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

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*ISCJB **01** 00:10:28.7±0.9, 39°.70N±0°.03×25°.96E±0°.07, h12km±5km, Error ellipse: s-maj=8.6km s-min=5.3km az=175.6*
*ATH **01** 00:10:29.8, 39°.76N×26°.07E, h24km±2km, MD2.9/7*
*CSEM **01** 00:10:30.3±0.2, 39°.76N×26°.00E, h15km, MD2.9, Error ellipse: s-maj=6.5km s-min=3.9km az=83.0*
ISC 01 00:10:30.0±0.9, 39°.76N±0°.02×26°.04E±0°.04, h11km±6km, n17, σ0s.48/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.08	9	*i* P	Pg	00 10 32.6	0.0
BOZC				*i* S	Sg	00 10 34.1	-0.3
PRK	Paraskevi	0.55	160	*e*PN	Pg	00 10 40.8	+0.1
PRK				*e*SN	Sg	00 10 48.2	+0.3
PRK	Paraskevi	0.55	160	*e*Pn	Pg	00 10 40.8	+0.1
PRK				*e*Sn	Sg	00 10 48.2	+0.3
SIGR	SIGRI	0.57	194	*e*PN	Pg	00 10 41.4	+0.3
SIGR				*e*SN	Sb	00 10 50.0	0.0
SIGR	SIGRI	0.57	194	*e*Pn	Pg	00 10 41.4	+0.3
SIGR				*e*Sn	Sb	00 10 50.0	0.0
LIA	Limnos Island	0.67	282	*e*PN	Pg	00 10 43.3	+0.2
LIA				*e*SN	Sb	00 10 53.1	+0.1
LIA	Limnos Island	0.67	282	*e*Pn	Pg	00 10 43.3	+0.2
LIA				*e*Sn	Sb	00 10 53.1	+0.1
SMTH	Samothraki Isl	0.81	331	*e*PN	Pb	00 10 46.0	-0.1
SMTH				*e*SN	Sb	00 10 57.6	+0.6
SMTH	Samothraki Isl	0.81	331	*e*Pn	Pb	00 10 46.0	-0.1
SMTH				*e*Sn	Sb	00 10 57.6	+0.6
ALN	Alexandroupoli	1.13	0	*e*PN	Pg	00 10 51.9	0.0
ALN				*e*SN	Sn	00 11 06.6	-0.8
ALN	Alexandroupoli	1.13	0	*e*Pn	Pg	00 10 51.9	0.0
ALN				*e*Sn	Sn	00 11 06.6	-0.8
SART	Tekirdag	1.27	43	*i* P	Pb	00 10 53.7	-0.4
SART				*i* S	Sg	00 11 12.3	+1.2
SART	Tekirdag	1.27	43	*i* P	Pb	00 10 53.7	-0.4
SART				*i* S	Sg	00 11 12.3	+1.2
CHOS	Chios island	1.37	179	*e*PN	Pn	00 10 55.1	-0.1
CHOS	Chios island	1.37	179	*e*Pn	Pn	00 10 55.1	-0.1
RDO	Rodhopi	1.44	345	*e*PN	Pb	00 10 56.4	-0.4
RDO	Rodhopi	1.44	345	*e*Pn	Pb	00 10 56.4	-0.4

NNC 01 00:20:15.6±1.5, 38°.14N×68°.96E, h9km±7km, mb3.6, mpv3.3, 12C-4D, Error ellipse: s-maj=13.7km s-min=9.1km az=69.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	0.67	351	⇑P	Pg	00 20 29.0	+0.3
	80nm,0.4s						
DZET				⇓S	Sb	00 20 39.4	+0.2
	426nm,0.8s						
SFK	Sufi-Kurgan	4.00	61	⇓Pn	Pn	00 21 19.2	+1.8
	0.6nm,0.2s						
SFK				⇑Pg	Pg	00 21 29.8	-2.7
	5.4nm,0.6s						
SFK				⇑Sn	Sn	00 22 05.1	+0.5
	22nm,0.4s						
SFK				⇑Lg	Lg	00 22 18.2	
	30nm,0.3s						
KK31	Karatay Array	5.10	13	⇑Pn	Pn	00 21 34.0	+1.9
	0.7nm,0.5s,baz=186,slow=11,SNR=14						
KK31				⇑Pg	Pb	00 21 48.2	+3.3
	4.1nm,0.5s,baz=196,slow=18,SNR=25						
KK31				⇑Sn	Sn	00 22 31.6	+0.4
	4.1nm,0.6s,baz=152,slow=15,SNR=4.3						
KK31				⇓Lg	Lg	00 22 56.0	
	23nm,0.7s,baz=194,slow=27,SNR=9.0						
TKM2	Tokmak 2	6.95	45	⇑Pn	Pn	00 21 58.4	+0.5
	2.2nm,0.5s						
TKM2				⇑Sn	Sn	00 23 17.5	+0.2
	5.5nm,0.8s						
TKM2				⇓Lg	Lg	00 23 56.4	
	9.7nm,1.0s						
AB31	Akbulak array	12.87	333	⇑Pn	Pn	00 23 18.6	+0.1
	0.1nm,0.2s,baz=150,slow=12,SNR=8.6						
AB31				⇑Sn	Sn	00 25 39.8	-2.1
	0.8nm,0.6s						
MK31	Makanchi Array	13.09	44	⇑Pn	Pn	00 23 20.4	-1.2
	1.6nm,1.0s,baz=240,slow=12,SNR=4.6						

*ISCJB **01** 00:20:49.6±0.6, 16°.26N±0°.05×96°.37W±0°.05, h28km, mb3.6/4, MS2.8/1, Error ellipse: s-maj=7.7km s-min=5.6km az=39.1*
*IDC **01** 00:20:51.2±6.1, 15°.83N×95°.86W, h83km±47km, mb3.3/5, mb1 3.6/6, mb1mx3.3/27, mbtmp3.6/6, ML3.9/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/16, Error ellipse: s-maj=74.2km s-min=53.3km az=141.0*
*MEX **01** 00:20:52.1±0.8, 16°.20N×96°.35W, h44km±11km, MD3.9*
ISC 01 00:20:50.4±0.8, 16°.24N±0°.06×96°.33W±0°.05, h28km, n14, σ0s.77/18, mb3.6/4, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.52	155	*i* P	Pb	00 21 01.1	0.0
HUIG				*i* S	Sb	00 21 09.0	+0.6
VHO	Vista Hermosa	0.91	335	*e*P	Pn	00 21 07.1	-0.4
VHO				*i* S	Sb	00 21 19.8	+0.1
CMIG	Matias Romero	1.63	59	*e*P	Pn	00 21 16.8	-0.4
CMIG				*i* S	Sn	00 21 36.5	-0.8
CMIG	Matias Romero	1.63	59	P	Pn	00 21 16.9	-0.4
	61nm,0.3s,baz=246,slow=11,SNR=183						
CMIG				S	Sn	00 21 37.6	+0.3
	138nm,0.3s,baz=268,slow=15,SNR=8.6						
CMIG				LR	LR	00 21 56.4	
	comp=Z,123nm,20.3s,baz=192,slow=42						
PNIG	Pinotepa	1.73	275	*e*P	Pn	00 21 17.7	-1.0
TLIG	Tlapa	2.51	302	*e*P	Pn	00 21 30.1	+0.5
CAIG	El Cayaco	3.85	283	*e*P	Pn	00 21 48.1	+0.2
CAIG				*i* S	Sn	00 22 31.3	-1.0
TXAR	Lajitas Array	14.67	334	P	P	00 24 23.5	+1.3
	0.1nm,0.3s,baz=155,slow=14,SNR=6.9						
ANMO	Albuquerque	20.72	336	P	P	00 25 29.4	+0.5
	1.4nm,0.8s,baz=146,slow=14,SNR=5.2						
TKL	Tuckaleechee C	22.35	28	LR	LR	00 36 09.5	
	comp=Z,38nm,18.9s,baz=36,slow=41						
PDAR	Pinedale Array	28.76	340	P	P	00 26 46.4	+0.4
	0.5nm,0.7s,baz=144,slow=7.3,SNR=4.5						
NVAR	Mina Array Bea	29.34	323	P	P	00 26 52.1	+0.9
	1.4nm,0.8s,baz=144,slow=10,SNR=7.1						
ELK	Elko	29.40	330	P	P	00 26 52.1	+0.4
	0.6nm,0.6s,baz=71,slow=6.3,SNR=4.1						
ILAR	Eielson Array	59.15	337	P	P	00 30 47.0	-1.4
	0.6nm,0.7s,baz=136,slow=5.9,SNR=6.2						

MEX 01 00:27:55.3±0.4, 16°.09N×97°.64W, h16km±456km, MD4.4, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.55	303	*e*P	Pg	00 28 04.5	-1.9
PNIG				*i* S	Sg	00 28 11.6	-2.2
VHO	Vista Hermosa	1.31	42	*i* P	Pn	00 28 15.3	-3.8
VHO				*i* S	Sn	00 28 31.1	-5.4
HUIG	Huatulco	1.51	102	*e*P	Pn	00 28 18.4	-3.2
HUIG				*i* S	Sn	00 28 35.8	-5.2
TLIG	Tlapa	1.71	329	*i* P	Pn	00 28 21.9	-2.7
TLIG				*i* S	Sn	00 28 42.1	-4.1
CAIG	El Cayaco	2.69	291	*e*P	Pn	00 28 35.5	-2.4
CAIG				*e*S	Sn	00 29 05.8	-4.3
CMIG	Matias Romero	2.83	69	*e*P	Pn	00 28 36.6	-3.1
CMIG				*i* S	Sn	00 29 10.2	-3.3

MEX 01 00:28:02.5±0.4, 16°.00N×97°.65W, h8km±8km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.60	311	*i* P	Pg	00 28 13.2	-1.1
PNIG				*i* S	Sg	00 28 21.9	-0.4
VHO	Vista Hermosa	1.38	39	*e*P	Pn	00 28 25.3	-3.1
VHO				*i* S	Sb	00 28 41.7	-5.3
OXBJ	Oaxaca	1.39	40	*e*P	Pn	00 28 24.2	-4.2
OXBJ				*i* S	Sb	00 28 41.1	-5.9
HUIG	Huatulco	1.50	99	*i* P	Pn	00 28 26.6	-3.1
HUIG				*i* S	Sn	00 28 43.9	-5.6
TLIG	Tlapa	1.79	331	*i* P	Pn	00 28 30.4	-3.4
TLIG				*e*S	Sn	00 28 51.1	-5.8
CAIG	El Cayaco	2.72	293	*e*P	Pn	00 28 43.9	-2.6
CAIG				*i* S	Sn	00 29 16.1	-3.6

*MAN **01** 00:39:05, 12°.97N×124°.85E, h6km, mb4.8, ML3.7, MS3.7*
*IDC **01** 00:39:05.8±0.9, 12°.56N×124°.06E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/49, mbtmp3.7/7, MS3.1/2, Ms1 3.2/2, ms1mx2.6/38, Error ellipse: s-maj=58.9km s-min=16.5km az=71.0*
ISC 01 00:39:06.3±1.6, 12°.81N±0°.04×124°.59E±0°.06, h6km±11km, n22, σ1s.71/21, mb3.7/7, 2C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	Virac	0.88	332	⇓*e*P	Pg	00 39 22.6	-0.6
PVCP				*e*S	Sg	00 39 33.4	-1.4
PLP	Palo	1.68	167	⇑*e*P	Pb	00 39 37.3	-0.3
PLP				*e*S	Sn	00 39 58.1	-0.1
OCLP	Ormoc	1.75	179	*e*P	Sg	00 40 02.4	-0.2
AUQP	San Andres	1.93	285	*e*P	Pn	00 39 37.3	-2.3
AUQP				*e*S	Sg	00 40 12.3	+4.0
RCP	Roxas	2.19	235	⇑*i*P	Pg	00 39 48.6	+0.3
RCP				*i* S	Sg	00 40 17.8	+1.1
GQP	Guinayangan	2.35	298	*e*P	Pb	00 39 47.7	-1.3
GQP				*e*S	Sb	00 40 19.2	+1.0
MSLP	Maasin	2.68	174	*e*P	Pb	00 39 55.1	+0.4
GUIM	Jordan	2.92	222	*e*P	Pb	00 39 56.9	-2.0
LUBP	Lubang	4.32	283	*e*P	Pb	00 40 17.9	-4.8
CAUP	Cauayan	4.90	327	*e*P	Pn	00 40 21.4	+1.0
KSRS	Korea Array	24.72	6	P	P	00 44 32.1	+3.8
	0.5nm,0.3s,baz=183,slow=9.6,SNR=3.0						
MJAR	Matsushiro Arr	26.61	25	LR	LR	00 54 10.2	
	comp=Z,20nm,19.6s,baz=180,slow=33						
WRA	Warramunga Arr	33.94	163	P	P	00 45 49.2	-1.3
	0.6nm,0.6s,baz=341,slow=9.2,SNR=2.4						
ASAR	Alice Springs	37.38	166	P	P	00 46 19.9	-0.2
	1.0nm,0.6s,baz=345,slow=6.8,SNR=13						
SONM	Songino Array	38.08	340	P	P	00 46 26.1	+0.2
	0.2nm,0.5s,baz=161,slow=9.6,SNR=2.6						
H11N1	WAKE ISLAND Hy	41.10	75	T	T	01 30 35.3	
	baz=267,slow=74,SNR=149						
H11N2	WAKE ISLAND Hy	41.11	75	T	T	01 30 36.0	
	baz=267,slow=74,SNR=72						
H11N3	WAKE ISLAND Hy	41.12	75	T	T	01 30 42.9	
	baz=267,slow=74,SNR=132						
STKA	Stephens Creek	47.33	160	P	P	00 47 41.0	0.0
	2.4nm,0.8s,baz=344,slow=6.5,SNR=4.6						
ZALV	Zalesovo Beam	51.62	331	P	P	00 48 13.2	-0.3
	0.4nm,0.4s,baz=116,slow=6.6,SNR=2.9						
GEYT	Alibeck	63.71	306	P	P	00 49 38.4	-0.7
	0.8nm,0.5s,baz=44,slow=4.4,SNR=2.9						
NOA	NORSAR Array B	89.76	333	LR	LR	01 34 56.1	
	comp=Z,19nm,20.5s,baz=95,slow=37						

SJA 01 00:40:38.2±1.3, 32°.33S×69°.65W, h114km±10km, ML3.5, MW4.0, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	Uspallata	0.25	64	*e*P	Pn	00 40 54.5	-0.2
RTLS	Leoncito	0.61	29	*e*P	Pn	00 40 56.9	+0.3
ASAL	Salagasta	0.73	111	*e*P	Pn	00 40 58.1	+0.7
ASAL				*e*S	Sn	00 41 13.5	+1.6
ARCO	CERRO ARCO	0.79	130	*e*P	Pn	00 40 58.9	+0.9
ARCO				*e*S	Sn	00 41 13.5	+0.6
ARCO				AML	AML	00 41 15.3	
	comp=Z,932nm,0.2s						
AAGR	Agrelo	1.02	138	*e*P	Pn	00 41 01.2	+1.1
AAGR				*e*S	Sn	00 41 18.2	+1.5
RTCV	Cerro Valdivia	1.05	64	*e*P	Pn	00 41 01.0	+0.6
RTCV				*e*S	Sn	00 41 18.3	+1.2
SJA	San Juan	1.23	49	*e*P	Pn	00 41 02.9	+0.6
CFAA	Coronel Fontan	1.40	59	*e*P	Pn	00 41 04.9	+0.7
RTLL	Cerro Villicun	1.41	45	*e*P	Pn	00 41 05.2	+0.8
RTLL				*e*S	Sn	00 41 25.6	+1.4
AMOG	MOGNA	1.70	36	*e*P	Pn	00 41 08.7	+0.9
AMOG				*e*S	Sn	00 41 30.5	+0.1
ACAN	Cantantal	2.08	89	*e*P	Pn	00 41 13.5	+1.0
ACAN				*e*S	Sn	00 41 39.3	+0.5
VCA	Vinchina	3.79	20	*e*P	Pn	00 41 36.8	+1.6
VCA				*e*S	Sn	00 42 20.7	+1.5
TCA	Tanti	4.41	78	*e*P	Pn	00 41 43.3	0.0

WEL 01 00:44:52.1±1.1, 46°.22S×165°.88E, h33km, ML4.0/10, 1D, Error ellipse: s-maj=12.9km s-min=4.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	Puysegur Point	0.56	85	⇓PN	Pb	00 45 02.2	-1.4
PYZ				SN	Sn	00 45 11.9	+0.1
DCZ	Deep Cove	1.15	51	PN	Pn	00 45 09.4	-2.5
DCZ				SN	Sn	00 45 25.0	-1.6
DCZ				AML	AML	00 45 37.8	
DCZ				AML	AML	00 45 40.9	
DCZ				AML	AML	00 45 41.1	
WHZ	Wether Hill Ro	1.47	78	PN	Pn	00 45 16.0	-0.4
WHZ				AML	AML	00 45 43.1	
WHZ				AML	AML	00 45 48.9	
APZ	The Paps	1.58	114	PN	Pn	00 45 17.3	-0.6
APZ				AML	AML	00 45 52.7	
APZ				AML	AML	00 45 53.8	
MLZ	Mavora Lakes	1.82	62	PN	Pn	00 45 20.8	-0.4
MLZ				AML	AML	00 45 57.1	
MLZ				AML	AML	00 45 58.8	
MSZ	Milford Sound	2.11	44	PN	Pn	00 45 24.3	-0.8
MSZ				AML	AML	00 46 11.3	
MSZ				AML	AML	00 46 20.3	
SYZ	Scrubby Hill	2.28	99	PN	Pn	00 45 27.4	0.0
SYZ				AML	AML	00 46 07.6	
SYZ				AML	AML	00 46 11.5	
EAZ	Earnscleugh	2.59	69	PN	Pn	00 45 32.6	+0.9
EAZ				AML	AML	00 46 21.3	
EAZ				AML	AML	00 46 22.0	
WKZ	Wanaka	2.60	59	PN	Pn	00 45 32.9	+1.0
WKZ				AML	AML	00 46 17.6	
WKZ				AML	AML	00 46 22.4	
TUZ	Tuapeka	2.62	86	PN	Pn	00 45 32.3	+0.2
JCZ	Jackson Bay	2.95	45	PN	Pn	00 45 36.2	-0.7
JCZ				AML	AML	00 46 34.6	
JCZ				AML	AML	00 46 35.6	
ODZ	Otahua Downs	3.54	72	PN	Pn	00 45 43.4	-1.4
LBZ	Lake Benmore	3.54	60	PN	Pn	00 45 43.8	-1.0
LBZ				AML	AML	00 46 35.4	
LBZ				AML	AML	00 47 02.4	
FOZ	Fox Glacier	3.79	47	PN	Pn	00 45 48.1	0.0

*IDC **01** 00:46:43.6±1.0, 5°.28S×151°.85E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/27, mbtmp3.9/7, Error ellipse: s-maj=41.7km s-min=22.4km az=112.0*
*ISCJB **01** 00:46:50.2±0.9, 5°.3S±0°.2×151°.7E±0°.3, h57km, mb3.8/7, Error ellipse: s-maj=38.8km s-min=19.2km az=26.8*
ISC 01 00:46:51.6±1.0, 5°.3S±0°.2×151°.7E±0°.3, h57km, n8, σ1s.10/8, mb3.9/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.30	228	P	P	00 51 45.2	+0.7
	2.7nm,0.4s,baz=52,slow=9.9,SNR=18						
ASAR	Alice Springs	25.05	221	P	P	00 52 11.0	+0.2
	2.7nm,0.6s,baz=60,slow=8.6,SNR=38						
SONM	Songino Array	66.18	328	P	P	00 57 34.6	+1.1
	0.6nm,0.7s,baz=145,slow=4.9,SNR=4.6						
VNDA	Vanda	72.36	178	P	P	00 58 10.6	-0.5
	0.4nm,0.7s,baz=329,slow=8.2,SNR=4.1						
ZALV	Zalesovo Beam	80.97	327	P	P	00 58 58.8	-1.3
	0.5nm,0.3s,baz=111,slow=6.4,SNR=3.6						
ILAR	Eielson Array	83.04	22	P	P	00 59 09.9	-0.7
	0.4nm,0.8s,baz=216,slow=4.0,SNR=4.2						
NVAR	Mina Array Bea	93.25	52	P	P	01 00 01.9	+1.3
	0.6nm,0.6s,baz=251,slow=6.8,SNR=4.7						
TORD	Torodi Ar. Bea	149.42	287	PKPbc	PKPbc	01 06 35.0	-0.5
	0.5nm,0.3s,baz=95,slow=2.2,SNR=24						

*NIED **01** 01:00:00, 28°.60N×129°.60E, h14km, Mw3.6 Best double couple: Mo2.40000×10^14 NP1:φs88.00000°, δ27.00000°, λ-156.00000°. NP2:φs336.00000°, δ79.00000°, λ-65.00000°.*
JMA 01 01:00:57.8±0.1, 28°.64N×129°.59E, h13km±2km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	Amami Oshima	0.23	177	P	Pg	01 01 02.6	-0.1
JAM				S	Sg	01 01 06.3	+0.3
JZK	Kikaishima	0.47	134	P	Pg	01 01 06.9	-0.2
JZK				S	Sg	01 01 14.0	+0.7
JAMN	Amaminishikomi	0.54	223	P	Pg	01 01 08.5	+0.1
JAMN				S	Sb	01 01 16.3	-0.4
JTAJ	Takarajima	0.61	327	P	Pg	01 01 09.7	-0.1
JTAJ				S	Sb	01 01 18.6	-0.4
JTK	Tokunoshima	1.02	214	P	Pb	01 01 15.7	-1.7
JTK				S	Sb	01 01 30.1	-0.6
JNN	Nakanoshima	1.22	12	P	Pn	01 01 17.6	-3.0
JNN				*e*S	Sb	01 01 34.2	-2.3
JOKE	Okinoerabujima	1.56	216	P	Pn	01 01 24.8	-0.5
JOKE				*e*S	Sn	01 01 44.7	-0.7
JYAK	Yakushimahirau	1.78	27	P	Pn	01 01 27.7	-0.6
JOW	Kunigami	2.15	213	P	Pn	01 01 33.6	+0.3
JOW				*e*S	Sn	01 02 01.4	+1.6
JTN	Tanegashima 3	2.34	31	P	Pn	01 01 36.7	+0.6

IDC 01 01:02:11.8±7.4, 16°.10S×178°.65W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/25, mbtmp3.7/3, Error ellipse: s-maj=328.6km s-min=37.8km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.76	258	P	P	01 10 27.4	0.0
	0.3nm,0.3s,baz=92,slow=7.9,SNR=5.2						
ASAR	Alice Springs	45.08	253	P	P	01 10 29.8	-0.2
	0.8nm,0.3s,baz=88,slow=8.1,SNR=14						
ILAR	Eielson Array	84.19	13	P	P	01 14 44.6	0.0
	0.2nm,0.4s,baz=206,slow=6.0,SNR=4.4						

*IDC **01** 01:11:42.6±0.9, 35°.25N×27°.27E, h0km, mb3.8/11, mb1 3.7/18, mb1mx3.6/37, mbtmp3.6/18, ML3.3/7, MS2.5/2, Ms1 2.5/2, ms1mx2.1/30, Error ellipse: s-maj=19.0km s-min=13.4km az=170.0*
*ISCJB **01** 01:11:44.3±0.7, 35°.24N±0°.03×27°.25E±0°.02, h11km±4km, mb3.6/11, Error ellipse: s-maj=4.4km s-min=2.5km az=165.9*
*ATH **01** 01:11:44.2, 35°.26N×27°.25E, h18km, MD3.7/28, ML3.5*
*THE **01** 01:11:45.8, 35°.33N×27°.28E, h1km±1km, ML3.5/6, Error ellipse: s-maj=2.9km s-min=1.3km az=138.0*
*CSEM **01** 01:11:45.6±0.2, 35°.31N×27°.19E, h2km, ML3.5, Error ellipse: s-maj=5.3km s-min=2.3km az=165.0*
*ISK **01** 01:11:48.2, 35°.41N×27°.15E, h60km, MD3.7, ML3.7*
*DDA **01** 01:11:48.5, 35°.48N×27°.37E, h28km, MD3.2*
ISC 01 01:11:45.1±1.0, 35°.30N±0°.03×27°.24E±0°.02, h14km±6km, n225, σ1s.75/277, mb3.6/11, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.26	346	*e*PB	Pg	01 11 50.3	-0.3
KARP				*e*SB	Sg	01 11 55.1	+0.8
KARP	Karpathos	0.26	346	P	Pg	01 11 50.3	-0.3
KARP				S	Sg	01 11 55.1	+0.8
KARP	Karpathos	0.26	346	P	Pg	01 11 50.3	-0.3
KARP				S	Sg	01 11 55.1	+0.8
ZKR	Zakros	0.85	258	*e*PB	Pg	01 12 00.2	-1.5
ZKR				*e*SN	Sb	01 12 13.4	+0.3
ZKR	Zakros	0.85	258	*e*Pb	Pg	01 12 00.2	-1.5
ZKR				*e*Sn	Sb	01 12 13.4	+0.3
ZKR	Zakros	0.85	258	P	Pg	01 12 00.1	-1.6
ZKR				S	Sb	01 12 13.9	+0.8
ARG	Arkhangelos	1.17	38	*e*PN	Pb	01 12 06.9	-0.1
ARG				*e*SN	Sn	01 12 23.5	+0.8
ARG	Arkhangelos	1.17	38	P	Pb	01 12 06.8	-0.2
ARG				S	Sg	01 12 22.7	-0.1
ARG				*e*Sn	Sn	01 12 23.5	+0.8
ARG	Arkhangelos	1.17	38	P	Pb	01 12 06.8	-0.2
ARG				S	Sg	01 12 22.7	-0.1
NIS1	Nisyros Isl.	1.30	358	*e*PN	Pb	01 12 09.4	+0.1
NIS1				*e*SN	Sg	01 12 28.5	+1.4
NIS1	Nisyros Isl.	1.30	358	P	Pn	01 12 09.1	+0.2
NIS1	Nisyros Isl.	1.30	358	*e*Pn	Pb	01 12 09.4	+0.1
NIS1				S	Sg	01 12 27.9	+0.8
NIS1				*e*Sn	Sg	01 12 28.5	+1.4
NIS1	Nisyros Isl.	1.30	358	P	Pn	01 12 09.1	+0.2
NIS1				S	Sg	01 12 27.9	+0.8
NPS	Neapolis	1.33	269	*e*PN	Pb	01 12 09.7	-0.1
NPS				*e*SN	Sg	01 12 27.5	-0.5
NPS	Neapolis	1.33	269	P	Pn	01 12 09.5	+0.2
NPS				*e*Sn	Sg	01 12 27.5	-0.5
NPS	Neapolis	1.33	269	P	Pn	01 12 09.5	+0.2
NPS				S	Sg	01 12 30.0	+2.0
LAST	Lasithi	1.45	265	*e*PN	Pb	01 12 11.8	0.0
LAST				*e*SN	Sg	01 12 31.5	-0.2
LAST	Lasithi	1.45	265	P	Pn	01 12 11.4	+0.5
LAST	Lasithi	1.45	265	*e*Pn	Pb	01 12 11.8	0.0
LAST				*e*Sn	Sg	01 12 31.5	-0.2
LAST	Lasithi	1.45	265	P	Pn	01 12 11.4	+0.5
LAST				S	Sg	01 12 32.5	+0.8
BODT	Bodrum	1.76	2	*e*PN	Pn	01 12 16.1	+0.9
BODT				*e*SN	Sn	01 12 36.3	-1.1
BODT	Bodrum	1.76	2	*e*Pn	Pn	01 12 16.1	+0.9
BODT				*e*Sn	Sn	01 12 36.3	-1.1
BDRM	Kayabasi	1.77	5	*i* P	Pn	01 12 16.0	+0.7
BDRM				*i* S	Sg	01 12 41.4	-0.7
BDRM	Kayabasi	1.77	5	*i* P	Pn	01 12 16.0	+0.7
BDRM				*i* S	Sg	01 12 41.4	-0.7
SANT	Santorini	1.80	307	*e*PB	Pn	01 12 16.1	+0.4
SANT				*e*SN	Sb	01 12 40.7	+0.5
SANT	Santorini	1.80	307	P	Pn	01 12 16.2	+0.5
SANT				S	Sb	01 12 40.0	-0.2
SANT	Santorini	1.80	307	P	Pn	01 12 16.2	+0.5
SANT				S	Sb	01 12 40.0	-0.2
THR6	Thira Island,	1.83	306	P	Pn	01 12 16.9	+0.8
THR6	Thira Island,	1.83	306	P	Pn	01 12 16.9	+0.8
THR7	Fira-Santorini	1.85	308	P	Pn	01 12 17.3	+0.9
THR7	Fira-Santorini	1.85	308	P	Pn	01 12 17.3	+0.9
THR2	Thira island,	1.86	309	P	Pn	01 12 17.1	+0.6
THR2	Thira island,	1.86	309	P	Pn	01 12 17.1	+0.6
THR3	Thira Island,	1.86	307	P	Pn	01 12 17.0	+0.5
THR3	Thira Island,	1.86	307	P	Pn	01 12 17.0	+0.5
THR5	Thira Island,	1.90	307	*e*PN	Pn	01 12 17.9	+0.8
THR5	Thira Island,	1.90	307	P	Pn	01 12 18.0	+1.0
THR5	Thira Island,	1.90	307	P	Pn	01 12 18.0	+1.0
DALY	Dalyan (Mu˜la	1.90	37	*e*PN	Pb	01 12 18.5	-1.0
DALY	Dalyan (Mu˜la	1.90	37	*e*Pn	Pb	01 12 18.5	-1.0
IDI	Anoyia	1.92	270	Pn	Pn	01 12 17.6	+0.2
	5.6nm,0.3s,baz=100,slow=2.8,SNR=43						
IDI				Sn	Sb	01 12 45.0	+1.2
	19nm,0.3s,baz=289,slow=17,SNR=5.7						
IDI				LR	LR	01 13 24.1	
	comp=Z,248nm,20.7s,baz=88,slow=52						
TURN	Turunc	1.92	35	*i* P	Pn	01 12 16.0	-1.4
TURN				*i* S	Sn	01 12 40.7	-0.6
TURN	Turunc	1.92	35	*i* P	Pn	01 12 16.0	-1.4
SIVA	Sivas	2.01	263	*e*PN	Pn	01 12 19.9	+1.3
SIVA	Sivas	2.01	263	*e*Pn	Pn	01 12 19.9	+1.3
SIVA	Sivas	2.01	263	P	Pg	01 12 22.5	-1.1
YER	Yerkesik	2.02	24	*e*PN	Pb	01 12 20.5	-1.1
YER	Yerkesik	2.02	24	*e*Pn	Pb	01 12 20.5	-1.1
AKAS	Kas	2.14	64	*i* P	Pb	01 12 22.9	-0.8
AKAS				*i* S	Sb	01 12 49.4	-0.8
AKAS	Kas	2.14	64	*i* P	Pb	01 12 22.9	-0.8
AKAS				*i* S	Sb	01 12 49.4	-0.8
APE	Apeiranthos	2.24	322	*e*PN	Pn	01 12 22.5	+0.7
APE				*e*SN	Sn	01 12 47.8	-1.5
APE	Apeiranthos	2.24	322	*e*PB	Pn	01 12 22.3	+0.5
APE	Apeiranthos	2.24	322	P	Pn	01 12 22.0	+0.2
APE	Apeiranthos	2.24	322	*e*Pb	Pn	01 12 22.3	+0.5
APE	Apeiranthos	2.24	322	*e*Pn	Pn	01 12 22.5	+0.7
APE				*e*Sn	Sn	01 12 47.8	-1.5
APE				S	Sn	01 12 50.3	+1.0
APE	Apeiranthos	2.24	322	P	Pn	01 12 22.0	+0.2
APE				S	Sn	01 12 50.3	+1.0
AYDN	Tasoluk	2.41	12	*i* P	Pb	01 12 26.6	-1.7
AYDN				*i* S	Sb	01 12 59.4	+1.4
AYDN	Tasoluk	2.41	12	*i* P	Pb	01 12 26.6	-1.7
AYDN				*i* S	Sb	01 12 59.4	+1.4
VAM	Vamos	2.48	273	*e*PN	Pn	01 12 26.0	+0.9
VAM	Vamos	2.48	273	*e*Pn	Pn	01 12 26.0	+0.9
ELL	Elmali	2.60	55	*e*PN	Pn	01 12 29.3	+2.4
ELL	Elmali	2.60	55	*e*Pn	Pn	01 12 29.3	+2.4

MHLO	**Agia Marina, M**	**2.69**	**302**	*e*PN	**Pn**	**01 12 29.1 +1.2**
MHLO	**Agia Marina, M**	**2.69**	**302**	*e*Pn	**Pn**	**01 12 29.1 +1.2**
AYDB	**Zeytinkoy-Aydi**	**2.69**	**11**	*e*PN	**Pn**	**01 12 29.5 +1.4**
AYDB	**Zeytinkoy-Aydi**	**2.69**	**11**	*e*Pn	**Pn**	**01 12 29.5 +1.4**
GOLH	**Golhisar**	**2.69**	**43**	*i* P	**Pn**	**01 12 30.8 +2.7**
GOLH				*i* S	**Sg**	**01 13 09.7 -2.0**
GOLH	**Golhisar**	**2.69**	**43**	*i* P	**Pn**	**01 12 30.8 +2.7**
DENT	**Denizli**	**2.84**	**30**	*e*PN	**Pn**	**01 12 32.3 +2.2**
DENT	**Denizli**	**2.84**	**30**	*e*Pn	**Pn**	**01 12 32.3 +2.2**
ZEY	**˙zmir**	**2.99**	**349**	*i* P	**Pn**	**01 12 34.0 +1.9**
ZEY				*i* S	**Sg**	**01 13 19.5 -1.7**
BLCB	**Balcova**	**3.08**	**357**	*e*PN	**Pn**	**01 12 34.2 +0.9**
BLCB	**Balcova**	**3.08**	**357**	*e*Pn	**Pn**	**01 12 34.3 +0.9**
IZM	**Izmir**	**3.09**	**0**	*e*PN	**Pn**	**01 12 34.2 +0.7**
IZM	**Izmir**	**3.09**	**0**	*e*Pn	**Pn**	**01 12 34.3 +0.7**
URLA	**Izmir**	**3.10**	**351**	*i* P	**Pb**	**01 12 37.2 -2.8**
URLA				*i* S	**Sb**	**01 13 18.2 +0.6**
URLA	**Izmir**	**3.10**	**351**	*i* P	**Pb**	**01 12 37.2 -2.8**
ANTB	**Antalya**	**3.19**	**59**	*e*PN	Pn	01 12 38.2 +3.3
ANTB	**Antalya**	**3.19**	**59**	*e*Pn	Pn	01 12 38.2 +3.3
CHOS	**Chios island**	**3.22**	**343**	*e*PN	**Pn**	**01 12 36.4 +1.0**
CHOS	**Chios island**	**3.22**	**343**	*e*Pn	**Pn**	**01 12 36.4 +1.0**
MANT	**Manisa**	**3.36**	**18**	*i* P	**Pn**	**01 12 39.3 +2.0**
MANT				*i* S	**Sn**	**01 13 20.5 +3.4**
MANT	**Manisa**	**3.36**	**18**	*i* P	**Pn**	**01 12 39.3 +2.0**
MANT				*i* S	**Sn**	**01 13 20.5 +3.4**
KULA	**Kula-Manisa**	**3.41**	**19**	*e*PN	**Pn**	**01 12 39.4 +1.5**
KULA	**Kula-Manisa**	**3.41**	**19**	*e*Pn	**Pn**	**01 12 39.4 +1.5**
KULA	**Kula-Manisa**	**3.41**	**19**	P	**Pn**	**01 12 40.0 +2.1**
KULA	**Kula-Manisa**	**3.41**	**19**	P	**Pn**	**01 12 40.0 +2.1**
BCK	**Bucak**	**3.46**	**50**	*e*PN	**Pn**	**01 12 41.5 +3.0**
BCK	**Bucak**	**3.46**	**50**	*e*Pn	**Pn**	**01 12 41.6 +3.0**
KHL	**Karahalli**	**3.53**	**31**	*e*PN	**Pn**	**01 12 41.7 +2.1**
KHL	**Karahalli**	**3.53**	**31**	*e*Pn	**Pn**	**01 12 41.7 +2.1**
KARY	**Karystos**	**3.54**	**321**	P	**Pn**	**01 12 41.2 +1.6**
KYTH	**Kithira**	**3.55**	**287**	*e*PN	**Pn**	**01 12 41.5 +1.7**
KYTH	**Kithira**	**3.55**	**287**	P	**Pn**	**01 12 41.0 +1.2**
KYTH	**Kithira**	**3.55**	**287**	*e*Pn	**Pn**	**01 12 41.5 +1.7**
KYTH	**Kithira**	**3.55**	**287**	P	**Pn**	**01 12 41.0 +1.2**
KHAL	**Karahalli**	**3.56**	**30**	*i* P	**Pn**	**01 12 41.9 +1.9**
KHAL				*i* S	**Sb**	**01 13 29.4 -1.6**
KHAL	**Karahalli**	**3.56**	**30**	*i* P	**Pn**	**01 12 41.9 +1.9**
KHAL				*i* S	**Sb**	**01 13 29.4 -1.6**
AKS	**Akhisar**	**3.60**	**7**	*e*PN	**Pn**	**01 12 42.1 +1.6**
AKS	**Akhisar**	**3.60**	**7**	*e*Pn	**Pn**	**01 12 42.1 +1.6**
ISP	**Isparta**	**3.65**	**45**	*e*PN	**Pn**	**01 12 44.0 +2.7**
ISP	**Isparta**	**3.65**	**45**	*e*Pn	**Pn**	**01 12 44.0 +2.7**
SUTC	**Sutluce-Ispart**	**3.73**	**53**	*e*PN	**Pn**	**01 12 44.5 +2.1**
SUTC	**Sutluce-Ispart**	**3.73**	**53**	*e*Pn	**Pn**	**01 12 44.5 +2.1**
VLI	**Veliai**	**3.76**	**293**	*e*PN	**Pn**	**01 12 43.6 +0.9**
VLI	**Veliai**	**3.76**	**293**	P	**Pn**	**01 12 43.6 +0.9**
VLI				S	**Sn**	**01 13 30.4 +3.6**
VLI	**Veliai**	**3.76**	**293**	P	**Pn**	**01 12 43.6 +0.9**
VLI				S	**Sn**	**01 13 30.4 +3.6**
PTL	**Penteli**	**3.86**	**316**	*e*PN	**Pn**	**01 12 45.0 +1.0**
PTL	**Penteli**	**3.86**	**316**	*e*Pn	**Pn**	**01 12 45.0 +1.0**
ATH	**Athens Observa**	**3.89**	**314**	*e*PN	**Pn**	**01 12 46.5 +2.1**
ATH	**Athens Observa**	**3.89**	**314**	*e*Pn	**Pn**	**01 12 46.5 +2.1**
KRND	**KRANIDI**	**3.90**	**303**	*e*PN	**Pn**	**01 12 46.7 +2.2**
KRND	**KRANIDI**	**3.90**	**303**	*e*Pn	**Pn**	**01 12 46.7 +2.2**
KRND	**KRANIDI**	**3.90**	**303**	P	**Pn**	**01 12 46.8 +2.2**
DID	**Didima**	**3.91**	**305**	*e*PN	**Pn**	**01 12 47.2 +2.5**
DID	**Didima**	**3.91**	**305**	P	**Pn**	**01 12 46.2 +1.5**
DID	**Didima**	**3.91**	**305**	*e*Pn	**Pn**	**01 12 47.2 +2.5**
DID				S	**Sn**	**01 13 34.0 +3.6**
DID	**Didima**	**3.91**	**305**	P	**Pn**	**01 12 46.2 +1.5**
DID				S	**Sn**	**01 13 34.0 +3.6**
DIDY	**Didyma**	**3.91**	**305**	*e*PN	**Pn**	**01 12 46.4 +1.6**
DIDY	**Didyma**	**3.91**	**305**	*e*Pn	**Pn**	**01 12 46.4 +1.6**
DEMI	**Demirci**	**3.92**	**17**	*i* P	**Pn**	**01 12 46.9 +2.0**
DEMI				*i* S	**Sn**	**01 13 33.4 +2.7**
DEMI	**Demirci**	**3.92**	**17**	*i* P	**Pn**	**01 12 46.9 +2.0**
DEMI				*i* S	**Sn**	**01 13 33.4 +2.7**
SIGR	**SIGRI**	**4.06**	**345**	*e*PN	**Pn**	**01 12 48.2 +1.5**
SIGR	**SIGRI**	**4.06**	**345**	*e*Pn	**Pn**	**01 12 48.3 +1.6**
SIGR	**SIGRI**	**4.06**	**345**	*e*Pn	**Pn**	**01 12 48.3 +1.6**
EREA	**Eretria**	**4.09**	**321**	*e*PN	**Pn**	**01 12 49.4 +2.2**
EREA	**Eretria**	**4.09**	**321**	*e*Pn	**Pn**	**01 12 49.4 +2.2**
GAZI	**Gazipasa**	**4.23**	**76**	*i* P	**Pn**	**01 12 50.0 +0.8**
GAZI				*i* S	**Sn**	**01 13 38.1 -0.3**
GAZI	**Gazipasa**	**4.23**	**76**	*i* P	**Pn**	**01 12 50.0 +0.8**
GAZI				*i* S	**Sn**	**01 13 38.1 -0.3**
VILL	**Villia**	**4.26**	**313**	*e*Pn	**Pn**	**01 12 50.8 +1.3**
VIL2	**Platees**	**4.31**	**314**	*e*PN	**Pn**	**01 12 50.8 +0.5**
BALB	**Balikesir**	**4.36**	**7**	*e*PN	**Pn**	**01 12 52.6 +1.0**
BALB	**Balikesir**	**4.36**	**7**	*e*Pn	**Pn**	**01 12 52.6 +1.0**
LTK	**Loutraki**	**4.38**	**310**	*e*PN	**Pn**	**01 12 53.6 +2.4**
LTK	**Loutraki**	**4.38**	**310**	*e*Pn	**Pn**	**01 12 53.6 +2.4**
DURS	**Dursunbey**	**4.41**	**13**	*i* P	**Pn**	**01 12 53.5 +1.9**
DURS				*i* S	**Sn**	**01 13 43.9 +1.1**
DURS	**Dursunbey**	**4.41**	**13**	*i* P	**Pn**	**01 12 53.5 +1.9**
DURS				*i* S	**Sn**	**01 13 43.9 +1.1**
VLX	**Vlachokerasia**	**4.43**	**299**	*e*PN	**Pn**	**01 12 54.1 +2.1**
VLX	**Vlachokerasia**	**4.43**	**299**	P	**Pn**	**01 12 54.1 +2.1**
VLX	**Vlachokerasia**	**4.43**	**299**	P	**Pn**	**01 12 54.1 +2.1**
MRKA	**Markates**	**4.48**	**320**	*e*PN	**Pn**	**01 12 54.3 +1.7**
MRKA	**Markates**	**4.48**	**320**	*e*Pn	**Pn**	**01 12 54.3 +1.7**
TVSB	**Tavsanli**	**4.51**	**22**	*e*PN	**Pn**	**01 12 54.8 +1.8**
TVSB	**Tavsanli**	**4.51**	**22**	*e*Pn	**Pn**	**01 12 54.8 +1.8**
HDMB	**Hadim**	**4.56**	**67**	*e*PN	Pn	01 12 58.0 +4.1
HDMB	**Hadim**	**4.56**	**67**	*e*Pn	Pn	01 12 58.0 +4.1
EZN	**Ezine**	**4.58**	**351**	*e*PN	**Pn**	**01 12 54.7 +0.9**
EZN	**Ezine**	**4.58**	**351**	*e*Pn	**Pn**	**01 12 54.7 +0.9**
ITM	**Ithomi**	**4.68**	**295**	*e*PN	**Pn**	**01 12 57.7 +2.3**
ITM	**Ithomi**	**4.68**	**295**	*e*Pn	**Pn**	**01 12 57.7 +2.3**
AOS	**Alonnisos**	**4.70**	**326**	*e*PN	**Pn**	**01 12 56.7 +1.1**
AOS	**Alonnisos**	**4.70**	**326**	*e*PN	**Pn**	**01 12 57.3 +1.7**
AOS	**Alonnisos**	**4.70**	**326**	*e*Pn	**Pn**	**01 12 56.7 +1.1**
AOS	**Alonnisos**	**4.70**	**326**	P	**Pn**	**01 12 57.1 +1.5**
AOS	**Alonnisos**	**4.70**	**326**	P	**Pn**	**01 12 57.1 +1.5**
GUR	**Goura**	**4.74**	**305**	*e*PN	**Pn**	**01 12 58.5 +2.3**
GUR	**Goura**	**4.74**	**305**	*e*Pn	**Pn**	**01 12 58.5 +2.3**
ERMK	**Ermenek**	**4.79**	**72**	*i* P	Pn	01 13 00.6 +3.5
ERMK				*i* S	**Sn**	**01 13 56.1 +3.6**
ERMK	**Ermenek**	**4.79**	**72**	*i* P	Pn	01 13 00.6 +3.5
ERMK				*i* S	**Sn**	**01 13 56.1 +3.6**
SMIA	**Simia**	**4.81**	**319**	*e*PN	**Pn**	**01 12 59.5 +2.4**
SMIA	**Simia**	**4.81**	**319**	*e*Pn	**Pn**	**01 12 59.5 +2.4**
DSF	**Desfina**	**4.89**	**311**	*e*PN	**Pn**	**01 13 00.1 +1.9**
DSF	**Desfina**	**4.89**	**311**	*e*Pn	**Pn**	**01 13 00.1 +1.9**
KONT	**Konya--Tatoy**	**4.89**	**56**	*e*PN	Pn	01 13 02.2 +3.9
KONT	**Konya--Tatoy**	**4.89**	**56**	*e*Pn	Pn	01 13 02.2 +3.9
KLV	**Kalavryta, Ach**	**4.92**	**305**	*e*PN	**Pn**	**01 13 01.4 +2.7**
KLV	**Kalavryta, Ach**	**4.92**	**305**	P	**Pn**	**01 13 01.4 +2.7**
KLV	**Kalavryta, Ach**	**4.92**	**305**	P	**Pn**	**01 13 01.4 +2.7**
AMT	**Artemida-Makis**	**4.98**	**298**	*e*PN	**Pn**	**01 13 02.3 +2.8**
AMT	**Artemida-Makis**	**4.98**	**298**	*e*Pn	**Pn**	**01 13 02.3 +2.8**
GADA	**Gvkgeada**	**5.00**	**348**	*e*PN	**Pn**	**01 13 00.6 +1.0**
GADA	**Gvkgeada**	**5.00**	**348**	*e*Pn	**Pn**	**01 13 00.6 +1.0**
KCTX	**Karacabey (Bur**	**5.04**	**10**	*e*PN	**Pn**	**01 13 02.0 +1.8**
KCTX	**Karacabey (Bur**	**5.04**	**10**	*e*Pn	**Pn**	**01 13 02.0 +1.8**
AXAR	**Agios Charalam**	**5.04**	**315**	*e*PN	**Pn**	**01 13 02.6 +2.4**
AXAR	**Agios Charalam**	**5.04**	**315**	*e*Pn	**Pn**	**01 13 02.6 +2.4**
KDHN	**Kadinhani**	**5.06**	**49**	*i* P	**Pn**	**01 13 03.2 +2.5**
KDHN				*i* S	**Sn**	**01 14 04.7 +5.7**
KDHN	**Kadinhani**	**5.06**	**49**	*i* P	**Pn**	**01 13 03.2 +2.5**
KDHN				*i* S	**Sn**	**01 14 04.7 +5.7**
EDC	**Edincik**	**5.06**	**5**	*e*PN	**Pn**	**01 13 02.6 +2.0**
EDC	**Edincik**	**5.06**	**5**	*e*Pn	**Pn**	**01 13 02.6 +2.0**
LPK	**Lapseki**	**5.08**	**356**	*e*PN	**Pn**	**01 13 02.6 +1.8**
LPK	**Lapseki**	**5.08**	**356**	*e*Pn	**Pn**	**01 13 02.6 +1.8**
GELI	**Tayfur-Gelibol**	**5.13**	**353**	*e*PN	**Pn**	**01 13 02.8 +1.4**
GELI	**Tayfur-Gelibol**	**5.13**	**353**	*e*Pn	**Pn**	**01 13 02.8 +1.4**
KIZT	**Kizilcal**	**5.15**	**45**	*e*PN	**Pn**	**01 13 04.9 +3.0**
KIZT	**Kizilcal**	**5.15**	**45**	*e*Pn	**Pn**	**01 13 04.9 +3.0**
DRO	**Drossia**	**5.17**	**302**	*e*PN	**Pn**	**01 13 04.3 +2.2**
DRO	**Drossia**	**5.17**	**302**	*e*Pn	**Pn**	**01 13 04.3 +2.2**
DRO	**Drossia**	**5.17**	**302**	P	Pn	01 13 06.5 +4.4
XOR	**Xorichti**	**5.18**	**323**	*e*PN	**Pn**	**01 13 04.0 +1.8**
XOR	**Xorichti**	**5.18**	**323**	*e*Pn	**Pn**	**01 13 04.0 +1.8**
MRMT	**Marmara Adasi**	**5.30**	**3**	*e*PN	**Pn**	**01 13 05.3 +1.4**
MRMT	**Marmara Adasi**	**5.30**	**3**	*e*Pn	**Pn**	**01 13 05.3 +1.4**
ERIK	**Erikli-Kesan**	**5.39**	**354**	*e*PN	**Pn**	**01 13 07.3 +2.2**
ERIK	**Erikli-Kesan**	**5.39**	**354**	*e*Pn	**Pn**	**01 13 07.3 +2.2**
ARMT	**Armutlu**	**5.41**	**13**	*e*PN	**Pn**	**01 13 07.3 +1.9**
ARMT	**Armutlu**	**5.41**	**13**	*e*Pn	**Pn**	**01 13 07.3 +1.9**
MAKR	**Makrakomi, Fth**	**5.51**	**314**	*e*PN	**Pn**	**01 13 09.2 +2.5**
MAKR	**Makrakomi, Fth**	**5.51**	**314**	*e*Pn	**Pn**	**01 13 09.2 +2.5**
ALN	**Alexandroupoli**	**5.67**	**351**	*e*PN	**Pn**	**01 13 11.7 +2.9**
ALN	**Alexandroupoli**	**5.67**	**351**	*e*Pn	**Pn**	**01 13 11.7 +2.9**
BRTR	**Keskin Array B**	**6.74**	**47**	Pn	**Pn**	**01 13 25.2 +1.5**
	0.3nm,0.3s,baz=216,slow=14,SNR=18					
BRTR				Sn	**Sn**	**01 14 42.8 +2.5**
	0.2nm,0.3s,baz=214,slow=27,SNR=4.5					
MMAI	**Mount Meron Ar**	**7.14**	**106**	Pn	**Pn**	**01 13 27.9 -1.3**
	1.4nm,0.3s,baz=308,slow=12,SNR=8.8					
MMAI				Sn	**Sn**	**01 14 49.1 -1.1**
	2.8nm,0.3s,baz=313,slow=27,SNR=9.0					
MMAI				LR	LR	01 17 45.9
	comp=Z,34nm,19.2s,baz=250,slow=51					
EIL	**Elat**	**8.60**	**129**	Pn	**Pn**	**01 13 49.0 -0.1**
	0.3nm,0.3s,baz=342,slow=19,SNR=4.7					
EIL				Sn	**Sn**	**01 15 22.8 -3.1**
	0.6nm,0.3s,baz=108,slow=20,SNR=3.6					
EIL				LR	LR	01 17 47.7
	comp=Z,38nm,19.0s,baz=262,slow=43					
ASF	**Jabal al Asfar**	**8.63**	**108**	Pn	Pn	01 13 57.1 +7.5
	0.2nm,0.3s,baz=90,slow=4.0,SNR=3.0					
ASF				Sn	**Sn**	**01 15 30.3 +3.5**
	0.3nm,0.3s,baz=28,slow=15,SNR=3.2					
MLR	**Muntele Rosu**	**10.23**	**355**	Pn	**Pn**	**01 14 14.2 +2.7**
	0.0nm,0.3s,baz=114,slow=20,SNR=1.9					
KECS	**Kecovo**	**14.09**	**341**	*e*PN	**Pn**	**01 15 04.2 0.0**
KEST	**Kesra**	**14.58**	**277**	Pn	**Pn**	**01 15 09.7 -1.4**
	0.0nm,0.3s,baz=311,slow=19,SNR=2.4					
STHS	**Stebnicka Huta**	**14.78**	**344**	*e*PN	**Pn**	**01 15 16.6 +3.0**
AKASG	**Malin Array Be**	**15.46**	**5**	Pn	**Pn**	**01 15 21.9 -0.8**
	0.5nm,0.3s,baz=192,slow=12,SNR=2.4					
GERES	**GERESS Array B**	**16.82**	**328**	Pn	**P**	**01 15 41.8 -0.5**
	0.1nm,0.3s,baz=141,slow=11,SNR=6.6					
DPC	**Dobruska-Polom**	**17.01**	**336**	*e*P	**P**	**01 15 43.8 -0.5**
DPC				*ex*	x	01 15 45.8
KHC	**Kasperske Hory**	**17.09**	**328**	*e*P	**P**	**01 15 44.7 -0.5**
KHC				*ex*	x	01 15 47.6
PRU	**Pruhonice**	**17.36**	**332**	*e*P	**P**	**01 15 48.2 +0.1**
ESDC	**Sonseca Array**	**25.07**	**289**	P	**P**	**01 17 08.4 -0.8**
	0.5nm,0.6s,baz=84,slow=9.8,SNR=6.2					
FINES	**FINESS Array B**	**26.17**	**359**	P	**P**	**01 17 18.9 +0.1**
	0.9nm,0.6s,baz=160,slow=12,SNR=7.4					
AKTO	**Aktyubinsk**	**26.92**	**46**	P	**P**	**01 17 26.1 +0.5**
	0.7nm,0.7s,baz=240,slow=20,SNR=2.9					
TORD	**Torodi Ar. Bea**	**31.90**	**233**	P	**P**	**01 18 10.3 0.0**
	0.5nm,0.6s,baz=30,slow=9.5,SNR=10					
ARCES	**ARCESS Array B**	**34.30**	**359**	P	**P**	**01 18 30.8 +0.1**
	1.9nm,0.8s,baz=163,slow=8.9,SNR=5.0					
SPITS	**Spitsbergen Ar**	**43.24**	**357**	P	**P**	**01 19 45.3 -0.1**
	3.8nm,1.1s,baz=150,slow=12,SNR=3.7					
ZALV	**Zalesovo Beam**	**43.68**	**46**	P	**P**	**01 19 49.1 -0.1**
	0.4nm,0.4s,baz=257,slow=10,SNR=2.7					
SONM	**Songino Array**	**58.08**	**51**	P	**P**	**01 21 37.8 -0.1**
	0.5nm,0.8s,baz=297,slow=13,SNR=4.1					
USRK	**Ussuriysk Ar.**	**75.53**	**46**	P	**P**	**01 23 29.4 +0.4**
	1.8nm,0.5s,baz=276,slow=5.3,SNR=5.5					
KSRS	**Korea Array**	**76.84**	**53**	P	**P**	**01 23 36.0 -0.6**
	1.0nm,0.7s,baz=305,slow=4.4,SNR=3.7					
ILAR	**Eielson Array**	**80.15**	**357**	P	**P**	**01 23 52.6 -1.8**
	0.1nm,0.5s,baz=6.9,slow=10.0,SNR=2.7					

CSEM ***01*** *01:13:55.5±0.1, 37.79N×14.98E, h20km, ML2.3/4, Error ellipse: s-maj=4.0km s-min=2.6km az=94.0*

ROM 01 01:13:55.0±0.2, 37.79N×14.93E, h29km±3km, Md2.0/13, Ml1.7/5, Error ellipse: s-maj=1.9km s-min=1.3km az=88.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNO	**Monte Soro**	**0.24**	**308**	Pg	Pb	01 14 01.3	-0.5
MNO				Sg	Sb	01 14 05.9	-0.6
	9.0nm,0.1s						
MNO	**Monte Soro**	**0.24**	**308**	Pg	Pb	01 14 01.3	-0.5
MNO				Sg	Sb	01 14 05.9	-0.6
	9.0nm,0.1s						
ECNV	**Catenanuova**	**0.26**	**222**	Pg	Pn	01 14 02.6	-0.3
ECNV				Sg	Sb	01 14 07.2	+0.7
ECNV	**Catenanuova**	**0.26**	**222**	Pg	Pn	01 14 02.6	-0.3
ECNV				Sg	Sb	01 14 07.2	+0.7
NOV	**Novara**	**0.29**	**34**	Pg	Pb	01 14 02.1	-0.3
NOV				Sg	Sb	01 14 08.1	+0.8
	31nm,0.3s						
MMME	**Mongiuffi-Meli**	**0.29**	**60**	Pg	Pb	01 14 02.5	+0.1
MMME				Sg	Sb	01 14 08.1	+0.6
	50nm,0.4s						
MMME	**Mongiuffi-Meli**	**0.29**	**60**	Pg	Pb	01 14 02.5	+0.1
GALF	**Gagliano Caste**	**0.30**	**255**	Pg	Pb	01 14 02.4	0.0
GALF				Sg	Sn	01 14 08.6	-0.5
GALF	**Gagliano Caste**	**0.30**	**255**	Pg	Pb	01 14 02.4	0.0
GALF				Sg	Sn	01 14 08.6	-0.5
CAGR	**Agira**	**0.38**	**244**	Pg	Pn	01 14 05.0	+0.4
CAGR	**Agira**	**0.38**	**244**	Pg	Pn	01 14 05.0	+0.4
HLNI	**Lentini**	**0.44**	**186**	Pg	Pb	01 14 04.2	-0.2
HLNI				Sg	Sb	01 14 11.5	+0.7
	41nm,0.1s						
HLNI	**Lentini**	**0.44**	**186**	Pg	Pb	01 14 04.2	-0.2
HLNI				Sg	Sb	01 14 11.5	+0.7
	41nm,0.1s						
HCRL	**Carlentini**	**0.51**	**171**	Pg	Pb	01 14 05.4	-0.1
HCRL				Sg	Sn	01 14 13.6	-0.5
HCRL	**Carlentini**	**0.51**	**171**	Pg	Pb	01 14 05.4	-0.1
HCRL				Sg	Sn	01 14 13.6	-0.5
MILZ	**Milazzo**	**0.54**	**26**	Pg	Pb	01 14 06.1	+0.1
MILZ	**Milazzo**	**0.54**	**26**	Pg	Pb	01 14 06.1	+0.1
AGST	**Augusta-Monte**	**0.58**	**156**	Pg	Pb	01 14 06.6	-0.1
AGST				Sg	Sn	01 14 15.6	-0.2
AGST	**Augusta-Monte**	**0.58**	**156**	Pg	Pb	01 14 06.6	-0.1
AGST				Sg	Sn	01 14 15.6	-0.2
VPL	**Vulcano Piano**	**0.59**	**4**	Pg	Pb	01 14 07.2	+0.2
VPL				Sg	Sn	01 14 16.5	+0.2
	42nm,0.4s						
VPL	**Vulcano Piano**	**0.59**	**4**	Pg	Pb	01 14 07.2	+0.2
VPL				Sg	Sn	01 14 16.5	+0.2
	42nm,0.4s						
SSY	**Sortino**	**0.64**	**170**	Pg	Pb	01 14 07.6	-0.2
SSY				Sg	Sn	01 14 17.6	+0.1
SSY	**Sortino**	**0.64**	**170**	Pg	Pb	01 14 07.6	-0.2
SSY				Sg	Sn	01 14 17.6	+0.1
HAVL	**Avola**	**0.84**	**169**	Pg	Pn	01 14 10.8	-0.1
HAVL				Sg	Sn	01 14 23.0	+0.7
	44nm,0.7s						
HAVL	**Avola**	**0.84**	**169**	Pg	Pn	01 14 10.8	-0.1
HAVL				Sg	Sn	01 14 23.0	+0.7
	44nm,0.7s						

BEO ***01*** *01:15:09.9±1.1, 42.33N×19.04E, h0km, ML1.7/4*

CSEM ***01*** *01:15:09.2±0.2, 42.39N×19.02E, h10km, ML1.4, Error ellipse: s-maj=3.1km s-min=2.8km az=41.0*

PDG 01 01:15:09.7±0.3, 42.40N×19.02E, h3km±4km, MD1.4/1, ML1.4/11, 7C-12D, Error ellipse: s-maj=0.4km s-min=0.4km az=0.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUM	**Brajici-Budva**	**0.14**	**223**	⇓*i*Pg	Pg	01 15 12.0	-0.5
BUM				*e*Sg	Sg	01 15 14.1	-0.3
BUM	**Brajici-Budva**	**0.14**	**223**	⇓*i*Pg	Pg	01 15 12.0	-0.5
BUM				*e*Sg	Sg	01 15 14.1	-0.3
PDG	**Podgorica**	**0.17**	**80**	*e*Pg	Pg	01 15 12.5	-0.6
PDG				*e*Sg	Sg	01 15 15.6	+0.2
PDG	**Podgorica**	**0.17**	**80**	⇓*i*Pg	Pg	01 15 12.5	-0.6
PDG				*e*Sg	Sg	01 15 15.6	+0.2
TTG	**Podgorica**	**0.17**	**80**	⇓*i*Pg	Pg	01 15 12.5	-0.6
TTG				*e*Sg	Sg	01 15 15.6	+0.2
DRME	**Dracevica, Mon**	**0.25**	**151**	⇑*i*Pg	Pg	01 15 13.8	-0.7
DRME				*e*Sg	Sg	01 15 18.3	+0.6
DRME	**Dracevica, Mon**	**0.25**	**151**	⇑*i*Pg	Pg	01 15 13.8	-0.7
DRME				*e*Sg	Sg	01 15 18.3	+0.6
NKME	**Niksic**	**0.37**	**352**	⇓*i*Pg	Pg	01 15 15.9	-1.0
NKME				*e*Sg	Sg	01 15 21.9	+0.1
NKME	**Niksic**	**0.37**	**352**	⇓*i*Pg	Pg	01 15 15.9	-1.0
NKME				*e*Sg	Sg	01 15 21.9	+0.1
HCY	**Herceg Novi**	**0.39**	**277**	⇓*i*Pg	Pg	01 15 17.0	-0.3
HCY				*e*Sg	Sg	01 15 23.3	+0.9
HCY	**Herceg Novi**	**0.39**	**277**	⇓*i*Pg	Pg	01 15 17.0	-0.3
HCY				*e*Sg	Sg	01 15 23.3	+0.9
NKY	**Niksic**	**0.41**	**357**	⇑*i*Pg	Pg	01 15 17.2	-0.6
NKY				*e*Sg	Sg	01 15 23.8	+0.5
NKY	**Niksic**	**0.41**	**357**	⇑*i*Pg	Pg	01 15 17.2	-0.6
NKY				*e*Sg	Sg	01 15 23.8	+0.5
ULC	**Ulcinj**	**0.47**	**159**	⇓*i*Pg	Pg	01 15 18.4	-0.3
ULC				*e*Sg	Sg	01 15 26.0	+1.2
ULC	**Ulcinj**	**0.47**	**159**	⇓*i*Pg	Pg	01 15 18.4	-0.3
ULC				*e*Sg	Sg	01 15 26.0	+1.2
TREB	**Trebinje**	**0.59**	**303**	*e*Pg	Pb	01 15 22.0	-0.7
TREB				*e*Sg	Sg	01 15 29.5	+0.8
TREB	**Trebinje**	**0.59**	**303**	*e*Pg	Pb	01 15 22.0	-0.7
BRY	**Bratogost**	**0.61**	**325**	⇑*i*Pg	Pg	01 15 20.8	-0.9
BRY				*e*Sg	Sg	01 15 30.2	+0.4
BRY	**Bratogost**	**0.61**	**325**	⇑*i*Pg	Pg	01 15 20.8	-0.9
BRY				*e*Sg	Sg	01 15 30.2	+0.4
PVY	**Plav**	**0.72**	**74**	⇑*i*Pg	Pg	01 15 23.1	-0.6
PVY				*e*Sg	Sb	01 15 34.7	-0.8
BEY	**Berane**	**0.80**	**54**	⇓*i*Pg	Pg	01 15 24.9	-0.2
BEY				*e*Sg	Sb	01 15 36.9	-0.7
IVA	**Berane**	**0.80**	**54**	⇓*i*Pg	Pg	01 15 24.9	-0.2
IVA				*e*Sg	Sb	01 15 36.9	-0.7
PLE	**Pljevlja**	**0.97**	**16**	*e*Pg	Pg	01 15 28.1	-0.3
PLE				*e*Sg	Sb	01 15 43.4	+0.8
PLE	**Pljevlja**	**0.97**	**16**	*e*Pg	Pg	01 15 28.1	-0.3
PLE				*e*Sg	Sb	01 15 43.4	+0.8
STON	**Ston**	**1.08**	**296**	*e*Pg	Pg	01 15 28.7	-1.7
STON				Sg	Sb	01 15 45.5	-0.1
STON	**Ston**	**1.08**	**296**	*e*Pg	Pg	01 15 30.6	+0.2
STON				*e*Sg	Sb	01 15 45.6	0.0
STON	**Ston**	**1.08**	**296**	*e*Pg	Pg	01 15 30.6	+0.2
STON				Sg	Sb	01 15 45.4	-0.2
STON	**Ston**	**1.08**	**296**	*e*Pg	Pg	01 15 28.7	-1.7
SJES	**Sjenica**	**1.11**	**39**	*e*Pg	Pb	01 15 31.6	-0.1
SJES				*e*Sg	Sb	01 15 47.2	+0.5
SJES	**Sjenica**	**1.11**	**39**	*e*

DZET Dzherino 2.80 324 ⇓P Pn 02 13 22.2 +0.2
595nm,0.2s
DZET ⇑S S 02 13 56.5 -3.0
3µm,0.6s
DZET Dzherino 2.80 324 PN Pn 02 13 22.1 +0.2
DZET pmax pmax
comp=Z,595nm,0.2s
CEP Cherat 2.84 164 ⇑P Pn 02 13 23.9 +1.4
CEP S S 02 14 01.0 +0.7
CHCP Chirah Chowk 3.46 146 P Pn 02 13 31.4 +1.8
THW Thamme Wali 3.81 170 ⇓P Pn 02 13 34.9 +1.1
SFK Sufi-Kurgan 4.00 29 ⇓P Pn 02 13 37.0 +0.9
comp=Z,388nm,0.6s
SFK ⇑S S 02 14 24.3 -0.8
comp=Z,1µm,0.7s
SFK Sufi-Kurgan 4.00 29 PN Pn 02 13 37.0 +0.9
SFK S S 02 14 24.2 -0.8
SFK pmax pmax
comp=Z,388nm,0.6s
SFK smax smax
comp=N,1µm,0.7s
KSH Kashi 4.95 52 ⇓*i* P Pn 02 13 43.9 -4.0
KSH sP sP 02 14 24.1
KSH S S 02 14 35.0 -11
DLH Dalhousie 5.76 133 *e*P Pn 02 13 58.0 -0.4
DLH *e*S S 02 15 00.0 -5.3
AML Almayashu 5.96 20 P Pn 02 14 01.1 +0.2
SNR=782
DHRM DHARAMSHALA 6.17 133 *e*P Pn 02 14 04.5 +1.0
DHRM *e*S S 02 15 11.8 -2.9
UCH Uchtor 6.30 25 P Pn 02 14 05.7 +0.3
SNR=438
KZA Kyzart 6.44 30 P Pn 02 14 07.1 0.0
SNR=197
EKS2 Erkin-Say 6.48 19 P Pn 02 14 07.6 +0.3
SNR=89
EKS2 Erkin-Say 6.48 19 *e*PN Pn 02 14 07.6 +0.3
EKS2 *e*S S 02 15 19.3 -2.3
EKS2 Erkin-Say 6.48 19 *e*Pn Pn 02 14 07.6 +0.3
EKS2 *e*S S 02 15 19.3 -2.3
KK31 Karatay Array 6.55 357 P Pn 02 14 08.0 -0.1
comp=N,87nm,0.5s,baz=178,slow=12,SNR=979
KK31 ⇓S S 02 15 17.8 -5.3
comp=N,127nm,0.7s,baz=181,slow=22,SNR=9.1
KK31 Karatay Array 6.55 357 *e*PN Pn 02 14 08.0 -0.1
KK31 pmax pmax
comp=Z,90nm,0.3s
KKAR Karatay Array 6.55 357 *e*PN Pn 02 14 07.9 -0.2
KKAR Karatay Array 6.55 357 *e*Pn Pn 02 14 07.9 -0.2
KKAR *e*S S 02 15 18.2 -5.0
AAK Ala-Archa 6.66 23 P Pn 02 14 10.4 +0.7
SNR=216
AAK Ala-Archa 6.66 23 P Pn 02 14 10.1 +0.5
comp=Z,186nm,0.4s
AAK ⇓S S 02 15 23.7 -2.2
comp=Z,194nm,0.8s
KBK Karagaybulak 6.83 26 P Pn 02 14 12.5 +0.6
SNR=178
BHK Bhakra 6.85 137 *e*P Pn 02 14 15.6 +3.5
BHK *e*S S 02 15 29.0 -1.4
FRU Bishkek 6.88 23 ⇓*i* PN Pn 02 14 13.0 +0.6
FRU *e*S S 02 15 28.0 -2.9
FRU pmax pmax
comp=Z,380nm,0.6s
FRU smax smax
comp=N,320nm,1.8s
ULHL Ulahol 7.00 34 P Pn 02 14 14.4 +0.2
SNR=56
CHMS Chumysh 7.07 23 P Pn 02 14 14.7 -0.2
SNR=123
USP Ospenovka 7.24 21 P Pn 02 14 16.6 -0.4
SNR=19
TKM2 Tokmak 2 7.30 28 P Pn 02 14 18.4 +0.4
SNR=169
TKM2 Tokmak 2 7.30 28 ⇓P Pn 02 14 18.3 +0.4
comp=N,190nm,0.8s
TKM2 ⇓S S 02 15 38.3 -2.7
comp=N,160nm,0.9s
TKM2 Tokmak 2 7.30 28 *i* PN Pn 02 14 18.2 +0.4
TKM2 pmax pmax
comp=Z,190nm,0.7s
TKM2 Tokmak 2 7.30 28 *e*Pn Pn 02 14 18.3 +0.4
SMLA Simla 7.49 135 *i* P Pn 02 14 20.7 +0.4
SMLA *e*S S 02 15 41.3 -4.0
SMLA AML AML 02 15 44.8
comp=E,1µm,0.6s
SMLA AML AML 02 15 46.8
comp=N,769nm,0.6s
DDI Dehra Dun 8.60 134 *e*P Pn 02 14 34.6 -0.2
DDI *e*S S 02 16 08.1 -3.6
DDI AML AML 02 16 16.1
comp=N,418nm,0.9s
DDI AML AML 02 16 17.4
comp=E,645nm,1.9s
JOSI Joshimath 9.35 127 *e*P Pn 02 14 41.4 -3.2
JOSI *e*S S 02 16 20.8 -9.0
KHET Khetri 9.40 153 *e*P Pn 02 14 43.5 -1.6
KHET *e*S S 02 16 22.4 -8.3
PDGK Podgornoye 9.42 41 ⇑P Pn 02 14 44.9 -0.1
comp=E,9.0nm,0.6s
NDI New Delhi 9.46 144 *i* P Pn 02 14 44.0 -1.9
NDI *ex* x 02 16 15.0
GEYT Alibeck 10.32 281 P Pn 02 14 55.0 -1.8
comp=E,1.1nm,0.3s,baz=68,slow=8.2,SNR=8.6
GEYT S S 02 16 50.0 -2.6
comp=E,1.6nm,0.3s,baz=86,slow=24,SNR=3.0
AJM Ajmer 10.53 162 *e*P Pn 02 14 59.0 -0.6
AJM *ex* x 02 16 52.0
LGTI Lohaghat 10.54 130 *ex* Pn 02 14 57.6 -2.0
LGTI *e*S S 02 16 50.1 -7.7
AGRA Agra 11.03 145 *e*P Pn 02 15 05.2 -0.7
AGRA *e*S S 02 17 00.8 -7.1
AGRA AML AML 02 18 05.0
comp=E,99nm,0.5s
AGRA AML AML 02 18 07.2
comp=N,97nm,0.3s
OTUK Ortayu 11.73 5 ⇑P Pn 02 15 14.2 -0.3
comp=N,34nm,0.7s
MK31 Makanchi Array 13.27 36 P Pn 02 15 33.9 -0.1
comp=N,9.0nm,0.6s,baz=215,slow=15,SNR=118
MK31 Makanchi Array 13.27 36 *e*P Pn 02 15 33.8 -0.1
MK31 pmax pmax
comp=Z,5.0nm,0.3s
MKAR Makanchi Array 13.27 36 *e*P Pn 02 15 34.2 +0.3
MKAR Makanchi Array 13.27 36 *e*Pn Pn 02 15 34.2 +0.3
WMQ Urumqi 14.70 55 P P 02 15 52.9 +0.6
WMQ sP 02 16 40.0
WMQ PMZ
comp=Z,31nm,0.4s
WMQ PMZ
comp=Z,260nm,4.0s
AB31 Akbulak array 15.01 331 ⇑P Pn 02 15 54.3 -1.0
comp=Z,19nm,0.5s
AB31 ⇓S S 02 18 37.0 -4.2
comp=Z,5.3nm,0.6s,baz=143,slow=22,SNR=6.9
AB31 Akbulak array 15.01 331 P Pn 02 15 54.2 -1.0
AB31 pmax pmax
comp=Z,13nm,0.3s
ABKAR Akbulak array 15.01 331 *e*Pn Pn 02 15 54.3 -0.9
ABKAR *e*S S 02 18 41.5 +0.3
KURBB Kurchatov Arra 15.08 19 ⇓P Pn 02 15 54.6 -1.4
comp=Z,17nm,0.6s
KURBB Kurchatov Arra 15.08 19 P Pn 02 15 55.3 -0.8
comp=Z,1.0nm,0.3s,baz=209,slow=11,SNR=51
KURBB S S 02 18 46.8 +4.0
baz=206,slow=15,SNR=6.3
KURK Kurchatov 15.19 19 ⇓P Pn 02 15 56.1 -1.3
comp=Z,8.3nm,1.0s
KURK Kurchatov 15.19 19 *e*P Pn 02 15 56.1 -1.3
KURK *e*S S 02 18 47.0 +1.7
KURK pmax pmax
comp=Z,25nm,0.8s
KURK Kurchatov 15.19 19 *e*Pn Pn 02 15 56.1 -1.3
comp=Z,25nm,0.8s
KURK *e*S S 02 18 47.0 +1.7
BVA0 Borovoye Array 16.47 359 ⇓P P 02 16 12.1 +0.5
comp=Z,11nm,0.8s,baz=165,slow=13,SNR=45
BVA0 ⇓S S 02 19 13.7 +0.7
comp=Z,40nm,1.5s,baz=172,slow=21,SNR=15
BVA0 Borovoye Array 16.47 359 *i* P Pn 02 16 12.6 -0.1
BVA0 pmax pmax
comp=Z,11nm,0.8s
BVAR Borovoye Array 16.47 359 P Pn 02 16 12.6 -0.1
comp=Z,4.0nm,0.3s,baz=163,slow=16,SNR=32
BVAR S S 02 19 14.4 +1.5
baz=166,slow=20,SNR=9.7
BRVK Borovoye 16.51 359 ⇑P P 02 16 12.5 +0.6
comp=Z,19nm,0.6s
BRVK ⇓S S 02 19 09.4 -4.3
comp=Z,55nm,1.2s
BRVK Borovoye 16.51 359 *c i* P Pn 02 16 12.9 -0.2
BRVK pmax pmax
comp=Z,12nm,0.8s
BRVK Borovoye 16.51 359 *e*Pn Pn 02 16 13.2 +0.1
comp=Z,15nm,0.7s
BRVK *e*S S 02 19 08.3 -5.3
AKTO Aktyubinsk 16.71 330 ⇓P Pn 02 16 15.1 -0.4
comp=Z,28nm,0.8s
AKTO ⇓S S 02 19 14.0 -3.7
comp=Z,18nm,0.9s
AKTO Aktyubinsk 16.71 330 P Pn 02 16 15.4 -0.1
comp=Z,2.8nm,0.3s,baz=141,slow=10,SNR=129
AKTO S S 02 19 16.4 -1.3
comp=Z,0.3nm,0.3s,baz=219,slow=18,SNR=5.4
LSA Lhasa 18.24 106 P Pn 02 16 35.6 +1.4
LSA Lhasa 18.24 106 *e*P Pn 02 16 33.4 -0.8
LSA pmax pmax
comp=Z,9.0nm,0.6s
LSA Lhasa 18.24 106 *e*P Pn 02 16 33.4 -0.8
comp=Z,9.3nm,0.6s
SRSP Sriramsagar 18.73 158 *e*P P 02 16 37.2 +0.7
SRSP IAmb IAmb 02 16 41.7
comp=Z,58nm,0.8s
KLRI Killari 19.08 163 *e*P P 02 16 41.4 +1.1
KLRI IAmb IAmb 02 16 45.3
comp=Z,34nm,0.7s
RPR Rampur 19.10 155 *e*P P 02 16 42.1 +1.6
RPR IAmb IAmb 02 16 46.7
comp=Z,35nm,0.7s
ZALV Zalesovo Beam 19.88 25 P P 02 16 48.8 +0.2
comp=Z,10.0nm,0.3s,baz=216,slow=11,SNR=160
ZALV S S 02 20 18.7 -1.5
comp=Z,0.3nm,0.3s,baz=214,slow=17,SNR=5.4
ZALV Zalesovo Beam 19.88 25 *i* P P 02 16 48.7 +0.2
ZALV pmax pmax
comp=Z,32nm,0.4s
NVS Novosibirsk 20.14 21 *e*P P 02 16 51.1 -0.2
NVS pmax pmax
comp=Z,26nm,0.6s
NVS pmax pmax
comp=N,18nm,0.5s
NVS pmax pmax
comp=E,8.0nm,0.5s
HYBB Hyderabad (bro 20.22 159 *e*P P 02 16 53.5 +1.0
HYBB IAmb IAmb 02 16 56.0
comp=Z,26nm,0.8s
HYBB *e*S S 02 20 27.7 +0.3
HYB Hyderabad 20.22 159 *i* P S 02 16 53.0 +0.5
HYB *e* 02 20 19.0
GNI Garni 20.83 288 P P 02 16 59.7 +0.6
comp=Z,2.5nm,0.4s,baz=72,slow=21,SNR=3.5
NJS Nagarjunasagar 21.26 157 *e*P P 02 17 03.9 +0.5
NJS IAmb IAmb 02 17 06.2
comp=Z,18nm,0.9s
NJS *e*S S 02 20 45.6 -0.4
CHLP Challavanipeta 21.37 144 *e*P P 02 17 04.8 +0.2
CHLP IAmb IAmb 02 17 07.4
comp=Z,12nm,0.8s
SVE Sverdlovsk 21.43 344 *e*P P 02 17 05.4 +0.7
SVE pmax pmax
comp=Z,19nm,1.1s
PVM Polavaram 21.43 151 *e*P P 02 17 06.9 +1.8
PVM IAmb IAmb 02 17 08.6
comp=Z,12nm,0.9s
ARU Arti 21.57 341 *d i* P P 02 17 06.9 +0.8
ARU *PP pP 02 17 42.7 +0.6
ARU *SP sP 02 18 12.0 +2.6
ARU S S 02 20 52.6 +2.4
ARU SS 02 21 41.1
ARU pmax pmax
comp=Z,28nm,1.2s
ARU Arti 21.57 341 *e*P P 02 17 06.8 +0.6
comp=Z,15nm,0.7s
SRLM Srisailam 21.57 159 *e*P P 02 17 07.6 +1.1
SRLM IAmb IAmb 02 17 08.3
comp=Z,107nm,1.9s
ADKI Addanki 22.14 156 *e*P P 02 17 12.3 +0.3
RCLA Racherla 22.19 159 *e*P P 02 17 13.4 +0.8
RCLA IAmb IAmb 02 17 15.1
comp=Z,29nm,0.8s
URV Uravakonda 22.25 164 *e*P P 02 17 13.7 +0.6
URV IAmb IAmb 02 17 14.6
comp=Z,10nm,0.7s
KBZ Khabaz 22.54 297 P P 02 17 15.3 -0.1
comp=Z,2.9nm,0.8s,baz=161,slow=5.9,SNR=6.7
KIV Kislovodsk 22.72 298 *e*P P 02 17 16.7 -0.5
KIV *e*PP pP 02 17 54.5 -0.5
KIV *e*S S 02 21 08.4 -0.9
KIV pmax pmax
comp=Z,5.0nm,1.0s
GTA Gaotai 22.89 74 *e*P P 02 17 21.1 +2.3
GTA pP pP 02 17 59.7 +2.7
GTA sP sP 02 18 24.8 +0.8
GTA PMZ
comp=Z,10.0nm,1.1s
SKHT Srikalahasti 24.04 159 *e*P P 02 17 30.4 +1.1
SKHT IAmb IAmb 02 17 30.9
comp=Z,9.6nm,0.8s
RAYN Ar Rayn 25.48 246 *e*P P 02 17 43.1 +0.8
comp=Z,1.5nm,0.8s
LZH Lanzhou 26.44 81 *e*P P 02 17 52.3 +1.3
LZH pP pP 02 18 28.8 -5.0
LZH sP sP 02 18 55.4 -3.3
LZH PMZ
comp=Z,16nm,1.0s
VORD Divnogorie 26.77 313 *e*P P 02 17 53.6 +0.1
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
VORD pmax pmax
comp=Z,6.0nm,0.8s
VSR Storozhevoye 26.93 313 *e*P P 02 17 54.8 -0.1
VSR pmax pmax
comp=N,3.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,6.0nm,0.8s
TLY Talaya 27.63 46 *i* P P 02 18 03.4 +2.2
TLY pmax pmax
comp=Z,3.0nm,0.7s
CD2 Chengdu 27.78 92 P P 02 18 04.2 +1.4
CD2 PMZ
comp=Z,10.0nm,0.5s
SONM Songino Array 28.34 55 P P 02 18 09.3 +1.6
comp=Z,4.0nm,0.8s,baz=257,slow=9.6,SNR=25
BRTR Keskin Array B 29.38 288 P P 02 18 17.6 +0.7
comp=Z,1.7nm,0.7s,baz=103,slow=9.1,SNR=18
BRTR pP pP 02 19 01.1 +0.9
comp=Z,1.0nm,0.8s,baz=90,slow=7.4,SNR=2.6
BRTR PcP PcP 02 21 17.3 -0.1
comp=Z,0.9nm,0.8s,baz=152,slow=3.2,SNR=3.9
BRTR Keskin Array B 29.38 288 *ce*P P 02 18 18.1 +1.2
BRTR pmax pmax
comp=Z,2.0nm,0.7s
PRGR Permogore 29.70 336 ⇓*i* P P 02 18 18.8 -0.5
PRGR *PP pP 02 19 04.4 +1.8
PRGR pmax pmax
comp=Z,22nm,0.6s
OBN Obninsk 29.87 319 P P 02 18 20.4 -0.4
comp=Z,17nm,0.4s,baz=134,slow=22,SNR=3.9
OBN Obninsk 29.87 319 P P 02 18 21.2 +0.4
OBN *e*PP pP 02 19 06.4 +2.2
OBN pmax pmax
comp=Z,26nm,1.2s
CMAR Chiang Mai Arr 30.52 119 P P 02 18 27.4 +0.3
comp=Z,0.6nm,0.3s,baz=296,slow=8.3,SNR=5.3
CMAR pP pP 02 19 10.2 -0.3
comp=Z,1.0nm,0.3s,baz=305,slow=10,SNR=2.2
HHC Hu-ho-hao-te 31.79 70 *e*P P 02 18 36.7 -1.3
HHC pP pP 02 19 17.2 -4.4
HHC sP sP 02 19 48.4 +2.1
HHC PcP PcP 02 21 24.8 +1.1
HHC S S 02 23 32.8 +0.7
HHC PMZ
comp=Z,23nm,1.0s
HHC PMZ
comp=Z,90nm,5.1s
AKASG Malin Array Be 32.88 309 P P 02 18 47.5 +0.2
comp=Z,2.3nm,0.6s,baz=81,slow=7.1,SNR=9.8
AKASG Malin Array Be 32.88 309 *i* P P 02 18 46.2 -1.0
AKASG pmax pmax
comp=Z,2.0nm,0.6s
KIEV Kiev 32.88 309 P P 02 18 47.1 -0.2
MLR Muntele Rosu 34.71 299 P P 02 19 04.4 +1.1
comp=Z,2.3nm,0.8s,baz=172,slow=0.4,SNR=17
PUL Pulkovo 34.84 325 P P 02 19 04.8 +0.8
NACGM Naroch 35.14 316 *e* P 02 19 04.0 -2.6
KWP Kalwaria Pacla 36.94 306 *e*P P 02 19 23.4 +1.5
KWP Kalwaria Pacla 36.94 306 *e*P P 02 19 23.5 +1.5
KOLS Kolonicke sedl 37.21 305 *e*P P 02 19 25.0 +0.8
KOLS pmax pmax
comp=Z,6.0nm,1.7s
KOLS Kolonicke sedl 37.21 305 *e*P P 02 19 25.0 +0.8
LVZ Lovozero 37.39 338 *ce*P P 02 19 25.8 +0.3
LVZ pmax pmax
comp=Z,18nm,0.6s
LVZ Lovozero 37.39 338 *e*P P 02 19 26.1 +0.6
comp=Z,13nm,0.6s
FINES FINESS Array B 37.41 326 P P 02 19 26.4 +0.7
comp=Z,7.8nm,0.4s,baz=124,slow=10,SNR=71
FINES FINESS Array B 37.41 326 *i* P P 02 19 26.3 +0.6
FINES pmax pmax
comp=Z,8.0nm,0.4s
STHS Stebnicka Huta 37.89 306 *e*P P 02 19 30.6 +0.6
STHS pmax pmax
comp=Z,2.0nm,0.7s
STHS Stebnicka Huta 37.89 306 *e*P P 02 19 30.6 +0.6
KECS Kecovo 38.39 304 *e*P P 02 19 35.1 +1.0
KECS pmax pmax
comp=Z,2.0nm,0.7s
KECS Kecovo 38.39 304 *e*P P 02 19 35.1 +1.0
NIE Niedzica 38.50 306 *e*P P 02 19 36.8 +1.8
NIE Niedzica 38.50 306 *e*P P 02 19 36.8 +1.8
OJC Ojcow 38.83 307 *e*P P 02 19 38.2 +0.5
OJC Ojcow 38.83 307 *e*P P 02 19 38.3 +0.5
NJ2 Nanjing 39.51 82 *e*P P 02 19 44.6 +1.0
NJ2 PMZ
comp=Z,20nm,0.9s
KEV Kevo 40.73 338 *e*P P 02 19 53.6 +0.5
KEV pmax pmax
comp=Z,16nm,0.9s
KEV Kevo 40.73 338 *e*P P 02 19 53.6 +0.5
comp=Z,16nm,0.9s
KRLC Kraliky 40.78 307 *e*P P 02 19 54.1 +0.3
KRLC *e*PP PP 02 21 30.9 -1.5
KRLC Kraliky 40.78 307 *e*P P 02 19 54.1 +0.3
KRLC *e* 02 21 30.9
DPC Dobruska-Polom 41.06 307 *e*P P 02 19 57.6 +1.5
DPC *ex* x 02 19 59.6
DPC Dobruska-Polom 41.06 307 *e*P P 02 19 57.6 +1.5
ARCES ARCESS Array B 41.08 338 P P 02 19 56.9 +0.9
comp=Z,23nm,0.6s,baz=112,slow=7.9,SNR=250
ARCES pP pP 02 20 41.0 -0.1
comp=Z,3.3nm,0.7s,baz=113,slow=9.3,SNR=2.2
ARE0 ARCESS Array S 41.08 338 *e*P P 02 19 57.0 +1.1
KTK1 Kautokeino 41.55 336 *e*P P 02 20 00.3 +0.5
KTK1 IAmb IAmb 02 20 00.8
comp=Z,32nm,0.5s
CN2 Changchun 41.62 63 *e*P P 02 19 59.2 -1.5
CN2 PMZ
comp=Z,10.0nm,0.5s
HAMF Hammerfest 42.16 339 *e*P P 02 20 05.9 +1.3
HAMF IAmb IAmb 02 20 06.5
comp=Z,45nm,0.5s
SOKA Soboth 42.20 302 ⇑*i* P P 02 20 06.5 +1.0
comp=Z,2.2nm,0.6s
PRU Pruhonice 42.22 307 *e*P P 02 20 05.3 -0.2
PRU Pruhonice 42.22 307 *e*P P 02 20 05.3 -0.2
BRG Berggiesshubel 42.55 308 *e*P P 02 20 08.9 +0.8
comp=Z,3.9nm,0.9s
BRG Berggiesshubel 42.55 308 *e*P P 02 20 08.9 +0.8
BRG pmax pmax
comp=Z,4.0nm,0.9s
GERES GERESS Array B 42.86 305 P P 02 20 10.8 +0.1
comp=Z,0.3nm,0.6s,baz=67,slow=9.3,SNR=4.4
GERES PcP PcP 02 21 56.5 -1.0
comp=Z,0.9nm,0.9s,baz=48,slow=2.0,SNR=4.1
HFS Hagfors 42.99 322 P P 02 20 12.0 +0.5
comp=Z,11nm,0.6s,baz=102,slow=11,SNR=42
HFS Hagfors 42.99 322 P P 02 20 12.0 +0.5
CLL Collm 43.12 309 *i* P P 02 20 12.9 +0.2
CLL pmax pmax
comp=Z,3.0nm,0.9s
CLL Collm 43.12 309 *i* P P 02 20 12.9 +0.2
comp=Z,3.0nm,0.9s
TRO Tromso 43.20 336 *e*P P 02 20 12.4 -0.5
STEI Steigen 43.90 333 *e*P P 02 20 19.7 +1.1
YAK Yakutsk 43.95 36 *e*P P 02 20 18.4 -0.6
YAK pmax pmax
comp=Z,16nm,0.9s
NC602 NORSAR Array S 44.12 323 *e*P P 02 20 20.8 +0.3
FLOS Flostrand 44.21 331 *e*P P 02 20 21.6 +0.5
NB2 NORSAR Subarra 44.31 323 P P 02 20 22.0 0.0
comp=Z,8.1nm,0.7s,baz=95,slow=7.9
NB2 NORSAR Subarra 44.31 323 P P 02 20 22.0 0.0
baz=95,slow=7.9
NOA NORSAR Array B 44.31 323 P P 02 20 21.9 -0.1
comp=Z,6.4nm,0.6s,baz=96,slow=7.8,SNR=42
NOA pP pP 02 21 08.9 +1.0
comp=Z,0.4nm,0.6s,baz=177,slow=15,SNR=1.5
KONS Konsvik 44.34 331 *e*P P 02 20 22.8 +0.7
NAO01 NORSAR Array S 44.45 323 *e*P P 02 20 23.2 +0.1
comp=Z,3.8nm,0.7s
LOF Lofoten 44.57 333 *e*P P 02 20 23.8 -0.1
KSAR Wonju Array Be 44.88 71 P P 02 20 26.8 0.0
KSAR 02 22 03.1
KSAR Wonju Array Be 44.88 71 P P 02 20 26.8 0.0
KSAR PcP PcP 02 22 03.0 -1.4
KSRS Korea Array 44.90 71 P P 02 20 26.8 -0.1
comp=Z,0.5nm,0.4s,baz=280,slow=14,SNR=2.8
KSRS PcP PcP 02 22 03.0 -1.5
comp=Z,0.5nm,0.4s,baz=273,slow=3.8,SNR=4.0
KSRS Korea Array 44.90 71 P P 02 20 26.8 -0.1
KSRS 02 22 03.1
KSRS pmax pmax
comp=Z,1.0nm,0.4s
KLR Kul'dur 45.15 54 *e*P P 02 20 26.0 -2.7
BJO Bjornoya 45.16 343 *e*P P 02 20 29.9 +1.5
HOMB Homborsund 45.55 319 *e*P P 02 20 32.6 +0.9
DAVA Damuels 45.61 304 ⇑*i* P P 02 20 32.5 -0.1
comp=Z,5.6nm,0.8s
TIXI Tiksi 45.74 22 *c i* P P 02 20 33.7 +0.7
TIXI pmax pmax
comp=Z,18nm,0.7s
HSPB Hornsund (broa 47.07 345 *e*P P 02 20 45.1 +1.8
HSPB IAmb IAmb 02 20 46.2
comp=Z,17nm,1.1s
KMY Karmoy 47.23 320 *e*P P 02 20 46.0 +1.3
SPA0 Spitsbergen Ar 47.43 347 *e*P P 02 20 47.8 +1.7
SPITS Spitsbergen Ar 47.43 347 P P 02 20 47.6 +1.5
comp=Z,8.3nm,0.5s,baz=116,slow=12,SNR=64
KBS Kingsbay 48.55 347 *e*P P 02 20 56.1 +1.5
KBS IAmb IAmb 02 20 56.6
comp=Z,48nm,0.6s
KBS Kingsbay 48.55 347 *e*P P 02 20 55.8 +1.2
KBS pmax pmax
comp=Z,11nm,0.8s
KBS Kingsbay 48.55 347 *e*P P 02 20 55.8 +1.2
comp=Z,11nm,0.8s
KMBO Kilima Mbogo 48.84 227 P P 02 20 58.2 +0.3
comp=Z,1.7nm,0.6s,baz=53,slow=20,SNR=2.4
KEST Kesra 48.98 288 P P 02 20 59.4 +0.8
comp=Z,0.9nm,0.5s,baz=348,slow=2.0,SNR=16
SEY Seymchan 54.40 34 ⇓*eP* P 02 21 38.7 +0.6
ESDC Sonseca Array 57.39 298 P P 02 21 59.5 -0.3
comp=Z,1.7nm,0.8s,baz=56,slow=7.2,SNR=12
ESDC pP pP 02 22 49.1 +1.0
comp=Z,0.7nm,0.7s,baz=57,slow=7.5,SNR=3.3
BILL Bilibino 58.58 26 *c i* P P 02 22 08.5 +1.0
BILL *e* 02 24 20.3
BILL pmax pmax
comp=Z,11nm,0.8s
BILL Bilibino 58.58 26 *e*P P 02 22 08.4 +1.0
comp=Z,9.7nm,0.6s
SUMG Summit 60.99 341 *e*P P 02 22 25.3 +1.0
SUMG pmax pmax
comp=Z,8.0nm,0.6s
SUMG Summit 60.99 341 *e*P P 02 22 25.3 +1.0
comp=Z,8.2nm,0.6s
TORD Torodi Ar. Bea 65.67 269 P P 02 22 53.7 -1.7
comp=Z,6.6nm,0.5s,baz=51,slow=5.8,SNR=218
TORD pP pP 02 23 45.8 +0.9
comp=Z,0.8nm,0.6s,baz=48,slow=5.9,SNR=1.9
COLD Coldfoot 71.93 16 *e*P P 02 23 33.8 +0.7

comp=Z,5.8nm,0.4s
IM04 Indian Mountai 72.13 18 *e*P **P 02 23 34.5 +0.1**
INK Inuvik 73.86 9 P **P 02 23 45.3 +0.9**
comp=Z,12nm,0.6s,baz=348,slow=6.0,SNR=60
INK Inuvik 73.86 9 *e*P **P 02 23 45.2 +0.9**
INK pmax pmax
comp=Z,8.0nm,0.4s
INK Inuvik 73.86 9 *e*P **P 02 23 45.2 +0.9**
comp=Z,7.6nm,0.4s
BPAW Bear Paw Mtn. 74.35 18 *e*P **P 02 23 47.1 -0.3**
comp=Z,5.1nm,0.5s
COLA College 74.44 16*c i*P **P 02 23 48.2 +0.5**
COLA pmax pmax
comp=Z,64nm,1.0s
COLA College 74.44 16 *e*P **P 02 23 48.4 +0.6**
comp=Z,13nm,0.8s
CCB Clear Creek Bu 74.64 16 *e*P **P 02 23 48.8 -0.2**
comp=Z,1.9nm,0.7s
CAST Castle Rocks 74.64 19 *e*P **P 02 23 49.7 +0.7**
comp=Z,20nm,1.0s
DBIC Dimbokro 74.66 267 P **P 02 23 48.4 -1.5**
comp=Z,4.6nm,0.8s,baz=12,slow=10.0,SNR=4.3
LBTB Lobatse 74.69 222 *e*P **P 02 23 50.5 +0.6**
LBTB Lobatse 74.69 222 *e*P **P 02 23 50.5 +0.6**
ILAR Eielson Array 74.74 16 P **P 02 23 49.2 -0.3**
comp=Z,2.8nm,0.7s,baz=320,slow=4.6,SNR=41
ILAR pP **pP 02 24 41.7 +1.4**
comp=Z,0.1nm,0.7s,baz=147,slow=18,SNR=1.2
ILAR pP **PP 02 26 40.2 +1.2**
comp=Z,0.3nm,0.5s,baz=316,slow=7.2,SNR=4.5
PPLA Purkeypile 75.05 19 *e*P **P 02 23 51.7 +0.2**
comp=Z,7.3nm,0.5s
TRF Thorofare Moun 75.07 18 *e*P **P 02 23 52.0 +0.4**
comp=Z,37nm,2.3s
MCK McKinley 75.16 17 *e*P **P 02 23 52.5 +0.5**
MCK pmax pmax
comp=Z,7.0nm,0.5s
MCK McKinley 75.16 17 *e*P **P 02 23 52.5 +0.5**
comp=Z,7.2nm,0.5s
DAWY Dawson 76.88 13 *e*P **P 02 24 02.1 +0.4**
SML Sawmill 76.94 18 *e*P **P 02 24 02.4 +0.3**
SML pmax pmax
comp=Z,3.0nm,0.6s
SML Sawmill 76.94 18 *e*P **P 02 24 02.4 +0.3**
comp=Z,3.2nm,0.6s
HARP HAARP 77.18 16 *e*P **P 02 24 04.7 +1.3**
comp=Z,29nm,0.7s
BOSA Boshof 77.76 220 P **P 02 24 07.0 -0.1**
comp=Z,1.8nm,0.5s,baz=36,slow=3.6,SNR=7.2
BOSA Boshof 77.76 220 *e*P **P 02 24 07.2 +0.1**
BOSA Boshof 77.76 220 *e*P **P 02 24 07.2 +0.1**
EYAK Cordova Ski Ar 78.67 18 *e*P **P 02 24 12.4 +0.9**
comp=Z,9.4nm,0.6s
KDAK Kodiak Island 79.16 22 *i* P **P 02 24 14.5 +0.3**
KDAK Kodiak Island 79.16 22 *e*P **P 02 24 14.7 +0.5**
comp=Z,17nm,0.9s
OHAK Old Harbor 79.41 23 *e*P **P 02 24 15.9 +0.3**
comp=Z,9.2nm,0.6s
YKA Yellowknife Ar 81.19 3 P **P 02 24 25.5 +0.5**
comp=Z,5.4nm,0.4s,baz=350,slow=5.4,SNR=47
WRA Warramunga Arr 82.06 122 P **P 02 24 29.3 -0.9**
comp=Z,2.1nm,0.5s,baz=323,slow=4.8,SNR=27
WRA pP **pP 02 25 23.9 +1.9**
comp=Z,0.3nm,0.3s,baz=312,slow=6.2,SNR=1.9
WRAB Tennant Creek 82.06 122 *e*P **P 02 24 29.3 -0.9**
WRAB pmax pmax
comp=Z,3.0nm,0.3s
WRAB Tennant Creek 82.06 122 *e*P **P 02 24 29.3 -0.9**
comp=Z,2.8nm,0.3s
ASAR Alice Springs 84.32 125 P **P 02 24 40.6 -1.1**
comp=Z,2.5nm,0.5s,baz=311,slow=4.9,SNR=61
CPUP Villa Florida 135.17 268 PKP **PKPdf 02 31 26.9 -0.8**
comp=Z,1.8nm,0.7s,baz=125,slow=2.9,SNR=7.5
LPAZ La Paz 138.55 288 PKP **PKPdf 02 31 33.8 -1.2**
comp=Z,0.6nm,0.8s,baz=86,slow=4.9,SNR=3.8

*CSEM **01** 02:55:26.1±0.1,38.˚16N×22.˚69E,h20km,ML1.7, Error ellipse: s-maj=3.7km s-min=3.2km az=36.0*
*THE **01** 02:55:27.0,38.˚16N×22.˚69E,h15km±1km,ML1.7/7, Error ellipse: s-maj=1.1km s-min=0.5km az=281.0*
ATH 01 02:55:26.1,38.˚16N×22.˚70E,h21km±2km,MD2.6/13, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THAL	**Thalero**	**0.13**	**193**	*e*PB	Pb	02 55 30.6	-1.9
THAL				*e*SB	Sb	02 55 33.3	-3.7
THAL	**Thalero**	**0.13**	**193**	*e*Pb	Pb	02 55 30.6	-1.9
THAL				S	Sb	02 55 33.0	-4.0
THAL	**Thalero**	**0.13**	**193**	P	Pb	02 55 30.7	-1.8
THAL				S	Sb	02 55 33.0	-4.0
LTK	**Loutraki**	**0.25**	**123**	*e*PB	Pb	02 55 32.6	+0.3
LTK				*e*SB	Sb	02 55 37.2	+0.6
LTK	**Loutraki**	**0.25**	**123**	P	Pb	02 55 32.6	+0.3
LTK				S	Sb	02 55 37.2	+0.6
LTK	**Loutraki**	**0.25**	**123**	P	Pb	02 55 32.6	+0.3
LTK				S	Sb	02 55 37.2	+0.6
LOUT	**Loutraki**	**0.28**	**128**	*e*PB	Pb	02 55 32.4	-0.1
LOUT				*e*SB	Sb	02 55 37.2	+0.2
LOUT	**Loutraki**	**0.28**	**128**	*e*Pb	Pb	02 55 32.4	-0.1
LOUT	**Loutraki**	**0.28**	**128**	P	Pb	02 55 33.1	+0.6
LOUT				*e*Sb	Sb	02 55 37.2	+0.2
LOUT	**Loutraki**	**0.28**	**128**	P	Pb	02 55 33.1	+0.6
LOUT				S	Sb	02 55 37.3	+0.3
DSF	**Desfina**	**0.28**	**332**	*e*PB	Pb	02 55 33.0	+0.3
DSF				*e*SB	Sb	02 55 37.5	+0.2
DSF	**Desfina**	**0.28**	**332**	P	Pb	02 55 33.0	+0.3
DSF				S	Sb	02 55 37.5	+0.2
DSF	**Desfina**	**0.28**	**332**	P	Pb	02 55 33.0	+0.3
DSF				S	Sb	02 55 37.5	+0.2
ACOR	**Acrocorinthos**	**0.30**	**154**	P	Pb	02 55 33.0	+0.1
GUR	**Goura**	**0.36**	**232**	*e*PB	Pb	02 55 33.4	-0.4
GUR	**Goura**	**0.36**	**232**	*e*Pb	Pb	02 55 33.4	-0.4
GUR	**Goura**	**0.36**	**232**	P	Pb	02 55 34.4	+0.6
GUR				S	Sb	02 55 39.3	+0.2
GUR	**Goura**	**0.36**	**232**	P	Pb	02 55 34.4	+0.6
GUR				S	Sb	02 55 39.3	+0.2
KLV	**Kalavryta, Ach**	**0.45**	**255**	*e*PB	Pb	02 55 35.0	-0.3
KLV	**Kalavryta, Ach**	**0.45**	**255**	*e*Pb	Pb	02 55 35.0	-0.3
KLV	**Kalavryta, Ach**	**0.45**	**255**	P	Pb	02 55 35.9	+0.6
KLV				S	Sb	02 55 42.3	+0.7
KLV	**Kalavryta, Ach**	**0.45**	**255**	P	Pb	02 55 35.9	+0.6
KLV				S	Sb	02 55 42.3	+0.7
KALE	**Kalithea**	**0.50**	**298**	*e*PB	Pb	02 55 36.4	+0.1
KALE	**Kalithea**	**0.50**	**298**	*e*Pb	Pb	02 55 36.4	+0.1
LKR	**Lokris**	**0.54**	**26**	*e*PN	Pb	02 55 37.0	0.0
LKR	**Lokris**	**0.54**	**26**	P	Pb	02 55 37.1	+0.1
LKR				S	Sn	02 55 45.9	-1.2
LKR	**Lokris**	**0.54**	**26**	P	Pb	02 55 37.1	+0.1
LKR				S	Sn	02 55 45.9	-1.2
AXAR	**Agios Charalam**	**0.61**	**357**	*e*PB	Pb	02 55 37.6	-0.6
AXAR	**Agios Charalam**	**0.61**	**357**	*e*Pb	Pb	02 55 37.6	-0.6
DID	**Didima**	**0.78**	**147**	*e*PN	Pb	02 55 40.5	-0.5
DID	**Didima**	**0.78**	**147**	*e*Pn	Pb	02 55 40.5	-0.5
DID	**Didima**	**0.78**	**147**	P	Pn	02 55 42.5	+0.6
DID				S	Sn	02 55 53.0	0.0
DID	**Didima**	**0.78**	**147**	P	Pn	02 55 42.5	+0.6
DID				S	Sn	02 55 53.0	0.0
DRO	**Drossia**	**0.81**	**255**	*e*PN	Pn	02 55 42.0	-0.3
DRO	**Drossia**	**0.81**	**255**	*e*Pn	Pn	02 55 42.0	-0.3
VLX	**Vlachokerasia**	**0.83**	**198**	*e*PN	Pn	02 55 42.8	+0.1
VLX	**Vlachokerasia**	**0.83**	**198**	*e*Pn	Pn	02 55 42.8	+0.1
KRND	**KRANIDI**	**0.85**	**155**	*e*PN	Pn	02 55 43.2	+0.3
KRND	**KRANIDI**	**0.85**	**155**	*e*Pn	Pn	02 55 43.2	+0.3

*IDC **01** 03:07:42.9±0.4,21.˚73S×174.˚90W,h0km,mb4.8/26, mb1 4.9/29,mb1mx4.7/42,mbtmp4.7/29,ML3.9/2,MS4.2/22, Ms1 4.2/22,ms1mx4.1/30, Error ellipse: s-maj=15.9km s-min=10.0km az=109.0*
*ISCJB **01** 03:07:43.1±0.2,21.˚74S±0.˚05×174.˚95W±0.˚04,h10km, mb4.9/94,MS4.4/37, Error ellipse: s-maj=7.9km s-min=4.8km az=152.5*
*GCMT **01** 03:07:45.2±0.3,21.˚89S×174.˚34W,h15km,MW5.0/77, Moment Tensor Solution. s32,c36; s77,c115; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.76±.21; $M_{\theta\theta}$3.07±.14; $M_{\phi\phi}$0.68±.14; $M_{r\theta}$-0.07±.25; $M_{\theta\phi}$2.14±.08; $M_{\phi r}$0.29±.35; Best double couple: M_o4.05700×10^{16} NP1:ϕ_s235.00000°,δ46.00000°,λ-97.00000°. NP2: ϕ_s65.00000°,δ45.00000°,λ-83.00000°. Principal axes: T*

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4.3280, Plg1.0000°, Azm330.0000°; N -0.5500, Plg5.0000°, Azm239.0000°; P -3.7860, Plg85.0000°, Azm67.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*NEIC **01** 03:07:45.2±3.6,21.˚705×174.˚94W,h14km±22km,mb5.0/70 Error ellipse: s-maj=7.4km s-min=4.7km az=153.0*
*BJI **01** 03:07:46.5,21.˚59S×174.˚99W,h27km,mb5.1/24, mB5.3/17,Ms4.9/13,Ms7 4.5/12*
*MOS **01** 03:07:54.6±1.3,21.˚67S×175.˚07W,h97km,mb4.9/25, MS4.5/12,Error ellipse: s-maj=10.0km s-min=9.7km az=106.0*
ISC 01 03:07:44.7±0.3,21.˚71S±0.˚05×174.˚89W±0.˚06,h10km, n464,σ1$08/498,mb5.0/94,MS4.4/38,27C-16D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**7.74**	**300**	Pn	Pn	03 09 45.7	+8.1
	2μm,1.1s,SNR=9.5						
MSVF	**Nonsavu**	**7.74**	**300**	*e*P	Pn	03 09 44.6	+7.0
MSVF	**Nonsavu**	**7.74**	**300**	*e*Pn	Pn	03 09 44.6	+7.0
RAO	**Raoul Island**	**7.99**	**199**	Pn	**Pn**	**03 09 39.3**	**-1.6**
	55nm,0.3s,baz=336,slow=20,SNR=4.6						
RAO				Sn	Sn	03 11 04.9	-6.5
	26nm,0.3s,baz=90,slow=20,SNR=4.5						
AFI	**Afiamalu**	**8.31**	**21**	*e*P	**Pn**	**03 09 43.1**	**-2.3**
AFI	**Afiamalu**	**8.31**	**21**	*e*Pn	**Pn**	**03 09 43.0**	**-2.3**
RAR	**Rarotonga**	**14.08**	**91**	Pn	Pn	03 10 55.3	-9.1
	5.7nm,0.3s,baz=276,slow=12,SNR=8.9						
RAR				Sn	Sn	03 13 17.8	-23
	3.2nm,0.3s,baz=61,slow=19,SNR=4.6						
RAR				LR	LR	03 17 40.8	
	comp=Z,364nm,18.0s,baz=264,slow=42						
DZM	**Mont Dzumac**	**17.33**	**265**	*e*P	**P**	**03 11 52.5**	**+4.1**
	86nm,1.4s						
DZM				*e*LR	LR	03 15 56.9	
	778nm,21.9s						
DZM	**Mont Dzumac**	**17.33**	**265**	P	**P**	**03 11 47.9**	**-0.5**
	0.1nm,0.3s,baz=90,slow=24,SNR=11						
DZM	**Mont Dzumac**	**17.33**	**265**	Pn	**Pn**	**03 11 45.6**	**-1.4**
	27nm,0.9s						
URZ	**Urewera**	**17.87**	**201**	P	**Pn**	**03 11 52.9**	**-0.7**
	2.0nm,0.3s,baz=238,slow=1.9,SNR=9.3						
URZ				S	**Sn**	**03 15 13.6**	**+0.8**
	0.6nm,0.3s,baz=60,slow=20,SNR=5.0						
URZ	**Urewera**	**17.87**	**201**	*e*Pn	**P**	**03 11 55.1**	**+0.9**
	18nm,0.8s						
URZ				S	**Sn**	**03 15 13.6**	**+0.8**
KHZ	**Kahutara**	**22.81**	**203**	*e*P	**P**	**03 12 51.5**	**+3.8**
	31nm,1.1s						
TBI	**Tubuai**	**23.54**	**99**	*e*LQ	LQ	03 17 19.8	
	3μm,27.0s						
TBI				*e*LR	LR	03 18 23.0	
	1μm,27.2s						
TBI	**Tubuai**	**23.54**	**99**	*e*T	T	03 36 31.5	
	14nm,0.4s						
PAE	**Paea**	**24.16**	**85**	*e*T	T	03 37 26.8	
	13nm,0.3s						
PPT2	**Papeete2**	**24.18**	**85**	*e*LQ	LQ	03 17 32.8	
	2μm,26.0s						
PPT2				*e*LR	LR	03 18 23.3	
	665nm,26.8s,baz=251						
PPT2	**Papeete2**	**24.18**	**85**	*e*T	T	03 37 29.1	
	16nm,0.4s						
PPT	**Papeete**	**24.18**	**85**	LR	LR	03 19 28.9	
	comp=Z,146nm,21.0s,baz=266,slow=29						
TVO	**Taravao**	**24.43**	**85**	*e*T	T	03 37 46.8	
	4.1nm,0.4s						
RPZ	**Rata Peaks**	**24.86**	**205**	P	**P**	**03 13 07.6**	**+0.1**
	8.5nm,0.6s,baz=24,slow=20,SNR=3.2						
CTA	**Charters Tower**	**36.27**	**265**	P	**P**	**03 14 48.3**	**-0.3**
	6.8nm,0.6s,baz=95,slow=11,SNR=12						
CTAO	**Charters Tower**	**36.27**	**265**	*e*P	**P**	**03 14 48.2**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,11nm,0.7s						
CTAO	**Charters Tower**	**36.27**	**265**	*e*P	**P**	**03 14 48.2**	**-0.3**
	comp=Z,11nm,0.7s						
RKT	**Rikitea**	**36.85**	**100**	*e*LR	LR	03 24 15.3	
	comp=Z,810nm,30.5s						
RKT	**Rikitea**	**36.85**	**100**	*e*T	T	03 53 07.7	
	comp=Z,7.1nm,0.4s						
PMG	**Port Moresby**	**38.44**	**283**	*e*P	**P**	**03 15 07.4**	**+0.4**
PMG				pmax	pmax		
	comp=Z,31nm,1.0s						
PMG	**Port Moresby**	**38.44**	**283**	*e*P	**P**	**03 15 07.4**	**+0.4**
	comp=Z,31nm,1.0s						
STKA	**Stephens Creek**	**39.91**	**246**	P	**P**	**03 15 17.5**	**-1.6**
	comp=Z,4.1nm,0.5s,baz=98,slow=11,SNR=23						
STKA				LR	LR	03 31 10.3	
	comp=Z,335nm,19.8s,baz=53,slow=35						
STKA	**Stephens Creek**	**39.91**	**246**	P	**P**	**03 15 17.5**	**-1.6**
STKA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
STKA				MLR	MLR		
	comp=Z,335nm,19.8s						
STKA	**Stephens Creek**	**39.91**	**246**	*e*P	**P**	**03 15 20.6**	**+1.4**
COEN	**Coen**	**40.56**	**274**	*e*P	**P**	**03 15 22.8**	**-1.9**
ASAR	**Alice Springs**	**47.08**	**257**	P	**P**	**03 16 15.2**	**-1.9**
	comp=Z,3.1nm,0.6s,baz=111,slow=7.6,SNR=31						
ASAR				LR	LR	03 35 25.9	
	comp=Z,407nm,18.4s,baz=96,slow=35						
JAY	**Jayapura**	**47.18**	**288**	P	**P**	**03 16 17.4**	**-0.6**
	comp=Z,16nm,0.7s,baz=68,slow=3.4,SNR=6.8						
JAY				LR	LR	03 36 08.4	
	comp=Z,411nm,18.3s,baz=210,slow=36						
WRAB	**Tennant Creek**	**47.31**	**262**	P	**P**	**03 16 18.5**	**-0.4**
	comp=Z,64nm,1.3s,SNR=6.2						
WRAB	**Tennant Creek**	**47.31**	**262**	P	**P**	**03 16 17.7**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,31nm,1.3s						
WRAB				MLR	MLR		
	comp=Z,900nm,17.0s						
WRAB	**Tennant Creek**	**47.31**	**262**	*e*P	**P**	**03 16 17.5**	**-1.4**
	comp=Z,8.6nm,0.7s						
WRA	**Warramunga Arr**	**47.32**	**262**	P	**P**	**03 16 17.1**	**-1.9**
	comp=Z,2.9nm,0.6s,baz=100,slow=8.6,SNR=35						
FORT	**Forrest**	**51.50**	**247**	*e*P	**P**	**03 16 48.5**	**-2.2**
	comp=Z,32nm,0.6s						
GUMO	**Guam**	**52.82**	**308**	P	**P**	**03 17 00.3**	**-0.4**
	comp=Z,73nm,0.8s,baz=152,slow=23,SNR=4.2						
GUMO				LR	LR	03 38 12.9	
	comp=Z,166nm,18.9s,baz=112,slow=35						
SIJI	**Sorong**	**56.35**	**284**	P	**P**	**03 17 27.1**	**+0.6**
	comp=Z,17nm,0.6s,baz=46,slow=5.2,SNR=6.1						
SBA	**Scott Base**	**56.88**	**185**	*e*P	**P**	**03 17 31.5**	**+2.2**
SBA				pmax	pmax		
	comp=Z,19nm,1.2s						
SBA	**Scott Base**	**56.88**	**185**	*e*P	**P**	**03 17 31.5**	**+2.2**
	comp=Z,19nm,1.2s						
VNDA	**Vanda**	**56.98**	**186**	P	**P**	**03 17 30.6**	**+0.6**
	comp=Z,2.4nm,1.0s,baz=10,slow=6.1,SNR=7.4						
VNDA				LR	LR	03 41 53.2	
	comp=Z,181nm,18.1s,baz=31,slow=36						
VNDA	**Vanda**	**56.98**	**186**	P	**P**	**03 17 30.6**	**+0.6**
VNDA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
VNDA				MLR	MLR		
	comp=Z,181nm,18.1s						
VNDA	**Vanda**	**56.98**	**186**	*e*P	**P**	**03 17 31.3**	**+1.3**
	comp=Z,9.7nm,1.4s						
MBWA	**Marble Bar**	**60.42**	**257**	*e*P	**P**	**03 17 53.3**	**-1.6**
	comp=Z,93nm,1.7s						
CASY	**Casey**	**64.12**	**206**	*e*P	**P**	**03 18 20.0**	**+1.1**
	comp=Z,57nm,2.0s						
KAPI	**Kappang**	**65.28**	**275**	*e*P	**P**	**03 18 26.6**	**-0.7**
QSPA	**South Pole Qui**	**68.36**	**180**	P	**P**	**03 18 46.2**	**-0.1**
	comp=Z,37nm,0.9s,baz=46,slow=2.2,SNR=61						
QSPA	**South Pole Qui**	**68.36**	**180**	*e*P	**P**	**03 18 46.2**	**-0.1**
	comp=Z,30nm,0.8s						
MJAR	**Matsushiro Arr**	**72.92**	**322**	P	**P**	**03 19 13.4**	**-0.9**
	comp=Z,3.0nm,0.7s,baz=163,slow=6.0,SNR=9.5						
MJAR				LR	LR	03 46 13.7	
	comp=Z,93nm,21.9s,baz=130,slow=32						
MAJO	**Matsushiro**	**72.93**	**322**	P	**P**	**03 19 15.5**	**+1.2**
MAJO				pmax	pmax		
	comp=Z,43nm,1.1s						
MAJO				MLR	MLR		
	comp=Z,436nm,17.0s						
MAJO	**Matsushiro**	**72.93**	**322**	*e*P	**P**	**03 19 13.7**	**-0.7**
	comp=Z,7.1nm,0.8s						
MAT	**Matsushiro**	**72.93**	**322**	P	**P**	**03 19 13.6**	**-0.7**
ATKA	**Atka Island**	**73.60**	**0**	*e*P	**P**	**03 19 18.2**	**+0.3**
	comp=Z,29nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**74.66**	**332**	*c i*P	**P**	**03 19 22.9**	**-1.3**
YUK				*i*		03 19 35.1	
YUK				*i*		03 22 09.5	
YUK				S	**S**	**03 28 58.7**	**-1.4**
YUK				MLR	MLR		
	comp=E,239nm,20.0s						
YUK				MLR	MLR		
	comp=Z,239nm,20.0s						
ASAJ	**Asahikawa**	**76.20**	**330**	P	**P**	**03 19 34.2**	**+1.1**
	comp=Z,8.0nm,0.7s,baz=75,slow=19						
ASAJ				LR	LR	03 47 11.1	
	comp=Z,340nm,20.4s,slow=31						
ASAJ	**Asahikawa**	**76.20**	**330**	*e*P	**P**	**03 19 34.3**	**+1.1**
	comp=Z,32nm,1.7s						
MURC	**Murrieta**	**77.75**	**46**	P	**P**	**03 19 41.9**	**-0.3**
	baz=78						
VES	**Vestal, Richgr**	**77.86**	**43**	P	**P**	**03 19 42.8**	**+0.1**
	baz=78						
KMRM	**Mail Ridge**	**77.89**	**38**	*e*P	**P**	**03 19 44.4**	**+1.6**
	comp=Z,46nm,1.1s						
PET	**Petropavlovsk**	**77.89**	**344**	*e*P	P	03 19 50.1	+7.7
PET				*e*S	**S**	**03 29 40.6**	**+5.3**
PET				*e*PS	**PnS**	**03 30 19.3**	**+3.3**
PET				MLR	MLR		
	comp=Z,200nm,16.0s						
PET				MLR	MLR		
	comp=Z,200nm,14.0s						
EDW2	**Edwards Air Fo**	**77.99**	**45**	P	**P**	**03 19 43.5**	**0.0**
	baz=78						
ISA	**Isabella**	**78.15**	**44**	P	**P**	**03 19 44.6**	**+0.2**
	baz=78						
PETK	**Petropavlovsk-**	**78.22**	**344**	P	**P**	**03 19 44.7**	**+0.5**
	comp=Z,17nm,0.7s,baz=140,slow=8.9,SNR=14						
PETK				LR	LR	03 47 40.9	
	comp=Z,133nm,21.8s,baz=142,slow=31						
PFO	**Pinyon Flat Ob**	**78.25**	**47**	*e*P	**P**	**03 19 43.9**	**-1.2**
PFO				pmax	pmax		
	comp=Z,8.0nm,1.1s						
PFO	**Pinyon Flat Ob**	**78.25**	**47**	*e*P	**P**	**03 19 43.9**	**-1.2**
	comp=Z,8.0nm,1.1s						
YSS	**Yuzh-Sakhalins**	**78.30**	**332**	*e*P	**P**	**03 19 45.0**	**+0.2**
YSS				*e*		03 19 53.2	
CMB	**Columbia Colle**	**78.42**	**41**	*e*P	**P**	**03 19 46.0**	**+0.2**
CMB				pmax	pmax		
	comp=Z,13nm,0.8s						
CMB	**Columbia Colle**	**78.42**	**41**	*e*P	**P**	**03 19 46.0**	**+0.2**
	comp=Z,13nm,0.8s						
BELC	**Belle Mtn. Jos**	**78.79**	**46**	P	**P**	**03 19 48.2**	**+0.1**
	baz=79						
WDC	**Whiskeytown Da**	**78.80**	**38**	*e*P	**P**	**03 19 47.0**	**-0.7**
WDC				pmax	pmax		
	comp=Z,24nm,1.2s						
WDC	**Whiskeytown Da**	**78.80**	**38**	*e*P	**P**	**03 19 47.0**	**-0.7**
	comp=Z,24nm,1.2s						
BC3	**Big Chuckawall**	**78.96**	**47**	P	**P**	**03 19 49.2**	**+0.3**
	baz=79						
N02D	**Trinity Center**	**78.96**	**38**	P	**P**	**03 19 49.5**	**+0.8**
	baz=79						
GSC	**Goldstone**	**79.02**	**45**	*e*P	**P**	**03 19 49.4**	**+0.2**
GSC				pmax	pmax		
	comp=Z,51nm,2.1s						
GSC	**Goldstone**	**79.02**	**45**	*e*P	**P**	**03 19 49.4**	**+0.2**
	comp=Z,51nm,2.1s						
MPMC	**Manual Prospec**	**79.02**	**44**	P	**P**	**03 19 49.4**	**0.0**
	baz=79						
M02C	**Callahan**	**79.16**	**37**	P	**P**	**03 19 50.5**	**+0.7**
	baz=79						
WAKR	**Walker**	**79.30**	**41**	*e*P	**P**	**03 19 51.4**	**+0.6**
IRM	**Iron Mountain**	**79.45**	**47**	P	**P**	**03 19 52.2**	**+0.7**
	baz=80						
YBH	**Yreka Blue Hor**	**79.46**	**37**	*e*P	**P**	**03 19 51.7**	**+0.2**
YBH				pmax	pmax		
	comp=Z,12nm,1.0s						
YBH	**Yreka Blue Hor**	**79.46**	**37**	*e*P	**P**	**03 19 51.7**	**+0.2**
	comp=Z,12nm,1.0s						
GMRC	**Granite Mounta**	**79.47**	**46**	P	**P**	**03 19 51.7**	**-0.1**
	baz=80						
LBCM	**Butte Creek Ri**	**79.65**	**38**	P	**P**	**03 19 52.8**	**+0.2**
Y12C	**Blythe**	**79.65**	**47**	P	**P**	**03 19 52.8**	**+0.3**
	baz=80						
GRAC	**Grapevine Rang**	**79.67**	**43**	P	**P**	**03 19 53.0**	**+0.3**
	baz=80						
FURC	**Furnace Creek,**	**79.68**	**44**	P	**P**	**03 19 53.2**	**+0.5**
	baz=80						
KSRS	**Korea Array**	**79.73**	**317**	P	**P**	**03 19 53.5**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=134,slow=6.5,SNR=5.0						
KSRS				LR	LR	03 52 51.1	
	comp=Z,86nm,18.8s,baz=131,slow=34						
KSAR	**Wonju Array Be**	**79.75**	**317**	P	**P**	**03 19 53.5**	**+0.5**
KSAR	**Wonju Array Be**	**79.75**	**317**	P	**P**	**03 19 53.5**	**+0.5**
214A	**Organ Pipe Nat**	**79.84**	**50**	P	**P**	**03 19 53.5**	**-0.2**
	baz=80						
HUMO	**Hull Mountain**	**79.91**	**36**	*e*P	**P**	**03 19 53.9**	**+0.1**
	comp=Z,12nm,1.0s						
NVAR	**Mina Array Bea**	**79.95**	**42**	P	**P**	**03 19 54.5**	**+0.1**
	comp=Z,15nm,0.8s,baz=222,slow=9.4,SNR=63						
M04C	**Macdoel**	**79.98**	**37**	P	**P**	**03 19 54.5**	**+0.1**
	baz=80						
LDFC	**Landfair**	**80.01**	**46**	*e*P	**P**	**03 19 55.0**	**+0.3**
	comp=Z,43nm,1.4s						
PDMCI	**Parker Dam,Lak**	**80.22**	**47**	P	**P**	**03 19 56.0**	**+0.3**
	baz=80						
TPNV	**Topopah Spring**	**80.36**	**44**	P	**P**	**03 19 56.6**	**0.0**
	baz=81						
TPH	**Tonopah**	**80.41**	**43**	*e*P	**P**	**03 19 56.8**	**0.0**
TPH				pmax	pmax		
	comp=Z,12nm,0.9s						
TPH	**Tonopah**	**80.41**	**43**	*e*P	**P**	**03 19 56.8**	**0.0**
	comp=Z,12nm,0.9s						
I03D	**Drain, OR**	**80.43**	**35**	P	**P**	**03 19 56.9**	**+0.4**
	baz=81						
J04D	**Umpqua Nationa**	**80.80**	**36**	P	**P**	**03 19 59.5**	**+0.7**
	baz=81						
SHPR	**Sheep Range**	**80.80**	**45**	*e*P	**P**	**03 19 58.6**	**-0.4**
MOD	**Modoc**	**80.94**	**38**	*e*P	**P**	**03 19 59.7**	**+0.2**
	comp=Z,12nm,0.8s						
I04A	**Tendick Farm,**	**81.00**	**36**	P	**P**	**03 19 59.9**	**+0.2**
	baz=81						
J05D	**Fort Rock, OR**	**81.31**	**37**	P	**P**	**03 20 02.2**	**+0.7**
	baz=82						
KDAK	**Kodiak Island**	**81.36**	**12**	*e*P	**P**	**03 20 00.7**	**-0.4**
KDAK				pmax	pmax		
	comp

HABR eSSS SSS 03 39 17.3
HABR pmax pmax
comp=N,7.0nm,0.8s
HABR pmax pmax
comp=E,8.0nm,0.8s
HABR pmax pmax
comp=Z,42nm,1.5s
HABR MLR MLR
comp=Z,95nm,18.0s
MDJ Mudanjiang 83.19 324 P **P 03 20 12.1 +1.0**
MDJ pP **PcP 03 20 20.5 +4.9**
MDJ sP sP 03 20 24.4 +8.8
MDJ PP **PP 03 23 22.2 -0.6**
MDJ S **S 03 30 32.1 +0.8**
MDJ sS **ScS 03 30 47.0 +1.8**
MDJ PMZ
comp=Z,17nm,0.8s
MDJ PMZ
comp=Z,77nm,5.9s
MDJ LN
comp=Z,62nm,6.7s
MDJ LE
comp=Z,120nm,14.0s
MDJ LZ
comp=Z,110nm,9.6s
MDJ Mudanjiang 83.19 324 *e*P **P 03 20 12.0 +0.9**
comp=Z,37nm,1.2s
ELK Elko 83.23 41 *e*P **P 03 20 11.1 -0.6**
ELK pmax pmax
comp=Z,5.0nm,0.9s
ELK Elko 83.23 41 *e*P **P 03 20 11.1 -0.6**
comp=Z,5.1nm,0.9s
LON Longmire 83.28 34 *e*P **P 03 20 11.2 -0.4**
LON pmax pmax
comp=Z,9.0nm,0.8s
LON Longmire 83.28 34 *e*P **P 03 20 11.2 -0.4**
comp=Z,9.3nm,0.8s
WPW White Pass 83.38 34 P **P 03 20 12.6 +0.4**
PGC Sidney 83.74 31 *e*P **P 03 20 13.6 -0.2**
comp=Z,15nm,0.8s
121A Cookes Peak, D 83.76 52 P **P 03 20 15.1 +0.6**
baz=84
121A Cookes Peak, D 83.76 52 *e*P **P 03 20 14.7 +0.2**
comp=Z,7.2nm,1.2s
NAC Naches 83.78 34 P **P 03 20 14.5 +0.3**
MSU Marysvale 83.89 45 *e*P **P 03 20 15.4 +0.2**
MSU pmax pmax
comp=Z,15nm,1.0s
MSU Marysvale 83.89 45 *e*P **P 03 20 15.4 +0.2**
comp=Z,15nm,1.0s
TWW Teanaway 84.02 34 P **P 03 20 16.3 +0.9**
JCW Jim Creek 84.18 32 P **P 03 20 16.5 +0.4**
HAWA Hanford 84.24 35 *e*P **P 03 20 16.6 +0.1**
comp=Z,15nm,0.9s
DUG Dugway 84.43 43 *e*P **P 03 20 17.1 -0.7**
DUG pmax pmax
comp=Z,4.0nm,0.9s
DUG Dugway 84.43 43 P **P 03 20 18.0 +0.3**
baz=85
DUG Dugway 84.43 43 *e*P **P 03 20 17.1 -0.7**
comp=Z,4.0nm,0.9s
MFID Camas Ranch 84.46 39 *e*P **P 03 20 17.1 -0.7**
comp=Z,14nm,1.0s
BMO Blue Mountains 84.49 37 *e*P **P 03 20 16.9 -1.0**
comp=Z,7.9nm,0.9s
MBW Mount Baker 84.59 32 P **P 03 20 18.4 +0.1**
WTV Waterville 84.86 34 P **P 03 20 19.7 +0.1**
TMUT Trail Mountain 84.96 44 *e*P **P 03 20 21.2 +0.5**
comp=Z,18nm,0.9s
RC01 Rabbit Creek A 84.98 12 *e*P **P 03 20 19.3 -0.6**
comp=Z,16nm,0.9s
CN2 Changchun 85.04 321 *e*P **P 03 20 20.9 +0.3**
CN2 *es*P sP 03 20 35.6 +11
CN2 *e*S **SKSac 03 30 46.7 +1.5**
CN2 PMZ
comp=Z,10.0nm,1.0s
CN2 PMZ
comp=Z,200nm,3.0s
CN2 LN
comp=Z,200nm,17.0s
CN2 LE
comp=Z,200nm,17.0s
CN2 LZ
comp=Z,200nm,19.0s
KLR Kul'dur 85.06 328 *e*P P 03 20 17.6 -2.9
SAW Saint Andrews 85.14 34 P **P 03 20 21.0 0.0**
LENM Lemitar 85.17 50 *e*P **P 03 20 22.1 +0.5**
comp=Z,12nm,1.1s
LAZ Ladron 85.17 50 *e*P **P 03 20 22.2 +0.5**
comp=Z,7.1nm,1.1s
GAMB Gambell 85.24 1 *e*P **P 03 20 21.3 +0.2**
comp=Z,22nm,0.9s
TXAR Lajitas Array 85.29 56 P **P 03 20 21.9 -0.4**
comp=Z,5.0nm,1.0s,baz=218,slow=5.7,SNR=21
TXAR LR LR 03 52 30.4
comp=Z,104nm,19.2s,baz=0.0,slow=32
HLID Hailey 85.38 39 P **P 03 20 22.8 +0.3**
baz=86
HLID Hailey 85.38 39 *e*P **P 03 20 22.2 -0.3**
comp=Z,7.3nm,0.9s
LPM Los Pinos Moun 85.48 50 *e*P **P 03 20 23.1 -0.2**
comp=Z,14nm,1.3s
MVCO Mesa Verde 85.65 47 P **P 03 20 24.9 +0.8**
baz=86
DIV Divide 85.83 14 *e*P **P 03 20 24.1 -0.1**
comp=Z,12nm,0.8s
ANMO Albuquerque 85.92 50⇓ *e*P **P 03 20 25.2 -0.2**
ANMO pmax pmax
comp=Z,82nm,1.2s
ANMO MLR MLR
comp=Z,572nm,17.0s
ANMO Albuquerque 85.92 50 *e*P **P 03 20 25.0 -0.4**
comp=Z,17nm,1.0s
BMRM Bremner River 85.95 14 *e*P **P 03 20 24.8 0.0**
comp=Z,8.2nm,0.7s
PV01 Paradox Valley 86.08 46 *e*P **P 03 20 25.8 -0.4**
GDL2 Guadalupe Moun 86.11 53 *e*P **P 03 20 26.4 0.0**
IPM Ipoh 86.16 276 *e*P **P 03 20 27.8 +0.9**
comp=Z,7.7nm,0.5s
SYO Syowa Base 86.16 192⇓ *e*P **P 03 20 23.9 -1.9**
TIA Tai'an 86.24 311 ⇑P **P 03 20 27.7 +1.0**
TIA PMZ
comp=Z,10.0nm,1.0s
NEW Newport 86.69 34 P **P 03 20 28.6 -0.1**
baz=87
SNAA Sanae 86.70 177 P P 03 20 24.6 -3.9
SNAA Sanae 86.70 177 P **P 03 20 28.1 -0.4**
comp=Z,2.3nm,0.9s,baz=195,slow=5.1,SNR=32
SNAA Sanae 86.70 177⇓ *i*P P 03 20 24.5 -4.1
SNAA pmax pmax
comp=Z,15nm,1.7s
SNAA Sanae 86.70 177 *e*P P 03 20 24.5 -4.1
comp=Z,7.6nm,0.9s
529A Stev Forest Ra 86.77 56 P **P 03 20 29.0 -0.6**
baz=87
MCMT McKenzie Canyo 87.03 39 *e*P **P 03 20 30.5 -0.2**
comp=Z,1.7nm,1.0s
TRF Thorofare Moun 87.06 11 *e*P **P 03 20 29.2 -1.0**
comp=Z,18nm,0.7s
S22A 4UR Ranch, Cre 87.06 47 P **P 03 20 30.9 -0.2**
baz=87
429A Davenport Ranc 87.25 56 P **P 03 20 31.2 -0.7**
baz=87
O20A White River Ci 87.34 45 P **P 03 20 32.1 -0.2**
baz=88
228A UT Block 9, Go 87.40 54 P **P 03 20 32.3 -0.3**
baz=88
VNA1 Neumayer--Stat 87.41 176 P **P 03 20 32.5 +0.6**
530A J-C Ranch, Com 87.46 56 P **P 03 20 32.6 -0.3**
baz=88
MCK McKinley 87.56 11 *e*P **P 03 20 32.1 -0.4**
MCK pmax pmax
comp=Z,17nm,1.0s
MCK McKinley 87.56 11 *e*P **P 03 20 32.1 -0.4**
comp=Z,17nm,1.0s
MSO Missoula 87.56 37 P **P 03 20 33.2 +0.2**
baz=88
329A Wagon Wheel Ra 87.58 55 P **P 03 20 33.0 -0.4**
baz=88
HYT Haines Junctio 87.63 17 *e*P **P 03 20 32.9 -0.1**
BSMT Bassoo Peak 87.69 36 *e*P **P 03 20 33.0 -0.7**
comp=Z,3.1nm,0.8s
SMCO Snowmass 87.69 46 *e*P **P 03 20 33.3 -0.9**
comp=Z,6.9nm,1.1s
128A Castleberry Fa 87.71 54 P **P 03 20 33.5 -0.6**
baz=88
631A Perdido Creek 87.73 57 P **P 03 20 33.1 -1.0**
baz=88
BW06 Boulder Array 87.88 42 *e*P **P 03 20 33.7 -1.1**
comp=Z,4.6nm,0.9s
PDAR Pinedale Array 87.88 42 P **P 03 20 34.4 -0.4**
comp=Z,3.5nm,0.8s,baz=211,slow=1.3,SNR=22
PDAR LR LR 03 55 38.5
comp=Z,147nm,18.4s,baz=256,slow=33
732A Laxson Ranch, 87.90 58 P **P 03 20 34.5 -0.5**
baz=88
SDCO Great Sand Dun 87.98 48 P **P 03 20 35.0 -0.5**
baz=88
DLBC Dease Lake 88.06 22 *e*P **P 03 20 35.4 +0.3**
531A Rocksprings 88.08 57 P **P 03 20 35.4 -0.5**
baz=88
MSTX Muleshoe 88.12 52 P **P 03 20 35.7 -0.4**
baz=88
MSTX Muleshoe 88.12 52 *e*P **P 03 20 35.2 -0.8**
comp=Z,10nm,0.9s
833A Chaparral WMA, 88.18 59 P **P 03 20 35.8 -0.5**
baz=88
BOZ Bozeman (W) 88.20 39 P **P 03 20 35.8 -0.4**
baz=88
SEY Seymchan 88.24 346 P **P 03 20 35.2 -0.5**
comp=Z,10nm,0.8s,baz=142,slow=5.7,SNR=28
SEY LR LR 03 56 49.8
comp=Z,226nm,19.6s,baz=159,slow=33
532A Rocksprings 88.56 57 P **P 03 20 37.4 -0.7**
baz=89
COLA College 88.80 11 *de*P **P 03 20 37.5 -0.8**
COLA pmax pmax
comp=Z,66nm,1.2s
COLA MLR MLR
comp=Z,397nm,20.0s
COLA College 88.80 11 *e*P **P 03 20 37.8 -0.5**
comp=Z,12nm,1.0s
BJI Beijing 88.80 314 P P 03 20 46.0 +7.1
BJI Beijing 88.80 314 S **S 03 31 31.3 +4.9**
BJI pmax pmax
comp=Z,14nm,1.9s
BJI LR LR
comp=N,100nm,17.7s
BJI LR LR
comp=E,120nm,20.3s
BJI LR LR
comp=Z,96nm,41.9s
WALA Waterton Lakes 88.87 35 *e*P **P 03 20 38.7 -0.5**
comp=Z,8.8nm,0.9s
ILAR Eielson Array 88.88 12 P **P 03 20 38.4 -0.3**
comp=Z,3.7nm,1.0s,baz=220,slow=6.3,SNR=35
ILAR LR LR 03 54 24.5
comp=Z,63nm,21.3s,baz=214,slow=32
T26A Comanche Natio 89.03 49 P **P 03 20 39.4 -0.9**
baz=89
231A Bronte 89.04 55 P **P 03 20 39.4 -0.9**
baz=89
J20A Shoshoni 89.11 42 P **P 03 20 40.4 -0.1**
baz=89
131A Roby 89.31 54 P **P 03 20 40.8 -0.8**
baz=90
S26A Kim 89.33 49 P **P 03 20 41.1 -0.6**
baz=90
GCMT Greycliff 89.43 39 *e*P **P 03 20 41.9 -0.1**
433A Art 89.47 57 P **P 03 20 41.9 -0.5**
baz=90
534A Blanco 89.64 57 P **P 03 20 42.3 -0.9**
baz=90
R26A Arlington 89.67 48 P **P 03 20 42.5 -0.8**
baz=90
GYA Guiyang 89.77 299 P **P 03 20 45.0 +1.0**
GYA pP pP 03 20 56.3 +9.0
GYA PP **PP 03 24 19.2 +2.6**
GYA SKS **SKSac 03 31 10.0 -5.1**
GYA S **S 03 31 32.8 -3.6**
GYA sS sS 03 31 50.4 +8.5
GYA SS **SS 03 37 32.3 -1.6**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.2s
GYA LN
comp=Z,340nm,20.3s
GYA LE
comp=Z,290nm,21.2s
GYA LZ
comp=Z,450nm,20.8s
I21A Big Trails, Te 89.84 42 P **P 03 20 43.0 -0.9**
baz=90
Y31A Reheta Farm, 89.98 53 P **P 03 20 44.1 -0.6**
baz=90
SLVN Son La 90.03 293 *e*P **P 03 20 47.3 +2.0**
comp=Z,3.5nm,0.6s
T28A Walsh 90.05 50 P **P 03 20 44.2 -0.8**
baz=90
EGAK Eagle 90.06 14 *e*P **P 03 20 44.0 -0.2**
comp=Z,11nm,0.9s
R27A Eads 90.11 48 P **P 03 20 44.2 -1.1**
baz=90
434A Burnet 90.14 57 P **P 03 20 44.3 -1.1**
baz=90
J22A Midwest 90.15 43 P **P 03 20 44.6 -0.8**
baz=90
Z32A Haskell 90.28 54 P **P 03 20 45.5 -0.6**
baz=90
I22A 9 Mile Ranch, 90.38 42 P **P 03 20 45.7 -0.7**
baz=91
X31A McDonald Ranch 90.48 53 P **P 03 20 46.5 -0.5**
baz=91
BILL Bilibino 90.56 353⇓ *e*P **P 03 20 47.2 +0.7**
BILL *e* 03 24 19.6
BILL pmax pmax
comp=Z,6.0nm,0.8s
BILL MLR MLR
comp=Z,200nm,21.0s
BILL Bilibino 90.56 353 *e*P **P 03 20 46.4 -0.1**
comp=Z,7.7nm,0.9s
COLD Coldfoot 90.57 9 *e*P **P 03 20 46.9 +0.4**
comp=Z,6.5nm,0.9s
EGMT Eagleton 90.58 38 P **P 03 20 47.0 -0.2**
baz=91
Y32A R-V Farms, Ver 90.61 54 P **P 03 20 47.0 -0.6**
baz=91
W31A Holland Ranch, 90.75 52 P **P 03 20 47.9 -0.4**
baz=91
Z33A Whitaker Ranch 90.81 54 P **P 03 20 48.4 -0.1**
baz=91
R28A Tribune 90.83 49 P **P 03 20 48.1 -0.5**
baz=91
X32A Elmer 90.91 53 P **P 03 20 48.4 -0.6**
baz=91
V31A Spring Creek L 91.09 52 P **P 03 20 49.9 +0.1**
baz=91
T30A Plains 91.15 50 P **P 03 20 49.6 -0.5**
baz=91
XAN Xi'an 91.18 306 P **P 03 20 49.8 -0.5**
XAN pP pP 03 21 00.0 +6.4
XAN PMZ
comp=Z,13nm,1.0s
W32A Sentinel 91.24 53 P **P 03 20 50.1 -0.4**
baz=91
B19A Brinkman Farms 91.27 37 P **P 03 20 50.2 -0.1**
baz=92
U31A Nine Bar Ranch 91.34 51 P **P 03 20 50.9 -0.1**
baz=92
C20A Veseth Ranch, 91.42 38 P **P 03 20 51.3 +0.3**
baz=92
EDM Edmonton 91.57 32 *e*P **P 03 20 51.2 -0.4**
EDM Edmonton 91.57 32 *e*P **P 03 20 51.2 -0.4**
T31A Randall Ranch, 91.78 51 P **P 03 20 52.6 -0.4**
baz=92
R30A Dighton 91.88 49 P **P 03 20 53.5 0.0**
baz=92
K26A Motz Farm, Whi 91.92 44 P **P 03 20 54.1 +0.6**
baz=92
F23A Volborg 91.96 41 P **P 03 20 53.6 -0.1**
baz=92
U32A Winter Ranch, 91.96 52 P **P 03 20 53.2 -0.6**
baz=92
S31A Mullinville 92.15 50 P **P 03 20 54.6 -0.1**
baz=92
I25A Rochford 92.18 43 P **P 03 20 54.6 -0.2**
baz=92
D22A Cohagen 92.20 40 P **P 03 20 55.0 +0.4**
baz=92
Q30A Quinter 92.22 49 P **P 03 20 54.8 -0.3**
baz=92
V33A Lossen Ranch, 92.25 52 P **P 03 20 54.7 -0.5**
baz=92
HHC Hu-ho-hao-te 92.28 313 *e*P **P 03 20 52.7 -2.6**
HHC pP pP 03 21 04.0 +5.3
HHC sP sP 03 21 08.3 +8.5
HHC sS **sS 03 32 05.1 +0.9**
HHC SS **SS 03 38 09.7 +0.1**
HHC PMZ
comp=Z,32nm,1.4s
HHC PMZ
comp=Z,79nm,8.1s
HHC LN
comp=Z,120nm,17.4s
HHC LE
comp=Z,210nm,18.5s
HHC LZ
comp=Z,170nm,18.2s
Z36A Blue Ridge 92.57 55 P **P 03 20 56.4 -0.3**
baz=93
S32A Newby Ranch, P 92.58 50 P **P 03 20 56.6 -0.1**
baz=93
X35A Drake 92.63 54 P **P 03 20 56.6 -0.4**
baz=93
137A Heron Place, G 92.82 56 P **P 03 20 57.3 -0.5**
baz=93
B22A Reddig Ranch S 92.88 39 P **P 03 20 58.0 +0.2**
baz=93
J27A Elkhorn Farm, 92.93 44 P **P 03 20 59.0 +0.8**
baz=93
Y36A Durant 92.94 55 P **P 03 20 58.1 -0.3**
baz=93
W35A Tecumseh 93.01 53 P **P 03 20 58.7 0.0**
baz=93
R32A Long Quarter, 93.05 50 P **P 03 20 58.9 +0.1**
baz=93
C23A Lambert 93.11 39 P **P 03 20 59.4 +0.5**
baz=93
Z37A Pogue Cattle C 93.17 56 P **P 03 20 59.7 +0.3**
baz=93
X36A Centrahoma 93.17 54 P **P 03 20 58.8 -0.6**
baz=93
CMAR Chiang Mai Arr 93.25 288 P **P 03 21 00.6 +0.4**
comp=Z,2.0nm,0.6s,baz=122,slow=2.1,SNR=9.9
CMAR LR LR 03 59 59.7
comp=Z,42nm,19.1s,baz=185,slow=34
V35A Meyer Ranch, C 93.29 53 P **P 03 20 59.6 -0.3**
baz=94
138A Matatall Enter 93.36 56 P **P 03 21 00.7 +0.4**
baz=94
CHTO Chiang Mai 93.38 289 *e*P **P 03 21 01.1 +0.4**
CHTO pmax pmax
comp=Z,3.0nm,0.5s
CHTO Chiang Mai 93.38 289 *e*P **P 03 21 01.1 +0.4**
comp=Z,3.3nm,0.5s
Q32A Meitler Ranch, 93.39 49 P **P 03 21 00.4 0.0**
baz=94
C24A Savage 93.43 40 P **P 03 21 01.1 +0.8**
baz=94
G26A Maurine 93.49 42 P **P 03 21 00.4 -0.3**
baz=94
W36A Wetumka 93.49 54 P **P 03 21 00.7 -0.2**
baz=94
R33A Olander Ranch, 93.52 50 P **P 03 21 00.7 -0.2**
baz=94
B23A Brockton 93.54 39 P **P 03 21 01.4 +0.5**
baz=94
T34A McClaskey Farm 93.55 52 P **P 03 21 00.7 -0.5**
baz=94
CD2 Chengdu 93.89 302 P **P 03 21 03.1 +0.2**
CD2 pP pP 03 21 14.4 +8.2
CD2 sP sP 03 21 18.7 +11
CD2 PP **PP 03 24 52.0 +3.1**
CD2 SKS **SKSac 03 31 33.4 -4.7**
CD2 S **S 03 32 07.5 -5.7**
CD2 sS sS 03 32 26.5 +7.8
CD2 SS **SS 03 38 31.3 -1.6**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,170nm,5.9s
CD2 LN
comp=Z,130nm,7.3s
CD2 LZ
comp=Z,150nm,10.1s
S34A Willow Spring 93.89 51 P **P 03 21 02.7 0.0**
baz=94
D25A Fairfield 93.91 40 P **P 03 21 03.4 +0.9**
baz=94
Q33A Connelly Farm, 93.91 50 P **P 03 21 02.2 -0.6**
baz=94
G27A Dupree 93.95 42 P **P 03 21 02.3 -0.5**
baz=94
V36A Jenks 93.97 53 P **P 03 21 02.4 -0.7**
baz=94
DGMT Dagmar 94.01 39 P **P 03 21 03.1 +0.1**
baz=94
DGMT Dagmar 94.01 39 *e*P **P 03 21 03.0 +0.1**
comp=Z,31nm,1.0s
R34A Isabella, Hill 94.04 50 P **P 03 21 03.0 -0.4**
baz=94
W37A Quinton 94.09 54 P **P 03 21 03.2 -0.5**
baz=94
E26A Carlson Angus 94.12 41 P **P 03 21 03.6 +0.1**
baz=94
F27A Lemmon 94.12 42 P **P 03 21 03.6 0.0**
baz=94
K30A Basset 94.25 46 P **P 03 21 04.4 +0.1**
baz=94
YAK Yakutsk 94.34 337 LR LR 03 59 29.2
comp=Z,67nm,20.6s,baz=120,slow=33
YAK Yakutsk 94.34 337 *e*P **P 03 21 02.6 -1.5**
YAK pmax pmax
comp=Z,11nm,0.7s
A24A Westby 94.34 39 P **P 03 21 04.8 +0.3**
baz=94
X38A Whitesboro 94.36 55 P **P 03 21 04.1 -0.8**
baz=94
I29A Vivian Onida 94.38 44 P **P 03 21 04.3 -0.5**
baz=95
D26A Manning 94.39 41 P **P 03 21 04.8 +0.1**
baz=95
S35A Otter Creek Ra 94.46 51 P **P 03 21 04.9 -0.4**
baz=95
B25A Knox Farm, Ray 94.53 40 P **P 03 21 05.8 +0.4**
baz=95
V37A Hulbert 94.60 53 P **P 03 21 05.5 -0.5**
baz=95
E27A Carson 94.65 42 P **P 03 21 06.0 0.0**
baz=95
INK Inuvik 94.70 14 P **P 03 21 04.4 -1.2**
comp=Z,3.2nm,0.8s,baz=208,slow=5.2,SNR=4.4
INK Inuvik 94.70 14 *e*P **P 03 21 04.8 -0.8**
INK pmax pmax
comp=Z,4.0nm,0.8s
INK Inuvik 94.70 14 *e*P **P 03 21 04.8 -0.8**
comp=Z,4.4nm,0.8s
H29A Onida 94.70 44 P **P 03 21 06.0 -0.3**
baz=95
C26A Wahner Farm, P 94.96 40 P **P 03 21 07.7 +0.4**
baz=95
D27A Center 94.98 41 P **P 03 21 07.4 0.0**
baz=95
LVC Limon Verde 95.50 117 *e*P **P 03 21 12.1 +1.3**
comp=Z,21nm,1.5s
LZH Lanzhou 95.82 306 *e*P **P 03 21 11.9 +0.2**
LZH pP **pP 03 21 20.1 +5.0**
LZH sP sP 03 21 25.7 +9.4
LZH PP **PP 03 25 06.2 +2.2**
LZH S S 03 32 21.6 -8.4
LZH sS **sS 03 32 39.0 +3.4**
LZH SS **SS 03 38 59.0 -1.3**
LZH PMZ
comp=Z,23nm,1.0s
LZH PMZ
comp=Z,100nm,4.3s
LZH LN
comp=Z,190nm,13.9s
LZH LE
comp=Z,200nm,14.3s
LZH LZ
comp=Z,260nm,15.8s
YKA Yellowknife Ar 96.42 24 P **P 03 21 13.6 0.0**
comp=Z,3.8nm,0.8s,baz=240,slow=4.1,SNR=10
YKW3 Yellowknife Ar 96.45 24 *e*P **P 03 21 11.9 -1.8**
comp=Z,0.1nm,0.9s
ECSD EROS Data Cent 96.69 46 P **P 03 21 14.6 -0.7**
baz=97
ECSD EROS Data Cent 96.69 46 *e*P **P 03 21 14.3 -1.0**
comp=Z,13nm,1.1s

SONM	**Songino Array**	**98.58 318**	P	**P**	**03 21 23.3**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=129,slow=3.9,SNR=3.4					
SONM			LR	LR	04 05 30.8	
	comp=Z,56nm,18.5s,baz=115,slow=35					
LPAZ	**La Paz**	**98.92 111**	LR	LR	03 57 49.1	
	comp=Z,58nm,18.8s,baz=247,slow=30					
ULM	**Lac du Bonnet**	**99.69 40**	LR	LR	04 02 36.4	
	comp=Z,218nm,18.8s,baz=305,slow=33					
GTA	**Gaotai**	**99.99 308**	*e*P	**Pdif**	**03 21 29.1**	**-1.3**
GTA			pP	pP	03 21 39.5	+5.7
GTA			sP	sP	03 21 43.5	+8.5
GTA			PMZ			
	comp=Z,2.0nm,0.6s					
ZALV	**Zalesovo Beam**	**113.26 321**	PKiKP	**PKiKP**	**03 26 21.4**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=180,slow=0.7,SNR=5.1					
KURK	**Kurchatov**	**116.85 317**	*e*PKIKP	**PKPdf**	**03 26 28.1**	**-1.2**
KURK	**Kurchatov**	**116.85 317**	*e*PKPdf	**PKPdf**	**03 26 28.1**	**-1.2**
KURK			PKP	**PKiKP**	**03 26 28.2**	**-1.1**
KURBB	**Kurchatov Arra**	**116.91 317**	PKP	**PKPdf**	**03 26 28.2**	**-1.2**
	comp=Z,1.0nm,0.5s,baz=94,slow=1.9,SNR=9.7					
TKM2	**Tokmak 2**	**118.54 308**	*e*PKIKP	**PKPdf**	**03 26 32.3**	**-0.9**
TKM2	**Tokmak 2**	**118.54 308**	*e*PKPdf	**PKPdf**	**03 26 32.2**	**-0.9**
EKS2	**Erkin-Say**	**119.86 308**	*e*PKIKP	**PKPdf**	**03 26 35.2**	**-0.4**
EKS2	**Erkin-Say**	**119.86 308**	*e*PKPdf	**PKPdf**	**03 26 35.2**	**-0.4**
BVAR	**Borovoye Array**	**121.87 320**	PKP	**PKPdf**	**03 26 38.1**	**-0.9**
	comp=Z,3.3nm,0.8s,baz=96,slow=3.0,SNR=17					
BRVK	**Borovoye**	**121.93 320**	⇑*e*PKIKP	**PKPdf**	**03 26 38.3**	**-0.8**
BRVK	**Borovoye**	**121.93 320**	*e*PKPdf	**PKPdf**	**03 26 38.1**	**-1.0**
KBL	**Kabul**	**123.02 298**	*e*PKIKP	**PKPdf**	**03 26 42.1**	**0.0**
KBL	**Kabul**	**123.02 298**	*e*PKPdf	**PKPdf**	**03 26 42.1**	**0.0**
ARU	**Arti**	**127.84 326**	*i* PKIKP	**PKPdf**	**03 26 50.2**	**-0.1**
ARU					03 28 48.9	
ARU					03 33 54.3	
ARU	**Arti**	**127.84 326**	*e*PKPdf	**PKPdf**	**03 26 50.3**	**0.0**
ABKAR	**Akbulak array**	**128.96 316**	*e*PKPdf	**PKPdf**	**03 26 52.6**	**-0.1**
ARCES	**ARCESS Array B**	**130.61 351**	PKP	**PKPdf**	**03 26 54.4**	**-0.9**
	comp=Z,4.8nm,1.0s,baz=357,slow=4.5,SNR=5.6					
GEYT	**Alibeck**	**131.88 302**	PKP	**PKPdf**	**03 26 59.3**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=116,slow=3.4,SNR=3.6					
OBN	**Obninsk**	**139.18 333**	PKIKP	**PKPdf**	**03 27 12.1**	**+0.5**
OBN			*e*		03 30 08.9	
OBN			pmax	pmax		
	comp=Z,25nm,2.2s					
OBN			MLR	MLR		
	comp=Z,54nm,21.0s					
VSR	**Storozhevoye**	**140.40 326**	*e*PKIKP	**PKPdf**	**03 27 12.6**	**-1.3**
VSR			pmax	pmax		
	comp=N,2.0nm,0.7s					
VSR			pmax	pmax		
	comp=E,3.0nm,0.7s					
VSR			pmax	pmax		
	comp=Z,6.0nm,0.7s					
NOA	**NORSAR Array B**	**140.47 355**	PKhKP	PKPpre	03 27 08.3	
	comp=Z,1.1nm,0.9s,baz=323,slow=3.1,SNR=3.7					
VORD	**Divnogorie**	**140.48 326**	*e*PKIKP	**PKPdf**	**03 27 12.0**	**-2.1**
VORD			pmax	pmax		
	comp=N,10.0nm,0.6s					
VORD			pmax	pmax		
	comp=E,5.0nm,0.6s					
VORD			pmax	pmax		
	comp=Z,5.0nm,0.6s					
NACGM	**Naroch**	**143.07 339**	*e*	PKPab	03 27 12.0	-1.9
ANN	**Anapa**	**144.86 319**	*i* PKIKP	**PKPdf**	**03 27 24.6**	**+2.6**
ANN			pmax	pmax		
	comp=Z,106nm,1.3s					
SUW	**Suwalki**	**144.95 341**	*e*PKP	**PKPab**	**03 27 20.6**	**-0.5**
MUD	**Monsted U'grnd**	**145.17 356**	*i* P	**PKPbc**	**03 27 21.7**	**0.0**
	comp=Z,44nm,1.0s					
AKASG	**Malin Array Be**	**145.45 333**	PKPbc	**PKPbc**	**03 27 21.8**	**-1.0**
	comp=Z,23nm,0.8s,baz=39,slow=4.0,SNR=59					
KIEV	**Kiev**	**145.46 333**	*e*PKIKP	**PKPbc**	**03 27 21.9**	**-1.0**
KIEV	**Kiev**	**145.46 333**	*e*PKPbc	**PKPbc**	**03 27 21.9**	**-1.0**
BSD	**Bornholm Skovb**	**145.84 350**	*i* P	**PKPdf**	**03 27 22.8**	**-0.6**
	comp=Z,47nm,1.3s					
MALT	**Malatya**	**146.97 308**	⇑*i* P	**PKPab**	**03 27 29.1**	**-0.3**
GKP	**Gorka Klasztor**	**147.16 347**	*e*PKP	**PKPdf**	**03 27 25.6**	**-0.1**
BEL	**Belsk**	**147.56 342**	*e*PKP	**PKPbc**	**03 27 29.2**	**+0.2**
BSEG	**Bad Segeberg**	**147.59 354**	*e*PKPbc	**PKPbc**	**03 27 28.8**	**-0.2**
SORM	**Soroca**	**147.72 330**	⇓*i* P	**PKPbc**	**03 27 30.0**	**+0.4**
LVV	**L'vov**	**148.21 337**	*e*PKP2	**PKPbc**	**03 27 30.3**	**-0.6**
LVV			*e*		03 34 22.9	
KIS	**Kishinev**	**148.31 328**	*e*PKP	PKPpre	03 27 18.0	
KIS			LRM	MLR	04 30 36.0	
	comp=Z,300nm,24.0s					
KIS	**Kishinev**	**148.31 328**	*e*PKHKP	PKPpre	03 27 18.0	
RUE	**Ruedersdorf**	**148.57 350**	*e*PKPbc	**PKPbc**	**03 27 31.5**	**-0.2**
KWP	**Kalwaria Pacla**	**148.85 338**	*e*PKP	**PKPbc**	**03 27 32.2**	**-0.3**
OJC	**Ojcow**	**149.28 341**	*e*PKP	**PKPbc**	**03 27 33.8**	**+0.2**
IBBN	**Ibbenburen**	**149.39 357**	*e*PKPbc	**PKPbc**	**03 27 33.6**	**-0.2**
BURAR	**Bucovina Array**	**149.50 333**	⇓*i* P	**PKPbc**	**03 27 35.7**	**+1.3**
STHS	**Stebnicka Huta**	**149.53 339**	*e*PKP	**PKPbc**	**03 27 34.6**	**+0.3**
KOLS	**Kolonicke sedl**	**149.59 337**	*e*PKP	**PKPbc**	**03 27 34.9**	**+0.5**
KSP	**Ksiaz**	**149.63 346**	*e*PKP	**PKPbc**	**03 27 34.8**	**+0.3**
CLZ	**Clausthal**	**149.65 354**	*e*PKPbc	**PKPbc**	**03 27 34.5**	**0.0**
BR131	**Keskin Array S**	**149.79 313**	*e*PKPbc	**PKPbc**	**03 27 35.1**	**-0.3**
BR131			*e*PKPab	**PKPab**	**03 27 41.0**	**+0.2**
BRTR	**Keskin Array B**	**149.79 313**	PKPbc	**PKPbc**	**03 27 34.9**	**-0.5**
	comp=Z,11nm,0.9s,baz=158,slow=1.3,SNR=44					
CLL	**Collm**	**149.82 350**	*e*PKPbc	**PKPbc**	**03 27 34.6**	**-0.3**
CLL	**Collm**	**149.82 350**	⇓*i*PKPbc	**PKPbc**	**03 27 34.6**	**-0.3**
	comp=Z,26nm,1.0s					
CLL			*i* PKPab	**PKPab**	**03 27 40.5**	**+0.2**
	comp=Z,16nm,0.9s					
CLL			L	L	04 34 00.0	
	comp=Z,100nm,20.6s					
NIE	**Niedzica**	**149.83 340**	*e*PKP	**PKPbc**	**03 27 35.9**	**+0.9**
UZH	**Uzhgorod**	**149.84 337**	*e*PKHKP	PKPpre	03 27 33.2	
CFR	**Carcaliu**	**149.92 326**	⇑*i* P	**PKPbc**	**03 27 35.3**	**0.0**
UPC	**Upice**	**150.01 346**	⇑*e*PKP	**PKPbc**	**03 27 35.0**	**-0.4**
UPC			*e*PKPAB	**PKPab**	**03 27 41.5**	**+0.4**
UPC			*e*pPKP	PKiKP	03 27 45.6	+9.3
BRG	**Berggiesshubel**	**150.08 349**	*i* P	**PKPbc**	**03 27 35.6**	**+0.1**
	comp=Z,19nm,0.9s					
BRG			*i*		03 27 44.0	
	comp=Z,18nm,1.1s					
BRG	**Berggiesshubel**	**150.08 349**	*e*PKPbc	**PKPbc**	**03 27 35.5**	**0.0**
DPC	**Dobruska-Polom**	**150.09 346**	*e*PKPDF	**PKPdf**	**03 27 28.8**	**-1.9**
DPC			⇑*e*PKP	**PKPbc**	**03 27 36.0**	**+0.4**
DPC			*e*PKPAB	**PKPab**	**03 27 41.8**	**+0.3**
DPC			*e*pPKP	PKiKP	03 27 45.0	+8.5
DPC			*ex*	x	03 27 49.1	
DPC			AMS	AMS	04 32 00.0	
	comp=Z,200nm,23.0s					
OKC	**Ostrava-Krasne**	**150.10 343**	⇑*e*PKP	**PKPbc**	**03 27 35.5**	**-0.1**
OKC			*e*PKPAB	**PKPab**	**03 27 41.5**	**+0.1**
OKC			*ex*	x	03 27 49.0	
OKC			AMS	AMS	04 30 30.0	
	comp=Z,200nm,17.8s					
NEUB	**Neuenburg**	**150.10 352**	*e*PKPbc	**PKPbc**	**03 27 35.4**	**-0.2**
VRI	**Vrincioaia**	**150.13 329**	⇓*i* P	**PKPbc**	**03 27 35.7**	**-0.2**
FBE	**Freiberg**	**150.14 349**	*e*PKPbc	**PKPbc**	**03 27 35.8**	**+0.1**
KRLC	**Kraliky**	**150.23 345**	*e*PKPDF	**PKPdf**	**03 27 28.7**	**-2.2**
KRLC			⇑*e*PKP	**PKPbc**	**03 27 35.8**	**-0.2**
KRLC			*e*PKPAB	**PKPab**	**03 27 42.3**	**+0.2**
KRLC			*ex*	x	03 27 49.2	
TIRR	**Tirgusor**	**150.26 325**	⇑*i* P	**PKPbc**	**03 27 37.2**	**+1.0**
BUG	**Bochum--Univer**	**150.28 357**	*e*PKPbc	**PKPbc**	**03 27 35.6**	**-0.4**
PVCC	**Panska Ves**	**150.29 348**	⇑*e*PKP	**PKPbc**	**03 27 36.6**	**+0.5**
PVCC			*e*PKPAB	**PKPab**	**03 27 44.9**	**+2.7**
PVCC			*ex*	x	03 27 52.9	
ANTO	**Ankara**	**150.30 314**	⇓*i* P	**PKPbc**	**03 27 36.6**	**+0.1**
ANTO	**Ankara**	**150.30 314**	*e*PKPbc	**PKPbc**	**03 27 36.6**	**+0.1**
ANTO			*e*PKPab	**PKPab**	**03 27 43.6**	**+0.9**
MORC	**Moravsky Berou**	**150.31 344**	*e*PKIKP	**PKPbc**	**03 27 36.0**	**-0.2**
MORC	**Moravsky Berou**	**150.31 344**	⇑*i* P	**PKPbc**	**03 27 36.5**	**+0.3**
MORC	**Moravsky Berou**	**150.31 344**	*e*PKPbc	**PKPbc**	**03 27 36.0**	**-0.2**
HARR	**Harsova**	**150.36 326**	⇓*i* P	**PKPbc**	**03 27 37.0**	**+0.6**
KECS	**Kecovo**	**150.59 339**	*e*PKP	**PKPbc**	**03 27 37.0**	**+0.2**
MOX	**Moxa**	**150.68 352**	*e*PKPbc	**PKPbc**	**03 27 36.7**	**-0.3**
DOPR	**Dopca**	**150.69 330**	⇑*i* P	**PKPbc**	**03 27 40.5**	**+3.3**
UBBA	**Unterbreizbach**	**150.70 354**	*e*PKPbc	**PKPbc**	**03 27 36.5**	**-0.4**
PLN	**Plauen**	**150.75 351**	*e*PKPbc	**PKPbc**	**03 27 37.1**	**-0.1**
PRA	**Prague**	**150.76 348**	⇑*e*PKP	**PKPbc**	**03 27 37.6**	**+0.4**
PRA			*e*PKPAB	**PKPab**	**03 27 44.7**	**+0.6**
ISR	**Istrita**	**150.76 328**	⇑*i* P	**PKPbc**	**03 27 38.6**	**+1.2**
WERD	**Werda**	**150.77 351**	*e*PKPbc	**PKPbc**	**03 27 37.0**	**-0.2**
TANN	**Tannenbergstha**	**150.78 350**	*e*PKPbc	**PKPbc**	**03 27 37.1**	**-0.2**
MLR	**Muntele Rosu**	**150.78 329**	⇓*i* P	**PKPbc**	**03 27 37.8**	**+0.2**
PRU	**Pruhonice**	**150.81 347**	⇑*e*PKP	**PKPbc**	**03 27 37.2**	**-0.1**
PRU			*e*PKPAB	**PKPab**	**03 27 45.4**	**+1.0**
PRU			*ex*	x	03 27 54.8	
PRU			*ex*	x	03 28 00.0	
PRU			AMS	AMS	04 32 50.0	
	comp=Z,200nm,17.9s					
MSAB	**Monastry St. A**	**150.82 325**	⇓*i* P	**PKPbc**	**03 27 38.3**	**+0.8**
GOPC	**GO Pecny, Ondr**	**150.84 347**	⇑*e*PKP	**PKPbc**	**03 27 37.5**	**+0.1**
GOPC			*e*PKPAB	**PKPab**	**03 27 45.1**	**+0.6**
GOPC			*ex*	x	03 27 55.8	
GOPC			AMS	AMS	04 33 40.0	
	comp=Z,200nm,18.0s					
GUNZ	**Gunzen**	**150.85 350**	*e*PKPbc	**PKPbc**	**03 27 37.3**	**-0.1**
PSN	**Preselentsi**	**150.90 324**	⇑*i* P	**PKPbc**	**03 27 39.1**	**+1.4**
WERN	**Wernitzgruen**	**150.91 350**	*e*PKPbc	**PKPbc**	**03 27 37.6**	**0.0**
NKC	**Novy Kostel**	**150.96 350**	⇑*e*PKP	**PKPbc**	**03 27 37.9**	**+0.2**
NKC			*e*PKPAB	**PKPab**	**03 27 45.5**	**+0.5**
NKC			*ex*	x	03 27 54.7	
MEM	**Membach**	**151.15 359**	PKPbc	**PKPbc**	**03 27 38.2**	**+0.1**
MEM			PKPab	**PKPab**	**03 27 48.1**	**+2.4**
DRGR		**151.19 334**	⇑*i* P	**PKPbc**	**03 27 38.3**	**-0.1**
VOIR		**151.24 330**	⇓*i* P	**PKPbc**	**03 27 39.8**	**+1.2**
MANZ	**Manzenberg**	**151.25 351**	*e*PKPbc	**PKPbc**	**03 27 38.3**	**-0.1**
TREC	**Trest**	**151.27 346**	*e*PKPDF	**PKPdf**	**03 27 30.8**	**-1.7**
TREC			⇑*e*PKP	**PKPbc**	**03 27 38.2**	**-0.2**
TREC			*e*PKPAB	**PKPab**	**03 27 45.9**	**-0.4**
TREC			*ex*	x	03 27 54.8	
TREC			AMS	AMS	04 36 20.0	
	comp=Z,200nm,18.5s					
PSZ	**Piszkesteto**	**151.28 339**	*e*PKIKP	**PKPdf**	**03 27 32.9**	**+0.3**
PSZ	**Piszkesteto**	**151.28 339**	*e*PKPdf	**PKPdf**	**03 27 32.9**	**+0.3**
PSZ			*e*PKPbc	**PKPbc**	**03 27 38.4**	**-0.2**
PSZ			*e*PKPab	**PKPab**	**03 27 48.4**	**+1.9**
BCLA	**Clavier**	**151.35 360**	PKPbc	**PKPbc**	**03 27 38.5**	**-0.1**
BCLA			PKPab	**PKPab**	**03 27 46.7**	**+0.1**
TNS	**Taunus Mts**	**151.43 356**	*e*PKPbc	**PKPbc**	**03 27 38.5**	**-0.3**
ROTZ	**Rotzenmuhle**	**151.44 350**	*e*PKPbc	**PKPbc**	**03 27 38.8**	**0.0**
GRF	**Grafenberg Arr**	**151.66 352**	*e*PKPbc	**PKPbc**	**03 27 39.2**	**-0.1**
GRFO	**Grafenberg**	**151.66 352**	*e*PKIKP	**PKPbc**	**03 27 39.5**	**+0.2**
GRFO	**Grafenberg**	**151.66 352**	*e*PKPbc	**PKPbc**	**03 27 39.5**	**+0.2**
GRFO			*e*PKPab	**PKPab**	**03 27 48.2**	**+0.2**
DOU	**Dourbes**	**151.67 1**	PKPbc	**PKPbc**	**03 27 39.4**	**+0.2**
DOU			PKPab	**PKPab**	**03 27 49.5**	**+1.6**
KHC	**Kasperske Hory**	**151.82 348**	*e*PKPDF	**PKPdf**	**03 27 32.0**	**-1.4**
KHC			⇑*e*PKP	**PKPbc**	**03 27 39.2**	**-0.5**
KHC			*e*PKPAB	**PKPab**	**03 27 48.1**	**-0.6**
KHC			*ex*	x	03 28 00.5	
KHC			AMS	AMS	04 32 20.0	
	comp=Z,100nm,18.5s					
KHC	**Kasperske Hory**	**151.82 348**	*e*PKIKP	**PKPdf**	**03 27 33.8**	**+0.4**
KHC			*e*		03 27 48.5	
KHC	**Kasperske Hory**	**151.82 348**	*e*PKPdf	**PKPdf**	**03 27 33.8**	**+0.4**
KHC			*e*PKPbc	**PKPbc**	**03 27 39.8**	**0.0**
KHC			*e*PKPab	**PKPab**	**03 27 48.5**	**-0.2**
WET	**Wettzell**	**151.94 349**	*e*PKPbc	**PKPbc**	**03 27 39.7**	**-0.3**
CSS	**Prodhromos**	**151.98 304**	*e*PKPdf	**PKPdf**	**03 27 34.4**	**+0.4**
CSS			*e*PKPbc	**PKPbc**	**03 27 41.0**	**+0.5**
CSS			*e*PKPab	**PKPab**	**03 27 50.7**	**+0.9**
GEC2	**GERESS Array S**	**152.07 348**	*e*PKPbc	**PKPbc**	**03 27 40.0**	**-0.4**
GERES	**GERESS Array B**	**152.07 348**	PKPbc	**PKPbc**	**03 27 40.0**	**-0.4**
	comp=Z,4.3nm,0.9s,baz=48,slow=2.0,SNR=25					
WLF	**Walferdange**	**152.09 359**	PKPbc	**PKPbc**	**03 27 41.4**	**+1.2**
WLF			PKPab	**PKPab**	**03 27 50.0**	**+0.3**
WLF	**Walferdange**	**152.09 359**	*e*PKPbc	**PKPbc**	**03 27 40.5**	**+0.2**
WLF	**Walferdange**	**152.09 359**	*e*PKIKP	**PKPbc**	**03 27 40.8**	**+0.5**
WLF			*e*		03 27 49.8	
WLF	**Walferdange**	**152.09 359**	*e*PKPbc	**PKPbc**	**03 27 40.8**	**+0.5**
WLF			*e*PKPab	**PKPab**	**03 27 49.8**	**+0.1**
GZR	**Gura Zlata**	**152.29 333**	⇑*i* P	**PKPbc**	**03 27 40.7**	**-0.3**
CONA	**Conrad Observa**	**152.45 344**	⇑*i*PKiKP	**PKPbc**	**03 27 41.4**	**+0.2**
	comp=Z,29nm,2.0s					
STU	**Stuttgart**	**152.80 354**	*e*PKPbc	**PKPbc**	**03 27 41.6**	**-0.3**
PKSM	**Moragy**	**153.19 339**	⇓*i* P	**PKPbc**	**03 27 42.9**	**+0.1**
BFO	**Black Forest**	**153.32 355**	*e*PKPbc	**PKPbc**	**03 27 42.5**	**-0.6**
BFO	**Black Forest**	**153.32 355**	*e*PKIKP	**PKPdf**	**03 27 35.3**	**-0.3**
BFO			*e*		03 27 55.2	
BFO	**Black Forest**	**153.32 355**	*e*PKPdf	**PKPdf**	**03 27 35.3**	**-0.3**
BFO			*e*PKPbc	**PKPbc**	**03 27 42.8**	**-0.3**
BFO			*e*PKPab	**PKPab**	**03 27 55.2**	**+0.3**
WTTA	**Wattenberg**	**153.97 350**	⇑*i*PKiKP	**PKPbc**	**03 27 44.6**	**-0.2**
	comp=Z,8.0nm,0.9s					
DAVA	**Damuels**	**154.20 353**	⇑*i*PKiKP	**PKPbc**	**03 27 45.0**	**-0.2**
	comp=Z,10nm,1.3s					
VTS	**Vitosha**	**154.25 328**	⇓*i* P	**PKPdf**	**03 27 40.1**	**+2.8**
ABTA	**Abfaltersbach**	**154.31 348**	⇑*i*PKPbc	**PKPbc**	**03 27 44.7**	**-0.7**
	comp=Z,5.1nm,0.9s					
BNI	**Bardonecchia**	**156.69 357**	*e*PKIKP	**PKPdf**	**03 27 38.5**	**-1.9**
BNI			*e*		03 28 10.6	
BNI	**Bardonecchia**	**156.69 357**	*e*PKPdf	**PKPdf**	**03 27 38.5**	**-1.9**
BNI			*e*PKPab	**PKPab**	**03 28 10.6**	**+1.0**
POLO	**Lamas de Olo**	**157.57 26**	*e*PKPab	**PKPab**	**03 28 13.8**	**+0.3**
PBRG	**Braganca**	**157.62 24**	*e*PKPab	**PKPab**	**03 28 13.7**	**+0.1**
MVO	**Moncorvo**	**158.06 25**	*e*PKPab	**PKPab**	**03 28 15.9**	**+0.4**
AQU	**L'Aquila**	**158.28 343**	*e*PKP2	**PKPab**	**03 28 17.6**	**+1.2**
AQU	**L'Aquila**	**158.28 343**	*e*PKPab	**PKPab**	**03 28 17.6**	**+1.2**
PMRV	**Marv??o**	**159.36 28**	*e*PKPab	**PKPab**	**03 28 20.7**	**-0.4**
ESDC	**Sonseca Array**	**160.49 21**	PKP	**PKPdf**	**03 27 44.3**	**-0.8**
	comp=Z,0.8nm,0.9s,baz=1.4,slow=2.9,SNR=5.8					
ESDC			PKPab	**PKPab**	**03 28 25.6**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=318,slow=3.8,SNR=11					
KEST	**Kesra**	**165.55 346**	PKPab	**PKPab**	**03 28 48.6**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=332,slow=9.2,SNR=5.8					
TORD	**Torodi Ar. Bea**	**170.88 159**	PKP	**PKPdf**	**03 27 52.5**	**-1.6**
	comp=Z,3.7nm,1.0s,baz=221,slow=1.3,SNR=13					
TORD			PKPab	**PKPab**	**03 29 10.9**	**-1.4**
	comp=Z,3.4nm,1.0s,baz=221,slow=3.1,SNR=11					
TAM	**Tamanrasset**	**178.86 340**	*e*PKIKP	**PKPdf**	**03 27 56.6**	**+0.1**
TAM	**Tamanrasset**	**178.86 340**	*e*PKPdf	**PKPdf**	**03 27 56.6**	**+0.1**

*CRAAG **01** 03:29:35.1, 35°.91N×4°.10E, Ml3.4*
*CSEM **01** 03:29:37.2±0.3, 35°.93N×4°.07E, h2km, mb3.7, Error ellipse: s-maj=16.9km s-min=5.1km az=2.0*
*MDD **01** 03:29:37.3±0.5, 35°.94N×4°.14E, h0km, mb3.7/7, Error ellipse: s-maj=12.6km s-min=4.0km az=24.0, PRXIMO*

ISC 01 03:29:36.7±1.2, 35°.95N±0°.05×4°.09E±0°.02, h9km±9km, n57, σ1s25/64, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAF	**Djebel Tarf**	**0.17**	**115**	P	**Pg**	**03 29 39.3**	**-1.0**
ATAF	**Djebel Tarf**	**0.17**	**115**	P	**Pg**	**03 29 39.3**	**-1.0**
ATAF	**Djebel Tarf**	**0.17**	**115**	P	**Pg**	**03 29 39.3**	**-1.0**
AKET	**Djebel Ketaf**	**0.20**	**301**	P	**Pg**	**03 29 40.9**	**+0.1**
AKET	**Djebel Ketaf**	**0.20**	**301**	P	**Pg**	**03 29 40.9**	**+0.1**
AKET	**Djebel Ketaf**	**0.20**	**301**	P	**Pg**	**03 29 40.9**	**+0.1**
ADJB	**Djebel Djouab**	**0.57**	**292**	P	**Pb**	**03 29 48.6**	**-0.3**
ADJB	**Djebel Djouab**	**0.57**	**292**	P	**Pb**	**03 29 48.6**	**-0.3**
ADJB	**Djebel Djouab**	**0.57**	**292**	P	**Pb**	**03 29 48.6**	**-0.3**
EMHD	**Djebel Mahouad**	**0.95**	**286**	P	**Pn**	**03 29 56.6**	**+0.2**
EMHD	**Djebel Mahouad**	**0.95**	**286**	P	**Pn**	**03 29 56.6**	**+0.2**
EMHD	**Djebel Mahouad**	**0.95**	**286**	P	**Pn**	**03 29 56.6**	**+0.2**
SET	**Setif**	**1.09**	**76**	P	**Pn**	**03 29 59.0**	**+0.7**
SET	**Setif**	**1.09**	**76**	P	**Pn**	**03 29 59.0**	**+0.7**
SET	**Setif**	**1.09**	**76**	P	**Pn**	**03 29 59.0**	**+0.7**
CKHR	**Kef el Ahmar**	**1.16**	**86**	P	**Pg**	**03 29 58.6**	**-0.3**
CKHR	**Kef el Ahmar**	**1.16**	**86**	P	**Pg**	**03 29 58.6**	**-0.3**
CKHR	**Kef el Ahmar**	**1.16**	**86**	P	**Pg**	**03 29 58.6**	**-0.3**
DFRA	**Djebel Bou Aff**	**1.56**	**67**	P	**Pg**	**03 30 07.0**	**+0.3**
DFRA	**Djebel Bou Aff**	**1.56**	**67**	P	**Pg**	**03 30 07.0**	**+0.3**
DFRA	**Djebel Bou Aff**	**1.56**	**67**	P	**Pg**	**03 30 07.0**	**+0.3**
CTEI	**Djebel Teioual**	**1.88**	**86**	P	**Pb**	**03 30 11.4**	**0.0**
CTEI	**Djebel Teioual**	**1.88**	**86**	P	**Pb**	**03 30 11.4**	**0.0**
CTEI	**Djebel Teioual**	**1.88**	**86**	P	**Pb**	**03 30 11.4**	**0.0**
CASM	**Ain Smara**	**1.97**	**80**	P	**Pb**	**03 30 14.0**	**+1.2**
CASM	**Ain Smara**	**1.97**	**80**	P	**Pb**	**03 30 14.0**	**+1.2**
CASM	**Ain Smara**	**1.97**	**80**	P	**Pb**	**03 30 14.0**	**+1.2**
EBNR	**Beni Rached**	**2.10**	**280**	P	**Pn**	**03 30 12.2**	**+0.1**
EBNR	**Beni Rached**	**2.10**	**280**	P	**Pn**	**03 30 12.2**	**+0.1**
CKFL	**Kef-Lekhel**	**2.18**	**77**	P	**Pg**	**03 30 18.6**	**+0.2**
CKFL	**Kef-Lekhel**	**2.18**	**77**	P	**Pg**	**03 30 18.6**	**+0.2**
ECHA	**Ech Chlef**	**2.21**	**276**	P	**Pn**	**03 30 14.3**	**+0.7**
ECHA	**Ech Chlef**	**2.21**	**276**	P	**Pn**	**03 30 14.3**	**+0.7**
ECHF	**Ech Chlef**	**2.24**	**276**	P	**Pn**	**03 30 14.3**	**+0.4**
ETRT	**Tiaret**	**2.34**	**257**	P	**Pn**	**03 30 16.9**	**+1.4**
ETRT	**Tiaret**	**2.34**	**257**	P	**Pn**	**03 30 16.9**	**+1.4**
ETRT	**Tiaret**	**2.34**	**257**	P	**Pn**	**03 30 16.9**	**+1.4**
EANR	**'Ain N'Sour**	**2.42**	**271**	P	**Pb**	**03 30 21.1**	**+0.6**
EANR	**'Ain N'Sour**	**2.42**	**271**	P	**Pb**	**03 30 21.1**	**+0.6**
EANR	**'Ain N'Sour**	**2.42**	**271**	P	**Pb**	**03 30 21.1**	**+0.6**
OKGL	**Djebel Kef Gue**	**2.79**	**273**	P	**Pn**	**03 30 23.5**	**+1.8**
	3.6nm,0.2s,SNR=7.9						
OKGL				S	**Sn**	**03 30 55.4**	**-0.2**
	31nm,0.4s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**2.79**	**273**	P	**Pn**	**03 30 23.5**	**+1.8**
	3.6nm,0.2s,SNR=7.9						
OKGL				S	**Sn**	**03 30 55.4**	**-0.2**
	31nm,0.4s,SNR=7.9						
EIBI	**Ibiza**	**3.77**	**325**	P	**Pn**	**03 30 35.1**	**+0.1**
	1.5nm,0.3s,SNR=7.9						
EIBI				S	**Sn**	**03 31 18.9**	**-0.7**
	1.3nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**3.77**	**325**	P	**Pn**	**03 30 35.1**	**+0.1**
	1.5nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**3.95**	**346**	P	**Pn**	**03 30 38.7**	**+1.2**
	0.8nm,0.2s,SNR=7.9						
ETOS				S	**Sn**	**03 31 22.1**	**-1.8**
	1.1nm,0.5s,SNR=7.9						
ETOS	**Mallorca**	**3.95**	**346**	P	**Pn**	**03 30 38.7**	**+1.2**
	0.8nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**4.67**	**295**	P	**Pn**	**03 30 47.8**	**+0.4**
	2.2nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**4.67**	**295**	P	**Pn**	**03 30 47.8**	**+0.4**
	2.2nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**5.24**	**303**	P	**Pn**	**03 30 56.2**	**+0.9**
	1.0nm,0.4s,SNR=7.9						
ETOB				S	**Sn**	**03 31 53.0**	**-2.9**
	2.3nm,0.7s,SNR=7.9						
ETOB	**Tobarra**	**5.24**	**303**	P	**Pn**	**03 30 56.2**	**+0.9**
	1.0nm,0.4s,SNR=7.9						
EBER	**Berja**	**5.71**	**282**	P	**Pn**	**03 31 03.4**	**+1.6**
	1.7nm,0.5s,SNR=7.9						
EBER	**Berja

*DJA **01** 04:58:00.7±0.6,5°N±6°×12°7E±°,h156km±10km,M4.6/14, mb4.5/14,mB4.9/7,MLv4.9/10,Mw(mB)4.2/7*

ISC 01 04:57:45.7±0.3,**6°01**N±0°04×**126°90**E±0°06,**h83**km,**n143,** σ1§**72**/164,**mb4.6**/64,**6C-1D**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.13**	**326**	*e*P		**Pn**	**04 58 08.3**	**+1.7**
MATI				*e*S		**Sn**	**04 58 24.4**	**+2.2**
DAV	**Davao City (W)**	**1.69**	**309**	*e*Pn		**Pn**	**04 58 16.5**	**+2.9**
DAV				*e*S		**Sn**	**04 58 33.7**	**-1.0**
GSPH	**General Santos**	**1.94**	**272**	⇓*i*P		**Pn**	**04 58 16.3**	**-0.8**
GSPH				*i* S		**Sn**	**04 58 40.0**	**-0.9**
BUKP	**Musuan**	**2.61**	**316**	*e*P		**Pn**	**04 58 28.1**	**+2.2**
SGSI	**Sangihe**	**2.68**	**211**	P		Pn	04 58 31.0	+4.1
CTBH	**Cotabato--PC H**	**2.90**	**295**	*e*P		**Pn**	**04 58 31.6**	**+1.8**
CTBH				*i* S		**Sn**	**04 59 06.5**	**+2.8**
BUTP	**Butuan**	**3.20**	**337**	*e*P		Pn	04 58 37.9	+4.0
BUTP				*e*S		**Sn**	**04 59 14.8**	**+3.7**
CGP	**Cagayan de Oro**	**3.27**	**318**	*e*P		**Pn**	**04 58 36.8**	**+2.0**
CGP				*i* S		**Sn**	**04 59 13.0**	**+0.3**
PAGZ	**Pagadian**	**3.94**	**298**	*e*P		**Pn**	**04 58 46.1**	**+2.1**
MSLP	**Maasin**	**4.57**	**334**	*e*P		**Pn**	**04 58 55.0**	**+2.5**
TBP	**Tagbilaran**	**4.74**	**321**	*e*P		**Pn**	**04 58 57.4**	**+2.6**
TBP				*e*S		**Sn**	**04 59 48.0**	**-0.5**
TNTI	**Ternate**	**5.22**	**175**	P		**Pn**	**04 59 03.1**	**+1.7**
TNTI	**Ternate**	**5.22**	**175**	*e*Pn		**Pn**	**04 59 04.2**	**+2.8**
TNTI				*e*S		**Sn**	**05 00 02.6**	**+2.3**
KMSI	**Cibinong**	**6.13**	**208**	P		**Pn**	**04 59 14.3**	**+0.5**
RCP	**Roxas**	**6.88**	**324**	⇑*e*P		Pn	04 59 29.9	+6.0
MRSI	**Marisa**	**7.39**	**222**	P		**Pn**	**04 59 33.7**	**+2.7**
	104nm,0.6s,3μm0.5nm							
SANI	**Sanana**	**8.05**	**187**	P		**Pn**	**04 59 37.0**	**-3.1**
	45nm,0.7s,2μm0.6nm							
SANI				S		Sn	05 00 56.6	-13
	45nm,0.7s,2μm0.6nm							
SWI	**Sorong**	**8.09**	**147**	P		**Pn**	**04 59 43.4**	**+2.8**
	30nm,0.5s,2μm0.2nm							
SIJI	**Sorong**	**8.10**	**147**	P		**Pn**	**04 59 43.8**	**+3.1**
	5.9nm,0.3s,baz=343,slow=16,SNR=12							
SIJI				S		**Sn**	**05 01 08.0**	**-2.8**
	4.6nm,0.3s,baz=323,slow=23,SNR=6.7							
SIJI				LR		LR	05 03 15.1	
	comp=Z,76nm,19.3s,baz=20,slow=40							
LUWI	**Luwuk**	**8.13**	**211**	P		Pn	04 59 35.8	-5.2
LUWI	**Luwuk**	**8.13**	**211**	Pn		**Pn**	**04 59 42.5**	**+1.5**
LUWI				*e*S		**Sn**	**05 01 16.8**	**+5.5**
APSI	**Ampana**	**8.64**	**218**	P		**Pn**	**04 59 50.0**	**+1.9**
	83nm,0.8s,978nm0.3nm							
MPSI	**Mapaga**	**8.98**	**231**	P		**Pn**	**04 59 52.3**	**-0.3**
	10nm,0.6s,763nm							
NLAI	**Namlea**	**9.19**	**179**	P		Pn	04 59 49.8	-5.7
	70nm,0.4s,2μm0.7nm							
FAKI	**Fak Fak**	**10.35**	**149**	P		**Pn**	**05 00 13.8**	**+2.4**
	19nm,1.3s							
KDI	**Kendari**	**10.78**	**203**	P		**Pn**	**05 00 15.0**	**-2.3**
	26nm,0.9s							
TTSI	**Tana Toraja**	**11.44**	**218**	P		**Pn**	**05 00 29.0**	**+2.8**
BAKI	**Biak**	**11.65**	**128**	P		Pn	05 00 35.2	+6.2
	92nm,1.1s							
SPSI	**Sidrap Palu**	**12.20**	**216**	P		**Pn**	**05 00 34.3**	**-2.2**
	16nm,0.7s							
KAPI	**Kappang**	**13.07**	**213**	P		**Pn**	**05 00 48.3**	**+0.1**
	1.8nm,0.3s,baz=30,slow=10,SNR=16							
KAPI	**Kappang**	**13.07**	**213**	*e*Pn		**Pn**	**05 00 48.6**	**+0.4**
SMPI	**Sarmi**	**14.22**	**124**	P		**P**	**05 01 08.3**	**+0.2**
	34nm,1.1s							
SBUM	**Sibu**	**15.06**	**257**	*e*P		**P**	**05 01 18.4**	**+0.9**
SOEI	**Soe**	**15.88**	**190**	*e*Pn		**Pn**	**05 01 24.1**	**-0.4**
	109nm,0.6s							
JAY	**Jayapura**	**16.18**	**121**	P		**P**	**05 01 33.1**	**+3.2**
	0.8nm,0.3s,baz=340,slow=7.6,SNR=4.6							
KSM	**Kuching**	**17.16**	**255**	*e*Pn		**P**	**05 01 41.3**	**+0.6**
	5.4nm,0.4s							
YULB	**Yu-li**	**18.11**	**343**	*e*P		**P**	**05 01 51.3**	**+0.2**
	7.7nm,0.6s							
SSLB	**Suanglung**	**18.58**	**343**	*e*Pn		**Pn**	**05 01 57.9**	**+0.4**
	12nm,0.6s							
DLV	**T Lat**	**19.11**	**289**	*e*P		**Pn**	**05 02 03.5**	**-0.6**
QIZ	**Qiongzhong**	**21.06**	**309**	P		**P**	**05 02 22.9**	**-0.4**
QIZ				PMZ				
	10.0nm,1.6s							
UBPT	**Khong Chiam**	**22.97**	**295**	P		**P**	**05 02 42.3**	**-1.2**
	15nm,1.2s							
SKNT	**Sakolnakorn**	**24.93**	**298**	P		**P**	**05 03 02.7**	**+1.3**
	15nm,1.6s							
CBIJ	**Chichi jima**	**25.53**	**33**	P		**P**	**05 03 04.7**	**-2.0**
JCJ	**Chichijima**	**25.53**	**33**	P		**P**	**05 03 04.7**	**-2.0**
	37nm,0.4s,baz=278,slow=14,SNR=18							
WRAB	**Tennant Creek**	**26.80**	**164**	*i* P		**P**	**05 03 18.4**	**+0.1**
WRAB	**Tennant Creek**	**26.80**	**164**	*e*P		**P**	**05 03 17.9**	**-0.4**
	8.2nm,0.8s							
WRA	**Warramunga Arr**	**26.80**	**164**	P		**P**	**05 03 18.0**	**-0.3**
	4.8nm,0.5s,baz=343,slow=10,SNR=22							
WRA				ScP		**ScP**	**05 10 09.0**	**-3.3**
	0.7nm,0.9s,baz=341,slow=3.4,SNR=7.8							
NJ2	**Nanjing**	**26.98**	**345**	*e*P		**P**	**05 03 20.8**	**+1.1**
NJ2				PMZ				
	40nm,1.1s							
WHN	**Wuhan**	**27.11**	**336**	P		**P**	**05 03 21.3**	**+0.4**
PBKT	**Sadao Pong**	**27.47**	**295**	P		**P**	**05 03 25.8**	**+1.5**
	8.0nm,0.9s,755nm							
GYA	**Guiyang**	**28.04**	**319**	*e*P		**P**	**05 03 30.8**	**+1.4**
GYA				pP		pP	05 03 54.2	+5.6
GYA				sP		sP	05 04 07.0	+8.7
GYA				PP		**PnPn**	**05 04 23.4**	**+2.0**
GYA				S		**S**	**05 08 05.6**	**-2.7**
GYA				sS		sS	05 08 47.0	+5.7
GYA				PMZ				
	10.0nm,0.8s							
CRAI	**Chiangrai**	**29.38**	**301**	P		**P**	**05 03 39.5**	**-1.8**
	7.0nm,0.7s,1μm							
CMAR	**Chiang Mai Arr**	**29.93**	**297**	P		**P**	**05 03 45.9**	**-0.3**
	1.0nm,0.4s,baz=103,slow=6.9,SNR=5.1							
CMAR				ScP		**ScP**	**05 10 20.6**	**-1.5**
	0.7nm,0.4s,baz=176,slow=2.3,SNR=5.4							
CMAR				LR		LR	05 16 22.6	
	comp=Z,28nm,18.5s,baz=180,slow=37							
ASAR	**Alice Springs**	**30.27**	**167**	P		**P**	**05 03 49.3**	**+0.1**
	1.1nm,0.4s,baz=342,slow=7.4,SNR=24							
ASAR				ScP		**ScP**	**05 10 20.4**	**-2.7**
	1.5nm,0.8s,baz=345,slow=2.1,SNR=8.4							
KSAR	**Wonju Array Be**	**31.30**	**2**	P		**P**	**05 03 59.2**	**+1.2**
KSAR	**Wonju Array Be**	**31.30**	**2**	P		**P**	**05 03 59.2**	**+1.2**
KSRS	**Korea Array**	**31.32**	**2**	P		**P**	**05 03 59.2**	**+1.1**
	0.6nm,0.4s,baz=188,slow=14,SNR=6.4							
KSRS				LR		LR	05 17 57.2	
	comp=Z,23nm,19.2s,baz=204,slow=39							
KSRS	**Korea Array**	**31.32**	**2**	P		**P**	**05 03 59.2**	**+1.1**
KSRS				pmax		pmax		
	comp=Z,1.0nm,0.6s							
KSRS				MLR		MLR		
	comp=Z,23nm,19.2s							
MJAR	**Matsushiro Arr**	**32.11**	**17**	P		**P**	**05 04 04.3**	**-0.9**
	comp=Z,1.8nm,0.5s,baz=190,slow=9.0,SNR=7.8							
CTA	**Charters Tower**	**32.17**	**144**	P		**P**	**05 04 06.5**	**+0.7**
	comp=Z,3.0nm,0.6s,baz=350,slow=11,SNR=3.6							
XAN	**Xi'an**	**32.49**	**331**	P		**P**	**05 04 07.0**	**-1.6**
XAN				pP		**pP**	**05 04 29.0**	**+1.1**
XAN				PMZ				
	comp=Z,27nm,0.8s							
CD2	**Chengdu**	**32.95**	**322**	P		**P**	**05 04 14.3**	**+1.7**
CD2				PMZ				
	comp=Z,10.0nm,0.5s							
BJT	**Baijiatuan**	**35.21**	**346**	*e*P		**P**	**05 04 33.3**	**+1.3**
BJT				pmax		pmax		
	comp=Z,19nm,0.7s							
BJT	**Baijiatuan**	**35.21**	**346**	*e*P		**P**	**05 04 33.3**	**+1.3**
	comp=Z,19nm,0.7s							
BJI	**Beijing**	**35.23**	**346**	P		**P**	**05 04 33.9**	**+1.8**
BJI				PMZ				
	comp=Z,31nm,0.8s							
LZH	**Lanzhou**	**36.66**	**328**	P		**P**	**05 04 45.4**	**+0.8**
LZH				pP		pP	05 05 11.4	+7.2
LZH				sP		sP	05 05 22.3	+8.5
LZH				PP		**PnPn**	**05 06 12.4**	**+2.0**
LZH				S		**S**	**05 10 20.0**	**-2.0**
LZH				sS		sS	05 11 02.0	+6.4
LZH				SS		**SnSn**	**05 12 55.0**	**-5.4**
LZH				PMZ				
	comp=Z,38nm,1.1s							
LZH				PMZ				
	comp=Z,120nm,4.2s							
LZH				LN				
	comp=Z,160nm,10.6s							
LZH				LE				
	comp=Z,260nm,11.0s							
LZH				LZ				
	comp=Z,290nm,12.9s							
HHC	**Hu-ho-hao-te**	**37.31**	**341**	*e*P		**P**	**05 04 51.8**	**+1.8**
HHC				pP		**pP**	**05 05 11.8**	**+2.2**
HHC				PP		**PnPn**	**05 06 19.4**	**+1.2**
HHC				S		**S**	**05 10 29.4**	**-2.3**
HHC				PMZ				
	comp=Z,23nm,0.9s							
HHC				PMZ				
	comp=Z,81nm,5.2s							
USRK	**Ussuriysk Ar.**	**38.30**	**6**	P		**P**	**05 04 58.5**	**+0.3**
	comp=Z,5.8nm,0.4s,baz=182,slow=8.5,SNR=20							
STKA	**Stephens Creek**	**40.20**	**160**	P		**P**	**05 05 14.8**	**+0.7**
	comp=Z,14nm,0.6s,baz=335,slow=7.9,SNR=33							
ASAJ	**Asahikawa**	**40.38**	**18**	*e*P		**P**	**05 05 17.1**	**+1.6**
	comp=Z,4.6nm,0.5s							
GTA	**Gaotai**	**41.26**	**328**	*e*P		**P**	**05 05 22.8**	**-0.2**
GTA				pP		**pP**	**05 05 47.9**	**+5.1**
GTA				sP		sP	05 06 01.4	+9.0
GTA				PcP		**PcP**	**05 07 20.6**	**+0.2**
GTA				PMZ				
	comp=Z,21nm,1.0s							
SONM	**Songino Array**	**45.21**	**341**	P		**P**	**05 05 54.7**	**0.0**
	comp=Z,3.1nm,0.6s,baz=155,slow=7.2,SNR=17							
TLY	**Talaya**	**49.44**	**341**	P		**P**	**05 06 27.2**	**-0.1**
	comp=Z,3.4nm,0.5s,baz=232,slow=9.4,SNR=6.9							
TLY	**Talaya**	**49.44**	**341**	*e*P		**P**	**05 06 26.2**	**-1.1**
TLY				pmax		pmax		
	comp=Z,5.0nm,0.8s							
TLY	**Talaya**	**49.44**	**341**	*e*P		**P**	**05 06 27.8**	**+0.5**
	comp=Z,5.6nm,0.7s							
WMQ	**Urumqi**	**50.98**	**324**	*e*P		**P**	**05 06 39.8**	**+0.6**
WMQ				pP		pP	05 07 05.8	+6.1
WMQ				sP		sP	05 07 18.8	+10
WMQ				PMZ				
	comp=Z,9.0nm,0.5s							
WMQ				LN				
	comp=Z,45nm,19.5s							
WMQ				LZ				
	comp=Z,28nm,23.0s							
PETK	**Petropavlovsk-**	**53.27**	**23**	P		**P**	**05 06 56.9**	**+1.0**
	comp=Z,3.9nm,0.6s,baz=198,slow=3.6,SNR=8.2							
MK31	**Makanchi Array**	**55.80**	**324**	*e*P		**P**	**05 07 13.8**	**-0.6**
MK31				pmax		pmax		
	comp=Z,5.0nm,0.4s							
MKAR	**Makanchi Array**	**55.80**	**324**	*e*P		**P**	**05 07 14.1**	**-0.3**
MKAR	**Makanchi Array**	**55.80**	**324**	*e*P		**P**	**05 07 14.1**	**-0.3**
KSH	**Kashi**	**56.58**	**314**	P		**P**	**05 07 17.4**	**-2.8**
KSH				sP		sP	05 07 56.4	+6.1
KSH				PcP		**PcP**	**05 08 12.1**	**-3.7**
KSH				PP		**PP**	**05 09 25.2**	**-1.7**
KSH				S		S	05 14 54.5	-11
KSH				sS		**sS**	**05 15 45.1**	**+3.6**
KSH				PMZ				
	comp=Z,7.0nm,0.5s							
KSH				PMZ				
	comp=Z,260nm,4.9s							
KSH				LN				
	comp=Z,80nm,4.6s							
KSH				LE				
	comp=Z,85nm,3.7s							
KSH				LZ				
	comp=Z,230nm,5.7s							
ZALV	**Zalesovo Beam**	**58.66**	**332**	P		**P**	**05 07 33.0**	**-1.3**
	comp=Z,4.6nm,0.3s,baz=130,slow=6.6,SNR=24							
ZALV	**Zalesovo Beam**	**58.66**	**332**	*i* P		**P**	**05 07 33.0**	**-1.3**
ZALV				pmax		pmax		
	comp=Z,5.0nm,0.3s							
KURK	**Kurchatov**	**59.93**	**327**	P		**P**	**05 07 42.1**	**-1.0**
KURK				pmax		pmax		
	comp=Z,14nm,0.6s							
KURK	**Kurchatov**	**59.93**	**327**	*e*P		**P**	**05 07 42.5**	**-0.7**
	comp=Z,80nm,0.6s							
KURBB	**Kurchatov Arra**	**59.93**	**327**	P		**P**	**05 07 42.5**	**-0.6**
	comp=Z,25nm,0.7s,baz=125,slow=6.2,SNR=198							
NVS	**Novosibirsk**	**59.94**	**333**	*e*P		**P**	**05 07 41.7**	**-1.4**
NVS				pmax		pmax		
	comp=Z,7.0nm,0.8s							
NVS				pmax		pmax		
	comp=N,4.0nm,0.7s							
NVS				pmax		pmax		
	comp=E,4.0nm,0.7s							
KK31	**Karatay Array**	**61.70**	**316**	*i* P		**P**	**05 07 54.2**	**-1.2**
KK31				pmax		pmax		
	comp=Z,1.0nm,0.3s							
KKAR	**Karatay Array**	**61.70**	**316**	*e*P		**P**	**05 07 55.0**	**-0.4**
KKAR	**Karatay Array**	**61.70**	**316**	*e*P		**P**	**05 07 55.0**	**-0.4**
BVA0	**Borovoye Array**	**65.52**	**326**	*i* P		**P**	**05 08 19.4**	**-0.9**
BVA0				pmax		pmax		
	comp=Z,18nm,0.8s							
BVAR	**Borovoye Array**	**65.52**	**326**	P		**P**	**05 08 19.5**	**-0.8**
	comp=Z,16nm,0.7s,baz=127,slow=9.4,SNR=59							
TIXI	**Tiksi**	**65.58**	**1**	⇑*e*P		**P**	**05 08 19.7**	**-0.6**
TIXI				pmax		pmax		
	comp=Z,4.0nm,0.6s							
TIXI	**Tiksi**	**65.58**	**1**	*e*P		**P**	**05 08 19.9**	**-0.3**
	comp=Z,6.0nm,0.4s							
BRVK	**Borovoye**	**65.59**	**326**	*ce*P		**P**	**05 08 20.3**	**-0.4**
BRVK				pmax		pmax		
	comp=Z,35nm,1.0s							
BRVK	**Borovoye**	**65.59**	**326**	*e*P		**P**	**05 08 20.3**	**-0.4**
	comp=Z,29nm,0.9s							
GEYT	**Alibeck**	**69.62**	**308**	P		**P**	**05 08 46.8**	**+0.3**
	comp=Z,4.2nm,0.6s,baz=57,slow=5.3,SNR=3.9							
AB31	**Akbulak array**	**70.51**	**320**	*i* P		**P**	**05 08 50.1**	**-1.5**
AB31				pmax		pmax		
	comp=Z,14nm,0.8s							
ABKAR	**Akbulak array**	**70.51**	**320**	*e*P		**P**	**05 08 50.8**	**-0.8**
	comp=Z,8.3nm,0.6s							
AKTO	**Aktyubinsk**	**72.00**	**321**	P		**P**	**05 08 59.8**	**-0.7**
	comp=Z,12nm,0.7s,baz=101,slow=7.9,SNR=29							
AKTO	**Aktyubinsk**	**72.00**	**321**	P		**P**	**05 08 59.6**	**-1.0**
AKTO				pmax		pmax		
	comp=Z,14nm,0.7s							
CASY	**Casey**	**73.08**	**187**	*e*P		**P**	**05 09 08.3**	**+1.7**
	comp=Z,34nm,1.2s							
ARU	**Arti**	**73.12**	**327**	*e*P		**P**	**05 09 05.9**	**-1.2**
ARU				pmax		pmax		
	comp=Z,18nm,1.2s							
ARU	**Arti**	**73.12**	**327**	*e*P		**P**	**05 09 05.9**	**-1.2**
	comp=Z,18nm,1.2s							
RAYN	**Ar Rayn**	**79.76**	**293**	*e*P		**P**	**05 09 43.6**	**-1.7**
	comp=Z,2.8nm,0.6s							
KDAK	**Kodiak Island**	**79.89**	**32**	*e*P		**P**	**05 09 46.0**	**+0.7**
KDAK				pmax		pmax		
	comp=Z,11nm,0.5s							
KDAK	**Kodiak Island**	**79.89**	**32**	*e*P		**P**	**05 09 46.0**	**+0.7**
	comp=Z,11nm,0.5s							
PPLA	**Purkeypile**	**80.54**	**27**	*e*P		**P**	**05 09 49.4**	**+0.5**
	comp=Z,3.9nm,0.6s							
PRGR	**Permogore**	**80.60**	**331**	*e*P		**P**	**05 09 46.6**	**-2.4**
PRGR				pmax		pmax		
	comp=Z,18nm,0.6s							
CAST	**Castle Rocks**	**80.64**	**27**	*e*P		**P**	**05 09 50.3**	**+1.1**
	comp=Z,6.4nm,0.6s							
ZEI	**Tsey**	**80.82**	**312**	*e*P		**P**	**05 09 49.3**	**-1.6**
ZEI				pmax		pmax		
	comp=Z,44nm,0.6s							
BRLK	**Bradley Lake**	**80.92**	**31**	*e*P		**P**	**05 09 50.8**	**0.0**
	comp=Z,10nm,0.4s							
BPAW	**Bear Paw Mtn.**	**81.18**	**26**	*e*P		**P**	**05 09 52.8**	**+0.7**
	comp=Z,6.2nm,0.5s							
TRF	**Thorofare Moun**	**81.44**	**27**	*e*P		**P**	**05 09 53.6**	**-0.2**
	comp=Z,4.2nm,0.6s							
KBZ	**Khabaz**	**81.55**	**313**	P		**P**	**05 09 53.8**	**-0.7**
	comp=Z,2.2nm,0.8s,baz=257,slow=2.5,SNR=4.4							
COLD	**Coldfoot**	**81.74**	**23**	*e*P		**P**	**05 09 56.6**	**+1.6**
	comp=Z,5.1nm,0.8s							
MCK	**McKinley**	**82.06**	**27**	*e*P		**P**	**05 09 56.7**	**-0.1**
MCK				pmax		pmax		
	comp=Z,10.0nm,0.6s							
MCK	**McKinley**	**82.06**	**27**	*e*P		**P**	**05 09 56.7**	**-0.1**
	comp=Z,9.9nm,0.6s							
CCB	**Clear Creek Bu**	**82.59**	**26**	*e*P		**P**	**05 09 59.1**	**-0.4**
	comp=Z,4.0nm,0.4s							
HDA	**Harding Lake**	**82.95**	**26**	*e*P		**P**	**05 10 01.1**	**-0.3**
	comp=Z,5.1nm,0.6s							
ILAR	**Eielson Array**	**82.99**	**26**	P		**P**	**05 10 00.4**	**-1.1**
	comp=Z,2.0nm,0.5s,baz=243,slow=5.3,SNR=58							
PAX	**Paxson**	**83.61**	**27**	*e*P		**P**	**05 10 05.0**	**+0.1**
PAX				pmax		pmax		
	comp=Z,2.0nm,0.6s							
PAX	**Paxson**	**83.61**	**27**	*e*P		**P**	**05 10 05.0**	**+0.1**
	comp=Z,2.3nm,0.6s							
BMRM	**Bremner River**	**84.06**	**29**	*e*P		**P**	**05 10 08.0**	**+0.9**
	comp=Z,8.4nm,1.0s							
OBN	**Obninsk**	**85.31**	**325**	P		**P**	**05 10 11.6**	**-1.8**
	comp=Z,19nm,0.4s,baz=128,slow=13,SNR=3.8							
OBN	**Obninsk**	**85.31**	**325**	*ce*P		**P**	**05 10 12.8**	**-0.6**
OBN				*e*			05 10 39.3	
OBN				pmax		pmax		
	comp=Z,15nm,1.1s							
EGAK	**Eagle**	**85.44**	**25**	*e*P		**P**	**05 10 14.7**	**+0.7**
	comp=Z,11nm,1.8s							
VNDA	**Vanda**	**85.65**	**173**	P		**P**	**05 10 14.8**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=317,slow=4.9,SNR=6.5							
ASF	**Jabal al Asfar**	**86.84**	**302**	P		**P**	**05 10 19.8**	**-1.9**
	comp=Z,3.8nm,0.7s,baz=50,slow=8.2,SNR=5.0							
MMAI	**Mount Meron Ar**	**88.02**	**303**	P		**P**	**05 10 26.4**	**-0.9**
	comp=Z,2.1nm,0.5s,baz=107,slow=9.8,SNR=3.8							
ARCES	**ARCESS Array B**	**88.38**	**340**	P		**P**	**05 10 26.3**	**-1.9**
	comp=Z,2.1nm,0.4s,baz=86,slow=6.7,SNR=25							
BRTR	**Keskin Array B**	**88.71**	**310**	P		**P**	**05 10 28.9**	**-1.5**
	comp=Z,1.5nm,0.6s,baz=122,slow=4.5,SNR=10							
BRTR	**Keskin Array B**	**88.71**	**310**	*ce*P		**P**	**05 10 29.0**	**-1.5**
BRTR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
FINES	**FINESS Array B**	**89.92**	**332**	P		**P**	**05 10 34.4**	**-1.1**
	comp=Z,1.8nm,0.5s,baz=76,slow=3.2,SNR=13							
FINES	**FINESS Array B**	**89.92**	**332**	*i* P		**P**	**05 10 34.4**	**-1.1**
FINES				pmax		pmax		
	comp=Z,2.0nm,0.5s							
AKASG	**Malin Array Be**	**90.24**	**321**	P		**P**	**05 10 34.8**	**-2.4**
	comp=Z,0.7nm,0.5s,baz=75,slow=2.3,SNR=4.3							
AKASG	**Malin Array Be**	**90.24**	**321**	*ce*P		**P**	**05 10 37.9**	**+0.7**
MLR	**Muntele Rosu**	**93.39**	**316**	P		**P**	**05 10 50.9**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=206,slow=8.8,SNR=3.9							
HFS	**Hagfors**	**96.09**	**332**	P		**P**	**05 11 02.0**	**-2.0**
	comp=Z,1.4nm,0.6s,baz=116,slow=3.4,SNR=4.3							
HFS	**Hagfors**	**96.09**	**332**	P		**P**	**05 11 02.0**	**-2.0**
NB2	**NORSAR Subarra**	**96.83**	**334**	P		**P**	**05 11 05.4**	**-2.0**
	comp=Z,1.1nm,0.8s,baz=68,slow=4.6							
NOA	**NORSAR Array B**	**96.83**	**334**	P		**P**	**05 11 05.2**	**-2.1**
	comp=Z,0.6nm,0.6s,baz=63,slow=4.6,SNR=3.1							
TORD	**Torodi Ar. Bea**	**122.35**	**290**	PKP		**PKPdf**	**05 16 31.3**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=71,slow=1.9,SNR=10.0							

*IDC **01** 05:01:35.8±2.1,38°07N×70°56E,h0km,mb3.7/7, mb1 3.8/11,mb1mx3.6/47,mbtmp3.7/11,ML3.3/4,MS4.1/1, Ms1 4.1/1,ms1mx2.5/41,Error ellipse: s-maj=40.8km s-min=20.3km az=137.0*

*ISCJB **01** 05:01:37.1±0.9,38°21N±0°09×70°45E±0°07,h10km, mb3.6/7,MS4.1/1,Error ellipse: s-maj=13.1km s-min=6.7km az=159.0*

*NNC **01** 05:01:40.6±1.7,38°40N×70°40E,h0km,mb4.1,mpv3.8, Error ellipse: s-maj=18.3km s-min=4.8km az=172.0*

ISC 01 05:01:38.7±1.2,**38°3N**±0°1×**70°40E**±0°05,**h10**km,**n25,** σ1§**84**/26,**mb3.7**/7,**9C-8D**,**Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**1.33**	**293**	⇑P		**Pn**	**05 02 03.7**	**+0.2**
	111nm,0.3s							
DZET				⇑S		**Sg**	**05 02 23.2**	**+1.6**
	1μm,0.5s							
SFK	**Sufi-Kurgan**	**2.97**	**54**	⇓Pn		**Pb**	**05 02 30.0**	**-1.8**
	2.6nm,0.3s							
SFK				⇓Pg		**Pg**	**05 02 34.3**	**-1.2**
	35nm,0.6s							
SFK				⇑Lg		Lg	05 03 11.2	
	93nm,0.4s							
KK31	**Karatay Array**	**4.81**	**1**	Pn		**Pn**	**05 02 53.9**	**+2.7**
	2.3nm,0.3s,baz=188,slow=13,SNR=46							
KK31				⇑Pg		Pb	05 03 06.5	+3.4
	13nm,0.8s,baz=177,slow=18,SNR=12							
KK31				⇑Sn		**Sn**	**05 03 49.1**	**+2.1**
	8.5nm,0.5s							
KK31				⇓Lg		Lg	05 04 09.7	
	16nm,0.5s,baz=189,slow=35,SNR=5.6							
UCH	**Uchtor**	**5.04**	**37**	P		Pn	05 02 57.8	+3.1
	SNR=22							
KZA	**Kyzart**	**5.30**	**43**	P		**Pn**	**05 03 01.1**	**+2.8**
	SNR=11							
AAK	**Ala-Archa**	**5.35**	**34**	⇑Pn		**Pn**	**05 03 00.3**	**+1.6**
	5.1nm,0.5s							
AAK				⇓Pg		**Pg**	**05 03 18.1**	**-3.0**
	20nm,0.6s							
AAK				⇓Lg		Lg	05 04 23.8	
	30nm,1.0s							
KBK	**Karagaybulak**	**5.58**	**37**	P		Pn	05 03 06.0	+4.2
	SNR=15

ARHZ	Aropaoanui	6.64	199	PN	Pn	05 13 31.9	+3.1	
BHHZ	Black Hill Sta	7.13	203	*e*PN	Pn	05 13 39.5	+3.9	
KAHZ	Kahuranaki	7.17	198	PN	Pn	05 13 35.7	-0.4	
KRHZ	Kereru	7.17	201	PN	Pn	05 13 36.8	+0.7	
PXZ	Pawanui	7.40	197	PN	Pn	05 13 38.6	-0.5	
PXZ				SN	Sn	05 14 56.4	-5.0	
TSZ	Takapari Road	7.68	202	SN	Sn	05 15 07.6	-0.8	
MRZ	Mangatainoka R	8.35	202	PN	Pn	05 13 51.7	-0.3	
MRZ				SN	Sn	05 15 17.0	-7.6	
HOWZ	Holdsworth Sta	8.58	202	PN	Pn	05 13 54.0	-1.3	
OGWZ	Otaki Gorge	8.62	204	PN	Pn	05 13 55.8	+0.1	
KIW	Kapiti Island	8.75	205	PN	Pn	05 13 56.4	-1.2	
MTW	Mount Morrison	8.82	201	PN	Pn	05 13 57.3	-1.2	
PLWZ	Palliser	9.28	201	PN	Pn	05 14 03.1	-1.6	
TCW	Tory Channel	9.29	206	PN	Pn	05 14 03.8	-1.0	
TUWZ	Tuamarina	9.60	207	PN	Pn	05 14 07.7	-1.4	
NNZ	Nelson	9.65	210	PN	Pn	05 14 09.0	-0.7	
THZ	Tophouse	10.30	210	PN	Pn	05 14 17.9	-0.7	
THZ				*e*SN	Sn	05 16 06.7	-5.3	
KHZ	Kahutara	10.61	206	PN	Pn	05 14 20.7	-2.0	
CTZ	Chatham Island	11.12	166	*e*PN	Pn	05 14 29.5	-0.1	
CTZ				SN	Sn	05 16 21.9	-10	
MQZ	McQueen's Vall	12.05	205	*e*PN	Pn	05 14 37.6	-4.4	
MQZ				SN	Sn	05 16 42.0	-12	
ODZ	Otahua Downs	13.94	208	PN	Pn	05 15 03.8	-3.1	
ASAR	Alice Springs 0.7nm,0.5s,baz=108,slow=7.5,SNR=8.7	41.10	271	P	P	05 19 30.2	+2.0	
WRA	Warramunga Arr 0.6nm,0.4s,baz=116,slow=7.5,SNR=4.8	42.34	276	P	P	05 19 40.2	+2.0	
JAY	Jayapura comp=Z,305nm,19.2s,baz=350,slow=34	47.46	301	LR	LR	05 38 54.6		
SNAA	Sanae	75.62	179	P	P	05 23 23.4	-4.1	
VNA1	Neumayer--Stat	76.50	177	P	P	05 23 32.8	+0.4	
ARCES	ARCESS Array B 1.5nm,0.8s,baz=30,slow=1.3,SNR=7.6	140.66	346	PKhKP	PKPpre	05 31 04.8		
FINES	FINESS Array B 2.4nm,0.5s,baz=66,slow=2.3,SNR=12	146.82	337	PKPbc	PKPdf	05 31 22.6	+0.9	
NB2	NORSAR Subarra comp=Z,1.1nm,0.5s,baz=14,slow=2.5	150.94	348	PKP	PKPbc	05 31 32.9	-1.3	
NOA	NORSAR Array B comp=Z,1.1nm,0.5s,baz=14,slow=4.1,SNR=8.4	150.94	348	PKPbc	PKPbc	05 31 33.1	-1.2	
BRTR	Keskin Array B comp=Z,0.7nm,0.5s,baz=163,slow=2.5,SNR=4.0	151.97	294	PKPbc	PKPbc	05 31 36.0	-1.4	
AKASG	Malin Array Be comp=Z,0.4nm,0.3s,baz=53,slow=3.2,SNR=5.3	152.04	318	PKPbc	PKPbc	05 31 35.7	-1.3	
DBIC	Dimbokro comp=Z,2.3nm,0.4s,baz=132,slow=5.8,SNR=5.0	153.48	170	PKPbc	PKPbc	05 31 40.2	-1.0	
TORD	Torodi Ar. Bea comp=Z,0.6nm,0.5s,baz=163,slow=4.2,SNR=10	160.17	186	PKPab	PKPab	05 32 21.3	-1.2	

IDC 01 05:25:09.2±1.7,**2°78S**×143°00E,**h0**km,**mb3.5**/2,
mb1 3.8/3,**mb1mx3.5**/31,**mbtmp3.5**/3,**ML3.3/1**,**Error ellipse: s-maj=299.0km s-min=29.0km az=114.0,Ninigo Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.1nm,0.3s,baz=28,slow=12,SNR=6.3	19.05	206	P	P	05 29 32.9	-0.4
ASAR	Alice Springs 0.9nm,0.8s,baz=33,slow=8.5,SNR=7.6	22.56	202	P	P	05 30 11.3	+0.1
ILAR	Eielson Array 0.6nm,0.7s,baz=258,slow=5.2,SNR=6.8	84.14	24	P	P	05 37 42.0	+0.1

*MOS **01** 05:25:51.7±1.5,51°.40N×179°.04W,h33km,mb4.8/24, Error ellipse: s-maj=11.5km s-min=8.5km az=55.3*
*BJI **01** 05:25:51.7,51°.82N×179°.25W,h29km,mb4.7/17, mB4.8/10,Ms4.3/7,Ms7 4.0/6*
*IDC **01** 05:25:51.8±4.2,51°.44N×179°.13W,h28km±28km,mb3.8/17, mb1 4.0/19,mb1mx3.9/45,mbtmp4.0/19,ML3.0/2,MS3.6/25, Ms1 3.6/25,ms1mx3.5/40,Error ellipse: s-maj=20.7km s-min=13.6km az=166.0*
*NEIC **01** 05:25:52.3,51°.18N×179°.05W,h35km,mb4.7/83, ML4.8(AEIC),After AEIC.*
*ISCJB **01** 05:25:54.3±0.4,51°.54N±0°.06×179°.10W±0°.03,h60km±2km, mb4.5/95,MS3.6/23,Error ellipse: s-maj=9.4km s-min=3.3km az=175.9*

ISC 01 05:25:53.5±0.6,**51°.34N**±0°.10×**179°.13W**±0°.03,**h40**km±3km,
h40km:**pP-P**,**n414**,σ0=**99**/408,**mb4.6**/96,**MS3.5**/23,
Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	Gareloi Lava P	0.47	28	P	Pn	05 26 04.7	+0.7
GAEA	Gareloi East	0.50	28	P	Pn	05 26 04.8	+0.5
GANE	Gareloi Northe	0.53	25	P	Pn	05 26 05.1	+0.5
TASE	Tanaga Southea	0.84	54	P	Pn	05 26 08.9	0.0
TANO	Tanaga North	0.85	47	P	Pn	05 26 09.3	+0.3
TAFP	Tanaga Falls P	0.91	52	P	Pn	05 26 09.7	-0.1
CERAA	Semis' Rag'd T	0.93	308	P	Pn	05 26 11.5	+1.3
AMKA	Amchitka	0.98	273	P	Pn	05 26 10.6	-0.2
AMKA				S	Sn	05 26 23.5	0.0
CESW	Semis' Southwe	0.99	305	P	Pn	05 26 12.0	+1.1
CEAP	Semis' Anvil P	1.04	310	P	Pn	05 26 13.1	+1.4
KIKV	Kanaga Island	1.33	65	P	Pn	05 26 15.4	-0.3
KICM	Kanaga Island	1.34	64	P	Pn	05 26 15.7	0.0
KIRH	Kanaga Island	1.39	65	P	Pn	05 26 16.2	-0.2
LSPA	Little Sitkin	1.56	294	P	Pn	05 26 20.1	+1.4
LSSA	Little Sitkin	1.59	293	P	Pn	05 26 20.4	+1.2
LSNW	Little Sitkin	1.60	294	P	Pn	05 26 20.1	+0.9
ADAG	Mount Adagdak	1.70	67	P	Pn	05 26 21.1	+0.4
ETKA	Kagalaska Isla	1.78	72	P	Pn	05 26 21.7	0.0
ETKA				S	Sn	05 26 43.1	0.0
GSCK	Great Sitkin C	1.96	69	P	Pn	05 26 24.4	+0.1
GSTD	Great Sitkin T	1.99	68	P	Pn	05 26 24.6	-0.1
GSTD				S	Sn	05 26 48.3	-0.1
GSMY	Great Sitkin M	2.04	69	P	Pn	05 26 25.2	-0.1
GSTR	Great Sitkin T	2.05	67	*e*Pn	Pn	05 26 26.0	+0.5
SMY	Shemya	4.41	291	P	Pn	05 27 00.7	+2.9
SMY	Shemya	4.41	291	P	Pn	05 27 00.7	+2.9
NIKH	Nikolski High	6.53	72	P	Pn	05 27 28.3	+1.4
NIKH				S	Sn	05 28 41.1	+1.1
OKSP	Okmok Steeple	6.92	70	P	Pn	05 27 34.1	+1.8
OKSP				S	Sn	05 28 54.3	+4.6
OKTU	Okmok Mt. Tuli	7.09	69	P	Pn	05 27 37.4	+2.7
SPIA	Saint Paul Isl	7.82	38	P	Pn	05 27 46.4	+1.8
MCIR	Makushin Cirqu	7.89	66	P	Pn	05 27 47.4	+1.8
UNV	Unalaska Valle	8.09	67	P	Pn	05 27 49.9	+1.6
AKRB	Akutan Reef Bi	8.40	66	P	Pn	05 27 54.3	+1.7
AKGG	Akutan Green G	8.46	65	P	Pn	05 27 55.2	+1.8
AKUT	Akutan	8.57	66	P	Pn	05 27 56.7	+1.8
WESP	Westdahl Peak	9.26	64	P	Pn	05 28 06.0	+1.6
WESN	West Dahl Nort	9.35	64	P	Pn	05 28 07.3	+1.7
SSLW	Shishaldin Wes	9.66	63	P	Pn	05 28 11.6	+1.7
ISNN	Isanotski Nort	9.87	63	P	Pn	05 28 14.8	+2.1
FALS	False Pass	10.08	63	*e*Pn	Pn	05 28 16.9	+1.4
SDPT	Sand Point	11.84	63	*e*Pn	Pn	05 28 40.2	+0.7
PEA0B	Petropavlovsk-	14.30	286	Pn	P	05 29 22.3	+2.7
PETK	Petropavlovsk- 0.1nm,0.3s,baz=102,slow=16,SNR=2.4	14.30	286	Pn	Pn	05 29 12.1	-1.0
PETK				LR	LR	05 34 28.7		
	comp=Z,146nm,21.3s,baz=97,slow=36							
OHAK	Old Harbor	16.14	59	*e*Pn	Pn	05 29 35.5	-1.6
KDAK	Kodiak Island	16.62	57	*i* P	Pn	05 29 39.5	-3.7
KDAK	Kodiak Island 47nm,1.2s	16.62	57	*e*Pn	Pn	05 29 40.1	-3.1
RSO	Redoubt South 111nm,0.9s	17.26	48	*e*Pn	P	05 29 53.2	+0.7
BRLK	Bradley Lake 36nm,0.6s	17.94	51	*e*P	Pn	05 29 59.8	+0.2
BILL	Bilibino	18.20	342	*e*P	Pn	05 30 05.1	+2.4
BILL				pmax	pmax			
	comp=Z,5.0nm,1.0s							
BILL	Bilibino comp=Z,14nm,1.0s	18.20	342	Pn	P	05 29 55.6	-7.1	
PPLA	Purkeypile comp=Z,156nm,1.5s	18.48	41	*e*P	P	05 30 05.8	-0.1	
SEW	Seward comp=Z,40nm,0.6s	18.73	51	*e*P	P	05 30 07.5	-1.0	
CAST	Castle Rocks	18.76	40	*e*Pn	P	05 30 09.0	+0.2	
RC01	Rabbit Creek A comp=Z,34nm,1.0s	18.87	48	*e*P	P	05 30 09.3	-0.7	
SEY	Seymchan comp=Z,0.1nm,0.3s,baz=6.6,slow=16,SNR=2.3	19.13	318	P	P	05 30 12.0	-0.8	
SEY				LR	LR	05 37 42.2		
	comp=Z,235nm,19.9s,baz=106,slow=37							
SEY	Seymchan	19.13	318	*e*P	Pn	05 30 17.2	+3.2	
TRF	Thorofare Moun comp=Z,60nm,1.0s	19.50	41	*e*Pn	P	05 30 17.7	+0.6	
IM04	Indian Mountai	19.50	32	*e*Pn	P	05 30 17.4	+0.5	
BPAW	Bear Paw Mtn. comp=Z,50nm,1.3s	19.51	38	*e*Pn	P	05 30 17.5	+0.5	
SML	Sawmill	19.73	46	*e*P	P	05 30 19.6	+0.1	
SML				pmax	pmax			
	comp=Z,7.0nm,1.0s							
SML	Sawmill comp=Z,6.6nm,1.0s	19.73	46	*e*P	P	05 30 19.6	+0.1	
BWN	Browne	20.13	39	*e*Pn	Pn	05 30 25.7	-0.1	
MCK	McKinley	20.16	40	*e*P	P	05 30 23.6	-0.5	
MCK				pmax	pmax			
	comp=Z,12nm,0.8s							
MCK	McKinley comp=Z,12nm,0.8s	20.16	40	*e*Pn	P	05 30 23.6	-0.5	
DHY	Denali Highway comp=Z,177nm,1.6s	20.57	43	*e*Pn	P	05 30 28.3	-0.4	
EYAK	Cordova Ski Ar comp=Z,21nm,1.3s	20.62	51	*e*P	P	05 30 28.3	-0.8	
DIV	Divide comp=Z,37nm,1.2s	20.73	49	*e*P	P	05 30 29.6	-0.8	
CCB	Clear Creek Bu comp=Z,20nm,1.0s	20.99	39	*e*P	P	05 30 31.8	-1.2	
COLA	College	21.07	38	*e*P	P	05 30 35.2	+1.4	
COLA				pmax	pmax			
	comp=Z,46nm,1.0s							
COLA	College comp=Z,30nm,1.1s	21.07	38	*e*Pn	P	05 30 34.4	+0.6	
HDA	Harding Lake comp=Z,12nm,1.0s	21.23	40	*e*P	P	05 30 34.7	-0.9	
BMRM	Bremner River comp=Z,28nm,1.0s	21.26	50	*e*P	P	05 30 36.7	+0.7	
HARP	HAARP comp=Z,55nm,1.1s	21.34	46	*e*P	P	05 30 36.3	-0.5	
PAX	Paxson	21.36	44	*e*P	P	05 30 36.5	-0.6	
PAX				pmax	pmax			
	comp=Z,65nm,1.2s							
PAX	Paxson comp=Z,64nm,1.2s	21.36	44	*e*P	P	05 30 36.5	-0.6	
COLD	Cold Cut comp=Z,17nm,1.2s	21.39	31	*e*P	P	05 30 36.4	-0.9	
ILAR	Eielson Array comp=Z,1.9nm,0.5s,baz=233,slow=10.0,SNR=36	21.40	39	P	P	05 30 35.4	-2.0	
ILAR				PcP	PcP	05 34 38.8	-0.7	
	comp=Z,0.3nm,0.4s,baz=291,slow=3.3,SNR=4.1							
ILAR				LR	LR	05 39 24.6		
	comp=Z,329nm,19.1s,baz=250,slow=38							
EGAK	Eagle comp=Z,78nm,1.8s	23.71	41	*e*P	P	05 30 59.7	-1.6	
DAWY	Dawson comp=Z,4.8nm,0.7s	24.27	43	*e*P	P	05 31 05.8	-0.8	
HYT	Haines Junctio	24.68	51	*e*P	P	05 31 08.7	-1.7	
YSS	Yuzh-Sakhalins	25.12	275	*e*P	P	05 31 15.6	+1.3	
ASAJ	Asahikawa comp=Z,4.6nm,0.9s	26.50	269	P	P	05 31 29.7	+2.8	
INK	Inuvik comp=Z,1.1nm,0.4s,baz=231,slow=8.0,SNR=5.9	27.61	35	P	P	05 31 35.1	-1.5	
INK				LR	LR	05 43 29.0		
	comp=Z,229nm,18.4s,baz=240,slow=38							
DLBC	Dease Lake comp=Z,0.5nm,0.3s,baz=159,slow=15,SNR=3.0	28.55	56	P	P	05 31 43.9	-1.3	
DLBC				LR	LR	05 44 06.6		
	comp=Z,285nm,19.4s,baz=268,slow=38							
YAK	Yakutsk comp=Z,91nm,18.1s,baz=174,slow=38	29.29	311	LR	LR	05 44 16.9		
KLR	Kul'dur	30.99	286	*e*P	P	05 32 03.8	-3.0	
USRK	Ussuriysk Ar. comp=Z,91nm,21.9s,baz=43,slow=35	33.09	277	LR	LR	05 44 58.6		
H11N2	WAKE ISLAND Hy baz=16,slow=76,SNR=2058	33.41	204	T	T	06 07 46.2		
H11N3	WAKE ISLAND Hy baz=16,slow=76,SNR=2453	33.42	204	T	T	06 07 46.9		
H11N1	WAKE ISLAND Hy baz=16,slow=76,SNR=1893	33.43	204	T	T	06 07 47.6		
MJAR	Matsushiro Arr comp=Z,105nm,21.8s,baz=270,slow=33	33.58	261	LR	LR	05 44 18.1		
H11S1	WAKE ISLAND Hy baz=16,slow=76,SNR=1750	34.63	204	T	T	06 09 48.6		
H11S2	WAKE ISLAND Hy baz=16,slow=76,SNR=910	34.65	204	T	T	06 09 49.8		
H11S3	WAKE ISLAND Hy baz=16,slow=76,SNR=941	34.65	204	T	T	06 09 49.9		
YKA	Yellowknife Ar comp=Z,1.5nm,0.4s,baz=282,slow=7.4,SNR=17	35.41	46	P	P	05 32 44.3	-0.7	
YKA				PcP	PcP	05 35 14.2		
	comp=Z,0.4nm,0.4s,baz=288,slow=3.2,SNR=4.3							
YKA				ScP	ScP	05 38 56.9	+0.6	
	comp=Z,1.0nm,0.5s,baz=284,slow=3.5,SNR=4.1							
YKA	Yellowknife Ar	35.41	46	P	P	05 32 44.3	-0.7	
YKA						05 35 14.2		
YKA				pmax	pmax			
	comp=Z,2.0nm,0.4s							
YKA				pmax	pmax			
	comp=N,1.0nm,0.5s							
NLWA	Neilton Lookou comp=N,33nm,1.5s	35.48	74	*e*P	P	05 32 47.2	+1.3	
MBW	Mount Baker	36.03	71	P	P	05 32 51.5	+0.6	
D05A	Enumclaw comp=N,52nm,1.4s	36.71	73	*e*P	P	05 32 58.4	+2.0	
LON	Longmire	37.02	74	*e*P	P	05 32 59.9	+0.7	
LON				pmax	pmax			
	comp=Z,3.0nm,0.7s							
LON	Longmire comp=Z,3.3nm,0.7s	37.02	74	*e*P	P	05 32 59.9	+0.7	
TBM	Table Mountain	37.55	73	P	P	05 33 04.7	+1.0	
NAC	Naches	37.62	73	P	P	05 33 05.3	+1.0	
I03D	Drain, OR baz=38	37.63	79	P	P	05 33 05.0	+0.8	
JCJ	Chichijima comp=Z,100nm,21.8s,baz=20,slow=32	37.88	245	LR	LR	05 46 06.6		
G05D	Wamic, OR baz=38	38.07	76	P	P	05 33 09.0	+1.0	
I04A	Tendick Farm, baz=38	38.15	79	P	P	05 33 09.4	+0.7	
L02D	Cave Junction, baz=38	38.30	81	P	P	05 33 10.7	+0.7	
SNIWA	Snively Ranch	38.46	73	P	P	05 33 12.6	+1.4	
RSW	Rattlesnake Hi	38.53	73	P	P	05 33 12.8	+0.9	
HAWA	Hanford comp=Z,8.4nm,0.4s	38.57	73	*e*P	P	05 33 12.7	+0.5	
OD2	Odessa Site #2	38.57	71	P	P	05 33 12.4	+0.2	
D08A	Wollman Farm, comp=Z,121nm,2.5s	38.61	72	*e*P	P	05 33 13.1	+0.7	
EDM	Edmonton	39.01	61	*e*P	P	05 33 15.3	-0.5	
EDM	Edmonton	39.01	61	*e*P	P	05 33 15.3	-0.5	
NEW	Newport	39.09	69	*e*P	P	05 33 16.4	-0.1	
NEW				pmax	pmax			
	comp=Z,9.0nm,0.5s							
NEW	Newport comp=Z,39.5nm=14	39.09	69	P	P	05 33 16.3	-0.3	
NEW	Newport comp=Z,8.7nm,0.5s	39.09	69	*e*P	P	05 33 16.4	-0.1	
YBH	Yreka Blue Hor comp=Z,9.0nm,0.9s	39.09	81	*e*P	P	05 33 18.7	+2.0	
YBH				pmax	pmax			
	comp=Z,9.2nm,0.9s							
YBH	Yreka Blue Hor comp=Z,9.2nm,0.9s	39.09	81	*e*P	P	05 33 18.6	+2.0	
J05D	Fort Rock, OR baz=39	39.15	78	P	P	05 33 18.1	+0.9	
K04D	Chiloquin, OR baz=39	39.19	80	P	P	05 33 19.0	+1.5	
KSRS	Korea Array comp=Z,0.4nm,0.3s,baz=58,slow=11,SNR=9.7	39.43	271	P	P	05 33 13.7	-5.7	
KSRS				LR	LR	05 49 40.4		
	comp=Z,30nm,18.3s,baz=70,slow=36							
KSAR	Wonju Array Be	39.46	271	P	P	05 33 13.7	-6.0	
KSAR	Wonju Array Be	39.46	271	P	P	05 33 13.7	-6.0	
G08A	Pilot Rock comp=Z,7.5nm,1.3s	39.47	74	*e*P	P	05 33 21.1	+1.2	
M04C	Macdoel baz=39	39.60	81	P	P	05 33 21.3	+0.3	
K05A	Summer Lake comp=Z,17nm,1.2s	39.66	79	*e*P	P	05 33 23.2	+1.6	
MOD	Modoc comp=Z,5.0nm,0.8s	40.48	80	*e*P	P	05 33 29.8	+1.5	
WALA	Waterton Lakes comp=Z,11nm,1.2s	40.57	67	*e*P	P	05 33 28.9	0.0	
BSMT	Basson Peak comp=Z,7.1nm,0.6s	40.66	69	*e*P	P	05 33 29.8	0.0	
BMO	Blue Mountains comp=Z,6.7nm,1.1s	40.70	74	*e*P	P	05 33 31.6	+1.6	
BLMT	Blacktail Moun	40.83	68	*e*P	P	05 33 31.4	+0.2	
WVOR	Wild Horse Val	41.21	78	*e*P	P	05 33 34.8	+0.6	
WVOR				pmax	pmax			
	comp=Z,8.0nm,1.0s							
WVOR	Wild Horse Val comp=Z,7.7nm,1.0s	41.21	78	*e*P	P	05 33 34.8	+0.6	
MSO	Missoula	41.67	70	P	P	05 33 37.5	-0.5	
MSO	Missoula comp=Z,16nm,1.3s	41.67	70	*e*P	P	05 33 37.7	-0.3	
SLMT	Seeley Lake comp=Z,14nm,1.3s	41.72	69	*e*P	P	05 33 37.8	-0.7	
CHMT	Chamberlain Mo comp=Z,3.2nm,0.9s	42.03	69	*e*P	P	05 33 40.2	-0.8	
MFID	Camas Ranch comp=Z,10nm,1.4s	42.38	75	*e*P	P	05 33 44.5	+0.8	
CMB	Columbia Colle	42.70	84	*e*P	P	05 33 48.3	+1.9	
CMB				pmax	pmax			
	comp=Z,6.0nm,1.1s							
CMB	Columbia Colle comp=Z,5.7nm,1.1s	42.70	84	*e*P	P	05 33 48.2	+1.9	
HLID	Hailey baz=43,SNR=10	43.15	74	P	P	05 33 50.0	-0.1	
HLID	Hailey comp=Z,12nm,1.2s	43.15	74	*e*P	P	05 33 50.3	+0.2	
MCMT	McKenzie Canyo	43.38	72	*e*P	P	05 33 52.1	0.0	
EGMT	Eagleton baz=43	43.48	66	P	P	05 33 52.2	-0.4	
EGMT	Eagleton comp=Z,5.3nm,0.8s	43.48	66	*e*P	P	05 33 52.2	-0.4	
A19A	Klindworth Far baz=43	43.59	64	P	P	05 33 52.4	-1.0	
BOZ	Bozeman (W)	43.66	70	*e*P	P	05 33 54.2	0.0	
BOZ				pmax	pmax			
	comp=Z,10.0nm,0.8s							
BOZ	Bozeman (W) baz=44,SNR=8.8	43.66	70	P	P	05 33 53.8	-0.4	
BOZ	Bozeman (W) comp=Z,10nm,0.8s	43.66	70	*e*P	P	05 33 54.2	0.0	
NVAR	Mina Array Bea comp=Z,0.9nm,0.6s,baz=290,slow=9.2,SNR=11	43.76	83	P	P	05 33 55.0	-0.2	
A20A	Cobblestone Ra baz=44	44.07	64	P	P	05 33 56.6	-0.7	
QLMT	Earthquake Lak comp=Z,1.8nm,1.1s	44.23	71	*e*P	P	05 33 58.1	-0.7	
B20A	Solberg Farm, baz=44,SNR=6.4	44.25	65	P	P	05 33 57.9	-0.9	
ELK	Elko	44.27	78	*e*P	P	05 33 59.7	+0.5	
ELK				pmax	pmax			
	comp=Z,4.0nm,0.8s							
ELK	Elko comp=Z,3.8nm,0.8s	44.27	78	*e*P	P	05 33 59.7	+0.5	
YMR	Madison River comp=Z,37nm,1.3s	44.59	71	*e*P	P	05 34 01.8	0.0	
C20A	Veseth Ranch, baz=44	44.65	65	P	P	05 34 01.1	-0.8	
TPH	Tonopah	44.65	82	*e*P	P	05 34 04.4	+2.2	
TPH				pmax	pmax			
	comp=Z,8.0nm,1.0s							
TPH	Tonopah comp=Z,8.0nm,1.0s	44.65	82	*e*P	P	05 34 04.4	+2.2	
GCMT	Greycliff comp=Z,5.4nm,1.2s	44.73	69	*e*P	P	05 34 02.9	+0.2	
VES	Vestal, Richgr baz=45	44.89	86	P	P	05 34 04.4	+0.5	
H17A	Grant Village baz=45	44.98	71	P	P	05 34 05.0	+0.2	
H17A	Grant Village comp=Z,24nm,1.3s	44.98	71	*e*P	P	05 34 05.3	+0.5	
IMW	Indian Meadow comp=Z,4.4nm,0.8s	45.04	72	*e*P	P	05 34 06.0	+0.6	
FLWY	Flagg Ranch comp=Z,4.8nm,0.6s	45.08	71	*e*P	P	05 34 06.5	+1.0	
BJI	Beijing	45.18	282	P	P	05 34 05.9	-0.2	
BJI				S	S	05 40 41.8	-1.1	
BJI				PMZ				
	comp=Z,9.0nm,0.5s							
BJI				LN				
	comp=Z,64nm,25.0s							
BJI				LE				
	comp=Z,140nm,21.0s							
RLMT	Red Lodge baz=45,SNR=14	45.34	69	P	P	05 34 07.5	-0.1	
RLMT	Red Lodge comp=Z,29nm,1.1s	45.34	69	*e*P	P	05 34 07.9	+0.3	
REDW	Red Top Meadow comp=Z,25nm,1.8s	45.40	72	*e*P	P	05 34 08.1	-0.1	
LOHW	Long Hollow comp=Z,6.9nm,1.2s	45.40	72	*e*P	P	05 34 08.6	+0.4	
LOHW				*e*pP	pP	05 34 18.1	-1.5	
R11A	Troy Canyon, C baz=45,SNR=8.9	45.50	81	P	P	05 34 09.2	+0.2	
R11A	Troy Canyon, C comp=Z,6.3nm,1.1s	45.50	81	*e*P	P	05 34 09.4	+0.5	
F20A	Billings baz=45	45.61	68	P	P	05 34 09.0	-0.6	
A23A	Redstone baz=46,SNR=12	45.74	62	P	P	05 34 10.5	0.0	
H19A	Powell baz=46,SNR=9.1	45.76	70	P	P	05 34 10.9	+0.1	
G20A	Bridger baz=46,SNR=8.8	45.90	68	P	P	05 34 11.8	-0.1	
B23A	Brockton baz=46	45.94	63	P	P	05 34 11.2	-1.0	
TPNV	Topopah Spring baz=46,SNR=8.9	45.96	83	P	P	05 34 13.0	+0.5	
D22A	Cohagen baz=46,SNR=8.3	45.99	65	P	P	05 34 12.5	-0.1	
HWUT	Hardware Ranch comp=Z,16nm,1.4s	45.99	75	*e*P	P	05 34 13.7	+0.9	
DUG	Dugway	46.08	77	*e*P	P	05 34 13.9	+0.5	
DUG				pmax	pmax			
	comp=Z,28nm,1.4s							
DUG	Dugway baz=46,SNR=11	46.08	77	P	P	05 34 13.9	+0.5	
DUG	Dugway comp=Z,28nm,1.4s	46.08	77	*e*P	P	05 34 13.9	+0.5	
I19A	Meeteetse baz=46	46.11	70	P	P	05 34 13.0	-0.7	
C23A	Lambert baz=46,SNR=6.6	46.20	64	P	P	05 34 14.0	-0.1	
A24A	Westby baz=46	46.24	62	P	P	05 34 13.6	-0.9	
H20A	Greybull baz=46	46.44	69	P	P	05 34 15.2	-1.0	
SONM	Songino Array comp=Z,0.9nm,0.5s,baz=55,slow=7.9,SNR=6.7	46.48	296	P	P	05 34 16.0	-0.5	
SONM				LR	LR	05 54 37.5		
	comp=Z,55nm,19.1s,baz=72,slow=37							
SONM	Songino Array	46.48	296	P	P	05 34 16.0	-0.5	
G21A	Lodge Grass baz=46	46.48	68	P	P	05 34 15.8	-0.7	
BW06	Boulder Array

baz=47
CCUT Cedar City 47.37 80 *e*P **P** **05 34 24.2 +0.6**
comp=Z,2.2nm,0.7s
E24A Baker 47.39 65 P **P** **05 34 23.0 -0.5**
baz=47
J21A Lysite 47.43 70 P **P** **05 34 24.1 +0.1**
baz=47,SNR=6.4
MSU Marysvale 47.50 78 *e*P **P** **05 34 25.5 +0.8**
MSU pmax pmax
comp=Z,3.0nm,0.5s
MSU Marysvale 47.50 78 *e*P **P** **05 34 25.5 +0.8**
comp=Z,2.6nm,0.5s
HHC Hu-ho-hao-te 47.50 286 *e*P **P** **05 34 22.9 -1.6**
HHC pP pP 05 34 30.9 -5.1
HHC PP **PP** **05 36 16.2 +0.3**
HHC S **S** **05 41 15.7 -0.7**
HHC sS sS 05 41 28.4 -7.0
HHC PMZ
comp=Z,22nm,1.1s
HHC PMZ
comp=Z,81nm,5.4s
HHC LN
comp=Z,130nm,13.2s
HHC LE
comp=Z,190nm,13.6s
HHC LZ
comp=Z,79nm,13.8s
B26A Jensen Ranch, 47.52 62 P **P** **05 34 23.6 -0.9**
baz=47
GUMO Guam 47.53 231 LR LR 05 52 52.5
comp=Z,37nm,20.0s,baz=97,slow=34
G23A Biddle 47.55 67 P **P** **05 34 24.0 -0.7**
baz=47
TMUT Trail Mountain 47.61 77 *e*P **P** **05 34 26.4 +0.8**
comp=Z,16nm,1.0s
I22A 9 Mile Ranch, 47.67 69 P **P** **05 34 25.7 -0.2**
baz=48,SNR=10.0
F24A Ekalaka 47.72 66 P **P** **05 34 25.6 -0.5**
baz=48
P17A Butcher Ranch, 47.78 76 *e*P **P** **05 34 27.4 +0.6**
C26A Wahner Farm, P 47.91 62 P **P** **05 34 26.4 -1.1**
baz=48
J22A Midwest 47.96 69 P **P** **05 34 27.8 -0.3**
baz=48,SNR=15
G24A Alzada 48.03 66 P **P** **05 34 27.9 -0.7**
baz=48
SRU San Rafael 48.14 77 *e*P **P** **05 34 31.2 +1.6**
SRU pmax pmax
comp=Z,10.0nm,0.5s
SRU San Rafael 48.14 77 *e*P **P** **05 34 31.2 +1.6**
comp=Z,9.7nm,0.5s
H24A Dirks Ranch, A 48.30 67 P **P** **05 34 29.9 -0.7**
baz=48
A28A Rude Farm, Bot 48.30 60 P **P** **05 34 29.3 -1.2**
baz=48
K22A Casper 48.39 70 P **P** **05 34 30.8 -0.6**
baz=48
K22A Casper 48.39 70 *e*P **P** **05 34 30.6 -0.8**
comp=Z,10nm,0.9s
RWWY Rawlins 48.56 72 *e*P P 05 34 36.1 +3.3
comp=Z,13nm,1.1s
NJ2 Nanjing 48.61 272 *e*P **P** **05 34 35.3 +2.3**
NJ2 PMZ
comp=Z,20nm,0.6s
O20A White River Ci 48.89 74 P **P** **05 34 35.2 -0.2**
baz=49,SNR=15
O20A White River Ci 48.89 74 *e*P **P** **05 34 34.9 -0.4**
comp=Z,16nm,0.8s
H25A Fruitdale 48.92 67 P **P** **05 34 34.5 -0.9**
baz=49
J24A Dixon Ranch, L 49.07 69 P **P** **05 34 36.2 -0.4**
baz=49
G26A Maurine 49.09 65 P **P** **05 34 36.1 -0.6**
baz=49
I25A Rochford 49.20 67 P **P** **05 34 36.3 -1.4**
baz=49
PV04 Paradox Valley 49.57 76 *e*P **P** **05 34 40.7 +0.1**
N23A Red Feather La 49.80 72 P **P** **05 34 42.4 0.0**
baz=50,SNR=14
ULM Lac du Bonnet 49.88 56 LR LR 05 57 21.5
comp=Z,152nm,18.2s,baz=314,slow=38
WUAZ Wupatki 49.90 81 *e*P **P** **05 34 44.0 +1.0**
comp=Z,6.4nm,0.9s
PV01 Paradox Valley 49.94 76 *e*P **P** **05 34 43.3 -0.2**
comp=Z,554nm,0.5s
I27A Quinn 50.14 66 P **P** **05 34 44.6 0.0**
baz=50
SMCO Snowmass 50.25 74 *e*P **P** **05 34 45.9 -0.1**
comp=Z,3.9nm,0.5s
MVCO Mesa Verde 50.57 77 P **P** **05 34 48.3 0.0**
baz=50,SNR=8.3
MVCO Mesa Verde 50.57 77 *e*P **P** **05 34 48.8 +0.6**
comp=Z,15nm,1.4s
ISCO Idaho Springs 50.68 73 *e*P **P** **05 34 50.1 +1.0**
ISCO pmax pmax
comp=Z,9.0nm,1.4s
ISCO Idaho Springs 50.68 73 *e*P **P** **05 34 50.1 +1.0**
comp=Z,8.5nm,1.4s
J28A Allard Ranch, 51.00 66 P **P** **05 34 50.9 -0.3**
baz=51
S22A 4UR Ranch, Cre 51.25 76 P **P** **05 34 53.5 +0.2**
baz=51,SNR=8.8
214A Organ Pipe Nat 51.36 85 P **P** **05 34 54.7 +0.7**
baz=51
214A Organ Pipe Nat 51.36 85 *e*P **P** **05 34 54.8 +0.8**
comp=Z,2.7nm,0.8s
SDCO Great Sand Dun 52.05 75 P **P** **05 34 59.6 +0.2**
baz=52,SNR=8.4
SDCO Great Sand Dun 52.05 75 *e*P **P** **05 35 00.0 +0.6**
comp=Z,9.4nm,1.1s
OGNE Ogallala 52.08 69 P **P** **05 34 59.5 +0.2**
baz=52
P26A Davis Ranch, A 52.18 72 P **P** **05 35 00.1 -0.1**
baz=52
TUC Tucson 52.39 83 *e*P **P** **05 35 02.3 +0.6**
TUC pmax pmax
comp=Z,5.0nm,0.9s
TUC Tucson 52.39 83 *e*P **P** **05 35 02.2 +0.6**
comp=Z,4.7nm,0.9s
R26A Arlington 52.93 73 P **P** **05 35 05.9 +0.2**
baz=53,SNR=6.3
KSCO Kaye Shedlock' 52.96 72 P **P** **05 35 06.0 +0.1**
baz=53
P28A Saint Francis 53.12 71 P **P** **05 35 06.9 -0.1**
baz=53
LAZ Ladron 53.25 79 *e*P **P** **05 35 09.3 +1.2**
comp=Z,3.3nm,0.9s
LAZ *ep*P **pP** **05 35 18.9 -0.8**
LAZ *es*P **sP** **05 35 23.2 -1.2**
ANMO Albuquerque 53.30 78 *e*P **P** **05 35 09.4 +0.9**
ANMO pmax pmax
comp=Z,6.0nm,0.8s
R27A Eads 53.33 72 P **P** **05 35 08.6 0.0**
baz=53
S26A Kim 53.36 73 P **P** **05 35 08.6 -0.3**
baz=53,SNR=5.2
Q28A Sharon Springs 53.40 71 P **P** **05 35 09.0 -0.1**
baz=53
ECSD EROS Data Cent 53.43 63 P **P** **05 35 07.7 -1.4**
baz=53
P29A Atwood 53.59 70 P **P** **05 35 10.2 -0.2**
baz=53,SNR=6.6
R28A Tribune 53.88 72 P **P** **05 35 12.3 -0.3**
baz=54
ZALV Zalesovo Beam 53.91 313 LR LR 05 59 00.2
comp=Z,42nm,21.4s,baz=68,slow=37
121A Cookes Peak, D 54.10 81 *e*P **P** **05 35 14.8 +0.5**
comp=Z,3.4nm,0.7s
S28A Manter 54.32 73 P **P** **05 35 15.5 -0.4**
baz=54,SNR=7.0
Q30A Quinter 54.41 70 P **P** **05 35 16.5 +0.1**
baz=54
T28A Walsh 54.50 73 P **P** **05 35 17.2 +0.1**
baz=54
U27A Thompson Grove 54.54 74 P **P** **05 35 17.4 0.0**
baz=54
P31A Stockton 54.55 69 P **P** **05 35 17.4 0.0**
baz=54
L34A Svendsen Farm, 54.70 65 P **P** **05 35 17.7 -0.7**
baz=54
R30A Dighton 54.83 71 P **P** **05 35 19.0 -0.4**
baz=55,SNR=8.2
U28A Mallet 54.93 74 P **P** **05 35 20.3 0.0**
baz=55
LZH Lanzhou 55.20 286 *e*P **P** **05 35 22.7 +0.5**
LZH pP **pP** **05 35 30.4 -3.5**
LZH sP sP 05 35 33.8 -4.8
LZH PMZ
comp=Z,13nm,1.0s
O33A Hebron 55.23 68 P **P** **05 35 21.8 -0.5**
baz=55
R31A Burdett 55.27 70 P **P** **05 35 22.5 -0.2**
baz=55
N34A Lincoln 55.36 66 P **P** **05 35 23.3 +0.1**
baz=55
Q32A Meitler Ranch, 55.38 69 P **P** **05 35 23.2 -0.2**
baz=55
GTA Gaotai 55.39 292 *e*P **P** **05 35 25.8 +2.3**
GTA pP **pP** **05 35 36.1 +0.9**
GTA sP **sP** **05 35 40.3 +0.4**
GTA PMZ
comp=Z,3.0nm,0.6s
R32A Long Quarter, 55.66 70 P **P** **05 35 25.4 -0.1**
baz=56
O34A Beatrice 55.68 67 P **P** **05 35 24.7 -0.8**
baz=56,SNR=5.8
S31A Mullinville 55.74 71 P **P** **05 35 25.5 -0.5**
baz=56
Q33A Connelly Farm, 55.80 69 P **P** **05 35 25.7 -0.6**
baz=56,SNR=14
N35A Tabor 55.84 66 P **P** **05 35 26.4 -0.2**
baz=56
S32A Newby Ranch, P 56.01 71 P **P** **05 35 27.4 -0.6**
baz=56
P34A Walnut Farm, R 56.02 68 P **P** **05 35 27.2 -0.8**
baz=56
O35A Humboldt 56.08 66 P **P** **05 35 28.0 -0.3**
baz=56
R33A Olander Ranch, 56.17 69 P **P** **05 35 29.1 0.0**
baz=56
X28A Dimmitt 56.19 75 P **P** **05 35 29.7 +0.3**
baz=56
AMTX Amarillo 56.26 75 P **P** **05 35 30.4 +0.7**
baz=56
AMTX Amarillo 56.26 75 *e*P **P** **05 35 30.8 +1.0**
comp=Z,148nm,2.5s
V30A Spur Ranch, Mi 56.26 73 P **P** **05 35 29.5 -0.3**
baz=56
Q34A Chapman 56.37 68 P **P** **05 35 29.6 -0.9**
baz=56,SNR=13
P35A Duane Minner, 56.50 67 P **P** **05 35 30.4 -0.9**
baz=56,SNR=7.5
Y28A McKinney Farm, 56.57 76 P **P** **05 35 31.7 -0.4**
baz=56
R34A Isabella, Hill 56.60 69 P **P** **05 35 31.5 -0.6**
baz=56
T33A Patterson Ranc 56.83 71 P **P** **05 35 33.3 -0.4**
baz=57
U32A Winter Ranch, 56.86 72 P **P** **05 35 33.7 -0.3**
baz=57
P36A Good Intent, A 56.91 66 P **P** **05 35 33.3 -0.9**
baz=57
Z28A Tuer Farm, M 56.91 77 P **P** **05 35 34.9 +0.4**
baz=57
Q35A Mercer Eighty, 56.94 68 P **P** **05 35 34.1 -0.3**
baz=57
Y29A Porterfield Fa 56.96 76 P **P** **05 35 34.5 -0.2**
baz=57,SNR=8.2
Q36A Arnold C. Orve 57.20 67 P **P** **05 35 35.4 -0.9**
baz=57
128A Castleberry Fa 57.31 77 P **P** **05 35 37.5 +0.3**
baz=57
Z29A Hungry Hill Ra 57.34 76 P **P** **05 35 38.0 +0.5**
baz=57
Y30A Stafford Cattl 57.41 75 P **P** **05 35 38.2 +0.2**
baz=57,SNR=7.6
X31A McDonald Ranch 57.45 74 P **P** **05 35 38.5 +0.3**
baz=57
T34A McClaskey Farm 57.50 70 P **P** **05 35 38.0 -0.4**
baz=57
S35A Otter Creek Ra 57.56 69 P **P** **05 35 37.9 -1.0**
baz=57,SNR=6.5
R36A Gordon, Harris 57.60 68 P **P** **05 35 38.2 -1.0**
baz=57,SNR=6.4
Z30A Sanderson Ranc 57.68 76 P **P** **05 35 39.7 -0.1**
baz=58
U34A Anderson Ranch 57.69 71 P **P** **05 35 39.5 -0.3**
baz=58
Q37A Longview Farm, 57.84 67 P **P** **05 35 40.0 -0.8**
baz=58
S36A Lake Cedric, C 57.96 68 P **P** **05 35 41.3 -0.4**
baz=58
T35A Sooner Cattle 57.97 70 P **P** **05 35 41.4 -0.3**
baz=58
ARCES ARCESS Array B 58.09 350 P **P** **05 35 42.0 -0.1**
comp=Z,1.8nm,0.7s,baz=27,slow=8.4,SNR=7.4
ARCES LR LR 06 04 05.3
comp=Z,36nm,18.2s,baz=44,slow=40
WMOK Wichita Mounta 58.10 73 *e*P **P** **05 35 42.9 +0.2**
WMOK pmax pmax
comp=Z,10.0nm,1.2s
WMOK Wichita Mounta 58.10 73 *e*P **P** **05 35 42.9 +0.2**
comp=Z,10nm,1.2s
Y32A R-V Farms, Ver 58.21 74 P **P** **05 35 42.8 -0.6**
baz=58,SNR=5.8
T36A Boggs Farm, Ca 58.24 69 P **P** **05 35 43.0 -0.7**
baz=58
130A Snyder 58.25 76 P **P** **05 35 44.3 +0.5**
baz=58
Z31A Sharp Cattle R 58.25 75 P **P** **05 35 44.1 +0.2**
baz=58
131A Roby 58.55 76 P **P** **05 35 46.8 +0.9**
baz=58
230A Sterling City 58.65 77 P **P** **05 35 46.6 0.0**
baz=58
T37A Cheneyville 18 58.76 68 P **P** **05 35 46.3 -0.9**
baz=59,SNR=9.8
CD2 Chengdu 58.78 282 P **P** **05 35 48.3 +0.8**
CD2 PMZ
comp=Z,10.0nm,0.5s
TXAR Lajitas Array 58.86 81 P **P** **05 35 48.2 0.0**
comp=Z,1.5nm,0.5s,baz=304,slow=4.9,SNR=26
KURK Kurchatov 58.90 313 *e*P P 05 35 55.7 +7.7
KURK pmax pmax
comp=Z,1.0nm,1.3s
W35A Tecumseh 58.96 71 P **P** **05 35 48.5 -0.1**
baz=59,SNR=6.5
ABTX Abilene, Hawle 59.04 75 P **P** **05 35 50.4 +1.1**
baz=59
ABTX Abilene, Hawle 59.04 75 *e*P **P** **05 35 50.4 +1.1**
comp=Z,108nm,2.3s
429A Davenport Ranc 59.05 79 P **P** **05 35 50.0 +0.5**
baz=59
V36A Jenks 59.07 70 P **P** **05 35 49.0 -0.5**
baz=59
TUL1 Tulsa 59.08 70 P **P** **05 35 49.4 -0.1**
baz=59
TUL1 Tulsa 59.08 70 *e*P **P** **05 35 49.8 +0.3**
comp=Z,9.0nm,0.8s
231A Bronte 59.11 76 P **P** **05 35 50.8 +1.1**
baz=59
Z33A Whitaker Ranch 59.11 74 P **P** **05 35 49.9 +0.1**
baz=59
WMQ Urumqi 59.19 303 *e*P **P** **05 35 51.8 +1.6**
WMQ pP **pP** **05 36 01.8 -0.2**
WMQ sP **sP** **05 36 05.8 -0.8**
WMQ PcP **PcP** **05 36 40.9 +2.6**
WMQ PMZ
comp=Z,8.0nm,0.8s
WMQ PMZ
comp=Z,71nm,4.6s
WMQ LN
comp=Z,210nm,22.6s
WMQ LE
comp=Z,160nm,22.6s
WMQ LZ
comp=Z,540nm,23.2s
529A Stev Forest Ra 59.20 79 P **P** **05 35 50.6 +0.1**
baz=59
430A Baggett Ranch, 59.34 78 P **P** **05 35 51.9 +0.5**
baz=59
X35A Drake 59.42 72 P **P** **05 35 52.1 +0.3**
baz=59
331A San Angelo 59.48 77 P **P** **05 35 52.8 +0.5**
baz=59
V37A Hulbert 59.48 70 P **P** **05 35 51.9 -0.4**
baz=59
133A Hamilton Ranch 59.49 75 P **P** **05 35 52.3 -0.1**
baz=59
232A Coleman 59.55 76 P **P** **05 35 52.7 -0.1**
baz=59,SNR=7.4
HDIL Hopedale 59.62 62 P **P** **05 35 52.8 -0.3**
baz=59
X36A Centrahoma 59.67 72 P **P** **05 35 53.4 -0.2**
baz=60
Y35A Marietta 59.72 73 P **P** **05 35 53.8 -0.1**
baz=60
530A J-C Ranch, Com 59.73 79 P **P** **05 35 54.0 -0.1**
baz=60
431A Sonora 59.80 78 P **P** **05 35 54.5 -0.1**
baz=60
W37A Quinton 59.83 70 P **P** **05 35 54.6 0.0**
baz=60
332A Millersview 59.84 76 P **P** **05 35 54.8 0.0**
baz=60,SNR=6.1
233A Rising Star 59.91 75 P **P** **05 35 55.4 +0.1**
baz=60
SCHQ Schefferville 60.16 38 P **P** **05 35 55.5 -1.1**
comp=Z,1.5nm,0.7s,baz=5.2,slow=11,SNR=2.6
SCHQ LR LR 06 03 31.4
comp=Z,182nm,18.8s,baz=296,slow=38
432A Menard 60.16 77 P **P** **05 35 57.4 +0.3**
baz=60
531A Rocksprings 60.20 78 P **P** **05 35 57.7 +0.3**
baz=60
X37A Clayton 60.24 71 P **P** **05 35 57.7 +0.2**
baz=60
333A Richland Sprin 60.34 76 P **P** **05 35 58.9 +0.7**
baz=60
234A Clairette 60.38 75 P **P** **05 35 59.5 +1.0**
baz=60
W38A Poteau 60.41 70 P **P** **05 35 59.1 +0.5**
baz=60
JCT Junction City 60.44 77 *e*P **P** **05 36 00.5 +1.6**
JCT pmax pmax
comp=Z,12nm,0.9s
JCT Junction City 60.44 77 *e*P **P** **05 36 00.5 +1.6**
comp=Z,12nm,0.9s
X38A Whitesboro 60.50 70 P **P** **05 35 59.3 0.0**
baz=60
Z36A Blue Ridge 60.52 73 P **P** **05 35 59.6 +0.2**
baz=60
532A Rocksprings 60.62 78 P **P** **05 36 00.9 +0.7**
baz=60
433A Art 60.68 77 P **P** **05 36 01.4 +0.8**
baz=60
631A Perdido Creek 60.72 79 P **P** **05 36 01.1 +0.3**
baz=60
334A Lometa 60.79 75 P **P** **05 36 01.4 +0.1**
baz=61
WHTX Lake Whitney 60.80 74 P **P** **05 36 01.4 +0.1**
baz=61
SFIN Scholer Farm 60.95 61 P **P** **05 36 01.7 -0.5**
baz=61
632A Uvalde 61.13 78 P **P** **05 36 04.3 +0.7**
baz=61
434A Burnet 61.14 76 P **P** **05 36 03.9 +0.2**
baz=61
MIAR Mount Ida 61.33 70 *e*P **P** **05 36 05.5 +0.6**
MIAR pmax pmax
comp=Z,23nm,1.3s
MIAR Mount Ida 61.33 70 P **P** **05 36 04.7 -0.2**
baz=61,SNR=6.3
MIAR Mount Ida 61.33 70 *e*P **P** **05 36 05.5 +0.6**
comp=Z,23nm,1.3s
Z38A Mt. Pleasant 61.40 72 P **P** **05 36 05.5 +0.1**
baz=61
534A Blanco 61.57 77 P **P** **05 36 06.9 +0.3**
baz=61
732A Laxson Ranch, 61.57 79 P **P** **05 36 07.6 +1.0**
baz=61
PBMO Poplar Bluff 61.59 66 *e*P **P** **05 36 05.5 -1.1**
comp=Z,8.7nm,0.9s
832A Faith Ranch, C 61.89 79 P **P** **05 36 09.6 +0.9**
baz=62
635A Leesville 62.45 77 P **P** **05 36 12.4 -0.1**
baz=62
FINES FINESS Array B 65.77 347 P **P** **05 36 32.2 -1.6**
comp=Z,0.5nm,0.5s,baz=64,slow=6.3,SNR=4.4
FINES LR LR 06 08 44.3
comp=Z,40nm,19.1s,baz=318,slow=39
FINES FINESS Array B 65.77 347 *i* P P 05 36 36.9 +3.2
FINES pmax pmax
comp=Z,1.0nm,0.5s
LRAL Lakeview Retre 66.23 67 *e*P **P** **05 36 35.9 -1.3**
comp=Z,4.9nm,0.8s
NOA NORSAR Array B 67.66 355 P **P** **05 36 45.1 -0.8**
comp=Z,0.4nm,0.8s,baz=21,slow=6.3,SNR=3.9
KMSC Kings Mountain 67.88 61 P **P** **05 36 47.1 -0.5**
baz=68
GOGA Godfrey 67.97 64 *e*P **P** **05 36 46.5 -1.7**
GOGA pmax pmax
comp=Z,11nm,1.2s
GOGA Godfrey 67.97 64 *e*P **P** **05 36 46.5 -1.7**
comp=Z,11nm,1.2s
OBN Obninsk 69.83 339 *e*P **P** **05 36 59.6 +0.3**
OBN *e* 05 37 20.2
OBN pmax pmax
comp=Z,12nm,0.7s
CMAR Chiang Mai Arr 70.81 276 P **P** **05 37 06.6 +0.7**
comp=Z,1.0nm,0.4s,baz=30,slow=7.3,SNR=3.8
PPT Papeete 73.33 151 LR LR 06 04 52.5
comp=Z,25nm,20.7s,baz=333,slow=32
AKASG Malin Array Be 75.52 342 P **P** **05 37 32.9 -0.4**
comp=Z,1.0nm,0.4s,baz=20,slow=6.7,SNR=7.4
AKASG LR LR 06 14 08.3
comp=Z,21nm,19.9s,baz=5.0,slow=38
KIEV Kiev 75.53 342 *e*P P 05 37 36.8 +3.5
GEYT Alibeck 77.97 317 LR LR 06 16 23.4
comp=Z,88nm,18.7s,baz=50,slow=39
GERES GERESS Array B 79.59 351 LR LR 06 17 19.3
comp=Z,21nm,18.4s,baz=18,slow=39
WRA Warramunga Arr 81.84 224 P **P** **05 38 07.6 -0.7**
comp=Z,0.8nm,1.0s,baz=33,slow=5.8,SNR=5.2
BRTR Keskin Array B 84.89 335 P **P** **05 38 22.3 -1.8**
comp=Z,0.5nm,0.5s,baz=359,slow=3.6,SNR=3.0
BRTR LR LR 06 21 56.0
comp=Z,8.9nm,18.3s,baz=13,slow=40
ASAR Alice Springs 85.32 222 P **P** **05 38 26.2 +0.2**
comp=Z,0.5nm,0.5s,baz=25,slow=5.4,SNR=8.9
SDDR Presa de Saban 85.99 65 *e*P **P** **05 38 32.0 +2.3**
comp=Z,14nm,0.8s
STKA Stephens Creek 89.78 213 P **P** **05 38 47.2 -0.1**
comp=Z,4.0nm,0.9s,baz=352,slow=7.3,SNR=5.8
KEST Kesra 92.98 353 LR LR 06 23 44.5
comp=Z,9.3nm,19.2s,baz=290,slow=37
RPZ Rata Peaks 95.06 187 LR LR 06 18 52.1
comp=Z,66nm,18.5s,baz=250,slow=33
TORD Torodi Ar. Bea 115.78 359 PKP **PKPdf** **05 44 30.3 -1.4**
comp=Z,0.2nm,0.5s,baz=356,slow=1.3,SNR=7.7
DBIC Dimbokro 122.01 7 PKP **PKPdf** **05 44 43.0 -0.7**
comp=Z,4.3nm,0.8s,baz=357,slow=2.8,SNR=5.7
BOSA Boshof 150.85 312 PKPbc **PKPbc** **05 45 41.6 +0.2**
comp=Z,2.0nm,0.6s,baz=46,slow=3.2,SNR=6.8

NNC 01 05:29:25.5±4.6, 36.61N×70.34E, h0km, mb3.9, mpv3.4, 3C-4D, Error ellipse: s-maj=37.1km s-min=18.2km az=7.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DZET	**Dzherino** 3.8nm,0.3s	**2.50**	**332**	⇑Pn	Pn	Pn	05 30 07.5	0.0
DZET	110nm,0.4s			⇑Sn	Sn	Sn	05 30 40.5	+1.6
SFK	**Sufi-Kurgan** 5.3nm,0.3s	**4.21**	**35**	⇓Pn	Pn	Pn	05 30 32.1	+0.9
SFK	7.0nm,0.3s			⇓Sn	Sn	Sn	05 31 22.5	+1.1
KK31	**Karatay Array** 0.7nm,0.3s,baz=183,slow=12,SNR=9.7	**6.49**	**1**	⇓Pn	Pn	Pn	05 31 02.0	-0.3
KK31	0.6nm,0.3s,baz=184,slow=25,SNR=4.0			⇓Sn	Sn	Sn	05 32 14.8	-2.1
AB31	**Akbulak array** 4.4nm,0.7s,baz=151,slow=12,SNR=37	**14.73**	**332**	Pn	Pn	Pn	05 32 50.9	-4.2
AKTO	**Aktyubinsk** 3.4nm,0.8s	**16.42**	**331**	⇑Pn	Pn	Pn	05 33 14.0	-3.2

*ISCJB **01** 05:34:14.8±1.6, 2.13S±0.09×137.40E±0.04, h15km±16km, mb4.1/2, Error ellipse: s-maj=15.3km s-min=5.9km az=11.9*
*DJA **01** 05:34:16.1±1.1, 2.9S×13.7E±*, h11km±9km, M4.6/8, mb4.9/2, MLv4.5/8*
*IDC **01** 05:34:18.7±11.0, 2.59S×137.68E, h0km, mb4.2/2, mb1 4.3/4, mb1mx3.8/26, mbtmp4.1/4, ML3.9/2, Error ellipse: s-maj=197.2km s-min=28.3km az=149.0*
ISC 01 05:34:16.4±1.5, 2.0S±0.1×137.44E±0.04, h27km±16km, n16, σ1s74/23, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**1.21**	**278**	P	**Pn**	**05 34 37.1**	**-0.5**
SRPI	**Serui, Papua**	**1.21**	**278**	P	**Pn**	**05 34 36.7**	**-0.9**
	9μm,0.9s,115μm						
SMPI	**Sarmi**	**1.27**	**88**	P	**Pb**	**05 34 39.4**	**-0.3**
SMPI				S	**Sn**	**05 34 55.0**	**+0.5**
BAKI	**Biak**	**1.58**	**302**	P	**Pn**	**05 34 41.2**	**-1.4**
BAKI				S	**Sn**	**05 35 01.7**	**-0.4**
BAKI	**Biak**	**1.58**	**302**	P	**Pn**	**05 34 41.9**	**-0.7**
	2μm,0.8s,22μm						
BAKI				S	**Sb**	**05 35 05.0**	**+0.5**
	2μm,0.8s,22μm						
GENI	**Genyem**	**2.78**	**102**	P	**Pn**	**05 35 01.0**	**+1.8**
GENI				S	**Sb**	**05 35 37.2**	**-1.9**
GENI	**Genyem**	**2.78**	**102**	P	**Pn**	**05 35 01.3**	**+2.1**
	290nm,0.6s,9μm						
GENI				S	**Sn**	**05 35 30.4**	**-1.5**
	290nm,0.6s,9μm						
JAY	**Jayapura**	**3.30**	**98**	P	**Pn**	**05 35 07.8**	**+1.5**
JAY	**Jayapura**	**3.30**	**98**	P	**Pn**	**05 35 07.0**	**+0.7**
	84nm,0.6s,5μm						
JAY	**Jayapura**	**3.30**	**98**	Pn	**Pn**	**05 35 07.2**	**+0.9**
	11nm,0.3s,baz=250,slow=9.0,SNR=31						
JAY				Sn	**Sn**	**05 35 47.2**	**+2.6**
	17nm,0.3s,baz=323,slow=20,SNR=7.0						
RKPI	**Ransiki, Papua**	**3.30**	**279**	P	**Pn**	**05 35 07.0**	**+0.6**
FAKI	**Fak Fak**	**5.26**	**260**	P	**Pn**	**05 35 34.6**	**+1.3**
	30nm,1.0s,0.1nm						
BNDI	**Bandanaira**	**7.92**	**252**	P	**Pn**	**05 36 12.3**	**+2.4**
WRA	**Warramunga Arr**	**18.05**	**189**	P	**Pn**	**05 38 23.4**	**-2.1**
	0.4nm,0.3s,baz=12,slow=13,SNR=7.2						
WRA				S	Sn	05 41 33.8	-13
	0.3nm,0.3s,baz=14,slow=22,SNR=7.0						
ASAR	**Alice Springs**	**21.77**	**189**	P	**P**	**05 39 07.6**	**+1.3**
	2.5nm,0.4s,baz=15,slow=9.8,SNR=50						
ASAR				S	**S**	**05 43 02.2**	**-3.7**
	1.5nm,1.0s,baz=8.5,slow=26,SNR=4.7						
STKA	**Stephens Creek**	**29.94**	**173**	P	**P**	**05 40 23.6**	**+1.3**
	2.4nm,0.5s,baz=348,slow=7.6,SNR=12						

*ISCJB **01** 05:34:19.7±1.4, 12.˚6S±0.˚3×166.˚9E±0.˚2, h220km, mb3.8/6, Error ellipse: s-maj=42.1km s-min=25.3km az=141.7*
*IDC **01** 05:34:20.4±13.0, 12.˚55S×166.˚87E, h211km±121km, mb3.5/6, mb1 3.7/6, mb1mx3.4/28, mbtmp4.1/6, Error ellipse: s-maj=55.1km s-min=30.6km az=85.0*

ISC 01 05:34:21.3±1.3, 12.˚5S±0.˚3×166.˚8E±0.˚2, h220km, n7, σ0§53/7, mb3.9/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**21.12**	**246**	P	**P**	**05 38 49.2**	**-0.2**
	4.7nm,0.7s,baz=66,slow=9.3,SNR=5.4						
STKA	**Stephens Creek**	**30.15**	**226**	P	**P**	**05 40 11.7**	**+0.7**
	1.0nm,0.6s,baz=34,slow=8.7,SNR=3.4						
WRA	**Warramunga Arr**	**32.02**	**252**	P	**P**	**05 40 26.9**	**-0.6**
	1.1nm,0.5s,baz=86,slow=8.8,SNR=5.0						
ASAR	**Alice Springs**	**33.13**	**246**	P	**P**	**05 40 37.2**	**+0.1**
	1.1nm,0.3s,baz=73,slow=10.0,SNR=4.1						
VNDA	**Vanda**	**65.04**	**181**	P	**P**	**05 44 37.1**	**-0.4**
	0.6nm,0.6s,baz=1.7,slow=6.1,SNR=7.9						
ILAR	**Eielson Array**	**84.58**	**18**	P	**P**	**05 46 29.6**	**+0.1**
	1.9nm,0.5s,baz=237,slow=5.0,SNR=55						
ARCES	**ARCESS Array B**	**118.03**	**346**	PKP	**PKPdf**	**05 52 41.4**	**0.0**
	2.8nm,1.1s,baz=91,slow=1.4,SNR=10						

IDC 01 06:13:59.7±28.0, 21.˚11S×172.˚76W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/22, mbtmp3.9/4, Error ellipse: s-maj=516.0km s-min=163.6km az=75.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.31**	**264**	P	P	06 21 22.4	0.0
	3.7nm,0.7s,baz=106,slow=12,SNR=3.5						
STKA	**Stephens Creek**	**41.97**	**245**	P	P	06 21 52.7	+0.1
	2.1nm,0.7s,baz=74,slow=7.4,SNR=4.8						
ASAR	**Alice Springs**	**49.15**	**256**	P	P	06 22 49.6	-0.2
	0.7nm,0.6s,baz=93,slow=6.7,SNR=8.2						
WRA	**Warramunga Arr**	**49.37**	**261**	P	P	06 22 51.1	-0.3
	0.4nm,0.6s,baz=102,slow=8.3,SNR=14						

*IDC **01** 06:20:20.3±9.2, 8.˚13S×112.˚69E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/27, mbtmp3.4/3, Error ellipse: s-maj=159.1km s-min=132.9km az=173.0*
*ISCJB **01** 06:20:21.6±0.8, 8.˚87S±0.˚07×112.˚25E±0.˚06, h10km, mb3.5/3, Error ellipse: s-maj=11.1km s-min=6.4km az=33.0*
*DJA **01** 06:20:25.2±1.4, 9.˚5S±11.˚×11.˚2E±.˚, h19km±9km, M3.8/5, MLv3.8/5*

ISC 01 06:20:22.5±1.0, 8.˚76S±0.˚08×112.˚28E±0.˚05, h10km, n9, σ1§25/13, mb3.5/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**0.87**	**327**	P	**Pb**	**06 20 41.0**	**+1.2**
PWJI				PKP	**Pn**	**06 20 40.3**	**-0.6**
PWJI				S	**Sb**	**06 20 51.4**	**-0.1**
PCJI	**Pacitan**	**1.23**	**297**	P	**Pb**	**06 20 45.5**	**-0.3**
PCJI				PKP	Pn	06 20 41.3	-4.4
PCJI				S	**Sb**	**06 20 59.7**	**-2.0**
NGJI	**Ngawi**	**1.61**	**330**	P	**Pb**	**06 20 54.5**	**+2.2**
NGJI				PKP	**Pg**	**06 20 52.9**	**-0.5**
BLJI	**Banyuglugur**	**1.65**	**52**	P	Pg	06 20 57.3	+3.1
BLJI				S	**Sg**	**06 21 14.3**	**-1.3**
ABJI	**Asem Bagus**	**2.16**	**64**	P	**Pg**	**06 21 03.8**	**-0.2**
KPJI	**Karang Pucung**	**3.61**	**293**	P	**Pn**	**06 21 19.9**	**+1.4**
WRA	**Warramunga Arr**	**24.05**	**120**	P	**P**	**06 25 37.4**	**-0.8**
	0.7nm,0.5s,baz=296,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**25.45**	**128**	P	**P**	**06 25 50.8**	**-0.1**
	0.3nm,0.5s,baz=304,slow=8.8,SNR=6.4						
STKA	**Stephens Creek**	**35.63**	**134**	P	**P**	**06 27 21.2**	**+0.5**
	1.1nm,0.4s,baz=315,slow=11,SNR=4.4						

GUC 01 06:21:42.9±0.4, 35.˚45S×73.˚21W, h3km±6km, ML3.8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.76**	**154**	*i* P	Pg	06 21 57.0	-0.5
COCH				*i* S	Sb	06 22 08.4	-1.0
TALC	**Talca**	**1.28**	**88**	*i* P	Pg	06 22 06.4	-1.1
TALC				*i* S	Sb	06 22 24.5	-0.1
LNCH	**Linares**	**1.36**	**107**	*i* P	Pn	06 22 07.7	-1.1
LNCH				*i* S	Sg	06 22 26.4	-0.4
CCSP	**San Pedro de C**	**1.39**	**177**	*i* P	Pn	06 22 08.2	-1.0
CCSP				*i* S	Sg	06 22 27.1	-0.5
CCSP				AML	AML	06 22 31.8	
	comp=E,2μm,0.6s						
NICH	**Los Niches**	**1.68**	**75**	*i* P	Pn	06 22 12.5	-0.6
NICH				*i* S	Sn	06 22 35.5	+0.3
CLCH	**Cerro Calan**	**3.01**	**48**	AML	AML	06 23 34.8	
	comp=N,482nm,0.7s						

*IDC **01** 06:50:51.0±0.6, 31.˚89S×72.˚97W, h0km, mb4.3/10, mb1 4.3/15, mb1mx4.3/21, mbtmp4.2/15, ML3.8/4, MS3.6/7, Ms1 3.6/7, ms1mx3.3/18, Error ellipse: s-maj=19.4km s-min=17.0km az=80.0*
*SJA **01** 06:50:52.4±0.8, 31.˚74S×73.˚21W, h40km, ML4.3, MW4.8*
*ISCJB **01** 06:50:52.8±0.2, 31.˚69S±0.˚04×73.˚02W±0.˚02, h10km, mb4.4/35, MS3.6/4, Error ellipse: s-maj=5.1km s-min=2.8km az=3.9*
*GUC **01** 06:50:53.6±0.7, 31.˚71S×72.˚89W, h11km±9km, ML4.2*
*NEIC **01** 06:50:56.8±0.2, 31.˚88S×72.˚80W, h35km, mb4.6/27, Error ellipse: s-maj=5.6km s-min=4.7km az=49.0*
*BJI **01** 06:50:56.5, 31.˚88S×73.˚53W, h43km, mB4.4/1*

ISC 01 06:50:52.9±0.4, 31.˚76S±0.˚05×72.˚97W±0.˚05, h10km, n329, σ1§47/354, mb4.6/35, MS3.7/4, 2C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**2.37**	**39**	*i*↓P	**Pn**	**06 51 32.4**	**+0.5**
LSCH				*i* S	**Sn**	**06 52 00.9**	**0.0**
TLL	**Tololo Astrono**	**2.45**	**50**	*i*↑P	**Pn**	**06 51 33.6**	**+0.5**
TLL				*i* S	**Sn**	**06 52 04.4**	**+1.1**
TLL				AML	AML	06 52 08.0	
	comp=N,2μm,0.4s						
LACH	**Col Las Americ**	**2.66**	**130**	*i* P	**Pn**	**06 51 34.4**	**-1.5**
AUSP	**Uspallata**	**3.08**	**100**	*e*P	**Pn**	**06 51 44.0**	**+2.2**
AUSP				*e*S	**Sn**	**06 52 20.3**	**+1.5**
RTLS	**Leoncito**	**3.13**	**92**	*e*P	**Pn**	**06 51 44.6**	**+2.1**
LCO	**Las Campanas**	**3.37**	**36**	*i*↓P	**Pn**	**06 51 46.5**	**+0.7**
LCO				*i* S	**Sn**	**06 52 26.8**	**+0.8**
LCO				AML	AML	06 52 28.9	
	comp=E,393nm,0.4s						
LCO	**Las Campanas**	**3.37**	**36**	*e*Pn	**Pn**	**06 51 46.5**	**+0.7**
LCO				*e*Sn	**Sn**	**06 52 25.8**	**-0.3**
LCO	**Las Campanas**	**3.37**	**36**	*e*P	**Pn**	**06 51 46.6**	**+0.7**
LCO				*e*S	**Sn**	**06 52 26.9**	**+0.8**
ARCO	**CERRO ARCO**	**3.58**	**109**	*e*P	**Pn**	**06 51 51.0**	**+2.3**
ARCO				*e*S	**Sn**	**06 52 34.3**	**+3.1**
ASAL	**Salagasta**	**3.60**	**104**	*e*P	**Pn**	**06 51 51.7**	**+2.8**
VACH	**Vallenar**	**3.71**	**32**	*i*↑P	**Pn**	**06 51 51.3**	**+1.1**
VACH				*i* S	**Sn**	**06 52 34.5**	**+0.4**
AAGR	**Agrelo**	**3.74**	**112**	*e*P	**Pn**	**06 51 53.2**	**+2.4**
SJA	**San Juan**	**3.77**	**88**	*e*P	Pn	06 51 54.3	+3.1
SJA				*e*S	**Sn**	**06 52 38.8**	**+3.2**
RTCV	**Cerro Valdivia**	**3.77**	**93**	*e*P	**Pn**	**06 51 54.0**	**+2.8**
RTLL	**Cerro Villicun**	**3.86**	**85**	*e*P	Pn	06 51 55.6	+3.2
AMOG	**MOGNA**	**3.92**	**79**	*e*P	**Pn**	**06 51 56.1**	**+3.0**
AMOG				*e*S	**Sb**	**06 52 45.2**	**-4.4**
CFAA	**Coronel Fontan**	**4.04**	**89**	Pn	**Pn**	**06 51 55.0**	**+0.2**
	comp=E,2.9nm,0.3s,baz=254,slow=12,SNR=98						
CFAA				Sn	**Sn**	**06 52 44.0**	**+1.8**
	comp=E,6.4nm,0.3s,baz=350,slow=21,SNR=18						
CFAA				LR	LR	06 52 49.1	
	comp=E,26nm,22.0s,baz=248,slow=29						
CFAA	**Coronel Fontan**	**4.04**	**89**	*e*P	**Pn**	**06 51 57.4**	**+2.6**
CFAA				*e*S	**Sn**	**06 52 43.8**	**+1.6**
AVFE	**Valle Fertil**	**4.85**	**78**	*e*P	**Pn**	**06 52 07.8**	**+1.8**
AVFE				AML	AML	06 53 16.3	
	comp=Z,178nm,0.5s						
ACAN	**Cantantal**	**4.94**	**97**	*e*P	**Pn**	**06 52 08.4**	**+1.2**
CPCH	**Copiapo**	**4.95**	**28**	*i*↓P	**Pn**	**06 52 07.2**	**-0.1**
CPCH				*i* S	**Sn**	**06 53 04.1**	**-0.5**
VCA	**Vinchina**	**5.11**	**55**	*e*P	Pn	06 52 12.8	+3.2
ACLC	**CERRO LA CRUZ**	**5.69**	**67**	*e*P	**Pn**	**06 52 19.7**	**+2.1**
ACLC				*e*S	**Sn**	**06 53 24.8**	**+1.7**
LVC	**Limon Verde**	**9.80**	**23**	Pn	**Pn**	**06 53 14.2**	**0.0**
	comp=Z,21nm,0.3s,baz=203,slow=15,SNR=11						
LVC				Sn	**Sn**	**06 55 03.0**	**-1.5**
	comp=Z,19nm,0.3s,baz=262,slow=19,SNR=4.3						
LVC				LR	LR	06 56 51.5	
	comp=Z,598nm,20.5s,baz=218,slow=36						
LVC	**Limon Verde**	**9.80**	**23**	*e*Pn	**Pn**	**06 53 15.2**	**+1.0**
LVC				Sn	**Sn**	**06 55 03.0**	**-1.5**
LVC				*e*Sn	Sn	06 55 03.7	-1.0
TRQA	**Tornquist**	**10.99**	**128**	*e*Pn	**Pn**	**06 53 29.1**	**-1.1**
	comp=Z,18nm,1.0s						
CPUP	**Villa Florida**	**14.71**	**72**	Pn	**Pn**	**06 54 20.6**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=239,slow=14,SNR=2.9						
CPUP				LR	LR	07 01 03.8	
	comp=Z,166nm,20.7s,baz=246,slow=42						
LPAZ	**La Paz**	**16.02**	**17**	Pn	**Pn**	**06 54 39.2**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=194,slow=6.8,SNR=14						
LPAZ	**La Paz**	**16.02**	**17**	*e*Pn	**P**	**06 54 41.1**	**-1.5**
SIV	**San Ignacio**	**19.08**	**37**	P	**Pn**	**06 55 17.2**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=218,slow=11,SNR=15						
SIV				LR	LR	07 03 55.1	
	comp=Z,132nm,19.9s,baz=198,slow=41						
NNA	**Nana**	**20.00**	**349**	*e*P	**Pn**	**06 55 28.1**	**+0.6**
	comp=Z,7.2nm,0.8s						
SAML	**Samuel**	**24.46**	**24**	*e*P	**P**	**06 56 13.5**	**+1.5**
	comp=Z,3.5nm,0.9s						
SAML				*e*PcP	**PcP**	**06 59 51.1**	**+0.2**
ATAH	**Atahualpa**	**25.02**	**347**	LR	LR	07 04 46.7	
	comp=Z,60nm,18.1s,baz=192,slow=33						
BDFB	**Brasilia**	**27.82**	**61**	P	**P**	**06 56 43.3**	**+0.7**
	comp=Z,3.9nm,0.7s,baz=228,slow=7.4,SNR=6.4						
BDFB				LR	LR	07 09 15.2	
	comp=Z,162nm,19.4s,baz=220,slow=40						
OTAV	**Otavalo**	**32.25**	**350**	*e*P	P	06 57 26.7	+4.6
	comp=Z,9.5nm,1.5s						
SDV	**Santo Domingo**	**40.48**	**4**	*e*P	**P**	**06 58 33.4**	**+1.2**
	comp=Z,36nm,1.9s						
VNA2	**Neumayer--Watz**	**52.37**	**158**	P	**P**	**07 00 04.2**	**-0.6**
	baz=288,slow=8.5						
SNAA	**Sanae**	**53.95**	**158**	P	P	07 00 12.2	-4.2
SNAA	**Sanae**	**53.95**	**158**	P	**P**	**07 00 15.2**	**-1.2**
	comp=Z,1.4nm,0.8s,baz=276,slow=7.0,SNR=19						
SNAA	**Sanae**	**53.95**	**158**	P	**P**	**07 00 15.2**	**-1.2**
	comp=Z,0.2nm,0.8s						
834A	**Tilden**	**64.35**	**335**	P	**P**	**07 01 31.5**	**+2.7**
	baz=65						
736A	**Circle Diamond**	**64.59**	**337**	P	P	07 01 33.7	+3.3
	baz=65						
735A	**Kenedy**	**64.75**	**336**	P	**P**	**07 01 33.4**	**+1.9**
	baz=65						
833A	**Chaparral WMA,**	**64.83**	**334**	P	**P**	**07 01 33.9**	**+1.9**
	baz=65						
832A	**Faith Ranch, C**	**65.02**	**334**	P	**P**	**07 01 35.1**	**+1.9**
	baz=66						
636A	**Smothers Creek**	**65.07**	**337**	P	**P**	**07 01 35.3**	**+1.8**
	baz=66						
732A	**Laxson Ranch,**	**65.41**	**334**	P	**P**	**07 01 37.3**	**+1.5**
	baz=66,SNR=5.1						
536A	**Bastrop**	**65.62**	**337**	P	**P**	**07 01 39.4**	**+2.4**
	baz=66						
535A	**Dale**	**65.75**	**337**	P	**P**	**07 01 39.1**	**+1.3**
	baz=66						
633A	**Saathoff Ranch**	**65.78**	**335**	P	**P**	**07 01 39.9**	**+1.8**
	baz=66						
632A	**Uvalde**	**66.05**	**335**	P	**P**	**07 01 41.6**	**+1.7**
	baz=66						
VNDA	**Vanda**	**66.14**	**191**	P	**P**	**07 01 39.1**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=131,slow=6.1,SNR=3.4						
631A	**Perdido Creek**	**66.26**	**334**	P	**P**	**07 01 42.5**	**+1.3**
	baz=67						
533A	**Kerrville**	**66.29**	**335**	P	**P**	**07 01 43.0**	**+1.6**
	baz=67						
532A	**Rocksprings**	**66.65**	**335**	P	**P**	**07 01 45.4**	**+1.6**
	baz=67,SNR=8.0						
434A	**Burnet**	**66.70**	**336**	P	**P**	**07 01 45.2**	**+1.2**
	baz=67,SNR=5.3						
336A	**Riesel**	**66.76**	**338**	P	**P**	**07 01 45.9**	**+1.6**
	baz=67						
335A	**Moody**	**66.85**	**337**	P	**P**	**07 01 46.3**	**+1.4**
	baz=67						
531A	**Rocksprings**	**66.92**	**334**	P	**P**	**07 01 47.0**	**+1.6**
	baz=67						
433A	**Art**	**66.93**	**336**	P	**P**	**07 01 46.7**	**+1.2**
	baz=67,SNR=8.5						
JCT	**Junction City**	**66.93**	**335**	P	**P**	**07 01 46.9**	**+1.4**
	baz=67,SNR=5.4						
JCT	**Junction City**	**66.93**	**335**	*e*P	**P**	**07 01 47.2**	**+1.7**
	comp=Z,18nm,1.2s						
334A	**Lometa**	**67.17**	**337**	P	**P**	**07 01 48.2**	**+1.2**
	baz=68,SNR=5.3						
530A	**J-C Ranch, Com**	**67.21**	**333**	P	**P**	**07 01 48.6**	**+1.4**
	baz=68,SNR=6.4						
432A	**Menard**	**67.29**	**335**	P	**P**	**07 01 49.0**	**+1.2**
	baz=68						
TXAR	**Lajitas Array**	**67.40**	**331**	P	**P**	**07 01 49.2**	**+0.5**
	comp=Z,3.1nm,0.7s,baz=153,slow=8.1,SNR=30						
431A	**Sonora**	**67.41**	**334**	P	**P**	**07 01 49.7**	**+1.1**
	baz=68						
333A	**Richland Sprin**	**67.41**	**336**	P	**P**	**07 01 49.7**	**+1.1**
	baz=68,SNR=5.1						
WHTX	**Lake Whitney**	**67.51**	**338**	P	**P**	**07 01 50.5**	**+1.4**
	baz=68						
WHTX	**Lake Whitney**	**67.51**	**338**	*e*P	**P**	**07 01 50.8**	**+1.7**
529A	**Stev Forest Ra**	**67.52**	**333**	P	**P**	**07 01 51.0**	**+1.7**
	baz=68						
332A	**Millersview**	**67.73**	**335**	P	**P**	**07 01 51.8**	**+1.2**
	baz=68						
430A	**Baggett Ranch,**	**67.74**	**334**	P	**P**	**07 01 52.1**	**+1.4**
	baz=68						
234A	**Clairette**	**67.75**	**337**	P	**P**	**07 01 52.4**	**+1.8**
	baz=68						
429A	**Davenport Ranc**	**67.84**	**333**	P	**P**	**07 01 52.7**	**+1.4**
	baz=68						
331A	**San Angelo**	**67.91**	**335**	P	**P**	**07 01 52.7**	**+1.0**
	baz=68						
233A	**Rising Star**	**68.02**	**336**	P	**P**	**07 01 53.5**	**+1.1**
	baz=68,SNR=5.5						
232A	**Coleman**	**68.16**	**336**	P	**P**	**07 01 54.3**	**+1.0**
	baz=69						
330A	**Mertzon**	**68.27**	**334**	P	**P**	**07 01 55.0**	**+1.0**
	baz=69						
Z36A	**Blue Ridge**	**68.37**	**339**	P	**P**	**07 01 55.8**	**+1.3**
	baz=69						
231A	**Bronte**	**68.44**	**335**	P	**P**	**07 01 55.9**	**+0.9**
	baz=69,SNR=5.3						
133A	**Hamilton Ranch**	**68.56**	**337**	P	**P**	**07 01 57.1**	**+1.4**
	baz=69						
230A	**Sterling City**	**68.68**	**334**	P	**P**	**07 01 57.6**	**+1.0**
	baz=69						
Z35A	**Perchaven, San**	**68.68**	**338**	P	**P**	**07 01 57.6**	**+1.1**
	baz=69						
MIAR	**Mount Ida**	**68.75**	**342**	P	**P**	**07 01 58.0**	**+1.2**
	baz=69						
MIAR	**Mount Ida**	**68.75**	**342**	*e*P	**P**	**07 01 58.1**	**+1.2**
	comp=Z,20nm,1.8s						
ABTX	**Abilene, Hawle**	**68.82**	**336**	P	**P**	**07 01 58.3**	**+1.0**
	baz=69						
ABTX	**Abilene, Hawle**	**68.82**	**336**	*e*P	**P**	**07 01 58.4**	**+1.0**
	comp=Z,19nm,1.4s						
Z34A	**Collier Ranch,**	**68.93**	**338**	P	**P**	**07 01 59.2**	**+1.2**
	baz=69						
229A	**Bryant Ranch,**	**69.01**	**334**	P	**P**	**07 01 59.6**	**+1.0**
	baz=70						
131A	**Roby**	**69.13**	**335**	P	**P**	**07 02 00.3**	**+1.0**
	baz=70						
Z33A	**Whitaker Ranch**	**69.13**	**337**	P	**P**	**07 02 00.3**	**+1.1**
	baz=70,SNR=5.2						
Y35A	**Marietta**	**69.15**	**339**	P	**P**	**07 02 00.6**	**+1.3**
	baz=70						
X38A	**Whitesboro**	**69.21**	**341**	P	**P**	**07 02 01.1**	**+1.4**
	baz=70						
130A	**Snyder**	**69.27**	**335**	P	**P**	**07 02 01.0**	**+0.9**
	baz=70						
Z32A	**Haskell**	**69.39**	**336**	P	**P**	**07 02 01.9**	**+1.1**
	baz=70						
Y34A	**Reagan Ranch,**	**69.42**	**338**	P	**P**	**07 02 02.0**	**+1.0**
	baz=70						
228A	**UT Block 9, Go**	**69.44**	**333**	P	**P**	**07 02 02.1**	**+0.8**
	baz=70						
X36A	**Centrahoma**	**69.56**	**340**	P	**P**	**07 02 02.2**	**+0.4**
	baz=70,SNR=6.3						
X35A	**Drake**	**69.58**	**339**	P	**P**	**07 02 02.7**	**+0.7**
	baz=70						
129A	**Stewart Farms,**	**69.63**	**334**	P	**P**	**07 02 03.0**	**+0.6**
	baz=70						
Z31A	**Sharp Cattle R**	**69.63**	**336**	P	**P**	**07 02 03.4**	**+1.1**
	baz=70,SNR=5.5						
Y33A	**Hilltop Ranch,**	**69.75**	**337**	P	**P**	**07 02 03.9**	**+0.8**
	baz=70						
W37A	**Quinton**	**69.82**	**341**	P	**P**	**07 02 04.2**	**+0.7**
	baz=70						
128A	**Castleberry Fa**	**69.85**	**334**	P	**P**	**07 02 04.5**	**+0.7**
	baz=70						
Z30A	**Sanderson Ranc**	**69.95**	**335**	P	**P**	**07 02 05.1**	**+0.7**
	baz=70						
Y32A	**R-V Farms, Ver**	**70.01**	**337**	P	**P**	**07 02 05.6**	**+0.9**
	baz=70						
X34A	**Smith Ranch, M**	**70.04**	**338**	P	**P**	**07 02 05.9**	**+1.1**
	baz=70,SNR=5.0						
W36A	**Wetumka**	**70.05**	**340**	P	**P**	**07 02 04.9**	**0.0**
	baz=70						
PBMO	**Poplar Bluff**	**70.12**	**345**	*e*P	**P**	**07 02 05.7**	**+0.5**
	comp=Z,10nm,0.8s						
Z29A	**Hungry Hill Ra**	**70.13**	**335**	P	**P**	**07 02 05.3**	**-0.3**
	baz=71						
X33A	**Lawton**	**70.19**	**338**	P	**P**	**07 02 05.8**	**0.0**
	baz=71						
W35A	**Tecumseh**	**70.25**	**339**	P	**P**	**07 02 06.4**	**+0.3**
	baz=71						
Y31A	**Rekieta Farm,**	**70.25**	**336**	P	**P**	**07 02 07.1**	**+0.9**
	baz=71						
X32A	**Elmer**	**70.34**	**337**	P	**P**	**07 02 07.8**	**+1.1**
	baz=71						
Y30A	**Stafford Cattl**	**70.40**	**336**	P	**P**	**07 02 07.8**	**+0.7**
	baz=71						
Z28A	**Tucker Farm, M**	**70.41**	**334**	P	**P**	**07 02 07.6**	**+0.4**
	baz=71						
V36A	**Jenks**	**70.57**	**340**	P	**P**	**07 02 08.4**	**+0.4**
	baz=71,SNR=5.9						
TUL1	**Tulsa**	**70.64**	**341**	P	**P**	**07 02 08.8**	**+0.3**
	baz=71						
TUL1	**Tulsa**	**70.64**	**341**	*e*P	**P**	**07 02 08.9**	**+0.5**
	comp=Z,13nm,1.0s						
Y29A	**Porterfield Fa**	**70.66**	**335**	P	**P**	**07 02 09.5**	**+0.8**
	baz=71,SNR=6.9						
USIN	**University of**	**70.71**	**348**	*e*P	**P**	**07 02 09.4**	**+0.6**
W33A	**Caddo, Fort Co**	**70.75**	**338**	P	**P**	**07 02 10.3**	**+1.2**
	baz=71,SNR=6.9						
X31A	**McDonald Ranch**	**70.77**	**337**	P	**P**	**07 02 10.1**	**+0.8**
	baz=71						
V35A	**Meyer Ranch, C**	**70.81**	**340**	P	**P**	**07 02 10.5**	**+1.0**
	baz=71						
Y28A	**McKinney Farm,**	**70.91**	**335**	P	**P**	**07 02 11.0**	**+0.7**
	baz=71						
W32A	**Sentinel**	**70.97**	**337**	P	**P**	**07 02 11.5**	**+1.0**
	baz=72,SNR=12						
MSTX	**Muleshoe**	**71.16**	**334**	P	**P**	**07 02 12.3**	**+0.5**
	baz=72						
MSTX	**Muleshoe**	**71.16**	**334**	*e*P	**P**	**07 02 12.9**	**+1.1**
X29A	**Tulia**	**71.20**	**335**	P	**P**	**07 02 12.8**	**+0.8**
	baz=72						
W31A	**Holland Ranch,**	**71.26**	**337**	P	**P**	**07 02 13.2**	**+0.9**
	baz=72						
V33A	**Lossen Ranch,**	**71.30**	**338**	P	**P**	**07 02 13.2**	**+0.7**
	baz=72						
U35A	**Pawnee**	**71.34**	**340**	P	**P**	**07 02 13.4**	**+0.7**
	baz=72,SNR=6.3						
X28A	**Dimmitt**	**71.44**	**335**	P	**P**	**07 02 14.3**	**+0.8**
	baz=72						
T37A	**Cheneyville 18**	**71.54**	**342**	P

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=74						
T27A	Campo	73.91	336	P	P	07 02 29.1	+1.0
	baz=74						
R31A	Burdett	73.96	339	P	P	07 02 29.3	+1.0
	baz=74						
P36A	Good Intent, A	73.96	342	P	P	07 02 28.5	+0.3
	baz=74						
S28A	Manter	74.10	336	P	P	07 02 30.4	+1.2
	baz=75						
Q32A	Meitler Ranch,	74.31	340	P	P	07 02 31.1	+0.8
	baz=75						
T26A	Comanche Natio	74.32	335	P	P	07 02 31.8	+1.2
	baz=75						
P34A	Walnut Farm, R	74.33	341	P	P	07 02 31.7	+1.3
	baz=75						
CBKS	Cedar Bluff	74.51	339	P	P	07 02 32.5	+1.0
	baz=75						
Q31A	Ellis	74.58	339	P	P	07 02 33.6	+1.7
	baz=75						
T25A	Trinidad	74.58	334	P	P	07 02 33.9	+1.7
	baz=75						
S26A	Kim	74.67	335	P	P	07 02 34.3	+1.7
	baz=75						
R28A	Tribune	74.75	337	P	P	07 02 33.9	+0.9
	baz=75						
Q30A	Quinter	74.81	338	P	P	07 02 34.1	+0.8
	baz=75						
O34A	Beatrice	74.89	341	P	P	07 02 34.3	+0.6
	baz=75						
Q29A	Oakley	74.97	338	P	P	07 02 34.9	+0.7
	baz=76						
O33A	Hebron	75.03	341	P	P	07 02 35.2	+0.8
	baz=76						
R27A	Eads	75.03	336	P	P	07 02 35.8	+1.1
	baz=76						
P31A	Stockton	75.05	339	P	P	07 02 35.6	+1.0
	baz=76						
R26A	Arlington	75.27	336	P	P	07 02 37.4	+1.4
	baz=76						
Q28A	Sharon Springs	75.40	337	P	P	07 02 37.9	+1.2
	baz=76						
SDCO	Great Sand Dun	75.53	334	P	P	07 02 39.1	+1.4
	baz=76						
SDCO	Great Sand Dun	75.53	334	*e*P	P	07 02 39.3	+1.5
	comp=Z,3.2nm,0.8s						
MAW	Mawson	75.54	164	P	P	07 02 36.6	-0.5
	comp=Z,3.8nm,0.8s,baz=207,slow=4.6,SNR=4.8						
MAW				LR	LR	07 35 03.0	
	comp=Z,78nm,18.8s,baz=236,slow=35						
P29A	Atwood	75.60	338	P	P	07 02 39.3	+1.5
	baz=76						
P28A	Saint Francis	75.84	337	P	P	07 02 40.5	+1.3
	baz=76						
Q26A	Hugo	75.85	336	P	P	07 02 40.9	+1.5
	baz=76						
JFWS	Jewell Farm	75.99	347	*e*P	P	07 02 40.4	+0.5
	comp=Z,8.9nm,1.0s						
WUAZ	Wupatki	76.02	329	P	P	07 02 42.3	+1.9
	baz=76						
Y12C	Blythe	76.03	325	P	P	07 02 41.8	+1.5
	baz=76						
S22A	4UR Ranch, Cre	76.03	333	P	P	07 02 42.2	+1.5
	baz=76						
O29A	4D Ranch, Culb	76.04	338	P	P	07 02 42.3	+2.0
	baz=76						
MVCO	Mesa Verde	76.23	331	P	P	07 02 43.1	+1.4
	baz=77						
O28A	Krutsinger Ran	76.35	338	P	P	07 02 43.8	+1.7
	baz=77						
P26A	Davis Ranch, A	76.36	336	P	P	07 02 43.8	+1.5
	baz=77						
BC3	Big Chuckawall	76.41	325	P	P	07 02 44.4	+1.7
	baz=77						
Q24A	Divide	76.47	335	P	P	07 02 45.0	+1.9
	baz=77						
O27A	Beecher Island	76.64	337	P	P	07 02 46.0	+2.2
	baz=77						
IRM	Iron Mountain	76.67	325	P	P	07 02 45.4	+1.4
	baz=77						
PFO	Pinyon Flat Ob	76.87	324	P	P	07 02 47.2	+2.0
	baz=77						
PFO	Pinyon Flat Ob	76.87	324	*e*P	P	07 02 47.2	+2.0
	comp=Z,9.9nm,1.6s						
N27A	Anderson Farm,	77.21	337	P	P	07 02 48.5	+1.5
	baz=78						
MURC	Murrieta	77.24	323	P	P	07 02 49.3	+2.0
	baz=78						
L31A	Butterfield Fa	77.33	341	P	P	07 02 49.5	+1.9
	baz=78						
SMCO	Snowmass	77.33	334	*e*P	P	07 02 49.9	+1.8
	comp=Z,9.8nm,1.0s						
ISCO	Idaho Springs	77.38	335	P	P	07 02 49.7	+1.5
	baz=78						
ISCO	Idaho Springs	77.38	335	*e*P	P	07 02 49.6	+1.5
	comp=Z,5.0nm,1.1s						
GMRC	Granite Mounta	77.41	325	P	P	07 02 50.7	+2.4
	baz=78						
CIS	Catalina Islan	77.71	322	P	P	07 02 51.7	+1.9
	baz=78						
TUQ	Turquoise Moun	78.07	325	P	P	07 02 53.9	+1.9
	baz=78						
ECSD	EROS Data Cent	78.19	343	P	P	07 02 53.4	+1.1
	baz=79						
ECSD	EROS Data Cent	78.19	343	*e*P	P	07 02 52.0	-0.2
	comp=Z,21nm,1.4s						
M25A	Palm-Egli Farm	78.28	337	P	P	07 02 54.7	+1.7
	baz=79						
GSC	Goldstone	78.39	325	P	P	07 02 55.5	+1.8
	baz=79						
N23A	Red Feather La	78.46	335	P	P	07 02 55.9	+1.8
	baz=79						
K28A	Ten Mile Ranch	78.57	339	P	P	07 02 56.7	+2.2
	baz=79						
PHWY	Pilot Hill	78.64	336	*e*P	P	07 02 56.0	+0.9
	comp=Z,11nm,1.2s						
EDW2	Edwards Air Fo	78.65	324	P	P	07 02 56.5	+1.5
	baz=79						
O20A	White River Ci	78.65	333	P	P	07 02 57.1	+2.0
	baz=79						
O20A	White River Ci	78.65	333	*e*P	P	07 02 56.9	+1.7
	comp=Z,3.3nm,0.9s						
J29A	Okreek	78.89	340	P	P	07 02 57.5	+1.3
	baz=79						
J28A	Allard Ranch,	79.18	339	P	P	07 02 59.6	+1.8
	baz=80						
J27A	Elkhorn Farm,	79.25	339	P	P	07 03 00.4	+2.2
	baz=80						
K25A	Mack Ranch, Ha	79.27	337	P	P	07 03 00.4	+2.0
	baz=80						
MPMC	Manual Prospec	79.33	325	P	P	07 03 01.2	+2.2
	baz=80						
FURC	Furnace Creek,	79.35	325	P	P	07 03 00.6	+1.9
	baz=80						
TPNV	Topopah Spring	79.44	326	P	P	07 03 01.4	+1.9
	baz=80						
ISA	Isabella	79.51	324	P	P	07 03 01.3	+1.5
	baz=80						
PKM	Peak Mountain	79.60	322	P	P	07 03 01.9	+1.5
	baz=80						
J26A	Sides Ranch, S	79.64	338	P	P	07 03 02.2	+1.9
	baz=80						
I28A	Midland	79.68	340	P	P	07 03 02.2	+1.7
	baz=80						
K24A	Anderson Ranch	79.68	337	P	P	07 03 02.7	+2.1
	baz=80						
VES	Vestal, Richgr	79.96	324	P	P	07 03 03.7	+1.6
	baz=80						
K23A	Bowen Ranch, D	79.99	336	P	P	07 03 04.0	+1.6
	baz=80						
I27A	Quinn	80.01	339	P	P	07 03 04.1	+1.8
	baz=80						
GRAC	Grapevine Rang	80.02	325	P	P	07 03 04.3	+1.8
	baz=80						
J24A	Dixon Ranch, L	80.17	337	P	P	07 03 05.2	+2.0
	baz=81						
K22A	Casper	80.21	336	P	P	07 03 05.1	+1.6
	baz=81						
K22A	Casper	80.21	336	*e*P	P	07 03 05.0	+1.4
	comp=Z,8.1nm,1.1s						
I26A	New Underwood	80.22	339	P	P	07 03 05.2	+1.8
	baz=81						
R11A	Troy Canyon, C	80.26	327	P	P	07 03 05.7	+1.7
	baz=81						
I25A	Rochford	80.49	338	P	P	07 03 06.8	+1.7
	baz=81						
H27A	Howes	80.53	339	P	P	07 03 05.9	+0.9
	baz=81						
DUG	Dugway	80.55	330	P	P	07 03 06.3	+0.9
	baz=81						
RSSD	Black Hills	80.67	338	*e*P	P	07 03 07.2	+1.1
	comp=Z,1.4nm,0.6s						
TPH	Tonopah	80.81	326	*e*P	P	07 03 08.5	+1.6
	comp=Z,4.0nm,1.0s						
J22A	Midwest	80.86	336	P	P	07 03 08.5	+1.5
	baz=81						
EYMN	Ely	81.07	348	P	P	07 03 08.9	+1.0
	baz=82						
J21A	Lysite	81.14	335	P	P	07 03 09.6	+1.0
	baz=82						
G27A	Dupree	81.16	340	P	P	07 03 09.7	+1.2
	baz=82						
HWUT	Hardware Ranch	81.22	332	*e*P	P	07 03 10.0	+1.0
	comp=Z,8.3nm,0.9s						
G26A	Maurine	81.28	339	P	P	07 03 10.0	+1.0
	baz=82						
I22A	9 Mile Ranch,	81.28	336	P	P	07 03 09.9	+0.7
	baz=82						
J20A	Shoshoni	81.38	335	P	P	07 03 11.2	+1.5
	baz=82						
H24A	Dirks Ranch, A	81.40	338	P	P	07 03 10.4	+0.6
	baz=82						
PDAR	Pinedale Array	81.42	334	P	P	07 03 10.7	+0.7
	comp=Z,1.0nm,0.7s,baz=122,slow=6.5,SNR=8.8						
G25A	Newell	81.44	339	P	P	07 03 11.3	+1.3
	baz=82						
I21A	Big Trails, Te	81.50	336	P	P	07 03 11.4	+1.0
	baz=82						
NVAR	Mina Array Bea	81.60	326	P	P	07 03 12.2	+1.0
	comp=Z,2.4nm,0.8s,baz=153,slow=6.1,SNR=12						
F27A	Lemmon	81.64	340	P	P	07 03 11.7	+0.8
	baz=82						
J19A	Crowheart	81.66	334	P	P	07 03 12.0	+0.7
	baz=82						
F26A	Lodgepole	81.81	340	P	P	07 03 12.8	+0.9
	baz=82						
BOSA	Boshof	81.81	118	P	P	07 03 12.3	-0.3
	comp=Z,4.3nm,1.1s,baz=231,slow=6.5,SNR=3.5						
BOSA				LR	LR	07 38 27.2	
	comp=Z,30nm,18.0s,baz=128,slow=35						
I20A	Worland	81.91	335	P	P	07 03 13.9	+1.3
	baz=82						
ELK	Elko	82.05	329	*e*P	P	07 03 14.7	+1.2
	comp=Z,1.6nm,0.8s						
G23A	Biddle	82.08	337	P	P	07 03 14.2	+0.9
	baz=83						
F25A	Bowman	82.11	339	P	P	07 03 14.4	+0.9
	baz=83						
I19A	Meeteetse	82.30	335	P	P	07 03 15.7	+1.1
	baz=83						
H20A	Greybull	82.33	336	P	P	07 03 15.1	+0.4
	baz=83						
F24A	Ekalaka	82.35	338	P	P	07 03 15.7	+1.0
	baz=83						
F23A	Volborg	82.54	338	P	P	07 03 16.4	+0.7
	baz=83						
F22A	Rosebud	82.87	337	P	P	07 03 18.5	+1.1
	baz=83						
B30A	Myrvik Farm, E	83.02	343	P	P	07 03 19.1	+1.1
	baz=84						
G20A	Bridger	83.05	336	P	P	07 03 19.0	+0.6
	baz=84						
D25A	Fairfield	83.18	340	P	P	07 03 20.8	+1.8
	baz=84						
B28A	Dugan Ranch, T	83.53	342	P	P	07 03 21.8	+1.1
	baz=84						
A29A	Manning Farm,	83.68	343	P	P	07 03 22.2	+0.8
	baz=84						
D23A	Lindsay	83.77	339	P	P	07 03 23.3	+1.3
	baz=84						
HLID	Hailey	84.01	331	P	P	07 03 24.3	+0.9
	baz=84						
HLID	Hailey	84.01	331	*e*P	P	07 03 24.4	+0.9
	comp=Z,4.3nm,1.1s						
ULM	Lac du Bonnet	84.14	345	P	P	07 03 23.8	+0.1
	comp=Z,2.5nm,0.6s,baz=172,slow=4.3,SNR=4.1						
TORD	Torodi Ar. Bea	84.20	71	P	P	07 03 24.8	-0.1
	comp=Z,1.9nm,0.9s,baz=263,slow=5.3,SNR=12						
C23A	Lambert	84.32	339	P	P	07 03 25.6	+0.9
	baz=85						
DGMT	Dagmar	84.62	340	P	P	07 03 27.0	+0.7
	baz=85						
B23A	Brockton	84.85	339	P	P	07 03 28.3	+0.8
	baz=85						
C21A	Desert Coulee	84.95	338	P	P	07 03 27.9	0.0
	baz=85						
B22A	Reddig Ranch S	85.02	339	P	P	07 03 28.6	+0.3
	baz=86						
B21A	Ellsworth Farm	85.45	338	P	P	07 03 31.0	+0.5
	baz=86						
A22A	Carney Farms,	85.60	339	P	P	07 03 31.6	+0.4
	baz=86						
B20A	Solberg Farm,	85.78	337	P	P	07 03 32.9	+0.8
	baz=86						
B19A	Brinkman Farms	86.10	337	P	P	07 03 34.7	+1.0
	baz=87						
A20A	Cobblestone Ra	86.14	338	P	P	07 03 34.6	+0.8
	baz=87						
A19A	Klindworth Far	86.45	337	P	P	07 03 36.3	+0.9
	baz=87						
J05D	Fort Rock, OR	86.78	327	P	P	07 03 38.5	+1.2
	baz=87						
I05D	Terrebonne, OR	87.64	328	P	P	07 03 43.2	+1.9
	baz=88						
I04A	Tendick Farm,	87.72	327	P	P	07 03 43.7	+2.0
	baz=88						
I03D	Drain, OR	88.09	326	P	P	07 03 45.5	+2.2
	baz=89						
ASAR	Alice Springs	119.18	208	PKP	PKPdf	07 09 41.5	-1.3
	comp=Z,0.5nm,0.5s,baz=133,slow=1.6,SNR=6.4						
AKASG	Malin Array Be	121.25	47	PKP	PKPdf	07 09 45.0	-0.6
	comp=Z,0.9nm,0.5s,baz=270,slow=1.9,SNR=4.2						
BRTR	Keskin Array B	121.42	60	PKP	PKPdf	07 09 45.8	-0.7
	comp=Z,0.8nm,0.8s,baz=346,slow=0.6,SNR=4.7						
WRA	Warramunga Arr	122.30	211	PKP	PKPdf	07 09 47.8	-1.0
	comp=Z,1.8nm,0.6s,baz=162,slow=1.6,SNR=31						
YAK	Yakutsk	146.37	341	*e*PKPbc	PKPbc	07 10 33.4	+0.2
SKHT	Srikalahasti	149.21	119	*e*PKiKP	PKPbc	07 10 42.5	+0.2
KLRI	Killari	149.34	109	*e*PKPbc	PKPdf	07 10 39.8	+1.6
KLRI				*e*PKiKP	PKPbc	07 10 42.1	-0.5
RCLA	Racherla	149.71	116	*e*PKPbc	PKPbc	07 10 41.8	-1.7
SRLM	Srisailam	150.04	115	*e*PKPbc	PKPbc	07 10 42.7	-1.7
SRLM				*e*PKiKP	PKiKP	07 10 44.0	-1.2
HYB	Hyderabad	150.54	112	*i* PKP	PKPbc	07 10 44.5	-1.0
HYB				*e*		07 10 53.5	
HYBB	Hyderabad (bro	150.54	112	*e*PKPbc	PKPbc	07 10 43.9	-1.7
HYBB				*e*PKiKP	PKiKP	07 10 45.2	-1.1
NJS	Nagarjunasagar	150.63	115	*e*PKiKP	PKPbc	07 10 45.0	-0.7
ADKI	Addanki	150.72	116	*e*PKiKP	PKPbc	07 10 45.7	-0.2
SRSP	Sriramsagar	151.19	109	*e*PKPbc	PKPbc	07 10 45.9	-1.2
SRSP				*e*PKiKP	PKiKP	07 10 46.6	-0.9
EKS2	Erkin-Say	151.54	58	*e*PKPbc	PKPbc	07 10 48.3	+1.0
KURK	Kurchatov	151.72	40	*e*PKPbc	PKPbc	07 10 47.5	+0.3
ZALV	Zalesovo Beam	152.71	29	PKP	PKPdf	07 10 41.9	-0.4
	comp=Z,1.5nm,0.7s,baz=318,slow=2.0,SNR=7.3						
ZALV				PKPbc	PKPbc	07 10 49.3	0.0
	comp=Z,10nm,0.6s,baz=298,slow=3.2,SNR=33						
ZALV				PKPab	PKPab	07 10 59.0	-1.1
	comp=Z,4.2nm,0.7s,baz=268,slow=3.5,SNR=7.3						
KSH	Kashi	153.70	64	PKPbc	PKPdf	07 10 44.1	-0.3
KSH				pPKP	PKiKP	07 10 55.1	+2.8
KSH				sPKP		07 10 58.2	
KSH				SKS	SKSdf	07 17 46.0	-5.5
KSH				SKKS	SKKSac	07 21 24.2	-5.5
KSH				SS	SS	07 34 10.0	-6.6
CHLP	Challavanipeta	155.43	117	*e*PKPbc	PKPbc	07 10 54.6	
WMQ	Urumqi	160.60	46	*e*PKP	PKPdf	07 10 53.0	+0.1
KSRS	Korea Array	161.90	294	PKP	PKPdf	07 10 53.9	-0.5
	comp=Z,0.5nm,0.4s,baz=30,slow=1.5,SNR=7.0						
KSRS				PKPab	PKPab	07 11 40.8	+0.5
	comp=Z,0.5nm,0.3s,baz=96,slow=5.0,SNR=5.2						
KSAR	Wonju Array Be	161.93	294	PKP	PKPdf	07 10 53.9	-0.5
KSAR				PKPab	PKPab	07 11 40.8	+0.4
SONM	Songino Array	163.94	2	PKPab	PKPab	07 11 49.2	+0.3
	comp=Z,1.0nm,0.7s,baz=337,slow=3.3,SNR=5.6						
HHC	Hu-ho-hao-te	170.22	339	*e*PKP	PKPdf	07 10 59.9	-1.1
HHC				sPKP		07 11 17.8	
HHC				PP	PP	07 16 10.7	+4.3
HHC				SKS	SKSdf	07 18 01.8	-2.9
HHC				SS	SS	07 37 03.4	-3.0
HHC				PPMZ			
	comp=Z,43nm,10.5s						
GTA	Gaotai	170.37	36	*e*PKP	PKPdf	07 11 02.0	+0.8
GTA				pPKP	pPKPdf	07 11 07.4	+2.7
CD2	Chengdu	177.07	106	PKP	PKPdf	07 11 03.3	-0.5

MEX 01 07:04:31.4±0.6, 16.°19N×98.°01W, h9km±4km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.23	331	*i* P	Pg	07 04 35.8	-0.3
PNIG				*i* S	Sg	07 04 39.2	-0.2
TLIG	Tlapa	1.47	339	*e*P	Pn	07 04 54.3	-4.0
TLIG				*e*S	Sn	07 05 12.8	-4.9
VHO	Vista Hermosa	1.51	54	*e*P	Pn	07 04 55.5	-3.4
VHO				*e*S	Sn	07 05 14.1	-4.8
PANG	Puerto Angel	1.57	109	*e*P	Pn	07 04 55.7	-3.7
HMTT	Tlapaneco	1.68	342	*e*P	Pn	07 04 58.0	-3.2
HMTT				*i* S	Sn	07 05 17.5	-5.5
HUIG	Huatulco	1.88	103	*e*P	Pn	07 05 01.2	-2.5
HUIG				*e*S	Sn	07 05 23.0	-4.6
ACP2	Acapulco	1.92	291	*e*P	Pn	07 05 01.2	-3.2
CMIG	Matias Romero	3.13	73	*i* P	Pn	07 05 17.5	-3.4
CMIG				*e*S	Sn	07 05 53.9	-4.7

*BJI **01** 07:06:18.2, 79.°70N×0.°80E, h2km, mb4.6/10, mB4.8/6, Ms4.5/4, Ms7 4.2/3*
*ISCJB **01** 07:06:20.5±0.2, 79.°74N±0.°04×1.°8E±0.°2, h10km, mb4.3/40, MS3.6/27, Error ellipse: s-maj=6.0km s-min=3.8km az=37.6*
*IDC **01** 07:06:20.9±0.5, 79.°90N×1.°41E, h0km, mb4.0/19, mb1 4.2/24, mb1mx4.1/35, mbtmp4.0/24, ML3.8/4, MS3.6/26, Ms1 3.6/26, ms1mx3.5/39, Error ellipse: s-maj=16.2km s-min=10.5km az=41.0*
*MOS **01** 07:06:20.0±1.3, 79.°71N×1.°20E, h10km, mb4.7/9, Error ellipse: s-maj=42.8km s-min=8.7km az=93.9*
*CSEM **01** 07:06:21.8±0.1, 79.°84N×1.°84E, h10km, mb4.5/16, Error ellipse: s-maj=7.2km s-min=4.3km az=42.0*
*NEIC **01** 07:06:22.5±0.2, 79.°85N×1.°77E, h10km, mb4.5/15, Error ellipse: s-maj=8.3km s-min=4.6km az=223.0*
*BER **01** 07:06:23.0±2.7, 79.°84N×1.°97E, h10km, MD2.3, ML3.7, ML4.6(NAO)*
*NAO **01** 07:06:24.5±3.7, 79.°72N×3.°42E, ML4.6*
ISC 01 07:06:22.2±0.4, 79.°71N±0.°05×1.°31E±0.°03, h10km, n156, σ1.s97/157, mb4.4/40, MS3.5/27, 8C-1D, Greenland Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	2.13	107	Pg	Pn	07 06 55.3	-2.5
KBS				Lg	Lg	07 07 18.8	
KBS	Kingsbay	2.13	107	*e*P	Pn	07 06 55.1	-2.6
KBS				*e*S	Sn	07 07 18.6	-5.7
KBS				IAML		07 07 26.2	
	comp=Z,3μm,0.6s						
KBS	Kingsbay	2.13	107	*e*P	Pn	07 06 55.0	-2.8
KBS				*e*		07 07 19.6	
KBS	Kingsbay	2.13	107	*e*Pn	Pn	07 06 55.0	-2.8
KBS	Kingsbay	2.13	107	Pg	Pn	07 06 55.3	-2.5
KBS				Lg	Lg	07 07 18.8	
KBS				*e*Sn	Sn	07 07 19.5	-4.7
KBS	Kingsbay	2.13	107	*e*Pn	Pn	07 06 55.0	-2.8
KBS				*e*Sn	Sn	07 07 19.6	-4.7
SPA0	Spitsbergen Ar	3.28	110	Pn	Pn	07 07 11.9	-1.6
	baz=315,slow=11						
SPA0				Sn	Sn	07 07 47.7	-4.8
SPA0	Spitsbergen Ar	3.28	110	*e*P	Pn	07 07 11.9	-1.6
SPA0				*e*S	Sn	07 07 47.9	-4.6
SPA0				IAML		07 07 59.3	
	comp=Z,342nm,0.5s						
SPA0	Spitsbergen Ar	3.28	110	*e*P	Pn	07 07 11.9	-1.6
	SNR=50						
SPITS	Spitsbergen Ar	3.28	110	Pn	Pn	07 07 12.0	-1.6
	baz=317,slow=8.0,SNR=3013						
SPITS				Sn	Sn	07 07 47.5	-5.0
	baz=294,slow=19,SNR=8.9						
SPITS				LR	LR	07 08 34.9	
	comp=Z,1μm,18.9s,baz=300,slow=40						
SPITS	Spitsbergen Ar	3.28	110	P	Pn	07 07 12.0	-1.6
HSP	Hornsund	3.95	126	Pn	Pn	07 07 21.7	-1.0
HSP				Sn	Sn	07 08 05.3	-3.8
HSP	Hornsund	3.95	126	Pn	Pn	07 07 21.7	-1.0
HSPB	Hornsund (broa	3.95	126	*e*P	Pn	07 07 21.7	-1.1
HSPB				*e*S	Sn	07 08 05.0	-4.1
HSPB				IAML		07 08 08.5	
	comp=Z,367nm,0.4s						
HSPB	Hornsund (broa	3.95	126	*e*P	Pn	07 07 21.7	-1.1
	SNR=49						
DAG	Danmarks Havn	5.01	244	⇑*i*P	Pn	07 07 36.7	-0.6
DAG				*i* S	Sn	07 08 31.4	-3.7
DAG	Danmarks Havn	5.01	244	⇑*i*P	Pn	07 07 36.7	-0.6
DAG				*i* S	Sn	07 08 31.4	-3.7
HOPEN	Hopen	5.81	111	Pn	Pn	07 07 45.4	-2.9
HOPEN				Sn	Sn	07 08 49.1	-5.7
HOPEN	Hopen	5.81	111	*e*P	Pn	07 07 45.8	-2.5
HOPEN				*e*S	Sn	07 08 47.8	-7.0
HOPEN	Hopen	5.81	111	Pn	Pn	07 07 45.4	-2.9
HOPEN	Hopen	5.81	111	*e*P	Pn	07 07 45.8	-2.5
	SNR=49						
BJO	Bjornoya	6.54	134	Pn	Pn	07 07 58.1	-0.1
BJO	Bjornoya	6.54	134	*e*P	Pn	07 07 58.1	-0.1
BJO				IAML		07 09 14.3	
	comp=Z,31nm,0.4s						
BJO	Bjornoya	6.54	134	Pn	Pn	07 07 58.1	-0.1
JNW	Jan Mayen West	9.05	201	*e*Pn	Pn	07 08 33.9	+1.3
JNW	Jan Mayen West	9.05	201	*e*Pn	Pn	07 08 33.9	+1.3
	SNR=50						
JNE	Jan Mayen East	9.08	200	*e*Pn	Pn	07 08 35.0	+2.0
JNE	Jan Mayen East	9.08	200	*e*Pn	Pn	07 08 35.0	+2.0
	SNR=50						
JMIC	Jan Mayen	9.10	201	Pn	Pn	07 08 34.0	+0.8
JMIC	Jan Mayen	9.10	201	Pn	Pn	07 08 34.0	+0.8
JMIC	Jan Mayen	9.10	201	Pn	Pn	07 08 34.3	+1.0
	comp=Z,34nm,0.3s,baz=53,slow=2.0,SNR=175						
JMIC				LR	LR	07 11 23.7	
	comp=Z,153nm,19.0s,baz=30,slow=33						
JMI	Jan Mayen	9.17	201	*e*Pn	Pn	07 08 35.8	+1.6
JMI				*e*Sn	Sn	07 10 13.0	-4.3
JMI				IAML		07 10 19.6	
	comp=Z,101nm,0.3s						
JMI	Jan Mayen	9.17	201	*e*Pn	Pn	07 08 35.8	+1.6
	SNR=50						
HAMF	Hammerfest	10.63	137	*e*Pn	Pn	07 08 53.3	-1.0
HAMF	Hammerfest	10.63	137	*e*Pn	Pn	07 08 53.3	-1.0
	SNR=50						
SUMG	Summit	11.58	254	*i* P	Pn	07 09 05.3	-2.3
SUMG	Summit	11.58	254	*i* P	Pn	07 09 05.3	-2.3
ARA0	ARCESS Array S	11.89	136	Pn	Pn	07 09 10.8	-0.7
	baz=345,slow=12						
ARA0				Sn	Sn	07 11 16.5	-7.6
	baz=342,slow=22						
ARA0	ARCESS Array S	11.89	136	Pn	Pn	07 09 10.8	-0.7
	baz=345,slow=12						
ARA0				Sn	Sn	07 11 16.5	-7.6
	baz=342,slow=22						
ARA0	ARCESS Array S	11.89	136	Pn	Pn	07 09 10.8	-0.7
	SNR=159						
ARCES	ARCESS Array B	11.89	136	Pn	Pn	07 09 11.5	-0.1
	comp=Z,2.0nm,0.3s,baz=345,slow=12,SNR=46						
ARCES				Sn	Sn	07 11 16.4	-7.7
	comp=Z,1.3nm,0.3s,baz=346,slow=21,SNR=5.3						
ARCES				LR	LR	07 13 33.7	
	comp=Z,153nm,19.8s,baz=358,slow=36						
ARE0	ARCESS Array S	11.89	136	*e*Pn	Pn	07 09 12.5	+1.0
ARE0	ARCESS Array S	11.89	136	*e*Pn	Pn	07 09 12.5	+1.0
	SNR=50						
LOF	Lofoten	12.07	158	*e*Pn	Pn	07 09 15.9	+2.0
LOF	Lofoten	12.07	158	*e*Pn	Pn	07 09 15.9	+2.0
	SNR=50						
KTK1	Kautokeino	12.12	140	*e*Pn	Pn	07 09 15.9	+1.4
KTK1	Kautokeino	12.12	140	*e*Pn	Pn	07 09 15.9	+1.4
	SNR=50						
KONS	Konsvik	13.66	160	*e*Pn	Pn	07 09 39.9	+4.3
FLOS	Flostrand	13.84	159	*e*Pn	P	07 09 42.5	-4.0
MOR8	Moi Rana	14.07	158	*e*Pn	Pn	07 09 44.9	+3.6
APA0	Apatity Array	14.71	128	Pn	Pn	07 09 46.6	-3.3
	baz=349,slow=12						
APA0	Apatity Array	14.71	128	Pn	Pn	07 09 46.6	-3.3
	baz=349,slow=12						
NSS	Namsos	15.55	163	*e*Pn	P	07 10 06.9	+1.4
SFJD	Kangerlussuaq	18.54	257	*i* P	P	07 10 33.9	-4.5
SFJD	Kangerlussuaq	18.54	257	P	P	07 10 34.1	-4.3
	comp=Z,6.0nm,0.3s,baz=19,slow=12,SNR=10						
SFJD				LR	LR	07 18 21.2	
	comp=Z,282nm,18.4s,baz=28,slow=39						
SFJD	Kangerlussuaq	18.54	257	*e*P	P	07 10 33.9	-4.5

NB2	**NORSAR Subarra**	**19.00**	**165**	P	**Pn**	**07 10 46.4**	**+2.0**
NB2	**NORSAR Subarra**	**19.00**	**165**	Pn	**Pn**	**07 10 46.4**	**+2.0**
NB2	**NORSAR Subarra**	**19.00**	**165**	P	**Pn**	**07 10 46.3**	**+2.0**
NOA	**NORSAR Array B**	**19.00**	**165**	P	**Pn**	**07 10 45.6**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=354,slow=13,SNR=6.3						
NOA				LR	LR	07 17 12.5	
	comp=Z,77nm,18.2s,baz=350,slow=34						
RES	**Resolute Bay**	**19.41**	**307**	P	**P**	**07 10 45.2**	**-2.7**
	comp=Z,0.6nm,0.3s,baz=38,slow=10,SNR=9.0						
RES				S	Sn	07 14 05.0	-21
	comp=Z,0.3nm,0.3s,baz=107,slow=15,SNR=6.6						
RES				LR	LR	07 18 21.4	
	comp=Z,240nm,19.8s,baz=30,slow=37						
FIA1	**FINESS Array S**	**19.76**	**143**	*e*P	**Pn**	**07 10 53.8**	**+0.6**
FIA1				*e*S	**Sn**	**07 14 35.3**	**+0.5**
FIA1	**FINESS Array S**	**19.76**	**143**	*e*P	**Pn**	**07 10 53.8**	**+0.6**
FIA1				*e*S	**Sn**	**07 14 35.3**	**+0.5**
FIA0	**FINESS Array S**	**19.76**	**143**	P	**Pn**	**07 10 53.8**	**+0.5**
	baz=349,slow=7.4						
FIA0	**FINESS Array S**	**19.76**	**143**	Pn	**Pn**	**07 10 53.8**	**+0.5**
	baz=349,slow=7.4						
FIA0	**FINESS Array S**	**19.76**	**143**	P	**Pn**	**07 10 53.8**	**+0.5**
	SNR=2.2						
FINES	**FINESS Array B**	**19.76**	**143**	P	**Pn**	**07 10 53.1**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=353,slow=9.8,SNR=24						
FINES				LR	LR	07 18 08.9	
	comp=Z,204nm,21.1s,baz=277,slow=36						
HFS	**Hagfors**	**20.03**	**162**	P	Pn	07 10 57.7	+1.1
	slow=12						
HFS	**Hagfors**	**20.03**	**162**	Pn	Pn	07 10 57.7	+1.1
	slow=12						
HFS	**Hagfors**	**20.03**	**162**	P	Pn	07 10 56.9	+0.4
	comp=Z,3.8nm,0.8s,baz=357,slow=12,SNR=7.4						
HFS				LR	LR	07 17 19.2	
	comp=Z,90nm,21.5s,baz=352,slow=33						
HFS	**Hagfors**	**20.03**	**162**	P	Pn	07 10 56.9	+0.3
HFS				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HFS				MLR	MLR		
	comp=Z,90nm,21.5s						
HFS	**Hagfors**	**20.03**	**162**	P	Pn	07 10 57.0	+0.4
HFS	**Hagfors**	**20.03**	**162**	Pn	Pn	07 10 57.7	+1.1
	SNR=50						
PRGR	**Permogore**	**22.22**	**118**	*e*P	**P**	**07 11 17.1**	**-1.3**
PRGR				*e*		07 11 25.7	
PRGR				pmax	pmax		
	comp=Z,20nm,0.6s						
PRGR	**Permogore**	**22.22**	**118**	*e*P	**P**	**07 11 17.1**	**-1.3**
	comp=Z,20nm,0.6s						
EKA	**Eskdalemuir Ar**	**24.54**	**186**	P	**P**	**07 11 43.6**	**+2.2**
	comp=Z,1.4nm,0.7s,baz=0.9,slow=9.2,SNR=3.9						
FRB	**Frobisher Bay**	**24.69**	**271**	P	**P**	**07 11 43.2**	**+0.5**
	comp=Z,7.0nm,0.7s,baz=36,slow=12,SNR=4.7						
FRB				LR	LR	07 21 19.8	
	comp=Z,122nm,19.8s,baz=16,slow=36						
SOKR	**Solikamsk**	**26.00**	**107** *c*	*i*P	**P**	**07 11 55.9**	**+1.3**
SOKR				pmax	pmax		
	comp=Z,30nm,1.2s						
SOKR				MLR	MLR		
	comp=Z,270nm,19.0s						
OBN	**Obninsk**	**27.19**	**133**	P	**P**	**07 12 01.9**	**-3.5**
	comp=Z,82nm,0.8s,baz=35,slow=20,SNR=17						
OBN				LR	LR	07 23 05.3	
	comp=Z,129nm,18.1s,baz=53,slow=37						
OBN	**Obninsk**	**27.19**	**133**	*e*P	**P**	**07 12 01.7**	**-3.7**
OBN				pmax	pmax		
	comp=Z,98nm,1.0s						
OBN				MLR	MLR		
	comp=Z,99nm,16.0s						
ARU	**Arti**	**29.31**	**107** *d*	*i*P	**P**	**07 12 25.0**	**+0.7**
ARU						07 13 13.7	
ARU				S	**S**	**07 17 22.1**	**+5.1**
ARU				SS	**SnSn**	**07 18 46.0**	**+3.7**
ARU				pmax	pmax		
	comp=Z,11nm,1.7s						
ARU				MLR	MLR		
	comp=Z,228nm,15.0s						
ARU	**Arti**	**29.31**	**107**	P	**P**	**07 12 25.1**	**+0.7**
	comp=Z,7.7nm,0.8s						
ARU	**Arti**	**29.31**	**107**	P	**P**	**07 12 25.1**	**+0.7**
	comp=Z,7.7nm,0.8s						
INK	**Inuvik**	**29.99**	**328**	P	**P**	**07 12 29.2**	**-1.0**
	comp=Z,4.6nm,1.0s,baz=20,slow=7.4,SNR=4.7						
INK				LR	LR	07 27 03.8	
	comp=Z,46nm,19.5s,baz=16,slow=42						
PRU	**Pruhonice**	**30.20**	**163**	AMS	AMS	07 23 40.0	
	comp=Z,100nm,19.0s						
GOPC	**GO Pecny, Ondr**	**30.29**	**163**	AMS	AMS	07 24 00.0	
	comp=Z,100nm,14.6s						
OKC	**Ostrava-Krasne**	**30.57**	**158**	AMS	AMS	07 27 10.0	
	comp=Z,100nm,15.9s						
AKASG	**Malin Array Be**	**30.66**	**144**	P	**P**	**07 12 36.8**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=349,slow=8.7,SNR=5.4						
AKASG				LR	LR	07 24 52.1	
	comp=Z,92nm,21.8s,baz=5.0,slow=36						
AKASG	**Malin Array Be**	**30.66**	**144** *ce*	P	**P**	**07 12 37.5**	**+1.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TREC	**Trest**	**30.94**	**162**	AMS	AMS	07 24 10.0	
	comp=Z,100nm,18.2s						
STHS	**Stebnicka Huta**	**31.21**	**155**	*e*P	P	07 12 47.0	+5.9
STHS	**Stebnicka Huta**	**31.21**	**155**	*e*pP	P	07 12 47.0	+5.9
GERES	**GERESS Array B**	**31.30**	**164**	P	**P**	**07 12 43.8**	**+1.8**
	comp=Z,0.2nm,0.2s,baz=1.3,slow=4.2,SNR=2.5						
GERES				LR	LR	07 24 59.6	
	comp=Z,72nm,18.7s,baz=11,slow=36						
BILL	**Bilibino**	**32.20**	**11**⇑	*i*P	**P**	**07 12 48.9**	**-0.8**
BILL				*e*		07 13 56.4	
BILL				*e*		07 15 32.5	
BILL				pmax	pmax		
	comp=Z,6.0nm,1.7s						
BILL				MLR	MLR		
	comp=Z,116nm,19.0s						
COLD	**Coldfoot**	**32.37**	**340**	*e*P	**P**	**07 12 50.8**	**-0.4**
	comp=Z,8.0nm,0.9s						
COLD	**Coldfoot**	**32.37**	**340**	*e*P	**P**	**07 12 50.8**	**-0.4**
	comp=Z,8.0nm,0.9s						
SCHQ	**Schefferville**	**32.75**	**263**	P	**P**	**07 12 55.0**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=17,slow=10,SNR=4.3						
SCHQ				LR	LR	07 25 44.9	
	comp=Z,104nm,20.7s,baz=16,slow=36						
EGAK	**Eagle**	**34.13**	**332**	*e*P	**P**	**07 13 05.9**	**-0.6**
	comp=Z,5.7nm,1.1s						
EGAK	**Eagle**	**34.13**	**332**	*e*P	**P**	**07 13 05.9**	**-0.6**
	comp=Z,5.7nm,1.1s						
COLA	**College**	**34.55**	**337**⇑	*i*P	**P**	**07 13 10.9**	**+0.8**
COLA				pmax	pmax		
	comp=Z,40nm,1.4s						
COLA	**College**	**34.55**	**337**	*e*P	**P**	**07 13 11.1**	**+1.0**
	comp=Z,8.0nm,1.3s						
COLA	**College**	**34.55**	**337**	*e*P	**P**	**07 13 11.1**	**+1.0**
	comp=Z,8.0nm,1.3s						
ILAR	**Eielson Array**	**34.58**	**337**	P	**P**	**07 13 09.7**	**-0.8**
	comp=Z,3.4nm,1.1s,baz=5.4,slow=7.3,SNR=30						
ILAR				LR	LR	07 28 05.4	
	comp=Z,29nm,19.0s,baz=343,slow=38						
BRVK	**Borovoye**	**34.59**	**97**	*e*P	**P**	**07 13 11.2**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ZALV	**Zalesovo Beam**	**36.34**	**82**	P	**P**	**07 13 25.3**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=350,slow=7.8,SNR=7.5						
ZALV				PP	**PP**	**07 14 49.0**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=344,slow=4.7,SNR=3.5						
ZALV				LR	LR	07 31 44.1	
	comp=Z,94nm,18.7s,baz=250,slow=42						
ZALV	**Zalesovo Beam**	**36.34**	**82**	*i*P	**P**	**07 13 25.7**	**0.0**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ABKAR	**Akbulak array**	**36.44**	**110**	*e*P	**P**	**07 13 27.7**	**+1.1**
	comp=Z,6.5nm,1.0s						
ABKAR	**Akbulak array**	**36.44**	**110**	*e*P	**P**	**07 13 27.7**	**+1.1**
	comp=Z,6.5nm,1.0s						
SEY	**Seymchan**	**36.60**	**22**⇑	*e*P	**P**	**07 13 27.9**	**+0.1**
HYT	**Haines Junctio**	**37.70**	**328**	*e*P	**P**	**07 13 37.8**	**+0.6**
	comp=Z,8.8nm,0.8s						
HYT	**Haines Junctio**	**37.70**	**328**	*e*P	**P**	**07 13 37.8**	**+0.6**
	comp=Z,8.8nm,0.8s						
KURK	**Kurchatov**	**38.33**	**90**	*e*P	**P**	**07 13 42.1**	**-0.4**
KURK				pmax	pmax		
	comp=Z,18nm,0.9s						
KURK	**Kurchatov**	**38.33**	**90**	*e*P	**P**	**07 13 42.1**	**-0.4**
	comp=Z,18nm,0.9s						
KURK	**Kurchatov**	**38.33**	**90**	*e*P	**P**	**07 13 42.1**	**-0.4**
	comp=Z,18nm,0.9s						
KBZ	**Khabaz**	**39.19**	**130**	P	**P**	**07 13 52.0**	**+2.2**
	comp=Z,4.0nm,0.9s,baz=12,slow=5.0,SNR=8.8						
KBZ	**Khabaz**	**39.19**	**130**	P	**P**	**07 13 52.0**	**+2.2**
KBZ	**Khabaz**	**39.19**	**130**	P	**P**	**07 13 52.0**	**+2.2**
TLY	**Talaya**	**41.76**	**66**	*e*P	**P**	**07 14 10.4**	**-0.7**
TLY				*e*S	S	07 20 35.0	+7.2
TLY				*e*SS	**SS**	**07 23 35.4**	**+2.4**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,135nm,15.0s						
KDAK	**Kodiak Island**	**41.91**	**339**	*i*P	**P**	**07 14 11.6**	**-0.5**
KDAK	**Kodiak Island**	**41.91**	**339**	*e*P	**P**	**07 14 11.8**	**-0.3**
	comp=Z,8.6nm,0.8s						
KDAK	**Kodiak Island**	**41.91**	**339**	*e*P	**P**	**07 14 11.8**	**-0.3**
	comp=Z,8.6nm,0.8s						
BRTR	**Keskin Array B**	**41.98**	**142**	P	**P**	**07 14 13.8**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=347,slow=5.1,SNR=4.2						
BRTR				LR	LR	07 35 06.5	
	comp=Z,35nm,18.0s,baz=4.5,slow=41						
BRTR	**Keskin Array B**	**41.98**	**142** *ce*	P	**P**	**07 14 16.2**	**+3.1**
ULM	**Lac du Bonnet**	**42.28**	**289**	LR	LR	07 31 35.3	
	comp=Z,172nm,19.1s,baz=30,slow=36						
KEST	**Kesra**	**44.21**	**171**	LR	LR	07 33 27.9	
	comp=Z,22nm,18.9s,baz=196,slow=37						
SONM	**Songino Array**	**45.94**	**65**	P	**P**	**07 14 44.2**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=334,slow=6.9,SNR=8.0						
SONM				PP	**PP**	**07 16 30.5**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=4.8,slow=8.7,SNR=2.7						
SONM				LR	LR	07 35 54.9	
	comp=Z,217nm,18.6s,baz=345,slow=39						
PETK	**Petropavlovsk-**	**46.72**	**19**	LR	LR	07 34 22.0	
	comp=Z,33nm,19.1s,baz=358,slow=36						
GEYT	**Alibeck**	**47.16**	**116**	P	**P**	**07 14 55.3**	**+1.0**
	comp=Z,3.6nm,0.5s,baz=319,slow=8.6,SNR=8.8						
GEYT				LR	LR	07 39 01.7	
	comp=Z,135nm,18.3s,baz=90,slow=42						
BSMT	**Bassoo Peak**	**47.63**	**305**	*e*P	**P**	**07 14 58.8**	**+0.7**
	comp=Z,5.0nm,1.1s						
BSMT	**Bassoo Peak**	**47.63**	**305**	*e*P	**P**	**07 14 58.8**	**+0.7**
	comp=Z,5.0nm,1.1s						
CHMT	**Chamberlain Mo**	**48.32**	**303**	*e*P	**P**	**07 15 03.5**	**+0.1**
	comp=Z,1.2nm,0.7s						
CHMT	**Chamberlain Mo**	**48.32**	**303**	*e*P	**P**	**07 15 03.5**	**+0.1**
	comp=Z,1.2nm,0.7s						
ECSD	**EROS Data Cent**	**48.72**	**287**	*e*P	**P**	**07 15 07.5**	**+1.2**
	comp=Z,6.4nm,1.0s						
ECSD	**EROS Data Cent**	**48.72**	**287**	*e*P	**P**	**07 15 07.5**	**+1.2**
	comp=Z,6.4nm,1.0s						
IMW	**Indian Meadow**	**50.91**	**300**	*e*P	**P**	**07 15 24.7**	**+1.4**
	comp=Z,2.8nm,0.7s						
IMW	**Indian Meadow**	**50.91**	**300**	*e*P	**P**	**07 15 24.7**	**+1.4**
	comp=Z,2.8nm,0.7s						
PDAR	**Pinedale Array**	**51.80**	**299**	P	**P**	**07 15 29.7**	**-0.2**
	comp=Z,0.6nm,1.0s,baz=52,slow=9.3,SNR=3.1						
GTA	**Gaotai**	**53.03**	**74**	*e*P	**P**	**07 15 39.3**	**+0.4**
GTA				pP	**pP**	**07 15 45.6**	**+3.5**
GTA				sP	sP	07 15 49.6	+6.3
GTA				PMZ			
	comp=Z,7.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**53.58**	**62**	*e*P	**P**	**07 15 44.6**	**+1.7**
HHC				PP	**PP**	**07 17 46.8**	**+3.7**
HHC				S	**S**	**07 23 16.9**	**+1.1**
HHC				ScS	**ScS**	**07 25 32.2**	**+0.3**
HHC				SS	**SS**	**07 26 56.3**	**+0.9**
HHC				PMZ			
	comp=Z,15nm,1.3s						
HHC				PMZ			
	comp=Z,47nm,5.2s						
HHC				LN			
	comp=Z,93nm,16.3s						
HHC				LE			
	comp=Z,190nm,17.1s						
HHC				LZ			
	comp=Z,62nm,17.7s						
O20A	**White River Ci**	**54.16**	**297**	*e*P	**P**	**07 15 48.5**	**+1.2**
	comp=Z,8.1nm,0.8s						
O20A	**White River Ci**	**54.16**	**297**	*e*P	**P**	**07 15 48.5**	**+1.2**
	comp=Z,8.1nm,0.8s						
SDCO	**Great Sand Dun**	**56.05**	**294**	*e*P	**P**	**07 16 01.7**	**+0.6**
	comp=Z,7.2nm,1.5s						
SDCO	**Great Sand Dun**	**56.05**	**294**	*e*P	**P**	**07 16 01.7**	**+0.6**
	comp=Z,7.2nm,1.5s						
PV01	**Paradox Valley**	**56.17**	**297**	*e*P	**P**	**07 16 02.7**	**+0.8**
	comp=Z,382nm,0.9s						
PV01	**Paradox Valley**	**56.17**	**297**	*e*P	**P**	**07 16 02.7**	**+0.8**
	comp=Z,382nm,0.9s						
MIAR	**Mount Ida**	**57.13**	**282**	*e*P	**P**	**07 16 09.5**	**+1.0**
MIAR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MIAR	**Mount Ida**	**57.13**	**282**	*e*P	**P**	**07 16 09.5**	**+1.0**
	comp=Z,7.3nm,1.0s						
MIAR	**Mount Ida**	**57.13**	**282**	*e*P	**P**	**07 16 09.5**	**+1.0**
	comp=Z,7.3nm,1.0s						
NVAR	**Mina Array Bea**	**57.37**	**306**	P	**P**	**07 16 09.8**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=41,slow=5.8,SNR=5.0						
KSRS	**Korea Array**	**59.31**	**48**	LR	LR	07 43 08.1	
	comp=Z,55nm,19.0s,baz=334,slow=37						
MJAR	**Matsushiro Arr**	**61.48**	**39**	P	**P**	**07 16 37.8**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=347,slow=5.1,SNR=4.1						
TXAR	**Lajitas Array**	**63.97**	**290**	P	**P**	**07 16 55.7**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=34,slow=6.6,SNR=6.3						
TXAR				LR	LR	07 45 37.4	
	comp=Z,115nm,18.8s,baz=0.0,slow=37						
TORD	**Torodi Ar. Bea**	**66.58**	**180**	P	**P**	**07 17 14.1**	**+1.9**
	comp=Z,1.2nm,0.7s,baz=356,slow=6.5,SNR=9.3						
DBIC	**Dimbokro**	**73.08**	**186**	LR	LR	07 49 17.7	
	comp=Z,22nm,18.2s,baz=78,slow=35						
CMAR	**Chiang Mai Arr**	**73.33**	**79**	P	**P**	**07 17 53.4**	**-0.2**
	comp=Z,2.0nm,0.8s,baz=344,slow=7.1,SNR=11						
CMAR				LR	LR	07 53 50.2	
	comp=Z,51nm,19.5s,baz=310,slow=39						
QIZ	**Qiongzhong**	**74.65**	**68**	P	**P**	**07 17 58.8**	**-2.5**
QIZ				S	**S**	**07 27 35.8**	**-1.1**
QIZ				LN			
	comp=Z,180nm,17.2s						
QIZ				LZ			
	comp=Z,160nm,18.1s						

MEX 01 07:20:39.4±0.3, 15.89N×95.47W, h6km±4km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.63**	**259**	*i* P	Pg	07 20 50.7	-0.8
HUIG				*i* S	Sg	07 20 59.6	-0.1
CMIG	**Matias Romero**	**1.32**	**25**	*e*P	Pn	07 21 00.6	-3.7
CMIG				*e*S	Sb	07 21 17.5	-4.3
VHO	**Vista Hermosa**	**1.69**	**314**	*e*P	Pn	07 21 06.0	-3.7
VHO				*e*S	Sn	07 21 26.8	-5.1
PCIG		**2.17**	**95**	*i* P	Pn	07 21 13.4	-2.7
PCIG				*i* S	Sn	07 21 38.7	-4.6
CCIG	**Comitan**	**3.23**	**83**	*e*P	Pn	07 21 27.6	-3.2
CCIG				*i* S	Sn	07 22 05.6	-4.2
TLIG	**Tlapa**	**3.40**	**300**	*e*P	Pn	07 21 30.9	-2.3
TLIG				*i* S	Sn	07 22 10.3	-3.7

*NEIC **01** 07:51:30.7, 35.48N×118.44W, h2km, ML3.7(PAS), After PAS.*

NEIC Felt [IV] at Caliente and [II] at Bodfish, Lake Isabella, Tehachapi and Weldon. Also felt at Bakersfield, Rosamond and Wofford Heights.

ISC 01 07:51:29.9±1.1, 35.49N±0.02×118.45W±0.02, h3km±10km, n55, σ0.98/99, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISA	**Isabella**	**0.18**	**352**	P	**Pg**	**07 51 34.0**	**+0.6**
	baz=0.2						
ARVC	**Arvin**	**0.48**	**221**	P	**Pb**	**07 51 40.0**	**-1.0**
	baz=0.5						
ARVC				S	**Sg**	**07 51 46.3**	**+1.0**
	baz=0.5						
LRMC	**Laurel Mountai**	**0.62**	**91**	P	**Pg**	**07 51 42.5**	**+0.7**
	baz=0.6						
VES	**Vestal, Richgr**	**0.63**	**304**	P	**Pg**	**07 51 42.5**	**+0.5**
	baz=0.6						
VES				S	**Sg**	**07 51 50.5**	**+0.4**
	baz=0.6						
EDW2	**Edwards Air Fo**	**0.71**	**148**	P	**Pg**	**07 51 43.6**	**0.0**
	baz=0.7						
EDW2				S	**Sg**	**07 51 53.1**	**+0.3**
	baz=0.7						
OSI	**Osito Adit**	**0.90**	**195**	P	**Pg**	**07 51 47.4**	**+0.1**
	baz=0.9						
OSI				S	**Sg**	**07 51 59.3**	**+0.4**
	baz=0.9						
OSI	**Osito Adit**	**0.90**	**195**	*e*Pg	**Pg**	**07 51 47.3**	**+0.1**
OSI				*e*Sg	**Sg**	**07 51 59.4**	**+0.5**
MPMC	**Manual Prospec**	**0.96**	**53**	P	**Pg**	**07 51 48.7**	**+0.3**
	baz=1.0						
MPMC				S	**Sg**	**07 52 01.3**	**+0.3**
	baz=1.0						
CWC	**Cottonwood Cre**	**0.99**	**17**	P	**Pg**	**07 51 49.0**	**0.0**
	baz=1.0						
CWC				S	**Sg**	**07 52 02.1**	**+0.1**
	baz=1.0						
RCTC	**Rector, Farmer**	**1.04**	**322**	P	**Pg**	**07 51 49.8**	**-0.2**
	baz=1.1						
RCTC				S	**Sg**	**07 52 03.4**	**-0.1**
	baz=1.1						
DAC	**Darwin (Calif)**	**1.05**	**41**	*e*Pg	**Pg**	**07 51 50.4**	**+0.3**
DAC				*e*Sg	**Sg**	**07 52 04.0**	**+0.4**
DECC	**Green Verdugo**	**1.24**	**176**	P	**Pn**	**07 51 53.4**	**-0.8**
	baz=1.2						
PKM	**Peak Mountain**	**1.27**	**243**	P	Pn	07 51 53.4	-1.3
	baz=1.3						
SMMC	**Simmler**	**1.28**	**262**	P	Pn	07 51 53.5	-1.3
	baz=1.3						
RRX	**Edison Barstow**	**1.33**	**117**	Pg	Pg	07 51 55.4	-0.1
	baz=1.3						
RRX				S	**Sg**	**07 52 13.4**	**+0.8**
	baz=1.3						
PASC	**Pasadena Art C**	**1.33**	**171**	*e*Pg	**Pn**	**07 51 54.8**	**-0.7**
PASC				*e*Sg	**Sg**	**07 52 13.0**	**+0.3**
GSC	**Goldstone**	**1.35**	**97**	Pb	**Pn**	**07 51 55.1**	**-0.7**
	baz=1.3						
GSC				S	**Sg**	**07 52 13.7**	**+0.3**
	baz=1.3						
GSC	**Goldstone**	**1.35**	**97**	*e*Pg	**Pn**	**07 51 55.1**	**-0.7**
GSC				*e*Sg	**Sg**	**07 52 14.6**	**+1.2**
BFSC	**Mount Baldy Ra**	**1.40**	**152**	Pb	**Pn**	**07 51 56.0**	**-0.5**
	baz=1.4						
BFSC				S	**Sb**	**07 52 14.6**	**-0.6**
	baz=1.4						
BLG	**Laguna Peak**	**1.47**	**201**	Pb	**Pb**	**07 51 57.5**	**-0.4**
	baz=1.5						
BLG				Sb	**Sg**	**07 52 17.0**	**-0.1**
	baz=1.5						
SBC	**Santa Barbara**	**1.48**	**225**	Pg	Pg	07 51 58.2	0.0
	baz=1.5						
TIN	**Tinemaha**	**1.57**	**6**	Pg	**Pb**	**07 51 59.6**	**-0.1**
	baz=1.6						
TIN				Sg	**Sg**	**07 52 21.8**	**+1.2**
	baz=1.6						
FURC	**Furnace Creek,**	**1.62**	**52**	Pg	Pg	07 52 01.1	+0.1
	baz=1.6						
FURC				Sg	**Sg**	**07 52 22.6**	**+0.7**
	baz=1.6						
GRAC	**Grapevine Rang**	**1.74**	**30**	Pb	**Pb**	**07 52 01.8**	**-0.7**
	baz=1.7						
BBRC	**Big Bear Solar**	**1.75**	**134**	P	Pn	07 52 01.2	-0.2
	baz=1.7						
BBRC				Sb	**Sg**	**07 52 25.7**	**-0.5**
	baz=1.7						
FMP	**Fort Macarthur**	**1.77**	**176**	P	Pn	07 52 01.5	0.0
	baz=1.8						
BSC	**Santa Cruz Isl**	**1.78**	**214**	P	Pn	07 52 01.7	+0.1
	baz=1.8						
SHOC	**Shoshone**	**1.81**	**76**	P	Pn	07 52 01.1	-0.9
	baz=1.8						
HEC	**Hector,Ludlow**	**1.85**	**110**	P	Pn	07 52 01.8	-0.8
	baz=1.8						
TUQ	**Turquoise Moun**	**2.06**	**91**	P	Pn	07 52 04.6	-0.9
	baz=2.0						
CIS	**Catalina Islan**	**2.08**	**179**	P	Pn	07 52 05.3	-0.4
	baz=2.1						
MURC	**Murrieta**	**2.15**	**151**	P	Pn	07 52 06.3	-0.3
	baz=2.1						
MURC				Sb	**Sb**	**07 52 37.2**	**+0.7**
	baz=2.1						
MLAC	**Mammoth Lakes**	**2.16**	**352**	Pb	**Pb**	**07 52 09.8**	**-0.1**
	baz=2.2						
TPNV	**Topopah Spring**	**2.30**	**50**	P	Pn	07 52 09.1	+0.2
	baz=2.3						
GMRC	**Granite Mounta**	**2.39**	**106**	P	Pn	07 52 08.7	-1.4
	baz=2.4						
PFO	**Pinyon Flat Ob**	**2.49**	**138**	P	Pn	07 52 11.0	-0.5
	baz=2.5						
PFO	**Pinyon Flat Ob**	**2.49**	**138**	*e*Pn	Pn	07 52 11.0	-0.5
PFO				*e*Sg	**Sg**	**07 52 50.4**	**+0.4**
LDFC	**Landfair**	**2.76**	**98**	*e*Pn	Pn	07 52 13.2	-2.0
LDFC				*e*Pg	**Pg**	**07 52 25.1**	**+2.2**
LDFC				*e*Sn	**Sn**	**07 52 49.8**	**+0.8**
LDFC				*e*Sg	**Sg**	**07 52 58.6**	**0.0**
TPH	**Tonopah**	**2.76**	**20**	*e*Pn	Pn	07 52 16.4	+1.1
TPH				*e*Sg	**Sg**	**07 53 00.5**	**+1.8**
SHPR	**Sheep Range**	**2.85**	**68**	*e*Pn	**Pn**	**07 52 16.2**	**-0.3**
SHPR				*e*Sg	**Sg**	**07 53 00.2**	**-1.3**
CMB	**Columbia Colle**	**2.98**	**329**	*e*Pn	**Pn**	**07 52 20.2**	**+2.0**
CMB				*e*Sn	**Sn**	**07 52 56.5**	**+2.1**
IRM	**Iron Mountain**	**3.02**	**115**	P	**Pn**	**07 52 17.7**	**-1.0**
	baz=3.0						
WAKR	**Walker**	**3.11**	**346**	Pn	**Pn**	**07 52 19.5**	**-0.6**
WAKR				*e*Pg	**Pg**	**07 52 29.3**	**-0.3**
WAKR				*e*Sg	**Sg**	**07 53 09.7**	**-0.3**
BAR	**Barrett**	**3.16**	**152**	*e*Pn	**Pn**	**07 52 20.7**	**+0.1**
BAR				*e*Pg	**Pg**	**07 52 31.7**	**+1.1**
BAR				*e*Sn	**Sn**	**07 52 59.8**	**+0.9**
NEE2	**Needles Airpor**	**3.22**	**102**	P	**Pn**	**07 52 20.3**	**-1.1**
	baz=3.2						
R11A	**Troy Canyon, C**	**3.66**	**38**	*e*Pn	**Pn**	**07 52 29.0**	**+1.4**
R11A				*e*Sg	**Sg**	**07 53 26.2**	**-1.4**
Y12C	**Blythe**	**3.67**	**117**	P

PNIG	**Pinotepa**	**0.20**	**332**	*i* P	Pg	08 18 01.4	-0.4
PNIG				*i* S	Sg	08 18 04.5	-0.2
TLIG	**Tlapa**	**1.44**	**339**	*e*P	Pn	08 18 20.4	-3.6
TLIG				*i* S	Sn	08 18 38.0	-5.2
VHO	**Vista Hermosa**	**1.51**	**55**	*e*P	Pn	08 18 21.1	-3.9
VHO				*e*S	Sn	08 18 40.0	-5.0
OXX	**Oaxaca**	**1.52**	**55**	*e*P	Pn	08 18 21.3	-3.9
ACX	**Acapulco**	**1.88**	**291**	*e*P	Pn	08 18 27.9	-1.9
HUIG	**Huatulco**	**1.90**	**103**	*e*P	Pn	08 18 27.0	-3.1
HUIG				*i* S	Sn	08 18 49.5	-4.6
CAIG	**El Cayaco**	**2.30**	**292**	*i* P	Pn	08 18 32.8	-2.9
CAIG				*i* S	Sn	08 18 59.4	-4.8

KRSC 01 08:25:14.7±2.5, 50°.74N×157°.66E, h80km±26km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.90**	**324**	*e*P	Pn	08 25 33.7	+1.1
PAU				*e*S	Sn	08 25 46.6	+0.6
SKR	**Severo-Kuril's**	**0.98**	**267**	*e*P	Pn	08 25 34.6	+1.1
SKR				*e*S	Sn	08 25 47.2	-0.4
MIPR	**Malaya Ipel'ka**	**1.64**	**340**	*e*P	Pn	08 25 43.1	+1.3
MIPR				*e*S	Sn	08 26 02.3	-0.1
ASAK	**Asacha**	**1.65**	**5**	*e*P	Pn	08 25 44.5	+2.4
ASAK				*e*S	Sn	08 26 04.4	+1.5
MTVR	**Mutnovka**	**1.77**	**10**	*e*P	Pn	08 25 46.5	+2.7
MTVR				*e*S	Sn	08 26 07.4	+1.5
RUS	**Russkaya**	**1.78**	**17**	*e*S	Sn	08 26 06.9	+1.4
APC	**Apacha**	**2.21**	**352**	*e*P	Pn	08 25 51.0	+1.6
APC				*e*S	Sn	08 26 16.3	+0.5
PET	**Petropavlovsk**	**2.37**	**15**	*e*P	Pn	08 25 54.2	+2.7
PET				*e*S	Sn	08 26 22.4	+2.8
UGLR	**Uglovaya**	**2.57**	**16**	*e*P	Pn	08 25 57.9	+3.5
UGLR				*e*S	Sn	08 26 29.1	+4.2
AVH	**Avacha**	**2.61**	**14**	*e*P	Pn	08 25 58.5	+3.6
AVH				*e*S	Sn	08 26 29.4	+3.6
SMAR	**Somma**	**2.62**	**15**	*e*P	Pn	08 25 58.3	+3.1
KOK	**Koryaka**	**2.62**	**13**	*e*P	Pn	08 25 58.8	+3.7
KOK				*e*S	Sn	08 26 29.5	+3.4
NLC	**Nalytchevo**	**2.65**	**23**	*e*S	Sn	08 26 26.5	+0.2
SDLR	**Sedlovina**	**2.65**	**16**	*e*P	Pn	08 25 58.3	+2.8
SDLR				*e*S	Sn	08 26 29.2	+2.4
KRER	**Koryakskii**	**2.65**	**14**	*e*P	Pn	08 25 59.1	+3.5
KRER				*e*S	Sn	08 26 30.4	+3.4
KRX	**Arik**	**2.69**	**13**	*e*P	Pn	08 25 59.4	+3.3
KRX				*e*S	Sn	08 26 31.1	+3.3
SPN	**Mys Shipunski**	**2.78**	**31**	*e*P	Pn	08 26 00.2	+3.2
SPN				*e*S	Sn	08 26 31.7	+2.2
GNL	**Ganaly**	**2.96**	**3**	*e*P	Pn	08 26 02.1	+2.4
MKZ	**Mys Kozlova**	**4.55**	**31**	*e*P	Pn	08 26 23.3	+2.2
MKZ				*e*S	Sn	08 27 12.2	-0.5
KZV	**Kizimen**	**4.66**	**19**	*e*P	Pn	08 26 26.1	+3.3
TUMR	**Tumrok**	**4.79**	**17**	*e*P	Pn	08 26 28.2	+3.7
KBTR	**Krutoberegovo**	**6.28**	**27**	*e*P	Pn	08 26 46.9	+2.3
BKI	**Bering**	**6.72**	**45**	*e*P	Pn	08 26 53.4	+2.8
BKI				*e*S	Sn	08 28 02.3	-3.2

NNC 01 08:54:48.0±1.6, 38°.38N×70°.41E, h0km, mb3.8, mpv3.5, 10C-5D, Error ellipse: s-maj=16.7km s-min=4.7km az=172.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**1.31**	**290**	⇑P	Pg	08 55 11.5	-1.9
DZET	60nm,0.3s						
				⇑S	Sb	08 55 31.2	-0.1
	600nm,0.6s						
SFK	**Sufi-Kurgan**	**2.91**	**55**	⇑Pn	Pn	08 55 37.2	+1.3
SFK	2.6nm,0.3s						
				⇓Pg	Pb	08 55 41.6	+0.5
	20nm,0.6s						
SFK				⇑Lg	Lg	08 56 17.3	
	76nm,1.1s						
KK31	**Karatay Array**	**4.72**	**1**	Pn	Pn	08 56 01.4	+0.8
KK31	1.2nm,0.3s,baz=187,slow=12,SNR=26			⇓Pg	Pb	08 56 14.1	+2.4
	2.3nm,0.3s,baz=182,slow=16,SNR=9.8						
KK31				⇑Sn	Sn	08 56 56.5	+0.4
	2.4nm,0.4s						
KK31				⇑Lg	Lg	08 57 20.3	
	9.8nm,0.7s,baz=179,slow=30,SNR=3.8						
AAK	**Ala-Archa**	**5.27**	**35**	⇑Pn	Pn	08 56 09.8	+1.5
AAK	2.0nm,0.5s						
				⇓Pg	Pb	08 56 24.0	+2.7
	19nm,1.2s						
AAK				⇓Sn	Sn	08 57 11.0	+1.1
	8.5nm,0.9s						
AAK				⇑Lg	Lg	08 57 30.6	
	14nm,1.1s						
AB31	**Akbulak array**	**13.23**	**329**	⇓Pn	Pn	08 57 54.7	-2.3
	0.5nm,0.5s,baz=133,slow=11,SNR=19						
AB31				⇑Sn	Sn	09 00 22.4	-2.4
	0.8nm,0.6s,baz=144,slow=23,SNR=3.3						
AKTO	**Aktyubinsk**	**14.93**	**328**	⇑Pn	P	08 58 24.2	-2.0
	2.8nm,0.7s						

NNC 01 09:27:15.1±6.8, 37°.80N×71°.81E, h175km±53km, mb2.4, mpv3.6, 4C-4D, Error ellipse: s-maj=64.2km s-min=21.4km az=159.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.55**	**294**	⇓P	Pn	09 27 58.3	0.0
DZET	26nm,0.3s						
				⇓S	Sn	09 28 32.3	+0.4
	41nm,0.3s						
SFK	**Sufi-Kurgan**	**2.57**	**30**	⇓P	Pn	09 27 57.7	-0.9
SFK	10nm,0.3s						
				⇑S	Sn	09 28 33.3	+0.6
	38nm,0.2s						
AAK	**Ala-Archa**	**5.24**	**22**	⇑P	Pn	09 28 32.5	+0.2
AAK	2.1nm,0.5s						
				⇓S	Sn	09 29 31.7	-1.3
	5.7nm,0.6s						
KK31	**Karatay Array**	**5.38**	**350**	P	Pn	09 28 35.2	+1.2
	1.5nm,0.3s,baz=190,slow=15,SNR=24						
KK31				S	Sn	09 29 36.9	+0.9
	5.6nm,0.3s,baz=172,slow=24,SNR=34						
AB31	**Akbulak array**	**14.30**	**327**	⇑P	P	09 30 32.5	+0.9
AB31	0.1nm,0.3s						
				⇑S	Sn	09 33 06.4	-2.2
	0.6nm,0.5s,baz=131,slow=25,SNR=11						

IDC 01 10:16:17.0±2.9, 30°.53S×176°.84W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/28, mbtmp3.5/2, Error ellipse: s-maj=58.3km s-min=33.2km az=75.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.58**	**323**	Pn	Pb	10 16 46.8	-0.2
RAO	102nm,0.3s,baz=69,slow=14,SNR=10						
				Sn	Sg	10 17 07.9	+0.1
	496nm,0.3s,baz=180,slow=20,SNR=9.9						
ASAR	**Alice Springs**	**44.10**	**267**	P	P	10 24 27.7	+0.4
	0.2nm,0.5s,baz=110,slow=8.0,SNR=3.4						
WRA	**Warramunga Arr**	**45.11**	**272**	P	P	10 24 34.5	-0.8
	1.1nm,0.7s,baz=111,slow=7.6,SNR=12						
FINES	**FINESS Array B**	**145.60**	**341**	PKPbc	PKPdf	10 35 55.8	-0.7
	2.3nm,0.9s,baz=302,slow=4.3,SNR=4.4						

*ISCJB **01** 10:23:28.4±0.9, 41°.85S±0°.1×84°.9E±0°.3, h10km, mb4.0/8, MS3.7/10, Error ellipse: s-maj=32.4km s-min=16.9km az=20.8*
*IDC **01** 10:23:28.6±1.0, 41°.83S×84°.88E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.8/21, mbtmp3.9/8, MS3.7/10, Ms1 3.7/10, ms1mx3.4/26, Error ellipse: s-maj=37.9km s-min=20.1km az=110.0*
ISC 01 10:23:30.1±1.0, 41°.85S±0°.2×84°.9E±0°.3, h10km, n22, σ0s27/10, mb4.1/8, MS3.7/10, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**23.88**	**83**	T	T	10 53 18.9	
	baz=244,slow=74,SNR=198						
H01W3	**Cape Leeuwin H**	**23.89**	**83**	T	T	10 53 19.7	
	baz=244,slow=74,SNR=176						
H01W1	**Cape Leeuwin H**	**23.90**	**83**	T	T	10 53 20.1	
	baz=244,slow=74,SNR=166						
MAW	**Mawson**	**28.45**	**198**	LR	LR	10 38 45.6	
	comp=Z,24nm,19.0s,baz=62,slow=32						
H08S2	**Diego Garcia H**	**35.77**	**339**	T	T	11 07 56.6	
	baz=164,slow=76,SNR=23						
H08S1	**Diego Garcia H**	**35.78**	**339**	T	T	11 07 56.4	
	baz=164,slow=76,SNR=455						
H08S3	**Diego Garcia H**	**35.79**	**339**	T	T	11 07 57.4	
	baz=164,slow=76,SNR=470						
LEM	**Lembang**	**40.28**	**36**	LR	LR	10 46 06.7	
	comp=Z,99nm,18.4s,baz=334,slow=34						
ASAR	**Alice Springs**	**44.39**	**82**	P	**P**	**10 31 40.8**	**-0.1**
	1.6nm,0.8s,baz=227,slow=8.0,SNR=14						
ASAR				PcP	**PcP**	**10 33 24.7**	**-0.1**
	0.8nm,0.7s,baz=232,slow=2.8,SNR=6.0						
ASAR				LR	LR	10 48 11.1	
	comp=Z,148nm,20.1s,baz=250,slow=33						
STKA	**Stephens Creek**	**45.72**	**97**	LR	LR	10 46 50.5	
	comp=Z,89nm,20.9s,baz=209,slow=31						
PSI	**Prapat**	**46.22**	**20**	LR	LR	10 49 38.9	
	comp=Z,243nm,18.3s,baz=172,slow=34						
VNDA	**Vanda**	**46.75**	**163**	P	**P**	**10 31 59.1**	**+0.2**
	0.5nm,0.5s,baz=265,slow=7.1,SNR=8.0						
VNDA				LR	LR	10 50 11.7	
	comp=Z,77nm,18.2s,baz=284,slow=34						
WRA	**Warramunga Arr**	**46.98**	**78**	P	**P**	**10 32 01.3**	**-0.1**
	2.0nm,0.9s,baz=229,slow=7.9,SNR=11						
QSPA	**South Pole Qui**	**48.32**	**180**	P	**P**	**10 32 11.3**	**-0.1**
	3.0nm,0.6s,baz=308,slow=2.2,SNR=27						
BOSA	**Boshof**	**49.55**	**265**	LR	LR	10 49 39.5	
	comp=Z,110nm,18.6s,baz=123,slow=32						
SNAA	**Sanae**	**50.23**	**204**	P	**P**	**10 32 25.8**	**0.0**
	0.2nm,0.7s,baz=44,slow=9.3,SNR=6.4						
CMAR	**Chiang Mai Arr**	**61.38**	**15**	P	**P**	**10 33 46.1**	**-0.1**
	0.9nm,0.5s,baz=215,slow=6.9,SNR=5.5						
CMAR				LR	LR	10 57 12.5	
	comp=Z,56nm,18.2s,baz=200,slow=33						
KSRS	**Korea Array**	**88.15**	**33**	P	**P**	**10 36 21.1**	**+0.4**
	0.6nm,0.6s,baz=212,slow=4.8,SNR=3.4						
SONM	**Songino Array**	**91.29**	**14**	P	**P**	**10 36 35.5**	**+0.1**
	0.4nm,0.3s,baz=178,slow=4.0,SNR=5.1						
TORD	**Torodi Ar. Bea**	**93.66**	**284**	LR	LR	11 17 25.0	
	comp=Z,24nm,18.3s,baz=170,slow=35						
DBIC	**Dimbokro**	**94.20**	**275**	LR	LR	11 15 11.0	
	comp=Z,38nm,18.1s,baz=121,slow=33						
INK	**Inuvik**	**146.57**	**25**	PKPbc	**PKPbc**	**10 43 10.1**	**-0.4**
	1.4nm,0.6s,baz=314,slow=0.7,SNR=4.3						

*IDC **01** 10:30:33.6±9.4, 18°.50S×175°.44W, h130km±82km, mb4.0/10, mb1 4.1/10, mb1mx3.8/22, mbtmp4.4/10, Error ellipse: s-maj=33.8km s-min=23.4km az=60.0*
*NEIC **01** 10:30:33.6±2.1, 18°.49S×175°.42W, h131km±15km, mb4.5/3, Error ellipse: s-maj=18.2km s-min=11.7km az=78.0*
*ISCJB **01** 10:30:34.3±0.9, 18°.5S±0°.1×175°.5W±0°.1, h150km, mb4.1/10, Error ellipse: s-maj=20.0km s-min=16.5km az=160.5*
ISC 01 10:30:35.6±1.1, 18°.5S±0°.1×175°.5W±0°.2, h150km, n17, σ0s74/18, mb4.1/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.17**	**276**	Pn	**Pn**	**10 32 03.6**	**-1.1**
	13nm,0.4s						
URZ	**Urewera**	**20.73**	**197**	P	**P**	**10 35 03.8**	**-0.5**
	9.6nm,0.3s,baz=51,slow=6.6,SNR=31						
URZ	**Urewera**	**20.73**	**197**	*e*P	**P**	**10 35 04.4**	**0.0**
CTA	**Charters Tower**	**36.08**	**261**	P	**P**	**10 37 23.8**	**+0.7**
	7.5nm,0.6s,baz=99,slow=11,SNR=14						
CTAO	**Charters Tower**	**36.08**	**261**	*e*P	**P**	**10 37 23.6**	**+0.5**
	4.3nm,0.4s						
STKA	**Stephens Creek**	**40.79**	**242**	P	**P**	**10 38 02.9**	**+0.5**
	0.9nm,0.3s,baz=135,slow=11,SNR=2.8						
WRAB	**Tennant Creek**	**47.23**	**260**	P	**P**	**10 38 54.2**	**+0.4**
WRA	**Warramunga Arr**	**47.24**	**260**	P	**P**	**10 38 54.0**	**0.0**
	2.8nm,0.3s,baz=98,slow=6.9,SNR=54						
WRA				PcP	**PcP**	**10 40 23.0**	**+0.1**
	0.4nm,0.3s,baz=90,slow=3.8,SNR=5.6						
ASAR	**Alice Springs**	**47.29**	**255**	P	**P**	**10 38 54.8**	**+0.5**
	13nm,0.6s,baz=89,slow=8.5,SNR=155						
ASAR				PcP	**PcP**	**10 40 22.8**	**-0.3**
	0.8nm,0.4s,baz=108,slow=4.0,SNR=6.1						
SIJI	**Sorong**	**55.05**	**282**	P	**P**	**10 39 52.3**	**0.0**
	14nm,0.6s,baz=98,slow=6.7,SNR=13						
VNDA	**Vanda**	**60.12**	**186**	P	**P**	**10 40 27.1**	**+0.3**
	1.1nm,0.7s,baz=9.3,slow=7.0,SNR=7.7						
MJAR	**Matsushiro Arr**	**70.04**	**322**	P	**P**	**10 41 31.9**	**+0.6**
	2.1nm,0.9s,baz=161,slow=6.8,SNR=6.4						
QSPA	**South Pole Qui**	**71.58**	**180**	*e*P	**P**	**10 41 39.8**	**-0.6**
	3.6nm,0.8s						
KSRS	**Korea Array**	**76.98**	**317**	P	P	10 42 13.3	+1.5
	0.7nm,0.6s,baz=136,slow=6.7,SNR=6.3						
KSAR	**Wonju Array Be**	**77.00**	**317**	P	**P**	**10 42 13.3**	**+1.4**
ILAR	**Eielson Array**	**85.85**	**12**	P	**P**	**10 42 57.6**	**-0.3**
	0.3nm,0.5s,baz=225,slow=6.2,SNR=7.0						
BRTR	**Keskin Array B**	**147.12**	**316**	PKPbc	**PKPab**	**10 50 01.9**	**-1.5**
	0.9nm,0.8s,baz=46,slow=4.8,SNR=4.3						

*ATH **01** 10:34:36.9, 35°.98N×22°.39E, h15km±1km, MD3.5/27, ML3.2*
*CSEM **01** 10:34:37.3±0.3, 35°.95N×22°.39E, h2km, ML3.4, Error ellipse: s-maj=8.3km s-min=3.3km az=36.0*
*THE **01** 10:34:37.8, 35°.99N×22°.42E, h0km±2km, ML3.4/6, Error ellipse: s-maj=4.1km s-min=1.2km az=212.0*
ISC 01 10:34:36.8±1.4, 35°.98N±0°.04×22°.37E±0°.03, h4km±11km, n113, σ1s90/144, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.62**	**60**	P	**Pg**	**10 34 48.6**	**-0.1**
ANKY	**Antikythira Is**	**0.77**	**98**	*e*PN	**Pg**	**10 34 51.3**	**-0.2**
ANKY				*e*SN	**Sg**	**10 35 02.1**	**+0.7**
ANKY	**Antikythira Is**	**0.77**	**98**	P	**Pg**	**10 34 51.1**	**-0.4**
ANKY				S	**Sg**	**10 35 01.9**	**+0.5**
ANKY	**Antikythira Is**	**0.77**	**98**	P	**Pg**	**10 34 51.1**	**-0.4**
ANKY				S	**Sg**	**10 35 01.9**	**+0.5**
VLI	**Veliai**	**0.87**	**32**	*e*PN	**Pg**	**10 34 53.2**	**-0.3**
VLI				*e*SN	**Sg**	**10 35 05.3**	**+0.4**
VLI	**Veliai**	**0.87**	**32**	*e*Pn	**Pg**	**10 34 53.2**	**-0.3**
VLI				*e*Sn	**Sg**	**10 35 05.3**	**+0.4**
VLI	**Veliai**	**0.87**	**32**	P	**Pg**	**10 34 53.2**	**-0.3**
VLI				S	**Sg**	**10 35 05.5**	**+0.6**
PYL	**PYLOS**	**1.05**	**331**	*e*PB	**Pg**	**10 34 56.1**	**-0.8**
PYL				*e*SN	**Sb**	**10 35 11.6**	**0.0**
PYL	**PYLOS**	**1.05**	**331**	*e*Pb	**Pg**	**10 34 56.1**	**-0.8**
PYL				*e*Sn	**Sb**	**10 35 11.6**	**0.0**
PYL				S	**Sn**	**10 35 12.5**	**-0.9**
PYL	**PYLOS**	**1.05**	**331**	P	**Pg**	**10 34 56.0**	**-0.8**
PYL				S	**Sn**	**10 35 12.5**	**-0.9**
ITM	**Ithomi**	**1.25**	**344**	*e*PN	**Pn**	**10 35 00.3**	**-0.8**
ITM				*e*SN	**Sn**	**10 35 18.8**	**+0.3**
ITM	**Ithomi**	**1.25**	**344**	P	**Pn**	**10 35 00.5**	**-0.6**
ITM				*e*Sn	**Sn**	**10 35 18.8**	**+0.3**
ITM	**Ithomi**	**1.25**	**344**	P	**Pn**	**10 35 00.5**	**-0.6**
ITM				S	**Sn**	**10 35 18.7**	**+0.3**
VLX	**Vlachokerasia**	**1.39**	**0**	*e*PN	**Pn**	**10 35 03.0**	**-0.1**
VLX				*e*SN	**Sb**	**10 35 21.8**	**+0.1**
VLX	**Vlachokerasia**	**1.39**	**0**	P	**Pn**	**10 35 02.7**	**-0.4**
VLX	**Vlachokerasia**	**1.39**	**0**	*e*Pn	**Pn**	**10 35 03.0**	**-0.1**
VLX				*e*Sn	**Sb**	**10 35 21.8**	**+0.1**
VLX				S	**Sg**	**10 35 23.7**	**+2.1**
VLX	**Vlachokerasia**	**1.39**	**0**	P	**Pn**	**10 35 02.7**	**-0.4**
VLX				S	**Sg**	**10 35 23.7**	**+2.1**
KRND	**KRANIDI**	**1.54**	**24**	*e*PN	**Pb**	**10 35 05.9**	**+0.1**
KRND				*e*SN	**Sg**	**10 35 27.0**	**+0.7**
KRND	**KRANIDI**	**1.54**	**24**	P	**Pb**	**10 35 06.0**	**+0.1**
KRND				*e*Sn	**Sg**	**10 35 27.0**	**+0.7**
KRND	**KRANIDI**	**1.54**	**24**	P	**Pb**	**10 35 06.0**	**+0.1**
VAM	**Vamos**	**1.59**	**110**	*e*PN	**Pb**	**10 35 06.5**	**-0.3**
VAM				*e*SN	**Sg**	**10 35 28.7**	**+0.7**
VAM	**Vamos**	**1.59**	**110**	*e*Pn	**Pb**	**10 35 06.5**	**-0.3**
VAM				*e*Sn	**Sg**	**10 35 28.7**	**+0.7**
AMT	**Artemida-Makis**	**1.64**	**341**	*e*PN	**Pb**	**10 35 07.3**	**-0.4**
AMT	**Artemida-Makis**	**1.64**	**341**	*e*Pn	**Pb**	**10 35 07.3**	**-0.4**
AMT				S	**Sb**	**10 35 29.3**	**+0.5**
AMT	**Artemida-Makis**	**1.64**	**341**	P	**Pb**	**10 35 07.2**	**-0.4**
AMT				S	**Sb**	**10 35 29.3**	**+0.5**
DIDY	**Didyma**	**1.65**	**24**	*e*PN	**Pn**	**10 35 06.5**	**-0.1**
DIDY	**Didyma**	**1.65**	**24**	P	**Pn**	**10 35 06.5**	**-0.1**
DIDY	**Didyma**	**1.65**	**24**	P	**Pn**	**10 35 06.5**	**-0.1**
DID	**Didima**	**1.68**	**24**	*e*PN	**Pb**	**10 35 08.1**	**-0.2**
DID	**Didima**	**1.68**	**24**	*e*Pn	**Pb**	**10 35 08.1**	**-0.2**
DID				S	**Sg**	**10 35 30.5**	**-0.3**
DID	**Didima**	**1.68**	**24**	P	**Pn**	**10 35 07.4**	**+0.4**
DID				S	**Sg**	**10 35 30.5**	**-0.3**
MHLO	**Agia Marina, M**	**1.79**	**66**	*e*PN	**Pn**	**10 35 08.8**	**+0.3**
MHLO	**Agia Marina, M**	**1.79**	**66**	*e*Pn	**Pn**	**10 35 08.8**	**+0.3**
MHLO				S	**Sb**	**10 35 32.7**	**-0.3**
MHLO	**Agia Marina, M**	**1.79**	**66**	P	**Pn**	**10 35 08.6**	**+0.1**
MHLO				S	**Sb**	**10 35 32.7**	**-0.3**
GUR	**Goura**	**1.96**	**359**	*e*PN	**Pb**	**10 35 12.6**	**-0.5**
GUR	**Goura**	**1.96**	**359**	P	**Pb**	**10 35 12.4**	**-0.7**
GUR				S	**Sb**	**10 35 37.6**	**-0.3**
GUR	**Goura**	**1.96**	**359**	P	**Pb**	**10 35 12.4**	**-0.7**
GUR				S	**Sb**	**10 35 37.6**	**-0.3**
NAIG	**Nisos Aigina**	**2.00**	**26**	*e*PN	**Pb**	**10 35 12.6**	**-1.0**
NAIG	**Nisos Aigina**	**2.00**	**26**	*e*Pn	**Pb**	**10 35 12.6**	**-1.0**
DRO	**Drossia**	**2.04**	**345**	*e*PN	**Pb**	**10 35 13.7**	**-0.8**
DRO	**Drossia**	**2.04**	**345**	*e*Pn	**Pb**	**10 35 13.7**	**-0.8**
LOUT	**Loutraki**	**2.07**	**13**	*e*PN	**Pn**	**10 35 13.2**	**+0.9**
LOUT	**Loutraki**	**2.07**	**13**	*e*Pn	**Pn**	**10 35 13.2**	**+0.9**
KLV	**Kalavryta, Ach**	**2.07**	**355**	*e*PN	**Pb**	**10 35 14.1**	**-0.9**
KLV	**Kalavryta, Ach**	**2.07**	**355**	*e*Pn	**Pb**	**10 35 14.1**	**-0.9**
KLV				S	**Sb**	**10 35 41.0**	**-0.2**
KLV	**Kalavryta, Ach**	**2.07**	**355**	P	**Pb**	**10 35 14.3**	**-0.7**
KLV				S	**Sb**	**10 35 41.0**	**-0.2**
LTK	**Loutraki**	**2.10**	**13**	*e*PN	**Pb**	**10 35 14.1**	**-1.4**
LTK	**Loutraki**	**2.10**	**13**	P	**Pn**	**10 35 13.7**	**+0.9**
LTK	**Loutraki**	**2.10**	**13**	*e*Pn	**Pb**	**10 35 14.1**	**-1.4**
LTK	**Loutraki**	**2.10**	**13**	P	**Pn**	**10 35 13.7**	**+0.9**
ZKS	**Zakynthos**	**2.14**	**324**	*e*PN	**Pb**	**10 35 15.0**	**-1.1**
ZKS	**Zakynthos**	**2.14**	**324**	*e*Pn	**Pb**	**10 35 15.0**	**-1.1**
RLS	**Riolos of Patr**	**2.20**	**341**	*e*PN	**Pn**	**10 35 15.3**	**+1.2**
RLS	**Riolos of Patr**	**2.20**	**341**	P	**Pn**	**10 35 14.9**	**+0.8**
RLS	**Riolos of Patr**	**2.20**	**341**	*e*Pn	**Pn**	**10 35 15.3**	**+1.2**
RLS	**Riolos of Patr**	**2.20**	**341**	P	**Pn**	**10 35 14.9**	**+0.8**
ATH	**Athens Observa**	**2.27**	**28**	*e*PN	**Pb**	**10 35 16.5**	**-1.8**
ATH	**Athens Observa**	**2.27**	**28**	*e*Pn	**Pb**	**10 35 16.5**	**-1.8**
VILL	**Villia**	**2.31**	**19**	P	**Pn**	**10 35 16.7**	**+1.0**
VILL	**Villia**	**2.31**	**19**	*e*Pn	**Pb**	**10 35 17.4**	**-1.7**
VILL	**Villia**	**2.31**	**19**	P	**Pn**	**10 35 16.7**	**+1.0**
VIL2	**Platees**	**2.35**	**18**	*e*PN	**Pn**	**10 35 17.4**	**+1.2**
KALE	**Kalithea**	**2.42**	**356**	*e*PN	**Pb**	**10 35 19.6**	**-1.4**
KALE	**Kalithea**	**2.42**	**356**	P	**Pb**	**10 35 19.5**	**-1.4**
KALE	**Kalithea**	**2.42**	**356**	P	**Pb**	**10 35 19.5**	**-1.4**
THR5	**Thira Island,**	**2.45**	**79**	P	**Pn**	**10 35 17.6**	**0.0**
THR5	**Thira Island,**	**2.45**	**79**	P	**Pn**	**10 35 17.6**	**0.0**
EFP	**Efpalio**	**2.48**	**352**	*e*PN	**Pn**	**10 35 19.5**	**+1.6**
EFP	**Efpalio**	**2.48**	**352**	*e*Pn	**Pn**	**10 35 19.5**	**+1.6**
THR3	**Thira Island,**	**2.49**	**79**	P	**Pn**	**10 35 18.2**	**+0.1**
THR3	**Thira Island,**	**2.49**	**79**	P	**Pn**	**10 35 18.2**	**+0.1**
VLS	**Valsamata**	**2.62**	**328**	*e*PB	**Pn**	**10 35 20.3**	**+0.4**
VLS	**Valsamata**	**2.62**	**328**	*e*Pb	**Pn**	**10 35 20.3**	**+0.4**
KARY	**Karystos**	**2.64**	**38**	P	**Pn**	**10 35 20.4**	**+0.2**
LAST	**Lasithi**	**2.66**	**107**	P	**Pn**	**10 35 21.4**	**+0.8**
LAST	**Lasithi**	**2.66**	**107**	P	**Pn**	**10 35 21.4**	**+0.8**
LKR	**Lokris**	**2.72**	**10**	*e*PN	**Pn**	**10 35 22.5**	**+1.3**
LKR	**Lokris**	**2.72**	**10**	*e*Pn	**Pn**	**10 35 22.5**	**+1.3**
APE	**Apeiranthos**	**2.77**	**66**	*e*PN	**Pn**	**10 35 22.6**	**+0.6**
APE	**Apeiranthos**	**2.77**	**66**	*e*Pn	**Pn**	**10 35 22.6**	**+0.6**
EVR	**Evrytania**	**2.97**	**352**	*e*PN	**Pn**	**10 35 26.2**	**+1.4**
EVR	**Evrytania**	**2.97**	**352**	*e*Pn	**Pn**	**10 35 26.2**	**+1.4**
SMIA	**Simia**	**2.98**	**13**	*e*PN	**Pn**	**10 35 25.9**	**+1.1**
SMIA	**Simia**	**2.98**	**13**	*e*Pn	**Pn**	**10 35 25.9**	**+1.1**
MAKR	**Makrakomi, Fth**	**3.04**	**357**	*e*PB	**Pn**	**10 35 28.0**	**+2.3**
MAKR	**Makrakomi, Fth**	**3.04**	**357**	*e*Pb	**Pn**	**10 35 28.0**	**+2.3**
DSL	**Palaion Diasel**	**3.31**	**343**	*e*PN	**Pn**	**10 35 31.6**	**+2.2**
DSL	**Palaion Diasel**	**3.31**	**343**	*e*Pn	**Pn**	**10 35 31.6**	**+2.2**
NEO	**Neokhori**	**3.40**	**11**	*e*PN	**Pn**	**10 35 32.1**	**+1.5**
NEO	**Neokhori**	**3.40**	**11**	*e*Pn	**Pn**	**10 35 32.1**	**+1.

EMSC	**East Mesa**	**0.66**	**10**	*e*P		**Pb**	**11 05 54.9**	**+0.1**
YMD	**Yuma Desert**	**0.68**	**47**	*e*P		**Pg**	**11 05 54.8**	**-0.2**
RDX	**Rancho Dawling**	**0.71**	**257**	*e*P		**Pg**	**11 05 55.6**	**+0.1**
RDX				*e*S		**Sg**	**11 06 05.2**	**+0.1**
RDX				IAML			11 06 07.2	
	comp=N,735nm,0.2s							
SGL	**Mount Signal**	**0.75**	**318**	⇑*i*P		**Pb**	**11 05 56.3**	**0.0**
COA	**Coachella**	**0.77**	**0**	*e*P		**Pb**	**11 05 56.4**	**-0.3**
YUH	**Yuha Desert**	**0.87**	**310**	*e*P		**Pb**	**11 05 58.0**	**-0.4**
COK	**Cook Ranch**	**0.91**	**326**	*e*P		**Pb**	**11 05 58.7**	**-0.3**
RMX	**La Rumorosa**	**0.95**	**303**	*e*P		**Pb**	**11 05 59.3**	**-0.5**
RMX				*e*S		**Sb**	**11 06 12.2**	**-0.1**
CRR	**Carrizo Plain**	**1.07**	**318**	⇓*i*P		**Pb**	**11 06 01.7**	**0.0**
SPIG	**San Pedro Mart**	**1.08**	**196**	*e*P		**Pb**	**11 06 01.4**	**-0.6**
SPIG				*i* S		**Sb**	**11 06 16.8**	**+0.8**
SPX	**San Pedro Mart**	**1.08**	**195**	*e*P		**Pb**	**11 06 02.0**	**-0.1**
SPX				*e*S		**Sb**	**11 06 16.6**	**+0.6**
SPX				⇑*e*			11 06 18.4	
SPX				IAML			11 06 18.4	
	comp=E,240nm,0.4s							
CBX	**Cerro Bola**	**1.32**	**280**	*i* P		**Pn**	**11 06 05.3**	**-0.2**
CBX				*e*S		**Sn**	**11 06 22.6**	**-0.2**
CBX	**Cerro Bola**	**1.32**	**280**	*e*P		**Pn**	**11 06 05.2**	**-0.2**
CBX				*e*S		**Sb**	**11 06 23.0**	**+0.2**
CBX				*e*			11 06 26.8	
CBX				IAML			11 06 26.8	
	comp=N,496nm,0.4s							
ECNX	**Esteban Cantu**	**1.32**	**251**	*e*P		**Pn**	**11 06 05.3**	**-0.1**
ECNX				*e*S		**Sb**	**11 06 23.5**	**+0.7**
PBX	**Punta Banda**	**1.40**	**256**	*e*P		**Pn**	**11 06 06.5**	**+0.1**
PBX				*e*S		**Sb**	**11 06 25.6**	**+0.6**

*TAP **01** 11:22:29.0, 24˚.36N×122˚.46E, h80km, ML3.6, C*
*JMA **01** 11:22:28.6±0.1, 24˚.31N×122˚.47E, h76km±2km, M3.1*
*ISCJB **01** 11:22:29.1±0.4, 24˚.33N±0˚.03×122˚.52E±0˚.02, h70km±6km, Error ellipse: s-maj=5.3km s-min=2.2km az=167.3*

ISC 01 11:22:29.6±1.3**, 24˚33N**±0˚.04×**122˚51E**±0˚.02**, h68**km±9km**, n52**, σ0s85**/100, 3D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.42**	**73**	P	**Pn**	**11 22 41.8**	**+0.3**
JYNG				S	**Sn**	**11 22 51.2**	**+1.0**
YOJ	**Yonaguni jima**	**0.48**	**74**	P	**Pn**	**11 22 42.2**	**+0.2**
YOJ				S	**Sn**	**11 22 51.8**	**+0.6**
TWC	**Suao**	**0.66**	**295**	P	**Pn**	**11 22 43.6**	**-0.3**
	baz=299						
TWC				*e*S	**Sn**	**11 22 54.2**	**-0.3**
	baz=299						
ENA	**Nanau**	**0.70**	**278**	*e*P	**Pn**	**11 22 44.3**	**-0.1**
	baz=276						
ENA				*e*S	**Sn**	**11 22 55.4**	**+0.1**
	baz=276						
EGS		**0.73**	**315**	*e*P	**Pn**	**11 22 44.3**	**-0.5**
	baz=307						
EGS				*e*S	**Sn**	**11 22 55.0**	**-0.9**
	baz=307						
TWE	**Neicheng**	**0.86**	**297**	P	**Pn**	**11 22 46.1**	**-0.2**
	baz=301						
TWE				*e*S	**Sn**	**11 22 58.7**	**+0.2**
	baz=301						
TWD	**Chiawan**	**0.87**	**254**	P	**Pn**	**11 22 46.0**	**-0.3**
	baz=244						
TWD				*i* S	**Sn**	**11 22 58.5**	**-0.2**
	baz=244						
HWA	**Hwalien**	**0.89**	**247**	*e*P	**Pn**	**11 22 46.5**	**-0.2**
	baz=243						
ENTT	**Nioudou**	**0.91**	**290**	P	**Pn**	**11 22 47.0**	**+0.1**
	baz=294						
ENTT				*e*S	**Sn**	**11 23 00.3**	**+0.5**
	baz=294						
NNS	**Nan Shan**	**1.04**	**276**	*e*P	**Pn**	**11 22 48.9**	**+0.3**
	baz=274						
NNS				*e*S	**Sn**	**11 23 02.6**	**-0.2**
	baz=274						
NSK	**Sanguang**	**1.10**	**289**	*e*P	**Pn**	**11 22 49.3**	**-0.1**
	baz=288						
NSK				*e*S	**Sn**	**11 23 03.8**	**-0.3**
	baz=288						
ESL	**Shilin**	**1.11**	**243**	*e*P	**Pn**	**11 22 48.8**	**-0.6**
	baz=244						
ESL				*e*S	**Sn**	**11 23 03.5**	**-0.6**
	baz=244						
IRIF	**Iriomote-Funau**	**1.12**	**89**	P	**Pn**	**11 22 49.4**	**-0.1**
IRIF				S	**Sn**	**11 23 04.5**	**+0.2**
WHF	**Hehuan Shan**	**1.15**	**261**	⇓*i*P	**Pn**	**11 22 50.0**	**-0.3**
	baz=251						
WHF				*e*S	**Sn**	**11 23 05.2**	**-0.5**
	baz=251						
TWT	**Tachien**	**1.22**	**267**	*e*P	**Pn**	**11 22 51.6**	**+0.6**
	baz=259						
TWT				*e*S	**Sn**	**11 23 07.2**	**+0.3**
	baz=259						
HATJ	**Hateruma jima**	**1.22**	**103**	P	**Pn**	**11 22 51.4**	**+0.6**
HATJ				S	**Sn**	**11 23 07.8**	**+1.2**
TWY	**Chenhua**	**1.25**	**319**	*e*P	**Pn**	**11 22 50.7**	**-0.6**
	baz=311						
TWS1	**Kuangyinshan**	**1.25**	**308**	*e*P	**Pn**	**11 22 51.7**	**+0.4**
	baz=308						
EHY	**Hungye**	**1.36**	**233**	*e*P	**Pn**	**11 22 51.9**	**-0.7**
	baz=230						
EHY				*e*S	**Sn**	**11 23 08.7**	**-1.2**
	baz=230						
NCU	**National Centr**	**1.36**	**298**	*e*P	**Pn**	**11 22 52.4**	**-0.3**
	baz=298						
NCU				*e*S	**Sn**	**11 23 10.3**	**+0.3**
	baz=298						
JKRS	**Kuro-shima**	**1.38**	**93**	P	**Pn**	**11 22 53.0**	**+0.1**
JKRS				S	**Sn**	**11 23 11.0**	**+0.7**
WDT	**Danda**	**1.38**	**246**	⇓*i*P	**Pn**	**11 22 53.1**	**-0.1**
	baz=236						
WDT				*e*S	**Sn**	**11 23 10.3**	**-0.6**
	baz=236						
NSTT	**Nanjuang**	**1.40**	**283**	*e*P	**Pn**	**11 22 53.4**	**+0.1**
	baz=280						
NSTT				*e*S	**Sn**	**11 23 11.1**	**+0.1**
	baz=280						
TWF1	**Yuli**	**1.47**	**229**	⇓*i*P	**Pn**	**11 22 53.8**	**-0.4**
	baz=235						
TWF1				*e*S	**Sn**	**11 23 11.6**	**-1.1**
	baz=235						
JIJ	**Ishigaki jima**	**1.49**	**88**	P	**Pn**	**11 22 54.1**	**-0.3**
JIJ				S	**Sn**	**11 23 12.1**	**-1.0**
SMLT	**Sun Moon Lake**	**1.53**	**254**	*e*P	**Pn**	**11 22 55.5**	**+0.4**
	baz=247						
SMLT				*e*S	**Sn**	**11 23 14.4**	**+0.1**
	baz=247						
TYC	**Yuchr**	**1.56**	**255**	*e*P	**Pn**	**11 22 55.8**	**+0.5**
	baz=248						
TYC				*e*S	**Sn**	**11 23 14.5**	**-0.3**
	baz=248						
TWQ1	**Liyutan**	**1.58**	**271**	*e*P	**Pn**	**11 22 56.0**	**+0.4**
	baz=268						
TWQ1				*e*S	**Sn**	**11 23 15.4**	**+0.2**
	baz=268						
CHKT	**Chengkung**	**1.61**	**221**	*e*P	**Pn**	**11 22 55.0**	**-1.0**
	baz=214						
CHKT				*e*S	**Sn**	**11 23 14.1**	**-1.8**
	baz=214						
YUS	**Yu-Shan**	**1.65**	**240**	P	**Pn**	**11 22 57.0**	**0.0**
	baz=231						
YUS				S	**Sn**	**11 23 16.8**	**-0.8**
	baz=231						
JISG	**Ishigakijimahi**	**1.67**	**81**	P	**Pn**	**11 22 56.3**	**-0.4**
JISG				S	**Sn**	**11 23 16.2**	**-1.0**
TCU	**Taichung**	**1.68**	**264**	*e*P	**Pn**	**11 22 56.7**	**-0.2**
	baz=272						
TCU				*e*S	**Sn**	**11 23 18.3**	**+0.7**
	baz=272						
ALS	**Alishan**	**1.76**	**243**	*e*P	**Pn**	**11 22 58.6**	**+0.3**
	baz=234						
ALS				*e*S	**Sn**	**11 23 19.6**	**-0.3**
	baz=234						
ELDTW	**Lidau**	**1.77**	**231**	P	**Pn**	**11 22 57.9**	**-0.5**
	baz=224						
ELDTW				*e*S	**Sn**	**11 23 18.7**	**-1.3**
	baz=224						
CHN5	**Tsauling**	**1.82**	**247**	*e*P	**Pn**	**11 23 00.1**	**+1.1**
	baz=237						
CHN5				*e*S	**Sn**	**11 23 22.4**	**+1.2**
	baz=237						
WGK	**Gukeng**	**1.89**	**251**	*e*P	**Pn**	**11 22 59.8**	**0.0**
	baz=248						
WGK				*e*S	**Sn**	**11 23 25.1**	**+2.5**
	baz=248						
STYT	**Tauyuan**	**1.98**	**234**	*e*P	**Pn**	**11 23 01.3**	**+0.3**
	baz=228						
STYT				*e*S	**Sn**	**11 23 25.6**	**+0.7**
	baz=228						
TWG	**Pinlang**	**2.00**	**222**	*e*P	**Pn**	**11 23 00.1**	**-1.1**
	baz=219						
TWG				*e*S	**Sn**	**11 23 24.1**	**-1.1**
	baz=219						
CHN4	**Tsaushan**	**2.00**	**241**	*e*P	**Pn**	**11 23 02.1**	**+0.8**
	baz=232						
CHN4				*e*S	**Sn**	**11 23 26.3**	**+0.9**
	baz=232						
JTJ	**Tarama**	**2.02**	**81**	P	**Pn**	**11 23 01.4**	**-0.2**
JTJ				S	**Sn**	**11 23 25.7**	**-0.2**
WTP	**Ta-pu**	**2.04**	**239**	*e*P	**Pn**	**11 23 02.6**	**+0.8**
	baz=229						
WTP				*e*S	**Sn**	**11 23 27.9**	**+1.6**
	baz=229						
CHY	**Chiayi**	**2.08**	**247**	*e*P	**Pn**	**11 23 02.9**	**+0.7**
	baz=244						
CHY				*e*S	**Sn**	**11 23 28.3**	**+1.2**
	baz=244						
TWK	**Hsinying**	**2.13**	**241**	*e*P	**Pn**	**11 23 03.9**	**+0.9**
	baz=238						
TWK				*e*S	**Sn**	**11 23 29.2**	**+0.7**
	baz=238						
CHN1	**Nanshi**	**2.14**	**238**	*e*P	**Pn**	**11 23 04.2**	**+1.0**
	baz=236						
CHN1				*e*S	**Sn**	**11 23 29.7**	**+1.0**
	baz=236						
SGST	**Jiashian**	**2.15**	**235**	*e*P	**Pn**	**11 23 04.0**	**+0.7**
	baz=233						
SGST				*e*S	**Sn**	**11 23 30.6**	**+1.5**
	baz=233						
SSD	**Sandimen**	**2.33**	**228**	*e*P	**Pn**	**11 23 07.6**	**+1.9**
	baz=226						
SSD				*e*S	**Sn**	**11 23 35.4**	**+2.0**
	baz=226						
EAST	**Anshuo**	**2.46**	**219**	*e*P	**Pn**	**11 23 07.6**	**0.0**
	baz=217						
EAST				*e*S	**Sn**	**11 23 35.4**	**-1.2**
	baz=217						
JIRB	**Irabujima**	**2.48**	**78**	P	**Pn**	**11 23 07.6**	**-0.1**
JIRB				S	**Sn**	**11 23 35.8**	**-1.1**
JIKM	**Ikemajima**	**2.56**	**76**	*e*S	**Sn**	**11 23 38.8**	**-0.2**
SCZT	**Fangliau**	**2.61**	**222**	*e*P	**Pn**	**11 23 10.6**	**+1.1**
	baz=231						
SCZT				*e*S	**Sn**	**11 23 39.2**	**-0.9**
	baz=231						
JOGS	**Gusukube**	**2.68**	**80**	P	**Pn**	**11 23 10.7**	**+0.3**
JOGS				*e*S	**Sn**	**11 23 41.6**	**-0.1**
PNG	**Penghu**	**2.80**	**255**	*e*P	**Pn**	**11 23 11.5**	**-0.6**
	baz=252						
PNG				*e*S	**Sn**	**11 23 41.9**	**-2.9**
	baz=252						

*CSEM **01** 11:34:10.2, 37˚.23N×28˚.15E, h5km, MD2.7*

ISK 01 11:34:10.2, 37˚23N×28˚15E, h5km**, MD2.7, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.14**	**131**	*e*PG	Pg	11 34 13.6	+0.5
YER				*e*SG	Sg	11 34 16.1	+1.0
YER	**Yerkesik**	**0.14**	**131**	*e*Pg	Pg	11 34 13.6	+0.5
YER				*e*Sg	Sg	11 34 16.1	+1.0
DALY	**Dalyan (Mu˘la**	**0.57**	**135**	*e*PG	Pb	11 34 22.5	-0.2
DALY	**Dalyan (Mu˘la**	**0.57**	**135**	*e*Pg	Pb	11 34 22.5	-0.2
BODT	**Bodrum**	**0.69**	**257**	*e*PG	Pb	11 34 24.8	+0.1
BODT				*e*SG	Sb	11 34 35.0	+0.3
BODT	**Bodrum**	**0.69**	**257**	*e*Pg	Pb	11 34 24.8	0.0
BODT				*e*Sg	Sb	11 34 35.0	+0.4
AYDB	**Zeytinkoy-Aydi**	**0.75**	**344**	*e*PG	Pb	11 34 25.6	-0.3
AYDB	**Zeytinkoy-Aydi**	**0.75**	**344**	*e*Pg	Pb	11 34 25.6	-0.3

*IDC **01** 11:42:22.6±1.0, 13˚.91S×166˚.62E, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.0/20, mbtmp4.1/8, ML4.0/1, MS3.6/5, Ms1 3.6/5, ms1mx3.1/29, Error ellipse: s-maj=31.4km s-min=21.2km az=116.0*
*ISCJB **01** 11:42:27.2±1.1, 14˚.15S±0˚.09×166˚.6E±0˚.2, h43km, mb4.1/7, MS3.6/5, Error ellipse: s-maj=22.4km s-min=12.7km az=171.4*
*NEIC **01** 11:42:28.0±0.6, 14˚.02S×166˚.59E, h35km, mb4.3/2, Error ellipse: s-maj=15.9km s-min=12.6km az=119.0*

ISC 01 11:42:28.9±1.0**, 14˚01S**±0˚.09×**166˚6E**±0˚.2**, h43**km**, n17, σ1s48/16, mb4.0/7, MS3.6/5, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.02**	**181**	*e*Pn	**Pn**	**11 44 21.9**	**-1.1**
	29nm,0.4s						
DZM				*e*Sn	**Sn**	**11 45 50.3**	**-2.1**
	55nm,0.6s						
DZM				*e*LR	LR	11 46 21.0	
	387nm,26.6s						
DZM	**Mont Dzumac**	**8.02**	**181**	Pn	**Pn**	**11 44 21.2**	**-1.7**
	2.1nm,0.3s,baz=270,slow=20,SNR=21						
DZM				Sn	**Sn**	**11 45 56.1**	**+3.7**
	1.3nm,0.3s,baz=270,slow=23,SNR=3.9						
CTA	**Charters Tower**	**20.35**	**250**	P	**P**	**11 47 01.3**	**-0.6**
	7.7nm,0.9s,baz=75,slow=16,SNR=5.4						
CTAO	**Charters Tower**	**20.35**	**250**	*e*P	**P**	**11 47 01.2**	**-0.6**
	8.1nm,0.9s						
STKA	**Stephens Creek**	**28.97**	**228**	P	**P**	**11 48 25.6**	**+1.1**
	5.8nm,0.7s,baz=62,slow=8.7,SNR=11						
STKA				LR	LR	12 00 11.1	
	comp=Z,117nm,18.1s,baz=34,slow=37						
WRAB	**Tennant Creek**	**31.36**	**255**	*e*P	**P**	**11 48 45.3**	**-0.4**
	13nm,1.5s						
WRA	**Warramunga Arr**	**31.37**	**255**	P	**P**	**11 48 45.5**	**-0.3**
	1.2nm,0.5s,baz=86,slow=9.4,SNR=25						
ASAR	**Alice Springs**	**32.32**	**248**	P	**P**	**11 48 54.0**	**-0.2**
	3.0nm,0.5s,baz=73,slow=9.5,SNR=72						
ASAR				LR	LR	12 01 18.1	
	comp=Z,78nm,20.1s,baz=84,slow=35						
RAR	**Rarotonga**	**32.80**	**107**	LR	LR	11 59 35.0	
	comp=Z,112nm,19.7s,baz=351,slow=32						
PPT2	**Papeete2**	**42.26**	**101**	*e*LR	LR	12 02 22.0	
	82nm,25.5s						
VNDA	**Vanda**	**63.56**	**181**	P	**P**	**11 52 55.1**	**+0.5**
	0.8nm,0.7s,baz=354,slow=7.4,SNR=7.3						
SONM	**Songino Array**	**81.53**	**324**	P	**P**	**11 54 42.4**	**+0.4**
	0.3nm,0.5s,baz=133,slow=6.3,SNR=2.7						
ILAR	**Eielson Array**	**86.05**	**18**	P	**P**	**11 55 04.2**	**-0.4**
	0.4nm,0.5s,baz=238,slow=4.8,SNR=12						
ILAR				LR	LR	12 27 18.2	
	comp=Z,33nm,20.4s,baz=218,slow=31						
INK	**Inuvik**	**92.42**	**19**	LR	LR	12 32 18.9	
	comp=Z,28nm,20.1s,baz=234,slow=32						
ARCES	**ARCESS Array B**	**119.39**	**345**	PKP	**PKPdf**	**12 01 12.0**	**-1.1**
	0.8nm,0.5s,baz=62,slow=2.1,SNR=6.7						
FINES	**FINESS Array B**	**124.81**	**338**	PKP	**PKPdf**	**12 01 23.8**	**+0.2**
	1.4nm,0.9s,baz=50,slow=3.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**165.29**	**268**	PKP	**PKPdf**	**12 02 31.0**	**+1.4**
	0.2nm,0.5s,baz=95,slow=1.8,SNR=3.2						

IDC 01 11:53:26.3±2.6**, 14˚10N**×**144˚52E, h147**km±20km**, mb3.1**/3**, mb1 3.4**/3**, mb1mx3.0**/31**, mbtmp3.5**/3**, Error ellipse: s-maj=132.1km s-min=21.2km az=110.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.61**	**146**	P	Pn	11 53 49.8	+1.8
	60nm,0.3s,baz=322,slow=3.9,SNR=41						
GUMO				S	Sn	11 54 05.1	+0.6
	75nm,0.3s,baz=169,slow=23,SNR=7.8						
WRA	**Warramunga Arr**	**35.28**	**197**	P	P	12 00 07.2	-0.1
	0.6nm,0.5s,baz=17,slow=8.9,SNR=12						
ASAR	**Alice Springs**	**38.95**	**196**	P	P	12 00 37.9	-0.2
	0.3nm,0.7s,baz=14,slow=6.4,SNR=11						
ILAR	**Eielson Array**	**68.25**	**25**	P	P	12 04 10.4	-0.5
	0.2nm,0.4s,baz=253,slow=6.0,SNR=6.4						

*ISCJB **01** 12:01:00.3±0.8, 26˚.41S±0˚.03×27˚.56E±0˚.04, h7km±4km, mb4.1/5, Error ellipse: s-maj=6.6km s-min=4.7km az=4.2*
*PRE **01** 12:01:01.2±1.9, 26˚.43S×27˚.53E, h2km, ML3.5*
*IDC **01** 12:01:01.9±1.0, 26˚.40S×27˚.56E, h0km, mb4.1/5, mb1 4.2/9, mb1mx3.8/29, mbtmp4.2/9, ML3.4/3, Error ellipse: s-maj=21.8km s-min=14.5km az=66.0*

ISC 01 12:01:01.7±1.2**, 26˚44S**±0˚.03×**27˚51E**±0˚.05**, h6**km±6km**,**

n25, σ1s49/43, mb4.2/5, 3C-1D, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WDLM	**Western Deep L**	**0.08**	**280**	⇑*i*P	**Pg**	**12 01 03.7**	**-0.1**
WDLM				*e*S	**Sg**	**12 01 04.5**	**-0.7**
WDLM				AML	AML	12 01 09.0	
	comp=Z,9μm,0.3s						
PRYS	**Parys**	**0.50**	**195**	*e*P	**Pb**	**12 01 13.0**	**-0.1**
PRYS				*e*S	**Sb**	**12 01 20.2**	**-0.5**
PRYS				AML	AML	12 01 24.6	
	comp=Z,1μm,0.7s						
BFSD	**Buffelsfontein**	**0.78**	**237**	⇑*i*P	**Pg**	**12 01 16.4**	**-0.2**
BFSD				*e*S	**Sb**	**12 01 27.6**	**-0.9**
BFSD				AML	AML	12 01 38.7	
	comp=Z,947nm,0.5s						
KSR	**Koster**	**0.80**	**317**	*e*P	**Pg**	**12 01 16.3**	**-0.9**
KSR				*e*S	**Sg**	**12 01 27.8**	**+0.2**
KSR				AML	AML	12 01 36.4	
	comp=Z,256nm,0.4s						
MOAB	**Moab Khotsong**	**0.84**	**229**	⇑*i*P	**Pg**	**12 01 17.7**	**-0.2**
MOAB				*e*S	**Sb**	**12 01 29.7**	**-0.7**
MOAB				AML	AML	12 01 41.0	
	comp=Z,607nm,0.7s						
TLEK	**Tau Lekoa**	**0.91**	**235**	*e*P	**Pg**	**12 01 19.1**	**-0.1**
TLEK				*e*S	**Sg**	**12 01 31.8**	**+0.6**
TLEK				AML	AML	12 01 43.5	
	comp=Z,982nm,0.8s						
SWZ	**Schweizer**	**2.08**	**249**	*e*P	**Pn**	**12 01 38.2**	**+0.9**
SWZ				*e*S	**Sn**	**12 02 04.4**	**+0.7**
SWZ				AML	AML	12 02 08.6	
	comp=Z,943nm,0.3s						
LBTB	**Lobatse**	**2.23**	**309**	*e*P	**Pb**	**12 01 41.9**	**-0.7**
LBTB				*e*S	**Sn**	**12 02 08.1**	**+0.8**
LBTB				AML	AML	12 02 13.2	
	comp=Z,1μm,0.3s						
LBTB	**Lobatse**	**2.23**	**309**	Pg	**Pb**	**12 01 43.4**	**+0.8**
	comp=Z,139nm,0.3s,baz=135,slow=16,SNR=477						
LBTB				Lg	Lg	12 02 13.0	
	comp=Z,284nm,0.3s,baz=36,slow=19,SNR=46						
BOSA	**Boshof**	**2.95**	**222**	⇓*i*P	**Pn**	**12 01 50.3**	**+1.0**
BOSA				*e*S	**Sn**	**12 02 25.2**	**+0.1**
BOSA				AML	AML	12 02 33.4	
	comp=Z,49nm,0.4s						
BOSA	**Boshof**	**2.95**	**222**	Pn	**Pn**	**12 01 50.3**	**+1.0**
	comp=Z,14nm,0.3s,baz=45,slow=15,SNR=155						
BOSA				Pg	**Pg**	**12 01 58.0**	**-0.3**
	comp=Z,23nm,0.3s,baz=42,slow=17,SNR=36						
BOSA				Sn	**Sn**	**12 02 25.2**	**+0.1**
	comp=Z,10nm,0.3s,baz=320,slow=17,SNR=9.8						
BOSA				Lg	Lg	12 02 32.5	
	comp=Z,34nm,0.3s,baz=308,slow=19,SNR=6.7						
KSD	**Kokstad**	**4.42**	**158**	*e*P	**Pn**	**12 02 10.1**	**+0.7**
KSD				*e*S	**Sn**	**12 02 58.9**	**-2.4**
KSD				AML	AML	12 03 24.3	
	comp=Z,37nm,0.6s						
UPI	**Upington**	**5.88**	**250**	*e*P	**Pn**	**12 02 29.3**	**-0.2**
UPI				*e*S	**Sn**	**12 03 34.8**	**-2.5**
UPI				AML	AML	12 04 11.6	
	comp=Z,58nm,0.5s						
MATP	**Matopo**	**6.05**	**9**	Pn	**Pn**	**12 02 32.6**	**+0.7**
	comp=Z,7.5nm,0.3s,baz=187,slow=15,SNR=11						
MATP				Sn	**Sn**	**12 03 37.8**	**-3.9**
	comp=Z,4.6nm,0.3s,baz=145,slow=12,SNR=6.5						
MATP				Lg	Lg	12 04 08.3	
	comp=Z,8.2nm,0.3s,baz=107,slow=20,SNR=21						
SOE	**Somerset East**	**6.48**	**195**	*e*P	**Pn**	**12 02 37.8**	**+0.2**
SOE				*e*S	**Sn**	**12 03 49.2**	**-2.8**
SOE				AML	AML	12 03 52.2	
	comp=Z,17nm,0.3s						
BUFB	**Buffelsbos**	**8.05**	**197**	*e*P	**Pn**	**12 02 59.4**	**+0.2**
BUFB				*e*S	**Sn**	**12 04 26.4**	**-4.1**
BUFB				AML	AML	12 04 29.7	
	comp=Z,3.3nm,0.1s						
KOMG	**Komaggas**	**9.46**	**247**	*e*P	**Pn**	**12 03 20.0**	**+1.4**
KOMG				*e*S	**Sn**	**12 05 01.6**	**-3.8**
KOMG				AML	AML	12 06 09.8	
	comp=Z,26nm,0.5s						
LSZ	**Lusaka**	**11.12**	**3**	Pn	**Pn**	**12 03 40.9**	**-0.6**
	comp=Z,1.9nm,0.3s,baz=188,slow=13,SNR=5.8						
LSZ				Sn	Sn	12 05 38.2	-8.2
	comp=Z,1.2nm,0.3s,baz=252,slow=19,SNR=3.5						
TSUM	**Tsumeb**	**11.64**	**306**	Pn	**Pn**	**12 03 49.2**	**+0.6**
	comp=Z,1.6nm,0.3s,baz=134,slow=14,SNR=16						
TSUM				Sn	**Sn**	**12 05 58.7**	**-0.4**
	baz=277,slow=19,SNR=2.7						
TSUM				Lg	Lg	12 07 03.0	
	comp=Z,1.4nm,0.3s,baz=240,slow=20,SNR=5.3						
DBIC	**Dimbokro**	**45.48**	**312**	P	**P**	**12 09 23.1**	**+1.1**
	comp=Z,6.6nm,1.1s,baz=144,slow=8.7,SNR=3.2						
TORD	**Torodi Ar. Bea**	**46.67**	**324**	P	**P**	**12 09 32.3**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=139,slow=6.7,SNR=18						
QSPA	**South Pole Qui**	**63.75**	**180**	P	**P**	**12 11 35.0**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=285,slow=3.3,SNR=15						
ESDC	**Sonseca Array**	**72.03**	**335**	P	**P**	**12 12 27.2**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=155,slow=6.1,SNR=4.2						
FINES	**FINESS Array B**	**87.57**	**359**	P	**P**	**12 13 51.6**	**+1.6**
	comp=Z,1.2nm,0.8s,baz=174,slow=4.2,SNR=5.6						
NVAR	**Mina Array Bea**	**148.94**	**301**	PKPbc	**PKPab**	**12 20 53.4**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=344,slow=38,SNR=3.5						

*ISCJB **01** 12:02:13.3±0.4, 15˚.42S±0˚.09×173˚.30W±0˚.10, h10km, mb4.2/20, MS3.5/6, Error ellipse: s-maj=16.1km s-min=9.1km az=43.2*
*IDC **01** 12:02:13.6±0.7, 15˚.37S×173˚.34W, h0km, mb4.1/11, mb1 4.3/12, mb1mx4.1/25, mbtmp4.1/12, ML3.2/1, MS3.5/6, Ms1 3.5/6, ms1mx3.1/27, Error ellipse: s-maj=28.9km s-min=16.5km az=138.0*
*NEIC **01** 12:02:14.9±0.3, 15˚.41S×173˚.28W, h10km, mb4.3/9, Error ellipse: s-maj=11.2km s-min=6.9km az=133.0*

ISC 01 12:02:14.8±0.6**, 15˚4S**±0˚.1×**173˚3W**±0˚.1**, h10**km**, n42, σ0s72/26, mb4.3/20, MS3.6/6, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.08**	**44**	*e*

1.6nm,0.8s,baz=291,slow=5.8,SNR=7.8
TPH Tonopah 74.76 43 *e*P **P 12 13 55.9 +0.4**
3.4nm,1.1s
MSU Marysvale 78.35 45 *e*P **P 12 14 16.4 +0.5**
2.6nm,1.0s
HLID Hailey 79.56 39 *e*P **P 12 14 23.0 +0.7**
4.6nm,0.9s
TXAR Lajitas Array 80.52 56 P **P 12 14 28.9 +1.1**
1.4nm,1.0s,baz=208,slow=5.0,SNR=6.7
PV01 Paradox Valley 80.64 46 *e*P **P 12 14 28.5 +0.1**
150nm,0.7s
MCMT McKenzie Canyo 81.19 39 *e*P **P 12 14 30.8 -0.4**
3.0nm,1.1s
REDW Red Top Meadow 81.67 41 *e*P **P 12 14 34.4 +0.7**
3.9nm,1.3s
BSMT Bassoo Peak 81.70 35 *e*P **P 12 14 33.2 -0.5**
3.8nm,1.0s
CHMT Chamberlain Mo 82.06 37 *e*P **P 12 14 35.4 -0.3**
1.9nm,0.9s
PDAR Pinedale Array 82.19 42 P **P 12 14 36.6 +0.1**
1.4nm,0.9s,baz=211,slow=1.7,SNR=9.9
COLA College 82.35 11 *e*P **P 12 14 35.9 -0.6**
5.2nm,0.9s
ILAR Eielson Array 82.43 11 P **P 12 14 36.5 -0.5**
0.5nm,0.7s,baz=218,slow=6.0,SNR=10
ILAR LR LR 12 45 26.9
comp=Z,20nm,19.1s,baz=180,slow=32
ABTX Abilene, Hawle 84.97 54 P **P 12 14 50.1 -0.7**
4.3nm,0.8s
MAW Mawson 87.82 199 P **P 12 15 03.4 -0.6**
2.7nm,1.0s,baz=164,slow=5.9,SNR=3.5
INK Inuvik 88.25 14 LR LR 12 47 10.7
comp=Z,26nm,20.1s,baz=282,slow=31
MLR Muntele Rosu 145.93 336 PKPbc **PKPab 12 21 55.8 +0.4**
0.5nm,0.6s,baz=172,slow=7.1,SNR=3.0
GERES GERESS Array B 146.17 352 PKPbc **PKPbc 12 21 55.6 +0.1**
0.3nm,0.2s,baz=18,slow=3.4,SNR=7.5
BRTR Keskin Array B 146.24 321 PKPbc **PKPab 12 21 57.3 +0.5**
2.3nm,0.8s,baz=86,slow=1.8,SNR=8.4

*NNC **01** 12:08:43.6±2.3, 39°.43N×73°.25E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=26.7km s-min=9.2km az=126.0*
ISC 01 12:08:45.0±1.8, **39°.61N**±0°.10×**73°.23E**±0°.08, **h29**km, **n14,** σ1**$33**/17, **7C-8D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.45**	**27**	⇓P	**Pb**	**12 08 55.4**	**+0.5**
	16nm,0.2s						
SFK				⇑S	**Sn**	**12 09 04.5**	**+1.4**
	103nm,0.2s						
AML	**Almayashu**	**2.54**	**8**	P	**Pb**	**12 09 32.4**	**+2.1**
	SNR=7.0						
UCH	**Uchtor**	**2.79**	**20**	P	**Pb**	**12 09 35.6**	**+1.1**
	SNR=16						
KZA	**Kyzart**	**2.90**	**31**	P	**Pb**	**12 09 37.1**	**+0.7**
	SNR=20						
EKS2	**Erkin-Say**	**3.08**	**8**	P	**Pb**	**12 09 39.6**	**+0.5**
	SNR=7.5						
AAK	**Ala-Archa**	**3.17**	**17**	P	**Pb**	**12 09 41.2**	**+0.4**
	SNR=17						
AAK	**Ala-Archa**	**3.17**	**17**	⇑Pn	**Pb**	**12 09 40.9**	**+0.2**
	19nm,0.5s						
AAK				⇑Sn	**Sb**	**12 10 20.4**	**+1.4**
	18nm,0.6s						
KBK	**Karagaybulak**	**3.31**	**23**	P	**Pb**	**12 09 43.3**	**+0.1**
	SNR=6.0						
DZET	**Dzherino**	**3.52**	**258**	⇓Pn	**Pn**	**12 09 36.8**	**-1.0**
	12nm,0.7s						
DZET				⇑Pg	**Pb**	**12 09 47.9**	**+1.3**
	15nm,0.5s						
DZET				⇑Lg	Lg	12 10 35.4	
	100nm,0.7s						
CHMS	**Chumysh**	**3.57**	**18**	P	**Pb**	**12 09 46.4**	**-1.2**
	SNR=13						
TKM2	**Tokmak 2**	**3.76**	**28**	⇓Pn	**Pb**	**12 09 48.5**	**-2.2**
	7.3nm,0.8s						
TKM2				⇓Lg	Lg	12 10 48.1	
	13nm,0.7s						
KK31	**Karatay Array**	**4.05**	**330**	⇓Pn	Pb	12 09 51.3	-4.3
	1.1nm,0.3s,baz=141,slow=12,SNR=42						
KK31				⇓Sn	**Sb**	**12 10 41.9**	**-2.2**
	3.8nm,0.3s,baz=166,slow=26,SNR=5.2						
KK31				⇑Lg	Lg	12 10 58.2	
	13nm,0.5s						
PDGK	**Podgornoye**	**5.99**	**50**	⇓Lg	Lg	12 11 54.0	
	8.0nm,0.8s						
AB31	**Akbulak array**	**13.51**	**320**	⇑Pn	**Pn**	**12 11 54.4**	**-0.2**
	0.4nm,0.5s,baz=125,slow=13,SNR=7.1						
AB31				⇓Sn	**Sn**	**12 14 24.0**	**+0.3**
	0.8nm,0.7s,baz=126,slow=26,SNR=4.6						

*ISCJB **01** 12:24:05.0±0.6, 51°.6N±0°.1×177°.11W±0°.05, h58km±5km, mb4.2/15, MS3.0/1, Error ellipse: s-maj=17.8km s-min=3.9km az=170.5*
*NEIC **01** 12:24:04.2, 51°.43N×177°.05W, h41km, mb4.2/9, ML4.0(AEIC), After AEIC.*
*IDC **01** 12:24:06.7±2.8, 51°.48N×177°.16W, h56km±23km, mb3.6/10, mb1 3.9/11, mb1mx3.6/31, mbtmpb3.9/11, ML3.5/1, MS3.0/3, Ms1 3.0/3, ms1mx2.5/40, Error ellipse: s-maj=29.8km s-min=16.5km az=173.0*
ISC 01 12:24:04.9±0.8, **51°.49N**±0°.10×**177°.08W**±0°.04, **h43**km±6km, **n57,** σ1**$03**/59, **mb4.1**/17, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIKV	**Kanaga Island**	**0.39**	**352**	P	**Pn**	**12 24 14.6**	**+0.1**
KIRH	**Kanaga Island**	**0.41**	**359**	P	**Pn**	**12 24 14.9**	**+0.2**
KICM	**Kanaga Island**	**0.43**	**350**	P	**Pn**	**12 24 15.2**	**+0.3**
ETKA	**Kagalaska Isla**	**0.56**	**48**	P	**Pn**	**12 24 16.4**	**-0.2**
ADAG	**Mount Adagdak**	**0.57**	**31**	P	**Pn**	**12 24 17.3**	**+0.5**
TASE	**Tanaga Southea**	**0.69**	**300**	P	**Pn**	**12 24 18.8**	**+0.4**
TAFP	**Tanaga Falls P**	**0.69**	**306**	P	**Pn**	**12 24 18.4**	**+0.1**
GSCK	**Great Sitkin C**	**0.77**	**47**	P	**Pn**	**12 24 19.6**	**+0.2**
TANO	**Tanaga North**	**0.78**	**304**	P	**Pn**	**12 24 20.0**	**+0.6**
GSTD	**Great Sitkin T**	**0.81**	**45**	P	**Pn**	**12 24 20.0**	**0.0**
GSTD				S	**Sn**	**12 24 31.7**	**+0.8**
GSMY	**Great Sitkin M**	**0.84**	**49**	P	**Pn**	**12 24 20.4**	**+0.1**
GSTR	**Great Sitkin T**	**0.87**	**46**	*e*Pg	**Pn**	**12 24 21.2**	**+0.4**
GAEA	**Gareloi East**	**1.08**	**286**	P	**Pn**	**12 24 24.1**	**+0.5**
GALAA	**Gareloi Lava P**	**1.09**	**285**	P	**Pn**	**12 24 24.2**	**+0.5**
CERAA	**Semis' Rag'd T**	**2.06**	**283**	P	**Pn**	**12 24 37.6**	**+0.6**
CERAA				S	**Sn**	**12 25 04.5**	**+3.1**
CESW	**Semis' Southwe**	**2.13**	**282**	P	**Pn**	**12 24 38.3**	**+0.3**
CESW				S	**Sn**	**12 25 04.0**	**+0.9**
CEAP	**Semis' Anvil P**	**2.14**	**285**	P	**Pn**	**12 24 38.6**	**+0.5**
CETU	**Semis' Tuman**	**2.18**	**284**	P	**Pn**	**12 24 39.3**	**+0.6**
AMKA	**Amchitka**	**2.27**	**269**	P	**Pn**	**12 24 40.0**	**+0.1**
AMKA				S	**Sn**	**12 25 07.0**	**+0.4**
LSPA	**Little Sitkin**	**2.74**	**281**	P	**Pn**	**12 24 47.1**	**+0.7**
LSPA				S	**Sn**	**12 25 19.0**	**+0.7**
LSSA	**Little Sitkin**	**2.78**	**281**	P	**Pn**	**12 24 47.2**	**+0.3**
LSNW	**Little Sitkin**	**2.78**	**282**	P	**Pn**	**12 24 47.2**	**+0.3**
NIKH	**Nikolski High**	**5.27**	**70**	P	**Pn**	**12 25 23.1**	**+2.1**
SMY	**Shemya**	**5.58**	**286**	P	**Pn**	**12 25 24.8**	**-0.4**
OKTU	**Okmok Mt. Tuli**	**5.84**	**68**	P	**Pn**	**12 25 32.0**	**+3.0**
UNV	**Unalaska Valle**	**6.85**	**66**	P	**Pn**	**12 25 45.1**	**+2.4**
SPIA	**Saint Paul Isl**	**6.96**	**32**	P	**Pn**	**12 25 46.7**	**+2.6**
KDAK	**Kodiak Island**	**15.46**	**56**	*e*Pn	**Pn**	**12 27 39.1**	**-0.6**
	7.3nm,0.4s						
PETK	**Petropavlovsk-**	**15.49**	**286**	LR	LR	12 33 32.1	
	comp=Z,32nm,19.0s,baz=95,slow=37						
TRF	**Thorofare Moun**	**18.55**	**40**	*e*P	**P**	**12 28 17.9**	**0.0**
	19nm,1.1s						
SEY	**Seymchan**	**19.89**	**317**	P	**Pn**	**12 28 33.8**	**-0.4**
	0.1nm,0.3s,baz=105,slow=12,SNR=13						
SEY				LR	LR	12 35 37.6	
	comp=Z,54nm,20.3s,baz=136,slow=35						
PAX	**Paxson**	**20.36**	**43**	*e*P	**P**	**12 28 36.6**	**-1.0**
	6.0nm,1.1s						
ILAR	**Eielson Array**	**20.49**	**38**	P	**P**	**12 28 39.5**	**+0.7**
	0.3nm,0.4s,baz=227,slow=10,SNR=15						
ILAR				ScP	**ScP**	**12 36 19.9**	**-1.5**
	0.3nm,0.6s,baz=241,slow=3.0,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**34.11**	**208**	T	T	13 07 04.1	
	baz=18,slow=76,SNR=490						
H11N3	**WAKE ISLAND Hy**	**34.12**	**208**	T	T	13 07 00.7	
	baz=18,slow=76,SNR=466						
H11N1	**WAKE ISLAND Hy**	**34.13**	**208**	T	T	13 07 04.4	
	baz=18,slow=76,SNR=464						
H11S1	**WAKE ISLAND Hy**	**35.33**	**207**	T	T	13 08 42.6	
	baz=18,slow=76,SNR=252						
H11S2	**WAKE ISLAND Hy**	**35.34**	**207**	T	T	13 08 37.7	
	baz=18,slow=76,SNR=367						
H11S3	**WAKE ISLAND Hy**	**35.34**	**207**	T	T	13 08 38.9	
	baz=18,slow=76,SNR=199						
YBH	**Yreka Blue Hor**	**37.80**	**83**	P	**P**	**12 31 18.7**	**+1.7**
	2.7nm,1.0s,baz=331,slow=5.4,SNR=3.8						
NEW	**Newport**	**37.83**	**71**	P	**P**	**12 31 17.8**	**+0.7**
	4.0nm,0.6s,baz=308,slow=7.0,SNR=7.0						
NEW	**Newport**	**37.83**	**71**	*e*P	**P**	**12 31 16.8**	**-0.3**
	3.5nm,0.7s						
BSMT	**Bassoo Peak**	**39.40**	**70**	*e*P	**P**	**12 31 30.1**	**-0.4**
	3.0nm,0.6s						
SLMT	**Seeley Lake**	**40.47**	**70**	*e*P	**P**	**12 31 38.8**	**-0.4**
	2.5nm,0.8s						
KSRS	**Korea Array**	**40.71**	**272**	LR	LR	12 45 47.7	
	comp=Z,21nm,21.2s,baz=220,slow=32						
NVAR	**Mina Array Bea**	**42.47**	**84**	P	**P**	**12 31 57.1**	**+1.3**
	1.4nm,0.7s,baz=288,slow=8.5,SNR=12						
NVAR				PcP	**PcP**	**12 33 48.4**	**+0.4**
	0.3nm,0.6s,baz=324,slow=2.8,SNR=3.5						
RLMT	**Red Lodge**	**44.08**	**70**	P	**P**	**12 32 07.8**	**-0.9**
	3.5nm,0.9s						
BW06	**Boulder Array**	**45.25**	**73**	*e*P	**P**	**12 32 18.3**	**+0.2**
	5.2nm,1.1s						
PDAR	**Pinedale Array**	**45.25**	**73**	P	**P**	**12 32 18.4**	**+0.4**
	2.5nm,0.7s,baz=322,slow=4.8,SNR=22						
PDAR				pP	**pP**	**12 32 28.9**	**-1.2**
	2.0nm,0.7s,baz=340,slow=5.0,SNR=9.2						
PDAR				sP	**sP**	**12 32 34.4**	**-0.8**
	1.1nm,0.7s,baz=316,slow=6.2,SNR=3.9						
SONM	**Songino Array**	**47.55**	**297**	P	**P**	**12 32 35.7**	**-0.2**
	0.4nm,0.6s,baz=57,slow=10,SNR=3.1						
SONM				ScP	**ScP**	**12 37 54.4**	**-1.3**
	0.5nm,0.6s,baz=20,slow=4.6,SNR=4.2						
PV01	**Paradox Valley**	**48.66**	**78**	*e*P	**P**	**12 32 44.7**	**-0.1**
	246nm,0.6s						
TXAR	**Lajitas Array**	**57.57**	**83**	P	**P**	**12 33 50.6**	**+0.3**
	1.7nm,0.7s,baz=303,slow=5.2,SNR=13						
BRVK	**Borovoye**	**61.51**	**321**	*e*P	**P**	**12 34 16.6**	**-0.3**
	13nm,0.8s						
WRA	**Warramunga Arr**	**82.85**	**225**	P	**P**	**12 36 23.8**	**-0.8**
	0.4nm,0.7s,baz=34,slow=5.9,SNR=3.5						
ASAR	**Alice Springs**	**86.31**	**224**	P	**P**	**12 36 42.2**	**+0.2**
	0.4nm,0.7s,baz=23,slow=5.5,SNR=8.3						
STKA	**Stephens Creek**	**90.62**	**214**	P	**P**	**12 37 02.8**	**+0.5**
	1.2nm,0.7s,baz=4.9,slow=4.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**115.62**	**1**	PKPbc	**PKPdf**	**12 42 41.3**	**-1.1**
	0.4nm,0.8s,baz=357,slow=3.1,SNR=4.1						

NNC 01 12:41:03.1±3.6, **36°.93N×71°.01E, h152**km±43km, **mb2.8, mpv3.8, 7C-2D, Error ellipse: s-maj=36.4km s-min=15.4km az=163.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.55**	**318**	⇓P	Pn	12 41 44.3	-0.8
	9.2nm,0.2s						
DZET				⇑S	Sn	12 42 18.2	+0.7
	84nm,0.6s						
SFK	**Sufi-Kurgan**	**3.65**	**32**	⇑P	Pn	12 41 58.6	-0.5
	19nm,0.4s						
SFK				⇑S	Sn	12 42 43.4	+0.8
	9.6nm,0.3s						
KK31	**Karatay Array**	**6.18**	**357**	⇑P	Pn	12 42 32.2	0.0
	4.0nm,0.4s,baz=184,slow=14,SNR=46						
KK31				⇑S	Sn	12 43 42.1	+0.2
	1.5nm,0.3s,baz=188,slow=25,SNR=8.3						
AAK	**Ala-Archa**	**6.29**	**24**	⇑P	Pn	12 42 36.9	+3.0
	1.2nm,0.3s						
AAK				⇓S	Sn	12 43 43.3	-1.7
	5.7nm,0.8s						
AB31	**Akbulak array**	**14.71**	**330**	⇑P	P	12 44 25.0	-0.8
	0.2nm,0.3s,baz=156,slow=11,SNR=14						

*ISCJB **01** 12:50:21.4±0.4, 8°.33S±0°.04×123°.59E±0°.04, h10km, mb3.9/5, MS3.0/7, Error ellipse: s-maj=6.5km s-min=4.9km az=139.8*
*IDC **01** 12:50:22.6±1.0, 8°.32S×123°.51E, h0km, mb3.8/5, mb1 4.0/8, mb1mx3.8/27, mbtmp4.0/8, ML3.8/3, MS3.2/12, Ms1 3.2/12, ms1mx3.0/28, Error ellipse: s-maj=41.6km s-min=18.6km az=70.0*
*NEIC **01** 12:50:26.5±0.6, 8°.41S×123°.50E, h35km, mb4.3/2, Error ellipse: s-maj=15.4km s-min=8.4km az=61.0*
NEIC Felt [III] at Lembata.
*DJA **01** 12:50:26.9±0.4, 8°.5±3°×12°.3E±°, h10km, M4.5/9, mb4.6/2, mB4.8/1, MLv4.4/9, Mw(mB)4.1/1*
ISC 01 12:50:24.1±0.7, **8°.24S**±0°.05×**123°.47E**±0°.07, **h10**km, **n33,** σ1**$83**/29, **mb4.0**/5, **MS2.9**/7, **Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.27**	**252**	P	**Pn**	**12 50 47.7**	**-0.3**
MMRI				S	**Sn**	**12 51 05.5**	**+0.4**
MMRI	**Maumere**	**1.27**	**252**	*e*Pn	**Pn**	**12 50 47.7**	**-0.3**
SOEI	**Soe**	**1.70**	**152**	P	**Pn**	**12 50 53.9**	**0.0**
SOEI				S	**Sg**	**12 51 23.2**	**+4.4**
SOEI	**Soe**	**1.70**	**152**	*e*Pn	**Pn**	**12 50 52.7**	**-1.2**
SOEI				*e*Sn	Sn	12 51 08.6	-7.2
WSI	**Waingapu**	**3.43**	**245**	P	**Pn**	**12 51 18.5**	**+0.8**
BSSI	**Bau Bau, Buton**	**3.62**	**305**	P	**Pn**	**12 51 19.7**	**-0.5**
BSSI				S	**Sn**	**12 52 02.2**	**-0.8**
WBSI	**Waikabubak, Su**	**4.26**	**251**	P	**Pn**	**12 51 29.3**	**+0.2**
KDI	**Kendari**	**4.34**	**349**	P	**Pn**	**12 51 31.0**	**+0.8**
BKSI	**Bulukumba**	**4.41**	**311**	P	**Pn**	**12 51 30.0**	**-1.1**
KAPI	**Kappang**	**4.89**	**311**	Pn	**Pn**	**12 51 37.9**	**+0.2**
	4.2nm,0.3s,baz=165,slow=2.1,SNR=18						
KAPI				Sn	**Sn**	**12 52 33.6**	**-0.8**
	2.2nm,0.3s,baz=344,slow=6.7,SNR=4.5						
KAPI				LR	LR	12 53 38.8	
	comp=Z,451nm,18.6s,baz=139,slow=40						
SPSI	**Sidrap Palu**	**5.62**	**319**	P	**Pn**	**12 51 48.1**	**+0.4**
	25nm,0.5s,0.1nm						
LUWI	**Luwuk**	**7.19**	**354**	*e*Pn	**Pn**	**12 52 11.3**	**+2.0**
	47nm,0.6s						
APSI	**Ampana**	**7.51**	**346**	P	**Pn**	**12 52 15.8**	**+2.1**
TNTI	**Ternate**	**9.77**	**24**	*e*Pn	**Pn**	**12 52 46.0**	**+1.3**
	38nm,1.0s						
FITZ	**Fitzroy Crossi**	**10.02**	**168**	*e*Pn	**Pn**	**12 52 46.6**	**-1.6**
	16nm,0.8s						
SIJI	**Sorong**	**10.68**	**47**	Pn	**Pn**	**12 52 57.9**	**+0.6**
	0.5nm,0.3s,baz=221,slow=8.8,SNR=7.9						
SIJI				LR	LR	12 57 05.1	
	comp=Z,188nm,19.7s,baz=224,slow=38						
WRA	**Warramunga Arr**	**15.69**	**139**	Pn	**Pn**	**12 54 01.0**	**-4.3**
	0.5nm,0.3s,baz=318,slow=13,SNR=27						
WRA				Sn	Sn	12 56 46.9	-13
	0.2nm,0.3s,baz=310,slow=23,SNR=6.3						
WRAB	**Tennant Creek**	**15.69**	**139**	*e*Pn	**Pn**	**12 54 01.2**	**-4.2**
	22nm,1.1s						
LEM	**Lembang**	**15.77**	**274**	LR	LR	13 00 54.1	
	comp=Z,186nm,18.8s,baz=42,slow=40						
JAY	**Jayapura**	**18.08**	**73**	LR	LR	13 03 38.4	
	comp=Z,56nm,20.0s,baz=11,slow=44						
ASAR	**Alice Springs**	**18.31**	**148**	P	**Pn**	**12 54 35.5**	**-2.9**
	0.5nm,0.3s,baz=316,slow=11,SNR=36						
ASAR				S	Sn	12 57 52.3	-11
	0.1nm,0.3s,baz=317,slow=22,SNR=4.1						
ASAR				LR	LR	13 01 23.0	
	comp=Z,80nm,20.9s,baz=302,slow=36						
COEN	**Coen**	**20.15**	**108**	*e*P	**P**	**12 54 57.8**	**-0.9**
	20nm,1.1s						
PSI	**Prapat**	**26.82**	**293**	LR	LR	13 07 17.1	
	comp=Z,265nm,18.2s,baz=130,slow=38						
STKA	**Stephens Creek**	**28.94**	**147**	P	**P**	**12 56 23.0**	**-0.6**
	1.7nm,0.6s,baz=319,slow=7.7,SNR=5.8						
STKA				LR	LR	13 08 44.9	
	comp=Z,70nm,19.6s,baz=211,slow=38						
GUMO	**Guam**	**30.37**	**45**	LR	LR	13 08 12.0	
	comp=Z,20nm,21.6s,baz=220,slow=35						
CMAR	**Chiang Mai Arr**	**35.91**	**318**	LR	LR	13 14 25.2	
	comp=Z,19nm,19.3s,baz=195,slow=40						
JCJ	**Chichijima**	**39.54**	**27**	LR	LR	13 16 25.1	
	comp=Z,10.0nm,18.1s,baz=256,slow=40						
KSRS	**Korea Array**	**45.65**	**5**	LR	LR	13 18 41.5	
	comp=Z,17nm,19.7s,baz=216,slow=37						
MJAR	**Matsushiro Arr**	**46.65**	**16**	LR	LR	13 16 56.5	
	comp=Z,11nm,21.7s,baz=240,slow=34						
USRK	**Ussuriysk Ar.**	**52.77**	**8**	P	**P**	**12 59 39.4**	**+0.1**
	2.8nm,0.7s,baz=144,slow=42,SNR=3.5						
SONM	**Songino Array**	**57.84**	**346**	P	**P**	**13 00 17.3**	**+1.2**
	0.4nm,0.5s,baz=168,slow=8.4,SNR=3.8						
ZALV	**Zalesovo Beam**	**70.00**	**337**	P	**P**	**13 01 36.3**	**+0.5**
	0.6nm,0.5s,baz=147,slow=8.1,SNR=3.2						
VNDA	**Vanda**	**72.07**	**172**	P	**P**	**13 01 48.3**	**+0.3**
	0.4nm,0.6s,baz=308,slow=7.2,SNR=3.9						

*IDC **01** 13:00:45.4±1.5, 9°.39N×126°.22E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/24, mbtmp3.6/3, Error ellipse: s-maj=111.9km s-min=32.4km az=82.0*
*ISCJB **01** 13:00:52.5±1.5, 9°.34N±0°.07×126°.5E±0°.1, h60km±15km, mb3.6/3, Error ellipse: s-maj=18.2km s-min=11.0km az=171.3*
*MAN **01** 13:00:53, 9°.29N×126°.39E, h22km, mb4.8, ML3.7, MS3.7*
ISC 01 13:00:52.8±2.8, **9°.35N**±0°.07×**126°.5E**±0°.2, **h50**km±27km, **n18,** σ1**$23**/17, **mb3.2**/3, **1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.93**	**246**	*e*P	**Pn**	**13 01 09.3**	**-0.4**
BUTP				*e*S	**Sn**	**13 01 21.6**	**-0.4**
SCPH	**Surigao**	**1.07**	**294**	⇓*i*P	**Pn**	**13 01 11.6**	**+0.1**
SCPH				*i* S	**Sn**	**13 01 23.8**	**-1.6**
MSLP	**Maasin**	**1.78**	**296**	*e*P	**Pn**	**13 01 22.0**	**+0.8**
MSLP				*e*S	**Sn**	**13 01 44.1**	**+1.4**
CGP	**Cagayan de Oro**	**1.98**	**243**	*e*P	**Pn**	**13 01 24.1**	**+0.2**
CGP				*i* S	**Sn**	**13 01 48.1**	**+0.5**
BUKP	**Musuan**	**2.03**	**224**	*e*P	**Pn**	**13 01 24.6**	**0.0**
OCLP	**Ormoc**	**2.50**	**313**	*e*P	**Pn**	**13 01 32.8**	**+1.7**
TBP	**Tagbilaran**	**2.61**	**278**	*e*P	**Pn**	**13 01 33.5**	**+0.9**
TBP				*e*S	**Sn**	**13 02 02.6**	**-0.4**
PAGZ	**Pagadian**	**3.41**	**244**	*e*P	**Pn**	**13 01 46.1**	**+2.6**
GUIM	**Jordan**	**4.04**	**289**	*e*P	**Pn**	**13 01 50.5**	**-1.7**
ASAR	**Alice Springs**	**33.60**	**168**	P	**P**	**13 07 28.5**	**-0.1**
	0.1nm,0.3s,baz=347,slow=7.4,SNR=6.2						
H11S3	**WAKE ISLAND Hy**	**39.98**	**72**	T	T	13 51 18.2	
	baz=262,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**40.00**	**72**	T	T	13 51 19.7	
	baz=262,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**40.00**	**72**	T	T	13 51 19.3	
	baz=262,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**40.35**	**71**	T	T	13 51 47.6	
	baz=263,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hy**	**40.36**	**71**	T	T	13 51 45.9	
	baz=263,slow=75,SNR=9.9						
H11N3	**WAKE ISLAND Hy**	**40.37**	**71**	T	T	13 51 46.5	
	baz=263,slow=75,SNR=15						
ILAR	**Eielson Array**	**80.17**	**26**	P	**P**	**13 12 57.8**	**+0.2**
	0.2nm,0.6s,baz=254,slow=3.4,SNR=4.2						
ARCES	**ARCESS Array B**	**85.13**	**340**	P	**P**	**13 13 22.4**	**-0.8**
	1.9nm,0.9s,baz=82,slow=6.7,SNR=9.4						

*GUC **01** 13:05:12.3±0.6, 37°.31S×73°.90W, h34km±2km, ML4.6*
*NEIC **01** 13:05:12.0, 37°.31S×73°.90W, h34km, mb4.6/2, ML4.6(GUC), After GUC.*
NEIC Felt [II] at Concepcion and Tome.
*ISCJB **01** 13:05:13.4±0.6, 37°.30S±0°.05×73°.85W±0°.09, h33km, mb3.9/9, MS3.9/4, Error ellipse: s-maj=11.4km s-min=5.6km az=31.1*
*IDC **01** 13:05:14.3±0.8, 37°.15S×73°.57W, h21km±4km, mb3.7/9, mb1 3.9/11, mb1mx3.9/20, mbtmp3.9/11, ML4.5/2, MS3.8/7, Ms1 3.8/7, ms1mx3.5/19, Error ellipse: s-maj=32.3km s-min=15.9km az=92.0*
ISC 01 13:05:13.4±0.8, **37°.30S**±0°.07×**73°.9W**±0°.1, **h35**km, **n28,** σ1**$54**/27, **mb3.9**/9, **MS3.9**/4, **2C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.76**	**54**	⇑*i*P	**Pn**	**13 05 27.1**	**-0.4**
CCSP				*i* S	**Sn**	**13 05 38.1**	**+0.4**
CCSP				AML	AML	13 05 40.1	
	comp=E,45µm,0.4s						
U14B	**Concepcin**	**0.77**	**55**	⇑*i*P	**Pn**	**13 05 26.9**	**-0.7**
U14B				*i* S	**Sn**	**13 05 38.0**	**0.0**
LNCH	**Linares**	**2.33**	**52**	*i* P	**Pn**	**13 05 50.2**	**+1.0**
LNCH				*e*S	**Sn**	**13 06 18.3**	**+1.8**
VLCH	**Valdivia**	**2.55**	**169**	*e*S	**Sn**	**13 06 22.9**	**+0.8**
TALC	**Talca**	**2.61**	**44**	*e*P	**Pn**	**13 05 53.5**	**+0.5**
TALC				*i* S	**Sn**	**13 06 25.7**	**+2.1**
CLCH	**Cerro Calan**	**4.75**	**36**	*e*P	**Pn**	**13 06 22.2**	**-0.3**
PEL	**Peldehue**	**4.89**	**33**	*e*P	**Pn**	**13 06 24.1**	**-0.4**
CFAA	**Coronel Fontan**	**7.34**	**41**	LR	LR	13 09 53.2	
	comp=E,89nm,18.3s,baz=228,slow=39						
TRQA	**Torquist**	**9.46**	**98**	*e*Pn	Pn	13 07 22.7	-4.3
	comp=E,14nm,0.9s						
LVC	**Limon Verde**	**15.24**	**18**	Pn	**Pn**	**13 08 46.9**	**+0.6**
	comp=E,6.9nm,0.3s,baz=186,slow=9.2,SNR=1.9						
LVC				LR	LR	13 15 07.3	
	comp=E,460nm,20.4s,baz=199,slow=39						
LVC	**Limon Verde**	**15.24**	**18**	*e*Pn	**Pn**	**13 08 42.9**	**-3.4**
CPUP	**Villa Florida**	**17.78**	**57**	P	**Pn**	**13 09 15.8**	**-2.3**
	comp=E,0.2nm,0.3s,baz=230,slow=11,SNR=3.6						
CPUP				LR	LR	13 16 51.4	
	comp=E,507nm,19.1s,baz=235,slow=40						
LPAZ	**La Paz**	**21.53**	**15**	P	**P**	**13 10 02.4**	**+2.2**
	comp=E,4.2nm,0.8s,baz=145,sl

H08N2	**Diego Garcia H**	**26.40**	**140**	T	T	13 44 05.9	
	baz=320,slow=76,SNR=131						
H08N3	**Diego Garcia H**	**26.41**	**140**	T	T	13 44 08.8	
	baz=320,slow=76,SNR=131						
H08N1	**Diego Garcia H**	**26.42**	**140**	T	T	13 44 07.6	
	baz=320,slow=76,SNR=115						
GNI	**Garni**	**27.09**	**344**	LR	LR	13 29 00.0	
	comp=Z,64nm,20.3s,baz=167,slow=40						
KBZ	**Khabaz**	**30.92**	**344**	LR	LR	13 31 21.0	
	comp=Z,90nm,20.1s,baz=196,slow=40						
BRTR	**Keskin Array B**	**31.13**	**328**	LR	LR	13 30 44.8	
	comp=Z,38nm,18.4s,baz=110,slow=39						
AKTO	**Aktyubinsk**	**36.22**	**4**	P	**P**	**13 17 47.6**	**-0.8**
	1.4nm,0.6s,baz=186,slow=8.5,SNR=6.7						
BVAR	**Borovoye Array**	**40.77**	**15**	P	**P**	**13 18 26.3**	**-0.3**
	1.5nm,0.6s,baz=189,slow=8.0,SNR=9.4						
KURBB	**Kurchatov Arra**	**41.30**	**23**	P	**P**	**13 18 30.6**	**-0.5**
	0.2nm,0.4s,baz=222,slow=7.8,SNR=5.0						
CMAR	**Chiang Mai Arr**	**43.08**	**78**	LR	LR	13 38 02.8	
	comp=Z,30nm,18.0s,baz=170,slow=38						
ZALV	**Zalesovo Beam**	**46.34**	**25**	P	**P**	**13 19 10.7**	**-0.8**
	0.4nm,0.3s,baz=253,slow=8.9,SNR=2.9						
GERES	**GERESS Array B**	**47.86**	**325**	LR	LR	13 43 00.8	
	comp=Z,22nm,18.8s,baz=93,slow=40						
FINES	**FINESS Array B**	**51.27**	**343**	P	P	13 19 47.9	-1.4
	1.2nm,0.8s,baz=122,slow=11,SNR=3.4						
FINES			LR	LR	13 42 54.7		
	comp=Z,22nm,19.2s,baz=96,slow=38						
SONM	**Songino Array**	**54.48**	**41**	P	**P**	**13 20 14.2**	**+0.8**
	0.5nm,0.7s,baz=256,slow=6.0,SNR=4.3						
NOA	**NORSAR Array B**	**56.01**	**336**	LR	LR	13 48 39.9	
	comp=Z,19nm,18.2s,baz=135,slow=41						
ARCES	**ARCESS Array B**	**58.11**	**349**	LR	LR	13 49 08.4	
	comp=Z,34nm,19.7s,baz=74,slow=40						
KSRS	**Korea Array**	**68.65**	**55**	P	**P**	**13 21 49.0**	**-0.1**
	0.6nm,0.6s,baz=269,slow=8.8,SNR=4.4						
YAK	**Yakutsk**	**70.72**	**29**	LR	LR	13 56 14.3	
	comp=Z,20nm,21.8s,baz=81,slow=39						
H01W3	**Cape Leeuwin H**	**74.95**	**133**	T	T	14 44 42.1	
	baz=300,slow=75,SNR=30						
H01W2	**Cape Leeuwin H**	**74.95**	**133**	T	T	14 44 42.6	
	baz=300,slow=75,SNR=28						
H01W1	**Cape Leeuwin H**	**74.97**	**133**	T	T	14 44 43.4	
	baz=300,slow=75,SNR=26						
WRA	**Warramunga Arr**	**85.83**	**112**	P	**P**	**13 23 25.6**	**-0.2**
	0.4nm,0.8s,baz=296,slow=3.9,SNR=4.8						
ASAR	**Alice Springs**	**86.52**	**115**	P	**P**	**13 23 29.1**	**0.0**
	0.5nm,0.7s,baz=289,slow=4.6,SNR=9.1						

MAN 01 13:36:52, 14.02N×120.00E, h16km, mb4.5, ML3.3, MS3.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.38**	**140**	*e*P	Pb	13 37 01.3	+1.0
PGP	**Puerto Galera**	**1.06**	**119**	↑*e*P	Pb	13 37 11.7	-0.4
SJMP	**San Jose**	**1.90**	**145**	*e*P	Pb	13 37 25.7	-0.6
SJMP				*e*S	Sb	13 37 49.0	-0.8
ENPP	**El Nido**	**2.85**	**191**	*e*P	Pn	13 37 38.3	+1.4

*ISCJB **01** 13:44:10.8±0.5, 32.29N±0.04×115.38W±0.03, h8km±7km, Error ellipse: s-maj=6.8km s-min=4.9km az=7.9*
*ECX **01** 13:44:12.4±0.4, 32.30N×115.41W, h5km, MD2.4, ML2.6*
*MEX **01** 13:44:12.6±0.5, 32.42N×115.25W, h17km±10km, MD3.8*
ISC 01 13:44:10.6±0.9, 32.30N±0.03×115.37W±0.03, h14km±7km, n16, σ0.42/26, 1C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.13**	**24**	*e*P	**Pg**	**13 44 14.4**	**+0.2**
CPBX				*e*S	**Sg**	**13 44 16.9**	**+0.3**
MBIG	**Mexicali**	**0.18**	**53**	*e*P	**Pg**	**13 44 14.7**	**-0.2**
MBIG				*e*S	**Sg**	**13 44 16.9**	**-0.8**
SGL	**Mount Signal**	**0.46**	**319**	⇓*i*P	**Pg**	**13 44 20.2**	**+0.4**
EMSC	**East Mesa**	**0.55**	**36**	*e*P	**Pb**	**13 44 22.3**	**+0.4**
YUH	**Yuha Desert**	**0.58**	**307**	⇓*i*P	**Pg**	**13 44 22.1**	**0.0**
COA	**Coachella**	**0.60**	**20**	⇓*i*P	**Pb**	**13 44 23.2**	**+0.3**
RDX	**Rancho Dawling**	**0.61**	**233**	⇓*e*P	**Pg**	**13 44 22.8**	**+0.1**
RDX				*e*S	**Sg**	**13 44 30.9**	**+0.1**
RMX	**La Rumorosa**	**0.67**	**297**	*e*P	**Pg**	**13 44 23.7**	**-0.1**
RMX				*e*S	**Sg**	**13 44 32.6**	**-0.1**
ECBX	**El Chinero**	**0.87**	**162**	*e*P	**Pg**	**13 44 26.9**	**-0.5**
ECBX				*e*S	**Sb**	**13 44 39.0**	**+0.1**
CBX	**Cerro Bola**	**1.10**	**271**	*e*P	**Pb**	**13 44 31.4**	**0.0**
CBX				*i* S	**Sb**	**13 44 45.1**	**-0.6**
CBX	**Cerro Bola**	**1.10**	**271**	*e*P	**Pb**	**13 44 31.2**	**-0.2**
CBX				*e*S	**Sb**	**13 44 45.3**	**-0.4**
CBX				AML	AML	13 44 48.0	
	comp=N,181nm,0.4s						
CBX				⇓*e*		13 44 48.0	
BAR	**Barrett**	**1.17**	**289**	*e*P	**Pn**	**13 44 32.5**	**0.0**
ECNX	**Esteban Cantu**	**1.23**	**239**	*e*P	**Pb**	**13 44 33.7**	**+0.1**
ECNX				*e*S	**Sb**	**13 44 49.5**	**+0.2**
SPIG	**San Pedro Mart**	**1.25**	**184**	*e*P	**Pn**	**13 44 33.7**	**-0.3**
SPIG				*i* S	**Sn**	**13 44 50.9**	**+0.1**
SPX	**San Pedro Mart**	**1.25**	**184**	⇓*e*	**Sg**	**13 44 52.5**	**+1.4**
SPX				AML	AML	13 44 52.5	
	comp=E,71nm,0.2s						
PBX	**Punta Banda**	**1.28**	**245**	*e*P	**Pb**	**13 44 34.5**	**+0.1**
PBX				*e*S	**Sn**	**13 44 51.0**	**0.0**

SJA 01 13:47:15.1±1.3, 24.86S×65.74W, h2km±7km, ML3.0, MW3.5, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**0.26**	**57**	*e*P	Pg	13 47 21.1	+0.8
SLA				*e*S	Sg	13 47 25.3	+1.5
SLA				AML	AML	13 47 28.3	
	comp=Z,1μm,0.7s						
AZAP	**Zapla**	**0.88**	**44**	*e*P	Pb	13 47 33.4	-0.1
FSA	**Cafayete**	**1.25**	**191**	*e*P	Pn	13 47 40.9	+1.0
FSA				*e*S	Sn	13 47 59.5	+2.1
ASTB	**Santa Barbara**	**1.46**	**52**	*e*P	Pg	13 47 44.8	+1.4
HJA	**Humahuaca**	**1.68**	**10**	*e*P	Pb	13 47 47.3	+0.1
HJA				*e*S	Sg	13 48 13.9	+4.0
AHML	**Horco Molle**	**1.95**	**169**	*e*P	Pg	13 47 52.1	-0.5
AHML				*e*S	Sg	13 48 19.0	+1.1
AHML				AML	AML	13 48 23.1	
	comp=Z,74nm,0.2s						
CYA	**Choya**	**3.56**	**181**	*e*P	Pn	13 48 14.7	+3.3

DJA 01 13:58:12.6±1.1, 8.S±7.×10.8E±.°, h30km±8km, M3.8/9, MLv3.8/9, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**0.89**	**41**	P	Pn	13 58 28.9	-0.2
CMJI				S	Sn	13 58 39.0	-2.0
CISI	**Cisompet, Garu**	**0.90**	**357**	P	Pb	13 58 29.9	+0.1
CISI				S	Sn	13 58 40.8	-0.6
CNJI	**Cibinong**	**1.35**	**328**	P	Pb	13 58 36.9	-0.4
KPJI	**Karang Pucung**	**1.54**	**44**	P	Pb	13 58 39.6	-1.0
SKJI	**Sukabumi**	**1.94**	**318**	P	Pn	13 58 41.6	-1.9
SKJI				S	Sn	13 59 06.4	-0.5
TNG	**Tangerang**	**2.57**	**332**	P	Pn	13 58 42.5	-10
CGJI	**Cibinong**	**2.83**	**310**	P	Pn	13 58 54.4	-1.3
CGJI				S	Sn	13 59 29.6	+0.8
PCJI	**Pacitan**	**3.29**	**86**	S	Sn	13 59 38.2	-2.1
UWJI	**Ujung Watu**	**3.67**	**57**	P	Pn	13 59 07.5	+0.1
PWJI	**Pagerwojo**	**3.93**	**84**	P	Pn	13 59 07.0	-3.9
PWJI				S	Sn	13 59 56.5	+0.5

*ISCJB **01** 13:59:16.0±0.6, 76.85N±0.05×19.1E±0.2, h17km, mb3.1/1, MS3.0/1, Error ellipse: s-maj=8.5km s-min=5.0km az=42.7*
*CSEM **01** 13:59:15.6±0.3, 76.95N×19.10E, h10km, ML3.9, Error ellipse: s-maj=9.2km s-min=5.1km az=54.0*
*IDC **01** 13:59:15.8±1.1, 77.08N×20.17E, h0km, mb3.1/1, mb1 3.6/4, mb1mx3.3/28, mbtmp3.5/4, ML3.1/3, MS2.7/2, Ms1 2.7/2, ms1mx2.4/26, Error ellipse: s-maj=29.6km s-min=6.4km az=65.0*
*NAO **01** 13:59:16.9±1.2, 76.93N×18.92E, h13km±11km, ML3.9*
*BER **01** 13:59:19.7±3.3, 76.96N×18.87E, h15km, MD2.8, ML3.7, ML3.9(NAO)*
ISC 01 13:59:15.5±0.7, 76.93N±0.03×19.13E±0.04, h17km, n29, σ1.9/36/40, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSP	**Hornsund**	**0.81**	**277**	Pg	**Pn**	**13 59 32.3**	**+0.1**
HSP				Lg	Lg	13 59 41.8	
HSP	**Hornsund**	**0.81**	**277**	Pg	**Pn**	**13 59 32.3**	**+0.1**
HSP				Lg	Lg	13 59 41.8	
HSPB	**Hornsund (broa**	**0.82**	**277**	Pg	**Pn**	**13 59 32.3**	**+0.1**
HSPB				*e*Sg	**Sb**	**13 59 41.8**	**-0.1**
HSPB	**Hornsund (broa**	**0.82**	**277**	*e*Pg	**Pg**	**13 59 32.0**	**+0.6**
HSPB				*e*Sg	**Sb**	**13 59 41.8**	**-0.1**
	SNR=93						
SPA0	**Spitsbergen Ar**	**1.39**	**336**	Pn	**Pb**	**13 59 40.8**	**-0.2**
	baz=147,slow=18						
SPA0				Pg	**Pg**	**13 59 42.0**	**-0.3**
	baz=151,slow=18						
SPA0				Lg	Lg	14 00 00.1	
	baz=158,slow=37						
SPA0	**Spitsbergen Ar**	**1.39**	**336**	*e*P	**Pb**	**13 59 40.9**	**-0.2**
SPA0				*e*S	**Sg**	**14 00 00.5**	**+0.1**
SPA0				IAML		14 00 06.1	
	comp=Z,841nm,0.3s						
SPA0	**Spitsbergen Ar**	**1.39**	**336**	*e*P	**Pb**	**13 59 40.9**	**-0.2**
	SNR=55						
SPA0	**Spitsbergen Ar**	**1.39**	**336**	Pg	**Pg**	**13 59 42.0**	**-0.3**
	SNR=8.5						
SPA0				Lg	Lg	14 00 00.1	
	SNR=0.4						
SPITS	**Spitsbergen Ar**	**1.39**	**336**	Pn	**Pb**	**13 59 41.1**	**+0.1**
	baz=144,slow=20,SNR=4332						
SPITS				Lg	Lg	13 59 59.3	
	baz=129,slow=32,SNR=14						
HOPEN	**Hopen**	**1.42**	**104**	Pn	**Pg**	**13 59 43.0**	**+0.1**
HOPEN				Lg	Lg	14 00 03.7	
HOPEN	**Hopen**	**1.42**	**104**	*e*P	**Pg**	**13 59 42.9**	**+0.1**
HOPEN				*e*S	**Sg**	**14 00 02.1**	**+0.7**
HOPEN				IAML		14 00 07.3	
	comp=Z,1μm,0.5s						
HOPEN	**Hopen**	**1.42**	**104**	*e*P	**Pg**	**13 59 42.9**	**+0.1**
	SNR=55						
HOPEN				*e*S	**Sg**	**14 00 02.1**	**+0.7**
	SNR=55						
HOPEN				Lg	Lg	14 00 03.7	
BJO	**Bjornoya**	**2.44**	**180**	*e*Pg	**Pg**	**14 00 02.7**	**+0.5**
BJO				*e*Sg	**Sg**	**14 00 33.8**	**+0.1**
BJO				IAML		14 00 38.5	
	comp=Z,586nm,0.7s						
BJO	**Bjornoya**	**2.44**	**180**	*e*Pg	**Pg**	**14 00 02.7**	**+0.5**
	SNR=91						
BJO				*e*Sg	**Sg**	**14 00 33.8**	**+0.1**
	SNR=91						
KBS	**Kingsbay**	**2.51**	**327**	*e*P	**Pn**	**13 59 55.6**	**+0.2**
KBS				*e*Pg	**Pb**	**14 00 01.3**	**+1.2**
KBS				*e*Sg	**Sg**	**14 00 34.8**	**-1.3**
KBS				IAML		14 00 37.4	
	comp=Z,3μm,0.5s						
KBS	**Kingsbay**	**2.51**	**327**	*e*P	**Pn**	**13 59 55.6**	**+0.2**
	SNR=55						
ARA0	**ARCESS Array S**	**7.65**	**163**	Pn	**Pn**	**14 01 07.5**	**+1.5**
	baz=4.1,slow=14						
ARA0				Sn	**Sn**	**14 02 29.5**	**-2.6**
	slow=22						
ARA0	**ARCESS Array S**	**7.65**	**163**	P	**Pn**	**14 01 07.5**	**+1.5**
	baz=4.1,slow=14						
ARA0				S	**Sn**	**14 02 29.5**	**-2.6**
	slow=22						
ARA0	**ARCESS Array S**	**7.65**	**163**	P	**Pn**	**14 01 07.5**	**+1.5**
	SNR=51						
ARCES	**ARCESS Array B**	**7.65**	**163**	Pn	**Pn**	**14 01 07.5**	**+1.6**
	comp=Z,1.1nm,0.3s,baz=353,slow=12,SNR=35						
ARCES				Sn	**Sn**	**14 02 29.7**	**-2.4**
	comp=Z,3.7nm,0.3s,baz=2.9,slow=20,SNR=9.2						
JMIC	**Jan Mayen**	**9.58**	**246**	Pn	Pn	14 01 36.8	+4.5
	comp=Z,5.8nm,0.3s,baz=32,slow=2.6,SNR=7.6						
APA0	**Apatity Array**	**10.23**	**149**	Pn	**Pn**	**14 01 41.2**	**0.0**
	baz=333,slow=10						
APA0	**Apatity Array**	**10.23**	**149**	P	**Pn**	**14 01 41.2**	**0.0**
	baz=333,slow=10						
APA0	**Apatity Array**	**10.23**	**149**	P	**Pn**	**14 01 41.2**	**0.0**
	SNR=51						
FINES	**FINESS Array B**	**15.73**	**168**	Pn	**Pn**	**14 02 56.0**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=16,slow=11,SNR=4.0						
FINES				Sn	**Sn**	**14 05 44.0**	**-5.5**
	comp=Z,0.2nm,0.3s,baz=344,slow=25,SNR=3.9						
NOA	**NORSAR Array B**	**16.18**	**194**	LR	LR	14 09 50.3	
	comp=Z,13nm,20.8s,baz=220,slow=39						
HFS	**Hagfors**	**16.98**	**189**	Pn	**P**	**14 03 14.1**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=46,slow=12,SNR=3.4						
SCHQ	**Schefferville**	**36.53**	**284**	LR	LR	14 23 33.4	
	comp=Z,25nm,18.5s,baz=303,slow=40						
ILAR	**Eielson Array**	**38.27**	**350**	P	**P**	**14 06 35.9**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=354,slow=8.0,SNR=5.4						

BJI 01 14:26:35.0, 32.49N×105.03E, h10km, ML3.6/15, Ms3.2/1, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.91**	**215**	Pn	Pn	14 27 08.5	+0.8
CD2				Pg	Pb	14 27 10.4	+0.3
CD2				Sn	Sb	14 27 34.6	+0.5
CD2				Sg	Sg	14 27 38.0	+1.3
CD2				SMN			
	760nm,0.8s						
CD2				SME			
	760nm,0.9s						
XAN	**Xi'an**	**3.61**	**64**	Pn	Pn	14 27 33.6	+2.6
XAN				Pg	Pb	14 27 40.5	+1.5
XAN				Sn	Sn	14 28 12.8	-1.0
XAN				Sg	Sb	14 28 24.2	+1.3
XAN				SMN			
	150nm,0.5s						
XAN				SME			
	190nm,0.7s						
LZH	**Lanzhou**	**3.72**	**345**	Pg	Pg	14 27 45.6	-0.9
LZH				Sn	Sb	14 28 21.9	-4.5
LZH				Sg	Sg	14 28 32.4	-2.5
LZH				SMN			
	180nm,0.8s						
LZH				SME			
	170nm,1.0s						
GTA	**Gaotai**	**8.10**	**330**	*e*P	Pn	14 28 33.7	+0.9
GTA				pP	Pb	14 28 38.4	-17
GTA				sP		14 28 41.6	

MAN 01 14:41:28, 7.22N×126.78E, h2km, mb4.8, ML3.7, MS3.7, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.59**	**242**	*e*P	Pg	14 41 39.9	+0.6
MATI				*e*S	Sg	14 41 45.5	-1.4
BUKP	**Musuan**	**1.82**	**291**	*e*P	Pn	14 42 01.3	+0.8
BUKP				*e*S	Sn	14 42 20.6	-3.7
BUTP	**Butuan**	**2.08**	**327**	*e*P	Pn	14 42 04.6	+0.6
BUTP				*e*S	Sn	14 42 31.4	+0.9
CGP	**Cagayan de Oro**	**2.40**	**301**	*e*P	Pn	14 42 09.1	+0.7
CGP				*i* S	Sb	14 42 41.1	-1.1
PAGZ	**Pagadian**	**3.43**	**281**	*e*P	Pn	14 42 23.3	+0.8

*NIED **01** 14:48:00, 32.10N×140.80E, h47km, Mw4.2 Best double couple: M₀2.14000×10¹⁵ NP1:φ₀214.00000°, δ18.00000°, λ-27.00000°. NP2:φ₀330.00000°, δ82.00000°, λ-106.00000°.*
*MOS **01** 14:48:09.5±1.3, 31.55N×140.89E, h52km, mb4.6/12, Error ellipse: s-maj=13.4km s-min=6.3km az=105.9*
*ISCJB **01** 14:48:10.2±0.6, 31.65N±0.03×140.79E±0.07, h55km±5km, mb4.2/32, MS3.0/4, Error ellipse: s-maj=10.4km s-min=4.5km az=162.2*
*IDC **01** 14:48:12.2±0.6, 31.58N×140.62E, h57km±6km, mb3.8/22, mb1 4.0/24, mb1mx3.9/36, mbtmp4.1/24, MS2.8/5, Ms1 2.8/5, ms1mx2.6/41, Error ellipse: s-maj=15.1km s-min=8.6km az=78.0*
*JMA **01** 14:48:12.7±0.1, 32.08N×140.84E, h5km, M4.7*
*NEIC **01** 14:48:12.8±0.3, 31.61N×140.59E, mb4.3/1, Error ellipse: s-maj=11.9km s-min=6.9km az=76.0*
ISC 01 14:48:12.0±0.6, 31.67N±0.05×140.85E±0.07, h53km±5km, h52km:pP-P, n89, σ1.9/54/100, mb4.1/32, MS3.0/4, 5C-3D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**1.66**	**328**	↑P	**Pn**	**14 48 37.5**	**-1.2**
JHCJ				S	**Sn**	**14 48 55.0**	**-3.8**
JHJ2	**Mitsune**	**1.68**	**329**	P	**Pn**	**14 48 38.0**	**-1.0**
JHJ2				S	**Sn**	**14 48 55.9**	**-3.5**
JHJ2	**Mitsune**	**1.68**	**329**	*e*Pn	**Pn**	**14 48 37.8**	**-1.3**
JKO	**Kozu shima**	**2.89**	**331**	P	**Pn**	**14 48 56.0**	**+0.4**
JKO				S	**Sn**	**14 49 28.5**	**-0.6**
BSO1	**Boso 1**	**2.98**	**2**	P	**Pn**	**14 48 55.4**	**-0.8**
BSO1				S	**Sn**	**14 49 27.1**	**-3.3**
JNIO	**Niijimaoohara**	**2.99**	**334**	S	**Sn**	**14 49 30.1**	**-1.3**
BSO2	**Boso 2**	**3.07**	**359**	S	**Sn**	**14 49 30.3**	**-2.8**
TKO2	**Tokai 2**	**3.45**	**312**	P	**Pn**	**14 49 04.3**	**+1.2**
JOD2	**Odawara 2**	**3.87**	**338**	P	**Pn**	**14 49 09.2**	**+0.1**
JOD2				*e*S	**Sn**	**14 49 50.5**	**-2.8**
TTO1	**TONANKAI O.B.S**	**3.94**	**301**	P	**Pn**	**14 49 12.6**	**+2.9**
JYN	**Shimob**	**4.27**	**334**	P	**Pn**	**14 49 16.1**	**+1.5**
JYN				*e*S	**Sn**	**14 50 05.8**	**+2.6**
JIE	**Ise**	**4.41**	**309**	P	**Pn**	**14 49 16.6**	**+0.2**
JRY	**Ryogami san**	**4.63**	**340**	P	**Pn**	**14 49 21.0**	**+1.6**
JRY				S	**Sn**	**14 50 10.2**	**-1.6**
CBIJ	**Chichi jima**	**4.71**	**165**	P	**Pn**	**14 49 21.2**	**+0.7**
CBIJ				S	**Sn**	**14 50 12.2**	**-1.6**
JCJ	**Chichijima**	**4.71**	**165**	P	**Pn**	**14 49 21.2**	**+0.7**
	13nm,0.3s,baz=87,slow=16,SNR=19						
JCJ				S	**Sn**	**14 50 12.2**	**-1.7**
	35nm,0.3s,baz=90,slow=20,SNR=6.2						
JCJ				LR	LR	14 51 01.2	
	comp=Z,71nm,20.9s,baz=337,slow=36						
JWZ	**Kozaga**	**4.71**	**295**	P	**Pn**	**14 49 20.1**	**-0.5**
JAG	**Ashikaga**	**4.88**	**347**	P	**Pn**	**14 49 22.9**	**0.0**
JAG				*e*S	**Sn**	**14 50 14.6**	**-3.4**
JWY	**Kouya**	**5.10**	**301**	P	**Pn**	**14 49 26.2**	**+0.3**
MJAR	**Matsushiro Arr**	**5.33**	**336**	P	**Pn**	**14 49 30.6**	**+1.6**
	4.1nm,0.3s,baz=156,slow=12,SNR=39						
MJAR				S	**Sn**	**14 50 29.0**	**0.0**
	4.3nm,0.3s,baz=134,slow=15,SNR=5.4						
MAJO	**Matsushiro**	**5.33**	**336**	*d i* P	**Pn**	**14 49 31.6**	**+2.6**
MAJO	**Matsushiro**	**5.33**	**336**	*e*Pn	**Pn**	**14 49 30.6**	**+1.6**
	46nm,0.8s						
MAT	**Matsushiro**	**5.33**	**336**	P	**Pn**	**14 49 30.9**	**+1.9**
MAT				S	**Sn**	**14 50 29.6**	**+0.5**
MAT	**Matsushiro**	**5.33**	**336**	P	Pn	14 49 32.3	+3.3
ERM	**Erimo**	**10.49**	**9**	⇓P	**Pn**	**14 50 40.0**	**+0.4**
KSRS	**Korea Array**	**12.11**	**302**	P	Pn	14 51 05.5	+3.7
	0.2nm,0.3s,baz=114,slow=14,SNR=20						
KSRS				LR	LR	14 55 37.6	
	comp=Z,54nm,18.8s,baz=101,slow=37						
KSAR	**Wonju Array Be**	**12.13**	**302**	P	Pn	14 51 05.5	+3.4
KSAR	**Wonju Array Be**	**12.13**	**302**	P	Pn	14 51 05.5	+3.4
ASAJ	**Asahikawa**	**12.50**	**6**	P	**Pn**	**14 51 04.0**	**-3.1**
	baz=207,slow=11						
ASAJ				S	Sn	14 53 18.4	-6.2
	baz=92,slow=18						
YSS	**Yuzh-Sakhalins**	**15.33**	**5**	*e*P	**Pn**	**14 51 45.0**	**+0.1**
YSS	**Yuzh-Sakhalins**	**15.33**	**5**	*e*Pn	**Pn**	**14 51 45.4**	**+0.5**
	20nm,0.9s						
HABR	**Khabarovsk**	**17.35**	**347**	*e*P	**Pn**	**14 52 09.7**	**-0.6**
HABR				*e*S	**Sn**	**14 55 24.0**	**+1.6**
HABR				pmax	pmax		
	comp=Z,10.0nm,2.0s						
HABR				MLR	MLR		
	comp=Z,29nm,14.0s						
PETK	**Petropavlovsk-**	**24.65**	**25**	LR	LR	15 03 46.0	
	comp=Z,14nm,21.4s,baz=207,slow=38						
H11N2	**WAKE ISLAND Hy**	**26.24**	**111**	T	T	15 21 48.3	
	baz=302						
H11N1	**WAKE ISLAND Hy**	**26.24**	**111**	T	T	15 21 44.9	
	baz=302						
H11N3	**WAKE ISLAND Hy**	**26.25**	**111**	T	T	15 22 21.6	
	baz=302						
H11S3	**WAKE ISLAND Hy**	**26.75**	**113**	T	T	15 22 18.5	
	baz=304,slow=75,SNR=186						
H11S1	**WAKE ISLAND Hy**	**26.75**	**113**	T	T	15 22 19.7	
	baz=304,slow=75,SNR=278						
H11S2	**WAKE ISLAND Hy**	**26.75**	**113**	T	T	15 22 19.7	
	baz=304,slow=75,SNR=164						
SONM	**Songino Array**	**30.71**	**312**	P	**P**	**14 54 20.6**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=116,slow=6.6,SNR=4.7						
SONM				LR	LR	15 07 34.4	
	comp=Z,52nm,18.3s,baz=98,slow=38						
YAK	**Yakutsk**	**31.22**	**350**	*e*P	**P**	**14 54 25.8**	**-0.3**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.4s						
SEY	**Seymchan**	**32.13**	**10**	P	**P**	**14 54 34.7**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=200,slow=8.6,SNR=9.4						
SEY				LR	LR	15 08 24.1	
	comp=Z,14nm,18.6s,baz=174,slow=38						
SEY	**Seymchan**	**32.13**	**10**	*e*P	**P**	**14 54 34.2**	**+0.1**
TLY	**Talaya**	**33.73**	**317**	*e*P	**P**	**14 54 47.8**	**-0.4**
BILL	**Bilibino**	**39.30**	**15**	*e*P	**P**	**14 55 35.6**	**+0.2**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.7s						
CMAR	**Chiang Mai Arr**	**39.94**	**261**	*ce*P	**P**	**14 55 38.8**	**-2.5**
	comp=Z,0.8nm,0.5s,baz=57,slow=6.5,SNR=6.7						
CMAR	**Chiang Mai Arr**	**39.94**	**261**	*ce*P	**P**	**14 55 39.7**	**-1.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TIXI	**Tiksi**	**40.55**	**354**	*e*P	**P**	**14 55 45.2**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ZALV	**Zalesovo Beam**	**45.33**	**316**	P	**P**	**14 56 23.1**	**-1.5**
	comp=Z,1.1nm,0.5s,baz=108,slow=7.4,SNR=4.4						
ZALV				pP	**pP**	**14 56 40.1**	**+1.6**
	comp=Z,0.6nm,0.4s,baz=104,slow=6.1,SNR=1.9						
ZALV				PcP	**PcP**	**14 58 03.3**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=94,slow=2.1,SNR=5.5						
ZALV	**Zalesovo Beam**	**45.33**	**316**

VSR					pmax	pmax			
	comp=E,6.0nm,0.6s								
VSR					pmax	pmax			
	comp=Z,4.0nm,0.6s								
FINES	**FINESS Array B**	**73.35**	**333**		P	**P**	**14 59 37.0**	**-0.8**	
	comp=Z,1.8nm,0.5s,baz=65,slow=5.6,SNR=14								
FINES	**FINESS Array B**	**73.35**	**333**	*ce*	P	**P**	**14 59 38.0**	**+0.2**	
FINES					pmax	pmax			
	comp=Z,2.0nm,0.5s								
YBH	**Yreka Blue Hor**	**74.04**	**51**		P	**P**	**14 59 43.6**	**+1.1**	
	comp=Z,2.4nm,0.8s,baz=276,slow=4.3,SNR=6.5								
KBZ	**Khabaz**	**74.08**	**312**		P	**P**	**14 59 41.9**	**-0.5**	
	comp=Z,5.7nm,0.9s,baz=42,slow=4.9,SNR=9.5								
KIV	**Kislovodsk**	**74.10**	**312**	*e*	P	**P**	**14 59 43.8**	**+1.1**	
KIV					pmax	pmax			
	comp=Z,7.0nm,0.9s								
AKASG	**Malin Array Be**	**78.26**	**323**		P	**P**	**15 00 04.8**	**-1.3**	
	comp=Z,0.9nm,0.3s,baz=50,slow=5.2,SNR=6.5								
AKASG	**Malin Array Be**	**78.26**	**323**	*ce*	P	**P**	**15 00 05.0**	**-1.1**	
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.3s								
KIEV	**Kiev**	**78.28**	**323**	*e*	P	**P**	**15 00 05.5**	**-0.6**	
NVAR	**Mina Array Bea**	**78.61**	**52**		P	**P**	**15 00 10.2**	**+1.7**	
	comp=Z,1.3nm,0.7s,baz=284,slow=5.5,SNR=12								
NB2	**NORSAR Subarra**	**78.95**	**338**		P	**P**	**15 00 09.8**	**+0.1**	
	comp=Z,1.2nm,0.8s,baz=41,slow=5.6								
NOA	**NORSAR Array B**	**78.95**	**338**		P	**P**	**15 00 08.8**	**-0.9**	
	comp=Z,1.0nm,0.6s,baz=44,slow=5.5,SNR=6.0								
PDAR	**Pinedale Array**	**81.78**	**45**		P	**P**	**15 00 26.4**	**+0.8**	
	comp=Z,0.8nm,0.5s,baz=12,slow=2.4,SNR=6.7								
BRTR	**Keskin Array B**	**82.07**	**312**		P	**P**	**15 00 27.9**	**+0.9**	
	comp=Z,3.2nm,0.8s,baz=114,slow=4.3,SNR=12								
BRTR	**Keskin Array B**	**82.07**	**312**	*i*	P	**P**	**15 00 27.8**	**+0.8**	
BRTR					pmax	pmax			
	comp=Z,3.0nm,0.7s								
DPC	**Dobruska-Polom**	**84.75**	**328**	*e*	P	**P**	**15 00 38.2**	**-2.2**	
DPC				*ex*		x	15 00 40.8		
DPC				*ex*		x	15 00 49.2		
DPC	**Dobruska-Polom**	**84.75**	**328**	*e*	P	**P**	**15 00 38.2**	**-2.2**	
DPC				*e*			15 00 49.2		
CLL	**Collm**	**85.50**	**330**	*e*	P	**P**	**15 00 46.0**	**+1.9**	
CLL	**Collm**	**85.50**	**330**	*e*	P	**P**	**15 00 46.0**	**+1.9**	
GERES	**GERESS Array B**	**87.01**	**328**		P	**P**	**15 00 52.0**	**+0.2**	
	comp=Z,0.2nm,0.3s,baz=33,slow=4.1,SNR=3.4								
GERES	**GERESS Array B**	**87.01**	**328**		P	**P**	**15 00 52.0**	**+0.2**	
TXAR	**Lajitas Array**	**93.76**	**52**		P	**P**	**15 01 25.0**	**+1.3**	
	comp=Z,1.5nm,0.6s,baz=300,slow=2.4,SNR=11								
LPAZ	**La Paz**	**149.54**	**67**		PKPbc	**PKPbc**	**15 07 58.2**	**+1.4**	
	comp=Z,3.1nm,0.8s,baz=344,slow=3.5,SNR=15								

NIED ***01*** *14:52:00,24.˚90N×125.˚80E,h44km,Mw3.9 Best double couple: M₀7.04000×10¹⁴ NP1:φ₈353.00000°,δ50.00000°, λ140.00000°. NP2:φ₈111.00000°,δ60.00000°,λ47.00000°.*

IDC ***01*** *14:52:33.8±0.9,24.˚96N×125.˚68E,h0km,mb3.9/12, mb1 3.9/12,mb1mx3.8/26,mbtmp3.9/12,Error ellipse: s-maj=29.4km s-min=20.6km az=79.0*

ISCJB ***01*** *14:52:39.8±0.4,24.˚98N±0.˚08×125.˚72E±0.˚05,h60km±4km, mb3.8/12,Error ellipse: s-maj=15.1km s-min=4.4km az=151.7*

JMA ***01*** *14:52:40.0±0.1,24.˚92N×125.˚75E,h61km±1km,M4.0*

JMA Felt I J1.

ISC 01 14:52:41.2±0.7,24.˚99N±0.˚09×125.˚70E±0.˚06,h55km±6km, n36,σ0.˚72/46,mb3.8/12,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**0.35**	**230**	P	**Pn**	**14 52 50.6**	**-0.6**
JOGS				S	**Sn**	**14 52 58.3**	**-0.1**
JMJ	**Miyako jima 2**	**0.41**	**245**	P	**Pn**	**14 52 51.4**	**-0.3**
JMJ				S	**Sn**	**14 52 59.5**	**+0.1**
JIKM	**Ikemajima**	**0.41**	**261**	P	**Pn**	**14 52 51.6**	**-0.2**
JIKM				S	**Sn**	**14 53 00.1**	**+0.6**
JIRB	**Irabujima**	**0.50**	**252**	P	**Pn**	**14 52 52.2**	**-0.6**
JIRB				S	**Sn**	**14 53 01.0**	**-0.2**
JTJ	**Tarama**	**0.97**	**249**	P	**Pn**	**14 52 58.5**	**-0.1**
JTJ				S	**Sn**	**14 53 11.4**	**-0.1**
JISG	**Ishigakijimahi**	**1.32**	**253**	P	**Pn**	**14 53 02.7**	**-0.6**
JISG				S	**Sn**	**14 53 19.6**	**-0.3**
JIJ	**Ishigaki jima**	**1.54**	**247**	P	**Pn**	**14 53 03.2**	**-0.7**
JIJ				eS	**Sn**	**14 53 25.2**	**-0.1**
JKE	**Kume jima 2**	**1.66**	**36**	P	**Pn**	**14 53 07.5**	**-0.4**
JKRS	**Kuro-shima**	**1.71**	**244**	P	**Pn**	**14 53 08.4**	**-0.2**
IRIF	**Iriomote-Funau**	**1.91**	**250**	P	**Pn**	**14 53 10.7**	**-0.5**
HATJ	**Hateruma jima**	**1.96**	**242**	P	**Pn**	**14 53 11.2**	**-0.8**
JAGN	**Aguni-jima**	**2.12**	**41**	P	**Pn**	**14 53 13.8**	**-0.3**
JJT2	**Tamagusuku 2**	**2.18**	**58**	P	**Pn**	**14 53 14.9**	**-0.1**
YOJ	**Yonaguni jima**	**2.50**	**258**	P	**Pn**	**14 53 18.6**	**-0.8**
YOJ				eS	**Sn**	**14 53 47.3**	**-1.4**
JYNG	**Yonagunijimaku**	**2.56**	**259**	P	**Pn**	**14 53 19.8**	**-0.4**
JYNG				eS	**Sn**	**14 53 48.9**	**-1.3**
JNTH	**Nagotoyohara**	**2.59**	**53**	P	**Pn**	**14 53 20.6**	**0.0**
JIH	**Iheya**	**2.88**	**45**	P	**Pn**	**14 53 24.9**	**+0.2**
JOW	**Kunigami**	**2.96**	**51**	P	**Pn**	**14 53 25.3**	**-0.4**
JOKE	**Okinoerabujima**	**3.50**	**47**	P	**Pn**	**14 53 32.2**	**-0.9**
JTK	**Tokunoshima**	**4.03**	**46**	P	**Pn**	**14 53 39.1**	**-1.3**
JAMN	**Amaminishikomi**	**4.49**	**43**	P	**Pn**	**14 53 44.8**	**-1.9**
JAM	**Amami Oshima**	**4.88**	**45**	P	**Pn**	**14 53 50.6**	**-1.4**
JMZ	**Minamidaito 2**	**5.06**	**79**	P	Pn	14 53 50.5	-4.0
JMZ				eS	Sn	14 54 43.7	-8.0
ASAJ	**Asahikawa**	**23.54**	**32**	P	**P**	**14 57 46.5**	**+0.2**
	3.3nm,1.0s,baz=247,slow=15						
SONM	**Songino Array**	**27.44**	**331**	P	**P**	**14 58 21.4**	**-0.5**
	0.4nm,0.4s,baz=140,slow=7.0,SNR=2.3						
SEY	**Seymchan**	**41.89**	**18**	P	**P**	**15 00 26.3**	**+0.5**
	1.0nm,0.7s,baz=233,slow=7.6,SNR=9.1						
ZALV	**Zalesovo Beam**	**41.89**	**325**	P	**P**	**15 00 25.3**	**-0.6**
	3.0nm,0.6s,baz=117,slow=8.6,SNR=12						
WRA	**Warrannunga Arr**	**45.44**	**169**	P	**P**	**15 00 53.9**	**-0.9**
	0.4nm,0.7s,baz=350,slow=8.7,SNR=2.5						
WRA				pP	**pP**	**15 01 09.3**	**+0.1**
	1.7nm,0.9s,baz=350,slow=8.6,SNR=7.8						
ASAR	**Alice Springs**	**49.02**	**170**	P	**P**	**15 01 22.4**	**-0.1**
	0.5nm,1.0s,baz=350,slow=7.3,SNR=4.9						
ASAR				pP	**pP**	**15 01 37.4**	**+0.1**
	1.1nm,1.1s,baz=353,slow=8.0,SNR=3.7						
GEYT	**Alibeck**	**57.94**	**300**	P	**P**	**15 02 29.8**	**+1.8**
	2.2nm,0.5s,baz=76,slow=6.1,SNR=4.2						
ILAR	**Eielson Array**	**66.60**	**28**	P	**P**	**15 03 25.6**	**+0.2**
	0.2nm,0.7s,baz=268,slow=6.3,SNR=3.8						
FINES	**FINESS Array B**	**72.81**	**330**	P	**P**	**15 04 03.7**	**+0.1**
	2.1nm,0.8s,baz=104,slow=5.9,SNR=4.1						
AKASG	**Malin Array Be**	**74.98**	**319**	P	**P**	**15 04 16.4**	**-0.1**
	1.0nm,0.6s,baz=57,slow=6.1,SNR=4.1						
BRTR	**Keskin Array B**	**75.98**	**307**	P	**P**	**15 04 23.4**	**+0.8**
	1.4nm,0.7s,baz=85,slow=6.4,SNR=6.2						
NB2	**NORSAR Subarra**	**79.40**	**333**	P	**P**	**15 04 41.3**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=61,slow=5.6						
NOA	**NORSAR Array B**	**79.40**	**333**	P	**P**	**15 04 40.9**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=57,slow=5.5,SNR=4.2						

MOS ***01*** *14:53:18.3±1.9,49.˚94N×157.˚00E,h20km,mb4.1/1,Error ellipse: s-maj=43.3km s-min=9.2km az=82.3*

KRSC 01 14:53:18.3±1.9,49.˚95N×157.˚00E,h20km±8km,ML4.1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.93**	**323**	*e*P	Pb	14 53 35.3	-0.5
SKR				eS	Sb	14 53 47.1	-0.6
SKR	**Severo-Kuril's**	**0.93**	**323**	*e*PN	Pb	14 53 26.5	-9.3
SKR				pmax	pmax		
	comp=Z,30nm,0.3s						
PAU	**Pauzhetka**	**1.53**	**356**	*e*P	Pb	14 53 45.7	-0.3
PAU				eS	Sb	14 54 05.4	+0.5
PAU	**Pauzhetka**	**1.53**	**356**	PN	Pb	14 53 45.7	-0.3
PAU				S	Sb	14 54 05.4	+0.5
MIPR	**Malaya Ipel'ka**	**2.34**	**356**	*e*P	Pn	14 53 57.1	+1.4
ASAK	**Asacha**	**2.51**	**13**	*e*P	Pb	14 54 01.0	-1.8
PET	**Petropavlovsk**	**3.25**	**18**	*e*P	Pb	14 54 12.2	-3.1
PET	**Petropavlovsk**	**3.25**	**18**	PN	Pb	14 54 12.2	-3.1
UGLR	**Uglovaya**	**3.46**	**18**	*e*P	Pn	14 54 14.9	+3.7
AVH	**Avacha**	**3.50**	**17**	*e*P	Pb	14 54 15.8	-3.8
AVH	**Avacha**	**3.50**	**17**	PN	Pb	14 54 15.8	-3.8
KOK	**Koryaka**	**3.50**	**16**	*e*P	Pn	14 54 15.6	+3.8
KOK	**Koryaka**	**3.50**	**16**	PN	Pn	14 54 15.6	+3.8
SMAR	**Somma**	**3.51**	**18**	*e*P	Pn	14 54 15.3	+3.3
SMAR	**Somma**	**3.51**	**18**	PN	Pn	14 54 15.3	+3.3
SDLR	**Sedlovina**	**3.54**	**19**	*e*P	Pn	14 54 14.7	+2.4
SDLR	**Sedlovina**	**3.54**	**19**	PN	Pn	14 54 14.7	+2.4
KRX	**Arik**	**3.57**	**16**	*e*P	Pb	14 54 17.1	-3.9
SPN	**Mys Shipunski**	**3.68**	**30**	*e*P	Pn	14 54 16.6	+2.6
SPN	**Mys Shipunski**	**3.68**	**30**	PN	Pn	14 54 16.6	+2.6
GNL	**Ganaly**	**3.80**	**8**	*e*P	Pn	14 54 19.9	+4.0
GNL	**Ganaly**	**3.80**	**8**	PN	Pn	14 54 19.9	+4.0
KBTR	**Krutoberegovo**	**7.18**	**27**	*e*P	Pn	14 55 07.3	+5.2
KBTR	**Krutoberegovo**	**7.18**	**27**	PN	Pn	14 55 07.3	+5.2

IDC ***01*** *15:21:43.8±0.4,1.˚14N×97.˚19E,h0km,mb4.6/29, mb1 4.7/32,mb1mx4.6/39,mbtmp4.6/32,ML4.5/3,MS4.7/4, Ms1 4.7/4,ms1mx4.0/18,Error ellipse: s-maj=14.0km s-min=10.1km az=50.0*

DJA ***01*** *15:21:45.8±0.4,1.˚N±3.˚×97.˚E±.˚,h10km,M4.9/19,mb5.1/19, mB5.3/15,MLv5.5/16,Mw(mB)4.7/15*

BJI ***01*** *15:21:46.2,1.˚04N×97.˚17E,h33km,mb5.2/73,mB5.2/63, Ms5.3/85,Ms7 5.2/79*

MOS ***01*** *15:21:47.6±1.0,1.˚23N×97.˚26E,h33km,mb5.2/40, MS4.8/17,Error ellipse: s-maj=8.4km s-min=5.2km az=106.1*

ISCJB ***01*** *15:21:48.8±0.4,1.˚20N±0.˚02×97.˚23E±0.˚02,h42km±3km, mb4.9/105,MS4.8/22,Error ellipse: s-maj=4.5km s-min=3.5km az=42.5*

GCMT ***01*** *15:21:49.6±0.2,1.˚09N×96.˚68E,h36km,MW5.1/66, Moment Tensor Solution. s51,c80; s66,c87; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr5.20±.20; Mθθ-1.14±.14; Mφφ-4.06±.17; Mrθ2.36±.16; Mθφ2.57±.11; M₀~2.49±.18; Best double couple: M₀6.38200×10¹⁶ NP1:φ₈142.00000°,δ61.00000°,λ83.00000°. NP2: φ₈338.00000°,δ30.00000°,λ103.00000°. Principal axes: T 6.2500, Plg73.0000°, Azm35.0000°; N 0.2650, Plg7.0000°, Azm146.0000°; P -6.5150, Plg16.0000°, Azm238.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***01*** *15:21:49.6±0.8,1.˚24N×97.˚19E,h38km±6km,mb5.0/49 Error ellipse: s-maj=6.9km s-min=4.5km az=54.0*

NEIC Felt [III] at Gunungsitoli. Also felt [III] at Sibolga, Sumatra.

KLM ***01*** *15:21:56.9,1.˚48N×97.˚54E,h57km,mb5.1,ML5.0,MS6.0*

ISC 01 15:21:48.8±0.3,1.˚22N±0.˚03×97.˚18E±0.˚03,h30km±1km, h29km:pP-P,n456,σ1.9/58/551,mb5.0/118,MS4.8/23, 38C-35D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.41**	**78**	P	**Pb**	**15 21 57.3**	**-0.5**
GSI				S	**Sn**	**15 22 06.3**	**+1.0**
GSI	**Gunungsitoli**	**0.41**	**78**	*e*Pn	**Pb**	**15 21 57.3**	**-0.5**
GSI				*e*Sn	**Sn**	**15 22 05.9**	**+0.6**
PBSI	**Pulau Batu**	**1.68**	**139**	P	**Pn**	**15 22 15.7**	**-0.4**
PBSI				S	**Sn**	**15 22 37.2**	**+0.5**
PSI	**Prapat**	**2.35**	**48**	Pn	**Pn**	**15 22 25.0**	**-0.5**
	40nm,0.3s,baz=206,slow=7.3,SNR=108						
PSI				LR	LR	15 22 52.6	
	comp=Z,5μm,21.7s,baz=295,slow=30						
PSI				Sn	**Sn**	**15 22 54.9**	**+1.5**
	88nm,0.3s,baz=216,slow=21,SNR=6.4						
MNSI	**Mandailing Nat**	**2.44**	**100**	P	**Pn**	**15 22 26.4**	**-0.2**
MNSI				S	**Sb**	**15 23 01.5**	**-0.1**
TSI	**Tuntungan**	**2.66**	**31**	P	**Pn**	**15 22 30.9**	**+1.2**
SISI	**Saibi**	**3.17**	**143**	P	**Pn**	**15 22 37.3**	**+0.6**
BKNI	**Bangkinang**	**3.96**	**103**	P	**Pn**	**15 22 48.3**	**+0.7**
BKNI	**Bangkinang**	**3.96**	**103**	*e*Pn	**Pn**	**15 22 47.9**	**+0.3**
LHMI	**Lhok Sumawe**	**3.99**	**357**	P	**Pn**	**15 22 47.8**	**-0.2**
LHMI	**Lhok Sumawe**	**3.99**	**357**	*e*Pn	**Pn**	**15 22 47.8**	**-0.2**
SDSI	**Sungai Dareh**	**4.76**	**117**	P	**Pn**	**15 22 59.9**	**+1.4**
FRIM	**Kepong**	**4.88**	**66**	↑P	**Pn**	**15 23 01.7**	**+1.5**
FRIM	**Kepong**	**4.88**	**66**	↑P	**Pn**	**15 23 01.7**	**+1.5**
IPM	**Ipoh**	**5.03**	**50**	↓P	**Pn**	**15 23 04.6**	**+2.4**
IPM	**Ipoh**	**5.03**	**50**	↓P	**Pn**	**15 23 04.6**	**+2.4**
IPM	**Ipoh**	**5.03**	**50**	↑*i*Pn	**Pn**	**15 23 03.0**	**+0.8**
	355nm,0.8s						
KULM	**Kulim**	**5.33**	**41**	↓P	**Pn**	**15 23 07.5**	**+1.1**
KULM	**Kulim**	**5.33**	**41**	↓P	**Pn**	**15 23 07.5**	**+1.1**
KULM	**Kulim**	**5.33**	**41**	↑*e*Pn	**Pn**	**15 23 06.0**	**-0.4**
	484nm,0.8s						
KGM	**Kluang**	**6.19**	**83**	↑P	**Pn**	**15 23 20.1**	**+1.8**
KGM	**Kluang**	**6.19**	**83**	↑P	**Pn**	**15 23 20.1**	**+1.8**
CMBY	**CAMPBELL BAY**	**6.61**	**331**	*e*P	**Pn**	**15 23 26.0**	**+2.1**
CMBY				AMB	AMB	15 24 05.1	
	comp=Z,179nm,0.3s						
MYKOM	**Kota Tinggi**	**6.69**	**85**	↑P	**Pn**	**15 23 27.0**	**+1.8**
MYKOM	**Kota Tinggi**	**6.69**	**85**	↑P	**Pn**	**15 23 27.0**	**+1.8**
SKLT	**Songkhla**	**6.84**	**30**	P	**Pn**	**15 23 28.3**	**+1.2**
	comp=Z,252nm,0.9s,comp=Z,2μmcomp=Z,1.3nm						
TRTT	**Trang**	**7.04**	**21**	P	**Pn**	**15 23 29.8**	**-0.1**
	comp=Z,151nm,1.2s,comp=Z,2μmcomp=Z,0.8nm						
KTGM	**Kuala Trenggan**	**7.21**	**55**	↓P	**Pn**	**15 23 33.5**	**+1.2**
KTGM	**Kuala Trenggan**	**7.21**	**55**	↓P	**Pn**	**15 23 33.5**	**+1.2**
TPRI	**Tanjung Pinang**	**7.35**	**92**	P	**Pn**	**15 23 35.7**	**+1.5**
	comp=Z,85nm,0.7s,comp=Z,4μmcomp=Z,1.3nm						
LHSI	**Lahat**	**8.08**	**128**	P	**Pn**	**15 23 44.4**	**+0.2**
	comp=Z,155nm,1.1s,comp=Z,2μm						
SURA	**Surathani**	**8.27**	**17**	P	**Pn**	**15 23 46.7**	**0.0**
	comp=Z,55nm,0.7s,comp=Z,0.3nm						
PMBI	**Palembang**	**8.64**	**118**	P	Pn	15 23 44.8	-7.1
	comp=Z,358nm,0.5s						
MDSI	**Maura Dua**	**9.00**	**129**	P	**Pn**	**15 23 56.7**	**-0.2**
	comp=Z,100nm,0.9s						
LWLI	**Liwa**	**9.25**	**132**	P	**Pn**	**15 24 01.2**	**+0.8**
	comp=Z,137nm,0.7s						
KASI	**Kota Agung**	**9.91**	**133**	P	**Pn**	**15 24 07.9**	**-1.5**
	comp=Z,90nm,0.7s						
KSM	**Kuching**	**13.13**	**89**	↓P	**Pn**	**15 24 56.1**	**+2.7**
KSM	**Kuching**	**13.13**	**89**	↓P	**Pn**	**15 24 56.1**	**+2.7**
KSM	**Kuching**	**13.13**	**89**	↑*e*Pn	**Pn**	**15 24 54.4**	**+1.0**
	comp=Z,39nm,0.8s						
SRDT	**SRDT**	**13.19**	**8**	P	**P**	**15 25 06.9**	**+3.1**
STKI	**Sintang**	**14.34**	**94**	P	**Pn**	**15 25 13.0**	**+3.0**
	comp=Z,65nm,0.9s,comp=Z,8μm						
UTHA	**Uthaitani**	**14.43**	**9**	P	**P**	**15 25 17.7**	**+0.1**
PBKI	**Pangkalan Bun**	**15.00**	**105**	P	**P**	**15 25 25.7**	**+1.6**
SBUM	**Sibu**	**15.08**	**85**	↑P	**Pn**	**15 25 21.2**	**+1.2**
SBUM	**Sibu**	**15.08**	**85**	↑P	**Pn**	**15 25 21.2**	**+1.2**
CHAI	**Chaiyaphum**	**15.34**	**18**	P	**Pn**	**15 25 23.9**	**+0.5**
	comp=Z,26nm,0.9s,comp=Z,198nm						
DLV	**T Lat**	**15.47**	**46**	*e*Pn	**Pn**	**15 25 26.0**	**+0.7**
	comp=Z,72nm,1.0s						
SMRI	**Semarang**	**15.57**	**122**	*e*Pn	**P**	**15 25 29.1**	**-1.3**
	comp=Z,50nm,0.8s						
PBKT	**Sadao Pong**	**15.71**	**14**	P	**Pn**	**15 25 28.3**	**+0.2**
	comp=Z,78nm,1.0s,comp=Z,1μm						
BTM	**Bintulu**	**16.01**	**83**	↑P	**P**	**15 25 34.8**	**-0.5**
BTM	**Bintulu**	**16.01**	**83**	↑P	**P**	**15 25 34.8**	**-0.5**
KHON	**Khomkaen**	**16.02**	**20**	P	**P**	**15 25 35.7**	**+0.4**
	comp=Z,30nm,0.9s						
UBPT	**Khong Chiam**	**16.19**	**30**	P	**Pn**	**15 25 34.8**	**+0.4**
	comp=Z,150nm,0.8s,comp=Z,2μm						
LOEI	**Loei**	**16.68**	**14**	P	**Pn**	**15 25 41.5**	**+0.9**
	comp=Z,66nm,0.8s,comp=Z,5μm						
UTTA	**Uttaradit**	**16.75**	**11**	P	**Pn**	**15 25 41.6**	**+0.1**
	comp=Z,17nm,1.0s						
MHMT	**Maesarieng**	**16.87**	**2**	P	**P**	**15 25 45.8**	**+1.1**
	comp=Z,23nm,0.9s,comp=Z,355nm						
SKNT	**Sakolnakorn**	**17.03**	**23**	P	**Pn**	**15 25 44.7**	**-0.2**
	comp=Z,106nm,1.0s,comp=Z,1μm						
CMAR	**Chiang Mai Arr**	**17.22**	**6**	P	**Pn**	**15 25 46.5**	**-0.8**
	comp=Z,2.0nm,0.3s,baz=195,slow=13,SNR=47						
CMAR				PcP	**PcP**	**15 30 31.1**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=214,slow=2.1,SNR=5.4						
CMAR				LR	LR	15 33 49.8	
	comp=Z,4μm,18.1s,baz=198,slow=42						
LAMP	**Lampang**	**17.36**	**8**	P	**P**	**15 25 50.0**	**-0.2**
	comp=Z,12nm,0.9s,comp=Z,91nm						
PALK	**Pallekele**	**17.49**	**291**	P	**Pn**	**15 25 50.1**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=106,slow=13,SNR=6.1						
PALK				LR	LR	15 32 15.5	
	comp=Z,3μm,18.8s,baz=112,slow=36						
CMMT	**Chiang Mai**	**17.57**	**6**	P	**Pn**	**15 25 50.9**	**-0.8**
	comp=Z,40nm,0.9s,comp=Z,938nm						
CHTO	**Chiang Mai**	**17.57**	**6**	P	**Pn**	**15 25 51.0**	**-0.7**
	comp=Z,136nm,0.9s,comp=Z,3μm						
CHTO	**Chiang Mai**	**17.57**	**6**	*e*P	**Pn**	**15 25 50.3**	**-1.4**
CHTO				pmax	pmax		
	comp=Z,21nm,0.8s						
CHTO	**Chiang Mai**	**17.57**	**6**	*e*Pn	**Pn**	**15 25 50.3**	**-1.4**
	comp=Z,21nm,0.8s						
CMAI	**Chiengmai2**	**18.69**	**5**	P	**Pn**	**15 26 06.4**	**+0.9**
	comp=Z,78nm,0.9s,comp=Z,5μm						
CRAI	**Chiangrai**	**19.15**	**9**	P	**P**	**15 26 07.5**	**-2.4**
	comp=Z,140nm,0.8s,comp=Z,4μm						
KKM	**Kota Kinabalu**	**19.59**	**75**	↑P	**Pn**	**15 26 15.8**	**-0.5**
KKM	**Kota Kinabalu**	**19.59**	**75**	↑P	**Pn**	**15 26 15.8**	**-0.5**
KKM	**Kota Kinabalu**	**19.59**	**75**	↑*e*P	**P**	**15 26 14.8**	**0.0**
	comp=Z,59nm,0.8s						
KDM	**Kudat**	**20.40**	**73**	↑P	Pn	15 26 24.7	-1.1
KDM	**Kudat**	**20.40**	**73**	↑P	Pn	15 26 24.7	-1.1
SDKM	**Sandakan**	**20.45**	**77**	↑P	**P**	**15 26 25.2**	**+1.0**
SDKM	**Sandakan**	**20.45**	**77**	↑P	**P**	**15 26 25.2**	**+1.0**
TSM	**Tawau**	**20.89**	**81**	↑P	**P**	**15 26 29.4**	**+0.5**
TSM	**Tawau**	**20.89**	**81**	↑P	**P**	**15 26 29.4**	**+0.5**
SLVN	**Son La**	**21.04**	**18**	↑*i*P	**P**	**15 26 30.0**	**-0.5**
	comp=Z,109nm,0.8s						
SKHT	**Srikalahasti**	**21.30**	**307**	*e*P	P	15 26 38.1	+4.8
SKHT				IAmb	IAmb	15 26 46.5	
	comp=Z,27nm,0.9s						
SKHT				eS	**S**	**15 30 25.6**	**-3.0**
SKHT				IVMs_BB	IVMs_BB	15 34 27.3	
	comp=Z,777nm,4.6s						
VIS	**Vishakhapatnam**	**21.31**	**321**	*e*P	**P**	**15 26 34.7**	**+1.3**
TRD	**Trivandrum**	**21.40**	**290**	*e*P	**P**	**15 26 36.3**	**+1.9**
TRD				eS	**S**	**15 30 34.2**	**+3.6**
CHLP	**Challavanipeta**	**21.47**	**324**	*e*P	**P**	**15 26 37.1**	**+2.1**
CHLP				IAmb	IAmb	15 26 42.0	
	comp=Z,78nm,1.0s						
CHLP				eS	**S**	**15 30 30.4**	**-1.5**
CHLP				IVMsBB		15 38 23.4	
	comp=Z,510nm,13.8s						
QIZ	**Qiongzhong**	**21.62**	**34**	P	**P**	**15 26 36.6**	**-0.1**
QIZ				pP	**pP**	**15 26 43.4**	**-1.3**
QIZ				sP	**sP**	**15 26 46.1**	**-2.4**
QIZ				S	**S**	**15 30 37.5**	**+2.6**
QIZ				sS	**sS**	**15 30 47.5**	**0.0**
QIZ				PMZ			
	comp=Z,50nm,0.9s						
QIZ				LN			
	comp=Z,3μm,14.1s						
QIZ				LZ			
	comp=Z,3μm,12.7s						
QIZ	**Qiongzhong**	**21.62**	**34**	↑*i*P	**P**	**15 26 35.2**	**-1.5**
	comp=Z,40nm,0.8s						
MYLDM	**Lahad Datu**	**21.65**	**79**	↑P	**P**	**15 26 37.6**	**+0.5**
MYLDM	**Lahad Datu**	**21.65**	**79**	↑P	**P**	**15 26 37.6**	**+0.5**
PVM	**Polavaram**	**22.09**	**317**	*e*P	**P**	**15 26 43.9**	**+2.2**
PVM				IAmb	IAmb	15 26 54.4	
	comp=Z,20nm,0.9s						
PVM				eS	**S**	**15 30 42.2**	**-1.6**
PVM				IVMs_BB	IVMs_BB	15 40 07.5	
	comp=Z,572nm,17.2s						
ADKI	**Addanki**	**22.34**	**311**	*e*P	**P**	**15 26 48.6**	**+4.1**
ADKI				IAmb	IAmb	15 27 01.8	
	comp=Z,42nm,1.2s						
ADKI				eS	**S**	**15 30 48.1**	**-0.6**
RCLA	**Racherla**	**22.88**	**309**	*e*P	**P**	**15 26 51.5**	**+1.3**
RCLA				IAmb	IAmb	15 27 05.7	
	comp=Z,33nm,1.1s						
RCLA				eS	**S**	**15 30 55.2**	**-3.0**
RCLA				IVMs_BB	IVMs_BB	15 37 44.3	
	comp=Z,641nm,8.7s						
NJS	**Nagarjunasagar**	**23.28**	**312**	*e*P	**P**	**15 26 55.1**	**+0.8**
NJS				IAmb	IAmb	15 26 58

H08N3	**Diego Garcia H**	**27.20**	**254**	T	T	15 56 25.0				
	baz=132,slow=74,SNR=199									
TAPN	**Taplejung**	**27.53**	**342**	*e*P	**P**	**15 27 34.9 +1.5**				
	comp=Z,170nm,0.8s									
RAMN	**Ramite**	**27.53**	**339**	*e*P	**P**	**15 27 34.8 +1.5**				
	comp=Z,104nm,0.9s									
SZP	**Santa**	**28.05**	**53**	*e*P	**P**	**15 27 37.4 -0.4**				
	comp=Z,222nm,0.8s									
PKI	**Pulchoki**	**28.53**	**338**	*e*P	**P**	**15 27 43.8 +1.4**				
	comp=Z,75nm,1.0s									
PKIN	**Phulchoki**	**28.54**	**338**	*e*P	**P**	**15 27 43.6 +1.2**				
	comp=Z,125nm,1.3s									
GUN	**Gumba**	**28.66**	**339**	*e*P	**P**	**15 27 44.9 +1.3**				
	comp=Z,143nm,0.8s									
DMN	**Daman**	**28.68**	**337**	*e*P	**P**	**15 27 45.7 +2.1**				
	comp=Z,50nm,0.9s									
KKN	**Kakani**	**28.78**	**338**	*e*P	**P**	**15 27 45.4 +1.0**				
	comp=Z,78nm,0.9s									
LSA	**Lhasa**	**28.90**	**349**	P	**P**	**15 27 47.3 +1.5**				
LSA				LZ						
	comp=Z,1µm,19.2s									
LSA	**Lhasa**	**28.90**	**349**	*e*P	**P**	**15 27 46.4 +0.6**				
LSA				pmax	pmax					
	comp=Z,29nm,0.9s									
LSA	**Lhasa**	**28.90**	**349**	*e*P	**P**	**15 27 46.4 +0.6**				
	comp=Z,29nm,0.9s									
BHPL	**Bhopal**	**29.10**	**320**	*ex*	P	15 27 41.6 -5.6				
GKN	**Gorkha**	**29.21**	**337**	*e*P	**P**	**15 27 49.4 +1.2**				
	comp=Z,163nm,1.2s									
KOLN	**Koldanda**	**29.43**	**335**	*e*P	**P**	**15 27 51.7 +1.5**				
	comp=Z,64nm,0.7s									
CD2	**Chengdu**	**30.18**	**11**	P	**P**	**15 27 56.7 +0.1**				
CD2				pP	**pP**	**15 28 04.8 -0.5**				
CD2				sP	**sP**	**15 28 08.4 -0.5**				
CD2				PP	**PnPn**	**15 28 55.8 +1.0**				
CD2				PcP	**PcP**	**15 30 57.3 -0.2**				
CD2				S	**S**	**15 32 53.2 -1.0**				
CD2				sS	**sS**	**15 33 06.7 -1.7**				
CD2				SS	**SnSn**	**15 34 32.3 +3.2**				
CD2				PMZ						
	comp=Z,40nm,1.2s									
CD2				PMZ						
	comp=Z,110nm,6.5s									
CD2				LN						
	comp=Z,5µm,16.0s									
CD2				LZ						
	comp=Z,7µm,15.2s									
ENH	**Enshi**	**31.17**	**21**	*e*P	**P**	**15 28 03.7 -1.7**				
	comp=Z,50nm,0.7s									
MBWA	**Marble Bar**	**31.32**	**136**	P	**P**	**15 28 06.6 -0.2**				
	comp=Z,14nm,0.9s									
QZH	**Quanzhou**	**31.37**	**40**⇑	*i*P	**P**	**15 28 08.0 +0.8**				
QZH				S	**S**	**15 33 10.2 -2.6**				
QZH				PMZ						
	comp=Z,80nm,0.7s									
QZH				PMZ						
	comp=Z,580nm,6.3s									
QZH				LN						
	comp=Z,5µm,13.5s									
QZH				LE						
	comp=Z,3µm,14.0s									
QZH				LZ						
	comp=Z,7µm,14.4s									
TPUB	**Ta-pu**	**31.62**	**44**	*e*P	**P**	**15 28 09.3 -0.1**				
	comp=Z,42nm,1.1s									
YULB	**Yu-li**	**32.15**	**45**	*e*P	**P**	**15 28 14.2 +0.2**				
	comp=Z,35nm,1.0s									
SSLB	**Suanglung**	**32.16**	**44**	*e*P	**P**	**15 28 14.8 +0.6**				
	comp=Z,36nm,1.0s									
NACB	**Ningamchiao**	**32.85**	**44**	*e*P	**P**	**15 28 20.4 +0.2**				
YHNB	**Yeheng**	**33.03**	**43**	*e*P	**P**	**15 28 19.4 -2.4**				
WHN	**Wuhan**	**33.41**	**28**	P	**P**	**15 28 25.7 +0.8**				
WHN				S	S	15 33 50.9 +6.5				
WHN				LN						
	comp=Z,2µm,11.7s									
WHN				LE						
	comp=Z,5µm,14.5s									
WHN				LZ						
	comp=Z,6µm,14.3s									
FITZ	**Fitzroy Crossi**	**33.96**	**126**	*e*P	**P**	**15 28 28.1 -1.7**				
	comp=Z,9.5nm,0.8s									
XAN	**Xi'an**	**34.45**	**17**	P	**P**	**15 28 33.4 -0.6**				
XAN				pP	**pP**	**15 28 40.8 -1.9**				
XAN				PP	**PP**	**15 29 53.8 +1.3**				
XAN				S	**S**	**15 33 58.3 -2.3**				
XAN				PMZ						
	comp=Z,26nm,0.9s									
XAN				PMZ						
	comp=Z,38nm,5.1s									
XAN				LN						
	comp=Z,2µm,16.4s									
XAN				LE						
	comp=Z,760nm,16.4s									
XAN				LZ						
	comp=Z,1µm,16.4s									
BHJ	**Bhuj**	**34.54**	**311**	*e*P	**P**	**15 28 35.5 +0.6**				
LZH	**Lanzhou**	**35.24**	**9**	P	**P**	**15 28 41.9 +0.9**				
LZH				pP	**pP**	**15 28 50.9 +1.2**				
LZH				sP	**sP**	**15 28 54.3 +1.0**				
LZH				PP	**PP**	**15 30 03.4 +2.1**				
LZH				S	**S**	**15 34 11.0 -2.0**				
LZH				sS	**sS**	**15 34 27.1 -0.2**				
LZH				SS	**SnSn**	**15 36 36.6 +4.6**				
LZH				PMZ						
	comp=Z,42nm,1.1s									
LZH				PMZ						
	comp=Z,130nm,4.3s									
LZH				LN						
	comp=Z,3µm,16.4s									
LZH				LE						
	comp=Z,2µm,15.1s									
LZH				LZ						
	comp=Z,4µm,17.7s									
SMLA	**Simla**	**35.27**	**329**	*e*P	**P**	**15 28 40.6 -0.5**				
SMLA				AMB	AMB	15 28 56.3				
	comp=Z,22nm,0.7s									
DHRM	**DHARAMSHALA**	**36.61**	**330**	*e*P	**P**	**15 28 53.3 +0.5**				
DHRM				AMB	AMB	15 29 13.9				
	comp=Z,46nm,2.6s									
NJ2	**Nanjing**	**36.86**	**32**	*e*P	**P**	**15 28 55.8 +1.1**				
NJ2				pP	**pP**	**15 29 02.2 -1.2**				
NJ2				sP	**sP**	**15 29 05.7 -1.3**				
NJ2				S	**S**	**15 34 40.0 +2.5**				
NJ2				sS	**sS**	**15 34 50.5 -1.4**				
NJ2				PMZ						
	comp=Z,20nm,0.6s									
NJ2				PMZ						
	comp=Z,470nm,5.5s									
NJ2				LN						
	comp=Z,3µm,14.1s									
NJ2				LE						
	comp=Z,5µm,15.0s									
NJ2				LZ						
	comp=Z,5µm,14.9s									
SSE	**Sheshan**	**37.41**	**35**	P	**P**	**15 28 59.8 +0.4**				
SSE				sP	**sP**	**15 29 12.3 +0.6**				
SSE				PP	**PnPn**	**15 30 26.8 +0.9**				
SSE				S	**S**	**15 34 47.1 +1.2**				
SSE				sS	**sS**	**15 35 01.2 +0.9**				
SSE				PMZ						
	comp=Z,61nm,0.8s									
SSE				PMZ						
	comp=Z,170nm,11.0s									
SSE				LN						
	comp=Z,2µm,14.9s									
SSE				LE						
	comp=Z,1µm,14.9s									
SSE				LZ						
	comp=Z,2µm,14.7s									
GTA	**Gaotai**	**38.09**	**3**	*e*P	**P**	**15 29 05.5 +0.4**				
GTA				pP	**pP**	**15 29 13.0 -0.9**				
GTA				sP	**sP**	**15 29 16.1 -1.4**				
GTA				PcP	**PcP**	**15 31 21.4 +1.4**				
GTA				S	**S**	**15 34 54.5 -1.8**				
GTA				sS	**sS**	**15 35 09.0 -1.7**				
GTA				SS	**SnSn**	**15 37 32.7 -8.0**				
GTA				PMZ						
	comp=Z,44nm,0.9s									
GTA				PMZ						
	comp=Z,330nm,5.9s									
GTA				LN						
	comp=Z,2µm,14.2s									
GTA				LE						
	comp=Z,1µm,14.5s									
GTA				LZ						
	comp=Z,2µm,14.7s									
TIY	**Taiyuan**	**38.94**	**19**	*e*P	**P**	**15 29 13.0 +0.7**				
TIY				S	S	15 35 02.0 -7.1				
TIY				PMZ						
	comp=Z,180nm,6.9s									
TIY				LN						
	comp=Z,3µm,13.4s									
TIY				LE						
	comp=Z,1µm,11.6s									
TIY				LZ						
	comp=Z,3µm,13.3s									
JOW	**Kunigami**	**39.24**	**47**	*e*P	**P**	**15 29 15.1 +0.2**				
	comp=Z,19nm,0.8s									
H01W3	**Cape Leeuwin H**	**39.27**	**158**	T	T	16 10 38.5				
	baz=333,slow=76,SNR=72									
H01W2	**Cape Leeuwin H**	**39.28**	**158**	T	T	16 10 39.5				
	baz=333,slow=76,SNR=79									
H01W1	**Cape Leeuwin H**	**39.28**	**158**	T	T	16 10 39.7				
	baz=333,slow=76,SNR=88									
TIA	**Tai'an**	**39.42**	**26**	⇓P	**P**	**15 29 16.2 -0.1**				
TIA				PMZ						
	comp=Z,10.0nm,0.9s									
TIA				PMZ						
	comp=Z,280nm,5.9s									
TIA				LN						
	comp=Z,2µm,18.0s									
TIA				LE						
	comp=Z,2µm,14.4s									
TIA				LZ						
	comp=Z,3µm,15.8s									
HHC	**Hu-ho-hao-te**	**41.55**	**17**	*e*P	**P**	**15 29 34.5 +0.6**				
HHC				sP	**sP**	**15 29 44.0 -2.2**				
HHC				PP	**PP**	**15 31 12.3 +2.1**				
HHC				S	**S**	**15 35 51.5 +3.5**				
HHC				sS	**sS**	**15 36 03.4 +0.9**				
HHC				SS	**SS**	**15 38 46.9 -6.6**				
HHC				PMZ						
	comp=Z,30nm,0.9s									
HHC				PMZ						
	comp=Z,350nm,5.7s									
HHC				LN						
	comp=Z,3µm,14.0s									
HHC				LE						
	comp=Z,2µm,13.7s									
HHC				LZ						
	comp=Z,3µm,13.9s									
WRA	**Warramunga Arr**	**42.06**	**122**	P	**P**	**15 29 38.2 -0.1**				
	comp=Z,13nm,0.8s,baz=300,slow=9.0,SNR=70									
WRA				LR	LR	15 47 35.0				
	comp=Z,1µm,22.0s,baz=275,slow=37									
WRA	**Warramunga Arr**	**42.06**	**122**	*i* P	**P**	**15 29 38.2 -0.1**				
WRA				pmax	pmax					
	comp=Z,14nm,0.7s									
WRAB	**Tennant Creek**	**42.07**	**122**	P	**P**	**15 29 38.6 +0.3**				
	comp=Z,150nm,0.6s,SNR=7.5									
WRAB	**Tennant Creek**	**42.07**	**122**	*c i* P	**P**	**15 29 38.6 +0.3**				
WRAB				pmax	pmax					
	comp=Z,124nm,2.5s									
WRAB	**Tennant Creek**	**42.07**	**122**	*e*P	**P**	**15 29 38.1 -0.2**				
	comp=Z,18nm,0.8s									
KSJJU	**Jeju**	**42.25**	**38**	P	**P**	**15 29 41.1 +1.4**				
	SNR=6.3									
KSJJU	**Jeju**	**42.25**	**38**	P	**P**	**15 29 41.1 +1.4**				
	SNR=6.3									
KBL	**Kabul**	**42.29**	**325**	P	**P**	**15 29 41.1 +0.9**				
KBL	**Kabul**	**42.29**	**325**	P	**P**	**15 29 41.1 +0.9**				
BJT	**Baijiatuau**	**42.31**	**22**	*e*P	**P**	**15 29 40.8 +0.9**				
BJT				pmax	pmax					
	comp=Z,61nm,0.6s									
BJT	**Baijiatuau**	**42.31**	**22**	*e*P	**P**	**15 29 40.8 +0.9**				
	comp=Z,61nm,0.6s									
BJI	**Beijing**	**42.33**	**22**	P	**P**	**15 29 41.4 +1.3**				
BJI				PP	**PP**	**15 31 22.1 +3.5**				
BJI				S	**S**	**15 36 01.2 +1.9**				
BJI				PMZ						
	comp=Z,82nm,0.8s									
BJI				PMZ						
	comp=Z,410nm,4.8s									
BJI				LN						
	comp=Z,790nm,14.6s									
BJI				LE						
	comp=Z,1µm,17.4s									
BJI				LZ						
	comp=Z,630nm,22.3s									
KSHUK	**Heuksando**	**42.48**	**35**	P	**P**	**15 29 43.0 +1.6**				
	SNR=7.9									
KSHUK	**Heuksando**	**42.48**	**35**	P	**P**	**15 29 43.0 +1.6**				
	SNR=7.9									
KSH	**Kashi**	**42.75**	**336**	P	**P**	**15 29 43.6 -0.1**				
KSH				pP	**pP**	**15 29 53.1 +0.6**				
KSH				sP	**sP**	**15 29 57.2 +1.1**				
KSH				PP	**PP**	**15 31 26.0 +2.8**				
KSH				PcP	**PcP**	**15 31 36.9 +1.9**				
KSH				PcS	**PcS**	**15 35 27.1 -0.1**				
KSH				S	**S**	**15 36 02.3 -3.5**				
KSH				sS	**sS**	**15 36 19.2 -1.1**				
KSH				SS	**SS**	**15 39 11.1 -6.2**				
KSH				PMZ						
	comp=Z,12nm,0.6s									
KSH				PMZ						
	comp=Z,240nm,3.6s									
KSH				LN						
	comp=Z,340nm,4.8s									
KSH				LE						
	comp=Z,290nm,6.0s									
KSH				LZ						
	comp=Z,290nm,5.4s									
KSJDO	**Jindo**	**42.83**	**36**	P	**P**	**15 29 45.1 +0.8**				
	SNR=22									
KSJDO	**Jindo**	**42.83**	**36**	P	**P**	**15 29 45.1 +0.8**				
	SNR=22									
WMQ	**Urumqi**	**43.25**	**350**	P	**P**	**15 29 49.6 +1.9**				
WMQ				pP	**pP**	**15 29 56.6 +0.1**				
WMQ				sP	**sP**	**15 30 00.6 +0.6**				
WMQ				PcP	**PcP**	**15 31 39.6 +3.1**				
WMQ				S	**S**	**15 36 13.8 +0.8**				
WMQ				sS	**sS**	**15 36 25.6 -1.9**				
WMQ				ScS	**ScS**	**15 39 46.2 +0.3**				
WMQ				PMZ						
	comp=Z,41nm,1.2s									
WMQ				PMZ						
	comp=Z,330nm,4.6s									
WMQ				LN						
	comp=Z,630nm,24.4s									
WMQ				LE						
	comp=Z,1µm,21.5s									
WMQ				LZ						
	comp=Z,650nm,25.8s									
FORT	**Forrest**	**43.30**	**140**	*e*P	**P**	**15 29 49.3 +1.2**				
	comp=Z,51nm,0.8s									
FORT				*e*		15 29 57.1				
ASAR	**Alice Springs**	**43.42**	**127**	P	**P**	**15 29 48.6 -0.7**				
	comp=Z,11nm,0.8s,baz=299,slow=7.4,SNR=88									
ASAR				PcP	**PcP**	**15 31 38.2 +0.8**				
	comp=Z,2.7nm,0.9s,baz=297,slow=4.1,SNR=5.2									
ASAR				ScP	**ScP**	**15 35 27.5 +0.5**				
	comp=Z,0.9nm,0.9s,baz=320,slow=4.1,SNR=4.0									
ASAR				S	**S**	**15 36 13.9 -2.1**				
	comp=Z,0.8nm,0.8s,baz=296,slow=14,SNR=5.2									
KSKWJ	**Gwangju**	**43.71**	**36**	P	**P**	**15 29 51.9 +0.5**				
	SNR=12									
KSKWJ	**Gwangju**	**43.71**	**36**	P	**P**	**15 29 51.9 +0.5**				
	SNR=12									
KSJEU	**Jeongeup**	**43.91**	**36**	P	**P**	**15 29 53.2 +0.2**				
	SNR=17									
KSJEU	**Jeongeup**	**43.91**	**36**	P	**P**	**15 29 53.2 +0.2**				
	SNR=17									
KSNAH	**Namhae**	**44.03**	**37**	P	**P**	**15 29 55.1 +1.1**				
	SNR=9.4									
KSNAH	**Namhae**	**44.03**	**37**	P	**P**	**15 29 55.1 +1.1**				
	SNR=9.4									
KSGUS	**GUNSAN**	**44.20**	**35**	P	**P**	**15 29 56.1 +0.9**				
	SNR=8.8									
KSGUS	**GUNSAN**	**44.20**	**35**	P	**P**	**15 29 56.0 +0.7**				
	SNR=6.8									
KSJEO	**Jeonju**	**44.43**	**36**	P	**P**	**15 29 57.6 +0.4**				
	SNR=12									
KSJEO	**Jeonju**	**44.43**	**36**	P	**P**	**15 29 57.6 +0.4**				
	SNR=12									
KSBAR	**Backryungdo**	**44.48**	**31**	P	**P**	**15 29 57.9 +0.4**				
	SNR=7.2									
KSSES	**Seosan**	**44.55**	**34**	P	**P**	**15 29 58.5 +0.4**				
	SNR=22									
KSSES	**Seosan**	**44.55**	**34**	P	**P**	**15 29 58.5 +0.4**				
	SNR=22									
KSKOJ	**Gongju**	**44.71**	**35**	P	**P**	**15 29 59.9 +0.6**				
	SNR=17									
KSKOJ	**Gongju**	**44.71**	**35**	P	**P**	**15 29 59.9 +0.6**				
	SNR=17									
KSTEJ	**Daejeon**	**44.77**	**35**	P	**P**	**15 30 00.6 +0.7**				
	SNR=10.0									
KSTEJ	**Daejeon**	**44.77**	**35**	P	**P**	**15 30 00.6 +0.7**				
	SNR=10.0									
TJN	**Taejon**	**44.77**	**35**	*d i* P	**P**	**15 29 59.6 -0.3**				
PDGK	**Podgornoye**	**44.81**	**342**	P	**P**	**15 30 01.0 +1.0**				
PDGK				pmax	pmax					
	comp=Z,28nm,1.2s									
ULHL	**Ulahol**	**44.97**	**338**	P	**P**	**15 30 02.8 +1.2**				
	SNR=13									
KSCPR	**CHUPUNGNYEONG**	**45.02**	**36**	P	**P**	**15 30 02.5 +0.6**				
	SNR=5.2									
KSCEA	**Cheonan**	**45.02**	**35**	P	**P**	**15 30 02.2 +0.3**				
	SNR=14									
KSBUS	**Busan**	**45.04**	**38**	P	**P**	**15 30 03.3 +1.3**				
	SNR=13									
KSBON	**Boeun**	**45.11**	**35**	P	**P**	**15 30 03.0 +0.5**				
	SNR=59									
KSBON	**Boeun**	**45.11**	**35**	P	**P**	**15 30 03.1 +0.5**				
	SNR=8.7									
INCN	**Inchon**	**45.15**	**33**	*e*P	**P**	**15 30 02.4 -0.5**				
	comp=Z,8.8nm,0.4s									
KSSAJ	**Sangju**	**45.26**	**36**	P	**P**	**15 30 04.4 +0.7**				
	SNR=6.6									
KSDAG	**Daegu**	**45.26**	**37**	P	**P**	**15 30 04.7 +0.9**				
	SNR=6.6									
KSICN	**Icheon**	**45.45**	**34**	P	**P**	**15 30 05.6 +0.4**				
	SNR=6.0									
KSCHJ	**Chungju**	**45.47**	**35**	P	**P**	**15 30 05.6 +0.2**				
	SNR=27									
KSMUS	**Musan**	**45.51**	**33**	P	**P**	**15 30 06.0 +0.3**				
	SNR=5.6									
DZET	**Dzherino**	**45.52**	**329**	P	**P**	**15 30 05.6 -0.4**				
DZET				pmax	pmax					
	comp=Z,21nm,0.8s									
UCH	**Uchtor**	**45.62**	**336**	P	**P**	**15 30 07.5 +0.4**				
	SNR=22									
YNCB	**YEONCHEON**	**45.71**	**33**	P	**P**	**15 30 07.4 +0.1**				
	SNR=14									
TKM2	**Tokmak 2**	**45.79**	**338**	P	**P**	**15 30 08.9 +0.8**				
	SNR=14									
TKM2	**Tokmak 2**	**45.79**	**338**	*e*P	**P**	**15 30 08.4 +0.2**				
TKM2				pmax	pmax					
	comp=Z,17nm,1.0s									
TKM2	**Tokmak 2**	**45.79**	**338**	*e*P	**P**	**15 30 08.3 +0.2**				
	comp=Z,16nm,1.0s									
KBK	**Karagaybulak**	**45.82**	**337**	P	**P**	**15 30 10.4 +2.1**				
	SNR=14									
KSAR	**Wonju Array Be**	**45.82**	**35**	P	**P**	**15 30 08.1 0.0**				
KSAR	**Wonju Array Be**	**45.82**	**35**	P	**P**	**15 30 08.1 0.0**				
KSPHA	**Pohang**	**45.83**	**37**	P	**P**	**15 30 10.0 +1.8**				
	SNR=5.6									
KSRS	**Korea Array**	**45.85**	**35**	P	**P**	**15 30 08.1 -0.3**				
	comp=Z,58nm,0.9s,baz=225,slow=8.7,SNR=269									
KSRS	**Korea Array**	**45.85**	**35**	P	**P**	**15 30 08.1 -0.3**				
KSRS				pmax	pmax					
	comp=Z,58nm,0.9s									
AML	**Almayashu**	**45.88**	**336**	P	**P**	**15 30 10.6 +1.5**				
	SNR=6.1									
KSWJU	**Wonju**	**45.88**	**35**	P	**P**	**15 30 09.2 +0.5**				
	SNR=8.7									
AAK	**Ala-Archa**	**45.98**	**337**	P	P	15 30 59.8 +50				
	comp=Z,2.9nm,0.5s,baz=136,slow=8.1,SNR=5.3									
AAK	**Ala-Archa**	**45.98**	**337**	P	**P**	**15 30 12.7 +3.2**				
AAK				pmax	pmax					
	comp=Z,11nm,0.9s									
KSCHC	**Chuncheon**	**46.01**	**34**	P	**P**	**15 30 10.1 +0.4**				
	SNR=12									
KSCWO	**Cheorwon**	**46.06**	**34**	P	**P**	**15 30 10.9 +0.8**				
	SNR=7.1									
FRU	**Bishkek**	**46.10**	**337**	*e*P	**P**	**15 30 11.5 +1.2**				
FRU				pmax	pmax					
	comp=Z,110nm,2.5s									
KSULJ	**Uljin**	**46.19**	**36**	P	**P**	**15 30 12.0 +0.9**				
	SNR=17									
KSTBA	**Taebaek**	**46.21**	**36**	P	**P**	**15 30 12.0 +0.6**				
	SNR=31									
EKS2	**Erkin-Say**	**46.29**	**336**	P	**P**	**15 30 13.7 +1.8**				
	SNR=10									
EKS2	**Erkin-Say**	**46.29**	**336**	*e*P	**P**	**15 30 13.3 +1.4**				
EKS2				pmax	pmax					
	comp=Z,7.0nm,0.6s									
EKS2	**Erkin-Say**	**46.29**	**336**	*e*P	**P**	**15 30 13.3 +1.4**				
	comp=Z,7.3nm,0.6s									
KSIJA	**INJE**	**46.33**	**34**	P	**P**	**15 30 13.0 +0.9**				
	SNR=9.4									
KSDGY	**Daegwallycong**	**46.44**	**35**	P	**P**	**15 30 13.9 +0.7**				
	SNR=5.5									
USP	**Ospenovka**	**46.51**	**337**	P	**P**	**15 30 14.9 +1.3**				
	SNR=15									
SEHB	**SEOHWA**	**46.60**	**34**	P	**P**	**15 30 15.1 +0.7**				
	SNR=19									
KSSKC	**Sokcho**	**46.77**	**34**	P	**P**	**15 30 16.6 +1.0**				
	SNR=7.0									
SNY	**Shenyang**	**46.90**	**27**	⇓P	**P**	**15 30 17.0 +0.5**				
SNY				PMZ						
	comp=Z,31nm,0.8s									
SNY				PMZ						
	comp=Z,280nm,6.2s									
SNY				LN						
	comp=Z,1µm,15.4s									
SNY				LE						
	comp=Z,1µm,15.9s									
SNY				LZ						
	comp=Z,2µm,15.2s									
SONM	**Songino Array**	**47.12**	**8**	P	**P**	**15 30 18.7 +0.3**				
	comp=Z,24nm,0.8s,baz=190,slow=8.6,SNR=79									
MK31	**Makanchi Array**	**47.22**	**346**	*e*P	**P**	**15 30 19.4 +0.4**				
MK31				pmax	pmax					
	comp=Z,5.0nm,0.4s									
KK31	**Karatay Array**	**48.03**	**334**	P	**P**	**15 30 26.6 +1.2**				
KK31				pmax	pmax					
	comp=Z,6.0nm,0.7s									
KKAR	**Karatay Array**	**48.03**	**334**	*e*P	**P**	**15 30 26.2 +0.8**				
KKAR	**Karatay Array**	**48.03**	**334**	*e*P	**P**	**15 30 26.1 +0.8**				
	comp=Z,0.6nm,0.9s									
ZAK	**Zakamensk**	**49.26**	**5**⇑	*i*P	**P**	**15 30 34.9 +0.1**				
ZAK				pmax	pmax					
	comp=Z,6.0nm,1.2s									
CN2	**Changchun**	**49.30**	**27**	*e*P	**P**	**15 30 35.4 +0.3**				
CN2				*es*P	**sP**	**15 30 46.2 -1.4**				
CN2				*e*S	**S**	**15 37 39.3 -0.3**				
CN2				SS	**SS**	**15 41 07.0 -4.5**				
CN2				PMZ						
	comp=Z,30nm,0.7s									
CN2				PMZ						
	comp=Z,200nm,4.0s									
CN2				LN						
	comp=Z,2µm,13.0s									
CN2				LE						
	comp=Z,1µm,13.0s									
CN2				LZ						
	comp=Z,2µm,14.0s									
BBOO	**Buckleboo**	**49.91**	**136**	*e*P	**P**	**15 30 40.4 +0.5**				
	comp=Z,19nm,1.0s									
CBIJ	**Chichi jima**	**50.23**	**55**	*e*P	**P**	**15 30 41.2 -1.3**				
	comp=Z,20nm,0.8s									
TLY	**Talaya**	**50.58**	**5**	P	**P**	**15 30 45.7 +1.0**				
	comp=Z,58nm,0.8s,SNR=9.5									
TLY	**Talaya**	**50.58**	**5**	P	**P**	**15 30 44.4 -0.3**				
	comp=Z,5.0nm,0.6s,baz=217,slow=6.0,SNR=14									
TLY	**Talaya**	**50.58**

MAJO Matsushiro 51.69 42 *e*P **P 15 30 53.6 +0.2**
comp=Z,8.9nm,0.8s
MAT Matsushiro 51.69 42 P **P 15 30 53.1 -0.3**
MAT S S 15 38 24.2 +11
MJAR Matsushiro Arr 51.69 42 P **P 15 30 53.2 -0.2**
comp=Z,6.7nm,0.7s,baz=220,slow=6.5,SNR=28
KURBB Kurchatov Arra 51.71 345 P **P 15 30 53.6 +0.4**
comp=Z,11nm,0.9s,baz=165,slow=6.9,SNR=88
KURK Kurchatov 51.77 345 P **P 15 30 54.3 +0.7**
comp=Z,154nm,1.0s,SNR=28
KURK Kurchatov 51.77 345 *e*P **P 15 30 53.5 -0.1**
KURK pmax pmax
comp=Z,38nm,1.0s
KURK Kurchatov 51.77 345 *e*P **P 15 30 53.5 -0.1**
comp=Z,38nm,1.0s
MDJ Mudanjiang 51.86 29 P **P 15 30 55.6 +1.2**
MDJ pP **pP 15 31 02.8 -0.6**
MDJ sP **sP 15 31 06.0 -1.0**
MDJ PP **PP 15 32 54.5 +1.9**
MDJ ScP **ScP 15 36 05.0 +3.0**
MDJ PcS **PcS 15 36 06.8 +1.8**
MDJ S **S 15 38 19.3 +4.1**
MDJ sS **sS 15 38 30.6 +0.6**
MDJ PMZ
comp=Z,28nm,0.9s
MDJ PMZ
comp=Z,240nm,5.8s
MDJ LN
comp=Z,1μm,16.1s
MDJ LE
comp=Z,740nm,17.0s
MDJ LZ
comp=Z,2μm,16.1s
MDJ Mudanjiang 51.86 29 *e*P **P 15 30 54.0 -0.5**
comp=Z,24nm,0.8s
VLA Vladivostok 51.96 32⇑*i*P **P 15 30 55.4 +0.2**
CTA Charters Tower 52.53 117 P **P 15 30 59.6 -0.3**
comp=Z,3.7nm,0.8s,baz=323,slow=7.7,SNR=3.7
CTAO Charters Tower 52.53 117 *e*P **P 15 31 00.1 +0.2**
CTAO pmax pmax
comp=Z,8.0nm,0.8s
CTAO Charters Tower 52.53 117 *e*P **P 15 31 00.1 +0.2**
comp=Z,8.3nm,0.8s
USRK Ussuriysk Ar. 52.77 31 P **P 15 31 01.6 +0.5**
comp=Z,58nm,0.9s,baz=233,slow=6.9,SNR=124
STKA Stephens Creek 53.38 132 P **P 15 31 06.1 +0.2**
comp=Z,16nm,0.9s,baz=304,slow=7.0,SNR=26
STKA Stephens Creek 53.38 132 P **P 15 31 06.1 +0.2**
STKA *e* 15 31 14.0
STKA Stephens Creek 53.38 132 P **P 15 31 06.1 +0.2**
STKA *e* 15 31 14.0
ZAA0 Zalesovo Array 53.54 351 P **P 15 31 06.4 -0.3**
ZALV Zalesovo Beam 53.54 351 P **P 15 31 06.7 +0.1**
comp=Z,30nm,0.8s,baz=182,slow=6.2,SNR=102
ZALV Zalesovo Beam 53.54 351 *i* P **P 15 31 06.6 0.0**
ZALV pmax pmax
comp=Z,31nm,0.7s
NVS Novosibirsk 54.66 350 *e*P **P 15 31 14.2 -0.6**
NVS pmax pmax
comp=N,19nm,1.4s
NVS pmax pmax
comp=E,13nm,1.4s
NVS pmax pmax
comp=Z,34nm,1.4s
RAYN Ar Rayn 54.73 298 *e*P **P 15 31 17.2 +1.2**
comp=Z,5.3nm,0.8s
BVA0 Borovoye Array 56.23 341 *i* P **P 15 31 25.8 -0.4**
BVA0 pmax pmax
comp=Z,15nm,0.9s
BVAR Borovoye Array 56.23 341 P **P 15 31 25.6 -0.5**
comp=Z,15nm,0.8s,baz=142,slow=7.5,SNR=52
KLR Kul'dur 56.25 27 *e*P P 15 31 23.0 -3.4
KLR *e*S **S 15 39 15.0 +0.7**
KLR pmax pmax
comp=E,24nm,1.4s
KLR pmax pmax
comp=Z,62nm,1.4s
KLR MLR MLR
comp=E,1μm,12.5s
KLR MLR MLR
comp=Z,3μm,12.5s
BRVK Borovoye 56.29 341 P **P 15 31 26.3 -0.3**
comp=Z,118nm,0.8s,SNR=7.0
BRVK Borovoye 56.29 341*d*/P **P 15 31 25.9 -0.7**
BRVK pmax pmax
comp=Z,20nm,1.0s
BRVK Borovoye 56.29 341 *e*P **P 15 31 25.8 -0.7**
comp=Z,16nm,0.8s
HABR Khabarovsk 57.25 29*ce*P **P 15 31 31.9 -1.6**
HABR *e**PP **pP 15 31 41.6 -1.0**
HABR *e**SP **sP 15 31 45.7 -0.4**
HABR *e* 15 32 25.8
HABR *e* 15 33 38.7
HABR *e*S **S 15 39 25.7 -1.8**
HABR *e**SS **sS 15 39 42.6 +0.1**
HABR *e* 15 41 18.1
HABR *e*SS **SS 15 43 16.0 -1.1**
HABR pmax pmax
comp=N,10.0nm,1.2s
HABR pmax pmax
comp=Z,33nm,1.2s
HABR pmax pmax
comp=E,12nm,0.9s
HABR MLR MLR
comp=N,552nm,16.0s
HABR MLR MLR
comp=Z,1μm,19.0s
HABR MLR MLR
comp=E,1μm,17.0s
AB31 Akbulak array 57.49 332 P **P 15 31 34.5 -0.7**
AB31 pmax pmax
comp=Z,17nm,0.8s
ABKAR Akbulak array 57.49 332 *e*P **P 15 31 34.8 -0.4**
comp=Z,9.9nm,0.6s
BOD Bodaibo 58.00 11 *e*P **P 15 31 39.7 +1.1**
BOD pmax pmax
comp=Z,36nm,0.9s
EIDS Eidsvold 58.41 121 *e*P **P 15 31 42.5 +0.4**
comp=Z,22nm,0.8s
ASAJ Asahikawa 58.66 37 *e*P **P 15 31 41.4 -2.1**
comp=Z,6.6nm,0.9s
YSS Yuzh-Sakhalins 60.35 34⇓*e*P **P 15 31 55.2 +0.2**
YSS MLR MLR
comp=Z,1μm,15.0s
YSS Yuzh-Sakhalins 60.35 34 *e*P **P 15 31 56.1 +1.1**
comp=Z,49nm,1.1s
ARMA Armidale 60.56 126 *e*P **P 15 31 58.7 +1.7**
comp=Z,15nm,1.0s
YUK Yuzh-Kuril'sk 60.61 38 *i* P **P 15 31 54.0 -2.9**
YUK *i* 15 32 36.9
YUK *i* 15 34 17.2
YUK *i* S **S 15 40 08.1 -3.2**
YUK MLR MLR
comp=N,160nm,15.0s
YUK MLR MLR
comp=E,598nm,15.0s
YUK MLR MLR
comp=Z,672nm,15.0s
DGRG David-gareji 61.40 318 P **P 15 32 03.3 +0.8**
TBLG Delisi 61.95 318 P **P 15 32 07.7 +1.5**
KUR Kuril'sk 62.45 38 P P 15 32 03.6 -5.7
KUR *e*S S 15 40 25.4 -9.2
KUR MLR MLR
comp=N,336nm,22.0s
KUR MLR MLR
comp=E,304nm,22.0s
KUR MLR MLR
comp=Z,70nm,22.0s
SVE Sverdlovsk 62.66 338 *e*P **P 15 32 11.3 +0.8**
SVE *e*S **S 15 40 33.6 -3.3**
SVE pmax pmax
comp=Z,21nm,1.0s
ZEI Tsey 62.98 319 *e*P **P 15 32 14.0 +0.8**
ZEI pmax pmax
comp=Z,39nm,0.3s
ARU Arti 63.16 337*d*/P **P 15 32 13.3 -0.5**
ARU S **S 15 40 44.3 +1.2**
ARU pmax pmax
comp=Z,14nm,1.0s
ARU MLR MLR
comp=Z,617nm,17.0s
ARU Arti 63.16 337 *e*P **P 15 32 13.0 -0.8**
comp=Z,14nm,1.1s
ONI Oni 63.19 318 P pP 15 32 25.4 +1.9
HNR Honiara 63.39 101 *e*P **P 15 32 14.3 -1.8**

HNR Honiara 63.39 101 *e*P **P 15 32 14.3 -1.8**
KBZ Khabaz 64.04 319 P **P 15 32 20.3 +0.4**
comp=Z,5.9nm,0.9s,baz=112,slow=5.9,SNR=12
KIV Kislovodsk 64.28 319 *e*P **P 15 32 21.5 -0.1**
KIV *e*S **S 15 40 56.4 -1.3**
KIV *e*SS **SS 15 45 07.5 -0.2**
KIV pmax pmax
comp=Z,22nm,1.1s
KIV Kislovodsk 64.28 319 *e*P **P 15 32 19.7 -1.9**
comp=Z,24nm,1.1s
YAK Yakutsk 65.41 16 P **P 15 32 28.1 -0.4**
comp=Z,4.2nm,0.7s,baz=225,slow=20,SNR=13
YAK Yakutsk 65.41 16 *e*P **P 15 32 26.6 -1.8**
YAK *e**PP **pP 15 32 34.4 -3.2**
YAK *e* 15 33 01.4
YAK *e* 15 34 48.6
YAK *e*S **S 15 41 08.3 -2.4**
YAK *e* 15 42 16.1
YAK *e*SS **SS 15 45 22.8 -1.6**
YAK *e*SSS SSS 15 48 20.3
YAK pmax pmax
comp=Z,71nm,0.9s
YAK pmax pmax
comp=E,21nm,1.2s
YAK pmax pmax
comp=N,22nm,1.1s
YAK pmax pmax
comp=Z,88nm,5.1s
YAK pmax pmax
comp=N,83nm,5.7s
YAK pmax pmax
comp=E,88nm,7.3s
YAK smax smax
comp=N,95nm,3.7s
YAK smax smax
comp=E,26nm,3.3s
YAK MLR MLR
comp=E,1μm,16.0s
YAK MLR MLR
comp=N,1μm,16.0s
YAK MLR MLR
comp=Z,2μm,16.0s
YAK Yakutsk 65.41 16 *e*P **P 15 32 27.5 -0.9**
comp=Z,112nm,0.9s
SOKR Solikamsk 66.08 339*d*/P **P 15 32 34.4 +1.7**
SOKR pmax pmax
comp=Z,20nm,1.0s
CASY Casey 68.02 174 *e*P **P 15 32 42.6 -2.5**
comp=Z,8.5nm,1.1s
ANN Anapa 68.07 318 P **P 15 32 44.4 -1.4**
ANN MLR MLR
comp=Z,256nm,20.0s
BRTR Keskin Array B 69.08 312 P **P 15 32 51.5 -0.9**
comp=Z,1.9nm,0.7s,baz=138,slow=7.0,SNR=9.6
BRTR Keskin Array B 69.08 312 *i* P **P 15 32 51.5 -0.9**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
VSR Storozhevoye 69.54 325 *e*P **P 15 32 53.9 -0.9**
VSR pmax pmax
comp=N,7.0nm,0.9s
VSR pmax pmax
comp=E,8.0nm,0.9s
VSR pmax pmax
comp=Z,8.0nm,0.9s
SKR Severo-Kuril's 69.85 35 *e* P 15 32 49.0 -7.7
SKR *e* 15 35 26.0
SKR *e*PPP PPP 15 37 18.0
SKR *e*S **S 15 42 08.0 +3.6**
SKR *SS **ScS 15 42 57.0 +0.4**
SKR pmax pmax
comp=Z,50nm,0.9s
SKR pmax pmax
comp=Z,800nm,6.0s
SKR smax smax
comp=N,600nm,10.0s
SKR smax smax
comp=E,800nm,10.0s
SKR MLR MLR
comp=E,700nm,18.0s
SKR MLR MLR
comp=Z,1μm,18.0s
DZM Mont Dzumac 71.31 114 *e*LR LR 15 55 01.2
comp=Z,531nm,22.2s
PRGR Permogore 71.61 337 *e*P **P 15 33 06.5 -0.7**
PRGR *e* 15 33 24.5
PRGR pmax pmax
comp=Z,16nm,0.8s
PETK Petropavlovsk- 71.73 34 P **P 15 33 08.2 +0.1**
comp=Z,5.9nm,0.8s,baz=202,slow=5.9,SNR=9.1
PET Petropavlovsk 72.23 34 *e*P **P 15 33 10.7 -0.4**
PET *e*S **S 15 42 29.5 -2.4**
PET *e*PS **PnS 15 42 57.1 -7.5**
PET *e*SS **SS 15 47 15.7 +5.7**
PET pmax pmax
comp=Z,37nm,0.9s
PET pmax pmax
comp=Z,200nm,16.0s
PET MLR MLR
comp=Z,500nm,16.0s
PET MLR MLR
comp=Z,500nm,15.0s
PET Petropavlovsk 72.23 34 *e*P **P 15 33 09.9 -1.2**
comp=Z,27nm,0.8s
MOS Moscow 72.31 329 *e*P **pP 15 33 21.7 +0.9**
MOS *e* 15 42 25.0
MOS pmax pmax
comp=Z,45nm,0.9s
OBN Obninsk 72.59 328⇓*e*P **P 15 33 13.1 -0.1**
OBN *e* 15 33 22.2
OBN *e* 15 33 33.4
OBN pmax pmax
comp=Z,11nm,1.2s
OBN MLR MLR
comp=Z,268nm,20.0s
OBN Obninsk 72.59 328 P **P 15 33 12.0 -1.2**
MAW Mawson 72.72 193 P **P 15 33 13.0 -0.7**
comp=Z,2.1nm,1.0s,baz=332,slow=7.3,SNR=2.1
TIXI Tiksi 73.17 10⇓*i*P **P 15 33 16.2 -0.1**
TIXI pmax pmax
comp=Z,16nm,0.8s
TIXI Tiksi 73.17 10 *e*P **P 15 33 15.1 -1.3**
comp=Z,15nm,0.8s
SEY Seymchan 73.75 23 P **P 15 33 19.9 0.0**
comp=Z,18nm,0.9s,baz=232,slow=6.0,SNR=69
SEY Seymchan 73.75 23*d*/P **P 15 33 20.0 0.0**
BOSA Boshof 74.77 240 P **P 15 33 26.5 -0.2**
comp=Z,2.8nm,0.8s,baz=68,slow=19,SNR=3.4
AKASG Malin Array Be 75.23 322 P **P 15 33 27.6 -1.1**
comp=Z,0.4nm,0.3s,baz=89,slow=4.4,SNR=10
AKASG Malin Array Be 75.23 322 *i* P **P 15 33 28.6 -0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
KIEV Kiev 75.24 322⇓*i*P **P 15 33 28.9 +0.1**
VRI Vrincioaia 75.59 317⇓P **P 15 33 31.6 +0.6**
VRI Vrincioaia 75.59 317⇓*i*P **P 15 33 31.5 +0.6**
MLR Muntele Rosu 76.04 317⇓P **P 15 33 33.9 +0.2**
MLR Muntele Rosu 76.04 317⇓*i*P **P 15 33 33.9 +0.2**
BURAR Bucovina Array 77.00 319⇓*i*P **P 15 33 40.7 +1.7**
BURAR Bucovina Array 77.00 319⇓*i*P **P 15 33 40.7 +1.7**
DRGR 78.50 318⇓P **P 15 33 49.4 +2.0**
DRGR 78.50 318⇓*i*P **P 15 33 49.4 +2.0**
APA Apatity 79.10 339⇑*i*P P 15 33 58.0 +7.9
APA pmax pmax
comp=Z,22nm,1.2s
APA MLR MLR
comp=Z,600nm,20.0s
UZH Uzhgorod 79.12 319 *e*P **P 15 33 51.0 +0.4**
UZH *e* 15 33 58.8
KOLS Kolonicke sedl 79.19 320 *e*P **P 15 33 53.1 +2.0**
KOLS pmax pmax
comp=Z,6.0nm,0.9s
KOLS Kolonicke sedl 79.19 320 *e*P **P 15 33 53.1 +2.0**
KOLS *e*PCP **pP 15 34 00.4 0.0**
STHS Stebnicka Huta 79.94 320 *e*P **P 15 33 56.4 +1.3**
STHS pmax pmax
comp=Z,3.0nm,0.9s
STHS Stebnicka Huta 79.94 320 *e*P **P 15 33 56.4 +1.3**
STHS *e*PCP **PcP 15 34 03.4 +0.8**
DIVS Divibare 79.96 314⇓*i*P P 15 34 03.8 +8.4
FINES FINESS Array B 79.97 333 P **P 15 33 54.0 -1.0**
comp=Z,2.4nm,0.7s,baz=96,slow=6.2,SNR=7.7
FINES FINESS Array B 79.97 333 *i* P **P 15 33 54.9 -0.1**
FINES pmax pmax
comp=Z,2.0nm,0.7s
KECS Kecovo 80.28 319 *e*PCP **PcP 15 34 05.6 +1.5**

TSUM Tsumeb 80.58 250 *e*P **P 15 33 58.2 -1.1**
comp=Z,8.1nm,1.0s
PSZ Piszkesteto 80.58 318⇓P **P 15 33 59.8 +1.1**
PSZ Piszkesteto 80.58 318⇓*i*P **P 15 33 59.8 +1.1**
BILL Bilibino 81.16 21⇑*i*P **P 15 34 01.8 +0.6**
BILL *e* 15 34 07.8
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL MLR MLR
comp=Z,826nm,15.0s
BILL Bilibino 81.16 21 *e*P **P 15 33 59.6 -1.6**
PKSM Moragy 81.19 316⇓P **P 15 34 02.5 +0.6**
PKSM Moragy 81.19 316⇓*i*P **P 15 34 02.5 +0.6**
OKC Ostrava-Krasne 82.00 320 *e*P **P 15 34 07.5 +1.5**
OKC *e*pP **pP 15 34 15.4 -0.1**
OKC *e*S **S 15 44 15.8 -2.5**
OKC AMS AMS 16 22 10.0
comp=Z,200nm,14.9s
OKC Ostrava-Krasne 82.00 320 *e*P **P 15 34 07.5 +1.5**
OKC *e* 15 34 15.4
OKC *e* 15 44 15.8
OKC MLR MLR
comp=Z,200nm,14.9s
MORC Moravsky Berou 82.38 320⇓P **P 15 34 07.1 -1.0**
MORC Moravsky Berou 82.38 320⇓*i*P **P 15 34 07.1 -1.0**
ARCES ARCESS Array B 82.51 340 P **P 15 34 08.6 +0.3**
comp=Z,6.8nm,1.0s,baz=96,slow=4.0,SNR=8.0
DPC Dobruska-Polom 83.22 320 *e*P **P 15 34 14.3 +1.8**
DPC *e*pP **pP 15 34 20.9 -1.1**
DPC *e*sP **sP 15 34 25.8 +0.4**
DPC *e*S S 15 44 21.4 -10
DPC AMS AMS 16 17 20.0
comp=Z,200nm,18.1s
DPC Dobruska-Polom 83.22 320 *e*P **P 15 34 14.3 +1.8**
DPC *e* 15 34 25.8
DPC *e* 15 44 21.4
DPC MLR MLR
comp=Z,200nm,18.1s
ARSA Arzberg 83.44 317⇑*i*PcP **P 15 34 15.1 +1.5**
comp=Z,7.9nm,1.1s
UPC Upice 83.44 321 *e*P **P 15 34 14.9 +1.3**
UPC *e*pP **pP 15 34 23.4 +0.4**
UPC *e*sP **sP 15 34 29.1 +2.7**
UPC AMS AMS 16 21 30.0
comp=Z,300nm,16.4s
UPC Upice 83.44 321 *e*P **P 15 34 14.9 +1.3**
UPC *e* 15 34 23.4
UPC *e* 15 34 29.1
UPC MLR MLR
comp=Z,300nm,16.4s
TREC Trest 83.65 319 *e*P **P 15 34 14.2 -0.5**
TREC *e*pP **pP 15 34 24.1 -0.1**
TREC *e*S **S 15 44 36.1 +0.8**
TREC AMS AMS 16 21 20.0
comp=Z,200nm,13.8s
TREC Trest 83.65 319 *e*P **P 15 34 14.2 -0.5**
TREC *e* 15 34 24.1
TREC *e* 15 44 36.1
TREC MLR MLR
comp=Z,200nm,13.8s
SOKA Soboth 83.72 317⇑*i*P **P 15 34 16.1 +0.9**
comp=Z,13nm,1.6s
GOPC GO Pecny, Ondr 84.16 320 *e*S **S 15 44 38.4 -2.0**
GOPC AMS AMS 16 18 50.0
comp=Z,200nm,16.1s
PRU Pruhonice 84.33 320 *e*P **P 15 34 19.1 +1.0**
PRU *e*pP **pP 15 34 28.6 +1.0**
PRU *e*S **S 15 44 37.0 -5.0**
PRU *e*SP **SPn 15 45 31.4 -2.6**
PRU AMS AMS 16 17 50.0
comp=Z,200nm,16.0s
PRU Pruhonice 84.33 320 *e*P **P 15 34 19.1 +1.0**
PRU *e* 15 34 28.6
PRU *e* 15 44 37.0
PRU *e* 15 45 31.4
PRU MLR MLR
comp=Z,200nm,16.0s
PRA Prague 84.41 320 *e*S **S 15 44 37.4 -5.3**
BRG Berggiesshubel 84.78 321 *e*P P 15 34 29.3 +8.9
comp=Z,3.8nm,0.7s
BRG Berggiesshubel 84.78 321 S **S 15 44 45.0 -1.5**
comp=N,252nm,24.3s
comp=E,138nm,18.3s
comp=Z,185nm,17.1s
BRG Berggiesshubel 84.78 321 *e*P P 15 34 29.3 +8.9
BRG S **S 15 44 45.0 -1.5**
BRG pmax pmax
comp=Z,4.0nm,0.7s
BRG MLR MLR
comp=N,252nm,24.3s
BRG MLR MLR
comp=E,138nm,18.3s
BRG MLR MLR
comp=Z,185nm,17.1s
GERES GERESS Array B 84.79 319 P **P 15 34 21.4 +0.8**
comp=Z,2.5nm,0.9s,baz=96,slow=5.4,SNR=18
KHC Kasperske Hory 84.89 319 *e*P **P 15 34 22.1 +1.1**
KHC *e*pP **pP 15 34 29.2 -1.3**
KHC *e*sP **sP 15 34 35.7 +1.8**
KHC *e*S **SKSac 15 44 41.7 -1.8**
KHC *ex* x 15 45 35.8
KHC AMS AMS 16 24 00.0
comp=Z,200nm,18.6s
KHC Kasperske Hory 84.89 319 *e*P **P 15 34 22.1 +1.1**
KHC *e* 15 34 29.2
KHC *e* 15 34 35.7
KHC *e* 15 44 41.7
KHC *e* 15 45 35.8
KHC MLR MLR
comp=Z,200nm,18.6s
CLL Collm 85.41 321 *i* P **P 15 34 24.8 +1.3**
CLL *e*S **S 15 44 52.0 -0.6**
CLL pmax pmax
comp=Z,5.0nm,1.2s
CLL Collm 85.41 321 *i* P **P 15 34 24.8 +1.3**
comp=Z,5.0nm,1.2s
CLL *i* sP **sP 15 34 39.7 +3.3**
comp=Z,5.0nm,0.9s
CLL *e*S **S 15 44 52.0 -0.6**
CLL *e*PS **PnS 15 45 54.0 +2.8**
CLL *e*SSS SSS 15 54 06.0
CLL *e*SSSS 15 57 00.0
CLL LmV 16 17 00.0
comp=Z,200nm,20.5s
NKC Novy Kostel 85.69 320 *e*S **S 15 44 55.6 0.0**
SBA Scott Base 86.95 169 *e*P **P 15 34 29.8 -0.8**
SBA pmax pmax
comp=Z,5.0nm,1.0s
SBA Scott Base 86.95 169 *e*P **P 15 34 29.8 -0.8**
comp=Z,4.9nm,1.0s
NB2 NORSAR Subarra 86.98 331 P **P 15 34 31.3 +0.2**
comp=Z,6.0nm,1.0s,baz=95,slow=4.8
NOA NORSAR Array B 86.98 331 P **P 15 34 30.9 -0.2**
comp=Z,2.5nm,0.9s,baz=94,slow=5.0,SNR=6.9
KEST Kesra 87.53 306 P **P 15 34 35.0 +0.6**
comp=Z,1.5nm,0.9s,baz=168,slow=1.0,SNR=4.2
TAM Tamanrasset 91.06 293 P **P 15 34 51.7 +0.3**
TAM pmax pmax
comp=Z,12nm,1.3s
TAM Tamanrasset 91.06 293 P **P 15 34 51.6 +0.3**
comp=Z,12nm,1.3s
QSPA South Pole Qui 91.16 180 P **P 15 34 51.5 +0.7**
comp=Z,9.8nm,1.4s
TORD Torodi Ar. Bea 95.06 283 P **P 15 35 08.7 -1.0**
comp=Z,0.7nm,1.0s,baz=116,slow=3.4,SNR=3.1
BPAW Bear Paw Mtn. 98.30 24 *e*P **P 15 35 23.4 0.0**
comp=Z,0.9nm,0.9s
MCK McKinley 99.28 24 P **Pdif 15 35 26.9 -0.9**
MCK McKinley 99.28 24 P **Pdif 15 35 26.9 -0.9**
ILAR Eielson Array 99.69 23 P **Pdif 15 35 27.8 -1.7**
comp=Z,0.3nm,0.8s,baz=297,slow=5.9,SNR=3.4
ILAR PP **PP 15 39 30.3 -3.2**
comp=Z,0.6nm,0.9s,baz=289,slow=6.8,SNR=3.9
TBI Tubuai 111.88 115 *e*LR LR 16 13 50.4
comp=Z,429nm,24.2s
PPT2 Papeete2 112.50 108 *e*PS PS 15 50 44.4 -0.2
comp=Z,92nm,25.5s
PPT2 Papeete2 112.50 108 *e*LR LR 16 14 09.3
comp=Z,285nm,23.8s
RKT Rikitea 124.96 117 *e*LR LR 16 19 41.3
comp=Z,324nm,25.2s
A19A Klindworth Far 125.25 21 P **PKPdf 15 40 46.7 -0.3**
baz=125
C20A Veseth Ranch, 126.54 21 P **PKPdf 15 40 50.3 +0.9**
baz=126

D21A	**La Casta Ranch**	**127.45**	**21**	P	**PKPdf**	**15 40 52.2**	**+1.0**
	baz=127							
D22A	**Cohagen**	**127.66**	**20**	P	**PKPdf**	**15 40 52.7**	**+1.1**
	baz=128							
NVAR	**Mina Array Bea**	**128.78**	**36**	PKP	**PKPdf**	**15 40 53.8**	**-0.4**
	comp=Z,1.8nm,0.9s,baz=262,slow=1.7,SNR=8.5							
PDAR	**Pinedale Array**	**130.03**	**26**	PKhKP	PKPpre	15 40 52.0		
	comp=Z,1.0nm,0.9s,baz=90,slow=1.5,SNR=4.0							
MSU	**Marysvale**	**132.11**	**31**	*e*PKIKP	**PKPdf**	**15 41 02.7**	**+2.2**
MSU	**Marysvale**	**132.11**	**31**	*e*PKPdf	**PKPdf**	**15 41 02.7**	**+2.2**
X38A	**Whitesboro**	**142.57**	**16**	P	**PKPdf**	**15 41 16.2**	**-3.4**
	baz=142							
230A	**Sterling City**	**142.79**	**26**	P	**PKPdf**	**15 41 17.1**	**-3.1**
	baz=143							
Y36A	**Durant**	**142.84**	**19**	P	**PKPdf**	**15 41 17.5**	**-2.6**
	baz=143							
MIAR	**Mount Ida**	**143.02**	**15**	*e*PKIKP	PKPbc	15 41 17.0	-0.1
MIAR	**Mount Ida**	**143.02**	**15**	P	PKPbc	15 41 17.3	+0.1
	baz=143							
MIAR	**Mount Ida**	**143.02**	**15**	*e*PKPdf	PKPbc	15 41 17.0	-0.1
330A	**Mertzon**	**143.17**	**27**	P	PKPbc	15 41 17.6	-0.1
	baz=143							
Y39A	**Lockesburg**	**143.46**	**16**	P	PKPbc	15 41 18.5	+0.2
	baz=143							
233A	**Rising Star**	**143.60**	**23**	P	PKPbc	15 41 19.8	+0.9
	baz=143							
TXAR	**Lajitas Array**	**143.66**	**32**	PKP	PKPbc	15 41 19.2	0.0
	comp=Z,2.1nm,0.9s,baz=168,slow=0.8,SNR=8.7							
529A	**Stev Forest Ra**	**143.75**	**29**	P	PKPbc	15 41 19.8	+0.4
	baz=144							
530A	**J-C Ranch, Com**	**144.16**	**28**	P	PKPbc	15 41 21.2	+0.6
	baz=144							
333A	**Richland Sprin**	**144.18**	**24**	P	PKPbc	15 41 20.9	+0.3
	baz=144							
334A	**Lometa**	**144.47**	**23**	P	**PKPab**	**15 41 21.3**	**0.0**
	baz=144							
531A	**Rocksprings**	**144.51**	**27**	P	**PKPab**	**15 41 21.5**	**0.0**
	baz=144							
JCT	**Junction City**	**144.57**	**26**	*e*PKIKP	PKPbc	15 41 22.3	+0.4
JCT	**Junction City**	**144.57**	**26**	P	PKPbc	15 41 22.2	+0.3
	baz=144							
JCT	**Junction City**	**144.57**	**26**	*e*PKPdf	PKPbc	15 41 22.3	+0.4
335A	**Moody**	**144.83**	**22**	P	**PKPab**	**15 41 22.2**	**-0.4**
	baz=145							
532A	**Rocksprings**	**144.83**	**26**	P	PKPbc	15 41 22.9	+0.1
	baz=145							
434A	**Burnet**	**144.92**	**23**	P	**PKPab**	**15 41 22.3**	**-0.7**
	baz=145							
336A	**Riesel**	**144.95**	**21**	P	**PKPab**	**15 41 22.9**	**-0.1**
	baz=145							
238A	**Jacksonville**	**144.97**	**18**	P	**PKPdf**	**15 41 24.2**	**+0.3**
	baz=145							
CPUP	**Villa Florida**	**145.00**	**222**	PKP	**PKPab**	**15 41 23.0**	**-0.3**
	comp=Z,11nm,1.1s,baz=104,slow=3.9,SNR=14							
631A	**Perdido Creek**	**145.13**	**28**	P	**PKPdf**	**15 41 24.9**	**+0.6**
	baz=145							
239A	**Gary**	**145.15**	**17**	P	**PKPdf**	**15 41 24.7**	**+0.5**
	baz=145							
NATX	**Nacogdoches**	**145.33**	**18**	P	**PKPdf**	**15 41 25.2**	**+0.7**
	baz=145							
337A	**Centerville**	**145.35**	**20**	P	**PKPdf**	**15 41 25.3**	**+0.7**
	baz=145							
632A	**Uvalde**	**145.41**	**27**	P	**PKPab**	**15 41 25.6**	**+0.8**
	baz=145							
534A	**Blanco**	**145.53**	**24**	P	**PKPab**	**15 41 25.4**	**+0.2**
	baz=145							
GOGA	**Godfrey**	**145.55**	**1**	*e*PKP2	**PKPdf**	**15 41 24.7**	**-0.1**
GOGA	**Godfrey**	**145.55**	**1**	*e*PKPdf	**PKPdf**	**15 41 24.7**	**-0.1**
LRAL	**Lakeview Retre**	**145.70**	**6**	*e*PKPdf	**PKPdf**	**15 41 24.5**	**-0.6**
633A	**Saathoff Ranch**	**145.72**	**26**	P	**PKPab**	**15 41 26.0**	**+0.1**
	baz=146							
339A	**Huntington**	**145.76**	**18**	P	**PKPab**	**15 41 27.2**	**+1.2**
	baz=146							
535A	**Dale**	**145.89**	**23**	P	**PKPab**	**15 41 27.4**	**+0.9**
	baz=146							
732A	**Laxson Ranch,**	**145.99**	**28**	P	**PKPab**	**15 41 27.5**	**+0.6**
	baz=146							
733A	**Divot King Ran**	**146.31**	**27**	P	**PKPab**	**15 41 28.1**	**0.0**
	baz=146							
832A	**Faith Ranch, C**	**146.36**	**28**	P	**PKPab**	**15 41 28.6**	**+0.2**
	baz=146							
635A	**Leesville**	**146.38**	**24**	P	**PKPab**	**15 41 29.2**	**+0.9**
	baz=146							
734A	**La Parita Cree**	**146.52**	**26**	P	**PKPab**	**15 41 29.5**	**+0.6**
	baz=146							
636A	**Smothers Creek**	**146.58**	**23**	P	**PKPab**	**15 41 29.5**	**+0.4**
	baz=146							
833A	**Chaparral WMA,**	**146.60**	**27**	P	**PKPab**	**15 41 29.5**	**+0.2**
	baz=146							
CFAA	**Coronel Fontan**	**146.78**	**203**	PKPbc	**PKPab**	**15 41 29.5**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=195,slow=1.1,SNR=8.4							
735A	**Kenedy**	**146.83**	**24**	P	**PKPab**	**15 41 30.2**	**+0.1**
	baz=147							
637A	**Eagle Lake**	**146.89**	**22**	P	**PKPab**	**15 41 30.5**	**+0.2**
	baz=147							
736A	**Circle Diamond**	**147.04**	**23**	P	**PKPab**	**15 41 30.8**	**-0.1**
	baz=147							
834A	**Tilden**	**147.15**	**26**	P	**PKPab**	**15 41 32.1**	**+0.7**
	baz=147							
933A	**Laredo**	**147.26**	**28**	P	**PKPab**	**15 41 31.9**	**0.0**
	baz=147							

*IDC **01** 15:22:48.9±2.0, 1°.14N×97°.13E, h0km, mb4.5/9, mb1 4.6/11, mb1mx4.3/28, mbtmp4.5/11, ML4.7/1, MS4.4/2, Ms1 4.3/2, ms1mx3.5/17, Error ellipse: s-maj=54.3km s-min=21.5km az=72.0*

*ISCJB **01** 15:22:50.1±1.0, 1°.2N±0°.1×97°.0E±0°.2, h25km, mb4.5/10, MS4.4/2, Error ellipse: s-maj=23.0km s-min=13.2km az=157.2*

*NEIC **01** 15:22:53.5±0.9, 1°.17N×97°.08E, h35km, mb4.4/2, Error ellipse: s-maj=22.5km s-min=12.8km az=64.0*

ISC 01 15:22:53.0±1.4, 1°.2N±0°.1×97°.2E±0°.2, h25km, n22, σ0s72/17, mb4.7/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.33**	**47**	Pn	**Pn**	**15 23 30.5**	**+0.6**
	baz=198,slow=19,SNR=1.5						
CMAR	**Chiang Mai Arr**	**17.22**	**6**	P	**Pn**	**15 26 51.0**	**-1.0**
	0.9nm,0.3s,baz=194,slow=13,SNR=2.4						
H08S2	**Diego Garcia H**	**26.17**	**250**	T	T	15 55 22.2	
	baz=71						
H08S3	**Diego Garcia H**	**26.17**	**250**	T	T	15 55 22.2	
	baz=71						
H08S1	**Diego Carcia H**	**26.19**	**250**	T	T	15 55 23.3	
	baz=71						
ENH	**Enshi**	**31.17**	**21**	*e*P	**P**	**15 29 08.8**	**-1.4**
WRA	**Warramunga Arr**	**42.04**	**122**	P	**P**	**15 30 42.7**	**-0.2**
	2.2nm,0.5s,baz=303,slow=9.0,SNR=2.0						
ASAR	**Alice Springs**	**43.40**	**127**	P	**P**	**15 30 52.7**	**-1.2**
	1.4nm,0.5s,baz=292,slow=7.9,SNR=4.0						
ASAR				LR	LR	15 51 07.1	
	comp=Z,946nm,21.3s,baz=298,slow=39						
KSAR	**Wonju Array Be**	**45.81**	**35**	P	**P**	**15 31 13.1**	**+0.2**
KSRS	**Korea Array**	**45.84**	**35**	P	**P**	**15 31 13.1**	**0.0**
	13nm,0.8s,baz=220,slow=9.2,SNR=5.0						
SONM	**Songino Array**	**47.12**	**8**	P	**P**	**15 31 24.1**	**+0.9**
	7.4nm,0.8s,baz=184,slow=8.5,SNR=3.6						
MK31	**Makanchi Array**	**47.23**	**346**	P	**P**	**15 31 24.2**	**+0.2**
MJAR	**Matsushiro Arr**	**51.68**	**42**	P	**P**	**15 31 57.7**	**-0.4**
	1.9nm,0.6s,baz=217,slow=7.2,SNR=3.1						
MDJ	**Mudanjiang**	**51.86**	**29**	*e*P	**P**	**15 31 59.2**	**0.0**
	14nm,0.9s						
USRK	**Usuriysk Ar.**	**52.76**	**31**	P	**P**	**15 32 06.4**	**+0.5**
	14nm,0.8s,baz=230,slow=5.1,SNR=5.1						
STKA	**Stephens Creek**	**53.36**	**132**	P	**P**	**15 32 11.4**	**+0.8**
	3.9nm,0.6s,baz=303,slow=9.0,SNR=1.9						
STKA	**Stephens Creek**	**53.36**	**132**	*e*P	**P**	**15 32 10.9**	**+0.3**
	0.9nm,0.6s						
ZAA0	**Zalesovo Array**	**53.55**	**351**	*e*P	**P**	**15 32 11.6**	**+0.1**
ZALV	**Zalesovo Beam**	**53.55**	**351**	P	**P**	**15 32 11.9**	**+0.4**
	7.6nm,0.5s,baz=161,slow=6.1,SNR=2.4						
ABKAR	**Akbulak array**	**57.51**	**332**	P	P	15 32 36.9	-3.2
KBZ	**Khabaz**	**64.06**	**319**	LR	LR	16 06 11.1	
	comp=Z,124nm,18.1s,baz=113,slow=41						
SEY	**Seymchan**	**73.75**	**23**	P	**P**	**15 34 25.2**	**+0.5**
	5.3nm,0.8s,baz=310,slow=7.9,SNR=2.2						

*CSEM **01** 15:38:37.6±0.1, 40°.34N×27°.85E, h5km, MD2.6, Error ellipse: s-maj=4.2km s-min=2.3km az=22.0*

*DDA **01** 15:38:37.4, 40°.28N×27°.82E, h7km, MD2.7*

ISK 01 15:38:37.0, 40°.32N×27°.85E, h8km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EDC	**Edincik**	**0.03**	**19**	*e*PG	Pg	15 38 38.4	-0.2
EDC				*e*SG	Sg	15 38 40.1	+0.5
EDC	**Edincik**	**0.03**	**19**	*e*Pg	Pg	15 38 38.4	-0.1
EDC				*e*Sg	Sg	15 38 40.1	+0.5
BNT	**Bandirma**	**0.06**	**56**	*e*PG	Pg	15 38 38.9	0.0
BNT	**Bandirma**	**0.06**	**56**	*e*Pg	Pg	15 38 38.9	0.0
MRMT	**Marmara Adasi**	**0.34**	**325**	*e*PG	Pg	15 38 44.2	+0.3
MRMT				*e*SG	Sg	15 38 49.6	+1.0
MRMT	**Marmara Adasi**	**0.34**	**325**	*e*Pg	Pg	15 38 44.2	+0.3
MRMT				*e*Sg	Sg	15 38 49.6	+1.1
KCTX	**Karacabey (Bur**	**0.39**	**98**	*e*PG	Pg	15 38 44.9	+0.2
KCTX				*e*SG	Sg	15 38 50.4	+0.5
KCTX	**Karacabey (Bur**	**0.39**	**98**	*e*Pg	Pg	15 38 44.9	+0.2
KCTX				*e*Sg	Sg	15 38 50.4	+0.5
RKY	**Sarkoy-Tekirda**	**0.63**	**306**	*e*PG	Pg	15 38 49.6	+0.3
RKY				*e*SG	Sb	15 38 59.2	-0.2
RKY	**Sarkoy-Tekirda**	**0.63**	**306**	*e*Pg	Pg	15 38 49.6	+0.3
RKY				*e*Sg	Sb	15 38 59.2	-0.3
SART	**Tekirdag**	**0.63**	**306**	*i* P	Pg	15 38 49.4	+0.1
SART				*i* S	Sb	15 38 59.3	-0.1
SART	**Tekirdag**	**0.63**	**306**	*i* P	Pg	15 38 49.4	+0.1
SART				*i* S	Sb	15 38 59.3	-0.2
ARMT	**Armutlu**	**0.81**	**72**	*e*PG	Pb	15 38 53.2	-0.2
ARMT				*e*SG	Sb	15 39 05.1	+0.6
ARMT	**Armutlu**	**0.81**	**72**	*e*Pg	Pb	15 38 53.2	-0.2
ARMT				*e*Sg	Sb	15 39 05.1	+0.6
DST	**Dursunbey**	**0.93**	**140**	*e*PG	Pb	15 38 55.5	+0.1
DST	**Dursunbey**	**0.93**	**140**	*e*Pg	Pb	15 38 55.5	+0.1
SLVT	**Silivri**	**0.95**	**17**	*e*PG	Pb	15 38 55.7	0.0
SLVT	**Silivri**	**0.95**	**17**	*e*Pg	Pb	15 38 55.7	0.0
ULDT	**Uludag**	**1.00**	**100**	*i* P	Pb	15 38 57.1	+0.3
ULDT				*i* S	Sn	15 39 12.8	+0.7
ULDT	**Uludag**	**1.00**	**100**	*i* P	Pb	15 38 57.1	+0.3
ULDT				*i* S	Sn	15 39 12.8	+0.8
CTKS	**Kestanelik-??a**	**1.04**	**28**	*e*PG	Pb	15 38 57.5	+0.2
CTKS	**Kestanelik-??a**	**1.04**	**28**	*e*Pg	Pb	15 38 57.5	+0.2
GELI	**Tayfur-Gelibol**	**1.06**	**275**	*e*PG	Pb	15 38 57.6	+0.1
GELI	**Tayfur-Gelibol**	**1.06**	**275**	*e*Pg	Pb	15 38 57.6	+0.1
ERIK	**Erikli-Kesan**	**1.08**	**289**	*e*PG	Pn	15 38 58.3	-0.1
ERIK	**Erikli-Kesan**	**1.08**	**289**	*e*Pg	Pn	15 38 58.3	-0.1
BGKT	**Bogazkoy**	**1.11**	**39**	*e*PN	Pn	15 38 59.0	+0.2
BGKT	**Bogazkoy**	**1.11**	**39**	*e*Pn	Pn	15 38 59.1	+0.3
ISK	**Istanbul-Kandi**	**1.18**	**51**	*e*PN	Pb	15 38 59.6	-0.1
ISK	**Istanbul-Kandi**	**1.18**	**51**	*e*Pn	Pb	15 38 59.6	-0.1
IZI	**Iznik**	**1.24**	**89**	*e*PN	Pg	15 39 01.0	+0.1
IZI	**Iznik**	**1.24**	**89**	*e*Pn	Pg	15 39 01.0	+0.1
KLYT	**Kilyos**	**1.30**	**44**	*e*PN	Pg	15 39 01.9	0.0
KLYT	**Kilyos**	**1.30**	**44**	*e*Pn	Pg	15 39 01.9	0.0
DEMI	**Demirci**	**1.44**	**152**	*i* P	Pg	15 39 05.3	+0.5
DEMI				*i* S	Sg	15 39 24.6	+1.0
DEMI	**Demirci**	**1.44**	**152**	*i* P	Pg	15 39 05.3	+0.5
DEMI				*i* S	Sg	15 39 24.6	+1.0
ADVT	**Abdulvahap**	**1.45**	**85**	*e*PN	Pb	15 39 04.2	0.0
ADVT	**Abdulvahap**	**1.45**	**85**	*e*Pn	Pb	15 39 04.2	0.0
HRT	**Hereke**	**1.47**	**70**	*e*PN	Pg	15 39 05.0	-0.3
HRT	**Hereke**	**1.47**	**70**	*e*Pn	Pb	15 39 05.0	+0.3
ALN	**Alexandroupoli**	**1.49**	**293**	*e*PN	Pb	15 39 04.7	-0.2
ALN	**Alexandroupoli**	**1.49**	**293**	*e*Pn	Pb	15 39 04.7	-0.2
GADA	**Gvkgeada**	**1.50**	**266**	*e*PN	Pn	15 39 04.7	+0.4
GADA	**Gvkgeada**	**1.50**	**266**	*e*Pn	Pb	15 39 04.7	-0.4
TVSB	**Tavsanli**	**1.51**	**125**	*e*PN	Pn	15 39 04.6	0.0
TVSB	**Tavsanli**	**1.51**	**125**	*e*Pn	Pn	15 39 04.6	+0.1
CAVI	**Cavuskoy**	**1.53**	**94**	*e*PN	Pn	15 39 05.0	+0.4
CAVI	**Cavuskoy**	**1.53**	**94**	*e*Pn	Pn	15 39 05.0	+0.4
GDZ	**Gediz**	**1.76**	**134**	*i* P	Pb	15 39 10.2	+0.4
GDZ				*i* S	Sg	15 39 34.5	+0.5
GDZ	**Gediz**	**1.76**	**134**	*i* P	Pb	15 39 10.2	+0.5
GDZ				*i* S	Sg	15 39 34.5	+0.6

*CSEM **01** 15:41:35.8±0.1, 38°.21N×38°.67E, h12km, MD2.7, Error ellipse: s-maj=3.7km s-min=2.4km az=53.0*

*DDA **01** 15:41:36.6, 38°.22N×38°.54E, h9km, MD2.8*

ISK 01 15:41:35.7, 38°.19N×38°.64E, h10km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MALT	**Malatya**	**0.21**	**307**	*e*PG	Pg	15 41 40.5	+0.3
MALT				*e*SG	Sg	15 41 43.8	+0.5
MALT	**Malatya**	**0.21**	**307**	*e*Pg	Pg	15 41 40.5	+0.3
MALT				*e*Sg	Sg	15 41 43.8	+0.6
URFA	**Urfa**	**0.76**	**169**	*e*PG	Pb	15 41 51.0	-0.2
URFA				*e*SG	Sb	15 42 01.7	0.0
URFA	**Urfa**	**0.76**	**169**	*e*Pg	Pb	15 41 51.0	-0.2
URFA				*e*Sg	Sb	15 42 01.7	0.0
DARE	**Darende-Malaty**	**0.98**	**293**	*e*PG	Pb	15 41 55.4	+0.4
DARE	**Darende-Malaty**	**0.98**	**293**	*e*Pg	Pn	15 41 55.4	-0.3
KEMA	**Kemaliye**	**1.08**	**354**	*i* P	Pb	15 41 56.6	-0.1
KEMA				*i* S	Sn	15 42 13.3	+1.0
KEMA	**Kemaliye**	**1.08**	**354**	*i* P	Pb	15 41 56.6	-0.1
KEMA	**Kemaliye**	**1.08**	**354**	*i* S	Sn	15 42 13.3	+1.0
GZT	**Gaziantep**	**1.19**	**226**	*i* P	Pb	15 41 58.5	-0.1
GZT				*i* S	Sb	15 42 13.2	-1.0
DYBB	**Diyarbakir**	**1.21**	**101**	*e*PN	Pg	15 41 59.1	+0.1
DIY	**Diyarbakir**	**1.29**	**103**	*e*Pn	Pn	15 41 59.1	-0.8
KMRS	**Kahramanmaras**	**1.53**	**244**	*e*PN	Pn	15 42 03.3	+0.1
KMRS	**Kahramanmaras**	**1.53**	**244**	*e*Pn	Pn	15 42 03.3	+0.1
KUZU	**Kuzuini**	**1.88**	**222**	*e*P	Pg	15 42 11.6	-0.3
KUZU				*i* S	Sn	15 42 32.5	+0.7
KUZU	**Kuzuini**	**1.88**	**222**	*e*P	Pg	15 42 11.6	-0.3
KUZU				*i* S	Sn	15 42 32.5	+0.6
MARD	**Mardin**	**1.91**	**117**	*i* P	Pg	15 42 13.6	+1.1
MARD				*i* S	Sg	15 42 40.5	+3.1

IDC 01 15:57:53.3±2.9, 7°.14N×92°.02E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/27, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=95.4km s-min=30.0km az=70.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**13.11**	**30**	Pn	Pn	16 01 01.1	0.0
	0.1nm,0.3s,baz=212,slow=14,SNR=4.9						
H08S3	**Diego Garcia H**	**24.39**	**233**	T	T	16 29 29.0	
	baz=60						
H08S2	**Diego Garcia H**	**24.39**	**233**	T	T	16 29 30.1	
	baz=60						
H08S1	**Diego Carcia H**	**24.41**	**233**	T	T	16 29 28.4	
	baz=60						
SONM	**Songino Array**	**42.36**	**14**	P	P	16 05 49.2	-0.3
	0.3nm,0.3s,baz=206,slow=9.6,SNR=2.7						
ZALV	**Zalesovo Beam**	**47.03**	**354**	P	P	16 06 26.4	-0.1
	0.4nm,0.4s,baz=169,slow=7.4,SNR=7.4						
ASAR	**Alice Springs**	**51.09**	**128**	P	P	16 06 58.0	-0.1
	0.5nm,0.7s,baz=300,slow=7.3,SNR=7.6						

*ISCJB **01** 16:06:13.5±0.4, 57°.21N±0°.04×154°.91W±0°.05, h88km±3km, mb3.8/9, Error ellipse: s-maj=7.4km s-min=4.0km az=157.7*

*IDC **01** 16:06:14.1±4.0, 57°.44N×155°.29W, h58km±35km, mb3.6/10, mb1 3.7/13, mb1mx3.5/32, mbtmp3.9/13, ML3.9/3, Error ellipse: s-maj=40.7km s-min=20.4km az=159.0*

*NEIC **01** 16:06:15.8, 57°.17N×154°.93W, h62km, ML3.4(AEIC), After AEIC.*

ISC 01 16:06:14.5±0.8, 57°.22N±0°.06×154°.89W±0°.04, h80km±8km, n50, σ0s97/61, mb3.8/9, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**0.87**	**89**	P	**Pn**	**16 06 32.0**	**+0.1**
OHAK				S	**Sn**	**16 06 44.8**	**-0.2**
PLK3	**Peulik 3**	**0.88**	**303**	P	**Pn**	**16 06 32.4**	**+0.2**
PLK3				S	**Sn**	**16 06 45.5**	**+0.1**
KABR	**Katmai Barrier**	**0.92**	**357**	P	**Pn**	**16 06 32.8**	**+0.2**
KABR				S	**Sn**	**16 06 46.5**	**+0.4**
PLK2	**Peulik 2**	**0.95**	**306**	P	**Pn**	**16 06 33.2**	**+0.2**
PLK2				S	**Sn**	**16 06 47.0**	**+0.3**
KCE	**Katmai Mt Cerb**	**1.04**	**351**	P	**Pn**	**16 06 34.9**	**+0.8**
KBM	**Katmai Bkd Mtn**	**1.07**	**351**	P	**Pn**	**16 06 35.1**	**+0.6**
KAKN	**Katmai Knife C**	**1.08**	**355**	P	**Pn**	**16 06 34.9**	**+0.3**
KAKN				S	**Sn**	**16 06 50.0**	**+0.2**
PLK1	**Peulik 1**	**1.10**	**303**	P	**Pn**	**16 06 34.8**	**+0.2**
PLK1				S	**Sn**	**16 06 50.1**	**+0.3**
PLWL	**Peulik Whale M**	**1.14**	**317**	P	**Pn**	**16 06 35.0**	**-0.2**
PLWL				S	**Sn**	**16 06 50.0**	**-0.7**
KVTA	**Katmai Vly 10**	**1.19**	**350**	P	**Pn**	**16 06 36.1**	**+0.3**
KELA	**Mount Kelaz**	**1.31**	**340**	P	**Pn**	**16 06 37.6**	**+0.2**
KELA				S	**Sn**	**16 06 53.2**	**-1.4**
KDAK	**Kodiak Island**	**1.36**	**65**	P	**Pn**	**16 06 38.3**	**+0.3**
KDAK				S	**Sn**	**16 06 55.4**	**-0.3**
ANPK	**Aniakchak Peak**	**1.81**	**259**	P	**Pn**	**16 06 43.2**	**-0.7**
ANPB	**Aniakchak Plen**	**1.90**	**259**	P	**Pn**	**16 06 44.5**	**-0.6**
ANPB				S	**Sn**	**16 07 07.3**	**-1.1**
MCNL	**McNeil River**	**1.99**	**8**	P	**Pn**	**16 06 47.1**	**+0.9**
CHGN	**Chignik**	**2.15**	**246**	P	**Pn**	**16 06 47.4**	**-0.9**
AUI	**Augustine Isla**	**2.26**	**19**	P	**Pn**	**16 06 51.1**	**+1.4**
AUW	**Augustine West**	**2.28**	**18**	P	**Pn**	**16 06 51.6**	**+1.5**
VNHG	**Veniaminof 1**	**2.56**	**249**	P	**Pn**	**16 06 54.2**	**+0.3**
VNHG				S	**Sn**	**16 07 23.6**	**-0.6**
OPT	**Oil Point**	**2.59**	**19**	P	**Pn**	**16 06 55.7**	**+1.5**
PDB	**Pedro Bay**	**2.60**	**8**	P	**Pn**	**16 06 55.1**	**+0.8**
ILS	**Iliamna Low So**	**2.91**	**18**	P	**Pn**	**16 06 59.9**	**+1.3**
ILIM	**Iliamna**	**3.04**	**19**	P	**Pn**	**16 07 01.5**	**+1.1**
BRLK	**Bradley Lake**	**3.31**	**38**	P	**Pn**	**16 07 03.5**	**-0.4**
BRLK				S	**Sn**	**16 07 40.2**	**-1.9**
RSO	**Redoubt South**	**3.44**	**18**	P	**Pn**	**16 07 06.7**	**+0.9**
RDN	**Redoubt North**	**3.48**	**18**	P	**Pn**	**16 07 08.1**	**+1.7**
SDPT	**Sand Point**	**3.64**	**241**	P	**Pn**	**16 07 08.1**	**-0.3**
SVW2	**Sparrevohn**	**3.91**	**355**	P	**Pn**	**16 07 12.8**	**+0.7**
SML	**Sawmill**	**5.68**	**33**	*e*Pn	Pn	16 07 32.7	-3.6
	2.9nm,0.5s						
PPLA	**Purkeypile**	**5.85**	**12**	*e*Pn	**Pn**	**16 07 40.2**	**+1.5**
	7.6nm,0.5s						
BMRM	**Bremner River**	**6.49**	**50**	*e*Pn	**Pn**	**16 07 47.0**	**-0.3**
	14nm,0.4s						
BMRM				*e*Sn	Sn	16 08 51.1	-8.7
TRF	**Thorofare Moun**	**6.65**	**18**	*e*Pn	**Pn**	**16 07 49.2**	**-0.4**
	8.3nm,0.5s						
MCK	**McKinley**	**7.16**	**22**	*e*Pn	**Pn**	**16 07 55.7**	**-0.7**
	8.1nm,0.5s						
BPAW	**Bear Paw Mtn.**	**7.16**	**14**	*e*Pn	**Pn**	**16 07 55.8**	**-0.6**
	1.3nm,0.4s						
PAX	**Paxson**	**7.44**	**35**	*e*Pn	**Pn**	**16 08 00.0**	**-0.2**
	11nm,0.7s						
ILAR	**Eielson Array**	**8.51**	**24**	P	Pn	**16 08 13.6**	**-1.1**
	1.3nm,0.3s,baz=216,slow=14,SNR=26						
ILAR				S	**Sn**	**16 09 45.6**	**-3.3**
	0.1nm,0.3s,baz=208,slow=23,SNR=2.4						
HYT	**Haines Junctio**	**9.65**	**61**	*e*Pn	Pn	**16 08 30.6**	**+0.1**
	3.6nm,0.7s						
EGAK	**Eagle**	**10.07**	**36**	*e*Pn	**Pn**	**16 08 36.1**	**+0.1**
	2.7nm,0.4s						
DLBC	**Dease Lake**	**13.28**	**74**	P	Pn	16 09 22.8	+3.3
	0.1nm,0.3s,baz=239,slow=18,SNR=2.0						
DLBC				S	**Sn**	**16 11 47.1**	**+1.9**
	0.1nm,0.3s,baz=180,slow=20,SNR=2.9						
INK	**Inuvik**	**14.70**	**32**	P	**Pn**	**16 09 38.1**	**+0.3**
	0.5nm,0.3s,baz=230,slow=8.6,SNR=4.1						
YKA	**Yellowknife Ar**	**20.63**	**58**	P	Pn	16 10 48.7	-1.3
	1.1nm,0.6s,baz=274,slow=10,SNR=3.5						
SEY	**Seymchan**	**26.25**	**305**	P	**P**	**16 11 39.4**	**-2.3**
	0.8nm,0.8s,baz=126,slow=17,SNR=3.6						
PETK	**Petropavlovsk-**	**26.95**	**282**	P	**P**	**16 11 47.3**	**-0.8**
	0.9nm,0.4s,baz=79,slow=13,SNR=7.6						
ASAJ	**Asahikawa**	**40.28**	**279**	P	**P**	**16 13 43.1**	**-0.3**
	2.5nm,0.6s,baz=63,slow=4.5						
ARCES	**ARCESS Array B**	**53.55**	**360**	P	**P**	**16 15 26.6**	**+0.3**
	1.0nm,0.7s,baz=13,slow=8.0,SNR=4.4						
SONM	**Songino Array**	**55.63**	**306**	P	**P**	**16 15 42.1**	**+0.2**
	0.5nm,0.5s,baz=65,slow=4.2,SNR=3.5						
ZALV	**Zalesovo Beam**	**59.03**	**323**	P	**P**	**16 16 05.6**	**+0.2**

SAML	**Samuel**	25.44	298	*e*P		P		16 49 45.5	+1.4
	3.4nm,1.0s								
LVC	**Limon Verde**	26.09	264	P		P		16 49 50.1	-0.2
	4.9nm,0.9s								
CFAA	**Coronel Fontan**	26.16	244	P		P		16 49 50.2	-0.5
	0.2nm,0.7s,baz=60,slow=7.7,SNR=3.5								
LPAZ	**La Paz**	26.60	278	P		P		16 49 57.1	+1.6
	1.5nm,1.0s,baz=146,slow=8.4,SNR=4.2								
H10S3	**ASCENSION HYDR**	28.32	66	T		T		17 19 55.4	
	baz=237,slow=74,SNR=250								
H10S2	**ASCENSION HYDR**	28.33	66	T		T		17 19 56.3	
	baz=237,slow=74,SNR=199								
H10S1	**ASCENSION HYDR**	28.34	66	T		T		17 19 56.8	
	baz=237,slow=74,SNR=215								
H09W1	**TRISTAN DA CUN**	28.47	127	T		T		17 19 40.6	
	SNR=81								
H09N1	**TRISTAN DA CUN**	28.48	127	T		T		17 19 44.0	
	SNR=35								
PTGA	**Pitinga**	28.60	316	Lg		Lg		16 59 18.8	
	4.0nm,0.8s,baz=229,slow=13,SNR=2.7								
H10N3	**ASCENSION HYDR**	29.04	64	T		T		17 20 51.4	
	baz=235,slow=75,SNR=58								
H10N1	**ASCENSION HYDR**	29.06	64	T		T		17 20 52.5	
	baz=235,slow=75,SNR=32								
H10N2	**ASCENSION HYDR**	29.06	64	T		T		17 20 52.5	
	baz=235,slow=75,SNR=36								
NNA	**Nana**	36.00	281	LR		LR		17 06 04.1	
	comp=Z,67nm,20.4s,baz=358,slow=36								
SDV	**Santo Domingo**	42.79	313	P		P		16 52 12.4	-2.0
	12nm,1.2s								
SNAA	**Sanae**	53.77	166	*e*P		P		16 53 32.2	-6.1
	2.5nm,0.9s								
TORD	**Torodi Ar. Bea**	54.52	54	P		P		16 53 45.3	+0.8
	0.4nm,0.6s,baz=239,slow=6.2,SNR=5.0								
BOSA	**Boshof**	59.16	111	P		P		16 54 16.3	-1.1
	3.5nm,1.0s,baz=228,slow=16,SNR=2.0								
VNDA	**Vanda**	79.38	185	P		P		16 56 20.6	-1.1
	1.3nm,0.9s,baz=180,slow=6.1,SNR=5.8								
TXAR	**Lajitas Array**	79.52	308	P		P		16 56 24.7	+1.3
	0.7nm,0.9s,baz=143,slow=7.9,SNR=3.7								
PDAR	**Pinedale Array**	90.65	317	P		P		16 57 20.0	+0.9
	0.4nm,0.8s,baz=126,slow=4.6,SNR=2.7								
PDAR	**Pinedale Array**	90.65	317	P		P		16 57 20.0	+0.9

ISCJB ***01*** *16:55:49.1±0.7, 14.˚1S±0.˚1×171.˚8E±0.˚2, h604km, mb3.8/9, Error ellipse: s-maj=23.7km s-min=15.2km az=6.6*

IDC ***01*** *16:55:51.6±2.6, 14.˚12S×171.˚82E, h621±km, 37km, mb3.2/9, mb1 3.3/10, mb1mx3.2/23, mbtmp4.2/10, Error ellipse: s-maj=22.5km s-min=18.3km az=89.0*

ISC 01 16:55:50.7±0.8, 14.˚1S±0.˚1×171.˚9E±0.˚2, h604km, n10, σ0$89/10, mb3.7/9, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	9.49	212	P		P		16 58 06.2	+1.7
	0.9nm,0.3s,baz=89,slow=24,SNR=8.6								
URZ	**Urewera**	24.55	170	P		P		17 00 24.3	-0.3
	2.9nm,0.4s,baz=326,slow=1.9,SNR=7.7								
RAR	**Rarotonga**	27.92	109	P		P		17 00 54.2	-0.2
	6.8nm,0.6s,baz=13,slow=20,SNR=3.6								
RPZ	**Rata Peaks**	29.56	181	P		P		17 01 07.4	-0.9
	4.7nm,0.5s,baz=24,slow=20,SNR=4.2								
STKA	**Stephens Creek**	32.87	232	P		P		17 01 35.8	-0.8
	3.8nm,0.4s,baz=62,slow=8.6,SNR=39								
VNDA	**Vanda**	63.67	182	P		P		17 05 23.2	-0.3
	0.6nm,0.5s,baz=3.0,slow=6.5,SNR=9.7								
PETK	**Petropavlovsk-**	68.00	351	P		P		17 05 50.6	0.0
	1.1nm,0.5s,baz=139,slow=7.0,SNR=7.4								
SEY	**Semchan**	78.24	351	P		P		17 06 48.4	-0.4
	1.4nm,0.5s,baz=173,slow=6.7,SNR=17								
NVAR	**Mina Array Bea**	83.49	48	P		P		17 07 17.6	+1.0
	0.3nm,0.7s,baz=231,slow=10.0,SNR=3.5								
ILAR	**Eielson Array**	84.57	16	P		P		17 07 20.8	-0.2
	1.1nm,0.8s,baz=238,slow=4.9,SNR=9.6								

IDC ***01*** *16:57:43.7±0.3, 5.˚21S×129.˚35E, h0km, mb5.4/34, mb1 5.4/37, mb1mx5.4/40, mbtmp5.4/37, ML5.5/2, MS5.0/26, Ms1 5.0/26, ms1mx4.9/33, Error ellipse: s-maj=12.1km s-min=7.4km az=63.0*

BJI ***01*** *16:57:43.2, 5.˚63S×129.˚59E, h34km, mb5.4/80, mB5.5/62, Ms5.3/88, Ms7 5.1/75*

ISCJB ***01*** *16:57:47.1±0.1, 5.˚21S±0.˚02×129.˚43E±0.˚02, h35km, mb5.6/190, MS5.1/133, Error ellipse: s-maj=2.8km s-min=2.3km az=157.1*

MOS ***01*** *16:57:47.6±1.1, 5.˚11S×129.˚29E, h33km, mb5.9/56, MS5.0/43, Error ellipse: s-maj=8.6km s-min=5.0km az=113.3*

GCMT ***01*** *16:57:49.3±0.1, 5.˚17S×129.˚37E, h22km, MW5.8/130, Moment Tension Solution. s111,c203; s130,c356; Duration: 1s9 Moment tensor: Scale 10^17Nm; Mrr2.75±.06; Mθθ-5.05±.05; Mφφ2.30±.06; Mrθ0.29±.10; Mrφ4.24±.05; Mθφ1.84±.12; Best double couple: Mo6.22700×10^17 NP1:φs334.00000°, δ69.00000°, λ152.00000°. NP2:φs74.00000°, δ64.00000°, λ23.00000°. Principal axes: T 5.4400, Plg34.0000°, Azm293.0000°; N 1.5720, Plg56.0000°, Azm120.0000°; P -7.0130, Plg3.0000°, Azm25.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***01*** *16:57:49.3±0.5, 5.˚17S×129.˚39E, h36km±4km, mb5.7/78, MS5.2/81 Error ellipse: s-maj=4.1km s-min=3.3km az=54.0*

DJA ***01*** *16:57:51.1±0.2, 5.˚5±2.˚×13.˚0E±.˚, h51km±2km, M5.7/119, mb5.7/119, mB6.1/101, MLv5.9/17, Mw(mB)5.7/101, Mwp5.8/16*

KLM ***01*** *16:57:51.9, 5.˚06S×129.˚43E, h50km, mb5.7, MS6.6*

ISC 01 16:57:49.0±0.2, 5.˚15S±0.˚03×129.˚38E±0.˚03, h35km, h35km:pP-P, n1016, σ1$56/1138, mb5.7/198, MS5.1/134, 127C-44D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	0.82	40	P		P		16 58 01.9	-2.2
NLAI	**Namlea**	2.96	310	P		P		16 58 32.6	-1.0
SAUI	**Saumlaki**	3.40	146	P		P		16 58 41.3	+1.7
SAUI				S		S		16 59 23.2	+4.5
FAKI	**Fak Fak**	3.62	52	P		P		16 58 43.1	+0.4
FAKI				S		S		16 59 25.6	+1.3
FAKI	**Fak Fak**	3.62	52	*e*Pn		P		16 58 42.9	+0.2
FAKI				*e*Sn		S		16 59 25.9	+1.6
SANI	**Sanana**	4.58	312	P		P		16 58 56.8	+1.0
SIJI	**Sorong**	4.66	24	Pn		P		16 58 57.4	+0.5
	543nm,0.3s,baz=216,slow=11,SNR=1061								
SIJI				Sn		S		16 59 49.2	-0.5
	155nm,0.3s,baz=216,slow=24,SNR=6.2								
SIJI				LR		LR		17 01 21.4	
	comp=Z,29μm,21.1s,baz=151,slow=46								
RKPI	**Ransiki, Papua**	6.00	53	P		P		16 59 15.1	-0.3
	5μm,1.2s,40μm49μm43nm								
RKPI				S		S		17 00 22.5	-0.5
	5μm,1.2s,40μm49μm43nm								
TNTI	**Ternate**	6.22	341	P		P		16 59 19.6	+1.2
	907nm,1.3s,10μm38μm5.4nm								
TNTI				S		S		17 00 30.0	+1.7
	907nm,1.3s,10μm38μm5.4nm								
TNTI	**Ternate**	6.22	341	*e*Pn		P		16 59 19.5	+1.1
	624nm,0.8s								
TNTI				*e*Sn		S		17 00 27.1	-1.1
SOEI	**Soe**	6.82	228	P		P		16 59 28.1	+1.3
	3μm,1.2s,31μm97μm11nm								
SOEI	**Soe**	6.82	228	⇓*e*Pn		P		16 59 27.9	+1.1
	3μm,1.1s								
SOEI				*e*Sn		S		17 00 46.0	+2.6
KDI	**Kendari**	6.84	280	P		Pn		16 59 28.2	+1.3
	171nm,1.1s,3μm32μm0.9nm								
SRPI	**Serui, Papua**	7.59	65	P		P		16 59 36.0	-1.2
	931nm,0.7s,11μm33μm9.9nm								
SRPI				S		S		17 00 59.3	-2.7
	931nm,0.7s,11μm33μm9.9nm								
LUWI	**Luwuk**	7.76	302	P		P		16 59 41.7	+2.2
	760nm,1.7s,13μm30μm3.7nm								
LUWI	**Luwuk**	7.76	302	⇑*e*Pn		P		16 59 40.6	+1.2
	2μm,1.3s								
BAKI	**Biak**	7.79	60	P		P		16 59 39.0	-0.9
	1μm,1.0s,17μm5.4nm								
BAKI				S		S		17 01 04.9	-2.0
	1μm,1.0s,17μm5.4nm								
KMSI	**Cibinong**	7.84	316	P		Pn		16 59 44.3	+3.7
	1μm,0.8s,16μm7.6nm								
MMRI	**Maumere**	7.89	244	P		Pn		16 59 43.4	+2.1
	2μm,1.0s,28μm40μm								
MMRI	**Maumere**	7.89	244	*e*Pn		Pn		16 59 42.5	+1.2
	1μm,0.9s								
APSI	**Ampana**	8.79	298	P		Pn		16 59 56.4	+2.7
	696nm,1.1s,7μm16μm								
BSSI	**Bau Bau, Buton**	8.90	263	P		Pn		16 59 58.4	+3.2
	348nm,1.0s,5μm								
BKSI	**Bulukumba**	9.22	269	P		Pn		17 00 02.3	+2.7
	187nm,1.3s,3μm								
MRSI	**Marisa**	9.30	307	P		Pn		17 00 02.9	+2.3
	1μm,1.2s,16μm								
SGSI	**Sangihe**	9.59	336	P		Pn		17 00 05.8	+1.2
	619nm,1.0s								
KAPI	**Kappang**	9.59	270	Pn		Pn		17 00 08.6	+4.0
	1μm,0.5s,SNR=17								
KAPI	**Kappang**	9.59	270	Pn		Pn		17 00 07.0	+2.4
	16nm,0.3s,baz=111,slow=6.6,SNR=40								
KAPI				Sn		Sn		17 01 52.1	+0.9
	2.5nm,0.3s,baz=140,slow=17,SNR=2.9								
KAPI				LR		LR		17 03 50.0	
	comp=Z,32μm,18.1s,baz=98,slow=38								
KAPI	**Kappang**	9.59	270	P		Pn		17 00 08.1	+3.5
	SNR=18								
KAPI	**Kappang**	9.59	270	⇑*i*Pn		Pn		17 00 06.8	+2.1
	87nm,0.5s								
KAPI				Sn		Sn		17 01 52.1	+0.9
SPSI	**Sidrap Palu**	9.65	277	P		Pn		17 00 09.1	+3.6
	272nm,0.6s,5μm								
TTSI	**Tana Toraja**	9.76	282	P		Pn		17 00 10.6	+3.6
	148nm,2.5s,4μm								
SMPI	**Sarmi**	9.83	72	P		Pn		17 00 07.1	-0.9
	209nm,1.0s								
WSI	**Waingapu**	10.06	243	P		Pn		17 00 13.5	+2.4
	1μm,1.2s,22μm40μm								
PCI	**Palu**	10.42	294	P		Pn		17 00 20.0	+4.0
	843nm,1.1s,10μm								
TOLI	**Toli-Toli**	10.60	306	⇑*e*Pn		Pn		17 00 19.8	+1.3
	195nm,0.6s								
WBSI	**Waikabubak, Su**	10.86	245	P		Pn		17 00 23.7	+1.6
	443nm,1.1s,4μm								
MPSI	**Mapaga**	10.93	300	P		Pn		17 00 25.7	+2.7
	116nm,1.7s,3μm								
GENI	**Genyem**	11.06	77	P		Pn		17 00 23.7	-1.2
	406nm,1.2s,8μm								
JAY	**Jayapura**	11.60	77	P		Pn		17 00 31.8	-0.5
	147nm,1.4s,4μm								
JAY	**Jayapura**	11.60	77	Pn		Pn		17 00 30.2	-2.0
	0.9nm,0.3s,baz=267,slow=11,SNR=19								
JAY				Sn		Sn		17 02 40.5	-0.2
	baz=270,slow=20,SNR=3.1								
DAV	**Davao City (W)**	12.72	343	P		Pn		17 00 49.8	+2.3
	SNR=18								
DAV	**Davao City (W)**	12.72	343	*e*Pn		Pn		17 00 46.9	-0.7
BKB	**Balikpapan**	13.04	287	P		P		17 00 58.1	-3.7
	444nm,1.4s,11μm28μm								
KBKI	**Kotabaru**	13.30	277	P		Pn		17 00 58.4	+2.9
	314nm,1.7s,7μm								
BUKP	**Musuan**	13.64	342	*e*P		Pn		17 01 01.4	+1.3
CGP	**Cagayan de Oro**	14.30	341	*e*P		Pn		17 01 11.1	+1.9
SRBI	**Singaraja**	14.37	258	P		Pn		17 01 13.3	+3.3
	572nm,1.4s,9μm								
DNP	**Denpasar**	14.49	255	P		P		17 01 19.9	+2.0
BUTP	**Butuan**	14.52	345	*e*P		Pn		17 01 13.2	+1.1
BBKI	**Banjar Baru**	14.59	276	P		P		17 01 17.0	-2.1
	1μm,2.1s,32μm								
TSM	**Tawau**	14.84	309	⇓P		Pn		17 01 18.8	+2.5
TSM	**Tawau**	14.84	309	⇓P		Pn		17 01 18.8	+2.5
ABJI	**Asem Bagus**	15.27	259	P		P		17 01 24.8	-1.8
	619nm,2.3s,15μm								
WRAB	**Tennant Creek**	15.47	162	Pn		Pn		17 01 19.3	-5.5
	2μm,1.1s,SNR=55								
WRAB	**Tennant Creek**	15.47	162	*c i*P		Pn		17 01 19.2	-5.5
WRAB						pmax	pmax		
	comp=Z,1μm,1.2s								
WRAB	**Tennant Creek**	15.47	162	⇓*i*Pn		Pn		17 01 18.1	-6.6
	comp=Z,379nm,1.0s								
WRAB				*e*Sn		Sn		17 03 56.1	-19
WRA	**Warramunga Arr**	15.47	162	Pn		Pn		17 01 18.2	-6.5
	comp=Z,9.6nm,0.3s,baz=341,slow=12,SNR=202								
WRA				Sn		Sn		17 04 01.2	-14
	comp=Z,9.0nm,0.3s,baz=336,slow=22,SNR=5.1								
WRA				LR		LR		17 07 16.9	
	comp=Z,12μm,20.0s,baz=335,slow=37								
SNPH	**Sibulan**	15.65	337	⇑*e*P		Pn		17 01 21.1	-5.9
MSLP	**Maasin**	15.84	343	*e*P		Pn		17 01 29.3	-0.2
BLJI	**Banyuglugur**	15.89	260	P		P		17 01 35.1	+1.6
	comp=Z,472nm,1.8s,comp=Z,11μm								
COEN	**Coen**	16.17	124	*e*Pn		Pn		17 01 31.0	-2.7
	comp=Z,890nm,0.9s								
COEN				*e*Sn		Sn		17 04 17.0	-15
SDKM	**Sandakan**	16.21	311	⇓P		P		17 01 36.5	-0.7
SDKM	**Sandakan**	16.21	311	⇓P		P		17 01 36.5	-0.7
BWJI	**Bawean**	16.66	267	P		P		17 01 52.1	+10
OCLP	**Ormoc**	16.78	344	*e*P		P		17 01 44.5	+1.1
GRJI	**Gresik**	16.89	263	P		P		17 01 48.0	+3.4
	comp=Z,495nm,1.0s,comp=Z,6μm								
GUIM	**Jordan**	17.07	337	*e*P		P		17 01 46.3	-0.3
KKM	**Kota Kinabalu**	17.22	310	⇓P		P		17 01 49.3	+1.0
KKM	**Kota Kinabalu**	17.22	310	⇓P		P		17 01 49.3	+1.0
KKM	**Kota Kinabalu**	17.22	310	⇑*i*Pn		P		17 01 48.2	-0.2
	comp=Z,623nm,1.3s								
KDM	**Kudat**	17.33	314	⇑P		P		17 01 51.1	+1.6
KDM	**Kudat**	17.33	314	⇑P		P		17 01 51.1	+1.6
PWJI	**Pagerwojo**	17.69	260	P		P		17 01 55.4	+2.0
	comp=Z,330nm,1.2s,comp=Z,5μm								
PBKI	**Pangkalan Bun**	17.83	277	P		P		17 01 56.9	+1.9
	comp=Z,2μm,1.4s,comp=Z,25μm								
RCP	**Roxas**	17.87	338	⇑*e*P		P		17 01 59.3	+3.9
NGJI	**Ngawi**	17.94	262	P		P		17 02 00.8	+4.6
	comp=Z,454nm,1.4s,comp=Z,14μm								
CUYO	**Cuyo Island**	17.94	332	*e*P		P		17 01 57.9	+1.6
PMG	**Port Moresby**	18.14	104	*e*P		P		17 01 58.9	+0.6
PMG						pmax	pmax		
	comp=Z,5μm,1.7s								
PMG						MLR	MLR		
	comp=Z,38μm,23.0s								
PMG	**Port Moresby**	18.14	104	*e*Pn		P		17 01 58.9	+0.6
	comp=Z,987nm,1.3s								
CNP	**Catarman**	18.16	345	*e*P		P		17 02 01.1	+2.5
PCJI	**Pacitan**	18.32	260	P		Pn		17 02 03.1	+2.5
	comp=Z,301nm,1.1s,comp=Z,6μm								
UWJI	**Ujung Watu**	18.38	265	P		Pn		17 02 04.8	+3.5
	comp=Z,1μm,1.3s,comp=Z,20μm								
MBWA	**Marble Bar**	18.46	210	P		P		17 02 00.1	-1.8
	SNR=13								
MBWA	**Marble Bar**	18.46	210	⇓*e*P		P		17 01 58.3	-3.6
	comp=Z,215nm,1.0s								
STKI	**Sintang**	18.61	286	P		Pn		17 02 05.5	+1.4
	comp=Z,344nm,1.6s,comp=Z,8μm								
ASAR	**Alice Springs**	18.92	167	P		P		17 02 04.3	-2.6
	comp=Z,5.8nm,0.3s,baz=342,slow=10,SNR=205								
ASAR				S		Sn		17 05 26.4	-12
	comp=Z,2.8nm,0.3s,baz=355,slow=26,SNR=5.2								
ASAR				LR		LR		17 10 01.7	
	comp=Z,11μm,19.0s,baz=342,slow=39								
ASAR				P3KPbc				17 36 38.1	
	comp=Z,0.0nm,0.3s,baz=168,slow=4.2,SNR=5.2								
SMRI	**Semarang**	18.92	263	P		Pn		17 02 08.9	+1.0
	comp=Z,936nm,1.8s,comp=Z,19μm								
SMRI	**Semarang**	18.92	263	*e*P		Pn		17 02 08.3	+0.5
	comp=Z,724nm,1.1s								
ENPP	**El Nido**	19.03	329	*e*P		Pn		17 02 10.6	+1.4
SJMP	**San Jose**	19.33	335	*e*P		Pn		17 02 14.1	+1.4
BUSP	**Coron**	19.33	332	*e*P		Pn		17 02 13.7	+0.9
PVCP	**Virac**	19.34	344	*e*P		Pn		17 02 13.9	+1.1
PVCP	**Virac**	19.34	344	⇑*e*P		Pn		17 02 14.9	+2.2
AUQP	**San Andres**	19.52	340	*e*P		Pn		17 02 17.9	+2.9
KSM	**Kuching**	20.15	289	⇑P		Pn		17 02 22.9	+0.4
KSM	**Kuching**	20.15	289	⇑P		Pn		17 02 22.9	+0.4
KSM	**Kuching**	20.15	289	⇑*i*P		Pn		17 02 21.9	-0.7
	comp=Z,1μm,1.3s								
KSM				*e*S		Sn		17 06 07.5	-1.1
KSM				LR		LR			
	comp=Z,4μm,20.0s								
PGP	**Puerto Galera**	20.33	336	⇑*i*P		Pn		17 02 24.5	-0.1
KPJI	**Karang Pucung**	20.44	263	P		Pn		17 02 25.6	-0.3
	comp=Z,1μm,1.4s								
LUBP	**Lubang**	20.84	334	*e*P		Pn		17 02 30.3	-0.1
TGY	**Tagaytay City**	20.88	336	P		P		17 02 29.6	+1.1
	comp=Z,85nm,0.3s,baz=90,slow=20								
CMJI	**Cimerak**	20.96	262	P		P		17 02 28.9	-0.3
	comp=Z,755nm,1.4s,comp=Z,8μm								
CISI	**Cisompet, Garu**	21.56	263	P		P		17 02 36.6	+0.9
	comp=Z,1μm,1.0s,comp=Z,12μm								
CISI	**Cisompet, Garu**	21.56	263	⇑*e*P		P		17 02 33.1	-2.6
	comp=Z,994nm,0.9s								
LEM	**Lembang**	21.70	265	P		P		17 02 37.3	-0.1
	comp=Z,336nm,0.8s,baz=70,slow=8.7,SNR=54								
LEM				LR		LR		17 11 40.9	
	comp=Z,9μm,18.4s,baz=108,slow=39								
TPI	**Tanjungpandan**	21.80	275	P		P		17 02 39.1	+0.8
	comp=Z,176nm,1.2s,comp=Z,3μm								
CTA	**Charters Tower**	22.14	134	P		P		17 02 42.1	+0.3
	comp=Z,64nm,0.9s,baz=310,slow=11,SNR=43								
CTA				S		S		17 06 45.8	+1.9
	comp=Z,7.4nm,0.6s,baz=7.6,slow=19,SNR=2.3								
CTAO	**Charters Tower**	22.14	134	⇑*e*P		P		17 02 41.5	-0.3
CTAO				*e*S		S		17 06 44.9	+0.9
CTAO						pmax	pmax		
	comp=Z,658nm,1.3s								
CTAO						MLR	MLR		
	comp=Z,5μm,20.0s								
CTAO	**Charters Tower**	22.14	134	⇑*e*P		P		17 02 41.5	-0.3
	comp=Z,658nm,1.3s								
CTAO				*e*S		S		17 06 44.9	+0.9
CTAO				LR		LR			
	comp=Z,5μm,20.0s								
BALP	**Baler**	22.15	340	*e*P		P		17 02 42.7	+0.7
CNJI	**Cibinong**	22.22	263	P		P		17 02 41.7	-1.1
	comp=Z,2μm,1.1s,comp=Z,15μm								
CBJI	**Citeko**	22.45	266	P		P		17 02 44.0	-1.2
	comp=Z,865nm,1.0s,comp=Z,7μm								
SKJI	**Sukabumi**	22.77	264	P		P		17 02 48.8	+0.2
	comp=Z,1μm,1.1s,comp=Z,13μm								
BCPH	**Baguio City Da**	23.10	338	⇑*i*P		P		17 02 51.6	-0.6
BCPH				*i* S		S		17 07 03.2	+2.1
SBJI	**Serang**	23.15	267	P		P		17 02 51.9	-0.7
	comp=Z,408nm,1.3s,comp=Z,7μm								
CAUP	**Cauayan**	23.19	341	*e*P		P		17 02 54.2	+1.3
BOLP	**Bolinao**	23.36	337	*e*P		P		17 02 54.5	0.0
PPBI	**Pangkal Pinang**	23.38	276	P		P		17 02 55.6	+0.8
	comp=Z,228nm,1.4s,comp=Z,4μm								
CGJI	**Cibinong**	23.60	265	P		P		17 02 55.3	-1.7
	comp=Z,477nm,1.4s,comp=Z,6μm								
CVP	**Callao Caves**	23.90	342	*e*P		P		17 03 00.4	+0.7
GUMO	**Guam**	24.15	39	P		P		17 03 01.4	-0.6
	comp=Z,233nm,1.0s,baz=58,slow=0.9,SNR=11								
GUMO	**Guam**	24.15	39	⇓*e*P		P		17 03 01.5	-0.6
GUMO						pmax	pmax		
	comp=Z,112nm,1.4s								
GUMO						MLR	MLR		
	comp=Z,519nm,21.0s								
GUMO	**Guam**	24.15	39	⇓*e*P		P		17 03 01.5	-0.6
	comp=Z,112nm,1.4s								
GUMO						LR	LR		
	comp=Z,519nm,21.0s								
SZP	**Santa**	24.22	339	*e*P		P		17 02 59.2	-3.4
	comp=Z,240nm,1.2s								
APYP	**Conner**	24.24	341	*e*P		P		17 03 02.4	-0.4
KLI	**Kotabumi**	24.43	270	P		P		17 03 04.5	-0.2
	comp=Z,212nm,1.1s,comp=Z,3μm								
PMBI	**Palembang**	24.64	274	P		P		17 03 09.5	+2.9
	comp=Z,589nm,1.2s,comp=Z,33μm								
KASI	**Kota Agung**	24.77	268	P		P		17 03 05.2	-2.6
	comp=Z,384nm,1.0s,comp=Z,3μm								
MDSI	**Maura Dua**	25.12	270	P		P		17 03 10.9	0.0
	comp=Z,288nm,1.3s,comp=Z,4μm								
LWLI	**Liwa**	25.22	269	P		P		17 03 10.5	-1.5
	comp=Z,278nm,1.2s,comp=Z,3μm								
FORT	**Forrest**	25.52	183	⇑*i*P		P		17 03 14.3	-0.1
	comp=Z,345nm,0.7s								
TPRI	**Tanjung Pinang**	25.54	283	P		P		17 03 15.8	+1.0
	comp=Z,160nm,1.3s								
LHSI	**Lahat**	25.81	272	P		P		17 03 16.4	-0.8
	comp=Z,278nm,1.7s,comp=Z,4μm								
MYKOM	**Kota Tinggi**	26.42	284	⇑P		P		17 03 23.7	+1.0
MYKOM	**Kota Tinggi**	26.42	284	⇑P		P		17 03 23.7	+1.0
DLV	**T Lat**	26.84	309	⇑*i*P		P		17 03 27.4	+0.8
	comp=Z,275nm,1.7s								
DLV				*e*PcP		PcP		17 06 50.9	+1.9
DLV				*e*S		S		17 08 00.5	-0.6
KGM	**Kluang**	26.99	285	⇓P		P		17 03 29.8	+1.9
KGM	**Kluang**	26.99	285	⇓P		P		17 03 29.8	+1.9
KTGM	**Kuala Trenggan**	28.20	291	⇑P		P		17 03 40.1	+1.4
KTGM	**Kuala

JOW **Kunigami** 31.81 358⇑ *e*P P 17 04 11.5 +1.0
comp=Z,57nm,0.9s
GZH **Guangzhou** 32.14 331 P P 17 04 17.2 +3.8
GZH S **S** 17 09 28.1 +4.2
GZH SS **SnSn** 17 11 22.3 +6.0
GZH LN
comp=Z,2µm,16.1s
GZH LE
comp=Z,4µm,16.1s
GZH LZ
comp=Z,4µm,18.2s
TRTT **Trang** 32.30 293 P P 17 04 15.5 +0.5
comp=Z,119nm,1.4s,comp=Z,2µm
GSI **Gunungsitoli** 32.41 281 P P 17 04 16.7 +0.8
comp=Z,146nm,1.5s
ARMA **Armidale** 32.73 143⇑ *e*P P 17 04 19.5 +0.9
comp=Z,650nm,2.0s
SURA **Surathani** 32.89 296 P P 17 04 21.2 +1.1
comp=Z,68nm,1.4s,comp=Z,9µm
COCO **West Island** 32.89 256 PFAKE 17 04 30.0 +10
COCO LR LR
comp=Z,2µm,22.0s
SKNT **Sakolnakorn** 33.37 312 P P 17 04 24.8 +0.6
comp=Z,131nm,1.6s,comp=Z,3µm
PATY **Pattaya** 33.54 303 P P 17 04 27.4 +1.6
comp=Z,14nm,1.2s
SURT **Suratani** 33.55 295 P P 17 04 26.7 +0.8
comp=Z,28nm,1.3s
KHON **Khonkaen** 33.85 310 P P 17 04 29.2 +0.7
comp=Z,84nm,1.1s,comp=Z,823nm
CHAI **Chaiyaphum** 34.24 308 P P 17 04 32.1 +0.2
comp=Z,33nm,1.2s,comp=Z,330nm
CBIJ **Chichi jima** 34.37 20 P P 17 04 32.8 0.0
JCJ **Chichijima** 34.37 20 P P 17 04 32.8 0.0
comp=Z,23nm,0.5s,baz=313,slow=15,SNR=6.1
PHET **Kaeng Krachan** 34.58 302 P P 17 04 35.5 +0.7
comp=Z,23nm,1.0s,comp=Z,210nm
PBKT **Sadao Pong** 35.42 308 P P 17 04 42.4 +0.3
comp=Z,50nm,1.5s,comp=Z,1µm
SRDT **SRDT** 35.72 303 P P 17 04 45.7 +1.1
comp=Z,214nm,1.5s
LOEI **Loei** 35.74 310 P P 17 04 42.9 -1.9
comp=Z,319nm,1.2s,comp=Z,6µm
UTHA **Uthaitani** 36.08 305 P P 17 04 48.2 +0.5
comp=Z,17nm,1.1s,comp=Z,207nm
SLVN **Son La** 36.29 317 *e*P P 17 04 50.2 +0.7
comp=Z,217nm,1.6s
KHLT **Khaolaem Dam** 36.39 303 P P 17 04 51.8 +1.4
comp=Z,53nm,1.7s,comp=Z,875nm
UTTA **Uttaradit** 36.43 309 P P 17 04 51.4 +0.8
comp=Z,39nm,1.2s,comp=Z,386nm
SSE **Sheshan** 36.88 348 P P 17 04 55.1 +0.8
SSE S **S** 17 10 40.3 +3.5
SSE PMZ
comp=Z,34nm,0.8s
SSE PMZ
comp=Z,450nm,9.6s
SSE LN
comp=Z,930nm,25.0s
SSE LE
comp=Z,2µm,25.0s
SSE LZ
comp=Z,1µm,23.4s
LAMP **Lampang** 37.59 309 P P 17 05 01.7 +1.1
comp=Z,35nm,0.9s,comp=Z,345nm
CRAI **Chiangrai** 38.06 312 P P 17 05 02.3 -2.2
comp=Z,67nm,1.6s
CM31 **Chiang Mai Arr** 38.09 309 *e*P P 17 05 05.5 +0.7
comp=Z,185nm,1.3s
CMAR **Chiang Mai Arr** 38.09 309 P P 17 05 05.7 +0.9
comp=Z,122nm,1.2s,baz=138,slow=7.0,SNR=182
CMAR PcP **PcP** 17 07 20.7 +1.1
comp=Z,18nm,1.1s,baz=160,slow=2.0,SNR=5.3
CMAR S **S** 17 10 58.3 +2.8
comp=Z,1.1nm,1.0s,baz=132,slow=12,SNR=2.9
CMAR ScP **ScP** 17 11 07.2 +2.3
comp=Z,1.1nm,0.9s,baz=160,slow=3.4,SNR=4.2
CMAR LR LR 17 24 28.5
comp=Z,2µm,18.2s,baz=140,slow=42
CMMT **Chiang Mai** 38.29 309 P P 17 05 06.9 +0.4
comp=Z,266nm,1.4s,comp=Z,4µm
CHTO **Chiang Mai** 38.29 309 P P 17 05 07.0 +0.6
comp=Z,928nm,1.7s,comp=Z,14µm
CHTO **Chiang Mai** 38.29 309⇑ *i*P P 17 05 07.1 +0.6
CHTO *e* 17 07 21.4
CHTO *e*S S 17 11 02.7 +4.1
CHTO pmax pmax
comp=Z,325nm,1.4s
CHTO MLR MLR
comp=Z,2µm,21.0s
CHTO **Chiang Mai** 38.29 309 P P 17 05 07.7 +1.2
SNR=77
CHTO **Chiang Mai** 38.29 309⇑ *i*P P 17 05 07.1 +0.6
comp=Z,325nm,1.4s
CHTO *e*PcP PcP 17 07 21.4 +1.2
CHTO *e*S S 17 11 02.7 +4.1
CHTO LR LR
comp=Z,2µm,21.0s
WHN **Wuhan** 38.30 339⇑ P P 17 05 07.8 +1.5
WHN S **S** 17 10 58.9 +0.6
WHN LN
comp=Z,1µm,8.5s
WHN LE
comp=Z,4µm,17.8s
WHN LZ
comp=Z,4µm,16.7s
NJ2 **Nanjing** 38.33 346 *e*P P 17 05 08.6 +2.0
NJ2 pP **pP** 17 05 17.4 +0.6
NJ2 sP **sP** 17 05 20.2 -0.8
NJ2 S **S** 17 11 00.5 +1.7
NJ2 sS **sS** 17 11 16.0 +0.4
NJ2 PMZ
comp=Z,60nm,0.7s
NJ2 PMZ
comp=Z,820nm,5.9s
NJ2 LN
comp=Z,4µm,21.7s
NJ2 LE
comp=Z,4µm,21.5s
NJ2 LZ
comp=Z,4µm,22.2s
GYA **Guiyang** 38.36 326⇑ *i*P P 17 05 07.9 +0.8
GYA pP **pP** 17 05 20.0 +2.7
GYA PP **PnPn** 17 06 41.6 +4.3
GYA PcP **PcP** 17 07 21.4 +1.0
GYA S **S** 17 10 55.7 -4.0
GYA sS **sS** 17 11 20.2 +3.6
GYA SS **SnSn** 17 13 43.8 -3.3
GYA ScS **ScS** 17 15 16.0 -0.1
GYA PMZ
comp=Z,80nm,1.0s
GYA PMZ
comp=Z,530nm,6.5s
GYA LN
comp=Z,1µm,18.0s
GYA LE
comp=Z,1µm,19.0s
GYA LZ
comp=Z,1µm,16.1s
MHMT **Maesarieng** 38.72 308 P P 17 05 10.9 +0.8
comp=Z,61nm,1.5s,comp=Z,927nm
CMAI **Chiengmai2** 38.87 311 P P 17 05 11.9 +0.4
comp=Z,114nm,1.4s,comp=Z,12µm
KSKOH **Goheung** 39.60 357 P P 17 05 19.2 +2.1
SNR=7.7
KSKOH **Goheung** 39.60 357 P P 17 05 19.2 +2.1
SNR=7.7
DZM **Mont Dzumac** 39.60 119 *e*P P 17 05 17.3 -0.2
comp=Z,359nm,1.6s
DZM **Mont Dzumac** 39.60 119 *e*LR LR 17 16 04.7
comp=Z,5µm,34.0s
DZM **Mont Dzumac** 39.60 119 P P 17 05 17.3 -0.2
comp=Z,25nm,0.6s,baz=90,slow=24,SNR=20
KMI **Kunming** 39.70 320 ⇑P P 17 05 20.1 +1.6
KMI pP **pP** 17 05 30.2 +1.5
KMI S **S** 17 11 20.6 +0.5
KMI sS **sS** 17 11 42.0 +5.0
KMI SS **SnSn** 17 14 20.8 +1.2
KMI PMZ
comp=Z,130nm,1.4s
KMI PMZ
comp=Z,830nm,3.5s
KMI LN
comp=Z,1µm,17.3s
KMI LE
comp=Z,1µm,20.5s
KMI LZ
comp=Z,2µm,16.6s
KSNAH **Namhae** 39.78 358 P P 17 05 19.6 +1.0
SNR=6.4
KSNAH **Namhae** 39.78 358 P P 17 05 19.6 +1.0
SNR=6.4
ENH **Enshi** 40.05 333⇑ *i*P P 17 05 20.8 -0.2
comp=Z,22nm,0.7s
ENH *e*PcP PcP 17 07 25.8 +0.2
ENH *e*S S 17 11 24.3 -0.5
ENH LR LR
comp=Z,70nm,21.0s
KSKWJ **Gwangju** 40.16 357 P P 17 05 23.5 +1.7
SNR=16
KSKWJ **Gwangju** 40.16 357 P P 17 05 23.5 +1.7
SNR=16
KSBUS **Busan** 40.19 360 P P 17 05 23.5 +1.5
SNR=17
KSBUS **Busan** 40.19 360 P P 17 05 23.5 +1.5
SNR=17
KSJEU **Jeongeup** 40.50 357 P P 17 05 25.9 +1.3
SNR=22
KSJEU **Jeongeup** 40.50 357 P P 17 05 25.9 +1.3
SNR=22
KSDAG **Daegu** 40.71 359 P P 17 05 28.6 +2.2
SNR=6.9
KSDAG **Daegu** 40.71 359 P P 17 05 28.6 +2.2
SNR=6.9
TAU **Tasmania Unive** 40.83 160 *e*P P 17 05 28.2 +0.9
TAU pmax pmax
comp=Z,233nm,1.6s
TAU MLR MLR
comp=Z,8µm,19.0s
TAU **Tasmania Unive** 40.83 160 *e*P P 17 05 28.2 +0.9
comp=Z,233nm,1.6s
TAU LR LR
comp=Z,8µm,19.0s
KSGUS **GUNSAN** 41.05 357 P P 17 05 30.1 +1.0
SNR=6.3
KSGUS **GUNSAN** 41.05 357 P P 17 05 30.1 +1.0
SNR=6.3
KSPHA **Pohang** 41.13 360 P P 17 05 31.7 +2.0
SNR=8.8
KSCPR **CHUPUNGNYEONG** 41.18 358 P P 17 05 32.0 +1.8
SNR=6.7
KSTEJ **Daejeon** 41.35 358 P P 17 05 33.2 +1.6
SNR=6.7
TJN **Taejon** 41.36 358 *c i*P P 17 05 32.7 +1.1
KSKOJ **Gongju** 41.46 357 P P 17 05 34.4 +1.9
SNR=7.9
KSBON **Boeun** 41.46 358 P P 17 05 34.5 +2.0
SNR=16
KSBON **Boeun** 41.46 358 P P 17 05 34.5 +2.0
SNR=16
KSULJ **Uljin** 41.64 0 P P 17 05 35.3 +1.4
SNR=20
KSULJ **Uljin** 41.64 0 P P 17 05 35.3 +1.4
SNR=20
KSCEA **Cheonan** 41.80 357 P P 17 05 37.2 +1.9
SNR=32
KSCEA **Cheonan** 41.80 357 P P 17 05 37.2 +1.9
SNR=32
KSSES **Seosan** 41.81 356 P P 17 05 37.2 +1.8
SNR=18
KSSES **Seosan** 41.81 356 P P 17 05 37.2 +1.8
SNR=18
KSCHJ **Chungju** 41.83 358 P P 17 05 36.6 +1.1
SNR=8.6
KSCHJ **Chungju** 41.83 358 P P 17 05 36.6 +1.1
SNR=8.6
KSTBA **Taebaek** 42.06 359 P P 17 05 39.3 +1.8
SNR=9.8
KSSWO **Suwon** 42.26 357 P P 17 05 41.2 +2.1
SNR=12
KSICN **Icheon** 42.26 358 P P 17 05 41.0 +1.9
SNR=20
MJAR **Matsushiro Arr** 42.29 11 P P 17 05 38.8 -0.5
comp=Z,89nm,0.9s,baz=192,slow=10,SNR=34
MJAR PcP **PcP** 17 07 31.8 -1.0
comp=Z,14nm,1.1s,baz=220,slow=3.8,SNR=3.6
MJAR S **S** 17 11 55.2 -2.7
comp=Z,0.4nm,0.4s,baz=189,slow=15,SNR=3.1
MJAR LR LR 17 21 04.1
comp=Z,1µm,21.3s,baz=205,slow=33
MAJO **Matsushiro** 42.29 11 *c i*P P 17 05 39.2 -0.2
MAJO pmax pmax
comp=Z,491nm,1.0s
MAJO **Matsushiro** 42.29 11 *e*P P 17 05 39.0 -0.4
comp=Z,131nm,0.8s
MAJO *e*PcP PcP 17 07 33.3 +0.6
MAT **Matsushiro** 42.29 11 P P 17 05 39.2 -0.2
MAT S S 17 11 56.8 -1.1
KSAR **Wonju Array Be** 42.40 358 P P 17 05 41.5 +1.3
KSAR 17 07 31.6
KSAR S **S** 17 12 03.2 +3.9
KSAR **Wonju Array Be** 42.40 358 P P 17 05 41.5 +1.3
KSAR PcP **PcP** 17 07 31.6 -1.5
KSAR S **S** 17 12 03.2 +3.9
KSRS **Korea Array** 42.41 358 P P 17 05 41.5 +1.3
comp=Z,35nm,1.1s,baz=174,slow=10,SNR=36
KSRS PcP **PcP** 17 07 31.5 -1.5
comp=Z,9.6nm,1.0s,baz=182,slow=3.2,SNR=3.6
KSRS S **S** 17 12 03.2 +3.7
comp=Z,0.3nm,0.4s,baz=165,slow=20,SNR=4.1
KSRS LR LR 17 21 50.1
comp=Z,3µm,21.8s,baz=188,slow=34
KSRS **Korea Array** 42.41 358 P P 17 05 41.5 +1.3
KSRS 17 07 31.5
KSRS S **S** 17 12 03.2 +3.7
KSRS pmax pmax
comp=Z,34nm,1.1s
KSRS pmax pmax
comp=Z,10.0nm,1.0s
KSRS MLR MLR
comp=Z,3µm,21.8s
KSULL **Ulleungdo** 42.43 2 P P 17 05 42.5 +2.1
SNR=13
KSSEO **Seoul** 42.48 357 P P 17 05 43.2 +2.4
SNR=9.3
INCN **Inchon** 42.49 357 P P 17 05 42.8 +1.8
SNR=13
INCN **Inchon** 42.49 357⇑ *e*P P 17 05 42.2 +1.2
comp=Z,73nm,0.8s
INCN LR LR
comp=Z,3µm,20.0s
KSDGY **Daegwallycong** 42.63 359 P P 17 05 44.1 +2.0
SNR=7.3
TIA **Tai'an** 42.72 345 ⇑P P 17 05 42.8 0.0
TIA S S 17 12 03.5 -0.7
TIA PMZ
comp=Z,30nm,1.3s
TIA PMZ
comp=Z,640nm,6.0s
TIA LN
comp=Z,1µm,19.4s
TIA LE
comp=Z,640nm,18.0s
TIA LZ
comp=Z,3µm,26.1s
KSGAH **Ganghwa** 42.73 357 P P 17 05 44.9 +2.0
SNR=21
KSCHC **Chuncheon** 42.73 358 P P 17 05 44.8 +1.9
SNR=50
KSJMJ **Jumunjin** 42.82 359 P P 17 05 45.6 +2.0
SNR=28
KSMUS **Musan** 42.89 357 P P 17 05 46.2 +2.1
SNR=12
KSIJA **INJE** 42.94 359 P P 17 05 46.9 +2.4
SNR=24
YNCB **YEONCHEON** 43.03 357 P P 17 05 47.5 +2.3
SNR=16
KSCWO **Cheorwon** 43.05 358 P P 17 05 47.7 +2.2
SNR=8.6
SEHB **SEOHWA** 43.21 359 P P 17 05 48.7 +1.9
SNR=40
KSSKC **Sokcho** 43.23 359 P P 17 05 49.3 +2.5
SNR=8.2
CD2 **Chengdu** 43.42 327 P P 17 05 48.5 -0.2
CD2 pP **pP** 17 05 58.8 -0.2
CD2 sP **sP** 17 06 03.0 -0.2
CD2 PP **PP** 17 07 32.0 +1.9
CD2 S **S** 17 12 12.2 -2.6
CD2 sS **sS** 17 12 32.0 +0.2
CD2 SS **SS** 17 15 22.9 -6.9
CD2 PMZ
comp=Z,120nm,1.2s
CD2 PMZ
comp=Z,760nm,6.7s
CD2 LN
comp=Z,2µm,16.8s
CD2 LZ
comp=Z,2µm,16.0s
XAN **Xi'an** 43.51 335 P P 17 05 49.0 -0.3
XAN pP **pP** 17 05 58.5 -1.2
XAN PP **PP** 17 07 32.9 +1.9
XAN PcS **PcS** 17 11 27.1 -2.6
XAN S **S** 17 12 12.1 -3.9
XAN PMZ
comp=Z,32nm,1.5s
XAN PMZ
comp=Z,140nm,7.1s
XAN LN
comp=Z,1µm,32.7s
XAN LE
comp=Z,950nm,31.7s
TIY **Taiyuan** 45.47 341 *e*P P 17 06 05.2 +0.3
TIY pP **pP** 17 06 17.0 +1.7
TIY S **S** 17 12 44.7 +0.3
TIY PMZ
comp=Z,260nm,1.7s
TIY PMZ
comp=Z,430nm,11.9s
TIY LN
comp=Z,720nm,11.2s
TIY LE
comp=Z,210nm,10.2s
TIY LZ
comp=Z,480nm,15.3s
IMP **Imphal** 45.54 312 *e*P P 17 06 05.0 -0.7
IMP *ex* x 17 07 45.0
BJT **Baijiatuau** 46.57 346⇑ *i*P P 17 06 13.3 -0.1
BJT pmax pmax
comp=Z,71nm,0.8s
BJT MLR MLR
comp=Z,1µm,19.0s
BJT **Baijiatuau** 46.57 346⇑ *i*P P 17 06 13.3 -0.1
comp=Z,72nm,0.8s
BJT LR LR
comp=Z,1µm,19.0s
BJI **Beijing** 46.59 346 P P 17 06 13.8 +0.2
BJI PcP **PcP** 17 07 48.7 +1.4
BJI PP **PP** 17 08 02.9 -0.7
BJI S **S** 17 12 58.0 -2.1
BJI PMZ
comp=Z,100nm,1.2s
BJI PMZ
comp=Z,540nm,7.3s
BJI LN
comp=Z,830nm,24.0s
BJI LE
comp=Z,1µm,26.2s
BJI LZ
comp=Z,1µm,26.9s
SNY **Shenyang** 47.05 354 ⇑P P 17 06 17.7 +0.5
SNY S **S** 17 13 07.2 +0.5
SNY PMZ
comp=Z,31nm,2.5s
SNY PMZ
comp=Z,490nm,9.6s
SNY LN
comp=Z,2µm,20.7s
SNY LE
comp=Z,650nm,15.0s
SNY LZ
comp=Z,3µm,21.7s
LZH **Lanzhou** 47.49 332 ⇑P P 17 06 22.1 +1.1
LZH pP **pP** 17 06 32.7 +1.3
LZH sP **sP** 17 06 37.1 +1.5
LZH PP **PP** 17 08 17.2 +4.4
LZH S **S** 17 13 09.6 -4.0
LZH SS **SS** 17 16 43.0 +1.0
LZH PMZ
comp=Z,140nm,1.4s
LZH PMZ
comp=Z,650nm,4.1s
LZH LN
comp=Z,2µm,13.3s
LZH LE
comp=Z,2µm,14.3s
LZH LZ
comp=Z,2µm,14.6s
SHL **Shillong** 47.51 312 *e*P P 17 06 20.7 -0.5
SHL AMB AMB 17 06 21.5
comp=Z,94nm,1.2s
SHL *i* x x 17 13 12.0
VLA **Vladivostok** 48.10 2 *c i*P P 17 06 26.4 +1.1
VLA pmax pmax
comp=Z,53nm,1.2s
ERM **Erimo** 48.60 14 *e*P P 17 06 32.5 +3.3
ERM pmax pmax
comp=Z,43nm,0.9s
ERM MLR MLR
comp=Z,2µm,19.0s
ERM **Erimo** 48.60 14 *e*P P 17 06 32.5 +3.3
comp=Z,43nm,0.9s
ERM LR LR
comp=Z,2µm,19.0s
HHC **Hu-ho-hao-te** 48.61 342 *e*P P 17 06 30.2 +0.8
HHC pP **pP** 17 06 39.9 0.0
HHC sP **sP** 17 06 44.3 +0.3
HHC PP **PP** 17 08 24.4 +1.7
HHC S **S** 17 13 30.3 +1.2
HHC sS **sS** 17 13 50.1 +3.8
HHC SS **SS** 17 16 59.0 -0.8
HHC PMZ
comp=Z,55nm,1.0s
HHC PMZ
comp=Z,600nm,6.5s
HHC LN
comp=Z,790nm,15.8s
HHC LE
comp=Z,1µm,16.1s
HHC LZ
comp=Z,1µm,15.6s
CN2 **Changchun** 48.86 356 *e*P P 17 06 31.5 +0.4
CN2 PcP **PcP** 17 07 55.2 -0.1
CN2 *e*S S 17 13 30.6 -1.7
CN2 SS **SS** 17 16 59.5 -4.0
CN2 PMZ
comp=Z,20nm,1.3s
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,2µm,18.0s
CN2 LE
comp=Z,1µm,18.0s
CN2 LZ
comp=Z,2µm,21.0s
BTO **Baotou** 48.88 340 *e*P P 17 06 31.5 0.0
MSVF **Nonsavu** 49.17 109 *e*P P 17 06 35.3 +1.2
MSVF pmax pmax
comp=Z,116nm,1.3s
MSVF MLR MLR
comp=Z,2µm,21.0s
MSVF **Nonsavu** 49.17 109 *e*P P 17 06 35.3 +1.2
comp=Z,116nm,1.3s
MSVF LR LR
comp=Z,2µm,21.0s
USRK **Ussuriysk Ar.** 49.18 2 P P 17 06 34.6 +1.0
comp=Z,23nm,0.7s,baz=180,slow=5.7,SNR=29
USRK S **S** 17 13 37.8 +1.0
comp=Z,0.9nm,0.6s,baz=191,slow=13,SNR=4.8
MDJ **Mudanjiang** 49.54 0 P P 17 06 37.5 +1.1
MDJ pP **pP** 17 06 47.0 +0.2
MDJ sP **sP** 17 06 50.0 -1.0
MDJ PP **PP** 17 08 32.4 +1.4
MDJ PcS **PcS** 17 11 56.4 +2.0
MDJ S **S** 17 13 43.2 +1.3
MDJ PMZ
comp=Z,27nm,1.3s
MDJ PMZ
comp=Z,520nm,9.5s
MDJ LN
comp=Z,1µm,22.3s
MDJ LE
comp=Z,380nm,20.3s
MDJ LZ
comp=Z,2µm,20.3s
MDJ **Mudanjiang** 49.54 0⇑ *i*P P 17 06 37.3 +1.0
comp=Z,59nm,1.0s
LSA **Lhasa** 50.45 316 P P 17 06 44.7 +0.6
LSA sP **sP** 17 06 56.7 -2.0
LSA PcP **PcP** 17 08 04.3 +2.2
LSA S S 17 13 49.2 -6.7

LSA PMZ
comp=Z,90nm,1.9s
LSA LN
comp=Z,710nm,29.5s
LSA LE
comp=Z,2μm,38.1s
LSA LZ
comp=Z,1μm,37.4s
LSA Lhasa 50.45 316⇑ *i*P **P 17 06 44.4 +0.3**
LSA pmax pmax
comp=Z,153nm,1.4s
LSA Lhasa 50.45 316⇑ *i*P **P 17 06 44.4 +0.3**
comp=Z,153nm,1.4s
ASAJ Asahikawa 50.47 12 P **P 17 06 44.5 +1.1**
comp=Z,25nm,0.9s,baz=261,slow=3.8
ASAJ LR LR 17 30 38.3
comp=Z,368nm,18.1s,baz=208,slow=39
ASAJ Asahikawa 50.47 12 P **P 17 06 44.5 +1.1**
ASAJ pmax pmax
comp=Z,25nm,0.9s
ASAJ MLR MLR
comp=Z,368nm,18.1s
CHLP Challavanipeta 50.47 299 *e*P **P 17 06 43.5 -0.3**
CHLP IAmb IAmb 17 06 44.2
comp=Z,55nm,1.2s
CHLP *e*PcP **PcP 17 08 01.8 0.0**
CHLP *e*PP **PP 17 08 35.4 -4.5**
CHLP *e*S **S 17 13 54.0 -1.6**
CHLP IVMs_BB IVMs_BB 17 32 24.7
comp=Z,546nm,18.1s
OUZ Omahuta 50.53 132 P **P 17 06 44.3 +0.2**
comp=Z,124nm,1.4s
VIS Vishakhapatnam 50.81 298 *e*P **P 17 06 46.2 -0.3**
VIS AMB AMB 17 06 46.6
comp=Z,52nm,0.6s
YUK Yuzh-Kuril'sk 51.17 15⇓ *i*P **P 17 06 46.7 -1.9**
YUK *i* 17 08 42.8
YUK *i* S **S 17 14 03.9 -0.5**
YUK *i* 17 16 33.7
YUK *i* SS **SS 17 17 35.1 -5.2**
YUK *i* SSS SSS 17 19 21.3
YUK pmax pmax
comp=N,142nm,1.5s
YUK pmax pmax
comp=E,43nm,1.5s
YUK pmax pmax
comp=Z,182nm,1.5s
YUK pmax pmax
comp=Z,271nm,7.7s
YUK MLR MLR
comp=N,466nm,20.0s
YUK MLR MLR
comp=Z,561nm,20.0s
YUK MLR MLR
comp=E,468nm,21.0s
BOK Bokaro 51.24 306 *e*P P 17 06 45.7 -3.9
ODAN Odare 51.59 310 *e*P **P 17 06 52.4 -0.1**
comp=E,321nm,1.1s
TAPN Taplejung 51.61 311 *e*P **P 17 06 52.6 -0.1**
comp=E,657nm,1.3s
GTA Gaotai 52.07 331⇑ P **P 17 06 56.4 +0.7**
GTA pP **pP 17 07 06.7 +0.5**
GTA sP **sP 17 07 10.4 +0.1**
GTA PcP **PcP 17 08 08.5 +1.0**
GTA PP **PP 17 08 56.9 +2.7**
GTA S **S 17 14 16.0 -1.3**
GTA ScS **ScS 17 16 44.5 +1.2**
GTA PMZ
comp=E,110nm,1.4s
GTA PMZ
comp=E,760nm,6.2s
GTA LN
comp=E,1μm,22.6s
GTA LE
comp=E,1μm,27.1s
GTA LZ
comp=E,2μm,31.6s
PVM Polavaram 52.15 296 *e*P **P 17 06 55.8 -0.7**
PVM IAmb IAmb 17 06 57.0
comp=Z,105nm,1.4s
PVM *e*PcP **PcP 17 08 10.5 +2.4**
PVM *e*PP **PP 17 08 55.7 +0.6**
PVM ⇓*e*S **S 17 14 18.2 -0.6**
PVM IVMs_BB IVMs_BB 17 24 41.9
comp=Z,530nm,31.6s
RAMN Ramite 52.24 310 *e*P **P 17 06 57.5 +0.2**
comp=Z,600nm,1.1s
WHZ Wether Hill Ro 52.58 147⇑ *i*P **P 17 06 59.6 +0.4**
comp=Z,61nm,0.9s
SKHT Srikalahasti 52.74 291 *e*P **P 17 06 59.9 -1.0**
SKHT IAmb IAmb 17 07 01.2
comp=Z,112nm,1.4s
SKHT *e*S **S 17 14 27.8 +0.8**
SKHT IVMs_BB IVMs_BB 17 31 07.4
comp=Z,964nm,4.8s
KUR Kuril'sk 52.82 16 *e*P P 17 06 57.2 -3.7
KUR *i* 17 08 08.0
KUR *i* 17 08 59.2
KUR *i* PPP PPP 17 10 05.7
KUR *i* S **S 17 14 29.2 +2.1**
KUR *i* 17 16 47.6
KUR *i* SS **SS 17 18 08.3 +1.9**
KUR pmax pmax
comp=N,40nm,1.1s
KUR pmax pmax
comp=E,16nm,1.1s
KUR pmax pmax
comp=Z,39nm,1.1s
KUR MLR MLR
comp=N,522nm,21.0s
KUR MLR MLR
comp=E,731nm,21.0s
KUR MLR MLR
comp=Z,167nm,21.0s
RPZ Rata Peaks 53.07 143 P **P 17 07 02.7 -0.3**
comp=Z,29nm,0.8s,baz=316,slow=2.0,SNR=10.0
ADKI Addanki 53.16 294 *e*P **P 17 07 03.6 -0.4**
ADKI IAmb IAmb 17 07 04.4
comp=Z,187nm,1.4s
ADKI *e*PP **PP 17 09 06.5 +2.2**
ADKI *e*S **S 17 14 29.1 -3.6**
YSS Yuzh-Sakhalins 53.22 11⇑ *e*P **P 17 07 04.1 +0.3**
YSS *e**SP **sP 17 07 16.5 -2.0**
YSS *e*S **S 17 14 32.0 -0.4**
YSS *e*PS **PnS 17 14 39.0 -6.2**
YSS *e*SS **SS 17 18 08.0 -4.7**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS pmax pmax
comp=Z,500nm,10.0s
YSS MLR MLR
comp=Z,1μm,17.0s
YSS Yuzh-Sakhalins 53.22 11⇑ *e*P **P 17 07 04.2 +0.4**
comp=Z,44nm,0.8s
GUN Gumba 53.28 311 *e*P **P 17 07 05.0 -0.1**
comp=Z,385nm,1.1s
PKI Pulchoki 53.47 310 *e*P **P 17 07 06.0 -0.5**
comp=Z,253nm,1.2s
PKIN Phulchoki 53.48 310 *e*P **P 17 07 05.8 -0.7**
comp=Z,318nm,1.5s
HABR Khabarovsk 53.63 5 *de*P **P 17 07 05.7 -1.1**
HABR *e**PP **pP 17 07 15.6 -1.8**
HABR *e**SP **sP 17 07 19.9 -1.6**
HABR 17 08 11.2
HABR *e* 17 09 06.7
HABR *e*PPP PPP 17 10 14.4
HABR *e*S **S 17 14 37.9 -0.1**
HABR *e* 17 14 47.9
HABR *e**SS **sS 17 14 54.5 -0.9**
HABR *e* 17 16 52.3
HABR *e*SS **SKiKP 17 18 19.7 +0.3**
HABR *e*SSS SSS 17 20 15.8
HABR pmax pmax
comp=E,13nm,1.6s
HABR pmax pmax
comp=Z,48nm,1.6s
HABR pmax pmax
comp=N,11nm,1.6s
HABR pmax pmax
comp=Z,267nm,3.6s
HABR MLR MLR
comp=Z,986nm,20.0s
KKN Kakani 53.68 310 *e*P **P 17 07 07.6 -0.3**
comp=Z,303nm,1.2s
DMN Daman 53.72 310 *e*P **P 17 07 08.0 -0.2**
comp=Z,511nm,1.4s
KHZ Kahutara 53.91 140 *e*P **P 17 07 08.7 -0.4**
comp=Z,52nm,1.0s
RCLA Racherla 53.96 293 *e*P **P 17 07 07.6 -2.3**
RCLA IAmb IAmb 17 07 09.5
comp=Z,97nm,1.4s
RCLA ⇓*e*PcP **PcP 17 08 15.3 +0.3**
RCLA *e*S **S 17 14 40.0 -3.6**
RCLA IVMs_BB IVMs_BB 17 28 08.8
comp=Z,870nm,15.4s
NJS Nagarjunasagar 53.99 295 *e*P **P 17 07 08.7 -1.4**
NJS IAmb IAmb 17 07 09.9
comp=Z,111nm,1.4s
NJS *e*S **S 17 14 40.7 -3.3**
NJS IVMs_BB IVMs_BB 17 26 42.1
comp=Z,543nm,5.2s
KLR Kul'dur 54.20 2 *e*P **P 17 07 08.3 -2.7**
KLR *e*S **S 17 14 43.5 -2.2**
KLR pmax pmax
comp=N,34nm,1.6s
KLR pmax pmax
comp=Z,100nm,1.6s
KLR pmax pmax
comp=Z,1μm,10.0s
KLR MLR MLR
comp=Z,1μm,15.0s
SRLM Srisailam 54.22 294 *e*P **P 17 07 10.5 -1.3**
SRLM IAmb IAmb 17 07 11.6
comp=Z,106nm,1.3s
SRLM *e*S **S 17 14 43.2 -4.0**
SRLM IVMs_BB IVMs_BB 17 25 55.0
comp=Z,522nm,4.4s
GKN Gorkha 54.27 310 *e*P **P 17 07 11.9 -0.3**
comp=Z,432nm,1.2s
URZ Urewera 54.38 134 P **P 17 07 12.6 0.0**
comp=Z,13nm,0.6s,baz=247,slow=15,SNR=7.9
URZ Urewera 54.38 134 *e*P **P 17 07 10.9 -1.7**
comp=Z,22nm,0.7s
RPR Rampur 54.79 297 *e*P **P 17 07 15.0 -0.9**
RPR IAmb IAmb 17 07 15.9
comp=Z,222nm,1.5s
RPR *e*PcP **PcP 17 08 18.8 +0.7**
RPR *e*S **S 17 14 54.0 -0.7**
RPR IVMs_BB IVMs_BB 17 27 52.0
comp=Z,510nm,5.4s
HIA Hailar 54.84 352⇑ *i*P **P 17 07 16.3 +0.6**
HIA MLR MLR
comp=Z,2μm,21.0s
HIA Hailar 54.84 352⇑ *i*P **P 17 07 16.3 +0.6**
HIA LR LR
comp=Z,2μm,21.0s
KOLN Koldanda 54.96 309 *e*P **P 17 07 17.2 0.0**
comp=Z,195nm,1.0s
HYB Hyderabad 54.96 295 *i* P **P 17 07 15.0 -2.2**
HYB *e* 17 07 25.5
HYB *e*S **S 17 14 56.0 -1.1**
HYB Hyderabad 54.96 295 *e*P **P 17 07 15.9 -1.3**
HYBB Hyderabad (bro 54.96 295 *e*P **P 17 07 15.9 -1.3**
HYBB IAmb IAmb 17 07 16.9
comp=Z,150nm,1.4s
HYBB *e*pP **pP 17 07 27.3 -0.5**
HYBB *e*S **S 17 14 56.1 -1.0**
HYBB IVMs_BB IVMs_BB 17 27 43.3
comp=Z,819nm,27.1s
URV Uravakonda 55.37 292 *e*P **P 17 07 18.4 -1.7**
URV IAmb IAmb 17 07 19.4
comp=Z,73nm,1.4s
URV *e*S **S 17 15 00.3 -2.3**
URV IVMs_BB IVMs_BB 17 30 46.0
comp=Z,981nm,21.2s
SRSP Sriramsagar 55.66 297 *e*P **P 17 07 20.8 -1.3**
SRSP IAmb IAmb 17 07 21.8
comp=Z,116nm,1.3s
SRSP *e*S **S 17 15 01.4 -5.0**
SRSP IVMs_BB IVMs_BB 17 28 16.9
comp=Z,646nm,4.3s
SONM Songino Array 56.51 342 P **P 17 07 28.6 +0.8**
comp=Z,66nm,1.1s,baz=161,slow=6.4,SNR=130
SONM LR LR 17 33 25.0
comp=Z,726nm,20.5s,baz=151,slow=38
DGAR Diego Garcia 56.60 265 PFAKE 17 07 40.0 +11
DGAR LR LR
comp=Z,2μm,21.0s
KLRI Killari 56.93 295 *e*P **P 17 07 29.3 -2.0**
KLRI IAmb IAmb 17 07 29.8
comp=Z,59nm,1.2s
KLRI *e*PcP **PcP 17 08 25.9 -0.5**
KLRI *e*S **S 17 15 23.5 +0.2**
KLRI IVMs_BB IVMs_BB 17 28 34.3
comp=Z,1μm,21.8s
TYV Tymovskoe 56.95 10 *e*P **P 17 07 33.0 +2.2**
TYV *e*S **S 17 15 28.0 +5.6**
TYV pmax pmax
comp=Z,1μm,6.0s
TYV smax smax
comp=E,1μm,7.0s
AIS Amsterdam Isla 57.16 228 SS **SS 17 19 09.0 -6.1**
AIS R 17 24 00.0
BHPL Bhopal 58.02 301 *e*P **P 17 07 37.6 -1.3**
CIT Chita 58.53 349 *e*P **P 17 07 42.6 +0.7**
CIT *e* 17 07 58.6
CIT *e* 17 08 32.4
CIT pmax pmax
comp=Z,156nm,2.2s
AFI Afiamalu 58.56 103 *e*P **P 17 07 43.2 +0.4**
AFI pmax pmax
comp=Z,264nm,1.4s
AFI MLR MLR
comp=Z,1μm,20.0s
AFI Afiamalu 58.56 103 *e*P **P 17 07 43.2 +0.4**
comp=Z,264nm,1.4s
AFI LR LR
comp=Z,1μm,20.0s
NKL Nikolayevsk 58.87 8 *e*P P 17 07 40.0 -4.1
NKL *e* 17 07 50.8
NKL *e*S **S 17 15 42.0 -5.3**
NKL *e* 17 19 46.0
NKL pmax pmax
comp=Z,90nm,1.3s
NKL pmax pmax
comp=Z,500nm,8.0s
NKL smax smax
comp=N,600nm,8.0s
NKL smax smax
comp=E,600nm,8.0s
NKL MLR MLR
comp=N,1μm,18.0s
NKL MLR MLR
comp=Z,1μm,18.0s
AGRA Agra 59.18 306 *e*P **P 17 07 44.8 -2.1**
JOSI Joshimath 59.39 310 *e*P P 17 07 45.2 -3.3
JOSI AMB AMB 17 07 46.3
comp=Z,746nm,1.1s
KALG Kalgarh 59.53 309 *e*P **P 17 07 46.9 -2.3**
POO Poona 59.55 295⇓ *ix* P 17 07 45.0 -4.6
ZAK Zakamensk 59.73 341⇓ *i*P **P 17 07 50.7 +0.4**
ZAK pmax pmax
comp=Z,39nm,2.0s
BISR Bishrakh 60.16 307 *e*P **P 17 07 50.6 -2.9**
BISR AMB AMB 17 07 51.2
comp=Z,138nm,1.0s
SKR Severo-Kuril's 60.20 19 *e*P P 17 07 45.0 -8.3
SKR *e* 17 07 56.5
SKR *e*S S 17 15 58.0 -6.6
SKR *e*SS **SS 17 19 58.0 -4.4**
SKR pmax pmax
comp=Z,70nm,1.0s
SKR pmax pmax
comp=Z,1μm,12.0s
SKR smax smax
comp=N,800nm,12.0s
SKR smax smax
comp=E,1μm,12.0s
SKR MLR MLR
comp=N,700nm,16.0s
SKR MLR MLR
comp=E,900nm,16.0s
SKR MLR MLR
comp=Z,900nm,16.0s
NDI New Delhi 60.38 307 *e*P **P 17 07 54.0 -1.1**
NDI *ex* x 17 10 06.0
BHGR Bahadurgarh 60.60 307 *e*P **P 17 07 54.6 -1.9**
BHGR AMB AMB 17 07 55.5
comp=Z,93nm,0.9s
TLY Talaya 60.74 342 P **P 17 07 58.8 +1.7**
comp=Z,220nm,1.5s,SNR=12
TLY Talaya 60.74 342 P **P 17 07 58.6 +1.5**
comp=Z,4.2nm,0.4s,baz=160,slow=7.3,SNR=12
TLY LR LR 17 36 32.5
comp=Z,586nm,18.9s,baz=144,slow=38
TLY Talaya 60.74 342 *e*P **P 17 07 58.1 +1.0**
TLY *e* 17 10 10.9
TLY *e*S **S 17 16 13.5 +1.9**
TLY *e* 17 17 48.9
TLY *e*SS **SS 17 20 06.5 -4.5**
TLY pmax pmax
comp=Z,72nm,1.4s
TLY MLR MLR
comp=Z,553nm,19.0s
TLY Talaya 60.74 342 P **P 17 07 58.7 +1.7**
SNR=21
TLY Talaya 60.74 342⇑ *i*P **P 17 07 58.1 +1.0**
comp=Z,96nm,1.5s
IRK Irkutsk 61.04 343 *e*P **P 17 08 00.0 +0.9**
IRK *e*S **S 17 16 18.7 +3.3**
IRK pmax pmax
comp=Z,210nm,1.4s
KKR Kurukshetra 61.24 308 *e*P **P 17 08 00.5 -0.4**
KKR AMB AMB 17 08 01.0
comp=Z,141nm,0.9s
KHET Khetri 61.26 306 *e*P **P 17 07 59.6 -1.5**
KHET AMB AMB 17 08 01.0
comp=Z,75nm,1.3s
SMLA Simla 61.48 310 *e*P **P 17 08 01.7 -0.8**
SMLA AMB AMB 17 08 03.4
comp=Z,240nm,0.8s
WMQ Urumqi 61.52 327 P **P 17 08 03.2 +0.6**
WMQ pP **pP 17 08 13.8 +0.5**
WMQ sP **sP 17 08 19.7 +2.3**
WMQ PcP **PcP 17 08 43.0 -1.2**
WMQ ScP **ScP 17 12 40.6 -2.9**
WMQ S **S 17 16 20.7 -1.2**
WMQ sS **sS 17 16 37.4 -2.2**
WMQ ScS **SKKSac 17 17 48.2 -3.4**
WMQ SS **SS 17 20 25.0 +1.4**
WMQ PMZ
comp=Z,130nm,1.0s
WMQ PMZ
comp=Z,920nm,4.3s
WMQ LN
comp=Z,3μm,32.0s
WMQ LE
comp=Z,2μm,25.2s
WMQ LZ
comp=Z,1μm,22.1s
MOY Mondy 61.58 340 *e*P **P 17 08 04.2 +1.3**
MOY pmax pmax
comp=Z,292nm,1.7s
SDNR Sundarnagar 61.79 310 *e*P **P 17 08 05.0 +0.3**
DRV Dumont d'Urvil 61.85 175 S S 17 16 08.0 -17
DRV SS SS 17 20 07.0 -21
DRV L L 17 22 00.0
DRV R 17 27 00.0
CASY Casey 62.42 188⇑ *i*P **P 17 08 08.2 0.0**
comp=Z,18nm,0.6s
CASY LR LR
comp=Z,2μm,19.0s
DHRM DHARAMSHALA 62.64 310 *e*P **P 17 08 10.2 -0.4**
DHRM AMB AMB 17 08 10.6
comp=Z,176nm,1.2s
PEA0B Petropavlovsk- 62.78 19⇑ *e*P **P 17 08 12.0 +1.3**
PEA0B *e* 17 08 22.6
PEA0B *e*PP **PP 17 10 33.0 +3.8**
PETK Petropavlovsk- 62.78 19 P **P 17 08 12.1 +1.3**
comp=Z,25nm,0.8s,baz=178,slow=5.7,SNR=53
PETK LR LR 17 34 34.1
comp=Z,500nm,20.0s,baz=207,slow=35
PET Petropavlovsk 63.02 19 *e*P **P 17 08 13.4 +1.1**
PET *e* 17 10 35.5
PET *e*S **S 17 16 43.4 +3.1**
PET *e*SS **SS 17 20 53.2 +6.7**
PET pmax pmax
comp=Z,500nm,9.3s
PET pmax pmax
comp=Z,400nm,13.4s
PET pmax pmax
comp=Z,103nm,1.2s
PET pmax pmax
comp=Z,300nm,16.8s
PET Petropavlovsk 63.02 19 *e*P **P 17 08 12.6 +0.3**
comp=Z,112nm,1.1s
HVS Khovu-Aksy 63.87 336 *c i*P **P 17 08 20.6 +2.5**
HVS pmax pmax
comp=Z,219nm,1.0s
BOD Bodaibo 63.99 351 *e*P **P 17 08 19.6 +1.0**
BOD pmax pmax
comp=Z,64nm,1.7s
JASL Jaisalmer 64.86 303 *e*P **P 17 08 24.1 -0.9**
JASL AMB AMB 17 08 24.9
comp=Z,69nm,1.0s
PDGK Podgornoye 65.97 322 P **P 17 08 31.0 -0.8**
PDGK pmax pmax
comp=Z,110nm,1.3s
KSH Kashi 66.25 317⇑ *i*P **P 17 08 34.9 +1.0**
KSH pP **pP 17 08 45.1 +0.4**
KSH PcP **PcP 17 09 04.2 +0.4**
KSH PP **PP 17 11 02.8 +2.7**
KSH PcS 17 13 10.1
KSH S **S 17 17 16.5 -4.5**
KSH sS **sS 17 17 38.1 -0.7**
KSH ScS **SKSac 17 18 25.2 -2.6**
KSH PMZ
comp=Z,120nm,1.0s
KSH PMZ
comp=Z,1μm,3.3s
KSH LN
comp=Z,930nm,13.4s
KSH LE
comp=Z,720nm,11.0s
KSH LZ
comp=Z,2μm,19.0s
MIR Mirnyy 66.25 195⇑ *e*P P 17 08 43.0 +10
MIR pmax pmax
comp=Z,160nm,1.5s
PAF Port-aux-Franc 66.34 218 P P 17 08 26.0 -8.1
PAF S S 17 17 11.0 -10
PAF SS **SS 17 21 36.0 -2.2**
PAF L L 17 25 00.0
PAF R 17 29 00.0
MK31 Makanchi Array 66.35 327 *i* P **P 17 08 34.4 +0.1**
MK31 pmax pmax
comp=Z,158nm,1.1s
YAK Yakutsk 66.99 0 P **P 17 08 38.9 +0.9**
comp=Z,5.0nm,0.4s,baz=130,slow=11,SNR=11
YAK S **S 17 17 26.7 -2.0**
comp=Z,1.7nm,0.3s,baz=243,slow=22,SNR=6.2
YAK LR LR 17 36 29.9
comp=Z,1μm,21.1s,baz=184,slow=35
YAK Yakutsk 66.99 0 *e*P **P 17 08 38.6 +0.6**
YAK *e* 17 08 51.3
YAK S **S 17 17 26.7 -2.0**
YAK pmax pmax
comp=Z,208nm,0.8s
YAK Yakutsk 66.99 0 *e*P **P 17 08 38.6 +0.6**
comp=Z,208nm,0.8s
YAK *e* 17 08 51.3
YAK S **S 17 17 26.7 -2.0**
ULHL Ulahol 67.42 320 P **P 17 08 41.6 +0.2**
SNR=18
AAA Alma-Ata 67.50 321 *i* P **P 17 08 42.4 +0.7**
AAA pmax pmax
comp=Z,1μm,9.5s
KRAR Krasnoyarsk 67.93 339⇓ *i*P **P 17 08 45.2 +1.2**
KRAR pmax pmax
comp=Z,40nm,1.2s
KRAR MLR MLR
comp=Z,524nm,21.0s
KZA Kyzart 67.98 319 P **P 17 08 46.2 +1.0**
SNR=71
TKM2 Tokmak 2 68.17 320 P **P 17 08 46.6 +0.4**
SNR=33
TKM2 Tokmak 2 68.17 320⇑ *i*P **P 17 08 46.2 +0.1**
TKM2 pmax pmax
comp=Z,106nm,1.4s
TKM2 Tokmak 2 68.17 320⇑ *i*P **P 17 08 46.2 +0.1**
comp=Z,106nm,1.4s
KBK Karagaybulak 68.46 320 P **P 17 08 48.8 +0.9**
SNR=21
UCH Uchtor 68.53 319 P **P 17 08 49.5 +0.8**
SNR=64

AAK Ala-Archa 68.74 320 P P 17 08 50.5 +0.9
SNR=18
AAK Ala-Archa 68.74 320 *i* P **P 17 08 49.4 -0.2**
AAK pmax pmax
comp=Z,90nm,1.3s
AAK Ala-Archa 68.74 320 PFAKE 17 09 00.0 +10
AAK LR LR
comp=Z,879nm,22.0s
CHMS Chumysh 68.75 320 P P 17 08 49.8 +0.2
SNR=12
FRU Bishkek 68.76 320⇑*iP* **P 17 08 49.0 -0.6**
FRU *i* 17 09 14.0
FRU pmax pmax
comp=Z,320nm,2.5s
AML Almayashu 69.02 319 P P 17 08 52.4 +0.7
SNR=46
USP Ospenovka 69.04 320 P P 17 08 51.8 +0.5
SNR=46
KBL Kabul 69.11 310 *eP* **P 17 08 51.6 -0.6**
KBL pmax pmax
comp=Z,20nm,0.7s
KBL Kabul 69.11 310 *eP* **P 17 08 51.6 -0.6**
comp=Z,20nm,0.7s
EKS2 Erkin-Say 69.22 319 P P 17 08 53.4 +0.9
SNR=53
EKS2 Erkin-Say 69.22 319⇑*iP* **P 17 08 53.1 +0.5**
EKS2 pmax pmax
comp=Z,136nm,1.3s
EKS2 MLR MLR
comp=Z,859nm,20.0s
EKS2 Erkin-Say 69.22 319⇑*iP* **P 17 08 53.1 +0.5**
comp=Z,136nm,1.3s
EKS2 LR LR
comp=Z,859nm,20.0s
ZAA0 Zalesovo Array 69.66 334⇑*iP* **P 17 08 54.4 -0.5**
ZALV Zalesovo Beam 69.66 334 P P 17 08 54.7 -0.2
comp=Z,114nm,1.0s,baz=119,slow=5.2,SNR=262
ZALV S **S 17 17 58.4 -2.5**
comp=Z,0.3nm,0.4s,baz=142,slow=10,SNR=3.5
ZALV LR LR 17 41 24.6
comp=Z,499nm,19.9s,baz=109,slow=38
SEY Seymchan 70.12 11 P P 17 08 58.9 +1.4
comp=Z,25nm,0.6s,baz=203,slow=4.6,SNR=120
SEY S **S 17 18 07.0 +1.1**
comp=Z,2.6nm,1.1s,baz=163,slow=19,SNR=18
SEY LR LR 17 37 56.5
comp=Z,921nm,20.9s,baz=190,slow=34
SEY Seymchan 70.12 11*c iP* **P 17 08 59.0 +1.5**
KURBB Kurchatov Arra 70.62 328 P P 17 09 01.2 +0.4
comp=Z,121nm,1.1s,baz=130,slow=5.4,SNR=454
KURBB S **S 17 18 10.4 -1.8**
comp=Z,1.3nm,1.1s,baz=134,slow=11,SNR=4.8
KURK Kurchatov 70.63 329 P P 17 09 01.0 +0.1
comp=Z,1μm,1.1s
KURK Kurchatov 70.63 329⇑*iP* **P 17 09 01.0 +0.1**
KURK *e* 17 11 35.0
KURK *eS* **S 17 18 08.9 -3.4**
KURK S **S 17 18 10.4 -1.9**
KURK pmax pmax
comp=Z,421nm,1.3s
KURK MLR MLR
comp=Z,961nm,20.0s
KURK Kurchatov 70.63 329 P P 17 09 01.6 +0.7
SNR=124
KURK Kurchatov 70.63 329⇑*iP* **P 17 09 01.0 +0.1**
comp=Z,421nm,1.3s
KURK *e*PP **PP 17 11 35.0 -2.7**
KURK *eS* **S 17 18 08.9 -3.4**
KURK S **S 17 18 10.4 -1.9**
KURK LR LR
comp=Z,961nm,20.0s
NVS Novosibirsk 70.95 334⇑*iP* **P 17 09 02.5 -0.2**
NVS *eS* **S 17 18 13.2 -2.7**
NVS pmax pmax
comp=N,137nm,1.6s
NVS pmax pmax
comp=E,257nm,1.6s
NVS pmax pmax
comp=Z,300nm,1.6s
NVS smax smax
comp=N,134nm,2.6s
NVS smax smax
comp=E,178nm,2.6s
KK31 Karatay Array 71.55 319 *i* P **P 17 09 05.5 -1.2**
KK31 pmax pmax
comp=Z,105nm,1.2s
KKAR Karatay Array 71.55 319⇑*iP* **P 17 09 06.3 -0.4**
KKAR pmax pmax
comp=Z,115nm,1.4s
KKAR Karatay Array 71.55 319⇑*iP* **P 17 09 06.3 -0.4**
comp=Z,115nm,1.4s
OTUK Ortayu 72.79 324 P P 17 09 12.9 -1.1
OTUK pmax pmax
comp=Z,185nm,1.5s
MSEY Mahe Island 73.59 267 PFAKE 17 09 30.0 +11
MSEY LR LR
comp=Z,2μm,20.0s
VNDA Vanda 74.34 173 P P 17 09 22.5 -0.1
comp=Z,33nm,0.8s,baz=322,slow=6.2,SNR=172
VNDA PKKP **PKKPdf 17 28 40.6 +0.8**
comp=Z,0.8nm,0.7s,baz=293,slow=4.3,SNR=7.4
VNDA LR LR 17 40 09.4
comp=Z,3μm,20.4s,baz=340,slow=34
SBA Scott Base 75.23 172 *eP* **P 17 09 28.8 +1.1**
SBA *e* 17 09 40.6
SBA pmax pmax
comp=Z,94nm,1.3s
SBA Scott Base 75.23 172 *eP* **P 17 09 28.8 +1.1**
comp=Z,94nm,1.3s
SBA *e* 17 09 40.6
HOQ Hoqain 75.77 296 P P 17 09 31.7 -0.1
SNR=6.8
IDAH Dahanechah 75.77 305 *eP* **P 17 09 33.2 +1.2**
BVA0 Borovoye Array 76.18 328 *i* P **P 17 09 33.6 0.0**
BVA0 pmax pmax
comp=Z,271nm,1.4s
BVAR Borovoye Array 76.18 328 P P 17 09 33.9 +0.4
comp=Z,91nm,1.0s,baz=132,slow=6.2,SNR=319
BVAR S **S 17 19 12.4 -2.8**
comp=Z,0.1nm,0.4s,baz=111,slow=16,SNR=2.6
BVAR LR LR 17 46 57.5
comp=Z,388nm,19.1s,baz=100,slow=39
BRVK Borovoye 76.25 328 P P 17 09 34.7 +0.8
comp=Z,878nm,1.2s,SNR=97
BRVK Borovoye 76.25 328*c iP* **P 17 09 34.2 +0.3**
BRVK pmax pmax
comp=Z,261nm,1.2s
BRVK Borovoye 76.25 328 P P 17 09 34.8 +0.8
SNR=125
BRVK Borovoye 76.25 328⇑*iP* **P 17 09 34.3 +0.4**
comp=Z,303nm,1.4s
BRVK LR LR
comp=Z,728nm,22.0s
IKOO Kooshah 76.39 305 *eP* **P 17 09 35.4 -0.1**
MAW Mawson 76.43 201 P P 17 09 35.4 +0.7
comp=Z,61nm,1.0s,baz=72,slow=7.4,SNR=70
MAW LR LR 17 41 34.9
comp=Z,602nm,18.1s,baz=66,slow=34
TIXI Tiksi 76.65 360*c iP* **P 17 09 35.4 -0.4**
TIXI pmax pmax
comp=Z,104nm,2.5s
TIXI MLR MLR
comp=Z,3μm,23.0s
TIXI Tiksi 76.65 360⇑*iP* **P 17 09 35.1 -0.7**
comp=Z,22nm,0.6s
ITEG Tejag 76.72 305 *eP* **P 17 09 37.7 +0.4**
UOSS Wadi Hilu 77.04 297 P P 17 09 38.8 -0.2
comp=Z,178nm,1.5s,SNR=5.4
HATD Hatta, Dubai 77.08 297⇑*P* **P 17 09 39.3 0.0**
SNR=8.5
HATD Hatta, Dubai 77.08 297⇑*iP* **P 17 09 39.1 -0.2**
SNR=8.8
ASHO Ashiyiah 77.11 297⇑*P* **P 17 09 39.0 -0.5**
SNR=6.5
ASHO Ashiyiah 77.11 297⇓*iP* **P 17 09 39.3 -0.2**
SNR=6.6
BANOM Banah 77.16 298⇓*iP* **P 17 09 40.0 +0.3**
SNR=5.2
BILL Bilibino 77.47 13⇑*eP* **P 17 09 40.6 +0.1**
BILL MLR MLR
comp=Z,1μm,21.0s
BILL Bilibino 77.47 13⇑*eP* **P 17 09 40.6 +0.1**
BILL LR LR
comp=Z,1μm,21.0s
NAZ Nazwa, Dubai 77.53 297 P P 17 09 42.2 +0.5
SNR=7.2
NAZ Nazwa, Dubai 77.53 297⇑*iP* **P 17 09 41.4 -0.4**
SNR=5.8
FAQ Al Faqa, Dubai 77.54 297⇑*iP* **P 17 09 41.6 -0.2**
SNR=12
CRZF Crozet Islands 77.68 224 P P 17 09 28.0 -14
CRZF S S 17 19 26.0 -5.8
CRZF SS SS 17 23 56.0 -36
CRZF L L 17 29 00.0
CRZF R 17 34 00.0
IAKL Akhelmad 77.70 309 *eP* **P 17 09 43.2 +0.3**
ASUD Al Kashush, Dub 77.75 296⇓*iP* **P 17 09 43.4 +0.4**
SNR=5.5
ISFR Sfrayin 78.41 309 *eP* **P 17 09 47.4 +0.6**
GEYT Alibeck 78.56 310 P P 17 09 47.8 +0.6
comp=Z,94nm,1.2s,baz=126,slow=2.6,SNR=61
GEYT S **S 17 19 42.3 +0.7**
comp=Z,0.8nm,0.4s,baz=116,slow=3.4,SNR=2.6
GEYT LR LR 17 49 35.0
comp=Z,616nm,21.0s,baz=45,slow=40
UNV Unalaska Valle 79.30 33 *eP* **P 17 09 51.6 +0.7**
comp=Z,82nm,1.2s
TBI Tubuai 79.88 113 *eS* **S 17 19 52.2 -3.9**
comp=Z,601nm,25.8s
TBI Tubuai 79.88 113 *eLQ* LQ 17 31 25.1
comp=Z,956nm,32.5s
TBI *eLR* LR 17 34 44.6
comp=Z,2μm,30.0s
PPT2 Papeete2 79.94 107 *eS* **S 17 19 55.2 -2.0**
comp=Z,286nm,23.2s
PPT2 Papeete2 79.94 107 *eLQ* LQ 17 31 26.0
comp=Z,3μm,38.2s
PPT2 *eLR* LR 17 34 47.7
comp=Z,814nm,22.5s
PPT Papeete 79.94 107 LR LR 17 44 02.4
comp=Z,341nm,19.9s,baz=278,slow=35
AB31 Akbulak array 80.69 322 P P 17 09 57.5 -1.0
AB31 pmax pmax
comp=Z,118nm,1.2s
ABKAR Akbulak array 80.69 322⇑*iP* **P 17 09 57.7 -0.7**
comp=Z,122nm,1.3s
ABKAR *e* 17 10 10.0
ABPO Ambohimpanom 80.93 252 PFAKE 17 10 10.0 +9.3
ABPO LR LR
comp=Z,722nm,22.0s
IANJ Anjilo 81.22 307 *eP* **P 17 10 01.8 -0.2**
GAMB Gambell 81.46 23⇑*eP* **P 17 10 03.5 +1.2**
comp=Z,40nm,1.1s
IZEF Zefreh 81.97 304 *eP* **P 17 10 04.9 -1.1**
IPRN Peran 82.64 307 *eP* **P 17 10 09.3 0.0**
IKLH Kolahrood 82.67 304 *eP* **P 17 10 09.8 +0.1**
IDMV Damavand 82.75 307 *eP* **P 17 10 09.9 -0.2**
SVE Sverdlovsk 82.88 329*d iP* **P 17 10 10.3 +0.4**
SVE *eS* **S 17 20 23.9 -2.0**
SVE pmax pmax
comp=Z,168nm,1.9s
SVE MLR MLR
comp=Z,886nm,24.0s
IVRN Varamin 82.88 306 *eP* **P 17 10 10.6 +0.1**
IPIR Pirpir 83.12 304 *eP* **P 17 10 10.7 -1.4**
IR3 Iran Long-Peri 83.54 306 *eP* **P 17 10 14.4 +0.6**
TNA Tin City 83.75 22 *eP* **P 17 10 15.3 +1.1**
comp=Z,101nm,1.6s
ARU Arti 83.82 328 P **P 17 10 14.1 -0.6**
comp=Z,580nm,1.5s,SNR=34
ARU Arti 83.82 328*c iP* **P 17 10 14.6 -0.1**
ARU S **S 17 20 33.2 -2.2**
ARU SS **SS 17 25 57.5 -5.9**
ARU SSS SSS 17 29 26.4
ARU pmax pmax
comp=Z,248nm,1.7s
ARU MLR MLR
comp=Z,554nm,21.0s
ARU Arti 83.82 328⇑*iP* **P 17 10 14.3 -0.4**
comp=Z,302nm,1.5s
ARU *e*PP **PP 17 13 27.7 -0.6**
ARU LR LR
comp=Z,753nm,22.0s
IMHD Mahdasht 83.86 307 *eP* **P 17 10 16.1 +0.5**
IGZV Ghazvin 84.35 307 *eP* **P 17 10 18.3 +0.1**
IRAZ Razeghan 84.40 306 *eP* **P 17 10 18.9 +0.5**
QSPA South Pole Qui 84.81 180⇑*iP* **P 17 10 19.0 -0.8**
comp=Z,59nm,0.9s
SYO Syowa Base 85.15 201⇓*iX* **P 17 10 20.0 -1.2**
SOKR Solikamsk 85.71 331*c iP* **P 17 10 23.7 -0.4**
SOKR S **S 17 20 51.2 -2.8**
SOKR pmax pmax
comp=Z,90nm,1.3s
RAYN Ar Rayn 86.44 294 P **P 17 10 28.3 -0.4**
comp=Z,484nm,1.0s,SNR=36
RAYN Ar Rayn 86.44 294⇑*iP* **P 17 10 28.0 -0.7**
comp=Z,112nm,1.1s
DAMY Dhamar 86.44 285 *eP* **P 17 10 30.5 +1.4**
comp=Z,258nm,1.8s
ISRB Sarab 86.60 308 *eP* **P 17 10 29.7 +0.3**
IDHR Dehrash 87.16 305 *eP* **P 17 10 30.9 -1.2**
IBST Bostanabad 87.19 308 *eP* **P 17 10 31.7 -0.5**
MAK Makhachkala 87.55 313 *eP* **P 17 10 32.3 -1.2**
MAK *e* 17 13 59.3
MAK *e* 17 21 13.8
MAK pmax pmax
comp=Z,108nm,1.5s
ITBZ Tabriz 87.85 309 *eP* **P 17 10 36.5 +1.1**
IAZR Azarshahr 87.90 308 *eP* **P 17 10 36.1 +0.3**
KDAK Kodiak Island 87.98 32 *eP* **P 17 10 35.4 +0.2**
KDAK pmax pmax
comp=Z,49nm,1.1s
KDAK MLR MLR
comp=Z,820nm,21.0s
KDAK Kodiak Island 87.98 32 *eP* **P 17 10 35.4 +0.2**
comp=Z,49nm,1.1s
KDAK LR LR
comp=Z,820nm,21.0s
IMRD Marand 88.26 309 *eP* **P 17 10 37.9 +0.6**
RSO Redoubt South 88.50 29 *eP* **P 17 10 38.2 +0.2**
comp=Z,1μm,1.6s
DGRG David-gareji 88.89 312 P **P 17 10 41.6 +1.6**
GNI Garni 89.19 310*c iP* **P 17 10 42.5 +0.8**
GNI Garni 89.19 310 P **P 17 10 43.0 +1.3**
SNR=10
GNI Garni 89.19 310⇓*iP* **P 17 10 42.9 +1.3**
SNR=10
GNI Garni 89.19 310⇑*iP* **P 17 10 42.4 +0.7**
GNI comp=Z,85nm,1.3s
LR LR
comp=Z,357nm,21.0s
PPLA Purkeypile 89.31 27⇑*eP* **P 17 10 40.8 -0.8**
comp=Z,15nm,0.9s
TBLG Delisi 89.40 312 P **P 17 10 43.1 +0.7**
SEW Seward 90.04 30 *eP* **P 17 10 44.6 -0.3**
comp=Z,24nm,0.9s
RC01 Rabbit Creek A 90.08 29 *eP* P 17 10 40.9 -4.2
BPAW Bear Paw Mtn. 90.08 26⇑*iP* **P 17 10 44.4 -0.7**
comp=Z,1.8nm,1.1s
BPAW *e*PP PP 17 14 07.6 -11
ZEI Tsey 90.15 313 *eP* **P 17 10 44.1 -2.0**
ZEI pmax pmax
comp=Z,274nm,1.4s
TRF Thorofare Moun 90.26 26⇑*iP* **P 17 10 45.2 -0.9**
comp=Z,10nm,0.9s
TRF *e*PP **PP 17 14 18.6 -1.6**
AKH Akhalkalaki 90.29 311 P **P 17 10 47.9 +1.1**
AKH Akhalkalaki 90.29 311⇓*P* **P 17 10 48.3 +1.5**
AKH Akhalkalaki 90.29 311⇓*iP* **P 17 10 48.3 +1.5**
ONI Oni 90.45 313 P **P 17 10 48.2 +0.8**
SML Sawmill 90.86 28⇑*iP* **P 17 10 48.6 -0.2**
SML pmax pmax
comp=Z,4.0nm,0.8s
SML Sawmill 90.86 28⇑*iP* **P 17 10 48.6 -0.2**
comp=Z,4.1nm,0.8s
SML *e*PP PP 17 14 19.1 -5.8
MCK McKinley 90.91 26⇑*iP* **P 17 10 48.2 -0.8**
MCK *e* 17 14 29.8
MCK pmax pmax
comp=Z,37nm,1.2s
MCK McKinley 90.91 26⇑*iP* **P 17 10 48.1 -0.8**
comp=Z,37nm,1.2s
MCK *e*PP **PP 17 14 29.8 +4.6**
KBZ Khabaz 90.98 314 P **P 17 10 49.5 -0.2**
comp=Z,14nm,1.1s,baz=81,slow=1.3,SNR=24
KBZ S S 17 21 38.0 -6.7
comp=Z,0.6nm,0.5s,baz=180,slow=2.0,SNR=1.8
COLD Coldfoot 91.01 23⇑*iP* **P 17 10 49.4 +0.1**
comp=Z,21nm,0.9s
KIV Kislovodsk 91.16 314⇑*iP* **P 17 10 50.1 -0.5**
KIV *e* 17 14 27.5
KIV MLR MLR
comp=Z,375nm,20.0s
KIV Kislovodsk 91.16 314 P **P 17 10 51.4 +0.8**
SNR=8.4
KIV Kislovodsk 91.16 314⇓*iP* **P 17 10 50.7 +0.1**
SNR=7.5
KIV Kislovodsk 91.16 314⇑*iP* **P 17 10 50.1 -0.5**
KIV *e*PP **PP 17 14 27.5 -0.3**
KIV LR LR
comp=Z,375nm,20.0s
PRGR Permogore 91.53 332 *eP* P 17 10 47.6 -4.2
PRGR 17 14 28.7
PRGR pmax pmax
comp=Z,41nm,1.1s
COLA College 91.56 25*c iP* **P 17 10 50.5 -1.3**
COLA College 91.56 25 P **P 17 10 51.3 -0.5**
COLA LR LR
comp=Z,459nm,20.0s
ILAR Eielson Array 91.95 25 P **P 17 10 52.2 -1.5**
comp=Z,3.2nm,0.9s,baz=260,slow=4.2,SNR=25
ILAR PP **PP 17 14 37.3 +3.9**
comp=Z,2.5nm,0.9s,baz=258,slow=6.2,SNR=6.3
ILAR PKKPbc **PKKPdf 17 28 09.2 -1.8**
comp=Z,1.6nm,0.9s,baz=88,slow=0.7,SNR=11
KMBO Kilima Mbogo 92.02 269 P **P 17 10 55.5 0.0**
comp=Z,15nm,1.1s,baz=62,slow=4.7,SNR=16
KMBO LR LR 17 48 09.6
comp=Z,1μm,20.8s,baz=96,slow=33
KMBO Kilima Mbogo 92.02 269⇑*eP* **P 17 10 55.5 0.0**
KMBO pmax pmax
comp=Z,29nm,1.3s
KMBO Kilima Mbogo 92.02 269⇑*eP* **P 17 10 55.5 0.0**
comp=Z,29nm,1.3s
PAX Paxson 92.35 27⇑*eP* **P 17 10 55.4 -0.3**
PAX pmax pmax
comp=Z,71nm,1.6s
PAX Paxson 92.35 27⇑*eP* **P 17 10 55.4 -0.3**
comp=Z,70nm,1.6s
BMRM Bremner River 92.53 29⇑*iP* **P 17 10 56.5 0.0**
comp=Z,17nm,1.1s
BMRM *e*PP **PP 17 14 38.8 +0.7**
RKT Rikitea 93.18 113 *eLR* LR 17 40 52.2
comp=Z,1μm,37.5s
SOC Sochi 93.27 313 *eP* **P 17 10 58.0 -2.3**
SOC *eS* **SKSac 17 21 28.3 -3.7**
SOC MLR MLR
comp=Z,519nm,21.0s
MALT Malatya 93.90 308⇑*P* **P 17 11 04.0 +0.5**
MALT Malatya 93.90 308⇑*iP* **P 17 11 04.0 +0.5**
NVL N'lazarevskaya 93.92 197 *eP* **P 17 11 02.8 +0.1**
NVL *e**PP **pP 17 11 13.3 -0.6**
NVL pmax pmax
comp=Z,28nm,1.2s
NVL MLR MLR
comp=Z,1μm,16.0s
VORD Divnogorie 94.02 321 *eP* **P 17 11 02.3 -1.2**
VORD pmax pmax
comp=N,10.0nm,0.5s
VORD pmax pmax
comp=E,20nm,0.5s
VORD pmax pmax
comp=Z,10.0nm,0.5s
VORD MLR MLR
comp=N,560nm,22.0s
VORD MLR MLR
comp=E,480nm,22.0s
VORD MLR MLR
comp=Z,630nm,22.0s
VSR Storozhevoye 94.11 321 *eP* **P 17 11 02.1 -1.8**
VSR pmax pmax
comp=E,10.0nm,1.4s
VSR pmax pmax
comp=Z,30nm,1.4s
VSR pmax pmax
comp=N,5.0nm,0.9s
VSR MLR MLR
comp=N,470nm,19.0s
VSR MLR MLR
comp=E,400nm,19.0s
VSR MLR MLR
comp=Z,430nm,19.0s
EGAK Eagle 94.40 25⇑*iP* **P 17 11 05.1 +0.1**
comp=Z,22nm,1.1s
EGAK *e*PP PP 17 14 40.7 -12
EGAK LR LR
comp=Z,515nm,21.0s
ANN Anapa 94.97 314 *eP* **P 17 11 06.1 -1.9**
ANN *eS* **SKSac 17 21 38.4 -2.8**
ANN pmax pmax
comp=Z,73nm,1.4s
ANN MLR MLR
comp=Z,544nm,24.0s
DAWY Dawson 95.14 26⇑*iP* **P 17 11 09.0 +0.5**
comp=Z,32nm,0.9s
TMCR Tamitsa 95.19 334 *eP* **P 17 11 06.9 -1.7**
TMCR pmax pmax
comp=Z,44nm,1.4s
MOS Moscow 95.21 325 *eP* P 17 11 04.4 -4.5
MOS *e* 17 14 55.5
MOS pmax pmax
comp=Z,41nm,0.9s
MOS MLR MLR
comp=Z,800nm,19.0s
OBN Obninsk 95.80 325*c iP* **P 17 11 10.1 -1.5**
OBN *e* 17 11 19.0
OBN *e* 17 15 01.5
OBN pmax pmax
comp=Z,53nm,1.5s
OBN Obninsk 95.80 325 P **P 17 11 10.4 -1.1**
LVZ Lovozero 96.53 338 *eP* **P 17 11 13.4 -1.3**
LVZ pmax pmax
comp=Z,43nm,1.6s
LVZ Lovozero 96.53 338 PFAKE 17 11 30.0 +15
LVZ LR LR
comp=Z,919nm,22.0s
APA Apatity 97.02 337⇓*iP* P 17 11 10.5 -6.3
APA *eS* S 17 22 26.0 -11
APA pmax pmax
comp=Z,14nm,0.8s
APA MLR MLR
comp=Z,800nm,19.0s
SNAA Sanae 97.30 194 P P 17 11 15.1 -3.2
SNAA Sanae 97.30 194⇑*iP* P 17 11 14.4 -3.8
SNAA pmax pmax
comp=Z,44nm,1.4s
SNAA Sanae 97.30 194⇑*iP* P 17 11 14.4 -3.8
comp=Z,44nm,1.4s
SIM Simferopol' **97.33 315** *eP* **P 17 11 18.5 -0.3**
SIM *eS* S 17 22 33.0 -7.5
INK Inuvik 97.39 22 P **P 17 11 18.3 -0.2**
comp=Z,9.3nm,0.9s,baz=275,slow=7.2,SNR=14
INK PP **PP 17 15 11.5 -4.0**
comp=Z,1.4nm,0.4s,baz=205,slow=9.6,SNR=2.6
INK S **SKSac 17 21 51.5 -1.4**
comp=Z,3.0nm,0.4s,baz=228,slow=8.5,SNR=4.7
BRTR Keskin Array B 97.68 309 P **P 17 11 19.8 -0.9**
comp=Z,2.9nm,0.9s,baz=109,slow=6.7,SNR=14
BRTR PP **PP 17 15 14.2 -4.6**
comp=Z,1.8nm,1.0s,baz=90,slow=3.7,SNR=3.7
BRTR LR LR 18 03 28.6
comp=Z,248nm,18.3s,baz=79,slow=40
BRTR Keskin Array B 97.68 309 *i* P **P 17 11 20.0 -0.7**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
CSS Prodhromos 97.88 304 PFAKE 17 11 30.0 +8.4
CSS LR LR
comp=Z,139nm,20.0s
ANTO Ankara 98.33 309 PFAKE 17 11 30.0 +6.5
ANTO LR LR
comp=Z,391nm,20.0s
VNA2 Neumayer--Watz 98.88 193 P Pdif 17 11 26.1 +0.9
baz=120,slow=4.2
KEV Kevo 99.09 340 PFAKE 17 11 40.0 +14
KEV LR LR
comp=Z,627nm,21.0s
VNA1 Neumayer--Stat 99.28 193 P **Pdif 17 11 27.9 +0.9**
LSZ Lusaka 99.39 254 *eP* **Pdif 17 11 27.8 -1.0**
LSZ pmax pmax
comp=Z,18nm,1.1s
LSZ Lusaka 99.39 254 *eP* **Pdif 17 11 27.8 -1.0**
comp=Z,18nm,1.1s
ARCES ARCESS Array B 99.64 340 P **Pdif 17 11 27.8 -0.8**
comp=Z,16nm,1.0s,baz=65,slow=5.8,SNR=19
SPITS Spitsbergen Ar 99.65 349 P **Pdif 17 11 28.2 -0.3**
comp=Z,24nm,1.2s,baz=300,slow=8.4,SNR=11
BOSA Boshof 99.85 240 P **Pdif 17 11 30.2 -0.5**
comp=Z,4.2nm,0.9s,baz=19,slow=8.8,SNR=4.0

BOSA LR LR 17 51 00.9
comp=Z,491nm,20.3s,baz=98,slow=32
ISP Isparta 100.13 307 PFAKE 17 11 40.0 +8.3
ISP LR LR
comp=Z,500nm,22.0s
KBS Kingsbay 100.15 350 PFAKE 17 11 40.0 +9.3
KBS LR LR
comp=Z,861nm,20.0s
AKASG Malin Array Be 100.40 320 P **Pdif 17 11 30.9 -1.4**
comp=Z,2.2nm,0.8s,baz=72,slow=3.7,SNR=12
AKASG Malin Array Be 100.40 320 P **Pdif 17 11 31.0 -1.4**
KIEV Kiev 100.41 320 ⇓*i*P **Pdif 17 11 31.2 -1.2**
KIEV Kiev 100.41 320 PFAKE 17 11 40.0 +7.6
KIEV LR LR
comp=Z,515nm,22.0s
FINES FINESS Array B 100.86 332 P **Pdif 17 11 32.8 -1.3**
comp=Z,3.5nm,0.8s,baz=66,slow=2.3,SNR=11
FINES FINESS Array B 100.86 332 *i*P **Pdif 17 11 32.9 -1.2**
FINES pmax pmax
comp=Z,4.0nm,0.9s
KIS Kishinev 100.95 317 *e*P **Pdif 17 11 32.0 -2.9**
KIS Kishinev 100.95 317 *e*PP PP 17 15 46.0 +2.7
KIS LRM MLR 17 56 44.0
comp=Z,400nm,22.0s
KIS Kishinev 100.95 317 *e*P **Pdif 17 11 32.0 -2.9**
KIS *e* 17 15 46.0
KIS MLR MLR
comp=Z,400nm,22.0s
KIS MLR MLR
comp=Z,500nm,21.0s
TESR Tescani 102.48 316 ⇓*i*P **Pdif 17 11 41.4 -0.3**
VRI Vrincioaia 102.49 316 ⇓P **Pdif 17 11 42.0 +0.2**
VRI Vrincioaia 102.49 316 ⇓*i*P **Pdif 17 11 42.0 +0.2**
SUR Sutherland 102.75 235 PFAKE 17 12 00.0 +16
SUR LR LR
comp=Z,2μm,19.0s
JMB Yambol 102.90 312 ⇓P **Pdif 17 11 43.8 +0.1**
JMB Yambol 102.90 312 ⇓*i*P **Pdif 17 11 43.8 +0.1**
MLR Muntele Rosu 103.07 315 ⇑P **Pdif 17 11 44.3 -0.3**
MLR Muntele Rosu 103.07 315 ⇑*i*P **Pdif 17 11 44.3 -0.3**
BURAR Bucovina Array 103.33 318 ⇓P **Pdif 17 11 45.8 +0.2**
BURAR Bucovina Array 103.33 318 ⇓*i*P **Pdif 17 11 45.8 +0.2**
BUR08 Bucovina Ar. S 103.34 318 *e*Pdif **Pdif 17 11 45.8 +0.2**
SUW Suwalki 103.65 324 *e*P **Pdif 17 11 46.6 -0.1**
SUW Suwalki 103.65 324 *e*P **Pdif 17 11 46.7 0.0**
KOLS Kolonicke sedl 105.08 319 *i*P **Pdif 17 11 53.4 +0.1**
KOLS Kolonicke sedl 105.08 319 PDIF **Pdif 17 11 53.3 0.0**
MMB Musomiste 105.10 312 ⇓P **Pdif 17 11 52.3 -1.3**
MMB Musomiste 105.10 312 ⇓*i*P **Pdif 17 11 52.3 -1.3**
UZH Uzhgorod 105.12 319 *e*P **Pdif 17 11 52.6 -0.8**
UZH *e*S **Sdif 17 23 40.0 -5.6**
DRGR 105.13 317 ⇑P **Pdif 17 11 52.0 -1.6**
DRGR 105.13 317 ⇑*i*P **Pdif 17 11 52.0 -1.6**
STHS Stebnicka Huta 105.67 320 *i*P **Pdif 17 11 56.9 +1.0**
STHS Stebnicka Huta 105.67 320 PDIF **Pdif 17 11 56.9 +1.0**
NIE Niedzica 106.26 320 *e*P **Pdif 17 11 59.1 +0.6**
NIE Niedzica 106.26 320 *e*P **Pdif 17 11 59.1 +0.6**
KECS Kecovo 106.33 319 *i*P **Pdif 17 11 59.0 +0.2**
KECS Kecovo 106.33 319 PDIF **Pdif 17 11 59.0 +0.2**
YKA Yellowknife Ar 106.37 26 PKiKP **PKiKP 17 16 09.8 +0.1**
comp=Z,2.8nm,0.8s,baz=287,slow=1.4,SNR=3.8
YKA PKKPbc **PKKPbc 17 27 29.8 -3.0**
comp=Z,1.1nm,0.8s,baz=86,slow=3.6,SNR=4.0
OKC Ostrava-Krasne 107.55 321 *e*PP PP 17 16 31.6 -0.6
OKC *e*SDIF **Sdif 17 24 11.5 +5.7**
OKC *ex* x 17 25 34.0
OKC *e*SP **SP 17 25 49.2 -0.6**
OKC AMS AMS 18 09 50.0
comp=Z,400nm,18.6s
NB2 NORSAR Subarra107.86 333 P **Pdif 17 12 04.1 -1.3**
comp=Z,8.7nm,1.1s,baz=68,slow=4.4
NB2 NORSAR Subarra107.86 333 P **Pdif 17 12 04.1 -1.3**
baz=68,slow=4.4
NOA NORSAR Array B 107.86 333 Pdiff **Pdif 17 12 04.5 -0.9**
comp=Z,3.1nm,0.9s,baz=69,slow=4.5,SNR=6.5
NOA PKiKP **PKiKP 17 16 12.6 0.0**
comp=Z,2.0nm,0.9s,baz=74,slow=7.9,SNR=4.2
HAWA Hanford 108.21 43 PFAKE 17 16 30.0
HAWA LR LR
comp=Z,529nm,19.0s
KRLC Kraliky 108.35 321 *e*PKP **PKiKP 17 16 14.5 +0.6**
DPC Dobruska-Polom 108.56 322 *e*PKP **PKiKP 17 16 15.2 +0.9**
DPC *ep*PKP **pPKiKP 17 16 25.2 -0.5**
DPC *e*PP **PP 17 16 40.7 +1.0**
DPC *e*SDIF 17 24 15.6
DPC *ex* x 17 25 39.4
DPC AMS AMS 18 12 30.0
comp=Z,500nm,17.5s
UPC Upice 108.72 322 *e*PKP **PKiKP 17 16 14.4 -0.1**
UPC *e*PP **PP 17 16 40.6 -0.1**
UPC *e*SDIF 17 24 19.2
UPC *ex* x 17 25 39.7
UPC *e*SP **SP 17 26 01.0 -0.6**
UPC AMS AMS 18 12 40.0
comp=Z,600nm,18.4s
TREC Trest 109.36 321 *e*PKP **PKiKP 17 16 15.9 +0.2**
TREC *e*PP **PP 17 16 46.0 +0.5**
TREC AMS AMS 18 11 30.0
comp=Z,600nm,23.4s
PVCC Panska Ves 109.60 322 *e*PP PP 17 16 51.2 +4.1
PVCC *e*SKS **SKSdf 17 23 26.4 +0.9**
PVCC AMS AMS 18 09 40.0
comp=Z,500nm,20.5s
GOPC GO Pecny, Ondr 109.63 321 *e*PP PP 17 16 46.7 -0.7
GOPC *e*SDIF **Sdif 17 24 28.8 +5.5**
GOPC *ex* x 17 25 49.7
GOPC AMS AMS 18 13 50.0
comp=Z,500nm,17.5s
WVOR Wild Horse Val 109.64 47 *e*PKPdf **PKiKP 17 16 17.0 +0.4**
PRU Pruhonice 109.77 322 *e*PKP **PKiKP 17 16 16.1 -0.3**
PRU *e*PP PP 17 16 43.1 -5.2
PRU *e*SKS **SKSdf 17 23 27.8 +1.9**
PRU *e*SDIF **Sdif 17 24 17.7 -6.6**
PRU *ex* x 17 25 48.1
PRU AMS AMS 18 10 30.0
comp=Z,500nm,21.2s
BRG Berggiesshubel 109.88 323 *e*PP PP 17 16 42.0 -7.1
comp=Z,9.5nm,1.5s
BRG S **Sdif 17 24 27.0 +1.8**
BRG SS SS 17 32 19.0 +7.8
BMO Blue Mountains 110.07 44 PFAKE 17 16 30.0
BMO LR LR
comp=Z,853nm,22.0s
PERS Pernice 110.28 318 *e*PKiKP **PKiKP 17 16 17.6 -0.1**
CLL Collm 110.31 323 *e*P **Pdif 17 12 15.0 -1.5**
CLL Collm 110.31 323 *e*Pdif **Pdif 17 12 15.0 -1.5**
CLL *e* 17 16 47.0
CLL *e*PP **PP 17 16 52.0 -0.2**
comp=Z,14nm,1.4s
CLL *e*PPP PPP 17 19 18.0
CLL *e*Sdif Sdif 17 24 27.0 -1.8
CLL *e* 17 25 54.0
CLL *e*PS **PS 17 26 15.0 -7.5**
CLL *e*PPS PPS 17 27 36.0
CLL *e*SS **SS 17 32 24.0 +7.0**
CLL *e*SSS SSS 17 36 25.0
CLL LmV 18 05 00.0
comp=Z,500nm,21.8s
BOJS Bojanci 110.47 317 *i*PKiKP **PKiKP 17 16 18.4 +0.5**
KHC Kasperske Hory 110.61 321 *e*PKP **PKiKP 17 16 18.4 +0.3**
KHC *ep*PKP **pPKiKP 17 16 27.1 -2.5**
KHC *e*PP **PP 17 16 55.8 +1.3**
KHC *e*SDIF **Sdif 17 24 34.7 +3.2**
KHC *ex* x 17 26 02.2
KHC *e*SP **SP 17 26 24.3 +3.9**
KHC *e*SS **SS 17 32 23.9 +2.7**
KHC AMS AMS 18 15 00.0
comp=Z,600nm,16.0s
KHC Kasperske Hory 110.61 321 *e*PKIKP **PKiKP 17 16 18.4 +0.3**
KHC *e* 17 16 27.1
KHC *e* 17 16 55.8
KHC *e* 17 26 24.3
KHC *e*SS SS 17 32 23.9 +2.7
KHC MLR MLR
comp=Z,600nm,16.0s
GERES GERESS Array B 110.61 320 PKiKP **PKiKP 17 16 18.6 +0.4**
comp=Z,2.4nm,0.7s,baz=68,slow=2.0,SNR=16
GERES PKKP **PKKPab 17 27 28.4 +0.3**
comp=Z,0.3nm,0.5s,baz=242,slow=2.9,SNR=5.0
NVAR Mina Array Bea 110.63 51 Pdiff **Pdif 17 12 20.1 +1.7**
comp=Z,0.2nm,0.5s,baz=236,slow=6.4,SNR=2.7
NVAR PKiKP **PKiKP 17 16 18.1 -0.7**
comp=Z,2.2nm,1.0s,baz=269,slow=2.6,SNR=6.9
NVAR PKKP **PKKPab 17 27 27.7 -0.6**
comp=Z,0.4nm,0.3s,baz=205,slow=4.3,SNR=4.4
LJU Ljubljana 110.83 317 *i*PKiKP **PKiKP 17 16 18.9 +0.3**
LJU *e*PP PP 17 17 01.6 +5.5
NKC Novy Kostel 110.98 322 *e*PP PP 17 16 58.3 +1.2
NKC AMS AMS 18 11 20.0
comp=Z,800nm,21.7s
CUC Castrocucco 111.28 311 PFAKE 17 16 30.0
CUC LR LR
comp=Z,307nm,20.0s
KBA Koelnbreinsper 111.34 319 ⇓*i*PKiKP **PKiKP 17 16 19.1 -0.7**
comp=Z,3.9nm,1.0s
MFID Camas Ranch 111.44 45 *e*PKiKP **PKiKP 17 16 20.2 +0.2**
EDW2 Edwards Air Fo 111.47 55 P **PKiKP 17 16 22.0 +1.8**
baz=111
CEL Celeste 111.56 309 PFAKE 17 16 30.0
CEL LR LR
comp=Z,279nm,19.0s
SWMT Swartz Lake 111.60 41 *e*PKPdf **PKiKP 17 16 20.3 +0.1**
MPMC Manual Prospec 111.68 53 P **PKiKP 17 16 22.2 +1.4**
baz=112
MSO Missoula 111.84 41 P **PKiKP 17 16 21.3 +0.7**
baz=112
ABTA Abfaltersbach 111.98 319 ⇑*i*PKiKP **PKiKP 17 16 20.4 -0.4**
comp=Z,9.6nm,0.8s
CHMT Chamberlain Mo 112.27 41 *e*PKPdf **PKiKP 17 16 21.4 -0.2**
GSC Goldstone 112.35 54 P **PKiKP 17 16 23.7 +1.8**
baz=112
HLID Hailey 112.40 45 P **PKiKP 17 16 23.3 +1.4**
baz=112
HLID Hailey 112.40 45 *e*PKPdf **PKiKP 17 16 23.0 +1.1**
HLID LR LR
comp=Z,484nm,22.0s
WTTA Wattenberg 112.40 319 ⇑*i*PKiKP **PKiKP 17 16 22.0 +0.2**
comp=Z,15nm,0.7s
ELK Elko 112.48 48 *e*PKIKP **PKiKP 17 16 21.0 -1.2**
ELK Elko 112.48 48 *e*PKPdf **PKiKP 17 16 21.0 -1.2**
AQU L'Aquila 112.53 314 PFAKE 17 16 30.0
AQU LR LR
comp=Z,636nm,22.0s
MOTA Moosalm 112.72 320 ⇓*i*PKiKP **PKiKP 17 16 22.3 0.0**
comp=Z,8.1nm,0.9s
R11A Troy Canyon, C 112.74 51 P **PKiKP 17 16 24.4 +1.7**
baz=113
PFO Pinyon Flat Ob 112.92 56 P **PKiKP 17 16 25.1 +1.9**
baz=113
FETA Feichten 113.06 319 ⇑*i*PKiKP **PKiKP 17 16 23.1 +0.1**
comp=Z,12nm,1.4s
MONP Monument Peak 113.07 57 P **PKiKP 17 16 25.5 +2.0**
baz=113
MCMT McKenzie Canyo 113.14 43 *e*PKPdf **PKiKP 17 16 23.7 +0.4**
BELC Belle Mtn. Jos 113.23 55 P **PKiKP 17 16 25.2 +1.5**
baz=113
GMRC Granite Mounta 113.37 54 P **PKiKP 17 16 25.6 +1.6**
baz=113
SHPR Sheep Range 113.44 52 *e*PKPdf **PKiKP 17 16 25.5 +1.4**
DAVA Damuels 113.53 320 ⇓*i*PKiKP **PKiKP 17 16 24.2 +0.3**
comp=Z,15nm,1.2s
BOZ Bozeman (W) 113.72 42 P **PKiKP 17 16 25.3 +1.0**
baz=114
BC3 Big Chuckawall 113.74 56 P **PKiKP 17 16 26.3 +1.6**
baz=114
CLTB Caltabellotta 113.77 309 PFAKE 17 16 40.0
CLTB LR LR
comp=Z,174nm,20.0s
IRM Iron Mountain 113.90 55 P **PKiKP 17 16 26.5 +1.6**
baz=114
TUE Stuetta 114.14 319 *e*PKPdf PKPdf 17 16 24.7 -0.5
EGMT Eagleton 114.15 39 P **PKiKP 17 16 25.3 +0.3**
baz=114
EGMT Eagleton 114.15 39 *e*PKPdf PKPdf 17 16 25.2 +0.2
EGMT LR LR
comp=Z,596nm,22.0s
BFO Black Forest 114.16 321 PFAKE 17 16 40.0 +15
BFO LR LR
comp=Z,627nm,20.0s
DUG Dugway 114.41 48 *e*PKIKP PKPdf 17 16 26.5 +0.7
DUG MLR MLR
comp=Z,495nm,19.0s
DUG Dugway 114.41 48 P PKPdf 17 16 27.1 +1.3
baz=114
DUG Dugway 114.41 48 *e*PKPdf PKPdf 17 16 26.5 +0.7
DUG LR LR
comp=Z,495nm,19.0s
B19A Brinkman Farms 114.51 39 P PKPdf 17 16 26.1 +0.5
baz=114
MEM Membach 114.70 324 PKP PKPdf 17 16 26.1 +0.2
IMW Indian Meadow 114.72 44 *e*PKPdf PKPdf 17 16 27.5 +1.0
TPAW Teton Pass 114.84 44 *e*PKPdf PKPdf 17 16 27.4 +0.7
LKWY Lake 114.88 43 PFAKE 17 16 40.0 +13
LKWY LR LR
comp=Z,642nm,20.0s
MOOW Moose Ponds 114.90 44 *e*PKPdf PKPdf 17 16 27.6 +0.9
ECH Echery 114.93 321 PFAKE 17 16 40.0 +14
ECH LR LR
comp=Z,541nm,19.0s
REDW Red Top Meadow 114.94 44 *e*PKPdf PKPdf 17 16 27.8 +0.9
AHID Auburn Hatcher 114.95 45 PFAKE 17 16 40.0 +13
AHID LR LR
comp=Z,466nm,21.0s
HWUT Hardware Ranch 114.95 46 *e*PKPdf PKPdf 17 16 26.7 -0.1
HWUT LR LR
comp=Z,996nm,21.0s
GCMT Greycliff 114.97 41 *e*PKPdf PKPdf 17 16 27.5 +0.8
SNOW Snow King Moun 114.98 44 *e*PKPdf PKPdf 17 16 28.3 +1.4
LOHW Long Hollow 115.04 44 *e*PKPdf **PKPdf 17 16 28.1 +1.1**
MSU Marysvale 115.31 50 *e*PKIKP **PKPdf 17 16 29.1 +1.4**
MSU Marysvale 115.31 50 *e*PKPdf **PKPdf 17 16 29.1 +1.4**
C20A Veseth Ranch, 115.36 39 P **PKPdf 17 16 27.8 +0.6**
baz=115
RLMT Red Lodge 115.46 42 P **PKPdf 17 16 28.6 +0.9**
baz=115
FFC Flin Flon 115.69 30 *e*PKIKP **PKPdf 17 16 27.7 +0.1**
FFC MLR MLR
comp=Z,523nm,20.0s
FFC Flin Flon 115.69 30 *e*PKPdf **PKPdf 17 16 27.7 +0.1**
FFC LR LR
comp=Z,523nm,20.0s
B21A Ellsworth Farm 115.70 38 P **PKPdf 17 16 28.8 +0.9**
baz=116
H19A Powell 115.81 42 P **PKPdf 17 16 29.9 +1.6**
baz=116
C21A Desert Coulee 115.89 39 P **PKPdf 17 16 28.8 +0.5**
baz=116
BW06 Boulder Array 116.03 45 PFAKE 17 16 40.0 +11
BW06 LR LR
comp=Z,583nm,20.0s
PDAR Pinedale Array 116.03 45 PKP **PKPdf 17 16 28.5 -0.4**
comp=Z,3.3nm,0.9s,baz=225,slow=0.6,SNR=16
PDAR PKKPbc **PKKPbc 17 26 59.2 -1.6**
comp=Z,1.6nm,0.8s,baz=91,slow=5.9,SNR=8.4
G20A Bridger 116.13 42 P **PKPdf 17 16 29.8 +0.8**
baz=116
A22A Carney Farms, 116.15 37 P **PKPdf 17 16 29.3 +0.5**
baz=116
J19A Crowheart 116.22 44 P **PKPdf 17 16 29.9 +0.7**
baz=116
214A Organ Pipe Nat 116.23 57 P **PKPdf 17 16 30.5 +1.1**
baz=116
D21A La Casta Ranch 116.25 39 P **PKPdf 17 16 30.0 +1.0**
baz=116
B22A Reddig Ranch S 116.38 38 P **PKPdf 17 16 30.0 +0.8**
baz=116
BNI Bardonecchia 116.38 318 *e*PKIKP **PKPdf 17 16 29.0 -0.4**
BNI MLR MLR
comp=Z,737nm,20.0s
BNI Bardonecchia 116.38 318 *e*PKPdf **PKPdf 17 16 29.0 -0.4**
BNI LR LR
comp=Z,737nm,20.0s
E21A Keefer Ranch, 116.39 40 P **PKPdf 17 16 30.1 +0.8**
baz=116
SRU San Rafael 116.40 49 *e*PKIKP **PKPdf 17 16 30.4 +0.7**
SRU San Rafael 116.40 49 *e*PKPdf **PKPdf 17 16 30.4 +0.7**
H20A Greybull 116.53 42 P **PKPdf 17 16 30.0 +0.3**
baz=116
I20A Worland 116.63 43 P **PKPdf 17 16 30.6 +0.7**
baz=117
WUAZ Wupatki 116.66 53 P **PKPdf 17 16 31.5 +1.2**
baz=117
WUAZ Wupatki 116.66 53 *e*PKPdf **PKPdf 17 16 31.2 +1.0**
C22A Vida 116.67 38 P **PKPdf 17 16 30.5 +0.7**
baz=117
G21A Lodge Grass 116.79 41 P **PKPdf 17 16 30.7 +0.5**
baz=117
J20A Shoshoni 116.86 44 P **PKPdf 17 16 31.1 +0.7**
baz=117
C23A Lambert 117.08 38 P **PKPdf 17 16 31.6 +1.0**
baz=117
H21A Big Horn, Sher 117.12 42 P **PKPdf 17 16 31.3 +0.4**
baz=117
E22A Miles City 117.15 40 P **PKPdf 17 16 31.5 +0.8**
baz=117
F22A Rosebud 117.21 41 P **PKPdf 17 16 31.9 +1.0**
baz=117
KEST Kesra 117.22 308 PKP **PKPdf 17 16 32.1 +0.9**
comp=Z,4.7nm,1.1s,baz=164,slow=2.6,SNR=7.1
KEST PP **PP 17 17 38.4 -3.5**
comp=Z,2.3nm,1.0s,baz=128,slow=2.8,SNR=3.9
I21A Big Trails, Te 117.24 43 P **PKPdf 17 16 31.2 0.0**
baz=117
ESK Eskdalemuir 117.29 332 PFAKE 17 16 40.0 +9.4
ESK LR LR
comp=Z,1μm,19.0s
J21A Lysite 117.30 43 P **PKPdf 17 16 31.7 +0.4**
baz=117
A24A Westby 117.32 37 P **PKPdf 17 16 31.6 +0.6**
baz=117
D23A Lindsay 117.33 39 P **PKPdf 17 16 32.3 +1.2**
baz=117
DGMT Dagmar 117.40 37 P **PKPdf 17 16 32.6 +1.4**
baz=117
DGMT Dagmar 117.40 37 PFAKE 17 16 40.0 +8.9
DGMT LR LR
comp=Z,668nm,22.0s
E23A Ismay 117.53 39 P **PKPdf 17 16 32.2 +0.7**
baz=118
H22A Clearmont 117.59 42 P **PKPdf 17 16 31.9 +0.2**
baz=118
C24A Savage 117.66 38 P **PKPdf 17 16 32.5 +0.8**
baz=118
I22A 9 Mile Ranch, 117.76 43 P **PKPdf 17 16 32.1 0.0**
baz=118
F23A Volborg 117.78 40 P **PKPdf 17 16 32.6 +0.6**
baz=118
TUC Tucson 117.85 56 *e*PKIKP **PKPdf 17 16 33.4 +0.8**
TUC Tucson 117.85 56 *e*PKPdf **PKPdf 17 16 33.4 +0.8**
D24A Glendive 117.90 39 P **PKPdf 17 16 33.1 +1.0**
baz=118
J22A Midwest 117.94 43 P **PKPdf 17 16 32.5 0.0**
baz=118
W18A Petrified Fore 118.05 53 P **PKPdf 17 16 34.3 +1.2**
baz=118
W18A Petrified Fore 118.05 53 *e*PKPdf **PKPdf 17 16 33.6 +0.6**
E24A Baker 118.14 39 P **PKPdf 17 16 33.4 +0.7**
baz=118
PV01 Paradox Valley 118.14 49 *e*PKPdf **PKPdf 17 16 34.2 +1.0**
K22A Casper 118.18 44 *e*PKPdf **PKPdf 17 16 32.4 -0.6**
C25A Freed Ranch, W 118.30 38 P **PKPdf 17 16 33.6 +0.7**
baz=118
F24A Ekalaka 118.35 40 P **PKPdf 17 16 33.4 +0.3**
baz=118
MVCO Mesa Verde 118.46 50 P **PKPdf 17 16 35.0 +1.2**
baz=118
MVCO Mesa Verde 118.46 50 *e*PKPdf **PKPdf 17 16 34.7 +0.9**
A26A Wade Farm, Ken 118.49 36 P **PKPdf 17 16 33.8 +0.6**
baz=118
D25A Fairfield 118.50 38 P **PKPdf 17 16 34.4 +1.1**
baz=118
H24A Dirks Ranch, A 118.72 41 P **PKPdf 17 16 33.8 -0.1**
baz=119
E25A Miller Ranch, 118.73 39 P **PKPdf 17 16 34.9 +1.0**
baz=119
F25A Bowman 118.94 39 P **PKPdf 17 16 35.2 +1.0**
baz=119
C26A Wahner Farm, P 118.95 37 P **PKPdf 17 16 35.0 +0.8**
baz=119
SMCO Snowmass 119.02 48 *e*PKPdf **PKPdf 17 16 35.7 +0.7**
D26A Manning 119.10 38 P **PKPdf 17 16 35.0 +0.6**
baz=119
N23A Red Feather La 119.20 46 P **PKPdf 17 16 36.4 +1.2**
baz=119
J24A Dixon Ranch, L 119.20 43 P **PKPdf 17 16 35.8 +0.9**
baz=119
G25A Newell 119.27 40 P **PKPdf 17 16 35.6 +0.7**
baz=119
RSSD Black Hills 119.31 42 *e*PKIKP **PKPdf 17 16 34.9 -0.3**
RSSD Black Hills 119.31 42 *e*PKPdf **PKPdf 17 16 34.9 -0.3**
E26A Carlson Angus 119.33 39 P **PKPdf 17 16 35.6 +0.6**
baz=119
C27A Sayler Ranch, 119.35 37 P **PKPdf 17 16 35.8 +0.9**
baz=119
F26A Lodgepole 119.47 39 P **PKPdf 17 16 35.7 +0.5**
baz=119
A28A Rude Farm, Bot 119.51 35 P **PKPdf 17 16 35.7 +0.5**
baz=119
I25A Rochford 119.55 42 P **PKPdf 17 16 35.6 0.0**
baz=120
S22A 4UR Ranch, Cre 119.58 49 P **PKPdf 17 16 37.4 +1.3**
baz=120
B28A Dugan Ranch, T 119.68 36 P **PKPdf 17 16 36.7 +1.2**
baz=120
J25A Sunshine Ranch 119.75 42 P **PKPdf 17 16 36.0 +0.1**
baz=120
ISCO Idaho Springs 119.81 47 *e*PKIKP **PKPdf 17 16 37.5 +1.1**
ISCO MLR MLR
comp=Z,630nm,19.0s
ISCO Idaho Springs 119.81 47 P **PKPdf 17 16 37.8 +1.4**
baz=120
ISCO Idaho Springs 119.81 47 *e*PKPdf **PKPdf 17 16 37.5 +1.1**
ISCO LR LR
comp=Z,630nm,19.0s
A29A Manning Farm, 120.10 35 P **PKPdf 17 16 36.5 +0.2**
baz=120
G27A Dupree 120.14 40 P **PKPdf 17 16 36.6 +0.1**
baz=120
B29A Wagenman Farm,120.26 35 P **PKPdf 17 16 36.9 +0.3**
baz=120
121A Cookes Peak, D 120.27 55 P **PKPdf 17 16 38.7 +1.4**
baz=120
121A Cookes Peak, D 120.27 55 *e*PKPdf **PKPdf 17 16 38.4 +1.1**
J26A Sides Ranch, S 120.27 42 P **PKPdf 17 16 36.9 0.0**
baz=120
LAZ Ladron 120.30 53 *e*PKPdf **PKPdf 17 16 38.4 +1.0**
H27A Howes 120.37 40 P **PKPdf 17 16 37.6 +0.6**
baz=120
MDND Maddock 120.42 36 P **PKPdf 17 16 37.1 +0.2**
baz=120
SDCO Great Sand Dun 120.57 49 P **PKPdf 17 16 39.1 +1.2**
baz=120
SDCO Great Sand Dun 120.57 49 *e*PKPdf **PKPdf 17 16 38.6 +0.7**
A30A Hoffart Farm, 120.61 35 P **PKPdf 17 16 37.9 +0.6**
baz=120
ANMO Albuquerque 120.69 52 *e*PKIKP **PKPdf 17 16 39.0 +0.9**
ANMO MLR MLR
comp=Z,753nm,21.0s
ANMO Albuquerque 120.69 52 *e*PKPdf **PKPdf 17 16 39.0 +0.9**
ANMO LR LR
comp=Z,753nm,21.0s
LPM Los Pinos Moun 120.73 53 *e*PKPdf **PKPdf 17 16 39.4 +1.2**
B30A Myrvik Farm, E 120.85 35 P **PKPdf 17 16 37.8 +0.1**
baz=121
C30A Mose, Pekin 121.15 36 P **PKPdf 17 16 38.8 +0.5**
baz=121
I28A Midland 121.23 41 P **PKPdf 17 16 39.1 +0.4**
baz=121
ULM Lac du Bonnet 121.24 32 PKP **PKPdf 17 16 37.1 -1.3**
comp=Z,9.4nm,0.9s,baz=293,slow=3.4,SNR=11
ULM PKKPbc **PKKPab 17 26 38.5 -2.6**
comp=Z,5.9nm,0.9s,baz=98,slow=6.7,SNR=6.6
D30A Buchanan 121.28 37 P **PKPdf 17 16 38.9 +0.3**
baz=121
E30A Jud 121.49 37 P **PKPdf 17 16 39.5 +0.4**
baz=121
T25A Trinidad 121.59 49 P **PKPdf 17 16 40.9 +1.1**
baz=122
I29A Vivian Onida 121.78 40 P **PKPdf 17 16 40.2 +0.5**
baz=122
O27A Beecher Island 121.91 45 P **PKPdf 17 16 41.2 +1.0**
baz=122
R26A Arlington 121.91 48 P **PKPdf 17 16 40.9 +0.7**
baz=122
J29A Okreek 122.05 41 P **PKPdf 17 16 40.8 +0.5**
baz=122
S26A Kim 122.13 48 P **PKPdf 17 16 41.6 +0.8**
baz=122
T26A Comanche Natio 122.19 49 P **PKPdf 17 16 41.5 +0.6**
baz=122
AGMN Agassiz Nation 122.33 34 P **PKPdf 17 16 40.6 0.0**
baz=122
AGMN Agassiz Nation 122.33 34 PFAKE 17 16 50.0 +9.4
AGMN LR LR
comp=Z,637nm,20.0s
O28A Krutsinger Ran 122.44 45 P **PKPdf 17 16 42.0 +0.8**

	baz=122							
U27A	Thompson Grove	123.03	49	P		PKPdf	17 16 42.9	+0.5
	baz=123							
R28A	Tribune	123.09	47	P		PKPdf	17 16 43.5	+1.0
	baz=123							
O29A	4D Ranch, Culb	123.12	45	P		PKPdf	17 16 43.2	+0.8
	baz=123							
TAM	Tamanrasset	123.12	294	ePKIKP		PKPdf	17 16 44.0	+0.9
TAM	Tamanrasset	123.12	294	ePKPdf		PKPdf	17 16 44.0	+0.9
T28A	Walsh	123.32	48	P		PKPdf	17 16 43.8	+0.8
	baz=123							
N30A	Hueftle Ranch,	123.33	44	P		PKPdf	17 16 43.3	+0.5
	baz=123							
Q29A	Oakley	123.49	46	P		PKPdf	17 16 44.1	+0.9
	baz=123							
MSTX	Muleshoe	123.89	52	P		PKPdf	17 16 44.7	+0.5
	baz=124							
MSTX	Muleshoe	123.89	52	ePKPdf		PKPdf	17 16 44.3	+0.2
W28A	Vega	123.90	51	P		PKPdf	17 16 44.8	+0.7
	baz=124							
T29A	Hugoton	123.92	48	P		PKPdf	17 16 45.0	+0.9
	baz=124							
X28A	Dimmitt	124.16	51	P		PKPdf	17 16 45.2	+0.5
	baz=124							
ECSD	EROS Data Cent	124.27	39	P		PKPdf	17 16 44.2	-0.3
	baz=124							
ECSD	EROS Data Cent	124.27	39	ePKPdf		PKPdf	17 16 43.7	-0.8
ECSD				LR		LR		
	comp=Z,447nm,20.0s							
Y28A	McKinney Farm,	124.32	52	P		PKPdf	17 16 45.6	+0.6
	baz=124							
S30A	Montezuma	124.35	47	P		PKPdf	17 16 45.4	+0.6
	baz=124							
P31A	Stockton	124.36	45	P		PKPdf	17 16 45.2	+0.4
	baz=124							
W29A	Amraillo	124.38	51	P		PKPdf	17 16 45.9	+0.9
	baz=124							
BGNE	Belgrade	124.38	42	P		PKPdf	17 16 45.0	+0.2
	baz=124							
BGNE	Belgrade	124.38	42	ePKPdf		PKPdf	17 16 45.0	+0.2
CBKS	Cedar Bluff	124.40	46	P		PKPdf	17 16 45.6	+0.7
	baz=124							
CBKS	Cedar Bluff	124.40	46	PFAKE			17 17 00.0	+15
CBKS				LR		LR		
	comp=Z,775nm,22.0s							
AMTX	Amarillo	124.44	51	P		PKPdf	17 16 45.4	+0.2
	baz=124							
TXAR	Lajitas Array	124.50	58	PKP		PKPdf	17 16 45.6	+0.2
	comp=Z,3.9nm,0.8s,baz=254,slow=1.8,SNR=20							
TXAR				PKKPbc		PKKPab	17 26 27.1	-0.7
	comp=Z,0.4nm,0.6s,baz=129,slow=5.3,SNR=4.2							
T30A	Plains	124.52	48	P		PKPdf	17 16 46.4	+1.2
	baz=124							
128A	Castleberry Fa	124.54	54	P		PKPdf	17 16 46.1	+0.7
	baz=124							
X29A	Tulia	124.57	51	P		PKPdf	17 16 45.9	+0.5
	baz=124							
R31A	Burdett	124.77	46	P		PKPdf	17 16 46.7	+1.1
	baz=125							
Y29A	Porterfield Fa	124.79	52	P		PKPdf	17 16 46.9	+1.0
	baz=125							
O32A	Brockman Farm,	124.81	44	P		PKPdf	17 16 46.2	+0.5
	baz=125							
EYMN	Ely	124.92	32	P		PKPdf	17 16 45.6	0.0
	baz=125							
EYMN	Ely	124.92	32	PFAKE			17 17 00.0	+14
EYMN				LR		LR		
	comp=Z,679nm,22.0s							
Z29A	Hungry Hill Ra	124.96	53	P		PKPdf	17 16 46.9	+0.7
	baz=125							
129A	Stewart Farms,	125.03	53	P		PKPdf	17 16 46.6	+0.2
	baz=125							
S31A	Mullinville	125.07	47	P		PKPdf	17 16 46.9	+0.6
	baz=125							
T31A	Randall Ranch,	125.13	48	P		PKPdf	17 16 47.1	+0.7
	baz=125							
Q32A	Meitler Ranch,	125.17	45	P		PKPdf	17 16 47.3	+0.9
	baz=125							
X30A	Coker Ranch, T	125.21	51	P		PKPdf	17 16 46.9	+0.3
	baz=125							
229A	Bryant Ranch,	125.28	54	P		PKPdf	17 16 47.2	+0.4
	baz=125							
329A	Wagon Wheel Ra	125.29	55	P		PKPdf	17 16 47.3	+0.4
	baz=125							
R32A	Long Quarter,	125.30	46	P		PKPdf	17 16 47.1	+0.5
	baz=125							
O33A	Hebron	125.37	43	P		PKPdf	17 16 46.3	-0.4
	baz=125							
Y30A	Stafford Cattl	125.39	52	P		PKPdf	17 16 47.6	+0.6
	baz=125							
Z30A	Sanderson Ranc	125.41	52	P		PKPdf	17 16 47.1	+0.1
	baz=125							
S32A	Newby Ranch, P	125.43	47	P		PKPdf	17 16 47.6	+0.7
	baz=125							
529A	Stev Forest Ra	125.49	57	P		PKPdf	17 16 48.0	+0.7
	baz=126							
V31A	Spring Creek L	125.52	49	P		PKPdf	17 16 48.3	+1.2
	baz=126							
P33A	Williams Farm,	125.58	44	P		PKPdf	17 16 47.7	+0.6
	baz=126							
429A	Davenport Ranc	125.62	56	P		PKPdf	17 16 47.9	+0.4
	baz=126							
W31A	Holland Ranch,	125.66	50	P		PKPdf	17 16 48.2	+0.8
	baz=126							
Q33A	Connelly Farm,	125.67	45	P		PKPdf	17 16 47.5	+0.2
	baz=126							
ESDC	Sonseca Array	125.75	316	PKP		PKPdf	17 16 47.8	+0.3
	comp=Z,2.6nm,0.9s,baz=23,slow=2.3,SNR=21							
ESDC				PP		PP	17 18 40.4	+0.7
	comp=Z,2.1nm,0.8s,baz=61,slow=7.2,SNR=6.4							
ESLA	Sonseca Array	125.75	316	ePKPdf		PKPdf	17 16 47.3	-0.2
L35A	Bielow Farm, R	125.76	40	P		PKPdf	17 16 47.7	+0.3
	baz=126							
SPMN	St. Paul	125.78	36	P		PKPdf	17 16 47.9	+0.6
	baz=126							
SPMN	St. Paul	125.78	36	ePKPdf		PKPdf	17 16 47.9	+0.6
X31A	McDonald Ranch	125.83	51	P		PKPdf	17 16 48.1	+0.3
	baz=126							
R33A	Olander Ranch,	125.86	46	P		PKPdf	17 16 48.1	+0.4
	baz=126							
230A	Sterling City	125.87	54	P		PKPdf	17 16 48.6	+0.7
	baz=126							
U32A	Winter Ranch,	125.92	48	P		PKPdf	17 16 48.4	+0.5
	baz=126							
330A	Mertzon	125.97	55	P		PKPdf	17 16 48.1	0.0
	baz=126							
PAB	San Pablo	126.08	316	ePKIKP		PKPdf	17 16 48.2	0.0
PAB	San Pablo	126.08	316	ePKPdf		PKPdf	17 16 48.2	0.0
430A	Baggett Ranch,	126.11	55	P		PKPdf	17 16 48.9	+0.5
	baz=126							
P34A	Walnut Farm, R	126.13	44	P		PKPdf	17 16 48.3	+0.2
	baz=126							
S33A	Kaszmaul Farm,	126.15	46	P		PKPdf	17 16 49.6	+1.3
	baz=126							
Z31A	Sharp Cattle R	126.17	52	P		PKPdf	17 16 49.3	+0.9
	baz=126							
T33A	Patterson Ranc	126.19	47	P		PKPdf	17 16 49.3	+1.0
	baz=126							
131A	Roby	126.19	53	P		PKPdf	17 16 49.2	+0.7
	baz=126							
W32A	Sentinel	126.21	50	P		PKPdf	17 16 49.2	+0.7
	baz=126							
530A	J-C Ranch, Com	126.22	56	P		PKPdf	17 16 49.5	+0.8
	baz=126							
N35A	Tabor	126.31	42	P		PKPdf	17 16 49.1	+0.6
	baz=126							
Q34A	Chapman	126.33	44	P		PKPdf	17 16 49.3	+0.7
	baz=126							
R34A	Isabella, Hill	126.39	45	P		PKPdf	17 16 49.4	+0.7
	baz=126							
KSU1	Kansas State U	126.48	44	P		PKPdf	17 16 49.8	+1.0
	baz=126							
KSU1	Kansas State U	126.48	44	ePKPdf		PKPdf	17 16 49.7	+0.9
231A	Bronte	126.50	54	P		PKPdf	17 16 49.5	+0.3
	baz=126							
331A	San Angelo	126.61	55	P		PKPdf	17 16 49.8	+0.4
	baz=127							
431A	Sonora	126.66	55	P		PKPdf	17 16 49.9	+0.4
	baz=127							
P35A	Duane Minner,	126.69	43	P		PKPdf	17 16 49.5	+0.2
	baz=127							
Z32A	Haskell	126.70	52	P		PKPdf	17 16 50.0	+0.6
	baz=127							
WMOK	Wichita Mounta	126.71	50	ePKIKP		PKPdf	17 16 49.5	0.0
WMOK	Wichita Mounta	126.71	50	ePKPdf		PKPdf	17 16 49.5	0.0
ABTX	Abilene, Hawle	126.80	53	P		PKPdf	17 16 50.7	+1.0
	baz=127							
ABTX	Abilene, Hawle	126.80	53	ePKPdf		PKPdf	17 16 50.9	+1.2
531A	Rocksprings	126.87	56	P		PKPdf	17 16 50.7	+0.8
	baz=127							
U34A	Anderson Ranch	126.97	47	ePKPdf		PKPdf	17 16 50.1	+0.2
T34A	McClaskey Farm	126.98	47	P		PKPdf	17 16 50.7	+0.8
	baz=127							
Q35A	Mercer Eighty,	126.99	44	P		PKPdf	17 16 50.4	+0.6
	baz=127							
232A	Coleman	127.05	54	P		PKPdf	17 16 51.1	+0.9
	baz=127							
631A	Perdido Creek	127.07	57	P		PKPdf	17 16 51.2	+0.9
	baz=127							
MVO	Moncorvo	127.09	319	ePKPdf		PKPdf	17 16 51.0	+1.0
MVO	Moncorvo	127.09	319	ePP		PP	17 18 53.0	+4.6
MVO	Moncorvo	127.09	319	eLR		LR	18 01 28.4	
	comp=Z,422nm,20.0s							
Y33A	Hilltop Ranch,	127.11	51	P		PKPdf	17 16 50.6	+0.4
	baz=127							
332A	Millersview	127.14	54	P		PKPdf	17 16 50.8	+0.4
	baz=127							
P36A	Good Intent, A	127.20	43	P		PKPdf	17 16 50.4	+0.2
	baz=127							
V34A	Guthrie	127.23	48	P		PKPdf	17 16 51.1	+0.7
	baz=127							
V34A	Guthrie	127.23	48	ePKPdf		PKPdf	17 16 50.7	+0.3
432A	Menard	127.26	55	P		PKPdf	17 16 51.4	+0.8
	baz=127							
JCT	Junction City	127.38	55	ePKIKP		PKPdf	17 16 51.2	+0.3
JCT				MLR		MLR		
	comp=Z,664nm,21.0s							
JCT	Junction City	127.38	55	P		PKPdf	17 16 51.4	+0.6
	baz=127							
JCT	Junction City	127.38	55	ePKPdf		PKPdf	17 16 51.2	+0.3
JCT				LR		LR		
	comp=Z,664nm,21.0s							
532A	Rocksprings	127.41	56	P		PKPdf	17 16 51.3	+0.4
	baz=127							
PGAV	Gavieira, Arco	127.47	321	ePKPdf		PKPdf	17 16 51.0	+0.2
PGAV	Gavieira, Arco	127.47	321	ePP		PP	17 18 59.8	+8.9
PGAV	Gavieira, Arco	127.47	321	eLR		LR	18 02 13.4	
	comp=Z,348nm,20.0s							
POLO	Lamas de Olo	127.48	320	ePKPdf		PKPdf	17 16 52.0	+1.2
X34A	Smith Ranch, M	127.49	50	P		PKPdf	17 16 52.2	+1.3
	baz=127							
T35A	Sooner Cattle	127.52	47	P		PKPdf	17 16 51.7	+0.8
	baz=128							
U35A	Pawnee	127.59	47	P		PKPdf	17 16 51.7	+0.7
	baz=128							
233A	Rising Star	127.60	53	P		PKPdf	17 16 52.2	+1.0
	baz=128							
632A	Uvalde	127.70	56	P		PKPdf	17 16 52.7	+1.2
	baz=128							
V35A	Meyer Ranch, C	127.77	48	P		PKPdf	17 16 52.5	+1.1
	baz=128							
333A	Richland Sprin	127.77	54	P		PKPdf	17 16 52.0	+0.5
	baz=128							
Y34A	Reagan Ranch,	127.79	50	P		PKPdf	17 16 52.4	+1.0
	baz=128							
TOA0	Torodi Ar. Sit	127.82	283	ePKIKP		PKPdf	17 16 50.8	-1.2
TOA0	Torodi Ar. Sit	127.82	283	ePKPdf		PKPdf	17 16 51.5	-0.5
TORD	Torodi Ar. Bea	127.82	283	PKP		PKPdf	17 16 52.0	0.0
	comp=Z,14nm,0.9s,baz=64,slow=1.4,SNR=49							
TOA1	Torodi Ar. Sit	127.83	283	ePKIKP		PKPdf	17 16 50.8	-1.2
433A	Art	127.87	55	P		PKPdf	17 16 52.2	+0.5
	baz=128							
T36A	Boggs Farm, Ca	127.91	46	P		PKPdf	17 16 52.3	+0.6
	baz=128							
W35A	Tecumseh	127.99	49	P		PKPdf	17 16 52.4	+0.6
	baz=128							
134A	White-Moore Ra	128.06	52	P		PKPdf	17 16 52.6	+0.6
	baz=128							
R37A	Teagarden Farm	128.08	44	P		PKPdf	17 16 52.2	+0.3
	baz=128							
533A	Kerrville	128.14	56	P		PKPdf	17 16 53.0	+0.7
	baz=128							
PMRV	Marv??o	128.21	318	ePKPdf		PKPdf	17 16 53.1	+1.0
PMRV	Marv??o	128.21	318	ePP		PP	17 18 59.4	+3.7
PMRV	Marv??o	128.21	318	eLR		LR	18 01 25.4	
	comp=Z,561nm,18.0s							
234A	Colairette	128.22	53	P		PKPdf	17 16 52.8	+0.4
	baz=128							
633A	Saathoff Ranch	128.22	56	P		PKPdf	17 16 53.7	+1.3
	baz=128							
X35A	Drake	128.22	50	P		PKPdf	17 16 53.1	+0.8
	baz=128							
S37A	Fort Scott	128.34	45	P		PKPdf	17 16 52.4	0.0
	baz=128							
334A	Lometa	128.37	54	P		PKPdf	17 16 53.0	+0.3
	baz=128							
V36A	Jenks	128.42	48	P		PKPdf	17 16 53.2	+0.5
	baz=128							
Z35A	Perchaven, San	128.42	51	P		PKPdf	17 16 53.4	+0.7
	baz=128							
TUL1	Tulsa	128.47	47	P		PKPdf	17 16 53.9	+1.2
	baz=128							
TUL1	Tulsa	128.47	47	ePKPdf		PKPdf	17 16 53.8	+1.1
W36A	Wetumka	128.48	48	P		PKPdf	17 16 53.7	+0.9
	baz=128							
434A	Burnet	128.52	54	P		PKPdf	17 16 53.8	+0.8
	baz=128							
T37A	Cheneyville 18	128.57	46	P		PKPdf	17 16 53.0	+0.2
	baz=128							
PBAR	Barrancos	128.57	316	ePKPdf		PKPdf	17 16 53.2	+0.4
534A	Blanco	128.61	55	P		PKPdf	17 16 53.6	+0.4
	baz=129							
PESTR	Estremoz	128.62	317	ePKPdf		PKPdf	17 16 54.1	+1.2
JFWS	Jewell Farm	128.62	37	ePKIKP		PKPdf	17 16 52.4	-0.4
JFWS				e			17 17 03.0	
JFWS				MLR		MLR		
	comp=Z,723nm,21.0s							
JFWS	Jewell Farm	128.62	37	ePKPdf		PKPdf	17 16 52.4	-0.4
JFWS				e			17 17 03.0	
JFWS				LR		LR		
	comp=Z,723nm,21.0s							
X36A	Centrahoma	128.62	49	P		PKPdf	17 16 53.5	+0.4
	baz=129							
PCAS	Casmilo, Conde	128.62	319	ePKPdf		PKPdf	17 16 53.9	+1.0
U37A	Salina	128.75	46	P		PKPdf	17 16 54.2	+1.0
	baz=129							
WHTX	Lake Whitney	128.76	53	P		PKPdf	17 16 54.6	+1.2
	baz=129							
WHTX	Lake Whitney	128.76	53	ePKPdf		PKPdf	17 16 54.8	+1.4
SCHQ	Schefferville	128.76	12	PKP		PKPdf	17 16 53.2	+0.5
	comp=Z,8.9nm,0.9s,baz=256,slow=2.0,SNR=7.0							
Y36A	Durant	128.94	50	P		PKPdf	17 16 54.6	+0.9
	baz=129							
PMTG	Montargil	128.94	318	ePKPdf		PKPdf	17 16 54.4	+0.9
V37A	Hulbert	128.96	47	P		PKPdf	17 16 54.2	+0.5
	baz=129							
EVO	Evora	129.07	317	ePKPdf		PKPdf	17 16 53.9	+0.1
W37A	Quinn	129.07	48	P		PKPdf	17 16 55.1	+1.2
	baz=129							
U38A	Gravette	129.26	46	P		PKPdf	17 16 54.2	0.0
	baz=129							
X37A	Clayton	129.35	49	P		PKPdf	17 16 55.4	+1.0
	baz=129							
PVAQ	Vaqueiros	129.41	315	ePP		PP	17 19 06.7	+3.0
PVAQ	Vaqueiros	129.41	315	eLR		LR	18 08 12.3	
	comp=Z,348nm,18.0s							
PCVE	Castro Verde	129.53	316	ePKPdf		PKPdf	17 16 55.7	+1.0
MESJ	Messejana	129.55	316	eP		PKPdf	17 16 55.4	+0.6
MESJ				ePP		PP	17 19 05.3	+0.8
MESJ				AMS		AMS	18 19 47.2	
	comp=Z,428nm,20.6s							
MESJ	Messejana	129.55	316	ePKPdf		PKPdf	17 16 56.5	+1.8
MESJ	Messejana	129.55	316	ePKIKP		PKPdf	17 16 55.3	+0.6
MESJ				e			17 19 05.3	
PNCL	Nicolau / Gran	129.63	317	ePKPdf		PKPdf	17 16 56.1	+1.3
X38A	Whitesboro	129.72	48	P		PKPdf	17 16 56.2	+1.1
	baz=130							
W38A	Poteau	129.78	48	P		PKPdf	17 16 55.8	+0.6
	baz=130							
636A	Smothers Creek	129.96	56	P		PKPdf	17 16 57.2	+1.5
	baz=130							
MORF	Marmelete	130.11	316	eP		PKPdf	17 16 56.0	+0.1
MORF				ePP		PP	17 19 08.9	+0.6
MORF				AMS		AMS	18 19 56.4	
	comp=N,495nm,32.3s							
MORF	Marmelete	130.11	316	ePKPdf		PKPdf	17 16 56.4	+0.5
MORF	Marmelete	130.11	316	ePKIKP		PKPdf	17 16 56.0	+0.1
MORF				e			17 19 08.9	
HDIL	Hopedale	130.56	39	PFAKE			17 17 10.0	+13
HDIL				LR		LR		
	comp=Z,643nm,20.0s							
GLMI	Grayling	130.57	32	PFAKE			17 17 10.0	+14
GLMI				LR		LR		
	comp=Z,708nm,22.0s							
MIAR	Mount Ida	130.70	48	ePKIKP		PKPdf	17 16 57.2	+0.2
MIAR	Mount Ida	130.70	48	P		PKPdf	17 16 57.6	+0.6
	baz=131							
MIAR	Mount Ida	130.70	48	ePKPdf		PKPdf	17 16 57.2	+0.2
MIAR				eSKP			17 20 20.8	
SFIN	Scholer Farm	132.02	38	ePKPdf		PKPdf	17 16 59.0	-0.3
AAM	Ann Arbor	132.79	33	PFAKE			17 17 10.0	+9.3
AAM				LR		LR		
	comp=Z,818nm,21.0s							
USIN	University of	133.08	41	ePKPdf		PKPdf	17 17 02.6	+1.2
USIN				eSKP			17 20 27.8	
BLO	Bloomington	133.10	39	ePKIKP		PKPdf	17 17 03.0	+1.6
BLO	Bloomington	133.10	39	ePKPdf		PKPdf	17 17 03.0	+1.6
BLO				eSKP			17 20 28.1	
KIC	Kosan Boka	134.34	274	ePKIKP		PKPdf	17 17 05.3	+0.9
	comp=Z,150nm,1.6s							
DBIC	Dimbokro	134.46	274	PKP		PKPdf	17 17 04.3	-0.3
	comp=Z,7.1nm,1.0s,baz=104,slow=4.2,SNR=3.4							
DBIC	Dimbokro	134.46	274	ePKIKP		PKPdf	17 17 03.4	-1.2
DBIC	Dimbokro	134.46	274	ePKPdf		PKPdf	17 17 03.4	-1.2
DBIC				PKP		PKPdf	17 17 04.3	-0.3
ACSO	Alum Creek Sta	134.55	35	ePKPdf		PKPdf	17 17 03.8	-0.3
ACSO				LR		LR		
	comp=Z,712nm,22.0s							
TIC	Toumodi	134.62	274	ePKIKP		PKPdf	17 17 04.3	-0.7
LIC	Lamto	134.63	274	ePKIKP		PKPdf	17 17 01.3	-3.7
	comp=Z,76nm,0.8s							
PQI	Presque Isle	135.99	17	ePKPbc		PKPdf	17 17 06.5	-0.1
NCB	Newcomb	136.12	25	PFAKE			17 17 20.0	+13
NCB				LR		LR		
	comp=Z,634nm,22.0s							
LRAL	Lakeview Retre	136.22	46	ePKPdf		PKPdf	17 17 06.9	-0.5
LRAL				e			17 17 18.5	
MDV	Middlebury	136.52	24	ePKPdf		PKPdf	17 17 07.3	-0.3
BRAL	Brewton	137.20	49	PFAKE			17 17 20.0	+11
BRAL				LR		LR		
	comp=Z,855nm,19.0s							
TRY	Troy	137.36	25	ePKPdf		PKPdf	17 17 09.4	+0.2
BLA	Blacksburg	138.06	36	PFAKE			17 17 20.0	+9.2
BLA				LR		LR		
	comp=Z,622nm,21.0s							
VWCC	Virginia Weste	138.29	36	ePKPdf		PKPdf	17 17 08.6	-2.6
PMOZ	Porto Moniz, M	138.42	316	eLR		LR	18 16 28.8	
	comp=Z,284nm,18.0s							
GOGA	Godfrey	138.49	43	ePKIKP		PKPdf	17 17 09.2	-2.4
GOGA				MLR		MLR		
	comp=Z,564nm,20.0s							
GOGA	Godfrey	138.49	43	ePKPdf		PKPdf	17 17 09.2	-2.4
GOGA				eSKP			17 20 44.1	
GOGA				LR		LR		
	comp=Z,564nm,20.0s							
KMSC	Kings Mountain	138.84	39	ePKPdf		PKPdf	17 17 12.6	+0.4
CBN	Corbin	139.08	33	PFAKE			17 17 20.0	+7.5
CBN				LR		LR		
	comp=Z,787nm,21.0s							
NHSC	New Hope	140.87	41	PFAKE			17 17 30.0	+14
NHSC				LR		LR		
	comp=Z,768nm,22.0s							
CNNC	Cliffs of the	140.89	36	PFAKE			17 17 30.0	+14
CNNC				LR		LR		
	comp=Z,855nm,21.0s							
ASCN	Ascension	141.56	250	PFAKE			17 17 30.0	+12
ASCN				LR		LR		
	comp=Z,827nm,20.0s							
JTS	JuntasAbangare	145.62	79	ePKP2		PKPab	17 17 25.7	+0.3
JTS				MLR		MLR		
	comp=Z,509nm,19.0s							
JTS	JuntasAbangare	145.62	79	ePKPdf		PKPab	17 17 25.7	+0.3
JTS				LR		LR		
	comp=Z,509nm,19.0s							
LVC	Limon Verde	147.11	148	ePKPdf		PKPdf	17 17 28.2	+0.8
LVC				ePKPbc		PKPab	17 17 31.4	+0.3
CPUP	Villa Florida	148.03	169	PKPbc		PKPdf	17 17 29.1	+0.6
	comp=Z,30nm,1.0s,baz=201,slow=2.1,SNR=40							
NNA	Nana	148.86	123	PFAKE			17 17 40.0	+1.9
NNA				LR		LR		
	comp=Z,702nm,21.0s							
BBSR	BB Station	149.89	24	PFAKE			17 17 40.0	-1.7
BBSR				LR		LR		
	comp=Z,555nm,19.0s							
BCIP	Isla Barro Col	150.75	80	ePKPdf		PKPdf	17 17 33.1	-0.1
BCIP				ePKPbc		PKPbc	17 17 38.6	-0.1
BCIP				LR		LR		
	comp=Z,635nm,22.0s							
SACV	Santiago Islan	151.70	292	ePKPdf		PKPdf	17 17 33.4	-1.3
SACV				ePKPbc		PKiKP	17 17 41.5	+0.2
OTAV	Otavalo	151.79	99	ePKPdf		PKPdf	17 17 36.1	+0.6
GTBY	Guantanamo Bay	152.01	56	PFAKE			17 17 50.0	-0.9
GTBY				LR		LR		
	comp=Z,493nm,21.0s							
LPAZ	La Paz	152.54	141	PKP		PKPdf	17 17 37.5	+0.9
	comp=Z,4.2nm,1.0s,baz=359,slow=1.7,SNR=10							
LPAZ				PKPbc		PKiKP	17 17 44.8	+0.9
	comp=Z,13nm,0.8s,baz=202,slow=1.0,SNR=26							
LPAZ				PKPab		PKPab	17 17 54.9	+1.1
	comp=Z,18nm,0.7s,baz=180,slow=5.6,SNR=19							
GRTK	Grand Turk	154.32	49	PFAKE			17 17 50.0	+3.5
GRTK				LR		LR		
	comp=Z,498nm,20.0s							
ROSC	El Rosal	156.38	90	PKP		PKPdf	17 17 42.7	+0.9
	comp=Z,3.6nm,0.4s,baz=281,slow=13,SNR=5.2							
ROSC				PKPab		PKPab	17 18 11.2	+1.0
	comp=Z,8.6nm,0.5s,baz=286,slow=20,SNR=4.1							
BDFB	Brasilia	159.18	187	PKP		PKPdf	17 17 44.3	-0.5
	comp=Z,1.5nm,0.4s,baz=171,slow=8.9,SNR=3.0							
BDFB				PKPab		PKPab	17 18 21.2	-0.3
	comp=Z,1.4nm,0.4s,baz=204,slow=10.0,SNR=2.5							
BDFB				PP		PP	17 22 02.3	+1.5
	comp=Z,6.2nm,0.8s,baz=109,slow=5.2,SNR=4.1							
SDV	Santo Domingo	159.80	78	ePKPdf		PKPdf	17 17 45.6	-0.1
SDV				e			17 17

JAY	**Jayapura**	**0.89**	**17**	P	Pb	17 15 21.8 -1.1
WAMI	**Wamena**	**1.80**	**253**	P	Pn	17 15 33.7 -2.4
WAMI				S	Sn	17 15 54.9 -3.7
SMPI	**Sarmi**	**2.21**	**308**	P	Pn	17 15 41.3 -0.4
SMPI				S	Sn	17 16 09.9 +1.2

TAP 01 17:17:06.0, 21.22N×121.88E, h179km±1km, ML3.7, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin**	**1.14**	**307**	*eP*	Pn	17 17 34.5	0.0
	baz=302						
TSEB				*eS*	Sn	17 17 56.5	-0.2
	baz=302						
TWK1	**Hengchun**	**1.23**	**306**	P	Pn	17 17 35.7	+0.3
	baz=303						
TWK1				S	Sn	17 17 57.7	-0.5
	baz=303						
HEN	**Hengchun**	**1.32**	**307**	*eP*	Pn	17 17 37.7	+1.5
	baz=298						
HEN				*eS*	Sn	17 17 58.9	-0.6
	baz=298						
EAST	**Anshuo**	**1.51**	**321**	P	Pn	17 17 38.0	+0.1
	baz=320						
EAST				S	Sn	17 18 01.1	-1.7
	baz=320						
ECL	**Taimali**	**1.62**	**328**	*eP*	Pn	17 17 38.8	-0.2
	baz=324						
ECL				*eS*	Sn	17 18 01.9	-2.8
	baz=324						
SCZT	**Fangliau**	**1.64**	**315**	*eP*	Pn	17 17 39.3	+0.1
	baz=319						
SCZT				*eS*	Sn	17 18 03.8	-1.1
	baz=319						
TWG	**Pinlang**	**1.77**	**335**	*eP*	Pn	17 17 39.8	-0.6
	baz=329						
TWG				*eS*	Sn	17 18 04.3	-2.9
	baz=329						
TWP	**Hsiaoliuchiu**	**1.81**	**309**	*eP*	Pn	17 17 42.8	+1.9
	baz=309						
TWP				*eS*	Sn	17 18 10.3	+2.4
	baz=309						
SSD	**Sandimen**	**1.91**	**323**	*eP*	Pn	17 17 42.2	+0.3
	baz=323						
SSD				*eS*	Sn	17 18 08.6	-1.5
	baz=323						
CHKT	**Chengkung**	**1.93**	**346**	*eP*	Pn	17 17 40.1	-2.1
	baz=349						
CHKT				*eS*	Sn	17 18 08.2	-2.2
	baz=349						
TWF1	**Yuli**	**2.19**	**346**	*eP*	Pn	17 17 46.0	+0.9
	baz=338						
TWF1				*eS*	Sn	17 18 13.5	-2.1
	baz=338						
STYT	**Tauyuan**	**2.20**	**332**	*eP*	Pn	17 17 45.8	+0.5
	baz=327						
STYT				*eS*	Sn	17 18 14.2	-1.6
	baz=327						
SGST	**Jiashian**	**2.21**	**327**	*eP*	Pn	17 17 46.2	+1.0
	baz=327						
SGST				*eS*	Sn	17 18 14.8	-1.1
	baz=327						
CHN3	**Shinhua**	**2.32**	**323**	*eP*	Pn	17 17 48.1	+1.6
	baz=329						
CHN3				*eS*	Sn	17 18 19.4	+1.3
	baz=329						
CHN1	**Nanshi**	**2.33**	**328**	*eP*	Pn	17 17 46.8	+0.2
	baz=327						
CHN1				*eS*	Sn	17 18 17.1	-1.2
	baz=327						
EHY	**Hungye**	**2.34**	**347**	*eP*	Pn	17 17 46.0	-0.7
	baz=340						
EHY				*eS*	Sn	17 18 15.2	-3.3
	baz=340						
WTP	**Ta-pu**	**2.34**	**330**	*eP*	Pn	17 17 47.0	+0.2
	baz=330						
WTP				*eS*	Sn	17 18 17.3	-1.2
	baz=330						
TWK	**Hsinying**	**2.42**	**328**	*eP*	Pn	17 17 47.7	+0.1
	baz=328						
TWK				*eS*	Sn	17 18 19.4	-0.8
	baz=328						
YUS	**Yu-Shan**	**2.42**	**339**	*eP*	Pn	17 17 48.8	+0.5
	baz=338						
YUS				*eS*	Sn	17 18 20.9	-0.3
	baz=338						
CHN4	**Tsaushan**	**2.44**	**331**	*eP*	Pn	17 17 47.9	+0.1
	baz=330						
CHN4				*eS*	Sn	17 18 19.1	-1.4
	baz=330						
ALS	**Alishan**	**2.49**	**337**	*eP*	Pn	17 17 49.5	+0.6
	baz=336						
ALS				*eS*	Sn	17 18 20.7	-1.6
	baz=336						
CHN5	**Tsauling**	**2.62**	**335**	*eP*	Pn	17 17 50.1	0.0
	baz=335						
CHN5				*eS*	Sn	17 18 22.9	-1.6
	baz=335						
ESL	**Shilin**	**2.62**	**351**	*eP*	Pn	17 17 47.2	-2.7
	baz=351						
ESL				*eS*	Sn	17 18 22.2	-2.2
	baz=351						
WDT	**Danda**	**2.62**	**345**	*eP*	Pn	17 17 50.6	+0.2
	baz=351						
SMLT	**Sun Moon Lake**	**2.81**	**341**	*eP*	Pn	17 17 53.1	+0.8
	baz=335						
SMLT				*eS*	Sn	17 18 26.9	-1.7
	baz=335						
TYC	**Yuchr**	**2.84**	**341**	*eP*	Pn	17 17 52.2	-0.3
	baz=334						
TYC				*eS*	Sn	17 18 27.1	-1.9
	baz=334						
PNG	**Penghu**	**3.18**	**318**	*eP*	Pn	17 17 56.7	0.0
	baz=317						

*ISCJB **01** 17:33:35.3±0.4, 3.99N±0.05×97.13E±0.05, h10km, mb4.0/24, MS4.1/7, Error ellipse: s-maj=8.2km s-min=5.0km az=43.1*
*NEIC **01** 17:33:35.8±1.9, 3.96N×97.11E, h3km±11km, mb4.5/7, Error ellipse: s-maj=10.3km s-min=6.2km az=223.0*
*IDC **01** 17:33:35.4±0.6, 3.97N×97.11E, h0km, mb4.0/19, mb1 4.1/22, mb1mx4.0/31, mbtmp4.0/22, ML4.2/3, MS4.1/9, Ms1 4.1/9, ms1mx3.7/35, Error ellipse: s-maj=22.9km s-min=12.1km az=47.0*
*KLM **01** 17:33:40.0, 4.16N×97.24E, h98km, mb4.2, ML4.8, MS6.0*
*DJA **01** 17:33:41.5±0.4, 4°N±2″×9°7E±°, h50km±6km, M4.7/7, mb4.0/2, MLv5.0/7*

ISC 01 17:33:36.7±0.4, 3.95N±0.04×97.12E±0.05, h10km, n66, σ1§04/58, mb4.2/24, MS4.1/7, 12C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**1.28**	**352**	P	**Pg**	**17 34 00.8**	**-0.5**
LHMI				S	**Sg**	**17 34 18.5**	**+0.5**
LHMI	**Lhok Sumawe**	**1.28**	**352**	*eP*	**Pg**	**17 34 00.1**	**-1.2**
TSI	**Tuntungan**	**1.51**	**107**	P	**Pg**	**17 34 05.5**	**-0.3**
PSI	**Prapat**	**2.13**	**122**	Pn	**Pb**	**17 34 14.9**	**-0.7**
	100nm,0.3s,baz=317,slow=11,SNR=226						
PSI				Sn	**Sg**	**17 34 44.0**	**-1.4**
	70nm,0.3s,baz=348,slow=20,SNR=11						
GSI	**Gunungsitoli**	**2.67**	**170**	P	**Pb**	**17 34 23.4**	**-1.3**
GSI				S	**Sb**	**17 34 55.8**	**-1.8**
GSI	**Gunungsitoli**	**2.67**	**170**	*eP*	Pn	17 34 12.9	-6.9
KULM	**Kulim**	**3.76**	**69**	⇑P	**Pn**	**17 34 33.8**	**-1.1**
KULM	**Kulim**	**3.76**	**69**	⇑P	**Pn**	**17 34 33.8**	**-1.1**
KULM	**Kulim**	**3.76**	**69**	*eP*	**Pn**	**17 34 33.7**	**-1.1**
IPM	**Ipoh**	**3.93**	**82**	⇑P	**Pn**	**17 34 36.2**	**-1.1**
IPM	**Ipoh**	**3.93**	**82**	⇑P	**Pn**	**17 34 36.2**	**-1.1**
IPM	**Ipoh**	**3.93**	**82**	*eP*	**Pn**	**17 34 35.9**	**-1.3**
MNSI	**Mandailing Nat**	**3.98**	**142**	P	Pn	17 34 41.7	+3.8
FRIM	**Kepong**	**4.55**	**99**	⇑P	**Pn**	**17 34 45.7**	**-0.1**
FRIM	**Kepong**	**4.55**	**99**	⇑P	**Pn**	**17 34 45.7**	**-0.1**
BKNI	**Bangkinang**	**5.32**	**133**	P	**Pn**	**17 34 56.9**	**+0.6**
BKNI				S	**Sn**	**17 36 00.6**	**+2.8**
BKNI	**Bangkinang**	**5.32**	**133**	*eP*	**Pn**	**17 34 55.6**	**-0.7**
	293nm,0.8s						
KTGM	**Kuala Trenggan**	**6.15**	**77**	⇑P	**Pn**	**17 35 06.0**	**-1.7**
KTGM	**Kuala Trenggan**	**6.15**	**77**	⇑P	**Pn**	**17 35 06.0**	**-1.7**
KGM	**Kluang**	**6.48**	**107**	⇑P	**Pn**	**17 35 12.4**	**0.0**
KGM	**Kluang**	**6.48**	**107**	⇑P	**Pn**	**17 35 12.4**	**0.0**
MYKOM	**Kota Tinggi**	**7.06**	**108**	⇑P	**Pn**	**17 35 20.0**	**-0.2**
MYKOM	**Kota Tinggi**	**7.06**	**108**	⇑P	**Pn**	**17 35 20.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**14.53**	**7**	Pn	**Pn**	**17 37 02.9**	**+0.3**
	0.5nm,0.3s,baz=196,slow=11,SNR=4.9						
CMAR				LR	LR	17 42 58.8	
	comp=Z,631nm,21.3s,baz=215,slow=39						
LEM	**Lembang**	**14.98**	**136**	LR	LR	17 42 31.6	
	comp=Z,516nm,20.8s,baz=292,slow=36						
PALK	**Pallekele**	**16.66**	**282**	Pn	**Pn**	**17 37 30.6**	**0.0**
	0.3nm,0.3s,baz=120,slow=14,SNR=2.1						
SLVN	**Son La**	**18.49**	**20**	*eP*	**Pn**	**17 37 54.4**	**+1.0**
	25nm,1.5s						
KKM	**Kota Kinabalu**	**19.14**	**83**	*eP*	**Pn**	**17 38 02.3**	**+1.1**
	17nm,1.0s						
KAPI	**Kappang**	**24.30**	**111**	P	**P**	**17 38 54.7**	**0.0**
	6.9nm,0.5s,baz=309,slow=10,SNR=5.7						
KAPI	**Kappang**	**24.30**	**111**	*eP*	**P**	**17 38 56.6**	**+1.9**
LSA	**Lhasa**	**26.23**	**348**	*eP*	**P**	**17 39 13.4**	**+0.9**
	12nm,0.9s						
H08S2	**Diego Garcia H**	**27.14**	**245**	T	T	18 06 30.4	
	baz=71,slow=75,SNR=17						
H08S3	**Diego Garcia H**	**27.14**	**245**	T	T	18 06 31.0	
	baz=71,slow=75,SNR=15						
H08S1	**Diego Garcia H**	**27.16**	**245**	T	T	18 06 33.6	
	baz=71,slow=75,SNR=14						
H08N1	**Diego Garcia H**	**28.00**	**249**	T	T	18 07 45.2	
	baz=173						
H08N2	**Diego Garcia H**	**28.00**	**249**	T	T	18 07 45.0	
	baz=173						
H08N3	**Diego Garcia H**	**28.02**	**249**	T	T	18 07 45.1	
	baz=173						
ENH	**Enshi**	**28.67**	**23**	*eP*	**P**	**17 39 34.5**	**+0.6**
	5.0nm,0.8s						
NWAO	**Narrogin (SRO)**	**41.34**	**154**	P	**P**	**17 41 24.6**	**+1.7**
	7.2nm,0.8s,baz=331,slow=8.6,SNR=5.8						
WRA	**Warramunga Arr**	**43.60**	**124**	P	**P**	**17 41 41.3**	**-0.3**
	4.8nm,0.7s,baz=304,slow=9.4,SNR=30						
WRA				PcP	**PcP**	**17 43 29.3**	**+0.2**
	0.4nm,0.5s,baz=315,slow=2.6,SNR=3.4						
WRAB	**Tennant Creek**	**43.60**	**124**	*eP*	**P**	**17 41 40.6**	**-1.0**
	9.8nm,0.8s						
KSAR	**Wonju Array Be**	**43.63**	**36**	P	**P**	**17 41 42.0**	**+0.4**
KSRS	**Korea Array**	**43.66**	**36**	P	**P**	**17 41 42.0**	**+0.2**
	0.5nm,0.5s,baz=239,slow=9.4,SNR=3.2						
KSRS				LR	LR	18 00 43.7	
	comp=Z,241nm,18.2s,baz=222,slow=37						
SONM	**Songino Array**	**44.44**	**9**	P	**P**	**17 41 48.3**	**+0.2**
	0.6nm,0.5s,baz=188,slow=8.6,SNR=2.7						
ASAR	**Alice Springs**	**45.15**	**129**	P	**P**	**17 41 53.9**	**-0.1**
	2.1nm,0.7s,baz=300,slow=7.7,SNR=55						
ASAR				LR	LR	18 02 29.5	
	comp=Z,248nm,19.5s,baz=286,slow=38						
GUMO	**Guam**	**48.07**	**75**	LR	LR	18 00 47.2	
	comp=Z,92nm,22.0s,baz=241,slow=34						
KURK	**Kurchatov**	**49.13**	**345**	*eP*	**P**	**17 42 22.9**	**-1.6**
	4.2nm,1.0s						
MJAR	**Matsushiro Arr**	**49.75**	**44**	LR	LR	18 06 24.8	
	comp=Z,115nm,18.3s,baz=265,slow=40						
ZALV	**Zalesovo Beam**	**50.84**	**351**	P	**P**	**17 42 37.7**	**+0.2**
	0.6nm,0.4s,baz=174,slow=6.9,SNR=5.3						
RAYN	**Ar Rayn**	**53.43**	**296**	*eP*	**P**	**17 42 57.1**	**-0.3**
	7.4nm,1.0s						
BVAR	**Borovoye Array**	**53.64**	**340**	P	**P**	**17 42 58.9**	**+0.5**
	1.3nm,0.9s,baz=124,slow=9.2,SNR=5.3						
CTA	**Charters Tower**	**53.83**	**118**	LR	LR	18 07 23.6	
	comp=Z,343nm,18.5s,baz=240,slow=38						
ABKAR	**Akbulak array**	**55.07**	**331**	P	**P**	**17 43 06.7**	**-2.1**
STKA	**Stephens Creek**	**55.27**	**134**	P	**P**	**17 43 09.3**	**-1.3**
	2.9nm,0.9s,baz=304,slow=5.6,SNR=5.7						
STKA				LR	LR	18 07 57.6	
	comp=Z,178nm,20.0s,baz=319,slow=37						
KMBO	**Kilima Mbogo**	**60.04**	**266**	P	**P**	**17 43 44.7**	**-0.1**
	0.7nm,0.3s,baz=36,slow=19,SNR=2.4						
BRTR	**Keskin Array B**	**67.22**	**312**	P	**P**	**17 44 31.4**	**-0.3**
	0.4nm,0.4s,baz=127,slow=4.5,SNR=3.2						
AKASG	**Malin Array Be**	**73.05**	**322**	P	**P**	**17 45 08.2**	**+1.2**
	0.5nm,0.5s,baz=89,slow=4.7,SNR=2.9						
BOSA	**Boshof**	**76.09**	**239**	P	**P**	**17 45 25.2**	**0.0**
	1.9nm,0.8s,baz=12,slow=9.3,SNR=2.0						
FINES	**FINESS Array B**	**77.54**	**332**	P	**P**	**17 45 31.9**	**-0.7**
	1.5nm,0.8s,baz=153,slow=12,SNR=2.5						
ARCES	**ARCESS Array B**	**79.93**	**340**	P	**P**	**17 45 45.4**	**-0.3**
	1.7nm,0.9s,baz=88,slow=7.4,SNR=4.7						
GERES	**GERESS Array B**	**82.71**	**319**	P	**P**	**17 46 00.4**	**-0.6**
	0.2nm,0.5s,baz=96,slow=8.0,SNR=4.1						
NOA	**NORSAR Array B**	**84.58**	**331**	P	**P**	**17 46 11.1**	**+0.9**
	0.1nm,0.5s,baz=95,slow=5.5,SNR=2.3						
URZ	**Urewera**	**84.59**	**129**	LR	LR	18 24 19.0	
	comp=Z,111nm,20.4s,baz=260,slow=36						
VNDA	**Vanda**	**88.52**	**169**	P	**P**	**17 46 28.4**	**-0.7**
	0.3nm,0.8s,baz=310,slow=7.9,SNR=2.5						
TORD	**Torodi Ar. Bea**	**94.38**	**283**	P	**P**	**17 46 59.3**	**+1.6**
	0.6nm,1.0s,baz=71,slow=4.5,SNR=2.4						
CPUP	**Villa Florida**	**146.93**	**225**	PKPbc	**PKPab**	**17 53 21.3**	**-0.3**
	2.9nm,0.9s,baz=143,slow=2.7,SNR=6.8						

MDD 01 17:49:19.4±3.6, 35.40N×1.90E, h0km, mb3.5/3, Error ellipse: s-maj=35.1km s-min=19.5km az=177.0, PRXIMO SIN SOLUCIN, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKGL	**Djebel Kef Gue**	**1.21**	**303**	P	Pg	17 49 40.9	-1.7
	7.5nm,0.1s,SNR=7.9						
OKGL				S	Sg	17 49 58.2	-0.1
	51nm,0.2s,SNR=4.0						
EIBI	**Ibiza**	**3.65**	**353**	P	Pn	17 50 16.6	-0.5
	1.1nm,0.2s,SNR=7.9						
EIBI				S	Sn	17 50 56.9	-4.1
	1.4nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**4.26**	**321**	P	Pn	17 50 23.9	-1.7
	0.6nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.66**	**302**	P	Pn	17 50 30.5	-0.7
	3.6nm,0.5s,SNR=7.9						

*SJA **01** 18:02:54.2±0.7, 33.17S×74.60W, h10km, ML3.4, MW3.4*
*GUC **01** 18:03:07.4±0.5, 34.26S×72.76W, h27km±3km, ML3.9*

ISC 01 18:03:09.4±3.1, 34.37S±0.05×72.6W±0.1, h13km±15km, n21, σ1§33/30, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.08**	**68**	⇑*iP*	**Pb**	**18 03 27.8**	**-2.2**
LNV				*i* S	**Sb**	**18 03 43.3**	**-0.7**
NICH	**Los Niches**	**1.31**	**119**	⇑*iP*	**Pn**	**18 03 32.7**	**-0.6**
NICH				*i* S	**Sg**	**18 03 51.7**	**0.0**
TALC	**Talca**	**1.31**	**142**	⇑*iP*	**Pn**	**18 03 32.3**	**-1.1**
TALC				*i* S	**Sg**	**18 03 51.6**	**-0.1**
CHCH	**Chadas Angostu**	**1.69**	**76**	*eP*	**Pn**	**18 03 37.4**	**-1.2**
CHCH				*i* S	**Sn**	**18 04 00.4**	**+0.3**
LNCH	**Linares**	**1.70**	**151**	⇑*iP*	**Pn**	**18 03 38.9**	**+0.2**
LNCH				*i* S	**Sb**	**18 04 02.1**	**+0.4**
SAN	**Santiago**	**1.86**	**61**	*eS*	**Sn**	**18 04 04.4**	**-0.1**
CLCH	**Cerro Calan**	**1.98**	**61**	⇓*iP*	**Pn**	**18 03 41.3**	**-1.4**
CLCH				*i* S	**Sn**	**18 04 07.2**	**-0.2**
CLCH				AML	AML	18 04 26.5	
	comp=N,981nm,0.8s						
PEL	**Peldehue**	**2.02**	**53**	*eP*	**Pn**	**18 03 41.5**	**-1.7**
PEL				*i* S	**Sn**	**18 04 07.7**	**-0.6**
PEL				AML	AML	18 04 28.7	
	comp=E,2μm,0.8s						
AAGR	**Agrelo**	**3.41**	**69**	*eP*	**Pb**	**18 04 10.9**	**+1.2**
ARCO	**CERRO ARCO**	**3.43**	**65**	*eP*	**Pb**	**18 04 09.9**	**-0.3**
AUSP	**Uspallata**	**3.45**	**53**	*eS*	**Sg**	**18 04 59.2**	**-1.0**
ASAL	**Salagasta**	**3.62**	**62**	*eP*	**Pb**	**18 04 11.8**	**-1.5**
ASAL				*eS*	**Sg**	**18 05 08.6**	**+2.8**
CANA	**Caviahue**	**3.73**	**161**	*eP*	**Pn**	**18 04 07.9**	**+1.1**
RTLS	**Leoncito**	**3.79**	**48**	*eP*	**Pn**	**18 04 09.1**	**+1.5**
RTCV	**Cerro Valdivia**	**4.24**	**55**	*eP*	**Pn**	**18 04 14.7**	**+1.0**
RTCV				*eS*	**Sb**	**18 05 18.4**	**+3.5**
CFAA	**Coronel Fontan**	**4.60**	**54**	*eP*	**Pn**	**18 04 17.9**	**-0.7**
CFAA				*eS*	**Sb**	**18 05 25.9**	**+0.7**
RTLL	**Cerro Villicun**	**4.62**	**50**	*eP*	**Pn**	**18 04 19.1**	**+0.2**
AMOG	**MOGNA**	**4.88**	**47**	*eP*	**Pn**	**18 04 22.0**	**-0.5**
ACAN	**Cantantal**	**5.00**	**67**	*eP*	**Pn**	**18 04 25.1**	**+0.9**
AVFE	**Valle Fertil**	**5.72**	**51**	AML	AML	18 06 22.5	
	comp=Z,8.8nm,0.4s						
ACHE	**Chepes**	**5.94**	**59**	*eP*	**Pn**	**18 04 36.4**	**-0.9**
ACHE				*eS*	Sb	18 05 57.0	-7.1

*ISCJB **01** 18:13:07.5±0.5, 32.09N±0.03×115.00W±0.03, h21km±5km, Error ellipse: s-maj=4.7km s-min=4.1km az=37.8*
*ECX **01** 18:13:08.9±0.4, 32.09N×115.06W, h10km, MD3.4, ML3.6*
*NEIC **01** 18:13:09.0, 32.08N×115.06W, h10km, ML3.5(PAS),*

ML3.7(ECX), After ECX.
*MEX **01** 18:13:09.4±0.8, 32.18N×114.87W, h14km±31km, MD4.0*

ISC 01 18:13:08.0±1.0, 32.08N±0.03×115.06W±0.03, h22km±7km, n44, σ0§97/56, 5C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.35**	**341**	*eP*	**Pb**	**18 13 15.6**	**0.0**
MBIG				*i* S	**Sb**	**18 13 20.6**	**-0.1**
CPBX	**Cerro Prieto**	**0.40**	**329**	*eP*	**Pb**	**18 13 16.3**	**-0.1**
CPBX				*i* S	**Sb**	**18 13 21.6**	**-0.5**
CPBX	**Cerro Prieto**	**0.40**	**329**	⇓*eP*	**Pb**	**18 13 16.2**	**-0.2**
CPBX				⇓*eP*	**Pb**	**18 13 16.2**	**-0.1**
CPBX				⇑*e*		18 13 24.4	
CPBX				IAML		18 13 24.4	
	comp=N,19μm,0.4s						
ECBX	**El Chinero**	**0.60**	**179**	⇓*eP*	**Pb**	**18 13 19.3**	**-0.6**
ECBX				*eS*	**Sb**	**18 13 27.8**	**-0.2**
YMD	**Yuma Desert**	**0.65**	**43**	⇑*iP*	**Pb**	**18 13 20.4**	**-0.3**
EMSC	**East Mesa**	**0.66**	**6**	⇓*iP*	**Pb**	**18 13 20.8**	**-0.2**
RDX	**Rancho Dawling**	**0.76**	**259**	⇓*eP*	**Pb**	**18 13 22.5**	**-0.2**
RDX				*eS*	**Sb**	**18 13 33.3**	**+0.6**
RDX				IAML		18 13 34.4	
	comp=N,2μm,0.5s						
COA	**Coachella**	**0.79**	**356**	⇓*iP*	**Pb**	**18 13 22.3**	**-0.7**
SGL	**Mount Signal**	**0.80**	**316**	⇓*iP*	**Pb**	**18 13 22.3**	**-0.9**
COK	**Cook Ranch**	**0.95**	**324**	*eP*	**Pn**	**18 13 25.3**	**-0.8**
GLA	**Glamis**	**0.99**	**12**	P	**Pn**	**18 13 25.2**	**-1.4**
	baz=1.0						
GLA	**Glamis**	**0.99**	**12**	*e*Pn	**Pn**	**18 13 25.1**	**-1.6**
GLA				*e*Sn	**Sb**	**18 13 37.4**	**-1.9**
RMX	**La Rumorosa**	**1.01**	**302**	⇑*eP*	**Pn**	**18 13 26.6**	**-0.4**
RMX				*eS*	**Sn**	**18 13 40.3**	**-0.2**
IBP	**Imperial Bould**	**1.05**	**304**	P	**Pn**	**18 13 26.4**	**-1.0**
	baz=1.0						
IBP				S	**Sn**	**18 13 41.1**	**-0.3**
	baz=1.0						
SWSC	**Sam W. Stewart**	**1.06**	**325**	P	**Pn**	**18 13 25.9**	**-1.6**
	baz=1.1						
SPIG	**San Pedro Mart**	**1.08**	**199**	*eP*	**Pb**	**18 13 28.6**	**+0.3**
SPIG	**San Pedro Mart**	**1.08**	**199**	*eP*	**Pb**	**18 13 28.6**	**+0.3**
SPIG	**San Pedro Mart**	**1.08**	**199**	⇓*eP*	**Pb**	**18 13 27.8**	**-0.5**
SPX	**San Pedro Mart**	**1.08**	**198**	*eP*	**Pb**	**18 13 28.7**	**+0.4**
SPX	**San Pedro Mart**	**1.08**	**198**	⇓*eP*	**Pb**	**18 13 27.9**	**-0.5**
SPX				*e*		18 13 45.3	
SPX				IAML		18 13 45.3	
	comp=N,648nm,0.5s						
CBKC	**Canebrake**	**1.30**	**310**	⇑*iP*	**Pb**	**18 13 31.9**	**+0.1**
CBX	**Cerro Bola**	**1.38**	**280**	*eP*	**Pb**	**18 13 32.7**	**-0.5**
CBX	**Cerro Bola**	**1.38**	**280**	*eP*	**Pb**	**18 13 32.7**	**-0.5**
CBX	**Cerro Bola**	**1.38**	**280**	*eP*	**Pb**	**18 13 32.7**	**-0.5**
CBX				*eS*	**Sb**	**18 13 51.5**	**+1.1**
MONP	**Monument Peak**	**1.40**	**306**	Pb	**Pn**	**18 13 31.8**	**-0.7**
	baz=1.4						
MONP				Sb	**Sb**	**18 13 51.9**	**+0.7**
	baz=1.4						
BAR	**Barrett**	**1.49**	**294**	*e*Pn	**Pn**	**18 13 33.3**	**-0.2**
BAR				*e*Sn	**Sb**	**18 13 53.5**	**+0.1**
BC3	**Big Chuckawall**	**1.61**	**348**	P	**Pn**	**18 13 34.2**	**-1.0**
	baz=1.6						
Y12C	**Blythe**	**1.73**	**15**	Pg	**Pb**	**18 13 39.4**	**+0.3**
	baz=1.7						
109C	**Camp Elliot, M**	**1.91**	**296**	Pg	**Pb**	**18 13 42.0**	**-0.1**
	baz=1.9						
109C				Sb	**Sb**	**18 14 05.9**	**+0.4**
	baz=1.9						
214A	**Organ Pipe Nat**	**1.92**	**93**	P	**Pn**	**18 13 38.5**	**-0.9**
	baz=1.9						
214A	**Organ Pipe Nat**	**1.92**	**93**	*e*Pn	**Pn**	**18 13 38.4**	**-0.9**
PFO	**Pinyon Flat Ob**	**1.93**	**323**	P	**Pn**	**18 13 38.6**	**-1.0**
	baz=1.9						
IRM	**Iron Mountain**	**2.08**	**358**	Pg	**Pb**	**18 13 45.8**	**+0.7**
	baz=2.1						
MURC	**Murrieta**	**2.35**	**311**	Sb	**Sb**	**18 14 20.4**	**+2.0**
	baz=2.3						
LDFC	**Landfair**	**2.99**	**359**	*e*Pn	**Pn**	**18 13 55.0**	**+0.8**
CIS	**Catalina Islan**	**3.11**	**296**	Sb	**Sb**	**18 14 42.0**	**+1.8**
	baz=3.1						
TUC	**Tucson**	**3.64**	**85**	*e*Pn	**Pn**	**18 14 03.1**	**+0.1**
SHPR	**Sheep Range**	**4.42**	**359**	*e*Pn	**Pn**	**18 14 15.4**	**+1.5**
WUAZ	**Wupatki**	**4.61**	**41**	*e*Pn	**Pn**	**18 14 17.9**	**+1.4**
DAC	**Darwin (Calif)**	**4.68**	**334**	Pn	**Pn**	**18 14 18.2**	**+0.6**
W18A	**Petrified Fore**	**5.38**	**54**	*e*P	**Pn**	**18 14 28.8**	**+1.6**
CCUT	**Cedar City**	**5.64**	**14**	*e*Pn	**Pn**	**18 14 32.6**	**+1.9**
121A	**Cookes Peak, D**	**6.18**	**84**	*e*Pn	**Pn**	**18 14 38.3**	**+0.2**
	comp=N,8.3nm,0.4s						
R11A	**Troy Canyon, C**	**6.27**	**356**	*e*Pn	**Pn**	**18 14 36.9**	**-2.5**

*ISCJB **01** 18:17:54.8±0.6, 21.10S±0.09×179.2W±0.1, h619km, mb3.7/15, Error ellipse: s-maj=15.1km s-min=10.6km az=18.3*
*IDC **01** 18:17:57.5±2.6, 21.14S×179.21W, h639km±33km, mb3.2/15, mb1 3.3/15, mb1mx3.3/25, mbtmp4.1/15, Error ellipse: s-maj=16.9km s-min=14.7km az=170.0*

ISC 01 18:17:55.7±0.7, 21.2S±0.1×179.1W±0.1, h619km, n21, σ1§08/22, mb3.6/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC

TWGZ			SN	**S**	**18 31 01.2**	**+2.0**
MWZ	**Matawai**	**6.16**	**194** PN	**Pn**	**18 29 50.2**	**+1.1**
URZ	**Urewera**	**6.18**	**197** P	**Pn**	**18 29 50.2**	**+0.9**
	5.4nm,0.3s,baz=69,slow=8.6,SNR=138					
URZ			S	**S**	**18 31 04.2**	**-0.3**
	5.2nm,0.3s,baz=86,slow=18,SNR=14					
URZ	**Urewera**	**6.18**	**197** *e*PN	**Pn**	**18 29 49.5**	**+0.2**
URZ			SN	**S**	**18 31 04.6**	**+0.2**
CNGZ	**Carnagh Statio**	**6.19**	**189** PN	**Pn**	**18 29 52.0**	**+2.6**
TKGZ	**Te Karaka**	**6.20**	**191** PN	**Pn**	**18 29 52.0**	**+2.5**
RAGZ	**Rawiri**	**6.33**	**194** *e*PN	**Pn**	**18 29 52.2**	**+1.0**
RAHZ	**Arahi**	**6.81**	**195** PN	**Pn**	**18 29 59.5**	**+2.9**
NMHZ	**Naumai**	**7.05**	**197** PN	**Pn**	**18 30 01.8**	**+2.3**
ARHZ	**Aropaoanui**	**7.16**	**195** PN	**Pn**	**18 30 02.6**	**+1.9**
BKZ	**Black Stump Fm**	**7.19**	**198** PN	**Pn**	**18 30 01.6**	**+0.5**
MCHZ	**McNeill Hill**	**7.40**	**196** PN	**Pn**	**18 30 06.0**	**+2.5**
CKHZ	**Cape Kidnapper**	**7.52**	**194** PN	**Pn**	**18 30 06.9**	**+2.0**
TUVZ	**Tukino**	**7.53**	**203** PN	**Pn**	**18 30 07.7**	**+2.5**
FWVZ	**Far West T-bar**	**7.55**	**203** PN	**Pn**	**18 30 07.9**	**+2.4**
WHVZ	**Whangaehu Hut**	**7.56**	**203** PN	**Pn**	**18 30 07.5**	**+1.8**
TRVZ	**Turoa**	**7.59**	**203** PN	**Pn**	**18 30 08.3**	**+2.3**
WNVZ	**Wahianoa**	**7.60**	**203** PN	**Pn**	**18 30 07.7**	**+1.6**
BHHZ	**Black Hill Sta**	**7.61**	**200** PN	**Pn**	**18 30 07.2**	**+1.1**
KRHZ	**Kereru**	**7.67**	**198** PN	**Pn**	**18 30 07.9**	**+1.1**
KRHZ			SN	**S**	**18 31 34.8**	**-1.7**
KAHZ	**Kahuranaki**	**7.70**	**195** PN	**Pn**	**18 30 09.0**	**+1.9**
MTVZ	**Mangateitei**	**7.70**	**203** PN	**Pn**	**18 30 09.3**	**+2.2**
PXZ	**Pawanui**	**7.93**	**194** PN	**Pn**	**18 30 11.1**	**+1.4**
PXZ			SN	**S**	**18 31 39.2**	**-2.8**
PNHZ	**Pukenui**	**7.97**	**198** PN	**Pn**	**18 30 11.2**	**+0.9**
WPHZ	**Waipukurau**	**8.05**	**196** PN	**Pn**	**18 30 12.2**	**+1.0**
TSZ	**Takapari Road**	**8.17**	**199** PN	**Pn**	**18 30 13.3**	**+0.7**
WAZ	**Wanganui**	**8.20**	**204** *e*PN	**Pn**	**18 30 14.3**	**+1.4**
DVHZ	**Dannevirke**	**8.34**	**197** PN	**Pn**	**18 30 15.0**	**+0.3**
ANWZ	**Angora Road**	**8.42**	**195** PN	**Pn**	**18 30 15.6**	**+0.1**
PRWZ	**Pori Road**	**8.63**	**198** PN	**Pn**	**18 30 19.0**	**+0.9**
BFZ	**Birch Farm**	**8.68**	**196** PN	**Pn**	**18 30 19.2**	**+0.5**
MRZ	**Mangatainoka R**	**8.84**	**199** PN	**Pn**	**18 30 20.1**	**-0.4**
MRZ			SN	S	**18 31 57.6**	**-4.2**
TIWZ	**Tintock**	**8.86**	**197** PN	**Pn**	**18 30 21.3**	**+0.5**
HOWZ	**Holdsworth Sta**	**9.07**	**199** PN	**Pn**	**18 30 23.0**	**-0.4**
OGWZ	**Otaki Gorge**	**9.10**	**201** PN	**Pn**	**18 30 23.2**	**-0.4**
KIW	**Kapiti Island**	**9.22**	**202** PN	**Pn**	**18 30 25.1**	**+0.1**
MTW	**Mount Morrison**	**9.32**	**198** PN	**Pn**	**18 30 26.6**	**+0.4**
CAW	**Cannon Point**	**9.39**	**200** PN	**Pn**	**18 30 26.9**	**-0.3**
MSWZ	**Moikau Station**	**9.63**	**199** PN	**Pn**	**18 30 30.0**	**+0.1**
TCW	**Tory Channel**	**9.74**	**203** PN	**Pn**	**18 30 31.4**	**+0.1**
TUWZ	**Tuamarina**	**10.05**	**204** PN	**Pn**	**18 30 34.1**	**-0.8**
NNZ	**Nelson**	**10.06**	**207** PN	**Pn**	**18 30 35.0**	**-0.1**
QRZ	**Quartz Range**	**10.09**	**211** PN	**Pn**	**18 30 36.0**	**+0.6**
THZ	**Tophouse**	**10.72**	**207** PN	**Pn**	**18 30 42.5**	**-0.4**
THZ			*e*SN	**S**	**18 32 40.2**	**-3.1**
KHZ	**Kahutara**	**11.06**	**203** PN	**Pn**	**18 30 46.1**	**-0.9**
DSZ	**Denniston Nort**	**11.15**	**211** *e*PN	**Pn**	**18 30 47.4**	**-0.8**
LTZ	**Lake Taylor**	**11.83**	**206** PN	**P**	**18 30 56.1**	**-0.1**
OXZ	**Oxford**	**12.38**	**206** PN	**P**	**18 31 01.6**	**-0.7**
MQZ	**McQueen's Vall**	**12.51**	**203** PN	**P**	**18 31 03.1**	**-0.5**
MQZ			*e*SN	S	**18 33 15.8**	**-6.1**
WVZ	**Waitaha Valley**	**12.69**	**210** *e*PN	**P**	**18 31 05.9**	**+0.2**
STKA	**Stephens Creek**	**31.90**	**261** P	**P**	**18 34 11.2**	**+0.6**
	1.9nm,1.1s,baz=107,slow=14,SNR=3.1					
CTA	**Charters Tower**	**32.00**	**284** P	**P**	**18 34 13.2**	**+1.6**
	1.4nm,0.4s,baz=122,slow=11,SNR=4.3					
ASAR	**Alice Springs**	**40.82**	**270** P	**P**	**18 35 26.4**	**+1.0**
	0.7nm,0.4s,baz=107,slow=7.6,SNR=18					
WRA	**Warramunga Arr**	**41.99**	**276** P	**P**	**18 35 35.6**	**+0.7**
	2.8nm,0.3s,baz=112,slow=8.1,SNR=77					
QSPA	**South Pole Qui**	**57.76**	**180** P	**P**	**18 37 32.1**	**+0.3**
	1.0nm,0.9s,baz=106,slow=5.9,SNR=5.9					
TXAR	**Lajitas Array**	**95.33**	**59** P	**P**	**18 40 59.8**	**-2.0**
	0.3nm,0.5s,baz=157,slow=9.8,SNR=3.9					
FINES	**FINESS Array B**	**146.14**	**337** PKPbc	**PKPbc**	**18 47 12.7**	**-2.6**
	0.5nm,0.6s,baz=70,slow=4.6,SNR=6.0					

*IDC **01** 18:43:39.2±1.3,1°.25N×123°.93E,h0km,mb3.6/4, mb1 3.9/5,mb1mx3.5/25,mbtmp3.7/5,ML4.1/1,Error ellipse: s-maj=57.9km s-min=21.2km az=72.0*
*ISCJB **01** 18:43:42.5±0.6,1°.27N±0°.05×123°.80E±0°.03,h33km, mb3.6/4,Error ellipse: s-maj=6.8km s-min=4.7km az=168.6*
*DJA **01** 18:43:42.5±0.5,1°N±3°×12°4E±°,h20km±5km,M4.2/15, mb4.4/4,mB4.9/1,MLv4.2/15,Mw(mB)4.2/1*

ISC 01 18:43:43.6±1.1,1°.34N±0°.07×123°.80E±0°.04,h35km,n17, σ1§49/24,mb3.8/4,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.78**	**167**	P	Pn	18 43 54.2	-4.0
KMSI				S	**Sn**	**18 44 06.2**	**-2.5**
MRSI	**Marisa**	**2.05**	**245**	P	**Pn**	**18 44 13.9**	**-1.8**
MRSI				S	**Sn**	**18 44 39.5**	**-0.5**
LUWI	**Luwuk**	**2.58**	**204**	P	**Pn**	**18 44 22.6**	**-0.4**
LUWI				S	**Sn**	**18 44 56.3**	**+3.1**
SGSI	**Sangihe**	**2.90**	**36**	P	**Pn**	**18 44 27.7**	**+0.4**
APSI	**Ampana**	**3.11**	**224**	P	**Pn**	**18 44 31.1**	**+0.9**
APSI				S	**Sn**	**18 45 07.3**	**+1.2**
TNTI	**Ternate**	**3.61**	**99**	P	**Pn**	**18 44 38.9**	**+1.8**
TNTI				S	**Sn**	**18 45 19.3**	**+0.8**
SANI	**Sanana**	**4.01**	**147**	P	**Pn**	**18 44 41.5**	**-1.2**
SANI				S	**Sn**	**18 45 29.3**	**+0.8**
MPSI	**Mapaga**	**4.03**	**256**	P	**Pn**	**18 44 43.3**	**+0.4**
MPSI				S	**Sn**	**18 45 26.4**	**-2.5**
PCI	**Palu**	**4.55**	**241**	P	**Pn**	**18 44 50.5**	**+0.4**
NLAI	**Namlea**	**5.62**	**144**	P	**Pn**	**18 45 04.2**	**-0.5**
	16nm,0.9s,0.1nm						
TTSI	**Tana Toraja**	**5.90**	**222**	P	**Pn**	**18 45 09.7**	**+1.0**
	136nm,0.7s,1μm0.4nm						
TTSI				S	**Sn**	**18 46 16.0**	**+0.9**
	136nm,0.7s,1μm0.4nm						
SPSI	**Sidrap Palu**	**6.64**	**217**	P	**Pn**	**18 45 19.9**	**+1.2**
KAPI	**Kappang**	**7.50**	**213**	Pn	**Pn**	**18 45 30.3**	**-0.3**
	2.7nm,0.3s,baz=357,slow=5.0,SNR=9.4						
KAPI				Sn	**Sn**	**18 46 53.3**	**-1.1**
	2.8nm,0.3s,baz=52,slow=14,SNR=3.0						
WRA	**Warramunga Arr**	**23.54**	**154**	P	**P**	**18 48 48.5**	**-2.5**
	2.5nm,0.6s,baz=334,slow=10.0,SNR=14						
ASAR	**Alice Springs**	**26.73**	**159**	P	**P**	**18 49 20.5**	**+0.4**
	0.4nm,0.8s,baz=344,slow=9.6,SNR=4.2						
SONM	**Songino Array**	**48.71**	**344**	P	P	18 52 28.2	+3.4
	1.1nm,0.7s,baz=163,slow=7.4,SNR=3.7						
KURBB	**Kurchatov Arra**	**62.22**	**329**	P	**P**	**18 54 02.7**	**+0.9**
	0.5nm,0.9s,baz=137,slow=6.7,SNR=5.1						

IDC 01 19:00:04.6±4.0,6°.55S×124°.75E,h168km±39km,mb3.3/2, mb1 3.6/5,mb1mx3.2/36,mbtmp4.0/5,Error ellipse: s-maj=80.2km s-min=13.8km az=60.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**5.20**	**287**	P	Pn	19 01 21.8	+0.8
	1.8nm,0.3s,baz=131,slow=10,SNR=6.5						
WRA	**Warramunga Arr**	**16.25**	**146**	P	Pn	19 03 44.9	+1.3
	1.3nm,0.3s,baz=316,slow=12,SNR=74						
WRA				S	S	19 06 37.5	-6.2
	0.1nm,0.3s,baz=318,slow=22,SNR=4.2						
ASAR	**Alice Springs**	**19.16**	**154**	P	P	19 04 14.7	-0.8
	1.3nm,0.3s,baz=330,slow=12,SNR=83						
ASAR				S	S	19 07 45.5	+1.8
	0.1nm,0.3s,baz=318,slow=20,SNR=2.8						
STKA	**Stephens Creek**	**29.71**	**150**	P	P	19 05 53.9	-1.1
	3.5nm,0.9s,baz=328,slow=9.2,SNR=7.7						
KURBB	**Kurchatov Arra**	**69.48**	**331**	P	P	19 10 54.9	+0.2
	0.1nm,0.4s,baz=141,slow=5.7,SNR=3.7						

MAN 01 19:00:22,18°.81N×120°.95E,h20km,mb4.6,ML3.5,MS3.4, 1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.58**	**213** ⇓	*i*P	Pb	19 00 33.4	-0.1
PIP				*e*S	Sn	19 00 43.2	-0.8
APYP	**Conner**	**0.98**	**164**	*e*P	Pn	19 00 40.6	0.0
SIPP	**Brgy, Tapao**	**1.00**	**208** ⇑	*e*P	Pn	19 00 41.2	+0.3
ABRA	**Dolores**	**1.18**	**191**	*e*P	Pn	19 00 42.6	-0.8
ABRA				*e*S	Sn	19 00 59.0	+0.2
SGCP	**Mt. Cagua**	**1.18**	**118**	*e*P	Pn	19 00 42.7	-0.7
CAUP	**Cauayan**	**2.03**	**156**	*e*P	Pb	19 00 57.9	-0.4

*IDC **01** 19:04:30.6±1.1,33°.15N×93°.70E,h0km,mb3.5/7, mb1 3.7/7,mb1mx3.5/27,mbtmp3.6/7,Error ellipse: s-maj=42.8km s-min=22.1km az=55.0*
*ISCJB **01** 19:04:34.0±0.7,33°.33N±0°.10×93°.9E±0°.1,h33km,mb3.5/6, Error ellipse: s-maj=15.9km s-min=10.5km az=141.5*

ISC 01 19:04:36.3±0.9,33°.4N±0°.1×93°.9E±0°.1,h35km,n12, σ1§25/12,mb3.7/6,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODAN	**Odare**	**8.60**	**223**	*e*P	**Pn**	**19 06 40.6**	**+2.1**
	8.2nm,0.6s						
PKI	**Pulchoki**	**9.33**	**234**	*e*P	**Pn**	**19 06 48.7**	**0.0**
	7.9nm,0.6s						
PKIN	**Phulchoki**	**9.34**	**234**	*e*P	**Pn**	**19 06 48.5**	**-0.2**
	6.6nm,0.5s						
DMN	**Daman**	**9.52**	**235**	*e*P	**Pn**	**19 06 49.7**	**-1.4**
	5.7nm,0.6s						
GKN	**Gorkha**	**9.61**	**239**	*e*P	**Pn**	**19 06 53.8**	**+1.6**
KURBB	**Kurchatov Arra**	**20.61**	**331**	P	**P**	**19 09 12.6**	**+0.3**
	1.1nm,0.9s,baz=140,slow=10,SNR=10.0						
ZALV	**Zalesovo Beam**	**21.56**	**345**	P	**P**	**19 09 23.9**	**+1.4**
	0.3nm,0.4s,baz=154,slow=9.2,SNR=3.7						
KSRS	**Korea Array**	**27.93**	**72**	P	**P**	**19 10 23.9**	**+0.7**
	0.4nm,0.5s,baz=277,slow=9.8,SNR=4.9						
WRA	**Warramunga Arr**	**65.57**	**138**	P	**P**	**19 15 16.1**	**-0.5**
	0.6nm,1.1s,baz=323,slow=8.2,SNR=3.0						
ASAR	**Alice Springs**	**68.33**	**141**	P	**P**	**19 15 33.8**	**-0.3**
	0.6nm,0.7s,baz=328,slow=6.5,SNR=10						
STKA	**Stephens Creek**	**78.96**	**140**	P	**P**	**19 16 36.0**	**-0.3**
	0.6nm,0.6s,baz=321,slow=13,SNR=2.6						
TORD	**Torodi Ar. Bea**	**84.71**	**282**	P	**P**	**19 17 05.6**	**-1.4**
	0.7nm,0.8s,baz=45,slow=4.3,SNR=3.0						

DJA 01 19:27:32.8±0.8,8°S±6°×107°E±°,h26km±5km,M4.0/9, MLv4.0/9,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.72**	**46**	P	Pb	19 27 46.8	-0.1
CISI				S	Sb	19 27 56.8	+0.3
CNJI	**Cibinong**	**0.76**	**348**	P	Pb	19 27 47.6	+0.1
CNJI				S	Sn	19 27 58.1	-0.5
CMJI	**Cimerak**	**1.18**	**77**	P	Pn	19 27 52.5	-1.1
CMJI				S	Sn	19 28 07.2	-1.7
SKJI	**Sukabumi**	**1.28**	**325**	P	Pn	19 27 55.1	+0.1
SKJI				S	Sn	19 28 11.7	+0.4
CGJI	**Cibinong**	**2.14**	**312**	P	Pn	19 28 06.2	-0.6
CGJI				S	Sn	19 28 30.8	-1.8
SMRI	**Semarang**	**3.28**	**72**	P	Pn	19 28 23.7	+1.1
KASI	**Kota Agung**	**3.75**	**312**	S	Sn	19 29 09.8	-2.5
MDSI	**Maura Dua**	**4.71**	**319**	P	Pn	19 28 44.0	+1.8

GUC 01 20:00:33.1±0.2,35°.53S×73°.28W,h2km±2km,ML3.9,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.72**	**147**	*i*P	Pb	20 00 47.7	-0.7
COCH				*i*S	Sb	20 00 58.7	+0.1
TALC	**Talca**	**1.35**	**85**	*i*P	Pn	20 00 57.6	-1.3
TALC				*i*S	Sg	20 01 16.3	-0.1
TALC				AML	AML	20 01 18.9	
	comp=N,4μm,0.5s						
LNCH	**Linares**	**1.40**	**104**	AML	AML	20 01 29.0	
	comp=E,3μm,0.9s						
CHCH	**Chadas Angostu**	**2.68**	**54**	*i*P	Pn	20 01 18.4	+1.0
CLCH	**Cerro Calan**	**3.11**	**48**	*i*P	Pn	20 01 24.3	+1.1
CLCH				*i*S	Sn	20 02 03.2	+2.2

IDC 01 20:27:33.4±1.6,31°.22N×110°.99E,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.4/55,mbtmp3.6/4,ML4.1/1,Error ellipse: s-maj=64.7km s-min=29.2km az=61.0, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.75**	**223**	Pn	Pn	20 31 28.8	-0.7
	0.3nm,0.3s,baz=29,slow=9.5,SNR=26						
ZALV	**Zalesovo Beam**	**29.48**	**328**	P	P	20 33 38.9	0.0
	0.3nm,0.4s,baz=113,slow=9.6,SNR=3.7						
WRA	**Warramunga Arr**	**55.59**	**153**	P	P	20 37 10.1	-0.8
	0.6nm,1.0s,baz=344,slow=8.4,SNR=2.7						
ASAR	**Alice Springs**	**58.83**	**155**	P	P	20 37 34.7	+0.9
	0.5nm,0.9s,baz=332,slow=6.7,SNR=5.0						

NNC 01 20:29:56.3±3.1,37°.76N×70°.55E,h0km,mb3.5,mpv3.2, 6C-1D,Error ellipse: s-maj=27.9km s-min=11.9km az=174.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**1.71**	**308** ⇑	Pn	Pn	20 30 27.8	+0.3
	13nm,0.3s						
DZET			⇑	Sn	Sb	20 30 51.0	+0.1
	25nm,0.5s						
SFK	**Sufi-Kurgan**	**3.22**	**45** ⇑	Pg	Pb	20 30 55.5	+0.9
	3.4nm,0.3s						
SFK			⇑	Lg	Lg	20 31 40.8	
	3.9nm,0.3s						
KK31	**Karatay Array**	**5.33**	**360** ⇑	Pn	Pn	20 31 14.0	-3.2
	2.9nm,1.4s,baz=176,slow=12,SNR=7.0						
KK31			⇓	Sn	Sn	20 32 20.6	+1.3
	0.6nm,0.5s						
KK31			⇑	Lg	Lg	20 32 46.7	
	1.0nm,0.7s,baz=174,slow=29,SNR=4.3						

*SZGRF **01** 20:29:56.1,52°.21N×164°.09W,h41km,mb4.8,South of Alaska*
*IDC **01** 20:29:56.4±0.6,53°.69N×163°.69W,h0km,mb4.3/42, mb1 4.4/44,mb1mx4.3/64,mbtmp4.3/44,ML3.8/2,MS4.0/21, Ms1 4.0/21,ms1mx3.8/48,Error ellipse: s-maj=16.6km s-min=9.9km az=176.0*
*MOS **01** 20:29:56.8±1.0,53°.74N×163°.64W,h10km,mb5.0/44, MS4.2/9,Error ellipse: s-maj=11.2km s-min=5.6km az=95.9*
*ISCJB **01** 20:29:59.9±0.5,53°.52N±0°.04×163°.55W±0°.04,h38km±3km, mb4.6/96,MS4.1/29,Error ellipse: s-maj=6.6km s-min=3.4km az=168.1*
*BJI **01** 20:29:59.3,54°.21N×164°.18W,h15km,mb4.9/32, mB4.9/23,Ms4.6/15,Ms7 4.3/15*
*NEIC **01** 20:29:59.6,53°.51N×163°.49W,h42km,mb4.8/40, ML4.4(AEIC),After AEIC.*

ISC 01 20:30:01.5±0.5,53°.60N±0°.06×163°.61W±0°.04,h41km±3km, h40km:pP-P,n327,σ1§38/342,mb4.7/107,MS4.0/30, 42C-19D,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.05**	**327**	P	**Pn**	**20 30 19.6**	**-0.1**
BRPK	**Brown Peak**	**1.05**	**356**	P	**Pn**	**20 30 19.4**	**-0.3**
WESP	**Westdahl Peak**	**1.11**	**324**	P	**Pn**	**20 30 20.9**	**+0.4**
WESP				S	**Sn**	**20 30 34.8**	**+0.1**
SSLW	**Shishaldin Wes**	**1.21**	**346**	P	**Pn**	**20 30 21.9**	**0.0**
SSBA	**Shishaldin**	**1.21**	**346**	P	**Pn**	**20 30 21.7**	**-0.3**
SSBA				S	**Sn**	**20 30 38.2**	**+1.0**
SSLN	**Shishaldin Nor**	**1.23**	**350**	P	**Pn**	**20 30 22.6**	**+0.4**
ISNN	**Isanotski Nort**	**1.24**	**356**	P	**Pn**	**20 30 23.0**	**+0.7**
FALS	**False Pass**	**1.27**	**5**	P	**Pn**	**20 30 22.5**	**-0.1**
FALS				S	**Sn**	**20 30 40.4**	**+2.0**
AKSA	**Akutan Strait**	**1.34**	**294**	P	**Pn**	**20 30 23.6**	**-0.1**
AKA	**Akutan**	**1.39**	**294**	P	**Pn**	**20 30 24.8**	**+0.6**
AKA				S	**Sn**	**20 30 43.5**	**+2.2**
AKUT	**Akutan**	**1.39**	**294**	P	**Pn**	**20 30 24.4**	**+0.2**
ZRO	**Akutan Zero**	**1.48**	**290**	P	**Pn**	**20 30 26.0**	**+0.3**
AKGG	**Akutan Green G**	**1.53**	**294**	P	**Pn**	**20 30 26.7**	**+0.5**
AKRB	**Akutan Reef Bi**	**1.55**	**291**	P	**Pn**	**20 30 26.9**	**+0.4**
AKRB				S	**Sn**	**20 30 48.8**	**+3.5**
DT1	**Dutton Round H**	**1.70**	**27**	P	**Pn**	**20 30 27.6**	**-1.0**
UNV	**Unalaska Valle**	**1.73**	**279**	*e*Pn	**Pn**	**20 30 28.2**	**-0.8**
UNV				S	**Sn**	**20 30 51.0**	**+1.1**
DTNA	**Dutton South F**	**1.75**	**27**	P	**Pn**	**20 30 28.6**	**-0.6**
MTBL	**Makushin Table**	**1.85**	**283**	P	**Pn**	**20 30 31.0**	**+0.2**
MSW	**Makushin Switc**	**1.91**	**281**	P	**Pn**	**20 30 31.4**	**0.0**
MCIR	**Makushin Cirgu**	**1.98**	**282**	P	**Pn**	**20 30 32.8**	**+0.3**
PN7A	**Pavlof North-7**	**2.06**	**27**	P	**Pn**	**20 30 34.5**	**+0.9**
PS1A	**Pavlof South-1**	**2.13**	**30**	P	**Pn**	**20 30 35.1**	**+0.7**
SDPT	**Sand Point**	**2.54**	**45**	P	**Pn**	**20 30 39.1**	**-0.9**
OKTU	**Okmok Mt. Tuli**	**2.65**	**267**	P	**Pn**	**20 30 42.4**	**+0.7**
NIKH	**Nikolski High**	**3.21**	**261**	P	**Pn**	**20 30 48.6**	**-0.6**
VNHG	**Veniaminof 1**	**3.67**	**43**	P	**Pn**	**20 30 56.1**	**+0.4**
CHGN	**Chignik**	**4.04**	**46**	P	**Pn**	**20 31 00.1**	**-0.6**
ANPB	**Aniakchak Plen**	**4.43**	**41**	P	**Pn**	**20 31 05.7**	**-0.4**
SPIA	**Saint Paul Isl**	**5.21**	**316**	P	**Pn**	**20 31 19.0**	**+2.3**
ATKA	**Atka Island**	**6.55**	**262**	P	**Pn**	**20 31 35.5**	**+0.3**
OHAK	**Old Harbor**	**6.91**	**54**	P	**Pn**	**20 31 37.1**	**-2.9**
KDAK	**Kodiak Island**	**7.51**	**52**	*e*P	**Pn**	**20 31 46.1**	**-2.1**
KDAK				pmax	pmax		
	comp=Z,109nm,1.1s						
KDAK	**Kodiak Island**	**7.51**	**52**	*e*P	**Pn**	**20 31 46.1**	**-2.1**
	comp=Z,109nm,1.1s						
GSTR	**Great Sitkin T**	**7.69**	**264**	*e*P	**Pn**	**20 31 51.8**	**+1.0**
	comp=Z,50nm,0.2s						
RSO	**Redoubt South**	**9.07**	**36**	*e*P	**Pn**	**20 32 09.9**	**+0.2**
	comp=Z,110nm,0.8s						
SEW	**Seward**	**10.12**	**44**	*e*P	**Pn**	**20 32 22.0**	**-1.9**
RC01	**Rabbit Creek A**	**10.59**	**39**	*e*P	Pn	20 32 23.8	-6.6
AMKA	**Amchitka**	**10.65**	**265**	*e*P	**Pn**	**20 32 30.7**	**-0.6**
	comp=Z,116nm,0.6s						
GAMB	**Gambell**	**11.03**	**341**	*e*P	**Pn**	**20 32 38.6**	**+2.2**
	comp=Z,18nm,0.7s						
PPLA	**Purkeypile**	**11.07**	**28**	*e*P	Pn	20 32 40.4	+3.2
	comp=Z,125nm,1.4s						
SML	**Sawmill**	**11.57**	**39**	*e*P	Pn	20 32 40.5	-3.3
SML				pmax	pmax		
	comp=Z,10.0nm,1.3s						
SML	**Sawmill**	**11.57**	**39**	*e*P	Pn	20 32 40.5	-3.3
	comp=Z,9.7nm,1.3s						
TRF	**Thorofare Moun**	**12.05**	**30**	*e*P	Pn	20 32 54.2	+3.7
	comp=Z,138nm,1.5s						
TNA	**Tin City**	**12.19**	**351**	*e*P	Pn	20 32 57.0	+4.7
	comp=Z,13nm,0.6s						
DIV	**Divide**	**12.20**	**45**	*e*P	**Pn**	**20 32 50.3**	**-2.2**
	comp=Z,13nm,0.6s						
BPAW	**Bear Paw Mtn.**	**12.36**	**27**	*e*P	**Pn**	**20 32 55.2**	**+0.6**
	comp=Z,7.5nm,1.1s						
BMRM	**Bremner River**	**12.62**	**47**	*e*P	**Pn**	**20 32 59.5**	**+1.3**
	comp=Z,43nm,1.0s						
MCK	**McKinley**	**12.67**	**31**	*e*P	P	20 33 04.1	-5.2
MCK				pmax	pmax		
	comp=Z,37nm,1.1s						
MCK	**McKinley**	**12.67**	**31**	*e*P	P	20 33 04.1	-5.2
	comp=Z,37nm,1.1s						
PAX	**Paxson**	**13.34**	**38**	*e*P	Pn	20 33 03.0	-5.0
PAX				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PAX	**Paxson**	**13.34**	**38**	*e*P	Pn	20 33 03.0	-5.0
	comp=Z,10nm,0.7s						
COLA	**College**	**13.83**	**29** ⇑	*i*P	**P**	**20 33 20.7**	**-1.4**
COLA	**College**	**13.83**	**29**	*e*P	**Pn**	**20 33 14.0**	**-0.6**
	comp=Z,24nm,1.1s						
ILAR	**Eielson Array**	**14.04**	**31**	Pn	**Pn**	**20 33 14.8**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=223,slow=12,SNR=11						
ILAR				LR	LR	20 39 05.4	
	comp=Z,880nm,20.5s,baz=233,slow=39						
COLD	**Coldfoot**	**15.13**	**20**	*e*P	**Pn**	**20 33 32.4**	**+0.4**
	comp=Z,34nm,0.9s						
HYT	**Haines Junctio**	**15.80**	**52**	*e*P	**Pn**	**20 33 41.0**	**+0.1**
	comp=Z,28nm,0.8s						
EGAK	**Eagle**	**15.94**	**37**	*e*P	**Pn**	**20 33 39.0**	**-3.5**
	comp=Z,19nm,0.8s						
DAWY	**Dawson**	**16.22**	**40**	*e*P	**Pn**	**20 33 44.9**	**-1.3**
	comp=Z,34nm,0.9s						
DLBC	**Dease Lake**	**19.25**	**62**	P	**P**	**20 34 20.4**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=258,slow=9.3,SNR=1.9						
DLBC	**Dease Lake**	**19.25**	**62**	*e*P	**P**	**20 34 21.7**	**-0.5**
	comp=Z,58nm,1.3s						
INK	**Inuvik**	**20.42**	**32**	P	**P**	**20 34 33.1**	**-1.6**
	comp=Z,4.4nm,0.6s,baz=217,slow=12,SNR=9.4						
INK	**Inuvik**	**20.42**	**32**	*e*P	**P**	**20 34 32.9**	**-1.8**
INK				pmax	pmax		
	comp=Z,22nm,0.9s						
INK	**Inuvik**	**20.42**	**32**	*e*P	**P**	**20 34 32.9**	**-1.8**
	comp=Z,22nm,0.9s						
PET	**Petropavlovsk**	**22.38**	**284**	*e*P	**P**	**20 34 57.7**	**+1.8**
PET				*e*S	**S**	**20 38 56.2**	**-2.8**
PET				pmax	pmax		
	comp=Z,100nm,13.8s						
PET				pmax	pmax		
	comp=Z,200nm,6.

HABR MLR MLR
comp=Z,217nm,18.0s
SRU San Rafael 38.47 90 *e*P **P** **20 37 20.1 +0.7**
SRU pmax pmax
comp=Z,19nm,1.3s
SRU San Rafael 38.47 90 *e*P **P** **20 37 20.1 +0.7**
comp=Z,19nm,1.3s
O20A White River Ci 39.18 87 *e*P **P** **20 37 24.8 -0.5**
comp=Z,17nm,1.1s
KLR Kul'dur 39.31 291 *e*P P 20 37 21.7 -4.4
ULM Lac du Bonnet 40.48 66 P **P** **20 37 35.9 0.0**
comp=Z,1.1nm,0.5s,baz=296,slow=10,SNR=3.3
H11N2 WAKE ISLAND Hy 40.70 225 T T 21 21 14.2
baz=26,slow=76,SNR=335
H11N3 WAKE ISLAND Hy 40.70 225 T T 21 21 16.0
baz=26,slow=76,SNR=190
H11N1 WAKE ISLAND Hy 40.71 225 T T 21 21 15.5
baz=26,slow=76,SNR=133
H11S1 WAKE ISLAND Hy 41.87 225 T T 21 22 45.4
baz=25,slow=76,SNR=262
H11S2 WAKE ISLAND Hy 41.88 225 T T 21 22 43.5
baz=25,slow=76,SNR=302
H11S3 WAKE ISLAND Hy 41.88 225 T T 21 22 47.0
baz=25,slow=76,SNR=302
USRK Ussuriysk Ar. 42.00 284 P **P** **20 37 46.8 -1.6**
comp=Z,0.7nm,0.6s,baz=46,slow=6.2,SNR=4.2
USRK LR LR 20 54 42.0
comp=Z,147nm,21.7s,baz=45,slow=35
SDCO Great Sand Dun 42.35 88 *e*P **P** **20 37 52.0 +0.3**
comp=Z,3.1nm,0.9s
MJAR Matsushiro Arr 43.19 271 P **P** **20 37 58.8 +0.7**
comp=Z,4.8nm,0.8s,baz=32,slow=7.2,SNR=14
MJAR LR LR 20 56 29.5
comp=Z,159nm,20.5s,baz=70,slow=37
MAJO Matsushiro 43.19 271⇑ *i*P **P** **20 37 58.8 +0.7**
MAJO pmax pmax
comp=Z,139nm,1.1s
MAJO Matsushiro 43.19 271 *e*P **P** **20 37 58.7 +0.6**
comp=Z,15nm,0.8s
MAT Matsushiro 43.19 271 P **P** **20 37 58.9 +0.8**
ANMO Albuquerque 43.66 91 *ce*P P 20 38 09.6 +7.4
ANMO pmax pmax
comp=Z,10.0nm,1.2s
HIA Hailar 45.82 297⇑ *i*P **P** **20 38 18.9 -0.1**
HIA pmax pmax
comp=Z,15nm,1.1s
CN2 Changchun 45.99 288 *e*P **P** **20 38 20.4 +0.1**
CN2 epP **pP** **20 38 32.7 +0.8**
CN2 eS S 20 44 55.1 -7.1
CN2 PMZ
comp=Z,10.0nm,0.7s
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,200nm,18.0s
CN2 LE
comp=Z,200nm,18.0s
CN2 LZ
comp=Z,200nm,19.0s
KBS Kingsbay 47.70 1 *e*P **P** **20 38 32.7 -0.6**
KBS pmax pmax
comp=Z,23nm,0.9s
KBS Kingsbay 47.70 1 *e*P **P** **20 38 32.7 -0.6**
comp=Z,23nm,0.9s
DAG Danmarks Havn 48.01 10 *i* P **P** **20 38 36.0 +0.4**
comp=Z,14nm,0.7s
DAG Danmarks Havn 48.01 10 *i* P **P** **20 38 36.0 +0.4**
DAG pmax pmax
comp=Z,10.0nm,0.7s
WMOK Wichita Mounta 48.38 86 *e*P **P** **20 38 37.4 -1.7**
WMOK pmax pmax
comp=Z,4.0nm,0.8s
WMOK Wichita Mounta 48.38 86 *e*P **P** **20 38 37.4 -1.7**
comp=Z,4.0nm,0.8s
SPITS Spitsbergen Ar 48.48 0 P **P** **20 38 39.7 +0.4**
comp=Z,5.7nm,0.9s,baz=346,slow=10,SNR=7.4
SPITS LR LR 20 59 55.9
comp=Z,164nm,18.1s,baz=20,slow=37
SUMG Summit 48.53 19 *i* P **P** **20 38 41.1 +0.9**
comp=Z,31nm,0.9s
SUMG Summit 48.53 19 *i* P **P** **20 38 41.1 +0.9**
SUMG pmax pmax
comp=Z,31nm,0.9s
SUMG Summit 48.53 19 *e*P **P** **20 38 40.8 +0.6**
comp=Z,38nm,1.0s
KSRS Korea Array 48.67 280 P **P** **20 38 41.8 +0.6**
comp=Z,5.8nm,0.8s,baz=54,slow=7.1,SNR=32
KSRS LR LR 20 59 06.5
comp=Z,78nm,20.3s,baz=50,slow=36
KSRS Korea Array 48.67 280 P **P** **20 38 41.8 +0.6**
KSRS pmax pmax
comp=Z,6.0nm,0.8s
KSRS MLR MLR
comp=Z,78nm,20.3s
KSAR Wonju Array Be 48.70 280 P **P** **20 38 41.8 +0.3**
KSAR Wonju Array Be 48.70 280 P **P** **20 38 41.8 +0.3**
TXAR Lajitas Array 49.31 95 P **P** **20 38 46.8 +0.4**
comp=Z,0.7nm,0.5s,baz=300,slow=5.8,SNR=11
TXAR LR LR 20 58 01.1
comp=Z,103nm,18.8s,baz=0.0,slow=34
SFJD Kangerlussuaq 49.69 28 LR LR 21 00 33.2
comp=Z,132nm,21.0s,baz=310,slow=37
TJN Taejon 49.73 279⇓ *i*P **P** **20 38 50.0 +0.7**
HDIL Hopedale 50.00 73 *e*P **P** **20 38 49.9 -1.5**
comp=Z,38nm,0.8s
SCHQ Schefferville 52.10 47 P **P** **20 39 07.1 +0.1**
comp=Z,4.5nm,1.0s,baz=334,slow=7.3,SNR=5.1
SCHQ LR LR 21 04 01.2
comp=Z,190nm,20.3s,baz=300,slow=39
TLY Talaya 52.37 308 P **P** **20 39 08.4 -0.6**
comp=Z,5.9nm,0.7s,baz=24,slow=7.5,SNR=12
TLY Talaya 52.37 308 *e*P **P** **20 39 09.7 +0.7**
TLY pmax pmax
comp=Z,15nm,1.0s
TLY MLR MLR
comp=Z,325nm,17.0s
TLY Talaya 52.37 308 *e*P **P** **20 39 09.7 +0.7**
comp=Z,14nm,1.0s
ZAK Zakamensk 53.40 307 *e*P **P** **20 39 16.6 -0.1**
ZAK pmax pmax
comp=Z,3.0nm,1.6s
SONM Songino Array 53.60 303 P **P** **20 39 19.1 +0.8**
comp=Z,7.3nm,0.9s,baz=49,slow=7.4,SNR=34
SONM LR LR 21 02 41.2
comp=Z,162nm,21.2s,baz=45,slow=37
MOY Mondy 53.60 310 *e*P **P** **20 39 19.0 +0.8**
HHC Hu-ho-hao-te 55.67 294 *e*P **P** **20 39 34.5 +1.2**
HHC PP **PP** **20 41 39.3 +1.8**
HHC S **S** **20 47 15.0 -1.5**
HHC sS sS 20 47 22.6 -14
HHC SS **SS** **20 50 58.6 -2.9**
HHC PMZ
comp=Z,31nm,1.1s
HHC PMZ
comp=Z,85nm,5.1s
HHC LN
comp=Z,190nm,15.9s
HHC LE
comp=Z,200nm,14.5s
HHC LZ
comp=Z,110nm,15.7s
TIA Tai'an 55.80 286 *e*P **P** **20 39 35.2 +1.0**
GUMO Guam 56.76 246 LR LR 21 02 18.7
comp=Z,45nm,18.6s,baz=54,slow=34
ARCES ARCESS Array B 56.99 356 P **P** **20 39 42.0 -0.2**
comp=Z,3.0nm,0.7s,baz=15,slow=7.7,SNR=6.0
ARCES LR LR 21 06 24.1
comp=Z,216nm,18.1s,baz=24,slow=38
ARCES ARCESS Array B 56.99 356 P **P** **20 39 42.0 -0.2**
NVS Novosibirsk 58.70 322 *e*P **P** **20 39 54.3 -0.1**
NVS pmax pmax
comp=Z,9.0nm,1.5s
ZALV Zalesovo Beam 58.79 320 P **P** **20 39 54.9 0.0**
comp=Z,3.3nm,0.7s,baz=36,slow=7.7,SNR=15
ZALV PcP **PcP** **20 40 45.7 +1.5**
comp=Z,2.3nm,0.8s,baz=46,slow=4.2,SNR=4.2
ZALV LR LR 21 08 00.5
comp=Z,298nm,18.8s,baz=70,slow=39
ZALV Zalesovo Beam 58.79 320 *i* P **P** **20 39 55.5 +0.5**
ZALV pmax pmax
comp=Z,3.0nm,0.7s
TMCR Tamitsa 61.38 349 *e*P P 20 40 18.1 +5.6
TMCR pmax pmax
comp=Z,16nm,0.7s
XAN Xi'an 62.01 290 P **P** **20 40 17.8 +0.4**
XAN pP **pP** **20 40 28.4 -0.9**
XAN sP **sP** **20 40 33.7 -0.4**
XAN PMZ
comp=Z,16nm,4.6s
XAN LN
comp=Z,140nm,19.4s
XAN LZ
comp=Z,78nm,17.4s
SOKR Solikamsk 62.58 338 *c i*P **pP** **20 40 31.5 -1.1**
SOKR pmax pmax
comp=Z,40nm,1.3s
SOKR MLR MLR
comp=Z,250nm,16.0s
PRGR Permogore 62.80 345 *e*P **P** **20 40 21.5 -0.6**
PRGR pmax pmax
comp=Z,18nm,1.1s
GTA Gaotai 62.94 300 *e*P **P** **20 40 24.3 +0.7**
GTA pP pP 20 40 28.9 -6.7
GTA sP sP 20 40 32.2 -8.1
GTA PMZ
comp=Z,13nm,1.0s
GTA PMZ
comp=Z,76nm,9.5s
GTA LN
comp=Z,220nm,15.9s
GTA LE
comp=Z,200nm,17.1s
GTA LZ
comp=Z,280nm,16.9s
LZH Lanzhou 63.29 295 *e*P **P** **20 40 27.8 +1.8**
LZH pP **pP** **20 40 38.0 0.0**
LZH PMZ
comp=Z,16nm,1.0s
KURK Kurchatov 63.68 321 P **P** **20 40 29.4 +1.3**
KURK pmax pmax
comp=Z,7.0nm,1.0s
KURK Kurchatov 63.68 321 *e*P **P** **20 40 28.5 +0.4**
comp=Z,21nm,1.1s
KURBB Kurchatov Arra 63.79 321 P **P** **20 40 29.4 +0.5**
comp=Z,7.0nm,1.0s,baz=42,slow=6.9,SNR=57
SVE Sverdlovsk 64.15 335 *e*P **P** **20 40 32.3 +1.2**
SVE pmax pmax
comp=Z,28nm,1.0s
ENH Enshi 64.49 287 *e*P **P** **20 40 32.8 -1.0**
comp=Z,7.0nm,0.8s
BVAR Borovoye Array 64.64 327 P **P** **20 40 35.0 +0.6**
comp=Z,9.5nm,0.8s,baz=45,slow=6.7,SNR=74
BVAR LR LR 21 13 07.0
comp=Z,132nm,18.3s,baz=60,slow=40
BVAR Borovoye Array 64.64 327 P **P** **20 40 35.0 +0.6**
BRVK Borovoye 64.64 327 *c i*P **P** **20 40 35.6 +1.2**
BRVK pmax pmax
comp=Z,23nm,1.7s
BRVK Borovoye 64.64 327 *e*P **P** **20 40 35.4 +1.0**
comp=Z,18nm,1.0s
ARU Arti 65.02 336 *d i*P **P** **20 40 37.6 +0.8**
ARU 20 41 09.5
ARU 20 42 59.6
ARU S **S** **20 49 16.4 +0.9**
ARU pmax pmax
comp=Z,18nm,1.2s
ARU MLR MLR
comp=Z,246nm,17.0s
ARU Arti 65.02 336 *e*P **P** **20 40 37.0 +0.2**
comp=Z,19nm,0.8s
FIA1 FINESS Array S 65.04 355 *e*P **P** **20 40 37.5 +0.6**
FINES FINESS Array B 65.04 355 P **P** **20 40 37.0 +0.2**
comp=Z,5.0nm,0.7s,baz=15,slow=7.9,SNR=14
FINES LR LR 21 11 13.8
comp=Z,114nm,18.4s,baz=58,slow=38
FINES FINESS Array B 65.04 355 *i* P **P** **20 40 37.4 +0.6**
FINES pmax pmax
comp=Z,5.0nm,0.7s
NB2 NORSAR Subarra 65.63 3 P **P** **20 40 41.4 +0.7**
comp=Z,0.5nm,0.7s,baz=0.7,slow=6.9
NOA NORSAR Array B 65.63 3 P **P** **20 40 40.9 +0.2**
comp=Z,3.4nm,0.8s,baz=358,slow=6.5,SNR=13
NOA LR LR 21 10 58.9
comp=Z,55nm,19.0s,baz=335,slow=38
HFS Hagfors 66.60 1 P **P** **20 40 47.0 +0.1**
comp=Z,8.0nm,0.7s,baz=42,slow=4.6,SNR=20
HFS Hagfors 66.60 1 P **P** **20 40 47.0 +0.1**
GYA Guiyang 69.00 286⇑ *i*P **P** **20 41 03.6 +0.9**
GYA pP **pP** **20 41 15.0 +0.2**
GYA PP **PP** **20 43 38.0 +3.0**
GYA ScP 20 45 27.4
GYA S **S** **20 50 03.0 -1.5**
GYA SKS **SKSac** **20 50 55.7 -3.4**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,90nm,5.0s
PMOR Pomariorio Ree 69.64 164 *e*T T 21 57 13.9
comp=Z,14nm,0.3s
EKA Eskdalemuir Ar 70.24 12 P **P** **20 41 10.6 +0.9**
comp=Z,6.0nm,0.8s,baz=1.3,slow=4.9,SNR=8.5
OBN Obninsk 70.38 348 P **P** **20 41 11.3 +0.8**
comp=Z,6.5nm,0.4s,baz=168,slow=21,SNR=4.5
OBN Obninsk 70.38 348⇑ *i*P **P** **20 41 11.6 +1.1**
OBN *e* 20 41 20.8
OBN *e* 20 41 35.3
OBN *e* 20 43 51.0
OBN pmax pmax
comp=Z,15nm,1.7s
OBN MLR MLR
comp=Z,161nm,19.0s
AKTO Aktyubinsk 70.58 333 P **P** **20 41 12.6 +0.7**
comp=Z,12nm,0.8s,baz=26,slow=5.5,SNR=40
ABKAR Akbulak array 71.12 332 *e*P **P** **20 41 15.9 +0.8**
comp=Z,27nm,0.9s
TKM2 Tokmak 2 71.29 318 *e*P **P** **20 41 17.7 +1.1**
TKM2 pmax pmax
comp=Z,17nm,1.3s
TKM2 Tokmak 2 71.29 318 *e*P **P** **20 41 17.7 +1.1**
comp=Z,16nm,1.3s
FRU Bishkek 71.75 319 *e*P **P** **20 41 19.5 +0.3**
FRU pmax pmax
comp=Z,60nm,2.0s
PPT2 Papeete2 71.92 166 *e*LR LR 21 03 06.9
comp=Z,164nm,25.5s
EKS2 Erkin-Say 72.23 319 *e*P **P** **20 41 23.4 +1.3**
EKS2 pmax pmax
comp=Z,9.0nm,0.7s
EKS2 Erkin-Say 72.23 319 *e*P **P** **20 41 23.4 +1.3**
comp=Z,9.1nm,0.7s
SUW Suwalki 72.61 356 *e*P **P** **20 41 24.0 0.0**
SUW Suwalki 72.61 356 *e*P **P** **20 41 24.0 0.0**
KKAR Karatay Array 73.09 322 *e*P **P** **20 41 27.7 +0.6**
KKAR pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 73.09 322 *e*P **P** **20 41 27.7 +0.6**
comp=Z,7.4nm,0.7s
VSR Storozhevoye 73.82 345 *e*P **P** **20 41 31.0 -0.2**
VSR pmax pmax
comp=N,20nm,1.1s
VSR pmax pmax
comp=E,9.0nm,1.1s
VSR pmax pmax
comp=Z,20nm,1.1s
LSA Lhasa 74.96 300 P **P** **20 41 40.2 +1.4**
LSA Lhasa 74.96 300 *e*P **P** **20 41 40.4 +1.7**
LSA pmax pmax
comp=Z,15nm,0.8s
LSA Lhasa 74.96 300 *e*P **P** **20 41 40.4 +1.7**
comp=Z,15nm,0.8s
CLL Collm 75.43 2⇑ *i*P **P** **20 41 41.0 +0.5**
CLL pmax pmax
comp=Z,4.0nm,1.0s
CLL Collm 75.43 2⇑ *i*P **P** **20 41 41.0 +0.5**
comp=Z,4.0nm,1.0s
CLL *i* pP **pP** **20 41 52.5 -0.3**
comp=Z,13nm,1.1s
CLL L L 21 18 00.0
comp=Z,100nm,20.2s
AKASG Malin Array Be 75.51 352 P **P** **20 41 41.0 +0.1**
comp=Z,4.6nm,0.7s,baz=9.8,slow=5.7,SNR=12
AKASG LR LR 21 16 54.8
comp=Z,126nm,19.6s,baz=15,slow=37
KIEV Kiev 75.52 352⇓ *i*P **P** **20 41 41.5 +0.5**
KIEV Kiev 75.52 352 *e*P **P** **20 41 41.3 +0.2**
comp=Z,38nm,1.1s
BRG Berggiesshubel 75.88 2 *e*P **P** **20 41 44.1 +1.0**
comp=Z,4.9nm,0.9s
BRG *e* 20 41 55.2
comp=Z,7.9nm,1.0s
BRG Berggiesshubel 75.88 2 *e*P **P** **20 41 44.1 +1.0**
BRG *e* 20 41 55.2
BRG pmax pmax
comp=Z,5.0nm,0.9s
KSP Ksiaz 75.93 0 *e*P pP 20 41 55.5 -0.2
KSP Ksiaz 75.93 0 *e*P pP 20 41 55.5 -0.2
SIJI Sorong 76.19 249 P **P** **20 41 45.7 +0.3**
comp=Z,6.3nm,0.7s,baz=30,slow=6.8,SNR=5.7
PVCC Panska Ves 76.23 1 *e*P **P** **20 41 46.3 +1.2**
PVCC *ex* x 20 41 52.3
PVCC *epP* **PcP** **20 41 54.7 -2.3**
PVCC *ex* x 20 41 57.7
PVCC Panska Ves 76.23 1 *e*P **P** **20 41 46.3 +1.2**
PVCC *e* 20 41 52.3
PVCC *e* 20 41 57.7
UPC Upice 76.27 0 *e*P **P** **20 41 46.6 +1.3**
UPC *ex* x 20 41 52.3
UPC *epP* **pP** **20 41 57.6 0.0**
UPC Upice 76.27 0 *e*P **P** **20 41 46.6 +1.3**
UPC *e* 20 41 52.3
UPC *e* 20 41 57.6
DPC Dobruska-Polom 76.42 0 *e*P **P** **20 41 46.9 +0.6**
DPC *ex* x 20 41 53.4
DPC *epP* **PcP** **20 41 58.1 +0.2**
DPC Dobruska-Polom 76.42 0 *e*P **P** **20 41 46.9 +0.6**
DPC *e* 20 41 53.4
DPC *e* 20 41 58.1
NKC Novy Kostel 76.49 3 *e*P **P** **20 41 47.9 +1.3**
NKC *ex* x 20 41 51.2
NKC *epP* **PcP** **20 41 55.5 -2.7**
NKC *ex* x 20 41 58.3
NKC Novy Kostel 76.49 3 *e*P **P** **20 41 47.9 +1.3**
NKC *e* 20 41 51.2
NKC *e* 20 41 55.5
NKC *e* 20 41 58.3
PRA Prague 76.69 1 *ep*P pP 20 42 00.3 +0.3
KRLC Kraliky 76.70 360 *e*P **P** **20 41 48.8 +1.0**
KRLC *ex* x 20 41 54.6
KRLC *epP* **PcP** **20 41 59.4 +0.3**
KRLC *esP* **sP** **20 42 04.0 -0.8**
KRLC Kraliky 76.70 360 *e*P **P** **20 41 48.8 +1.0**
KRLC *e* 20 41 54.6
KRLC *e* 20 41 59.4
LVV L'vov 76.75 355 *e*P pP 20 41 58.9 -1.5
PRU Pruhonice 76.77 1 *e*P **P** **20 41 49.5 +1.3**
PRU *ex* x 20 41 54.8
PRU *epP* **pP** **20 42 00.2 -0.3**
PRU AMS AMS 21 27 00.0
PRU Pruhonice 76.77 1 *e*P **P** **20 41 49.3 +1.3**
PRU *e* 20 41 54.8
PRU *e* 20 42 00.2
GOPC GO Pecny, Ondr 76.85 1 *e*P **P** **20 41 49.4 +0.7**
GOPC *epP* **PcP** **20 41 58.7 -1.0**
GOPC *ex* x 20 42 01.1
GOPC AMS AMS 21 26 30.0
comp=Z,100nm,14.9s
OKC Ostrava-Krasne 76.93 359 *e*P **P** **20 41 49.9 +0.9**
OKC *ex* x 20 41 53.8
OKC *epP* **PcP** **20 42 00.6 +0.6**
OKC Ostrava-Krasne 76.93 359 *e*P **P** **20 41 49.9 +0.9**
OKC *e* 20 41 53.8
OKC *e* 20 42 00.6
GRF Grafenberg Arr 76.99 3 *e*P **P** **20 41 50.5 +1.1**
comp=Z,8.0nm,1.1s
GRF *epP* **pP** **20 42 02.4 +0.7**
GRFO Grafenberg 76.99 3 *e*P **P** **20 41 50.5 +1.1**
GRFO pmax pmax
comp=Z,16nm,1.1s
GRFO Grafenberg 76.99 3 *e*P **P** **20 41 50.5 +1.1**
comp=Z,16nm,1.1s
KWP Kalwaria Pacla 77.00 356 *e*P **P** **20 41 50.8 +1.3**
KWP *e* 20 42 01.5
KWP Kalwaria Pacla 77.00 356 *e*P **P** **20 41 50.8 +1.3**
KWP *e* 20 42 01.5
STHS Stebnicka Huta 77.28 357 *e*P **P** **20 41 53.5 +2.4**
STHS pmax pmax
comp=Z,5.0nm,0.8s
STHS Stebnicka Huta 77.28 357 *e*P **P** **20 41 53.5 +2.4**
STHS *e*PCP **pP** **20 42 04.2 +0.8**
NIE Niedzica 77.30 357 *e*P **P** **20 41 52.6 +1.4**
NIE Niedzica 77.30 357 *e*P **P** **20 41 52.7 +1.5**
VRAC Vranov 77.47 360 P **P** **20 41 53.1 +1.0**
comp=Z,2.0nm,0.4s,baz=346,slow=4.4,SNR=5.1
TREC Trest 77.48 1 *e*P **P** **20 41 52.7 +0.5**
TREC *epP* **pP** **20 42 04.2 -0.3**
TREC AMS AMS 21 25 00.0
comp=Z,100nm,13.2s
TREC Trest 77.48 1 *e*P **P** **20 41 52.7 +0.5**
TREC *e* 20 42 04.2
TREC MLR MLR
comp=Z,100nm,13.2s
KHC Kasperske Hory 77.62 2 *e*P **P** **20 41 54.3 +1.3**
KHC *epP* **PcP** **20 42 02.3 -0.8**
KHC *ex* x 20 42 05.1
KHC Kasperske Hory 77.62 2 *e*P **P** **20 41 54.3 +1.3**
KHC *e* 20 42 02.3
KHC *e* 20 42 05.1
KHC Kasperske Hory 77.62 2 *e*P **P** **20 41 53.9 +0.9**
comp=Z,6.0nm,1.1s
KOLS Kolonicke sedl 77.72 356 *e*P **P** **20 41 54.8 +1.3**
KOLS pmax pmax
comp=Z,27nm,2.4s
KOLS Kolonicke sedl 77.72 356 *e*P **P** **20 41 54.8 +1.3**
KOLS *epP* **pP** **20 42 06.2 +0.4**
GERES GERESS Array B 77.90 2 P **P** **20 41 55.6 +0.9**
comp=Z,1.2nm,0.7s,baz=1.4,slow=5.3,SNR=14
UZH Uzhgorod 78.02 356 *e*P **P** **20 41 56.2 +1.0**
UZH *i* 20 41 59.0
KECS Kecovo 78.23 357 *e*P **P** **20 41 57.8 +1.4**
KECS pmax pmax
comp=Z,3.0nm,0.9s
KECS Kecovo 78.23 357 *e*P **P** **20 41 57.8 +1.4**
KECS *epP* **pP** **20 42 08.7 0.0**
ECH Echery 78.26 6 *e*P **P** **20 41 57.2 +0.7**
ECH pmax pmax
comp=Z,13nm,1.0s
ECH Echery 78.26 6 *e*P **P** **20 41 57.2 +0.7**
comp=Z,13nm,1.0s
TAPN Taplejung 78.63 301 *e*P **P** **20 42 00.1 +0.8**
comp=Z,32nm,0.9s
PSZ Piszkesteto 78.81 358⇑P **P** **20 41 59.6 -0.1**
PSZ Piszkesteto 78.81 358⇓ *i*P **P** **20 42 00.9 +1.2**
CONA Conrad Observa 78.85 0⇓ *i*PcP **P** **20 42 01.5 +1.6**
comp=Z,7.0nm,1.0s
BURAR Bucovina Array 78.88 354⇑P **P** **20 42 01.2 +1.1**
BURAR Bucovina Array 78.88 354⇑ *i*P **P** **20 42 01.2 +1.1**
GUN Gumba 79.10 302 *e*P **P** **20 42 03.3 +1.4**
comp=Z,38nm,0.5s
ODAN Odare 79.19 301 *e*P **P** **20 42 03.3 +1.0**
comp=Z,21nm,0.8s
MOTA Moosalm 79.33 4⇑ *i*PcP **P** **20 42 03.7 +1.1**
comp=Z,6.3nm,0.9s
WTTA Wattenberg 79.43 3⇑ *i*PcP **P** **20 42 04.8 +1.6**
comp=Z,7.7nm,1.0s
ARCR ARCALIA 79.46 354⇑ *i*P **P** **20 42 04.7 +1.6**
KKN Kakani 79.50 303 *e*P **P** **20 42 05.1 +1.2**
comp=Z,26nm,0.9s
RAMN Ramite 79.52 301 *e*P **P** **20 42 04.8 +0.7**
comp=Z,62nm,1.0s
ARSA Arzberg 79.52 1⇑ *i*PcP **P** **20 42 05.4 +1.9**
comp=Z,4.9nm,0.9s
PKI Pulchoki 79.61 303 *e*P **P** **20 42 05.4 +0.7**
comp=Z,49nm,1.1s
PKIN Phulchoki 79.61 303 *e*P **P** **20 42 05.4 +0.8**
comp=Z,28nm,0.9s
FETA Feichten 79.64 4⇑ *i*P **P** **20 42 04.3 0.0**
comp=Z,7.1nm,1.0s
GKN Gorkha 79.64 303 *e*P **P** **20 42 05.6 +0.9**
comp=Z,60nm,1.1s
CMAR Chiang Mai Arr 79.66 287 P **P** **20 42 05.0 +0.3**
comp=Z,3.6nm,0.9s,baz=22,slow=5.6,SNR=20
CMAR LR LR 21 18 41.8
comp=Z,69nm,20.9s,baz=27,slow=37
CMAR Chiang Mai Arr 79.66 287 *i* P **P** **20 42 05.5 +0.8**
CMAR pmax pmax
comp=Z,4.0nm,0.9s
CMAR Chiang Mai Arr 79.66 287 P **P** **20 42 05.0 +0.3**
KBA Koelnbreinsper 79.66 2⇑ *i*PcP **P** **20 42 06.5 +2.0**
comp=Z,12nm,1.1s
DMN Daman 79.73 303 *e*P **P** **20 42 06.4 +1.1**
comp=Z,47nm,1.0s
DRGR 79.84 356⇓P **P** **20 42 06.5 +1.2**
DRGR 79.84 356⇓ *i*P **P** **20 42 06.5 +1.2**
DAVOX Davos/Dischmat 79.84 5 P **P** **20 42 05.6 +0.2**
comp=Z,1.9nm,0.5s,baz=20,slow=8.1,SNR=3.2
SOKA Soboth 80.09 1⇑ *i*PcP **P** **20 42 08.3 +1.6**

comp=Z,9.2nm,1.1s
PERS Pernice 80.13 1 *e*P **P 20 42 08.2 +1.3**
PERS *e* 20 42 18.9
KIV Kislovodsk 80.24 341 *e*P **P 20 42 08.0 +0.5**
KIV pmax pmax
comp=Z,27nm,1.0s
KIV Kislovodsk 80.24 341 *e*P **P 20 42 08.0 +0.5**
comp=Z,27nm,1.0s
OBKA Obir 80.25 1⇑*i*PcP **P 20 42 09.1 +1.5**
comp=Z,9.5nm,0.8s
RKT Rikitea 80.33 153 *e*T T 22 10 34.5
comp=Z,8.9nm,0.3s
ANN Anapa 80.33 345 *e*P **P 20 42 10.0 +2.1**
ANN *e*S **S 20 52 10.0 -0.2**
ANN pmax pmax
comp=Z,35nm,1.3s
KOLN Koldanda 80.35 304 *e*P **P 20 42 09.7 +1.2**
comp=Z,25nm,0.7s
SIRR Siria 80.41 356⇑*i*P **P 20 42 09.1 +0.8**
KBZ Khabaz 80.42 341 P **P 20 42 08.4 +0.1**
comp=Z,6.1nm,0.9s,baz=354,slow=3.7,SNR=11
GORS Gorjuse 80.44 2 *e*P **P 20 42 09.1 +0.5**
GORS *e* 20 42 20.0
ROBS Robic 80.50 2 *i*P **P 20 42 09.4 +0.7**
DOPR Dopca 80.51 354⇓*i*P **P 20 42 10.9 +2.0**
PKSM Moragy 80.55 358⇑P **P 20 42 10.2 +1.2**
PKSM Moragy 80.55 358⇑*i*P **P 20 42 10.2 +1.2**
MLR Muntele Rosu 80.95 353 P **P 20 42 11.5 +0.2**
comp=Z,0.3nm,0.6s,baz=278,slow=3.3,SNR=2.5
MLR Muntele Rosu 80.95 353⇓P **P 20 42 14.0 +2.7**
MLR Muntele Rosu 80.95 353⇑*i*P **P 20 42 12.7 +1.4**
BZS Buzias 81.06 356⇑P **P 20 42 12.8 +1.1**
BZS Buzias 81.06 356⇑*i*P **P 20 42 12.8 +1.1**
VOIR 81.06 354⇑*i*P **P 20 42 13.8 +1.9**
VOIR 81.06 354⇑*i*P **P 20 42 13.8 +1.9**
ZEI Tsey 81.12 340 *e*P **P 20 42 13.7 +1.3**
ZEI pmax pmax
comp=Z,34nm,0.3s
LOT Lotru 81.13 355⇓*i*P **P 20 42 13.1 +0.8**
GZR Gura Zlata 81.23 355⇓P **P 20 42 14.1 +1.3**
GZR Gura Zlata 81.23 355⇓*i*P **P 20 42 14.1 +1.3**
BNI Bardonecchia 81.37 7 *e*P **P 20 42 14.3 +0.7**
BNI pmax pmax
comp=Z,20nm,1.1s
BNI Bardonecchia 81.37 7 *e*P **P 20 42 14.3 +0.7**
comp=Z,20nm,1.1s
GEYT Alibeck 81.96 328 P **P 20 42 17.3 +0.6**
comp=Z,3.6nm,0.8s,baz=343,slow=4.6,SNR=5.8
AKH Akhalkalaki 82.53 340⇓P **P 20 42 21.7 +1.9**
AKH Akhalkalaki 82.53 340⇓*i*P **P 20 42 21.7 +1.9**
DIVS Divibare 82.63 357⇓*i*P **P 20 42 21.4 +1.2**
GNI Garni 83.47 339 P **P 20 42 26.5 +1.8**
comp=Z,2.2nm,0.5s,baz=16,slow=7.4,SNR=2.2
GNI Garni 83.47 339 P **P 20 42 27.3 +2.6**
JMB Yambol 83.91 352⇑P P 20 42 35.1 +8.5
JMB Yambol 83.91 352⇑*i*P **P 20 42 27.6 +1.0**
VTS Vitosha 84.00 355⇓P **P 20 42 28.3 +0.9**
VTS Vitosha 84.00 355⇑*i*P **P 20 42 28.4 +1.0**
AQU L'Aquila 84.39 2⇑P **P 20 42 31.2 +2.0**
AQU L'Aquila 84.39 2⇑*i*P **P 20 42 31.1 +1.9**
KDZ Kurdzhali 84.81 353⇓P P 20 42 35.4 +4.2
KDZ Kurdzhali 84.81 353⇓*i*P **P 20 42 33.0 +1.8**
MMB Musomiste 84.97 354⇑P **P 20 42 34.1 +2.0**
MMB Musomiste 84.97 354⇑*i*P **P 20 42 34.1 +2.0**
ESDC Sonseca Array 85.45 16 P **P 20 42 35.5 +0.9**
comp=Z,0.2nm,0.5s,baz=343,slow=5.3,SNR=4.0
ANTO Ankara 85.83 347⇑P P 20 42 41.9 +5.4
ANTO Ankara 85.83 347⇓*i*P **P 20 42 38.6 +2.1**
BRTR Keskin Array B 85.86 347 P **P 20 42 37.9 +1.1**
comp=Z,4.0nm,0.9s,baz=26,slow=3.3,SNR=13
BRTR LR LR 21 25 16.5
comp=Z,65nm,19.4s,baz=8.0,slow=39
MALT Malatya 86.49 343⇑P P 20 42 47.2 +7.4
MALT Malatya 86.49 343⇑*i*P **P 20 42 42.5 +2.7**
CUC Castrocucco 86.78 0 *e*P **P 20 42 40.1 -1.0**
comp=Z,9.1nm,1.0s
CHLP Challavanipeta 87.80 299 *e*P **P 20 42 43.8 -2.4**
CHLP IAmb IAmb 20 42 49.1
comp=Z,21nm,1.3s
CHLP *e*pP **pP 20 42 55.1 -3.6**
PVM Polavaram 90.11 300 *e*P **P 20 42 57.4 +0.2**
PVM IAmb IAmb 20 43 09.9
comp=Z,22nm,1.2s
WRA Warramunga Arr 90.54 236 P **P 20 43 00.7 +1.7**
comp=Z,0.5nm,0.8s,baz=33,slow=5.8,SNR=2.7
HYBB Hyderabad (bro 91.53 302 *e*P **P 20 43 04.5 +0.7**
HYBB *e*pP **pP 20 43 14.7 -1.6**
HYBB IAmb IAmb 20 43 16.8
comp=Z,24nm,1.1s
HYBB *e*SKSac **SKSac 20 53 28.1 -5.1**
HYBB *e*SKSac **SKSac 20 53 28.1 -5.1**
HYB Hyderabad 91.53 302 *i*P **P 20 43 04.0 +0.2**
HYB *e* 20 43 15.0
KLRI Killari 91.95 304 *e*P **P 20 43 05.4 -0.4**
KLRI *e*SKSac **SKSac 20 53 34.3 -1.2**
ADKI Addanki 92.14 300 *e*P **P 20 43 07.2 +0.6**
ADKI *e*pP **pP 20 43 18.1 -1.0**
ADKI IAmb IAmb 20 43 20.1
comp=Z,16nm,1.1s
MMAI Mount Meron Ar 92.18 344 P **P 20 43 06.3 -0.3**
comp=Z,1.1nm,0.7s,baz=357,slow=7.2,SNR=2.8
SRLM Srisailam 92.47 301 *e*P **P 20 43 07.5 -0.7**
SRLM *e*SKSac **SKSac 20 53 36.3 -2.2**
ASAR Alice Springs 93.90 235 P **P 20 43 16.2 +1.8**
comp=Z,0.2nm,0.7s,baz=33,slow=4.7,SNR=3.5
SKHT Srikalahasti 94.04 299 *e*P **P 20 43 13.2 -2.1**
SKHT *e*SKSac **SKSac 20 53 42.1 -4.9**

MEX 01 20:36:57.6±0.6, 14°.81N×93°.72W, h16km±9km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.01**	**29**	*e*P	Pb	20 37 13.4	-3.3
PCIG				*i*S	Sb	20 37 25.1	-4.6
TGIG		**2.04**	**16**	*i*P	Pn	20 37 28.6	-2.7
TGIG				*i*S	Sn	20 37 52.5	-3.9
CCIG	**Comitan**	**2.11**	**46**	*e*P	Pn	20 37 29.9	-2.6
CCIG				*i*S	Sn	20 37 53.3	-5.2
HUIG	**Huatulco**	**2.49**	**293**	*i*P	Pn	20 37 34.5	-3.0
HUIG				*i*S	Sn	20 38 02.9	-4.7

IDC 01 20:38:08.9±348.0, 56°.71N×29°.09E, h0km, Error ellipse: s-maj=146.1km s-min=92.3km az=94.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**4.48**	**86**	*i*		21 05 20.0	
	baz=272,slow=322,SNR=1.6						
I26DE	**FREYUNG INFRAS**	**12.16**	**236**	*i*		21 50 30.0	
	baz=42,slow=317,SNR=2.1						
I48TN	**KESRA INFRASON**	**24.80**	**221**	*i*		23 12 00.0	
	baz=24,slow=320,SNR=0.4						

RSPR 01 20:42:30.5, 19°.08N×64°.89W, h113km±11km, MD3.4/3, 12C-4D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABV	**Anegada**	**0.63**	**124**⇑	*e*P	Pn	20 42 46.9	-1.6
ABV	**Anegada**	**0.63**	**124**⇑	*e*P	Pn	20 42 46.9	-1.6
ABV				*e*S	Sn	20 43 02.7	+0.6
TBVI	**Tortola**	**0.71**	**159**⇓	*e*P	Pn	20 42 48.6	-0.5
TBVI				*e*S	Sn	20 43 03.6	+0.5
TBVI	**Tortola**	**0.71**	**159**⇓	*e*P	Pn	20 42 48.6	-0.5
TBVI				*e*S	Sn	20 43 03.6	+0.5
STVI	**Saint Thomas**	**0.73**	**185**⇑	*e*P	Pn	20 42 48.2	-1.1
STVI	**Saint Thomas**	**0.73**	**185**⇑	*e*P	Pn	20 42 48.2	-1.1
STVI				*e*S	Sn	20 43 03.0	-0.5
SJG	**San Juan**	**1.54**	**231**⇑	*e*P	Pn	20 42 57.8	-0.1
SJG	**San Juan**	**1.54**	**231**⇑	*e*P	Pn	20 42 57.7	-0.2
SJG				*e*S	Sn	20 43 18.1	-0.7
SJG	**San Juan**	**1.54**	**231**⇑	*e*P	Pn	20 42 57.7	-0.2
SJG	**San Juan**	**1.54**	**231**⇑	*e*P	Pn	20 42 57.8	-0.1
SJG				*e*S	Sn	20 43 18.1	-0.7
CELP	**Cerrillos**	**1.89**	**238**⇑	*e*P	Pn	20 43 02.6	+0.3
CELP	**Cerrillos**	**1.89**	**238**⇑	*e*P	Pn	20 43 02.6	+0.3
AOPR	**Arecibo Observ**	**1.92**	**248**⇑	*e*P	Pn	20 43 01.9	-0.7
AOPR	**Arecibo Observ**	**1.92**	**248**⇑	*e*P	Pn	20 43 01.9	-0.7
OBIP	**Obispado Ponce**	**1.93**	**238**⇓	*e*P	Pn	20 43 03.4	+0.7

OBIP	**Obispado Ponce**	**1.93**	**238**⇓	*e*P	Pn	20 43 03.4	+0.7

*NIED **01** 20:52:00,29°.70N×138°.10E,h500km,Mw4.7 Best double couple: M0 1.47000×10^16 NP1:ϕ=279.00000°, δ45.00000°,λ=-25.00000°. NP2:ϕ=27.00000°,δ73.00000°, λ=-133.00000°.*
*JMA **01** 20:52:10.9±0.3,29°.69N×138°.06E,h532km±5km,M4.7*
*ISCJB **01** 20:52:12.0±0.2,29°.71N±0°.03×137°.88E±0°.03, h506km±2km,mb4.4/78,Error ellipse: s-maj=4.7km s-min=4.1km az=175.8*
*MOS **01** 20:52:12.2±0.9,29°.72N×137°.64E,h503km,mb4.3/35, Error ellipse: s-maj=12.1km s-min=6.3km az=98.3*
*IDC **01** 20:52:12.5±0.5,29°.71N×137°.78E,h496km±6km,mb3.7/38, mb1 3.8/43,mb1mx3.7/52,mbtmp4.6/43,Error ellipse: s-maj=8.8km s-min=6.0km az=88.0*
*BJI **01** 20:52:12.6,29°.74N×137°.58E,h490km,mb5.0/35, mB4.6/16*
ISC 01 20:52:13.0±0.5, 29°.75N±0°.04×137°.86E±0°.05, h503km±4km, h504km:pP-P,n237,σ1°25/288,mb4.4/78,16C-15D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**3.70**	**26**	P	**P**	**20 53 29.6**	**+0.5**
JHCJ				S	**S**	**20 54 31.4**	**+0.1**
JHJ2	**Mitsune**	**3.74**	**26**	P	**P**	**20 53 29.9**	**+0.5**
TTO1	**TONANKAI O.B.S**	**3.96**	**347**	P	**P**	**20 53 33.7**	**+2.9**
TTO2	**TONANKAI O.B.S**	**4.03**	**350**	P	**P**	**20 53 34.3**	**+2.9**
JWZ	**Kozaga**	**4.19**	**335**	P	**P**	**20 53 34.6**	**+1.6**
JWZ				S	**S**	**20 54 40.0**	**+1.6**
CBIJ	**Chichi jima**	**4.64**	**124**	P	**P**	**20 53 35.3**	**-1.7**
CBIJ				S	**S**	**20 54 40.9**	**-4.6**
JCJ	**Chichijima**	**4.64**	**124**	P	**P**	**20 53 35.4**	**-1.6**
	26nm,0.3s,baz=334,slow=15,SNR=41						
JCJ				S	**S**	**20 54 41.3**	**-4.2**
	108nm,0.3s,baz=267,slow=22,SNR=23						
JKN2	**Miekihoku**	**4.67**	**344**	P	**P**	**20 53 38.8**	**+1.7**
JKN2				S	**S**	**20 54 47.3**	**+1.5**
JIE	**Ise**	**4.73**	**348**	P	**P**	**20 53 39.5**	**+2.0**
JIE				S	**S**	**20 54 47.9**	**+1.2**
JTO	**Tosashimizu**	**5.32**	**307**	P	**P**	**20 53 44.6**	**+1.7**
JTO				S	**S**	**20 54 57.7**	**+1.2**
BSO1	**Boso 1**	**5.55**	**28**	P	**P**	**20 53 43.8**	**-0.6**
BSO1				S	**S**	**20 54 58.8**	**-0.6**
JOD2	**Odawara 2**	**5.59**	**10**	P	**P**	**20 53 44.8**	**-0.6**
JOD2				*e*S	**S**	**20 55 00.7**	**-0.4**
JRY	**Ryogami san**	**6.31**	**8**	P	**P**	**20 53 52.1**	**-0.2**
JRY				S	**S**	**20 55 11.3**	**-2.4**
JHS	**Saijyo**	**6.59**	**324**	P	**P**	**20 53 56.4**	**+1.3**
JHS				*e*S	**S**	**20 55 20.1**	**+1.3**
MJAR	**Matsushiro Arr**	**6.78**	**2**	P	**P**	**20 53 56.4**	**-0.5**
	16nm,0.3s,baz=182,slow=12,SNR=104						
MJAR				S	**S**	**20 55 17.7**	**-4.4**
	0.9nm,0.3s,baz=188,slow=16,SNR=4.3						
MJAR	**Matsushiro Arr**	**6.78**	**2**	P	**P**	**20 53 56.4**	**-0.5**
MJAR				S	**S**	**20 55 17.7**	**-4.4**
MJAR				pmax	pmax		
	comp=Z,16nm,0.3s						
MJAR				smax	smax		
	comp=N,1.0nm,0.3s						
MAJO	**Matsushiro**	**6.78**	**2**	*c* *i*P	**P**	**20 53 56.5**	**-0.4**
MAT	**Matsushiro**	**6.78**	**2**	P	**P**	**20 53 56.4**	**-0.5**
MAT				S	**S**	**20 55 18.8**	**-3.3**
JMZ	**Minamidaito 2**	**7.07**	**238**	P	**P**	**20 54 00.9**	**+0.9**
JSJ	**Shimokoshiki**	**7.27**	**287**	P	**P**	**20 54 02.6**	**+0.7**
JSJ				S	**S**	**20 55 31.4**	**+0.1**
SAI	**Saigo**	**7.47**	**331**	P	**P**	**20 54 04.5**	**+0.7**
KSBUS	**Busan**	**9.19**	**309**	P	**P**	**20 54 22.5**	**+0.8**
	SNR=15						
KSBUS	**Busan**	**9.19**	**309**	P	**P**	**20 54 22.5**	**+0.8**
	SNR=15						
JMK	**Ichinoseki**	**9.59**	**16**	P	**P**	**20 54 26.5**	**+0.7**
JMK				S	**S**	**20 56 11.2**	**-3.8**
KSPHA	**Pohang**	**9.59**	**314**	P	**P**	**20 54 26.4**	**+0.5**
	SNR=6.7						
KSPHA	**Pohang**	**9.59**	**314**	P	**P**	**20 54 26.3**	**+0.5**
	SNR=18						
KSDAG	**Daegu**	**9.64**	**311**	P	**P**	**20 54 27.1**	**+0.7**
	SNR=28						
KSDAG	**Daegu**	**9.64**	**311**	P	**P**	**20 54 27.1**	**+0.7**
	SNR=28						
KSYOC	**YEONGCHEON**	**9.72**	**312**	P	**P**	**20 54 28.3**	**+1.1**
	SNR=11						
KSYOC	**YEONGCHEON**	**9.72**	**312**	P	**P**	**20 54 28.3**	**+1.1**
	SNR=9.1						
KSNAH	**Namhae**	**9.80**	**304**	P	**P**	**20 54 29.3**	**+1.2**
	SNR=22						
KSNAH	**Namhae**	**9.80**	**304**	P	**P**	**20 54 29.3**	**+1.2**
	SNR=22						
KSJIN	**Jinju**	**9.90**	**306**	P	**P**	**20 54 30.1**	**+0.9**
	SNR=18						
KSJIN	**Jinju**	**9.90**	**306**	P	**P**	**20 54 30.1**	**+0.9**
	SNR=18						
KSULJ	**Uljin**	**9.90**	**317**	P	**P**	**20 54 29.3**	**+0.2**
	SNR=27						
KSULJ	**Uljin**	**9.90**	**317**	P	**P**	**20 54 29.3**	**+0.2**
	SNR=27						
KSEUS	**ULSEONG**	**10.12**	**313**	P	**P**	**20 54 32.1**	**+0.6**
	SNR=35						
KSEUS	**ULSEONG**	**10.12**	**313**	P	**P**	**20 54 32.1**	**+0.6**
	SNR=35						
KSKOH	**Goheung**	**10.19**	**301**	P	**P**	**20 54 33.3**	**+1.0**
	SNR=15						
KSKOH	**Goheung**	**10.19**	**301**	P	**P**	**20 54 33.3**	**+1.0**
	SNR=15						
KSJJU	**Jeju**	**10.32**	**294**	P	**P**	**20 54 34.6**	**+0.9**
	SNR=6.3						
KSTBA	**Taebaek**	**10.45**	**317**	P	**P**	**20 54 35.6**	**+0.5**
	SNR=40						
KSTBA	**Taebaek**	**10.45**	**317**	P	**P**	**20 54 35.5**	**+0.5**
	SNR=13						
KSSAJ	**Sangju**	**10.50**	**312**	P	**P**	**20 54 35.7**	**+0.3**
	SNR=26						
KSCPR	**CHUPUNGNYEONG**	**10.51**	**310**	P	**P**	**20 54 35.9**	**+0.3**
	SNR=15						
KSWAN	**Wando**	**10.53**	**299**	P	**P**	**20 54 36.2**	**+0.4**
	SNR=8.8						
KSWAN	**Wando**	**10.53**	**299**	P	**P**	**20 54 36.2**	**+0.4**
	SNR=8.8						
KSBON	**Boeun**	**10.78**	**311**	P	**P**	**20 54 39.0**	**+0.4**
	SNR=15						
KSYOW	**Yeongwol**	**10.79**	**316**	P	**P**	**20 54 38.9**	**+0.4**
	SNR=12						
KSJES	**JEONGSEON**	**10.83**	**317**	P	**P**	**20 54 39.2**	**+0.2**
	SNR=5.8						
KSJEU	**Jeongeup**	**10.84**	**305**	P	**P**	**20 54 39.3**	**+0.2**
	SNR=9.8						
KSJDO	**Jido**	**10.86**	**299**	P	**P**	**20 54 39.7**	**+0.3**
	SNR=10						
KSCHJ	**Chungju**	**10.89**	**313**	P	**P**	**20 54 39.9**	**+0.3**
	SNR=6.7						
KSDGY	**Daegwallycong**	**11.00**	**318**	P	**P**	**20 54 40.7**	**-0.2**
	SNR=18						
TJN	**Taejon**	**11.00**	**310**⇓	*i*P	**P**	**20 54 40.8**	**0.0**
KSJMJ	**Jumunjin**	**11.09**	**319**	P	**P**	**20 54 41.6**	**0.0**
	SNR=7.9						
KSRS	**Korea Array**	**11.29**	**315**	P	**P**	**20 54 43.9**	**+0.1**
	comp=N,4.4nm,0.3s,baz=127,slow=10,SNR=130						
KSRS				S	**S**	**20 56 45.6**	**-2.5**
	baz=129,slow=17,SNR=2.1						
KSRS	**Korea Array**	**11.29**	**315**	P	**P**	**20 54 43.9**	**+0.1**
KSRS				S	**S**	**20 56 45.6**	**-2.5**
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KSCEA	**Cheonan**	**11.33**	**311**	P	**P**	**20 54 44.5**	**+0.3**
	SNR=6.5						
KSSKC	**Sokcho**	**11.50**	**320**	P	**P**	**20 54 45.9**	**-0.2**
	SNR=7.9						
KSIJA	**INJE**	**11.53**	**318**	P	**P**	**20 54 46.1**	**-0.3**
	SNR=18						
KSCHC	**Chuncheon**	**11.56**	**316**	P	**P**	**20 54 46.7**	**-0.1**
	SNR=14						
SEHB	**SEOHWA**	**11.64**	**319**	P	**P**	**20 54 47.6**	**0.0**
	SNR=43						
KSCWO	**Cheorwon**	**11.94**	**317**	P	**P**	**20 54 50.5**	**-0.3**
	SNR=16						
YNCB	**YEONCHEON**	**12.27**	**315**	P	**P**	**20 54 53.6**	**-0.6**
	SNR=12						
KSMUS	**Musan**	**12.28**	**314**	P	**P**	**20 54 53.9**	**-0.4**
	SNR=9.1						
KSGAH	**Ganghwa**	**12.37**	**313**	P	**P**	**20 54 54.7**	**-0.5**
	SNR=15						
ERM	**Erimo**	**12.96**	**18**⇑	*e*P	**P**	**20 55 03.4**	**+2.0**

ASAJ	**Asahikawa**	**14.82**	**13**	P	**P**	**20 55 22.0**	**+1.0**
	baz=226,slow=11						
USRK	**Ussuriysk Ar.**	**15.15**	**344**	P	**P**	**20 55 24.6**	**+0.2**
	comp=Z,3.2nm,0.3s,baz=162,slow=10.0,SNR=103						
MDJ	**Mudanjiang**	**16.22**	**338**	P	**P**	**20 55 35.3**	**-0.3**
MDJ				PMZ			
	comp=Z,23nm,0.8s						
MDJ				PMZ			
	comp=Z,160nm,6.4s						
CN2	**Changchun**	**17.16**	**328**	⇑P	**P**	**20 55 44.7**	**-0.4**
CN2				*e*S	**S**	**20 58 34.6**	**-4.1**
CN2				PMZ			
	comp=Z,60nm,0.8s						
CN2				PMZ			
	comp=Z,200nm,3.0s						
GUMO	**Guam**	**17.35**	**157**	P	**P**	**20 55 47.7**	**+0.4**
	comp=Z,21nm,0.3s,baz=316,slow=2.3,SNR=23						
GUMO	**Guam**	**17.35**	**157**	P	**P**	**20 55 47.7**	**+0.4**
GUMO				pmax	pmax		
	comp=Z,21nm,0.3s						
YSS	**Yuzh-Sakhalins**	**17.59**	**11**⇑	*e*P	**P**	**20 55 53.5**	**+4.4**
YSS				*e*S	**S**	**20 58 46.8**	**+1.2**
YSS				pmax	pmax		
	comp=Z,60nm,0.9s						
YSS				smax	smax		
	comp=N,300nm,4.0s						
YSS				smax	smax		
	comp=E,400nm,4.0s						
TIA	**Tai'an**	**18.53**	**296**	⇓P	**P**	**20 55 57.3**	**-0.7**
TIA				PMZ			
	comp=E,20nm,0.6s						
HABR	**Khabarovsk**	**18.82**	**354**	*c* *i*P	**P**	**20 56 01.1**	**+0.8**
HABR				*e*S	**S**	**20 59 08.1**	**+2.6**
HABR				pmax	pmax		
	comp=N,30nm,1.1s						
HABR				pmax	pmax		
	comp=Z,74nm,1.1s						
HABR				pmax	pmax		
	comp=E,19nm,1.3s						
HABR				MLR	MLR		
	comp=Z,80nm,17.0s						
UGL	**Uglegorsk**	**19.56**	**8**	*e*P	**P**	**20 56 08.0**	**+0.9**
UGL				*e*S	**S**	**20 59 20.4**	**+2.8**
KLR	**Kul'dur**	**20.00**	**348**	*e*P	**P**	**20 56 08.6**	**-2.5**
KLR				pmax	pmax		
	comp=E,57nm,1.6s						
KLR				pmax	pmax		
	comp=Z,85nm,1.6s						
WHN	**Wuhan**	**20.34**	**278**	⇓P	**P**	**20 56 14.7**	**+0.2**
WHN				PMZ			
	comp=Z,68nm,0.8s						
HHC	**Hu-ho-hao-te**	**24.06**	**304**	*e*P	**P**	**20 56 49.0**	**+1.1**
HHC				S	**S**	**21 00 30.1**	**+0.7**
HHC				ScS	**ScS**	**21 06 50.6**	**-0.4**
HHC				PMZ			
	comp=Z,26nm,1.1s						
HHC				PMZ			
	comp=Z,85nm,5.3s						
XAN	**Xi'an**	**24.90**	**287**	P	**P**	**20 56 55.0**	**-0.4**
XAN				PMZ			
	comp=Z,20nm,0.5s						
PETK	**Petropavlovsk-**	**27.49**	**26**	P	**P**	**20 57 19.9**	**+2.0**
	comp=Z,1.4nm,0.6s,baz=222,slow=17,SNR=6.0						
PETK	**Petropavlovsk-**	**27.49**	**26**	P	**P**	**20 57 19.9**	**+2.0**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LZH	**Lanzhou**	**29.14**	**291**	*e*P	**P**	**20 57 33.0**	**+0.2**
LZH				PMZ			
	comp=Z,28nm,1.1s						
LZH				PMZ			
	comp=Z,84nm,4.0s						
KDM	**Kudat**	**30.13**	**225**	⇑P	**P**	**20 57 42.6**	**+1.3**
KDM	**Kudat**	**30.13**	**225**	⇑P	**P**	**20 57 42.6**	**+1.3**
SONM	**Songino Array**	**30.16**	**316**	P	**P**	**20 57 41.8**	**+0.4**
	comp=Z,3.4nm,0.5s,baz=127,slow=8.0,SNR=26						
SONM				pP	**pP**	**20 59 07.4**	**+0.4**
	comp=Z,4.2nm,1.0s,baz=119,slow=10,SNR=7.4						
SONM				ScP	**ScP**	**21 03 21.0**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=149,slow=3.9,SNR=5.0						
SONM	**Songino Array**	**30.16**	**316**	P	**P**	**20 57 41.8**	**+0.4**
SONM				*PP	**pP**	**20 59 07.4**	**+0.4**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SONM				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM				pmax	pmax		
	comp=N,1.0nm,0.7s						
SDKM	**Sandakan**	**30.91**	**223**	⇓P	**P**	**20 57 48.7**	**+0.5**
SDKM	**Sandakan**	**30.91**	**223**	⇓P	**P**	**20 57 48.7**	**+0.5**
KMI	**Kunming**	**31.43**	**270**	P	**P**	**20 57 52.7**	**-0.1**
KMI				PMZ			
	comp=N,20nm,1.2s						
TSM	**Tawau**	**31.61**	**221**	⇓P	**P**	**20 57 56.4**	**+2.2**
TSM	**Tawau**	**31.61**	**221**	⇓P	**P**	**20 57 56.4**	**+2.2**
KMSI	**Cibinong**	**31.89**	**207**	P	**P**	**20 57 56.7**	**+0.2**
	comp=N,108nm,0.8s						
GTA	**Gaotai**	**32.57**	**298**	P	**P**	**20 58 02.0**	**-0.2**
GTA				PMZ			
	comp=N,13nm,1.1s						
YAK	**Yakutsk**	**32.73**	**353**	P	**P**	**20 58 03.4**	**+0.4**
	comp=N,2.5nm,0.3s,baz=176,slow=19,SNR=4.8						
YAK				S	**S**	**21 02 41.0**	**-2.2**
	comp=N,1.4nm,0.3s,baz=128,slow=23,SNR=7.0						
YAK	**Yakutsk**	**32.73**	**353**	*e*P	**P**	**20 58 02.2**	**-0.8**
YAK				*e**PP	**pP**	**20 59 27.9**	**-1.8**
YAK				*e*		20 59 36.9	
YAK				*e*S	**S**	**21 02 41.2**	**-2.0**
YAK				*e*		21 07 25.9	
YAK				pmax	pmax		
	comp=Z,20nm,1.0s						
YAK				pmax	pmax		
	comp=N,11nm,1.3s						
YAK				pmax	pmax		
	comp=Z,47nm,1.8s						
YAK				pmax	pmax		
	comp=N,48nm,1.7s						
YAK				smax	smax		
	comp=N,19nm,1.0s						
YAK				smax	smax		
	comp=E,26nm,1.5s						
MRSI	**Marisa**	**32.83**	**210**	P	**P**	**20 58 04.5**	**0.0**
	comp=E,50nm,1.1s,comp=E,536nm						
UBPT	**Khong Chiam**	**33.07**	**251**	P	**P**	**20 58 07.3**	**+0.7**
	comp=E,35nm,1.1s,comp=E,1μm						
ZAK	**Zakamensk**	**33.10**	**318**	⇓*i*P	**P**	**20 58 06.2**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SKNT	**Sakolnakorn**	**33.47**	**255**	P	**P**	**20 58 10.3**	**+0.3**
	comp=Z,97nm,1.0s						
TLY	**Talaya**	**33.48**	**321**	P	**P**	**20 58 09.9**	**+0.3**
	comp=Z,13nm,0.6s,baz=117,slow=14,SNR=15						
TLY	**Talaya**	**33.48**	**321**	*e*P	**P**	**20 58 10.7**	**+1.1**
TLY				pmax	pmax		
	comp=Z,14nm,0.7s						
SANI	**Sanana**	**33.60**	**202**	P	**P**	**20 58 10.3**	**-0.7**
	comp=Z,36nm,0.8s,comp=Z,442nm						
MPSI	**Mapaga**	**33.89**	**214**	P	**P**	**20 58 12.9**	**-0.6**
	comp=Z,12nm,1.1s						
APSI	**Ampana**	**34.20**	**210**	P	**P**	**20 58 15.5**	**-0.6**
	comp=Z,60nm,1.4s,comp=Z,622nm						
SEY	**Seymchan**	**34.50**	**12**	P	**P**	**20 58 18.7**	**+0.8**
	comp=Z,4.2nm,0.6s,baz=210,slow=5.5,S

comp=Z,7.1nm,0.4s,baz=71,slow=4.4,SNR=106
CMAR PcP **PcP** **21 00 47.6 +0.1**
comp=Z,1.2nm,0.6s,baz=48,slow=1.7,SNR=4.8
CMAR ScP **ScP** **21 03 46.1 -0.4**
comp=Z,2.2nm,0.9s,baz=45,slow=2.0,SNR=9.4
SPSI Sidrap Palu 37.74 210 P P 20 58 40.6 -4.9
comp=Z,12nm,1.1s
UTHA Uthaitani 37.97 257 P **P** **20 58 48.1 +0.7**
comp=Z,17nm,0.9s,comp=Z,147nm
MHMT Maesarieng 38.09 262 P **P** **20 58 49.1 +0.8**
comp=Z,21nm,1.1s,comp=Z,233nm
KAPI Kappang 38.69 210 P **P** **20 58 53.3 +0.1**
comp=Z,12nm,0.8s,baz=30,slow=8.1,SNR=4.7
SRDT SRDT 38.83 255 P **P** **20 58 55.2 +0.8**
comp=Z,127nm,1.1s,comp=Z,4µm
PHET Kaeng Krachan 39.13 253 P **P** **20 58 58.0 +1.2**
comp=Z,13nm,0.8s,comp=Z,194nm
LSA Lhasa 40.34 282 P **P** **20 59 07.1 +0.1**
TIXI Tiksi 42.23 356⇑*iP* **P** **20 59 21.1 +0.3**
TIXI pmax pmax
comp=Z,9.0nm,0.6s
TAPN Taplejung 43.84 280 *e*P **P** **20 59 34.6 +0.2**
comp=Z,51nm,0.4s
ODAN Odare 44.25 279 *e*P **P** **20 59 37.6 +0.1**
comp=Z,98nm,0.8s
RAMN Ramite 44.90 279 *e*P **P** **20 59 42.7 +0.1**
comp=Z,91nm,0.5s
ZALV Zalesovo Beam 44.98 318 P **P** **20 59 42.0 -0.4**
comp=Z,3.0nm,0.5s,baz=87,slow=7.5,SNR=18
ZALV PcP **PcP** **21 01 12.3 -0.6**
comp=Z,0.9nm,0.3s,baz=121,slow=3.4,SNR=5.9
ZALV ScP **ScP** **21 04 15.6 -1.6**
comp=Z,1.6nm,0.7s,baz=140,slow=5.8,SNR=5.4
ZALV Zalesovo Beam 44.98 318 P **P** **20 59 42.0 -0.4**
ZALV 21 01 12.4
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV pmax pmax
comp=N,2.0nm,0.7s
PWJI Pagerwojo 45.15 218 P **P** **20 59 42.6 -1.7**
comp=N,80nm,0.7s
GUN Gumba 45.26 281 *e*P **P** **20 59 46.0 +0.6**
comp=N,124nm,0.4s
PSI Prapat 45.61 241 P **P** **20 59 47.2 -0.8**
comp=N,12nm,0.6s,baz=37,slow=17,SNR=8.7
PSI Prapat 45.61 241 P **P** **20 59 47.2 -0.8**
PSI pmax pmax
comp=Z,12nm,0.6s
PKI Pulchoki 45.75 281 *e*P **P** **20 59 49.0 -0.2**
comp=Z,21nm,0.4s
PKIN Phulchoki 45.76 281 *e*P **P** **20 59 49.0 -0.2**
comp=Z,28nm,0.5s
KKN Kakani 45.80 281 *e*P **P** **20 59 49.6 +0.1**
comp=Z,44nm,0.4s
DMN Daman 46.00 281 *e*P **P** **20 59 51.1 +0.1**
comp=Z,51nm,0.5s
GKN Gorkha 46.29 282 *e*P **P** **20 59 53.1 0.0**
comp=Z,30nm,0.3s
MNSI Mandailing Nat 46.42 239 P **P** **20 59 53.2 -0.8**
comp=Z,38nm,1.1s
LEM Lembang 46.55 224 P **P** **20 59 54.3 -0.9**
comp=Z,78nm,0.7s,baz=60,slow=8.1,SNR=20
LEM Lembang 46.55 224 P **P** **20 59 54.3 -0.9**
LEM pmax pmax
comp=Z,78nm,0.7s
KLI Kotabumi 46.76 228 P **P** **20 59 55.6 -0.9**
comp=Z,79nm,0.9s,comp=Z,2µm
LHSI Lahat 46.86 230 P **P** **20 59 58.3 +0.9**
comp=Z,95nm,1.0s
MDSI Maura Dua 46.92 229 P **P** **20 59 57.4 -0.4**
comp=Z,94nm,1.0s
KOLN Koldanda 47.24 282 *e*P **P** **21 00 00.7 +0.3**
comp=Z,88nm,0.4s
GSI Gunungsitoli 47.60 241 P **P** **21 00 02.0 -0.9**
KURK Kurchatov 48.40 313 P **P** **21 00 08.4 0.0**
KURK S **S** **21 06 28.3 -2.9**
KURK pmax pmax
comp=Z,9.0nm,0.4s
KURK smax smax
comp=N,1.0nm,1.0s
KURBB Kurchatov Arra 48.46 313 P **P** **21 00 08.4 -0.4**
comp=N,8.7nm,0.4s,baz=91,slow=7.1,SNR=341
KURBB S **S** **21 06 28.3 -3.6**
comp=N,1.0nm,1.0s,baz=88,slow=12,SNR=9.7
WRAB Tennant Creek 49.52 184*ce*P **P** **21 00 17.0 0.0**
WRAB pmax pmax
comp=Z,77nm,2.5s
WRA Warramunga Arr 49.52 184 P **P** **21 00 16.9 -0.1**
comp=Z,8.3nm,0.4s,baz=0.2,slow=7.7,SNR=226
WRA pP **pP** **21 01 51.8 -1.4**
comp=Z,1.3nm,0.5s,baz=2.7,slow=8.4,SNR=4.7
WRA ScP **ScP** **21 04 36.8 -0.1**
comp=Z,1.1nm,0.5s,baz=358,slow=4.7,SNR=10
WRA S **S** **21 06 45.6 -1.6**
comp=Z,0.8nm,0.7s,baz=5.7,slow=13,SNR=5.6
WRA Warramunga Arr 49.52 184 P **P** **21 00 17.0 -0.1**
WRA *PP **pP** **21 01 51.8 -1.4**
WRA S **S** **21 06 45.6 -1.6**
WRA pmax pmax
comp=Z,8.0nm,0.4s
WRA pmax pmax
comp=Z,3.0nm,0.9s
WRA pmax pmax
comp=N,1.0nm,0.5s
WRA smax smax
comp=N,1.0nm,0.7s
CTA Charters Tower 50.21 170 P **P** **21 00 23.1 +0.9**
comp=N,4.9nm,0.5s,baz=334,slow=11,SNR=5.5
CTA Charters Tower 50.21 170 P **P** **21 00 23.1 +0.9**
CTA pmax pmax
comp=Z,5.0nm,0.5s
ULHL Ulahol 50.38 302 P **P** **21 00 24.1 +0.5**
SNR=8.9
TKM2 Tokmak 2 50.78 303 P **P** **21 00 27.2 +0.8**
SNR=8.9
KZA Kyzart 51.13 302 P **P** **21 00 30.4 +1.1**
SNR=12
KBK Karagaybulak 51.28 303 P **P** **21 00 30.6 +0.6**
SNR=7.8
UCH Uchtor 51.66 302 P **P** **21 00 33.3 +0.2**
SNR=10
AML Almayashu 52.27 302 P **P** **21 00 38.4 +1.0**
SNR=7.0
ASAR Alice Springs 53.25 185 P **P** **21 00 44.1 +0.1**
comp=Z,2.3nm,0.5s,baz=13,slow=8.6,SNR=80
ASAR pP **pP** **21 02 20.4 -1.7**
comp=Z,0.9nm,0.8s,baz=354,slow=3.1,SNR=3.9
ASAR ScP **ScP** **21 04 53.2 +0.2**
comp=Z,1.3nm,0.8s,baz=10,slow=4.1,SNR=7.4
ASAR S **S** **21 07 36.6 -0.6**
comp=Z,0.6nm,0.8s,baz=1.3,slow=8.3,SNR=4.6
ASAR Alice Springs 53.25 185 P **P** **21 00 44.2 +0.1**
ASAR *PP **pP** **21 02 20.4 -1.7**
ASAR S **S** **21 07 36.6 -0.6**
ASAR pmax pmax
comp=Z,2.0nm,0.5s
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR pmax pmax
comp=N,1.0nm,0.8s
ASAR smax smax
comp=N,1.0nm,0.8s
BVAR Borovoye Array 53.50 316 P **P** **21 00 45.5 -0.1**
comp=N,7.0nm,0.4s,baz=93,slow=7.6,SNR=96
BVAR PcP **PcP** **21 01 44.5 0.0**
comp=N,1.5nm,0.3s,baz=96,slow=4.0,SNR=5.6
BVAR ScP **ScP** **21 04 52.6 -1.1**
comp=N,0.6nm,0.7s,baz=84,slow=4.5,SNR=3.4
BVAR S **S** **21 07 37.4 -2.5**
comp=N,0.5nm,0.8s,baz=83,slow=13,SNR=3.6
BVAR Borovoye Array 53.50 316 P **P** **21 00 45.5 -0.1**
BVAR 21 01 44.5
BVAR S **S** **21 07 37.4 -2.5**
BVAR pmax pmax
comp=Z,7.0nm,0.4s
BVAR pmax pmax
comp=Z,2.0nm,0.3s
BVAR pmax pmax
comp=N,1.0nm,0.7s
BVAR smax smax
comp=N,1.0nm,0.8s
BRVK Borovoye 53.57 316*d iP* **P** **21 00 46.0 0.0**
BRVK pmax pmax
comp=Z,6.0nm,1.7s
COLA College 56.84 29 ⇓P **P** **21 01 10.7 +2.1**
COLA pmax pmax
comp=Z,30nm,1.1s
ILAR Eielson Array 57.25 30 P **P** **21 01 12.1 +0.6**
comp=Z,1.5nm,0.6s,baz=284,slow=6.1,SNR=18
ILAR Eielson Array 57.25 30 P **P** **21 01 12.1 +0.6**
ILAR pmax pmax
comp=Z,2.0nm,0.6s
PALK Pallekele 58.00 259 P **P** **21 01 17.2 -0.2**
comp=Z,4.5nm,0.5s,baz=53,slow=6.7,SNR=4.1
PALK Pallekele 58.00 259 P **P** **21 01 17.2 -0.2**
PALK pmax pmax
comp=Z,5.0nm,0.5s
ARU Arti 59.98 321*d iP* **P** **21 01 29.6 -0.4**
ARU 21 02 05.4
ARU *PP **pP** **21 03 10.6 -0.5**
ARU S **S** **21 09 02.3 -0.8**
ARU pmax pmax
comp=Z,6.0nm,0.6s
STKA Stephens Creek 61.40 176 P **P** **21 01 40.2 +0.6**
comp=Z,4.4nm,0.3s,baz=357,slow=5.7,SNR=34
STKA Stephens Creek 61.40 176 P **P** **21 01 40.2 +0.6**
STKA pmax pmax
comp=Z,4.0nm,0.3s
AKTO Aktyubinsk 61.47 314 P **P** **21 01 39.0 -0.9**
comp=Z,1.3nm,0.4s,baz=72,slow=14,SNR=6.2
AKTO Aktyubinsk 61.47 314 P **P** **21 01 39.1 -0.9**
AKTO pmax pmax
comp=Z,1.0nm,0.4s
INK Inuvik 62.22 25 P **P** **21 01 45.7 +1.2**
comp=Z,5.4nm,0.7s,baz=297,slow=6.0,SNR=5.7
INK Inuvik 62.22 25 P **P** **21 01 45.7 +1.2**
INK pmax pmax
comp=Z,5.0nm,0.7s
IMYA Miami 63.88 299 *e*P **P** **21 01 57.0 +0.9**
GEYT Alibeck 64.87 301 P **P** **21 02 01.7 -0.4**
comp=Z,3.3nm,0.5s,baz=46,slow=4.2,SNR=6.3
IKRD Kardeh 64.95 299 *e*P P 21 01 59.3 -3.7
ITEG Tejag 66.10 295 *e*P **P** **21 02 10.7 +0.5**
DLBC Dease Lake 66.23 35 P **P** **21 02 11.6 +1.3**
comp=Z,1.1nm,0.5s,baz=304,slow=3.6,SNR=3.7
SPITS Spitsbergen Ar 67.08 349 P **P** **21 02 15.9 +0.7**
comp=Z,2.7nm,0.6s,baz=85,slow=10,SNR=13
SPITS Spitsbergen Ar 67.08 349 P **P** **21 02 15.9 +0.7**
SPITS pmax pmax
comp=Z,3.0nm,0.6s
ARCES ARCESS Array B 69.76 340 P **P** **21 02 31.9 +0.3**
comp=Z,5.4nm,0.5s,baz=63,slow=8.3,SNR=46
ARCES ARCESS Array B 69.76 340 P **P** **21 02 31.9 +0.3**
ARCES pmax pmax
comp=Z,5.0nm,0.5s
RES Resolute Bay 70.36 13 P **P** **21 02 36.0 +1.0**
comp=Z,7.0nm,0.8s,baz=322,slow=4.2,SNR=14
RES Resolute Bay 70.36 13 P **P** **21 02 36.0 +1.0**
RES pmax pmax
comp=Z,7.0nm,0.8s
IZEF Zefreh 71.10 298 *e*P **P** **21 02 40.8 +0.2**
HATD Hatta, Dubai 71.35 288 ⇑P **P** **21 02 42.4 +0.6**
ASHO Ashiyiah 71.47 288 ⇓P **P** **21 02 42.9 +0.3**
SNR=8.6
ASHO Ashiyiah 71.47 288⇓*iP* **P** **21 02 42.5 -0.1**
SNR=8.6
YKA Yellowknife Ar 71.60 28 P **P** **21 02 41.4 -1.1**
comp=Z,1.8nm,0.6s,baz=295,slow=6.2,SNR=4.4
YKA Yellowknife Ar 71.60 28 P **P** **21 02 41.4 -1.1**
YKA pmax pmax
comp=Z,2.0nm,0.6s
ARQ Araqi 71.65 287 ⇓P **P** **21 02 43.9 +0.3**
SNR=6.2
ISRV Sarvestan 71.91 294 *e*P **P** **21 02 45.3 -0.2**
ASUD Al Ashush, Dub 72.09 288 ⇓P **P** **21 02 46.6 +0.5**
SNR=9.5
ASUD Al Ashish, Dub 72.09 288 *i* P **P** **21 02 46.7 +0.5**
SNR=9.5
OBN Obninsk 72.16 324 *e*P **P** **21 02 45.7 -0.2**
OBN pmax pmax
comp=Z,5.0nm,1.0s
VSR Storozhevoye 72.47 319 *e*P **P** **21 02 46.9 -0.9**
VSR *e*S **SKiKP** **21 11 27.6 -1.1**
VSR pmax pmax
comp=N,1.0nm,0.5s
VSR pmax pmax
comp=E,2.0nm,0.5s
VSR pmax pmax
comp=Z,8.0nm,0.5s
VSR smax smax
comp=N,50nm,1.6s
VSR smax smax
comp=E,50nm,1.6s
VSR smax smax
comp=Z,10.0nm,1.4s
KBZ Khabaz 73.41 311 P **P** **21 02 53.7 +0.3**
comp=Z,4.3nm,0.8s,baz=98,slow=3.3,SNR=10
KBZ Khabaz 73.41 311 P **P** **21 02 53.7 +0.3**
KBZ pmax pmax
comp=Z,4.0nm,0.8s
KIV Kislovodsk 73.45 311 *e*P **P** **21 02 53.0 -0.7**
KIV pmax pmax
comp=Z,6.0nm,1.1s
FINES FINESS Array B 73.86 332 P **P** **21 02 55.4 -0.2**
comp=Z,4.0nm,0.5s,baz=78,slow=5.2,SNR=54
FINES FINESS Array B 73.86 332*ce*P **P** **21 02 55.4 -0.2**
FINES pmax pmax
comp=Z,4.0nm,0.5s
YBH Yreka Blue Hor 77.24 49 P **P** **21 03 16.4 +1.4**
comp=Z,0.5nm,0.3s,baz=250,slow=5.1,SNR=3.7
YBH Yreka Blue Hor 77.24 49 P **P** **21 03 16.4 +1.4**
YBH pmax pmax
comp=Z,1.0nm,0.8s
NEW Newport 77.48 41 P **P** **21 03 17.0 +0.9**
comp=Z,2.8nm,0.7s,baz=231,slow=0.7,SNR=4.4
NEW Newport 77.48 41 P **P** **21 03 17.0 +0.9**
NEW pmax pmax
comp=Z,3.0nm,0.7s
SUMG Summit 77.91 359 *i* P **P** **21 03 18.3 -0.1**
comp=Z,5.5nm,0.7s
SUMG Summit 77.91 359 *i* P **P** **21 03 18.3 -0.1**
SUMG pmax pmax
comp=Z,6.0nm,0.7s
AKASG Malin Array Be 78.21 322 P **P** **21 03 19.3 -0.5**
comp=Z,1.0nm,0.3s,baz=52,slow=5.3,SNR=7.9
AKASG Malin Array Be 78.21 322*ce*P **P** **21 03 19.2 -0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
KIEV Kiev 78.22 322⇑*iP* **P** **21 03 19.5 -0.4**
NB2 NORSAR Subarra 79.70 337 P **P** **21 03 27.0 -0.7**
comp=Z,4.0nm,0.6s,baz=47,slow=5.1
NOA NORSAR Array B 79.70 337 P **P** **21 03 27.3 -0.4**
comp=Z,3.4nm,0.5s,baz=46,slow=5.1,SNR=26
NOA NORSAR Array B 79.70 337 P **P** **21 03 27.3 -0.4**
NOA pmax pmax
comp=Z,3.0nm,0.5s
BRTR Keskin Array B 81.40 311 P **P** **21 03 37.3 +0.2**
comp=Z,6.7nm,0.9s,baz=94,slow=4.2,SNR=29
BRTR Keskin Array B 81.40 311*ce*P **P** **21 03 37.2 +0.2**
BRTR pmax pmax
comp=Z,6.0nm,0.8s
NVAR Mina Array Bea 81.82 50 P **P** **21 03 40.2 +0.9**
comp=Z,1.9nm,0.8s,baz=270,slow=5.5,SNR=10
KOLS Kolonicke sedl 82.90 323 *e*P **P** **21 03 45.2 +0.8**
KOLS Kolonicke sedl 82.90 323 *e*P **P** **21 03 45.2 +0.8**
ASF Jabal al Asfar 83.03 303 P **P** **21 03 44.7 -0.7**
comp=Z,1.8nm,0.7s,baz=356,slow=5.0,SNR=4.8
ASF Jabal al Asfar 83.03 303 P **P** **21 03 44.7 -0.7**
ASF pmax pmax
comp=Z,2.0nm,0.7s
PDAR Pinedale Array 84.94 43 P **P** **21 03 56.2 +1.2**
comp=Z,1.0nm,0.6s,baz=291,slow=2.5,SNR=2.6
KHC Kasperske Hory 87.10 327 *e*P **P** **21 04 04.2 -0.6**
KHC Kasperske Hory 87.10 327 *e*P **P** **21 04 04.2 -0.6**
ULM Lac du Bonnet 87.23 31 P **P** **21 04 05.6 +0.3**
comp=Z,3.0nm,0.6s,baz=290,slow=4.2,SNR=6.2
ULM Lac du Bonnet 87.23 31 P **P** **21 04 05.6 +0.3**
ULM pmax pmax
comp=Z,3.0nm,0.6s
GERES GERESS Array B 87.24 327 P **P** **21 04 04.6 -1.0**
comp=Z,0.4nm,0.3s,baz=38,slow=6.8,SNR=5.4
ANMO Albuquerque 91.61 48*c iP* **P** **21 04 29.1 +2.8**
ANMO pmax pmax
comp=Z,26nm,2.5s
TXAR Lajitas Array 96.97 51 P **P** **21 04 52.9 +2.3**
comp=Z,0.3nm,0.6s,baz=298,slow=2.7,SNR=4.4
TORD Torodi Ar. Bea 119.96 309 PKP **PKPdf** **21 10 06.0 -0.7**
comp=Z,0.2nm,0.4s,baz=60,slow=1.4,SNR=12

*SJA **01** 20:58:01.0±0.7,35°.43S×75°.30W,h33km, ML5.6, MW6.2*

*IDC **01** 20:58:19.0±0.5,35°.67S×72°.51W,h0km, mb4.7/14, mb1 4.8/18, mb1mx4.7/24, mbtmp4.7/18, ML4.2/4, MS4.3/19, Ms1 4.3/19, ms1mx4.2/23, Error ellipse: s-maj=17.9km s-min=12.5km az=96.0*
*GUC **01** 20:58:22.8±0.6,35°.66S×72°.63W,h40km±2km, ML5.6*
*NEIC **01** 20:58:22.8±2.2, 35°.66S×72°.36W, h24km±15km, mb5.1/72, Error ellipse: s-maj=9.6km s-min=5.2km az=77.0*
NEIC Felt [IV] at Curico and Talca and [II] at Santiago. Also felt at Cauquenes, Concepcion, Linares and Rancagua.
*MOS **01** 20:58:23.3±1.2, 35°.59S×72°.30W, h36km, mb5.3/26, Error ellipse: s-maj=18.7km s-min=8.5km az=99.9*
*ISCJB **01** 20:58:26.3±0.6, 35°.55S±0°.04×72°.34W±0°.07, h63km±5km, mb5.0/88, Error ellipse: s-maj=9.6km s-min=5.9km az=175.5*

ISC 01 20:58:24.3±0.7,35°.70S±0°.04×72°.53W±0°.06, h41km±5km, n602,σ1$18/612, mb5.0/88, MS4.5/17, 9C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
LNCH	**Linares**	**0.77**	**101**	⇓*iP*		**Pn**	**20 58 39.0**	**+0.3**
LNCH				*i*	S	**Sn**	**20 58 50.7**	**+1.6**
TALC	**Talca**	**0.79**	**68**	⇑*iP*		**Pn**	**20 58 38.9**	**-0.1**
TALC				*i*	S	**Sn**	**20 58 50.5**	**+1.0**
U65B	**HualaæØ**	**0.95**	**40**	⇑*eP*		**Pn**	**20 58 40.0**	**-1.1**
U65B				*e*	S	**Sn**	**20 58 54.1**	**+0.6**
U65B				AML		AML	20 59 00.2	
	comp=N,126µm,0.7s							
CCSP	**San Pedro de C**	**1.23**	**202**	*e*P		**Pn**	**20 58 44.7**	**-0.3**
CCSP				*e*	S	**Sn**	**20 59 00.1**	**-0.3**
NICH	**Los Niches**	**1.27**	**57**	*e*P		**Pn**	**20 58 46.1**	**+0.6**
NICH				*e*	S	**Sn**	**20 59 03.5**	**+2.1**
LNV	**Longovilo**	**1.97**	**28**	*e*P		**Pn**	**20 58 54.6**	**-0.5**
TACH	**Talagante**	**2.43**	**33**	*e*P		**Pn**	**20 59 01.1**	**-0.3**
CANA	**Caviahue**	**2.48**	**152**	*e*P		Pn	20 59 06.4	+4.0
CANA				⇓*e*	S	Sn	20 59 49.9	+18
CLCH	**Cerro Calan**	**2.83**	**36**	⇑*iP*		**Pn**	**20 59 07.2**	**+0.2**
CLCH				*e*	S	**Sn**	**20 59 40.0**	**+0.1**
CLCH				AML		AML	20 59 59.2	
	comp=E,22µm,0.6s							
YECH	**El Yeso**	**2.86**	**46**	AML		AML	20 59 56.8	
	comp=N,10µm,0.2s							
PEL	**Peldehue**	**2.97**	**31**	⇓*iP*		**Pn**	**20 59 08.9**	**-0.1**
PEL				*e*	S	**Sn**	**20 59 43.4**	**0.0**
PEL				AML		AML	21 00 01.1	
	comp=E,30µm,0.5s							
AVIZ	**Vizcacheras**	**3.99**	**57**	*e*P		Pn	20 59 28.5	+5.5
AAGR	**Agrelo**	**4.02**	**51**	*e*P		Pn	20 59 27.2	+3.7
ARCO	**CERRO ARCO**	**4.12**	**47**	*e*P		**Pn**	**20 59 27.5**	**+2.6**
AUSP	**Uspallata**	**4.34**	**38**	*e*P		**Pn**	**20 59 30.2**	**+2.2**
ASAL	**Salagasta**	**4.36**	**46**	*e*P		**Pn**	**20 59 31.1**	**+3.0**
RTLS	**Leoncito**	**4.73**	**36**	*e*P		**Pn**	**20 59 35.5**	**+2.2**
RTCV	**Cerro Valdivia**	**5.07**	**42**	*e*P		**Pn**	**20 59 39.1**	**+1.3**
SJA	**San Juan**	**5.32**	**40**	*e*P		**Pn**	**20 59 42.6**	**+1.3**
CFAA	**Coronel Fontan**	**5.43**	**42**	Pn		**Pn**	**20 59 42.8**	**+0.1**
	comp=E,1.5nm,0.3s,baz=218,slow=12,SNR=54							
CFAA					Sn	**Sn**	**21 00 43.9**	**-0.1**
	comp=E,1.5nm,0.3s,baz=240,slow=18,SNR=2.1							
CFAA					Lg	Lg	21 01 08.8	
	comp=E,6.6nm,0.3s,baz=23,slow=2.5,SNR=5.7							
CFAA					LR	LR	21 01 53.6	
	comp=E,352nm,18.2s,baz=236,slow=40							
CFAA	**Coronel Fontan**	**5.43**	**42**	*e*P		**Pn**	**20 59 43.4**	**+0.7**
CFAA				*e*	S	Sn	21 01 00.1	+16
RTLL	**Cerro Villicun**	**5.52**	**39**	*e*P		**Pn**	**20 59 44.9**	**+0.9**
RTLL				*e*	S	Sn	21 01 01.7	+15
ACAN	**Cantantal**	**5.60**	**54**	*e*P		**Pn**	**20 59 47.6**	**+2.6**
AMOG	**MOGNA**	**5.83**	**37**	*e*P		**Pn**	**20 59 48.4**	**+0.2**
AVFE	**Valle Fertil**	**6.58**	**42**	*e*P		**Pn**	**20 59 58.6**	**-0.1**
AVFE				AML		AML	21 01 36.4	
	comp=Z,510nm,0.8s							
SUCO	**SUCO**	**6.74**	**72**	*e*P		Pn	21 00 05.7	+5.0
LCO	**Las Campanas**	**6.85**	**14**	*e*Pn		**Pn**	**21 00 00.6**	**-1.8**
LCO				*e*Sn		Sn	21 01 12.2	-6.9
APLL	**PUNTA DE LOS L**	**7.30**	**45**	*e*P		**Pn**	**21 00 07.3**	**-1.2**
ACLC	**CERRO LA CRUZ**	**7.83**	**39**	*e*P		**Pn**	**21 00 13.8**	**-2.0**
VCA	**Vinchina**	**7.85**	**29**	*e*P		**Pn**	**21 00 16.5**	**+0.4**
TCA	**Tanti**	**7.93**	**59**	*e*P		**Pn**	**21 00 17.9**	**+0.8**
TRQA	**Tornquist**	**8.78**	**109**	*e*Pb		Pn	21 00 31.9	+3.3
TRQA				*e*Sn		Sn	21 02 51.9	+46
AHML	**Horco Molle**	**10.81**	**37**	*e*P		**Pn**	**21 00 55.6**	**-0.9**
LVC	**Limon Verde**	**13.42**	**15**	Pn		**Pn**	**21 01 31.9**	**-0.4**
	comp=Z,27nm,0.3s,baz=197,slow=11,SNR=8.6							
LVC					Sn	**Sn**	**21 04 00.9**	**+0.6**
	comp=Z,11nm,0.3s,baz=201,slow=17,SNR=2.1							
LVC					LR	LR	21 06 44.7	
	comp=Z,6µm,21.4s,baz=193,slow=38							
LVC	**Limon Verde**	**13.42**	**15**	*e*Pn		Pn	21 01 28.9	-3.4
LVC				*e*Sn		Sn	21 03 46.2	-14
LVC				Sn		**Sn**	**21 04 00.9**	**+0.6**
CPUP	**Villa Florida**	**16.02**	**59**	Pn		**Pn**	**21 02 06.7**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=212,slow=5.1,SNR=6.4							
CPUP	**Villa Florida**	**16.02**	**59**	*e*P		**Pn**	**21 02 04.6**	**-2.0**
CPUP				pmax	pmax			
	comp=Z,1.0nm,1.1s							
CPUP	**Villa Florida**	**16.02**	**59**	*e*P		**Pn**	**21 02 04.6**	**-2.0**
	comp=Z,1.4nm,1.1s							
EFI	**East Falkland**	**19.03**	**152**	*e*P		**P**	**21 02 42.8**	**+0.2**
EFI				pmax	pmax			
	comp=Z,544nm,2.3s							
EFI	**East Falkland**	**19.03**	**152**	*e*P		**P**	**21 02 42.8**	**+0.2**
	comp=Z,544nm,2.3s							
USHA	**Ushuaia**	**19.34**	**173**	P		**P**	**21 02 45.8**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=338,slow=11,SNR=2.6							
USHA					LR	LR	21 10 52.5	
	comp=Z,1µm,18.4s,baz=356,slow=39							
LPAZ	**La Paz**	**19.73**	**13**	P		**P**	**21 02 51.7**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=271,slow=12,SNR=59							
SIV	**San Ignacio**	**22.14**	**30**	P		**P**	**21 03 15.9**	**-0.6**
	comp=Z,40nm,1.0s,baz=223,slow=9.7,SNR=67							
SIV					LR	LR	21 13 07.8	
	comp=Z,545nm,19.8s,baz=211,slow=40							
NNA	**Nana**	**23.93**	**350**	P		**P**	**21 03 34.9**	**+0.3**
	comp=Z,11nm,0.7s,baz=194,slow=15,SNR=3.6							
NNA					LR	LR	21 10 41.1	
	comp=Z,429nm,20.4s,baz=186,slow=31							
BB16B	**Bebedouro**	**25.55**	**62**	*e*P		**P**	**21 03 48.3**	**-1.0**
BB16B				*i*			21 03 50.0	
BB16B				*i*			21 03 55.0	
BB16B				*i*			21 03 58.6	
BB16B				*i*			21 04 06.5	
BB16B				*i*			21 04 11.6	
SAML	**Samuel**	**27.96**	**20**	*e*P		**P**	**21 04 06.8**	**-4.3**
	comp=Z,9.9nm,0.9s							
ATAH	**Atahualpa**	**28.93**	**348**	P		**P**	**21 04 20.1**	**0.0**
	comp=Z,4.1nm,0.6s,baz=186,slow=10,SNR=4.0							
ATAH					LR	LR	21 13 53.3	
	comp=Z,299nm,18.9s,baz=191,slow=32							
PMSA	**Palmer Station**	**29.55**	**173**	LR		LR	21 15 42.3	
	comp=Z,1µm,20.1s,baz=344,slow=35							
BDFB	**Brasilia**	**29.64**	**54**	P		**P**	**21 04 25.3**	**-0.8**
	comp=Z,7.4nm,0.8s,baz=220,slow=7.2,SNR=9.1							
BDFB					LR	LR	21 17 35.6	
	comp=Z,1µm,18.2s,baz=223,slow=39							
OTAV	**Otavalo**	**36.18**	**350**	*e*P		**P**	**21 05 25.1**	**+1.6**
	comp=Z,25nm,1.3s							
PTGA	**Pitinga**	**36.70**	**21**	*e*P		**P**	**21 05 26.0**	**-1.5**
	comp=Z,47nm,0.9s							
ROSC	**El Rosal**	**40.38**	**357**	LR		LR	21 22 31.0	
	comp=Z,204nm,18.8s,baz=190,slow=36							
SDV	**Santo Domingo**	**44.38**	**3**	*e*P		**P**	**21 06 30.2**	**-0.8**
	comp=Z,16nm,0.9s							
VNA1	**Neumayer--Stat**	**48.28**	**156**	P		P	21 07 04.1	+3.3
SNAA	**Sanae**	**50.17**	**157**	P		P	**21 07 13.5**	**-1.9**
SNAA	**Sanae**	**50.17**	**157**	P		P	**21 07 16.7**	**+1.3**
	comp=Z,4.2nm,0.9s,baz=281,slow=6.1,SNR=25							
SNAA	**Sanae**	**50.17**	**157**	P		**P**	**21 07 16.7**	**+1.3**
SNAA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
SNAA	**Sanae**	**50.17**	**157**	*e*P		**P**	**21 07 12.8**	**-2.6**
SNAA	**Sanae**	**50.17**	**157**	*e*P		**P**	**21 07 12.8**	**-2.6**
OBIP	**Obispado Ponce**	**53.74**	**7**	*e*P		**P**	**21 07 41.9**	**-0.5**
	comp=Z,31nm,0.9s							
CELP	**Cerrillos**	**53.78**	**7**	*e*P		**P**	**21 07 42.2**	**-0.5**
SJG	**San Juan**	**53.86**	**8**	*e*P		**P**	**21 07 42.2**	**-1.1**
SJG				pmax	pmax			
	comp=Z,23nm,0.8s							
SJG	**San Juan**	**53.86**	**8**	*e*P		**P**	**21 07 42.1**	**-1.1**
	comp=Z,23nm,0.8s							
QSPA	**South Pole Qui**	**54.54**	**180**	*e*P		**P**	**21 07 49.9**	**+2.0**
	comp=Z,22nm,1.0s							
NVL	**N'lazarevskaya**	**54.93**	**156**	*e*P		**P**	**21 07 51.1**	**+0.6**
RKT	**Rikitea**	**55.01**	**265**	*e*T		T	22 06 55.2	

comp=Z,2.0nm,0.3s
SBA **Scott Base** 61.33 192 *e*P P 21 08 34.4 -0.8
SBA pmax pmax
comp=Z,28nm,1.8s
SBA **Scott Base** 61.33 192 *e*P P 21 08 34.4 -0.8
comp=Z,28nm,1.8s
VNDA **Vanda** 62.36 192 P P 21 08 43.2 +1.2
comp=Z,2.6nm,1.1s,baz=105,slow=6.3,SNR=5.6
SYO **Syowa Base** 64.44 158 *e*P P 21 08 55.2 -0.7
SYO **Syowa Base** 64.44 158 *e*pP pP 21 09 04.0 -3.9
TBI **Tubuai** 66.54 257 *e*LR LR 21 29 24.2
comp=Z,423nm,26.0s
035A **Encino** 66.82 335 P P 21 09 13.5 +1.8
baz=67
034A **Hebbronville** 67.13 335 P P 21 09 14.8 +1.1
baz=68
TIGA **Tifton** 67.59 350 P P 21 09 16.2 -0.3
baz=68
933A **Laredo** 67.84 334 P P 21 09 19.3 +1.1
baz=68
834A **Tilden** 68.06 335 P P 21 09 21.2 +1.7
baz=68
MEH **Mehetia** 68.23 263 *e*T T 22 23 26.7
comp=Z,24nm,0.2s
736A **Circle Diamond** 68.34 337 P P 21 09 22.5 +1.2
baz=69
735A **Kenedy** 68.49 336 P P 21 09 23.8 +1.6
baz=69
833A **Chaparral WMA,** 68.53 335 P P 21 09 23.8 +1.3
baz=69,SNR=9.3
832A **Faith Ranch, C** 68.70 334 P P 21 09 24.6 +1.0
baz=69,SNR=7.1
734A **La Parita Cree** 68.73 336 P P 21 09 24.7 +1.0
baz=69
636A **Smothers Creek** 68.83 337 P P 21 09 25.0 +0.7
baz=69
733A **Divot King Ran** 68.86 335 P P 21 09 25.5 +0.9
baz=69
635A **Leesville** 68.97 337 P P 21 09 26.2 +1.0
baz=69
732A **Laxson Ranch,** 69.11 334 P P 21 09 27.1 +1.0
baz=69,SNR=11
537A **Green Hill Far** 69.15 338 P P 21 09 26.7 +0.4
baz=70
536A **Bastrop** 69.38 337 P P 21 09 28.2 +0.4
baz=70
TIAR **Tiarei** 69.43 263 *e*T T 22 24 56.4
comp=Z,3.2nm,0.2s
535A **Dale** 69.50 337 P P 21 09 29.2 +0.7
baz=70
633A **Saathoff Ranch** 69.50 335 P P 21 09 29.5 +1.0
baz=70,SNR=6.6
GOGA **Godfrey** 69.51 350 *e*P P 21 09 28.0 -0.4
GOGA pmax pmax
comp=Z,24nm,1.1s
GOGA **Godfrey** 69.51 350 *e*P P 21 09 28.0 -0.4
comp=Z,24nm,1.1s
PPT2 **Papeete2** 69.60 263 *e*S S 21 18 44.1 +8.9
comp=Z,94nm,26.0s
PPT2 **Papeete2** 69.60 263 *e*LR LR 21 30 56.0
comp=Z,377nm,23.0s
PPT **Papeete** 69.61 263 LR LR 21 31 36.0
comp=Z,266nm,18.1s,baz=174,slow=29
VBMS **Vicksburg** 69.64 344 P P 21 09 29.2 -0.1
baz=70
LRAL **Lakeview Retre** 69.71 347 *e*P P 21 09 29.5 -0.1
comp=Z,7.4nm,1.0s
340A **Bronson** 69.71 341 P P 21 09 30.5 +0.7
baz=70
632A **Uvalde** 69.75 335 P P 21 09 31.1 +1.0
baz=70,SNR=8.7
534A **Blanco** 69.79 336 P P 21 09 30.3 0.0
baz=70
339A **Huntington** 69.82 340 P P 21 09 31.0 +0.7
baz=70
631A **Perdido Creek** 69.94 334 P P 21 09 32.1 +0.9
baz=70,SNR=5.9
533A **Kerrville** 70.02 336 P P 21 09 32.5 +0.8
baz=70,SNR=5.8
435B **Jarrell** 70.20 337 P P 21 09 33.9 +1.2
baz=70
532A **Rocksprings** 70.36 335 P P 21 09 34.9 +1.0
baz=71,SNR=22
239A **Gary** 70.44 340 P P 21 09 35.1 +0.9
baz=71
434A **Burnet** 70.45 337 P P 21 09 35.0 +0.7
baz=71,SNR=11
336A **Riesel** 70.53 338 P P 21 09 35.7 +0.9
baz=71
238A **Jacksonville** 70.61 340 P P 21 09 36.2 +1.0
baz=71
335A **Moody** 70.61 338 P P 21 09 35.9 +0.7
baz=71
531A **Rocksprings** 70.62 334 P P 21 09 36.3 +0.9
baz=71,SNR=11
JCT **Junction City** 70.65 335 *e*P P 21 09 36.4 +0.8
JCT pmax pmax
comp=Z,37nm,0.9s
JCT **Junction City** 70.65 335 P P 21 09 36.2 +0.6
baz=71,SNR=15
JCT **Junction City** 70.65 335 *e*P P 21 09 36.4 +0.8
comp=Z,38nm,0.9s
433A **Art** 70.66 336 P P 21 09 36.1 +0.5
baz=71,SNR=22
530A **J-C Ranch, Com** 70.89 334 P P 21 09 38.0 +1.0
baz=71,SNR=22
334A **Lometa** 70.92 337 P P 21 09 37.7 +0.5
baz=71,SNR=12
KMSC **Kings Mountain** 70.95 352 P P 21 09 37.2 -0.1
baz=71
KMSC **Kings Mountain** 70.95 352 *e*P P 21 09 37.4 +0.1
comp=Z,20nm,0.8s
432A **Menard** 71.01 335 P P 21 09 38.2 +0.5
baz=71,SNR=5.9
236A **Katherine and** 71.01 339 P P 21 09 38.3 +0.6
baz=71
TXAR **Lajitas Array** 71.02 331 P P 21 09 39.0 +1.1
comp=Z,8.5nm,0.8s,baz=150,slow=8.7,SNR=47
TXAR LR LR 21 35 59.9
comp=Z,285nm,19.5s,baz=0.0,slow=32
431A **Sonora** 71.11 335 P P 21 09 39.2 +0.8
baz=72,SNR=8.5
333A **Richland Sprin** 71.15 336 P P 21 09 39.1 +0.5
baz=72,SNR=10
529A **Stev Forest Ra** 71.19 333 P P 21 09 39.6 +0.7
baz=72,SNR=12
138A **Matatall Enter** 71.21 340 P P 21 09 39.8 +0.9
baz=72
WHTX **Lake Whitney** 71.28 338 P P 21 09 39.8 +0.5
baz=72
137A **Heron Place, G** 71.34 339 P P 21 09 40.2 +0.6
baz=72
430A **Baggett Ranch,** 71.43 334 P P 21 09 41.2 +0.9
baz=72,SNR=17
136A **Ennis** 71.45 339 P P 21 09 40.8 +0.5
baz=72
332A **Millersview** 71.46 336 P P 21 09 40.9 +0.5
baz=72,SNR=15
234A **Clairette** 71.51 337 P P 21 09 41.3 +0.6
baz=72,SNR=6.4
429A **Davenport Ranc** 71.52 334 P P 21 09 41.7 +0.9
baz=72,SNR=11
Z39A **Irene McRaven,** 71.52 341 P P 21 09 41.3 +0.6
baz=72
OXF **Oxford** 71.61 345 *e*P P 21 09 41.2 0.0
OXF pmax pmax
comp=Z,38nm,0.8s
OXF **Oxford** 71.61 345 *e*P P 21 09 41.2 0.0
comp=Z,38nm,0.8s
331A **San Angelo** 71.62 335 P P 21 09 42.0 +0.6
baz=72,SNR=16
MAW **Mawson** 71.67 164 P P 21 09 42.2 +0.9
comp=Z,7.5nm,0.9s,baz=222,slow=6.9,SNR=13
MAW LR LR 21 43 00.0
comp=Z,382nm,19.1s,baz=240,slow=37
Z38A **Mt. Pleasant** 71.74 340 P P 21 09 42.8 +0.8
baz=72
233A **Rising Star** 71.76 337 P P 21 09 42.8 +0.5
baz=72,SNR=7.9
135A **Vickery Place,** 71.79 338 P P 21 09 43.0 +0.6
baz=72
Z37A **Pogue Cattle C** 71.87 340 P P 21 09 43.2 +0.4
baz=72
232A **Coleman** 71.89 336 P P 21 09 43.5 +0.5
baz=72,SNR=12
330A **Mertzon** 71.97 334 P P 21 09 44.1 +0.5
baz=72,SNR=8.0
134A **White-Moore Ra** 72.02 337 P P 21 09 43.8 0.0
baz=72
Y39A **Lockesburg** 72.15 341 P P 21 09 44.9 +0.5
baz=72
231A **Bronte** 72.16 335 P P 21 09 45.0 +0.4
baz=72,SNR=13
Z36A **Blue Ridge** 72.17 339 P P 21 09 45.4 +0.8
baz=72
133A **Hamilton Ranch** 72.31 337 P P 21 09 46.0 +0.5
baz=73,SNR=8.8
Y38A **Idabel** 72.31 341 P P 21 09 45.3 -0.1
baz=73
329A **Wagon Wheel Ra** 72.33 334 P P 21 09 46.2 +0.5
baz=73
230A **Sterling City** 72.39 335 P P 21 09 46.1 +0.1
baz=73
Z35A **Perchaven, San** 72.47 338 P P 21 09 46.5 +0.1
baz=73
ABTX **Abilene, Hawle** 72.56 336 P P 21 09 47.7 +0.6
baz=73,SNR=8.2
ABTX **Abilene, Hawle** 72.56 336 *e*P P 21 09 47.5 +0.5
comp=Z,34nm,0.9s
MIAR **Mount Ida** 72.59 342 *e*P P 21 09 47.7 +0.6
MIAR pmax pmax
comp=Z,15nm,1.4s
MIAR **Mount Ida** 72.59 342 P P 21 09 47.2 0.0
baz=73
MIAR **Mount Ida** 72.59 342 *e*P P 21 09 47.7 +0.6
comp=Z,15nm,1.4s
229A **Bryant Ranch,** 72.70 334 P P 21 09 48.6 +0.7
baz=73,SNR=7.4
Z34A **Collier Ranch,** 72.70 338 P P 21 09 48.1 +0.2
baz=73
Y36A **Durant** 72.72 339 P P 21 09 48.2 +0.3
baz=73
131A **Roby** 72.86 336 P P 21 09 49.2 +0.4
baz=73,SNR=5.7
Z33A **Whitaker Ranch** 72.89 337 P P 21 09 49.4 +0.5
baz=73,SNR=5.2
Y35A **Marietta** 72.94 339 P P 21 09 49.6 +0.5
baz=73
130A **Snyder** 72.98 335 P P 21 09 49.9 +0.3
baz=73
X38A **Whitesboro** 73.04 341 P P 21 09 50.4 +0.6
baz=73,SNR=6.6
X37A **Clayton** 73.11 340 P P 21 09 50.3 +0.1
baz=74
228A **UT Block 9, Go** 73.12 334 P P 21 09 51.1 +0.7
baz=74,SNR=11
Z32A **Haskell** 73.14 337 P P 21 09 51.1 +0.7
baz=74,SNR=6.9
Y34A **Reagan Ranch,** 73.20 338 P P 21 09 51.2 +0.5
baz=74,SNR=5.1
129A **Stewart Farms,** 73.32 334 P P 21 09 51.6 0.0
baz=74
W38A **Ponead** 73.33 341 P P 21 09 51.9 +0.4
baz=74
X36A **Centrahoma** 73.36 340 P P 21 09 51.7 0.0
baz=74,SNR=7.8
Z31A **Sharp Cattle R** 73.36 336 P P 21 09 52.2 +0.4
baz=74,SNR=7.7
X35A **Drake** 73.38 339 P P 21 09 51.6 -0.2
baz=74
Y33A **Hilltop Ranch,** 73.51 338 P P 21 09 53.1 +0.5
baz=74
128A **Castleberry Fa** 73.53 334 P P 21 09 53.5 +0.7
baz=74,SNR=9.7
W37A **Quinton** 73.64 341 P P 21 09 53.3 0.0
baz=74
Z30A **Sanderson Ranc** 73.66 335 P P 21 09 54.1 +0.5
baz=74,SNR=12
Y32A **R-V Farms, Ver** 73.77 337 P P 21 09 54.7 +0.6
baz=74,SNR=5.2
X34A **Smith Ranch, M** 73.82 338 P P 21 09 54.8 +0.4
baz=74
Z29A **Hungry Hill Ra** 73.84 335 P P 21 09 54.9 +0.3
baz=74,SNR=13
W36A **Wetumka** 73.86 340 P P 21 09 54.2 -0.4
baz=74
X33A **Lawton** 73.97 338 P P 21 09 55.0 -0.3
baz=74
Y31A **Rekieta Farm,** 73.99 336 P P 21 09 56.0 +0.6
baz=74,SNR=8.7
W35A **Tecumseh** 74.06 339 P P 21 09 55.4 -0.4
baz=74
X32A **Elmer** 74.10 337 P P 21 09 56.5 +0.5
baz=74
Z28A **Tucker Farm, M** 74.10 334 P P 21 09 56.1 -0.1
baz=74
Y30A **Stafford Cattl** 74.12 336 P P 21 09 56.7 +0.5
baz=74,SNR=5.7
WMOK **Wichita Mounta** 74.24 338 *e*P P 21 09 56.5 -0.4
WMOK pmax pmax
comp=Z,41nm,1.8s
WMOK **Wichita Mounta** 74.24 338 *e*P P 21 09 56.5 -0.4
comp=Z,41nm,1.8s
V37A **Hulbert** 74.27 341 P P 21 09 57.0 +0.1
baz=75
V36A **Jenks** 74.39 340 P P 21 09 57.9 +0.2
baz=75,SNR=6.7
W34A **Bridge Creek,** 74.39 339 P P 21 09 58.3 +0.5
baz=75
CPRX **Cap Rock** 74.41 333 *e*P P 21 09 59.5 +1.5
comp=Z,4.8nm,0.8s
TUL1 **Tulsa** 74.47 341 P P 21 09 58.1 0.0
baz=75,SNR=5.1
TUL1 **Tulsa** 74.47 341 *e*P P 21 09 58.3 +0.2
comp=Z,26nm,0.9s
X31A **McDonald Ranch** 74.52 337 P P 21 09 58.8 +0.4
baz=75,SNR=6.9
W33A **Caddo, Fort Co** 74.53 338 P P 21 09 59.1 +0.6
baz=75
Y28A **McKinney Farm,** 74.61 335 P P 21 09 59.4 +0.3
baz=75
V35A **Meyer Ranch, C** 74.62 340 P P 21 09 58.9 -0.1
baz=75
USIN **University of** 74.63 348 *e*P P 21 09 58.8 -0.2
comp=Z,39nm,0.9s
X30A **Coker Ranch, T** 74.64 336 P P 21 09 59.5 +0.3
baz=75
WCI **Wyandotte Cave** 74.66 349 *e*P P 21 09 58.9 -0.3
WCI pmax pmax
comp=Z,7.0nm,0.7s
WCI **Wyandotte Cave** 74.66 349 *e*P P 21 09 58.9 -0.3
comp=Z,6.9nm,0.7s
SIUC **Southern Illin** 74.67 346 *e*P P 21 09 59.4 +0.2
comp=Z,12nm,0.8s
W32A **Sentinel** 74.74 338 P P 21 10 00.3 +0.5
baz=75,SNR=19
MSTX **Muleshoe** 74.85 334 P P 21 10 01.1 +0.6
baz=75,SNR=11
MSTX **Muleshoe** 74.85 334 *e*P P 21 10 00.2 -0.3
comp=Z,29nm,1.1s
V34A **Guthrie** 74.88 339 P P 21 10 00.4 -0.1
baz=75
X29A **Tulia** 74.91 335 P P 21 10 01.4 +0.5
baz=75
W31A **Holland Ranch,** 75.02 337 P P 21 10 01.6 +0.2
baz=75
V33A **Lossen Ranch,** 75.09 339 P P 21 10 02.3 +0.5
baz=75
X28A **Dimmitt** 75.15 335 P P 21 10 02.9 +0.6
baz=76
U35A **Pawnee** 75.16 340 P P 21 10 02.5 +0.4
baz=76
V32A **Arapaho** 75.23 338 P P 21 10 03.1 +0.6
baz=76
AMTX **Amarillo** 75.31 336 P P 21 10 03.5 +0.4
baz=76
AMTX **Amarillo** 75.31 336 *e*P P 21 10 03.7 +0.6
comp=Z,40nm,1.0s
T37A **Cheneyville 18** 75.38 342 P P 21 10 03.4 0.0
baz=76
121A **Cookes Peak, D** 75.49 330 P P 21 10 05.5 +1.1
baz=76
121A **Cookes Peak, D** 75.49 330 *e*P P 21 10 05.8 +1.4
comp=Z,25nm,1.1s
W29A **Amraillo** 75.51 336 P P 21 10 04.9 +0.6
baz=76
V31A **Spring Creek L** 75.52 337 P P 21 10 05.2 +0.9
baz=76,SNR=5.2
T36A **Boggs Farm, Ca** 75.57 341 P P 21 10 04.6 +0.2
baz=76
T35A **Sooner Cattle** 75.61 340 P P 21 10 05.1 +0.4
baz=76,SNR=8.2
U33A **Lingo Farm, Me** 75.61 339 P P 21 10 04.5 -0.2
baz=76
BLO **Bloomington** 75.61 349 *e*P P 21 10 04.5 -0.1
BLO pmax pmax
comp=Z,20nm,0.9s
BLO **Bloomington** 75.61 349 *e*P P 21 10 04.5 -0.1
comp=Z,20nm,0.9s
V30A **Spur Ranch, Mi** 75.78 337 P P 21 10 06.7 +0.9
baz=76
U32A **Winter Ranch,** 75.82 338 P P 21 10 06.1 +0.2
baz=76
W28A **Vega** 75.82 335 P P 21 10 06.4 +0.3
baz=76
T34A **McClaskey Farm** 75.89 340 P P 21 10 06.8 +0.5
baz=76,SNR=7.4
TIC **Toumodi** 75.97 71 *e*P P 21 10 08.0 +0.7
KIC **Kosan Boka** 76.00 72 *e*P P 21 10 08.4 +0.9
comp=Z,39nm,0.7s
DBIC **Dimbokro** 76.11 71 P P 21 10 08.9 +0.8
comp=Z,17nm,0.9s,baz=220,slow=4.3,SNR=16
DBIC LR LR 21 40 21.6
comp=Z,305nm,20.5s,baz=234,slow=33
DBIC **Dimbokro** 76.11 71 *e*P P 21 10 09.0 +0.9
S36A **Lake Cedric, C** 76.12 341 P P 21 10 07.7 +0.2
baz=76
SSPA **Standing Stone** 76.12 356 *e*P P 21 10 07.7 +0.2
comp=Z,8.6nm,1.1s
SSPA *e* 21 10 15.7
ACSO **Alum Creek Sta** 76.17 352 *e*P P 21 10 07.4 -0.4
comp=Z,42nm,0.7s
T33A **Patterson Ranc** 76.25 339 P P 21 10 09.5 +1.1
baz=77
S35A **Otter Creek Ra** 76.27 341 P P 21 10 08.8 +0.4
baz=77,SNR=5.3
V28A **Channing** 76.28 335 P P 21 10 09.7 +1.1
baz=77
ODNJ **Ogdensburg** 76.43 358 *e*P P 21 10 10.7 +1.4
comp=Z,25nm,1.3s
U30A **WK&E Inc. Balk** 76.47 337 P P 21 10 10.7 +1.0
baz=77
R37A **Teagarden Farm** 76.48 342 P P 21 10 09.7 +0.1
baz=77
V27A **Dan Oppiter Fa** 76.49 335 P P 21 10 10.5 +0.6
baz=77
S34A **Willow Spring** 76.51 340 P P 21 10 10.2 +0.5
baz=77
T32A **Huddler Ranch,** 76.54 339 P P 21 10 10.9 +0.9
baz=77
TUC **Tucson** 76.57 327 *e*P P 21 10 12.3 +1.9
TUC *e* 21 10 23.4
TUC pmax pmax
comp=Z,15nm,1.1s
TUC **Tucson** 76.57 327 *e*P P 21 10 12.3 +1.9
comp=Z,15nm,1.1s
TUC *e* 21 10 23.4
LPM **Los Pinos Moun** 76.59 332 *e*P P 21 10 12.2 +1.6
comp=Z,10nm,1.1s
U29A **Oasis Ranch, S** 76.60 337 P P 21 10 10.9 +0.4
baz=77
S33A **Kaszmaul Farm,** 76.66 339 P P 21 10 11.0 +0.3
baz=77
R36A **Gordon, Harris** 76.66 342 P P 21 10 10.3 -0.4
baz=77
R35A **Emporia Munici** 76.84 341 P P 21 10 12.1 +0.4
baz=77
U28A **Mallet** 76.85 336 P P 21 10 12.6 +0.7
baz=77
SFIN **Scholer Farm** 76.89 349 P P 21 10 10.9 -0.9
baz=77
T30A **Plains** 76.91 337 P P 21 10 13.1 +0.9
baz=77
Q37A **Longview Farm,** 76.92 343 P P 21 10 11.9 -0.2
baz=77
S32A **Newby Ranch, P** 77.03 339 P P 21 10 13.4 +0.6
baz=77
ANMO **Albuquerque** 77.08 332 *c i*P P 21 10 14.7 +1.4
ANMO pmax pmax
comp=Z,80nm,1.2s
ANMO **Albuquerque** 77.08 332 *e*P P 21 10 14.4 +1.1
comp=Z,18nm,1.1s
U27A **Thompson Grove** 77.09 335 P P 21 10 13.9 +0.7
baz=77
R34A **Isabella, Hill** 77.11 340 P P 21 10 13.7 +0.6
baz=78
S31A **Mullinville** 77.12 338 P P 21 10 13.8 +0.5
baz=78
214A **Organ Pipe Nat** 77.18 326 P P 21 10 15.2 +1.4
baz=78
214A **Organ Pipe Nat** 77.18 326 *e*P P 21 10 15.5 +1.8
comp=Z,76nm,2.0s
T29A **Hugoton** 77.25 337 P P 21 10 14.5 +0.4
baz=78
Q35A **Mercer Eighty,** 77.31 341 P P 21 10 14.0 -0.2
baz=78
R33A **Olander Ranch,** 77.32 340 P P 21 10 14.9 +0.6
baz=78
S30A **Montezuma** 77.43 338 P P 21 10 15.5 +0.4
baz=78
HDIL **Hopedale** 77.44 347 P P 21 10 14.6 -0.3
baz=78
HDIL **Hopedale** 77.44 347 *e*P P 21 10 14.8 -0.1
comp=Z,371nm,0.8s
T28A **Walsh** 77.49 336 P P 21 10 16.2 +0.8
baz=78,SNR=11
Q34A **Chapman** 77.60 341 P P 21 10 16.2 +0.3
baz=78
QUA2 **Belchertown** 77.61 0 *e*P P 21 10 16.9 +1.1
comp=Z,17nm,0.9s
S29A **Ulysses** 77.62 337 P P 21 10 16.9 +0.8
baz=78
R32A **Long Quarter,** 77.63 339 P P 21 10 16.3 +0.2
baz=78
T27A **Campo** 77.63 336 P P 21 10 17.0 +0.7
baz=78,SNR=7.9
KSU1 **Kansas State U** 77.68 341 P P 21 10 16.1 -0.2
baz=78
R31A **Burdett** 77.75 339 P P 21 10 17.4 +0.6
baz=78
P36A **Good Intent, A** 77.81 342 P P 21 10 16.4 -0.7
baz=78
S28A **Manter** 77.84 337 P P 21 10 18.0 +0.6
baz=78
Q33A **Connelly Farm,** 77.92 340 P P 21 10 18.2 +0.6
baz=78
P35A **Duane Minner,** 77.93 342 P P 21 10 17.9 +0.1
baz=78,SNR=6.3
R30A **Dighton** 77.97 338 P P 21 10 18.8 +0.7
baz=78
T26A **Comanche Natio** 78.03 335 P P 21 10 19.6 +1.0
baz=78,SNR=5.9
TRY **Troy** 78.06 359 *e*P P 21 10 19.6 +1.2
comp=Z,15nm,0.9s
Q32A **Meitler Ranch,** 78.12 340 P P 21 10 19.6 +0.8
baz=78
P34A **Walnut Farm, R** 78.16 341 P P 21 10 19.3 +0.3
baz=78
O36A **Bolckow** 78.24 343 P P 21 10 18.6 -0.8
baz=79
T25A **Trinidad** 78.28 334 P P 21 10 21.5 +1.5
baz=79,SNR=16
P33A **Williams Farm,** 78.29 340 P P 21 10 20.3 +0.5
baz=79
CBKS **Cedar Bluff** 78.30 339 P P 21 10 20.4 +0.6
baz=79
R29A **Marienthal** 78.36 337 P P 21 10 20.7 +0.5
baz=79
Q31A **Ellis** 78.37 339 P P 21 10 20.5 +0.3
baz=79
S26A **Kim** 78.39 335 P P 21 10 21.9 +1.4
baz=79,SNR=17
R28A **Tribune** 78.50 337 P P 21 10 21.9 +0.8
baz=79
W18A **Petrified Fore** 78.54 330 P P 21 10 23.0 +1.6
baz=79
W18A **Petrified Fore** 78.54 330 *e*P P 21 10 22.7 +1.3
comp=Z,15nm,1.0s
Q30A **Quinter** 78.59 338 P P 21 10 22.4 +0.9
baz=79
P32A **Huiting Farm,** 78.72 340 P P 21 10 22.7 +0.7
baz=79
ACCN **Adirondack Com** 78.72 359 *e*P P 21 10 22.7 +0.7
comp=Z,19nm,1.2s
O34A **Beatrice** 78.72 341 P P 21 10 22.3 +0.2
baz=79,SNR=5.5
Q29A **Oakley** 78.74 338 P P 21 10 22.8 +0.5
baz=79
R27A **Eads** 78.77 336 P P 21 10 23.3 +0.7
baz=79,SNR=6.3
P31A **Stockton** 78.84 339 P P 21 10 23.6 +0.8
baz=79
R26A **Arlington** 79.00 336 P P 21 10 24.8 +1.0
baz=79,SNR=10

GLA **Glamis** 79.03 325 P P 21 10 25.6 +1.6
baz=79
N35A **Tabor** 79.09 342 P P 21 10 24.0 -0.1
baz=79,SNR=5.0
P30A **Selden** 79.12 339 P P 21 10 25.1 +0.8
baz=80
Q28A **Sharon Springs** 79.16 337 P P 21 10 25.7 +1.1
baz=80
SDCO **Great Sand Dun** 79.21 334 P P 21 10 26.3 +1.1
baz=80,SNR=12
SDCO **Great Sand Dun** 79.21 334 eP P 21 10 26.2 +1.0
comp=Z,9.8nm,1.1s
O32A **Brockman Farm,** 79.22 340 P P 21 10 25.2 +0.4
baz=80
N34A **Lincoln** 79.29 342 P P 21 10 25.2 +0.1
baz=80
IBP **Imperial Bould** 79.31 324 P P 21 10 27.2 +1.6
baz=80
KSCO **Kaye Shedlock'** 79.37 337 P P 21 10 27.0 +1.2
baz=80
P29A **Atwood** 79.38 338 P P 21 10 26.7 +0.9
baz=80
SWSC **Sam W. Stewart** 79.40 324 P P 21 10 27.9 +2.0
baz=80
O31A **Woolen Ranch,** 79.41 339 P P 21 10 26.4 +0.5
baz=80
Y12C **Blythe** 79.47 325 P P 21 10 28.1 +1.8
baz=80
WUAZ **Wupatki** 79.56 329 P P 21 10 28.8 +1.8
baz=80
WUAZ **Wupatki** 79.56 329 eP P 21 10 28.8 +1.8
comp=Z,25nm,1.3s
Q26A **Hugo** 79.58 336 P P 21 10 28.1 +1.0
baz=80
P28A **Saint Francis** 79.61 337 P P 21 10 28.1 +1.0
baz=80
BOSA **Boshof** 79.64 118 P P 21 10 28.9 +1.1
comp=Z,20nm,0.7s,baz=233,slow=3.4,SNR=33
BOSA LR LR 21 40 46.0
comp=Z,170nm,20.7s,baz=212,slow=32
MONP **Monument Peak** 79.66 324 P P 21 10 29.0 +1.3
baz=80
M35A **Neola** 79.68 343 P P 21 10 27.5 +0.3
baz=80
S22A **4UR Ranch, Cre** 79.69 333 P P 21 10 29.1 +1.2
baz=80
BC3 **Big Chuckawall** 79.82 325 P P 21 10 30.3 +1.9
baz=80
P27A **Ficken Ranch,** 79.85 337 P P 21 10 29.7 +1.3
baz=80
MVCO **Mesa Verde** 79.86 332 P P 21 10 30.0 +1.3
baz=80
MVCO **Mesa Verde** 79.86 332 eP P 21 10 29.9 +1.3
comp=Z,25nm,1.3s
JFWS **Jewell Farm** 79.89 347 P P 21 10 27.4 -1.0
JFWS pmax pmax
comp=Z,23nm,1.0s
JFWS **Jewell Farm** 79.89 347 P P 21 10 27.4 -1.0
comp=Z,23nm,1.0s
PTN **Potsdam (NY)** 79.93 358 eP P 21 10 29.6 +1.1
PTN pmax pmax
comp=Z,35nm,1.0s
PTN **Potsdam (NY)** 79.93 358 eP P 21 10 29.6 +1.1
comp=Z,35nm,1.0s
LONY **Lake Ozonia** 79.97 359 eP P 21 10 29.5 +0.7
comp=Z,14nm,1.0s
LONY e 21 10 38.2
109C **Camp Elliot, M** 79.99 323 P P 21 10 31.3 +2.1
baz=80
IRM **Iron Mountain** 80.10 325 P P 21 10 31.4 +1.6
baz=80
P26A **Davis Ranch, A** 80.10 336 P P 21 10 31.2 +1.4
baz=80
O28A **Krutsinger Ran** 80.12 338 P P 21 10 31.1 +1.3
baz=80
Q24A **Divide** 80.18 335 P P 21 10 31.9 +1.5
baz=80
N30A **Hueftle Ranch,** 80.23 339 P P 21 10 31.1 +0.7
baz=81
BGNE **Belgrade** 80.25 341 P P 21 10 30.6 +0.2
baz=81
PFO **Pinyon Flat Ob** 80.26 324 P P 21 10 32.8 +2.0
baz=81
NEE2 **Needles Airpor** 80.36 326 P P 21 10 32.9 +1.8
baz=81
BELC **Belle Mtn. Jos** 80.36 325 P P 21 10 33.3 +2.0
baz=81
O27A **Beecher Island** 80.40 337 P P 21 10 33.0 +1.6
baz=81
MURC **Murrieta** 80.61 324 P P 21 10 34.7 +2.1
baz=81
O26A **Horse Wrangler** 80.71 337 P P 21 10 34.7 +1.6
baz=81
GMRC **Granite Mounta** 80.85 325 P P 21 10 35.7 +1.9
baz=81
M30A **Dale-Ortello V** 80.85 340 P P 21 10 35.4 +1.7
baz=81
N27A **Anderson Farm,** 80.98 337 P P 21 10 35.8 +1.4
baz=81
SMCO **Snowmass** 81.01 334 eP P 21 10 36.2 +1.2
comp=Z,20nm,1.2s
BBRC **Big Bear Solar** 81.02 324 P P 21 10 36.4 +1.5
baz=81
PV04 **Paradox Valley** 81.05 332 eP P 21 10 36.8 +1.8
ISCO **Idaho Springs** 81.08 335 eP P 21 10 36.5 +1.2
ISCO pmax pmax
comp=Z,15nm,1.4s
ISCO **Idaho Springs** 81.08 335 P P 21 10 36.3 +1.1
baz=81,SNR=5.5
ISCO **Idaho Springs** 81.08 335 eP P 21 10 36.5 +1.2
comp=Z,15nm,1.4s
L31A **Butterfield Fa** 81.16 341 P P 21 10 36.3 +1.0
baz=82
M28A **Bar X Bar Ranc** 81.16 338 P P 21 10 36.5 +1.2
baz=82
HEC **Hector,Ludlow** 81.20 325 P P 21 10 37.4 +1.7
baz=82
N26A **Koester Ranch,** 81.21 337 P P 21 10 36.8 +1.1
baz=82
TUQ **Turquoise Moun** 81.51 325 P P 21 10 39.2 +1.8
baz=82
L29A **Maesberg Ranch** 81.51 339 P P 21 10 38.2 +1.1
baz=82
M27A **Reverse DX Ran** 81.59 338 P P 21 10 39.0 +1.3
baz=82
DECC **Green Verdugo** 81.69 323 P P 21 10 40.1 +1.9
baz=82
GSC **Goldstone** 81.81 325 eP P 21 10 41.4 +2.5
GSC pmax pmax
comp=Z,9.0nm,1.0s
GSC **Goldstone** 81.81 325 P P 21 10 40.3 +1.4
baz=82
GSC **Goldstone** 81.81 325 eP P 21 10 41.4 +2.5
comp=Z,9.3nm,1.0s
M25A **Palm-Egli Farm** 82.03 337 P P 21 10 41.1 +1.1
baz=82
EDW2 **Edwards Air Fo** 82.03 324 P P 21 10 41.6 +1.6
baz=82
ECSD **EROS Data Cent** 82.04 343 P P 21 10 40.4 +0.5
baz=82
ECSD **EROS Data Cent** 82.04 343 eP P 21 10 40.3 +0.5
comp=Z,32nm,0.9s
SHPR **Sheep Range** 82.05 327 eP P 21 10 41.6 +1.4
RPZ **Rata Peaks** 82.09 221 LR LR 21 39 34.2
comp=Z,187nm,18.0s,baz=130,slow=30
N23A **Red Feather La** 82.17 335 P P 21 10 42.0 +1.0
baz=82,SNR=7.1
URZ **Urewera** 82.22 228 LR LR 21 39 16.2
comp=Z,161nm,19.6s,baz=116,slow=30
L26A **Underwood Farm** 82.26 338 P P 21 10 42.4 +1.2
baz=83
SRU **San Rafael** 82.30 331 eP P 21 10 42.7 +1.2
SRU pmax pmax
comp=Z,18nm,1.3s
SRU **San Rafael** 82.30 331 eP P 21 10 42.7 +1.2
comp=Z,18nm,1.3s
K28A **Ten Mile Ranch** 82.36 339 P P 21 10 42.8 +1.2
baz=83
PHWY **Pilot Hill** 82.37 336 eP P 21 10 42.9 +0.9
comp=Z,19nm,1.4s
PHWY e 21 10 51.7
MSU **Marysvale** 82.45 330 eP P 21 10 43.8 +1.4
MSU pmax pmax
comp=Z,15nm,1.3s
MSU **Marysvale** 82.45 330 eP P 21 10 43.8 +1.4
comp=Z,15nm,1.3s
SPMN **St. Paul** 82.61 346 P P 21 10 42.8 0.0
baz=83
SPMN **St. Paul** 82.61 346 eP P 21 10 42.1 -0.6
L25A **Engebretsen Ra** 82.65 337 P P 21 10 44.8 +1.6
baz=83
P17A **Butcher Ranch,** 82.69 331 eP P 21 10 45.1 +1.6
J29A **Okreek** 82.71 340 P P 21 10 44.6 +1.3
baz=83
MPMC **Manual Prospec** 82.75 325 P P 21 10 45.6 +1.7
baz=83
ISA **Isabella** 82.89 324 P P 21 10 46.7 +2.1
baz=83
K26A **Motz Farm, Whi** 82.90 338 P P 21 10 45.3 +0.8
baz=83
TPNV **Topopah Spring** 82.90 326 P P 21 10 47.1 +2.4
baz=83
I30A **Oacoma** 82.93 341 P P 21 10 45.0 +0.5
baz=83
PKM **Peak Mountain** 82.94 323 P P 21 10 47.2 +2.2
baz=83
DAC **Darwin (Calif)** 82.97 325 eP P 21 10 46.6 +1.5
DAC pmax pmax
comp=Z,31nm,1.5s
DAC **Darwin (Calif)** 82.97 325 eP P 21 10 46.6 +1.5
comp=Z,31nm,1.5s
J28A **Allard Ranch,** 82.98 339 P P 21 10 45.8 +1.0
baz=83
K25A **Mack Ranch, Ha** 83.03 337 P P 21 10 46.8 +1.6
baz=83
J27A **Elkhorn Farm,** 83.05 339 P P 21 10 46.8 +1.6
baz=83
VES **Vestal, Richgr** 83.33 324 P P 21 10 48.6 +1.9
baz=84
J26A **Sides Ranch, S** 83.42 338 P P 21 10 48.5 +1.4
baz=84
I28A **Midland** 83.49 340 P P 21 10 48.3 +0.9
baz=84,SNR=5.6
J25A **Sunshine Ranch** 83.72 338 P P 21 10 49.5 +0.9
baz=84
R11A **Troy Canyon, C** 83.76 327 P P 21 10 50.8 +1.7
baz=84
R11A **Troy Canyon, C** 83.76 327 eP P 21 10 51.4 +2.3
comp=Z,13nm,1.3s
H29A **Onida** 83.80 341 P P 21 10 49.4 +0.5
baz=84
I27A **Quinn** 83.81 339 P P 21 10 49.9 +0.9
baz=84
J24A **Dixon Ranch, L** 83.93 337 P P 21 10 51.2 +1.4
baz=84
K22A **Casper** 83.93 335 P P 21 10 51.0 +1.1
baz=84
K22A **Casper** 83.93 335 eP P 21 10 50.9 +1.1
comp=Z,11nm,0.8s
DUG **Dugway** 84.14 330 eP P 21 10 51.8 +0.9
DUG pmax pmax
comp=Z,31nm,1.4s
DUG **Dugway** 84.14 330 P P 21 10 52.2 +1.3
baz=84
DUG **Dugway** 84.14 330 eP P 21 10 51.8 +0.9
comp=Z,31nm,1.4s
I25A **Rochford** 84.26 338 P P 21 10 52.4 +0.9
baz=85
TPH **Tonopah** 84.27 326 eP P 21 10 53.4 +1.7
TPH pmax pmax
comp=Z,23nm,1.2s
TPH **Tonopah** 84.27 326 eP P 21 10 53.4 +1.7
comp=Z,23nm,1.2s
J23A **Dills Ranch, B** 84.28 336 P P 21 10 52.2 +0.6
baz=85
H27A **Howes** 84.33 339 P P 21 10 52.2 +0.5
baz=85
I24A **Kuemmerle Ranc** 84.40 337 P P 21 10 52.6 +0.5
baz=85
G28A **Parade** 84.41 340 P P 21 10 52.8 +0.7
baz=85
J22A **Midwest** 84.59 336 P P 21 10 52.9 -0.2
baz=85
HWUT **Hardware Ranch** 84.85 332 eP P 21 10 55.1 +0.5
comp=Z,35nm,1.4s
G27A **Dupree** 84.97 340 P P 21 10 55.2 +0.3
baz=85
EYMN **Ely** 84.98 347 P P 21 10 54.7 -0.1
baz=85
I22A **9 Mile Ranch,** 85.02 336 P P 21 10 55.7 +0.4
baz=85
NVAR **Mina Array Bea** 85.05 326 P P 21 10 56.8 +1.1
comp=Z,4.4nm,0.8s,baz=154,slow=6.1,SNR=19
G26A **Maurine** 85.08 339 P P 21 10 55.6 +0.1
baz=85
J20A **Shoshoni** 85.09 335 P P 21 10 56.7 +1.1
baz=85
BW06 **Boulder Array** 85.10 334 eP P 21 10 56.3 +0.5
comp=Z,3.1nm,0.9s
PDAR **Pinedale Array** 85.10 334 P P 21 10 56.5 +0.6
comp=Z,2.2nm,0.9s,baz=129,slow=4.0,SNR=16
PDAR LR LR 21 44 38.8
comp=Z,205nm,20.1s,baz=190,slow=33
TOA0 **Torodi Ar. Sit** 85.17 70 eP P 21 10 56.0 -0.5
TORD **Torodi Ar. Bea** 85.17 70 P P 21 10 57.2 +0.7
comp=Z,4.9nm,0.9s,baz=235,slow=5.1,SNR=21
TORD LR LR 21 46 47.7
comp=Z,184nm,20.0s,baz=210,slow=34
I21A **Big Trails, Te** 85.22 336 P P 21 10 56.6 +0.2
baz=86
G25A **Newell** 85.23 339 P P 21 10 57.0 +0.7
baz=86,SNR=6.0
F27A **Lemmon** 85.45 340 P P 21 10 57.7 +0.4
baz=86
E29A **Napoleon** 85.45 342 P P 21 10 57.5 +0.3
baz=86
HVU **Hansel Valley** 85.47 331 eP P 21 10 58.1 +0.5
HVU **Hansel Valley** 85.47 331 eP P 21 10 58.1 +0.5
ELK **Elko** 85.60 329 eP P 21 10 59.3 +0.9
ELK **Elko** 85.60 329 eP P 21 10 59.3 +0.9
F26A **Lodgepole** 85.61 339 P P 21 10 58.8 +0.7
baz=86
I20A **Worland** 85.63 335 P P 21 10 58.9 +0.6
baz=86
WAKR **Walker** 85.64 325 eP P 21 11 01.3 +2.7
G24A **Alzada** 85.65 338 P P 21 10 58.6 +0.2
baz=86
D30A **Buchanan** 85.73 342 P P 21 10 59.1 +0.5
baz=86
E27A **Carson** 85.83 340 P P 21 10 59.3 +0.2
baz=86
G23A **Biddle** 85.84 337 P P 21 10 59.4 +0.1
baz=86
F25A **Bowman** 85.91 339 P P 21 10 59.6 +0.1
baz=86
I19A **Meeteetse** 86.00 335 P P 21 11 00.8 +0.6
baz=86
H20A **Greybull** 86.06 335 P P 21 11 00.3 -0.1
baz=86
E26A **Carlson Angus** 86.12 340 P P 21 11 01.0 +0.4
baz=86
F24A **Ekalaka** 86.13 338 P P 21 11 01.0 +0.3
baz=86
AGMN **Agassiz Nation** 86.18 345 P P 21 11 00.8 0.0
baz=86
AGMN **Agassiz Nation** 86.18 345 eP P 21 11 01.4 +0.7
comp=Z,8.3nm,0.8s
C30A **Mose, Pekin** 86.22 343 P P 21 11 01.7 +0.7
baz=87,SNR=5.6
D28A **Reagan** 86.27 341 P P 21 11 01.6 +0.4
baz=87
F23A **Volborg** 86.31 338 P P 21 11 02.1 +0.5
baz=87
FXWY **Fox Creek** 86.39 333 eP P 21 11 03.3 +1.1
comp=Z,7.5nm,1.3s
E25A **Miller Ranch,** 86.42 339 P P 21 11 02.7 +0.7
baz=87
G21A **Lodge Grass** 86.44 336 P P 21 11 02.5 +0.2
baz=87
D27A **Center** 86.45 341 P P 21 11 02.5 +0.4
baz=87
H19A **Powell** 86.56 335 P P 21 11 03.4 +0.5
baz=87
IMW **Indian Meadow** 86.58 333 eP P 21 11 04.5 +1.3
comp=Z,12nm,1.0s
D26A **Manning** 86.62 340 P P 21 11 03.8 +0.8
baz=87,SNR=9.3
MDND **Maddock** 86.63 342 P P 21 11 03.5 +0.5
baz=87,SNR=5.2
MDND **Maddock** 86.63 342 eP P 21 11 03.9 +0.9
comp=Z,202nm,1.0s
F22A **Rosebud** 86.63 337 P P 21 11 03.4 +0.3
baz=87
C28A **Hausauer Farms** 86.71 342 P P 21 11 03.7 +0.4
baz=87
E24A **Baker** 86.73 339 P P 21 11 04.0 +0.4
baz=87
G20A **Bridger** 86.77 336 P P 21 11 04.4 +0.5
baz=87
B30A **Myrvik Farm, E** 86.88 343 P P 21 11 04.6 +0.4
baz=87,SNR=15
F21A **Absaloka Mine,** 86.95 337 P P 21 11 04.9 +0.2
baz=87
E23A **Ismay** 86.98 338 P P 21 11 05.1 +0.3
baz=87
D25A **Fairfield** 86.98 340 P P 21 11 05.7 +0.9
baz=87
C27A **Sayler Ranch,** 87.00 341 P P 21 11 05.5 +0.7
baz=87,SNR=6.5
RLMT **Red Lodge** 87.05 335 P P 21 11 05.6 +0.2
baz=87
RLMT **Red Lodge** 87.05 335 eP P 21 11 06.4 +1.0
comp=Z,11nm,1.0s
E22A **Miles City** 87.12 338 P P 21 11 05.3 -0.2
baz=88
B29A **Wagenman Farm,** 87.14 343 P P 21 11 06.1 +0.6
baz=88,SNR=6.0
D24A **Glendive** 87.24 339 P P 21 11 07.1 +1.0
baz=88
C26A **Wahner Farm, P** 87.26 341 P P 21 11 06.6 +0.5
baz=88
F20A **Billings** 87.26 336 P P 21 11 06.7 +0.5
baz=88
A30A **Hoffart Farm,** 87.33 343 P P 21 11 06.6 +0.2
baz=88
B28A **Dugan Ranch, T** 87.38 342 P P 21 11 07.4 +0.8
baz=88,SNR=5.3
C25A **Freed Ranch, W** 87.47 340 P P 21 11 08.2 +1.1
baz=88
A29A **Manning Farm,** 87.54 343 P P 21 11 07.7 +0.3
baz=88,SNR=5.2
D23A **Lindsay** 87.56 338 P P 21 11 08.2 +0.6
baz=88
B27A **Peters Farms,** 87.57 341 P P 21 11 08.5 +0.9
baz=88
E21A **Keefer Ranch,** 87.57 337 P P 21 11 08.0 +0.3
baz=88
HLID **Hailey** 87.62 331 P P 21 11 09.4 +1.3
baz=88
HLID **Hailey** 87.62 331 eP P 21 11 10.0 +1.9
comp=Z,5.9nm,0.9s
C24A **Savage** 87.64 339 P P 21 11 08.7 +0.8
baz=88
A28A **Rude Farm, Bot** 87.78 342 P P 21 11 09.1 +0.5
baz=88
B25A **Knox Farm, Ray** 87.96 340 P P 21 11 10.1 +0.7
baz=88
D21A **La Casta Ranch** 88.01 337 P P 21 11 10.2 +0.4
baz=88
ULM **Lac du Bonnet** 88.03 345 P P 21 11 09.9 +0.3
comp=Z,16nm,0.9s,baz=174,slow=3.5,SNR=21
MFID **Camas Ranch** 88.06 330 eP P 21 11 11.5 +1.3
comp=Z,7.3nm,1.3s
A27A **Ledoux Ranch,** 88.07 342 P P 21 11 10.4 +0.6
baz=88
MCMT **McKenzie Canyo** 88.08 333 eP P 21 11 11.6 +1.2
C23A **Lambert** 88.11 339 P P 21 11 10.8 +0.6
baz=88
A26A **Wade Farm, Ken** 88.22 341 P P 21 11 11.0 +0.3
baz=89
C22A **Vida** 88.27 338 P P 21 11 11.3 +0.4
baz=89
BOZ **Bozeman (W)** 88.33 334 eP P 21 11 12.3 +0.8
BOZ pmax pmax
comp=Z,54nm,2.8s
BOZ **Bozeman (W)** 88.33 334 P P 21 11 12.1 +0.7
baz=89
BOZ **Bozeman (W)** 88.33 334 eP P 21 11 12.3 +0.8
comp=Z,54nm,2.8s
DGMT **Dagmar** 88.43 340 P P 21 11 12.4 +0.8
baz=89
DGMT **Dagmar** 88.43 340 eP P 21 11 12.4 +0.8
comp=Z,44nm,1.0s
WVOR **Wild Horse Val** 88.44 328 eP P 21 11 12.1 +0.1
WVOR pmax pmax
comp=Z,39nm,1.9s
WVOR **Wild Horse Val** 88.44 328 eP P 21 11 12.1 +0.1
comp=Z,39nm,1.9s
DLMT **Dillon** 88.44 333 eP P 21 11 12.6 +0.6
A25A **Svangstu Ranch** 88.55 340 P P 21 11 12.7 +0.5
baz=89
B23A **Brockton** 88.65 339 P P 21 11 13.2 +0.5
baz=89
C21A **Desert Coulee** 88.72 338 P P 21 11 13.2 +0.2
baz=89
WDC **Whiskeytown Da** 88.74 324 eP P 21 11 13.8 +0.5
WDC pmax pmax
comp=Z,8.0nm,0.9s
WDC **Whiskeytown Da** 88.74 324 eP P 21 11 13.8 +0.5
comp=Z,7.6nm,0.9s
MOD **Modoc** 88.75 326 eP P 21 11 15.0 +1.5
comp=Z,16nm,1.0s
A24A **Westby** 88.78 340 P P 21 11 14.0 +0.7
baz=89
B22A **Reddig Ranch S** 88.80 338 P P 21 11 13.9 +0.5
baz=89
C20A **Veseth Ranch,** 88.90 337 P P 21 11 14.1 +0.2
baz=89
N02D **Trinity Center** 89.13 324 P P 21 11 16.3 +1.1
baz=90
B21A **Ellsworth Farm** 89.22 338 P P 21 11 16.6 +1.2
baz=90
M04C **Macdoel** 89.36 325 P P 21 11 17.3 +1.0
baz=90
A22A **Carney Farms,** 89.40 339 P P 21 11 16.6 +0.3
baz=90
M02C **Callahan** 89.52 325 P P 21 11 17.8 +0.8
baz=90
B20A **Solberg Farm,** 89.55 337 P P 21 11 17.1 +0.2
baz=90
K05A **Summer Lake** 89.67 327 eP P 21 11 20.1 +2.3
comp=Z,22nm,1.0s
YBH **Yreka Blue Hor** 89.72 325 eP P 21 11 19.0 +1.0
YBH pmax pmax
comp=Z,5.0nm,1.0s
YBH **Yreka Blue Hor** 89.72 325 eP P 21 11 19.0 +1.0
comp=Z,4.6nm,1.0s
EGMT **Eagleton** 89.74 336 P P 21 11 18.7 +0.8
baz=90
BMO **Blue Mountains** 89.85 330 eP P 21 11 19.1 +0.6
comp=Z,2.6nm,1.0s
J05D **Fort Rock, OR** 90.27 327 P P 21 11 22.3 +1.8
baz=91
SCHQ **Schefferville** 90.30 3 LR LR 21 50 42.3
comp=Z,52nm,21.7s,baz=154,slow=35
L02D **Cave Junction,** 90.47 325 P P 21 11 23.2 +1.9
baz=91
G08A **Pilot Rock** 90.89 329 eP P 21 11 25.0 +1.6
comp=Z,6.9nm,1.1s
I04A **Tendick Farm,** 91.19 326 P P 21 11 25.9 +1.2
baz=92
DZM **Mont Dzumac** 99.91 234 eLR LR 21 44 59.4
comp=Z,219nm,25.8s
GERES **GERESS Array B** 113.63 46 PKiKP PKiKP 21 16 57.9 +0.1
comp=Z,0.8nm,0.8s,baz=250,slow=2.0,SNR=7.1
ILAR **Eielson Array** 115.52 333 PKP PKPdf 21 17 00.8 0.0
comp=Z,0.7nm,1.0s,baz=90,slow=1.1,SNR=4.9
BRTR **Keskin Array B** 123.00 62 PKP PKPdf 21 17 16.2 +0.1
comp=Z,1.0nm,0.8s,baz=193,slow=4.4,SNR=4.4
BRTR **Keskin Array B** 123.00 62 *i* PKiKP PKPdf 21 17 16.3 +0.1
BRTR pmax pmax
comp=Z,1.0nm,0.8s
AKASG **Malin Array Be** 123.63 48 PKP PKPdf 21 17 16.6 -0.1
comp=Z,0.5nm,0.5s,baz=266,slow=2.0,SNR=5.0
OBN **Obninsk** 128.94 44 ePKiKP PKPdf 21 17 26.7 -0.1
OBN pmax pmax
comp=Z,6.0nm,1.1s
KIV **Kislovodsk** 130.71 60 *i* PKiKP PKPdf 21 17 28.4 -2.3
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,45nm,21.0s
PRGR **Permogore** 133.94 36 ePKiKP PKPdf 21 17 34.5 -1.5
PRGR pmax pmax
comp=Z,10.0nm,0.3s
BILL **Bilibino** 134.18 333 ePKiKP PKPdf 21 17 38.4 +2.0
BILL pmax pmax
comp=Z,3.0nm,1.2s
ARU **Arti** 141.28 42 *i* PKiKP PKPdf 21 17 53.1 +3.3
ARU 21 20 55.2
SEY **Seymchan** 141.29 329⇑ *i* PKiKP PKPdf 21 17 52.2 +2.6
TIXI **Tiksi** 142.29 349⇑ ePKiKP PKPdf 21 17 51.6 +0.5
TIXI pmax pmax
comp=Z,3.0nm,1.0s

TIXI	**Tiksi**	**142.29**	**349**	*e*PKPpre	PKPpre	21 17 45.2			
ABKAR	**Akbulak array**	**143.03**	**53**	*e*PKPpre	PKPpre	21 17 49.7			
RCLA	**Racherla**	**147.51**	**121**	*e*PKPdf	**PKPdf**	**21 18 02.2**	**+0.4**		
RCLA				*e*PKPab	**PKPab**	**21 18 05.5**	**-1.0**		
KLRI	**Killari**	**147.53**	**115**	*e*PKPbc	**PKPdf**	**21 18 02.7**	**+0.8**		
KLRI				*e*PKPab	**PKPbc**	**21 18 05.4**	**+0.9**		
SRLM	**Srisailam**	**147.91**	**120**	*e*PKPbc	**PKPbc**	**21 18 06.0**	**+0.5**		
ADKI	**Addanki**	**148.49**	**122**	*e*PKPbc	**PKPbc**	**21 18 05.7**	**-1.3**		
ADKI				*e*PKPab	**PKPab**	**21 18 09.5**	**-0.9**		
NJS	**Nagarjunasagar**	**148.51**	**120**	*e*PKPbc	**PKPbc**	**21 18 07.2**	**+0.2**		
HYB	**Hyderabad**	**148.54**	**118**	*i* PKP	**PKPbc**	**21 18 07.0**	**-0.2**		
HYB				*e*		21 18 16.5			
HYBB	**Hyderabad (bro**	**148.54**	**118**	*e*PKPdf	**PKPdf**	**21 18 03.7**	**+0.2**		
HYBB				*e*PKIKP	**PKiKP**	**21 18 08.8**	**+0.1**		
BRVK	**Borovoye**	**148.71**	**45**	*c i*PKIKP	**PKPbc**	**21 18 04.8**	**-1.7**		
BRVK				pmax	pmax				
	comp=Z,18nm,1.7s								
BRVK	**Borovoye**	**148.71**	**45**	*e*PKPbc	**PKPdf**	**21 18 04.3**	**+1.6**		
BRVK				*e*PKPab	**PKiKP**	**21 18 07.7**	**-0.3**		
YAK	**Yakutsk**	**150.18**	**339**	*e*PKIKP	**PKPbc**	**21 18 09.9**	**+0.1**		
YAK				pmax	pmax				
	comp=Z,52nm,1.1s								
YAK	**Yakutsk**	**150.18**	**339**	*e*PKPbc	**PKPbc**	**21 18 10.1**	**+0.3**		
PVM	**Polavaram**	**150.60**	**122**	*e*PKIKP	**PKiKP**	**21 18 12.6**	**-0.3**		
KKAR	**Karatay Array**	**150.68**	**64**	*e*PKIKP	**PKPbc**	**21 18 12.5**	**+0.8**		
KKAR	**Karatay Array**	**150.68**	**64**	*e*PKPbc	**PKPbc**	**21 18 12.4**	**+0.8**		
NKL	**Nikolayevsk**	**150.92**	**317**	*e*PKIKP	**PKPdf**	**21 18 07.0**	**+0.9**		
NKL				pmax	pmax				
	comp=Z,60nm,1.0s								
YSS	**Yuzh-Sakhalins**	**151.45**	**304**	*e*PKIKP	**PKPbc**	**21 18 13.8**	**+0.5**		
YSS				*e*		21 18 23.0			
ASAJ	**Asahikawa**	**151.94**	**298**	*e*PKPbc	**PKPbc**	**21 18 15.0**	**+0.5**		
EKS2	**Erkin-Say**	**153.10**	**65**	*e*PKIKP	**PKPdf**	**21 18 09.4**	**-0.6**		
EKS2	**Erkin-Say**	**153.10**	**65**	*e*PKPdf	**PKPdf**	**21 18 09.4**	**-0.6**		
CHLP	**Challavanipeta**	**153.13**	**123**	*e*PKIKP	**PKiKP**	**21 18 18.8**	**+0.7**		
FRU	**Bishkek**	**153.71**	**64**	*e*PKP2	**PKPab**	**21 18 32.0**	**+0.5**		
KURK	**Kurchatov**	**154.38**	**45**	*e*PKIKP	**PKPdf**	**21 18 11.2**	**-0.1**		
KURK	**Kurchatov**	**154.38**	**45**	*e*PKPdf	**PKPdf**	**21 18 11.2**	**-0.1**		
NVS	**Novosibirsk**	**154.59**	**34**	*e*PKIKP	**PKPdf**	**21 18 12.9**	**+1.5**		
NVS				pmax	pmax				
	comp=Z,18nm,1.5s								
KSH	**Kashi**	**154.83**	**72**	PKPbc	**PKPdf**	**21 18 11.1**	**-1.4**		
KSH				pPKP	**PKiKP**	**21 18 22.3**	**+1.1**		
KSH				sPKP		21 18 26.1			
KSH				SKS	**SKSdf**	**21 25 13.1**	**-2.8**		
KSH				SKKS	**SKKSac**	**21 28 54.0**	**-5.1**		
KSH				SS	SS	21 41 42.1	-11		
KSH				LN					
	comp=Z,130nm,4.7s								
KSH				LE					
	comp=Z,150nm,5.0s								
KSH				LZ					
	comp=Z,270nm,7.4s								
ZALV	**Zalesovo Beam**	**155.87**	**34**	PKP	**PKPdf**	**21 18 13.4**	**+0.1**		
	comp=Z,0.4nm,0.4s,baz=289,slow=4.4,SNR=5.6								
ZALV				PKPbc	PKPbc	21 18 23.4			
	comp=Z,3.4nm,0.8s,baz=279,slow=2.9,SNR=14								
USRK	**Ussuriysk Ar.**	**159.43**	**302**	PKPab	**PKPab**	**21 18 56.8**	**+0.7**		
	comp=Z,1.6nm,0.9s,baz=79,slow=4.1,SNR=5.9								
MDJ	**Mudanjiang**	**160.93**	**305**	PKP	**PKPdf**	**21 18 20.5**	**+0.8**		
CMAR	**Chiang Mai Arr**	**161.24**	**154**	PKP	**PKPdf**	**21 18 21.1**	**+0.3**		
	comp=Z,1.4nm,1.0s,baz=234,slow=2.4,SNR=6.8								
WMQ	**Urumqi**	**162.80**	**56**	*e*PKP	**PKPdf**	**21 18 20.5**	**-1.2**		
WMQ				LN					
	comp=Z,67nm,20.0s								
WMQ				LE					
	comp=Z,56nm,20.1s								
WMQ				LZ					
	comp=Z,61nm,26.3s								
KSRS	**Korea Array**	**163.47**	**282**	PKPab	**PKPab**	**21 19 14.6**	**+0.7**		
	comp=Z,0.5nm,0.4s,baz=105,slow=5.2,SNR=5.5								
KSRS	**Korea Array**	**163.47**	**282**	PKP2	**PKPab**	**21 19 14.6**	**+0.7**		
KSRS				pmax	pmax				
	comp=Z,1.0nm,0.4s								
KSAR	**Wonju Array Be**	**163.50**	**282**	PKP2	**PKPab**	**21 19 14.6**	**+0.5**		
KSAR	**Wonju Array Be**	**163.50**	**282**	PKPab	**PKPab**	**21 19 14.6**	**+0.5**		
TLY	**Talaya**	**163.79**	**9**	*e*PKP2	**PKPab**	**21 19 16.8**	**+2.0**		
TLY				pmax	pmax				
	comp=Z,7.0nm,1.4s								
ZAK	**Zakamensk**	**165.01**	**10**	*e*PKP2	**PKPab**	**21 19 20.9**	**+0.6**		
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.4s								
SONM	**Songino Array**	**167.85**	**3**	PKPab	**PKPab**	**21 19 34.0**	**+1.1**		
	comp=Z,4.3nm,0.9s,baz=330,slow=4.4,SNR=19								
SONM	**Songino Array**	**167.85**	**3**	PKP2	**PKPab**	**21 19 34.0**	**+1.1**		
GYA	**Guiyang**	**170.76**	**176**	PKP	**PKPdf**	**21 18 28.0**	**-0.3**		
GYA				pPKP	**pPKPdf**	**21 18 39.4**	**-1.9**		
GYA				PKPab	**PKPab**	**21 19 48.6**	**+2.3**		
GYA				PP	**PP**	**21 23 39.0**	**+3.3**		
GYA				PPMZ					
	comp=Z,120nm,8.0s								
BJI	**Beijing**	**171.87**	**305**	PKP	**PKPdf**	**21 18 28.5**	**+0.2**		
WHN	**Wuhan**	**172.27**	**230**	PKP	**PKPdf**	**21 18 29.9**	**+1.1**		
GTA	**Gaotai**	**172.88**	**56**	*e*PKP	**PKPdf**	**21 18 30.1**	**+1.2**		
HHC	**Hu-ho-hao-te**	**173.93**	**329**	*e*PKP	**PKPdf**	**21 18 27.1**	**-2.2**		
HHC				pPKP	**pPKPdf**	**21 18 38.0**	**-4.2**		
HHC				SKS	**SKSdf**	**21 25 23.3**	**-5.9**		
HHC				SKKS	**SKKSac**	**21 30 38.2**	**+2.9**		
HHC				SS	**SS**	**21 45 06.4**	**-0.5**		
HHC				PPMZ					
	comp=Z,62nm,9.7s								
HHC				LN					
	comp=Z,71nm,22.4s								
HHC				LE					
	comp=Z,100nm,22.8s								
HHC				LZ					
	comp=Z,56nm,21.7s								
CD2	**Chengdu**	**174.30**	**146**	PKP	**PKPdf**	**21 18 28.5**	**-1.1**		
CD2				pPKP	**pPKPdf**	**21 18 39.8**	**-2.8**		
CD2				sPKP		21 18 43.6			
CD2				SKS	**SKSdf**	**21 25 59.3**	**-2.6**		
CD2				PP	**PP**	**21 23 54.1**	**+0.5**		
CD2				SKS	**SKSdf**	**21 25 26.2**	**-3.4**		
CD2				SKKS	**SKKSac**	**21 30 34.9**	**-2.4**		
CD2				SS	**SS**	**21 45 05.4**	**-5.0**		
CD2				PPMZ					
	comp=Z,100nm,6.7s								
CD2				LN					
	comp=Z,150nm,5.5s								
CD2				LZ					
	comp=Z,120nm,6.3s								
LZH	**Lanzhou**	**177.03**	**81**	*e*PKP	**PKPdf**	**21 18 29.3**	**-1.0**		
LZH				pPKP	**pPKPdf**	**21 18 38.3**	**-4.9**		
LZH				sPKP		21 18 41.4			
LZH				PP	**PP**	**21 24 09.0**	**+1.0**		
LZH				SKKS		21 30 44.4			
LZH				SS	**SS**	**21 45 33.0**	**-6.0**		
LZH				PPMZ					
	comp=Z,150nm,7.1s								
LZH				LN					
	comp=Z,450nm,17.0s								
LZH				LE					
	comp=Z,390nm,19.2s								
LZH				LZ					
	comp=Z,540nm,20.2s								
XAN	**Xi'an**	**177.96**	**216**	PKP	**PKPdf**	**21 18 30.9**	**+0.6**		

IDC ***01*** *21:25:40.8±5.1,* **14.78S×172.63W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.6/32, mbtmp3.6/3, Error ellipse: s-maj=250.0km s-min=32.1km az=139.0, Samoa Islands*

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
H11S2	**WAKE ISLAND Hy**	**38.83**	**328**	T	T	22 14 43.4		
	baz=147,slow=76,SNR=108							
H11S3	**WAKE ISLAND Hy**	**38.84**	**328**	T	T	22 14 44.4		
	baz=147,slow=76,SNR=88							
H11S1	**WAKE ISLAND Hy**	**38.85**	**328**	T	T	22 14 43.7		
	baz=147,slow=76,SNR=85							
H11N3	**WAKE ISLAND Hy**	**39.76**	**329**	T	T	22 15 51.1		
	baz=148,slow=76,SNR=44							
H11N1	**WAKE ISLAND Hy**	**39.76**	**329**	T	T	22 15 50.9		
	baz=148,slow=76,SNR=46							
H11N2	**WAKE ISLAND Hy**	**39.78**	**329**	T	T	22 15 51.9		
	baz=148,slow=76,SNR=46							
WRA	**Warramunga Arr**	**50.71**	**256**	P	P	21 34 43.1		+0.3
	0.7nm,0.8s,baz=85,slow=6.2,SNR=4.1							
WRA				PcP	PcP	21 36 00.3		+0.2
	0.5nm,0.9s,baz=93,slow=3.4,SNR=4.8							
ASAR	**Alice Springs**	**51.01**	**251**	P	P	21 34 44.1		-0.9
	1.0nm,0.8s,baz=89,slow=8.1,SNR=8.5							
ILAR	**Eielson Array**	**81.70**	**11**	P	P	21 38 00.3		-0.4
	0.3nm,0.7s,baz=201,slow=4.8,SNR=3.0							

GERES	**GERESS Array B**	**145.64**	**353**	PKPbc	PKPdf	21 45 20.6		-0.7	
	0.3nm,0.8s,baz=32,slow=3.8,SNR=5.9								
BRTR	**Keskin Array B**	**146.14**	**322**	PKPbc	PKPbc	21 45 23.3		-0.1	
	0.5nm,0.7s,baz=66,slow=3.0,SNR=3.6								

NNC ***01*** *21:39:37.0±2.0, 37.54N×71.67E, h175km±15km, mb2.8, mpv3.8, Error ellipse: s-maj=19.8km s-min=7.1km az=161.0*

ISC **01 21:39:35.9±2.6, 37.4N±0.2×71.76E±0.08, h150km, n15, σ1§61/21, 8C-6D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
DZET	**Dzherino**	**2.70**	**302**	⇓P	**Pn**	**21 40 20.1**	**+0.6**	
	24nm,0.3s							
DZET				⇑S	**Sn**	**21 40 54.4**	**+1.2**	
	110nm,0.4s							
SFK	**Sufi-Kurgan**	**2.93**	**27**	⇑P	**Pn**	**21 40 23.9**	**+1.3**	
	77nm,0.3s							
SFK				⇑S	**Sn**	**21 41 00.9**	**+2.2**	
	44nm,0.2s							
AML	**Almayashu**	**4.94**	**17**	P	**Pn**	**21 40 49.5**	**+0.7**	
	SNR=169							
UCH	**Uchtor**	**5.25**	**23**	P	**Pn**	**21 40 53.3**	**+0.3**	
	SNR=29							
KZA	**Kyzart**	**5.38**	**29**	P	**Pn**	**21 40 54.0**	**-0.6**	
	SNR=7.5							
EKS2	**Erkin-Say**	**5.46**	**16**	P	**Pn**	**21 40 57.6**	**+2.1**	
	SNR=7.1							
AAK	**Ala-Archa**	**5.62**	**21**	P	**Pn**	**21 40 58.5**	**+0.9**	
	SNR=7.5							
AAK	**Ala-Archa**	**5.62**	**21**	⇓P	**Pn**	**21 40 58.3**	**+0.7**	
	4.9nm,0.5s							
AAK				⇓S	**Sn**	**21 42 01.8**	**+0.3**	
	8.9nm,0.6s							
KK31	**Karatay Array**	**5.76**	**351**	⇓P	**Pn**	**21 41 00.8**	**+1.5**	
	0.6nm,0.2s,baz=162,slow=11,SNR=38							
KK31				S	**Sn**	**21 42 05.0**	**+0.4**	
	19nm,0.3s,baz=169,slow=21,SNR=42							
ULHL	**Ulahol**	**5.93**	**34**	P	**Pn**	**21 41 01.2**	**-0.6**	
	SNR=11							
CHMS	**Chumysh**	**6.03**	**21**	P	**Pn**	**21 41 04.0**	**+1.0**	
	SNR=7.6							
TKM2	**Tokmak 2**	**6.23**	**27**	⇑P	**Pn**	**21 41 05.8**	**-0.1**	
	2.2nm,0.8s							
TKM2				⇑S	**Sn**	**21 42 16.3**	**0.0**	
	3.4nm,0.7s							
MK31	**Makanchi Array**	**12.19**	**36**	⇓P	**Pn**	**21 42 21.9**	**-2.7**	
	0.4nm,0.5s,baz=219,slow=9.3,SNR=7.1							
AB31	**Akbulak array**	**14.61**	**328**	⇑P	**Pn**	**21 42 55.2**	**0.0**	
	0.7nm,0.4s,baz=139,slow=11,SNR=30							
AB31				⇓S	Sn	21 45 27.9	-9.3	
	1.1nm,0.4s,baz=157,slow=21,SNR=8.2							
AKTO	**Aktyubinsk**	**16.32**	**327**	⇑P	**P**	**21 43 16.9**	**+0.4**	
	1.8nm,0.6s							
AKTO				⇑S	**S**	**21 46 12.9**	**-4.5**	
	1.8nm,0.8s							

ISCJB ***01*** *21:50:43.7±0.6, 10.01N±0.04×126.50E±0.05, h42km, mb3.8/10, Error ellipse: s-maj=7.4km s-min=6.3km az=167.2*

MAN ***01*** *21:50:44, 10.02N×126.35E, h21km, mb4.6, ML3.5, MS3.5*

IDC ***01*** *21:50:51.1±4.1, 9.96N×126.27E, h93km±35km, mb3.5/10, mb1 3.6/10, mb1mx3.4/40, mbtmp3.8/10, Error ellipse: s-maj=55.5km s-min=12.5km az=69.0*

ISC **01 21:50:45.4±0.8, 10.01N±0.05×126.41E±0.08, h42km, n32, σ1§35/29, mb3.9/10, 2C-2D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
SCPH	**Surigao**	**0.94**	**256**	⇓*i*P	**Pn**	**21 51 01.6**	**-0.6**	
SCPH				*i* S	**Sn**	**21 51 11.9**	**-2.5**	
BUTP	**Butuan**	**1.30**	**217**	*e*P	**Pn**	**21 51 06.2**	**-0.8**	
MSLP	**Maasin**	**1.53**	**275**	*e*P	**Pn**	**21 51 10.0**	**-0.3**	
PLP	**Palo**	**1.82**	**309**	⇓*e*P	**Pn**	**21 51 13.8**	**-0.4**	
PLP				*e*S	**Sn**	**21 51 37.4**	**+1.4**	
OCLP	**Ormoc**	**2.05**	**300**	*e*P	**Pn**	**21 51 14.8**	**-2.6**	
CGP	**Cagayan de Oro**	**2.29**	**228**	*e*P	**Pn**	**21 51 20.7**	**-0.1**	
CGP				*i* S	**Sn**	**21 51 48.4**	**+0.6**	
BUKP	**Musuan**	**2.50**	**212**	*e*P	**Pn**	**21 51 25.8**	**+2.1**	
TBP	**Tagbilaran**	**2.53**	**263**	*e*P	**Pn**	**21 51 24.9**	**+0.8**	
TBP				*e*S	**Sn**	**21 51 55.9**	**+2.2**	
CNP	**Catarman**	**3.02**	**326**	*e*P	**Pn**	**21 51 30.8**	**+0.1**	
MATI	**Mati**	**3.05**	**183**	*e*P	Pn	21 51 35.2	+4.0	
DCPH	**Dipolog City**	**3.34**	**245**	⇑*e*P	**Pn**	**21 51 35.9**	**+0.8**	
PAGZ	**Pagadian**	**3.69**	**235**	*e*P	**Pn**	**21 51 41.4**	**+1.5**	
GUIM	**Jordan**	**3.81**	**280**	*e*P	**Pn**	**21 51 42.7**	**+1.1**	
RCP	**Roxas**	**3.92**	**293**	⇑*e*P	Pn	21 51 46.8	+3.7	
PVCP	**Virac**	**4.19**	**328**	*e*P	**Pn**	**21 51 48.9**	**+2.0**	
CMAR	**Chiang Mai Arr**	**27.89**	**291**	P	**P**	**21 56 31.2**	**-0.4**	
	0.7nm,0.9s,baz=104,slow=6.0,SNR=4.4							
WRA	**Warramunga Arr**	**30.77**	**165**	P	**P**	**21 56 57.5**	**+0.4**	
	0.1nm,0.3s,baz=344,slow=9.4,SNR=3.2							
WRA				S	**S**	**22 01 54.7**	**-3.0**	
	0.8nm,1.1s,baz=325,slow=21,SNR=2.6							
ASAR	**Alice Springs**	**34.26**	**168**	P	**P**	**21 57 28.2**	**+0.6**	
	0.2nm,0.4s,baz=354,slow=7.1,SNR=8.3							
H11S3	**WAKE ISLAND Hy**	**39.86**	**73**	T	T	22 41 11.7		
	baz=262,slow=75,SNR=35							
H11S1	**WAKE ISLAND Hy**	**39.88**	**73**	T	T	22 41 10.5		
	baz=262,slow=75,SNR=22							
H11S2	**WAKE ISLAND Hy**	**39.88**	**73**	T	T	22 41 10.6		
	baz=262,slow=75,SNR=24							
H11N1	**WAKE ISLAND Hy**	**40.20**	**71**	T	T	22 41 38.6		
	baz=264,slow=74,SNR=78							
H11N2	**WAKE ISLAND Hy**	**40.21**	**71**	T	T	22 41 36.4		
	baz=264,slow=74,SNR=55							
H11N3	**WAKE ISLAND Hy**	**40.22**	**71**	T	T	22 41 39.9		
	baz=264,slow=74,SNR=71							
SONM	**Songino Array**	**41.31**	**340**	P	**P**	**21 58 28.1**	**+1.0**	
	0.6nm,0.5s,baz=153,slow=10.0,SNR=4.2							
STKA	**Stephens Creek**	**44.11**	**161**	P	**P**	**21 58 49.9**	**+0.2**	
	0.6nm,0.4s,baz=337,slow=10,SNR=5.7							
ZALV	**Zalesovo Beam**	**54.92**	**331**	P	**P**	**22 00 11.2**	**-0.6**	
	0.5nm,0.3s,baz=116,slow=5.6,SNR=3.6							
KURBB	**Kurchatov Arra**	**56.36**	**325**	P	**P**	**22 00 21.8**	**-0.5**	
	1.3nm,0.6s,baz=125,slow=6.9,SNR=17							
ARCES	**ARCESS Array B**	**84.48**	**340**	P	**P**	**22 03 13.6**	**0.0**	
	1.4nm,0.8s,baz=81,slow=7.4,SNR=6.9							
FINES	**FINESS Array B**	**86.18**	**332**	P	**P**	**22 03 21.9**	**-0.2**	
	0.9nm,0.5s,baz=84,slow=5.3,SNR=13							
MAW	**Mawson**	**89.50**	**200**	P	**P**	**22 03 37.9**	**+0.2**	
	0.8nm,0.6s,baz=72,slow=11,SNR=5.4							
TORD	**Torodi Ar. Bea**	**120.49**	**292**	PKP	**PKPdf**	**22 09 32.5**	**-1.0**	
	0.2nm,0.4s,baz=40,slow=2.0,SNR=5.5							

MEX **01 22:22:25.8±0.4, 32.29N×115.12W, h18km±32km, MD3.5, 1C, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
MBIG	**Mexicali**	**0.13**	**329**	*e*P	Pg	22 22 28.2		-1.6
MBIG				*e*S	Sg	22 22 31.9		-0.5
SPIG	**San Pedro Mart**	**1.28**	**194**	*i* P	Pn	22 22 45.3		-4.0
SPIG				*i* S	Sb	22 23 01.4		-4.9
CBX	**Cerro Bola**	**1.31**	**271**	⇑*e*P	Pn	22 22 46.1		-3.4
CBX				*i* S	Sn	22 23 01.3		-5.3

MAN **01 22:37:59, 16.85N×120.14E, h32km, mb4.4, ML3.3, MS3.1, 2C-1D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
BOLP	**Bolinao**	**0.51**	**205**	*e*P	Pn	22 38 11.0		+0.9
BOLP				*e*S	Sn	22 38 19.3		+1.6
BCPH	**Baguio City Da**	**0.63**	**137**	⇑*i*P	Pn	22 38 12.3		+0.3
BCPH				*i* S	Sn	22 38 21.6		+0.4
ABRA	**Dolores**	**0.97**	**35**	*e*P	Pn	22 38 16.3		-0.1
SIPP	**Brgy, Tapao**	**1.11**	**16**	⇑*e*P	Pn	22 38 17.3		-1.1
APYP	**Conner**	**1.46**	**46**	*e*P	Pn	22 38 24.1		+1.0
PIP	**Pasuquin**	**1.54**	**17**	⇓*i*P	Pn	22 38 25.0		+0.7
CAUP	**Cauayan**	**1.62**	**86**	*e*P	Pb	22 38 28.6		+0.4
BALP	**Baler**	**1.77**	**128**	*e*P	Pb	22 38 30.8		0.0

MAN **01 22:44:12, 18.18N×120.63E, h26km, mb3.9, ML2.6, MS2.3, 2D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
PIP	**Pasuquin**	**0.15**	**357**	⇓*i*P	Pn	22 44 19.8		+1.1
PIP				*e*S	Sb	22 44 25.1		+4.3
SIPP	**Brgy, Tapao**	**0.30**	**212**	⇓*e*P	Pn	22 44 21.5		+0.8
SIPP				*i* S	Sn	22 44 28.3		+2.0
ABRA	**Dolores**	**0.53**	**171**	*e*P	Pb	22 44 18.8		-4.0
APYP	**Conner**	**0.67**	**118**	*e*P	Pb	22 44 24.9		-0.1
APYP				*e*S	Sb	22 44 32.7		-1.1
CAUP	**Cauayan**	**1.68**	**137**	*e*P	Pb	22 44 42.8		+0.6

ISCJB ***01*** *23:07:05.1±0.5, 37.02S±0.04×73.1W±0.1, h14km, mb4.1/14, MS3.7/9, Error ellipse: s-maj=12.0km s-min=5.0km az=8.8*

GUC ***01*** *23:07:06.8±0.5, 37.04S×73.47W, h24km±2km, ML4.7*

NEIC ***01*** *23:07:06.0, 37.04S×73.47W, h24km, mb4.3/4, ML4.7(GUC), After GUC.*

NEIC Felt [IV] at Concepcion; [III] at Angol, Arauco and Lebu; [II] at La Laja, Renaico, San Rosendo and Temuco.

IDC ***01*** *23:07:07.7±0.8, 37.04S×73.11W, h23km±5km, mb3.9/13, mb1 4.1/18, mb1mx4.0/33, mbtmp4.0/18, ML3.9/4, MS3.7/12, Ms1 3.7/12, ms1mx3.5/22, Error ellipse: s-maj=22.0km s-min=12.7km az=84.0*

ISC **01 23:07:06.3±0.5, 37.08S±0.04×73.31W±0.08, h14km, n45, σ1§42/49, mb4.1/14, MS3.7/9, 1C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
CCSP	**San Pedro de C**	**0.28**	**34**	⇓*i*P	**Pb**	**23 07 14.6**	**+1.5**	
CCSP				*i* S	**Sb**	**23 07 19.8**	**+2.1**	
CCSP				AML	AML	23 07 20.7		
	comp=E,166μm,0.4s							
PSCH	**Puerto Saavedr**	**1.72**	**182**	*i* P	**Pn**	**23 07 36.2**	**+0.4**	
PSCH				*i* S	**Sb**	**23 07 59.0**	**-0.2**	
LNCH	**Linares**	**1.84**	**49**	*e*P	**Pn**	**23 07 39.2**	**+1.7**	
LNCH				*i* S	**Sb**	**23 08 03.6**	**+0.9**	
TALC	**Talca**	**2.15**	**39**	⇑*i*P	**Pn**	**23 07 43.1**	**+1.4**	
TALC				*i* S	**Sn**	**23 08 10.6**	**+2.4**	
VLCH	**Valdivia**	**2.73**	**179**	*i* S	**Sn**	**23 08 24.2**	**+1.8**	
PLCA	**Paso Flores**	**4.24**	**150**	Pn	**Pn**	**23 08 12.1**	**+1.6**	
	comp=E,4.2nm,0.3s,baz=322,slow=10,SNR=9.9							
PLCA				Pg	**Pb**	**23 08 23.6**	**+2.9**	
	comp=E,6.9nm,0.3s,baz=332,slow=12,SNR=20							
PLCA				Lg	Lg	23 09 17.4		
	comp=E,15nm,0.3s,baz=229,slow=21,SNR=6.4							
PLCA	**Paso Flores**	**4.24**	**150**	*e*Pn	**Pn**	**23 08 11.8**	**+1.3**	
CFAA	**Coronel Fontan**	**6.88**	**39**	Pn	**Pn**	**23 08 45.5**	**-1.3**	
	comp=E,0.3nm,0.3s,baz=216,slow=13,SNR=16							
CFAA				Sn	**Sn**	**23 10 02.4**	**-2.5**	
	comp=E,0.2nm,0.3s,baz=77,slow=19,SNR=2.1							
CFAA				LR	LR	23 11 26.8		
	comp=E,56nm,21.6s,baz=221,slow=38							
TRQA	**Tornquist**	**9.05**	**100**	*e*Pn	**Pn**	**23 09 16.2**	**-0.3**	
LVC	**Limon Verde**	**14.91**	**16**	Pn	**Pn**	**23 10 37.9**	**+0.9**	
	comp=E,8.2nm,0.3s,baz=85,slow=1.8,SNR=3.6							
LVC				LR	LR	23 17 02.6		
	comp=E,860nm,19.6s,baz=215,slow=40							
LVC	**Limon Verde**	**14.91**	**16**	*e*P	**Pn**	**23 10 37.6**	**+0.7**	
CPUP	**Villa Florida**	**17.28**	**56**	Pn	**Pn**	**23 11 06.3**	**-0.9**	
	comp=E,0.2nm,0.3s,baz=249,slow=11,SNR=4.7							
CPUP				LR	LR	23 18 31.6		
	comp=E,490nm,20.4s,baz=233,slow=40							
CPUP	**Villa Florida**	**17.28**	**56**	*e*Pn	**Pn**	**23 11 05.4**	**-1.8**	
USHA	**Ushuaia**	**18.07**	**171**	P	**P**	**23 11 18.1**	**+0.9**	
	comp=E,0.2nm,0.3s,baz=18,slow=3.2,SNR=3.5							
USHA				LR	LR	23 19 05.9		
	comp=E,218nm,20.6s,baz=163,slow=40							
EFI	**East Falkland**	**18.16**	**148**	*e*Pn	**Pn**	**23 11 17.6**	**-0.2**	
LPAZ	**La Paz**	**21.21**	**14**	P	**P**	**23 11 52.8**	**+0.5**	
	comp=E,6.3nm,0.7s,baz=183,slow=6.6,SNR=33							
LPAZ				LR	LR	23 19 36.6		
	comp=E,28nm,20.1s,baz=190,slow=35							
LPAZ	**La Paz**	**21.21**	**14**	*e*P	**P**	**23 11 51.8**	**-0.5**	
	comp=E,7.4nm,0.9s							
SIV	**San Ignacio**	**23.64**	**31**	P	**P**	**23 12 15.8**	**-1.5**

LPAZ	**La Paz**	**6.57**	**3**	P		**Pn**	**23 20 20.3**	**+0.1**
	0.7nm,0.3s,baz=190,slow=14,SNR=12							
CFAA	**Coronel Fontan**	**8.69**	**179**	P		**Pn**	**23 20 49.4**	**+0.7**
	0.1nm,0.3s,baz=357,slow=12,SNR=4.4							
CFAA				S		**Sn**	**23 22 22.3**	**-2.6**
	0.0nm,0.3s,baz=258,slow=20,SNR=2.3							
SIV	**San Ignacio**	**9.78**	**47**	P		**Pn**	**23 21 06.0**	**+2.5**
	0.2nm,0.3s,baz=240,slow=11,SNR=3.0							
SIV				S		**Sn**	**23 22 48.1**	**-3.5**
	0.2nm,0.3s,baz=150,slow=20,SNR=3.0							
BDFB	**Brasilia**	**20.60**	**73**	P		Pn	23 23 20.6	-0.1
	1.9nm,0.5s,baz=272,slow=8.2,SNR=3.7							
TORD	**Torodi Ar. Bea**	**77.45**	**70**	P		**P**	**23 30 31.8**	**+0.6**
	0.2nm,0.3s,baz=258,slow=5.9,SNR=9.3							

BKK ***01*** *23:26:53.3±7.4, 11°N±36°×9°1E±5°2, h10km, M4.4/10, mB5.2/2, mb4.4/10, Mw(mB)4.6/2*
IDC ***01*** *23:27:04.9±0.9, 12°.80N×92°.63E, h0km, mb3.7/11, mb1 3.9/12, mb1mx3.7/35, mbtmp3.7/12, ML3.8/1, MS3.3/5, Ms1 3.4/5, ms1mx2.9/40, Error ellipse: s-maj=27.3km s-min=18.6km az=41.0*
ISCJB ***01*** *23:27:08.0±0.7, 12°.70N±0°.09×92°.30E±0°.07, h35km, mb3.6/11, MS3.5/3, Error ellipse: s-maj=14.2km s-min=8.0km az=28.5*

ISC 01 23:27:09.7±0.8, 12°.7N±0°.1×92°.32E±0°.08, h35km, n33, σ1s69/22, mb3.7/11, MS3.5/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHLT	**Khaolaem Dam**	**6.44**	**70**	P		**Pn**	**23 28 43.5**		**+1.4**
	36nm,1.1s								
SRDT	**SRDT**	**6.81**	**75**	P		**Pn**	**23 28 49.6**		**+2.3**
	114nm,0.7s,11μm								
PHET	**Kaeng Krachan**	**7.13**	**88**	P		**Pn**	**23 28 52.2**		**+0.5**
	12nm,0.8s,178nm								
MHMT	**Maesarieng**	**7.67**	**44**	P		Pn	23 29 10.3		+11
	15nm,0.9s								
CMAR	**Chiang Mai Arr**	**8.57**	**47**	Pn		Pn	23 29 06.4		-5.0
	0.3nm,0.3s,baz=234,slow=15,SNR=2.9								
CMAR				Sn		Sn	23 30 36.1		-11
	1.0nm,0.3s,baz=241,slow=31,SNR=4.2								
CMAR				LR		LR	23 32 23.1		
	comp=Z,73nm,18.8s,baz=230,slow=38								
LAMP	**Lampang**	**9.12**	**50**	P		Pn	23 29 24.8		+5.9
	7.2nm,0.9s								
PBKT	**Sadao Pong**	**9.21**	**64**	P		Pn	23 29 25.1		+4.9
	15nm,1.1s								
LOEI	**Loei**	**9.87**	**60**	P		Pn	23 29 38.5		+9.3
	43nm,0.8s								
CHAI	**Chaiyaphum**	**9.89**	**70**	P		Pn	23 29 37.3		+7.7
	7.7nm,1.1s								
SKNT	**Sakolnakorn**	**12.05**	**68**	P		P	23 30 07.2		-4.3
PALK	**Pallekele**	**12.65**	**246**	Pn		P	23 30 13.8		-4.4
	0.3nm,0.3s,baz=70,slow=18,SNR=2.1								
PALK				Sn		**Sn**	**23 32 24.7**		**-2.3**
	0.7nm,0.3s,baz=132,slow=15,SNR=3.3								
PALK				LR		LR	23 34 40.0		
	comp=Z,122nm,20.1s,baz=66,slow=35								
ODAN	**Odare**	**14.83**	**343**	*e*P		**Pn**	**23 30 35.7**		**-1.4**
	8.8nm,0.4s								
RAMN	**Ramite**	**15.16**	**340**	*e*P		**Pn**	**23 30 40.4**		**-1.2**
	12nm,0.3s								
TAPN	**Taplejung**	**15.20**	**344**	*e*P		**Pn**	**23 30 38.8**		**-3.4**
	26nm,0.8s								
PKI	**Pulchoki**	**16.15**	**337**	*e*P		**Pn**	**23 30 53.7**		**-0.7**
	17nm,0.7s								
PKIN	**Phulchoki**	**16.16**	**337**	*e*P		**Pn**	**23 30 54.3**		**-0.2**
	12nm,0.6s								
DMN	**Daman**	**16.30**	**337**	*e*P		**Pn**	**23 30 56.1**		**-0.2**
GKN	**Gorkha**	**16.83**	**336**	*e*P		**Pn**	**23 31 01.7**		**-1.2**
	13nm,0.4s								
H08S3	**Diego Garcia H**	**28.22**	**225**	T		T	00 02 45.1		
	baz=44,slow=76,SNR=74								
H08S2	**Diego Garcia H**	**28.23**	**225**	T		T	00 02 47.6		
	baz=44,slow=76,SNR=96								
H08S1	**Diego Carcia H**	**28.24**	**225**	T		T	00 02 46.6		
	baz=44,slow=76,SNR=55								
SONM	**Songino Array**	**36.95**	**16**	P		**P**	**23 34 14.1**		**-1.5**
	1.0nm,1.0s,baz=187,slow=10,SNR=4.3								
KURBB	**Kurchatov Arra**	**39.46**	**346**	P		**P**	**23 34 37.6**		**+1.1**
	0.3nm,0.6s,baz=162,slow=7.9,SNR=4.2								
GEYT	**Alibeck**	**39.47**	**316**	P		**P**	**23 34 39.1**		**+2.2**
	1.3nm,0.6s,baz=110,slow=8.3,SNR=3.5								
KSRS	**Korea Array**	**40.21**	**46**	P		**P**	**23 34 39.9**		**-3.0**
	2.0nm,0.7s,baz=232,slow=8.7,SNR=8.3								
KSRS				LR		LR	23 53 59.3		
	comp=Z,49nm,19.3s,baz=242,slow=40								
ZALV	**Zalesovo Beam**	**41.57**	**353**	P		**P**	**23 34 53.6**		**-0.4**
	0.5nm,0.5s,baz=155,slow=7.4,SNR=3.7								
BVAR	**Borovoye Array**	**43.87**	**341**	P		**P**	**23 35 13.4**		**+0.8**
	0.2nm,0.5s,baz=145,slow=11,SNR=3.1								
WRA	**Warramunga Arr**	**52.56**	**128**	P		**P**	**23 36 19.2**		**-1.0**
	3.2nm,0.7s,baz=306,slow=8.2,SNR=7.0								
ASAR	**Alice Springs**	**54.41**	**132**	P		**P**	**23 36 33.5**		**-0.2**
	1.5nm,0.7s,baz=315,slow=6.9,SNR=5.7								
BRTR	**Keskin Array B**	**57.98**	**309**	P		**P**	**23 36 59.5**		**+0.4**
	0.4nm,0.6s,baz=122,slow=7.0,SNR=2.7								
GERES	**GERESS Array B**	**73.07**	**317**	P		**P**	**23 38 38.0**		**+1.5**
	0.1nm,0.4s,baz=81,slow=7.2,SNR=3.1								
GERES				LR		LR	00 14 56.5		
	comp=Z,32nm,19.1s,baz=240,slow=39								
NOA	**NORSAR Array B**	**74.68**	**330**	LR		LR	00 14 21.7		
	comp=Z,25nm,18.1s,baz=40,slow=38								
TORD	**Torodi Ar. Bea**	**87.77**	**283**	P		**P**	**23 39 57.6**		**+1.7**
	0.8nm,1.1s,baz=81,slow=3.7,SNR=3.0								

GUC 01 23:31:55.2±0.5, 34°.31S×72°.12W, h32km±14km, ML3.5, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.69**	**60**	*e*P		Pn	23 32 08.3		-0.4
LNV				*i* S		Sb	23 32 18.1		0.0
NICH	**Los Niches**	**1.01**	**134**	*e*P		Pn	23 32 13.7		+0.4
NICH				*e*S		Sb	23 32 27.3		0.0
TALC	**Talca**	**1.16**	**160**	⇓*i*P		Pn	23 32 15.6		+0.3
TALC				*e*S		Sb	23 32 31.0		-0.5
TACH	**Talagante**	**1.18**	**57**	*e*P		Pn	23 32 15.8		+0.2
IHA	**Instituto Hidr**	**1.34**	**18**	*e*P		Pn	23 32 18.3		+0.6
IHA				*e*S		Sb	23 32 35.9		-0.5
SAN	**Santiago**	**1.48**	**55**	*i* S		Sb	23 32 39.8		-1.0
LNCH	**Linares**	**1.60**	**165**	*e*S		Sb	23 32 43.0		-1.0
CLCH	**Cerro Calan**	**1.60**	**56**	*e*P		Pn	23 32 22.5		+1.1
CLCH				*i* S		Sb	23 32 43.6		-0.7
CLCH					AML	AML	23 32 49.6		
	comp=E,774nm,0.4s								
PEL	**Peldehue**	**1.67**	**46**	*e*P		Pb	23 32 23.9		-1.4
PEL				*e*S		Sb	23 32 45.5		-0.5
PEL					AML	AML	23 32 49.8		
	comp=E,1μm,0.5s								

IDC ***01*** *23:51:43.5±5.0, 7°.62S×127°.71E, h115km±46km, mb3.5/4, mb1 3.5/8, mb1mx3.4/29, mbtmp3.9/8, Error ellipse: s-maj=61.9km s-min=20.4km az=77.0*

ISC 01 23:51:46.6±0.9, 7°.63S±0°.07×128°.3E±0°.2, h150km, n10, σ1s74/12, mb3.6/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**7.34**	**24**	P		**Pn**	**23 53 31.7**		**+0.5**
	4.2nm,0.3s,baz=83,slow=22,SNR=6.7								
SIJI				S		**Sn**	**23 54 52.3**		**-1.0**
	1.2nm,0.3s,baz=38,slow=19,SNR=3.8								
JAY	**Jayapura**	**13.35**	**68**	P		**P**	**23 54 54.6**		**+0.1**
	0.6nm,0.3s,baz=219,slow=14,SNR=3.2								
WRA	**Warramunga Arr**	**13.56**	**155**	P		**Pn**	**23 54 53.8**		**+0.8**
	0.5nm,0.3s,baz=324,slow=14,SNR=6.0								
WRA				S		Sn	23 57 14.6		-8.7
	2.3nm,0.3s,baz=327,slow=23,SNR=15								
ASAR	**Alice Springs**	**16.82**	**162**	P		**Pn**	**23 55 35.8**		**+2.4**
	0.3nm,0.3s,baz=337,slow=12,SNR=13								
ASAR				S		**S**	**23 58 37.0**		**-3.5**
	0.5nm,0.3s,baz=327,slow=22,SNR=7.2								
KSRS	**Korea Array**	**44.85**	**360**	P		**P**	**23 59 46.0**		**+0.2**
	0.7nm,0.5s,baz=178,slow=11,SNR=4.8								
SONM	**Songino Array**	**58.53**	**343**	P		**P**	**00 01 27.7**		**+0.4**
	0.8nm,0.6s,baz=167,slow=7.9,SNR=6.6								
ZALV	**Zalesovo Beam**	**71.42**	**335**	P		**P**	**00 02 49.0**		**-1.2**
	0.5nm,0.4s,baz=140,slow=4.8,SNR=3.1								
BVAR	**Borovoye Array**	**77.71**	**328**	P		**P**	**00 03 25.1**		**-1.5**
	0.4nm,0.4s,baz=120,slow=5.7,SNR=3.9								
TORD	**Torodi Ar. Bea**	**127.28**	**281**	PKP		**PKPdf**	**00 10 34.3**		**-0.1**
	0.2nm,0.6s,baz=35,slow=2.9,SNR=3.2								
LPAZ	**La Paz**	**151.19**	**146**	PKPbc		**PKPbc**	**00 11 25.9**		**+1.9**
	0.6nm,0.4s,baz=155,slow=2.1,SNR=6.8								

ISCJB ***02*** *01:00:26.9±0.4, 22°.17N±0°.06×143°.8E±0°.1, h100km, mb4.2/29, Error ellipse: s-maj=14.4km s-min=7.5km az=168.8*
IDC ***02*** *01:00:31.6±0.8, 22°.27N×143°.72E, h125km±6km, mb3.9/19, mb1 4.0/20, mb1mx3.8/39, mbtmp4.3/20, Error ellipse: s-maj=17.2km s-min=13.3km az=86.0*
NEIC ***02*** *01:00:31.3±0.3, 22°.21N×143°.75E, mb4.4/10, Error ellipse: s-maj=11.6km s-min=8.5km az=80.0*

ISC 02 01:00:29.7±0.6, 22°.20N±0°.08×143°.7E±0°.1, h100km, n47, σ2s90/40, mb4.2/29, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.08**	**344**	P		**Pn**	**01 01 46.0**		**+2.5**
	11nm,0.3s,baz=269,slow=23,SNR=21								
JCJ				S		**Sn**	**01 02 41.3**		**+0.4**
	24nm,0.3s,baz=270,slow=22,SNR=9.7								
CBIJ	**Chichi jima**	**5.08**	**344**	P		**Pn**	**01 01 46.0**		**+2.5**
CBIJ				S		**Sn**	**01 02 41.3**		**+0.4**
MJAR	**Matsushiro Arr**	**15.08**	**343**	P		**Pn**	**01 03 59.3**		**+1.9**
	0.6nm,0.3s,baz=163,slow=10,SNR=6.2								
KSRS	**Korea Array**	**20.43**	**322**	P		Pn	01 05 03.2		+1.2
	4.0nm,0.4s,baz=148,slow=8.4,SNR=15								
KSAR	**Wonju Array Be**	**20.45**	**322**	P		Pn	01 05 03.2		+1.0
H11N1	**WAKE ISLAND Hy**	**21.76**	**92**	T		T	01 27 58.5		
	baz=282								
H11N2	**WAKE ISLAND Hy**	**21.76**	**92**	T		T	01 28 05.6		
	baz=282,slow=74								
H11N3	**WAKE ISLAND Hy**	**21.77**	**92**	T		T	01 27 57.0		
	baz=282,slow=74								
H11S3	**WAKE ISLAND Hy**	**21.82**	**96**	T		T	01 27 56.0		
	baz=284,slow=74								
H11S1	**WAKE ISLAND Hy**	**21.83**	**96**	T		T	01 27 56.9		
	baz=284,slow=74								
H11S2	**WAKE ISLAND Hy**	**21.84**	**96**	T		T	01 27 58.0		
	baz=284								
SONM	**Songino Array**	**39.29**	**320**	P		**P**	**01 07 48.6**		**-0.3**
	2.6nm,0.6s,baz=129,slow=7.5,SNR=16								
SEY	**Seymchan**	**41.13**	**6**	P		**P**	**01 08 01.8**		**-1.9**
	1.7nm,0.4s,baz=202,slow=16,SNR=5.8								
WRAB	**Tennant Creek**	**42.87**	**193**	*e*P		**P**	**01 08 17.5**		**-0.8**
	7.2nm,1.1s								
WRA	**Warramunga Arr**	**42.88**	**193**	P		**P**	**01 08 18.1**		**-0.4**
	0.7nm,0.2s,baz=13,slow=8.7,SNR=11								
ASAR	**Alice Springs**	**46.58**	**192**	P		**P**	**01 08 47.5**		**-0.4**
	0.4nm,0.7s,baz=18,slow=9.3,SNR=7.2								
ASAR				pP		**pP**	**01 09 16.3**		**+4.8**
	0.5nm,0.6s,baz=14,slow=7.5,SNR=2.9								
ZALV	**Zalesovo Beam**	**54.14**	**321**	P		**P**	**01 09 42.8**		**-1.6**
	3.4nm,0.5s,baz=103,slow=7.4,SNR=19								
ZALV				PcP		**PcP**	**01 10 45.4**		**-2.4**
	1.1nm,0.7s,baz=149,slow=3.1,SNR=3.9								
MK31	**Makanchi Array**	**54.74**	**312**	*e*P		**P**	**01 09 48.3**		**-0.6**
KURK	**Kurchatov**	**57.46**	**317**	*e*P		**P**	**01 10 06.8**		**-1.4**
	9.3nm,0.8s								
KURBB	**Kurchatov Arra**	**57.51**	**317**	P		**P**	**01 10 07.5**		**-1.0**
	13nm,0.6s,baz=91,slow=7.8,SNR=288								
TKM2	**Tokmak 2**	**59.45**	**308**	*e*P		**P**	**01 10 22.3**		**-0.1**
	1.4nm,0.7s								
BPAW	**Bear Paw Mtn.**	**59.49**	**28**	*e*P		**P**	**01 10 21.6**		**-0.5**
	0.4nm,0.6s								
ILAR	**Eielson Array**	**61.36**	**27**	P		**P**	**01 10 32.8**		**-1.9**
	1.0nm,0.6s,baz=264,slow=5.6,SNR=13								
ILAR				pP		**pP**	**01 11 03.9**		**+4.4**
	0.2nm,0.5s,baz=265,slow=5.7,SNR=1.8								
BVAR	**Borovoye Array**	**62.63**	**319**	P		**P**	**01 10 42.6**		**-0.8**
	12nm,0.4s,baz=93,slow=7.5,SNR=99								
BVAR				pP		**pP**	**01 11 11.5**		**+3.2**
	1.2nm,0.5s,baz=72,slow=4.8,SNR=1.8								
BRVK	**Borovoye**	**62.69**	**319**	*e*P		**P**	**01 10 42.8**		**-1.1**
	11nm,0.9s								
KKAR	**Karatay Array**	**63.15**	**308**	*e*P		**P**	**01 10 46.4**		**-0.7**
	0.9nm,0.6s								
DAWY	**Dawson**	**64.53**	**28**	*e*P		P	01 10 53.0		-2.8
INK	**Inuvik**	**66.90**	**24**	*e*P		**P**	**01 11 09.4**		**-1.4**
	3.1nm,0.8s								
ARU	**Arti**	**69.17**	**324**	*e*P		**P**	**01 11 23.2**		**-2.1**
	4.8nm,0.6s								
DLBC	**Dease Lake**	**69.42**	**34**	P		**P**	**01 11 27.2**		**+0.3**
	2.0nm,0.8s,baz=244,slow=7.6,SNR=3.9								
ABKAR	**Akulak array**	**69.55**	**316**	*e*P		**P**	**01 11 26.2**		**-1.6**
	5.0nm,0.6s								
GEYT	**Alibeck**	**73.39**	**305**	P		**P**	**01 11 51.3**		**+0.1**
	1.0nm,0.4s,baz=62,slow=3.4,SNR=5.0								
YKA	**Yellowknife Ar**	**75.77**	**28**	P		**P**	**01 12 03.3**		**-1.1**
	1.9nm,0.6s,baz=293,slow=5.9,SNR=4.0								
ARCES	**ARCESS Array B**	**78.61**	**342**	P		**P**	**01 12 18.8**		**-1.3**
	3.7nm,0.6s,baz=73,slow=8.2,SNR=22								
KBZ	**Khabaz**	**82.39**	**314**	P		**P**	**01 12 40.0**		**-0.8**
	5.5nm,0.8s,baz=110,slow=1.6,SNR=15								
NVAR	**Mina Array Bea**	**82.43**	**52**	P		**P**	**01 12 41.2**		**-0.2**
	1.6nm,0.7s,baz=276,slow=5.8,SNR=10.0								
FINES	**FINESS Array B**	**82.95**	**335**	P		P	01 12 40.9		-2.5
	2.0nm,0.3s,baz=75,slow=4.5,SNR=34								
FINES				pP		pP	01 13 13.9		+4.5
	0.8nm,0.4s,baz=90,slow=3.8,SNR=1.5								
FFC	**Flin Flon**	**85.13**	**32**	*e*P		**P**	**01 12 53.7**		**-0.8**
	5.4nm,0.8s								
PDAR	**Pinedale Array**	**86.67**	**45**	P		**P**	**01 13 01.2**		**-1.6**
	3.0nm,0.9s,baz=333,slow=3.6,SNR=3.4								
AKASG	**Malin Array Be**	**87.40**	**325**	P		P	01 13 02.6		-3.2
	0.3nm,0.3s,baz=52,slow=4.3,SNR=3.8								
NOA	**NORSAR Array B**	**88.67**	**339**	P		P	01 13 09.0		-2.6
	0.4nm,0.7s,baz=46,slow=4.9,SNR=3.4								
NOA	**NORSAR Array B**	**88.67**	**339**	P		P	01 13 09.0		-2.6
BRTR	**Keskin Array B**	**90.37**	**314**	P		P	01 13 17.6		-2.7
	0.9nm,0.7s,baz=103,slow=2.7,SNR=5.9								
TORD	**Torodi Ar. Bea**	**128.82**	**310**	PKP		**PKPdf**	**01 19 24.4**		**-2.0**
	0.3nm,0.4s,baz=66,slow=0.7,SNR=13								
LPAZ	**La Paz**	**149.38**	**85**	PKPbc		**PKPbc**	**01 20 07.6**		**-1.0**
	1.9nm,0.4s,baz=342,slow=2.0,SNR=16								
LVC	**Limon Verde**	**149.84**	**97**	*e*PKPbc		**PKPbc**	**01 20 07.8**		**-1.4**
SAML	**Samuel**	**150.98**	**67**	*e*PKPbc		**PKPdf**	**01 20 09.7**		**+3.7**
SAML				*e*PKPab		**PKiKP**	**01 20 16.7**		**+4.4**

ISCJB ***02*** *01:01:29.4±0.4, 32°.23N±0°.02×115°.21W±0°.03, h26km±3km, Error ellipse: s-maj=4.4km s-min=3.6km az=151.6*
ECX ***02*** *01:01:30.7±0.5, 32°.21N×115°.26W, h6km, MD2.9, ML3.1*
NEIC ***02*** *01:01:30.7, 32°.21N×115°.26W, h9km, ML3.0(PAS), ML3.1(ECX), After ECX.*
MEX ***02*** *01:01:31.4±0.3, 32°.25N×115°.15W, h14km±46km, MD3.9*

ISC 02 01:01:29.3±1.0, 32°.22N±0°.02×115°.25W±0°.02, h19km±3km, n38, σ1s00/64, 6C-12D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.19**	**12**	*e*P		**Pg**	**01 01 34.8**		**+0.5**
MBIG				*e*S		**Sg**	**01 01 37.2**		**-0.5**
CPBX	**Cerro Prieto**	**0.21**	**346**	*e*P		**Pg**	**01 01 34.8**		**+0.3**
CPBX				*i* S		**Sg**	**01 01 37.9**		**-0.1**
CPBX	**Cerro Prieto**	**0.21**	**346**	⇓*e*P		**Pg**	**01 01 34.9**		**+0.3**
CPBX				⇓*e*P		**Pg**	**01 01 34.9**		**+0.4**
CPBX				*e*S		**Sg**	**01 01 38.0**		**-0.1**
CPBX				⇓*e*			01 01 40.7		
CPBX					IAML		01 01 40.7		
	comp=E,17μm,0.3s								
EMSC	**East Mesa**	**0.57**	**23**	⇓*i*P		**Pg**	**01 01 41.2**		**+0.5**
SGL	**Mount Signal**	**0.59**	**317**	⇑*i*P		**Pg**	**01 01 41.5**		**+0.3**
COA	**Coachella**	**0.65**	**9**	⇓*i*P		**Pg**	**01 01 42.3**		**+0.1**
RDX	**Rancho Dawling**	**0.66**	**244**	⇓*e*P		**Pg**	**01 01 42.6**		**+0.2**
RDX				*e*S		**Sg**	**01 01 51.5**		**+0.2**
RDX				⇑*e*			01 01 53.1		
RDX					IAML		01 01 53.1		
	comp=N,722nm,0.3s								
WESC	**Westside Schoo**	**0.68**	**323**	*e*P		**Pg**	**01 01 42.7**		**0.0**
YMD	**Yuma Desert**	**0.68**	**60**	⇑*i*P		**Pb**	**01 01 42.6**		**+0.1**
ECBX	**El Chinero**	**0.76**	**167**	*e*P		**Pb**	**01 01 43.6**		**-0.3**
ECBX				*e*S		**Sg**	**01 01 54.1**		**-0.2**
RMX	**La Rumorosa**	**0.80**	**299**	⇑*e*P		**Pb**	**01 01 44.9**		**+0.2**
RMX				*e*S		**Sb**	**01 01 55.6**		**+0.4**
RMX				⇓*e*			01 01 56.2		
RMX					IAML		01 01 56.2		
	comp=N,873nm,0.2s								
IBP	**Imperial Bould**	**0.84**	**302**	P		**Pb**	**01 01 45.6**		**+0.2**
	baz=0.8,SNR=47								
IBP				S		**Sg**	**01 01 57.0**		**0.0**
	baz=0.8								
SWSC	**Sam W. Stewart**	**0.86**	**327**	P		**Pb**	**01 01 45.8**		**+0.2**
	baz=0.9								
SWSC				S		**Sb**	**01 01 56.4**		**-0.3**
	baz=0.9								
GLA	**Glamis**	**0.91**	**23**	P		**Pb**	**01 01 45.9**		**-0.5**
	baz=0.9,SNR=46								
GLA				S		**Sb**	**01 01 57.7**		**-0.4**
	baz=0.9								
SPIG	**San Pedro Mart**	**1.18**	**189**	*i* P		**Pn**	**01 01 50.8**		**-0.3**
SPIG				*i* S		**Sb**	**01 02 05.8**		**-0.5**
SPIG	**San Pedro Mart**	**1.18**	**189**	*i* P		**Pn**	**01 01 50.8**		**-0.3**
SPIG				*i* S		**Sb**	**01 02 05.8**		**-0.5**
SPIG	**San Pedro Mart**	**1.18**	**189**	⇓*e*P		**Pn**	**01 01 50.8**		**-0.3**
SPX	**San Pedro Mart**	**1.18**	**189**	*i* P		**Pn**	**01 01 50.8**		**-0.3**
SPX				*i* S		**Sb**	**01 02 04.8**		**-1.5**
SPX	**San Pedro Mart**	**1.18**	**189**	⇓*e*P		**Pn**	**01 01 50.9**		**-0.3**
MONP	**Monument Peak**	**1.20**	**304**	P		**Pn**	**01 01 50.4**		**-0.8**
	baz=1.2,SNR=17								
MONP				S		**Sn**	**01 02 07.1**		**0.0**
	baz=1.2								
CBX	**Cerro Bola**	**1.21**	**275**	*i* P		**Pn**	**01 01 51.3**		**0.0**
CBX				*i* S		**Sb**	**01 02 07.0**		**+0.2**
CBX	**Cerro Bola**	**1.21**	**275**	*i* P		**Pn**	**01 01 51.3**		**0.0**
CBX				*i* S		**Sb**	**01 02 07.0**		**+0.2**
CBX	**Cerro Bola**	**1.21**	**275**	⇑*e*P		**Pn**	**01 01 51.2**		**0.0**
CBX				*e*S		**Sn**	**01 02 07.4**		**+0.3**
CBX				⇓*e*			01 02 08.8		
CBX					IAML		01 02 08.8		
	comp=E,362nm,0.5s								
ECNX	**Esteban Cantu**	**1.28**	**244**	⇓*e*P		**Pb**	**01 01 52.7**		**-0.1**
BAR	**Barrett**	**1.29**	**291**	*e*Pn		**Pn**	**01 01 52.3**		**0.0**
BAR				*e*Sn		**Sb**	**01 02 09.6**		**+0.4**
BAR	**Barrett**	**1.29**	**291**	⇓*e*P		**Pn**	**01 01 52.5**		**+0.2**
PBX	**Punta Banda**	**1.34**	**250**	⇓*e*P		**Pb**	**01 01 53.6**		**-0.2**
BC3	**Big Chuckawall**	**1.45**	**353**	P		**Pn**	**01 01 53.6**		**-0.9**
	baz=1.5								
BC3				S		**Sn**	**01 02 11.4**		**-1.6**
	baz=1.5								
109C	**Camp Elliot, M**	**1.71**	**294**	P		**Pn**	**01 01 57.8**		**-0.2**
	baz=1.7,SNR=12								
109C				Sb		**Sb**	**01 02 22.4**		**+1.2**
	baz=1.7								
PFO	**Pinyon Flat Ob**	**1.72**	**324**	P		**Pn**	**01 01 57.2**		**-1.1**
	baz=1.7								
PFO				S		**Sn**	**01 02 18.5**		**-1.4**
	baz=1.7								
BELC	**Belle Mtn. Jos**	**1.89**	**341**	P		**Pn**	**01 01 59.1**		**-1.5**
	baz=1.9								
214A	**Organ Pipe Nat**	**2.08**	**97**	P		**Pn**	**01 02 02.3**		**-0.9**
	baz=2.1								
214A				Sb		**Sb**	**01 02 33.8**		**+1.9**
	baz=2.1								
214A	**Organ Pipe Nat**	**2.08**	**97**	*e*Pn		**Pn**	**01 02 02.3**		**-0.9**
214A				*e*Pg		**Pg**	**01 02 10.1**		**+0.7**
MURC	**Murrieta**	**2.15**	**311**	P		**Pn**	**01 02 03.0**		**-1.1**
	baz=2.1								
MURC				Sb		**Sg**	**01 02 36.3**		**-2.1**
	baz=2.1								
CIS	**Catalina Islan**	**2.91**	**295**	Sb		**Sb**	**01 02 58.4**		**+2.5**
	baz=2.9								
GSC	**Goldstone**	**3.34**	**338**	*e*Pn		**Pn**	**01 02 21.9**		**+1.4**
TUC	**Tucson**	**3.78**	**87**	*e*Pn		**Pn**	**01 02 29.2**		**+2.6**
TUC				*e*Pg		**Pg**	**01 02 43.6**		**+1.9**
TUC				*e*Sg		**Sg**	**01 03 27.7**		**-3.0**
ISA	**Isabella**	**4

STKA PcP **PcP** **01 21 30.6 +0.4**
comp=Z,17nm,0.8s,baz=56,slow=2.6,SNR=10
STKA ScP **ScP** **01 24 56.9 +4.5**
comp=Z,2.5nm,0.8s,baz=12,slow=3.4,SNR=3.7
STKA LR LR 01 29 20.1
comp=Z,125nm,18.3s,baz=171,slow=34
RPZ **Rata Peaks** **29.26 174** P **P** **01 18 28.1 -0.5**
comp=Z,9.6nm,0.7s,baz=40,slow=4.3,SNR=3.5
SMPI **Sarmi** **30.86 291** P **P** **01 18 45.6 +2.5**
comp=Z,50nm,1.3s,comp=Z,6um
WRAB **Tennant Creek** **31.89 256**⇑ *e*P **P** **01 18 52.1 0.0**
WRAB pmax pmax
comp=Z,87nm,2.5s
WRAB **Tennant Creek** **31.89 256** *e*P **P** **01 18 51.8 -0.4**
comp=Z,4.2nm,0.5s
WRA **Warramunga Arr** **31.90 256** P **P** **01 18 51.3 -0.9**
comp=Z,2.6nm,0.3s,baz=85,slow=9.1,SNR=17
WRA PcP **PcP** **01 21 38.1 +0.4**
comp=Z,3.0nm,0.8s,baz=82,slow=2.6,SNR=7.0
WRA S **S** **01 23 45.7 -2.3**
comp=Z,6.4nm,0.9s,baz=84,slow=14,SNR=9.0
WRA **Warramunga Arr** **31.90 256** *i* P **P** **01 18 51.5 -0.7**
WRA pmax pmax
comp=Z,3.0nm,0.3s
AS31 **Alice Springs** **32.77 249** *e*P **P** **01 18 58.9 -0.8**
ASAR **Alice Springs** **32.77 249** P **P** **01 18 59.2 -0.6**
comp=Z,5.9nm,0.4s,baz=80,slow=9.2,SNR=125
ASAR PcP **PcP** **01 21 40.4 +0.2**
comp=Z,2.9nm,0.8s,baz=92,slow=2.1,SNR=6.2
ASAR S **S** **01 24 00.0 -1.5**
comp=Z,2.1nm,0.8s,baz=86,slow=15,SNR=8.4
BBOO **Buckleboo** **33.72 232** *e*P **P** **01 19 08.9 +1.1**
FAKI **Fak Fak** **36.45 285** *e*P **P** **01 19 31.2 -0.1**
comp=Z,19nm,0.7s
FORT **Forrest** **39.42 239** *e*P **P** **01 19 56.0 +0.1**
comp=Z,36nm,0.6s
FORT *e*PcP **PcP** **01 21 59.6 -0.2**
PPT2 **Papeete2** **41.49 100** *e*S S 01 26 06.1 -7.2
comp=Z,75nm,25.0s
PPT **Papeete** **41.49 100** P **P** **01 20 13.8 +0.7**
comp=Z,12nm,0.3s,baz=187,slow=4.0,SNR=3.5
SOEI **Soe** **42.29 271** *e*P **P** **01 20 20.0 +0.2**
comp=Z,46nm,1.0s
MBWA **Marble Bar** **45.62 255** *e*P **P** **01 20 46.2 +0.2**
comp=Z,19nm,0.8s
LUWI **Luwuk** **45.99 283** *e*P **P** **01 20 48.9 -0.2**
comp=Z,32nm,1.0s
KAPI **Kappang** **47.72 276** *e*P **P** **01 21 02.9 +0.5**
comp=Z,64nm,1.4s
JCJ **Chichijima** **48.04 329** P **P** **01 21 03.5 -1.1**
comp=Z,46nm,0.5s,baz=90,slow=20,SNR=9.3
CBIJ **Chichi jima** **48.04 329** P **P** **01 21 03.5 -1.0**
KKM **Kota Kinabalu** **54.63 288** *e*P **P** **01 21 54.3 +0.4**
comp=Z,81nm,1.4s
MJAR **Matsushiro Arr** **57.75 332** P **P** **01 22 14.0 -1.4**
comp=Z,6.0nm,0.4s,baz=168,slow=7.2,SNR=29
MAJO **Matsushiro** **57.75 332***c i*P **P** **01 22 14.7 -0.7**
MAJO pmax pmax
comp=Z,140nm,1.2s
MAJO **Matsushiro** **57.75 332** *e*P **P** **01 22 14.5 -0.9**
comp=Z,13nm,0.4s
MAT **Matsushiro** **57.75 332** P **P** **01 22 14.6 -0.8**
YHNB **Yeheng** **59.38 311** *e*P **P** **01 22 26.8 -0.2**
comp=Z,60nm,1.2s
ASAJ **Asahikawa** **62.57 340** P **P** **01 22 49.0 +1.1**
comp=Z,43nm,0.9s,baz=222,slow=9.5,SNR=6.1
ASAJ **Asahikawa** **62.57 340** P **P** **01 22 49.0 +1.1**
ASAJ pmax pmax
comp=Z,43nm,0.9s
VNDA **Vanda** **63.05 181** P **P** **01 22 51.0 +0.4**
comp=Z,4.8nm,0.9s,baz=358,slow=6.9,SNR=26
VNDA PKiKP **PKiKP** **01 29 34.5 -1.3**
comp=Z,0.6nm,0.8s,baz=49,slow=4.7,SNR=3.7
SBA **Scott Base** **63.33 180** *e*P **P** **01 22 53.7 +1.2**
SBA pmax pmax
comp=Z,29nm,1.2s
SBA **Scott Base** **63.33 180** *e*P **P** **01 22 53.7 +1.2**
comp=Z,29nm,1.2s
KSRS **Korea Array** **63.60 326** P **P** **01 22 55.2 +0.4**
comp=Z,4.3nm,0.8s,baz=139,slow=6.9,SNR=14
KSRS **Korea Array** **63.60 326** P **P** **01 22 55.2 +0.4**
KSRS pmax pmax
comp=Z,4.0nm,0.8s
KSAR **Wonju Array Be** **63.61 326** P **P** **01 22 55.2 +0.3**
KSAR **Wonju Array Be** **63.61 326** P **P** **01 22 55.2 +0.3**
YSS **Yuzh-Sakhalins** **65.06 342** *e*P **P** **01 23 05.0 +0.9**
YSS pmax pmax
comp=Z,31nm,0.6s
YSS **Yuzh-Sakhalins** **65.06 342** *e*P **P** **01 23 05.0 +0.9**
comp=Z,31nm,0.6s
NJ2 **Nanjing** **65.56 316** *e*P **P** **01 23 07.0 -0.6**
NJ2 PMZ
comp=Z,30nm,0.6s
QIZ **Qiongzhong** **65.67 299** P **P** **01 23 07.2 -1.4**
QIZ S **S** **01 31 38.0 -0.2**
QIZ PMZ
comp=Z,8.0nm,1.2s
USRK **Ussuriysk Ar.** **66.73 333** P **P** **01 23 15.8 +1.0**
comp=Z,30nm,1.1s,baz=150,slow=5.3,SNR=37
PET **Petropavlovsk** **67.70 354** *i* P **P** **01 23 20.5 -0.1**
PET pmax pmax
comp=Z,52nm,1.2s
PETK **Petropavlovsk-** **67.88 354** P **P** **01 23 21.9 +0.2**
comp=Z,27nm,0.8s,baz=153,slow=9.1,SNR=30
PETK **Petropavlovsk-** **67.88 354** P **P** **01 23 22.0 +0.2**
UBPT **Khong Chiam** **67.92 293** P **P** **01 23 24.1 +1.3**
comp=Z,18nm,1.2s
MDJ **Mudanjiang** **68.13 332** P **P** **01 23 24.7 +1.1**
MDJ PMZ
comp=Z,31nm,0.8s
MDJ PMZ
comp=Z,30nm,6.1s
MDJ **Mudanjiang** **68.13 332** *e*P **P** **01 23 24.1 +0.5**
comp=Z,21nm,0.9s
IPM **Ipoh** **68.34 281** *e*P **P** **01 23 25.9 +0.4**
comp=Z,17nm,0.9s
MNSI **Mandailing Nat** **68.67 277** P **P** **01 23 27.9 +0.3**
comp=Z,34nm,1.0s,comp=Z,2um
KULM **Kulim** **68.94 282** *e*P **P** **01 23 29.6 +0.4**
comp=Z,34nm,1.2s
HABR **Khabarovsk** **68.97 338** *e*P **P** **01 23 27.4 -1.3**
HABR *e* 01 23 50.3
HABR *e**PP **pP** **01 24 14.2 -2.6**
HABR *e**SP **sP** **01 24 35.8 -3.1**
HABR *e* 01 26 01.7
HABR S **S** **01 32 15.3 -1.1**
HABR *e* 01 33 08.1
HABR *e*SS **SS** **01 36 44.8 -2.0**
HABR pmax pmax
comp=Z,57nm,1.4s
HABR MLR MLR
comp=Z,129nm,20.0s
TIA **Tai'an** **69.22 318** ⇓P **P** **01 23 30.6 +0.1**
TIA PMZ
comp=Z,20nm,0.9s
TIA PMZ
comp=Z,60nm,4.8s
CN2 **Changchun** **69.50 329** *e*P **P** **01 23 32.6 +0.6**
CN2 PMZ
comp=Z,20nm,0.7s
CHAI **Chaiyaphum** **71.26 293** P **P** **01 23 44.8 +1.5**
comp=Z,3.5nm,0.9s
ENH **Enshi** **71.27 309** *e*P **P** **01 23 42.9 -0.2**
comp=Z,8.7nm,0.5s
GYA **Guiyang** **71.63 305** *e*P **P** **01 23 47.0 +1.5**
GYA pP **pP** **01 24 37.5 +3.5**
GYA sP **sP** **01 25 00.2 +4.3**
GYA PP **PP** **01 26 30.6 +3.1**
GYA S **S** **01 32 47.8 -0.6**
GYA SKS **SKSac** **01 33 25.0 -4.6**
GYA PMZ
comp=Z,10.0nm,1.0s
GYA PMZ
comp=Z,90nm,5.2s
BJI **Beijing** **72.14 321** P **P** **01 23 48.7 +0.7**
BJI sP **sP** **01 25 00.1 +1.6**
BJI S **S** **01 32 55.7 +2.4**
BJI PMZ
comp=Z,17nm,0.9s
BJI PMZ
comp=Z,110nm,6.2s
PBKT **Sadao Pong** **72.42 293** P **P** **01 23 51.6 +1.5**
comp=Z,15nm,1.0s
UTTA **Uttaradit** **73.21 294** P **P** **01 23 56.3 +1.5**
comp=Z,5.1nm,0.9s
UTHA **Uthaitani** **73.42 291** P **P** **01 23 58.4 +2.4**
comp=Z,4.3nm,1.1s
XAN **Xi'an** **73.58 313** P **P** **01 23 56.8 +0.1**
XAN pP **pP** **01 24 46.1 +0.6**
XAN PMZ
comp=Z,4.0nm,0.9s
XAN PMZ
comp=Z,15nm,5.2s
XAN LN
comp=Z,47nm,12.3s
KMI **Kunming** **74.23 302** P **P** **01 24 02.3 +1.4**
KMI pP **pP** **01 24 48.9 -0.8**
KMI S **S** **01 33 17.4 -0.6**
KMI PMZ
comp=Z,20nm,0.9s
KMI LZ
comp=Z,39nm,18.3s
CRAI **Chiangrai** **74.30 296** P **P** **01 23 59.2 -1.9**
comp=Z,19nm,1.0s
LAMP **Lampang** **74.31 294** P **P** **01 24 02.7 +1.5**
comp=Z,15nm,0.9s
CMAR **Chiang Mai Arr** **74.90 294** P **P** **01 24 06.0 +1.4**
comp=Z,6.9nm,0.9s,baz=121,slow=4.4,SNR=29
CMAR **Chiang Mai Arr** **74.90 294***ce*P **P** **01 24 06.3 +1.7**
CMAR pmax pmax
comp=Z,9.0nm,1.0s
CMMT **Chiang Mai** **75.02 294** P **P** **01 24 06.3 +1.0**
comp=Z,23nm,1.1s
CMAI **Chiengmai2** **75.34 295** P **P** **01 24 08.4 +1.1**
HHC **Hu-ho-hao-te** **75.46 320** *e*P **P** **01 24 09.9 +2.5**
HHC pP **pP** **01 24 59.1 +2.6**
HHC sP **sP** **01 25 19.4 +1.1**
HHC S **S** **01 33 31.7 +1.0**
HHC SKS **SKSac** **01 33 55.4 -2.3**
HHC PMZ
comp=Z,23nm,0.6s
HHC PMZ
comp=Z,120nm,5.9s
CD2 **Chengdu** **75.92 308** P **P** **01 24 10.3 +0.1**
CD2 pP **pP** **01 25 00.9 +1.6**
CD2 sP **sP** **01 25 23.9 +2.8**
CD2 PP **PP** **01 27 03.4 -0.3**
CD2 S **S** **01 33 35.6 -0.4**
CD2 PMZ
comp=Z,30nm,1.0s
CD2 PMZ
comp=Z,110nm,3.5s
HIA **Hailar** **76.14 330**⇓ *i*P **P** **01 24 11.7 +0.7**
HIA pmax pmax
comp=Z,15nm,1.0s
SEY **Seymchan** **78.10 353** P **P** **01 24 21.2 -0.3**
comp=Z,20nm,0.9s,baz=158,slow=6.7,SNR=32
SEY **Seymchan** **78.10 353**⇓ *i*P **P** **01 24 21.8 +0.3**
LZH **Lanzhou** **78.22 312** P **P** **01 24 24.8 +1.8**
LZH pP **pP** **01 25 08.8 -3.6**
LZH sP **sP** **01 25 36.3 +2.2**
LZH S **S** **01 33 57.5 -3.4**
LZH sS **sS** **01 35 25.0 -2.0**
LZH PMZ
comp=Z,49nm,1.3s
LZH PMZ
comp=Z,160nm,4.1s
LZH LN
comp=Z,210nm,14.0s
LZH LE
comp=Z,140nm,13.5s
LZH LZ
comp=Z,320nm,15.8s
YAK **Yakutsk** **81.86 343** P **P** **01 24 41.1 -0.6**
comp=Z,3.1nm,0.3s,baz=102,slow=6.5,SNR=6.1
YAK **Yakutsk** **81.86 343** *e*P **P** **01 24 40.1 -1.5**
YAK pmax pmax
comp=Z,87nm,1.0s
YAK pmax pmax
comp=N,28nm,1.3s
YAK pmax pmax
comp=E,9.0nm,0.9s
YAK **Yakutsk** **81.86 343** *e*P **P** **01 24 42.0 +0.3**
comp=E,66nm,0.9s
MAW **Mawson** **82.07 202** P **P** **01 24 43.5 +0.7**
comp=E,21nm,0.9s,baz=113,slow=5.5,SNR=34
BILL **Bilibino** **82.35 360** *e*P **P** **01 24 43.6 -0.6**
BILL pmax pmax
comp=Z,21nm,1.0s
BILL **Bilibino** **82.35 360** *e*P **P** **01 24 43.5 -0.6**
comp=Z,21nm,1.0s
SONM **Songino Array** **82.36 324** P **P** **01 24 45.2 +0.4**
comp=Z,5.0nm,0.5s,baz=143,slow=5.7,SNR=36
GTA **Gaotai** **82.56 314** *e*P **P** **01 24 46.7 +0.7**
GTA pP **pP** **01 25 35.2 -0.7**
GTA sP **sP** **01 25 56.7 -0.8**
GTA PMZ
comp=Z,21nm,1.2s
PPLA **Purkeypile** **83.37 17** *e*P **P** **01 24 47.2 -2.4**
comp=Z,15nm,1.4s
TRF **Thorofare Moun** **84.35 18** *e*P **P** **01 24 52.7 -1.9**
comp=Z,18nm,0.9s
BPAW **Bear Paw Mtn.** **84.64 17** *e*P **P** **01 24 54.4 -1.5**
comp=Z,1.6nm,0.9s
MCK **McKinley** **84.96 18** *e*P **P** **01 24 56.2 -1.3**
MCK pmax pmax
comp=Z,19nm,1.0s
MCK **McKinley** **84.96 18** *e*P **P** **01 24 56.2 -1.3**
comp=Z,19nm,1.0s
YBH **Yreka Blue Hor** **85.26 45** *e*P **P** **01 24 59.9 +0.3**
YBH pmax pmax
comp=Z,7.0nm,0.9s
YBH **Yreka Blue Hor** **85.26 45** *e*P **P** **01 24 59.9 +0.3**
comp=Z,7.4nm,0.9s
ZAK **Zakamensk** **85.41 325** *e*P **P** **01 24 59.5 -0.7**
ZAK pmax pmax
comp=Z,17nm,1.4s
HUMO **Hull Mountain** **85.45 44** *e*P **P** **01 25 00.6 +0.1**
comp=Z,5.4nm,0.8s
LSA **Lhasa** **85.48 302** *e*P **P** **01 25 01.5 0.0**
LSA pmax pmax
comp=Z,5.0nm,0.6s
LSA **Lhasa** **85.48 302** *e*P **P** **01 25 01.5 0.0**
comp=Z,5.3nm,0.6s
LBCM **Butte Creek Ri** **85.84 46** P **P** **01 25 02.6 0.0**
TLY **Talaya** **85.85 326** P **P** **01 25 02.7 +0.6**
comp=Z,9.4nm,0.7s,baz=196,slow=2.5
TLY **Talaya** **85.85 326***c i*P **P** **01 25 02.1 -0.1**
TLY pmax pmax
comp=Z,32nm,1.5s
COLA **College** **86.13 18***d i*P **P** **01 25 02.7 -0.4**
COLA pmax pmax
comp=Z,30nm,0.8s
COLA **College** **86.13 18** *e*P **P** **01 25 02.0 -1.2**
comp=Z,8.7nm,0.8s
WAKR **Walker** **86.32 49** *e*P **P** **01 25 05.2 +0.2**
comp=Z,7.2nm,1.1s
ILAR **Eielson Array** **86.34 18** P **P** **01 25 02.6 -1.6**
comp=Z,12nm,0.7s,baz=236,slow=5.4,SNR=118
ILAR PKKP **PKKPdf** **01 42 57.5 +0.5**
comp=Z,0.6nm,0.9s,baz=5.0,slow=2.1,SNR=4.1
NVAR **Mina Array Bea** **87.12 49** P **P** **01 25 09.0 +0.1**
comp=Z,3.4nm,0.8s,baz=231,slow=8.1,SNR=14
LVP **Lakeview Peak** **87.23 41** P **P** **01 25 09.2 +0.1**
GLA **Glamis** **87.97 55** *e*P **P** **01 25 11.7 -1.2**
GLA pmax pmax
comp=Z,7.0nm,0.8s
GLA **Glamis** **87.97 55** *e*P **P** **01 25 11.7 -1.2**
comp=Z,7.0nm,0.8s
WPW **White Pass** **88.03 41** P **P** **01 25 13.0 +0.1**
EGAK **Eagle** **88.13 20** *e*P **P** **01 25 11.6 -1.2**
comp=Z,3.4nm,0.8s
NAC **Naches** **88.50 41** P **P** **01 25 15.2 +0.2**
BMN **Battle Mountai** **88.61 48** *e*P **P** **01 25 15.2 -0.6**
BMN pmax pmax
comp=Z,4.0nm,1.0s
BMN **Battle Mountai** **88.61 48** *e*P **P** **01 25 15.2 -0.6**
comp=Z,4.0nm,1.0s
SHPR **Sheep Range** **88.82 52** *e*P **P** **01 25 16.8 -0.1**
comp=Z,15nm,1.3s
SYO **Syowa Base** **88.89 197**⇑ *e*P **P** **01 25 14.6 -1.8**
TIXI **Tiksi** **89.79 349**⇑ *i*P **P** **01 25 19.4 -1.0**
TIXI pmax pmax
comp=Z,14nm,1.0s
TIXI **Tiksi** **89.79 349** *e*P **P** **01 25 19.9 -0.5**
comp=Z,17nm,1.1s
BMO **Blue Mountains** **90.09 43** *e*P **P** **01 25 22.1 -0.5**
comp=Z,7.2nm,1.0s
ELK **Elko** **90.14 48** *e*P **P** **01 25 22.5 -0.6**
ELK pmax pmax
comp=Z,7.0nm,1.1s
ELK **Elko** **90.14 48** *e*P **P** **01 25 22.5 -0.6**
comp=Z,6.9nm,1.1s
MFID **Camas Ranch** **90.61 45** *e*P **P** **01 25 25.0 -0.1**
comp=Z,3.2nm,0.8s
TUC **Tucson** **91.00 57** *e*P **P** **01 25 27.4 +0.3**
TUC pmax pmax
comp=Z,7.0nm,1.2s
TUC **Tucson** **91.00 57** *e*P **P** **01 25 27.4 +0.3**
comp=Z,6.8nm,1.2s
NEW **Newport** **91.40 40** P **P** **01 25 28.2 -0.3**
baz=249,slow=4.9
NEW **Newport** **91.40 40** *e*P **P** **01 25 27.9 -0.6**
comp=Z,4.4nm,1.0s
MSU **Marysvale** **91.70 51** *e*P **P** **01 25 30.4 0.0**
MSU pmax pmax
comp=Z,3.0nm,1.0s
MSU **Marysvale** **91.70 51** *e*P **P** **01 25 30.4 0.0**
comp=Z,3.4nm,1.0s
WMQ **Urumqi** **92.62 315** *e*P **P** **01 25 33.8 -0.4**
WMQ PMZ
comp=Z,9.0nm,0.8s
WMQ PMZ
comp=Z,65nm,3.9s
NVL **N'lazarevskaya** **93.24 188** *e*P **P** **01 25 35.6 -1.0**
NVL pmax pmax
comp=Z,11nm,0.8s
SNAA **Sanae** **93.74 183** P pP 01 26 21.0 -8.6
PDAR **Pinedale Array** **94.80 47** P **P** **01 25 43.5 -1.0**
comp=Z,0.4nm,0.5s,baz=269,slow=1.7,SNR=4.2
PDAR PKKP **PKKPdf** **01 42 40.0 -1.7**
comp=Z,0.6nm,0.7s,baz=81,slow=9.5,SNR=5.7
VNA1 **Neumayer--Stat** **94.97 181** P pP 01 26 30.3 -4.9
ANMO **Albuquerque** **95.17 55**⇓ *i*P **P** **01 25 46.7 +0.4**
ANMO pmax pmax
comp=Z,6.0nm,1.0s
TXAR **Lajitas Array** **96.16 61** P **P** **01 25 50.1 -0.8**
comp=Z,0.7nm,0.8s,baz=225,slow=5.1,SNR=5.5
MK31 **Makanchi Array** **97.09 316** *e*P Pdif 01 25 54.9 +0.3
MK31 **Makanchi Array** **97.09 316** *e*P Pdif 01 25 54.9 +0.3
ZALV **Zalesovo Beam** **97.26 324** P **P** **01 25 54.1 -1.0**
comp=Z,8.5nm,0.8s,baz=114,slow=4.5,SNR=32
ZALV **Zalesovo Beam** **97.26 324** *i* P **P** **01 25 54.5 -0.5**
ZALV pmax pmax
comp=Z,9.0nm,0.8s
YKA **Yellowknife Ar** **97.36 27** P **P** **01 25 54.5 -0.8**
comp=Z,1.5nm,0.7s,baz=258,slow=5.0,SNR=3.8
NVS **Novosibirsk** **98.37 324** *e*P **P** **01 25 58.6 -1.4**
NVS pmax pmax
comp=Z,10.0nm,1.5s
NVS pmax pmax
comp=N,3.0nm,1.1s
KSH **Kashi** **100.11 308** P **Pdif** **01 26 14.2 +5.9**
KURK **Kurchatov** **100.28 320** *e*P **Pdif** **01 26 07.9 -0.7**
KURK pmax pmax
comp=Z,3.0nm,1.0s
KURK **Kurchatov** **100.28 320** *e*Pdif **Pdif** **01 26 07.9 -0.7**
comp=Z,3.1nm,1.0s
KURK PKiKP **PKiKP** **01 30 34.9 +0.1**
KURBB **Kurchatov Arra** **100.31 320** P **Pdif** **01 26 07.6 -1.2**
comp=Z,1.0nm,0.8s,baz=96,slow=4.2,SNR=8.3
KURBB PKKP **PKiKP** **01 30 34.9 +0.1**
comp=Z,0.6nm,0.5s,baz=105,slow=1.9,SNR=7.5
BVAR **Borovoye Array** **105.62 321** PKiKP **PKiKP** **01 30 44.3 -0.1**
comp=Z,0.8nm,0.5s,baz=66,slow=3.5,SNR=4.2
ABKAR **Akbulak array** **112.19 318** *e*PKP **PKiKP** **01 30 55.9 -1.0**
ARU **Arti** **112.35 325** *i* PKIKP **PKiKP** **01 30 57.1 +0.2**
ARU 01 31 44.2
ARU 01 37 20.1
ARU SS SS 01 47 00.8 -8.3
ARU **Arti** **112.35 325** *e*PKP **PKiKP** **01 30 56.7 -0.2**
AKTO **Aktyubinsk** **113.35 319** PKiKP **PKiKP** **01 30 58.6 -0.4**
comp=Z,2.0nm,0.5s,baz=30,slow=3.4,SNR=6.4
SPITS **Spitsbergen Ar** **114.75 354** PKP PKPdf 01 31 00.9 -0.1
comp=Z,3.7nm,0.7s,baz=108,slow=4.7,SNR=6.4
LPAZ **La Paz** **117.27 117** PKP **PKPdf** **01 31 08.1 -0.3**
comp=Z,0.5nm,0.5s,baz=329,slow=1.5,SNR=4.8
LPAZ **La Paz** **117.27 117** PKIKP **PKPdf** **01 31 08.1 -0.3**
LPAZ pmax pmax
comp=Z,1.0nm,0.5s
LPAZ **La Paz** **117.27 117** *e*PKPdf **PKPdf** **01 31 08.3 -0.1**
PRGR **Permogore** **117.52 333** *e*PKIKP PKPpre 01 31 00.6
PRGR pmax pmax
comp=Z,14nm,0.9s
DAG **Danmarks Havn** **117.68 2** *i* P **PKPdf** **01 31 05.8 -0.9**
comp=Z,3.5nm,0.7s
DAG **Danmarks Havn** **117.68 2** *i* PKIKP **PKPdf** **01 31 05.8 -0.9**
DAG pmax pmax
comp=Z,2.0nm,0.7s
KEV **Kevo** **119.55 345** *e*P **PKPdf** **01 31 10.7 +0.3**
HAMF **Hammerfest** **119.68 347** *e*P **PKPdf** **01 31 10.2 -0.4**
SUMG **Summit** **120.04 9** *i* P **PKPdf** **01 31 12.5 +0.7**
comp=Z,3.1nm,0.9s
SUMG **Summit** **120.04 9** *i* PKIKP **PKPdf** **01 31 12.5 +0.7**
SUMG pmax pmax
comp=Z,3.0nm,0.9s
ARCES **ARCESS Array B** **120.08 345** PKP **PKPdf** **01 31 11.2 -0.2**
comp=Z,9.7nm,0.6s,baz=73,slow=1.8,SNR=73
ARE0 **ARCESS Array S** **120.08 345** *e*P **PKPdf** **01 31 11.3 -0.1**
ILULI **Ilulissat** **120.26 15** *i* P **PKPdf** **01 31 09.7 -2.1**
comp=Z,16nm,1.0s
CPUP **Villa Florida** **120.56 133** *e*PKIKP **PKPdf** **01 31 13.5 -0.2**
CPUP **Villa Florida** **120.56 133** *e*PKPdf **PKPdf** **01 31 13.5 -0.2**
TRO **Tromso** **121.49 348** *e*P **PKPdf** **01 31 12.5 -1.6**
TRO IAmb IAmb 01 31 13.2
comp=Z,12nm,0.7s
KIF **Kilpisjarvi** **121.58 346** *e*P **PKPdf** **01 31 14.0 -0.3**
SCHQ **Schefferville** **122.12 34** PKP **PKPdf** **01 31 15.8 0.0**
comp=Z,0.9nm,0.6s,baz=213,slow=4.1,SNR=4.0
SCHQ PKKPbc **PKKPab** **01 41 13.1 -0.1**
comp=Z,1.4nm,0.6s,baz=140,slow=2.6,SNR=4.1
DGRG **David-gareji** **123.33 310** P **PKPdf** **01 31 20.4 +1.8**
SUR **Sutherland** **123.38 214** *e*PKPdf **PKPdf** **01 31 19.5 +0.2**
BOSA **Boshof** **123.54 220** PKP **PKPdf** **01 31 20.1 +0.5**
comp=Z,5.4nm,0.8s,baz=62,slow=3.2,SNR=7.9
STEI **Steigen** **123.66 348** *e*P **PKPdf** **01 31 18.3 0.0**
STEI IAmb IAmb 01 31 18.6
comp=Z,16nm,0.8s
TBLG **Delisi** **123.75 311** P **PKPdf** **01 31 20.5 +1.1**
GNI **Garni** **124.03 309** PKP **PKPdf** **01 31 20.6 +0.4**
comp=Z,4.6nm,0.6s,baz=33,slow=4.2,SNR=4.5
GNI **Garni** **124.03 309**⇑ *i*PKIKP **PKPdf** **01 31 21.8 +1.7**
GNI pmax pmax
comp=Z,18nm,1.7s
GNI **Garni** **124.03 309** *e*PKPdf **PKPdf** **01 31 19.7 -0.4**
ZEI **Tsey** **124.14 312** *i* PKIKP **PKPdf** **01 31 20.5 +0.2**
ZEI pmax pmax
comp=Z,22nm,0.3s
GOF **Gofitskoye** **124.22 315** *e*PKIKP **PKPdf** **01 31 19.9 -0.2**
ONI **Oni** **124.51 312** P **PKPdf** **01 31 21.0 +0.2**
OBN **Obninsk** **124.56 328***c i*PKIKP **PKPdf** **01 31 20.4 0.0**
OBN pmax pmax
comp=Z,26nm,1.2s
OBN **Obninsk** **124.56 328** *e*PKPdf **PKPdf** **01 31 20.5 +0.1**
KBZ **Khabaz** **124.64 313** PKP **PKPdf** **01 31 21.3 +0.4**
comp=Z,4.7nm,0.9s,baz=92,slow=2.6,SNR=7.8
AKH **Akhalkalaki** **124.73 310** P **PKPdf** **01 31 23.0 +1.5**
AKH **Akhalkalaki** **124.73 310** ⇓PKIKP **PKPdf** **01 31 22.8 +1.4**
AKH **Akhalkalaki** **124.73 310**⇓ *i*P **PKPdf** **01 31 22.8 +1.4**
KIV **Kislovodsk** **124.74 314** *i* PKIKP **PKPdf** **01 31 21.9 +0.6**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV **Kislovodsk** **124.74 314** *e*PKPdf **PKPdf** **01 31 22.1 +0.9**
VSR **Storozhevoye** **124.75 323** *e*PKIKP **PKPdf** **01 31 21.0 +0.1**
VSR pmax pmax
comp=N,7.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR pmax pmax
comp=Z,30nm,1.0s
SAML **Samuel** **124.77 112** *e*PKPdf **PKPdf** **01 31 21.2 -0.9**
VORD **Divnogorie** **124.77 323** *e*PKIKP **PKPdf** **01 31 21.1 +0.2**
VORD pmax pmax
comp=N,9.0nm,0.6s
VORD pmax pmax
comp=E,20nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s
FINES **FINESS Array B** **125.56 338** PKP **PKPdf** **01 31 22.3 +0.2**
comp=Z,17nm,1.0s,baz=82,slow=4.2,SNR=24
VSU **Vasula** **127.25 335**⇓ *e*PKIKP **PKPdf** **01 31 26.0 +0.5**
NSS **Namsos** **127.26 347** *e*P **PKPdf** **01 31 25.8 +0.4**
KMBO **Kilima Mbogo** **128.18 257** *e*PKIKP **PKPdf** **01 31 30.1 +1.2**
KMBO **Kilima Mbogo** **128.18 257** *e*PKPdf **PKPdf** **01 31 30.1 +1.2**
MALT **Malatya** **129.21 308** ⇑PKIKP **PKPdf** **01 31 29.0 -1.0**
MALT **Malatya** **129.21 308**⇑ *i*P **PKPdf** **01 31 29.0 -1.0**
NB2 **NORSAR Subarra** **130.45 345** PKPdf **PKPdf** **01 31 32.0 +0.4**

	comp=Z,4.8nm,0.9s,baz=31,slow=1.9							
NB2	**NORSAR Subarra**	**130.45 345**		PKPdf	**PKPdf**	01 31 32.0	+0.4	
	baz=31,slow=1.9							
NOA	**NORSAR Array B**	**130.45 345**		PKP	**PKPdf**	01 31 31.9	+0.4	
	comp=Z,4.6nm,0.8s,baz=34,slow=2.0,SNR=20							
NOA				SKPbc	**SKPab**	01 34 39.6	+3.8	
	comp=Z,6.9nm,0.8s,baz=33,slow=2.8,SNR=24							
NOA	**NORSAR Array B**	**130.45 345**		PKIKP	**PKPdf**	01 31 32.0	+0.4	
AKASG	**Malin Array Be**	**130.59 326**		PKP	**PKPdf**	01 31 32.3	+0.3	
	comp=Z,4.2nm,0.8s,baz=51,slow=1.8,SNR=20							
AKASG				SKPbc	**SKPab**	01 34 40.2	+3.4	
	comp=Z,1.4nm,0.6s,baz=47,slow=4.2,SNR=13							
AKBB	**Malin Array Si**	**130.59 326**	*e*	PKIKP	**PKPdf**	01 31 32.4	+0.3	
AKBB	**Malin Array Si**	**130.59 326**	*e*	PKPdf	**PKPdf**	01 31 32.4	+0.3	
KIEV	**Kiev**	**130.61 326**	⇑*e*	PKIKP	**PKPdf**	01 31 33.0	+0.9	
KIEV	**Kiev**	**130.61 326**	*e*	PKPdf	**PKPdf**	01 31 32.5	+0.4	
NAO01	**NORSAR Array S**	**130.70 345**	*e*	PKPdf	**PKPdf**	01 31 32.3	+0.3	
SUW	**Suwalki**	**131.64 332**	*e*	PKP	**PKPdf**	01 31 34.4	+0.5	
SUW	**Suwalki**	**131.64 332**	*e*	PKIKP	**PKPdf**	01 31 34.4	+0.5	
ASF	**Jabal al Asfar**	**131.64 300**		PKP	**PKPdf**	01 31 35.6	+0.9	
	comp=Z,2.8nm,0.8s,baz=34,slow=1.3,SNR=6.5							
ASF				SKPab	**SKPab**	01 34 45.6	+3.6	
	comp=Z,0.8nm,0.5s,baz=0.0,slow=4.0,SNR=3.9							
BR131	**Keskin Array S**	**132.41 311**	*e*	PKPdf	**PKPdf**	01 31 36.4	+0.3	
BRTR	**Keskin Array B**	**132.41 311**		PKP	**PKPdf**	01 31 36.1	+0.1	
	comp=Z,2.8nm,0.7s,baz=140,slow=3.9,SNR=16							
BRTR				SKPbc	**SKPab**	01 34 47.0	+1.9	
	comp=Z,1.7nm,0.7s,baz=98,slow=3.7,SNR=6.2							
MMAI	**Mount Meron Ar**	**132.74 302**		PKP	**PKPdf**	01 31 37.3	+0.5	
	comp=Z,3.2nm,0.8s,baz=135,slow=2.6,SNR=5.4							
MMAI				SKPab	**SKPab**	01 34 50.2	+3.6	
	comp=Z,1.6nm,0.7s,baz=90,slow=5.9,SNR=4.6							
ANTO	**Ankara**	**132.98 311**	⇓	PKIKP	**PKPdf**	01 31 37.9	+0.8	
ANTO	**Ankara**	**132.98 311**	⇓*i*	P	**PKPdf**	01 31 37.9	+0.8	
LEOM	**Leova**	**133.30 322**	⇑	PKIKP	**PKPdf**	01 31 37.4	+0.1	
LEOM	**Leova**	**133.30 322**	⇑*i*	P	**PKPdf**	01 31 37.4	+0.1	
LVV	**L'vov**	**133.85 328**	*e*	PKIKP	**PKPdf**	01 31 38.1	-0.2	
CSS	**Prodhromos**	**133.99 305**	*e*	PKPdf	**PKPdf**	01 31 38.9	-0.2	
BEL	**Belsk**	**134.16 331**	*e*	PKP	**PKPdf**	01 31 40.8	+2.0	
BEL	**Belsk**	**134.16 331**	*e*	PKIKP	**PKPdf**	01 31 40.9	+2.1	
BSD	**Bornholm Skovb**	**134.20 338**	*i*	P	**PKPdf**	01 31 40.1	+1.4	
	comp=Z,15nm,0.9s							
BSD	**Bornholm Skovb**	**134.20 338**	*i*	PKIKP	**PKPdf**	01 31 40.1	+1.4	
BSD				pmax	pmax			
	comp=Z,15nm,0.9s							
KWP	**Kalwaria Pacla**	**134.65 328**	*e*	PKP	**PKPdf**	01 31 40.5	+0.8	
KWP	**Kalwaria Pacla**	**134.65 328**	*e*	PKIKP	**PKPdf**	01 31 40.6	+0.8	
GKP	**Gorka Klasztor**	**134.71 335**	*e*	PKP	**PKPdf**	01 31 40.6	+0.9	
GKP	**Gorka Klasztor**	**134.71 335**	*e*	PKIKP	**PKPdf**	01 31 40.7	+1.0	
TSUM	**Tsumeb**	**135.13 222**	*e*	PKPdf	**PKPdf**	01 31 42.0	+0.3	
DOPR	**Dopca**	**135.26 322**	⇑*i*	P	**PKPdf**	01 31 39.1	-2.0	
KOLS	**Kolonicke sedl**	**135.30 327**	*e*	PKIKP	**PKPdf**	01 31 42.0	+1.0	
KOLS	**Kolonicke sedl**	**135.30 327**	*e*	PKP	**PKPdf**	01 31 42.0	+1.0	
UZH	**Uzhgorod**	**135.48 327**	*e*	PKIKP	**PKPdf**	01 31 42.7	+1.4	
STHS	**Stebnicka Huta**	**135.53 329**	*e*	PKP	**PKPdf**	01 31 43.3	+1.9	
OJC	**Ojcow**	**135.71 330**	*e*	PKP	**PKPdf**	01 31 41.8	+0.1	
OJC	**Ojcow**	**135.71 330**	*e*	PKIKP	**PKPdf**	01 31 41.9	+0.2	
NIE	**Niedzica**	**135.99 329**	*e*	PKP	**PKPdf**	01 31 44.2	+1.9	
NIE	**Niedzica**	**135.99 329**	*e*	PKIKP	**PKPdf**	01 31 44.2	+1.9	
ARR	**Arges**	**136.03 322**	⇓*i*	P	**PKPdf**	01 31 41.1	-1.5	
OKC	**Ostrava-Krasne**	**136.75 331**	*e*	PKPdf	**PKPdf**	01 31 44.1	+0.4	
OKC	**Ostrava-Krasne**	**136.75 331**	*e*	PKIKP	**PKPdf**	01 31 44.1	+0.4	
MORC	**Moravsky Berou**	**137.08 331**	*e*	PKPdf	**PKPdf**	01 31 45.1	+0.7	
GZR	**Gura Zlata**	**137.11 323**	⇑	PKIKP	**PKPdf**	01 31 45.2	+0.6	
GZR	**Gura Zlata**	**137.11 323**	⇑*i*	P	**PKPdf**	01 31 45.2	+0.6	
PSZ	**Piszkesteto**	**137.17 328**	*e*	PKPdf	**PKPdf**	01 31 45.3	+0.6	
PSZ	**Piszkesteto**	**137.17 328**	⇑*e*	PKKPdf	**PKPdf**	01 31 45.6	+1.0	
KRLC	**Kraliky**	**137.22 332**	*e*	PKPdf	**PKPdf**	01 31 44.1	-0.5	
KRLC	**Kraliky**	**137.22 332**	*e*	PKIKP	**PKPdf**	01 31 44.1	-0.5	
DPC	**Dobruska-Polom**	**137.22 333**	*e*	PKPpre	PKPpre	01 31 36.0		
DPC			*e*	PKPdf	**PKPdf**	01 31 44.6	0.0	
DPC	**Dobruska-Polom**	**137.22 333**	*e*	PKHKP	PKPpre	01 31 36.0		
DPC			*e*			01 31 44.6		
SIRR	**Siria**	**137.24 325**	⇑*i*	P	**PKPdf**	01 31 45.1	+0.4	
UPC	**Upice**	**137.25 333**	*e*	PKPdf	**PKPdf**	01 31 45.8	+1.2	
UPC	**Upice**	**137.25 333**	*e*	PKIKP	**PKPdf**	01 31 45.8	+1.2	
KDZ	**Kurdzhali**	**137.40 317**	⇓	PKIKP	**PKPdf**	01 31 45.8	+0.6	
KDZ	**Kurdzhali**	**137.40 317**	⇓*i*	P	**PKPdf**	01 31 45.8	+0.6	
BZS	**Buzias**	**137.65 324**	⇓	PKIKP	**PKPdf**	01 31 45.5	0.0	
BZS	**Buzias**	**137.65 324**	⇓*i*	P	**PKPdf**	01 31 45.5	0.0	
BRG	**Berggiesshubel**	**137.85 335**	*e*		**PKPdf**	01 31 46.5	+0.8	
	comp=Z,9.1nm,0.9s							
PVCC	**Panska Ves**	**137.85 334**	*e*	PKPdf	**PKPdf**	01 31 46.4	+0.7	
PVCC	**Panska Ves**	**137.85 334**	*e*	PKIKP	**PKPdf**	01 31 46.4	+0.7	
CLL	**Collm**	**137.89 336**	*e*	PKPdf	**PKPdf**	01 31 46.0	+0.3	
	comp=Z,3.0nm,0.8s							
CLL			*i*	PKiKP	**PKiKP**	01 31 48.5	+0.7	
	comp=Z,12nm,0.9s							
BUD	**Budapest**	**137.90 328**	⇓*e*	PKKPdf	**PKPdf**	01 31 46.9	+1.0	
PKS7	**Kunszentmiklos**	**138.11 327**	⇓*e*	PKKPdf	**PKPdf**	01 31 47.0	+0.8	
GOPC	**GO Pecny, Ondr**	**138.22 333**	*e*	PKPdf	**PKPdf**	01 31 47.2	+0.8	
PRU	**Pruhonice**	**138.27 334**	*e*	PKPdf	**PKPdf**	01 31 46.6	+0.1	
PRU	**Pruhonice**	**138.27 334**	*e*	PKIKP	**PKPdf**	01 31 46.6	+0.1	
PKSG		**138.29 328**	*e*	PKKPdf	**PKPdf**	01 31 47.2	+0.6	
TREC	**Trest**	**138.36 332**	*e*	PKPdf	**PKPdf**	01 31 47.2	+0.5	
TREC	**Trest**	**138.36 332**	*e*	PKIKP	**PKPdf**	01 31 47.2	+0.5	
VTS	**Vitosha**	**138.37 319**	⇓	PKIKP	**PKPdf**	01 31 45.1	-2.0	
VTS	**Vitosha**	**138.37 319**	⇓*i*	P	**PKPdf**	01 31 45.1	-2.0	
VTS	**Vitosha**	**138.37 319**		P	**PKPdf**	01 31 46.8	-0.3	
VTS	**Vitosha**	**138.37 319**		P	**PKPdf**	01 31 46.8	-0.3	
PKS2	**Kecel**	**138.44 327**	*e*	PKKPdf	**PKPdf**	01 31 47.7	+0.8	
MMB	**Musomiste**	**138.54 318**	⇑	PKHKP	PKPpre	01 31 38.5		
MMB	**Musomiste**	**138.54 318**	⇑*i*	P	PKPpre	01 31 38.5		
NVR	**Nevrokopi**	**138.57 317**		P	**PKPdf**	01 31 47.2	-0.2	
NVR	**Nevrokopi**	**138.57 317**		P	**PKPdf**	01 31 47.2	-0.2	
PKS9	**Tamasi**	**138.87 327**	⇓	PKKPdf	**PKPdf**	01 31 48.2	+0.5	
PKSM	**Moragy**	**138.92 327**	⇑	PKIKP	**PKPdf**	01 31 46.4	-1.4	
PKSM	**Moragy**	**138.92 327**	⇑*i*	P	**PKPdf**	01 31 46.4	-1.4	
PKSM	**Moragy**	**138.92 327**	⇓*e*	PKKPdf	**PKPdf**	01 31 48.4	+0.6	
NKC	**Novy Kostel**	**138.95 335**	*e*	PKPdf	**PKPdf**	01 31 50.5	+2.7	
NKC	**Novy Kostel**	**138.95 335**	*e*	PKIKP	**PKPdf**	01 31 50.5	+2.7	
CONA	**Conrad Observa**	**139.17 331**	⇑*i*	PKiKP	**PKPdf**	01 31 49.2	+0.9	
	comp=Z,13nm,0.7s,SNR=6.2							
KHC	**Kasperske Hory**	**139.33 334**	*e*	PKPdf	**PKPdf**	01 31 49.1	+0.6	
KHC	**Kasperske Hory**	**139.33 334**	*e*	PKPdf	**PKPdf**	01 31 49.6	+1.1	
DIVS	**Divibare**	**139.48 323**	⇑*i*	P	**PKPdf**	01 31 49.2	+0.2	
DIVS	**Divibare**	**139.48 323**		P	**PKPdf**	01 31 48.9	-0.1	
GERES	**GERESS Array B**	**139.49 333**		PKhKP	PKPpre	01 31 40.4		
	comp=Z,1.2nm,0.6s,baz=30,slow=3.8,SNR=12							
GERES				PKP	**PKPdf**	01 31 49.5	+0.6	
	comp=Z,6.0nm,0.8s,baz=79,slow=2.9,SNR=20							
GERES				PP	**PP**	01 34 45.5	+0.4	
	comp=Z,0.2nm,0.5s,baz=15,slow=5.4,SNR=3.4							
GERES				SKPbc	**SKiKP**	01 35 08.4	+0.5	
	comp=Z,0.8nm,0.7s,baz=38,slow=2.4,SNR=6.5							
GRF	**Grafenberg Arr**	**139.87 336**	*e*	PKPdf	**PKPdf**	01 31 50.3	+0.9	
XOR	**Xorichti**	**139.97 315**		P	PKPpre	01 31 41.8		
XOR	**Xorichti**	**139.97 315**		P	PKPpre	01 31 41.8		
LIT	**Litokhoron**	**140.09 316**		PKHKP	PKPpre	01 31 42.0		
LIT	**Litokhoron**	**140.09 316**		P	PKPpre	01 31 42.0		
LIT	**Litokhoron**	**140.09 316**		P	PKPpre	01 31 42.0		
ATAL	**Atalanti**	**140.40 314**		P	**PKPdf**	01 31 47.5	-3.2	
ATAL	**Atalanti**	**140.40 314**		P	**PKPdf**	01 31 47.5	-3.2	
PERS	**Pernice**	**140.44 330**	*e*	PKPdf	PKPdf	01 31 45.1	-5.5	
PERS			*i*	PKPbc	**PKiKP**	01 31 50.8	-2.4	
SOKA	**Soboth**	**140.45 330**	⇑*i*	PKPdf	**PKPdf**	01 31 45.6	-5.1	
	comp=Z,1.9nm,1.2s,SNR=6.1							
SOKA			⇓	*i*PKPdf	**PKiKP**	01 31 50.8	-2.4	
	comp=Z,11nm,1.1s							
FNA	**Florina**	**140.48 318**		PKIKP	**PKPdf**	01 31 50.3	-0.6	
FNA	**Florina**	**140.48 318**		P	**PKPdf**	01 31 50.3	-0.6	
FNA	**Florina**	**140.48 318**		P	**PKPdf**	01 31 50.3	-0.6	
PHP	**Peshkopia**	**140.59 320**		PKHKP	PKPpre	01 31 44.4		
PHP	**Peshkopia**	**140.59 320**		P	PKPpre	01 31 44.4		
PHP	**Peshkopia**	**140.59 320**		P	PKPpre	01 31 44.4		
AXAR	**Agios Charalam**	**140.62 315**		P	**PKPdf**	01 31 50.2	-0.9	
AXAR	**Agios Charalam**	**140.62 315**		P	**PKPdf**	01 31 50.2	-0.9	
DID	**Didima**	**140.78 312**		P	PKPpre	01 31 44.6		
DID	**Didima**	**140.78 312**		P	PKPpre	01 31 44.6		
MAKR	**Makrakomi, Fth**	**140.87 315**		P	PKPpre	01 31 45.1		
MAKR	**Makrakomi, Fth**	**140.87 315**		P	PKPpre	01 31 45.1		
BEBN	**Eben Emael**	**140.90 342**		PKP	**PKPdf**	01 31 51.0	-0.2	
MEM	**Membach**	**140.96 341**		PKP	**PKPdf**	01 31 46.5	-4.8	
EVR	**Evrytania**	**141.13 315**		P	**PKPdf**	01 31 50.3	-1.9	
EVR	**Evrytania**	**141.13 315**		P	**PKPdf**	01 31 50.3	-1.9	
BOJS	**Bojanci**	**141.16 328**	*i*	PKPdf	**PKPdf**	01 31 47.0	-4.9	
BOJS			*i*	PKPbc	**PKiKP**	01 31 53.0	-1.6	
BOJS			*i*	PKPab		01 32 04.5		
VISS	**Visnje**	**141.16 329**	*i*	PKPdf	**PKPdf**	01 31 46.9	-5.0	
VISS			*i*	PKPbc	**PKiKP**	01 31 53.1	-1.5	
BCLA	**Clavier**	**141.34 342**		PKP	**PKPdf**	01 31 50.2	-1.8	
VLI	**Veliai**	**141.34 311**		P	PKPpre	01 31 45.2		
VLI	**Veliai**	**141.34 311**		P	PKPpre	01 31 45.2		
STU	**Stuttgart**	**141.40 337**	*e*	PKIKP	**PKPdf**	01 31 49.8	-2.4	
STU	**Stuttgart**	**141.40 337**	*e*	PKPdf	**PKPdf**	01 31 49.8	-2.4	
VLX	**Vlachokerasia**	**141.46 313**		P	PKPpre	01 31 46.2		
VLX	**Vlachokerasia**	**141.46 313**		P	PKPpre	01 31 46.2		
JAVS	**Javornik**	**141.48 330**	*i*	PKPdf	PKPpre	01 31 48.1		
JAVS			*i*	PKPbc	**PKiKP**	01 31 56.0	+0.5	
JAVS			*i*	PKPab	PKPdf	01 32 02.6	+10	
ABTA	**Abfaltersbach**	**141.59 332**	⇑*i*	PKPdf	PKPpre	01 31 48.3		
	comp=Z,14nm,0.7s,SNR=7.3							
WTTA	**Wattenberg**	**141.59 333**	⇓*i*	PKPdf	PKPpre	01 31 48.7		
	comp=Z,16nm,0.8s							
WLF	**Walferdange**	**141.73 340**		PKP	PKPpre	01 31 48.6		
WLF	**Walferdange**	**141.73 340**	*e*	PKHKP	PKPpre	01 31 47.4		
WLF			*e*			01 31 53.7		
WLF	**Walferdange**	**141.73 340**	*e*	PKPpre	PKPpre	01 31 47.4		
WLF			*e*	PKPdf	**PKPdf**	01 31 53.7	+0.9	
MOTA	**Moosalm**	**141.76 334**	⇓*i*	PKPdf	PKPpre	01 31 48.5		
	comp=Z,14nm,0.9s							
TRI	**Trieste**	**141.76 330**	*e*	PKIKP	**PKPdf**	01 31 52.3	-0.6	
TRI	**Trieste**	**141.76 330**	*e*	PKPdf	**PKPdf**	01 31 52.3	-0.6	
RLS	**Riolos of Patr**	**141.78 314**		P	PKPpre	01 31 46.7		
RLS	**Riolos of Patr**	**141.78 314**		P	PKPpre	01 31 46.7		
RETA	**Reutte**	**141.79 334**	⇑*i*	PKPdf	**PKPdf**	01 31 49.7	-3.3	
	comp=Z,16nm,1.8s,SNR=5.8							
DOU	**Dourbes**	**141.84 342**		PKP	**PKPdf**	01 31 49.6	-3.3	
ITM	**Ithomi**	**141.87 313**		P	**PKPdf**	01 31 49.0	-4.4	
ITM	**Ithomi**	**141.87 313**		P	**PKPdf**	01 31 49.0	-4.4	
BFO	**Black Forest**	**142.09 337**	*e*	PKHKP	PKPpre	01 31 48.9		
BFO	**Black Forest**	**142.09 337**	*e*	PKPpre	PKPpre	01 31 48.9		
PYL	**PYLOS**	**142.12 312**		P	PKPpre	01 31 48.2		
PYL	**PYLOS**	**142.12 312**		P	PKPpre	01 31 48.2		
FETA	**Feichten**	**142.17 334**	*i*	PKPdf	**PKPdf**	01 31 50.8	-3.1	
	comp=Z,16nm,1.1s,SNR=7.7							
DAVA	**Damuels**	**142.32 335**	⇓*i*	PKPdf	**PKPdf**	01 31 50.6	-3.5	
	comp=Z,16nm,1.4s,SNR=5.6							
ECH	**Echery**	**142.62 338**	*e*	PKIKP	**PKPdf**	01 31 50.9	-3.5	
ECH	**Echery**	**142.62 338**	*e*	PKPdf	**PKPdf**	01 31 50.9	-3.5	
TUE	**Stuetta**	**143.19 334**	*e*	PKPdf	PKPbc	01 31 53.5	+0.3	
AQU	**L'Aquila**	**144.30 326**	⇑	PKIKP	**PKPdf**	01 31 57.1	-0.5	
AQU	**L'Aquila**	**144.30 326**	⇑*i*	P	**PKPdf**	01 31 57.1	-0.5	
AQU	**L'Aquila**	**144.30 326**	*e*	PKPdf	PKPbc	01 31 56.7	+0.3	
TIP	**Timpagrande**	**144.32 319**	*e*	PKPdf	**PKPdf**	01 31 57.4	-0.4	
TIP	**Timpagrande**	**144.32 319**		P	**PKPab**	01 31 55.6	-0.7	
CUC	**Castrocucco**	**144.43 321**	*e*	PKPdf	**PKPab**	01 31 55.8	-0.9	
VLC	**Villacollemand**	**144.52 331**	*e*	PKPdf	**PKPab**	01 31 56.4	-0.5	
CEL	**Celeste**	**145.41 318**	*e*	PKPbc	**PKPdf**	01 31 59.7	+0.1	
BNI	**Bardonecchia**	**145.44 336**	*e*	PKP2	**PKPab**	01 32 00.7	+0.3	
BNI	**Bardonecchia**	**145.44 336**	*e*	PKPbc	**PKPab**	01 32 00.7	+0.3	
SSB	**Saint Sauveur**	**146.06 338**	*e*	PKIKP	**PKPdf**	01 32 00.6	+0.1	
SSB			*e*			01 32 02.7		
SSB	**Saint Sauveur**	**146.06 338**	*e*	PKPdf	**PKPdf**	01 32 00.6	+0.1	
SSB			*e*	PKPbc	**PKPab**	01 32 02.7	+0.1	
CLTB	**Caltabellotta**	**147.51 320**	*e*	PKPdf	**PKPdf**	01 32 03.1	-0.2	
CLTB			*e*	PKPbc	**PKPbc**	01 32 05.9	-0.2	
CLTB			*e*	PKPab	**PKPab**	01 32 08.6	-0.1	
VSL	**Villasalto**	**148.47 326**	*e*	PKPdf	**PKPdf**	01 32 04.8	+0.1	
VSL			*e*	PKPbc	**PKPbc**	01 32 08.7	+0.2	
RCBR	**Riachuelo**	**149.36 130**	*e*	PKPbc	**PKPbc**	01 32 11.2	-0.3	
KEST	**Kesra**	**151.08 321**		PKP	**PKPdf**	01 32 08.8	-0.1	
	comp=Z,1.3nm,1.0s,baz=117,slow=14,SNR=3.9							
KEST				PKPbc	**PKiKP**	01 32 15.8	+0.3	
	comp=Z,24nm,0.8s,baz=124,slow=1.5,SNR=144							
PBRG	**Braganca**	**152.34 350**	*e*	PKPbc	**PKPbc**	01 32 18.2	+0.6	
PBRG	**Braganca**	**152.34 350**	*e*	PKPab	**PKPab**	01 32 29.3	+1.0	
PGAV	**Gavieira, Arco**	**152.40 353**	*e*	PKPbc	**PKPbc**	01 32 18.4	+0.6	
PCAB	**Cabril**	**152.62 352**	*e*	PKPdf	**PKPbc**	01 32 18.9	+0.7	
PCAB	**Cabril**	**152.62 352**	*e*	PKPab	**PKPab**	01 32 30.6	+1.1	
POLO	**Lamas de Olo**	**152.93 352**	*e*	PKPbc	**PKPbc**	01 32 19.8	+0.8	
POLO	**Lamas de Olo**	**152.93 352**	*e*	PKPab	**PKPab**	01 32 31.8	+1.0	
MVO	**Moncorvo**	**153.02 351**	*e*	PKPbc	**PKPbc**	01 32 20.3	+1.1	
MVO	**Moncorvo**	**153.02 351**	*e*	PKPab	**PKPab**	01 32 32.4	+1.2	
PTO	**Porto**	**153.26 353**	*e*	PKPbc	**PKPbc**	01 32 20.4	+0.8	
ESDC	**Sonseca Array**	**153.81 345**		PKP	**PKPdf**	01 32 13.2	+0.3	
	comp=Z,1.0nm,0.9s,baz=25,slow=2.4,SNR=7.1							
ESDC				PKPbc	**PKiKP**	01 32 21.3	+0.3	
	comp=Z,4.3nm,0.9s,baz=15,slow=2.6,SNR=21							
ESDC				PKPab	**PKPab**	01 32 35.1	+0.5	
	comp=Z,5.8nm,0.8s,baz=17,slow=4.0,SNR=16							
ESDC				PP	**PP**	01 36 03.9	-4.9	
	comp=Z,1.9nm,0.9s,baz=10.0,slow=6.8,SNR=6.3							
ESLA	**Sonseca Array**	**153.81 345**	*e*	PKPbc	**PKPbc**	01 32 21.3	+0.4	
ESLA			*e*	PKPab	**PKPab**	01 32 35.1	+0.5	
PCAS	**Casmilo, Conde**	**154.32 353**	*e*	PKPbc	**PKPbc**	01 32 22.5	+0.6	
PCAS	**Casmilo, Conde**	**154.32 353**	*e*	PKPab	**PKPab**	01 32 37.5	+0.8	
PMRV	**Marv??o**	**154.77 350**	*e*	PKPbc	**PKPbc**	01 32 23.8	+0.9	
PMTG	**Montargil**	**155.25 352**	*e*	PKPdf	**PKPdf**	01 32 15.0	+0.2	
PMTG	**Montargil**	**155.25 352**	*e*	PKPbc	PKPbc	01 32 24.8		
PMTG	**Montargil**	**155.25 352**	*e*	PKPab	**PKPab**	01 32 42.3	+1.7	
PMST	**Lisbon--Monsan**	**155.70 353**	*e*	PKPab	PKPab	01 32 48.6	+6.0	
EVO	**Evora**	**155.74 351**	*e*	PKPdf	PKPdf	01 32 21.9	+6.4	
EVO	**Evora**	**155.74 351**	*e*	PKPab	**PKPab**	01 32 43.6	+0.8	
PBAR	**Barrancos**	**155.93 349**	*e*	PKPdf	PKPdf	01 32 26.1	+10	
PBAR	**Barrancos**	**155.93 349**	*e*	PKPab	**PKPab**	01 32 44.7	+1.1	
PNCL	**Nicolau / Gran**	**156.23 352**	*e*	PKPab	**PKPab**	01 32 46.7	+1.8	
MESJ	**Messejana**	**156.45 351**	*e*	PKPab	**PKPab**	01 32 47.0	+1.2	
PCVE	**Castro Verde**	**156.63 351**	*e*	PKPab	**PKPab**	01 32 47.9	+1.3	
PVAQ	**Vaqueiros**	**156.80 351**	*e*	PKPab	**PKPab**	01 32 48.0	+0.6	
PTEO	**Sao Teotonio**	**156.81 352**	*e*	PKPab	**PKPab**	01 32 49.3	+1.9	
MORF	**Marmelete**	**157.04 352**	*e*	PKPab	**PKPab**	01 32 50.3	+1.8	
TAM	**Tamanrasset**	**160.90 298**	*e*	PKIKP	**PKPdf**	01 32 23.4	+1.1	
TAM			*e*			01 33 06.5		
TAM	**Tamanrasset**	**160.90 298**	*e*	PKPdf	**PKPdf**	01 32 23.4	+1.1	
TAM			*e*	PKPab	**PKPab**	01 33 06.5	+0.5	
TOA0	**Torodi Ar. Sit**	**165.95 266**	*e*	PKPdf	**PKPdf**	01 32 27.0	-0.1	
TOA0			*e*	PKPab	**PKPab**	01 33 28.1	-0.2	
TORD	**Torodi Ar. Bea**	**165.95 266**		PKP	**PKPdf**	01 32 26.8	-0.3	
	comp=Z,1.6nm,0.9s,baz=1.6,slow=0.6,SNR=12							
TORD				PKPab	**PKPab**	01 33 28.4	+0.1	
	comp=Z,6.1nm,0.9s,baz=95,slow=3.3,SNR=18							
TORD				PP	**PP**	01 37 20.5	+4.1	
	comp=Z,1.6nm,1.2s,baz=106,slow=5.4,SNR=3.5							

CSEM **02** *01:15:26.5±1.5, 49.93N×18.65E, h1km, Error ellipse: s-maj=22.4km s-min=18.5km az=121.0*

PRU 02 01:15:27.3, 49.84N×18.61E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
OKC	**Ostrava-Krasne**	**0.30**	**270**	*e*Pg	Pg	01	15 32.8	-0.3
OKC				*e*Sg	Sg	01	15 35.9	-1.1
OKC	**Ostrava-Krasne**	**0.30**	**270**	Pg	Pg	01	15 32.8	-0.3
OKC				Sg	Sg	01	15 35.9	-1.1
MORC	**Moravsky Berou**	**0.69**	**265**	*e*Pg	Pg	01	15 41.3	+0.6
MORC				*e*Sg	Sg	01	15 50.2	+0.4
KRLC	**Kraliky**	**1.20**	**282**	*e*PG	Pg	01	15 50.4	-0.1
KRLC				*e*SG	Sg	01	16 06.6	+0.4
KRLC	**Kraliky**	**1.20**	**282**	Pg	Pg	01	15 50.4	-0.1
KRLC				Sg	Sg	01	16 06.6	+0.4
VRAC	**Vranov**	**1.42**	**249**	*e*Sg	Sg	01	16 12.7	-0.2
DPC	**Dobruska-Polom**	**1.56**	**290**	*e*PG	Pn	01	15 55.1	-1.3
DPC				*e*SG	Sn	01	16 17.1	-0.2
DPC	**Dobruska-Polom**	**1.56**	**290**	Pg	Pn	01	15 55.1	-1.3
DPC				Sg	Sn	01	16 17.1	-0.2

NIED **02** *01:19:00, 44.60N×148.80E, h53km, Mw4.0 Best double couple: M₀1.33000×10¹⁵ NP1:φs172.00000°, δ34.00000°, λ45.00000°. NP2:φs42.00000°, δ67.00000°, λ115.00000°.*
SKHL **02** *01:19:45.6±0.3, 44.50N×149.10E, h60km±5km, mb5.0/8*
ISCJB **02** *01:19:45.7±0.8, 44.41N±0.04×148.88E±0.07, h62km±7km, mb4.1/21, Error ellipse: s-maj=9.1km s-min=5.5km az=34.2*
MOS **02** *01:19:46.6±1.3, 44.65N×148.66E, h66km, mb4.3/12, Error ellipse: s-maj=13.1km s-min=8.8km az=89.8*
JMA **02** *01:19:46.1±0.4, 44.63N×148.83E, h30km, M4.8*
IDC **02** *01:19:48.5±3.4, 44.60N×148.83E, h73km±29km, mb3.7/14, mb1 3.9/17, mb1mx3.7/53, mbtmp4.0/17, MS2.9/6, Ms1 2.9/6, ms1mx2.7/38, Error ellipse: s-maj=22.2km s-min=14.3km az=136.0*

ISC 02 01:19:46.0±1.3, 44.42N±0.05×148.93E±0.07, h52km±11km, n118, σ1s56/120, mb4.0/21, 4C-10D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
**KUR

ILAR	**Eielson Array**	**40.19**	**37**	P		**P**	**01 27 16.6**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=270,slow=8.5,SNR=5.8							
ILAR	**Eielson Array**	**40.19**	**37**	P		**P**	**01 27 16.6**	**-0.2**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ZALV	**Zalesovo Beam**	**41.62**	**307**	PcP		**PcP**	**01 29 24.6**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=104,slow=2.4,SNR=6.4							
KURK	**Kurchatov**	**46.22**	**304**	P		**P**	**01 28 05.1**	**-0.5**
KURK							01 29 40.4	
KURK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
KURK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
KURBB	**Kurchatov Arra**	**46.30**	**304**	P		**P**	**01 28 05.1**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=74,slow=8.6,SNR=5.5							
KURBB				PcP		**PcP**	**01 29 40.4**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=77,slow=3.5,SNR=9.6							
CMAR	**Chiang Mai Arr**	**48.94**	**255**	P		**P**	**01 28 27.9**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=39,slow=6.8,SNR=5.0							
CMAR	**Chiang Mai Arr**	**48.94**	**255**	*e*P		**P**	**01 28 28.4**	**+1.2**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**48.94**	**255**	*e*P		**P**	**01 28 28.4**	**+1.2**
RES	**Resolute Bay**	**53.95**	**17**	P		**P**	**01 29 03.0**	**-0.8**
	comp=Z,1.3nm,0.4s,baz=317,slow=5.7,SNR=3.7							
RES	**Resolute Bay**	**53.95**	**17**	P		**P**	**01 29 03.0**	**-0.8**
RES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
NEW	**Newport**	**60.92**	**50**	P		**P**	**01 29 54.2**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=291,slow=8.6,SNR=3.6							
NEW	**Newport**	**60.92**	**50**	P		**P**	**01 29 54.2**	**+0.8**
NEW				pmax	pmax			
	comp=Z,1.0nm,0.6s							
FFC	**Flin Flon**	**64.39**	**37**	*e*P		**P**	**01 30 17.2**	**+0.9**
FINES	**FINESS Array B**	**64.85**	**334**	P		**P**	**01 30 18.1**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=42,slow=6.5,SNR=3.9							
FINES	**FINESS Array B**	**64.85**	**334**	P		**P**	**01 30 18.1**	**-1.1**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
WRA	**Warramunga Arr**	**65.42**	**195**	P		**P**	**01 30 23.6**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=14,slow=6.8,SNR=7.1							
WRA	**Warramunga Arr**	**65.42**	**195**	*e*P		**P**	**01 30 24.5**	**+1.2**
WRA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
WRA	**Warramunga Arr**	**65.42**	**195**	*e*P		**P**	**01 30 24.5**	**+1.2**
OBN	**Obninsk**	**65.53**	**324**	*i* P		**P**	**01 30 22.6**	**-1.0**
OBN				pmax	pmax			
	comp=Z,5.0nm,0.8s							
OBN	**Obninsk**	**65.53**	**324**	*e*P		**P**	**01 30 22.6**	**-1.0**
NVAR	**Mina Array Bea**	**66.14**	**59**	P		**P**	**01 30 28.5**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=291,slow=7.7,SNR=6.7							
PDAR	**Pinedale Array**	**68.50**	**51**	P		**P**	**01 30 42.9**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=312,slow=2.5,SNR=5.3							
ASAR	**Alice Springs**	**69.14**	**195**	P		**P**	**01 30 48.1**	**+1.3**
	comp=Z,0.8nm,0.6s,baz=12,slow=5.8,SNR=7.2							
ASAR	**Alice Springs**	**69.14**	**195**	P		**P**	**01 30 48.1**	**+1.3**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
NOA	**NORSAR Array B**	**69.43**	**340**	P		**P**	**01 30 47.3**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=42,slow=6.7,SNR=7.5							
NOA				LR		LR	02 04 28.8	
	comp=Z,6.6nm,19.2s,baz=20,slow=39							
NOA	**NORSAR Array B**	**69.43**	**340**	P		**P**	**01 30 47.3**	**-1.0**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
NOA				MLR	MLR			
	comp=Z,7.0nm,19.3s							
ULM	**Lac du Bonnet**	**70.19**	**38**	P		**P**	**01 30 52.3**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=331,slow=8.6,SNR=6.2							
ULM	**Lac du Bonnet**	**70.19**	**38**	*e*P		**P**	**01 30 53.7**	**+0.7**
ULM				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ULM	**Lac du Bonnet**	**70.19**	**38**	*e*P		**P**	**01 30 53.7**	**+0.7**
BURAR	**Bucovina Array**	**75.85**	**325**	⇑*i*P		**P**	**01 31 26.8**	**+0.1**
STHS	**Stebnicka Huta**	**75.99**	**328**	*e*		**P**	**01 31 28.0**	**+0.7**
SCHQ	**Schefferville**	**76.56**	**20**	P		**P**	**01 31 28.9**	**-1.5**
	comp=Z,1.1nm,0.6s,baz=338,slow=5.4,SNR=3.4							
MORC	**Moravsky Berou**	**77.06**	**330**	⇓*i*P		**P**	**01 31 33.5**	**+0.1**
MLR	**Muntele Rosu**	**77.21**	**323**	⇑*i*P		**P**	**01 31 35.8**	**+1.3**
CLL	**Collm**	**77.30**	**333**	*i* P		**P**	**01 31 33.8**	**-0.9**
	comp=Z,5.0nm,0.5s							
BRG	**Berggiesshubel**	**77.37**	**333**	*e*P		**P**	**01 31 35.0**	**-0.1**
	comp=Z,3.8nm,1.2s							
DRGR		**77.53**	**325**	⇓*i*P		**P**	**01 31 38.0**	**+1.8**
VOIR		**77.64**	**323**	⇑*i*P		**P**	**01 31 37.9**	**+1.1**
PSZ	**Piszkesteto**	**77.73**	**328**	⇑*i*P		**P**	**01 31 39.7**	**+2.5**
KHC	**Kasperske Hory**	**78.98**	**332**	*e*PKPpre		**P**	**01 31 43.8**	**-0.3**
KHC	**Kasperske Hory**	**78.98**	**332**	*e*PKPpre		**P**	**01 31 43.3**	**-0.8**
GERES	**GERESS Array B**	**79.19**	**332**	*e*P		P	01 31 41.6	-3.7
GERES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
GERES	**GERESS Array B**	**79.19**	**332**	*e*P		P	01 31 41.6	-3.7
TXAR	**Lajitas Array**	**81.21**	**57**	P		**P**	**01 31 56.8**	**+0.3**
	comp=Z,2.0nm,0.6s,baz=297,slow=4.0,SNR=19							
TXAR	**Lajitas Array**	**81.21**	**57**	P		**P**	**01 31 56.8**	**+0.3**
TXAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
TORD	**Torodi Ar. Bea**	**115.42**	**324**	PKP		**PKPdf**	**01 38 21.2**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=11,slow=1.4,SNR=6.3							
BDFB	**Brasilia**	**147.92**	**32**	PKPbc		**PKPbc**	**01 39 25.3**	**-0.5**
	comp=Z,3.6nm,0.9s,baz=122,slow=2.3,SNR=4.4							
BDFB	**Brasilia**	**147.92**	**32**	PKP2		**PKPbc**	**01 39 25.3**	**-0.5**
BDFB				pmax	pmax			
	comp=Z,4.0nm,0.9s							

CASC 02 01:22:32.8±1.3, 13°.58N×90°.36W, h67km±10km, MD3.5, 2C-5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.60**	**352**⇑	*e*P	Pn	01 22 46.8	+0.1
IXG				*e*S	Sn	01 22 56.7	-0.1
SBLS	**San Blas**	**0.77**	**70**⇓	*e*P	Pn	01 22 48.7	+0.1
RTR	**El Retiro**	**0.77**	**65**	*e*P	Pn	01 22 48.6	+0.1
SNJE	**San Jose**	**0.79**	**68**⇓	*e*P	Pn	01 22 49.0	+0.1
RBDL	**Robledal**	**0.85**	**51**⇓	*i*P	Pn	01 22 49.1	-0.4
RBDL				*e*S	Sn	01 23 02.1	+0.2
NBG	**Las Nubes**	**1.01**	**1**⇓	*e*P	Pn	01 22 52.6	+1.0
NBG				*e*S	Sn	01 23 07.7	+2.1
BOQS	**Boqueron**	**1.07**	**81**	*e*P	Pn	01 22 52.3	0.0
BOQS				*e*S	Sn	01 23 08.3	+1.5
LFU	**La Fuente**	**1.23**	**82**	*e*P	Pn	01 22 54.3	+0.1
LFRS	**El Faro**	**1.27**	**88**	*e*P	Pn	01 22 55.0	+0.3
MTO2	**Montecristo 2**	**1.27**	**50**⇓	*i*P	Pn	01 22 54.1	-0.9
LBRS	**Las Brisas**	**1.29**	**83**	*e*P	Pn	01 22 55.2	+0.2
MRL	**Marmol**	**1.62**	**24**⇑	*i*P	Pn	01 22 59.2	-0.3
MRL				*e*S	Sn	01 23 16.8	-2.9

*IDC **02** 01:24:59.1±12.0, 36°.00N×71°.22E, h211km±73km, mb3.3/3, mb1 3.3/6, mb1mx2.9/48, mbtmp3.9/6, Error ellipse: s-maj=121.8km s-min=27.8km az=124.0*
*NNC **02** 01:25:09.2±1.3, 36°.85N×71°.03E, h230km±10km, mb2.7, mpv3.9, Error ellipse: s-maj=14.9km s-min=6.2km az=162.0*
ISC 02 01:25:02.7±2.2, 36°.4N±0°.2×70°.9E±0°.1, h188km, n21, σ1§81/21, mb3.6/3, 5C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.86**	**326**	⇓P	Pn	01 25 56.2	+6.1
	73nm,0.3s						
DZET				⇑S	Sn	01 26 33.9	+6.7
	455nm,0.6s						
SFK	**Sufi-Kurgan**	**4.14**	**30**	⇑P	**Pn**	**01 26 08.6**	**+2.7**
	14nm,0.4s						
SFK				⇓S	**Sn**	**01 26 56.6**	**+1.0**
	44nm,0.4s						
AML	**Almayashu**	**6.10**	**20**	P	**Pn**	**01 26 33.1**	**+1.8**
	SNR=40						
UCH	**Uchtor**	**6.44**	**25**	P	**Pn**	**01 26 37.8**	**+1.9**
	SNR=42						
KZA	**Kyzart**	**6.59**	**30**	P	**Pn**	**01 26 38.6**	**+0.8**
	SNR=13						
KK31	**Karatay Array**	**6.66**	**358**	⇓P	**Pn**	**01 26 40.9**	**+2.5**
	1.3nm,0.3s,baz=166,slow=11,SNR=48						
KK31				⇑S	**Sn**	**01 27 53.4**	**-0.7**
	12nm,0.5s,baz=183,slow=25,SNR=5.8						
AAK	**Ala-Archa**	**6.80**	**23**	P	**Pn**	**01 26 42.7**	**+2.4**
	SNR=7.0						
AAK	**Ala-Archa**	**6.80**	**23**	P	**Pn**	**01 26 42.6**	**+2.3**
AAK				S	**Sn**	**01 27 54.4**	**-3.1**
AAK	**Ala-Archa**	**6.80**	**23**	P	Pn	01 27 31.6	+51
	3.8nm,0.3s,baz=170,slow=5.7,SNR=12						
AAK				S	Sn	01 28 43.7	+46
	1.2nm,0.3s,baz=326,slow=20,SNR=6.2						
CHMS	**Chumysh**	**7.21**	**23**	P	**Pn**	**01 26 47.6**	**+2.1**
	SNR=5.5						
TKM2	**Tokmak 2**	**7.44**	**28**	P	**Pn**	**01 26 50.1**	**+1.4**
	SNR=5.9						
TKM2	**Tokmak 2**	**7.44**	**28**	⇑P	**Pn**	**01 26 49.7**	**+1.0**
GEYT	**Alibeck**	**10.27**	**282**	P	**Pn**	**01 27 26.4**	**+0.8**
	0.6nm,0.3s,baz=106,slow=11,SNR=5.5						
AB31	**Akbulak array**	**15.08**	**332**	⇓P	**Pn**	**01 28 26.7**	**+0.5**
	0.6nm,0.6s,baz=134,slow=11,SNR=9.2						
BVAR	**Borovoye Array**	**16.59**	**359**	P	**P**	**01 28 43.5**	**-0.2**
	0.4nm,0.3s,baz=173,slow=12,SNR=4.3						
BVAR	**Borovoye Array**	**16.59**	**359**	P	**P**	**01 28 43.5**	**-0.2**
AKTO	**Aktyubinsk**	**16.77**	**331**	⇑P	**P**	**01 28 46.4**	**+0.7**
	5.1nm,0.6s						
AKTO	**Aktyubinsk**	**16.77**	**331**	P	**Pn**	**01 28 46.8**	**+0.1**
	0.6nm,0.3s,baz=137,slow=11,SNR=27						
ARCES	**ARCESS Array B**	**41.16**	**338**	P	**P**	**01 32 26.5**	**-1.6**
	1.1nm,0.6s,baz=108,slow=7.7,SNR=2.5						
NOA	**NORSAR Array B**	**44.36**	**323**	P	**P**	**01 32 51.8**	**-2.2**
	0.9nm,0.8s,baz=97,slow=7.2,SNR=3.5						
TORD	**Torodi Ar. Bea**	**65.59**	**269**	P	P	01 35 22.7	-4.0
	0.7nm,0.5s,baz=49,slow=5.8,SNR=9.8						

*ISCJB **02** 01:26:58.4±0.8, 48°.3N±0°.2×148°.5E±0°.2, h350km, mb3.2/6, Error ellipse: s-maj=28.3km s-min=11.8km az=42.6*
*IDC **02** 01:27:02.2±2.5, 48°.27N×148°.43E, h379km±38km, mb2.9/6, mb1 3.2/8, mb1mx2.8/54, mbtmp3.7/8, Error ellipse: s-maj=37.2km s-min=24.5km az=173.0*
ISC 02 01:27:00.2±0.9, 48°.4N±0°.2×148°.5E±0°.2, h350km, n10, σ1§04/10, mb3.3/6, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**5.91**	**226**	P	**Pn**	**01 28 31.5**	**+1.5**
	baz=66,slow=10.0						
USRK	**Ussuriysk Ar.**	**12.17**	**256**	P	**P**	**01 29 43.2**	**-0.4**
	0.2nm,0.3s,baz=58,slow=11,SNR=5.2						
MAT	**Matsushiro**	**14.04**	**216**	P	**P**	**01 30 02.4**	**-1.9**
MJAR	**Matsushiro Arr**	**14.04**	**216**	P	**P**	**01 30 04.5**	**+0.2**
	1.3nm,0.3s,baz=16,slow=10,SNR=15						
ILAR	**Eielson Array**	**37.26**	**40**	P	**P**	**01 33 39.8**	**+0.6**
	0.5nm,0.7s,baz=270,slow=7.4,SNR=9.2						
RES	**Resolute Bay**	**50.27**	**18**	P	**P**	**01 35 21.6**	**+0.3**
	1.1nm,0.4s,baz=302,slow=6.1,SNR=4.1						
FINES	**FINESS Array B**	**61.20**	**332**	P	**P**	**01 36 38.5**	**+0.2**
	0.9nm,0.6s,baz=59,slow=8.7,SNR=5.1						
NOA	**NORSAR Array B**	**65.64**	**339**	P	**P**	**01 37 06.6**	**-0.7**
	0.4nm,0.6s,baz=20,slow=7.6,SNR=2.6						
PDAR	**Pinedale Array**	**66.25**	**52**	P	**P**	**01 37 11.8**	**+0.1**
	0.3nm,0.5s,baz=319,slow=4.0,SNR=2.9						
TXAR	**Lajitas Array**	**79.33**	**58**	P	**P**	**01 38 27.3**	**-0.7**
	0.2nm,0.5s,baz=294,slow=6.6,SNR=2.6						

*IDC **02** 01:33:41.7±2.3, 31°.54N×49°.36E, h0km, mb3.6/5, mb1 3.7/10, mb1mx3.4/37, mbtmp3.6/10, ML3.4/5, MS2.9/1, Ms1 2.9/1, ms1mx2.0/36, Error ellipse: s-maj=48.9km s-min=20.7km az=151.0*
*ISCJB **02** 01:33:43.5±0.5, 31°.51N±0°.04×49°.45E±0°.03, h25km, mb3.5/5, MS2.7/1, Error ellipse: s-maj=5.8km s-min=3.8km az=14.0*
*TEH **02** 01:33:44.7, 31°.55N×49°.50E, h11km, ML3.6*
*CSEM **02** 01:33:44.7, 31°.55N×49°.50E, h11km, ML3.6*
*ISN **02** 01:34:12.5±2.2, 32°.49N×46°.92E, h0km±12km, ML3.6*
ISC 02 01:33:44.6±0.7, 31°.50N±0°.04×49°.47E±0°.04, h25km, n61, σ0§97/68, mb3.8/5, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIR	**Pirpir**	**1.69**	**45**	*e*Pn	**Pn**	**01 34 10.8**	**-2.0**
IPIR				*e*Sn	**Sn**	**01 34 34.0**	**+0.1**
IPIR				*e*		01 34 34.1	
	comp=Z,13μm,0.2s						
IPIR	**Pirpir**	**1.69**	**45**	*e*Pn	**Pn**	**01 34 10.8**	**-2.0**
IPIR				*e*Sn	**Sn**	**01 34 34.0**	**+0.1**
IKFM	**Kafar-mosalman**	**2.44**	**326**	*e*Pn	**Pn**	**01 34 24.1**	**+1.2**
IKFM				*e*Sn	**Sn**	**01 34 52.9**	**+1.1**
IKFM	**Kafar-mosalman**	**2.44**	**326**	*e*Pn	**Pn**	**01 34 24.0**	**+1.2**
IKFM				*e*Sn	**Sn**	**01 34 52.9**	**+1.1**
IKLH	**Kolahrood**	**2.54**	**44**	*e*Pn	**Pn**	**01 34 25.6**	**+1.0**
IKLH				*e*		01 34 27.6	
	comp=Z,3μm,0.1s						
IKLH	**Kolahrood**	**2.54**	**44**	*e*Pn	**Pn**	**01 34 25.6**	**+1.0**
IKAZ	**Kazeroun**	**2.67**	**129**	*e*Pn	**Pn**	**01 34 27.8**	**+1.4**
IKAZ				*e*Sn	**Sn**	**01 34 58.8**	**+0.7**
IKAZ				*e*		01 35 27.8	
	comp=Z,2μm,0.2s						
IKAZ	**Kazeroun**	**2.67**	**129**	*e*Pn	**Pn**	**01 34 27.8**	**+1.4**
IKAZ				*e*Sn	**Sn**	**01 34 58.8**	**+0.7**
IZEF	**Zefreh**	**2.80**	**59**	*e*Pn	**Pn**	**01 34 28.7**	**+0.6**
IZEF				*e*		01 34 34.9	
	comp=Z,2μm,0.1s						
IZEF				*e*Sn	**Sn**	**01 35 01.3**	**+0.2**
IZEF	**Zefreh**	**2.80**	**59**	*e*Pn	**Pn**	**01 34 28.7**	**+0.6**
IZEF				*e*Sn	**Sn**	**01 35 01.3**	**+0.2**
NSR	**Nassriya**	**2.89**	**261**	*e*PN	x	01 34 40.2	
NSR				*e*SN	x	01 35 02.4	
NSR	**Nassriya**	**2.89**	**261**	*e*Pn	Pb	01 34 40.2	+4.7
	SNR=39						
NSR				*e*Sn	**Sn**	**01 35 02.4**	**-0.6**
	SNR=39						
IKOM	**Komasi**	**3.13**	**329**	*e*Pn	**Pn**	**01 34 33.9**	**+1.2**
IKOM				*e*		01 35 15.1	
	comp=Z,2μm,0.1s						
IKOM	**Komasi**	**3.13**	**329**	*e*Pn	**Pn**	**01 34 33.8**	**+1.2**
IBZA	**Bozab**	**3.25**	**336**	*e*Pn	**Pn**	**01 34 34.5**	**+0.2**
IBZA				*e*		01 35 17.8	
	comp=N,2μm,0.3s						
IBZA	**Bozab**	**3.25**	**336**	*e*Pn	**Pn**	**01 34 34.5**	**+0.2**
IBDR	**Badra**	**3.40**	**299**	*e*PG	x	01 34 35.4	
IBDR				*e*SG	x	01 34 50.9	
ISAD	**Sadrabad**	**3.62**	**82**	*e*Pn	**Pn**	**01 34 40.0**	**+0.6**
ISAD				*e*		01 34 41.1	
	comp=Z,1μm,0.1s						
ISAD	**Sadrabad**	**3.62**	**82**	*e*Pn	**Pn**	**01 34 40.0**	**+0.6**
ISRV	**Sarvestan**	**3.79**	**123**	*e*Pn	**Pn**	**01 34 43.5**	**+1.7**
ISRV				*e*		01 35 38.3	
	comp=Z,552nm,0.2s						
ISRV	**Sarvestan**	**3.79**	**123**	*e*Pn	**Pn**	**01 34 43.5**	**+1.7**
IR5	**Iran Long-Peri**	**3.82**	**14**	*e*Pn	**Pn**	**01 34 42.3**	**+0.3**
IR5	**Iran Long-Peri**	**3.82**	**14**	*e*Pn	**Pn**	**01 34 42.3**	**+0.3**
IRAZ	**Razeghan**	**3.91**	**6**	*e*Pn	**Pn**	**01 34 44.1**	**+0.8**
IRAZ				*e*		01 34 58.9	
	comp=Z,818nm,0.2s						
IRAZ	**Razeghan**	**3.91**	**6**	*e*Pn	**Pn**	**01 34 44.2**	**+0.8**
IVRN	**Varamin**	**3.97**	**28**	*e*Pn	**Pn**	**01 34 44.1**	**+0.2**
IVRN				*e*		01 34 44.6	
	comp=Z,943nm,0.1s						
IVRN	**Varamin**	**3.97**	**28**	*e*Pn	**Pn**	**01 34 44.2**	**+0.2**
IDHR	**Dehrash**	**4.11**	**322**	*e*Pn	**Pn**	**01 34 46.6**	**+0.7**
IDHR				*e*Sn	**Sn**	**01 35 32.9**	**-0.4**
IDHR				*e*		01 35 37.7	
	comp=Z,3μm,0.1s						
IDHR	**Dehrash**	**4.11**	**322**	*e*Pn	**Pn**	**01 34 46.7**	**+0.7**
IDHR				*e*Sn	**Sn**	**01 35 32.9**	**-0.4**
IR3	**Iran Long-Peri**	**4.17**	**18**	*e*Pn	**Pn**	**01 34 47.4**	**+0.5**
IR3	**Iran Long-Peri**	**4.17**	**18**	*e*Pn	**Pn**	**01 34 47.3**	**+0.5**
IMEH	**Mehriz**	**4.40**	**90**	*e*Pn	**Pn**	**01 34 50.9**	**+0.8**
IMEH				*e*		01 34 54.8	
	comp=Z,221nm,0.1s						
IMEH				*e*Sn	**Sn**	**01 35 39.8**	**-0.8**
IMEH	**Mehriz**	**4.40**	**90**	*e*Pn	**Pn**	**01 34 50.9**	**+0.8**
IMEH				*e*Sn	**Sn**	**01 35 39.8**	**-0.8**
IDMV	**Damavand**	**4.59**	**27**	*e*Pn	**Pn**	**01 34 52.5**	**-0.3**
IDMV	**Damavand**	**4.59**	**27**	*e*Pn	**Pn**	**01 34 52.5**	**-0.3**
BHD	**Baghdad**	**4.65**	**294**	*e*PN	x	01 34 53.2	
BHD				*e*SN	x	01 35 19.1	
BHD	**Baghdad**	**4.65**	**294**	*e*Pn	**Pn**	**01 34 53.2**	**-0.1**
	SNR=39						
BHD				*e*Sn	Sn	01 35 19.1	-27
	SNR=39						
ILAS	**Lasjerd**	**4.85**	**36**	*e*Pn	**Pn**	**01 34 56.0**	**-0.2**
ILAS				*e*		01 34 56.3	
	comp=Z,870nm,0.2s						
ILAS	**Lasjerd**	**4.85**	**36**	*e*Pn	**Pn**	**01 34 56.0**	**-0.2**
IGZV	**Ghazvin**	**4.91**	**7**	*e*Pn	**Pn**	**01 34 56.9**	**-0.2**
IGZV				*e*		01 35 24.8	
	comp=Z,249nm,0.3s						
IGZV	**Ghazvin**	**4.91**	**7**	*e*Pn	**Pn**	**01 34 56.9**	**-0.2**
IFIR	**Firoozkooh**	**4.96**	**33**	*e*Pn	**Pn**	**01 34 58.0**	**+0.2**
IFIR				*e*		01 34 59.0	
	comp=Z,785nm,0.1s						
IFIR	**Firoozkooh**	**4.96**	**33**	*e*Pn	**Pn**	**01 34 58.0**	**+0.2**
IBAF	**Bafgh**	**5.21**	**87**	*e*		01 35 02.2	
	comp=Z,167nm,0.1s						
IBAF				*e*Pn	**Pn**	**01 35 01.7**	**+0.6**
ISHM	**Shahmirzad**	**5.35**	**36**	*e*		01 35 06.0	
	comp=Z,617nm,0.1s						
ISHM				*e*Pn	**Pn**	**01 35 02.9**	**-0.2**
IALA	**Alasht**	**5.35**	**30**	*e*		01 35 04.9	
	comp=Z,780nm,0.1s						
IALA				*e*Pn	**Pn**	**01 35 03.8**	**+0.6**
IANJ	**Anjilo**	**5.43**	**42**	*e*		01 35 05.0	
	comp=Z,218nm,0.1s						
IANJ				*e*Pn	**Pn**	**01 35 03.5**	**-0.7**
IGLO	**Ghaloghah**	**6.17**	**35**	*e*Pn	**Pn**	**01 35 15.4**	**+1.1**
IGLO				*e*		01 35 21.2	
	comp=Z,293nm,0.1s						
RTB	**Rutbah**	**7.91**	**284**	*e*PN	x	01 35 38.1	
RTB				*e*SN	x	01 36 38.6	
RTB	**Rutbah**	**7.91**	**284**	*e*Pn	**Pn**	**01 35 38.1**	**+0.1**
	SNR=39						
RTB				*e*Sn	Sn	01 36 38.6	-28
	SNR=39						
GEYT	**Alibeck**	**9.58**	**46**	Pn	**Pn**	**01 36 02.0**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=239,slow=12,SNR=15						
GEYT				Sn	Sn	01 37 38.7	-9.1
	comp=Z,0.3nm,0.3s,baz=277,slow=23,SNR=4.0						
ASF	**Jabal al Asfar**	**10.71**	**277**	Pn	**Pn**	**01 36 13.9**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=101,slow=5.2,SNR=2.6						
EIL	**Elat**	**12.64**	**265**	Pn	**Pn**	**01 36 40.6**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=81,slow=13,SNR=2.4						
BRTR	**Keskin Array B**	**15.25**	**307**	Pn	**P**	**01 37 21.5**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=130,slow=13,SNR=2.9						
AKTO	**Aktyubinsk**	**19.96**	**16**	P	**P**	**01 38 14.8**	**0.0**
	comp=Z,0.2nm,0.3s,baz=204,slow=10.0,SNR=2.9						
AAK	**Ala-Archa**	**22.77**	**54**	LR	LR	01 48 03.4	
	comp=Z,28nm,19.4s,baz=206,slow=38						
KURBB	**Kurchatov Arra**	**28.79**	**40**	P	**P**	**01 39 41.1**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=268,slow=9.3,SNR=2.7						
FINES	**FINESS Array B**	**33.62**	**340**	P	**P**	**01 40 21.4**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=146,slow=9.7,SNR=6.0						
NOA	**NORSAR Array B**	**38.68**	**331**	P	**P**	**01 41 07.3**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=148,slow=8.4,SNR=2.5						
ARCES	**ARCESS Array B**	**40.42**	**347**	P	**P**	**01 41 21.0**	**+0.5**
	comp=Z,2.5nm,0.9s,baz=152,slow=8.2,SNR=3.2						
TORD	**Torodi Ar. Bea**	**47.41**	**258**	P	**P**	**01 42 17.8**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=61,slow=8.2,SNR=9.6						

KRSC 02 01:38:03.1±2.2, 49°.78N×160°.45E, h48km±20km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**2.87**	**308**	*e*P	Pn	01 38 49.8	+3.5
PAU				*e*S	Sn	01 39 23.4	+3.8
SKR	**Severo-Kuril's**	**2.93**	**290**	*e*P	Pn	01 38 49.1	+2.0
SKR				*e*S	Sn	01 39 22.0	+1.1
MTVR	**Mutnovka**	**3.06**	**333**	*e*P	Pn	01 38 53.1	+3.9
MTVR				*e*S	Sn	01 39 28.9	+4.2
ASAK	**Asacha**	**3.07**	**329**	*e*P	Pn	01 38 53.1	+3.9
SPN	**Mys Shipunski**	**3.34**	**356**	*e*P	Pn	01 38 56.2	+3.4
SPN				*e*S	Sn	01 39 34.3	+3.2
MIPR	**Malaya Ipel'ka**	**3.42**	**318**	*e*P	Pn	01 38 58.1	+4.2
UGLR	**Uglovaya**	**3.58**	**344**	*e*P	Pn	01 38 59.8	+3.5
SDLR	**Sedlovina**	**3.64**	**345**	*e*P	Pn	01 39 00.7	+3.6
SMAR	**Somma**	**3.64**	**344**	*e*P	Pn	01 39 01.1	+3.9
AVH	**Avacha**	**3.65**	**344**	*e*P	Pn	01 39 01.7	+4.5

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.62**	**266**	*e*S	**Sb**	**02 45 34.7**	**+0.8**
	baz=254						
TWD	**Chiawan**	**0.63**	**275**	P	**Pb**	**02 45 26.4**	**+1.0**
	baz=265						
ENA	**Nanau**	**0.63**	**309**	*i* P	**Pg**	**02 45 25.4**	**+0.5**
	baz=306						
ENA				S	**Sg**	**02 45 32.6**	**-0.8**
	baz=306						
NACB	**Ninganchiao**	**0.64**	**283**	*e*Pg	**Pb**	**02 45 25.8**	**+0.1**
NACB				*e*Sg	**Sb**	**02 45 35.4**	**+0.8**
TWC	**Suao**	**0.70**	**326**	*i* P	**Pg**	**02 45 26.1**	**-0.1**
	baz=327						
TWC				*e*S	**Sg**	**02 45 34.3**	**-1.2**
	baz=327						
JYNG	**Yonagunijimaku**	**0.74**	**55**	P	**Pg**	**02 45 27.5**	**+0.5**
JYNG				*e*S	**Sb**	**02 45 37.6**	**+0.2**
YOJ	**Yonaguni jima**	**0.80**	**57**	P	**Pb**	**02 45 28.8**	**+0.5**
YOJ				*e*S	**Sb**	**02 45 39.4**	**+0.4**
YOJ	**Yonaguni jima**	**0.80**	**57**	*e*Pg	**Pg**	**02 45 28.2**	**+0.2**
YOJ				*e*Sg	**Sg**	**02 45 37.0**	**-1.4**
YOJ				*e*Sn	**Sb**	**02 45 40.6**	**+1.5**
ESL	**Shilin**	**0.80**	**255**	P	**Pb**	**02 45 28.8**	**+0.4**
	baz=245						
EGS		**0.87**	**339**	P	**Pb**	**02 45 29.9**	**+0.2**
	baz=342						
EGS				*e*S	**Sb**	**02 45 41.4**	**+0.1**
	baz=342						
ILA	**Ilan**	**0.88**	**327**	*e*P	**Pb**	**02 45 30.5**	**+0.7**
	baz=328						
ILA				*e*S	**Sg**	**02 45 40.9**	**-0.3**
	baz=328						
TWE	**Neicheng**	**0.89**	**321**	*e*P	**Pb**	**02 45 30.2**	**+0.3**
	baz=322						
TWE				*e*S	**Sg**	**02 45 41.0**	**-0.5**
	baz=322						
ENTT	**Nioudou**	**0.89**	**313**	P	**Pb**	**02 45 30.5**	**+0.5**
	baz=312						
ENTT				*e*S	**Sg**	**02 45 41.1**	**-0.4**
	baz=312						
NNS	**Nan Shan**	**0.93**	**297**	P	**Pb**	**02 45 31.0**	**+0.4**
	baz=293						
WHF	**Hehuan Shan**	**0.94**	**277**	P	**Pb**	**02 45 31.3**	**+0.4**
	baz=271						
WHF				*e*S	**Sb**	**02 45 43.5**	**0.0**
	baz=271						
TWB1	**Santiao Chiao**	**1.01**	**345**	*e*P	**Pb**	**02 45 32.4**	**+0.4**
	baz=348						
TWB1				*e*S	**Sg**	**02 45 44.1**	**-1.3**
	baz=348						
EHY	**Hungye**	**1.02**	**240**	*e*P	**Pb**	**02 45 32.4**	**+0.2**
	baz=232						
TWT	**Tachien**	**1.03**	**283**	P	**Pn**	**02 45 33.8**	**+0.8**
	baz=277						
YHNB	**Yeheng**	**1.04**	**308**	*e*Pg	**Pb**	**02 45 32.5**	**-0.1**
YHNB				*e*Sg	**Sg**	**02 45 45.1**	**-1.2**
NSK	**Sanguang**	**1.06**	**308**	*i* P	**Pg**	**02 45 33.2**	**+0.1**
	baz=306						
NSK				S	**Sb**	**02 45 46.4**	**-0.3**
	baz=306						
WDT	**Danda**	**1.08**	**256**	P	**Pg**	**02 45 33.8**	**+0.3**
	baz=249						
YULB	**Yu-li**	**1.10**	**235**	*e*Pn	**Pb**	**02 45 33.1**	**-0.5**
YULB				*e*Sg	**Sb**	**02 45 43.1**	**-4.7**
TWF1	**Yuli**	**1.12**	**234**	*e*P	**Pb**	**02 45 34.0**	**+0.1**
	baz=226						
TWF1				*e*S	**Sg**	**02 45 49.1**	**+0.2**
	baz=226						
NWF	**Wu-fen Shan**	**1.14**	**336**	P	**Pb**	**02 45 34.0**	**-0.1**
	baz=338						
NWF				S	**Sb**	**02 45 48.2**	**-0.7**
	baz=338						
TWA	**Mucha**	**1.14**	**326**	P	**Pg**	**02 45 35.0**	**+0.4**
	baz=327						
TWA				S	**Sb**	**02 45 48.1**	**-0.9**
	baz=327						
TATO	**Taipei**	**1.19**	**323**	*e*Pn	**Pb**	**02 45 34.8**	**-0.2**
TATO				*e*Sg	**Sg**	**02 45 51.0**	**0.0**
SSLB	**Suanglung**	**1.24**	**259**	*e*Pn	**Pn**	**02 45 35.2**	**-0.5**
SSLB				*e*Sn	**Sb**	**02 45 51.1**	**-0.7**
CHKT	**Chengkung**	**1.25**	**222**	*e*P	**Pn**	**02 45 35.3**	**-0.4**
	baz=216						
SMLT	**Sun Moon Lake**	**1.27**	**264**	P	**Pb**	**02 45 36.9**	**+0.4**
	baz=258						
SMLT				*e*S	**Sb**	**02 45 51.6**	**-1.2**
	baz=258						
TYC	**Yuchr**	**1.31**	**265**	P	**Pb**	**02 45 37.3**	**+0.3**
	baz=259						
TYC				*e*S	**Sb**	**02 45 53.7**	**0.0**
	baz=259						
NSTT	**Nanjuang**	**1.31**	**298**	*e*P	**Pg**	**02 45 38.0**	**+0.2**
	baz=295						
NSTT				*e*S	**Sg**	**02 45 54.8**	**-0.1**
	baz=295						
TWS1	**Kuangyinshan**	**1.33**	**324**	*e*P	**Pb**	**02 45 37.8**	**+0.4**
	baz=324						
TWS1				*e*S	**Sg**	**02 45 55.6**	**+0.2**
	baz=324						
YUS	**Yu-Shan**	**1.33**	**247**	*e*P	**Pn**	**02 45 37.8**	**+0.4**
	baz=240						
YUS				*e*S	**Sb**	**02 45 54.6**	**-0.2**
	baz=240						
IRIF	**Iriomote-Funau**	**1.36**	**77**	P	**Pn**	**02 45 38.1**	**+0.8**
TWY	**Chenhua**	**1.39**	**334**	*e*P	**Pg**	**02 45 40.0**	**+0.7**
	baz=335						
HATJ	**Hateruma jima**	**1.39**	**88**	P	**Pg**	**02 45 39.6**	**+0.2**
TWQ1	**Liyutan**	**1.41**	**283**	*e*P	**Pg**	**02 45 40.0**	**+0.2**
	baz=279						
TWQ1				*e*S	**Sg**	**02 45 58.0**	**-0.1**
	baz=279						
ELDTW	**Lidau**	**1.43**	**235**	*e*P	**Pn**	**02 45 38.2**	**-0.2**
	baz=229						
NSY	**Sanyi**	**1.44**	**286**	*e*P	**Pg**	**02 45 41.4**	**+1.1**
	baz=282						
NSY				*e*S	**Sg**	**02 45 59.4**	**+0.3**
	baz=282						
ALS	**Alishan**	**1.45**	**249**	P	**Pb**	**02 45 40.0**	**+0.4**
	baz=244						
ALS				S	**Sn**	**02 45 57.9**	**+0.1**
	baz=244						
WNT	**Mingjian**	**1.47**	**265**	*e*S	**Sg**	**02 45 60.0**	**+0.1**
	baz=259						
CHN5	**Tsauling**	**1.53**	**254**	*i* P	**Pb**	**02 45 41.4**	**+0.6**
	baz=249						
CHN5				S	**Sb**	**02 46 01.2**	**+0.9**
	baz=249						
JKRS	**Kuro-shima**	**1.59**	**82**	P	**Pb**	**02 45 42.3**	**+0.4**
JKRS				*e*S	**Sb**	**02 46 02.8**	**+0.8**
WGK	**Gukeng**	**1.61**	**258**	*e*S	**Sg**	**02 46 03.9**	**-0.5**
	baz=253						
TWG	**Pinlang**	**1.64**	**223**	*e*Pn	**Pn**	**02 45 39.2**	**-1.9**
STYT	**Tauyuan**	**1.64**	**239**	*e*P	**Pb**	**02 45 42.5**	**-0.3**
	baz=233						
STYT				*e*S	**Sb**	**02 46 03.8**	**+0.4**
	baz=233						
TPUB	**Ta-pu**	**1.68**	**245**	*e*Pg	**Pn**	**02 45 42.9**	**+1.1**
TPUB				*e*Sg	**Sb**	**02 46 05.7**	**+1.2**
CHN4	**Tsaushan**	**1.69**	**247**	*e*P	**Pb**	**02 45 44.5**	**+0.9**
	baz=242						
CHN4				*e*S	**Sg**	**02 46 06.4**	**-0.5**
	baz=242						
WTP	**Ta-pu**	**1.71**	**243**	P	**Pb**	**02 45 44.1**	**+0.1**
	baz=238						
WTP				S	**Sb**	**02 46 06.7**	**+1.1**
	baz=238						
CHN2	**Minshiung**	**1.73**	**254**	*e*S	**Sg**	**02 46 07.9**	**-0.2**
	baz=249						
JIJ	**Ishigaki jima**	**1.73**	**78**	P	**Pn**	**02 45 42.6**	**+0.1**
JIJ				*e*S	**Sn**	**02 46 04.3**	**-0.2**
CHY	**Chiayi**	**1.78**	**253**	*e*S	**Sb**	**02 46 08.6**	**+1.2**
	baz=248						
TWK	**Hsinying**	**1.81**	**246**	P	**Pb**	**02 45 45.8**	**+0.2**
	baz=241						
TWK				S	**Sb**	**02 46 09.1**	**+0.8**
	baz=241						
CHN1	**Nanshi**	**1.81**	**243**	*e*P	**Pb**	**02 45 46.0**	**+0.3**
	baz=238						
CHN1				*e*S	**Sb**	**02 46 09.7**	**+1.4**
	baz=238						
SGST	**Jiashian**	**1.82**	**239**	*e*P	**Pb**	**02 45 46.8**	**+1.0**
	baz=234						
SGST				*e*S	**Sg**	**02 46 10.2**	**-1.0**
	baz=234						
WSF	**Szhu**	**1.92**	**259**	*e*S	**Sb**	**02 46 12.3**	**+0.8**
	baz=254						
JISG	**Ishigakijimahi**	**1.94**	**73**	P	**Pn**	**02 45 46.4**	**+1.2**
JISG				*e*S	**Sn**	**02 46 08.2**	**-1.2**
SSD	**Sandimen**	**1.98**	**230**	*e*P	**Pb**	**02 45 48.9**	**+0.4**
	baz=226						
SSD				*e*S	**Sb**	**02 46 12.7**	**-0.4**
	baz=226						
TWM1	**Shoushan**	**2.08**	**235**	*e*P	**Pb**	**02 45 51.5**	**+1.2**
	baz=231						
TWM1				*e*S	**Sg**	**02 46 19.5**	**-0.2**
	baz=231						
EAST	**Anshuo**	**2.10**	**219**	*e*P	**Pn**	**02 45 47.9**	**+0.3**
	baz=215						
SCZT	**Fangliau**	**2.25**	**223**	P	**Pb**	**02 45 52.5**	**-0.5**
	baz=219						
JTJ	**Tarama**	**2.29**	**74**	P	**Pn**	**02 45 51.3**	**+1.2**
TSEB	**Hengchuen, Pin**	**2.47**	**211**	*e*S	**Sn**	**02 46 24.1**	**+1.5**
	baz=209						
TWK1	**Hengchun**	**2.48**	**214**	*e*P	**Pn**	**02 45 53.6**	**+0.9**
	baz=210						
TWK1				*e*S	**Sn**	**02 46 23.1**	**+0.2**
	baz=210						
WDGT	**Dungji**	**2.52**	**253**	P	**Pn**	**02 45 54.6**	**+1.3**
	baz=249						
WDGT				*e*S	**Sn**	**02 46 24.2**	**+0.3**
	baz=249						
PNG	**Penghu**	**2.54**	**260**	*e*S	**Sn**	**02 46 24.7**	**+0.4**
	baz=257						
KNM	**Kinmen**	**3.53**	**277**	*e*S	**Sn**	**02 46 48.7**	**-0.2**
	baz=274						
KSRS	**Korea Array**	**14.23**	**19**	LR	LR	02 54 04.8	
	comp=Z,47nm,19.4s,baz=156,slow=37						
SONM	**Songino Array**	**26.91**	**336**	P	**P**	**02 50 51.9**	**-1.7**
	0.7nm,0.7s,baz=148,slow=10,SNR=4.9						
MK31	**Makanchi Array**	**39.15**	**316**	*e*P	**P**	**02 52 40.8**	**+0.8**
ZALV	**Zalesovo Beam**	**40.92**	**327**	P	P	02 52 50.2	-4.4
	0.5nm,0.3s,baz=117,slow=8.4,SNR=3.8						
KURK	**Kurchatov**	**42.86**	**320**	*e*P	**P**	**02 53 10.7**	**+0.2**
	5.1nm,1.4s						
COEN	**Coen**	**42.92**	**149**	*e*P	**P**	**02 53 11.2**	**-0.1**
WRA	**Warramunga Arr**	**45.26**	**164**	P	**P**	**02 53 29.2**	**-0.8**
	0.6nm,0.6s,baz=345,slow=8.8,SNR=4.3						
ASAR	**Alice Springs**	**48.73**	**166**	P	**P**	**02 53 57.9**	**+0.7**
	2.5nm,1.3s,baz=354,slow=13,SNR=6.5						
ABKAR	**Akbulak array**	**54.27**	**314**	*e*P	**P**	**02 54 38.1**	**-0.3**
STKA	**Stephens Creek**	**58.58**	**161**	P	**P**	**02 55 08.5**	**-0.6**
	0.4nm,0.4s,baz=311,slow=10.0,SNR=3.6						
FINES	**FINESS Array B**	**72.08**	**330**	LR	LR	03 31 33.7	
	comp=Z,33nm,19.2s,baz=76,slow=39						
NOA	**NORSAR Array B**	**78.83**	**332**	LR	LR	03 34 54.9	
	comp=Z,15nm,18.4s,baz=70,slow=38						

IDC 02 03:00:22.7±1.5, 25°.14S×178°.90W, h0km, mb4.2/4, mb1 4.5/4, mb1mx3.9/24, mbtmp4.2/4, Error ellipse: s-maj=71.5km s-min=31.1km az=177.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.50**	**272**	P	P	03 06 57.0	+1.7
	7.0nm,0.3s,baz=94,slow=10,SNR=15						
ASAR	**Alice Springs**	**42.84**	**262**	P	P	03 08 22.4	-0.4
	0.5nm,0.4s,baz=93,slow=7.6,SNR=18						
WRA	**Warramunga Arr**	**43.33**	**267**	P	P	03 08 25.2	-1.6
	2.0nm,0.4s,baz=104,slow=8.2,SNR=17						
TXAR	**Lajitas Array**	**90.24**	**58**	P	P	03 13 25.7	0.0
	0.4nm,0.8s,baz=214,slow=6.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**168.06**	**183**	PKPab	PKPab	03 21 39.0	-0.3
	0.3nm,0.8s,baz=200,slow=3.8,SNR=2.5						

MEX 02 03:00:31.3±0.4, 32°.44N×115°.31W, h9km±542nm, MD3.9, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.10**	**107**	*e*P	Pg	03 00 34.0	+0.3
MBIG				*i* S	Sg	03 00 35.2	-0.3
CBX	**Cerro Bola**	**1.15**	**264**	*e*P	Pb	03 00 50.2	-3.4
CBX				*e*S	Sg	03 01 03.9	-4.9

*MEX **02** 03:19:41.3±0.4, 14°.85N×89°.08W, h10km±85km, MD4.0*
*CASC **02** 03:19:44.5±1.1, 14°.95N×89°.65W, h1km±3km, MD3.8, ML3.4*

ISC 02 03:19:44.4±1.5, 14°.97N±0°.06×89°.55W±0°.05, h4km±12km, n16, σ1s39/22, 2D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRL	**Marmol**	**0.17**	**304**	⇓*i* P	**Pg**	**03 19 47.1**	**-0.6**
NBG	**Las Nubes**	**0.86**	**244**	⇓*e* P	**Pg**	**03 20 01.0**	**0.0**
NBG				*e*S	**Sg**	**03 20 13.2**	**+1.0**
RBDL	**Robledal**	**0.86**	**189**	*e*P	**Pg**	**03 20 00.5**	**-0.5**
RTR	**El Retiro**	**1.07**	**185**	*e*P	**Pb**	**03 20 04.6**	**-1.0**
RTR				*e*S	**Sn**	**03 20 20.8**	**-1.0**
SNJE	**San Jose**	**1.10**	**183**	*e*P	**Pb**	**03 20 05.0**	**-1.1**
SBLS	**San Blas**	**1.13**	**184**	*e*P	**Pb**	**03 20 05.5**	**-1.1**
BOQS	**Boqueron**	**1.26**	**168**	*e*P	**Pn**	**03 20 08.4**	**-0.5**
LFU	**La Fuente**	**1.29**	**161**	*e*P	**Pb**	**03 20 09.1**	**-0.1**
LFU				*i* S	**Sg**	**03 20 27.5**	**+1.7**
SNET	**Serv Nac Est T**	**1.31**	**167**	*e*P	**Pb**	**03 20 09.5**	**-0.2**
SNET				AML	AML	03 20 40.0	
	comp=Z,7056nm,0.6s						
LBRS	**Las Brisas**	**1.32**	**158**	*e*P	**Pg**	**03 20 09.8**	**+0.1**
LBRS				*i* S	**Sg**	**03 20 28.6**	**+1.8**
LFRS	**El Faro**	**1.42**	**161**	*e*P	**Pn**	**03 20 10.7**	**-0.3**
SNVI	**San Vicente**	**1.52**	**153**	*e*P	**Pg**	**03 20 13.4**	**0.0**
CAHU	**Cacacuatique**	**1.76**	**133**	*e*P	**Pb**	**03 20 17.0**	**-0.3**
VSM	**San Miguel**	**1.97**	**141**	*e*P	**Pb**	**03 20 20.2**	**-0.8**
CCIG	**Comitan**	**2.81**	**298**	*e*P	**Pn**	**03 20 30.3**	**0.0**
CCIG				*e*S	**Sb**	**03 21 08.3**	**-2.0**
PCIG		**3.62**	**282**	*i* P	**Pn**	**03 20 40.8**	**-0.3**
PCIG				*i* S	**Sn**	**03 21 28.5**	**+4.2**

*IDC **02** 03:21:39.3±1.4, 51°.37N×177°.71W, h0km, mb3.2/4, mb1 3.6/4, mb1mx3.3/38, mbtmp3.2/4, Error ellipse: s-maj=72.1km s-min=31.5km az=147.0*
*ISCJB **02** 03:21:45.0±0.7, 51°.22N±0°.08×177°.41W±0°.05, h45km, mb3.5/3, Error ellipse: s-maj=11.2km s-min=4.0km az=168.9*
*NEIC **02** 03:21:45.2, 51°.25N×177°.43W, h26km, ML3.4(AEIC), After AEIC.*

ISC 02 03:21:46.6±0.9, 51°.3N±0°.1×177°.44W±0°.04, h45km, n37, σ0s86/35, mb3.5/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAFL	**Tanaga Flats**	**0.51**	**326**	P	**Pn**	**03 21 56.9**	**-0.9**
TAPA	**Tanaga Point A**	**0.54**	**334**	P	**Pn**	**03 21 57.5**	**-0.6**
KIKV	**Kanaga Island**	**0.57**	**17**	P	**Pn**	**03 21 58.1**	**-0.4**
KICM	**Kanaga Island**	**0.61**	**14**	P	**Pn**	**03 21 58.8**	**-0.1**
KIRH	**Kanaga Island**	**0.61**	**21**	P	**Pn**	**03 21 58.8**	**-0.2**
TASE	**Tanaga Southea**	**0.63**	**324**	P	**Pn**	**03 21 58.8**	**-0.5**
TAFP	**Tanaga Falls P**	**0.66**	**329**	P	**Pn**	**03 21 59.0**	**-0.7**
TANO	**Tanaga North**	**0.72**	**324**	P	**Pn**	**03 22 00.1**	**-0.3**
ADAG	**Mount Adagdak**	**0.83**	**38**	P	**Pn**	**03 22 02.3**	**+0.3**
ETKA	**Kagalaska Isla**	**0.83**	**50**	P	**Pn**	**03 22 01.4**	**-0.6**
ETKA				S	**Sn**	**03 22 13.2**	**+0.1**
GAEA	**Gareloi East**	**0.93**	**299**	P	**Pn**	**03 22 02.8**	**-0.5**
GALAA	**Gareloi Lava P**	**0.94**	**298**	P	**Pn**	**03 22 02.9**	**-0.5**
GANE	**Gareloi Northe**	**0.97**	**301**	P	**Pn**	**03 22 03.3**	**-0.5**
GSCK	**Great Sitkin C**	**1.04**	**49**	P	**Pn**	**03 22 04.9**	**0.0**
GSTD	**Great Sitkin T**	**1.08**	**48**	P	**Pn**	**03 22 05.4**	**0.0**
GSTD				S	**Sn**	**03 22 19.9**	**+0.6**
GSMY	**Great Sitkin M**	**1.12**	**50**	P	**Pn**	**03 22 05.8**	**0.0**
GSTR	**Great Sitkin T**	**1.15**	**48**	*e*Pn	**Pn**	**03 22 06.3**	**+0.1**
CERAA	**Semis' Rag'd T**	**1.88**	**289**	P	**Pn**	**03 22 16.3**	**0.0**
CESW	**Semis' Southwe**	**1.96**	**288**	P	**Pn**	**03 22 16.8**	**-0.5**
CEAP	**Semis' Anvil P**	**1.98**	**291**	P	**Pn**	**03 22 17.8**	**+0.2**
AMKA	**Amchitka**	**2.04**	**273**	P	**Pn**	**03 22 17.4**	**-1.1**
ATKA	**Atka Island**	**2.19**	**65**	P	**Pn**	**03 22 20.0**	**-0.5**
ATKA				S	**Sn**	**03 22 47.7**	**+1.3**
LSPA	**Little Sitkin**	**2.56**	**286**	P	**Pn**	**03 22 26.2**	**+0.6**
LSPA				S	**Sn**	**03 22 58.9**	**+3.4**
LSSA	**Little Sitkin**	**2.60**	**285**	P	**Pn**	**03 22 26.5**	**+0.4**
LSNW	**Little Sitkin**	**2.60**	**286**	P	**Pn**	**03 22 26.6**	**+0.5**
NIKH	**Nikolski High**	**5.53**	**69**	P	**Pn**	**03 23 07.5**	**+1.2**
ILAR	**Eielson Array**	**20.75**	**38**	P	**P**	**03 26 22.6**	**-0.5**
	0.1nm,0.4s,baz=228,slow=9.5,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**33.87**	**207**	T	T	04 04 40.7	
	baz=18,slow=76,SNR=140						
H11N3	**WAKE ISLAND Hy**	**33.87**	**207**	T	T	04 04 46.5	
	baz=18,slow=76,SNR=127						
H11N1	**WAKE ISLAND Hy**	**33.88**	**207**	T	T	04 04 52.2	
	baz=18,slow=76,SNR=118						
H11S1	**WAKE ISLAND Hy**	**35.08**	**207**	T	T	04 06 25.3	
	baz=18,slow=76,SNR=73						
H11S2	**WAKE ISLAND Hy**	**35.10**	**207**	T	T	04 06 26.6	
	baz=18,slow=76,SNR=60						
H11S3	**WAKE ISLAND Hy**	**35.10**	**207**	T	T	04 06 19.2	
	baz=18,slow=76,SNR=41						
PDAR	**Pinedale Array**	**45.51**	**73**	P	**P**	**03 30 02.1**	**+0.5**
	0.5nm,0.7s,baz=308,slow=4.4,SNR=4.9						
TXAR	**Lajitas Array**	**57.81**	**82**	P	**P**	**03 31 33.2**	**-0.3**
	0.2nm,0.6s,baz=313,slow=7.1,SNR=2.7						
ASAR	**Alice Springs**	**86.04**	**224**	P	**P**	**03 34 21.6**	**-0.5**
	0.3nm,0.6s,baz=21,slow=6.4,SNR=4.6						
TORD	**Torodi Ar. Bea**	**115.79**	**1**	PKP	**PKPdf**	**03 40 22.8**	**-1.4**
	0.3nm,0.9s,baz=4.5,slow=1.7,SNR=5.0						

*ISCJB **02** 03:27:08.1±0.3, 32°.91N±0°.02×116°.22W±0°.02, h12km±2km, Error ellipse: s-maj=3.0km s-min=2.5km az=149.9*
*MEX **02** 03:27:08.4±0.8, 33°.06N×116°.36W, h16km±49km, MD3.8*
*ECX **02** 03:27:09.4±0.6, 32°.87N×116°.23W, h5km, MD3.3, ML3.5*
*NEIC **02** 03:27:09.1, 32°.87N×116°.23W, h10km, ML3.5(ECX), ML3.5(PAS), After PAS.*
NEIC Felt [II] at Campo. Also felt at Alpine, El Cajon, El Centro, Fallbrook, Julian, La Mesa, Ramona, San Diego, Santee, Solana Beach, Spring Valley, Temecula, Vista and Yucca Valley.

ISC 02 03:27:08.5±0.8, 32°.88N±0°.02×116°.22W±0°.02, h15km±5km, n53, σ1s09/90, 7C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBKC	**Canebrake**	**0.03**	**300**	⇓*i* P	**Pg**	**03 27 10.9**	**-0.2**
MONP	**Monument Peak**	**0.17**	**272**	P	**Pg**	**03 27 12.4**	**-0.4**
	baz=0.2						
MONP				S	**Sg**	**03 27 15.4**	**-0.3**
	baz=0.2						
MONP	**Monument Peak**	**0.17**	**272**	⇑*i* P	**Pg**	**03 27 12.8**	**0.0**
CRR	**Carrizo Plain**	**0.21**	**89**	⇑*i* P	**Pg**	**03 27 13.2**	**0.0**
IBP	**Imperial Bould**	**0.25**	**154**	P	**Pg**	**03 27 13.5**	**-0.4**
	baz=0.2						
RMX	**La Rumorosa**	**0.30**	**157**	⇓*e* P	**Pg**	**03 27 14.6**	**-0.4**
RMX				*e*S	**Sg**	**03 27 19.1**	**-0.2**
YUH	**Yuha Desert**	**0.34**	**133**	⇓*i* P	**Pg**	**03 27 15.3**	**-0.2**
SWSC	**Sam W. Stewart**	**0.36**	**81**	P	**Pg**	**03 27 15.5**	**-0.3**
	baz=0.4						
SWSC				S	**Sg**	**03 27 20.9**	**+0.1**
	baz=0.4						
SWSC	**Sam W. Stewart**	**0.36**	**81**	⇓*i* P	**Pg**	**03 27 15.8**	**0.0**
BORC	**Borrego Spring**	**0.42**	**337**	⇓*i* P	**Pg**	**03 27 16.9**	**0.0**
WESC	**Westside Schoo**	**0.43**	**107**	⇑*i* P	**Pg**	**03 27 17.5**	**+0.4**
WESC				*e*S	**Sg**	**03 27 23.8**	**+0.9**
BAR	**Barrett**	**0.43**	**242**	⇑*i* P	**Pg**	**03 27 17.0**	**-0.2**
BAR				*i* S	**Sg**	**03 27 22.8**	**-0.3**
SDRC	**San Diego Road**	**0.63**	**257**	⇑*i* P	**Pg**	**03 27 20.3**	**-0.5**
DREC	**Desert Rsrch C**	**0.66**	**97**	*e*P	**Pg**	**03 27 21.7**	**+0.4**
CBX	**Cerro Bola**	**0.68**	**213**	*i* P	**Pg**	**03 27 21.3**	**-0.5**
CBX				*i* S	**Sg**	**03 27 30.5**	**-0.4**
CBX	**Cerro Bola**	**0.68**	**213**	*i* P	**Pg**	**03 27 21.3**	**-0.5**
CBX				*i* S	**Sg**	**03 27 30.5**	**-0.4**
CBX	**Cerro Bola**	**0.68**	**213**	⇑*e* P	**Pg**	**03 27 21.4**	**-0.5**
CBX				*e*S	**Sg**	**03 27 30.5**	**-0.4**
CBX				⇓*e*		03 27 31.1	
CBX				IAML		03 27 31.1	
	comp=N,3μm,0.4s						
CBX				⇓*e*		03 27 31.6	
CBX				IAML		03 27 31.6	
	comp=E,2μm,0.3s						
109C	**Camp Elliot, M**	**0.74**	**271**	P	**Pg**	**03 27 22.2**	**-0.8**
	baz=0.7						
109C				S	**Sg**	**03 27 31.9**	**-0.9**
	baz=0.7						
PFO	**Pinyon Flat Ob**	**0.75**	**345**	P	**Pg**	**03 27 22.9**	**-0.3**
	baz=0.8						
PFO				S	**Sg**	**03 27 32.7**	**-0.3**
	baz=0.8						
PFO	**Pinyon Flat Ob**	**0.75**	**345**	*e*Pg	**Pg**	**03 27 22.6**	**-0.5**
PFO				*e*Sg	**Sg**	**03 27 33.1**	**+0.1**
CPBX	**Cerro Prieto**	**0.90**	**121**	*e*P	**Pg**	**03 27 26.1**	**+0.2**
CPBX				*i* S	**Sn**	**03 27 39.9**	**+0.4**
CPBX	**Cerro Prieto**	**0.90**	**121**	*e*P	**Pg**	**03 27 25.4**	**-0.6**
CPBX				*e*S	**Sg**	**03 27 37.1**	**-0.7**
CPBX				IAML		03 27 42.6	
	comp=N,4μm,0.2s						
CPBX				*e*		03 27 42.6	
CPBX				*e*		03 27 42.9	
CPBX				IAML		03 27 42.9	
	comp=E,5μm,0.1s						
RDX	**Rancho Dawling**	**0.98**	**166**	*e*P	**Pg**	**03 27 26.3**	**-1.2**
RDX				IAML		03 27 40.0	
	comp=N,757nm,0.2s						
RDX				⇓*e*		03 27 40.0	
MBIG	**Mexicali**	**0.98**	**119**	*i* P	**Pg**	**03 27 26.8**	**-0.7**
MBIG				*i* S	**Sb**	**03 27 41.3**	**+1.2**
BC3	**Big Chuckawall**	**1.00**	**40**	P	**Pb**	**03 27 26.4**	**-1.2**
	baz=1.0						
BC3				S	**Sg**	**03 27 39.0**	**-2.0**
	baz=1.0						
MURC	**Murrieta**	**1.09**	**311**	P	**Pb**	**03 27 28.7**	**-0.4**
	baz=1.1						
MURC				S	**Sb**	**03 27 42.9**	**-0.2**
	baz=1.1						
BELC	**Belle Mtn. Jos**	**1.13**	**9**	P	**Pb**	**03 27 28.7**	**-1.2**
	baz=1.1						
GLA	**Glamis**	**1.18**	**81**	P	**Pb**	**03 27 29.0**	**-1.7**

DAC					*e*Pg		**Pb**	**03 28 14.3**	**+2.8**
DAC					*e*Sg		**Sg**	**03 29 00.3**	**-2.9**
SHPR	**Sheep Range**	**3.72**	**13**	*e*Pn	**Pn**		**03 28 05.8**	**+0.2**
SHPR				*e*Sn	**Sn**		**03 28 51.1**	**+1.9**
SHPR				*e*Sg	**Sg**		**03 29 06.1**	**-1.8**
TUC	**Tucson**	**4.62**	**96**	*e*Pn	**Pn**		**03 28 17.8**	**-0.2**
TUC				*e*Pg	Pg		03 28 34.1	-2.9
TUC				*e*Sg	**Sb**		**03 29 29.4**	**+4.5**
TPH	**Tonopah**	**5.24**	**351**	*e*Pg	Pb		03 28 44.8	+4.7
	comp=N,5.2nm,0.8s								
TPH				*e*Sg	**Sg**		**03 29 55.0**	**-1.9**
121A	**Cookes Peak, D**	**7.12**	**91**	*e*Pn	**Pn**		**03 28 52.3**	**0.0**
	comp=N,5.3nm,0.4s								

IDC ***02*** *03:29:05.1±4.0, 0.°22N×97.°65E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/32, mbtmp3.8/5, ML4.4/1, Error ellipse: s-maj=144.7km s-min=23.5km az=62.0*
ISCJB ***02*** *03:29:11.0±0.7, 0.°59N±0.°05×98.°20E±0.°07, h29km, mb3.7/4, Error ellipse: s-maj=10.5km s-min=6.4km az=146.8*
DJA ***02*** *03:29:12.0±0.8, 0.°N±5.°×9.°8E±.°, h10km, M3.5/4, MLv3.5/4*
ISC 02 03:29:11.6±0.8, 0.°56N±0.°09×98.°17E±0.°09, h29km, n11, σ1s02/10, mb3.6/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.62**	**170**	P	**Pb**	**03 29 23.5**		**-0.5**
PBSI				S	**Sn**	**03 29 34.8**		**+1.3**
GSI	**Gunungsitoli**	**0.94**	**321**	P	**Pn**	**03 29 27.5**		**-1.4**
GSI				S	**Sb**	**03 29 42.4**		**+0.8**
MNSI	**Mandailing Nat**	**1.43**	**81**	P	Pb	03 29 41.8		+4.1
MNSI				S	**Sn**	**03 29 53.5**		**0.0**
CMAR	**Chiang Mai Arr**	**17.80**	**2**	P	**P**	**03 33 19.1**		**+1.1**
	0.5nm,0.3s,baz=198,slow=11,SNR=2.9							
H08S2	**Diego Garcia H**	**26.87**	**252**	T	T	04 02 02.0		
	baz=73,slow=75,SNR=327							
H08S3	**Diego Garcia H**	**26.87**	**252**	T	T	04 02 01.5		
	baz=73,slow=75,SNR=399							
H08S1	**Diego Carcia H**	**26.89**	**252**	T	T	04 02 01.2		
	baz=73,slow=75,SNR=512							
WRA	**Warramunga Arr**	**40.88**	**122**	P	**P**	**03 36 50.9**		**-0.6**
	0.4nm,0.6s,baz=300,slow=9.1,SNR=4.4							
ASAR	**Alice Springs**	**42.24**	**127**	P	**P**	**03 37 02.5**		**-0.1**
	0.6nm,0.8s,baz=300,slow=8.0,SNR=5.7							
SONM	**Songino Array**	**47.62**	**8**	P	**P**	**03 37 46.2**		**+1.0**
	0.6nm,0.5s,baz=184,slow=6.5,SNR=3.7							
ZALV	**Zalesovo Beam**	**54.34**	**350**	P	**P**	**03 38 35.1**		**-0.3**
	1.4nm,0.3s,baz=176,slow=8.1,SNR=5.2							

IDC 02 03:34:47.0±9.3, 14.°73S×174.°45W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/37, mbtmp3.7/3, MS3.4/2, Ms1 3.4/2, ms1mx2.8/25, Error ellipse: s-maj=417.1km s-min=34.0km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**24.60**	**196**	LR	LR		03 47 49.0	
	comp=Z,115nm,18.5s,baz=20,slow=32							
H11S2	**WAKE ISLAND Hy**	**37.88**	**330**	T	T		04 22 22.2	
	baz=149,slow=76,SNR=18							
H11S3	**WAKE ISLAND Hy**	**37.89**	**330**	T	T		04 22 21.2	
	baz=149,slow=76,SNR=21							
H11S1	**WAKE ISLAND Hy**	**37.89**	**330**	T	T		04 22 23.5	
	baz=149,slow=76,SNR=17							
H11N3	**WAKE ISLAND Hy**	**38.84**	**331**	T	T		04 23 30.3	
	baz=150,slow=76,SNR=46							
H11N1	**WAKE ISLAND Hy**	**38.84**	**331**	T	T		04 23 30.4	
	baz=150,slow=76,SNR=56							
H11N2	**WAKE ISLAND Hy**	**38.85**	**331**	T	T		04 23 31.7	
	baz=150,slow=76,SNR=55							
WRA	**Warramunga Arr**	**49.01**	**256**	P	P		03 43 35.5	-0.4
	0.3nm,0.9s,baz=91,slow=7.2,SNR=4.7							
ASAR	**Alice Springs**	**49.35**	**251**	P	P		03 43 38.6	+0.1
	3.9nm,0.7s,baz=84,slow=8.4,SNR=40							
ILAR	**Eielson Array**	**82.00**	**12**	P	P		03 47 08.4	0.0
	0.2nm,0.8s,baz=212,slow=5.4,SNR=4.2							
PDAR	**Pinedale Array**	**82.45**	**42**	LR	LR		04 19 03.6	
	comp=Z,16nm,19.0s,baz=117,slow=32							
BRTR	**Keskin Array B**	**145.00**	**321**	PKPbc	PKPab		03 54 25.2	-0.9
	1.5nm,1.0s,baz=36,slow=2.7,SNR=5.0							

KLM ***02*** *04:01:41.5, 3.°48N×95.°66E, h10km, mb4.4, ML4.2*
ISCJB ***02*** *04:01:46.9±0.4, 3.°83N±0.°05×95.°92E±0.°05, h50km, mb4.3/23, MS3.1/3, Error ellipse: s-maj=8.8km s-min=5.5km az=139.9*
NEIC ***02*** *04:01:49.7±0.9, 3.°85N×95.°95E, h60km±8km, mb4.5/9, Error ellipse: s-maj=10.2km s-min=5.7km az=64.0*
IDC ***02*** *04:01:49.0±0.7, 3.°91N×95.°94E, h51km±6km, mb3.9/17, mb1 4.0/19, mb1mx3.9/35, mbtmp4.2/19, MS3.1/5, Ms1 3.2/5, ms1mx2.8/33, Error ellipse: s-maj=18.7km s-min=12.8km az=45.0*
DJA ***02*** *04:01:50.3±6.1, 4.°N±8.°×9.°6E±2.°4, h37km±94km, M4.5/2, mb4.7/2, mB4.8/1, MLv4.3/2, Mw(mB)4.0/1*
ISC 02 04:01:48.6±0.4, 3.°83N±0.°05×95.°95E±0.°06, h50km, n59, σ1s07/56, mb4.2/23, MS3.2/3, 8C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**1.71**	**35**	P	**Pn**		**04 02 17.6**	**+1.5**
LHMI	**Lhok Sumawe**	**1.71**	**35**	*e*Pn	**Pn**		**04 02 17.3**	**+1.3**
GSI	**Gunungsitoli**	**2.98**	**147**	P	**Pn**		**04 02 33.8**	**+0.3**
GSI	**Gunungsitoli**	**2.98**	**147**	*e*Pn	**Pn**		**04 02 33.8**	**+0.3**
GSI				*e*Sn	**Sn**		**04 03 07.2**	**-0.9**
PSI	**Prapat**	**3.14**	**109**	P	**Pn**		**04 02 38.5**	**+2.8**
	8.8nm,0.3s,baz=310,slow=8.5,SNR=33							
PSI				S	**Sn**		**04 03 15.1**	**+3.1**
	12nm,0.3s,baz=283,slow=12,SNR=6.6							
PSI				LR	LR		04 04 08.9	
	comp=Z,264nm,18.1s,baz=26,slow=44							
PBSI	**Pulau Batu**	**4.50**	**149**	P	**Pn**		**04 02 55.0**	**+0.7**
KULM	**Kulim**	**4.91**	**73**	↑↑P	**Pn**		**04 03 00.6**	**+0.8**
KULM	**Kulim**	**4.91**	**73**	↑↑P	**Pn**		**04 03 00.6**	**+0.8**
KULM	**Kulim**	**4.91**	**73**	*e*Pn	**Pn**		**04 03 00.7**	**+0.8**
KULM				*e*Sn	**Sn**		**04 03 52.1**	**-3.3**
IPM	**Ipoh**	**5.10**	**83**	↑↑P	**Pn**		**04 03 02.6**	**0.0**
IPM	**Ipoh**	**5.10**	**83**	↑↑P	**Pn**		**04 03 02.6**	**0.0**
IPM	**Ipoh**	**5.10**	**83**	*e*Pn	**Pn**		**04 03 03.2**	**+0.6**
	41nm,0.3s							
KTGM	**Kuala Trenggan**	**7.32**	**78**	↑↑P	**Pn**		**04 03 33.5**	**+0.6**
KTGM	**Kuala Trenggan**	**7.32**	**78**	↑↑P	**Pn**		**04 03 33.5**	**+0.6**
KGM	**Kluang**	**7.58**	**104**	↑↑P	**Pn**		**04 03 34.9**	**-1.6**
KGM	**Kluang**	**7.58**	**104**	↑↑P	**Pn**		**04 03 34.9**	**-1.6**
CMAR	**Chiang Mai Arr**	**14.83**	**11**	P	**Pn**		**04 05 15.1**	**-0.3**
	1.2nm,0.3s,baz=203,slow=15,SNR=5.1							
CMAR				sP			04 05 31.6	
	1.1nm,0.3s,baz=201,slow=11,SNR=3.6							
CMAR				LR	LR		04 11 35.2	
	comp=Z,70nm,18.2s,baz=218,slow=40							
CHTO	**Chiang Mai**	**15.18**	**11**	*e*Pn	**Pn**		**04 05 21.4**	**+1.4**
	4.0nm,0.6s							
KKM	**Kota Kinabalu**	**20.31**	**83**	*e*P	**P**		**04 06 21.5**	**+0.8**
	17nm,0.6s							
KAPI	**Kappang**	**25.35**	**110**	P	**P**		**04 07 11.9**	**+0.7**
	5.9nm,0.5s,baz=277,slow=20,SNR=4.2							
H08S2	**Diego Garcia H**	**26.03**	**244**	T	T		04 33 33.0	
	baz=67,slow=76							
H08S3	**Diego Garcia H**	**26.03**	**244**	T	T		04 33 33.0	
	baz=67							
H08S1	**Diego Carcia H**	**26.05**	**244**	T	T		04 33 33.0	
	baz=67,slow=76							
BJT	**Baijiatuau**	**40.40**	**24**	*e*P	**P**		**04 09 22.4**	**+0.5**
	21nm,0.6s							
H01W3	**Cape Leeuwin H**	**42.13**	**158**	T	T		04 53 28.6	
	baz=332,slow=76,SNR=5.2							
H01W2	**Cape Leeuwin H**	**42.15**	**158**	T	T		04 53 28.0	
	baz=332,slow=76,SNR=6.1							
H01W1	**Cape Leeuwin H**	**42.15**	**158**	T	T		04 53 30.3	
	baz=332,slow=76,SNR=4.7							
AAK	**Ala-Archa**	**43.11**	**337**	LR	LR		04 28 34.8	
	comp=Z,34nm,20.0s,baz=192,slow=37							
KSAR	**Wonju Array Be**	**44.43**	**37**	P	**P**		**04 09 54.2**	**-0.5**
KSRS	**Korea Array**	**44.46**	**37**	P	**P**		**04 09 54.2**	**-0.7**
	1.0nm,0.5s,baz=220,slow=12,SNR=5.4							
KSRS				LR	LR		04 28 45.7	
	comp=Z,25nm,18.0s,baz=210,slow=36							
WRA	**Warramunga Arr**	**44.50**	**124**	P	**P**		**04 09 55.4**	**-0.1**
	1.4nm,0.6s,baz=302,slow=9.2,SNR=13							
WRAB	**Tennant Creek**	**44.50**	**124**	*e*P	**P**		**04 09 55.3**	**-0.2**
	4.5nm,0.7s							
SONM	**Songino Array**	**44.76**	**10**	P	**P**		**04 09 56.4**	**-0.9**
	6.6nm,0.6s,baz=189,slow=9.3,SNR=40							
SONM				PcP	**PcP**		**04 11 38.8**	**0.0**
	1.9nm,0.6s,baz=196,slow=3.6,SNR=8.2							
KKAR	**Karatay Array**	**45.16**	**334**	*e*P	**P**		**04 10 00.5**	**0.0**
	1.0nm,0.5s							
ASAR	**Alice Springs**	**45.98**	**128**	P	**P**		**04 10 07.3**	**+0.1**
	1.4nm,0.5s,baz=299,slow=7.7,SNR=36							
ASAR				PcP	**PcP**		**04 11 43.8**	**+0.4**
	0.5nm,0.7s,baz=331,slow=3.6,SNR=3.4							
KURK	**Kurchatov**	**48.95**	**345**	*e*P	**P**		**04 10 28.7**	**-1.1**
	2.7nm,0.5s							
MJAR	**Matsushiro Arr**	**50.65**	**44**	LR	LR		04 33 11.4	
	comp=Z,15nm,21.4s,baz=280,slow=37							
ZALV	**Zalesovo Beam**	**50.79**	**352**	P	**P**		**04 10 42.5**	**-1.2**
	8.5nm,0.5s,baz=179,slow=7.2,SNR=42							
USRK	**Ussuriysk Ar.**	**51.22**	**33**	P	**P**		**04 10 47.9**	**+0.8**
	0.6nm,0.3s,baz=241,slow=5.8,SNR=5.4							
ABKAR	**Akbulak array**	**54.62**	**332**	*e*P	**P**		**04 11 11.6**	**-0.6**
CTAO	**Charters Tower**	**54.80**	**118**	*e*P	**P**		**04 11 13.3**	**-0.7**
	47nm,1.7s							
KBZ	**Khabaz**	**61.29**	**319**	P	**P**		**04 12 00.2**	**+1.3**
	2.7nm,0.9s,baz=155,slow=3.7,SNR=5.4							
BR131	**Keskin Array S**	**66.44**	**312**	*e*P	**P**		**04 12 32.8**	**-0.3**
	2.0nm,0.8s							
BRTR	**Keskin Array B**	**66.44**	**312**	P	**P**		**04 12 32.2**	**-0.9**
	2.0nm,0.8s,baz=132,slow=7.8,SNR=11							
AKASG	**Malin Array Be**	**72.43**	**322**	P	**P**		**04 13 08.6**	**-1.1**
	0.2nm,0.3s,baz=85,slow=5.7,SNR=3.7							
BOSA	**Boshof**	**75.02**	**239**	P	**P**		**04 13 25.5**	**0.0**
	1.5nm,0.6s,baz=21,slow=3.1,SNR=4.9							
FINES	**FINESS Array B**	**77.11**	**332**	P	**P**		**04 13 35.5**	**-1.0**
	2.2nm,0.8s,baz=97,slow=6.1,SNR=7.1							
ARCES	**ARCESS Array B**	**79.66**	**340**	P	**P**		**04 13 49.8**	**-0.7**
	1.4nm,0.5s,baz=101,slow=6.9,SNR=19							
ARCES				pP	**pP**		**04 14 05.0**	**0.0**
	0.9nm,0.5s,baz=86,slow=6.3,SNR=14							
GERES	**GERESS Array B**	**82.03**	**319**	P	**P**		**04 14 03.8**	**+0.1**
	0.6nm,0.5s,baz=89,slow=6.8,SNR=7.9							
KEST	**Kesra**	**85.03**	**305**	P	**P**		**04 14 20.8**	**+1.4**
	1.8nm,0.7s,baz=148,slow=1.6,SNR=10							
KEST				pP	**pP**		**04 14 34.9**	**+1.0**
	1.1nm,0.8s,baz=98,slow=13,SNR=3.7							
TORD	**Torodi Ar. Bea**	**93.28**	**283**	P	**P**		**04 14 59.6**	**+0.8**
	0.2nm,0.5s,baz=107,slow=5.7,SNR=7.6							
ESDC	**Sonseca Array**	**95.19**	**310**	P	**P**		**04 15 07.8**	**+0.6**
	0.2nm,0.4s,baz=55,slow=5.4,SNR=3.1							
SNAA	**Sanae**	**96.38**	**198**	*e*P	**P**		**04 15 11.7**	**-0.2**
	13nm,1.6s							
PPT2	**Papeete2**	**114.47**	**107**	*e*LR	LR		04 22 03.0	
	244nm,28.0s							
ULM	**Lac du Bonnet**	**125.18**	**9**	PKP	**PKPdf**		**04 20 43.5**	**-0.3**
	1.8nm,0.6s,baz=244,slow=3.4,SNR=4.2							
NVAR	**Mina Array Bea**	**127.35**	**34**	PKP	**PKPdf**		**04 20 49.1**	**+0.5**
	0.5nm,0.6s,baz=231,slow=3.1,SNR=4.0							
TXAR	**Lajitas Array**	**142.03**	**28**	PKhKP	PKPpre		04 21 10.1	
	0.2nm,0.6s,baz=303,slow=4.3,SNR=2.4							
CPUP	**Villa Florida**	**146.00**	**226**	PKPbc	**PKPbc**		**04 21 23.8**	**+0.1**
	0.6nm,0.7s,baz=72,slow=5.6,SNR=3.4							
CPUP				pPKPbc	pPKPbc		04 21 38.0	-0.7
	1.8nm,0.8s,baz=110,slow=2.5,SNR=3.8							
CFAA	**Coronel Fontan**	**148.62**	**207**	PKPbc	**PKPbc**		**04 21 30.9**	**0.0**
	0.2nm,0.5s,baz=200,slow=5.6,SNR=5.9							

IDC ***02*** *04:12:58.6±1.5, 31.°52S×177.°80W, h0km, mb4.0/2, mb1 4.2/4, mb1mx3.8/32, mbtmp4.0/4, ML3.8/2, Error ellipse: s-maj=41.9km s-min=23.6km az=102.0*
ISC 02 04:13:03.4±1.6, 31.°6S±0.°1×178.°0W±0.°3, h35km, n7, σ1s86/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.34**	**1**	Pn	**Pn**		**04 13 37.6**	**-1.8**
	78nm,0.3s,baz=142,slow=18,SNR=7.3							
RAO				Sn	**Sn**		**04 14 06.6**	**-0.2**
	42nm,0.3s,baz=218,slow=19,SNR=2.6							
URZ	**Urewera**	**7.78**	**210**	Pn	**Pn**		**04 14 55.1**	**+1.0**
	0.5nm,0.3s,baz=342,slow=3.2,SNR=2.8							
URZ				Sn	**Sn**		**04 16 17.5**	**-3.5**
	0.6nm,0.3s,baz=158,slow=19,SNR=4.8							
ASAR	**Alice Springs**	**43.10**	**268**	P	**P**		**04 21 01.6**	**+1.2**
	0.4nm,0.3s,baz=104,slow=7.7,SNR=18							
WRA	**Warramunga Arr**	**44.20**	**273**	P	**P**		**04 21 10.7**	**+1.4**
	1.5nm,0.4s,baz=113,slow=7.9,SNR=17							
FINES	**FINESS Array B**	**146.28**	**339**	PKPbc	**PKPbc**		**04 32 39.7**	**+0.2**
	2.2nm,0.7s,baz=66,slow=3.5,SNR=9.5							
BRTR	**Keskin Array B**	**153.19**	**296**	PKPbc	**PKPbc**		**04 32 58.5**	**+0.9**
	0.4nm,0.6s,baz=97,slow=3.8,SNR=2.5							
TORD	**Torodi Ar. Bea**	**161.63**	**179**	PKPab	**PKPab**		**04 33 46.4**	**+0.4**
	0.2nm,0.5s,baz=169,slow=3.1,SNR=3.2							

CSEM ***02*** *04:24:33.1±0.2, 33.°95N×46.°06E, h2km, ML3.6, Error ellipse: s-maj=5.6km s-min=5.0km az=147.0*
ISN ***02*** *04:24:33.4±2.2, 33.°89N×46.°08E, h0km±9km, ML3.5*
TEH ***02*** *04:24:33.9, 33.°96N×46.°04E, h3km, ML3.6*
ISC 02 04:24:32.8±1.4, 33.°96N±0.°04×46.°02E±0.°04, h3km±11km, n32, σ0s88/35, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.80**	**22**	*e*Pg	**Pg**		**04 24 47.5**	**-0.7**
IDHR				*e*Sg	**Sg**		**04 24 58.2**	**-0.4**
IDHR				*e*			04 25 03.0	
	comp=Z,14μm,0.2s							
IDHR	**Dehrash**	**0.80**	**22**	*e*Pg	**Pg**		**04 24 47.5**	**-0.7**
IDHR				*e*Sg	**Sg**		**04 24 58.2**	**-0.4**
IBDR	**Badra**	**0.85**	**185**	*e*Pg	x		04 24 50.8	
IBDR				*e*Sg	x		04 25 03.0	
IKOM	**Komasi**	**1.25**	**80**	*e*Pg	**Pg**		**04 24 56.6**	**-0.2**
IKOM				*e*			04 25 19.4	
	comp=Z,14μm,0.4s							
IKOM	**Komasi**	**1.25**	**80**	*e*Pg	**Pg**		**04 24 56.7**	**-0.2**
BHD	**Baghdad**	**1.53**	**244**	*e*PN	x		04 25 02.8	
BHD				*e*Sn	x		04 25 21.0	
BHD	**Baghdad**	**1.53**	**244**	*e*Pn	**Pg**		**04 25 02.8**	**+0.7**
	SNR=39							
BHD				*e*Sn	**Sn**		**04 25 21.0**	**-0.3**
	SNR=3.0							
IKFM	**Kafar-mosalman**	**1.58**	**105**	*e*			04 25 03.7	
	comp=Z,99nm,0.2s							
IKFM				*e*Pn	**Pb**		**04 25 02.7**	**+0.1**
IKFM				*e*Sn	**Sg**		**04 25 23.8**	**+0.2**
IBZA	**Bozab**	**1.61**	**71**	*e*			04 25 07.3	
	comp=Z,9μm,0.1s							
IBZA				*e*Pn	**Pn**		**04 25 03.1**	**+0.8**
IBZA				*e*Sn	**Sb**		**04 25 25.0**	**+0.9**
IBZA	**Bozab**	**1.61**	**71**	*e*Pn	**Pn**		**04 25 03.1**	**+0.8**
IBZA				*e*Sn	**Sb**		**04 25 25.0**	**+0.9**
IKRK	**Kirkuk**	**2.00**	**317**	*e*Pn	x		04 25 08.0	
IKRK				*i* Sn	x		04 25 36.0	
NSR	**Nassriya**	**2.94**	**178**	*e*PN	x		04 25 21.2	
NSR				*e*SN	x		04 25 54.1	
NSR	**Nassriya**	**2.94**	**178**	*e*Pn	**Pn**		**04 25 21.2**	**+0.9**
	SNR=39							
NSR				*e*Sn	**Sn**		**04 25 54.1**	**-2.0**
	SNR=39							
IAZR	**Azarshahr**	**3.71**	**359**	*e*			04 26 47.8	
	comp=Z,3μm,0.4s							
HAKT	**HAKKARI**	**4.06**	**333**	*i* P	**Pn**		**04 25 35.5**	**-0.5**
HAKT				*i* S	**Sn**		**04 26 24.8**	**+0.7**
HAKT	**HAKKARI**	**4.06**	**333**	*i* P	**Pn**		**04 25 35.5**	**-0.5**
HAKT				*i* S	**Sn**		**04 26 24.8**	**+0.7**
IHRS	**Heris**	**4.43**	**10**	*e*Pn	**Pn**		**04 25 42.0**	**+0.9**
IHRS				*e*			04 27 01.8	
	comp=Z,524nm,0.5s							
IHRS	**Heris**	**4.43**	**10**	*e*Pn	**Pn**		**04 25 42.0**	**+0.9**
IKLH	**Kolahrood**	**4.68**	**96**	*e*Pn	**Pn**		**04 25 44.9**	**+0.3**
IKLH				*e*			04 25 48.8	
	comp=Z,335nm,0.2s							
IKLH	**Kolahrood**	**4.68**	**96**	*e*Pn	**Pn**		**04 25 44.8**	**+0.3**
IVRN	**Varamin**	**4.83**	**76**	*e*Pn	**Pn**		**04 25 46.3**	**-0.1**
IVRN				*e*			04 25 53.4	
	comp=Z,281nm,0.1s							
IVRN	**Varamin**	**4.83**	**76**	*e*Pn	**Pn**		**04 25 46.3**	**-0.1**
RTB	**Rutbah**	**4.86**	**261**	*e*PN	x		04 25 49.8	
RTB				*e*SN	x		04 26 43.8	
RTB	**Rutbah**	**4.86**	**261**	*e*Pn	Pn		04 25 49.8	+3.0
	SNR=39							
RTB				*e*Sn	**Sn**		**04 26 43.8**	**+0.1**
	SNR=39							
GEVA	**Gevas**	**4.96**	**332**	*i* P	**Pn**		**04 25 49.1**	**+0.8**
GEVA				*i* S	Sn		04 26 30.4	-16
GEVA	**Gevas**	**4.96**	**332**	*i* P	**Pn**		**04 25 49.1**	**+0.8**
IDMV	**Damavand**	**5.21**	**70**	*e*Pn	**Pn**		**04 25 52.4**	**+0.6**
IDMV				*e*			04 26 53.9	
	comp=Z,212nm,0.2s							
IDMV	**Damavand**	**5.21**	**70**	*e*Pn	**Pn**		**04 25 52.4**	**+0.6**
MARD	**Mardin**	**5.43**	**310**	*i* P	**Pn**		**04 25 53.8**	**-0.8**
MARD				*i* S	**Sn**		**04 26 55.0**	**-2.6**
BEST	**Besiri**	**5.50**	**317**	*i* P	Pn		04 25 50.7	-5.0
IKAZ	**Kazeroun**	**6.47**	**128**	*e*Pn	**Pn**		**04 26 08.3**	**-0.9**
IKAZ				*e*			04 27 31.6	
	comp=Z,413nm,0.2s							
IKAZ	**Kazeroun**	**6.47**	**128**	*e*Pn	**Pn**		**04 26 08.3**	**-0.9**

ISCJB ***02*** *04:27:58.6±0.6, 16.°61N±0.°08×94.°13W±0.°05, h150km, mb3.5/3, Error ellipse: s-maj=12.2km s-min=5.8km az=18.0*
IDC ***02*** *04:27:58.8±1.0, 16.°74N×94.°01W, h141km±17km, mb3.3/3, mb1 3.5/5, mb1mx3.1/32, mbtmp3.8/5, Error ellipse: s-maj=76.6km s-min=20.1km az=51.0*
MEX ***02*** *04:28:01.3±0.5, 16.°40N×94.°18W, h160km±12km, MD4.1*
ISC 02 04:27:59.2±0.8, 16.°6N±0.°1×94.°12W±0.°06, h150km, n11, σ0s78/17, mb3.5/3, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.87**	**303**	P	**Pn**		**04 28 22.6**	**-0.4**
	125nm,0.3s,baz=107,slow=7.5,SNR=1274							
CMIG				S	**Sn**		**04 28 39.8**	**-1.3**
	238nm,0.3s,baz=256,slow=19,SNR=68							
PCIG		**1.25**	**136**	*e*P	**Pn**		**04 28 26.9**	**+0.6**
PCIG				*i* S	**Sn**		**04 28 46.9**	**-0.1**
HUIG	**Huatulco**	**2.08**	**247**	*e*P	**Pn**		**04 28 35.0**	**-0.3**
HUIG				*e*S	**Sn**		**04 29 01.8**	**-1.3**
VHO	**Vista Hermosa**	**2.54**	**281**	*i* P	**Pn**		**04 28 42.8**	**+1.7**
VHO				*i* S	**Sn**		**04 29 13.8**	**+0.5**
PNIG	**Pinotepa**	**3.85**	**267**	*e*P	**Pn**		**04 28 58.0**	**+0.4**
PNIG				*e*S	**Sn**		**04 29 42.4**	**-0.3**
TLIG	**Tlapa**	**4.35**	**283**	*e*P	**Pn**		**04 29 04.6**	**+0.3**
TLIG				*i* S	**Sn**		**04 29 55.4**	**+0.5**
JTS	**JuntasAbangare**	**10.91**	**124**	P	**Pn**		**04 30 31.5**	**+0.1**
	1.7nm,0.3s,baz=321,slow=13,SNR=6.9							
TXAR	**Lajitas Array**	**15.40**	**327**	P	**P**		**04 31 29.8**	**-0.2**
	0.0nm,0.3s,baz=149,slow=14,SNR=5.3							
LPAZ	**La Paz**	**41.54**	**141**	P	**P**		**04 35 33.3**	**+0.3**
	1.0nm,0.8s,baz=310,slow=7.9,SNR=3.7							
ILAR	**Eielson Array**	**59.65**	**337**	P	**P**		**04 37 47.5**	**+0.2**
	0.3nm,0.6s,baz=126,slow=4.7,SNR=4.7							
ARCES	**ARCESS Array B**	**84.31**	**18**	P	**P**		**04 40 13.3**	**-0.7**
	1.2nm,0.7s,baz=293,slow=4.7,SNR=5.4							

ISCJB ***02*** *04:41:04.2±0.8, 3.°88S±0.°09×127.°76E±0.°08, h200km, mb3.8/1, Error ellipse: s-maj=13.6km s-min=10.6km az=141.8*
DJA ***02*** *04:41:04.7±2.7, 4.°S±31.°×12.°8E±1.°1, h184km±22km, M3.4/4, MLv3.4/4*
IDC ***02*** *04:41:10.6±2.2, 3.°70S×128.°43E, h271km±31km, mb3.4/2, mb1 3.7/4, mb1mx3.1/32, mbtmp4.2/4, Error ellipse: s-maj=39.5km s-min=15.7km az=70.0*
ISC 02 04:41:04.7±1.0, 3.°9S±0.°1×127.°74E±0.°08, h200km, n9, σ1s89/10, Seram

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.90**	**315**	P	**Pn**		**04 41 33.0**	**-0.9**
SANI	**Sanana**	**2.53**	**316**	P	**Pn**		**04 41 47.7**	**-1.2**
FAKI	**Fak Fak**	**4.61**	**78**	P	**Pn**		**04 42 14.2**	**0.0**
SWI	**Sorong**	**4.63**	**50**	P	**Pn**		**04 42 14.7**	**+0.3**
SIJI	**Sorong**	**4.63**	**50**	P	**Pn**		**04 42 14.6**	**+0.2**
	11nm,0.3s,baz=238,slow=13,SNR=30							
SIJI				S	**Sn**		**04 43 07.9**	**-1.5**
	6.1nm,0.3s,baz=209,slow=23,SNR=9.7							
WRA	**Warramunga Arr**	**

	comp=E,26nm,0.8s								
PCVE	**Castro Verde**	**3.38**	**73**	*e*Pn	**Pn**	**04 44 01.9**	**+2.1**
PCVE				*e*Sn	**Sn**	**04 44 41.3**	**+1.3**
PBDV	**Barranco-do-Ve**	**3.39**	**79**	*e*Pn	**Pn**	**04 44 01.7**	**+1.8**
PBDV				*e*Sn	**Sn**	**04 44 41.1**	**+0.9**
PBDV				A	A	04 44 50.9	
	comp=E,7.3nm,0.4s						
PVAQ	**Vaqueiros**	**3.59**	**77**	*e*Pn	**Pn**	**04 44 04.5**	**+2.0**
PVAQ				*e*Sn	**Sn**	**04 44 45.6**	**+0.7**
PVAQ				A	A	04 44 53.6	
	comp=E,7.0nm,0.2s						
PVAQ	**Vaqueiros**	**3.59**	**77**	P	**Pn**	**04 44 04.5**	**+2.0**
PVAQ				S	**Sn**	**04 44 45.6**	**+0.7**
	comp=E,7.0nm,0.2s						
PVAQ	**Vaqueiros**	**3.59**	**77**	P	**Pn**	**04 44 04.5**	**+2.0**
PVAQ				S	**Sn**	**04 44 45.6**	**+0.7**
	comp=E,7.0nm,0.2s						
EVOP	**Sao Brissos**	**3.66**	**59**	*e*Pn	**Pn**	**04 44 05.5**	**+2.0**
EVO	**Evora**	**3.73**	**59**	*e*Pn	**Pn**	**04 44 05.5**	**+0.9**
EVO				*e*Sn	Sn	04 44 42.3	-6.3
	comp=E,22nm,0.4s						
EVO	**Evora**	**3.73**	**59**	*e*Pn	**Pn**	**04 44 07.0**	**+2.4**
EVO				*e*Sn	**Sn**	**04 44 49.3**	**+0.7**
EVO				A	A	04 44 53.5	
	comp=E,25nm,0.2s						
EVO	**Evora**	**3.73**	**59**	P	**Pn**	**04 44 07.0**	**+2.4**
EVO				S	**Sn**	**04 44 49.3**	**+0.7**
	comp=E,25nm,0.2s						
EVO	**Evora**	**3.73**	**59**	P	**Pn**	**04 44 07.0**	**+2.4**
EVO				S	**Sn**	**04 44 49.3**	**+0.7**
	comp=E,25nm,0.2s						
EGRO	**El Granado**	**3.79**	**76**	P	**Pn**	**04 44 07.4**	**+2.0**
	comp=E,1.5nm,0.3s,SNR=4.8						
EGRO				S	**Sn**	**04 44 50.1**	**+0.1**
	comp=E,6.1nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.79**	**76**	P	**Pn**	**04 44 07.4**	**+2.0**
	comp=E,1.5nm,0.3s,SNR=4.8						
EGRO				S	**Sn**	**04 44 50.1**	**+0.1**
	comp=E,6.1nm,0.1s,SNR=7.9						
PMTG	**Montargil**	**3.88**	**51**	*e*Pn	**Pn**	**04 44 08.9**	**+2.3**
PMTG				*e*Sn	**Sn**	**04 44 52.7**	**+0.5**
PMTG				A	A	04 44 56.8	
	comp=E,8.3nm,0.1s						
PESTR	**Estremoz**	**4.19**	**57**	*e*Sn	**Sn**	**04 45 00.4**	**+0.6**
PBAR	**Barrancos**	**4.30**	**68**	*e*Pn	**Pn**	**04 44 14.8**	**+2.5**
PBAR				*e*Sn	**Sn**	**04 45 03.3**	**+0.8**
PBAR				A	A	04 45 08.0	
	comp=E,9.1nm,0.3s						
PBAR	**Barrancos**	**4.30**	**68**	P	**Pn**	**04 44 14.8**	**+2.5**
PBAR				S	**Sn**	**04 45 03.3**	**+0.8**
	comp=E,9.1nm,0.3s						
PBAR	**Barrancos**	**4.30**	**68**	P	**Pn**	**04 44 14.8**	**+2.5**
PBAR				S	**Sn**	**04 45 03.3**	**+0.8**
	comp=E,9.1nm,0.3s						
PCAS	**Casmilo, Conde**	**4.39**	**39**	*e*Pn	**Pn**	**04 44 16.3**	**+2.7**
PCAS				*e*Sn	**Sn**	**04 45 05.9**	**+1.1**
PCAS				A	A	04 45 12.7	
	comp=E,8.1nm,0.2s						
EMIN	**Mina Concepcio**	**4.47**	**75**	P	**Pn**	**04 44 16.6**	**+1.9**
	comp=E,4.5nm,0.6s,SNR=22						
EMIN				S	**Sn**	**04 45 07.5**	**+0.8**
	comp=E,4.5nm,0.3s,SNR=11						
EMIN	**Mina Concepcio**	**4.47**	**75**	P	**Pn**	**04 44 16.6**	**+1.9**
	comp=E,4.5nm,0.6s,SNR=22						
EMIN				S	**Sn**	**04 45 07.5**	**+0.8**
	comp=E,4.5nm,0.3s,SNR=11						
EBAD	**Badajoz**	**4.54**	**61**	P	**Pn**	**04 44 17.4**	**+1.8**
	comp=E,2.7nm,0.8s,SNR=6.0						
EBAD				S	**Sn**	**04 45 09.3**	**+1.0**
	comp=E,4.0nm,0.3s,SNR=12						
EBAD	**Badajoz**	**4.54**	**61**	P	**Pn**	**04 44 17.4**	**+1.8**
	comp=E,2.7nm,0.8s,SNR=6.0						
EBAD				S	**Sn**	**04 45 09.3**	**+1.0**
	comp=E,4.0nm,0.3s,SNR=12						
PMRV	**Marv??o**	**4.62**	**52**	*e*Pn	**Pn**	**04 44 18.9**	**+2.2**
PMRV				*e*Sn	**Sn**	**04 45 10.4**	**0.0**
PMRV				A	A	04 45 14.6	
	comp=E,11nm,0.3s						
PMRV	**Marv??o**	**4.62**	**52**	P	**Pn**	**04 44 18.9**	**+2.2**
PMRV				S	**Sn**	**04 45 10.4**	**0.0**
	comp=E,11nm,0.3s						
PMRV	**Marv??o**	**4.62**	**52**	P	**Pn**	**04 44 18.9**	**+2.2**
PMRV				S	**Sn**	**04 45 10.4**	**0.0**
	comp=E,11nm,0.3s						
PMPST	**Porto Santo, M**	**5.00**	**225**	*e*Pn	Pn	04 44 12.5	-10
PMPST				*e*Sn	Sn	04 44 57.6	-22
PMPST				A	A	04 45 02.2	
	comp=E,13nm,0.1s						
PMPS	**Porto Santo**	**5.02**	**225**	*e*Pn	Pn	04 44 13.2	-9.0
PMPS				*e*Sn	Sn	04 44 58.8	-22
PMPS				A	A	04 45 02.4	
	comp=E,11nm,0.2s						
ESPR	**Espera**	**5.02**	**86**	P	**Pn**	**04 44 23.3**	**+1.0**
	comp=E,2.6nm,0.3s,SNR=5.7						
ESPR				S	**Sn**	**04 45 18.7**	**-1.7**
	comp=E,6.2nm,0.3s,SNR=7.0						
ESPR	**Espera**	**5.02**	**86**	P	**Pn**	**04 44 23.3**	**+1.0**
	comp=E,2.6nm,0.3s,SNR=5.7						
ESPR				S	**Sn**	**04 45 18.7**	**-1.7**
	comp=E,6.2nm,0.3s,SNR=7.0						
PTO	**Porto**	**5.21**	**31**	*e*Sn	**Sn**	**04 45 24.8**	**-0.2**
PTO				A	A	04 45 31.9	
	comp=E,22nm,0.1s						
PTO	**Porto**	**5.21**	**31**	S	**Sn**	**04 45 24.8**	**-0.2**
	comp=E,11nm,0.1s						
PTO	**Porto**	**5.21**	**31**	S	**Sn**	**04 45 24.8**	**-0.2**
	comp=E,11nm,0.1s						
ECAB	**El Cabril**	**5.50**	**74**	P	**Pn**	**04 44 30.7**	**+1.8**
	comp=E,2.9nm,0.3s,SNR=18						
ECAB				S	**Sn**	**04 45 30.8**	**-1.5**
	comp=E,3.5nm,0.3s,SNR=6.0						
ECAB	**El Cabril**	**5.50**	**74**	P	**Pn**	**04 44 30.7**	**+1.8**
	comp=E,2.9nm,0.3s,SNR=18						
ECAB				S	**Sn**	**04 45 30.8**	**-1.5**
	comp=E,3.5nm,0.3s,SNR=6.0						
PMAR	**Madeira**	**5.60**	**226**	*e*Pn	Pn	04 44 21.5	-8.9
PMAR				*e*Sn	Sn	04 45 16.0	-19
PMAR				A	A	04 45 20.5	
	comp=E,14nm,0.2s						
FUL	**Funchal**	**5.64**	**226**	*e*Sn	Sn	04 45 15.5	-20
FUL				A	A	04 45 17.1	
	comp=E,12nm,0.9s						
PMOZ	**Porto Moniz, M**	**5.70**	**229**	*e*Pn	Pn	04 44 22.4	-9.3
POLO	**Lamas de Olo**	**5.75**	**34**	*e*Pn	**Pn**	**04 44 34.7**	**+2.3**
POLO				*e*Sn	**Sn**	**04 45 37.5**	**-1.0**
POLO				A	A	04 45 40.4	
	comp=E,3.2nm,0.2s						
EPLA	**Plasencia**	**5.81**	**53**	P	**Pn**	**04 44 35.8**	**+2.7**
	comp=E,1.8nm,0.6s,SNR=13						
EPLA				S	**Sn**	**04 45 39.1**	**-0.7**
	comp=E,2.4nm,0.3s,SNR=10						
EPLA	**Plasencia**	**5.81**	**53**	P	**Pn**	**04 44 35.8**	**+2.7**
	comp=E,1.8nm,0.6s,SNR=13						
EPLA				S	**Sn**	**04 45 39.1**	**-0.7**
	comp=E,2.4nm,0.3s,SNR=10						
EMIJ	**Mijas**	**5.90**	**89**	S	**Sn**	**04 45 40.5**	**-1.6**
	comp=E,2.0nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**5.90**	**89**	S	**Sn**	**04 45 40.5**	**-1.6**
	comp=E,2.0nm,0.3s,SNR=7.9						
PCAB	**Cabril**	**5.93**	**31**	*e*Pn	**Pn**	**04 44 37.1**	**+2.4**
PCAB				*e*Sn	**Sn**	**04 45 42.3**	**-0.4**
PCAB				A	A	04 45 45.4	
	comp=E,7.8nm,0.3s						
PCAB	**Cabril**	**5.93**	**31**	P	**Pn**	**04 44 37.1**	**+2.4**
PCAB				S	**Sn**	**04 45 42.3**	**-0.4**
	comp=E,3.9nm,0.3s						
PCAB	**Cabril**	**5.93**	**31**	P	**Pn**	**04 44 37.1**	**+2.4**
PCAB				S	**Sn**	**04 45 42.3**	**-0.4**
	comp=E,3.9nm,0.3s						
MVO	**Moncorvo**	**5.97**	**40**	*e*Pn	**Pn**	**04 44 37.8**	**+2.5**
MVO				*e*Sn	**Sn**	**04 45 43.2**	**-0.5**
MVO				A	A	04 45 45.5	
	comp=E,9.7nm,0.5s						
MVO	**Moncorvo**	**5.97**	**40**	P	**Pn**	**04 44 37.8**	**+2.5**
	comp=E,3.4nm,0.7s,SNR=6.0						
MVO				S	**Sn**	**04 45 43.2**	**-0.5**
	comp=E,5.3nm,0.3s,SNR=14						
MVO	**Moncorvo**	**5.97**	**40**	P	**Pn**	**04 44 37.8**	**+2.5**
	comp=E,3.4nm,0.7s,SNR=6.0						
MVO				S	**Sn**	**04 45 43.2**	**-0.5**
	comp=E,5.3nm,0.3s,SNR=14						
ELOB	**Lobios**	**6.04**	**30**	P	**Pn**	**04 44 38.8**	**+2.4**
	comp=E,3.1nm,0.7s,SNR=8.3						
ELOB				S	**Sn**	**04 45 45.4**	**-0.3**
	comp=E,2.5nm,0.3s,SNR=9.0						
ELOB	**Lobios**	**6.04**	**30**	P	**Pn**	**04 44 38.8**	**+2.4**
	comp=E,3.1nm,0.7s,SNR=8.3						
ELOB				S	**Sn**	**04 45 45.4**	**-0.3**
	comp=E,2.5nm,0.3s,SNR=9.0						
PGAV	**Gavieira, Arco**	**6.05**	**28**	*e*Pn	**Pn**	**04 44 38.8**	**+2.4**
PGAV				*e*Sn	**Sn**	**04 45 44.5**	**-1.2**
PGAV				A	A	04 45 50.8	
	comp=E,7.8nm,0.2s						
EADA	**Adamuz**	**6.17**	**74**	P	**Pn**	**04 44 39.7**	**+1.6**
	comp=E,1.8nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**04 45 48.6**	**-0.2**
	comp=E,4.2nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**6.17**	**74**	P	**Pn**	**04 44 39.7**	**+1.6**
	comp=E,1.8nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**04 45 48.6**	**-0.2**
	comp=E,4.2nm,0.3s,SNR=7.9						
KIB	**El Ksiba**	**6.47**	**128**	*i* P	**Pn**	**04 44 43.0**	**+0.7**
TZC	**Tazercounte**	**6.49**	**133**	*i* P	Pn	04 44 42.5	-0.1
PBRG	**Braganca**	**6.59**	**38**	*e*Sn	**Sn**	**04 45 57.6**	**-1.4**
PBRG				A	A	04 45 59.8	
	comp=E,3.1nm,0.7s						
ECAL	**Calabor**	**6.69**	**37**	P	**Pn**	**04 44 48.0**	**+2.7**
	comp=E,3.9nm,0.6s,SNR=5.9						
ECAL				S	**Sn**	**04 46 00.8**	**-0.8**
	comp=E,4.4nm,0.3s,SNR=6.2						
ECAL	**Calabor**	**6.69**	**37**	P	**Pn**	**04 44 48.0**	**+2.7**
	comp=E,3.9nm,0.6s,SNR=5.9						
ECAL				S	**Sn**	**04 46 00.8**	**-0.8**
	comp=E,4.4nm,0.3s,SNR=6.2						
EMAZ	**Mazaricos**	**6.70**	**20**	P	Pn	04 44 48.5	+3.3
	comp=E,1.3nm,0.1s,SNR=7.9						
EMAZ				S	**Sn**	**04 45 57.7**	**-3.9**
	comp=E,14nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.70**	**20**	P	Pn	04 44 48.5	+3.3
	comp=E,1.3nm,0.1s,SNR=7.9						
EAGO	**Agolada(Pontev**	**6.84**	**26**	P	**Pn**	**04 44 49.7**	**+2.5**
	comp=E,0.7nm,0.1s,SNR=7.9						
EAGO				S	**Sn**	**04 46 02.6**	**-2.5**
	comp=E,1.8nm,0.1s,SNR=7.9						
EAGO	**Agolada(Pontev**	**6.84**	**26**	P	**Pn**	**04 44 49.7**	**+2.5**
	comp=E,0.7nm,0.1s,SNR=7.9						
CZD	**Col de Zad**	**6.86**	**120**	*e*P	**Pn**	**04 44 48.0**	**+0.2**
ESDC	**Sonseca Array**	**7.07**	**63**	P	**Pn**	**04 44 53.1**	**+2.6**
	comp=E,0.5nm,0.2s,baz=247,slow=13,SNR=7.6						
ESDC	**Sonseca Array**	**7.07**	**63**	P	**Pn**	**04 44 53.1**	**+2.6**
	comp=E,0.5nm,0.2s,baz=247,slow=13,SNR=7.6						
EQES	**Quesada**	**7.29**	**79**	P	**Pn**	**04 44 55.3**	**+1.7**
	comp=E,0.5nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**04 46 15.1**	**-1.4**
	comp=E,2.0nm,0.1s,SNR=7.9						
EQES	**Quesada**	**7.29**	**79**	P	**Pn**	**04 44 55.3**	**+1.7**
	comp=E,0.5nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**04 46 15.1**	**-1.4**
	comp=E,2.0nm,0.1s,SNR=7.9						
GUD	**Guadarrama**	**7.37**	**55**	P	**Pn**	**04 44 56.9**	**+2.3**
	comp=E,0.5nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**04 46 17.6**	**-0.7**
	comp=E,1.7nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**7.37**	**55**	P	**Pn**	**04 44 56.9**	**+2.3**
	comp=E,0.5nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**04 46 17.6**	**-0.7**
	comp=E,1.7nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**7.64**	**28**	P	**Pn**	**04 45 00.7**	**+2.5**
	comp=E,3.2nm,0.3s,SNR=7.9						
EPON				S	**Sn**	**04 46 22.1**	**-2.7**
	comp=E,1.6nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**7.64**	**28**	P	**Pn**	**04 45 00.7**	**+2.5**
	comp=E,3.2nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**7.75**	**77**	S	**Sn**	**04 46 25.8**	**-1.9**
	comp=E,1.9nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**7.75**	**77**	S	**Sn**	**04 46 25.8**	**-1.9**
	comp=E,1.9nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**8.46**	**37**	P	Pn	04 45 13.4	+4.0
	comp=E,0.2nm,0.2s,SNR=7.9						
EARI				S	**Sn**	**04 46 43.0**	**-2.0**
	comp=E,0.3nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**8.46**	**37**	P	Pn	04 45 13.4	+4.0
	comp=E,0.2nm,0.2s,SNR=7.9						
EARI				S	**Sn**	**04 46 43.0**	**-2.0**
	comp=E,0.3nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**10.53**	**49**	*e*Pn	Pn	04 45 36.0	-1.8
SJPF				*e*Sn	Sn	04 47 24.4	-11
	comp=E,0.7nm,0.3s						
ETSF	**Etsaut**	**10.83**	**52**	*e*Pn	Pn	04 45 39.8	-2.2
ETSF				*e*Sn	Sn	04 47 31.3	-12
	comp=E,0.3nm,0.3s						
EPF	**Esparros**	**11.46**	**53**	*e*Pn	Pn	04 45 48.4	-2.3

ISCJB ***02*** *04:44:45.9±0.2, 18°.35N×0°.03×68°.89W±0°.02, h176km±2km, mb4.4/118, Error ellipse: s-maj=5.3km s-min=2.8km az=19.8*

MOS ***02*** *04:44:45.8±1.0, 18°.28N×68°.92W, h173km, mb4.5/29, Error ellipse: s-maj=10.9km s-min=6.0km az=129.6*

IDC ***02*** *04:44:46.6±0.6, 18°.22N×68°.99W, h173km±5km, mb3.8/26, mb1 4.0/26, mb1mx3.9/37, mbtmp4.3/26, MS3.2/3, Ms1 3.2/3, ms1mx2.7/26, Error ellipse: s-maj=10.7km s-min=8.3km az=66.0*

RSPR ***02*** *04:44:47.1, 18°.65N×68°.73W, h180km±1km, MD4.2/16*

NEIC ***02*** *04:44:47.1±0.2, 18°.32N×68°.86W, h172km±2km, mb4.4/87, MD4.2(RSPR), Error ellipse: s-maj=4.2km s-min=2.9km az=207.0*

NEIC Felt [II] at Santo Domingo. Also felt at Hato Mayor, La Romana, Las Terrenas, Miches, Quisqueya and San Pedro de Macoris. Felt at Camuy, Las Marias and Mayaguez, Puerto Rico.

ISC 02 04:44:46.9±0.3, 18°.35N±0°.04×68°.85W±0°.04, h171km±2km, h171km:pP-P, n608, ₒ0°85/656, mb4.3/118, 22C-15D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IMO	**Isla Mona**	**0.92**	**105**		*e*P	**Pn**	**04 45 14.0**	**+0.9**
IMO					*e*S	**Sn**	**04 45 35.4**	**+2.1**
IMO	**Isla Mona**	**0.92**	**105**		*e*P	**Pn**	**04 45 14.0**	**+0.9**
IMO					*e*S	**Sn**	**04 45 35.4**	**+2.1**
SMN1	**Samana, DR**	**0.93**	**334**		*e*P	**Pn**	**04 45 13.1**	**-0.2**
SMN1					*e*S	**Sn**	**04 45 32.9**	**-0.8**
IDE	**Isla Desecheo**	**1.30**	**88**		*e*P	**Pn**	**04 45 17.2**	**+0.9**
IDE	**Isla Desecheo**	**1.30**	**88**		*e*S	**Sn**	**04 45 39.7**	**+0.7**
IDE	**Isla Desecheo**	**1.30**	**88**		*e*P	**Pn**	**04 45 17.2**	**+0.9**
IDE					*e*S	**Sn**	**04 45 39.7**	**+0.7**
MPR	**Mayaguez**	**1.63**	**95**		*e*P	**Pn**	**04 45 20.1**	**+0.7**
MPR	**Mayaguez**	**1.63**	**95**		*e*S	**Sn**	**04 45 46.0**	**+1.5**
MPR	**Mayaguez**	**1.63**	**95**		*e*P	**Pn**	**04 45 20.1**	**+0.7**
MPR					*e*S	**Sn**	**04 45 46.0**	**+1.5**
AGPR	**Aguadilla, PR**	**1.65**	**86**		*e*P	**Pn**	**04 45 20.3**	**+0.6**
AGPR	**Aguadilla, PR**	**1.65**	**86**		*e*S	**Sn**	**04 45 44.9**	**-0.1**
AGPR	**Aguadilla, PR**	**1.65**	**86**		*e*P	**Pn**	**04 45 20.3**	**+0.6**
AGPR					*e*S	**Sn**	**04 45 44.9**	**-0.1**
LSP	**Las Mesas**	**1.68**	**96**		*e*P	**Pn**	**04 45 20.9**	**+0.9**
LSP					*e*S	**Sn**	**04 45 47.0**	**+1.4**
LSP	**Las Mesas**	**1.68**	**96**		*e*P	**Pn**	**04 45 20.9**	**+0.9**
LSP					*e*S	**Sn**	**04 45 47.0**	**+1.4**
CRPR	**Cabo Rojo, PR**	**1.69**	**101**		*e*P	**Pn**	**04 45 20.4**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.69**	**101**		*e*S	**Sn**	**04 45 46.5**	**+1.0**
CRPR	**Cabo Rojo, PR**	**1.69**	**101**		*e*P	**Pn**	**04 45 20.4**	**+0.3**
CRPR					*e*S	**Sn**	**04 45 46.5**	**+1.0**
GBPR	**Guanica, Bosqu**	**1.91**	**101**		*e*P	**Pn**	**04 45 23.5**	**+1.1**
GBPR	**Guanica, Bosqu**	**1.91**	**101**		*e*P	**Pn**	**04 45 23.5**	**+1.1**
AOPR	**Arecibo Observ**	**1.99**	**90**		*e*P	**Pn**	**04 45 23.5**	**+0.2**
AOPR	**Arecibo Observ**	**1.99**	**90**		*e*S	**Sn**	**04 45 51.5**	**+0.1**
AOPR	**Arecibo Observ**	**1.99**	**90**		*e*P	**Pn**	**04 45 23.5**	**+0.2**
AOPR					*e*S	**Sn**	**04 45 51.5**	**+0.1**
OBIP	**Obispado Ponce**	**2.15**	**98**		*e*P	**Pn**	**04 45 25.4**	**+0.3**
OBIP	**Obispado Ponce**	**2.15**	**98**		*e*S	**Sn**	**04 45 56.2**	**+1.5**
OBIP	**Obispado Ponce**	**2.15**	**98**		*e*P	**Pn**	**04 45 25.4**	**+0.3**
OBIP					*e*S	**Sn**	**04 45 56.2**	**+1.5**
CELP	**Cerrillos**	**2.17**	**97**		*e*P	**Pn**	**04 45 25.9**	**+0.5**
CELP					*e*S	**Sn**	**04 45 55.7**	**+0.6**
CELP	**Cerrillos**	**2.17**	**97**		*e*P	**Pn**	**04 45 25.9**	**+0.5**
CELP					*e*S	**Sn**	**04 45 55.7**	**+0.6**
ICMP	**Isla Caja de M**	**2.25**	**101**		*e*P	**Pn**	**04 45 26.6**	**+0.3**
ICMP					*e*S	**Sn**	**04 45 57.9**	**+1.2**
ICM	**Isla Caja Muer**	**2.26**	**101**		*e*P	**Pn**	**04 45 26.6**	**+0.3**
ICM	**Isla Caja Muer**	**2.26**	**101**		*e*S	**Sn**	**04 45 57.9**	**+1.1**
SDDR	**Presa de Saban**	**2.40**	**286**		*e*Pn	**Pn**	**04 45 27.0**	**-1.0**
SDDR					*e*Sn	**Sn**	**04 45 58.0**	**-1.9**
SJG	**San Juan**	**2.57**	**95**		*e*P	**Pn**	**04 45 30.1**	**+0.2**
SJG					*e*S	**Sn**	**04 46 03.7**	**+0.3**
SJG	**San Juan**	**2.57**	**95**		*e*P	**Pn**	**04 45 29.7**	**-0.3**
SJG	**San Juan**	**2.57**	**95**		*e*P	**Pn**	**04 45 30.2**	**+0.2**
SJG					*e*S	**Sn**	**04 46 03.7**	**+0.3**
SJG	**San Juan**	**2.57**	**95**		*e*P	**Pn**	**04 45 30.1**	**+0.2**
SJG					*e*S	**Sn**	**04 46 03.7**	**+0.3**
LGNH	**LØogne**	**3.57**	**273**		*e*Pn	**Pn**	**04 45 41.9**	**-0.4**
STVI	**Saint Thomas**	**3.70**	**89**		*e*Pn	**Pn**	**04 45 43.2**	**-0.7**
STVI					*e*Sn	**Sn**	**04 46 23.7**	**-4.7**
GRTK	**Grand Turk**	**3.81**	**326**		*e*Pn	**Pn**	**04 45 43.2**	**-2.2**
GRTK					*e*Sn	Sn	04 46 24.0	-6.9
WSYH	**La Gonave Hosp**	**3.84**	**278**		*e*Pn	**Pn**	**04 45 44.8**	**-0.9**
CDVI	**St. Croix**	**3.93**	**98**		*e*Pn	**Pn**	**04 45 45.5**	**-1.4**
CDVI					*e*Sn	**Sn**	**04 46 30.6**	**-3.0**
TBVI	**Tortola**	**4.02**	**88**		*e*P	**Pn**	**04 45 47.9**	**-0.1**
TBVI	**Tortola**	**4.02**	**88**		*e*P	**Pn**	**04 45 47.9**	**-0.1**
ABVI	**Anegada Island**	**4.30**	**84**		*e*P	**Pn**	**04 45 51.1**	**-0.5**
ABVI					*e*S	**Sn**	**04 46 41.4**	**-0.8**
ABV	**Anegada**	**4.30**	**84**		*e*P	**Pn**	**04 45 51.1**	**-0.5**
ABV	**Anegada**	**4.30**	**84**		*e*S	**Sn**	**04 46 41.4**	**-0.8**
SABA	**Saba**	**5.38**	**97**		*e*P	**Pn**	**04 46 06.7**	**+0.9**
SABA	**Saba**	**5.38**	**97**		*e*Pn	**Pn**	**04 46 06.3**	**+0.6**
GTBY	**Guantanamo Bay**	**6.13**	**286**		*e*Pn	**Pn**	**04 46 14.9**	**-0.6**
ANWB	**Willy Bob**	**6.75**	**95**		*e*P	**Pn**	**04 46 21.1**	**-2.7**
ANWB	**Willy Bob**	**6.75**	**95**		*e*Pn	**Pn**	**04 46 20.7**	**-3.1**
ANWB					*e*Sn	**Sn**	**04 47 35.2**	**-4.9**
MLG	**Mont-d'or**	**7.19**	**107**		*e*P	**Pn**	**04 46 29.8**	**+0.1**
HMG	**Houelmont**	**7.23**	**108**		*e*P	**Pn**	**04 46 30.1**	**-0.1**
SEG	**Port Louis**	**7.27**	**104**		*e*P	**Pn**	**04 46 31.2**	**+0.5**
BBL	**Barber's Block**	**7.60**	**111**		*e*P	**Pn**	**04 46 34.7**	**-0.3**
H05N1	**Guadeloupe/Mar** SNR=16	**7.71**	**104**		P	**Pn**	**04 46 36.4**	**-0.1**
H05N1	SNR=4.1				S	Sn	04 47 56.8	-6.2
MTDJ	**Mount Denham**	**8.26**	**270**		*e*Pn	**Pn**	**04 46 44.3**	**+0.5**
H05S1	**Guadeloupe/Mar** SNR=9.0	**8.62**	**116**		P	Pn	04 46 52.2	+3.7
H05S1					S	**Sn**	**04 48 27.3**	**+2.5**
PCRV	**Puerto La Cruz**	**9.09**	**153**		P	**Pn**	**04 46 57.1**	**+2.3**
	0.6nm,0.3s,baz=353,slow=1.8,SNR=7.9							
PCRV					S	**Sn**	**04 48 35.9**	**-0.4**
	0.3nm,0.3s,baz=166,slow=17,SNR=1.7							
GRGR	**Grenville**	**9.29**	**131**		*e*Pn	Pn	04 46 52.9	-4.6
SDV	**Santo Domingo**	**9.57**	**191**		*e*Pn	**Pn**	**04 47 02.8**	**+1.5**
BBGH	**Gun Hill**	**10.33**	**119**		*e*Pn	**Pn**	**04 47 11.9**	**+0.8**
BCIP	**Isla Barro Col**	**14.04**	**231**		*e*Pn	**Pn**	**04 47 58.1**	**-0.5**
ROSC	**El Rosal**	**14.44**	**202**		P	**P**	**04 48 05.4**	**-0.6**
	2.7nm,0.3s,baz=66,slow=2.7,SNR=39							
ROSC					S	**S**	**04 50 49.5**	**0.0**
	0.9nm,0.3s,baz=289,slow=22,SNR=7.8							
ROSC	**El Rosal**	**14.44**	**202**		*e*Pn	**P**	**04 48 05.8**	**-0.2**
ROSC					S	**S**	**04 50 49.5**	**0.0**
JTS	**JuntasAbangare**	**17.53**	**245**		P	**P**	**04 48 40.2**	**+0.5**
	0.8nm,0.3s,baz=35,slow=4.7,SNR=16							
JTS	**JuntasAbangare**	**17.53**	**245**		*e*P	**P**	**04 48 40.4**	**+0.6**
JTS	**JuntasAbangare**	**17.53**	**245**		*e*P	**Pn**	**04 48 40.5**	**-0.6**
	108nm,1.2s							
TIGA	**Tifton**	**18.64**	**317**		P	**P**	**04 48 52.3**	**+0.6**
	baz=19							
JSC	**Jenkinsville**	**19.35**	**328**		*e*P	**P**	**04 48 59.7**	**+0.4**
JSC					pmax	pmax		
	comp=Z,16nm,1.1s							
JSC	**Jenkinsville**	**19.35**	**328**		*e*P	**P**	**04 48 59.7**	**+0.4**
	comp=Z,16nm,1.1s							
JSC					*e*Pn	Pn	04 49 11.9	+10
GOGA	**Godfrey**	**19.91**	**322**		*e*P	**P**	**04 49 06.0**	**+0.6**
GOGA					pmax	pmax

835A	**Beeville**	28.33	296	P		P	04 50 24.3	-0.5
	baz=28							
236A	**Katherine and**	28.40	304	P		P	04 50 25.0	-0.4
	baz=28							
336A	**Riesel**	28.43	303	P		P	04 50 25.8	+0.1
	baz=28,SNR=5.2							
735A	**Kenedy**	28.45	297	P		P	04 50 26.0	+0.1
	baz=28							
Y37A	**Hugo**	28.51	308	P		P	04 50 26.4	0.0
	baz=28							
635A	**Leesville**	28.57	298	P		P	04 50 26.9	-0.1
	baz=28							
136A	**Ennis**	28.58	305	P		P	04 50 27.1	0.0
	baz=29							
535A	**Dale**	28.58	299	P		P	04 50 27.0	-0.1
	baz=29							
X37A	**Clayton**	28.60	310	P		P	04 50 27.6	+0.4
	baz=29							
934A	**Benavides**	28.77	294	P		P	04 50 29.5	+0.8
	baz=29							
034A	**Hebbronville**	28.80	293	P		P	04 50 29.6	+0.6
	baz=29							
435B	**Jarrell**	28.83	301	P		P	04 50 29.7	+0.4
	baz=29							
335A	**Moody**	28.86	302	P		P	04 50 29.9	+0.4
	baz=29							
W37A	**Quinton**	28.90	311	P		P	04 50 30.0	+0.1
	baz=29							
834A	**Tilden**	28.91	295	P		P	04 50 30.4	+0.4
	baz=29							
634A	**China Grove, S**	29.05	298	P		P	04 50 31.2	0.0
	baz=29							
V37A	**Hulbert**	29.06	312	P		P	04 50 31.5	+0.2
	baz=29,SNR=14							
734A	**La Parita Cree**	29.09	297	P		P	04 50 31.5	0.0
	baz=29							
WHTX	**Lake Whitney**	29.13	303	P		P	04 50 32.3	+0.3
	baz=29,SNR=6.9							
WHTX	**Lake Whitney**	29.13	303	eP		P	04 50 31.9	0.0
	comp=Z,18nm,0.7s							
135A	**Vickery Place,**	29.30	304	P		P	04 50 33.4	0.0
	baz=29							
X36A	**Centrahoma**	29.32	309	P		P	04 50 33.7	+0.2
	baz=29,SNR=9.3							
534A	**Blanco**	29.33	299	P		P	04 50 33.4	-0.3
	baz=29,SNR=6.5							
434A	**Burnet**	29.40	301	P		P	04 50 33.7	-0.6
	baz=29							
933A	**Laredo**	29.43	294	P		P	04 50 34.8	+0.2
	baz=29							
Z35A	**Perchaven, San**	29.48	306	P		P	04 50 35.1	+0.1
	baz=30							
W36A	**Wetumka**	29.48	310	P		P	04 50 34.2	-0.7
	baz=30							
334A	**Lometa**	29.54	302	P		P	04 50 34.8	-0.7
	baz=30							
TUL1	**Tulsa**	29.54	312	P		P	04 50 35.7	+0.2
	baz=30,SNR=13							
TUL1	**Tulsa**	29.54	312	eP		P	04 50 35.4	0.0
	comp=Z,36nm,0.9s							
TUL1				e			04 51 30.0	
Y35A	**Marietta**	29.55	307	P		P	04 50 36.3	+0.8
	baz=30,SNR=7.4							
T37A	**Cheneyville 18**	29.55	315	P		P	04 50 35.5	0.0
	baz=30,SNR=7.5							
V36A	**Jenks**	29.58	311	P		P	04 50 35.9	+0.1
	baz=30							
234A	**Clairette**	29.68	303	P		P	04 50 36.6	-0.2
	baz=30,SNR=6.9							
833A	**Chaparral WMA,**	29.68	295	P		P	04 50 36.6	-0.2
	baz=30,SNR=5.2							
733A	**Divot King Ran**	29.68	296	P		P	04 50 36.2	-0.6
	baz=30							
X35A	**Drake**	29.70	308	P		P	04 50 36.7	-0.2
	baz=30,SNR=5.6							
633A	**Saathoff Ranch**	29.77	297	P		P	04 50 37.2	-0.3
	baz=30							
533A	**Kerrville**	29.81	299	P		P	04 50 37.4	-0.6
	baz=30							
134A	**White-Moore Ra**	29.83	304	P		P	04 50 38.4	+0.2
	baz=30,SNR=7.0							
W35A	**Tecumseh**	29.96	310	P		P	04 50 38.9	-0.3
	baz=30							
Z34A	**Collier Ranch,**	30.00	306	P		P	04 50 39.7	+0.1
	baz=30							
433A	**Art**	30.05	300	P		P	04 50 39.8	-0.3
	baz=30,SNR=20							
Y34A	**Reagan Ranch,**	30.11	307	P		P	04 50 40.7	+0.2
	baz=30,SNR=23							
R37A	**Teagarden Farm**	30.14	317	P		P	04 50 40.4	-0.3
	baz=30							
333A	**Richland Sprin**	30.14	301	P		P	04 50 40.3	-0.5
	baz=30,SNR=8.2							
T36A	**Boggs Farm, Ca**	30.17	314	P		P	04 50 40.9	-0.1
	baz=30,SNR=13							
832A	**Faith Ranch, C**	30.17	295	P		P	04 50 40.8	-0.4
	baz=30,SNR=7.7							
V35A	**Meyer Ranch, C**	30.21	311	P		P	04 50 41.1	-0.3
	baz=30							
Q37A	**Longview Farm,**	30.21	318	P		P	04 50 41.2	-0.2
	baz=30							
732A	**Laxson Ranch,**	30.26	296	P		P	04 50 41.4	-0.6
	baz=30,SNR=6.2							
632A	**Uvalde**	30.29	297	P		P	04 50 41.7	-0.6
	baz=30							
233A	**Rising Star**	30.29	302	P		P	04 50 42.1	-0.1
	baz=30,SNR=10							
S36A	**Lake Cedric, C**	30.32	315	P		P	04 50 42.3	0.0
	baz=30,SNR=19							
U35A	**Pawnee**	30.42	312	P		P	04 50 43.1	-0.1
	baz=30							
X34A	**Smith Ranch, M**	30.43	308	P		P	04 50 43.6	+0.2
	baz=30,SNR=10							
JFWS	**Jewell Farm**	30.46	328	eP		P	04 50 43.7	+0.2
JFWS				e			04 51 37.7	
JFWS				pmax		pmax		
	comp=Z,20nm,0.6s							
JFWS	**Jewell Farm**	30.46	328	eP		P	04 50 43.7	+0.2
	comp=Z,20nm,0.6s							
JFWS				e			04 51 37.7	
133A	**Hamilton Ranch**	30.51	304	P		P	04 50 44.1	0.0
	baz=30,SNR=6.3							
T35A	**Sooner Cattle**	30.53	313	P		P	04 50 44.2	-0.1
	baz=30,SNR=18							
532A	**Rocksprings**	30.55	298	P		P	04 50 44.6	+0.1
	baz=30,SNR=6.0							
JCT	**Junction City**	30.56	299	eP		P	04 50 44.8	+0.2
JCT				pmax		pmax		
	comp=Z,13nm,0.7s							
JCT	**Junction City**	30.56	299	P		P	04 50 44.1	-0.5
	baz=30,SNR=7.4							
JCT	**Junction City**	30.56	299	eP		P	04 50 44.8	+0.2
	comp=Z,13nm,0.7s							
R36A	**Gordon, Harris**	30.58	316	P		P	04 50 44.5	-0.2
	baz=31							
Z33A	**Whitaker Ranch**	30.63	305	P		P	04 50 45.3	+0.1
	baz=31,SNR=9.4							
W34A	**Bridge Creek,**	30.66	309	P		P	04 50 45.1	-0.2
	baz=31							
432A	**Menard**	30.67	300	P		P	04 50 45.3	-0.2
	baz=31,SNR=18							
V34A	**Guthrie**	30.74	310	P		P	04 50 45.7	-0.3
	baz=31							
332A	**Millersview**	30.77	301	P		P	04 50 46.3	-0.2
	baz=31,SNR=7.3							
S35A	**Otter Creek Ra**	30.79	314	P		P	04 50 46.5	0.0
	baz=31,SNR=16							
Y33A	**Hilltop Ranch,**	30.80	306	P		P	04 50 46.6	0.0
	baz=31,SNR=5.9							
232A	**Coleman**	30.85	302	P		P	04 50 46.8	-0.3
	baz=31,SNR=5.6							
X33A	**Lawton**	30.91	307	P		P	04 50 47.1	-0.5
	baz=31,SNR=8.8							
631A	**Perdido Creek**	30.94	297	P		P	04 50 47.1	-0.8
	baz=31,SNR=8.6							
U34A	**Anderson Ranch**	31.02	311	P		P	04 50 48.4	-0.2
	baz=31							
R35A	**Emporia Munici**	31.04	316	P		P	04 50 48.6	-0.1
	baz=31							
T34A	**McClaskey Farm**	31.06	313	P		P	04 50 48.8	-0.1
	baz=31,SNR=8.0							
ABTX	**Abilene, Hawle**	31.09	303	P		P	04 50 48.9	-0.3
	baz=31,SNR=14							
ABTX	**Abilene, Hawle**	31.09	303	eP		P	04 50 48.9	-0.3
	comp=Z,37nm,1.0s							
531A	**Rocksprings**	31.10	298	P		P	04 50 48.9	-0.4
	baz=31,SNR=7.3							
P36A	**Good Intent, A**	31.12	318	P		P	04 50 48.9	-0.4
	baz=31							
W33A	**Caddo, Fort Co**	31.14	308	P		P	04 50 50.2	+0.6
	baz=31							
Z32A	**Haskell**	31.19	305	P		P	04 50 49.6	-0.5
	baz=31,SNR=19							
WMOK	**Wichita Mounta**	31.20	308	eP		P	04 50 49.3	-0.9
WMOK				pmax		pmax		
	comp=Z,9.0nm,0.6s							
WMOK	**Wichita Mounta**	31.20	308	eP		P	04 50 49.3	-0.9
	comp=Z,9.0nm,0.6s							
Q35A	**Mercer Eighty,**	31.23	317	P		P	04 50 49.9	-0.4
	baz=31							
O36A	**Bolckow**	31.27	319	P		P	04 50 50.6	0.0
	baz=31							
431A	**Sonora**	31.29	299	P		P	04 50 50.8	-0.2
	baz=31,SNR=16							
V33A	**Lossen Ranch,**	31.29	310	P		P	04 50 50.8	-0.1
	baz=31							
331A	**San Angelo**	31.31	300	P		P	04 50 50.5	-0.6
	baz=31,SNR=12							
S34A	**Willow Spring**	31.34	314	P		P	04 50 50.8	-0.5
	baz=31							
231A	**Bronte**	31.41	302	P		P	04 50 51.5	-0.5
	baz=31							
Y32A	**R-V Farms, Ver**	31.42	306	P		P	04 50 51.8	-0.3
	baz=31,SNR=12							
X32A	**Elmer**	31.46	307	P		P	04 50 52.0	-0.4
	baz=31,SNR=8.0							
P35A	**Duane Minner,**	31.59	318	P		P	04 50 52.7	-0.7
	baz=32							
131A	**Roby**	31.70	303	P		P	04 50 54.3	-0.2
	baz=32							
W32A	**Sentinel**	31.71	308	P		P	04 50 54.3	-0.2
	baz=32,SNR=30							
Z31A	**Sharp Cattle R**	31.72	304	P		P	04 50 54.0	-0.7
	baz=32,SNR=8.6							
KSU1	**Kansas State U**	31.73	316	P		P	04 50 54.7	0.0
	baz=32							
KSU1	**Kansas State U**	31.73	316	eP		P	04 50 55.3	+0.6
	comp=Z,16nm,0.8s							
R34A	**Isabella, Hill**	31.73	315	P		P	04 50 54.7	-0.1
	baz=32,SNR=22							
530A	**J-C Ranch, Com**	31.76	298	P		P	04 50 54.9	-0.2
	baz=32,SNR=15							
V32A	**Arapaho**	31.80	309	P		P	04 50 55.2	-0.2
	baz=32							
430A	**Baggett Ranch,**	31.83	299	P		P	04 50 55.4	-0.4
	baz=32							
Q34A	**Chapman**	31.85	316	P		P	04 50 55.7	-0.1
	baz=32							
O35A	**Humboldt**	31.93	319	P		P	04 50 56.2	-0.3
	baz=32							
330A	**Mertzon**	31.95	300	P		P	04 50 56.3	-0.6
	baz=32,SNR=15							
230A	**Sterling City**	32.04	301	P		P	04 50 57.1	-0.5
	baz=32							
Y31A	**Rekieta Farm,**	32.04	305	P		P	04 50 57.1	-0.4
	baz=32,SNR=8.1							
U32A	**Winter Ranch,**	32.05	310	P		P	04 50 57.3	-0.3
	baz=32							
X31A	**McDonald Ranch**	32.07	307	P		P	04 50 56.9	-0.9
	baz=32,SNR=11							
P34A	**Walnut Farm, R**	32.12	317	P		P	04 50 57.6	-0.5
	baz=32							
N35A	**Tabor**	32.12	320	P		P	04 50 57.6	-0.5
	baz=32							
130A	**Snyder**	32.13	302	P		P	04 50 57.8	-0.6
	baz=32							
R33A	**Olander Ranch,**	32.24	314	P		P	04 50 59.1	-0.1
	baz=32,SNR=5.7							
W31A	**Holland Ranch,**	32.26	308	P		P	04 50 58.7	-0.7
	baz=32,SNR=7.1							
429A	**Davenport Ranc**	32.34	299	P		P	04 50 59.6	-0.6
	baz=32,SNR=12							
T32A	**Huddler Ranch,**	32.36	312	P		P	04 51 00.2	-0.1
	baz=32							
O34A	**Beatrice**	32.38	318	P		P	04 50 59.9	-0.5
	baz=32							
V31A	**Spring Creek L**	32.41	309	P		P	04 51 00.6	-0.1
	baz=32,SNR=9.8							
Z30A	**Sanderson Ranc**	32.48	304	P		P	04 51 01.1	-0.4
	baz=32,SNR=14							
Q33A	**Connelly Farm,**	32.49	315	P		P	04 51 01.5	+0.2
	baz=32,SNR=24							
529A	**Stev Forest Ra**	32.49	297	P		P	04 51 00.9	-0.6
	baz=32,SNR=12							
Y30A	**Stafford Cattl**	32.50	305	P		P	04 51 01.1	-0.5
	baz=32,SNR=5.3							
M35A	**Neola**	32.51	321	P		P	04 51 01.0	-0.5
	baz=32							
S32A	**Newby Ranch, P**	32.60	312	P		P	04 51 02.2	-0.2
	baz=33							
229A	**Bryant Ranch,**	32.63	301	P		P	04 51 02.4	-0.3
	baz=33,SNR=7.9							
329A	**Wagon Wheel Ra**	32.64	300	P		P	04 51 02.4	-0.3
	baz=33,SNR=27							
U31A	**Nine Bar Ranch**	32.67	310	P		P	04 51 03.0	+0.1
	baz=33							
X30A	**Coker Ranch, T**	32.69	306	P		P	04 51 02.3	-0.8
	baz=33,SNR=8.0							
R32A	**Long Quarter,**	32.79	314	P		P	04 51 04.3	+0.3
	baz=33							
T31A	**Randall Ranch,**	32.86	311	P		P	04 51 04.7	+0.1
	baz=33							
129A	**Stewart Farms,**	32.87	302	P		P	04 51 04.1	-0.7
	baz=33,SNR=7.1							
Z29A	**Hungry Hill Ra**	32.94	303	P		P	04 51 04.8	-0.6
	baz=33,SNR=8.1							
S31A	**Mullinville**	32.95	312	P		P	04 51 05.5	0.0
	baz=33,SNR=5.6							
Q32A	**Meitler Ranch,**	32.97	315	P		P	04 51 05.3	-0.2
	baz=33,SNR=6.9							
V30A	**Spur Ranch, Mi**	33.04	308	P		P	04 51 06.2	0.0
	baz=33							
Y29A	**Porterfield Fa**	33.10	304	P		P	04 51 06.4	-0.4
	baz=33,SNR=14							
R31A	**Burdett**	33.29	313	P		P	04 51 08.4	+0.1
	baz=33,SNR=12							
228A	**UT Block 9, Go**	33.31	301	P		P	04 51 07.9	-0.7
	baz=33,SNR=13							
P32A	**Huiting Farm,**	33.32	316	P		P	04 51 08.3	-0.2
	baz=33,SNR=8.3							
U30A	**WK&E Inc. Balk**	33.32	309	P		P	04 51 08.5	-0.2
	baz=33,SNR=5.1							
X29A	**Tulia**	33.32	305	P		P	04 51 08.0	-0.8
	baz=33,SNR=22							
128A	**Castleberry Fa**	33.36	302	P		P	04 51 08.6	-0.5
	baz=33,SNR=8.0							
SPMN	**St. Paul**	33.41	329	P		P	04 51 09.4	+0.3
	baz=33							
SPMN	**St. Paul**	33.41	329	eP		P	04 51 09.2	0.0
	comp=Z,7.0nm,0.8s							
O32A	**Brockman Farm,**	33.44	317	P		P	04 51 09.3	-0.3
	baz=33							
T30A	**Plains**	33.45	310	P		P	04 51 09.4	-0.3
	baz=33							
AMTX	**Amarillo**	33.46	306	P		P	04 51 09.4	-0.6
	baz=33							
AMTX	**Amarillo**	33.46	306	eP		P	04 51 09.6	-0.4
	comp=Z,16nm,0.9s							
Z28A	**Tucker Farm, M**	33.48	303	P		P	04 51 09.5	-0.6
	baz=34							
W29A	**Amraillo**	33.52	306	P		P	04 51 09.9	-0.6
	baz=34							
Q31A	**Ellis**	33.54	314	P		P	04 51 10.4	-0.2
	baz=34,SNR=9.7							
TXAR	**Lajitas Array**	33.55	296	P		P	04 51 10.7	-0.1
	comp=Z,5.8nm,0.7s,baz=109,slow=9.6,SNR=69							
TXAR				PcP		PcP	04 53 47.1	-0.3
	comp=Z,1.1nm,0.8s,baz=123,slow=4.6,SNR=4.9							
TXAR				ScP		ScP	04 57 14.8	-1.2
	comp=Z,2.5nm,0.9s,baz=124,slow=4.5,SNR=14							
Y28A	**McKinney Farm,**	33.57	304	P		P	04 51 10.0	-1.0
	baz=34,SNR=8.1							
S30A	**Montezuma**	33.66	311	P		P	04 51 11.7	+0.1
	baz=34							
CBKS	**Cedar Bluff**	33.69	314	eP		P	04 51 12.2	+0.4
CBKS				pmax		pmax		
	comp=Z,27nm,0.8s							
CBKS	**Cedar Bluff**	33.69	314	P		P	04 51 11.8	0.0
	baz=34							
CBKS	**Cedar Bluff**	33.69	314	eP		P	04 51 12.2	+0.4
	comp=Z,27nm,0.8s							
V29A	**Stinnett**	33.71	308	P		P	04 51 12.1	0.0
	baz=34							
X28A	**Dimmitt**	33.73	305	P		P	04 51 11.1	-1.2
	baz=34,SNR=6.1							
P31A	**Stockton**	33.79	315	P		P	04 51 12.3	-0.3
	baz=34,SNR=7.0							
R30A	**Dighton**	33.81	312	P		P	04 51 12.7	-0.2
	baz=34,SNR=9.9							
MSTX	**Muleshoe**	34.00	304	P		P	04 51 13.9	-0.7
	baz=34,SNR=19							
MSTX	**Muleshoe**	34.00	304	eP		P	04 51 13.7	-0.9
	comp=Z,25nm,0.8s							
T29A	**Hugoton**	34.05	310	P		P	04 51 15.0	0.0
	baz=34							
O31A	**Woolen Ranch,**	34.07	316	P		P	04 51 14.7	-0.4
	baz=34							
Q30A	**Quinter**	34.09	314	P		P	04 51 15.2	-0.1
	baz=34,SNR=14							
S29A	**Ulysses**	34.12	311	P		P	04 51 15.6	+0.1
	baz=34,SNR=5.9							
N31A	**Bailey Ranch,**	34.17	317	P		P	04 51 15.1	-0.8
	baz=34							
V28A	**Channing**	34.19	307	P		P	04 51 15.8	-0.4
	baz=34							
P30A	**Selden**	34.38	314	P		P	04 51 17.5	-0.3
	baz=34,SNR=10							
U28A	**Mallet**	34.43	308	P		P	04 51 17.9	-0.4
	baz=34,SNR=6.5							
LPAZ	**La Paz**	34.43	179	P		P	04 51 17.6	-1.4
	comp=Z,2.7nm,0.8s,baz=32,slow=10,SNR=11							
LPAZ	**La Paz**	34.43	179	P		P	04 51 17.6	-1.4
LPAZ				pmax		pmax		
	comp=Z,3.0nm,0.8s							
LPAZ	**La Paz**	34.43	179	eP		P	04 51 17.3	-1.6
	comp=Z,4.1nm,1.0s							
ECSD	**EROS Data Cent**	34.44	323	P		P	04 51 17.4	-0.7
	baz=34,SNR=9.1							
ECSD	**EROS Data Cent**	34.44	323	eP		P	04 51 18.1	-0.1
	comp=Z,17nm,0.8s							
ECSD				e			04 52 12.5	
M31A	**Lambtecht Ranc**	34.47	318	P		P	04 51 17.8	-0.6
	baz=34							
R29A	**Marienthal**	34.48	312	P		P	04 51 18.6	-0.1
	baz=34							
O30A	**MW Ranch, Wils**	34.57	316	P		P	04 51 19.1	-0.3
	baz=35,SNR=5.1							
Q29A	**Oakley**	34.58	313	P		P	04 51 19.4	-0.1
	baz=35,SNR=5.9							
T28A	**Walsh**	34.63	310	P		P	04 51 19.8	-0.2
	baz=35,SNR=6.1							
S28A	**Manter**	34.67	310	P		P	04 51 20.3	0.0
	baz=35							
EYMN	**Ely**	34.82	333	P		P	04 51 21.2	-0.2
	baz=35							
P29A	**Atwood**	34.88	314	P		P	04 51 21.8	-0.2
	baz=35							
U27A	**Thompson Grove**	34.89	308	P		P	04 51 21.7	-0.6
	baz=35,SNR=20							
R28A	**Tribune**	34.92	312	P		P	04 51 22.4	-0.1
	baz=35,SNR=9.2							
SIV	**San Ignacio**	34.97	167	P		P	04 51 21.7	-1.2
	comp=Z,1.2nm,0.5s,baz=28,slow=12,SNR=7.8							
O29A	**4D Ranch, Culb**	35.03	315	P		P	04 51 23.0	-0.3
	baz=35,SNR=5.0							
T27A	**Campo**	35.06	309	P		P	04 51 23.1	-0.6
	baz=35							
Q28A	**Sharon Springs**	35.25	313	P		P	04 51 25.4	+0.1
	baz=35							
L30A	**Spencer Herefo**	35.26	318	P		P	04 51 24.6	-0.7
	baz=35							
P28A	**Saint Francis**	35.43	314	P		P	04 51 26.6	-0.2
	baz=35							
K30A	**Basset**	35.59	320	P		P	04 51 27.7	-0.3
	baz=36							
R27A	**Eads**	35.60	311	P		P	04 51 27.9	-0.4
	baz=36							
M29A	**Burnside Ranch**	35.62	317	P		P	04 51 28.0	-0.3
	baz=36							
O28A	**Krutsinger Ran**	35.69	314	P		P	04 51 28.7	-0.3
	baz=36							
L29A	**Maesberg Ranch**	35.80	318	P		P	04 51 28.9	-1.0
	baz=36							
N28A	**Pribbeno Ranch**	35.80	315	P		P	04 51 29.2	-0.7
	baz=36							
J30A	**Dallas**	35.88	321	P		P	04 51 30.3	-0.2
	baz=36							
P27A	**Ficken Ranch,**	35.99	313	P		P	04 51 32.0	+0.5
	baz=36							
M28A	**Bar X Bar Ranc**	36.04	317	P		P	04 51 31.7	-0.2
	baz=36							
R26A	**Arlington**	36.07	311	P		P	04 51 31.9	-0.5
	baz=36							
O27A	**Beecher Island**	36.20	314	P		P	04 51 33.5	+0.1
	baz=36							
T25A	**Trinidad**	36.34	308	P		P	04 51 34.5	-0.2
	baz=36							
Q26A	**Hugo**	36.38	312	P		P	04 51 35.4	+0.4
	baz=36,SNR=7.4							
J29A	**Okreek**	36.43	320	P		P	04 51 35.2	0.0
	baz=36							
SCHQ	**Schefferville**	36.45	2	P		P	04 51 35.6	+0.5
	comp=Z,5.6nm,0.5s,baz=194,slow=7.6,SNR=28							
SCHQ				LR		LR	05 06 18.9	
	comp=Z,27nm,19.4s,baz=20,slow=35							
SCHQ	**Schefferville**	36.45	2	eP		P	04 51 36.0	+0.9
P26A	**Davis Ranch, A**	36.52	313	P		P	04 51 36.7	+0.5
	baz=36							
N27A	**Anderson Farm,**	36.52	315	P		P	04 51 36.0	-0.1
	baz=36							
K28A	**Ten Mile Ranch**	36.70	318	P		P	04 51 37.3	-0.2
	baz=37							
I29A	**Vivian Onida**	36.76	321	P		P	04 51 37.8	-0.1
	baz=37							
M27A	**Reverse DX Ran**	36.77	316	P		P	04 51 37.9	-0.2
	baz=37							
L27A	**T5 Ranch, Ells**	36.99	317	P		P	04 51 39.6	-0.4
	baz=37							
AGMN	**Agassiz Nation**	37.06	330	P		P	04 51 39.8	-0.6
	baz=37							
AGMN	**Agassiz Nation**	37.06	330	eP		P	04 51 39.2	-1.2
	comp=Z,11nm,1.0s							
AGMN				e			04 52 36.8	
ANMO	**Albuquerque**	37.20	304	eP		P	04 51 42.2	+0.2
ANMO				pmax		pmax		
	comp=Z,7.0nm,1.0s							
ANMO	**Albuquerque**	37.20	304	eP		P	04 51 42.2	+0.2
	comp=Z,7.1nm,1.0s							
I28A	**Midland**	37.27	320	P		P	04 51 42.1	-0.2
	baz=37							
SDCO	**Great Sand Dun**	37.37	309	P		P	04 51 43.5	+0.1
	baz=37,SNR=24							
SDCO	**Great Sand Dun**	37.37	309	eP		P	04 51 43.8	+0.3
	comp=Z,14nm,0.8s							
LENM	**Lemitar**	37.40	303	eP		P	04 51 43.0	-0.7
	comp=Z,7.9nm,1.0s							
Q24A	**Divide**	37.56	311	P		P	04 51 44.8	-0.3
	baz=38,SNR=7.0							
121A	**Cookes Peak, D**	37.67	300	P		P	04 51 46.5	+0.5
	baz=38,SNR=6.1							
121A	**Cookes Peak, D**	37.67	300	eP		P	04 51 46.8	+0.8
	comp=Z,8.9nm,0.9s							
G28A	**Parade**	37.71	322	P		P	04 51 46.3	+0.3
	baz=38							
I27A	**Quinn**	37.84	320	P		P	04 51 47.0	-0.1
	baz=38

baz=39
H07S1 FLORES T-PHASE 38.68 49 T T 05 32 58.1
SNR=9.6
F27A Lemmon 38.80 322 P **P** **04 51 55.4 +0.3**
baz=39,SNR=11
G26A Maurine 38.82 321 P **P** **04 51 54.8 -0.5**
baz=39,SNR=7.4
I25A Rochford 38.85 319 P **P** **04 51 55.3 -0.4**
baz=39
E27A Carson 38.86 323 P **P** **04 51 55.6 +0.1**
baz=39,SNR=5.6
H07N1 FLORES T-PHASE 38.86 49 T T 05 33 13.1
SNR=7.1
SMCO Snowmass 38.96 310 *eP* **P** **04 51 57.0 +0.1**
comp=Z,20nm,1.1s
SMCO *e* 04 52 55.7
H25A Fruitdale 39.07 320 P **P** **04 51 57.0 -0.3**
baz=39
A29A Manning Farm, 39.14 328 P **P** **04 51 57.4 -0.3**
baz=39
F26A Lodgepole 39.17 322 P **P** **04 51 58.0 -0.1**
baz=39,SNR=8.8
G25A Newell 39.26 321 P **P** **04 51 58.6 -0.3**
baz=39,SNR=5.5
E26A Carlson Angus 39.39 323 P **P** **04 51 59.9 -0.1**
baz=39,SNR=7.8
MVCO Mesa Verde 39.44 307 P **P** **04 52 00.7 -0.1**
baz=39
F25A Bowman 39.67 322 P **P** **04 52 02.7 +0.4**
baz=40
D26A Manning 39.69 324 P **P** **04 52 02.7 +0.3**
baz=40
H24A Dirks Ranch, A 39.73 319 P **P** **04 52 02.3 -0.5**
baz=40
PV01 Paradox Valley 39.78 308 *eP* **P** **04 52 04.5 +1.0**
comp=Z,654nm,1.2s
G24A Alzada 39.93 320 P **P** **04 52 04.3 -0.2**
baz=40
E25A Miller Ranch, 39.95 322 P **P** **04 52 04.1 -0.5**
baz=40,SNR=5.5
C26A Wahner Farm, P 39.96 325 P **P** **04 52 04.7 +0.1**
baz=40
K22A Casper 40.02 315 P **P** **04 52 05.5 +0.2**
baz=40
K22A Casper 40.02 315 *eP* **P** **04 52 05.8 +0.4**
comp=Z,8.6nm,1.0s
PV04 Paradox Valley 40.11 308 *eP* **P** **04 52 07.2 +1.0**
TUC Tucson 40.12 299 *eP* **P** **04 52 06.4 +0.2**
TUC pmax pmax
comp=Z,18nm,1.6s
TUC Tucson 40.12 299 *eP* **P** **04 52 06.4 +0.2**
comp=Z,18nm,1.6s
O20A White River Ci 40.22 311 P **P** **04 52 08.6 +1.6**
baz=40,SNR=5.5
O20A White River Ci 40.22 311 *eP* **P** **04 52 09.1 +2.0**
F24A Ekalaka 40.22 321 P **P** **04 52 06.6 -0.3**
baz=40
D25A Fairfield 40.26 323 P **P** **04 52 06.8 -0.4**
baz=40
J22A Midwest 40.32 317 P **P** **04 52 07.3 -0.4**
baz=40
B26A Jensen Ranch, 40.36 325 P **P** **04 52 08.0 +0.1**
baz=40
G23A Biddle 40.47 320 P **P** **04 52 08.8 -0.1**
baz=40
C25A Freed Ranch, W 40.54 324 P **P** **04 52 09.8 +0.5**
baz=40
I22A 9 Mile Ranch, 40.54 317 P **P** **04 52 09.2 -0.3**
baz=40
LVC Limon Verde 40.71 180 P **P** **04 52 09.1 -2.2**
comp=Z,26nm,0.8s,baz=359,slow=5.4,SNR=10.0
LVC Limon Verde 40.71 180 *eP* **P** **04 52 09.1 -2.2**
comp=Z,8.3nm,0.9s
F23A Volborg 40.73 320 P **P** **04 52 11.1 0.0**
baz=41
B25A Knox Farm, Ray 40.80 325 P **P** **04 52 11.8 +0.3**
baz=41
D24A Glendive 40.82 323 P **P** **04 52 11.9 +0.2**
baz=41
J21A Lysite 40.93 316 P **P** **04 52 12.6 -0.2**
baz=41,SNR=7.0
I21A Big Trails, Te 41.03 317 P **P** **04 52 12.6 -0.9**
baz=41
G22A Birney 41.03 319 P **P** **04 52 13.3 -0.3**
baz=41,SNR=7.9
E23A Ismay 41.06 321 P **P** **04 52 13.6 -0.1**
baz=41,SNR=5.1
C24A Savage 41.10 323 P **P** **04 52 14.3 +0.3**
baz=41
WUAZ Wupatki 41.24 303 P **P** **04 52 16.0 +0.5**
baz=41,SNR=9.2
WUAZ Wupatki 41.24 303 *eP* **P** **04 52 15.4 0.0**
comp=Z,11nm,1.0s
F22A Rosebud 41.28 320 P **P** **04 52 15.3 -0.2**
baz=41,SNR=15
E22A Miles City 41.42 321 P **P** **04 52 16.4 -0.2**
baz=41
DGMT Dagmar 41.48 324 P **P** **04 52 17.4 +0.4**
baz=42
SRU San Rafael 41.54 309 *eP* **P** **04 52 18.6 +0.8**
SRU pmax pmax
comp=Z,7.0nm,0.7s
SRU San Rafael 41.54 309 *eP* **P** **04 52 18.6 +0.8**
comp=Z,7.0nm,0.7s
G21A Lodge Grass 41.61 319 P **P** **04 52 17.7 -0.6**
baz=42
I20A Worland 41.63 317 P **P** **04 52 17.8 -0.6**
baz=42
C23A Lambert 41.68 323 P **P** **04 52 18.6 -0.1**
baz=42
214A Organ Pipe Nat 41.76 298 P **P** **04 52 20.0 +0.5**
baz=42,SNR=7.6
214A Organ Pipe Nat 41.76 298 *eP* **P** **04 52 20.4 +0.8**
comp=Z,6.0nm,0.7s
H20A Greybull 41.78 317 P **P** **04 52 19.0 -0.6**
baz=42
P17A Butcher Ranch, 41.81 309 *eP* **P** **04 52 20.9 +0.9**
F21A Absaloka Mine, 41.83 319 P **P** **04 52 19.5 -0.5**
baz=42
B23A Brockton 41.92 324 P **P** **04 52 21.3 +0.6**
baz=42
J19A Crowheart 41.96 315 P **P** **04 52 20.7 -0.5**
baz=42
TMUT Trail Mountain 42.10 309 *eP* **P** **04 52 22.5 0.0**
comp=Z,21nm,1.0s
PDAR Pinedale Array 42.11 314 P **P** **04 52 21.4 -1.0**
comp=Z,1.3nm,0.8s,baz=108,slow=9.5,SNR=9.8
PDAR pP **pP** **04 52 59.5 -0.2**
comp=Z,0.8nm,0.8s,baz=120,slow=8.8,SNR=3.5
PDAR sP **sP** **04 53 19.4 +0.2**
comp=Z,1.4nm,0.8s,baz=108,slow=10,SNR=4.4
PDAR PcP **PcP** **04 54 12.8 -1.1**
comp=Z,1.0nm,0.5s,baz=101,slow=4.5,SNR=7.0
PDAR ScP **ScP** **04 57 45.8 -2.5**
comp=Z,0.5nm,0.9s,baz=103,slow=3.9,SNR=3.4
I19A Meeteetse 42.24 316 P **P** **04 52 22.8 -0.6**
baz=42
G20A Bridger 42.24 318 P **P** **04 52 22.7 -0.7**
baz=42
D21A La Casta Ranch 42.35 321 P **P** **04 52 24.6 +0.4**
baz=42,SNR=12
B22A Reddig Ranch S 42.40 323 P **P** **04 52 25.3 +0.7**
baz=42,SNR=6.1
F20A Billings 42.46 319 P **P** **04 52 24.8 -0.3**
baz=42
H19A Powell 42.49 317 P **P** **04 52 25.6 +0.1**
baz=42
MSU Marysvale 42.60 307 *eP* **P** **04 52 27.0 +0.5**
MSU pmax pmax
comp=Z,4.0nm,0.6s
MSU Marysvale 42.60 307 *eP* **P** **04 52 27.0 +0.5**
comp=Z,3.7nm,0.6s
MPU Maple Canyon 42.63 310 *eP* **P** **04 52 26.6 -0.1**
comp=Z,49nm,1.3s
JLU Jordanelle 42.68 311 *eP* **P** **04 52 27.9 +0.7**
A22A Carney Farms, 42.72 324 P **P** **04 52 27.9 +0.8**
baz=43
C21A Desert Coulee 42.79 322 P **P** **04 52 28.1 +0.5**
baz=43,SNR=5.7
RLMT Red Lodge 42.87 318 P **P** **04 52 28.2 -0.4**
baz=43,SNR=6.3
RLMT Red Lodge 42.87 318 *eP* **P** **04 52 28.1 -0.4**
comp=Z,8.5nm,0.8s
RLMT *e* 04 53 25.2
CTU Camp Tracy 42.92 311 *eP* **P** **04 52 29.8 +0.8**
comp=Z,11nm,0.9s
HWUT Hardware Ranch 43.09 312 *eP* **P** **04 52 30.1 -0.2**
comp=Z,7.1nm,1.0s
HWUT *e* 04 53 07.6
LOHW Long Hollow 43.14 315 *eP* **P** **04 52 30.3 -0.4**
comp=Z,9.6nm,1.1s
LOHW *e* 04 53 08.6
LOHW *e* 04 53 28.0
REDW Red Top Meadow 43.21 315 *eP* **P** **04 52 31.2 -0.2**
comp=Z,16nm,1.3s
PDMCI Parker Dam,Lak 43.23 301 P **P** **04 52 31.5 +0.2**
baz=43
C20A Veseth Ranch, 43.27 322 P **P** **04 52 32.4 +0.9**
baz=43
MOOW Moose Ponds 43.28 315 *eP* **P** **04 52 31.5 -0.4**
comp=Z,2.8nm,0.7s
A21A Bergtoll Ranch 43.29 324 P **P** **04 52 32.4 +0.8**
baz=43
TPAW Teton Pass 43.33 315 *eP* **P** **04 52 32.0 -0.3**
comp=Z,2.2nm,0.8s
GCMT Greycliff 43.41 318 *eP* **P** **04 52 32.7 -0.1**
comp=Z,2.0nm,0.7s
GCMT *e* 04 53 29.0
FXWY Fox Creek 43.43 315 *eP* **P** **04 52 33.3 +0.2**
comp=Z,3.2nm,0.9s
Y12C Blythe 43.45 300 P **P** **04 52 33.6 +0.5**
baz=43
DUG Dugway 43.55 309 *eP* **P** **04 52 33.8 -0.2**
DUG *e* 04 53 12.0
DUG pmax pmax
comp=Z,7.0nm,0.9s
DUG Dugway 43.55 309 P **P** **04 52 34.3 +0.3**
baz=44,SNR=7.3
DUG Dugway 43.55 309 *eP* **P** **04 52 33.8 -0.2**
comp=Z,6.6nm,0.9s
DUG *e* 04 53 12.0
GLA Glamis 43.60 299 P **P** **04 52 34.8 +0.4**
baz=44
B20A Solberg Farm, 43.63 322 P **P** **04 52 35.3 +0.9**
baz=44
A20A Cobblestone Ra 43.80 323 P **P** **04 52 36.5 +0.7**
baz=44
BGU Big Grassy Mou 43.92 310 *eP* **P** **04 52 36.7 -0.3**
comp=Z,9.8nm,0.9s
BGU *e* 04 53 29.4
HVU Hansel Valley 44.00 312 *eP* **P** **04 52 37.7 +0.1**
HVU Hansel Valley 44.00 312 *eP* **P** **04 52 37.7 +0.1**
comp=Z,61µm,1.0s
IRM Iron Mountain 44.03 300 P **P** **04 52 38.8 +1.1**
baz=44,SNR=7.6
LDFC Landfair 44.15 302 *eP* **P** **04 52 40.6 +1.8**
comp=Z,24nm,0.8s
QLMT Earthquake Lak 44.15 316 *eP* **P** **04 52 39.7 +0.9**
comp=Z,0.3nm,0.5s
B19A Brinkman Farms 44.18 322 P **P** **04 52 39.3 +0.5**
baz=44
BC3 Big Chuckawall 44.20 300 P **P** **04 52 39.3 0.0**
baz=44,SNR=8.4
FFC Flin Flon 44.25 333 *i* P **P** **04 52 38.3 -0.9**
A19A Klindworth Far 44.29 323 P **P** **04 52 40.2 +0.5**
baz=44
SWSC Sam W. Stewart 44.39 299 P **P** **04 52 41.0 +0.4**
baz=44
SHPR Sheep Range 44.45 304 *eP* **P** **04 52 42.0 +0.8**
EGMT Eagleton 44.45 321 P **P** **04 52 41.5 +0.5**
baz=44,SNR=5.7
EGMT Eagleton 44.45 321 *eP* **P** **04 52 41.6 +0.5**
comp=Z,16nm,1.0s
EGMT *e* 04 53 36.9
GMRC Granite Mounta 44.54 301 P **P** **04 52 42.3 +0.4**
baz=44,SNR=8.8
BOZ Bozeman (W) 44.60 317 *eP* **P** **04 52 42.6 +0.3**
BOZ pmax pmax
comp=Z,10.0nm,1.0s
BOZ Bozeman (W) 44.60 317 P **P** **04 52 42.2 -0.1**
baz=45,SNR=9.3
BOZ Bozeman (W) 44.60 317 *eP* **P** **04 52 42.6 +0.3**
comp=Z,9.8nm,1.0s
BELC Belle Mtn. Jos 44.70 300 P **P** **04 52 43.8 +0.6**
baz=45
TUQ Turquoise Moun 44.86 302 P **P** **04 52 45.5 +1.0**
baz=45,SNR=5.5
MONP Monument Peak 44.91 298 P **P** **04 52 46.5 +1.5**
baz=45,SNR=8.4
PFO Pinyon Flat Ob 45.02 299 P **P** **04 52 46.4 +0.6**
baz=45
MCMT McKenzie Canyo 45.09 316 *eP* **P** **04 52 47.4 +1.1**
HEC Hector,Ludlow 45.09 301 P **P** **04 52 47.1 +0.8**
baz=45
DLMT Dillon 45.12 317 *eP* **P** **04 52 46.0 -0.4**
comp=Z,11nm,1.3s
DLMT *e* 04 53 43.3
R11A Troy Canyon, C 45.16 306 P **P** **04 52 47.5 +0.6**
baz=45,SNR=9.3
R11A Troy Canyon, C 45.16 306 *eP* **P** **04 52 47.5 +0.6**
comp=Z,21nm,1.5s
LRM Limekiln Ridge 45.20 317 *eP* **P** **04 52 47.1 0.0**
comp=Z,152nm,1.6s
LRM *e* 04 53 45.9
SHOC Shoshone 45.23 303 P **P** **04 52 47.9 +0.7**
baz=45
TPNV Toiyabe Spring 45.39 304 P **P** **04 52 50.1 +1.5**
baz=45,SNR=17
ELK Elko 45.48 310 *eP* **P** **04 52 49.5 +0.1**
ELK pmax pmax
comp=Z,7.0nm,1.1s
ELK Elko 45.48 310 *eP* **P** **04 52 49.5 +0.1**
comp=Z,6.9nm,1.1s
109C Camp Elliot, M 45.48 298 P **P** **04 52 49.7 +0.5**
baz=45
BBRC Big Bear Solar 45.49 300 P **P** **04 52 50.6 +0.9**
baz=45
GSC Goldstone 45.55 302 *eP* **P** **04 52 51.5 +1.7**
GSC pmax pmax
comp=Z,25nm,1.3s
GSC Goldstone 45.55 302 P **P** **04 52 51.0 +1.2**
baz=46,SNR=6.5
GSC Goldstone 45.55 302 *eP* **P** **04 52 51.5 +1.7**
comp=Z,25nm,1.3s
MURC Murrieta 45.64 299 P **P** **04 52 51.2 +0.7**
baz=46
HLID Hailey 45.71 314 P **P** **04 52 51.7 +0.6**
baz=46,SNR=8.4
HLID Hailey 45.71 314 *eP* **P** **04 52 51.8 +0.7**
comp=Z,4.1nm,0.9s
FURC Furnace Creek, 45.79 303 P **P** **04 52 52.8 +1.2**
baz=46,SNR=6.1
CPUP Villa Florida 45.80 166 P **P** **04 52 49.9 -1.8**
comp=Z,2.4nm,0.5s,baz=340,slow=9.2,SNR=10
BFSC Mount Baldy Ra 46.10 300 P **P** **04 52 54.8 +0.6**
baz=46
MPMC Manual Prospec 46.22 303 P **P** **04 52 55.9 +0.7**
baz=46,SNR=6.3
GRAC Grapevine Rang 46.28 304 P **P** **04 52 56.6 +1.1**
baz=46
LRMC Laurel Mountai 46.29 302 P **P** **04 52 56.6 +1.0**
baz=46
DAC Darwin (Calif) 46.34 303 *eP* **P** **04 52 57.2 +1.1**
DAC pmax pmax
comp=Z,67nm,1.9s
DAC Darwin (Calif) 46.34 303 *eP* **P** **04 52 57.2 +1.1**
comp=Z,67nm,1.9s
TPH Tonopah 46.36 305 *eP* **P** **04 52 57.5 +1.2**
TPH pmax pmax
comp=Z,24nm,1.4s
TPH Tonopah 46.36 305 *eP* **P** **04 52 57.5 +1.2**
comp=Z,24nm,1.4s
SLMT Seeley Lake 46.41 319 *eP* **P** **04 52 56.1 -0.3**
comp=Z,2.7nm,0.8s
SLMT *e* 04 53 54.4
EDW2 Edwards Air Fo 46.45 301 P **P** **04 52 58.0 +1.1**
baz=46,SNR=7.0
MSO Missoula 46.54 318 P **P** **04 52 57.9 +0.5**
baz=46
MSO Missoula 46.54 318 *eP* **P** **04 52 58.0 +0.6**
comp=Z,8.9nm,1.3s
FMP Fort Macarthur 46.56 299 P **P** **04 52 57.9 +0.3**
baz=46
MFID Camas Ranch 46.65 313 *eP* **P** **04 52 58.8 +0.4**
comp=Z,7.7nm,0.9s
DECC Green Verdugo 46.65 300 P **P** **04 52 58.9 +0.5**
baz=47
SWMT Swartz Lake 46.83 319 *eP* **P** **04 52 60.0 +0.3**
comp=Z,4.2nm,1.0s
SWMT *e* 04 53 56.8
BMN Battle Mountai 46.86 309 *eP* **P** **04 53 00.2 +0.1**
BMN pmax pmax
comp=Z,10.0nm,1.0s
BMN Battle Mountai 46.86 309 *eP* **P** **04 53 00.2 +0.1**
comp=Z,10nm,1.0s
ISA Isabella 46.95 302 P **P** **04 53 01.6 +0.9**
baz=47
YBMT Yellow Bay 46.98 319 *eP* **P** **04 53 00.9 +0.1**
comp=Z,1.5nm,0.4s
YBMT *e* 04 53 58.1
JTMT Jette 47.10 319 *eP* **P** **04 53 01.3 -0.5**
JTMT *e* 04 53 59.3
LCO Las Campanas 47.12 182 *eP* **P** **04 52 59.9 -2.4**
comp=Z,16nm,1.2s
ARVC Arvin 47.17 301 P **P** **04 53 03.4 +1.0**
baz=47
NVAR Mina Array Bea 47.27 306 P **P** **04 53 04.0 +0.7**
comp=Z,7.7nm,0.9s,baz=99,slow=5.9,SNR=36
BSMT Bassoo Peak 47.45 319 *eP* **P** **04 53 04.9 +0.3**
comp=Z,2.1nm,0.8s
VES Vestal, Richgr 47.47 302 P **P** **04 53 05.7 +1.0**
baz=47,SNR=11
RCTC Rector, Farmer 47.66 303 P **P** **04 53 07.3 +1.2**
baz=48
PKM Peak Mountain 47.95 301 P **P** **04 53 09.7 +1.1**
baz=48
SMMC Simmler 48.14 301 P **P** **04 53 10.6 +0.7**
baz=48
WAKR Walker 48.16 306 *eP* **P** **04 53 11.2 +1.0**
EDM Edmonton 48.90 326 *eP* **P** **04 53 15.2 -0.2**
EDM *e* 04 54 12.6
EDM Edmonton 48.90 326 *eP* **P** **04 53 15.2 -0.2**
EDM *e* 04 54 12.6
NEW Newport 49.07 319 *eP* **P** **04 53 16.2 -0.5**
NEW *e**PP **pP** **04 53 54.3 -0.8**
NEW *e**SP **sP** **04 54 13.3 -0.9**
NEW pmax pmax
comp=Z,15nm,1.0s
NEW Newport 49.07 319 P **P** **04 53 16.0 -0.7**
baz=49,SNR=14
NEW Newport 49.07 319 *eP* **P** **04 53 16.2 -0.5**
comp=Z,15nm,1.0s
NEW *ep*P **pP** **04 53 54.3 -0.8**
NEW *es*P **sP** **04 54 13.3 -0.9**
CFAA Coronel Fontan 49.67 179 P **P** **04 53 19.9 -1.6**
comp=Z,0.7nm,0.8s,baz=341,slow=6.3,SNR=17
J05D Fort Rock, OR 50.42 311 P **P** **04 53 27.6 +0.3**
baz=50
M04C Macdoel 50.56 309 P **P** **04 53 28.5 +0.3**
baz=50
K04D Chiloquin, OR 50.66 310 P **P** **04 53 29.3 +0.4**
baz=51
I05D Terrebonne, OR 50.73 313 P **P** **04 53 29.9 +0.5**
baz=51
J04D Umpqua Nationa 51.04 311 P **P** **04 53 32.2 +0.4**
baz=51
N02D Trinity Center 51.06 308 P **P** **04 53 31.2 -0.7**
baz=51
M02C Callahan 51.24 309 P **P** **04 53 32.4 -0.8**
baz=51
I04A Tendick Farm, 51.37 312 P **P** **04 53 34.0 -0.1**
baz=51
L02D Cave Junction, 51.92 310 P **P** **04 53 37.9 -0.3**
baz=52
I03D Drain, OR 52.02 311 P **P** **04 53 39.0 +0.2**
baz=52
YKA Yellowknife Ar 54.21 336 P **P** **04 53 53.7 -0.8**
comp=Z,1.8nm,0.4s,baz=110,slow=7.2,SNR=8.6
YKA pP **pP** **04 54 33.6 +0.1**
comp=Z,2.3nm,0.7s,baz=114,slow=6.7,SNR=4.0
YKA Yellowknife Ar 54.21 336 P **P** **04 53 53.7 -0.8**
YKA *PP **pP** **04 54 33.6 +0.1**
YKA pmax pmax
comp=Z,2.0nm,0.4s
YKA pmax pmax
comp=Z,2.0nm,0.7s
SUMG Summit 56.96 10 *i* P **P** **04 54 15.3 +0.8**
SUMG pmax pmax
comp=Z,2.0nm,0.4s
RES Resolute Bay 58.10 352 *eP* **P** **04 54 21.7 -0.2**
RES pmax pmax
comp=Z,2.0nm,0.8s
RES Resolute Bay 58.10 352 *eP* **P** **04 54 21.7 -0.2**
comp=Z,1.8nm,0.8s
MDT Midelt 58.90 62 P **P** **04 54 30.2 +1.8**
comp=Z,3.8nm,0.9s,baz=296,slow=9.5,SNR=7.6
ESDC Sonseca Array 59.33 54 P **P** **04 54 32.3 +1.2**
comp=Z,0.7nm,0.5s,baz=271,slow=7.4,SNR=4.3
TIC Toumodi 63.12 92 *eP* **P** **04 54 57.0 +0.1**
LIC Lamto 63.24 92 *eP* **P** **04 54 57.6 -0.1**
comp=Z,84nm,1.6s
DBIC Dimbokro 63.27 92 P **P** **04 54 58.2 +0.3**
comp=Z,9.4nm,0.7s,baz=277,slow=7.1,SNR=13
KIC Kosan Boka 63.47 92 *eP* **P** **04 54 59.2 0.0**
comp=Z,36nm,0.7s
EGAK Eagle 66.02 333 *eP* **P** **04 55 15.1 +0.3**
comp=Z,26nm,1.4s
BNI Bardonecchia 67.11 48 *eP* **P** **04 55 23.4 +1.1**
BNI pmax pmax
comp=Z,5.0nm,1.0s
BNI Bardonecchia 67.11 48 *eP* **P** **04 55 23.4 +1.1**
comp=Z,5.1nm,1.0s
BMRM Bremner River 67.22 329 *eP* **P** **04 55 20.5 -2.0**
comp=Z,11nm,1.0s
TOB4 Torodi Ar. Sit 67.72 83 *eP* **P** **04 55 25.8 -0.7**
TOA0 Torodi Ar. Sit 67.73 83 *eP* **P** **04 55 26.6 +0.1**
TORD Torodi Ar. Bea 67.73 83 P **P** **04 55 26.6 0.0**
comp=Z,6.4nm,0.8s,baz=296,slow=7.3,SNR=50
PAX Paxson 67.74 331 *eP* **P** **04 55 25.8 -0.1**
PAX pmax pmax
comp=Z,1.0nm,0.6s
PAX Paxson 67.74 331 *eP* **P** **04 55 25.8 -0.1**
comp=Z,1.3nm,0.6s
ILAR Eielson Array 68.46 333 P **P** **04 55 29.8 -0.5**
comp=Z,2.2nm,0.9s,baz=111,slow=4.2,SNR=23
ILAR pP **pP** **04 56 11.4 +0.4**
comp=Z,1.6nm,1.0s,baz=108,slow=4.8,SNR=3.8
COLA College 68.88 333 *eP* **P** **04 55 31.6 -1.1**
COLA pmax pmax
comp=Z,8.0nm,0.8s
COLA College 68.88 333 *eP* **P** **04 55 32.5 -0.2**
comp=Z,2.6nm,0.7s
TAM Tamanrasset 69.10 72 *eP* **P** **04 55 37.0 +1.9**
TAM pmax pmax
comp=Z,1.0nm,0.6s
TAM Tamanrasset 69.10 72 *eP* **P** **04 55 37.0 +1.9**
comp=Z,1.3nm,0.6s
NAO01 NORSAR Array S 69.16 31 *eP* **P** **04 55 35.5 +0.9**
comp=Z,2.6nm,0.7s
DAVA Damuels 69.17 46⇑ *iP* **P** **04 55 36.1 +1.0**
comp=Z,4.4nm,0.8s
NB2 NORSAR Subarra 69.32 31 P **P** **04 55 36.8 +1.2**
comp=Z,1.0nm,0.8s,baz=270,slow=6.5
NOA NORSAR Array B 69.32 31 P **P** **04 55 36.6 +1.0**
comp=Z,1.6nm,0.9s,baz=271,slow=6.3,SNR=5.4
MCK McKinley 69.33 332 *eP* **P** **04 55 35.4 -0.2**
MCK pmax pmax
comp=Z,6.0nm,1.0s
MCK McKinley 69.33 332 *eP* **P** **04 55 35.4 -0.2**
comp=Z,5.9nm,1.0s
FETA Feichten 69.77 46⇑ *iP* **P** **04 55 39.9 +1.2**
comp=Z,8.1nm,0.9s
TRF Thorofare Moun 69.94 332 *eP* **P** **04 55 39.2 -0.3**
comp=Z,23nm,1.4s
TRF *es*P **sP** **04 56 37.2 -1.7**
MOTA Moosalm 69.99 45⇑ *iP* **P** **04 55 41.0 +0.9**
comp=Z,3.9nm,0.7s
KEST Kesra 70.12 58 P **P** **04 55 42.1 +1.1**
comp=Z,3.1nm,0.8s,baz=136,slow=2.6,SNR=15
KEST Kesra 70.12 58 *eP* **P** **04 55 41.8 +0.8**
BPAW Bear Paw Mtn. 70.23 332 *eP* **P** **04 55 40.2 -0.9**
comp=Z,1.6nm,0.9s
KDAK Kodiak Island 71.35 326 *i* P **P** **04 55 48.5 +0.6**
GERES GERESS Array B 71.56 44 P **P** **04 55 49.7 +0.2**
comp=Z,1.6nm,0.8s,baz=278,slow=3.9,SNR=12
OHAK Old Harbor 71.78 325 *eP* **P** **04 55 50.9 +0.4**
MORC Moravsky Berou 73.92 42 *eP* **P** **04 56 04.1 +0.8**
MORC pmax pmax
comp=Z,15nm,1.0s
MORC Moravsky Berou 73.92 42 *eP* **P** **04 56 04.1 +0.8**
comp=Z,15nm,1.0s
ARCES ARCESS Array B 74.48 21 P **P** **04 56 06.5 +0.4**
comp=Z,0.3nm,0.3s,baz=263,slow=4.7,SNR=7.9
TIP Timpagrande 75.32 53 *eP* **P** **04 56 11.4 -0.2**
comp=Z,2.0nm,0.7s
STHS Stebnicka Huta 76.35 42 *eP* **P** **04 56 19.3 +2.1**
STHS pmax pmax
comp=Z,3.0nm,0.9s
STHS Stebnicka Huta 76.35 42 *eP* **P** **04 56 19.3 +2.1**
FINES FINESS Array B 76.39 30 P **P** **04 56 17.6 +0.5**
comp=Z,2.3nm,0.7s,baz=254,slow=3.9,SNR=11
KIEV Kiev 80.98 40 *eP* **P** **04 56 43.2 +0.8**

AKASG	**Malin Array Be**	**80.98**	**40**	P		**P**	**04 56 42.2**	**-0.2**	
	comp=Z,0.4nm,0.5s,baz=298,slow=4.0,SNR=4.2								
AKASG				LR		LR	05 28 16.6		
	comp=Z,16nm,21.6s,baz=330,slow=32								
AKASG	**Malin Array Be**	**80.98**	**40**	*i* P		**P**	**04 56 44.0**	**+1.6**	
OBN	**Obninsk**	**83.62**	**34**	*i* P		**P**	**04 56 58.3**	**+2.3**	
OBN				*i* *PP		**pP**	**04 57 36.3**	**-2.0**	
OBN				pmax		pmax			
	comp=Z,7.0nm,1.2s								
BRTR	**Keskin Array B**	**87.66**	**49**	P		**P**	**04 57 16.9**	**+0.4**	
	comp=Z,1.7nm,0.8s,baz=270,slow=2.5,SNR=7.4								
BRTR				pP		**pP**	**04 57 59.4**	**+0.2**	
	comp=Z,2.4nm,1.0s,baz=274,slow=3.2,SNR=5.4								
BRTR	**Keskin Array B**	**87.66**	**49**	*i* P		**P**	**04 57 17.2**	**+0.7**	
BRTR				pmax		pmax			
	comp=Z,2.0nm,0.8s								
CSS	**Prodhromos**	**89.20**	**53**	*e*P		**P**	**04 57 22.1**	**-1.6**	
	comp=Z,3.9nm,0.8s								
TIXI	**Tiksi**	**89.41**	**354**	*e*P		**P**	**04 57 24.4**	**+0.6**	
TIXI				pmax		pmax			
	comp=Z,1.0nm,1.0s								
SEY	**Seymchan**	**92.78**	**342**	||*i*P		**P**	**04 57 40.7**	**+1.1**
ARU	**Arti**	**93.46**	**26**	*d* *i*P		**P**	**04 57 43.1**	**+0.2**
ARU							05 01 29.5		
ARU				S		**SKSac**	**05 08 01.7**	**+0.8**	
ARU				SS		**SS**	**05 14 54.6**	**-1.0**	
ARU				pmax		pmax			
	comp=Z,6.0nm,2.5s								
WMQ	**Urumqi**	**114.50**	**18**	*e*PKP		PKPdf	05 03 08.0	+1.1	
HHC	**Hu-ho-hao-te**	**121.10**	**360**	*e*PKP		**PKPdf**	**05 03 20.0**	**+0.3**	
LZH	**Lanzhou**	**125.42**	**7**	*e*PKP		**PKPdf**	**05 03 27.4**	**-0.8**	
LZH				sPKP			05 04 26.6		
LZH				LN					
	comp=Z,140nm,17.2s								
LZH				LE					
	comp=Z,170nm,18.0s								
LZH				LZ					
	comp=Z,190nm,19.8s								
NJ2	**Nanjing**	**129.34**	**352**	*e*PKP		**PKPdf**	**05 03 32.9**	**-2.7**	
WHN	**Wuhan**	**131.29**	**356**	PKP		**PKPdf**	**05 03 40.8**	**+1.5**	
KMI	**Kunming**	**136.02**	**11**	PKP		**PKPdf**	**05 03 48.7**	**+0.1**	
CTAO	**Charters Tower**	**146.85**	**261**	*e*PKP2		**PKPdf**	**05 04 08.5**	**+0.8**	
CTAO	**Charters Tower**	**146.85**	**261**	*e*PKPbc		**PKPdf**	**05 04 08.5**	**+0.8**	
STKA	**Stephens Creek**	**149.44**	**238**	PKPbc		**PKPbc**	**05 04 15.2**	**-1.1**	
	comp=Z,6.4nm,0.7s,baz=67,slow=3.0,SNR=14								

*ISCJB **02** 04:59:51.0±0.3,4°.53S±0°.03×139°.11E±0°.05,h44km, mb4.4/26,MS3.0/6,Error ellipse: s-maj=7.3km s-min=4.9km az=178.4*
*DJA **02** 04:59:52.3±0.5,4°S±5°×13°9E±°,h10km,M4.7/5,mb4.8/2, MLv4.7/5*
*BJI **02** 04:59:52.6,4°.60S×139°.10E,h65km,mb4.8/7,mB5.0/5, Ms4.1/1,Ms7 3.8/1*
*NEIC **02** 04:59:53.4±0.9,4°.48S×139°.10E,h53km±9km,mb4.6/16, Error ellipse: s-maj=9.6km s-min=7.3km az=84.0*
*IDC **02** 04:59:53.5±0.7,4°.43S×139°.17E,h50km±6km,mb4.0/12, mb1 4.2/16,mb1mx4.1/27,mbtmp4.4/16,MS3.2/11, Ms1 3.2/11,ms1mx3.0/32,Error ellipse: s-maj=22.8km s-min=12.1km az=75.0*

ISC 02 04:59:52.6±0.4,4°.45S±0°.05×139°.21E±0°.06,h44km,n63, σ1§46/65,mb4.5/26,MS3.0/6,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**2.08**	**28**	P	**Pn**	**05 00 26.3**	**+1.3**
JAY	**Jayapura**	**2.43**	**38**	P	**Pn**	**05 00 31.4**	**+1.5**
JAY	**Jayapura**	**2.43**	**38**	P	**Pn**	**05 00 30.4**	**+0.4**
	43nm,0.3s,baz=216,slow=12,SNR=74						
JAY				S	**Sn**	**05 00 55.5**	**-3.0**
	80nm,0.3s,baz=93,slow=19,SNR=5.9						
JAY				LR	LR	05 01 08.3	
	comp=Z,427nm,20.9s,baz=290,slow=31						
JAY	**Jayapura**	**2.43**	**38**	P	**Pn**	**05 00 26.9**	**-3.0**
	baz=2.4,SNR=14						
SMPI	**Sarmi**	**2.49**	**348**	P	**Pn**	**05 00 31.9**	**+1.2**
BAKI	**Biak**	**4.48**	**316**	P	**Pn**	**05 00 59.6**	**+1.6**
FAKI	**Fak Fak**	**7.11**	**282**	P	**Pn**	**05 01 35.7**	**+1.6**
	52nm,0.6s,0.2nm						
FAKI	**Fak Fak**	**7.11**	**282**	P	**Pn**	**05 01 35.0**	**+0.9**
	baz=7.2,SNR=22						
FAKI	**Fak Fak**	**7.11**	**282**	*e*Pn	**Pn**	**05 01 35.1**	**+0.9**
	38nm,0.6s						
SIJI	**Sorong**	**8.69**	**294**	P	**Pn**	**05 01 57.2**	**+1.4**
	3.1nm,0.3s,baz=67,slow=12,SNR=6.6						
SIJI				S	**Sn**	**05 03 30.2**	**-2.4**
	0.5nm,0.3s,baz=72,slow=20,SNR=2.3						
SIJI				LR	LR	05 06 01.9	
	comp=Z,294nm,19.5s,baz=118,slow=43						
PMG	**Port Moresby**	**9.30**	**122**	*e*Pn	**Pn**	**05 02 07.4**	**+3.1**
	36nm,0.6s						
COEN	**Coen**	**10.23**	**158**	P	**Pn**	**05 02 17.8**	**+0.8**
	baz=10,SNR=28						
COEN	**Coen**	**10.23**	**158**	*e*Pn	**Pn**	**05 02 17.6**	**+0.7**
	17nm,0.6s						
KDU	**Kakadu**	**10.55**	**219**	P	**Pn**	**05 02 20.7**	**-0.6**
	baz=11,SNR=128						
MTSU	**Mount Surprise**	**14.49**	**160**	P	**Pn**	**05 03 16.0**	**+0.9**
	baz=14,SNR=31						
KNRA	**Kununurra**	**15.17**	**222**	P	**Pn**	**05 03 22.7**	**-1.3**
	baz=15,SNR=24						
SOEI	**Soe**	**15.73**	**250**	P	**Pn**	**05 03 31.0**	**-0.4**
	baz=16,SNR=3.6						
SOEI	**Soe**	**15.73**	**250**	*e*Pn	**Pn**	**05 03 30.3**	**-1.2**
	308nm,1.2s						
QIS	**Mount Isa**	**16.02**	**179**	P	**Pn**	**05 03 32.0**	**-3.0**
	baz=16,SNR=14						
WRAB	**Tennant Creek**	**16.11**	**197**	*e*Pn	**Pn**	**05 03 32.7**	**-3.4**
	49nm,0.6s						
WRA	**Warramunga Arr**	**16.12**	**197**	P	**Pn**	**05 03 32.9**	**-3.3**
	1.4nm,0.3s,baz=16,slow=13,SNR=19						
WRA				S	Sn	05 06 21.8	-12
	1.0nm,0.3s,baz=16,slow=23,SNR=3.6						
WRA				LR	LR	05 10 22.9	
	comp=Z,176nm,21.4s,baz=150,slow=39						
CTA	**Charters Tower**	**17.00**	**157**	P	**P**	**05 03 49.0**	**+0.3**
	0.4nm,0.3s,baz=336,slow=13,SNR=3.6						
CTAO	**Charters Tower**	**17.00**	**157**	*e*Pn	**P**	**05 03 48.4**	**-0.3**
	11nm,0.9s						
GUMO	**Guam**	**18.78**	**17**	LR	LR	05 10 51.7	
	comp=Z,48nm,21.6s,baz=158,slow=35						
ASAR	**Alice Springs**	**19.78**	**195**	P	**Pn**	**05 04 20.6**	**-0.5**
	6.2nm,0.3s,baz=21,slow=8.8,SNR=222						
ASAR				S	S	05 07 51.1	-8.9
	0.3nm,0.3s,baz=16,slow=27,SNR=4.3						
ASAR				LR	LR	05 12 02.5	
	comp=Z,154nm,19.5s,baz=14,slow=37						
WRKA	**Warakurna**	**23.00**	**206**	P	**P**	**05 04 53.5**	**-0.4**
	baz=23,SNR=15						
MBWA	**Marble Bar**	**25.18**	**227**	*e*P	**P**	**05 05 14.8**	**+0.6**
	26nm,0.6s						
STKA	**Stephens Creek**	**27.38**	**176**	P	**P**	**05 05 38.2**	**+4.3**
	1.6nm,0.6s,baz=51,slow=4.0,SNR=3.3						
STKA				LR	LR	05 18 48.1	
	comp=Z,24nm,18.4s,baz=12,slow=41						
FORT	**Forrest**	**28.22**	**201**	*e*P	**P**	**05 05 40.7**	**-0.8**
	38nm,0.8s						
LHI	**Lord Howe Isla**	**32.76**	**148**	P	**P**	**05 06 18.4**	**-3.1**
	baz=33,SNR=4.6						
MJAR	**Matsushiro Arr**	**40.78**	**359**	P	**P**	**05 07 29.7**	**0.0**
	0.7nm,0.4s,baz=180,slow=11,SNR=4.0						
MJAR				LR	LR	05 22 30.9	
	comp=Z,23nm,22.0s,baz=220,slow=33						
KSAR	**Wonju Array Be**	**42.99**	**347**	P	**P**	**05 07 48.5**	**+0.8**
KSRS	**Korea Array**	**42.99**	**347**	P	**P**	**05 07 48.5**	**+0.8**
	4.0nm,0.7s,baz=156,slow=8.4,SNR=15						
KSRS				LR	LR	05 27 39.6	
	comp=Z,22nm,18.4s,baz=170,slow=39						
CMAR	**Chiang Mai Arr**	**45.74**	**301**	P	**P**	**05 08 09.8**	**-0.2**
	1.5nm,0.3s,baz=122,slow=6.0,SNR=9.2						
RPZ	**Rata Peaks**	**48.15**	**149**	P	**P**	**05 08 29.5**	**+1.0**
	19nm,0.8s,baz=225,slow=0.6,SNR=6.5						
USRK	**Ussuriysk Ar.**	**48.86**	**353**	P	**P**	**05 08 34.4**	**+0.6**
	3.8nm,0.7s,baz=181,slow=8.8,SNR=10						
GTA	**Gaotai**	**56.75**	**324**	*e*P	**P**	**05 09 33.0**	**+0.6**
GTA				PMZ			
	3.0nm,0.9s						
PETK	**Petropavlovsk-**	**59.43**	**13**	P	**P**	**05 09 51.4**	**+0.7**
	4.3nm,0.6s,baz=177,slow=8.8,SNR=6.2						
PETK				LR	LR	05 32 02.2	
	comp=Z,8.3nm,20.3s,baz=143,slow=32						
SONM	**Songino Array**	**59.49**	**335**	P	**P**	**05 09 51.7**	**+0.3**
	0.6nm,0.6s,baz=155,slow=11,SNR=3.1						
SONM				pP	**pP**	**05 10 05.3**	**+1.3**
	1.0nm,0.6s,baz=146,slow=7.4,SNR=4.2						
SONM				LR	LR	05 37 22.7	
	comp=Z,21nm,18.7s,baz=76,slow=38						
RAR	**Rarotonga**	**61.42**	**112**	LR	LR	05 34 03.0	
	comp=Z,20nm,20.8s,baz=254,slow=33						
MK31	**Makanchi Array**	**71.46**	**323**	*e*P	**P**	**05 11 08.5**	**-0.2**
ZALV	**Zalesovo Beam**	**73.68**	**330**	P	**P**	**05 11 20.9**	**-0.7**
	3.0nm,0.8s,baz=123,slow=5.5,SNR=10						
ZALV				pP	**pP**	**05 11 35.7**	**+1.1**
	2.1nm,0.6s,baz=114,slow=5.3,SNR=5.7						
VNDA	**Vanda**	**74.02**	**175**	P	**P**	**05 11 23.1**	**-0.2**
	0.7nm,0.9s,baz=303,slow=5.2,SNR=4.0						
TKM2	**Tokmak 2**	**74.14**	**317**	*e*P	**P**	**05 11 24.8**	**-0.1**
	1.5nm,0.5s						
BILL	**Bilibino**	**74.77**	**10**	*e*P	**P**	**05 11 28.6**	**+0.8**
	2.7nm,0.8s						
KURK	**Kurchatov**	**75.41**	**325**	*e*P	**P**	**05 11 31.4**	**-0.4**
	9.2nm,1.0s						
BRVK	**Borovoye**	**81.08**	**325**	*e*P	**P**	**05 12 03.2**	**+0.1**
	6.9nm,1.0s						
PMR	**Palmer**	**85.27**	**27**	*e*P	**P**	**05 12 23.9**	**-0.6**
	5.6nm,0.9s						
QSPA	**South Pole Qui**	**85.51**	**180**	P	**P**	**05 12 25.1**	**-0.7**
	1.6nm,0.7s,baz=296,slow=1.7,SNR=11						
GEYT	**Alibeck**	**85.70**	**308**	P	**P**	**05 12 27.3**	**0.0**
	2.1nm,0.4s,baz=92,slow=7.2,SNR=2.6						
SML	**Sawmill**	**85.70**	**27**	*e*P	**P**	**05 12 26.4**	**-0.3**
	2.6nm,0.8s						
MCK	**McKinley**	**86.03**	**25**	*e*P	**P**	**05 12 27.9**	**-0.4**
	4.6nm,0.8s						
ABKAR	**Akbulak array**	**86.36**	**320**	*e*P	**P**	**05 12 28.7**	**-1.5**
	1.0nm,0.6s						
COLD	**Coldfoot**	**86.67**	**22**	*e*P	**P**	**05 12 32.2**	**+0.9**
	5.8nm,1.1s						
ILAR	**Eielson Array**	**87.20**	**24**	P	**P**	**05 12 32.6**	**-1.4**
	2.4nm,0.8s,baz=257,slow=4.6,SNR=29						
EGAK	**Eagle**	**89.58**	**25**	*e*P	**P**	**05 12 45.9**	**+0.7**
	2.7nm,1.0s						
INK	**Inuvik**	**93.09**	**22**	*e*P	**P**	**05 13 01.4**	**+0.1**
	2.8nm,1.0s						
TORD	**Torodi Ar. Bea**	**137.19**	**284**	PKhKP	PKPpre	05 19 01.1	
	1.2nm,1.1s,baz=52,slow=1.6,SNR=3.9						
TORD				PKP	**PKPdf**	**05 19 11.2**	**-0.9**
	0.5nm,0.7s,baz=85,slow=1.9,SNR=3.4						
DBIC	**Dimbokro**	**144.17**	**275**	PKP	**PKPab**	**05 19 21.8**	**-0.7**
	3.9nm,0.8s,baz=42,slow=2.6,SNR=5.1						
CPUP	**Villa Florida**	**145.47**	**153**	PKPbc	**PKPab**	**05 19 26.8**	**-0.1**
	5.2nm,0.8s,baz=220,slow=3.3,SNR=15						
CPUP				pPKPbc	pPKPbc	05 19 41.0	+0.7
	2.2nm,0.7s,baz=288,slow=1.0,SNR=4.4						
LPAZ	**La Paz**	**146.01**	**128**	PKPbc	**PKPab**	**05 19 30.4**	**+0.4**
	5.4nm,1.0s,baz=268,slow=0.7,SNR=17						
ROSC	**El Rosal**	**146.57**	**88**	PKPbc	**PKPbc**	**05 19 31.0**	**0.0**
	4.5nm,0.5s,baz=270,slow=20,SNR=4.5						
BDFB	**Brasilia**	**158.80**	**160**	PKPab	**PKPab**	**05 20 21.4**	**-1.1**
	1.9nm,0.8s,baz=236,slow=3.6,SNR=3.3						

IDC 02 05:30:36.9±2.6,16°.73S×177°.55W,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.6/39,mbtmp3.7/3,Error ellipse: s-maj=290.6km s-min=34.3km az=158.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.66**	**258**	P	P	05 38 59.5	-0.2
	0.3nm,0.4s,baz=94,slow=7.5,SNR=7.0						
ASAR	**Alice Springs**	**45.91**	**253**	P	P	05 39 01.6	0.0
	1.1nm,0.5s,baz=87,slow=8.7,SNR=18						
TXAR	**Lajitas Array**	**84.67**	**57**	P	P	05 43 13.1	0.0
	0.2nm,0.5s,baz=206,slow=6.0,SNR=3.5						

*IDC **02** 05:37:09.0±6.1,53°.55N×163°.42W,h0km,mb3.9/11, mb1 3.9/12,mb1mx3.6/59,mbtmp3.9/12,ML2.6/1,MS2.9/3, Ms1 3.0/3,ms1mx2.6/48,Error ellipse: s-maj=143.5km s-min=23.1km az=153.0*
*ISCJB **02** 05:37:11.0±0.7,53°.34N±0°.05×163°.35W±0°.06,h29km, mb4.0/10,MS2.7/1,Error ellipse: s-maj=8.3km s-min=4.0km az=153.0*
*NEIC **02** 05:37:13.8,53°.43N×163°.43W,h22km,ML3.4(AEIC),After AEIC.*

ISC 02 05:37:12.8±1.0,53°.48N±0°.08×163°.43W±0°.04,h29km,n48, σ1§25/49,mb4.0/10,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRPK	**Brown Peak**	**1.18**	**351**	P	**Pb**	**05 37 33.5**	**-1.0**
WESE	**West Dahl East**	**1.20**	**326**	P	**Pb**	**05 37 34.5**	**-0.5**
WESP	**Westdahl Peak**	**1.27**	**324**	P	**Pb**	**05 37 35.0**	**-1.0**
SSLW	**Shishaldin Wes**	**1.35**	**343**	P	**Pb**	**05 37 36.3**	**-1.2**
SSBA	**Shishaldin**	**1.35**	**343**	P	**Pb**	**05 37 36.2**	**-1.3**
SSBA				S	**Sb**	**05 37 56.1**	**+1.7**
ISNN	**Isanotski Nort**	**1.37**	**352**	P	**Pb**	**05 37 37.3**	**-0.4**
SSLN	**Shishaldin Nor**	**1.37**	**346**	P	**Pb**	**05 37 37.0**	**-0.8**
FALS	**False Pass**	**1.38**	**0**	P	**Pb**	**05 37 36.5**	**-1.4**
FALS				S	**Sb**	**05 37 55.7**	**+0.7**
AKUT	**Akutan**	**1.53**	**296**	P	**Pn**	**05 37 38.5**	**+0.3**
AKUT				S	**Sb**	**05 37 57.8**	**-1.7**
ZRO	**Akutan Zero**	**1.63**	**293**	P	**Pn**	**05 37 39.9**	**+0.3**
HSB	**Akutan Spr's B**	**1.63**	**297**	P	**Pn**	**05 37 40.2**	**+0.7**
DRIA	**Deer Island**	**1.64**	**24**	P	**Pn**	**05 37 40.0**	**+0.4**
AKGG	**Akutan Green G**	**1.68**	**296**	P	**Pn**	**05 37 40.7**	**+0.6**
LVA	**Lava Point**	**1.69**	**295**	P	**Pn**	**05 37 40.9**	**+0.6**
AKRB	**Akutan Reef Bi**	**1.69**	**294**	P	**Pn**	**05 37 40.9**	**+0.5**
AKRB				S	**Sb**	**05 38 03.2**	**-0.9**
DT1	**Dutton Round H**	**1.76**	**22**	P	**Pn**	**05 37 41.8**	**+0.5**
DT1				S	**Sb**	**05 38 03.8**	**-2.2**
DTNA	**Dutton South F**	**1.81**	**22**	P	**Pn**	**05 37 42.5**	**+0.6**
UNV	**Unalaska Valle**	**1.86**	**282**	P	**Pn**	**05 37 42.5**	**-0.2**
UNV				S	**Sn**	**05 38 06.1**	**+0.9**
MTBL	**Makushin Table**	**1.99**	**285**	P	**Pn**	**05 37 45.1**	**+0.6**
MSW	**Makushin Switc**	**2.04**	**284**	P	**Pn**	**05 37 46.0**	**+0.8**
HAG	**Hague Volcano**	**2.04**	**25**	P	**Pb**	**05 37 46.6**	**-2.6**
MCIR	**Makushin Cirqu**	**2.11**	**284**	P	**Pn**	**05 37 47.3**	**+1.2**
SDPT	**Sand Point**	**2.54**	**42**	P	**Pn**	**05 37 53.3**	**+1.3**
SDPT				S	**Sn**	**05 38 24.4**	**+2.4**
OKTU	**Okmok Mt. Tuli**	**2.76**	**270**	P	**Pn**	**05 37 56.5**	**+1.4**
OKRE	**Okmok R'deer P**	**2.83**	**273**	P	**Pn**	**05 37 57.5**	**+1.5**
OKSP	**Okmok Steeple**	**2.92**	**267**	P	**Pn**	**05 37 58.3**	**+1.0**
NIKH	**Nikolski High**	**3.30**	**263**	P	**Pn**	**05 38 02.8**	**+0.4**
NIKH				S	**Sn**	**05 38 40.4**	**-0.2**
VNHG	**Veniaminof 1**	**3.69**	**40**	P	**Pn**	**05 38 10.2**	**+2.4**
SPIA	**Saint Paul Isl**	**5.37**	**316**	P	**Pn**	**05 38 32.6**	**+1.8**
ILAR	**Eielson Array**	**14.09**	**30**	Pn	**Pn**	**05 40 27.9**	**-2.2**
	0.0nm,0.3s,baz=215,slow=11,SNR=2.6						
ILAR				LR	LR	05 46 20.2	
	comp=Z,78nm,21.3s,baz=238,slow=39						
DLBC	**Dease Lake**	**19.21**	**62**	LR	LR	05 48 19.1	
	comp=Z,33nm,18.7s,baz=256,slow=35						
INK	**Inuvik**	**20.46**	**32**	P	**P**	**05 41 46.0**	**-1.7**
	1.4nm,0.6s,baz=211,slow=5.9,SNR=2.3						
PETK	**Petropavlovsk-**	**23.05**	**285**	P	**P**	**05 42 14.4**	**-1.0**
	1.7nm,0.5s,baz=85,slow=12,SNR=4.5						
PETK				LR	LR	05 50 52.7	
	comp=Z,26nm,20.0s,baz=80,slow=36						
H11N2	**WAKE ISLAND Hy**	**40.69**	**226**	T	T	06 28 35.2	
	baz=27						
H11N3	**WAKE ISLAND Hy**	**40.70**	**226**	T	T	06 28 32.0	
	baz=27						
H11N1	**WAKE ISLAND Hy**	**40.71**	**226**	T	T	06 28 30.8	
	baz=27						
H11S1	**WAKE ISLAND Hy**	**41.86**	**225**	T	T	06 30 04.2	
	baz=25						
H11S2	**WAKE ISLAND Hy**	**41.88**	**225**	T	T	06 30 02.1	
	baz=25						
H11S3	**WAKE ISLAND Hy**	**41.88**	**225**	T	T	06 29 55.9	
	baz=25						
SONM	**Songino Array**	**53.75**	**303**	P	**P**	**05 46 32.7**	**+0.6**
	1.6nm,1.0s,baz=48,slow=8.3,SNR=6.8						
ARCES	**ARCESS Array B**	**57.12**	**356**	P	**P**	**05 46 55.6**	**-0.3**
	1.9nm,0.9s,baz=7.6,slow=7.5,SNR=3.8						
ZALV	**Zalesovo Beam**	**58.95**	**320**	P	**P**	**05 47 09.3**	**+0.4**
	0.2nm,0.3s,baz=43,slow=8.7,SNR=2.9						
BVAR	**Borovoye Array**	**64.79**	**327**	P	**P**	**05 47 49.3**	**+1.0**
	1.7nm,0.8s,baz=46,slow=6.2,SNR=7.9						
FINES	**FINESS Array B**	**65.17**	**355**	P	**P**	**05 47 50.9**	**+0.4**
	1.7nm,0.8s,baz=19,slow=4.7,SNR=3.7						
HFS	**Hagfors**	**66.71**	**2**	P	**P**	**05 47 59.1**	**-1.4**
	1.8nm,0.8s,baz=46,slow=4.2,SNR=4.1						
AKTO	**Aktyubinsk**	**70.73**	**333**	P	**P**	**05 48 26.4**	**+0.7**
	1.1nm,0.4s,baz=37,slow=6.9,SNR=9.1						
AKASG	**Malin Array Be**	**75.64**	**352**	P	**P**	**05 48 54.8**	**+0.2**
	0.7nm,0.5s,baz=6.2,slow=5.2,SNR=2.9						
BRTR	**Keskin Array B**	**86.00**	**347**	P	**P**	**05 49 52.6**	**+2.3**
	0.3nm,0.4s,baz=83,slow=3.5,SNR=2.9						

IDC 02 05:43:24.1±3.7,4°.78S×150°.55E,h0km,mb3.1/2, mb1 3.4/2,mb1mx3.2/28,mbtmp3.1/2,Error ellipse: s-maj=140.3km s-min=49.2km az=114.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.83**	**225**	P	P	05 48 18.8	+0.5
	0.5nm,0.5s,baz=51,slow=10,SNR=4.1						
ASAR	**Alice Springs**	**24.70**	**219**	P	P	05 48 47.0	-0.3
	0.1nm,0.4s,baz=52,slow=9.4,SNR=5.1						
TORD	**Torodi Ar. Bea**	**148.17**	**287**	PKPbc	PKPbc	06 03 12.4	-0.8
	0.4nm,0.8s,baz=50,slow=3.2,SNR=2.6						

MEX 02 05:48:44.9±0.5,17°.60N×94°.66W,h148km±8km,MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.55**	**203**	*i* P	Pn	05 49 05.1	-1.2
CMIG				*i* S	Sn	05 49 20.5	-2.2
VHO	**Vista Hermosa**	**2.05**	**255**	*e*P	Pn	05 49 19.2	-1.6
VHO				*e*S	Sn	05 49 46.9	-1.5
PCIG		**2.34**	**144**	*e*P	Pn	05 49 23.0	-0.9
PCIG				*e*S	Sn	05 49 51.4	-2.7
PNIG	**Pinotepa**	**3.53**	**251**	*i* P	Pn	05 49 35.1	-4.0
PNIG				*i* S	Sn	05 50 16.1	-5.0

*ISCJB **02** 06:03:57.7±0.9,31°.93S±0°.03×71°.62W±0°.09,h42km±60km, Error ellipse: s-maj=13.1km s-min=5.0km az=169.6*
*GUC **02** 06:03:57.4±0.6,31°.92S×71°.38W,h36km±2km,ML3.5*
*SJA **02** 06:03:59.4±1.1,31°.78S×71°.36W,h72km±13km,ML3.3, MW3.3*

ISC 02 06:03:58.3±6.4,31°.93S±0°.03×71°.63W±0°.07,h38km±7km, n24,σ0§94/36,2C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.09**	**180**	*e*P	**Pn**	**06 04 17.0**	**0.0**
IHA				*i* S	**Sn**	**06 04 32.4**	**+1.5**
PEL	**Peldehue**	**1.45**	**147**	||*i*P	**Pn**	**06 04 21.2**	**-0.8**
PEL				*i* S	**Sn**	**06 04 38.8**	**-1.0**
PEL				AML	AML	06 04 40.7	
	comp=E,2μm,0.4s						
SAN	**Santiago**	**1.72**	**152**	*e*P	**Pn**	**06 04 25.8**	**0.0**
SAN				*e*S	**Sn**	**06 04 46.4**	**-0.2**
CLCH	**Cerro Calan**	**1.73**	**148**	*e*P	**Pn**	**06 04 25.4**	**-0.5**
CLCH				*i* S	**Sn**	**06 04 46.3**	**-0.4**
CLCH				AML	AML	06 04 51.3	
	comp=E,653nm,0.5s						
LACH	**Col Las Americ**	**1.78**	**149**	*e*P	**Pn**	**06 04 25.7**	**-0.8**
LACH				*i* S	**Sn**	**06 04 47.2**	**-0.7**
FSR	**Penalolen**	**1.80**	**149**	*e*P	**Pn**	**06 04 27.8**	**+0.9**
FSR				*i* S	**Sn**	**06 04 50.2**	**+1.7**
TACH	**Talagante**	**1.81**	**161**	||*i*P	**Pn**	**06 04 26.9**	**-0.1**
TACH				*i* S	**Sn**	**06 04 49.1**	**+0.4**
TLL	**Tololo Astrono**	**1.90**	**22**	*e*P	**Pn**	**06 04 28.1**	**-0.3**
TLL				*i* S	**Sn**	**06 04 51.7**	**+0.6**
TLL				AML	AML	06 04 55.4	
	comp=N,1μm,0.4s						
AUSP	**Uspallata**	**1.93**	**99**	*e*P	**Pn**	**06 04 28.7**	**-0.1**
AUSP				*e*S	**Sn**	**06 04 51.6**	**-0.3**
RTLS	**Leoncito**	**1.99**	**87**	*e*P	**Pn**	**06 04 29.5**	**-0.1**
RTLS				*e*S	**Sn**	**06 04 53.1**	**-0.4**
LSCH	**La Serena**	**2.04**	**9**	*e*P	**Pn**	**06 04 30.5**	**+0.4**
LSCH				*i* S	**Sn**	**06 04 54.9**	**+0.6**
CHCH	**Chadas Angostu**	**2.16**	**158**	*e*P	**Pn**	**06 04 31.7**	**-0.1**
CHCH				*i* S	**Sn**	**06 04 57.6**	**+0.3**
ARCO	**CERRO ARCO**	**2.46**	**112**	*e*P	**Pn**	**06 04 37.7**	**+1.8**
ASAL	**Salagasta**	**2.46**	**106**	*e*P	**Pn**	**06 04 38.6**	**+2.7**
RTCV	**Cerro Valdivia**	**2.63**	**89**	*e*P	**Pn**	**06 04 38.6**	**+0.4**
AAGR	**Agrelo**	**2.63**	**117**	*e*P	**Pn**	**06 04 40.4**	**+2.0**
SJA	**San Juan**	**2.65**	**82**	*e*P	**Pn**	**06 04 39.9**	**+1.4**
RTLL	**Cerro Villicun**	**2.76**	**78**	*e*P	**Pn**	**06 04 40.0**	**0.0**
AMOG	**MOGNA**	**2.86**	**71**	*e*P	**Pn**	**06 04 41.8**

HNR **Honiara** **7.77 302** *e*P **Pn** **06 05 53.5 -0.9**
HNR *e* 06 07 22.0
HNR Honiara **7.77 302** *i* P **Pn** **06 05 54.0 -0.4**
HNR Honiara **7.77 302** *e*Pn **Pn** **06 05 53.5 -0.9**
HNR *e*Sn **Sn** **06 07 22.0 +0.7**
DZM Mont Dzumac **8.42 181** *e*Pn **Pn** **06 06 03.1 -0.2**
687nm,0.4s
DZM *e*Sn **Sn** **06 07 36.0 -1.2**
2µm,0.7s
DZM *e*LR LR 06 08 02.5
146µm,23.2s
DZM Mont Dzumac **8.42 181** P **Pn** **06 06 03.0 -0.2**
16nm,0.3s,baz=90,slow=23,SNR=67
DZM Sn **Sn** **06 07 41.2 +4.0**
22nm,0.3s,baz=9.6,slow=19,SNR=2.3
DZM LR LR 06 09 07.4
comp=Z,161µm,20.0s,baz=0.0,slow=36
DZM Mont Dzumac **8.42 181** *e*P **Pn** **06 06 03.1 -0.2**
DZM Mont Dzumac **8.42 181** *e*Pn **Pn** **06 06 03.1 -0.2**
DZM *e*Sn Sn 06 07 43.1 +5.9
NOUC Port Laguerre **8.45 182** *e*P **Pn** **06 06 03.5 -0.1**
NOUC *e*S **Sn** **06 07 40.4 +2.6**
NOUC AMP 06 08 05.6
comp=Z,470nm,2.5s
BAYA Yate Dam **8.50 179** *e*P **Pn** **06 06 06.2 +1.9**
NORM Noumea **8.57 181** *e*P **Pn** **06 06 06.2 +0.9**
NORM AMP 06 08 03.9
comp=Z,668nm,0.0s
PLUM Mont Dore **8.62 180** *e*P **Pn** **06 06 06.7 +0.9**
PLUM *e*S **Sn** **06 07 46.0 +4.1**
PLUM AMP 06 08 09.8
comp=Z,748nm,0.8s
MSVF Nonsavu **11.71 112** Pn Pn 06 06 55.9 +7.5
comp=Z,2µm,1.2s,SNR=15
MSVF Nonsavu **11.71 112** *e*P Pn 06 06 54.4 +6.0
MSVF Nonsavu **11.71 112** *e*Pn Pn 06 06 54.4 +6.0
TARA Tarawa **16.11 23** *e*P **P** **06 07 50.3 -0.3**
EIDS Eidsvold **18.75 229** ⇓P **Pn** **06 08 20.9 +0.7**
baz=19,SNR=63
EIDS Eidsvold **18.75 229** *e*P **Pn** **06 08 20.6 +0.3**
comp=Z,2µm,1.8s
LHI Lord Howe Isla **19.14 200** ⇑P **Pn** **06 08 26.1 +1.2**
baz=19,SNR=4.6
PMG Port Moresby **19.55 280** *d* iP **P** **06 08 28.3 -0.2**
PMG Port Moresby **19.55 280** ⇓P **P** **06 08 29.2 +0.6**
baz=19,SNR=15
PMG ⇓P **P** **06 08 29.2 +0.6**
baz=19,SNR=15
PMG ⇓P **P** **06 08 29.2 +0.6**
baz=19,SNR=15
PMG Port Moresby **19.55 280** *e*P **P** **06 08 28.7 +0.2**
comp=Z,194nm,1.2s
CTA Charters Tower **20.55 249** P **P** **06 08 38.4 -1.0**
comp=Z,508nm,1.2s,baz=79,slow=13,SNR=101
CTA S Sn 06 12 31.7 -1.0
comp=Z,16nm,0.8s,baz=126,slow=19,SNR=2.1
CTA LR LR 06 15 16.1
comp=Z,50µm,21.6s,baz=71,slow=33
CTA ScP **ScP** **06 16 25.2 +1.1**
comp=Z,11nm,1.0s,baz=39,slow=6.5,SNR=4.1
CTAO Charters Tower **20.55 249** *e*P **P** **06 08 38.9 -0.5**
CTAO pmax pmax
comp=Z,1µm,1.4s
CTAO MLR MLR
comp=Z,57µm,22.0s
CTAO Charters Tower **20.55 249** *e*P **P** **06 08 38.9 -0.5**
comp=Z,1µm,1.4s
CTAO LR LR
comp=Z,57µm,22.0s
AFI Afiamalu **20.95 93** *e*P Pn 06 08 46.5 -0.1
AFI pmax pmax
comp=Z,204nm,1.4s
AFI MLR MLR
comp=Z,53µm,21.0s
AFI Afiamalu **20.95 93** *e*P Pn 06 08 46.5 -0.1
comp=Z,204nm,1.4s
AFI LR LR
comp=Z,53µm,21.0s
RMQ Roma **21.10 230** ⇓P **P** **06 08 46.6 +1.3**
baz=21,SNR=544
RAO Raoul Island **21.14 140** P **P** **06 08 45.8 +0.2**
comp=Z,120nm,0.3s,baz=114,slow=22,SNR=2.6
RAO S Sn 06 12 50.9 +4.3
comp=Z,61nm,0.3s,baz=353,slow=18,SNR=1.7
RAO LR LR 06 15 37.6
comp=Z,35µm,18.5s,baz=326,slow=33
RAO Raoul Island **21.14 140** *e*P **P** **06 08 46.3 +0.7**
RAO S Sn 06 12 51.0 +4.3
RAO pmax pmax
comp=Z,585nm,0.8s
RAO Raoul Island **21.14 140** *e*P **P** **06 08 46.3 +0.7**
comp=Z,585nm,0.8s
RAO S Sn 06 12 51.0 +4.3
ARMA Armidale **21.73 217** ⇑P **P** **06 08 52.3 +0.2**
baz=22,SNR=67
ARMA Armidale **21.73 217** *e*P **P** **06 08 52.4 +0.4**
comp=Z,928nm,1.5s
PATS Pohnpei **21.94 337** ⇓P **P** **06 08 54.9 +0.6**
baz=22,SNR=8.7
MTSU Mount Surprise **21.95 255** ⇓P **P** **06 08 54.5 0.0**
baz=22,SNR=94
MANU Manus Island **22.27 299** ⇓P **P** **06 08 58.7 +0.7**
baz=22,SNR=5.4
OUZ Omahuta **22.41 165** *e*P **P** **06 09 00.7 +1.5**
comp=Z,104nm,1.2s
COEN Coen **22.80 266** ⇓P **P** **06 09 03.1 -0.5**
baz=23,SNR=45
COEN Coen **22.80 266** *e*P **P** **06 09 02.7 -0.9**
comp=Z,80nm,1.2s
NIUE Niue **23.11 107** ⇓P **P** **06 09 11.1 +4.4**
baz=23,SNR=10.0
MGCD Mangrove Creek **24.11 213** ⇑P **P** **06 09 16.7 +0.5**
baz=24,SNR=20
RIV Riverview **24.56 212** ⇓P **P** **06 09 20.7 +0.4**
baz=24
QLP Quilpie **24.64 235** ⇑P **P** **06 09 20.8 -0.4**
baz=24,SNR=128
HIZ Hauiti **25.85 165** *e*PN **P** **06 09 34.3 +2.4**
HIZ PcP **PcP** **06 13 04.4 +3.7**
CMSA Cobar Meteorol **26.24 224** ⇓P **P** **06 09 35.2 -0.4**
baz=26,SNR=125
URZ Urewera **26.25 161** P **P** **06 09 36.1 +0.5**
comp=Z,5.5nm,0.4s,baz=265,slow=2.8,SNR=11
URZ S **S** **06 14 12.6 +6.9**
comp=Z,9.2nm,0.8s,baz=343,slow=19,SNR=3.5
URZ LR LR 06 18 47.7
comp=Z,65µm,19.1s,baz=338,slow=34
URZ Urewera **26.25 161** *e*P **P** **06 09 37.4 +1.9**
comp=Z,241nm,1.1s
URZ S **S** **06 14 12.6 +6.9**
YNG Young **26.42 216** ⇓P **P** **06 09 37.4 +0.2**
baz=26,SNR=34
PUZ Puketiti **26.46 159** *e*PN **P** **06 09 36.2 -1.3**
PUZ SN **S** **06 14 12.5 +3.5**
CNB Canberra Magne **26.65 213** P **P** **06 09 39.4 +0.1**
baz=27,SNR=27
QIS Mount Isa **26.74 251** ⇓P **P** **06 09 39.3 -0.9**
baz=27,SNR=37
CAN Canberra **26.85 213** ⇑P **P** **06 09 40.8 -0.3**
baz=27
BKZ Black Stump Fm **26.90 163** *e*PN **P** **06 09 40.3 -1.1**
BKZ Black Stump Fm **26.90 163** *e*P **P** **06 09 42.4 +0.9**
JAY Jayapura **27.92 291** P **P** **06 09 47.5 -3.4**
comp=Z,13nm,0.9s,baz=98,slow=15,SNR=2.2
JAY LR LR 06 20 41.7
comp=Z,17µm,21.4s,baz=174,slow=36
MILA Mila **28.10 211** ⇓P **P** **06 09 52.4 +0.1**
baz=28,SNR=18
GENI Genyem **28.38 290** P **P** **06 09 56.4 +1.5**
SNZO South Karori **28.48 167** *e*P **P** **06 09 55.4 -0.1**
comp=Z,143nm,1.3s
SNZO S **S** **06 14 45.1 +4.4**
SNZO LR LR
comp=Z,95µm,19.0s
STKA Stephens Creek **29.28 227** P **P** **06 10 02.3 -0.5**
comp=Z,86nm,0.8s,baz=47,slow=8.2,SNR=137
STKA S **S** **06 14 55.4 +1.7**
comp=Z,6.4nm,1.0s,baz=212,slow=19,SNR=1.2
STKA ScP **ScP** **06 16 49.5 +1.1**
comp=Z,8.7nm,0.8s,baz=63,slow=4.5,SNR=3.4
STKA LR LR 06 21 34.5
comp=Z,97µm,19.2s,baz=54,slow=36
KHZ Kahutara **29.32 170** *e*P P 06 09 57.4 -5.5
comp=Z,541nm,1.9s
LTZ Lake Taylor **29.47 172** *e*PN **P** **06 10 04.1 -0.2**
SMPI Sarmi **29.95 290** P **P** **06 10 10.2 +1.3**

RPZ Rata Peaks **30.24 174** P **P** **06 10 12.1 +1.0**
comp=Z,93nm,0.8s,baz=2.2,slow=7.7,SNR=14
RPZ LR LR 06 22 20.4
comp=Z,44µm,18.3s,baz=346,slow=36
RPZ Rata Peaks **30.24 174** *e*PN **P** **06 10 12.1 +1.0**
RPZ PcP **PcP** **06 13 16.2 +4.9**
RPZ Rata Peaks **30.24 174** *e*P **P** **06 10 11.7 +0.6**
comp=Z,150nm,1.0s
TOO Toolangi **30.41 215** P **P** **06 10 12.7 0.0**
baz=30,SNR=30
JCZ Jackson Bay **30.41 177** *e*PN **P** **06 10 12.4 -0.4**
JCZ PcP PcP 06 13 18.7 +6.8
WKZ Wanaka **31.18 177** *e*PN **P** **06 10 17.7 -1.8**
WR0 Warramunga Arr **31.35 254** ⇑P **P** **06 10 19.2 -2.0**
baz=31
WR9 Warramunga Arr **31.38 254** ⇑P **P** **06 10 19.4 -2.0**
baz=31
WB0 Warramunga Arr **31.47 254** ⇓P **P** **06 10 20.4 -1.9**
baz=31
WR4 Warramunga Arr **31.48 254** ⇑P **P** **06 10 19.8 -2.5**
baz=31
ODZ Otahua Downs **31.51 175** *e*PN **P** **06 10 23.3 +1.0**
WRAB Tennant Creek **31.53 254** P **P** **06 10 20.9 -1.9**
comp=Z,483nm,0.9s,SNR=31
WRAB Tennant Creek **31.53 254** *d* iP **P** **06 10 20.7 -2.1**
WRAB pmax pmax
comp=Z,269nm,1.3s
WRAB MLR MLR
comp=Z,243µm,17.0s
WRAB Tennant Creek **31.53 254** *e*P **P** **06 10 20.0 -2.8**
comp=Z,634nm,1.8s
WRAB *e*S S 06 15 17.8 -11
WRAB LR LR
comp=Z,75µm,19.0s
WRA Warramunga Arr **31.54 254** P **P** **06 10 20.5 -2.4**
comp=Z,60nm,0.9s,baz=86,slow=9.5,SNR=101
WRA PcP **PcP** **06 13 14.5 -0.7**
comp=Z,18nm,0.9s,baz=80,slow=3.1,SNR=5.4
WRA S S 06 15 20.5 -8.9
comp=Z,3.4nm,1.0s,baz=71,slow=16,SNR=2.7
WRA ScP **ScP** **06 16 56.8 +0.7**
comp=Z,15nm,1.0s,baz=80,slow=3.8,SNR=8.0
WRA PKiKP **PKiKP** **06 20 41.4 -3.3**
comp=Z,3.2nm,0.6s,baz=356,slow=0.4,SNR=14
WRA LR LR 06 23 00.1
comp=Z,92µm,18.0s,baz=85,slow=36
H11S2 WAKE ISLAND Hy **31.90 0** T T 06 44 55.3
baz=184,slow=76,SNR=5.8
H11S3 WAKE ISLAND Hy **31.90 0** T T 06 44 50.0
baz=184,slow=76,SNR=4.5
H11S1 WAKE ISLAND Hy **31.91 0** T T 06 44 50.2
baz=184,slow=76,SNR=5.4
ARPS Mount Arapiles **32.01 219** ⇑P **P** **06 10 26.9 +0.1**
baz=32,SNR=20
HTT Hallett **32.02 227** ⇓P **P** **06 10 26.7 -0.3**
baz=32,SNR=67
WHZ Wether Hill Ro **32.20 178** *e*P **P** **06 10 28.4 +0.1**
comp=Z,148nm,1.2s
ASAR Alice Springs **32.53 247** P **P** **06 10 29.2 -2.4**
comp=Z,41nm,0.7s,baz=73,slow=9.5,SNR=285
ASAR PcP **PcP** **06 13 16.9 -1.0**
comp=Z,5.4nm,0.6s,baz=80,slow=2.8,SNR=4.3
ASAR S **S** **06 15 41.0 -3.8**
comp=Z,2.8nm,0.9s,baz=78,slow=26,SNR=2.5
ASAR ScP **ScP** **06 17 00.3 +0.9**
comp=Z,14nm,0.9s,baz=79,slow=3.3,SNR=9.3
ASAR PKiKP **PKiKP** **06 20 42.2 -3.1**
comp=Z,2.0nm,0.6s,baz=106,slow=1.4,SNR=13
ASAR LR LR 06 22 22.4
comp=Z,45µm,21.4s,baz=76,slow=34
ASAR P3KP 06 43 37.6
comp=Z,0.6nm,1.0s,baz=178,slow=2.8,SNR=4.1
WAKE Wake Island **32.69 360** PFAKE 06 10 50.0 +17
WAKE LR LR
comp=Z,21µm,19.0s
RAR Rarotonga **32.86 108** P **P** **06 10 37.2 +2.7**
comp=Z,48nm,1.0s,baz=235,slow=8.4,SNR=3.7
RAR LR LR 06 21 21.3
comp=Z,44µm,20.5s,baz=280,slow=32
H11N1 WAKE ISLAND Hy **33.12 0** T T 06 46 22.5
baz=184,slow=76,SNR=7.4
H11N3 WAKE ISLAND Hy **33.12 0** T T 06 46 25.5
baz=184,slow=76,SNR=7.8
H11N2 WAKE ISLAND Hy **33.13 0** T T 06 46 26.0
baz=184,slow=76,SNR=7.3
KDU Kaduli **33.28 268** P **P** **06 10 37.3 -0.9**
baz=33,SNR=14
MOO Moorlands **33.30 207** ⇑P **P** **06 10 38.7 +0.6**
baz=33,SNR=23
TAU Tasmania Unive **33.63 206** *e*P **P** **06 10 39.7 -1.1**
TAU pmax pmax
comp=Z,488nm,1.4s
TAU MLR MLR
comp=Z,41µm,22.0s
TAU Tasmania Unive **33.63 206** *e*P **P** **06 10 39.7 -1.1**
comp=Z,488nm,1.4s
TAU LR LR
comp=Z,41µm,22.0s
BBOO Buckleboo **33.81 230** P **P** **06 10 41.9 -0.8**
baz=34,SNR=150
BBOO Buckleboo **33.81 230** *e*P **P** **06 10 41.8 -0.8**
RKPI Ransiki, Papua **34.30 288** P P 06 10 52.6 +5.5
GUMO Guam **34.58 321** P **P** **06 10 49.3 -0.1**
comp=Z,21nm,0.4s,baz=171,slow=13,SNR=3.1
GUMO S **S** **06 16 14.1 -2.5**
comp=Z,13nm,0.3s,baz=66,slow=19,SNR=1.7
GUMO LR LR 06 23 46.8
comp=Z,19µm,21.0s,baz=136,slow=34
GUMO Guam **34.58 321** P **P** **06 10 49.3 -0.1**
GUMO S **S** **06 16 14.1 -2.5**
GUMO pmax pmax
comp=Z,21nm,0.4s
GUMO smax smax
comp=N,13nm,0.3s
GUMO MLR MLR
comp=Z,19µm,21.0s
GUMO Guam **34.58 321** *e*P **P** **06 10 48.9 -0.5**
comp=Z,53nm,1.5s
GUMO S **S** **06 16 14.1 -2.5**
FAKI Fak Fak **35.61 284** P sP 06 11 12.5 0.0
KNRA Kununurra **36.69 262** P **P** **06 11 06.1 -1.5**
baz=36,SNR=21
SIJI Sorong **37.24 287** LR LR 06 26 57.4
comp=Z,44µm,21.1s,baz=126,slow=37
SWI Sorong **37.25 287** P **P** **06 11 11.8 -0.6**
comp=Z,144nm,1.1s,comp=Z,3µm
WRKA Warakurna **37.81 247** ⇑P **P** **06 11 15.3 -1.8**
baz=38,SNR=40
XMAS Kiritimati **38.85 69** *e*P **P** **06 11 26.9 +1.1**
comp=Z,81nm,0.8s
XMAS LR LR
comp=Z,22µm,19.0s
FORT Forrest **39.37 238** ⇓P **P** **06 11 29.1 -0.9**
baz=39,SNR=36
FORT Forrest **39.37 238** *e*P **P** **06 11 28.6 -1.4**
comp=Z,524nm,0.8s
NLAI Namlea **40.40 281** P **P** **06 11 40.3 +1.6**
comp=Z,256nm,2.1s,comp=Z,7µm
LBMI Labuha **40.84 285** P **P** **06 11 45.3 +2.9**
comp=Z,351nm,2.3s,comp=Z,10µm
TNTI Ternate **41.47 287** P P 06 11 56.6 +9.0
TNTI Ternate **41.47 287** *e*P **P** **06 11 47.3 -0.2**
comp=Z,80nm,0.6s
SOEI Soe **41.65 271** P sP 06 12 03.2 -0.2
SANI Sanana **41.81 282** P **P** **06 11 52.2 +1.8**
comp=Z,193nm,2.5s,comp=Z,8µmcomp=Z,21µm
PAE Paea **42.27 101** *e*P P 06 11 57.3 +3.2
comp=Z,17nm,1.1s
PPT2 Papeete2 **42.27 101** *e*P P 06 11 57.6 +3.4
comp=Z,112nm,1.3s
PPT2 *e*S S 06 18 20.1 +7.1
comp=Z,15µm,25.5s
PPT2 *e*SS **SnSn** **06 21 30.5 -5.5**
comp=Z,15µm,26.2s
PPT2 *e*LQ LQ 06 21 56.2
comp=Z,54µm,30.0s
PPT2 *e*LR LR 06 23 43.3
comp=Z,49µm,24.5s,baz=270
PPT Papeete **42.28 101** P **P** **06 11 56.0 +1.9**
comp=Z,41nm,0.6s,baz=186,slow=5.5,SNR=5.7
PPT LR LR 06 25 22.1
comp=Z,14µm,21.2s,baz=270,slow=30
TBI Tubuai **42.59 110** *e*S S 06 18 25.0 +7.6
comp=Z,13µm,27.5s
TBI *e*SS **SnSn** **06 21 37.1 -6.3**
comp=Z,14µm,28.2s
TBI *e*LQ LQ 06 22 03.5
comp=Z,42µm,26.2s
TBI *e*LR LR 06 23 53.0
comp=Z,55µm,23.2s,baz=285
MMRI Maumere **43.81 272** P P 06 12 12.6 +5.9
MMRI Maumere **43.81 272** *e*P **P** **06 12 06.0 -0.7**
comp=Z,188nm,0.9s
PMOR Pomariorio Ree **44.01 98** *e*P P 06 12 11.7 +3.6
comp=Z,685nm,1.2s
BBSI Bau Bau **44.15 276** P sP 06 12 23.8 +0.1
VAH Vaihoa **44.25 98** *e*P P 06 12 13.4 +3.3
comp=Z,282nm,1.2s
MIDW Midway **44.36 20** PFAKE 06 12 20.0 +9.3
MIDW LR LR
comp=Z,23µm,20.0s
KMSI Cibinong **44.56 285** P P 06 12 18.3 +5.7
KMBL Kambalda **44.64 239** P **P** **06 12 11.7 -1.3**
baz=44,SNR=11
LUWI Luwuk **45.18 282** P **P** **06 12 19.1 +1.5**
comp=Z,247nm,1.5s,comp=Z,7µm
LUWI Luwuk **45.18 282** *e*P **P** **06 12 17.2 -0.3**
comp=Z,226nm,1.0s
MBWA Marble Bar **45.27 254** P P 06 12 18.2 -0.1
SNR=16
MBWA Marble Bar **45.27 254** *e*P **P** **06 12 17.1 -1.1**
comp=Z,182nm,1.1s
MBWA LR LR
comp=Z,54µm,19.0s
DAV Davao City (W) **45.66 294** PFAKE 06 12 30.0 +8.6
DAV LR LR
comp=Z,10µm,19.0s
BSSI Bau Bau, Buton **46.02 275** P sP 06 12 39.1 +0.6
APSI Ampana **46.29 282** P **P** **06 12 26.8 +0.5**
comp=Z,221nm,1.4s,comp=Z,5µm
MRSI Marisa **46.45 284** P **P** **06 12 29.6 +2.0**
comp=Z,70nm,1.4s,comp=Z,4µm
BKSI Bulukumba **46.56 276** P **P** **06 12 28.4 -0.1**
comp=Z,88nm,0.9s,comp=Z,3µm
MEEK Meekatharra **46.68 246** ⇑P **P** **06 12 28.4 -0.9**
baz=46,SNR=93
CBIJ Chichi jima **46.92 330** *e*P **P** **06 12 32.7 +1.6**
comp=Z,591nm,1.8s
JCJ Chichijima **46.92 330** P **P** **06 12 31.1 +0.1**
comp=Z,7.2nm,0.3s,baz=156,slow=3.8,SNR=12
JCJ LR LR 06 28 43.9
comp=Z,7µm,21.7s,baz=143,slow=32
KAPI Kappang **46.99 276** P **P** **06 12 31.0 -0.8**
comp=Z,424nm,1.0s,SNR=12
KAPI Kappang **46.99 276** P **P** **06 12 31.8 0.0**
SNR=14
KAPI Kappang **46.99 276** *e*P **P** **06 12 31.6 -0.2**
comp=Z,200nm,1.3s
KAPI LR LR
comp=Z,11µm,21.0s
SPSI Sidrap Palu **47.23 277** P **P** **06 12 32.8 -0.9**
comp=Z,65nm,1.6s,comp=Z,3µm
TTSI Tana Toraja **47.43 278** P **P** **06 12 35.9 +0.7**
comp=Z,81nm,2.0s,comp=Z,3µm
PCI Palu **48.02 281** P **P** **06 12 41.3 +1.5**
comp=Z,435nm,0.9s,comp=Z,8µm
KLBR Kellerberrin **48.14 240** P **P** **06 12 39.0 -1.5**
baz=48,SNR=12
MPSI Mapaga **48.34 283** P **P** **06 12 41.4 -0.9**
comp=Z,152nm,1.1s,comp=Z,9µm
BLDU Ballidu **48.86 241** ⇓P **P** **06 12 45.8 -0.4**
baz=49,SNR=5.9
KIP Kipapa **49.15 45** PFAKE 06 13 00.0 +12
KIP LR LR
comp=Z,16µm,19.0s
MORW Morawa **49.22 243** ⇑P **P** **06 12 47.9 -1.1**
baz=49,SNR=16
POHA Pohakuloa **49.84 49** PFAKE 06 13 10.0 +16
POHA LR LR
comp=Z,37µm,20.0s
RCP Roxas **50.22 298** ⇓*e*P **P** **06 12 57.6 +1.0**
GIRL Giralia **50.41 252** ⇑P **P** **06 12 58.3 +0.3**
baz=50,SNR=5.6
DNP Denpasar **50.64 270** P sP 06 13 18.4 +4.2
IGBI Denpasar **50.68 270** P **P** **06 13 00.0 -0.1**
comp=Z,587nm,1.9s,comp=Z,10µm
BKB Balikpapan **50.72 280** P **P** **06 13 03.0 +2.5**
comp=Z,283nm,1.4s,comp=Z,8µm
KBKI Kotabaru **50.88 277** P **P** **06 13 01.8 +0.1**
comp=Z,134nm,1.2s,comp=Z,3µm
MYLDM Lahad Datu **51.31 288** ⇓P **P** **06 13 07.2 +2.3**
MYLDM Lahad Datu **51.31 288** ⇓P **P** **06 13 07.2 +2.3**
TSM Tawau **51.57 287** ⇓P **P** **06 13 07.0 +0.2**
TSM Tawau **51.57 287** ⇓P **P** **06 13 07.0 +0.2**
H01W1 Cape Leeuwin H **51.71 236** P **P** **06 13 09.2 +1.9**
baz=88,slow=8.4,SNR=6.9
JAGI Jajag, Banyuwa **51.71 270** P **P** **06 13 06.5 -1.4**
comp=Z,314nm,1.7s,comp=Z,8µm
JAGI Jajag, Banyuwa **51.71 270** ⇑P **P** **06 13 06.3 -1.6**
baz=52
JAGI Jajag, Banyuwa **51.71 270** *e*P **P** **06 13 06.1 -1.8**
comp=Z,183nm,0.9s
H01W3 Cape Leeuwin H **51.72 236** P P 06 13 12.6 +5.2
baz=88,slow=8.4,SNR=4.5
H01W2 Cape Leeuwin H **51.72 236** P P 06 13 13.1 +5.6
baz=88,slow=8.4,SNR=7.4
ABJI Asem Bagus **51.75 271** P **P** **06 13 08.2 0.0**
comp=Z,556nm,1.8s,comp=Z,13µm
KMMI Kalianget **52.16 272** P sP 06 13 25.8 +0.2
TAOE Nuku Hiva Isla **52.31 91** *e*S S 06 20 41.9 +5.8
comp=Z,5µm,26.6s
TAOE *e*LR LR 06 28 22.5
comp=Z,41µm,22.5s,baz=263
BLJI Banyuglugur **52.38 271** P P 06 13 21.5 +8.6
SDKM Sandakan **52.69 288** ⇑P **P** **06 13 14.5 -0.8**
SDKM Sandakan **52.69 288** ⇑P **P** **06 13 14.5 -0.8**
KKM Kota Kinabalu **53.74 288** ⇑P **P** **06 13 23.4 +0.3**
baz=54,SNR=11
KKM Kota Kinabalu **53.74 288** ⇓P **P** **06 13 23.1 +0.1**
KKM Kota Kinabalu **53.74 288** ⇓P **P** **06 13 23.1 +0.1**
KKM Kota Kinabalu **53.74 288** *e*P **P** **06 13 22.6 -0.5**
comp=Z,372nm,1.2s
KKM LR LR
comp=Z,9µm,22.0s
PWJI Pagerwojo **54.07 270** P P 06 13 33.0 +7.7
BCPH Baguio City Da **54.41 302** ⇓*i* P **P** **06 13 25.9 -2.1**
NGJI Ngawi **54.53 271** P P 06 13 33.8 +5.1
JOW Kunigami **54.83 317** *e*P **P** **06 13 31.5 +1.0**
comp=Z,137nm,1.4s
WOJI Wonogiri, Jawa **54.96 270** P **P** **06 13 32.3 +0.5**
comp=Z,309nm,2.4s,comp=Z,9µm
SZP Santa **55.11 303** *e*P **P** **06 13 32.0 -0.8**
comp=Z,348nm,1.5s
SMRI Semarang **55.59 271** P **P** **06 13 39.0 +2.7**
comp=Z,451nm,1.7s,comp=Z,14µm
SMRI Semarang **55.59 271** *e*P **P** **06 13 36.4 +0.1**
comp=Z,249nm,0.9s
BTM Bintulu **55.70 283** ⇓P **P** **06 13 38.4 +1.3**
BTM Bintulu **55.70 283** ⇓P **P** **06 13 38.4 +1.3**
RKT Rikitea **55.90 109** *e*S S 06 21 31.0 +6.9
comp=Z,13µm,29.8s
RKT *e*SS SS 06 25 18.5 +8.2
comp=Z,8µm,26.8s
RKT *e*LQ LQ 06 27 36.4
comp=Z,13µm,27.8s
RKT *e*LR LR 06 30 08.1
comp=Z,21µm,27.0s,baz=270
DRV Dumont d'Urvil **55.90 192** P P 06 13 13.0 -25
DRV S S 06 20 51.0 -32
DRV SS **SS** **06 25 13.0 +4.3**
DRV L L 06 27 00.0
DRV R 06 30 00.0
SBUM Sibu **56.28 282** ⇑P **P** **06 13 42.1 +0.8**
SBUM Sibu **56.28 282** ⇑P **P** **06 13 42.1 +0.8**
STKI Sintang **56.29 279** P **P** **06 13 43.0 +1.6**
comp=Z,237nm,1.2s
MJAR Matsushiro Arr **56.64 333** P **P** **06 13 42.3 -1.1**
comp=Z,69nm,0.9s,baz=170,slow=8.3,SNR=95
MJAR LR LR 06 34 33.9
comp=Z,4µm,21.1s,baz=185,slow=32
MAJO Matsushiro **56.64 333** *c* iP **P** **06 13 42.4 -1.0**
MAJO pmax pmax
comp=Z,585nm,1.0s
MAJO MLR MLR
comp=Z,26µm,17.0s
MAJO Matsushiro **56.64 333** *e*P **P** **06 13 42.5 -0.9**
comp=Z,950nm,1.9s
MAJO LR LR
comp=Z,9µm,19.0s
MAT Matsushiro **56.64 333** P **P** **06 13 42.3 -1.1**
MAT S **S** **06 21 34.6 +1.2**
YOJ Yonaguni jima **56.98 311** *e*P **P** **06 13 47.0 +1.0**
YOJ pmax pmax

comp=Z,91nm,1.3s
YOJ Yonaguni jima 56.98 311 *e*P **P** **06 13 47.0 +1.0**
comp=Z,91nm,1.3s
KPJI Karang Pucung 57.00 270 P **P** **06 13 49.2 +2.8**
comp=Z,236nm,1.1s,comp=Z,7µm
CMJI Cimerak 57.38 269 P sP 06 14 06.5 +2.9
YULB Yu-li 57.63 309 *e*P **P** **06 13 51.2 +0.5**
comp=Z,204nm,1.4s
KSM Kuching 57.81 281 P **P** **06 13 52.1 0.0**
baz=58,SNR=12
KSM Kuching 57.81 281 ⇓P **P** **06 13 52.7 +0.6**
KSM Kuching 57.81 281 ⇓P **P** **06 13 52.7 +0.6**
KSM Kuching 57.81 281 *e*P **P** **06 13 51.6 -0.6**
comp=Z,192nm,0.9s
KSM LR LR
comp=Z,5µm,19.0s
NACB Ninganchiao 57.86 310 *e*P **P** **06 13 53.3 +1.1**
comp=Z,2µm,2.3s
CISI Cisompet, Garu 58.04 270 P **P** **06 13 55.5 +1.7**
comp=Z,494nm,1.9s,comp=Z,6µm
CISI Cisompet, Garu 58.04 270 ⇓P **P** **06 13 52.6 -1.2**
baz=58
CISI Cisompet, Garu 58.04 270 *e*P **P** **06 13 52.1 -1.7**
comp=Z,262nm,0.8s
TPUB Ta-pu 58.08 309 *e*P **P** **06 13 53.0 -0.8**
comp=Z,186nm,1.1s
SSLB Suanglung 58.11 309 *e*P **P** **06 13 55.4 +1.3**
comp=Z,218nm,1.5s
YHNB Yeheng 58.31 311 *e*P **P** **06 13 55.8 +0.4**
comp=Z,719nm,1.7s
YHNB LR LR
comp=Z,10µm,22.0s
TATO Taipei 58.40 311 *e*P **P** **06 13 57.1 +1.1**
comp=Z,127nm,1.0s
TATO LR LR
comp=Z,11µm,20.0s
CNJI Cibinong 58.75 270 P **P** **06 14 00.1 +1.4**
CBJI Citeko 59.20 271 P P 06 14 09.7 +7.8
SKJI Sukabumi 59.37 270 P sP 06 14 16.0 -1.5
ERM Erimo 59.43 340 P **P** **06 14 04.8 +2.0**
comp=Z,671nm,0.7s,SNR=9.1
ERM Erimo 59.43 340*d i*P **P** **06 14 01.8 -1.0**
ERM pmax pmax
comp=Z,64nm,0.8s
ERM MLR MLR
comp=Z,9µm,18.0s
ERM Erimo 59.43 340 *e*P **P** **06 14 03.7 +0.9**
comp=Z,77nm,0.7s
ERM LR LR
comp=Z,12µm,21.0s
SBJI Serang 59.97 271 P sP 06 14 21.5 -0.1
KSBUS Busan 60.22 325 P **P** **06 14 08.2 -0.2**
SNR=5.7
KSBUS Busan 60.22 325 P **P** **06 14 11.5 +3.1**
SNR=25
CGJI Cibinong 60.29 270 P **P** **06 14 08.5 -0.8**
comp=Z,524nm,1.7s,comp=Z,8µm
PTCN Pitcairn Islan 60.30 111 PFAKE 06 14 20.0 +11
PTCN LR LR
comp=Z,13µm,21.0s
KSJJU Jeju 60.42 322 P P 06 14 13.4 +3.6
SNR=18
YUK Yuzh-Kuril'sk 60.42 343*c i*P **P** **06 14 11.4 +1.9**
YUK *i* 06 14 54.5
YUK *i* 06 16 19.8
YUK PPP PPP 06 17 56.9
YUK *i* S **S** **06 22 26.2 +4.0**
YUK *e* 06 23 58.0
YUK pmax pmax
comp=Z,2µm,8.8s
YUK pmax pmax
comp=N,180nm,1.6s
YUK pmax pmax
comp=E,149nm,1.6s
YUK pmax pmax
comp=Z,253nm,1.6s
QZH Quanzhou 60.54 309⇑*i*P **P** **06 14 13.6 +2.8**
QZH S **S** **06 22 26.7 +2.2**
QZH PMZ
comp=Z,2µm,2.0s
QZH PMZ
comp=Z,6µm,3.2s
QZH LN
comp=Z,5µm,15.8s
QZH LE
comp=Z,9µm,19.9s
QZH LZ
comp=Z,12µm,27.1s
KSNAH Namhae 60.58 324 P **P** **06 14 11.3 +0.5**
SNR=27
KSDAG Daegu 60.72 325 P **P** **06 14 12.3 +0.5**
SNR=38
KSDAG Daegu 60.72 325 P P 06 14 15.5 +3.7
SNR=32
KSJIN Jinju 60.77 324 P P 06 14 16.0 +3.9
SNR=29
KSPHA Pohang 60.77 326 P **P** **06 14 12.8 +0.7**
SNR=17
KSKOH Goheung 60.81 323 P P 06 14 15.8 +3.3
SNR=9.5
KSYOC YEONGCHEON 60.84 325 P P 06 14 16.5 +3.9
SNR=47
PPBI Pangkal Pinang 60.86 275 P **P** **06 14 14.6 +1.4**
KSULL Ulleungdo 60.91 328 P P 06 14 17.2 +4.1
SNR=36
KUR Kuril'sk 60.99 345*c i*P **P** **06 14 15.6 +2.2**
KUR *i* 06 14 55.0
KUR *i* S **S** **06 22 33.8 +4.4**
KUR pmax pmax
comp=Z,179nm,3.9s
KUR pmax pmax
comp=N,103nm,1.6s
KUR pmax pmax
comp=E,49nm,1.6s
KUR pmax pmax
comp=Z,78nm,1.6s
KSWAN Wando 60.99 323 P P 06 14 17.1 +3.4
SNR=15
KSULJ Uljin 61.13 326 P **P** **06 14 14.9 +0.3**
SNR=32
KSJDO Jindo 61.28 322 P P 06 14 18.9 +3.2
SNR=9.4
KSKWJ Gwangju 61.37 323 P P 06 14 19.5 +3.3
SNR=12
KSGWJ Gwangju-acc 61.43 323 P P 06 14 19.9 +3.3
SNR=9.5
KLI Kotabumi 61.48 272 P sP 06 14 36.2 +4.3
ASAJ Asahikawa 61.49 340 P **P** **06 14 16.9 +0.1**
comp=Z,63nm,0.6s,baz=135,slow=4.3
ASAJ Asahikawa 61.49 340 P **P** **06 14 16.9 +0.1**
ASAJ pmax pmax
comp=Z,63nm,0.6s
ASAJ Asahikawa 61.49 340 *e*P **P** **06 14 17.0 +0.1**
comp=Z,349nm,1.7s
KSCPR CHUPUNGNYEONG 61.56 325 P **P** **06 14 17.8 +0.2**
SNR=13
KSCPR CHUPUNGNYEONG 61.56 325 P **P** **06 14 20.6 +3.0**
SNR=15
KSSAJ Sangju 61.60 325 P **P** **06 14 18.4 +0.6**
SNR=5.5
KSJEU Jeongeup 61.64 324 P P 06 14 21.3 +3.3
SNR=18
KASI Kota Agung 61.68 271 P **P** **06 14 16.9 -1.9**
KSTBA Taebaek 61.68 326 P **P** **06 14 19.1 +0.7**
SNR=28
KSBON Boeun 61.86 325 P **P** **06 14 19.9 +0.3**
SNR=23
KSHUK Heuksando 61.94 322 P P 06 14 23.9 +3.9
SNR=13
KSYOW Yeongwol 61.99 326 P P 06 14 24.3 +3.9
SNR=7.8
KSTEJ Daejeon 62.01 325 P P 06 14 24.0 +3.6
SNR=19
TJN Taejon 62.02 325*c i*P **P** **06 14 19.8 -0.7**
KSCHJ Chungju 62.03 325 P **P** **06 14 20.7 0.0**
SNR=32
KSCHJ Chungju 62.03 325 P **P** **06 14 23.7 +3.0**
SNR=16
KSJES JEONGSEON 62.06 326 P **P** **06 14 21.5 +0.7**
SNR=9.4
LWLI Liwa 62.22 271 P **P** **06 14 23.4 +0.9**
comp=Z,176nm,1.4s,comp=Z,4µm
MDSI Maura Dua 62.22 272 P **P** **06 14 20.5 -1.9**
KSDGY Daegwallycong 62.25 327 P **P** **06 14 22.6 +0.4**
SNR=45
SSE Sheshan 62.30 316 P **P** **06 14 24.1 +1.5**
SSE PP **PP** **06 16 41.2 +1.1**
SSE S **S** **06 22 48.0 +1.3**
SSE sS **sS** **06 23 02.4 -1.6**
SSE SS **SS** **06 26 55.3 +4.5**
SSE PMZ
comp=Z,140nm,1.2s
SSE PMZ
comp=Z,2µm,9.5s
SSE LN
comp=Z,4µm,17.9s
SSE LE
comp=Z,5µm,17.9s
SSE LZ
comp=Z,7µm,18.7s
KSWJU Wonju 62.38 326 P P 06 14 26.8 +3.9
SNR=17
KSCEA Cheonan 62.40 325 P P 06 14 26.5 +3.4
SNR=6.2
KSRS Korea Array 62.48 326 P **P** **06 14 23.8 +0.1**
comp=Z,20nm,0.8s,baz=138,slow=7.3,SNR=72
KSRS S **S** **06 22 50.0 +1.4**
comp=Z,0.3nm,0.4s,baz=144,slow=9.0,SNR=2.4
KSRS LR LR 06 38 55.4
comp=Z,4µm,21.0s,baz=128,slow=34
KSRS PKP2bc 06 43 33.1
comp=Z,1.2nm,0.9s,baz=304,slow=3.2,SNR=5.2
KSAR Wonju Array Be 62.50 326 P **P** **06 14 23.8 0.0**
KSAR S **S** **06 22 50.0 +1.2**
KSAR Wonju Array Be 62.50 326 P **P** **06 14 23.8 0.0**
KSAR S **S** **06 22 50.0 +1.2**
KSAR ⇑*e* 06 43 33.1
HKC Hong Kong Obse 62.60 304⇑*i*P **P** **06 14 23.0 -1.7**
HKC S S 06 22 58.0 +7.3
KSICN Icheon 62.64 325 P P 06 14 28.2 +3.5
SNR=7.9
KSIJA INJE 62.77 326 P P 06 14 29.8 +4.2
SNR=6.2
KSSKC Sokcho 62.77 327 P P 06 14 29.5 +3.9
SNR=18
KSCHC Chuncheon 62.78 326 P P 06 14 29.8 +4.2
SNR=30
DSRI Dabo 62.79 277 P **P** **06 14 27.9 +1.7**
KSSES Seosan 62.82 324 P P 06 14 29.4 +3.4
SNR=6.6
KSSWO Suwon 62.88 325 P P 06 14 29.9 +3.7
SNR=19
SEHB SEOHWA 62.90 327 P P 06 14 30.8 +4.4
SNR=27
LHSI Lahat 63.00 273 P P 06 14 37.2 +10
DLV T Lat 63.01 291 *e*P **P** **06 14 29.5 +1.6**
comp=Z,616nm,2.1s
KSSEO Seoul 63.06 325 P P 06 14 31.6 +4.1
SNR=34
KSCWO Cheorwon 63.16 326 P P 06 14 32.3 +4.1
SNR=15
TPRI Tanjung Pinang 63.21 278 P sP 06 14 43.5 -0.1
INCN Inchon 63.22 325 P **P** **06 14 29.5 +0.9**
SNR=31
INCN Inchon 63.22 325 *e*P **P** **06 14 29.1 +0.5**
comp=Z,1µm,1.9s
INCN LR LR
comp=Z,6µm,19.0s
KSDDC Dongducheon 63.28 326 P P 06 14 33.0 +4.1
SNR=27
KSMUS Musan 63.44 325 P P 06 14 33.8 +3.8
SNR=20
YNCB YEONCHEON 63.45 326 P P 06 14 34.3 +4.3
SNR=24
KSGAH Ganghwa 63.48 325 P P 06 14 34.3 +4.0
SNR=24
GZH Guangzhou 63.66 305 P P 06 14 35.0 +3.3
GZH PcP **PcP** **06 15 11.7 +3.9**
GZH PP **PP** **06 16 56.2 +4.1**
GZH S **S** **06 23 05.3 +1.4**
GZH SS **SS** **06 27 13.1 +0.9**
GZH LN
comp=Z,5µm,17.4s
GZH LE
comp=Z,5µm,18.5s
GZH LZ
comp=Z,7µm,19.7s
VNDA Vanda 63.96 181 P **P** **06 14 32.8 -0.1**
comp=Z,23nm,0.7s,baz=0.2,slow=7.4,SNR=38
VNDA LR LR 06 38 49.1
comp=Z,11µm,20.4s,baz=25,slow=33
VNDA PKPPKP **P'P'df** **06 43 27.6 -0.2**
comp=Z,2.3nm,1.2s,baz=261,slow=7.1,SNR=7.2
YSS Yuzh-Sakhalins 63.99 342α *i*P **P** **06 14 33.8 +0.4**
YSS *e* 06 15 14.0
YSS *e*S **S** **06 23 10.0 +2.9**
YSS *e*PS **PnS** **06 23 26.0 -1.6**
YSS pmax pmax
comp=E,190nm,1.0s
YSS pmax pmax
comp=Z,290nm,1.0s
YSS pmax pmax
comp=Z,4µm,5.0s
YSS pmax pmax
comp=N,2µm,4.0s
YSS MLR MLR
comp=N,7µm,18.0s
YSS MLR MLR
comp=Z,8µm,18.0s
YSS Yuzh-Sakhalins 63.99 342 *e*P **P** **06 14 33.4 0.0**
comp=Z,761nm,1.6s
YSS LR LR
comp=Z,5µm,20.0s
SBA Scott Base 64.25 180 *e*P **P** **06 14 34.6 -0.2**
SBA pmax pmax
comp=Z,356nm,1.3s
SBA MLR MLR
comp=Z,11µm,20.0s
SBA Scott Base 64.25 180 *e*P **P** **06 14 34.6 -0.2**
comp=Z,356nm,1.3s
SBA LR LR
comp=Z,11µm,20.0s
CASY Casey 64.33 202 *e*P **P** **06 14 34.5 -0.9**
comp=Z,617nm,1.6s
CASY LR LR
comp=Z,15µm,22.0s
MASI Maura Aman, Be 64.41 273 P **P** **06 14 38.6 +1.6**
NJ2 Nanjing 64.46 316 *e*P **P** **06 14 38.5 +1.7**
NJ2 PcP **PcP** **06 15 14.5 +3.6**
NJ2 PP **PP** **06 16 58.0 -1.1**
NJ2 S **S** **06 23 17.0 +3.4**
NJ2 sS **sS** **06 23 28.5 -2.5**
NJ2 SS **SS** **06 27 26.5 +1.9**
NJ2 PMZ
comp=Z,420nm,1.2s
NJ2 PMZ
comp=Z,7µm,10.0s
NJ2 LN
comp=Z,7µm,19.7s
NJ2 LE
comp=Z,11µm,19.0s
NJ2 LZ
comp=Z,22µm,19.6s
KSBAR Backryungdo 64.64 324 P **P** **06 14 40.6 +2.7**
SNR=6.7
KGM Kluang 64.67 279 ⇓P **P** **06 14 40.1 +1.5**
KGM Kluang 64.67 279 ⇓P **P** **06 14 40.1 +1.5**
QIZ Qiongzhong 64.68 299 P **P** **06 14 41.6 +3.1**
QIZ pP **pP** **06 14 49.7 +0.6**
QIZ sP **sP** **06 14 52.2 -0.9**
QIZ S **S** **06 23 16.2 -0.5**
QIZ sS **sS** **06 23 33.2 -0.9**
QIZ ScS **ScS** **06 24 31.1 +0.1**
QIZ SS **SS** **06 27 31.7 +3.4**
QIZ PMZ
comp=Z,98nm,2.2s
QIZ PMZ
comp=Z,2µm,9.6s
QIZ LN
comp=Z,2µm,18.5s
QIZ LE
comp=Z,2µm,18.0s
QIZ LZ
comp=Z,4µm,19.1s
QIZ Qiongzhong 64.68 299 *e*P **P** **06 14 39.8 +1.3**
comp=Z,918nm,2.3s
QIZ LR LR
comp=Z,5µm,21.0s
SKR Severo-Kuril's 64.68 353 *e*P P 06 14 26.0 -12
SKR *e* 06 15 14.0
SKR *e* 06 23 47.0
SKR pmax pmax
comp=Z,400nm,1.5s
SKR pmax pmax
comp=N,2µm,16.0s
SKR pmax pmax
comp=Z,4µm,16.0s
SKR pmax pmax
comp=E,2µm,14.0s
VLA Vladivostok 64.81 333 *e*P **P** **06 14 38.3 -0.6**
VLA pmax pmax
comp=Z,322nm,1.8s
USRK Ussuriysk Ar. 65.62 333 P **P** **06 14 44.6 +0.5**
comp=Z,133nm,1.0s,baz=137,slow=5.6,SNR=173
USRK S **S** **06 23 28.8 +1.4**
comp=Z,0.8nm,0.5s,baz=162,slow=29,SNR=2.1
USRK LR LR 06 41 34.0
comp=Z,3µm,20.0s,baz=136,slow=34
KTGM Kuala Trenggan 65.79 282 ⇓P **P** **06 14 47.3 +1.4**
KTGM Kuala Trenggan 65.79 282 ⇓P **P** **06 14 47.3 +1.4**
BKNI Bangkinang 66.42 276 P **P** **06 14 52.0 +2.1**
BKNI Bangkinang 66.42 276 *e*P **P** **06 14 50.2 +0.3**
comp=Z,70nm,0.6s
PET Petropavlovsk 66.72 355*ce*P **P** **06 14 51.8 +0.9**
PET *e*S **S** **06 23 43.2 +2.9**
PET *e*PS **PnS** **06 24 09.5 +4.7**
PET *e*SS **SS** **06 28 01.6 +2.7**
PET pmax pmax
comp=Z,87nm,1.4s
PET pmax pmax
comp=Z,3µm,13.6s
PET pmax pmax
comp=Z,2µm,11.4s
PET Petropavlovsk 66.72 355 PFAKE 06 15 00.0 +9.1
PET LR LR
comp=Z,12µm,21.0s
WHN Wuhan 66.75 312 P **P** **06 14 54.4 +2.7**
WHN S **S** **06 23 43.3 +1.7**
WHN PMZ
comp=Z,9µm,2.8s
WHN LN
comp=Z,11µm,18.9s
WHN LE
comp=Z,3µm,16.6s
WHN LZ
comp=Z,12µm,22.0s
PEA0B Petropavlovsk- 66.89 354 *e*P **P** **06 14 53.3 +1.2**
PETK Petropavlovsk- 66.89 354 P **P** **06 14 51.6 -0.5**
comp=Z,28nm,0.9s,baz=159,slow=5.2,SNR=26
PETK S **S** **06 23 42.7 +0.2**
comp=Z,1.3nm,0.4s,baz=74,slow=16,SNR=6.5
PETK LR LR 06 38 59.7
comp=Z,7µm,21.5s,baz=162,slow=31
UBPT Khong Chiam 66.98 293 P **P** **06 14 56.4 +3.0**
comp=Z,87nm,2.2s,comp=Z,4µm
MDJ Mudanjiang 67.02 332 P **P** **06 14 53.6 +0.5**
MDJ pP **pP** **06 15 03.3 -0.4**
MDJ sP **sP** **06 15 06.6 -1.1**
MDJ S **S** **06 23 47.1 +2.8**
MDJ PMZ
comp=Z,280nm,1.4s
MDJ PMZ
comp=Z,3µm,6.9s
MDJ LN
comp=Z,3µm,24.6s
MDJ LE
comp=Z,3µm,29.9s
MDJ LZ
comp=Z,5µm,22.9s
MDJ Mudanjiang 67.02 332 *e*P **P** **06 14 53.3 +0.2**
comp=Z,849nm,1.6s
MDJ LR LR
comp=Z,5µm,20.0s
DL2 Dalian 67.05 323⇑*i*P **P** **06 14 51.4 -2.0**
DL2 S **S** **06 23 42.6 -2.3**
DL2 PMZ
comp=Z,97nm,0.9s
DL2 PMZ
comp=Z,2µm,8.5s
DL2 LN
comp=Z,3µm,16.9s
DL2 LE
comp=Z,2µm,24.9s
DL2 LZ
comp=Z,3µm,21.6s
GSTR Great Sitkin T 67.12 11 *e*P **P** **06 14 56.6 +3.0**
comp=Z,7.8nm,0.3s
TYV Tymovskoe 67.54 344 *e*P **P** **06 14 58.0 +1.8**
TYV *e*S **S** **06 23 55.0 +4.7**
TYV pmax pmax
comp=Z,4µm,9.0s
TYV smax smax
comp=E,4µm,10.0s
TYV MLR MLR
comp=Z,8µm,18.0s
TYV MLR MLR
comp=E,4µm,20.0s
IPM Ipoh 67.55 281 ⇓P **P** **06 14 57.4 +0.2**
IPM Ipoh 67.55 281 ⇓P **P** **06 14 57.4 +0.2**
IPM Ipoh 67.55 281 *e*P **P** **06 14 57.0 -0.1**
comp=E,126nm,1.0s
COCO West Island 67.85 262 PFAKE 06 15 10.0 +11
COCO LR LR
comp=Z,12µm,20.0s
HABR Khabarovsk 67.88 338*ce*P **P** **06 14 57.9 -0.5**
HABR *e**PP **pP** **06 15 08.2 -0.8**
HABR *e*SP **sP** **06 15 12.2 -0.8**
HABR *e* 06 15 24.8
HABR *e* 06 17 27.0
HABR *e*PPP PPP 06 19 04.8
HABR *e*S **S** **06 23 53.3 -1.2**
HABR *e**SS **sS** **06 24 10.6 -1.4**
HABR *e* 06 24 53.5
HABR *e*SS **SS** **06 28 15.9 -1.2**
HABR pmax pmax
comp=N,164nm,1.0s
HABR pmax pmax
comp=E,115nm,1.0s
HABR pmax pmax
comp=Z,673nm,1.0s
HABR MLR MLR
comp=N,2µm,18.0s
HABR MLR MLR
comp=Z,3µm,18.0s
HABR MLR MLR
comp=E,2µm,18.0s
MNSI Mandailing Nat 67.95 276 P **P** **06 14 58.8 -0.8**
TIA Tai'an 68.11 318⇑P **P** **06 14 59.7 -0.5**
TIA pP **pP** **06 15 09.5 -1.3**
TIA S **S** **06 24 00.1 +2.3**
TIA ScS **SKSac** **06 24 56.0 -0.3**
TIA PMZ
comp=E,190nm,1.9s
TIA PMZ
comp=E,4µm,6.8s
TIA LN
comp=E,5µm,17.8s
TIA LE
comp=E,4µm,20.2s
TIA LZ
comp=E,5µm,20.2s
KULM Kulim 68.14 281 *e*P **P** **06 15 02.5 +1.6**
comp=E,378nm,1.8s
KULM LR LR
comp=Z,3µm,19.0s
CN2 Changchun 68.39 329 *e*P **P** **06 15 01.8 +0.1**
CN2 *e*pP **pP** **06 15 12.3 -0.1**
CN2 *e*sP **sP** **06 15 16.1 -0.3**
CN2 *e*S **S** **06 24 06.2 +5.5**
CN2 SS **SS** **06 28 26.0 +0.9**
CN2 PMZ
comp=Z,100nm,0.9s
CN2 PMZ
comp=Z,2µm,3.0s
CN2 LN
comp=Z,3µm,18.0s
CN2 LE
comp=Z,3µm,18.0s
CN2 LZ
comp=Z,4µm,19.0s
SKLT Songkhla 68.72 283 P P 06 15 08.5 +4.1
comp=Z,167nm,1.6s,comp=Z,4µm
PSI Prapat 69.10 278⇑P **P** **06 15 05.5 -1.5**
baz=69,SNR=10
KHON Khomkaen 69.74 293 P P 06 15 14.1 +3.4
comp=Z,20nm,1.8s,comp=Z,1µm
KLR Kul'dur 69.75 336⇓*i*P **P** **06 15 07.0 -3.1**
KLR *e*S **S** **06 24 14.5 -2.1**
KLR pmax pmax

KLR pmax pmax
comp=E,280nm,1.8s
KLR pmax pmax
comp=Z,1µm,1.8s
KLR pmax pmax
comp=N,2µm,9.5s
KLR pmax pmax
comp=Z,5µm,9.5s
KLR MLR MLR
comp=Z,900nm,13.0s
TRTT Trang 69.80 284 P **P** **06 15 14.3 +3.2**
comp=Z,173nm,2.0s,comp=Z,4µm
GSI Gunungsitoli 70.01 276 P **P** **06 15 14.1 +1.6**
GSI Gunungsitoli 70.01 276 *e*P **P** **06 15 11.6 -0.9**
comp=Z,162nm,1.0s
NKL Nikolayevsk 70.14 344 *e*P P 06 15 08.0 -4.3
NKL *e*S **S** **06 24 20.0 -0.9**
NKL *e* 06 25 15.0
NKL pmax pmax
comp=Z,280nm,1.2s
NKL pmax pmax
comp=N,350nm,2.0s
NKL pmax pmax
comp=E,170nm,2.0s
NKL pmax pmax
comp=N,1µm,9.0s
NKL pmax pmax
comp=E,600nm,9.0s
NKL pmax pmax
comp=Z,4µm,9.0s
NKL smax smax
comp=N,2µm,16.0s
NKL smax smax
comp=E,4µm,16.0s
ENH Enshi 70.20 309 *e*P **P** **06 15 13.1 -0.2**
comp=E,82nm,0.9s
SURA Surathani 70.26 285 P P 06 15 17.6 +3.7
comp=E,118nm,1.9s,comp=E,4µm
PATY Pattaya 70.32 289 P P 06 15 18.4 +4.1
comp=E,27nm,1.2s
CHAI Chaiyaphum 70.33 293 P **P** **06 15 16.5 +2.2**
comp=E,16nm,0.9s
KCSI Kotacane, Aceh 70.41 279 P sP 06 15 29.2 -0.4
GYA Guiyang 70.59 305 ⇑*i*P **P** **06 15 15.9 0.0**
GYA pP **pP** **06 15 28.0 +1.4**
GYA PP **PP** **06 17 55.8 +3.1**
GYA S **S** **06 24 30.2 +2.5**
GYA sS **sS** **06 24 44.0 -1.3**
GYA SKS **SKSac** **06 25 11.9 -3.9**
GYA SS **SS** **06 29 00.4 +0.4**
GYA PMZ
comp=E,110nm,1.2s
GYA PMZ
comp=E,3µm,8.7s
GYA LN
comp=E,3µm,18.1s
GYA LE
comp=E,3µm,20.7s
GYA LZ
comp=E,4µm,19.1s
SLVN Son La 70.70 299 *e*P **P** **06 15 19.1 +2.5**
comp=E,322nm,1.9s
SURT Suratani 70.98 285 P P 06 15 22.5 +4.2
comp=E,76nm,1.7s,comp=E,2µm
UNV Unalaska Valle 70.99 16 *e*P **P** **06 15 17.6 +0.1**
comp=E,24nm,0.8s
BJT Baijiatuau 71.02 321 *e*P **P** **06 15 18.5 +0.5**
BJT pmax pmax
comp=Z,1µm,2.0s
BJT MLR MLR
comp=Z,8µm,19.0s
BJT Baijiatuau 71.02 321 *e*P **P** **06 15 18.5 +0.5**
comp=Z,1µm,2.0s
BJT LR LR
comp=Z,8µm,19.0s
BJI Beijing 71.02 321 P **P** **06 15 18.2 +0.2**
BJI sP **sP** **06 15 33.3 +0.6**
BJI PP **PP** **06 17 54.9 -1.1**
BJI S **S** **06 24 33.4 +1.5**
BJI sS **sS** **06 24 49.7 +0.2**
BJI PMZ
comp=Z,220nm,2.3s
BJI PMZ
comp=Z,4µm,8.7s
BJI LN
comp=Z,7µm,19.7s
BJI LE
comp=Z,5µm,21.7s
BJI LZ
comp=Z,6µm,20.2s
MIR Mirnyy 71.10 204 ⇑*e*P P 06 15 27.0 +8.9
MIR pmax pmax
comp=Z,480nm,1.5s
PHET Kaeng Krachan 71.45 289 P P 06 15 26.1 +5.0
comp=Z,20nm,1.6s,comp=Z,314nm
PBKT Sadao Pong 71.48 293 P **P** **06 15 24.2 +2.9**
comp=Z,116nm,2.3s,comp=Z,4µm
TIY Taiyuan 72.04 317 *e*P **P** **06 15 25.7 +1.4**
TIY pP **pP** **06 15 36.7 +1.7**
TIY S **S** **06 24 44.2 +0.3**
TIY PMZ
comp=Z,2µm,2.2s
TIY PMZ
comp=Z,4µm,6.8s
TIY LN
comp=Z,3µm,15.4s
TIY LE
comp=Z,2µm,14.7s
TIY LZ
comp=Z,5µm,22.8s
UTTA Uttaradit 72.27 294 P **P** **06 15 29.1 +3.1**
comp=Z,18nm,1.2s,comp=Z,249nm
SRDT SRDT 72.39 290 P P 06 15 30.6 +3.8
comp=Z,586nm,1.4s,comp=Z,20µm
XAN Xi'an 72.50 313 P **P** **06 15 27.2 +0.1**
XAN pP **pP** **06 15 37.4 -0.4**
XAN sP **sP** **06 15 44.0 +2.2**
XAN PP **PP** **06 18 08.2 -0.6**
XAN S **S** **06 24 48.2 -1.1**
XAN ScS **ScS** **06 25 33.2 +1.4**
XAN SS **SS** **06 29 30.5 +1.6**
XAN PMZ
comp=Z,53nm,2.2s
XAN PMZ
comp=Z,820nm,6.4s
XAN LN
comp=Z,3µm,17.4s
XAN LE
comp=Z,880nm,20.5s
XAN LZ
comp=Z,2µm,24.6s
UTHA Uthaitani 72.50 291 P **P** **06 15 30.6 +3.2**
comp=Z,27nm,1.8s,comp=Z,349nm
SUKH Sukhothai 73.00 293 P **P** **06 15 31.4 +1.1**
comp=Z,23nm,0.9s,comp=Z,254nm
KHLT Khaolaem Dam 73.02 290 P P 06 15 34.9 +4.3
comp=Z,105nm,1.1s,comp=Z,2µm
KMI Kunming 73.21 302 ⇑P **P** **06 15 33.0 +1.2**
KMI pP **pP** **06 15 41.9 -0.6**
KMI sP **sP** **06 15 47.1 +0.6**
KMI PP **PP** **06 18 18.1 +2.8**
KMI S **S** **06 24 57.0 -1.1**
KMI sS **sS** **06 25 13.7 -2.1**
KMI SKS **SKSac** **06 25 32.7 -3.1**
KMI SS **SS** **06 29 37.4 -3.0**
KMI PMZ
comp=Z,200nm,1.6s
KMI PMZ
comp=Z,3µm,4.4s
KMI LN
comp=Z,3µm,18.3s
KMI LE
comp=Z,3µm,18.3s
KMI LZ
comp=Z,3µm,19.1s
CRAI Chiangrai 73.33 296 P **P** **06 15 30.0 -2.3**
comp=Z,106nm,1.4s,comp=Z,13µm
LAMP Lampang 73.36 294 P **P** **06 15 33.6 +1.1**
comp=Z,61nm,0.8s,comp=Z,523nm
CMAR Chiang Mai Arr 73.95 294 P **P** **06 15 36.8 +0.8**
comp=Z,47nm,0.9s,baz=131,slow=4.6,SNR=42
CMAR S **SKiKP** **06 25 02.7 +0.2**
comp=Z,0.7nm,0.3s,baz=237,slow=29,SNR=4.1
CMAR LR LR 06 48 49.6
comp=Z,2µm,19.4s,baz=135,slow=36

CMAR Chiang Mai Arr 73.95 294 *i*P **P** **06 15 37.0 +1.0**
CMAR pmax pmax
comp=Z,47nm,0.9s
SDPT Sand Point 74.07 19 *e*P **P** **06 15 34.8 -1.0**
comp=Z,72nm,0.9s
CMMT Chiang Mai 74.07 294 P **P** **06 15 37.4 +0.7**
comp=Z,310nm,1.4s,comp=Z,5µm
HHC Hu-ho-hao-te 74.35 320 *e*P **P** **06 15 39.7 +1.7**
HHC pP **PcP** **06 15 51.7 -0.9**
HHC sP **sP** **06 15 54.2 +1.5**
HHC PP PP 06 18 30.9 +6.3
HHC S **S** **06 25 15.8 +5.7**
HHC sS **sS** **06 25 28.0 +0.2**
HHC SKS **SKSac** **06 25 40.8 -2.7**
HHC PMZ
comp=Z,28nm,0.6s
HHC PMZ
comp=Z,3µm,6.0s
HHC LN
comp=Z,4µm,16.2s
HHC LE
comp=Z,3µm,18.6s
HHC LZ
comp=Z,4µm,19.1s
CMAI Chiengmai2 74.38 295 P **P** **06 15 39.9 +1.2**
comp=Z,234nm,1.0s,comp=Z,4µm
MHMT Maesarieng 74.76 293 P P 06 15 43.9 +3.3
comp=Z,53nm,1.9s,comp=Z,1µm
HIA Hailar 75.03 330 *e*P **P** **06 15 41.5 -0.1**
HIA pmax pmax
comp=Z,651nm,1.5s
HIA MLR MLR
comp=Z,6µm,21.0s
HIA Hailar 75.03 330 *e*P **P** **06 15 41.5 -0.1**
comp=Z,651nm,1.5s
HIA LR LR
comp=Z,6µm,21.0s
CMBY CAMPBELL BAY 75.04 281 *e*P **P** **06 15 40.6 -1.7**
CMBY AMB AMB 06 15 43.5
comp=Z,258nm,3.2s
BTO Baotou 75.19 319 *e*P **P** **06 15 44.2 +1.3**
QSPA South Pole Qui 76.41 180 *e*P **P** **06 15 48.8 -0.7**
comp=Z,200nm,1.1s
QSPA LR LR
comp=Z,9µm,20.0s
SEY Seymchan 77.11 353 P **P** **06 15 52.1 -1.0**
comp=Z,80nm,0.8s,baz=156,slow=5.6,SNR=75
SEY Seymchan 77.11 353 *c*/P **P** **06 15 52.3 -0.8**
LZH Lanzhou 77.13 312 ⇑P **P** **06 15 55.3 +1.2**
LZH pP **pP** **06 16 04.9 +0.1**
LZH sP **sP** **06 16 09.7 +0.9**
LZH S **S** **06 25 43.4 +2.3**
LZH sS **sS** **06 26 01.0 +2.1**
LZH PMZ
comp=Z,970nm,1.5s
LZH PMZ
comp=Z,4µm,4.5s
LZH LN
comp=Z,6µm,16.3s
LZH LE
comp=Z,6µm,15.6s
LZH LZ
comp=Z,6µm,17.5s
PBA Port Blair 77.47 285 *e*P P 06 15 53.7 -2.4
PBA AMB AMB 06 16 06.0
comp=Z,207nm,2.6s
DGPR DIGLIPUR 77.73 287 *e*P **P** **06 15 55.3 -2.4**
DGPR AMB AMB 06 16 02.2
comp=Z,262nm,0.7s
CLNS Chul'man 78.27 338 *e*P **P** **06 16 00.1 +0.3**
CLNS *e* 06 16 08.9
CLNS *e**PP **pP** **06 16 13.2 +2.6**
CLNS *e* 06 18 55.7
CLNS *e*PPP PPP 06 20 43.5
CLNS *e*S **S** **06 25 49.9 -2.4**
CLNS *e* 06 26 44.2
CLNS *e*SSS SSS 06 34 21.2
CLNS pmax pmax
comp=E,12nm,0.7s
CLNS pmax pmax
comp=Z,105nm,1.1s
CLNS pmax pmax
comp=N,63nm,1.1s
CLNS pmax pmax
comp=Z,14nm,1.0s
CLNS pmax pmax
comp=N,31nm,1.2s
CLNS pmax pmax
comp=E,12nm,1.0s
CLNS smax smax
comp=N,3µm,13.1s
CLNS smax smax
comp=E,3µm,9.8s
KDAK Kodiak Island 78.64 21 P **P** **06 16 01.0 -0.7**
comp=E,391nm,0.9s,SNR=7.2
KDAK Kodiak Island 78.64 21 *i*P **P** **06 16 02.6 +0.9**
KDAK Kodiak Island 78.64 21 *e*P **P** **06 16 01.4 -0.3**
comp=E,69nm,1.0s
KDAK LR LR
comp=Z,28µm,20.0s
GAMB Gambell 78.93 10 *e*P **P** **06 16 02.4 -0.8**
comp=Z,95nm,1.0s
CIT Chita 79.81 330 *e*P **P** **06 16 08.7 +0.4**
CIT *e* 06 16 17.2
CIT *e* 06 16 24.9
CIT pmax pmax
comp=Z,1µm,2.0s
RSO Redoubt South 80.63 19 *e*P **P** **06 16 11.8 -1.0**
comp=Z,84nm,0.7s
YAK Yakutsk 80.79 343 P **P** **06 16 12.1 -1.2**
comp=Z,8.8nm,0.5s,baz=142,slow=23,SNR=15
YAK S **S** **06 26 14.6 -4.0**
comp=Z,5.6nm,0.4s,baz=8.4,slow=18,SNR=3.1
YAK Yakutsk 80.79 343 *e*P **P** **06 16 11.6 -1.7**
YAK *e* 06 16 17.1
YAK *e* 06 19 14.3
YAK *e*PPP PPP 06 21 09.9
YAK *e*S **S** **06 26 14.6 -4.0**
YAK *e*SS **SS** **06 31 30.7 -2.3**
YAK *e*SSS SSS 06 34 56.1
YAK pmax pmax
comp=Z,127nm,1.1s
YAK pmax pmax
comp=N,62nm,1.4s
YAK pmax pmax
comp=E,42nm,1.7s
YAK pmax pmax
comp=Z,91nm,1.5s
YAK pmax pmax
comp=N,201nm,2.0s
YAK smax smax
comp=N,211nm,2.9s
YAK smax smax
comp=E,95nm,2.5s
YAK MLR MLR
comp=Z,13µm,18.0s
YAK MLR MLR
comp=N,8µm,18.0s
YAK MLR MLR
comp=E,5µm,18.0s
YAK Yakutsk 80.79 343 *e*P **P** **06 16 12.5 -0.8**
comp=E,178nm,0.8s
YAK S **S** **06 26 14.6 -4.0**
YAK LR LR
comp=Z,12µm,19.0s
ULN Ulaanbaatar 80.89 324 PFAKE 06 16 30.0 +16
ULN LR LR
comp=Z,5µm,20.0s
AIS Amsterdam Isla 81.08 233 P P 06 16 01.0 -15
AIS Amsterdam Isla 81.08 233 S S 06 26 04.0 -19
AIS SS SS 06 31 19.0 -19
AIS L L 06 37 00.0
AIS R 06 42 00.0
TNA Tin City 81.22 10 *e*P **P** **06 16 16.8 +1.3**
comp=Z,33nm,0.9s
SONM Songino Array 81.25 324 P **P** **06 16 16.2 -0.1**
comp=Z,30nm,1.0s,baz=140,slow=6.2,SNR=70
SONM S **S** **06 26 23.4 -0.9**
comp=Z,0.3nm,0.4s,baz=101,slow=6.0,SNR=2.0
SONM PKKPbc **PKKPbc** **06 34 51.3 -2.6**
comp=Z,0.4nm,0.4s,baz=242,slow=2.5,SNR=4.5
SONM PKPPKP P'P'df 06 42 35.0 -19
comp=Z,1.9nm,1.1s,baz=292,slow=4.5,SNR=4.1
SONM LR LR 06 50 04.7
comp=Z,5µm,21.9s,baz=122,slow=34
BILL Bilibino 81.43 360 *e*P **P** **06 16 15.6 -1.0**

BILL pmax pmax
comp=Z,144nm,1.0s
BILL MLR MLR
comp=Z,4µm,20.0s
BILL Bilibino 81.43 360 *e*P **P** **06 16 15.6 -1.0**
comp=Z,144nm,1.0s
BILL LR LR
comp=Z,4µm,20.0s
SEW Seward 81.45 21 *e*P **P** **06 16 17.4 +0.5**
comp=Z,39nm,0.8s
GTA Gaotai 81.47 314 ⇑P **P** **06 16 18.2 +0.6**
GTA pP **pP** **06 16 27.9 -0.6**
GTA sP **sP** **06 16 33.0 +0.6**
GTA S **S** **06 26 29.8 +2.8**
GTA SKS **SKSac** **06 26 31.8 -3.1**
GTA sS **sS** **06 26 46.5 +1.6**
GTA PMZ
comp=Z,43nm,1.2s
GTA PMZ
comp=Z,4µm,8.1s
GTA LN
comp=Z,4µm,17.6s
GTA LE
comp=Z,4µm,18.3s
GTA LZ
comp=Z,4µm,18.3s
RC01 Rabbit Creek A 82.08 20 *e*P **P** **06 16 19.9 -0.3**
comp=Z,117nm,1.1s
SHL Shillong 82.51 298 *i*P **P** **06 16 22.0 -1.5**
SHL AMB AMB 06 16 27.8
comp=Z,389nm,0.0s
SHL *i*x x 06 26 38.0
PMR Palmer 82.65 20 *e*P **P** **06 16 23.4 +0.3**
PMR pmax pmax
comp=Z,36nm,0.7s
PMR Palmer 82.65 20 *e*P **P** **06 16 23.4 +0.3**
comp=Z,36nm,0.7s
PPLA Purkeypile 82.68 18 *e*P **P** **06 16 24.3 +0.9**
comp=Z,33nm,1.1s
MAW Mawson 82.69 202 P **P** **06 16 22.5 -0.9**
comp=Z,53nm,1.1s,baz=102,slow=6.5,SNR=21
MAW LR LR 06 47 39.7
comp=Z,10µm,21.6s,baz=96,slow=32
MAW Mawson 82.69 202 P **P** **06 16 22.7 -0.7**
baz=82,SNR=29
SML Sawmill 83.07 20 *e*P **P** **06 16 24.7 -0.7**
SML pmax pmax
comp=Z,28nm,1.1s
SML Sawmill 83.07 20 *e*P **P** **06 16 24.7 -0.7**
comp=Z,28nm,1.1s
BOD Bodaibo 83.22 335 *e*P **P** **06 16 25.2 -0.9**
BOD pmax pmax
comp=Z,173nm,2.0s
DIV Divide 83.46 21 *e*P **P** **06 16 28.1 +0.7**
comp=Z,82nm,1.0s
KCPM Cahto Peak 83.64 47 *e*P **P** **06 16 31.2 +2.3**
comp=Z,149nm,2.0s
TRF Thorofare Moun 83.67 18 *e*P **P** **06 16 26.2 -2.3**
comp=Z,3.9nm,0.8s
BMRM Bremner River 83.76 22 *e*P **P** **06 16 29.4 +0.5**
comp=Z,98nm,1.3s
PAF Port-aux-Franc 83.94 221 P P 06 16 19.0 -11
PAF Port-aux-Franc 83.94 221 S S 06 26 37.0 -15
PAF SS SS 06 32 11.0 -8.6
PAF L L 06 39 00.0
PAF R 06 44 00.0
PAF Port-aux-Franc 83.94 221 PFAKE 06 16 40.0 +10
PAF LR LR
comp=Z,12µm,20.0s
BPAW Bear Paw Mtn. 83.95 17 *e*P **P** **06 16 29.5 -0.3**
comp=Z,5.2nm,1.1s
MCK McKinley 84.28 18 *e*P **P** **06 16 30.2 -1.3**
MCK pmax pmax
comp=Z,124nm,1.1s
MCK McKinley 84.28 18 *e*P **P** **06 16 30.2 -1.3**
comp=Z,124nm,1.1s
LSA Lhasa 84.46 302 P **P** **06 16 34.2 +0.5**
LSA sP **sP** **06 16 47.8 -0.8**
LSA PP **PP** **06 19 51.2 +1.7**
LSA PMZ
comp=Z,3µm,9.0s
LSA LN
comp=Z,1µm,19.1s
LSA LE
comp=Z,3µm,22.8s
LSA LZ
comp=Z,4µm,19.1s
LSA Lhasa 84.46 302 *e*P **P** **06 16 34.3 +0.5**
LSA pmax pmax
comp=Z,115nm,1.1s
LSA MLR MLR
comp=Z,4µm,20.0s
LSA Lhasa 84.46 302 *e*P **P** **06 16 34.3 +0.5**
comp=Z,115nm,1.1s
LSA LR LR
comp=Z,4µm,20.0s
BSC Santa Cruz Isl 84.47 53 P P 06 16 29.2 -3.9
baz=85
SBC Santa Barbara 84.56 53 P P 06 16 29.1 -4.4
baz=85
L02D Cave Junction, 84.61 44 P **P** **06 16 31.0 -2.7**
baz=85
PKM Peak Mountain 84.64 52 P **P** **06 16 31.6 -2.5**
baz=85
SMMC Simmler 84.64 52 P **P** **06 16 32.2 -1.8**
baz=85
IRK Irkutsk 84.68 327 ⇑*i*P **P** **06 16 32.6 -1.2**
IRK pmax pmax
comp=Z,652nm,2.0s
WDC Whiskeytown Da 84.72 46 *e*P **P** **06 16 35.4 +1.2**
WDC pmax pmax
comp=Z,18nm,1.1s
WDC Whiskeytown Da 84.72 46 *e*P **P** **06 16 35.4 +1.2**
comp=Z,18nm,1.1s
TLY Talaya 84.74 326 P **P** **06 16 34.1 0.0**
comp=Z,1µm,1.8s,SNR=66
TLY Talaya 84.74 326 P **P** **06 16 33.3 -0.8**
comp=Z,35nm,0.7s,baz=156,slow=2.9,SNR=21
TLY Talaya 84.74 326 *c*/*i*P **P** **06 16 33.3 -0.8**
TLY *e* 06 16 50.1
TLY *e* 06 19 48.2
TLY *e*S **S** **06 26 54.7 -4.7**
TLY *e*PS **PnS** **06 27 57.1 -0.3**
TLY *e*SS **SS** **06 32 36.7 +4.6**
TLY pmax pmax
comp=Z,563nm,2.0s
TLY MLR MLR
comp=Z,4µm,19.0s
TLY Talaya 84.74 326 P **P** **06 16 33.9 -0.2**
SNR=117
TLY Talaya 84.74 326 *e*P **P** **06 16 33.8 -0.2**
comp=Z,983nm,1.8s
TLY LR LR
comp=Z,4µm,22.0s
N02D Trinity Center 84.76 46 P **P** **06 16 32.8 -1.7**
baz=85,SNR=12
M02C Callahan 84.82 45 P **P** **06 16 33.5 -1.4**
baz=85,SNR=17
M02C S **S** **06 27 01.4 +0.6**
baz=85
PAX Paxson 84.84 20 *e*P **P** **06 16 36.2 +1.8**
PAX pmax pmax
comp=Z,20nm,0.9s
PAX Paxson 84.84 20 *e*P **P** **06 16 36.2 +1.8**
comp=Z,20nm,0.9s
BLG Laguna Peak 84.95 53 P **P** **06 16 33.2 -2.4**
baz=85
SCI San Clemente I 84.97 55 P **P** **06 16 32.8 -2.9**
baz=85
YBH Yreka Blue Hor 85.05 45 P **P** **06 16 36.5 +0.5**
comp=Z,8.2nm,0.8s,baz=222,slow=4.4,SNR=30
YBH Yreka Blue Hor 85.05 45 *e*P **P** **06 16 36.7 +0.7**
YBH pmax pmax
comp=Z,63nm,1.6s
YBH Yreka Blue Hor 85.05 45 *e*P **P** **06 16 36.7 +0.7**
comp=Z,63nm,1.6s
HUMO Hull Mountain 85.23 44 *e*P **P** **06 16 37.6 +0.8**
comp=Z,35nm,1.3s
CIS Catalina Islan 85.23 54 P P 06 16 33.5 -3.5
baz=86
CMB Columbia Colle 85.32 49 *e*P **P** **06 16 38.4 +1.0**
CMB pmax pmax
comp=Z,13nm,0.9s
CMB Columbia Colle 85.32 49 *e*P **P** **06 16 38.4 +1.0**
comp=Z,14nm,0.9s
OSI Osito Adit 85.39 53 P **P** **06 16 34.8 -3.0**
baz=86

I03D	Drain, OR	85.40	43	P		P	06 16 36.3	-1.2
	baz=86,SNR=5.4							
FMP	Fort Macarthur	85.42	54	P		P	06 16 35.5	-2.4
	baz=86							
COLA	College	85.44	18	*c*	*i*P	P	06 16 35.0	-2.2
COLA					pmax	pmax		
	comp=Z,466nm,1.0s							
COLA	College	85.44	18		*e*P	P	06 16 35.1	-2.1
	comp=Z,104nm,0.8s							
COLA					LR	LR		
	comp=Z,8µm,19.0s							
ARVC	Arvin	85.48	52	P		P	06 16 35.3	-2.9
	baz=86							
VES	Vestal, Richgr	85.53	52	P		P	06 16 33.4	-4.9
	baz=86							
DECC	Green Verdugo	85.57	53	P		P	06 16 33.6	-5.1
	baz=86							
RCTC	Rector, Farmer	85.57	51	P		P	06 16 37.3	-1.3
	baz=86							
ILAR	Eielson Array	85.65	18	P		P	06 16 36.2	-2.1
	comp=Z,50nm,0.9s,baz=238,slow=5.5,SNR=79							
ILAR					S	S	06 27 00.2	-7.6
	comp=Z,0.4nm,0.8s,baz=217,slow=2.8,SNR=4.0							
ILAR					PKKP	PKKPdf	06 34 38.5	+1.4
	comp=Z,0.9nm,0.6s,baz=1.7,slow=2.7,SNR=13							
ILAR					PKPPKP	P'P'df	06 42 43.3	-1.5
	comp=Z,1.0nm,1.0s,baz=338,slow=1.9,SNR=6.4							
ILAR					LR	LR	06 50 29.1	
	comp=Z,20µm,20.0s,baz=242,slow=32							
M04C	Macdoel	85.67	45	P		P	06 16 37.0	-2.1
	baz=86,SNR=6.2							
ISA	Isabella	85.93	52	*e*P		P	06 16 42.3	+1.8
ISA	Isabella	85.93	52	P		P	06 16 38.1	-2.4
	baz=86							
ISA	Isabella	85.93	52	*e*P		P	06 16 42.3	+1.8
EDW2	Edwards Air Fo	86.04	53	P		P	06 16 38.6	-2.5
	baz=86							
J04D	Umpqua Nationa	86.05	44	P		P	06 16 38.7	-2.4
	baz=86							
K04D	Chiloquin, OR	86.05	45	P		P	06 16 38.2	-2.9
	baz=86							
G03D	McMinnville, O	86.06	42	P		P	06 16 38.2	-2.6
	baz=86							
I04A	Tendick Farm,	86.06	43	P		P	06 16 38.2	-2.7
	baz=86							
109C	Camp Elliot, M	86.09	55	P		P	06 16 40.4	-0.8
	baz=86							
BFSC	Mount Baldy Ra	86.09	54	P		P	06 16 39.4	-2.0
	baz=86							
WRAK	Wrangell Islan	86.13	29	*e*P		P	06 16 41.9	+1.1
	comp=Z,18nm,0.8s							
WRAK					LR	LR		
	comp=Z,10µm,21.0s							
MOY	Mondy	86.18	325	*e*P		P	06 16 41.0	-0.4
MOY					pmax	pmax		
	comp=Z,656nm,2.7s							
WAKR	Walker	86.19	49	*e*P		P	06 16 44.0	+2.1
	comp=Z,42nm,1.4s							
MURC	Murrieta	86.24	54	P		P	06 16 39.1	-3.0
	baz=86							
MLAC	Mammoth Lakes	86.33	50	P		P	06 16 41.1	-1.6
	baz=87							
HYT	Haines Junctio	86.35	24	*e*P		P	06 16 43.2	+1.1
LRMC	Laurel Mountai	86.47	52	P		P	06 16 40.7	-2.5
	baz=87							
CWC	Cottonwood Cre	86.50	51	P		P	06 16 40.3	-3.1
	baz=87							
COLD	Coldfoot	86.52	15	*e*P		P	06 16 43.3	+0.8
	comp=Z,83nm,0.8s							
NLWA	Neilton Lookou	86.56	40	*e*P		P	06 16 45.4	+2.2
	comp=Z,24nm,1.3s							
NLWA					LR	LR		
	comp=Z,13µm,20.0s							
F04D	Rainier, OR	86.57	41	P		P	06 16 40.1	-3.1
	baz=87							
TIN	Tinemaha	86.59	51	P		P	06 16 41.3	-2.5
	baz=87							
MONP	Monument Peak	86.64	55	P		P	06 16 42.5	-1.7
	baz=87							
J05D	Fort Rock, OR	86.66	44	P		P	06 16 42.8	-1.1
	baz=87,SNR=13							
BBRC	Big Bear Solar	86.68	54	P		P	06 16 42.2	-2.2
	baz=87							
MOD	Modoc	86.78	46	*e*P		P	06 16 46.1	+1.5
	comp=Z,7.9nm,0.7s							
RRX	Edison Barstow	86.81	53	P		P	06 16 42.9	-1.9
	baz=87							
MPMC	Manual Prospec	86.82	52	P		P	06 16 44.0	-1.1
	baz=87							
IBP	Imperial Bould	86.83	55	P		P	06 16 42.4	-2.6
	baz=87							
PFO	Pinyon Flat Ob	86.83	54	P		P	06 16 46.0	+0.9
	comp=Z,3.5nm,0.5s,baz=289,slow=3.0,SNR=9.1							
PFO	Pinyon Flat Ob	86.83	54	*e*P		P	06 16 46.1	+1.1
PFO					pmax	pmax		
	comp=Z,5.0nm,0.7s							
PFO					MLR	MLR		
	comp=Z,24µm,19.0s							
PFO	Pinyon Flat Ob	86.83	54	P		P	06 16 42.4	-2.6
	baz=87							
PFO	Pinyon Flat Ob	86.83	54	*e*P		P	06 16 46.1	+1.1
	comp=Z,4.9nm,0.7s							
PFO					LR	LR		
	comp=Z,24µm,19.0s							
LVP	Lakeview Peak	86.95	41	P		P	06 16 46.7	+1.4
I05D	Terrebonne, OR	86.98	43	P		P	06 16 44.0	-1.4
	baz=87,SNR=5.6							
NVAR	Mina Array Bea	87.00	49	P		P	06 16 45.9	0.0
	comp=Z,4.9nm,0.7s,baz=232,slow=7.5,SNR=35							
NVAR					PKKPbc	PKKPbc	06 34 38.0	-2.0
	comp=Z,1.3nm,0.7s,baz=57,slow=2.5,SNR=8.6							
NVAR					PKPPKP	P'P'df	06 42 43.0	-2.0
	comp=Z,1.9nm,0.8s,baz=98,slow=2.7,SNR=9.0							
MTMW	Mount Mitchell	87.06	41	P		P	06 16 49.2	+3.4
GSC	Goldstone	87.10	53	*e*P		P	06 16 48.6	+2.3
GSC					pmax	pmax		
	comp=Z,45nm,1.8s							
GSC	Goldstone	87.10	53	P		P	06 16 43.7	-2.5
	baz=87							
GSC	Goldstone	87.10	53	*e*P		P	06 16 48.6	+2.3
	comp=Z,45nm,1.8s							
SWSC	Sam W. Stewart	87.15	55	P		P	06 16 44.5	-1.9
	baz=87							
TDL	Tradedollar La	87.18	41	P		P	06 16 47.7	+1.2
BOK	Bokaro	87.19	295	*e*P		P	06 16 43.9	-2.9
BOK					AMB	AMB	06 16 50.1	
	comp=Z,197nm,1.3s							
GRAC	Grapevine Rang	87.22	51	P		P	06 16 44.8	-1.9
	baz=88							
BELC	Belle Mtn. Jos	87.32	54	P		P	06 16 44.8	-2.7
	baz=88							
HEC	Hector,Ludlow	87.32	53	P		P	06 16 44.8	-2.6
	baz=88							
PGC	Sidney	87.33	39	*e*P		P	06 16 48.4	+1.6
	comp=Z,80nm,1.5s							
G05D	Wamic, OR	87.34	42	P		P	06 16 44.9	-2.2
	baz=88							
CHLP	Challavanipeta	87.41	290	*e*P		P	06 16 49.8	+1.8
CHLP					IAmb	IAmb	06 16 52.0	
	comp=Z,1µm,2.2s							
CHLP					*e*PP	PP	06 20 19.1	+6.1
CHLP					*e*SKSac	SKSac	06 27 14.5	+0.8
CHLP					IVMsBB		07 09 17.1	
	comp=Z,1µm,19.3s							
FURC	Furnace Creek,	87.43	52	P		P	06 16 46.9	-0.8
	baz=88							
EGAK	Eagle	87.47	20	*e*P		P	06 16 46.8	-0.4
	comp=Z,50nm,0.9s							
EGAK					LR	LR		
	comp=Z,11µm,19.0s							
LON	Longmire	87.59	41	*e*P		P	06 16 49.8	+1.5
LON					pmax	pmax		
	comp=Z,16nm,1.2s							
LON	Longmire	87.59	41	*e*P		P	06 16 49.8	+1.5
	comp=Z,16nm,1.2s							
DAWY	Dawson	87.62	21	*e*P		P	06 16 47.2	-0.8
BC3	Big Chuckawall	87.64	55	P		P	06 16 46.8	-2.1
	baz=88							
TPH	Tonopah	87.68	50	*e*P		P	06 16 51.1	+1.9
TPH					pmax	pmax		
	comp=Z,43nm,1.6s							
TPH	Tonopah	87.68	50	*e*P		P	06 16 51.1	+1.9
	comp=Z,43nm,1.6s							
SHOC	Shoshone	87.70	52	P		P	06 16 48.2	-0.9
	baz=88							
MCW	Mount Constitu	87.72	39	P		P	06 16 50.2	+1.3
MCW	Mount Constitu	87.72	39	P		P	06 16 50.2	+1.3
WPW	White Pass	87.74	41	P		P	06 16 50.4	+1.3
PALK	Pallekele	87.78	278	*i*	P	P	06 16 54.3	+4.3
PALK	Pallekele	87.78	278		P	P	06 16 54.3	+4.3
	SNR=5.1							
PALK	Pallekele	87.78	278	⇑	P	P	06 16 53.0	+3.0
PALK	Pallekele	87.78	278	*e*	P	P	06 16 51.4	+1.5
	comp=Z,387nm,1.9s							
TUQ	Turquoise Moun	87.83	53	P		P	06 16 47.7	-2.1
	baz=88							
GMRC	Granite Mounta	87.83	54	P		P	06 16 47.7	-2.1
	baz=88							
VIS	Vishakhapatnam	87.88	289	*e*P		P	06 16 48.4	-1.8
VIS					AMB	AMB	06 16 53.5	
	comp=Z,151nm,0.9s							
GLA	Glamis	87.96	55	*e*P		P	06 16 53.1	+2.7
GLA					pmax	pmax		
	comp=Z,10.0nm,0.6s							
GLA	Glamis	87.96	55	P		P	06 16 48.8	-1.6
	baz=88							
GLA	Glamis	87.96	55	*e*P		P	06 16 53.1	+2.7
	comp=Z,9.5nm,0.6s							
IRM	Iron Mountain	88.04	54	P		P	06 16 49.2	-1.5
	baz=88							
CMW	Cultus Mountai	88.05	39	P		P	06 16 51.8	+1.3
TPNV	Topopah Spring	88.05	51	P		P	06 16 48.8	-2.1
	baz=88							
WVOR	Wild Horse Val	88.13	46	PFAKE			06 17 00.0	+8.9
WVOR					LR	LR		
	comp=Z,9µm,20.0s							
NAC	Naches	88.22	41	P		P	06 16 52.4	+1.1
DLBC	Dease Lake	88.24	28	*e*P		P	06 16 51.5	+0.3
TWW	Teanaway	88.34	41	P		P	06 16 56.3	+4.4
Y12C	Blythe	88.41	55	P		P	06 16 51.0	-1.5
	baz=89							
BMN	Battle Mountai	88.46	48	*e*P		P	06 16 53.6	+0.9
BMN					pmax	pmax		
	comp=Z,45nm,1.6s							
BMN	Battle Mountai	88.46	48	*e*P		P	06 16 53.6	+0.9
	comp=Z,44nm,1.6s							
NEE2	Needles Airpor	88.64	54	P		P	06 16 52.6	-0.9
	baz=89							
SHPR	Sheep Range	88.75	52	*e*P		P	06 16 55.5	+1.3
	comp=Z,181nm,2.0s							
TIXI	Tiksi	88.76	349	*c*	*i*P	P	06 16 52.1	-1.1
TIXI					pmax	pmax		
	comp=Z,31nm,1.0s							
TIXI	Tiksi	88.76	349		*e*P	P	06 16 52.0	-1.2
	comp=Z,63nm,1.3s							
TIXI					LR	LR		
	comp=Z,6µm,21.0s							
PDMCI	Parker Dam,Lak	88.88	54	P		P	06 16 53.2	-1.5
	baz=89							
HAWA	Hanford	88.92	42	*e*P		P	06 16 55.1	+0.6
	comp=Z,58nm,1.4s							
HAWA					LR	LR		
	comp=Z,5µm,22.0s							
R11A	Troy Canyon, C	88.99	50	P		P	06 16 54.2	-1.1
	baz=89							
R11A	Troy Canyon, C	88.99	50	*e*P		P	06 16 55.9	+0.6
	comp=Z,20nm,1.2s							
214A	Organ Pipe Nat	89.27	57	P		P	06 16 55.5	-1.1
	baz=90							
214A	Organ Pipe Nat	89.27	57	*e*P		P	06 16 57.8	+1.2
	comp=Z,158nm,2.0s							
PVM	Polavaram	89.34	288	*e*P		P	06 16 58.6	+1.5
PVM					IAmb	IAmb	06 17 00.7	
	comp=Z,437nm,2.0s							
PVM					*e*PP	PP	06 20 25.3	-3.2
PVM					*e*SKSac	SKSac	06 27 21.3	-3.9
PVM					*e*SS	SS	06 33 38.0	-2.6
PVM					IVMs_BB	IVMs_BB	07 18 00.8	
	comp=Z,637nm,18.0s							
SYO	Syowa Base	89.60	197	‖	*i*P	P	06 16 55.8	-1.6
SYO	Syowa Base	89.60	197	‖	*i*PcP	P	06 16 56.8	-0.6
MDRS	Chennai	89.61	283	*ex*		P	06 16 51.4	-7.1
MDRS					AMB	AMB	06 17 01.6	
	comp=Z,123nm,2.6s							
BMO	Blue Mountains	89.86	44	*e*P		P	06 16 59.5	+0.4
	comp=Z,46nm,1.6s							
BMO					LR	LR		
	comp=Z,9µm,19.0s							
ELK	Elko	89.99	48	P		P	06 16 59.5	-0.5
	comp=Z,5.3nm,0.9s,baz=268,slow=6.4,SNR=20							
ELK	Elko	89.99	48	*e*P		P	06 17 01.7	+1.7
ELK					pmax	pmax		
	comp=Z,9.0nm,1.0s							
ELK	Elko	89.99	48	*e*P		P	06 17 01.6	+1.7
	comp=Z,9.3nm,1.0s							
HVS	Khovu-Aksy	90.11	323	*e*P		P	06 16 58.1	-2.0
HVS					pmax	pmax		
	comp=Z,421nm,1.2s							
SKHT	Srikalahasti	90.28	284	*e*P		P	06 17 04.0	+2.4
SKHT					IAmb	IAmb	06 17 05.4	
	comp=Z,960nm,2.8s							
SKHT					*e*PP	PP	06 20 33.7	-2.2
SKHT					*e*SKSac	SKSac	06 27 29.4	-1.4
SKHT					*e*SS	SS	06 33 49.9	-4.4
SKHT					IVMs_BB	IVMs_BB	07 05 46.3	
	comp=Z,2µm,15.3s							
MFID	Camas Ranch	90.40	45	*e*P		P	06 17 03.3	+1.6
	comp=Z,9.6nm,0.9s							
CCUT	Cedar City	90.43	52	*e*P		P	06 17 04.0	+1.9
	comp=Z,55nm,1.6s							
ADKI	Addanki	90.53	286	*e*P		P	06 17 05.1	+2.4
ADKI					IAmb	IAmb	06 17 07.2	
	comp=Z,310nm,2.1s							
ADKI					*e*PP	PP	06 20 41.2	+3.2
ADKI					*e*SKSac	SKSac	06 27 30.4	-1.9
ADKI					IVMs_BB	IVMs_BB	06 50 28.0	
	comp=Z,1µm,40.2s							
TUC	Tucson	91.02	57	*e*P		P	06 17 05.9	+1.1
TUC					pmax	pmax		
	comp=Z,65nm,1.9s							
TUC					MLR	MLR		
	comp=Z,14µm,20.0s							
TUC	Tucson	91.02	57	*e*P		P	06 17 05.9	+1.1
	comp=Z,65nm,1.9s							
TUC					LR	LR		
	comp=Z,14µm,20.0s							
NEW	Newport	91.10	40	P		P	06 17 04.4	-0.3
	comp=Z,5.5nm,1.0s,baz=228,slow=6.5,SNR=9.7							
NEW	Newport	91.10	40	*e*P		P	06 17 05.1	+0.4
NEW					pmax	pmax		
	comp=Z,10.0nm,0.9s							
NEW					MLR	MLR		
	comp=Z,7µm,20.0s							
NEW	Newport	91.10	40	P		P	06 17 01.4	-3.4
	baz=91							
NEW	Newport	91.10	40	*e*P		P	06 17 05.1	+0.4
	comp=Z,10.0nm,0.9s							
NEW					LR	LR		
	comp=Z,7µm,20.0s							
NJS	Nagarjunasagar	91.32	287	*e*P		P	06 17 08.1	+1.6
NJS					IAmb	IAmb	06 17 09.6	
	comp=Z,560nm,2.0s							
NJS					*e*PP	PP	06 20 45.2	+0.9
NJS					*e*SKSac	SKSac	06 27 31.9	-4.8
NJS					*e*SS	SS	06 34 05.6	-3.9
NJS					IVMs_BB	IVMs_BB	07 09 18.9	
	comp=Z,1µm,20.5s							
RCLA	Racherla	91.39	285	*e*P		P	06 17 06.7	0.0
RCLA					IAmb	IAmb	06 17 10.2	
	comp=Z,312nm,2.0s							
RCLA					*e*PP	PP	06 20 47.6	+2.8
RCLA					*e*SKSac	SKSac	06 27 33.9	-3.3
RCLA					*e*SS	SS	06 34 06.3	-4.2
RCLA					IVMs_BB	IVMs_BB	07 01 29.1	
	comp=Z,2µm,18.6s							
WUAZ	Wupatki	91.40	54	P		P	06 17 04.3	-2.3
	baz=92							
WUAZ	Wupatki	91.40	54	*e*P		P	06 17 08.7	+2.1
	comp=Z,21nm,1.1s							
WUAZ					LR	LR		
	comp=Z,16µm,19.0s							
HLID	Hailey	91.43	46	P		P	06 17 05.5	-1.0
	baz=92							
HLID	Hailey	91.43	46	*e*P		P	06 17 08.0	+1.5
	comp=Z,10.0nm,1.1s							
HLID					LR	LR		
	comp=Z,12µm,20.0s							
WMQ	Urumqi	91.52	315	P		P	06 17 06.7	-0.1
WMQ				pP		pP	06 17 17.3	-0.5
WMQ				sP		sP	06 17 21.2	-0.5
WMQ				PP		PP	06 20 51.0	+5.6
WMQ				SKS		SKSac	06 27 34.6	-2.4
WMQ				S		S	06 28 03.6	-0.8
WMQ					SS	SS	06 34 10.4	-1.0
WMQ					PMZ			
	comp=Z,220nm,1.4s							
WMQ					PMZ			
	comp=Z,2µm,4.2s							
WMQ					LN			
	comp=Z,2µm,20.1s							
WMQ					LE			
	comp=Z,3µm,22.6s							
WMQ					LZ			
	comp=Z,4µm,19.3s							
DUG	Dugway	91.59	49	*e*P		P	06 17 08.0	+0.6
DUG					pmax	pmax		
	comp=Z,28nm,1.8s							
DUG					MLR	MLR		
	comp=Z,29µm,19.0s							
DUG	Dugway	91.59	49	P		P	06 17 05.8	-1.6
	baz=92							
DUG	Dugway	91.59	49	*e*P		P	06 17 08.0	+0.6
	comp=Z,28nm,1.8s							
DUG					LR	LR		
	comp=Z,29µm,19.0s							
SRLM	Srisailam	91.60	286	*e*P		P	06 17 09.0	+1.3
SRLM					IAmb	IAmb	06 17 11.0	
	comp=Z,549nm,1.9s							
SRLM					*e*PP	PP	06 20 46.6	+0.1
SRLM					*e*SKSac	SKSac	06 27 33.6	-4.8
SRLM					*e*SS	SS	06 34 07.5	-6.0
SRLM					IVMs_BB	IVMs_BB	07 16 08.1	
	comp=Z,1µm,16.7s							
BGU	Big Grassy Mou	91.64	48	*e*P		P	06 17 10.1	+2.5
	comp=Z,7.4nm,1.5s							
RPR	Rampur	91.88	289	*e*P		P	06 17 10.6	+1.6
RPR					IAmb	IAmb	06 17 12.9	
	comp=Z,654nm,1.8s							
RPR					*e*PP	PP	06 20 44.0	-4.6
RPR					*e*SKSac	SKSac	06 27 32.9	-6.9
RPR					IVMs_BB	IVMs_BB	07 08 25.1	
	comp=Z,1µm,15.1s							
INK	Inuvik	92.03	19	PKKP		PKKPbc	06 34 24.1	-4.1
	comp=Z,2.3nm,0.6s,baz=92,slow=3.3,SNR=5.7							
INK	Inuvik	92.03	19	*e*P		P	06 17 09.5	+1.0
INK							06 34 24.1	
INK					pmax	pmax		
	comp=Z,16nm,1.3s							
INK	Inuvik	92.03	19	*e*P		P	06 17 09.5	+1.0
	comp=Z,16nm,1.3s							
INK				PKKP		PKKPbc	06 34 24.1	-4.1
HVU	Hansel Valley	92.07	48	*e*P		P	06 17 11.3	+1.7
HVU					pmax	pmax		
	comp=Z,51nm,1.6s							
HVU	Hansel Valley	92.07	48	*e*P		P	06 17 11.3	+1.7
	comp=Z,51nm,1.6s							
HYB	Hyderabad	92.22	287	*i*	P	P	06 17 11.0	+0.4
HYB				*e*			06 17 22.5	
HYB				*e*			06 21 04.0	
HYB				*e*SKS		SKSac	06 27 42.0	+0.1
HYB				*e*ScS		S	06 28 12.0	+0.4
HYB				*e*			06 29 30.0	
HYB	Hyderabad	92.22	287	*e*P		P	06 17 08.4	-2.2
HYB					AMB	AMB	06 17 12.7	
	comp=Z,121nm,2.8s							
HYBB	Hyderabad (bro	92.22	287	*e*P		P	06 17 12.1	+1.5
HYBB					IAmb	IAmb	06 17 13.5	
	comp=Z,446nm,2.0s							
HYBB					*e*SKSac	SKSac	06 27 38.1	-3.8
HYBB					IVMs_BB	IVMs_BB	07 09 41.7	
	comp=Z,1µm,17.0s							
DGAR	Diego Garcia	92.33	262	PFAKE			06 17 20.0	+8.8
DGAR					LR	LR		
	comp=Z,11µm,19.0s							
KRAR	Krasnoyarsk	92.35	327	*e*P		P	06 17 09.2	-1.0
KRAR					pmax	pmax		
	comp=Z,54nm,1.7s							
MPU	Maple Canyon	92.41	50	*e*P		P	06 17 13.4	+2.1
	comp=Z,152nm,1.9s							
BSMT	Bassoo Peak	92.46	41	*e*P		P	06 17 12.5	+1.2
	comp=Z,15nm,1.3s							
W18A	Petrified Fore	92.59	55	P		P	06 17 10.3	-1.8
	baz=93							
W18A	Petrified Fore	92.59	55	*e*P		P	06 17 15.1	+2.9
	comp=Z,21nm,1.2s							
NGP	Nagpur	92.63	291	*e*P		P	06 17 10.0	-2.4
NGP				*ex*		x	06 27 48.5	
JLU	Jordanelle	92.71	49	*e*P		P	06 17 15.1	+2.4
	comp=Z,35nm,1.8s							
MSO	Missoula	92.71	43	P		P	06 17 10.4	-2.0
	baz=93							
SRSP	Sriramsagar	92.77	289	*e*P		P	06 17 14.3	+1.2
SRSP					IAmb	IAmb	06 17 15.9	
	comp=Z,648nm,1.7s							
SRSP					*e*PP	PP	06 20 55.7	0.0
SRSP					*e*SKSac	SKSac	06 27 42.8	-2.1
SRSP					*e*SS	SS	06 34 26.8	-3.5
SRSP					IVMs_BB	IVMs_BB	07 14 16.2	
	comp=Z,1µm,20.6s							
URV	Uravakonda	92.87	285	*e*P		P	06 17 15.5	+1.9
URV					IAmb	IAmb	06 17 16.7	
	comp=Z,921nm,2.8s							
URV					*e*PP	PP	06 20 57.8	+1.3
URV					*e*SKSac	SKSac	06 27 46.6	+1.0
URV					*e*SS	SS	06 34 28.7	-3.1
URV					IVMs_BB	IVMs_BB	07 06 53.5	
	comp=Z,2µm,16.7s							
MCMT	McKenzie Canyo	92.87	45	*e*P		P	06 17 15.3	+2.0
	comp=Z,3.3nm,1.0s							
HWUT	Hardware Ranch	92.89	48	*e*P		P	06 17 15.5	+2.1
	comp=Z,1.8nm,0.8s							
HWUT					LR	LR		
	comp=Z,9µm,20.0s							
SRU	San Rafael	93.00	51	*e*P		P	06 17 16.3	+2.3
SRU					pmax	pmax		
	comp=Z,4.0nm,0.9s							
SRU	San Rafael	93.00	51	*e*P		P	06 17 16.3	+2.3
	comp=Z,3.8nm,0.9s							
PMSA	Palmer Station	93.02	161	PFAKE			06 17 30.0	+17
PMSA					LR	LR		
	comp=Z,8µm,19.0s							
SLMT	Seeley Lake	93.12	42	*e*P		P	06 17 16.6	+2.3
	comp=Z,1.5nm,0.9s							
CHMT	Chamberlain Mo	93.19	43	*e*P		P	06 17 14.2	-0.5
	comp=Z,20nm,1.7s							
DLMT	Dillon	93.19	44	*e*P		P	06 17 17.5	+2.9
	comp=Z,6.9nm,0.9s							
WALA	Waterton Lakes	93.37	40	*e*P		P	06 17 15.9	+0.6
	comp=Z,30nm,1.7s							
LRM	Limekiln Ridge	93.41	44	*e*P		P	06 17 18.7	+2.9
	comp=Z,44nm,1.2s							
121A	Cookes Peak, D	93.53	58	P		P	06 17 14.1	-2.4
	baz=94							
121A	Cookes Peak, D	93.53	58	*e*P		P	06 17 18.3	+1.8
	comp=Z,14nm,1.1s							
AHID	Auburn Hatcher	93.53	47	PFAKE			06 17 30.0	+14
AHID					LR	LR		
	comp=Z,14µm,21.0s							
TPAW	Teton Pass	93.83	46	*e*P		P	06 17 21.4	+3.6
	comp=Z,3.1nm,0.8s							
BOZ	Bozeman (W)	93.92	44	P		P	06 17 16.9	-1.0
	baz=94							
IMW	Indian Meadow	93.94	46	*e*P		P	06 17 21.3	+3.0
	comp=Z,5.5nm,0.9s							
PV10	Paradox Valley	93.94	52	*e*P		P	06 17 19.0	+0.6
	comp=Z,63nm,0.7s							
MOOW	Moose Ponds	94.04	46	*e*P		P	06 17 20.7	+2.0
	comp=Z,1.5nm,0.8s							
PV04	Paradox Valley	94.05	52	*e*P		P	06 17

KLRI *e*PP **PP** **06 21 10.1 +3.2**
KLRI *e*SKSac SKSac 06 27 41.4 -11
KLRI *e* 06 29 49.5
KLRI IVMs_BB IVMs_BB 07 08 35.4
comp=Z,2µm,15.4s
PV01 Paradox Valley 94.24 52 *e*P **P** **06 17 20.5 +0.7**
comp=Z,568nm,1.0s
H17A Grant Village 94.32 45 P **P** **06 17 18.8 -1.2**
baz=95
AKL Akola 94.38 290 *e*P **P** **06 17 17.7 -2.8**
AKL AMB AMB 06 17 28.4
comp=Z,209nm,2.1s
LKWY Lake 94.48 45 PFAKE 06 17 30.0 +9.2
LKWY LR LR
comp=Z,28µm,19.0s
BHPL Bhopal 94.57 293 *e*P **P** **06 17 18.5 -2.8**
BHPL AMB AMB 06 17 23.5
comp=Z,132nm,1.7s
Y22D IRIS PASSCAL I 94.59 56 P **P** **06 17 18.4 -2.9**
baz=95
SNAA Sanae 94.63 183 P P 06 17 15.7 -5.0
SNAA Sanae 94.63 183 P **P** **06 17 19.0 -1.7**
comp=Z,37nm,1.1s,baz=185,slow=4.3,SNR=56
SNAA Sanae 94.63 183 P **P** **06 17 19.0 -1.7**
SNAA pmax pmax
comp=Z,37nm,1.1s
SNAA Sanae 94.63 183 *e*P P 06 17 15.3 -5.4
comp=Z,255nm,1.4s
BW06 Boulder Array 94.63 47 PFAKE 06 17 30.0 +8.6
BW06 LR LR
comp=Z,12µm,20.0s
PDAR Pinedale Array 94.63 47 P **P** **06 17 23.3 +1.9**
comp=Z,0.6nm,0.5s,baz=200,slow=2.5,SNR=6.5
PDAR PKKP **PKKPdf** **06 34 17.2 -3.5**
comp=Z,0.7nm,0.8s,baz=74,slow=6.7,SNR=4.9
PDAR PKPPKP **P'P'df** **06 42 34.4 +3.7**
comp=Z,0.5nm,1.0s,baz=97,slow=3.7,SNR=3.9
PDAR LR LR 06 57 12.0
comp=Z,8µm,18.0s,baz=272,slow=34
EDM Edmonton 94.89 36 *e*P **P** **06 17 23.0 +0.9**
EDM Edmonton 94.89 36 *e*P **P** **06 17 23.0 +0.9**
O20A White River Ci 94.96 50 P **P** **06 17 20.6 -2.3**
baz=95
O20A White River Ci 94.96 50 *e*P **P** **06 17 24.3 +1.3**
comp=Z,6.7nm,0.9s
J19A Crowheart 95.11 47 P **P** **06 17 22.3 -1.2**
baz=95
ANMO Albuquerque 95.16 55 P **P** **06 17 25.9 +1.9**
comp=Z,4.2nm,1.0s,baz=202,slow=3.8,SNR=12
ANMO Albuquerque 95.16 55*e*P **P** **06 17 23.6 -0.4**
ANMO pmax pmax
comp=Z,17nm,1.0s
ANMO Albuquerque 95.16 55 *e*P **P** **06 17 26.1 +2.1**
comp=Z,6.1nm,1.1s
ANMO LR LR
comp=Z,14µm,20.0s
I19A Meeteetse 95.33 46 P **P** **06 17 23.4 -1.2**
baz=96
RLMT Red Lodge 95.40 45 P **P** **06 17 22.6 -2.3**
baz=96
RLMT Red Lodge 95.40 45 PFAKE 06 17 40.0 +15
RLMT LR LR
comp=Z,9µm,21.0s
H19A Powell 95.49 46 P **P** **06 17 23.0 -2.2**
baz=96
S22A 4UR Ranch, Cre 95.49 53 P **P** **06 17 24.6 -1.0**
baz=96
DDI Dehra Dun 95.56 300 *e*P **P** **06 17 24.5 -1.3**
DDI AMB AMB 06 17 27.2
comp=Z,117nm,3.5s
SMCO Snowmass 95.70 51 *e*P **P** **06 17 28.1 +1.4**
comp=Z,6.3nm,1.0s
EGMT Eagleton 95.77 42 P **P** **06 17 25.3 -1.0**
baz=96
EGMT Eagleton 95.77 42 PFAKE 06 17 40.0 +14
EGMT LR LR
comp=Z,6µm,19.0s
J20A Shoshoni 95.82 47 P **P** **06 17 24.5 -2.2**
baz=96
VNA1 Neumayer--Stat 95.88 182 P **P** **06 17 25.7 -0.6**
I20A Worland 95.92 46 P **P** **06 17 26.0 -1.1**
baz=96
NDI New Delhi 95.93 298 *ex* P 06 17 21.5 -5.9
MKAR Makanchi Array 95.99 317 ||P **P** **06 17 27.2 -0.1**
baz=96
H20A Greybull 96.13 46 P **P** **06 17 25.9 -2.2**
baz=96
ZALV Zalesovo Beam 96.14 324 P **P** **06 17 26.1 -1.6**
comp=Z,23nm,0.8s,baz=116,slow=4.7,SNR=83
ZALV LR LR 07 02 27.0
comp=Z,2µm,18.9s,baz=77,slow=36
ZALV Zalesovo Beam 96.14 324 *i* P **P** **06 17 26.5 -1.2**
ZALV pmax pmax
comp=Z,23nm,0.8s
G20A Bridger 96.15 45 P **P** **06 17 26.5 -1.7**
baz=96
TXAR Lajitas Array 96.27 61 P **P** **06 17 29.8 +0.7**
comp=Z,1.0nm,0.8s,baz=226,slow=5.2,SNR=6.9
TXAR PP PP 06 21 11.8 -11
comp=Z,0.9nm,1.0s,baz=224,slow=3.8,SNR=2.8
TXAR PKKP **PKKPbc** **06 34 14.8 -0.8**
comp=Z,0.6nm,0.8s,baz=99,slow=4.0,SNR=4.8
TXAR LR LR 06 52 22.3
comp=Z,8µm,21.4s,baz=0.0,slow=30
J21A Lysite 96.27 47 P **P** **06 17 27.6 -1.3**
baz=96
F20A Billings 96.32 45 P **P** **06 17 27.8 -1.1**
baz=97
B19A Brinkman Farms 96.39 42 P **P** **06 17 27.1 -2.0**
baz=97
SMLA Simla 96.48 300 *e*P **P** **06 17 28.4 -1.4**
SMLA AMB AMB 06 17 32.9
comp=Z,132nm,3.7s
I21A Big Trails, Te 96.48 47 P **P** **06 17 28.0 -1.8**
baz=97
CRZF Crozet Islands 96.50 219 P P 06 17 14.0 -16
CRZF PP PP 06 20 59.0 -24
CRZF S S 06 28 01.0 -47
CRZF SS SS 06 34 58.0 -23
CRZF L L 06 44 00.0
CRZF R 06 50 00.0
SDCO Great Sand Dun 96.52 53 P **P** **06 17 28.7 -1.5**
baz=97
SDCO Great Sand Dun 96.52 53 PFAKE 06 17 40.0 +10
SDCO LR LR
comp=Z,13µm,19.0s
A19A Klindworth Far 96.63 41 P **P** **06 17 28.1 -2.1**
baz=97
K22A Casper 96.78 48 P **P** **06 17 29.3 -1.8**
baz=97
H21A Big Horn, Sher 96.83 46 P P 06 17 26.4 -4.9
baz=97
YKA Yellowknife Ar 96.83 27 P **P** **06 17 30.2 -0.4**
comp=Z,4.6nm,0.5s,baz=258,slow=4.7,SNR=27
POO Poona 96.83 287 *e*P **P** **06 17 30.3 -1.5**
N23A Red Feather La 96.84 50 P **P** **06 17 29.1 -2.5**
baz=97
C20A Veseth Ranch, 96.84 43 P **P** **06 17 28.5 -2.6**
baz=97
G21A Lodge Grass 96.84 45 P **P** **06 17 30.1 -1.2**
baz=97
ISCO Idaho Springs 96.86 51 *e*P **P** **06 17 34.2 +2.4**
ISCO MLR MLR
comp=Z,20µm,21.0s
ISCO Idaho Springs 96.86 51 P **P** **06 17 29.2 -2.6**
baz=97
ISCO Idaho Springs 96.86 51 *e*P **P** **06 17 34.2 +2.4**
comp=Z,1.6nm,0.9s
ISCO LR LR
comp=Z,20µm,21.0s
J22A Midwest 96.97 47 P **P** **06 17 29.7 -2.3**
baz=97
B20A Solberg Farm, 96.99 42 P **P** **06 17 29.7 -2.1**
baz=97
F21A Absaloka Mine, 97.03 45 P **P** **06 17 29.9 -2.2**
baz=97
Q24A Divide 97.04 52 P **P** **06 17 30.0 -2.6**
baz=97
I22A 9 Mile Ranch, 97.07 47 P P 06 17 29.0 -3.3
baz=97
A20A Cobblestone Ra 97.14 42 P **P** **06 17 30.9 -1.6**
baz=97
E21A Keefer Ranch, 97.21 44 P **P** **06 17 30.7 -2.1**
baz=98
T25A Trinidad 97.25 54 P **P** **06 17 31.4 -2.0**
baz=98
NVS Novosibirsk 97.25 325 *e*P **P** **06 17 30.8 -1.9**

NVS *e* 06 21 25.0
NVS *e*S **SKSac** **06 28 05.5 -1.7**
NVS pmax pmax
comp=N,64nm,2.1s
NVS pmax pmax
comp=E,155nm,2.1s
NVS pmax pmax
comp=Z,321nm,2.1s
NVS pmax pmax
comp=N,56nm,2.6s
NVS pmax pmax
comp=E,80nm,2.6s
NVS pmax pmax
comp=Z,184nm,2.6s
NVS smax smax
comp=N,31nm,2.1s
NVS smax smax
comp=E,129nm,2.1s
H22A Clearmont 97.31 46 P **P** **06 17 32.2 -1.2**
baz=98
D21A La Casta Ranch 97.38 43 P **P** **06 17 32.0 -1.6**
baz=98
DHRM DHARAMSHALA 97.43 301 *e*P **P** **06 17 32.7 -1.7**
DHRM AMB AMB 06 17 35.3
comp=Z,86nm,4.5s
K23A Bowen Ranch, D 97.45 48 P **P** **06 17 31.3 -2.9**
baz=98
C21A Desert Coulee 97.46 43 P **P** **06 17 31.3 -2.6**
baz=98
G22A Birney 97.47 45 P **P** **06 17 32.4 -1.7**
baz=98
F22A Rosebud 97.61 45 P **P** **06 17 33.0 -1.7**
baz=98
J23A Dilts Ranch, B 97.63 47 P **P** **06 17 32.1 -2.9**
baz=98
B21A Ellsworth Farm 97.64 42 P **P** **06 17 32.1 -2.6**
baz=98
529A Stev Forest Ra 97.66 61 P **P** **06 17 32.7 -2.6**
baz=98
228A UT Block 9, Go 97.73 59 P **P** **06 17 33.6 -2.0**
baz=98
I23A Meade Ranch, G 97.81 47 P **P** **06 17 33.4 -2.3**
baz=98
A21A Bergtoll Ranch 97.81 42 P **P** **06 17 33.9 -1.6**
baz=98
T26A Comanche Natio 97.89 54 P **P** **06 17 34.3 -2.0**
baz=98
128A Castleberry Fa 97.92 58 P P 06 17 31.8 -4.6
baz=98
D22A Cohagen 97.94 43 P **P** **06 17 33.9 -2.2**
baz=98
MSTX Muleshoe 97.94 57 P **P** **06 17 34.0 -2.5**
baz=98
E22A Miles City 97.95 44 P **P** **06 17 33.5 -2.7**
baz=98
H23A Clabaugh Cattl 97.97 46 P **P** **06 17 34.1 -2.3**
baz=98
K24A Anderson Ranch 98.03 48 P **P** **06 17 34.4 -2.4**
baz=98
429A Davenport Ranc 98.03 60 P **P** **06 17 34.9 -2.0**
baz=98
S26A Kim 98.07 53 Pdiff P 06 17 32.5 -4.6
baz=98
G23A Biddle 98.10 46 Pdiff **P** **06 17 34.1 -2.8**
baz=98
329A Wagon Wheel Ra 98.12 60 Pdiff **P** **06 17 34.8 -2.6**
baz=98
Z28A Tucker Farm, M 98.13 58 Pdiff **P** **06 17 34.3 -3.1**
baz=98
F23A Volborg 98.19 45 Pdiff **P** **06 17 36.1 -1.2**
baz=98
R26A Arlington 98.22 53 Pdiff **P** **06 17 35.7 -1.9**
baz=98
V27A Dan Oppiter Fa 98.22 55 Pdiff **P** **06 17 34.7 -3.0**
baz=98
C22A Vida 98.25 43 Pdiff **P** **06 17 35.3 -2.2**
baz=98
J24A Dixon Ranch, L 98.26 47 Pdiff **P** **06 17 36.4 -1.3**
baz=98
Q26A Hugo 98.28 52 Pdiff **P** **06 17 36.5 -1.4**
baz=98
B22A Reddig Ranch S 98.28 42 Pdiff **P** **06 17 35.5 -2.2**
baz=98
M25A Palm-Egli Farm 98.34 49 Pdiff **P** **06 17 35.8 -2.5**
baz=99
Y28A McKinney Farm, 98.36 57 Pdiff **P** **06 17 35.8 -2.6**
baz=99
229A Bryant Ranch, 98.36 59 Pdiff **P** **06 17 36.3 -2.0**
baz=99
U27A Thompson Grove 98.36 55 Pdiff **P** **06 17 36.9 -1.5**
baz=99
I24A Kuemerle Ranc 98.38 47 Pdiff **P** **06 17 35.9 -2.4**
baz=99
E23A Ismay 98.40 44 Pdiff Pdif 06 17 38.1 -0.1
baz=99
530A J-C Ranch, Com 98.42 61 Pdiff **P** **06 17 37.1 -1.5**
baz=99
129A Stewart Farms, 98.43 59 Pdiff **P** **06 17 37.7 -1.0**
baz=99
A22A Carney Farms, 98.47 42 Pdiff **P** **06 17 37.3 -1.1**
baz=99
X28A Dimmitt 98.51 57 Pdiff **P** **06 17 37.6 -1.5**
baz=99
P26A Davis Ranch, A 98.53 51 Pdiff **P** **06 17 37.1 -2.0**
baz=99
S27A Las Animas 98.53 53 Pdiff **P** **06 17 36.1 -3.1**
baz=99
L25A Engebretsen Ra 98.54 49 Pdiff **P** **06 17 37.2 -1.9**
baz=99
T27A Campo 98.56 54 Pdiff **P** **06 17 36.7 -2.5**
baz=99
D23A Lindsay 98.59 44 Pdiff **P** **06 17 38.4 -0.6**
baz=99
H24A Dirks Ranch, A 98.59 46 Pdiff **P** **06 17 38.4 -0.7**
baz=99
430A Baggett Ranch, 98.62 60 Pdiff **P** **06 17 38.6 -1.0**
baz=99
W28A Vega 98.64 56 Pdiff **P** **06 17 37.1 -2.5**
baz=99
O26A Horse Wrangler 98.68 51 Pdiff **P** **06 17 38.3 -1.4**
baz=99
Z29A Hungry Hill Ra 98.68 58 Pdiff **P** **06 17 37.3 -2.6**
baz=99
K25A Mack Ranch, Ha 98.69 48 Pdiff **P** **06 17 36.8 -2.9**
baz=99
V28A Channing 98.71 55 Pdiff **P** **06 17 37.4 -2.5**
baz=99
R27A Eads 98.72 53 Pdiff **P** **06 17 38.0 -2.0**
baz=99
C23A Lambert 98.72 43 Pdiff **P** **06 17 39.0 -0.6**
baz=99
330A Mertzon 98.79 60 Pdiff **P** **06 17 37.7 -2.6**
baz=99
G24A Alzada 98.80 46 Pdiff **P** **06 17 38.3 -1.8**
baz=99
Y29A Porterfield Fa 98.82 57 Pdiff **P** **06 17 38.4 -2.0**
baz=99
U28A Mallet 98.83 55 Pdiff **P** **06 17 37.9 -2.5**
baz=99
N26A Koester Ranch, 98.85 50 Pdiff **P** **06 17 37.5 -3.0**
baz=99
F24A Ekalaka 98.87 45 Pdiff **P** **06 17 38.6 -1.8**
baz=99
J25A Sunshine Ranch 98.88 48 Pdiff **P** **06 17 38.1 -2.4**
baz=99
X29A Tulia 98.90 57 Pdiff **P** **06 17 38.2 -2.6**
baz=99
230A Sterling City 98.93 59 Pdiff **P** **06 17 39.4 -1.5**
baz=99
631A Perdido Creek 98.93 62 Pdiff **P** **06 17 40.5 -0.5**
baz=99
B23A Brockton 98.97 42 Pdiff **P** **06 17 40.1 -0.6**
baz=99
KSCO Kaye Shedlock' 98.98 52 Pdiff **P** **06 17 38.6 -2.5**
baz=99
AMTX Amarillo 99.00 56 Pdiff **P** **06 17 39.7 -1.5**
baz=99
M26A McRoberts Ranc 99.02 50 Pdiff **Pdif** **06 17 39.8 -1.4**
baz=99
KSH Kashi 99.04 308 P **Pdif** **06 17 44.9 +3.6**
KSH pP **pP** **06 17 55.1 +2.8**
KSH sP **sP** **06 17 59.1 +2.8**
KSH PP **PP** **06 21 47.1 +3.2**
KSH SKS **SKSac** **06 28 19.1 +1.8**
KSH S **S** **06 29 08.8 -1.3**
KSH sS **sS** **06 29 28.1 -0.3**
KSH SS **SS** **06 36 03.2 +4.6**
KSH PMZ
comp=Z,7.0nm,0.2s
KSH PMZ
comp=Z,2µm,5.7s
KSH LN
comp=Z,2µm,10.6s
KSH LE
comp=Z,6µm,16.9s
KSH LZ
comp=Z,6µm,21.3s
I25A Rochford 99.04 47 Pdiff **Pdif** **06 17 40.4 -0.9**
baz=99
T28A Walsh 99.05 54 Pdiff **Pdif** **06 17 40.5 -0.9**
baz=99
W29A Amraillo 99.06 56 Pdiff **Pdif** **06 17 40.0 -1.5**
baz=99
E24A Baker 99.09 44 Pdiff **Pdif** **06 17 41.2 -0.2**
baz=99
531A Rocksprings 99.09 61 Pdiff **Pdif** **06 17 40.1 -1.6**
baz=99
P27A Ficken Ranch, 99.11 52 Pdiff **Pdif** **06 17 41.3 -0.4**
baz=99
A23A Redstone 99.13 42 Pdiff **Pdif** **06 17 40.3 -1.1**
baz=99
431A Sonora 99.13 61 Pdiff **Pdif** **06 17 40.3 -1.6**
baz=99
Z30A Sanderson Ranc 99.16 58 Pdiff **Pdif** **06 17 39.9 -2.0**
baz=99
KURK Kurchatov 99.17 320 *e*P **Pdif** **06 17 39.6 -1.8**
KURK pmax pmax
comp=Z,98nm,1.7s
KURK MLR MLR
comp=Z,5µm,19.0s
KURK Kurchatov 99.17 320 Pdiff **Pdif** **06 17 40.6 -0.8**
SNR=42
KURK Kurchatov 99.17 320 *e*P **Pdif** **06 17 39.6 -1.8**
comp=Z,98nm,1.7s
KURK PP PP 06 21 35.0 -9.3
KURK PKKPbc **PKKPbc** **06 34 07.7 -0.6**
KURK LR LR
comp=Z,5µm,19.0s
L26A Underwood Farm 99.17 49 Pdiff **Pdif** **06 17 40.5 -1.4**
baz=99
D24A Glendive 99.17 44 Pdiff **Pdif** **06 17 40.5 -1.2**
baz=99
130A Snyder 99.17 59 Pdiff **Pdif** **06 17 39.5 -2.6**
baz=99
C24A Savage 99.18 43 Pdiff **Pdif** **06 17 40.5 -1.2**
baz=99
KURBB Kurchatov Arra 99.20 320 PP PP 06 21 35.0 -10
comp=Z,5.4nm,1.2s,baz=97,slow=8.5,SNR=4.6
KURBB PKKPbc **PKKPbc** **06 34 07.7 -0.5**
comp=Z,1.4nm,0.7s,baz=286,slow=3.2,SNR=7.9
H25A Fruitdale 99.24 46 Pdiff **Pdif** **06 17 41.8 -0.2**
baz=100
832A Faith Ranch, C 99.24 63 Pdiff **Pdif** **06 17 41.3 -1.0**
baz=100
O27A Beecher Island 99.30 51 Pdiff **Pdif** **06 17 38.9 -3.5**
baz=100
S28A Manter 99.30 54 Pdiff **Pdif** **06 17 41.0 -1.5**
baz=100
V29A Stinnett 99.30 55 Pdiff **Pdif** **06 17 41.0 -1.5**
baz=100
732A Laxson Ranch, 99.33 63 Pdiff **Pdif** **06 17 41.2 -1.5**
baz=100
N27A Anderson Farm, 99.36 50 Pdiff **Pdif** **06 17 41.8 -0.9**
baz=100
J26A Sides Ranch, S 99.39 48 Pdiff **Pdif** **06 17 40.9 -1.8**
baz=100
331A San Angelo 99.40 60 Pdiff **Pdif** **06 17 40.4 -2.6**
baz=100
Y30A Stafford Cattl 99.45 57 Pdiff **Pdif** **06 17 41.2 -2.0**
baz=100
G25A Newell 99.47 46 Pdiff **Pdif** **06 17 41.2 -1.8**
baz=100
DGMT Dagmar 99.49 42 PFAKE 06 18 00.0 +17
DGMT LR LR
comp=Z,4µm,19.0s
R28A Tribune 99.49 53 Pdiff **Pdif** **06 17 42.4 -0.9**
baz=100
F25A Bowman 99.56 45 Pdiff **Pdif** **06 17 41.1 -2.3**
baz=100
X30A Coker Ranch, T 99.57 57 Pdiff **Pdif** **06 17 42.8 -0.9**
baz=100
M27A Reverse DX Ran 99.59 50 Pdiff **Pdif** **06 17 41.8 -1.9**
baz=100
U29A Oasis Ranch, S 99.60 55 Pdiff **Pdif** **06 17 41.8 -2.0**
baz=100
Q28A Sharon Springs 99.60 52 Pdiff **Pdif** **06 17 41.9 -2.0**
baz=100
231A Bronte 99.60 59 Pdiff **Pdif** **06 17 41.9 -2.0**
baz=100
632A Uvalde 99.62 62 Pdiff **Pdif** **06 17 42.5 -1.6**
baz=100
532A Rocksprings 99.63 61 Pdiff **Pdif** **06 17 39.9 -4.2**
baz=100
I26A New Underwood 99.67 47 Pdiff **Pdif** **06 17 43.2 -0.8**
baz=100
131A Roby 99.67 59 Pdiff **Pdif** **06 17 42.2 -2.0**
baz=100
A24A Westby 99.69 42 Pdiff **Pdif** **06 17 42.8 -1.1**
baz=100
E25A Miller Ranch, 99.70 44 Pdiff **Pdif** **06 17 42.8 -1.2**
baz=100
T29A Hugoton 99.70 54 Pdiff **Pdif** **06 17 42.8 -1.4**
baz=100
933A Laredo 99.73 64 Pdiff **Pdif** **06 17 45.1 +0.5**
baz=100
L27A T5 Ranch, Ells 99.74 49 Pdiff **Pdif** **06 17 44.0 -0.3**
baz=100
P28A Saint Francis 99.74 52 Pdiff **Pdif** **06 17 43.5 -0.9**
baz=100
833A Chaparral WMA, 99.75 63 Pdiff **Pdif** **06 17 42.5 -2.1**
baz=100
OGNE Ogallala 99.76 50 Pdiff **Pdif** **06 17 42.0 -2.4**
baz=100
OGNE Ogallala 99.76 50 PFAKE 06 18 00.0 +16
OGNE LR LR
comp=Z,24µm,20.0s
JCT Junction City 99.78 61 *e*P **Pdif** **06 17 47.9 +3.1**
JCT pmax pmax
comp=Z,5.0nm,0.8s
JCT MLR MLR
comp=Z,11µm,20.0s
JCT Junction City 99.78 61 Pdiff **Pdif** **06 17 42.7 -2.1**
baz=100
JCT Junction City 99.78 61 *e*P **Pdif** **06 17 47.9 +3.1**
comp=Z,4.8nm,0.8s
JCT LR LR
comp=Z,11µm,20.0s
O28A Krutsinger Ran 99.82 51 Pdiff **Pdif** **06 17 44.9 +0.2**
baz=100
H26A Fairpoint 99.82 46 Pdiff **Pdif** **06 17 43.9 -0.7**
baz=100
432A Menard 99.86 61 Pdiff **Pdif** **06 17 44.0 -1.0**
baz=100
D25A Fairfield 99.86 44 Pdiff **Pdif** **06 17 44.5 -0.2**
baz=100
TKM2 Tokmak 2 99.89 312 PFAKE 06 18 00.0 +15
TKM2 LR LR
comp=Z,3µm,20.0s
K27A Flueckinger Fa 99.90 48 Pdiff **Pdif** **06 17 44.7 -0.3**
baz=100
733A Divot King Ran 99.91 63 Pdiff **Pdif** **06 17 44.8 -0.5**
baz=100
S29A Ulysses 99.91 54 Pdiff **Pdif** **06 17 44.8 -0.4**
baz=100
W30A Crocket Farms 99.94 56 Pdiff **Pdif** **06 17 43.9 -1.5**
baz=100
V30A Spur Ranch, Mi 99.94 56 Pdiff **Pdif** **06 17 43.4 -2.0**
baz=100
Z31A Sharp Cattle R 99.98 58 Pdiff **Pdif** **06 17 44.1 -1.5**
baz=100
332A Millersview 99.99 60 Pdiff **Pdif** **06 17 44.1 -1.5**
baz=100
C25A Freed Ranch, W 99.99 43 Pdiff **Pdif** **06 17 43.0 -2.2**
baz=100
Y31A Rekieta Farm, 99.99 57 Pdiff **Pdif** **06 17 43.1 -2.5**
baz=100
R29A Marienthal 100.03 53 Pdiff **Pdif** **06 17 44.3 -1.4**
baz=100
G26A Maurine 100.05 46 Pdiff **Pdif** **06 17 45.4 -0.2**
baz=100
N28A Pribbeno Ranch 100.09 51 Pdiff **Pdif** **06 17 45.6 -0.3**
baz=100
F26A Lodgepole 100.09 45 Pdiff **Pdif** **06 17 44.0 -1.8**
baz=100
U30A WK&E Inc. Balk 100.10 55 Pdiff **Pdif** **06 17 46.2 +0.1**
baz=100

633A	Saathoff Ranch	100.14	62	Pdiff	Pdif	06 17 45.3	-1.0		
	baz=100								
B25A	Knox Farm, Ray	100.14	43	Pdiff	Pdif	06 17 45.8	-0.1		
	baz=100								
J27A	Elkhorn Farm,	100.15	48	Pdiff	Pdif	06 17 45.3	-0.8		
	baz=100								
232A	Coleman	100.15	60	Pdiff	Pdif	06 17 44.8	-1.5		
	baz=100								
Q29A	Oakley	100.23	52	Pdiff	Pdif	06 17 45.7	-0.9		
	baz=100								
I27A	Quinn	100.25	47	Pdiff	Pdif	06 17 45.8	-0.8		
	baz=100								
A25A	Svangstu Ranch	100.28	42	Pdiff	Pdif	06 17 44.8	-1.7		
	baz=100								
ABTX	Abilene, Hawle	100.28	59	Pdiff	Pdif	06 17 45.9	-1.0		
	baz=100								
T30A	Plains	100.28	54	Pdiff	Pdif	06 17 44.9	-2.0		
	baz=100								
L28A	Connealy Angus	100.31	49	Pdiff	Pdif	06 17 44.5	-2.4		
	baz=100								
H27A	Howes	100.32	47	Pdiff	Pdif	06 17 44.0	-2.8		
	baz=100								
M28A	Bar X Bar Ranc	100.33	50	Pdiff	Pdif	06 17 45.1	-1.9		
	baz=101								
E26A	Carlson Angus	100.33	45	Pdiff	Pdif	06 17 46.1	-0.7		
	baz=101								
X31A	McDonald Ranch	100.33	57	Pdiff	Pdif	06 17 45.1	-2.0		
	baz=101								
533A	Kerrville	100.36	61	Pdiff	Pdif	06 17 44.2	-3.2		
	baz=101								
P29A	Atwood	100.38	52	Pdiff	Pdif	06 17 44.8	-2.5		
	baz=101								
S30A	Montezuma	100.43	54	Pdiff	Pdif	06 17 44.5	-3.0		
	baz=101								
433A	Art	100.43	61	Pdiff	Pdif	06 17 44.0	-3.6		
	baz=101								
D26A	Manning	100.44	44	Pdiff	Pdif	06 17 46.6	-0.7		
	baz=101								
W31A	Holland Ranch,	100.45	56	Pdiff	Pdif	06 17 46.2	-1.5		
	baz=101								
834A	Tilden	100.45	64	Pdiff	Pdif	06 17 45.6	-2.1		
	baz=101								
Z32A	Haskell	100.53	58	Pdiff	Pdif	06 17 46.0	-2.0		
	baz=101								
K28A	Ten Mile Ranch	100.53	49	Pdiff	Pdif	06 17 46.5	-1.3		
	baz=101								
G27A	Dupree	100.53	46	Pdiff	Pdif	06 17 44.9	-2.8		
	baz=101								
F27A	Lemmon	100.55	45	Pdiff	Pdif	06 17 46.0	-1.8		
	baz=101								
O29A	4D Ranch, Culb	100.56	51	Pdiff	Pdif	06 17 46.6	-1.4		
	baz=101								
734A	La Parita Cree	100.57	63	Pdiff	Pdif	06 17 47.2	-1.0		
	baz=101								
035Z	Hargill	100.59	65	Pdiff	Pdif	06 17 48.9	+0.5		
	baz=101								
FRU	Bishkek	100.59	312	⇓*i*P	Pdif	06 17 50.0	+1.9		
FRU				*e*		06 21 53.0			
FRU				*e*		06 28 26.0			
FRU				pmax	pmax				
	comp=Z,100nm,2.0s								
333A	Richland Sprin	100.62	60	Pdiff	Pdif	06 17 45.3	-3.1		
	baz=101								
V31A	Spring Creek L	100.63	56	Pdiff	Pdif	06 17 45.9	-2.5		
	baz=101								
AAK	Ala-Archa	100.65	311	PFAKE		06 18 00.0	+12		
AAK				LR	LR				
	comp=Z,4µm,21.0s								
Y32A	R-V Farms, Ver	100.67	58	Pdiff	Pdif	06 17 45.0	-3.6		
	baz=101								
R30A	Dighton	100.67	53	Pdiff	Pdif	06 17 46.6	-1.9		
	baz=101								
U31A	Nine Bar Ranch	100.71	55	Pdiff	Pdif	06 17 46.3	-2.5		
	baz=101								
J28A	Allard Ranch,	100.73	48	Pdiff	Pdif	06 17 47.4	-1.3		
	baz=101								
B26A	Jensen Ranch,	100.77	43	Pdiff	Pdif	06 17 47.0	-1.7		
	baz=101								
C26A	Wahner Farm, P	100.78	43	Pdiff	Pdif	06 17 47.0	-1.7		
	baz=101								
N29A	Votaw Ranch, W	100.79	51	Pdiff	Pdif	06 17 48.2	-0.9		
	baz=101								
233A	Rising Star	100.80	60	Pdiff	Pdif	06 17 48.8	-0.5		
	baz=101								
Q30A	Quinter	100.82	52	Pdiff	Pdif	06 17 48.3	-0.9		
	baz=101								
534A	Blanco	100.84	62	Pdiff	Pdif	06 17 48.9	-0.5		
	baz=101								
634A	China Grove, S	100.84	62	Pdiff	Pdif	06 17 48.9	-0.5		
	baz=101								
M29A	Burnside Ranch	100.84	50	Pdiff	Pdif	06 17 48.9	-0.3		
	baz=101								
X32A	Elmer	100.86	57	Pdiff	Pdif	06 17 48.5	-0.9		
	baz=101								
I28A	Midland	100.87	47	Pdiff	Pdif	06 17 48.0	-1.3		
	baz=101								
133A	Hamilton Ranch	100.88	59	Pdiff	Pdif	06 17 46.5	-3.1		
	baz=101								
E27A	Carson	100.94	45	Pdiff	Pdif	06 17 48.3	-1.2		
	baz=101								
T31A	Randall Ranch,	100.96	54	Pdiff	Pdif	06 17 48.4	-1.4		
	baz=101								
A26A	Wade Farm, Ken	100.97	42	Pdiff	Pdif	06 17 48.9	-0.6		
	baz=101								
W32A	Sentinel	101.01	56	Pdiff	Pdif	06 17 49.1	-0.9		
	baz=101								
D27A	Center	101.06	44	Pdiff	Pdif	06 17 48.8	-1.2		
	baz=101								
H28A	Mission Ridge	101.07	47	Pdiff	Pdif	06 17 48.3	-1.8		
	baz=101								
L29A	Maesberg Ranch	101.09	49	Pdiff	Pdif	06 17 49.0	-1.4		
	baz=101								
Z33A	Whitaker Ranch	101.11	58	Pdiff	Pdif	06 17 49.6	-0.9		
	baz=101								
O30A	MW Ranch, Wils	101.13	51	Pdiff	Pdif	06 17 49.7	-0.8		
	baz=101								
434A	Burnet	101.14	61	Pdiff	Pdif	06 17 48.7	-2.1		
	baz=101								
C27A	Sayler Ranch,	101.16	43	Pdiff	Pdif	06 17 50.3	-0.1		
	baz=101								
CBKS	Cedar Bluff	101.17	53	Pdiff	Pdif	06 17 49.3	-1.4		
	baz=101								
CBKS	Cedar Bluff	101.17	53	PFAKE		06 18 00.0	+9.3		
CBKS				LR	LR				
	comp=Z,14µm,19.0s								
EKS2	Erkin-Say	101.18	311	*e*P	Pdif	06 17 51.0	+0.2		
EKS2				pmax	pmax				
	comp=Z,40nm,1.8s								
EKS2				MLR	MLR				
	comp=Z,3µm,20.0s								
EKS2	Erkin-Say	101.18	311	*e*Pdif	Pdif	06 17 51.0	+0.2		
	comp=Z,40nm,1.8s								
EKS2				LR	LR				
	comp=Z,3µm,20.0s								
N30A	Hueftle Ranch,	101.19	51	Pdiff	Pdif	06 17 50.4	-0.3		
	baz=101								
S31A	Mullinville	101.19	54	Pdiff	Pdif	06 17 47.9	-3.0		
	baz=101								
G28A	Parade	101.20	46	Pdiff	Pdif	06 17 49.4	-1.3		
	baz=101								
334A	Lometa	101.25	60	Pdiff	Pdif	06 17 49.7	-1.5		
	baz=102								
R31A	Burdett	101.26	53	Pdiff	Pdif	06 17 49.7	-1.4		
	baz=102								
V32A	Arapaho	101.26	56	Pdiff	Pdif	06 17 49.7	-1.4		
	baz=102								
K29A	Lazy Trails An	101.30	49	Pdiff	Pdif	06 17 49.9	-1.3		
	baz=102								
WMOK	Wichita Mounta	101.32	57	*e*P	Pdif	06 17 55.4	+3.9		
WMOK				pmax	pmax				
	comp=Z,4.0nm,0.9s								
WMOK				MLR	MLR				
	comp=Z,10µm,20.0s								
WMOK	Wichita Mounta	101.32	57	*e*Pdif	Pdif	06 17 55.4	+3.9		
	comp=Z,3.8nm,0.9s								
WMOK				LR	LR				
	comp=Z,10µm,20.0s								
F28A	McLaughlin	101.39	45	Pdiff	Pdif	06 17 50.3	-1.2		
	baz=102								
J29A	Okreek	101.39	48	Pdiff	Pdif	06 17 50.8	-0.8		
	baz=102								
U32A	Winter Ranch,	101.39	55	Pdiff	Pdif	06 17 50.8	-0.9		
	baz=102								
B27A	Peters Farms,	101.42	43	Pdiff	Pdif	06 17 52.0	+0.4		
	baz=102								
234A	Clairette	101.44	60	Pdiff	Pdif	06 17 52.1	+0.1		
	baz=102								
M30A	Dale-Ortello V	101.46	50	Pdiff	Pdif	06 17 52.2	+0.2		
	baz=102								
Q31A	Ellis	101.47	52	Pdiff	Pdif	06 17 51.2	-0.9		
	baz=102								
I29A	Vivian Onida	101.49	47	Pdiff	Pdif	06 17 51.2	-0.7		
	baz=102								
A27A	Ledoux Ranch,	101.50	42	Pdiff	Pdif	06 17 51.8	-0.1		
	baz=102								
X33A	Lawton	101.52	57	Pdiff	Pdif	06 17 51.4	-0.9		
	baz=102								
P31A	Stockton	101.55	52	Pdiff	Pdif	06 17 52.6	+0.2		
	baz=102								
E28A	Huff	101.56	45	Pdiff	Pdif	06 17 52.6	+0.4		
	baz=102								
T32A	Huddler Ranch,	101.57	54	Pdiff	Pdif	06 17 52.2	-0.4		
	baz=102								
134A	White-Moore Ra	101.57	59	Pdiff	Pdif	06 17 52.7	+0.1		
	baz=102								
535A	Dale	101.61	62	Pdiff	Pdif	06 17 51.8	-1.0		
	baz=102								
L30A	Spencer Herefo	101.63	49	Pdiff	Pdif	06 17 52.9	+0.2		
	baz=102								
H29A	Onida	101.63	47	Pdiff	Pdif	06 17 51.4	-1.3		
	baz=102								
S32A	Newby Ranch, P	101.64	54	Pdiff	Pdif	06 17 51.4	-1.4		
	baz=102								
W33A	Caddo, Fort Co	101.64	56	Pdiff	Pdif	06 17 51.4	-1.4		
	baz=102								
O31A	Woolen Ranch,	101.68	51	Pdiff	Pdif	06 17 52.6	-0.3		
	baz=102								
435B	Jarrell	101.72	61	Pdiff	Pdif	06 17 52.8	-0.5		
	baz=102								
D28A	Regan	101.72	44	Pdiff	Pdif	06 17 52.8	-0.2		
	baz=102								
FFC	Flin Flon	101.77	36	PFAKE		06 18 10.0	+17		
FFC				LR	LR				
	comp=Z,17µm,20.0s								
K30A	Basset	101.81	49	Pdiff	Pdif	06 17 53.2	-0.3		
	baz=102								
Z34A	Collier Ranch,	101.83	58	Pdiff	Pdif	06 17 52.8	-1.0		
	baz=102								
V33A	Lossen Ranch,	101.88	56	Pdiff	Pdif	06 17 53.6	-0.4		
	baz=102								
C28A	Hausauer Farms	101.91	44	Pdiff	Pdif	06 17 52.6	-1.2		
	baz=102								
R32A	Long Quarter,	101.91	53	Pdiff	Pdif	06 17 53.7	-0.3		
	baz=102								
335A	Moody	101.93	61	Pdiff	Pdif	06 17 52.2	-2.0		
	baz=102								
J30A	Dallas	101.98	48	Pdiff	Pdif	06 17 52.4	-1.8		
	baz=102								
WHTX	Lake Whitney	102.01	60	Pdiff	Pdif	06 17 53.6	-1.0		
	baz=102								
B28A	Dugan Ranch, T	102.02	43	Pdiff	Pdif	06 17 53.6	-0.6		
	baz=102								
Y34A	Reagan Ranch,	102.05	58	Pdiff	Pdif	06 17 54.3	-0.4		
	baz=102								
N31A	Bailey Ranch,	102.05	51	Pdiff	Pdif	06 17 53.8	-0.8		
	baz=102								
536A	Bastrop	102.05	62	Pdiff	Pdif	06 17 52.7	-2.0		
	baz=102								
F29A	Eureka	102.06	46	Pdiff	Pdif	06 17 53.2	-1.2		
	baz=102								
X34A	Smith Ranch, M	102.08	57	Pdiff	Pdif	06 17 54.9	+0.1		
	baz=102								
T33A	Patterson Ranc	102.09	55	Pdiff	Pdif	06 17 54.5	-0.4		
	baz=102								
I30A	Oacoma	102.10	48	Pdiff	Pdif	06 17 52.9	-1.8		
	baz=102								
M31A	Lambtecht Ranc	102.10	50	Pdiff	Pdif	06 17 51.9	-2.9		
	baz=102								
Q32A	Meitler Ranch,	102.11	53	Pdiff	Pdif	06 17 54.0	-0.9		
	baz=102								
U33A	Lingo Farm, Me	102.11	55	Pdiff	Pdif	06 17 54.0	-0.9		
	baz=102								
135A	Vickery Place,	102.13	59	Pdiff	Pdif	06 17 53.1	-2.0		
	baz=102								
A28A	Rude Farm, Bot	102.13	42	Pdiff	Pdif	06 17 54.1	-0.7		
	baz=102								
P32A	Huiting Farm,	102.16	52	Pdiff	Pdif	06 17 53.2	-1.9		
	baz=102								
W34A	Bridge Creek,	102.22	56	Pdiff	Pdif	06 17 52.9	-2.5		
	baz=102								
E29A	Napoleon	102.27	45	Pdiff	Pdif	06 17 55.8	+0.3		
	baz=102								
L31A	Butterfield Fa	102.31	49	Pdiff	Pdif	06 17 53.8	-1.9		
	baz=102								
S33A	Kaszmaul Farm,	102.36	54	Pdiff	Pdif	06 17 54.6	-1.4		
	baz=103								
D29A	Pettibone, Tap	102.36	44	Pdiff	Pdif	06 17 56.7	+0.9		
	baz=103								
Z35A	Perchaen, San	102.37	58	Pdiff	Pdif	06 17 55.2	-0.9		
	baz=103								
436A	Wall Ranch, Ga	102.39	61	Pdiff	Pdif	06 17 53.1	-3.1		
	baz=103								
336A	Riesel	102.44	60	Pdiff	Pdif	06 17 54.9	-1.5		
	baz=103								
G30A	Faulkton	102.45	46	Pdiff	Pdif	06 17 53.9	-2.3		
	baz=103								
MDND	Maddock	102.45	43	Pdiff	Pdif	06 17 54.4	-1.7		
	baz=103								
R33A	Olander Ranch,	102.46	53	Pdiff	Pdif	06 17 56.6	+0.2		
	baz=103								
O32A	Brockman Farm,	102.49	51	Pdiff	Pdif	06 17 55.2	-1.4		
	baz=103								
V34A	Guthrie	102.50	56	Pdiff	Pdif	06 17 57.4	+0.7		
	baz=103								
PAYG	Puerto Ayora	102.53	94	PFAKE		06 18 10.0	+13		
PAYG				LR	LR				
	comp=Z,13µm,20.0s								
N32A	Stulken Farm,	102.54	51	Pdiff	Pdif	06 17 56.4	-0.3		
	baz=103								
U34A	Anderson Ranch	102.57	55	Pdiff	Pdif	06 17 57.6	+0.7		
	baz=103								
F30A	Leola	102.61	46	Pdiff	Pdif	06 17 56.8	-0.2		
	baz=103								
Y35A	Marietta	102.63	58	Pdiff	Pdif	06 17 56.9	-0.4		
	baz=103								
Q33A	Connelly Farm,	102.67	53	Pdiff	Pdif	06 17 56.5	-0.8		
	baz=103								
B29A	Wagenman Farm,	102.68	43	Pdiff	Pdif	06 17 58.1	+0.9		
	baz=103								
BGNE	Belgrade	102.73	50	Pdiff	Pdif	06 17 57.8	+0.2		
	baz=103								
X35A	Drake	102.75	57	Pdiff	Pdif	06 17 57.9	+0.1		
	baz=103								
E30A	Jud	102.77	45	Pdiff	Pdif	06 17 58.0	+0.3		
	baz=103								
236A	Katherine and	102.79	60	Pdiff	Pdif	06 17 57.6	-0.4		
	baz=103								
A29A	Manning Farm,	102.81	42	Pdiff	Pdif	06 17 57.6	-0.1		
	baz=103								
P33A	Williams Farm,	102.83	52	Pdiff	Pdif	06 17 57.7	-0.3		
	baz=103								
136A	Ennis	102.86	59	Pdiff	Pdif	06 17 58.4	+0.1		
	baz=103								
T34A	McClaskey Farm	102.92	55	Pdiff	Pdif	06 17 57.6	-0.9		
	baz=103								
W35A	Tecumseh	102.93	57	Pdiff	Pdif	06 17 59.8	+1.2		
	baz=103								
D30A	Buchanan	102.94	44	Pdiff	Pdif	06 17 56.6	-1.7		
	baz=103								
437A	Phantom Ranch,	102.95	61	Pdiff	Pdif	06 17 58.3	-0.5		
	baz=103								
O33A	Hebron	102.99	52	Pdiff	Pdif	06 17 57.4	-1.4		
	baz=103								
R34A	Isabella, Hill	103.04	53	Pdiff	Pdif	06 17 56.6	-2.5		
	baz=103								
V35A	Meyer Ranch, C	103.04	56	Pdiff	Pdif	06 17 56.6	-2.5		
	baz=103								
Z36A	Blue Ridge	103.04	59	Pdiff	Pdif	06 17 56.6	-2.5		
	baz=103								
S34A	Willow Spring	103.07	54	Pdiff	Pdif	06 17 57.2	-1.9		
	baz=103								
N33A	J Bar K, Exete	103.17	51	Pdiff	Pdif	06 17 58.7	-0.8		
	baz=103								
C30A	Mose, Pekin	103.19	44	Pdiff	Pdif	06 17 55.6	-3.8		
	baz=103								
U35A	Pawnee	103.20	55	Pdiff	Pdif	06 17 56.8	-3.0		
	baz=103								
Y36A	Durant	103.25	58	Pdiff	Pdif	06 17 57.0	-3.0		
	baz=104								
X36A	Centrahoma	103.28	57	Pdiff	Pdif	06 17 58.2	-2.0		
	baz=104								
Q34A	Chapman	103.35	53	Pdiff	Pdif	06 17 59.0	-1.4		
	baz=104								
B30A	Myrvik Farm, E	103.36	43	Pdiff	Pdif	06 17 59.5	-0.7		
	baz=104								
A30A	Hoffart Farm,	103.42	42	Pdiff	Pdif	06 17 58.7	-1.7		
	baz=104								
T35A	Sooner Cattle	103.45	55	Pdiff	Pdif	06 17 59.4	-1.4		
	baz=104								
M33A	Taylor Creek F	103.46	50	Pdiff	Pdif	06 17 60.0	-0.8		
	baz=104								
W36A	Wetumka	103.46	57	Pdiff	Pdif	06 18 00.0	-0.9		
	baz=104								
P34A	Walnut Farm, R	103.51	52	Pdiff	Pdif	06 18 00.2	-0.9		
	baz=104								
137A	Heron Place, G	103.52	59	Pdiff	Pdif	06 18 01.9	+0.6		
	baz=104								
KSU1	Kansas State U	103.63	53	Pdiff	Pdif	06 18 00.7	-0.9		
	baz=104								
KSU1	Kansas State U	103.63	53	PFAKE		06 18 10.0	+8.4		
KSU1				LR	LR				
	comp=Z,18µm,19.0s								
O34A	Beatrice	103.68	52	Pdiff	Pdif	06 18 00.5	-1.4		
	baz=104								
S35A	Otter Creek Ra	103.69	54	Pdiff	Pdif	06 18 00.5	-1.4		
	baz=104								
Z37A	Pogue Cattle C	103.71	59	Pdiff	Pdif	06 18 01.1	-1.0		
	baz=104								
338A	Crockett	103.73	61	Pdiff	Pdif	06 18 01.2	-1.0		
	baz=104								
V36A	Jenks	103.77	56	Pdiff	Pdif	06 18 00.3	-2.0		
	baz=104								
Y37A	Hugo	103.81	58	Pdiff	Pdif	06 18 01.6	-0.9		
	baz=104								
R35A	Emporia Munici	103.86	53	Pdiff	Pdif	06 18 01.8	-0.9		
	baz=104								
RER	Riviere de l'E	103.88	244	PFAKE		06 18 10.0	+6.7		
RER				LR	LR				
	comp=Z,8µm,19.0s								
N34A	Lincoln	103.90	51	Pdiff	Pdif	06 18 01.4	-1.4		
	baz=104								
TUL1	Tulsa	103.90	56	Pdiff	Pdif	06 18 00.9	-2.0		
	baz=104								
M34A	Aspy Farms, Fr	103.91	50	Pdiff	Pdif	06 18 03.0	+0.2		
	baz=104								
T36A	Boggs Farm, Ca	103.97	55	Pdiff	Pdif	06 18 01.2	-1.9		
	baz=104								
238A	Jacksonville	103.97	60	Pdiff	Pdif	06 18 01.2	-2.0		
	baz=104								
Q35A	Mercer Eighty,	104.05	53	Pdiff	Pdif	06 18 03.1	-0.3		
	baz=104								
138A	Matatall Enter	104.08	59	Pdiff	Pdif	06 18 01.2	-2.5		
	baz=104								
X37A	Clayton	104.09	57	Pdiff	Pdif	06 17 58.6	-5.1		
	baz=104								
ECSD	EROS Data Cent	104.10	48	Pdiff	Pdif	06 18 00.2	-3.4		
	baz=104								
ECSD	EROS Data Cent	104.10	48	PFAKE		06 18 20.0	+16		
ECSD				LR	LR				
	comp=Z,4µm,19.0s								
L34A	Svendsen Farm,	104.11	50	Pdiff	Pdif	06 18 00.2	-3.4		
	baz=104								
W37A	Quinton	104.11	57	Pdiff	Pdif	06 17 58.1	-5.7		
	baz=104								
439A	Center Grove,	104.12	61	Pdiff	Pdif	06 17 59.2	-4.7		
	baz=104								
P35A	Duane Minner,	104.13	52	Pdiff	Pdif	06 17 59.3	-4.5		
	baz=104								
Z38A	Mt. Pleasant	104.25	59	Pdiff	Pdif	06 18 00.3	-4.1		
	baz=104								
S36A	Lake Cedric, C	104.27	54	Pdiff	Pdif	06 18 01.0	-3.5		
	baz=104								
O35A	Humboldt	104.29	52	Pdiff	Pdif	06 18 02.6	-1.9		
	baz=104								
EFI	East Falkland	104.31	153	PFAKE		06 18 20.0	+16		
EFI				LR	LR				
	comp=Z,7µm,21.0s								
NATX	Nacogdoches	104.33	60	PFAKE		06 18 20.0	+15		
NATX				LR	LR				
	comp=Z,10µm,20.0s								
339A	Huntington	104.37	61	Pdiff	Pdif	06 18 01.9	-3.1		
	baz=105								
R36A	Gordon, Harris	104.40	54	Pdiff	Pdif	06 18 05.2	+0.2		
	baz=105								
V37A	Hulbert	104.43	56	Pdiff	Pdif	06 18 02.2	-3.0		
	baz=105								
Q36A	Arnold C. Orve	104.50	53	Pdiff	Pdif	06 18 03.6	-1.9		
	baz=105								
BVAR	Borovoye Array	104.50	322	PP	PP	06 22 19.5	-5.0		
	comp=Z,2.1nm,0.6s,baz=93,slow=7.7,SNR=5.2								
239A	Gary	104.53	60	Pdiff	Pdif	06 18 03.2	-2.6		
	baz=105								
Y38A	Idabel	104.54	58	Pdiff	Pdif	06 18 01.1	-4.6		
	baz=105								
X38A	Whitesboro	104.54	57	Pdiff	Pdif	06 18 03.8	-2.0		
	baz=105								
N35A	Tabor	104.55	51	Pdiff	Pdif	06 18 01.7	-4.0		
	baz=105								
M35A	Neola	104.57	50	Pdiff	Pdif	06 18 02.8	-2.9		
	baz=105								
BRVK	Borovoye	104.57	322	*e*P	Pdif	06 18 05.0	-0.4		
BRVK				pmax	pmax				
	comp=Z,79nm,1.9s								
BRVK				MLR	MLR				
	comp=Z,4µm,20.0s								
BRVK	Borovoye	104.57	322	Pdiff	Pdif	06 18 04.8	-0.6		
	SNR=18								
BRVK	Borovoye	104.57	322	*e*Pdif	Pdif	06 18 05.0	-0.4		
	comp=Z,79nm,1.9s								
BRVK				LR	LR				
	comp=Z,4µm,20.0s								
139A	Bunkhouse Ranc	104.67	59	Pdiff	Pdif	06 18 04.3	-2.0		
	baz=105								
L35A	Bielow Farm, R	104.74	50	Pdiff	Pdif	06 18 03.0	-3.5		
	baz=105								
T37A	Cheneyville 18	104.74	55	Pdiff	Pdif	06 18 04.6	-2.0		
	baz=105								
P36A	Good Intent, A	104.76	52	PKiKP	PKiKP	06 22 18.9	-3.1		
	baz=105								
W38A	Poteau	104.84	57	PKiKP	PKiKP	06 22 20.7	-1.6		
	baz=105								
Z39A	Irene McRaven,	104.91	59	PKiKP	PKiKP	06 22 17.6	-4.8		
	baz=105								
R37A	Teagarden Farm	104.93	54	PKiKP	PKiKP	06 22 18.7	-3.6		
	baz=105								
340A	Bronson	104.94	61	PKiKP	PKiKP	06 22 21.9	-0.6		
	baz=105								
AGMN	Agassiz Nation	104.99	43	PKiKP	PKiKP	06 22 23.0	+0.9		
	baz=105								
AGMN	Agassiz Nation	104.99	43	PFAKE		06 22 30.0			
AGMN				LR	LR				
	comp=Z,8µm,20.0s						

comp=Z,7µm,19.0s
BRAL Brewton 110.73 62 PFAKE 06 22 50.0
BRAL LR LR
comp=Z,7µm,19.0s
SFIN Scholer Farm 111.02 52 PKiKP **PKiKP 06 22 34.8 +1.2**
baz=111
ARU Arti 111.23 325 *i* PKIKP **PKiKP 06 22 32.3 -1.2**
ARU 06 23 09.0
ARU 06 29 08.5
ARU SP SP 06 32 35.2 -5.2
ARU PS **PS 06 32 44.9 -0.5**
ARU Arti 111.23 325 *e*PKPdf **PKiKP 06 22 32.6 -1.0**
ARU LR LR
comp=Z,3µm,20.0s
TRQA Tornquist 111.33 141 PFAKE 06 22 50.0
TRQA LR LR
comp=Z,4µm,19.0s
SOKR Solikamsk 111.67 329⇑ *i*PKIKP PKiKP 06 22 25.5 -8.7
SOKR 06 29 40.1
SOKR PS PS 06 32 38.5 -11
SOKR SS SS 06 38 46.9 -2.6
SOKR SSS SSS 06 42 54.0
SOKR pmax pmax
comp=Z,10.0nm,0.9s
ABPO Ambohimpanom 112.10 243 PFAKE 06 22 50.0
ABPO LR LR
comp=Z,13µm,21.0s
NNA Nana 112.10 109 PFAKE 06 22 50.0
NNA LR LR
comp=Z,8µm,22.0s
AKTO Aktyubinsk 112.24 319 PKiKP **PKiKP 06 22 34.2 -1.4**
comp=Z,8.2nm,0.7s,baz=98,slow=4.0,SNR=12
GLMI Grayling 112.73 47 PFAKE 06 22 50.0
GLMI LR LR
comp=Z,4µm,19.0s
GEYT Alibeck 112.80 306 PKiKP **PKiKP 06 22 36.3 -0.9**
comp=Z,4.3nm,0.5s,baz=264,slow=1.4,SNR=5.4
KBS Kingsbay 113.54 355 PFAKE 06 22 50.0
KBS LR LR
comp=Z,5µm,21.0s
AAM Ann Arbor 113.57 50 PFAKE 06 22 50.0
AAM LR LR
comp=Z,19µm,20.0s
TKL Tuckaleechee C 113.64 57 PKiKP **PKiKP 06 22 40.5 +1.6**
comp=Z,1.5nm,0.6s,baz=144,slow=14,SNR=4.2
TIGA Tifton 113.72 61 PKiKP **PKiKP 06 22 38.9 -0.1**
baz=114
GOGA Godfrey 113.87 59 PFAKE 06 22 50.0
GOGA LR LR
comp=Z,9µm,20.0s
ACSO Alum Creek Sta 114.17 52 PFAKE 06 22 50.0 +10
ACSO LR LR
comp=Z,19µm,20.0s
OTAV Otavalo 114.22 96 PFAKE 06 22 50.0 +8.9
OTAV LR LR
comp=Z,7µm,20.0s
LVC Limon Verde 114.75 123 PFAKE 06 22 50.0 +8.3
LVC LR LR
comp=Z,5µm,21.0s
BCIP Isla Barro Col 114.83 86 PFAKE 06 22 50.0 +8.3
BCIP LR LR
comp=Z,4µm,22.0s
BLA Blacksburg 116.31 55 PFAKE 06 23 00.0 +16
BLA LR LR
comp=Z,12µm,21.0s
PRGR Permogore 116.41 333 *e*PKIKP **PKPdf 06 22 39.8 -3.5**
PRGR pmax pmax
comp=Z,29nm,1.1s
NHSC New Hope 116.63 60 PFAKE 06 23 00.0 +15
NHSC LR LR
comp=Z,8µm,19.0s
DAG Danmarks Havn 116.78 1 *i* P **PKPdf 06 22 41.3 -2.3**
comp=Z,13nm,1.0s
DAG *i* 06 23 49.7
DAG Danmarks Havn 116.78 1 *i* P **PKKPab 06 33 14.9 +1.1**
comp=Z,88nm,1.9s
DAG Danmarks Havn 116.78 1 *i* PKIKP **PKPdf 06 22 41.3 -2.3**
DAG *i* 06 23 49.7
DAG pmax pmax
comp=Z,13nm,1.0s
DAG MLR MLR
comp=Z,5µm,20.0s
LVZ Lovozero 117.56 342 PFAKE 06 23 00.0 +15
LVZ LR LR
comp=Z,8µm,21.0s
APA Apatity 118.14 342 *e*P **Pdif 06 19 08.0 +2.6**
APA *i* 06 24 00.0
APA *e* 06 29 56.0
APA *i* 06 33 42.0
APA pmax pmax
comp=Z,108nm,1.0s
APA MLR MLR
comp=Z,7µm,22.0s
LPAZ La Paz 118.25 117 PKP **PKPdf 06 22 47.2 -1.7**
comp=Z,2.4nm,0.5s,baz=238,slow=2.3,SNR=13
LPAZ PKKPab **PKKPab 06 33 09.5 -1.5**
comp=Z,2.5nm,0.7s,baz=61,slow=3.6,SNR=7.3
MTDJ Mount Denham 118.36 76 PFAKE 06 23 00.0 +12
MTDJ LR LR
comp=Z,3µm,22.0s
CNNC Cliffs of the 118.45 57 PFAKE 06 23 00.0 +12
CNNC LR LR
comp=Z,13µm,20.0s
KEV Kevo 118.50 345 *e*PKIKP **PKPdf 06 22 44.6 -2.5**
KEV MLR MLR
comp=Z,6µm,21.0s
KEV Kevo 118.50 345 *e*PKPdf **PKPdf 06 22 44.6 -2.5**
KEV LR LR
comp=Z,6µm,21.0s
CBN Corbin 118.65 54 PFAKE 06 23 00.0 +12
CBN LR LR
comp=Z,15µm,19.0s
ARCES ARCESS Array B 119.03 345 PKP **PKPdf 06 22 46.2 -1.9**
comp=Z,26nm,0.6s,baz=77,slow=1.9,SNR=77
ARCES SKP 06 26 21.5
comp=Z,4.7nm,0.8s,baz=79,slow=4.7,SNR=3.7
ARCES PKKPbc **PKKPab 06 33 00.2 -3.9**
comp=Z,1.6nm,0.6s,baz=207,slow=1.6,SNR=6.8
SUMG Summit 119.22 8 *i* P **PKPdf 06 22 50.9 +1.9**
comp=Z,28nm,1.2s
SUMG Summit 119.22 8 *i* P **PKKPbc 06 33 01.2 -3.5**
comp=Z,66nm,1.4s
SUMG Summit 119.22 8 *e*PKIKP **PKPdf 06 22 50.9 +1.9**
SUMG pmax pmax
comp=Z,28nm,1.2s
SUMG MLR MLR
comp=Z,6µm,19.0s
SUMG Summit 119.22 8 *e*PKPdf **PKPdf 06 22 49.9 +0.9**
LONY Lake Ozonia 119.85 46 PFAKE 06 23 00.0 +10
LONY LR LR
comp=Z,3µm,20.0s
NCB Newcomb 120.23 47 PFAKE 06 23 00.0 +8.8
NCB LR LR
comp=Z,9µm,19.0s
MAK Makhachkala 120.43 312 *i* P **Pdif 06 19 14.4 -1.7**
MAK *i* 06 22 51.6
MAK *e* 06 24 16.6
MAK *e*SS SS 06 41 05.0 +20
MAK pmax pmax
comp=Z,47nm,0.9s
GTBY Guantanamo Bay 120.80 75 PFAKE 06 23 10.0 +17
GTBY LR LR
comp=Z,2µm,20.0s
SFJD Kangerlussuaq 121.27 16 PFAKE 06 23 00.0 +7.5
SFJD LR LR
comp=Z,9µm,20.0s
CPUP Villa Florida 121.65 133 PKP **PKPdf 06 22 55.9 +1.4**
comp=Z,5.0nm,0.7s,baz=254,slow=1.9,SNR=9.2
CPUP SKP 06 26 30.2
comp=Z,4.4nm,1.0s,baz=252,slow=6.4,SNR=3.2
CPUP PKKPbc **PKKPbc 06 32 52.7 -1.4**
comp=Z,6.1nm,1.2s,baz=60,slow=5.6,SNR=5.0
SCHQ Schefferville 121.70 33 PKP **PKPdf 06 22 52.0 -1.7**
comp=Z,3.6nm,0.5s,baz=268,slow=3.1,SNR=9.8
SCHQ PKKPbc **PKKPab 06 32 52.5 -0.4**
comp=Z,1.2nm,0.5s,baz=74,slow=3.5,SNR=4.4
DGRG David-gareji 122.26 311 P **PKPdf 06 22 55.3 +0.1**
MOS Moscow 122.62 329 *e*PKIKP **PKPdf 06 22 55.5 +0.1**
MOS *e* 06 24 31.4
MOS pmax pmax
comp=Z,153nm,1.4s
TBLG Delisi 122.67 311 P **PKPdf 06 22 55.2 -0.8**
GNI Garni 122.97 309 PKP **PKPdf 06 22 55.4 -1.4**
comp=Z,10nm,0.4s,baz=26,slow=3.5,SNR=12
GNI Garni 122.97 309*d* *i*PKIKP **PKPdf 06 22 55.2 -1.6**
GNI pmax pmax
comp=Z,116nm,1.7s
GNI Garni 122.97 309 PKPdf **PKPdf 06 22 57.1 +0.2**
SNR=16
GNI Garni 122.97 309⇑ *i*PKiKP **PKPdf 06 22 57.0 +0.2**
SNR=6.9
GNI Garni 122.97 309 PKP **PKPdf 06 22 55.4 -1.4**
GNI *e*PKPdf **PKiKP 06 22 56.4 -0.6**
GNI LR LR
comp=Z,3µm,19.0s
ZEI Tsey 123.06 312 *i* PKIKP **PKPdf 06 22 55.2 -1.8**
ZEI pmax pmax
comp=Z,192nm,1.3s
GOF Gofitskoye 123.12 315 *e*PKIKP **PKPdf 06 22 57.6 +0.9**
GOF pmax pmax
comp=Z,30nm,1.3s
PKME Peaks-Kenny Pk 123.37 44 PFAKE 06 23 10.0 +13
PKME LR LR
comp=Z,7µm,19.0s
ONI Oni 123.42 312 P **PKPdf 06 22 56.7 -0.8**
ONI S **PP 06 24 43.5 +4.6**
OBN Obninsk 123.44 328 PKP **PKPdf 06 22 56.0 -1.0**
comp=Z,29nm,0.5s,baz=177,slow=2.5,SNR=18
OBN Obninsk 123.44 328*d* *i*PKIKP **PKPdf 06 22 56.0 -1.0**
OBN *i* 06 23 10.4
OBN *i* 06 24 39.6
OBN pmax pmax
comp=Z,140nm,1.7s
OBN Obninsk 123.44 328 PKP **PKPdf 06 22 56.0 -1.0**
OBN LR LR
comp=Z,4µm,20.0s
KBZ Khabaz 123.55 314 PKP **PKPdf 06 22 56.7 -0.9**
comp=Z,13nm,0.8s,baz=76,slow=4.0,SNR=19
VSR Storozhevoye 123.64 323 *e*PKIKP **PKPdf 06 22 55.7 -1.8**
VSR *e* 06 24 35.5
VSR *e* 06 29 58.5
VSR pmax pmax
comp=N,5.0nm,0.5s
VSR pmax pmax
comp=E,8.0nm,0.5s
VSR pmax pmax
comp=Z,50nm,0.5s
VSR pmax pmax
comp=E,320nm,3.5s
VSR pmax pmax
comp=Z,740nm,3.5s
VSR pmax pmax
comp=N,70nm,2.5s
KIV Kislovodsk 123.65 314*d* *i*PKIKP **PKPdf 06 22 56.8 -1.1**
KIV *i* 06 24 42.9
KIV pmax pmax
comp=Z,41nm,1.3s
KIV Kislovodsk 123.65 314 PKPdf **PKPdf 06 22 59.9 +2.0**
SNR=14
KIV Kislovodsk 123.65 314⇓ *i*PKiKP **PKiKP 06 22 59.6 +1.4**
SNR=12
KIV Kislovodsk 123.65 314 *e*PKPdf **PKPdf 06 22 58.8 +0.9**
KIV *e*PP **PP 06 24 44.5 +4.2**
KIV LR LR
comp=Z,3µm,19.0s
AKH Akhalkalaki 123.65 311 P **PKPdf 06 22 57.8 -0.4**
AKH S **PP 06 24 43.6 +3.0**
VORD Divnogorie 123.66 323 *e*PKIKP **PKPdf 06 22 56.2 -1.3**
VORD *e* 06 24 37.7
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=E,20nm,0.9s
VORD pmax pmax
comp=Z,40nm,0.9s
VORD pmax pmax
comp=E,460nm,4.2s
VORD pmax pmax
comp=Z,840nm,4.2s
VORD pmax pmax
comp=N,60nm,0.9s
RAYN Ar Rayn 123.67 289 *e*PKPdf **PKPdf 06 22 57.7 -0.8**
EAK Akyaka 123.71 310 *i* P **PKPdf 06 22 58.8 +0.6**
SDV Santo Domingo 123.72 88 PFAKE 06 23 10.0 +11
SDV LR LR
comp=Z,6µm,19.0s
SUR Sutherland 123.79 215 *e*PKPdf **PKPdf 06 22 58.3 -0.5**
SUR LR LR
comp=Z,11µm,21.0s
BOSA Boshof 123.83 221 PKP **PKPdf 06 22 57.8 -1.1**
comp=Z,17nm,0.6s,baz=138,slow=1.7,SNR=16
BOSA SKP 06 26 34.8
comp=Z,8.2nm,1.0s,baz=158,slow=7.7,SNR=3.5
DYDN Diyadin 123.87 309 *i* P **PKPdf 06 22 59.6 +0.9**
DIGO Kars 123.94 310 *i* P **PKPdf 06 22 59.6 +0.8**
DAMY Dhamar 124.12 278 *e*PKPdf **PKPdf 06 23 00.7 +0.8**
HAKT HAKKARI 124.20 306 *i* P **PKPdf 06 22 58.2 -1.2**
TVAN Van 124.27 307 *i* P **PKPdf 06 23 00.7 +1.2**
SDDR Presa de Saban 124.33 76 PFAKE 06 23 10.0 +10
SDDR LR LR
comp=Z,4µm,22.0s
FINES FINESS Array B 124.47 338 PKP **PKPdf 06 22 56.8 -2.0**
comp=Z,17nm,0.7s,baz=100,slow=1.6,SNR=26
GEVA Gevas 124.58 307 *i* P **PKPdf 06 23 00.7 +0.7**
GRTK Grand Turk 124.60 73 PFAKE 06 23 10.0 +10
GRTK LR LR
comp=Z,4µm,19.0s
EATA Eleskirt 124.72 309 *i* P **PKPdf 06 23 01.5 +1.1**
ARTV Artvin 124.85 311 *i* P **PKPdf 06 22 59.4 -1.1**
DAGI Agillar 124.88 311 *i* P **PKPdf 06 22 59.1 -1.3**
DBOC Borcka 125.00 311 *i* P **PKPdf 06 23 00.2 -0.3**
DDEM Demirkent 125.05 311 *i* P **PKPdf 06 23 03.2 +2.5**
DBAD Bademkaya 125.06 311 *i* P **PKPdf 06 23 00.0 -0.7**
HOMI Horasan 125.12 310 *i* P **PKPdf 06 23 00.6 -0.4**
EKAR Karacoban 125.15 309 *i* P **PKPdf 06 23 02.2 +1.1**
ERZM Erzurum 125.55 309 *i* P **PKPdf 06 23 01.7 -0.2**
SAML Samuel 125.69 112 *e*PKPdf **PKPdf 06 23 00.4 -2.1**
SAML LR LR
comp=Z,3µm,19.0s
SOC Sochi 125.82 314 *i* PKIKP **PKPdf 06 23 00.1 -1.8**
SOC *e*PPP PPP 06 27 31.5
SOC *e*PS **PS 06 34 49.6 -7.7**
SOC pmax pmax
comp=Z,49nm,1.3s
BNGL BINGOL 125.92 308 *i* P **PKPdf 06 23 04.1 +1.5**
LBTB Lobatse 126.00 225 PKP **PKPdf 06 23 01.8 -1.3**
comp=Z,23nm,0.7s,baz=124,slow=2.6,SNR=13
VSU Vasula 126.15 335 *i* PKIKP **PKPdf 06 23 00.9 -1.2**
KOPT Kop Dagi 126.18 310 *i* P **PKPdf 06 23 03.3 +0.2**
MARD Mardin 126.54 306 *i* P **PKPdf 06 23 03.3 -0.4**
MATP Matopo 126.74 231 PKP **PKPdf 06 23 03.4 -1.2**
comp=Z,30nm,1.1s,baz=136,slow=2.3,SNR=17
KBSD Kabsdagh 126.79 306 *e*P PKPdf 06 22 58.2 -5.8
MZRK Al-Mazaregh 126.92 305 *e*P **PKPdf 06 23 04.5 +0.2**
ANN Anapa 127.00 316 *i* PKIKP **PKPdf 06 23 05.2 +1.1**
ANN *e* 06 25 04.2
ANN *e*PPP PPP 06 27 41.3
ANN *e*SP SP 06 35 01.6 -1.0
ANN *e*SS **SS 06 42 08.4 +0.5**
ANN pmax pmax
comp=Z,78nm,1.4s
ANN MLR MLR
comp=Z,4µm,23.0s
ANN MLR MLR
comp=E,2µm,23.0s
ANN MLR MLR
comp=N,2µm,23.0s
KELT Kelkit 127.07 310 *i* P **PKPdf 06 23 03.3 -1.4**
SFNV Sufian 127.24 306 *e*P **PKPdf 06 23 03.8 -1.2**
GRSN GIRESUNGRSN 127.59 311 *i* P **PKPdf 06 23 03.6 -1.9**
KMBO Kilima Mbogo 127.77 258 PKP **PKPdf 06 23 06.8 0.0**
comp=N,11nm,0.9s,baz=74,slow=3.8,SNR=14
KMBO Kilima Mbogo 127.77 258 PKiKP **PKPdf 06 23 06.9 0.0**
KMBO MLR MLR
comp=Z,5µm,20.0s
KMBO Kilima Mbogo 127.77 258 PKPdf **PKPdf 06 23 09.9 +3.0**
SNR=10
KMBO Kilima Mbogo 127.77 258 PKP **PKPdf 06 23 06.8 0.0**
KMBO *e*PKPdf **PKiKP 06 23 07.1 -0.4**
KMBO LR LR
comp=Z,5µm,20.0s
SUSE Susehri 127.83 311 *i* P **PKPdf 06 23 04.5 -1.6**
KEMA Kemaliye 127.86 309 *i* P **PKPdf 06 23 05.3 -0.8**
MICGM Minsk 128.06 331 *e*PKP **PKPdf 06 23 01.0 -4.9**
MNK Minsk 128.08 331 *e*PKIKP **PKPdf 06 23 01.0 -4.9**
MNK *e* 06 25 06.0
MNK *e*PS **PS 06 35 12.0 -4.5**
MNK *e*SSS SSS 06 47 00.0
MALT Malatya 128.14 308⇓ *i*PKIKP **PKPdf 06 23 07.3 +0.6**
MALT Malatya 128.14 308⇓ *i*P **PKPdf 06 23 07.3 +0.6**
NACGM Naroch 128.33 332 *e*PKP **PKPdf 06 23 05.0 -1.4**
BORG Borgarnes 128.63 4 PFAKE 06 23 20.0 +13
BORG LR LR
comp=Z,5µm,19.0s
OBIP Obispado Ponce 128.71 78 *e*PKPdf **PKPdf 06 23 09.4 +1.2**
GZT Gaziantep 129.03 307 *i* P **PKPdf 06 23 07.8 -0.7**
TOKA Tokat 129.07 311 *i* P **PKPdf 06 23 09.7 +1.4**
SJG San Juan 129.14 78 *e*PKIKP **PKPdf 06 23 11.5 +2.5**
SJG MLR MLR
comp=Z,4µm,22.0s
SJG San Juan 129.14 78 *e*PKPdf **PKPdf 06 23 11.5 +2.5**
SJG LR LR
comp=Z,4µm,22.0s
SIM Simferopol' 129.15 318 P **Pdif 06 19 59.6 +4.6**
SIM 06 23 09.1
SIM 06 25 18.0
SIM SP SP 06 35 23.6 +2.3
SIM SPP SPP 06 37 00.9
SIM SS **SS 06 42 38.8 +4.3**
SIM pmax pmax
comp=Z,42nm,8.2s
SIM pmax pmax
comp=Z,210nm,9.4s
NB2 NORSAR Subarra 129.39 345 PKPdf **PKPdf 06 23 07.4 -0.9**
comp=Z,37nm,1.2s,baz=31,slow=1.9
NB2 NORSAR Subarra 129.39 345 PKPdf **PKPdf 06 23 07.4 -0.9**
baz=31,slow=1.9
NOA NORSAR Array B 129.39 345 PKP **PKPdf 06 23 06.7 -1.6**
comp=Z,13nm,0.8s,baz=31,slow=2.0,SNR=22
NOA SKP 06 26 28.8
comp=Z,9.9nm,1.0s,baz=33,slow=3.0,SNR=10
HAVZ Havza 129.40 312 *i* P **PKPdf 06 23 10.7 +1.8**
AKASG Malin Array Be 129.48 326 PKP **PKPdf 06 23 06.8 -1.8**
comp=Z,29nm,1.1s,baz=58,slow=1.9,SNR=28
AKASG PP PP 06 25 12.2 -6.1
comp=Z,1.2nm,0.6s,baz=48,slow=5.3,SNR=4.5
AKASG SKP 06 26 29.4
comp=Z,2.7nm,0.7s,baz=47,slow=4.2,SNR=5.2
HFS Hagfors 129.48 343 SKP SKPbc 06 26 29.0 +1.2
comp=Z,14nm,1.0s,baz=60,slow=5.8,SNR=7.7
KIEV Kiev 129.49 326 *e*PKIKP **PKPdf 06 23 07.5 -1.2**
KIEV MLR MLR
comp=Z,4µm,20.0s
KIEV Kiev 129.49 326 *e*PKPdf **PKPdf 06 23 07.5 -1.2**
KIEV LR LR
comp=Z,4µm,20.0s
KUZU Kuzuini 129.55 307 *i* P **PKPdf 06 23 10.0 +0.6**
TRIS Tristan da Cun 129.59 181 PFAKE 06 23 20.0 +11
TRIS LR LR
comp=Z,9µm,22.0s
PINB Pinarbasi 129.59 309 *i* P **PKPdf 06 23 08.6 -1.1**
BBSR BB Station 129.68 59 PFAKE 06 23 20.0 +10
BBSR LR LR
comp=Z,5µm,19.0s
LSZ Lusaka 129.88 237 PKP **PKPdf 06 23 09.6 -1.1**
comp=Z,10nm,0.8s,baz=79,slow=6.1,SNR=19
LSZ SKP 06 26 41.8
comp=Z,17nm,1.0s,baz=104,slow=4.2,SNR=6.3
LSZ Lusaka 129.88 237 PKIKP **PKPdf 06 23 09.6 -1.1**
LSZ MLR MLR
comp=Z,9µm,19.0s
LSZ Lusaka 129.88 237 PKP **PKPdf 06 23 09.6 -1.1**
LSZ *e*PKPdf **PKiKP 06 23 10.4 -1.0**
LSZ SKP 06 26 41.8
LSZ LR LR
comp=Z,9µm,19.0s
ANDN Andirin 129.92 308 *i* P **PKPdf 06 23 10.5 +0.4**
ZALF Zalf 130.14 302 *e*P **PKPdf 06 23 08.4 -2.2**
CTKT Corum 130.21 312 *i* P **PKPdf 06 23 12.0 +1.4**
BTCH Batrach 130.21 306 *e*P **PKPdf 06 23 09.7 -1.0**
SUW Suwalki 130.53 332 *e*PKPdf **PKPdf 06 23 10.4 -0.1**
SUW *e*PP **PP 06 25 27.0 +2.0**
SUW Suwalki 130.53 332 *e*PX **SKPab 06 26 32.8 +1.2**
SUW Suwalki 130.53 332 *e*PKIKP **PKPdf 06 23 10.5 -0.1**
SUW *e* 06 25 27.0
ARNB Al Arnab 130.63 306 *e*P **PKPdf 06 23 11.2 -0.3**
ASF Jabal al Asfar 130.63 301 PKP **PKPdf 06 23 10.9 -0.7**
comp=Z,8.4nm,0.8s,baz=135,slow=1.1,SNR=21
ASF SKPbc **SKPab 06 26 34.2 +1.3**
comp=Z,15nm,0.9s,baz=38,slow=1.5,SNR=13
AVNT Avonos 130.72 310 *i* P **PKPdf 06 23 09.7 -2.0**
TOTH TOTAH 130.80 302 *e*P **PKPdf 06 23 11.6 -0.2**
CDAG Cicekdag 130.82 311 *i* P **PKPdf 06 23 09.7 -2.1**
ILGA Ilgaz 130.84 313 *i* P **PKPdf 06 23 11.8 -0.1**
KONO Kongsberg 131.00 345 *e*PKIKP **PKPdf 06 23 12.3 +1.0**
KONO MLR MLR
comp=Z,3µm,20.0s
KONO Kongsberg 131.00 345 *e*PKPdf **PKPdf 06 23 12.3 +1.0**
KONO *e*SKPbc **SKPab 06 26 34.8 +1.3**
KONO LR LR
comp=Z,3µm,20.0s
BB16B Bebedouro 131.18 134 *e*P **PKPdf 06 23 13.6 +0.7**
BB16B *i* 06 26 12.1
BB16B *i* 06 27 40.4
BB16B *i* 06 35 19.6
BB16B *i* 06 35 58.5
BB16B *i* 06 37 23.2
BB16B *i* 06 39 05.8
BRBR Barbar 131.19 303 *e*P **PKPdf 06 23 11.6 -1.2**
BRTR Keskin Array B 131.33 311 PKP **PKPdf 06 23 11.1 -1.7**
comp=Z,5.3nm,0.8s,baz=80,slow=1.7,SNR=19
KIS Kishinev 131.59 322 *e*PKP **PKPdf 06 23 12.0 -0.8**
KIS Kishinev 131.59 322 *e*PP PP 06 25 32.0 -0.2
KIS Kishinev 131.59 322 *e*PKS **PKSab 06 26 40.0 0.0**
KIS *e*SKS SKSdf 06 29 58.0 -24
KIS *e*SKKS SKKSac 06 31 27.0 -59
KIS Kishinev 131.59 322 *e*PS PS 06 35 38.0 -9.3
KIS Kishinev 131.59 322 *e*PKIKP **PKPdf 06 23 12.0 -0.8**
KIS *e* 06 25 32.0
KIS *e* 06 35 38.0
KIS *e* 06 37 20.0
KIS MLR MLR
comp=Z,6µm,22.0s
KIS MLR MLR
comp=N,3µm,20.0s
KIS MLR MLR
comp=Z,6µm,20.0s
MMAI Mount Meron Ar 131.72 302 PKP **PKPdf 06 23 13.2 -0.4**
comp=Z,9.8nm,0.7s,baz=101,slow=1.5,SNR=13
MMAI SKPbc **SKPab 06 26 37.7 +0.2**
comp=Z,9.4nm,0.8s,baz=66,slow=3.6,SNR=6.6
ANTO Ankara 131.90 312 *e*PKIKP **PKPdf 06 23 11.9 -1.8**
ANTO MLR MLR
comp=Z,3µm,20.0s
ANTO Ankara 131.90 312⇑ *i*P **PKPdf 06 23 11.9 -1.8**
ANTO Ankara 131.90 312 PKPdf **PKPdf 06 23 14.7 +1.0**
SNR=22
ANTO Ankara 131.90 312 *e*PKPdf **PKPdf 06 23 11.9 -1.8**
ANTO LR LR
comp=Z,3µm,20.0s
KIZK Mersin 131.91 307 *i* P **PKPdf 06 23 12.3 -1.4**
BCAM Yenicaga 132.09 313 *i* P **PKPdf 06 23 12.8 -1.3**
TLCR 132.45 320⇑ PKIKP **PKPdf 06 23 15.0 +0.5**
TLCR 132.45 320⇑ *i*P **PKPdf 06 23 15.0 +0.5**
EIL Elat 132.69 298 PKP **PKPdf 06 23 15.7 +0.2**
comp=Z,11nm,0.6s,baz=45,slow=2.2,SNR=16
EIL SKPbc **SKPab 06 26 41.0 -0.7**
comp=Z,16nm,1.1s,baz=33,slow=5.1,SNR=4.0
LVV L'vov 132.73 328 *e*PKIKP **PKPdf 06 23 14.7 -0.2**
LVV *i* 06 23 29.0
ERMK Ermenek 132.81 308 *i* P **PKPdf 06 23 16.3 +0.6**
KDHN Kadinhani 132.84 310 *i* P **PKPdf 06 23 12.9 -2.7**
AUMIH MIHALICIK 132.84 312 *i* P **PKPdf 06 23 17.0 +1.4**
BTAS Taskesti 132.93 313 *i* P **PKPdf 06 23 15.2 -0.5**
GRGR Grenville 132.94 86 PFAKE 06 23 30.0 +14
GRGR LR LR
comp=Z,3µm,22.0s
CSS Prodhromos 132.94 305 *e*P **PKPdf 06 23 15.8 0.0**
CSS Prodhromos 132.94 305 *e*PKPdf **PKPdf 06 23 15.2 -0.6**
CSS LR LR
comp=Z,905nm,20.0s
AUSIV SIVRIHISAR 132.95 312 *i* P **PKPdf 06 23 15.3 -0.5**
TIRR Tirgusor 133.05 319⇓ PKIKP **PKPdf 06 23 16.3 +0.7**
TIRR Tirgusor 133.05 319⇓ *i*P **PKPdf 06 23 16.3 +0.7**
BEL Belsk 133.05 332 *e*PKPdf **PKPdf 06 23 16.1 +0.7**
BEL *e*PP **PP 06 25 43.4 +2.2**
BEL Belsk 133.05 332 *e*PX **SKPab 06 26 43.2 +0.7**
BEL Belsk 133.05 332 *e*PKIKP **PKPdf 06 23 16.1 +0.7**
BEL *e* 06 25 43.5
BSD Bornholm Skovb 133.11 338 *i* P **PKPdf 06 23 15.2 -0.2**
comp=Z,70nm,1.1s
BSD *i* 06 25 43.7

BSD Bornholm Skovb 133.11 338 *i* PKIKP **PKPdf** 06 23 15.2 -0.2
BSD *i* 06 25 43.7
BSD pmax pmax
comp=Z,70nm,1.1s
BSD MLR MLR
comp=Z,8μm,20.0s
TESR Tescani 133.12 323⇑ *i* P **PKPdf** **06 23 16.8 +1.0**
HARR Harsova 133.24 320⇑ PKIKP **PKPdf** **06 23 16.6 +0.6**
HARR Harsova 133.24 320⇑ *i*P **PKPdf** **06 23 16.6 +0.6**
ANWB Willy Bob 133.28 78 PFAKE 06 23 30.0 +13
ANWB LR LR
comp=Z,3μm,20.0s
BURAR Bucovina Array 133.36 325⇓ PKIKP **PKPdf** **06 23 16.8 +0.5**
BURAR Bucovina Array 133.36 325⇓ *i*P **PKPdf** **06 23 16.8 +0.5**
GAZI Gazipasa 133.39 307 *i* P **PKPdf** **06 23 14.4 -2.2**
VRI Vrincioaia 133.40 322⇑ PKIKP **PKPdf** **06 23 15.7 -0.6**
VRI Vrincioaia 133.40 322⇑ *i*P **PKPdf** **06 23 15.7 -0.6**
PLOR Plostina 133.46 322⇑ PKIKP **PKPdf** **06 23 15.1 -1.4**
PLOR Plostina 133.46 322⇑ *i*P **PKPdf** **06 23 15.1 -1.4**
COP Copenhagen 133.51 340⇑ *i*P **PKPdf** **06 23 17.1 +1.0**
comp=Z,39nm,1.1s
COP *i* 06 25 43.7
COP Copenhagen 133.51 340⇑ *i*PKIKP **PKPdf** **06 23 17.1 +1.0**
COP *i* 06 25 43.7
COP pmax pmax
comp=Z,39nm,1.1s
COP MLR MLR
comp=Z,2μm,22.0s
KWP Kalwaria Pacla 133.53 328 *e*PKPdf **PKPdf** **06 23 16.8 +0.4**
KWP *e*PP **PP** **06 25 47.4 +2.9**
KWP Kalwaria Pacla 133.53 328 *e*PKIKP **PKPdf** **06 23 16.9 +0.5**
KWP *e* 06 25 47.4
PSN Preselentsi 133.55 318⇓ PKIKP **PKPdf** **06 23 16.5 -0.1**
PSN Preselentsi 133.55 318⇓ *i*P **PKPdf** **06 23 16.5 -0.1**
PSN Preselentsi 133.55 318 P **PKPdf** **06 23 17.8 +1.2**
MSAB Monastry St. A 133.59 319 *i*P **PKPdf** **06 23 17.8 +1.1**
GKP Gorka Klasztor 133.61 335 *e*PKPdf **PKPdf** **06 23 17.2 +0.8**
GKP *e*PP PP 06 25 52.5 +7.9
GKP Gorka Klasztor 133.61 335 *e*PKIKP **PKPdf** **06 23 17.3 +0.8**
GKP *e* 06 25 52.6
BOLV Bolvadin 133.63 311 *i* P **PKPdf** **06 23 17.4 +0.2**
FDF Fort de France 133.70 83 PFAKE 06 23 30.0 +12
FDF LR LR
comp=Z,4μm,20.0s
AUKUT KUTAHYA 133.86 313 *i* P **PKPdf** **06 23 18.9 +1.4**
LLD Lille Linde 133.87 340 *i* P **PKPdf** **06 23 17.6 +0.8**
LLD Lille Linde 133.87 340 *e*PKIKP **PKPdf** **06 23 17.6 +0.8**
MUD Monsted U'grnd 133.88 343⇑ *i*P **PKPdf** **06 23 18.0 +1.2**
MUD Monsted U'grnd 133.88 343⇑ *i*PKIKP **PKPdf** **06 23 18.0 +1.2**
MUD MLR MLR
comp=Z,4μm,19.0s
ISR Istrita 133.89 321⇑ PKIKP **PKPdf** **06 23 18.0 +0.7**
ISR Istrita 133.89 321⇑ *i*P **PKPdf** **06 23 18.0 +0.7**
MLR Muntele Rosu 134.07 322 PKP **PKPdf** **06 23 16.7 -1.1**
comp=Z,4.0nm,1.0s,baz=41,slow=4.0,SNR=12
MLR SKPbc **SKPbc** **06 26 45.7 +1.1**
comp=Z,3.3nm,1.0s,baz=117,slow=6.8,SNR=4.0
MLR Muntele Rosu 134.07 322⇑ PKIKP **PKPdf** **06 23 15.8 -1.9**
MLR Muntele Rosu 134.07 322⇑ *i*P **PKPdf** **06 23 15.8 -1.9**
ISK Istanbul-Kandi 134.10 315 PKIKP **PKPdf** **06 23 17.1 -0.6**
ISK Istanbul-Kandi 134.10 315 P **PKPdf** **06 23 17.1 -0.6**
ISK Istanbul-Kandi 134.10 315 P **PKPdf** **06 23 17.1 -0.6**
ISK Istanbul-Kandi 134.10 315 P **PP** **06 25 48.5 0.0**
KOLS Kolonicke sedl 134.19 328 *e*PKIKP **PKPdf** **06 23 18.0 +0.3**
KOLS Kolonicke sedl 134.19 328 *e*PKP **PKPdf** **06 23 18.0 +0.3**
ISP Isparta 134.26 310⇑ PKIKP **PKPdf** **06 23 18.0 -0.3**
ISP Isparta 134.26 310⇑ *i*P **PKPdf** **06 23 18.0 -0.3**
ISP Isparta 134.26 310 P **PKPdf** **06 23 17.5 -0.8**
ISP LR LR
comp=Z,4μm,20.0s
ISP Isparta 134.26 310 P **PKPdf** **06 23 17.5 -0.8**
ISP Isparta 134.26 310 P **PP** **06 25 47.8 -2.1**
PRD Provadia 134.28 318⇓ PKIKP **PKPdf** **06 23 18.0 0.0**
PRD Provadia 134.28 318⇓ *i*P **PKPdf** **06 23 18.0 0.0**
PRD Provadia 134.28 318 P **PKPdf** **06 23 19.6 +1.6**
UZH Uzhgorod 134.36 327 *i* PKIKP **PKPdf** **06 23 19.3 +1.3**
UZH *e* 06 23 27.9
UZH MLR MLR
comp=N,2μm,19.5s
UZH MLR MLR
comp=E,1μm,19.5s
UZH MLR MLR
comp=Z,850nm,19.5s
STHS Stebnicka Huta 134.41 329 *e*PKIKP **PKPdf** **06 23 19.2 +1.1**
STHS *e* 06 25 51.4
STHS Stebnicka Huta 134.41 329 *e*PKP **PKPdf** **06 23 19.2 +1.1**
STHS *e*PP **PP** **06 25 51.4 +1.4**
GDZ Gediz 134.57 312 *i* P **PKPdf** **06 23 17.6 -1.3**
OJC Ojcow 134.60 330 *e*PKPdf **PKPdf** **06 23 19.3 +0.9**
OJC *e*PP **PP** **06 25 52.8 +1.6**
OJC Ojcow 134.60 330 *e*PKIKP **PKPdf** **06 23 19.3 +0.9**
OJC *e* 06 25 52.8
VOIR 134.63 322⇑ PKIKP **PKPdf** **06 23 17.5 -1.2**
VOIR 134.63 322⇑ *i*P **PKPdf** **06 23 17.5 -1.2**
KORT Korkueli 134.66 309 *i* P **PKPdf** **06 23 19.1 0.0**
CJR Cluj-Napoca 134.78 324⇑ PKIKP **PKPdf** **06 23 19.1 +0.2**
CJR Cluj-Napoca 134.78 324⇑ *i*P **PKPdf** **06 23 19.1 +0.2**
NIE Niedzica 134.88 329 *e*PKPdf **PKPdf** **06 23 20.7 +1.7**
NIE *e*PP **PP** **06 25 56.0 +3.0**
NIE Niedzica 134.88 329 *e*PKIKP **PKPdf** **06 23 20.8 +1.7**
NIE *e* 06 25 56.1
ARR Arges 134.92 322⇑ *i*P **PKPdf** **06 23 19.0 -0.3**
BDFB Brasilia 135.05 129 PKhKP PKPpre 06 23 13.8
comp=Z,4.0nm,0.8s,baz=198,slow=3.2,SNR=7.0
BDFB PKP **PKiKP** **06 23 21.6 -0.3**
comp=Z,7.9nm,0.6s,baz=228,slow=3.1,SNR=11
BDFB SKPbc **SKPbc** **06 26 49.7 +1.1**
comp=Z,6.6nm,0.9s,baz=216,slow=5.2,SNR=4.7
BBGH Gun Hill 135.09 85 PFAKE 06 23 30.0 +10
BBGH LR LR
comp=Z,8μm,20.0s
DEMI Demirci 135.14 312 *i* P **PKPdf** **06 23 20.2 +0.4**
HUMR Humele 135.15 321⇑ *i*P **PKPdf** **06 23 18.9 -0.7**
JMB Yambol 135.15 318⇓ PKIKP **PKPdf** **06 23 19.4 -0.3**
JMB Yambol 135.15 318⇓ *i*P **PKPdf** **06 23 19.4 -0.3**
JMB Yambol 135.15 318 P **PKPdf** **06 23 20.7 +1.0**
JMB Yambol 135.15 318 P **PKPdf** **06 23 20.6 +0.9**
JMB Yambol 135.15 318 P **PKPdf** **06 23 20.6 +0.9**
JMB Yambol 135.15 318 P **PP** **06 25 53.0 -2.1**
GOLH Golhisar 135.17 310 *i* P **PKPdf** **06 23 19.9 -0.1**
SZH Strazhica 135.19 319 P **PKPdf** **06 23 20.9 +1.2**
DRGR 135.23 325⇑ PKIKP **PKPdf** **06 23 19.4 -0.4**
DRGR 135.23 325⇑ *i*P **PKPdf** **06 23 19.4 -0.4**
EDRB Edirne 135.33 317 P **PP** **06 25 51.9 -4.4**
TSUM Tsumeb 135.38 224 PKhKP PKPpre 06 23 14.0
comp=Z,1.3nm,0.3s,baz=168,slow=3.4,SNR=3.7
TSUM PKP **PKPdf** **06 23 21.5 +0.5**
comp=Z,8.0nm,0.6s,baz=174,slow=1.7,SNR=6.4
TSUM SKP 06 26 53.1
comp=Z,2.7nm,0.4s,baz=142,slow=7.2,SNR=4.4
TSUM Tsumeb 135.38 224 PKPpre PKPpre 06 23 13.9
TSUM PKP **PKPdf** **06 23 21.5 +0.5**
TSUM SKP 06 26 53.1
TSUM LR LR
comp=Z,8μm,19.0s
KULA Kula-Manisa 135.38 312 P **PKPdf** **06 23 20.9 +0.6**
KULA Kula-Manisa 135.38 312 P **PKPdf** **06 23 20.9 +0.6**
KULA Kula-Manisa 135.38 312 P **PP** **06 25 54.6 -2.3**
KECS Kecovo 135.39 328 *e*PKIKP **PKPdf** **06 23 22.4 +2.5**
KECS *e* 06 25 58.9
KECS Kecovo 135.39 328 *e*PKP **PKPdf** **06 23 22.4 +2.5**
KECS *e*PP **PP** **06 25 58.9 +2.7**
AKAS Kas 135.48 308 *i* P **PKPdf** **06 23 19.6 -1.1**
SART Tekirdag 135.55 315 *i* P PKPdf 06 23 15.3 -5.2
OKC Ostrava-Krasne 135.64 331 *e*PKPdf **PKPdf** **06 23 22.1 +1.7**
OKC *es*PKP 06 23 36.6
OKC *e*PP **PP** **06 25 57.1 -0.6**
OKC *e*PKS PKSdf 06 26 47.5 -9.0
OKC *e*SS SS 06 43 58.4 +5.9
OKC AMS AMS 07 20 40.0
comp=Z,4μm,22.8s
OKC Ostrava-Krasne 135.64 331 *e*PKIKP **PKPdf** **06 23 22.1 +1.7**
OKC *e* 06 23 36.6
OKC *e* 06 25 57.1
OKC *e*SS SS 06 43 58.4 +5.9
OKC MLR MLR
comp=Z,4μm,22.8s
BSEG Bad Segeberg 135.65 340 *e*PP PP 06 26 00.2 +2.8
KSP Ksiaz 135.77 333 *e*PKPdf **PKPdf** **06 23 22.3 +1.7**
KSP *e*PP **PP** **06 26 01.1 +2.6**
KSP Ksiaz 135.77 333 *e*PKIKP **PKPdf** **06 23 22.3 +1.7**
KSP *e* 06 26 01.2

AKHS Akhisar 135.85 312 *i* P **PKPdf** **06 23 19.9 -1.2**
MORC Moravsky Berou 135.97 331⇑ PKIKP **PKPdf** **06 23 22.8 +1.8**
MORC Moravsky Berou 135.97 331⇑ *i*P **PKPdf** **06 23 22.8 +1.8**
MORC Moravsky Berou 135.97 331⇑ *i*P **PKSbc** **06 26 52.8 -1.2**
MORC Moravsky Berou 135.97 331 *e*PKPdf **PKPdf** **06 23 20.7 -0.3**
GZR Gura Zlata 136.00 323⇑ PKIKP **PKPdf** **06 23 20.7 -0.6**
GZR Gura Zlata 136.00 323⇑ *i*P **PKPdf** **06 23 20.7 -0.6**
GZR Gura Zlata 136.00 323⇑ *i*P **PKSbc** **06 26 52.3 -2.0**
TURN Turunc 136.02 309 *i* P **PKPdf** **06 23 18.8 -2.7**
PSZ Piszkesteto 136.06 328⇑ PKIKP **PKPdf** **06 23 22.2 +0.9**
PSZ Piszkesteto 136.06 328⇑ *i*P **PKPdf** **06 23 22.2 +0.9**
PSZ Piszkesteto 136.06 328⇑ *i*P **PKSbc** **06 26 53.0 -1.4**
PSZ Piszkesteto 136.06 328 *e*PKPdf **PKPdf** **06 23 22.8 +1.5**
PSZ LR LR
comp=Z,5μm,22.0s
PSZ Piszkesteto 136.06 328⇑ *e*PKPdf **PKPdf** **06 23 23.0 +1.7**
KRLC Kraliky 136.11 332 *e*PKPdf **PKPdf** **06 23 23.7 +2.4**
KRLC *e*PP **PP** **06 26 03.4 +2.7**
KRLC Kraliky 136.11 332 *e*PKIKP **PKPdf** **06 23 23.7 +2.4**
KRLC *e* 06 26 03.4
DPC Dobruska-Polom 136.12 333 *e*PKPpre PKPpre 06 23 12.3
DPC *e*PKPdf **PKiKP** **06 23 22.8 -0.2**
DPC *e*PP **PP** **06 26 01.7 +1.0**
DPC *e*PKS **PKSdf** **06 26 52.8 -4.6**
DPC *ex* x 06 43 47.2
DPC AMS AMS 07 22 30.0
comp=Z,6μm,22.7s
DPC Dobruska-Polom 136.12 333 *e*PKHKP PKPpre 06 23 12.3
DPC *e* 06 26 01.7
DPC MLR MLR
comp=Z,6μm,22.7s
SIRR Siria 136.13 325⇑ *i*P **PKPdf** **06 23 21.4 0.0**
SIRR Siria 136.13 325⇑ *i*P **PKSbc** **06 26 53.1 -1.5**
UPC Upice 136.14 333 *e*PKPdf **PKPdf** **06 23 23.3 +2.0**
UPC *es*PKP 06 23 36.3
UPC *e*PP **PP** **06 26 02.3 +1.5**
UPC *e*PKS PKSdf 06 26 51.5 -5.9
UPC Upice 136.14 333 *e*PKIKP **PKPdf** **06 23 23.3 +2.0**
UPC *e* 06 23 36.3
UPC *e* 06 26 02.4
ALN Alexandroupoli 136.23 316 PKIKP **PKPdf** **06 23 21.9 +0.2**
ALN Alexandroupoli 136.23 316 *e*P **PKPdf** **06 23 21.7 0.0**
ALN Alexandroupoli 136.23 316 P **PKPdf** **06 23 21.9 +0.2**
ALN Alexandroupoli 136.23 316 P **PKPdf** **06 23 21.9 +0.2**
ALN Alexandroupoli 136.23 316 P **PP** **06 26 01.1 -0.8**
KDZ Kurdzhali 136.30 317⇑ PKIKP **PKPdf** **06 23 21.3 -0.6**
KDZ Kurdzhali 136.30 317⇑ *i*P **PKPdf** **06 23 21.3 -0.6**
KDZ Kurdzhali 136.30 317 P **PKPdf** **06 23 22.5 +0.6**
MPEP Malo Peshtene 136.53 320 P **PKPdf** **06 23 23.3 +1.1**
BZS Buzias 136.53 324⇑ PKIKP **PKPdf** **06 23 21.8 -0.4**
BZS Buzias 136.53 324⇑ *i*P **PKPdf** **06 23 21.8 -0.4**
PLD Plovdiv 136.55 318 P **PKPdf** **06 23 23.3 +1.0**
PLD Plovdiv 136.55 318 P **PP** **06 26 03.8 -0.1**
ARG Arkhangelos 136.61 309 *e*PKP **PKPdf** **06 23 25.1 +2.5**
ARG Arkhangelos 136.61 309 P **PP** **06 26 05.2 +0.6**
BOZC Bozcaada 136.69 315 *i* P **PKPdf** **06 23 19.9 -2.7**
VRAC Vranov 136.74 332 PKP **PKPdf** **06 23 22.1 -0.3**
comp=Z,5.8nm,0.6s,baz=20,slow=2.1,SNR=11
VRAC SKP 06 26 54.0
comp=Z,28nm,1.2s,baz=100,slow=1.6,SNR=4.4
VRAC Vranov 136.74 332⇑ PKIKP **PKPdf** **06 23 22.4 0.0**
VRAC Vranov 136.74 332⇑ *i*P **PKPdf** **06 23 22.4 0.0**
VRAC Vranov 136.74 332⇑ *i*P **PKSbc** **06 26 54.9 -1.4**
RZN Rozhen 136.74 318 P **PKPdf** **06 23 24.3 +1.4**
PVCC Panska Ves 136.75 334 *e*PKPdf **PKPdf** **06 23 24.6 +2.2**
PVCC *e*PP **PP** **06 26 03.7 -0.8**
PVCC *e*PKS PKSdf 06 26 50.1 -8.3
PVCC *e*SS SS 06 44 11.4 +5.9
PVCC AMS AMS 07 28 10.0
comp=Z,6μm,20.5s
PVCC Panska Ves 136.75 334 *e*PKIKP **PKPdf** **06 23 24.6 +2.2**
PVCC *e* 06 26 03.7
PVCC *e*SS SS 06 44 11.4 +5.9
PVCC MLR MLR
comp=Z,6μm,20.5s
BRG Berggiesshubel 136.75 335 *e*PKP **PKPdf** **06 23 19.8 -2.6**
comp=Z,9.4nm,1.4s
BRG *e* 06 23 23.9
comp=Z,68nm,1.3s
BRG PP **PP** **06 26 06.0 +1.5**
BRG *i* SKP 06 26 54.1
comp=Z,64nm,1.3s
BRG Berggiesshubel 136.75 335 *e*PKPdf **PKPdf** **06 23 23.1 +0.7**
BRG *e*PP **PP** **06 26 06.0 +1.5**
BRG Berggiesshubel 136.75 335 *e*PKIKP **PKPdf** **06 23 19.8 -2.6**
BRG 06 26 06.0
BRG pmax pmax
comp=Z,9.0nm,1.4s
BRG MLR MLR
comp=N,3μm,17.9s
BRG MLR MLR
comp=E,3μm,17.7s
BRG MLR MLR
comp=Z,5μm,18.1s
SMTH Samothraki Isl 136.77 316 *e*P **PKPdf** **06 23 21.3 -1.5**
SMTH Samothraki Isl 136.77 316 P **PKPdf** **06 23 23.0 +0.2**
SMTH Samothraki Isl 136.77 316 P **PKPdf** **06 23 23.0 +0.2**
SMTH Samothraki Isl 136.77 316 P PP 06 26 00.1 -5.3
BUD Budapest 136.79 328⇑ *e*PKPdf **PKPdf** **06 23 24.2 +1.7**
CLL Collm 136.79 336 *e*PKPdf **PKPdf** **06 23 23.0 +0.5**
CLL *e*PP **PP** **06 26 06.1 +1.3**
CLL Collm 136.79 336 *i* PKIKP **PKPdf** **06 23 24.8 +2.4**
CLL pmax pmax
comp=Z,208nm,2.3s
CLL MLR MLR
comp=Z,5μm,21.2s
CLL Collm 136.79 336 *e*Pdif Pdif 06 20 39.0 +10
CLL *i* PKPpre PKPpre 06 23 19.8
CLL ⇑*i*PKPdf **PKPdf** **06 23 22.9 +0.5**
comp=Z,14nm,1.0s
CLL *i* PKiKP **PKPdf** **06 23 24.8 +2.4**
comp=Z,36nm,1.1s
CLL *e*PP **PP** **06 26 00.0 -4.8**
comp=Z,208nm,2.3s
CLL *e*PPlp 06 26 07.0
comp=Z,1μm,10.6s
CLL *e*SKPbc **SKPbc** **06 26 54.0 +1.3**
CLL *e*PKSbc **PKSbc** **06 26 56.0 -0.3**
comp=Z,102nm,1.6s
CLL *e*PKSdf **PKSdf** **06 26 59.0 +0.5**
CLL *ep*SKPbc 06 27 04.0
CLL *e*PPP PPP 06 29 24.0
CLL *e*PS **PS** **06 36 24.0 -7.3**
CLL *e*PPS PPS 06 38 20.0
CLL *e*SS **SS** **06 44 11.0 +5.1**
CLL *e* 06 45 42.0
CLL *e*SSS SSS 06 49 12.0
CLL Lm MLR 07 25 00.0
comp=Z,5μm,21.2s
PRK Paraskevi 136.79 314 PKIKP **PKPdf** **06 23 23.4 +0.6**
PRK Paraskevi 136.79 314 *e*P **PKPdf** **06 23 23.2 +0.4**
PRK Paraskevi 136.79 314 P **PKPdf** **06 23 23.4 +0.6**
PRK Paraskevi 136.79 314 P **PKPdf** **06 23 23.4 +0.6**
PRK Paraskevi 136.79 314 P **PP** **06 26 04.2 -1.4**
BDRM Kayabasi 136.81 310 *i* P **PKPdf** **06 23 20.8 -2.1**
URLA Izmir 136.93 312 *i* P **PKPdf** **06 23 21.7 -1.5**
FBE Freiberg 136.95 335 *e*PKPdf **PKPdf** **06 23 23.8 +1.1**
FBE *e*PP **PP** **06 26 07.5 +1.7**
PKS7 Kunszentmiklos 137.00 327⇑ *e*PKPdf **PKPdf** **06 23 24.9 +2.0**
SIGR SIGRI 137.10 314 *e*P **PKPdf** **06 23 24.4 +1.0**
SIGR SIGRI 137.10 314 P **PKPdf** **06 23 23.8 +0.4**
SIGR SIGRI 137.10 314 P **PKPdf** **06 23 23.8 +0.4**
SIGR SIGRI 137.10 314 P **PP** **06 26 06.0 -1.5**
GOPC GO Pecny, Ondr 137.11 333 *e*PKPdf **PKPdf** **06 23 24.5 +1.4**
GOPC *es*PKP 06 23 39.1
GOPC *e*PP **PP** **06 26 09.1 +2.2**
GOPC *e*PKS **PKSdf** **06 26 55.4 -3.8**
GOPC *e*SS SS 06 44 07.6 -2.3
GOPC AMS AMS 07 27 30.0
comp=Z,5μm,20.4s
PRA Prague 137.15 334 *e*PKPdf **PKPdf** **06 23 25.1 +2.0**
PRA *e*PP **PP** **06 26 09.1 +2.1**
PRA *e*SS SS 06 44 16.0 +5.8
PRA AMS AMS 07 28 20.0
comp=Z,5μm,19.6s
PRA Prague 137.15 334 *e*PKIKP **PKPdf** **06 23 25.1 +2.0**
PRA *e* 06 26 09.1
PRA *e*SS SS 06 44 16.0 +5.8
PRA MLR MLR
comp=Z,5μm,19.6s
PRU Pruhonice 137.16 334 *e*PKPdf **PKPdf** **06 23 22.7 -0.5**
PRU *es*PKP 06 23 38.6
PRU *e*PP **PP** **06 26 06.4 -0.7**
PRU *e*PKS **PKSdf** **06 26 55.6 -3.6**
PRU *e*SS SS 06 44 15.5 +5.1
PRU AMS AMS 07 26 50.0
comp=Z,5μm,20.9s
PRU Pruhonice 137.16 334 *e*PKIKP **PKPdf** **06 23 22.7 -0.5**
PRU *e* 06 23 38.6
PRU *e* 06 26 06.4
PRU *e*SS SS 06 44 15.5 +5.1
PRU MLR MLR
comp=Z,5μm,20.9s
PKSG 137.17 328⇓ *e*PKPdf **PKPdf** **06 23 22.6 -0.7**
KAVA Kavala 137.21 317 *e*P **PKPdf** **06 23 23.2 -0.3**
KAVA Kavala 137.21 317 P **PKPdf** **06 23 23.6 +0.1**
KAVA Kavala 137.21 317 P **PKPdf** **06 23 23.6 +0.1**
KAVA Kavala 137.21 317 P **PP** **06 26 04.0 -4.0**
TREC Trest 137.25 332 *e*PKPdf **PKPdf** **06 23 24.3 +0.9**
TREC *es*PKP 06 23 38.3
TREC *e*PP **PP** **06 26 07.7 -0.1**
TREC *e*PKS **PKSdf** **06 26 56.8 -2.7**
TREC AMS AMS 07 23 10.0
comp=Z,5μm,21.6s
TREC Trest 137.25 332 *e*PKIKP **PKPdf** **06 23 24.3 +0.9**
TREC *e* 06 23 38.3
TREC *e* 06 26 07.7
TREC MLR MLR
comp=Z,5μm,21.6s
CSKK Cs˙‡kako 137.26 328 *e*PKPdf **PKPdf** **06 23 22.5 -0.9**
VTS Vitosha 137.26 320⇓ PKIKP **PKPdf** **06 23 24.3 +0.5**
VTS Vitosha 137.26 320⇓ *i*P **PKPdf** **06 23 24.3 +0.5**
VTS Vitosha 137.26 320 P **PKPdf** **06 23 24.9 +1.1**
VTS Vitosha 137.26 320 P PKPpre 06 23 12.5
VTS Vitosha 137.26 320 P **PP** **06 26 05.9 -2.6**
LIA Limnos Island 137.27 315 *e*P **PKPdf** **06 23 24.2 +0.5**
LIA Limnos Island 137.27 315 P **PP** **06 26 10.2 +1.7**
CHOS Chios island 137.31 313 *e*P PKPpre 06 23 14.9
CHOS Chios island 137.31 313 P PKPpre 06 23 12.7
CHOS Chios island 137.31 313 P **PP** **06 26 08.5 -0.5**
PKS2 Kecel 137.32 327⇑ *e*PKPdf **PKPdf** **06 23 25.6 +2.0**
NEUB Neuenburg 137.35 337 *e*PKPdf **PKPdf** **06 23 24.4 +0.9**
NEUB *e*PP **PP** **06 26 09.8 +1.6**
CLZ Clausthal 137.36 338 *e*PKPdf **PKPdf** **06 23 24.6 +1.0**
CLZ *e*PP **PP** **06 26 10.5 +2.2**
MMB Musomiste 137.44 318⇑ PKHKP PKPpre 06 23 13.9
MMB Musomiste 137.44 318⇑ *i*P PKPpre 06 23 13.9
MMB Musomiste 137.44 318⇑ *i*P **PKSbc** **06 26 56.7 -2.0**
MMB Musomiste 137.44 318 P **PKPdf** **06 23 24.1 +0.1**
PKST T˜'s 137.44 328 *e*PKPdf **PKPdf** **06 23 25.0 +1.2**
NVR Nevrokopi 137.47 318 *e*P **PKPdf** **06 23 24.7 +0.6**
NVR Nevrokopi 137.47 318 P PKPpre 06 23 13.3
NVR Nevrokopi 137.47 318 P **PP** **06 26 13.2 +3.5**
KARP Karpathos 137.58 308 *e*P **PKPdf** **06 23 26.6 +2.1**
ESK Eskdalemuir 137.64 351 PFAKE 06 23 40.0 +16
ESK LR LR
comp=Z,4μm,21.0s
TANN Tannenbergstha 137.71 336 *e*PKPdf **PKPdf** **06 23 25.2 +0.9**
TANN *e*PP **PP** **06 26 11.4 +0.8**
KKB Krupnik 137.71 319 P **PKPdf** **06 23 25.1 +0.6**
WERD Werda 137.74 336 *e*PKPdf **PKPdf** **06 23 25.2 +0.9**
PKS9 Tamasi 137.76 327⇑ *e*PKPdf **PKPdf** **06 23 25.8 +1.4**
SRS Serrai 137.76 318 *e*P **PKPdf** **06 23 24.0 -0.6**
SRS Serrai 137.76 318 P PKPpre 06 23 13.6
SRS Serrai 137.76 318 P **PP** **06 26 08.8 -2.7**
PLN Plauen 137.77 336 *e*PKPdf **PKPdf** **06 23 25.3 +1.0**
GUNZ Gunzen 137.80 336 *e*PKPdf **PKPdf** **06 23 25.4 +1.0**
PKSM Moragy 137.81 327⇑ PKIKP **PKPdf** **06 23 23.2 -1.3**
PKSM Moragy 137.81 327⇑ *i*P **PKPdf** **06 23 23.2 -1.3**
PKSM Moragy 137.81 327⇑ *i*P **PKSbc** **06 26 57.7 -1.8**
PKSM Moragy 137.81 327⇑ *e*PKPdf **PKPdf** **06 23 26.2 +1.7**
WERN Wernitzgruen 137.84 335 *e*PKPdf **PKPdf** **06 23 25.5 +1.0**
NKC Novy Kostel 137.85 335 *e*PKPdf **PKPdf** **06 23 25.6 +1.1**
NKC *e*PP **PP** **06 26 06.4 -5.0**
NKC *e*PKS **PKSdf** **06 27 02.1 +1.6**
NKC AMS AMS 07 25 50.0
comp=Z,5μm,20.4s
NKC Novy Kostel 137.85 335 *e*PKIKP **PKPdf** **06 23 25.6 +1.1**
NKC MLR MLR
comp=Z,5μm,20.4s
IBBN Ibbenburen 137.86 341 *e*PKPdf **PKPdf** **06 23 25.3 +0.9**
MOX Moxa 137.86 336 *e*PKPdf **PKPdf** **06 23 25.4 +0.9**
MOX *e*L L 07 27 27.3
comp=Z,5μm,20.6s
OUR Ouranopolis 137.88 316 *e*P **PKPdf** **06 23 24.8 0.0**
SOP Sopron 137.89 330⇑ *e*PKPdf **PKPdf** **06 23 26.5 +1.9**
CONA Conrad Observa 138.06 331⇓ *i*PKiKP **PKPdf** **06 23 25.9 +0.9**
comp=Z,72nm,1.1s
SOH Sokhos 138.06 317 *e*P **PKPdf** **06 23 22.8 -2.4**
MANZ Manzenberg 138.18 335 *e*PKPdf **PKPdf** **06 23 26.2 +1.1**
KNT Kendrikon 138.19 318 PKIKP **PKPdf** **06 23 24.4 -1.0**
KNT Kendrikon 138.19 318 *e*P **PKPdf** **06 23 25.6 +0.2**
KNT Kendrikon 138.19 318 P **PKPdf** **06 23 24.4 -1.0**
KNT Kendrikon 138.19 318 P **PKPdf** **06 23 24.4 -1.0**
KNT Kendrikon 138.19 318 P **PP** **06 26 12.7 -1.5**
KHC Kasperske Hory 138.22 333 *e*PKPpre PKPpre 06 23 19.7
KHC *e*PKPdf **PKPdf** **06 23 25.3 +0.1**
KHC *ep*PKP pPKPdf 06 23 38.0 +1.5
KHC *ex* x 06 26 02.4
KHC *e*PP **PP** **06 26 13.0 -0.8**
KHC *e*PKS **PKSdf** **06 26 58.1 -3.2**
KHC *e*SS SS 06 44 28.6 +5.5
KHC AMS AMS 07 29 10.0
comp=Z,5μm,19.5s
KHC Kasperske Hory 138.22 333 *e*PKIKP PKPpre 06 23 19.7
KHC *e* 06 23 25.3
KHC *e* 06 26 13.0
KHC *e*SS SS 06 44 28.6 +5.5
KHC MLR MLR
comp=Z,5μm,19.5s
KHC Kasperske Hory 138.22 333 *e*PKPdf **PKPdf** **06 23 24.8 -0.5**
PLG Polygyros 138.22 317 *e*P **PKPdf** **06 23 25.6 +0.1**
PLG Polygyros 138.22 317 P **PP** **06 26 12.8 -1.6**
APE Apeiranthos 138.22 311 *i* PKIKP **PKPdf** **06 23 24.1 -1.5**
APE Apeiranthos 138.22 311 *e*P PKPpre 06 23 19.3
APE Apeiranthos 138.22 311 P PKPpre 06 26 08.8
PAIG Paliouri 138.28 316 *e*P **PKPdf** **06 23 25.2 -0.3**
PAIG Paliouri 138.28 316 P PKPpre 06 23 15.7
PAIG Paliouri 138.28 316 P **PP** **06 26 13.4 -1.3**
ROTZ Rotzenmuhle 138.31 335 *e*PKPdf **PKPdf** **06 23 26.4 +1.1**
ROTZ *e*PP **PP** **06 26 16.6 +2.3**
UBBA Unterbreizbach 138.33 338 *e*PKPdf **PKPdf** **06 23 26.1 +0.9**
UBBA *e*PP **PP** **06 26 16.3 +2.1**
HORT Hortiatis 138.34 317 *e*P **PKPdf** **06 23 25.6 -0.2**
HORT Hortiatis 138.34 317 P **PP** **06 26 17.5 +2.3**
DIVS Divibare 138.36 323⇑ *i*P **PKPdf** **06 23 24.0 -1.7**
DIVS Divibare 138.36 323⇑ *i*P **PKSbc** **06 26 59.6 -1.8**
DIVS Divibare 138.36 323 P PKPpre 06 23 12.4
DIVS Divibare 138.36 323 P **PP** **06 26 16.4 +1.3**
GEC2 GERESS Array S 138.38 333 *e*PKPdf **PKPdf** **06 23 26.4 +0.8**
GEC2 GERESS Array S 138.38 333 *e*PKIKP **PKPdf** **06 23 24.8 -0.8**
GEC2 GERESS Array S 138.38 333 *e*PKPdf **PKPdf** **06 23 24.8 -0.8**
GERES GERESS Array B 138.38 333 PKhKP PKPpre 06 23 15.5
comp=Z,1.3nm,0.5s,baz=43,slow=4.4,SNR=7.8
GERES PKP **PKPdf** **06 23 25.5 -0.1**
comp=Z,19nm,1.0s,baz=50,slow=1.5,SNR=19
GERES SKP 06 26 59.1
comp=Z,17nm,0.9s,baz=45,slow=2.9,SNR=20
THE Thessaloniki 138.41 317 *e*P **PKPdf** **06 23 25.6 -0.2**
ZKR Zakros 138.45 308 *e*P **PKPdf** **06 23 27.3 +1.3**
ZKR Zakros 138.45 308 P **PP** **06 26 17.2 +1.1**
AOS Alonnisos 138.50 315 *e*P **PKPdf** **06 23 26.0 0.0**
AOS Alonnisos 138.50 315 P PKPpre 06 23 15.8
AOS Alonnisos 138.50 315 P **PP** **06 26 13.6 -2.5**
WET Wettzell 138.51 334 *e*PKPdf **PKPdf** **06 23 26.8 +1.1**
WET *e*PP **PP** **06 26 17.9 +2.3**
SANT Santorini 138.55 310 *e*PKPdf **PKPdf** **06 23 25.9 -0.3**
SANT LR LR
comp=Z,2μm,20.0s
THR1 Thera Island 138.55 310 P PP 06 26 07.0 -10
BEHE Becsehely 138.61 328⇑ *e*PKPdf **PKPdf** **06 23 27.9 +1.9**
KARY Karystos 138.61 313 P **PKPdf** **06 23 26.7 +0.5**
KARY Karystos 138.61 313 P **PP** **06 26 15.7 -1.2**
GRG Griva 138.62 318 *e*P **PKPdf** **06 23 26.0 -0.2**
GRG Griva 138.62 318 P PKPpre 06 23 15.5
GRG Griva 138.62 318 P **PP** **06 26 14.0 -2.8**
ARSA Arzberg 138.70 330⇑ *i*PKiKP **PKPdf** **06 23 27.0 +0.9**
comp=Z,28nm,1.2s
SKO Skopje 138.70 320 PKIKP **PKPdf** **06 23 27.6 +1.3**
SKO Skopje 138.70 320 P **PKPdf** **06 23 27.6 +1.3**
SKO Skopje 138.70 320 P **PKPdf** **06 23 27.6 +1.3**
BUG Bochum--Univer 138.76 340 *e*PKPdf **PKPdf** **06 23 26.8 +0.8**
BUG *e*PP **PP** **06 26 21.3 +4.5

GRF	Grafenberg Arr	138.77 336	ePKPdf	PKPdf	06 23 27.3	+1.1		
GRF			ePP	PP	06 26 21.3	+4.2		
GRF			eL	L	07 26 55.6			
	comp=Z,5µm,20.7s							
GRFO	Grafenberg	138.77 336	ePKIKP	PKPdf	06 23 27.6	+1.5		
GRFO	Grafenberg	138.77 336	ePKPdf	PKPdf	06 23 27.6	+1.5		
EREA	Eretria	138.80 314	eP	PKPpre	06 23 21.5			
EREA	Eretria	138.80 314	P	PKPdf	06 23 28.1	+1.5		
EREA	Eretria	138.80 314	P	PP	06 26 19.9	+1.8		
NPS	Neapolis	138.86 309	eP	PKPdf	06 23 29.0	+2.2		
XOR	Xorichti	138.88 315	eP	PKPdf	06 23 22.8	-3.9		
XOR	Xorichti	138.88 315	P	PKPpre	06 23 14.9			
XOR	Xorichti	138.88 315	P	PP	06 26 17.6	-0.9		
NEO	Neokhori	138.88 315	eP	PKPdf	06 23 24.7	-2.0		
NEO	Neokhori	138.88 315	P	PKPdf	06 23 23.9	-2.8		
MRKA	Markates	138.91 314	eP	PKPdf	06 23 25.2	-1.6		
MRKA	Markates	138.91 314	P	PKPdf	06 23 26.1	-0.7		
MRKA	Markates	138.91 314	P	PP	06 26 20.3	+1.5		
LIT	Litokhoron	138.99 317	eP	PKPpre	06 23 17.3			
LIT	Litokhoron	138.99 317	P	PKPpre	06 23 16.0			
LIT	Litokhoron	138.99 317	P	PP	06 26 16.8	-2.4		
LAST	Lasithi	139.00 308	eP	PKPpre	06 23 20.7			
LAST	Lasithi	139.00 308	P	PKPpre	06 23 18.3			
LAST	Lasithi	139.00 308	P	PP	06 26 15.8	-3.8		
PTL	Penteli	139.01 313	P	PP	06 26 21.1	+1.7		
FYTO	Fytoko, Volos	139.03 316	P	PP	06 26 22.3	+2.9		
ATHU	Athens Univers	139.10 313	P	PP	06 26 21.4	+1.4		
ATH	Athens Observa	139.15 313	PKIKP	PKPdf	06 23 28.0	+0.8		
ATH	Athens Observa	139.15 313	eP	PKPdf	06 23 28.1	+0.8		
ATH	Athens Observa	139.15 313	P	PKPdf	06 23 28.0	+0.8		
ATH	Athens Observa	139.15 313	P	PKPdf	06 23 28.0	+0.8		
ATH	Athens Observa	139.15 313	P	PP	06 26 21.8	+1.6		
MHLO	Agia Marina, M	139.21 311	eP	PKPdf	06 23 28.6	+1.3		
ATAL	Atalanti	139.31 315	P	PKPpre	06 23 18.1			
ATAL	Atalanti	139.31 315	P	PP	06 26 22.4	+1.2		
PERS	Pernice	139.33 330	ePKPbc	PKPdf	06 23 28.2	+0.8		
PERS			*i* PP	PP	06 26 22.4	+1.6		
SOKA	Soboth	139.34 330	*i* PKiKP	PKiKP	06 23 28.6	-1.1		
	comp=Z,85nm,1.8s,SNR=15							
LKR	Lokris	139.34 315	eP	PKPpre	06 23 18.8			
LKR	Lokris	139.34 315	P	PKPpre	06 23 22.2			
LKR	Lokris	139.34 315	P	PP	06 26 21.0	-0.4		
KZN	Kozani	139.36 318	eP	PKPdf	06 23 26.1	-1.5		
KZN	Kozani	139.36 318	P	PP	06 26 24.3	+2.8		
FNA	Florina	139.37 318	eP	PKPpre	06 23 19.7			
FNA	Florina	139.37 318	P	PKPpre	06 23 17.9			
FNA	Florina	139.37 318	P	PP	06 26 15.7	-5.8		
TNS	Taumus Mts	139.38 339	ePP	PP	06 26 26.0	+5.1		
IDI	Anoyia	139.40 309	PKhKP	PKPpre	06 23 19.8			
	comp=Z,4.0nm,0.5s,baz=124,slow=3.6,SNR=6.0							
IDI			PKP	PKPdf	06 23 27.7	-0.2		
	comp=Z,27nm,0.8s,baz=74,slow=3.2,SNR=6.3							
IDI			SKP		06 27 01.0			
	comp=Z,14nm,1.1s,baz=17,slow=7.4,SNR=3.1							
PHP	Peshkopia	139.48 320	P	PKPpre	06 23 19.0			
SIVA	Sivas	139.56 309	eP	PKPdf	06 23 31.0	+3.0		
SIVA	Sivas	139.56 309	P	PKPdf	06 23 29.2	+1.2		
SIVA	Sivas	139.56 309	P	PKPdf	06 23 29.2	+1.2		
SIVA	Sivas	139.56 309	P	PP	06 26 22.6	-0.4		
THL	Klokotos Trika	139.58 316	eP	PKPdf	06 23 24.7	-3.2		
THL	Klokotos Trika	139.58 316	P	PKPpre	06 23 17.4			
THL	Klokotos Trika	139.58 316	P	PP	06 26 18.4	-4.3		
RJOB	Jochberg	139.61 333	ePKPdf	PKPdf	06 23 28.5	+0.7		
RJOB			ePP	PP	06 26 24.4	+2.0		
LTK	Loutraki	139.66 314	eP	PKPpre	06 23 23.5			
DID	Didima	139.70 313	eP	PKPpre	06 23 21.1			
DID	Didima	139.70 313	P	PKPpre	06 23 18.2			
DID	Didima	139.70 313	P	PP	06 26 23.0	-0.7		
DIDY	Didyma	139.73 313	eP	PKPpre	06 23 20.6			
DIDY	Didyma	139.73 313	P	PKPpre	06 23 17.9			
DIDY	Didyma	139.73 313	P	PP	06 26 22.8	-1.2		
MAKR	Makrakomi, Fth	139.77 316	eP	PKPpre	06 23 22.7			
MAKR	Makrakomi, Fth	139.77 316	P	PKPpre	06 23 20.1			
NEST	Nestorio	139.78 318	eP	PKPpre	06 23 20.8			
NEST	Nestorio	139.78 318	P	PKPpre	06 23 20.1			
PDG	Podgorica	139.78 322	P	PKPdf	06 23 29.1	+0.9		
TTG	Podgorica	139.78 322	PKIKP	PKPdf	06 23 29.1	+0.9		
TTG	Podgorica	139.78 322	P	PKPdf	06 23 29.1	+0.9		
DSF	Desfina	139.78 315	eP	PKPpre	06 23 21.1			
DSF	Desfina	139.78 315	P	PP	06 26 22.3	-1.9		
KRND	KRANIDI	139.81 313	eP	PKPpre	06 23 21.6			
KRND	KRANIDI	139.81 313	P	PKPpre	06 23 18.4			
KRND	KRANIDI	139.81 313	P	PP	06 26 24.1	-0.3		
BEBN	Eben Emael	139.82 341	PP	PP	06 26 26.7	+3.4		
KBA	Koelnbreinsper	139.85 332	⇑*i* PKiKP	PKPdf	06 23 29.2	+0.7		
	comp=Z,37nm,1.1s							
THAL	Thalero	139.86 314	eP	PKPpre	06 23 23.5			
VAM	Vamos	139.87 309	eP	PKPpre	06 23 24.2			
MEM	Membach	139.88 341	PKP	PKPdf	06 23 29.7	+1.5		
MEM			PP	PP	06 26 27.8	+4.1		
MEM			SKPbc	SKiKP	06 27 03.5	-0.8		
FUR	Furstenfeldbru	139.94 334	ePKPdf	PKPdf	06 23 29.4	+1.0		
TIR	Tirane	140.03 320	eP	PKPdf	06 23 26.5	-2.2		
TIR	Tirane	140.03 320	PFAKE		06 23 40.0	+11		
TIR			LR	LR				
	comp=Z,5µm,22.0s							
EVR	Evrytania	140.03 316	eP	PKPdf	06 23 26.6	-2.3		
EVR	Evrytania	140.03 316	P	PKPdf	06 23 20.4	-8.5		
EVR	Evrytania	140.03 316	P	PP	06 26 15.0	-11		
LJU	Ljubljana	140.03 330	*i* PKPbc	PKPdf	06 23 29.9	+1.3		
LJU			*i* PP	PP	06 26 25.8	+0.7		
BOJS	Bojanci	140.05 328	ePKPdf	PKPdf	06 23 21.0	-7.6		
BOJS			*i* PKPbc	PKiKP	06 23 30.3	-0.8		
BOJS			*i* PKPab		06 23 42.5			
BOJS			ePP	PP	06 26 26.1	+1.0		
KALE	Kalithea	140.06 315	eP	PKPpre	06 23 23.9			
KALE	Kalithea	140.06 315	P	PKPpre	06 23 19.0			
KALE	Kalithea	140.06 315	P	PP	06 26 25.7	-0.2		
GUR	Goura	140.13 314	eP	PKPpre	06 23 23.0			
GVD	Gavdhos	140.18 309	eP	PKPdf	06 23 30.2	+1.0		
GVD	Gavdhos	140.18 309	P	PKPpre	06 23 22.6			
GVD	Gavdhos	140.18 309	P	PP	06 26 23.7	-3.1		
EFP	Efpalio	140.21 315	eP	PKPpre	06 23 24.0			
EFP	Efpalio	140.21 315	P	PKPpre	06 23 20.8			
KLV	Kalavryta, Ach	140.22 314	eP	PKPpre	06 23 22.7			
KLV	Kalavryta, Ach	140.22 314	P	PKPpre	06 23 19.9			
KLV	Kalavryta, Ach	140.22 314	P	PP	06 26 25.7	-1.2		
UCC	Uccle	140.22 342	PKP	PKPdf	06 23 30.5	+1.8		
VLI	Veliai	140.26 312	eP	PKPpre	06 23 25.6			
VLI	Veliai	140.26 312	P	PKPdf	06 23 29.5	+0.2		
VLI	Veliai	140.26 312	P	PKPdf	06 23 29.5	+0.2		
VLI	Veliai	140.26 312	P	PP	06 26 18.5	-8.6		
BCLA	Clavier	140.27 341	PKP	PKPdf	06 23 32.9	+4.0		
BCLA			PP	PP	06 26 30.4	+4.3		
STU	Stuttgart	140.30 337	ePKPdf	PKPdf	06 23 30.1	+1.1		
ANKY	Antikythira Is	140.35 311	eP	PKPpre	06 23 25.1			
ANKY	Antikythira Is	140.35 311	P	PKPpre	06 23 20.6			
ANKY	Antikythira Is	140.35 311	P	PP	06 26 24.6	-3.2		
JAVS	Javornik	140.37 330	*i* PKPdf	PKPpre	06 23 22.9			
JAVS			*i* PKPbc	PKPdf	06 23 30.5	+1.1		
JAVS			*i* PKPab	PKiKP	06 23 41.1	+9.3		
JAVS			*i* PP	PP	06 26 26.7	-0.6		
VLX	Vlachokerasia	140.37 313	eP	PKPpre	06 23 24.4			
VLX	Vlachokerasia	140.37 313	P	PKPpre	06 23 22.4			
VLX	Vlachokerasia	140.37 313	P	PP	06 26 28.5	+0.6		
DSL	Palaion Diasel	140.41 316	P	PKPpre	06 23 21.7			
DSL	Palaion Diasel	140.41 316	P	PP	06 26 28.9	+1.0		
ABTA	Abfaltersbach	140.48 332	⇑*i* PKiKP	PKPdf	06 23 30.7	+1.2		
	comp=Z,118nm,1.7s							
WTTA	Wattenberg	140.48 333	⇑*i* PKiKP	PKPdf	06 23 30.7	+1.1		
	comp=Z,175nm,1.9s							
SNF	Seneffe	140.50 342	PKP	PKPdf	06 23 32.3	+3.0		
SNF			PP	PP	06 26 32.3	+4.8		
DRO	Drossia	140.57 314	eP	PKPpre	06 23 24.9			
DRO	Drossia	140.57 314	P	PP	06 26 20.9	-8.1		
TRI	Trieste	140.65 330	ePKIKP	PKPdf	06 23 28.5	-1.2		
TRI	Trieste	140.65 330	ePKPdf	PKPdf	06 23 28.5	-1.2		
WLF	Walferdange	140.65 340	PKP	PKPdf	06 23 34.2	+4.6		
WLF	Walferdange	140.65 340	ePKPdf	PKPdf	06 23 31.4	+1.8		
WLF	Walferdange	140.65 340	ePKIKP	PKPdf	06 23 32.1	+2.5		
WLF			MLR	MLR				
	comp=Z,7µm,22.0s							
WLF	Walferdange	140.65 340	ePKPdf	PKPdf	06 23 32.1	+2.5		
WLF			LR	LR				
	comp=Z,7µm,22.0s							
MOTA	Moosalm	140.65 334	⇑*i* PKPdf	PKPdf	06 23 29.8	-0.1		
	comp=Z,15nm,0.7s							
RLS	Riolos of Patr	140.69 315	eP	PKPpre	06 23 25.1			
RLS	Riolos of Patr	140.69 315	P	PKPpre	06 23 23.8			
IGT	Igoumenitsa	140.71 317	eP	PKPdf	06 23 29.1	-0.9		
SGD	Sagiada	140.73 318	eP	PKPdf	06 23 28.2	-1.8		
SGD	Sagiada	140.73 318	P	PKPpre	06 23 24.6			
SRN	Sarande	140.74 318	P	PKPpre	06 23 23.4			
AMT	Artemida-Makis	140.77 314	eP	PKPdf	06 23 29.3	-0.9		
AMT	Artemida-Makis	140.77 314	P	PKPpre	06 23 23.1			
AMT	Artemida-Makis	140.77 314	P	PP	06 26 31.8	+1.6		
DOU	Dourbes	140.77 342	PKP	PKPdf	06 23 31.9	+2.1		
DOU			PP	PP	06 26 33.5	+4.3		
DOU			SKPbc	SKiKP	06 27 05.5	-0.6		
ITM	Ithomi	140.78 313	eP	PKPpre	06 23 23.7			
ITM	Ithomi	140.78 313	P	PKPpre	06 23 18.2			
ITM	Ithomi	140.78 313	P	PP	06 26 26.8	-3.5		
KEK	Kerkira	140.96 318	eP	PKPpre	06 23 25.1			
KEK	Kerkira	140.96 318	P	PKPpre	06 23 23.6			
BFO	Black Forest	141.00 337	ePKPdf	PKPdf	06 23 31.2	+0.9		
BFO	Black Forest	141.00 337	PFAKE		06 23 40.0	+10		
BFO			LR	LR				
	comp=Z,2µm,21.0s							
PYL	PYLOS	141.04 313	eP	PKPpre	06 23 24.9			
PYL	PYLOS	141.04 313	P	PKPpre	06 23 23.5			
PYL	PYLOS	141.04 313	P	PP	06 26 31.9	0.0		
VLS	Valsamata	141.23 315	eP	PKPdf	06 23 28.6	-2.4		
VLS	Valsamata	141.23 315	P	PKPpre	06 23 25.0			
VLS	Valsamata	141.23 315	P	PP	06 26 34.4	+1.4		
ZKS	Zakynthos	141.33 315	eP	PKPpre	06 23 26.3			
ZKS	Zakynthos	141.33 315	P	PKPpre	06 23 25.7			
ZKS	Zakynthos	141.33 315	P	PP	06 26 34.6	+1.0		
ECH	Echery	141.53 338	ePKIKP	PKPdf	06 23 27.3	-3.9		
ECH			MLR	MLR				
	comp=Z,5µm,20.0s							
ECH	Echery	141.53 338	ePKP	PKPdf	06 23 27.3	-3.9		
ECH			LR	LR				
	comp=Z,5µm,20.0s							
TUE	Stuetta	142.09 334	PFAKE		06 23 40.0	+7.5		
TUE			LR	LR				
	comp=Z,5µm,20.0s							
AQU	L'Aquila	143.18 326	⇑PKIKP	PKPbc	06 23 30.9	-0.5		
AQU	L'Aquila	143.18 326	⇑*i*P	PKPbc	06 23 30.9	-0.5		
AQU	L'Aquila	143.18 326	ePKPdf	PKPbc	06 23 32.7	+1.4		
AQU			LR	LR				
	comp=Z,4µm,21.0s							
TIP	Timpagrande	143.22 319	ePKPpre	PKPbc	06 23 31.2	-0.3		
TIP			LR	LR				
	comp=Z,2µm,20.0s							
TIP	Timpagrande	143.22 319	P	PKPab	06 23 29.1	-1.2		
CUC	Castrocucco	143.32 321	ePKP	PKPab	06 23 29.8	-0.8		
CUC			LR	LR				
	comp=Z,3µm,21.0s							
VLC	Villacollemand	143.41 331	ePKPdf	PKPdf	06 23 33.5	-1.2		
VLC			LR	LR				
	comp=Z,4µm,22.0s							
CEL	Celeste	144.30 319	ePKPdf	PKPab	06 23 33.4	-1.1		
CEL			LR	LR				
	comp=Z,3µm,20.0s							
BNI	Bardonecchia	144.34 335	ePKIKP	PKPab	06 23 34.3	-0.2		
BNI			MLR	MLR				
	comp=Z,5µm,19.0s							
BNI	Bardonecchia	144.34 335	ePKPdf	PKPab	06 23 34.3	-0.2		
BNI			LR	LR				
	comp=Z,5µm,19.0s							
SSB	Saint Sauveur	144.97 338	ePKIKP	PKPab	06 23 36.0	-0.7		
SSB			MLR	MLR				
	comp=Z,4µm,19.0s							
SSB	Saint Sauveur	144.97 338	ePKPdf	PKPab	06 23 36.0	-0.7		
SSB			LR	LR				
	comp=Z,4µm,19.0s							
CLTB	Caltabellotta	146.40 320	ePKPdf	PKPdf	06 23 40.6	+0.5		
CLTB			LR	LR				
	comp=Z,2µm,21.0s							
WDD	Wield Dalam	146.57 316	ePKPdf	PKPdf	06 23 40.1	-0.2		
WDD			LR	LR				
	comp=Z,3µm,21.0s							
VSL	Villasalto	147.36 326	ePKPdf	PKPdf	06 23 40.7	-0.9		
VSL			ePKPbc	PKPbc	06 23 43.6	-0.4		
VSL			LR	LR				
	comp=Z,2µm,20.0s							
H07S1	FLORES T-PHASE	149.88 28	ePKP	PKPdf	06 23 45.7	0.0		
KEST	Kesra	149.97 321	PKP	PKPdf	06 23 46.1	+0.1		
	comp=Z,30nm,0.9s,baz=294,slow=0.6,SNR=79							
KEST			PKPbc	PKPbc	06 23 50.6	-0.4		
	comp=Z,51nm,0.7s,baz=72,slow=1.6,SNR=118							
RCBR	Riachuelo	150.43 129	PKPbc	PKPbc	06 23 54.0	+1.4		
	comp=Z,39nm,0.9s,baz=204,slow=4.5,SNR=6.4							
RCBR	Riachuelo	150.43 129	ePKPdf	PKPdf	06 23 49.1	+1.8		
RCBR			PKPbc	PKPbc	06 23 54.0	+1.4		
RCBR			ePKPbc	PKPbc	06 23 55.4	+2.7		
RCBR			LR	LR				
	comp=Z,6µm,20.0s							
CMAH	Djebel Manchou	150.49 325	P	PKPdf	06 23 45.7	-1.1		
ABSA	Djebel Ababsia	150.70 324	P	PKPdf	06 23 45.9	-1.3		
CKFL	Kef-Lekhel	151.04 325	P	PKPdf	06 23 46.9	-0.9		
CASM	Ain Smara	151.27 325	P	PKPdf	06 23 47.1	-0.9		
PBRG	Braganca	151.33 350	ePKPdf	PKPdf	06 23 50.3	+2.4		
PBRG	Braganca	151.33 350	ePKPbc	PKPbc	06 23 55.6	+1.6		
PBRG	Braganca	151.33 350	ePP	PP	06 27 33.0	+1.4		
DFRA	Djebel Bou Aff	151.40 326	P	PKPdf	06 23 48.2	-0.1		
PGAV	Gavieira, Arco	151.41 352	ePKPdf	PKPdf	06 23 50.5	+2.4		
PGAV	Gavieira, Arco	151.41 352	ePKPbc	PKPbc	06 23 55.7	+1.5		
PGAV	Gavieira, Arco	151.41 352	ePKPab	PKPab	06 24 03.0	+0.7		
PGAV	Gavieira, Arco	151.41 352	ePP	PP	06 27 36.1	+4.0		
PGAV	Gavieira, Arco	151.41 352	eLR	LR	07 18 28.6			
	comp=Z,6µm,18.0s							
CTEI	Djebel Teioual	151.46 325	P	PKPdf	06 23 47.5	-0.9		
PGRA	Graciosa	151.57 24	ePKP	PKPbc	06 23 51.5	-3.0		
PCAB	Cabril	151.62 352	ePKPdf	PKPdf	06 23 49.4	+1.0		
PCAB	Cabril	151.62 352	ePKPbc	PKPbc	06 23 56.8	+2.2		
ROSA	Rosais	151.72 25	ePKP	PKPdf	06 23 51.1	+2.5		
PMAN	Manadas	151.86 25	ePKP	PKPdf	06 23 51.1	+2.3		
SET	Setif	151.91 326	P	PKPdf	06 23 52.0	+2.9		
POLO	Lamas de Olo	151.92 351	ePKPdf	PKPdf	06 23 50.2	+1.3		
POLO	Lamas de Olo	151.92 351	ePKPbc	PKPbc	06 23 57.1	+1.7		
POLO	Lamas de Olo	151.92 351	ePP	PP	06 27 37.3	+2.3		
PPNO	Prainha do Nor	151.93 25	ePKP	PKPdf	06 23 49.4	+0.4		
CKHR	Kef el Ahmar	151.99 326	P	PKPdf	06 23 50.5	+1.3		
MVO	Moncorvo	152.00 350	ePKPdf	PKPdf	06 23 49.7	+0.7		
MVO	Moncorvo	152.00 350	ePKPbc	PKPbc	06 23 57.3	+1.8		
MVO	Moncorvo	152.00 350	ePP	PP	06 27 37.2	+1.8		
MVO	Moncorvo	152.00 350	eSS	SS	06 47 11.2	+11		
MVO	Moncorvo	152.00 350	eLR	LR	07 22 20.8			
	comp=Z,5µm,20.0s							
PTO	Porto	152.26 352	ePKPdf	PKPbc	06 23 55.1	-0.9		
PTO	Porto	152.26 352	ePKPbc	PKPbc	06 23 58.0	+2.0		
ESDC	Sonseca Array	152.75 344	PKP	PKPdf	06 23 49.3	-0.8		
	comp=Z,1.1nm,0.6s,baz=4.5,slow=2.3,SNR=7.2							
ESDC			PKPbc	PKPbc	06 23 56.8	-0.5		
	comp=Z,26nm,0.8s,baz=10.0,slow=3.5,SNR=30							
MTE	Manteigas	152.83 350	eLR	LR	07 19 47.8			
	comp=Z,5µm,20.0s							
MTE	Manteigas	152.83 350	PFAKE		06 24 00.0	+2.6		
MTE			LR	LR				
	comp=Z,3µm,20.0s							
PAB	San Pablo	152.97 345	ePKIKP	PKPdf	06 23 51.2	+0.7		
PAB			*e*		06 23 59.4			
PAB			MLR	MLR				
	comp=Z,4µm,20.0s							
PAB	San Pablo	152.97 345	ePKPdf	PKPdf	06 23 51.2	+0.7		
PAB			ePKPbc	PKiKP	06 23 59.4	+1.4		
PAB			LR	LR				
	comp=Z,4µm,20.0s							
EMHD	Djebel Mahouad	153.16 330	P	PKPdf	06 23 50.8	-0.2		
PCAS	Casmilo, Conde	153.32 352	ePKPdf	PKPdf	06 23 52.1	+1.2		
PCAS	Casmilo, Conde	153.32 352	ePKPbc	PKPbc	06 24 00.1	+1.7		
PCAS	Casmilo, Conde	153.32 352	ePP	PP	06 27 45.8	+3.0		
PSET	Sete Cidades	153.49 22	ePKP	PKPpre	06 23 44.0			
BART	Pico Bartolome	153.73 22	ePKP	PKPdf	06 23 50.6	-1.1		
PMRV	Marv??o	153.75 350	ePKPdf	PKPdf	06 23 52.5	+0.9		
PMRV	Marv??o	153.75 350	ePKPbc	PKPbc	06 24 00.8	+1.4		
PMRV	Marv??o	153.75 350	ePP	PP	06 27 47.3	+2.0		
PMRV	Marv??o	153.75 350	eSS	SS	06 47 31.4	+13		
PMRV	Marv??o	153.75 350	eLR	LR	07 18 15.7			
EBNR	Beni Rached	153.76 332	P	PKPdf	06 23 46.8	-4.9		
PMTG	Montargil	154.24 351	ePKPdf	PKPdf	06 23 53.0	+0.8		
PMTG	Montargil	154.24 351	ePKPbc	PKPbc	06 24 01.6	+1.2		
PMTG	Montargil	154.24 351	ePP	PP	06 27 54.7	+6.7		
EANR	`Ain N'Sour	154.24 332	P	PKPdf	06 23 49.1	-3.3		
PSMA	Santa Maria	154.44 22	ePKP	PKPdf	06 23 51.8	-0.8		
PSMN	Pico do Norte,	154.46 22	ePKP	PKPdf	06 23 51.7	-0.9		
PMAFR	Mafra	154.50 353	ePKPdf	PKPdf	06 23 53.8	+1.2		
PMAFR	Mafra	154.50 353	ePKPbc	PKPbc	06 24 02.4	+1.4		
PMAFR	Mafra	154.50 353	ePP	PP	06 27 53.0	+3.5		
ETRT	Tiaret	154.61 331	P	PKPdf	06 23 47.6	-5.4		
PACT	Alcochete	154.62 352	ePKPdf	PKPdf	06 23 53.3	+0.6		
PACT	Alcochete	154.62 352	ePKPbc	PKPbc	06 24 02.3	+1.1		
PACT	Alcochete	154.62 352	ePP	PP	06 27 53.0	+2.9		
PMST	Lisbon--Monsan	154.70 352	ePKPdf	PKPdf	06 23 55.0	+2.1		
PMST	Lisbon--Monsan	154.70 352	ePP	PP	06 27 54.8	+4.2		
LIS	Lisbon	154.72 352	eP	PKPdf	06 23 53.1	+0.2		
LIS			ePP	PP	06 27 53.1	+2.4		
LIS			AMS	AMS	07 35 26.5			
	comp=E,5µm,21.5s							
LIS	Lisbon	154.72 352	ePKIKP	PKPdf	06 23 53.1	+0.2		
LIS			*e*		06 27 53.0			
EVO	Evora	154.73 350	ePKPdf	PKPdf	06 23 52.4	-0.5		
EVO	Evora	154.73 350	ePKPbc	PKPbc	06 24 03.0	+1.5		
EVO	Evora	154.73 350	ePP	PP	06 27 51.8	+1.0		
PBAR	Barrancos	154.90 348	ePKPdf	PKPdf	06 23 53.8	+0.6		
PBAR	Barrancos	154.90 348	ePKPab	PKPab	06 24 17.0	0.0		
PBAR	Barrancos	154.90 348	ePP	PP	06 27 53.6	+1.9		
PNCL	Nicolau / Gran	155.22 351	ePKPdf	PKPdf	06 23 54.6	+1.0		
PNCL	Nicolau / Gran	155.22 351	ePKPbc	PKPdf	06 24 04.0	+10		
PNCL	Nicolau / Gran	155.22 351	ePP	PP	06 27 56.8	+3.3		
MESJ	Messejana	155.44 350	eP	PP	06 27 56.8	+2.0		
MESJ			AMS	AMS	07 47 06.9			
	comp=Z,5µm,17.4s							
MESJ	Messejana	155.44 350	ePKPdf	PKPdf	06 23 55.5	+1.6		
MESJ	Messejana	155.44 350	ePKPab	PKPab	06 24 22.7	+3.4		
MESJ	Messejana	155.44 350	ePP	PP	06 27 56.3	+1.6		
PCVE	Castro Verde	155.61 350	ePKPdf	PKPdf	06 23 55.5	+1.3		
PCVE	Castro Verde	155.61 350	ePKPab	PKPab	06 24 23.2	+3.1		
PCVE	Castro Verde	155.61 350	ePP	PP	06 27 56.8	+1.1		
PVAQ	Vaqueiros	155.78 349	ePKPdf	PKPdf	06 23 56.2	+1.8		
PVAQ	Vaqueiros	155.78 349	ePKPab	PKPab	06 24 23.6	+2.8		
PVAQ	Vaqueiros	155.78 349	ePP	PP	06 27 58.8	+2.2		
PVAQ	Vaqueiros	155.78 349	eLR	LR	07 21 15.1			
	comp=Z,5µm,20.0s							
PTEO	Sao Teotonio	155.81 351	ePKPdf	PKPdf	06 23 55.9	+1.5		
PTEO	Sao Teotonio	155.81 351	ePKPab	PKPab	06 24 23.8	+2.9		
PTEO	Sao Teotonio	155.81 351	ePP	PP	06 28 01.2	+4.5		
PBDV	Barranco-do-Ve	155.97 349	ePKPdf	PKPdf	06 23 56.9	+2.2		
PBDV	Barranco-do-Ve	155.97 349	ePKPab	PKPab	06 24 24.1	+2.4		
PBDV	Barranco-do-Ve	155.97 349	ePP	PP	06 28 00.6	+2.9		
MORF	Marmelete	156.03 351	eP	PKPdf	06 23 55.1	+0.3		
MORF			ePP	PP	06 27 60.0	+1.9		
MORF			AMS	AMS	07 44 20.9			
	comp=Z,4µm,14.4s							
MORF	Marmelete	156.03 351	ePKPdf	PKPdf	06 23 56.0	+1.2		
MORF	Marmelete	156.03 351	ePKPab	PKPab	06 24 24.9	+2.9		
MORF	Marmelete	156.03 351	ePP	PP	06 28 02.0	+3.9		
MORF	Marmelete	156.03 351	ePKIKP	PKPdf	06 23 55.1	+0.3		
MORF			*e*		06 27 59.9			
PFVI	Vila Bisbo	156.23 351	ePKPdf	PKPdf	06 23 55.2	+0.2		
PFVI	Vila Bisbo	156.23 351	ePKPab	PKPab	06 24 25.8	+3.1		
PFVI	Vila Bisbo	156.23 351	ePP	PP	06 28 02.6	+3.5		
ASCN	Ascension	158.57 177	PFAKE		06 24 10.0	+11		
ASCN			LR	LR				
	comp=Z,4µm,19.0s							
TAM	Tamanrasset	159.90 300	ePKIKP	PKPdf	06 24 00.1	0.0		
TAM

3.1nm,0.7s,baz=114,slow=3.6,SNR=9.1
ARCES **ARCESS Array B 119.13 345** PKP **PKPdf 06 42 23.1 -0.7**
1.0nm,0.5s,baz=79,slow=1.4,SNR=14
NOA **NORSAR Array B 129.50 345** PKP **PKPdf 06 42 43.6 -0.3**
0.8nm,0.8s,baz=36,slow=2.1,SNR=3.4
AKASG **Malin Array Be 129.64 326** PKP **PKPdf 06 42 43.6 -0.8**
0.2nm,0.3s,baz=58,slow=1.0,SNR=4.4
BNI **Bardonecchia 144.47 336** *e*PKPdf **PKPdf 06 43 11.5 -0.7**
CEL **Celeste 144.47 319** *e*PKPdf **PKPab 06 43 10.2 -0.3**
VSL **Villasalto 147.51 327** *e*PKPbc **PKPbc 06 43 20.2 +0.3**
KEST **Kesra 150.14 321** PKPbc **PKPbc 06 43 27.8 +0.9**
4.8nm,0.7s,baz=80,slow=1.6,SNR=18
ESDC **Sonseca Array 152.86 344** PKPbc **PKPbc 06 43 33.4 +0.4**
0.4nm,0.4s,baz=35,slow=2.1,SNR=6.7
TORD **Torodi Ar. Bea 165.55 270** PKP **PKPdf 06 43 41.0 0.0**
0.8nm,0.8s,baz=68,slow=0.7,SNR=5.2

IDC ***02*** *06:43:14.0±2.2, 13°.66S×166°.61E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/19, mbtmp3.9/6, Error ellipse: s-maj=94.2km s-min=25.6km az=136.0*
ISCJB ***02*** *06:43:19.3±2.2, 13°.6S±0°.4×166°.4E±0°.4, h39km, mb3.7/5, Error ellipse: s-maj=78.1km s-min=23.0km az=43.1*
ISC 02 06:43:20.2±2.1, 13°.6S±0°.4×166°.5E±0°.5, h39km, n7, σ1§54/6, mb3.7/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**20.39**	**249**	P	Pn	06 47 55.4	-0.8
	2.4nm,0.6s,baz=96,slow=14,SNR=3.1						
STKA	**Stephens Creek**	**29.15**	**227**	P	**P**	**06 49 18.8**	**+1.0**
	0.6nm,0.4s,baz=28,slow=9.0,SNR=3.5						
WRA	**Warramunga Arr**	**31.37**	**254**	P	**P**	**06 49 36.7**	**-0.9**
	0.5nm,0.7s,baz=86,slow=9.7,SNR=5.1						
ASAR	**Alice Springs**	**32.37**	**247**	P	**P**	**06 49 45.6**	**-0.8**
	0.9nm,0.7s,baz=75,slow=9.5,SNR=10.0						
SONM	**Songino Array**	**81.17**	**324**	P	**P**	**06 55 32.9**	**+1.0**
	0.3nm,0.5s,baz=123,slow=5.3,SNR=2.6						
ILAR	**Eielson Array**	**85.73**	**18**	P	**P**	**06 55 55.0**	**+0.2**
	0.6nm,0.6s,baz=242,slow=4.9,SNR=11						
ARCES	**ARCESS Array B 119.00**		**345**	PKP	**PKPdf**	**07 02 02.3**	**-1.9**
	1.0nm,0.8s,baz=64,slow=2.1,SNR=3.6						

IDC ***02*** *07:05:09.3±1.4, 13°.45S×166°.67E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/41, mbtmp3.7/6, ML2.7/1, Error ellipse: s-maj=42.2km s-min=24.0km az=124.0*
ISCJB ***02*** *07:05:12.9±1.5, 13°.51S±0°.09×166°.6E±0°.2, h39km, mb3.6/4, Error ellipse: s-maj=27.8km s-min=12.6km az=170.1*
ISC 02 07:05:15.0±1.2, 13°.5S±0°.1×166°.6E±0°.2, h39km, n8, σ1§32/8, mb3.6/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.55**	**181**	Pn	**Pn**	**07 07 14.7**	**-1.7**
	0.1nm,0.3s,baz=73,slow=19,SNR=2.5						
DZM				Sn	**Sn**	**07 08 53.4**	**+1.7**
	0.4nm,0.3s,baz=90,slow=20,SNR=2.0						
CTA	**Charters Tower**	**20.57**	**249**	P	Pn	07 09 51.8	-1.2
	5.5nm,1.1s,baz=86,slow=13,SNR=1.8						
STKA	**Stephens Creek**	**29.35**	**227**	P	**P**	**07 11 14.9**	**+0.6**
	1.1nm,0.6s,baz=47,slow=8.6,SNR=3.8						
WRA	**Warramunga Arr**	**31.55**	**254**	P	**P**	**07 11 33.2**	**-0.7**
	0.4nm,0.7s,baz=85,slow=9.1,SNR=2.7						
ASAR	**Alice Springs**	**32.56**	**247**	P	**P**	**07 11 42.5**	**-0.3**
	0.5nm,0.7s,baz=72,slow=9.9,SNR=7.1						
ILAR	**Eielson Array**	**85.53**	**18**	P	**P**	**07 17 48.5**	**-0.1**
	0.4nm,0.8s,baz=230,slow=5.1,SNR=7.7						
ARCES	**ARCESS Array B 118.89**		**345**	PKP	**PKPdf**	**07 23 58.7**	**-0.1**
	2.1nm,1.0s,baz=56,slow=1.6,SNR=3.8						
KEST	**Kesra**	**149.85**	**321**	PKPbc	**PKPbc**	**07 25 02.9**	**+1.4**
	0.7nm,0.7s,baz=36,slow=1.6,SNR=3.5						

ISCJB ***02*** *07:28:17.8±0.3, 6°.08S±0°.04×75°.10W±0°.05, h27km, mb4.4/28, Error ellipse: s-maj=7.4km s-min=5.8km az=144.4*
IDC ***02*** *07:28:19.7±0.7, 6°.13S×75°.17W, h28km±4km, mb3.7/11, mb1 4.0/20, mb1mx4.0/31, mbtmp4.0/20, ML4.2/7, MS3.9/1, Ms1 3.9/1, ms1mx3.4/38, Error ellipse: s-maj=19.2km s-min=12.6km az=60.0*
NEIC ***02*** *07:28:21.4±0.5, 6°.11S×75°.14W, h42km±5km, mb4.5/14, Error ellipse: s-maj=6.8km s-min=4.6km az=64.0*
NEIC Felt [II] at Yurimaguas.
BJI ***02*** *07:28:25.2, 6°.10S×75°.10W, h50km, Ms5.3/1, Ms7 4.9/2*
ISC 02 07:28:19.7±0.4, 6°.13S±0°.05×75°.04W±0°.06, h27km, n65, σ1§30/78, mb4.5/28, Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**3.48**	**253**	Pn	**Pn**	**07 29 10.5**	**-1.9**
	42nm,0.3s,baz=90,slow=6.1,SNR=102						
ATAH				Sn	**Sn**	**07 29 56.2**	**+3.3**
	55nm,0.3s,baz=229,slow=20,SNR=6.1						
ATAH				LR	LR	07 30 47.2	
	comp=Z,2μm,18.4s,baz=121,slow=44						
NNA	**Nana**	**6.08**	**197**	Pn	**Pn**	**07 29 48.0**	**-0.1**
	9.7nm,0.3s,baz=18,slow=13,SNR=18						
NNA				Sn	**Sn**	**07 30 54.0**	**-2.9**
	36nm,0.3s,baz=338,slow=20,SNR=12						
NNA	**Nana**	**6.08**	**197**	*e*Pn	**Pn**	**07 29 49.6**	**+1.6**
NNA				*e*Sn	**Sn**	**07 30 54.8**	**-2.1**
OTAV	**Otavalo**	**7.18**	**332**	*e*Pn	**Pn**	**07 30 03.6**	**+0.1**
	17nm,0.6s						
ROSC	**El Rosal**	**10.94**	**4**	Pn	**Pn**	**07 30 56.3**	**+1.3**
	0.4nm,0.3s,baz=180,slow=12,SNR=2.2						
ROSC				Lg	Lg	07 33 60.0	
	3.0nm,0.3s,baz=84,slow=19,SNR=3.6						
SAML	**Samuel**	**12.08**	**104**	*e*Pn	**Pn**	**07 31 11.8**	**+1.5**
SAML				*e*Sn	**Sn**	**07 33 19.6**	**-4.7**
LPAZ	**La Paz**	**12.15**	**147**	Pn	**Pn**	**07 31 14.1**	**+2.3**
	0.5nm,0.3s,baz=332,slow=14,SNR=19						
LPAZ				Lg	Lg	07 34 53.5	
	0.6nm,0.3s,baz=202,slow=17,SNR=4.2						
SDV	**Santo Domingo**	**15.55**	**16**	*e*P	**Pn**	**07 31 57.9**	**+0.4**
	8.1nm,0.5s						
BCIP	**Isla Barro Col**	**15.93**	**342**	*e*P	**P**	**07 32 06.0**	**+0.4**
PTGA	**Pitinga**	**15.97**	**71**	Pn	**Pn**	**07 32 03.4**	**+0.6**
	1.8nm,0.3s,baz=268,slow=18,SNR=16						
PTGA				Sn	**Sn**	**07 34 57.7**	**-1.5**
	3.0nm,0.3s,baz=308,slow=14,SNR=5.9						
PTGA				Lg	Lg	07 36 44.7	
	baz=323,slow=20,SNR=2.9						
SIV	**San Ignacio**	**16.84**	**127**	Pn	**Pn**	**07 32 14.3**	**+0.5**
	1.2nm,0.3s,baz=301,slow=11,SNR=13						
SIV				Sn	**S**	**07 35 32.5**	**+2.3**
	0.5nm,0.3s,baz=63,slow=18,SNR=4.4						
SIV				Lg	Lg	07 37 14.1	
	2.7nm,0.3s,baz=242,slow=20,SNR=3.5						
LVC	**Limon Verde**	**17.42**	**161**	P	**P**	**07 32 22.2**	**-0.1**
	29nm,0.3s,baz=333,slow=10,SNR=9.0						
LVC	**Limon Verde**	**17.42**	**161**	*e*P	**P**	**07 32 23.4**	**+1.0**
	38nm,1.5s						
JTS	**JuntasAbangare**	**19.07**	**329**	P	**P**	**07 32 40.7**	**+0.4**
	0.2nm,0.3s,baz=0.0,slow=12,SNR=2.5						
PCRV	**Puerto La Cruz**	**19.23**	**33**	P	**Pn**	**07 32 44.4**	**+1.2**
	0.7nm,0.3s,baz=217,slow=10,SNR=3.7						
CFAA	**Coronel Fontan**	**26.13**	**167**	P	**P**	**07 33 51.9**	**+0.2**
	0.3nm,0.7s,baz=352,slow=11,SNR=7.9						
CPUP	**Villa Florida**	**26.25**	**142**	P	**P**	**07 33 52.6**	**-0.2**
	0.9nm,0.4s,baz=342,slow=8.6,SNR=5.3						
LRAL	**Lakeview Retre**	**40.58**	**344**	*e*P	**P**	**07 35 55.8**	**-1.3**
	6.6nm,0.5s						
TXAR	**Lajitas Array**	**44.73**	**324**	P	**P**	**07 36 30.5**	**-0.6**
	0.3nm,0.4s,baz=139,slow=8.4,SNR=3.5						
TXAR				pP	**pP**	**07 36 37.9**	**-1.3**
	0.8nm,0.5s,baz=144,slow=8.2,SNR=6.1						
ABTX	**Abilene, Hawle**	**45.09**	**330**	*e*P	**P**	**07 36 34.0**	**+0.3**
	4.1nm,0.7s						
WCI	**Wyandotte Cave**	**45.36**	**348**	*e*P	**P**	**07 36 34.5**	**-1.3**
	17nm,1.2s						
SIUC	**Southern Illin**	**45.58**	**344**	*e*P	**P**	**07 36 36.4**	**-1.1**
	15nm,0.8s						
BLO	**Bloomington**	**46.31**	**348**	*e*P	**P**	**07 36 42.2**	**-1.1**
	17nm,0.6s						
ANMO	**Albuquerque**	**50.46**	**326**	*e*P	**P**	**07 37 15.2**	**-0.4**
	4.5nm,0.8s						
JFWS	**Jewell Farm**	**50.73**	**346**	*e*P	**P**	**07 37 15.5**	**-1.8**
	4.1nm,0.6s						
SDCO	**Great Sand Dun**	**52.07**	**329**	*e*P	**P**	**07 37 27.4**	**-0.3**
	2.7nm,0.8s						
PV01	**Paradox Valley**	**53.96**	**327**	*e*P	**P**	**07 37 40.7**	**-0.9**
	338nm,1.2s						
PDAR	**Pinedale Array**	**57.89**	**330**	P	**P**	**07 38 08.2**	**-1.5**
	0.2nm,0.5s,baz=114,slow=6.2,SNR=2.9						
PDAR				PcP	**PcP**	**07 39 01.0**	**-0.9**
	0.3nm,0.5s,baz=134,slow=3.9,SNR=3.0						
ULM	**Lac du Bonnet**	**58.99**	**345**	P	**P**	**07 38 15.2**	**-1.7**
	2.0nm,0.5s,baz=153,slow=5.7,SNR=5.7						
ULM				pP	**pP**	**07 38 25.2**	**-0.1**
	2.2nm,0.4s,baz=165,slow=8.4,SNR=3.0						
ULM				PcP	**PcP**	**07 39 05.2**	**-0.5**
	3.4nm,0.5s,baz=157,slow=5.6,SNR=7.5						
NVAR	**Mina Array Bea**	**59.80**	**321**	P	**P**	**07 38 22.3**	**-0.7**
	0.6nm,0.8s,baz=128,slow=5.8,SNR=4.9						
NVAR				pP	**pP**	**07 38 32.3**	**+0.9**
	1.7nm,1.1s,baz=132,slow=7.9,SNR=4.6						
NVAR				PcP	**PcP**	**07 39 09.2**	**-0.4**
	0.5nm,0.5s,baz=142,slow=4.6,SNR=5.3						
SCHQ	**Schefferville**	**61.13**	**5**	P	**P**	**07 38 31.2**	**-0.2**
	1.8nm,0.6s,baz=214,slow=6.4,SNR=5.8						
LIC	**Lamb**	**70.95**	**81**	*e*P	**P**	**07 39 35.8**	**+0.4**
	115nm,1.4s						
TIC	**Toumodi**	**71.02**	**81**	*e*P	**P**	**07 39 37.2**	**+1.3**
DBIC	**Dimbokro**	**71.18**	**81**	P	**P**	**07 39 37.5**	**+0.6**
	8.2nm,0.4s,baz=251,slow=4.7,SNR=28						
KIC	**Kosan Boka**	**71.25**	**81**	*e*P	**P**	**07 39 37.4**	**+0.1**
	40nm,1.0s						
YKA	**Yellowknife Ar**	**74.82**	**342**	P	**P**	**07 39 56.5**	**-0.8**
	0.8nm,0.4s,baz=139,slow=6.3,SNR=9.8						
YKA				pP	**pP**	**07 40 04.7**	**-1.3**
	1.0nm,0.5s,baz=139,slow=6.2,SNR=4.2						
TORD	**Torodi Ar. Bea**	**78.56**	**75**	P	**P**	**07 40 19.6**	**+0.1**
	2.5nm,0.3s,baz=274,slow=5.5,SNR=69						
TOB3	**Torodi Ar. Sit**	**78.57**	**75**	*e*P	**P**	**07 40 19.3**	**-0.3**
ESDC	**Sonseca Array**	**79.55**	**48**	P	**P**	**07 40 25.1**	**+0.5**
	0.6nm,0.5s,baz=256,slow=6.0,SNR=5.6						
SUMG	**Summit**	**81.99**	**10**	*i* P	**P**	**07 40 37.9**	**+0.6**
	4.4nm,0.7s						
SUMG	**Summit**	**81.99**	**10**	P	P	07 40 33.0	-4.3
	11nm,1.0s						
QSPA	**South Pole Qui**	**83.96**	**180**	*e*P	**P**	**07 40 47.4**	**0.0**
	4.0nm,0.9s						
INK	**Inuvik**	**84.56**	**341**	*e*P	**P**	**07 40 50.4**	**+0.2**
	2.1nm,0.6s						
EGAK	**Eagle**	**85.61**	**337**	*e*P	**P**	**07 40 54.1**	**-1.4**
	2.0nm,0.8s						
ILAR	**Eielson Array**	**87.89**	**336**	P	**P**	**07 41 05.6**	**-1.0**
	0.5nm,0.8s,baz=133,slow=5.3,SNR=7.6						
ILAR				pP	**pP**	**07 41 15.8**	**+0.4**
	0.4nm,0.8s,baz=119,slow=3.5,SNR=3.8						
DAG	**Danmarks Havn**	**88.65**	**11**	*i* P	**P**	**07 41 09.9**	**-0.1**
	2.4nm,0.6s						
ABKAR	**Akbulak array**	**122.73**	**33**	*e*PKPdf	**PKPdf**	**07 47 13.6**	**+0.4**
ZALV	**Zalesovo Beam**	**129.60**	**15**	PKP	**PKPdf**	**07 47 26.5**	**+0.3**
	1.1nm,0.4s,baz=321,slow=3.7,SNR=4.6						
ASAR	**Alice Springs**	**139.06**	**223**	PKhKP	PKPpre	07 47 34.2	
	0.3nm,0.4s,baz=122,slow=3.6,SNR=4.4						
ASAR				PKP	**PKPdf**	**07 47 43.2**	**-1.7**
	0.3nm,0.4s,baz=128,slow=2.1,SNR=7.2						
WMQ	**Urumqi**	**139.51**	**19**	*e*PKP	**PKPdf**	**07 47 48.0**	**+2.8**
WMQ				LZ			
	200nm,19.3s						
WRA	**Warramunga Arr**	**141.18**	**227**	PKhKP	PKPpre	07 47 41.4	
	0.3nm,0.5s,baz=123,slow=3.0,SNR=6.1						
WRA				PKP	**PKPdf**	**07 47 47.9**	**-1.0**
	0.7nm,0.4s,baz=120,slow=2.2,SNR=18						
HHC	**Hu-ho-hao-te**	**144.93**	**351**	*e*PKP	**PKPdf**	**07 47 57.8**	**+2.8**
HHC				PP	PP	07 51 21.4	+10
HHC				SS	SS	08 10 03.6	+5.2
GTA	**Gaotai**	**146.55**	**7**	*e*PKPbc	**PKPbc**	**07 47 59.3**	**+0.1**
MBWA	**Marble Bar**	**149.25**	**208**	*e*PKPbc	**PKPbc**	**07 48 06.4**	**-0.4**
LZH	**Lanzhou**	**150.17**	**2**	*e*PKPbc	**PKPdf**	**07 48 06.2**	**+2.3**
LZH				LN			
	160nm,16.6s						
LZH				LE			
	180nm,19.0s						
LZH				LZ			
	200nm,20.1s						
KOLN	**Koldanda**	**150.43**	**41**	*e*P	**PKPbc**	**07 48 10.1**	**+0.2**
	5.8nm,0.4s						
GKN	**Gorkha**	**150.94**	**39**	*e*P	**PKPbc**	**07 48 11.5**	**+0.5**
	18nm,0.4s						
NJ2	**Nanjing**	**151.13**	**335**	*e*PKPbc	**PKPdf**	**07 48 06.6**	**+1.4**
KKN	**Kakani**	**151.49**	**39**	*e*P	**PKPbc**	**07 48 12.4**	**0.0**
	12nm,0.5s						
DMN	**Daman**	**151.51**	**39**	*e*P	**PKPbc**	**07 48 12.9**	**+0.4**
	13nm,0.4s						
PKI	**Pulchoki**	**151.72**	**39**	*e*P	**PKPbc**	**07 48 12.9**	**-0.1**
GUN	**Gumba**	**151.77**	**38**	*e*P	**PKPbc**	**07 48 13.1**	**-0.1**
	10nm,0.4s						
RAMN	**Ramite**	**152.91**	**38**	*e*P	**PKPbc**	**07 48 15.7**	**+0.1**
	10nm,0.4s						
CD2	**Chengdu**	**155.33**	**2**	PKP	**PKPdf**	**07 48 11.9**	**+0.5**
KMI	**Kunming**	**161.00**	**6**	PKP	**PKPdf**	**07 48 19.0**	**+0.3**

IDC ***02*** *07:50:14.7±0.8, 13°.58S×166°.31E, h0km, mb4.2/10, mb1 4.4/11, mb1mx4.1/42, mbtmp4.2/11, Error ellipse: s-maj=30.6km s-min=17.0km az=120.0*
ISCJB ***02*** *07:50:18.3±0.6, 13°.64S±0°.07×166°.36E±0°.10, h39km, mb4.3/12, Error ellipse: s-maj=14.0km s-min=9.1km az=18.1*
NEIC ***02*** *07:50:19.9±0.5, 13°.60S×166°.37E, h35km, mb4.5/4, Error ellipse: s-maj=15.1km s-min=11.8km az=115.0*
ISC 02 07:50:20.3±0.6, 13°.66S±0°.07×166°.4E±0°.1, h39km, n33, σ1§17/33, mb4.3/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.57**	**303**	*e*Pn	**Pn**	**07 52 07.6**	**-0.6**
DZM	**Mont Dzumac**	**8.37**	**180**	Pn	**Pn**	**07 52 17.6**	**-1.6**
	baz=270,slow=20						
DZM				Sn	**Sn**	**07 53 51.1**	**-1.3**
	0.8nm,0.3s,baz=270,slow=24,SNR=14						
DZM	**Mont Dzumac**	**8.37**	**180**	*e*Pn	**Pn**	**07 52 18.8**	**-0.3**
	10.0nm,0.5s						
DZM				Sn	**Sn**	**07 53 51.1**	**-1.3**
EIDS	**Eidsvold**	**18.51**	**229**	P	**Pn**	**07 54 35.4**	**+1.6**
	baz=13,SNR=3.6						
CTA	**Charters Tower**	**20.28**	**249**	P	**P**	**07 54 53.4**	**+0.6**
	6.3nm,0.7s,baz=87,slow=13,SNR=7.4						
CTAO	**Charters Tower**	**20.28**	**249**	*e*P	Pn	07 54 54.3	-0.6
	16nm,1.1s						
RMQ	**Roma**	**20.86**	**230**	P	Pn	07 55 01.2	-0.5
	baz=16,SNR=13						
ARMA	**Armidale**	**21.52**	**217**	P	**P**	**07 55 07.8**	**+1.6**
	baz=17,SNR=5.2						
QLP	**Quilpie**	**24.39**	**235**	P	**P**	**07 55 35.3**	**+0.3**
	baz=19,SNR=6.1						
CMSA	**Cobar Meteorol**	**26.02**	**223**	P	**P**	**07 55 50.0**	**+0.2**
	baz=21,SNR=9.5						
STKA	**Stephens Creek**	**29.05**	**227**	P	**P**	**07 56 17.1**	**+0.1**
	3.9nm,0.5s,baz=48,slow=9.2,SNR=16						
WRA	**Warramunga Arr**	**31.26**	**254**	P	**P**	**07 56 35.1**	**-1.6**
	2.3nm,0.9s,baz=86,slow=9.6,SNR=14						
HTT	**Hallett**	**31.78**	**227**	P	**P**	**07 56 41.2**	**0.0**
	baz=26,SNR=4.8						
ARPS	**Mount Arapiles**	**31.80**	**219**	P	**P**	**07 56 41.6**	**+0.4**
	baz=27,SNR=5.3						
ASAR	**Alice Springs**	**32.26**	**247**	P	**P**	**07 56 43.9**	**-1.6**
	2.2nm,0.7s,baz=76,slow=9.2,SNR=27						
BBOO	**Buckleboo**	**33.57**	**230**	P	**P**	**07 56 56.6**	**-0.2**
	baz=28,SNR=8.5						
WRKA	**Warakurna**	**37.55**	**247**	P	**P**	**07 57 29.8**	**-1.3**
	baz=32,SNR=9.8						
MEEK	**Meekatharra**	**46.41**	**246**	P	**P**	**07 58 42.8**	**-0.6**
	baz=41,SNR=5.1						
VNDA	**Vanda**	**63.91**	**181**	P	**P**	**08 00 50.5**	**+1.7**
	0.7nm,0.7s,baz=1.0,slow=6.9,SNR=8.4						
PETK	**Petropavlovsk-**	**66.91**	**354**	P	**P**	**08 01 09.2**	**+0.8**
	2.0nm,0.7s,baz=134,slow=38,SNR=3.7						
CMAR	**Chiang Mai Arr**	**73.72**	**294**	P	**P**	**08 01 50.8**	**0.0**
	0.8nm,0.3s,baz=120,slow=4.0,SNR=4.4						
QSPA	**South Pole Qui**	**76.36**	**180**	*e*P	**P**	**08 02 07.0**	**+1.7**
	2.2nm,0.7s						
SEY	**Seymchan**	**77.13**	**353**	P	**P**	**08 02 09.9**	**+0.6**
	3.1nm,0.6s,baz=153,slow=8.1,SNR=17						
COLA	**College**	**85.57**	**18**	*e*P	**P**	**08 02 51.8**	**-2.3**
	4.6nm,0.9s						
ILAR	**Eielson Array**	**85.79**	**18**	P	**P**	**08 02 53.5**	**-1.7**
	1.6nm,0.6s,baz=238,slow=5.3,SNR=25						
NEW	**Newport**	**91.32**	**41**	*e*P	**P**	**08 03 22.8**	**+0.9**
	12nm,1.2s						
YKA	**Yellowknife Ar**	**97.00**	**27**	P	**P**	**08 03 46.0**	**-1.6**
	0.4nm,0.5s,baz=260,slow=3.8,SNR=3.7						
ARCES	**ARCESS Array B 119.00**		**345**	PKP	**PKPdf**	**08 09 04.5**	**+0.3**
	1.3nm,0.5s,baz=44,slow=2.7,SNR=9.0						
FINES	**FINESS Array B**	**124.42**	**338**	PKP	**PKPdf**	**08 09 15.5**	**+0.7**
	0.3nm,0.3s,baz=164,slow=5.5,SNR=3.6						
NB2	**NORSAR Subarra**	**129.37**	**345**	PKPdf	**PKPdf**	**08 09 24.7**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=27,slow=1.8						
NOA	**NORSAR Array B**	**129.37**	**345**	PKP	**PKPdf**	**08 09 24.1**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=33,slow=2.1,SNR=3.3						
VSL	**Villasalto**	**147.25**	**326**	*e*PKPdf	**PKPdf**	**08 09 57.1**	**-0.4**
ESDC	**Sonseca Array**	**152.72**	**344**	PKPbc	**PKPbc**	**08 10 14.8**	**+1.5**
	comp=Z,0.4nm,0.4s,baz=41,slow=2.9,SNR=4.9						

CRAAG ***02*** *07:53:45.7, 36°.42N×7°.14E, Ml3.6*
ISCJB ***02*** *07:53:46.6±0.7, 36°.58N±0°.05×7°.17E±0°.07, h12km, Error ellipse: s-maj=8.6km s-min=6.7km az=40.5*
CSEM ***02*** *07:53:47.0±0.4, 36°.48N×7°.21E, h5km, ML3.6, Error ellipse: s-maj=8.6km s-min=7.9km az=167.0*
ISC 02 07:53:46.3±1.0, 36°.42N±0°.05×7°.20E±0°.04, h12km, n25, σ1§11/26, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAH	**Djebel Manchou**	**0.27**	**42**	P	**Pg**	**07 53 52.0**	**0.0**
CMAH	**Djebel Manchou**	**0.27**	**42**	P	**Pg**	**07 53 52.0**	**0.0**
ABSA	**Djebel Ababsia**	**0.27**	**123**	P	**Pb**	**07 53 53.2**	**0.0**
ABSA	**Djebel Ababsia**	**0.27**	**123**	P	**Pb**	**07 53 53.2**	**0.0**
CKFL	**Kef-Lekhel**	**0.38**	**267**	P	**Pg**	**07 53 54.2**	**+0.2**
CKFL	**Kef-Lekhel**	**0.38**	**267**	P	**Pg**	**07 53 54.2**	**+0.2**
CAEH	**'Ain El Ouahch**	**0.45**	**322**	P	**Pb**	**07 53 56.1**	**-0.1**
CAEH	**'Ain El Ouahch**	**0.45**	**322**	P	**Pb**	**07 53 56.1**	**-0.1**
CASM	**Ain Smara**	**0.59**	**254**	P	**Pb**	**07 53 58.5**	**-0.2**
CASM	**Ain Smara**	**0.59**	**254**	P	**Pb**	**07 53 58.5**	**-0.2**
CTEI	**Djebel Teioual**	**0.73**	**241**	P	**Pn**	**07 54 02.3**	**-0.3**
CTEI	**Djebel Teioual**	**0.73**	**241**	P	**Pn**	**07 54 02.3**	**-0.3**
DFRA	**Djebel Bou Aff**	**1.07**	**277**	P	**Pn**	**07 54 07.4**	**+0.2**
DFRA	**Djebel Bou Aff**	**1.07**	**277**	P	**Pn**	**07 54 07.4**	**+0.2**
ETOS	**Mallorca**	**4.80**	**315**	P	**Pn**	**07 54 59.3**	**+0.8**
	7.9nm,0.2s,SNR=18						
ETOS				S	**Sn**	**07 55 51.9**	**-2.2**
	0.6nm,0.2s,SNR=6.6						
EIBI	**Ibiza**	**5.32**	**301**	P	**Pn**	**07 55 07.2**	**+1.7**
	2.1nm,0.2s,SNR=6.7						
EIBI				S	**Sn**	**07 56 05.2**	**-1.5**
	2.9nm,0.4s,SNR=7.9						
EBEN	**Beniarda**	**6.32**	**293**	P	**Pn**	**07 55 21.3**	**+2.0**
	0.6nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**6.49**	**327**	P	**Pn**	**07 55 21.7**	**0.0**
	1.3nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**6.85**	**318**	P	**Pn**	**07 55 26.8**	**+0.1**
	1.2nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**6.89**	**284**	P	**Pn**	**07 55 28.5**	**+1.4**
	1.6nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**7.19**	**305**	P	**Pn**	**07 55 32.4**	**+1.0**
	1.3nm,0.3s,SNR=6.8						
ETOB	**Tobarra**	**7.29**	**290**	P	**Pn**	**07 55 35.4**	**+2.7**
	1.6nm,0.3s,SNR=7.9						
CSOR	**Sort**	**7.57**	**324**	P	**Pn**	**07 55 37.1**	**+0.5**
	0.8nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**7.97**	**314**	P	**Pn**	**07 55 43.8**	**+1.8**
	15nm,0.3s,SNR=5.1						
EQES	**Quesada**	**8.32**	**283**	P	Pn	07 55 50.5	+3.7
	5.2nm,0.3s,SNR=6.7						

IDC ***02*** *07:55:49.8±1.7, 36°.65N×141°.48E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.5/62, mbtmp3.8/7, ML3.9/2, Error ellipse: s-maj=43.9km s-min=20.0km az=59.0*
ISCJB ***02*** *07:55:52.9±1.2, 36°.52N±0°.05×141°.38E±0°.07, h27km±7km, mb3.6/5, Error ellipse: s-maj=10.3km s-min=8.0km az=24.4*
JMA ***02*** *07:55:56.8±0.1, 36°.61N×141°.11E, h46km±2km, MS3.7 Broadband fault plane solution: P waves. NP1: φs29.00000°, δ76.00000°, λ92.00000°. NP2:φs201.00000°, δ14.00000°, λ83.00000°. Principal axes: T Plg59.0000°, Azm301.0000°; N Plg2.0000°, Azm208.0000°; P Plg31.0000°, Azm117.0000°;*
JMA Felt II J1.
ISC 02 07:55:54.2±1.9, 36°.57N±0°.06×141°.31E±0°.08, h24km±13km, n23, σ0§72/23, mb3.6/5, 7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.60**	**274**	||P	**Pn**	**07 56 06.9**	**-0.3**
JHO				S	**Sb**	**07 56 14.1**	**+0.1**
ONAJ	**Iwakimizuishiy**	**0.67**	**322**	||P	**Pn**	**07 56 08.1**	**-0.1**
ONAJ				S	**Sb**	**07 56 15.7**	**-0.5**
JFK	**Kaw

NDB	Naden	1.45	338	P	Pn	07 58 23.8	-2.2	
NDB				S	Sn	07 58 42.0	-2.2	
NDB	Naden	1.45	338	P	Pn	07 58 23.8	-2.2	
NDB				S	Sn	07 58 42.0	-2.2	
RUBB	Prince Rupert	2.01	31	Pn	Pn	07 58 32.5	-1.3	
RUBB				Sn	Sn	07 58 55.1	-2.9	
RUBB				Sg	Sb	07 59 02.0	+0.2	
RUBB	Prince Rupert	2.01	31	Pn	Pn	07 58 32.5	-1.3	
RUBB				Sn	Sn	07 58 55.1	-2.9	
RUBB				Sg	Sb	07 59 02.0	+0.2	
BBB	Bella Bella	2.44	99	Pn	Pn	07 58 37.6	-1.9	
	17nm,0.3s,baz=285,slow=16,SNR=782							
BBB				Pg	Pb	07 58 45.1	+0.7	
	135nm,0.3s,baz=279,slow=18,SNR=85							
BBB				Sn	Sn	07 59 06.3	-2.2	
	90nm,0.3s,baz=348,slow=20,SNR=9.0							
BBB				Lg	Lg	07 59 13.8		
	274nm,0.3s,baz=195,slow=23,SNR=20							
BBB	Bella Bella	2.44	99	Pn	Pn	07 58 37.5	-2.1	
BBB				Sn	Sn	07 59 05.4	-3.2	
BBB	Bella Bella	2.44	99	Pn	Pn	07 58 37.5	-2.1	
BBB				Sn	Sn	07 59 05.4	-3.2	
CRAG	Craig	2.93	348	ePn	Pn	07 58 46.0	-0.2	
HOLB	Holberg	3.13	128	Pn	Pn	07 58 46.2	-3.0	
HOLB				Sn	Sn	07 59 22.7	-3.1	
HOLB	Holberg	3.13	128	Pn	Pn	07 58 46.2	-3.0	
HOLB				Sn	Sn	07 59 22.7	-3.1	
BCBC	Bella Coola	3.23	92	Pn	Pn	07 58 48.2	-2.3	
BCBC				Sn	Sn	07 59 25.7	-2.5	
PHC	Port Hardy	3.44	122	Pn	Pn	07 58 50.8	-2.6	
PHC				Sn	Sn	07 59 29.1	-4.3	
PHC	Port Hardy	3.44	122	Pn	Pb	07 58 59.8	-1.8	
PHC				Sn	Sn	07 59 29.1	-4.3	
BPBC	Brooks Peninsu	3.63	131	Pn	Pn	07 58 53.7	-2.4	
BPBC	Brooks Peninsu	3.63	131	Pn	Pn	07 58 53.7	-2.4	
MAYB	Maynard	3.76	124	Pn	Pn	07 58 55.3	-2.6	
MAYB				Sn	Sn	07 59 37.2	-4.2	
MAYB	Maynard	3.76	124	Pn	Pn	07 58 55.3	-2.6	
MAYB				Sn	Sn	07 59 37.2	-4.2	
WRAK	Wrangell Islan	3.81	357	ePn	Pn	07 58 58.1	-0.3	
EDB	Eliza Dome	4.13	130	Pn	Pn	07 59 01.5	-1.4	
EDB	Eliza Dome	4.13	130	Pn	Pn	07 59 01.5	-1.4	
WOSB	Woss	4.21	124	Pn	Pn	07 59 02.3	-1.8	
WOSB	Woss	4.21	124	Pn	Pn	07 59 02.3	-1.8	
NCRB	Newcastle Ridg	4.34	118	Pn	Pn	07 59 04.8	-1.1	
NCRB	Newcastle Ridg	4.34	118	Pn	Pn	07 59 04.8	-1.1	
GDR	Gold River	4.72	125	Pn	Pn	07 59 09.5	-1.4	
GDR	Gold River	4.72	125	Pn	Pn	07 59 09.5	-1.4	
ETB	Estevan Point	4.75	131	Pn	Pn	07 59 10.2	-1.1	
ETB	Estevan Point	4.75	131	Pn	Pn	07 59 10.2	-1.1	
SIT	Sitka	4.84	338	ePn	Pn	07 59 11.9	-0.6	
CBB	Campbell River	4.92	119	Pn	Pn	07 59 12.4	-1.2	
CBB				Sn	Sn	08 00 04.8	-4.9	
CBB	Campbell River	4.92	119	Pn	Pn	07 59 12.4	-1.2	
CBB				Sn	Sn	08 00 04.8	-4.9	
BTB	Buttle Lake	5.18	125	Pn	Pn	07 59 16.5	-0.8	
BTB	Buttle Lake	5.18	125	Pn	Pn	07 59 16.5	-0.8	
OZB	Mount Ozzard	5.53	129	Pn	Pn	07 59 21.3	-0.8	
OZB	Mount Ozzard	5.53	129	Pn	Pn	07 59 21.3	-0.8	
TXB	Texada	5.60	118	Pn	Pn	07 59 21.9	-1.1	
TXB	Texada	5.60	118	Pn	Pn	07 59 21.9	-1.1	
ALB	Alberni	5.65	124	Pn	Pn	07 59 23.4	-0.3	
ALB	Alberni	5.65	124	Pn	Pn	07 59 23.4	-0.3	
B928	Bamfield	5.79	128	Pn	Pn	07 59 25.5	-0.1	
MGB	Mount Grey	5.89	125	Pn	Pn	07 59 25.9	-1.2	
MGB	Mount Grey	5.89	125	Pn	Pn	07 59 25.9	-1.2	
GHNB	Nanoose	5.94	121	Pn	Pn	07 59 27.4	-0.2	
GHNB				Sn	Sn	08 00 34.3	-0.4	
DLBC	Dease Lake	5.94	10	Pn	Pn	07 59 29.6	+1.9	
	1.8nm,0.3s,baz=196,slow=14,SNR=49							
DLBC				Sn	Sn	08 00 36.0	+1.0	
	3.8nm,0.3s,baz=226,slow=14,SNR=4.9							
DLBC				Lg	Lg	08 01 03.0		
	3.4nm,0.3s,baz=276,slow=27,SNR=5.6							
DLBC	Dease Lake	5.94	10	Pn	Pn	07 59 28.4	+0.7	
DLBC	Dease Lake	5.94	10	ePn	Pn	07 59 28.9	+1.2	
SHB	Sechelt	5.96	117	Pn	Pn	07 59 27.3	-0.8	
SHB	Sechelt	5.96	117	Pn	Pn	07 59 27.3	-0.8	
NLLB	Nanaimo Lost L	6.11	121	Pn	Pn	07 59 29.5	-0.6	
NLLB	Nanaimo Lost L	6.11	121	Pn	Pn	07 59 29.5	-0.6	
YOUB	Youbou, Lake C	6.17	124	Pn	Pn	07 59 30.7	-0.3	
YOUB	Youbou, Lake C	6.17	124	Pn	Pn	07 59 30.7	-0.3	
WPB	Watts Point	6.29	115	Pn	Pn	07 59 32.4	-0.1	
WPB	Watts Point	6.29	115	Pn	Pn	07 59 32.4	-0.1	
PFB	Port Renfrew	6.30	127	Pn	Pn	07 59 32.4	-0.3	
PFB	Port Renfrew	6.30	127	Pn	Pn	07 59 32.4	-0.3	
BIB	Bowen Island	6.38	117	Pn	Pn	07 59 32.6	-1.0	
BIB	Bowen Island	6.38	117	Pn	Pn	07 59 32.6	-1.0	
LZB	Mount Lazard	6.58	124	Pn	Pn	07 59 36.5	0.0	
LZB	Mount Lazard	6.58	124	Pn	Pn	07 59 36.5	0.0	
LLLB	Lillooet	6.63	104	Pn	Pn	07 59 38.2	+0.9	
LLLB	Lillooet	6.63	104	Pn	Pn	07 59 38.2	+0.9	
PGC	Sidney	6.75	123	Pn	Pn	07 59 39.1	+0.3	
PGC	Sidney	6.75	123	ePn	Pn	07 59 39.9	+1.1	
HNB	Haney	6.84	116	Pn	Pn	07 59 40.1	+0.1	
HNB	Haney	6.84	116	Pn	Pn	07 59 40.1	+0.1	
STW	Striped Peak	6.97	127	Pn	Pn	07 59 41.6	-0.2	
STW	Striped Peak	6.97	127	Pn	Pn	07 59 41.6	-0.2	
MCW	Mount Constitu	7.05	120	Pn	Pn	07 59 43.5	+0.5	
MCW	Mount Constitu	7.05	120	Pn	Pn	07 59 43.5	+0.5	
VDB	Vedder Mountai	7.24	116	Pn	Pn	07 59 45.2	-0.3	
VDB	Vedder Mountai	7.24	116	Pn	Pn	07 59 45.2	-0.3	
A05A	Maple Falls	7.27	116	Pn	Pn	07 59 45.6	-0.2	
BLN	Blyn Mountain	7.41	125	Pn	Pn	07 59 47.5	-0.4	
BLN	Blyn Mountain	7.41	125	Pn	Pn	07 59 47.5	-0.4	
MBW	Mount Baker	7.49	117	Pn	Pn	07 59 48.5	-0.6	
MBW	Mount Baker	7.49	117	Pn	Pn	07 59 48.5	-0.6	
CMW	Cultus Mountai	7.58	120	Pn	Pn	07 59 50.3	0.0	
CMW	Cultus Mountai	7.58	120	Pn	Pn	07 59 50.3	0.0	
HDW	Hoodsport	7.61	127	Pn	Pn	07 59 50.2	-0.5	
HDW	Hoodsport	7.61	127	Pn	Pn	07 59 50.2	-0.5	
GNW	Green Mountain	7.78	127	Pn	Pn	07 59 53.9	+0.9	
GNW	Green Mountain	7.78	127	Pn	Pn	07 59 53.9	+0.9	
JCW	Jim Creek	7.82	120	Pn	Pn	07 59 53.2	-0.4	
JCW	Jim Creek	7.82	120	Pn	Pn	07 59 53.2	-0.4	
BLBC	Blue River	7.86	89	Pn	Pn	07 59 54.3	0.0	
BLBC	Blue River	7.86	89	Pn	Pn	07 59 54.3	0.0	
FNBB	Fort Nelson	8.08	35	Pn	Pn	07 59 56.6	-0.4	
FNBB	Fort Nelson	8.08	35	Pn	Pn	07 59 56.6	-0.4	
WHY	Whitehorse	8.21	350	Pn	Pn	07 59 59.0	+0.1	
WHY	Whitehorse	8.21	350	Pn	Pn	07 59 59.0	+0.1	
MNB	Mounoet Dainar	8.36	87	Pn	Pn	08 00 01.3	+0.3	
MNB				Sg	Sb	08 02 19.2	+14	
MNB	Mounoet Dainar	8.36	87	Pn	Pn	08 00 01.3	+0.3	
MNB				Sg	Sb	08 02 19.2	+14	
DOWB	Downie Slide	8.40	92	Pn	Pn	08 00 01.6	+0.2	
DOWB	Downie Slide	8.40	92	Pn	Pn	08 00 01.6	+0.2	
SLEB	Sale Mountain	8.72	94	Pn	Pn	08 00 06.4	+0.4	
SLEB				Sg	Sn	08 02 23.1	+39	
SLEB	Sale Mountain	8.72	94	Pn	Pn	08 00 06.4	+0.4	
SLEB				Sg	Sn	08 02 23.1	+39	
FMW	Mount Fremont	8.79	126	Pn	Pn	08 00 06.3	-0.7	
FMW	Mount Fremont	8.79	126	Pn	Pn	08 00 06.3	-0.7	
LON	Longmire	8.85	128	Pn	Pn	08 00 07.3	-0.4	
LON	Longmire	8.85	128	ePn	Pn	08 00 09.1	+1.4	
LTY	Liberty	9.07	122	Pn	Pn	08 00 10.4	-0.4	
LTY	Liberty	9.07	122	ePn	Pn	08 00 13.2	+2.5	
B08A	Colville Reser	9.14	113	Pn	Pn	08 00 12.4	+0.7	
G03D	McMinnville, O	9.39	139	P	Pn	08 00 17.9	+3.0	
	baz=9.4							
NEW	Newport	10.46	109	Pn	Pn	08 00 30.2	+0.6	
	0.2nm,0.3s,baz=318,slow=14,SNR=3.7							
NEW				Lg	Lg	08 03 25.6		
	0.1nm,0.3s,baz=46,slow=16,SNR=3.9							
NEW	Newport	10.46	109	P	Pn	08 00 32.3	+2.7	
	baz=10							
I05D	Terrebonne, OR	10.90	135	P	Pn	08 00 38.8	+3.1	
	baz=11							
EDM	Edmonton	11.29	80	Pn	Pn	08 00 40.9	-0.2	
EDM	Edmonton	11.29	80	ePn	Pn	08 00 42.3	+1.3	
F10A	Beach Ranch, E	11.72	119	ePn	Pn	08 00 47.9	+1.0	
J05D	Fort Rock, OR	11.80	138	P	Pn	08 00 50.7	+2.5	
	baz=12							
BSMT	Bassoo Peak	12.02	107	ePn	Pn	08 00 53.0	+1.8	
JTMT	Jette	12.37	106	ePn	Pn	08 00 58.5	+2.6	
YBH	Yreka Blue Hor	12.59	146	Pn	Pn	08 00 59.5	+0.7	
	0.1nm,0.3s,baz=329,slow=5.9,SNR=1.7							
SWMT	Swartz Lake	12.65	107	ePn	Pn	08 01 02.6	+2.9	
MSO	Missoula	13.04	109	P	Pn	08 01 07.1	+2.0	
	baz=13							
N02D	Trinity Center	13.27	148	P	Pn	08 01 10.7	+2.6	
CHMT	Chamberlain Mo	13.40	108	ePn	Pn	08 01 12.2	+2.2	
YKA	Yellowknife Ar	13.56	36	Pn	Pn	08 01 11.3	-0.6	
	0.2nm,0.3s,baz=232,slow=12,SNR=3.5							
RND	Reindeer	13.96	327	ePn	Pn	08 01 16.4	-1.0	
ILAR	Eielson Array	14.37	334	Pn	Pn	08 01 25.0	+2.1	
	0.0nm,0.3s,baz=152,slow=11,SNR=2.5							
ILAR				Lg	Lg	08 05 45.3		
	0.0nm,0.3s,baz=119,slow=28,SNR=3.6							
DLMT	Dillon	14.65	112	eP	Pn	08 01 29.2	+2.1	
HLID	Hailey	14.82	121	P	Pn	08 01 31.5	+2.1	
	baz=15							
BOZ	Bozeman (W)	15.03	110	P	Pn	08 01 33.0	+0.9	
	baz=15,SNR=5.6							
OHCM	Honcut	15.15	147	ePn	P	08 01 36.1	-2.4	
A19A	Klindworth Far	15.17	95	P	Pn	08 01 34.5	+0.7	
	baz=15,SNR=11							
B19A	Brinkman Farms	15.23	97	P	Pn	08 01 36.4	+1.6	
	baz=15							
B20A	Solberg Farm,	15.80	96	P	Pn	08 01 42.4	+0.3	
	baz=16,SNR=12							
BMN	Battle Mountai	15.85	134	ePn	P	08 01 50.0	+3.5	
	6.3nm,0.9s							
C20A	Veseth Ranch,	16.12	98	P	Pn	08 01 47.7	+1.4	
	baz=16							
H17A	Grant Village	16.38	112	eP	P	08 01 52.1	-0.3	
	3.0nm,0.9s							
B21A	Ellsworth Farm	16.42	95	P	Pn	08 01 50.8	+0.9	
	baz=16							
IMW	Indian Meadow	16.48	114	ePn	P	08 01 54.0	+0.4	
	4.9nm,0.9s							
ELK	Elko	16.50	129	Pn	P	08 01 52.9	-0.8	
	0.0nm,0.3s,baz=324,slow=15,SNR=3.2							
FLWY	Flagg Ranch	16.50	113	P	Pn	08 01 51.9	+0.7	
	6.1nm,0.9s							
FXWY	Fox Creek	16.60	114	ePn	P	08 01 55.4	+0.6	
	3.4nm,0.9s							
C21A	Desert Coulee	16.62	97	P	P	08 01 54.2	-0.6	
	baz=17							
RLMT	Red Lodge	16.70	108	P	P	08 01 55.5	-0.4	
	baz=17							
TPAW	Teton Pass	16.74	115	eP	Pn	08 01 53.9	-0.4	
	7.1nm,0.8s							
LOHW	Long Hollow	16.85	114	ePn	P	08 01 58.3	+0.6	
	13nm,1.9s							
A22A	Carney Farms,	16.86	92	P	P	08 01 56.7	-0.8	
	baz=17							
SNOW	Snow King Moun	16.86	114	ePn	P	08 01 59.6	+1.8	
	8.5nm,1.4s							
F20A	Billings	16.98	104	P	P	08 01 59.0	+0.1	
	baz=17							
D21A	La Casta Ranch	17.03	99	P	P	08 01 59.3	-0.1	
	baz=17							
B22A	Reddig Ranch S	17.09	94	P	P	08 02 00.5	+0.5	
	baz=17							
NV01	Mina Array Sit	17.10	141	eP	P	08 02 02.3	+2.0	
NVAR	Mina Array Bea	17.10	141	Pn	P	08 02 00.6	+0.3	
	0.0nm,0.3s,baz=330,slow=11,SNR=3.3							
IM04	Indian Mountai	17.25	329	ePn	P	08 02 01.4	-0.3	
C22A	Vida	17.39	96	P	P	08 02 04.0	+0.6	
	baz=17							
D22A	Cohagen	17.48	98	P	P	08 02 04.5	+0.1	
	baz=18,SNR=8.9							
I19A	Meeteetse	17.50	110	P	P	08 02 06.2	+1.5	
	baz=18							
B23A	Brockton	17.63	93	P	P	08 02 06.8	+0.8	
	baz=18							
C23A	Lambert	17.79	95	P	P	08 02 08.7	+0.9	
	baz=18							
H20A	Greybull	17.80	108	P	P	08 02 08.7	+0.7	
	baz=18							
J19A	Crowheart	17.95	112	P	P	08 02 12.5	+2.9	
	baz=18							
E22A	Miles City	17.96	100	P	P	08 02 10.9	+1.2	
	baz=18							
BW06	Boulder Array	17.98	114	ePn	P	08 02 11.4	+1.3	
PDAR	Pinedale Array	17.98	114	Pn	P	08 02 11.7	+1.6	
	0.1nm,0.3s,baz=317,slow=8.8,SNR=14							
I20A	Worland	18.05	109	P	P	08 02 12.1	+1.4	
	baz=18							
D23A	Lindsay	18.06	97	P	P	08 02 12.1	+1.3	
	baz=18,SNR=5.9							
DUG	Dugway	18.09	126	P	P	08 02 13.4	+2.1	
	baz=18							
DGMT	Dagmar	18.11	92	P	P	08 02 12.5	+1.1	
	baz=18							
F22A	Rosebud	18.12	102	P	P	08 02 13.0	+1.7	
	baz=18							
H21A	Big Horn, Sher	18.28	106	P	P	08 02 15.1	+1.9	
	baz=18							
R11A	Troy Canyon, C	18.28	135	P	P	08 02 15.1	+1.7	
	baz=18							
E23A	Ismay	18.32	99	P	Pn	08 02 15.2	+1.6	
	baz=18							
C24A	Savage	18.37	95	P	Pn	08 02 16.2	+1.9	
	baz=18							
G22A	Birney	18.39	103	P	Pn	08 02 16.3	+1.7	
	baz=18							
J20A	Shoshoni	18.44	111	P	Pn	08 02 17.7	+2.5	
	baz=18,SNR=6.4							
I21A	Big Trails, Te	18.61	108	P	Pn	08 02 20.0	+2.6	
	baz=19							
D24A	Glendive	18.62	96	P	Pn	08 02 19.6	+2.3	
	baz=19							
F23A	Volborg	18.66	101	P	Pn	08 02 18.8	+1.1	
	baz=19,SNR=5.6							
GRAC	Grapevine Rang	18.70	141	P	Pn	08 02 20.8	+2.5	
	baz=19							
B25A	Knox Farm, Ray	18.83	92	P	Pn	08 02 21.6	+1.9	
	baz=19							
E24A	Baker	18.89	98	P	Pn	08 02 22.5	+1.9	
	baz=19							
G23A	Biddle	18.94	102	P	Pn	08 02 22.9	+1.7	
	baz=19							
C25A	Freed Ranch, W	19.00	93	P	Pn	08 02 23.7	+1.8	
	baz=19							
I22A	9 Mile Ranch,	19.04	107	P	Pn	08 02 24.1	+1.7	
	baz=19							
VES	Vestal, Richgr	19.12	146	P	Pn	08 02 25.6	+2.4	
	baz=19							
F24A	Ekalaka	19.17	100	P	Pn	08 02 25.3	+1.3	
	baz=19							
TPNV	Topopah Spring	19.19	138	P	Pn	08 02 27.1	+2.7	
	baz=19							
TPNV	Topopah Spring	19.19	138	eP	Pn	08 02 26.9	+2.5	
	4.3nm,0.8s							
FURC	Furnace Creek,	19.36	140	P	Pn	08 02 29.1	+2.9	
	baz=19							
E25A	Miller Ranch,	19.47	97	P	Pn	08 02 28.9	+1.4	
	baz=19							
RCWM	Renegade Canyo	19.53	143	eP	Pn	08 02 31.4	+3.2	
H24A	Dirks Ranch, A	19.68	103	P	Pn	08 02 31.8	+1.7	
	baz=20							
MSU	Marysvale	19.71	128	eP	P	08 02 29.1	0.0	
F25A	Bowman	19.72	98	P	Pn	08 02 31.4	+0.9	
	baz=20							
K22A	Casper	19.77	110	P	Pn	08 02 32.5	+1.3	
	baz=20							
D26A	Manning	19.81	95	P	Pn	08 02 32.2	+0.6	
	baz=20							
CCUT	Cedar City	19.93	132	eP	Pn	08 02 34.3	+1.1	
	8.2nm,1.3s							
SHPR	Sheep Range	20.02	137	eP	P	08 02 32.2	-0.1	
E26A	Carlson Angus	20.05	96	P	Pn	08 02 34.9	+0.4	
	baz=20							
SRU	San Rafael	20.07	124	eP	P	08 02 33.8	+0.9	
	5.8nm,1.0s							
SHOC	Shoshone	20.09	140	P	Pn	08 02 36.1	+1.2	
	baz=20							
F26A	Lodgepole	20.23	98	P	Pn	08 02 36.7	+0.1	
	baz=20							
H25A	Fruitdale	20.32	102	P	Pn	08 02 38.1	+0.5	
	baz=20							
EDW2	Edwards Air Fo	20.36	145	P	Pn	08 02 39.1	+0.9	
	baz=20							
GSC	Goldstone	20.41	142	P	Pn	08 02 39.1	+0.3	
	baz=20							
GSC	Goldstone	20.41	142	eP	Pn	08 02 39.5	+0.7	
	7.4nm,1.0s							
B28A	Dugan Ranch, T	20.46	89	P	Pn	08 02 38.6	-0.5	
	baz=20							
O20A	White River Ci	20.51	118	P	Pn	08 02 39.4	-0.6	
	baz=20							
O20A	White River Ci	20.51	118	eP	Pn	08 02 39.1	-0.9	
	8.7nm,1.0s							
G26A	Maurine	20.56	99	P	Pn	08 02 40.4	0.0	
	baz=20							
I25A	Rochford	20.58	103	P	Pn	08 02 40.4	-0.4	
	baz=21,SNR=7.0							
E27A	Carson	20.62	95	P	Pn	08 02 41.1	0.0	
	baz=21							
BSC	Santa Cruz Isl	20.63	150	P	Pn	08 02 42.3	+1.0	
	baz=21							
TUQ	Turquoise Moun	20.64	140	P	Pn	08 02 42.2	+0.8	
	baz=21							
C28A	Hausauer Farms	20.75	91	P	Pn	08 02 41.9	-0.6	
	baz=21							
H26A	Fairpoint	20.82	101	P	Pn	08 02 43.0	-0.5	
	baz=21							
G27A	Dupree	20.92	98	P	Pn	08 02 44.1	-0.5	
	baz=21							
A29A	Manning Farm,	20.96	87	P	Pn	08 02 44.0	-1.0	
	baz=21							
HEC	Hector,Ludlow	21.01	142	P	P	08 02 45.5	+2.4	
	baz=21							
BFSC	Mount Baldy Ra	21.06	145	P	P	08 02 45.9	+2.3	
	baz=21							
H27A	Howes	21.23	100	P	P	08 02 47.1	+1.9	
	baz=21,SNR=5.1							
N23A	Red Feather La	21.24	113	P	P	08 02 47.3	+1.6	
	baz=21							
N23A	Red Feather La	21.24	113	eP	P	08 02 47.9	+2.1	
	4.9nm,0.9s							
PHWY	Pilot Hill	21.25	112	eP	P	08 02 46.8	+1.0	
	4.2nm,0.8s							
J26A	Sides Ranch, S	21.38	104	P	P	08 02 48.6	+1.6	
	baz=21							
PV10	Paradox Valley	21.38	123	eP	P	08 02 50.0	+2.8	
I27A	Quinn	21.55	101	P	P	08 02 51.0	+2.2	
	baz=22							
B30A	Myrvik Farm, E	21.70	88	P	P	08 02 52.6	+2.3	
	baz=22							
PV01	Paradox Valley	21.80	122	eP	P	08 02 52.8	+1.1	
BELC	Belle Mtn. Jos	21.87	142	P	P	08 02 55.5	+3.1	
	baz=22							
SMCO	Snowmass	21.87	118	eP	P	08 02 52.5	-0.1	
	4.7nm,0.8s							
D30A	Buchanan	22.01	91	P	P	08 02 55.8	+2.2	
	baz=22							
IRM	Iron Mountain	22.06	140	P	P	08 02 57.4	+3.1	
	baz=22							
I28A	Midland	22.12	101	P	P	08 02 57.2	+2.3	
	baz=22							
H29A	Onida	22.35	98	P	P	08 02 59.5	+2.2	
	baz=22							
J28A	Allard Ranch,	22.41	102	P	P	08 03 00.1	+2.2	
	baz=22							
WUAZ	Wupatki	22.51	131	P	P	08 03 01.2	+2.0	
	baz=22							
WUAZ	Wupatki	22.51	131	eP	P	08 03 01.7	+2.5	
	4.3nm,1.0s							
MVCO	Mesa Verde	22.54	124	P	P	08 03 01.8	+2.2	
	baz=22							
I29A	Vivian Onida	22.63	100	P	P	08 03 01.7	+1.4	
	baz=23							
MONP	Monument Peak	22.71	144	P	P	08 03 03.7	+2.3	
	baz=23							
G30A	Faulkton	22.73	96	P	P	08 03 03.7	+2.4	
	baz=23							
S22A	4UR Ranch, Cre	23.00	120	P	P	08 03 06.6	+2.1	
	baz=23							
S22A	4UR Ranch, Cre	23.00	120	eP	P	08 03 06.8	+2.3	
	5.3nm,1.0s							
Q24A	Divide	23.02	116	P	P	08 03 05.7	+1.0	
	baz=23							
AGMN	Agassiz Nation	23.26	86	P	P	08 03 08.1	+1.4	
	baz=23							
P26A	Davis Ranch, A	23.61	112	P	P	08 03 12.5	+2.1	
	baz=24							
SDCO	Great Sand Dun	23.71	118	P	P	08 03 12.7	+1.2	
	baz=24							
SDCO	Great Sand Dun	23.71	118	eP	P	08 03 13.6	+2.0	
Q26A	Hugo	23.95	113	P	P	08 03 15.2	+1.6	
	baz=24							
P28A	Saint Francis	24.51	110	P	P	08 03 20.2	+1.6	
	baz=24							
S26A	Kim	24.90	116	P	P	08 03 24.7	+2.4	
	baz=25							
214A	Organ Pipe Nat	24.92	138	P	P	08 03 25.2	+2.8	
	baz=25							
ECSD	EROS Data Cent	25.01	97	P	P	08 03 24.9	+1.8	
	baz=25							
ECSD	EROS Data Cent	25.01	97	eP	P	08 03 23.6	+0.4	
	1.2nm,1.0s							
ANMO	Albuquerque	25.34	124	P	P	08 03 27.6	+1.2	
	0.9nm,0.7s,baz=291,slow=9.9,SNR=5.3							
121A	Cookes Peak, D	26.64	129	P	P	08 03 39.6	+1.5	
	baz=27							
R31A	Burdett	26.65	110	P	P	08 03 39.2	+1.1	
	baz=27							
Q32A	Meitler Ranch,	26.74	107	P	P	08 03 39.3	+0.5	
	baz=27							
R32A	Long Quarter,	27.03	108	P	P	08 03 42.6	+1.1	
	baz=27							
O34A	Beatrice	27.07	103	P	P	08 03 42.5	+0.8	
	baz=27							
Q33A	Connelly Farm,	27.16	106	P	P	08 03 44.2	+1.6	
	baz=27							
U30A	WK&E Inc. Balk	27.25

MIAR Mount Ida 32.70 108 P P 08 04 33.7 +2.1
baz=33
631A Perdido Creek 32.75 123 P P 08 04 33.7 +1.6
baz=33
832A Faith Ranch, C 33.97 123 P P 08 04 44.4 +1.7
baz=34
239A Gary 34.03 112 P P 08 04 45.4 +2.2
baz=34
833A Chaparral WMA, 34.23 122 P P 08 04 47.6 +2.6
baz=34
SEY Seymchan 39.26 316 P P 08 05 29.3 +1.9
0.3nm,0.3s,baz=78,slow=12,SNR=3.7
H11N2 WAKE ISLAND Hy 57.06 259 T T 09 09 40.8
baz=39,slow=76,SNR=454
H11N3 WAKE ISLAND Hy 57.06 259 T T 09 09 41.4
baz=39,slow=76,SNR=460
H11N1 WAKE ISLAND Hy 57.08 259 T T 09 09 42.5
baz=39,slow=76,SNR=432
H11S1 WAKE ISLAND Hy 58.12 259 T T 09 10 59.4
baz=39,slow=76,SNR=42
H11S2 WAKE ISLAND Hy 58.13 258 T T 09 10 55.7
baz=39,slow=76,SNR=35
H11S3 WAKE ISLAND Hy 58.13 259 T T 09 10 58.3
baz=39,slow=76,SNR=41
ZALV Zalesovo Beam 69.45 338 P P 08 09 06.8 -0.2
0.8nm,0.6s,baz=9.2,slow=4.7,SNR=4.3
ZALV pP pP 08 09 16.9 +2.1
0.8nm,0.7s,baz=20,slow=5.8,SNR=2.6
BVAR Borovoye Array 73.07 346 P P 08 09 28.8 -0.1
0.5nm,0.5s,baz=36,slow=2.7,SNR=3.5
BVAR pP pP 08 09 38.2 +1.5
0.7nm,0.6s,baz=23,slow=7.8,SNR=2.9
KURBB Kurchatov Arra 73.94 340 P P 08 09 33.9 -0.1
0.9nm,0.6s,baz=24,slow=5.1,SNR=6.0
KURBB pP pP 08 09 42.4 +0.5
1.2nm,0.8s,baz=19,slow=5.7,SNR=6.0
AKASG Malin Array Be 75.84 12 P P 08 09 44.9 -0.1
0.3nm,0.3s,baz=344,slow=5.8,SNR=4.8
AKTO Aktyubinsk 76.97 353 P P 08 09 51.1 -0.3
0.8nm,0.6s,baz=1.9,slow=4.6,SNR=4.0
LPAZ La Paz 87.90 120 P P 08 10 48.5 -1.0
1.4nm,0.7s,baz=344,slow=7.4,SNR=6.6

IDC ***02*** *08:07:11.1±0.5,8.92S×161.01E,h0km,mb4.6/25, mb1 4.7/25,mb1mx4.7/27,mbtmp4.6/25,MS4.6/13, Ms1 4.6/13,ms1mx4.3/35,Error ellipse: s-maj=17.6km s-min=12.5km az=95.0*

ISCJB ***02*** *08:07:16.3±0.2,8.91S±0.03×160.96E±0.05,h43km, mb4.9/64,MS4.6/12,Error ellipse: s-maj=6.5km s-min=4.4km az=6.1*

GCMT ***02*** *08:07:20.6±0.4,8.75S×161.56E,h34km±1km,MW5.4/62, Moment Tensor Solution. s28,c34; s62,c77; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr0.97±.09; Mθθ-0.97±.06; Mφφ0.00±.07; Mrθ-0.17±.06; Mθφ0.46±.04; Mφr0.84±.08; Best double couple: M0 1.36900×10^17 NP1:φs320.00000°,δ64.00000°,λ120.00000°. NP2: φs87.00000°,δ39.00000°,λ44.00000°. Principal axes: T 1.4650, Plg59.0000°, Azm274.0000°; N -0.1930, Plg27.0000°, Azm126.0000°; P -1.2730, Plg14.0000°, Azm29.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***02*** *08:07:20.6±1.3,8.95S×160.95E,h67km±11km,mb5.0/33 Error ellipse: s-maj=8.3km s-min=7.2km az=86.0*

MOS ***02*** *08:07:20.4±1.3,8.81S×160.74E,h73km,mb5.2/17,Error ellipse: s-maj=10.2km s-min=8.7km az=75.3*

BJI ***02*** *08:07:21.0,8.50S×160.85E,h68km,mb5.1/48,mB5.2/26, Ms5.1/24,Ms7 4.8/24*

ISC 02 08:07:18.1±0.3,8.86S±0.04×161.05E±0.06,h43km,n225, σ1§60/244,mb5.0/74,MS4.6/12,2C,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
HNR	Honiara	1.23	242	eP	Pn	08 07 39.1	+0.3
HNR				e		08 07 55.7	
HNR	Honiara	1.23	242	ePn	Pn	08 07 39.1	+0.3
HNR				eSn	Sn	08 07 55.7	+1.4
PMG	Port Moresby	13.73	267	eP	Pn	08 10 33.6	+3.3
PMG				pmax	pmax		
	comp=Z,220nm,1.3s						
PMG	Port Moresby	13.73	267	ePn	Pn	08 10 33.0	+2.7
DZM	Mont Dzumac	14.12	159	ePn	Pn	08 10 38.5	+2.8
	comp=Z,25nm,0.5s						
DZM				eSn	Sn	08 13 03.4	-7.8
	comp=Z,15nm,0.6s						
DZM				eLR	LR	08 13 52.8	
	comp=Z,4μm,21.9s						
DZM	Mont Dzumac	14.12	159	Pn	Pn	08 10 36.0	+0.3
	comp=Z,0.8nm,0.3s,baz=90,slow=24,SNR=16						
DZM				Sn	Sn	08 13 12.0	+0.8
	comp=Z,0.8nm,0.3s,baz=270,slow=20,SNR=3.3						
DZM				LR	LR	08 15 37.2	
	comp=Z,3μm,19.4s,baz=0.0,slow=36						
DZM	Mont Dzumac	14.12	159	eP	Pn	08 10 38.4	+2.8
DZM	Mont Dzumac	14.12	159	ePn	Pn	08 10 35.4	-0.3
	comp=Z,31nm,0.8s						
DZM				Sn	Sn	08 13 12.0	+0.8
CTA	Charters Tower	18.14	230	P	Pn	08 11 28.9	+1.9
	comp=Z,1.5nm,0.3s,baz=59,slow=13,SNR=18						
CTA				LR	LR	08 18 18.1	
	comp=Z,4μm,18.4s,baz=58,slow=37						
CTAO	Charters Tower	18.14	230	eP	Pn	08 11 28.6	+1.6
CTAO				pmax	pmax		
	comp=Z,128nm,1.3s						
CTAO	Charters Tower	18.14	230	eP	Pn	08 11 28.6	+1.6
	comp=Z,128nm,1.3s						
COEN	Coen	18.23	252	P	Pn	08 11 30.0	+1.9
	baz=18,SNR=15						
COEN	Coen	18.23	252	eP	Pn	08 11 29.4	+1.2
	comp=Z,55nm,1.8s						
EIDS	Eidsvold	18.96	209	P	Pn	08 11 37.5	+0.6
	baz=18,SNR=9.0						
EIDS	Eidsvold	18.96	209	eP	Pn	08 11 37.3	+0.4
	comp=Z,76nm,1.3s						
RMQ	Roma	21.05	212	P	P	08 12 00.1	+1.5
	baz=20,SNR=23						
JAY	Jayapura	21.19	286	P	P	08 11 58.8	-1.4
	comp=Z,60nm,0.9s,baz=129,slow=8.1,SNR=7.5						
JAY				LR	LR	08 20 37.4	
	comp=Z,898nm,20.4s,baz=20,slow=38						
JAY	Jayapura	21.19	286	P	P	08 12 02.5	+2.3
	baz=21,SNR=5.0						
GENI	Genyem	21.68	285	P	P	08 12 09.4	+4.0
ARMA	Armidale	23.19	201	P	P	08 12 20.3	-1.0
	baz=23,SNR=27						
ARMA	Armidale	23.19	201	eP	P	08 12 20.2	-1.0
	comp=Z,104nm,1.4s						
SMPI	Sarmi	23.25	286	P	P	08 12 23.4	+1.5
	comp=Z,81nm,1.3s						
QIS	Mount Isa	23.74	238	P	P	08 12 25.2	-1.4
	baz=23,SNR=14						
QLP	Quilpie	23.77	220	P	P	08 12 26.4	-0.3
	baz=23,SNR=27						
MGCD	Mangrove Creek	25.91	199	P	P	08 12 47.0	+0.7
	baz=26,SNR=4.4						
CMSA	Cobar Meteorol	26.71	210	P	P	08 12 52.6	-0.9
	baz=26,SNR=6.4						
H11S2	WAKE ISLAND Hy	27.74	12	T	T	08 41 47.9	
	baz=193,slow=76,SNR=891						
H11S3	WAKE ISLAND Hy	27.74	12	T	T	08 42 08.4	
	baz=193,slow=76,SNR=1056						
H11S1	WAKE ISLAND Hy	27.76	12	T	T	08 42 02.4	
	baz=193,slow=76,SNR=297						
WRAB	Tennant Creek	28.06	244	P	P	08 13 04.3	-1.5
	comp=Z,277nm,1.0s,SNR=38						
WRAB	Tennant Creek	28.06	244	eP	P	08 13 04.2	-1.5
WRAB				pmax	pmax		
	comp=Z,239nm,1.8s						
WRAB	Tennant Creek	28.06	244	eP	P	08 13 04.2	-1.5
	comp=Z,239nm,1.8s						
WRA	Warramunga Arr	28.07	244	P	P	08 13 04.5	-1.4
	comp=Z,27nm,0.8s,baz=70,slow=9.3,SNR=137						
WRA				ScP	ScP	08 20 01.0	+3.5
	comp=Z,0.5nm,0.5s,baz=75,slow=3.6,SNR=3.9						
WRA				LR	LR	08 24 34.2	
	comp=Z,2μm,18.8s,baz=70,slow=37						
KDU	Kakadu	28.32	260	P	P	08 13 07.7	-0.4
	baz=28,SNR=8.8						
CNB	Canberra Magne	28.42	200	P	P	08 13 08.6	-0.2
	baz=28,SNR=6.5						
H11N1	WAKE ISLAND Hy	28.97	11	T	T	08 43 29.9	
	baz=192,slow=76,SNR=3240						
H11N3	WAKE ISLAND Hy	28.98	11	T	T	08 43 33.4	
	baz=192,slow=76,SNR=516						
H11N2	WAKE ISLAND Hy	28.99	11	T	T	08 43 30.5	
	baz=192,slow=76,SNR=6952						
STKA	Stephens Creek	29.17	216	P	P	08 13 14.5	-1.0
	comp=Z,7.9nm,0.5s,baz=57,slow=15,SNR=22						
STKA				LR	LR	08 25 20.8	
	comp=Z,1μm,18.1s,baz=44,slow=38						
ASAR	Alice Springs	29.85	237	P	P	08 13 19.3	-2.3
	comp=Z,6.5nm,0.4s,baz=63,slow=10,SNR=135						
ASAR				ScP	ScP	08 20 06.7	+3.6
	comp=Z,1.2nm,0.6s,baz=75,slow=2.7,SNR=9.2						
ASAR				LR	LR	08 24 42.7	
	comp=Z,1μm,20.5s,baz=68,slow=35						
MILA	Mila	30.07	199	P	P	08 13 23.6	+0.1
	baz=30,SNR=7.4						
SIJI	Sorong	30.69	283	LR	LR	08 28 16.2	
	comp=Z,856nm,18.0s,baz=147,slow=41						
PALU	Palau	30.99	300	P	P	08 13 32.0	+0.2
	baz=31,SNR=3.9						
HTT	Hallett	31.85	217	P	P	08 13 37.0	-2.2
	baz=31,SNR=13						
TOO	Toolangi	31.86	204	P	P	08 13 38.9	-0.3
	baz=31,SNR=9.1						
KNRA	Kununurra	32.24	255	P	P	08 13 41.1	-1.6
	baz=32,SNR=18						
URZ	Urewera	32.66	156	P	P	08 13 44.5	-1.6
	comp=Z,3.2nm,0.5s,baz=268,slow=6.4,SNR=6.1						
URZ	Urewera	32.66	156	eP	P	08 13 45.2	-0.8
	comp=Z,3.8nm,0.5s						
ARPS	Mount Arapiles	32.81	209	P	P	08 13 47.4	-0.1
	baz=32,SNR=4.8						
BBOO	Buckleboo	33.20	221	P	P	08 13 49.5	-1.4
	baz=33,SNR=29						
BBOO	Buckleboo	33.20	221	eP	P	08 13 49.6	-1.4
	comp=Z,4.2nm,1.2s						
BKZ	Black Stump Fm	33.20	158	eP	P	08 13 50.1	-0.9
	comp=Z,47nm,1.5s						
WRKA	Warakurna	35.08	239	P	P	08 14 05.3	-2.1
	baz=34,SNR=85						
RPZ	Rata Peaks	35.81	168	P	P	08 14 12.0	-1.4
	comp=Z,8.8nm,0.8s,baz=287,slow=7.1,SNR=4.4						
RPZ				LR	LR	08 27 18.9	
	comp=Z,471nm,18.1s,baz=160,slow=34						
RPZ	Rata Peaks	35.81	168	eP	P	08 14 11.5	-1.8
	comp=Z,12nm,0.6s						
FORT	Forrest	37.69	230	eP	P	08 14 28.3	-1.3
	comp=Z,38nm,1.0s						
MMRI	Maumere	38.35	267	P	P	08 14 35.0	-0.3
MMRI	Maumere	38.35	267	eP	P	08 14 33.7	-1.6
	comp=Z,134nm,1.1s						
KAPI	Kappang	41.16	272	P	P	08 14 55.7	-3.0
	comp=Z,11nm,0.3s,baz=90,slow=12,SNR=4.6						
MBWA	Marble Bar	41.61	248	eP	P	08 15 00.5	-1.9
	comp=Z,18nm,0.7s						
KMBL	Kambalda	42.72	233	P	P	08 15 10.2	-1.1
	baz=42,SNR=6.5						
MEEK	Meekatharra	43.86	241	P	P	08 15 19.6	-1.0
	baz=43,SNR=18						
MYLDM	Lahad Datu	44.65	287	eP	P	08 15 26.6	-0.4
	comp=Z,58nm,1.4s						
KLBR	Kellerberrin	46.09	234	P	P	08 15 37.3	-0.9
	baz=45,SNR=4.4						
BLDU	Ballidu	46.62	236	P	P	08 15 40.9	-1.5
	baz=46,SNR=8.6						
MORW	Morawa	46.72	238	P	P	08 15 42.1	-1.0
	baz=46,SNR=7.5						
GIRL	Giralia	46.89	247	P	P	08 15 47.1	+2.5
	baz=46,SNR=4.9						
NWAO	Narrogin (SRO)	46.96	233	P	P	08 15 44.1	-0.9
	comp=Z,17nm,0.9s,baz=328,slow=1.4,SNR=9.1						
KKM	Kota Kinabalu	47.08	287	P	P	08 15 45.8	-0.5
	baz=47,SNR=7.4						
KKM	Kota Kinabalu	47.08	287	eP	P	08 15 44.9	-1.4
	comp=Z,11nm,0.6s						
PPT2	Papeete2	48.72	106	eLR	LR	08 29 51.0	
	comp=Z,553nm,23.0s						
TBI	Tubuai	49.44	113	eLQ	LQ	08 28 08.0	
	comp=Z,2μm,29.8s						
TBI				eLR	LR	08 30 17.8	
	comp=Z,472nm,28.5s						
MJAR	Matsushiro Arr	50.00	336	P	P	08 16 06.7	-1.6
	comp=Z,2.1nm,0.8s,baz=167,slow=9.0,SNR=7.9						
MAJO	Matsushiro	50.00	336	eP	P	08 16 06.8	-1.5
MAJO				pmax	pmax		
	comp=Z,34nm,1.2s						
MAT	Matsushiro	50.00	336	P	P	08 16 06.4	-1.9
MAT				S	S	08 23 16.0	-0.2
YULB	Yu-li	50.38	310	eP	P	08 16 10.2	-1.2
	comp=Z,7.6nm,0.6s						
SSLB	Suanglung	50.87	310	eP	P	08 16 14.7	-0.3
	comp=Z,76nm,1.6s						
TJN	Taejon	55.02	327	eP	P	08 16 46.6	+1.2
ASAJ	Asahikawa	55.31	344	P	P	08 16 47.3	-0.1
	comp=Z,10nm,1.0s,baz=122,slow=9.5,SNR=8.8						
ASAJ	Asahikawa	55.31	344	P	P	08 16 47.3	-0.1
ASAJ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ASAJ	Asahikawa	55.31	344	eP	P	08 16 48.0	+0.6
	comp=Z,7.8nm,1.1s						
KSRS	Korea Array	55.53	328	P	P	08 16 48.6	-0.4
	comp=Z,2.0nm,0.6s,baz=152,slow=7.3,SNR=7.9						
KSRS	Korea Array	55.53	328	P	P	08 16 48.7	-0.4
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KSAR	Wonju Array Be	55.54	328	P	P	08 16 48.7	-0.5
KSAR	Wonju Array Be	55.54	328	P	P	08 16 48.6	-0.5
NJ2	Nanjing	57.25	317	eP	P	08 17 02.6	+1.2
NJ2				PMZ			
	comp=Z,50nm,0.9s						
QIZ	Qiongzhong	57.58	299	P	P	08 17 02.5	-1.5
QIZ				S	S	08 24 58.4	-0.9
QIZ				PMZ			
	comp=Z,9.0nm,2.1s						
YSS	Yuzh-Sakhalins	57.91	345	eP	P	08 17 06.0	+0.3
YSS				pmax	pmax		
	comp=Z,10.0nm,1.3s						
TAOE	Nuku Hiva Isla	58.05	95	eT	T	09 19 28.6	
	comp=Z,562nm,0.3s						
USRK	Ussuriysk Ar.	59.00	336	P	P	08 17 13.1	-0.3
	comp=Z,10nm,1.0s,baz=144,slow=6.8,SNR=25						
WHN	Wuhan	59.51	313	P	P	08 17 17.3	+0.1
HABR	Khabarovsk	61.52	341	eP	P	08 17 43.7	+13
HABR				e		08 18 09.1	
HABR				eS	S	08 25 44.7	-4.3
HABR				e*SS	sS	08 26 12.1	+2.4
HABR				e		08 27 13.6	
HABR				eSS	SS	08 29 47.2	-3.7
HABR				pmax	pmax		
	comp=Z,18nm,0.8s						
HABR				MLR	MLR		
	comp=Z,236nm,19.0s						
CN2	Changchun	61.56	331	eP	P	08 17 30.9	0.0
CN2				PMZ			
	comp=Z,10.0nm,1.3s						
PETK	Petropavlovsk-	61.79	358	P	P	08 17 32.1	-0.2
	comp=Z,4.0nm,0.8s,baz=176,slow=6.4,SNR=5.6						
PETK				LR	LR	08 39 58.2	
	comp=Z,606nm,22.0s,baz=83,slow=32						
RKT	Rikitea	62.69	111	eLR	LR	08 36 21.6	
	comp=Z,715nm,23.2s						
KLR	Kul'dur	63.29	339	eP	P	08 17 38.2	-4.2
KLR				pmax	pmax		
	comp=Z,40nm,1.6s						
GYA	Guiyang	63.38	305	eP	P	08 17 45.2	+1.6
GYA				pP	pP	08 18 04.8	+8.7
GYA				sP	sP	08 18 11.0	+10
GYA				PP	PP	08 20 07.4	+3.9
GYA				ScP		08 22 16.0	
GYA				S	S	08 26 11.2	-2.3
GYA				SKS	SKSac	08 27 21.0	-13
GYA				SS	SS	08 30 20.5	-0.6
GYA				PMZ			
	comp=Z,20nm,1.0s						
GYA				PMZ			
	comp=Z,120nm,5.2s						
GYA				LN			
	comp=Z,530nm,18.8s						
GYA				LE			
	comp=Z,450nm,20.2s						
GYA				LZ			
	comp=Z,560nm,19.6s						
SLVN	Son La	63.61	299	eP	P	08 17 45.5	+0.4
	comp=Z,34nm,1.5s						
BJI	Beijing	63.92	323	P	P	08 17 47.0	+0.3
BJI				S	S	08 26 21.8	+2.3
BJI				PMZ			
	comp=Z,14nm,1.1s						
BJI				PMZ			
	comp=Z,220nm,7.0s						
BJI				LN			
	comp=Z,580nm,21.8s						
BJI				LE			
	comp=Z,340nm,19.2s						
BJI				LZ			
	comp=Z,630nm,21.2s						
XAN	Xi'an	65.26	314	P	P	08 17 55.2	-0.5
XAN				pP	pP	08 18 12.7	+4.5
XAN				PMZ			
	comp=Z,6.0nm,0.8s						
KMI	Kunming	66.05	302	P	P	08 18 01.3	+0.1
KMI				pP	pP	08 18 19.2	+5.5
KMI				sP	sP	08 18 26.9	+8.3
KMI				PP	PP	08 20 31.0	+3.9
KMI				S	S	08 26 44.1	-2.6
KMI				PMZ			
	comp=Z,36nm,1.2s						
KMI				PMZ			
	comp=Z,130nm,3.1s						
KMI				LN			
	comp=Z,310nm,15.4s						
KMI				LE			
	comp=Z,320nm,16.0s						
KMI				LZ			
	comp=Z,390nm,17.9s						
CASY	Casey	66.79	200	eP	P	08 18 03.4	-1.5
	comp=Z,19nm,1.3s						
CMAR	Chiang Mai Arr	67.00	294	P	P	08 18 07.2	+0.1
	comp=Z,7.3nm,0.7s,baz=116,slow=4.5,SNR=30						
CHTO	Chiang Mai	67.11	295	eP	P	08 18 07.5	-0.3
CHTO				pmax	pmax		
	comp=Z,33nm,1.3s						
CHTO	Chiang Mai	67.11	295	eP	P	08 18 07.5	-0.3
	comp=Z,33nm,1.3s						
HHC	Hu-ho-hao-te	67.21	321	eP	P	08 18 09.0	+0.8
HHC				pP	PcP	08 18 28.8	-7.1
HHC				sP	sP	08 18 37.6	+12
HHC				PP	PP	08 20 37.8	+1.0
HHC				S	S	08 26 58.2	-1.8
HHC				ScS	SKSac	08 27 57.8	-4.5
HHC				PMZ			
	comp=Z,29nm,0.6s						
HHC				PMZ			
	comp=Z,120nm,6.1s						
HHC				LN			
	comp=Z,460nm,16.5s						
HHC				LE			
	comp=Z,350nm,16.1s						
HHC				LZ			
	comp=Z,390nm,17.2s						
CD2	Chengdu	67.62	309	P	P	08 18 11.0	+0.1
CD2				pP	pP	08 18 29.1	+5.7
CD2				sP	sP	08 18 37.0	+8.6
CD2				PP	PP	08 20 41.0	+0.5
CD2				S	S	08 27 03.7	-1.4
CD2				sS	sS	08 27 35.0	+8.9
CD2				PMZ			
	comp=Z,50nm,0.7s						
CD2				PMZ			
	comp=Z,360nm,11.0s						
CD2				LN			
	comp=Z,490nm,16.8s						
CD2				LZ			
	comp=Z,710nm,22.7s						
VNDA	Vanda	68.64	180	P	P	08 18 15.1	-1.3
	comp=Z,2.3nm,0.8s,baz=346,slow=7.8,SNR=14						
VNDA	Vanda	68.64	180	eP	P	08 18 15.1	-1.3
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VNDA	Vanda	68.64	180	eP	P	08 18 15.1	-1.3
	comp=Z,2.9nm,0.8s						
SBA	Scott Base	69.03	179	eP	P	08 18 18.1	-0.8
SBA				pmax	pmax		
	comp=Z,8.0nm,1.2s						
SBA	Scott Base	69.03	179	eP	P	08 18 18.1	-0.8
	comp=Z,7.7nm,1.2s						
LZH	Lanzhou	69.89	314	P	P	08 18 26.6	+1.6
LZH				pP	PcP	08 18 46.0	-1.3
LZH				sP	sP	08 18 52.8	+10
LZH				PP	PP	08 21 02.1	+1.9
LZH				S	S	08 27 29.6	-2.5
LZH				sS	sS	08 27 54.6	+1.5
LZH				SS	SS	08 31 56.1	-5.9
LZH				PMZ			
	comp=Z,68nm,1.5s						
LZH				PMZ			
	comp=Z,180nm,4.3s						
LZH				LN			
	comp=Z,390nm,13.4s						
LZH				LE			
	comp=Z,580nm,16.8s						
LZH				LZ			
	comp=Z,680nm,18.0s						
SEY	Seymchan	71.89	356	P	P	08 18 35.9	-0.5
	comp=Z,1.1nm,0.5s,baz=154,slow=6.4,SNR=8.6						
SEY	Seymchan	71.89	356	eP	P	08 18 35.5	-0.9
SONM	Songino Array	74.21	325	P	P	08 18 51.2	+0.6
	comp=Z,5.7nm,0.5s,baz=141,slow=5.8,SNR=21						
GTA	Gaotai	74.23	315	P	P	08 18 51.9	+0.9
GTA				pP	PcP	08 19 08.4	+2.7
GTA				sP	sP	08 19 15.0	+6.4
GTA				S	SKiKP	08 28 17.1	+2.0
GTA				sS	sS	08 28 45.1	+2.1
GTA				PMZ			
	comp=Z,29nm,1.5s						
GTA				PMZ			
	comp=Z,190nm,6.9s						
GTA				LN			
	comp=Z,300nm,14.7s						
GTA				LE			
	comp=Z,280nm,15.9s						
GTA				LZ			
	comp=Z,410nm,17.6s						
YAK	Yakutsk	74.76	345	eP	P	08 18 53.2	-0.1
YAK				pmax	pmax		
	comp=Z,19nm,1.1s						
SHL	Shillong	75.42	299	iP	P	08 18 58.0	-0.1
LSA	Lhasa	77.29	303	P	P	08 19 08.8	-0.2
LSA	Lhasa	77.29	303	eP	P	08 19 09.4	+0.4
LSA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
LSA	Lhasa	77.29	303	eP	P	08 19 09.4	+0.4
	comp=Z,7.2nm,0.7s						
ZAK	Zakamensk	77.30	326	eP	P	08 19 07.6	-0.6
ZAK				pmax	pmax		
	comp=Z,10.0nm,2.0s						
SVW2	Sparrevohn	77.57	20	eP	P	08 19 10.4	+1.1
	comp=Z,13nm,0.8s						
TLY	Talaya	77.78	328	eP	P	08 19 10.9	+0.2
TLY				pmax	pmax		
	comp=Z,23nm,1.9s						
TAPN	Taplejung	79.51	300	eP	P	08 19 21.0	-0.1
	comp=Z,83nm,1.4s						
ODAN	Odare	79.65	299	eP	P	08 19 21.7	-0.2
	comp=Z,153nm,1.5s						
PMR	Palmer	80.18	22	eP	P	08 19 25.7	+2.1
PMR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PMR	Palmer	80.18	22	eP	P	08 19 25.7	+2.1
	comp=Z,9.4nm,0.8s						
RAMN	Ramite	80.36	299	eP	P	08 19 25.3	-0.4
CAST	Castle Rocks	80.37	19	eP	P	08 19 24.0	-0.7
CHLP	Challavanipeta	80.63	290	eP	P	08 19 26.5	-0.4
CHLP				IAmb	IAmb	08 19 27.5	
	comp=Z,33nm,0.9s						
TRF	Thorofare Moun	80.99	20	eP	P	08 19 27.8	-0.3
	comp=Z,10nm,0.8s						
QSPA	South Pole Qui	81.13	180	eP	P	08 19 26.9	-2.0
	comp=Z,117nm,2.6s						
GUN	Gumba	81.22	300	eP	P	08 19 30.3	-0.1
	comp=Z,71nm,1.1s						
PKI	Pulchoki	81.54	300	eP	P	08 19 31.5	-0.6
	comp=Z,206nm,1.8s						
PKIN	Phulchoki	81.55	300	eP	P	08 19 32.2	+0.1
IM04	Indian Mountai	81.62	17	eP	P	08 19 31.5	+0.2
MCK	McKinley	81.63	20	eP	P	08 19 31.6	+0.2
MCK				pmax	pmax		
	comp=Z,16nm,0.5s						
MCK	McKinley	81.63	20	eP	P	08 19 31.6	+0.2
	comp=Z,16nm,0.5s						
KKN	Kakani	81.70	300	eP	P	08 19 32.5	-0.3
DMN	Daman	81.81	300	eP	P	08 19 33.3	-0.1
	comp=Z,144nm,1.3s						
GKN	Gorkha	82.31	300	eP	P	08 19 35.4	-0.5

CCB	Clear Creek Bu	82.60	20	eP	P	08 19 35.4	-1.0	
	comp=Z,8.2nm,0.8s							
PVM	Polavaram	82.63	289	eP	P	08 19 36.6	-0.9	
PVM				IAmb	IAmb	08 19 37.6		
	comp=Z,43nm,1.6s							
COLA	College	82.73	20	eP	P	08 19 35.4	-1.6	
COLA				pmax	pmax			
	comp=Z,69nm,0.8s							
HDA	Harding Lake	82.73	20	eP	P	08 19 37.9	+0.8	
ILAR	Eielson Array	82.98	20	P	P	08 19 37.2	-1.2	
	comp=Z,1.2nm,0.6s,baz=247,slow=5.4,SNR=32							
ILAR				LR	LR	08 54 12.1		
	comp=Z,274nm,18.9s,baz=134,slow=34							
HVS	Khovu-Aksy	83.05	324	eP	P	08 19 38.6	-0.5	
HVS				pmax	pmax			
	comp=Z,110nm,1.3s							
KOLN	Koldanda	83.14	299	eP	P	08 19 39.5	-0.8	
ADKI	Addanki	83.92	287	eP	P	08 19 43.9	-0.3	
ADKI				IAmb	IAmb	08 19 45.2		
	comp=Z,39nm,1.3s							
WMQ	Urumqi	84.30	316	P	P	08 19 46.2	+0.5	
WMQ				pP	pP	08 20 03.2	+4.6	
WMQ				sP	sP	08 20 10.2	+6.7	
WMQ				PMZ				
	comp=Z,37nm,1.3s							
WMQ				PMZ				
	comp=Z,280nm,3.6s							
HYT	Haines Junctio	84.37	26	eP	P	08 19 46.8	+1.1	
NJS	Nagarjunasagar	84.67	288	eP	P	08 19 46.6	-1.5	
NJS				IAmb	IAmb	08 19 48.0		
	comp=Z,114nm,1.5s							
RCLA	Racherla	84.80	286	eP	P	08 19 46.9	-1.8	
RCLA				IAmb	IAmb	08 19 48.9		
	comp=Z,26nm,1.1s							
SRLM	Srisailam	84.98	287	eP	P	08 19 48.2	-1.4	
SRLM				IAmb	IAmb	08 19 49.7		
	comp=Z,124nm,1.4s							
EGAK	Eagle	84.98	21	eP	P	08 19 49.5	+1.0	
	comp=Z,5.4nm,0.8s							
MAW	Mawson	84.98	202	P	P	08 19 46.4	-2.2	
	comp=Z,1.5nm,0.7s,baz=45,slow=2.9,SNR=4.3							
MAW				LR	LR	08 53 21.1		
	comp=Z,259nm,19.1s,baz=58,slow=33							
RPR	Rampur	85.12	290	eP	P	08 19 49.5	-0.8	
RPR				IAmb	IAmb	08 19 50.1		
	comp=Z,37nm,0.7s							
DAWY	Dawson	85.25	22	eP	P	08 19 50.4	+0.4	
HYB	Hyderabad	85.54	288	i P	P	08 19 50.0	-2.4	
HYBB	Hyderabad (bro	85.54	288	eP	P	08 19 50.4	-2.0	
HYBB				IAmb	IAmb	08 19 52.0		
	comp=Z,72nm,1.6s							
SRSP	Sriramsagar	86.02	290	eP	P	08 19 53.1	-1.6	
SRSP				IAmb	IAmb	08 19 54.3		
	comp=Z,78nm,1.4s							
URV	Uravakonda	86.32	286	eP	P	08 19 54.1	-2.3	
URV				IAmb	IAmb	08 20 06.8		
	comp=Z,87nm,1.8s							
NVAR	Mina Array Bea	88.20	51	P	P	08 20 05.6	+0.4	
	comp=Z,0.9nm,0.8s,baz=236,slow=3.8,SNR=6.3							
MKAR	Makanchi Array	88.78	318	eP	P	08 20 07.3	-0.2	
MKAR	Makanchi Array	88.78	318	eP	P	08 20 07.3	-0.2	
ZALV	Zalesovo Beam	89.10	325	P	P	08 20 07.2	-1.6	
	comp=Z,0.8nm,0.5s,baz=99,slow=6.8,SNR=7.3							
ZALV	Zalesovo Beam	89.10	325	i P	P	08 20 07.8	-1.0	
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.5s							
INK	Inuvik	89.38	20	LR	LR	08 57 41.6		
	comp=Z,370nm,18.9s,baz=146,slow=34							
NVS	Novosibirsk	90.24	326	eP	P	08 20 12.5	-1.5	
NVS				pmax	pmax			
	comp=Z,22nm,1.5s							
NVS				pmax	pmax			
	comp=N,5.0nm,1.2s							
NVS				pmax	pmax			
	comp=E,12nm,1.2s							
SHPR	Sheep Range	90.26	53	eP	P	08 20 16.0	+1.2	
KSH	Kashi	91.80	310	P	P	08 20 23.1	+1.2	
KSH				pP	pP	08 20 43.0	+8.1	
KSH				sP	sP	08 20 52.5	+13	
KSH				PP	PP	08 24 05.0	+3.7	
KSH				SKS	SKSac	08 30 47.1	-4.5	
KSH				S	SKKSac	08 31 13.9	+5.9	
KSH				sS	sS	08 31 51.1	+9.3	
KSH				PMZ				
	comp=E,230nm,2.5s							
KSH				LN				
	comp=E,220nm,6.9s							
KSH				LE				
	comp=E,120nm,3.7s							
KSH				LZ				
	comp=E,410nm,6.2s							
KURK	Kurchatov	92.02	321	eP	P	08 20 20.5	-1.9	
KURK				pmax	pmax			
	comp=Z,41nm,1.6s							
KURK	Kurchatov	92.02	321	eP	P	08 20 20.5	-1.9	
	comp=Z,41nm,1.6s							
KURBB	Kurchatov Arra	92.06	321	P	P	08 20 21.2	-1.4	
	comp=Z,2.0nm,0.9s,baz=114,slow=3.4,SNR=16							
HLID	Hailey	92.10	46	eP	P	08 20 25.5	+2.3	
MSU	Marysvale	92.94	52	eP	P	08 20 28.4	+1.1	
MSU				pmax	pmax			
	comp=Z,12nm,1.6s							
MSU	Marysvale	92.94	52	eP	P	08 20 28.4	+1.1	
	comp=Z,12nm,1.6s							
HVU	Hansel Valley	93.00	48	eP	P	08 20 28.7	+1.3	
HVU				pmax	pmax			
	comp=Z,6.0nm,1.0s							
HVU	Hansel Valley	93.00	48	eP	P	08 20 28.7	+1.3	
	comp=Z,6.3nm,1.0s							
BOZ	Bozeman (W)	94.39	45	eP	P	08 20 35.9	+2.2	
BOZ				pmax	pmax			
	comp=Z,36nm,2.5s							
BOZ	Bozeman (W)	94.39	45	eP	P	08 20 35.9	+2.2	
	comp=Z,36nm,2.5s							
YKA	Yellowknife Ar	95.18	28	P	P	08 20 37.7	+1.0	
	comp=Z,0.7nm,0.6s,baz=266,slow=4.3,SNR=2.6							
PDAR	Pinedale Array	95.50	48	P	P	08 20 39.2	+0.2	
	comp=Z,1.4nm,0.9s,baz=194,slow=0.6,SNR=8.9							
BVAR	Borovoye Array	97.40	322	P	P	08 20 45.8	-1.3	
	comp=Z,2.9nm,0.9s,baz=100,slow=6.5,SNR=14							
BRVK	Borovoye	97.47	323	eP	P	08 20 46.2	-1.1	
BRVK				pmax	pmax			
	comp=Z,7.0nm,1.5s							
TXAR	Lajitas Array	98.86	62	LR	LR	08 59 57.5		
	comp=Z,353nm,18.9s,baz=0.0,slow=32							
FINES	FINESS Array B	118.02	337	PKP	PKPdf	08 25 58.9	-1.0	
	comp=Z,5.5nm,1.2s,baz=225,slow=1.8,SNR=4.9							
AKASG	Malin Array Be	122.49	326	PKP	PKPdf	08 26 07.8	-1.1	
	comp=Z,0.2nm,0.2s,baz=64,slow=1.9,SNR=7.4							
NOA	NORSAR Array B	123.33	343	PKP	PKPdf	08 26 09.7	-0.6	
	comp=Z,0.4nm,0.8s,baz=25,slow=2.4,SNR=3.4							
BOSA	Boshof	123.36	227	PKP	PKPdf	08 26 10.9	-0.5	
	comp=Z,1.5nm,0.6s,baz=104,slow=1.2,SNR=5.3							
LPAZ	La Paz	125.29	117	PKP	PKPdf	08 26 15.9	0.0	
	comp=Z,0.6nm,0.5s,baz=270,slow=1.0,SNR=5.3							
LPAZ	La Paz	125.29	117	PKIKP	PKPdf	08 26 16.0	0.0	
KOLS	Kolonicke sedl	127.24	327	ePKIKP	PKPdf	08 26 19.4	+1.4	
KOLS	Kolonicke sedl	127.24	327	ePKP	PKPdf	08 26 19.4	+1.4	
KECS	Kecovo	128.46	327	ePKIKP	PKPdf	08 26 22.1	+1.7	
KECS	Kecovo	128.46	327	ePKP	PKPdf	08 26 22.1	+1.7	
CPUP	Villa Florida	128.88	134	PKP	PKPdf	08 26 21.6	-0.2	
	comp=Z,3.5nm,1.1s,baz=209,slow=1.3,SNR=4.4							
DPC	Dobruska-Polom	129.37	331	ePKPdf	PKPdf	08 26 22.5	+0.4	
DPC	Dobruska-Polom	129.37	331	ePKIKP	PKPdf	08 26 22.5	+0.4	
BRG	Berggiesshubel	130.10	333	ePKP	PKPdf	08 26 23.6	+0.2	
	comp=Z,10nm,1.4s							
BRG				e		08 29 48.9		
	comp=Z,3.0nm,0.9s							
BRG	Berggiesshubel	130.10	333	ePKIKP	PKPdf	08 26 23.6	+0.2	
BRG				pmax	pmax			
	comp=Z,11nm,1.4s							
CLL	Collm	130.20	334	i PKIKP	PKPdf	08 26 23.3	-0.3	
CLL				pmax	pmax			
	comp=Z,8.0nm,1.4s							
CLL	Collm	130.20	334	i PKPdf	PKPdf	08 26 23.3	-0.3	
	comp=Z,8.0nm,1.4s							
CLL				LmV		09 25 00.0		
	comp=Z,200nm,21.1s							
PRU	Pruhonice	130.45	332	ePKPdf	PKPdf	08 26 24.9	+0.8	
PRU	Pruhonice	130.45	332	ePKIKP	PKPdf	08 26 24.9	+0.8	
CONA	Conrad Observa	131.22	329	⇑iPKiKP	PKiKP	08 26 26.8	+0.1	
	comp=Z,10nm,1.5s							
KHC	Kasperske Hory	131.50	332	ePKPdf	PKPdf	08 26 28.1	+1.9	
KHC	Kasperske Hory	131.50	332	ePKIKP	PKPdf	08 26 28.1	+1.9	
GERES	GERESS Array B	131.64	332	PKP	PKPdf	08 26 26.1	-0.5	
	comp=Z,0.3nm,0.2s,baz=64,slow=3.1,SNR=7.0							
SOKA	Soboth	132.47	329	⇑iPKiKP	PKPdf	08 26 28.4	+0.3	
	comp=Z,2.2nm,0.9s							
PBRG	Braganca	145.46	344	ePKP	PKPbc	08 26 52.0	+0.1	
PGAV	Gavieira, Arco	145.71	346	ePKP	PKPab	08 26 53.8	+0.7	
PCAB	Cabril	145.89	345	ePKP	PKPab	08 26 53.5	-0.2	
MVO	Moncorvo	146.13	344	ePKP	PKPab	08 26 54.5	-0.2	
POLO	Lamas de Olo	146.14	345	ePKP	PKPab	08 26 54.6	-0.1	
ESDC	Sonseca Array	146.51	339	PKPbc	PKPbc	08 26 54.9	-0.4	
	comp=Z,2.0nm,0.3s,baz=6.3,slow=3.6,SNR=12							
MTE	Manteigas	146.99	344	ePKP	PKPdf	08 26 55.3	+0.7	
PMRV	Marv??o	147.85	343	ePKP	PKPbc	08 26 59.2	+0.3	
PMTG	Montargil	148.42	344	ePKP	PKPbc	08 27 00.2	-0.2	
MESJ	Messejana	149.56	343	ePKP	PKPbc	08 27 03.8	+0.5	
TAM	Tamanrasset	152.74	303	ePKIKP	PKPdf	08 27 05.9	+1.6	
TAM	Tamanrasset	152.74	303	ePKPdf	PKPdf	08 27 05.9	+1.6	
TAM				ePKPbc	PKiKP	08 27 12.2	+0.6	
TORD	Torodi Ar. Bea	159.29	284	PKP	PKPdf	08 27 11.8	-1.0	
	comp=Z,2.1nm,1.1s,baz=80,slow=2.3,SNR=7.2							
TORD				PKPab	PKPab	08 27 49.4	-1.0	
	comp=Z,9.2nm,1.2s,baz=78,slow=4.0,SNR=12							

*BYKL **02** 08:11:50.7±0.5, 52.76°N×99.97°E, h4km±6km, FELT I=IV MSK at Orlik*
*MOS **02** 08:11:50.1±2.1, 52.86°N×99.77°E, h7km, mb4.4/1, Error ellipse: s-maj=14.0km s-min=11.4km az=129.5*
MOS Felt (III-IV) at Irkutsk;(II) at Orlik.

ISC 02 08:11:51.5±0.7, 52.79N±0.05×100.02E±0.03, h10km, n31, σ2s09/56, 5C-2D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ORL	Orlik	0.28	206	⇓iPg		Pg	Pg	08 11 55.9	-1.3
ORL				eSg		Sg	Sg	08 11 59.7	-1.3
ORL				Pmax					
	375nm,0.1s								
ORL				Smax					
	11μm,0.2s								
ORL	Orlik	0.28	206	⇓iPG		Pg	Pg	08 11 55.9	-1.3
ORL				e				08 11 59.7	
ORL				pmax	pmax				
	comp=Z,250nm,0.1s								
ORL				smax	smax				
	comp=N,730nm,0.2s								
ARS	Arshan	1.71	120	iPg		Pb	Pb	08 12 21.9	-1.1
ARS				eSg		Sb	Sb	08 12 44.8	+0.1
ARS				Pmax					
	comp=N,242nm,0.3s								
ARS				Smax					
	comp=N,926nm,0.4s								
ARS	Arshan	1.71	120	ePN		Pb	Pb	08 12 22.0	-1.1
ARS				e				08 12 45.2	
ARS				pmax	pmax				
	comp=Z,239nm,0.2s								
ARS				smax	smax				
	comp=E,923nm,0.4s								
TLY	Talaya	2.49	115	⇑iPg		Pb	Pb	08 12 35.4	-0.9
TLY				ePgPg		PbPb	PbPb	08 12 39.6	+0.2
TLY				eSn		Sn	Sn	08 13 02.4	-0.2
TLY				eSg		Sb	Sb	08 13 08.5	+1.5
TLY				Pmax					
	comp=E,63nm,0.4s								
TLY				Smax					
	comp=E,158nm,0.2s								
TLY	Talaya	2.49	115	iPN		Pb	Pb	08 12 35.3	-1.0
TLY				e				08 13 08.6	
TLY				pmax	pmax				
	comp=Z,56nm,0.4s								
IRK	Irkutsk	2.66	100	ePn		Pn	Pn	08 12 34.9	+0.6
IRK				eSg		Sb	Sb	08 13 11.3	-0.5
IRK				Smax					
	comp=Z,535nm,0.4s								
IRK	Irkutsk	2.66	100	ePN		Pb	Pb	08 12 40.3	+1.2
IRK				e				08 13 14.3	
IRK				pmax	pmax				
	comp=Z,205nm,0.1s								
IRK				smax	smax				
	comp=N,667nm,1.0s								
LSTR	Listvyanka	3.10	105	ePn		Pn	Pn	08 12 41.8	+1.4
LSTR				ePg		Pb	Pb	08 12 46.2	-0.4
LSTR				eSg		Sb	Sb	08 13 25.6	+1.2
LSTR				Pmax					
	comp=N,14nm,0.1s								
LSTR				Smax					
	comp=N,217nm,0.7s								
LSTR	Listvyanka	3.10	105	ePN		Pn	Pn	08 12 41.9	+1.5
LSTR				e				08 12 46.3	
LSTR				e				08 13 27.2	
LSTR				pmax	pmax				
	comp=Z,21nm,0.3s								
LSTR				smax	smax				
	comp=N,188nm,0.8s								
ZAK	Zakamensk	3.16	139	ePg		Pb	Pb	08 12 46.3	-1.4
ZAK				eSn		Sn	Sn	08 13 17.4	-1.7
ZAK				eSg		Sb	Sb	08 13 27.3	+1.1
ZAK				Pmax					
	comp=N,24nm,0.2s								
ZAK				Smax					
	comp=N,79nm,0.4s								
ZAK	Zakamensk	3.16	139	ePN		Pb	Pb	08 12 48.4	+0.7
ZAK				eS		Sg	Sg	08 13 29.1	-3.7
TRG	Tyrgan	3.85	88	i/iPn		Pn	Pn	08 12 51.6	+0.9
TRG				eSn		Sn	Sn	08 13 37.5	+1.6
TRG				eSg		Sg	Sg	08 13 51.1	-3.8
TRG				Smax					
	comp=N,137nm,0.2s								
TRG	Tyrgan	3.85	88	ePN		Pn	Pn	08 12 51.5	+0.9
TRG				e				08 13 00.6	
TRG				eS		Sn	Sn	08 13 35.8	-0.1
TRG				e				08 13 49.3	
TRG				pmax	pmax				
	comp=Z,14nm,0.2s								
TRG				smax	smax				
	comp=N,135nm,0.2s								
KAB	Kabansk	4.13	98	ePg		Pb	Pb	08 13 06.0	+1.8
KAB				eSg		Sg	Sg	08 13 59.7	-4.3
KAB				Pmax					
	comp=N,96nm,0.2s								
KAB				Smax					
	comp=N,422nm,0.8s								
HVS	Khovu-Aksy	4.24	249	ePg		Pb	Pb	08 13 06.1	-0.1
HVS				eSg		Sb	Sb	08 13 59.4	+2.0
HVS	Khovu-Aksy	4.24	249	ePN		Pn	Pn	08 12 55.6	-0.6
HVS				i				08 13 06.6	
HRMR	Khuramsha	4.42	103	ePn		Pn	Pn	08 13 00.1	+1.5
HRMR				ePg		Pb	Pb	08 13 10.9	+1.7
HRMR				e				08 13 15.1	
HRMR				e				08 13 52.7	
HRMR				eSg		Sb	Sb	08 14 07.7	+5.1
HRMR				max					
	comp=N,39nm,0.4s								
HRMR				Smax					
	comp=N,293nm,0.6s								
UUDB	Ulan-Yde	4.78	98	ePn		Pn	Pn	08 13 04.6	+1.1
UUDB				ePg		Pb	Pb	08 13 16.6	+1.3
UUDB				eSn		Sn	Sn	08 14 01.0	+2.0
UUDB				eSg		Sg	Sg	08 14 19.9	-5.0
UUDB				Pmax					
	comp=N,19nm,0.6s								
UUDB				Smax					
	comp=N,182nm,0.9s								
KRAR	Krasnoyarsk	5.27	311	i PN		Pn	Pn	08 13 09.9	-0.3
SYVR	Suvo	6.06	78	eSg		Sg	Sg	08 14 59.2	-6.6
SYVR				Smax					
	comp=N,56nm,0.6s								
NIZ	Nizh Angarsk	6.33	58	ePn		Pn	Pn	08 13 25.4	+0.7
NIZ				eSn		Sn	Sn	08 14 35.1	-1.9
NIZ				eSg		Sg	Sg	08 15 07.2	-7.2
NIZ				Smax					
	comp=N,50nm,0.4s								
NIZ	Nizh Angarsk	6.33	58	⇑iPN		Pn	Pn	08 13 25.9	+1.2
NIZ				e				08 13 45.1	
NIZ				eS		Sn	Sn	08 14 36.7	-0.3
NIZ				e				08 15 08.1	
NIZ				pmax	pmax				
	comp=Z,9.0nm,0.8s								
NIZ				smax	smax				
	comp=N,42nm,0.9s								
KMO	Kumora	7.24	60	ePn		Pn	Pn	08 13 38.3	+1.1
KMO				eSn		Sn	Sn	08 14 57.0	-2.3
KMO				eSg		Sg	Sg	08 15 36.8	-6.7
KMO				Smax					
	comp=N,42nm,1.4s								
UKT	Uakit	8.44	66	ePn		Pn	Pn	08 13 53.8	+0.1
UKT				eSn		Sn	Sn	08 15 26.0	-2.9
UKT				eSg		Sg	Sg	08 16 11.8	-10
UKT				Smax					
	comp=N,21nm,1.3s								
NLYR	Nelyaty	9.82	62	eSg		Sn	Sn	08 16 54.3	+52
NLYR				Smax					
	comp=N,49nm,2.1s								
KURK	Kurchatov	13.41	270	i P		Pn	Pn	08 15 01.1	-0.5
HHC	Hu-ho-hao-te	14.30	142	eP		Pn	Pn	08 15 14.9	+0.9
HHC				PP		PnPn	PnPn	08 15 26.5	+4.8
HHC				S		S	S	08 18 04.4	-8.7
HHC				SS		SnSn	SnSn	08 18 10.6	+5.8
HHC				pmax	pmax				
	comp=Z,17nm,1.2s								
HHC				pmax	pmax				
	comp=Z,410nm,5.4s								
HHC				LR	LR				
	comp=N,210nm,12.4s								
HHC				LR	LR				
	comp=E,120nm,12.4s								
HHC				LR	LR				
	comp=Z,110nm,12.9s								
BRVK	Borovoye	17.87	283	i P		P	P	08 15 59.7	-0.9
BRVK				pmax	pmax				
	comp=Z,3.0nm,1.8s								
YAK	Yakutsk	18.30	48	i P		P	P	08 16 06.9	+1.7
YAK				pmax	pmax				
	comp=Z,21nm,0.8s								
AAK	Ala-Archa	19.85	249	i P		P	P	08 16 21.1	-1.5
AAK				pmax	pmax				
	comp=Z,2.0nm,0.8s								

*CSEM **02** 08:24:43.3, 46.07°N×15.18°E, h0km, ML0.3, Suspected Mining explosion.*

LJU 02 08:24:43.3, 46.07N×15.18E, h0km, ML0.3, 7C Artificial, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PDKS	Podkum	0.13	264	⇑iPg		Pg	Pg	08 24 45.5	-0.4
PDKS				i Sg		Sg	Sg	08 24 48.1	+0.6
	comp=Z,7.0nm,0.1s								
PDKS	Podkum	0.13	264	⇑iPg		Pg	Pg	08 24 45.5	-0.3
PDKS				i Sg		Sg	Sg	08 24 48.1	+0.5
	comp=Z,7.0nm,0.1s								
LEGS	Legarje	0.16	142	⇑iPg		Pg	Pg	08 24 46.2	-0.2
LEGS				i Sg		Sg	Sg	08 24 49.3	+0.8
LEGS	Legarje	0.16	142	⇑iPg		Pg	Pg	08 24 46.2	-0.2
LEGS				i Sg		Sg	Sg	08 24 49.3	+0.8
DOBS	Dobrina	0.21	69	i Pg		Pg	Pg	08 24 47.0	-0.4
DOBS				i Sg		Sg	Sg	08 24 51.0	+0.7
	comp=Z,4.0nm,0.1s								
DOBS	Dobrina	0.21	69	i Pg		Pg	Pg	08 24 47.0	-0.5
DOBS				i Sg		Sg	Sg	08 24 51.0	+0.7
	comp=Z,4.0nm,0.1s								
CRES	Cresnjev	0.32	142	i Pg		Pg	Pg	08 24 49.1	-0.3
	comp=Z,1.0nm,0.1s								
CRES	Cresnjev	0.32	142	i Pg		Pg	Pg	08 24 49.1	-0.3
	comp=Z,1.0nm,0.1s								
GOLS	Golise	0.32	101	i Pg		Pg	Pg	08 24 49.4	-0.1
GOLS				i Sg		Sg	Sg	08 24 54.4	+0.7
	comp=Z,2.0nm,0.1s								
GOLS	Golise	0.32	101	i Pg		Pg	Pg	08 24 49.4	-0.1
GOLS				i Sg		Sg	Sg	08 24 54.3	+0.7
	comp=Z,2.0nm,0.1s								
VNDS	Vrh nad Dolski	0.33	275	⇑iPg		Pg	Pg	08 24 49.3	-0.5
VNDS				i Sg		Sg	Sg	08 24 55.3	+1.1
	comp=Z,1.0nm,0.1s								
VISS	Visnje	0.36	221	⇑iPg		Pg	Pg	08 24 50.0	-0.2
	comp=Z,1.0nm,0.1s								
VISS	Visnje	0.36	221	⇑iPg		Pg	Pg	08 24 50.0	-0.2
	comp=Z,1.0nm,0.1s								

*IDC **02** 08:25:01.2±0.8, 13.57°S×166.48°E, h0km, mb4.3/12, mb1 4.4/13, mb1mx4.2/33, mbtmp4.3/13, ML3.3/1, MS4.1/1, Ms1 4.1/1, ms1mx3.2/31, Error ellipse: s-maj=28.0km s-min=16.2km az=107.0*
*ISCJB **02** 08:25:05.2±0.6, 13.60S±0.05×166.5E±0.1, h39km, mb4.3/15, MS3.9/1, Error ellipse: s-maj=15.3km s-min=7.6km az=6.0*
*NEIC **02** 08:25:06.3±3.0, 13.59S×166.55E, h36km±27km, mb4.3/5, Error ellipse: s-maj=20.7km s-min=18.5km az=114.0*

ISC 02 08:25:06.9±0.7, 13.57S±0.07×166.5E±0.1, h39km, n40, σ1s15/41, mb4.3/15, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.46	180	Pn		Pn	Pn	08 27 05.4	-1.6
	0.4nm,0.3s,baz=270,slow=20,SNR=5.2								
DZM				Sn		Sn	Sn	08 28 42.3	+1.1
	0.4nm,0.3s,baz=270,slow=20,SNR=2.1								
EIDS	Eidsvold	18.68	229	P		Pn	Pn	08 29 23.7	+1.3
	baz=14,SNR=5.4								
CTA	Charters Tower	20.44	249	P		P	P	08 29 41.8	+0.6
	10nm,0.8s,baz=74,slow=14,SNR=9.1								
CTA				LR		LR	LR	08 36 06.0	
	comp=Z,453nm,18.8s,baz=293,slow=33								
CTAO	Charters Tower	20.44	249	eP		P	P	08 29 41.9	+0.8
	14nm,0.8s								
RMQ	Roma	21.03	230	P		P	P	08 29 48.9	+1.4
	baz=16,SNR=25								
ARMA	Armidale	21.68	217	P		P	P	08 29 55.4	+0.9
	baz=18,SNR=8.4								
ARMA	Armidale	21.68	217	eP		P	P	08 29 55.0	+0.5
	6.2nm,0.7s								
QLP	Quilpie	24.56	235	P		P	P	08 30 23.2	-0.1
	baz=20,SNR=9.4								
CMSA	Cobar Meteorol	26.18	223	P		P	P	08 30 38.1	+0.2
	baz=22,SNR=16								
QIS	Mount Isa	26.63	251	P		P	P	08 30 41.7	-0.3
	baz=22,SNR=3.5								
STKA	Stephens Creek	29.21	227	P		P	P	08 31 05.2	+0.2
	5.9nm,0.6s,baz=47,slow=8.6,SNR=23								
TOO	Toolangi	30.37	214	P		P	P	08 31 15.8	+0.6
	baz=26,SNR=3.7								
WRA	Warramunga Arr	31.42	254	P		P	P	08 31 23.2	-1.5
	5.2nm,1.1s,baz=86,slow=9.4,SNR=9.1								
HTT	Hallett	31.95	227	P		P	P	08 31 29.3	0.0
	baz=28,SNR=6.8								
ARPS	Mount Arapiles	31.96	219	P		P	P	08 31 29.7	+0.5
	baz=28,SNR=6.7								
ASAR	Alice Springs	32.43	247	P		P	P	08 31 32.0	-1.6
	6.3nm,0.8s,baz=24,slow=6.5,SNR=62								
ASAR				ScP

CEL	**Celeste**	**144.18**	**319**	*e*PKPdf	**PKPab**	**08 44 36.2**	**-0.6**
VSL	**Villasalto**	**147.25**	**326**	*e*PKPbc	**PKPbc**	**08 44 45.6**	**-0.8**
KEST	**Kesra**	**149.86**	**321**	PKPbc	**PKPbc**	**08 44 52.1**	**-1.3**
	comp=Z,2.6nm,0.9s,baz=60,slow=4.9,SNR=7.3						
ESDC	**Sonseca Array**	**152.68**	**344**	PKPbc	**PKPbc**	**08 44 58.5**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=11,slow=3.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**165.23**	**270**	PKP	**PKPdf**	**08 45 06.9**	**-1.2**
	comp=Z,0.7nm,0.9s,baz=96,slow=1.4,SNR=4.0						

MEX 02 08:51:36.4±0.6, 13°.75N×92°.20W, h16km±345km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**2.18**	**333**	*e*P	Pn	08 52 08.8	-3.3
PCIG				*i* S	Sn	08 52 34.3	-4.5
CCIG	**Comitan**	**2.52**	**1**	*e*P	Pn	08 52 14.9	-2.0
CCIG				*i* S	Sn	08 52 43.1	-4.4

*ISCJB **02** 08:55:31.6±0.9, 16°.75S±0°.08×69°.4W±0°.1, h173km, mb3.7/1, Error ellipse: s-maj=14.3km s-min=10.7km az=173.4*
*IDC **02** 08:55:33.8±1.2, 16°.84S×69°.41W, h192km±7km, mb3.5/2, mb1 3.5/5, mb1mx3.2/22, mbtmp4.1/5, Error ellipse: s-maj=20.9km s-min=13.5km az=111.0*
ISC 02 08:55:32.9±0.9, 16°.86S±0°.08×69°.49W±0°.10, h173km, n10, σ1§97/12, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.42**	**66**	P	**Pn**	**08 56 07.0**	**+2.8**
	113nm,0.3s,baz=317,slow=5.9,SNR=4732						
LPAZ				S	**Sn**	**08 56 31.1**	**+2.8**
	15nm,0.3s,baz=133,slow=24,SNR=15						
LVC	**Limon Verde**	**5.75**	**175**	P	**Pn**	**08 56 59.8**	**+3.0**
	78nm,0.3s,baz=342,slow=11,SNR=27						
LVC				S	**Sn**	**08 58 03.9**	**+1.2**
	181nm,0.3s,baz=292,slow=23,SNR=15						
SIV	**San Ignacio**	**8.12**	**85**	P	**Pn**	**08 57 27.1**	**-0.9**
NNA	**Nana**	**8.62**	**303**	P	**Pn**	**08 57 34.5**	**0.0**
	4.7nm,0.3s,baz=121,slow=13,SNR=6.3						
CPUP	**Villa Florida**	**14.71**	**132**	P	**Pn**	**08 58 52.9**	**+0.2**
	0.1nm,0.3s,baz=318,slow=14,SNR=2.4						
CFAA	**Coronel Fontan**	**14.72**	**176**	P	**Pn**	**08 58 51.5**	**-1.4**
	0.0nm,0.3s,baz=348,slow=6.3,SNR=11						
BDFB	**Brasilia**	**20.65**	**90**	P	**P**	**08 59 58.3**	**-1.1**
	1.7nm,0.3s,baz=84,slow=24,SNR=5.0						
TORD	**Torodi Ar. Bea**	**76.37**	**72**	P	**P**	**09 07 01.5**	**-2.1**
	1.1nm,0.6s,baz=255,slow=5.4,SNR=17						
ASAR	**Alice Springs**	**133.69**	**210**	PKP	**PKPdf**	**09 14 30.0**	**+0.1**
	0.5nm,1.0s,baz=128,slow=1.5,SNR=3.3						
WRA	**Warramunga Arr**	**136.58**	**214**	PKP	**PKPdf**	**09 14 35.6**	**+0.3**
	0.4nm,0.9s,baz=137,slow=2.0,SNR=4.3						

NNC 02 08:59:10.7±7.2, 37°.38N×74°.55E, h0km, mb4.2, mpv3.8, 5C-2D, Error ellipse: s-maj=56.8km s-min=33.5km az=139.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.76**	**343**	⇓Pn	Pn	08 59 57.5	+1.0
	11nm,0.4s						
SFK				⇑Sn	Sb	09 00 34.0	-1.9
	41nm,0.4s						
DZET	**Dzherino**	**4.74**	**289**	⇑Pn	Pn	09 00 23.6	0.0
	11nm,0.6s						
DZET				⇑Sn	Sn	09 01 19.1	-0.2
	38nm,0.6s						
TKM2	**Tokmak 2**	**5.60**	**8**	⇑Pn	Pn	09 00 35.7	+0.2
	8.6nm,0.4s						
TKM2				⇑Sn	Sn	09 01 37.3	-3.5
	9.4nm,0.7s						
KK31	**Karatay Array**	**6.50**	**333**	⇓Pn	Pn	09 00 47.4	-0.3
	3.5nm,0.6s,baz=138,slow=13,SNR=15						
KK31				Sn	Sn	09 01 59.5	-3.1
	5.3nm,0.5s,baz=148,slow=22,SNR=5.5						

*ISCJB **02** 09:23:51.6±1.1, 18°.97S±0°.06×69°.4W±0°.2, h103km, mb3.8/3, Error ellipse: s-maj=23.7km s-min=7.6km az=10.5*
*IDC **02** 09:23:53.4±1.5, 18°.98S×69°.32W, h112km±12km, mb3.8/5, mb1 3.8/8, mb1mx3.4/30, mbtmp4.1/8, Error ellipse: s-maj=33.0km s-min=8.6km az=99.0*
ISC 02 09:23:52.7±1.1, 18°.99S±0°.06×69°.4W±0°.2, h103km, n9, σ1§46/11, mb3.8/3, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.93**	**24**	P	**Pn**	**09 24 40.2**	**+1.9**
	6.2nm,0.3s,baz=194,slow=5.6,SNR=358						
LPAZ				S	**Sn**	**09 25 14.4**	**+1.2**
	2.6nm,0.3s,baz=186,slow=8.1,SNR=4.6						
LVC	**Limon Verde**	**3.63**	**173**	P	**Pn**	**09 24 48.7**	**+1.5**
	95nm,0.3s,baz=358,slow=11,SNR=28						
LVC				S	**Sn**	**09 25 30.2**	**+0.8**
	1µm,0.3s,baz=249,slow=21,SNR=26						
SIV	**San Ignacio**	**8.46**	**71**	P	**Pn**	**09 25 52.3**	**-0.2**
	1.4nm,0.3s,baz=272,slow=13,SNR=16						
PTGA	**Pitinga**	**20.35**	**28**	P	**P**	**09 28 19.2**	**-1.9**
	8.5nm,0.3s,baz=317,slow=23,SNR=42						
BDFB	**Brasilia**	**20.65**	**84**	P	**P**	**09 28 25.8**	**+1.4**
	2.5nm,0.5s,baz=266,slow=9.2,SNR=5.1						
QSPA	**South Pole Qui**	**71.19**	**180**	P	**P**	**09 35 01.0**	**+0.7**
	1.3nm,0.8s,baz=283,slow=1.9						
TORD	**Torodi Ar. Bea**	**76.93**	**71**	P	**P**	**09 35 33.0**	**-1.5**
	0.6nm,0.4s,baz=256,slow=5.2,SNR=13						
YKA	**Yellowknife Ar**	**88.69**	**341**	P	**P**	**09 36 33.1**	**-0.9**
	0.6nm,0.5s,baz=129,slow=4.9,SNR=4.7						
SONM	**Songino Array**	**151.02**	**6**	PKPbc	**PKPbc**	**09 43 33.5**	**-0.3**
	0.6nm,0.4s,baz=327,slow=2.4,SNR=3.6						

*IDC **02** 09:31:15.2±0.8, 18°.38S×168°.13E, h0km, mb4.2/14, mb1 4.4/15, mb1mx4.3/22, mbtmp4.2/15, ML3.6/1, MS3.9/4, Ms1 3.9/4, ms1mx3.4/29, Error ellipse: s-maj=23.9km s-min=17.4km az=112.0*
*ISCJB **02** 09:31:17.1±0.4, 18°.57S±0°.05×168°.25E±0°.08, h29km, mb4.3/17, MS3.8/3, Error ellipse: s-maj=11.2km s-min=6.3km az=28.4*
*NEIC **02** 09:31:19.9±0.4, 18°.51S×168°.20E, h35km, mb4.7/7, Error ellipse: s-maj=12.5km s-min=9.4km az=143.0*
ISC 02 09:31:19.1±0.5, 18°.53S±0°.07×168°.21E±0°.09, h29km, n48, σ1§38/48, mb4.4/17, MS3.8/3, 1C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**2.42**	**202**	*e*P	Pn	09 31 53.1	-3.6
LIFNC				*e*S	**Sn**	**09 32 22.2**	**-3.2**
DZM	**Mont Dzumac**	**3.90**	**205**	*e*Pn	**Pn**	**09 32 16.9**	**-0.2**
	97nm,0.4s						
DZM	**Mont Dzumac**	**3.90**	**205**	Pn	**Pn**	**09 32 16.2**	**-1.0**
	3.8nm,0.3s,baz=90,slow=24,SNR=74						
DZM				Sn	**Sn**	**09 33 01.1**	**-0.9**
	3.5nm,0.3s,baz=90,slow=24,SNR=67						
DZM	**Mont Dzumac**	**3.90**	**205**	*e*P	**Pn**	**09 32 16.0**	**-1.1**
DZM				*e*S	**Sn**	**09 33 00.7**	**-1.3**
DZM	**Mont Dzumac**	**3.90**	**205**	*e*Pn	**Pn**	**09 32 16.5**	**-0.6**
DZM				*e*Sg	Sb	09 33 23.0	+9.0
MSVF	**Nonsavu**	**9.39**	**87**	*e*Pn	**Pn**	**09 33 32.6**	**0.0**
	141nm,1.5s						
RAO	**Raoul Island**	**16.56**	**133**	LR	LR	09 40 11.0	
	comp=Z,448nm,21.0s,baz=287,slow=32						
RMQ	**Roma**	**19.62**	**243**	P	**Pn**	**09 35 48.2**	**+1.3**
	baz=14,SNR=7.1						
TARA	**Tarawa**	**20.29**	**14**	*e*P	**P**	**09 35 51.3**	**-1.4**
	14nm,0.3s						
CTA	**Charters Tower**	**20.78**	**262**	P	**P**	**09 35 58.6**	**+0.4**
	4.0nm,0.8s,baz=32,slow=18,SNR=3.4						
CTAO	**Charters Tower**	**20.78**	**262**	*e*P	**P**	**09 35 58.5**	**+0.4**
	25nm,1.2s						
URZ	**Urewera**	**21.14**	**160**	P	**P**	**09 36 04.6**	**+2.9**
	3.4nm,0.3s,baz=350,slow=21,SNR=12						
URZ				LR	LR	09 43 34.5	
	comp=Z,285nm,18.6s,baz=318,slow=35						
URZ	**Urewera**	**21.14**	**160**	*e*P	**P**	**09 36 00.1**	**-1.6**
	8.6nm,0.7s						
QLP	**Quilpie**	**23.52**	**246**	P	**P**	**09 36 27.0**	**+0.1**
	baz=18,SNR=9.0						
YNG	**Young**	**23.63**	**224**	P	P	09 36 37.5	+10
	baz=18,SNR=5.5						
CNB	**Canberra Magne**	**23.64**	**221**	P	**P**	**09 36 31.3**	**+3.3**
	baz=18,SNR=4.9						
CMSA	**Cobar Meteorol**	**24.11**	**233**	P	**P**	**09 36 33.7**	**+1.3**
	baz=18,SNR=8.4						
MILA	**Mila**	**24.91**	**218**	P	**P**	**09 36 42.5**	**+2.7**
	baz=20,SNR=7.5						
STKA	**Stephens Creek**	**27.42**	**236**	P	**P**	**09 37 03.0**	**+0.5**
	5.9nm,1.0s,baz=15,slow=8.1,SNR=6.6						
JAY	**Jayapura**		**31.29**	**297**	LR	LR	09 50 04.0
	comp=Z,266nm,19.4s,baz=160,slow=36						
WRAB	**Tennant Creek**	**31.97**	**262**	*e*P	**P**	**09 37 40.6**	**-2.3**
	9.1nm,1.3s						
WRA	**Warramunga Arr**	**31.98**	**262**	P	**P**	**09 37 41.5**	**-1.6**
	1.9nm,1.1s,baz=80,slow=6.0,SNR=5.3						
BBOO	**Buckleboo**	**32.13**	**237**	*e*P	**P**	**09 37 44.1**	**-0.1**
	31nm,1.6s						
ASAR	**Alice Springs**	**32.36**	**255**	P	**P**	**09 37 45.3**	**-1.1**
	2.1nm,0.8s,baz=80,slow=8.8,SNR=22						
WRKA	**Warakurna**	**37.53**	**253**	P	P	09 38 38.0	+7.1
	baz=32,SNR=4.2						
GUMO	**Guam**	**39.35**	**323**	LR	LR	09 53 45.1	
	comp=Z,121nm,18.3s,baz=138,slow=34						
PPT2	**Papeete2**	**40.08**	**96**	*e*LR	LR	09 50 07.8	
	424nm,25.8s						
MEEK	**Meekatharra**	**46.27**	**251**	P	**P**	**09 39 42.4**	**+0.1**
	baz=40,SNR=24						
NWAO	**Narrogin (SRO)**	**47.68**	**242**	P	**P**	**09 39 53.7**	**+0.4**
	8.2nm,0.7s,baz=151,slow=3.7,SNR=5.3						
MORW	**Morawa**	**48.54**	**247**	P	**P**	**09 40 01.7**	**+1.8**
	baz=43,SNR=6.1						
SBA	**Scott Base**	**59.36**	**180**	P	**P**	**09 41 19.1**	**+0.9**
	22nm,1.7s						
MJAR	**Matsushiro Arr**	**61.67**	**333**	P	**P**	**09 41 33.2**	**-1.3**
	2.2nm,1.0s,baz=168,slow=6.1,SNR=5.0						
USRK	**Ussuriysk Ar.**	**70.67**	**333**	P	**P**	**09 42 32.0**	**0.0**
	0.6nm,0.5s,baz=127,slow=5.8,SNR=7.8						
QSPA	**South Pole Qui**	**71.52**	**180**	P	**P**	**09 42 38.1**	**+0.9**
	4.6nm,0.9s,baz=0.8,slow=2.5,SNR=4.7						
QSPA	**South Pole Qui**	**71.52**	**180**	*e*P	**P**	**09 42 38.4**	**+1.2**
PETK	**Petropavlovsk-**	**71.92**	**353**	P	**P**	**09 42 39.5**	**+0.1**
	2.4nm,0.6s,baz=156,slow=7.6,SNR=3.7						
CMAR	**Chiang Mai Arr**	**77.33**	**295**	P	**P**	**09 43 13.0**	**+1.4**
	1.1nm,0.3s,baz=100,slow=2.7,SNR=2.3						
SONM	**Songino Array**	**86.07**	**323**	P	**P**	**09 43 57.2**	**0.0**
	2.2nm,0.9s,baz=141,slow=6.4,SNR=11						
CMB	**Columbia Colle**	**87.41**	**49**	*e*P	**P**	**09 44 04.9**	**+1.0**
	6.9nm,1.1s						
NVAR	**Mina Array Bea**	**89.06**	**49**	P	**P**	**09 44 12.7**	**+0.7**
	1.2nm,1.0s,baz=222,slow=6.4,SNR=6.3						
SNAA	**Sanae**	**89.82**	**183**	P	**P**	**09 44 12.4**	**-2.4**
ILAR	**Eielson Array**	**89.85**	**18**	P	**P**	**09 44 13.2**	**-1.4**
	0.3nm,0.7s,baz=245,slow=4.9,SNR=6.1						
ARCES	**ARCESS Array B**	**124.13**	**345**	PKP	**PKPdf**	**09 50 14.0**	**-0.2**
	1.5nm,0.7s,baz=73,slow=2.5,SNR=7.3						
WTTA	**Wattenberg**	**145.51**	**331**	⇑*i*PKPab	**PKPdf**	**09 50 54.4**	**-0.4**
	7.6nm,0.8s						
MOTA	**Moosalm**	**145.69**	**332**	⇓*i*PKPab	**PKPab**	**09 50 55.7**	**0.0**
	21nm,1.4s						
CEL	**Celeste**	**148.89**	**315**	*e*PKPdf	**PKPdf**	**09 51 00.7**	**+0.2**
CEL				*e*PKPbc	**PKPbc**	**09 51 03.7**	**-0.7**
CEL				*e*PKPab	**PKPab**	**09 51 08.8**	**+0.3**
BNI	**Bardonecchia**	**149.40**	**334**	*e*PKPdf	**PKPdf**	**09 51 01.3**	**+0.1**
BNI				*e*PKPbc	**PKiKP**	**09 51 06.3**	**-0.4**
BNI				*e*PKPab	**PKPab**	**09 51 10.3**	**-0.1**
TORD	**Torodi Ar. Bea**	**165.97**	**250**	PKPab	**PKPab**	**09 52 24.6**	**+2.3**
	0.5nm,0.9s,baz=77,slow=3.3,SNR=2.6						

*ISCJB **02** 09:32:42.7±0.7, 47°.4S±0°.1×100°.0E±0°.2, h11km, mb4.5/13, MS4.1/10, Error ellipse: s-maj=21.4km s-min=11.4km az=39.4*
*IDC **02** 09:32:42.9±0.7, 47°.47S×100°.03E, h0km, mb4.5/11, mb1 4.6/11, mb1mx4.3/39, mbtmp4.5/11, MS4.1/10, Ms1 4.1/10, ms1mx3.8/25, Error ellipse: s-maj=25.1km s-min=15.5km az=129.0*
*NEIC **02** 09:32:44.0±0.5, 47°.46S×99°.97E, h10km, mb4.6/6, Error ellipse: s-maj=19.3km s-min=11.5km az=131.0*
ISC 02 09:32:44.2±0.6, 47°.5S±0°.1×100°.0E±0°.1, h11km, n39, σ1§14/35, mb4.5/13, MS4.1/10, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**16.41**	**45**	T	T	09 53 16.7	
	baz=215,slow=74,SNR=172						
H01W3	**Cape Leeuwin H**	**16.42**	**45**	T	T	09 53 20.2	
	baz=215,slow=74,SNR=190						
H01W1	**Cape Leeuwin H**	**16.43**	**45**	T	T	09 53 19.6	
	baz=215,slow=74,SNR=265						
MAW	**Mawson**	**27.66**	**210**	P	**P**	**09 38 31.8**	**+0.2**
	1.8nm,0.8s,baz=33,slow=13,SNR=3.7						
MAW				LR	LR	09 46 16.9	
	comp=Z,411nm,21.5s,baz=59,slow=29						
STKA	**Stephens Creek**	**35.12**	**79**	P	**P**	**09 39 38.4**	**+0.8**
	13nm,0.8s,baz=215,slow=7.3,SNR=16						
STKA				LR	LR	09 51 23.0	
	comp=Z,332nm,20.6s,baz=219,slow=32						
ASAR	**Alice Springs**	**35.93**	**61**	P	**P**	**09 39 45.2**	**+0.6**
	3.3nm,0.7s,baz=216,slow=7.5,SNR=30						
ASAR				PcP	**PcP**	**09 42 10.9**	**-0.6**
	0.8nm,0.8s,baz=195,slow=2.6,SNR=5.1						
VNDA	**Vanda**	**38.12**	**162**	P	**P**	**09 40 04.0**	**+1.3**
	8.3nm,1.0s,baz=285,slow=9.3,SNR=21						
VNDA				LR	LR	09 54 32.9	
	comp=Z,787nm,18.5s,baz=306,slow=34						
WRA	**Warramunga Arr**	**39.08**	**57**	P	**P**	**09 40 11.8**	**+0.4**
	3.6nm,0.6s,baz=220,slow=9.2,SNR=41						
WRAB	**Tennant Creek**	**39.09**	**57**	*e*P	**P**	**09 40 12.1**	**+0.6**
	4.6nm,0.6s						
SBA	**Scott Base**	**39.22**	**162**	*e*P	**P**	**09 40 13.9**	**+2.0**
	11nm,1.1s						
LEM	**Lembang**	**41.01**	**12**	LR	LR	09 55 05.2	
	comp=Z,479nm,18.2s,baz=186,slow=33						
QSPA	**South Pole Qui**	**42.67**	**180**	P	**P**	**09 40 41.1**	**+0.4**
	9.8nm,0.9s,baz=274,slow=1.8,SNR=26						
QSPA	**South Pole Qui**	**42.67**	**180**	*e*P	**P**	**09 40 41.1**	**+0.4**
	14nm,1.0s						
KAPI	**Kappang**	**45.57**	**28**	LR	LR	09 58 08.7	
	comp=Z,167nm,20.2s,baz=195,slow=34						
H08S2	**Diego Garcia H**	**46.10**	**321**	T	T	10 30 14.6	
	baz=154,slow=76,SNR=41						
H08S1	**Diego Garcia H**	**46.11**	**320**	T	T	10 30 18.1	
	baz=154,slow=76,SNR=27						
H08S3	**Diego Garcia H**	**46.12**	**321**	T	T	10 30 15.9	
	baz=154,slow=76,SNR=50						
CTA	**Charters Tower**	**46.21**	**70**	P	**P**	**09 41 09.3**	**0.0**
	6.6nm,0.9s,baz=237,slow=9.9,SNR=5.0						
CTAO	**Charters Tower**	**46.21**	**70**	*e*P	**P**	**09 41 08.8**	**-0.5**
	9.4nm,0.9s						
SNAA	**Sanae**	**49.53**	**204**	P	**P**	**09 41 31.4**	**-3.0**
SNAA	**Sanae**	**49.53**	**204**	P	**P**	**09 41 34.2**	**-0.2**
	1.9nm,0.8s,baz=123,slow=7.5,SNR=6.5						
SNAA	**Sanae**	**49.53**	**204**	*e*P	**P**	**09 41 31.4**	**-3.0**
	14nm,1.3s						
VNA1	**Neumayer--Stat**	**51.56**	**204**	P	**P**	**09 41 50.6**	**+0.9**
URZ	**Urewera**	**55.08**	**111**	P	**P**	**09 42 14.9**	**-1.1**
	9.4nm,1.0s,baz=258,slow=9.3,SNR=4.7						
URZ	**Urewera**	**55.08**	**111**	*e*P	**P**	**09 42 13.9**	**-2.1**
	5.0nm,0.7s						
BOSA	**Boshof**	**59.56**	**260**	P	**P**	**09 42 48.2**	**+0.2**
	4.2nm,0.9s,baz=132,slow=12,SNR=4.8						
BOSA				LR	LR	10 03 37.2	
	comp=Z,179nm,19.5s,baz=151,slow=31						
CMAR	**Chiang Mai Arr**	**65.63**	**359**	P	**P**	**09 43 28.9**	**+0.7**
	2.0nm,0.5s,baz=178,slow=5.0,SNR=9.2						
CMAR				LR	LR	10 09 09.7	
	comp=Z,268nm,19.4s,baz=191,slow=33						
KSRS	**Korea Array**	**88.15**	**22**	LR	LR	10 24 51.3	
	comp=Z,21nm,20.2s,baz=240,slow=36						
MJAR	**Matsushiro Arr**	**90.34**	**30**	LR	LR	10 23 57.7	
	comp=Z,20nm,21.2s,baz=165,slow=34						
GEYT	**Alibeck**	**92.89**	**328**	LR	LR	10 24 27.2	
	comp=Z,57nm,18.1s,baz=160,slow=33						
ILAR	**Eielson Array**	**141.06**	**39**	PKP	**PKPdf**	**09 52 12.3**	**-1.0**
	0.3nm,0.8s,baz=286,slow=4.0,SNR=4.9						
DAWY	**Dawson**	**144.25**	**40**	*e*PKPdf	**PKPdf**	**09 52 18.1**	**-0.9**
HYT	**Haines Junctio**	**144.97**	**46**	*e*PKPdf	**PKPdf**	**09 52 20.4**	**0.0**
CELP	**Cerrillos**	**148.69**	**205**	*e*PKPdf	**PKPdf**	**09 52 27.0**	**-0.9**
CELP				*e*PKPbc	**PKPbc**	**09 52 30.9**	**-0.7**
CELP				*e*PKPab	**PKiKP**	**09 52 34.0**	**+1.0**
HUMO	**Hull Mountain**	**149.53**	**83**	*e*PKPdf	**PKPdf**	**09 52 28.8**	**+0.3**
HUMO				*e*PKPbc	**PKiKP**	**09 52 34.3**	**+0.2**
HUMO				*e*PKPab	**PKPab**	**09 52 37.3**	**-0.9**
NVAR	**Mina Array Bea**	**150.78**	**94**	PKPbc	**PKPbc**	**09 52 37.3**	**+0.9**
	2.3nm,0.7s,baz=221,slow=3.7,SNR=21						
RES	**Resolute Bay**	**151.94**	**8**	*e*PKPdf	**PKPdf**	**09 52 31.6**	**+0.4**
RES				*e*PKPbc	**PKiKP**	**09 52 37.9**	**-0.2**
RES				*e*PKPab	**PKPab**	**09 52 47.2**	**+0.1**
TXAR	**Lajitas Array**	**154.23**	**126**	PKPbc	**PKPbc**	**09 52 44.9**	**+0.6**
	0.7nm,0.9s,baz=206,slow=6.0,SNR=4.2						
PDAR	**Pinedale Array**	**158.67**	**92**	PKPab	**PKPab**	**09 53 15.6**	**-1.6**
	0.5nm,0.8s,baz=180,slow=1.8,SNR=3.9						

IDC 02 09:44:41.1±2.7, 2°.12N×96°.43E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.4/47, mbtmp3.6/4, ML2.8/1, Error ellipse: s-maj=65.3km s-min=30.2km az=49.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.58**	**75**	Pn	Pn	09 45 24.8	+0.4
	1.8nm,0.3s,baz=195,slow=12,SNR=6.4						
H08S2	**Diego Garcia H**	**25.78**	**248**	T	T	10 17 23.7	
	baz=69,slow=75,SNR=290						
H08S3	**Diego Garcia H**	**25.78**	**248**	T	T	10 17 27.7	
	baz=69,slow=75,SNR=215						
H08S1	**Diego Carcia H**	**25.79**	**248**	T	T	10 17 28.8	
	baz=69,slow=75,SNR=262						
WRA	**Warramunga Arr**	**43.17**	**122**	P	P	09 52 43.7	-0.4
	0.5nm,1.0s,baz=302,slow=9.0,SNR=4.6						
SONM	**Songino Array**	**46.34**	**9**	P	P	09 53 08.0	-1.1
	0.2nm,0.4s,baz=205,slow=6.4,SNR=2.2						
ZALV	**Zalesovo Beam**	**52.53**	**351**	P	P	09 53 57.0	+0.9
	1.5nm,0.4s,baz=151,slow=8.0,SNR=5.1						

MEX 02 09:47:24.6±0.4, 16°.24N×97°.94W, h7km±16km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.24**	**311**	*i* P	Pg	09 47 28.9	-0.4
PNIG				*i* S	Sg	09 47 32.7	0.0
VHO	**Vista Hermosa**	**1.43**	**54**	*i* P	Pn	09 47 47.7	-3.5
VHO				*i* S	Sb	09 48 05.2	-5.2
HUIG	**Huatulco**	**1.82**	**105**	*i* P	Pn	09 47 53.0	-3.4
HUIG				*i* S	Sn	09 48 14.9	-4.9

NNC 02 10:04:59.6±2.4, 53°.38N×87°.16E, h0km, mb3.8, mpv3.4, 4C-8D, Error ellipse: s-maj=17.5km s-min=13.9km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**5.91**	**247**	⇑Pn	Pn	10 06 28.8	+0.5
	1.3nm,0.6s						
KURK				⇓Sn	Sn	10 07 38.4	+1.7
	0.7nm,0.4s						
KURK				⇓Lg	Lg	10 08 11.2	
	4.6nm,1.0s						
KURBB	**Kurchatov Arra**	**6.00**	**246**	⇓Pn	Pn	10 06 30.3	+0.7
	6.3nm,0.3s						
KURBB				⇓Sn	Sn	10 07 39.9	+0.9
	5.6nm,0.7s						
KURBB				⇓Lg	Lg	10 08 12.8	
	12nm,0.6s						
MK31	**Makanchi Array**	**7.30**	**207**	⇑Pn	Pn	10 06 47.9	+0.4
	0.4nm,0.3s,baz=30,slow=12,SNR=51						
MK31				⇑Sn	Sn	10 08 10.8	-0.3
	0.5nm,0.5s,baz=34,slow=25,SNR=4.8						
MK31				⇓Lg	Lg	10 08 50.8	
	2.0nm,0.6s,baz=33,slow=29,SNR=5.8						
BVA0	**Borovoye Array**	**10.07**	**275**	Pn	Pn	10 07 25.7	+0.3
	0.6nm,0.5s,baz=67,slow=15,SNR=8.3						
BVA0				⇓Sn	Sn	10 09 19.6	+0.6
	1.5nm,0.8s,baz=78,slow=25,SNR=4.7						
BRVK	**Borovoye**	**10.13**	**275**	⇓Pn	Pn	10 07 25.8	-0.4
	2.8nm,0.7s						
BRVK				⇑Sn	Sn	10 09 18.9	-1.6
	2.4nm,0.7s						

IDC 02 10:07:58.4±64.0, 14°.45S×164°.17E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/26, mbtmp3.5/3, Error ellipse: s-maj=1072.0km s-min=110.1km az=63.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**26.95**	**226**	P	P	10 13 41.6	-0.1
	0.6nm,0.5s,baz=45,slow=8.6,SNR=3.2						
WRA	**Warramunga Arr**	**28.99**	**255**	P	P	10 13 59.7	-0.4
	0.4nm,0.8s,baz=85,slow=9.1,SNR=2.9						
ASAR	**Alice Springs**	**29.99**	**248**	P	P	10 14 09.3	+0.4
	0.4nm,0.7s,baz=80,slow=9.5,SNR=7.4						

*KRSC **02** 10:10:54.8±0.7, 54°.69N×161°.75E, h18km±6km, ML4.3*
*IDC **02** 10:10:54.3±0.6, 54°.98N×161°.12E, h0km, mb3.7/12, mb1 3.9/14, mb1mx3.7/52, mbtmp3.7/14, ML2.8/1, MS3.6/1, Ms1 3.6/1, ms1mx2.6/44, Error ellipse: s-maj=22.0km s-min=12

NLC					S		Sn	10 11 56.2	+0.7
SDLR	**Sedlovina**	**2.17**	**229**	*e*P			**Pn**	**10 11 32.4**	**+0.7**
SDLR				*e*S			**Sn**	**10 11 59.6**	**+1.1**
SDLR	**Sedlovina**	**2.17**	**229**	P	N		**Pn**	**10 11 32.4**	**+0.7**
SDLR				S			**Sn**	**10 11 59.6**	**+1.1**
KRER	**Koryakskii**	**2.22**	**231**	*e*P			**Pn**	**10 11 33.3**	**+1.0**
KRER				*e*S			**Sb**	**10 12 01.9**	**-1.2**
SMAR	**Somma**	**2.22**	**230**	*e*P			**Pn**	**10 11 33.2**	**+0.8**
SMAR				*e*S			**Sn**	**10 12 00.6**	**+0.8**
SMAR	**Somma**	**2.22**	**230**	P	N		**Pn**	**10 11 33.2**	**+0.8**
SMAR				S			**Sn**	**10 12 00.6**	**+0.8**
KRX	**Arik**	**2.23**	**233**	*e*P			**Pn**	**10 11 33.3**	**+0.9**
KRX				*e*S			**Sb**	**10 12 02.2**	**-1.1**
AVH	**Avacha**	**2.25**	**230**	*e*P			**Pn**	**10 11 33.7**	**+1.1**
AVH				*e*S			**Sb**	**10 12 02.0**	**-1.9**
AVH	**Avacha**	**2.25**	**230**	P	N		**Pn**	**10 11 33.7**	**+1.1**
AVH				S			**Sb**	**10 12 02.0**	**-1.9**
UGLR	**Uglovaya**	**2.25**	**228**	*e*P			**Pn**	**10 11 33.6**	**+0.9**
UGLR				*e*S			**Sb**	**10 12 02.2**	**-1.7**
KOK	**Koryaka**	**2.27**	**232**	*e*P			**Pn**	**10 11 33.9**	**+0.9**
KOK	**Koryaka**	**2.27**	**232**	P	N		**Pn**	**10 11 33.9**	**+0.9**
GNL	**Ganaly**	**2.40**	**246**	*e*P			**Pn**	**10 11 35.8**	**+1.1**
GNL	**Ganaly**	**2.40**	**246**	P	N		**Pn**	**10 11 35.8**	**+1.1**
PET	**Petropavlovsk**	**2.45**	**227**	*e*P			**Pn**	**10 11 36.4**	**+1.1**
PET				*e*S			**Sb**	**10 12 07.2**	**-2.5**
PET	**Petropavlovsk**	**2.45**	**227**	⇑*i*PN			**Pn**	**10 11 36.2**	**+0.8**
PET				*e*S			**Sb**	**10 12 07.4**	**-2.3**
PET					pmax	pmax			
	comp=Z,155nm,0.5s								
PET					smax	smax			
	comp=N,357nm,0.5s								
PET					smax	smax			
	comp=E,274nm,0.4s								
PET					MLR	MLR			
	comp=Z,600nm,15.0s								
PET					MLR	MLR			
	comp=Z,300nm,16.0s								
BKI	**Bering**	**2.56**	**78**	*e*P			**Pn**	**10 11 36.5**	**-0.3**
BKI				*e*S			**Sn**	**10 12 06.5**	**-1.2**
BKI	**Bering**	**2.56**	**78**	P	N		**Pn**	**10 11 36.5**	**-0.3**
BKI				S			**Sn**	**10 12 06.5**	**-1.2**
PETK	**Petropavlovsk-**	**2.83**	**236**	Pn			**Pn**	**10 11 41.6**	**+1.0**
	comp=Z,7.2nm,0.3s,baz=66,slow=13,SNR=66								
PETK					Lg	Lg		10 12 20.7	
	comp=Z,5.5nm,0.3s,baz=60,slow=29,SNR=6.6								
MTVR	**Mutnovka**	**3.04**	**224**	*e*P			**Pn**	**10 11 44.9**	**+1.2**
MTVR				*e*S			**Sn**	**10 12 21.2**	**+1.2**
APC	**Apacha**	**3.20**	**237**	*e*P			**Pn**	**10 11 47.2**	**+1.5**
APC				*e*S			**Sb**	**10 12 28.5**	**-2.8**
APC	**Apacha**	**3.20**	**237**	P	N		**Pn**	**10 11 47.2**	**+1.5**
APC				S			**Sb**	**10 12 28.5**	**-2.8**
ASAK	**Asacha**	**3.23**	**225**	*e*P			**Pn**	**10 11 48.0**	**+1.8**
MIPR	**Malaya Ipel'ka**	**3.80**	**232**	*e*P			**Pn**	**10 11 56.1**	**+2.1**
PAU	**Pauzhetka**	**4.37**	**225**	*e*P			Pn	10 12 04.9	+3.2
PAU	**Pauzhetka**	**4.37**	**223**	P	N		Pn	10 12 04.9	+3.2
OSSR	**Ossora**	**4.60**	**9**	*e*P			Pn	10 12 08.1	+3.3
SKR	**Severo-Kuril's**	**5.26**	**222**	*e*PN			Pn	10 12 03.8	-10
ASAJ	**Asahikawa**	**16.25**	**237**	Pn			**Pn**	**10 14 43.7**	**+0.2**
	baz=270,slow=20								
YAK	**Yakutsk**	**18.11**	**307**	P			Pn	10 14 58.7	-7.9
	comp=Z,0.0nm,0.3s,baz=36,slow=19,SNR=4.0								
MAT	**Matsushiro**	**24.28**	**231**	P			**P**	**10 16 11.7**	**-0.8**
MJAR	**Matsushiro Arr**	**24.28**	**231**	P			**P**	**10 16 12.6**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=23,slow=8.6,SNR=8.9								
MJAR	**Matsushiro Arr**	**24.28**	**231**	P			**P**	**10 16 12.6**	**+0.1**
MJAR					pmax	pmax			
	comp=Z,2.0nm,0.6s								
ILAR	**Eielson Array**	**27.03**	**48**	P			**P**	**10 16 37.5**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=269,slow=8.5,SNR=8.2								
H11N2	**WAKE ISLAND Hy**	**35.17**	**171**	T			T	10 54 56.1	
	baz=355,slow=76,SNR=189								
H11N3	**WAKE ISLAND Hy**	**35.19**	**171**	T			T	10 54 56.3	
	baz=355,slow=76,SNR=123								
H11N1	**WAKE ISLAND Hy**	**35.19**	**171**	T			T	10 54 57.4	
	baz=355,slow=76,SNR=162								
H11S1	**WAKE ISLAND Hy**	**36.37**	**172**	T			T	10 56 30.9	
	baz=342,slow=74								
H11S3	**WAKE ISLAND Hy**	**36.38**	**172**	T			T	10 56 30.5	
	baz=342,slow=74								
H11S2	**WAKE ISLAND Hy**	**36.39**	**172**	T			T	10 56 39.5	
	baz=342,slow=74								
KURK	**Kurchatov**	**47.64**	**301**	P			**P**	**10 19 29.6**	**-1.5**
KURK								10 20 59.5	
KURK					pmax	pmax			
	comp=Z,1.0nm,0.5s								
KURK					pmax	pmax			
	comp=Z,1.0nm,0.5s								
KURBB	**Kurchatov Arra**	**47.74**	**301**	P			**P**	**10 19 29.6**	**-2.3**
	comp=Z,0.7nm,0.5s,baz=57,slow=7.8,SNR=4.8								
KURBB					PcP		**PcP**	**10 20 59.5**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=52,slow=3.4,SNR=6.1								
BVAR	**Borovoye Array**	**50.08**	**308**	P			**P**	**10 19 47.5**	**-2.3**
	comp=Z,0.5nm,0.5s,baz=52,slow=10,SNR=3.0								
BVAR	**Borovoye Array**	**50.08**	**308**	P			**P**	**10 19 47.5**	**-2.3**
BVAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
ARCES	**ARCESS Array B**	**52.00**	**342**	LR			LR	10 47 07.5	
	comp=Z,49nm,18.1s,baz=78,slow=42								
NVAR	**Mina Array Bea**	**54.36**	**72**	P			**P**	**10 20 24.8**	**+2.7**
	comp=Z,1.3nm,0.8s,baz=299,slow=7.6,SNR=9.7								
PDAR	**Pinedale Array**	**55.95**	**63**	P			**P**	**10 20 35.5**	**+1.9**
	comp=Z,0.6nm,1.0s,baz=36,slow=2.8,SNR=3.8								
FINES	**FINESS Array B**	**58.97**	**337**	P			**P**	**10 20 53.1**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=46,slow=9.9,SNR=3.1								
FINES	**FINESS Array B**	**58.97**	**337**	P			**P**	**10 20 53.1**	**-1.1**
FINES					pmax	pmax			
	comp=Z,1.0nm,0.6s								
TXAR	**Lajitas Array**	**69.18**	**69**	P			**P**	**10 22 03.5**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=299,slow=5.2,SNR=8.0								
CTA	**Charters Tower**	**75.67**	**195**	P			**P**	**10 22 43.2**	**+2.8**
	comp=Z,2.9nm,0.8s,baz=311,slow=14								
CTA	**Charters Tower**	**75.67**	**195**	P			**P**	**10 22 43.2**	**+2.8**
CTA					pmax	pmax			
	comp=Z,3.0nm,0.8s								
BRTR	**Keskin Array B**	**75.92**	**321**	P			**P**	**10 22 40.3**	**-1.7**
	comp=Z,0.4nm,0.6s,baz=49,slow=4.8,SNR=2.7								
WRA	**Warramunga Arr**	**77.95**	**206**	P			**P**	**10 22 53.4**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=26,slow=6.5,SNR=4.2								
ASAR	**Alice Springs**	**81.63**	**206**	P			**P**	**10 23 13.7**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=18,slow=4.7,SNR=5.2								

MAN 02 10:26:58, 9.21N×125.65E, h20km, mb4.8, ML3.7, MS3.7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.24**	**186**	*e*P	Pb	10 27 04.7	+0.9
BUTP				*e*S	Sb	10 27 11.0	+3.3
MSLP	**Maasin**	**1.20**	**320**	*e*P	Pn	10 27 19.4	-0.3
MSLP				*e*S	Sb	10 27 33.0	-2.2
BUKP	**Musuan**	**1.45**	**204**	*e*P	Pb	10 27 25.4	+1.0
BUKP				*e*S	Sn	10 27 37.0	-4.5
TBP	**Tagbilaran**	**1.82**	**285**	*e*P	Pn	10 27 27.8	-0.5
TBP				*e*S	Sb	10 27 52.0	-1.2
PAGZ	**Pagadian**	**2.62**	**239**	*e*P	Pn	10 27 41.5	+2.4
GUIM	**Jordan**	**3.32**	**295**	*e*P	Pn	10 27 49.0	+0.1

*ISCJB **02** 11:19:37.9±0.5, 32.42N±0.05×115.55W±0.04, h7km±10km, Error ellipse: s-maj=9.8km s-min=4.2km az=27.1*
*MEX **02** 11:19:38.3±0.5, 32.52N×115.41W, h7km±187km, MD3.8*
*ECX **02** 11:19:39.2±0.6, 32.45N×115.56W, h4km, MD2.5, ML2.7*

ISC 02 11:19:37.9±0.9, 32.42N±0.04×115.54W±0.03, h14km±9km, n18, σ0.945/27, 8C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.20**	**90**	*e*P	**Pg**	**11 19 42.5**	**0.0**
CPBX				*e*S	**Sg**	**11 19 45.6**	**0.0**
CPBX				*e*		11 19 48.4	
CPBX				IAML		11 19 48.4	
	comp=E,4μm,0.3s						
CPBX				IAML		11 19 48.8	
	comp=N,4μm,0.3s						
CPBX				⇑*e*		11 19 48.8	
SGL	**Mount Signal**	**0.28**	**326**	⇓*i*P	**Pg**	**11 19 43.5**	**-0.2**
ERPC	**Ernies Place**	**0.34**	**342**	⇓*i*P	**Pg**	**11 19 45.2**	**+0.4**
WESC	**Westside Schoo**	**0.38**	**335**	⇓*i*P	**Pg**	**11 19 45.6**	**+0.2**
YUH	**Yuha Desert**	**0.40**	**305**	⇑*i*P	**Pg**	**11 19 45.6**	**-0.3**
COK	**Cook Ranch**	**0.46**	**340**	*e*P	**Pg**	**11 19 47.3**	**+0.3**
RMX	**La Rumorosa**	**0.49**	**292**	*e*P	**Pg**	**11 19 47.3**	**-0.3**
RMX				*e*S	**Sg**	**11 19 54.2**	**0.0**
EMSC	**East Mesa**	**0.57**	**56**	⇑*i*P	**Pb**	**11 19 49.4**	**-0.2**
CRR	**Carrizo Plain**	**0.59**	**322**	⇓*i*P	**Pg**	**11 19 49.2**	**-0.2**
RDX	**Rancho Dawling**	**0.60**	**215**	⇑*e*P	**Pg**	**11 19 49.7**	**+0.1**
CBX	**Cerro Bola**	**0.96**	**264**	*i* P	**Pb**	**11 19 56.1**	**-0.2**
CBX				*e*S	**Sg**	**11 20 09.0**	**+0.1**
CBX	**Cerro Bola**	**0.96**	**264**	⇑*e*P	**Pb**	**11 19 56.2**	**-0.2**
CBX				*e*S	**Sg**	**11 20 09.0**	**+0.1**
CBX				⇑*e*		11 20 13.2	
BAR	**Barrett**	**0.99**	**286**	⇑*i*P	**Pb**	**11 19 56.4**	**-0.5**
ECBX	**El Chinero**	**1.03**	**156**	*e*P	**Pb**	**11 19 56.9**	**-0.6**
ECBX				*e*S	**Sg**	**11 20 11.7**	**+0.4**
ECNX	**Esteban Cantu**	**1.18**	**230**	*e*P	**Pn**	**11 20 00.2**	**+0.2**
ECNX				*e*S	**Sb**	**11 20 15.8**	**+0.7**
PBX	**Punta Banda**	**1.21**	**236**	*e*P	**Pn**	**11 20 00.5**	**+0.1**
PBX				*e*S	**Sn**	**11 20 17.1**	**+0.5**
SPIG	**San Pedro Mart**	**1.37**	**177**	*e*P	**Pn**	**11 20 01.6**	**-1.3**
SPIG				*i* S	**Sn**	**11 20 20.7**	**-0.3**
SPX	**San Pedro Mart**	**1.37**	**177**	*e*P	**Pn**	**11 20 03.6**	**+0.7**
SPX				*e*S	**Sg**	**11 20 22.8**	**+0.6**
SPX				⇑*e*		11 20 24.7	
SPX				IAML		11 20 24.7	
	comp=E,64nm,0.3s						

*NIED **02** 11:22:00, 43.40N×146.90E, h41km, Mw3.8 Best double couple: M0 6.06000×10^14 NP1:φs203.00000°, δ25.00000°, λ54.00000°. NP2:φs62.00000°, δ70.00000°, λ106.00000°.*
*IDC **02** 11:22:02.9±1.2, 43.47N×146.76E, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.8/26, mbtmp3.9/10, ML3.5/1, MS3.0/3, Ms1 3.1/3, ms1mx2.6/42, Error ellipse: s-maj=31.9km s-min=25.7km az=134.0*
*MOS **02** 11:22:07.9±1.6, 43.42N×146.88E, h56km, mb4.5/5, Error ellipse: s-maj=20.1km s-min=12.1km az=71.3*
*NEIC **02** 11:22:07.8±0.8, 43.40N×147.10E, h35km, mb4.1/3, Error ellipse: s-maj=23.6km s-min=11.8km az=139.0*
*JMA **02** 11:22:08.3±0.2, 43.38N×146.89E, h39km±3km, M3.8*
JMA Felt I J1.
*ISCJB **02** 11:22:08.4±0.8, 43.46N±0.06×146.91E±0.06, h55km±5km, mb4.0/12, MS3.3/2, Error ellipse: s-maj=11.9km s-min=4.9km az=146.4*
*SKHL **02** 11:22:09.1±0.4, 43.55N×146.87E, h58km±4km, mb4.7/4*

ISC 02 11:22:08.7±1.3, 43.42N±0.06×146.92E±0.06, h42km±11km, n60, σ1.918/65, mb4.2/12, 4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.45**	**352**	*e*P	**Pn**	**11 22 18.8**	**-0.1**
SHO				AMB	AMB	11 22 19.2	
	400nm,0.5s						
SHO				*e*S	**Sn**	**11 22 26.1**	**0.0**
SHO				A	A	11 22 26.5	
	12μm,0.5s						
NEM2	**Nemuro 2**	**0.86**	**267**	P	**Pn**	**11 22 23.9**	**-0.4**
NEM2				*e*S	**Sn**	**11 22 35.3**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**0.98**	**309**	*e*PN	**Pn**	**11 22 25.8**	**-0.2**
YUK				*i*		11 22 38.7	
YUK				pmax	pmax		
	comp=N,531nm,0.3s						
YUK				pmax	pmax		
	comp=E,380nm,0.3s						
YUK				pmax	pmax		
	comp=Z,2μm,0.3s						
YUK				smax	smax		
	comp=N,1μm,0.4s						
YUK				smax	smax		
	comp=E,1μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**0.98**	**309**	⇓*i*P	**Pn**	**11 22 25.8**	**-0.2**
YUK				AMB	AMB	11 22 27.2	
	comp=E,530nm,0.3s						
YUK				AMB	AMB	11 22 27.2	
	comp=E,380nm,0.3s						
YUK				AMB	AMB	11 22 27.2	
	comp=E,2μm,0.3s						
YUK				*i* S	**Sn**	**11 22 38.7**	**0.0**
YUK				A	A	11 22 41.2	
	comp=E,1μm,0.4s						
YUK				A	A	11 22 41.2	
	comp=E,1μm,0.4s						
YUK				A	A	11 22 41.3	
	comp=E,1μm,0.4s						
JRA	**Rausu**	**1.40**	**292**	P	**Pn**	**11 22 32.0**	**+0.3**
JRA				*e*S	**Sn**	**11 22 49.1**	**+0.1**
JNK	**Nakash**	**1.61**	**277**	P	**Pn**	**11 22 34.5**	**-0.1**
JNK				*e*S	**Sn**	**11 22 53.8**	**-0.3**
JAK	**Akkeshi**	**1.68**	**256**	P	**Pn**	**11 22 35.4**	**-0.1**
JAK				*e*S	**Sn**	**11 22 55.0**	**-0.8**
KUR	**Kuril'sk**	**1.93**	**20**	*d i*PN	**Pn**	**11 22 39.7**	**+0.7**
KUR				*i* S	**Sn**	**11 23 03.3**	**+1.2**
KUR				pmax	pmax		
	comp=N,5.0nm,0.1s						
KUR				pmax	pmax		
	comp=E,13nm,0.1s						
KUR				pmax	pmax		
	comp=Z,26nm,0.1s						
KUR				smax	smax		
	comp=N,113nm,0.2s						
KUR				smax	smax		
	comp=E,206nm,0.5s						
KUR	**Kuril'sk**	**1.93**	**20**	⇓*i*P	**Pn**	**11 22 39.2**	**+0.2**
KUR				AMB	AMB	11 22 41.8	
	comp=E,80nm,0.4s						
KUR				*i* S	**Sn**	**11 23 02.0**	**-0.1**
KUR				A	A	11 23 05.0	
	comp=E,400nm,0.5s						
KUR				A	A	11 23 05.0	
	comp=E,150nm,0.5s						
JTKR	**Abashiri--Toko**	**2.25**	**285**	P	**Pn**	**11 22 44.7**	**+1.3**
JAR	**Ashorobuto**	**2.30**	**268**	P	**Pn**	**11 22 44.7**	**+0.6**
JAR				*e*S	**Sn**	**11 23 11.4**	**+0.3**
JOB	**Onbets**	**2.31**	**258**	P	**Pn**	**11 22 45.0**	**+0.7**
JOB				*e*S	**Sn**	**11 23 12.0**	**+0.5**
JMP	**Maruseppu**	**2.65**	**284**	P	**Pn**	**11 22 50.4**	**+1.5**
JCH	**Churui**	**2.73**	**254**	P	**Pn**	**11 22 50.8**	**+0.8**
JCH				*e*S	**Sn**	**11 23 22.8**	**+1.1**
HRK	**Horoka**	**2.76**	**272**	*e*P	**Pn**	**11 22 52.3**	**+1.8**
HRK				*e*S	**Sn**	**11 23 25.3**	**+2.7**
JKK2	**Kamakawa 2**	**3.06**	**280**	P	**Pn**	**11 22 56.6**	**+2.1**
ERM	**Erimo**	**3.11**	**244**	*e*PN	**Pn**	**11 22 57.8**	**+2.6**
ERM	**Erimo**	**3.11**	**244**	*e*P	**Pn**	**11 22 57.8**	**+2.6**
ERM	**Erimo**	**3.11**	**244**	*e*Pn	**Pn**	11 22 58.5	+3.3
ERM				*e*Sn	**Sn**	**11 23 28.8**	**-2.2**
JKA	**Kamikawa-asahi**	**3.20**	**284**	*e*P	**Pn**	**11 22 58.4**	**+1.9**
ASAJ	**Asahikawa**	**3.21**	**284**	Pn	**Pn**	**11 22 58.4**	**+1.9**
	baz=116,slow=9.2						
ASAJ	**Asahikawa**	**3.21**	**284**	*e*Pn	**Pn**	**11 22 58.2**	**+1.7**
ASAJ				*e*Sn	**Sn**	**11 23 34.3**	**+0.8**
YSS	**Yuzh-Sakhalins**	**4.60**	**322**	*e*P	**Pn**	**11 23 16.0**	**+0.4**
YSS				AMB	AMB	11 23 17.5	
	comp=E,70nm,0.2s						
YSS				*e*S	**Sn**	**11 24 05.0**	**-2.7**
YSS				A	A	11 24 10.7	
	comp=E,40nm,0.2s						
MAJO	**Matsushiro**	**9.58**	**227**	*e*PN	**Pn**	**11 24 21.9**	**-2.2**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MAJO	**Matsushiro**	**9.58**	**227**	*e*Pn	**Pn**	**11 24 21.9**	**-2.2**
	comp=Z,4.3nm,0.4s						
MJAR	**Matsushiro Arr**	**9.58**	**227**	LR	LR	11 27 49.4	
	comp=Z,21nm,18.8s,baz=80,slow=36						
SEY	**Seymchan**	**19.80**	**7**	P	**P**	**11 26 35.8**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=189,slow=8.7,SNR=12						
SEY	**Seymchan**	**19.80**	**7**	*e*P	**P**	**11 26 34.0**	**-1.2**
SEY	**Seymchan**	**19.80**	**7**	*e*P	**P**	**11 26 34.0**	**-1.2**
SONM	**Sosgino Array**	**28.44**	**293**	LR	LR	11 39 07.8	
	comp=Z,32nm,19.3s,baz=85,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.97**	**138**	T	T	11 58 51.6	
	baz=329,slow=76,SNR=419						
H11N1	**WAKE ISLAND Hy**	**28.98**	**138**	T	T	11 58 45.6	
	baz=329,slow=76,SNR=227						
H11N3	**WAKE ISLAND Hy**	**28.98**	**138**	T	T	11 58 53.7	
	baz=329,slow=76,SNR=305						
H11S1	**WAKE ISLAND Hy**	**29.92**	**140**	T	T	12 00 01.1	
	baz=330,slow=76,SNR=600						
H11S3	**WAKE ISLAND Hy**	**29.93**	**140**	T	T	12 00 03.8	
	baz=330,slow=76,SNR=489						
H11S2	**WAKE ISLAND Hy**	**29.94**	**140**	T	T	12 00 04.3	
	baz=330,slow=76,SNR=265						
COLD	**Coldfoot**	**40.52**	**32**	*e*P	**P**	**11 29 43.1**	**0.0**
	comp=Z,1.1nm,0.7s						
COLA	**College**	**41.44**	**36**	*e*P	**P**	**11 29 50.7**	**0.0**
COLA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
COLA	**College**	**41.44**	**36**	*e*P	**P**	**11 29 50.7**	**0.0**
ILAR	**Eielson Array**	**41.85**	**36**	P	**P**	**11 29 54.2**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=272,slow=8.0,SNR=14						
HYT	**Haines Junctio**	**46.69**	**41**	*e*P	**P**	**11 30 30.9**	**-2.0**
	comp=Z,2.3nm,0.9s						
INK	**Inuvik**	**46.77**	**30**	P	**P**	**11 30 34.0**	**+0.7**
	comp=Z,1.5nm,0.4s,baz=292,slow=8.3,SNR=16						
INK	**Inuvik**	**46.77**	**30**	*e*P	**P**	**11 30 33.6**	**+0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
INK	**Inuvik**	**46.77**	**30**	*e*P	**P**	**11 30 33.6**	**+0.3**
INK	**Inuvik**	**46.77**	**30**	*e*P	**P**	**11 30 33.6**	**+0.3**
	comp=Z,1.4nm,0.3s						
ARCES	**ARCESS Array B**	**59.49**	**340**	P	**P**	**11 32 06.4**	**-0.5**
	comp=Z,2.0nm,0.9s,baz=39,slow=7.8,SNR=4.0						
ARCES	**ARCESS Array B**	**59.49**	**340**	P	**P**	**11 32 06.4**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**64.10**	**193**	P	**P**	**11 32 39.1**	**+0.7**
	comp=Z,0.6nm,1.1s,baz=7.1,slow=28,SNR=2.3						
GEYT	**Alibeck**	**64.45**	**299**	P	**P**	**11 32 41.2**	**+0.5**
	comp=Z,1.2nm,0.4s,baz=96,slow=8.8,SNR=2.3						
FINES	**FINESS Array B**	**65.09**	**333**	P	**P**	**11 32 43.2**	**-1.2**
	comp=Z,1.9nm,0.6s,baz=17,slow=8.0,SNR=9.0						
FINES	**FINESS Array B**	**65.09**	**333**	*i* P	**P**	**11 32 43.7**	**-0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**65.09**	**333**	*e*P	**P**	**11 32 43.7**	**-0.7**
NB2	**NORSAR Subarra**	**69.85**	**339**	P	**P**	**11 33 13.8**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=32,slow=6.5						
NOA	**NORSAR Array B**	**69.85**	**339**	P	**P**	**11 33 14.1**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=33,slow=6.2,SNR=7.7						
AKASG	**Malin Array Be**	**71.74**	**324**	P	**P**	**11 33 25.8**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=35,slow=5.9,SNR=6.2						
AKASG	**Malin Array Be**	**71.74**	**324**	*i* P	**P**	**11 33 25.7**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**82.97**	**56**	P	**P**	**11 34 29.9**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=325,slow=7.7,SNR=4.3						
TXAR	**Lajitas Array**	**82.97**	**56**	P	**P**	**11 34 30.0**	**+0.5**
TXAR	**Lajitas Array**	**82.97**	**56**	*e*P	**P**	**11 34 30.0**	**+0.5**
ESDC	**Sonseca Array**	**93.19**	**338**	LR	LR	12 23 02.8	
	comp=Z,28nm,18.5s,baz=145,slow=39						

*BYKL **02** 11:45:34.8±0.3, 53.99N×120.73E*
*MOS **02** 11:45:37.0±1.8, 53.98N×119.89E, h5km, mb4.4/1, Error ellipse: s-maj=37.7km s-min=16.9km az=90.0*

ISC 02 11:45:35.0±0.8, 54.03N±0.04×120.75E±0.02, h10km, n29, σ2.941/54, 1C, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TUP	**Tupik**	**0.61**	**311**	⇑*i*Pg	**Pg**	**11 45 46.7**	**-0.2**
TUP				*e*Sg	**Sg**	**11 45 55.3**	**+0.3**
TUP				Pmax			
	212nm,0.2s						
TUP				Smax			
	2μm,0.4s						
TUP	**Tupik**	**0.61**	**311**	*e*PG	**Pg**	**11 45 46.3**	**-0.6**
TUP				*e*		11 45 55.1	
TUP				pmax	pmax		
	comp=Z,211nm,0.2s						
TUP				smax	smax		
	comp=N,2μm,0.4s						
TNDR	**Tynda**	**2.57**	**63**	*e*Pn	**Pn**	**11 46 17.0**	**+0.3**
TNDR				*e*Pg	**Pb**	**11 46 21.9**	**+0.7**
TNDR				*e*Sn	**Sn**	**11 46 47.3**	**-0.7**
TNDR				*e*Sg	**Sg**	**11 46 56.4**	**-1.1**
YKLR	**Yuktali**	**2.62**	**11**	*e*Pn	**Pn**	**11 46 16.9**	**-0.5**
YKLR				*e*Pg	**Pb**	**11 46 22.6**	**+0.6**
YKLR				*e*Sg	**Sb**	**11 46 57.1**	**+2.8**
KHNR	**Khani**	**2.93**	**352**	*e*Pg	**Pb**	**11 46 27.6**	**+0.2**
KHNR				*e*Sg	**Sb**	**11 47 05.8**	**+2.5**
CRS	**Chara**	**3.21**	**335**	*e*Pn	**Pn**	**11 46 26.0**	**+0.6**
CRS				*e*Pg	**Pb**	**11 46 33.0**	**+1.0**
CRS				*e*Sn	**Sn**	**11 47 03.3**	**-0.4**
CRS				*e*Sg	**Sb**	**11 47 14.2**	**+3.1**
CRS				Pmax			
	comp=N,126nm,0.5s						
CRS				Smax			
	comp=N,490nm,1.6s						
CRS	**Chara**	**3.21**	**335**	*e*PN	**Pn**	**11 46 26.1**	**+0.6**
CRS				*e*		11 46 32.7	
CRS				*e*		11 47 14.1	
CRS				pmax	pmax		
	comp=Z,143nm,1.0s						
CRS				smax	smax		
	comp=E,235nm,1.4s						
IENR	**Iengra**	**3.23**	**45**	*e*Pn	**Pn**	**11 46 25.5**	**-0.2**
IENR				*e*Pg	**Pb**	**11 46 32.7**	**+0.

comp=Z,37nm,0.3s
YOA Smax
comp=Z,897nm,1.4s
KMO Kumora 5.81 293 *e*Pn **Pn** **11 47 02.5 +1.3**
KMO *e*Pg Pb 11 47 19.5 +3.2
KMO *e*Sn **Sn** **11 48 06.3 -1.5**
KMO *e*Sg **Sg** **11 48 35.9 -5.4**
KMO Pmax
comp=Z,8.0nm,0.5s
KMO Smax
comp=Z,238nm,1.1s
SYVR Suvo 6.38 271 *e*Pg **Pb** **11 47 28.6 +2.6**
SYVR *e*Sn **Sn** **11 48 19.0 -2.8**
SYVR *e*Sg Sg 11 48 51.5 -8.0
SYVR Pmax
comp=Z,4.0nm,0.1s
SYVR Smax
comp=Z,87nm,0.6s
NIZ Nizh Angarsk 6.70 290 *e*Sg Sg 11 49 02.8 -7.0
NIZ Smax
comp=Z,71nm,1.0s
KPC Khapcheranga 6.75 234 *e*PN **Pn** **11 47 12.2 -2.0**
KPC *e* 11 47 32.4
KPC *e*S Sn 11 48 24.4 -6.7
OGRR Ongureny 7.79 272 *e*Sg Sg 11 49 35.8 -9.2
OGRR Smax
comp=Z,69nm,1.5s
UUDB Ulan-Yde 8.20 260 *e*Sg Sg 11 49 47.9 -10
UUDB Smax
comp=Z,83nm,1.2s
HRMR Khuramsha 8.69 260 *e*Sg Sg 11 50 03.3 -10
HRMR Smax
comp=Z,146nm,0.7s
TRG Tyrgan 8.70 267 *e*Pn **Pn** **11 47 40.3 -0.6**
TRG *e*Sg Sg 11 50 02.7 -12
TRG Smax
comp=Z,30nm,1.6s
MOY Mondy 12.17 267 *e*Sg 11 51 51.0
MOY Smax
comp=Z,18nm,1.4s

IDC ***02*** *11:56:38.7±0.8, 40.°96S×91.°76W, h0km, mb4.1/6, mb1 4.3/6, mb1mx4.2/16, mbtmp4.1/6, MS3.8/3, Ms1 3.8/3, ms1mx3.4/18, Error ellipse: s-maj=35.4km s-min=20.5km az=101.0*

ISCJB ***02*** *11:56:39.3±0.7, 41.°05S±0.°1×91.°7W±0.°2, h10km, mb4.1/10, MS3.8/3, Error ellipse: s-maj=24.6km s-min=14.8km az=6.5*

NEIC ***02*** *11:56:40.1±0.6, 41.°00S×91.°60W, h10km, mb4.5/4, Error ellipse: s-maj=26.3km s-min=17.0km az=100.0*

ISC 02 11:56:40.5±0.7, 40.°9S±0.°1×91.°8W±0.°2, h10km, n24, σ1s08/19, mb4.3/10, MS3.8/3, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**21.08**	**71**	P	**P**		**P**	**12 01 25.5**	**+0.5**
	0.2nm,0.4s,baz=235,slow=7.9,SNR=5.4								
CPUP	**Villa Florida**	**31.93**	**74**	LR	LR			12 14 09.0	
	comp=Z,138nm,21.4s,baz=232,slow=33								
LPAZ	**La Paz**	**31.94**	**47**	P	**P**		**P**	**12 03 08.2**	**+1.1**
	1.2nm,0.9s,baz=201,slow=16,SNR=4.0								
LPAZ	**La Paz**	**31.94**	**47**	*e*P	**P**		**P**	**12 03 05.6**	**-1.5**
	2.6nm,1.0s								
BDFB	**Brasília**	**45.40**	**69**	LR	LR			12 23 23.2	
	comp=Z,211nm,18.1s,baz=212,slow=35								
QSPA	**South Pole Qui**	**49.32**	**180**	P	**P**		**P**	**12 05 29.8**	**+0.3**
	1.6nm,0.6s,baz=126,slow=3.5,SNR=15								
QSPA	**South Pole Qui**	**49.32**	**180**	*e*P	**P**		**P**	**12 05 30.0**	**+0.5**
VNA1	**Neumayer--Stat**	**49.94**	**154**	P	**P**		**P**	**12 05 34.9**	**+0.9**
SNAA	**Sanae**	**51.44**	**156**	P	P			12 05 41.6	-3.8
SNAA	**Sanae**	**51.44**	**156**	*e*P	P			12 05 41.6	-3.8
	10nm,1.4s								
VNDA	**Vanda**	**53.82**	**195**	P	**P**		**P**	**12 06 03.5**	**+0.7**
	1.2nm,1.0s,baz=114,slow=8.7,SNR=3.8								
MAW	**Mawson**	**70.12**	**170**	P	**P**		**P**	**12 07 51.1**	**-1.3**
	3.7nm,1.0s,baz=188,slow=7.1,SNR=5.7								
MAW	**Mawson**	**70.12**	**170**	*e*P	**P**		**P**	**12 07 51.8**	**-0.6**
TXAR	**Lajitas Array**	**70.75**	**349**	P	**P**		**P**	**12 07 57.6**	**+0.8**
	1.5nm,1.0s,baz=156,slow=9.6,SNR=7.6								
MSTX	**Muleshoe**	**75.20**	**351**	*e*P	**P**		**P**	**12 08 24.0**	**+0.9**
	4.8nm,0.4s								
PDAR	**Pinedale Array**	**84.83**	**347**	P	**P**		**P**	**12 09 15.7**	**+0.6**
	3.3nm,0.9s,baz=152,slow=5.5,SNR=19								
RSSD	**Black Hills**	**85.36**	**351**	*e*P	**P**		**P**	**12 09 18.3**	**+0.6**
	3.2nm,1.0s								
LBTB	**Lobatse**	**92.40**	**126**	LR	LR			12 47 27.6	
	comp=Z,33nm,18.6s,baz=294,slow=33								
GERES	**GERESS Array B**	**128.56**	**55**	PKP	**PKPdf**		**PKPdf**	**12 15 45.0**	**-2.2**
	0.3nm,0.5s,baz=163,slow=1.0,SNR=3.8								
NOA	**NORSAR Array B**	**130.75**	**39**	PKP	**PKPdf**		**PKPdf**	**12 15 49.9**	**-1.0**
	0.5nm,0.7s,baz=258,slow=5.6,SNR=2.6								
BRTR	**Keskin Array B**	**138.94**	**73**	PKP	**PKPdf**		**PKPdf**	**12 16 07.7**	**+0.6**
	0.3nm,0.4s,baz=132,slow=2.1,SNR=3.8								
KBZ	**Khabaz**	**146.69**	**70**	PKPbc	**PKPdf**		**PKPdf**	**12 16 19.7**	**-0.7**
	1.7nm,0.9s,baz=311,slow=4.9,SNR=3.7								
KSRS	**Korea Array**	**149.21**	**277**	PKPbc	**PKPbc**		**PKPbc**	**12 16 28.0**	**-1.0**
	3.7nm,1.1s,baz=114,slow=3.1,SNR=6.5								
KSAR	**Wonju Array Be**	**149.24**	**277**	PKPbc	**PKPbc**		**PKPbc**	**12 16 28.0**	**-1.1**

NOU ***02*** *12:00:05.1±1.8, 13.°00S×165.°67E, h30km*

IDC ***02*** *12:00:07.4±0.3, 13.°65S×166.°73E, h0km, mb5.3/22, mb1 5.4/23, mb1mx5.3/29, mbtmp5.3/23, ML4.6/1, MS4.7/17, Ms1 4.7/17, ms1mx4.5/29, Error ellipse: s-maj=17.1km s-min=12.0km az=92.0*

ISCJB ***02*** *12:00:10.2±1.4, 13.°63S±0.°03×166.°53E±0.°03, h19km±9km, mb5.3/155, MS4.8/30, Error ellipse: s-maj=4.3km s-min=4.1km az=6.6*

MOS ***02*** *12:00:12.2±1.0, 13.°59S×166.°50E, h33km, mb5.9/38, MS5.0/11, Error ellipse: s-maj=8.5km s-min=6.9km az=133.9*

NEIC ***02*** *12:00:13.5±0.2, 13.°65S×166.°61E, h35km, mb5.4/105, Error ellipse: s-maj=6.0km s-min=5.1km az=139.0*

BJI ***02*** *12:00:17.8, 13.°22S×166.°62E, h70km, mb5.6/69, mB5.5/45, Ms4.9/59, Ms7 4.6/52*

GCMT ***02*** *12:00:18.7±0.1, 13.°67S×166.°46E, h31km, MW5.3/95, Moment Tensor Solution. s95,c158; s90,c138; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr-1.22±.02; Mθθ 0.13±.02; Mφφ 1.08±.02; Mrθ-0.07±.03; Mθφ-0.49±.02; Mφr-0.39±.03; Best double couple: M0 1.31900×10^17 NP1:φs347.00000°, δ53.00000°, λ-78.00000°. NP2:φs147.00000°, δ39.00000°, λ-106.00000°. Principal axes: T 1.3350, Plg7.0000°, Azm68.0000°; N -0.0390, Plg10.0000°, Azm159.0000°; P -1.3020, Plg78.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 02 12:00:14.7±0.4, 13.°68S±0.°03×166.°55E±0.°04, h45km±2km, h45km:pP-P, n630, σ1s48/722, mb5.5/167, MS4.9/31, 34C-33D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**7.09**	**175**	*e*P	**Pn**		**P**	**12 01 55.2**	**-0.7**
LIFNC				*e*S	**Sn**			**12 03 19.4**	**+4.1**
HNR	**Honiara**	**7.72**	**302**	*e*P	**Pn**		**P**	**12 02 03.2**	**-1.4**
HNR				*e*				12 03 30.3	
HNR	**Honiara**	**7.72**	**302**	*e*P	**Pn**		**P**	**12 02 07.0**	**+2.4**
HNR				*e*S	**Sn**			**12 03 32.0**	**+1.2**
HNR	**Honiara**	**7.72**	**302**	*e*Pn	**Pn**		**P**	**12 02 03.2**	**-1.4**
HNR				*e*Sn	**Sn**			**12 03 30.3**	**-0.5**
DZM	**Mont Dzumac**	**8.35**	**181**	*e*Pn	**Pn**		**P**	**12 02 12.8**	**-0.5**
	250nm,0.4s								
DZM				*e*Sn	**Sn**			**12 03 45.0**	**-1.3**
	833nm,1.0s								
DZM				eLR	LR			12 04 11.2	
	10μm,23.1s								
DZM	**Mont Dzumac**	**8.35**	**181**	Pn	**Pn**		**P**	**12 02 11.3**	**-2.0**
	7.0nm,0.3s,baz=270,slow=24,SNR=37								
DZM				Sn	**Sn**		**P**	**12 03 44.1**	**-2.3**
	baz=90,slow=20,SNR=2.0								
DZM				LR	LR			12 05 07.9	
	comp=Z,10μm,20.4s,baz=0.0,slow=36								
DZM	**Mont Dzumac**	**8.35**	**181**	*e*Pn	**Pn**		**P**	**12 02 12.9**	**-0.4**
DZM				*e*Sn	**Sn**			**12 03 46.6**	**+0.2**
NOUC	**Port Laguerre**	**8.38**	**182**	*e*P	**Pn**		**P**	**12 02 12.3**	**-1.3**
NOUC				*e*S	**Sn**			**12 03 46.1**	**-0.9**
BAYA	**Yate Dam**	**8.44**	**178**	*e*P	**Pn**		**P**	**12 02 15.8**	**+1.4**
MSVF	**Nonsavu**	**11.79**	**111**	*e*P	**Pn**		**P**	**12 03 01.2**	**+0.8**
MSVF				*e*				12 05 14.1	
MSVF	**Nonsavu**	**11.79**	**111**	*e*Pn	**Pn**		**P**	**12 03 01.2**	**+0.8**
MSVF				*e*Sn	**Sn**			**12 05 14.1**	**+3.5**
TARA	**Tarawa**	**16.22**	**23**	*e*Pn	**Pn**		**P**	**12 03 57.1**	**-2.4**
TARA				*e*Sn	**Sn**			**12 07 00.8**	**+2.3**
EIDS	**Eidsvold**	**18.63**	**229**	P	**Pn**		**P**	**12 04 31.1**	**+1.9**
	baz=19,SNR=28								
EIDS	**Eidsvold**	**18.63**	**229**	*e*P	**Pn**		**P**	**12 04 30.9**	**+1.7**
	153nm,1.3s								
EIDS				*e*S	**Sn**			**12 07 53.6**	**-3.1**
PMG	**Port Moresby**	**19.46**	**281**	*c*P	**Pn**		**P**	**12 04 37.7**	**-0.1**
PMG				pmax	pmax				
	comp=Z,641nm,1.7s								
PMG	**Port Moresby**	**19.46**	**281**	P	**Pn**		**P**	**12 04 40.0**	**+0.7**
	baz=20,SNR=3.4								
PMG				P	**Pn**		**P**	**12 04 40.0**	**+0.7**
	baz=20,SNR=3.4								
PMG				P	**Pn**		**P**	**12 04 40.0**	**+0.7**
	baz=20,SNR=3.4								
PMG	**Port Moresby**	**19.46**	**281**	*e*P	**Pn**		**P**	**12 04 39.6**	**+0.3**
	comp=Z,30nm,1.1s								
CTA	**Charters Tower**	**20.43**	**249**	P	**P**		**P**	**12 04 48.7**	**+0.3**
	comp=Z,35nm,0.7s,baz=79,slow=13,SNR=22								
CTAO	**Charters Tower**	**20.43**	**249**	*e*P	Pn			12 04 50.0	-0.8
CTAO				pmax	pmax				
	comp=Z,306nm,1.3s								
CTAO	**Charters Tower**	**20.43**	**249**	*e*P	Pn			12 04 50.0	-0.8
	comp=Z,306nm,1.3s								
RMQ	**Roma**	**20.98**	**230**	P	Pn			12 04 57.0	-0.3
	baz=21,SNR=234								
AFI	**Afiamalu**	**21.05**	**93**	*e*P	**P**		**P**	**12 04 56.1**	**+0.9**
AFI				pmax	pmax				
	comp=Z,26nm,0.8s								
AFI	**Afiamalu**	**21.05**	**93**	*e*P	**P**		**P**	**12 04 56.1**	**+0.9**
	comp=Z,26nm,0.8s								
ARMA	**Armidale**	**21.61**	**217**	P	**P**		**P**	**12 05 03.1**	**+2.1**
	baz=22,SNR=64								
ARMA	**Armidale**	**21.61**	**217**	*e*P	**P**		**P**	**12 05 03.1**	**+2.1**
	comp=Z,134nm,1.1s								
OUZ	**Omahuta**	**22.38**	**165**	*e*P	**P**		**P**	**12 05 10.2**	**+1.2**
	comp=Z,14nm,0.9s								
COEN	**Coen**	**22.70**	**266**	P	**P**		**P**	**12 05 13.5**	**+0.7**
	baz=23,SNR=16								
COEN	**Coen**	**22.70**	**266**	*e*P	**P**		**P**	**12 05 13.6**	**+0.9**
	comp=Z,31nm,1.3s								
MGCD	**Mangrove Creek**	**24.00**	**213**	P	**P**		**P**	**12 05 27.6**	**+2.3**
	baz=24,SNR=19								
QLP	**Quilpie**	**24.52**	**235**	P	**P**		**P**	**12 05 31.1**	**+1.0**
	baz=24,SNR=98								
CMSA	**Cobar Meteorol**	**26.12**	**224**	P	**P**		**P**	**12 05 45.7**	**+1.1**
	baz=26,SNR=84								
URZ	**Urewera**	**26.22**	**161**	P	**P**		**P**	**12 05 45.3**	**0.0**
	comp=Z,4.6nm,0.6s,baz=297,slow=4.8,SNR=5.3								
URZ	**Urewera**	**26.22**	**161**	*e*P	**P**		**P**	**12 05 46.0**	**+0.6**
	comp=Z,42nm,0.9s								
YNG	**Young**	**26.31**	**216**	P	**P**		**P**	**12 05 48.0**	**+1.8**
	baz=26,SNR=35								
CNB	**Canberra Magne**	**26.54**	**213**	P	**P**		**P**	**12 05 49.9**	**+1.5**
	baz=27,SNR=28								
QIS	**Mount Isa**	**26.62**	**251**	P	**P**		**P**	**12 05 49.5**	**+0.3**
	baz=27,SNR=24								
BKZ	**Black Stump Fm**	**26.87**	**163**	*e*P	**P**		**P**	**12 05 51.4**	**+0.1**
	comp=Z,28nm,0.8s								
MILA	**Mila**	**27.99**	**211**	P	**P**		**P**	**12 06 02.8**	**+1.4**
	baz=28,SNR=13								
GENI	**Genyem**	**28.30**	**291**	P	**P**		**P**	**12 06 03.2**	**-1.1**
	comp=Z,51nm,1.1s								
STKA	**Stephens Creek**	**29.16**	**227**	P	**P**		**P**	**12 06 13.3**	**+1.6**
	comp=Z,62nm,0.5s,baz=44,slow=8.1,SNR=317								
STKA				PcP	**PcP**			**12 09 18.7**	**+0.1**
	comp=Z,10.0nm,0.7s,baz=152,slow=12,SNR=2.9								
STKA				ScP	**ScP**			**12 12 59.3**	**+2.6**
	comp=Z,3.2nm,0.8s,baz=27,slow=4.5,SNR=3.0								
STKA				PKiKP	**PKiKP**			**12 16 50.2**	**-2.3**
	comp=Z,1.2nm,0.7s,baz=18,slow=1.6,SNR=7.6								
STKA				LR	LR			12 18 05.8	
	comp=Z,4μm,18.1s,baz=56,slow=37								
STKA	**Stephens Creek**	**29.16**	**227**	P	**P**		**P**	**12 06 13.4**	**+1.6**
STKA								12 09 18.7	
STKA								12 12 59.3	
STKA				pmax	pmax				
	comp=Z,62nm,0.5s								
STKA				pmax	pmax				
	comp=Z,10.0nm,0.7s								
STKA				pmax	pmax				
	comp=N,3.0nm,0.8s								
STKA	**Stephens Creek**	**29.16**	**227**	*e*P	**P**		**P**	**12 06 13.1**	**+1.3**
	comp=N,360nm,2.3s								
STKA				PcP	**PcP**			**12 09 18.7**	**+0.1**
STKA				ScP	**ScP**			**12 12 59.3**	**+2.6**
STKA				PKiKP	**PKiKP**			**12 16 50.2**	**-2.3**
KHZ	**Kahutara**	**29.27**	**169**	*e*P	P			12 06 17.9	+5.4
	comp=N,68nm,1.5s								
SMPI	**Sarmi**	**29.87**	**290**	P	**P**		**P**	**12 06 17.4**	**-0.8**
	comp=N,156nm,1.5s								
RPZ	**Rata Peaks**	**30.19**	**173**	P	**P**		**P**	**12 06 21.2**	**+0.6**
	comp=N,26nm,0.7s,baz=319,slow=2.5,SNR=12								
RPZ	**Rata Peaks**	**30.19**	**173**	*e*P	**P**		**P**	**12 06 21.3**	**+0.6**
	comp=N,38nm,1.0s								
TOO	**Toolangi**	**30.30**	**214**	P	**P**		**P**	**12 06 23.4**	**+1.6**
	baz=30,SNR=41								
WRAB	**Tennant Creek**	**31.41**	**254**	P	**P**		**P**	**12 06 31.0**	**-0.8**
	comp=N,248nm,1.4s,SNR=8.4								
WRAB	**Tennant Creek**	**31.41**	**254**	*d*P	**P**		**P**	**12 06 30.4**	**-1.4**
WRAB				pmax	pmax				
	comp=Z,161nm,1.2s								
WRAB	**Tennant Creek**	**31.41**	**254**	*e*P	**P**		**P**	**12 06 31.2**	**-0.6**
	comp=Z,108nm,1.1s								
WRA	**Warramunga Arr**	**31.42**	**254**	P	**P**		**P**	**12 06 30.9**	**-1.0**
	comp=Z,34nm,0.9s,baz=85,slow=9.1,SNR=167								
WRA				PcP	**PcP**			**12 09 25.1**	**+0.4**
	comp=Z,19nm,1.0s,baz=84,slow=2.8,SNR=10								
WRA				ScP	**ScP**			**12 13 07.9**	**+3.6**
	comp=Z,2.0nm,0.9s,baz=81,slow=3.6,SNR=4.7								
WRA				PKiKP	**PKiKP**			**12 16 51.6**	**-2.7**
	comp=Z,2.8nm,0.6s,baz=9.6,slow=0.6,SNR=34								
WRA				LR	LR			12 18 53.5	
	comp=Z,6μm,18.4s,baz=85,slow=36								
DCZ	**Deep Cove**	**31.70**	**179**	*e*P	**P**		**P**	**12 06 34.2**	**+0.3**
	comp=Z,108nm,1.0s								
ARPS	**Mount Arapiles**	**31.89**	**219**	P	**P**		**P**	**12 06 37.3**	**+1.5**
	baz=32,SNR=55								
HTT	**Hallett**	**31.90**	**227**	P	**P**		**P**	**12 06 37.1**	**+1.1**
	baz=32,SNR=70								
WHZ	**Wether Hill Ro**	**32.14**	**178**	*e*P	**P**		**P**	**12 06 37.1**	**-0.7**
	comp=Z,29nm,0.9s								
SRPI	**Serui, Papua**	**32.18**	**289**	P	**P**		**P**	**12 06 39.1**	**+0.5**
	comp=Z,123nm,0.5s								
ASAR	**Alice Springs**	**32.41**	**247**	P	**P**		**P**	**12 06 40.0**	**-0.6**
	comp=Z,27nm,0.8s,baz=74,slow=9.7,SNR=212								
ASAR				PcP	**PcP**			**12 09 27.1**	**-0.3**
	comp=Z,6.0nm,0.7s,baz=68,slow=2.5,SNR=6.4								
ASAR				ScP	**ScP**			**12 13 11.2**	**+3.5**
	comp=Z,3.8nm,1.1s,baz=79,slow=2.5,SNR=4.5								
ASAR				PKiKP	**PKiKP**			**12 16 53.4**	**-1.6**
	comp=Z,1.6nm,0.6s,baz=94,slow=1.7,SNR=13								
ASAR				LR	LR			12 20 16.3	
	comp=Z,2μm,18.1s,baz=76,slow=37								
KDU	**Kakadu**	**33.18**	**268**	P	**P**		**P**	**12 06 47.8**	**+0.5**
	baz=33,SNR=15								
MOO	**Moorlands**	**33.20**	**207**	P	**P**		**P**	**12 06 49.0**	**+1.8**
	baz=33,SNR=14								
TAU	**Tasmania Unive**	**33.52**	**206**	P	**P**		**P**	**12 06 51.0**	**+1.0**
	comp=Z,495nm,1.0s,SNR=5.6								
TAU	**Tasmania Unive**	**33.52**	**206**	*e*P	**P**		**P**	**12 06 51.4**	**+1.4**
TAU				pmax	pmax				
	comp=Z,149nm,1.4s								
TAU	**Tasmania Unive**	**33.52**	**206**	*e*P	**P**		**P**	**12 06 51.4**	**+1.4**
	comp=Z,149nm,1.4s								
BBOO	**Buckleboo**	**33.69**	**230**	P	**P**		**P**	**12 06 52.4**	**+0.8**
	baz=34,SNR=113								
BBOO	**Buckleboo**	**33.69**	**230**	*e*P	**P**		**P**	**12 06 52.5**	**+0.9**
	comp=Z,8.6nm,0.8s								
RKPI	**Ransiki, Papua**	**34.22**	**288**	P	**P**		**P**	**12 06 57.1**	**+0.7**
	comp=Z,84nm,0.8s,comp=Z,14μm								
GUMO	**Guam**	**34.57**	**321**	LR	LR			12 19 36.4	
	comp=Z,2μm,21.6s,baz=125,slow=34								
KNRA	**Kununurra**	**36.58**	**262**	P	**P**		**P**	**12 07 16.7**	**+0.1**
	baz=37,SNR=18								
BNDI	**Bandanaira**	**37.26**	**281**	P	**P**		**P**	**12 07 23.1**	**+0.7**
WRKA	**Warakurna**	**37.69**	**247**	P	**P**		**P**	**12 07 25.7**	**-0.4**
	baz=38,SNR=139								
PALU	**Palau**	**38.08**	**301**	P	**P**		**P**	**12 07 30.6**	**+1.3**
	baz=38,SNR=7.6								
FORT	**Forrest**	**39.25**	**238**	P	**P**		**P**	**12 07 39.5**	**+0.4**
	baz=39,SNR=87								
FORT	**Forrest**	**39.25**	**238**	*e*P	**P**		**P**	**12 07 39.4**	**+0.4**
	comp=Z,206nm,0.6s								
PPT2	**Papeete2**	**42.36**	**101**	*e*S	S			12 14 30.9	+7.5
	comp=Z,581nm,27.0s								
PPT2				*e*LQ	LQ			12 18 07.0	
	comp=Z,4μm,28.2s								
PPT2				*e*LR	LR			12 19 54.6	
	comp=Z,3μm,25.5s,baz=277								
TBI	**Tubuai**	**42.67**	**110**	*e*S	S			12 14 34.4	+6.8
	comp=Z,365nm,27.5s								
TBI				*e*LQ	LQ			12 18 15.0	
	comp=Z,2μm,26.8s								
TBI				*e*LR	LR			12 20 03.6	
	comp=Z,2μm,23.8s,baz=284								
MMRI	**Maumere**	**43.71**	**272**	*e*P	**P**		**P**	**12 08 16.2**	**+0.4**
	comp=Z,86nm,1.0s								
KMBL	**Kambalda**	**44.52**	**239**	P	**P**		**P**	**12 08 22.3**	**+0.2**
	baz=44,SNR=24								
LUWI	**Luwuk**	**45.09**	**282**	P	**P**		**P**	**12 08 28.3**	**+1.5**
	baz=45,SNR=7.0								
LUWI	**Luwuk**	**45.09**	**282**	*e*P	**P**		**P**	**12 08 27.9**	**+1.1**
	comp=Z,280nm,1.3s								
MBWA	**Marble Bar**	**45.16**	**254**	*e*P	**P**		**P**	**12 08 27.8**	**+0.5**
	comp=Z,120nm,1.2s								
BUKP	**Musuan**	**46.42**	**295**	*e*P	**P**		**P**	**12 08 38.8**	**+1.5**
BUKP				*e*S	**sP**		**sP**	**12 08 58.2**	**+3.1**
MEEK	**Meekatharra**	**46.55**	**246**	P	**P**		**P**	**12 08 38.8**	**+0.5**
	baz=47,SNR=122								
KAPI	**Kappang**	**46.90**	**276**	P	**P**		**P**	**12 08 42.2**	**+1.1**
	comp=Z,394nm,1.1s,SNR=7.7								
KAPI	**Kappang**	**46.90**	**276**	*e*P	**P**		**P**	**12 08 42.1**	**+1.0**
	comp=Z,30nm,1.3s								
MSLP	**Maasin**	**47.65**	**298**	*e*P	**P**		**P**	**12 08 47.8**	**+0.9**
MSLP				*e*S	**sP**		**sP**	**12 09 06.7**	**+2.0**
PAGZ	**Pagadian**	**47.89**	**294**	*e*P	**P**		**P**	**12 08 50.5**	**+1.7**
KLBR	**Kellerberrin**	**48.02**	**240**	P	**P**		**P**	**12 08 49.3**	**-0.2**
	baz=48,SNR=39								
BLDU	**Balliulu**	**48.74**	**241**	P	**P**		**P**	**12 08 54.8**	**-0.3**
	baz=49,SNR=9.0								
MORW	**Morawa**	**49.10**	**243**	P	**P**		**P**	**12 08 58.3**	**+0.4**
	baz=49,SNR=27								
RKGY	**Rocky Gully**	**49.25**	**236**	P	**P**		**P**	**12 08 59.5**	**+0.5**
	baz=49,SNR=6.8								
GUIM	**Jordan**	**49.85**	**297**	*e*P	**P**		**P**	**12 09 04.1**	**+0.3**
RCP	**Roxas**	**50.16**	**298**	↑*e*P	**P**		**P**	**12 09 07.5**	**+1.5**
GIRL	**Giralia**	**50.29**	**252**	↑P	**P**		**P**	**12 09 07.0**	**-0.1**
	baz=50,SNR=6.1								
MYLDM	**Lahad Datu**	**51.24**	**288**	*e*P	**P**		**P**	**12 09 17.2**	**+2.9**
	comp=Z,288nm,1.4s								
JAGI	**Jajag, Banyuwa**	**51.60**	**270**	P	**P**		**P**	**12 09 16.8**	**-0.2**
	baz=52,SNR=6.7								
JAGI	**Jajag, Banyuwa**	**51.60**	**270**	*e*P	**P**		**P**	**12 09 16.8**	**-0.2**
	comp=Z,41nm,0.7s								
SDKM	**Sandakan**	**52.61**	**288**	↑P	**P**		**P**	**12 09 25.1**	**+0.5**
SDKM	**Sandakan**	**52.61**	**288**	↑P	**P**		**P**	**12 09 25.1**	**+0.5**
KKM	**Kota Kinabalu**	**53.67**	**288**	P	**P**		**P**	**12 09 33.7**	**+1.3**
	baz=54,SNR=28								
KKM	**Kota Kinabalu**	**53.67**	**288**	*e*P	**P**		**P**	**12 09 33.5**	**+1.0**
	comp=Z,368nm,1.1s								
SMRI	**Semarang**	**55.48**	**271**	*e*P	**P**		**P**	**12 09 47.4**	**+1.8**
	comp=Z,75nm,0.8s								
DRV	**Dumont d'Urvil**	**55.81**	**192**	SS	**SS**			**12 21 18.0**	**+1.5**
DRV				L	L			12 23 00.0	
DRV				R				12 26 00.0	
RKT	**Rikitea**	**55.97**	**109**	eLR	LR			12 26 13.9	
	comp=Z,1μm,26.2s								
SBUM	**Sibu**	**56.20**	**282**	*e*P	**P**		**P**	**12 09 52.2**	**+1.5**
	comp=Z,69nm,1.0s								
MJAR	**Matsushiro Arr**	**56.65**	**333**	P	**P**		**P**	**12 09 53.1**	**-0.3**
	comp=Z,72nm,1.0s,baz=170,slow=8.2,SNR=164								
MJAR				LR	LR			12 30 48.3	
	comp=Z,117nm,21.6s,baz=140,slow=32								
MAJO	**Matsushiro**	**56.65**	**333**	*d*P	**P**		**P**	**12 09 53.1**	**-0.3**
MAJO				pmax	pmax				
	comp=Z,922nm,1.3s								
MAJO	**Matsushiro**	**56.65**	**333**	*e*P	**P**		**P**	**12 09 53.2**	**-0.2**
	comp=Z,127nm,1.0s								
MAT	**Matsushiro**	**56.65**	**333**	P	**P**		**P**	**12 09 53.1**	**-0.3**
MAT				S	**S**		**S**	**12 17 42.8**	**+0.2**
YULB	**Yu-li**	**57.59**	**309**	*e*P	**P**		**P**	**12 09 59.4**	**-0.9**
	comp=Z,39nm,1.1s								
KSM	**Kuching**	**57.72**	**281**	P	**P**		**P**	**12 10 02.5**	**+1.1**
	baz=58,SNR=28								
KSM	**Kuching**	**57.72**	**281**	*e*P	**P**		**P**	**12 10 01.6**	**+0.2**
	comp=Z,138nm,1.3s								
NACB	**Ninganchiao**	**57.82**	**310**	*e*P	**P**		**P**	**12 10 02.2**	**+0.4**
	comp=Z,

KSSAJ Sangju 61.59 325 P **P** **12 10 28.5 +1.0**
SNR=6.5
KSJEU Jeongeup 61.63 324 P **P** **12 10 28.7 +0.9**
SNR=9.0
KSJEU Jeongeup 61.63 324 P **P** **12 10 28.7 +0.9**
SNR=9.0
KSTBA Taebaek 61.68 326 P **P** **12 10 29.8 +1.5**
SNR=46
KSTBA Taebaek 61.68 326 P **P** **12 10 29.8 +1.5**
SNR=46
KSJEO Jeonju 61.74 324 P **P** **12 10 29.7 +1.1**
SNR=16
KSBON Boeun 61.85 325 P **P** **12 10 30.3 +0.9**
SNR=21
KSBON Boeun 61.85 325 P **P** **12 10 30.3 +0.9**
SNR=21
KSHUK Heuksando 61.93 322 P **P** **12 10 31.3 +1.4**
SNR=8.9
KSYOW Yeongwol 61.98 326 P **P** **12 10 31.6 +1.4**
SNR=6.4
TJN Taejon 62.01 325*d i*P **P** **12 10 30.7 +0.3**
KSCHJ Chungju 62.03 326 P **P** **12 10 31.3 +0.8**
SNR=7.8
KSJES JEONGSEON 62.06 326 P **P** **12 10 32.0 +1.2**
SNR=10
KSGUS GUNSAN 62.10 324 P **P** **12 10 32.1 +1.1**
SNR=6.7
KSKOJ Gongju 62.20 325 P **P** **12 10 33.1 +1.5**
SNR=6.7
KSDGY Daegwallycong 62.25 327 P **P** **12 10 33.2 +1.1**
SNR=12
KSDGY Daegwallycong 62.25 327 P **P** **12 10 33.2 +1.1**
SNR=12
KSJMJ Jumunjin 62.34 327 P **P** **12 10 33.8 +1.2**
SNR=21
KSCEA Cheonan 62.39 325 P **P** **12 10 33.8 +0.9**
SNR=16
KSRS Korea Array 62.48 326 P **P** **12 10 34.5 +1.0**
comp=E,32nm,0.9s,baz=140,slow=7.2,SNR=95
KSRS Korea Array 62.48 326 P **P** **12 10 34.5 +1.0**
KSRS pmax pmax
comp=Z,32nm,0.9s
KSAR Wonju Array Be 62.49 326 P **P** **12 10 34.5 +0.9**
KSAR Wonju Array Be 62.49 326 P **P** **12 10 34.5 +0.9**
KSICN Icheon 62.64 325 P **P** **12 10 35.5 +0.9**
SNR=13
KSIJA INJE 62.77 326 P **P** **12 10 36.8 +1.3**
SNR=22
KSSKC Sokcho 62.77 327 P **P** **12 10 36.5 +1.1**
SNR=6.2
KSCHC Chuncheon 62.77 326 P **P** **12 10 36.7 +1.2**
SNR=11
KSSES Seosan 62.82 324 P **P** **12 10 36.9 +1.1**
SNR=8.4
KSSWO Suwon 62.87 325 P **P** **12 10 37.3 +1.2**
SNR=7.5
SEHB SEOHWA 62.90 327 P **P** **12 10 37.7 +1.4**
SNR=7.1
DLV T Lat 62.94 291 *e*P **P** **12 10 38.4 +1.1**
comp=Z,7.8nm,0.3s
KSSEO Seoul 63.05 325 P **P** **12 10 38.5 +1.1**
SNR=6.7
KSCWO Cheorwon 63.16 326 P **P** **12 10 39.6 +1.5**
SNR=14
INCN Inchon 63.21 325 *e*P **P** **12 10 39.3 +0.8**
comp=Z,181nm,1.5s
KSMUS Musan 63.43 326 P **P** **12 10 40.9 +1.1**
SNR=19
YNCB YEONCHEON 63.45 326 P **P** **12 10 41.2 +1.3**
SNR=9.9
KSGAH Ganghwa 63.47 325 P **P** **12 10 41.2 +1.1**
SNR=6.6
GZH Guangzhou 63.61 305 P **P** **12 10 43.5 +2.2**
GZH PcP **PcP** **12 11 13.3 -4.1**
GZH PMZ
comp=Z,320nm,4.6s
VNDA Vanda 63.89 181 P **P** **12 10 42.4 0.0**
comp=Z,9.1nm,0.6s,baz=359,slow=6.7,SNR=97
VNDA LR LR 12 36 11.1
comp=Z,429nm,19.4s,baz=18,slow=34
YSS Yuzh-Sakhalins 64.02 342⇓*i*P **P** **12 10 44.0 +0.5**
YSS *e* 12 10 52.0
YSS *e*S **S** **12 19 18.0 +1.6**
YSS pmax pmax
comp=Z,60nm,1.0s
YSS MLR MLR
comp=N,900nm,16.0s
YSS MLR MLR
comp=E,700nm,16.0s
YSS MLR MLR
comp=Z,700nm,16.0s
YSS Yuzh-Sakhalins 64.02 342 *e*P **P** **12 10 44.4 +0.9**
comp=Z,109nm,1.1s
SBA Scott Base 64.18 180 *e*P **P** **12 10 44.8 +0.6**
SBA pmax pmax
comp=Z,43nm,0.9s
SBA Scott Base 64.18 180 *e*P **P** **12 10 44.8 +0.6**
comp=Z,43nm,0.9s
CASY Casey 64.24 202 *e*P **P** **12 10 44.6 -0.1**
comp=Z,55nm,0.7s
NJ2 Nanjing 64.44 316 *e*P **P** **12 10 47.6 +1.0**
NJ2 pP pP 12 11 05.4 +5.8
NJ2 sP sP 12 11 13.7 +9.0
NJ2 S **S** **12 19 20.0 -2.2**
NJ2 sS sS 12 19 54.0 +10
NJ2 PMZ
comp=Z,90nm,0.9s
NJ2 LN
comp=Z,350nm,24.0s
NJ2 LE
comp=Z,880nm,17.0s
QIZ Qiongzhong 64.62 299 P **P** **12 10 49.5 +1.5**
QIZ pP pP 12 11 07.6 +6.6
QIZ sP sP 12 11 15.6 +9.4
QIZ S **S** **12 19 24.5 -0.5**
QIZ sS sS 12 19 54.2 +7.5
QIZ PMZ
comp=Z,41nm,1.3s
QIZ LN
comp=Z,230nm,19.9s
QIZ LZ
comp=Z,320nm,24.2s
QIZ Qiongzhong 64.62 299 *e*P **P** **12 10 49.0 +1.0**
comp=Z,63nm,1.3s
SKR Severo-Kuril's 64.73 353 *e* S 12 19 15.0 -10
SKR pmax pmax
comp=Z,90nm,1.0s
SKR MLR MLR
comp=N,900nm,18.0s
SKR MLR MLR
comp=E,900nm,18.0s
SKR MLR MLR
comp=Z,1μm,18.0s
VLA Vladivostok 64.82 333*d i*P **P** **12 10 50.1 +1.2**
VLA pmax pmax
comp=Z,160nm,1.4s
USRK Ussuriysk Ar. 65.64 333 P **P** **12 10 55.4 +1.3**
comp=Z,132nm,0.9s,baz=140,slow=5.6,SNR=226
USRK LR LR 12 37 50.8
comp=Z,218nm,20.1s,baz=133,slow=34
BKNI Bangkinang 66.32 276 *e*P **P** **12 11 00.6 +1.4**
comp=Z,135nm,0.9s
WHN Wuhan 66.72 312⇓*i*P **P** **12 11 02.1 +0.7**
WHN S **S** **12 19 52.1 +1.9**
WHN PMZ
comp=Z,60nm,0.8s
WHN LN
comp=Z,790nm,20.2s
WHN LE
comp=Z,300nm,12.4s
WHN LZ
comp=Z,610nm,17.6s
PET Petropavlovsk 66.77 355 *e*P **P** **12 11 01.6 +0.4**
PET *e*S **S** **12 19 47.3 -2.6**
PET *e*PS **PnS** **12 20 15.8 -0.6**
PET pmax pmax
comp=Z,100nm,10.6s
PET pmax pmax
comp=Z,200nm,14.2s
UBPT Khong Chiam 66.91 293 P **P** **12 11 04.2 +1.3**
comp=Z,46nm,1.2s
PETK Petropavlovsk- 66.95 354 P **P** **12 11 02.9 +0.5**
comp=Z,16nm,0.8s,baz=162,slow=9.3,SNR=21
PETK LR LR 12 35 25.8
comp=Z,326nm,21.0s,baz=166,slow=32
MDJ Mudanjiang 67.03 332 P **P** **12 11 04.4 +1.4**
MDJ pP pP 12 11 23.4 +7.3
MDJ S **S** **12 19 56.3 +2.9**
MDJ PMZ
comp=Z,170nm,1.0s
MDJ PMZ
comp=Z,190nm,5.6s
MDJ LN
comp=Z,230nm,26.4s
MDJ LE
comp=Z,260nm,21.8s
MDJ LZ
comp=Z,300nm,26.4s
MDJ Mudanjiang 67.03 332 *e*P **P** **12 11 04.0 +1.0**
comp=Z,196nm,1.1s
DL2 Dalian 67.04 323 P **P** **12 11 04.2 +1.0**
DL2 S **S** **12 19 56.5 +2.8**
DL2 PMZ
comp=Z,200nm,1.0s
DL2 PMZ
comp=Z,170nm,5.7s
IPM Ipoh 67.46 281 *e*P **P** **12 11 06.6 +0.1**
comp=Z,130nm,1.2s
HABR Khabarovsk 67.90 338*de*P **P** **12 11 08.6 +0.2**
HABR *e**PP **pP** **12 11 20.2 -1.3**
HABR *e**SP **sP** **12 11 24.4 -2.3**
HABR *e* 12 11 36.4
HABR *e*S **S** **12 20 05.6 +1.9**
HABR *e**SS **sS** **12 20 23.2 -2.3**
HABR *e* 12 21 05.5
HABR *e*SS **SS** **12 24 28.6 +2.0**
HABR pmax pmax
comp=N,54nm,1.4s
HABR pmax pmax
comp=E,34nm,1.4s
HABR pmax pmax
comp=Z,232nm,1.4s
HABR pmax pmax
comp=Z,529nm,1.7s
HABR MLR MLR
comp=Z,83nm,19.0s
SNY Shenyang 67.95 327⇓P **P** **12 11 09.3 +0.4**
SNY S **S** **12 20 06.3 +1.8**
SNY PMZ
comp=Z,26nm,1.6s
SNY PMZ
comp=Z,340nm,3.5s
SNY LN
comp=Z,280nm,20.0s
SNY LE
comp=Z,240nm,26.3s
SNY LZ
comp=Z,330nm,22.9s
KULM Kulim 68.05 281 *e*P **P** **12 11 10.6 +0.5**
comp=Z,58nm,1.1s
TIA Tai'an 68.09 319⇓P **P** **12 11 10.3 +0.4**
TIA pP PcP 12 11 30.4 -5.4
TIA sP sP 12 11 38.8 +11
TIA PP PP 12 13 46.3 +5.5
TIA S **S** **12 20 10.5 +4.0**
TIA PMZ
comp=Z,80nm,1.0s
TIA PMZ
comp=Z,240nm,7.7s
TIA LN
comp=Z,190nm,13.1s
TIA LE
comp=Z,590nm,20.2s
TIA LZ
comp=Z,450nm,20.2s
CN2 Changchun 68.39 329 *e*P **P** **12 11 12.5 +0.9**
CN2 *e*S **S** **12 20 12.8 +3.1**
CN2 PMZ
comp=Z,100nm,0.8s
CN2 PMZ
comp=Z,300nm,3.0s
CN2 LN
comp=Z,200nm,19.0s
CN2 LE
comp=Z,200nm,19.0s
CN2 LZ
comp=Z,200nm,18.0s
SKLT Songkhla 68.64 283 P **P** **12 11 16.4 +2.6**
comp=Z,46nm,1.3s
SKNT Sakolnakorn 68.88 294 P **P** **12 11 15.9 +0.7**
comp=Z,127nm,1.2s,comp=Z,2μm
PSI Prapat 69.01 278 *e*P **P** **12 11 16.1 -0.2**
PSI pmax pmax
comp=Z,73nm,1.1s
PSI Prapat 69.01 278 P **P** **12 11 16.4 +0.1**
baz=69,SNR=8.5
PSI Prapat 69.01 278 *e*P **P** **12 11 16.1 -0.2**
comp=Z,73nm,1.1s
KHON Khonkaen 69.67 293 P **P** **12 11 21.6 +1.5**
comp=Z,17nm,0.9s,comp=Z,848nm
TRTT Trang 69.71 284 P **P** **12 11 22.4 +1.9**
comp=Z,56nm,1.4s
KLR Kul'dur 69.77 337⇑*i*P **P** **12 11 17.7 -2.4**
KLR pmax pmax
comp=N,40nm,1.6s
KLR pmax pmax
comp=E,85nm,1.6s
KLR pmax pmax
comp=Z,240nm,1.6s
GSI Gunungsitoli 69.92 276 *e*P **P** **12 11 22.5 +0.8**
comp=Z,108nm,0.9s
ENH Enshi 70.16 309 *e*P **P** **12 11 23.4 +0.5**
comp=Z,79nm,1.1s
NKL Nikolayevsk 70.17 344 *e*P P 12 11 17.0 -5.4
NKL *e* 12 11 30.0
NKL pmax pmax
comp=Z,260nm,1.8s
SURA Surathani 70.18 285 P **P** **12 11 25.4 +2.1**
comp=Z,72nm,1.1s,comp=Z,3μm
PATY Pattaya 70.24 289 P **P** **12 11 25.8 +2.1**
comp=Z,18nm,1.0s,comp=Z,963nm
CHAI Chaiyaphum 70.26 293 P **P** **12 11 24.4 +0.6**
comp=Z,16nm,0.9s,comp=Z,162nm
GYA Guiyang 70.54 305⇓*i*P **P** **12 11 26.5 +1.0**
GYA pP **PcP** **12 11 49.2 +2.7**
GYA sP sP 12 11 57.6 +14
GYA PP **PP** **12 14 06.8 +4.5**
GYA S **S** **12 20 33.0 -3.0**
GYA sS **SKiKP** **12 21 10.4 +4.5**
GYA SKS **SKSac** **12 21 18.8 -5.4**
GYA SS **SS** **12 25 08.2 -0.2**
GYA PMZ
comp=Z,50nm,1.0s
GYA PMZ
comp=Z,140nm,5.2s
GYA LN
comp=Z,760nm,18.9s
GYA LE
comp=Z,690nm,20.0s
GYA LZ
comp=Z,720nm,19.8s
SLVN Son La 70.64 299 *e*P **P** **12 11 27.5 +1.4**
comp=Z,85nm,1.7s
SURT Suratani 70.90 285 P **P** **12 11 30.1 +2.4**
comp=Z,26nm,1.2s
MIR Mirnyy 71.00 204 *e*P **pP** **12 11 38.0 -2.5**
MIR pmax pmax
comp=Z,180nm,1.5s
BJT Baijiatuau 71.00 321 *e*P **P** **12 11 29.0 +1.2**
BJT pmax pmax
comp=Z,163nm,1.3s
BJT Baijiatuau 71.00 321 *e*P **P** **12 11 29.0 +1.2**
comp=Z,163nm,1.3s
BJI Beijing 71.01 321 P **P** **12 11 28.9 +1.1**
BJI sP sP 12 11 56.7 +11
BJI PP **PP** **12 14 08.5 +2.6**
BJI S **S** **12 20 42.4 +1.8**
BJI sS **SKiKP** **12 21 09.1 +3.1**
BJI PMZ
comp=Z,100nm,1.2s
BJI PMZ
comp=Z,330nm,6.8s
BJI LN
comp=Z,450nm,21.8s
BJI LE
comp=Z,440nm,19.8s
BJI LZ
comp=Z,490nm,24.6s
PBKT Sadao Pong 71.41 293 P **P** **12 11 32.3 +1.6**
comp=Z,53nm,1.3s,comp=Z,1μm
TIY Taiyuan 72.02 318 *e*P **P** **12 11 35.6 +1.5**
TIY pP **PcP** **12 11 57.3 +4.9**
TIY S **S** **12 20 49.3 -3.3**
TIY PMZ
comp=Z,200nm,1.2s
TIY LN
comp=Z,280nm,17.1s
TIY LE
comp=Z,140nm,12.2s
TIY LZ
comp=Z,270nm,15.7s
UTTA Uttaradit 72.20 294 P **P** **12 11 37.2 +1.8**
comp=Z,14nm,1.1s
SRDT SRDT 72.31 290 P **P** **12 11 38.6 +2.4**
comp=Z,194nm,1.3s
XAN Xi'an 72.47 313 P **P** **12 11 37.6 +0.8**
XAN pP **PcP** **12 11 54.8 +0.4**
XAN PP **PP** **12 14 17.2 -1.4**
XAN S **S** **12 20 55.7 -2.1**
XAN SS **SS** **12 25 32.9 -4.6**
XAN PMZ
comp=Z,14nm,1.5s
XAN PMZ
comp=Z,59nm,6.4s
XAN LN
comp=Z,160nm,16.4s
XAN LZ
comp=Z,93nm,18.4s
SUKH Sukhothai 72.93 293 P **P** **12 11 41.4 +1.6**
comp=Z,21nm,1.0s,comp=Z,218nm
KHLT Khaolaem Dam 72.95 290 P P 12 11 43.2 +3.2
comp=Z,18nm,1.5s
KMI Kunming 73.16 302⇓P **P** **12 11 43.3 +2.0**
KMI pP PcP 12 12 05.2 +7.4
KMI sP sP 12 12 15.2 +16
KMI PP **PP** **12 14 29.0 +4.1**
KMI S **S** **12 21 04.1 -2.3**
KMI SKS **SKSac** **12 21 37.1 -7.1**
KMI sS **SKKSac** **12 21 40.8 -3.6**
KMI SS **SS** **12 25 49.4 +0.6**
KMI PMZ
comp=Z,130nm,1.0s
KMI PMZ
comp=Z,410nm,3.1s
KMI LN
comp=Z,200nm,18.3s
KMI LE
comp=Z,310nm,19.2s
KMI LZ
comp=Z,330nm,19.2s
LAMP Lampang 73.30 294 P **P** **12 11 43.6 +1.6**
comp=Z,50nm,0.9s,comp=Z,406nm
CMAR Chiang Mai Arr 73.88 294 P **P** **12 11 47.2 +1.8**
comp=Z,60nm,0.9s,baz=120,slow=4.4,SNR=165
CMMT Chiang Mai 74.00 294 *e*P **P** **12 11 47.3 +1.1**
comp=Z,101nm,1.1s,comp=Z,1μm
CHTO Chiang Mai 74.01 294 *e*P **P** **12 11 46.4 +0.2**
CHTO pmax pmax
comp=Z,69nm,1.0s
CHTO Chiang Mai 74.01 294 *e*P **P** **12 11 46.4 +0.2**
comp=Z,69nm,1.0s
HHC Hu-ho-hao-te 74.33 320 *e*P **P** **12 11 49.7 +2.0**
HHC pP PcP 12 12 09.8 +7.5
HHC sP sP 12 12 18.1 +12
HHC PP PP 12 14 39.8 +5.3
HHC S **S** **12 21 22.2 +3.4**
HHC SKS **SKSac** **12 21 46.5 -5.6**
HHC sS **SKKSac** **12 21 51.8 -0.6**
HHC PMZ
comp=Z,48nm,0.6s
HHC PMZ
comp=Z,160nm,5.8s
HHC LN
comp=Z,210nm,16.3s
HHC LE
comp=Z,210nm,18.7s
HHC LZ
comp=Z,200nm,19.1s
MHMT Maesarieng 74.69 293 P **P** **12 11 51.8 +1.7**
comp=Z,25nm,1.1s
CD2 Chengdu 74.81 308 P **P** **12 11 51.6 +0.9**
CD2 pP PcP 12 12 12.2 +7.6
CD2 sP sP 12 12 21.3 +12
CD2 PP **PP** **12 14 39.2 +0.5**
CD2 S **S** **12 21 22.2 -2.3**
CD2 sS **ScS** **12 21 59.0 -0.3**
CD2 SS **SS** **12 26 12.8 -0.7**
CD2 PMZ
comp=Z,100nm,1.2s
CD2 PMZ
comp=Z,240nm,4.3s
CD2 LN
comp=Z,480nm,8.0s
CD2 LZ
comp=Z,270nm,17.7s
HIA Hailar 75.03 330 *e*P **P** **12 11 51.9 +0.4**
HIA pmax pmax
comp=Z,128nm,1.0s
HIA Hailar 75.03 330 *e*P **P** **12 11 51.9 +0.4**
comp=Z,128nm,1.0s
QSPA South Pole Qui 76.34 180 *e*P **P** **12 11 58.1 -0.8**
comp=Z,76nm,0.9s
LZH Lanzhou 77.10 312⇓P **P** **12 12 06.0 +2.3**
LZH pP **pP** **12 12 21.4 +4.4**
LZH sP sP 12 12 32.4 +10
LZH PP PP 12 15 04.5 +6.5
LZH S S 12 21 43.3 -6.4
LZH PMZ
comp=Z,110nm,1.1s
LZH PMZ
comp=Z,380nm,4.1s
LZH LN
comp=Z,230nm,12.9s
LZH LE
comp=Z,370nm,13.0s
LZH LZ
comp=Z,550nm,14.6s
SEY Seymchan 77.16 353 LR LR 12 41 09.8
comp=Z,860nm,22.0s,baz=164,slow=32
SEY Seymchan 77.16 353*d i*P **P** **12 12 02.9 -0.3**
OHAK Old Harbor 78.06 21 *e*P **P** **12 12 08.7 +0.4**
CLNS Chul'man 78.29 338 *e*P P 12 12 17.9 +8.1
CLNS *e* 12 12 26.8
CLNS *e**PP pP 12 12 32.6 +10
CLNS *e* 12 15 03.6
CLNS *e*PPP PPP 12 17 00.6
CLNS *e*S **S** **12 22 07.3 +5.8**
CLNS *e* 12 22 48.1
CLNS *e*SS **SS** **12 27 10.4 +5.3**
CLNS pmax pmax
comp=Z,29nm,0.9s
CLNS pmax pmax
comp=N,16nm,1.0s
CLNS pmax pmax
comp=E,13nm,1.0s
CLNS pmax pmax
comp=N,7.0nm,0.8s
CLNS pmax pmax
comp=Z,6.0nm,1.0s
CLNS pmax pmax
comp=E,8.0nm,0.8s
CLNS smax smax
comp=E,213nm,11.2s
CLNS smax smax
comp=N,86nm,11.9s
CLNS MLR MLR
comp=E,118nm,15.0s
CLNS MLR MLR
comp=N,109nm,12.0s
CLNS MLR MLR
comp=Z,166nm,17.0s
KDAK Kodiak Island 78.73 21 *i*P **P** **12 12 13.6 +1.6**
KDAK Kodiak Island 78.73 21 *e*P **P** **12 12 13.4 +1.4**
comp=Z,26nm,0.9s
GAMB Gambell 79.01 10 *e*P **P** **12 12 14.3 +0.8**
comp=Z,48nm,0.9s
CIT Chita 79.82 330 *e*P **P** **12 12 19.3 +1.1**
SVW2 Sparrevohn 80.36 18 *e*P **P** **12 12 22.9 +2.0**
RSO Redoubt South 80.73 19 *e*P **P** **12 12 22.3 -0.9**
comp=Z,50nm,0.8s
BRLK Bradley Lake 80.81 20 *e*P **P** **12 12 24.1 +0.8**
comp=Z,45nm,0.7s
YAK Yakutsk 80.83 343 *e*P **P** **12 12 22.8 -0.5**
YAK *e* 12 15 28.0
YAK *e*S **S** **12 22 28.5 +0.6**
YAK pmax pmax
comp=E,17nm,1.3s
YAK pmax pmax
comp=Z,77nm,0.9s

YAK pmax pmax
comp=N,28nm,1.2s
YAK pmax pmax
comp=Z,4.0nm,0.4s
YAK pmax pmax
comp=E,3.0nm,0.4s
YAK pmax pmax
comp=N,4.0nm,0.6s
YAK smax smax
comp=E,18nm,1.6s
YAK MLR MLR
comp=Z,960nm,20.0s
YAK MLR MLR
comp=E,302nm,16.0s
YAK MLR MLR
comp=N,513nm,20.0s
YAK Yakutsk 80.83 343 *e*P **P 12 12 23.0 -0.3**
comp=N,92nm,0.8s
SONM Songino Array 81.24 324 P **P 12 12 26.8 +0.8**
comp=N,26nm,1.0s,baz=137,slow=5.7,SNR=116
SONM LR LR 12 46 58.9
comp=N,298nm,21.9s,baz=92,slow=35
GTA Gaotai 81.44 314 P **P 12 12 29.0 +1.7**
GTA pP pP 12 12 49.4 +8.7
GTA sP sP 12 12 57.6 +12
GTA PMZ
comp=N,97nm,1.2s
GTA PMZ
comp=N,510nm,6.6s
GTA LN
comp=N,240nm,19.0s
GTA LE
comp=N,180nm,18.3s
GTA LZ
comp=N,230nm,19.5s
SEW Seward 81.55 21 *e*P **P 12 12 27.2 0.0**
comp=N,19nm,0.9s
RC01 Rabbit Creek A 82.18 20 *e*P **P 12 12 30.9 +0.4**
comp=N,39nm,1.0s
SHL Shillong 82.45 299 *i* P **P 12 12 34.0 +1.0**
MAW Mawson 82.59 202 P **P 12 12 33.0 +0.3**
comp=N,28nm,1.0s,baz=109,slow=6.5,SNR=28
MAW LR LR 12 44 13.3
comp=N,285nm,19.9s,baz=65,slow=32
MAW Mawson 82.59 202 P **P 12 12 33.0 +0.3**
MAW pmax pmax
comp=Z,28nm,1.0s
MAW Mawson 82.59 202 P **P 12 12 33.0 +0.3**
baz=82,SNR=20
MAW Mawson 82.59 202 *e*P **P 12 12 32.5 -0.2**
comp=Z,8.2nm,1.0s
PPLA Purkeypile 82.77 18 *e*P **P 12 12 34.4 +0.6**
comp=Z,10.0nm,0.9s
EYAK Cordova Ski Ar 83.17 22 *e*P **P 12 12 36.3 +0.7**
comp=Z,30nm,1.0s
SML Sawmill 83.17 20 *e*P **P 12 12 34.3 -1.4**
SML pmax pmax
comp=Z,15nm,1.1s
SML Sawmill 83.17 20 *e*P **P 12 12 34.3 -1.4**
comp=Z,15nm,1.1s
CAST Castle Rocks 83.20 17 *e*P **P 12 12 34.9 -0.9**
comp=Z,39nm,0.9s
BOD Bodaibo 83.23 335 *e*P **P 12 12 34.4 -1.6**
BOD pmax pmax
comp=Z,30nm,1.8s
DIV Divide 83.56 21 *e*P **P 12 12 38.5 +0.7**
comp=Z,48nm,1.0s
TRF Thorofare Moun 83.76 18 *e*P **P 12 12 36.6 -2.3**
comp=Z,20nm,0.8s
PAF Port-aux-Franc 83.82 221 P P 12 12 11.0 -28
PAF SS SS 12 28 28.0 +1.0
PAF L L 12 35 00.0
PAF R 12 40 00.0
BMRM Bremner River 83.86 22 *e*P **P 12 12 38.9 -0.4**
comp=Z,45nm,1.2s
BPAW Bear Paw Mtn. 84.04 17 *e*P **P 12 12 38.8 -1.3**
comp=Z,15nm,1.1s
ZAK Zakamensk 84.29 325 *e*P **P 12 12 41.7 -0.1**
ZAK pmax pmax
comp=Z,71nm,1.2s
MCK McKinley 84.38 18 *e*P **P 12 12 39.7 -2.1**
MCK pmax pmax
comp=Z,72nm,1.1s
MCK McKinley 84.38 18 *e*P **P 12 12 39.7 -2.1**
comp=Z,72nm,1.1s
DHY Denali Highway 84.39 19 *e*P **P 12 12 42.2 +0.1**
comp=Z,25nm,1.0s
LSA Lhasa 84.41 302 P **P 12 12 44.4 +1.1**
LSA Lhasa 84.41 302 *e*P **P 12 12 42.9 -0.5**
LSA pmax pmax
comp=Z,33nm,0.8s
LSA Lhasa 84.41 302 *e*P **P 12 12 42.9 -0.5**
comp=Z,33nm,0.8s
H02N1 VAN INLET T-PH 84.48 32 T T 13 45 40.8
H02S1 DAWSON INLET T 84.49 32 T T 13 45 43.9
SNR=30
HARP HAARP 84.65 20 *e*P **P 12 12 45.3 +2.0**
comp=Z,42nm,0.9s
IRK Irkutsk 84.68 327 *e*P **P 12 12 43.2 -0.4**
IRK pmax pmax
comp=Z,140nm,1.2s
TLY Talaya 84.73 326 P **P 12 12 44.1 +0.2**
comp=Z,489nm,0.9s,SNR=35
TLY Talaya 84.73 326 P **P 12 12 43.4 -0.5**
comp=Z,42nm,0.8s,baz=151,slow=3.8,SNR=85
TLY Talaya 84.73 326 *e*P **P 12 12 44.5 +0.6**
TLY pmax pmax
comp=Z,107nm,1.1s
TLY Talaya 84.73 326 *e*P **P 12 12 43.5 -0.4**
comp=Z,76nm,0.9s
WDC Whiskeytown Da 84.84 46 *e*P P 12 12 49.3 +4.6
WDC pmax pmax
comp=Z,10.0nm,1.3s
WDC Whiskeytown Da 84.84 46 *e*P P 12 12 49.3 +4.6
comp=Z,10.0nm,1.3s
N02D Trinity Center 84.88 46 P **P 12 12 46.2 +1.3**
baz=85
PAX Paxson 84.94 20 *e*P **P 12 12 42.8 -1.9**
PAX pmax pmax
comp=Z,29nm,1.7s
PAX Paxson 84.94 20 *e*P **P 12 12 42.8 -1.9**
comp=Z,29nm,1.7s
M02C Callahan 84.94 45 P **P 12 12 46.6 +1.3**
baz=85
YBH Yreka Blue Hor 85.17 45 *e*P **P 12 12 46.4 0.0**
YBH pmax pmax
comp=Z,8.0nm,1.1s
YBH Yreka Blue Hor 85.17 45 *e*P **P 12 12 46.4 0.0**
comp=Z,8.4nm,1.1s
HUMO Hull Mountain 85.35 44 *e*P **P 12 12 46.8 -0.4**
comp=Z,11nm,1.2s
CCB Clear Creek Bu 85.38 18 *e*P **P 12 12 44.8 -1.9**
comp=Z,26nm,0.9s
CMB Columbia Colle 85.44 49 *e*P **P 12 12 47.4 -0.4**
CMB pmax pmax
comp=Z,6.0nm,0.8s
CMB Columbia Colle 85.44 49 *e*P **P 12 12 47.4 -0.4**
comp=Z,5.6nm,0.8s
HDA Harding Lake 85.47 18 *e*P **P 12 12 46.1 -1.2**
comp=Z,89nm,0.8s
MENT Mentasta 85.50 20 *e*P **P 12 12 49.2 +1.7**
I03D Drain, OR 85.52 43 P **P 12 12 49.5 +1.6**
baz=86
COLA College 85.53 18 *e*P **P 12 12 46.8 -0.7**
COLA pmax pmax
comp=Z,248nm,1.0s
COLA College 85.53 18 *e*P **P 12 12 45.1 -2.4**
comp=Z,67nm,1.0s
ILAR Eielson Array 85.75 18 P **P 12 12 46.4 -2.2**
comp=Z,24nm,0.9s,baz=241,slow=5.0,SNR=90
ILAR PKKPbc **PKKPdf 12 30 49.4 +2.7**
comp=Z,0.5nm,0.5s,baz=2.8,slow=2.9,SNR=8.2
ILAR LR LR 12 46 03.7
comp=Z,1μm,20.5s,baz=244,slow=32
M04C Macdoel 85.79 45 P **P 12 12 50.7 +1.1**
baz=86
ISA Isabella 86.06 52 P **P 12 12 52.3 +1.3**
baz=86
EDW2 Edwards Air Fo 86.17 53 P **P 12 12 53.0 +1.5**
baz=86
MOY Mondy 86.17 325 *e*P **P 12 12 51.4 +0.2**
MOY pmax pmax
comp=Z,87nm,2.9s
I04A Tendick Farm, 86.18 43 P **P 12 12 52.7 +1.4**
baz=86
BESE Bessie Mountai 86.26 27 *e*P **P 12 12 53.2 +1.8**
comp=Z,12nm,1.2s

WAKR Walker 86.31 49 *e*P **P 12 12 54.7 +2.4**
HYT Haines Junctio 86.45 24 *e*P **P 12 12 52.5 +0.2**
TAPN Taplejung 86.56 299 *e*P **P 12 12 54.6 +0.7**
comp=Z,266nm,1.3s
COLD Coldfoot 86.61 15 *e*P **P 12 12 52.8 0.0**
comp=Z,27nm,1.0s
ODAN Odare 86.69 298 *e*P **P 12 12 55.3 +0.8**
comp=Z,261nm,1.0s
K05A Summer Lake 86.80 45 *e*P **P 12 12 55.2 +0.7**
comp=Z,25nm,1.4s
MOD Modoc 86.90 46 *e*P **P 12 12 55.8 +0.7**
comp=Z,5.5nm,1.1s
MPMC Manual Prospec 86.94 52 P **P 12 12 56.3 +0.9**
baz=87
NVAR Mina Array Bea 87.12 49 P **P 12 12 55.8 -0.5**
comp=Z,2.1nm,0.7s,baz=235,slow=9.1,SNR=17
NVAR PKKPbc **PKKPbc 12 30 50.0 +0.6**
comp=Z,0.7nm,0.7s,baz=78,slow=3.8,SNR=6.7
NVAR PKPPKP **P'P'df 12 38 53.2 -1.6**
comp=Z,1.3nm,1.0s,baz=98,slow=1.2,SNR=7.4
SWSC Sam W. Stewart 87.27 55 P **P 12 12 58.5 +1.6**
baz=87
CHLP Challavanipeta 87.34 290 *e*P **P 12 12 57.1 -0.3**
CHLP IAmb IAmb 12 12 59.6
comp=Z,44nm,1.2s
CHLP *e*SKSac **SKSac 12 23 21.2 -0.7**
RAMN Ramite 87.39 298 *e*P **P 12 12 58.5 +0.6**
comp=Z,57nm,0.6s
BELC Belle Mtn. Jos 87.44 54 P **P 12 12 59.4 +1.6**
baz=88
HEC Hector,Ludlow 87.44 53 P **P 12 12 58.8 +1.0**
baz=88
G05D Wamic, OR 87.46 42 P **P 12 12 59.0 +1.5**
baz=88
EGAK Eagle 87.57 20 *e*P **P 12 12 56.7 -0.8**
comp=Z,24nm,0.9s
PALK Pallekele 87.69 278 P **P 12 12 59.8 +0.5**
comp=Z,23nm,0.9s,baz=167,slow=6.7,SNR=4.6
PALK Pallekele 87.69 278 *e*P **P 12 13 01.5 +2.2**
PALK pmax pmax
comp=Z,55nm,1.2s
PALK Pallekele 87.69 278 *e*P **P 12 13 01.5 +2.2**
comp=Z,55nm,1.2s
DAWY Dawson 87.72 21 *e*P **P 12 12 57.7 -0.6**
comp=Z,10nm,1.1s
IRM Iron Mountain 88.16 54 P **P 12 13 02.4 +1.3**
baz=88
WVOR Wild Horse Val 88.25 46 *e*P **P 12 13 03.1 +1.6**
WVOR pmax pmax
comp=Z,12nm,1.3s
WVOR Wild Horse Val 88.25 46 *e*P **P 12 13 03.1 +1.6**
comp=Z,12nm,1.3s
GUN Gumba 88.28 299 *e*P **P 12 13 02.8 +0.6**
comp=Z,133nm,0.8s
DLBC Dease Lake 88.34 28 *e*P **P 12 13 01.0 -0.4**
comp=Z,8.2nm,1.2s
PKI Pulchoki 88.58 299 *e*P **P 12 13 04.0 +0.4**
comp=Z,108nm,0.6s
PKIN Phulchoki 88.59 299 *e*P **P 12 13 04.0 +0.4**
comp=Z,56nm,0.7s
KKN Kakani 88.75 299 *e*P **P 12 13 04.8 +0.5**
comp=Z,129nm,0.7s
DMN Daman 88.85 299 *e*P **P 12 13 05.5 +0.7**
comp=Z,232nm,0.7s
SHPR Sheep Range 88.87 52 *e*P **P 12 13 05.4 +0.8**
comp=Z,12nm,1.3s
PDMCI Parker Dam,Lak 89.00 54 P **P 12 13 06.5 +1.5**
baz=89
G08A Pilot Rock 89.02 43 *e*P **P 12 13 05.4 +0.4**
comp=Z,8.0nm,1.1s
R11A Troy Canyon, C 89.11 50 P **P 12 13 07.2 +1.5**
baz=89
R11A Troy Canyon, C 89.11 50 *e*P **P 12 13 07.3 +1.6**
comp=Z,4.2nm,1.0s
PVM Polavaram 89.26 288 *e*P **P 12 13 06.0 -0.6**
PVM IAmb IAmb 12 13 08.7
comp=Z,123nm,2.2s
GKN Gorkha 89.36 299 *e*P **P 12 13 07.1 0.0**
214A Organ Pipe Nat 89.39 57 P **P 12 13 08.6 +1.7**
baz=89
SYO Syowa Base 89.51 197⇑ *i*X **P 12 13 04.8 -1.9**
B08A Colville Reser 89.86 40 *e*P **P 12 13 09.5 +0.7**
B08A *e*pP pP 12 13 32.2 +10
BMO Blue Mountains 89.98 44 *e*P **P 12 13 07.8 -1.7**
comp=Z,3.2nm,1.0s
HVS Khovu-Aksy 90.10 323 *d i*P **P 12 13 10.1 +0.2**
HVS pmax pmax
comp=Z,309nm,1.3s
ELK Elko 90.11 48 *e*P **P 12 13 10.9 +0.5**
ELK pmax pmax
comp=Z,2.0nm,0.8s
ELK Elko 90.11 48 *e*P **P 12 13 10.9 +0.5**
comp=Z,1.8nm,0.8s
KOLN Koldanda 90.18 298 *e*P **P 12 13 10.6 -0.4**
comp=Z,60nm,0.9s
SKHT Srikalahasti 90.19 284 *e*P **P 12 13 10.9 0.0**
SKHT IAmb IAmb 12 13 12.4
comp=Z,21nm,1.0s
ADKI Addanki 90.45 286 *e*P **P 12 13 11.7 -0.5**
ADKI IAmb IAmb 12 13 15.3
comp=Z,14nm,1.0s
MFID Camas Ranch 90.52 45 *e*P **P 12 13 12.3 +0.2**
comp=Z,26nm,1.8s
CCUT Cedar City 90.55 52 *e*P **P 12 13 14.0 +1.5**
comp=Z,3.2nm,0.9s
TUC Tucson 91.14 57 *e*P **P 12 13 16.5 +1.3**
TUC pmax pmax
comp=Z,7.0nm,1.3s
TUC Tucson 91.14 57 *e*P **P 12 13 16.5 +1.3**
comp=Z,7.4nm,1.3s
NJS Nagarjunasagar 91.24 287 *e*P **P 12 13 15.9 +0.1**
NJS IAmb IAmb 12 13 17.1
comp=Z,98nm,1.7s
RCLA Racherla 91.31 285 *e*P **P 12 13 16.1 -0.1**
RCLA IAmb IAmb 12 13 16.8
comp=Z,11nm,0.9s
RCLA *e*SKSac **SKSac 12 23 45.2 -0.3**
WMQ Urumqi 91.49 315 P **P 12 13 17.3 +0.8**
WMQ pP pP 12 13 37.2 +7.1
WMQ sP sP 12 13 45.1 +10
WMQ PP **PP 12 17 00.1 +5.0**
WMQ SKS SKSac 12 23 37.7 -7.8
WMQ S **S 12 24 08.6 -4.3**
WMQ PMZ
comp=Z,48nm,0.9s
WMQ PMZ
comp=Z,240nm,3.6s
WMQ LN
comp=Z,180nm,24.2s
WMQ LE
comp=Z,220nm,21.5s
WMQ LZ
comp=Z,210nm,21.5s
SRLM Srisailam 91.52 286 *e*P **P 12 13 17.4 +0.2**
SRLM IAmb IAmb 12 13 18.5
comp=Z,172nm,1.7s
WUAZ Wupatki 91.52 54 *e*P **P 12 13 17.3 +0.3**
comp=Z,6.3nm,1.0s
HLID Hailey 91.55 46 P **P 12 13 19.1 +2.1**
baz=92
HLID Hailey 91.55 46 *e*P **P 12 13 19.6 +2.7**
comp=Z,8.4nm,1.4s
RPR Rampur 91.80 289 *e*P **P 12 13 18.4 0.0**
RPR IAmb IAmb 12 13 19.5
comp=Z,89nm,0.9s
HYB Hyderabad 92.14 287⇑ *i*P **P 12 13 19.0 -1.1**
HYB Hyderabad 92.14 287 *e*P **P 12 13 19.0 -1.1**
HYBB Hyderabad (bro 92.14 287 *e*P **P 12 13 19.4 -0.7**
HYBB IAmb IAmb 12 13 21.0
comp=Z,54nm,1.3s
HYBB *e*sP **sP 12 13 35.1 -3.5**
HYBB *e*SKSac **SKSac 12 23 47.6 -2.6**
HVU Hansel Valley 92.19 48 *e*P **P 12 13 19.4 -0.5**
HVU pmax pmax
comp=Z,3.0nm,0.8s
HVU Hansel Valley 92.19 48 *e*P **P 12 13 19.4 -0.5**
comp=Z,2.9nm,0.8s
SRSP Sriramsagar 92.69 289 *e*P **P 12 13 21.8 -0.7**
SRSP IAmb IAmb 12 13 23.4
comp=Z,148nm,1.4s
SRSP *e*pP **pP 12 13 33.6 -2.5**
URV Uravakonda 92.78 285 *e*P **P 12 13 22.7 -0.3**
URV IAmb IAmb 12 13 24.3
comp=Z,45nm,1.3s
DLMT Dillon 93.31 44 *e*P **P 12 13 25.6 +0.6**
comp=Z,11nm,1.4s

NVL N'lazarevskaya 93.99 188 *e*P **P 12 13 25.2 -2.3**
NVL *e**PP pP 12 13 35.6 -5.5
NVL pmax pmax
comp=Z,28nm,0.8s
KLRI Killari 94.11 287 *e*P **P 12 13 28.8 -0.3**
KLRI IAmb IAmb 12 13 40.8
comp=Z,114nm,1.9s
SNAA Sanae 94.56 183 P P 12 13 25.7 -4.5
SNAA Sanae 94.56 183 P **P 12 13 29.7 -0.5**
comp=Z,18nm,1.1s,baz=194,slow=4.3,SNR=55
SNAA Sanae 94.56 183 *e*P P 12 13 25.6 -4.5
SNAA pmax pmax
comp=Z,76nm,1.2s
SNAA Sanae 94.56 183 *e*P P 12 13 25.6 -4.5
comp=Z,76nm,1.2s
PDAR Pinedale Array 94.75 47 P **P 12 13 31.9 +0.2**
comp=Z,0.4nm,0.6s,baz=239,slow=6.2,SNR=3.4
PDAR PKKPbc **PKKPdf 12 30 27.8 -2.5**
comp=Z,0.5nm,0.7s,baz=73,slow=5.0,SNR=4.8
PDAR LR LR 12 51 01.6
comp=Z,359nm,18.7s,baz=266,slow=32
ANMO Albuquerque 95.28 55 *i* P **P 12 13 34.2 -0.2**
ANMO pmax pmax
comp=Z,7.0nm,1.1s
ANMO Albuquerque 95.28 55 *e*P **P 12 13 36.9 +2.5**
comp=Z,3.2nm,1.1s
VNA1 Neumayer--Stat 95.81 182 P **P 12 13 35.4 -0.4**
MKAR Makanchi Array 95.96 317 *e*P **P 12 13 37.4 +0.4**
MKAR Makanchi Array 95.96 317 *e*P **P 12 13 37.4 +0.4**
ZAA0 Zalesovo Array 96.13 324 P **P 12 13 37.1 -0.4**
baz=96,SNR=3.9
ZAA0 Zalesovo Array 96.13 324 *e*P **P 12 13 36.3 -1.2**
ZALV Zalesovo Beam 96.13 324 P **P 12 13 36.7 -0.8**
comp=Z,30nm,0.8s,baz=114,slow=4.5,SNR=118
ZALV LR LR 12 56 03.0
comp=Z,228nm,21.4s,baz=70,slow=35
CRZF Crozet Islands 96.38 219 SS SS 12 31 31.0 +2.5
CRZF R 12 46 00.0
TXAR Lajitas Array 96.39 61 P **P 12 13 38.0 -1.4**
comp=Z,0.4nm,0.8s,baz=207,slow=5.3,SNR=4.8
TXAR PKKPbc **PKKPbc 12 30 24.1 -1.0**
comp=Z,0.2nm,0.7s,baz=118,slow=4.3,SNR=5.4
TXAR PKPPKP **P'P'df 12 38 40.1 +1.7**
comp=Z,0.2nm,0.5s,baz=140,slow=2.8,SNR=3.5
TXAR LR LR 12 51 27.5
comp=Z,333nm,19.6s,baz=0.0,slow=32
YKA Yellowknife Ar 96.94 27 P **P 12 13 40.4 -0.5**
comp=Z,5.6nm,0.9s,baz=257,slow=4.6,SNR=8.7
NVS Novosibirsk 97.25 325⇓ *i*P **P 12 13 41.8 -0.7**
NVS *i* 12 13 49.4
NVS pmax pmax
comp=E,14nm,1.4s
NVS pmax pmax
comp=Z,33nm,1.4s
NVS pmax pmax
comp=N,8.0nm,1.2s
KSH Kashi 99.00 308 P Pdif 12 13 51.9 +0.9
KSH pP pP 12 14 14.5 +10
KSH sP sP 12 14 23.2 +14
KSH PP PP 12 17 59.0 +5.4
KSH SKS **SKSac 12 24 24.2 -1.6**
KSH S **S 12 25 15.1 -3.4**
KSH sS sS 12 25 51.2 +10
KSH PMZ
comp=N,120nm,2.9s
KSH LN
comp=N,120nm,4.4s
KSH LE
comp=N,120nm,3.9s
KSH LZ
comp=N,200nm,6.6s
KURK Kurchatov 99.15 320 P **Pdif 12 13 49.9 -1.3**
KURK 12 17 56.4
KURK Kurchatov 99.15 320 P **Pdif 12 13 49.9 -1.3**
KURK PP **PP 12 17 56.4 +2.2**
KURBB Kurchatov Arra 99.19 320 P **Pdif 12 13 49.9 -1.5**
comp=N,3.2nm,0.7s,baz=110,slow=3.3,SNR=18
KURBB PP **PP 12 17 56.4 +1.9**
comp=N,2.5nm,1.0s,baz=96,slow=7.0,SNR=4.3
BVAR Borovoye Array 104.49 322 Pdiff **Pdif 12 14 14.1 -0.8**
comp=N,4.0nm,0.8s,baz=108,slow=4.8,SNR=14
BRVK Borovoye 104.56 322 *e*P **Pdif 12 14 15.1 -0.1**
BRVK Borovoye 104.56 322 *e*Pdif **Pdif 12 14 15.1 -0.1**
ARU Arti 111.23 325 *i* PKIKP **PKiKP 12 18 42.6 -0.7**
ARU 12 19 23.4
ARU 12 25 20.5
ARU SP SP 12 28 47.1 -2.1
ARU PS **PS 12 28 58.9 +3.5**
ARU SS **SS 12 34 53.4 +0.5**
ARU Arti 111.23 325 *e*PKPdf **PKiKP 12 18 42.7 -0.5**
OPO Ambohidratompo 112.19 243 PKiKP **PKiKP 12 18 46.1 -0.4**
comp=N,3.6nm,0.7s,baz=156,slow=6.8,SNR=4.0
AKTO Aktyubinsk 112.22 319 PKiKP **PKiKP 12 18 44.9 -0.5**
comp=N,5.3nm,0.6s,baz=68,slow=3.8,SNR=20
GEYT Alibeck 112.76 306 PKiKP **PKiKP 12 18 46.6 -0.2**
comp=N,5.3nm,0.6s,baz=329,slow=1.7,SNR=8.6
PRGR Permogore 116.42 333 *e*PKIKP **PKPdf 12 18 48.9 -4.1**
PRGR pmax pmax
comp=Z,13nm,0.7s
DAG Danmarks Havn 116.84 1 *i* P **PKPdf 12 18 51.6 -1.9**
comp=Z,3.4nm,0.7s
DAG Danmarks Havn 116.84 1 *i* P **PKKPbc 12 29 23.3 +0.7**
comp=Z,7.8nm,1.2s
DAG Danmarks Havn 116.84 1 *i* PKIKP **PKPdf 12 18 51.6 -1.9**
DAG pmax pmax
comp=Z,2.0nm,0.7s
LPAZ La Paz 118.31 117 PKP **PKPdf 12 18 57.2 -1.6**
comp=Z,1.6nm,0.7s,baz=256,slow=7.2,SNR=7.5
LPAZ PKKPbc **PKKPbc 12 29 16.1 -0.6**
comp=Z,1.7nm,0.7s,baz=36,slow=1.3,SNR=6.9
ARCES ARCESS Array B 119.06 345 PKP **PKPdf 12 18 56.9 -1.1**
comp=Z,11nm,0.6s,baz=78,slow=1.5,SNR=117
SUMG Summit 119.30 8 *i* P **PKPdf 12 18 59.0 +0.1**
comp=Z,2.4nm,0.5s
SUMG Summit 119.30 8 *i* P **PKKPbc 12 29 10.1 -4.1**
comp=Z,7.2nm,0.8s
SUMG Summit 119.30 8 *i* PKIKP **PKPdf 12 18 59.0 +0.1**
SUMG pmax pmax
comp=Z,2.0nm,0.5s
CPUP Villa Florida 121.68 133 PKP **PKPdf 12 19 02.2 -2.1**
comp=Z,2.0nm,0.7s,baz=295,slow=7.4,SNR=5.4
CPUP PKKPbc **PKKPbc 12 29 03.6 -0.2**
comp=Z,2.8nm,0.9s,baz=94,slow=1.6,SNR=4.6
SCHQ Schefferville 121.81 33 PKP **PKPdf 12 19 01.3 -2.4**
comp=Z,1.2nm,0.5s,baz=264,slow=3.6,SNR=5.3
SCHQ PKKPbc **PKKPab 12 29 01.6 -0.6**
comp=Z,2.2nm,0.5s,baz=176,slow=3.0,SNR=5.4
DGRG David-gareji 122.22 311 P **PKPdf 12 19 05.9 +1.0**
MOS Moscow 122.62 329 *e*PKIKP **PKPdf 12 19 04.0 -1.2**
MOS *e* 12 20 47.1
MOS pmax pmax
comp=Z,56nm,0.8s
TBLG Delisi 122.63 311 P **PKPdf 12 19 05.5 -0.2**
GNI Garni 122.93 309 PKP **PKPdf 12 19 05.6 -0.9**
comp=Z,11nm,0.5s,baz=40,slow=4.0,SNR=6.8
GNI Garni 122.93 309 *i* PKIKP **PKPdf 12 19 06.6 +0.1**
GNI pmax pmax
comp=Z,32nm,1.2s
GNI Garni 122.93 309 *e*PKPdf **PKPdf 12 19 07.0 +0.5**
ZEI Tsey 123.03 312 *i* PKIKP **PKPdf 12 19 05.8 -0.9**
ZEI pmax pmax
comp=Z,40nm,0.3s
LPSR Galich'ya Gora 123.23 325 *e*PKIKP **PKPdf 12 19 06.0 -0.4**
LPSR pmax pmax
comp=N,10.0nm,1.3s
LPSR pmax pmax
comp=E,20nm,1.3s
LPSR pmax pmax
comp=Z,70nm,1.3s
ONI Oni 123.39 312 P **PKPdf 12 19 07.7 +0.5**
OBN Obninsk 123.44 328 PKP **PKPdf 12 19 05.5 -1.2**
comp=Z,16nm,0.5s,baz=104,slow=2.0,SNR=11
OBN Obninsk 123.44 328 *d i*PKIKP **PKPdf 12 19 06.3 -0.4**
OBN pmax pmax
comp=Z,66nm,1.7s
KBZ Khabaz 123.52 314 PKP **PKPdf 12 19 06.3 -0.9**
comp=Z,10nm,1.0s,baz=106,slow=2.4,SNR=18
RAYN Ar Rayn 123.60 289 *e*PKPdf **PKPdf 12 19 08.1 -0.1**
AKH Akhalkalaki 123.61 311 P **PKPdf 12 19 08.5 +0.7**
AKH Akhalkalaki 123.61 311⇑ *i*P **PKPdf 12 19 08.6 +0.8**
KIV Kislovodsk 123.62 314 *d i*PKIKP **PKPdf 12 19 07.5 -0.1**
KIV *e* 12 20 49.6
KIV *i* SS SS 12 37 49.9 +15
KIV pmax pmax
comp=Z,28nm,1.2s

KIV				MLR	MLR		
	comp=Z,186nm,24.0s						
KIV	**Kislovodsk**	**123.62**	**314**	*e*PKPdf	**PKPdf**	**12 19 07.6**	**-0.1**
VSR	**Storozhevoye**	**123.63**	**323**	*e*PKIKP	**PKPdf**	**12 19 06.3**	**-0.9**
VSR				pmax	pmax		
	comp=N,10.0nm,0.8s						
VSR				pmax	pmax		
	comp=E,10.0nm,0.8s						
VSR				pmax	pmax		
	comp=Z,50nm,0.8s						
VSR				MLR	MLR		
	comp=N,980nm,28.0s						
VSR				MLR	MLR		
	comp=E,220nm,28.0s						
VSR				MLR	MLR		
	comp=Z,400nm,28.0s						
SUR	**Sutherland**	**123.68**	**215**	*e*PKPdf	**PKPdf**	**12 19 08.6**	**+0.3**
BOSA	**Boshof**	**123.71**	**221**	PKP	**PKPdf**	**12 19 08.1**	**-0.3**
	comp=Z,9.5nm,0.6s,baz=139,slow=1.6,SNR=27						
SDV	**Santo Domingo**	**123.82**	**88**	*e*PKPdf	**PKPdf**	**12 19 06.2**	**-2.8**
FIA1	**FINESS Array S**	**124.49**	**338**	*e*PKPdf	**PKPdf**	**12 19 07.8**	**-0.8**
FINES	**FINESS Array B**	**124.49**	**338**	PKP	**PKPdf**	**12 19 06.5**	**-2.0**
	comp=Z,12nm,0.8s,baz=116,slow=4.4,SNR=30						
SAML	**Samuel**	**125.76**	**112**	*e*PKPdf	**PKPdf**	**12 19 11.0**	**-1.5**
LBTB	**Lobatse**	**125.88**	**225**	PKP	**PKPdf**	**12 19 11.6**	**-0.9**
	comp=Z,9.9nm,0.6s,baz=162,slow=3.6,SNR=8.7						
VSU	**Vasula**	**126.17**	**335***c*	*i*PKIKP	**PKPdf**	**12 19 11.7**	**-0.2**
MATP	**Matopo**	**126.62**	**231**	PKP	**PKPdf**	**12 19 13.4**	**-0.7**
	comp=Z,14nm,0.9s,baz=133,slow=2.7,SNR=15						
SFNV	**Sufian**	**127.19**	**305**	*e*PKP	**PKPdf**	**12 19 15.3**	**+0.7**
KMBO	**Kilima Mbogo**	**127.65**	**258**	PKP	**PKPdf**	**12 19 16.1**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=41,slow=16,SNR=6.0						
KMBO	**Kilima Mbogo**	**127.65**	**258**	PKIKP	**PKPdf**	**12 19 16.1**	**-0.3**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KMBO	**Kilima Mbogo**	**127.65**	**258**	*e*PKPdf	**PKPdf**	**12 19 17.9**	**+1.5**
MALT	**Malatya**	**128.10**	**308**↑	*i*P	**PKPdf**	**12 19 17.0**	**+0.6**
SIM	**Simferopol'**	**129.13**	**317**	*i* PKHKP	PKPpre	12 19 05.3	
SIM						12 21 22.6	
SIM				pmax	pmax		
	comp=Z,47nm,9.4s						
NB2	**NORSAR Subarra**	**129.43**	**345**	PKPdf	**PKPdf**	**12 19 17.5**	**-0.6**
	comp=Z,19nm,1.2s,baz=31,slow=1.9						
NB2	**NORSAR Subarra**	**129.43**	**345**	PKPdf	**PKPdf**	**12 19 17.5**	**-0.6**
	baz=31,slow=1.9						
NOA	**NORSAR Array B**	**129.43**	**345**	PKP	**PKPdf**	**12 19 17.0**	**-1.1**
	comp=Z,5.3nm,0.7s,baz=32,slow=2.0,SNR=16						
AKASG	**Malin Array Be**	**129.47**	**326**	PKP	**PKPdf**	**12 19 17.6**	**-0.8**
	comp=Z,22nm,1.0s,baz=58,slow=1.9,SNR=33						
AKASG				PP	**PP**	**12 21 26.4**	**-1.8**
	comp=Z,2.0nm,0.8s,baz=52,slow=5.9,SNR=4.0						
KIEV	**Kiev**	**129.49**	**326***d*	*i*PKIKP	**PKPdf**	**12 19 17.7**	**-0.7**
KIEV	**Kiev**	**129.49**	**326**	*e*PKPdf	**PKPdf**	**12 19 17.4**	**-1.1**
LSZ	**Lusaka**	**129.76**	**237**	PKP	**PKPdf**	**12 19 20.3**	**+0.1**
	comp=Z,6.2nm,0.6s,baz=55,slow=6.6,SNR=13						
LSZ	**Lusaka**	**129.76**	**237**	*e*PKIKP	**PKPdf**	**12 19 19.8**	**-0.4**
LSZ	**Lusaka**	**129.76**	**237**	*e*PKPdf	**PKPdf**	**12 19 19.8**	**-0.4**
LSZ				PKP	**PKPdf**	**12 19 20.3**	**+0.1**
ZALF	**Zalf**	**130.09**	**302**	*e*P	**PKPdf**	**12 19 19.8**	**-0.5**
BTCH	**Batrach**	**130.16**	**306**	*e*P	**PKPdf**	**12 19 20.8**	**+0.5**
WRDH	**Warideh**	**130.32**	**305**	*e*P	**PKPdf**	**12 19 21.1**	**+0.4**
HAWK	**Haweek**	**130.54**	**304**	*e*P	**PKPdf**	**12 19 22.1**	**+1.0**
ASF	**Jabal al Asfar**	**130.58**	**301**	PKP	**PKPdf**	**12 19 20.9**	**-0.3**
	comp=Z,6.8nm,0.7s,baz=73,slow=4.3,SNR=12						
TOTH	**TOTAH**	**130.75**	**302**	*e*P	**PKPdf**	**12 19 21.4**	**-0.1**
BRTR	**Keskin Array B**	**131.29**	**311**	PKP	**PKPdf**	**12 19 21.8**	**-0.7**
	comp=Z,4.4nm,0.7s,baz=134,slow=3.6,SNR=16						
BRTR				PP	**PP**	**12 21 42.5**	**+1.6**
	comp=Z,3.5nm,1.1s,baz=100,slow=6.4,SNR=4.8						
BRTR				SKPbc	**SKPab**	**12 22 46.6**	**+2.3**
	comp=Z,1.7nm,0.7s,baz=88,slow=4.2,SNR=5.0						
MMAI	**Mount Meron Ar**	**131.66**	**302**	PKP	**PKPdf**	**12 19 23.3**	**0.0**
	comp=Z,9.6nm,0.7s,baz=81,slow=7.7,SNR=14						
ANTO	**Ankara**	**131.86**	**312**	*e*PKIKP	**PKPdf**	**12 19 23.5**	**0.0**
ANTO	**Ankara**	**131.86**	**312**↑	*i*P	**PKPdf**	**12 19 23.8**	**+0.4**
ANTO	**Ankara**	**131.86**	**312**	*e*PKPdf	**PKPdf**	**12 19 23.5**	**0.0**
EIL	**Elat**	**132.63**	**298**	PKP	**PKPdf**	**12 19 24.1**	**-0.9**
	comp=Z,15nm,0.8s,baz=39,slow=3.2,SNR=12						
TIRR	**Tirgusor**	**133.03**	**319**↑	*i*P	**PKPdf**	**12 19 26.5**	**+1.2**
TESR	**Tescani**	**133.11**	**322**↓	*i*P	**PKPdf**	**12 19 26.5**	**+1.0**
HARR	**Harsova**	**133.22**	**320**↑	*i*P	**PKPdf**	**12 19 26.8**	**+1.1**
BURAR	**Bucovina Array**	**133.35**	**324**↑	*i*P	**PKPdf**	**12 19 27.1**	**+1.1**
VRI	**Vrincioaia**	**133.39**	**322**↑	*i*P	**PKPdf**	**12 19 26.9**	**+0.9**
MLR	**Muntele Rosu**	**134.05**	**322**	PKP	**PKPdf**	**12 19 27.1**	**-0.4**
	comp=Z,4.5nm,1.1s,baz=33,slow=3.3,SNR=9.9						
MLR	**Muntele Rosu**	**134.05**	**322**↑	*i*P	**PKPdf**	**12 19 27.3**	**-0.2**
DOPR	**Dopca**	**134.14**	**322**↑	*i*P	**PKPdf**	**12 19 30.5**	**+3.0**
KOLS	**Kolonicke sedl**	**134.19**	**328**	*e*PKIKP	**PKPdf**	**12 19 28.2**	**+0.8**
KOLS	**Kolonicke sedl**	**134.19**	**328**	*e*PKP	**PKPdf**	**12 19 28.2**	**+0.8**
UZH	**Uzhgorod**	**134.36**	**327**	*e*PKIKP	**PKPdf**	**12 19 27.9**	**+0.2**
STHS	**Stebnicka Huta**	**134.41**	**329**	*e*PKIKP	**PKPdf**	**12 19 29.3**	**+1.4**
STHS	**Stebnicka Huta**	**134.41**	**329**	*e*PKP	**PKPdf**	**12 19 29.2**	**+1.4**
OJC	**Ojcow**	**134.60**	**330**	*e*PKP	**PKPdf**	**12 19 28.1**	**-0.1**
OJC	**Ojcow**	**134.60**	**330**	*e*PKIKP	**PKPdf**	**12 19 28.1**	**-0.1**
OJC	**Ojcow**	**134.60**	**330**	*e*PKPdf	**PKPdf**	**12 19 28.4**	**+0.2**
VOIR		**134.62**	**322**↓	*i*P	**PKPdf**	**12 19 29.4**	**+0.9**
CJR	**Cluj-Napoca**	**134.77**	**324**↑	*i*P	**PKPdf**	**12 19 29.6**	**+0.9**
NIE	**Niedzica**	**134.88**	**329**	*e*PKP	**PKPdf**	**12 19 29.4**	**+0.6**
NIE	**Niedzica**	**134.88**	**329**	*e*PKIKP	**PKPdf**	**12 19 29.4**	**+0.6**
BDFB	**Brasilia**	**135.09**	**129**	PKP	**PKPdf**	**12 19 29.9**	**-0.3**
	comp=Z,3.4nm,0.7s,baz=178,slow=6.2,SNR=5.2						
JMB	**Yambol**	**135.13**	**318**↓	*i*P	**PKPdf**	**12 19 29.8**	**+0.4**
HUMR	**Humele**	**135.14**	**321**↓	*i*P	**PKPdf**	**12 19 28.8**	**-0.5**
DRGR		**135.22**	**325**↑	*i*P	**PKPdf**	**12 19 29.5**	**0.0**
TSUM	**Tsumeb**	**135.26**	**224**	*e*PKPdf	**PKPdf**	**12 19 30.2**	**-0.3**
KECS	**Kecovo**	**135.39**	**328**	*e*PKIKP	**PKPdf**	**12 19 30.3**	**+0.6**
KECS	**Kecovo**	**135.39**	**328**	*e*PKP	**PKPdf**	**12 19 30.3**	**+0.6**
OKC	**Ostrava-Krasne**	**135.65**	**331**	*e*PKPdf	**PKPdf**	**12 19 30.1**	**0.0**
OKC				AMS	AMS	13 16 50.0	
	comp=Z,300nm,23.7s						
OKC	**Ostrava-Krasne**	**135.65**	**331**	*e*PKIKP	**PKPdf**	**12 19 30.1**	**0.0**
OKC				MLR	MLR		
	comp=Z,300nm,23.7s						
BSEG	**Bad Segeberg**	**135.68**	**340**	*e*PKPdf	**PKPdf**	**12 19 30.5**	**+0.5**
KSP	**Ksiaz**	**135.78**	**333**	*e*PKP	**PKPdf**	**12 19 29.9**	**-0.5**
KSP	**Ksiaz**	**135.78**	**333**	*e*PKIKP	**PKPdf**	**12 19 29.9**	**-0.5**
MORC	**Moravsky Berou**	**135.97**	**331**↑	*i*P	**PKPdf**	**12 19 31.1**	**+0.3**
GZR	**Gura Zlata**	**135.99**	**323**↓	*i*P	**PKPdf**	**12 19 31.4**	**+0.4**
PSZ	**Piszkesteto**	**136.06**	**328**	*e*PKIKP	**PKPdf**	**12 19 31.0**	**0.0**
PSZ	**Piszkesteto**	**136.06**	**328**↑	*i*P	**PKPdf**	**12 19 31.1**	**0.0**
PSZ	**Piszkesteto**	**136.06**	**328**	*e*PKPdf	**PKPdf**	**12 19 31.0**	**0.0**
PSZ	**Piszkesteto**	**136.06**	**328**‖	*e*SKPbc	**PKPdf**	**12 19 31.0**	**0.0**
DPC	**Dobruska-Polom**	**136.13**	**333**	*e*PKPpre	PKPpre	12 19 21.1	
DPC				*e*PKPdf	**PKPdf**	**12 19 31.0**	**-0.1**
DPC				*e*pPKP	pPKPdf	12 19 44.1	-1.0
DPC				AMS	AMS	13 19 00.0	
	comp=Z,500nm,17.7s						
DPC	**Dobruska-Polom**	**136.13**	**333**	*e*PKHKP	PKPpre	12 19 21.1	
DPC				*e*		12 19 31.0	
DPC				*e*		12 19 44.1	
DPC				MLR	MLR		
	comp=Z,500nm,17.7s						
UPC	**Upice**	**136.15**	**333**	*e*PKPdf	**PKPdf**	**12 19 31.1**	**0.0**
UPC				AMS	AMS	13 19 20.0	
	comp=Z,500nm,20.9s						
UPC	**Upice**	**136.15**	**333**	*e*PKIKP	**PKPdf**	**12 19 31.1**	**0.0**
UPC				MLR	MLR		
	comp=Z,500nm,20.9s						
HLG	**Helgoland**	**136.24**	**342**	*e*PKPdf	**PKPdf**	**12 19 31.8**	**+0.8**
KDZ	**Kurdzhali**	**136.28**	**317**↑	*i*P	**PKPdf**	**12 19 31.3**	**-0.3**
BZS	**Buzias**	**136.53**	**324**↑	*i*P	**PKPdf**	**12 19 32.0**	**+0.1**
PKSN	**Nyarlorinc**	**136.72**	**327**‖	*e*SKPbc	**PKPdf**	**12 19 33.0**	**+0.8**
PVCC	**Panska Ves**	**136.76**	**334**	*e*PKPdf	**PKPdf**	**12 19 33.0**	**+0.8**
PVCC	**Panska Ves**	**136.76**	**334**	*e*PKIKP	**PKPdf**	**12 19 33.0**	**+0.8**
BRG	**Berggiesshubel**	**136.76**	**335**	*e*PKP	**PKPdf**	**12 19 32.3**	**+0.1**
	comp=Z,21nm,1.1s						
BRG				PP	**PP**	**12 22 14.0**	**-0.5**
BRG	**Berggiesshubel**	**136.76**	**335**	*e*PKPdf	**PKPdf**	**12 19 32.3**	**+0.1**
BRG	**Berggiesshubel**	**136.76**	**335**	*e*PKIKP	**PKPdf**	**12 19 32.3**	**+0.1**
BRG						12 22 14.0	
BRG				pmax	pmax		
	comp=Z,21nm,1.1s						
BUD	**Budapest**	**136.79**	**328**‖	*e*SKPbc	**PKPdf**	**12 19 31.9**	**-0.4**
CLL	**Collm**	**136.81**	**336**	*e*PKPdf	**PKPdf**	**12 19 32.3**	**+0.1**
CLL	**Collm**	**136.81**	**336**	*i* PKIKP	**PKPdf**	**12 19 32.1**	**-0.1**
CLL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CLL	**Collm**	**136.81**	**336**	*i* PKPpre	PKPpre	12 19 23.5	
CLL				*i* PKPdf	**PKPdf**	**12 19 32.1**	**-0.1**
	comp=Z,7.0nm,1.0s						
CLL				*i* PKiKP	**PKiKP**	**12 19 33.6**	**-0.4**
	comp=Z,21nm,1.1s						
CLL				*i*		12 19 37.3	
	comp=Z,10.0nm,1.0s						
CLL				*e*PP	**PP**	**12 22 16.0**	**+1.2**
	comp=Z,6.0nm,1.1s						
CLL				*i* SKPdf	**SKPdf**	**12 23 04.8**	**+1.1**
	comp=Z,9.0nm,1.1s						
CLL				*e*SS	SS	12 39 54.0	-21
CLL				*e*SSS	SSS	12 45 30.0	
CLL				LmV		13 27 00.0	
	comp=Z,300nm,19.6s						
FBE	**Freiberg**	**136.97**	**335**	*e*PKPdf	**PKPdf**	**12 19 33.0**	**+0.5**
PKS7	**Kunszentmiklos**	**137.00**	**327**‖	*e*	**PKPdf**	**12 19 33.2**	**+0.5**
GOPC	**GO Pecny, Ondr**	**137.12**	**333**	*e*PKPdf	**PKPdf**	**12 19 32.8**	**-0.1**
GOPC				AMS	AMS	13 21 20.0	
	comp=Z,300nm,24.4s						
PKSG		**137.17**	**328**↑	*e*SKPbc	**PKPdf**	**12 19 33.2**	**+0.2**
PRU	**Pruhonice**	**137.18**	**334**	*e*PKPdf	**PKPdf**	**12 19 32.9**	**0.0**
PRU				AMS	AMS	13 17 50.0	
	comp=Z,300nm,17.8s						
PRU	**Pruhonice**	**137.18**	**334**	*e*PKIKP	**PKPdf**	**12 19 32.9**	**0.0**
PRU				MLR	MLR		
	comp=Z,300nm,17.8s						
VTS	**Vitosha**	**137.24**	**320**↑	*i*P	**PKPdf**	**12 19 34.5**	**+1.0**
CSKK	**Cs*‡kako**	**137.26**	**328**‖	*e*SKPbc	**PKPdf**	**12 19 32.5**	**-0.7**
TREC	**Trest**	**137.26**	**332**	*e*PKPdf	**PKPdf**	**12 19 33.1**	**-0.1**
TREC				AMS	AMS	13 20 10.0	
	comp=Z,600nm,23.0s						
TREC	**Trest**	**137.26**	**332**	*e*PKIKP	**PKPdf**	**12 19 33.1**	**-0.1**
TREC				MLR	MLR		
	comp=Z,600nm,23.0s						
PKS2	**Kecel**	**137.32**	**327**‖↓	*e*SKPbc	**PKPdf**	**12 19 34.6**	**+1.3**
NEUB	**Neuenburg**	**137.37**	**337**	*e*PKPdf	**PKPdf**	**12 19 33.6**	**+0.3**
CLZ	**Clausthal**	**137.38**	**338**	*e*PKPdf	**PKPdf**	**12 19 33.8**	**+0.5**
PKST	**T"s**	**137.44**	**328**‖	*e*SKPbc	**PKPdf**	**12 19 33.4**	**-0.2**
TANN	**Tannenbergstha**	**137.72**	**335**	*e*PKPdf	**PKPdf**	**12 19 34.2**	**+0.2**
PKS9	**Tamasi**	**137.76**	**327**↑	*e*	**PKPdf**	**12 19 34.4**	**+0.3**
WERD	**Werda**	**137.76**	**336**	*e*PKPdf	**PKPdf**	**12 19 34.2**	**+0.1**
PLN	**Plauen**	**137.79**	**336**	*e*PKPdf	**PKPdf**	**12 19 34.2**	**+0.1**
PKSM	**Moragy**	**137.81**	**327**↑	*i*P	**PKPdf**	**12 19 34.4**	**+0.2**
PKSM	**Moragy**	**137.81**	**327**‖↓	*e*SKPbc	**PKPdf**	**12 19 34.1**	**-0.1**
GUNZ	**Gunzen**	**137.81**	**335**	*e*PKPdf	**PKPdf**	**12 19 34.5**	**+0.3**
WERN	**Wernitzgruen**	**137.85**	**335**	*e*PKPdf	**PKPdf**	**12 19 34.8**	**+0.5**
MOX	**Moxa**	**137.88**	**336**	*e*PKPdf	**PKPdf**	**12 19 34.4**	**+0.1**
IBBN	**Ibbenburen**	**137.89**	**341**	*e*PKPdf	**PKPdf**	**12 19 34.4**	**+0.2**
SOP	**Sopron**	**137.90**	**330**‖	*e*SKPbc	**PKPdf**	**12 19 34.2**	**-0.1**
CONA	**Conrad Observa**	**138.06**	**330**	*i* PKPdf	**PKPdf**	**12 19 34.8**	**0.0**
	comp=Z,21nm,0.8s,SNR=14						
MANZ	**Manzenberg**	**138.20**	**335**	*e*PKPdf	**PKPdf**	**12 19 35.1**	**+0.2**
KHC	**Kasperske Hory**	**138.23**	**333**	*e*PKPpre	PKPpre	12 19 25.3	
KHC				*e*PKPdf	**PKPdf**	**12 19 34.7**	**-0.3**
KHC				*e*sPKP		12 19 50.4	
KHC				AMS	AMS	13 18 00.0	
	comp=Z,300nm,16.3s						
KHC	**Kasperske Hory**	**138.23**	**333**	*e*PKHKP	PKPpre	12 19 25.3	
KHC				*e*	**PKPdf**	**12 19 34.7**	**-0.3**
KHC				*e*		12 19 50.4	
KHC				MLR	MLR		
	comp=Z,300nm,16.3s						
KHC	**Kasperske Hory**	**138.23**	**333**	*e*PKPdf	**PKPdf**	**12 19 35.2**	**+0.2**
ROTZ	**Rotzenmuhle**	**138.33**	**335**	*e*PKPdf	**PKPdf**	**12 19 35.4**	**+0.3**
UBBA	**Unterbreizbach**	**138.35**	**338**	*e*PKPdf	**PKPdf**	**12 19 35.5**	**+0.6**
DIVS	**Divibare**	**138.35**	**323**↑	*i*P	**PKPdf**	**12 19 35.5**	**+0.1**
GEC2	**GERESS Array S**	**138.39**	**333**	*e*PKPdf	**PKPdf**	**12 19 35.4**	**0.0**
GERES	**GERESS Array B**	**138.39**	**333**	PKhKP	PKPpre	12 19 24.9	
	comp=Z,0.6nm,0.5s,baz=48,slow=4.0,SNR=5.3						
GERES				PKP	**PKPdf**	**12 19 34.3**	**-1.1**
	comp=Z,6.6nm,0.9s,baz=4.4,slow=1.7,SNR=16						
GERES				SKPbc	**SKiKP**	**12 23 09.7**	**-0.3**
	comp=Z,2.9nm,0.8s,baz=46,slow=3.9,SNR=11						
WET	**Wettzell**	**138.53**	**334**	*e*PKPdf	**PKPdf**	**12 19 35.7**	**+0.2**
BEHE	**Becsehely**	**138.61**	**328**‖	*e*SKPdf	**PKPdf**	**12 19 35.6**	**-0.1**
SOKA	**Soboth**	**139.34**	**330**	*i* PKPdf	**PKPdf**	**12 19 36.7**	**-0.5**
	comp=Z,29nm,1.4s,SNR=5.4						
IDI	**Anoyia**	**139.36**	**309**	PKP	**PKPdf**	**12 19 36.3**	**-1.2**
	comp=Z,15nm,0.6s,baz=116,slow=2.8,SNR=9.3						
KBA	**Koelnbreinsper**	**139.86**	**331**↑	*i*PKPdf	PKPpre	12 19 33.0	
	comp=Z,3.3nm,0.6s						
KBA				↓ *i*PKPdf	**PKPdf**	**12 19 38.2**	**0.0**
	comp=Z,19nm,0.9s,SNR=5.9						
MEM	**Membach**	**139.91**	**341**	PKP	**PKPdf**	**12 19 38.1**	**+0.1**
MEM	**Membach**	**139.91**	**341**	*e*PKIKP	**PKPdf**	**12 19 38.4**	**+0.5**
MEM	**Membach**	**139.91**	**341**	*e*PKPdf	**PKPdf**	**12 19 38.4**	**+0.5**
BCLA	**Clavier**	**140.30**	**341**	PKP	**PKPdf**	**12 19 40.9**	**+2.3**
WTTA	**Wattenberg**	**140.50**	**333**↑	*i*PKPdf	**PKPdf**	**12 19 39.1**	**-0.2**
	comp=Z,30nm,1.2s,SNR=7.1						
DOU	**Dourbes**	**140.80**	**342**	PKP	**PKPdf**	**12 19 40.3**	**+0.8**
SENIN	**Lac Senin/Sane**	**143.03**	**336**	*e*PKPdf	PKPbc	12 19 40.2	-0.6
AQU	**L'Aquila**	**143.18**	**326**	*e*PKIKP	PKPbc	12 19 41.7	+0.6
AQU	**L'Aquila**	**143.18**	**326**	*e*PKPdf	PKPbc	12 19 41.6	+0.5
CUC	**Castrocucco**	**143.30**	**321**	*e*PKPdf	PKPab	12 19 40.2	-0.2
CEL	**Celeste**	**144.28**	**319**	*e*PKPdf	**PKPab**	**12 19 44.0**	**-0.2**
BNI	**Bardonecchia**	**144.35**	**335**	*e*PKHKP	**PKPab**	**12 19 39.9**	**-4.4**
BNI	**Bardonecchia**	**144.35**	**335**	*e*PKPdf	**PKPab**	**12 19 39.9**	**-4.4**
WDD	**Wield Dalam**	**146.54**	**316**	*e*PKPdf	**PKPdf**	**12 19 49.7**	**-0.3**
WDD				*e*PKPbc	**PKPbc**	**12 19 51.1**	**-0.5**
WDD				*e*PKPab	**PKPab**	**12 19 52.8**	**+0.2**
VSL	**Villasalto**	**147.35**	**326**	*e*PKPdf	**PKPdf**	**12 19 50.8**	**-0.6**
VSL				*e*PKPbc	**PKPbc**	**12 19 53.4**	**-0.4**
VSL				*e*PKPab	**PKPab**	**12 19 55.7**	**0.0**
KEST	**Kesra**	**149.96**	**321**	PKP	**PKPdf**	**12 19 56.0**	**+0.2**
	comp=Z,13nm,1.2s,baz=16,slow=8.1,SNR=5.7						
KEST				PKPbc	**PKiKP**	**12 20 01.2**	**-0.4**
	comp=Z,69nm,0.9s,baz=84,slow=0.4,SNR=167						
KEST				PP	**PP**	**12 23 31.7**	**-2.8**
	comp=Z,1.7nm,0.6s,baz=316,slow=3.9,SNR=12						
CMAH	**Djebel Manchou**	**150.48**	**324**	P	**PKPbc**	**12 20 01.9**	**0.0**
ABSA	**Djebel Ababsia**	**150.70**	**324**	P	**PKPbc**	**12 20 02.7**	**+0.2**
CKFL	**Kef-Lekhel**	**151.03**	**325**	P	**PKPbc**	**12 20 03.5**	**+0.2**
CASM	**Ain Smara**	**151.26**	**325**	P	**PKPbc**	**12 20 03.9**	**+0.1**
PBRG	**Braganca**	**151.37**	**349**	*e*PKPbc	**PKPbc**	**12 20 03.7**	**-0.1**
DFRA	**Djebel Bou Aff**	**151.39**	**326**	P	**PKPbc**	**12 20 05.1**	**+1.0**
CTEI	**Djebel Teioual**	**151.45**	**325**	P	**PKPbc**	**12 20 04.5**	**+0.2**
PGAV	**Gavieira, Arco**	**151.46**	**352**	*e*PKPbc	**PKPbc**	**12 20 04.0**	**-0.1**
PCAB	**Cabril**	**151.67**	**351**	*e*PKPbc	**PKPbc**	**12 20 04.4**	**-0.1**
SET	**Setif**	**151.91**	**326**	P	**PKPbc**	**12 20 06.0**	**+0.7**
POLO	**Lamas de Olo**	**151.97**	**351**	*e*PKPbc	**PKPbc**	**12 20 05.3**	**0.0**
CKHR	**Kef el Ahmar**	**151.98**	**326**	P	**PKPbc**	**12 20 05.5**	**0.0**
MVO	**Moncorvo**	**152.04**	**350**	*e*PKPbc	**PKPbc**	**12 20 05.5**	**+0.1**
MVO	**Moncorvo**	**152.04**	**350**	*e*LR	LR	13 18 37.8	
	comp=Z,334nm,22.0s						
ESDC	**Sonseca Array**	**152.79**	**344**	PKP	**PKPdf**	**12 19 59.0**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=0.0,slow=3.1,SNR=4.5						
ESDC				PKPbc	**PKPbc**	**12 20 07.0**	**-0.1**
	comp=Z,11nm,0.8s,baz=14,slow=2.6,SNR=45						
ESLA	**Sonseca Array**	**152.79**	**344**	*e*PKPdf	**PKPdf**	**12 19 58.5**	**-1.4**
ESLA				*e*PKPbc	**PKPbc**	**12 20 07.0**	**-0.1**
ESLA				*e*PKPab	**PKPab**	**12 20 16.8**	**-1.2**
ESLA				epPKPdf	pPKPdf	12 20 22.2	+8.2
MTE	**Manteigas**	**152.88**	**350**	*e*PKPbc	**PKPbc**	**12 20 07.3**	**0.0**
MTE	**Manteigas**	**152.88**	**350**	*e*LR	LR	13 16 06.4	
	comp=Z,331nm,20.0s						
MTE	**Manteigas**	**152.88**	**350**	*e*PKPdf	**PKPdf**	**12 19 59.9**	**-0.1**
MTE				*e*PKPbc	**PKPbc**	**12 20 07.2**	**0.0**
MTE				*e*PKPab	**PKPab**	**12 20 16.2**	**-2.1**
PAB	**San Pablo**	**153.01**	**344**	*e*PKIKP	**PKPdf**	**12 19 59.8**	**-0.5**
PAB				*e*		12 20 07.9	
PAB	**San Pablo**	**153.01**	**344**	*e*PKPdf	**PKPdf**	**12 19 59.8**	**-0.5**
PAB				*e*PKPbc	**PKiKP**	**12 20 07.8**	**+0.1**
PAB				*e*PKPab	**PKPab**	**12 20 19.7**	**+0.8**
PCAS	**Casmilo, Conde**	**153.37**	**351**	*e*PKPbc	**PKPbc**	**12 20 08.0**	**-0.3**
PMRV	**Marv??o**	**153.80**	**349**	*e*PKPbc	**PKPbc**	**12 20 09.3**	**0.0**
PMRV	**Marv??o**	**153.80**	**349**	*e*LR	LR	13 22 40.3	
	comp=Z,273nm,20.0s						
PMTG	**Montargil**	**154.29**	**351**	*e*PKPbc	**PKPbc**	**12 20 09.9**	**-0.4**
PESTR	**Estremoz**	**154.38**	**349**	*e*PKPbc	**PKPbc**	**12 20 11.2**	**+0.7**
MESJ	**Messejana**	**155.49**	**350**	*e*PKPab	**PKPab**	**12 20 30.3**	**+1.0**
PCVE	**Castro Verde**	**155.66**	**350**	*e*PKPdf	**PKPdf**	**12 20 07.6**	**+3.6**
PVAQ	**Vaqueiros**	**155.82**	**349**	*e*PKPdf	**PKPdf**	**12 20 06.9**	**+2.7**
PVAQ	**Vaqueiros**	**155.82**	**349**	*e*LR	LR	13 17 46.6	
	comp=Z,320nm,20.0s						
TAM	**Tamanrasset**	**159.84**	**299**	*e*PKIKP	**PKPdf**	**12 20 10.2**	**+0.5**
TAM	**Tamanrasset**	**159.84**	**299**	*e*PKPdf	**PKPdf**	**12 20 10.2**	**+0.5**
TAM				*e*PKPab	**PKPab**	**12 20 49.8**	**+0.8**
TOA0	**Torodi Ar. Sit**	**165.25**	**270**	*e*PKIKP	**PKPdf**	**12 20 13.0**	**-2.1**
TORD	**Torodi Ar. Bea**	**165.25**	**270**	PKP	**PKPdf**	**12 20 14.1**	**-1.0**
	comp=Z,13nm,0.9s,baz=74,slow=1.3,SNR=53						
TORD				PKPab	**PKPab**	**12 21 11.6**	**-1.2**
	comp=Z,18nm,1.3s,baz=96,slow=4.2,SNR=9.4						
TORD				PP	**PP**	**12 24 58.4**	**-1.5**
	comp=Z,2.2nm,1.1s,baz=48,slow=2.2,SNR=3.8						
KIC	**Kosan Boka**	**168.76**	**231**	*e*PKIKP	**PKPdf**	**12 20 16.5**	**-1.3**
	comp=Z,102nm,1.2s						
LIC	**Lamto**	**168.88**	**229**	*e*PKIKP	**PKPdf**	**12 20 15.0**	**-2.9**
	comp=Z,149nm,1.5s						
DBIC	**Dimbokro**	**169.05**	**231**	PKP	**PKPdf**	**12 20 16.8**	**-1.2**
	comp=Z,12nm,0.8s,baz=112,slow=3.5,SNR=8.4						
TIC	**Toumodi**	**169.15**	**231**	*e*PKIKP	**PKPdf**	**12 20 16.8**	**-1.2**

CSEM ***02*** *12:16:38.1±0.6,50.02N×18.17E,h1km, Error ellipse: s-maj=11.1km s-min=9.5km az=113.0*

PRU 02 12:16:37.2,50.02N×18.34E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**

baz=25,SNR=21
ARMA Armidale 24.85 178 *e*P **P** **12 33 14.9 +1.2**
comp=Z,39nm,0.9s
CMSA Cobar Meteorol 26.41 190 P **P** **12 33 28.0 +0.4**
baz=26,SNR=9.7
MGCD Mangrove Creek 27.62 180 P **P** **12 33 39.9 +1.4**
baz=26,SNR=5.1
STKA Stephens Creek 27.69 197 *e*P **P** **12 33 39.1 -0.1**
comp=Z,12nm,0.5s,baz=8.1,slow=9.2,SNR=34
STKA ScP **ScP** **12 40 23.8 +1.8**
comp=Z,7.4nm,0.9s,baz=32,slow=5.8,SNR=6.3
STKA LR LR 12 44 12.4
comp=Z,214nm,19.0s,baz=34,slow=35
STKA Stephens Creek 27.69 197 *e*P **P** **12 33 39.1 -0.1**
STKA pmax pmax
comp=Z,4.0nm,0.8s
STKA Stephens Creek 27.69 197 *e*P **P** **12 33 39.1 -0.1**
STKA ScP **ScP** **12 40 23.8 +1.8**
YNG Young 28.80 184 P **P** **12 33 49.8 +0.8**
baz=29,SNR=8.9
WRKA Warakurna 29.13 226 P **P** **12 33 51.8 -0.3**
baz=29,SNR=144
CNB Canberra Magne 29.75 183 P **P** **12 33 58.7 +1.2**
baz=30,SNR=9.9
HTT Hallett 29.98 200 P **P** **12 33 59.8 +0.2**
baz=30,SNR=25
BBOO Buckleboo 30.53 205 P **P** **12 34 03.9 -0.5**
baz=31,SNR=14
BBOO Buckleboo 30.53 205 *e*P **P** **12 34 03.9 -0.5**
comp=Z,1.0nm,0.8s
MILA Mila 31.50 183 P **P** **12 34 14.8 +1.9**
baz=32,SNR=6.0
ARPS Mount Arapiles 32.26 194 P **P** **12 34 20.2 +0.8**
baz=32,SNR=20
TOO Toolangi 32.35 188 P **P** **12 34 21.3 +1.1**
baz=32,SNR=7.1
FORT Forrest 33.09 218 P **P** **12 34 26.7 -0.1**
baz=33,SNR=13
FORT Forrest 33.09 218 *e*P **P** **12 34 26.7 -0.1**
comp=Z,52nm,0.9s
JCJ Chichijima 33.43 346 LR LR 12 47 49.7
comp=Z,142nm,18.9s,baz=131,slow=36
MBWA Marble Bar 33.99 240 *e*P **P** **12 34 32.9 -1.8**
comp=Z,56nm,0.9s
MYLDM Lahad Datu 34.02 288 *e*P **P** **12 34 36.6 +1.6**
comp=Z,45nm,1.2s
OUZ Omahuta 36.29 148 *e*P **P** **12 34 56.5 +2.3**
comp=Z,32nm,1.8s
MOO Moorlands 36.98 185 P **P** **12 35 01.8 +1.8**
baz=37,SNR=10
MEEK Meekatharra 37.30 232 P **P** **12 35 02.4 -0.5**
baz=37,SNR=28
KMBL Kambalda 37.47 223 P **P** **12 35 04.7 +0.4**
baz=38,SNR=12
GIRL Giralia 39.28 241 P **P** **12 35 19.9 +0.3**
baz=39,SNR=9.6
URZ Urewera 40.43 148 P **P** **12 35 29.4 +0.6**
comp=Z,6.8nm,0.3s,baz=267,slow=2.8,SNR=20
URZ LR LR 12 50 52.8
comp=Z,192nm,18.5s,baz=309,slow=34
MORW Morawa 40.46 230 P **P** **12 35 28.8 -0.4**
baz=40,SNR=21
KLBR Kellerberrin 40.48 226 P **P** **12 35 29.0 -0.3**
baz=40,SNR=18
YULB Yu-li 40.69 316 *e*P **P** **12 35 31.2 0.0**
comp=Z,62nm,1.4s
BLDU Ballidu 40.72 228 P **P** **12 35 31.0 -0.3**
baz=41,SNR=9.7
NACB Ninganchiao 41.01 317 *e*P **P** **12 35 34.2 +0.5**
comp=Z,59nm,1.0s
SSLB Suanglung 41.19 316 *e*P **P** **12 35 35.8 +0.5**
comp=Z,26nm,1.0s
YHNB Yeheng 41.49 317 *e*P **P** **12 35 38.9 +1.1**
comp=Z,66nm,0.9s
BFZ Birch Farm 41.81 151 *e*P **P** **12 35 41.9 +1.9**
comp=Z,155nm,1.7s
KHZ Kahutara 41.95 155 *e*P **P** **12 35 41.7 +0.5**
comp=Z,30nm,0.8s
RPZ Rata Peaks 42.05 158 P **P** **12 35 42.7 +0.6**
comp=Z,67nm,0.6s,baz=129,slow=14,SNR=12
RPZ LR LR 12 50 54.4
comp=Z,226nm,19.0s,baz=317,slow=33
RPZ Rata Peaks 42.05 158 *e*P **P** **12 35 43.8 +1.8**
RKGY Rocky Gully 42.70 223 P **P** **12 35 48.5 +1.1**
baz=43,SNR=6.0
CISI Cisompet, Garu 42.83 265 P **P** **12 35 47.6 -1.2**
baz=43,SNR=4.8
MJAR Matsushiro Arr 43.42 345 P **P** **12 35 51.0 -2.2**
comp=Z,5.9nm,1.0s,baz=171,slow=9.5,SNR=6.2
MJAR pP **pP** **12 36 17.7 -4.6**
comp=Z,6.4nm,1.0s,baz=173,slow=9.3,SNR=4.8
MJAR ScP **ScP** **12 41 18.4 -0.4**
comp=Z,1.0nm,0.8s,baz=134,slow=7.2,SNR=4.2
MJAR LR LR 12 52 08.3
comp=Z,97nm,19.1s,baz=265,slow=33
QZH Quanzhou 43.58 315 ⇑ *i*P **P** **12 35 55.5 +1.0**
KSBUS Busan 45.37 335 P **P** **12 36 09.8 +1.2**
SNR=11
KSBUS Busan 45.37 335 P **P** **12 36 09.7 +1.0**
SNR=6.3
KSNAH Namhae 45.52 333 P **P** **12 36 11.3 +1.5**
SNR=7.0
KSNAH Namhae 45.52 333 P **P** **12 36 11.3 +1.5**
SNR=7.0
KSDAG Daegu 45.91 335 P **P** **12 36 14.5 +1.6**
SNR=7.7
KSDAG Daegu 45.91 335 P **P** **12 36 14.5 +1.6**
SNR=7.7
KSJDO Jindo 45.98 331 P **P** **12 36 14.7 +1.2**
SNR=5.7
KSJDO Jindo 45.98 331 P **P** **12 36 14.7 +1.2**
SNR=5.7
GZH Guangzhou 46.36 309 P **P** **12 36 18.3 +1.7**
GZH pP **pP** **12 36 49.6 +3.5**
GZH sP sP 12 37 05.9 +5.3
GZH PP **PP** **12 38 08.7 +1.1**
GZH S **S** **12 42 56.1 +1.7**
GZH LN
comp=Z,160nm,15.2s
GZH LE
comp=Z,170nm,14.9s
KSULJ Uljin 46.49 336 P **P** **12 36 18.8 +1.4**
SNR=5.5
KSULJ Uljin 46.49 336 P **P** **12 36 18.3 +0.8**
SNR=14
KSJEU Jeongeup 46.54 333 P **P** **12 36 18.4 +0.6**
SNR=7.4
KSJEU Jeongeup 46.54 333 P **P** **12 36 18.4 +0.6**
SNR=7.4
KSCPR CHUPUNGNYEONG 46.68 334 P **P** **12 36 20.1 +1.2**
SNR=18
KSCPR CHUPUNGNYEONG 46.68 334 P **P** **12 36 20.1 +1.2**
SNR=18
KSSAJ Sangju 46.76 335 P **P** **12 36 20.3 +0.8**
SNR=5.8
KSBON Boeun 46.99 334 P **P** **12 36 22.8 +1.5**
SNR=22
KSBON Boeun 46.99 334 P **P** **12 36 22.8 +1.5**
SNR=22
KSTBA Taebaek 47.04 336 P **P** **12 36 23.2 +1.5**
SNR=7.7
KSTBA Taebaek 47.04 336 P **P** **12 36 23.2 +1.5**
SNR=7.7
TJN Taejon 47.08 334 *d i*P **P** **12 36 22.3 +0.3**
KSCHJ Chungju 47.23 335 P **P** **12 36 24.2 +1.0**
SNR=7.0
KSCHJ Chungju 47.23 335 P **P** **12 36 24.2 +1.0**
SNR=7.0
KSCEA Cheonan 47.50 334 P **P** **12 36 26.5 +1.3**
SNR=6.7
KSCEA Cheonan 47.50 334 P **P** **12 36 26.5 +1.3**
SNR=15
KSDGY Daegwallycong 47.64 336 P **P** **12 36 27.8 +1.4**
SNR=13
KSRS Korea Array 47.75 335 P **P** **12 36 27.9 +0.8**
comp=Z,30nm,0.9s,baz=152,slow=8.8,SNR=62
KSRS LR LR 12 54 47.5
comp=Z,140nm,20.4s,baz=154,slow=34
KSAR Wonju Array Be 47.76 335 P **P** **12 36 27.9 +0.7**
KSAR Wonju Array Be 47.76 335 P **P** **12 36 27.9 +0.7**
KSJMJ Jumunjin 47.77 336 P **P** **12 36 28.6 +1.3**
SNR=7.7
KSICN Icheon 47.82 335 P **P** **12 36 29.5 +1.7**
SNR=7.0
KSSWO Suwon 48.00 334 P **P** **12 36 30.5 +1.4**
SNR=14
KSSWO Suwon 48.00 334 P **P** **12 36 30.5 +1.4**
SNR=14
KSCHC Chuncheon 48.07 335 P **P** **12 36 30.9 +1.3**
SNR=8.8
KSIJA INJE 48.12 336 P **P** **12 36 31.4 +1.4**
SNR=18
KSIJA INJE 48.12 336 P **P** **12 36 31.7 +1.7**
SNR=9.3
NJ2 Nanjing 48.17 323 *e*P **P** **12 36 30.4 -0.1**
NJ2 PMZ
comp=Z,80nm,0.7s
KSSEO Seoul 48.20 334 P **P** **12 36 32.1 +1.5**
SNR=20
SEHB SEOHWA 48.31 336 P **P** **12 36 32.9 +1.4**
SNR=6.4
INCN Inchon 48.32 334 *e*P **P** **12 36 32.9 +1.3**
comp=Z,236nm,1.2s
KSCWO Cheorwon 48.45 335 P **P** **12 36 34.0 +1.4**
SNR=12
KSGAH Ganghwa 48.59 334 P **P** **12 36 35.2 +1.6**
SNR=8.1
KSMUS Musan 48.61 334 P **P** **12 36 35.6 +1.9**
SNR=5.4
YNCB YEONCHEON 48.66 335 P **P** **12 36 35.7 +1.6**
SNR=28
ASAJ Asahikawa 49.90 352 P **P** **12 36 43.1 -0.3**
comp=Z,12nm,0.5s,baz=241,slow=5.4,SNR=23
ASAJ Asahikawa 49.90 352 P **P** **12 36 43.2 -0.3**
ASAJ pmax pmax
comp=Z,12nm,0.5s
ASAJ Asahikawa 49.90 352 *e*P **P** **12 36 43.3 -0.1**
WHN Wuhan 50.03 318 ⇑ *i*P **P** **12 36 46.1 +1.5**
VLA Vladivostok 51.32 342 *e*P **P** **12 36 53.8 -0.3**
VLA pmax pmax
comp=Z,20nm,1.4s
SKNT Sakolnakorn 51.42 297 P **P** **12 36 55.7 +0.4**
comp=Z,27nm,1.1s,comp=Z,1μm
USRK Ussuriysk Ar. 52.27 343 P **P** **12 37 01.2 +0.1**
comp=Z,5.7nm,0.8s,baz=182,slow=9.2,SNR=10
USRK LR LR 12 58 43.0
comp=Z,70nm,18.1s,baz=156,slow=35
YSS Yuzh-Sakhalins 52.67 353 *i*P **P** **12 37 03.6 -0.4**
YSS pmax pmax
comp=Z,22nm,1.7s
SLVN Son La 53.19 302 *e*P **P** **12 37 09.5 +1.0**
comp=Z,18nm,1.2s
ENH Enshi 53.22 314 *e*P **P** **12 37 08.5 0.0**
comp=Z,76nm,1.4s
GYA Guiyang 53.29 309 P **P** **12 37 11.0 +1.9**
GYA pP **pP** **12 37 42.2 +2.8**
GYA sP **sP** **12 37 57.5 +3.8**
GYA PP **PP** **12 39 14.0 +3.3**
GYA S **S** **12 44 31.8 +0.8**
GYA PMZ
comp=Z,10.0nm,1.0s
GYA PMZ
comp=Z,90nm,5.0s
PBKT Sadao Pong 53.98 295 P **P** **12 37 15.9 +1.8**
comp=Z,15nm,1.3s
CN2 Changchun 54.13 337 *e*P **P** **12 37 14.9 +0.1**
CN2 *e*S **S** **12 44 44.3 +2.7**
CN2 PMZ
comp=Z,10.0nm,0.7s
CN2 PMZ
comp=Z,300nm,3.0s
CN2 LN
comp=Z,100nm,15.0s
CN2 LE
comp=Z,100nm,15.0s
CN2 LZ
comp=Z,70nm,15.0s
BJT Baijiatuau 55.39 328 *e*P **P** **12 37 24.3 +0.4**
BJT pmax pmax
comp=Z,19nm,0.8s
BJT Baijiatuau 55.39 328 *e*P **P** **12 37 24.2 +0.4**
comp=Z,19nm,0.8s
BJI Beijing 55.40 328 P **P** **12 37 24.3 +0.3**
BJI PMZ
comp=Z,31nm,1.8s
BJI PMZ
comp=Z,230nm,4.0s
HABR Khabarovsk 55.46 347 *de*P **P** **12 37 22.3 -1.9**
HABR *e**PP **pP** **12 37 54.3 -0.4**
HABR *e* 12 38 19.0
HABR *e* 12 39 27.3
HABR *e*S **S** **12 44 58.6 -0.5**
HABR *e* 12 46 56.8
HABR *e*SS **SS** **12 48 46.6 +0.6**
HABR pmax pmax
comp=E,6.0nm,0.8s
HABR pmax pmax
comp=N,13nm,1.5s
HABR pmax pmax
comp=Z,30nm,1.5s
HABR MLR MLR
comp=Z,91nm,16.0s
KMI Kunming 55.78 305 P **P** **12 37 28.6 +1.3**
KMI pP **pP** **12 37 57.0 -0.8**
KMI S **S** **12 45 06.5 +1.8**
KMI PMZ
comp=Z,39nm,0.7s
KMI PMZ
comp=Z,75nm,3.1s
KMI LN
comp=Z,140nm,13.8s
KMI LE
comp=Z,180nm,20.8s
KMI LZ
comp=Z,290nm,22.2s
XAN Xi'an 55.79 318 P **P** **12 37 26.9 -0.1**
XAN pP **pP** **12 37 54.7 -2.8**
XAN PMZ
comp=Z,19nm,1.4s
XAN PMZ
comp=Z,51nm,6.2s
CMAR Chiang Mai Arr 56.43 296 P **P** **12 37 32.3 +0.5**
comp=Z,5.0nm,0.9s,baz=111,slow=5.6,SNR=25
CMAR pP **pP** **12 37 58.2 -4.2**
comp=Z,2.6nm,0.9s,baz=111,slow=6.7,SNR=1.5
CMMT Chiang Mai 56.55 297 P **P** **12 37 33.6 +1.0**
comp=Z,14nm,1.2s
CHTO Chiang Mai 56.55 297 *e*P **P** **12 37 31.9 -0.8**
CHTO pmax pmax
comp=Z,25nm,1.4s
CHTO Chiang Mai 56.55 297 *e*P **P** **12 37 31.9 -0.8**
comp=Z,25nm,1.4s
KLR Kul'dur 56.95 345 *e*P P 12 37 29.3 -5.6
CD2 Chengdu 57.72 312 P **P** **12 37 41.1 +0.4**
CD2 pP **pP** **12 38 11.2 -0.2**
CD2 sP **sP** **12 38 26.9 +1.3**
CD2 PP **PP** **12 39 50.6 +0.4**
CD2 S **S** **12 45 30.5 +0.7**
CD2 sS **sS** **12 46 24.8 +2.1**
CD2 SS **SS** **12 49 24.4 +1.9**
CD2 PMZ
comp=Z,50nm,1.3s
CD2 PMZ
comp=Z,130nm,5.3s
HHC Hu-ho-hao-te 58.48 326 *e*P **P** **12 37 47.2 +1.3**
HHC pP **pP** **12 38 17.8 +1.2**
HHC sP **sP** **12 38 30.3 -0.5**
HHC PP **PP** **12 40 00.2 +3.4**
HHC S **S** **12 45 39.3 0.0**
HHC sS **sS** **12 46 31.6 -0.8**
HHC ScS **ScS** **12 47 20.6 -2.7**
HHC PMZ
comp=Z,40nm,0.6s
HHC PMZ
comp=Z,100nm,6.1s
HHC LN
comp=Z,160nm,19.1s
HHC LE
comp=Z,100nm,16.2s
HHC LZ
comp=Z,140nm,16.2s
PETK Petropavlovsk- 58.62 5 P **P** **12 37 45.8 -0.6**
comp=Z,10.0nm,0.5s,baz=171,slow=8.0,SNR=34
PETK LR LR 12 58 17.0
comp=Z,43nm,20.5s,baz=184,slow=31
LZH Lanzhou 60.38 317 P **P** **12 38 00.3 +1.2**
LZH pP **pP** **12 38 30.5 +0.5**
LZH sP **sP** **12 38 44.2 +0.1**
LZH PP **PP** **12 40 15.0 +1.2**
LZH S **S** **12 46 02.0 -2.1**
LZH sS **sS** **12 46 53.2 -4.2**
LZH PMZ
comp=Z,86nm,1.3s
LZH PMZ
comp=Z,310nm,4.1s
LZH LN
comp=Z,220nm,12.2s
LZH LE
comp=Z,300nm,12.8s
LZH LZ
comp=Z,370nm,14.8s
GTA Gaotai 64.85 318 *e*P **P** **12 38 29.2 +0.5**
GTA pP **pP** **12 38 59.4 -0.6**
GTA sP **sP** **12 39 14.1 +0.1**
GTA PMZ
comp=Z,18nm,1.4s
SONM Songino Array 65.87 329 P **P** **12 38 35.8 +0.7**
comp=Z,8.5nm,0.6s,baz=143,slow=5.7,SNR=23
SONM pP **PcP** **12 39 02.2 -2.7**
comp=Z,21nm,1.2s,baz=143,slow=6.4,SNR=6.4
SONM LR LR 13 09 40.4
comp=Z,222nm,18.4s,baz=90,slow=38
LSA Lhasa 67.04 305 *e*P **P** **12 38 43.9 +0.6**
LSA pmax pmax
comp=Z,4.0nm,0.5s
LSA Lhasa 67.04 305 *e*P **P** **12 38 43.9 +0.6**
comp=Z,4.3nm,0.5s
SEY Seymchan 68.20 1 P **P** **12 38 48.8 -0.5**
comp=Z,9.1nm,1.0s,baz=154,slow=3.6,SNR=16
SEY Seymchan 68.20 1 *d i*P **P** **12 38 48.2 -1.1**
ZAK Zakamensk 69.06 330 *e*P **P** **12 38 54.2 -0.9**
ZAK pmax pmax
comp=Z,19nm,1.1s
YAK Yakutsk 69.24 349 *e*P **P** **12 38 55.5 -0.2**
YAK pmax pmax
comp=Z,22nm,1.3s
TLY Talaya 69.69 331 P **P** **12 38 59.5 +0.7**
comp=Z,3.4nm,0.7s,baz=194,slow=7.9,SNR=7.9
TLY LR LR 13 09 56.8
comp=Z,173nm,19.0s,baz=176,slow=36
TLY Talaya 69.69 331 *e*P **P** **12 38 59.3 +0.5**
TLY *e* 12 39 29.2
TLY pmax pmax
comp=Z,8.0nm,1.0s
VNDA Vanda 72.26 178 P **P** **12 39 13.9 +0.1**
comp=Z,4.0nm,0.7s,baz=332,slow=6.8,SNR=25
VNDA pP **pP** **12 39 41.3 -4.5**
comp=Z,4.8nm,0.8s,baz=317,slow=5.6,SNR=7.5
BILL Bilibino 74.12 6 *e*P **P** **12 39 24.6 -0.2**
BILL pmax pmax
comp=Z,14nm,1.1s
BILL Bilibino 74.12 6 *e*P **P** **12 39 24.6 -0.2**
comp=Z,14nm,1.1s
HVS Khovu-Aksy 74.53 327 *e*P **P** **12 39 28.3 +0.6**
HVS pmax pmax
comp=Z,36nm,1.3s
WMQ Urumqi 74.93 318 P **P** **12 39 30.5 +0.3**
WMQ PcP **PcP** **12 39 45.7 +2.3**
WMQ pP **pP** **12 40 01.8 -0.5**
WMQ sP **sP** **12 40 14.5 -1.6**
WMQ PMZ
comp=Z,15nm,1.4s
WMQ PMZ
comp=Z,150nm,3.7s
WMQ LN
comp=Z,95nm,20.0s
WMQ LE
comp=Z,69nm,28.0s
WMQ LZ
comp=Z,83nm,22.5s
MKAR Makanchi Array 79.56 319 *e*P **P** **12 39 55.7 -0.2**
MKAR Makanchi Array 79.56 319 *e*P **P** **12 39 55.6 -0.2**
ZALV Zalesovo Beam 80.64 327 P **P** **12 39 59.2 -2.2**
comp=Z,5.0nm,0.6s,baz=113,slow=5.1,SNR=8.7
SML Sawmill 81.50 25 *e*P **P** **12 40 05.0 -0.9**
SML pmax pmax
comp=Z,3.0nm,0.7s
SML Sawmill 81.50 25 *e*P **P** **12 40 05.0 -0.9**
comp=Z,2.8nm,0.7s
TRF Thorofare Moun 81.53 23 *e*P **P** **12 40 06.2 0.0**
comp=Z,30nm,2.0s
IM04 Indian Mountai 81.62 20 *e*P **P** **12 40 05.6 -0.8**
KSH Kashi 81.91 311 P **P** **12 40 10.1 +1.4**
KSH pP **pP** **12 40 44.1 +2.8**
KSH sP **sP** **12 40 58.0 +3.0**
KSH PP **PP** **12 43 24.1 +6.1**
KSH S **S** **12 50 07.1 -5.0**
KSH sS **sS** **12 51 11.1 +2.7**
KSH PMZ
comp=Z,26nm,0.9s
KSH PMZ
comp=Z,400nm,5.4s
KSH LN
comp=Z,220nm,5.1s
KSH LE
comp=Z,180nm,5.5s
KSH LZ
comp=Z,280nm,6.3s
MCK McKinley 82.20 23 *e*P **P** **12 40 08.3 -1.2**
MCK pmax pmax
comp=Z,14nm,0.8s
MCK McKinley 82.20 23 *e*P **P** **12 40 08.3 -1.2**
comp=Z,14nm,0.8s
TKM2 Tokmak 2 83.01 314 P **P** **12 40 14.1 -0.3**
SNR=8.2
TKM2 Tokmak 2 83.01 314 *e*P **P** **12 40 14.0 -0.4**
TKM2 pmax pmax
comp=Z,10.0nm,0.7s
TKM2 Tokmak 2 83.01 314 *e*P **P** **12 40 14.0 -0.4**
comp=Z,10.0nm,0.7s
KZA Kyzart 83.05 313 P **P** **12 40 15.6 +0.7**
SNR=15
CCB Clear Creek Bu 83.07 22 *e*P **P** **12 40 11.8 -2.2**
comp=Z,4.4nm,0.6s
KURK Kurchatov 83.11 322 *e*P **P** **12 40 13.0 -1.4**
KURK pmax pmax
comp=Z,50nm,1.1s
KURK Kurchatov 83.11 322 *e*P **P** **12 40 13.0 -1.4**
comp=Z,50nm,1.1s
COLA College 83.16 22 *e*P **P** **12 40 12.7 -1.7**
COLA pmax pmax
comp=Z,10.0nm,0.9s
COLA College 83.16 22 *e*P **P** **12 40 12.7 -1.7**
comp=Z,10.0nm,0.9s
ILAR Eielson Array 83.48 22 P **P** **12 40 13.9 -2.2**
comp=Z,5.3nm,0.7s,baz=251,slow=4.8,SNR=37
ILAR LR LR 13 15 18.0
comp=Z,47nm,19.5s,baz=274,slow=34
COLD Coldfoot 83.50 20 *e*P **P** **12 40 16.3 +0.2**
comp=Z,7.5nm,1.4s
UCH Uchtor 83.62 313 P **P** **12 40 18.6 +0.8**
SNR=14
CHMS Chumysh 83.63 314 P **P** **12 40 17.0 -0.4**
SNR=7.2
FRU Bishkek 83.69 314 *i*P **P** **12 40 18.0 +0.3**
FRU pmax pmax
comp=Z,80nm,2.0s
AAK Ala-Archa 83.73 314 P **P** **12 40 18.5 +0.4**
SNR=5.5
USP Ospenovka 83.87 314 P **P** **12 40 18.8 +0.2**
SNR=22
DOT Dot Lake 84.09 24 *e*PP PP 12 43 37.6 +2.5
AML Almayashu 84.19 313 P **P** **12 40 21.0 +0.3**
SNR=33
MAW Mawson 84.24 203 P **P** **12 40 19.9 0.0**
comp=Z,7.0nm,0.9s,baz=97,slow=8.7,SNR=9.8
MAW LR LR 13 15 07.9
comp=Z,123nm,20.6s,baz=62,slow=34
MAW Mawson 84.24 203 *e*P **P** **12 40 20.0 +0.1**
MAW Mawson 84.24 203 P **P** **12 40 20.7 +0.8**
baz=84,SNR=5.2
MAW Mawson 84.24 203 *e*P **P** **12 40 20.0 +0.1**
EKS2 Erkin-Say 84.25 314 P **P** **12 40 20.9 +0.3**
SNR=15
EKS2 Erkin-Say 84.25 314 *e*P **P** **12 40 20.8 +0.2**
EKS2 pmax pmax
comp=Z,40nm,1.1s
EKS2 Erkin-Say 84.25 314 *e*P **P** **12 40 20.8 +0.2**
comp=Z,40nm,1.1s
QSPA South Pole Qui 84.52 180 *e*P **P** **12 40 22.4 +0.9**
comp=Z,12nm,0.9s
HYT Haines Junctio 85.89 28 *e*P **P** **12 40 28.4 0.0**
DAWY Dawson 86.16 24 *e*P **P** **12 40 29.7 +0.1**
BESE Bessie Mountai 86.50 30 *e*P P 12 40 26.9 -4.5
comp=Z,11nm,0.8s
BRVK Borovoye 88.69 323 ⇑ *i*P **P** **12 40 40.0 -1.8**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
DLBC Dease Lake 88.92 31 P **P** **12 40 43.0 0.0**

	comp=Z,16nm,0.8s,baz=108,slow=12,SNR=8.1								
INK	**Inuvik**	**89.74**	**21**	P		**P**	**12 40 45.5**	**-0.9**	
	comp=Z,2.3nm,0.6s,baz=311,slow=8.4,SNR=5.3								
M02C	**Callahan**	**90.76**	**49**	P		**P**	**12 40 52.3**	**+0.3**	
	baz=91								
HUMO	**Hull Mountain**	**90.83**	**47**	*e*P		**P**	**12 40 52.8**	**+0.7**	
	comp=Z,8.3nm,0.8s								
YBH	**Yreka Blue Hor**	**90.91**	**48**	*e*P		**P**	**12 40 53.2**	**+0.6**	
	comp=Z,71nm,2.6s								
I04A	**Tendick Farm,**	**91.36**	**46**	P		**P**	**12 40 55.1**	**+0.6**	
	baz=91								
J04D	**Umpqua Nationa**	**91.52**	**47**	P		**P**	**12 40 55.2**	**-0.3**	
	baz=92								
M04C	**Macdoel**	**91.56**	**48**	P		**P**	**12 40 55.6**	**-0.1**	
	baz=92								
J05D	**Fort Rock, OR**	**92.16**	**47**	P		**P**	**12 40 58.9**	**+0.5**	
	baz=92								
I05D	**Terrebonne, OR**	**92.18**	**46**	P		**P**	**12 40 58.8**	**+0.4**	
	baz=92								
K05A	**Summer Lake**	**92.35**	**47**	*e*P		**P**	**12 41 00.3**	**+0.9**	
	comp=Z,59nm,2.0s								
MOD	**Modoc**	**92.72**	**48**	*e*P		**P**	**12 41 01.3**	**+0.3**	
	comp=Z,3.1nm,0.8s								
VES	**Vestal, Richgr**	**93.18**	**54**	P		**P**	**12 41 02.6**	**-0.5**	
	baz=93								
NVAR	**Mina Array Bea**	**93.99**	**52**	P		**P**	**12 41 06.5**	**-0.5**	
	comp=Z,2.1nm,0.8s,baz=253,slow=7.0,SNR=13								
DAC	**Darwin (Calif)**	**94.42**	**54**	*e*P		**P**	**12 41 09.4**	**+0.4**	
DAC				pmax	pmax				
	comp=Z,8.0nm,1.1s								
DAC	**Darwin (Calif)**	**94.42**	**54**	*e*P		**P**	**12 41 09.4**	**+0.4**	
	comp=Z,8.0nm,1.1s								
MPMC	**Manual Prospec**	**94.49**	**54**	P		**P**	**12 41 08.7**	**-0.7**	
	baz=94								
ABKAR	**Akbulak array**	**94.70**	**319**	*e*P		**P**	**12 41 09.4**	**-0.3**	
	comp=Z,0.3nm,0.4s								
FURC	**Furnace Creek,**	**95.02**	**54**	P		**P**	**12 41 12.0**	**+0.5**	
	baz=95								
BMO	**Blue Mountains**	**95.09**	**46**	*e*P		**P**	**12 41 12.1**	**+0.3**	
BMO				pmax	pmax				
	comp=Z,2.0nm,1.0s								
BMO	**Blue Mountains**	**95.09**	**46**	*e*P		**P**	**12 41 12.1**	**+0.3**	
	comp=Z,2.1nm,1.0s								
GEYT	**Alibeck**	**95.49**	**307**	P		**P**	**12 41 12.4**	**-1.4**	
	comp=Z,2.1nm,0.5s,baz=315,slow=0.2,SNR=4.3								
TPNV	**Topopah Spring**	**95.53**	**53**	P		**P**	**12 41 13.9**	**-0.2**	
	baz=96								
BELC	**Belle Mtn. Jos**	**95.60**	**56**	P		**P**	**12 41 14.7**	**+0.2**	
	baz=96								
YKA	**Yellowknife Ar**	**96.89**	**28**	P		**P**	**12 41 17.4**	**-1.9**	
	comp=Z,1.6nm,0.6s,baz=270,slow=4.7,SNR=5.5								
ARCES	**ARCESS Array B**	**106.92**	**343**	PKiKP		**PKiKP**	**12 46 11.2**	**-1.9**	
	comp=Z,1.0nm,0.7s,baz=114,slow=1.5,SNR=5.6								
FINES	**FINESS Array B**	**110.84**	**335**	PKiKP		**PKiKP**	**12 46 18.9**	**-1.6**	
	comp=Z,0.3nm,0.3s,baz=83,slow=4.8,SNR=3.8								
FINES	**FINESS Array B**	**110.84**	**335**	PKiKP		**PKiKP**	**12 46 19.0**	**-1.6**	
AKASG	**Malin Array Be**	**113.89**	**324**	PP		PP	12 47 22.2	+0.3	
	comp=Z,0.2nm,0.2s,baz=57,slow=7.0,SNR=9.5								
BRTR	**Keskin Array B**	**114.30**	**311**	PP		**PP**	**12 47 25.3**	**-0.1**	
	comp=Z,0.4nm,0.4s,baz=122,slow=6.0,SNR=4.6								
NB2	**NORSAR Subarra**	**116.86**	**339**	PKPdf		**PKPdf**	**12 46 32.2**	**0.0**	
	comp=Z,0.8nm,0.7s,baz=44,slow=1.9								
NOA	**NORSAR Array B**	**116.86**	**339**	PKP		**PKPdf**	**12 46 30.9**	**-1.4**	
	comp=Z,0.9nm,0.6s,baz=48,slow=1.8,SNR=4.1								
BOSA	**Boshof**	**117.70**	**234**	PKP		**PKPdf**	**12 46 34.9**	**-0.1**	
	comp=Z,2.7nm,0.6s,baz=95,slow=3.1,SNR=7.8								
MATP	**Matopo**	**117.86**	**244**	PKP		**PKPdf**	**12 46 35.0**	**-0.5**	
	comp=Z,3.8nm,0.6s,baz=118,slow=2.1,SNR=14								
KOLS	**Kolonicke sedl**	**118.72**	**324**	*e*PKiKP		**PKPdf**	**12 46 36.9**	**+0.8**	
KOLS	**Kolonicke sedl**	**118.72**	**324**	*e*PKP		**PKPdf**	**12 46 36.9**	**+0.8**	
LBTB	**Lobatse**	**118.82**	**238**	PKP		**PKPdf**	**12 46 34.5**	**-2.6**	
	comp=Z,56nm,1.0s,baz=0.0,slow=14,SNR=37								
LSZ	**Lusaka**	**119.62**	**249**	PKP		**PKPdf**	**12 46 37.2**	**-1.7**	
	comp=Z,2.4nm,0.6s,baz=71,slow=5.5,SNR=5.8								
SCHQ	**Schefferville**	**122.18**	**25**	PKP		**PKPdf**	**12 46 42.1**	**-0.5**	
	comp=Z,1.5nm,0.6s,baz=221,slow=10,SNR=4.1								
BRG	**Berggiesshubel**	**122.26**	**329**	*e*P		**PKPdf**	**12 46 44.0**	**+1.1**	
	comp=Z,3.9nm,1.0s								
BRG	**Berggiesshubel**	**122.26**	**329**	*e*PKiKP		**PKPdf**	**12 46 44.0**	**+1.1**	
BRG				pmax	pmax				
	comp=Z,4.0nm,1.0s								
CLL	**Collm**	**122.47**	**330**	*i* PKiKP		**PKPdf**	**12 46 42.6**	**-0.6**	
CLL				pmax	pmax				
	comp=Z,4.0nm,1.1s								
CLL	**Collm**	**122.47**	**330**	*i* P		**PKPdf**	**12 46 42.6**	**-0.6**	
	comp=Z,4.0nm,1.1s								
KHC	**Kasperske Hory**	**123.48**	**328**	*e*PKiKP		**PKPdf**	**12 46 44.8**	**-0.5**	
KHC	**Kasperske Hory**	**123.48**	**328**	*e*PKPdf		**PKPdf**	**12 46 44.8**	**-0.5**	
GEC2	**GERESS Array S**	**123.59**	**327**	*e*PKiKP		**PKPdf**	**12 46 44.9**	**-0.7**	
GEC2	**GERESS Array S**	**123.59**	**327**	*e*PKPdf		**PKPdf**	**12 46 44.9**	**-0.7**	
GERES	**GERESS Array B**	**123.59**	**327**	PKP		**PKPdf**	**12 46 44.8**	**-0.8**	
	comp=Z,1.3nm,0.5s,baz=52,slow=2.2,SNR=12								
LCO	**Las Campanas**	**127.36**	**133**	*e*PKPdf		**PKPdf**	**12 46 54.8**	**+1.1**	
CFAA	**Coronel Fontan**	**127.58**	**137**	PKP		**PKPdf**	**12 46 54.1**	**+0.4**	
	comp=Z,1.0nm,0.9s,baz=243,slow=3.6,SNR=11								
TSUM	**Tsumeb**	**127.91**	**241**	PKP		**PKPdf**	**12 46 55.8**	**+1.0**	
	comp=Z,3.4nm,0.8s,baz=16,slow=3.2,SNR=6.3								
LPAZ	**La Paz**	**135.78**	**120**	PKP		**PKPdf**	**12 47 09.4**	**-0.9**	
	comp=Z,6.7nm,0.9s,baz=28,slow=3.7,SNR=11								
CPUP	**Villa Florida**	**138.22**	**140**	PKP		**PKPdf**	**12 47 13.5**	**-0.3**	
	comp=Z,5.5nm,1.0s,baz=209,slow=3.0,SNR=8.7								
SDV	**Santo Domingo**	**138.69**	**83**	*e*PKPdf		**PKPdf**	**12 47 14.3**	**-0.8**	
SIV	**San Ignacio**	**141.87**	**124**	PKhKP		PKPpre	12 47 15.4		
	comp=Z,3.1nm,0.8s,baz=232,slow=1.8,SNR=5.8								
SAML	**Samuel**	**143.15**	**113**	*e*PKPdf		PKPbc	12 47 19.6	-0.6	
TOA0	**Torodi Ar. Sit**	**148.67**	**286**	*e*PKPdf		**PKPdf**	**12 47 30.9**	**-1.4**	
TOA0				*e*PKPbc		**PKPbc**	**12 47 35.3**	**-1.0**	
TOA0				*e*PKPab		**PKPab**	**12 47 40.0**	**-0.2**	
TORD	**Torodi Ar. Bea**	**148.67**	**286**	PKPbc		**PKPbc**	**12 47 35.0**	**-1.3**	
	comp=Z,9.6nm,0.6s,baz=68,slow=1.8,SNR=34								
BDFB	**Brasilia**	**151.91**	**139**	PKP		**PKPdf**	**12 47 38.0**	**+0.5**	
	comp=Z,5.9nm,0.9s,baz=270,slow=0.3,SNR=6.5								
BDFB				PKPbc		**PKiKP**	**12 47 44.7**	**+0.3**	
	comp=Z,19nm,0.7s,baz=249,slow=0.6,SNR=19								

NIED ***02*** *12:30:00, 42˙00N×142˙50E, h44km, Mw4.5 Best double couple: M0 6.03000×10^15 NP1:φs 206.00000°, δ17.00000°, λ 99.00000°. NP2:φs 17.00000°, δ74.00000°, λ 87.00000°.*

JMA ***02*** *12:30:06.7±0.1, 41˙98N×142˙57E, h63km±2km, M4.2 Broadband fault plane solution: P waves. NP1: φs 21.00000°, δ67.00000°, λ 81.00000°. NP2:φs 223.00000°, δ25.00000°, λ 111.00000°. Principal axes: T Plg67.0000°, Azm274.0000°; N Plg9.0000°, Azm25.0000°; P Plg21.0000°, Azm118.0000°;*

JMA Felt II J1.

MOS ***02*** *12:30:06.0±1.0, 42˙04N×142˙51E, h63km, mb4.9/33 Error ellipse: s-maj=7.6km s-min=5.6km az=100.4*

ISCJB ***02*** *12:30:06.2±0.2, 41˙99N±0˙02×142˙52E±0˙03, h68km±2km, mb4.5/62, Error ellipse: s-maj=4.5km s-min=2.8km az=144.0*

IDC ***02*** *12:30:07.9±2.4, 42˙09N×142˙45E, h67km±21km, mb4.0/23, mb1 4.2/27, mb1mx4.0/47, mbtmp4.3/27, MS4.0/2, Ms1 4.0/2, ms1mx3.2/47, Error ellipse: s-maj=14.9km s-min=12.7km az=141.0*

NEIC ***02*** *12:30:07.6±0.6, 42˙01N×142˙48E, h64km±5km, mb4.8/29, MW4.5(NIED), Error ellipse: s-maj=6.8km s-min=5.0km az=140.0*

NEIC Felt at Sapporo. Recorded [2 JMA] in southern Hokkaido and [1 JMA] in southwestern Hokkaido. Also recorded [1 JMA] in Aomori, Honshu.

ISC 02 12:30:06.2±0.4, 42˙00N±0˙03×142˙49E±0˙03, h53km±2km, h52km:pP-P, n218, σ1§50/258, mb4.7/72, 29C-20D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFR	**Furan**	**1.17**	**4**	⇓P		**Pn**	**12 30 27.2**	**+1.0**
JNB	**Noboribetsu**	**1.17**	**294**	⇓P		**Pn**	**12 30 27.3**	**+1.1**
JNB					*e*S	**Sn**	**12 30 42.9**	**+1.7**
JOT	**Ohata**	**1.24**	**241**	⇓P		**Pn**	**12 30 28.5**	**+1.3**
JOT					*e*S	**Sn**	**12 30 44.9**	**+2.1**
JOB	**Onbets**	**1.35**	**47**	⇑P		**Pn**	**12 30 30.2**	**+1.6**
JOB					*e*S	**Sn**	**12 30 47.8**	**+2.4**
JAB	**Ashibetsu**	**1.52**	**353**	⇓P		**Pn**	**12 30 32.6**	**+1.7**
JAB					*e*S	**Sn**	**12 30 51.8**	**+2.3**
JYM2	**Yakumo 2**	**1.58**	**275**	⇓P		**Pn**	**12 30 33.2**	**+1.4**
JYM2					*e*S	**Sn**	**12 30 53.1**	**+2.0**
JAR	**Ashorobuto**	**1.60**	**36**	⇑P		**Pn**	**12 30 32.9**	**+0.8**
JAR					*e*S	**Sn**	**12 30 52.1**	**+0.4**
JTM	**Tenmabayashi**	**1.61**	**222**	⇓P		**Pn**	**12 30 33.9**	**+1.7**
JTM					*e*S	**Sn**	**12 30 54.1**	**+2.2**
JSR	**Shiriuchi**	**1.62**	**254**	⇓P		**Pn**	**12 30 33.7**	**+1.4**
JSR					*e*S	**Sn**	**12 30 53.7**	**+1.7**
ASAJ	**Asahikawa**	**2.12**	**2**	*e*Pn		**Pn**	**12 30 40.9**	**+1.8**
ASAJ				S		**Sn**	**12 31 06.6**	**+2.4**
ASAJ				*e*Sn		Sn	12 31 07.6	+3.3
YUK	**Yuzh-Kuril'sk**	**3.20**	**49**	*c i*PN		**Pn**	**12 30 55.5**	**+1.6**
YUK				*i* S		**Sn**	**12 31 32.5**	**+1.7**
YUK				pmax	pmax			
	comp=N,59nm,0.3s							
YUK				pmax	pmax			
	comp=E,77nm,0.3s							
YUK				pmax	pmax			
	comp=Z,132nm,0.3s							
YUK				smax	smax			
	comp=E,375nm,0.7s							
YUK				smax	smax			
	comp=N,243nm,0.6s							
YUK				smax	smax			
	comp=N,629nm,2.2s							
YUK				smax	smax			
	comp=E,566nm,2.2s							
YSS	**Yuzh-Sakhalins**	**4.96**	**2**	*e*PN		**Pn**	**12 31 20.7**	**+2.7**
YSS				*e*			12 32 12.2	
YSS	**Yuzh-Sakhalins**	**4.96**	**2**	*e*Pn		**Pn**	**12 31 20.7**	**+2.7**
YSS				*e*Sn		**Sn**	**12 32 12.2**	**-1.7**
KUR	**Kuril'sk**	**5.07**	**49**	*e*PN		**Pn**	**12 31 20.3**	**+0.8**
KUR				*i*			12 32 18.6	
KUR				pmax	pmax			
	comp=Z,50nm,2.2s							
KUR				pmax	pmax			
	comp=N,19nm,0.9s							
KUR				pmax	pmax			
	comp=Z,18nm,0.9s							
KUR				pmax	pmax			
	comp=E,10.0nm,0.5s							
KUR				pmax	pmax			
	comp=N,343nm,2.5s							
KUR				pmax	pmax			
	comp=E,73nm,2.5s							
KUR				pmax	pmax			
	comp=N,39nm,1.0s							
KUR				pmax	pmax			
	comp=E,22nm,1.0s							
MAJO	**Matsushiro**	**6.38**	**213**	*e*PN		**Pn**	**12 31 40.1**	**+2.5**
MAJO	**Matsushiro**	**6.38**	**213**	*e*Pn		Pn	12 31 29.9	-7.6
MAJO				*e*Pn		Pn	12 31 39.6	+2.0
MAJO				*e*Sn		**Sn**	**12 32 52.3**	**+3.3**
MAT	**Matsushiro**	**6.38**	**213**	P		**Pn**	**12 31 39.4**	**+1.8**
MAT				*e*S		**Sn**	**12 32 53.5**	**+4.4**
MJAR	**Matsushiro Arr**	**6.38**	**213**	P		**Pn**	**12 31 40.3**	**+2.7**
	comp=E,1.7nm,0.3s,baz=18,slow=13,SNR=30							
UGL	**Uglegorsk**	**7.09**	**358**	*e*PN		**Pn**	**12 31 47.0**	**-0.1**
VLA	**Vladivostok**	**7.91**	**282**	*e*PN		Pn	12 32 02.7	+4.3
VLA				pmax	pmax			
	comp=Z,36nm,0.9s							
USRK	**Ussuriysk Ar.**	**7.99**	**289**	P		**Pn**	**12 32 01.2**	**+1.6**
	comp=Z,1.6nm,0.3s,baz=92,slow=14,SNR=44							
USRK				S		**Sn**	**12 33 31.9**	**+3.4**
	comp=Z,0.7nm,0.3s,baz=101,slow=26,SNR=4.5							
HABR	**Khabarovsk**	**8.33**	**324**	*ce*PN		**Pn**	**12 32 05.6**	**+1.4**
HABR				*e*S		**Sn**	**12 33 39.7**	**+3.0**
HABR				pmax	pmax			
	comp=Z,27nm,1.3s							
HABR				pmax	pmax			
	comp=N,5.0nm,0.6s							
HABR				pmax	pmax			
	comp=E,8.0nm,0.6s							
HABR				MLR	MLR			
	comp=Z,415nm,22.0s							
KLR	**Kul'dur**	**10.43**	**318**	*e*PN		**Pn**	**12 32 32.0**	**-0.8**
KSRS	**Korea Array**	**12.10**	**253**	P		Pn	12 32 59.4	+3.7
	comp=Z,1.1nm,0.3s,baz=64,slow=14,SNR=30							
KSRS				S		Sn	12 35 17.0	+8.1
	comp=Z,1.1nm,0.3s,baz=69,slow=25,SNR=10							
KSRS				LR	LR		12 37 22.0	
	comp=Z,237nm,21.5s,baz=40,slow=36							
KSRS	**Korea Array**	**12.10**	**253**	PN		Pn	12 32 59.4	+3.7
KSRS				S		Sn	12 35 17.0	+8.1
KSRS				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KSRS				smax	smax			
	comp=N,1.0nm,0.3s							
KSRS				MLR	MLR			
	comp=Z,237nm,21.5s							
KSAR	**Wonju Array Be**	**12.13**	**253**	PN		Pn	12 32 59.4	+3.2
KSAR				S		Sn	12 35 17.0	+7.2
KSAR	**Wonju Array Be**	**12.13**	**253**	P		Pn	12 32 59.4	+3.2
KSAR				S		Sn	12 35 17.0	+7.2
TJN	**Taejon**	**13.00**	**249**	*e*PN		**Pn**	**12 33 10.7**	**+2.7**
PETK	**Petropavlovsk-**	**15.10**	**37**	P		**Pn**	**12 33 37.5**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=166,slow=18,SNR=3.6							
HIA	**Hailar**	**17.45**	**302**	*e*P		**Pn**	**12 34 06.2**	**+0.5**
HIA				pmax	pmax			
	comp=Z,10.0nm,1.1s							
BJI	**Beijing**	**19.93**	**273**	P		**P**	**12 34 33.3**	**-0.1**
BJI				PMZ				
	comp=Z,25nm,0.8s							
TIA	**Tai'an**	**20.48**	**262**	⇓P		**P**	**12 34 38.5**	**-1.0**
TIA				PMZ				
	comp=Z,30nm,0.7s							
NJ2	**Nanjing**	**21.26**	**250**	*e*P		**P**	**12 34 44.6**	**-3.3**
NJ2				PMZ				
	comp=Z,20nm,0.7s							
SEY	**Seymchan**	**21.77**	**12**	P		**P**	**12 34 50.9**	**-2.1**
	comp=Z,5.8nm,1.0s,baz=188,slow=9.6,SNR=27							
SEY	**Seymchan**	**21.77**	**12**	⇓*i*P		**P**	**12 34 50.5**	**-2.5**
HHC	**Hu-ho-hao-te**	**23.16**	**278**	*e*P		**P**	**12 35 06.6**	**-1.5**
HHC				pP		**pP**	**12 35 18.4**	**-1.9**
HHC				sP		**sP**	**12 35 23.7**	**-3.2**
HHC				PP		**PnPn**	**12 35 39.4**	**+4.3**
HHC				S		**S**	**12 39 13.9**	**-1.7**
HHC				sS		Sn	12 39 29.4	-6.9
HHC				PMZ				
	comp=Z,14nm,0.6s							
HHC				LN				
	comp=Z,230nm,15.3s							
HHC				LE				
	comp=Z,190nm,16.3s							
HHC				LZ				
	comp=Z,190nm,16.2s							
WHN	**Wuhan**	**25.29**	**252**	⇑P		**P**	**12 35 26.7**	**-0.9**
SONM	**Songino Array**	**26.05**	**295**	P		**P**	**12 35 34.0**	**-0.5**
	comp=Z,5.6nm,0.8s,baz=81,slow=8.8,SNR=14							
TPUB	**Ta-pu**	**26.07**	**231**	*e*P		**P**	**12 35 34.8**	**+0.1**
	comp=Z,26nm,0.8s							
TPUB				*e*pP		**pP**	**12 35 49.5**	**+1.5**
XAN	**Xi'an**	**27.48**	**264**	P		**P**	**12 35 47.9**	**+0.5**
XAN				PMZ				
	comp=Z,2.0nm,0.7s							
TLY	**Talaya**	**27.98**	**304**	P		**P**	**12 35 50.5**	**-1.1**
	comp=Z,3.4nm,0.7s,baz=78,slow=2.0,SNR=6.3							
TLY	**Talaya**	**27.98**	**304**	*e*P		**P**	**12 35 52.6**	**+0.9**
TLY				pmax	pmax			
	comp=Z,5.0nm,0.9s							
TLY	**Talaya**	**27.98**	**304**	*e*P		**P**	**12 35 52.2**	**+0.6**
	comp=Z,5.2nm,0.9s							
ZAK	**Zakamensk**	**28.13**	**301**	*e*P		**P**	**12 35 52.4**	**-0.7**
ZAK				pmax	pmax			
	comp=Z,3.0nm,0.9s							
ENH	**Enshi**	**28.93**	**257**	*e*P		**P**	**12 35 59.6**	**-0.7**
	comp=Z,7.1nm,0.4s							
H11N2	**WAKE ISLAND Hy**	**30.33**	**130**	T		T	13 07 38.6	
	baz=323,slow=75,SNR=97							
H11N1	**WAKE ISLAND Hy**	**30.34**	**130**	T		T	13 07 34.6	
	baz=323,slow=75,SNR=13							
H11N3	**WAKE ISLAND Hy**	**30.35**	**130**	T		T	13 07 40.0	
	baz=323,slow=75,SNR=129							
LZH	**Lanzhou**	**30.40**	**272**	*e*P		**P**	**12 36 13.5**	**0.0**
LZH				pP		**pP**	**12 36 25.7**	**-1.2**
LZH				sP		**sP**	**12 36 30.8**	**-2.3**
LZH				PMZ				
	comp=Z,16nm,1.0s							
H11S1	**WAKE ISLAND Hy**	**31.19**	**131**	T		T	13 08 44.5	
	baz=324,slow=76,SNR=88							
H11S3	**WAKE ISLAND Hy**	**31.20**	**131**	T		T	13 08 58.8	
	baz=324,slow=76,SNR=13							
H11S2	**WAKE ISLAND Hy**	**31.21**	**131**	T		T	13 08 41.8	
	baz=324,slow=76,SNR=31							
CD2	**Chengdu**	**32.80**	**263**	P		**P**	**12 36 33.3**	**-1.2**
CD2				pP		**pP**	**12 36 45.2**	**-2.7**
CD2				sP		**sP**	**12 36 50.7**	**-3.5**
CD2				PP		**PP**	**12 37 47.7**	**-1.6**
CD2				PcP		**PcP**	**12 39 18.2**	**-0.3**
CD2				S		**S**	**12 41 47.0**	**-0.9**
CD2				sS		**sS**	**12 42 07.6**	**-3.1**
CD2				PMZ				
	comp=Z,10.0nm,0.8s							
CD2				PMZ				
	comp=Z,220nm,5.9s							
CD2				LZ				
	comp=Z,230nm,18.5s							
GYA	**Guiyang**	**33.15**	**254**	*e*P		**P**	**12 36 35.6**	**-2.1**
GYA				pP		**pP**	**12 36 47.9**	**-3.2**
GYA				PP		**PnPn**	**12 37 48.0**	**-0.9**
GYA				S		**S**	**12 41 50.2**	**-3.3**
GYA				sS		sS	12 42 11.0	-5.3
GYA				SS		**SnSn**	**12 43 52.8**	**-3.9**
GYA				PMZ				
	comp=Z,10.0nm,0.8s							
GYA				PMZ				
	comp=Z,110nm,4.9s							
GYA				LN				
	comp=Z,560nm,17.8s							
GYA				LE				
	comp=Z,490nm,18.0s							
GYA				LZ				
	comp=Z,520nm,17.6s							
QIZ	**Qiongzhong**	**35.92**	**240**	P		**P**	**12 36 58.8**	**-2.7**
QIZ				S		**S**	**12 42 33.3**	**-2.8**
QIZ				PMZ				
	comp=Z,8.0nm,1.3s							
KMI	**Kunming**	**36.77**	**255**	P		P	12 37 05.8	-3.2
KMI				PMZ				
	comp=Z,6.0nm,0.6s							
ZALV	**Zalesovo Beam**	**39.34**	**308**	P		**P**	**12 37 30.4**	**+0.4**
	comp=Z,17nm,0.9s,baz=88,slow=7.6,SNR=51							
ZALV				PcP		**PcP**	**12 39 36.0**	**-1.5**
	comp=Z,1.9nm,0.7s,baz=126,slow=2.0,SNR=4.2							
ZALV	**Zalesovo Beam**	**39.34**	**308**	*i* P		**P**	**12 37 30.3**	**+0.3**
ZALV				pmax	pmax			
	comp=Z,17nm,0.9s							
WMQ	**Urumqi**	**39.55**	**292**	P		**P**	**12 37 32.6**	**+0.6**
WMQ				pP		**pP**	**12 37 43.6**	**-2.1**
WMQ				sP		**sP**	**12 37 51.2**	**-0.7**
WMQ				PMZ				
	comp=Z,18nm,0.8s							
WMQ				PMZ				
	comp=Z,82nm,4.0s							
NVS	**Novosibirsk**	**40.16**	**310**	⇑*i*P		**P**	**12 37 36.7**	**-0.1**
NVS				pmax	pmax			
	comp=Z,11nm,0.9s							
NVS				pmax	pmax			
	comp=E,10.0nm,1.0s							
MK31	**Makanchi Array**	**42.36**	**298**	*i* P		**P**	**12 37 55.0**	**0.0**
MK31				pmax	pmax			
	comp=Z,12nm,0.8s							
MKAR	**Makanchi Array**	**42.36**	**298**	*e*P		**P**	**12 37 55.2**	**+0.2**
MKAR	**Makanchi Array**	**42.36**	**298**	*e*P		**P**	**12 37 55.2**	**+0.2**
LSA	**Lhasa**	**42.80**	**270**	P		**P**	**12 38 00.3**	**+1.1**
CHTO	**Chiang Mai**	**43.49**	**251**	*e*P		**P**	**12 38 05.7**	**+1.3**
CHTO				pmax	pmax			
	comp=Z,9.0nm,0.6s							
CHTO	**Chiang Mai**	**43.49**	**251**	*e*P		**P**	**12 38 05.7**	**+1.3**
	comp=Z,9.2nm,0.6s							
KURK	**Kurchatov**	**43.67**	**304**	P		**P**	**12 38 05.3**	**-0.2**
KURK				pmax	pmax			
	comp=Z,11nm,0.9s							
KURK	**Kurchatov**	**43.67**	**304**	*e*P		**P**	**12 38 05.5**	**0.0**
	comp=Z,37nm,0.7s							
CMAR	**Chiang Mai Arr**	**43.73**	**251**	P		**P**	**12 38 06.8**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=74,slow=5.2,SNR=2.3							
COLA	**College**	**44.48**	**35**	*e*P		**P**	**12 38 11.5**	**-0.3**
COLA				pmax	pmax			
	comp=Z,12nm,0.9s							
COLA	**College**	**44.48**	**35**	*e*P		**P**	**12 38 12.4**	**+0.6**
	comp=Z,2.2nm,0.8s							
COLA				*e*pP		**pP**	**12 38 29.0**	**+3.3**
ILAR	**Eielson Array**	**44.91**	**35**	P		**P**	**12 38 14.8**	**-0.4**
	comp=Z,1.5nm,0.9s,baz=271,slow=6.5,SNR=20							
DOT	**Dot Lake**	**46.27**	**36**	*e*P		P	12 38 22.7	-3.3
	comp=Z,48nm,0.8s							
TAPN	**Taplejung**	**46.60**	**270**	*e*P		**P**	**12 38 30.4**	**+1.0**
	comp=Z,24nm,0.8s							
ODAN	**Odare**	**47.11**	**270**	*e*P		**P**	**12 38 34.2**	**+0.9**
	comp=Z,22nm,0.7s							
EGAK	**Eagle**	**47.34**	**34**	*e*P		**P**	**12 38 34.1**	**-0.1**
	comp=Z,7.6nm,1.4s							
RAMN	**Ramite**	**47.65**	**270**	*e*P		**P**	**12 38 38.1**	**+0.6**
	comp=Z,53nm,0.8s							
GUN	**Gumba**	**47.66**	**272**	*e*P		**P**	**12 38 38.6**	**+0.9**
	comp=Z,77nm,0.5s							
BVA0	**Borovoye Array**	**47.96**	**309**	*i* P		**P**	**12 38 39.4**	**+0.2**
BVA0				pmax	pmax			
	comp=Z,6.0nm,0.5s							
BRVK	**Borovoye**	**48.01**	**309**	*c i*P		**P**	**12 38 39.8**	**+0.2**

KK31 pmax pmax
comp=Z,6.0nm,0.5s
KKAR Karatay Array 51.48 297 *e*P **P 12 39 06.1 -0.1**
KKAR *e**PP **pP 12 39 22.5 +2.2**
KKAR pmax pmax
comp=Z,7.0nm,0.6s
KKAR Karatay Array 51.48 297 *e*P **P 12 39 06.1 -0.1**
comp=Z,6.8nm,0.6s
KKAR *ep*P **pP 12 39 22.5 +2.2**
SVE Sverdlovsk 52.05 316⇑*i*P **P 12 39 10.9 +0.7**
SVE pmax pmax
comp=Z,20nm,1.0s
ARU Arti 53.27 316*c i*P **P 12 39 19.0 -0.1**
ARU *PP **pP 12 39 34.9 +1.5**
ARU S **S 12 46 47.7 +1.4**
ARU SS **SS 12 50 19.7 -6.3**
ARU pmax pmax
comp=Z,13nm,1.2s
ARU Arti 53.27 316 *e*P **P 12 39 18.8 -0.3**
comp=Z,7.6nm,0.8s
DLBC Dease Lake 54.26 40 P **P 12 39 26.2 -0.2**
comp=Z,1.3nm,0.9s,baz=30,slow=1.6,SNR=3.2
CHLP Challavanipeta 54.51 263 *e*P **P 12 39 30.6 +1.9**
CHLP IAmb IAmb 12 39 38.6
comp=Z,19nm,1.2s
AB31 Akbulak array 55.46 308 P **P 12 39 35.2 0.0**
AB31 pmax pmax
comp=Z,2.0nm,0.4s
ABKAR Akbulak array 55.46 308 *e*P **P 12 39 35.5 +0.3**
PVM Polavaram 57.09 264 *e*P **P 12 39 47.7 +0.5**
PVM IAmb IAmb 12 39 48.6
comp=Z,9.0nm,0.9s
PRGR Permogore 57.10 326 *e*P **P 12 39 45.1 -1.5**
PRGR *PP **pP 12 40 02.9 +1.9**
PRGR pmax pmax
comp=Z,11nm,0.9s
RES Resolute Bay 57.59 15 P **P 12 39 49.1 -0.8**
comp=Z,2.9nm,0.5s,baz=306,slow=4.7,SNR=16
RES Resolute Bay 57.59 15 *e*P **P 12 39 48.8 -1.2**
RES *e**PP **pP 12 40 04.4 +0.1**
RES pmax pmax
comp=Z,5.0nm,0.9s
RES Resolute Bay 57.59 15 *e*P **P 12 39 48.8 -1.2**
comp=Z,4.5nm,0.9s
RES *ep*P **pP 12 40 04.4 +0.1**
SRSP Sriramsagar 58.49 268 *e*P **P 12 39 56.4 -0.7**
SRSP IAmb IAmb 12 39 58.9
comp=Z,39nm,1.4s
ADKI Addanki 59.21 264 *e*P **P 12 40 02.3 +0.3**
ADKI IAmb IAmb 12 40 04.0
comp=Z,7.8nm,0.9s
NJS Nagarjunasagar 59.25 265 *e*P **P 12 40 02.6 +0.3**
NJS IAmb IAmb 12 40 03.1
comp=Z,13nm,1.0s
HYB Hyderabad 59.27 266 *i*P **P 12 40 02.0 -0.5**
HYBB Hyderabad (bro 59.27 266 *e*P **P 12 40 02.3 -0.2**
HYBB IAmb IAmb 12 40 03.2
comp=Z,10nm,0.7s
ARCES ARCESS Array B 59.66 339 P **P 12 40 02.9 -1.6**
comp=Z,2.9nm,1.0s,baz=49,slow=9.8,SNR=8.5
RCLA Racherla 60.20 264 *e*P **P 12 40 09.3 +0.4**
RCLA IAmb IAmb 12 40 13.3
comp=Z,79nm,1.9s
KLRI Killari 60.32 268 *e*P **P 12 40 08.8 -1.0**
KLRI IAmb IAmb 12 40 10.6
comp=Z,18nm,0.8s
SKHT Srikalahasti 60.75 262 *e*P **P 12 40 13.4 +0.8**
SKHT IAmb IAmb 12 40 15.1
comp=Z,11nm,0.8s
URV Uravakonda 61.79 265 *e*P **P 12 40 21.1 +1.5**
WRAB Tennant Creek 62.08 189 *e*P **P 12 40 21.1 -0.3**
WRAB pmax pmax
comp=Z,4.0nm,0.8s
WRAB Tennant Creek 62.08 189 *e*P **P 12 40 21.1 -0.3**
comp=Z,4.2nm,0.8s
WRA Warramunga Arr 62.09 189 P **P 12 40 20.9 -0.6**
comp=Z,2.9nm,0.8s,baz=1.8,slow=6.5,SNR=9.1
WRA Warramunga Arr 62.09 189 *i*P **P 12 40 20.8 -0.6**
WRA pmax pmax
comp=Z,3.0nm,0.8s
GEYT Alibeck 62.23 297 P **P 12 40 22.7 +0.3**
comp=Z,4.3nm,0.7s,baz=1.9,slow=4.5,SNR=7.2
OBN Obninsk 64.65 322 *e*P **P 12 40 37.4 -0.6**
OBN pmax pmax
comp=Z,7.0nm,1.1s
FINES FINESS Array B 64.83 332 P **P 12 40 38.7 -0.4**
comp=Z,8.2nm,0.6s,baz=54,slow=6.6,SNR=31
FINES LR LR 13 13 06.3
comp=Z,416nm,21.3s,baz=89,slow=40
EDM Edmonton 64.98 40 *e*P **P 12 40 40.6 +0.4**
EDM *e**PP **pP 12 40 56.5 +1.6**
EDM pmax pmax
comp=Z,2.0nm,0.3s
EDM Edmonton 64.98 40 *e*P **P 12 40 40.6 +0.4**
comp=Z,1.8nm,0.3s
EDM *ep*P **pP 12 40 56.5 +1.6**
SUMG Summit 65.72 0 *e*P **P 12 40 45.5 +0.3**
SUMG pmax pmax
comp=Z,194nm,2.9s
SUMG Summit 65.72 0 *e*P **P 12 40 45.5 +0.3**
comp=Z,194nm,2.9s
ASAR Alice Springs 65.81 189 P **P 12 40 45.8 -0.1**
comp=Z,1.3nm,0.8s,baz=358,slow=6.1,SNR=4.3
NEW Newport 66.04 46 P **P 12 40 46.9 -0.3**
comp=Z,1.5nm,0.7s,baz=297,slow=5.8,SNR=4.0
VSU Vasula 66.62 329 *e*P **P 12 40 50.3 -0.3**
VSU pmax pmax
comp=Z,23nm,1.3s
KIV Kislovodsk 68.32 310*c i*P **P 12 41 02.8 +1.0**
KIV pmax pmax
comp=Z,29nm,1.7s
KIV Kislovodsk 68.32 310 *e*P **P 12 41 03.0 +1.2**
comp=Z,7.4nm,0.7s
KBZ Khabaz 68.33 310 P **P 12 41 01.6 -0.1**
comp=Z,3.3nm,0.6s,baz=72,slow=3.4,SNR=11
GNI Garni 69.44 306 *e*P **P 12 41 10.1 +1.2**
GNI pmax pmax
comp=Z,20nm,1.3s
NB2 NORSAR Subarra 69.94 337 P **P 12 41 10.8 -0.6**
comp=Z,5.9nm,0.7s,baz=37,slow=6.2
NOA NORSAR Array B 69.94 337 P **P 12 41 10.9 -0.5**
comp=Z,5.6nm,0.8s,baz=36,slow=6.1,SNR=17
EGMT Eagleton 70.03 43 *e*P **P 12 41 12.5 +0.2**
comp=Z,3.3nm,0.9s
BOZ Bozeman (W) 70.61 46 *e*P **P 12 41 17.3 +1.3**
BOZ pmax pmax
comp=Z,2.0nm,0.8s
BOZ Bozeman (W) 70.61 46 *e*P **P 12 41 17.3 +1.3**
comp=Z,2.4nm,0.8s
AKASG Malin Array Be 70.90 322 P **P 12 41 16.9 -0.5**
comp=Z,3.4nm,0.5s,baz=45,slow=6.2,SNR=18
AKASG Malin Array Be 70.90 322*ce*P **P 12 41 16.8 -0.6**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AK01 Malin Array Si 70.91 322 *e*P **P 12 41 17.5 0.0**
KIEV Kiev 70.91 322⇑*i*P **P 12 41 17.2 -0.2**
KIEV Kiev 70.91 322 *e*P **P 12 41 16.7 -0.7**
comp=Z,8.5nm,0.9s
KIEV *ep*P **PcP 12 41 35.5 -2.2**
AK02 Malin Array Si 70.94 322 *e*P **P 12 41 17.0 -0.6**
NVAR Mina Array Bea 71.40 55 P **P 12 41 21.1 +0.2**
comp=Z,1.4nm,0.8s,baz=303,slow=6.3,SNR=5.3
PDAR Pinedale Array 73.63 47 P **P 12 41 34.0 -0.1**
comp=Z,1.2nm,0.7s,baz=296,slow=2.0,SNR=11
LVV L'vov 73.87 324 *e*P P 12 41 29.7 -5.4
GSC Goldstone 74.32 57 *e*P **P 12 41 39.2 +1.0**
GSC Goldstone 74.32 57 *e*P **P 12 41 39.2 +1.0**
comp=Z,26nm,0.3s
MALT Malatya 74.39 308⇑P **P 12 41 40.8 +2.3**
MALT Malatya 74.39 308⇑*i*P **P 12 41 40.8 +2.3**
BURAR Bucovina Array 74.94 321⇓P **P 12 41 42.2 +0.7**
BURAR Bucovina Array 74.94 321⇓*i*P **P 12 41 42.2 +0.7**
STHS Stebnicka Huta 75.38 325 *e*P **P 12 41 45.4 +1.5**
STHS pmax pmax
comp=Z,3.0nm,0.6s
STHS Stebnicka Huta 75.38 325 *e*P **P 12 41 45.4 +1.5**
OJC Ojcow 75.39 326 *e*P **P 12 41 44.2 +0.3**
OJC Ojcow 75.39 326 *e*P **P 12 41 44.4 +0.5**
OJC pmax pmax
comp=Z,11nm,0.9s
OJC Ojcow 75.39 326 *e*P **P 12 41 44.4 +0.5**
comp=Z,11nm,0.9s
VRI Vrincioaia 75.49 319⇑P P 12 41 38.6 -6.0
VRI Vrincioaia 75.49 319⇑*i*P P 12 41 38.6 -6.0
NIE Niedzica 75.78 325 *e*P **P 12 41 47.5 +1.3**
NIE Niedzica 75.78 325 *e*P **P 12 41 47.6 +1.3**
BRTR Keskin Array B 76.19 311 P **P 12 41 49.1 +0.2**
comp=Z,2.6nm,0.7s,baz=82,slow=3.1,SNR=13
AGMN Agassiz Nation 76.41 36 *e*P **P 12 41 49.3 -0.5**
comp=Z,39nm,1.8s
VOIR 76.61 320⇑P **P 12 41 52.4 +1.3**
VOIR 76.61 320⇑*i*P **P 12 41 52.4 +1.3**
MORC Moravsky Berou 76.66 327⇑P **P 12 41 51.7 +0.5**
MORC Moravsky Berou 76.66 327⇑*i*P **P 12 41 51.7 +0.5**
MORC Moravsky Berou 76.66 327 *e*P **P 12 41 52.1 +0.9**
comp=Z,16nm,0.8s
DPC Dobruska-Polom 76.70 328 *e*P **P 12 41 52.2 +0.8**
DPC Dobruska-Polom 76.70 328 *e*P **P 12 41 52.2 +0.8**
DRGR 76.70 322⇑P **P 12 41 52.5 +0.9**
DRGR 76.70 322⇑*i*P **P 12 41 52.5 +0.9**
KRLC Kraliky 76.73 327 *e*P **P 12 41 52.3 +0.7**
KRLC Kraliky 76.73 327 *e*P **P 12 41 52.3 +0.7**
PSZ Piszkesteto 77.10 324⇑P P 12 41 46.8 -7.0
PSZ Piszkesteto 77.10 324⇑*i*P P 12 41 46.8 -7.0
CLL Collm 77.21 330 *i*P **P 12 41 53.8 -0.4**
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL MLR MLR
comp=Z,300nm,19.3s
CLL Collm 77.21 330 *i*P **P 12 41 53.8 -0.4**
comp=Z,6.0nm,0.8s
CLL *e*PP **PP 12 44 47.0 -0.9**
VRAC Vranov 77.41 327⇓P **P 12 41 56.7 +1.3**
VRAC Vranov 77.41 327⇓*i*P **P 12 41 56.7 +1.3**
PRU Pruhonice 77.68 329 *e*P **P 12 41 57.1 +0.2**
PRU Pruhonice 77.68 329 *e*P **P 12 41 57.1 +0.2**
GZR Gura Zlata 77.72 321⇓P **P 12 41 57.8 +0.5**
GZR Gura Zlata 77.72 321⇓*i*P **P 12 41 57.8 +0.5**
KHC Kasperske Hory 78.75 329 *e*P **P 12 42 03.3 +0.4**
KHC Kasperske Hory 78.75 329 *e*P **P 12 42 03.3 +0.4**
KHC Kasperske Hory 78.75 329 *e*P **P 12 42 03.1 +0.2**
comp=Z,2.0nm,0.7s
GERES GERESS Array B 78.93 328 P **P 12 42 03.1 -0.8**
comp=Z,1.1nm,0.7s,baz=28,slow=6.0,SNR=8.0
VTS Vitosha 79.61 319⇑P **P 12 42 08.5 +0.7**
VTS Vitosha 79.61 319⇑*i*P **P 12 42 08.5 +0.7**
DIVS Divibare 79.99 322⇓*i*P **P 12 42 09.2 -0.6**
ANMO Albuquerque 80.78 51 *i*P **P 12 42 13.9 -0.5**
ANMO pmax pmax
comp=Z,12nm,2.5s
FUORN Ofenpass-Fuorn 82.08 329 *e*P **P 12 42 21.8 +0.7**
comp=Z,8.2nm,0.8s
SENIN Lac Senin/Sane 83.41 331 *e*P **P 12 42 28.1 +0.1**
comp=Z,95nm,3.0s
TXAR Lajitas Array 86.46 53 P **P 12 42 44.2 +0.9**
comp=Z,1.0nm,0.8s,baz=300,slow=4.0,SNR=9.0
PBMO Poplar Bluff 87.91 40 *e*P P 12 42 43.9 -6.2
comp=Z,13nm,0.3s
SNAA Sanae 145.72 199 PKPbc **PKPbc 12 49 37.8 -0.2**
comp=Z,0.9nm,0.6s,baz=199,slow=3.5,SNR=8.1
SIV San Ignacio 147.10 45 PKPbc **PKPbc 12 49 43.7 +0.2**
comp=Z,2.5nm,0.7s,baz=316,slow=3.9,SNR=5.6
LVC Lion Verde 147.43 63 PKPbc **PKPab 12 49 45.7 -1.0**
comp=Z,6.9nm,0.6s,baz=272,slow=4.2,SNR=3.6

CSEM ***02*** *12:36:34.0,40.54N×29.25E,h15km,MD2.3*
ISK 02 12:36:34.0,40.54N×29.25E,h15km,MD2.3,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZI	**Iznik**	**0.26**	**139**	PG	Pg	12 36 40.0	+0.2
IZI	**Iznik**	**0.26**	**139**	*i* Pg	Pg	12 36 40.0	+0.2
ARMT	**Armutlu**	**0.30**	**276**	PG	Pg	12 36 40.5	+0.3
ARMT				*e*SG	Sb	12 36 45.4	-0.4
ARMT	**Armutlu**	**0.30**	**276**	*i* Pg	Pg	12 36 40.6	+0.3
ARMT				*e*Sg	Sb	12 36 45.4	-0.4
MDNY	**Mudanya-Bursa**	**0.32**	**239**	*e*PG	Pg	12 36 41.0	+0.3
MDNY	**Mudanya-Bursa**	**0.32**	**239**	*e*Pg	Pg	12 36 41.0	+0.3
ADVT	**Abdulvahap**	**0.39**	**105**	*e*PG	Pg	12 36 42.1	+0.2
ADVT				*e*SG	Sb	12 36 48.3	-0.1
ADVT	**Abdulvahap**	**0.39**	**105**	*e*Pg	Pg	12 36 42.1	+0.2
ADVT				*e*Sg	Sb	12 36 48.3	-0.1
CAVI	**Cavuskoy**	**0.56**	**126**	*e*PG	Pb	12 36 45.6	0.0
CAVI	**Cavuskoy**	**0.56**	**126**	*e*Pg	Pb	12 36 45.6	0.0
KLYT	**Kilyos**	**0.73**	**348**	*e*PG	Pb	12 36 48.7	+0.2
KLYT	**Kilyos**	**0.73**	**348**	*e*Pg	Pb	12 36 48.7	+0.2
DST	**Dursunbey**	**1.05**	**208**	*e*PG	Pg	12 36 54.5	+0.2
DST	**Dursunbey**	**1.05**	**208**	*e*Pg	Pg	12 36 54.5	+0.2
TVSB	**Tavsanli**	**1.10**	**171**	*e*PN	Pg	12 36 55.3	0.0
TVSB	**Tavsanli**	**1.10**	**171**	*e*Pn	Pg	12 36 55.3	0.0

IDC 02 12:38:05.7±1.9,13.37S×166.13E,h0km,mb3.5/3,
mb1 3.9/4,mb1mx3.6/37,mbtmp3.6/4,ML3.2/1,MS3.8/2,
Ms1 3.8/2,ms1mx3.1/21,Error ellipse: s-maj=51.1km
s-min=34.0km az=126.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.66**	**178**	Pn	Pn	12 40 12.9	+0.3
	0.3nm,0.3s,baz=90,slow=24,SNR=14						
DZM				Sn	Sn	12 41 57.4	+6.3
	0.4nm,0.3s,baz=90,slow=24,SNR=16						
RAO	**Raoul Island**	**21.66**	**139**	LR	LR	12 48 56.6	
	comp=Z,360nm,19.2s,baz=153,slow=30						
WRA	**Warramunga Arr**	**31.11**	**254**	P	P	12 44 25.6	-0.7
	0.6nm,0.9s,baz=88,slow=9.6,SNR=2.9						
ASAR	**Alice Springs**	**32.16**	**247**	P	P	12 44 36.1	+0.7
	0.5nm,0.9s,baz=76,slow=9.3,SNR=4.2						
ASAR				LR	LR	12 58 15.5	
	comp=Z,119nm,18.0s,baz=303,slow=38						
ILAR	**Eielson Array**	**85.58**	**18**	P	P	12 50 45.5	-0.1
	0.3nm,0.6s,baz=229,slow=7.1,SNR=4.7						

CSEM ***02*** *12:45:03.7,57.49N×12.60E,h0km,ML0.9,Mining explosion.*
UPP 02 12:45:03.7,57.49N×12.60E,h0km,ML0.9,Mining explosion.,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORU	**Boraas**	**0.17**	**33**	P	Pg	12 45 07.2	+0.2
BORU				S	Sg	12 45 09.4	+0.2
FABU	**Falkenberg**	**0.50**	**173**	P	Pg	12 45 13.2	0.0
GNOU	**Gnosjoe**	**0.66**	**108**	P	Pg	12 45 16.1	-0.2
TJOU	**Tjoern**	**0.75**	**316**	P	Pg	12 45 17.9	-0.2
FKPU	**Falk**	**0.90**	**41**	P	Pg	12 45 20.5	-0.5
FKPU				S	Sg	12 45 33.0	+0.4
VANU	**Vaenersborg**	**1.04**	**345**	P	Pg	12 45 22.9	-0.7
DEL	**Delary**	**1.24**	**145**	P	Pg	12 45 26.6	-0.8
VXJU	**Vaexsjoe**	**1.40**	**113**	P	Pn	12 45 29.5	-0.9

KRNET ***02*** *12:59:40.6±0.1,39.81N×73.65E,mb3.7*
NNC ***02*** *12:59:40.6±0.6,40.22N×73.72E,h0km,mb3.7,mpv3.2,*
Error ellipse: s-maj=12.9km s-min=2.7km az=121.0
ISCJB ***02*** *12:59:44.0±0.7,40.14N±0.04×73.5E±0.1,h10km,Error ellipse: s-maj=13.2km s-min=6.0km az=9.1*
ISC 02 12:59:43.4±1.0,40.16N±0.06×73.63E±0.06,h10km,n18,
σ1°40/22,7C-3D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.17**	**214**	⇑P	**Pg**	**12 59 45.7**	**-1.6**
	23nm,0.3s						
SFK				⇑S	**Sg**	**12 59 49.4**	**-0.6**
	60nm,0.2s						
AML	**Almayashu**	**1.97**	**1**	P	**Pn**	**13 00 16.8**	**-0.5**
	SNR=24						
BTK	**Batken**	**2.16**	**268**	*e*P	**Pn**	**13 00 20.4**	**+0.9**
	baz=277						
BTK				*e*S	**Sb**	**13 00 50.0**	**+0.6**
	baz=277						
UCH	**Uchtor**	**2.17**	**18**	P	**Pn**	**13 00 20.7**	**+0.6**
	SNR=56						
NRN	**Naryn**	**2.21**	**54**	*e*P	**Pb**	**13 00 23.8**	**+0.2**
	baz=47						
NRN				*e*S	**Sg**	**13 00 55.0**	**+0.6**
	baz=47						
KZA	**Kyzart**	**2.28**	**32**	P	**Pn**	**13 00 22.9**	**+1.4**
	SNR=20						
EKS2	**Erkin-Say**	**2.50**	**3**	P	**Pn**	**13 00 26.0**	**+1.7**
	SNR=12						
AAK	**Ala-Archa**	**2.56**	**14**	P	**Pb**	**13 00 27.3**	**-2.2**
	SNR=17						
AAK	**Ala-Archa**	**2.56**	**14**	⇑Pg	**Pn**	**13 00 27.0**	**+1.9**
AAK				⇑Lg	Lg	13 01 00.6	
KBK	**Karagaybulak**	**2.69**	**21**	P	**Pb**	**13 00 29.6**	**-2.2**
	SNR=28						
FRU	**Bishkek**	**2.78**	**15**	*e*P	**Pn**	**13 00 29.0**	**+1.0**
	baz=13						
FRU				*e*S	**Sb**	**13 01 08.0**	**+0.8**
	baz=13						
ULHL	**Ulahol**	**2.87**	**43**	P	**Pb**	**13 00 34.0**	**-0.9**
	SNR=10						
CHMS	**Chumysh**	**2.96**	**16**	P	**Pn**	**13 00 32.3**	**+1.8**
	SNR=7.5						
TKM2	**Tokmak 2**	**3.13**	**28**	P	**Pn**	**13 00 34.2**	**+1.1**
	SNR=8.8						
TKM2	**Tokmak 2**	**3.13**	**28**	⇓Pg	**Pn**	**13 00 34.8**	**+1.7**
	9.8nm,0.8s						
TKM2				⇑Lg	Lg	13 01 18.0	
	51nm,0.8s						
USP	**Ospenovka**	**3.18**	**12**	P	**Pn**	**13 00 35.5**	**+2.1**
	SNR=8.0						
KK31	**Karatay Array**	**3.76**	**323**	⇑Pg	**Pb**	**13 00 49.6**	**-0.2**
	7.9nm,1.0s,baz=127,slow=13,SNR=6.5						
KK31				⇓Lg	Lg	13 01 37.7	
	4.4nm,0.7s,baz=133,slow=28,SNR=4.0						
DZET	**Dzherino**	**3.95**	**252**	⇑Pg	**Pb**	**13 00 53.9**	**+0.6**
	6.9nm,0.7s						
DZET				⇓Lg	Lg	13 01 48.5	
	54nm,1.2s						

ISCJB ***02*** *13:00:21.3±0.2,42.05N±0.02×87.79E±0.03,h26km, mb4.7/81,MS4.0/5,Error ellipse: s-maj=3.6km s-min=2.7km az=12.7*
NNC ***02*** *13:00:21.6±1.2,42.16N×87.65E,h0km,mb5.0,mpv5.3, Error ellipse: s-maj=10.9km s-min=10.1km az=136.0*
BJI ***02*** *13:00:21.7,41.91N×87.76E,h8km,mb4.5/20,mB4.4/14, ML4.8/14,Ms4.3/11,Ms7 3.9/15*
MOS ***02*** *13:00:22.9±1.1,42.16N×87.84E,h33km,mb5.0/24,Error ellipse: s-maj=7.3km s-min=4.6km az=131.0*
NEIC ***02*** *13:00:22.7±0.2,42.07N×87.78E,mb4.8/31,Error ellipse: s-maj=6.6km s-min=4.5km az=14.0*
IDC ***02*** *13:00:22.8±0.4,42.00N×87.88E,h25km±2km,mb4.4/29, mb1 4.5/33,mb1mx4.4/45,mbtmp4.5/33,ML4.3/3,MS3.7/2, Ms1 3.8/2,ms1mx3.1/44,Error ellipse: s-maj=12.9km s-min=8.4km az=30.0*
ISC 02 13:00:23.3±0.4,42.03N±0.04×87.77E±0.03,h30km±2km,
h29km:pP-P,n261,σ1°41/293,mb4.8/84,MS4.0/5,56C-17D,
Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.79**	**358**	Pg	**Pb**	**13 00 56.1**	**+0.6**
WMQ				Sg	**Sb**	**13 01 20.3**	**+2.8**
WMQ				SMN			
	25μm,0.5s						
WMQ				SME			
	36μm,0.4s						
MK31	**Makanchi Array**	**6.17**	**322**	Pn	**Pn**	**13 01 54.0**	**+1.6**
	104nm,0.5s,baz=139,slow=13,SNR=2840						
MK31				⇑Sn	**Sn**	**13 03 02.8**	**+0.9**
	95nm,0.5s,baz=133,slow=25,SNR=4.2						
MK31				⇑Lg	Lg	13 03 32.8	
	170nm,0.6s,baz=136,slow=29,SNR=3.7						
PDGK	**Podgornoye**	**6.25**	**285**	⇑Pn	**Pn**	**13 01 54.9**	**+1.6**
	92nm,0.4s						
PDGK				⇓Sn	**Sn**	**13 03 04.9**	**+1.3**
	547nm,0.8s						
PDGK				⇓Lg	Lg	13 03 36.1	
	510nm,0.7s						
PDGK	**Podgornoye**	**6.25**	**285**	P	**Pn**	**13 01 54.9**	**+1.6**
PDGK						13 03 04.9	
PDGK				pmax	pmax		
	comp=Z,92nm,0.4s						
PDGK				smax	smax		
	comp=N,547nm,0.8s						
AAA	**Alma-Ata**	**8.08**	**282**	*i* P	**Pn**	**13 02 20.2**	**+1.7**
AAA				*i* S	**Sn**	**13 03 47.6**	**-1.2**
AAA				pmax	pmax		
	comp=Z,100nm,0.2s						
AAA				smax	smax		
	comp=E,400nm,0.7s						
AAA				MLR	MLR		
	comp=Z,800nm,1.0s						
ULHL	**Ulahol**	**8.57**	**275**	P	**Pn**	**13 02 27.1**	**+1.6**
	SNR=85						
TKM2	**Tokmak 2**	**9.04**	**280**	P	**Pn**	**13 02 33.0**	**+1.0**
	SNR=91						
TKM2	**Tokmak 2**	**9.04**	**280**	⇑Pn	**Pn**	**13 02 32.7**	**+0.8**
	comp=Z,156nm,0.6s						
TKM2				⇓Sn	**Sn**	**13 04 14.3**	**+1.4**
	comp=Z,94nm,0.7s						
TKM2				⇑Lg	Lg	13 05 05.7	
	comp=Z,126nm,0.8s						
TKM2	**Tokmak 2**	**9.04**	**280**	*e*P	**Pn**	**13 02 32.7**	**+0.8**
TKM2				*e*		13 04 08.8	
TKM2	**Tokmak 2**	**9.04**	**280**	*e*Pn	**Pn**	**13 02 32.7**	**+0.8**
TKM2				*e*Sn	**Sn**	**13 04 08.8**	**-4.0**
KSH	**Kashi**	**9.30**	**258**	P	Pn	13 02 41.5	+6.1
KSH				SMN			
	comp=Z,220nm,0.8s						
KSH				SME			
	comp=Z,390nm,1.3s						
KZA	**Kyzart**	**9.32**	**274**	P	**Pn**	**13 02 37.2**	**+1.3**
	SNR=18						
GTA	**Gaotai**	**9.51**	**102**	*e*P	**Pn**	**13 02 38.9**	**+0.6**
GTA				pP		13 02 43.1	
GTA				sP		13 02 46.8	
GTA				S	**Sn**	**13 04 26.6**	**+2.4**
GTA				PMZ			
	comp=Z,5.0nm,0.8s						
GTA				PMZ			
	comp=Z,55nm,6.2s						
GTA				LN			
	comp=Z,560nm,7.6s						
GTA				LE			
	comp=Z,670nm,9.5s						
GTA				LZ			
	comp=Z,650nm,14.5s						
KBK	**Karagaybulak**	**9.52**	**278**	P	**Pn**	**13 02 39.3**	**+0.9**
	SNR=86						
CHMS	**Chumysh**	**9.67**	**280**	P	**Pn**	**13 02 40.5**	**+0.1**
	SNR=9.5						
FRU	**Bishkek**	**9.76**	**279**	*i* P	**Pn**	**13 02 42.0**	**+0.4**
FRU				*i* S	**Sn**	**13 04 32.0**	**+1.8**
FRU				pmax	pmax		
	comp=Z,120nm,2.0s						
FRU				smax	smax		
	comp=E,450nm,2.0s						
AAK	**Ala-Archa**	**9.85**	**278**	P	**Pn**	**13 02 43.8**	**+0.8**
	SNR=27						
AAK	**Ala-Archa**	**9.85**	**278**	⇑Pn	**Pn**	**13 02 42.9**	**-0.1**
	comp=E,36nm,0.7s						
AAK				⇓Lg	Lg	13 05 28.2	
	comp=E,72nm,1.2s						
AAK	**Ala-Archa**	**9.85**	**278**	Pn	Pn	13 03 31.5	+48
	comp=E,8.2nm,0.3s,baz=95,slow=8.0,SNR=16						
AAK				Lg	Lg	13 06 28.9	
	comp=E,1.6nm,0.3s,baz=258,slow=18,SNR=4.8						
AAK	**Ala-Archa**	**9.85**	**278**	P	**Pn**	**13 02 42.9**	**-0.1**
AAK				pmax	pmax		
	comp=Z,36nm,0.7s						
AAK				pmax	pmax		
	comp=N,45nm,0.7s						
UCH	**Uchtor**	**9.86**	**276**	P	**Pn**	**13 02 43.9**	**+0.6**
	SNR=30						
USP	**Ospenovka**	**9.86**	**282**	P	**Pn**	**13 02 43.3**	**+0.4**
	SNR=9.5						
HVS	**Khovu-Aksy**	**9.98**	**22**	*e*P	**Pn**	**13 02 42.3**	**-2.3**
EKS2	**Erkin-Say**	**10.38**	**278**	P	**Pn**	**13 02 50.5**	**+0.3**
	SNR=26						
EKS2	**Erkin-Say**	**10.38**	**278**	*e*P	**Pn**	**13 02 50.3**	**+0.1**
EKS2				*e*		13 04 42.1	
EKS2	**Erkin-Say**	**10.38**	**278**	*e*Pn	**Pn**	**13 02 50.3**	**+0.1**
EKS2				*e*Sn	**Sn**	**13 04 42.1**	**-3.4**
AML	**Almayashu**	**10.47**	**275**	P	**Pn**	**13 02 52.0**	**+0.4**
	SNR=8.3						
KURBB	**Kurchatov Arra**	**10.70**	**327**	⇑Pn	**Pn**	**13 02 53.4**	**-1.0**
	comp=N,14nm,0.4s						
KURBB				⇑Lg	Lg	13 05 57.6	
	comp=N,266nm,0.8s						
KURBB	**Kurchatov Arra**	**10.70**	**327**	Pn	**Pn**	**13 02 53.3**	**-1.0**
	comp=N,2.6nm,0.3s,baz=133,slow=13,SNR=62						
KURBB				Sn	**Sn**	**13 04 50.5**	**-2.6**
	comp=N,1.2nm,0.3s,baz=108,slow=23,SNR=4.6						
KURBB				Lg	Lg	13 06 00.5	
	comp=N,1.1nm,0.3s,baz=148,slow=28,SNR=7.0						

KURK Kurchatov 10.74 327 ⇑Pn **Pn** **13 02 53.9 -0.9**
comp=N,5.0nm,0.4s
KURK ⇑Lg Lg 13 05 58.9
comp=N,80nm,1.1s
KURK Kurchatov 10.74 327 P **Pn** **13 02 54.8 -0.1**
KURK pmax pmax
comp=Z,11nm,0.3s
KURK pmax pmax
comp=N,59nm,0.8s
KURK Kurchatov 10.74 327 *e*Pn **Pn** **13 02 53.7 -1.1**
comp=N,27nm,0.6s
KURK *e*Sn Sn 13 04 46.1 -7.8
KURK Sn Sn 13 04 50.5 -3.4
KURK Lg Lg 13 06 00.5
SFK Sufi-Kurgan 10.97 264 ⇓Pn **Pn** **13 03 00.2 +1.9**
comp=N,3.9nm,0.4s
SFK ⇑Lg Lg 13 06 07.9
comp=N,58nm,0.9s
ZAA0 Zalesovo Array 12.09 352 *e*Pn **Pn** **13 03 13.0 -0.3**
ZALV Zalesovo Beam 12.09 352 Pn **Pn** **13 03 13.0 -0.3**
comp=N,3.3nm,0.3s,baz=172,slow=13,SNR=72
ZALV Sn **Sn** **13 05 22.4 -4.5**
comp=N,4.1nm,0.3s,baz=172,slow=24,SNR=5.8
LSA Lhasa 12.60 166 P **Pn** **13 03 23.9 +3.0**
KK31 Karatay Array 12.77 281 Pn **Pn** **13 03 22.2 -0.6**
comp=N,5.9nm,0.6s,baz=87,slow=14,SNR=18
KK31 ⇓Lg Lg 13 07 06.3
comp=N,51nm,1.2s,baz=77,slow=27,SNR=3.6
KKAR Karatay Array 12.77 281 *e*P **Pn** **13 03 22.1 -0.7**
KKAR Karatay Array 12.77 281 *e*Pn **Pn** **13 03 22.1 -0.7**
NVS Novosibirsk 13.16 348 *e*P **Pn** **13 03 27.1 -0.9**
NVS *e* 13 05 47.6
MOY Mondy 13.20 39 *e*P **P** **13 03 39.9 +1.6**
MOY *e*S Sn 13 06 02.4 +8.0
MOY pmax pmax
comp=Z,1.0nm,0.2s
MOY smax smax
comp=E,201nm,1.9s
DHRM DHARAMSHALA 13.37 227 *e*P **Pn** **13 03 31.2 +0.1**
DHRM AMB AMB 13 03 44.4
comp=Z,51nm,0.0s
ZAK Zakamensk 13.59 47 *e*P **Pn** **13 03 36.1 +2.2**
ZAK pmax pmax
comp=Z,10.0nm,1.3s
SMLA Simla 13.81 221 *e*P **Pn** **13 03 35.8 -1.1**
SMLA AMB AMB 13 03 45.8
comp=Z,25nm,1.3s
LZH Lanzhou 13.82 110 *e*P **Pn** **13 03 37.0 -0.2**
LZH pP P 13 03 40.3 -5.0
LZH sP 13 03 43.3
LZH S **Sn** **13 06 07.4 -2.3**
LZH PMZ
comp=Z,29nm,1.0s
LZH PMZ
comp=Z,78nm,4.2s
LZH LN
comp=Z,580nm,10.2s
LZH LE
comp=Z,540nm,11.9s
LZH LZ
comp=Z,780nm,13.0s
DDI Dehra Dun 14.06 217 *e*P **Pn** **13 03 40.4 0.0**
DDI AMB AMB 13 03 48.3
comp=Z,28nm,1.5s
GUN Gumba 14.17 187 *e*P **Pn** **13 03 45.4 +3.2**
comp=Z,19nm,0.3s
CHCP Chirah Chowk 14.17 239 P **Pn** **13 03 40.3 -1.6**
GKN Gorkha 14.23 191 *e*P **Pn** **13 03 45.9 +3.1**
comp=Z,64nm,0.4s
KKN Kakani 14.35 189 *e*P **Pn** **13 03 46.2 +1.6**
comp=Z,27nm,0.5s
KRAR Krasnoyarsk 14.38 12 *e*P **Pn** **13 03 42.5 -2.1**
SONM Songino Array 14.40 60 Pn **Pn** **13 03 45.8 +0.7**
baz=258,slow=19,SNR=5.0
SONM Lg Lg 13 07 56.4
comp=Z,0.6nm,0.3s,baz=251,slow=32,SNR=5.9
TLY Talaya 14.50 43 Lg Lg 13 08 01.2
comp=Z,0.0nm,0.3s,baz=22,slow=22,SNR=4.9
TLY Talaya 14.50 43 *e*P **Pn** **13 03 45.0 -1.3**
TLY *e*S Sn 13 06 18.9 -7.0
TLY pmax pmax
comp=Z,4.0nm,0.8s
TLY MLR MLR
comp=Z,323nm,13.0s
PKIN Phulchoki 14.55 188 *e*P **Pn** **13 03 46.7 -0.6**
comp=Z,29nm,0.8s
DMN Daman 14.55 189 *e*P **Pn** **13 03 47.0 -0.3**
comp=Z,24nm,0.7s
PKI Pulchoki 14.55 188 *e*P **Pn** **13 03 46.2 -1.2**
comp=Z,23nm,0.6s
KOLN Koldanda 14.63 195 *e*P **Pn** **13 03 48.6 +0.2**
comp=Z,51nm,0.8s
TAPN Taplejung 14.64 180 *e*P **Pn** **13 03 47.3 -1.4**
comp=Z,21nm,0.5s
CEP Cherat 14.95 242 P **Pn** **13 03 50.3 -2.2**
CEP S Sn 13 06 26.0 -11
RAMN Ramite 15.07 184 *e*P Pn 13 03 49.1 -5.3
comp=Z,26nm,0.6s
ODAN Odare 15.14 181 *e*P Pn 13 03 50.4 -4.8
comp=Z,48nm,0.6s
THW Thamme Wali 15.70 239 P **Pn** **13 03 59.7 -2.6**
NDI New Delhi 15.84 216 *e*P **P** **13 04 06.5 -1.1**
BVA0 Borovoye Array 16.04 319 Pn **Pn** **13 04 05.2 -1.4**
comp=Z,28nm,0.6s,baz=131,slow=14,SNR=95
BVA0 ⇑Lg Lg 13 08 43.0
comp=Z,60nm,1.0s
BVA0 Borovoye Array 16.04 319 *i* P **Pn** **13 04 05.1 -1.4**
BVA0 pmax pmax
comp=Z,28nm,0.6s
BVAR Borovoye Array 16.04 319 Pn **Pn** **13 04 03.4 -3.1**
comp=Z,2.4nm,0.3s,baz=120,slow=12,SNR=41
BVAR Lg Lg 13 08 56.0
comp=Z,0.3nm,0.3s,baz=115,slow=25,SNR=4.0
BRVK Borovoye 16.11 319 ⇓Pn **Pn** **13 04 05.4 -2.0**
comp=Z,42nm,0.7s
BRVK ⇑Lg Lg 13 08 45.4
comp=Z,114nm,1.4s
BRVK Borovoye 16.11 319*c* *i*P **Pn** **13 04 06.1 -1.3**
BRVK pmax pmax
comp=Z,21nm,1.0s
BRVK Borovoye 16.11 319 *e*Pn **Pn** **13 04 05.4 -2.0**
comp=Z,28nm,0.6s
SHL Shillong 16.77 167 *e*P **P** **13 04 18.8 +0.7**
SHL AMB AMB 13 04 24.4
comp=Z,32nm,1.1s
HHC Hu-ho-hao-te 17.87 86 *e*P **Pn** **13 04 28.8 -0.8**
HHC PP **PnPn** **13 04 43.6 +3.1**
HHC S **Sn** **13 07 43.8 -4.1**
HHC PMZ
comp=Z,34nm,1.1s
HHC PMZ
comp=Z,80nm,5.2s
HHC LN
comp=Z,340nm,7.5s
HHC LE
comp=Z,180nm,5.5s
HHC LZ
comp=Z,84nm,5.5s
BOK Bokaro 18.25 186 *e*P **P** **13 04 33.9 -0.4**
BOK AMB AMB 13 04 44.9
comp=Z,32nm,0.6s
XAN Xi'an 18.44 109 P **Pn** **13 04 38.4 +1.8**
XAN pP **pP** **13 04 43.9 -0.4**
XAN PMZ
comp=Z,5.0nm,0.7s
BHPL Bhopal 20.63 208 *e*P **P** **13 05 00.6 +0.3**
BHPL AMB AMB 13 05 09.7
comp=Z,23nm,1.0s
AB31 Akbulak array 20.68 300 ⇑P **P** **13 05 00.7 +0.1**
comp=Z,8.7nm,0.6s,baz=89,slow=12,SNR=133
AB31 Akbulak array 20.68 300 *i* P **P** **13 05 00.8 +0.2**
AB31 pmax pmax
comp=Z,14nm,0.5s
ABKAR Akbulak array 20.68 300 *e*P **P** **13 04 60.0 -0.6**
comp=Z,9.3nm,0.5s
ENH Enshi 21.03 117 *e*P **P** **13 05 04.2 -0.5**
comp=Z,12nm,0.6s
AKTO Aktyubinsk 22.11 303 ⇑P **P** **13 05 16.1 0.0**
comp=Z,25nm,0.7s
AKTO Aktyubinsk 22.11 303 P **P** **13 05 15.8 -0.3**
comp=Z,20nm,0.6s,baz=90,slow=11,SNR=37
SVE Sverdlovsk 22.83 320⇑ *e*P **P** **13 05 23.7 +0.1**
SVE pmax pmax
comp=Z,53nm,1.0s
GEYT Alibeck 23.03 270 P **P** **13 05 25.9 0.0**
comp=Z,22nm,1.0s,baz=64,slow=6.8,SNR=23

IAKL Akhelmad 23.03 266 *e*P **P** **13 05 27.6 +1.4**
ARU Arti 23.67 318*d* *i*P **P** **13 05 32.1 +0.2**
ARU 13 05 59.3
ARU PPP PPP 13 06 11.8
ARU S **S** **13 09 44.9 +0.3**
ARU SS **SnSn** **13 10 26.2 +3.0**
ARU pmax pmax
comp=Z,58nm,1.0s
ARU Arti 23.67 318 *e*P **P** **13 05 30.7 -1.2**
comp=Z,46nm,0.8s
CHTO Chiang Mai 25.02 154 *e*P **P** **13 05 45.0 +0.3**
CHTO pmax pmax
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 25.02 154 *e*P **P** **13 05 45.0 +0.3**
comp=Z,6.2nm,0.8s
CMAR Chiang Mai Arr 25.35 155 P **P** **13 05 47.8 +0.1**
comp=Z,1.9nm,0.5s,baz=332,slow=9.4,SNR=14
SOKR Solikamsk 25.95 323*d* *i*P **P** **13 05 54.0 +1.3**
SOKR pmax pmax
comp=Z,30nm,1.0s
QIZ Qiongzhong 29.62 134 P P 13 06 30.0 +4.1
QIZ S S 13 11 26.9 +7.5
QIZ PMZ
comp=Z,8.0nm,1.8s
KSAR Wonju Array Be 30.98 85 P **P** **13 06 36.9 -1.0**
KSAR Wonju Array Be 30.98 85 P **P** **13 06 36.9 -1.0**
KSRS Korea Array 31.01 85 P **P** **13 06 36.9 -1.2**
comp=Z,3.6nm,0.5s,baz=290,slow=8.6,SNR=26
KSRS LR LR 13 20 15.9
comp=Z,87nm,18.9s,baz=282,slow=39
KSRS Korea Array 31.01 85 P **P** **13 06 36.9 -1.2**
KSRS pmax pmax
comp=Z,4.0nm,0.5s
KSRS MLR MLR
comp=Z,87nm,18.9s
KLR Kul'dur 31.22 61 *e*P **P** **13 06 37.2 -2.6**
KLR MLR MLR
comp=E,500nm,11.5s
KLR MLR MLR
comp=Z,900nm,11.5s
PRGR Permogore 31.80 323 *e*P **P** **13 06 43.9 -0.9**
PRGR pmax pmax
comp=Z,9.0nm,0.4s
YAK Yakutsk 31.83 37 P **P** **13 06 44.3 -0.7**
comp=Z,4.5nm,0.5s,baz=348,slow=20,SNR=4.3
USRK Ussuriysk Ar. 32.06 71 P **P** **13 06 46.8 -0.4**
comp=Z,1.9nm,0.5s,baz=279,slow=8.3,SNR=6.3
GNI Garni 32.24 281 *i* P **P** **13 06 52.0 +2.9**
GNI pmax pmax
comp=Z,25nm,1.2s
ONI Oni 32.50 286 P **P** **13 06 53.7 +2.4**
KBZ Khabaz 32.63 288 P **P** **13 06 53.4 +1.1**
comp=Z,12nm,0.7s,baz=100,slow=6.2,SNR=28
KIV Kislovodsk 32.73 289*d* *i*P **P** **13 06 55.3 +2.1**
KIV pmax pmax
comp=Z,13nm,1.0s
HABR Khabarovsk 33.46 62 *e*P **P** **13 06 59.3 -0.1**
HABR *e**PP **pP** **13 07 08.8 +0.7**
HABR *e**SP **sP** **13 07 13.1 +1.4**
HABR *e* 13 08 10.2
HABR *e* 13 09 40.6
HABR *e*S **S** **13 12 18.0 -1.0**
HABR *e**SS **sS** **13 12 34.6 +1.3**
HABR *e*SS **SnSn** **13 14 21.7 -0.2**
HABR 13 17 23.3
HABR pmax pmax
comp=Z,9.0nm,1.6s
HABR MLR MLR
comp=Z,232nm,17.0s
VSR Storozhevoye 34.06 303 *e*P **P** **13 07 04.9 +0.2**
VSR pmax pmax
comp=N,9.0nm,0.8s
VSR pmax pmax
comp=E,20nm,0.8s
VSR pmax pmax
comp=Z,20nm,0.8s
LPSR Galich'ya Gora 34.14 305 *e*P **P** **13 07 05.6 +0.3**
LPSR pmax pmax
comp=N,3.0nm,0.8s
LPSR pmax pmax
comp=E,10.0nm,0.8s
LPSR pmax pmax
comp=Z,20nm,0.8s
SOC Sochi 34.90 289 *e*P **P** **13 07 11.5 -0.5**
SOC *e* 13 08 36.1
SOC *e*S **S** **13 12 36.3 -5.1**
SOC *e*SS **SnSn** **13 15 00.4 +3.4**
SOC pmax pmax
comp=Z,29nm,0.4s
SOC MLR MLR
comp=Z,276nm,18.0s
OBN Obninsk 35.50 310 *e*P **P** **13 07 17.8 +0.8**
OBN pmax pmax
comp=Z,13nm,0.7s
ANN Anapa 36.20 292 *e*P **P** **13 07 23.7 +0.6**
ANN pmax pmax
comp=Z,44nm,0.6s
MJAR Matsushiro Arr 38.96 81 P **P** **13 07 46.1 -0.5**
comp=Z,2.2nm,1.0s,baz=283,slow=13,SNR=4.8
ASAJ Asahikawa 39.48 68 *e*P **P** **13 07 50.5 -0.3**
comp=Z,1.3nm,0.5s
RAYN Ar Rayn 39.58 256 *e*P **P** **13 07 50.4 -1.6**
comp=Z,5.9nm,0.9s
AKASG Malin Array Be 40.36 303 P **P** **13 07 58.2 +0.1**
comp=Z,1.5nm,0.4s,baz=68,slow=8.5,SNR=11
AKASG pP **pP** **13 08 07.1 +0.2**
comp=Z,1.2nm,0.4s,baz=65,slow=8.5,SNR=4.0
AKASG Malin Array Be 40.36 303*ce*P **P** **13 07 58.9 +0.9**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
KIEV Kiev 40.37 303 *e*P **P** **13 07 58.7 +0.6**
BRTR Keskin Array B 40.42 285 P **P** **13 08 00.3 +1.4**
comp=Z,12nm,0.8s,baz=98,slow=8.9,SNR=53
ERM Erimo 40.52 71*ce*P **P** **13 08 00.7 +1.2**
ERM pmax pmax
comp=Z,21nm,1.1s
VSU Vasula 40.79 315 *e*P **P** **13 08 01.0 -0.5**
VSU pmax pmax
comp=Z,32nm,1.1s
ANTO Ankara 40.98 286 ⇑P **P** **13 08 05.2 +1.8**
ANTO Ankara 40.98 286 ⇑*i*P **P** **13 08 05.2 +1.8**
ANTO Ankara 40.98 286 *e*P **P** **13 08 03.6 +0.2**
comp=Z,8.0nm,0.8s
FIA1 FINESS Array S 41.00 320 *e*P **P** **13 08 02.4 -0.7**
FINES FINESS Array B 41.00 320 P **P** **13 08 03.8 +0.7**
comp=Z,3.7nm,0.5s,baz=101,slow=9.0,SNR=41
FINES pP **pP** **13 08 12.3 +0.3**
comp=Z,4.6nm,0.5s,baz=91,slow=9.1,SNR=7.5
FINES PcP **PcP** **13 10 02.6 -0.1**
comp=Z,2.0nm,0.5s,baz=106,slow=6.8,SNR=3.5
FINES FINESS Array B 41.00 320 *i* P **P** **13 08 03.7 +0.5**
FINES pmax pmax
comp=Z,4.0nm,0.4s
ASF Jabal al Asfar 41.22 273 P **P** **13 08 07.6 +2.1**
comp=Z,1.7nm,0.6s,baz=37,slow=9.2,SNR=4.3
ASF pP **pP** **13 08 14.4 0.0**
comp=Z,3.9nm,0.9s,baz=41,slow=6.9,SNR=3.9
ARCES ARCESS Array B 41.72 332 P **P** **13 08 10.1 +1.1**
comp=Z,12nm,0.7s,baz=81,slow=7.9,SNR=94
ARCES pP **pP** **13 08 18.4 +0.5**
comp=Z,9.2nm,0.5s,baz=91,slow=7.9,SNR=9.4
ARCES PcP **PcP** **13 10 04.2 -0.8**
comp=Z,2.2nm,0.5s,baz=85,slow=3.9,SNR=5.0
ARE0 ARCESS Array S 41.72 332 *e*P **P** **13 08 09.8 +0.7**
SEY Seymchan 42.33 38 P **P** **13 08 13.4 -0.6**
comp=Z,2.2nm,0.5s,baz=280,slow=5.7,SNR=34
SEY PcP **PcP** **13 10 06.7 -0.4**
comp=Z,1.1nm,0.6s,baz=289,slow=5.4,SNR=3.8
SEY Seymchan 42.33 38 *i*P **P** **13 08 14.6 +0.6**
KTK1 Kautokeino 42.47 331 *e*P **P** **13 08 16.3 +1.2**
TIRR Tirgusor 42.48 294 ⇑P **P** **13 08 16.6 +1.1**
TIRR Tirgusor 42.48 294 ⇑*i*P **P** **13 08 16.6 +1.1**
HAMF Hammerfest 42.49 334 *e*P **P** **13 08 16.3 +1.1**
HAMF IAmb IAmb 13 08 17.2
comp=Z,15nm,0.7s
MSAB Monastry St. A 43.00 294 ⇑*i*P **P** **13 08 21.9 +2.2**
VRI Vrincioaia 43.18 297 ⇑P **P** **13 08 19.0 -2.2**
VRI Vrincioaia 43.18 297 ⇑*i*P **P** **13 08 19.0 -2.2**
PLOR Plostina 43.24 297 ⇑P **P** **13 08 23.3 +1.6**
PLOR Plostina 43.24 297 ⇑*i*P **P** **13 08 23.3 +1.6**
ISR Istrita 43.54 296 ⇑P **P** **13 08 26.7 +2.6**
ISR Istrita 43.54 296 ⇑*i*P **P** **13 08 26.7 +2.6**
PRD Provadia 43.59 293 ⇑P **P** **13 08 23.7 -0.8**
PRD Provadia 43.59 293 ⇑*i*P **P** **13 08 23.7 -0.8**
BURAR Bucovina Array 43.66 300 ⇑P **P** **13 08 26.3 +1.2**

BURAR Bucovina Array 43.66 300 ⇑*i*P **P** **13 08 26.3 +1.2**
LVV L'vov 43.80 303 *e*P **P** **13 08 26.7 +0.5**
MLR Muntele Rosu 43.82 296 ⇓P **P** **13 08 28.1 +1.6**
MLR Muntele Rosu 43.82 296 ⇓*i*P **P** **13 08 28.1 +1.6**
TRO Tromso 44.03 332 *e*P **P** **13 08 28.0 +0.3**
DOPR Dopca 44.04 297 ⇑*i*P P 13 08 32.6 +4.5
ARCR ARCALIA 44.37 299 ⇑*i*P **P** **13 08 33.7 +2.9**
JMB Yambol 44.41 292 ⇑P **P** **13 08 32.9 +1.8**
JMB Yambol 44.41 292 ⇑*i*P **P** **13 08 32.9 +1.8**
VOIR 44.43 297 ⇑P **P** **13 08 33.0 +1.6**
VOIR 44.43 297 ⇑*i*P **P** **13 08 33.0 +1.6**
KWP Kalwaria Pacla 44.68 303 *e*P **P** **13 08 34.6 +1.4**
KWP Kalwaria Pacla 44.68 303 *e*P **P** **13 08 34.7 +1.5**
LOT Lotru 45.28 297 ⇑*i*P **P** **13 08 39.2 +1.0**
DRGR 45.53 299 ⇑P **P** **13 08 41.6 +1.5**
DRGR 45.53 299 ⇑*i*P **P** **13 08 41.6 +1.5**
STHS Stebnicka Huta 45.66 303 *e*P **P** **13 08 41.9 +0.9**
STHS pmax pmax
comp=Z,4.0nm,0.8s
STHS Stebnicka Huta 45.66 303 *e*P **P** **13 08 41.9 +0.9**
GZR Gura Zlata 45.96 297 ⇑*i*P **P** **13 08 45.0 +1.6**
LOF Lofoten 46.03 330 *e*P **P** **13 08 43.9 +0.3**
LOF IAmb IAmb 13 08 45.4
comp=Z,22nm,1.1s
NIE Niedzica 46.24 303 *e*P **P** **13 08 47.4 +1.9**
NIE Niedzica 46.24 303 *e*P **P** **13 08 47.5 +1.9**
OJC Ojcow 46.31 305 *e*P **P** **13 08 47.1 +1.0**
OJC Ojcow 46.31 305 *e*P **P** **13 08 47.1 +1.0**
KECS Kecovo 46.42 302 *e*P **P** **13 08 48.1 +1.1**
KECS pmax pmax
comp=Z,3.0nm,0.7s
KECS Kecovo 46.42 302 *e*P **P** **13 08 48.1 +1.1**
BZS Buzias 46.64 298 ⇑P **P** **13 08 50.2 +1.4**
BZS Buzias 46.64 298 ⇑*i*P **P** **13 08 50.2 +1.4**
PETK Petropavlovsk- 46.66 51 P **P** **13 08 48.2 -0.5**
comp=Z,2.5nm,0.6s,baz=238,slow=9.9,SNR=10
VTS Vitosha 46.68 294 ⇑P **P** **13 08 50.6 +1.3**
VTS Vitosha 46.68 294 ⇑*i*P **P** **13 08 50.6 +1.3**
PSZ Piszkesteto 46.98 302 ⇓P **P** **13 08 53.3 +1.9**
PSZ Piszkesteto 46.98 302 ⇓*i*P **P** **13 08 53.3 +1.9**
MORC Moravsky Berou 47.84 305 ⇑P **P** **13 08 59.4 +1.3**
MORC Moravsky Berou 47.84 305 ⇑*i*P **P** **13 08 59.4 +1.3**
MORC Moravsky Berou 47.84 305 *e*P P 13 08 54.2 -3.9
comp=Z,45nm,1.1s
NC602 NORSAR Array S 48.08 320 *e*P **P** **13 09 00.2 +0.5**
NC602 IAmb IAmb 13 09 00.9
comp=Z,22nm,0.8s
NB2 NORSAR Subarra 48.16 321 P **P** **13 09 00.5 +0.1**
comp=Z,12nm,0.7s,baz=75,slow=7.9
NB2 NORSAR Subarra 48.16 321 P **P** **13 09 00.5 +0.1**
baz=75,slow=7.9
NOA NORSAR Array B 48.16 321 P **P** **13 09 00.8 +0.4**
comp=Z,8.2nm,0.6s,baz=76,slow=7.7,SNR=30
NOA pP **pP** **13 09 08.6 -0.7**
comp=Z,7.4nm,0.5s,baz=76,slow=7.8,SNR=12
KRLC Kraliky 48.20 305 *e*P **P** **13 09 02.1 +1.2**
KRLC *e*sP **sP** **13 09 12.7 -0.7**
KRLC Kraliky 48.20 305 *e*P **P** **13 09 02.1 +1.2**
KRLC *e* 13 09 12.7
DIVS Divibare 48.27 297 ⇑*i*P **P** **13 09 02.5 +0.9**
PKSM Moragy 48.37 300 ⇓P **P** **13 09 02.8 +0.6**
PKSM Moragy 48.37 300 ⇓*i*P **P** **13 09 02.8 +0.6**
DPC Dobruska-Polom 48.39 306 *e*P **P** **13 09 04.0 +1.7**
DPC *e*pP **pP** **13 09 12.4 +1.1**
DPC Dobruska-Polom 48.39 306 *e*P **P** **13 09 04.0 +1.7**
DPC *e* 13 09 12.4
UPC Upice 48.53 306 *e*P **P** **13 09 04.8 +1.5**
UPC Upice 48.53 306 *e*P **P** **13 09 04.8 +1.5**
TREC Trest 49.26 305 *e*P **P** **13 09 10.5 +1.5**
TREC Trest 49.26 305 *e*P **P** **13 09 10.5 +1.5**
KONO Kongsberg 49.30 319 *e*P **P** **13 09 08.1 -0.9**
KONO pmax pmax
comp=Z,8.0nm,1.1s
KONO Kongsberg 49.30 319 *e*P **P** **13 09 08.1 -0.9**
comp=Z,8.3nm,1.1s
PVCC Panska Ves 49.39 306 *e*P **P** **13 09 11.8 +1.9**
PVCC Panska Ves 49.39 306 *e*P **P** **13 09 11.8 +1.9**
GOPC GO Pecny, Ondr 49.47 306 *e*P **P** **13 09 11.8 +1.2**
CONA Conrad Observa 49.52 303 *i* P **P** **13 09 12.8 +1.8**
comp=Z,8.4nm,0.7s,SNR=5.5
PRU Pruhonice 49.59 306 *e*P **P** **13 09 12.9 +1.4**
PRU *e*pP **pP** **13 09 21.9 +1.5**
PRU Pruhonice 49.59 306 *e*P **P** **13 09 12.9 +1.4**
PRU *e* 13 09 21.9
BRG Berggiesshubel 49.65 307 *e*P **P** **13 09 13.1 +1.2**
comp=Z,6.1nm,1.1s
BRG Berggiesshubel 49.65 307 *e*P **P** **13 09 13.1 +1.2**
BRG pmax pmax
comp=Z,6.0nm,1.1s
CLL Collm 50.05 308 *i* P **P** **13 09 15.6 +0.7**
CLL pmax pmax
comp=Z,11nm,0.7s
CLL Collm 50.05 308 *i* P **P** **13 09 15.6 +0.7**
comp=Z,11nm,0.7s
CLL *i* sP **sP** **13 09 25.0 -2.4**
comp=Z,7.0nm,0.6s
CLL *i* 13 09 26.3
comp=Z,8.0nm,0.7s
KHC Kasperske Hory 50.49 305 *e*P **P** **13 09 19.9 +1.6**
KHC *e*pP **pP** **13 09 28.5 +1.2**
KHC Kasperske Hory 50.49 305 *e*P **P** **13 09 19.9 +1.6**
KHC *e* 13 09 28.5
SOKA Soboth 50.51 302 *i* P **P** **13 09 19.7 +1.1**
comp=Z,8.9nm,0.8s,SNR=8.2
GERES GERESS Array B 50.52 305 P **P** **13 09 19.9 +1.2**
comp=Z,1.5nm,0.6s,baz=61,slow=6.6,SNR=16
OBKA Obir 50.88 302 ⇑*i*P **P** **13 09 22.7 +1.2**
comp=Z,10nm,0.9s
KBA Koelnbreinsper 51.42 303 ⇑*i*P **P** **13 09 26.6 +1.1**
comp=Z,5.1nm,0.5s
WTTA Wattenberg 52.41 303 ⇓*i*P **P** **13 09 33.9 +1.0**
comp=Z,11nm,0.6s,SNR=11
WATA Walderalm 52.42 304 ⇑*i*P **P** **13 09 33.8 +0.9**
comp=Z,17nm,1.0s
TIP Timpagrande 52.55 292 *e*P **P** **13 09 33.3 -0.6**
comp=Z,9.0nm,1.3s
MOTA Moosalm 52.71 304 ⇑*i*P **P** **13 09 35.9 +0.8**
comp=Z,12nm,0.8s
CUC Castrocucco 52.82 294 P **P** **13 09 34.8 -1.2**
comp=Z,14nm,0.8s
BFO Black Forest 53.99 306 *i* P **P** **13 09 46.2 +1.8**
BNI Bardonecchia 56.48 303 *e*P **P** **13 10 03.0 +0.5**
BNI pmax pmax
comp=Z,10.0nm,1.0s
BNI Bardonecchia 56.48 303 *e*P **P** **13 10 03.0 +0.5**
comp=Z,9.9nm,1.0s
COLD Coldfoot 62.57 22 *e*P **P** **13 10 44.2 +0.3**
comp=Z,17nm,0.9s
COLA College 64.94 23 *e*P **P** **13 11 00.1 +0.6**
COLA pmax pmax
comp=Z,57nm,0.9s
COLA College 64.94 23 P **P** **13 10 58.2 -1.3**
comp=Z,20nm,0.9s
PPLA Purkeypile 65.03 26 *e*P **P** **13 11 00.9 +0.5**
comp=Z,6.6nm,0.7s
TRF Thorofare Moun 65.24 25 *e*P **P** **13 11 01.2 -0.5**
comp=Z,2.2nm,0.7s
ILAR Eielson Array 65.29 23 P **P** **13 11 02.2 +0.3**
comp=Z,5.6nm,0.8s,baz=311,slow=5.2,SNR=88
ILAR LR LR 13 41 37.9
comp=Z,72nm,18.3s,baz=64,slow=38
INK Inuvik 65.73 16 P **P** **13 11 05.7 +1.2**
comp=Z,7.4nm,0.4s,baz=337,slow=3.4,SNR=55
INK Inuvik 65.73 16 *e*P **P** **13 11 05.1 +0.6**
INK pmax pmax
comp=Z,17nm,1.0s
INK Inuvik 65.73 16 *e*P **P** **13 11 05.1 +0.6**
comp=Z,17nm,1.0s
ESDC Sonseca Array 66.00 302 P **P** **13 11 07.6 +0.7**
comp=Z,1.4nm,0.5s,baz=52,slow=6.7,SNR=12
RSO Redoubt South 66.56 28 *e*P **P** **13 11 08.1 -2.2**
comp=Z,18nm,0.6s
EGAK Eagle 66.86 21 *e*P **P** **13 11 12.5 +0.6**
comp=Z,16nm,1.3s
SML Sawmill 67.06 25 *e*P **P** **13 11 13.7 +0.4**
SML pmax pmax
comp=Z,2.0nm,0.6s
SML Sawmill 67.06 25 *e*P **P** **13 11 13.7 +0.4**
comp=Z,2.4nm,0.6s
KDAK Kodiak Island 68.54 30 *i* P **P** **13 11 23.4 +0.8**
HYT Haines Junctio 71.06 22 *e*P **P** **13 11 39.1 +0.9**
comp=Z,6.1nm,0.6s
YKA Yellowknife Ar 74.28 11 P **P** **13 11 57.8 +0.7**
comp=Z,7.9nm,0.6s,baz=339,slow=5.8,SNR=25

DLBC	**Dease Lake**	**75.07**	**19**	*eP*		**P**		**13 12 02.2**	**+0.3**
	comp=Z,4.8nm,1.1s								
WRAB	**Tennant Creek**	**75.18**	**135**	*i* P		P		13 12 08.0	+5.1
WRAB				pmax	pmax				
	comp=Z,35nm,1.7s								
WRA	**Warramunga Arr**	**75.18**	**135**	P		**P**		**13 12 03.6**	**+0.7**
	comp=Z,4.7nm,0.7s,baz=333,slow=5.4,SNR=53								
WRA				pP		**pP**		**13 12 10.3**	**-1.9**
	comp=Z,7.5nm,0.7s,baz=334,slow=5.7,SNR=23								
ASAR	**Alice Springs**	**78.05**	**137**	P		**P**		**13 12 19.9**	**+0.9**
	comp=Z,2.1nm,0.6s,baz=324,slow=5.1,SNR=41								
ASAR				pP		**pP**		**13 12 26.6**	**-1.9**
	comp=Z,2.8nm,0.6s,baz=332,slow=5.8,SNR=17								
TORD	**Torodi Ar. Bea**	**78.44**	**277**	P		**P**		**13 12 21.5**	**0.0**
	comp=Z,7.0nm,0.5s,baz=44,slow=5.0,SNR=58								
CTA	**Charters Tower**	**82.05**	**126**	P		**P**		**13 12 41.0**	**+0.3**
	comp=Z,2.1nm,0.6s,baz=327,slow=13,SNR=5.6								
FFC	**Flin Flon**	**83.26**	**6**	*eP*		**P**		**13 12 46.8**	**+0.2**
FFC				pmax	pmax				
	comp=Z,26nm,0.9s								
FFC	**Flin Flon**	**83.26**	**6**	*eP*		**P**		**13 12 46.8**	**+0.2**
	comp=Z,26nm,0.9s								
EDM	**Edmonton**	**83.39**	**13**	*eP*		**P**		**13 12 46.4**	**-1.0**
EDM				pmax	pmax				
	comp=Z,29nm,1.3s								
EDM	**Edmonton**	**83.39**	**13**	*eP*		**P**		**13 12 46.4**	**-1.0**
	comp=Z,28nm,1.3s								
DBIC	**Dimbokro**	**87.53**	**277**	P		**P**		**13 13 08.5**	**-0.1**
	comp=Z,5.1nm,0.7s,baz=33,slow=3.9,SNR=7.1								
ULM	**Lac du Bonnet**	**88.05**	**2**	P		**P**		**13 13 09.8**	**-0.7**
	comp=Z,5.7nm,0.8s,baz=14,slow=3.5,SNR=4.7								
STKA	**Stephens Creek**	**88.65**	**137**	P		**P**		**13 13 12.9**	**-0.4**
	comp=Z,3.1nm,0.7s,baz=322,slow=4.8,SNR=11								
STKA				pP		**pP**		**13 13 20.6**	**-2.3**
	comp=Z,4.4nm,0.7s,baz=340,slow=5.0,SNR=7.1								
EGMT	**Eagleton**	**89.00**	**12**	*eP*		**P**		**13 13 14.5**	**-0.6**
	comp=Z,8.5nm,1.0s								
DGMT	**Dagmar**	**89.27**	**8**	*eP*		**P**		**13 13 16.7**	**+0.4**
	comp=Z,23nm,0.9s								
BMO	**Blue Mountains**	**90.64**	**18**	*eP*		**P**		**13 13 23.5**	**+0.6**
	comp=Z,7.9nm,1.5s								
DLMT	**Dillon**	**91.11**	**14**	*eP*		**P**		**13 13 25.6**	**+0.5**
	comp=Z,5.5nm,1.3s								
MCMT	**McKenzie Canyo**	**91.58**	**15**	*eP*		**P**		**13 13 28.3**	**+0.9**
	comp=Z,2.3nm,1.1s								
RSSD	**Black Hills**	**93.58**	**8**	*eP*		**P**		**13 13 36.8**	**+0.2**
RSSD				pmax	pmax				
	comp=Z,3.0nm,0.6s								
RSSD	**Black Hills**	**93.58**	**8**	*eP*		**P**		**13 13 36.8**	**+0.2**
	comp=Z,3.2nm,0.6s								
PDAR	**Pinedale Array**	**94.15**	**13**	P		**P**		**13 13 39.3**	**0.0**
	comp=Z,0.5nm,0.6s,baz=20,slow=4.7,SNR=4.7								
PDAR				pP		**pP**		**13 13 47.5**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=57,slow=5.5,SNR=3.3								
VNDA	**Vanda**	**127.34**	**165**	PKP		**PKPdf**		**13 19 23.0**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=280,slow=6.1,SNR=4.4								
LPAZ	**La Paz**	**147.04**	**314**	PKPbc		**PKPbc**		**13 20 03.4**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=39,slow=2.8,SNR=10								
CPUP	**Villa Florida**	**147.42**	**288**	PKPbc		**PKPbc**		**13 20 03.3**	**-0.9**
	comp=Z,5.7nm,0.7s,baz=28,slow=0.9,SNR=14								

*IDC **02** 13:35:08.8±2.6,34°.15N×71°.01E,h0km,mb3.8/6,*
mb1 3.8/10,mb1mx3.6/48,mbtmp3.7/10,ML3.3/3,Error
ellipse: s-maj=52.7km s-min=24.5km az=140.0
*NNC **02** 13:35:24.2±5.4,34°.63N×70°.23E,h115km±49km,mb3.2,*
mpv3.9,Error ellipse: s-maj=43.5km s-min=33.1km az=0.0

ISC 02 13:35:09.7±0.8,34°24N±0°.09×71°16E±0°.07,h10km,n24,
σ2s03/25,mb4.0/6,6C-3D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**4.36**	**111**	*eP*	**Pg**	**13 36 31.0**	**-2.3**
DLH				*eS*	**Sg**	**13 37 27.0**	**-2.9**
DZET	**Dzherino**	**4.93**	**338**	⇓P	Pn	13 36 29.3	+5.3
	8.2nm,0.4s						
DZET				⇑S	**Sn**	**13 37 17.7**	**-3.4**
	58nm,0.6s						
BHK	**Bhakra**	**5.24**	**121**	*eS*	**Sg**	**13 37 56.0**	**-2.1**
SDNR	**Sundarnagar**	**5.60**	**118**	*eP*	**Pb**	**13 36 49.0**	**+1.4**
SDNR				*eS*	**Sb**	**13 37 57.6**	**+2.8**
SMLA	**Simla**	**5.94**	**120**	*i* P	**Pb**	**13 36 53.9**	**+0.6**
SMLA				*i* S	**Sb**	**13 38 05.4**	**+0.9**
SMLA				*i* S	**Sb**	**13 38 05.6**	**+1.1**
SMLA				AML	AML	13 38 07.8	
	comp=N,389nm,0.3s						
SMLA				AML	AML	13 38 08.1	
	comp=E,481nm,0.2s						
SFK	**Sufi-Kurgan**	**6.06**	**17**	⇑P	Pn	13 36 48.6	+9.0
	comp=E,3.1nm,0.3s						
SFK				⇓S	Sn	13 38 00.1	+11
	comp=E,6.2nm,0.5s						
NDI	**New Delhi**	**7.58**	**135**	*eP*	Pb	13 37 26.0	+4.7
AAK	**Ala-Archa**	**8.78**	**16**	Pn	Pg	13 38 12.7	+15
	comp=E,1.3nm,0.3s,baz=183,slow=4.5,SNR=5.0						
KK31	**Karatay Array**	**8.87**	**357**	⇑P	Pn	13 37 21.6	+3.7
	comp=E,3.2nm,0.5s,baz=186,slow=14,SNR=8.6						
KK31				⇑S	**Sn**	**13 38 56.9**	**-1.0**
	comp=E,3.1nm,0.5s,baz=192,slow=22,SNR=5.6						
GEYT	**Alibeck**	**11.18**	**293**	Pn	**Pn**	**13 37 49.2**	**-0.4**
	baz=116,slow=9.8,SNR=2.3						
MK31	**Makanchi Array**	**15.11**	**31**	P	**P**	**13 38 53.3**	**+4.8**
	comp=E,0.9nm,0.6s,baz=210,slow=9.9,SNR=7.7						
AB31	**Akbulak array**	**17.15**	**334**	⇑P	**P**	**13 39 09.6**	**-1.4**
	comp=E,1.3nm,0.5s,baz=152,slow=12,SNR=32						
KURBB	**Kurchatov Arra**	**17.24**	**16**	Pn	**Pn**	**13 39 09.9**	**-0.6**
	comp=E,0.0nm,0.3s,baz=208,slow=12,SNR=2.7						
BVA0	**Borovoye Array**	**18.79**	**359**	⇑P	**P**	**13 39 27.9**	**-1.2**
	comp=E,3.6nm,1.1s,baz=157,slow=15,SNR=6.0						
BVAR	**Borovoye Array**	**18.79**	**359**	Pn	**P**	**13 39 26.3**	**-2.8**
	comp=E,0.2nm,0.3s,baz=163,slow=10,SNR=3.3						
AKTO	**Aktyubinsk**	**18.83**	**333**	⇓P	**Pn**	**13 39 29.7**	**-0.4**
	comp=E,3.4nm,1.1s						
AKTO	**Aktyubinsk**	**18.83**	**333**	Pn	**Pn**	**13 39 32.4**	**+2.3**
	comp=E,0.3nm,0.3s,baz=148,slow=9.7,SNR=4.4						
ZALV	**Zalesovo Beam**	**21.94**	**22**	P	**P**	**13 40 04.7**	**+1.5**
	comp=E,2.5nm,0.4s,baz=220,slow=11,SNR=10						
BRTR	**Keskin Array B**	**30.31**	**291**	P	**P**	**13 41 20.7**	**-0.8**
	comp=E,0.3nm,0.4s,baz=110,slow=8.3,SNR=2.6						
ARCES	**ARCESS Array B**	**43.29**	**338**	P	**P**	**13 43 12.3**	**+1.1**
	comp=E,1.0nm,0.8s,baz=140,slow=13,SNR=3.4						
NB2	**NORSAR Subarra**	**46.28**	**324**	P	**P**	**13 43 34.9**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**46.28**	**324**	P	**P**	**13 43 35.4**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=97,slow=7.8,SNR=5.7						
TORD	**Torodi Ar. Bea**	**65.81**	**270**	P	**P**	**13 45 55.4**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=48,slow=5.8,SNR=9.3						
INK	**Inuvik**	**76.11**	**9**	P	**P**	**13 46 59.1**	**+1.9**
	comp=Z,0.8nm,0.5s,baz=13,slow=8.4,SNR=3.8						

MEX 02 13:35:25.6±0.4,16°22N×98°41W,h8km±3km,MD3.5,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.32**	**57**	*i* P	Pg	13 35 31.4	-0.6
PNIG				*i* S	Sg	13 35 36.4	0.0
TLIG	**Tlapa**	**1.35**	**354**	*i* P	Pn	13 35 47.2	-3.7
TLIG				*i* S	Sb	13 36 03.6	-5.2
VHO	**Vista Hermosa**	**1.82**	**62**	*i* P	Pn	13 35 53.7	-3.7
VHO				*eS*	Sn	13 36 15.6	-5.3
HUIG	**Huatulco**	**2.25**	**101**	*i* P	Pn	13 35 59.9	-3.4
HUIG				*eS*	Sn	13 36 26.9	-4.4

IDC 02 13:38:49.8±8.3,17°68S×178°57W,h609km±102km,
mb3.0/5,mb1 3.3/5,mb1mx2.9/27,mbtmp4.0/5,Error
ellipse: s-maj=78.3km s-min=36.6km az=148.0,Fiji
Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.60**	**241**	P	P	13 45 22.1	-0.5
	2.0nm,0.5s,baz=94,slow=9.7,SNR=9.8						
WRA	**Warramunga Arr**	**44.52**	**259**	P	P	13 46 09.4	+0.1
	1.4nm,0.5s,baz=95,slow=7.3,SNR=14						
ASAR	**Alice Springs**	**44.70**	**254**	P	P	13 46 10.8	+0.2
	5.5nm,0.6s,baz=87,slow=8.8,SNR=108						
ASAR				PcP	PcP	13 47 39.0	-0.5
	0.4nm,0.5s,baz=105,slow=4.0,SNR=5.4						
ILAR	**Eielson Array**	**85.70**	**13**	P	P	13 50 24.5	-0.6
	0.1nm,0.4s,baz=203,slow=6.7,SNR=4.0						
TXAR	**Lajitas Array**	**86.00**	**58**	P	P	13 50 27.9	+0.5
	0.2nm,0.6s,baz=229,slow=5.5,SNR=3.0						

*HLW **02** 14:08:13.0,35°.34N×26°.47E,h34km±15km,Ml3.7*
*IDC **02** 14:08:13.1±0.8,35°.01N×26°.45E,h0km,mb4.1/14,*
mb1 4.1/22,mb1mx3.9/40,mbtmp4.0/22,ML3.7/8,MS3.1/3,
Ms1 3.1/3,ms1mx2.7/40,Error ellipse: s-maj=18.8km
s-min=10.0km az=4.0
*MOS **02** 14:08:15.2±1.3,34°.83N×26°.39E,h33km,mb4.6/6,Error*
ellipse: s-maj=11.7km s-min=5.9km az=82.2
*ISK **02** 14:08:15.1,35°.07N×26°.34E,h6km,ML3.9*
*BJI **02** 14:08:16.2,35°.66N×25°.79E,h40km,mb4.6/4,mB4.8/4*
*CSEM **02** 14:08:17.7±0.2,35°.00N×26°.37E,h20km,MD3.8,Error*
ellipse: s-maj=4.4km s-min=2.5km az=3.0
*NEIC **02** 14:08:17.4,35°.13N×26°.33E,h29km,mb4.3/3,*
ML4.0(ATH),After ATH.
*ATH **02** 14:08:17.4,35°.13N×26°.33E,h29km,MD3.8/33,ML4.0*
*THE **02** 14:08:18.3,35°.18N×26°.32E,h1km,ML3.9/7,Error ellipse:*
s-maj=1.0km s-min=0.3km az=165.0
*NIC **02** 14:08:19.4,35°.61N×26°.51E,h39km,mb4.7,ML4.3*
*NSSC **02** 14:08:22.4±1.5,34°.97N×26°.87E,h37km±454km,ML3.2*
*DDA **02** 14:08:23.9,35°.28N×27°.24E,h7km,MD3.6*

ISC 02 14:08:17.7±0.8,35°.01N±0°.04×26°.37E±0°.02,h24km±5km,
n311,σ1s25/336,mb4.2/21,22C-4D,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.16**	**310**	*e*PB	**Pb**	**14 08 22.1**	**-0.8**
ZKR				*e*SB	**Sb**	**14 08 26.9**	**+0.5**
ZKR	**Zakros**	**0.16**	**310**	*e*Pb	**Pb**	**14 08 22.1**	**-0.8**
ZKR				*e*Sb	**Sb**	**14 08 26.9**	**+0.5**
NPS	**Neapolis**	**0.67**	**292**	*e*PN	**Pb**	**14 08 30.2**	**-0.6**
NPS				*e*SN	**Sb**	**14 08 37.8**	**-1.9**
NPS	**Neapolis**	**0.67**	**292**	P	**Pb**	**14 08 30.1**	**-0.7**
NPS				*e*Sn	**Sb**	**14 08 37.8**	**-1.9**
NPS				S	**Sb**	**14 08 39.2**	**-0.5**
NPS	**Neapolis**	**0.67**	**292**	P	**Pb**	**14 08 30.1**	**-0.7**
NPS				S	**Sb**	**14 08 39.2**	**-0.5**
LAST	**Lasithi**	**0.75**	**282**	*e*PN	**Pb**	**14 08 31.2**	**-0.9**
LAST				*e*SN	**Sb**	**14 08 41.0**	**-0.1**
LAST	**Lasithi**	**0.75**	**282**	*e*Pn	**Pb**	**14 08 31.2**	**-0.9**
LAST				*e*Sn	**Sb**	**14 08 41.8**	**-0.1**
KARP	**Karpathos**	**0.84**	**50**	*e*PN	**Pb**	**14 08 33.2**	**-0.5**
KARP				*e*SN	**Sb**	**14 08 44.9**	**+0.3**
KARP	**Karpathos**	**0.84**	**50**	P	**Pb**	**14 08 33.2**	**-0.5**
KARP				*e*Sn	**Sb**	**14 08 44.9**	**+0.3**
KARP				S	**Sn**	**14 08 45.6**	**-0.1**
KARP	**Karpathos**	**0.84**	**50**	P	**Pb**	**14 08 33.2**	**-0.5**
KARP				S	**Sn**	**14 08 45.6**	**-0.1**
IDI	**Anoyia**	**1.24**	**283**	Pg	**Pn**	**14 08 38.8**	**-0.9**
	57nm,0.3s,baz=97,slow=17,SNR=308						
IDI				Lg	Lg	14 08 57.1	
	208nm,0.3s,baz=350,slow=14,SNR=9.0						
IDI				LR	LR	14 09 25.9	
	comp=Z,674nm,20.4s,baz=84,slow=55						
SIVA	**Sivas**	**1.28**	**271**	*e*PN	**Pn**	**14 08 40.7**	**+0.6**
SIVA				*e*SN	**Sb**	**14 08 57.4**	**+0.3**
SIVA	**Sivas**	**1.28**	**271**	*e*Pn	**Pn**	**14 08 40.7**	**+0.6**
SIVA	**Sivas**	**1.28**	**271**	P	**Pb**	**14 08 41.3**	**+0.2**
SIVA				*e*Sn	**Sb**	**14 08 57.4**	**+0.3**
SIVA				S	**Sb**	**14 08 59.3**	**+2.2**
SIVA	**Sivas**	**1.28**	**271**	P	**Pb**	**14 08 41.3**	**+0.2**
SIVA				S	**Sb**	**14 08 59.3**	**+2.2**
SANT	**Santorini**	**1.55**	**332**	*e*PN	**Pn**	**14 08 43.1**	**-0.7**
SANT	**Santorini**	**1.55**	**332**	*e*Pn	**Pn**	**14 08 43.1**	**-0.7**
SANT				S	**Sn**	**14 09 02.5**	**-0.7**
SANT	**Santorini**	**1.55**	**332**	*e*Pn	**Pn**	**14 08 42.1**	**-1.7**
SANT	**Santorini**	**1.55**	**332**	P	**Pn**	**14 08 43.0**	**-0.7**
SANT				S	**Sn**	**14 09 02.5**	**-0.7**
THR6	**Thira Island,**	**1.56**	**330**	P	**Pn**	**14 08 43.4**	**-0.5**
THR6	**Thira Island,**	**1.56**	**330**	P	**Pn**	**14 08 43.4**	**-0.5**
THR3	**Thira Island,**	**1.60**	**331**	P	**Pn**	**14 08 43.9**	**-0.6**
THR3	**Thira Island,**	**1.60**	**331**	P	**Pn**	**14 08 43.9**	**-0.6**
THR2	**Thira Island,**	**1.62**	**332**	P	**Pn**	**14 08 44.3**	**-0.5**
THR2	**Thira Island,**	**1.62**	**332**	P	**Pn**	**14 08 44.3**	**-0.5**
THR5	**Thira Island,**	**1.63**	**330**	*e*PN	**Pn**	**14 08 44.5**	**-0.4**
THR5				*e*SN	**Sn**	**14 09 06.0**	**+0.8**
THR5	**Thira Island,**	**1.63**	**330**	*e*Pn	**Pn**	**14 08 44.5**	**-0.4**
THR5				*e*Sn	**Sn**	**14 09 06.0**	**+0.8**
THR5	**Thira Island,**	**1.63**	**330**	P	**Pn**	**14 08 44.3**	**-0.6**
NISR	**Nisiros**	**1.71**	**21**	*e*PN	**Pn**	**14 08 45.7**	**-0.3**
NISR	**Nisiros**	**1.71**	**21**	*e*Pn	**Pn**	**14 08 45.7**	**-0.3**
NISR	**Nisiros**	**1.71**	**21**	P	**Pn**	**14 08 46.2**	**+0.2**
NISR				S	**Sn**	**14 09 07.4**	**+0.2**
NISR	**Nisiros**	**1.71**	**21**	P	**Pn**	**14 08 46.2**	**+0.2**
NISR				S	**Sn**	**14 09 07.4**	**+0.2**
NIS1	**Nisyros Isl.**	**1.72**	**22**	*e*PN	**Pn**	**14 08 46.1**	**-0.1**
NIS1	**Nisyros Isl.**	**1.72**	**22**	*e*PN	**Pn**	**14 08 46.1**	**-0.1**
NIS1	**Nisyros Isl.**	**1.72**	**22**	P	**Pn**	**14 08 46.1**	**-0.1**
NIS1				S	**Sn**	**14 09 07.6**	**+0.2**
NIS1	**Nisyros Isl.**	**1.72**	**22**	P	**Pn**	**14 08 46.1**	**-0.1**
NIS1				S	**Sn**	**14 09 07.6**	**+0.2**
VAM	**Vamos**	**1.82**	**283**	*e*PN	**Pn**	**14 08 48.2**	**+0.7**
VAM	**Vamos**	**1.82**	**283**	*e*Pn	**Pn**	**14 08 48.2**	**+0.7**
ARG	**Arkhangelos**	**1.87**	**49**	*e*PN	**Pn**	**14 08 49.6**	**+1.4**
ARG	**Arkhangelos**	**1.87**	**49**	P	**Pn**	**14 08 49.3**	**+1.1**
ARG	**Arkhangelos**	**1.87**	**49**	*e*Pn	**Pn**	**14 08 49.6**	**+1.4**
ARG				S	**Sn**	**14 09 12.6**	**+1.6**
ARG	**Arkhangelos**	**1.87**	**49**	P	**Pn**	**14 08 49.3**	**+1.1**
ARG				S	**Sn**	**14 09 12.6**	**+1.6**
GVD	**Gavdhos**	**1.88**	**266**	*e*PB	**Pb**	**14 08 50.4**	**-1.0**
GVD	**Gavdhos**	**1.88**	**266**	*e*Pb	**Pb**	**14 08 50.4**	**-1.0**
GVD	**Gavdhos**	**1.88**	**266**	*e*Pn	**Pb**	**14 08 52.2**	**+0.8**
GVD	**Gavdhos**	**1.88**	**266**	*e*Pn	**Pb**	**14 08 52.1**	**+0.8**
APE	**Apeiranthos**	**2.17**	**342**	*e*PN	**Pn**	**14 08 52.0**	**-0.3**
APE				*e*SN	**Sn**	**14 09 17.9**	**-0.5**
APE	**Apeiranthos**	**2.17**	**342**	⇑P	**Pn**	**14 08 53.3**	**+1.0**
APE	**Apeiranthos**	**2.17**	**342**	⇑*i*P	**Pn**	**14 08 53.3**	**+1.0**
APE	**Apeiranthos**	**2.17**	**342**	*e*PN	**Pn**	**14 08 51.8**	**-0.5**
APE	**Apeiranthos**	**2.17**	**342**	P	**Pn**	**14 08 51.6**	**-0.7**
APE	**Apeiranthos**	**2.17**	**342**	*e*Pn	**Pn**	**14 08 52.0**	**-0.3**
APE				S	**Sn**	**14 09 17.9**	**-0.5**
APE	**Apeiranthos**	**2.17**	**342**	P	**Pn**	**14 08 51.6**	**-0.7**
APE				S	**Sn**	**14 09 17.9**	**-0.5**
BODT	**Bodrum**	**2.19**	**20**	*e*PN	**Pn**	**14 08 52.2**	**-0.4**
BODT	**Bodrum**	**2.19**	**20**	*e*Pn	**Pn**	**14 08 52.2**	**-0.4**
BDRM	**Kayabasi**	**2.23**	**23**	*i* P	**Pn**	**14 08 53.2**	**0.0**
BDRM				*i* S	**Sn**	**14 09 21.4**	**+1.5**
BDRM	**Kayabasi**	**2.23**	**23**	*i* P	**Pn**	**14 08 53.2**	**0.0**
BDRM				*i* S	**Sn**	**14 09 21.4**	**+1.5**
MHLO	**Agia Marina, M**	**2.32**	**317**	*e*PN	**Pn**	**14 08 54.3**	**-0.1**
MHLO	**Agia Marina, M**	**2.32**	**317**	*e*Pn	**Pn**	**14 08 54.3**	**-0.1**
MHLO				S	**Sn**	**14 09 22.1**	**0.0**
MHLO	**Agia Marina, M**	**2.32**	**317**	P	**Pn**	**14 08 54.2**	**-0.1**
MHLO				S	**Sn**	**14 09 22.1**	**0.0**
DALY	**Dalyan (Mu¨la**	**2.59**	**45**	*e*PN	**Pn**	**14 08 58.8**	**+0.8**
DALY	**Dalyan (Mu¨la**	**2.59**	**45**	*e*Pn	**Pn**	**14 08 58.8**	**+0.8**
TURN	**Turunc**	**2.60**	**44**	*i* P	**Pn**	**14 08 56.0**	**-2.1**
TURN				*i* S	**Sn**	**14 09 25.0**	**-4.0**
TURN	**Turunc**	**2.60**	**44**	*i* P	**Pn**	**14 08 56.0**	**-2.1**
TURN				*i* S	**Sn**	**14 09 25.0**	**-4.0**
YER	**Yerkesik**	**2.63**	**36**	*e*PN	**Pn**	**14 08 59.5**	**+0.8**
YER	**Yerkesik**	**2.63**	**36**	*e*Pn	**Pn**	**14 08 59.5**	**+0.8**
ANKY	**Antikythira Is**	**2.65**	**290**	*e*PN	**Pn**	**14 08 59.1**	**+0.2**
ANKY	**Antikythira Is**	**2.65**	**290**	*e*Pn	**Pn**	**14 08 59.1**	**+0.2**
ANKY	**Antikythira Is**	**2.65**	**290**	P	**Pn**	**14 08 59.5**	**+0.6**
ANKY				S	**Sn**	**14 09 31.6**	**+1.4**
ANKY	**Antikythira Is**	**2.65**	**290**	P	**Pn**	**14 08 59.5**	**+0.6**
ANKY				S	**Sn**	**14 09 31.6**	**+1.4**
SMG	**Samos**	**2.72**	**8**	*e*PN	**Pn**	**14 09 00.1**	**+0.2**
SMG	**Samos**	**2.72**	**8**	*e*Pn	**Pn**	**14 09 00.1**	**+0.2**
KSL	**Kastellorizon**	**2.86**	**66**	*e*PN	**Pn**	**14 09 02.2**	**+0.5**
AKAS	**Kas**	**2.91**	**64**	*i* P	**Pn**	**14 09 02.9**	**+0.3**
AKAS				*i* S	**Sn**	**14 09 38.4**	**+1.6**
AKAS	**Kas**	**2.91**	**64**	*i* P	**Pn**	**14 09 02.9**	**+0.3**
AKAS				*i* S	**Sn**	**14 09 38.4**	**+1.6**
KYTH	**Kithira**	**3.00**	**296**	*e*PN	**Pn**	**14 09 03.8**	**+0.1**
KYTH	**Kithira**	**3.00**	**296**	P	**Pn**	**14 09 04.0**	**+0.3**
KYTH	**Kithira**	**3.00**	**296**	P	**Pn**	**14 09 04.0**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**3.18**	**22**	*e*PN	**Pn**	**14 09 06.5**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**3.18**	**22**	*e*Pn	**Pn**	**14 09 06.5**	**+0.2**
VLI	**Veliai**	**3.27**	**302**	*e*PN	**Pn**	**14 09 07.5**	**+0.1**
VLI	**Veliai**	**3.27**	**302**	*e*Pn	**Pn**	**14 09 07.5**	**+0.1**
VLI	**Veliai**	**3.27**	**302**	P	**Pn**	**14 09 07.4**	**+0.1**
ELL	**Elmali**	**3.36**	**58**	*e*PN	**Pn**	**14 09 09.5**	**+0.7**
ELL	**Elmali**	**3.36**	**58**	*e*Pn	**Pn**	**14 09 09.5**	**+0.7**
CHOS	**Chios island**	**3.38**	**356**	*e*PN	**Pn**	**14 09 08.7**	**-0.3**
CHOS	**Chios island**	**3.38**	**356**	*e*PN	**Pn**	**14 09 08.3**	**-0.7**
CHOS	**Chios island**	**3.38**	**356**	*e*Pn	**Pn**	**14 09 08.7**	**-0.3**
CHOS				S	**Sn**	**14 09 47.9**	**-0.5**
CHOS	**Chios island**	**3.38**	**356**	P	**Pn**	**14 09 08.6**	**-0.4**
CHOS				S	**Sn**	**14 09 47.9**	**-0.5**
KARY	**Karystos**	**3.40**	**333**	P	**Pn**	**14 09 08.9**	**-0.3**
KARY				S	**Sn**	**14 09 48.1**	**-0.6**
GOLH	**Golhisar**	**3.41**	**48**	*i* P	**Pn**	**14 09 10.9**	**+1.4**
GOLH				*i* S	**Sb**	**14 10 01.4**	**+2.9**
GOLH	**Golhisar**	**3.41**	**48**	*i* P	**Pn**	**14 09 10.9**	**+1.4**
BLCB	**Balcova**	**3.41**	**9**	*e*PN	**Pn**	**14 09 09.4**	**0.0**
BLCB	**Balcova**	**3.41**	**9**	*e*Pn	**Pn**	**14 09 09.4**	**0.0**
IZM	**Izmir**	**3.46**	**12**	*e*PN	**Pn**	**14 09 10.2**	**+0.1**
IZM	**Izmir**	**3.46**	**12**	*e*Pn	**Pn**	**14 09 10.2**	**+0.1**
KRND	**KRANIDI**	**3.52**	**313**	*e*PN	**Pn**	**14 09 11.4**	**+0.5**
KRND	**KRANIDI**	**3.52**	**313**	*e*Pn	**Pn**	**14 09 11.4**	**+0.5**
DIDY	**Didyma**	**3.55**	**315**	*e*PN	**Pn**	**14 09 12.0**	**+0.7**
DIDY	**Didyma**	**3.55**	**315**	P	**Pn**	**14 09 11.2**	**-0.1**
DIDY	**Didyma**	**3.55**	**315**	*e*Pn	**Pn**	**14 09 12.0**	**+0.7**
DIDY	**Didyma**	**3.55**	**315**	P	**Pn**	**14 09 11.2**	**-0.1**
DID	**Didima**	**3.55**	**315**	*e*PN	**Pn**	**14 09 12.1**	**+0.7**
DID	**Didima**	**3.55**	**315**	P	**Pn**	**14 09 11.4**	**0.0**
DID	**Didima**	**3.55**	**315**	*e*Pn	**Pn**	**14 09 12.1**	**+0.7**
DID	**Didima**	**3.55**	**315**	P	**Pn**	**14 09 11.4**	**0.0**
SLUM		**3.64**	**196**	P	**Pn**	**14 09 12.4**	**-0.1**
	baz=196						
SLUM				AMP		14 09 00.0	
	comp=E,70μm,0.5s,logA/T=5.2,baz=196						
SLUM		**3.64**	**196**	P	**Pn**	**14 09 12.4**	**-0.1**
PTL	**Penteli**	**3.64**	**327**	*e*PN	**Pn**	**14 09 12.2**	**-0.4**
PTL	**Penteli**	**3.64**	**327**	*e*Pn	**Pn**	**14 09 12.2**	**-0.4**
ATH	**Athens Observa**	**3.65**	**325**	*e*PN	**Pn**	**14 09 11.4**	**-1.2**
ATH	**Athens Observa**	**3.65**	**325**	*e*Pn	**Pn**	**14 09 11.4**	**-1.2**
EREA	**Eretria**	**3.93**	**331**	*e*PN	**Pn**	**14 09 17.2**	**+0.7**
EREA	**Eretria**	**3.93**	**331**	*e*Pn	**Pn**	**14 09 17.2**	**+0.7**
HMAT	**Matruh**	**3.95**	**171**	P	**Pn**	**14 09 16.4**	**-0.4**
	baz=172						
HMAT				S	**Sn**	**14 10 02.8**	**+0.4**
	baz=172						
HMAT	**Matruh**	**3.95**	**171**	P	**Pn**	**14 09 16.4**	**-0.4**
HMAT				S	**Sn**	**14 10 02.8**	**+0.4**
KULA	**Kula-Manisa**	**3.95**	**27**	*e*PN	**Pn**	**14 09 17.5**	**+0.6**
**KULA

MDUB	**Mudurnu**	**6.66**	**34**	*e*PN		**Pn**		**14 09 55.9**	**+1.8**
GRG	**Griva**	**6.71**	**333**	*e*PN		**Pn**		**14 09 55.4**	**+0.6**
GRG	**Griva**	**6.71**	**333**	*e*PN		**Pn**		**14 09 56.4**	**+1.6**
GRG	**Griva**	**6.71**	**333**	*e*Pn		**Pn**		**14 09 56.4**	**+1.6**
MERS	**Mersin**	**6.87**	**72**	*e*PN		**Pn**		**14 09 59.0**	**+2.1**
MMB	**Musomiste**	**6.89**	**343**	⇑P		**Pn**		**14 09 59.3**	**+2.1**
MMB	**Musomiste**	**6.89**	**343**	⇑*i*P		**Pn**		**14 09 59.3**	**+2.1**
FNA	**Florina**	**6.99**	**327**	*e*PN		**Pn**		**14 10 00.7**	**+2.2**
FNA	**Florina**	**6.99**	**327**	*e*Pn		**Pn**		**14 10 00.7**	**+2.2**
KARA	**Karaisali**	**7.38**	**70**	*e*PN		**Pn**		**14 10 06.0**	**+2.1**
RSH		**7.38**	**121**	P		Pn		14 10 01.4	-2.5
	baz=123								
BRTR	**Keskin Array B**	**7.46**	**49**	Pn		**Pn**		**14 10 05.2**	**+0.1**
	comp=E,0.5nm,0.3s,baz=223,slow=15,SNR=15								
MMAI	**Mount Meron Ar**	**7.76**	**102**	Pn		Pn		14 10 05.1	-4.1
	comp=E,5.3nm,0.3s,baz=302,slow=13,SNR=12								
MMAI				Sn		**Sn**		**14 11 33.9**	**-2.4**
	comp=E,9.5nm,0.3s,baz=316,slow=24,SNR=7.3								
ARNB	**Al Arnab**	**7.88**	**81**	*e*P		**Pn**		**14 10 11.1**	**+0.2**
ARNB				*e*S		Sn		14 11 28.2	-11
ARNB				AML		AML		14 11 45.0	
	comp=N,12nm,0.5s								
ARNB				AML		AML		14 11 49.2	
	comp=E,31nm,0.5s								
VTS	**Vitosha**	**7.96**	**343**	⇓P		**Pn**		**14 10 14.6**	**+2.6**
VTS	**Vitosha**	**7.96**	**343**	⇓*i*P		**Pn**		**14 10 14.6**	**+2.6**
KOZT	**Kozan**	**8.03**	**69**	*e*PN		**Pn**		**14 10 14.8**	**+1.9**
SLNF	**Slenfeh**	**8.08**	**83**	*e*P		**Pn**		**14 10 13.5**	**-0.1**
BRBR	**Barbar**	**8.10**	**99**	*e*P		**Pn**		**14 10 12.9**	**-1.0**
BRBR				*e*S		Sn		14 11 33.6	-11
BRBR				AML		AML		14 11 43.0	
	comp=E,21nm,0.4s								
BRBR				AML		AML		14 11 44.6	
	comp=N,36nm,0.5s								
HNKL	**Nakhl**	**8.18**	**126**	P		Pn		14 10 13.1	-1.9
	baz=128								
HNKL				AMP				14 11 00.0	
	comp=E,40µm,0.5s,logA/T=4.9,baz=128								
HNKL				S		Sn		14 11 40.4	-6.3
	baz=128								
HAWK	**Haweek**	**8.27**	**91**	*e*P		**Pn**		**14 10 14.7**	**-1.6**
HAWK				*e*S		Sn		14 11 38.2	-11
HAWK				AML		AML		14 11 55.4	
	comp=N,32nm,0.6s								
HAWK				AML		AML		14 11 55.6	
	comp=E,32nm,0.5s								
BTCH	**Batrach**	**8.29**	**80**	*e*P		**Pn**		**14 10 15.7**	**-0.7**
BTCH				*e*S		Sn		14 11 37.8	-12
BTCH				AML		AML		14 11 55.6	
	comp=N,38nm,0.7s								
BTCH				AML		AML		14 11 59.7	
	comp=E,41nm,0.4s								
TCHB	**Talchebab**	**8.32**	**104**	*e*P		**Pn**		**14 10 16.4**	**-0.4**
TCHB				*e*S		Sn		14 11 38.1	-12
TCHB				AML		AML		14 11 50.9	
	comp=N,70nm,0.4s								
TCHB				AML		AML		14 11 57.0	
	comp=E,30nm,0.5s								
TOTH	**TOTAH**	**8.49**	**98**	*e*P		**Pn**		**14 10 18.4**	**-0.9**
TOTH				*e*S		Sn		14 11 42.3	-12
TOTH				AML		AML		14 11 54.7	
	comp=N,23nm,0.7s								
TOTH				AML		AML		14 12 01.9	
	comp=E,23nm,0.6s								
TIP	**Timpagrande**	**8.73**	**301**	*e*Pn		Pn		14 10 21.0	-1.5
	comp=E,6.3nm,0.8s								
SALA	**Sala**	**8.92**	**102**	*e*P		**Pn**		**14 10 25.3**	**+0.1**
SALA				*e*S		Sn		14 11 53.9	-11
SALA				AML		AML		14 12 16.0	
	comp=N,17nm,1.0s								
EIL	**Elat**	**9.00**	**124**	Pn		**Pn**		**14 10 24.6**	**-1.5**
	comp=N,2.3nm,0.3s,baz=269,slow=2.4,SNR=40								
EIL				Sn		**Sn**		**14 12 03.7**	**-3.0**
	comp=N,7.5nm,0.3s,baz=5.7,slow=23,SNR=11								
MSAB	**Monastry St. A**	**9.14**	**7**	⇑*i*P		**Pn**		**14 10 29.7**	**+1.7**
ASF	**Jabal al Asfar**	**9.23**	**105**	Pn		**Pn**		**14 10 27.7**	**-1.6**
	comp=N,0.7nm,0.3s,baz=245,slow=8.1,SNR=4.9								
ZALF	**Zalf**	**9.34**	**100**	*e*P		**Pn**		**14 10 31.0**	**+0.1**
ZALF				*e*S		Sn		14 12 02.7	-13
ZALF				AML		AML		14 12 39.8	
	comp=E,9.0nm,0.5s								
ZALF				AML		AML		14 12 44.8	
	comp=N,7.9nm,0.7s								
TIRR	**Tirgusor**	**9.57**	**9**	⇑P		**Pn**		**14 10 34.9**	**+1.1**
TIRR	**Tirgusor**	**9.57**	**9**	⇑*i*P		**Pn**		**14 10 34.9**	**+1.1**
TIRR	**Tirgusor**	**9.57**	**9**	*e*Pn		Pn		14 10 30.4	-3.5
	comp=N,3.6nm,0.8s								
CUC	**Castrocucco**	**9.75**	**304**	*e*Pn		**Pn**		**14 10 35.5**	**-0.9**
	comp=N,12nm,0.7s								
DIVS	**Divibare**	**10.32**	**333**	⇑*i*P		**Pn**		**14 10 44.5**	**+0.2**
VOIR		**10.46**	**355**	⇑P		**Pn**		**14 10 49.2**	**+3.0**
VOIR		**10.46**	**355**	⇑*i*P		**Pn**		**14 10 49.2**	**+3.0**
MLR	**Muntele Rosu**	**10.48**	**358**	Pn		**Pn**		**14 10 46.9**	**+0.5**
	comp=N,0.0nm,0.3s,baz=216,slow=8.7,SNR=2.1								
MLR				LR		LR		14 15 30.6	
	comp=N,34nm,19.5s,baz=194,slow=42								
MLR	**Muntele Rosu**	**10.48**	**358**	⇓P		**Pn**		**14 10 49.5**	**+3.1**
MLR	**Muntele Rosu**	**10.48**	**358**	⇓*i*P		**Pn**		**14 10 49.5**	**+3.1**
GZR	**Gura Zlata**	**10.73**	**346**	⇑P		**Pn**		**14 10 51.5**	**+1.7**
GZR	**Gura Zlata**	**10.73**	**346**	⇑*i*P		**Pn**		**14 10 51.5**	**+1.7**
BURAR	**Bucovina Array**	**12.62**	**356**	⇑P		P		14 11 31.9	+4.9
BURAR	**Bucovina Array**	**12.62**	**356**	⇑*i*P		P		14 11 31.9	+4.9
KEST	**Kesra**	**13.91**	**278**	Pn		Pn		14 11 37.1	+3.7
	comp=N,0.0nm,0.3s,baz=78,slow=20,SNR=2.5								
KOLS	**Kolonicke sedl**	**14.24**	**349**	*e*P		P		14 11 50.2	+5.4
KOLS	**Kolonicke sedl**	**14.24**	**349**	*e*		P		14 11 50.2	+5.4
STHS	**Stebnicka Huta**	**14.88**	**347**	*e*P		P		14 11 57.7	+5.7
STHS	**Stebnicka Huta**	**14.88**	**347**	*e*		P		14 11 57.7	+5.7
KIV	**Kislovodsk**	**15.42**	**50**	*i* P		**Pn**		**14 11 54.4**	**+0.7**
KIV				pmax		pmax			
	comp=Z,4.0nm,1.3s								
KBZ	**Khabaz**	**15.45**	**51**	Pn		**Pn**		**14 11 56.0**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=246,slow=7.2,SNR=10								
KIEV	**Kiev**	**15.81**	**7**	*e*P		**Pn**		**14 11 59.0**	**+0.4**
AKASG	**Malin Array Be**	**15.82**	**7**	Pn		**Pn**		**14 11 57.1**	**-1.6**
	comp=Z,1.0nm,0.3s,baz=194,slow=10,SNR=7.4								
GOF	**Gofitskoye**	**16.21**	**47**	*e*P		P		14 12 17.9	+11
GERES	**GERESS Array B**	**16.70**	**330**	Pn		**Pn**		**14 12 10.4**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=137,slow=11,SNR=3.9								
GERES				LR		LR		14 19 26.9	
	comp=Z,77nm,18.2s,baz=182,slow=40								
BRG	**Berggiesshubel**	**18.24**	**334**	*e*(P)		**P**		**14 12 31.9**	**+2.8**
	comp=Z,2.4nm,0.6s								
BRG	**Berggiesshubel**	**18.24**	**334**	*e*P		**P**		**14 12 31.9**	**+2.8**
BRG				pmax		pmax			
	comp=Z,2.0nm,0.6s								
VSR	**Storozhevoye**	**18.65**	**26**	*e*P		**P**		**14 12 34.0**	**+0.4**
VSR				pmax		pmax			
	comp=N,3.0nm,0.4s								
VSR				pmax		pmax			
	comp=E,2.0nm,0.4s								
VSR				pmax		pmax			
	comp=Z,4.0nm,0.4s								
CLL	**Collm**	**18.93**	**333**	*i* P		Pn		14 12 47.0	+10
CLL	**Collm**	**18.93**	**333**	*i* PP		Pn		14 12 47.0	+10
	comp=Z,3.0nm,0.8s								
LPSR	**Galich'ya Gora**	**19.73**	**23**	*e*P		**Pn**		**14 12 51.3**	**+4.3**
LPSR				pmax		pmax			
	comp=N,6.0nm,0.6s								
LPSR				pmax		pmax			
	comp=E,5.0nm,0.6s								
LPSR				pmax		pmax			
	comp=Z,8.0nm,0.6s								
OBN	**Obninsk**	**21.31**	**16**	*e*P		**P**		**14 13 00.5**	**-2.0**
OBN				pmax		pmax			
	comp=Z,5.0nm,1.0s								
MOS	**Moscow**	**22.13**	**17**	*e*P		P		14 13 00.9	-10
MOS				pmax		pmax			
	comp=Z,35nm,0.7s								
VSU	**Vasula**	**23.46**	**0**	*e*P		**P**		**14 13 22.3**	**-2.8**
VSU				pmax		pmax			
	comp=Z,25nm,1.4s								
ESDC	**Sonseca Array**	**24.50**	**290**	P		**P**		**14 13 35.3**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=78,slow=9.5,SNR=4.2								
GEYT	**Alibeck**	**25.63**	**74**	P		**P**		**14 13 44.9**	**-0.5**
	comp=Z,9.8nm,0.6s,baz=306,slow=5.0,SNR=21								
FINES	**FINESS Array B**	**26.45**	**360**	P		**P**		**14 13 50.1**	**-2.4**
	comp=Z,0.4nm,0.4s,baz=158,slow=16,SNR=4.4								
AKTO	**Aktyubinsk**	**27.63**	**46**	P		**P**		**14 14 02.1**	**-1.1**
	comp=Z,3.1nm,0.7s,baz=259,slow=9.1,SNR=11								
ABKAR	**Akbulak array**	**28.41**	**50**	*e*P		P		14 14 08.3	-1.9
	comp=Z,3.5nm,0.7s								
EKA	**Eskdalemuir Ar**	**28.74**	**324**	P		**P**		**14 14 13.8**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=124,slow=9.6,SNR=2.7								
TORD	**Torodi Ar. Bea**	**31.16**	**232**	P		P		14 14 33.6	-1.3
	comp=Z,1.7nm,0.5s,baz=38,slow=9.1,SNR=14								
TORD				LR		LR		14 27 58.7	
	comp=Z,74nm,18.8s,baz=60,slow=38								
ARCES	**ARCESS Array B**	**34.58**	**359**	P		P		14 15 01.2	-3.0
	comp=Z,0.7nm,0.4s,baz=182,slow=8.6,SNR=11								
KKAR	**Karatay Array**	**34.89**	**63**	*e*P		P		14 15 05.4	-1.8
KKAR				pmax		pmax			
	comp=Z,2.0nm,0.6s								
KKAR	**Karatay Array**	**34.89**	**63**	*e*P		P		14 15 05.4	-1.8
	comp=Z,2.4nm,0.6s								
KURK	**Kurchatov**	**40.51**	**51**	*e*P		P		14 15 52.6	-1.9
KURK				pmax		pmax			
	comp=Z,7.0nm,0.8s								
KURK	**Kurchatov**	**40.51**	**51**	*e*P		P		14 15 52.6	-1.9
	comp=Z,7.2nm,0.8s								
NVS	**Novosibirsk**	**43.50**	**45**	*e*P		**P**		**14 16 18.2**	**-0.7**
NVS				pmax		pmax			
	comp=N,2.0nm,0.8s								
NVS				pmax		pmax			
	comp=E,3.0nm,0.8s								
NVS				pmax		pmax			
	comp=Z,6.0nm,0.8s								
ZALV	**Zalesovo Beam**	**44.39**	**46**	P		**P**		**14 16 24.7**	**-1.4**
	comp=Z,5.1nm,0.4s,baz=264,slow=9.4,SNR=24								
SONM	**Songino Array**	**58.81**	**51**	P		**P**		**14 18 13.9**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=290,slow=7.6,SNR=15								
SCHQ	**Schefferville**	**63.94**	**320**	P		P		14 18 46.8	-1.8
	comp=Z,1.5nm,0.5s,baz=66,slow=5.7,SNR=4.7								
HHC	**Hu-ho-hao-te**	**64.89**	**57**	*e*P		**P**		**14 18 55.8**	**+0.7**
HHC				PP		**PP**		**14 21 20.4**	**+2.7**
HHC				S		S		14 27 31.1	-4.1
HHC				sS		sS		14 27 52.9	+5.0
HHC				ScS		SKSac		14 28 42.7	-5.8
HHC				SS		**SS**		**14 31 44.3**	**-2.1**
HHC				PMZ					
	comp=Z,13nm,1.1s								
HHC				PMZ					
	comp=Z,91nm,5.3s								
CMAR	**Chiang Mai Arr**	**65.60**	**84**	P		**P**		**14 18 59.1**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=304,slow=8.4,SNR=7.2								
USRK	**Ussuriysk Ar.**	**76.24**	**45**	P		P		14 20 02.8	-1.3
	comp=Z,2.8nm,0.7s,baz=272,slow=5.1,SNR=6.6								
KSAR	**Wonju Array Be**	**77.57**	**53**	P		**P**		**14 20 10.7**	**-1.0**
KSAR	**Wonju Array Be**	**77.57**	**53**	P		**P**		**14 20 10.7**	**-1.0**
KSRS	**Korea Array**	**77.58**	**53**	P		**P**		**14 20 10.7**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=301,slow=4.5,SNR=5.3								
KSRS	**Korea Array**	**77.58**	**53**	P		**P**		**14 20 10.7**	**-1.1**
KSRS				pmax		pmax			
	comp=Z,1.0nm,0.6s								
ILAR	**Eielson Array**	**80.41**	**357**	P		P		14 20 24.4	-2.3
	comp=Z,0.2nm,0.7s,baz=359,slow=4.5,SNR=3.7								

MEX 02 14:08:42.8±0.5, 17°.07N×100°.48W, h5km±4km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.20**	**96**	*i* P		Pg	14 08 46.5	-0.4
CAIG				*i* S		Sg	14 08 49.8	+0.2
ACX	**Acapulco**	**0.63**	**108**	*e*P		Pg	14 08 50.3	-4.6
ACX				*i* S		Sg	14 08 59.0	-4.2
ZIIG	**Zihuatanejo**	**1.08**	**300**	*e*P		Pg	14 09 00.8	-2.7
ZIIG				*e*S		Sg	14 09 14.8	-2.8
MEIG	**Mezcala**	**1.19**	**44**	*i* P		Pg	14 09 01.9	-3.7
MEIG				*e*S		Sg	14 09 17.0	-4.1
ARIG	**Puente Sto Nin**	**1.21**	**6**	*e*P		Pg	14 09 02.6	-3.6
ARIG				*e*S		Sg	14 09 18.2	-3.7
PLIG	**Platanillo**	**1.61**	**35**	*e*P		Pn	14 09 09.0	-3.1
PLIG				*e*S		Sn	14 09 28.6	-4.8
TLIG	**Tlapa**	**1.89**	**75**	*e*P		Pn	14 09 11.8	-4.2
TLIG				*e*S		Sn	14 09 35.0	-5.4

IDC 02 14:31:24.8±19.0, 17°.54S×178°.19W, h569km±186km, mb3.1/4, mb1 3.3/4, mb1mx2.8/36, mbtmp4.1/4, Error ellipse: s-maj=158.7km s-min=79.1km az=108.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.71**	**260**	P		P	14 37 19.8	-0.1
	2.7nm,0.9s,baz=86,slow=13,SNR=3.2							
STKA	**Stephens Creek**	**38.99**	**241**	P		P	14 38 03.1	+0.1
	0.8nm,0.3s,baz=96,slow=7.3,SNR=9.1							
WRA	**Warramunga Arr**	**44.90**	**259**	P		P	14 38 49.2	-0.5
	0.8nm,0.3s,baz=88,slow=8.6,SNR=76							
ASAR	**Alice Springs**	**45.09**	**254**	P		P	14 38 51.1	0.0
	3.6nm,0.6s,baz=88,slow=8.6,SNR=76							
ASAR				PcP		PcP	14 40 19.3	-0.3
	0.4nm,0.5s,baz=103,slow=4.0,SNR=5.8							
GERES	**GERESS Array B**	**147.31**	**345**	PKPbc		PKPbc	14 50 04.3	-0.7
	0.5nm,0.5s,baz=37,slow=2.5,SNR=3.8							

*ISCJB **02** 14:36:57.4±0.8, 7°.05S±0°.06×130°.2E±0°.1, h104km, mb3.7/1, Error ellipse: s-maj=17.8km s-min=8.5km az=2.2*
*IDC **02** 14:36:58.0±4.7, 6°.87S×130°.04E, h124km±66km, mb3.7/1, mb1 3.4/4, mb1mx3.1/35, mbtmp3.7/4, Error ellipse: s-maj=144.8km s-min=31.8km az=93.0*

ISC 02 14:36:58.2±1.0, 6°.95S±0°.08×130°.1E±0°.1, h104km, n8, σ1§72/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.55**	**28**	P		**Pn**	**14 38 06.7**	**+1.8**
	baz=4.6,SNR=11							
SIJI	**Sorong**	**6.16**	**11**	P		**Pn**	**14 38 27.6**	**+0.8**
	0.8nm,0.3s,baz=173,slow=18,SNR=12							
SIJI				S		**Sn**	**14 39 33.4**	**-2.5**
	4.0nm,0.3s,baz=250,slow=23,SNR=13							
KDU	**Kakadu**	**6.16**	**158**	P		**Pn**	**14 38 28.4**	**+1.7**
	baz=6.1,SNR=19							
SOEI	**Soe**	**6.40**	**244**	P		**Pn**	**14 38 31.4**	**+1.2**
	baz=6.4,SNR=5.8							
KNRA	**Kununurra**	**8.77**	**188**	P		**Pn**	**14 39 01.7**	**-0.4**
	baz=8.8,SNR=3.4							
WRA	**Warramunga Arr**	**13.55**	**163**	P		**Pn**	**14 40 05.2**	**-1.1**
	0.1nm,0.3s,baz=344,slow=13,SNR=2.7							
WRA				S		Sn	14 42 28.1	-7.5
	0.9nm,0.3s,baz=342,slow=21,SNR=5.4							
ASAR	**Alice Springs**	**17.02**	**168**	P		**Pn**	**14 40 48.7**	**-1.2**
	0.2nm,0.3s,baz=344,slow=9.4,SNR=20							
ASAR				S		Sn	14 43 51.8	-7.4
	0.2nm,0.3s,baz=350,slow=28,SNR=6.3							
STKA	**Stephens Creek**	**27.02**	**158**	P		**P**	**14 42 29.8**	**-0.8**
	0.9nm,0.3s,baz=328,slow=9.6,SNR=6.6							

*IDC **02** 15:02:23.0±1.1, 0°.10S×129°.69E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/31, mbtmp3.9/5, Error ellipse: s-maj=38.3km s-min=17.2km az=57.0*
*ISCJB **02** 15:02:25.7±1.0, 0°.1S±0°.1×129°.5E±0°.1, h33km, mb3.9/4, Error ellipse: s-maj=22.3km s-min=11.5km az=32.9*

ISC 02 15:02:27.9±1.1, 0°.1S±0°.2×129°.6E±0°.2, h35km, n6, σ1§77/7, mb4.0/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**1.79**	**115**	Pn		**Pn**	**15 02 54.4**	**-1.8**
	12nm,0.3s,baz=247,slow=23,SNR=54							
SIJI				Sn		**Sn**	**15 03 19.9**	**+2.1**
	12nm,0.3s,baz=161,slow=21,SNR=6.6							
SIJI				LR		LR	15 03 56.9	
	comp=Z,738nm,18.5s,baz=190,slow=54							
WRA	**Warramunga Arr**	**20.23**	**167**	P		**P**	**15 06 60.0**	**-0.2**
	2.2nm,0.9s,baz=347,slow=11,SNR=6.3							
ASAR	**Alice Springs**	**23.77**	**170**	P		**P**	**15 07 37.6**	**+0.2**
	5.5nm,0.9s,baz=356,slow=10,SNR=24							
STKA	**Stephens Creek**	**33.55**	**161**	P		**P**	**15 09 04.6**	**+0.1**
	1.4nm,0.7s,baz=338,slow=10.0,SNR=4.1							
SONM	**Songino Array**	**51.87**	**340**	P		**P**	**15 11 31.7**	**-1.2**
	0.3nm,0.4s,baz=169,slow=10,SNR=3.6							
ZALV	**Zalesovo Beam**	**65.32**	**333**	P		**P**	**15 13 08.1**	**+1.8**
	0.5nm,0.3s,baz=145,slow=5.3,SNR=3.8							

*IDC **02** 15:05:55.7±3.4, 2°.80S×126°.39E, h0km, mb4.1/3, mb1 4.4/4, mb1mx3.8/32, mbtmp4.2/4, ML4.5/1, Error ellipse: s-maj=155.7km s-min=23.1km az=84.0*

ISC 02 15:05:57.8±1.4, 2°.7S±0°.1×126°.5E±0°.1, h10km, n12, σ0§82/10, mb4.1/3, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**5.74**	**92**	P		**Sn**	**15 08 29.4**	**+0.3**
	baz=5.6,SNR=16							
SOEI	**Soe**	**7.33**	**198**	P		Pg	15 08 23.9	+5.5
	baz=5.1,SNR=19							
KNRA	**Kununurra**	**13.06**	**170**	P		**P**	**15 09 13.5**	**-0.5**
	baz=10,SNR=12							
WRA	**Warramunga Arr**	**18.75**	**156**	P		**P**	**15 10 16.4**	**-0.7**
	1.6nm,0.3s,baz=334,slow=12,SNR=21							
COEN	**Coen**	**19.89**	**125**	P		Pn	15 10 37.7	+6.5
	baz=18,SNR=6.2							
QIS	**Mount Isa**	**21.85**	**145**	P		**P**	**15 10 51.1**	**+0.3**
	baz=19,SNR=14							
ASAR	**Alice Springs**	**22.02**	**162**	P		**P**	**15 10 51.7**	**-0.9**
	4.8nm,0.6s,baz=345,slow=12,SNR=74							
WRKA	**Warakurna**	**22.25**	**176**	P		**P**	**15 10 56.4**	**+1.3**
	baz=19,SNR=10.0							
STKA	**Stephens Creek**	**32.30**	**156**	P		**P**	**15 12 25.9**	**-1.1**
	1.0nm,0.5s,baz=317,slow=9.5,SNR=7.7							
HTT	**Hallett**	**32.69**	**161**	P		**P**	**15 12 30.8**	**+0.3**
	baz=30,SNR=3.6							
MJAR	**Matsushiro Arr**	**40.56**	**15**	P		**P**	**15 13 37.6**	**+0.2**
	2.7nm,0.6s,baz=207,slow=9.4,SNR=10							
MAT	**Matsushiro**	**40.56**	**15**	P		**P**	**15 13 37.3**	**-0.2**

*IDC **02** 15:11:28.4±0.6, 17°.19S×173°.37W, h0km, mb4.2/16, mb1 4.4/16, mb1mx4.3/30, mbtmp4.2/16, MS4.1/27, Ms1 4.1/27, ms1mx4.0/36, Error ellipse: s-maj=26.7km s-min=15.0km az=137.0*
*NEIC **02** 15:11:30.3±0.3, 16°.99S×173°.48W, h10km, mb4.9/14, Error ellipse: s-maj=15.2km s-min=7.7km az=127.0*
*GCMT **02** 15:11:30.3±0.4, 17°.26S×172°.79W, h30km±1km, MW5.0/66, Moment Tensor Solution. s32,c42; s66,c89; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.74±.21; Mθθ-0.65±.15; Mϕϕ-2.09±.16; Mrθ2.41±.23; Mrϕ-2.33±.09; Mθϕ1.04±.18; Best double couple: M₀4.27100×10¹⁶ NP1:ϕ₁58.00000°, δ66.00000°, λ113.00000°. NP2: ϕ₂191.00000°, δ33.00000°, λ48.00000°. Principal axes: T 3.9960, Plg62.0000°, Azm4.0000°; N 0.5500, Plg21.0000°, Azm228.0000°; P -4.5460, Plg18.0000°, Azm131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **02** 15:11:32.6±0.3, 16°.97S±0°.07×173°.66W±0°.05, h35km, mb4.5/32, MS4.2/27 Error ellipse: s-maj=11.0km s-min=5.9km az=150.0*
*SZGRF **02** 15:11:38.2, 16°.52S×172°.67W, h33km, mb4.6, Samoa Islands region*

ISC 02 15:11:35.1±0.5, 16°.77S±0°.09×173°.69W±0°.07, h35km, n181, σ1§52/156, mb4.5/32, MS4.2/30, 18C-5D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.39**	**33**	*e*Pn		Pn	15 12 21.8	-3.9
AFI				*e*Sn		**Sn**	**15 13 01.9**	**-2.9**
MSVF	**Nonsavu**	**7.95**	**262**	Pn		**Pn**	**15 13 27.5**	**-0.8**
MSVF				*e*Sn		**Sn**	**15 15 00.1**	**+3.1**
RAR	**Rarotonga**	**13.88**	**111**	Pn		Pn	15 14 33.4	-16
	3.4nm,0.3s,baz=232,slow=6.9,SNR=9.4							
RAR				LR		LR	15 18 29.9	
	comp=Z,1µm,21.4s,baz=256,slow=31							
DZM	**Mont Dzumac**	**19.45**	**251**	*e*LR		LR	15 20 04.2	
	2µm,33.1s							
OUZ	**Omahuta**	**21.60**	**209**	*e*P		**P**	**15 16 20.4**	**-1.6**
	29nm,2.1s							
URZ	**Urewera**	**22.88**	**199**	P		P	15 16 30.6	-5.1
	14nm,0.5s,baz=330,slow=3.5,SNR=30							
URZ	**Urewera**	**22.88**	**199**	P		P	15 16 30.0	-5.6
	23nm,0.7s							
PAE	**Paea**	**23.05**	**96**	*e*T		T	15 39 10.9	
	3.9nm,0.3s							
PPT2	**Papeete2**	**23.05**	**96**	*e*S		S	15 20 26.5	-20
	274nm,24.5s							
PPT2				*e*LR		LR	15 21 50.8	
	1µm,25.2s							
PPT2	**Papeete2**	**23.05**	**96**	*e*T		T	15 39 12.0	
	4.4nm,0.3s							
PPT	**Papeete**	**23.05**	**96**	LR		LR	15 22 53.8	
	comp=Z,401nm,19.8s,baz=202,slow=30							
TIAR	**Tiarei**	**23.27**	**96**	*e*T		T	15 39 27.7	
	4.6nm,0.4s							
TVO	**Taravao**	**23.36**	**96**	*e*T		T	15 39 34.5	
	2.0nm,0.3s							
TBI	**Tubuai**	**23.66**	**110**	*e*

USRK	**Ussuriysk Ar.**	**78.31**	**323**	LR	LR	15 53 09.1			
	comp=Z,272nm,20.8s,baz=104,slow=32								
ELK	**Elko**	**78.79**	**41**	LR	LR	15 51 11.8			
	comp=Z,94nm,20.6s,baz=242,slow=30								
RSO	**Redoubt South**	**78.80**	**10**	*e*P	P	15 23 31.9	-2.3		
	11nm,0.4s								
BBB	**Bella Bella**	**79.23**	**27**	LR	LR	15 51 44.4			
	comp=Z,66nm,20.3s,baz=248,slow=30								
NJ2	**Nanjing**	**80.77**	**307**	*e*P	P	15 23 42.2	-3.0		
NJ2				S	**S**	**15 33 49.5**	**-1.4**		
NJ2				PMZ					
	10.0nm,0.5s								
NJ2				LN					
	350nm,21.3s								
NJ2				LE					
	220nm,23.8s								
NJ2				LZ					
	440nm,20.2s								
HLID	**Hailey**	**80.86**	**39**	P	**P**	**15 23 46.0**	**+0.3**		
	baz=81								
HLID	**Hailey**	**80.86**	**39**	*e*P	**P**	**15 23 44.8**	**-0.9**		
	15nm,1.8s								
TXAR	**Lajitas Array**	**81.61**	**56**	P	**P**	**15 23 49.7**	**-0.2**		
	1.5nm,1.0s,baz=217,slow=6.0,SNR=8.2								
TRF	**Thorofare Moun**	**82.02**	**10**	*e*P	**P**	**15 23 50.5**	**-0.9**		
	60nm,2.1s								
MCMT	**McKenzie Canyo**	**82.49**	**39**	*e*P	**P**	**15 23 53.7**	**-0.7**		
MCK	**McKinley**	**82.52**	**11**	*e*P	**P**	**15 23 54.0**	**+0.3**		
	71nm,2.3s								
S22A	**4UR Ranch, Cre**	**82.90**	**47**	P	**P**	**15 23 56.8**	**0.0**		
	baz=83								
FXWY	**Fox Creek**	**82.98**	**41**	*e*P	**P**	**15 23 57.4**	**+0.4**		
	10.0nm,1.4s								
DLBC	**Dease Lake**	**83.07**	**21**	LR	LR	15 54 12.6			
	comp=Z,154nm,20.2s,baz=154,slow=31								
QIZ	**Qiongzhong**	**83.16**	**292**	P	**P**	15 23 54.9	-3.2		
QIZ				S	**S**	**15 34 13.6**	**-2.5**		
QIZ				PMZ					
	11nm,1.6s								
QIZ				PMZ					
	110nm,11.9s								
QIZ				LN					
	93nm,19.9s								
QIZ				LE					
	56nm,22.5s								
QIZ				LZ					
	220nm,21.5s								
LOHW	**Long Hollow**	**83.23**	**41**	*e*P	**P**	**15 23 57.6**	**-0.6**		
	11nm,1.4s								
CHMT	**Chamberlain Mo**	**83.39**	**37**	P	P	15 23 57.0	-1.9		
	1.0nm,0.9s								
PDAR	**Pinedale Array**	**83.47**	**42**	P	**P**	**15 23 59.1**	**-0.4**		
	2.6nm,0.8s,baz=230,slow=1.0,SNR=21								
PDAR				LR	LR	15 54 11.2			
	comp=Z,58nm,20.0s,baz=253,slow=31								
429A	**Davenport Ranc**	**83.54**	**56**	P	**P**	**15 23 58.8**	**-1.1**		
	baz=84								
BOZ	**Bozeman (W)**	**83.66**	**39**	P	**P**	**15 24 00.7**	**+0.4**		
	baz=84								
BOZ	**Bozeman (W)**	**83.66**	**39**	*e*P	**P**	**15 24 00.7**	**+0.4**		
	25nm,1.8s								
COLA	**College**	**83.75**	**11**	*e*P	**P**	**15 24 00.3**	**+0.3**		
	185nm,2.9s								
SEY	**Seymchan**	**83.76**	**345**	LR	LR	15 57 14.0			
	comp=Z,144nm,20.3s,baz=146,slow=33								
ILAR	**Eielson Array**	**83.84**	**11**	P	**P**	**15 24 00.8**	**+0.2**		
	1.1nm,0.8s,baz=224,slow=5.4,SNR=12								
ILAR				LR	LR	15 58 11.8			
	comp=Z,87nm,18.1s,baz=198,slow=33								
SDCO	**Great Sand Dun**	**83.84**	**48**	P	**P**	**15 24 01.4**	**-0.2**		
	baz=84								
SDCO	**Great Sand Dun**	**83.84**	**48**	*e*P	**P**	**15 24 01.5**	**-0.1**		
128A	**Castleberry Fa**	**83.88**	**53**	P	**P**	**15 24 01.3**	**-0.4**		
	baz=84								
J19A	**Crowheart**	**84.04**	**42**	P	**P**	**15 24 02.0**	**-0.3**		
	baz=84								
531A	**Rocksprings**	**84.42**	**56**	P	**P**	**15 24 03.7**	**-0.8**		
	baz=84								
I19A	**Meeteetse**	**84.45**	**41**	P	**P**	**15 24 05.0**	**+0.6**		
	baz=85								
Z29A	**Hungry Hill Ra**	**84.74**	**53**	P	**P**	**15 24 06.0**	**0.0**		
	baz=85								
RLMT	**Red Lodge**	**84.82**	**40**	P	**P**	**15 24 05.8**	**-0.5**		
	baz=85								
J21A	**Lysite**	**85.10**	**42**	P	**P**	**15 24 07.0**	**-0.7**		
	baz=85								
Z30A	**Sanderson Ranc**	**85.19**	**53**	P	**P**	**15 24 07.2**	**-1.0**		
	baz=85								
AMTX	**Amarillo**	**85.42**	**52**	P	**P**	**15 24 08.6**	**-0.8**		
	baz=86								
I21A	**Big Trails, Te**	**85.42**	**42**	P	**P**	**15 24 08.8**	**-0.5**		
	baz=86								
W29A	**Amraillo**	**85.54**	**51**	P	**P**	**15 24 09.6**	**-0.4**		
	baz=86								
R26A	**Arlington**	**85.54**	**48**	P	**P**	**15 24 09.8**	**-0.2**		
	baz=86								
Y30A	**Stafford Cattl**	**85.61**	**53**	P	**P**	**15 24 09.9**	**-0.4**		
	baz=86								
J22A	**Midwest**	**85.76**	**42**	P	**P**	**15 24 11.0**	**0.0**		
	baz=86								
433A	**Art**	**85.81**	**56**	P	**P**	**15 24 11.2**	**-0.1**		
	baz=86								
ABTX	**Abilene, Hawle**	**86.08**	**54**	P	**P**	**15 24 12.4**	**-0.3**		
	baz=86								
MAW	**Mawson**	**86.41**	**199**	LR	LR	15 59 34.5			
	comp=Z,280nm,21.3s,baz=64,slow=34								
Z32A	**Haskell**	**86.47**	**54**	P	**P**	**15 24 14.2**	**-0.3**		
	baz=87								
334A	**Lometa**	**86.70**	**56**	P	**P**	**15 24 15.4**	**-0.3**		
	baz=87								
X32A	**Elmer**	**87.05**	**53**	P	**P**	**15 24 16.3**	**-1.1**		
	baz=87								
GYA	**Guiyang**	**88.44**	**298**	P	P	15 24 22.0	-2.3		
GYA				PP	**PP**	**15 27 51.0**	**-1.7**		
GYA				SKS	**SKSac**	**15 34 48.7**	**-2.4**		
GYA				S	**SKKSac**	**15 35 04.2**	**+2.3**		
GYA				SS	**SS**	**15 40 56.7**	**-2.2**		
GYA				PMZ					
	20nm,1.0s								
GYA				PMZ					
	120nm,5.4s								
GYA				LN					
	520nm,22.8s								
GYA				LE					
	490nm,23.0s								
GYA				LZ					
	540nm,21.6s								
HHC	**Hu-ho-hao-te**	**89.75**	**313**	*e*P	**P**	**15 24 28.3**	**-1.8**		
HHC				pP	**PcP**	**15 24 33.1**	**+1.7**		
HHC				sP	sP	15 24 35.7	-10		
HHC				PP	**PP**	**15 28 02.1**	**-0.7**		
HHC				SKS	**SKSac**	**15 34 55.7**	**-2.5**		
HHC				S	**S**	**15 35 16.8**	**-2.8**		
HHC				PMZ					
	12nm,0.6s								
HHC				PMZ					
	50nm,6.2s								
HHC				LN					
	96nm,15.3s								
HHC				LE					
	120nm,20.2s								
HHC				LZ					
	91nm,19.6s								
KMI	**Kunming**	**91.36**	**296**	P	P	15 24 34.6	-3.5		
KMI				S	S	15 35 30.5	-4.8		
KMI				PMZ					
	6.0nm,0.9s								
KMI				LN					
	110nm,14.5s								
KMI				LE					
	120nm,18.8s								
KMI				LZ					
	130nm,20.3s								
YKA	**Yellowknife Ar**	**91.46**	**23**	P	**P**	**15 24 38.3**	**+0.9**		
	0.9nm,0.7s,baz=242,slow=3.8,SNR=2.8								
SNAA	**Sanae**	**91.56**	**177**	P	P	15 24 32.9	-5.1		
VNA1	**Neumayer--Stat**	**92.22**	**175**	P	**P**	**15 24 39.0**	**-1.9**		
CD2	**Chengdu**	**92.28**	**301**	P	P	15 24 39.1	-2.9		
CD2				pP	**PcP**	**15 24 42.5**	**-0.3**		
CD2				PP	PP	15 28 18.6	-4.5		
CD2				SKS	**SKSac**	**15 35 11.8**	**-1.2**		
CD2				S	**S**	**15 35 41.4**	**-1.6**		
CD2				sS	**ScS**	**15 35 47.1**	**+1.9**		
CD2				SS	**SS**	**15 41 51.6**	**-2.7**		
CD2				PMZ					
	20nm,0.5s								
CD2				PMZ					
	160nm,5.5s								
CD2				LN					
	220nm,9.7s								
CD2				LZ					
	190nm,14.3s								
CMAR	**Chiang Mai Arr**	**92.78**	**288**	P	**P**	**15 24 46.4**	**+1.8**		
	1.1nm,0.8s,baz=114,slow=2.7,SNR=7.1								
CMAR				LR	LR	16 01 44.0			
	comp=Z,97nm,21.9s,baz=128,slow=32								
LZH	**Lanzhou**	**93.81**	**306**	*e*P	**P**	**15 24 47.2**	**-1.9**		
LZH				pP	**PcP**	**15 24 52.3**	**+2.7**		
LZH				sP	sP	15 24 54.7	-10		
LZH				PMZ					
	12nm,1.0s								
ULM	**Lac du Bonnet**	**95.17**	**39**	LR	LR	16 01 14.3			
	comp=Z,177nm,21.1s,baz=261,slow=31								
SONM	**Songino Array**	**95.67**	**318**	LR	LR	16 03 20.8			
	comp=Z,94nm,21.4s,baz=98,slow=32								
LPAZ	**La Paz**	**99.61**	**110**	LR	LR	15 59 22.6			
	comp=Z,88nm,21.7s,baz=258,slow=29								
ZALV	**Zalesovo Beam**	**110.13**	**322**	PKiKP	**PKiKP**	**15 30 01.8**	**-1.1**		
	0.3nm,0.4s,baz=42,slow=2.3,SNR=3.5								
ARCES	**ARCESS Array B**	**125.92**	**352**	PKP	**PKPdf**	**15 30 32.2**	**-0.6**		
	1.8nm,0.9s,baz=57,slow=4.5,SNR=5.4								
MALT	**Malatya**	**144.62**	**314**	⇑*i*P	**PKPdf**	**15 31 10.6**	**+2.1**		
KWP	**Kalwaria Pacla**	**144.63**	**342**	*e*PKP	**PKPdf**	**15 31 09.2**	**+1.2**		
KMBO	**Kilima Mbogo**	**144.67**	**243**	PKP	**PKPab**	**15 31 08.6**	**+0.5**		
	9.1nm,1.0s,baz=70,slow=4.4,SNR=10								
CLZ	**Clausthal**	**144.86**	**356**	*e*PKPbc	**PKPdf**	**15 31 09.7**	**+1.3**		
OJC	**Ojcow**	**144.91**	**345**	*e*PKP	**PKPdf**	**15 31 09.7**	**+1.2**		
KSP	**Ksiaz**	**145.08**	**349**	*e*PKP	**PKPdf**	**15 31 10.8**	**+2.1**		
CLL	**Collm**	**145.13**	**353**	*e*PKPbc	**PKPdf**	**15 31 10.1**	**+1.3**		
CLL	**Collm**	**145.13**	**353**	⇑*i*PKPbc	**PKPab**	**15 31 09.7**	**+1.3**		
	comp=Z,30nm,1.3s								
CLL				*i*		15 31 17.4			
CLL				*i*		15 31 23.1			
CLL				Lm	MLR	16 34 00.0			
	comp=Z,100nm,20.3s								
STHS	**Stebnicka Huta**	**145.25**	**343**	*e*PKP	**PKPdf**	**15 31 11.0**	**+1.9**		
NEUB	**Neuenburg**	**145.37**	**354**	*e*PKPbc	**PKPab**	**15 31 11.1**	**+1.9**		
KOLS	**Kolonicke sedl**	**145.38**	**341**	*e*PKP	**PKPab**	**15 31 11.7**	**+2.3**		
BUG	**Bochum--Univer**	**145.40**	**359**	*e*PKPbc	**PKPab**	**15 31 10.9**	**+1.6**		
BRG	**Berggiesshubel**	**145.43**	**351**	*e*P	**PKPab**	**15 31 11.1**	**+1.6**		
	comp=Z,20nm,1.4s								
BRG				*e*		15 31 21.9			
	comp=Z,38nm,1.5s								
BRG	**Berggiesshubel**	**145.43**	**351**	*e*PKPbc	**PKPab**	**15 31 11.3**	**+1.8**		
UPC	**Upice**	**145.45**	**349**	*e*PKP	**PKPab**	**15 31 11.4**	**+1.8**		
FBE	**Freiberg**	**145.47**	**352**	*e*PKPbc	**PKPab**	**15 31 11.9**	**+2.3**		
NIE	**Niedzica**	**145.51**	**344**	*e*PKP	**PKPab**	**15 31 11.8**	**+1.9**		
BURAR	**Bucovina Array**	**145.52**	**337**	⇓*i*P	**PKPab**	**15 31 13.0**	**+2.9**		
DPC	**Dobruska-Polom**	**145.55**	**349**	*e*PKP	**PKPab**	**15 31 11.9**	**+1.9**		
DPC				*ex*	x	15 31 17.7			
OKC	**Ostrava-Krasne**	**145.65**	**346**	*e*PKP	**PKPab**	**15 31 11.9**	**+1.5**		
PVCC	**Panska Ves**	**145.68**	**351**	*e*PKP	**PKPab**	**15 31 12.4**	**+2.0**		
PVCC				*ex*	x	15 31 18.9			
KRLC	**Kraliky**	**145.72**	**348**	*e*PKP	**PKPab**	**15 31 12.0**	**+1.3**		
MORC	**Moravsky Berou**	**145.84**	**347**	⇑*i*P	**PKPab**	**15 31 12.6**	**+1.5**		
MORC	**Moravsky Berou**	**145.84**	**347**	*e*PKPbc	**PKPbc**	**15 31 11.9**	**+1.2**		
UBBA	**Unterbreizbach**	**145.91**	**356**	*e*PKPbc	**PKPab**	**15 31 12.6**	**+1.5**		
MOX	**Moxa**	**145.94**	**354**	*e*PKPbc	**PKPab**	**15 31 12.9**	**+1.5**		
MOX				*eL*	L	16 30 43.0			
	comp=Z,102nm,18.8s								
PLN	**Plauen**	**146.04**	**353**	*e*PKPbc	**PKPab**	**15 31 13.4**	**+1.6**		
WERD	**Werda**	**146.06**	**353**	*e*PKPbc	**PKPab**	**15 31 13.5**	**+1.6**		
TANN	**Tannenbergstha**	**146.07**	**353**	*e*PKPbc	**PKPab**	**15 31 13.6**	**+1.6**		
GUNZ	**Gunzen**	**146.14**	**353**	*e*PKPbc	**PKPab**	**15 31 13.9**	**+1.7**		
PRA	**Prague**	**146.14**	**351**	*e*PKP	**PKPab**	**15 31 13.9**	**+1.7**		
PRU	**Pruhonice**	**146.20**	**350**	*e*PKP	**PKPab**	**15 31 13.9**	**+1.5**		
PRU				*ex*	x	15 31 20.5			
PRU				AMS	AMS	16 35 20.0			
	comp=Z,200nm,25.1s								
WERN	**Wernitzgruen**	**146.21**	**353**	*e*PKPbc	**PKPab**	**15 31 14.2**	**+1.7**		
GOPC	**GO Pecny, Ondr**	**146.24**	**350**	*e*PKP	**PKPab**	**15 31 13.6**	**+1.0**		
MEM	**Membach**	**146.24**	**0**	PKP	**PKPbc**	**15 31 13.3**	**+1.5**		
CFR	**Carcaliu**	**146.28**	**332**	⇑*i*P	**PKPab**	**15 31 14.1**	**+1.3**		
KECS	**Kecovo**	**146.31**	**343**	*e*PKP	**PKPab**	**15 31 14.9**	**+2.0**		
VRI	**Vrincioaia**	**146.35**	**334**	⇑*i*P	**PKPab**	**15 31 14.5**	**+1.3**		
VRAC	**Vranov**	**146.49**	**348**	⇑*i*P	**PKPab**	**15 31 15.4**	**+1.8**		
MANZ	**Manzenberg**	**146.54**	**353**	*e*PKPbc	**PKPab**	**15 31 15.1**	**+1.3**		
TREC	**Trest**	**146.71**	**349**	*e*PKP	**PKPbc**	**15 31 14.9**	**+1.6**		
DOU	**Dourbes**	**146.73**	**2**	PKP	**PKPbc**	**15 31 15.0**	**+1.8**		
ROTZ	**Rotzenmuhle**	**146.74**	**353**	*e*PKPbc	**PKPab**	**15 31 15.9**	**+1.4**		
HARR	**Harsova**	**146.74**	**331**	⇑*i*P	**PKPab**	**15 31 15.4**	**+0.7**		
DOPR	**Dopca**	**146.82**	**335**	⇑*i*P	**PKPab**	**15 31 19.2**	**+4.2**		
GRF	**Grafenberg Arr**	**146.92**	**354**	*e*PKPbc	**PKPab**	**15 31 16.1**	**+0.9**		
GRF				*eL*	L	16 30 46.0			
	comp=Z,87nm,21.5s								
MLR	**Muntele Rosu**	**146.98**	**334**	⇑*i*P	**PKPbc**	**15 31 16.3**	**+2.0**		
BRTR	**Keskin Array B**	**147.02**	**319**	PKPbc	**PKPbc**	**15 31 15.7**	**+1.0**		
	comp=Z,9.7nm,0.9s,baz=124,slow=1.8,SNR=37								
ISR	**Istrita**	**147.03**	**333**	⇑*i*P	**PKPbc**	**15 31 16.1**	**+1.7**		
DRGR		**147.12**	**339**	⇓*i*P	**PKPbc**	**15 31 16.6**	**+2.0**		
KHC	**Kasperske Hory**	**147.19**	**351**	*e*PKP	**PKPbc**	**15 31 16.3**	**+1.6**		
KHC				*ex*	x	15 31 23.9			
KHC				AMS	AMS	16 35 36.3			
KHC	**Kasperske Hory**	**147.19**	**351**	*e*PKPab	**PKPbc**	**15 31 16.6**	**+1.9**		
WLF	**Walferdange**	**147.19**	**0**	PKP	**PKPab**	**15 31 17.0**	**+0.7**		
WLF	**Walferdange**	**147.19**	**0**	*e*PKPbc	**PKPab**	**15 31 17.1**	**+0.8**		
WLF	**Walferdange**	**147.19**	**0**	*e*PKPab	**PKPbc**	**15 31 16.1**	**+1.5**		
WET	**Wettzell**	**147.27**	**352**	*e*PKPbc	**PKPbc**	**15 31 17.2**	**+0.6**		
VOIR		**147.39**	**335**	⇓*i*P	**PKPab**	**15 31 18.1**	**+0.8**		
GEC2	**GERESS Array S**	**147.45**	**351**	*e*PKPbc	**PKPbc**	**15 31 17.3**	**+1.8**		
GERES	**GERESS Array B**	**147.45**	**351**	PKPbc	**PKPbc**	**15 31 16.1**	**+0.7**		
	comp=Z,2.6nm,0.8s,baz=31,slow=3.1,SNR=22								
ARR	**Arges**	**147.62**	**336**	⇓*i*P	**PKPab**	**15 31 19.3**	**+1.1**		
CONA	**Conrad Observa**	**147.95**	**348**	*i* pPKPbc	**PKPbc**	**15 31 18.9**	**+2.1**		
	comp=Z,20nm,1.6s,SNR=7.6								
GZR	**Gura Zlata**	**148.30**	**338**	⇑*i*P	**PKPdf**	**15 31 17.3**	**+2.9**		
MOA	**Molln**	**148.32**	**350**	⇑*i*pPKPbc	**PKPbc**	**15 31 19.4**	**+1.7**		
	comp=Z,7.2nm,1.3s								
FUR	**Furstenfeldbru**	**148.43**	**354**	*e*PKPbc	**PKPbc**	**15 31 20.1**	**+2.1**		
BFO	**Black Forest**	**148.48**	**357**	*e*PKPbc	**PKPbc**	**15 31 20.0**	**+1.9**		
BFO	**Black Forest**	**148.48**	**357**	*e*PKPab	**PKPbc**	**15 31 19.6**	**+1.5**		
RJOB	**Jochberg**	**148.66**	**352**	*e*PKPbc	**PKPbc**	**15 31 20.5**	**+1.8**		
KBA	**Koelnbreinsper**	**149.22**	**351**	⇑*i*PKiKP	**PKPbc**	**15 31 21.0**	**+0.8**		
	comp=Z,5.5nm,1.0s								
WTTA	**Wattenberg**	**149.28**	**353**	⇑*i*pPKPbc	**PKPbc**	**15 31 21.9**	**+1.5**		
	comp=Z,14nm,1.0s,SNR=6.0								
SOKA	**Soboth**	**149.31**	**348**	*i* PKiKP	**PKPbc**	**15 31 21.5**	**+1.1**		
	comp=Z,9.8nm,1.4s,SNR=5.7								
DAVA	**Damuels**	**149.43**	**355**	⇓*i*pPKPbc	**PKPbc**	**15 31 22.6**	**+1.8**		
	comp=Z,16nm,1.1s,SNR=5.2								
FETA	**Feichten**	**149.62**	**354**	⇑*i*pPKPbc	**PKPbc**	**15 31 22.8**	**+1.6**		
	comp=Z,12nm,1.2s,SNR=6.1								
ABTA	**Abfaltersbach**	**149.67**	**352**	⇑*i*PKiKP	**PKPbc**	**15 31 22.1**	**+0.8**		
	comp=Z,15nm,1.3s,SNR=6.2								
DIVS	**Divibare**	**150.40**	**340**	⇑*i*P	**PKPbc**	**15 31 24.9**	**+1.8**		
VTS	**Vitosha**	**150.49**	**334**	⇑*i*P	**PKPbc**	**15 31 25.2**	**+1.7**		

*IDC **02** 15:30:15.3±11.0, 14.48N×90.56W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.6/29, mbtmp3.6/3, ML4.0/1, Error ellipse: s-maj=337.2km s-min=117.8km az=26.0*
*MEX **02** 15:30:37.9±0.6, 14.85N×92.82W, h79km±7km, MD4.3*
ISC 02 15:30:37.4±2.5, 14.9N±0.2°×92.8W±0.1°, h87km, n7, σ1§83/10, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.85**	**334**	*e*P	**Pn**	**15 30 55.0**	**-0.1**
PCIG				*i* S	**Sn**	**15 31 08.1**	**-0.3**
CCIG	**Comitan**	**1.50**	**27**	*e*P	**Pn**	**15 31 03.8**	**+0.7**
CCIG				*e*S	**Sn**	**15 31 22.7**	**+0.1**
TGIG		**1.85**	**351**	*e*P	**Pn**	**15 31 06.9**	**-0.6**
TGIG				*i* S	**Sn**	**15 31 30.6**	**0.0**
HUIG	**Huatulco**	**3.26**	**285**	*e*P	**Pn**	**15 31 27.4**	**+1.0**
HUIG				*e*S	**Sn**	**15 32 03.3**	**-0.9**
TXAR	**Lajitas Array**	**17.47**	**327**	P	**P**	**15 34 39.2**	**+3.7**
	0.1nm,0.3s,baz=152,slow=12,SNR=6.5						
NVAR	**Mina Array Bea**	**32.44**	**321**	P	P	15 37 03.2	+3.7
	1.7nm,0.7s,baz=136,slow=8.4,SNR=16						
ILAR	**Eielson Array**	**61.66**	**337**	P	**P**	**15 40 43.2**	**-2.7**
	0.3nm,0.6s,baz=122,slow=6.1,SNR=4.3						

*IDC **02** 15:46:15.8±1.9, 22.41S×171.55E, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.8/38, mbtmp3.8/7, ML3.6/1, Error ellipse: s-maj=79.8km s-min=26.2km az=156.0*
*ISCJB **02** 15:46:20.2±1.1, 22.5S×171.39E±0.08, h35km, mb3.8/6, Error ellipse: s-maj=43.0km s-min=11.1km az=178.1*

ISC 02 15:46:21.5±1.3, 22.48S±0.4×171.5E±0.1, h35km, n10, σ1§28/12, mb3.9/6, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.64**	**273**	Pn	**Pn**	**15 47 29.6**	**+0.3**
	2.8nm,0.3s,baz=270,slow=24,SNR=69						
DZM				Sn	**Sn**	**15 48 19.4**	**-2.7**
	1.3nm,0.3s,baz=270,slow=24,SNR=8.7						
DZM	**Mont Dzumac**	**4.64**	**273**	*e*P	**Pn**	**15 47 29.1**	**-0.2**
DZM				*e*S	**Sn**	**15 48 24.4**	**+2.3**
NOUC	**Port Laguerre**	**4.77**	**272**	*e*S	**Sn**	**15 48 25.1**	**+0.1**
STKA	**Stephens Creek**	**28.13**	**244**	P	**P**	**15 52 10.5**	**+0.1**
	1.2nm,0.9s,baz=108,slow=14,SNR=1.8						
ASAR	**Alice Springs**	**34.51**	**260**	P	**P**	**15 53 06.7**	**0.0**
	1.0nm,0.6s,baz=77,slow=7.6,SNR=17						
WRA	**Warramunga Arr**	**34.63**	**267**	P	**P**	**15 53 07.6**	**-0.1**
	0.3nm,0.3s,baz=98,slow=8.4,SNR=2.4						
CMAR	**Chiang Mai Arr**	**81.66**	**294**	P	**P**	**15 58 37.1**	**+0.5**
	0.8nm,0.8s,baz=144,slow=3.7,SNR=5.6						
NVAR	**Mina Array Bea**	**89.35**	**48**	P	**P**	**15 59 14.9**	**+0.1**
	0.7nm,0.7s,baz=223,slow=8.8,SNR=6.4						
SONM	**Songino Array**	**90.95**	**322**	P	**P**	**15 59 22.1**	**+0.3**
	0.3nm,0.3s,baz=134,slow=4.3,SNR=4.9						
GERES	**GERESS Array B**	**148.21**	**332**	PKPbc	**PKPbc**	**16 06 02.5**	**-1.4**
	0.6nm,0.7s,baz=346,slow=1.7,SNR=5.8						

*NEIC **02** 15:53:21.4±1.4, 24.84S×177.01W, h87km±13km, mb4.4/3, Error ellipse: s-maj=20.3km s-min=13.0km az=98.0*
*IDC **02** 15:53:23.5±3.4, 24.85S×177.20W, h99km±28km, mb4.1/11, mb1 4.3/13, mb1mx3.9/35, mbtmp4.5/13, Error ellipse: s-maj=23.3km s-min=18.0km az=40.0*
ISC 02 15:53:24.5±0.6, 24.92S±0.07×176.9W±0.1, h126km, n55, σ1§61/42, mb4.3/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.41**	**192**	P	**Pn**	**15 54 27.1**	**-2.5**
	108nm,0.3s,baz=109,slow=9.2,SNR=11						
RAO				S	**Sn**	**15 55 19.7**	**-0.5**
	188nm,0.3s,baz=41,slow=23,SNR=8.8						
MSVF	**Nonsavu**	**8.57**	**326**	*e*Pn	**Pn**	**15 55 23.6**	**-2.2**
	364nm,1.4s						
NIUE	**Niue**	**8.69**	**49**	P	**Pn**	**15 55 24.5**	**-2.8**
	baz=8.6,SNR=5.9						
AFI	**Afiamalu**	**11.96**	**25**	*e*Pn	Pn	15 56 05.8	-5.5
	77nm,0.9s						
MXZ	**Matakaoa Point**	**13.25**	**197**	*e*PN	Pn	15 56 20.6	-7.1
MXZ				*e*SN	Sn	15 58 37.6	-16
PUZ	**Puketiti**	**13.75**	**196**	*e*PN	Pn	15 56 25.6	-8.5
PUZ				SN	Sn	15 58 47.5	-18
MWZ	**Matawai**	**14.19**	**198**	*e*PN	Pn	15 56 36.1	-3.7
MWZ				*e*SN	Sn	15 59 00.9	-16
TKGZ	**Te Karaka**	**14.20**	**197**	*e*SN	Sn	15 58 58.1	-19
URZ	**Urewera**	**14.24**	**200**	P	**Pn**	**15 56 40.6**	**+0.2**
	2.0nm,0.3s,baz=54,slow=2.4,SNR=6.4						
URZ				S	Sn	15 59 01.4	-16
	4.1nm,0.3s,baz=266,slow=6.3,SNR=13						
URZ	**Urewera**	**14.24**	**200**	*e*PN	**Pn**	**15 56 38.3**	**-2.1**
URZ				SN	Sn	15 59 00.6	-17
URZ	**Urewera**	**14.24**	**200**	*e*Pn	**Pn**	**15 56 38.9**	**-1.5**
	13nm,0.7s						
BKZ	**Black Stump Fm**	**15.27**	**200**	*e*PN	**Pn**	**15 56 48.7**	**-4.7**
BKZ				*e*SN	Sn	15 59 25.9	-17
MRZ	**Mangatainoka R**	**16.91**	**200**	PN	P	15 57 07.6	-5.9
MRZ				*e*SN	Sn	15 59 55.7	-26
TCW	**Tory Channel**	**17.84**	**202**	*e*SN	S	16 00 21.5	-21
TUWZ	**Tuamarina**	**18.15**	**203**	*e*SN	S	16 00 27.5	-21
NNZ	**Nelson**	**18.16**	**204**	*e*SN	S	16 00 29.1	-20
THZ	**Tophouse**	**18.81**	**204**	*e*SN	S	16 00 43.9	-18
MQZ	**McQueen's Vall**	**20.60**	**202**	*e*SN	S	16 01 20.3	-17
WVZ	**Waitaha Valley**	**20.77**	**206**	*e*PN	**P**	**15 57 55.5**	**+0.1**
CNB	**Canberra Magne**	**30.85**	**242**	P	P	15 59 33.1	+4.3
	baz=31,SNR=5.3						
CMSA	**Cobar Meteorol**	**33.51**	**250**	P	**P**	**15 59 52.3**	**+0.3**
	baz=34,SNR=9.8						
CTA	**Charters Tower**	**34.32**	**271**	P	**P**	**15 59 59.3**	**0.0**

MWZ	**Matawai**	**1.05 99**	PN	Pn	15 54 35.1	0.0
MWZ			SN	Sn	15 54 54.2	-0.5
MWZ			AML	AML	15 54 55.2	
SNGZ	**Shannon Statio**	**1.07 125**	⇑PN	Pn	15 54 35.6	+0.4
NGZ	**Ngauruhoe**	**1.11 205**	PN	Pn	15 54 35.9	+0.2
HIZ	**Hauiti**	**1.12 252**	PN	Pn	15 54 36.0	+0.4
WPVZ	**Whakapapa**	**1.15 207**	PN	Pn	15 54 35.9	-0.2
TUVZ	**Tukino**	**1.18 201**	PN	Pn	15 54 36.3	0.0
FWVZ	**Far West T-bar**	**1.20 205**	PN	Pn	15 54 36.2	-0.4
WHHZ	**Waihua**	**1.21 139**	*e*PN	Pn	15 54 36.9	+0.5
WHVZ	**Whangaehu Hut**	**1.21 203**	⇓PN	Pn	15 54 36.5	-0.3
WNVZ	**Wahianoa**	**1.25 202**	⇑PN	Pn	15 54 36.8	-0.2
ARHZ	**Aropaoanui**	**1.25 151**	⇓PN	Pn	15 54 37.3	+0.5
KWHZ	**Kaweka Forest**	**1.26 172**	PN	Pn	15 54 37.1	+0.1
MOVZ	**Moawhango**	**1.28 196**	PN	Pn	15 54 36.7	-0.6
PKVZ	**Pokaka**	**1.30 211**	⇑PN	Pn	15 54 37.2	-0.2
HAZ	**Te Kaha**	**1.31 72**	⇑PN	Pn	15 54 36.9	-0.5
TKGZ	**Te Karaka**	**1.32 102**	PN	Pn	15 54 37.7	+0.2
BHHZ	**Black Hill Sta**	**1.32 185**	⇑PN	Pn	15 54 37.1	-0.4
MCHZ	**McNeill Hill**	**1.32 163**	PN	Pn	15 54 38.0	+0.5
RIGZ	**Rimuhau**	**1.33 114**	PN	Pn	15 54 38.1	+0.4
MTVZ	**Mangateitei**	**1.34 205**	PN	Pn	15 54 37.6	-0.1
KNZ	**Kokohu**	**1.43 127**	PN	Pn	15 54 38.6	+0.1
KRHZ	**Kereru**	**1.47 175**	⇑PN	Pn	15 54 38.7	-0.3
KUZ	**Kuaotunu**	**1.48 345**	PN	Pn	15 54 39.3	+0.2
VRZ	**Vera Road**	**1.48 230**	PN	Pn	15 54 39.3	+0.3
PUZ	**Puketiti**	**1.62 87**	PN	Pn	15 54 40.2	-0.3
PUZ			*e*SN	Sn	15 55 03.5	-1.0
CKHZ	**Cape Kidnapper**	**1.63 156**	PN	Pn	15 54 40.7	+0.1
KAHZ	**Kahuranaki**	**1.70 162**	⇑PN	Pn	15 54 41.4	-0.1
PNHZ	**Pukenui**	**1.74 180**	PN	Pn	15 54 41.1	-0.8
MXZ	**Matakaoa Point**	**1.77 70**	PN	Pn	15 54 42.0	-0.1
WAZ	**Wanganui**	**1.85 211**	⇑PN	Pn	15 54 42.5	-0.5
TSZ	**Takapari Road**	**1.89 186**	PN	Pn	15 54 42.6	-1.0
WPHZ	**Waipukurau**	**1.90 175**	PN	Pn	15 54 42.5	-1.1
PXZ	**Pawanui**	**1.92 165**	⇑PN	Pn	15 54 43.3	-0.6
PXZ			AML	AML	15 55 12.2	
NEZ	**North Egmont**	**1.98 236**	PN	Pn	15 54 45.0	+0.4
PRHZ	**Porangahau**	**2.12 171**	PN	Pn	15 54 45.2	-0.9
DVHZ	**Dannevirke**	**2.12 181**	PN	Pn	15 54 44.8	-1.4
POWZ	**Post Office Ro**	**2.24 189**	PN	Pn	15 54 45.8	-1.7
ANWZ	**Angora Road**	**2.29 175**	PN	Pn	15 54 47.2	-0.9
PRWZ	**Pori Road**	**2.39 184**	⇑PN	Pn	15 54 48.0	-1.3
BFZ	**Birch Farm**	**2.50 179**	PN	Pn	15 54 49.0	-1.7
MRZ	**Mangatainoka R**	**2.53 191**	⇑PN	Pn	15 54 49.1	-2.0
MRZ			AML	AML	15 55 22.0	
TIWZ	**Tintock**	**2.61 185**	PN	Pn	15 54 50.2	-1.9
OGWZ	**Otaki Gorge**	**2.76 197**	*e*PN	Pn	15 54 50.7	-3.2
HOWZ	**Holdsworth Sta**	**2.77 191**	⇑PN	Pn	15 54 51.7	-2.4
KIW	**Kapiti Island**	**2.87 200**	PN	Pn	15 54 52.6	-2.6
TMWZ	**Te Maipa**	**2.94 185**	PN	Pn	15 54 53.7	-2.4
MTW	**Mount Morrison**	**3.03 190**	PN	Pn	15 54 54.4	-2.8
CAW	**Cannon Point**	**3.06 196**	⇓PN	Pn	15 54 55.0	-2.6
TRWZ	**Traveller**	**3.25 187**	AML	AML	15 54 57.5	
PAWZ	**Paruwai Farm**	**3.26 190**	AML	AML	15 54 57.4	
WEL	**Wellington**	**3.30 199**	PN	Pn	15 54 57.7	-2.9
MSWZ	**Moikau Station**	**3.32 193**	PN	Pn	15 54 57.8	-3.1
TCW	**Tory Channel**	**3.38 206**	PN	Pn	15 54 58.7	-3.0
PLWZ	**Palliser**	**3.47 192**	PN	Pn	15 54 59.5	-3.4
TUWZ	**Tuamarina**	**3.69 208**	PN	Pn	15 55 02.4	-3.3
NNZ	**Nelson**	**3.74 215**	PN	Pn	15 55 03.0	-3.3
QRZ	**Quartz Range**	**3.89 226**	PN	Pn	15 55 04.4	-3.8
THZ	**Tophouse**	**4.39 214**	PN	Pn	15 55 11.2	-3.7
KHZ	**Kahutara**	**4.70 205**	PN	Pn	15 55 15.0	-3.8
MQZ	**McQueen's Vall**	**6.15 205**	*e*PN	Pn	15 55 32.2	-5.7

IDC ***02*** *16:25:20.6±0.6, 13˚.64S×166˚.62E, h0km, mb4.4/17, mb1 4.6/18, mb1mx4.4/32, mbtmp4.4/18, ML4.2/1, MS4.0/20, Ms1 4.0/20, ms1mx4.0/24, Error ellipse: s-maj=23.0km s-min=14.0km az=100.0*

ISCJB ***02*** *16:25:25.2±0.3, 13˚.61S±0˚.04×166˚.42E±0˚.05, h39km, mb4.6/34, MS4.0/19, Error ellipse: s-maj=7.6km s-min=5.4km az=175.6*

NEIC ***02*** *16:25:25.8±0.3, 13˚.67S×166˚.45E, h35km, mb4.8/20, Error ellipse: s-maj=8.0km s-min=6.9km az=100.0*

NEIC Felt at Port-Olry.

GCMT ***02*** *16:25:25.8±0.3, 13˚.66S×166˚.49E, h32km, MW5.0/61, Moment Tensor Solution. s34,c41; s61,c79; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=3.13±.24; Mθθ=0.86±.17; Mφφ=3.99±.16; Mrθ=1.27±.23; Mrφ=0.36±.12; Mθφ=0.75±.17; Best double couple: M=3.92700×10^16 NP1:ϕs=335.00000°, δ56.00000°, λ=-118.00000°. NP2: ϕs=198.00000°, δ43.00000°, λ=-56.00000°. Principal axes: T 4.1180, Plg7.0000°, Azm84.0000°; N -0.3840, Plg23.0000°, Azm351.0000°; P -3.7370, Plg66.0000°, Azm190.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 02 16:25:27.2±0.4, 13˚.66S±0˚.05×166˚.41E±0˚.07, h39km, n120, σ1.958/133, mb4.6/34, MS4.0/19, 3C-10D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.60**	**303**	P		Pn	16 27 20.0	+4.5
HNR	**Honiara**	**7.60**	**303**	*e*Pn		**Pn**	**16 27 15.2**	**-0.4**
HNR				*e*Sn		**Sn**	**16 28 39.3**	**-1.2**
DZM	**Mont Dzumac**	**8.36**	**180**	*e*Pn		**Pn**	**16 27 25.8**	**-0.2**
	92nm,0.4s							
DZM				*e*Sn		**Sn**	**16 28 56.5**	**-2.7**
	229nm,0.7s							
DZM				*e*LR		LR	16 29 19.6	
	3μm,23.8s							
DZM	**Mont Dzumac**	**8.36**	**180**	Pn		**Pn**	**16 27 25.5**	**-0.5**
	3.3nm,0.3s,baz=90,slow=24,SNR=34							
DZM				Sn		**Sn**	**16 28 58.9**	**-0.3**
	baz=90,slow=20,SNR=1.5							
DZM				LR		LR	16 30 31.3	
	comp=Z,3μm,18.0s,baz=0.0,slow=37							
DZM	**Mont Dzumac**	**8.36**	**180**	*e*P		**Pn**	**16 27 25.5**	**-0.5**
DZM				*e*S		Sn	16 29 09.4	+10
DZM	**Mont Dzumac**	**8.36**	**180**	*e*Pn		Pn	16 27 22.9	-3.1
	45nm,0.4s							
DZM				*e*Sn		**Sn**	**16 28 59.1**	**-0.1**
NOUC	**Port Laguerre**	**8.39**	**181**	*e*S		Sn	16 29 18.7	+19
MSVF	**Nonsavu**	**11.91**	**111**	*e*Pn		**Pn**	**16 28 12.8**	**-1.8**
EIDS	**Eidsvold**	**18.54**	**229**	⇑P		**P**	**16 29 41.0**	**+0.5**
	baz=19,SNR=7.2							
EIDS	**Eidsvold**	**18.54**	**229**	*e*Pn		**P**	**16 29 39.5**	**-1.1**
	95nm,1.8s							
PMG	**Port Moresby**	**19.33**	**281**	*e*P		**P**	**16 29 47.7**	**-1.7**
CTA	**Charters Tower**	**20.31**	**249**	P		**P**	**16 30 01.9**	**+1.9**
	5.1nm,0.7s,baz=72,slow=10,SNR=5.5							
CTA				LR		LR	16 37 43.6	
	comp=Z,546nm,18.3s,baz=100,slow=36							
CTAO	**Charters Tower**	**20.31**	**249**	P		**P**	**16 29 58.2**	**-1.8**
	51nm,1.2s							
RMQ	**Roma**	**20.89**	**230**	P		Pn	16 30 09.4	+0.5
	baz=21,SNR=34							
ARMA	**Armidale**	**21.54**	**217**	⇓P		**P**	**16 30 13.5**	**+0.2**
	baz=22,SNR=6.0							
ARMA	**Armidale**	**21.54**	**217**	*e*P		**P**	**16 30 11.1**	**-2.2**
	64nm,1.6s							
MTSU	**Mount Surprise**	**21.70**	**255**	⇓P		**P**	**16 30 17.7**	**+2.6**
	baz=22							
OUZ	**Omahuta**	**22.42**	**164**	*e*P		**P**	**16 30 23.0**	**+0.5**
	65nm,1.8s							
COEN	**Coen**	**22.57**	**266**	*e*P		**P**	**16 30 23.4**	**-1.0**
	58nm,1.2s							
RIV	**Riverview**	**24.39**	**212**	⇑P		**P**	**16 30 43.6**	**+1.7**
	baz=25							
QLP	**Quilpie**	**24.42**	**235**	P		**P**	**16 30 43.4**	**+1.2**
	baz=25,SNR=11							
CMSA	**Cobar Meteorol**	**26.04**	**223**	⇓P		**P**	**16 30 57.8**	**+0.9**
	baz=26,SNR=20							
URZ	**Urewera**	**26.27**	**161**	P		**P**	**16 31 01.3**	**+2.3**
	6.3nm,0.7s,baz=355,slow=23,SNR=3.7							
URZ				LR		LR	16 40 10.1	
	comp=Z,648nm,19.9s,baz=328,slow=34							
CNB	**Canberra Magne**	**26.48**	**213**	⇓P		**P**	**16 31 02.0**	**+1.1**
	baz=27,SNR=5.9							
QIS	**Mount Isa**	**26.50**	**251**	⇓P		**P**	**16 31 02.1**	**+0.9**
	baz=27,SNR=3.9							
JAY	**Jayapura**	**27.72**	**291**	LR		LR	16 42 41.7	
	comp=Z,188nm,19.7s,baz=180,slow=37							
STKA	**Stephens Creek**	**29.07**	**227**	P		**P**	**16 31 25.4**	**+1.3**
	9.3nm,0.8s,baz=47,slow=8.0,SNR=38							
STKA				LR		LR	16 43 19.4	
	comp=Z,1μm,18.1s,baz=51,slow=37							
STKA	**Stephens Creek**	**29.07**	**227**	*e*P		**P**	**16 31 24.6**	**+0.5**
	11nm,0.9s							
RPZ	**Rata Peaks**	**30.21**	**173**	P		**P**	**16 31 33.9**	**-0.2**
	4.3nm,0.6s,baz=27,slow=4.5,SNR=3.9							
TOO	**Toolangi**	**30.23**	**214**	⇓P		**P**	**16 31 33.3**	**-1.1**
	baz=31,SNR=5.6							
WRAB	**Tennant Creek**	**31.29**	**254**	*e*P		P	16 31 41.9	-1.9
	105nm,2.2s							
WRA	**Warramunga Arr**	**31.30**	**254**	P		**P**	**16 31 44.0**	**0.0**
	3.9nm,0.9s,baz=85,slow=9.0,SNR=9.8							
WRA				PcP		**PcP**	**16 34 37.0**	**-0.7**
	1.5nm,0.9s,baz=81,slow=2.3,SNR=4.8							
WRA				LR		LR	16 43 57.6	
	comp=Z,1μm,19.9s,baz=85,slow=36							
HTT	**Hallett**	**31.81**	**227**	P		**P**	**16 31 49.5**	**+1.2**
	baz=32,SNR=11							
ARPS	**Mount Arapiles**	**31.82**	**219**	P		**P**	**16 31 49.7**	**+1.5**
	baz=32,SNR=7.7							
ASAR	**Alice Springs**	**32.30**	**247**	P		**P**	**16 31 52.1**	**-0.6**
	3.2nm,0.6s,baz=73,slow=8.7,SNR=45							
ASAR				PcP		**PcP**	**16 34 39.5**	**-0.8**
	0.8nm,0.5s,baz=75,slow=2.0,SNR=7.1							
ASAR				ScP		**ScP**	**16 38 23.7**	**+2.6**
	0.6nm,0.9s,baz=85,slow=2.5,SNR=3.2							
ASAR				PKiKP		**PKiKP**	**16 42 05.7**	**-2.5**
	0.2nm,0.6s,baz=110,slow=1.3,SNR=9.0							
ASAR				LR		LR	16 44 15.1	
	comp=Z,575nm,19.8s,baz=79,slow=35							
MOO	**Moorlands**	**33.15**	**206**	⇓P		**P**	**16 32 01.1**	**+1.2**
	baz=34							
BBOO	**Buckleboo**	**33.59**	**230**	P		**P**	**16 32 04.8**	**+0.9**
	baz=34,SNR=17							
BBOO	**Buckleboo**	**33.59**	**230**	*e*P		**P**	**16 32 04.2**	**+0.3**
GUMO	**Guam**	**34.48**	**321**	LR		LR	16 44 58.2	
	comp=Z,260nm,21.1s,baz=134,slow=34							
KNRA	**Kununurra**	**36.45**	**262**	⇓P		**P**	**16 32 28.4**	**-0.2**
	baz=37,SNR=3.7							
WRKA	**Warakurna**	**37.58**	**247**	P		**P**	**16 32 38.1**	**-0.1**
	baz=38,SNR=19							
FORT	**Forrest**	**39.14**	**238**	P		**P**	**16 32 52.2**	**+0.9**
	baz=40,SNR=12							
FORT	**Forrest**	**39.14**	**238**	*e*P		**P**	**16 32 50.4**	**-0.8**
	34nm,0.9s							
PPT2	**Papeete2**	**42.49**	**101**	*e*S		S	16 39 46.1	+7.1
	129nm,28.0s							
PPT2				*e*LR		LR	16 45 08.4	
	568nm,25.2s							
PPT	**Papeete**	**42.50**	**101**	LR		LR	16 46 01.7	
	comp=Z,142nm,21.9s,baz=206,slow=29							
TBI	**Tubuai**	**42.80**	**110**	*e*S		S	16 39 50.2	+7.1
	177nm,28.0s							
TBI				*e*LQ		LQ	16 43 26.6	
	492nm,29.0s							
TBI				*e*LR		LR	16 45 19.1	
	457nm,22.8s							
KMBL	**Kambalda**	**44.41**	**239**	⇓P		**P**	**16 33 34.9**	**+0.5**
	baz=45							
MEEK	**Meekatharra**	**46.44**	**246**	P		**P**	**16 33 51.2**	**+0.7**
	baz=47,SNR=18							
MORW	**Morawa**	**48.99**	**243**	P		**P**	**16 34 10.4**	**+0.2**
	baz=49,SNR=6.3							
KKM	**Kota Kinabalu**	**53.54**	**288**	⇑P		**P**	**16 34 44.5**	**-0.1**
	baz=54,SNR=3.6							
KKM	**Kota Kinabalu**	**53.54**	**288**	*e*P		P	16 34 43.1	-1.6
	12nm,0.8s							
MJAR	**Matsushiro Arr**	**56.58**	**333**	P		**P**	**16 35 05.6**	**-0.5**
	4.2nm,0.9s,baz=178,slow=8.6,SNR=10.0							
MJAR				LR		LR	16 57 06.0	
	comp=Z,30nm,21.4s,baz=255,slow=34							
MAJO	**Matsushiro**	**56.59**	**333**	*e*P		P	16 35 04.8	-1.3
	5.7nm,0.8s							
MAT	**Matsushiro**	**56.59**	**333**	P		**P**	**16 35 05.5**	**-0.6**
MAT				S		**S**	**16 42 53.4**	**-2.0**
ASAJ	**Asahikawa**	**61.47**	**341**	*e*P		**P**	**16 35 40.4**	**+0.6**
	2.2nm,0.6s							
KSRS	**Korea Array**	**62.40**	**326**	P		**P**	**16 35 45.5**	**-0.6**
	2.0nm,0.6s,baz=134,slow=6.9,SNR=11							
KSRS				LR		LR	17 02 43.3	
	comp=Z,48nm,19.0s,baz=126,slow=36							
KSAR	**Wonju Array Be**	**62.41**	**326**	P		**P**	**16 35 45.5**	**-0.7**
VNDA	**Vanda**	**63.90**	**181**	P		**P**	**16 35 55.5**	**-0.1**
	1.1nm,0.6s,baz=336,slow=7.8,SNR=7.6							
VNDA				LR		LR	17 01 15.0	
	comp=Z,118nm,19.1s,baz=0.0,slow=34							
SBA	**Scott Base**	**64.19**	**180**	*e*P		**P**	**16 35 57.8**	**+0.3**
	110nm,2.3s							
CASY	**Casey**	**64.20**	**202**	*e*P		**P**	**16 35 55.7**	**-2.0**
	40nm,1.6s							
NJ2	**Nanjing**	**64.34**	**316**	*e*P		P	16 35 57.7	-1.4
NJ2				S		**S**	**16 44 33.0**	**-1.7**
NJ2				PMZ				
	40nm,0.8s							
NJ2				LN				
	350nm,15.0s							
NJ2				LE				
	350nm,14.2s							
QIZ	**Qiongzhong**	**64.50**	**299**	P		P	16 35 58.4	-2.0
QIZ				S		**S**	**16 44 36.2**	**-1.0**
QIZ				PMZ				
	10.0nm,1.7s							
USRK	**Ussuriysk Ar.**	**65.57**	**333**	P		**P**	**16 36 07.4**	**+0.5**
	7.2nm,0.9s,baz=163,slow=6.2,SNR=17							
USRK				LR		LR	17 03 01.7	
	comp=Z,62nm,20.1s,baz=152,slow=34							
PETK	**Petropavlovsk-**	**66.92**	**354**	P		**P**	**16 36 15.9**	**+0.6**
	2.8nm,0.6s,baz=165,slow=8.6,SNR=5.8							
PETK				LR		LR	16 59 53.5	
	comp=Z,107nm,21.6s,baz=156,slow=31							
MDJ	**Mudanjiang**	**66.96**	**332**	P		**P**	**16 36 16.8**	**+1.0**
MDJ				PMZ				
	9.0nm,1.0s							
MDJ				PMZ				
	56nm,6.0s							
MDJ	**Mudanjiang**	**66.96**	**332**	P		P	16 36 14.1	-1.7
	14nm,1.1s							
CN2	**Changchun**	**68.31**	**329**	*e*P		**P**	**16 36 24.6**	**+0.3**
CN2				PMZ				
	10.0nm,0.6s							
CN2				PMZ				
	60nm,3.0s							
CN2				LN				
	60nm,17.0s							
CN2				LE				
	70nm,17.0s							
GYA	**Guiyang**	**70.43**	**305**	⇓*i*P		**P**	**16 36 38.0**	**0.0**
GYA				pP		**pP**	**16 36 52.3**	**+2.6**
GYA				sP		sP	16 36 59.8	+5.6
GYA				PP		**PP**	**16 39 17.0**	**+2.5**
GYA				S		**S**	**16 45 45.4**	**-3.1**
GYA				sS		**sS**	**16 46 12.2**	**+4.2**
GYA				SKS		**SKSac**	**16 46 31.8**	**-5.3**
GYA				SS		**SS**	**16 50 20.6**	**+0.3**
GYA				PMZ				
	20nm,1.0s							
GYA				PMZ				
	120nm,5.2s							
GYA				LN				
	540nm,18.0s							
GYA				LE				
	510nm,20.2s							
GYA				LZ				
	480nm,19.7s							
BJI	**Beijing**	**70.92**	**321**	P		**P**	**16 36 41.2**	**+0.7**
BJI				PP		**PP**	**16 39 19.0**	**+0.8**
BJI				S		**S**	**16 45 53.4**	**+0.1**
BJI				SS		**SS**	**16 50 26.8**	**-0.2**
BJI				PMZ				
	12nm,0.6s							
BJI				LN				
	150nm,22.4s							
BJI				LE				
	140nm,18.6s							
XAN	**Xi'an**	**72.36**	**313**	P		P	**16 36 49.9**	**+0.5**
XAN				pP		**pP**	**16 37 01.2**	**0.0**
XAN				PMZ				
	27nm,6.0s							
XAN				LZ				
	46nm,14.3s							
KMI	**Kunming**	**73.04**	**302**	P		**P**	**16 36 56.2**	**+2.4**
KMI				S		**S**	**16 46 18.2**	**-0.6**
KMI				PMZ				
	6.0nm,1.2s							
KMI				PMZ				
	46nm,3.1s							
KMI				LN				
	120nm,13.9s							
KMI				LE				
	110nm,14.9s							
KMI				LZ				
	130nm,12.5s							
CMAR	**Chiang Mai Arr**	**73.76**	**294**	P		**P**	**16 36 59.6**	**+1.7**
	4.5nm,0.7s,baz=129,slow=4.6,SNR=25							
CHTO	**Chiang Mai**	**73.89**	**294**	*e*P		P	16 36 56.2	-2.4
	3.3nm,0.7s							
HHC	**Hu-ho-hao-te**	**74.24**	**320**	*e*P		**P**	**16 37 00.0**	**-0.4**
HHC				pP		**PcP**	**16 37 17.3**	**+2.1**
HHC				sP		sP	16 37 22.7	+6.0
HHC				PP		**PP**	**16 39 49.9**	**+3.1**
HHC				S		**SKiKP**	**16 46 29.0**	**+4.1**
HHC				sS		sS	16 46 57.0	+5.8
HHC				ScS		**SKSac**	**16 47 02.5**	**-2.7**
HHC				PMZ				
	11nm,0.6s							
HHC				PMZ				
	110nm,6.4s							
HHC				LN				
	100nm,14.9s							
HHC				LE				
	130nm,16.3s							
CD2	**Chengdu**	**74.70**	**308**	P		**P**	**16 37 01.9**	**-1.4**
CD2				pP		**pP**	**16 37 17.1**	**+2.0**
CD2				sP		**sP**	**16 37 23.4**	**+3.8**
CD2				PP		**PP**	**16 39 49.7**	**-1.2**
CD2				S		**S**	**16 46 35.4**	**-1.6**
CD2				SS		**SS**	**16 51 25.3**	**-0.1**
CD2				PMZ				
	10.0nm,0.5s							
CD2				PMZ				
	100nm,6.9s							
CD2				LN				
	160nm,5.9s							
CD2				LZ				
	120nm,14.3s							
QSPA	**South Pole Qui**	**76.36**	**180**	*e*P		**P**	**16 37 10.3**	**-1.9**
	12nm,0.9s							
LZH	**Lanzhou**	**76.99**	**312**	*e*P		**P**	**16 37 17.7**	**+1.3**
LZH				pP		**pP**	**16 37 33.1**	**+4.9**
LZH				sP		sP	16 37 39.2	+6.5
LZH				PP		**PP**	**16 40 13.3**	**+3.1**
LZH				*e*S		**S**	**16 47 00.1**	**-2.2**
LZH				sS		**SKKSac**	**16 47 28.4**	**+1.7**
LZH				SS		SS	16 51 55.1	-5.1
LZH				PMZ				
	24nm,1.2s							
LZH				PMZ				
	62nm,4.1s							
LZH				LZ				
	410nm,15.0s							
SEY	**Seymchan**	**77.13**	**353**	P		**P**	**16 37 16.1**	**-0.1**
	8.0nm,0.6s,baz=164,slow=4.7,SNR=56							
SONM	**Songino Array**	**81.15**	**324**	P		**P**	**16 37 38.7**	**-0.1**
	1.8nm,0.9s,baz=132,slow=6.1,SNR=12							
SONM				LR		LR	17 14 46.2	
	comp=Z,44nm,18.7s,baz=107,slow=36							
GTA	**Gaotai**	**81.33**	**314**	*e*P		**P**	**16 37 41.7**	**+1.7**
GTA				pP		pP	16 37 57.9	+6.0
GTA				sP		sP	16 38 05.3	+8.9
GTA				PMZ				
	8.0nm,1.2s							
MAW	**Mawson**	**82.55**	**202**	P		**P**	**16 37 44.9**	**-0.8**
	2.2nm,0.6s,baz=120,slow=6.8,SNR=4.6							
MAW				LR		LR	17 09 17.5	
	comp=Z,72nm,21.3s,baz=62,slow=32							
SML	**Sawmill**	**83.20**	**20**	*e*P		P	16 37 46.6	-2.5
TRF	**Thorofare Moun**	**83.79**	**18**	*e*P		**P**	**16 37 50.8**	**-1.4**
	3.8nm,0.7s							
LSA	**Lhasa**	**84.29**	**302**	P		P	16 37 47.7	-8.3
ILAR	**Eielson Array**	**85.78**	**18**	P		**P**	**16 38 00.8**	**-1.2**
	4.1nm,0.6s,baz=239,slow=5.5,SNR=35							
ILAR				LR		LR	17 11 24.6	
	comp=Z,264nm,20.2s,baz=238,slow=32							
TAPN	**Taplejung**	**86.44**	**299**	*e*P		**P**	**16 38 07.0**	**+0.5**
	15nm,0.8s							
ODAN	**Odare**	**86.57**	**299**	*e*P		**P**	**16 38 07.5**	**+0.4**
COLD	**Coldfoot**	**86.63**	**16**	*e*P		**P**	**16 38 06.0**	**-0.2**
	3.9nm,0.8s							
NVAR	**Mina Array Bea**	**87.21**	**50**	P		**P**	**16 38 09.4**	**-0.5**
	0.4nm,0.5s,baz=245,slow=7.7,SNR=3.7							
EGAK	**Eagle**	**87.60**	**20**	*e*P		**P**	**16 38 09.9**	**-1.0**
	3.5nm,0.9s							
PKI	**Pulchoki**	**88.46**	**299**	*e*P		**P**	**16 38 16.4**	**+0.1**
	15nm,0.5s							
PKIN	**Phulchoki**	**88.47**	**299**	*e*P		**P**	**16 38 16.5**	**+0.2**
	8.0nm,0.6s							
KKN	**Kakani**	**88.63**	**299**	*e*P		**P**	**16 38 16.3**	**-0.7**
	17nm,0.7s							
DMN	**Daman**	**88.73**	**299**	*e*P		**P**	**16 38 17.9**	**+0.4**
	22nm,0.6s							
GKN	**Gorkha**	**89.24**	**299**	*e*P		**P**	**16 38 19.4**	**-0.3**
	12nm,0.6s							
WMQ	**Urumqi**	**91.39**	**315**	P		P	16 38 27.7	-1.6
WMQ				pP		pP	16 38 46.3	+4.9
WMQ				sP		sP	16 38 52.2	+6.4
WMQ				PMZ				
	19nm,1.0s							
WMQ				LN				
	62nm,20.8s							
WMQ				LE				
	52nm,22.6s							
SNAA	**Sanae**	**94.56**	**183**	P		P	16 38 38.2	-5.3
SNAA	**Sanae**	**94.56**	**183**	*e*P		P	16 38 37.5	-6.0
	9.0nm,1.0s							
PDAR	**Pinedale Array**	**94.84**	**47**	LR		LR	17 15 54.1	
	comp=Z,55nm,19.1s,baz=246,slow=32							
VNA1	**Neumayer–Stat**	**95.81**	**182**	P		**P**	**16 38 48.1**	**-1.0**
ZALV	**Zalesovo Beam**	**96.05**	**324**	P		**P**	**16 38 49.4**	**-1.0**
	1.7nm,0.7s,baz=108,slow=4.8,SNR=11							
ZALV				LR		LR	17 21 13.6	
	comp=Z,68nm,21.0s,baz=70,slow=35							
TXAR	**Lajitas Array**	**96.50**	**62**	LR		LR	17 16 39.3	
	comp=Z,56nm,19.8s,baz=0.0,slow=32							
ARCES	**ARCESS Array B**	**119.02**	**345**	PKP		**PKPdf**	**16 44 09.4**	**-1.8**
	1.6nm,0.5s,baz=83,slow

PCI	**Palu**	**2.42**	**238**	P	**Pn**	**16 41 11.4 +0.5**
TTSI	**Tana Toraja**	**3.98**	**211**	P	**Pn**	**16 41 31.1 +1.0**
KDI	**Kendari**	**4.36**	**170**	P	**Pn**	**16 41 35.5 +0.5**
SPSI	**Sidrap Palu**	**4.80**	**206**	P	**Pn**	**16 41 41.5 +0.8**
LBMI	**Labuha**	**5.70**	**100**	P	**Pn**	**16 41 52.7 +0.3**
	20nm,1.2s,0.3nm					
KAPI	**Kappang**	**5.76**	**202**	P	**Pn**	**16 41 53.7 +0.5**
	2.2nm,0.3s,baz=20,slow=5.3,SNR=7.7					
WRA	**Warramunga Arr**	**23.59**	**150**	P	**P**	**16 45 22.6 -1.7**
	4.6nm,0.4s,baz=326,slow=11,SNR=21					
ASAR	**Alice Springs**	**26.59**	**155**	P	**P**	**16 45 50.4 -1.2**
	0.8nm,0.5s,baz=342,slow=13,SNR=27					
STKA	**Stephens Creek**	**37.10**	**152**	P	**P**	**16 47 22.6 -0.4**
	2.8nm,0.7s,baz=328,slow=8.6,SNR=8.7					
SONM	**Songino Array**	**49.16**	**346**	P	**P**	**16 49 00.6 +1.1**
	1.6nm,0.6s,baz=164,slow=10,SNR=13					
ZALV	**Zalesovo Beam**	**61.52**	**336**	P	**P**	**16 50 26.4 -1.1**
	0.3nm,0.3s,baz=149,slow=3.0,SNR=3.5					
KURBB	**Kurchatov Arra**	**62.09**	**330**	P	**P**	**16 50 31.9 +0.5**
	0.5nm,0.4s,baz=115,slow=6.0,SNR=7.9					

*NEIC **02** 17:06:45.7, 32°.12N × 115°.17W, h1 km, ML3.9(PAS), ML4.1(ECX), After ECX.*
NEIC Felt at Mexicali and Tijuana. Also felt at Yuma, Arizona and at San Diego, California.
*ECX **02** 17:06:46.0 ± 0.5, 32°.12N × 115°.17W, h12 km, MD3.8, ML4.0*
*MEX **02** 17:06:46.1 ± 0.4, 32°.21N × 115°.00W, h33 km ± 5 km, MD4.0*

ISC 02 17:06:44.3 ± 1.1, 32°.13N ± 0°.02 × 115°.08W ± 0°.03, h24 km ± 11 km, n57, σ1§09/70, 7C-13D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CPBX	**Cerro Prieto**	**0.34**	**327**	*i* P		**Pb**	**17 06 52.0**	**+0.1**
CPBX				*i* S		**Sb**	**17 06 56.4**	**-0.7**
CPBX	**Cerro Prieto**	**0.34**	**327**	⇓*e*P		**Pb**	**17 06 52.0**	**+0.1**
CPBX				IAML			17 06 59.3	
	comp=N,64μm,0.3s							
CPBX				⇓*e*			17 06 59.3	
EMSC	**East Mesa**	**0.61**	**8**	⇓*i*P		**Pn**	**17 06 57.4**	**-0.2**
YMD	**Yuma Desert**	**0.62**	**47**	⇑*i*P		**Pn**	**17 06 57.8**	**+0.2**
ECBX	**El Chinero**	**0.66**	**178**	⇓*e*P		**Pn**	**17 06 57.6**	**-0.5**
ECBX				*e*S		**Sn**	**17 07 06.9**	**-0.7**
COA	**Coachella**	**0.73**	**357**	⇓*i*P		**Pb**	**17 06 58.7**	**+0.3**
DREC	**Desert Rsrch C**	**0.74**	**335**	⇓*i*P		**Pn**	**17 06 59.0**	**-0.3**
SGL	**Mount Signal**	**0.75**	**314**	⇓*i*P		**Pb**	**17 06 58.2**	**-0.5**
RDX	**Rancho Dawling**	**0.76**	**255**	⇑*i*P		**Pb**	**17 06 58.6**	**-0.3**
RDX				*e*S		**Sb**	**17 07 07.9**	**-1.0**
RDX				IAML			17 07 09.5	
	comp=N,6μm,0.4s							
RDX				⇓*e*			17 07 09.5	
ERPC	**Ernies Place**	**0.79**	**321**	*e*P		**Pb**	**17 06 59.4**	**+0.1**
WESC	**Westside Schoo**	**0.84**	**319**	⇑*e*P		**Pn**	**17 07 00.5**	**-0.1**
YUH	**Yuha Desert**	**0.88**	**306**	⇑*i*P		**Pb**	**17 07 00.1**	**-0.8**
GLA	**Glamis**	**0.95**	**13**	P		**Pb**	**17 07 01.9**	**-0.1**
	baz=1.0							
GLA				S		**Sn**	**17 07 15.2**	**+0.2**
	baz=1.0							
GLA	**Glamis**	**0.95**	**13**	*e*Pg		**Pb**	**17 07 01.1**	**-0.9**
GLA				*e*Sg		**Sb**	**17 07 13.7**	**-0.4**
RMX	**La Rumorosa**	**0.97**	**300**	⇑*e*P		**Pb**	**17 07 01.7**	**-0.8**
RMX				*e*S		**Sb**	**17 07 13.9**	**-1.0**
RMX				IAML			17 07 14.9	
	comp=N,5μm,0.1s							
IBP	**Imperial Bould**	**1.01**	**302**	P		**Pn**	**17 07 02.3**	**-0.8**
	baz=1.0							
IBP				S		**Sb**	**17 07 15.0**	**-1.0**
	baz=1.0							
SWSC	**Sam W. Stewart**	**1.01**	**323**	P		**Pn**	**17 07 01.9**	**-1.1**
	baz=1.0							
SPIG	**San Pedro Mart**	**1.13**	**197**	*i* P		**Pn**	**17 07 05.2**	**+0.3**
SPIG				*e*S		**Sn**	**17 07 20.4**	**+0.6**
SPIG	**San Pedro Mart**	**1.13**	**197**	*i* P		**Pn**	**17 07 05.2**	**+0.3**
SPIG				*e*S		**Sn**	**17 07 20.4**	**+0.6**
SPIG	**San Pedro Mart**	**1.13**	**197**	⇓*e*P		**Pn**	**17 07 05.2**	**+0.3**
SPIG				*e*S		**Sn**	**17 07 20.1**	**+0.3**
SPX	**San Pedro Mart**	**1.13**	**197**	*e*P		**Pn**	**17 07 05.1**	**+0.2**
SPX				*e*S		**Sb**	**17 07 20.0**	**+0.4**
SPX	**San Pedro Mart**	**1.13**	**197**	⇓*e*P		**Pb**	**17 07 05.3**	**0.0**
SPX				*e*S		**Sn**	**17 07 20.2**	**+0.3**
CBX	**Cerro Bola**	**1.35**	**278**	*i* P		**Pn**	**17 07 07.7**	**-0.1**
CBX				*e*S		**Sn**	**17 07 24.4**	**-0.8**
CBX	**Cerro Bola**	**1.35**	**278**	*i* P		**Pn**	**17 07 07.7**	**-0.1**
CBX				*e*S		**Sn**	**17 07 24.4**	**-0.8**
CBX	**Cerro Bola**	**1.35**	**278**	⇓*e*P		**Pn**	**17 07 08.2**	**+0.4**
CBX				⇓*e*			17 07 36.9	
CBX				AML		AML	17 07 36.9	
	comp=N,3μm,0.4s							
MONP	**Monument Peak**	**1.36**	**304**	P		**Pn**	**17 07 07.6**	**-0.5**
	baz=1.3							
MONP				S		**Sn**	**17 07 25.4**	**-0.1**
	baz=1.3							
ECNX	**Esteban Cantu**	**1.37**	**250**	⇓*e*P		**Pn**	**17 07 08.5**	**+0.4**
PBX	**Punta Banda**	**1.45**	**255**	⇑*e*P		**Pn**	**17 07 09.4**	**+0.4**
BAR	**Barrett**	**1.45**	**293**	⇑*e*P		**Pn**	**17 07 09.4**	**+0.3**
BC3	**Big Chuckawall**	**1.56**	**348**	P		**Pn**	**17 07 10.5**	**-0.1**
	baz=1.6							
BC3				S		**Sn**	**17 07 29.6**	**-0.5**
	baz=1.6							
SDRC	**San Diego Road**	**1.69**	**292**	*e*P		**Pb**	**17 07 13.6**	**-1.0**
109C	**Camp Elliot, M**	**1.87**	**294**	P		**Pn**	**17 07 15.2**	**+0.4**
	baz=1.8							
109C				Sb		**Sb**	**17 07 40.3**	**-0.4**
	baz=1.8							
PFO	**Pinyon Flat Ob**	**1.88**	**322**	P		**Pn**	**17 07 14.6**	**-0.5**
	baz=1.8							
PFO	**Pinyon Flat Ob**	**1.88**	**322**	*e*Pn		**Pn**	**17 07 14.3**	**-0.7**
214A	**Organ Pipe Nat**	**1.94**	**94**	P		**Pn**	**17 07 16.6**	**+0.9**
	baz=2.0							
214A	**Organ Pipe Nat**	**1.94**	**94**	*e*Pn		**Pn**	**17 07 16.5**	**+0.8**
IRM	**Iron Mountain**	**2.03**	**358**	P		**Pn**	**17 07 17.4**	**+0.4**
	baz=2.0							
MURC	**Murrieta**	**2.31**	**310**	P		**Pn**	**17 07 21.0**	**+0.1**
	baz=2.3							
MURC				Sb		**Sb**	**17 07 54.6**	**+1.2**
	baz=2.3							
GMRC	**Granite Mounta**	**2.69**	**350**	P		**Pn**	**17 07 26.6**	**+0.4**
	baz=2.7							
LDFC	**Landfair**	**2.94**	**360**	Pn		**Pn**	**17 07 31.3**	**+1.7**
BFSC	**Mount Baldy Ra**	**3.02**	**315**	Sb		**Sb**	**17 08 15.7**	**+1.9**
	baz=3.0							
CIS	**Catalina Islan**	**3.08**	**295**	Sb		**Sb**	**17 08 15.9**	**+0.5**
	baz=3.0							
MWC	**Mount Wilson**	**3.26**	**311**	Pn		**Pn**	**17 07 35.9**	**+1.8**
DECC	**Green Verdugo**	**3.45**	**309**	Sb		**Sb**	**17 08 28.6**	**+2.4**
	baz=3.4							
GSC	**Goldstone**	**3.48**	**336**	*e*Pn		**Pn**	**17 07 37.9**	**+0.9**
TUC	**Tucson**	**3.65**	**86**	*e*Pn		**Pn**	**17 07 39.1**	**-0.3**
TUC				*e*S		**Sn**	**17 08 17.6**	**-4.0**
SHPR	**Sheep Range**	**4.37**	**359**	*e*Pn		**Pn**	**17 07 51.6**	**+2.3**
ISA	**Isabella**	**4.51**	**322**	*e*Pn		Pn	17 07 56.3	+5.1
WUAZ	**Wupatki**	**4.58**	**41**	*e*Pn		Pn	17 07 55.5	+3.3
CCUT	**Cedar City**	**5.59**	**14**	*e*Pn		**Pn**	**17 08 08.8**	**+2.6**
	comp=N,18nm,0.9s							
121A	**Cookes Peak, D**	**6.19**	**84**	*e*Pn		**Pn**	**17 08 16.0**	**+1.7**
	comp=N,14nm,0.3s							
R11A	**Troy Canyon, C**	**6.22**	**356**	*e*Pn		**Pn**	**17 08 17.3**	**+2.5**
	comp=N,5.5nm,0.6s							
MSU	**Marysvale**	**6.80**	**20**	*e*Pn		**Pn**	**17 08 20.2**	**-2.5**
	comp=N,11nm,0.7s							
MVCO	**Mesa Verde**	**7.42**	**45**	*e*Pn		Pn	17 08 36.2	+4.9
	comp=N,12nm,0.7s							
SRU	**San Rafael**	**7.89**	**27**	Pn		Pn	17 08 44.7	+7.0
PV01	**Paradox Valley**	**8.02**	**40**	Pn		Pn	17 08 42.9	+3.4
PV04	**Paradox Valley**	**8.03**	**37**	*e*Pn		Pn	17 08 46.1	+6.5

MAN 02 17:10:58, 11°.18N × 124°.48E, h8 km, mb4.4, ML3.2, MS3.0, 3C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OCLP	**Ormoc**	**0.18**	**134**	*e*P		Pg	17 11 03.7	+1.9
PLP	**Palo**	**0.49**	**91**	⇑*e*P		Pb	17 11 08.5	-0.4
MSLP	**Maasin**	**1.10**	**160**	*e*P		Pn	17 11 19.7	-0.1
MSLP				*e*S		Sn	17 11 36.8	+1.6
CNP	**Catarman**	**1.34**	**8**	*e*P		Pb	17 11 23.4	+0.1
CNP				*e*S		Sg	17 11 42.3	+1.2
TBP	**Tagbilaran**	**1.59**	**202**	*e*P		Pn	17 11 26.5	-0.1
TBP				*e*S		Sg	17 11 49.7	+0.3
RCP	**Roxas**	**1.74**	**283**	⇑*e*P		Pn	17 11 28.9	+0.4
RCP				*e*S		Sb	17 11 52.6	+0.3
GUIM	**Jordan**	**1.93**	**254**	*e*P		Pn	17 11 31.3	+0.1
KALP	**Kalibo**	**2.16**	**284**	*e*P		Pg	17 11 38.7	-0.7
SNPH	**Sibulan**	**2.19**	**214**	⇓*i*P		Pn	17 11 23.4	-12
SNPH				*e*S		Sn	17 12 00.5	-1.8
PVCP	**Virac**	**2.43**	**353**	⇑*e*P		Pn	17 11 39.1	+1.2
PVCP				*e*S		Sn	17 12 03.1	-4.8
OTRP	**Odiongan**	**2.68**	**296**	*e*P		Pn	17 11 43.3	+1.8
AUQP	**San Andres**	**2.77**	**321**	*e*P		Pb	17 11 46.5	-1.3
SJMP	**San Jose**	**3.53**	**292**	*e*P		Pn	17 11 55.2	+2.1

*IDC **02** 17:16:20.4 ± 2.5, 26°.88S × 177°.93W, h198 km ± 15 km, mb3.7/7, mb1 3.9/8, mb1mx3.5/29, mbtmp4.3/8, Error ellipse: s-maj=36.6km s-min=16.5km az=40.0*
*ISCJB **02** 17:16:21.8 ± 0.9, 27°.32S ± 0°.05 × 178°.3W ± 0°.2, h202 km, mb3.8/7, Error ellipse: s-maj=19.2km s-min=6.5km az=7.4*

ISC 02 17:16:22.4 ± 1.1, 27°.47S ± 0°.09 × 178°.2W ± 0°.2, h202 km, n28, σ1§99/32, mb4.0/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**1.80**	**171**	P		**Pn**	**17 17 01.6**	**+2.5**
	148nm,0.3s,baz=143,slow=5.7,SNR=21							
RAO				S		S	17 17 36.4	+9.2
	153nm,0.3s,baz=90,slow=20,SNR=4.0							
MXZ	**Matakaoa Point**	**10.48**	**195**	*e*PN		**Pn**	**17 18 47.5**	**-0.3**
MXZ				*e*SN		**S**	**17 20 46.1**	**+1.0**
HAZ	**Te Kaha**	**10.80**	**197**	*e*PN		**Pn**	**17 18 50.7**	**-1.1**
HAZ				*e*SN		**S**	**17 20 55.0**	**+2.5**
PUZ	**Puketiti**	**10.98**	**195**	*e*PN		Pn	17 18 50.9	-3.2
PUZ				*e*SN		**S**	**17 20 55.7**	**-1.2**
TWGZ	**Tauwhareparae**	**11.15**	**196**	*e*SN		**S**	**17 21 02.3**	**+1.7**
MWZ	**Matawai**	**11.41**	**197**	*e*PN		**Pn**	**17 18 57.1**	**-2.5**
MWZ				*e*SN		**S**	**17 21 08.2**	**+1.4**
URZ	**Urewera**	**11.45**	**199**	P		**Pn**	**17 18 59.6**	**-0.6**
	0.3nm,0.3s,baz=277,slow=3.9,SNR=7.5							
URZ				S		**S**	**17 21 10.7**	**+3.0**
	4.9nm,0.3s,baz=303,slow=22,SNR=21							
URZ	**Urewera**	**11.45**	**199**	*e*PN		**Pn**	**17 19 00.6**	**+0.5**
URZ				*e*SN		**S**	**17 21 10.1**	**+2.4**
PXZ	**Pawanui**	**13.18**	**197**	*e*PN		Pn	17 19 18.2	-3.7
PXZ				*e*SN		**S**	**17 21 46.2**	**-2.4**
TSZ	**Takapari Road**	**13.46**	**200**	*e*SN		**S**	**17 21 54.5**	**-0.6**
BFZ	**Birch Farm**	**13.95**	**198**	*e*SN		**S**	**17 22 03.1**	**-3.5**
MRZ	**Mangatainoka R**	**14.12**	**200**	*e*PN		**Pn**	**17 19 33.2**	**-0.5**
MRZ				*e*SN		**S**	**17 22 06.8**	**-3.8**
CAW	**Cannon Point**	**14.69**	**200**	*e*SN		**S**	**17 22 20.4**	**-3.1**
THZ	**Tophouse**	**16.01**	**205**	*e*PN		**Pn**	**17 19 57.7**	**+1.0**
THZ				*e*SN		**S**	**17 22 51.7**	**-2.1**
MQZ	**McQueen's Vall**	**17.80**	**202**	*e*SN		**S**	**17 23 28.3**	**-1.4**
CTA	**Charters Tower**	**33.24**	**275**	P		**P**	**17 22 41.1**	**+0.4**
	1.7nm,0.4s,baz=97,slow=11,SNR=6.0							
ASAR	**Alice Springs**	**43.14**	**264**	P		P	17 24 04.7	+1.4
	0.9nm,0.5s,baz=93,slow=6.9,SNR=52							
WRA	**Warramunga Arr**	**43.86**	**269**	P		**P**	**17 24 09.1**	**+0.1**
	1.9nm,0.7s,baz=106,slow=7.7,SNR=8.5							
VNDA	**Vanda**	**50.99**	**185**	P		P	17 25 06.3	+3.3
	0.7nm,0.6s,baz=6.1,slow=8.7,SNR=7.3							
NWAO	**Narrogin (SRO)**	**55.29**	**247**	P		**P**	**17 25 35.8**	**+0.7**
	22nm,1.1s,baz=148,slow=9.1,SNR=3.8							
QSPA	**South Pole Qui**	**62.63**	**180**	P		P	17 26 28.5	+3.3
	2.0nm,0.6s,baz=35,slow=0.6,SNR=21							
MAW	**Mawson**	**74.98**	**200**	P		**P**	**17 27 43.5**	**+2.5**
	3.0nm,0.6s,baz=119,slow=6.3,SNR=7.0							
SNAA	**Sanae**	**81.08**	**179**	P		**P**	**17 28 12.1**	**-2.5**
VNA1	**Neumayer--Stat**	**81.90**	**177**	P		**P**	**17 28 19.9**	**+1.1**
HFS	**Hagfors**	**146.34**	**349**	PKPbc		**PKPdf**	**17 35 36.7**	**-0.4**
	2.6nm,1.1s,baz=33,slow=3.4,SNR=6.0							
MMAI	**Mount Meron Ar**	**150.50**	**289**	PKPbc		**PKPbc**	**17 35 48.7**	**-1.8**
	1.3nm,0.5s,baz=97,slow=7.0,SNR=3.8							
DBIC	**Dimbokro**	**158.38**	**162**	PKPab		**PKPab**	**17 36 29.4**	**-2.1**
	15nm,0.6s,baz=161,slow=23,SNR=37							
TORD	**Torodi Ar. Bea**	**165.75**	**180**	PKPab		**PKPab**	**17 37 03.4**	**-0.3**
	0.7nm,0.7s,baz=190,slow=3.2,SNR=4.0							

JMA 02 17:25:36.2 ± 0.3, 32°.95N × 142°.31E, h18 km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BSO1	**Boso 1**	**2.03**	**327**	P		Pb	17 26 10.4	-1.4
BSO1				*e*S		Sb	17 26 35.6	-0.7
BSO3	**Boso 3**	**2.38**	**321**	P		Pb	17 26 15.9	+2.0
BSO3				*e*S		Sb	17 26 45.4	-1.5
JYN	**Shimob**	**4.02**	**310**	P		Pn	17 26 39.3	+2.3
JAG	**Ashikaga**	**4.19**	**327**	*e*S		Sn	17 27 27.9	+0.2
JFT	**Otama**	**4.83**	**341**	P		Pn	17 26 49.9	+1.8
JFT				*e*S		Sn	17 27 41.6	-2.1

IDC 02 17:53:07.6 ± 1.0, 14°.50S × 166°.33E, h0 km, mb3.7/3, mb1 3.9/3, mb1mx3.4/43, mbtmp3.7/3, Error ellipse: s-maj=1033.0km s-min=108.9km az=65.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**28.46**	**228**	P		P	17 59 04.1	-0.3
	0.7nm,0.5s,baz=50,slow=9.2,SNR=5.5							
WRA	**Warramunga Arr**	**31.00**	**255**	P		P	17 59 27.3	+0.1
	0.3nm,0.5s,baz=85,slow=9.2,SNR=3.1							
ASAR	**Alice Springs**	**31.91**	**248**	P		P	17 59 35.2	0.0
	0.3nm,0.3s,baz=76,slow=9.2,SNR=22							

*IDC **02** 17:58:51.5 ± 1.4, 9°.06S × 160°.82E, h0 km, mb3.8/6, mb1 4.0/7, mb1mx3.8/35, mbtmp3.9/7, ML3.0/1, Error ellipse: s-maj=47.0km s-min=24.1km az=116.0*

ISC 02 17:58:54.3 ± 1.0, 9°.4S ± 0°.1 × 161°.6E ± 0°.1, h35 km, n8, σ2§01/9, mb3.6/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**1.59**	**269**	*e*P		**Pn**	**17 59 20.0**	**0.0**
HNR				*e*S		**Sn**	**17 59 42.0**	**+2.6**
DZM	**Mont Dzumac**	**13.44**	**160**	Pn		**P**	**18 02 12.7**	**+1.1**
	0.1nm,0.3s,baz=90,slow=20,SNR=3.0							
WRA	**Warramunga Arr**	**28.29**	**245**	P		**P**	**18 04 42.9**	**-2.0**
	0.9nm,0.6s,baz=76,slow=8.6,SNR=6.1							
STKA	**Stephens Creek**	**29.03**	**217**	P		**P**	**18 04 50.9**	**-0.4**
	0.6nm,0.4s,baz=41,slow=11,SNR=5.5							
ASAR	**Alice Springs**	**29.98**	**238**	P		**P**	**18 04 58.5**	**-1.3**
	1.0nm,0.5s,baz=62,slow=10,SNR=55							
SONM	**Songino Array**	**74.94**	**325**	P		**P**	**18 10 29.6**	**-2.4**
	0.5nm,0.7s,baz=148,slow=6.5,SNR=3.7							
ILAR	**Eielson Array**	**83.32**	**20**	P		**P**	**18 11 19.5**	**+2.2**
	0.2nm,0.5s,baz=228,slow=6.8,SNR=3.7							
ZALV	**Zalesovo Beam**	**89.84**	**325**	P		**P**	**18 11 49.7**	**+0.3**
	0.2nm,0.4s,baz=128,slow=9.3,SNR=2.6							

IDC 02 18:19:13.5 ± 3.9, 6°.78S × 80°.64W, h0 km, mb3.5/3, mb1 3.9/4, mb1mx3.6/19, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=186.6km s-min=32.7km az=38.0, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
LPAZ	**La Paz**	**15.46**	**129**	Pn		Pn	18 22 53.0	-0.9
	0.1nm,0.3s,baz=308,slow=5.4,SNR=2.5							
TXAR	**Lajitas Array**	**42.20**	**329**	P		P	18 27 07.6	-0.8
	0.2nm,0.5s,baz=145,slow=9.9,SNR=4.5							
NVAR	**Mina Array Bea**	**56.99**	**325**	P		P	18 29 01.8	+0.4
	0.6nm,0.6s,baz=139,slow=7.0,SNR=5.0							
TORD	**Torodi Ar. Bea**	**84.12**	**76**	P		P	18 31 47.4	+0.2
	0.2nm,0.5s,baz=286,slow=5.3,SNR=4.1							

*IDC **02** 18:20:20.3 ± 0.7, 25°.28N × 96°.60E, h0 km, mb3.8/13, mb1 3.9/14, mb1mx3.7/43, mbtmp3.8/14, ML3.8/1, MS4.0/4, Ms1 4.0/4, ms1mx3.4/45, Error ellipse: s-maj=28.4km s-min=13.8km az=52.0*
*ISCJB **02** 18:20:21.8 ± 0.5, 25°.14N ± 0°.07 × 96°.49E ± 0°.07, h25 km, mb3.9/15, MS4.0/4, Error ellipse: s-maj=11.3km s-min=6.2km az=40.7*
*NEIC **02** 18:20:25.2 ± 0.5, 25°.31N × 96°.75E, h35 km, mb4.4/2, Error ellipse: s-maj=15.3km s-min=8.1km az=57.0*

ISC 02 18:20:24.0 ± 0.6, 25°.21N ± 0°.10 × 96°.6E ± 0°.1, h25 km, n32, σ0§92/30, mb3.9/15, MS3.8/4, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
LSA	**Lhasa**	**6.58**	**314**	*e*Pn		**Pn**	**18 22 00.4**	**+0.8**
	11nm,0.7s							
LSA				*e*Sn		**Sn**	**18 23 15.9**	**+1.8**
CHTO	**Chiang Mai**	**6.73**	**161**	*e*Pn		**Pn**	**18 22 00.3**	**-0.9**
	10nm,0.8s							
CMAR	**Chiang Mai Arr**	**7.06**	**161**	Pn		**Pn**	**18 22 07.6**	**+1.8**
	0.4nm,0.3s,baz=337,slow=13,SNR=11							
TAPN	**Taplejung**	**8.24**	**287**	*e*P		**Pn**	**18 22 21.5**	**-0.8**
	17nm,0.4s							
ODAN	**Odare**	**8.43**	**283**	*e*P		**Pn**	**18 22 26.2**	**+1.4**
	109nm,0.8s							
PKI	**Pulchoki**	**10.29**	**286**	*e*P		**Pn**	**18 22 49.8**	**-0.6**
	12nm,0.5s							
PKIN	**Phulchoki**	**10.30**	**286**	*e*P		**Pn**	**18 22 49.7**	**-0.8**
	18nm,0.6s							
KKN	**Kakani**	**10.44**	**287**	*e*P		**Pn**	**18 22 51.8**	**-0.6**
	20nm,0.6s							
DMN	**Daman**	**10.56**	**286**	*e*P		**Pn**	**18 22 53.3**	**-0.7**
	19nm,0.7s							
GKN	**Gorkha**	**11.04**	**287**	*e*P		**Pn**	**18 22 59.8**	**-0.8**
	19nm,0.5s							
KOLN	**Koldanda**	**11.90**	**285**	*e*P		**Pn**	**18 23 11.9**	**-0.5**
ENH	**Enshi**	**12.49**	**63**	Pn		Pn	18 23 15.5	-4.7
SONM	**Songino Array**	**23.88**	**16**	P		**P**	**18 25 36.0**	**+0.3**
	0.8nm,0.6s,baz=200,slow=9.9,SNR=6.2							
MK31	**Makanchi Array**	**24.37**	**336**	*e*P		**P**	**18 25 39.8**	**-0.3**
TKM2	**Tokmak 2**	**24.68**	**321**	P		**P**	**18 25 41.4**	**-1.7**
KURBB	**Kurchatov Arra**	**28.94**	**336**	P		**P**	**18 26 20.4**	**-0.6**
	0.9nm,0.7s,baz=146,slow=8.9,SNR=14							
KURK	**Kurchatov**	**28.98**	**336**	P		**P**	**18 26 20.4**	**-1.0**
ZALV	**Zalesovo Beam**	**30.02**	**346**	P		**P**	**18 26 29.4**	**-1.2**
	1.4nm,0.6s,baz=169,slow=9.1,SNR=5.5							
BVAR	**Borovoye Array**	**34.05**	**332**	P		**P**	**18 27 06.1**	**+0.1**
	0.9nm,0.5s,baz=128,slow=9.6,SNR=9.0							
BVAR				LR		LR	18 44 00.9	
	comp=Z,148nm,19.6s,baz=126,slow=42							
BRVK	**Borovoye**	**34.12**	**332**	*e*P		**P**	**18 27 08.1**	**+1.5**
	2.5nm,0.6s							
GEYT	**Ailbeck**	**34.90**	**301**	P		**P**	**18 27 14.2**	**+0.5**
	2.6nm,0.9s,baz=46,slow=4.2,SNR=2.5							
MJAR	**Matsushiro Arr**	**37.22**	**62**	P		**P**	**18 27 33.2**	**-0.3**
	0.8nm,0.5s,baz=270,slow=9.2,SNR=4.0							
ABKAR	**Akbulak array**	**37.23**	**320**	*e*P		**P**	**18 27 33.4**	**0.0**
	5.6nm,0.9s							
AKTO	**Aktyubinsk**	**38.87**	**321**	P		**P**	**18 27 46.8**	**-0.4**
	0.7nm,0.4s,baz=84,slow=10,SNR=3.3							
AKTO				LR		LR	18 44 40.4	
	comp=Z,101nm,18.6s,baz=256,slow=38							
YAK	**Yakutsk**	**43.01**	**22**	LR		LR	18 46 55.0	
	comp=Z,159nm,19.8s,baz=55,slow=37							
BRTR	**Keskin Array B**	**54.03**	**302**	P		**P**	**18 29 46.0**	**-0.5**
	0.8nm,0.8s,baz=90,slow=7.2,SNR=2.6							
WRA	**Warramunga Arr**	**57.98**	**137**	P		**P**	**18 30 15.4**	**+0.7**
	1.4nm,0.7s,baz=326,slow=7.6,SNR=6.1							
FINES	**FINESS Array B**	**58.89**	**328**	P		**P**	**18 30 20.4**	**-0.1**
	0.4nm,0.5s,baz=106,slow=10,SNR=3.9							
ASAR	**Alice Springs**	**60.56**	**140**	P		**P**	**18 30 33.2**	**+0.6**
	1.2nm,0.7s,baz=318,slow=6.3,SNR=18							
CTA	**Charters Tower**	**66.02**	**128**	LR		LR	19 03 49.1	
	comp=Z,470nm,19.7s,baz=294,slow=40							
GERES	**GERESS Array B**	**66.91**	**315**	P		**P**	**18 31 14.0**	**-0.3**
	0.2nm,0.4s,baz=64,slow=4.5,SNR=2.9							
STKA	**Stephens Creek**	**71.20**	**141**	P		**P**	**18 31 40.6**	**-0.3**
	0.5nm,0.4s,baz=333,slow=9.0,SNR=3.2							

*ISCJB **02** 18:23:07.0 ± 0.5, 10°.25N ± 0

CHTO pmax pmax
comp=Z,38nm,1.0s
CHTO Chiang Mai 10.73 37 *e*Pn **Pn 18 25 42.2 +0.7**
comp=Z,38nm,1.0s
LAMP Lampang 10.94 41 P **Pn 18 25 47.4 +3.1**
comp=Z,19nm,0.8s,comp=Z,218nm
CHAI Chaiyaphum 11.09 59 P **Pn 18 25 48.6 +2.2**
comp=Z,26nm,1.5s,comp=Z,279nm
VIS Vishakhapatnam 11.32 312 *i* P **Pn 18 25 48.9 -0.5**
VIS AMB AMB 18 25 49.9
comp=Z,781nm,0.5s
VIS *i* S Sn 18 27 45.1 -10
CHLP Challavanipeta 11.33 317 *e*Pn **Pn 18 25 47.6 -2.1**
CHLP IAmb IAmb 18 25 48.8
comp=Z,242nm,0.8s
CHLP *e* 18 27 43.0
CHLP Sn **Sn 18 27 57.6 +2.1**
CHLP IVMs_BB IVMs_BB 18 30 56.2
comp=Z,3μm,16.6s
CMAI Chiengmai2 11.68 34 P **Pn 18 25 56.2 +1.6**
comp=Z,75nm,0.9s
PALK Pallekele 11.70 256 Pn **Pn 18 25 54.5 -0.3**
comp=Z,317nm,1.1s,SNR=5.5
PALK Pallekele 11.70 256 Pn Pn 18 25 48.3 -6.5
comp=Z,4.1nm,0.3s,baz=76,slow=12,SNR=18
PALK Sn Sn 18 27 49.9 -15
comp=Z,29nm,0.3s,baz=356,slow=19,SNR=9.2
PALK LR LR 18 30 17.8
comp=Z,8μm,18.1s,baz=57,slow=36
PALK Pallekele 11.70 256 Pn Pn 18 25 48.3 -6.5
PALK *e*Sn Sn 18 27 53.1 -12
FRIM Kepong 11.71 126 ⇓P **Pn 18 25 56.6 +1.7**
FRIM Kepong 11.71 126 ⇓P **Pn 18 25 56.6 +1.7**
KTGM Kuala Trenggan 11.93 113 ⇓P **Pn 18 25 59.9 +1.9**
KTGM Kuala Trenggan 11.93 113 ⇓P **Pn 18 25 59.9 +1.9**
MNSI Mandailing Nat 11.96 141 P **Pn 18 25 59.6 +1.2**
comp=Z,45nm,1.4s,comp=Z,1μm
MDRS Chennai 11.99 285 *e*P **Pn 18 25 57.7 -0.9**
MDRS AMB AMB 18 25 59.1
comp=Z,524nm,0.5s
KHON Khomkaen 12.00 59 P Pn 18 26 05.0 +6.1
comp=Z,40nm,1.2s,comp=Z,508nm
PVM Polavaram 12.35 305 *e*Pn **Pn 18 26 02.6 -1.0**
PVM IAmb IAmb 18 26 05.6
comp=Z,229nm,1.3s
PVM *e* 18 28 07.8
PVM *e*Sn **Sn 18 28 20.5 0.0**
PVM IVMs_BB IVMs_BB 18 31 58.8
comp=Z,2μm,15.4s
SKHT Srikalahasti 12.65 287 *e*Pn **Pn 18 26 07.1 -0.6**
SKHT IAmb IAmb 18 26 09.5
comp=Z,617nm,0.7s
SKHT *e* 18 28 13.9
SKHT Sn **Sn 18 28 30.5 +2.6**
SKHT IVMs_BB IVMs_BB 18 32 09.6
comp=Z,3μm,16.9s
CRAI Chiangrai 12.68 38 P **Pn 18 26 07.0 -1.1**
ADKI Addanki 13.10 296 *e*Pn **Pn 18 26 12.9 -0.9**
ADKI IAmb IAmb 18 26 13.8
comp=Z,154nm,0.8s
ADKI *e* 18 28 24.4
ADKI Sn **Sn 18 28 40.0 +1.3**
ADKI IVMs_BB IVMs_BB 18 31 27.8
comp=Z,2μm,17.7s
SKNT Sakolnakorn 13.28 59 P **Pn 18 26 18.8 +2.4**
comp=Z,90nm,1.3s,comp=Z,2μm
KGM Kluang 13.80 126 ⇑P **Pn 18 26 23.3 -0.1**
KGM Kluang 13.80 126 ⇑P **Pn 18 26 23.3 -0.1**
RCLA Racherla 13.86 293 *e*Pn **Pn 18 26 22.9 -1.3**
RCLA IAmb IAmb 18 26 31.3
comp=Z,133nm,0.7s
RCLA *e* 18 28 41.3
RCLA Sn **Sn 18 28 57.6 +0.2**
RCLA IVMs_BB IVMs_BB 18 31 40.4
comp=Z,2μm,16.0s
UBPT Khong Chiam 13.91 68 P **Pn 18 26 27.1 +2.2**
comp=Z,51nm,2.4s,comp=Z,2μm
NJS Nagarjunasagar 13.97 298 *e*Pn **Pn 18 26 23.3 -2.4**
NJS IAmb IAmb 18 26 36.3
comp=Z,175nm,1.0s
NJS *e* 18 28 45.6
NJS Sn **Sn 18 29 02.0 +2.0**
NJS IVMs_BB IVMs_BB 18 33 32.0
comp=Z,2μm,17.1s
SRLM Srisailam 14.15 296 *e*Pn **Pn 18 26 26.9 -1.3**
SRLM IAmb IAmb 18 26 38.4
comp=Z,208nm,0.8s
SRLM *e* 18 28 50.3
SRLM Sn **Sn 18 29 07.1 +2.6**
SRLM IVMs_BB IVMs_BB 18 37 27.5
comp=Z,2μm,12.4s
MYKOM Kota Tinggi 14.36 125 ⇓P **Pn 18 26 31.0 -0.1**
MYKOM Kota Tinggi 14.36 125 ⇓P **Pn 18 26 31.0 -0.1**
MYKOM Kota Tinggi 14.36 125 *e*Pn **Pn 18 26 29.7 -1.4**
SDSI Sungai Dareh 14.46 140 P **Pn 18 26 33.4 +0.9**
comp=Z,35nm,1.1s,comp=Z,15μm
BOK Bokaro 14.72 337 *e*P **Pn 18 26 35.8 -0.1**
BOK AMB AMB 18 26 52.7
comp=Z,84nm,1.1s
HYB Hyderabad 14.99 300 *i* P **Pn 18 26 36.5 -3.1**
comp=Z,143nm,0.8s
HYB *e*S **Sn 18 29 22.0 -3.0**
HYB LR LR 18 34 12.0
comp=Z,6.7nm,16.0s
HYB Hyderabad 14.99 300 *e*P **Pn 18 26 37.9 -1.7**
HYB AMB AMB 18 26 47.2
comp=Z,134nm,1.9s
HYBB Hyderabad (bro 14.99 300 *e*Pn **Pn 18 26 38.1 -1.5**
HYBB IAmb IAmb 18 26 38.5
comp=Z,23nm,0.8s
HYBB *e* 18 29 12.1
HYBB *e*Sn **Sn 18 29 25.0 0.0**
HYBB IVMs_BB IVMs_BB 18 34 21.2
comp=Z,2μm,16.5s
RPR Rampur 15.08 306 *e*Pn **Pn 18 26 39.5 -1.4**
RPR IAmb IAmb 18 26 41.5
comp=Z,120nm,0.9s
RPR *e* 18 29 14.1
RPR Sn **Sn 18 29 29.7 +2.5**
RPR IVMs_BB IVMs_BB 18 34 10.6
comp=Z,2μm,17.7s
TRD Trivandrum 15.10 265 *e*P **Pn 18 26 38.6 -2.4**
TRD AMB AMB 18 26 48.4
comp=Z,133nm,0.6s
SHL Shillong 15.21 359 *e*P **Pn 18 26 41.4 -1.3**
SHL AMB AMB 18 26 48.8
comp=Z,215nm,0.3s
URV Uravakonda 15.26 289 *e*Pn **Pn 18 26 42.0 -1.2**
URV IAmb IAmb 18 26 44.4
comp=Z,83nm,0.8s
URV *e* 18 29 14.7
URV Sn **Sn 18 29 33.9 +2.4**
URV IVMs_BB IVMs_BB 18 33 25.8
comp=Z,2μm,17.9s
SLVN Son La 15.76 44 *e*Pn **Pn 18 26 49.3 -0.4**
comp=Z,129nm,1.1s
SRSP Sriramsagar 15.88 304 *e*Pn **Pn 18 26 49.4 -2.0**
SRSP IAmb IAmb 18 26 57.0
comp=Z,129nm,1.1s
SRSP *e* 18 29 34.0
SRSP Sn **Sn 18 29 49.1 +2.3**
SRSP IVMs_BB IVMs_BB 18 34 14.6
comp=Z,2μm,16.5s
NGP Nagpur 16.60 312 ⇓*e*P **Pn 18 27 01.6 +1.2**
NGP *ex* x 18 27 14.9
comp=Z,214nm,1.0s
NGP *ex* x 18 29 49.3
KLRI Killari 16.95 299 *e*Pn **Pn 18 27 03.5 -1.4**
KLRI IAmb IAmb 18 27 08.8
comp=Z,223nm,1.2s
KLRI *e* 18 29 56.7
KLRI *e*Sn **Sn 18 30 11.9 -0.7**
KLRI IVMs_BB IVMs_BB 18 35 25.7
comp=Z,2μm,18.5s
ODAN Odare 17.10 345 *e*P **Pn 18 27 07.2 +0.3**
comp=Z,228nm,0.9s
LATR Latur 17.13 300 *e*P **Pn 18 27 07.0 -0.1**
RAMN Ramite 17.40 343 *e*P **Pn 18 27 11.2 +0.6**
comp=Z,2μm,1.9s
TAPN Taplejung 17.50 347 *e*P **P 18 27 12.6 -0.3**
comp=Z,448nm,1.1s
KMI Kunming 17.87 33 ⇑P **P 18 27 17.1 +0.1**
KMI pP **pP 18 27 23.4 -0.6**
KMI sP **sP 18 27 27.1 -0.2**
KMI PP **PnPn 18 27 31.2 +3.7**
KMI S **Sn 18 30 35.9 +0.8**
KMI sS **S 18 30 44.3 +3.0**
KMI SS **SnSn 18 30 56.6 +7.5**
KMI PMZ
comp=Z,100nm,1.0s
KMI PMZ
comp=Z,690nm,7.2s
KMI LN
comp=Z,3μm,19.2s
KMI LE
comp=Z,4μm,18.0s
KMI LZ
comp=Z,3μm,16.2s
AKL Akola 17.88 307 *e*P **P 18 27 17.1 +0.1**
AKL AMB AMB 18 27 30.1
comp=Z,131nm,3.1s
MNAI Manna 18.09 143 P **Pn 18 27 18.2 -0.7**
baz=18,SNR=4.7
PKI Pulchoki 18.34 341 *e*P **Pn 18 27 22.7 +0.3**
comp=Z,224nm,0.8s
PKIN Phulchoki 18.35 341 *e*P **Pn 18 27 22.6 +0.2**
DMN Daman 18.48 340 *e*P **Pn 18 27 24.5 +0.6**
comp=Z,390nm,1.0s
GUN Gumba 18.51 342 *e*P **Pn 18 27 25.0 +0.6**
KKN Kakani 18.59 341 *e*P **Pn 18 27 25.2 0.0**
comp=Z,200nm,1.0s
GOA Goa 18.60 288 *e*P **P 18 27 23.7 -1.2**
GOA AMB AMB 18 27 28.9
comp=Z,124nm,0.3s
MDSI Maura Dua 18.93 140 P **P 18 27 25.8 -2.7**
comp=Z,37nm,1.4s
GKN Gorkha 19.00 339 *e*P **Pn 18 27 30.2 0.0**
comp=Z,216nm,0.8s
BHPL Bhopal 19.09 314 *e*P **Pn 18 27 31.9 +0.8**
BHPL AMB AMB 18 27 42.2
comp=Z,218nm,0.6s
KOLN Koldanda 19.18 336 *e*P **Pn 18 27 32.9 +0.6**
comp=Z,99nm,0.6s
QIZ Qiongzhong 19.19 61 P **P 18 27 31.5 +0.2**
QIZ sP **sP 18 27 40.1 -1.5**
QIZ S **Sn 18 31 05.7 -1.1**
QIZ LN
comp=Z,2μm,21.5s
QIZ LE
comp=Z,1μm,18.6s
QIZ LZ
comp=Z,4μm,18.3s
QIZ Qiongzhong 19.19 61 *e*P **P 18 27 29.5 -1.8**
comp=Z,62nm,1.2s
LWLI Liwa 19.27 141 P **Pn 18 27 33.7 +0.3**
comp=Z,87nm,0.7s
LSA Lhasa 19.35 357 P **Pn 18 27 34.6 -0.1**
LSA pP **pP 18 27 42.6 +2.1**
LSA S S 18 31 04.0 -7.3
LSA LN
comp=Z,2μm,15.8s
LSA LE
comp=Z,4μm,17.9s
LSA LZ
comp=Z,4μm,17.9s
LSA Lhasa 19.35 357 ⇑*i*P **Pn 18 27 34.3 -0.4**
LSA *e* 18 31 05.6
LSA pmax pmax
comp=Z,231nm,1.1s
LSA Lhasa 19.35 357 ⇑*i*P **Pn 18 27 34.2 -0.4**
comp=Z,231nm,1.1s
LSA *e*Sn **S 18 31 05.6 -5.7**
POO Poona 19.52 297 ⇓*i*P **P 18 27 35.0 0.0**
comp=Z,10.0nm,1.2s
POO *e*P **Pn 18 27 36.4 0.0**
POO AMB AMB 18 27 37.9
comp=Z,142nm,0.8s
POO *e*PP **PnPn 18 27 50.5 +0.4**
KSM Kuching 20.05 115 P **P 18 27 40.0 -0.8**
baz=20,SNR=22
KSM Kuching 20.05 115 ⇓P **P 18 27 40.7 0.0**
KSM Kuching 20.05 115 ⇓P **P 18 27 40.7 0.0**
KSM Kuching 20.05 115 *e*P **P 18 27 39.5 -1.3**
comp=Z,150nm,1.1s
TPI Tanjungpandan 20.14 129 P **P 18 27 41.9 +0.2**
comp=Z,55nm,1.4s,comp=Z,754nm
GYA Guiyang 21.15 38 ⇑*i*P **P 18 27 52.3 -0.4**
GYA pP **pP 18 28 02.0 +2.2**
GYA PP **PnPn 18 28 19.6 +7.2**
GYA S **S 18 31 43.9 -3.0**
GYA sS **sS 18 31 56.5 -1.7**
GYA SS **SnSn 18 32 18.0 +8.5**
GYA PMZ
comp=Z,170nm,1.1s
GYA PMZ
comp=Z,500nm,9.6s
GYA LN
comp=Z,2μm,20.1s
GYA LE
comp=Z,4μm,16.4s
GYA LZ
comp=Z,4μm,17.3s
SBUM Sibu 21.39 110 ⇑P **P 18 27 54.4 -0.8**
SBUM Sibu 21.39 110 ⇑P **P 18 27 54.4 -0.8**
SBUM Sibu 21.39 110 *e*P **P 18 27 54.0 -1.2**
comp=Z,98nm,1.2s
SBUM LR LR
comp=Z,4μm,20.0s
STKI Sintang 21.73 117 P **P 18 27 58.1 -0.8**
comp=Z,88nm,1.3s,comp=Z,2μm
BTM Bintulu 21.93 107 ⇓P **P 18 28 01.6 +0.6**
BTM Bintulu 21.93 107 ⇓P **P 18 28 01.6 +0.6**
LGTI Lohaghat 22.09 331 *ex* **P 18 28 07.2 +4.6**
LGTI *ex* x 18 32 03.4
BHV Bhavnagar 22.33 303 *e*P **S 18 32 07.5 -2.1**
NDI New Delhi 23.06 325 *ex* **P 18 28 11.0 -1.9**
NDI *ex* x 18 32 18.0
CD2 Chengdu 23.20 26 P **P 18 28 13.1 -1.2**
CD2 pP **pP 18 28 21.0 -0.6**
CD2 sP **sP 18 28 24.6 -0.2**
CD2 PcP **PcP 18 32 00.2 -2.0**
CD2 S **S 18 32 24.2 -0.5**
CD2 sS **sS 18 32 37.5 +0.2**
CD2 PcS **PcS 18 35 39.6 -1.9**
CD2 PMZ
comp=Z,820nm,1.1s
CD2 PMZ
comp=Z,900nm,3.9s
CD2 LN
comp=Z,4μm,16.0s
CD2 LZ
comp=Z,3μm,15.2s
PBKI Pangkalan Bun 23.32 123 P **P 18 28 18.2 +2.5**
comp=Z,168nm,1.1s
CISI Cisompet, Garu 23.60 138 PFAKE 18 28 30.0 +12
CISI LR LR
comp=Z,4μm,20.0s
DDI Dehra Dun 23.89 329 *e*P **P 18 28 22.2 +1.2**
DDI AMB AMB 18 28 32.2
comp=Z,256nm,1.6s
GZH Guangzhou 23.92 55 P **P 18 28 25.6 +4.2**
GZH PP PnPn 18 29 01.4 +11
GZH S **S 18 32 42.3 +5.8**
GZH SS SnSn 18 33 34.2 +17
GZH LR LR
comp=N,3μm,18.9s
GZH LR LR
comp=E,4μm,19.2s
GZH LR LR
comp=Z,5μm,17.3s
KKM Kota Kinabalu 24.18 98 P **P 18 28 24.9 +0.9**
baz=24,SNR=36
KKM Kota Kinabalu 24.18 98 ⇑P **P 18 28 25.2 +1.2**
KKM Kota Kinabalu 24.18 98 ⇑P **P 18 28 25.2 +1.2**
KKM Kota Kinabalu 24.18 98 *e*P **P 18 28 23.8 -0.3**
comp=Z,255nm,1.5s
KKM LR LR
comp=Z,2μm,18.0s
KDM Kudat 24.62 96 ⇓P **P 18 28 28.4 +0.4**
KDM Kudat 24.62 96 ⇓P **P 18 28 28.4 +0.4**
SMLA Simla 24.99 328 *e*P **P 18 28 32.4 +1.4**
SMLA AMB AMB 18 28 42.8
comp=Z,632nm,0.7s
SMLA *i* x 18 33 12.4
SDKM Sandakan 25.22 99 ⇑P **P 18 28 32.5 -0.9**
SDKM Sandakan 25.22 99 ⇑P **P 18 28 32.5 -0.9**
SDNR Sundarnagar 25.38 329 *ex* P 18 28 44.0 +9.3
ENH Enshi 25.63 37 ⇑*i*P **P 18 28 35.5 -1.4**
comp=Z,153nm,0.9s
ENH LR LR
comp=Z,4μm,18.0s
TSM Tawau 26.18 101 ⇓P **P 18 28 41.8 -0.3**
TSM Tawau 26.18 101 ⇓P **P 18 28 41.8 -0.3**
DHRM DHARAMSHALA 26.32 329 *e*P **P 18 28 45.1 +1.6**
DHRM AMB AMB 18 28 51.8
comp=Z,59nm,2.7s
DGAR Diego Garcia 26.33 229 PFAKE 18 29 00.0 +17
DGAR LR LR
comp=Z,6μm,19.0s
BBKI Banjar Baru 26.39 120 P **P 18 28 46.6 +2.6**
comp=Z,231nm,1.3s
H08S3 Diego Garcia H 26.45 229 T T 18 56 05.5
baz=48,slow=76
H08S2 Diego Garcia H 26.46 228 T T 18 56 05.5
baz=48,slow=76,SNR=5669
H08S1 Diego Carcia H 26.47 228 T T 18 56 05.5
baz=48,slow=76,SNR=4231
MYLDM Lahad Datu 26.58 99 ⇑P **P 18 28 47.1 +1.4**
MYLDM Lahad Datu 26.58 99 ⇑P **P 18 28 47.1 +1.4**
MYLDM Lahad Datu 26.58 99 *e*P **P 18 28 46.0 +0.3**
comp=Z,817nm,2.2s
MYLDM LR LR
comp=Z,3μm,21.0s
LZH Lanzhou 27.80 21 ⇑P **P 18 28 56.6 0.0**
LZH pP **pP 18 29 05.9 +1.6**
LZH sP **sP 18 29 10.0 +2.6**
LZH PP **PnPn 18 29 46.0 +2.7**
LZH S **S 18 33 36.1 -2.1**
LZH sS **sS 18 33 50.3 -0.6**
LZH SS **SnSn 18 34 54.2 +2.1**
LZH PMZ
comp=Z,160nm,1.2s
LZH PMZ
comp=Z,680nm,4.1s
LZH LN
comp=Z,2μm,15.8s
LZH LE
comp=Z,3μm,15.3s
LZH LZ
comp=Z,3μm,16.8s
XAN Xi'an 28.21 30 P **P 18 28 58.2 -1.9**
XAN pP **pP 18 29 06.7 -1.1**
XAN sP **sP 18 29 11.0 0.0**
XAN S S 18 33 37.5 -7.0
XAN PMZ
comp=Z,11nm,1.2s
XAN PMZ
comp=Z,140nm,12.7s
XAN LN
comp=Z,2μm,22.5s
XAN LE
comp=Z,690nm,20.5s
XAN LZ
comp=Z,900nm,18.4s
TGY Tagaytay City 28.38 79 LR LR 18 40 53.3
comp=Z,110nm,18.1s,baz=272,slow=38
SZP Santa 28.38 72 PFAKE 18 29 10.0 +8.2
SZP LR LR
comp=Z,3μm,18.0s
WHN Wuhan 28.87 42 P **P 18 29 05.5 -0.4**
WHN PMZ
comp=Z,190nm,1.3s
WHN PMZ
comp=Z,650nm,4.4s
WHN LN
comp=Z,5μm,16.5s
WHN LE
comp=Z,4μm,15.3s
WHN LZ
comp=Z,7μm,15.6s
QZH Quanzhou 29.04 56 ⇑*i*P **P 18 29 07.8 +0.3**
QZH S **S 18 34 00.0 +2.4**
QZH PMZ
comp=Z,80nm,1.2s
QZH PMZ
comp=Z,570nm,4.4s
QZH LN
comp=Z,3μm,18.2s
QZH LE
comp=Z,3μm,15.4s
QZH LZ
comp=Z,5μm,18.7s
MPSI Mapaga 29.30 108 P **P 18 29 09.9 -0.1**
comp=Z,27nm,1.2s,comp=Z,500nm
PCI Palu 29.70 110 P **P 18 29 12.6 -1.0**
comp=Z,50nm,1.1s,comp=Z,942nm
GTA Gaotai 29.81 12 ⇑P **P 18 29 15.1 +0.7**
GTA pP **pP 18 29 22.7 +0.7**
GTA sP **sP 18 29 25.6 +0.4**
GTA PcP **PcP 18 32 18.8 +1.2**
GTA S **S 18 34 10.2 +0.5**
GTA sS **sS 18 34 20.6 -1.7**
GTA SS **SnSn 18 35 44.4 +3.5**
GTA ScP **ScP 18 35 58.9 +0.8**
GTA ScS **ScS 18 39 52.4 -0.9**
GTA PMZ
comp=Z,82nm,1.5s
GTA PMZ
comp=Z,420nm,5.5s
GTA LN
comp=Z,1μm,20.7s
GTA LE
comp=Z,820nm,19.0s
GTA LZ
comp=Z,1μm,22.8s
TOLI Toli-Toli 29.88 106 PFAKE 18 29 30.0 +15
TOLI LR LR
comp=Z,2μm,21.0s
TPUB Ta-pu 30.11 61 PFAKE 18 29 30.0 +13
TPUB LR LR
comp=Z,2μm,19.0s
TWG Pinlang 30.33 62 ⇑*i*P **P 18 29 20.0 +0.9**
comp=Z,411nm,1.3s
TWG LR LR
comp=Z,12μm,19.0s
SSLB Suanglung 30.56 60 ⇑*e*P **P 18 29 21.2 +0.1**
comp=Z,24nm,0.9s
SSLB LR LR
comp=Z,2μm,19.0s
TTSI Tana Toraja 30.56 114 P **P 18 29 21.6 +0.5**
comp=Z,54nm,1.4s,comp=Z,1μm
YULB Yu-li 30.72 61 ⇑*i*P **P 18 29 22.6 +0.1**
comp=Z,88nm,1.2s
YULB LR LR
comp=Z,3μm,20.0s
SPSI Sidrap Palu 30.93 116 P **P 18 29 22.9 -1.5**
comp=Z,30nm,1.9s,comp=Z,704nm
MRSI Marisa 31.18 106 P **P 18 29 25.9 -0.7**
comp=Z,73nm,1.3s,comp=Z,906nm
YHNB Yeheng 31.24 59 *e*P **P 18 29 27.0 -0.2**
comp=Z,59nm,1.1s
NACB Ninganchiao 31.25 60 PFAKE 18 29 40.0 +13
NACB LR LR
comp=Z,2μm,18.0s
APSI Ampana 31.38 109 P **P 18 29 29.7 +1.3**
comp=Z,85nm,1.4s,comp=Z,918nm
KAPI Kappang 31.40 118 P **P 18 29 28.3 -0.3**
comp=Z,325nm,1.1s,SNR=5.5
KAPI Kappang 31.40 118 P **P 18 29 29.2 +0.6**
SNR=6.4
KAPI Kappang 31.40 118 ⇑*i*P **P 18 29 27.6 -1.0**
comp=Z,27nm,1.3s
BKSI Bulukumba 31.87 118 P **P 18 29 32.0 -0.7**
comp=Z,223nm,1.4s,comp=Z,3μm
KBL Kabul 32.09 322 PFAKE 18 29 50.0 +15
KBL LR LR
comp=Z,1μm,18.0s
LUWI Luwuk 32.48 108 P **P 18 29 37.4 -0.6**
comp=Z,217nm,1.2s,comp=Z,2μm
LUWI Luwuk 32.48 108 ⇑*e*P **P 18 29 37.6 -0.5**
comp=Z,300nm,1.2s
LUWI LR LR
comp=Z,2μm,20.0s
KSH Kashi 32.50 336 P **P 18 29 37.1 -1.0**
KSH pP **pP 18 29 44.0 -1.7**
KSH sP **sP 18 29 47.6 -1.3**
KSH PP **PP 18 30 49.8 -2.0**
KSH PcP **PcP 18 32 27.2 +2.5**
KSH S **S 18 34 49.9 -1.8**
KSH sS **sS 18 35 06.3 +1.9**
KSH ScS **ScS 18 40 07.1 +0.6**
KSH PMZ
comp=Z,34nm,0.8s
KSH PMZ
comp=Z,240nm,3.3s
KSH LN

comp=Z,5µm,17.0s
KSH LE
comp=Z,3µm,20.6s
KSH LZ
comp=Z,3µm,17.0s
YOJ Yonaguni jima 32.55 60 PFAKE 18 29 50.0 +11
YOJ LR LR
comp=Z,2µm,20.0s
BSSI Bau Bau, Buton 32.59 119 P **P** **18 29 41.7 +2.6**
comp=Z,106nm,1.8s
NJ2 Nanjing 32.84 45 *e*P **P** **18 29 42.3 +1.3**
NJ2 pP **pP** **18 29 50.8 +2.1**
NJ2 sP **sP** **18 29 54.6 +2.7**
NJ2 S **S** **18 34 57.0 +0.1**
NJ2 sS **sS** **18 35 09.5 -0.1**
NJ2 PMZ
comp=Z,150nm,1.0s
NJ2 PMZ
comp=Z,860nm,6.4s
NJ2 LN
comp=Z,4µm,17.4s
NJ2 LE
comp=Z,5µm,17.4s
NJ2 LZ
comp=Z,3µm,16.5s
TIY Taiyuan 32.85 30 *e*P **P** **18 29 39.9 -1.3**
TIY pP **pP** **18 29 51.3 +2.5**
TIY S **S** **18 34 57.2 0.0**
TIY LN
comp=Z,1µm,11.1s
TIY LE
comp=Z,2µm,11.8s
TIY LZ
comp=Z,3µm,12.4s
KMSI Cibinong 33.08 105 P **P** **18 29 46.1 +2.8**
comp=Z,506nm,1.0s
WBSI Waikabubak, Su 33.55 125 P **P** **18 29 45.6 -1.9**
comp=Z,139nm,1.0s,comp=Z,2µm
WMQ Urumqi 33.65 354 P **P** **18 29 49.4 +1.4**
WMQ pP **pP** **18 29 57.4 +1.7**
WMQ sP **sP** **18 30 03.4 +4.5**
WMQ PP **PP** **18 31 02.4 -2.0**
WMQ PcP **PcP** **18 32 31.0 +3.3**
WMQ S **S** **18 35 10.1 +0.7**
WMQ sS **sS** **18 35 22.1 +0.1**
WMQ SS **SnSn** **18 37 15.2 +1.2**
WMQ PMZ
comp=Z,55nm,1.1s
WMQ PMZ
comp=Z,280nm,3.6s
WMQ LN
comp=Z,2µm,23.3s
WMQ LE
comp=Z,2µm,20.3s
WMQ LZ
comp=Z,1µm,24.3s
SFK Sufi-Kurgan 33.94 334 P **P** **18 29 51.9 +1.1**
SFK pmax pmax
comp=Z,190nm,1.6s
SSE Sheshan 33.98 48 P **P** **18 29 51.3 +0.3**
SSE pP **pP** **18 29 59.6 +0.9**
SSE PP **PP** **18 31 08.7 +0.6**
SSE S **S** **18 35 16.2 +1.5**
SSE sS **sS** **18 35 31.7 +4.3**
SSE ScS **ScS** **18 40 12.6 -1.6**
SSE PMZ
comp=Z,51nm,0.9s
SSE PMZ
comp=Z,220nm,11.6s
SSE LN
comp=Z,1µm,16.7s
SSE LE
comp=Z,2µm,16.7s
SSE LZ
comp=Z,2µm,16.9s
BTO Baotou 34.10 25 *e*P **P** **18 29 50.6 -1.4**
TIA Tai'an 34.34 37 ⇑P **P** **18 29 53.5 -0.5**
TIA sP **sP** **18 30 03.9 -1.0**
TIA PMZ
comp=Z,60nm,1.1s
TIA PMZ
comp=Z,410nm,5.2s
TIA LN
comp=Z,1µm,16.1s
TIA LE
comp=Z,2µm,16.0s
TIA LZ
comp=Z,2µm,17.8s
HHC Hu-ho-hao-te 34.95 26 *e*P **P** **18 29 59.2 -0.2**
HHC pP **pP** **18 30 06.8 -0.3**
HHC sP **sP** **18 30 09.5 -0.8**
HHC PP **PnPn** **18 31 17.4 +0.8**
HHC S **S** **18 35 31.1 +1.4**
HHC sS **sS** **18 35 41.1 -1.3**
HHC ScS **ScS** **18 40 16.8 -2.5**
HHC PMZ
comp=Z,32nm,0.6s
HHC PMZ
comp=Z,430nm,5.5s
HHC LN
comp=Z,2µm,13.1s
HHC LE
comp=Z,1µm,12.7s
HHC LZ
comp=Z,1µm,14.2s
KZA Kyzart 34.98 338 P **P** **18 30 01.3 +1.3**
SNR=6.9
MMRI Maumere 35.35 121 P **P** **18 30 00.9 -2.1**
comp=Z,182nm,1.5s,comp=Z,3µm
MMRI Maumere 35.35 121 *e*P P 18 29 59.2 -3.8
comp=Z,366nm,1.4s
MMRI LR LR
comp=Z,2µm,21.0s
UCH Uchtor 35.39 337 P **P** **18 30 05.3 +1.7**
SNR=7.4
AAA Alma-Ata 35.44 341 *i*P **P** **18 30 04.5 +1.0**
AAA *i*S **S** **18 35 39.3 +2.2**
AAA pmax pmax
comp=Z,500nm,1.0s
AAA smax smax
comp=E,1µm,4.5s
AAA MLR MLR
comp=Z,3µm,14.0s
TKM2 Tokmak 2 35.59 339 P **P** **18 30 06.3 +1.3**
SNR=5.2
TKM2 Tokmak 2 35.59 339 *e*P **P** **18 30 06.3 +1.3**
TKM2 pmax pmax
comp=Z,42nm,1.4s
TKM2 MLR MLR
comp=Z,2µm,22.0s
TKM2 Tokmak 2 35.59 339 *e*P **P** **18 30 06.3 +1.3**
comp=Z,42nm,1.4s
TKM2 LR LR
comp=Z,2µm,22.0s
KBK Karagaybulak 35.59 338 P **P** **18 30 06.8 +1.8**
SNR=6.1
AML Almayashu 35.63 336 P **P** **18 30 07.2 +1.6**
SNR=24
AAK Ala-Archa 35.74 337 P **P** **18 30 08.4 +2.2**
SNR=8.1
AAK Ala-Archa 35.74 337 P P 18 30 55.9 +50
comp=Z,19nm,1.1s,baz=150,slow=6.0,SNR=19
AAK S S 18 36 30.7 +49
comp=Z,0.9nm,0.3s,baz=204,slow=10.0,SNR=2.0
AAK LR LR 18 47 31.9
comp=Z,3µm,18.0s,baz=140,slow=41
AAK Ala-Archa 35.74 337 P **P** **18 30 05.0 -1.3**
AAK pmax pmax
comp=Z,103nm,1.4s
AAK Ala-Archa 35.74 337 *e*P **P** **18 30 08.4 +2.2**
comp=Z,104nm,1.3s
AAK S PcS 18 36 30.7 +9.3
HOQ Hoqain 35.75 296 ⇑P P 18 30 16.2 +10
SNR=6.3
FRU Bishkek 35.87 338 ⇑*i*P **P** **18 30 08.0 +0.8**
FRU *i* 18 30 16.0
FRU *e*S **S** **18 35 44.0 +0.4**
FRU *e* 18 36 00.0
FRU *e* 18 38 05.0
FRU pmax pmax
comp=Z,90nm,2.1s
FRU MLR MLR
comp=E,3µm,22.0s
CHMS Chumysh 35.96 338 P **P** **18 30 09.4 +1.5**
SNR=8.3
EKS2 Erkin-Say 36.04 337 P **P** **18 30 10.6 +1.9**
SNR=16
EKS2 Erkin-Say 36.04 337⇑ *e*P **P** **18 30 10.3 +1.5**
EKS2 pmax pmax
comp=Z,50nm,1.1s
EKS2 MLR MLR
comp=Z,1µm,21.0s
EKS2 Erkin-Say 36.04 337⇑ *e*P **P** **18 30 10.2 +1.5**
comp=Z,50nm,1.1s
EKS2 LR LR
comp=Z,1µm,21.0s
TNTI Ternate 36.26 103 P **P** **18 30 09.5 -1.3**
comp=Z,46nm,1.2s,comp=Z,777nm
TNTI Ternate 36.26 103 *e*P **P** **18 30 08.6 -2.3**
comp=Z,79nm,1.3s
USP Ospenovka 36.29 338 P **P** **18 30 11.9 +1.2**
SNR=18
BJT Baijiatuan 36.50 32 *e*P **P** **18 30 12.4 -0.1**
BJT pmax pmax
comp=Z,112nm,1.1s
BJT MLR MLR
comp=Z,4µm,18.0s
BJT Baijiatuau 36.50 32 *e*P **P** **18 30 12.4 -0.1**
comp=Z,112nm,1.1s
BJT LR LR
comp=Z,4µm,18.0s
BJI Beijing 36.52 32 P **P** **18 30 13.1 +0.4**
BJI pP **pP** **18 30 20.6 +0.2**
BJI sP **sP** **18 30 23.1 -0.5**
BJI PP **PP** **18 31 40.3 +4.2**
BJI S **S** **18 35 56.8 +3.4**
BJI sS **sS** **18 36 07.6 +1.4**
BJI PMZ
comp=Z,93nm,1.0s
BJI PMZ
comp=Z,450nm,4.2s
BJI LN
comp=Z,3µm,17.8s
BJI LE
comp=Z,3µm,19.0s
BJI LZ
comp=Z,2µm,17.8s
LBMI Labuha 36.80 105 P **P** **18 30 17.1 +1.7**
comp=Z,123nm,1.2s,comp=Z,2µm
HATD Hatta, Dubai 37.13 298 ⇓P pP 18 30 27.5 +1.6
IDAH Dahanechah 37.20 312 *e*P pP 18 30 27.7 +1.0
NLAI Namlea 37.30 109 P pP 18 30 25.9 -1.5
comp=Z,55nm,1.2s
MK01 Makanchi Array 37.33 349 *e*P **P** **18 30 19.0 -0.5**
MK31 Makanchi Array 37.35 349 *i*P **P** **18 30 19.8 +0.1**
MK31 pmax pmax
comp=Z,42nm,0.8s
FAQ Al Faqa, Dubai 37.58 297 ⇓P pP 18 30 31.3 +1.6
IBND Bandar-abas 37.60 302 *e*P pP 18 30 32.3 +2.4
SOEI Soe 37.64 121 P P 18 30 26.7 +4.0
comp=Z,114nm,1.5s
SOEI Soe 37.64 121 *e*P P 18 30 19.1 -3.5
comp=Z,220nm,1.4s
SOEI LR LR
comp=Z,2µm,22.0s
KK31 Karatay Array 37.76 334 *i*P **P** **18 30 23.9 +0.7**
KK31 pmax pmax
comp=Z,76nm,1.2s
KKAR Karatay Array 37.76 334 *e*P **P** **18 30 23.6 +0.4**
KKAR Karatay Array 37.76 334 *e*P **P** **18 30 23.6 +0.4**
ASUD Al Ashush, Dub 37.78 297 ⇓P P 18 30 27.0 +3.4
IMYA Miami 38.92 317 *e*P P 18 30 38.8 +5.5
SONM Songino Array 39.32 15 P **P** **18 30 36.5 +0.1**
comp=Z,78nm,1.1s,baz=198,slow=7.4,SNR=206
SONM PcP **PcP** **18 32 45.2 +0.4**
comp=Z,4.5nm,0.8s,baz=204,slow=3.2,SNR=4.2
SONM ScP **ScP** **18 36 33.0 +1.2**
comp=Z,2.7nm,1.0s,baz=200,slow=4.4,SNR=6.3
SONM LR LR 18 49 44.6
comp=Z,969nm,20.3s,baz=194,slow=41
SONA1 Songino Array 39.33 15 *e*P **P** **18 30 35.9 -0.7**
SONA1 *e*S **S** **18 36 32.3 -3.9**
KSJDO Jindo 39.41 47 P **P** **18 30 37.9 +0.6**
SNR=5.1
KSJDO Jindo 39.41 47 P **P** **18 30 37.9 +0.6**
SNR=5.1
ULN Ulaanbaatar 39.52 16 PFAKE 18 30 50.0 +12
ULN LR LR
comp=Z,1µm,22.0s
IPAY Payeh 39.73 316 *e*P pP 18 30 49.3 +1.4
IBAF Bafgh 39.94 308 *e*P **P** **18 30 44.2 +2.3**
IAKL Akhelmad 39.97 316 *e*P pP 18 30 49.9 -0.1
KSGWJ Gwangju-acc 40.17 46 P **P** **18 30 43.6 +0.2**
SNR=5.5
KSGWJ Gwangju-acc 40.17 46 P P **18 30 43.6 +0.2**
SNR=5.5
IKRD Kardeh 40.23 316 *e*P **P** **18 30 45.8 +1.5**
KSKWJ Gwangju 40.23 46 P **P** **18 30 44.3 +0.2**
SNR=6.4
KSKWJ Gwangju 40.23 46 P P **18 30 44.3 +0.2**
SNR=6.4
KSJEU Jeongeup 40.35 46 P P **18 30 45.0 -0.1**
SNR=18
KSJEU Jeongeup 40.35 46 P **P** **18 30 45.0 -0.1**
SNR=18
KSGUS GUNSAN 40.52 45 P **P** **18 30 46.9 +0.5**
SNR=8.1
KSGUS GUNSAN 40.52 45 P P **18 30 46.7 +0.3**
SNR=5.7
IMEH Mehriz 40.61 307 *e*P **P** **18 30 50.2 +2.7**
KSSES Seosan 40.68 44 P **P** **18 30 47.3 -0.5**
SNR=14
KSSES Seosan 40.68 44 P **P** **18 30 47.3 -0.5**
SNR=14
ISFR Sfrayin 40.72 316 *e*P pP 18 30 57.2 +1.0
KSNAH Namhae 40.74 47 P **P** **18 30 48.7 +0.5**
SNR=9.6
KSNAH Namhae 40.74 47 P P **18 30 48.7 +0.5**
SNR=9.6
HVS Khovu-Aksy 40.76 1*d*i*P **P** **18 30 48.4 +0.1**
HVS pmax pmax
comp=Z,104nm,1.1s
KSJEO Jeonju 40.83 46 P **P** **18 30 49.2 +0.2**
SNR=6.0
KSJEO Jeonju 40.83 46 P P **18 30 49.2 +0.2**
SNR=6.0
KSKOJ Gongju 40.99 45 P P **18 30 49.4 -0.9**
SNR=12
KSKOJ Gongju 40.99 45 P **P** **18 30 50.7 +0.4**
SNR=10
ZAK Zakamensk 41.03 11⇓ *i*P **P** **18 30 50.1 -0.4**
ZAK pmax pmax
comp=Z,23nm,1.4s
ISRV Sarvestan 41.09 303 *e*P pP 18 30 59.1 -0.3
TJN Taejon 41.10 45*c i*P **P** **18 30 50.3 -0.9**
KSTEJ Daejeon 41.10 45 P P **18 30 51.8 +0.6**
SNR=7.7
KSTEJ Daejeon 41.10 45 P **P** **18 30 51.5 +0.3**
SNR=9.2
GEYT Alibeck 41.12 318 P **P** **18 30 52.8 +1.4**
comp=Z,23nm,1.1s,baz=151,slow=3.4,SNR=24
GEYT pP **pP** **18 30 58.8 -0.3**
comp=Z,47nm,0.8s,baz=143,slow=7.1,SNR=27
GEYT LR LR 18 51 12.2
comp=Z,802nm,18.1s,baz=130,slow=41
KSGAH Ganghwa 41.17 43 P **P** **18 30 51.7 0.0**
SNR=13
INCN Inchon 41.17 43 P **P** **18 30 51.9 +0.1**
SNR=5.1
INCN Inchon 41.17 43 *e*P **P** **18 30 50.6 -1.2**
comp=Z,265nm,1.6s
INCN LR LR
comp=Z,2µm,18.0s
KSCEA Cheonan 41.25 44 P **P** **18 30 52.6 +0.2**
SNR=6.7
KSCEA Cheonan 41.25 44 P **P** **18 30 51.9 -0.5**
SNR=17
KSSWO Suwon 41.28 44 P **P** **18 30 52.0 -0.7**
SNR=7.1
IPAR Pars 41.30 304 *e*P pP 18 31 01.2 +0.1
OTUK Ortayu 41.35 340 P **P** **18 30 53.1 0.0**
OTUK pmax pmax
comp=Z,136nm,1.6s
MBWA Marble Bar 41.35 139 PFAKE 18 31 00.0 +6.6
MBWA LR LR
comp=Z,1µm,21.0s
KSSEO Seoul 41.37 43 P **P** **18 30 52.9 -0.5**
SNR=18
KSSEO Seoul 41.37 43 P P **18 30 52.9 -0.5**
SNR=18
KSBON Boeun 41.47 45 P **P** **18 30 54.7 +0.5**
SNR=10
KSMUS Musan 41.47 43 P **P** **18 30 54.5 +0.3**
SNR=12
KSICN Icheon 41.60 44 P **P** **18 30 55.4 +0.1**
SNR=6.4
YNCB YEONCHEON 41.66 43 P **P** **18 30 55.3 -0.5**
SNR=14
KSDDC Dongducheon 41.68 43 P **P** **18 30 55.6 -0.3**
SNR=6.0
KURBB Kurchatov Arra 41.77 347 P **P** **18 30 57.0 +0.6**
comp=Z,42nm,1.0s,baz=162,slow=7.6,SNR=174
KURBB PcP **PcP** **18 32 52.2 -0.2**
comp=Z,2.5nm,0.8s,baz=165,slow=2.9,SNR=3.4
KURBB ScP **ScP** **18 36 41.7 +0.6**
comp=Z,2.2nm,1.0s,baz=178,slow=4.4,SNR=5.0
KURBB S **S** **18 37 11.8 -0.3**
comp=Z,1.3nm,1.1s,baz=173,slow=11,SNR=4.2
KSCHJ Chungju 41.77 45 P **P** **18 30 56.7 0.0**
SNR=9.6
KURK Kurchatov 41.84 347 P **P** **18 30 57.8 +0.8**
comp=Z,427nm,1.4s,SNR=53
KURK Kurchatov 41.84 347⇑ *i*P **P** **18 30 57.2 +0.2**
KURK 18 32 52.2
KURK S **S** **18 37 11.8 -1.3**
KURK pmax pmax
comp=Z,145nm,1.3s
KURK MLR MLR
comp=Z,1µm,19.0s
KURK Kurchatov 41.84 347 P **P** **18 30 57.8 +0.8**
SNR=54
KURK Kurchatov 41.84 347⇑ *i*P **P** **18 30 57.2 +0.2**
comp=Z,145nm,1.3s
KURK PcP **PcP** **18 32 52.2 -0.4**
KURK ScP **ScP** **18 36 41.7 +0.3**
KURK S **S** **18 37 11.8 -1.3**
KURK LR LR
comp=Z,1µm,19.0s
KSDAG Daegu 41.89 47 P **P** **18 30 57.9 +0.2**
SNR=6.9
PALU Palau 41.90 90 P **P** **18 30 57.6 -0.5**
baz=42,SNR=6.0
MOY Mondy 41.90 8 *e*P **P** **18 30 58.5 +0.8**
MOY pmax pmax
comp=Z,54nm,3.6s
KSAR Wonju Array Be 42.00 44 P **P** **18 30 58.0 -0.6**
KSAR S **S** **18 37 15.6 -0.3**
KSAR Wonju Array Be 42.00 44 P **P** **18 30 58.0 -0.6**
KSAR S **S** **18 37 15.6 -0.3**
FAKI Fak Fak 42.02 106 P **P** **18 30 59.9 +0.9**
FAKI Fak Fak 42.02 106 P **P** **18 30 58.1 -0.9**
baz=42,SNR=5.8
FAKI Fak Fak 42.02 106 *e*P **P** **18 30 57.7 -1.3**
comp=Z,320nm,1.8s
KS01 Wonju Array Si 42.02 44 *e*P **P** **18 30 57.2 -1.6**
KSRS Korea Array 42.03 44 P **P** **18 30 58.0 -0.8**
comp=Z,34nm,1.2s,baz=250,slow=8.6,SNR=42
KSRS S **S** **18 37 15.6 -0.8**
comp=Z,0.6nm,0.8s,baz=231,slow=31,SNR=2.8
KSRS LR LR 18 51 21.2
comp=Z,1µm,18.4s,baz=240,slow=40
KSRS Korea Array 42.03 44 P **P** **18 30 58.0 -0.8**
KSRS S **S** **18 37 15.6 -0.8**
KSRS pmax pmax
comp=Z,34nm,1.2s
KSRS smax smax
comp=N,1.0nm,0.8s
KSRS MLR MLR
comp=Z,1µm,18.4s
KSCWO Cheorwon 42.08 43 P **P** **18 30 58.4 -0.9**
SNR=7.3
KSCHC Chuncheon 42.12 44 P **P** **18 30 59.0 -0.6**
SNR=9.3
IKAZ Kazeroun 42.27 303 *e*P **P** **18 31 01.6 +0.3**
TLY Talaya 42.34 11 P **P** **18 31 02.1 +0.9**
comp=Z,160nm,1.1s,SNR=16
TLY Talaya 42.34 11 P **P** **18 31 01.9 +0.8**
comp=Z,13nm,0.9s,baz=204,slow=8.1,SNR=23
TLY Talaya 42.34 11*c i*P **P** **18 31 02.0 +0.9**
TLY *e* 18 37 22.7
TLY *e*S S 18 37 35.4 +15
TLY *e*SS **ScS** **18 40 54.7 -6.7**
TLY pmax pmax
comp=Z,63nm,1.7s
TLY MLR MLR
comp=Z,609nm,17.0s
TLY Talaya 42.34 11 P **P** **18 31 02.8 +1.6**
SNR=21
TLY Talaya 42.34 11⇑ *i*P **P** **18 31 02.3 +1.1**
comp=Z,38nm,1.1s
TLY LR LR
comp=Z,1µm,21.0s
KSPHA Pohang 42.42 46 P **P** **18 31 02.5 +0.5**
SNR=11
KSIJA INJE 42.43 43 P **P** **18 31 02.7 +0.6**
SNR=5.7
IZEF Zefreh 42.97 308 *e*P pP 18 31 14.1 -0.6
IRK Irkutsk 43.00 11⇑ *i*P **P** **18 31 06.9 +0.5**
IRK *e*S **S** **18 37 34.4 +4.1**
IRK pmax pmax
comp=Z,83nm,1.5s
IGLO Ghaloghah 43.36 313 *e*P pP 18 31 18.6 +0.9
ISHM Shahmirzad 43.44 312 *e*P pP 18 31 18.3 -0.1
ILAS Lasjerd 43.50 311 *e*P **P** **18 31 13.1 +2.1**
IFIR Firoozkooh 43.76 312 *e*P pP 18 31 23.1 +2.0
IALA Alasht 43.91 312 *e*P pP 18 31 23.6 +1.3
ZAA0 Zalesovo Array 43.95 354 P **P** **18 31 14.3 +0.2**
baz=44,SNR=5.8
ZAA0 Zalesovo Array 43.95 354 *e*P **P** **18 31 13.1 -1.0**
ZALV Zalesovo Beam 43.95 354 P **P** **18 31 14.2 +0.1**
comp=Z,27nm,0.9s,baz=169,slow=8.5,SNR=113
ZALV pP **pP** **18 31 20.1 -1.8**
comp=Z,18nm,0.7s,baz=170,slow=8.8,SNR=13
ZALV S **S** **18 37 40.0 -4.2**
comp=Z,0.5nm,0.7s,baz=227,slow=9.7,SNR=2.2
ZALV LR LR 18 53 07.0
comp=Z,1µm,20.5s,baz=240,slow=41
ZALV Zalesovo Beam 43.95 354 *i*P **P** **18 31 14.0 -0.1**
ZALV pmax pmax
comp=Z,27nm,0.9s
IPIR Pirpir 44.02 307 *e*P pP 18 31 21.6 -1.6
CN2 Changchun 44.12 35 *e*P **P** **18 31 15.2 -0.4**
CN2 *e*pP **pP** **18 31 22.6 -0.9**
CN2 PP **PP** **18 32 59.2 +0.5**
CN2 *e*S **S** **18 37 50.9 +3.9**
CN2 PMZ
comp=Z,50nm,1.1s
CN2 PMZ
comp=Z,400nm,3.0s
CN2 LN
comp=Z,700nm,19.0s
CN2 LE
comp=Z,600nm,19.0s
CN2 LZ
comp=Z,700nm,19.0s
IDMV Damavand 44.27 311 *e*P **P** **18 31 17.0 -0.3**
KNRA Kununurra 44.49 125 P **P** **18 31 16.9 -1.9**
baz=44,SNR=9.6
MEEK Meekatharra 44.80 146 P **P** **18 31 20.7 -0.5**
baz=45,SNR=3.7
IR3 Iran Long-Peri 44.98 311 *e*P pP 18 31 30.0 -0.5
NVS Novosibirsk 45.01 353⇑ *i*P **P** **18 31 22.0 -0.5**
NVS *i* 18 33 12.2
NVS *i*S **S** **18 37 57.8 -1.7**
NVS pmax pmax
comp=N,52nm,1.8s
NVS pmax pmax
comp=Z,87nm,1.8s
NVS pmax pmax
comp=E,21nm,1.5s
NVS smax smax
comp=N,40nm,2.0s
NVS smax smax
comp=E,24nm,2.2s
CIT Chita 45.13 19 *e*P **P** **18 31 23.6 0.0**
CIT *e* 18 31 34.4
CIT *e* 18 31 37.2
CIT pmax pmax
comp=Z,177nm,1.5s
HIA Hailar 45.15 25 *e*P **P** **18 31 23.0 -0.8**
HIA pmax pmax
comp=Z,69nm,1.3s
HIA MLR MLR
comp=Z,2µm,19.0s
HIA Hailar 45.15 25 *e*P **P** **18 31 23.0 -0.8**
comp=Z,69nm,1.3s
HIA LR LR
comp=Z,2µm,19.0s

MORW Morawa 45.40 150 P **P** **18 31 26.5 +0.5**
baz=46,SNR=4.3
KRAR Krasnoyarsk 45.63 1 *e*P **P** **18 31 27.2 -0.2**
KRAR pmax pmax
comp=Z,32nm,1.2s
IRAZ Razeghan 45.77 310 *e*P P 18 31 32.6 +3.4
IGZV Ghazvin 45.94 311 *e*P pP 18 31 37.3 -1.1
KDU Kakadu 46.08 119 P **P** **18 31 29.9 -1.7**
baz=46,SNR=17
BVA0 Borovoye Array 46.11 342 *i* P **P** **18 31 30.7 -0.6**
BVA0 pmax pmax
comp=E,68nm,1.5s
BVAR Borovoye Array 46.11 342 P **P** **18 31 31.4 +0.1**
comp=Z,13nm,1.0s,baz=154,slow=7.8,SNR=39
BVAR S **S** **18 38 15.3 -0.1**
comp=Z,1.9nm,1.1s,baz=178,slow=8.7,SNR=3.8
BRVK Borovoye 46.17 342 P **P** **18 31 32.6 +0.9**
comp=Z,134nm,1.4s,SNR=7.4
BRVK Borovoye 46.17 342*c* *i*P **P** **18 31 31.6 -0.1**
BRVK pmax pmax
comp=E,25nm,1.2s
BRVK Borovoye 46.17 342 P **P** **18 31 31.8 0.0**
SNR=19
BRVK Borovoye 46.17 342 *e*P **P** **18 31 31.9 +0.2**
comp=E,65nm,1.5s
BRVK LR LR
comp=E,1μm,18.0s
RAYN Ar Rayn 46.34 293 P **P** **18 31 35.9 +2.3**
comp=Z,234nm,0.9s,SNR=12
RAYN Ar Rayn 46.34 293 *e*P **P** **18 31 35.0 +1.4**
comp=Z,19nm,0.9s
RAYN LR LR
comp=Z,1μm,18.0s
DAMY Dhamar 46.77 280 *e*P **P** **18 31 38.9 +1.4**
MDJ Mudanjiang 46.99 36 P **P** **18 31 38.1 -0.2**
MDJ pP **pP** **18 31 43.5 -2.7**
MDJ sP **sP** **18 31 47.9 -1.4**
MDJ PP **PP** **18 33 30.3 +1.2**
MDJ PMZ
comp=Z,27nm,1.2s
MDJ PMZ
comp=Z,190nm,5.6s
MDJ LN
comp=Z,1μm,27.6s
MDJ LE
comp=Z,670nm,22.9s
MDJ LZ
comp=Z,2μm,18.1s
MDJ Mudanjiang 46.99 36 *e*P **P** **18 31 37.7 -0.7**
comp=Z,66nm,1.4s
MDJ *e*PP **PP** **18 33 25.2 -3.9**
MDJ LR LR
comp=Z,2μm,19.0s
IBZA Bozab 47.01 308 *e*P **P** **18 31 39.4 +0.4**
AB31 Akbulak array 47.20 332 P **P** **18 31 40.5 +0.6**
AB31 pmax pmax
comp=Z,59nm,1.0s
ABKAR Akbulak array 47.20 332 *e*P **P** **18 31 40.2 +0.3**
comp=Z,24nm,0.8s
VLA Vladivostok 47.56 39*c* *i*P **P** **18 31 42.6 -0.1**
VLA pmax pmax
comp=Z,54nm,1.4s
USRK Ussuriysk Ar. 48.19 38 P **P** **18 31 46.3 -1.3**
comp=Z,20nm,1.0s,baz=241,slow=6.4,SNR=47
USRK PP **PP** **18 33 37.6 -2.5**
comp=Z,4.3nm,0.9s,baz=242,slow=4.1,SNR=8.4
USRK LR LR 18 54 23.1
comp=Z,1μm,18.9s,baz=226,slow=39
KLBR Kellerberrin 48.31 150 P **P** **18 31 48.3 -0.5**
baz=48,SNR=8.1
ISRB Sarab 48.38 312 *e*P pP 18 31 56.2 -1.2
AKTO Aktyubinsk 48.92 332 P **P** **18 31 54.0 +0.8**
comp=Z,4.3nm,0.9s,baz=136,slow=6.9,SNR=12
AKTO Aktyubinsk 48.92 332 P **P** **18 31 53.6 +0.4**
AKTO pmax pmax
comp=Z,35nm,1.1s
MAJO Matsushiro 49.07 50*c* *i*P **P** **18 31 53.7 -0.9**
MAJO pmax pmax
comp=Z,251nm,1.5s
MAJO Matsushiro 49.07 50 *e*P **P** **18 31 54.2 -0.5**
comp=Z,188nm,1.8s
MAJO LR LR
comp=Z,2μm,18.0s
MAT Matsushiro 49.07 50 P **P** **18 31 53.5 -1.1**
MAT S **S** **18 38 58.0 -0.1**
MJAR Matsushiro Arr 49.08 50 P **P** **18 31 53.7 -1.0**
comp=Z,11nm,1.1s,baz=248,slow=7.9,SNR=33
MJAR PcP **PcP** **18 33 17.7 -0.4**
comp=Z,11nm,1.1s,baz=238,slow=3.7,SNR=6.6
MJAR ScP **ScP** **18 37 12.2 +0.4**
comp=Z,2.5nm,1.0s,baz=245,slow=5.2,SNR=5.4
MJAR LR LR 18 55 14.8
comp=Z,1μm,18.2s,baz=245,slow=39
H01W3 Cape Leeuwin H 49.50 156 T T 19 25 17.8
baz=332
H01W2 Cape Leeuwin H 49.52 156 T T 19 25 18.4
baz=332
H01W1 Cape Leeuwin H 49.52 156 T T 19 25 18.4
baz=332
WRKA Warakurna 49.73 135 P **P** **18 31 58.1 -1.6**
baz=50,SNR=14
IMRD Marand 50.15 312 *e*P pP 18 32 11.6 +0.7
BOD Bodaibo 50.32 15 *e*P **P** **18 32 03.9 +0.2**
BOD pmax pmax
comp=Z,75nm,1.2s
MAK Makhachkala 50.63 318 *e*P **P** **18 32 08.4 +2.1**
MAK *e* 18 34 03.0
MAK *e*S **S** **18 39 20.9 +1.3**
MAK MLR MLR
comp=Z,980nm,15.0s
KLR Kul'dur 50.88 33 *e*P P 18 32 04.0 -4.1
KLR *e*S **S** **18 39 24.5 +1.6**
KLR *e* 18 41 50.5
KLR pmax pmax
comp=E,64nm,1.8s
KLR pmax pmax
comp=Z,100nm,1.8s
KLR MLR MLR
comp=E,1μm,15.0s
KLR MLR MLR
comp=Z,2μm,15.0s
WRA Warramunga Arr 51.25 126 P **P** **18 32 10.0 -1.3**
comp=Z,31nm,0.7s,baz=307,slow=8.4,SNR=83
WRAB Tennant Creek 51.25 126 P **P** **18 32 10.6 -0.7**
comp=Z,355nm,0.9s,SNR=47
WRAB Tennant Creek 51.25 126*c* *i*P **P** **18 32 09.8 -1.5**
WRAB pmax pmax
comp=Z,247nm,1.2s
WRAB Tennant Creek 51.25 126⇑ *i*P **P** **18 32 09.1 -2.2**
comp=Z,60nm,1.0s
GNI Garni 51.37 314 P **P** **18 32 14.0 +1.8**
comp=Z,2.4nm,0.4s,baz=157,slow=7.4,SNR=9.8
GNI Garni 51.37 314*c* *i*P **P** **18 32 12.5 +0.4**
GNI pmax pmax
comp=Z,37nm,1.2s
GNI Garni 51.37 314 P **P** **18 32 13.9 +1.8**
SNR=23
GNI Garni 51.37 314 *i* P **P** **18 32 15.0 +2.9**
SNR=12
GNI Garni 51.37 314 *e*P **P** **18 32 14.2 +2.0**
comp=Z,124nm,1.3s
GUMO Guam 51.60 81 LR LR 18 54 06.1
comp=Z,509nm,18.2s,baz=234,slow=36
TBLG Delisi 51.98 316 P **P** **18 32 18.8 +2.3**
HABR Khabarovsk 52.26 35*c* *i*P **P** **18 32 15.8 -2.6**
HABR *e**PP **pP** **18 32 25.7 -0.7**
HABR *e**SP **sP** **18 32 29.8 +0.3**
HABR *e* 18 33 26.9
HABR *e* 18 34 14.5
HABR *e*PPP PPP 18 35 17.2
HABR *e*S **S** **18 39 39.0 -2.9**
HABR *e**SS **sS** **18 39 55.8 +0.8**
HABR *e* 18 42 02.9
HABR *e*SS **SS** **18 43 18.1 -1.6**
HABR *e*SSS SSS 18 45 02.2
HABR pmax pmax
comp=N,22nm,1.8s
HABR pmax pmax
comp=E,48nm,1.8s
HABR pmax pmax
comp=Z,101nm,1.8s
HABR MLR MLR
comp=Z,2μm,20.0s
HABR MLR MLR
comp=E,886nm,18.0s
HABR MLR MLR
comp=N,760nm,16.0s
SVE Sverdlovsk 52.47 339*d* *i*P **P** **18 32 20.6 +0.8**
SVE *e* 18 34 19.1
SVE *e*S **S** **18 39 42.9 -1.6**
SVE pmax pmax
comp=Z,214nm,1.5s
SVE MLR MLR
comp=Z,1μm,17.0s
FURI Furi 52.70 273 *e*P P 18 32 26.9 +4.3
comp=Z,38nm,0.8s
FURI LR LR
comp=Z,3μm,18.0s
AKH Akhalkalaki 52.72 315 P pP 18 32 30.6 +0.4
ARU Arti 52.93 337 P **P** **18 32 23.2 0.0**
comp=Z,376nm,1.1s,SNR=15
ARU Arti 52.93 337*c* *i*P **P** **18 32 23.3 0.0**
ARU 18 33 37.1
ARU 18 34 21.3
ARU PPP PPP 18 35 28.7
ARU S **S** **18 39 50.5 -0.3**
ARU 18 42 05.8
ARU SS **SS** **18 43 29.1 -0.9**
ARU SSS SSS 18 45 15.9
ARU pmax pmax
comp=Z,72nm,1.7s
ARU MLR MLR
comp=Z,1μm,18.0s
ARU Arti 52.93 337⇑ *i*P **P** **18 32 22.9 -0.3**
comp=Z,106nm,1.2s
ARU LR LR
comp=Z,1μm,18.0s
ASAR Alice Springs 52.95 130 P **P** **18 32 22.6 -1.4**
comp=Z,6.7nm,0.6s,baz=310,slow=7.6,SNR=82
ASAR PcP **PcP** **18 33 32.0 -0.7**
comp=Z,3.3nm,0.6s,baz=306,slow=3.7,SNR=2.5
ASAR ScP **ScP** **18 37 28.3 -0.4**
comp=Z,0.4nm,0.8s,baz=314,slow=3.9,SNR=5.0
ASAR LR LR 18 56 31.6
comp=Z,529nm,21.0s,baz=300,slow=38
ZEI Tsey 52.96 317 *e*P **P** **18 32 25.9 +1.9**
ZEI pmax pmax
comp=Z,178nm,1.3s
AS01 Alice Springs 52.98 130 *e*P **P** **18 32 21.7 -2.5**
ABPO Ambohimpanom 53.00 237 *e*P **P** **18 32 24.8 +0.3**
ABPO pmax pmax
comp=Z,43nm,1.3s
ABPO MLR MLR
comp=Z,2μm,18.0s
ABPO Ambohimpanom 53.00 237 *e*P **P** **18 32 24.8 +0.3**
comp=Z,43nm,1.3s
ABPO LR LR
comp=Z,2μm,18.0s
ONI Oni 53.19 316 P P 18 32 28.8 +3.3
KBZ Khabaz 54.01 317 P **P** **18 32 33.1 +1.8**
comp=Z,6.9nm,1.1s,baz=90,slow=5.1,SNR=9.3
KBZ pP **pP** **18 32 38.3 -1.0**
comp=Z,20nm,1.0s,baz=86,slow=6.7,SNR=15
KIV Kislovodsk 54.23 317 P **P** **18 32 35.1 +1.9**
comp=Z,459nm,0.9s,SNR=8.2
KIV Kislovodsk 54.23 317 *i* P **P** **18 32 33.6 +0.4**
KIV *i* 18 32 40.6
KIV *i* S **S** **18 40 05.1 -4.0**
KIV *i* SS **SS** **18 43 51.4 +0.2**
KIV pmax pmax
comp=Z,38nm,1.7s
KIV MLR MLR
comp=Z,407nm,19.0s
KIV Kislovodsk 54.23 317 P **P** **18 32 34.5 +1.3**
SNR=42
KIV Kislovodsk 54.23 317⇓ *i*P pP 18 32 40.1 -1.1
SNR=8.0
KIV Kislovodsk 54.23 317 *e*P **P** **18 32 34.1 +1.0**
comp=Z,84nm,1.0s
KIV LR LR
comp=Z,500nm,21.0s
GOF Gofitskoye 54.44 319 *e*P P 18 32 42.3 +7.8
GOF pmax pmax
comp=Z,40nm,1.0s
ERM Erimo 54.57 45 PFAKE 18 32 50.0 +15
ERM LR LR
comp=Z,1μm,19.0s
ASAJ Asahikawa 54.95 43 P **P** **18 32 38.0 -0.2**
comp=Z,41nm,1.1s,baz=242,slow=6.3
ASAJ Asahikawa 54.95 43 P **P** **18 32 38.0 -0.2**
ASAJ pmax pmax
comp=Z,41nm,1.1s
ASAJ Asahikawa 54.95 43⇑ *i*P **P** **18 32 37.6 -0.6**
comp=Z,66nm,1.1s
ASAJ LR LR
comp=Z,1μm,18.0s
KMBO Kilima Mbogo 55.78 262 P **P** **18 32 46.5 +1.5**
comp=Z,1.4nm,0.6s,baz=82,slow=6.2,SNR=5.0
KMBO LR LR 18 55 17.7
comp=Z,1μm,18.5s,baz=94,slow=34
KMBO Kilima Mbogo 55.78 262 P **P** **18 32 46.5 +1.5**
KMBO pmax pmax
comp=Z,1.0nm,0.6s
KMBO MLR MLR
comp=Z,1μm,18.5s
KMBO Kilima Mbogo 55.78 262 *e*P **P** **18 32 45.9 +0.9**
comp=Z,126nm,0.6s
QIS Mount Isa 55.82 123 P **P** **18 32 44.6 -0.2**
baz=56,SNR=15
SOKR Solikamsk 55.89 339*c* *i*P **P** **18 32 45.2 +0.6**
SOKR S **S** **18 40 29.6 -0.9**
SOKR SS **SS** **18 44 13.3 -3.1**
SOKR pmax pmax
comp=Z,50nm,1.2s
SOKR MLR MLR
comp=Z,1μm,19.0s
SOC Sochi 56.10 316 *e*P **P** **18 32 46.9 +0.4**
SOC *e* 18 34 51.6
SOC *e*S **S** **18 40 30.9 -3.0**
SOC pmax pmax
comp=Z,27nm,1.0s
SOC MLR MLR
comp=Z,258nm,12.0s
YSS Yuzh-Sakhalins 56.15 40⇑ *i*P **P** **18 32 46.5 -0.3**
YSS *e* 18 32 58.7
YSS *e*S **S** **18 40 32.0 -2.5**
YSS pmax pmax
comp=Z,80nm,1.0s
YSS MLR MLR
comp=N,900nm,16.0s
YSS MLR MLR
comp=Z,2μm,16.0s
YSS Yuzh-Sakhalins 56.15 40⇑ *i*P **P** **18 32 46.3 -0.5**
comp=Z,81nm,1.1s
YSS LR LR
comp=Z,500nm,18.0s
EIL Elat 56.55 299 P pP 18 32 58.5 +0.5
baz=57,SNR=4.6
YUK Yuzh-Kuril'sk 57.12 44*c* *i*P **P** **18 32 53.4 -0.3**
YUK *i* 18 33 46.4
YUK *i* 18 34 59.3
YUK *e*PPP PPP 18 36 17.2
YUK *e*S **S** **18 40 46.1 -1.3**
YUK *e*SS **SS** **18 44 35.0 -1.4**
YUK pmax pmax
comp=N,66nm,1.5s
YUK pmax pmax
comp=E,32nm,1.5s
YUK pmax pmax
comp=Z,131nm,1.5s
YUK pmax pmax
comp=Z,238nm,1.8s
YUK MLR MLR
comp=N,515nm,18.0s
YUK MLR MLR
comp=E,888nm,18.0s
YUK MLR MLR
comp=Z,1μm,18.0s
NKL Nikolayevsk 57.72 32 *e*P P 18 32 52.0 -5.8
NKL *e* 18 33 07.0
NKL *e* 18 40 50.0
NKL *e* 18 42 42.0
NKL pmax pmax
comp=Z,88nm,1.1s
NKL pmax pmax
comp=Z,400nm,6.0s
NKL MLR MLR
comp=N,1μm,18.0s
NKL MLR MLR
comp=E,1μm,18.0s
NKL MLR MLR
comp=Z,2μm,18.0s
ANN Anapa 58.05 317 *e*P **P** **18 32 59.7 -0.6**
ANN *e*S **S** **18 40 56.5 -3.1**
ANN pmax pmax
comp=Z,42nm,1.7s
ANN MLR MLR
comp=Z,444nm,17.0s
ANN MLR MLR
comp=E,260nm,17.0s
PMG Port Moresby 58.12 108*c* *i*P **P** **18 33 00.3 -0.9**
PMG pmax pmax
comp=Z,259nm,1.2s
PMG Port Moresby 58.12 108 *e*P **P** **18 33 00.3 -0.9**
comp=Z,44nm,1.0s
YAK Yakutsk 58.38 20 P **P** **18 33 01.7 -0.6**
comp=Z,1.5nm,0.3s,baz=12,slow=20,SNR=18
YAK Yakutsk 58.38 20 *e*P **P** **18 33 00.8 -1.5**
YAK *e**PP pP 18 33 16.0 +5.7
YAK *e* 18 33 51.6
YAK *e* 18 35 13.5
YAK *e*PPP PPP 18 36 41.5
YAK *e*S **S** **18 41 00.7 -2.6**
YAK *e**SS **sS** **18 41 15.7 -0.9**
YAK *e* 18 42 39.6
YAK *e*SS **SS** **18 44 50.0 -5.6**
YAK pmax pmax
comp=Z,163nm,1.3s
YAK pmax pmax
comp=N,108nm,1.5s
YAK pmax pmax
comp=E,143nm,1.5s
YAK pmax pmax
comp=Z,2.0nm,0.4s
YAK smax smax
comp=E,82nm,2.0s
YAK smax smax
comp=N,10.0nm,1.2s
YAK MLR MLR
comp=Z,947nm,20.0s
YAK MLR MLR
comp=E,597nm,18.0s
YAK MLR MLR
comp=N,720nm,17.0s
YAK Yakutsk 58.38 20 *e*P **P** **18 33 01.2 -1.1**
comp=N,122nm,1.2s
YAK LR LR
comp=Z,900nm,19.0s
CSS Prodhromos 58.70 305 *e*P **P** **18 33 06.2 +1.2**
comp=Z,11nm,1.4s
CSS LR LR
comp=Z,200nm,19.0s
KUR Kuril'sk 58.86 43 *e*P **pP** **18 33 15.6 +1.6**
KUR *e* 18 35 14.0
KUR *e*S S 18 41 29.6 +20
KUR *e*SS **SS** **18 45 04.8 +1.1**
KUR MLR MLR
comp=Z,77nm,18.0s
VSR Storozhevoye 59.31 324 *e*P **P** **18 33 08.2 -0.7**
VSR *e**PP **pP** **18 33 15.3 -1.7**
VSR *e* 18 33 56.7
VSR *e*S **S** **18 41 13.4 -2.4**
VSR pmax pmax
comp=N,8.0nm,0.7s
VSR pmax pmax
comp=E,5.0nm,0.7s
VSR pmax pmax
comp=Z,6.0nm,0.7s
VSR smax smax
comp=N,60nm,1.9s
VSR smax smax
comp=E,40nm,1.9s
VSR smax smax
comp=Z,20nm,1.9s
VSR MLR MLR
comp=E,870nm,21.0s
VSR MLR MLR
comp=Z,1μm,21.0s
VSR MLR MLR
comp=N,410nm,18.0s
BRTR Keskin Array B 59.39 310 P **P** **18 33 10.4 +0.6**
comp=N,4.5nm,1.1s,baz=122,slow=6.6,SNR=13
BRTR pP **pP** **18 33 16.0 -2.0**
comp=N,6.7nm,0.9s,baz=130,slow=5.4,SNR=16
BRTR LR LR 19 03 29.3
comp=N,258nm,18.2s,baz=98,slow=41
BBOO Buckleboo 59.90 138 P **P** **18 33 12.8 -0.5**
baz=5.6,SNR=5.1
BBOO Buckleboo 59.90 138 *e*P **P** **18 33 11.8 -1.4**
comp=N,3.9nm,1.4s
ANTO Ankara 60.06 310 *e*P **P** **18 33 14.3 -0.1**
ANTO pmax pmax
comp=Z,45nm,1.5s
ANTO Ankara 60.06 310 *e*P **P** **18 33 14.3 -0.1**
comp=Z,45nm,1.5s
BR231 Keskin MP Arra 60.06 310 *e*P P 18 33 11.2 -3.3
SIM Simferopol' 60.35 316 P P 18 33 21.2 +5.0
SIM S **S** **18 41 27.1 -2.3**
SIM pmax pmax
comp=Z,16nm,0.9s
SIM pmax pmax
comp=Z,73nm,11.0s
SIM MLR MLR
comp=Z,170nm,16.0s
CTAO Charters Tower 61.19 120 *e*P **P** **18 33 21.3 -1.0**
CTAO pmax pmax
comp=Z,70nm,1.2s
CTAO Charters Tower 61.19 120 *e*P **P** **18 33 21.3 -1.0**
comp=Z,70nm,1.2s
PRGR Permogore 61.38 337 *e*P **P** **18 33 22.4 -0.4**
PRGR *e**PP **pP** **18 33 31.3 +0.3**
PRGR *e*S **S** **18 41 40.8 -1.1**
PRGR pmax pmax
comp=Z,34nm,0.9s
MOS Moscow 62.02 329 *e*P **P** **18 33 26.0 -1.3**
MOS *e* 18 33 33.5
MOS *e* 18 35 46.7
MOS *i* S **S** **18 41 48.0 -2.2**
MOS *e* 18 42 02.5
MOS pmax pmax
comp=Z,58nm,1.2s
MOS MLR MLR
comp=Z,1μm,18.0s
MBAR Mbarara 62.03 264 *e*P **P** **18 33 29.7 +1.4**
MBAR pmax pmax
comp=Z,19nm,1.3s
MBAR Mbarara 62.03 264 *e*P **P** **18 33 29.7 +1.4**
comp=Z,19nm,1.3s
HTT Hallett 62.19 136 P **P** **18 33 28.9 +0.1**
baz=62,SNR=18
OBN Obninsk 62.32 328⇓ *i*P **P** **18 33 29.0 -0.3**
OBN *i* 18 33 35.9
OBN *i* 18 34 15.1
OBN pmax pmax
comp=Z,39nm,1.7s
OBN Obninsk 62.32 328 *e*P **P** **18 33 29.0 -0.3**
comp=Z,116nm,1.3s
OBN LR LR
comp=Z,900nm,18.0s
PAF Port-aux-Franc 62.42 196 S **S** **18 42 01.0 +5.7**
PAF SS SS 18 46 07.0 +7.3
PAF L L 18 48 00.0
PAF R 18 52 00.0
QLP Quilpie 62.44 127 P **P** **18 33 31.1 +0.5**
baz=62,SNR=29
QLP Quilpie 62.44 127 P **P** **18 33 31.1 +0.5**
baz=6.3,SNR=33
STKA Stephens Creek 63.17 134 P **P** **18 33 35.1 -0.3**
comp=Z,13nm,0.6s,baz=312,slow=7.1,SNR=33
STKA Stephens Creek 63.17 134 *e*P **P** **18 33 34.5 -0.9**
STKA pmax pmax
comp=Z,24nm,1.4s
STKA Stephens Creek 63.17 134 *e*P **P** **18 33 34.5 -0.9**
comp=Z,24nm,1.4s
TIRR Tirgusor 64.18 314 PFAKE 18 33 50.0 +8.1
TIRR LR LR
comp=Z,400nm,21.0s
KIS Kishinev 64.44 317 *e*P P 18 33 48.0 +4.5
KIS *e*S **S** **18 42 16.0 -4.8**
KIS LRM MLR 19 02 00.0
comp=Z,400nm,22.0s
KIS Kishinev 64.44 317 *e*P P 18 33 48.0 +4.5
KIS *e*S **S** **18 42 16.0 -4.8**
KIS *e* 18 42 38.0
KIS MLR MLR
comp=Z,400nm,22.0s
KIS MLR MLR
comp=Z,500nm,20.0s

KIS MLR MLR
comp=N,300nm,19.0s
CFR Carcaliu 64.52 315 ⇑P pP 18 33 51.2 -1.0
CFR Carcaliu 64.52 315 ⇑iP pP 18 33 51.2 -1.0
MSAB Monastry St. A 64.53 314 ⇑iP pP 18 33 52.4 +0.1
AKASG Malin Array Be 65.07 321 P **P** **18 33 48.7 +1.2**
comp=N,2.4nm,0.8s,baz=88,slow=5.3,SNR=7.5
AKASG pP **pP** **18 33 53.4 -2.3**
comp=N,4.3nm,0.7s,baz=83,slow=6.0,SNR=7.5
AKASG PP **PP** **18 36 11.1 +0.3**
comp=N,0.3nm,0.3s,baz=106,slow=8.8,SNR=4.7
AKASG LR LR 19 06 29.8
comp=N,526nm,18.3s,baz=105,slow=40
KIEV Kiev 65.08 321 *eP* **P** **18 33 48.7 +1.1**
KIEV Kiev 65.08 321 *eP* **P** **18 33 46.9 -0.7**
comp=N,7.5nm,0.7s
KIEV LR LR
comp=Z,600nm,20.0s
JMB Yambol 65.14 312 ⇑P pP 18 33 55.7 -0.7
JMB Yambol 65.14 312 ⇑iP pP 18 33 55.7 -0.7
VRI Vrincioaia 65.62 316 ⇓P pP 18 33 59.5 +0.1
VRI Vrincioaia 65.62 316 ⇓iP pP 18 33 59.5 +0.1
PLOR Plostina 65.67 316 ⇑P **P** **18 33 54.1 +2.4**
PLOR Plostina 65.67 316 ⇑iP **P** **18 33 54.0 +2.4**
SZH Strazhica 65.74 313 *eP* pP 18 33 58.4 -1.8
TESR Tescani 65.80 316 ⇑iP pP 18 33 59.4 -1.1
KDZ Kurdzhali 65.88 311 ⇑P **P** **18 33 54.8 +1.8**
KDZ Kurdzhali 65.88 311 ⇑iP **P** **18 33 54.8 +1.8**
KDZ Kurdzhali 65.88 311 *eP* pP 18 33 59.7 -1.5
CMSA Cobar Meteorol 65.97 131 P **P** **18 33 54.1 +0.4**
baz=66,SNR=6.6
RMQ Roma 65.99 125 P **P** **18 33 55.6 +1.6**
baz=66,SNR=23
RMQ Roma 65.99 125 P **P** **18 33 56.8 +2.8**
baz=8.1,SNR=7.9
MLR Muntele Rosu 66.10 315 ⇑P **P** **18 33 56.7 +2.2**
MLR Muntele Rosu 66.10 315 ⇑iP **P** **18 33 56.7 +2.2**
GVD Gavdhos 66.22 304 PFAKE 18 34 10.0 +15
GVD LR LR
comp=Z,800nm,22.0s
DOPR Dopca 66.56 316 ⇓*i*P pP 18 34 06.3 +0.8
VOIR 66.71 315 ⇑P pP 18 34 04.5 -2.0
VOIR 66.71 315 ⇑iP pP 18 34 04.5 -2.0
PGB Panagyurishte 66.92 312 *eP* pP 18 34 06.2 -1.7
BURAR Bucovina Array 66.96 317 ⇑P P 18 34 03.3 +3.3
BURAR Bucovina Array 66.96 317 ⇑iP P 18 34 03.3 +3.3
BUR04 Bucovina Ar. S 66.97 317 *eP* **P** **18 34 01.9 +1.9**
CRZF Crozet Islands 66.97 209 S S 18 42 21.0 -30
CRZF R 18 54 00.0
ARR Arges 66.99 315 ⇑iP pP 18 34 07.2 -1.1
MMB Musomiste 67.13 311 ⇑P pP 18 34 07.2 -2.0
MMB Musomiste 67.13 311 ⇑iP pP 18 34 07.2 -2.0
MMB Musomiste 67.13 311 *eP* pP 18 34 06.9 -2.3
PETK Petropavlovsk- 67.23 37 P **P** **18 34 00.1 -1.3**
comp=Z,1.6nm,0.6s,baz=213,slow=5.0,SNR=3.2
PETK LR LR 19 07 23.0
comp=Z,770nm,18.2s,baz=246,slow=40
MPEP Malo Peshtene 67.34 313 *eP* pP 18 34 08.8 -1.7
EIDS Eidsvold 67.42 123 PFAKE 18 34 10.0 +7.0
EIDS LR LR
comp=Z,700nm,21.0s
NACGM Naroch 67.57 325 *e* **P** **18 34 02.0 -1.5**
SEY Seymchan 67.60 25 P **P** **18 34 02.5 -1.0**
comp=Z,20nm,1.1s,baz=262,slow=5.9,SNR=53
LOT Lotru 67.60 315 ⇑iP pP 18 34 10.7 -1.5
VTS Vitosha 67.63 312 ⇓P pP 18 34 11.2 -1.3
VTS Vitosha 67.63 312 ⇓iP pP 18 34 11.2 -1.3
VTS Vitosha 67.63 312 *eP* pP 18 34 09.8 -2.7
KKB Krupnik 67.64 311 *eP* pP 18 34 09.8 -2.6
IDID Didziasalis 67.70 326 *eP* **P** **18 34 05.2 +0.9**
IDID IAmb IAmb 18 34 15.0
comp=Z,14nm,1.1s
PET Petropavlovsk 67.77 37 *eP* **P** **18 34 02.7 -2.1**
PET *eS* **S** **18 42 56.3 -4.8**
PET pmax pmax
comp=Z,100nm,15.9s
PET MLR MLR
comp=Z,1μm,19.0s
PET MLR MLR
comp=Z,1μm,15.0s
PET Petropavlovsk 67.77 37 PFAKE 18 34 20.0 +15
PET LR LR
comp=Z,1μm,18.0s
CJR Cluj-Napoca 67.91 316 ⇑P pP 18 34 13.4 -0.7
CJR Cluj-Napoca 67.91 316 ⇑iP pP 18 34 13.4 -0.7
VAY Valandovo 67.97 310 *eP* **P** **18 34 07.6 +1.3**
IIGN Ignalina 68.00 326 *eP* **P** **18 34 07.0 +0.9**
IIGN IAmb IAmb 18 34 15.8
comp=Z,16nm,1.2s
IZAR Zarasai 68.08 326 *eP* **P** **18 34 07.7 +1.0**
ISAL Salakas 68.10 326 *eP* **P** **18 34 07.6 +0.8**
ISAL IAmb IAmb 18 34 20.0
comp=Z,14nm,1.1s
LVV L'vov 68.13 320 *eP* pP 18 34 12.9 -2.4
LSZ Lusaka 68.25 249 *eP* **P** **18 34 08.6 0.0**
LSZ pmax pmax
comp=Z,7.0nm,1.0s
LSZ Lusaka 68.25 249 *eP* **P** **18 34 08.6 0.0**
comp=Z,6.6nm,1.0s
DRGR 68.52 316 ⇑P pP 18 34 17.4 -0.5
DRGR 68.52 316 ⇑iP pP 18 34 17.4 -0.5
VSU Vasula 68.54 329*c* *iP* **P** **18 34 08.7 -0.8**
VSU pmax pmax
comp=Z,39nm,1.1s
LVZ Lovozero 68.65 340 *eP* **P** **18 34 09.6 -0.5**
LVZ pmax pmax
comp=Z,26nm,1.3s
LVZ Lovozero 68.65 340 PFAKE 18 34 20.0 +10
LVZ LR LR
comp=Z,1μm,19.0s
SKO Skopje 68.87 311 *eP* pP 18 34 18.0 -2.2
APA Apatity 68.93 339 ⇓*i*P **P** **18 34 12.8 +1.0**
APA *i* 18 34 43.5
APA *i*S **S** **18 43 14.0 -0.4**
APA MLR MLR
comp=Z,1μm,18.0s
TOO Toolangi 68.94 137 P **P** **18 34 14.5 +2.1**
baz=69,SNR=5.8
KWP Kalwaria Pacla 68.94 319 *eP* **P** **18 34 13.0 +0.7**
KWP Kalwaria Pacla 68.94 319 *eP* **P** **18 34 13.0 +0.7**
UZH Uzhgorod 69.06 318 *eP* **P** **18 34 15.3 +2.3**
UZH *e* 18 34 40.3
KOLS Kolonicke sedl 69.12 318 *eP* P 18 34 20.9 +7.5
KOLS pmax pmax
comp=Z,12nm,1.5s
KOLS Kolonicke sedl 69.12 318 *ep*P P 18 34 20.9 +7.5
BZS Buzias 69.12 315 ⇑P pP 18 34 20.6 -1.1
BZS Buzias 69.12 315 ⇑iP pP 18 34 20.5 -1.1
SUW Suwalki 69.42 324 *eP* **P** **18 34 14.5 -0.5**
SUW Suwalki 69.42 324 *eP* **P** **18 34 14.6 -0.5**
FINES FINESS Array B 69.69 332 P **P** **18 34 16.3 -0.3**
comp=Z,8.3nm,0.8s,baz=112,slow=8.5,SNR=22
FINES pP **pP** **18 34 23.3 -1.5**
comp=Z,12nm,0.8s,baz=105,slow=5.4,SNR=13
FINES FINESS Array B 69.69 332 *i* P **P** **18 34 16.7 +0.1**
FINES pmax pmax
comp=Z,8.0nm,0.8s
STHS Stebnicka Huta 69.86 319 *eP* **pP** **18 34 24.6 -1.5**
STHS pmax pmax
comp=Z,5.0nm,1.0s
STHS Stebnicka Huta 69.86 319 *ep*P pP 18 34 24.6 -1.5
ARMA Armidale 69.97 128 P **P** **18 34 21.0 +2.0**
baz=70,SNR=12
ARMA Armidale 69.97 128 *eP* **P** **18 34 20.6 +1.6**
comp=Z,93nm,1.4s
DIVS Divibare 70.12 313 ⇑iP **P** **18 34 18.1 -1.6**
KECS Kecovo 70.23 318 *eP* **pP** **18 34 26.6 -1.8**
KECS pmax pmax
comp=Z,4.0nm,1.1s
KECS Kecovo 70.23 318 *ep*P pP 18 34 26.6 -1.8
HNR Honiara 70.23 104 *eP* P 18 34 17.3 -3.5
HNR pmax pmax
comp=Z,108nm,1.0s
HNR Honiara 70.23 104 *eP* P 18 34 17.3 -3.5
comp=Z,108nm,1.0s
NIE Niedzica 70.46 319 *eP* pP 18 34 28.1 -1.7
NIE Niedzica 70.46 319 *eP* pP 18 34 28.2 -1.6
PKSN Nyarlorinc 70.47 316 ⇑*eP* pP 18 34 29.3 -0.6
CNB Canberra Magne 70.49 133 P **P** **18 34 22.8 +0.7**
baz=70,SNR=5.2
PSZ Piszkesteto 70.56 317 ⇑P **P** **18 34 25.3 +3.0**
PSZ Piszkesteto 70.56 317 ⇑iP **P** **18 34 25.3 +3.0**
PSZ Piszkesteto 70.56 317 *eP* **P** **18 34 21.8 -0.5**
comp=Z,28nm,1.4s

PSZ Piszkesteto 70.56 317 *eP* pP 18 34 29.7 -0.8
OJC Ojcow 70.89 320 *eP* pP 18 34 31.5 -0.9
OJC Ojcow 70.89 320 *eP* pP 18 34 32.7 +0.3
OJC Ojcow 70.89 320 *epP* pP 18 34 32.7 +0.3
PKS7 Kunszentmiklos 70.97 316 ⇑*eP* pP 18 34 31.9 -1.0
CSKK Cs^tkako 71.61 317 *eP* pP 18 34 35.1 -1.7
OKC Ostrava-Krasne 71.90 319 *eP* **P** **18 34 30.5 +0.2**
OKC *epP* **pP** **18 34 37.5 -1.0**
OKC *eS* **S** **18 43 43.9 -5.9**
OKC *ex* x 18 48 59.3
OKC AMS AMS 19 12 10.0
comp=Z,300nm,15.1s
OKC Ostrava-Krasne 71.90 319 *eP* **P** **18 34 30.5 +0.2**
OKC *e* 18 34 37.5
OKC *eS* **S** **18 43 43.9 -5.9**
OKC MLR MLR
comp=Z,300nm,15.1s
KEV Kevo 71.94 341 *eP* **P** **18 34 29.9 -0.2**
KEV pmax pmax
comp=Z,39nm,1.1s
KEV MLR MLR
comp=Z,800nm,19.0s
KEV Kevo 71.94 341 *eP* **P** **18 34 29.9 -0.2**
comp=Z,39nm,1.1s
KEV LR LR
comp=Z,800nm,19.0s
TIP Timpagrande 72.28 308 P **P** **18 34 34.5 +1.6**
comp=Z,17nm,1.4s
TIP LR LR
comp=Z,98nm,21.0s
MORC Moravsky Berou 72.29 319 ⇓P **P** **18 34 31.5 -1.2**
MORC Moravsky Berou 72.29 319 ⇓*i*P **P** **18 34 31.5 -1.2**
MORC Moravsky Berou 72.29 319 *eP* **P** **18 34 33.1 +0.4**
comp=Z,156nm,1.6s
ARA0 ARCESS Array S 72.36 340 *eP* **P** **18 34 33.0 +0.3**
ARCES ARCESS Array B 72.36 340 P **P** **18 34 32.9 +0.2**
comp=Z,19nm,1.0s,baz=95,slow=5.4,SNR=26
ARCES pP **pP** **18 34 40.2 -0.7**
comp=Z,9.2nm,0.7s,baz=94,slow=5.4,SNR=9.3
ARCES LR LR 19 08 54.7
comp=Z,943nm,19.6s,baz=112,slow=38
ARE0 ARCESS Array S 72.36 340 *eP* **P** **18 34 32.3 -0.4**
BEHE Becsehely 72.56 315 ⇑*eP* pP 18 34 42.2 -0.3
SOP Sopron 72.78 317 ⇑*eP* pP 18 34 43.0 -0.8
KRLC Kraliky 72.80 319 *eP* **P** **18 34 36.1 +0.3**
KRLC *epP* **pP** **18 34 43.0 -1.0**
KRLC Kraliky 72.80 319 *eP* **P** **18 34 36.1 +0.3**
KRLC *e* 18 34 43.0
CEL Celeste 72.94 307 *eP* **P** **18 34 38.7 +1.9**
comp=Z,47nm,1.1s
CEL LR LR
comp=Z,300nm,22.0s
KTK1 Kautokeino 72.97 339 *eP* **P** **18 34 37.0 +0.6**
CUC Castrocucco 73.02 309 *eP* P 18 34 42.0 +4.8
comp=Z,26nm,1.7s
DPC Dobruska-Polom 73.12 320 *eP* **P** **18 34 37.7 +0.1**
DPC *epP* **pP** **18 34 45.4 -0.5**
DPC *e*PCP **PcP** **18 34 52.7 -1.5**
DPC *eS* **S** **18 44 01.6 -2.2**
DPC *ex* x 18 49 13.3
DPC AMS AMS 19 11 20.0
comp=Z,500nm,17.5s
DPC Dobruska-Polom 73.12 320 *eP* **P** **18 34 37.7 +0.1**
DPC *e* 18 34 45.4
DPC *e* 18 34 52.7
DPC *eS* **S** **18 44 01.6 -2.2**
DPC MLR MLR
comp=Z,500nm,17.5s
KSP Ksiaz 73.17 320 *eP* **P** **18 34 38.8 +0.9**
KSP Ksiaz 73.17 320 *eP* **P** **18 34 38.9 +1.0**
CONA Conrad Observa 73.26 317 ⇑*iP* **P** **18 34 37.2 -1.4**
comp=Z,7.5nm,1.1s
UPC Upice 73.33 320 *eP* **P** **18 34 40.7 +1.9**
UPC *epP* **pP** **18 34 46.7 -0.3**
UPC *e*PCP **PcP** **18 34 54.4 -0.7**
UPC AMS AMS 19 12 10.0
comp=Z,500nm,18.6s
UPC Upice 73.33 320 *eP* **P** **18 34 40.7 +1.9**
UPC *e* 18 34 46.7
UPC *e* 18 34 54.4
UPC MLR MLR
comp=Z,500nm,18.6s
BOJS Bojanci 73.57 314 *i* P P 18 34 46.7 +6.4
TREC Trest 73.59 318 AMS AMS 19 10 50.0
comp=Z,400nm,16.3s
LBTB Lobatse 73.70 240 *eP* **P** **18 34 42.1 +0.6**
LBTB pmax pmax
comp=Z,24nm,1.1s
LBTB Lobatse 73.70 240 *eP* **P** **18 34 42.1 +0.6**
comp=Z,24nm,1.1s
PERS Pernice 73.71 316 *eP* pP 18 34 48.3 -1.2
SOKA Soboth 73.77 316 ⇑*iP* **P** **18 34 38.7 -2.9**
comp=Z,24nm,1.6s,SNR=6.9
VISS Visnje 73.87 315 *i* P pP 18 34 49.1 -1.3
WDD Wield Dalam 74.06 304 PFAKE 18 35 00.0 +17
WDD LR LR
comp=Z,700nm,18.0s
GOPC GO Pecny, Ondr 74.08 319 *eP* **P** **18 34 44.4 +1.2**
GOPC *epP* **pP** **18 34 50.3 -1.2**
GOPC *eS* **S** **18 44 13.8 -0.8**
GOPC AMS AMS 19 12 00.0
comp=Z,600nm,18.8s
PRU Pruhonice 74.24 319 *eP* **P** **18 34 44.6 +0.5**
PRU *epP* **pP** **18 34 51.6 -0.8**
PRU *e*PCP **PcP** **18 34 59.3 +0.3**
PRU *eS* **S** **18 44 14.9 -1.4**
PRU *eSS* **SS** **18 49 08.7 +6.7**
PRU AMS AMS 19 12 00.0
comp=Z,500nm,16.4s
PRU Pruhonice 74.24 319 *eP* **P** **18 34 44.6 +0.5**
PRU *e* 18 34 51.6
PRU *e* 18 34 59.3
PRU *eS* **S** **18 44 14.9 -1.4**
PRU *eSS* **SS** **18 49 08.7 +6.7**
PRU MLR MLR
comp=Z,500nm,16.4s
PVCC Panska Ves 74.25 320 *eP* **P** **18 34 44.2 0.0**
PVCC *epP* **pP** **18 34 51.6 -0.8**
PVCC AMS AMS 19 17 40.0
comp=Z,600nm,20.2s
PVCC Panska Ves 74.25 320 *eP* **P** **18 34 44.2 0.0**
PVCC *e* 18 34 51.6
PVCC MLR MLR
comp=Z,600nm,20.2s
PRA Prague 74.31 319 *eP* **P** **18 34 45.3 +0.7**
PRA *epP* **pP** **18 34 51.9 -0.9**
PRA Prague 74.31 319 *eP* **P** **18 34 45.3 +0.7**
PRA *e* 18 34 51.9
BSD Bornholm Skovb 74.34 324 *i* P pP 18 34 51.6 -1.2
comp=Z,19nm,0.8s
BSD Bornholm Skovb 74.34 324 *i* P **pP** **18 34 51.6 -1.2**
BSD pmax pmax
comp=Z,19nm,0.8s
JAVS Javornik 74.42 315 *i* P pP 18 34 54.0 +0.3
TRO Tromso 74.61 340 *eP* **P** **18 34 44.4 -1.5**
TRO *epP* **pP** **18 34 52.4 -1.7**
TRO IAMs_20 IAMs_20 19 10 01.9
comp=Z,1μm,19.3s
BRG Berggiesshubel 74.66 320 *eP* **P** **18 34 47.0 +0.4**
comp=Z,17nm,1.6s
BRG *e* 18 34 53.4
comp=Z,49nm,1.7s
BRG S **S** **18 44 19.0 -2.0**
BRG SS **SS** **18 49 08.0 -0.4**
comp=N,508nm,18.4s
comp=E,359nm,13.8s
comp=Z,624nm,15.2s
BRG Berggiesshubel 74.66 320 *eP* **P** **18 34 47.1 +0.5**
comp=Z,17nm,1.6s
BRG *epP* **pP** **18 34 53.6 -1.2**
BRG Berggiesshubel 74.66 320 *eP* **P** **18 34 47.0 +0.4**
BRG *e* 18 34 53.4
BRG S **S** **18 44 19.0 -2.0**
BRG SS **SS** **18 49 08.0 -0.4**
BRG pmax pmax
comp=Z,17nm,1.6s
BRG MLR MLR
comp=N,508nm,18.4s
BRG MLR MLR
comp=E,359nm,13.8s
BRG MLR MLR
comp=Z,624nm,15.2s
GEC2 GERESS Array S 74.74 318 *eP* **P** **18 34 47.4 +0.2**
comp=Z,6.0nm,1.2s

GEC2 *ep*P **pP** **18 34 53.7 -1.8**
GEC2 GERESS Array S 74.74 318 *eP* **P** **18 34 48.2 +1.0**
GEC2 GERESS Array S 74.74 318 *eP* **P** **18 34 48.1 +1.0**
GERES GERESS Array B 74.74 318 P **P** **18 34 47.7 +0.5**
comp=Z,3.1nm,1.0s,baz=91,slow=5.4,SNR=12
GERES pP **pP** **18 34 54.0 -1.5**
comp=Z,6.5nm,0.8s,baz=92,slow=4.8,SNR=22
GERES LR LR 19 12 28.5
comp=Z,302nm,19.7s,baz=72,slow=40
KHC Kasperske Hory 74.83 318 *eP* **P** **18 34 47.5 -0.2**
KHC *epP* **pP** **18 34 54.8 -1.1**
KHC *ex* x 18 35 02.5
KHC *eS* **S** **18 44 19.6 -3.5**
KHC *eSS* **SS** **18 49 17.9 +6.8**
KHC AMS AMS 19 11 50.0
comp=Z,500nm,17.0s
KHC Kasperske Hory 74.83 318 *eP* **P** **18 34 47.5 -0.2**
KHC *e* 18 34 54.8
KHC *e* 18 35 02.5
KHC *eS* **S** **18 44 19.6 -3.5**
KHC *eSS* **SS** **18 49 17.9 +6.8**
KHC MLR MLR
comp=Z,500nm,17.0s
KHC Kasperske Hory 74.83 318 *eP* **P** **18 34 47.8 +0.1**
comp=Z,5.2nm,1.3s
KHC LR LR
comp=Z,200nm,20.0s
RUE Ruedersdorf 74.84 322 *eP* **P** **18 34 48.2 +0.7**
comp=Z,30nm,1.2s
RUE *epP* **pP** **18 34 54.4 -1.4**
RUE Ruedersdorf 74.84 322 PFAKE 18 35 00.0 +12
RUE LR LR
comp=Z,500nm,19.0s
FBE Freiberg 75.04 320 *eP* **P** **18 34 49.6 +0.9**
comp=Z,18nm,1.3s
FBE *epP* **pP** **18 34 55.6 -1.4**
BOSA Boshof 75.22 237 P **P** **18 34 51.5 +1.2**
comp=Z,6.1nm,0.8s,baz=73,slow=6.3,SNR=9.1
BOSA LR LR 19 04 02.9
comp=Z,1μm,19.8s,baz=91,slow=33
BOSA Boshof 75.22 237 *eP* **P** **18 34 51.7 +1.3**
BOSA Boshof 75.22 237 *eP* **P** **18 34 51.6 +1.3**
CLL Collm 75.27 320 *eP* **P** **18 34 50.2 +0.1**
comp=Z,11nm,1.4s
CLL *epP* **pP** **18 34 56.6 -1.8**
CLL Collm 75.27 320 *eP* **P** **18 34 49.6 -0.5**
CLL pmax pmax
comp=Z,50nm,1.6s
CLL Collm 75.27 320 *eP* **P** **18 34 49.6 -0.5**
comp=Z,50nm,1.6s
CLL Collm 75.27 320 *i* P **P** **18 34 49.6 -0.5**
comp=Z,27nm,1.4s
CLL *epP* **pP** **18 34 57.0 -1.4**
CLL *e* 18 35 05.0
CLL *e* 18 35 41.0
CLL *e*PP **PP** **18 37 36.0 -2.7**
CLL *eS* **S** **18 44 25.0 -2.8**
CLL *e*SKSac **SKSac** **18 44 58.0 +0.1**
CLL *eSS* SS 18 49 36.0 +18
CLL LmV 19 14 00.0
comp=Z,700nm,18.2s
WET Wettzell 75.29 318 *eP* **P** **18 34 50.7 +0.4**
comp=Z,12nm,1.6s
WET *epP* **pP** **18 34 57.0 -1.6**
TANN Tannenbergstha 75.59 319 *eP* **P** **18 34 52.6 +0.6**
comp=Z,11nm,1.5s
TANN *epP* **pP** **18 34 58.8 -1.5**
NKC Novy Kostel 75.60 319 *eP* **P** **18 34 53.0 +1.0**
NKC *epP* **pP** **18 34 59.6 -0.7**
NKC AMS AMS 19 16 20.0
comp=Z,500nm,15.3s
NKC Novy Kostel 75.60 319 *eP* **P** **18 34 53.0 +1.0**
NKC *e* 18 34 59.6
NKC MLR MLR
comp=Z,500nm,15.3s
WERN Wernitzgruen 75.64 319 *epP* pP 18 34 59.1 -1.5
GUNZ Gunzen 75.67 319 *eP* **P** **18 34 53.1 +0.6**
comp=Z,10.0nm,1.4s
GUNZ *epP* **pP** **18 34 59.5 -1.2**
WERD Werda 75.69 319 *eP* **P** **18 34 53.1 +0.5**
comp=Z,9.0nm,1.4s
WERD *epP* **pP** **18 34 59.5 -1.3**
ROTZ Rotzenmuhle 75.74 319 *eP* **P** **18 34 53.7 +0.9**
comp=Z,13nm,1.4s
ROTZ *epP* **pP** **18 35 00.3 -0.8**
PLN Plauen 75.79 320 *eP* **P** **18 34 53.7 +0.6**
PLN *epP* **pP** **18 34 59.8 -1.6**
MANZ Manzenberg 75.81 319 *eP* **P** **18 34 54.3 +1.0**
comp=Z,14nm,1.5s
MANZ *epP* **pP** **18 35 00.4 -1.1**
NEUB Neuenburg 76.04 320 *eP* **P** **18 34 54.7 +0.2**
comp=Z,16nm,1.2s
NEUB *epP* **pP** **18 35 01.4 -1.4**
WTTA Wattenberg 76.10 316 ⇑*iP* **P** **18 34 55.2 0.0**
comp=Z,15nm,0.8s,SNR=5.8
MOX Moxa 76.14 320 *eP* **P** **18 34 55.4 +0.3**
comp=Z,12nm,1.4s
MOX *epP* **pP** **18 35 01.8 -1.5**
MOX *eL* L 19 14 07.7
comp=Z,475nm,21.6s
LOF Lofoten 76.29 338 *eP* **P** **18 34 55.0 -0.5**
LOF *epP* **pP** **18 35 02.6 -1.2**
GRF Grafenberg Arr 76.38 319 *eP* **P** **18 34 57.3 +0.8**
comp=Z,16nm,1.5s
GRF *epP* **pP** **18 35 03.6 -1.2**
GRF *eL* L 19 17 13.2
comp=Z,526nm,18.3s
GRFO Grafenberg 76.38 319 *eP* **P** **18 34 55.6 -0.9**
GRFO pmax pmax
comp=Z,17nm,0.9s
GRFO Grafenberg 76.38 319 *eP* **P** **18 34 55.5 -0.9**
comp=Z,17nm,0.9s
MOTA Moosalm 76.47 316 ⇓*iP* **P** **18 34 57.5 +0.3**
comp=Z,21nm,1.1s
NB2 NORSAR Subarra 76.69 330 P **P** **18 34 57.2 -0.8**
comp=Z,39nm,1.1s,baz=92,slow=5.9
NB2 NORSAR Subarra 76.69 330 P **P** **18 34 57.2 -0.8**
baz=92,slow=5.9
NOA NORSAR Array B 76.69 330 P **P** **18 34 57.4 -0.6**
comp=Z,8.8nm,0.9s,baz=94,slow=5.7,SNR=16
NOA pP **pP** **18 35 04.6 -1.7**
comp=Z,9.3nm,0.8s,baz=93,slow=5.6,SNR=14
NBO02 NORSAR Array S 76.86 330 *eP* **P** **18 34 59.0 0.0**
OSL Oslo 76.88 329 *eP* **P** **18 34 59.8 +0.7**
CLZ Clausthal 76.92 321 *eP* **P** **18 35 00.0 +0.5**
comp=Z,12nm,1.2s
CLZ *epP* **pP** **18 35 06.2 -1.6**
BSEG Bad Segeberg 76.97 323 *eP* **P** **18 35 00.3 +0.7**
comp=Z,23nm,1.2s
BSEG *epP* **pP** **18 35 06.7 -1.2**
VLC Villacollemand 77.03 313 PFAKE 18 35 10.0 +10
VLC LR LR
comp=Z,300nm,19.0s
HSPB Hornsund (broa 77.05 347 *eP* **P** **18 34 59.8 +0.1**
HSPB IAMs_20 IAMs_20 19 13 57.6
comp=Z,848nm,21.1s
FUORN Ofenpass-Fuorn 77.05 316 *epP* pP 18 35 08.4 -0.5
SPA0 Spitsbergen Ar 77.10 348 *eP* **P** **18 35 00.2 +0.2**
SPA0 *epP* **pP** **18 35 08.2 -0.2**
SPITS Spitsbergen Ar 77.10 348 P **P** **18 35 00.1 0.0**
comp=Z,28nm,1.0s,baz=99,slow=8.9,SNR=3.3
KONO Kongsberg 77.44 329 *eP* **P** **18 35 01.9 -0.4**
KONO Kongsberg 77.44 329 *eP* **P** **18 35 02.9 +0.7**
KONO pmax pmax
comp=Z,46nm,1.3s
KONO MLR MLR
comp=Z,900nm,22.0s
KONO Kongsberg 77.44 329 *eP* **P** **18 35 02.9 +0.7**
comp=Z,46nm,1.3s
KONO LR LR
comp=Z,900nm,22.0s
CASY Casey 77.54 172 P **P** **18 34 60.0 -2.5**
comp=Z,14nm,1.0s
MUD Monsted U'grnd 77.64 326 *i* P pP 18 35 11.0 -0.6
comp=Z,48nm,1.1s
MUD Monsted U'grnd 77.64 326 *i* P **pP** **18 35 11.0 -0.6**
MUD pmax pmax
comp=Z,48nm,1.1s
TUE Stuetta 77.69 315 PFAKE 18 35 20.0 +16
TUE LR LR
comp=Z,700nm,18.0s
VSL Villasalto 78.00 308 *eP* **P** **18 35 04.3 -1.5**
comp=Z,16nm,1.2s
KBS Kingsbay 78.10 349 *eP* **P** **18 35 05.5 0.0**
KBS Kingsbay 78.10 349 *eP* **P** **18 35 05.1 -0.5**

KBS pmax pmax
comp=Z,25nm,1.1s
KBS MLR MLR
comp=Z,871nm,19.0s
KBS Kingsbay 78.10 349 *e*P **P 18 35 05.1 -0.5**
comp=Z,25nm,1.1s
KBS LR LR
comp=Z,871nm,19.0s
TNS Taunus Mts 78.17 319 *e*P **P 18 35 06.8 +0.3**
comp=Z,13nm,1.4s
TNS *e*pP **pP 18 35 13.4 -1.4**
KEST Kesra 78.27 304 P **P 18 35 08.4 +0.9**
comp=Z,2.0nm,0.9s,baz=47,slow=4.4,SNR=5.3
KEST pP **pP 18 35 14.5 -1.3**
comp=Z,4.9nm,0.6s,baz=27,slow=2.1,SNR=12
BFO Black Forest 78.31 317 *e*P **P 18 35 07.5 +0.2**
comp=Z,4.0nm,1.0s
BFO *e*pP **pP 18 35 13.7 -1.9**
BFO Black Forest 78.31 317 *i* P **P 18 35 08.4 +1.1**
BFO Black Forest 78.31 317 *e*P **P 18 35 07.1 -0.2**
comp=Z,12nm,1.1s
MOL Molde 78.47 332 *e*P **P 18 35 08.5 +0.7**
IBBN Ibbenburen 78.53 321 *e*P **P 18 35 09.1 +0.7**
comp=Z,15nm,1.2s
IBBN *e*pP **pP 18 35 15.7 -1.0**
BUG Bochum--Univer 78.87 321 *e*P **P 18 35 10.7 +0.4**
comp=Z,21nm,1.5s
BUG *e*pP **pP 18 35 17.7 -0.9**
TSUM Tsumeb 79.07 248 *e*P P 18 35 07.5 -4.7
comp=Z,82nm,2.3s
TSUM LR LR
comp=Z,900nm,19.0s
ECH Echery 79.10 317 *e*P **P 18 35 12.0 +0.3**
ECH pmax pmax
comp=Z,14nm,1.3s
ECH Echery 79.10 317 *e*P **P 18 35 12.0 +0.3**
comp=Z,14nm,1.3s
SENIN Lac Senin/Sane 79.11 315 *e*P **P 18 35 12.9 +0.9**
DZM Mont Dzumac 79.57 115 *e*P **P 18 35 15.2 +0.4**
comp=Z,69nm,1.5s
DZM *e*S S 18 45 08.7 -6.9
comp=Z,458nm,24.4s
DZM Mont Dzumac 79.57 115 *e*LR LR 19 00 05.4
comp=Z,793nm,25.5s
BNI Bardonecchia 79.63 314 *e*P **P 18 35 15.9 +1.1**
BNI pmax pmax
comp=Z,32nm,1.4s
BNI Bardonecchia 79.63 314 *e*P **P 18 35 15.9 +1.1**
comp=Z,32nm,1.4s
WLF Walferdange 79.67 319 P **P 18 35 16.2 +1.5**
comp=Z,21nm,1.8s
WLF Walferdange 79.67 319 *e*P **P 18 35 15.6 +0.9**
comp=Z,35nm,1.8s
WLF *e*pP **PcP 18 35 22.0 -0.5**
WLF Walferdange 79.67 319 *e*P **P 18 35 16.1 +1.3**
WLF pmax pmax
comp=Z,85nm,1.6s
WLF Walferdange 79.67 319 *e*P **P 18 35 16.1 +1.3**
comp=Z,85nm,1.6s
MEM Membach 79.71 320 P **P 18 35 17.7 +2.8**
comp=Z,8.2nm,1.5s
MEM Membach 79.71 320⇑ *e*P pP 18 35 23.5 +0.3
MEM Membach 79.71 320 *e*PcP pP 18 35 23.5 +0.3
SUR Sutherland 80.10 234 *e*P **P 18 35 18.2 +0.6**
comp=Z,84nm,1.4s
MAW Mawson 80.49 191 LR LR 19 04 51.0
comp=Z,332nm,21.6s,baz=51,slow=31
MAW Mawson 80.49 191 *e*P **P 18 35 19.1 +0.5**
MAW pmax pmax
comp=Z,11nm,0.6s
MAW Mawson 80.49 191 *e*P **P 18 35 19.1 +0.5**
comp=Z,11nm,0.6s
DOU Dourbes 80.65 319 AP pP 18 35 29.0 +0.7
SSB Saint Sauveur 81.12 314 *e*P **P 18 35 22.4 -0.3**
SSB pmax pmax
comp=Z,25nm,1.0s
SSB Saint Sauveur 81.12 314 *e*P **P 18 35 22.4 -0.3**
comp=Z,25nm,1.0s
TAM Tamanrasset 83.01 292 *e*P **P 18 35 33.9 +0.7**
TAM pmax pmax
comp=Z,11nm,1.0s
TAM Tamanrasset 83.01 292 *e*P **P 18 35 33.9 +0.7**
comp=Z,11nm,1.0s
ATKA Atka Island 84.20 38 PFAKE 18 35 50.0 +12
ATKA LR LR
comp=Z,100nm,21.0s
DAG Danmarks Havn 84.73 348 *i* P **P 18 35 39.6 -1.1**
comp=Z,12nm,1.2s
DAG Danmarks Havn 84.73 348 *i* P **P 18 35 39.6 -1.1**
DAG pmax pmax
comp=Z,19nm,1.2s
TNA Tin City 84.80 24 PFAKE 18 35 50.0 +8.8
TNA LR LR
comp=Z,900nm,18.0s
SPIA Saint Paul Isl 85.54 33 PFAKE 18 36 00.0 +15
SPIA LR LR
comp=Z,500nm,20.0s
SYO Syowa Base 87.12 197⇓ *i* X pP 18 36 01.0 +0.1
ES19 SONSECA Array 88.13 310 *e*P **P 18 35 58.6 +0.4**
TOA0 Torodi Ar. Sit 88.14 283 *e*P **P 18 36 00.5 +1.9**
TOA0 *e*PP **PP 18 39 26.4 +0.6**
TORD Torodi Ar. Bea 88.14 283 P **P 18 35 59.3 +0.6**
comp=Z,1.3nm,0.9s,baz=85,slow=3.4,SNR=7.1
TORD pP **pP 18 36 05.9 -1.2**
comp=Z,3.8nm,0.9s,baz=81,slow=4.0,SNR=13
TORD PP **PP 18 39 26.2 +0.4**
comp=Z,2.1nm,1.1s,baz=72,slow=7.1,SNR=4.7
TORD LR LR 19 12 58.9
comp=Z,322nm,21.8s,baz=105,slow=34
ESDC Sonseca Array 88.18 310 P **P 18 35 58.9 +0.4**
comp=Z,1.3nm,0.8s,baz=64,slow=4.5,SNR=5.3
ESDC pP **pP 18 36 05.7 -1.2**
comp=Z,2.9nm,0.7s,baz=57,slow=4.4,SNR=8.1
ESDC LR LR 19 18 59.0
comp=Z,110nm,20.8s,baz=85,slow=38
ESLA Sonseca Array 88.18 310 *e*P **P 18 35 57.8 -0.6**
comp=Z,1.0nm,0.7s
PAB San Pablo 88.50 310 *e*P pP 18 36 08.1 -0.3
PAB San Pablo 88.50 310 *e*pP pP 18 36 08.1 -0.3
OUZ Omahuta 88.96 126 PFAKE 18 36 10.0 +8.0
OUZ LR LR
comp=Z,900nm,20.0s
RPZ Rata Peaks 89.12 135 *e*P **P 18 36 01.0 -1.7**
comp=Z,80nm,1.4s
MVO Moncorvo 90.14 312 *e*P **P 18 36 09.8 +2.2**
comp=Z,20nm,1.9s
MVO *e*pP **pP 18 36 16.4 +0.3**
MVO Moncorvo 90.14 312 *e*S **S 18 47 04.4 +4.5**
MVO Moncorvo 90.14 312 *e*LR LR 19 20 19.0
comp=Z,289nm,18.0s
IM04 Indian Mountai 90.15 22 *e*P **P 18 36 07.3 +0.2**
MTE Manteigas 90.70 311 *e*P **P 18 36 11.8 +1.5**
comp=Z,34nm,1.4s
MTE *e*pP **pP 18 36 19.4 +0.7**
MTE Manteigas 90.70 311 *e*S **S 18 47 10.0 +4.9**
MTE Manteigas 90.70 311 *e*LR LR 19 19 34.4
comp=Z,255nm,20.0s
PMRV Marv??o 90.82 310 *e*P **P 18 36 12.4 +1.6**
comp=Z,35nm,1.7s
PMRV *e*pP **pP 18 36 20.5 +1.3**
PMRV Marv??o 90.82 310 *e*S **S 18 47 11.7 +5.5**
COLD Coldfoot 90.83 20 *e*P **P 18 36 09.9 -0.4**
comp=Z,24nm,1.4s
COLD LR LR
comp=Z,1μm,18.0s
PGAV Gavieira, Arco 90.85 313 *e*LR LR 19 16 41.8
comp=Z,244nm,18.0s
PBAR Barrancos 90.85 309 *e*P **P 18 36 11.2 +0.3**
comp=Z,120nm,1.6s
PBAR *e*pP **pP 18 36 20.8 +1.5**
SUMG Summit 91.38 347 *i* P **P 18 36 13.6 +0.4**
comp=Z,19nm,1.1s
SUMG Summit 91.38 347 *i* P **P 18 36 13.6 +0.4**
SUMG pmax pmax
comp=Z,19nm,1.1s
SUMG Summit 91.38 347 *e*P **P 18 36 13.0 -0.1**
comp=Z,23nm,1.1s
SVW2 Sparrevohn 91.51 27 *e*P **P 18 36 15.3 +1.8**
EVO Evora 91.51 309 *e*pP pP 18 36 23.9 +1.5
PMTG Montargil 91.54 310 *e*pP pP 18 36 23.5 +1.0
PVAQ Vaqueiros 91.56 308 *e*pP pP 18 36 24.2 +1.6
PVAQ Vaqueiros 91.56 308 *e*S **S 18 47 13.1 +0.2**
PVAQ Vaqueiros 91.56 308 *e*LR LR 19 18 41.6
comp=Z,170nm,18.0s
MLY Manley 91.72 22 *e*P **P 18 36 15.3 +0.9**
comp=Z,20nm,1.0s
MLY LR LR
comp=Z,600nm,19.0s
PBDV Barranco-do-Ve 91.76 308 *e*P **P 18 36 14.6 -0.6**
comp=Z,76nm,1.7s
PBDV *e*pP **pP 18 36 25.1 +1.5**
MESJ Messejana 91.84 309 *e*P **P 18 36 17.2 +1.7**
comp=Z,46nm,2.1s
MESJ *e*pP **pP 18 36 24.7 +0.8**
CAST Castle Rocks 91.96 24 *e*P **P 18 36 16.1 +0.5**
comp=Z,47nm,1.2s
PNCL Nicolau / Gran 92.01 309 *e*P **P 18 36 17.0 +0.7**
comp=Z,30nm,1.9s
PNCL *e*pP **pP 18 36 25.4 +0.7**
BPAW Bear Paw Mtn. 92.07 23 *e*P **P 18 36 15.9 -0.2**
comp=Z,14nm,1.2s
PPLA Purkeypile 92.16 24 *e*P **P 18 36 16.8 +0.1**
comp=Z,21nm,1.1s
PPLA LR LR
comp=Z,599nm,20.0s
BWN Browne 92.62 23 *e*P **P 18 36 20.7 +2.2**
comp=Z,48nm,1.2s
TRF Thorofare Moun 92.66 24 *e*P **P 18 36 19.1 +0.2**
comp=Z,14nm,1.1s
TRF LR LR
comp=Z,500nm,18.0s
MDM Murphy Dome 92.67 22 *e*P **P 18 36 19.3 +0.5**
comp=Z,56nm,1.2s
MDM LR LR
comp=Z,700nm,19.0s
FYU Fort Yukon 92.85 20 *e*P **P 18 36 20.9 +1.4**
comp=Z,54nm,1.3s
FYU *e*PP **PP 18 40 03.1 +1.6**
FYU LR LR
comp=Z,700nm,19.0s
COLA College 92.86 22*c i*P **P 18 36 18.9 -0.7**
COLA pmax pmax
comp=Z,24nm,1.1s
COLA College 92.86 22 *e*P **P 18 36 19.5 -0.1**
COLA LR LR
comp=Z,700nm,20.0s
WRH Wood River Hil 92.98 22 *e*P **P 18 36 19.8 -0.4**
comp=Z,9.3nm,1.0s
WRH LR LR
comp=Z,700nm,19.0s
CCB Clear Creek Bu 92.99 22 *e*P **P 18 36 19.8 -0.5**
comp=Z,5.5nm,1.1s
CCB LR LR
comp=Z,600nm,20.0s
RSO Redoubt South 93.03 27 *e*P **P 18 36 19.9 -0.9**
comp=Z,29nm,0.9s
MCK McKinley 93.04 23 *e*P **P 18 36 19.9 -0.7**
MCK pmax pmax
comp=Z,42nm,1.2s
MCK MLR MLR
comp=Z,601nm,19.0s
MCK McKinley 93.04 23 *e*P **P 18 36 19.9 -0.7**
comp=Z,42nm,1.2s
MCK LR LR
comp=Z,601nm,19.0s
RND Reindeer 93.24 23 *e*P **P 18 36 21.4 -0.1**
RND pmax pmax
comp=Z,32nm,1.3s
RND MLR MLR
comp=Z,900nm,19.0s
RND Reindeer 93.24 23 *e*P **P 18 36 21.4 -0.1**
comp=Z,32nm,1.3s
RND LR LR
comp=Z,900nm,19.0s
IL1 Eielson Array 93.26 22 *e*P **P 18 36 20.1 -1.4**
ILAR Eielson Array 93.26 22 P **P 18 36 20.2 -1.3**
comp=Z,5.7nm,0.9s,baz=298,slow=4.3,SNR=39
ILAR pP **pP 18 36 27.4 -2.5**
comp=Z,4.0nm,0.9s,baz=299,slow=4.8,SNR=12
ILAR PP **PP 18 40 04.2 -0.7**
comp=Z,1.2nm,1.0s,baz=297,slow=7.8,SNR=4.2
ILAR LR LR 19 22 13.2
comp=Z,370nm,22.0s,baz=303,slow=38
HDA Harding Lake 93.43 22 *e*P **P 18 36 21.5 -0.8**
comp=Z,9.9nm,1.0s
HDA LR LR
comp=Z,800nm,20.0s
RC01 Rabbit Creek A 94.04 25 *e*P **P 18 36 24.5 -0.6**
comp=Z,53nm,1.3s
RC01 LR LR
comp=Z,600nm,20.0s
PMR Palmer 94.04 25 *e*P **P 18 36 24.5 -0.6**
PMR pmax pmax
comp=Z,10.0nm,0.8s
PMR Palmer 94.04 25 *e*P **P 18 36 24.5 -0.6**
comp=Z,10nm,0.8s
BRLK Bradley Lake 94.19 27 *e*P **P 18 36 25.9 0.0**
comp=Z,60nm,1.1s
BRLK LR LR
comp=Z,500nm,18.0s
SML Sawmill 94.26 24 *e*P **P 18 36 26.2 0.0**
SML pmax pmax
comp=Z,5.0nm,1.0s
SML Sawmill 94.26 24 *e*P **P 18 36 26.2 0.0**
comp=Z,5.0nm,1.0s
KDAK Kodiak Island 94.32 29 PFAKE 18 36 40.0 +14
KDAK LR LR
comp=Z,800nm,20.0s
SEW Seward 94.65 26 P **P 18 36 26.4 -1.5**
comp=Z,21nm,1.1s
SEW LR LR
comp=Z,600nm,19.0s
SCM Sheep Creek Mo 94.66 24 *e*P **P 18 36 28.8 +0.7**
SCM pmax pmax
comp=Z,76nm,1.8s
SCM MLR MLR
comp=Z,500nm,19.0s
SCM Sheep Creek Mo 94.66 24 *e*P **P 18 36 28.8 +0.7**
comp=Z,76nm,1.8s
SCM LR LR
comp=Z,500nm,19.0s
PAX Paxson 94.77 23 *e*P **P 18 36 28.4 -0.2**
PAX pmax pmax
comp=Z,7.0nm,0.6s
PAX MLR MLR
comp=Z,599nm,18.0s
PAX Paxson 94.77 23 *e*P **P 18 36 28.4 -0.2**
comp=Z,6.8nm,0.6s
PAX LR LR
comp=Z,599nm,18.0s
RES Resolute Bay 95.09 2 P **P 18 36 29.6 -0.1**
comp=Z,5.7nm,0.9s,baz=344,slow=2.7,SNR=9.8
RES Resolute Bay 95.09 2 *e*P **P 18 36 30.2 +0.5**
RES Resolute Bay 95.09 2 *e*P **P 18 36 30.2 +0.5**
INK Inuvik 95.23 15 P **P 18 36 29.9 -0.5**
comp=Z,11nm,1.1s,baz=306,slow=5.6,SNR=14
INK Inuvik 95.23 15 *e*P **P 18 36 29.9 -0.5**
INK pmax pmax
comp=Z,26nm,1.3s
INK Inuvik 95.23 15 *e*P **P 18 36 29.9 -0.5**
comp=Z,26nm,1.3s
EGAK Eagle 95.27 20 *e*P **P 18 36 30.9 +0.2**
comp=Z,7.5nm,1.1s
EGAK LR LR
comp=Z,500nm,20.0s
VNDA Vanda 95.66 168 P **P 18 36 31.6 -0.5**
comp=Z,1.1nm,1.0s,baz=289,slow=5.0,SNR=3.9
VNDA LR LR 19 16 18.0
comp=Z,685nm,18.8s,baz=304,slow=33
BMRM Bremner River 96.23 24 *e*P **P 18 36 35.5 +0.2**
comp=Z,21nm,1.1s
BMRM LR LR
comp=Z,696nm,20.0s
RAGM Ragged Mountai 96.53 25 PFAKE 18 36 50.0 +13
RAGM LR LR
comp=Z,700nm,21.0s
SBA Scott Base 96.77 168 *e*P **P 18 36 37.1 0.0**
SBA Scott Base 96.77 168 *e*P **P 18 36 37.1 0.0**
PMOZ Porto Moniz, M 100.31 306 *e*LR LR 19 20 23.1
comp=Z,372nm,18.0s
NIUE Niue 100.71 108 P **Pdif 18 36 50.3 -5.7**
baz=101,SNR=4.2
BESE Bessie Mountai 101.58 23 PFAKE 18 37 10.0 +11
BESE LR LR
comp=Z,200nm,21.0s
DLBC Dease Lake 103.47 21 PFAKE 18 37 20.0 +12
DLBC LR LR
comp=Z,600nm,18.0s
WRAK Wrangell Islan 104.05 24 PFAKE 18 37 20.0 +10
WRAK LR LR
comp=Z,500nm,22.0s
YKA Yellowknife Ar 104.54 12 PP PP 18 41 28.1 -2.5
comp=Z,2.0nm,0.9s,baz=335,slow=7.2,SNR=5.2

EDM Edmonton 113.11 16 PFAKE 18 42 00.0
EDM LR LR
comp=Z,600nm,18.0s
FFC Flin Flon 114.16 9 *e*PP **PP 18 42 37.4 -2.9**
FFC LR LR
comp=Z,700nm,18.0s
NEW Newport 116.22 21 PFAKE 18 42 00.0 +9.4
NEW LR LR
comp=Z,300nm,20.0s
WALA Waterton Lakes 116.62 19 PKPdf **PKPdf 18 41 52.6 +1.1**
WALA LR LR
comp=Z,500nm,21.0s
E09A Wood Farm, Sta 117.30 23 PFAKE 18 42 00.0 +7.3
E09A LR LR
comp=Z,500nm,21.0s
BSMT Bassoo Peak 117.39 20 *e*PKPdf **PKPdf 18 41 56.4 +3.3**
KEBM Edson Butte 117.49 30 PFAKE 18 42 00.0 +6.7
KEBM LR LR
comp=Z,300nm,22.0s
I04A Tendick Farm, 117.69 28 P **PKPdf 18 41 54.2 +0.6**
baz=118
HUMO Hull Mountain 118.35 29 *e*PKPdf **PKPdf 18 41 55.7 +0.8**
MSO Missoula 118.56 20 PFAKE 18 42 10.0 +15
MSO LR LR
comp=Z,400nm,21.0s
J05D Fort Rock, OR 118.62 27 P **PKPdf 18 41 56.8 +1.3**
baz=118
K05A Summer Lake 119.22 27 *e*PKPdf **PKPdf 18 41 58.3 +1.5**
M02C Callahan 119.33 30 P **PKPdf 18 41 57.8 +0.9**
baz=119
N02D Trinity Center 119.72 30 P **PKPdf 18 41 58.1 +0.4**
baz=120
DGMT Dagmar 119.75 12 PFAKE 18 42 10.0 +13
DGMT LR LR
comp=Z,500nm,20.0s
PPT2 Papeete2 119.86 104 *e*LR LR 19 18 35.5
comp=Z,300nm,22.2s
TBI Tubuai 119.99 111 *e*LR LR 19 18 36.9
comp=Z,435nm,22.8s
MOD Modoc 120.14 28 *e*PKPdf **PKPdf 18 41 59.4 +0.9**
DLMT Dillon 120.30 20 PFAKE 18 42 10.0 +11
DLMT LR LR
comp=Z,300nm,18.0s
WVOR Wild Horse Val 120.45 26 *e*PKIKP **PKPdf 18 42 00.3 +1.2**
WVOR MLR MLR
comp=Z,200nm,20.0s
WVOR Wild Horse Val 120.45 26 *e*PKPdf **PKPdf 18 42 00.3 +1.2**
WVOR LR LR
comp=Z,200nm,20.0s
D22A Cohagen 120.54 14 P **PKPdf 18 42 00.1 +1.1**
baz=120
C26A Wahner Farm, P 120.79 11 P **PKPdf 18 41 59.9 +0.5**
baz=121
MFID Camas Ranch 120.80 23 *e*PKPdf **PKPdf 18 42 00.5 +0.8**
GCMT Greycliff 120.84 18 *e*PP PP 18 43 27.5 +0.3
MDND Maddock 121.20 9 PFAKE 18 42 10.0 +10
MDND LR LR
comp=Z,500nm,19.0s
HLID Hailey 121.21 22 P **PKPdf 18 42 01.1 +0.5**
baz=121
HLID Hailey 121.21 22 *e*PKPdf **PKPdf 18 42 01.4 +0.8**
HLID LR LR
comp=Z,400nm,22.0s
AGMN Agassiz Nation 121.26 6 PFAKE 18 42 10.0 +10
AGMN LR LR
comp=Z,400nm,20.0s
YMR Madison River 121.45 19 PFAKE 18 42 10.0 +8.9
YMR LR LR
comp=Z,1μm,21.0s
LKWY Lake 121.72 19 PFAKE 18 42 10.0 +8.4
LKWY LR LR
comp=Z,600nm,20.0s
EYMN Ely 121.95 3 PFAKE 18 42 10.0 +8.4
EYMN LR LR
comp=Z,400nm,19.0s
FLWY Flagg Ranch 122.06 19 PFAKE 18 42 10.0 +7.8
FLWY LR LR
comp=Z,401nm,20.0s
E27A Carson 122.23 11 P **PKPdf 18 42 02.4 +0.1**
baz=122
G22A Birney 122.31 15 P **PKPdf 18 42 02.9 +0.3**
baz=122
MOOW Moose Ponds 122.34 19 PFAKE 18 42 10.0 +7.2
MOOW LR LR
comp=Z,300nm,20.0s
FXWY Fox Creek 122.34 20 PFAKE 18 42 10.0 +7.2
FXWY LR LR
comp=Z,400nm,19.0s
TPAW Teton Pass 122.50 20 *e*PKPdf **PKPdf 18 42 04.1 +1.0**
TPAW LR LR
comp=Z,400nm,19.0s
LOHW Long Hollow 122.51 19 PFAKE 18 42 10.0 +6.9
LOHW LR LR
comp=Z,400nm,19.0s
F26A Lodgepole 122.56 12 P **PKPdf 18 42 03.6 +0.7**
baz=122
REDW Red Top Meadow 122.65 20 PFAKE 18 42 10.0 +6.6
REDW LR LR
comp=Z,400nm,19.0s
I20A Worland 122.97 17 P **PKPdf 18 42 04.1 +0.3**
baz=123
G25A Newell 123.03 13 P **PKPdf 18 42 03.8 0.0**
baz=123
H24A Dirks Ranch, A 123.19 14 P **PKPdf 18 42 04.4 +0.1**
baz=123
ELK Elko 123.28 25 PKP **PKPdf 18 42 05.0 +0.3**
comp=Z,3.5nm,1.0s,baz=356,slow=1.8,SNR=8.7
ELK Elko 123.28 25 PKIKP **PKPdf 18 42 05.0 +0.3**
ELK pmax pmax
comp=Z,4.0nm,1.0s
ELK Elko 123.28 25 *e*PKPdf **PKPdf 18 42 05.8 +1.1**
I21A Big Trails, Te 123.34 17 P **PKPdf 18 42 04.6 0.0**
baz=123
BW06 Boulder Array 123.60 19 *e*PKPdf **PKPdf 18 42 04.8 -0.5**
BW06 LR LR
comp=Z,400nm,20.0s
PDAR Pinedale Array 123.61 19 PKP **PKPdf 18 42 04.7 -0.5**
comp=Z,4.1nm,1.0s,baz=7.4,slow=2.8,SNR=3.9
NV01 Mina Array Sit 123.82 29 *e*PKPdf **PKPdf 18 42 06.5 +0.7**
NVAR Mina Array Bea 123.82 29 PKP **PKPdf 18 42 06.4 +0.6**
comp=Z,7.6nm,0.9s,baz=285,slow=1.7,SNR=31
NVAR SKP 18 45 40.7
comp=Z,0.7nm,0.8s,baz=259,slow=1.1,SNR=3.6
RSSD Black Hills 123.90 14 PFAKE 18 42 20.0 +14
RSSD LR LR
comp=Z,400nm,19.0s
J22A Midwest 123.94 16 P **PKPdf 18 42 06.0 +0.2**
baz=124
HWUT Hardware Ranch 123.95 21 PFAKE 18 42 20.0 +14
HWUT LR LR
comp=Z,500nm,20.0s
BGU Big Grassy Mou 124.00 23 PFAKE 18 42 20.0 +14
BGU LR LR
comp=Z,300nm,22.0s
LONY Lake Ozonia 124.06 349 PFAKE 18 42 20.0 +14
LONY LR LR
comp=Z,300nm,20.0s
FFD Franklin Falls 124.52 346 PFAKE 18 42 20.0 +13
FFD LR LR
comp=Z,801nm,22.0s
SPMN St. Paul 124.58 4 PFAKE 18 42 20.0 +13
SPMN LR LR
comp=Z,400nm,20.0s
K22A Casper 124.63 17 PFAKE 18 42 20.0 +13
K22A LR LR
comp=Z,500nm,20.0s
I28A Midland 124.64 12 P **PKPdf 18 42 07.1 +0.2**
baz=124
DUG Dugway 124.72 23 *e*PKIKP **PKPdf 18 42 08.1 +0.8**
DUG Dugway 124.72 23 P **PKPdf 18 42 07.9 +0.6**
baz=124
DUG Dugway 124.72 23 *e*PKPdf **PKPdf 18 42 08.1 +0.8**
K23A Bowen Ranch, D 124.78 16 P **PKPdf 18 42 07.9 +0.5**
baz=125
R11A Troy Canyon, C 125.13 27 P **PKPdf 18 42 08.8 +0.6**
baz=125
R11A Troy Canyon, C 125.13 27 *e*PKPdf **PKPdf 18 42 09.3 +1.1**
ECSD EROS Data Cent 125.66 8 P **PKPdf 18 42 08.8 -0.1**
baz=125
ECSD EROS Data Cent 125.66 8 *e*PKPdf **PKPdf 18 42 08.9 0.0**
ECSD LR LR
comp=Z,700nm,20.0s
TPNV Topopah Spring 125.98 28 P **PKPdf 18 42 09.8 0.0**
baz=126
FURC Furnace Creek, 126.08 29 P **PKPdf 18 42 10.7 +0.9**
baz=126

MPMC Manual Prospec 126.10 30 P **PKPdf 18 42 10.6 +0.4**
baz=126
TMUT Trail Mountain 126.11 22 PFAKE 18 42 20.0 +10
TMUT LR LR
comp=Z,800nm,22.0s
N23A Red Feather La 126.42 17 PFAKE 18 42 20.0 +9.2
N23A LR LR
comp=Z,300nm,21.0s
MSU Marysvale 126.42 24 *e*PKIKP **PKPdf 18 42 11.5 +0.8**
MSU Marysvale 126.42 24 *e*PKPdf **PKPdf 18 42 11.5 +0.8**
SHPR Sheep Range 126.84 28 *e*PKPdf **PKPdf 18 42 11.9 +0.3**
SHPR *e*PP **PP 18 44 05.8 -2.1**
JFWS Jewell Farm 127.03 2 PFAKE 18 42 20.0 +8.5
JFWS LR LR
comp=Z,400nm,20.0s
GSC Goldstone 127.04 30 *e*PKIKP **PKPdf 18 42 13.8 +2.0**
GSC Goldstone 127.04 30 P **PKPdf 18 42 13.0 +1.1**
baz=127
GSC Goldstone 127.04 30 *e*PKPdf **PKPdf 18 42 13.8 +2.0**
PAL Palisades 127.38 347 PFAKE 18 42 20.0 +7.8
PAL LR LR
comp=Z,400nm,19.0s
L35A Bielow Farm, R 127.40 7 P **PKPdf 18 42 12.8 +0.6**
baz=127
AAM Ann Arbor 127.54 356 PFAKE 18 42 20.0 +7.5
AAM LR LR
comp=Z,500nm,18.0s
HEC Hector,Ludlow 127.65 30 P **PKPdf 18 42 14.1 +1.1**
baz=127
BRNJ Basking Ridge 127.83 347 PFAKE 18 42 20.0 +6.9
BRNJ LR LR
comp=Z,200nm,20.0s
GMRC Granite Mounta 128.02 29 P **PKPdf 18 42 15.0 +1.2**
baz=128
Q24A Divide 128.43 17 PFAKE 18 42 30.0 +15
Q24A LR LR
comp=Z,400nm,22.0s
BELC Belle Mtn. Jos 128.48 30 P **PKPdf 18 42 15.6 +0.9**
baz=128
SSPA Standing Stone 128.52 350 PFAKE 18 42 30.0 +16
SSPA LR LR
comp=Z,400nm,21.0s
PFO Pinyon Flat Ob 128.57 31 P **PKPdf 18 42 15.6 +0.7**
baz=128
P27A Ficken Ranch, 128.57 15 P **PKPdf 18 42 15.4 +0.7**
baz=128
IRM Iron Mountain 128.77 29 P **PKPdf 18 42 16.0 +0.9**
baz=129
BC3 Big Chuckawall 129.03 30 P **PKPdf 18 42 17.0 +1.2**
baz=129
S22A 4UR Ranch, Cre 129.03 19 P **PKPdf 18 42 15.9 0.0**
baz=129
S22A 4UR Ranch, Cre 129.03 19 *e*PKPdf **PKPdf 18 42 16.6 +0.7**
S22A LR LR
comp=Z,500nm,20.0s
SDCO Great Sand Dun 129.45 18 P **PKPdf 18 42 16.8 +0.1**
baz=129
SDCO Great Sand Dun 129.45 18 PFAKE 18 42 30.0 +13
SDCO LR LR
comp=Z,400nm,21.0s
ACSO Alum Creek Sta 129.55 355 PFAKE 18 42 30.0 +14
ACSO LR LR
comp=Z,300nm,20.0s
SFIN Scholer Farm 129.60 359 PFAKE 18 42 30.0 +14
SFIN LR LR
comp=Z,600nm,20.0s
P35A Duane Minner, 129.88 8 P **PKPdf 18 42 17.5 +0.5**
baz=130
S26A Kim 130.16 16 P **PKPdf 18 42 18.3 +0.5**
baz=130
KSU1 Kansas State U 130.21 9 PFAKE 18 42 30.0 +12
KSU1 LR LR
comp=Z,400nm,20.0s
W18A Petrified Fore 130.33 24 PFAKE 18 42 30.0 +12
W18A LR LR
comp=Z,400nm,20.0s
T25A Trinidad 130.34 17 *e*SKPbc **SKPbc 18 45 41.0 +1.0**
Q35A Mercer Eighty, 130.53 8 P **PKPdf 18 42 18.6 +0.3**
baz=130
CBN Corbin 130.79 349 PFAKE 18 42 30.0 +11
CBN LR LR
comp=Z,400nm,21.0s
BLO Bloomington 130.79 359 PFAKE 18 42 30.0 +11
BLO LR LR
comp=Z,400nm,21.0s
SLM Saint Louis 131.29 2 PFAKE 18 42 30.0 +10
SLM LR LR
comp=Z,600nm,20.0s
JSRW J. Sargeant Re 131.38 349 *ep*PKPdf pPKPdf 18 42 29.0 +0.4
ANMO Albuquerque 131.70 21 PKP **PKPdf 18 42 21.4 +0.5**
comp=Z,1.7nm,0.8s,baz=269,slow=0.7,SNR=8.8
ANMO SKPbc **SKPbc 18 45 45.2 +0.3**
comp=Z,20nm,1.2s,baz=325,slow=3.4,SNR=26
ANMO Albuquerque 131.70 21 PKIKP **PKPdf 18 42 21.4 +0.5**
ANMO pmax pmax
comp=Z,2.0nm,0.8s
ANMO pmax pmax
comp=N,20nm,1.2s
ANMO Albuquerque 131.70 21 *e*PKPdf **PKPdf 18 42 21.3 +0.4**
ANMO *e*SKP 18 45 45.6
WCI Wyandotte Cave 131.73 358 PFAKE 18 42 30.0 +9.4
WCI LR LR
comp=Z,400nm,21.0s
VWCC Virginia Weste 132.16 352 *e*PP PP 18 44 35.2 -6.7
BLA Blacksburg 132.26 352 PFAKE 18 42 30.0 +8.3
BLA LR LR
comp=Z,200nm,21.0s
TUC Tucson 132.32 27 *e*PKIKP **PKPdf 18 42 23.7 +1.7**
TUC Tucson 132.32 27 *e*PKPdf **PKPdf 18 42 23.7 +1.7**
TUC *e*SKP 18 45 45.4
BNM Barren Site 132.36 21 *e*PKPdf **PKPdf 18 42 24.4 +2.2**
T37A Cheneyville 18 132.39 8 P **PKPdf 18 42 21.5 -0.4**
baz=132
U37A Salina 133.07 8 P **PKPdf 18 42 23.1 -0.1**
baz=133
121A Cookes Peak, D 133.37 23 *e*PKPdf **PKPdf 18 42 22.9 -1.1**
121A *e*SKP 18 45 50.3
MSTX Muleshoe 133.77 17 *e*PKPdf **PKPdf 18 42 25.4 +0.7**
MSTX *e*SKP 18 45 51.3
SWET Sewanee 134.72 358 *e*SKPbc **SKiKP 18 46 03.9 +1.5**
X35A Drake 134.74 11 P **PKPdf 18 42 27.1 +0.8**
baz=134
Z29A Hungry Hill Ra 134.74 16 P **PKPdf 18 42 26.8 +0.3**
baz=134
X38A Whitesboro 134.82 8 P **PKPdf 18 42 26.5 0.0**
baz=135
MIAR Mount Ida 135.10 7 *e*PKIKP **PKPdf 18 42 26.8 -0.2**
MIAR Mount Ida 135.10 7 P **PKPdf 18 42 26.6 -0.4**
baz=135
MIAR Mount Ida 135.10 7 *e*PKPdf **PKPdf 18 42 26.8 -0.2**
MIAR *e*SKP 18 45 56.3
128A Castleberry Fa 135.12 18 P **PKPdf 18 42 26.4 -0.9**
baz=135
Z32A Haskell 135.27 14 P **PKPdf 18 42 27.1 -0.3**
baz=135
129A Stewart Farms, 135.29 17 P **PKPdf 18 42 28.9 +1.3**
baz=135
Z36A Blue Ridge 135.93 10 P **PKPdf 18 42 28.8 +0.2**
baz=136
133A Hamilton Ranch 136.07 14 P **PKPdf 18 42 29.8 +0.9**
baz=136
230A Sterling City 136.20 16 P **PKPdf 18 42 30.1 +0.8**
baz=136
232A Coleman 136.58 15 P **PKPdf 18 42 29.4 -0.5**
baz=136
234A Clairette 136.82 13 P **PKPdf 18 42 30.6 +0.3**
baz=137
331A San Angelo 136.93 16 P **PKPdf 18 42 30.9 +0.3**
baz=137
429A Davenport Ranc 137.16 18 P **PKPdf 18 42 30.5 -0.6**
baz=137
430A Baggett Ranch, 137.20 17 P **PKPdf 18 42 31.4 +0.3**
baz=137
333A Richland Sprin 137.28 14 P **PKPdf 18 42 31.7 +0.5**
baz=137
334A Lometa 137.45 13 P **PKPdf 18 42 32.0 +0.5**
baz=137
431A Sonora 137.47 16 P **PKPdf 18 42 32.0 +0.4**
baz=137
335A Moody 137.67 12 P **PKPdf 18 42 32.2 +0.3**
baz=138
530A J-C Ranch, Com 137.77 17 P **PKPdf 18 42 32.9 +0.8**
baz=138
TX31 Lajitas Ar. Si 137.77 21 *e*PKPdf **PKPdf 18 42 32.3 +0.1**
TXAR Lajitas Array 137.77 21 PKhKP PKPpre 18 42 24.6
comp=Z,0.5nm,0.9s,baz=267,slow=1.6,SNR=3.8
TXAR PKP **PKPdf 18 42 31.9 -0.4**
comp=Z,3.1nm,1.0s,baz=202,slow=1.3,SNR=14
TXAR SKPbc **SKPbc 18 46 04.9 +0.3**
comp=Z,8.1nm,1.1s,baz=280,slow=0.8,SNR=14
JCT Junction City 137.88 15 *e*PKIKP **PKPdf 18 42 32.5 +0.2**
JCT *e* 18 45 19.2
JCT Junction City 137.88 15 P **PKPdf 18 42 32.5 +0.2**
baz=138
JCT Junction City 137.88 15 *e*PKPdf **PKPdf 18 42 32.5 +0.2**
JCT *e*PP **PP 18 45 19.1 +0.9**
434A Burnet 137.94 13 P **PKPdf 18 42 32.8 +0.4**
baz=138
531A Rocksprings 137.98 17 P **PKPdf 18 42 32.9 +0.4**
baz=138
532A Rocksprings 138.19 16 P **PKPdf 18 42 32.6 -0.3**
baz=138
SJG San Juan 144.58 323 *e*PKIKP PKPbc 18 42 43.2 0.0
SJG San Juan 144.58 323 *e*PKPdf PKPbc 18 42 43.2 0.0
AOPR Arecibo Observ 144.76 324 *e*PKPdf PKPbc 18 42 44.0 +0.2
CELP Cerrillos 144.87 323 *e*PKPdf **PKPab 18 42 43.5 -0.6**
OBIP Obispado Ponce 144.91 323 *e*PKPdf **PKPab 18 42 43.5 -0.7**
LSP Las Mesas 145.08 324 *e*PKPdf **PKPab 18 42 45.2 +0.3**
MPR Mayaguez 145.09 324 *e*PKPbc **PKPdf 18 42 46.0 +0.6**
CRPR Cabo Rojo, PR 145.23 324 *e*PKPdf **PKPbc 18 42 44.0 -1.3**
SMN1 Samana, DR 145.47 328 *e*PKPdf **PKPbc 18 42 43.9 -2.2**
SDDR Presa de Saban 146.66 331 *e*PKPdf **PKPbc 18 42 49.7 0.0**
CPUP Villa Florida 147.04 237 PKPbc **PKPbc 18 42 49.8 -0.8**
comp=Z,1.7nm,0.7s,baz=45,slow=4.3,SNR=2.3
CPUP Villa Florida 147.04 237 PKPbc **PKPbc 18 42 49.8 -0.8**
CPUP *e*PKPdf **PKiKP 18 42 55.2 +2.1**
PTGA Pitinga 150.71 287 PKPbc **PKPbc 18 43 00.4 0.0**
comp=Z,4.9nm,0.9s,baz=52,slow=2.6,SNR=7.7
PTGA PKPab **PKPab 18 43 07.7 +0.4**
comp=Z,13nm,1.0s,baz=26,slow=4.2,SNR=12
CMIG Matias Romero 151.94 14 PKPbc **PKPbc 18 43 02.7 -0.3**
comp=Z,14nm,1.0s,baz=7.6,slow=3.0,SNR=12
CMIG PKPab **PKPab 18 43 10.8 -1.3**
comp=Z,9.7nm,0.8s,baz=6.7,slow=3.3,SNR=3.7
CFAA Coronel Fontan 152.06 218 PKPbc **PKPbc 18 43 03.2 +0.2**
comp=Z,1.0nm,0.8s,baz=22,slow=2.9,SNR=3.1
CFAA PKPab **PKPab 18 43 10.9 -1.6**
comp=Z,1.3nm,0.5s,baz=153,slow=4.5,SNR=5.1
SDV Santo Domingo 154.39 317 *e*PKPab **PKPab 18 43 20.7 -2.2**
SAML Samuel 155.65 271 *e*PKPbc PKPdf 18 43 07.9 +6.0
SAML *e*PKPab **PKPab 18 43 31.4 +3.2**
LPAZ La Paz 159.91 251 PKP **PKPdf 18 43 08.3 +0.3**
comp=Z,0.6nm,0.5s,baz=256,slow=1.4,SNR=2.3
LPAZ La Paz 159.91 251 PKIKP **PKPdf 18 43 08.3 +0.3**
LPAZ *e* 18 43 17.1
LPAZ La Paz 159.91 251 PKP **PKPdf 18 43 08.3 +0.3**
LPAZ *ep*PKPdf **pPKPdf 18 43 17.1 +0.4**
OTAV Otavalo 165.99 318 *e*PKPab PKPab 18 44 20.8 +7.2

DJA 02 18:24:11.7±0.7, 8°S±5°×107°E±, h23km±5km, M3.7/14, MLv3.7/14, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.70**	**40**	P	Pb	18 24 25.2	-0.2
CISI				S	Sb	18 24 34.8	0.0
CNJI	**Cibinong**	**0.82**	**344**	P	Pb	18 24 27.2	-0.1
CNJI				S	Sb	18 24 37.7	-0.2
CMJI	**Cimerak**	**1.12**	**74**	P	Pn	18 24 32.0	0.0
CMJI				S	Sb	18 24 45.2	-1.4
LEM	**Lembang**	**1.29**	**11**	P	Pn	18 24 34.5	-0.1
LEM				S	Sb	18 24 52.2	+0.4
SKJI	**Sukabumi**	**1.35**	**324**	P	Pn	18 24 34.8	-0.3
SKJI				S	Sn	18 24 51.2	-1.2
KPJI	**Karang Pucung**	**1.73**	**64**	P	Pn	18 24 40.5	+0.1
KPJI				S	Sn	18 25 02.6	+0.8
TNG	**Tangerang**	**2.04**	**340**	P	Pn	18 24 44.6	-0.1
CGJI	**Cibinong**	**2.22**	**312**	P	Pn	18 24 47.0	-0.1
SMRI	**Semarang**	**3.23**	**71**	P	Pn	18 25 01.0	0.0
KASI	**Kota Agung**	**3.83**	**312**	P	Pn	18 25 09.0	-0.2
UWJI	**Ujung Watu**	**3.93**	**65**	P	Pn	18 25 10.7	0.0

*ISCJB **02** 18:38:21.1±0.8, 25°.40S±0°.04×69°.06W±0°.09, h103km, mb3.9/3, Error ellipse: s-maj=11.8km s-min=6.0km az=3.7*
*IDC **02** 18:38:22.5±1.9, 25°.37S×68°.78W, h93km±17km, mb3.7/3, mb1 3.6/7, mb1mx3.3/40, mbtmp3.9/7, Error ellipse: s-maj=30.9km s-min=18.9km az=99.0*
*SJA **02** 18:38:23.4±0.7, 25°.32S×68°.80W, h68km±12km, ML2.6, MW2.9*

ISC 02 18:38:22.2±0.9, 25°.35S±0°.05×69°.0W±0°.1, h103km, n19, σ1°81/25, mb3.8/3, 1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.73**	**1**	P	**Pn**	**18 39 05.1**	**+0.4**
	1μm,0.3s,baz=170,slow=12,SNR=54						
LVC				S	**Sn**	**18 39 33.9**	**-3.4**
	2μm,0.3s,baz=205,slow=13,SNR=11						
FSA	**Cafayete**	**2.78**	**106**	*e*P	**Pn**	**18 39 06.4**	**+1.2**
SLA	**San Lorenzo**	**3.22**	**79**	*e*P	**Pn**	**18 39 12.3**	**+1.2**
AHML	**Horco Molle**	**3.58**	**114**	*e*P	**Pn**	**18 39 16.9**	**+1.1**
AHML				AML	AML	18 39 51.1	
	comp=Z,13nm,0.6s						
AZAP	**Zapla**	**3.73**	**73**	*e*P	**Pn**	**18 39 18.8**	**+0.7**
HUA	**Humahuaca**	**3.90**	**58**	*e*P	**Pn**	**18 39 22.2**	**+1.7**
CYA	**Choya**	**4.19**	**138**	*e*P	**Pn**	**18 39 25.7**	**+1.7**
CYA				*e*S	**Sn**	**18 40 12.0**	**0.0**
ASTB	**Santa Barbara**	**4.32**	**72**	*e*P	**Pn**	**18 39 26.6**	**+0.6**
AMOG	**MOGNA**	**5.58**	**176**	*e*P	**Pn**	**18 39 42.1**	**-0.8**
AMOG				⇓*e*S	**Sn**	**18 40 45.2**	**-0.6**
CFAA	**Coronel Fontan**	**6.26**	**174**	P	**Pn**	**18 39 52.0**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=355,slow=14,SNR=23						
CFAA				S	**Sn**	**18 40 58.6**	**-3.7**
	comp=Z,0.3nm,0.3s,baz=287,slow=19,SNR=4.2						
ACAN	**Cantantal**	**7.07**	**168**	*e*P	**Pn**	**18 40 03.0**	**-0.1**
ACAN				*e*S	**Sn**	**18 41 17.0**	**-5.0**
LPAZ	**La Paz**	**9.05**	**5**	P	**Pn**	**18 40 30.8**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=174,slow=7.8,SNR=4.7						
CPUP	**Villa Florida**	**10.54**	**98**	P	**Pn**	**18 40 48.1**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=278,slow=14,SNR=3.7						
BDFB	**Brasilia**	**21.86**	**68**	P	**P**	**18 43 06.1**	**-0.8**
	comp=Z,3.1nm,0.6s,baz=228,slow=12,SNR=3.5						
QSPA	**South Pole Qui**	**64.86**	**180**	P	**P**	**18 48 51.7**	**+1.6**
	comp=Z,2.1nm,0.7s,baz=164,slow=1.2,SNR=19						
TORD	**Torodi Ar. Bea**	**78.73**	**70**	P	**P**	**18 50 14.2**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=260,slow=5.6,SNR=9.8						
TORD				pP	**pP**	**18 50 40.2**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=260,slow=4.8,SNR=2.7						
ASAR	**Alice Springs**	**126.46**	**206**	PKP	**PKPdf**	**18 57 14.7**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=130,slow=1.7,SNR=17						
WRA	**Warramunga Arr**	**129.59**	**209**	PKP	**PKPdf**	**18 57 20.9**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=158,slow=2.0,SNR=3.3						
ZALV	**Zalesovo Beam**	**145.42**	**27**	PKPbc	**PKPab**	**18 57 49.0**	**+0.8**
	comp=Z,1.7nm,0.5s,baz=295,slow=3.1,SNR=12						
ZALV				pPKPbc	pPKPbc	18 58 16.7	+0.9
	comp=Z,2.3nm,0.7s,baz=299,slow=4.8,SNR=11						

*ISCJB **02** 18:53:32.1±0.2, 19°.96S±0°.04×177°.90W±0°.05, h400km, mb4.4/67, Error ellipse: s-maj=6.8km s-min=4.6km az=44.0*
*NEIC **02** 18:53:34.7±0.2, 19°.96S×177°.91W, mb4.4/41, Error ellipse: s-maj=7.5km s-min=4.7km az=148.0*
*IDC **02** 18:53:37.7±2.0, 20°.02S×177°.97W, h446km±21km, mb4.0/26, mb1 4.1/28, mb1mx4.1/31, mbtmp4.8/28, Error ellipse: s-maj=10.6km s-min=8.3km az=117.0*
*MOS **02** 18:53:41.7±1.8, 18°.23S×178°.09W, h425km, mb4.7/14, Error ellipse: s-maj=12.7km s-min=11.8km az=89.7*

ISC 02 18:53:33.0±0.3, 20°.08S±0°.06×177°.78W±0°.07, h400km, n280, σ0s97/312, mb4.4/67, 55C-15D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.59**	**300**	⇑*i*P	**Pn**	**18 54 53.6**	**+2.6**
MSVF	**Nonsavu**	**4.59**	**300**	⇑*i*P	**Pn**	**18 54 53.6**	**+2.6**
NIUE	**Niue**	**7.47**	**84**	P	**Pn**	**18 55 22.3**	**+0.3**
	baz=7.3,SNR=6.6						
AFI	**Afiamalu**	**8.40**	**44**	*e*P	Pn	18 55 28.9	-3.9
AFI				*e*S	S	18 56 57.8	-13
AFI	**Afiamalu**	**8.40**	**44**	*e*P	Pn	18 55 28.9	-3.9
AFI				*e*S	S	18 56 57.8	-13
RAO	**Raoul Island**	**9.13**	**181**	P	**P**	**18 55 40.9**	**0.0**
	66nm,0.3s,baz=270,slow=20,SNR=4.1						
RAO				S	**S**	**18 57 26.1**	**+0.2**
	236nm,0.3s,baz=223,slow=22,SNR=10						
RAO	**Raoul Island**	**9.13**	**181**	*e*P	P	18 55 30.1	-11
RAO				*e*S	**S**	**18 57 23.7**	**-2.3**
RAO				S	S	18 57 26.1	+0.2
DZM	**Mont Dzumac**	**14.86**	**260**	P	P	18 56 47.4	+3.3
	baz=90,slow=20						
DZM	**Mont Dzumac**	**14.86**	**260**	*e*P	**P**	**18 56 47.1**	**+2.9**
URZ	**Urewera**	**18.65**	**193**	P	**P**	**18 57 25.9**	**+1.6**
	2.8nm,0.3s,baz=295,slow=4.1,SNR=20						
URZ				S	**S**	**19 00 33.2**	**-1.4**
	1.1nm,0.3s,baz=60,slow=20,SNR=8.0						
HNR	**Honiara**	**23.97**	**293**	*e*P	**P**	**18 58 12.0**	**-1.6**
HNR				pmax	pmax		
	comp=Z,115nm,0.8s						
HNR	**Honiara**	**23.97**	**293**	*e*P	**P**	**18 58 12.0**	**-1.6**
	comp=Z,115nm,0.8s						
EIDS	**Eidsvold**	**29.16**	**254**	P	**P**	**18 59 00.1**	**+0.6**
	baz=29,SNR=5.5						
EIDS	**Eidsvold**	**29.16**	**254**	*e*P	**P**	**18 58 58.9**	**-0.7**
	comp=Z,9.5nm,0.7s						
RMQ	**Roma**	**31.33**	**252**	P	**P**	**18 59 19.8**	**+1.4**
	baz=32,SNR=13						
CTA	**Charters Tower**	**33.74**	**264**	P	**P**	**18 59 38.7**	**-0.5**
	comp=Z,31nm,0.4s,baz=89,slow=10,SNR=92						
CTAO	**Charters Tower**	**33.74**	**264**	⇓*i*P	**P**	**18 59 39.3**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,53nm,0.8s						
CTAO	**Charters Tower**	**33.74**	**264**	⇓*i*P	**P**	**18 59 39.3**	**+0.1**
	comp=Z,53nm,0.8s						
CMSA	**Cobar Meteorol**	**34.66**	**243**	P	**P**	**18 59 47.5**	**+0.7**
	baz=35,SNR=26						
QLP	**Quilpie**	**35.38**	**252**	P	**P**	**18 59 53.1**	**+0.1**
	baz=36,SNR=16						
PMG	**Port Moresby**	**35.45**	**282**	⇓*i*P	**P**	**18 59 53.2**	**-0.5**
PMG				pmax	pmax		
	comp=Z,50nm,0.8s						
PMG	**Port Moresby**	**35.45**	**282**	P	**P**	**18 59 53.5**	**-0.2**
	baz=36,SNR=5.8						
PMG				P	**P**	**18 59 53.5**	**-0.2**
	baz=36,SNR=5.8						
PMG				P	**P**	**18 59 53.5**	**-0.2**
	baz=36,SNR=5.8						
PMG	**Port Moresby**	**35.45**	**282**	⇓*i*P	**P**	**18 59 53.2**	**-0.5**
	comp=Z,50nm,0.8s						
TOO	**Toolangi**	**36.31**	**233**	P	**P**	**19 00 01.4**	**+0.7**
	baz=36,SNR=7.2						
COEN	**Coen**	**37.77**	**273**	P	**P**	**19 00 13.1**	**+0.1**
	baz=38,SNR=23						
STKA	**Stephens Creek**	**38.16**	**244**	P	**P**	**19 00 16.4**	**+0.3**
	comp=Z,3.0nm,0.4s,baz=76,slow=9.4,SNR=26						
QIS	**Mount Isa**	**39.88**	**262**	P	**P**	**19 00 31.6**	**+1.3**
	baz=40,SNR=3.6						
HTT	**Hallett**	**40.61**	**242**	P	**P**	**19 00 36.5**	**+0.5**
	baz=41,SNR=6.7						
BBOO	**Buckleboo**	**42.92**	**243**	P	**P**	**19 00 54.5**	**0.0**
	baz=43,SNR=35						
BBOO	**Buckleboo**	**42.92**	**243**	*e*P	**P**	**19 00 54.3**	**-0.2**
	comp=Z,5.5nm,0.6s						
JAY	**Jayapura**	**44.11**	**288**	P	**P**	**19 01 03.2**	**-0.9**
	comp=Z,38nm,0.6s,baz=189,slow=2.8,SNR=37						
JAY	**Jayapura**	**44.11**	**288**	P	**P**	**19 01 04.2**	**+0.1**
	baz=44,SNR=8.6						
ASAR	**Alice Springs**	**44.82**	**256**	P	**P**	**19 01 09.2**	**-0.4**
	comp=Z,25nm,0.7s,baz=94,slow=8.3,SNR=513						
ASAR				pP	pP	19 02 35.1	+7.0
	comp=Z,4.7nm,0.9s,baz=85,slow=8.5,SNR=3.1						
ASAR				S	**S**	**19 07 12.8**	**-3.7**
	comp=Z,4.0nm,0.8s,baz=94,slow=16,SNR=21						
WRAB	**Tennant Creek**	**44.86**	**262**	*e*P	**P**	**19 01 08.8**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WRAB	**Tennant Creek**	**44.86**	**262**	*e*P	**P**	**19 01 08.8**	**-1.1**
	comp=Z,6.1nm,0.6s						
WRA	**Warramunga Arr**	**44.87**	**262**	P	**P**	**19 01 09.1**	**-0.9**
	comp=Z,4.2nm,0.3s,baz=96,slow=7.3,SNR=59						
KDU	**Kakadu**	**48.15**	**271**	P	**P**	**19 01 34.3**	**-0.8**
	baz=48,SNR=11						
FORT	**Forrest**	**49.65**	**246**	P	**P**	**19 01 45.9**	**-0.3**
	baz=50,SNR=12						
GUMO	**Guam**	**49.70**	**309**	P	**P**	**19 01 46.1**	**-0.5**
	comp=Z,72nm,0.7s,baz=166,slow=9.1,SNR=7.1						
WRKA	**Warakurna**	**49.78**	**254**	P	**P**	**19 01 47.0**	**-0.2**
	baz=50,SNR=94						
KNRA	**Kununurra**	**50.90**	**266**	P	**P**	**19 01 55.1**	**-0.5**
	baz=51,SNR=19						
FAKI	**Fak Fak**	**51.61**	**283**	P	**P**	**19 02 00.3**	**-0.6**
	baz=52,SNR=6.3						
SIJI	**Sorong**	**53.33**	**284**	P	**P**	**19 02 13.0**	**-0.4**
	comp=Z,62nm,0.8s,baz=108,slow=5.8,SNR=44						
SOEI	**Soe**	**56.70**	**271**	P	**P**	**19 02 38.7**	**+1.5**
	baz=57,SNR=5.3						
MBWA	**Marble Bar**	**58.15**	**257**	*e*P	**P**	**19 02 45.9**	**-1.1**
	comp=Z,9.6nm,0.5s						
MEEK	**Meekatharra**	**58.25**	**251**	P	**P**	**19 02 46.8**	**-0.9**
	baz=58,SNR=5.6						
SBA	**Scott Base**	**58.30**	**184**	*e*P	**P**	**19 02 50.2**	**+3.1**
	comp=Z,25nm,0.9s						
VNDA	**Vanda**	**58.34**	**185**	P	**P**	**19 02 49.5**	**+2.1**
	comp=Z,5.6nm,0.8s,baz=1.7,slow=7.8,SNR=41						
KLBR	**Kellerberrin**	**58.42**	**245**	P	**P**	**19 02 48.3**	**-0.4**
	baz=58,SNR=10						
MORW	**Morawa**	**60.18**	**247**	P	**P**	**19 03 00.0**	**-0.6**
	baz=60,SNR=3.7						
CASY	**Casey**	**64.43**	**205**	*e*P	**P**	**19 03 28.1**	**+0.3**
	comp=Z,6.7nm,0.6s						
KKM	**Kota Kinabalu**	**69.85**	**285**	P	**P**	**19 04 02.7**	**+0.2**
	baz=70,SNR=5.6						
KKM	**Kota Kinabalu**	**69.85**	**285**	*e*P	**P**	**19 04 02.2**	**-0.2**
	comp=Z,12nm,0.7s						
QSPA	**South Pole Qui**	**69.99**	**180**	P	**P**	**19 04 03.7**	**+1.3**
	comp=Z,36nm,0.8s,baz=93,slow=4.2,SNR=236						
MJAR	**Matsushiro Arr**	**70.00**	**323**	P	**P**	**19 04 01.9**	**-0.8**
	comp=Z,5.7nm,0.6s,baz=167,slow=6.7,SNR=28						
MAJO	**Matsushiro**	**70.00**	**323**	*e*P	P	19 03 57.6	-5.2
MAJO				pmax	pmax		
	comp=Z,35nm,0.7s						
MAJO	**Matsushiro**	**70.00**	**323**	*e*P	**P**	**19 04 01.5**	**-1.2**
	comp=Z,7.1nm,0.8s						
MAJO				*e*PcP	**PcP**	**19 04 20.2**	**-1.9**
MAT	**Matsushiro**	**70.00**	**323**	P	**P**	**19 04 01.8**	**-1.0**
ASAJ	**Asahikawa**	**73.46**	**331**	P	**P**	**19 04 22.8**	**-0.1**
	comp=Z,6.9nm,0.8s,baz=290,slow=4.2,SNR=12						
YSS	**Yuzh-Sakhalins**	**75.61**	**333**	*e*P	**P**	**19 04 35.2**	**+0.1**
YSS				pmax	pmax		
	comp=Z,13nm,0.8s						
YSS	**Yuzh-Sakhalins**	**75.61**	**333**	*e*P	**P**	**19 04 35.2**	**+0.1**
	comp=Z,13nm,0.8s						
PETK	**Petropavlovsk-**	**75.92**	**345**	P	**P**	**19 04 36.6**	**-0.1**
	comp=Z,8.2nm,0.6s,baz=130,slow=8.3,SNR=17						
KSRS	**Korea Array**	**76.71**	**318**	P	**P**	**19 04 41.5**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=126,slow=5.4,SNR=4.1						
KSAR	**Wonju Array Be**	**76.73**	**318**	P	**P**	**19 04 41.6**	**+0.1**
KSAR	**Wonju Array Be**	**76.73**	**318**	P	**P**	**19 04 41.5**	**+0.1**
USRK	**Ussuriysk Ar.**	**78.74**	**326**	P	**P**	**19 04 52.4**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=126,slow=3.8,SNR=10						
ISA	**Isabella**	**78.89**	**46**	*e*P	**P**	**19 04 52.9**	**-0.6**
ISA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ISA	**Isabella**	**78.89**	**46**	*e*P	**P**	**19 04 52.9**	**-0.6**
	comp=Z,5.1nm,0.7s						
CMB	**Columbia Colle**	**79.01**	**43**	*e*P	**P**	**19 04 53.3**	**-0.7**
CMB				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CMB	**Columbia Colle**	**79.01**	**43**	*e*P	**P**	**19 04 53.3**	**-0.7**
	comp=Z,4.8nm,0.9s						
YBH	**Yreka Blue Hor**	**79.83**	**39**	P	**P**	**19 04 59.0**	**+0.6**
	comp=Z,4.3nm,0.5s,baz=230,slow=5.7,SNR=14						
YBH	**Yreka Blue Hor**	**79.83**	**39**	P	**P**	**19 04 59.0**	**+0.6**
LBCM	**Butte Creek Ri**	**80.09**	**40**	P

comp=Z,9.0nm,1.0s
WVOR Wild Horse Val 82.68 40 *e*P **P 19 05 13.3 +0.2**
comp=Z,9.4nm,1.0s
LVP Lakeview Peak 82.71 35 P **P 19 05 13.8 +0.5**
NLWA Neilton Lookou 82.77 34 *e*P **P 19 05 13.9 +0.5**
comp=Z,7.7nm,0.7s
FL2 Flat Top 2 82.82 35 P **P 19 05 14.8 +1.0**
TDL Tradedollar La 82.99 35 P **P 19 05 15.3 +0.6**
HDW Hoodsport 83.36 34 P **P 19 05 18.2 +1.8**
ELK Elko 83.83 43 P **P 19 05 19.3 +0.1**
comp=Z,5.1nm,1.0s,baz=250,slow=3.4,SNR=17
PMR Palmer 84.56 13 *e*P **P 19 05 21.1 -0.8**
PMR Palmer 84.56 13 *e*P **P 19 05 21.1 -0.8**
121A Cookes Peak, D 84.89 53 *e*P **P 19 05 25.7 +1.2**
comp=Z,7.7nm,0.8s
DIV Divide 84.93 15 *e*P **P 19 05 23.5 -0.4**
comp=Z,11nm,0.6s
SML Sawmill 84.93 14 *e*P **P 19 05 22.7 -1.2**
SML pmax pmax
comp=Z,1.0nm,0.6s
SML Sawmill 84.93 14 *e*P **P 19 05 22.7 -1.2**
comp=Z,1.2nm,0.6s
MFID Camas Ranch 84.93 40 *e*P **P 19 05 24.2 -0.2**
comp=Z,3.6nm,0.8s
BMRM Bremner River 85.08 16 *e*P **P 19 05 23.9 -0.7**
comp=Z,16nm,0.6s
ENH Enshi 85.98 304 *e*P **P 19 05 29.2 -0.5**
comp=Z,3.7nm,0.8s
TRF Thorofare Moun 86.00 12 *e*P **P 19 05 27.9 -1.3**
comp=Z,16nm,0.7s
SEY Seymchan 86.02 347 *c i*P **P 19 05 28.7 -0.3**
BPAW Bear Paw Mtn. 86.45 11 *e*P **P 19 05 29.6 -1.6**
comp=Z,1.5nm,1.2s
MCK McKinley 86.52 12 *e*P **P 19 05 31.0 -0.5**
MCK pmax pmax
comp=Z,13nm,0.8s
MCK McKinley 86.52 12 *e*P **P 19 05 31.0 -0.5**
comp=Z,13nm,0.8s
TXAR Lajitas Array 86.65 57 P **P 19 05 34.1 +1.0**
comp=Z,2.6nm,0.6s,baz=217,slow=6.3,SNR=39
NEW Newport 86.91 36 *e*P **P 19 05 32.3 -1.5**
NEW Newport 86.91 36 *e*P **P 19 05 32.3 -1.5**
PV01 Paradox Valley 86.95 48 *e*P **P 19 05 34.7 +0.3**
comp=Z,372nm,0.7s
ANMO Albuquerque 86.98 51 P **P 19 05 34.8 +0.2**
comp=Z,3.4nm,0.8s,baz=226,slow=5.0,SNR=10
ANMO Albuquerque 86.98 51 *i* P **P 19 05 32.0 -2.6**
ANMO pmax pmax
comp=Z,13nm,0.8s
ANMO Albuquerque 86.98 51 *e*P **P 19 05 33.4 -1.2**
comp=Z,4.2nm,0.8s
SYO Syowa Base 87.18 193 ||*e*P **P 19 05 33.6 -1.1**
MCMT McKenzie Canyo 87.50 40 *e*P **P 19 05 37.0 +0.1**
DLBC Dease Lake 87.58 23 P **P 19 05 36.2 -0.5**
comp=Z,2.7nm,0.7s,baz=225,slow=5.6,SNR=5.8
COLA College 87.75 12 *e*P **P 19 05 36.5 -0.7**
COLA *e**PP **pP 19 07 12.6 +3.3**
COLA pmax pmax
comp=Z,16nm,0.6s
COLA College 87.75 12 *e*P **P 19 05 36.5 -0.7**
comp=Z,16nm,0.6s
COLA *e*pP **pP 19 07 12.6 +3.3**
ILAR Eielson Array 87.86 13 P **P 19 05 36.7 -1.1**
comp=Z,3.7nm,0.6s,baz=223,slow=5.5,SNR=39
ILAR pP **pP 19 07 13.0 +3.2**
comp=Z,2.4nm,1.1s,baz=229,slow=5.3,SNR=6.5
CHMT Chamberlain Mo 88.36 38 *e*P **P 19 05 40.3 -0.5**
comp=Z,2.8nm,0.4s
SNAA Sanae 88.42 178 *e*P P 19 05 36.7 -3.9
comp=Z,6.6nm,1.1s
PDAR Pinedale Array 88.51 43 P **P 19 05 41.6 0.0**
comp=Z,3.0nm,0.6s,baz=224,slow=2.4,SNR=16
BILL Bilibino 88.64 354 *e*P **P 19 05 41.3 -0.1**
BILL pmax pmax
comp=Z,5.0nm,0.8s
BILL Bilibino 88.64 354 *e*P **P 19 05 41.3 -0.1**
comp=Z,5.4nm,0.8s
SDCO Great Sand Dun 88.92 49 *e*P **P 19 05 43.2 -0.5**
comp=Z,3.1nm,0.9s
EGAK Eagle 89.15 15 *e*P **P 19 05 43.8 0.0**
comp=Z,6.7nm,0.7s
NVL N'lazarevskaya 89.15 183 *e*P **P 19 05 42.7 -1.2**
NVL pmax pmax
comp=Z,8.0nm,0.6s
HHC Hu-ho-hao-te 89.21 314 *e*P P 19 05 49.1 +4.3
HHC PP PP 19 09 28.2 +5.9
HHC SKS **SKSac 19 15 40.9 +5.1**
VNA1 Neumayer--Stat 89.22 177 P **P 19 05 44.8 +0.6**
COLD Coldfoot 89.43 10 *e*P **P 19 05 44.9 -0.2**
comp=Z,8.3nm,0.7s
RLMT Red Lodge 89.84 41 *e*P **P 19 05 48.4 +0.6**
comp=Z,4.9nm,0.8s
GCMT Greycliff 89.92 40 *e*P **P 19 05 48.6 +0.5**
comp=Z,2.9nm,1.0s
CMAR Chiang Mai Arr 90.17 289 P **P 19 05 50.3 +0.7**
comp=Z,1.6nm,0.9s,baz=126,slow=2.6,SNR=9.3
CMAR pP **pP 19 07 26.0 +4.0**
comp=Z,1.2nm,1.0s,baz=107,slow=3.0,SNR=5.3
CHTO Chiang Mai 90.30 290 *e*P **P 19 05 49.1 -1.1**
CHTO Chiang Mai 90.30 290 *e*P **P 19 05 49.1 -1.1**
RSSD Black Hills 92.71 44 *e*P **P 19 06 00.6 -0.5**
RSSD pmax pmax
comp=Z,4.0nm,0.9s
RSSD Black Hills 92.71 44 *e*P **P 19 06 00.6 -0.5**
comp=Z,4.3nm,0.9s
INK Inuvik 93.81 15 P **P 19 06 04.7 -0.5**
comp=Z,3.5nm,0.7s,baz=227,slow=5.6,SNR=5.7
YKA Yellowknife Ar 96.05 25 P **P 19 06 16.3 +0.8**
comp=Z,1.1nm,0.8s,baz=147,slow=36,SNR=3.4
ZALV Zalesovo Beam 110.30 321 PKiKP **PKiKP 19 11 16.9 -1.0**
comp=Z,1.5nm,0.5s,baz=184,slow=1.2,SNR=12
KURK Kurchatov 113.83 318 *e*PKiKP **PKiKP 19 11 23.0 -1.7**
KURK Kurchatov 113.83 318 *e*PKPdf **PKiKP 19 11 23.0 -1.7**
BRVK Borovoye 118.95 320 *d i*PKiKP **PKPdf 19 11 33.8 -0.7**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 119.15 309 *e*PKiKP **PKPdf 19 11 33.9 -1.4**
KKAR Karatay Array 119.15 309 *e*PKPdf **PKPdf 19 11 33.9 -1.4**
ARU Arti 124.97 326 *e*PKiKP **PKPdf 19 11 45.1 -0.9**
ARU Arti 124.97 326 *e*PKPdf **PKPdf 19 11 45.0 -0.9**
ABKAR Akbulak array 125.92 317 *e*PKPdf **PKPdf 19 11 47.7 -0.4**
BOSA Boshof 126.72 205 PKP **PKPdf 19 11 50.6 +0.1**
comp=Z,1.2nm,0.5s,baz=183,slow=2.8,SNR=4.1
ARCES ARCESS Array B 128.55 350 PKP **PKPdf 19 11 51.8 -0.7**
comp=Z,3.2nm,0.5s,baz=19,slow=1.1,SNR=37
GEYT Alibeck 128.73 303 PKP **PKPdf 19 11 53.3 -0.6**
comp=Z,1.0nm,0.4s,baz=242,slow=3.1,SNR=4.4
FINES FINESS Array B 135.43 344 PKhKP PKPpre 19 11 48.9
comp=Z,0.7nm,0.7s,baz=66,slow=4.8,SNR=4.7
FINES PKP **PKPdf 19 12 04.8 -0.8**
comp=Z,1.8nm,0.5s,baz=99,slow=1.8,SNR=13
NB2 NORSAR Subarra 138.59 353 PKP PKPpre 19 12 02.6
comp=Z,1.0nm,0.6s,baz=17,slow=2.6
NOA NORSAR Array B 138.59 354 PKhKP PKPpre 19 12 01.2
comp=Z,1.3nm,0.8s,baz=13,slow=2.4,SNR=4.5
NOA PKP **PKPdf 19 12 12.8 +1.2**
comp=Z,1.4nm,0.6s,baz=14,slow=4.1,SNR=6.4
KIV Kislovodsk 138.81 315 *e*PKiKP **PKPdf 19 12 10.5 -2.1**
KIV pmax pmax
comp=Z,4.0nm,1.1s
AKASG Malin Array Be 142.75 332 PKhKP PKPpre 19 12 14.7
comp=Z,2.5nm,0.5s,baz=42,slow=4.5,SNR=13
MALT Malatya 143.84 308 ||PKHKP PKPpre 19 12 21.6
MALT Malatya 143.84 308 ||P **PKPdf 19 12 21.6 -0.1**
LVV L'vov 145.62 335 *e*PKHKP PKPpre 19 12 24.3
BSEG Bad Segeberg 145.64 352 *e*PKPbc **PKPbc 19 12 25.1 -0.2**
KWP Kalwaria Pacla 146.29 336 *e*PKP **PKPbc 19 12 27.3 -0.1**
KWP Kalwaria Pacla 146.29 336 *e*PKiKP **PKPbc 19 12 27.3 -0.1**
TLCR 146.69 325 ||PKiKP **PKPbc 19 12 28.2 -0.4**
TLCR 146.69 325 ||*i*P **PKPbc 19 12 28.2 -0.4**
BRTR Keskin Array B 146.71 313 PKPbc **PKPdf 19 12 27.3 +0.6**
comp=Z,4.4nm,0.5s,baz=141,slow=2.8,SNR=24
BURAR Bucovina Array 146.80 331 ||PKiKP **PKPbc 19 12 29.9 +0.9**
BURAR Bucovina Array 146.80 331 ||*i*P **PKPbc 19 12 29.9 +0.9**
OJC Ojcow 146.84 339 *e*PKP **PKPbc 19 12 28.9 0.0**
OJC Ojcow 146.84 339 *e*PKiKP **PKPbc 19 12 28.9 0.0**
STHS Stebnicka Huta 147.01 337 *e*PKiKP **PKPbc 19 12 29.5 +0.1**
STHS Stebnicka Huta 147.01 337 *e*PKP **PKPbc 19 12 29.5 +0.1**
KOLS Kolonicke sedl 147.02 335 *e*PKiKP **PKPbc 19 12 29.5 +0.1**
KOLS Kolonicke sedl 147.02 335 *e*PKP **PKPbc 19 12 29.5 +0.1**
CFR Carcaliu 147.06 325 ||PKiKP **PKPbc 19 12 29.8 +0.2**
CFR Carcaliu 147.06 325 ||*i*P **PKPbc 19 12 29.8 +0.2**
ANTO Ankara 147.22 314 ||PKiKP **PKPbc 19 12 30.5 +0.2**
ANTO Ankara 147.22 314 ||*i*P **PKPbc 19 12 30.5 +0.2**
UZH Uzhgorod 147.25 335 *e*PKiKP **PKPbc 19 12 29.7 -0.3**
UZH *e* 19 12 32.3
VRI Vrincioaia 147.33 328 ||PKiKP **PKPbc 19 12 30.9 +0.6**
VRI Vrincioaia 147.33 328 ||*i*P **PKPbc 19 12 30.9 +0.6**
NIE Niedzica 147.35 338 *e*PKP **PKPbc 19 12 30.7 +0.4**
NIE Niedzica 147.35 338 *e*PKiKP **PKPbc 19 12 30.7 +0.4**
KSP Ksiaz 147.35 343 *e*PKP **PKPbc 19 12 30.7 +0.5**
KSP Ksiaz 147.35 343 *e*PKiKP **PKPbc 19 12 30.7 +0.5**
HARR Harsova 147.49 325 ||PKiKP **PKPbc 19 12 31.5 +0.8**
HARR Harsova 147.49 325 ||*i*P **PKPbc 19 12 31.5 +0.8**
CLZ Clausthal 147.66 351 *e*PKPbc **PKPbc 19 12 31.1 0.0**
CLL Collm 147.70 347 *e*PKPbc **PKPbc 19 12 30.9 -0.2**
CLL Collm 147.70 347 *i* PKPdf **PKPdf 19 12 28.4 +0.7**
comp=Z,5.0nm,0.5s
CLL *i* PKPbc **PKPbc 19 12 31.2 +0.1**
comp=Z,30nm,0.9s
CLL *i* PKPab **PKPab 19 12 34.5 -0.1**
comp=Z,13nm,0.6s
OKC Ostrava-Krasne 147.71 341 ||*e*PKP **PKPbc 19 12 31.1 -0.1**
OKC Ostrava-Krasne 147.71 341 *e*PKiKP **PKPbc 19 12 31.1 -0.1**
UPC Upice 147.73 343 ||*e*PKP **PKPbc 19 12 31.4 +0.2**
UPC Upice 147.73 343 *e*PKiKP **PKPbc 19 12 31.4 +0.2**
DPC Dobruska-Polom 147.79 343 ||*e*PKP **PKPbc 19 12 31.8 +0.4**
DPC *e*PKPAB **PKPab 19 12 36.0 +0.9**
DPC Dobruska-Polom 147.79 343 *e*PKiKP **PKPbc 19 12 31.8 +0.4**
DPC *e* 19 12 36.0
BRG Berggiesshubel 147.91 346 *e*PKP **PKPbc 19 12 31.7 +0.1**
comp=Z,12nm,0.8s
BRG *i* 19 12 35.3
comp=Z,20nm,1.5s
BRG Berggiesshubel 147.91 346 *e*PKPbc **PKPbc 19 12 31.6 0.0**
BRG Berggiesshubel 147.91 346 *e*PKiKP **PKPbc 19 12 31.7 +0.1**
BRG *i* 19 12 35.3
BRG pmax pmax
comp=Z,12nm,0.8s
KRLC Kraliky 147.91 342 ||*e*PKP **PKPbc 19 12 32.1 +0.3**
KRLC *e*PKPAB **PKPab 19 12 36.1 +0.5**
KRLC Kraliky 147.91 342 *e*PKiKP **PKPbc 19 12 32.1 +0.3**
KRLC *e* 19 12 36.1
DOPR Dopca 147.92 329 ||*i*P **PKPab 19 12 35.0 -0.8**
ISR Istrita 147.94 327 ||PKiKP **PKPbc 19 12 32.3 +0.3**
ISR Istrita 147.94 327 ||*i*P **PKPbc 19 12 32.3 +0.3**
MORC Moravsky Berou 147.95 341 ||PKiKP **PKPbc 19 12 32.3 +0.4**
MORC Moravsky Berou 147.95 341 ||*i*P **PKPbc 19 12 32.3 +0.4**
MORC Moravsky Berou 147.95 341 *e*PKPbc **PKPbc 19 12 31.5 -0.4**
MLR Muntele Rosu 147.98 328 ||PKiKP **PKPbc 19 12 31.9 -0.3**
MLR Muntele Rosu 147.98 328 ||*i*P **PKPbc 19 12 31.9 -0.3**
FBE Freiberg 147.99 347 *e*PKPbc **PKPbc 19 12 32.2 +0.3**
NEUB Neuenburg 148.04 349 *e*PKPbc **PKPbc 19 12 31.7 -0.3**
KECS Kecovo 148.07 337 *e*PKiKP **PKPbc 19 12 32.6 +0.4**
KECS Kecovo 148.07 337 *e*PKP **PKPbc 19 12 32.5 +0.4**
PVCC Panska Ves 148.08 345 ||*e*PKP **PKPbc 19 12 32.7 +0.6**
PVCC Panska Ves 148.08 345 *e*PKiKP **PKPbc 19 12 32.7 +0.6**
CJR Cluj-Napoca 148.20 332 ||PKiKP **PKPbc 19 12 33.1 +0.5**
CJR Cluj-Napoca 148.20 332 ||*i*P **PKPbc 19 12 33.1 +0.5**
BUG Bochum--Univer 148.45 354 *e*PKPbc **PKPbc 19 12 32.9 -0.1**
VOIR 148.47 329 ||PKiKP **PKPbc 19 12 33.7 +0.3**
VOIR 148.47 329 ||*i*P **PKPbc 19 12 33.7 +0.3**
DRGR 148.53 333 ||PKiKP **PKPbc 19 12 34.1 +0.6**
DRGR 148.53 333 ||*i*P **PKPbc 19 12 34.0 +0.6**
PRA Prague 148.54 345 ||*e*PKP **PKPbc 19 12 33.6 +0.3**
PRA Prague 148.54 345 *e*PKiKP **PKPbc 19 12 33.6 +0.3**
PRU Pruhonice 148.59 345 ||*e*PKP **PKPbc 19 12 33.5 +0.1**
PRU *e*PKPAB **PKPab 19 12 38.6 +0.3**
PRU Pruhonice 148.59 345 *e*PKiKP **PKPbc 19 12 33.5 +0.1**
PRU *e* 19 12 38.6
GOPC GO Pecny, Ondr 148.59 344 ||*e*PKP **PKPbc 19 12 33.6 +0.1**
GOPC *e*PKPAB **PKPab 19 12 39.1 +0.7**
MOX Moxa 148.61 348 *e*PKPbc **PKPbc 19 12 33.4 -0.1**
VRAC Vranov 148.65 342 ||PKiKP **PKPbc 19 12 34.0 +0.4**
VRAC Vranov 148.65 342 ||*i*P **PKPbc 19 12 34.0 +0.4**
PLN Plauen 148.65 348 *e*PKPbc **PKPbc 19 12 33.6 0.0**
TANN Tannenbergstha 148.66 347 *e*PKPbc **PKPbc 19 12 33.6 -0.1**
WERD Werda 148.66 348 *e*PKPbc **PKPbc 19 12 33.5 -0.1**
ARR Arges 148.72 329 ||*i*P **PKPbc 19 12 34.4 +0.4**
GUNZ Gunzen 148.73 347 *e*PKPbc **PKPbc 19 12 33.9 +0.1**
GUNZ *e*PKPab **PKPab 19 12 39.5 +0.5**
PRD Provadia 148.74 323 ||PKiKP **PKPbc 19 12 35.0 +1.0**
PRD Provadia 148.74 323 ||*i*P **PKPbc 19 12 35.0 +1.0**
PSZ Piszkesteto 148.76 337 ||PKiKP **PKPbc 19 12 33.9 -0.1**
PSZ Piszkesteto 148.76 337 ||*i*P **PKPbc 19 12 33.9 -0.1**
WERN Wernitzgruen 148.80 347 *e*PKPbc **PKPbc 19 12 34.2 +0.2**
WERN *e*PKPab **PKPab 19 12 39.8 +0.6**
NKC Novy Kostel 148.83 347 ||*e*PKP **PKPbc 19 12 34.5 +0.5**
NKC *e*PKPAB **PKPab 19 12 39.4 +0.1**
NKC Novy Kostel 148.83 347 *e*PKiKP **PKPbc 19 12 34.5 +0.5**
CSS Prodhromos 148.84 305 *e*PKPbc **PKPbc 19 12 33.4 -1.1**
TREC Trest 148.97 343 ||*e*PKP **PKPbc 19 12 34.4 0.0**
TREC Trest 148.97 343 *e*PKiKP **PKPbc 19 12 34.4 0.0**
MANZ Manzenberg 149.14 348 *e*PKPbc **PKPbc 19 12 34.9 +0.1**
MANZ *e*PKPab **PKPab 19 12 41.1 +0.5**
ROTZ Rotzenmuhle 149.32 347 *e*PKPbc **PKPbc 19 12 34.4 +0.2**
TNS Taunus Mts 149.52 352 *e*PKPbc **PKPbc 19 12 35.8 0.0**
TNS *e*PKPab **PKPab 19 12 42.3 +0.1**
GZR Gura Zlata 149.58 331 ||*i*P **PKPbc 19 12 35.7 -0.4**
GRF Grafenberg Arr 149.59 348 *e*PKPbc **PKPbc 19 12 36.0 +0.1**
GRF *e*PKPab **PKPab 19 12 43.1 +0.6**
GRFO Grafenberg 149.59 348 *e*PKiKP **PKPbc 19 12 35.2 -0.7**
GRFO *e* 19 12 41.5
GRFO Grafenberg 149.59 348 *e*PKPbc **PKPbc 19 12 35.1 -0.7**
GRFO *e*PKPab **PKPab 19 12 41.5 -1.0**
KHC Kasperske Hory 149.62 345 *e*PKPDF **PKPdf 19 12 32.1 +1.2**
KHC ||*e*PKP **PKPbc 19 12 35.8 -0.2**
KHC *e*PKPAB **PKPab 19 12 43.2 +0.6**
KHC Kasperske Hory 149.62 345 *e*PKPdf **PKPdf 19 12 30.2 -0.8**
KHC *e*PKPbc **PKPbc 19 12 35.6 -0.4**
KHC *e*PKPab **PKPab 19 12 42.9 +0.3**
WET Wettzell 149.77 346 *e*PKPbc **PKPbc 19 12 36.4 0.0**
GEC2 GERESS Array S 149.85 345 *e*PKPbc **PKPbc 19 12 36.4 -0.3**
GERES GERESS Array B 149.85 345 *e*PKPbc **PKPbc 19 12 36.0 -0.6**
comp=Z,12nm,0.8s,baz=27,slow=2.4,SNR=18
BZS Buzias 149.93 332 ||*i*P **PKPbc 19 12 36.5 -0.3**
CONA Conrad Observa 150.10 341 *i* PKiKP **PKPbc 19 12 37.3 0.0**
comp=Z,14nm,0.6s,SNR=14
WLF Walferdange 150.31 355 *e*PKPbc **PKPbc 19 12 38.2 +0.6**
WLF *e*PKPab **PKPab 19 12 46.0 +0.6**
MOA Molln 150.63 343 ||*i*PKiKP **PKPbc 19 12 38.1 -0.3**
comp=Z,5.5nm,0.6s
STU Stuttgart 150.83 351 *e*PKPab **PKPab 19 12 47.7 +0.1**
KDZ Kurdzhali 150.86 323 ||*i*P **PKPbc 19 12 38.7 -0.5**
FUR Furstenfeldbru 151.04 347 *e*PKPbc **PKPbc 19 12 39.3 -0.1**
FUR *e*PKPab **PKPab 19 12 49.1 +0.5**
RJOB Jochberg 151.11 345 *e*PKPab **PKPab 19 12 50.0 +1.1**
BFO Black Forest 151.39 351 *e*PKPbc **PKPbc 19 12 39.8 -0.3**
BFO *e*PKPab **PKPab 19 12 50.0 0.0**
BFO Black Forest 151.39 351 *e*PKiKP **PKPdf 19 12 30.9 -2.8**
BFO *e* 19 12 39.5
BFO *e* 19 12 49.2
BFO Black Forest 151.39 351 *e*PKPdf **PKPdf 19 12 30.9 -2.8**
BFO *e*PKPbc **PKPbc 19 12 39.5 -0.6**
BFO *e*PKPab **PKPab 19 12 49.2 -0.8**
VTS Vitosha 151.43 326 ||*i*P **PKPbc 19 12 40.4 -0.2**
SOKA Soboth 151.47 341 *i* PKiKP **PKPbc 19 12 39.8 -0.6**
comp=Z,9.2nm,1.0s,SNR=5.6
KBA Koelnbreinsper 151.58 344 ||*i*PKiKP **PKPbc 19 12 40.6 -0.2**
comp=Z,5.8nm,0.6s
KBA ||*i*PKPab **PKPab 19 12 52.0 +0.9**
comp=Z,9.3nm,0.6s
ECH Echery 151.65 353 *e*PKPbc **PKPbc 19 12 39.9 -0.8**
WTTA Wattenberg 151.82 346 ||*i*PKiKP **PKPbc 19 12 40.8 -0.5**
comp=Z,11nm,0.6s,SNR=7.2
WTTA ||*i*PKPab **PKPab 19 12 52.7 +0.7**
comp=Z,8.5nm,0.5s
DIVS Divibare 151.84 332 ||*i*P **PKPbc 19 12 41.3 -0.1**
MMB Musomiste 151.85 324 ||PKiKP **PKPbc 19 12 40.8 -0.6**
MMB Musomiste 151.85 324 ||*i*P **PKPbc 19 12 40.8 -0.6**
ABTA Abfaltersbach 152.10 345 ||*i*PKPdf **PKPdf 19 12 33.1 -1.8**
ABTA *i* PKPbc **PKPbc 19 12 41.0 -0.9**
SNR=7.3
FETA Feichten 152.24 347 ||*i*PKPdf **PKPdf 19 12 33.6 -1.6**
comp=Z,5.0nm,0.8s
FETA ||*i*PKiKP **PKPbc 19 12 42.1 -0.2**
comp=Z,7.2nm,0.9s
TUE Stuetta 153.03 349 *e*PKPdf **PKPdf 19 12 35.6 -0.8**
TUE *e*PKPbc **PKPbc 19 12 44.1 +0.1**
TUE *e*PKPab **PKPab 19 12 57.1 -0.2**
ESDC Sonseca Array 159.76 14 PKP **PKPdf 19 12 44.7 -0.4**
comp=Z,0.8nm,0.8s,baz=32,slow=1.4,SNR=5.3
ESDC PKPab **PKPab 19 13 26.1 -0.2**
comp=Z,1.3nm,0.8s,baz=326,slow=3.4,SNR=6.7
KEST Kesra 163.19 340 PKPab **PKPab 19 13 41.2 -0.3**
comp=Z,1.3nm,0.7s,baz=192,slow=5.3,SNR=5.3
TOA0 Torodi Ar. Sit 173.09 176 *e*PKPdf **PKPdf 19 12 54.6 -1.2**
TORD Torodi Ar. Bea 173.09 176 PKP **PKPdf 19 12 54.8 -1.0**
comp=Z,3.3nm,0.9s,baz=5.5,slow=0.7,SNR=14
TORD PKPab **PKPab 19 14 25.8 +0.4**
comp=Z,1.1nm,0.7s,baz=182,slow=3.3,SNR=9.5
TORD PP **PP 19 18 15.8 -0.3**
comp=Z,1.3nm,0.9s,baz=184,slow=3.9,SNR=5.0

KLM ***02*** *19:10:23.4, 4.°25N×95.°72E, h10km, mb4.4, ML4.5, MS6.0*
IDC ***02*** *19:10:32.9± 1.3, 3.°80N×95.°80E, h0km, mb3.9/6, mb1 4.1/8, mb1mx3.7/29, mbtmp3.9/8, ML4.2/2, Error ellipse: s-maj=47.8km s-min=15.6km az=43.0*
ISCJB ***02*** *19:10:39.3± 0.5, 4.°65N± 0.°03×96.°83E± 0.°05, h33km, mb4.0/8, Error ellipse: s-maj=7.3km s-min=4.4km az=169.7*
NEIC ***02*** *19:10:39.8± 3.8, 4.°69N×96.°78E, h28km± 27km, mb4.4/3, Error ellipse: s-maj=22.4km s-min=9.0km az=70.0*
DJA ***02*** *19:10:39.3± 0.6, 5.°N± 4.°×9.°7E± .°, h30km± 6km, M4.7/14, mb4.5/9, mB6.2/1, MLv4.8/11, MLv4.8/14, Mw(mB)5.9/1*
ISC 02 19:10:40.9± 0.8, 4.°74N± 0.°04×96.°80E± 0.°07, h35km, n45, σ1§48/44, mb4.0/8, 12C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**0.51**	**17**	P	**Pn**		**19 10 51.2**	**-0.5**
LHMI				S	**Sn**		**19 10 59.3**	**0.0**
LHMI	**Lhok Sumawe**	**0.51**	**17**	*e*Pn	**Pn**		**19 10 51.7**	**0.0**
LHMI				*e*Sn	**Sn**		**19 11 00.9**	**+1.6**
TSI	**Tuntungan**	**2.15**	**125**	P	**Pn**		**19 11 15.0**	**+0.8**
TSI				S	**Sn**		**19 11 44.1**	**+4.4**
PSI	**Prapat**	**2.86**	**132**	Pn	**Pn**		**19 11 25.9**	**+1.7**
25nm,0.3s,baz=297,slow=9.5,SNR=70								
PSI				Lg		Lg	19 12 17.6	
71nm,0.3s,baz=235,slow=16,SNR=6.4								
GSI	**Gunungsitoli**	**3.50**	**167**	P	**Pn**		**19 11 32.4**	**-0.4**
GSI	**Gunungsitoli**	**3.50**	**167**	*e*Pn	**Pn**		**19 11 31.1**	**-1.7**
KULM	**Kulim**	**3.88**	**82**	||P	**Pn**		**19 11 38.3**	**+0.2**
KULM	**Kulim**	**3.88**	**82**	||P	**Pn**		**19 11 38.3**	**+0.2**
KULM	**Kulim**	**3.88**	**82**	*e*Pn	**Pn**		**19 11 38.5**	**+0.4**
KULM				*e*Sn	**Sn**		**19 12 24.6**	**+2.2**
IPM	**Ipoh**	**4.22**	**93**	||P	**Pn**		**19 11 42.5**	**-0.3**
IPM	**Ipoh**	**4.22**	**93**	||P	**Pn**		**19 11 42.5**	**-0.3**
IPM	**Ipoh**	**4.22**	**93**	*e*Pn	**Pn**		**19 11 42.4**	**-0.4**
IPM				*e*Sn	**Sn**		**19 12 29.3**	**-1.7**
MNSI	**Mandailing Nat**	**4.80**	**145**	P	**Pn**		**19 11 50.9**	**+0.2**
PBSI	**Pulau Batu**	**4.98**	**163**	P	**Pn**		**19 11 53.1**	**-0.1**
183nm,1.0s,1.1nm								
FRIM	**Kepong**	**5.04**	**107**	||P	**Pn**		**19 11 51.8**	**-2.3**
FRIM	**Kepong**	**5.04**	**107**	||P	**Pn**		**19 11 51.8**	**-2.3**
BKNI	**Bangkinang**	**6.09**	**136**	P	**Pn**		**19 12 08.7**	**+0.2**
89nm,1.3s,0.7nm								
BKNI	**Bangkinang**	**6.09**	**136**	Pn	**Pn**		**19 12 08.8**	**+0.3**
KTGM	**Kuala Trenggan**	**6.34**	**84**	||P	**Pn**		**19 12 12.5**	**+0.6**
KTGM	**Kuala Trenggan**	**6.34**	**84**	||P	**Pn**		**19 12 12.5**	**+0.6**
SISI	**Saibi**	**6.44**	**159**	P	**Pn**		**19 12 13.3**	**0.0**
108nm,0.9s,0.6nm0.6nm								
KGM	**Kluang**	**7.05**	**112**	||P	Pn		19 12 17.8	-3.8
KGM	**Kluang**	**7.05**	**112**	||P	Pn		19 12 17.8	-3.8
SDSI	**Sungai Dareh**	**7.29**	**140**	P	**Pn**		**19 12 24.7**	**-0.2**
20nm,0.9s,16µm0.2nm0.2nm								
MYKOM	**Kota Tinggi**	**7.63**	**112**	||P	**Pn**		**19 12 27.1**	**-2.4**
MYKOM	**Kota Tinggi**	**7.63**	**112**	||P	**Pn**		**19 12 27.1**	**-2.4**
PPSI	**Pulau Pagai**	**8.11**	**157**	P	**Pn**		**19 12 36.0**	**-0.2**
281nm,1.0s								
KRJI	**Kerinci**	**8.23**	**145**	P	**Pn**		**19 12 38.2**	**+0.3**
56nm,1.0s								
CM31	**Chiang Mai Arr**	**13.80**	**9**	Pn	**Pn**		**19 13 51.4**	**-2.8**
3.1nm,0.7s								
CMAR	**Chiang Mai Arr**	**13.80**	**9**	Pn	P		19 14 06.4	+4.3
0.3nm,0.3s,baz=199,slow=11,SNR=28								
CHTO	**Chiang Mai**	**14.15**	**8**	Pn	**Pn**		**19 13 58.9**	**0.0**
CHTO				*e*Sn	Sn		19 16 13.6	-21
KKM	**Kota Kinabalu**	**19.38**	**85**	P	**Pn**		**19 15 05.5**	**+0.2**
12nm,1.0s								
LSA	**Lhasa**	**25.40**	**348**	*e*P	**P**		**19 16 08.4**	**+2.7**
6.1nm,0.6s								
H08S2	**Diego Garcia H**	**27.19**	**243**	T	T		19 43 31.1	
baz=62,slow=76,SNR=4.9								
H08S3	**Diego Garcia H**	**27.19**	**243**	T	T		19 43 31.7	
baz=62,slow=76,SNR=3.6								
H08S1	**Diego Cercia H**	**27.20**	**243**	T	T		19 43 31.7	
baz=62,slow=76,SNR=3.8								
WRA	**Warramunga Arr**	**44.31**	**125**	P	**P**		**19 18 46.8**	**-0.9**
0.8nm,0.3s,baz=302,slow=9.2,SNR=7.6								
WRAB	**Tennant Creek**	**44.31**	**125**	*e*P	**P**		**19 18 46.4**	**-1.4**
4.5nm,0.6s								
ASAR	**Alice Springs**	**45.89**	**130**	P	**P**		**19 18 59.0**	**-1.4**
1.2nm,0.4s,baz=301,slow=7.8,SNR=26								
KURBB	**Kurchatov Arra**	**48.24**	**344**	P	**P**		**19 19 20.0**	**+1.9**
0.6nm,0.7s,baz=163,slow=7.3,SNR=8.5								
KURK	**Kurchatov**	**48.30**	**345**	P	**P**		**19 19 20.0**	**+1.4**
BVAR	**Borovoye Array**	**52.80**	**340**	P	**P**		**19 19 53.3**	**+0.6**
0.9nm,0.7s,baz=142,slow=7.3,SNR=5.0								
STKA	**Stephens Creek**	**56.04**	**134**	P	**P**		**19 20 14.9**	**-1.6**
1.2nm,0.7s,baz=337,slow=9.8,SNR=3.9								
ARCES	**ARCESS Array B**	**79.09**	**340**	P	**P**		**19 22 42.2**	**+0.8**
1.5nm,0.8s,baz=94,slow=7.3,SNR=2.8								
TXAR	**Lajitas Array**	**140.84**	**29**	PKP	**PKPdf**		**19 30 07.1**	**-0.9**
0.7nm,0.8s,baz=186,slow=0.9,SNR=6.2								

IDC 02 19:10:59.9± 8.2, 2.°21N×126.°11E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.6/44, mbtmp3.9/4, ML3.9/1, Error ellipse: s-maj=131.4km s-min=69.2km az=172.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC

TWM1 Shoushan 0.31 260 ⇓P Pb 19 11 39.3 +0.1
baz=262
ECL Taimali 0.33 147 ⇑*i*P Pb 19 11 40.5 +0.9
baz=135
CHN1 Nanshi 0.37 325 ⇑*i*P Pb 19 11 41.1 +0.7
baz=337
TTN Taitung 0.38 109 ⇑*i*P Pn 19 11 43.0 +0.3
baz=106
WTP Ta-pu 0.39 340 ⇑*i*P Pb 19 11 41.6 +1.0
baz=352
ELDTW Lidau 0.39 38 ⇑*e*P Pn 19 11 42.2 -0.8
baz=54
CHN3 Shinhua 0.41 299 *e*P Pb 19 11 42.0 +1.0
baz=315
CHN3 *e*S **Sn** 19 11 49.3 -1.1
baz=315
TPUB Ta-pu 0.44 344 *e*Pn Pb 19 11 41.9 +0.4
TWK Hsinying 0.46 327 ⇑*i*P Pb 19 11 42.6 +0.8
baz=338
CHN4 Tsaushan 0.49 342 ⇑*i*P Pn 19 11 43.5 -0.9
baz=350
EAST Anshuo 0.50 170 ⇑*i*P Pb 19 11 43.0 +0.6
baz=158
TAI1 Yung-k'ang 0.51 288 ⇑*i*P Pb 19 11 43.0 +0.4
baz=295
KAU Kaohsiung 0.52 233 ⇑*i*P Pn 19 11 43.8 -0.8
baz=230
SCZT Fangliau 0.52 194 ⇓P Pg 19 11 42.4 -0.3
baz=184
TAW Tawu 0.53 166 ⇑P Pb 19 11 43.6 +0.7
baz=156
TAW S **Sb** 19 11 51.2 +1.0
baz=156
SCLT Jiali 0.60 300 ⇑*i*P Pg 19 11 44.6 +0.5
baz=306
SCLT S **Sn** 19 11 54.5 -0.4
baz=306
CHKT Chengkung 0.60 68 ⇓*i*P Pn 19 11 46.6 +0.9
baz=83
CHKT *i*S **Sn** 19 11 57.2 +2.2
baz=83
ALS Alishan 0.63 4 ⇓*i*P Pn 19 11 46.3 -0.2
baz=4.0
ALS *e*S **Sn** 19 11 58.3 +2.1
baz=4.0
YUS Yu-Shan 0.64 16 ⇓*i*P Pn 19 11 47.0 +0.3
baz=22
TWP Hsiaoliuchiu 0.64 215 ⇑*i*P Pn 19 11 46.9 +0.6
baz=210
TWP *e*S **Sn** 19 11 58.3 +2.2
baz=210
CHN8 Yiju 0.69 313 ⇑P Pg 19 11 46.2 +0.5
baz=319
CHN8 *i*S **Sn** 19 11 57.1 0.0
baz=319
TWF1 Yuli 0.69 46 ⇑*i*P Pn 19 11 47.7 +0.7
baz=49
TWF1 *e*S **Sn** 19 11 57.6 +0.4
baz=49
CHY Chiayi 0.69 334 ⇑*i*P Pn 19 11 46.8 -0.2
baz=340
CHY S **Sn** 19 11 57.4 +0.1
baz=340
CHN2 Minshiung 0.70 338 P Pn 19 11 47.2 0.0
baz=344
CHN2 *e*S **Sn** 19 11 58.6 +1.0
baz=344
YULB Yu-li 0.71 44 *e*Pn Pn 19 11 47.6 +0.2
YULB *e*Sn **Sg** 19 11 56.6 +0.8
CHN5 Tsauling 0.72 354 ⇓*i*P Pn 19 11 47.4 -0.1
baz=360
EHY Hungye 0.81 40 ⇓*i*P Pn 19 11 49.8 +1.1
baz=48
EHY S **Sn** 19 12 01.3 +1.0
baz=48
WGK Gukeng 0.82 347 ⇑*i*P Pn 19 11 49.6 +0.7
baz=353
WGK *e*S **Sn** 19 12 02.7 +2.1
baz=353
HEN Hengchun 0.87 181 ⇓*i*P Pn 19 11 50.0 +0.6
baz=168
HEN *e*S **Sn** 19 12 02.7 +1.1
baz=168
WSF Szhu 0.90 327 *e*P Pg 19 11 49.6 -0.2
baz=332
WSF *i*S **Sn** 19 12 03.2 +0.8
baz=332
SSLB Suanglung 0.92 11 *e*Pn Pg 19 11 50.6 +0.4
SSLB *e*Sn **Sn** 19 12 04.2 +1.2
TWK1 Hengchun 0.93 177 ⇓*i*P Pn 19 11 50.9 +0.6
baz=173
TWK1 S **Sn** 19 12 04.5 +1.4
baz=173
WDT Danda 0.94 21 ⇓*i*P Pg 19 11 51.8 +1.2
baz=32
TSEB Hengchuen, Pin 0.98 172 ⇓P Pg 19 11 51.7 +0.4
baz=171
TSEB *e*S **Sn** 19 12 06.3 +1.9
baz=171
WNT Mingjian 1.00 356 *e*P Pg 19 11 52.4 +0.8
baz=346
WNT *e*S **Sn** 19 12 07.4 +2.5
baz=346
SMLT Sun Moon Lake 1.01 7 ⇓P Pg 19 11 52.7 +0.8
baz=11
SMLT *e*S **Sg** 19 12 08.3 +3.1
baz=11
TYC Yuchr 1.03 5 ⇓*i*P Pn 19 11 52.8 +0.7
baz=8.0
WTCT Ta-ch'eng 1.07 336 ⇑*i*P Pn 19 11 52.5 +0.2
baz=340
WTCT S **Sg** 19 12 08.1 +0.9
baz=340
WDGT Dungji 1.08 291 ⇑P Pb 19 11 51.0 -1.3
baz=294
WDGT *e*S **Sb** 19 12 05.2 -0.9
baz=294
TEGC Jichi Village 1.10 41 *e*P Pg 19 11 55.7 +2.2
baz=43
TEGC *e*S **Sg** 19 12 12.4 +4.5
baz=43
LAY Lan-yu 1.11 139 *e*P Pb 19 11 53.1 +0.3
baz=135
LAY *e*S **Sg** 19 12 09.5 +1.2
baz=135
ESL Shilin 1.12 34 ⇓*i*P Pg 19 11 54.6 +0.7
baz=36
ESL *i*S **Sg** 19 12 10.6 +2.0
baz=36
ESF Shoufeng Towns 1.21 35 *e*P Pg 19 11 56.6 +1.1
baz=47
ESF *e*S **Sg** 19 12 14.6 +3.2
baz=47
TCU Taichung 1.27 357 ⇓*e*P Pg 19 11 56.4 -0.3
baz=359
TCU *e*S **Sg** 19 12 14.8 +1.5
baz=359
PNG Penghu 1.30 302 ⇑*i*P Pn 19 11 54.2 -1.2
baz=306
HWA Hwalien 1.34 35 *e*P Pg 19 11 58.3 +0.1
baz=45
HWA *e*S **Sg** 19 12 18.8 +3.1
baz=45
WHF Hehuan Shan 1.34 20 ⇓*i*P Pg 19 11 58.6 +0.4
baz=33
WHF S **Sg** 19 12 18.4 +2.4
baz=33
TWT Tachien 1.42 16 ⇓P Pb 19 11 59.1 +0.8
baz=17
TWT *e*S **Sg** 19 12 20.3 +2.0
baz=17
TWD Chiawan 1.42 33 P Pg 19 11 59.2 -0.4
baz=34
TWD *e*S **Sg** 19 12 19.9 +1.7
baz=34
TWQ1 Liyutan 1.46 1 ⇓P Pb 19 11 59.2 +0.3
baz=3.0
TWQ1 *e*S **Sg** 19 12 20.5 +1.0
baz=3.0
NACB Ninganchiao 1.50 31 *e*Pn Pb 19 11 59.7 +0.1
NACB *e*Sn **Sg** 19 12 20.0 -0.8
NSY Sanyi 1.53 0 *e*P Pb 19 12 00.3 +0.2
baz=347
NSY *e*S **Sg** 19 12 22.6 +0.9
baz=347
NNS Nan Shan 1.66 20 ⇓*e*P Pb 19 12 03.0 +0.8
baz=21
NNS *e*S **Sg** 19 12 26.2 +0.6
baz=21
NSTT Nanjuang 1.76 7 ⇓*i*P Pb 19 12 03.1 -0.8
baz=350
ENA Nanau 1.79 30 ⇓*i*P Pb 19 12 04.6 +0.2
baz=31
ENA *e*S **Sg** 19 12 29.1 -0.8
baz=31
YHNB Yeheng 1.87 17 *e*Pn Pb 19 12 05.4 -0.5
YHNB *e*Sn **Sg** 19 12 33.2 +0.7
NSK Sanguang 1.87 17 P Pb 19 12 05.6 -0.3
baz=18
NSK *e*S **Sg** 19 12 32.4 -0.2
baz=18
ENTT Nioudou 1.91 23 ⇓*i*P Pb 19 12 07.4 +1.0
baz=23
ENTT *e*S **Sg** 19 12 33.5 -0.1
baz=23
HSN Hsinchu 1.93 6 *e*P Pb 19 12 07.0 +0.3
baz=350
TWC Suao 1.99 30 ⇓*i*P Pb 19 12 07.6 -0.3
baz=31
TWC *e*S **Sg** 19 12 35.6 -0.8
baz=31
TWE Neicheng 2.02 24 ⇓P Pb 19 12 08.5 +0.2
baz=12
TWE *e*S **Sg** 19 12 36.7 -0.5
baz=12
ILA Ilan 2.09 26 *e*P Pb 19 12 09.8 +0.3
baz=42
NCU National Centr 2.12 11 *e*P Pb 19 12 10.3 +0.3
baz=352
TATO Taipei 2.19 18 *e*Pn Pb 19 12 09.9 -1.4
TWA Mucha 2.23 20 *e*P Pb 19 12 11.5 -0.4
baz=1.0
TAP Taipei 2.26 18 *e*P Pb 19 12 13.4 +1.0
baz=15
TAP1 Taipei 2.26 18 *e*P Pn 19 12 09.9 +1.3
baz=15
TWS1 Kuangyinshan 2.29 15 *e*P Pb 19 12 11.2 -1.8
baz=13
NWF Wu-fen Shan 2.38 23 *e*P Pb 19 12 12.8 -1.7
baz=3.0
TWB1 Santiao Chiao 2.40 28 *i*P Pb 19 12 14.3 -0.6
baz=28
TWB1 *e*S **Sb** 19 12 44.8 +0.7
baz=28
TWY Chenhua 2.51 18 *e*P Pb 19 12 15.0 -1.7
baz=15
JYNG Yonagunijimaku 2.54 52 P Pb 19 12 15.2 -2.1
JYNG S **Sb** 19 12 47.7 -0.6
YOJ Yonaguni jima 2.60 52 P Pb 19 12 16.0 -2.2
YOJ S **Sb** 19 12 48.1 -1.7
YOJ Yonaguni jima 2.60 52 *e*P Pb 19 12 16.1 -2.2
YOJ *e*S **Sb** 19 12 51.0 +1.2
YOJ Yonaguni jima 2.60 52 ⇑*i*P Pb 19 12 16.0 -2.2
baz=53
YOJ *e*S **Sb** 19 12 47.9 -1.9
baz=53
YOJ Yonaguni jima 2.60 52 *e*Pn Pb 19 12 16.1 -2.2
YOJ *e*S **Sb** 19 12 51.0 +1.2
KNM Kinmen 2.62 306 *e*P Pn 19 12 14.0 +0.3
baz=308
QZH Quanzhou 2.86 316 Pn **Pn** 19 12 15.7 -1.1
QZH Sn **Sn** 19 12 47.4 -3.3
QZH SMN
2µm,0.8s
QZH SME
3µm,0.9s
PCYT Pengchaiyu 2.99 23 *e*P Pn 19 12 20.5 +1.9
baz=6.0
HATJ Hateruma jima 3.04 67 P Pn 19 12 21.2 +2.0
HATJ S **Sn** 19 12 57.9 +2.8
IRIF Iriomote-Funau 3.09 61 P Pn 19 12 22.5 +2.5
JKRS Kuro-shima 3.28 65 P Pn 19 12 24.8 +2.2
JKRS *e*S **Sn** 19 13 03.2 +2.1
JIJ Ishigaki jima 3.44 64 P Pn 19 12 26.6 +1.8
JIJ S **Sn** 19 13 07.3 +2.2
JISG Ishigakijimahi 3.67 62 P Pn 19 12 29.6 +1.6
JISG S **Sn** 19 13 12.7 +1.8
JTJ Tarama 4.02 63 P Pn 19 12 35.6 +2.8
JTJ *e*S **Sn** 19 13 22.1 +2.7
JIRB Irabujima 4.49 63 P Pn 19 12 41.0 +1.8
JIRB S **Sn** 19 13 32.2 +1.3
JMJ Miyako jima 2 4.58 64 P Pn 19 12 42.9 +2.4
JMJ *e*S **Sn** 19 13 34.4 +1.2
JMJ Miyako jima 2 4.58 64 *e*P Pn 19 12 42.6 +2.1
baz=68
JIKM Ikemajima 4.59 63 P Pn 19 12 42.4 +1.8
JIKM S **Sn** 19 13 35.3 +1.9
JOGS Gusukube 4.65 65 P Pn 19 12 44.6 +3.1
JKE Kume jima 2 6.47 57 P Pn 19 13 07.7 +1.2
JKE *e*S **Sn** 19 14 20.9 +1.0
GZH Guangzhou 6.83 273 P Pn 19 13 07.3 -4.2
GZH SMN
770nm,1.1s
GZH SME
410nm,1.0s
JAGN Aguni-jima 6.96 57 P **Pn** 19 13 14.9 +1.7
JNTH Nagotoyohara 7.54 60 P **Pn** 19 13 21.9 +0.8
JIH Iheya 7.74 56 P **Pn** 19 13 22.1 -1.8
JIH *e*S **Sn** 19 14 53.8 +2.7
JOW Kunigami 7.88 58 P **Pn** 19 13 26.0 +0.1
JOW Kunigami 7.88 58 *e*P **Pn** 19 13 26.5 +0.6
baz=64
JOKE Okinoerabujima 8.37 56 P **Pn** 19 13 32.1 -0.5
JTK Tokunoshima 8.88 55 P **Pn** 19 13 38.9 -0.6
JTK *e*S **Sn** 19 15 18.0 -1.1
JAMN Amaminishikomi 9.29 53 P **Pn** 19 13 44.6 -0.6
JAMN *e*S **Sn** 19 15 27.6 -1.6
NJ2 Nanjing 9.29 350 *e*P **Pn** 19 13 47.5 +2.3
NJ2 S Sn 19 15 36.8 +7.5
NJ2 PMZ
30nm,1.0s
NJ2 SMN
720nm,0.7s
NJ2 SME
470nm,0.9s
NJ2 LN
2µm,8.2s
NJ2 LE
3µm,9.3s
NJ2 LZ
4µm,7.0s
WHN Wuhan 9.54 324 P **Pn** 19 13 47.8 -0.8
WHN S **Sn** 19 15 30.7 -4.7
WHN LN
4µm,10.2s
WHN LE
5µm,15.0s
WHN LZ
6µm,10.8s
JAM Amami Oshima 9.70 54 P **Pn** 19 13 50.0 -0.8
QIZ Qiongzhong 10.89 251 P Pn 19 14 14.2 +7.0
QIZ S Sn 19 16 18.0 +9.3
QIZ pmax pmax
comp=Z,45nm,1.1s
QIZ LR LR
comp=E,990nm,15.1s
QIZ LR LR
comp=Z,2µm,14.7s
QIZ Qiongzhong 10.89 251 *e*Pn **Pn** 19 14 06.2 -1.0
comp=Z,36nm,0.9s
ENH Emshi 12.48 309 *e*Pn **Pn** 19 14 27.2 -1.7
comp=Z,11nm,0.8s
GYA Guiyang 13.30 288 ⇑*i*P **Pn** 19 14 40.7 +0.5
GYA PMZ
comp=Z,20nm,0.7s
GYA PMZ
comp=Z,90nm,8.7s
GYA LN
comp=Z,690nm,11.2s
GYA LE
comp=Z,2µm,14.6s
GYA LZ
comp=Z,2µm,17.1s
JTU Tsushima 13.85 31 P P 19 14 52.0 -3.8
XAN Xi'an 15.22 320 P **Pn** 19 15 06.1 -0.1
XAN pP **pP** 19 15 14.3 -2.0
XAN PMZ
comp=Z,3.0nm,1.0s
XAN LN
comp=Z,960nm,11.4s
XAN LE
comp=Z,320nm,12.9s
XAN LZ
comp=Z,600nm,14.0s
SLVN Son La 15.70 268 *e*Pn **Pn** 19 15 11.9 -0.6
comp=Z,22nm,1.3s
KSAR Wonju Array Be 15.76 21 P **Pn** 19 15 14.8 +1.6
KSAR Wonju Array Be 15.76 21 Pn **Pn** 19 15 14.8 +1.6
KSRS Korea Array 15.79 21 Pn **Pn** 19 15 14.8 +1.3
comp=Z,0.7nm,0.3s,baz=198,slow=10,SNR=30
KSRS LR LR 19 22 03.6
comp=Z,668nm,19.7s,baz=204,slow=40
KSRS Korea Array 15.79 21 P **Pn** 19 15 14.8 +1.3
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KSRS MLR MLR
comp=Z,668nm,19.7s
JHS Saijyo 16.20 39 P **P** 19 15 23.5 +1.6
UBPT Khong Chiam 16.30 245 P P 19 15 29.5 +6.4
comp=Z,18nm,2.1s
SKNT Sakolnakorn 16.83 253 P P 19 15 37.1 +8.1
comp=Z,31nm,2.2s
KKM Kota Kinabalu 17.30 195 Pn **Pn** 19 15 31.3 -1.7
comp=Z,31nm,1.0s
BJT Baijiatuau 17.53 348 *e*P **P** 19 15 38.6 +2.1
BJT Baijiatuau 17.53 348 *e*Pn **P** 19 15 38.6 +2.1
BJI Beijing 17.55 348 P **P** 19 15 39.8 +3.1
BJI S **S** 19 18 58.5 +0.2
BJI PMZ
comp=Z,21nm,0.9s
BJI PMZ
comp=Z,190nm,9.0s
BJI LN
comp=Z,750nm,13.3s
BJI LE
comp=Z,580nm,17.0s
BJI LZ
comp=Z,280nm,16.5s
JWT Wachi 17.77 43 P **P** 19 15 42.2 +3.0
JIE Ise 18.07 47 P **P** 19 15 46.3 +3.7
KHON Khomkaen 18.10 252 P **P** 19 15 46.2 +3.2
comp=Z,8.3nm,1.1s
CRAI Chiangrai 19.14 266 P **Pn** 19 15 54.9 -0.5
comp=Z,121nm,1.1s
JGF Kuroka 19.21 45 P **Pn** 19 15 56.4 +0.2
JSG Sagara 19.24 49 P Pn 19 16 03.0 +6.5
HHC Hu-ho-hao-te 19.52 339 *e*P **Pn** 19 16 00.4 +0.4
HHC PP **PnPn** 19 16 17.6 +4.1
HHC S S 19 19 29.6 -8.9
HHC sS **Sn** 19 19 42.3 +3.6
HHC SS **SnSn** 19 19 55.8 +2.7
HHC PMZ
comp=Z,9.0nm,1.2s
HHC PMZ
comp=Z,74nm,5.1s
HHC LN
comp=Z,1µm,12.7s
HHC LE
comp=Z,360nm,12.2s
HHC LZ
comp=Z,880nm,12.8s
SGSI Sangihe 19.63 166 P **Pn** 19 16 05.0 +3.7
comp=Z,328nm,1.1s
PBKT Sadao Pong 19.65 255 P **Pn** 19 16 03.6 +2.1
comp=Z,77nm,1.6s
LZH Lanzhou 19.71 316 *e*P **Pn** 19 16 04.5 +2.2
LZH pP **pP** 19 16 08.7 +2.7
LZH sP **sP** 19 16 11.2 +2.7
LZH S **Sn** 19 19 43.4 +0.1
LZH sS **sS** 19 19 50.0 -0.8
LZH SS **SnSn** 19 20 06.1 +8.3
LZH PMZ
comp=Z,29nm,1.1s
LZH PMZ
comp=Z,99nm,4.2s
LZH LN
comp=Z,820nm,10.2s
LZH LE
comp=Z,700nm,9.3s
LZH LZ
comp=Z,1µm,11.8s
CBIJ Chichi jima 19.87 73 P **P** 19 16 01.9 -0.5
JCJ Chichijima 19.87 73 P **P** 19 16 01.9 -0.5
comp=Z,9.9nm,0.3s,baz=308,slow=19,SNR=7.8
JCJ LR LR 19 23 19.2
comp=Z,192nm,18.0s,baz=133,slow=36
JOD2 Odawara 2 20.18 48 P Pn 19 16 08.7 +1.0
MAT Matsushiro 20.33 44 P **P** 19 16 07.0 -0.4
MAT *e*S Sn 19 19 58.8 +0.7
MAT Matsushiro 20.33 44 P Pn 19 16 10.9 +1.4
MAJO Matsushiro 20.33 44 *c i*P **P** 19 16 08.0 +0.6
MAJO pmax pmax
comp=Z,337nm,1.2s
MAJO Matsushiro 20.33 44 *e*P **P** 19 16 07.2 -0.1
comp=Z,36nm,0.6s
MJAR Matsushiro Arr 20.33 44 P **P** 19 16 07.4 0.0
comp=Z,42nm,0.6s,baz=237,slow=6.2,SNR=41
MJAR LR LR 19 24 55.0
comp=Z,169nm,19.1s,baz=230,slow=40
CMAI Chiengmai2 20.42 266 P Pn 19 16 11.4 +0.5
comp=Z,22nm,1.6s
JRY Ryogami san 20.48 46 P **P** 19 16 10.2 +1.2
CMMT Chiang Mai 20.77 263 P Pn 19 16 18.0 +3.2
comp=Z,18nm,2.1s
CHTO Chiang Mai 20.78 263 *e*P **P** 19 16 12.9 +0.5
CHTO pmax pmax
comp=Z,21nm,1.4s
CHTO Chiang Mai 20.78 263 *e*P **P** 19 16 12.9 +0.5
comp=Z,21nm,1.4s
CMAR Chiang Mai Arr 20.87 262 P **P** 19 16 14.1 +0.7
comp=Z,3.3nm,0.8s,baz=71,slow=9.0,SNR=18
CMAR PcP **PcP** 19 20 21.0 -0.6
comp=Z,0.3nm,0.3s,baz=25,slow=0.9,SNR=4.9
CMAR LR LR 19 25 18.6
comp=Z,801nm,19.6s,baz=72,slow=40
JSD Sado 21.30 41 P **P** 19 16 19.8 +2.0
JYT Yasato 21.46 47 P **P** 19 16 19.3 -0.2
MHMT Maesarieng 21.88 262 P P 19 16 33.0 +8.9
VLA Vladivostok 22.20 22 *e*P **P** 19 16 23.2 -4.2
VLA pmax pmax
comp=Z,14nm,1.0s
MRSI Marisa 22.30 177 P **P** 19 16 31.9 +3.3
comp=Z,72nm,0.8s,comp=Z,732nm
KMSI Cibinong 22.39 172 P **P** 19 16 34.2 +4.5
comp=Z,245nm,1.3s,comp=Z,2µm
MPSI Mapaga 22.42 182 P P 19 16 35.8 +5.8
comp=Z,31nm,1.2s
JYA Atsumi 22.53 42 P **P** 19 16 31.3 +0.2
JMM Marumori 22.78 44 P **P** 19 16 31.6 -2.0
MDJ Mudanjiang 22.86 16 *e*P **P** 19 16 32.0 -2.4
comp=Z,14nm,1.0s
TNTI Ternate 22.89 163 P **P** 19 16 34.4 -0.6
comp=Z,115nm,1.2s,comp=Z,1µm
TNTI Ternate 22.89 163 *e*P **P** 19 16 32.8 -2.2
USRK Ussuriysk Ar. 23.19 21 P **P** 19 16 37.4 -0.4
comp=Z,4.3nm,0.6s,baz=203,slow=11,SNR=17
KSM Kuching 23.57 207 *e*P **P** 19 16 40.6 -1.3
comp=Z,9.0nm,1.0s
APSI Ampana 23.66 178 P **P** 19 16 44.4 +1.7
comp=Z,118nm,1.1s,comp=Z,1µm
LUWI Luwuk 23.86 175 P **P** 19 16 42.6 -2.0
comp=Z,175nm,1.1s,comp=Z,2µm
LUWI Luwuk 23.86 175 *e*P **P** 19 16 42.4 -2.2
comp=Z,263nm,1.3s
JOM Ohasama 24.04 42 P **P** 19 16 44.7 -1.5
GTA Gaotai 24.26 318 *e*P **P** 19 16 49.3 +1.0
GTA pP **pP** 19 16 53.9 -0.1
GTA sP **sP** 19 16 57.2 +0.9
GTA PMZ
comp=Z,4.0nm,0.9s
GTA PMZ
comp=Z,160nm,5.7s
GTA LN
comp=Z,440nm,15.4s
GTA LE
comp=Z,710nm,15.2s
GTA LZ
comp=Z,910nm,15.0s
LBMI Labuha 24.28 163 P **P** 19 16 47.2 -1.3
comp=Z,159nm,1.0s,comp=Z,1µm
BKB Balikpapan 24.29 189 P **P** 19 16 48.9 +0.3
comp=Z,158nm,1.4s
STKI Sintang 24.41 203 P **P** 19 16 50.0 +0.3
comp=Z,25nm,1.4s,comp=Z,1µm
GUMO Guam 24.66 108 P **P** 19 16 49.7 -2.3
comp=Z,180nm,0.8s,baz=186,slow=8.9,SNR=12
GUMO LR LR 19 25 17.8
comp=Z,317nm,19.1s,baz=244,slow=34
JTM Tenmabayashi 24.73 39 P **P** 19 16 53.0 +0.6

JOT	**Ohata**	**25.11**	**38**	P		**P**		**19 16 55.3**	**-0.5**
SANI	**Sanana**	**25.30**	**168**	P		**P**		**19 16 58.1**	**+0.4**
	comp=Z,51nm,0.8s								
JSH	**Shimam**	**25.42**	**35**	P		**P**		**19 16 59.0**	**+0.4**
SIJI	**Sorong**	**25.73**	**155**	P		**P**		**19 16 59.5**	**-2.2**
	comp=Z,10nm,0.4s,baz=346,slow=15,SNR=19								
TTSI	**Tana Toraja**	**25.78**	**182**	P		**P**		**19 17 04.0**	**+1.9**
	comp=Z,32nm,1.3s								
JEW	**Eniwo**	**26.30**	**36**	P		**P**		**19 17 07.0**	**+0.4**
HIA	**Hailar**	**26.35**	**359**	*c*	*i* P	**P**		**19 17 03.9**	**-3.2**
HIA					pmax	pmax			
	comp=Z,30nm,1.4s								
HIA	**Hailar**	**26.35**	**359**		*e*P	**P**		**19 17 06.2**	**-0.9**
	comp=Z,23nm,0.9s								
KBKI	**Kotabaru**	**26.40**	**190**	P		**P**		**19 17 09.8**	**+2.1**
	comp=Z,18nm,1.1s								
NLAI	**Namlea**	**26.69**	**166**	P		**P**		**19 17 10.0**	**-0.3**
	comp=Z,312nm,0.9s,comp=Z,2µm								
SPSI	**Sidrap Palu**	**26.70**	**182**	P		**P**		**19 17 11.4**	**+1.0**
	comp=Z,20nm,1.3s								
ERM	**Erimo**	**26.72**	**39**		*e*P	**P**		**19 17 11.1**	**+0.6**
KDI	**Kendari**	**26.73**	**176**	P		**P**		**19 17 11.7**	**+1.0**
	comp=Z,21nm,0.5s								
BBKI	**Banjar Baru**	**26.81**	**193**	P		**P**		**19 17 14.5**	**+3.1**
	comp=Z,159nm,0.9s								
LSA	**Lhasa**	**27.35**	**291**	P		**P**		**19 17 17.5**	**+0.7**
LSA	**Lhasa**	**27.35**	**291**		*e*P	**P**		**19 17 18.4**	**+1.6**
LSA					pmax	pmax			
	comp=Z,10.0nm,0.8s								
LSA	**Lhasa**	**27.35**	**291**		*e*P	**P**		**19 17 18.4**	**+1.6**
	comp=Z,10nm,0.8s								
SONM	**Songino Array**	**27.43**	**339**	P		**P**		**19 17 17.4**	**+0.5**
	comp=Z,4.7nm,0.6s,baz=152,slow=9.6,SNR=26								
SONM					PcP	**PcP**		**19 20 35.2**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=222,slow=2.0,SNR=3.9								
SONM					LR	LR		19 29 30.7	
	comp=Z,487nm,20.4s,baz=150,slow=39								
SONM	**Songino Array**	**27.43**	**339**	P		**P**		**19 17 17.4**	**+0.5**
SONM								19 20 35.2	
SONM					pmax	pmax			
	comp=Z,5.0nm,0.6s								
SONM					pmax	pmax			
	comp=Z,1.0nm,0.7s								
SONM					MLR	MLR			
	comp=Z,487nm,20.4s								
KLR	**Kul'dur**	**27.70**	**16**		*e*P	**P**		**19 17 18.0**	**-1.2**
ASAJ	**Asahikawa**	**27.78**	**35**	P		**P**		**19 17 20.8**	**+0.9**
ASAJ	**Asahikawa**	**27.78**	**35**		*e*P	**P**		**19 17 20.0**	**+0.1**
	comp=Z,4.3nm,0.6s								
HABR	**Khabarovsk**	**27.96**	**21**		*e*P	**P**		**19 17 17.5**	**-4.0**
HABR					*e**PP	**pP**		**19 17 27.1**	**0.0**
HABR					*e**SP	**sP**		**19 17 31.2**	**+1.8**
HABR								19 20 38.5	
HABR					*e*S	S		19 21 53.5	-11
HABR					*e**SS	**sS**		**19 22 09.9**	**-3.9**
HABR					*e*			19 28 07.0	
HABR					pmax	pmax			
	comp=Z,3.0nm,1.3s								
HABR					pmax	pmax			
	comp=N,3.0nm,0.9s								
HABR					MLR	MLR			
	comp=Z,328nm,17.0s								
FAKI	**Fak Fak**	**27.98**	**155**	P		**P**		**19 17 19.8**	**-2.2**
	comp=Z,42nm,1.7s								
DSRI	**Dabo**	**28.05**	**216**	P		P		19 17 25.9	+3.3
	comp=Z,0.1nm,0.8s								
JMP	**Maruseppu**	**28.12**	**36**	P		**P**		**19 17 23.6**	**+0.6**
BAKI	**Biak**	**28.21**	**146**	P		**P**		**19 17 21.0**	**-3.0**
	comp=Z,192nm,1.4s								
BNDI	**Bandanaira**	**28.66**	**161**	P		**P**		**19 17 27.8**	**-0.2**
SRPI	**Serui, Papua**	**28.86**	**146**	P		**P**		**19 17 27.1**	**-2.7**
	comp=Z,32nm,0.8s								
YSS	**Yuzh-Sakhalins**	**29.84**	**31**		*e*P	**P**		**19 17 38.0**	**-0.2**
YSS					*e*			19 17 45.0	
YSS					MLR	MLR			
	comp=N,900nm,16.0s								
YSS					MLR	MLR			
	comp=Z,700nm,16.0s								
YSS	**Yuzh-Sakhalins**	**29.84**	**31**		*e*P	**P**		**19 17 38.4**	**+0.2**
	comp=Z,12nm,0.7s								
ZAK	**Zakamensk**	**30.67**	**338**		*e*P	**P**		**19 17 43.3**	**-2.3**
ZAK					pmax	pmax			
	comp=Z,2.0nm,1.6s								
TLY	**Talaya**	**31.65**	**340**	LR		LR		19 32 08.3	
	comp=Z,352nm,20.4s,baz=146,slow=39								
ZALV	**Zalesovo Beam**	**41.13**	**328**	P		**P**		**19 19 15.5**	**+0.5**
	comp=Z,5.8nm,0.7s,baz=119,slow=7.4,SNR=22								
ZALV					PcP	**PcP**		**19 21 13.7**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=108,slow=3.9,SNR=4.0								
ZALV					LR	LR		19 38 08.9	
	comp=Z,170nm,18.1s,baz=70,slow=39								
PETK	**Petropavlovsk-**	**41.17**	**33**	P		**P**		**19 19 14.5**	**-0.9**
	comp=Z,7.0nm,0.8s,baz=212,slow=5.7,SNR=9.0								
PETK					PcP	**PcP**		**19 21 13.6**	**-0.7**
	comp=Z,2.7nm,0.8s,baz=326,slow=3.8,SNR=4.8								
PETK					LR	LR		19 36 45.5	
	comp=Z,235nm,18.9s,baz=230,slow=37								
PET	**Petropavlovsk**	**41.61**	**34**		*e*P	**P**		**19 19 18.5**	**-0.4**
PET					pmax	pmax			
	comp=Z,29nm,0.8s								
PET	**Petropavlovsk**	**41.61**	**34**		*e*P	**P**		**19 19 18.2**	**-0.8**
	comp=Z,22nm,0.8s								
NVS	**Novosibirsk**	**42.40**	**329**	*i* P		P		19 19 32.0	+6.6
NVS					pmax	pmax			
	comp=Z,23nm,1.8s								
NVS					pmax	pmax			
	comp=N,12nm,1.9s								
NVS					pmax	pmax			
	comp=E,17nm,2.1s								
COEN	**Coen**	**42.69**	**147**		*e*P	**P**		**19 19 26.1**	**-2.0**
	comp=E,33nm,1.1s								
KURK	**Kurchatov**	**42.85**	**321**	P		**P**		**19 19 30.0**	**+0.9**
KURK								19 21 19.3	
KURK					pmax	pmax			
	comp=Z,3.0nm,0.9s								
KURK					pmax	pmax			
	comp=Z,2.0nm,0.6s								
KURK	**Kurchatov**	**42.85**	**321**		*e*P	**P**		**19 19 28.6**	**-0.4**
	comp=Z,5.8nm,0.6s								
KURK					PcP	**PcP**		**19 21 19.3**	**-0.6**
KURBB	**Kurchatov Arra**	**42.86**	**321**	P		**P**		**19 19 30.0**	**+0.8**
	comp=Z,3.3nm,0.9s,baz=116,slow=7.7,SNR=23								
KURBB					PcP	**PcP**		**19 21 19.3**	**-0.7**
	comp=Z,2.0nm,0.6s,baz=116,slow=3.3,SNR=7.1								
H11N1	**WAKE ISLAND Hy**	**42.97**	**85**	T		T		20 05 01.7	
	baz=283,slow=74,SNR=65								
H11N2	**WAKE ISLAND Hy**	**42.97**	**85**	T		T		20 05 01.8	
	baz=283,slow=74,SNR=117								
H11N3	**WAKE ISLAND Hy**	**42.98**	**85**	T		T		20 05 03.0	
	baz=283,slow=74,SNR=80								
H11S3	**WAKE ISLAND Hy**	**43.06**	**87**	T		T		20 05 12.5	
	baz=284,slow=74,SNR=158								
H11S1	**WAKE ISLAND Hy**	**43.07**	**87**	T		T		20 05 13.2	
	baz=284,slow=74,SNR=73								
H11S2	**WAKE ISLAND Hy**	**43.08**	**87**	T		T		20 05 13.7	
	baz=284,slow=74,SNR=63								
MBWA	**Marble Bar**	**43.78**	**181**	P		**P**		**19 19 35.3**	**-1.5**
	comp=Z,22nm,1.1s								
WRAB	**Tennant Creek**	**44.57**	**162**		*e*P	**P**		**19 19 41.1**	**-2.1**
WRAB					pmax	pmax			
	comp=Z,18nm,0.7s								
WRAB	**Tennant Creek**	**44.57**	**162**		*e*P	**P**		**19 19 41.1**	**-2.1**
	comp=Z,18nm,0.7s								
WRA	**Warramunga Arr**	**44.58**	**162**	P		**P**		**19 19 41.2**	**-2.1**
	comp=Z,19nm,0.8s,baz=344,slow=8.7,SNR=38								
SEY	**Seymchan**	**45.33**	**20**	P		**P**		**19 19 48.8**	**0.0**
	comp=Z,2.9nm,0.7s,baz=233,slow=6.4,SNR=25								
SEY					PcP	**PcP**		**19 21 28.1**	**0.0**
	comp=Z,7.0nm,0.5s,baz=209,slow=3.5,SNR=28								
KKAR	**Karatay Array**	**45.96**	**308**		*e*P	**P**		**19 19 55.2**	**+1.0**
KKAR	**Karatay Array**	**45.96**	**308**		*e*P	**P**		**19 19 55.2**	**+1.0**
ASAR	**Alice Springs**	**48.00**	**164**	P		**P**		**19 20 08.3**	**-1.9**
	comp=Z,7.7nm,0.6s,baz=340,slow=7.2,SNR=60								
ASAR					PcP	**PcP**		**19 21 37.2**	**-0.9**
	comp=Z,2.7nm,0.5s,baz=350,slow=3.0,SNR=6.1								
ASAR					ScP	**ScP**		**19 25 31.0**	**-0.8**
	comp=Z,1.4nm,0.9s,baz=8.1,slow=4.8,SNR=5.6								
ASAR					LR	LR		19 42 03.8	
	comp=Z,77nm,18.4s,baz=343,slow=38								
BVAR	**Borovoye Array**	**46.44**	**322**	P		**P**		**19 20 14.1**	**+0.8**
	comp=Z,3.2nm,0.5s,baz=107,slow=8.8,SNR=21								
BVAR					PcP	**PcP**		**19 21 39.3**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=116,slow=3.4,SNR=7.0								
BRVK	**Borovoye**	**48.51**	**322**	*c*	*i* P	**P**		**19 20 11.8**	**-2.0**
BRVK					pmax	pmax			
	comp=Z,7.0nm,0.9s								
BRVK	**Borovoye**	**48.51**	**322**		*e*P	**P**		**19 20 13.0**	**-0.9**
	comp=Z,10nm,0.9s								
CTAO	**Charters Tower**	**49.42**	**148**		*e*P	**P**		**19 20 19.3**	**-1.9**
CTAO					pmax	pmax			
	comp=Z,11nm,0.8s								
CTAO	**Charters Tower**	**49.42**	**148**		*e*P	**P**		**19 20 19.3**	**-1.9**
	comp=Z,11nm,0.8s								
ABKAR	**Akbulak array**	**54.08**	**315**		*e*P	**P**		**19 20 56.5**	**+0.9**
	comp=Z,7.7nm,0.8s								
SVE	**Sverdlovsk**	**54.87**	**324**		*e*P	**P**		**19 21 02.7**	**+1.5**
SVE					pmax	pmax			
	comp=Z,16nm,1.0s								
SVE					MLR	MLR			
	comp=Z,287nm,17.0s								
GEYT	**Alibeck**	**55.12**	**301**	P		**P**		**19 21 04.9**	**+1.4**
	comp=Z,5.5nm,0.9s,baz=79,slow=7.5,SNR=7.8								
AKTO	**Aktyubinsk**	**55.44**	**316**	P		**P**		**19 21 06.4**	**+0.9**
	comp=Z,3.2nm,0.8s,baz=83,slow=7.1,SNR=11								
ARU	**Arti**	**55.92**	**324**	*c*	*i* P	**P**		**19 21 07.3**	**-1.5**
ARU								19 23 10.4	
ARU					S	S		19 28 46.7	-8.9
ARU					pmax	pmax			
	comp=Z,8.0nm,1.0s								
ARU	**Arti**	**55.92**	**324**		*e*P	**P**		**19 21 08.3**	**-0.5**
	comp=Z,11nm,0.5s								
BBOO	**Buckleboo**	**57.27**	**165**		*e*P	**P**		**19 21 17.4**	**-1.3**
	comp=Z,40nm,0.9s								
STKA	**Stephens Creek**	**57.98**	**159**	P		**P**		**19 21 22.2**	**-1.5**
	comp=Z,8.4nm,0.6s,baz=340,slow=6.2,SNR=28								
STKA	**Stephens Creek**	**57.98**	**159**		*e*P	**P**		**19 21 22.0**	**-1.7**
STKA					pmax	pmax			
	comp=Z,1.0nm,0.5s								
STKA	**Stephens Creek**	**57.98**	**159**		*e*P	**P**		**19 21 22.0**	**-1.7**
	comp=Z,1.0nm,0.5s								
PRGR	**Permogore**	**63.09**	**329**	P		**P**		**19 21 58.5**	**+0.3**
PRGR					pmax	pmax			
	comp=Z,12nm,0.7s								
GNI	**Garni**	**65.22**	**305**	P		**P**		**19 22 14.1**	**+1.2**
	comp=Z,3.0nm,0.5s,baz=336,slow=12,SNR=3.2								
GNI	**Garni**	**65.22**	**305**	*i* P		**P**		**19 22 13.5**	**+0.7**
GNI					pmax	pmax			
	comp=Z,5.0nm,1.0s								
ZEI	**Tsey**	**65.42**	**308**		*e*P	**P**		**19 22 13.5**	**-0.6**
ZEI					pmax	pmax			
	comp=Z,33nm,0.5s								
GOF	**Gofitskoye**	**65.68**	**311**		*e*P	P		19 22 23.1	+7.6
KBZ	**Khabaz**	**65.99**	**309**	P		**P**		**19 22 18.6**	**+1.1**
	comp=Z,5.0nm,0.7s,baz=90,slow=6.1,SNR=15								
KIV	**Kislovodsk**	**66.11**	**309**	*d*	*i* P	**P**		**19 22 19.4**	**+1.0**
KIV					*i*			19 22 50.5	
KIV					*i* SS	SS		19 35 15.9	-5.6
KIV					pmax	pmax			
	comp=Z,10.0nm,0.9s								
KIV	**Kislovodsk**	**66.11**	**309**		*e*P	**P**		**19 22 19.4**	**+1.0**
	comp=Z,9.3nm,0.6s								
VSR	**Storozhevoye**	**67.33**	**318**		*e*P	**P**		**19 22 26.2**	**+0.3**
VSR					pmax	pmax			
	comp=E,10.0nm,1.3s								
VSR					pmax	pmax			
	comp=Z,10.0nm,1.3s								
VSR					pmax	pmax			
	comp=N,7.0nm,1.0s								
OBN	**Obninsk**	**68.28**	**322**	*i* P		**P**		**19 22 31.7**	**-0.1**
OBN					pmax	pmax			
	comp=Z,6.0nm,1.2s								
RAYN	**Ar Rayn**	**68.35**	**287**		*e*P	**P**		**19 22 32.9**	**0.0**
	comp=Z,13nm,1.2s								
PPLA	**Purkeypile**	**68.57**	**29**		*e*P	**P**		**19 22 33.8**	**+0.1**
	comp=Z,7.9nm,0.6s								
PPLA					*e*PP	PP		19 24 51.9	-13
COLD	**Coldfoot**	**68.77**	**25**		*e*P	**P**		**19 22 35.5**	**+0.7**
	comp=Z,4.4nm,0.9s								
BPAW	**Bear Paw Mtn.**	**68.92**	**28**		*e*P	**P**		**19 22 36.2**	**+0.4**
	comp=Z,5.2nm,1.3s								
KDAK	**Kodiak Island**	**69.19**	**35**	*c*	*e*P	**P**		**19 22 37.1**	**-0.4**
KDAK	**Kodiak Island**	**69.19**	**35**		*e*P	**P**		**19 22 37.0**	**-0.4**
	comp=Z,8.0nm,0.4s								
TRF	**Thorofare Moun**	**69.34**	**29**		*e*P	**P**		**19 22 38.8**	**+0.3**
	comp=Z,4.7nm,0.6s								
MCK	**McKinley**	**69.88**	**28**		*e*P	**P**		**19 22 41.1**	**-0.6**
MCK					pmax	pmax			
	comp=Z,17nm,1.2s								
MCK	**McKinley**	**69.88**	**28**		*e*P	**P**		**19 22 41.1**	**-0.6**
	comp=Z,17nm,1.2s								
TAU	**Tasmania Unive**	**69.89**	**160**		*e*P	**P**		**19 22 41.1**	**-0.7**
TAU	**Tasmania Unive**	**69.89**	**160**		*e*P	**P**		**19 22 41.1**	**-0.7**
COLA	**College**	**70.12**	**27**		*e*P	**P**		**19 22 43.3**	**+0.2**
COLA					pmax	pmax			
	comp=Z,29nm,1.0s								
COLA	**College**	**70.12**	**27**		*e*P	**P**		**19 22 42.7**	**-0.3**
SEW	**Seward**	**70.35**	**32**		*e*P	**P**		**19 22 43.1**	**-1.5**
MALT	**Malatya**	**70.40**	**304**	⇑	*i* P	**P**		**19 22 47.3**	**+1.9**
SML	**Sawmill**	**70.53**	**30**		*e*P	**P**		**19 22 45.4**	**-0.3**
SML					pmax	pmax			
	comp=Z,2.0nm,0.6s								
SML	**Sawmill**	**70.53**	**30**		*e*P	**P**		**19 22 45.4**	**-0.3**
	comp=Z,2.5nm,0.6s								
ILAR	**Eielson Array**	**70.55**	**27**	P		**P**		**19 22 44.9**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=272,slow=5.7,SNR=26								
ARCES	**ARCESS Array B**	**70.60**	**338**	P		**P**		**19 22 46.5**	**+0.5**
	comp=Z,9.3nm,0.7s,baz=69,slow=8.1,SNR=31								
ARCES					LR	LR		19 56 37.7	
	comp=Z,75nm,19.2s,baz=65,slow=38								
PAX	**Paxson**	**71.57**	**29**		*e*P	**P**		**19 22 51.5**	**-0.6**
PAX					pmax	pmax			
	comp=Z,5.0nm,1.0s								
PAX	**Paxson**	**71.57**	**29**		*e*P	**P**		**19 22 51.5**	**-0.6**
	comp=Z,5.2nm,1.0s								
FINES	**FINESS Array B**	**72.37**	**330**	P		**P**		**19 22 57.4**	**+0.7**
	comp=Z,4.9nm,0.6s,baz=55,slow=6.2,SNR=30								
BMRM	**Bremner River**	**72.48**	**31**		*e*P	**P**		**19 22 54.4**	**-3.1**
	comp=Z,9.1nm,0.8s								
VSU	**Vasula**	**72.85**	**327**		*e*P	**P**		**19 23 00.4**	**+0.8**
VSU					pmax	pmax			
	comp=Z,18nm,0.6s								
EGAK	**Eagle**	**72.92**	**26**		*e*P	**P**		**19 22 59.5**	**-0.4**
	comp=Z,15nm,0.9s								
ASF	**Jabal al Asfar**	**73.23**	**298**	P		**P**		**19 23 03.5**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=32,slow=7.6,SNR=4.0								
AKASG	**Malin Array Be**	**73.58**	**318**	P		**P**		**19 23 03.8**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=60,slow=5.8,SNR=5.9								
AKASG	**Malin Array Be**	**73.58**	**318**	*c*	*e*P	**P**		**19 23 03.7**	**-0.4**
AKASG					pmax	pmax			
	comp=Z,2.0nm,0.6s								
KIEV	**Kiev**	**73.59**	**318**		*e*P	**P**		**19 23 03.1**	**-1.1**
BRTR	**Keskin Array B**	**73.63**	**307**	P		**P**		**19 23 05.1**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=112,slow=6.3,SNR=6.9								
BRTR	**Keskin Array B**	**73.63**	**307**	*c*	*e*P	**P**		**19 23 05.5**	**+0.7**
BRTR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
NACGM	**Naroch**	**73.82**	**323**		*e*	**P**		**19 23 04.0**	**-1.4**
DAWY	**Dawson**	**73.87**	**27**		*e*P	**P**		**19 23 05.5**	**-0.1**
	comp=Z,20nm,0.9s								
INK	**Inuvik**	**74.58**	**22**	P		**P**		**19 23 09.5**	**-0.1**
	comp=Z,22nm,0.8s,baz=298,slow=5.2,SNR=36								
INK	**Inuvik**	**74.58**	**22**		*e*P	**P**		**19 23 08.9**	**-0.7**
INK					pmax	pmax			
	comp=Z,22nm,0.8s								
INK	**Inuvik**	**74.58**	**22**		*e*P	**P**		**19 23 08.9**	**-0.7**
	comp=Z,22nm,0.8s								
HYT	**Haines Junctio**	**75.82**	**30**		*e*P	**P**		**19 23 17.8**	**+0.7**
	comp=Z,20nm,1.2s								
LVV	**L'vov**	**77.03**	**319**		*e*P	P		19 23 13.3	-11
BURAR	**Bucovina Array**	**77.03**	**316**	⇑	*i* P	**P**		**19 23 24.8**	**+0.6**
MLR	**Muntele Rosu**	**77.27**	**314**	⇑	*i* P	**P**		**19 23 26.7**	**+1.1**
SIT	**Sitka**	**78.31**	**33**		*e*P	**P**		**19 23 31.6**	**+0.7**
SIT	**Sitka**	**78.31**	**33**		*e*P	**P**		**19 23 31.6**	**+0.7**
KOLS	**Kolonicke sedl**	**78.41**	**318**		*e*P	**P**		**19 23 34.5**	**+2.8**
KOLS					pmax	pmax			
	comp=Z,5.0nm,1.4s								
KOLS	**Kolonicke sedl**	**78.41**	**318**		*e*P	**P**		**19 23 34.5**	**+2.8**
NB2	**NORSAR Subarra**	**79.19**	**332**	P		**P**		**19 23 35.6**	**-0.3**
	comp=Z,4.7nm,0.6s,baz=59,slow=5.6								
NOA	**NORSAR Array B**	**79.19**	**332**	P		**P**		**19 23 35.5**	**-0.3**
	comp=Z,4.1nm,0.6s,baz=60,slow=5.4,SNR=21								
NOA					LR	LR		20 01 58.1	
	comp=Z,177nm,18.1s,baz=70,slow=38								
RES	**Resolute Bay**	**80.01**	**9**		*e*P	**P**		**19 23 39.7**	**-0.2**
RES	**Resolute Bay**	**80.01**	**9**		*e*P	**P**		**19 23 39.7**	**-0.2**
VTS	**Vitosha**	**80.14**	**312**	⇓	*i* P	**P**		**19 23 42.5**	**+1.0**
DLBC	**Dease Lake**	**80.27**	**30**		*e*P	**P**		**19 23 42.4**	**+0.7**
	comp=Z,21nm,1.4s								
OKC	**Ostrava-Krasne**	**80.55**	**320**		*e*P	**P**		**19 23 43.8**	**+0.5**
OKC	**Ostrava-Krasne**	**80.55**	**320**		*e*P	**P**		**19 23 43.8**	**+0.5**
URZ	**Urewera**	**80.57**	**138**	LR		LR		19 58 19.3	
	comp=Z,102nm,18.4s,baz=308,slow=35								
RPZ	**Rata Peaks**	**80.74**	**146**	LR		LR		19 58 39.4	
	comp=Z,58nm,18.4s,baz=326,slow=35								
MORC	**Moravsky Berou**	**80.93**	**320**	P		**P**		**19 23 44.7**	**-0.8**
MORC					pmax	pmax			
	comp=Z,22nm,1.2s								
MORC	**Moravsky Berou**	**80.93**	**320**	P		**P**		**19 23 44.7**	**-0.8**
	comp=Z,22nm,1.2s								
KRLC	**Kraliky**	**81.25**	**321**		*e*P	**P**		**19 23 48.0**	**+0.8**
KRLC	**Kraliky**	**81.25**	**321**		*e*P	**P**		**19 23 48.0**	**+0.8**
DPC	**Dobruska-Polom**	**81.40**	**321**		*e*P	**P**		**19 23 49.0**	**+1.1**
DPC					*e*pP	**pP**		**19 23 56.4**	**+2.3**
DPC	**Dobruska-Polom**	**81.40**	**321**		*e*P	**P**		**19 23 49.0**	**+1.1**
DPC					*e*			19 23 56.4	
BRG	**Berggiesshubel**	**82.53**	**322**		*e*P	**P**		**19 23 54.4**	**+0.6**
	comp=Z,4.7nm,1.1s								
BRG	**Berggiesshubel**	**82.53**	**322**		*e*P	**P**		**19 23 54.4**	**+0.6**
BRG					pmax	pmax			
	comp=Z,5.0nm,1.1s								
PRU	**Pruhonice**	**82.59**	**321**		*e*P	**P**		**19 23 55.0**	**+0.9**
PRU	**Pruhonice**	**82.59**	**321**		*e*P	**P**		**19 23 55.0**	**+0.9**
CLL	**Collm**	**82.86**	**323**	⇓	*i* P	**P**		**19 23 56.0**	**+0.5**
CLL					pmax	pmax			
	comp=Z,6.0nm,0.9s								
CLL	**Collm**	**82.86**	**323**	⇓	*i* P	**P**		**19 23 56.0**	**+0.5**
	comp=Z,6.0nm,0.9s								
CLL					*i* PcP	**PcP**		**19 24 00.8**	**+0.5**
CLL					LmV			21 12 00.0	
	comp=Z,300nm,19.5s								
KHC	**Kasperske Hory**	**83.54**	**321**		*e*P	**P**		**19 24 00.1**	**+1.0**
KHC					*e*pP	**pP**		**19 24 06.4**	**+1.1**
KHC					*ex*	x		19 24 16.8	
KHC	**Kasperske Hory**	**83.54**	**321**		*e*P	**P**		**19 24 00.1**	**+1.0**
KHC					*e*			19 24 06.4	
KHC					*e*			19 24 16.8	
GERES	**GERESS Array B**	**83.60**	**321**	P		**P**		**19 23 60.0**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=64,slow=6.1,SNR=13								
GERES	**GERESS Array B**	**83.60**	**321**	P		**P**		**19 24 00.0**	**+0.5**
SUMG	**Summit**	**83.75**	**354**		*e*P	**P**		**19 24 00.1**	**-0.1**
SUMG					pmax	pmax			
	comp=Z,12nm,0.8s								
SUMG	**Summit**	**83.75**	**354**		*e*P	**P**		**19 24 00.1**	**-0.1**
	comp=Z,12nm,0.8s								
YKA	**Yellowknife Ar**	**84.32**	**23**	P		**P**		**19 24 02.6**	**-0.2**
	comp=Z,9.5nm,0.6s,baz=311,slow=4.8,SNR=41								
STW	**Striped Peak**	**88.83**	**37**	P		**P**		**19 24 26.4**	**+1.3**
NLWA	**Neilton Lookou**	**89.14**	**38**		*e*P	**P**		**19 24 27.7**	**+1.0**
	comp=Z,63nm,1.8s								
CMW	**Cultus Mountai**	**89.53**	**36**	P		**P**		**19 24 29.8**	**+1.3**
JCW	**Jim Creek**	**89.76**	**36**	P		**P**		**19 24 30.6**	**+1.1**
RPW	**Rockport**	**89.84**	**36**	P		**P**		**19 24 30.3**	**+0.4**
TDL	**Tradedollar La**	**90.66**	**38**	P		**P**		**19 24 34.9**	**+1.0**
LON	**Longmire**	**90.66**	**38**		*e*P	**P**		**19 24 33.5**	**-0.3**
LON					pmax	pmax			
	comp=Z,17nm,1.3s								
LON	**Longmire**	**90.66**	**38**		*e*P	**P**		**19 24 33.5**	**-0.3**
	comp=Z,17nm,1.3s								
LVP	**Lakeview Peak**	**90.71**	**38**	P		**P**		**19 24 35.0**	**+0.9**
WPW	**White Pass**	**90.84**	**38**	P		**P**		**19 24 35.7**	**+1.0**
GLK	**Glacier Lake**	**90.88**	**38**	P		**P**		**19 24 35.7**	**+0.8**
EDM	**Edmonton**	**90.93**	**29**		*e*P	**P**		**19 24 35.4**	**+0.5**
EDM					pmax	pmax			
	comp=Z,35nm,0.8s								
EDM	**Edmonton**	**90.93**	**29**		*e*P	**P**		**19 24 35.4**	**+0.5**
	comp=Z,35nm,0.8s								
**SAW

comp=E,2.2nm,0.3s,baz=180,slow=15,SNR=8.5

AAK					S		Sn	19 18 15.9	+47
	comp=E,0.9nm,0.3s,baz=312,slow=24,SNR=28								
KBK	**Karagaybulak**	**6.67**	**24**	P			**Pn**	**19 16 19.1**	**+2.5**
	SNR=8.0								
ULHL	**Ulahol**	**6.82**	**33**	P			**Pn**	**19 16 19.6**	**+1.1**
	SNR=7.4								
TKM2	**Tokmak 2**	**7.12**	**27**	P			**Pn**	**19 16 24.2**	**+1.6**
	SNR=16								
TKM2	**Tokmak 2**	**7.12**	**27**	⇓P			**Pn**	**19 16 23.9**	**+1.3**
	comp=E,8.2nm,0.5s								
TKM2				⇑S			**Sn**	**19 17 43.9**	**+0.7**
	comp=E,3.4nm,0.8s								
SMLA	**Simla**	**7.39**	**136**	*e*P			**Pn**	**19 16 27.7**	**+1.8**
SMLA				*e*S			**Sn**	**19 17 46.3**	**-3.0**
SMLA					AML	AML		19 17 49.8	
	comp=N,21nm,0.3s								
SMLA					AML	AML		19 17 51.6	
	comp=E,29nm,0.1s								
GEYT	**Alibeck**	**10.52**	**281**	P		P		19 17 18.4	+3.8
	comp=E,0.1nm,0.3s,baz=101,slow=8.2,SNR=2.8								
GEYT					S		**Sn**	**19 19 03.4**	**-0.6**
	comp=E,0.6nm,0.3s,baz=91,slow=13,SNR=4.3								
KURBB	**Kurchatov Arra**	**14.94**	**18**	P			**Pn**	**19 18 01.7**	**-0.7**
	comp=E,0.1nm,0.3s,baz=203,slow=11,SNR=8.2								
AB31	**Akbulak array**	**15.05**	**330**	⇑P			**Pn**	**19 18 03.9**	**+0.1**
	comp=E,0.4nm,0.5s,baz=137,slow=11,SNR=10								
AKTO	**Aktyubinsk**	**16.75**	**330**	⇓P			**Pn**	**19 18 24.7**	**+0.3**
	comp=E,2.0nm,0.6s								
AKTO	**Aktyubinsk**	**16.75**	**330**	P			**Pn**	**19 18 25.4**	**+1.0**
	comp=E,0.4nm,0.3s,baz=136,slow=10,SNR=10								
ZALV	**Zalesovo Beam**	**19.72**	**24**	P			**P**	**19 18 53.5**	**-2.1**
	comp=E,0.3nm,0.3s,baz=222,slow=12,SNR=8.4								
AKASG	**Malin Array Be**	**33.00**	**309**	P			**P**	**19 20 58.4**	**+0.7**
	comp=E,0.9nm,0.5s,baz=80,slow=7.6,SNR=2.9								
FINES	**FINESS Array B**	**37.47**	**326**	P			**P**	**19 21 36.4**	**+0.7**
	comp=E,0.6nm,0.7s,baz=123,slow=10,SNR=6.2								
ARCES	**ARCESS Array B**	**41.09**	**337**	P			**P**	**19 22 05.7**	**+0.2**
	comp=E,1.1nm,1.0s,baz=113,slow=9.3,SNR=6.5								
NB2	**NORSAR Subarra**	**44.38**	**323**	P			**P**	**19 22 32.4**	**+0.2**
	comp=Z,0.1nm,0.6s,baz=96,slow=8.6								
NOA	**NORSAR Array B**	**44.38**	**323**	P			**P**	**19 22 32.1**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=96,slow=8.0,SNR=4.2								
TORD	**Torodi Ar. Bea**	**65.90**	**269**	P			**P**	**19 25 04.7**	**-2.0**
	comp=Z,0.5nm,0.6s,baz=47,slow=5.8,SNR=8.6								

GUC 02 19:27:59.9±0.8, 37°41S×73°23W, h35km±6km, ML4.3, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m	s	ISC
U14B	**Concepcin**	**0.56**	**12**	⇓*i*P		Pn	19 28 11.4		0.0
U14B				*i* S		Sn	19 28 19.3		-0.1
U14B					AML	AML	19 28 23.1		
	comp=N,39μm,0.4s								
CCSP	**San Pedro de C**	**0.57**	**10**	*e*P		Pn	19 28 11.6		+0.1
CCSP				*i* S		Sn	19 28 19.7		0.0
LNCH	**Linares**	**2.03**	**41**	⇓*i*P		Pn	19 28 34.2		+2.5
LNCH				*i* S		Sn	19 28 60.0		+4.2
U65B	**HualaæØ**	**2.70**	**26**	*e*P		Pn	19 28 42.1		+1.3
U73B	**San Pedro**	**3.78**	**23**	*e*P		Pn	19 28 55.4		-0.2
U73B					AML	AML	19 30 00.0		
	comp=E,282nm,0.7s								

*IDC **02** 19:33:38.1±1.5, 53°25N×163°98W, h0km, mb3.7/14, mb1 3.9/15, mb1mx3.7/31, mbtmp3.7/15, ML3.6/1, Error ellipse: s-maj=38.8km s-min=18.0km az=165.0*

*NEIC **02** 19:33:42.0, 53°44N×163°45W, h26km, ML3.5(AEIC), After AEIC.*

ISC 02 19:33:39.6±2.1, 53°37N±0°07×163°65W±0°06, h9km±12km, n50, σ1§19/47, mb3.9/13, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m	s	ISC
WESE	**West Dahl East**	**1.24**	**334**	P		**Pb**	**19 34 03.1**		**-0.1**
BRPK	**Brown Peak**	**1.28**	**358**	P		**Pn**	**19 34 02.7**		**-1.0**
WESP	**Westdahl Peak**	**1.30**	**331**	P		**Pb**	**19 34 04.2**		**0.0**
WESP				S		**Sg**	**19 34 21.2**		**-0.1**
SSLS	**Shishaldin Sou**	**1.37**	**351**	P		**Pn**	**19 34 04.4**		**-0.5**
SSLS				S		**Sn**	**19 34 22.1**		**-1.0**
SSLW	**Shishaldin Wes**	**1.44**	**349**	P		**Pn**	**19 34 05.3**		**-0.5**
SSLN	**Shishaldin Nor**	**1.46**	**352**	P		**Pn**	**19 34 06.2**		**0.0**
ISNN	**Isanotski Nort**	**1.47**	**357**	P		**Pn**	**19 34 06.3**		**0.0**
AKUT	**Akutan**	**1.48**	**302**	P		**Pg**	**19 34 07.7**		**-0.2**
AKUT				S		**Sg**	**19 34 27.9**		**+0.9**
FALS	**False Pass**	**1.50**	**5**	P		**Pn**	**19 34 05.7**		**-0.9**
ZRO	**Akutan Zero**	**1.56**	**299**	P		**Pb**	**19 34 09.1**		**+0.4**
HSB	**Akutan Spr's B**	**1.58**	**302**	P		**Pg**	**19 34 09.4**		**-0.4**
AKGG	**Akutan Green G**	**1.62**	**302**	P		**Pb**	**19 34 09.9**		**+0.3**
AKRB	**Akutan Reef Bi**	**1.63**	**299**	P		**Pb**	**19 34 10.1**		**+0.3**
UNV	**Unalaska Valle**	**1.77**	**287**	P		**Pb**	**19 34 11.7**		**-0.4**
UNV				S		**Sg**	**19 34 36.0**		**-0.3**
DRIA	**Deer Island**	**1.80**	**26**	P		**Pn**	**19 34 09.2**		**-1.6**
BALA	**Baldy Mountain**	**1.90**	**15**	P		**Pn**	**19 34 12.6**		**+0.4**
DT1	**Dutton Round H**	**1.92**	**24**	P		**Pn**	**19 34 10.8**		**-1.7**
MSW	**Makushin Switc**	**1.95**	**288**	P		**Pb**	**19 34 15.1**		**0.0**
DTNA	**Dutton South F**	**1.97**	**24**	P		**Pn**	**19 34 11.6**		**-1.4**
MCIR	**Makushin Cirqu**	**2.02**	**288**	P		**Pb**	**19 34 16.1**		**-0.4**
PN7A	**Pavlof North-7**	**2.29**	**24**	P		**Pn**	**19 34 17.8**		**+0.3**
OKFG	**Magazine Ridge**	**2.55**	**273**	P		**Pb**	**19 34 23.8**		**-1.7**
OKFG				S		**Sb**	**19 34 55.7**		**-1.3**
OKTU	**Okmok Mt. Tuli**	**2.63**	**272**	P		**Pb**	**19 34 25.7**		**-1.2**
SDPT	**Sand Point**	**2.72**	**42**	P		**Pn**	**19 34 22.6**		**-0.8**
OKSP	**Okmok Steeple**	**2.79**	**270**	P		**Pb**	**19 34 27.4**		**-2.1**
NIKH	**Nikolski High**	**3.16**	**265**	P		**Pn**	**19 34 31.9**		**+2.5**
VNHG	**Veniaminof 1**	**3.86**	**40**	P		**Pn**	**19 34 40.0**		**+0.8**
SPIA	**Saint Paul Isl**	**5.37**	**318**	P		**Pn**	**19 35 02.5**		**+2.7**
GSTR	**Great Sitkin T**	**7.64**	**265**	*e*Pn		Pn	19 35 35.1		+4.0
	25nm,0.2s								
ILAR	**Eielson Array**	**14.25**	**30**	Pn		**Pn**	**19 37 04.0**		**+2.7**
	0.1nm,0.3s,baz=221,slow=12,SNR=3.5								
INK	**Inuvik**	**20.63**	**32**	P		Pn	19 38 21.4		+0.3
	1.2nm,0.6s,baz=227,slow=10,SNR=3.3								
PETK	**Petropavlovsk-**	**22.95**	**285**	P		**P**	**19 38 42.0**		**-1.8**
	1.9nm,0.5s,baz=85,slow=12,SNR=9.8								
SEY	**Seymchan**	**24.61**	**310**	P		**P**	**19 38 59.0**		**-0.8**
	0.6nm,0.7s,baz=80,slow=12,SNR=3.7								
YKA	**Yellowknife Ar**	**26.95**	**51**	P		**P**	**19 39 23.5**		**+2.6**
	0.3nm,0.4s,baz=273,slow=9.4,SNR=2.8								
H11N2	**WAKE ISLAND Hy**	**40.52**	**225**	T		T	20 24 58.2		
	baz=26,slow=76,SNR=38								
H11N3	**WAKE ISLAND Hy**	**40.52**	**225**	T		T	20 24 58.7		
	baz=26,slow=76,SNR=36								
H11N1	**WAKE ISLAND Hy**	**40.53**	**225**	T		T	20 24 58.4		
	baz=26,slow=76,SNR=27								
H11S1	**WAKE ISLAND Hy**	**41.69**	**225**	T		T	20 26 32.0		
	baz=26,slow=76,SNR=54								
H11S2	**WAKE ISLAND Hy**	**41.70**	**225**	T		T	20 26 29.7		
	baz=26,slow=76,SNR=50								
H11S3	**WAKE ISLAND Hy**	**41.70**	**225**	T		T	20 26 26.9		
	baz=26,slow=76,SNR=49								
KSRS	**Korea Array**	**48.69**	**280**	P		**P**	**19 42 22.8**		**-1.1**
	1.9nm,0.8s,baz=57,slow=6.1,SNR=6.4								
TXAR	**Lajitas Array**	**49.31**	**94**	P		**P**	**19 42 29.6**		**+0.7**
	0.2nm,0.5s,baz=302,slow=5.7,SNR=3.4								
SONM	**Songino Array**	**53.71**	**303**	P		**P**	**19 43 00.7**		**-1.0**
	1.3nm,0.8s,baz=41,slow=7.7,SNR=9.2								
ZALV	**Zalesovo Beam**	**58.96**	**320**	P		**P**	**19 43 37.8**		**-1.0**
	0.6nm,0.7s,baz=27,slow=5.0,SNR=3.6								
FINES	**FINESS Array B**	**65.28**	**355**	P		**P**	**19 44 20.3**		**-0.8**
	1.7nm,1.0s,baz=17,slow=10,SNR=3.6								
NOA	**NORSAR Array B**	**65.87**	**3**	P		**P**	**19 44 25.1**		**+0.1**
	1.1nm,0.9s,baz=357,slow=6.5,SNR=2.9								
GERES	**GERESS Array B**	**78.14**	**2**	P		**P**	**19 45 39.2**		**+0.4**
	0.1nm,0.3s,baz=347,slow=4.0,SNR=4.0								
CMAR	**Chiang Mai Arr**	**79.71**	**287**	P		**P**	**19 45 48.3**		**+0.5**
	1.2nm,0.9s,baz=26,slow=5.8,SNR=6.8								
GEYT	**Alibeck**	**82.15**	**328**	P		**P**	**19 46 01.3**		**+0.7**
	0.8nm,0.5s,baz=318,slow=5.8,SNR=3.1								
BRTR	**Keskin Array B**	**86.08**	**347**	P		**P**	**19 46 20.8**		**+0.1**
	0.7nm,0.7s,baz=51,slow=4.0,SNR=4.1								

*ISCJB **02** 19:40:09.4±0.5, 20°64S±0°09×175°2W±0°1, h10km, mb4.2/16, Error ellipse: s-maj=18.3km s-min=9.7km az=31.1*

*IDC **02** 19:40:09.5±0.8, 20°56S×175°22W, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.1/24, mbtmp4.2/10, ML4.8/1, Error ellipse: s-maj=30.6km s-min=18.0km az=129.0*

*NEIC **02** 19:40:10.6±0.4, 20°73S×175°15W, h10km, mb4.4/9, Error ellipse: s-maj=17.3km s-min=8.8km az=120.0*

ISC 02 19:40:10.8±0.6, 20°70S±0°09×175°1W±0°1, h10km, n31, σ1§15/30, mb4.2/16, Tonga Islands

2010 JUL

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m	s	ISC
MSVF	**Nonsavu**	**7.11**	**293**	Pn		Pn	19 42 01.5		+6.5
	47nm,0.9s								
AFI	**Afiamalu**	**7.46**	**26**	*e*Pn		**Pn**	**19 41 58.7**		**-1.2**
AFI				*e*Sn		Sn	19 43 11.5		-13
RAO	**Raoul Island**	**8.89**	**196**	Pn		Pn	19 42 15.2		-4.1
RAO				*e*Sn		**Sn**	**19 43 57.0**		**-2.6**
RAR	**Rarotonga**	**14.34**	**95**	*e*Pn		Pn	19 43 25.3		-8.6
	0.2nm,1.0s								
DZM	**Mont Dzumac**	**17.24**	**262**	P		P	19 44 19.0		+5.6
	0.7nm,0.3s,baz=271,slow=24,SNR=9.5								
DZM	**Mont Dzumac**	**17.24**	**262**	Pn		**P**	**19 44 15.7**		**+2.3**
	14nm,0.9s								
URZ	**Urewera**	**18.75**	**199**	P		**Pn**	**19 44 31.2**		**+0.9**
	2.7nm,0.3s,baz=10,slow=1.6,SNR=20								
URZ				S		Sn	19 47 44.4		-16
	1.0nm,0.3s,baz=346,slow=19,SNR=5.2								
URZ	**Urewera**	**18.75**	**199**	*e*Pn		**Pn**	**19 44 30.1**		**-0.2**
	8.7nm,0.5s								
URZ				S		Sn	19 47 44.4		-16
KHZ	**Kahutara**	**23.67**	**201**	*e*Pn		**P**	**19 45 20.9**		**-1.5**
	11nm,0.4s								
RPZ	**Rata Peaks**	**25.69**	**204**	P		**P**	**19 45 42.2**		**+1.2**
	6.3nm,0.3s,baz=107,slow=0.4,SNR=11								
RPZ	**Rata Peaks**	**25.69**	**204**	P		**P**	**19 45 42.2**		**+1.2**
RPZ				*e*Pn		**P**	**19 45 42.3**		**+1.2**
CTA	**Charters Tower**	**36.16**	**264**	P		**P**	**19 47 14.2**		**+0.5**
	2.5nm,0.7s,baz=85,slow=11,SNR=3.6								
CTAO	**Charters Tower**	**36.16**	**264**	P		**P**	**19 47 12.4**		**-1.3**
STKA	**Stephens Creek**	**40.15**	**245**	P		**P**	**19 47 46.3**		**-0.8**
	1.0nm,0.4s,baz=91,slow=13,SNR=5.9								
ASAR	**Alice Springs**	**47.11**	**257**	P		**P**	**19 48 43.2**		**-0.2**
	0.5nm,0.3s,baz=95,slow=7.8,SNR=17								
ASAR					PcP	**PcP**	**19 50 15.2**		**-0.1**
	0.8nm,0.5s,baz=111,slow=3.8,SNR=7.4								
WRAB	**Tennant Creek**	**47.24**	**262**	*e*P		**P**	**19 48 44.2**		**-0.3**
WRA	**Warramunga Arr**	**47.25**	**262**	P		**P**	**19 48 44.0**		**-0.6**
	0.6nm,0.4s,baz=94,slow=8.2,SNR=6.2								
WRA					PcP	**PcP**	**19 50 15.9**		**+0.1**
	0.5nm,0.5s,baz=100,slow=3.2,SNR=3.1								
SBA	**Scott Base**	**57.87**	**184**	*e*P		**P**	**19 50 04.5**		**+2.2**
	4.3nm,0.9s								
VNDA	**Vanda**	**57.97**	**186**	P		**P**	**19 50 04.2**		**+1.2**
	1.0nm,0.7s,baz=354,slow=7.2,SNR=7.1								
QSPA	**South Pole Qui**	**69.37**	**180**	*e*P		**P**	**19 51 19.0**		**+0.3**
	3.7nm,0.8s								
PETK	**Petropavlovsk-**	**77.19**	**344**	P		**P**	**19 52 04.3**		**-0.3**
	3.4nm,0.7s,baz=140,slow=9.4,SNR=4.4								
YBH	**Yreka Blue Hor**	**78.78**	**37**	P		**P**	**19 52 14.2**		**+0.3**
	2.0nm,0.9s,baz=202,slow=5.4,SNR=3.9								
NVAR	**Mina Array Bea**	**79.33**	**42**	P		**P**	**19 52 17.6**		**+0.5**
	1.9nm,0.7s,baz=224,slow=8.1,SNR=14								
MAW	**Mawson**	**82.28**	**199**	P		**P**	**19 52 31.6**		**-0.5**
	0.3nm,0.5s								
BMO	**Blue Mountains**	**83.81**	**37**	P		P	19 52 34.5		-6.0
	1.6nm,0.8s								
ANMO	**Albuquerque**	**85.43**	**50**	P		**P**	**19 52 48.5**		**-0.5**
	2.3nm,0.9s								
MCK	**McKinley**	**86.61**	**11**	P		**P**	**19 52 54.0**		**+0.1**
BW06	**Boulder Array**	**87.27**	**42**	P		**P**	**19 52 59.6**		**+1.7**
	4.5nm,0.5s								
WALA	**Waterton Lakes**	**88.16**	**35**	P		**P**	**19 53 02.6**		**+0.6**
ARCES	**ARCESS Array B**	**129.58**	**351**	PKP		**PKPdf**	**19 59 18.9**		**-0.5**
	1.7nm,1.0s,baz=72,slow=2.9,SNR=4.8								
GERES	**GERESS Array B**	**151.04**	**348**	PKPbc		**PKPbc**	**20 00 03.1**		**-1.0**
	0.1nm,0.4s,baz=46,slow=2.8,SNR=3.8								

MAN 02 19:50:25, 9°33N×126°13E, h55km, mb4.6, ML3.4, MS3.4, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m	s	ISC
BUTP	**Butuan**	**0.61**	**234**	*e*P		Pn	19 50 39.6		+1.6
BUTP				*e*S		Sn	19 50 51.0		+3.7
MSLP	**Maasin**	**1.48**	**303**	*e*P		Pn	19 50 49.0		-0.4
MSLP				*e*S		Sn	19 51 09.0		+1.4
BUKP	**Musuan**	**1.79**	**216**	*e*P		Pn	19 50 43.7		-10

MEX 02 20:02:42.4±0.8, 17°37N×101°07W, h15km±4km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m	s	ISC
ZIIG	**Zihuatanejo**	**0.44**	**302**	*e*P		Pg	20 02 49.7		-1.6
ZIIG				*i* S		Sg	20 02 56.2		-1.1
CAIG	**El Cayaco**	**0.83**	**113**	*e*P		Pg	20 02 55.6		-2.9
CAIG				*e*S		Sg	20 03 06.7		-2.8
ARIG	**Puente Sto Nin**	**1.14**	**37**	*e*P		Pb	20 02 59.6		-4.2
ARIG				*i* S		Sb	20 03 13.8		-4.7
ACX	**Acapulco**	**1.26**	**113**	*e*P		Pn	20 02 59.8		-5.8
ACX				*e*S		Sb	20 03 15.1		-7.0
PLIG	**Platanillo**	**1.81**	**56**	*e*P		Pn	20 03 10.4		-2.7
PLIG				*e*S		Sn	20 03 31.2		-4.7
TLIG	**Tlapa**	**2.40**	**85**	*e*P		Pn	20 03 18.9		-2.4
TLIG				*e*S		Sn	20 03 46.2		-4.4

*IDC **02** 20:07:12.8±0.5, 11°80N×143°19E, h0km, mb4.4/24, mb1 4.6/26, mb1mx4.5/40, mbtmp4.4/26, ML3.8/2, MS4.3/26, Ms1 4.3/26, ms1mx4.3/30, Error ellipse: s-maj=17.1km s-min=11.5km az=90.0*

*ISCJB **02** 20:07:14.9±2.2, 11°79N±0°04×143°13E±0°04, h17km±15km, mb4.8/72, MS4.2/26, Error ellipse: s-maj=7.5km s-min=5.6km az=150.4*

*GCMT **02** 20:07:16.0±0.2, 11°58N×143°09E, h12km, MW5.0/77, Moment Tensor Solution. s52,c78; s77,c143; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.23±.11; $M_{\theta\theta}$-4.21±.09; $M_{\phi\phi}$-0.01±.12; $M_{r\theta}$0.50±.27; $M_{\theta\phi}$-1.94±.09; $M_{\phi r}$-0.58±.32; Best double couple: M=4.68000×10^{16} NP1:ϕ_s80.00000°,δ48.00000°,λ105.00000°. NP2: ϕ_s237.00000°,δ45.00000°,λ74.00000°. Principal axes: T 4.3820, Plg79.0000°, Azm61.0000°; N 0.5980, Plg11.0000°, Azm249.0000°; P -4.9770, Plg2.0000°, Azm159.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **02** 20:07:16.0±3.7, 11°78N×143°11E, h17km±23km, mb5.2/31 Error ellipse: s-maj=7.7km s-min=5.5km az=116.0*

*MOS **02** 20:07:23.2±1.3, 11°76N×142°98E, h92km, mb5.1/18, Error ellipse: s-maj=15.3km s-min=8.1km az=99.8*

*BJI **02** 20:07:35.9, 11°91N×143°05E, h204km, mb4.4/33, mB4.8/34*

ISC 02 20:07:19.4±1.2, 11°77N±0°06×143°21E±0°07, h44km±11km, n202, σ1§42/199, mb5.0/83, MS4.3/26, 1C-1D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m	s	ISC
GUMO	**Guam**	**2.43**	**42**	Pn		**Pn**	**20 07 55.3**		**-1.4**
	115nm,0.3s,baz=212,slow=4.2,SNR=54								
GUMO				Sn		**Sn**	**20 08 25.2**		**0.0**
	128nm,0.3s,baz=23,slow=22,SNR=8.0								
JAY	**Jayapura**	**14.40**	**190**	LR		LR	20 16 05.4		
	comp=Z,3μm,18.2s,baz=22,slow=37								
JCJ	**Chichijima**	**15.28**	**357**	LR		LR	20 16 16.2		
	comp=Z,766nm,18.8s,baz=146,slow=36								
SIJI	**Sorong**	**17.27**	**224**	P		**Pn**	**20 11 17.2**		**-0.4**
	0.1nm,0.3s,baz=29,slow=10,SNR=4.9								
SIJI					LR	LR	20 17 41.2		
	comp=Z,2μm,18.7s,baz=31,slow=36								
FAKI	**Fak Fak**	**18.21**	**217**	*e*P		**Pn**	**20 11 29.9**		**+0.8**
PMG	**Port Moresby**	**21.40**	**169**	*e*P		**P**	**20 12 01.4**		**-2.2**
PMG					pmax	pmax			
	comp=Z,83nm,1.4s								
TGY	**Tagaytay City**	**21.83**	**279**	LR		LR	20 22 34.8		
	comp=Z,35nm,18.6s,baz=88,slow=42								
LUWI	**Luwuk**	**23.96**	**239**	*e*P		**P**	**20 12 28.3**		**-1.6**
	comp=Z,179nm,1.3s								
H11N1	**WAKE ISLAND Hy**	**24.10**	**68**	T		T	20 37 38.1		
	baz=255,slow=75,SNR=5.4								
H11N2	**WAKE ISLAND Hy**	**24.11**	**68**	T		T	20 37 34.3		
	baz=255,slow=75,SNR=8.0								
H11N3	**WAKE ISLAND Hy**	**24.12**	**68**	T		T	20 37 38.8		
	baz=255,slow=75,SNR=5.6								
SSLB	**Suanglung**	**24.29**	**302**	*e*P		**P**	**20 12 33.6**		**+0.7**
	comp=Z,101nm,1.8s								
MJAR	**Matsushiro Arr**	**25.08**	**350**	P		**P**	**20 12 37.8**		**-2.2**
	comp=Z,1.9nm,0.5s,baz=107,slow=12,SNR=12								
MJAR					LR	LR	20 21 31.0		
	comp=Z,654nm,19.5s,baz=180,slow=34								
MAJO	**Matsushiro**	**25.08**	**350**	*e*P		**P**	**20 12 38.3**		**-1.7**
MAJO					pmax	pmax			
	comp=Z,43nm,1.7s								
MAJO	**Matsushiro**	**25.08**	**350**	*e*P		**P**	**20 12 38.2**		**-1.7**
	comp=Z,42nm,1.7s								
MAT	**Matsushiro**	**25.08**	**350**	P		**P**	**20 12 37.5**		**-2.5**
MAT				S		**S**	**20 16 57.0**		**-4.5**
SSE	**Sheshan**	**28.01**	**317**	P		**P**	**20 13 07.1**		**+0.7**
SSE				S		S	20 17 38.2		-10
SSE					PMZ				
	comp=Z,34nm,0.7s								
SSE					PMZ				
	comp=Z,69nm,10.4s								
SSE					LN				
	comp=Z,350nm,15.7s								
SSE					LE				
	comp=Z,280nm,15.7s								
SSE					LZ				
	comp=Z,590nm,18.4s								
KAPI	**Kappang**	**28.68**	**236**	P		**P**	**20 13 11.1**		**-1.4**
	comp=Z,4.8nm,0.5s,baz=58,slow=8.5,SNR=3.2								
KAPI					LR	LR	20 24 05.0		
	comp=Z,259nm,18.8s,baz=71,slow=35								
KSRS	**Korea Array**	**29.02**	**334**	P		**P**	**20 13 13.8**		**-1.6**
	comp=Z,0.8nm,0.7s,baz=153,slow=9.8,SNR=3.5								
KSRS					LR	LR	20 24 07.9		
	comp=Z,284nm,19.4s,baz=200,slow=35								
KSAR	**Wonju Array Be**	**29.03**	**334**	P		**P**	**20 13 13.8**		**-1.6**
KSAR	**Wonju Array Be**	**29.03**	**334**	P		**P**	**20 13 13.8**		**-1.6**
NJ2	**Nanjing**	**30.17**	**316**	*e*P		**P**	**20 13 27.5**		**+1.9**
NJ2				S		**S**	**20 18 18.0**		**-3.8**
NJ2				sS		sS	20 19 21.0		+40
NJ2					PMZ				
	comp=Z,20nm,0.6s								
NJ2					LN				
	comp=Z,840nm,15.1s								
NJ2					LE				
	comp=Z,1μm,22.7s								
NJ2					LZ				
	comp=Z,10μm,22.4s								
YUK	**Yuzh-Kuril'sk**	**32.24**	**4**	P		**P**	**20 13 45.6**		**+2.0**
YUK				S		S	20 18 43.5		-10
WRAB	**Tennant Creek**	**32.68**	**196**	*e*P		**P**	**20 13 47.3**		**-0.5**
WRAB					pmax	pmax			
	comp=Z,17nm,1.0s								
WRAB	**Tennant Creek**	**32.68**	**196**	*e*P		**P**	**20 13 47.3**		**-0.5**
	comp=Z,17nm,1.0s								
WRA	**Warramunga Arr**	**32.70**	**196**	P		**P**	**20 13 47.0**		**-0.9**
	comp=Z,10nm,0.8s,baz=20,slow=9.8,SNR=24								
WRA					LR	LR	20 27 54.6		
	comp=Z,1μm,18.5s,baz=40,slow=38								
KUR	**Kuril'sk**	**33.59**	**6**	P		P	20 14 03.5		+8.1
KUR				*e*S		**S**	**20 19 14.3**		**-0.5**
KUR					MLR	MLR			
	comp=Z,46nm,19.0s								
USRK	**Ussuriysk Ar.**	**33.73**	**345**	P		**P**	**20 13 56.5**		**-0.2**
	comp=Z,3.1nm,0.6s,baz=163,slow=8.7,SNR=16								
USRK					LR	LR	20 26 22.5		
	comp=Z,407nm,20.1s,baz=152,slow=34								
YSS	**Yuzh-Sakhalins**	**35.08**	**359**	*i* P		P	20 13 59.9		-8.4
YSS					pmax	pmax			
	comp=Z,11nm,1.7s								
ASAR	**Alice Springs**	**36.37**	**194**	P		**P**	**20 14 19.3**		**-0.4**
	comp=Z,1.4nm,0.6s,baz=17,slow=12,SNR=23								
ASAR					PcP	**PcP**	**20 16 44.2**		**+0.6**
	comp=Z,0.8nm,0.8s,baz=46,slow=4.0,SNR=3.9								
ASAR					LR	LR	20 30 00.2		
	comp=Z,1μm,18.7s,baz=12,slow=38								
BJI	**Beijing**	**36.92**	**324**	P		**P**	**20 14 25.6**		**+1.4**
BJI				sS		sS	20 21 09.5		+44
BJI					PMZ

STKA	**Stephens Creek**	**43.42**	**182**	P		**P**		**20 15 16.5**	**-1.6**
	comp=Z,1.8nm,0.6s,baz=360,slow=7.3,SNR=6.6								
STKA				PcP		**PcP**		**20 17 06.2**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=46,slow=5.2,SNR=3.0								
STKA				LR		LR		20 35 17.5	
	comp=Z,690nm,18.2s,baz=1.7,slow=39								
FORT	**Forrest**	**44.74**	**199**	*e*P		**P**		**20 15 28.9**	**+0.3**
	comp=Z,22nm,0.7s								
BBOO	**Buckleboo**	**44.85**	**189**	*e*P		**P**		**20 15 28.6**	**-0.9**
	comp=Z,11nm,0.8s								
GTA	**Gaotai**	**47.21**	**314**	*e*P		**P**		**20 15 49.1**	**+0.9**
GTA				pP		pP		20 16 30.6	+30
GTA				sP		sP		20 16 52.2	+47
GTA				S		S		20 22 22.3	-16
GTA				sS		sS		20 23 38.0	+39
GTA				SS		ScS		20 25 48.4	+9.3
GTA				PMZ					
	comp=Z,3.0nm,1.0s								
GTA				PMZ					
	comp=Z,83nm,4.8s								
GTA				LN					
	comp=Z,260nm,18.8s								
GTA				LE					
	comp=Z,300nm,17.1s								
GTA				LZ					
	comp=Z,330nm,19.0s								
SONM	**Songino Array**	**47.32**	**327**	P		**P**		**20 15 49.1**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=144,slow=8.2,SNR=16								
SONM				LR		LR		20 36 27.0	
	comp=Z,525nm,18.1s,baz=117,slow=37								
ZAK	**Zakamensk**	**50.48**	**328**	*e*P		**P**		**20 16 13.1**	**0.0**
ZAK				pmax	pmax				
	comp=Z,6.0nm,1.1s								
YAK	**Yakutsk**	**51.13**	**352**	*e*P		**P**		**20 16 16.4**	**-1.3**
YAK				*e*				20 18 22.6	
YAK				*e*PPP	PPP			20 19 19.0	
YAK				*e*S	S			20 23 22.9	-9.4
YAK				pmax	pmax				
	comp=N,7.0nm,1.1s								
YAK				pmax	pmax				
	comp=Z,15nm,1.0s								
YAK				pmax	pmax				
	comp=N,14nm,1.3s								
YAK				pmax	pmax				
	comp=Z,7.0nm,0.8s								
YAK				smax	smax				
	comp=E,30nm,1.8s								
YAK				smax	smax				
	comp=N,29nm,2.6s								
YAK				MLR	MLR				
	comp=N,226nm,19.0s								
YAK				MLR	MLR				
	comp=Z,280nm,17.0s								
LSA	**Lhasa**	**51.41**	**299**	P		**P**		**20 16 21.9**	**+1.0**
WMQ	**Urumqi**	**57.24**	**315**	*e*P		**P**		**20 17 03.2**	**+0.6**
WMQ				pP		PcP		20 17 47.2	-9.5
WMQ				PcP		pP		20 17 57.3	+42
WMQ				sP		sP		20 18 12.4	+52
WMQ				S		S		20 24 40.2	-15
WMQ				ScS		ScS		20 26 28.0	-21
WMQ				PMZ					
	comp=Z,14nm,0.8s								
WMQ				PMZ					
	comp=Z,110nm,5.8s								
WMQ				LN					
	comp=Z,220nm,19.7s								
WMQ				LE					
	comp=Z,270nm,21.6s								
WMQ				LZ					
	comp=Z,370nm,19.7s								
CHLP	**Challavanipeta**	**57.29**	**284**	*e*P		**P**		**20 17 04.0**	**+0.8**
CHLP				IAmb		IAmb		20 17 19.4	
	comp=Z,113nm,2.0s								
BILL	**Bilibino**	**58.22**	**10**	*e*P		**P**		**20 17 08.6**	**-0.4**
BILL	**Bilibino**	**58.22**	**10**	*e*P		**P**		**20 17 08.6**	**-0.4**
PVM	**Polavaram**	**59.67**	**283**	*e*P		**P**		**20 17 21.1**	**+1.2**
PVM				IAmb		IAmb		20 17 23.1	
	comp=Z,9.6nm,0.8s								
ADKI	**Addanki**	**61.36**	**282**	*e*P		**P**		**20 17 32.0**	**+0.6**
ADKI				IAmb		IAmb		20 17 34.7	
	comp=Z,7.3nm,0.7s								
MKAR	**Makanchi Array**	**61.69**	**317**	*e*P		**P**		**20 17 34.3**	**+1.1**
MKAR	**Makanchi Array**	**61.69**	**317**	*e*P		**P**		**20 17 34.2**	**+1.1**
SKHT	**Srikalahasti**	**61.81**	**279**	*e*P		**P**		**20 17 36.0**	**+1.6**
SKHT				IAmb		IAmb		20 17 36.8	
	comp=Z,16nm,0.9s								
NJS	**Nagarjunasagar**	**61.93**	**283**	*e*P		**P**		**20 17 34.9**	**-0.4**
NJS				IAmb		IAmb		20 17 37.2	
	comp=Z,10.0nm,0.8s								
ZALV	**Zalesovo Beam**	**62.17**	**325**	P		**P**		**20 17 35.3**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=114,slow=6.3,SNR=8.4								
ZALV				LR		LR		20 45 37.1	
	comp=Z,202nm,18.6s,baz=70,slow=37								
RCLA	**Racherla**	**62.36**	**281**	*e*P		**P**		**20 17 38.6**	**+0.4**
RCLA				IAmb		IAmb		20 17 43.1	
	comp=Z,126nm,2.4s								
SRLM	**Srisailam**	**62.37**	**282**	*e*P		**P**		**20 17 38.9**	**+0.6**
SRLM				IAmb		IAmb		20 17 39.5	
	comp=Z,16nm,0.8s								
HYB	**Hyderabad**	**62.58**	**284**	*i* P		**P**		**20 17 40.0**	**+0.3**
HYBB	**Hyderabad (bro**	**62.58**	**284**	*e*P		**P**		**20 17 38.8**	**-0.9**
HYBB				IAmb		IAmb		20 17 50.7	
	comp=Z,38nm,1.5s								
SRSP	**Sriramsagar**	**62.67**	**285**	*e*P		**P**		**20 17 38.0**	**-2.3**
SRSP				IAmb		IAmb		20 17 39.5	
	comp=Z,74nm,2.1s								
NVS	**Novosibirsk**	**63.34**	**326** ⇑	*i*P		**P**		**20 17 44.2**	**+0.2**
NVS				*e*				20 18 06.7	
NVS				pmax	pmax				
	comp=E,18nm,1.9s								
NVS				pmax	pmax				
	comp=Z,29nm,1.9s								
NVS				pmax	pmax				
	comp=N,7.0nm,1.7s								
URV	**Uravakonda**	**64.04**	**281**	*e*P		**P**		**20 17 49.2**	**-0.1**
URV				IAmb		IAmb		20 17 55.2	
	comp=Z,25nm,1.2s								
KLRI	**Killari**	**64.39**	**284**	*e*P		**P**		**20 17 51.1**	**-0.6**
KLRI				IAmb		IAmb		20 18 06.6	
	comp=Z,24nm,1.2s								
KURK	**Kurchatov**	**64.94**	**321**	*e*P		**P**		**20 17 54.7**	**+0.1**
KURK				pmax	pmax				
	comp=Z,33nm,0.9s								
KURK	**Kurchatov**	**64.94**	**321**	*e*P		**P**		**20 17 54.7**	**+0.1**
	comp=Z,33nm,0.9s								
KURBB	**Kurchatov Arra**	**64.98**	**321**	P		**P**		**20 17 55.0**	**+0.2**
	comp=Z,6.0nm,0.8s,baz=107,slow=6.3,SNR=7.2								
PPLA	**Purkeypile**	**68.13**	**26**	*e*P		**P**		**20 18 15.4**	**+0.4**
	comp=Z,44nm,1.6s								
CAST	**Castle Rocks**	**68.34**	**26**	*e*P		**P**		**20 18 16.5**	**+0.4**
	comp=Z,27nm,1.2s								
IM04	**Indian Mountai**	**68.48**	**23**	*e*P		**P**		**20 18 16.8**	**-0.1**
BPAW	**Bear Paw Mtn.**	**69.01**	**25**	*e*P		**P**		**20 18 20.5**	**+0.3**
	comp=Z,17nm,1.0s								
TRF	**Thorofare Moun**	**69.12**	**26**	*e*P		**P**		**20 18 20.6**	**-0.5**
	comp=Z,22nm,1.1s								
KKAR	**Karatay Array**	**69.44**	**312**	*e*P		**P**		**20 18 23.9**	**+0.6**
KKAR	**Karatay Array**	**69.44**	**312**	*e*P		**P**		**20 18 23.9**	**+0.6**
BWN	**Browne**	**69.67**	**26**	*e*P		**P**		**20 18 24.7**	**+0.4**
	comp=Z,52nm,1.0s								
MCK	**McKinley**	**69.78**	**26**	*e*P		**P**		**20 18 24.6**	**-0.4**
MCK				pmax	pmax				
	comp=Z,135nm,2.5s								
MCK	**McKinley**	**69.78**	**26**	*e*P		**P**		**20 18 24.6**	**-0.4**
	comp=Z,135nm,2.5s								
COLD	**Coldfoot**	**70.24**	**22**	*e*P		**P**		**20 18 28.9**	**+1.1**
	comp=Z,20nm,0.9s								
BVAR	**Borovoye Array**	**70.36**	**322**	P		**P**		**20 18 29.0**	**+0.3**
	comp=Z,5.8nm,0.7s,baz=106,slow=8.0,SNR=54								
BVAR	**Borovoye Array**	**70.36**	**322**	P		**P**		**20 18 29.0**	**+0.3**
BRVK	**Borovoye**	**70.42**	**322**	*e*P		**P**		**20 18 29.4**	**+0.3**
BRVK				pmax	pmax				
	comp=Z,99nm,2.3s								
BRVK	**Borovoye**	**70.42**	**322**	*e*P		**P**		**20 18 29.4**	**+0.3**
	comp=Z,99nm,2.3s								
CCB	**Clear Creek Bu**	**70.49**	**25**	*e*P		**P**		**20 18 28.6**	**-0.6**
	comp=Z,16nm,1.2s								
COLA	**College**	**70.52**	**25**	*e*P		**P**		**20 18 29.5**	**+0.1**
COLA				pmax	pmax				
	comp=Z,36nm,1.7s								
COLA	**College**	**70.52**	**25**	*e*P		**P**		**20 18 29.5**	**+0.1**
	comp=Z,36nm,1.7s								
EYAK	**Cordova Ski Ar**	**70.53**	**30**	*e*P		**P**		**20 18 30.2**	**+0.7**
	comp=Z,17nm,1.0s								
DIV	**Divide**	**70.63**	**29**	*e*P		**P**		**20 18 31.5**	**+1.2**
	comp=Z,16nm,0.9s								
ILAR	**Eielson Array**	**70.90**	**25**	P		**P**		**20 18 30.6**	**-1.1**
	comp=Z,5.0nm,0.5s,baz=249,slow=6.1,SNR=61								
ILAR				LR		LR		20 50 06.6	
	comp=Z,138nm,18.9s,baz=270,slow=36								
PAX	**Paxson**	**71.13**	**27**	*e*P		**P**		**20 18 33.2**	**-0.1**
PAX				pmax	pmax				
	comp=Z,23nm,1.4s								
PAX	**Paxson**	**71.13**	**27**	*e*P		**P**		**20 18 33.2**	**-0.1**
	comp=Z,23nm,1.4s								
BMRM	**Bremner River**	**71.16**	**29**	*e*P		**P**		**20 18 34.0**	**+0.5**
	comp=Z,24nm,1.1s								
HARP	**HAARP**	**71.16**	**28**	*e*P		**P**		**20 18 34.7**	**+1.2**
	comp=Z,25nm,0.9s								
DOT	**Dot Lake**	**71.88**	**27**	*e*P		P		20 18 34.1	-3.7
	comp=Z,288nm,1.8s								
PPT	**Papeete**	**72.48**	**113**	LR		LR		20 44 46.9	
	comp=Z,182nm,18.2s,baz=264,slow=31								
EGAK	**Eagle**	**73.31**	**26**	*e*P		**P**		**20 18 46.7**	**+0.4**
	comp=Z,28nm,1.3s								
DAWY	**Dawson**	**73.98**	**27**	*e*P		**P**		**20 18 51.3**	**+1.1**
HYT	**Haines Junctio**	**74.59**	**30**	*e*P		**P**		**20 18 55.4**	**+1.5**
ABKAR	**Akbulak array**	**76.80**	**318**	*e*P		**P**		**20 19 06.8**	**+0.1**
ARU	**Arti**	**77.34**	**325**	P		**P**		**20 19 09.2**	**-0.3**
ARU	**Arti**	**77.34**	**325**	*e*P		**P**		**20 19 09.7**	**+0.2**
	comp=Z,55nm,2.0s								
IMYA	**Miami**	**77.62**	**305**	*e*P		**P**		**20 19 12.8**	**+1.1**
AKTO	**Aktyubinsk**	**77.98**	**319**	P		**P**		**20 19 12.1**	**-1.1**
	comp=Z,2.9nm,0.6s,baz=86,slow=8.0,SNR=14								
IDAH	**Bahanechah**	**78.19**	**301**	*e*P		**P**		**20 19 16.6**	**+1.6**
IMOG	**Moghan**	**78.25**	**305**	*e*P		**P**		**20 19 17.3**	**+1.8**
IAKL	**Akhelmad**	**78.67**	**305**	*e*P		**P**		**20 19 18.1**	**+0.4**
IKRD	**Kardeh**	**78.84**	**305**	*e*P		**P**		**20 19 16.1**	**-2.5**
GEYT	**Alibeck**	**79.03**	**307**	P		**P**		**20 19 19.6**	**+0.3**
	comp=Z,3.1nm,0.7s,baz=125,slow=13,SNR=7.7								
GEYT				LR		LR		20 59 14.0	
	comp=Z,264nm,18.5s,baz=135,slow=40								
ITEG	**Tejag**	**79.10**	**301**	*e*P		**P**		**20 19 21.5**	**+1.5**
ISFR	**Sfrayin**	**79.22**	**306**	*e*P		**P**		**20 19 22.2**	**+1.5**
ISHM	**Shahmirzad**	**83.16**	**305**	*e*P		**P**		**20 19 43.2**	**+1.6**
PRGR	**Permogore**	**83.32**	**332**	*e*P		**P**		**20 19 39.9**	**-1.6**
PRGR				pmax	pmax				
	comp=Z,29nm,0.7s								
PGC	**Sidney**	**83.47**	**42**	*e*P		**P**		**20 19 44.4**	**+1.9**
IFIR	**Firoozkooh**	**83.62**	**305**	*e*P		**P**		**20 19 44.5**	**+0.5**
IDMV	**Damavand**	**84.21**	**305**	*e*P		**P**		**20 19 48.0**	**+0.9**
ISRV	**Sarvestan**	**84.41**	**299**	*e*P		**P**		**20 19 48.9**	**+0.7**
IZEF	**Zefreh**	**84.44**	**302**	*e*P		**P**		**20 19 50.1**	**+1.8**
I03D	**Drain, OR**	**84.44**	**47**	P		**P**		**20 19 49.0**	**+1.3**
	baz=84								
HUMO	**Hull Mountain**	**84.93**	**48**	*e*P		**P**		**20 19 51.8**	**+1.6**
	comp=Z,31nm,1.8s								
IKLH	**Kolahrood**	**84.98**	**303**	*e*P		**P**		**20 19 52.8**	**+1.8**
I04A	**Tendick Farm,**	**85.09**	**46**	P		**P**		**20 19 51.7**	**+0.7**
	baz=85								
YKA	**Yellowknife Ar**	**85.21**	**27**	P		**P**		**20 19 51.3**	**+0.2**
	comp=Z,2.6nm,0.6s,baz=288,slow=4.9,SNR=12								
M02C	**Callahan**	**85.25**	**49**	P		**P**		**20 19 52.7**	**+0.8**
	baz=85								
YBH	**Yreka Blue Hor**	**85.29**	**49**	*e*P		**P**		**20 19 53.7**	**+1.6**
YBH				pmax	pmax				
	comp=Z,20nm,1.4s								
YBH	**Yreka Blue Hor**	**85.29**	**49**	*e*P		**P**		**20 19 53.7**	**+1.6**
	comp=Z,20nm,1.4s								
J04D	**Umpqua Nationa**	**85.42**	**47**	P		**P**		**20 19 53.6**	**+0.7**
	baz=85								
IKAZ	**Kazeroun**	**85.42**	**299**	*e*P		**P**		**20 19 53.5**	**+0.2**
IPIR	**Pirpir**	**85.67**	**302**	*e*P		**P**		**20 19 54.5**	**0.0**
M04C	**Macdoel**	**85.91**	**48**	P		**P**		**20 19 56.0**	**+0.7**
	baz=86								
J05D	**Fort Rock, OR**	**86.03**	**47**	P		**P**		**20 19 56.7**	**+0.9**
	baz=86								
B08A	**Colville Reser**	**86.21**	**42**	*e*P		**P**		**20 19 57.4**	**+1.0**
	comp=Z,36nm,1.3s								
K05A	**Summer Lake**	**86.40**	**47**	*e*P		**P**		**20 19 58.6**	**+0.9**
	comp=Z,36nm,1.5s								
D08A	**Wollman Farm,**	**86.78**	**43**	*e*P		**P**		**20 20 00.5**	**+1.2**
	comp=Z,13nm,1.1s								
MOD	**Modoc**	**87.01**	**48**	*e*P		**P**		**20 20 01.3**	**+0.6**
	comp=Z,9.4nm,0.4s								
G08A	**Pilot Rock**	**87.17**	**44**	*e*P		**P**		**20 20 02.5**	**+1.1**
	comp=Z,9.2nm,1.3s								
ISRB	**Sarab**	**87.20**	**308**	*e*P		**P**		**20 20 01.9**	**+0.1**
NEW	**Newport**	**87.66**	**41**	*e*P		**P**		**20 20 04.5**	**+1.0**
NEW	**Newport**	**87.66**	**41**	P		**P**		**20 20 03.9**	**+0.3**
	baz=89								
NEW	**Newport**	**87.66**	**41**	*e*P		**P**		**20 20 04.5**	**+1.0**
CMB	**Columbia Colle**	**87.82**	**52**	*e*P		**P**		**20 20 05.8**	**+1.3**
CMB				pmax	pmax				
	comp=Z,16nm,1.3s								
CMB	**Columbia Colle**	**87.82**	**52**	*e*P		**P**		**20 20 05.8**	**+1.3**
	comp=Z,16nm,1.3s								
ARCES	**ARCESS Array B**	**88.31**	**342**	P		**P**		**20 20 05.2**	**-0.9**
	comp=Z,3.5nm,0.7s,baz=67,slow=7.3,SNR=18								
ARCES				LR		LR		21 03 25.5	
	comp=Z,132nm,18.0s,baz=66,slow=38								
EDM	**Edmonton**	**88.57**	**36**	*e*P		**P**		**20 20 08.7**	**+1.0**
EDM	**Edmonton**	**88.57**	**36**	*e*P		**P**		**20 20 08.7**	**+1.0**
MOS	**Moscow**	**88.95**	**327**	*e*P		P		20 19 59.8	-10
MOS				pmax	pmax				
	comp=Z,52nm,1.1s								
PKM	**Peak Mountain**	**88.99**	**55**	P		**P**		**20 20 11.8**	**+1.5**
	baz=89								
KBZ	**Khabaz**	**89.28**	**314**	P		**P**		**20 20 11.1**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=4.5,slow=1.2,SNR=6.3								
KBZ				LR		LR		21 05 50.6	
	comp=Z,76nm,18.2s,baz=58,slow=39								
NVAR	**Mina Array Bea**	**89.32**	**51**	P		**P**		**20 20 12.7**	**+0.9**
	comp=Z,6.3nm,0.8s,baz=269,slow=5.5,SNR=25								
VES	**Vestal, Richgr**	**89.35**	**54**	P		**P**		**20 20 12.4**	**+0.7**
	baz=89								
VSR	**Storozhevoye**	**89.54**	**322**	*e*P		**P**		**20 20 10.7**	**-1.5**
VSR				pmax	pmax				
	comp=E,5.0nm,0.9s								
VSR				pmax	pmax				
	comp=Z,10.0nm,0.9s								
VSR				pmax	pmax				
	comp=N,4.0nm,0.7s								
OBN	**Obninsk**	**89.73**	**327** ⇓	*i*P		**P**		**20 20 12.4**	**-0.6**
OBN				pmax	pmax				
	comp=Z,13nm,1.4s								
VNDA	**Vanda**	**89.77**	**176**	P		**P**		**20 20 13.1**	**+0.4**
	comp=Z,1.4nm,1.0s,baz=308,slow=4.9,SNR=4.8								
VNDA				LR		LR		21 00 49.3	
	comp=Z,337nm,18.4s,baz=340,slow=36								
BLG	**Laguna Peak**	**89.78**	**55**	P		**P**		**20 20 13.8**	**+0.1**
	baz=90								
MFID	**Camas Ranch**	**89.83**	**46**	*e*P		**P**		**20 20 15.3**	**+1.3**
	comp=Z,20nm,1.3s								
MPMC	**Manual Prospec**	**90.55**	**53**	P		**P**		**20 20 18.7**	**+1.2**
	baz=90								
HLID	**Hailey**	**90.77**	**45**	P		**P**		**20 20 19.7**	**+1.3**
	baz=91								
HLID	**Hailey**	**90.77**	**45**	*e*P		**P**		**20 20 19.6**	**+1.2**
	comp=Z,14nm,1.5s								
FURC	**Furnace Creek,**	**90.93**	**53**	P		**P**		**20 20 20.7**	**+1.7**
	baz=91								
TPNV	**Topopah Spring**	**91.28**	**52**	P		**P**		**20 20 21.8**	**+0.9**
	baz=91								
GSC	**Goldstone**	**91.28**	**54**	*e*P		**P**		**20 20 22.3**	**+1.5**
GSC				pmax	pmax				
	comp=Z,23nm,1.4s								
GSC	**Goldstone**	**91.28**	**54**	P		**P**		**20 20 22.0**	**+1.2**
	baz=91								
GSC	**Goldstone**	**91.28**	**54**	*e*P		**P**		**20 20 22.3**	**+1.5**
	comp=Z,23nm,1.4s								
R11A	**Troy Canyon, C**	**91.40**	**50**	P		**P**		**20 20 22.5**	**+1.0**
	baz=91								
R11A	**Troy Canyon, C**	**91.40**	**50**	*e*P		**P**		**20 20 22.9**	**+1.4**
	comp=Z,5.2nm,1.1s								
DLMT	**Dillon**	**91.47**	**43**	*e*P		**P**		**20 20 22.5**	**+1.0**
	comp=Z,3.7nm,0.9s								
HEC	**Hector,Ludlow**	**91.78**	**54**	P		**P**		**20 20 24.0**	**+0.8**
	baz=92								
TUQ	**Turquoise Moun**	**91.94**	**53**	P		**P**		**20 20 24.7**	**+0.7**
	baz=92								
BOZ	**Bozeman (W)**	**92.02**	**43**	*e*P		**P**		**20 20 25.4**	**+1.3**
BOZ				pmax	pmax				
	comp=Z,6.0nm,1.3s								
BOZ	**Bozeman (W)**	**92.02**	**43**	P		**P**		**20 20 24.6**	**+0.5**
	baz=92								
BOZ	**Bozeman (W)**	**92.02**	**43**	*e*P		**P**		**20 20 25.4**	**+1.3**
	comp=Z,6.3nm,1.3s								
FINES	**FINESS Array B**	**92.12**	**335**	P		**P**		**20 20 22.3**	**-1.7**
	comp=Z,3.4nm,0.8s,baz=82,slow=4.0,SNR=10								
FINES				LR		LR		21 03 56.5	
	comp=Z,137nm,18.0s,baz=86,slow=37								
MONP	**Monument Peak**	**92.23**	**56**	P		**P**		**20 20 26.1**	**+0.7**
	baz=92								
SHPR	**Sheep Range**	**92.24**	**52**	*e*P		**P**		**20 20 27.2**	**+1.8**
BELC	**Belle Mtn. Jos**	**92.27**	**55**	P		**P**		**20 20 26.1**	**+0.6**
	baz=92								
RAYN	**Ar Rayn**	**92.30**	**294**	*e*P		**P**		**20 20 25.7**	**0.0**
	comp=Z,6.0nm,1.4s								
GMRC	**Granite Mounta**	**92.33**	**54**	P		**P**		**20 20 26.8**	**+1.0**
	baz=92								
SWSC	**Sam W. Stewart**	**92.72**	**56**	P		**P**		**20 20 28.0**	**+0.6**
	baz=93								
A19A	**Klindworth Far**	**92.74**	**39**	P		**P**		**20 20 27.9**	**+0.7**
	baz=93								
IRM	**Iron Mountain**	**92.90**	**54**	P		**P**		**20 20 29.1**	**+0.8**
	baz=93								
DUG	**Dugway**	**92.92**	**48**	P		**P**		**20 20 28.8**	**+0.4**
	baz=93								
FFC	**Flin Flon**	**94.21**	**32**	*e*P		**P**		**20 20 34.2**	**+0.4**
FFC	**Flin Flon**	**94.21**	**32**	*e*P		**P**		**20 20 34.2**	**+0.4**
PDAR	**Pinedale Array**	**94.39**	**45**	P		**P**		**20 20 34.2**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=320,slow=3.6,SNR=3.3								
PDAR				LR		LR		20 56 23.5	
	comp=Z,74nm,21.6s,baz=284,slow=31								
G20A	**Bridger**	**94.43**	**42**	P		**P**		**20 20 35.5**	**+0.3**
	baz=94								
D21A	**La Casta Ranch**	**94.52**	**40**	P		**P**		**20 20 35.9**	**+0.4**
	baz=94								
C22A	**Vida**	**94.95**	**39**	P		**P**		**20 20 38.0**	**+0.5**
	baz=95								
D22A	**Cohagen**	**95.00**	**40**	P		**P**		**20 20 38.4**	**+0.7**
	baz=95								
G21A	**Lodge Grass**	**95.08**	**42**	P		**P**		**20 20 39.0**	**+0.8**
	baz=95								
B23A	**Brockton**	**95.21**	**38**	P		**P**		**20 20 39.4**	**+0.8**
	baz=95								
C23A	**Lambert**	**95.36**	**39**	P		**P**		**20 20 40.3**	**+1.0**
	baz=95								
AKASG	**Malin Array Be**	**95.55**	**324**	LR		LR		21 06 46.5	
	comp=Z,338nm,19.2s,baz=50,slow=37								
D23A	**Lindsay**	**95.60**	**40**	P		**P**		**20 20 41.2**	**+0.7**
	baz=96								
BRTR	**Keskin Array B**	**97.12**	**313**	P		**P**		**20 20 46.2**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=111,slow=3.4,SNR=2.8								
BRTR				LR		LR		21 10 28.6	
	comp=Z,53nm,18.5s,baz=68,slow=39								
MAW	**Mawson**		**97.13**	**202**	LR	LR		21 03 01.8	
	comp=Z,252nm,18.4s,baz=61,slow=34								
NOA	**NORSAR Array B**	**98.16**	**339**	LR		LR		21 07 34.8	
	comp=Z,82nm,19.6s,baz=50,slow=37								
STHS	**Stebnicka Huta**	**100.67**	**326**	*i* P		**Pdif**		**20 21 04.3**	**+1.2**
STHS	**Stebnicka Huta**	**100.67**	**326**	PDIF		**Pdif**		**20 21 04.3**	**+1.2**
TORD	**Torodi Ar. Bea**	**134.50**	**302**	PKP		**PKPdf**		**20 26 32.3**	**-1.7**
	comp=Z,0.4nm,0.8s,baz=27,slow=1.6,SNR=2.2								
LPAZ	**La Paz**	**149.28**	**102**	PKPbc		**PKPbc**		**20 27 05.5**	**+0.2**
	comp=Z,3.7nm,0.9s,baz=251,slow=2.6,SNR=8.2								

*ISCJB **02** 20:29:42.5±0.3,38.°11N±0.°02×22.°04E±0.°02,h55km±3km, Error ellipse: s-maj=3.0km s-min=2.7km az=22.0*
*ATH **02** 20:29:42.0,38.°11N×22.°04E,h52km±1km, MD3.2/35, ML3.0*
*THE **02** 20:29:42.9,38.°07N×22.°02E,h48km, ML3.1/13, Error ellipse: s-maj=0.6km s-min=0.3km az=342.0*
*CSEM **02** 20:29:42.9±0.1,38.°10N×22.°03E,h45km±1km, MD3.2, Error ellipse: s-maj=2.1km s-min=1.8km az=26.0*

ISC 02 20:29:43.1±1.2,**38.°10N**±0.°02×**22.°03E**±0.°02,**h47**km±4km, **n139,σ0°76/226,Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLV	**Kalavryta, Ach**	**0.11**	**122**	*e*P		**Pn**	**20 29 50.4**	**-0.2**
KLV				*e*S		**Sn**	**20 29 57.0**	**+1.1**
KLV	**Kalavryta, Ach**	**0.11**	**122**	*e*P		**Pn**	**20 29 50.4**	**-0.2**
KLV				*e*S		**Sn**	**20 29 57.0**	**+1.1**
KLV	**Kalavryta, Ach**	**0.11**	**122**	P		**Pn**	**20 29 50.4**	**-0.2**
KLV				S		**Sn**	**20 29 56.0**	**+0.1**
LAKA	**Lakka**	**0.15**	**343**	*e*P		**Pn**	**20 29 50.6**	**-0.2**
LAKA				*e*S		**Sn**	**20 29 57.0**	**+0.8**
LAKA	**Lakka**	**0.15**	**343**	*e*P		**Pn**	**20 29 50.6**	**-0.2**
LAKA				*e*S		**Sn**	**20 29 57.0**	**+0.8**
LAKA	**Lakka**	**0.15**	**343**	P		**Pn**	**20 29 50.5**	**-0.2**
LAKA				S		**Sn**	**20 29 56.6**	**+0.4**
UPR	**University Cam**	**0

EVR				*e*S	**Sn**	**20 30 11.0 +1.1**
EVR	**Evrytania**	**0.83**	**348**	*e*P	**Pn**	**20 29 59.3 +0.7**
EVR				*e*S	**Sn**	**20 30 11.0 +1.1**
MAKR	**Makrakomi, Fth**	**0.91**	**5**	*e*P	**Pn**	**20 30 00.3 +0.7**
MAKR				*e*S	**Sn**	**20 30 12.7 +1.0**
MAKR	**Makrakomi, Fth**	**0.91**	**5**	*e*P	**Pn**	**20 30 00.3 +0.7**
MAKR				*e*S	**Sn**	**20 30 12.7 +1.0**
ITM	**Ithomi**	**0.92**	**185**	*e*P	**Pn**	**20 29 59.8 +0.1**
ITM				*e*S	**Sn**	**20 30 13.2 +1.3**
ITM	**Ithomi**	**0.92**	**185**	*e*P	**Pn**	**20 29 59.8 +0.1**
ITM				*e*S	**Sn**	**20 30 13.2 +1.3**
LKR	**Lokris**	**0.94**	**54**	*e*P	**Pn**	**20 29 59.7 -0.2**
LKR				*e*S	**Sn**	**20 30 13.2 +1.0**
LKR	**Lokris**	**0.94**	**54**	*e*P	**Pn**	**20 29 59.7 -0.2**
LKR				*e*S	**Sn**	**20 30 13.2 +1.0**
ATAL	**Atalanti**	**0.98**	**52**	P	**Pn**	**20 30 00.2 -0.2**
ATAL				S	**Sn**	**20 30 14.2 +1.1**
ATAL	**Atalanti**	**0.98**	**52**	P	**Pn**	**20 30 00.2 -0.2**
ATAL				S	**Sn**	**20 30 14.2 +1.1**
VIL2	**Platees**	**0.98**	**83**	*e*P	**Pn**	**20 30 00.5 0.0**
VIL2				*e*S	**Sn**	**20 30 14.6 +1.3**
KFL	**Anninata**	**0.98**	**271**	*e*P	**Pn**	**20 30 00.6 +0.1**
KFL				*e*S	**Sn**	**20 30 14.6 +1.3**
KFL	**Anninata**	**0.98**	**271**	P	**Pn**	**20 30 00.2 -0.3**
KFL				*e*S	**Sn**	**20 30 14.6 +1.3**
KFL	**Anninata**	**0.98**	**271**	P	**Pn**	**20 30 00.2 -0.3**
VILL	**Villia**	**1.01**	**86**	P	**Pn**	**20 30 00.6 -0.3**
VILL				*e*S	**Sn**	**20 30 14.6 +0.6**
VILL	**Villia**	**1.01**	**86**	P	**Pn**	**20 30 00.6 -0.3**
VILL				S	**Sn**	**20 30 14.9 +0.9**
ZKS	**Zakynthos**	**1.07**	**248**	*e*P	**Pn**	**20 30 01.4 -0.2**
ZKS	**Zakynthos**	**1.07**	**248**	P	**Pn**	**20 30 01.2 -0.4**
ZKS	**Zakynthos**	**1.07**	**248**	P	**Pn**	**20 30 01.2 -0.4**
DID	**Didima**	**1.12**	**122**	*e*P	**Pn**	**20 30 02.0 -0.4**
DID				*e*S	**Sn**	**20 30 16.9 +0.1**
DID	**Didima**	**1.12**	**122**	*e*P	**Pn**	**20 30 02.0 -0.4**
DID				*e*S	**Sn**	**20 30 16.9 +0.1**
DID	**Didima**	**1.12**	**122**	P	**Pn**	**20 30 02.0 -0.4**
DIDY	**Didyma**	**1.12**	**123**	*e*P	**Pn**	**20 30 01.9 -0.5**
DIDY				*e*S	**Sn**	**20 30 16.9 +0.1**
DIDY	**Didyma**	**1.12**	**123**	P	**Pn**	**20 30 02.0 -0.5**
DIDY				*e*S	**Sn**	**20 30 16.9 +0.1**
DIDY	**Didyma**	**1.12**	**123**	P	**Pn**	**20 30 02.0 -0.5**
KRND	**KRANIDI**	**1.14**	**129**	*e*P	**Pn**	**20 30 02.2 -0.4**
KRND				*e*S	**Sn**	**20 30 18.3 +1.2**
KRND	**KRANIDI**	**1.14**	**129**	*e*P	**Pn**	**20 30 02.2 -0.4**
KRND				*e*S	**Sn**	**20 30 18.3 +1.2**
KRND	**KRANIDI**	**1.14**	**129**	P	**Pn**	**20 30 02.2 -0.4**
VLS	**Valsamata**	**1.14**	**274**	*e*P	**Pn**	**20 30 02.2 -0.4**
VLS				*e*S	**Sn**	**20 30 19.4 +2.2**
VLS	**Valsamata**	**1.14**	**274**	*e*P	**Pn**	**20 30 02.2 -0.4**
VLS	**Valsamata**	**1.14**	**274**	P	**Pn**	**20 30 02.0 -0.6**
EXG	**Exogi**	**1.16**	**289**	P	**Pn**	**20 30 02.4 -0.5**
EXG	**Exogi**	**1.16**	**289**	P	**Pn**	**20 30 02.4 -0.5**
NAIG	**Nisos Aigina**	**1.20**	**106**	*e*P	**Pn**	**20 30 03.3 -0.1**
NAIG	**Nisos Aigina**	**1.20**	**106**	*e*P	**Pn**	**20 30 03.3 -0.1**
SMIA	**Simia**	**1.21**	**50**	*e*P	**Pn**	**20 30 03.2 -0.4**
SMIA				*e*S	**Sn**	**20 30 18.3 -0.5**
SMIA	**Simia**	**1.21**	**50**	*e*P	**Pn**	**20 30 03.2 -0.4**
SMIA				*e*S	**Sn**	**20 30 18.3 -0.5**
PYL	**PYLOS**	**1.23**	**191**	*e*P	**Pn**	**20 30 04.8 +1.0**
PYL				*e*S	**Sn**	**20 30 20.9 +1.7**
PYL	**PYLOS**	**1.23**	**191**	*e*P	**Pn**	**20 30 04.8 +1.0**
LKD2	**Lefkada island**	**1.28**	**303**	*e*P	**Pn**	**20 30 04.5 -0.1**
LKD2				*e*S	**Sn**	**20 30 21.2 +0.6**
LKD2	**Lefkada island**	**1.28**	**303**	P	**Pn**	**20 30 04.2 -0.4**
LKD2				*e*S	**Sn**	**20 30 21.2 +0.6**
LKD2	**Lefkada island**	**1.28**	**303**	P	**Pn**	**20 30 04.2 -0.4**
ATH	**Athens Observa**	**1.34**	**95**	*e*P	**Pn**	**20 30 04.4 -0.9**
ATH				*e*S	**Sn**	**20 30 22.1 +0.2**
ATH	**Athens Observa**	**1.34**	**95**	*e*P	**Pn**	**20 30 04.4 -0.9**
ATH				*e*S	**Sn**	**20 30 22.1 +0.2**
MRKA	**Markates**	**1.36**	**63**	*e*P	**Pn**	**20 30 05.6 -0.1**
MRKA				*e*S	**Sn**	**20 30 22.1 -0.5**
MRKA	**Markates**	**1.36**	**63**	*e*P	**Pn**	**20 30 05.6 -0.1**
MRKA				*e*S	**Sn**	**20 30 22.1 -0.5**
ATHU	**Athens Univers**	**1.39**	**95**	P	**Pn**	**20 30 05.7 -0.3**
ATHU				S	**Sn**	**20 30 23.8 +0.6**
ATHU	**Athens Univers**	**1.39**	**95**	P	**Pn**	**20 30 05.7 -0.3**
ATHU				S	**Sn**	**20 30 23.8 +0.6**
PTL	**Penteli**	**1.45**	**91**	*e*P	**Pn**	**20 30 06.6 -0.2**
PTL				*e*S	**Sn**	**20 30 24.4 -0.3**
PTL	**Penteli**	**1.45**	**91**	*e*P	**Pn**	**20 30 06.6 -0.2**
PTL				*e*S	**Sn**	**20 30 24.4 -0.3**
THL	**Klokotos Trika**	**1.46**	**359**	*e*P	**Pn**	**20 30 07.7 +0.7**
THL				*e*S	**Sn**	**20 30 25.9 +0.9**
THL	**Klokotos Trika**	**1.46**	**359**	*e*P	**Pn**	**20 30 07.7 +0.7**
THL				*e*S	**Sn**	**20 30 25.9 +0.9**
NEO	**Neokhori**	**1.52**	**37**	*e*P	**Pn**	**20 30 07.7 -0.2**
NEO				*e*S	**Sn**	**20 30 26.0 -0.5**
NEO	**Neokhori**	**1.52**	**37**	*e*P	**Pn**	**20 30 07.7 -0.2**
NEO				*e*S	**Sn**	**20 30 26.0 -0.5**
EREA	**Eretria**	**1.53**	**77**	*e*P	**Pn**	**20 30 08.2 +0.2**
EREA				*e*S	**Sn**	**20 30 27.0 +0.3**
EREA	**Eretria**	**1.53**	**77**	*e*P	**Pn**	**20 30 08.2 +0.2**
EREA				*e*S	**Sn**	**20 30 27.0 +0.3**
XOR	**Xorichti**	**1.56**	**35**	*e*P	**Pn**	**20 30 07.8 -0.5**
XOR	**Xorichti**	**1.56**	**35**	*e*P	**Pn**	**20 30 07.8 -0.5**
VLI	**Veliai**	**1.56**	**152**	*e*P	**Pn**	**20 30 08.0 -0.3**
VLI				*e*S	**Sn**	**20 30 28.2 +0.9**
VLI	**Veliai**	**1.56**	**152**	*e*P	**Pn**	**20 30 08.0 -0.3**
VLI				*e*S	**Sn**	**20 30 28.2 +0.9**
AOS	**Alonnisos**	**1.80**	**53**	*e*P	**Pn**	**20 30 11.1 -0.5**
AOS	**Alonnisos**	**1.80**	**53**	*e*P	**Pn**	**20 30 11.1 -0.5**
IGT	**Igoumenitsa**	**1.95**	**318**	*e*P	**Pn**	**20 30 13.4 -0.3**
IGT	**Igoumenitsa**	**1.95**	**318**	*e*P	**Pn**	**20 30 13.4 -0.3**
KYTH	**Kithira**	**1.98**	**156**	*e*P	**Pn**	**20 30 15.1 +0.9**
KYTH	**Kithira**	**1.98**	**156**	*e*P	**Pn**	**20 30 15.1 +0.9**
LIT	**Litokhoron**	**2.03**	**10**	*e*P	**Pn**	**20 30 14.8 0.0**
LIT	**Litokhoron**	**2.03**	**10**	*e*P	**Pn**	**20 30 14.8 0.0**
SGD	**Sagiada**	**2.06**	**318**	*e*P	**Pn**	**20 30 14.8 -0.4**
SGD	**Sagiada**	**2.06**	**318**	*e*P	**Pn**	**20 30 14.8 -0.4**
PAIG	**Paliouri**	**2.23**	**35**	*e*P	**Pn**	**20 30 16.8 -0.7**
PAIG	**Paliouri**	**2.23**	**35**	*e*P	**Pn**	**20 30 16.8 -0.7**
KEK	**Kerkira**	**2.37**	**313**	*e*P	**Pn**	**20 30 18.5 -1.0**
KEK	**Kerkira**	**2.37**	**313**	*e*P	**Pn**	**20 30 18.5 -1.0**
PLG	**Polygyros**	**2.52**	**25**	*e*P	**Pn**	**20 30 21.0 -0.6**
PLG	**Polygyros**	**2.52**	**25**	*e*P	**Pn**	**20 30 21.0 -0.6**
HORT	**Hortiatis**	**2.63**	**18**	*e*P	**Pn**	**20 30 22.2 -0.9**
HORT	**Hortiatis**	**2.63**	**18**	*e*P	**Pn**	**20 30 22.2 -0.9**
FNA	**Florina**	**2.73**	**349**	*e*P	**Pn**	**20 30 24.7 +0.3**
FNA	**Florina**	**2.73**	**349**	*e*P	**Pn**	**20 30 24.7 +0.3**
SOH	**Sokhos**	**2.90**	**20**	*e*P	**Pn**	**20 30 26.7 -0.1**
SOH	**Sokhos**	**2.90**	**20**	*e*P	**Pn**	**20 30 26.7 -0.1**
KNT	**Kendrikon**	**3.13**	**12**	*e*P	**Pn**	**20 30 30.4 +0.5**
KNT	**Kendrikon**	**3.13**	**12**	*e*P	**Pn**	**20 30 30.4 +0.5**
SRS	**Serrai**	**3.24**	**21**	*e*P	**Pn**	**20 30 31.3 -0.2**
SRS	**Serrai**	**3.24**	**21**	*e*P	**Pn**	**20 30 31.3 -0.2**
NVR	**Nevrokopi**	**3.54**	**23**	*e*P	**Pn**	**20 30 36.3 +0.8**
NVR	**Nevrokopi**	**3.54**	**23**	*e*P	**Pn**	**20 30 36.3 +0.8**
STON	**Ston**	**5.80**	**327**	*e*Pn	**Pn**	**20 31 03.6 -2.8**
STON				Sn	Sn	20 32 04.6 -7.0
UDBI	**Udbina**	**7.96**	**326**	*e*Pn	**Pn**	**20 31 34.5 -1.8**
UDBI				Sn	**Sn**	**20 32 59.8 -5.2**
UDBI	**Udbina**	**7.96**	**326**	*e*Pn	**Pn**	**20 31 34.4 -1.8**

*DDA **02** 20:30:22.9, 38°.85N×27°.86E, h14km, MD2.6*
*ISCJB **02** 20:30:23.7±0.4, 38°.86N±0°.03×27°.91E±0°.04, h7km±5km, Error ellipse: s-maj=5.5km s-min=4.4km az=156.4*
*ISK **02** 20:30:23.1, 38°.85N×27°.93E, h4km, MD2.6*
*CSEM **02** 20:30:23.6±0.2, 38°.85N×27°.89E, h5km, MD2.6, Error ellipse: s-maj=4.3km s-min=3.0km az=89.0*

ISC 02 20:30:23.6±0.9, 38°.85N±0°.02×27°.91E±0°.03, h10km±6km, n28, σ0s60/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKHS	**Akhisar**	**0.08**	**295**	*i* P	**Pg**	**20 30 25.7**	**-0.2**
AKHS				*i* S	**Sg**	**20 30 27.6**	**0.0**
AKHS	**Akhisar**	**0.08**	**295**	*i* P	**Pg**	**20 30 25.7**	**-0.2**
AKHS				*i* S	**Sg**	**20 30 27.6**	**0.0**
AKS	**Akhisar**	**0.08**	**295**	*e*PG	**Pg**	**20 30 25.6**	**-0.2**
AKS	**Akhisar**	**0.08**	**295**	*e*Pg	**Pg**	**20 30 25.7**	**-0.2**
MANT	**Manisa**	**0.62**	**125**	*i* P	**Pb**	**20 30 36.7**	**0.0**
MANT				*i* S	**Sb**	**20 30 45.2**	**-0.4**
MANT	**Manisa**	**0.62**	**125**	*i* P	**Pb**	**20 30 36.7**	**0.0**
MANT				*i* S	**Sb**	**20 30 45.2**	**-0.4**
IZM	**Izmir**	**0.67**	**229**	*e*PG	**Pb**	**20 30 36.9**	**-0.6**
IZM				*e*SG	**Sb**	**20 30 47.5**	**+0.6**
IZM	**Izmir**	**0.67**	**229**	*e*Pg	**Pb**	**20 30 36.9**	**-0.6**
IZM				*e*Sg	**Sb**	**20 30 47.5**	**+0.6**
KULA	**Kula-Manisa**	**0.68**	**119**	*e*PG	**Pb**	**20 30 37.1**	**-0.5**
KULA				*e*SG	**Sg**	**20 30 45.9**	**+0.3**
KULA	**Kula-Manisa**	**0.68**	**119**	*e*Pg	**Pb**	**20 30 37.1**	**-0.5**
KULA				*e*Sg	**Sg**	**20 30 45.9**	**+0.3**
BALB	**Balikesir**	**0.79**	**359**	*e*PG	**Pb**	**20 30 38.8**	**-0.7**
BALB	**Balikesir**	**0.79**	**359**	*e*Pg	**Pb**	**20 30 38.8**	**-0.7**
BLCB	**Balcova**	**0.82**	**236**	*e*PG	**Pb**	**20 30 39.7**	**-0.3**
BLCB	**Balcova**	**0.82**	**236**	*e*Pg	**Pb**	**20 30 39.7**	**-0.2**
DURS	**Dursunbey**	**0.87**	**30**	*i* P	**Pb**	**20 30 40.6**	**-0.4**
DURS				*i* S	**Sb**	**20 30 52.7**	**-0.1**
DURS	**Dursunbey**	**0.87**	**30**	*i* P	**Pb**	**20 30 40.6**	**-0.4**
DURS				*i* S	**Sb**	**20 30 52.7**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.90**	**181**	*e*PG	**Pg**	**20 30 41.0**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.90**	**181**	*e*Pg	**Pg**	**20 30 41.0**	**+0.1**
BALY	**Balya**	**0.92**	**346**	*i* P	**Pg**	**20 30 40.9**	**-0.4**
BALY				*i* S	**Sg**	**20 30 53.1**	**-0.2**
BALY	**Balya**	**0.92**	**346**	*i* P	**Pg**	**20 30 40.9**	**-0.4**
BALY				*i* S	**Sg**	**20 30 53.1**	**-0.2**
AYDN	**Tasoluk**	**1.18**	**181**	*i* P	**Pg**	**20 30 44.6**	**-1.7**
AYDN				*i* S	**Sb**	**20 31 02.4**	**+0.8**
AYDN	**Tasoluk**	**1.18**	**181**	*i* P	**Pg**	**20 30 44.6**	**-1.7**
AYDN				*i* S	**Sb**	**20 31 02.4**	**+0.8**
TVSB	**Tavsanli**	**1.35**	**63**	*e*PN	**Pg**	**20 30 49.4**	**-0.2**
TVSB	**Tavsanli**	**1.35**	**63**	*e*Pn	**Pg**	**20 30 49.4**	**-0.2**
KCTX	**Karacabey (Bur**	**1.46**	**14**	*e*PN	**Pb**	**20 30 50.6**	**-0.3**
KCTX	**Karacabey (Bur**	**1.46**	**14**	*e*Pn	**Pb**	**20 30 50.6**	**-0.3**
ARMT	**Armutlu**	**1.87**	**23**	*e*PN	**Pn**	**20 30 56.7**	**+1.0**
ARMT	**Armutlu**	**1.87**	**23**	*e*Pn	**Pn**	**20 30 56.7**	**+1.0**

WEL 02 20:32:21.9±0.7, 35°.79S×178°.41E, h196km±13km, ML3.6/6, Error ellipse: s-maj=16.9km s-min=10.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.77**	**183**	PN	Pn	20 32 57.5	-0.2
MXZ				*e*SN	Sn	20 33 25.3	-0.4
HAZ	**Te Kaha**	**2.02**	**194**	*e*PN	Pn	20 33 00.7	0.0
WMGZ	**Waiomatatini S**	**2.02**	**180**	*e*PN	Pn	20 33 00.7	+0.4
PUZ	**Puketiti**	**2.28**	**183**	PN	Pn	20 32 08.2	-0.3
PUZ				*e*SN	Sn	20 33 34.2	-1.1
TWGZ	**Tauwhareparae**	**2.41**	**188**	PN	Pn	20 33 05.1	+0.6
TWGZ				*e*SN	Sn	20 33 37.3	-0.6
MWZ	**Matawai**	**2.63**	**195**	*e*PN	Pn	20 33 07.0	-0.1
MWZ				*e*SN	Sn	20 33 41.9	-0.6
URZ	**Urewera**	**2.67**	**202**	*e*PN	Pn	20 33 06.9	-0.5
URZ				*e*SN	Sn	20 33 43.2	+0.2
TKGZ	**Te Karaka**	**2.68**	**189**	PN	Pn	20 33 07.3	-0.2
RIGZ	**Rimuhau**	**2.95**	**190**	*e*PN	Pn	20 33 10.1	-0.6
SNGZ	**Shannon Statio**	**3.10**	**196**	PN	Pn	20 33 12.6	+0.1
KNZ	**Kokohu**	**3.28**	**190**	*e*PN	Pn	20 33 13.9	-0.6
RAHZ	**Arahi**	**3.29**	**198**	PN	Pn	20 33 14.4	-0.4
WHHZ	**Waihua**	**3.41**	**196**	*e*PN	Pn	20 33 15.9	-0.3
NMHZ	**Naumai**	**3.54**	**201**	PN	Pn	20 33 18.0	+0.2
ARHZ	**Aropaoanui**	**3.64**	**197**	PN	Pn	20 33 18.7	-0.3
MCHZ	**McNeill Hill**	**3.89**	**200**	PN	Pn	20 33 21.9	-0.2
KRHZ	**Kereru**	**4.17**	**202**	PN	Pn	20 33 24.2	-1.4
KAHZ	**Kahuranaki**	**4.18**	**196**	PN	Pn	20 33 24.7	-1.0
PXZ	**Pawanui**	**4.41**	**196**	PN	Pn	20 33 26.6	-1.9
PXZ				*e*SN	Sn	20 34 16.7	-4.4
MRZ	**Mangatainoka R**	**5.35**	**204**	PN	Pn	20 33 37.9	-2.7
MRZ				*e*SN	Sn	20 34 37.2	-5.5

TIF 02 20:33:36.9, 42°.52N×43°.56E, h8km±1km, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.11**	**314**	P	Pg	20 33 39.8	+0.3
ONI				S	Sg	20 33 41.8	+0.5
ONI	**Oni**	**0.11**	**314**	P	Pg	20 33 39.8	+0.3

*ISCJB **02** 20:39:34.7±1.2, 9°.1S±0°.1×125°.7E±0°.1, h10km, mb3.8/3, Error ellipse: s-maj=19.5km s-min=13.0km az=27.5*
*IDC **02** 20:39:34.7±1.7, 9°.19S×125°.39E, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.6/21, mbtmp3.8/4, ML3.7/2, Error ellipse: s-maj=186.3km s-min=26.1km az=61.0*
*NEIC **02** 20:39:36.2±1.0, 9°.11S×125°.65E, h10km, mb4.4/1, Error ellipse: s-maj=20.6km s-min=11.4km az=209.0*

ISC 02 20:39:36.3±1.4, 9°.1S±0°.2×125°.64E±0°.10, h10km, n12, σ0s97/11, mb3.9/3, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.51**	**244**	P	**Pb**	**20 40 04.8**	**+0.2**
	baz=1.3,SNR=22						
SOEI	**Soe**	**1.51**	**244**	*e*Pn	**Pn**	**20 40 03.4**	**-0.2**
KNRA	**Kununurra**	**7.22**	**155**	P	**Pn**	**20 41 23.8**	**+1.8**
	baz=6.9,SNR=27						
KDU	**Kakadu**	**7.60**	**119**	P	Pn	20 41 35.1	+7.9
	baz=7.5,SNR=9.2						
WRAB	**Tennant Creek**	**13.68**	**143**	*e*Pn	**Pn**	**20 42 50.2**	**-0.3**
WRAB				*e*Sn	Sn	20 45 12.7	-10
WRA	**Warramunga Arr**	**13.68**	**143**	Pn	**Pn**	**20 42 50.2**	**-0.3**
	0.4nm,0.3s,baz=320,slow=12,SNR=5.2						
WRA				Sn	Sn	20 45 12.6	-10
	0.9nm,0.3s,baz=318,slow=25,SNR=5.4						
WRKA	**Warakurna**	**16.06**	**171**	P	**Pn**	**20 43 21.1**	**-1.4**
	baz=16,SNR=5.6						
ASAR	**Alice Springs**	**16.51**	**152**	Pn	**Pn**	**20 43 27.2**	**-1.0**
	0.4nm,0.3s,baz=318,slow=11,SNR=35						
ASAR				Sn	Sn	20 46 20.0	-12
	0.2nm,0.3s,baz=313,slow=20,SNR=6.9						
MEEK	**Meekatharra**	**18.68**	**200**	P	**P**	**20 43 55.0**	**+0.2**
	baz=18,SNR=3.1						
CTAO	**Charters Tower**	**22.72**	**121**	P	**P**	**20 44 37.9**	**-0.7**
	21nm,1.4s						
STKA	**Stephens Creek**	**27.08**	**149**	P	**P**	**20 45 20.2**	**+0.9**
	0.8nm,0.6s,baz=330,slow=14,SNR=4.5						
ZALV	**Zalesovo Beam**	**71.63**	**336**	P	**P**	**20 50 57.9**	**0.0**
	0.4nm,0.4s,baz=152,slow=6.4,SNR=3.0						

*IDC **02** 21:05:03.7±1.1, 31°.12S×179°.72E, h436km±15km, mb3.0/3, mb1 3.3/4, mb1mx3.0/27, mbtmp4.0/4, Error ellipse: s-maj=44.0km s-min=20.8km az=135.0*
*ISCJB **02** 21:05:04.2±0.7, 31°.15S±0°.06×179°.1E±0°.1, h400km, mb3.4/3, Error ellipse: s-maj=14.6km s-min=7.4km az=18.3*

ISC 02 21:05:04.2±0.9, 31°.22S±0°.09×179°.2E±0°.1, h400km, n15, σ2s33/22, mb3.3/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.16**	**52**	P	**Pn**	**21 06 09.7**	**+0.9**
	100nm,0.3s,baz=114,slow=6.1,SNR=12						
RAO				S	**S**	**21 06 59.9**	**-1.0**
	44nm,0.3s,baz=270,slow=20,SNR=2.5						
MXZ	**Matakaoa Point**	**6.37**	**187**	*e*PN	**Pn**	**21 06 42.7**	**+2.0**
MXZ				*e*SN	**S**	**21 07 58.9**	**-0.6**
HAZ	**Te Kaha**	**6.63**	**190**	*e*PN	**P**	**21 06 47.3**	**+3.2**
MWZ	**Matawai**	**7.23**	**191**	*e*PN	**P**	**21 06 52.5**	**+1.6**
MWZ				*e*SN	**S**	**21 08 16.3**	**-0.9**
URZ	**Urewera**	**7.23**	**193**	P	**P**	**21 06 52.3**	**+1.4**
	4.0nm,0.3s,baz=274,slow=4.8,SNR=28						
URZ				S	**S**	**21 08 16.7**	**-0.4**
	2.6nm,0.3s,baz=249,slow=23,SNR=12						
URZ	**Urewera**	**7.23**	**193**	*e*PN	**P**	**21 06 52.2**	**+1.3**
URZ				*e*SN	**S**	**21 08 16.4**	**-0.7**
NMHZ	**Naumai**	**8.10**	**193**	*e*PN	**P**	**21 07 02.6**	**+2.0**
ARHZ	**Aropaoanui**	**8.23**	**192**	*e*PN	**P**	**21 07 04.1**	**+2.2**
KAHZ	**Kahuranaki**	**8.77**	**192**	*e*PN	**P**	**21 07 09.6**	**+1.6**
PXZ	**Pawanui**	**9.00**	**192**	*e*PN	**P**	**21 07 10.7**	**+0.2**
PXZ				*e*SN	**S**	**21 08 49.3**	**-4.9**
MRZ	**Mangatainoka R**	**9.87**	**196**	PN	**Pn**	**21 07 20.6**	**0.0**
MRZ				*e*SN	**S**	**21 09 07.7**	**-4.6**
STKA	**Stephens Creek**	**31.97**	**259**	P	**P**	**21 10 56.5**	**+1.5**
	0.7nm,0.4s,baz=96,slow=8.4,SNR=5.7						
ASAR	**Alice Springs**	**40.69**	**269**	P	**P**	**21 12 07.9**	**-0.1**
	0.6nm,0.4s,baz=107,slow=7.2,SNR=11						
WRA	**Warramunga Arr**	**41.76**	**275**	P	**P**	**21 12 16.2**	**-0.4**
	1.0nm,0.3s,baz=112,slow=8.0,SNR=4.1						
FINES	**FINESS Array B**	**145.05**	**338**	PKPbc	**PKPdf**	**21 23 49.3**	**-4.5**
	0.9nm,0.4s,baz=48,slow=3.3,SNR=18						

MAN 02 21:24:21, 6°.39N×125°.66E, h83km, mb4.5, ML3.4, MS3.3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.81**	**47**	*e*P	Pn	21 24 38.9	+0.8
MATI				*e*S	Sn	21 24 54.1	+3.2
BUKP	**Musuan**	**1.60**	**338**	*e*P	Pn	21 24 50.3	+2.4
BUKP				*e*S	Sn	21 25 09.4	+1.3
BUTP	**Butuan**	**2.57**	**359**	*e*P	Pn	21 25 02.9	+2.3
PAGZ	**Pagadian**	**2.69**	**303**	*e*P	Pn	21 25 02.5	+0.3

IDC 02 22:23:24.9±4.7, 1°.83N×124°.67E, h236km±53km, mb3.2/5, mb1 3.5/6, mb1mx3.0/38, mbtmp3.9/6, Error ellipse: s-maj=45.9km s-min=16.2km az=73.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**8.39**	**216**	P	Pn	22 25 23.3	+0.1
	1.0nm,0.3s,baz=104,slow=4.2,SNR=4.7						
WRA	**Warramunga Arr**	**23.63**	**157**	P	P	22 28 14.4	-0.6
	2.7nm,0.4s,baz=337,slow=9.9,SNR=9.8						
ASAR	**Alice Springs**	**26.89**	**161**	P	P	22 28 44.5	+0.1
	0.5nm,0.6s,baz=334,slow=7.6,SNR=12						
MJAR	**Matsushiro Arr**	**36.74**	**18**	P	P	22 30 09.8	-0.1
	1.1nm,0.8s,baz=206,slow=11,SNR=5.8						
STKA	**Stephens Creek**	**37.17**	**156**	P	P	22 30 13.9	+0.4
	1.0nm,0.4s,baz=339,slow=7.5,SNR=6.2						
KURBB	**Kurchatov Arra**	**62.25**	**329**	P	P	22 33 21.6	-0.1
	0.3nm,0.5s,baz=134,slow=6.8,SNR=5.0						

*THR **02** 22:34:45.8±0.8, 28°.09N×52°.43E, h14km±11km, ML3.9*
*ISCJB **02** 22:34:46.3±0.4, 28°.24N±0°.04×52°.37E±0°.04, h16km, mb3.9/19, MS3.5/6, Error ellipse: s-maj=5.6km s-min=4.2km az=36.0*
*CSEM **02** 22:34:47.4±0.3, 28°.33N×52°.43E, h2km, ML3.9, Error ellipse: s-maj=7.5km s-min=4.4km az=55.0*
*TEH **02** 22:34:48.4, 28°.32N×52°.34E, h8km, ML3.8*
*DSN **02** 22:34:52.2±0.8, 28°.24N×52°.74E, h15km, mb3.4/7, ML4.8/6, Error ellipse: s-maj=14.7km s-min=5.5km az=18.0*
*IDC **02** 22:34:52.4±4.6, 28°.41N×52°.35E, h52km±37km, mb3.6/17, mb1 3.8/22, mb1mx3.6/41, mbtmp3.9/22, ML3.5/5, MS3.5/7, Ms1 3.5/7, ms1mx3.0/29, Error ellipse: s-maj=34.3km s-min=14.5km az=158.0*
*OMAN **02** 22:35:36.6±99.0, 26°.01N×55°.39E, h28km, Error ellipse: s-maj=242.9km s-min=18.7km az=318.0*

ISC 02 22:34:47.5±0.5, 28°.30N±0°.04×52°.43E±0°.04, h16km, n62, σ1s39/69, mb3.8/19, MS3.5/6, 3C-5D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**0.49**	**91**	*e*Pg	**Pg**	**22 34 56.0**	**-1.3**
GHIR				*e*Sg	**Sg**	**22 35 04.2**	**+0.3**
GHIR				AML	AML	22 35 08.2	
	comp=E,9μm,0.3s						
GHIR				AML	AML	22 35 14.9	
	comp=N,14μm,0.6s						
GHIR	**Ghir-Karzin**	**0.49**	**91**	*e*Pg	**Pg**	**22 34 56.0**	**-1.3**
GHIR				*e*Sg	**Sg**	**22 35 04.2**	**+0.3**
	comp=N,14μm,0.6s						
AHBU	**AHRAM**	**1.15**	**300**	*e*Pg	**Pg**	**22 35 09.2**	**-0.4**
AHBU				*e*Sg	**Sn

GERES	**GERESS Array B**	36.05	315	P		**P**	22 41 47.5	-0.7	
	comp=Z,0.3nm,0.5s,baz=123,slow=4.9,SNR=4.8								
BRG	**Berggiesshubel**	36.66	319	*e*P		**P**	22 41 52.9	-0.3	
	comp=Z,2.6nm,1.2s								
KEST	**Kesra**	37.04	293	P		**P**	22 41 57.5	+0.7	
	comp=Z,0.7nm,0.8s,baz=65,slow=5.1,SNR=4.3								
CLL	**Collm**	37.38	319	*i* P		**P**	22 42 00.4	+1.1	
	comp=Z,7.0nm,1.1s								
FINES	**FINESS Array B**	37.51	339	P		**P**	22 42 00.0	-0.2	
	comp=Z,2.0nm,0.5s,baz=143,slow=11,SNR=27								
NB2	**NORSAR Subarra**	42.71	332	P		**P**	22 42 42.2	-1.3	
	comp=Z,0.8nm,0.5s,baz=123,slow=8.6								
NOA	**NORSAR Array B**	42.71	332	P		**P**	22 42 42.1	-1.4	
	comp=Z,1.0nm,0.7s,baz=124,slow=8.5,SNR=5.8								
NOA				LR		LR	23 02 09.1		
	comp=Z,21nm,18.1s,baz=135,slow=38								
ARCES	**ARCESS Array B**	44.11	347	P		**P**	22 42 54.6	0.0	
	comp=Z,0.6nm,0.4s,baz=144,slow=8.7,SNR=17								
SONM	**Songino Array**	45.73	50	P		**P**	22 43 08.6	+0.6	
	comp=Z,0.4nm,0.5s,baz=258,slow=7.4,SNR=4.5								
SONM				LR		LR	23 05 28.1		
	comp=Z,44nm,19.1s,baz=242,slow=40								
TORD	**Torodi Ar. Bea**	49.44	263	P		**P**	22 43 36.8	-0.3	
	comp=Z,1.7nm,0.5s,baz=63,slow=8.1,SNR=44								
DBIC	**Dimbokro**	58.15	260	P		**P**	22 44 40.4	-0.5	
	comp=Z,1.7nm,0.5s,baz=3.2,slow=6.0,SNR=3.9								
PETK	**Petropavlovsk-**	76.33	37	LR		LR	23 23 12.3		
	comp=Z,50nm,19.1s,baz=128,slow=38								
JCJ	**Chichijima**	77.46	66	LR		LR	23 22 43.1		
	comp=Z,88nm,20.5s,baz=120,slow=37								
ILAR	**Eielson Array**	86.02	8	P		**P**	22 47 25.4	-1.5	
	comp=Z,0.3nm,0.5s,baz=334,slow=5.8,SNR=3.9								
YKA	**Yellowknife Ar**	88.93	354	P		**P**	22 47 40.6	-0.3	
	comp=Z,0.7nm,0.6s,baz=11,slow=5.5,SNR=5.8								

AZER ***02*** *22:40:43.6±3.7, 39.°94N×41.°63E, h10km, Error ellipse: s-maj=42.9km s-min=23.4km az=37.0*
TIF ***02*** *22:40:49.9, 42.°51N×43.°55E, h8km±2km*
NSSP ***02*** *22:40:51.0, 39.°98N×42.°68E, h5km, Ms3.0*
ISK ***02*** *22:40:53.7, 39.°96N×43.°16E, h5km, MD3.0*
DDA ***02*** *22:40:54.6, 39.°95N×43.°09E, h4km, MD3.3, ML3.5*
CSEM ***02*** *22:40:55.3±0.2, 39.°97N×43.°05E, h2km, MD3.0, Error ellipse: s-maj=4.2km s-min=3.5km az=121.0*

ISC 02 22:40:55.0±1.1, 39.°96N±0.°02×43.°06E±0.°02, h3km±11km, n87, σ1°43/114, 6C-6D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
AGRB	**Hanur-Agry**	**0.39**	**188**	*e*PG		**Pg**	**22 41 02.5**	**0.0**
AGRB				*e*SG		**Sb**	**22 41 09.6**	**-1.4**
AGRB	**Hanur-Agry**	**0.39**	**188**	*e*Pg		**Pg**	**22 41 02.5**	**0.0**
AGRB				*e*Sg		**Sb**	**22 41 09.6**	**-1.4**
EATA	**Eleskirt**	**0.45**	**258**	*i* P		**Pg**	**22 41 03.5**	**-0.2**
EATA				*i* S		**Sb**	**22 41 11.8**	**-1.2**
EATA	**Eleskirt**	**0.45**	**258**	*i* P		**Pg**	**22 41 03.5**	**-0.2**
EATA				*i* S		**Sb**	**22 41 11.8**	**-1.2**
DIGO	**Kars**	**0.52**	**28**	*i* P		**Pg**	**22 41 04.3**	**-0.7**
DIGO				*i* S		**Sg**	**22 41 13.2**	**+1.5**
DIGO	**Kars**	**0.52**	**28**	*i* P		**Pg**	**22 41 04.3**	**-0.7**
DIGO				*i* S		**Sg**	**22 41 13.2**	**+1.5**
DYDN	**Diyadin**	**0.64**	**130**	*i* P		**Pg**	**22 41 06.5**	**-0.8**
DYDN				*i* S		**Sg**	**22 41 16.1**	**+0.6**
DYDN	**Diyadin**	**0.64**	**130**	*i* P		**Pg**	**22 41 06.5**	**-0.8**
DYDN				*i* S		**Sg**	**22 41 16.1**	**+0.6**
KARS	**Kars**	**0.67**	**1**	*e*PG		**Pg**	**22 41 07.2**	**-0.7**
KARS				*e*SG		**Sb**	**22 41 17.9**	**-1.3**
KARS	**Kars**	**0.67**	**1**	*e*Pg		**Pg**	**22 41 07.2**	**-0.7**
KARS				*e*Sg		**Sb**	**22 41 17.9**	**-1.3**
EAK	**Akyaka**	**0.84**	**30**	*i* P		**Pg**	**22 41 10.2**	**-0.9**
EAK				*i* S		**Sb**	**22 41 24.0**	**-0.1**
EAK	**Akyaka**	**0.84**	**30**	*i* P		**Pg**	**22 41 10.2**	**-0.9**
EAK				*i* S		**Sb**	**22 41 24.0**	**-0.1**
HOMI	**Horasan**	**0.89**	**276**	*i* P		**Pg**	**22 41 12.1**	**0.0**
HOMI				*i* S		**Sn**	**22 41 28.7**	**+0.5**
AMBZ	**Amberd**	**1.01**	**65**	*e*P		**Pn**	**22 41 16.8**	**+0.4**
AMBZ				*e*S		**Sn**	**22 41 35.1**	**+3.9**
AMBZ	**Amberd**	**1.01**	**65**	P		**Pn**	**22 41 16.8**	**+0.4**
CLDR	**Caldiran**	**1.05**	**141**	*e*PG		**Pg**	**22 41 14.0**	**-1.2**
CLDR	**Caldiran**	**1.05**	**141**	*e*Pg		**Pg**	**22 41 14.0**	**-1.2**
ERE	**Yerevan**	**1.10**	**78**	*e*P		Pb	22 41 11.0	-5.8
ERE				*e*S		**Sg**	**22 41 28.0**	**-2.4**
GNI	**Garni**	**1.30**	**81**	⇓*i*P		**Pg**	**22 41 20.4**	**+0.4**
GNI				⇓*i*S		Sg	22 41 43.2	+6.3
GNI	**Garni**	**1.30**	**81**	⇓P		**Pg**	**22 41 20.4**	**+0.4**
ERZM	**Erzurum**	**1.30**	**268**	*i* P		**Pg**	**22 41 20.3**	**+0.3**
ERZM				*i* S		**Sg**	**22 41 41.1**	**+4.1**
ERZM	**Erzurum**	**1.30**	**268**	*i* P		**Pg**	**22 41 20.3**	**+0.3**
ERZM				*i* S		**Sg**	**22 41 41.1**	**+4.1**
EZM	**Erzurum**	**1.31**	**268**	*e*PN		**Pg**	**22 41 21.3**	**+1.2**
KAPZ	**Kaputan**	**1.31**	**73**	*e*P		**Pg**	**22 41 21.4**	**+1.3**
KAPZ				*e*S		Sg	22 41 43.4	+6.4
KAPZ	**Kaputan**	**1.31**	**73**	P		**Pg**	**22 41 21.4**	**+1.3**
DDM	**Demirkent**	**1.37**	**313**	*i* P		**Pn**	**22 41 39.7**	**-1.4**
DDEM				*i* S		**Sg**	**22 41 39.7**	**+0.7**
DDEM	**Demirkent**	**1.37**	**313**	*i* P		**Pn**	**22 41 19.7**	**-1.4**
DDEM				*i* S		**Sg**	**22 41 39.7**	**+0.7**
VANB	**Van**	**1.39**	**169**	*e*PN		**Pb**	**22 41 21.1**	**-0.5**
VANB	**Van**	**1.39**	**169**	*e*Pn		**Pb**	**22 41 21.1**	**-0.5**
DAGI	**Agillar**	**1.42**	**322**	*i* S		**Sg**	**22 41 41.5**	**+0.8**
STE	**Stepanavan**	**1.44**	**43**	P		**Pn**	**22 41 21.0**	**-1.2**
STE				S		**Sg**	**22 41 44.0**	**+2.6**
TVAN	**Van**	**1.45**	**169**	*i* P		**Pn**	**22 41 21.7**	**-0.7**
TVAN				*i* S		**Sg**	**22 41 43.4**	**+1.7**
TVAN	**Van**	**1.45**	**169**	*i* P		**Pn**	**22 41 21.7**	**-0.7**
TVAN				*i* S		**Sg**	**22 41 43.4**	**+1.7**
STEZ	**Stepenevan**	**1.46**	**44**	*e*P		**Pn**	**22 41 21.0**	**-1.4**
STEZ				*e*S		**Sg**	**22 41 44.0**	**+2.1**
VRTB	**Varto-Mus**	**1.48**	**238**	*e*PN		**Pg**	**22 41 23.5**	**+0.2**
VRTB	**Varto-Mus**	**1.48**	**238**	*e*Pn		**Pg**	**22 41 23.5**	**+0.2**
DBAD	**Bademkaya**	**1.49**	**316**	*i* P		**Pn**	**22 41 21.4**	**-1.3**
DBAD	**Bademkaya**	**1.49**	**316**	*i* P		**Pn**	**22 41 21.4**	**-1.3**
AKH	**Akhalkalaki**	**1.49**	**13**	*e*PN		**Pb**	**22 41 22.5**	**-0.9**
AKH	**Akhalkalaki**	**1.49**	**13**	P		**Pg**	**22 41 23.4**	**-0.1**
AKH	**Akhalkalaki**	**1.49**	**13**	*e*Pn		**Pb**	**22 41 22.5**	**-0.9**
AKH	**Akhalkalaki**	**1.49**	**13**	P		**Pg**	**22 41 23.4**	**-0.1**
ARTV	**Artvin**	**1.50**	**325**	*i* S		**Sg**	**22 41 45.9**	**+2.7**
ARTV	**Artvin**	**1.50**	**325**	*i* S		**Sg**	**22 41 45.9**	**+2.7**
TATV	**Tatvan**	**1.57**	**203**	*i* P		**Pb**	**22 41 24.0**	**-0.9**
TATV				*i* S		**Sg**	**22 41 45.2**	**-0.4**
TATV	**Tatvan**	**1.57**	**203**	*i* P		**Pb**	**22 41 24.0**	**-0.9**
TATV				*i* S		**Sg**	**22 41 45.2**	**-0.4**
GEVA	**Gevas**	**1.64**	**180**	*i* P		**Pb**	**22 41 24.7**	**-1.3**
GEVA	**Gevas**	**1.64**	**180**	*i* P		**Pb**	**22 41 24.7**	**-1.3**
DBOC	**Borcka**	**1.75**	**323**	*i* P		**Pn**	**22 41 25.9**	**-0.3**
DBOC	**Borcka**	**1.75**	**323**	*i* P		**Pn**	**22 41 25.9**	**-0.3**
BNGL	**BINGOL**	**1.79**	**236**	*i* P		**Pn**	**22 41 26.3**	**-0.7**
BCA	**Borcka**	**1.84**	**324**	*e*PN		**Pb**	**22 41 28.1**	**-1.3**
BCA	**Borcka**	**1.84**	**324**	*e*Pn		**Pb**	**22 41 28.1**	**-1.3**
KOPT	**Kop Dagi**	**1.97**	**273**	*i* P		**Pb**	**22 41 30.8**	**-0.9**
KOPT	**Kop Dagi**	**1.97**	**273**	*i* P		**Pb**	**22 41 30.8**	**-0.9**
NAX	**Nakhchivan**	**2.04**	**112**	⇓P		**Pb**	**22 41 32.8**	**+0.1**
NAX				⇑S		Sg	22 42 10.3	+10
NAX	**Nakhchivan**	**2.04**	**112**	P		**Pb**	**22 41 32.8**	**+0.1**
VADZ	**Vardenis**	**2.07**	**83**	*e*P		Pg	22 41 39.0	+4.3
VADZ				*e*S		Sg	22 42 09.0	+7.4
QZX	**Qazax, Azerbai**	**2.08**	**57**	⇑P		**Pb**	**22 41 32.1**	**-1.2**
QZX				⇑S		Sg	22 42 08.4	+6.7
QZX	**Qazax, Azerbai**	**2.08**	**57**	P		**Pb**	**22 41 32.1**	**-1.2**
BTMT	**Batman**	**2.15**	**215**	*e*PN		**Pb**	**22 41 32.9**	**-1.7**
BTMT	**Batman**	**2.15**	**215**	*e*Pn		**Pb**	**22 41 32.9**	**-1.7**
TBLG	**Delisi**	**2.18**	**35**	*e*PN		**Pn**	**22 41 31.9**	**-0.3**
TBLG	**Delisi**	**2.18**	**35**	P		**Pn**	**22 41 32.7**	**+0.5**
TBLG				S		**Sg**	**22 42 08.1**	**+3.0**
TBLG	**Delisi**	**2.18**	**35**	*e*Pn		**Pn**	**22 41 31.9**	**-0.3**
TBLG	**Delisi**	**2.18**	**35**	P		**Pn**	**22 41 32.7**	**+0.5**
BAYT	**Ayd¨-ntepe-Bay**	**2.28**	**282**	*e*PN		**Pb**	**22 41 35.1**	**-1.8**
BAYT	**Ayd¨-ntepe-Bay**	**2.28**	**282**	*e*Pn		**Pb**	**22 41 35.1**	**-1.8**
DGRG	**David-gareji**	**2.31**	**49**	P		**Pb**	**22 41 35.3**	**-1.9**
DGRG				S		**Sg**	**22 42 10.0**	**+0.9**
DGRG	**David-gareji**	**2.31**	**49**	P		**Pb**	**22 41 35.3**	**-1.9**
SVAN	**Silvan-Diyarba**	**2.31**	**219**	*e*PN		**Pb**	**22 41 35.2**	**-2.2**
SIRT	**Sirnak**	**2.50**	**191**	*e*PN		**Pn**	**22 41 37.4**	**+0.7**
SIRT	**Sirnak**	**2.50**	**191**	*e*Pn		**Pn**	**22 41 37.4**	**+0.7**
SIRN	**S¨-rnak**	**2.51**	**192**	*i* P		**Pb**	**22 41 39.2**	**-1.6**
SIRN	**S¨-rnak**	**2.51**	**192**	*i* P		**Pb**	**22 41 39.2**	**-1.6**
GANJ	**Ganja**	**2.59**	**74**	⇓P		**Pb**	**22 41 39.7**	**-2.3**
GANJ	**Ganja**	**2.59**	**74**	P		**Pb**	**22 41 39.7**	**-2.3**
KTUT	**Trabzon**	**2.71**	**293**	*e*PN		**Pb**	**22 41 41.3**	**-2.9**
KTUT	**Trabzon**	**2.71**	**293**	*e*Pn		**Pb**	**22 41 41.3**	**-2.9**
CUKT	**Cukurca**	**2.74**	**171**	*e*PN		**Pn**	**22 41 40.3**	**+0.3**
CUKT	**Cukurca**	**2.74**	**171**	*e*Pn		**Pn**	**22 41 40.3**	**+0.3**
ZKTA	**Zakatala**	**3.18**	**57**	⇑P		**Pn**	**22 41 46.3**	**+0.3**
ZKTA				⇑S		**Sg**	**22 42 37.1**	**-0.1**
ZKT	**Zaqatala**	**3.22**	**57**	P		**Pn**	**22 41 46.3**	**-0.2**
MAZI	**Mazidag**	**3.23**	**220**	*e*PN		**Pn**	**22 41 48.1**	**+1.5**
MAZI	**Mazidag**	**3.23**	**220**	*e*Pn		**Pn**	**22 41 48.1**	**+1.5**
SEKA	**Sheki**	**3.39**	**67**	⇑P		**Pn**	**22 41 50.6**	**+1.8**
SEKA				⇓S		**Sg**	**22 42 43.9**	**0.0**
SEKA	**Sheki**	**3.39**	**67**	P		**Pn**	**22 41 50.6**	**+1.8**

IDC ***02*** *22:48:30.2±0.9, 13.°85S×166.°60E, h0km, mb4.3/13, mb1 4.5/14, mb1mx4.3/33, mbtmp4.3/14, ML3.8/1, MS3.8/8, Ms1 3.8/8, ms1mx3.5/20, Error ellipse: s-maj=32.2km s-min=17.6km az=122.0*
ISCJB ***02*** *22:48:35.2±0.7, 13.°88S±0.°08×166.°4E±0.°1, h43km, mb4.4/15, MS3.8/8, Error ellipse: s-maj=19.2km s-min=11.3km az=16.3*
NEIC ***02*** *22:48:35.5±0.5, 13.°88S×166.°56E, h35km, mb4.8/3, Error ellipse: s-maj=15.7km s-min=9.7km az=111.0*

ISC 02 22:48:36.4±0.7, 13.°92S±0.°07×166.°6E±0.°2, h43km, n38, σ1°12/33, mb4.4/14, MS3.9/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
HNR	**Honiara**	**7.90**	**304**	P		Pn	22 50 21.0	-7.7
DZM	**Mont Dzumac**	**8.11**	**181**	Pn		**Pn**	**22 50 32.3**	**+0.5**
	1.3nm,0.3s,baz=89,slow=24,SNR=13							
DZM				Sn		Sn	22 52 12.8	+11
	0.8nm,0.3s,baz=265,slow=23,SNR=3.6							
DZM	**Mont Dzumac**	**8.11**	**181**	*e*P		**Pn**	**22 50 30.7**	**-1.0**
DZM				*e*S		**Sn**	**22 52 01.2**	**-1.0**
DZM	**Mont Dzumac**	**8.11**	**181**	*e*Pn		**Pn**	**22 50 31.1**	**-0.7**
DZM				Sn		Sn	22 52 12.8	+11
CTA	**Charters Tower**	**20.39**	**250**	P		**P**	**22 53 09.9**	**0.0**
	9.9nm,0.8s,baz=71,slow=14,SNR=9.4							
CTA				LR		LR	22 59 30.6	
	comp=Z,241nm,20.4s,baz=40,slow=32							
STKA	**Stephens Creek**	**29.04**	**228**	P		**P**	**22 54 33.9**	**+1.3**
	6.1nm,0.6s,baz=50,slow=8.3,SNR=16							
STKA				LR		LR	23 06 17.8	
	comp=Z,309nm,18.6s,baz=43,slow=37							
WRAB	**Tennant Creek**	**31.40**	**255**	*e*P		**P**	**22 54 52.5**	**-1.0**
WRA	**Warramunga Arr**	**31.41**	**255**	P		**P**	**22 54 52.3**	**-1.3**
	2.8nm,0.8s,baz=85,slow=8.7,SNR=7.2							
ASAR	**Alice Springs**	**32.37**	**248**	P		**P**	**22 55 00.8**	**-1.3**
	3.0nm,0.7s,baz=74,slow=9.7,SNR=36							
ASAR				ScP		**ScP**	**23 01 33.2**	**+3.6**
	0.6nm,0.9s,baz=127,slow=3.3,SNR=4.1							
ASAR				LR		LR	23 06 58.4	
	comp=Z,221nm,20.5s,baz=76,slow=34							
BBOO	**Buckleboo**	**33.58**	**231**	*e*P		**P**	**22 55 12.6**	**0.0**
	20nm,0.9s							
PPT	**Papeete**	**42.27**	**101**	LR		LR	23 12 35.7	
	comp=Z,94nm,18.4s,baz=208,slow=34							
MJAR	**Matsushiro Arr**	**56.89**	**333**	P		**P**	**22 58 16.6**	**-0.4**
	1.7nm,0.5s,baz=171,slow=8.5,SNR=7.3							
ASAJ	**Asahikawa**	**61.76**	**341**	*e*P		**P**	**22 58 50.7**	**+0.2**
	2.8nm,0.9s							
KSRS	**Korea Array**	**62.71**	**326**	P		**P**	**22 58 56.2**	**-0.8**
	1.8nm,0.9s,baz=134,slow=7.2,SNR=5.3							
KSAR	**Wonju Array Be**	**62.72**	**326**	P		**P**	**22 58 56.2**	**-0.9**
SBA	**Scott Base**	**63.94**	**180**	*e*P		**P**	**22 59 06.2**	**+1.6**
	9.6nm,1.1s							
USRK	**Usuriysk Ar.**	**65.87**	**333**	P		**P**	**22 59 18.3**	**+0.8**
	3.8nm,0.8s,baz=141,slow=6.4,SNR=11							
CMAR	**Chiang Mai Arr**	**74.03**	**294**	P		**P**	**23 00 10.1**	**+1.9**
	1.6nm,0.4s,baz=122,slow=4.5,SNR=5.7							
CHTO	**Chiang Mai**	**74.16**	**294**	*e*P		**P**	**23 00 09.7**	**+0.8**
SEY	**Seymchan**	**77.40**	**353**	P		**P**	**23 00 26.2**	**-0.3**
	4.1nm,0.6s,baz=156,slow=5.7,SNR=20							
SONM	**Songino Array**	**81.46**	**324**	P		**P**	**23 00 49.4**	**+0.2**
	0.9nm,0.8s,baz=146,slow=6.9,SNR=4.8							
MAW	**Mawson**	**82.39**	**202**	LR		LR	23 35 05.3	
	comp=Z,53nm,18.3s,baz=59,slow=34							
ILAR	**Eielson Array**	**85.96**	**18**	P		**P**	**23 01 11.5**	**-0.1**
	1.8nm,0.5s,baz=246,slow=5.1,SNR=29							
ILAR				LR		LR	23 33 41.9	
	comp=Z,61nm,20.4s,baz=252,slow=32							
SNAA	**Sanae**	**94.32**	**183**	P		P	23 01 47.2	-3.9
PDAR	**Pinedale Array**	**94.87**	**47**	LR		LR	23 38 52.7	
	comp=Z,33nm,19.3s,baz=256,slow=32							
VNA2	**Neumayer--Watz**	**95.27**	**182**	P		**P**	**23 01 55.7**	**+0.4**
	0.8nm,0.6s,baz=80,slow=3.5,SNR=6.1							
ZALV	**Zalesovo Beam**	**96.36**	**324**	P		**P**	**23 01 59.8**	**-0.6**
	0.8nm,0.6s,baz=80,slow=3.5,SNR=6.1							
TXAR	**Lajitas Array**	**96.46**	**61**	LR		LR	23 39 27.1	
	comp=Z,40nm,19.2s,baz=0.0,slow=32							
YKA	**Yellowknife Ar**	**97.12**	**27**	P		Pdif	23 02 05.5	+1.6
	0.4nm,0.7s,baz=248,slow=3.8,SNR=2.8							
ARCES	**ARCESS Array B**	**119.31**	**345**	PKP		**PKPdf**	**23 07 19.4**	**-1.0**
	1.6nm,0.7s,baz=78,slow=2.0,SNR=9.4							
FINES	**FINESS Array B**	**124.73**	**338**	PKP		**PKPdf**	**23 07 29.7**	**-1.3**
	1.5nm,0.8s,baz=62,slow=5.2,SNR=4.9							
NOA	**NORSAR Array B**	**129.68**	**345**	PKP		**PKPdf**	**23 07 40.8**	**+0.2**
	0.6nm,0.7s,baz=36,slow=2.1,SNR=3.3							
GERES	**GERESS Array B**	**138.63**	**333**	PKP		**PKPdf**	**23 07 56.0**	**-1.7**
	0.1nm,0.4s,baz=103,slow=4.2,SNR=4.3							
SSB	**Saint Sauveur**	**145.24**	**338**	*e*PKPdf		**PKPab**	**23 08 09.4**	**+0.1**
VSL	**Villasalto**	**147.58**	**326**	*e*PKPbc		**PKPbc**	**23 08 16.5**	**+0.2**
KEST	**Kesra**	**150.18**	**321**	PKPbc		**PKPbc**	**23 08 22.6**	**-0.5**
	2.1nm,0.8s,baz=268,slow=6.7,SNR=6.5							
ESDC	**Sonsecca Array**	**153.34**	**344**	PKPbc		**PKPbc**	**23 08 29.9**	**+0.3**
	0.8nm,0.7s,baz=2.2,slow=3.4,SNR=4.9							
TORD	**Torodi Ar. Bea**	**165.30**	**269**	PKP		**PKPdf**	**23 08 37.1**	**0.0**
	0.7nm,1.0s,baz=134,slow=4.3,SNR=3.9							

IDC ***02*** *23:09:06.8±2.0, 59.°77S×25.°21W, h0km, mb4.2/2, mb1 4.3/2, mb1mx3.8/21, mbtmp4.2/2, Error ellipse: s-maj=79.7km s-min=45.2km az=11.0*
ISCJB ***02*** *23:09:07.4±1.1, 59.°6S±0.°2×25.°2W±0.°6, h10km, mb4.1/2, Error ellipse: s-maj=49.9km s-min=14.4km az=153.7*

ISC 02 23:09:08.4±1.0, 59.°8S±0.°2×25.°2W±0.°3, h10km, n14, σ0°46/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
VNA1	**Neumayer--Stat**	**12.98**	**154**	P		Pn	23 12 16.7	+4.0
VNA2	**Neumayer--Watz**	**13.38**	**154**	P		P	23 12 21.5	-6.2
SNAA	**Sanae**	**14.95**	**152**	P		**Pn**	**23 12 39.6**	**+0.1**
H10S2	**ASCENSION HYDR**	**51.30**	**13**	T		T	00 12 31.6	
	baz=188,slow=74,SNR=16							
H10S3	**ASCENSION HYDR**	**51.31**	**13**	T		T	00 12 31.9	
	baz=188,slow=74,SNR=15							
H10S1	**ASCENSION HYDR**	**51.32**	**13**	T		T	00 12 32.9	
	baz=188,slow=74,SNR=19							
H10N1	**ASCENSION HYDR**	**52.42**	**13**	T		T	00 13 56.7	
	baz=186							
H10N3	**ASCENSION HYDR**	**52.42**	**13**	T		T	00 13 57.6	
	baz=186							
H10N2	**ASCENSION HYDR**	**52.44**	**13**	T		T	00 13 57.2	
	baz=186							
LPAZ	**La Paz**	**53.37**	**305**	P		**P**	**23 18 28.7**	**+0.1**
	0.9nm,0.4s,baz=106,slow=3.0,SNR=6.5							
TORD	**Torodi Ar. Bea**	**75.82**	**27**	P		**P**	**23 20 54.7**	**+0.2**
	0.8nm,0.3s,baz=199,slow=6.1,SNR=40							
AKASG	**Malin Array Be**	**118.57**	**36**	PKP		**PKPdf**	**23 27 54.4**	**-0.7**
	0.5nm,0.3s,baz=180,slow=0.3,SNR=4.8							
YKA	**Yellowknife Ar**	**139.57**	**314**	PKP		**PKPdf**	**23 28 34.7**	**+0.2**
	0.4nm,0.5s,baz=124,slow=2.4,SNR=5.6							
SONM	**Songino Array**	**149.75**	**91**	PKPbc		**PKPbc**	**23 28 57.5**	**0.0**
	0.9nm,0.7s,baz=202,slow=2.8,SNR=5.0							

IDC 02 23:16:07.7±42.0, 18.°71S×168.°56E, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.8/27, mbtmp4.1/4, ML3.6/1, MS3.2/4, Ms1 3.2/4, ms1mx2.9/20, Error ellipse: s-maj=716.0km s-min=61.0km az=80.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
DZM	**Mont Dzumac**	**3.89**	**210**	Pn		Pn	23 17 08.3	-0.7
	4.1nm,0.3s,baz=357,slow=16,SNR=39							
DZM				Sn		Sn	23 17 47.3	-8.2
	24nm,0.3s,baz=180,slow=22,SNR=13							
DZM	**Mont Dzumac**	**3.89**	**210**	*e*P		Pn	23 17 06.6	-2.4
DZM				*e*S		Sn	23 17 46.9	-8.7
STKA	**Stephens Creek**	**27.60**	**236**	P		P	23 21 57.4	+0.6
	4.2nm,1.0s,baz=54,slow=7.8,SNR=5.7							
STKA				LR		LR	23 31 14.4	
	comp=Z,62nm,18.7s,baz=76,slow=33							
RAR	**Rarotonga**	**29.84**	**100**	LR		LR	23 31 20.2	
	comp=Z,40nm,21.6s,baz=316,slow=31							
WRA	**Warramunga Arr**	**32.29**	**262**	P		P	23 22 38.0	-0.6
	0.6nm,0.3s,baz=89,slow=11,SNR=2.7							
ASAR	**Alice Springs**	**32.64**	**255**	P		P	23 22 41.8	+0.1
	4.1nm,0.7s,baz=85,slow=8.8,SNR=31							
ASAR				LR		LR	23 35 54.2	
	comp=Z,43nm,18.4s,baz=132,slow=36							
GUMO	**Guam**	**39.69**	**322**	LR		LR	23 42 19.9	
	comp=Z,23nm,18.1s,baz=131,slow=40							

IDC 02 23:40:37.4±1.8, 7.°70N×91.°88E, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.4/30, mbtmp3.8/4, ML4.0/2, MS2.7/1, Ms1 2.7/1, ms1mx2.3/33, Error ellipse: s-maj=38.3km s-min=34.3km az=55.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PALK	**Pallekele**	**11.09**	**269**	Pn		Pn	23 43 17.6	+0.2
	0.9nm,0.3s,baz=88,slow=15,SNR=9.6							
PALK				Sn		Sn	23 45 05.4	-17
	1.0nm,0.3s,baz=184,slow=17,SNR=6.5							
PALK				LR		LR	23 46 31.7	
	comp=Z,40nm,20.9s,baz=46,slow=32							
CMAR	**Chiang Mai Arr**	**12.71**	**32**	Pn		Pn	23 43 38.2	-1.4
	0.3nm,0.3s,baz=233,slow=14,SNR=2.8							
H08S3	**Diego Garcia H**	**24.61**	**232**	T		T	00 12 20.2	
	baz=54							
H08S2	**Diego Garcia H**	**24.61**	**232**	T		T	00 12 32.2	
	baz=54							
H08S1	**Diego Garcia H**	**24.63**	**232**	T		T	00 12 18.1	
	baz=54							
SONM	**Songino Array**	**41.86**	**15**	P		P	23 48 29.9	+0.5
	0.6nm,0.7s,baz=205,slow=9.6,SNR=4.5							
WRA	**Warramunga Arr**	**50.01**	**124**	P		P	23 49 33.5	-0.4
	0.6nm,0.3s,baz=302,slow=7.5,SNR=3.2							

IDC 03 00:03:42.2±47.0, 15.°80S×174.°55W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.8/31, mbtmp4.3/3, MS3.7/1, Ms1 3.7/1, ms1mx2.7/22, Error ellipse: s-maj=897.5km s-min=174.3km az=78.0, Tonga Islands

| Code | Station Name | Δ° | AZ° | Phase

LPAZ La Paz 18.70 11 *e*P P 00 09 22.4 +0.4
LPAZ pmax pmax
comp=Z,49nm,0.8s
LPAZ La Paz 18.70 11 *e*P P 00 09 22.4 +0.4
comp=Z,48nm,0.8s
EFI East Falkland 19.55 154 P P 00 09 30.9 +0.6
comp=Z,533nm,1.0s,SNR=8.5
USHA Ushuaia 20.18 174 P Pn 00 09 38.4 -1.1
comp=Z,37nm,0.8s,baz=340,slow=8.7,SNR=14
SIV San Ignacio 21.02 30 P P 00 09 45.3 -1.3
comp=Z,121nm,0.9s,baz=218,slow=9.7,SNR=301
NNA Nana 23.16 347 *e*P P 00 10 09.1 -0.2
comp=Z,20nm,0.9s,baz=189,slow=12,SNR=5.0
NNA Nana 23.16 347 *e*P P 00 10 10.2 +0.9
NNA pmax pmax
comp=Z,59nm,1.4s
NNA Nana 23.16 347 *e*P P 00 10 10.2 +0.9
comp=Z,59nm,1.4s
BB16B Bebedouro 24.54 62 ⇓*i*P P 00 10 19.5 -2.6
BB16B *i* 00 10 20.9
BB16B *i* 00 10 24.1
BB16B *i* 00 10 34.4
SAML Samuel 26.88 19 *e*P P 00 10 42.0 -1.3
comp=Z,20nm,0.8s
BDFB Brasilia 28.57 54 P P 00 10 56.5 -2.1
comp=Z,31nm,0.9s,baz=222,slow=6.6,SNR=27
BDFB LR LR 00 23 27.8
comp=Z,1μm,20.9s,baz=222,slow=39
BDFB Brasilia 28.57 54 P P 00 10 56.5 -2.1
BDFB pmax pmax
comp=Z,31nm,0.9s
BDFB MLR MLR
comp=Z,1μm,20.9s
BDFB Brasilia 28.57 54 *e*P P 00 10 56.8 -1.8
OTAV Otavalo 35.40 348 *e*P P 00 12 00.2 +1.4
comp=Z,38nm,1.5s
PTGA Pitinga 35.61 20 P P 00 11 59.3 -0.8
comp=Z,124nm,0.9s,baz=204,slow=9.8,SNR=153
PTGA Pitinga 35.61 20 *e*P P 00 11 59.1 -1.0
comp=Z,114nm,0.8s
ROSC El Rosal 39.50 356 P P 00 12 35.8 +2.4
comp=Z,17nm,0.5s,baz=107,slow=8.9,SNR=11
ROSC El Rosal 39.50 356 *e*P P 00 12 33.1 -0.3
SDV Santo Domingo 43.44 2 *e*P P 00 13 04.5 -0.9
comp=Z,24nm,0.8s
PCRV Puerto La Cruz 45.21 10 P P 00 13 18.7 -0.7
comp=Z,34nm,0.9s,baz=159,slow=4.6,SNR=12
VNA1 Neumayer--Stat 48.86 157 P P 00 13 48.2 +1.1
VNA2 Neumayer--Watz 49.20 157 P P 00 13 50.3 +0.6
baz=295,slow=9.5
SNAA Sanae 50.77 158 P P 00 13 58.5 -3.2
SNAA Sanae 50.77 158 *e*P P 00 13 58.2 -3.6
SNAA Sanae 50.77 158 P P 00 14 02.0 +0.2
comp=Z,9.7nm,0.9s,baz=288,slow=6.6,SNR=61
SNAA Sanae 50.77 158 *e*P P 00 13 57.8 -4.0
SNAA pmax pmax
comp=Z,42nm,1.3s
SNAA Sanae 50.77 158 *e*P P 00 13 58.4 -3.4
comp=Z,37nm,1.0s
ICMP Isla Caja de M 52.61 6 *e*P P 00 14 14.9 -1.0
CRPR Cabo Rojo, PR 52.68 6 *e*P P 00 14 15.5 -0.9
comp=Z,36nm,0.8s
OBIP Obispado Ponce 52.76 6 *e*P P 00 14 16.3 -0.7
comp=Z,68nm,0.8s
CELP Cerrillos 52.79 6 *e*P P 00 14 17.0 -0.3
SJG San Juan 52.87 7 *e*P P 00 14 16.4 -1.4
SJG pmax pmax
comp=Z,53nm,1.0s
SJG San Juan 52.87 7 *e*P P 00 14 16.4 -1.4
comp=Z,53nm,1.0s
NVL N'lazarevskaya 55.51 156 ⇓*i*P P 00 14 36.0 -0.5
NVL pmax pmax
comp=Z,28nm,0.8s
SBA Scott Base 62.36 192 *e*P P 00 15 26.2 +2.3
SBA pmax pmax
comp=Z,111nm,2.5s
SBA Scott Base 62.36 192 *e*P P 00 15 26.2 +2.3
comp=Z,111nm,2.5s
VNDA Vanda 63.39 191 P P 00 15 32.6 +1.9
comp=Z,2.5nm,0.9s,baz=147,slow=5.7,SNR=12
VNDA LR LR 00 40 26.7
comp=Z,83nm,18.9s,baz=138,slow=33
VNDA Vanda 63.39 191 *e*P P 00 15 33.2 +2.5
comp=Z,45nm,2.1s
SYO Syowa Base 65.05 158 ⇓*e*P P 00 15 40.0 -1.7
SYO Syowa Base 65.05 158 ⇓*e*pP pP 00 15 49.8 -5.7
035A Encino 66.27 334 P P 00 15 51.9 +1.9
baz=67
034A Hebbronville 66.59 334 P P 00 15 54.3 +2.2
baz=67
TIGA Tifton 66.81 349 P P 00 15 54.8 +1.5
baz=67
934A Benavides 67.02 334 P P 00 15 56.1 +1.3
baz=67
933A Laredo 67.31 334 P P 00 15 58.3 +1.7
baz=68
TBI Tubuai 67.38 257 *e*LR LR 00 36 27.2
comp=Z,874nm,29.0s
835A Beeville 67.41 335 P P 00 15 59.1 +1.9
baz=68
834A Tilden 67.51 334 P P 00 15 59.8 +1.9
baz=68
736A Circle Diamond 67.76 336 P P 00 16 01.0 +1.6
baz=68
735A Kenedy 67.92 335 P P 00 16 02.7 +2.2
baz=68
637A Eagle Lake 67.97 337 P P 00 16 02.9 +2.2
baz=68
833A Chaparral WMA, 67.99 334 P P 00 16 02.5 +1.6
baz=68,SNR=6.8
539A Cross D Ranch, 68.09 339 P P 00 16 03.0 +1.6
baz=68
832A Faith Ranch, C 68.17 333 P P 00 16 03.5 +1.4
baz=68,SNR=6.7
734A La Parita Cree 68.17 335 P P 00 16 03.7 +1.6
baz=68
636A Smothers Creek 68.24 336 P P 00 16 04.5 +2.1
baz=69
733A Divot King Ran 68.32 334 P P 00 16 04.7 +1.8
baz=69
538A Harpers Horsep 68.43 338 P P 00 16 05.1 +1.5
baz=69
537A Green Hill Far 68.56 337 P P 00 16 06.4 +2.0
baz=69
732A Laxson Ranch, 68.57 333 P P 00 16 05.8 +1.3
baz=69,SNR=18
634A China Grove, S 68.59 335 P P 00 16 06.4 +1.8
baz=69
GOGA Godfrey 68.72 349 *e*P P 00 16 05.1 -0.3
GOGA pmax pmax
comp=Z,24nm,1.0s
GOGA Godfrey 68.72 349 *e*P P 00 16 05.0 -0.3
comp=Z,24nm,1.0s
439A Center Grove, 68.74 339 P P 00 16 07.7 +2.2
baz=69
536A Bastrop 68.79 337 P P 00 16 07.8 +1.9
baz=69
438A Sam Houston St 68.91 338 P P 00 16 08.3 +1.7
baz=69
535A Dale 68.92 336 P P 00 16 07.5 +0.9
baz=69
VBMS Vicksburg 68.95 343 P P 00 16 08.3 +1.5
baz=69
633A Saathoff Ranch 68.95 334 P P 00 16 08.2 +1.3
baz=69
LRAL Lakeview Retre 68.97 346 *e*P P 00 16 06.6 -0.3
comp=Z,18nm,1.0s
MEH Mehetia 68.99 262 *e*T T 01 31 04.2
comp=Z,35nm,0.2s
340A Bronson 69.07 340 P P 00 16 08.8 +1.2
baz=69
339A Huntington 69.19 339 P P 00 16 09.6 +1.3
baz=70
437A Phantom Ranch, 69.19 338 P P 00 16 10.1 +1.7
baz=70
632A Uvalde 69.21 334 P P 00 16 09.9 +1.3
baz=70,SNR=12
534A Blanco 69.22 335 P P 00 16 09.8 +1.2
baz=70
JSC Jenkinsville 69.28 352 *e*P P 00 16 08.8 0.0
JSC pmax pmax
comp=Z,16nm,0.9s
JSC Jenkinsville 69.28 352 *e*P P 00 16 08.8 0.0
comp=Z,16nm,0.9s
436A Wall Ranch, Ga 69.35 337 P P 00 16 10.9 +1.6
baz=70
631A Perdido Creek 69.41 333 P P 00 16 11.3 +1.5
baz=70,SNR=5.9
338A Crockett 69.43 339 P P 00 16 11.8 +2.0
baz=70
533A Kerrville 69.46 335 P P 00 16 11.6 +1.5
baz=70,SNR=8.4
435B Jarrell 69.61 336 P P 00 16 12.6 +1.6
baz=70
NATX Nacogdoches 69.61 339 P P 00 16 12.6 +1.7
baz=70
532A Rocksprings 69.81 334 P P 00 16 13.5 +1.2
baz=70,SNR=22
434A Burnet 69.87 336 P P 00 16 13.6 +1.0
baz=70,SNR=10
CNNC Cliffs of the 69.90 355 *e*P P 00 16 12.8 +0.2
comp=Z,50nm,0.9s
336A Riesel 69.93 337 P P 00 16 14.3 +1.4
baz=70
238A Jacksonville 69.98 339 P P 00 16 14.9 +1.8
baz=70
TVO Taravao 70.01 262 *e*T T 01 32 20.2
comp=Z,1.8nm,0.3s
335A Moody 70.02 337 P P 00 16 15.0 +1.5
baz=70
531A Rocksprings 70.08 334 P P 00 16 15.7 +1.7
baz=70
433A Art 70.10 335 P P 00 16 14.6 +0.6
baz=70,SNR=16
JCT Junction City 70.10 334 *e*P P 00 16 14.5 +0.5
JCT pmax pmax
comp=Z,20nm,0.9s
JCT Junction City 70.10 334 P P 00 16 14.9 +0.9
baz=70,SNR=9.4
JCT Junction City 70.10 334 *e*P P 00 16 14.5 +0.5
comp=Z,20nm,0.9s
KMSC Kings Mountain 70.14 352 P P 00 16 14.3 +0.2
baz=70
KMSC Kings Mountain 70.14 352 *e*P P 00 16 13.7 -0.4
comp=Z,28nm,0.9s
237A Washetta, Mont 70.18 338 P P 00 16 16.2 +1.8
baz=70
TIAR Tiarei 70.20 262 *e*T T 01 32 34.7
comp=Z,6.1nm,0.3s
334A Lometa 70.34 336 P P 00 16 16.5 +1.1
baz=71,SNR=6.2
530A J-C Ranch, Com 70.36 333 P P 00 16 17.4 +1.7
baz=71
PPT2 Papeete2 70.37 262 *e*LR LR 00 37 44.0
comp=Z,732nm,27.8s
PPT Papeete 70.38 262 LR LR 00 39 39.7
comp=Z,148nm,18.1s,baz=250,slow=29
139A Bunkhouse Ranc 70.40 340 P P 00 16 17.1 +1.3
baz=71
432A Menard 70.45 335 P P 00 16 17.0 +0.8
baz=71,SNR=5.4
TX31 Lajitas Ar. Si 70.54 331 *e*P P 00 16 17.2 +0.4
TXAR Lajitas Array 70.54 331 P P 00 16 17.6 +0.8
comp=Z,4.7nm,0.7s,baz=155,slow=8.1,SNR=62
TXAR pP pP 00 16 30.6 -0.2
comp=Z,4.4nm,0.5s,baz=157,slow=8.6,SNR=21
TXAR LR LR 00 43 16.0
comp=Z,154nm,18.1s,baz=0.0,slow=32
431A Sonora 70.57 334 P P 00 16 18.2 +1.3
baz=71,SNR=8.3
138A Matatall Enter 70.58 339 P P 00 16 18.2 +1.3
baz=71
333A Richland Sprin 70.58 335 P P 00 16 17.5 +0.6
baz=71,SNR=11
529A Stev Forest Ra 70.67 332 P P 00 16 18.3 +0.8
baz=71,SNR=22
WHTX Lake Whitney 70.69 337 P P 00 16 18.6 +1.1
baz=71
WHTX Lake Whitney 70.69 337 *e*P P 00 16 17.6 +0.1
comp=Z,24nm,0.8s
137A Heron Place, G 70.72 339 P P 00 16 19.5 +1.8
baz=71
136A Ennis 70.84 338 P P 00 16 19.8 +1.3
baz=71
CPCT Cooper Cave 70.88 349 *e*P P 00 16 18.0 -0.6
SWET Sewanee 70.89 348 *e*P P 00 16 18.6 -0.2
OXF Oxford 70.89 345 *e*P P 00 16 18.3 -0.4
OXF pmax pmax
comp=Z,61nm,1.0s
OXF Oxford 70.89 345 *e*P P 00 16 18.3 -0.4
comp=Z,61nm,1.0s
430A Baggett Ranch, 70.89 333 P P 00 16 19.8 +0.9
baz=71,SNR=18
332A Millersview 70.90 335 P P 00 16 19.8 +0.9
baz=71,SNR=8.3
TKL Tuckaleechee C 70.97 350 *e*P P 00 16 18.3 -0.9
TKL Tuckaleechee C 70.97 350 *e*P P 00 16 18.3 -0.9
429A Davenport Ranc 71.00 333 P P 00 16 20.6 +1.1
baz=71,SNR=10
331A San Angelo 71.07 334 P P 00 16 20.8 +0.9
baz=71,SNR=15
Z38A Mt. Pleasant 71.11 340 P P 00 16 21.1 +1.1
baz=72
233A Rising Star 71.19 336 P P 00 16 21.4 +0.7
baz=72,SNR=9.2
135A Vickery Place, 71.19 337 P P 00 16 21.2 +0.6
baz=72
Z37A Pogue Cattle C 71.24 339 P P 00 16 22.7 +1.9
baz=72
232A Coleman 71.32 335 P P 00 16 22.3 +0.8
baz=72,SNR=11
134A White-Moore Ra 71.42 337 P P 00 16 23.0 +1.0
baz=72
330A Mertzon 71.43 334 P P 00 16 22.7 +0.6
baz=72,SNR=11
Y39A Lockesburg 71.50 341 P P 00 16 23.0 +0.6
baz=72
Z36A Blue Ridge 71.55 338 P P 00 16 23.9 +1.2
baz=72,SNR=6.7
231A Bronte 71.60 335 P P 00 16 23.6 +0.5
baz=72,SNR=12
133A Hamilton Ranch 71.73 336 P P 00 16 24.7 +0.9
baz=72,SNR=6.8
329A Wagon Wheel Ra 71.80 333 P P 00 16 25.2 +0.8
baz=72,SNR=8.3
TZTN Tazewell 71.81 350 *e*P P 00 16 23.5 -0.7
comp=Z,13nm,0.8s
230A Sterling City 71.84 334 P P 00 16 25.4 +0.8
baz=72
Z35A Perchaven, San 71.86 338 P P 00 16 25.6 +1.0
baz=72,SNR=11
MIAR Mount Ida 71.93 341 *e*P P 00 16 24.5 -0.5
MIAR Mount Ida 71.93 341 P P 00 16 25.4 +0.4
baz=72,SNR=5.5
MIAR Mount Ida 71.93 341 *e*P P 00 16 24.5 -0.5
Y37A Hugo 71.97 339 P P 00 16 26.0 +0.7
baz=72
ABTX Abilene, Hawle 71.99 335 P P 00 16 26.0 +0.6
baz=72,SNR=11
ABTX Abilene, Hawle 71.99 335 *e*P P 00 16 25.8 +0.3
comp=Z,22nm,0.8s
Y36A Durant 72.09 339 P P 00 16 26.9 +0.9
baz=72
Z34A Collier Ranch, 72.11 337 P P 00 16 26.9 +0.8
baz=72,SNR=6.2
229A Bryant Ranch, 72.17 333 P P 00 16 27.8 +1.3
baz=72
URVA University of 72.19 355 *e*P P 00 16 26.6 +0.2
131A Roby 72.30 335 P P 00 16 28.2 +0.9
baz=73
Z33A Whitaker Ranch 72.31 336 P P 00 16 28.0 +0.7
baz=73,SNR=13
Y35A Marietta 72.33 338 P P 00 16 28.3 +0.9
baz=73
JSRW J. Sargeant Re 72.33 355 *e*P P 00 16 27.6 +0.3
MAW Mawson 72.36 163 P P 00 16 27.8 +0.6
comp=Z,27nm,0.9s,baz=213,slow=7.7,SNR=45
MAW LR LR 00 48 02.4
comp=Z,240nm,21.6s,baz=242,slow=36
MAW Mawson 72.36 163 *e*P P 00 16 27.8 +0.6
MAW pmax pmax
comp=Z,7.0nm,0.9s
MAW Mawson 72.36 163 *e*P P 00 16 27.8 +0.6
comp=Z,6.7nm,0.9s
X38A Whitesboro 72.39 340 P P 00 16 28.3 +0.6
baz=73,SNR=6.0
130A Snyder 72.43 334 P P 00 16 28.5 +0.5
baz=73,SNR=8.2
X37A Clayton 72.47 340 P P 00 16 29.2 +1.0
baz=73
UTMT University of 72.54 346 *e*P P 00 16 28.3 -0.2
comp=Z,113nm,0.8s
Z32A Haskell 72.56 336 P P 00 16 29.6 +0.8
baz=73,SNR=19
228A UT Block 9, Go 72.59 333 P P 00 16 29.6 +0.5
baz=73,SNR=8.6
Y34A Reagan Ranch, 72.60 338 P P 00 16 30.0 +1.0
baz=73,SNR=5.3
CER Ceres 72.63 119 *e*P P 00 16 30.2 +0.6
CER IAmb IAmb 00 16 31.4
comp=Z,54nm,1.1s
CER Ceres 72.63 119 P P 00 16 30.2 +0.6
comp=Z,54nm,1.1s
W38A Poteau 72.68 341 P P 00 16 30.4 +0.9
baz=73,SNR=6.2
X36A Centrahoma 72.74 339 P P 00 16 29.4 -0.4
baz=73,SNR=17
X35A Drake 72.77 338 P P 00 16 30.5 +0.6
baz=73
129A Stewart Farms, 72.79 334 P P 00 16 30.7 +0.5
baz=73
Z31A Sharp Cattle R 72.80 335 P P 00 16 30.7 +0.5
baz=73,SNR=14
Y33A Hilltop Ranch, 72.92 337 P P 00 16 31.5 +0.6
baz=73,SNR=8.8
W37A Quinton 73.00 340 P P 00 16 31.7 +0.4
baz=73,SNR=5.5
128A Castleberry Fa 73.00 333 P P 00 16 32.3 +0.8
baz=73,SNR=10
PARMO Parma 73.04 345 *e*P P 00 16 31.8 +0.3
Z30A Sanderson Ranc 73.11 335 P P 00 16 32.6 +0.5
baz=74,SNR=10.0
Y32A R-V Farms, Ver 73.19 336 P P 00 16 33.3 +0.8
baz=74,SNR=6.0
X34A Smith Ranch, M 73.22 338 P P 00 16 33.4 +0.7
baz=74,SNR=8.2
W36A Wetumka 73.23 339 P P 00 16 33.3 +0.7
baz=74
PBMO Poplar Bluff 73.29 344 *e*P P 00 16 32.5 -0.5
comp=Z,42nm,1.2s
Z29A Hungry Hill Ra 73.29 334 P P 00 16 33.8 +0.6
baz=74,SNR=11
X33A Lawton 73.37 337 P P 00 16 33.6 0.0
baz=74
Y31A Rekieta Farm, 73.42 336 P P 00 16 34.4 +0.5
baz=74,SNR=11
W35A Tecumseh 73.43 339 P P 00 16 33.7 -0.2
baz=74,SNR=6.5
X32A Elmer 73.52 336 P P 00 16 35.0 +0.6
baz=74
Y30A Stafford Cattl 73.56 335 P P 00 16 35.7 +0.9
baz=74
Z28A Tucker Farm, M 73.57 334 P P 00 16 35.3 +0.4
baz=74
V37A Hulbert 73.62 340 P P 00 16 35.0 +0.1
baz=74,SNR=5.1
WMOK Wichita Mounta 73.64 337 *e*P P 00 16 34.8 -0.3
WMOK pmax pmax
comp=Z,19nm,1.4s
WMOK Wichita Mounta 73.64 337 *e*P P 00 16 34.8 -0.3
comp=Z,19nm,1.4s
V36A Jenks 73.75 340 P P 00 16 36.0 +0.2
baz=74
W34A Bridge Creek, 73.78 338 P P 00 16 36.6 +0.6
baz=74
W34A Bridge Creek, 73.78 338 *e*P P 00 16 35.9 -0.1
comp=Z,22nm,0.9s
Y29A Porterfield Fa 73.82 334 P P 00 16 37.3 +0.9
baz=74,SNR=14
TUL1 Tulsa 73.83 340 P P 00 16 36.4 +0.2
baz=74,SNR=6.2
TUL1 Tulsa 73.83 340 *e*P P 00 16 36.0 -0.1
comp=Z,26nm,0.8s
WCI Wyandotte Cave 73.89 348 *e*P P 00 16 35.5 -1.0
WCI pmax pmax
comp=Z,12nm,0.8s
WCI Wyandotte Cave 73.89 348 *e*P P 00 16 35.5 -1.0
comp=Z,12nm,0.8s
W33A Caddo, Fort Co 73.92 337 P P 00 16 38.0 +1.2
baz=74,SNR=10
SIUC Southern Illin 73.94 346 *e*P P 00 16 36.2 -0.5
comp=Z,37nm,1.0s
X31A McDonald Ranch 73.94 336 P P 00 16 37.6 +0.7
baz=74,SNR=12
SDMD Soldier's Deli 73.97 356 *e*P P 00 16 37.4 +0.5
V35A Meyer Ranch, C 73.99 339 P P 00 16 37.3 +0.1
baz=74,SNR=11
X30A Coker Ranch, T 74.07 335 P P 00 16 38.1 +0.4
baz=74
Y28A McKinney Farm, 74.07 334 P P 00 16 38.1 +0.3
baz=74
W32A Sentinel 74.15 337 P P 00 16 38.9 +0.8
baz=74,SNR=18
SUR Sutherland 74.23 119 *e*P P 00 16 39.6 +0.4
comp=Z,13nm,0.8s
U36A Oologah 74.26 340 P P 00 16 39.1 +0.4
baz=75
V34A Guthrie 74.26 338 P P 00 16 38.9 +0.1
baz=75,SNR=6.1
V34A Guthrie 74.26 338 *e*P P 00 16 38.5 -0.2
comp=Z,24nm,0.8s
MSTX Muleshoe 74.32 334 P P 00 16 39.8 +0.6
baz=75,SNR=9.1
MSTX Muleshoe 74.32 334 *e*P P 00 16 39.1 -0.1
comp=Z,15nm,0.7s
X29A Tulia 74.36 335 P P 00 16 40.0 +0.5
baz=75,SNR=6.3
W31A Holland Ranch, 74.43 336 P P 00 16 39.8 0.0
baz=75
V33A Lossen Ranch, 74.48 338 P P 00 16 40.7 +0.7
baz=75,SNR=8.1
U35A Pawnee 74.53 339 P P 00 16 40.8 +0.6
baz=75,SNR=12
MVL Millersville 74.53 356 *e*P P 00 16 40.7 +0.5
comp=Z,29nm,1.4s
X28A Dimmitt 74.60 334 P P 00 16 41.8 +0.9
baz=75
V32A Arapaho 74.63 337 P P 00 16 42.2 +1.3
baz=75
OLIL Olney 74.70 347 *e*P P 00 16 40.1 -1.1
T37A Cheneyville 18 74.72 341 P P 00 16 41.8 +0.5
baz=75,SNR=5.2
AMTX Amarillo 74.75 335 P P 00 16 42.6 +0.9
baz=75
AMTX Amarillo 74.75 335 *e*P P 00 16 42.2 +0.5
comp=Z,26nm,1.1s
LIC Lamto 74.78 71 *e*P P 00 16 41.5 -0.8
comp=Z,69nm,0.7s
U34A Anderson Ranch 74.82 339 P P 00 16 42.3 +0.3
baz=75
U34A Anderson Ranch 74.82 339 *e*P P 00 16 41.9 0.0
comp=Z,23nm,0.8s
BLO Bloomington 74.85 348 *e*P P 00 16 41.4 -0.6
BLO pmax pmax
comp=Z,18nm,0.8s
BLO Bloomington 74.85 348 *e*P P 00 16 41.4 -0.6
comp=Z,18nm,0.8s
T36A Boggs Farm, Ca 74.92 340 P P 00 16 42.9 +0.4
baz=75,SNR=11
V31A Spring Creek L 74.94 337 P P 00 16 44.2 +1.5
baz=75,SNR=5.4
W29A Amraillo 74.95 335 P P 00 16 43.4 +0.5
baz=75
T35A Sooner Cattle 74.97 340 P P 00 16 43.5 +0.6
baz=75,SNR=7.9
U33A Lingo Farm, Me 75.00 338 P P 00 16 43.7 +0.7
baz=75
121A Cookes Peak, D 75.04 329 P P 00 16 45.4 +1.9
baz=75,SNR=11
SLM Saint Louis 75.04 345 *e*P P 00 16 42.4 -0.7
SLM pmax pmax
comp=Z,45nm,0.8s
SLM Saint Louis 75.04 345 *e*P P 00 16 42.4 -0.7
comp=Z,45nm,0.8s
TIC Toumodi 75.05 71 *e*P P 00 16 43.1 -0.7
LUPA Lehigh Univers 75.08 357 *e*P P 00 16 43.6 +0.2
KIC Kosan Boka 75.09 71 *e*P P 00 16 43.2 -0.9
comp=Z,145nm,0.8s
BRNJ Basking Ridge 75.14 358 *e*P P 00 16 44.4 +0.8
comp=Z,9.7nm,1.0s
DBIC Dimbokro 75.19 71 P P 00 16 44.4 -0.2
comp=Z,48nm,0.7s,baz=210,slow=5.8,SNR=80
DBIC LR LR 00 47 21.2
comp=Z,174nm,19.8s,baz=191,slow=34
DBIC Dimbokro 75.19 71 *e*P P 00 16 44.5 -0.1
comp=Z,57nm,0.8s
V30A Spur Ranch, Mi 75.20 336 P P 00 16 46.0 +1.7
baz=76
U32A Winter Ranch, 75.22 338 P P 00 16 45.3 +1.0
baz=76,SNR=8.6
SSPA Standing Stone 75.26 355 *e*P P 00 16 44.5 +0.1
comp=Z,16nm,0.9s
T34A McClaskey Farm 75.26 339 P P 00 16 45.3 +0.8

baz=76,SNR=9.6
S37A Fort Scott 75.30 341 P P 00 16 44.7 +0.1
baz=76,SNR=6.7
ACSO Alum Creek Sta 75.36 351 eP P 00 16 44.4 -0.5
comp=Z,58nm,0.8s
S36A Lake Cedric, C 75.47 341 P P 00 16 45.9 +0.2
baz=76,SNR=12
ODNJ Ogdensburg 75.54 358 eP P 00 16 46.1 +0.2
S35A Otter Creek Ra 75.63 340 P P 00 16 47.1 +0.6
baz=76,SNR=9.7
T33A Patterson Ranc 75.64 338 P P 00 16 47.8 +1.2
baz=76,SNR=6.1
V28A Channing 75.72 335 P P 00 16 48.4 +1.1
baz=76
YLE Yale 75.73 359 eP P 00 16 47.2 +0.2
comp=Z,41nm,0.8s
R37A Teagarden Farm 75.82 341 P P 00 16 47.8 +0.2
baz=76
S34A Willow Spring 75.87 339 P P 00 16 48.4 +0.4
baz=76
U30A WK&E Inc. Balk 75.89 336 P P 00 16 49.1 +0.9
baz=76
T32A Huddler Ranch, 75.93 338 P P 00 16 49.5 +1.1
baz=76
V27A Dan Oppiter Fa 75.94 334 P P 00 16 49.8 +1.3
baz=76
BNM Barren Site 75.96 331 eP P 00 16 48.0 -0.9
BNM ePcP PcP 00 16 59.5 -1.6
R36A Gordon, Harris 76.01 341 P P 00 16 48.8 +0.1
baz=76
S33A Kaszmaul Farm, 76.03 339 P P 00 16 50.0 +1.1
baz=76
T31A Randall Ranch, 76.09 337 P P 00 16 50.7 +1.5
baz=76
SFIN Scholer Farm 76.12 348 P P 00 16 48.6 -0.7
baz=76,SNR=6.2
SFIN Scholer Farm 76.12 348 eP P 00 16 48.1 -1.1
comp=Z,24nm,1.0s
TUC Tucson 76.16 327 eP P 00 16 50.4 +0.6
TUC pmax pmax
comp=Z,15nm,1.4s
TUC Tucson 76.16 327 eP P 00 16 50.4 +0.6
comp=Z,15nm,1.4s
Q37A Longview Farm, 76.25 342 P P 00 16 50.1 +0.1
baz=77
U28A Mallet 76.29 335 P P 00 16 51.5 +1.0
baz=77
T30A Plains 76.33 337 P P 00 16 52.0 +1.3
baz=77
BRYW Bryant College 76.33 0 eP P 00 16 50.1 -0.4
comp=Z,27nm,0.9s
LAZ Ladron 76.39 330 eP P 00 16 51.8 +0.6
S32A Newby Ranch, P 76.42 338 P P 00 16 52.1 +1.0
baz=77,SNR=5.2
R34A Isabella, Hill 76.47 340 P P 00 16 52.3 +1.0
baz=77,SNR=5.5
S31A Mullinville 76.51 338 P P 00 16 52.7 +1.0
baz=77
U27A Thompson Grove 76.53 335 P P 00 16 53.1 +1.2
baz=77
WIN Windhoek 76.58 108 eP P 00 16 53.1 +0.4
WIN IAmb IAmb 00 16 54.0
comp=Z,14nm,1.0s
WIN Windhoek 76.58 108 P P 00 16 53.1 +0.4
WIN pmax pmax
comp=Z,14nm,1.0s
WIN Windhoek 76.58 108 P P 00 16 53.1 +0.4
comp=Z,14nm,1.0s
ANMO Albuquerque 76.59 331 i P P 00 16 52.4 +0.1
ANMO pmax pmax
comp=Z,26nm,1.1s
ANMO Albuquerque 76.59 331 eP P 00 16 53.4 +1.0
comp=Z,6.8nm,0.9s
Q36A Arnold C. Orve 76.59 341 P P 00 16 53.1 +1.1
baz=77
Q35A Mercer Eighty, 76.65 341 P P 00 16 52.4 +0.1
baz=77
T29A Hugoton 76.67 336 P P 00 16 54.2 +1.6
baz=77
R33A Olander Ranch, 76.69 339 P P 00 16 53.6 +1.0
baz=77
QUA2 Belchertown 76.69 360 eP P 00 16 52.3 -0.1
comp=Z,20nm,0.9s
HDIL Hopedale 76.69 346 P P 00 16 52.6 +0.1
baz=77,SNR=6.3
HDIL Hopedale 76.69 346 eP P 00 16 52.3 -0.2
comp=Z,4,0nm,1.0s
214A Organ Pipe Nat 76.80 325 P P 00 16 55.3 +1.9
baz=77
S30A Montezuma 76.84 337 P P 00 16 54.6 +1.1
baz=77
HRV Adam Dziewonsk 76.92 0 eP P 00 16 54.1 +0.4
HRV pmax pmax
comp=Z,23nm,0.9s
HRV Adam Dziewonsk 76.92 0 eP P 00 16 54.1 +0.4
comp=Z,23nm,0.9s
T28A Walsh 76.92 335 P P 00 16 55.0 +0.9
baz=77,SNR=9.2
Q34A Chapman 76.96 340 P P 00 16 54.6 +0.5
baz=77
R32A Long Quarter, 77.01 339 P P 00 16 55.4 +1.0
baz=77
KSU1 Kansas State U 77.03 340 P P 00 16 54.7 +0.2
baz=77
S29A Ulysses 77.04 336 P P 00 16 55.9 +1.2
baz=77
T27A Campo 77.07 335 P P 00 16 56.1 +1.2
baz=77,SNR=5.4
R31A Burdett 77.14 338 P P 00 16 56.3 +1.1
baz=78
P36A Good Intent, A 77.15 342 P P 00 16 54.8 -0.3
baz=78
TRY Troy 77.16 359 eP P 00 16 55.5 +0.4
comp=Z,31nm,0.9s
TRY epP pP 00 17 10.0 +0.8
S28A Manter 77.27 336 P P 00 16 57.3 +1.3
baz=78
P35A Duane Minner, 77.27 341 P P 00 16 56.0 +0.1
baz=78,SNR=6.9
Q33A Connelly Farm, 77.28 339 P P 00 16 56.7 +0.7
baz=78
MMNY Mt. Morris Dam 77.35 355 eP P 00 16 55.8 -0.4
comp=Z,59nm,0.9s
R30A Dighton 77.37 337 P P 00 16 57.0 +0.5
baz=78
T26A Comanche Natio 77.48 334 P P 00 16 56.8 -0.6
baz=78
Q32A Meitler Ranch, 77.49 339 P P 00 16 57.8 +0.7
baz=78
P34A Walnut Farm, R 77.51 340 P P 00 16 58.1 +0.9
baz=78
O36A Bolckow 77.56 342 P P 00 16 57.2 -0.3
baz=78,SNR=6.6
P33A Williams Farm, 77.65 340 P P 00 16 58.8 +0.8
baz=78
CBKS Cedar Bluff 77.69 338 P P 00 16 59.3 +1.1
baz=78
T25A Trinidad 77.74 334 P P 00 17 00.3 +1.5
baz=78,SNR=19
T25A Trinidad 77.74 334 eP P 00 16 59.3 +0.5
comp=Z,34nm,1.0s
Q31A Ellis 77.76 338 P P 00 16 60.0 +1.4
baz=78
R29A Marienthal 77.77 337 P P 00 17 00.4 +1.7
baz=78
ACCN Adirondack Com 77.81 359 eP P 00 16 58.4 -0.4
comp=Z,24nm,1.0s
R28A Tribune 77.92 336 P P 00 17 00.7 +1.1
baz=78
O35A Humboldt 77.94 341 P P 00 16 59.9 +0.4
baz=78
Q30A Quinter 77.98 338 P P 00 17 01.3 +1.4
baz=78
O34A Beatrice 78.07 341 P P 00 17 00.7 +0.4
baz=78,SNR=7.2
P32A Huiting Farm, 78.09 339 P P 00 17 01.2 +0.8
baz=78
HNH Hanover 78.12 360 eP P 00 17 00.9 +0.5
comp=Z,23nm,0.9s
Q29A Oakley 78.15 337 P P 00 17 01.7 +0.9
baz=78
R27A Eads 78.20 335 P P 00 17 02.6 +1.4
baz=79,SNR=6.5
O33A Hebron 78.22 340 P P 00 17 01.7 +0.6
baz=79
P31A Stockton 78.22 338 P P 00 17 02.2 +1.0
baz=79
NCB Newcomb 78.41 358 eP P 00 17 02.4 +0.3
comp=Z,15nm,0.9s
MDV Middlebury 78.42 359 eP P 00 17 02.0 0.0
N35A Tabor 78.42 342 P P 00 17 02.6 +0.4
baz=79
R26A Arlington 78.44 335 P P 00 17 03.8 +1.3
baz=79
P30A Selden 78.51 338 P P 00 17 04.1 +1.3
baz=79
HVD Gariep Dam 78.56 119 eP P 00 17 04.1 +0.4
HVD IAmb IAmb 00 17 04.9
comp=Z,60nm,0.8s
HVD Gariep Dam 78.56 119 P P 00 17 04.1 +0.4
HVD pmax pmax
comp=Z,61nm,0.8s
HVD Gariep Dam 78.56 119 P P 00 17 04.1 +0.4
comp=Z,60nm,0.8s
Q28A Sharon Springs 78.58 337 P P 00 17 04.3 +1.1
baz=79
O32A Brockman Farm, 78.58 340 P P 00 17 03.8 +0.7
baz=79
N34A Lincoln 78.63 341 P P 00 17 03.9 +0.6
baz=79
GLA Glamis 78.66 324 P P 00 17 04.2 +0.4
baz=79
SDCO Great Sand Dun 78.68 333 P P 00 17 05.0 +0.9
baz=79,SNR=14
SDCO Great Sand Dun 78.68 333 eP P 00 17 04.5 +0.4
comp=Z,11nm,1.3s
TSUM Tsumeb 78.76 106 eP P 00 17 04.9 0.0
TSUM Tsumeb 78.76 106 P P 00 17 04.9 0.0
comp=Z,20nm,1.0s,baz=238,slow=5.5,SNR=7.4
TSUM Tsumeb 78.76 106 eP P 00 17 04.5 -0.3
comp=Z,28nm,1.0s
P29A Atwood 78.78 337 P P 00 17 05.7 +1.4
baz=79
O31A Woolen Ranch, 78.79 339 P P 00 17 05.1 +0.9
baz=79
N33A J Bar K, Exete 78.79 340 P P 00 17 07.0 +2.8
baz=79
KSCO Kaye Shedlock' 78.80 336 P P 00 17 06.2 +1.7
baz=79
WVL Waterville 79.00 2 eP P 00 17 04.7 -0.6
comp=Z,28nm,1.2s
M35A Neola 79.01 342 P P 00 17 06.0 +0.6
baz=79
P28A Saint Francis 79.02 337 P P 00 17 07.2 +1.5
baz=79
Q26A Hugo 79.02 335 P P 00 17 07.5 +1.7
baz=79
PTN Potsdam (NY) 79.03 358 eP P 00 17 05.5 +0.1
PTN pmax pmax
comp=Z,31nm,0.8s
PTN Potsdam (NY) 79.03 358 eP P 00 17 05.5 +0.1
comp=Z,31nm,0.8s
O30A MW Ranch, Wils 79.03 338 P P 00 17 06.7 +1.0
baz=79
N32A Stulken Farm, 79.06 340 P P 00 17 06.9 +1.2
baz=79
LONY Lake Ozonia 79.07 358 eP P 00 17 05.8 +0.1
comp=Z,19nm,0.9s
Y12C Blythe 79.09 325 P P 00 17 08.0 +2.0
baz=79
WUAZ Wupatki 79.12 328 P P 00 17 07.8 +1.4
baz=80
JFWS Jewell Farm 79.16 346 eP P 00 17 05.8 -0.4
JFWS pmax pmax
comp=Z,30nm,0.9s
JFWS Jewell Farm 79.16 346 eP P 00 17 05.8 -0.4
comp=Z,30nm,0.9s
S22A 4UR Ranch, Cre 79.18 332 P P 00 17 08.5 +1.7
baz=80
EMMW East Machias 79.21 3 eP P 00 17 05.5 -0.8
comp=Z,37nm,1.2s
EMMW epP pP 00 17 22.8 +2.3
CASY Casey 79.25 181 eP P 00 17 07.4 +0.9
comp=Z,24nm,1.0s
M34A Aspy Farms, Fr 79.27 341 P P 00 17 07.2 +0.4
baz=80
N31A Bailey Ranch, 79.30 339 P P 00 17 08.3 +1.2
baz=80
PDMCI Parker Dam,Lak 79.36 325 P P 00 17 09.3 +1.8
baz=80
MVCO Mesa Verde 79.37 331 P P 00 17 09.3 +1.6
baz=80
MVCO Mesa Verde 79.37 331 eP P 00 17 08.9 +1.1
comp=Z,22nm,1.4s
BOSA Boshof 79.49 117⇑ i P P 00 17 08.5 -0.2
BOSA IAmb IAmb 00 17 09.5
comp=Z,63nm,0.8s
BOSA IAMs_20 IAMs_20 01 04 01.7
comp=Z,898nm,6.9s
BOSA Boshof 79.49 117 P P 00 17 08.6 -0.1
comp=Z,66nm,0.8s,baz=236,slow=4.4,SNR=111
BOSA Boshof 79.49 117 P P 00 17 08.6 -0.1
BOSA pmax pmax
comp=Z,66nm,0.8s
BOSA Boshof 79.49 117 eP P 00 17 08.2 -0.6
P26A Davis Ranch, A 79.53 336 P P 00 17 09.7 +1.2
baz=80
L35A Bielow Farm, R 79.58 342 P P 00 17 08.9 +0.4
baz=80
N30A Hueftle Ranch, 79.61 338 P P 00 17 10.2 +1.4
baz=80
Q24A Divide 79.63 334 P P 00 17 10.8 +1.5
baz=80,SNR=7.5
Q24A Divide 79.63 334 eP P 00 17 10.2 +1.0
comp=Z,14nm,0.9s
IRM Iron Mountain 79.72 325 P P 00 17 11.2 +1.6
baz=80
N29A Votaw Ranch, W 79.80 338 P P 00 17 11.1 +1.3
baz=80
O27A Beecher Island 79.81 337 P P 00 17 11.7 +1.8
baz=80
PFO Pinyon Flat Ob 79.91 323 P P 00 17 11.7 +1.0
comp=Z,4.8nm,0.7s,baz=153,slow=3.7,SNR=5.5
PFO Pinyon Flat Ob 79.91 323 eP P 00 17 12.2 +1.5
PFO pmax pmax
comp=Z,61nm,0.6s
PFO Pinyon Flat Ob 79.91 323 eP P 00 17 12.2 +1.5
comp=Z,61nm,0.6s
O26A Horse Wrangler 80.13 336 P P 00 17 13.3 +1.6
baz=80
PV01 Paradox Valley 80.19 331 eP P 00 17 13.4 +1.2
M30A Dale-Ortello V 80.22 339 P P 00 17 13.4 +1.3
baz=81
OGNE Ogallala 80.35 337 P P 00 17 14.1 +1.3
baz=81
N27A Anderson Farm, 80.39 337 P P 00 17 14.5 +1.5
baz=81,SNR=5.7
GMRC Granite Mounta 80.47 325 P P 00 17 15.4 +1.7
baz=81,SNR=6.3
SMCO Snowmass 80.49 333 eP P 00 17 15.2 +1.2
comp=Z,34nm,1.5s
L31A Butterfield Fa 80.52 340 P P 00 17 14.9 +1.3
baz=81
ISCO Idaho Springs 80.54 334 eP P 00 17 14.7 +0.6
ISCO pmax pmax
comp=Z,7.0nm,1.0s
ISCO Idaho Springs 80.54 334 P P 00 17 15.5 +1.4
baz=81,SNR=7.0
ISCO Idaho Springs 80.54 334 eP P 00 17 14.7 +0.6
comp=Z,7.1nm,1.0s
M28A Bar X Bar Ranc 80.55 338 P P 00 17 15.4 +1.5
baz=81
L30A Spencer Herefo 80.56 339 P P 00 17 15.1 +1.2
baz=81
PV10 Paradox Valley 80.59 331 eP P 00 17 15.0 +0.6
N26A Koester Ranch, 80.63 336 P P 00 17 16.0 +1.7
baz=81
PV09 Paradox Valley 80.73 331 eP P 00 17 15.6 +0.4
KNB Kanab 81.02 328 eP P 00 17 18.4 +1.8
KNB pmax pmax
comp=Z,56nm,1.8s
KNB Kanab 81.02 328 eP P 00 17 18.4 +1.8
comp=Z,56nm,1.8s
TUQ Turquoise Moun 81.13 325 P P 00 17 19.3 +2.1
baz=82
PQI Presque Isle 81.15 3 eP P 00 17 16.8 0.0
comp=Z,86nm,2.1s
M26A McRoberts Ranc 81.18 337 P P 00 17 18.9 +1.6
baz=82
K30A Basset 81.19 340 P P 00 17 18.6 +1.4
baz=82
ECSD EROS Data Cent 81.37 342 P P 00 17 18.2 +0.1
baz=82,SNR=30
ECSD EROS Data Cent 81.37 342 eP P 00 17 17.8 -0.3
comp=Z,39nm,0.9s
SEK Senekal 81.37 118 eP P 00 17 19.0 +0.1
comp=Z,64nm,0.9s
SEK IAmb IAmb 00 17 19.7
SEK Senekal 81.37 118 P P 00 17 19.0 +0.1
comp=Z,64nm,0.9s
GSC Goldstone 81.44 324 eP P 00 17 18.1 -0.7
GSC pmax pmax
comp=Z,42nm,0.6s
GSC Goldstone 81.44 324 eP P 00 17 18.1 -0.7
comp=Z,42nm,0.6s
K29A Lazy Trails An 81.48 339 P P 00 17 20.3 +1.6
baz=82
N23A Red Feather La 81.62 334 P P 00 17 21.0 +1.2
baz=82
N23A Red Feather La 81.62 334 eP P 00 17 20.8 +1.0
comp=Z,9.5nm,1.0s
SHPR Sheep Range 81.65 326 eP P 00 17 21.1 +1.2
CCUT Cedar City 81.70 328 eP P 00 17 21.8 +1.5
comp=Z,95nm,2.4s
K28A Ten Mile Ranch 81.75 338 P P 00 17 21.7 +1.5
baz=82
LBTB Lobatse 81.75 115 eP P 00 17 20.6 -0.3
LBTB IAmb IAmb 00 17 21.5
comp=Z,50nm,0.8s
LBTB IAMs_20 IAMs_20 01 02 34.1
comp=Z,897nm,7.0s
LBTB Lobatse 81.75 115 P P 00 17 20.6 -0.3
comp=Z,53nm,0.8s,baz=251,slow=6.3,SNR=67
LBTB Lobatse 81.75 115 eP P 00 17 20.5 -0.3
LBTB pmax pmax
comp=Z,49nm,0.8s
LBTB Lobatse 81.75 115 eP P 00 17 20.5 -0.3
comp=Z,48nm,0.8s
O20A White River Ci 81.80 333 P P 00 17 22.0 +1.3
baz=82
O20A White River Ci 81.80 333 eP P 00 17 21.4 +0.7
comp=Z,6.9nm,0.8s
PHWY Pilot Hill 81.81 335 eP P 00 17 21.3 +0.5
comp=Z,13nm,1.1s
PHWY epP pP 00 17 35.1 +0.1
SRU San Rafael 81.81 331 eP P 00 17 20.4 -0.4
SRU pmax pmax
comp=Z,8.0nm,0.9s
SRU San Rafael 81.81 331 eP P 00 17 20.4 -0.4
comp=Z,8.3nm,0.9s
SPMN St. Paul 81.89 345 P P 00 17 20.8 0.0
baz=82,SNR=5.6
SPMN St. Paul 81.89 345 eP P 00 17 20.2 -0.5
comp=Z,21nm,0.9s
PRYS Parys 81.97 117 eP P 00 17 21.2 -0.9
PRYS IAmb IAmb 00 17 22.5
comp=Z,12nm,1.0s
PRYS Parys 81.97 117 P P 00 17 21.2 -0.9
comp=Z,12nm,1.0s
MSU Marysvale 81.99 329 eP P 00 17 22.5 +0.7
MSU Marysvale 81.99 329 eP P 00 17 22.5 +0.7
L25A Engebretsen Ra 82.07 336 P P 00 17 23.7 +1.8
baz=82
J29A Okreek 82.07 339 P P 00 17 22.7 +0.9
baz=82,SNR=12
I30A Oacoma 82.28 340 P P 00 17 23.7 +0.8
baz=83
J28A Allard Ranch, 82.36 339 P P 00 17 24.6 +1.2
baz=83,SNR=6.7
MPMC Manual Prospec 82.38 324 P P 00 17 25.1 +1.2
baz=83
FURC Furnace Creek, 82.41 325 P P 00 17 25.6 +1.9
baz=83
J27A Elkhorn Farm, 82.43 338 P P 00 17 25.4 +1.6
baz=83
K25A Mack Ranch, Ha 82.44 337 P P 00 17 25.8 +1.9
baz=83
TPNV Topopah Spring 82.51 325 eP P 00 17 25.2 +0.8
TPNV pmax pmax
comp=Z,45nm,2.0s
TPNV Topopah Spring 82.51 325 P P 00 17 26.3 +1.8
baz=83
TPNV Topopah Spring 82.51 325 eP P 00 17 25.2 +0.8
comp=Z,44nm,2.0s
ISA Isabella 82.55 323 P P 00 17 26.7 +2.1
baz=83
PKM Peak Mountain 82.61 322 P P 00 17 26.5 +1.4
baz=83
I29A Vivian Onida 82.63 340 P P 00 17 25.1 +0.4
baz=83
J26A Sides Ranch, S 82.82 338 P P 00 17 26.9 +1.1
baz=83,SNR=6.7
K24A Anderson Ranch 82.86 336 P P 00 17 27.8 +1.8
baz=83
I28A Midland 82.86 339 P P 00 17 27.0 +1.1
baz=83,SNR=6.8
CWC Cottonwood Cre 82.97 324 P P 00 17 28.5 +1.6
baz=83
VES Vestal, Richgr 82.99 323 P P 00 17 28.7 +2.0
baz=83
SMMC Simmler 83.03 322 P P 00 17 28.5 +1.5
baz=83
MPU Maple Canyon 83.03 330 eP P 00 17 27.5 +0.4
comp=Z,224nm,2.2s
GRAC Grapevine Rang 83.08 325 P P 00 17 28.8 +1.6
baz=83
J25A Sunshine Ranch 83.12 337 P P 00 17 28.8 +1.5
baz=84
K23A Bowen Ranch, D 83.16 336 P P 00 17 29.0 +1.3
baz=84
H29A Onida 83.16 340 P P 00 17 28.3 +0.9
baz=84
NLU North Lily Min 83.17 330 eP P 00 17 28.5 +0.6
comp=Z,26nm,1.7s
I27A Quinn 83.19 339 P P 00 17 29.1 +1.5
baz=84
G30A Faulkton 83.33 341 P P 00 17 30.2 +2.0
baz=84
SLR Silverton 83.33 117 eP P 00 17 28.6 -0.6
SLR IAmb IAmb 00 17 29.9
comp=Z,30nm,0.8s
SLR Silverton 83.33 117 P P 00 17 28.6 -0.6
SLR pmax pmax
comp=Z,30nm,0.8s
SLR Silverton 83.33 117 P P 00 17 28.6 -0.6
comp=Z,30nm,0.8s
J24A Dixon Ranch, L 83.35 336 P P 00 17 30.2 +1.6
baz=84
R11A Troy Canyon, C 83.35 327 P P 00 17 30.7 +2.0
baz=84,SNR=10
R11A Troy Canyon, C 83.35 327 eP P 00 17 30.1 +1.3
comp=Z,57nm,2.3s
H28A Mission Ridge 83.44 339 P P 00 17 29.8 +1.0
baz=84
G29A Hoven 83.60 340 P P 00 17 31.1 +1.4
baz=84
I25A Rochford 83.66 337 P P 00 17 31.2 +0.9
baz=84,SNR=9.8
DUG Dugway 83.67 330 eP P 00 17 31.4 +1.1
DUG pmax pmax
comp=Z,23nm,1.4s
DUG Dugway 83.67 330 P P 00 17 31.4 +1.1
baz=84,SNR=7.2
DUG Dugway 83.67 330 eP P 00 17 31.4 +1.1
comp=Z,23nm,1.4s
J23A Dilts Ranch, B 83.71 336 P P 00 17 32.2 +1.8
baz=84
H27A Howes 83.71 339 P P 00 17 31.5 +1.2
baz=84
G28A Parade 83.77 340 P P 00 17 31.9 +1.3
baz=84
I24A Kuemmerle Ranc 83.81 337 P P 00 17 31.7 +0.8
baz=84
RSSD Black Hills 83.85 337 eP P 00 17 31.6 +0.4
RSSD pmax pmax
comp=Z,10.0nm,0.8s
RSSD Black Hills 83.85 337 eP P 00 17 31.6 +0.4
comp=Z,9.7nm,0.8s
H26A Fairpoint 83.90 338 P P 00 17 32.3 +1.0
baz=84
F30A Leola 83.95 341 P P 00 17 32.8 +1.3
baz=84
J22A Midwest 84.03 335 P P 00 17 32.5 +0.4
baz=84
H25A Fruitdale 84.16 338 P P 00 17 33.5 +0.8
baz=84
F29A Eureka 84.17 341 P P 00 17 33.0 +0.5
baz=84
EYMN Ely 84.24 347 P P 00 17 32.8 0.0
baz=85,SNR=5.6
EYMN Ely 84.24 347 eP P 00 17 32.2 -0.7
comp=Z,15nm,1.0s
TOA0 Torodi Ar. Sit 84.24 70 eP P 00 17 33.0 -0.6
TORD Torodi Ar. Bea 84.24 70 P P 00 17 33.2 -0.5

comp=E,41nm,0.8s,baz=247,slow=4.3,SNR=183
TOC1 Torodi Ar. Sit 84.26 70 *e*P **P 00 17 31.9 -1.8**
G27A Dupree 84.34 339 P **P 00 17 34.2 +0.7**
baz=85,SNR=6.1
HWUT Hardware Ranch 84.35 331 *e*P **P 00 17 34.0 +0.1**
comp=Z,24nm,1.3s
BGU Big Grassy Mou 84.37 330 *e*P **P 00 17 34.3 +0.4**
comp=Z,44nm,1.6s
BGU *e*pP pP 00 17 55.8 +7.6
F28A McLaughlin 84.45 340 P **P 00 17 34.7 +0.7**
baz=85
I22A 9 Mile Ranch, 84.45 336 P **P 00 17 34.8 +0.5**
baz=85,SNR=5.5
SPUT South Promonto 84.46 330 *e*P **P 00 17 34.7 +0.3**
comp=Z,9.8nm,0.9s
G26A Maurine 84.46 339 P **P 00 17 34.5 +0.4**
baz=85
J20A Shoshoni 84.54 334 P **P 00 17 36.0 +1.3**
baz=85
BW06 Boulder Array 84.57 333 *e*P **P 00 17 34.8 -0.2**
comp=Z,24nm,1.8s
PDAR Pinedale Array 84.57 333 P **P 00 17 35.4 +0.4**
comp=Z,3.0nm,0.8s,baz=146,slow=3.3,SNR=22
PDAR PKKPbc **PKKPbc 00 35 45.1 -1.7**
comp=Z,0.8nm,0.7s,baz=80,slow=1.7,SNR=6.4
PDAR LR LR 00 52 23.4
comp=Z,112nm,18.2s,baz=178,slow=34
H24A Dirks Ranch, A 84.58 337 P **P 00 17 35.1 +0.3**
baz=85,SNR=5.7
DRLN Deer Lake 84.62 9 *e*P **P 00 17 34.8 +0.1**
comp=Z,28nm,0.8s
DRLN *e*pP **pP 00 17 50.0 +1.0**
G25A Newell 84.62 338 P **P 00 17 35.7 +0.7**
baz=85,SNR=7.3
I21A Big Trails, Te 84.66 335 P **P 00 17 35.7 +0.4**
baz=85,SNR=9.7
NV01 Mina Array Sit 84.67 325 *e*P **P 00 17 36.1 +0.6**
NVAR Mina Array Bea 84.67 325 P **P 00 17 37.2 +1.6**
comp=Z,3.4nm,0.8s,baz=155,slow=6.8,SNR=12
NVAR pP **pP 00 17 49.8 -0.1**
comp=Z,2.2nm,0.7s,baz=147,slow=6.6,SNR=5.7
H23A Clabaugh Cattl 84.69 337 P **P 00 17 35.4 +0.1**
baz=85
E29A Napoleon 84.79 341 P **P 00 17 35.9 +0.2**
baz=85
J19A Crowheart 84.81 334 P **P 00 17 36.7 +0.6**
baz=85
F27A Lemmon 84.82 339 P **P 00 17 36.0 +0.1**
baz=85,SNR=5.9
HVU Hansel Valley 84.99 330 *e*P **P 00 17 37.7 +0.7**
HVU pmax pmax
comp=Z,6.0nm,0.8s
HVU Hansel Valley 84.99 330 *e*P **P 00 17 37.7 +0.7**
comp=Z,6.4nm,0.8s
F26A Lodgepole 84.99 339 P **P 00 17 37.3 +0.6**
baz=85
H22A Clearmont 85.03 336 P **P 00 17 37.6 +0.6**
baz=85
G24A Alzada 85.05 338 P **P 00 17 37.7 +0.6**
baz=85
D30A Buchanan 85.06 342 P **P 00 17 37.6 +0.6**
baz=85
I20A Worland 85.08 335 P **P 00 17 38.2 +0.9**
baz=85,SNR=6.0
E28A Huff 85.08 340 P **P 00 17 38.1 +1.0**
baz=85
AHID Auburn Hatcher 85.16 332 *e*P **P 00 17 37.4 -0.5**
comp=Z,12nm,0.8s
ELK Elko 85.16 328 *e*P **P 00 17 38.5 +0.5**
ELK pmax pmax
comp=Z,53nm,2.3s
ELK Elko 85.16 328 *e*P **P 00 17 38.5 +0.5**
comp=Z,53nm,2.3s
E27A Carson 85.19 340 P **P 00 17 38.8 +1.0**
baz=86
D29A Pettibone, Tap 85.23 341 P **P 00 17 38.9 +1.0**
baz=86
G23A Biddle 85.25 337 P **P 00 17 38.8 +0.7**
baz=86
H21A Big Horn, Sher 85.29 336 P **P 00 17 38.9 +0.5**
baz=86
I19A Meeteetse 85.46 334 P **P 00 17 40.1 +0.8**
baz=86,SNR=7.3
AGMN Agassiz Nation 85.47 344 P **P 00 17 39.6 +0.6**
baz=86
AGMN Agassiz Nation 85.47 344 *e*P **P 00 17 38.6 -0.4**
comp=Z,10nm,0.8s
E26A Carlson Angus 85.49 339 P **P 00 17 39.7 +0.5**
baz=86
H20A Greybull 85.50 335 P **P 00 17 39.7 +0.3**
baz=86,SNR=14
F24A Ekalaka 85.53 338 P **P 00 17 40.0 +0.5**
baz=86
C30A Mose, Pekin 85.54 342 P **P 00 17 40.1 +0.7**
baz=86,SNR=5.8
G22A Birney 85.56 336 P **P 00 17 39.9 +0.2**
baz=86
REDW Red Top Meadow 85.57 333 *e*P **P 00 17 40.0 0.0**
comp=Z,9.2nm,1.1s
LOHW Long Hollow 85.69 333 *e*P **P 00 17 40.3 -0.2**
comp=Z,31nm,1.9s
TPAW Teton Pass 85.72 333 *e*P **P 00 17 40.3 -0.4**
comp=Z,8.0nm,0.9s
F23A Volborg 85.72 337 P **P 00 17 40.9 +0.5**
baz=86
D27A Center 85.80 340 P **P 00 17 42.0 +1.3**
baz=86
FXWY Fox Creek 85.87 333 *e*P **P 00 17 41.9 +0.4**
comp=Z,5.6nm,1.0s
G21A Lodge Grass 85.87 336 P **P 00 17 41.8 +0.6**
baz=86
MDND Maddock 85.96 342 P **P 00 17 42.4 +0.9**
baz=86
MDND Maddock 85.96 342 *e*P **P 00 17 42.0 +0.5**
comp=Z,383nm,1.4s
D26A Manning 85.99 340 P **P 00 17 42.5 +0.8**
baz=86
H19A Powell 86.01 334 P **P 00 17 42.7 +0.8**
baz=86,SNR=6.8
F22A Rosebud 86.05 337 P **P 00 17 42.6 +0.6**
baz=86
C28A Hausauer Farms 86.05 341 P **P 00 17 42.7 +0.8**
baz=86
IMW Indian Meadow 86.06 333 *e*P **P 00 17 42.5 +0.1**
comp=Z,9.9nm,1.0s
E24A Baker 86.12 338 P **P 00 17 43.3 +0.9**
baz=86
FLWY Flagg Ranch 86.13 333 *e*P **P 00 17 43.0 +0.3**
comp=Z,22nm,1.0s
B30A Myrvik Farm, E 86.20 343 P **P 00 17 42.9 +0.3**
baz=87,SNR=14
G20A Bridger 86.21 335 P **P 00 17 43.3 +0.3**
baz=87,SNR=9.9
C27A Sayler Ranch, 86.35 340 P **P 00 17 44.4 +1.0**
baz=87
D25A Fairfield 86.36 339 P **P 00 17 44.7 +1.1**
baz=87
F21A Absaloka Mine, 86.37 336 P **P 00 17 44.4 +0.8**
baz=87
E23A Ismay 86.38 337 P **P 00 17 43.8 +0.2**
baz=87,SNR=10.0
B29A Wagenman Farm, 86.47 342 P **P 00 17 44.4 +0.4**
baz=87
E22A Miles City 86.53 337 P **P 00 17 44.7 +0.4**
baz=87
MATP Matopo 86.57 112 P **P 00 17 45.6 +0.1**
comp=Z,41nm,0.9s,baz=233,slow=5.3,SNR=59
C26A Wahner Farm, P 86.62 340 P **P 00 17 45.8 +1.1**
baz=87
D24A Glendive 86.63 338 P **P 00 17 46.0 +1.2**
baz=87,SNR=7.6
A30A Hoffart Farm, 86.65 343 P **P 00 17 45.1 +0.3**
baz=87
F20A Billings 86.70 335 P **P 00 17 45.8 +0.5**
baz=87
B28A Dugan Ranch, T 86.72 341 P **P 00 17 45.9 +0.8**
baz=87
C25A Freed Ranch, W 86.84 339 P **P 00 17 46.8 +1.0**
baz=87
A29A Manning Farm, 86.86 342 P **P 00 17 46.2 +0.3**
baz=87
D23A Lindsay 86.95 338 P **P 00 17 47.4 +1.0**
baz=87,SNR=13
E21A Keefer Ranch, 86.99 336 P **P 00 17 47.4 +0.8**
baz=87
C24A Savage 87.03 338 P **P 00 17 47.9 +1.1**
baz=87,SNR=8.6
A28A Rude Farm, Bot 87.11 342 P **P 00 17 47.7 +0.6**
baz=88
HLID Hailey 87.14 330 P **P 00 17 48.9 +1.3**
baz=88
HLID Hailey 87.14 330 *e*P **P 00 17 48.1 +0.6**
comp=Z,7.3nm,1.0s
B26A Jensen Ranch, 87.16 340 P **P 00 17 48.2 +0.9**
baz=88
D22A Cohagen 87.23 337 P **P 00 17 48.7 +0.9**
baz=88
ULM Lac du Bonnet 87.32 345 P **P 00 17 47.5 -0.5**
comp=Z,12nm,0.9s,baz=176,slow=3.8,SNR=14
ULM Lac du Bonnet 87.32 345 P **P 00 17 47.5 -0.5**
ULM pmax pmax
comp=Z,13nm,0.9s
ULM Lac du Bonnet 87.32 345 *e*P **P 00 17 47.8 -0.3**
comp=Z,16nm,1.0s
ULM *e*pP **pP 00 18 00.5 -1.9**
B25A Knox Farm, Ray 87.32 340 P **P 00 17 49.5 +1.3**
baz=88
A27A Ledoux Ranch, 87.41 341 P **P 00 17 49.5 +1.0**
baz=88
D21A La Casta Ranch 87.42 337 P **P 00 17 49.6 +0.9**
baz=88
C23A Lambert 87.50 338 P **P 00 17 49.9 +0.9**
baz=88,SNR=6.5
A26A Wade Farm, Ken 87.58 341 P **P 00 17 50.0 +0.6**
baz=88
MCMT McKenzie Canyo 87.58 332 *e*P **P 00 17 50.7 +1.0**
MFID Camas Ranch 87.60 330 *e*P **P 00 17 50.5 +0.8**
comp=Z,72nm,2.4s
DGMT Dagmar 87.80 339 P **P 00 17 51.5 +1.0**
baz=88
DGMT Dagmar 87.80 339 *e*P **P 00 17 50.3 -0.2**
comp=Z,36nm,0.8s
DGMT *e*pP **pP 00 18 04.7 -0.1**
BOZ Bozeman (W) 87.81 333 P **P 00 17 51.3 +0.6**
baz=88
A25A Svangstu Ranch 87.91 340 P **P 00 17 51.9 +1.0**
baz=88
DLMT Dillon 87.93 333 *e*P **P 00 17 51.5 +0.2**
comp=Z,9.7nm,1.1s
B23A Brockton 88.03 339 P **P 00 17 52.3 +0.8**
baz=88
C21A Desert Coulee 88.12 337 P **P 00 17 52.5 +0.5**
baz=88
A24A Westby 88.15 339 P **P 00 17 53.1 +0.9**
baz=88
B22A Reddig Ranch S 88.19 338 P **P 00 17 53.0 +0.7**
baz=89
LRM Limekiln Ridge 88.26 333 *e*P **P 00 17 53.4 +0.5**
LRM *e*pP **pP 00 18 07.4 0.0**
C20A Veseth Ranch, 88.32 336 P **P 00 17 53.9 +1.0**
baz=89
WDC Whiskeytown Da 88.38 324 *e*P **P 00 17 53.5 +0.1**
WDC pmax pmax
comp=Z,10.0nm,1.0s
WDC Whiskeytown Da 88.38 324 *e*P **P 00 17 53.5 +0.1**
comp=Z,9.8nm,1.0s
WDC *e*pP **pP 00 18 06.3 -1.4**
B21A Ellsworth Farm 88.63 337 P **P 00 17 54.9 +0.6**
baz=89
N02D Trinity Center 88.77 324 P **P 00 17 56.2 +1.0**
baz=89
A22A Carney Farms, 88.78 338 P **P 00 17 56.1 +1.0**
baz=89
B20A Solberg Farm, 88.96 337 P **P 00 17 56.3 +0.4**
baz=89
M04C Macdoel 88.98 325 P **P 00 17 57.4 +1.1**
baz=89
K05A Summer Lake 89.27 326 *e*P **P 00 17 58.7 +0.9**
B19A Brinkman Farms 89.28 336 P **P 00 17 58.4 +1.0**
baz=90
LSZ Lusaka 89.32 108 *e*P **P 00 18 00.1 +1.4**
LSZ Lusaka 89.32 108 P **P 00 17 59.8 +1.1**
comp=Z,12nm,0.8s,baz=111,slow=0.4,SNR=22
LSZ Lusaka 89.32 108 *e*P **P 00 17 59.4 +0.8**
LSZ pmax pmax
comp=Z,14nm,0.9s
LSZ Lusaka 89.32 108 *e*P **P 00 17 59.4 +0.8**
comp=Z,14nm,0.9s
YBH Yreka Blue Hor 89.35 324 P **P 00 17 58.3 +0.3**
comp=Z,2.8nm,0.9s,baz=123,slow=17,SNR=7.6
YBH Yreka Blue Hor 89.35 324 *e*P **P 00 17 58.4 +0.4**
YBH pmax pmax
comp=Z,37nm,2.0s
YBH Yreka Blue Hor 89.35 324 *e*P **P 00 17 58.4 +0.4**
comp=Z,37nm,2.0s
SCHQ Schefferville 89.35 3 P **P 00 17 56.7 -0.8**
comp=Z,5.4nm,1.0s,baz=67,slow=13,SNR=4.2
SCHQ Schefferville 89.35 3 *e*P **P 00 17 57.0 -0.6**
comp=Z,92nm,2.5s
A19A Klindworth Far 89.62 337 P **P 00 18 00.9 +1.8**
baz=90
F10A Beach Ranch, E 90.26 330 *e*P P 00 18 08.3 +6.2
comp=Z,54nm,2.4s
F04D Rainier, OR 92.83 327 P **P 00 18 15.8 +1.9**
baz=93
EDM Edmonton 94.80 336 *e*P **P 00 18 21.7 -1.2**
EDM pmax pmax
comp=Z,7.0nm,0.9s
EDM Edmonton 94.80 336 *e*P **P 00 18 21.7 -1.2**
comp=Z,6.6nm,0.9s
ESDC Sonseca Array 96.94 46 P **P 00 18 32.7 -0.2**
comp=Z,1.2nm,0.8s,baz=250,slow=3.9,SNR=6.6
ES19 SONSECA Array 96.99 46 *e*P **P 00 18 32.3 -0.9**
DZM Mont Dzumac 100.98 233 *e*LR LR 00 51 57.8
comp=Z,371nm,28.2s
GERES GERESS Array B 112.52 45 PKiKP **PKiKP 00 23 36.4 -1.0**
comp=Z,0.7nm,0.9s,baz=214,slow=3.5,SNR=7.6
DIVS Divibare 114.31 52 ⇓*i*P PKPdf 00 23 40.5 -0.4
ILAR Eielson Array 115.00 333 PKP **PKPdf 00 23 41.5 0.0**
comp=Z,0.8nm,0.8s,baz=152,slow=1.3,SNR=9.7
BZS Buzias 115.99 51 ⇓PKIKP **PKPdf 00 23 43.6 -0.4**
BZS Buzias 115.99 51 ⇓*i*P **PKPdf 00 23 43.6 -0.4**
ASAR Alice Springs 116.98 206 PKP **PKPdf 00 23 45.6 -1.2**
comp=Z,0.4nm,0.5s,baz=103,slow=1.6,SNR=4.0
ASAR pPKP pPKPdf 00 23 59.8 -1.9
comp=Z,0.4nm,0.4s,baz=126,slow=1.7,SNR=3.6
ASAR PKKPbc **PKKPbc 00 34 10.8 -0.7**
comp=Z,0.9nm,0.8s,baz=344,slow=3.7,SNR=6.2
DRGR 117.16 50 ⇑PKIKP **PKPdf 00 23 46.6 +0.3**
DRGR 117.16 50 ⇑*i*P **PKPdf 00 23 46.6 +0.3**
ARR Arges 117.85 52 ⇑*i*P **PKPdf 00 23 47.3 -0.4**
MLR Muntele Rosu 118.75 53 ⇑PKIKP **PKPdf 00 23 49.3 -0.2**
MLR Muntele Rosu 118.75 53 ⇑*i*P **PKPdf 00 23 49.3 -0.2**
BUR04 Bucovina Ar. S 119.05 50 *e*PKPdf **PKPdf 00 23 49.4 -0.6**
BURAR Bucovina Array 119.05 50 ⇓PKIKP **PKPdf 00 23 50.5 +0.5**
BURAR Bucovina Array 119.05 50 ⇓*i*P **PKPdf 00 23 50.5 +0.5**
CSS Prodhromos 119.98 66 *e*PKPdf **PKPdf 00 23 52.5 +0.5**
CFR Carcaliu 120.08 54 ⇑PKIKP **PKPdf 00 23 51.5 -0.4**
CFR Carcaliu 120.08 54 ⇑*i*P **PKPdf 00 23 51.5 -0.4**
WRA Warramunga Arr 120.20 209 PKP **PKPdf 00 23 52.3 -0.7**
comp=Z,1.7nm,0.8s,baz=161,slow=1.6,SNR=4.4
WRA pPKP **pPKPdf 00 24 06.2 -1.8**
comp=Z,1.6nm,0.5s,baz=165,slow=1.6,SNR=5.1
BR231 Keskin MP Arra 121.41 61 *e*PKPdf **PKPdf 00 23 55.2 +0.4**
BRTR Keskin Array B 121.99 61 PKP **PKPdf 00 23 55.9 0.0**
comp=Z,3.7nm,0.8s,baz=193,slow=3.1,SNR=27
KIEV Kiev 122.52 48 *i* PKIKP **PKPdf 00 23 54.4 -2.0**
KIEV Kiev 122.52 48 *e*PKPdf **PKPdf 00 23 55.1 -1.3**
AKASG Malin Array Be 122.53 48 PKP **PKPdf 00 23 55.4 -1.0**
comp=Z,0.4nm,0.3s,baz=265,slow=3.0,SNR=8.8
FINES FINESS Array B 123.49 35 PKP **PKPdf 00 23 57.0 -0.9**
comp=Z,2.1nm,1.0s,baz=85,slow=4.4,SNR=4.3
FINES FINESS Array B 123.49 35*c* *i*PKIKP **PKPdf 00 23 58.0 +0.1**
FINES pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 124.61 25 PKP **PKPdf 00 23 59.8 -0.1**
comp=Z,1.3nm,0.8s,baz=265,slow=5.7,SNR=6.5
RAYN Ar Rayn 124.83 84 *e*PKPdf **PKPdf 00 24 01.9 +0.2**
MALT Malatya 125.01 64 ⇓PKIKP **PKPdf 00 24 02.9 +1.2**
MALT Malatya 125.01 64 ⇓*i*P **PKPdf 00 24 02.8 +1.1**
H11S2 WAKE ISLAND Hyl 126.01 268 T T 02 42 41.8
baz=119,slow=74,SNR=34
H11S1 WAKE ISLAND Hyl 126.02 268 T T 02 42 35.8
baz=119,slow=74,SNR=24
H11S3 WAKE ISLAND Hyl 126.02 268 T T 02 42 43.6
baz=119,slow=74,SNR=29
H11N3 WAKE ISLAND Hyl 126.44 270 T T 02 43 12.0
baz=115,slow=78,SNR=17
H11N1 WAKE ISLAND Hyl 126.45 270 T T 02 43 05.2
baz=115,slow=78,SNR=30
H11N2 WAKE ISLAND Hyl 126.46 270 T T 02 43 10.5
baz=115,slow=78,SNR=18
OBN Obninsk 127.83 44 ⇓*i*PKIKP **PKPdf 00 24 05.5 -0.9**
OBN *e* 00 26 06.4
OBN *e* 00 31 13.7
OBN pmax pmax
comp=Z,21nm,1.7s
VSR Storozhevoye 128.77 49 *e*PKIKP **PKPdf 00 24 08.1 -0.2**
VSR pmax pmax
comp=Z,10.0nm,1.2s
VSR pmax pmax
comp=N,2.0nm,0.7s
VSR pmax pmax
comp=E,6.0nm,1.0s
KIV Kislovodsk 129.68 59 ⇑*i*PKIKP **PKPdf 00 24 09.4 -1.1**
KIV pmax pmax
comp=Z,18nm,1.1s
KIV Kislovodsk 129.68 59 *e*PKPdf **PKPdf 00 24 10.1 -0.3**
KBZ Khabaz 129.78 59 PKP **PKPdf 00 24 11.2 +0.8**
comp=Z,5.4nm,1.0s,baz=246,slow=1.5,SNR=8.0
GNI Garni 130.24 64 *i* PKIKP **PKPdf 00 24 08.7 -3.0**
BILL Bilibino 133.65 334 ⇓*i*PKIKP **PKPdf 00 24 16.2 -0.9**
BILL pmax pmax
comp=Z,8.0nm,1.7s
GEYT Alibeck 139.88 70 PKhKP PKPpre 00 24 23.1
comp=Z,1.1nm,0.5s,baz=248,slow=7.8,SNR=4.3
GEYT PKP **PKPdf 00 24 30.4 +0.8**
comp=Z,6.1nm,0.9s,baz=289,slow=4.5,SNR=9.2
ARU Arti 140.17 41 *i* PKIKP **PKPdf 00 24 27.5 -2.0**
ARU Arti 140.17 41 *e*PKPdf **PKPdf 00 24 28.9 -0.6**
SEY Seymchan 140.83 330 ⇓*i*PKIKP **PKPdf 00 24 31.6 +1.1**
PETK Petropavlovsk- 140.88 313 PKP **PKPdf 00 24 31.8 +0.9**
comp=Z,2.5nm,0.8s,baz=107,slow=5.0,SNR=3.7
AB31 Akbulak array 141.96 53 PKHKP PKPpre 00 24 26.9
AB31 pmax pmax
comp=Z,8.0nm,0.7s
ABKAR Akbulak array 141.96 53 *e*PKPpre PKPpre 00 24 26.9
GSI Gunungsitoli 145.23 161 *e*PKPbc **PKPdf 00 24 40.2 +0.4**
POO Poona 145.45 109 *e*P **PKPdf 00 24 40.0 0.0**
URV Uravakonda 145.84 118 *e*PKPab **PKPdf 00 24 39.1 -1.7**
URV *e*PKPab **PKPbc 00 24 39.3 -2.1**
SKHT Srikalahasti 146.78 122 *e*PKiKP **PKPbc 00 24 44.2 +0.1**
KSM Kuching 146.81 184 *e*PKPdf **PKPbc 00 24 44.1 -0.2**
PSI Prapat 147.01 163 PKPbc **PKPdf 00 24 44.0 +1.0**
comp=Z,36nm,0.8s,baz=250,slow=1.5,SNR=19
PSI Prapat 147.01 163 PKIKP **PKPdf 00 24 44.0 +1.0**
PSI pmax pmax
comp=Z,36nm,0.8s
PSI Prapat 147.01 163 *e*PKPdf **PKPdf 00 24 42.3 -0.7**
KLRI Killari 147.30 112 *e*PKPab **PKPdf 00 24 44.3 +1.1**
RCLA Racherla 147.41 119 *e*PKPbc **PKPdf 00 24 42.1 -1.3**
RCLA *e*PKPab **PKPbc 00 24 45.0 -0.9**
BRVK Borovoye 147.60 44 *i* PKP2 **PKPbc 00 24 45.0 -0.3**
BRVK pmax pmax
comp=Z,27nm,0.8s
BRVK Borovoye 147.60 44 *e*PKPdf **PKPdf 00 24 43.2 +0.7**
SBUM Sibu 147.62 187 *e*PKPdf **PKPdf 00 24 44.4 +0.6**
BVA0 Borovoye Array 147.67 44 *i* PKP2 **PKPbc 00 24 44.7 -0.8**
BVA0 pmax pmax
comp=Z,22nm,0.7s
SRLM Srisailam 147.78 118 *e*PKPab **PKPbc 00 24 46.1 -0.8**
KBL Kabul 147.88 79 *e*PKiKP **PKPdf 00 24 43.9 0.0**
KBL Kabul 147.88 79 *e*PKPdf **PKPdf 00 24 43.9 0.0**
DZET Dzherino 148.33 71 PKIKP **PKPdf 00 24 45.0 +0.6**
DZET pmax pmax
comp=Z,36nm,0.8s
HYB Hyderabad 148.37 116 *i* PKP **PKPbc 00 24 48.0 -0.5**
comp=Z,71nm,0.8s
HYBB Hyderabad (bro 148.37 116 *e*PKPbc **PKPdf 00 24 45.1 +0.1**
HYBB *e*PKiKP **PKPbc 00 24 47.7 -0.7**
NJS Nagarjunasagar 148.38 118 *e*PKPbc **PKPdf 00 24 44.8 -0.2**
NJS *e*PKiKP **PKPbc 00 24 47.3 -1.1**
ADKI Addanki 148.39 119 *e*PKPab **PKPbc 00 24 49.1 +0.6**
IPM Ipoh 149.11 166 *e*PKPbc **PKPbc 00 24 49.0 -1.5**
SRSP Sriramsagar 149.14 113 *e*PKPbc **PKPdf 00 24 46.9 +0.7**
SRSP *e*PKiKP **PKPbc 00 24 49.8 -0.6**
YAK Yakutsk 149.55 340 *e*PKP2 **PKPbc 00 24 49.5 -0.5**
YAK *e* 00 31 56.2
YAK *e*SS SS 00 48 09.6 +36
YAK pmax pmax
comp=Z,57nm,0.8s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=Z,11nm,0.8s
YAK pmax pmax
comp=E,3.0nm,0.7s
YAK pmax pmax
comp=N,3.0nm,0.7s
YAK Yakutsk 149.55 340 *e*PKPbc **PKPbc 00 24 49.9 -0.1**
KK31 Karatay Array 149.69 63 *i* PKP2 **PKPbc 00 24 50.0 -1.0**
KK31 pmax pmax
comp=Z,8.0nm,0.6s
KKAR Karatay Array 149.69 63 *e*PKHKP **PKPdf 00 24 46.2 -0.1**
KKAR Karatay Array 149.69 63 *e*PKPdf **PKPdf 00 24 46.2 -0.1**
KKAR *e*PKPbc **PKPbc 00 24 50.8 -0.2**
RPR Rampur 149.81 114 *e*PKiKP **PKPbc 00 24 51.5 -0.5**
KULM Kulim 149.82 165 *e*PKPbc **PKPbc 00 24 51.8 -0.4**
OTUK Ortayu 150.21 52 PKP2 **PKPbc 00 24 52.2 +0.1**
OTUK pmax pmax
comp=Z,46nm,0.9s
PVM Polavaram 150.51 120 *e*PKiKP **PKPbc 00 24 53.7 0.0**
NKL Nikolayevsk 150.67 319 *e*PKIKP **PKPdf 00 24 47.3 -0.1**
NKL pmax pmax
comp=Z,40nm,0.9s
YSS Yuzh-Sakhalins 151.46 306 ⇑*e*PKIKP **PKPbc 00 24 54.9 -0.1**
YSS pmax pmax
comp=Z,40nm,1.0s
YSS Yuzh-Sakhalins 151.46 306 *e*PKPdf **PKPdf 00 24 48.8 -0.1**
YSS *e*PKPbc **PKPbc 00 24 55.0 -0.1**
SFK Sufi-Kurgan 152.01 69 PKIKP **PKPbc 00 24 56.1 -0.8**
SFK pmax pmax
comp=Z,23nm,0.7s
ASAJ Asahikawa 152.07 300 *e*PKPdf **PKPdf 00 24 49.9 0.0**
ASAJ *e*PKPbc **PKPbc 00 24 56.3 -0.3**
AML Almayashu 152.09 64 P **PKPbc 00 24 58.0 +0.8**
SNR=15
EKS2 Erkin-Say 152.11 63 P **PKPbc 00 24 57.5 +0.7**
SNR=17
USP Ospenovka 152.58 62 P **PKPbc 00 24 58.6 +0.8**
SNR=14
AAK Ala-Archa 152.64 63 P **PKPbc 00 24 59.3 +1.2**
SNR=21
AAK Ala-Archa 152.64 63 *e*PKIKP **PKPdf 00 24 51.7 +0.6**
AAK Ala-Archa 152.64 63 *e*PKPdf **PKPdf 00 24 51.6 +0.6**
AAK *e*PKPbc **PKiKP 00 24 58.9 +0.6**
UCH Uchtor 152.69 64 P **PKPbc 00 24 59.2 +0.6**
SNR=19
FRU Bishkek 152.71 63 *i* PKIKP **PKPbc 00 24 58.0 -0.1**
FRU *i* 00 25 19.0
FRU *e* 00 28 38.0
FRU pmax pmax
comp=Z,70nm,1.8s
CHMS Chumysh 152.79 62 P **PKPbc 00 24 58.7 +0.4**
SNR=9.3
KZA Kyzart 153.25 64 P **PKPbc 00 25 00.9 +1.1**
SNR=9.7
KURK Kurchatov 153.27 44 *e*PKIKP **PKPdf 00 24 53.2 +1.8**
KURK Kurchatov 153.27 44 *e*PKPdf **PKPdf 00 24 53.2 +1.8**
KURK *e*PKPbc **PKPbc 00 24 58.9 -0.1**
TKM2 Tokmak 2 153.42 62 P **PKPbc 00 25 00.5 +0.6**
SNR=9.0
TKM2 Tokmak 2 153.42 62 *e*PKIKP **PKPdf 00 24 52.1 -0.1**
TKM2 Tokmak 2 153.42 62 *e*PKPdf **PKPdf 00 24 52.1 -0.1**
TKM2 *e*PKPbc **PKPbc 00 25 00.4 +0.6**
NVS Novosibirsk 153.46 33 ⇓*i*PKIKP **PKPbc 00 24 59.5 +0.3**
NVS pmax pmax
comp=Z,51nm,2.0s
NVS pmax pmax
comp=N,16nm,2.2s
NVS pmax pmax
comp=E,18nm,2.2s
KSH Kashi 153.91 70 PKPbc **PKPdf 00 24 53.5 +0.6**
KSH pPKP **PKiKP 00 25 04.1 +3.1**
KSH PKS **PKSdf 00 28 26.1 -1.2**
KSH SKS **SKSdf 00 31 55.1 -0.7**
KSH SKKS **SKKSac 00 35 34.2 -0.9**
KSH SS **SS 00 48 19.2 -4.8**
KSH PPMZ
comp=E,150nm,4.4s
KSH LN
comp=E,76nm,5.2s
KSH LE
comp=E,50nm,3.3s
KSH LZ
comp=E,230nm,4.7s

ZALV	**Zalesovo Beam**	**154.74**	**33**	PKP	**PKPdf**	**00 24 52.9**	**-0.6**
	comp=E,1.6nm,0.8s,baz=280,slow=2.6,SNR=8.6						
ZALV				PKPbc	**PKPbc**	**00 25 02.0**	**0.0**
	comp=E,6.7nm,0.8s,baz=270,slow=3.0,SNR=20						
ZALV				PKPab	**PKPab**	**00 25 16.4**	**-0.8**
	comp=E,9.8nm,0.8s,baz=301,slow=4.8,SNR=12						
BOD	**Bodaibo**	**156.63**	**352**	*e*PKP2	**PKPab**	**00 25 24.8**	**-0.3**
BOD				pmax	pmax		
	comp=Z,13nm,0.9s						
MKAR	**Makanchi Array**	**157.07**	**51**	*e*PKIKP	**PKPdf**	**00 24 56.6**	**-0.2**
MKAR				*e*		00 25 27.0	
MKAR	**Makanchi Array**	**157.07**	**51**	*e*PKPdf	**PKPdf**	**00 24 56.5**	**-0.2**
MKAR				*e*PKPab	**PKPab**	**00 25 26.9**	**-0.6**
MK01	**Makanchi Array**	**157.09**	**51**	*e*PKPdf	**PKPdf**	**00 24 56.1**	**-0.7**
MK01				*e*PKPab	**PKPab**	**00 25 27.3**	**-0.3**
KOLN	**Koldanda**	**157.82**	**102**	*e*P	**PKPab**	**00 25 30.5**	**-1.1**
	comp=Z,19nm,0.8s						
GKN	**Gorkha**	**158.75**	**102**	*e*P	**PKPab**	**00 25 35.0**	**-0.5**
	comp=Z,27nm,0.8s						
DMN	**Daman**	**158.96**	**104**	*e*P	**PKPab**	**00 25 36.5**	**-0.1**
	comp=Z,75nm,0.9s						
KKN	**Kakani**	**159.18**	**103**	*e*P	**PKPab**	**00 25 37.2**	**-0.3**
PKIN	**Phulchoki**	**159.18**	**104**	*e*P	**PKPab**	**00 25 37.3**	**-0.2**
	comp=Z,23nm,0.8s						
PKI	**Pulchoki**	**159.19**	**104**	*e*P	**PKPab**	**00 25 37.1**	**-0.6**
	comp=Z,44nm,0.8s						
RAMN	**Ramite**	**159.85**	**107**	*e*P	**PKPab**	**00 25 40.7**	**+0.2**
	comp=Z,70nm,0.8s						
ODAN	**Odare**	**160.43**	**108**	*e*P	**PKPab**	**00 25 43.0**	**0.0**
	comp=Z,61nm,0.8s						
WMQ	**Urumqi**	**161.74**	**54**	*e*PKP	**PKPdf**	**00 25 01.1**	**-1.2**
WMQ				LN			
	comp=Z,79nm,21.5s						
WMQ				LE			
	comp=Z,75nm,24.1s						
WMQ				LZ			
	comp=Z,85nm,25.0s						
CMAR	**Chiang Mai Arr**	**161.75**	**151**	PKP	**PKPdf**	**00 25 03.4**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=251,slow=2.3,SNR=7.1						
CMAR				PKPab	**PKPab**	**00 25 47.2**	**-1.1**
	comp=Z,2.2nm,0.9s,baz=227,slow=6.0,SNR=6.5						
KSRS	**Korea Array**	**163.89**	**285**	PKP	**PKPdf**	**00 25 04.5**	**0.0**
	comp=Z,0.5nm,0.4s,baz=211,slow=1.5,SNR=5.0						
KSRS				PKPab	**PKPab**	**00 25 58.4**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=79,slow=3.5,SNR=3.0						
KSRS	**Korea Array**	**163.89**	**285**	PKIKP	**PKPdf**	**00 25 04.5**	**0.0**
KSRS						00 25 58.4	
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KSAR	**Wonju Array Be**	**163.93**	**285**	PKIKP	**PKPdf**	**00 25 04.5**	**-0.1**
KSAR						00 25 58.4	
KSAR	**Wonju Array Be**	**163.93**	**285**	PKP	**PKPdf**	**00 25 04.5**	**-0.1**
KSAR				PKPab	**PKPab**	**00 25 58.4**	**+0.7**
LSA	**Lhasa**	**164.66**	**105**	*e*PKIKP	**PKPdf**	**00 25 05.0**	**-1.1**
LSA				*e*		00 26 00.8	
LSA	**Lhasa**	**164.66**	**105**	*e*PKPdf	**PKPdf**	**00 25 05.0**	**-1.1**
LSA				*e*PKPab	**PKPab**	**00 26 00.8**	**-1.0**
SONA1	**Songino Array**	**166.87**	**6**	*e*PKPdf	**PKPdf**	**00 25 05.9**	**-1.0**
SONA1				*e*PKPab	**PKPab**	**00 26 10.2**	**-0.1**
SONM	**Songino Array**	**166.88**	**6**	PKP	**PKPdf**	**00 25 06.1**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=270,slow=2.7,SNR=3.6						
SONM				PKPab	**PKPab**	**00 26 10.8**	**+0.4**
	comp=Z,3.2nm,1.0s,baz=352,slow=4.7,SNR=11						
SONM				PP	**PP**	**00 29 56.1**	**-1.8**
	comp=Z,0.8nm,0.9s,baz=340,slow=8.1,SNR=3.5						
KMI	**Kunming**	**169.25**	**152**	PKP	**PKPdf**	**00 25 08.7**	**-0.6**
KMI				pPKP	**pPKPdf**	**00 25 25.0**	**+0.7**
KMI				PP	**PP**	**00 30 13.5**	**+3.1**
KMI				SS	SS	00 51 00.7	-1.4
KMI				PPMZ			
	comp=Z,85nm,4.0s						
KMI				LN			
	comp=Z,190nm,18.8s						
KMI				LE			
	comp=Z,190nm,15.3s						
KMI				LZ			
	comp=Z,130nm,13.9s						
NJ2	**Nanjing**	**170.74**	**256**	*e*PKP	**PKPdf**	**00 25 10.0**	**+0.3**
GTA	**Gaotai**	**171.82**	**53**	*e*PKP	**PKPdf**	**00 25 10.5**	**+0.3**
GTA				pPKP	**pPKPdf**	**00 25 24.6**	**-0.6**
GTA				sPKP		00 25 31.5	
WHN	**Wuhan**	**173.35**	**232**	PKP	**PKPdf**	**00 25 10.3**	**-0.6**
HHC	**Hu-ho-hao-te**	**173.41**	**338**	*e*PKP	**PKPdf**	**00 25 13.6**	**+2.8**
HHC				PP	PP	00 30 37.0	+6.2
HHC				SKS	**SKSdf**	**00 32 11.5**	**+1.6**
HHC				SS	**SS**	**00 51 46.6**	**+4.2**
HHC				PPMZ			
	comp=Z,40nm,8.6s						
HHC				LN			
	comp=Z,77nm,18.5s						
HHC				LE			
	comp=Z,120nm,16.0s						
HHC				LZ			
	comp=Z,120nm,17.3s						
CD2	**Chengdu**	**174.59**	**134**	PKP	**PKPdf**	**00 25 10.0**	**-1.4**
LZH	**Lanzhou**	**176.16**	**69**	*e*PKP	**PKPdf**	**00 25 13.7**	**+1.9**
LZH				pPKP	**pPKPdf**	**00 25 26.1**	**-0.7**
LZH				sPKP		00 25 29.8	
LZH				LN			
	comp=Z,150nm,16.1s						
LZH				LE			
	comp=Z,180nm,18.4s						
LZH				LZ			
	comp=Z,200nm,20.2s						
XAN	**Xi'an**	**179.08**	**216**	PKP	PKPdf	00 25 17.7	+5.6

MEX 03 00:12:28.4±0.6, 16°30N×97°96W, h5km±9km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.19**	**300**	*i* P	Pg	00 12 31.6	-0.6
PNIG				*i* S	Sg	00 12 34.9	+0.3
TLIG	**Tlapa**	**1.39**	**335**	*e*P	Pn	00 12 50.7	-3.9
TLIG				*e*S	Sb	00 13 08.1	-5.0
VHO	**Vista Hermosa**	**1.40**	**57**	*e*P	Pn	00 12 51.1	-3.8
VHO				*i* S	Sb	00 13 08.9	-5.0
HUIG	**Huatulco**	**1.86**	**106**	*e*P	Pn	00 12 58.0	-2.9
HUIG				*e*S	Sn	00 13 20.0	-4.8

*ISCJB **03** 00:22:15.7±0.5, 39°09N±0°04×29°11E±0°04, h6km±7km, Error ellipse: s-maj=6.6km s-min=4.8km az=153.5*
*CSEM **03** 00:22:15.7±0.2, 39°12N×29°11E, h2km, MD2.7, Error ellipse: s-maj=4.0km s-min=3.3km az=125.0*
*DDA **03** 00:22:15.4, 39°11N×29°10E, h7km, MD2.7*
*ISK **03** 00:22:15.3, 39°11N×29°11E, h5km, MD2.7*

ISC 03 00:22:15.9±1.0, 39°11N±0°03×29°10E±0°03, h10km±10km, n24, σ0°53/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.30**	**93**	*i* P	**Pg**	**00 22 21.2**	**-0.7**
GDZ				*i* S	**Sg**	**00 22 26.4**	**+0.4**
GDZ	**Gediz**	**0.30**	**93**	*i* P	**Pg**	**00 22 21.2**	**-0.7**
GDZ				*i* S	**Sg**	**00 22 26.4**	**+0.4**
DEMI	**Demirci**	**0.30**	**258**	*i* P	**Pg**	**00 22 22.0**	**0.0**
DEMI				*i* S	**Sg**	**00 22 26.4**	**+0.3**
DEMI	**Demirci**	**0.30**	**258**	*i* P	**Pg**	**00 22 22.0**	**0.0**
DEMI				*i* S	**Sg**	**00 22 26.4**	**+0.3**
TVSB	**Tavsanli**	**0.45**	**39**	*e*PG	**Pg**	**00 22 24.6**	**0.0**
TVSB				*e*SG	**Sg**	**00 22 30.6**	**+0.1**
TVSB	**Tavsanli**	**0.45**	**39**	*e*Pg	**Pg**	**00 22 24.6**	**0.0**
TVSB				*e*Sg	**Sg**	**00 22 30.6**	**+0.1**
DST	**Dursunbey**	**0.62**	**323**	*e*PG	**Pg**	**00 22 27.8**	**-0.1**
DST	**Dursunbey**	**0.62**	**323**	*e*Pg	**Pg**	**00 22 27.8**	**-0.1**
KULA	**Kula-Manisa**	**0.68**	**210**	*e*PG	**Pb**	**00 22 29.4**	**-0.5**
KULA				*e*SG	**Sg**	**00 22 38.6**	**+0.6**
KULA	**Kula-Manisa**	**0.68**	**210**	*e*Pg	**Pb**	**00 22 29.4**	**-0.5**
KULA				*e*Sg	**Sg**	**00 22 38.6**	**+0.6**
DURS	**Dursunbey**	**0.69**	**316**	*i* P	**Pg**	**00 22 27.9**	**-1.4**
DURS				*i* S	**Sn**	**00 22 42.1**	**-0.5**
DURS	**Dursunbey**	**0.69**	**316**	*i* P	**Pg**	**00 22 27.9**	**-1.4**
KHL	**Karahalli**	**0.85**	**157**	*e*PG	**Pg**	**00 22 32.0**	**-0.2**
KHL	**Karahalli**	**0.85**	**157**	*e*Pg	**Pg**	**00 22 32.0**	**-0.2**
CAVI	**Cavuskoy**	**1.24**	**27**	*e*PN	**Pg**	**00 22 39.1**	**-0.4**
CAVI	**Cavuskoy**	**1.24**	**27**	*e*Pn	**Pg**	**00 22 39.2**	**-0.4**
IZI	**Iznik**	**1.26**	**13**	*e*PN	**Pn**	**00 22 40.2**	**+0.6**
IZI	**Iznik**	**1.26**	**13**	*e*Pn	**Pn**	**00 22 40.2**	**+0.6**
KCTX	**Karacabey (Bur**	**1.29**	**334**	*e*PN	**Pg**	**00 22 40.6**	**-0.1**
KCTX	**Karacabey (Bur**	**1.29**	**334**	*e*Pn	**Pg**	**00 22 40.6**	**-0.1**
ADVT	**Abdulvahap**	**1.42**	**20**	*e*PN	**Pb**	**00 22 42.2**	**-0.1**
ADVT	**Abdulvahap**	**1.42**	**20**	*e*Pn	**Pb**	**00 22 42.2**	**-0.1**
ARMT	**Armutlu**	**1.47**	**353**	*e*PN	**Pb**	**00 22 43.4**	**+0.1**
ARMT	**Armutlu**	**1.47**	**353**	*e*Pn	**Pb**	**00 22 43.4**	**+0.1**

*IDC **03** 00:23:19.3±0.8, 12°55N×143°35E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.8/31, mbtmp3.9/8, MS3.5/5, Ms1 3.5/5, ms1mx3.1/28, Error ellipse: s-maj=27.4km s-min=16.4km az=111.0*
*NEIC **03** 00:23:21.0±0.6, 12°55N×143°30E, h10km, mb4.4/2, Error ellipse: s-maj=20.2km s-min=12.5km az=105.0*
*ISCJB **03** 00:23:21.5±0.6, 12°55N±0°09×143°25E±0°10, h27km, mb4.0/10, MS3.5/4, Error ellipse: s-maj=16.6km s-min=8.7km az=42.2*

ISC 03 00:23:23.5±0.7, 12°6N±0°1×143°4E±0°1, h27km, n18, σ1°33/13, mb4.1/10, MS3.3/4, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.75**	**55**	Pn	**Pn**	**00 23 52.5**	**+0.4**
	81nm,0.3s,baz=200,slow=2.0,SNR=33						
GUMO				Sn	**Sb**	**00 24 15.5**	**-1.0**
	43nm,0.3s,baz=42,slow=21,SNR=13						
GUMO				LR	LR	00 24 34.2	
	comp=Z,390nm,19.1s,baz=174,slow=42						
SIJI	**Sorong**	**17.99**	**223**	LR	LR	00 33 21.6	
	comp=Z,100nm,18.6s,baz=315,slow=34						
H11N1	**WAKE ISLAND Hy**	**23.64**	**70**	T	T	00 53 13.3	
	baz=254,slow=74						
H11N2	**WAKE ISLAND Hy**	**23.65**	**69**	T	T	00 53 12.3	
	baz=254,slow=74						
H11N3	**WAKE ISLAND Hy**	**23.66**	**70**	T	T	00 53 20.5	
	baz=254						
MJAR	**Matsushiro Arr**	**24.30**	**350**	LR	LR	00 36 54.9	
	comp=Z,41nm,18.5s,baz=235,slow=34						
KAPI	**Kappang**	**29.29**	**235**	LR	LR	00 41 54.9	
	comp=Z,58nm,18.9s,baz=90,slow=38						
WRAB	**Tennant Creek**	**33.52**	**196**	*e*P	**P**	**00 29 59.7**	**-1.4**
	2.5nm,0.5s						
WRA	**Warramunga Arr**	**33.53**	**196**	P	**P**	**00 29 59.9**	**-1.4**
	1.1nm,0.5s,baz=19,slow=9.6,SNR=6.8						
ASAR	**Alice Springs**	**37.21**	**194**	P	**P**	**00 30 31.8**	**-1.0**
	1.1nm,0.5s,baz=21,slow=12,SNR=21						
DZM	**Mont Dzumac**	**41.20**	**147**	*e*P	**P**	**00 31 07.4**	**+1.1**
	4.4nm,0.6s						
STKA	**Stephens Creek**	**44.25**	**182**	P	**P**	**00 31 30.9**	**+0.1**
	1.1nm,0.3s,baz=345,slow=5.9,SNR=2.4						
SONM	**Songino Array**	**46.74**	**326**	P	**P**	**00 31 51.7**	**+1.2**
	0.3nm,0.5s,baz=145,slow=8.8,SNR=2.9						
SONM				LR	LR	00 51 06.4	
	comp=Z,48nm,19.6s,baz=88,slow=36						
ZALV	**Zalesovo Beam**	**61.60**	**325**	P	**P**	**00 33 38.1**	**-0.5**
	0.8nm,0.4s,baz=114,slow=7.2,SNR=4.4						
ILAR	**Eielson Array**	**70.08**	**25**	P	**P**	**00 34 32.4**	**-0.7**
	0.4nm,0.6s,baz=257,slow=5.9,SNR=5.6						
NVAR	**Mina Array Bea**	**88.66**	**51**	P	**P**	**00 36 15.9**	**+0.9**
	0.9nm,0.7s,baz=253,slow=5.6,SNR=3.5						
FINES	**FINESS Array B**	**91.45**	**335**	P	**P**	**00 36 25.6**	**-1.6**
	0.4nm,0.6s,baz=58,slow=5.2,SNR=6.2						
FINES				LR	LR	01 17 04.6	
	comp=Z,141nm,20.6s,baz=268,slow=35						
TORD	**Torodi Ar. Bea**	**134.22**	**303**	PKP	**PKPdf**	**00 42 42.0**	**+2.2**
	0.3nm,0.9s,baz=103,slow=0.5,SNR=2.6						

*CSEM **03** 00:24:31.8±0.1, 38°42N×21°85E, h15km, MD2.9, Error ellipse: s-maj=3.3km s-min=2.1km az=101.0*
*ISCJB **03** 00:24:32.2±0.4, 38°42N±0°02×21°85E±0°03, h11km±3km, Error ellipse: s-maj=4.7km s-min=3.2km az=14.4*
*THE **03** 00:24:32.5, 38°42N×21°84E, h9km, ML1.3/9, Error ellipse: s-maj=0.9km s-min=0.3km az=113.0*
*ATH **03** 00:24:32.8, 38°41N×21°89E, h11km±1km, MD2.9/12*

ISC 03 00:24:32.4±1.1, 38°42N±0°02×21°85E±0°02, h10km±5km, n41, σ0°51/73, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.05**	**77**	*e*PG	**Pg**	**00 24 34.4**	**-0.1**
EFP				*e*SG	**Sg**	**00 24 36.1**	**+0.2**
EFP	**Efpalio**	**0.05**	**77**	*e*Pg	**Pg**	**00 24 34.4**	**-0.1**
EFP				S	**Sg**	**00 24 35.5**	**-0.4**
EFP				*e*Sg	Sg	00 24 36.1	+0.2
EFP	**Efpalio**	**0.05**	**77**	P	**Pg**	**00 24 34.3**	**-0.2**
EFP				S	**Sg**	**00 24 35.5**	**-0.4**
UPR	**University Cam**	**0.14**	**200**	P	**Pg**	**00 24 35.8**	**+0.2**
UPR				S	**Sg**	**00 24 37.9**	**0.0**
UPR	**University Cam**	**0.14**	**200**	P	**Pg**	**00 24 35.8**	**+0.2**
UPR				S	**Sg**	**00 24 37.9**	**0.0**
LAKA	**Lakka**	**0.20**	**149**	*e*PG	**Pg**	**00 24 37.1**	**+0.3**
LAKA				*e*SG	**Sg**	**00 24 40.5**	**+0.8**
LAKA	**Lakka**	**0.20**	**149**	P	**Pg**	**00 24 37.0**	**+0.3**
LAKA				S	**Sg**	**00 24 40.0**	**+0.3**
LAKA	**Lakka**	**0.20**	**149**	P	**Pg**	**00 24 37.0**	**+0.3**
LAKA				S	**Sg**	**00 24 40.0**	**+0.3**
KALE	**Kalithea**	**0.23**	**96**	*e*PG	**Pg**	**00 24 37.5**	**+0.2**
KALE	**Kalithea**	**0.23**	**96**	P	**Pg**	**00 24 37.4**	**+0.2**
KALE	**Kalithea**	**0.23**	**96**	S	**Sg**	**00 24 41.1**	**+0.6**
KALE	**Kalithea**	**0.23**	**96**	P	**Pg**	**00 24 37.4**	**+0.2**
KALE				S	**Sg**	**00 24 41.1**	**+0.6**
KLV	**Kalavryta, Ach**	**0.44**	**147**	*e*PB	**Pg**	**00 24 41.2**	**+0.1**
KLV				*e*SB	**Sg**	**00 24 46.9**	**-0.1**
KLV	**Kalavryta, Ach**	**0.44**	**147**	P	**Pg**	**00 24 41.1**	**0.0**
KLV				*e*Sb	**Sg**	**00 24 46.9**	**-0.1**
KLV				S	**Sg**	**00 24 47.8**	**+0.8**
KLV	**Kalavryta, Ach**	**0.44**	**147**	P	**Pg**	**00 24 41.1**	**0.0**
KLV				S	**Sg**	**00 24 47.8**	**+0.8**
RLS	**Riolos of Patr**	**0.47**	**220**	*e*PB	**Pg**	**00 24 41.8**	**+0.3**
RLS				*e*SB	**Sb**	**00 24 49.5**	**-0.1**
RLS	**Riolos of Patr**	**0.47**	**220**	P	**Pg**	**00 24 41.4**	**-0.1**
RLS	**Riolos of Patr**	**0.47**	**220**	*e*Pb	**Pg**	**00 24 41.8**	**+0.3**
RLS				S	**Sg**	**00 24 48.6**	**+0.9**
RLS				*e*Sb	**Sb**	**00 24 49.5**	**-0.1**
RLS	**Riolos of Patr**	**0.47**	**220**	P	**Pg**	**00 24 41.4**	**-0.1**
RLS				S	**Sg**	**00 24 48.6**	**+0.9**
DRO	**Drossia**	**0.47**	**193**	*e*PB	**Pg**	**00 24 41.7**	**0.0**
DRO				*e*SB	**Sb**	**00 24 49.8**	**-0.1**
DRO	**Drossia**	**0.47**	**193**	*e*Pb	**Pg**	**00 24 41.7**	**0.0**
DRO				S	**Sg**	**00 24 48.5**	**+0.5**
DRO				*e*Sb	**Sb**	**00 24 49.8**	**-0.1**
DRO	**Drossia**	**0.47**	**193**	P	**Pg**	**00 24 41.5**	**-0.2**
DRO				S	**Sg**	**00 24 48.5**	**+0.5**
EVR	**Evrytania**	**0.50**	**357**	*e*PB	**Pg**	**00 24 42.3**	**+0.1**
EVR				*e*SB	**Sb**	**00 24 50.4**	**-0.4**
EVR	**Evrytania**	**0.50**	**357**	P	**Pg**	**00 24 41.7**	**-0.5**
EVR	**Evrytania**	**0.50**	**357**	*e*Pb	**Pg**	**00 24 42.3**	**+0.1**
EVR				*e*Sb	**Sb**	**00 24 50.4**	**-0.4**
EVR	**Evrytania**	**0.50**	**357**	S	**Sg**	**00 24 49.4**	**+0.5**
EVR	**Evrytania**	**0.50**	**357**	P	**Pg**	**00 24 41.7**	**-0.5**
EVR				S	**Sg**	**00 24 49.4**	**+0.5**
DSF	**Desfina**	**0.54**	**90**	*e*PG	**Pg**	**00 24 42.3**	**-0.6**
DSF	**Desfina**	**0.54**	**90**	P	**Pg**	**00 24 42.4**	**-0.5**
DSF				S	**Sg**	**00 24 50.6**	**+0.7**
DSF	**Desfina**	**0.54**	**90**	P	**Pg**	**00 24 42.4**	**-0.5**
DSF				S	**Sg**	**00 24 50.6**	**+0.7**
GUR	**Goura**	**0.62**	**141**	*e*PB	**Pg**	**00 24 44.3**	**-0.1**
GUR				*e*SB	**Sg**	**00 24 51.8**	**-0.8**
GUR	**Goura**	**0.62**	**141**	*e*Pb	**Pg**	**00 24 44.3**	**-0.1**
GUR				*e*Sb	**Sg**	**00 24 51.8**	**-0.8**
GUR				S	**Sg**	**00 24 53.6**	**+1.0**
GUR	**Goura**	**0.62**	**141**	P	**Pg**	**00 24 44.1**	**-0.3**
GUR				S	**Sg**	**00 24 53.6**	**+1.0**
MAKR	**Makrakomi, Fth**	**0.64**	**20**	*e*PB	**Pg**	**00 24 45.0**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.64**	**20**	P	**Pg**	**00 24 44.6**	**-0.2**
MAKR	**Makrakomi, Fth**	**0.64**	**20**	*e*Pb	**Pg**	**00 24 45.0**	**+0.2**
MAKR				S	**Sg**	**00 24 53.8**	**+0.6**
MAKR	**Makrakomi, Fth**	**0.64**	**20**	P	**Pg**	**00 24 44.6**	**-0.2**
MAKR				S	**Sg**	**00 24 53.8**	**+0.6**
AXAR	**Agios Charalam**	**0.73**	**61**	*e*PB	**Pg**	**00 24 46.5**	**0.0**
AXAR	**Agios Charalam**	**0.73**	**61**	*e*Pb	**Pg**	**00 24 46.5**	**0.0**
AMT	**Artemida-Makis**	**0.89**	**187**	*e*PB	**Pg**	**00 24 48.1**	**-1.4**
AMT	**Artemida-Makis**	**0.89**	**187**	*e*Pb	**Pg**	**00 24 48.1**	**-1.4**

*ISCJB **03** 00:37:23.0±0.7, 9°3S±0°1×67°40E±0°06, h10km, mb3.8/6, MS3.9/19, Error ellipse: s-maj=16.6km s-min=6.3km az=155.4*
*IDC **03** 00:37:23.9±1.1, 9°20S×67°38E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/27, mbtmp3.7/5, MS3.9/19, Ms1 3.9/19, ms1mx3.8/30, Error ellipse: s-maj=45.0km s-min=26.2km az=32.0*
*NEIC **03** 00:37:25.3±0.8, 9°25S×67°32E, h10km, mb4.3/1, Error ellipse: s-maj=34.2km s-min=22.8km az=181.0*
*GCMT **03** 00:37:28.0±0.2, 9°40S×66°83E, h20km±1km, MW5.1/94, Moment Tensor Solution. s33,c35; s94,c134; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.26±.21; Mθθ-4.50±.15; Mφφ4.75±.16; Mrθ-1.31±.35; Mrφ1.24±.13; Mθφ0.49±.28; Best double couple: Mo4.99200×10^16 NP1:φs144.00000°, δ81.00000°, λ-166.00000°. NP2: φs51.00000°, δ76.00000°, λ-9.00000°. Principal axes: T 4.9330, Plg4.0000°, Azm277.0000°; N 0.1130, Plg74.0000°, Azm175.0000°; P -5.0510, Plg16.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 03 00:37:25.2±0.9, 9°3S±0°1×67°38E±0°09, h10km, n31, σ0°99/20, mb3.9/6, MS3.9/19, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08N3	**Diego Garcia H**	**4.63**	**51**	Pn	**Pn**	**00 38 34.3**	**-0.7**
	baz=105,slow=13,SNR=9.8						
H08N3				Sn	**Sn**	**00 39 29.5**	**+0.8**
H08N3				T	T	00 44 01.6	
	baz=231,slow=75,SNR=625						
H08N1	**Diego Garcia H**	**4.65**	**51**	Pn	**Pn**	**00 38 34.3**	**-1.0**
	baz=105,slow=13,SNR=6.6						
H08N1				Sn	**Sn**	**00 39 29.5**	**+0.3**
H08N1				T	T	00 43 56.7	
	baz=231,slow=75,SNR=385						
H08N2	**Diego Garcia H**	**4.65**	**51**	Pn	**Pn**	**00 38 34.3**	**-1.0**
H08N2				Sn	**Sn**	**00 39 29.5**	**+0.3**
	baz=105,slow=13,SNR=8.1						
H08N2				T	T	00 43 56.6	
	baz=231,slow=75,SNR=379						
H08S1	**Diego Garcia H**	**5.30**	**72**	Pn	**Pn**	**00 38 42.9**	**-1.4**
	baz=276,slow=14,SNR=40						
H08S1				Sn	**Sn**	**00 39 46.2**	**+0.8**
H08S1				T	T	00 44 54.0	
	baz=248						
H08S3	**Diego Garcia H**	**5.32**	**72**	Pn	**Pn**	**00 38 44.0**	**-0.5**
	baz=276,slow=14,SNR=26						
H08S3				Sn	**Sn**	**00 39 46.2**	**+0.4**
H08S3				T	T	00 44 49.0	
	baz=248						
H08S2	**Diego Garcia H**	**5.32**	**72**	Pn	**Pn**	**00 38 42.8**	**-1.7**
	baz=276,slow=14,SNR=40						
H08S2				Sn	**Sn**	**00 39 46.2**	**+0.3**
H08S2				T	T	00 44 55.1	
	baz=248						
KMBO	**Kilima Mbogo**	**31.05**	**283**	LR	LR	00 54 10.3	
	comp=Z,157nm,19.2s,baz=160,slow=32						
LSZ	**Lusaka**	**38.70**	**257**	P	**P**	**00 44 49.5**	**-0.4**
	6.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**41.61**	**48**	LR	LR	01 01 17.9	
	comp=Z,89nm,18.1s,baz=238,slow=34						
BOSA	**Boshof**	**43.93**	**238**	LR	LR	01 02 49.0	
	comp=Z,174nm,18.2s,baz=120,slow=35						
GEYT	**Alibeck**	**47.78**	**350**	LR	LR	01 04 29.9	
	comp=Z,89nm,19.4s,baz=235,slow=34						
H01W3	**Cape Leeuwin H**	**49.66**	**128**	T	T	01 40 01.5	
	baz=289,slow=75,SNR=41						
H01W2	**Cape Leeuwin H**	**49.66**	**128**	T	T	01 40 06.5	
	baz=289,slow=75,SNR=56						
H01W1	**Cape Leeuwin H**	**49.68**	**128**	T	T	01 40 07.3	
	baz=289,slow=75,SNR=45						
BRTR	**Keskin Array B**	**57.94**	**330**	LR	LR	01 10 31.0	
	comp=Z,96nm,19.1s,baz=234,slow=34						
MAW	**Mawson**	**58.31**	**182**	LR	LR	01 08 02.0	
	comp=Z,65nm,18.1s,baz=55,slow=32						
ZALV	**Zalesovo Beam**	**64.72**	**11**	P	**P**	**00 48 02.1**	**-1.3**
	0.4nm,0.6s,baz=197,slow=4.5,SNR=3.2						
ZALV				LR	LR	01 15 52.7	
	comp=Z,63nm,19.1s,baz=250,slow=36						
ASAR	**Alice Springs**	**64.88**	**112**	P	**P**	**00 48 05.3**	**+0.2**
	0.9nm,1.0s,baz=279,slow=6.1,SNR=3.9						
ASAR				LR	LR	01 15 20.8	
	comp=Z,95nm,18.2s,baz=272,slow=35						
WRA	**Warramunga Arr**	**65.30**	**108**	P	**P**	**00 48 08.7**	**+0.7**
	0.4nm,0.3s,baz=270,slow=6.8,SNR=3.1						
WRA				LR	LR	01 12 58.6	
	comp=Z,158nm,21.9s,baz=230,slow=33						
SONM	**Songino Array**	**66.55**	**28**	P	**P**	**00 48 16.6**	**+1.1**
	0.6nm,0.7s,baz=222,slow=6.3,SNR=3.6						
SONM				LR	LR	01 16 53.9	
	comp=Z,120nm,21.8s,baz=237,slow=36						
AKASG	**Malin Array Be**	**68.31**	**335**	LR	LR	01 19 43.3	
	comp=Z,49nm,19.3s,baz=105,slow=37						
TORD	**Torodi Ar. Bea**	**68.92**	**288**	P	**P**	**00 48 31.

GLI	**Glacier Island**	**4.01**	**63**	P	**Pn**	**00 40 43.2**	**+0.7**
HIN	**Hinchinbrook I**	**4.15**	**70**	P	**Pn**	**00 40 45.4**	**+1.0**
JPK	**Jack Peak**	**4.30**	**62**	P	**Pn**	**00 40 47.0**	**+0.6**
SCM	**Sheep Creek Mo**	**4.35**	**50**	P	**Pn**	**00 40 47.2**	**+0.1**
TRF	**Thorofare Moun**	**4.67**	**23**	P	**Pn**	**00 40 51.5**	**+0.2**
DIV	**Divide**	**4.70**	**62**	P	**Pn**	**00 40 52.2**	**+0.6**
RND	**Reindeer**	**4.96**	**30**	P	**Pn**	**00 40 55.3**	**+0.2**
GOAT	**Goat Mountain**	**5.05**	**70**	P	**Pn**	**00 40 56.8**	**+0.7**
DHY	**Denali Highway**	**5.14**	**38**	P	**Pn**	**00 40 57.1**	**-0.3**
BPAW	**Bear Paw Mtn.**	**5.15**	**17**	P	**Pn**	**00 40 57.2**	**-0.2**
BMRM	**Bremner River**	**5.20**	**66**	P	**Pn**	**00 40 58.7**	**+0.6**
MCK	**McKinley**	**5.21**	**28**	P	**Pn**	**00 40 59.0**	**+0.7**
PAX	**Paxson**	**5.72**	**45**	P	**Pn**	**00 41 05.5**	**+0.3**
VRDI	**Verde Repeater**	**5.80**	**65**	P	**Pn**	**00 41 07.1**	**+0.8**
WRH	**Wood River Hil**	**6.04**	**27**	P	**Pn**	**00 41 08.3**	**-0.9**
MLY	**Manley**	**6.07**	**15**	P	**Pn**	**00 41 09.1**	**-0.6**
BARK	**Barkley Ridge**	**6.12**	**74**	P	**Pn**	**00 41 11.0**	**+0.7**
ISLE	**Juniper Island**	**6.21**	**72**	P	**Pn**	**00 41 12.7**	**+1.0**
CCB	**Clear Creek Bu**	**6.25**	**27**	P	**Pn**	**00 41 11.2**	**-0.9**
PTPK	**Patty Peak**	**6.26**	**67**	P	**Pn**	**00 41 13.1**	**+0.8**
BALM	**Baldy**	**6.28**	**68**	P	**Pn**	**00 41 13.8**	**+1.2**
BAGL	**Bagley Icefiel**	**6.32**	**73**	P	**Pn**	**00 41 15.1**	**+2.1**
MDM	**Murphy Dome**	**6.43**	**24**	P	**Pn**	**00 41 14.2**	**-0.2**
COLA	**College**	**6.44**	**26**	*e*Pn	**Pn**	**00 41 14.5**	**0.0**
GRNC	**Granite Creek**	**6.52**	**71**	P	**Pn**	**00 41 17.4**	**+1.6**
IL1	**Eielson Array**	**6.58**	**29**	P	**Pn**	**00 41 16.4**	**0.0**
ILAR	**Eielson Array**	**6.58**	**29**	P	**Pn**	**00 41 15.4**	**-1.0**
	2.3nm,0.3s,baz=213,slow=13,SNR=122						
ILAR				S	**Sn**	**00 42 24.8**	**-5.6**
	0.8nm,0.3s,baz=202,slow=20,SNR=11						
TABL	**Table Mountain**	**6.78**	**74**	P	**Pn**	**00 41 20.6**	**+1.3**
HYT	**Haines Junctio**	**8.60**	**72**	*e*Pn	**Pn**	**00 41 44.0**	**+0.5**
	2.4nm,0.5s						
SONM	**Songino Array**	**54.67**	**305**	P	**P**	**00 48 56.1**	**+1.4**
	1.5nm,0.7s,baz=42,slow=6.7,SNR=6.5						
ZALV	**Zalesovo Beam**	**57.57**	**323**	P	**P**	**00 49 15.3**	**+0.2**
	0.4nm,0.3s,baz=37,slow=8.1,SNR=5.3						

NNC 03 00:42:38.7±3.7, 37°.02N×71°.09E, h0km, mb3.8, mpv3.5, 6C-3D, Error ellipse: s-maj=31.3km s-min=12.3km az=171.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.53**	**315**	⇑Pn	Pn	00 43 20.6	-0.6
	15nm,0.5s						
DZET				⇓Sn	Sn	00 43 54.6	+1.7
	29nm,0.4s						
SFK	**Sufi-Kurgan**	**3.53**	**32**	⇓Pn	Pn	00 43 36.1	+0.9
	2.3nm,0.2s						
SFK				⇑Sn	Sn	00 44 20.1	+2.2
	12nm,0.3s						
KK31	**Karatay Array**	**6.09**	**356**	⇑Pn	Pn	00 44 08.9	-1.2
	2.4nm,0.5s,baz=184,slow=14,SNR=64						
KK31				⇑Sn	Sn	00 45 20.2	-0.3
	3.8nm,0.7s,baz=167,slow=10,SNR=9.2						
AAK	**Ala-Archa**	**6.18**	**24**	⇑Pn	Pn	00 44 12.2	+0.7
	3.0nm,0.5s						
AAK				⇑Sn	Sn	00 45 22.4	-0.7
	7.4nm,1.1s						
TKM2	**Tokmak 2**	**6.83**	**29**	⇓Sn	Sn	00 45 37.4	-1.7
	0.9nm,0.5s						
AB31	**Akbulak array**	**14.67**	**330**	P	Pn	00 46 01.9	-5.5
	0.7nm,0.8s,baz=162,slow=11,SNR=11						

*NSSP **03** 00:58:24.9, 41°.80N×45°.42E, h15km, Ms3.3*
*ISCJB **03** 00:58:29.1±0.4, 41°.88N±0°.02×45°.46E±0°.02, h1km±3km, Error ellipse: s-maj=2.7km s-min=2.1km az=29.3*
*CSEM **03** 00:58:30.0±0.2, 41°.89N×45°.41E, h10km, mb4.1, Error ellipse: s-maj=4.0km s-min=3.0km az=34.0*
*MOS **03** 00:58:30.3±0.8, 41°.85N×45°.37E, h10km, mb4.1/1, Error ellipse: s-maj=8.9km s-min=5.0km az=108.3*
*TIF **03** 00:58:30.2, 41°.93N×45°.38E, h24km±1km*
*AZER **03** 00:58:31.4±0.1, 41°.74N×45°.59E, h26km±3km, Error ellipse: s-maj=4.2km s-min=3.1km az=307.0*

ISC 03 00:58:31.0±1.0, 41°.82N±0°.02×45°.39E±0°.02, h14km±8km, n100, σ1§08/162, 12C-25D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGRG	**David-gareji**	**0.37**	**182**	P	**Pn**	**00 58 40.8**	**-1.2**
DGRG				S	**Sn**	**00 58 49.6**	**+0.6**
DGRG	**David-gareji**	**0.37**	**182**	*e*PG	**Pn**	**00 58 40.8**	**-1.2**
DGRG	**David-gareji**	**0.37**	**182**	P	**Pn**	**00 58 40.8**	**-1.2**
SEAG	**Tbilisi Sea**	**0.44**	**263**	P	**Pg**	**00 58 38.8**	**-1.0**
SEAG				S	**Sb**	**00 58 46.7**	**-0.5**
SEAG	**Tbilisi Sea**	**0.44**	**263**	P	**Pg**	**00 58 38.8**	**-1.0**
SEAG				S	**Sb**	**00 58 46.7**	**-0.5**
TBLG	**Delisi**	**0.50**	**260**	P	**Pg**	**00 58 41.0**	**+0.2**
TBLG				S	**Sb**	**00 58 49.4**	**+0.7**
TBLG	**Delisi**	**0.50**	**260**	*e*PG	Sn	00 58 58.9	+6.7
TBLG	**Delisi**	**0.50**	**260**	P	**Pg**	**00 58 41.0**	**+0.2**
TBLG				S	**Sb**	**00 58 49.4**	**+0.7**
DUS	**Dusheti**	**0.58**	**298**	P	**Pg**	**00 58 42.1**	**-0.3**
DUS				S	**Sb**	**00 58 51.5**	**+0.3**
DUS	**Dusheti**	**0.58**	**298**	P	**Pg**	**00 58 42.1**	**-0.3**
DUS				S	**Sb**	**00 58 51.5**	**+0.3**
QZX	**Qazax, Azerbai**	**0.76**	**181**	⇓P	**Pb**	**00 58 45.8**	**-0.2**
	SNR=3251						
QZX				⇓S	**Sn**	**00 58 57.9**	**-0.8**
QZX	**Qazax, Azerbai**	**0.76**	**181**	P	**Pb**	**00 58 45.8**	**-0.2**
	SNR=1000						
QZX				S	**Sn**	**00 58 57.9**	**-0.8**
KZR	**Kazreti**	**0.85**	**240**	P	**Pb**	**00 58 46.5**	**-1.1**
KZR				S	**Sb**	**00 58 59.0**	**0.0**
KZR	**Kazreti**	**0.85**	**240**	P	**Pb**	**00 58 46.5**	**-1.1**
KZR				S	**Sb**	**00 58 59.0**	**0.0**
ZKTA	**Zakatala**	**0.94**	**101**	⇓P	**Pb**	**00 58 47.9**	**-1.2**
	SNR=297						
ZKTA				⇓S	**Sg**	**00 59 01.6**	**+0.1**
STEZ	**Stepenavan**	**1.11**	**223**	⇓*i*P	**Pb**	**00 58 50.0**	**-2.0**
STEZ				⇓*i*S	**Sn**	**00 59 09.0**	**+1.6**
STE	**Stepanavan**	**1.12**	**224**	⇓P	**Pb**	**00 58 50.0**	**-2.3**
STE				S	**Sn**	**00 59 09.0**	**+1.2**
LACR	**Lac**	**1.29**	**322**	⇑*i*PG	**Pn**	**00 58 53.0**	**-1.8**
LACR				*e*S	**Sb**	**00 59 09.7**	**-2.1**
LACR	**Lac**	**1.29**	**322**	*i* Pg	**Pn**	**00 58 53.0**	**-1.8**
LACR				*e*Sg	**Sb**	**00 59 09.7**	**-2.1**
GNBR	**Gunib**	**1.30**	**64**	⇓*i*PG	**Pn**	**00 58 53.8**	**-1.1**
GNBR				*i* S	**Sb**	**00 59 10.9**	**-1.0**
GNBR	**Gunib**	**1.30**	**64**	*i* Pg	**Pn**	**00 58 53.8**	**-1.1**
GNBR				*i* Sg	**Sb**	**00 59 10.9**	**-1.0**
VLKR	**Vladikavkaz**	**1.34**	**337**	*e*PG	**Pn**	**00 58 54.9**	**-0.4**
VLKR				*e*S	**Sn**	**00 59 12.2**	**-0.7**
VLKR	**Vladikavkaz**	**1.34**	**337**	*e*Pg	**Pn**	**00 58 54.9**	**-0.4**
VLKR				*e*Sg	**Sn**	**00 59 12.2**	**-0.7**
GANJ	**Ganja**	**1.37**	**149**	⇑Pn	**Pn**	**00 58 54.7**	**-1.0**
	SNR=12						
GANJ				⇓Sn	**Sb**	**00 59 13.4**	**-0.3**
GANJ	**Ganja**	**1.37**	**149**	Pn	**Pn**	**00 58 54.7**	**-1.0**
	SNR=12						
GANJ				Sn	**Sb**	**00 59 13.4**	**-0.3**
UNCR	**Uncukul**	**1.37**	**49**	*i* PG	**Pn**	**00 58 54.5**	**-1.3**
UNCR				*i* S	**Sn**	**00 59 12.2**	**-1.6**
UNCR				pmax	pmax		
	comp=Z,96nm,0.3s						
UNCR	**Uncukul**	**1.37**	**49**	*i* Pg	**Pn**	**00 58 54.5**	**-1.3**
	comp=Z,96nm,0.3s						
UNCR				*i* Sg	**Sn**	**00 59 12.2**	**-1.6**
ZEI	**Tsey**	**1.47**	**312**	*e*PG	**Pn**	**00 58 56.8**	**-0.5**
ZEI				*e*S	**Sn**	**00 59 15.6**	**-0.9**
ZEI	**Tsey**	**1.47**	**312**	*e*Pg	**Pn**	**00 58 56.8**	**-0.5**
ZEI				*e*Sg	**Sn**	**00 59 15.6**	**-0.9**
AKH	**Akhalkalaki**	**1.48**	**255**	P	**Pn**	**00 58 57.3**	**-0.1**
AKH				S	**Sb**	**00 59 17.0**	**-0.2**
AKH	**Akhalkalaki**	**1.48**	**255**	*i* PG	**Pn**	**00 58 56.6**	**-0.8**
AKH	**Akhalkalaki**	**1.48**	**255**	*i* Pg	**Pn**	**00 58 56.6**	**-0.8**
AKH	**Akhalkalaki**	**1.48**	**255**	P	**Pn**	**00 58 57.3**	**-0.1**
AKH				S	**Sb**	**00 59 17.0**	**-0.2**
SEKA	**Sheki**	**1.49**	**114**	⇓Pn	**Pn**	**00 58 56.1**	**-1.3**
	SNR=6.9						
SEKA				⇑Sn	**Sb**	**00 59 16.9**	**-0.3**
SEKA	**Sheki**	**1.49**	**114**	Pn	**Pn**	**00 58 56.1**	**-1.3**
	SNR=6.9						
SEKA				Sn	**Sb**	**00 59 16.9**	**-0.3**
GRO	**Groznyy**	**1.52**	**10**	⇓*i*PG	**Pn**	**00 58 56.4**	**-1.4**
GRO	**Groznyy**	**1.52**	**10**	*i* Pg	**Pn**	**00 58 56.4**	**-1.4**
ARNR	**Ardon**	**1.59**	**329**	*e*PG	**Pn**	**00 58 58.6**	**-0.2**
ARNR				*e*S	**Sn**	**00 59 19.1**	**0.0**
KORR	**Kora**	**1.60**	**323**	*e*PG	**Pn**	**00 58 58.1**	**-0.9**
KORR				*e*S	**Sn**	**00 59 18.6**	**-0.9**
KORR	**Kora**	**1.60**	**323**	*e*Pg	**Pn**	**00 58 58.1**	**-0.9**
KORR				*e*Sg	**Sn**	**00 59 18.6**	**-0.9**
BUJR	**Buynaksk**	**1.62**	**51**	PG	**Pn**	**00 58 59.0**	**-0.2**
BUJR				*e*S	**Sb**	**00 59 21.0**	**-0.1**
BUJR				pmax	pmax		
	comp=Z,68nm,0.3s						
BUJR	**Buynaksk**	**1.62**	**51**	Pg	**Pn**	**00 58 59.0**	**-0.2**
	comp=Z,68nm,0.3s						
BUJR				*e*Sg	**Sb**	**00 59 21.0**	**-0.1**
ONI	**Oni**	**1.63**	**299**	P	**Pn**	**00 58 58.5**	**-0.9**
ONI				S	**Sb**	**00 59 21.3**	**-0.2**
ONI	**Oni**	**1.63**	**299**	*i* PG	**Pn**	**00 58 59.0**	**-0.4**
ONI	**Oni**	**1.63**	**299**	P	**Pn**	**00 58 58.5**	**-0.9**
ONI	**Oni**	**1.63**	**299**	*i* Pg	**Pn**	**00 58 59.0**	**-0.4**
MNGR	**Mingechevir, A**	**1.65**	**129**	⇓Pn	**Pn**	**00 58 59.5**	**-0.1**
	SNR=9.7						
MNGR				⇑Sn	**Sb**	**00 59 21.4**	**-0.4**
MNGR	**Mingechevir, A**	**1.65**	**129**	Pn	**Pn**	**00 58 59.5**	**-0.1**
	SNR=9.7						
MNGR				Sn	**Sb**	**00 59 21.4**	**-0.4**
VADZ	**Vardenis**	**1.67**	**171**	*e*P	**Pb**	**00 59 02.0**	**+0.4**
VADZ				*e*S	**Sg**	**00 59 27.0**	**+2.3**
VADZ	**Vardenis**	**1.67**	**171**	P	**Pb**	**00 59 02.0**	**+0.4**
VADZ				S	**Sg**	**00 59 27.0**	**+2.3**
BTKR	**Batakoyurt**	**1.68**	**338**	*e*PN	**Pn**	**00 59 00.0**	**0.0**
BTKR				*e*S	**Sn**	**00 59 21.4**	**+0.1**
BTKR	**Batakoyurt**	**1.68**	**338**	*e*Pn	**Pn**	**00 59 00.0**	**0.0**
BTKR				*e*Sg	**Sn**	**00 59 21.4**	**+0.1**
DIGR	**Digorskoe uzhe**	**1.72**	**309**	*e*PN	**Pn**	**00 59 01.0**	**+0.2**
DIGR				*e*S	**Sn**	**00 59 22.9**	**+0.2**
DIGR	**Digorskoe uzhe**	**1.72**	**309**	*e*Pn	**Pn**	**00 59 01.0**	**+0.2**
DIGR				*e*Sg	**Sn**	**00 59 22.9**	**+0.2**
GNI	**Garni**	**1.74**	**197**	*d i*PN	**Pn**	**00 59 01.4**	**+0.4**
GNI	**Garni**	**1.74**	**197**	⇓*i*P	**Pn**	**00 59 01.6**	**+0.7**
GNI				⇓*i*S	**Sg**	**00 59 27.1**	**+0.1**
GNI	**Garni**	**1.74**	**197**	⇓P	**Pn**	**00 59 01.6**	**+0.7**
ERE	**Yerevan**	**1.79**	**203**	*e*P	Pn	00 58 56.0	-5.6
ERE				*e*S	**Sn**	**00 59 21.0**	**-3.1**
STDR	**Stavd-Durt**	**1.83**	**328**	⇓*i*PN	**Pn**	**00 59 02.0**	**-0.1**
STDR				*e*S	**Sn**	**00 59 25.5**	**+0.3**
STDR	**Stavd-Durt**	**1.83**	**328**	*i* Pn	**Pn**	**00 59 02.0**	**-0.1**
STDR				*e*Sg	**Sn**	**00 59 25.5**	**+0.3**
LSNR	**Lesken**	**1.86**	**322**	*e*PN	**Pb**	**00 59 03.4**	**-1.4**
LSNR	**Lesken**	**1.86**	**322**	*e*Pn	**Pb**	**00 59 03.4**	**-1.4**
MAK	**Makhachkala**	**1.94**	**53**	*e*PN	**Pb**	**00 59 05.8**	**-0.3**
MAK				*e*		00 59 32.6	
MAK				pmax	pmax		
	comp=Z,88nm,0.6s						
MAK				smax	smax		
	comp=E,290nm,0.7s						
MAK				smax	smax		
	comp=N,363nm,0.8s						
TRKR	**Terskaya**	**1.96**	**346**	*e*PN	**Pn**	**00 59 03.8**	**-0.1**
TRKR	**Terskaya**	**1.96**	**346**	*e*Pn	**Pn**	**00 59 03.8**	**-0.1**
BRDA	**Brd**	**2.06**	**138**	⇓Pn	**Pn**	**00 59 05.1**	**-0.1**
	SNR=4.7						
BRDA				⇓Sn	**Sn**	**00 59 30.5**	**-0.2**
BRDA	**Brd**	**2.06**	**138**	Pn	**Pn**	**00 59 05.1**	**-0.1**
	SNR=4.7						
BRDA				Sn	**Sn**	**00 59 30.5**	**-0.2**
KSMR	**Kasumkent**	**2.06**	**95**	*e*PN	**Pb**	**00 59 06.5**	**-1.7**
KSMR				*e*S	**Sb**	**00 59 35.0**	**+1.3**
KSMR	**Kasumkent**	**2.06**	**95**	*e*Pn	**Pb**	**00 59 06.5**	**-1.7**
KSMR				*e*Sb	**Sb**	**00 59 35.0**	**+1.3**
PRTR	**Priterechnaya**	**2.10**	**337**	*e*PN	**Pn**	**00 59 05.1**	**-0.6**
PRTR	**Priterechnaya**	**2.10**	**337**	*e*Pn	**Pn**	**00 59 05.1**	**-0.6**
NCK	**Nalchik**	**2.14**	**322**	*i* PN	**Pn**	**00 59 06.0**	**-0.3**
NCK	**Nalchik**	**2.14**	**322**	*i* Pn	**Pn**	**00 59 06.0**	**-0.3**
IML	**Ismayilli**	**2.34**	**115**	⇓Pn	**Pn**	**00 59 09.2**	**+0.1**
IML				⇑Sn	**Sn**	**00 59 37.1**	**-0.6**
IML	**Ismayilli**	**2.34**	**115**	Pn	**Pn**	**00 59 09.2**	**+0.1**
IML				Sn	**Sn**	**00 59 37.1**	**-0.6**
QUBA	**Quba, Azerbaij**	**2.37**	**100**	⇓Pn	**Pn**	**00 59 09.3**	**-0.3**
QUBA				⇑Sn	**Sn**	**00 59 39.4**	**+0.9**
QUBA	**Quba, Azerbaij**	**2.37**	**100**	Pn	**Pn**	**00 59 09.3**	**-0.3**
QUBA				Sn	**Sn**	**00 59 39.4**	**+0.9**
NEY	**Neytrino**	**2.44**	**307**	*e*PN	**Pb**	**00 59 13.5**	**-1.2**
KUBR	**Kubataba**	**2.46**	**324**	⇓*e*PN	**Pn**	**00 59 12.0**	**+1.2**
KUBR				*e*S	**Sb**	**00 59 44.0**	**-1.2**
KUBR	**Kubataba**	**2.46**	**324**	*e*Pn	**Pn**	**00 59 12.0**	**+1.2**
PQL	**Pirkuli**	**2.62**	**112**	⇓Pn	**Pn**	**00 59 13.2**	**+0.1**
	SNR=4.7						
PQL				⇑Sn	**Sn**	**00 59 43.8**	**-1.0**
PQL	**Pirkuli**	**2.62**	**112**	Pn	**Pn**	**00 59 13.2**	**+0.1**
	SNR=4.7						
PQL				Sn	**Sn**	**00 59 43.8**	**-1.0**
NAX	**Nakhchivan**	**2.64**	**178**	⇑Pg	**Pb**	**00 59 17.5**	**-0.7**
	SNR=13						
NAX				⇑Sg	**Sg**	**00 59 54.0**	**-1.9**
NAX	**Nakhchivan**	**2.64**	**178**	Pg	**Pb**	**00 59 17.5**	**-0.7**
	SNR=13						
NAX				Sg	**Sg**	**00 59 54.0**	**-1.9**
SIZA	**Siyzn**	**2.74**	**105**	⇑Pn	**Pn**	**00 59 15.0**	**+0.4**
	SNR=3.3						
SIZA	**Siyzn**	**2.74**	**105**	Pn	**Pn**	**00 59 15.0**	**+0.4**
	SNR=3.3						
PYA	**Pyatigorsk**	**2.80**	**323**	*e*PN	**Pn**	**00 59 16.5**	**+1.1**
PYA				*e*S	**Sb**	**00 59 52.3**	**-2.7**
PYA	**Pyatigorsk**	**2.80**	**323**	*e*Pn	**Pn**	**00 59 16.5**	**+1.1**
ATGJ	**Altiaghaj**	**2.84**	**109**	⇓Pn	**Pn**	**00 59 16.6**	**+0.6**
ATGJ	**Altiaghaj**	**2.84**	**109**	Pn	**Pn**	**00 59 16.6**	**+0.6**
KIV	**Kislovodsk**	**2.92**	**318**	*e*PN	**Pn**	**00 59 18.0**	**+0.9**
KIV				*e*		00 59 51.0	
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,79nm,19.0s						
KIV	**Kislovodsk**	**2.92**	**318**	*e*Pn	**Pn**	**00 59 18.0**	**+0.9**
	comp=Z,5.0nm,1.1s						
KIV				*e*Sn	**Sn**	**00 59 51.0**	**-1.0**
	comp=Z,79nm,19.0s						
GLBA	**Clilabad**	**3.44**	**137**	⇑Sn	**Sn**	**01 00 05.1**	**+0.3**
GLBA	**Clilabad**	**3.44**	**137**	Sn	**Sn**	**01 00 05.1**	**+0.3**
GOF	**Gofitskoye**	**3.66**	**333**	*e*PN	**Pg**	**00 59 43.5**	**+2.4**
GOF				*e*S	**Sg**	**01 00 33.2**	**+4.6**
GOF				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GOF				smax	smax		
	comp=E,40nm,1.0s						
LRK	**Lerik**	**3.89**	**144**	⇓Pn	**Pn**	**00 59 30.5**	**-0.1**
	SNR=9.9						
LRK	**Lerik**	**3.89**	**144**	Pn	**Pn**	**00 59 30.5**	**-0.1**
	SNR=9.9						
LKRN	**Lenkeran, Azer**	**4.04**	**139**	⇓Sn	**Sn**	**01 00 18.0**	**-1.6**
LKRN	**Lenkeran, Azer**	**4.04**	**139**	Sn	**Sn**	**01 00 18.0**	**-1.6**
KURK	**Kurchatov**	**24.46**	**57**	*i* P	**P**	**01 03 51.7**	**+2.4**

IDC 03 01:09:01.9±4.8, 9°.70S×156°.89E, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.7/19, mbtmp4.1/3, Error ellipse: s-maj=91.6km s-min=66.5km az=172.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.03**	**242**	P	P	01 14 18.7	-0.2
	2.2nm,0.7s,baz=70,slow=9.8,SNR=6.5						
ASAR	**Alice Springs**	**25.98**	**235**	P	P	01 14 36.0	-0.6
	3.0nm,0.6s,baz=64,slow=10,SNR=36						
STKA	**Stephens Creek**	**26.23**	**211**	P	P	01 14 39.5	+0.8
	1.6nm,0.5s,baz=47,slow=15,SNR=8.1						

*NIED **03** 01:20:00, 33°.10N×142°.40E, h8km, Mw4.2 Best double couple: M₀2.32000×10¹⁵ NP1:φ₀22.00000°, δ35.00000°, λ79.00000°. NP2:φ₀215.00000°, δ56.00000°, λ98.00000°.*
*IDC **03** 01:20:53.7±0.6, 33°.00N×142°.51E, h0km, mb4.1/17, mb1 4.3/21, mb1mx4.2/33, mbtmp4.2/21, ML3.1/2, MS3.2/4, Ms1 3.2/4, ms1mx2.8/36, Error ellipse: s-maj=21.6km s-min=15.2km az=82.0*
*MOS **03** 01:20:53.7±3.4, 33°.00N×142°.51E, h33km, mb4.7/27, Error ellipse: s-maj=10.9km s-min=5.4km az=109.1*
*BJI **03** 01:20:57.4, 33°.01N×142°.39E, h29km, mb4.6/33, mB4.5/19, Ms4.0/13, Ms7 3.7/15*
*JMA **03** 01:20:57.7±0.4, 33°.08N×142°.43E, h70km, M4.2*
*NEIC **03** 01:20:57.0±2.8, 33°.04N×142°.58E, h20km±17km, mb4.6/22, MW4.2(NIED), Error ellipse: s-maj=7.3km s-min=6.1km az=124.0*
*ISCJB **03** 01:20:57.9±0.3, 33°.05N±0°.03×142°.42E±0°.04, h33km, mb4.4/50, MS3.7/1, Error ellipse: s-maj=5.3km s-min=3.7km az=31.7*

ISC 03 01:20:59.2±0.5, 33°.07N±0°.05×142°.47E±0°.05, h33km, n163, σ1§45/175, mb4.4/50, 14C-5D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.01**	**322**	P	**Pn**	**01 21 29.6**	**-0.7**
BSO1				S	**Sn**	**01 21 54.0**	**0.0**
BSO2	**Boso 2**	**2.20**	**320**	S	**Sn**	**01 21 59.7**	**+0.6**
JHJ2	**Mitsune**	**2.23**	**272**	P	**Pn**	**01 21 33.0**	**-0.8**
JHJ2	**Mitsune**	**2.23**	**272**	*e*Pn	**Pn**	**01 21 33.0**	**-0.8**
JHJ2				*e*Sn	**Sn**	**01 21 58.8**	**-1.4**
JHCJ	**Hachijojimakas**	**2.25**	**271**	S	**Sn**	**01 21 58.6**	**-2.0**
BSO3	**Boso 3**	**2.38**	**317**	P	**Pn**	**01 21 35.1**	**-0.5**
BSO3				S	**Sn**	**01 22 04.2**	**+0.8**
BSO4	**Boso 4**	**2.61**	**318**	P	**Pn**	**01 21 39.0**	**+0.1**
BSO4				S	**Sn**	**01 22 09.4**	**0.0**
KTR	**Katsuura**	**2.74**	**320**	S	**Sn**	**01 22 12.5**	**-0.2**
JIM2	**Oshima 3**	**3.02**	**304**	P	**Pn**	**01 21 43.1**	**-1.5**
JIZS	**Izushimoda**	**3.41**	**300**	P	**Pn**	**01 21 49.7**	**-0.3**
JIZS				S	**Sn**	**01 22 28.0**	**-1.4**
JOD2	**Odawara 2**	**3.56**	**309**	P	**Pn**	**01 21 50.9**	**-1.2**
JOD2				S	**Sn**	**01 22 30.2**	**-2.8**
JYN	**Shimob**	**4.05**	**308**	P	**Pn**	**01 21 58.6**	**-0.4**
MJAR	**Matsushiro Arr**	**4.93**	**316**	Pn	**Pn**	**01 22 11.0**	**0.0**
	6.1nm,0.3s,baz=162,slow=12,SNR=26						
MJAR				Sn	**Sn**	**01 23 04.7**	**-2.1**
	9.8nm,0.3s,baz=147,slow=25,SNR=13						
MJAR				LR	LR	01 24 26.3	
	comp=Z,158nm,19.8s,baz=125,slow=43						
MAJO	**Matsushiro**	**4.93**	**316**	*e i*P	**Pn**	**01 22 11.0**	**+0.1**
MAJO	**Matsushiro**	**4.93**	**316**	*e*Pn	**Pn**	**01 22 11.2**	**+0.2**
MAJO				*e*Sn	**Sn**	**01 23 04.7**	**-2.2**
MAT	**Matsushiro**	**4.93**	**316**	P	**Pn**	**01 22 11.6**	**+0.7**
MAT				S	**Sn**	**01 23 05.4**	**-1.5**
CBIJ	**Chichi jima**	**5.96**	**182**	Pn	Pn	01 22 21.7	-3.4
CBIJ				Sn	Sn	01 23 24.8	-7.5
JCJ	**Chichijima**	**5.96**	**182**	Pn	Pn	01 22 21.7	-3.4
	18nm,0.3s,baz=298,slow=23,SNR=18						
JCJ				Sn	Sn	01 23 24.8	-7.5
	11nm,0.3s,baz=30,slow=20,SNR=2.9						
ERM	**Erimo**	**8.95**	**3**	*e*P	Pn	01 23 01.3	-4.7
ASAJ	**Asahikawa**	**11.03**	**0**	Pn	**Pn**	**01 23 32.0**	**-2.5**
	baz=177,slow=17						
ASAJ				Sn	Sn	01 25 24.8	-12
	baz=45,slow=19						
ASAJ				LR	LR	01 29 07.7	
	comp=Z,56nm,18.8s,slow=44						
YUK	**Yuzh-Kuril'sk**	**11.26**	**13**	P	Pn	01 23 31.9	-5.8
YUK				pmax	pmax		
	comp=N,26nm,0.3s						
YUK				pmax	pmax		
	comp=E,34nm,0.3s						
YUK				pmax	pmax		
	comp=Z,36nm,0.3s						
KSRS	**Korea Array**	**12.67**	**294**	Pn	**Pn**	**01 23 60.0**	**+3.0**
	comp=Z,0.3nm,0.3s,baz=104,slow=14,SNR=3.7						
KSRS	**Korea Array**	**12.67**	**294**	P	**Pn**	**01 24 00.0**	**+3.0**
KSAR	**Wonju Array Be**	**12.69**	**294**	P	**Pn**	**01 24 00.0**	**+2.6**
KSAR	**Wonju Array Be**	**12.69**	**294**	Pn	**Pn**	**01 23 60.0**	**+2.6**
KUR	**Kuril'sk**	**12.84**	**17**	*e*P	Pn	01 24 04.3	+5.0
KUR				S	**Sn**	**01 26 25.9**	**+4.9**
KUR				pmax	pmax		
	comp=N,52nm,0.1s						
KUR				pmax	pmax		
	comp=E,43nm,0.1s						
KUR				pmax	pmax		
	comp=Z,39nm,0.1s						
USRK	**Ussuriysk Ar.**	**13.79**	**327**	Pn

KMI LZ
comp=Z,46nm,35.0s
BILL Bilibino 37.61 14⇓ *e*P **P** **01 28 09.2 -1.2**
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL Bilibino 37.61 14 *e*P **P** **01 28 10.5 +0.2**
comp=Z,4.9nm,0.8s
WMQ Urumqi 43.51 301 P **P** **01 29 01.3 +1.8**
WMQ pP **pP** **01 29 10.7 +1.4**
WMQ sP **sP** **01 29 15.3 +2.0**
WMQ PMZ
comp=Z,14nm,1.8s
WMQ PMZ
comp=Z,59nm,3.6s
WMQ LN
comp=Z,42nm,26.6s
WMQ LE
comp=Z,83nm,26.6s
WMQ LZ
comp=Z,82nm,25.2s
ZALV Zalesovo Beam 45.28 315 P **P** **01 29 13.7 +0.2**
comp=Z,1.9nm,0.6s,baz=99,slow=6.4,SNR=9.7
ZALV PcP **PcP** **01 30 52.5 -0.3**
comp=Z,2.6nm,0.7s,baz=86,slow=2.2,SNR=6.0
NVS Novosibirsk 46.26 317⇑ *i*P **P** **01 29 20.7 -0.4**
NVS pmax pmax
comp=Z,7.0nm,1.0s
NVS pmax pmax
comp=N,2.0nm,0.9s
NVS pmax pmax
comp=E,7.0nm,1.3s
MK31 Makanchi Array 47.04 305 *e*P **P** **01 29 27.8 +0.3**
MK31 Makanchi Array 47.04 305 *e*P **P** **01 29 27.8 +0.3**
MKAR Makanchi Array 47.04 305 *e*P **P** **01 29 28.3 +0.8**
MKAR Makanchi Array 47.04 305 *e*P **P** **01 29 28.3 +0.8**
IPM Ipoh 47.96 243 *e*P **P** **01 29 34.7 -0.2**
comp=E,11nm,0.7s
KURK Kurchatov 49.12 311 *e*P **P** **01 29 43.5 +0.1**
KURK pmax pmax
comp=Z,29nm,1.0s
KURK Kurchatov 49.12 311 *e*P **P** **01 29 43.5 +0.1**
comp=Z,29nm,1.0s
KDAK Kodiak Island 49.53 40 *i*P **P** **01 29 47.0 +0.6**
TKM2 Tokmak 2 52.36 301 *e*P **P** **01 30 09.9 +1.7**
TKM2 pmax pmax
comp=Z,2.0nm,0.6s
TKM2 Tokmak 2 52.36 301 *e*P **P** **01 30 09.9 +1.7**
comp=Z,1.5nm,0.6s
ILAR Eielson Array 52.41 31 P **P** **01 30 07.8 -0.2**
comp=Z,0.7nm,0.7s,baz=259,slow=6.3,SNR=10
WRAB Tennant Creek 53.27 190 *e*P **P** **01 30 13.8 -1.0**
WRAB pmax pmax
comp=Z,14nm,1.3s
WRAB Tennant Creek 53.27 190 *e*P **P** **01 30 13.8 -1.0**
comp=Z,14nm,1.3s
WRA Warramunga Arr 53.28 190 P **P** **01 30 13.2 -1.7**
comp=Z,1.9nm,0.7s,baz=6.4,slow=7.6,SNR=8.1
EKS2 Erkin-Say 53.72 302 *e*P **P** **01 30 18.0 -0.1**
EKS2 pmax pmax
comp=Z,2.0nm,0.8s
EKS2 Erkin-Say 53.72 302 *e*P **P** **01 30 18.0 -0.1**
comp=Z,2.4nm,0.8s
BRVK Borovoye 53.98 315 *i*P **P** **01 30 18.6 -1.1**
BRVK pmax pmax
comp=Z,6.0nm,1.2s
BRVK Borovoye 53.98 315 *e*P **P** **01 30 19.1 -0.6**
comp=Z,3.6nm,0.8s
KKAR Karatay Array 55.93 303 *e*P **P** **01 30 34.4 +0.4**
KKAR pmax pmax
comp=Z,6.0nm,0.9s
KKAR Karatay Array 55.93 303 *e*P **P** **01 30 34.4 +0.4**
comp=Z,6.1nm,0.9s
AS31 Alice Springs 57.01 189 *e*P **P** **01 30 42.4 +0.6**
ASAR Alice Springs 57.01 189 P **P** **01 30 41.0 -0.7**
comp=Z,0.3nm,0.5s,baz=24,slow=13,SNR=5.9
ASAR PcP **PcP** **01 31 36.9 +0.3**
comp=Z,1.1nm,0.8s,baz=12,slow=4.7,SNR=4.9
MBWA Marble Bar 58.13 205 *e*P **P** **01 30 50.4 +0.7**
comp=Z,26nm,1.2s
SVE Sverdlovsk 58.72 320 *e*P **P** **01 30 54.1 +0.7**
SVE pmax pmax
comp=Z,14nm,1.0s
ARU Arti 59.93 320 *d i*P **P** **01 31 01.5 -0.3**
ARU 01 31 46.6
ARU 01 33 19.8
ARU S **S** **01 39 09.6 -1.9**
ARU SS **SS** **01 43 01.1 -6.5**
ARU pmax pmax
comp=Z,13nm,1.2s
ARU Arti 59.93 320 *e*P **P** **01 31 01.7 0.0**
comp=Z,8.7nm,0.8s
ABKAR Akbulak array 61.20 312 *e*P **P** **01 31 10.7 +0.1**
PRGR Permogore 64.57 328 P P 01 31 27.1 -5.6
PRGR pmax pmax
comp=Z,5.0nm,0.6s
RES Resolute Bay 66.22 14 *e*P **P** **01 31 43.7 +0.5**
RES pmax pmax
comp=Z,5.0nm,1.0s
RES Resolute Bay 66.22 14 *e*P **P** **01 31 43.7 +0.5**
comp=Z,5.0nm,1.0s
GEYT Alibeck 66.56 301 P **P** **01 31 46.6 +0.5**
comp=Z,2.9nm,0.9s,baz=64,slow=3.4,SNR=7.1
YKA Yellowknife Ar 65.81 29 P **P** **01 31 47.2 0.0**
comp=Z,1.3nm,0.8s,baz=294,slow=5.9,SNR=5.0
ARCES ARCESS Array B 68.01 340 P **P** **01 31 54.4 -0.3**
comp=Z,3.0nm,0.9s,baz=57,slow=6.6,SNR=6.5
OBN Obninsk 71.80 324⇓ *i*P **P** **01 32 18.1 0.0**
OBN *i* 01 32 30.6
OBN pmax pmax
comp=Z,5.0nm,0.4s
NEW Newport 72.38 44 LR LR 02 01 20.7
comp=Z,48nm,21.7s,baz=337,slow=34
VSR Storozhevoye 72.50 320 *e*P **P** **01 32 21.2 -1.2**
VSR pmax pmax
comp=Z,5.0nm,0.9s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.3s
FINES FINESS Array B 72.73 333 P **P** **01 32 23.5 -0.1**
comp=E,3.5nm,0.8s,baz=23,slow=6.2,SNR=15
FINES FINESS Array B 72.73 333 *i*P **P** **01 32 24.1 +0.5**
FINES pmax pmax
comp=Z,4.0nm,0.8s
GOF Gofitskoye 73.40 313 *e*P P 01 32 17.1 -11
KBZ Khabaz 74.17 312 P **P** **01 32 32.6 +0.2**
comp=Z,5.4nm,0.8s,baz=74,slow=2.2,SNR=12
KIV Kislovodsk 74.18 312 *e*P **P** **01 32 32.9 +0.3**
KIV *e* 01 35 18.3
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV Kislovodsk 74.18 312 *e*P **P** **01 32 33.8 +1.2**
comp=Z,7.4nm,0.8s
VSU Vasula 74.31 331 *e*P **P** **01 32 33.8 +0.8**
VSU pmax pmax
comp=Z,24nm,1.2s
WVOR Wild Horse Val 74.39 49 *e*P **P** **01 32 32.3 -1.7**
WVOR pmax pmax
comp=Z,8.0nm,0.5s
WVOR Wild Horse Val 74.39 49 *e*P **P** **01 32 32.3 -1.7**
comp=Z,8.2nm,0.5s
GNI Garni 74.80 308 *i*P **P** **01 32 38.1 +1.7**
GNI pmax pmax
comp=Z,8.0nm,1.2s
GNI Garni 74.80 308 *e*P **P** **01 32 37.0 +0.6**
comp=Z,5.5nm,0.8s
FFC Flin Flon 76.57 33 *e*P **P** **01 32 45.6 -0.4**
FFC Flin Flon 76.57 33 *e*P **P** **01 32 45.6 -0.4**
ANN Anapa 76.92 315 *e*P **P** **01 32 47.8 -0.4**
ANN pmax pmax
comp=Z,30nm,1.2s
AKASG Malin Array Be 77.97 323 P **P** **01 32 53.6 -0.3**
comp=Z,0.4nm,0.4s,baz=43,slow=5.5,SNR=10.0
AKASG Malin Array Be 77.97 323 *ce*P **P** **01 32 53.9 0.0**
AKBB Malin Array Si 77.97 323 *e*P **P** **01 32 53.8 -0.1**
AKBB Malin Array Si 77.97 323 *e*P **P** **01 32 53.8 -0.1**
KIEV Kiev 77.98 323 *e*P **P** **01 32 53.6 -0.4**
NB2 NORSAR Subarra 78.17 338 P **P** **01 32 54.7 -0.2**
comp=Z,3.2nm,0.7s,baz=39,slow=5.9
NOA NORSAR Array B 78.17 338 P **P** **01 32 54.9 -0.1**
comp=Z,3.2nm,0.8s,baz=39,slow=5.6,SNR=12
HWUT Hardware Ranch 79.27 47 *e*P **P** **01 33 01.9 +0.3**
comp=Z,2.0nm,0.9s
DUG Dugway 79.29 49 *e*P **P** **01 33 01.8 +0.2**
DUG pmax pmax
comp=Z,1.0nm,0.8s
DUG Dugway 79.29 49 *e*P **P** **01 33 01.8 +0.2**
comp=Z,1.4nm,0.8s
PDAR Pinedale Array 79.82 45 P **P** **01 33 05.0 +0.4**
comp=Z,0.4nm,0.4s,baz=324,slow=4.2,SNR=3.5
MALT Malatya 79.92 309⇑ *i*P **P** **01 33 06.9 +1.9**
BUR08 Bucovina Ar. S 81.96 323 *e*P **P** **01 33 16.0 +0.3**
BURAR Bucovina Array 81.97 323⇑ *i*P **P** **01 33 16.6 +0.9**
BR131 Keskin Array S 82.14 313 *e*P **P** **01 33 17.3 +0.4**
comp=Z,1.9nm,0.9s
BRTR Keskin Array B 82.14 313 P **P** **01 33 17.1 +0.3**
comp=Z,1.5nm,0.7s,baz=118,slow=3.8,SNR=11
BRTR Keskin Array B 82.14 313 *ce*P **P** **01 33 17.7 +0.8**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
KOLS Kolonicke sedl 82.55 325 *e*P **P** **01 33 19.1 +0.5**
KOLS pmax pmax
comp=Z,4.0nm,1.3s
KOLS Kolonicke sedl 82.55 325 *e*P **P** **01 33 19.1 +0.5**
STHS Stebnicka Huta 82.70 326 *e*P **P** **01 33 19.9 +0.4**
STHS pmax pmax
comp=Z,3.0nm,1.0s
STHS Stebnicka Huta 82.70 326 *e*P **P** **01 33 19.9 +0.4**
MSAB Monastry St. A 82.86 319⇑ *i*P **P** **01 33 21.1 +0.8**
MLR Muntele Rosu 82.98 321⇑ *i*P **P** **01 33 23.0 +1.9**
RAYN Ar Rayn 82.99 293 *e*P **P** **01 33 21.6 +0.2**
comp=Z,3.1nm,0.7s
ARR Arges 83.75 321⇑ *i*P **P** **01 33 26.9 +1.9**
DRGR 83.79 323⇑ *i*P **P** **01 33 25.9 +0.7**
ISCO Idaho Springs 83.98 46 *e*P **P** **01 33 25.8 -0.8**
ISCO pmax pmax
comp=Z,2.0nm,0.9s
ISCO Idaho Springs 83.98 46 *e*P **P** **01 33 25.8 -0.8**
comp=Z,2.4nm,0.9s
LOT Lotru 84.15 322⇓ *i*P **P** **01 33 28.5 +1.4**
MORC Moravsky Berou 84.16 328 *e*P **P** **01 33 27.4 +0.5**
MORC pmax pmax
comp=Z,9.0nm,1.1s
MORC Moravsky Berou 84.16 328 *e*P **P** **01 33 27.4 +0.5**
comp=Z,9.2nm,1.1s
DPC Dobruska-Polom 84.28 329 *e*P **P** **01 33 28.2 +0.6**
DPC Dobruska-Polom 84.28 329 *e*P **P** **01 33 28.2 +0.6**
PSZ Piszkesteto 84.39 325 *e*P **P** **01 33 29.4 +1.1**
PSZ pmax pmax
comp=Z,11nm,1.0s
PSZ Piszkesteto 84.39 325⇑ *i*P **P** **01 33 29.3 +1.1**
PSZ Piszkesteto 84.39 325 *e*P **P** **01 33 29.4 +1.1**
comp=Z,11nm,1.0s
BRG Berggiesshubel 84.91 330 *e*(P) **P** **01 33 30.8 +0.2**
comp=Z,3.9nm,1.1s
BRG Berggiesshubel 84.91 330 *e*P **P** **01 33 30.8 +0.2**
BRG pmax pmax
comp=Z,4.0nm,1.1s
CLL Collm 84.97 331⇑ *i*P **P** **01 33 31.3 +0.4**
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL Collm 84.97 331⇑ *i*P **P** **01 33 31.3 +0.4**
comp=Z,7.0nm,0.8s
CLL *i* PcP **PcP** **01 33 34.9 +0.7**
CSS Prodhromos 85.20 309 *e*P **P** **01 33 32.0 -0.4**
PRU Pruhonice 85.32 329 *e*P **P** **01 33 31.3 -1.4**
PRU Pruhonice 85.32 329 *e*P **P** **01 33 31.3 -1.4**
SDCO Great Sand Dun 85.33 48 *e*P **P** **01 33 33.2 -0.2**
comp=Z,1.1nm,0.6s
KHC Kasperske Hory 86.38 329 *e*P P 01 33 33.8 -4.3
KHC Kasperske Hory 86.38 329 *e*P P 01 33 33.8 -4.3
ANMO Albuquerque 86.46 50 *e*P **P** **01 33 39.1 +0.1**
ANMO Albuquerque 86.46 50 *e*P **P** **01 33 39.1 +0.1**
GERES GERESS Array B 86.54 329 P **P** **01 33 38.3 -0.6**
comp=Z,0.1nm,0.3s,baz=25,slow=5.4,SNR=3.9
DIVS Divibare 87.03 323⇓ *i*P **P** **01 33 41.5 +0.1**
TXAR Lajitas Array 91.83 53 P **P** **01 34 04.5 +0.2**
comp=Z,0.6nm,0.7s,baz=320,slow=2.2,SNR=5.9
TORD Torodi Ar. Bea 120.72 314 PKP **PKPdf** **01 39 47.3 -1.1**
comp=Z,0.5nm,0.9s,baz=1.6,slow=1.1,SNR=4.7
SAML Samuel 146.28 50 *e*PKPbc **PKPdf** **01 40 36.1 +0.3**
LPAZ La Paz 147.72 66 PKPbc **PKPbc** **01 40 42.0 +0.2**
comp=Z,0.8nm,0.4s,baz=348,slow=8.5,SNR=7.6
LPAZ La Paz 147.72 66 PKP2 **PKPbc** **01 40 42.0 +0.2**
LPAZ pmax pmax
comp=Z,1.0nm,0.4s
LPAZ La Paz 147.72 66 *e*PKPbc **PKPbc** **01 40 41.8 0.0**
LVC Limon Verde 150.46 77 *e*PKPbc **PKPbc** **01 40 47.5 -0.6**

JMA 03 01:22:49.0±0.8, 33°.08N×142°.37E, h74km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.14**	**272**	P	Pn	01 23 23.4	+0.8
BSO3	**Boso 3**	**2.31**	**319**	P	Pn	01 23 25.5	+0.9
BSO4	**Boso 4**	**2.54**	**319**	P	Pn	01 23 29.6	+1.7
JOD2	**Odawara 2**	**3.48**	**310**	P	Pn	01 23 41.8	+0.9
JOD2				*e*S	Sn	01 24 23.7	+2.7
JRY	**Ryogami san**	**4.10**	**317**	P	Pn	01 23 51.2	+2.0
JRY				S	Sn	01 24 38.7	+2.8
JAG	**Ashikaga**	**4.11**	**325**	P	Pn	01 23 50.8	+1.4
JAG				*e*S	Sn	01 24 38.2	+2.0
MAT	**Matsushiro**	**4.86**	**316**	P	Pn	01 24 01.0	+1.3
MAT				S	Sn	01 24 56.9	+2.2

*SKHL **03** 01:29:52.1±0.2, 46°.90N×153°.20E, h37km±2km, mb4.7/4*
*MOS **03** 01:29:53.4±1.7, 46°.36N×153°.14E, h33km, mb4.3/8, Error ellipse: s-maj=15.0km s-min=10.5km az=62.7*
*ISCJB **03** 01:29:54.3±0.6, 46°.46N±0°.09×153°.0E±0°.1, h40km, mb3.9/16, Error ellipse: s-maj=15.3km s-min=6.4km az=145.6*
*IDC **03** 01:29:55.9±0.8, 46°.37N×153°.13E, h43km±6km, mb3.6/14, mb1 3.8/19, mb1mx3.7/42, mbtmp3.8/19, ML2.9/4, Error ellipse: s-maj=21.1km s-min=13.9km az=158.0*
ISC 03 01:29:55.8±0.6, 46°.31N±0°.08×153°.06E±0°.08, h40km, n59, σ1§47/55, mb4.0/16, 3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.79**	**255⇓**	*i*PN	**Pn**	**01 30 52.2**	**+0.6**
KUR				*e*S	Sn	01 31 41.8	+6.9
KUR				pmax	pmax		
	comp=Z,48nm,0.3s						
KUR				pmax	pmax		
	comp=N,21nm,0.1s						
KUR				pmax	pmax		
	comp=E,26nm,0.1s						
KUR				smax	smax		
	comp=N,48nm,0.1s						
KUR				smax	smax		
	comp=E,14nm,0.1s						
KUR	**Kuril'sk**	**3.79**	**255⇓**	*i*P	**Pn**	**01 30 51.1**	**-0.5**
KUR				AMB	AMB	01 30 52.6	
	comp=E,22nm,0.3s						
KUR				AMB	AMB	01 30 52.6	
	comp=E,26nm,0.3s						
KUR				AMB	AMB	01 30 52.6	
	comp=E,49nm,0.3s						
KUR				*e*S	**Sn**	**01 31 35.5**	**+0.6**
KUR				A	A	01 31 52.0	
	comp=E,70nm,0.5s						
KUR				A	A	01 31 52.0	
	comp=E,140nm,0.5s						
SKR	**Severo-Kuril's**	**4.83**	**24**	*e*PN	Pn	01 30 55.0	-11
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				MLR	MLR		
	comp=Z,600nm,14.0s						
SKR	**Severo-Kuril's**	**4.83**	**24⇓**	*e*P	Pn	01 30 53.8	-12
SKR				AMB	AMB	01 30 59.1	
	comp=Z,60nm,0.5s						
SKR				*e*S	Sn	01 31 40.0	-20
SKR				A	A	01 32 03.5	
	comp=Z,50nm,0.4s						
SKR				A	A	01 32 03.5	
	comp=Z,60nm,0.4s						
SKR				AMS	AMS	01 32 36.0	
	comp=Z,600nm,14.0s						
YUK	**Yuzh-Kuril'sk**	**5.57**	**249**	*e*PN	Pn	01 31 04.2	-12
YUK				pmax	pmax		
	comp=N,27nm,0.2s						
YUK				pmax	pmax		
	comp=E,32nm,0.2s						
YUK				pmax	pmax		
	comp=Z,63nm,0.2s						
PAU	**Pauzhetka**	**5.73**	**24**	*e*P	Pn	01 31 08.1	-10
PAU				*e*S	Sn	01 32 05.0	-18
YSS	**Yuzh-Sakhalins**	**7.12**	**279**	*e*PN	Pn	01 31 41.0	+3.6
YSS	**Yuzh-Sakhalins**	**7.12**	**279**	*e*P	**Pn**	**01 31 37.1**	**-0.3**
YSS				AMB	AMB	01 31 41.5	
	comp=Z,20nm,0.8s						
PETK	**Petropavlovsk-**	**7.44**	**22**	P	**Pn**	**01 31 40.2**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=186,slow=15,SNR=8.7						
PETK				S	**Sn**	**01 33 09.9**	**+5.1**
	baz=158,slow=23,SNR=1.8						
PETK	**Petropavlovsk-**	**7.44**	**22**	PN	**Pn**	**01 31 40.2**	**-1.5**
PETK				S	**Sn**	**01 33 09.9**	**+5.1**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JKA	**Kamikawa-asahi**	**7.70**	**257**	*e*P	**Pn**	**01 31 46.0**	**+0.6**
ASAJ	**Asahikawa**	**7.71**	**257**	P	**Pn**	**01 31 46.0**	**+0.6**
	baz=11,slow=10						
ASAJ	**Asahikawa**	**7.71**	**257**	PN	**Pn**	**01 31 46.0**	**+0.6**
UGL	**Uglegorsk**	**7.92**	**294**	*e*P	**Pn**	**01 31 45.8**	**-2.4**
UGL				AMB	AMB	01 31 46.7	
	comp=Z,50nm,0.4s						
ERM	**Erimo**	**8.31**	**242**	*i*PN	**Pn**	**01 31 53.2**	**-0.4**
NKL	**Nikolayevsk**	**10.53**	**315**	*e*rx	rx	01 32 11.3	
MAJO	**Matsushiro**	**14.79**	**234**	*i*P	**P**	**01 33 27.7**	**+0.3**
MJAR	**Matsushiro Arr**	**14.79**	**234**	P	**Pn**	**01 33 24.6**	**+2.6**
	comp=Z,0.3nm,0.3s,baz=32,slow=8.2,SNR=4.9						
USRK	**Ussuriysk Ar.**	**14.99**	**270**	P	**Pn**	**01 33 24.1**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=74,slow=11,SNR=6.3						
SEY	**Seymchan**	**16.67**	**359**	P	**Pn**	**01 33 43.2**	**-2.8**
	comp=Z,0.0nm,0.3s,baz=191,slow=7.4,SNR=2.4						
KSRS	**Korea Array**	**20.63**	**254**	P	**P**	**01 34 32.5**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=55,slow=12,SNR=4.7						
KSRS	**Korea Array**	**20.63**	**254**	*e*P	**P**	**01 34 31.6**	**-0.1**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KSRS	**Korea Array**	**20.63**	**254**	*e*P	**P**	**01 34 31.6**	**-0.1**
BILL	**Bilibino**	**22.83**	**13**	*e*P	**P**	**01 34 54.3**	**-0.7**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.3s						
H11N2	**WAKE ISLAND Hy**	**28.84**	**152**	T	T	02 07 31.6	
	baz=340,slow=76,SNR=9.8						
H11N1	**WAKE ISLAND Hy**	**28.86**	**152**	T	T	02 07 32.2	
	baz=340,slow=76,SNR=5.7						
H11N3	**WAKE ISLAND Hy**	**28.86**	**152**	T	T	02 07 32.9	
	baz=340,slow=76,SNR=9.5						
H11S1	**WAKE ISLAND Hy**	**29.93**	**153**	T	T	02 08 51.1	
	baz=340,slow=76,SNR=7.4						
H11S3	**WAKE ISLAND Hy**	**29.93**	**153**	T	T	02 08 48.9	
	baz=340,slow=76,SNR=6.1						
H11S2	**WAKE ISLAND Hy**	**29.95**	**153**	T	T	02 08 53.6	
	baz=340,slow=76,SNR=7.2						
ILAR	**Eielson Array**	**36.92**	**38**	P	**P**	**01 36 59.6**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=274,slow=7.2,SNR=7.9						
ILAR	**Eielson Array**	**36.92**	**38**	*e*P	**P**	**01 37 01.9**	**+1.6**
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.3s						
KURK	**Kurchatov**	**47.58**	**304**	*i*P	**P**	**01 38 25.8**	**-1.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**52.23**	**257**	P	**P**	**01 39 03.9**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=46,slow=7.7,SNR=4.5						
CMAR	**Chiang Mai Arr**	**52.23**	**257**	*i*P	**P**	**01 39 04.6**	**+1.7**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**52.23**	**257**	*i*P	**P**	**01 39 04.6**	**+1.7**
NVAR	**Mina Array Bea**	**62.67**	**62**	P	**P**	**01 40 16.1**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=302,slow=8.4,SNR=2.6						
FINES	**FINESS Array B**	**64.42**	**335**	P	**P**	**01 40 26.2**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=46,slow=8.2,SNR=15						
FINES	**FINESS Array B**	**64.42**	**335**	*i*P	**P**	**01 40 26.8**	**-0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**64.42**	**335**	*i*P	**P**	**01 40 26.8**	**-0.6**
PDAR	**Pinedale Array**	**65.04**	**54**	P	**P**	**01 40 31.9**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=304,slow=2.0,SNR=4.2						
PDAR				pP	**pP**	**01 40 44.0**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=338,slow=2.4,SNR=4.5						
GEYT	**Alibeck**	**66.80**	**301**	P	**P**	**01 40 44.0**	**+0.8**
	comp=Z,0.8nm,0.4s,baz=111,slow=3.2,SNR=2.4						
NB2	**NORSAR Subarra**	**68.64**	**341**	P	**P**	**01 40 54.0**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.64**	**341**	P	**P**	**01 40 53.8**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=28,slow=6.3,SNR=5.0						
NOA				pP	**pP**	**01 41 06.8**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=27,slow=6.3,SNR=4.7						
NOA	**NORSAR Array B**	**68.64**	**341**	P	**P**	**01 40 53.8**	**-0.5**
NOA				*PP	**pP**	**01 41 06.8**	**+0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KBZ	**Khabaz**	**71.14**	**314**	P	**P**	**01 41 10.2**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=63,slow=3.9,SNR=6.1						
KBZ	**Khabaz**	**71.14**	**314**	P	**P**	**01 41 10.3**	**+0.3**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASAR	**Alice Springs**	**71.78**	**198**	P	**P**	**01 41 13.2**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=23,slow=5.0,SNR=3.4						
AKASG	**Malin Array Be**	**71.89**	**326**	P	**P**	**01 41 13.8**	**-0.6**
	comp=Z,2.8nm,0.5s,baz=33,slow=6.1,SNR=11						
AKASG	**Malin Array Be**	**71.89**	**326**	P	**P**	**01 41 13.8**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
CLL	**Collm**	**76.85**	**336**	*i*P	**P**	**01 41 43.9**	**+0.7**
CLL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CLL	**Collm**	**76.85**	**336**	*i*P	**P**	**01 41 43.9**	**+0.7**
	comp=Z,3.0nm,0.7s						
TXAR	**Lajitas Array**	**77.74**	**60**	P	**P**	**01 41 48.1**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=301,slow=4.1,SNR=14						
TXAR				pP	**pP**	**01 42 00.8**	**0.0**
	comp=Z,1.6nm,0.7s,baz=301,slow=4.2,SNR=13						
TXAR	**Lajitas Array**	**77.74**	**60**	P	**P**	**01 41 48.1**	**-0.6**
TXAR				*PP	**pP**	**01 42 00.8**	**0.0**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	**Keskin Array B**	**78.69**	**317**	P	**P**	**01 41 52.8**	**-1.1**
	comp=Z,0.7nm,0.9s,baz=79,slow=7.5,SNR=3.6						
BRTR	**Keskin Array B**	**78.69**	**317**	*e*P	**P**	**01 41 55.1**	**+1.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GERES	**GERESS Array B**	**78.84**	**334**	P	**P**	**01 41 54.4**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=28,slow=2.8,SNR=5.2						
GERES	**GERESS Array B**	**78.84**	**334**	*e*P	**P**	**01 41 56.7**	**+2.3**
CFAA	**Coronel Fontan**	**145.11**	**80**	PKPbc	**PKPbc**	**01 49 26.7**	**-1.6**
	comp=Z,0.1nm,0.6s,baz=246,slow=3.3,SNR=4.8						

*ISCJB **03** 01:37:29.0±0.4, 9°.36S±0°.08×67°.25E±0°.04, h15km, mb4.2/29, MS4.0/25, Error ellipse: s-maj=11.4km s-min=5.0km az=159.6*
*IDC **03** 01:37:29.4±0.5, 9°.39S×66°.95E, h0km, mb4.0/18, mb1 4.1/18, mb1mx4.0/37, mbtmp4.0/18, MS3.9/25, Ms1 3.9/25, ms1mx3.8/36, Error ellipse: s-maj=17.6km s-min=14.8km az=143.0*
*NEIC **03** 01:37:30.7±0.3, 9°.38S×67°.01E, h10km, mb4.5/8, Error ellipse: s-maj=10.1km s-min=7.2km az=149.0*
*GCMT **03** 01:37:30.7±0.2, 9°.37S×66°.90E, h20km±1km, MW5.1/92, Moment Tensor Solution. s47,c65; s92,c137; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.25±.18; $M_{\theta\theta}$-5.84±.15; $M_{\phi\phi}$6.08±.16; $M_{r\theta}$-1.08±.32; $M_{\theta\phi}$1.24±.14; $M_{\phi r}$0.81±.29; Best double couple: $M_0$6.23800×10^{16} NP1:φs141.00000°, δ87.00000°, λ-168.00000°. NP2: φs51.00000°, δ78.00000°, λ-4.00000°. Principal axes: T 6.2820, Plg6.0000°, Azm275.0000°; N -0.0970, Plg77.0000°, Azm157.0000°; P -6.1940, Plg11.0000°, Azm7.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 03 01:37:31.3±0.5, 9°.39S±0°.10×67°.21E±0°.07, h15km, n72, σ1§77/66, mb4.2/29, MS4.0/25, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N3	**Diego Garcia H**	**4.82**	**51**	Pn	**Pn**	**01 38 43.3**	**+0.2**
	baz=231,slow=18,SNR=998						
H08N3				Sn	**Sn**	**01 39 34.8**	**-3.6**
H08N3				T	T	01 43 52.2	
	baz=231,slow=75,SNR=391						
H08N1	**Diego Garcia H**	**4.84**	**51**	Pn	**Pn**	**01 38 43.9**	**+0.5**
	baz=231,slow=18,SNR=973						
H08N1				Sn	**Sn**	**01 39 34.8**	**-4.1**
H08N1				T	T	01 43 53.7	
	baz=231,slow=75,SNR=427						
H08N2	**Diego Garcia H**	**4.84**	**51**	Pn	**Pn**	**01 38 43.6**	**+0.3**
	baz=231,slow=18,SNR=774						

H08N2					Sn	**Sn**	**01 39 34.8**	**-4.1**
H08N2					T	T	01 43 51.7	
	baz=231,slow=75,SNR=598							
H08S1	**Diego Garcia H**	**5.49**	**72**	Pn	**Pn**	**01 38 50.8**	**-1.5**
	baz=274,slow=14,SNR=1047							
H08S1					Sn	**Sn**	**01 39 51.3**	**-3.8**
H08S1					T	T	01 44 51.3	
	baz=244,slow=76							
H08S3	**Diego Garcia H**	**5.50**	**72**	Pn	**Pn**	**01 38 51.1**	**-1.5**
	baz=274,slow=14,SNR=740							
H08S3					Sn	**Sn**	**01 39 51.3**	**-4.2**
H08S3					T	T	01 44 53.4	
	baz=244,slow=76							
H08S2	**Diego Garcia H**	**5.51**	**72**	Pn	**Pn**	**01 38 51.1**	**-1.5**
	baz=274,slow=14,SNR=1291							
H08S2					Sn	**Sn**	**01 39 51.3**	**-4.3**
H08S2					T	T	01 44 48.8	
	baz=244,slow=76							
DGAR	**Diego Garcia**	**5.55**	**70**	*e*Pn	**Pn**	**01 38 52.8**	**-0.6**
	177nm,0.8s							
DGAR					*e*Sn	**Sn**	**01 39 55.8**	**-1.1**
OPO	**Ambohidratompo**	**21.44**	**243**	P	**P**	**01 42 18.1**	**-1.3**
	8.0nm,0.9s,baz=60,slow=16,SNR=3.1							
OPO				LR	LR	01 48 19.2		
	comp=Z,526nm,21.7s,baz=64,slow=31							
KMBO	**Kilima Mbogo**	**30.91**	**284**	LR	LR	01 54 20.1		
	comp=Z,243nm,18.7s,baz=134,slow=33							
KMBO	**Kilima Mbogo**	**30.91**	**284**	*e*P	**P**	**01 43 45.1**	**-3.0**
	18nm,1.6s							
PSI	**Prapat**	**33.84**	**71**	LR	LR	01 56 09.7		
	comp=Z,466nm,18.7s,baz=266,slow=33							
LSZ	**Lusaka**	**38.52**	**257**	*e*P	**P**	**01 44 52.3**	**-1.4**
	6.6nm,0.9s							
MATP	**Matopo**	**38.88**	**249**	P	**P**	**01 44 54.6**	**-2.1**
	1.7nm,0.7s,baz=75,slow=10,SNR=3.1							
LEM	**Lembang**	**40.07**	**89**	LR	LR	01 58 40.5		
	comp=Z,175nm,19.2s,baz=256,slow=32							
CMAR	**Chiang Mai Arr**	**41.79**	**49**	P	**P**	**01 45 22.9**	**+2.4**
	1.0nm,0.3s,baz=245,slow=9.9,SNR=7.1							
LBTB	**Lobatse**	**42.48**	**243**	P	**P**	**01 45 24.9**	**-1.4**
	2.4nm,1.0s,baz=91,slow=8.4,SNR=2.8							
BOSA	**Boshof**	**43.74**	**238**	P	**P**	**01 45 34.4**	**-2.2**
	1.9nm,0.7s,baz=79,slow=6.1,SNR=4.7							
BOSA				LR	LR	02 01 60.0		
	comp=Z,128nm,18.3s,baz=84,slow=34							
GEYT	**Allbeck**	**47.84**	**350**	P	**P**	**01 46 07.9**	**-0.6**
	0.6nm,0.4s,baz=162,slow=6.1,SNR=4.4							
GEYT				LR	LR	02 04 36.9		
	comp=Z,142nm,19.1s,baz=135,slow=34							
H01W3	**Cape Leeuwin H**	**49.73**	**128**	T	T	02 40 03.3		
	baz=290,slow=75,SNR=123							
H01W2	**Cape Leeuwin H**	**49.74**	**128**	T	T	02 40 03.7		
	baz=290,slow=75,SNR=148							
H01W1	**Cape Leeuwin H**	**49.75**	**128**	T	T	02 40 07.8		
	baz=290,slow=75,SNR=168							
EKS2	**Erkin-Say**	**52.15**	**6**	*e*P	**P**	**01 46 41.8**	**+0.5**
	4.8nm,0.9s							
TKM2	**Tokmak 2**	**52.62**	**8**	*e*P	**P**	**01 46 45.1**	**+0.2**
	3.4nm,0.9s							
GNI	**Garni**	**53.50**	**339**	*e*P	**P**	**01 46 51.2**	**-0.2**
	5.9nm,0.7s							
KBZ	**Khabaz**	**57.30**	**339**	P	**P**	**01 47 17.9**	**-0.5**
	1.0nm,0.6s,baz=185,slow=8.8,SNR=2.4							
KBZ				LR	LR	02 09 02.3		
	comp=Z,97nm,21.7s,baz=175,slow=33							
MK31	**Makanchi Array**	**57.53**	**12**	*e*P	**P**	**01 47 19.9**	**-0.2**
BRTR	**Keskin Array B**	**57.94**	**330**	P	**P**	**01 47 22.6**	**-0.6**
	1.0nm,1.0s,baz=137,slow=5.9,SNR=5.3							
MAW	**Mawson**	**58.21**	**182**	P	**P**	**01 47 25.0**	**+0.5**
	1.0nm,0.4s,baz=24,slow=10.0,SNR=4.8							
MAW				LR	LR	02 07 44.1		
	comp=Z,133nm,18.3s,baz=56,slow=31							
XAN	**Xi'an**	**58.58**	**40**	P	**P**	**01 47 30.3**	**+2.6**
XAN				pP	pP	01 47 39.3	+6.7
XAN				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ABKAR	**Akbulak array**	**58.74**	**354**	*e*P	**P**	**01 47 27.8**	**-0.7**
KURK	**Kurchatov**	**60.67**	**8**	*e*P	**P**	**01 47 41.5**	**-0.2**
	comp=Z,4.7nm,0.8s							
BRVK	**Borovoye**	**62.26**	**2**	*e*P	**P**	**01 47 52.2**	**-0.3**
	comp=Z,2.8nm,0.8s							
ZALV	**Zalesovo Beam**	**64.84**	**11**	P	**P**	**01 48 08.9**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=210,slow=8.6,SNR=7.7							
ZALV				LR	LR	02 15 48.6		
	comp=Z,101nm,18.1s,baz=250,slow=35							
ASAR	**Alice Springs**	**65.00**	**112**	P	**P**	**01 48 13.3**	**+2.0**
	comp=Z,3.0nm,1.0s,baz=270,slow=6.3,SNR=12							
ASAR				LR	LR	02 15 53.6		
	comp=Z,112nm,18.1s,baz=281,slow=35							
AS31	**Alice Springs**	**65.00**	**112**	*e*P	**P**	**01 48 12.8**	**+1.5**
WRA	**Warramunga Arr**	**65.43**	**108**	P	**P**	**01 48 16.0**	**+1.8**
	comp=Z,4.6nm,1.1s,baz=274,slow=5.9,SNR=9.0							
WRA				LR	LR	02 13 15.0		
	comp=Z,287nm,21.6s,baz=300,slow=33							
ARU	**Arti**	**65.97**	**355**	*e*P	**P**	**01 48 16.5**	**-0.3**
	comp=Z,4.1nm,1.0s							
SONM	**Songino Array**	**66.70**	**28**	P	**P**	**01 48 23.5**	**+1.7**
	comp=Z,1.1nm,0.4s,baz=216,slow=6.8,SNR=2.2							
SONM				LR	LR	02 16 50.2		
	comp=Z,208nm,21.8s,baz=227,slow=35							
AKASG	**Malin Array Be**	**68.32**	**335**	P	**P**	**01 48 33.3**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=136,slow=6.0,SNR=3.1							
AKASG				LR	LR	02 17 02.3		
	comp=Z,78nm,21.4s,baz=350,slow=35							
TORD	**Torodi Ar. Bea**	**68.79**	**288**	P	**P**	**01 48 34.2**	**-1.3**
	comp=Z,0.4nm,0.9s,baz=92,slow=6.6,SNR=3.2							
TORD				LR	LR	02 16 27.3		
	comp=Z,191nm,20.2s,baz=90,slow=34							
KEST	**Kesra**	**70.56**	**313**	LR	LR	02 18 21.4		
	comp=Z,31nm,19.7s,baz=314,slow=35							
STKA	**Stephens Creek**	**71.87**	**120**	LR	LR	02 17 46.7		
	comp=Z,132nm,19.3s,baz=235,slow=34							
KSRS	**Korea Array**	**73.38**	**46**	LR	LR	02 22 20.0		
	comp=Z,81nm,18.5s,baz=238,slow=37							
DBIC	**Dimbokro**	**73.56**	**280**	LR	LR	02 20 24.1		
	comp=Z,89nm,20.7s,baz=94,slow=35							
GERES	**GERESS Array B**	**74.58**	**327**	LR	LR	02 21 34.0		
	comp=Z,47nm,19.4s,baz=134,slow=36							
BRG	**Berggiesshubel**	**75.61**	**328**	*e*P	**P**	**01 49 17.4**	**+1.8**
	comp=Z,7.6nm,1.5s							
BRG				*e*		01 49 31.6		
	comp=Z,6.3nm,1.4s							
CLL	**Collm**	**76.35**	**328**	*i* P	P	01 49 31.0	+11	
	comp=Z,6.0nm,1.3s							
FINES	**FINESS Array B**	**77.59**	**341**	LR	LR	02 24 15.5		
	comp=Z,83nm,18.4s,baz=92,slow=36							
MJAR	**Matsushiro Arr**	**80.64**	**51**	P	**P**	**01 49 45.6**	**+1.8**
	comp=Z,0.6nm,0.4s,baz=248,slow=8.4,SNR=4.1							
MJAR				LR	LR	02 24 01.7		
	comp=Z,47nm,20.0s,baz=235,slow=34							
ESDC	**Sonseca Array**	**81.80**	**312**	P	**P**	**01 49 49.0**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=96,slow=3.0,SNR=4.1							
VNDA	**Vanda**	**81.90**	**167**	LR	LR	02 21 55.9		
	comp=Z,91nm,20.1s,baz=286,slow=32							
NOA	**NORSAR Array B**	**82.71**	**336**	LR	LR	02 29 00.3		
	comp=Z,29nm,19.1s,baz=90,slow=37							
ARCES	**ARCESS Array B**	**83.84**	**346**	P	**P**	**01 49 59.6**	**-0.3**
	comp=Z,2.0nm,0.9s,baz=127,slow=5.7,SNR=2.6							
ARCES				LR	LR	02 27 04.4		
	comp=Z,57nm,20.6s,baz=127,slow=36							
PETK	**Petropavlovsk-**	**97.73**	**37**	LR	LR	02 39 59.6		
	comp=Z,14nm,18.8s,baz=261,slow=38							
OTAV	**Otavalo**	**144.63**	**257**	*e*PKPdf	**PKPdf**	**01 57 08.8**	**-0.3**
LOHW	**Long Hollow**	**145.86**	**357**	*e*PKPbc	**PKPab**	**01 57 12.6**	**+1.5**
HLID	**Hailey**	**145.93**	**2**	*e*PKPbc	**PKPab**	**01 57 11.8**	**+0.5**
MFID	**Camas Ranch**	**146.00**	**4**	*e*PKPbc	**PKPab**	**01 57 11.1**	**-0.4**
REDW	**Red Top Meadow**	**146.12**	**357**	*e*PKPbc	**PKPab**	**01 57 13.4**	**+1.4**
LRAL	**Lakeview Retre**	**146.54**	**318**	*e*PKPbc	**PKPbc**	**01 57 12.5**	**-0.2**
YBH	**Yreka Blue Hor**	**146.62**	**14**	PKPbc	**PKPbc**	**01 57 12.8**	**0.0**
	comp=Z,1.5nm,0.9s,baz=315,slow=1.4,SNR=2.6							
BW06	**Boulder Array**	**146.63**	**356**	*e*PKPbc	**PKPab**	**01 57 13.7**	**-0.4**
PDAR	**Pinedale Array**	**146.63**	**356**	PKPbc	**PKPab**	**01 57 13.8**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=52,slow=3.5,SNR=3.8							
HWUT	**Hardware Ranch**	**147.90**	**358**	*e*PKPbc	**PKPbc**	**01 57 15.9**	**-0.6**
ELK	**Elko**	**148.70**	**4**	PKPbc	**PKPbc**	**01 57 19.6**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=90,slow=1.0,SNR=2.5							
DUG	**Dugway**	**149.32**	**0**	*e*PKPbc	**PKPbc**	**01 57 19.6**	**-0.6**
MIAR	**Mount Ida**	**149.39**	**328**	*e*PKPbc	**PKPbc**	**01 57 20.6**	**+0.3**
SMCO	**Snowmass**	**149.89**	**351**	*e*PKPdf	**PKPdf**	**01 57 18.0**	**+0.9**
SMCO				*e*PKPbc	**PKiKP**	**01 57 22.4**	**-0.5**
SMCO				*e*PKPab	**PKPab**	**01 57 26.3**	**-1.0**
NVAR	**Mina Array Bea**	**150.67**	**9**	PKPbc	**PKPbc**	**01 57 23.4**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=302,slow=5.1,SNR=2.9							
MSU	**Marysvale**	**151.00**	**359**	*e*PKPbc	**PKPbc**	**01 57 25.4**	**+1.0**
MSU				*e*PKPab	**PKPab**	**01 57 32.7**	**+1.0**
ANMO	**Albuquerque**	**153.91**	**348**	PKPbc	**PKPbc**	**01 57 35.0**	**+4.0**
	comp=Z,0.4nm,0.4s,baz=29,slow=3.3,SNR=3.1							
TXAR	**Lajitas Array**	**158.40**	**338**	PKPab	**PKPab**	**01 58 03.1**	**-0.1**
	comp=Z,0.4nm,0.9s,baz=61,slow=4.2,SNR=3.0							

*BYKL **03** 01:43:40.1±0.2,53.0°08N×107.2°9E,FELT I=III-IV MSK at Yelantsy,Tyrgan,Khuzhir*
*MOS **03** 01:43:40.2±1.9,53.0°7N×107.3°1E,h10km,mb4.5/1,Error ellipse: s-maj=16.7km s-min=9.5km az=48.8*
MOS Felt (II-III) at Elantsy, Khuzhir.
ISC 03 01:43:40.0±1.2,53.0°8N×107.2°9E±0.0°2,h3km±9km, n38,σ1.9°64/72,5C-2D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRG	**Tyrgan**	**0.65**	**241**	⇑*i*Pg	**Pg**	**01 43 53.3**	**+0.9**
TRG				*e*Sg	**Sg**	**01 44 02.0**	**+1.2**
TRG				Pmax			
	510nm,0.1s						
TRG				Smax			
	10μm,0.2s						
TRG	**Tyrgan**	**0.65**	**241**	⇑*i*PG	**Pg**	**01 43 53.3**	**+0.9**
TRG				*e*		01 44 02.0	
TRG				pmax	pmax		
	comp=Z,508nm,0.1s						
TRG				smax	smax		
	comp=N,180nm,0.2s						
KAB	**Kabansk**	**1.10**	**201**	*e*Pg	**Pg**	**01 44 00.9**	**-0.1**
KAB				*e*Sg	**Sg**	**01 44 15.9**	**+0.7**
KAB				Pmax			
	comp=N,720nm,0.2s						
KAB				Smax			
	comp=N,5μm,0.2s						
KAB	**Kabansk**	**1.10**	**201**	⇓*i*PG	**Pg**	**01 44 01.4**	**+0.4**
KAB				*e*		01 44 15.9	
KAB				pmax	pmax		
	comp=Z,767nm,0.2s						
KAB				smax	smax		
	comp=N,5μm,0.3s						
UUDB	**Ulan-Yde**	**1.23**	**169**	⇓*i*Pg	**Pg**	**01 44 02.7**	**-0.9**
UUDB				*e*Sg	**Sg**	**01 44 18.2**	**-1.3**
UUDB				Pmax			
	comp=N,177nm,0.1s						
UUDB				Smax			
	comp=N,2μm,0.3s						
HRMR	**Khuramsha**	**1.47**	**188**	⇑*i*Pg	**Pn**	**01 44 06.4**	**-0.9**
HRMR				*e*Pb	**Pg**	**01 44 07.0**	**-1.0**
HRMR				*e*Sg	**Sg**	**01 44 25.8**	**-1.2**
SYVR	**Suvo**	**1.73**	**69**	*e*Pn	**Pn**	**01 44 10.5**	**-0.4**
SYVR				*e*Pg	**Pb**	**01 44 11.6**	**-0.7**
SYVR				*e*Sg	**Sb**	**01 44 34.3**	**-0.1**
SYVR				Pmax			
	comp=N,107nm,0.2s						
SYVR				Smax			
	comp=N,403nm,0.4s						
SYVR	**Suvo**	**1.73**	**69**	*e*PN	**Pn**	**01 44 10.3**	**-0.6**
SYVR				*e*		01 44 11.6	
SYVR				*e*		01 44 33.7	
SYVR				pmax	pmax		
	comp=Z,108nm,0.2s						
SYVR				smax	smax		
	comp=N,435nm,0.6s						
LSTR	**Listvyanka**	**1.93**	**232**	⇑*i*Pn	**Pn**	**01 44 13.5**	**-0.1**
LSTR				⇑*i*Pg	**Pb**	**01 44 15.2**	**-0.5**
LSTR				*e*Sn	**Sn**	**01 44 37.7**	**-0.6**
LSTR				*e*Sg	**Sb**	**01 44 39.8**	**-0.3**
LSTR				Pmax			
	comp=N,158nm,0.2s						
LSTR				Smax			
	comp=N,467nm,0.2s						
LSTR	**Listvyanka**	**1.93**	**232**	*e*PN	**Pn**	**01 44 13.5**	**-0.1**
LSTR				*e*		01 44 15.2	
LSTR				*e*		01 44 39.7	
LSTR				pmax	pmax		
	comp=Z,159nm,0.2s						
LSTR				smax	smax		
	comp=E,558nm,0.6s						
IRK	**Irkutsk**	**2.02**	**247**	*e*Pg	**Pb**	**01 44 17.0**	**-0.2**
IRK				*e*Sg	**Sb**	**01 44 43.2**	**+0.5**
IRK				Pmax			
	comp=E,203nm,0.2s						
IRK				Smax			
	comp=E,3μm,0.3s						
IRK	**Irkutsk**	**2.02**	**247**	*e*PN	**Pb**	**01 44 17.1**	**-0.2**
IRK				*e*		01 44 43.6	
IRK				pmax	pmax		
	comp=Z,200nm,0.1s						
IRK				smax	smax		
	comp=N,3μm,0.3s						
TLY	**Talaya**	**2.63**	**239**	*e*Pn	**Pn**	**01 44 23.0**	**-0.4**
TLY				*e*Pg	**Pb**	**01 44 27.4**	**-0.3**
TLY				*e*Sg	**Sb**	**01 45 00.9**	**+0.4**
TLY				Pmax			
	comp=N,72nm,0.2s						
TLY				Smax			
	comp=N,458nm,0.2s						
TLY	**Talaya**	**2.63**	**239**	*e*PN	**Pn**	**01 44 22.9**	**-0.4**
TLY				*e*		01 44 27.2	
TLY				*e*		01 45 01.1	
TLY				pmax	pmax		
	comp=Z,55nm,0.3s						
NIZ	**Nizh Angarsk**	**3.01**	**25**	*e*Pn	**Pn**	**01 44 29.1**	**+0.6**
NIZ				*e*Pg	**Pb**	**01 44 34.4**	**+0.3**
NIZ				*e*PgPg	**Pg**	**01 44 38.2**	**+0.6**
NIZ				*e*Sn	**Sn**	**01 45 04.3**	**-0.7**
NIZ				*e*Sg	**Sb**	**01 45 12.5**	**+1.3**
NIZ				max			
	comp=Z,43nm,0.3s						
NIZ				Smax			
	comp=Z,218nm,0.4s						
NIZ	**Nizh Angarsk**	**3.01**	**25**	*e*PN	**Pb**	**01 44 34.0**	**-0.1**
NIZ				*e*		01 45 13.2	
NIZ				pmax	pmax		
	comp=Z,16nm,0.4s						
NIZ				smax	smax		
	comp=E,223nm,0.5s						
ARS	**Arshan**	**3.19**	**251**	*e*Pn	**Pn**	**01 44 31.3**	**+0.3**
ARS				*e*Pg	**Pb**	**01 44 37.5**	**+0.3**
ARS				*e*Sg	**Sb**	**01 45 17.7**	**+1.2**
ARS				Pmax			
	comp=E,114nm,0.5s						
ARS				Smax			
	comp=E,1μm,0.3s						
ARS	**Arshan**	**3.19**	**251**	*e*PN	**Pn**	**01 44 31.8**	**+0.8**
ARS				*e*		01 44 37.4	
ARS				*e*S	**Sn**	**01 45 08.1**	**-1.5**
ARS				*e*		01 45 17.3	
ARS				pmax	pmax		
	comp=Z,56nm,0.2s						
ARS				smax	smax		
	comp=E,1μm,0.3s						
KMO	**Kumora**	**3.62**	**37**	*e*Pn	**Pn**	**01 44 36.0**	**-0.9**
KMO				*e*Pg	**Pb**	**01 44 45.1**	**+0.5**
KMO				*e*Sg	**Sg**	**01 45 32.6**	**-3.7**
KMO				Pmax			
	comp=E,42nm,0.3s						
KMO				Smax			
	comp=E,162nm,0.8s						
ZAK	**Zakamensk**	**3.67**	**224**	*e*Pn	**Pn**	**01 44 38.1**	**+0.4**
ZAK				*e*Pg	**Pb**	**01 44 45.6**	**+0.1**
ZAK				*e*Sg	**Sb**	**01 45 33.5**	**+3.1**
ZAK				Pmax			
	comp=E,14nm,0.2s						
ZAK				Smax			
	comp=E,103nm,0.2s						
CIT	**Chita**	**3.97**	**103**	*e*Sg	**Sb**	**01 45 41.9**	**+3.0**
CIT				Smax			
	comp=E,491nm,0.2s						
MOY	**Mondy**	**4.11**	**252**	*e*Pn	**Pn**	**01 44 45.5**	**+1.8**
MOY				*e*Pg	**Pb**	**01 44 52.8**	**-0.1**
MOY				*e*		01 45 34.9	
MOY				*e*Sg	**Sb**	**01 45 46.0**	**+3.1**
MOY				Pmax			
	comp=E,42nm,0.7s						
MOY				Smax			
	comp=E,239nm,1.0s						
MOY	**Mondy**	**4.11**	**252**	*e*PN	**Pb**	**01 44 55.2**	**+2.3**
MOY				*e*		01 45 45.8	
MOY				pmax	pmax		
	comp=Z,23nm,0.1s						
MOY				smax	smax		
	comp=N,195nm,0.5s						
UKT	**Uakit**	**4.43**	**54**	*e*Pn	**Pn**	**01 44 48.7**	**+0.6**
UKT				*e*Pg	**Pb**	**01 44 59.1**	**+0.7**
UKT				*e*Sn	**Sn**	**01 45 36.2**	**-4.0**
UKT				*e*Sg	**Sb**	**01 45 56.8**	**+4.5**
UKT				Pmax			
	comp=N,27nm,1.0s						
UKT				Smax			
	comp=N,61nm,0.9s						
ORL	**Orlik**	**4.57**	**266**	*e*Pn	**Pn**	**01 44 51.8**	**+1.8**
ORL				*e*Sn	**Sn**	**01 45 41.9**	**-1.7**
ORL				*e*Sg	**Sg**	**01 46 01.9**	**-4.7**
ORL				Smax			
	comp=N,151nm,0.5s						
ORL	**Orlik**	**4.57**	**266**	*e*PN	**Pn**	**01 44 51.4**	**+1.4**
ORL				*e*		01 45 03.0	
ORL				*e*		01 46 02.3	
ORL				pmax	pmax		
	comp=Z,24nm,0.5s						
ORL				smax	smax		
	comp=N,153nm,1.0s						
KPC	**Khapcheranga**	**4.64**	**135**	*e*Pn	**Pn**	**01 44 48.8**	**-2.2**
KPC				*e*Pg	**Pb**	**01 45 03.8**	**+1.8**
KPC				*e*Sg	**Sb**	**01 46 02.3**	**+4.0**
KPC				Pmax			
	comp=N,22nm,0.3s						
KPC				Smax			
	comp=N,127nm,0.8s						
KPC	**Khapcheranga**	**4.64**	**135**	*e*PN	**Pn**	**01 44 48.8**	**-2.2**
KPC				*e*		01 45 02.8	
KPC				*e*		01 46 02.3	
KPC				pmax	pmax		
	comp=Z,22nm,0.5s						
KPC				smax	smax		
	comp=E,126nm,1.0s						
NLYR	**Nelyaty**	**5.95**	**52**	*e*Pn	**Pn**	**01 45 09.5**	**+0.6**
NLYR				*e*Pg	**Pb**	**01 45 28.3**	**+4.1**
NLYR				*e*Sg	**Sg**	**01 46 43.8**	**-7.1**
NLYR				Pmax			
	comp=E,7.0nm,0.4s						
NLYR				Smax			
	comp=E,91nm,0.8s						
BOD	**Bodaibo**	**6.10**	**36**	*e*Sg	**Sg**	**01 46 48.5**	**-7.1**
BOD				Smax			
	comp=E,31nm,0.6s						
CRS	**Chara**	**7.39**	**54**	*e*Sg	**Sg**	**01 47 28.4**	**-8.5**
CRS				Smax			
	comp=E,81nm,1.9s						
TUP	**Tupik**	**7.63**	**75**	*e*Pn	**Pn**	**01 45 30.6**	**-1.4**
TUP				*e*Pg	**Pb**	**01 45 58.0**	**+5.1**
TUP				*e*Sg	**Sg**	**01 47 35.5**	**-9.3**
TUP				Pmax			
	comp=E,1.0nm,0.3s						
TUP				Smax			
	comp=E,111nm,1.1s						
TUP	**Tupik**	**7.63**	**75**	*e*PN	**Pn**	**01 45 30.8**	**-1.2**
TUP				*e*		01 45 56.3	
TUP				*e*		01 47 36.0	
TUP				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TUP				smax	smax		
	comp=N,109nm,1.2s						
KRAR	**Krasnoyarsk**	**8.88**	**295**	*e*PN	**Pn**	**01 45 50.7**	**+1.7**
HHC	**Hu-ho-hao-te**	**12.57**	**165**	*e*P	**Pn**	**01 46 38.8**	**-0.9**
HHC				PP	**PnPn**	**01 46 49.0**	**+1.7**
HHC				S	**Sn**	**01 48 58.9**	**-1.3**
HHC				sS		01 49 04.1	
HHC				SS	**SnSn**	**01 49 13.6**	**+1.6**
HHC				pmax	pmax		
	comp=Z,22nm,1.2s						
HHC				pmax	pmax		
	comp=Z,61nm,5.5s						
HHC				LR	LR		
	comp=N,98nm,10.4s						
HHC				LR	LR		
	comp=E,92nm,12.2s						
HHC				LR	LR		
	comp=Z,60nm,11.8s						
GTA	**Gaotai**	**14.60**	**204**	*e*P	**P**	**01 47 13.9**	**-0.1**
GTA				pP	Pn	01 47 18.6	+11
GTA				sP		01 47 22.1	
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
YAK	**Yakutsk**	**14.92**	**44**	*e*P	**Pn**	**01 47 12.5**	**+1.0**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KURK	**Kurchatov**	**17.80**	**274**	*i* P	**Pn**	**01 47 47.9**	**-0.5**

MEX 03 01:56:58.4±0.4,16.2°24N×98.0°01W,h6km±4km,MD3.6,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.19**	**323**	*i* P	Pg	01 57 01.8	-0.5
PNIG				*i* S	Sg	01 57 04.9	0.0
TLIG	**Tlapa**	**1.42**	**338**	*e*P	Pn	01 57 21.5	-3.5
TLIG				*e*S	Sb	01 57 39.0	-5.1
VHO	**Vista Hermosa**	**1.48**	**56**	*e*P	Pn	01 57 22.3	-3.6
VHO				*e*S	Sn	01 57 40.5	-5.2
HUIG	**Huatulco**	**1.89**	**104**	*e*P	Pn	01 57 27.9	-3.3
HUIG				*e*S	Sn	01 57 50.4	-5.0

*BJI **03** 01:57:46.1,0.°85N×96.°93E,h23km,mb4.7/25,mB4.7/15, Ms4.3/13,Ms7 4.0/13*
*MOS **03** 01:57:49.8±3.6,1.°62N×96.°83E,h33km,mb4.6/15,Error ellipse: s-maj=16.7km s-min=9.5km az=48.8*
*IDC **03** 01:57:49.8±0.7,1.°62N×96.°83E,h0km,mb4.2/20, mb1 4.2/22,mb1mx4.1/38,mbtmp4.2/22,ML3.9/2,MS3.8/2, Ms1 3.8/2,ms1mx3.0/38,Error ellipse: s-maj=20.8km s-min=15.4km az=37.0*
*ISCJB **03** 01:57:52.5±1.2,1.°56N±0.°04×96.°84E±0.°06,h31km±8km, mb4.4/37,MS4.0/1,Error ellipse: s-maj=10.8km s-min=6.1km az=152.2*
*NEIC **03** 01:57:55.6±0.9,1.°65N×96.°93E,h37km±7km,mb4.5/11, Error ellipse: s-maj=10.4km s-min=5.0km az=58.0*
*DJA **03** 01:58:00.5±0.5,1.°N×3.°9°8E±.°,h54km±7km,M4.4/16, mb4.5/5,mB5.6/1,MLv4.4/13,MLv4.4/16,Mw(mB)5.1/1*
ISC 03 01:57:53.4±0.5,1.48N±0.05×96.84E±0.06,h27km±2km, h27km:pP-P,n101,σ1.9°28/113,mb4.4/37,5C-1D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.76**	**103**	P	**Pn**	**01 58 09.0**	**+0.6**
GSI				S	**Sb**	**01 58 16.2**	**-1.9**
GSI	**Gunungsitoli**	**0.76**	**103**	*e*Pg	**Pn**	**01 58 08.8**	**+0.5**
GSI				*e*Sg	**Sn**	**01 58 19.1**	**+0.1**
SNSI	**Sinabang, Aceh**	**1.05**	**331**	P	**Sb**	**01 58 27.1**	**+0.8**
PBSI	**Pulau Batu**	**2.10**	**137**	P	**

comp=Z,9.0nm,0.5s
KMI LN
comp=Z,260nm,11.6s
KMI LE
comp=Z,190nm,12.6s
KMI LZ
comp=Z,270nm,11.1s
H08S2 Diego Garcia H 25.92 249 T T 02 30 44.1
baz=69,slow=76,SNR=1755
H08S3 Diego Garcia H 25.92 249 T T 02 30 35.7
baz=69,slow=76,SNR=1565
H08S1 Diego Garcia H 25.94 249 T T 02 30 40.7
baz=69,slow=76,SNR=2120
LUWI Luwuk 26.06 95 *eP* **P 02 03 24.9 0.0**
SOEI Soe 29.51 113 *eP* **P 02 03 57.5 +1.7**
comp=Z,16nm,0.6s
CD2 Chengdu 29.99 12 P **P 02 03 59.6 -0.3**
CD2 pP **pP 02 04 08.0 +0.1**
CD2 sP **sP 02 04 11.7 +0.5**
CD2 S **S 02 08 56.2 -0.1**
CD2 sS **sS 02 09 10.6 +1.1**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,100nm,6.9s
CD2 LN
comp=Z,260nm,9.3s
CD2 LZ
comp=Z,230nm,10.9s
ENH Enshi 31.05 22 *eP* **P 02 04 06.8 -2.4**
comp=Z,10nm,0.6s
WHN Wuhan 33.34 28 ⇑P **P 02 04 29.3 +0.1**
XAN Xi'an 34.31 18 P **P 02 04 36.1 -1.6**
XAN pP **pP 02 04 44.7 -1.0**
XAN PMZ
comp=Z,4.0nm,0.9s
XAN LN
comp=Z,130nm,15.3s
XAN LZ
comp=Z,70nm,13.3s
LZH Lanzhou 35.04 10 *eP* **P 02 04 45.3 +1.2**
LZH pP **pP 02 04 49.8 -2.4**
LZH sP **sP 02 04 51.2 -4.3**
LZH PMZ
comp=Z,14nm,1.0s
GTA Gaotai 37.85 4 *eP* **P 02 05 07.7 -0.3**
GTA pP **pP 02 05 13.2 -2.9**
GTA sP **sP 02 05 16.5 -2.9**
GTA PMZ
comp=Z,5.0nm,1.3s
H01W3 Cape Leeuwin H 39.64 157 T T 02 47 43.9
baz=334,slow=75,SNR=9.5
H01W2 Cape Leeuwin H 39.66 157 T T 02 47 44.9
baz=334,slow=75,SNR=8.2
H01W1 Cape Leeuwin H 39.66 157 T T 02 47 44.1
baz=334,slow=75,SNR=9.2
HHC Hu-ho-hao-te 41.40 17 *eP* **P 02 05 37.9 +0.4**
HHC PP **PnPn 02 07 16.9 -1.3**
HHC S **S 02 11 49.6 -1.3**
HHC sS **sS 02 12 05.9 +1.6**
HHC PMZ
comp=Z,17nm,0.9s
HHC PMZ
comp=Z,87nm,6.2s
HHC LN
comp=Z,130nm,17.3s
HHC LE
comp=Z,160nm,14.8s
HHC LZ
comp=Z,120nm,19.7s
BJI Beijing 42.22 22 P **P 02 05 44.7 +0.6**
BJI pP **pP 02 05 52.9 +0.6**
BJI S **S 02 12 05.4 +2.6**
BJI PMZ
comp=Z,41nm,0.7s
BJI PMZ
comp=Z,73nm,6.0s
BJI LN
comp=Z,100nm,14.0s
BJI LE
comp=Z,170nm,14.9s
BJI LZ
comp=Z,33nm,28.3s
WRA Warramunga Arr 42.49 122 P **P 02 05 46.9 +0.2**
comp=Z,1.2nm,0.5s,baz=303,slow=9.1,SNR=3.5
WRAB Tennant Creek 42.50 122 *i* P **P 02 05 47.5 +0.7**
WRAB pmax pmax
comp=Z,82nm,2.8s
WRAB Tennant Creek 42.50 122 *eP* **P 02 05 47.8 +1.1**
comp=Z,4.7nm,0.6s
WMQ Urumqi 42.94 350 *eP* **P 02 05 50.3 +0.3**
WMQ pP **pP 02 06 00.3 +2.1**
WMQ sP **sP 02 06 04.3 +2.8**
WMQ PMZ
comp=Z,6.0nm,1.0s
WMQ PMZ
comp=Z,54nm,3.8s
WMQ LN
comp=Z,52nm,18.0s
WMQ LE
comp=Z,88nm,22.8s
WMQ LZ
comp=Z,39nm,20.0s
ASAR Alice Springs 43.86 127 P **P 02 05 58.8 +1.1**
comp=Z,1.2nm,0.6s,baz=300,slow=8.0,SNR=8.8
TKM2 Tokmak 2 45.42 338 *eP* **P 02 06 10.8 +0.7**
TKM2 pmax pmax
comp=Z,3.0nm,0.6s
TKM2 Tokmak 2 45.42 338 *eP* **P 02 06 10.8 +0.7**
comp=Z,2.6nm,0.6s
AAK Ala-Archa 45.60 337 *i* P **P 02 06 13.6 +2.1**
AAK pmax pmax
comp=Z,5.0nm,1.1s
KSAR Wonju Array Be 45.80 35 P **P 02 06 12.8 -0.1**
KSAR Wonju Array Be 45.80 35 P **P 02 06 12.8 -0.1**
KSRS Korea Array 45.83 35 P **P 02 06 12.8 -0.3**
comp=Z,2.7nm,0.6s,baz=225,slow=8.9,SNR=12
KSRS Korea Array 45.83 35 P **P 02 06 12.8 -0.3**
KSRS pmax pmax
comp=Z,2.0nm,0.5s
MK31 Makanchi Array 46.88 346 *eP* **P 02 06 21.7 +0.3**
MK31 Makanchi Array 46.88 346 *eP* **P 02 06 21.6 +0.3**
MKAR Makanchi Array 46.88 346 *eP* **P 02 06 22.0 +0.6**
MKAR Makanchi Array 46.88 346 *eP* **P 02 06 21.9 +0.6**
SONM Songino Array 46.91 9 P **P 02 06 21.9 +0.3**
comp=Z,4.6nm,0.7s,baz=191,slow=9.0,SNR=26
KKAR Karatay Array 47.64 334 *eP* **P 02 06 28.6 +1.3**
KKAR pmax pmax
comp=Z,2.0nm,0.8s
KKAR Karatay Array 47.64 334 *eP* **P 02 06 28.6 +1.3**
comp=Z,2.0nm,0.8s
CN2 Changchun 49.22 27 *eP* P 02 06 29.9 -10
CN2 ep**P** pP 02 06 47.3 -0.4
GEYT Alibeck 50.76 320 P **P 02 06 49.9 -1.4**
comp=Z,0.6nm,0.3s,baz=160,slow=4.6,SNR=2.4
KURK Kurchatov 51.43 345 *eP* **P 02 06 56.8 +0.8**
KURK pmax pmax
comp=Z,4.0nm,0.5s
KURK Kurchatov 51.43 345 *eP* **P 02 06 56.8 +0.8**
comp=Z,4.3nm,0.5s
MJAR Matsushiro Arr 51.73 43 P **P 02 06 57.9 -0.6**
comp=Z,1.7nm,0.7s,baz=216,slow=6.8,SNR=6.4
USRK Ussuriysk Ar. 52.72 31 P **P 02 07 05.9 +0.1**
comp=Z,5.1nm,0.9s,baz=233,slow=5.8,SNR=12
CTAO Charters Tower 52.95 117 *eP* **P 02 07 08.5 +0.6**
CTAO pmax pmax
comp=Z,26nm,1.5s
CTAO Charters Tower 52.95 117 *eP* **P 02 07 08.5 +0.6**
comp=Z,26nm,1.5s
ZALV Zalesovo Beam 53.22 351 P **P 02 07 09.8 +0.6**
comp=Z,13nm,0.6s,baz=180,slow=6.7,SNR=75
STKA Stephens Creek 53.81 132 P **P 02 07 15.8 +1.8**
comp=Z,1.3nm,0.8s,baz=326,slow=14,SNR=4.3
NVS Novosibirsk 54.34 350 *eP* **P 02 07 17.5 +0.1**
NVS pmax pmax
comp=Z,12nm,1.1s
NVS pmax pmax
comp=N,7.0nm,1.0s
NVS pmax pmax
comp=E,8.0nm,1.2s
BRVK Borovoye 55.93 341 *d iP* **P 02 07 28.8 -0.1**
BRVK pmax pmax
comp=Z,4.0nm,1.2s
BRVK Borovoye 55.93 341 *eP* **P 02 07 29.1 +0.2**
comp=Z,40nm,2.5s
KLR Kul'dur 56.17 27 *eP* P 02 07 27.0 -3.7

ABKAR Akbulak array 57.09 332 *eP* **P 02 07 37.7 +0.4**
ASAJ Asahikawa 58.66 37 P **P 02 07 47.9 -0.5**
comp=Z,1.6nm,0.3s,baz=270,slow=16
ASAJ Asahikawa 58.66 37 P **P 02 07 47.9 -0.5**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
YSS Yuzh-Sakhalins 60.32 34 *eP* P 02 08 07.5 +7.7
YSS pmax pmax
comp=Z,30nm,1.0s
SVE Sverdlovsk 62.29 338 *eP* **P 02 08 13.6 +0.6**
ARU Arti 62.78 337 *c iP* **P 02 08 15.0 -1.2**
ARU 02 10 36.6
ARU S **S 02 16 42.0 -1.5**
ARU SS SS 02 20 38.9 -10
ARU pmax pmax
comp=Z,11nm,2.5s
KBZ Khabaz 63.62 319 P **P 02 08 21.4 -0.6**
comp=Z,1.3nm,0.8s,baz=82,slow=7.1,SNR=3.1
YAK Yakutsk 65.25 16 P **P 02 08 31.7 -0.6**
comp=Z,2.3nm,0.3s,baz=197,slow=19,SNR=2.2
BRTR Keskin Array B 68.65 312 P **P 02 08 55.0 +0.3**
comp=Z,0.8nm,0.7s,baz=116,slow=8.4,SNR=5.3
BRTR Keskin Array B 68.65 312 *ceP* **P 02 08 55.2 +0.5**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
VSR Storozhevoye 69.13 325 *eP* **P 02 08 54.9 -2.3**
VSR pmax pmax
comp=N,6.0nm,0.9s
VSR pmax pmax
comp=Z,3.0nm,0.9s
VSR pmax pmax
comp=E,9.0nm,1.8s
PRGR Permogore 71.24 337 P **P 02 09 08.1 -1.8**
PRGR pmax pmax
comp=Z,7.0nm,0.7s
PETK Petropavlovsk- 71.70 34 P **P 02 09 12.4 -0.5**
comp=Z,2.1nm,0.5s,baz=325,slow=2.3,SNR=3.6
OBN Obninsk 72.19 328 *ceP* **P 02 09 17.3 +1.6**
OBN pmax pmax
comp=Z,6.0nm,0.7s
SEY Seymchan 73.65 23 P **P 02 09 24.3 +0.1**
comp=Z,2.6nm,0.6s,baz=225,slow=5.9,SNR=13
SEY Seymchan 73.65 23 *ceP* **P 02 09 25.1 +0.9**
BOSA Boshof 74.60 240 LR LR 02 38 37.1
comp=Z,68nm,18.6s,baz=135,slow=33
AKASG Malin Array Be 74.81 322 P **P 02 09 30.5 -0.8**
comp=Z,0.8nm,0.5s,baz=108,slow=3.3,SNR=4.7
KOLS Kolonicke sedl 78.77 320 *eP* **P 02 09 55.9 +2.2**
KOLS pmax pmax
comp=Z,3.0nm,1.0s
KOLS Kolonicke sedl 78.77 320 *eP* **P 02 09 55.9 +2.2**
KOLS *ePCP* **pP 02 10 03.8 +1.4**
FINES FINESS Array B 79.58 333 P **P 02 09 57.9 +0.1**
comp=Z,1.8nm,0.6s,baz=99,slow=6.5,SNR=11
FINES FINESS Array B 79.58 333 *i* P **P 02 09 58.2 +0.4**
FINES pmax pmax
comp=Z,2.0nm,0.6s
PSZ Piszkesteto 80.16 318 *eP* **P 02 10 01.7 +0.4**
PSZ pmax pmax
comp=Z,4.0nm,0.8s
PSZ Piszkesteto 80.16 318 *eP* **P 02 10 01.7 +0.4**
comp=Z,3.6nm,0.8s
ARCES ARCESS Array B 82.15 340 P **P 02 10 12.1 +0.7**
comp=Z,0.9nm,0.5s,baz=96,slow=5.2,SNR=24
GERES GERESS Array B 84.36 319 P **P 02 10 24.4 +1.1**
comp=Z,1.5nm,0.9s,baz=98,slow=5.5,SNR=10
NB2 NORSAR Subarra 86.58 331 P **P 02 10 34.4 +0.3**
comp=Z,1.3nm,0.8s,baz=87,slow=5.6
NOA NORSAR Array B 86.58 331 P **P 02 10 33.8 -0.4**
comp=Z,0.9nm,0.8s,baz=93,slow=4.9,SNR=3.7
TXAR Lajitas Array 143.62 31 PKP **PKPdf 02 17 25.4 -1.3**
comp=Z,3.2nm,0.8s,baz=92,slow=3.5,SNR=10
CPUP Villa Florida 144.96 223 PKPbc **PKPdf 02 17 30.1 +1.1**
comp=Z,3.1nm,0.8s,baz=92,slow=3.5,SNR=10

IDC 03 02:21:07.9±2.1, 5°83S×151°78E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/35, mbtmp3.8/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/27, Error ellipse: s-maj=141.7km s-min=27.8km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.00**	**229**	P	P	02 26 03.7	-0.3
	5.9nm,0.8s,baz=53,slow=9.7,SNR=18						
ASAR	**Alice Springs**	**24.71**	**222**	P	P	02 26 31.5	+0.4
	2.5nm,0.6s,baz=59,slow=8.7,SNR=25						
MJAR	**Matsushiro Arr**	**44.03**	**344**	LR	LR	02 45 49.4	
	comp=Z,15nm,21.5s,baz=240,slow=34						
ILAR	**Eielson Array**	**83.49**	**22**	P	P	02 33 37.5	+0.2
	0.2nm,0.6s,baz=258,slow=4.6,SNR=4.9						
GERES	**GERESS Array B**	**124.39**	**328**	PKP	PKPdf	02 40 09.0	-0.3
	0.5nm,0.6s,baz=64,slow=2.3,SNR=5.3						
TORD	**Torodi Ar. Bea**	**149.64**	**286**	PKPbc	PKPbc	02 40 59.9	-0.8
	2.7nm,0.7s,baz=87,slow=2.4,SNR=30						

*IDC **03** 02:26:00.4±1.0, 1°81S×136°23E, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.7/34, mbtmp3.7/8, ML3.4/3, MS3.0/2, Ms1 3.0/2, ms1mx2.5/26, Error ellipse: s-maj=30.9km s-min=20.3km az=71.0*
*ISCJB **03** 02:26:01.5±0.6, 1°87S±0°05×136°20E±0°04, h17km±4km, mb3.7/5, MS3.3/1, Error ellipse: s-maj=9.6km s-min=6.5km az=24.6*
*DJA **03** 02:26:02.1±0.4, 2°S±3°×13°6E±°, h11km±3km, M4.2/7, ML4.2/7*
ISC 03 02:26:02.3±1.0, 1°80S±0°06×136°20E±0°05, h11km±6km, n15, σ1°91°/19, mb3.7/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.08**	**152**	P	**Pg**	**02 26 04.9**	**+0.1**
SRPI				S	**Sg**	**02 26 07.0**	**+0.4**
BAKI	**Biak**	**0.61**	**351**	P	**Pg**	**02 26 14.1**	**-0.1**
BAKI				S	**Sb**	**02 26 23.6**	**0.0**
RKPI	**Ransiki, Papua**	**2.04**	**278**	P	**Pn**	**02 26 36.3**	**-0.3**
SMPI	**Sarmi**	**2.51**	**94**	P	**Pn**	**02 26 43.1**	**0.0**
GENI	**Genyem**	**4.04**	**101**	P	**Pn**	**02 27 03.8**	**-0.3**
FAKI	**Fak Fak**	**4.10**	**254**	P	**Pn**	**02 27 04.6**	**-0.4**
JAY	**Jayapura**	**4.55**	**99**	P	**Pn**	**02 27 09.6**	**-1.6**
JAY	**Jayapura**	**4.55**	**99**	Pn	**Pn**	**02 27 10.3**	**-0.9**
	0.4nm,0.3s,baz=234,slow=16,SNR=4.0						
JAY				Sn	**Sn**	**02 28 05.1**	**+0.9**
	0.8nm,0.3s,baz=115,slow=19,SNR=2.1						
JAY				LR	LR	02 28 42.7	
	comp=Z,45nm,19.0s,baz=324,slow=36						
SIJI	**Sorong**	**5.02**	**281**	Pn	**Pn**	**02 27 15.7**	**-1.9**
	1.0nm,0.3s,baz=151,slow=13,SNR=2.1						
SIJI				Sn	**Sn**	**02 28 17.9**	**+2.3**
	1.2nm,0.3s,baz=287,slow=19,SNR=2.7						
WRA	**Warramunga Arr**	**18.12**	**186**	P	**Pn**	**02 30 13.6**	**-0.5**
	0.3nm,0.3s,baz=9.0,slow=12,SNR=3.3						
WRA				S	Sn	02 33 22.6	-14
	0.2nm,0.3s,baz=17,slow=24,SNR=5.0						
ASAR	**Alice Springs**	**21.85**	**186**	P	**P**	**02 30 54.4**	**-0.7**
	2.7nm,0.8s,baz=8.2,slow=12,SNR=11						
ASAR				LR	LR	02 40 44.3	
	comp=Z,132nm,20.2s,baz=86,slow=40						
STKA	**Stephens Creek**	**30.35**	**171**	P	**P**	**02 32 14.4**	**+0.3**
	2.2nm,0.8s,baz=357,slow=9.7,SNR=6.1						
KURBB	**Kurchatov Arra**	**71.55**	**325**	P	**P**	**02 37 23.8**	**+0.4**
	1.0nm,0.8s,baz=115,slow=5.6,SNR=8.6						
BVAR	**Borovoye Array**	**77.14**	**326**	P	**P**	**02 37 56.5**	**+0.6**
	0.3nm,0.4s,baz=106,slow=5.1,SNR=4.8						
ILAR	**Eielson Array**	**86.05**	**25**	P	**P**	**02 38 42.2**	**-0.5**
	0.4nm,0.9s,baz=256,slow=4.6,SNR=4.2						

*IDC **03** 02:28:14.3±3.6, 34°48N×73°23E, h0km, mb3.5/4, mb1 3.5/8, mb1mx3.3/43, mbtmp3.5/8, ML3.3/4, Error ellipse: s-maj=70.1km s-min=30.4km az=132.0*
*NNC **03** 02:28:27.0±4.7, 34°77N×72°92E, h103km±45km, mb2.9, mpv3.5, Error ellipse: s-maj=37.3km s-min=27.7km az=157.0*
ISC 03 02:28:17.7±1.7, 34°5N±0°1×73°1E±0°1, h24km, n13, σ1°42/14, mb3.4/4, 3C-3D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**5.52**	**3**	⇓P	Pn	02 29 42.7	+4.0
	1.5nm,0.4s						
SFK				⇓S	**Sn**	**02 30 44.1**	**+2.6**
	7.5nm,0.4s						
DZET	**Dzherino**	**5.53**	**322**	⇑P	Pn	02 29 43.8	+5.2
	2.7nm,0.3s						
DZET				⇑S	**Sn**	**02 30 41.4**	**0.0**
	8.0nm,0.5s						
KK31	**Karatay Array**	**8.84**	**347**	P	**Pn**	**02 30 25.5**	**+1.5**
	0.5nm,0.2s,baz=151,slow=11,SNR=23						
KK31				⇑S	**Sn**	**02 32 01.8**	**-1.0**
	0.9nm,0.5s,baz=173,slow=23,SNR=4.3						
GEYT	**Alibeck**	**12.60**	**290**	Pn	**Pn**	**02 31 14.9**	**-0.6**
	0.2nm,0.3s,baz=106,slow=4.8,SNR=2.7						
KURBB	**Kurchatov Arra**	**16.60**	**12**	Pn	**Pn**	**02 32 06.4**	**-2.3**
	0.0nm,0.3s,baz=199,slow=12,SNR=2.6						
AB31	**Akbulak array**	**17.69**	**331**	P	**Pn**	**02 32 20.8**	**-1.5**
	0.2nm,0.4s,baz=138,slow=13,SNR=8.0						
BVAR	**Borovoye Array**	**18.64**	**355**	P	**P**	**02 32 33.2**	**-0.3**
	0.2nm,0.3s,baz=162,slow=11,SNR=4.0						
AKTO	**Aktyubinsk**	**19.39**	**330**	⇓P	**P**	**02 32 42.1**	**+0.3**
	1.9nm,0.7s						
AKTO	**Aktyubinsk**	**19.39**	**330**	P	**P**	**02 32 42.8**	**+1.0**
	0.3nm,0.3s,baz=152,slow=11,SNR=8.1						
ZALV	**Zalesovo Beam**	**21.13**	**19**	P	**P**	**02 32 59.5**	**-1.2**
	0.7nm,0.5s,baz=214,slow=10,SNR=4.1						
FINES	**FINESS Array B**	**40.12**	**327**	P	**P**	**02 35 51.4**	**+0.2**
	0.5nm,0.8s,baz=127,slow=9.9,SNR=4.1						
ARCES	**ARCESS Array B**	**43.66**	**338**	P	**P**	**02 36 20.7**	**+0.6**
	1.2nm,1.0s,baz=108,slow=7.9,SNR=5.5						
TORD	**Torodi Ar. Bea**	**67.45**	**271**	P	**P**	**02 39 12.9**	**+1.1**
	0.2nm,0.6s,baz=57,slow=5.0,SNR=5.3						

*ISCJB **03** 02:33:57.3±1.8, 13°89N±0°09×91°76W±0°06, h18km±15km, Error ellipse: s-maj=16.2km s-min=5.9km az=30.3*
*CASC **03** 02:34:00.0±1.1, 13°77N×91°44W, h0km±9km, MD3.7*
*MEX **03** 02:34:01.3±0.7, 13°88N×91°94W, h20km, MD3.8*
ISC 03 02:33:57.9±2.2, 13°9N±0°2×91°8W±0°1, h21km±8km, n13, σ0°80/19, 3C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**1.30**	**76**	⇑*iP*	Pn	02 34 20.3	-0.8
IXG				eS	**Sn**	**02 34 36.0**	**-2.0**
NBG	**Las Nubes**	**1.55**	**62**	⇑*eP*	**Pb**	**02 34 25.8**	**-0.2**
NBG				eS	**Sb**	**02 34 45.7**	**+0.4**
RBDL	**Robledal**	**2.03**	**83**	⇑*iP*	Pn	**02 34 31.2**	**+0.2**
RBDL				eS	**Sn**	**02 34 56.2**	**+0.4**
RTR	**El Retiro**	**2.05**	**89**	*i* P	Pn	**02 34 31.9**	**+0.5**
SBLS	**San Blas**	**2.08**	**90**	*i* P	Pn	**02 34 31.9**	**+0.1**
SBLS				eS	**Sn**	**02 34 57.0**	**-0.2**
SNJE	**San Jose**	**2.09**	**90**	⇓*iP*	Pn	**02 34 32.3**	**+0.3**
PCIG		**2.31**	**323**	*eP*	Pn	**02 34 34.8**	**0.0**
PCIG				eS	Sn	02 34 59.0	-3.7
MRL	**Marmol**	**2.33**	**59**	*eP*	Pn	**02 34 35.8**	**+0.5**
BOQS	**Boqueron**	**2.41**	**93**	*eP*	Pn	**02 34 37.0**	**+0.7**
CCIG	**Comitan**	**2.43**	**351**	*eP*	Pn	**02 34 37.7**	**+1.1**
CCIG				eS	**Sn**	**02 35 05.7**	**-0.2**
LFU	**La Fuente**	**2.57**	**92**	*eP*	Pn	**02 34 38.8**	**+0.4**
LFRS	**El Faro**	**2.63**	**95**	⇓*iP*	Pn	**02 34 40.0**	**+0.7**
LFRS				eS	**Sn**	**02 35 10.2**	**-0.5**
TGIG		**3.18**	**336**	*eP*	Pn	**02 34 47.6**	**+0.8**
TGIG				eS	**Sn**	**02 35 22.9**	**-1.3**

CASC 03 02:51:42.0±3.0, 8°33N×82°83W, h6km±10km, MD3.9, 1C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.46**	**313**	*eP*	Pg	02 51 51.1	+0.1
ACR				eS	Sb	02 51 59.0	-0.9
BRU2	**Volcan**	**0.48**	**16**	⇓*iP*	Pb	02 51 52.9	-0.2
BRU2				eS	Sb	02 52 01.4	+0.9
BRU	**Baru**	**0.54**	**29**	⇑*iP*	Pg	02 51 52.9	-0.1
CTCR	**Cotoan**	**0.56**	**7**	⇓*iP*	Pb	02 51 54.2	-0.4
BUS	**Buena Vista**	**1.52**	**323**	*eP*	Pn	02 52 08.9	-1.5
BUS				eS	Sn	02 52 29.4	-1.7
QCR	**Quepos**	**1.71**	**309**	*eP*	Pn	02 52 11.2	-1.2
QCR				eS	Sb	02 52 35.4	-0.3
URSC	**Urasca**	**1.76**	**328**	⇓*eP*	Pn	02 52 12.7	-0.7
URSC				eS	Sn	02 52 35.5	-0.9
CGA2	**Cerro Gallo 2**	**2.33**	**316**	*eP*	Pn	02 52 22.2	+1.1
CGA2				eS	Sb	02 52 52.3	-1.6
AZU	**Azuero**	**2.58**	**102**	*eP*	Pn	02 52 24.8	+0.3
AZU				eS	Sn	02 52 56.5	+0.3
BCIP	**Isla Barro Col**	**3.07**	**74**	*eP*	Pn	02 52 30.5	-0.6
BCIP				eS	Sb	02 53 15.3	+0.4

IDC 03 03:23:04.2±581.0, 48°79N×45°28E, h0km, Error ellipse: s-maj=356.2km s-min=172.9km az=136.0, Ukraine - Moldova - Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**9.32**	**331**	*i*		04 22 40.0	
	baz=146,slow=317,SNR=2.1						
I26DE	**FREYUNG INFRAS**	**20.71**	**282**	*i*		05 28 40.0	
	baz=79,slow=299,SNR=0.6						
I48TN	**KESRA INFRASON**	**29.30**	**257**	*i*		06 24 30.0	
	baz=50,slow=310,SNR=0.6						

*ISCJB **03** 03:45:12.7±1.2, 36°3N±0°1×70°9E±0°1, h150km, mb3.3/5, Error ellipse: s-maj=15.6km s-min=10.7km az=148.6*
*IDC **03** 03:45:12.6±11.0, 36°24N×70°93E, h139km±92km, mb3.1/6, mb1 3.2/7, mb1mx2.9/36, mbtmp3.5/7, Error ellipse: s-maj=64.0km s-min=32.7km az=150.0*
*NNC **03** 03:45:21.6±0.9, 36°88N×70°81E, h177km±8km, mb2.6, mpv3.7, Error ellipse: s-maj=9.9km s-min=4.5km az=163.0*
ISC 03 03:45:15.0±1.5, 36°4N±0°1×70°93E±0°1, h150km, n15, σ1°52/17, mb3.4/5, 3C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.90**	**325**	⇓P	**Pn**	**03 46 03.9**	**+2.8**
	19nm,0.4s						
DZET				⇓S	**Sn**	**03 46 37.4**	**+0.5**
	27nm,0.4s						
SFK	**Sufi-Kurgan**	**4.11**	**29**	⇓P	Pn	03 46 19.9	+3.0
	3.3nm,0.3s						
SFK				⇑S	**Sn**	**03 47 06.3**	**+1.4**
	9.9nm,0.2s						
KK31	**Karatay Array**	**6.67**	**357**	⇓P	**Pn**	**03 46 51.8**	**+1.2**
	5.3nm,0.6s,baz=205,slow=44,SNR=83						
KK31				⇑S	**Sn**	**03 48 02.1**	**-3.4**
	2.4nm,0.5s,baz=182,slow=20,SNR=8.2						
AAK	**Ala-Archa**	**6.78**	**23**	P	**Pn**	**03 46 54.0**	**+1.9**
	2.2nm,0.5s						
AAK				S	**Sn**	**03 48 07.3**	**-0.9**
	4.0nm,0.6s						
AAK	**Ala-Archa**	**6.78**	**23**	P	Pn	03 47 43.1	+51
	0.8nm,0.3s,baz=210,slow=11,SNR=5.0						
AAK				S	Sn	03 48 56.8	+48
	0.5nm,0.3s,baz=332,slow=22,SNR=7.3						
TKM2	**Tokmak 2**	**7.41**	**28**	⇓P	**Pn**	**03 47 01.7**	**+1.0**
	2.6nm,0.5s						
AB31	**Akbulak array**	**15.12**	**331**	P	**P**	**03 48 41.7**	**-0.6**
	0.2nm,0.3s,baz=139,slow=15,SNR=10						
AKTO	**Aktyubinsk**	**16.81**	**330**	⇑P	**Pn**	**03 49 01.2**	**-0.2**
	4.1nm,1.6s						
AKTO	**Aktyubinsk**	**16.81**	**330**	P	**Pn**	**03 49 02.2**	**+0.9**
	0.3nm,0.3s,baz=119,slow=13,SNR=3.9						
ZALV	**Zalesovo Beam**	**20.00**	**25**	P	**P**	**03 49 35.7**	**0.0**
	0.7nm,0.5s,baz=224,slow=10,SNR=2.4						
FINES	**FINESS Array B**	**37.51**	**326**	P	**P**	**03 52 13.7**	**-0.2**
	0.8nm,0.9s,baz=116,slow=13,SNR=3.9						
ARCES	**ARCESS Array B**	**41.19**	**338**	P	**P**	**03 52 44.5**	**+0.2**
	0.8nm,0.7s,baz=110,slow=9.7,SNR=5.9						
NOA	**NORSAR Array B**	**44.40**	**323**	P	**P**	**03 53 09.2**	**-1.1**
	0.4nm,0.5s,baz=95,slow=7.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**65.66**	**269**	P	**P**	**03 55 42.3**	**-1.2**
	0.4nm,0.8s,baz=55,slow=5.5,SNR=2.7						
YKA	**Yellowknife Ar**	**81.31**	**3**	P	**P**	**03 57 14.2**	**0.0**
	0.3nm,0.5s,baz=346,slow=5.3,SNR=2.6						

IDC 03 03:53:06.4±12.0, 5°85S×148°82E, h169km±121km, mb3.0/2, mb1 3.3/3, mb1mx3.1/27, mbtmp3.5/3, Error ellipse: s-maj=116.0km s-min=46.2km az=132.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.86**	**224**	P	P	03 57 24.2	-0.5
	0.3nm,0.3s,baz=50,slow=11,SNR=4.0						
ASAR	**Alice Springs**	**22.80**	**218**	P	P	03 57 55.5	+0.6
	0.6nm,0.6s,baz=51,slow=8.4,SNR=7.5						

ILAR	**Eielson Array**	**84.63**	**23**	P		P	04 05 20.8	+0.1
	0.3nm,0.8s,baz=229,slow=4.2,SNR=3.5							
TORD	**Torodi Ar. Bea**	**146.80**	**285**	PKPbc		PKPdf	04 12 28.6	+0.9
	0.1nm,0.4s,baz=69,slow=2.9,SNR=3.2							

*IDC **03** 03:55:52.0±0.9, 18°.91N×147°.49E, h0km, mb4.0/11, mb1 4.1/12, mb1mx3.9/39, mbtmp4.1/12, ML4.6/2, Error ellipse: s-maj=29.3km s-min=15.1km az=91.0*
*ISCJB **03** 03:55:55.0±0.8, 18°.90N±0°.05×147°.4E±0°.2, h33km, mb4.0/14, Error ellipse: s-maj=22.4km s-min=7.2km az=1.7*
*NEIC **03** 03:55:57.2±4.2, 18°.90N×147°.42E, h35km±29km, mb4.5/4, Error ellipse: s-maj=24.6km s-min=8.5km az=84.0*

ISC 03 03:55:57.8±0.9, 18°.97N±0°.06×147°.2E±0°.2, h35km, n25, σ1§53/24, mb4.0/14, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.82**	**203**			Pn	**Pn**	**03 57 22.1**	**+0.5**
	44nm,0.3s,baz=125,slow=1.6,SNR=20								
GUMO						Sn	**Sn**	**03 58 25.5**	**-1.6**
	37nm,0.3s,baz=354,slow=23,SNR=10								
CBIJ	**Chichi jima**	**9.33**	**331**			Pn	**Pn**	**03 58 10.4**	**+0.6**
CBIJ						Sn	**Sn**	**03 59 50.3**	**-3.2**
JCJ	**Chichijima**	**9.33**	**331**			Pn	**Pn**	**03 58 10.4**	**+0.6**
	2.6nm,0.3s,baz=105,slow=19,SNR=2.7								
JCJ						Sn	**Sn**	**03 59 50.3**	**-3.2**
	4.6nm,0.3s,baz=196,slow=18,SNR=2.8								
H11S3	**WAKE ISLAND Hy**	**18.43**	**88**	T		T	T	04 18 43.4	
	baz=276,slow=74,SNR=11								
H11S1	**WAKE ISLAND Hy**	**18.44**	**88**	T		T	T	04 18 39.9	
	baz=276,slow=74,SNR=12								
H11S2	**WAKE ISLAND Hy**	**18.44**	**88**	T		T	T	04 18 45.2	
	baz=276,slow=74,SNR=14								
MAJO	**Matsushiro**	**19.23**	**337**	*eP*		P	P	04 00 13.3	-5.6
	26nm,0.4s								
KSRS	**Korea Array**	**24.99**	**321**	P		P	**P**	**04 01 19.6**	**+1.3**
	2.8nm,0.6s,baz=146,slow=9.2,SNR=22								
KSAR	**Wonju Array Be**	**25.00**	**321**	P		P	**P**	**04 01 19.6**	**+1.2**
SIJI	**Sorong**	**25.20**	**220**	P		P	**P**	**04 01 21.3**	**+1.0**
	5.4nm,0.4s,baz=30,slow=20,SNR=2.8								
WRAB	**Tennant Creek**	**40.68**	**199**	*eP*		P	**P**	**04 03 34.9**	**-0.1**
	13nm,1.3s								
WRA	**Warramunga Arr**	**40.69**	**199**	P		P	**P**	**04 03 33.2**	**-1.9**
	0.7nm,0.3s,baz=21,slow=9.1,SNR=4.5								
SONM	**Songino Array**	**43.25**	**321**	P		P	**P**	**04 04 01.5**	**+0.7**
	2.2nm,0.8s,baz=132,slow=9.4,SNR=12								
AS31	**Alice Springs**	**44.33**	**198**	*eP*		P	**P**	**04 04 03.0**	**-1.6**
ASAR	**Alice Springs**	**44.33**	**198**	P		P	**P**	**04 04 03.1**	**-1.6**
	0.7nm,0.6s,baz=16,slow=7.0,SNR=9.8								
CMAR	**Chiang Mai Arr**	**45.63**	**278**	P		P	**P**	**04 04 16.4**	**+1.2**
	0.9nm,0.4s,baz=69,slow=7.8,SNR=4.7								
STKA	**Stephens Creek**	**50.85**	**186**	P		P	**P**	**04 04 54.5**	**-0.6**
	1.5nm,0.9s,baz=18,slow=13,SNR=3.8								
ZALV	**Zalesovo Beam**	**58.70**	**322**	P		P	**P**	**04 05 52.4**	**+0.6**
	1.7nm,0.6s,baz=99,slow=10,SNR=6.8								
ILAR	**Eielson Array**	**62.76**	**26**	P		P	**P**	**04 06 17.7**	**-1.5**
	0.9nm,1.1s,baz=248,slow=5.4,SNR=3.7								
EKS2	**Erkin-Say**	**65.36**	**309**	*eP*		P	**P**	**04 06 37.1**	**+0.2**
	1.9nm,0.8s								
KKAR	**Karatay Array**	**67.72**	**310**	*eP*		P	**P**	**04 06 52.7**	**+0.8**
	1.6nm,0.5s								
ABKAR	**Akbulak array**	**74.14**	**317**	*eP*		P	**P**	**04 07 31.1**	**+0.4**
ARCES	**ARCESS Array B**	**82.68**	**342**	P		P	**P**	**04 08 19.5**	**+2.1**
	1.0nm,0.7s,baz=68,slow=7.3,SNR=8.2								
FINES	**FINESS Array B**	**87.25**	**336**	P		P	**P**	**04 08 39.4**	**-1.1**
	0.4nm,0.4s,baz=90,slow=7.6,SNR=6.0								
LPAZ	**La Paz**	**146.22**	**91**	PKPbc		**PKPbc**	**PKPdf**	**04 15 36.1**	**-0.1**
	0.9nm,0.6s,baz=296,slow=2.2,SNR=7.8								

*IDC **03** 04:03:31.3±1.0, 13°.57N×89°.81W, h0km, mb4.0/12, mb1 4.2/13, mb1mx4.0/35, mbtmp4.0/13, ML3.5/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/27, Error ellipse: s-maj=38.9km s-min=16.9km az=42.0*
*ISCJB **03** 04:03:33.0±0.4, 13°.04N±0°.04×90°.47W±0°.03, h24km, mb4.2/25, MS3.5/1, Error ellipse: s-maj=6.8km s-min=3.2km az=30.5*
*CASC **03** 04:03:35.0±1.6, 13°.13N×90°.35W, h13km±10km, MD4.0, ML4.1, mb4.4(NEIC)*
*NEIC **03** 04:03:37.2±1.2, 13°.34N×90°.10W, h48km±12km, mb4.4/14, MD4.1(SNET), Error ellipse: s-maj=17.6km s-min=7.0km az=48.0*
NEIC Felt [II] at Ahuachapan.

ISC 03 04:03:33.8±0.6, 13°.08N±0°.07×90°.39W±0°.06, h24km, n140, σ1§56/137, mb4.3/25, 5C-5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**1.06**	**45**	⇓	*i*	P	**Pn**	**04 03 53.4**	**0.0**
IXG	**Ixpaco**	**1.08**	**357**	⇑	*i*	P	**Pn**	**04 03 52.9**	**-0.8**
RTR	**El Retiro**	**1.09**	**42**	⇓	*i*	P	**Pn**	**04 03 53.9**	**+0.2**
SNJE	**San Jose**	**1.09**	**44**	⇓	*i*	P	**Pn**	**04 03 53.9**	**+0.1**
RBDL	**Robledal**	**1.23**	**59**	⇓	*i*	P	**Pn**	**04 03 56.1**	**+0.4**
BOQS	**Boqueron**	**1.26**	**59**	⇑	*i*	P	**Pn**	**04 03 57.2**	**+1.1**
SNET	**Serv Nac Est T**	**1.28**	**62**	⇓	*i*	P	**Pn**	**04 03 56.7**	**+0.5**
SNET						AML	AML	04 03 59.3	
	comp=Z,4μm,0.3s								
SNET					*e*	S	**Sn**	**04 04 13.3**	**+0.6**
LFRS	**El Faro**	**1.40**	**67**	⇑	*i*	P	**Pn**	**04 03 58.6**	**+0.6**
LFU	**La Fuente**	**1.41**	**62**		*i*	P	**Pn**	**04 03 58.9**	**+0.9**
LBRS	**Las Brisas**	**1.47**	**64**		*e*	P	**Pn**	**04 03 59.6**	**+0.8**
NBG	**Las Nubes**	**1.50**	**2**	⇑	*e*	P	**Pn**	**04 04 01.1**	**+1.7**
SNVI	**San Vicente**	**1.60**	**71**		*i*	P	**Pn**	**04 04 01.9**	**+1.1**
MRL	**Marmol**	**2.08**	**19**		*i*	P	**Pn**	**04 04 08.9**	**+1.5**
MRL				⇑	*e*		**Pn**	**04 04 09.7**	**+2.3**
VSM	**San Miguel**	**2.09**	**80**		*i*	P	**Pn**	**04 04 09.2**	**+1.6**
CAHU	**Cacacuatique**	**2.23**	**72**		*i*	P	**Pn**	**04 04 10.9**	**+1.5**
CNCH	**Conchagua**	**2.50**	**85**		*e*	P	**Pn**	**04 04 14.7**	**+1.6**
CCIG	**Comitan**	**3.60**	**332**			P	**Pn**	**04 04 30.4**	**+2.1**
CCIG						S	**Sn**	**04 05 09.7**	**-0.4**
PCIG		**3.78**	**314**			P	**Pn**	**04 04 29.5**	**-1.1**
PCIG						S	Sn	04 05 07.3	-7.0
COPN	**Copaltepe**	**3.82**	**103**		*i*	P	**Pn**	**04 04 31.8**	**+0.7**
TGIG		**4.52**	**325**			P	**Pn**	**04 04 43.7**	**+2.8**
TGIG						S	**Sn**	**04 05 33.6**	**+0.8**
CMIG	**Matias Romero**	**5.89**	**313**			Pn	**Pn**	**04 04 59.8**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=101,slow=11,SNR=15								
CMIG						Sn	**Sn**	**04 06 05.5**	**-0.9**
	comp=Z,3.3nm,0.3s,baz=118,slow=19,SNR=6.0								
CMIG						LR	LR	04 06 32.1	
	comp=Z,40nm,20.9s,baz=52,slow=30								
JTS	**JuntasAbangare**	**6.01**	**117**			Pn	**Pn**	**04 05 02.9**	**+1.6**
	comp=Z,4.4nm,0.3s,baz=310,slow=22,SNR=12								
JTS						Sn	**Sn**	**04 06 08.0**	**-1.4**
	comp=Z,2.9nm,0.3s,baz=45,slow=20,SNR=2.1								
JTS						Lg	Lg	04 06 39.1	
	comp=Z,2.1nm,0.3s,baz=288,slow=23,SNR=9.3								
JTS	**JuntasAbangare**	**6.01**	**117**	*e*	Pn		**Pn**	**04 05 03.2**	**+1.9**
	comp=Z,26nm,0.6s								
JTS					*e*	Sn	**Sn**	**04 06 08.4**	**-1.0**
JTS						eLg	Lg	04 06 37.4	
JCR	**Jicaral**	**6.09**	**121**	*eP*			**Pn**	**04 05 04.4**	**+1.9**
CGA2	**Cerro Gallo 2**	**6.56**	**117**	*eP*			Pn	04 05 12.6	+3.6
URSC	**Urasca**	**7.24**	**116**	*eP*			Pn	04 05 22.8	+4.4
BUS	**Buena Vista**	**7.39**	**118**	*eP*			Pn	04 05 24.6	+3.9
BUS					*e*	S	Sn	04 06 39.0	-5.1
933A	**Laredo**	**16.67**	**331**	P			**Pn**	**04 07 27.9**	**+2.0**
	baz=17								
832A	**Faith Ranch, C**	**17.57**	**331**	P			**P**	**04 07 39.0**	**+1.0**
	baz=18								
733A	**Divot King Ran**	**17.63**	**333**	P			**P**	**04 07 41.2**	**+2.5**
	baz=18								
537A	**Green Hill Far**	**17.78**	**343**	P			**P**	**04 07 41.5**	**+1.2**
	baz=18								
534A	**Blanco**	**18.45**	**337**	P			**Pn**	**04 07 49.9**	**+1.9**
	baz=18								
631A	**Perdido Creek**	**18.80**	**331**	P			**Pn**	**04 07 53.5**	**+1.3**
	baz=19								
435B	**Jarrell**	**18.82**	**340**	P			**Pn**	**04 07 54.4**	**+1.9**
	baz=19								
434A	**Burnet**	**19.08**	**339**	P			**P**	**04 07 55.9**	**+1.1**
	baz=19								
532A	**Rocksprings**	**19.11**	**334**	P			**Pn**	**04 07 57.3**	**+1.3**
	baz=19								
336A	**Riesel**	**19.16**	**343**	P			**Pn**	**04 07 57.7**	**+1.2**
	baz=19,SNR=5.5								
335A	**Moody**	**19.23**	**341**	P			**Pn**	**04 07 58.6**	**+1.1**
	baz=19								
433A	**Art**	**19.33**	**337**	P			**Pn**	**04 07 59.3**	**+0.6**
	baz=19								
JCT	**Junction City**	**19.37**	**335**	P			**Pn**	**04 08 00.4**	**+1.2**
	baz=19								
334A	**Lometa**	**19.55**	**340**	P			**Pn**	**04 08 01.7**	**+0.6**
	baz=20								
432A	**Menard**	**19.72**	**335**	P			**P**	**04 08 02.8**	**+1.1**
	baz=20								
530A	**J-C Ranch, Com**	**19.77**	**331**	P			**P**	**04 08 04.2**	**+1.8**
	baz=20								
333A	**Richland Sprin**	**19.80**	**338**	P			**P**	**04 08 04.2**	**+1.6**
	baz=20								
431A	**Sonora**	**19.89**	**333**	P			**P**	**04 08 05.4**	**+1.8**
	baz=20								
LRAL	**Lakeview Retre**	**20.10**	**8**	*eP*			Pn	04 08 09.7	+2.0
	comp=Z,5.7nm,0.7s								
234A	**Clairette**	**20.13**	**341**	P			**P**	**04 08 07.4**	**+1.2**
	baz=20								
332A	**Millersview**	**20.14**	**336**	P			**P**	**04 08 08.2**	**+1.9**
	baz=20								
529A	**Stev Forest Ra**	**20.18**	**329**	P			**P**	**04 08 08.0**	**+1.2**
	baz=20								
430A	**Baggett Ranch,**	**20.26**	**332**	P			**P**	**04 08 08.8**	**+1.2**
	baz=20								
TXAR	**Lajitas Array**	**20.33**	**325**	P			**P**	**04 08 10.6**	**+2.2**
	comp=Z,4.7nm,0.7s,baz=147,slow=11,SNR=55								
TXAR						PcP	**PcP**	**04 12 23.6**	**+2.2**
	comp=Z,0.7nm,0.9s,baz=155,slow=4.5,SNR=4.2								
331A	**San Angelo**	**20.36**	**335**	P			**P**	**04 08 10.3**	**+1.6**
	baz=20,SNR=6.8								
233A	**Rising Star**	**20.40**	**339**	P			Pn	04 08 11.5	+0.2
	baz=20,SNR=5.4								
135A	**Vickery Place,**	**20.42**	**343**	P			**P**	**04 08 10.1**	**+0.8**
	baz=20,SNR=6.9								
429A	**Davenport Ranc**	**20.43**	**331**	P			**P**	**04 08 11.2**	**+1.6**
	baz=20								
232A	**Coleman**	**20.55**	**337**	P			Pn	04 08 13.2	+0.1
	baz=20								
Z37A	**Pogue Cattle C**	**20.58**	**347**	P			Pn	04 08 14.4	+1.0
	baz=20								
330A	**Mertzon**	**20.76**	**333**	P			**P**	**04 08 14.4**	**+1.3**
	baz=21								
231A	**Bronte**	**20.86**	**336**	P			**P**	**04 08 15.1**	**+1.0**
	baz=21								
133A	**Hamilton Ranch**	**20.94**	**340**	P			**P**	**04 08 16.0**	**+1.1**
	baz=21,SNR=6.3								
Y38A	**Idabel**	**21.12**	**350**	P			**P**	**04 08 17.7**	**+0.9**
	baz=21								
329A	**Wagon Wheel Ra**	**21.19**	**332**	P			**P**	**04 08 19.9**	**+2.1**
	baz=21								
ABTX	**Abilene, Hawle**	**21.21**	**338**	P			**P**	**04 08 20.9**	**+3.0**
	baz=21								
Z34A	**Collier Ranch,**	**21.33**	**342**	P			**P**	**04 08 21.3**	**+2.2**
	baz=21								
Y36A	**Durant**	**21.41**	**346**	P			**P**	**04 08 23.1**	**+3.2**
	baz=21								
Z33A	**Whitaker Ranch**	**21.51**	**341**	P			**P**	**04 08 23.7**	**+2.6**
	baz=22								
229A	**Bryant Ranch,**	**21.52**	**333**	P			**P**	**04 08 24.0**	**+2.7**
	baz=22								
131A	**Roby**	**21.54**	**336**	P			**P**	**04 08 23.8**	**+2.4**
	baz=22								
MIAR	**Mount Ida**	**21.56**	**353**	P			**P**	**04 08 24.3**	**+2.8**
	baz=21								
Y35A	**Marietta**	**21.59**	**345**	P			**P**	**04 08 24.8**	**+2.9**
	baz=22								
130A	**Snyder**	**21.70**	**335**	P			**P**	**04 08 25.5**	**+2.4**
	baz=22								
Z32A	**Haskell**	**21.77**	**339**	P			**P**	**04 08 26.3**	**+2.4**
	baz=22,SNR=6.3								
Y34A	**Reagan Ranch,**	**21.83**	**343**	P			**P**	**04 08 27.6**	**+3.1**
	baz=22								
X38A	**Whitesboro**	**21.86**	**350**	P			**P**	**04 08 26.8**	**+2.0**
	baz=22								
X37A	**Clayton**	**21.88**	**349**	P			**P**	**04 08 26.4**	**+1.4**
	baz=22								
228A	**UT Block 9, Go**	**22.00**	**331**	P			**P**	**04 08 28.1**	**+1.6**
	baz=22								
Z31A	**Sharp Cattle R**	**22.02**	**338**	P			**P**	**04 08 27.1**	**+0.6**
	baz=22								
X35A	**Drake**	**22.05**	**345**	P			**P**	**04 08 28.3**	**+1.5**
	baz=22								
X36A	**Centrahoma**	**22.06**	**347**	P			**P**	**04 08 27.0**	**+0.1**
	baz=22,SNR=5.1								
129A	**Stewart Farms,**	**22.11**	**334**	P			**P**	**04 08 27.7**	**+0.1**
	baz=22,SNR=6.7								
Y33A	**Hilltop Ranch,**	**22.14**	**342**	P			**P**	**04 08 28.6**	**+0.9**
	baz=22								
W38A	**Poteau**	**22.21**	**351**	P			**P**	**04 08 32.5**	**+4.0**
	baz=22								
Z30A	**Sanderson Ranc**	**22.37**	**336**	P			**P**	**04 08 30.7**	**+0.3**
	baz=22								
128A	**Castleberry Fa**	**22.38**	**332**	P			**P**	**04 08 29.9**	**-0.6**
	baz=22								
Y32A	**R-V Farms, Ver**	**22.39**	**340**	P			**P**	**04 08 31.6**	**+1.0**
	baz=22								
W37A	**Quinton**	**22.43**	**349**	P			**P**	**04 08 32.7**	**+1.9**
	baz=22								
X34A	**Smith Ranch, M**	**22.46**	**344**	P			**P**	**04 08 33.2**	**+2.0**
	baz=22								
Z29A	**Hungry Hill Ra**	**22.58**	**335**	P			**P**	**04 08 32.7**	**+0.1**
	baz=22								
X33A	**Lawton**	**22.59**	**342**	P			**P**	**04 08 33.8**	**+1.1**
	baz=22								
Y31A	**Rekieta Farm,**	**22.64**	**338**	P			**P**	**04 08 33.8**	**+0.6**
	baz=23								
X32A	**Elmer**	**22.72**	**341**	P			**P**	**04 08 34.6**	**+0.5**
	baz=23								
W35A	**Tecumseh**	**22.74**	**346**	P			**P**	**04 08 32.9**	**-1.3**
	baz=23,SNR=5.5								
Z28A	**Tucker Farm, M**	**22.90**	**333**	P			**P**	**04 08 35.5**	**-0.5**
	baz=23								
W34A	**Bridge Creek,**	**23.04**	**344**	P			**P**	**04 08 36.6**	**-0.7**
	baz=23								
Y29A	**Porterfield Fa**	**23.09**	**335**	P			**P**	**04 08 37.7**	**-0.2**
	baz=23								
X31A	**McDonald Ranch**	**23.15**	**340**	P			**P**	**04 08 39.5**	**+1.1**
	baz=23								
TKL	**Tuckaleechee C**	**23.26**	**14**	P			**P**	**04 08 38.2**	**-1.3**
	comp=Z,4.7nm,0.7s,baz=200,slow=9.4,SNR=5.9								
X30A	**Coker Ranch, T**	**23.30**	**338**	P			**P**	**04 08 41.3**	**+1.3**
	baz=23								
W32A	**Sentinel**	**23.36**	**341**	P			**P**	**04 08 41.1**	**+0.6**
	baz=23								
Y28A	**McKinney Farm,**	**23.37**	**334**	P			**P**	**04 08 40.6**	**-0.2**
	baz=23								
X29A	**Tulia**	**23.61**	**336**	P			**P**	**04 08 43.0**	**-0.1**
	baz=24								
MSTX	**Muleshoe**	**23.64**	**334**	P			**P**	**04 08 43.5**	**0.0**
	baz=24								
W30A	**Crocket Farms**	**23.85**	**339**	P			**P**	**04 08 44.9**	**-0.4**
	baz=24								
X28A	**Dimmitt**	**23.88**	**335**	P			**P**	**04 08 45.1**	**-0.5**
	baz=24								
AMTX	**Amarillo**	**23.99**	**337**	P			**P**	**04 08 48.0**	**+1.2**
	baz=24								
121A	**Cookes Peak, D**	**25.06**	**323**	P			**P**	**04 08 59.6**	**+3.0**
	baz=25,SNR=22								
121A	**Cookes Peak, D**	**25.06**	**323**	*eP*			**P**	**04 08 58.1**	**+1.5**
	comp=Z,22nm,0.9s								
WCI	**Wyandotte Cave**	**25.31**	**8**	*eP*			**P**	**04 08 57.2**	**-1.4**
	comp=Z,14nm,0.8s								
OLIL	**Olney**	**25.63**	**4**	*eP*			**P**	**04 09 00.6**	**-0.8**
	comp=Z,9.2nm,0.7s								
ANMO	**Albuquerque**	**26.18**	**329**	P			**P**	**04 09 07.9**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=151,slow=13,SNR=3.1								
TUC	**Tucson**	**26.74**	**319**	*eP*			**P**	**04 09 13.5**	**+1.7**
	comp=Z,1.4nm,0.8s								
SPMN	**St. Paul**	**32.10**	**357**	*eP*			P	04 09 56.9	-2.2
MPMC	**Manual Prospec**	**33.42**	**318**	P			P	04 10 14.5	+3.5
	baz=34								
R11A	**Troy Canyon, C**	**33.67**	**323**	P			**P**	**04 10 15.6**	**+2.5**
	baz=34,SNR=6.1								
R11A	**Troy Canyon, C**	**33.67**	**323**	*eP*			**P**	**04 10 14.4**	**+1.2**
	comp=Z,2.8nm,1.1s								
H24A	**Dirks Ranch, A**	**33.79**	**342**	P			**P**	**04 10 17.1**	**+3.1**
	baz=34								
PDAR	**Predale Array**	**33.91**	**334**	P			**P**	**04 10 14.1**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=112,slow=8.9,SNR=3.0								
PDAR						PcP	**PcP**	**04 12 53.6**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=128,slow=4.5,SNR=5.6								
SAML	**Samuel**	**34.78**	**128**	*eP*			**P**	**04 10 22.0**	**-0.8**
	comp=Z,4.2nm,0.9s								
REDW	**Red Top Meadow**	**34.95**	**334**	*eP*			**P**	**04 10 24.9**	**+0.8**
	comp=Z,4.2nm,0.8s								
NVAR	**Mina Array Bea**	**35.36**	**321**	P			**P**	**04 10 30.1**	**+2.3**
	comp=Z,7.3nm,0.8s,baz=137,slow=8.6,SNR=26								
NVAR						PcP	**PcP**	**04 12 59.0**	**+1.2**
	comp=Z,1.5nm,0.7s,baz=155,slow=3.7,SNR=6.0								
AGMN	**Agassiz Nation**	**35.40**	**354**	*eP*			**P**	**04 10 25.6**	**-2.1**
	comp=Z,2.9nm,0.5s								
LPAZ	**La Paz**	**36.55**	**142**	*eP*			**P**	**04 10 39.3**	**+0.7**
	comp=Z,1.5nm,0.9s								
ULM	**Lac du Bonnet**	**37.33**	**354**	P			P	04 10 40.0	-4.1
	comp=Z,1.8nm,0.6s,baz=173,slow=11,SNR=4.4								
SIV	**San Ignacio**	**40.93**	**134**	P			**P**	**04 11 15.1**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=315,slow=10,SNR=5.9								
RPN	**Rapa Nui**	**44.00**	**205**	LR			LR	04 25 44.9	
	comp=Z,66nm,19.9s,baz=186,slow=30								
SCHQ	**Schefferville**	**45.55**	**19**	P			P	04 11 48.4	-3.2
	comp=Z,3.1nm,0.5s,baz=210,slow=7.3,SNR=16								
YKA	**Yellowknife Ar**	**52.28**	**346**	P			**P**	**04 12 41.1**	**-1.9**
	comp=Z,1.9nm,0.8s,baz=151,slow=7.6,SNR=5.3								
RCBR	**Riachuelo**	**57.29**	**106**	*eP*			**P**	**04 13 20.0**	**-0.2**
	comp=Z,6.0nm,0.6s								
RES	**Resolute Bay**	**61.64**	**359**	*eP*			**P**	**04 13 47.8**	**-1.3**
	comp=Z,1.7nm,0.7s								
ILAR	**Eielson Array**	**64.29**	**337**	P			**P**	**04 14 05.4**	**-1.6**
	comp=Z,0.7nm,0.9s,baz=115,slow=4.8,SNR=6.4								
MCK	**McKinley**	**64.68**	**335**	*eP*			**P**	**04 14 09.3**	**-0.3**
	comp=Z,1.8nm,0.6s								
ESDC	**Sonseca Array**	**79.06**	**52**	P			**P**	**04 15 34.5**	**-1.9**
	comp=Z,0.7nm,0.7s,baz=296,slow=5.4,SNR=6.8								
PMSA	**Palmer Station**	**80.16**	**169**	*eP*			**P**	**04 15 43.1**	**+1.6**
	comp=Z,66nm,1.3s								
DBIC	**Dimbokro**	**84.19**	**85**	P			**P**	**04 16 03.0**	**-0.8**
	comp=Z,6.6nm,1.1s,baz=243,slow=6.8,SNR=3.2								
DBIC	**Dimbokro**	**84.19**	**85**	*eP*			**P**	**04 16 02.4**	**-1.5**
	comp=Z,15nm,1.3s								
TORD	**Torodi Ar. Bea**	**89.07**	**77**	P			P	04 16 24.9	-2.8
	comp=Z,0.4nm,0.6s,baz=298,slow=5.1,SNR=5.5								
KEST	**Kesra**	**90.19**	**53**	*eP*			**P**	**04 16 31.1**	**-1.6**
GNI	**Garni**	**112.64**	**36**	*e*	PKP		**PKiKP**	**04 22 07.4**	**-1.5**
ZALV	**Zalesovo Beam**	**113.11**	**3**		PKiKP		**PKiKP**	**04 22 09.2**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=327,slow=2.4,SNR=2.8								
CMAR	**Chiang Mai Arr**	**147.33**	**343**		PKPbc		**PKPdf**	**04 23 15.8**	**+1.8**
	comp=Z,2.7nm,0.5s,baz=345,slow=3.4,SNR=12								

*IDC **03** 04:13:48.0±1.3, 13°.56S×166°.49E, h33km±7km, mb4.1/13, mb1 4.2/14, mb1mx4.0/37, mbtmp4.2/14, ML3.6/1, MS4.0/3, Ms1 4.0/3, ms1mx3.3/23, Error ellipse: s-maj=29.1km s-min=16.5km az=115.0*
*NEIC **03** 04:13:48.6±2.6, 13°.65S×166°.54E, h46km±25km, mb4.5/3, Error ellipse: s-maj=19.6km s-min=16.1km az=156.0*

ISC 03 04:13:48.3±0.7, 13°.6S±0°.1×166°.5E±0°.2, h39km, n26, σ1§08/31, mb4.3/15, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.65**	**302**			P	Pn	04 15 43.0	+5.8
HNR						S	Px	04 16 07.0	
DZM	**Mont Dzumac**	**8.42**	**180**			Pn	**Pn**	**04 15 47.1**	**-0.8**
	0.8nm,0.3s,baz=90,slow=23,SNR=13								
DZM						Sn	Sn	04 17 28.3	+6.5
	baz=270,slow=20,SNR=2.2								
DZM						LR	LR	04 18 58.0	
	comp=Z,1μm,19.2s,baz=0.0,slow=37								
CTA	**Charters Tower**	**20.42**	**249**	P			**P**	**04 18 23.4**	**+1.1**
	5.4nm,0.7s,baz=82,slow=13,SNR=4.5								
COEN	**Coen**	**22.66**	**266**	*eP*			**P**	**04 18 46.8**	**+0.4**
STKA	**Stephens Creek**	**29.18**	**227**	P			**P**	**04 19 47.2**	**+1.1**
	4.6nm,0.7s,baz=46,slow=8.4,SNR=16								
STKA						pP	**pP**	**04 19 57.9**	**+0.9**
	3.8nm,1.0s,baz=16,slow=7.4,SNR=2.9								
WRAB	**Tennant Creek**	**31.39**	**254**	*eP*			**P**	**04 20 04.6**	**-1.2**
	7.8nm,1.1s								
WRA	**Warramunga Arr**	**31.40**	**254**	P			**P**	**04 20 04.8**	**-1.1**
	1.9nm,0.8s,baz=85,slow=8.6,SNR=6

Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*NEIC **03** 04:22:08.6±5.9,21°.70S×174°.99W,h6km±36km,mb5.1/32 Error ellipse: s-maj=11.4km s-min=8.6km az=157.0*
*ISCJB **03** 04:22:11.3±0.2,21°.73S±0°.06×175°.03W±0.06,h33km, mb4.8/55,MS4.5/24,Error ellipse: s-maj=9.8km s-min=6.4km az=142.0*
*MOS **03** 04:22:12.8±1.2,21°.63S×175°.14W,h41km,mb5.3/13, Error ellipse: s-maj=13.5km s-min=12.1km az=62.9*
ISC 03 04:22:11.8±0.8,21°.82S±0°.06×174°.90W±0°.08,h26km±5km, n246,σ1^{2}8/246,mb4.9/54,MS4.5/24,25C-11D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.79**	**300**	Pn		Pn	04 24 10.7	+7.1
	3μm,1.1s,SNR=11							
MSVF	**Nonsavu**	**7.79**	**300**	*e*P		Pn	04 24 09.9	+6.3
MSVF	**Nonsavu**	**7.79**	**300**	*e*Pn		Pn	04 24 09.9	+6.3
RAO	**Raoul Island**	**7.88**	**200**	Pn		**Pn**	**04 24 03.5**	**-1.3**
	30nm,0.3s,baz=54,slow=19,SNR=3.9							
RAO				Sn		**Sn**	**04 25 31.1**	**-2.0**
	14nm,0.3s,baz=73,slow=19,SNR=3.6							
AFI	**Afiamalu**	**8.41**	**21**	*e*P		Pn	04 23 59.1	-13
AFI	**Afiamalu**	**8.41**	**21**	*e*Pn		Pn	04 23 59.1	-13
RAR	**Rarotonga**	**14.09**	**90**	Pn		Pn	04 25 19.6	-10
	2.5nm,0.3s,baz=258,slow=14,SNR=5.5							
RAR				Sn		Sn	04 27 45.8	-20
	1.0nm,0.3s,baz=102,slow=20,SNR=2.5							
DZM	**Mont Dzumac**	**17.31**	**266**	*e*P		P	04 26 17.8	+4.6
	56nm,1.1s							
DZM				*e*LR		LR	04 30 21.6	
	1μm,21.4s							
DZM	**Mont Dzumac**	**17.31**	**266**	P		P	04 26 16.9	+3.7
	0.2nm,0.3s,baz=90,slow=20,SNR=3.7							
URZ	**Urewera**	**17.77**	**201**	P		**Pn**	**04 26 17.4**	**+0.1**
	1.1nm,0.3s,baz=313,slow=1.8,SNR=7.0							
URZ				S		Sn	04 29 20.6	-14
	0.2nm,0.3s,baz=60,slow=20,SNR=2.9							
URZ	**Urewera**	**17.77**	**201**	*e*Pn		**P**	**04 26 18.0**	**+0.1**
	14nm,0.8s							
URZ				S		Sn	04 29 20.6	-14
TBI	**Tubuai**	**23.53**	**99**	*e*S		S	04 31 21.5	-11
	3μm,26.9s							
TBI				*e*LR		LR	04 32 47.7	
	1μm,27.8s							
TBI	**Tubuai**	**23.53**	**99**	*e*T		T	04 50 58.5	
	12nm,0.4s							
PAE	**Paea**	**24.17**	**85**	*e*T		T	04 51 49.3	
	13nm,0.3s							
PPT2	**Papeete2**	**24.20**	**84**	*e*LQ		LQ	04 32 11.4	
	2μm,31.8s							
PPT2				*e*LR		LR	04 33 01.4	
	628nm,27.8s							
PPT2	**Papeete2**	**24.20**	**84**	*e*T		T	04 51 54.1	
	13nm,0.4s							
TIAR	**Tiarei**	**24.42**	**85**	*e*T		T	04 52 09.8	
	5.9nm,0.4s							
TVO	**Taravao**	**24.45**	**85**	*e*T		T	04 52 12.0	
	2.2nm,0.3s							
RPZ	**Rata Peaks**	**24.75**	**205**	P		**P**	**04 27 33.4**	**+2.2**
	4.2nm,0.5s,baz=21,slow=8.6,SNR=4.2							
RPZ				LR		LR	04 37 44.6	
	comp=Z,3μm,20.5s,baz=30,slow=38							
CTA	**Charters Tower**	**36.26**	**265**	P		**P**	**04 29 11.8**	**-1.4**
	2.2nm,0.4s,baz=97,slow=12,SNR=4.0							
CTAO	**Charters Tower**	**36.26**	**265**	*e*P		**P**	**04 29 12.7**	**-0.5**
CTAO				pmax		pmax		
	comp=Z,33nm,1.4s							
CTAO	**Charters Tower**	**36.26**	**265**	*e*P		**P**	**04 29 12.7**	**-0.5**
	comp=Z,33nm,1.4s							
RKT	**Rikitea**	**36.84**	**100**	*e*T		T	05 07 35.2	
	comp=Z,5.2nm,0.3s							
PMG	**Port Moresby**	**38.46**	**283**	⇑*i*P		P	04 29 36.6	+4.8
PMG				pmax		pmax		
	comp=Z,205nm,1.4s							
PMG	**Port Moresby**	**38.46**	**283**	*e*P		**P**	**04 29 31.3**	**-0.6**
	comp=Z,32nm,1.1s							
STKA	**Stephens Creek**	**39.86**	**246**	P		**P**	**04 29 44.2**	**+0.8**
	comp=Z,2.0nm,0.5s,baz=87,slow=10,SNR=6.3							
STKA				LR		LR	04 44 52.4	
	comp=Z,597nm,20.7s,baz=62,slow=34							
STKA	**Stephens Creek**	**39.86**	**246**	*e*P		**P**	**04 29 44.0**	**+0.6**
	comp=Z,1.6nm,1.1s							
COEN	**Coen**	**40.56**	**274**	*e*P		**P**	**04 29 49.3**	**0.0**
AS31	**Alice Springs**	**47.05**	**257**	*e*P		**P**	**04 30 41.6**	**0.0**
ASAR	**Alice Springs**	**47.05**	**257**	P		**P**	**04 30 39.0**	**-2.5**
	comp=Z,3.4nm,0.9s,baz=88,slow=6.8,SNR=16							
ASAR				PcP		**PcP**	**04 32 12.9**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=103,slow=4.7,SNR=2.9							
ASAR				LR		LR	04 50 00.0	
	comp=Z,737nm,19.0s,baz=97,slow=36							
JAY	**Jayapura**	**47.20**	**288**	P		**P**	**04 30 41.3**	**-1.6**
	comp=Z,9.6nm,0.6s,baz=117,slow=6.8,SNR=5.0							
WRAB	**Tennant Creek**	**47.29**	**263**	‖*e*P		P	04 30 49.4	+6.0
WRAB				pmax		pmax		
	comp=Z,18nm,1.0s							
WRAB	**Tennant Creek**	**47.29**	**263**	*e*P		**P**	**04 30 44.9**	**+1.5**
	comp=Z,48nm,1.8s							
WRA	**Warramunga Arr**	**47.30**	**263**	P		**P**	**04 30 40.6**	**-2.9**
	comp=Z,3.4nm,0.9s,baz=98,slow=7.5,SNR=11							
WRA				PcP		**PcP**	**04 32 13.8**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=99,slow=2.9,SNR=3.9							
FORT	**Forrest**	**51.45**	**247**	*e*P		**P**	**04 31 13.8**	**-1.2**
	comp=Z,15nm,0.6s							
SBA	**Scott Base**	**56.77**	**185**	*e*P		**P**	**04 31 55.5**	**+2.4**
SBA				pmax		pmax		
	comp=Z,72nm,2.0s							
SBA	**Scott Base**	**56.77**	**185**	*e*P		**P**	**04 31 55.5**	**+2.4**
	comp=Z,72nm,2.0s							
VNDA	**Vanda**	**56.88**	**186**	P		**P**	**04 31 55.6**	**+1.8**
	comp=Z,2.6nm,1.0s,baz=7.6,slow=7.8,SNR=8.8							
VNDA				LR		LR	04 55 59.2	
	comp=Z,232nm,18.4s,baz=16,slow=36							
QSPA	**South Pole Qui**	**68.25**	**180**	*e*P		**P**	**04 33 10.9**	**+0.7**
	comp=Z,22nm,1.0s							
KKM	**Kota Kinabalu**	**72.89**	**284**	*e*P		**P**	**04 33 36.6**	**-2.6**
	comp=Z,121nm,1.8s							
MJAR	**Matsushiro Arr**	**73.01**	**322**	P		**P**	**04 33 37.3**	**-2.0**
	comp=Z,0.9nm,0.5s,baz=160,slow=3.9,SNR=3.2							
MJAR				LR		LR	05 00 48.8	
	comp=Z,119nm,21.7s,baz=125,slow=32							
YUK	**Yuzh-Kuril'sk**	**74.75**	**332**	*d*iP		**P**	**04 33 47.7**	**-1.6**
YUK				*i*			04 34 00.9	
YUK				*i*			04 36 33.9	
YUK				*e*S		**S**	**04 43 23.2**	**-0.8**
YUK				*i*			04 43 54.5	
YUK				*i* SS		**SS**	**04 48 09.5**	**-3.1**
YUK				pmax		pmax		
	comp=Z,128nm,5.0s							
YUK				pmax		pmax		
	comp=N,71nm,1.5s							
YUK				pmax		pmax		
	comp=E,72nm,1.5s							
YUK				pmax		pmax		
	comp=Z,71nm,1.5s							
KUR	**Kuril'sk**	**74.86**	**334**	*e*P		**P**	**04 33 49.4**	**-0.5**
KUR				*e*S		**S**	**04 43 23.6**	**-1.6**
KUR				*i*			04 43 59.0	
KUR				*i* SS		**SS**	**04 48 12.8**	**-1.4**
KUR				MLR		MLR		
	comp=Z,69nm,17.0s							
ASAJ	**Asahikawa**	**76.29**	**330**	P		**P**	**04 33 57.8**	**-0.4**
	baz=165,slow=17							
ASAJ	**Asahikawa**	**76.29**	**330**	*e*P		**P**	**04 33 58.4**	**+0.2**
	comp=Z,56nm,2.6s							
VES	**Vestal, Richgr**	**77.95**	**43**	P		**P**	**04 34 06.9**	**-0.8**
	baz=78							
PET	**Petropavlovsk**	**78.00**	**344**	*e*P		P	04 33 59.6	-7.9
PET				*e*S		S	04 43 45.2	-14
EDW2	**Edwards Air Fo**	**78.07**	**45**	P		**P**	**04 34 08.6**	**+0.1**
	baz=78							
ISA	**Isabella**	**78.23**	**44**	P		**P**	**04 34 09.3**	**0.0**
	baz=78							
PETK	**Petropavlovsk-**	**78.32**	**344**	P		**P**	**04 34 08.5**	**-0.9**
	comp=Z,7.3nm,0.7s,baz=138,slow=8.9,SNR=11							
PETK				LR		LR	05 02 05.4	
	comp=Z,184nm,21.9s,baz=142,slow=31							
YSS	**Yuzh-Sakhalins**	**78.39**	**332**	*e*P		**P**	**04 34 09.9**	**0.0**
YSS				pmax		pmax		
	comp=Z,30nm,1.0s							
YSS	**Yuzh-Sakhalins**	**78.39**	**332**	*e*P		**P**	**04 34 10.8**	**+1.0**
	comp=Z,27nm,1.0s							
CMB	**Columbia Colle**	**78.51**	**41**	*e*P		**P**	**04 34 11.6**	**+0.8**
CMB	**Columbia Colle**	**78.51**	**41**	*e*P		**P**	**04 34 11.6**	**+0.8**
BC3	**Big Chuckawall**	**79.04**	**47**	P		**P**	**04 34 14.2**	**+0.3**
	baz=79							
MPMC	**Manual Prospec**	**79.11**	**44**	P		**P**	**04 34 14.6**	**+0.3**
	baz=79							
WAKR	**Walker**	**79.39**	**41**	*e*P		**P**	**04 34 15.2**	**-0.6**
IRM	**Iron Mountain**	**79.54**	**47**	P		**P**	**04 34 17.4**	**+0.9**
	baz=80							
GMRC	**Granite Mounta**	**79.55**	**46**	P		**P**	**04 34 18.0**	**+1.3**
	baz=80							
YBH	**Yreka Blue Hor**	**79.56**	**37**	P		**P**	**04 34 16.2**	**-0.3**
	comp=Z,3.0nm,1.0s,baz=208,slow=5.7,SNR=2.9							
GRAC	**Grapevine Rang**	**79.75**	**43**	P		**P**	**04 34 17.2**	**-0.4**
	baz=80							
KSRS	**Korea Array**	**79.81**	**317**	P		**P**	**04 34 17.9**	**0.0**
	comp=Z,0.6nm,0.4s,baz=127,slow=8.1,SNR=2.8							
KSRS				LR		LR	05 03 31.5	
	comp=Z,132nm,20.6s,baz=118,slow=31							
KSAR	**Wonju Array Be**	**79.82**	**317**	P		**P**	**04 34 17.9**	**-0.1**
KSAR	**Wonju Array Be**	**79.82**	**317**	P		**P**	**04 34 17.9**	**-0.1**
NVAR	**Mina Array Bea**	**80.04**	**42**	P		**P**	**04 34 19.0**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=225,slow=10,SNR=6.6							
TPNV	**Topopah Spring**	**80.44**	**44**	P		**P**	**04 34 21.5**	**0.0**
	baz=81							
SHPR	**Sheep Range**	**80.89**	**45**	*e*P		**P**	**04 34 24.0**	**0.0**
MOD	**Modoc**	**81.03**	**38**	*e*P		**P**	**04 34 25.5**	**+1.0**
	comp=Z,132nm,2.8s							
K05A	**Summer Lake**	**81.22**	**37**	*e*P		**P**	**04 34 25.8**	**+0.1**
	comp=Z,31nm,1.2s							
MAW	**Mawson**	**81.29**	**199**	P		**P**	**04 34 25.7**	**+0.3**
	comp=Z,6.0nm,0.8s,baz=137,slow=9.1,SNR=11							
MAW				LR		LR	05 09 25.3	
	comp=Z,404nm,19.1s,baz=73,slow=35							
TUC	**Tucson**	**81.55**	**50**	*e*P		**P**	**04 34 28.0**	**+0.5**
TUC				pmax		pmax		
	comp=Z,11nm,1.5s							
TUC	**Tucson**	**81.55**	**50**	*e*P		**P**	**04 34 28.0**	**+0.5**
	comp=Z,11nm,1.5s							
R11A	**Troy Canyon, C**	**81.69**	**43**	P		**P**	**04 34 28.4**	**+0.2**
	baz=82							
R11A	**Troy Canyon, C**	**81.69**	**43**	*e*P		**P**	**04 34 30.1**	**+1.9**
USRK	**Ussuriysk Ar.**	**81.70**	**324**	P		**P**	**04 34 26.4**	**-1.5**
	comp=Z,3.3nm,0.9s,baz=50,slow=6.0,SNR=12							
USRK				LR		LR	05 03 49.4	
	comp=Z,220nm,21.9s,baz=137,slow=31							
I05D	**Terrebonne, OR**	**82.03**	**36**	P		**P**	**04 34 30.4**	**+0.7**
	baz=82							
WVOR	**Wild Horse Val**	**82.32**	**38**	*e*P		**P**	**04 34 31.8**	**+0.5**
WVOR				pmax		pmax		
	comp=Z,34nm,1.7s							
WVOR	**Wild Horse Val**	**82.32**	**38**	*e*P		**P**	**04 34 31.8**	**+0.5**
	comp=Z,34nm,1.7s							
NJ2	**Nanjing**	**82.96**	**308**	*e*P		P	04 34 38.9	+4.2
NJ2				PMZ				
	comp=Z,30nm,0.8s							
HABR	**Khabarovsk**	**83.04**	**329**	*e*P		**P**	**04 34 35.3**	**+0.6**
HABR				*e**PP		**pP**	**04 34 45.6**	**+2.4**
HABR				*e**SP		sP	04 34 49.9	+3.6
HABR				*e*			04 37 46.2	
HABR				*e*S		**S**	**04 44 53.0**	**+0.7**
HABR				*e*SS		**SS**	**04 50 18.1**	**+1.1**
HABR				pmax		pmax		
	comp=Z,16nm,1.1s							
HABR				MLR		MLR		
	comp=Z,127nm,17.0s							
MDJ	**Mudanjiang**	**83.28**	**324**	P		**P**	**04 34 36.1**	**0.0**
MDJ				pP		**pP**	**04 34 45.3**	**+0.7**
MDJ				sP		sP	04 34 49.5	+1.9
MDJ				PMZ				
	comp=Z,13nm,1.2s							
MDJ				PMZ				
	comp=Z,70nm,3.8s							
MDJ				LN				
	comp=Z,140nm,21.7s							
MDJ				LE				
	comp=Z,120nm,20.3s							
MDJ				LZ				
	comp=Z,210nm,21.7s							
ELK	**Elko**	**83.32**	**41**	P		**P**	**04 34 36.2**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=252,slow=3.5,SNR=4.4							
D05A	**Enumclaw**	**83.57**	**33**	*e*P		**P**	**04 34 38.4**	**+0.9**
	comp=Z,83nm,1.5s							
G08A	**Pilot Rock**	**83.94**	**36**	*e*P		**P**	**04 34 40.5**	**+0.8**
	comp=Z,28nm,1.3s							
MSU	**Marysvale**	**83.98**	**45**	*e*P		**P**	**04 34 39.6**	**-0.5**
MSU				pmax		pmax		
	comp=Z,10.0nm,1.2s							
MSU	**Marysvale**	**83.98**	**45**	*e*P		**P**	**04 34 39.6**	**-0.5**
	comp=Z,9.7nm,1.2s							
QIZ	**Qiongzhong**	**84.04**	**293**	P		P	04 34 46.7	+6.2
QIZ				S		S	04 45 09.8	+6.1
QIZ				PMZ				
	comp=Z,27nm,1.9s							
DUG	**Dugway**	**84.51**	**43**	P		**P**	**04 34 42.3**	**-0.4**
	baz=85							
BMO	**Blue Mountains**	**84.58**	**37**	*e*P		**P**	**04 34 42.3**	**-0.5**
	comp=Z,8.9nm,1.1s							
TMUT	**Trail Mountain**	**85.04**	**44**	*e*P		**P**	**04 34 45.3**	**-0.3**
	comp=Z,13nm,1.1s							
CN2	**Changchun**	**85.13**	**321**	*e*P		**P**	**04 34 44.6**	**-0.9**
CN2				*e*PP		**PP**	**04 38 05.4**	**+2.1**
CN2				*e*S		**S**	**04 45 12.7**	**-0.8**
CN2				*e*SS		**SS**	**04 50 52.4**	**+4.3**
CN2				PMZ				
	comp=Z,10.0nm,1.1s							
CN2				PMZ				
	comp=Z,150nm,4.0s							
CN2				LN				
	comp=Z,180nm,22.0s							
CN2				LE				
	comp=Z,130nm,22.0s							
CN2				LZ				
	comp=Z,110nm,24.0s							
LAZ	**Ladron**	**85.24**	**50**	*e*P		**P**	**04 34 45.8**	**-0.8**
	comp=Z,8.5nm,1.6s							
TXAR	**Lajitas Array**	**85.36**	**56**	P		**P**	**04 34 46.5**	**-0.6**
	comp=Z,1.8nm,1.1s,baz=215,slow=1.1,SNR=9.5							
SRU	**San Rafael**	**85.39**	**45**	*e*P		**P**	**04 34 47.9**	**+0.7**
SRU				pmax		pmax		
	comp=Z,7.0nm,1.1s							
SRU	**San Rafael**	**85.39**	**45**	*e*P		**P**	**04 34 47.9**	**+0.7**
	comp=Z,7.4nm,1.1s							
P17A	**Butcher Ranch,**	**85.44**	**44**	*e*P		**P**	**04 34 47.6**	**+0.2**
HLID	**Hailey**	**85.47**	**39**	P		**P**	**04 34 47.2**	**-0.2**
	baz=86							
LPM	**Los Pinos Moun**	**85.56**	**50**	*e*P		**P**	**04 34 46.0**	**-2.2**
	comp=Z,13nm,1.4s							
ANMO	**Albuquerque**	**86.00**	**50**	P		**P**	**04 34 49.2**	**-1.1**
	comp=Z,6.3nm,1.2s,baz=200,slow=3.0,SNR=6.6							
ANMO	**Albuquerque**	**86.00**	**50**	⇑*i*P		**P**	**04 34 49.3**	**-1.0**
ANMO				pmax		pmax		
	comp=Z,36nm,1.4s							
ANMO	**Albuquerque**	**86.00**	**50**	*e*P		**P**	**04 34 49.4**	**-1.0**
	comp=Z,21nm,1.4s							
SYO	**Syowa Base**	**86.05**	**192**	‖*e*X		P	04 34 41.6	-8.2
SNAA	**Sanae**	**86.59**	**177**	P		P	04 34 47.5	-5.0
SNAA	**Sanae**	**86.59**	**177**	*e*P		P	04 34 47.0	-5.6
	comp=Z,22nm,1.8s							
529A	**Stev Forest Ra**	**86.84**	**56**	P		**P**	**04 34 54.0**	**-0.4**
	baz=87							
VNA2	**Neumayer--Watz**	**87.09**	**176**	P		**P**	**04 34 54.6**	**-0.2**
	baz=169,slow=3.0							
TRF	**Thorofare Moun**	**87.17**	**11**	*e*P		**P**	**04 34 53.5**	**-1.8**
	comp=Z,39nm,1.4s							
VNA1	**Neumayer--Stat**	**87.30**	**176**	P		**P**	**04 34 56.9**	**+1.0**
530A	**J-C Ranch, Com**	**87.53**	**56**	P		**P**	**04 34 57.2**	**-0.5**
	baz=88							
MCK	**McKinley**	**87.67**	**11**	*e*P		**P**	**04 34 58.9**	**+1.4**
MCK				pmax		pmax		
	comp=Z,31nm,1.2s							
MCK	**McKinley**	**87.67**	**11**	*e*P		**P**	**04 34 58.9**	**+1.4**
	comp=Z,31nm,1.2s							
BW06	**Boulder Array**	**87.97**	**42**	*e*P		**P**	**04 34 59.2**	**-0.6**
	comp=Z,8.2nm,1.5s							
PDAR	**Pinedale Array**	**87.97**	**42**	P		**P**	**04 34 59.0**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=216,slow=0.8,SNR=4.4							
PDAR				LR		LR	05 09 06.6	
	comp=Z,224nm,19.1s,baz=258,slow=32							
DLBC	**Dease Lake**	**88.16**	**22**	P		**P**	**04 34 59.7**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=211,slow=12,SNR=3.1							
MSTX	**Muleshoe**	**88.20**	**52**	P		**P**	**04 35 00.0**	**-0.8**
	baz=88							
MSTX	**Muleshoe**	**88.20**	**52**	*e*P		**P**	**04 35 00.1**	**-0.8**
	comp=Z,5.5nm,1.2s							
SEY	**Seymchan**	**88.34**	**346**	P		**P**	**04 34 59.0**	**-1.7**
	comp=Z,5.9nm,0.9s,baz=154,slow=6.8,SNR=17							
532A	**Rocksprings**	**88.63**	**57**	P		**P**	**04 35 02.0**	**-1.0**
	baz=89							
PAF	**Port-aux-Franc**	**88.63**	**216**	P		P	04 34 54.0	-8.6
PAF	**Port-aux-Franc**	**88.63**	**216**	S		S	04 45 33.0	-14
PAF				SS		SS	04 50 53.0	-45
PAF				L		L	04 59 00.0	
PAF				R			05 04 00.0	
Z29A	**Hungry Hill Ra**	**88.66**	**53**	P		**P**	**04 35 01.7**	**-1.3**
	baz=89							
BJI	**Beijing**	**88.88**	**314**	P		P	04 35 08.2	+4.5
BJI				S		S	04 45 42.0	-7.8
BJI				PMZ				
	comp=Z,13nm,0.5s							
BJI				PMZ				
	comp=Z,170nm,4.4s							
BJI				LN				
	comp=Z,90nm,14.6s							
BJI				LE				
	comp=Z,130nm,15.1s							
BJI				LZ				
	comp=Z,110nm,25.9s							
COLA	**College**	**88.91**	**11**	⇑*i*P		**P**	**04 35 02.3**	**-1.0**
COLA				pmax		pmax		
	comp=Z,62nm,1.4s							
COLA	**College**	**88.91**	**11**	*e*P		**P**	**04 35 03.5**	**+0.2**
	comp=Z,24nm,1.2s							
ILAR	**Eielson Array**	**88.99**	**12**	P		**P**	**04 35 02.2**	**-1.5**
	comp=Z,5.7nm,1.2s,baz=212,slow=4.8,SNR=12							
ILAR				LR		LR	05 08 48.8	
	comp=Z,96nm,21.5s,baz=218,slow=32							
433A	**Art**	**89.54**	**57**	P		**P**	**04 35 06.6**	**-0.6**
	baz=90							
GYA	**Guiyang**	**89.82**	**299**	P		P	04 35 13.0	+4.3
GYA				pP		pP	04 35 24.2	+6.9
GYA				SKS		**SKSac**	**04 45 39.3**	**+1.2**
GYA				S		**S**	**04 46 02.0**	**+2.4**
GYA				sS		sS	04 46 20.4	+6.6
GYA				PMZ				
	comp=Z,20nm,1.0s							
GYA				PMZ				
	comp=Z,130nm,5.6s							
GYA				LN				
	comp=Z,640nm,21.8s							
GYA				LE				
	comp=Z,590nm,22.0s							
GYA				LZ				
	comp=Z,660nm,20.9s							
DAWY	**Dawson**	**89.96**	**15**	*e*P		**P**	**04 35 07.8**	**-0.5**
EGAK	**Eagle**	**90.16**	**14**	*e*P		**P**	**04 35 10.8**	**+1.6**
Z32A	**Haskell**	**90.35**	**54**	P		**P**	**04 35 10.2**	**-0.7**
	baz=90							
334A	**Lometa**	**90.45**	**56**	P		**P**	**04 35 10.1**	**-1.3**
	baz=91							
COLD	**Coldfoot**	**90.68**	**9**	*e*P		**P**	**04 35 13.1**	**+1.6**
	comp=Z,9.7nm,1.4s							
Y32A	**R-V Farms, Ver**	**90.68**	**54**	P		**P**	**04 35 12.4**	**0.0**
	baz=91							
R28A	**Tribune**	**90.90**	**49**	P		**P**	**04 35 13.6**	**+0.2**
	baz=91							
XAN	**Xi'an**	**91.24**	**306**	P		**P**	**04 35 15.3**	**+0.3**
XAN				pP		**pP**	**04 35 22.8**	**-0.8**
XAN				S		S	04 46 03.4	-8.8
XAN				PMZ				
	comp=Z,3.0nm,1.1s							
XAN				PMZ				
	comp=Z,18nm,5.4s							
XAN				LN				
	comp=Z,83nm,20.4s							
XAN				LE				
	comp=Z,47nm,20.4s							
XAN				LZ				
	comp=Z,54nm,19.4s							
W32A	**Sentinel**	**91.31**	**53**	P		**P**	**04 35 15.2**	**-0.1**
	baz=92							
B19A	**Brinkman Farms**	**91.36**	**37**	P		**P**	**04 35 15.6**	**+0.3**
	baz=92							
HHC	**Hu-ho-hao-te**	**92.36**	**313**	*e*P		P	04 35 24.4	+4.3
HHC				S		**S**	**04 46 24.5**	**+2.5**
HHC				sS		sS	04 46 42.2	+5.9
HHC				PMZ				
	comp=Z,39nm,0.9s							
HHC				PMZ				
	comp=Z,69nm,8.6s							
HHC				LN				
	comp=Z,91nm,16.0s							
HHC				LE				
	comp=Z,150nm,21.0s							
HHC				LZ				
	comp=Z,200nm,19.7s							
KMI	**Kunming**	**92.53**	**296**	P		P	04 35 25.7	+4.3
KMI				pP		pP	04 35 37.6	+7.6
KMI				sP		sP	04 35 41.3	+8.2
KMI				S		**S**	**04 46 24.1**	**-0.4**
KMI				PMZ				
	comp=Z,6.0nm,1.4s							
KMI				PMZ				
	comp=Z,120nm,3.6s							
KMI				LN				
	comp=Z,140nm,18.2s							
KMI				LE				
	comp=Z,170nm,21.7s							
KMI				LZ				
	comp=Z,210nm,21.7s							
CMAR	**Chiang Mai Arr**	**93.28**	**288**	P		**P**	**04 35 25.1**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=120,slow=3.1,SNR=7.0							
CMAR				LR		LR	05 17 38.3	
	comp=Z,66nm,18.2s,baz=144,slow=36							
CMAR	**Chiang Mai Arr**	**93.28**	**288**	*i* P		P	04 35 28.8	+4.0
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
CD2	**Chengdu**	**93.94**	**302**	P		**P**	**04 35 30.2**	**+2.6**
CD2				pP		pP	04 35 41.2	+5.0
CD2				sP		sP	04 35 45.5	+6.2
CD2				PP		**PP**	**04 39 17.6**	**+3.6**
CD2				SKS		**SKSac**	**04 46 02.2**	**+1.2**
CD2				S		**ScS**	**04 46 39.6**	**+1.8**
CD2				PMZ				
	comp=Z,20nm,0.5s							
CD2				PMZ				
	comp=Z,110nm,7.1s							
CD2				LN				
	comp=Z,160nm,5.5s							
CD2				LZ				
	comp=Z,150nm,14.3s							
LVC	**Limon Verde**	**95.46**	**117**	*e*P		**P**	**04 35 35.1**	**0.0**
	comp=Z,16nm,1.5s	

ARU	**Arti**	**127.93 326**	*i* PKIKP	**PKPdf**	**04 41 14.5**	**-0.4**
ARU					04 43 14.2	
ARU	**Arti**	**127.93 326**	*e*PKPdf	**PKPdf**	**04 41 14.8**	**0.0**
ARCES	**ARCESS Array B**	**130.71 351**	PKhKP	PKPpre	04 41 15.3	
	comp=Z,0.8nm,0.9s,baz=72,slow=2.9,SNR=2.9					
TSUM	**Tsumeb**	**137.44 198**	*e*PKPdf	**PKPdf**	**04 41 34.5**	**+0.3**
FINES	**FINESS Array B**	**137.82 345**	PKhKP	PKPpre	04 41 25.6	
	comp=Z,1.3nm,1.0s,baz=94,slow=4.5,SNR=3.6					
FINES			PKP	**PKPdf**	**04 41 30.9**	**-2.4**
	comp=Z,0.4nm,0.5s,baz=103,slow=6.1,SNR=3.7					
NB2	**NORSAR Subarra**	**140.58 355**	PKP	**PKPdf**	**04 41 38.6**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=17,slow=2.6					
NOA	**NORSAR Array B**	**140.58 355**	PKP	**PKPdf**	**04 41 37.3**	**-1.2**
	comp=Z,1.4nm,1.0s,baz=16,slow=4.9,SNR=2.9					
SUW	**Suwalki**	**145.05 341**	*e*PKP	**PKPdf**	**04 41 47.4**	**+0.9**
MUD	**Monsted U'grnd**	**145.28 356**	*i* P	**PKPdf**	**04 41 46.9**	**+0.1**
	comp=Z,68nm,1.4s					
AKASG	**Malin Array Be**	**145.54 333**	PKPbc	**PKPdf**	**04 41 45.8**	**-1.7**
	comp=Z,7.6nm,0.7s,baz=37,slow=3.8,SNR=22					
KIEV	**Kiev**	**145.55 333**	*e*PKIKP	**PKPdf**	**04 41 45.9**	**-1.6**
KIEV	**Kiev**	**145.55 333**	*e*PKPbc	**PKPdf**	**04 41 45.9**	**-1.6**
AK01	**Malin Array Si**	**145.55 333**	*e*PKPdf	**PKPdf**	**04 41 46.0**	**-1.5**
AK02	**Malin Array Si**	**145.58 333**	*e*PKPbc	**PKPdf**	**04 41 45.5**	**-2.0**
BSD	**Bornholm Skovb**	**145.95 350**	*i* P	**PKPdf**	**04 41 47.5**	**-0.5**
	comp=Z,67nm,1.6s					
SIM	**Simferopol'**	**146.85 321**	*e*PKP2	**PKPab**	**04 41 52.9**	**-0.2**
SIM			pmax	pmax		
	comp=Z,13nm,0.9s					
SIM			MLR	MLR		
	comp=Z,40nm,16.0s					
MALT	**Malatya**	**147.03 307**⇑	*i*P	**PKPab**	**04 41 54.3**	**+0.2**
GKP	**Gorka Klasztor**	**147.26 347**	*e*PKP	**PKPbc**	**04 41 53.0**	**+0.4**
LVV	**L'vov**	**148.31 336**	*e*PKP2	**PKPbc**	**04 41 54.9**	**-0.7**
KIS	**Kishinev**	**148.40 328**	*e*PKP	**PKPdf**	**04 41 54.0**	**+1.6**
KIS			*e*L	L	05 40 32.0	
KIS			LRM	MLR	05 45 26.0	
	comp=Z,300nm,22.0s					
KIS	**Kishinev**	**148.40 328**	*e*PKP2	**PKPdf**	**04 41 54.0**	**+1.6**
KIS			MLR	MLR		
	comp=Z,300nm,22.0s					
KWP	**Kalwaria Pacla**	**148.95 338**	*e*PKP	**PKPab**	**04 42 03.9**	**+2.6**
OJC	**Ojcow**	**149.39 341**	*e*PKP	**PKPbc**	**04 41 58.2**	**-0.1**
BUR08	**Bucovina Ar. S**	**149.58 333**	*e*PKPbc	**PKPbc**	**04 41 59.7**	**+0.7**
BURAR	**Bucovina Array**	**149.60 333**⇓	*i*P	**PKPbc**	**04 42 00.6**	**+1.6**
STHS	**Stebnicka Huta**	**149.63 339**	*e*PKP	**PKPbc**	**04 42 00.1**	**+1.1**
KOLS	**Kolonicke sedl**	**149.69 337**	*e*PKP	**PKPab**	**04 42 01.9**	**-2.4**
KSP	**Ksiaz**	**149.74 346**	*e*PKP	**PKPbc**	**04 41 59.6**	**+0.5**
BR131	**Keskin Array S**	**149.86 313**	*e*PKPbc	**PKPbc**	**04 41 59.1**	**-0.9**
BRTR	**Keskin Array B**	**149.86 313**	PKPbc	**PKPbc**	**04 41 59.2**	**-0.8**
	comp=Z,7.7nm,1.0s,baz=129,slow=3.3,SNR=14					
WTSB	**Winterswijk**	**149.88 358**	*e*PKP	**PKPbc**	**04 42 01.1**	**+1.7**
	comp=Z,43nm,1.5s					
CLL	**Collm**	**149.93 350**	*i* PKP2	**PKPbc**	**04 41 58.7**	**-0.9**
CLL			pmax	pmax		
	comp=Z,21nm,1.2s					
CLL	**Collm**	**149.93 350**	*e*PKPdf	**PKPdf**	**04 41 54.0**	**-0.7**
CLL			*i* PKPbc	**PKPbc**	**04 41 58.7**	**-0.9**
	comp=Z,18nm,1.6s					
CLL			*i* PKiKP	**PKiKP**	**04 42 01.1**	**+0.6**
	comp=Z,21nm,1.2s					
CLL			*i* (pPKiKP)		04 42 03.0	
CLL			*i* PKPab	**PKPab**	**04 42 05.4**	**+0.2**
	comp=Z,16nm,0.9s					
CLL			*e*		04 42 16.0	
CLL			*e*PP	**PP**	**04 45 30.0**	**-2.9**
	comp=Z,5.0nm,1.2s					
CLL			LmV		05 46 00.0	
	comp=Z,200nm,21.2s					
NIE	**Niedzica**	**149.93 340**	*e*PKP	**PKPbc**	**04 42 01.5**	**+1.8**
UZH	**Uzhgorod**	**149.93 337**	*e*PKP2	**PKPbc**	**04 41 58.6**	**-1.1**
CFR	**Carcaliu**	**150.01 326**⇑	*i*P	**PKPbc**	**04 42 00.6**	**+0.7**
UPC	**Upice**	**150.12 346**⇑	*e*PKP	**PKPbc**	**04 42 00.0**	**-0.1**
UPC			AMS	AMS	05 46 50.0	
	comp=Z,300nm,27.0s					
BRG	**Berggiesshubel**	**150.19 349**	*e*PKP	**PKPbc**	**04 41 59.4**	**-0.8**
	comp=Z,21nm,1.4s					
	comp=N,216nm,19.8s					
	comp=E,82nm,16.7s					
	comp=Z,300nm,19.1s					
DPC	**Dobruska-Polom**	**150.19 345**⇑	*e*PKP	**PKPbc**	**04 42 00.1**	**-0.2**
DPC			*e*PKPAB	**PKPab**	**04 42 07.7**	**+1.3**
DPC			AMS	AMS	05 47 00.0	
	comp=Z,200nm,18.0s					
OKC	**Ostrava-Krasne**	**150.20 343**⇑	*e*PKP	**PKPbc**	**04 42 02.4**	**+2.1**
OKC			*e*PKPAB	**PKPab**	**04 42 06.8**	**+0.5**
OKC			*ex*	x	04 42 16.7	
OKC			AMS	AMS	05 45 20.0	
	comp=Z,200nm,16.5s					
KRLC	**Kraliky**	**150.34 345**⇑	*e*PKP	**PKPbc**	**04 42 00.9**	**+0.2**
KRLC			*e*PKPAB	**PKPab**	**04 42 07.8**	**+0.8**
ANTO	**Ankara**	**150.37 314**	⇑PKIKP	**PKPbc**	**04 42 00.9**	**-0.2**
ANTO	**Ankara**	**150.37 314**⇑	*i*P	**PKPbc**	**04 42 00.9**	**-0.2**
ANTO	**Ankara**	**150.37 314**	*e*PKPbc	**PKPbc**	**04 42 00.7**	**-0.5**
ANTO			*e*PKPab	**PKPab**	**04 42 08.1**	**+0.6**
ARCR	**ARCALIA**	**150.38 333**⇓	*i*P	**PKPbc**	**04 42 03.7**	**+2.9**
PVCC	**Panska Ves**	**150.40 348**⇑	*e*PKP	**PKPbc**	**04 42 00.2**	**-0.5**
MORC	**Moravsky Berou**	**150.42 344**	⇑PKIKP	**PKPbc**	**04 42 02.2**	**+1.3**
MORC	**Moravsky Berou**	**150.42 344**⇑	*i*P	**PKPbc**	**04 42 02.2**	**+1.3**
MORC	**Moravsky Berou**	**150.42 344**	*e*PKPbc	**PKPbc**	**04 42 00.9**	**0.0**
KECS	**Kecovo**	**150.69 339**	*e*PKP	**PKPbc**	**04 42 03.1**	**+1.6**
DOPR	**Dopca**	**150.78 330**⇓	*i*P	**PKPbc**	**04 42 04.3**	**+2.5**
MLR	**Muntele Rosu**	**150.87 329**⇓	*i*P	**PKPbc**	**04 42 02.2**	**0.0**
PRU	**Pruhonice**	**150.92 347**⇑	*e*PKP	**PKPbc**	**04 42 01.4**	**-0.6**
PRU			*e*PKPAB	**PKPab**	**04 42 08.9**	**-0.4**
PRU			AMS	AMS	05 47 10.0	
	comp=Z,200nm,20.0s					
GOPC	**GO Pecny, Ondr**	**150.94 347**⇑	*e*PKP	**PKPbc**	**04 42 04.2**	**+2.1**
GOPC			*e*PKPAB	**PKPab**	**04 42 11.1**	**+1.7**
GOPC			AMS	AMS	05 47 50.0	
	comp=Z,200nm,17.7s					
CJR	**Cluj-Napoca**	**150.99 333**⇑	*i*P	**PKPbc**	**04 42 06.1**	**+3.8**
NKC	**Novy Kostel**	**151.06 350**⇑	*e*PKP	**PKPbc**	**04 42 04.3**	**+1.9**
NKC			*ex*	x	04 42 24.8	
VRAC	**Vranov**	**151.09 344**⇓	*i*P	**PKPbc**	**04 42 01.7**	**-0.7**
HGN	**Heimansgroeve**	**151.11 359**	*e*PKP	**PKPab**	**04 42 10.9**	**+0.9**
	comp=Z,12nm,0.8s					
MEM	**Membach**	**151.26 359**	PKPbc	**PKPbc**	**04 42 05.0**	**+2.3**
DRGR		**151.29 334**⇓	*i*P	**PKPbc**	**04 42 02.1**	**-1.0**
PSZ	**Piszkesteto**	**151.38 339**	⇓PKIKP	**PKPdf**	**04 42 00.2**	**+3.0**
PSZ	**Piszkesteto**	**151.38 339**⇓	*i*P	**PKPdf**	**04 42 00.2**	**+3.0**
PSZ	**Piszkesteto**	**151.38 339**	*e*PKPbc	**PKPbc**	**04 42 04.5**	**+1.3**
PSZ			*e*PKPab	**PKPab**	**04 42 12.3**	**+1.0**
ARR	**Arges**	**151.58 330**⇑	*i*P	**PKPbc**	**04 42 04.2**	**+0.4**
GRF	**Grafenberg Arr**	**151.77 352**	*e*PKP	**PKPab**	**04 42 12.2**	**-0.7**
DOU	**Dourbes**	**151.78 1**	PKPbc	**PKPbc**	**04 42 04.2**	**+0.3**
LOT	**Lotru**	**151.91 331**⇓	*i*P	**PKPbc**	**04 42 05.0**	**+0.4**
KHC	**Kasperske Hory**	**151.93 348**⇑	*e*PKP	**PKPbc**	**04 42 03.9**	**-0.5**
KHC			*e*PKPAB	**PKPab**	**04 42 12.3**	**-1.3**
KHC	**Kasperske Hory**	**151.93 348**	*e*PKIKP	**PKPbc**	**04 42 03.9**	**-0.5**
KHC			*e*		04 42 12.3	
KHC	**Kasperske Hory**	**151.93 348**	*e*PKPbc	**PKPbc**	**04 42 04.4**	**0.0**
CSS	**Prodhromos**	**152.04 304**	*e*PKPbc	**PKPbc**	**04 42 06.9**	**+1.8**
CSS			*e*PKPab	**PKPab**	**04 42 16.1**	**+1.6**
GERES	**GERESS Array B**	**152.18 348**	PKPbc	**PKPbc**	**04 42 05.0**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=18,slow=3.5,SNR=12					
GERES	**GERESS Array B**	**152.18 348**	PKIKP	**PKPbc**	**04 42 05.0**	**-0.1**
WLF	**Walferdange**	**152.20 359**	PKPbc	**PKPbc**	**04 42 06.3**	**+1.3**
WLF	**Walferdange**	**152.20 359**	*e*PKIKP	**PKPbc**	**04 42 06.0**	**+1.0**
WLF	**Walferdange**	**152.20 359**	*e*PKPbc	**PKPbc**	**04 42 06.0**	**+1.0**
BZS	**Buzias**	**152.69 334**	⇑PKIKP	**PKPbc**	**04 42 06.7**	**+0.5**
BZS	**Buzias**	**152.69 334**⇑	*i*P	**PKPbc**	**04 42 06.7**	**+0.5**
BFO	**Black Forest**	**153.43 355**	*e*PKIKP	**PKPbc**	**04 42 06.7**	**-1.0**
BFO	**Black Forest**	**153.43 355**	*e*PKPbc	**PKPbc**	**04 42 06.7**	**-1.0**
DIVS	**Divibare**	**154.59 334**⇑	*i*P	**PKPbc**	**04 42 09.5**	**-1.0**
MMB	**Musomiste**	**154.81 326**⇑	*i*P	**PKPbc**	**04 42 10.0**	**-0.9**
KEST	**Kesra**	**165.65 346**	PKPab	**PKPab**	**04 43 14.8**	**+1.5**
	comp=Z,1.2nm,0.8s,baz=285,slow=4.0,SNR=4.3					
TORD	**Torodi Ar. Bea**	**170.78 159**	PKP	**PKPdf**	**04 42 16.6**	**-1.8**
	comp=Z,1.3nm,1.1s,baz=336,slow=3.3,SNR=4.9					
TORD			PKPab	**PKPab**	**04 43 35.6**	**-0.7**
	comp=Z,1.3nm,1.0s,baz=213,slow=2.8,SNR=4.1					

*ISCJB **03** 04:22:28.6±0.2,59.36N±0.02×136.51W±0.04,h10km, mb3.8/17,MS3.0/3,Error ellipse: s-maj=3.7km s-min=2.1km az=34.4*

*IDC **03** 04:22:28.9±0.9,59.34N×136.64W,h0km,mb3.5/8, mb1 3.8/13,mb1mx3.6/38,mbtmp3.7/13,ML3.8/5,MS3.0/7, Ms1 3.1/7,ms1mx2.8/33,Error ellipse: s-maj=18.2km s-min=8.7km az=46.0*

*PGC **03** 04:22:29.7±2.2,59.36N×136.52W,h1km,ML4.2/5,78km west of Haines, Ak Southeastern Alaska*

*NEIC **03** 04:22:29.4,59.36N×136.46W,h9km,mb4.0/17, ML4.0(AEIC),ML4.2(OTT),After AEIC.*

NEIC Felt [III] at Haines and [II] at Juneau and Skagway. Also felt at Whitehorse, Yukon Territory.

ISC 03 04:22:29.6±0.5,59.36N±0.03×136.61W±0.03,h10km, n121,σ1ş52/128,mb4.0/17,MS3.0/3,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLBC	**Pleasant Camp**	**0.16**	**52**	P		**Pg**		**04 22 32.0**	**-1.1**
PLBC				S		**Sg**		**04 22 33.5**	**-2.0**
PLBC	**Pleasant Camp**	**0.16**	**52**	P		**Pg**		**04 22 31.7**	**-1.4**
PLBC				S		**Sg**		**04 22 33.6**	**-1.8**
SKAG	**Skagway**	**0.66**	**81**	P		**Pg**		**04 22 40.7**	**-1.7**
SKAG				S		**Sg**		**04 22 49.0**	**-2.0**
BESE	**Bessie Mountai**	**1.20**	**130**	P		**Pb**		**04 22 50.4**	**-2.0**
BESE				S		**Sb**		**04 23 06.5**	**-1.5**
HYT	**Haines Junctio**	**1.54**	**343**	Pn		**Pn**		**04 22 56.5**	**-0.6**
HYT	**Haines Junctio**	**1.54**	**343**	P		**Pn**		**04 22 56.3**	**-0.9**
HYT				S		**Sn**		**04 23 16.4**	**-0.8**
WHY	**Whitehorse**	**1.56**	**33**	Pn		**Pb**		**04 22 57.4**	**-1.3**
WHY				Sn		**Sb**		**04 23 17.6**	**-1.0**
WHY	**Whitehorse**	**1.56**	**33**	Pn		**Pb**		**04 22 57.4**	**-1.3**
WHY				Sn		**Sb**		**04 23 17.6**	**-1.0**
CHX	**Chaix Hills**	**2.39**	**289**	P		**Pb**		**04 23 10.9**	**-1.8**
SIT	**Sitka**	**2.41**	**163**	P		**Pn**		**04 23 08.9**	**-0.1**
SIT				S		**Sb**		**04 23 40.0**	**-2.7**
TABL	**Table Mountain**	**2.53**	**297**	P		**Pn**		**04 23 11.8**	**+0.9**
RKAV	**Rock Avalanche**	**2.57**	**293**	P		**Pb**		**04 23 13.1**	**-2.7**
LOGN	**Logan Glacier**	**2.65**	**306**	P		**Pn**		**04 23 13.9**	**+1.4**
YAH	**Yahtse**	**2.78**	**293**	P		**Pb**		**04 23 16.4**	**-3.0**
MESA	**MESA**	**2.82**	**289**	P		**Pn**		**04 23 16.2**	**+1.3**
CTGM	**Chitina Glacie**	**2.86**	**306**	P		**Pn**		**04 23 16.9**	**+1.6**
GRNC	**Granite Creek**	**2.92**	**300**	P		**Pn**		**04 23 16.7**	**+0.3**
BAGL	**Bagley Icefiel**	**2.98**	**295**	P		**Pn**		**04 23 18.5**	**+1.6**
BARN	**Barnard Glacie**	**3.04**	**306**	P		**Pn**		**04 23 19.4**	**+1.4**
ISLE	**Juniper Island**	**3.14**	**296**	P		**Pn**		**04 23 20.4**	**+1.2**
BARK	**Barkley Ridge**	**3.15**	**292**	P		**Pn**		**04 23 20.7**	**+1.4**
KULT	**Kultieth River**	**3.21**	**289**	P		**Pn**		**04 23 21.6**	**+1.4**
BALM	**Baldy**	**3.32**	**303**	P		**Pn**		**04 23 22.6**	**+1.0**
TGL	**Tana Glacier**	**3.42**	**297**	P		**Pn**		**04 23 24.8**	**+1.8**
PTPK	**Patty Peak**	**3.44**	**305**	P		**Pn**		**04 23 24.9**	**+1.4**
KHIT	**Khitrov Hills**	**3.52**	**291**	P		**Pn**		**04 23 26.0**	**+1.6**
DLBC	**Dease Lake**	**3.54**	**102**	Pn		**Pn**		**04 23 24.4**	**-0.2**
	6.8nm,0.3s,baz=270,slow=10,SNR=183								
DLBC				Pg		**Pb**		**04 23 31.9**	**-0.4**
	51nm,0.3s,baz=278,slow=14,SNR=55								
DLBC				Lg		Lg		04 24 16.9	
	118nm,0.3s,baz=191,slow=16,SNR=10								
DLBC				LR		LR		04 24 59.5	
	comp=Z,164nm,18.9s,baz=225,slow=42								
DLBC	**Dease Lake**	**3.54**	**102**	Pn		**Pn**		**04 23 24.5**	**-0.2**
DLBC				Sg		**Sb**		**04 24 17.7**	**+2.4**
CRQM	**Cirque**	**3.56**	**296**	P		**Pn**		**04 23 26.5**	**+1.5**
BERG	**Berg Lake**	**3.72**	**289**	P		**Pn**		**04 23 29.0**	**+1.9**
WRAK	**Wrangell Islan**	**3.73**	**141**	P		**Pn**		**04 23 26.7**	**-0.4**
VRDI	**Verde Repeater**	**3.89**	**302**	P		**Pn**		**04 23 30.4**	**+0.9**
GOAT	**Goat Mountain**	**4.26**	**290**	P		**Pn**		**04 23 36.3**	**+1.8**
BMRM	**Bremner River**	**4.31**	**295**	P		**Pn**		**04 23 36.6**	**+1.4**
CRAG	**Craig**	**4.33**	**153**	P		**Pn**		**04 23 36.1**	**+0.6**
EYAK	**Cordova Ski Ar**	**4.75**	**288**	P		**Pn**		**04 23 42.9**	**+1.8**
DIV	**Divide**	**4.90**	**295**	P		**Pn**		**04 23 45.2**	**+1.9**
DAWY	**Dawson**	**4.90**	**346**	Pn		**Pn**		**04 23 44.1**	**+0.8**
DAWY				Sg		**Sg**		**04 25 02.6**	**-4.2**
DAWY	**Dawson**	**4.90**	**346**	P		**Pn**		**04 23 43.5**	**+0.1**
VLZ	**Valdez**	**5.16**	**294**	P		**Pn**		**04 23 48.0**	**+1.2**
HARP	**HAARP**	**5.17**	**310**	*e*Pn		Pn		04 23 50.5	+3.5
JPK	**Jack Peak**	**5.26**	**293**	P		**Pn**		**04 23 49.7**	**+1.4**
GLI	**Glacier Island**	**5.46**	**291**	P		**Pn**		**04 23 53.0**	**+2.1**
PAX	**Paxson**	**5.61**	**314**	*e*Pn		**Pn**		**04 23 55.0**	**+2.0**
PAX				*e*Pb		**Pb**		**04 24 07.0**	**-0.5**
PAX				*e*Pg		Pg		04 24 12.1	-4.8
NDB	**Naden**	**5.79**	**158**	Pn		**Pn**		**04 23 55.5**	**0.0**
NDB	**Naden**	**5.79**	**158**	P		**Pn**		**04 23 55.0**	**-0.4**
SCM	**Sheep Creek Mo**	**5.83**	**300**	P		Pn		04 23 58.5	+2.3
EGAK	**Eagle**	**5.84**	**340**	P		**Pn**		**04 23 56.4**	**+0.3**
RUBB	**Prince Rupert**	**6.13**	**143**	Pn		**Pn**		**04 23 59.9**	**-0.2**
SML	**Sawmill**	**6.28**	**298**	P		**Pn**		**04 24 04.0**	**+1.8**
DHY	**Denali Highway**	**6.39**	**310**	*e*Pn		**Pn**		**04 24 05.9**	**+2.0**
DHY				*e*Pb		**Pb**		**04 24 18.1**	**-2.9**
H02N1	**VAN INLET T-PH**	**6.53**	**158**	Pn		**Pn**		**04 24 05.6**	**-0.1**
H02N1				Sn		**Sn**		**04 25 18.1**	**-2.0**
VIB	**Van Inlet**	**6.53**	**158**	Pn		**Pn**		**04 24 05.8**	**+0.1**
PMR	**Palmer**	**6.58**	**295**	P		Pn		04 24 08.7	+2.4
DIB	**Dawson Inlet,**	**6.59**	**158**	Pn		**Pn**		**04 24 06.2**	**-0.2**
H02S1	**DAWSON INLET T**	**6.59**	**158**	Pn		**Pn**		**04 24 06.1**	**-0.3**
H02S1				Sn		**Sn**		**04 25 17.6**	**-3.8**
MOBC	**Moresby Island**	**6.75**	**155**	Pn		**Pn**		**04 24 08.6**	**-0.1**
RC01	**Rabbit Creek A**	**6.76**	**290**	*e*Pn		**Pn**		**04 24 10.1**	**+1.3**
	16nm,0.4s								
RC01				*e*Sg		Sg		04 25 59.6	-6.9
FNBB	**Fort Nelson**	**7.02**	**88**	Pn		**Pn**		**04 24 12.5**	**+0.2**
IL1	**Eielson Array**	**7.26**	**323**	P		**Pn**		**04 24 15.6**	**0.0**
ILAR	**Eielson Array**	**7.26**	**323**	Pn		**Pn**		**04 24 15.4**	**-0.1**
	0.4nm,0.3s,baz=144,slow=12,SNR=49								
ILAR				Lg		Lg		04 26 18.6	
	1.3nm,0.3s,baz=124,slow=27,SNR=4.6								
ILAR				LR		LR		04 27 25.1	
	comp=Z,90nm,21.4s,baz=108,slow=41								
ILB	**Eielson Array**	**7.26**	**323**	P		**Pn**		**04 24 15.5**	**-0.1**
SUA	**Susitna One**	**7.31**	**293**	P		**Pn**		**04 24 18.2**	**+1.8**
BNB	**Barry Inlet**	**7.33**	**156**	Pn		**Pn**		**04 24 16.3**	**-0.3**
BNB	**Barry Inlet**	**7.33**	**156**	Pn		**Pn**		**04 24 16.3**	**-0.3**
MCK	**McKinley**	**7.33**	**312**	*e*Pn		Pn		04 24 20.1	+3.5
CCB	**Clear Creek Bu**	**7.47**	**320**	*e*Pn		Pn		04 24 27.0	+8.6
COLA	**College**	**7.63**	**321**	*e*Pn		**Pn**		**04 24 21.2**	**+0.5**
COLA				*e*Pg		Pb		04 24 45.5	+3.6
COLA				*e*Sg		**Sg**		**04 26 31.9**	**-2.3**
TRF	**Thorofare Moun**	**7.73**	**308**	P		Pn		04 24 24.8	+2.5
SKT	**Skwentna**	**7.78**	**296**	P		**Pn**		**04 24 24.9**	**+2.1**
STLK	**Strandline Lak**	**7.83**	**292**	P		**Pn**		**04 24 25.2**	**+1.7**
RSO	**Redoubt South**	**8.19**	**285**	*e*Pn		**Pn**		**04 24 28.3**	**-0.2**
	30nm,0.7s								
RSO				*e*Sn		**Sn**		**04 26 03.5**	**+2.4**
BPAW	**Bear Paw Mtn.**	**8.30**	**311**	P		**Pn**		**04 24 30.7**	**+0.8**
PPLA	**Purkeypile**	**8.32**	**302**	P		**Pn**		**04 24 31.2**	**+0.8**
CAST	**Castle Rocks**	**8.46**	**305**	*e*Pn		**Pn**		**04 24 33.7**	**+1.7**
OPT	**Oil Point**	**8.46**	**279**	P		**Pn**		**04 24 34.3**	**+2.2**
KDAK	**Kodiak Island**	**8.50**	**266**	P		**Pn**		**04 24 33.8**	**+1.3**
BBB	**Bella Bella**	**8.63**	**143**	Pn		**Pn**		**04 24 34.9**	**+0.5**
	1.3nm,0.3s,baz=324,slow=10,SNR=13								
BBB				Sn		**Sn**		**04 26 10.3**	**-1.5**
	0.2nm,0.3s,baz=324,slow=19,SNR=2.6								
BBB				Lg		Lg		04 26 57.7	
	0.9nm,0.3s,baz=54,slow=19,SNR=3.8								
BBB				LR		LR		04 27 07.8	
	comp=Z,50nm,20.5s,baz=305,slow=32								
BBB	**Bella Bella**	**8.63**	**143**	Pn		**Pn**		**04 24 35.3**	**+0.9**
BBB	**Bella Bella**	**8.63**	**143**	Pn		**Pn**		**04 24 35.3**	**+0.9**
BBB				Sn		**Sn**		**04 26 10.3**	**-1.5**
BBB				Lg		Lg		04 26 57.7	
OHAK	**Old Harbor**	**9.04**	**264**	P		**Pn**		**04 24 40.2**	**+0.2**
INK	**Inuvik**	**9.08**	**7**	Pn		**Pn**		**04 24 41.9**	**+1.4**
	0.3nm,0.3s,baz=203,slow=18,SNR=7.4								
INK				Sn		Sn		04 26 12.1	-11
	0.6nm,0.3s,baz=193,slow=15,SNR=3.5								
INK				Lg		Lg		04 27 09.4	
	0.5nm,0.3s,baz=198,slow=21,SNR=4.4								
INK	**Inuvik**	**9.08**	**7**	Pn		**Pn**		**04 24 42.8**	**+2.3**
INK	**Inuvik**	**9.08**	**7**	*e*Pn		**Pn**		**04 24 41.9**	**+1.4**
	9.5nm,0.8s								
INK				Sn		Sn		04 26 12.1	-11
INK				Lg		Lg		04 27 09.4	
KABR	**Katmai Barrier**	**9.62**	**271**	P		**Pn**		**04 24 48.0**	**0.0**
COLD	**Coldfoot**	**9.96**	**328**	*e*Pn		**Pn**		**04 24 54.3**	**+1.8**
COLD				*e*Lg		Lg		04 27 37.0	
ROMN	**Roman Lake**	**10.07**	**53**	Pn		**Pn**		**04 24 53.5**	**-0.6**
MAYB	**Maynard**	**10.48**	**145**	Pn		**Pn**		**04 25 02.0**	**+2.0**
BPBC	**Brooks Peninsu**	**10.53**	**147**	Pn		**Pn**		**04 25 02.6**	**+2.1**
YKA	**Yellowknife Ar**	**11.13**	**64**	Pn		**Pn**		**04 25 07.4**	**-1.2**
	1.1nm,0.3s,baz=261,slow=13,SNR=50								
YKA				Lg		Lg		04 28 12.3	
	0.1nm,0.3s,baz=259,slow=26,SNR=3.5								
YKW3	**Yellowknife Ar**	**11.14**	**64**	Pn		**Pn**		**04 25 08.0**	**-0.7**
EDM	**Edmonton**	**14.26**	**105**	*e*Pn		**Pn**		**04 25 51.6**	**+0.3**
NEW	**Newport**	**15.92**	**126**	Pn		**P**		**04 26 15.6**	**-1.7**
	0.1nm,0.3s,baz=333,slow=14,SNR=2.4								
NEW				Lg		Lg		04 30 54.6	
	baz=78,slow=20,SNR=3.3								
NEW				LR		LR		04 32 56.1	
	comp=Z,94nm,18.1s,baz=303,slow=39								
NEW	**Newport**	**15.92**	**126**	*e*Pn		**P**		**04 26 16.4**	**-0.9**
	6.1nm,1.4s								
NEW				Lg		Lg		04 30 54.6	
SLMT	**Seeley Lake**	**18.27**	**121**	*e*P		**Pn**		**04 26 42.2**	**-0.9**
	3.3nm,1.0s								
CHMT	**Chamberlain Mo**	**18.62**	**122**	*e*P		**Pn**		**04 26 49.5**	**+2.0**
	6.4nm,1.4s								
EGMT	**Eagleton**	**19.38**	**114**	*e*P		**Pn**		**04 26 56.8**	**+0.3**
	3.9nm,0.9s								
LRM	**Limekiln Ridge**	**19.82**	**122**	*e*P		**P**		**04 26 59.8**	**-0.7**
	51nm,1.1s								
DLMT	**Dillon**	**20.12**	**124**	*e*P		Pn		04 27 04.4	-1.0
	5.4nm,1.1s								
HLID	**Hailey**	**20.85**	**130**	*e*P		Pn		04 27 14.0	0.0
	18nm,1.6s								
RES	**Resolute Bay**	**21.62**	**29**	P		**P**		**04 27 21.0**	**+1.6**
	1.5nm,0.6s,baz=227,slow=13,SNR=3.3								
RES				LR		LR		04 36 05.5	
	comp=Z,59nm,18.9s,baz=5.5,slow=38								
RES	**Resolute Bay**	**21.62**	**29**	*e*P		**P**		**04 27 20.9**	**+1.6**
	13nm,1.3s								
IMW	**Indian Meadow**	**22.00**	**123**	*e*P		**P**		**04 27 26.7**	**+2.6**
	13nm,1.2s								
TPAW	**Teton Pass**	**22.33**	**124**	*e*P		**P**		**04 27 25.6**	**-1.9**
	21nm,1.6s								
LOHW	**Long Hollow**	**22.38**	**123**	*e*P		**P**		**04 27 28.7**	**+0.8**
	14nm,1.5s								
REDW	**Red Top Meadow**	**22.48**	**124**	*e*P		**P**		**04 27 29.1**	**0.0**

comp=Z,63nm,18.2s,baz=124,slow=34
ARMA Armidale 21.61 217 *e*P P 05 16 09.4 +1.9
20nm,0.8s
COEN Coen 22.75 267 *e*P P 05 16 21.1 +1.4
53nm,1.2s
URZ Urewera 26.17 161 P P 05 16 54.6 +3.2
2.2nm,0.6s,baz=301,slow=5.9,SNR=1.7
STKA Stephens Creek 29.18 228 P P 05 17 19.0 +0.6
13nm,0.7s,baz=43,slow=8.1,SNR=52
STKA pP **pP** 05 17 28.5 -0.7
9.7nm,0.6s,baz=36,slow=8.1,SNR=8.1
STKA ScP **ScP** 05 24 06.3 +2.2
4.4nm,1.1s,baz=36,slow=2.4,SNR=5.5
STKA LR LR 05 28 47.6
comp=Z,577nm,18.5s,baz=31,slow=36
STKA Stephens Creek 29.18 228 *e*P P 05 17 19.1 +0.7
5.1nm,1.0s
STKA pP **pP** 05 17 28.5 -0.7
STKA ScP **ScP** 05 24 06.3 +2.2
RPZ Rata Peaks 30.14 174 P P 05 17 27.9 +1.0
4.7nm,0.8s,baz=354,slow=15,SNR=3.0
RPZ LR LR 05 28 36.7
comp=Z,324nm,18.1s,baz=354,slow=34
WRAB Tennant Creek 31.45 254 *e*P P 05 17 37.1 -1.6
5.9nm,0.8s
WRA Warramunga Arr 31.46 254 P P 05 17 36.6 -2.2
6.4nm,0.9s,baz=85,slow=9.0,SNR=16
WRA pP **pP** 05 17 47.5 -2.1
4.3nm,0.9s,baz=84,slow=8.6,SNR=7.7
WRA PcP **PcP** 05 20 31.4 -0.2
0.7nm,0.6s,baz=64,slow=1.9,SNR=3.9
WRA ScP **ScP** 05 24 13.6 +1.8
2.0nm,0.9s,baz=76,slow=3.1,SNR=6.2
WRA LR LR 05 30 11.1
comp=Z,622nm,18.1s,baz=85,slow=36
AS01 Alice Springs 32.40 247 *e*P P 05 17 46.0 -1.0
ASAR Alice Springs 32.44 247 P P 05 17 45.6 -1.8
6.5nm,0.7s,baz=75,slow=9.5,SNR=71
ASAR ScP **ScP** 05 24 16.2 +1.1
2.6nm,0.9s,baz=72,slow=3.3,SNR=14
ASAR LR LR 05 30 20.1
comp=Z,333nm,19.5s,baz=76,slow=35
RAR Rarotonga 32.88 108 LR LR 05 28 27.9
comp=Z,177nm,21.2s,baz=306,slow=31
BBOO Buckleboo 33.70 230 *e*P P 05 17 58.3 0.0
18nm,0.7s
GUMO Guam 34.63 321 LR LR 05 31 54.5
comp=Z,64nm,18.5s,baz=137,slow=36
FORT Forrest 39.27 238 *e*P P 05 18 44.8 -1.0
25nm,0.7s
PPT2 Papeete2 42.31 101 *e*LR LR 05 31 01.7
310nm,26.5s
PPT Papeete 42.31 101 LR LR 05 35 11.4
comp=Z,103nm,18.1s,baz=311,slow=34
TBI Tubuai 42.61 110 *e*LR LR 05 31 09.8
275nm,25.2s
MBWA Marble Bar 45.19 254 *e*P P 05 19 33.2 -1.0
12nm,0.9s
KAPI Kappang 46.95 276 LR LR 05 39 47.1
comp=Z,66nm,18.3s,baz=116,slow=36
NWAO Narrogin (SRO) 48.72 238 P P 05 20 00.4 -1.2
14nm,0.9s,baz=143,slow=3.2,SNR=5.1
SBUM Sibu 56.26 282 *e*P P 05 20 57.7 0.0
8.8nm,0.9s
MJAR Matsushiro Arr 56.71 333 P P 05 20 59.0 -1.5
2.4nm,0.8s,baz=174,slow=8.4,SNR=5.6
MJAR LR LR 05 47 59.7
comp=Z,12nm,18.0s,baz=70,slow=39
KSM Kuching 57.78 281 *e*P P 05 21 08.2 -0.3
12nm,0.8s
LEM Lembang 58.33 270 LR LR 05 47 20.5
comp=Z,92nm,18.8s,baz=183,slow=37
ASAJ Asahikawa 61.57 341 *e*P P 05 21 33.7 -0.2
1.9nm,0.7s
KSRS Korea Array 62.54 326 P P 05 21 39.8 -0.8
1.2nm,0.7s,baz=146,slow=7.2,SNR=4.4
KSAR Wonju Array Be 62.55 326 P P 05 21 39.8 -0.9
VNDA Vanda 63.86 181 P P 05 21 51.5 +2.8
1.2nm,0.6s,baz=9.0,slow=7.7,SNR=12
NJ2 Nanjing 64.50 316 *e*P P 05 21 54.1 +0.5
NJ2 PMZ
20nm,0.5s
QIZ Qiongzhong 64.68 299 P P 05 21 55.4 +0.3
QIZ S **S** 05 30 34.4 +1.5
QIZ PMZ
9.0nm,1.7s
USRK Ussuriysk Ar. 65.69 333 P P 05 22 00.9 -0.2
4.0nm,0.9s,baz=114,slow=4.8,SNR=6.7
PETK Petropavlovsk- 66.99 354 P P 05 22 09.0 -0.2
2.2nm,0.7s,baz=172,slow=12,SNR=3.7
CN2 Changchun 68.45 329 *e*P P 05 22 17.8 -0.8
CN2 *es*P **sP** 05 22 36.0 +1.3
GYA Guiyang 70.61 305 *e*P P 05 22 34.0 +1.5
GYA pP **pP** 05 22 44.8 +0.6
GYA PP **PP** 05 25 12.0 +2.6
GYA S **S** 05 31 43.8 -0.2
GYA SKS **SKSac** 05 32 28.6 -3.4
GYA SS **SS** 05 36 18.0 +1.5
GYA PMZ
10.0nm,1.0s
GYA PMZ
90nm,5.4s
GYA LN
480nm,18.8s
GYA LE
360nm,19.0s
GYA LZ
420nm,18.6s
BJI Beijing 71.07 321 P P 05 22 36.6 +1.8
BJI PMZ
8.0nm,0.5s
KMI Kunming 73.22 302 P P 05 22 47.6 -0.7
KMI PMZ
6.0nm,0.5s
CM01 Chiang Mai Arr 73.92 294 *e*P P 05 22 52.2 0.0
CMAR Chiang Mai Ar 73.95 294 P P 05 22 53.0 +0.5
2.2nm,0.7s,baz=120,slow=4.7,SNR=8.8
HHC Hu-ho-hao-te 74.40 320 *e*P P 05 22 56.9 +2.2
HHC PP **PP** 05 25 45.5 +4.0
HHC S **S** 05 32 28.4 +1.7
HHC sS **sS** 05 32 45.6 -0.6
HHC SS **SS** 05 37 17.5 +3.6
HHC PMZ
15nm,0.9s
HHC PMZ
140nm,8.6s
HHC LN
79nm,16.0s
HHC LE
110nm,14.8s
HHC LZ
62nm,18.5s
CD2 Chengdu 74.88 308 P P 05 22 57.5 -0.2
CD2 pP **pP** 05 23 08.5 -1.0
CD2 sP **sP** 05 23 13.0 -0.9
CD2 PP **PP** 05 25 45.3 -0.5
CD2 S **S** 05 32 33.1 +0.7
CD2 sS **sS** 05 32 51.9 0.0
CD2 SS **SS** 05 37 22.9 +1.4
CD2 PMZ
10.0nm,0.5s
CD2 PMZ
110nm,5.5s
CD2 LN
140nm,6.3s
CD2 LZ
110nm,8.0s
QSPA South Pole Qui 76.31 180 *e*P P 05 23 05.5 +0.1
7.8nm,1.1s
LZH Lanzhou 77.16 312 *e*P P 05 23 13.3 +2.6
LZH pP **pP** 05 23 23.7 +1.2
LZH sP **sP** 05 23 27.8 +0.8
LZH PMZ
14nm,1.0s
SEY Seymchan 77.20 353 P P 05 23 09.1 -1.0
4.7nm,0.7s,baz=174,slow=19,SNR=27
SONM Songino Array 81.30 324 P P 05 23 32.6 -0.4
1.9nm,1.0s,baz=132,slow=5.9,SNR=6.4
SONA1 Songino Array 81.30 324 *e*P P 05 23 33.0 -0.1
GTA Gaotai 81.50 314 *e*P P 05 23 33.5 -0.8
GTA pP **pP** 05 23 43.8 -2.4
GTA sP **sP** 05 23 48.2 -2.4
GTA PMZ
3.0nm,0.7s
MAW Mawson 82.58 202 P P 05 23 41.0 +1.8
1.1nm,0.3s,baz=108,slow=13,SNR=9.1
MAW pP **pP** 05 23 48.7 -2.4
3.0nm,0.5s,baz=129,slow=18,SNR=5.6
PMR Palmer 82.77 20 *e*P P 05 23 39.9 -0.3
5.9nm,0.9s
CAST Castle Rocks 83.22 17 *e*P P 05 23 42.5 -0.1
3.8nm,0.8s
SCM Sheep Creek Mo 83.54 20 *e*P P 05 23 45.2 +0.9
11nm,0.9s
TRF Thorofare Moun 83.78 18 *e*P P 05 23 46.0 +0.4
6.1nm,1.0s
RND Reindeer 84.18 19 *e*P P 05 23 47.1 -0.4
7.2nm,0.6s
MCK McKinley 84.40 18 *e*P P 05 23 49.1 +0.5
5.8nm,0.8s
BWN Browne 84.56 18 *e*P P 05 23 48.5 -0.9
20nm,1.0s
IM04 Indian Mountai 84.75 15 *e*P P 05 23 50.0 -0.3
MLY Manley 84.83 17 *e*P P 05 23 51.0 +0.2
4.4nm,1.1s
YBH Yreka Blue Hor 85.16 45 P P 05 23 53.8 +0.7
1.4nm,0.6s,baz=153,slow=2.3,SNR=3.9
WRH Wood River Hil 85.19 18 *e*P P 05 23 51.6 -0.9
6.9nm,0.7s
CCB Clear Creek Bu 85.40 18 *e*P P 05 23 52.9 -0.7
3.8nm,0.6s
HDA Harding Lake 85.49 18 *e*P P 05 23 54.3 +0.3
11nm,0.8s
MDM Murphy Dome 85.50 18 *e*P P 05 23 53.3 -0.8
8.6nm,0.9s
COLA College 85.55 18 *e*P P 05 23 54.2 -0.1
11nm,0.8s
ILAR Eielson Array 85.77 18 P P 05 23 52.6 -2.8
3.7nm,0.9s,baz=229,slow=6.2,SNR=33
ILAR LR LR 05 56 32.6
comp=Z,104nm,20.4s,baz=218,slow=32
IL1 Eielson Array 85.77 18 *e*P P 05 23 54.9 -0.6
COLD Coldfoot 86.63 15 *e*P P 05 24 00.0 +0.4
4.2nm,1.0s
EGAK Eagle 87.58 20 *e*P P 05 24 04.4 +0.2
5.6nm,1.0s
WMQ Urumqi 91.56 315 *e*P P 05 24 24.4 +0.9
WMQ pP **pP** 05 24 35.4 -0.1
WMQ sP **sP** 05 24 38.4 -1.5
WMQ PMZ
7.0nm,1.0s
WMQ PMZ
56nm,3.9s
SNAA Sanae 94.52 183 P P 05 24 31.6 -5.1
PDAR Pinedale Array 94.74 47 LR LR 06 02 19.5
comp=Z,41nm,18.4s,baz=250,slow=32
VNA2 Neumayer--Watz 95.47 182 P P 05 24 40.5 -0.4
MK01 Makanchi Array 96.01 317 *e*P P 05 24 43.4 -0.5
MKAR Makanchi Array 96.03 317 *e*P P 05 24 43.5 -0.4
ZALV Zalesovo Beam 96.19 324 P P 05 24 42.9 -1.6
0.5nm,0.4s,baz=116,slow=6.8,SNR=4.2
TXAR Lajitas Array 96.36 61 LR LR 05 59 17.0
comp=Z,28nm,21.7s,baz=0.0,slow=30
YKA Yellowknife Ar 96.95 27 P P 05 24 47.8 +0.2
0.7nm,0.6s,baz=258,slow=5.3,SNR=4.3
ARCES ARCESS Array B 119.11 345 PKP **PKPdf** 05 30 02.9 -1.9
2.0nm,0.4s,baz=72,slow=1.8,SNR=24
BOSA Boshof 123.71 221 PKP **PKPdf** 05 30 13.8 -1.2
2.0nm,0.8s,baz=100,slow=6.1,SNR=2.9
FINES FINESS Array B 124.55 338 PKP **PKPdf** 05 30 13.8 -1.6
1.2nm,0.7s,baz=74,slow=2.0,SNR=4.6
NB2 NORSAR Subarra129.48 345 PKPdf **PKPdf** 05 30 27.5 +2.6
comp=Z,0.6nm,0.5s,baz=31,slow=1.9
NOA NORSAR Array B 129.48 345 PKP **PKPdf** 05 30 26.5 +1.6
comp=Z,1.2nm,0.8s,baz=32,slow=2.0,SNR=5.2
BRTR Keskin Array B 131.36 311 SKPbc **SKPab** 05 33 52.9 +1.0
comp=Z,1.1nm,0.7s,baz=46,slow=4.2,SNR=7.1
KOLS Kolonicke sedl 134.25 328 *e*PKP **PKPdf** 05 30 34.4 +0.1
BRG Berggiesshubel 136.82 335 *e*P **SKPdf** 05 34 10.8 -0.3
comp=Z,3.1nm,0.9s
GERES GERESS Array B 138.45 333 PKP **PKPdf** 05 30 40.1 -2.1
comp=Z,0.4nm,0.4s,baz=24,slow=3.6,SNR=5.6
GERES SKPbc **SKPbc** 05 34 14.9 +1.1
comp=Z,1.9nm,0.9s,baz=54,slow=3.4,SNR=14
CEL Celeste 144.34 319 *e*PKPdf **PKPab** 05 30 49.9 -1.1
SSB Saint Sauveur 145.05 338 *e*PKPdf **PKPbc** 05 30 52.9 -0.5
VSL Villasalto 147.41 326 *e*PKPdf **PKPdf** 05 30 58.7 +0.5
KEST Kesra 150.02 321 PKPbc **PKPbc** 05 31 06.7 -0.8
comp=Z,2.0nm,0.8s,baz=319,slow=4.5,SNR=7.3
ESDC Sonseca Array 152.84 344 PKPbc **PKPbc** 05 31 12.5 -1.4
comp=Z,1.4nm,0.6s,baz=19,slow=2.3,SNR=9.4
TORD Torodi Ar. Bea 165.31 270 PKP **PKPdf** 05 31 21.4 -0.4
comp=Z,0.4nm,0.8s,baz=35,slow=2.5,SNR=2.8
TORD PKPab **PKPab** 05 32 19.0 -0.7
comp=Z,0.3nm,0.8s,baz=99,slow=3.9,SNR=2.3

IDC 03 05:31:26.3±47.0, 24°45S×177°72W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/30, mbtmp4.0/3, Error ellipse: s-maj=856.0km s-min=168.3km az=89.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.46**	**249**	P	P	05 38 32.4	-0.8
	0.7nm,0.4s,baz=108,slow=9.6,SNR=4.3						
ASAR	**Alice Springs**	**44.00**	**261**	P	P	05 39 35.8	-0.2
	1.0nm,0.4s,baz=95,slow=8.1,SNR=19						
WRA	**Warramunga Arr**	**44.45**	**266**	P	P	05 39 40.0	+0.5
	1.8nm,0.5s,baz=103,slow=8.0,SNR=5.8						

WEL 03 05:44:50.2±0.5, 36°55S×177°36E, h179km±6km, ML3.5/4, 1C, Error ellipse: s-maj=7.3km s-min=6.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.25**	**164**	PN	Pn	05 45 20.0	+0.2
HAZ				SN	Sn	05 45 42.2	-0.7
WMGZ	**Waiomatatini S**	**1.52**	**147**	PN	Pn	05 45 22.3	0.0
WMGZ				SN	Sn	05 45 47.0	-0.3
PUZ	**Puketiti**	**1.68**	**155**	PN	Pn	05 45 23.5	-0.4
PUZ				SN	Sn	05 45 49.1	-1.0
TWGZ	**Tauwhareparae**	**1.70**	**163**	⇑PN	Pn	05 45 24.6	+0.5
TWGZ				SN	Sn	05 45 49.8	-0.8
URZ	**Urewera**	**1.72**	**187**	PN	Pn	05 45 24.3	0.0
URZ				SN	Sn	05 45 50.4	-0.3
MWZ	**Matawai**	**1.79**	**176**	PN	Pn	05 45 25.0	0.0
MWZ				SN	Sn	05 45 51.8	-0.3
RIGZ	**Rimuhau**	**2.17**	**172**	PN	Pn	05 45 28.8	-0.4
KNZ	**Kokohu**	**2.48**	**174**	PN	Pn	05 45 31.9	-0.6
NMHZ	**Naumai**	**2.58**	**190**	PN	Pn	05 45 34.0	+0.1
KAHZ	**Kahuranaki**	**3.26**	**187**	PN	Pn	05 45 40.8	-1.3
PXZ	**Pawanui**	**3.50**	**186**	PN	Pn	05 45 43.0	-1.9

WEL 03 06:45:13.5±0.4, 39°55S×174°19E, h233km±3km, ML3.9/18, 9C-13D, Error ellipse: s-maj=2.2km s-min=1.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LREZ	**Lake Rotokare**	**0.19**	**61**	PN	Pn	06 45 43.7	0.0
LREZ				SN	S	06 46 05.8	-1.5
PREZ	**Palmer Road**	**0.21**	**353**	PN	Pn	06 45 43.6	-0.3
PREZ				SN	S	06 46 06.1	-1.5
NMEZ	**Namu Road**	**0.28**	**299**	PN	Pn	06 45 43.7	-0.1
NEZ	**North Egmont**	**0.29**	**345**	⇓PN	Pn	06 45 44.0	-0.1
NEZ				SN	S	06 46 06.3	-1.6
KHEZ	**Kahui Hut**	**0.29**	**332**	PN	Pn	06 45 43.9	-0.2
NWEZ	**Newall Road**	**0.37**	**318**	PN	Pn	06 45 44.0	-0.1
PKE	**Puketi**	**0.39**	**336**	PN	Pn	06 45 44.1	0.0
VRZ	**Vera Road**	**0.61**	**46**	⇓PN	Pn	06 45 44.0	-0.8
WAZ	**Wanganui**	**0.65**	**109**	⇑PN	Pn	06 45 45.5	+0.5
PKVZ	**Pokaka**	**0.93**	**74**	PN	Pn	06 45 46.0	-0.4
MTVZ	**Mangateitei**	**1.00**	**81**	PN	Pn	06 45 46.7	-0.1
TWVZ	**Taurewa**	**1.08**	**64**	PN	Pn	06 45 46.6	-0.7
TRVZ	**Turoa**	**1.08**	**77**	PN	Pn	06 45 47.2	-0.3
FWVZ	**Far West T-bar**	**1.09**	**75**	⇓PN	Pn	06 45 47.2	-0.3
WPVZ	**Whakapapa**	**1.11**	**72**	PN	Pn	06 45 47.1	-0.4
WNVZ	**Wahianoa**	**1.11**	**79**	⇓PN	Pn	06 45 47.5	-0.1
WHVZ	**Whangaehu Hut**	**1.12**	**77**	PN	Pn	06 45 47.5	-0.2
NGZ	**Ngauruhoe**	**1.16**	**72**	⇑PN	Pn	06 45 47.7	-0.1
HIZ	**Hauiti**	**1.16**	**27**	⇓PN	Pn	06 45 46.9	-0.8
TUVZ	**Tukino**	**1.17**	**77**	PN	Pn	06 45 48.0	0.0
WTVZ	**West Tongariro**	**1.17**	**69**	PN	Pn	06 45 47.6	-0.3
KRVZ	**Karewarewa**	**1.21**	**69**	PN	Pn	06 45 47.9	-0.3
MOVZ	**Moawhango**	**1.22**	**84**	⇓PN	Pn	06 45 47.7	-0.5
DUWZ	**D'Urville Isla**	**1.27**	**189**	⇑PN	Pn	06 45 48.3	-0.1
RITZ	**Rihia Road**	**1.42**	**67**	PN	Pn	06 45 49.4	-0.2
KIW	**Kapiti Island**	**1.42**	**157**	PN	Pn	06 45 49.4	-0.1
KIW				AML	AML	06 46 15.9	
KIW				AML	AML	06 46 16.1	
BHHZ	**Black Hill Sta**	**1.45**	**88**	PN	Pn	06 45 49.4	-0.5
TSZ	**Takapari Road**	**1.46**	**111**	PN	Pn	06 45 49.9	+0.1
TSZ				AML	AML	06 46 17.2	
TSZ				AML	AML	06 46 17.6	
OGWZ	**Otaki Gorge**	**1.47**	**150**	⇑PN	Pn	06 45 49.9	0.0
POWZ	**Post Office Ro**	**1.48**	**125**	PN	Pn	06 45 49.9	0.0
MRZ	**Mangatainoka R**	**1.54**	**137**	PN	Pn	06 45 50.3	-0.2
MRZ				AML	AML	06 46 17.9	
MRZ				AML	AML	06 46 18.0	
PNHZ	**Pukenui**	**1.59**	**104**	PN	Pn	06 45 51.1	+0.2
TCW	**Tory Channel**	**1.66**	**178**	PN	Pn	06 45 51.5	0.0
TCW				AML	AML	06 46 19.4	
TCW				AML	AML	06 46 20.2	
HOWZ	**Holdsworth Sta**	**1.69**	**143**	PN	Pn	06 45 51.4	-0.3
KRHZ	**Kereru**	**1.69**	**94**	PN	Pn	06 45 51.8	+0.1
CAW	**Cannon Point**	**1.69**	**157**	PN	Pn	06 45 51.5	-0.2
CAW				AML	AML	06 46 20.6	
CAW				AML	AML	06 46 21.2	
DVHZ	**Dannevirke**	**1.69**	**117**	PN	Pn	06 45 51.8	0.0
PRWZ	**Pori Road**	**1.70**	**127**	PN	Pn	06 45 52.0	+0.3
NNZ	**Nelson**	**1.78**	**200**	⇑PN	Pn	06 45 52.2	-0.2
TIWZ	**Tintock**	**1.79**	**134**	AML	AML	06 46 22.0	
TIWZ				AML	AML	06 46 27.8	
WEL	**Wellington**	**1.79**	**166**	AML	AML	06 46 22.3	
WEL				AML	AML	06 46 22.5	
QRZ	**Quartz Range**	**1.80**	**224**	⇑PN	Pn	06 45 51.8	-0.9
BKZ	**Black Stump Fm**	**1.82**	**79**	⇓PN	Pn	06 45 52.6	-0.4
BKZ				AML	AML	06 46 20.4	
BKZ				AML	AML	06 46 25.0	
TUWZ	**Tuamarina**	**1.89**	**186**	PN	Pn	06 45 53.2	-0.2
TUWZ				AML	AML	06 46 23.3	
TUWZ				AML	AML	06 46 23.6	
MTW	**Mount Morrison**	**1.89**	**148**	PN	Pn	06 45 53.2	-0.3
MTW				AML	AML	06 46 23.6	
MTW				AML	AML	06 46 23.7	
BHW	**Baring Head**	**1.93**	**165**	*e*PN	Pn	06 45 54.4	+0.6
BHW				AML	AML	06 46 23.9	
BFZ	**Birch Farm**	**1.94**	**126**	PN	Pn	06 45 54.0	0.0
MCHZ	**McNeill Hill**	**1.94**	**88**	⇓PN	Pn	06 45 54.7	+0.7
ANWZ	**Angora Road**	**1.98**	**118**	PN	Pn	06 45 54.7	+0.5
PRHZ	**Porangahau**	**2.01**	**112**	PN	Pn	06 45 55.2	+0.6
TMWZ	**Te Maipa**	**2.03**	**141**	PN	Pn	06 45 54.7	-0.1
MSWZ	**Moikau Station**	**2.03**	**157**	PN	Pn	06 45 54.4	-0.4
MSWZ				AML	AML	06 46 25.9	
PAWZ	**Paruwai Farm**	**2.06**	**153**	PN	Pn	06 45 55.2	+0.1
PAWZ				AML	AML	06 46 26.7	
PAWZ				AML	AML	06 46 26.7	
NMHZ	**Naumai**	**2.08**	**78**	⇓PN	Pn	06 45 55.8	+0.5
KAHZ	**Kahuranaki**	**2.09**	**98**	PN	Pn	06 45 56.0	+0.6
PXZ	**Pawanui**	**2.11**	**104**	PN	Pn	06 45 55.4	-0.2
TRWZ	**Traveller**	**2.17**	**149**	PN	Pn	06 45 56.0	-0.1
PLWZ	**Palliser**	**2.17**	**158**	PN	Pn	06 45 55.8	-0.4
BSWZ	**Blackbirch Sta**	**2.18**	**186**	PN	Pn	06 45 56.5	+0.4
BSWZ				AML	AML	06 46 29.1	
BSWZ				AML	AML	06 46 30.4	
ARHZ	**Aropaoanui**	**2.19**	**83**	PN	Pn	06 45 56.8	+0.4
CKHZ	**Cape Kidnapper**	**2.23**	**94**	PN	Pn	06 45 57.5	+0.7
RAHZ	**Arahi**	**2.34**	**75**	PN	Pn	06 45 57.9	0.0
WHHZ	**Waihua**	**2.41**	**80**	PN	Pn	06 45 58.7	+0.1
THZ	**Tophouse**	**2.42**	**203**	⇑PN	Pn	06 45 58.2	-0.5
SNGZ	**Shannon Statio**	**2.57**	**74**	PN	Pn	06 45 59.9	-0.3
URZ	**Urewera**	**2.62**	**61**	⇓PN	Pn	06 45 59.4	-1.4
URZ				AML	AML	06 46 35.4	
RAUZ	**Rawiri**	**2.72**	**68**	PN	Pn	06 46 01.9	-0.7
KNZ	**Kokohu**	**2.75**	**80**	PN	Pn	06 46 02.0	-0.2
DSZ	**Denniston Nort**	**2.85**	**219**	⇑PN	Pn	06 46 02.4	-0.8
MWZ	**Matawai**	**2.87**	**66**	⇓PN	Pn	06 46 02.6	-1.0
MWZ				AML	AML	06 46 41.7	
MWZ				AML	AML	06 46 42.3	
RIGZ	**Rimuhau**	**2.90**	**74**	PN	Pn	06 46 03.7	-0.2
KHZ	**Kahutara**	**2.91**	**190**	PN	Pn	06 46 03.6	-0.2
KHZ				AML	AML	06 46 41.5	
KHZ				AML	AML	06 46 42.0	
PRGZ	**Paritu Road**	**2.94**	**79**	PN	Pn	06 46 04.1	-0.1
TKGZ	**Te Karaka**	**3.06**	**70**	PN	Pn	06 46 05.0	-0.5
TWGZ	**Tauwhareparae**	**3.26**	**66**	PN	Pn	06 46 07.4	-0.5
CNGZ	**Carnagh Statio**	**3.31**	**73**	PN	Pn	06 46 08.5	+0.1
HAZ	**Te Kaha**	**3.33**	**59**	⇓PN	Pn	06 46 06.8	-1.9
PUZ	**Puketiti**	**3.50**	**66**	⇓PN	Pn	06 46 09.6	-1.1
PUZ				AML	AML	06 46 55.1	
LTZ	**Lake Taylor**	**3.54**	**204**	PN	Pn	06 46 10.3	-0.8
WMGZ	**Waiomatatini S**	**3.73**	**64**	PN	Pn	06 46 12.0	-1.1
MXZ	**Matakaoa Point**	**3.79**	**60**	PN	Pn	06 46 12.8	-1.2
OXZ	**Oxford**	**4.10**	**203**	PN	Pn	06 46 16.2	-1.5
CRLZ	**Canterbury Las**	**4.19**	**196**	*e*PN	Pn	06 46 17.3	-1.3
MQZ	**McQueen's Vall**	**4.31**	**195**	PN	Pn	06 46 18.2	-1.9
WVZ	**Waitaha Valley**	**4.38**	**215**	PN	Pn	06 46 19.1	-1.9
RPZ	**Rata Peaks**	**4.78**	**208**	⇑PN	Pn	06 46 24.4	-1.5
FOZ	**Fox Glacier**	**5.24**	**219**	PN	Pn	06 46 29.0	-2.6
JCZ	**Jackson Bay**	**6.07**	**220**	PN	Pn	06 46 39.9	-2.3
ODZ	**Otahua Downs**	**6.09**	**204**	PN	Pn	06 46 41.3	-1.0

IDC ***03*** *06:47:53.1±0.9, 63°15N×145°45W, h0km, mb3.6/9, mb1 3.8/12, mb1mx3.7/31, mbtmp3.6/12, ML3.4/3, MS2.8/1, Ms1 2.8/1, ms1mx2.2/39, Error ellipse: s-maj=22.0km s-min=8.2km az=53.0*

ISCJB ***03*** *06:47:54.6±0.5, 63°25N±0°02×145°20W±0°04, h7km±4km, mb3.5/9, Error ellipse: s-maj=3.4km s-min=2.6km az=154.6*

NEIC ***03*** *06:47:54.8, 63°22N×145°23W, h4km, ML3.6(AEIC), After AEIC.*

ISC 03 06:47:54.5±1.0, 63°23N±0°02×145°31W±0°02, h9km±7km, n88, σ1°46/97, mb3.6/9, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAX	**Paxson**	**0.27**	**196**	P	**Pg**	**06 48 00.0**	**+0.2**
PAX				S	**Sg**	**06 48 04.2**	**+0.7**
PS10	**TAPS Pump St10**	**0.28**	**313**	P	**Pb**	**06 48 01.0**	**-0.8**
PS10				S	**Sb**	**06 48 05.8**	**-0.9**
RIDG	**Independ'e Rid**	**0.56**	**22**	P	**Pg**	**06 48 05.2**	**0.0**
RIDG				S	**Sg**	**06 48 13.3**	**+0.9**
DOT	**Dot Lake**	**0.70**	**52**	P	**Pg**	**06 48 07.6**	**-0.3**
DOT				S	**Sg**	**06 48 16.6**	**-0.5**
MENT	**Mentasta**	**0.78**	**111**	P	**Pg**	**06 48 08.2**	**-1.3**
HARP	**HAARP**	**0.83**	**175**	P	**Pg**	**06 48 10.1**	**-0.2**
HARP				S	**Sb**	**06 48 21.8**	**-0.5**
DHY	**Denali Highway**	**0.95**	**262**	P	**Pg**	**06 48 12.3**	**-0.4**
DHY				S	**Sb**	**06 48 25.9**	**0.0**
PS11	**TAPS Pump St11**	**1.16**	**184**	P	**Pg**	**06 48 16.1**	**-0.5**
PS11				S	**Sn**	**06 48 32.8**	**0.0**
HDA	**Harding Lake**	**1.39**	**329**	P	**Pn**	**06 48 20.3**	**+0.2**
HDA				S	**Sn**	**06 48 39.9**	**+1.3**
WASW	**Wrangell South**	**1.41**	**158**	P	**Pn**	**06 48 19.0**	**-1.5**
PS08	**TAPS Pump Stn8**	**1.48**	**334**	P	**Pb**	**06 48 22.4**	**+0.3**
RND	**Reindeer**	**1.61**	**278**	P	**Pb**	**06 48 24.6**	**+0.2**
RND				S	**Sg**	**06 48 46.8**	**+0.6**
SCM	**Sheep Creek Mo**	**1.69**	**215**	P	**Pn**	**06 48 24.7**	**+0.5**
IL1	**Eielson Array**	**1.70**	**337**	P	**Pb**	**06 48 25.7**	**-0.1**
ILAR	**Eielson Array**	**1.70**	**337**	Pn	**Pn**	**06 48 23.7**	**-0.6**
	66nm,0.3s,baz=157,slow=16,SNR=793						
ILAR				Pg	**Pb**	**06 48 26.2**	**+0.4**
	66nm,0.3s,baz=152,slow=16,SNR=859						
ILAR				LR	LR	06 48 42.9	
	comp=Z,1μm,19.3s,baz=247,slow=28						
ILAR				Sn	**Sn**	**06 48 46.4**	**+0.3**
	280nm,0.3s,baz=101,slow=33,SNR=79						
ILAR				Lg	Lg	06 48 49.0	
	429nm,0.3s,baz=152,slow=28,SNR=108						
ILB	**Eielson Array**	**1.70**	**337**	P	**Pn**	**06 48 24.0**	**-0.3**
ILB				S	**Sg**	**06 48 49.5**	**+0.6**
MCK	**McKinley**	**1.71**	**289**	P	**Pb**	**06 48 26.4**	**+0.4**
WRH	**Wood River Hil**	**1.75**	**317**	P	**Pn**	**06 48 25.4**	**+0.4**
PS12	**TAPS Pump St12**	**1.76**	**177**	P	**Pn**	**06 48 25.4**	**+0.3**
KLU	**Klutina**	**1.77**	**190**	P	**Pn**	**06 48 25.8**	**+0.5**
CCB	**Clear Creek Bu**	**1.80**	**323**	P	**Pn**	**06 48 26.8**	**+1.1**
GLB	**Gilahina Butte**	**1.93**	**158**	P	**Pn**	**06 48 27.6**	**+0.2**
COLA	**College**	**2.00**	**327**	P	**Pb**	**06 48 30.5**	**-0.4**
I53US	**FAIRBANKS INFR**	**2.00**	**327**	*i*		06 59 30.0	
	baz=145,slow=323,SNR=0.4						
SML	**Sawmill**	**2.00**	**226**	P	**Pn**	**06 48 29.1**	**+0.6**
BWN	**Browne**	**2.08**	**299**	P	**Pn**	**06 48 29.5**	**0.0

VLZ	Valdez	2.16	193	P	Pn	06 48 30.7 +0.2
VRDI	Verde Repeater	2.19	156	P	Pn	06 48 31.8 +0.6
TRF	Thorofare Moun	2.26	278	P	Pb	06 48 34.6 -0.8
JPK	Jack Peak	2.27	196	P	Pn	06 48 32.6 +0.5
BMRM	Bremner River	2.29	171	P	Pn	06 48 32.9 +0.3
EGAK	Eagle	2.40	48	P	Pn	06 48 35.4 +1.4
PMR	Palmer	2.42	229	P	Pn	06 48 35.7 +1.5
TRAP	Trapper Creek	2.44	251	P	Pb	06 48 36.8 -1.7
PTPK	Patty Peak	2.44	146	P	Pb	06 48 36.8 -1.9
GLI	Glacier Island	2.50	200	P	Pn	06 48 37.0 +1.7
GOAT	Goat Mountain	2.67	174	P	Pn	06 48 40.1 +2.4
BPAW	Bear Paw Mtn.	2.68	292	P	Pn	06 48 39.8 +2.0
CRQM	Cirque	2.68	157	P	Pn	06 48 39.5 +1.5
EYAK	Cordova Ski Ar	2.70	185	P	Pn	06 48 40.0 +2.0
BARN	Barnard Glacie	2.77	140	P	Pn	06 48 41.7 +2.5
DAWY	Dawson	2.77	70	P	Pn	06 48 38.7 -0.4
RAGM	Ragged Mountai	2.87	174	P	Pn	06 48 42.8 +2.4
HIN	Hinchinbrook I	2.90	192	P	Pn	06 48 42.7 +1.9
CTGM	Chitina Glacie	2.94	139	P	Pn	06 48 44.3 +2.8
BERG	Berg Lake	2.95	164	P	Pn	06 48 44.3 +2.8
KHIT	Khitrov Hills	2.96	160	P	Pn	06 48 43.4 +1.7
ISLE	Juniper Island	2.99	151	P	Pn	06 48 43.9 +1.8
RC01	Rabbit Creek A	2.99	226	P	Pb	06 48 45.7 -2.1
MLY	Manley	2.99	310	P	Pn	06 48 42.3 +0.2
GRNC	Granite Creek	3.02	145	P	Pn	06 48 44.9 +2.3
NICHA	Nichawak Mount	3.07	167	P	Pn	06 48 45.3 +2.2
SUA	Susitna One	3.09	237	P	Pb	06 48 46.8 -2.9
SKT	Skwentna	3.14	249	P	Pn	06 48 47.1 +3.0
BAGL	Bagley Icefiel	3.14	150	P	Pn	06 48 45.3 +1.2
PPLA	Purkeypile	3.15	267	P	Pn	06 48 47.6 +3.2
LOGN	Logan Glacier	3.15	138	P	Pn	06 48 46.3 +1.9
KULT	Kultieth River	3.23	156	P	Pn	06 48 46.9 +1.4
PS06	TAPS Pump Stn6	3.26	326	P	Pn	06 48 46.9 +1.2
FYU	Fort Yukon	3.35	1	P	Pn	06 48 47.8 +0.9
TABL	Table Mountain	3.42	143	P	Pn	06 48 50.2 +2.0
MESA	MESA	3.45	151	P	Pn	06 48 50.2 +1.6
RKAV	Rock Avalanche	3.49	146	P	Pn	06 48 52.8 +3.8
STLK	Strandline Lak	3.50	243	P	Pn	06 48 51.9 +2.7
SLKM	Skilak Lake	3.59	223	P	Pn	06 48 52.9 +2.7
CKL	Chakachamna La	3.87	241	P	Pn	06 48 57.1 +2.9
PS05	TAPS Pump Stn5	4.25	330	P	Pn	06 49 00.8 +1.4
HYT	Haines Junctio	4.40	120	*e*Pn	Pn	06 49 05.0 +3.6
HYT				*e*Sg	Sg	06 50 18.5 +3.0
RSO	Redoubt South	4.49	235	P	Pn	06 49 05.3 +2.5
NCT	North Crescent	4.49	237	P	Pn	06 49 06.4 +3.7
RDWB	Redoubt West	4.50	236	P	Pn	06 49 06.1 +3.1
COLD	Coldfoot	4.51	335	P	Pn	06 49 04.3 +1.4
IM04	Indian Mountai	4.57	311	*e*Pn	Pn	06 49 03.6 -0.2
INK	Inuvik	7.03	38	Pn	Pn	06 49 37.4 0.0
	1.0nm,0.3s,baz=240,slow=20,SNR=19					
INK				Sn	Sn	06 50 55.7 -1.5
	1.6nm,0.3s,baz=190,slow=21,SNR=4.9					
INK				Lg	Lg	06 51 31.8
	2.9nm,0.3s,baz=308,slow=17,SNR=4.1					
INK				LR	LR	06 52 57.5
	comp=Z,72nm,19.3s,baz=192,slow=43					
DLBC	Dease Lake	8.86	116	Pn	Pn	06 50 04.1 +1.5
	0.3nm,0.3s,baz=336,slow=12,SNR=3.3					
DLBC				Lg	Lg	06 52 31.9
	0.2nm,0.3s,baz=59,slow=22,SNR=6.7					
YKA	Yellowknife Ar	13.96	79	Pn	Pn	06 51 10.3 -1.9
	0.1nm,0.3s,baz=286,slow=13,SNR=3.8					
SEY	Seymchan	27.24	298	P	P	06 53 37.9 -0.4
	1.6nm,0.5s,baz=90,slow=6.1,SNR=14					
PDAR	Pinedale Array	29.09	118	P	P	06 53 55.9 +0.5
	0.3nm,0.7s,baz=351,slow=8.5,SNR=3.3					
NVAR	Mina Array Bea	29.68	134	P	P	06 54 02.1 +1.5
	0.2nm,0.3s,baz=330,slow=10,SNR=2.7					
TXAR	Lajitas Array	43.11	122	P	P	06 55 56.1 +1.2
	0.3nm,0.8s,baz=300,slow=7.2,SNR=3.7					
SONM	Songino Array	55.73	309	P	P	06 57 31.4 +0.3
	0.5nm,0.7s,baz=26,slow=7.2,SNR=4.1					
ZALV	Zalesovo Beam	56.80	327	P	P	06 57 37.3 -1.2
	0.4nm,0.3s,baz=10,slow=8.8,SNR=4.4					
MKAR	Makanchi Array	64.02	326	P	P	06 58 26.3 -1.7
	0.8nm,0.7s,baz=48,slow=6.9,SNR=7.5					
ESDC	Sonseca Array	72.90	30	P	P	06 59 24.2 +0.6
	0.1nm,0.3s,baz=354,slow=4.3,SNR=3.1					
BRTR	Keskin Array B	77.39	1	P	P	06 59 49.4 -0.2
	0.4nm,0.6s,baz=20,slow=4.6,SNR=2.7					

IDC 03 06:51:08.1±2.8, 17.68S×177.38W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/25, mbtmp3.6/3, Error ellipse: s-maj=309.3km s-min=34.0km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	45.64	259	P	P	06 59 31.4	+0.6
	0.4nm,0.4s,baz=92,slow=8.0,SNR=7.1						
ASAR	Alice Springs	45.80	254	P	P	06 59 31.2	-0.9
	0.5nm,0.6s,baz=89,slow=8.2,SNR=8.2						
TXAR	Lajitas Array	85.05	57	P	P	07 03 46.2	0.0
	0.4nm,0.8s,baz=207,slow=5.8,SNR=4.2						

*CASC **03** 07:15:53.2±1.4, 6.27N×82.67W, h34km±999km, MD4.3*
*IDC **03** 07:15:56.9±4.0, 7.46N×82.28W, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.6/23, mbtmp3.7/5, ML2.7/1, MS3.8/2, Ms1 3.8/2, ms1mx3.0/22, Error ellipse: s-maj=142.5km s-min=33.9km az=32.0*

ISC 03 07:15:56.0±1.4, 6.8N±0.2×82.6W±0.2, h10km, n18, σ1°87/17, mb3.6/4, 2C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	Cerro Adams	1.96	344	*e*P	Pn	07 16 29.8	+0.4
BUS	Buena Vista	3.00	338	*e*P	Pn	07 16 45.4	+1.4
BUS				*e*S	Sb	07 17 26.4	-0.2
URSC	Urasca	3.26	340⇑	*e*P	Pn	07 16 49.0	+1.5
URSC				*e*S	Sb	07 17 32.4	-1.6
CGA2	Cerro Gallo 2	3.71	331⇓	*e*P	Pn	07 16 54.4	+0.8
CGA2				*e*S	Sb	07 17 42.6	-4.3
JCR	Jicaral	3.93	322⇑	*e*P	Pn	07 17 56.0	-0.5
CUI	Cuipilapa	4.61	327	*i* P	Pn	07 17 07.0	+1.1
CUI				*i* S	Sn	07 18 02.8	+3.2
LIM1	Limonal	4.69	327	*i* P	Pn	07 17 08.1	+1.1
LAPC	Finca la Perla	4.85	325	*i* P	Pn	07 17 10.2	+1.0
LAPC				*i* S	Sn	07 18 07.5	+2.0
ROSC	El Rosal	8.48	102	Pn	Pn	07 17 59.5	+0.1
	1.8nm,0.3s,baz=282,slow=14,SNR=8.0						
LPAZ	La Paz	27.02	148	LR	LR	07 33 02.0	
	comp=Z,118nm,18.4s,baz=64,slow=37						
PDAR	Pinedale Array	43.02	331	P	P	07 23 53.6	-2.5
	0.4nm,0.7s,baz=124,slow=8.1,SNR=3.0						
ULM	Lac du Bonnet	44.75	348	P	P	07 24 07.8	-1.7
	2.3nm,0.7s,baz=166,slow=9.6,SNR=4.8						
NVAR	Mina Array Bea	45.09	320	P	P	07 24 13.8	+1.0
	0.6nm,0.6s,baz=122,slow=8.6,SNR=2.9						
ILAR	Eielson Array	73.11	336	P	P	07 27 25.5	-0.9
	0.4nm,0.8s,baz=121,slow=3.5,SNR=5.1						
KEST	Kesra	87.71	54	LR	LR	08 03 29.6	
	comp=Z,70nm,20.4s,baz=230,slow=33						
H11S1	WAKE ISLAND Hy	107.20	292	T	T	09 30 11.6	
	baz=77,slow=75,SNR=6.0						
H11S2	WAKE ISLAND Hy	107.20	292	T	T	09 30 11.0	
	baz=77,slow=75,SNR=8.0						
H11S3	WAKE ISLAND Hy	107.21	292	T	T	09 30 11.4	
	baz=77,slow=75,SNR=8.7						

MEX 03 07:34:46.3±0.5, 30.31N×114.61W, h16km±342km, MD3.7, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPIG	San Pedro Mart	1.04	315	*i* P	Pb	07 35 02.4	-4.0
SPIG				*i* S	Sb	07 35 15.5	-4.6
CBX	Cerro Bola	2.66	319	*e*P	Pn	07 35 25.6	-3.1
CBX				*e*S	Sn	07 35 56.4	-4.4

*LJU **03** 07:41:56.1, 46.39N×15.07E, h0km Rockburst*
CSEM 03 07:41:56.1±99.0, 46.39N×15.07E, h0km, Suspected Mining induced., Northwestern Balkan Peninsula

*SJA **03** 07:45:12.0±1.1, 34.37S×73.27W, h34km, ML3.7, MW3.8*
*GUC **03** 07:45:20.0±0.7, 34.70S×71.96W, h15km±999km, ML4.1*
ISC 03 07:45:18.1±1.8, 34.71S±0.04×72.07W±0.09, h6km±11km, n24, σ1°52/33, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	Los Niches	0.75	113⇑	*i* P	Pg	07 45 32.5	0.0
NICH				*i* S	Sg	07 45 42.1	-0.2
TALC	Talca	0.77	152⇑	*i* P	Pg	07 45 33.4	+0.4
TALC				*i* S	Sg	07 45 43.5	+0.5
LNV	Longovilo	0.93	36	*e*P	Pg	07 45 35.3	-0.7
LNV				*i* S	Sg	07 45 47.0	-1.1
LNCH	Linares	1.20	161⇑	*i* P	Pb	07 45 40.7	-0.5
LNCH				*i* S	Sb	07 45 56.2	-0.7
CHCH	Chadas Angostu	1.41	57⇓	*i* P	Pn	07 45 42.8	-1.5
TACH	Talagante	1.42	42	*e*P	Pn	07 45 43.0	-1.4
TACH				*i* S	Sn	07 46 00.6	-2.8
PCH	Pirque	1.69	50	*e*P	Pn	07 45 47.9	-0.4
SAN	Santiago	1.72	43⇓	*i* P	Pn	07 45 48.3	-0.3
SAN				*i* S	Sn	07 46 09.3	-1.5
IHA	Instituto Hidr	1.72	12	*e*P	Pn	07 45 48.5	-0.1
IHA				*i* S	Sn	07 46 10.2	-0.7
FSR	Penalolen	1.78	47	*e*P	Pn	07 45 49.9	+0.5
FSR				*e*S	Sn	07 46 11.5	-0.9
LACH	Col Las Americ	1.79	46	*e*P	Pn	07 45 48.5	-1.2
LACH				*i* S	Sn	07 46 11.2	-1.6
CLCH	Cerro Calan	1.83	45	*e*P	Pn	07 45 49.8	-0.4
CLCH				*e*S	Sn	07 46 12.7	-1.0
CLCH				AML	AML	07 46 18.2	
	comp=N,3μm,0.5s						
PEL	Peldehue	1.94	37⇑	*i* P	Pn	07 45 52.2	+0.4
PEL				*i* S	Sn	07 46 15.9	-0.6
PEL				AML	AML	07 46 18.4	
	comp=N,2μm,0.5s						
AAGR	Agrelo	3.15	60	*e*P	Pb	07 46 12.6	-2.0
ARCO	CERRO ARCO	3.21	55	*e*P	Pb	07 46 13.8	-1.9
ARCO				AML	AML	07 46 58.2	
	comp=Z,103nm,0.7s						
CANA	Caviahue	3.27	166	*e*P	Pb	07 46 13.6	-3.2
AUSP	Uspallata	3.35	43	*e*P	Pn	07 46 14.2	+3.0
ASAL	Salagasta	3.43	53	*e*P	Pb	07 46 16.2	-3.1
RTLS	Leoncito	3.72	39	*e*P	Pn	07 46 19.2	+2.9
RTLS				*e*S	Sb	07 47 13.3	+3.4
RTCV	Cerro Valdivia	4.10	47	*e*P	Pn	07 46 23.5	+2.1
CFAA	Coronel Fontan	4.47	47	*e*P	Pn	07 46 28.1	+1.7
RTLL	Cerro Villicun	4.53	43	*e*P	Pn	07 46 28.9	+1.6
ACAN	Cantantal	4.75	61	*e*P	Pn	07 46 32.1	+1.8
AVFE	Valle Fertil	5.61	45	*e*P	Pn	07 46 42.8	+0.6
AVFE				*e*S	Sn	07 47 47.3	+0.3

*IDC **03** 07:48:29.1±1.5, 8.36S×80.79W, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.7/24, mbtmp3.6/7, ML2.9/2, MS3.3/1, Ms1 3.5/1, ms1mx2.7/22, Error ellipse: s-maj=36.3km s-min=22.7km az=22.0*

ISC 03 07:48:34.4±1.3, 8.7S±0.1×80.6W±0.1, h35km, n9, σ1°10/9, mb3.7/4, Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	Atahualpa	2.70	55	Pn	Pn	07 49 15.3	-0.5
	1.7nm,0.3s,baz=239,slow=15,SNR=8.1						
ATAH				Sn	Sn	07 49 48.5	+1.0
	7.2nm,0.3s,baz=32,slow=22,SNR=6.4						
NNA	Nana	4.96	132	Pn	Pn	07 49 50.2	+3.7
	1.0nm,0.3s,baz=304,slow=11,SNR=2.1						
NNA				Sn	Sn	07 50 43.1	+0.4
	3.4nm,0.3s,baz=236,slow=15,SNR=4.5						
LPAZ	La Paz	14.34	123	Pn	P	07 52 01.7	-0.6
	0.0nm,0.3s,baz=287,slow=11,SNR=2.5						
LPAZ				LR	LR	07 57 57.7	
	comp=Z,134nm,21.2s,baz=301,slow=39						
SIV	San Ignacio	20.42	113	P	P	07 53 10.1	+1.3
	2.3nm,1.0s,baz=264,slow=9.2,SNR=5.4						
PTGA	Pitinga	22.05	70	P	P	07 53 24.6	-1.7
	2.6nm,0.5s,baz=271,slow=9.0,SNR=5.6						
TXAR	Lajitas Array	43.84	330	P	P	07 56 33.3	-4.2
	0.5nm,0.5s,baz=155,slow=9.4,SNR=6.1						
TORD	Torodi Ar. Bea	84.57	76	P	P	08 01 05.7	+0.9
	0.9nm,1.0s,baz=262,slow=5.2,SNR=3.4						
ILAR	Eielson Array	88.00	337	P	P	08 01 20.5	-0.1
	0.2nm,0.7s,baz=116,slow=2.1,SNR=3.6						
WRA	Warramunga Arr	135.34	230	PKP	PKPdf	08 07 51.9	+0.3
	0.6nm,0.9s,baz=100,slow=2.0,SNR=3.2						

IDC 03 07:56:05.5±14.0, 23.56S×179.92E, h525km±161km, mb2.8/5, mb1 3.1/5, mb1mx2.9/18, mbtmp3.6/5, Error ellipse: s-maj=56.5km s-min=31.7km az=70.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	42.02	260	P	P	08 03 11.3	+0.3
	0.2nm,0.4s,baz=97,slow=6.9,SNR=3.2						
WRA	Warramunga Arr	42.36	266	P	P	08 03 13.5	-0.2
	0.6nm,0.9s,baz=91,slow=8.3,SNR=4.6						
QSPA	South Pole Qui	66.52	180	P	P	08 06 02.4	-0.5
	1.4nm,1.0s,baz=52,slow=1.7,SNR=7.4						
TXAR	Lajitas Array	90.31	58	P	P	08 08 11.8	+1.1
	0.3nm,0.7s,baz=197,slow=2.8,SNR=4.0						
ILAR	Eielson Array	91.72	14	P	P	08 08 15.2	-1.1
	0.5nm,1.0s,baz=219,slow=5.7,SNR=4.0						
AKASG	Malin Array Be	144.65	327	PKP	PKPdf	08 14 41.5	-0.5
	0.3nm,0.3s,baz=27,slow=3.1,SNR=3.5						

MEX 03 07:56:29.6±0.5, 30.16N×114.88W, h10km, MD3.7, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPIG	San Pedro Mart	1.02	330	*e*P	Pg	07 56 46.2	-3.5
SPIG				*e*S	Sg	07 56 59.4	-4.0
CBX	Cerro Bola	2.64	325	*e*P	Pn	07 57 09.9	-2.6
CBX				*e*S	Sn	07 57 41.1	-3.6

*IDC **03** 08:01:49.6±3.2, 40.44S×176.41E, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.6/17, mbtmp3.6/4, ML2.8/2, MS2.4/1, Ms1 2.4/1, ms1mx2.2/22, Error ellipse: s-maj=75.7km s-min=25.6km az=130.0*
*ISCJB **03** 08:01:56.8±0.3, 40.12S±0.02×176.28E±0.04, h63km±4km, mb3.5/2, Error ellipse: s-maj=5.4km s-min=3.1km az=29.6*
*WEL **03** 08:01:58.8±0.1, 40.08S×176.21E, h45km±1km, ML3.6/16, Error ellipse: s-maj=0.9km s-min=0.4km az=90.0*
WEL Felt from Hawke''s Bay to Manawatu, maximum reported intensity MM 4.

ISC 03 08:01:57.1±1.0, 40.10S±0.03×176.21E±0.04, h53km±6km, n107, σ1°22/109, 22C-12D, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WPHZ	Waipukurau	0.18	78	⇑P*	Pn	08 02 05.9	+0.3
WPHZ				S*	Sn	08 02 12.2	+0.5
PNHZ	Pukenui	0.19	357	⇓P*	Pn	08 02 04.8	-1.0
TSZ	Takapari Road	0.20	282	⇓P*	Pn	08 02 04.7	-1.1
TSZ				AML	AML	08 02 09.7	
TSZ				AML	AML	08 02 09.7	
TSZ				AML	AML	08 02 09.7	
TSZ				AML	AML	08 02 09.8	
DVHZ	Dannevirke	0.20	190	⇓P*	Pn	08 02 06.0	+0.2
DVHZ				S*	Sn	08 02 12.0	0.0
PRHZ	Porangahau	0.36	117	⇑P*	Pn	08 02 08.8	+1.7
ANWZ	Angora Road	0.41	151	⇑P*	Pn	08 02 09.5	+1.9
POWZ	Post Office Ro	0.45	229	⇓P*	Pn	08 02 08.5	+0.6
KRHZ	Kereru	0.47	15	⇓PN	Pn	08 02 08.0	-0.2
PRWZ	Pori Road	0.49	202	P*	Pn	08 02 10.0	+1.6
PXZ	Pawanui	0.50	82	P*	Pn	08 02 09.9	+1.4
PXZ				AML	AML	08 02 21.2	
PXZ				AML	AML	08 02 21.3	
PXZ				AML	AML	08 02 21.9	
PXZ				AML	AML	08 02 21.9	
BFZ	Birch Farm	0.58	177	⇑P*	Pn	08 02 11.2	+1.7
KAHZ	Kahuranaki	0.60	59	PN	Pn	08 02 11.1	+1.4
BHHZ	Black Hill Sta	0.62	349	⇑PN	Pn	08 02 09.8	-0.3
KWHZ	Kaweka Forest	0.70	14	PN	Pn	08 02 11.4	+0.4
TIWZ	Tintock	0.72	200	PN	Pn	08 02 12.9	+1.7
TIWZ				AML	AML	08 02 25.5	
TIWZ				AML	AML	08 02 26.1	
MRZ	Mangatainoka R	0.74	221	⇑PN	Pn	08 02 12.8	+1.4
MRZ				AML	AML	08 02 24.4	
MRZ				AML	AML	08 02 24.4	
MCHZ	McNeill Hill	0.76	30	⇓PN	Pn	08 02 12.9	+1.2
MOVZ	Moawhango	0.78	333	⇑PN	Pn	08 02 12.2	+0.1
CKHZ	Cape Kidnapper	0.80	57	PN	Pn	08 02 13.6	+1.4
CPWZ	Castlepoint	0.81	181	PN	Pn	08 02 14.6	+2.3
WNVZ	Wahianoa	0.91	328	⇑PN	Pn	08 02 14.4	+0.6
MTVZ	Mangateitei	0.92	321	⇑PN	Pn	08 02 14.6	+0.7
TUVZ	Tukino	0.94	332	⇑PN	Pn	08 02 15.0	+0.8
WHVZ	Whangaehu Hut	0.95	329	PN	Pn	08 02 15.1	+0.6
TRVZ	Turoa	0.95	327	PN	Pn	08 02 15.1	+0.7
HOWZ	Holdsworth Sta	0.96	214	⇑PN	Pn	08 02 15.5	+1.1
BKZ	Black Stump Fm	0.96	13	⇓PN	Pn	08 02 15.2	+0.8
BKZ				AML	AML	08 02 28.7	
BKZ				AML	AML	08 02 29.1	
DRZ	Dome Shelter	0.96	329	PN	Pn	08 02 15.4	+0.7
FWVZ	Far West T-bar	0.99	329	⇑PN	Pn	08 02 15.6	+0.7
WAZ	Wanganui	1.00	290	⇑PN	Pn	08 02 16.6	+1.6
OTVZ	Oturere	1.03	336	⇑PN	Pn	08 02 16.4	+1.0
WPVZ	Whakapapa	1.03	330	⇑PN	Pn	08 02 16.4	+1.0
ARHZ	Aropaoanui	1.03	36	PN	Pn	08 02 16.3	+0.9
TMWZ	Te Maipa	1.03	194	PN	Pn	08 02 16.7	+1.3
NGZ	Ngauruhoe	1.04	333	⇑PN	Pn	08 02 16.5	+0.9
COVZ	Chateau Observ	1.04	330	⇑PN	Pn	08 02 16.4	+0.9
PKVZ	Pokaka	1.05	320	⇑PN	Pn	08 02 16.5	+0.8
OGWZ	Otaki Gorge	1.07	228	PN	Pn	08 02 16.9	+1.1
WTVZ	West Tongariro	1.10	334	PN	Pn	08 02 17.2	+0.9
KRVZ	Karewarewa	1.10	336	⇑PN	Pn	08 02 17.4	+1.0
NMHZ	Naumai	1.10	25	⇓PN	Pn	08 02 17.5	+1.1
RITZ	Rihia Road	1.16	346	PN	Pn	08 02 18.1	+1.1
MTW	Mount Morrison	1.19	207	PN	Pn	08 02 18.2	+0.8
MTW				AML	AML	08 02 39.2	
MTW				AML	AML	08 02 52.2	
TWVZ	Taurewa	1.19	330	PN	Pn	08 02 18.3	+0.8
HATZ	Hinemaiaia	1.21	356	*e*PN	Pn	08 02 18.6	+0.8
KIW	Kapiti Island	1.25	232	PN	Pn	08 02 19.5	+1.2
KIW				AML	AML	08 02 38.0	
KIW				AML	AML	08 02 45.0	
RATZ	Rangitukua	1.28	344	PN	Pn	08 02 19.9	+1.2
WHHZ	Waihua	1.29	38	PN	Pn	08 02 19.5	+0.6
CAW	Cannon Point	1.33	221	PN	Pn	08 02 20.2	+0.8
CAW				AML	AML	08 02 45.9	
CAW				AML	AML	08 02 47.8	
TRWZ	Traveller	1.35	197	PN	Pn	08 02 20.7	+1.0
TRWZ				AML	AML	08 02 39.2	
TRWZ				AML	AML	08 02 58.5	
RAHZ	Arahi	1.36	30	PN	Pn	08 02 20.5	+0.6
PAWZ	Paruwai Farm	1.41	205	PN	Pn	08 02 21.5	+1.0
PAWZ				AML	AML	08 02 51.5	
PAWZ				AML	AML	08 02 55.4	
WATZ	Wairara	1.44	345	PN	Pn	08 02 21.9	+1.0
VRZ	Vera Road	1.49	311	PN	Pn	08 02 22.5	+1.1
MSWZ	Moikau Station	1.50	209	PN	Pn	08 02 22.1	+0.5
MSWZ				AML	AML	08 02 41.7	
MSWZ				AML	AML	08 02 50.3	
LREZ	Lake Rotokare	1.54	294	PN	Pn	08 02 24.1	+2.0
ALRZ	Allen Road	1.54	4	PN	Pn	08 02 22.5	+0.3
KNZ	Kokohu	1.56	47	PN	Pn	08 02 22.9	+0.4
SNGZ	Shannon Statio	1.58	34	PN	Pn	08 02 23.3	+0.5
WPRZ	Whakapapatarin	1.58	359	⇓PN	Pn	08 02 23.1	+0.3
PRRZ	Plateau Road	1.61	5	PN	Pn	08 02 23.4	+0.2
WEL	Wellington	1.61	222	PN	Pn	08 02 24.3	+1.1
WEL				AML	AML	08 02 44.6	
WEL				AML	AML	08 03 00.2	
PLWZ	Palliser	1.64	206	PN	Pn	08 02 23.8	+0.2
KUTZ	Kaahu Road	1.64	349	PN	Pn	08 02 24.1	+0.5
BHW	Baring Head	1.66	218	AML	AML	08 03 00.3	
BHW				AML	AML	08 03 02.6	
PRGZ	Paritu Road	1.75	48	PN	Pn	08 02 25.3	+0.2
PREZ	Palmer Road	1.76	295	PN	Pn	08 02 27.2	+2.0
RRRZ	Republican Roa	1.77	8	PN	Pn	08 02 25.5	+0.1
MHHZ	Mangahewa	1.78	304	PN	Pn	08 02 27.6	+2.1
DREZ	Durham Road	1.80	300	PN	Pn	08 02 28.1	+2.3
NEZ	North Egmont	1.83	296	PN	Pn	08 02 28.6	+2.4
RIGZ	Rimuhau	1.84	41	⇑PN	Pn	08 02 26.5	+0.2
TCW	Tory Channel	1.84	232	PN	Pn	08 02 26.7	+0.4
TCW				AML	AML	08 02 51.2	
TCW				AML	AML	08 03 00.8	
TLZ	Tolley Road	1.85	343	PN	Pn	08 02 26.9	+0.4
RAGZ	Rawiri	1.86	31	PN	Pn	08 02 26.8	+0.2
KHEZ	Kahui Hut	1.88	295	PN	Pn	08 02 29.8	+2.9
TARZ	Mount Tarawera	1.88	7	⇓PN	Pn	08 02 27.3	+0.4
DUWZ	D'Urville Isla	1.88	247	*e*PN	Pn	08 02 27.7	+0.8
HIZ	Hauiti	1.90	326	⇑PN	Pn	08 02 27.8	+0.7
NMEZ	Namu Road	1.93	290	PN	Pn	08 02 29.9	+2.5
PKE	Pukeiti	1.94	297	*e*PN	Pn	08 02 30.2	+2.5
URZ	Urewera	1.97	21	⇓PN	Pn	08 02 27.6	-0.4
URZ				AML	AML	08 03 07.2	
URZ	Urewera	1.97	21	Pn	Pn	08 02 27.6	-0.4
	6.3nm,0.3s,baz=258,slow=3.7,SNR=53						
URZ				Sn	Sn	08 02 51.3	-0.2
	8.5nm,0.3s,baz=64,slow=16,SNR=11						
URZ				LR	LR	08 03 27.3	

RTLS				*e*S		**Sg**	**08 12 49.8**	**+1.2**
RTCV	**Cerro Valdivia**	**5.62**	**50**	*e*P		**Pn**	**08 11 25.5**	**+0.4**
RTCV				*e*S		**Sg**	**08 12 58.2**	**-3.5**
SJA	**San Juan**	**5.85**	**47**	*e*P		**Pn**	**08 11 28.5**	**+0.4**
CFAA	**Coronel Fontan**	**5.99**	**50**	Pn		**Pn**	**08 11 29.8**	**-0.3**
	comp=Z,1.1nm,0.3s,baz=222,slow=12,SNR=58							
CFAA				Lg	Lg		08 12 55.5	
	comp=Z,0.1nm,0.3s,baz=275,slow=22,SNR=4.1							
CFAA				LR	LR		08 14 07.6	
	comp=Z,166nm,18.3s,baz=234,slow=43							
CFAA	**Coronel Fontan**	**5.99**	**50**	*e*P		**Pn**	**08 11 29.9**	**-0.1**
RTLL	**Cerro Villicun**	**6.04**	**46**	*e*P		**Pn**	**08 11 30.8**	**+0.1**
RTLL				*e*S		**Sb**	**08 12 58.6**	**-0.4**
AMOG	**MOGNA**	**6.31**	**44**	*e*P		**Pn**	**08 11 34.5**	**-0.1**
LCO	**Las Campanas**	**7.02**	**21**	*e*Pn		**Pn**	**08 11 43.2**	**-1.2**
LCO				*e*Sn		**Sn**	**08 12 59.7**	**-4.8**
AVFE	**Valle Fertil**	**7.13**	**48**	*e*P		**Pn**	**08 11 44.4**	**-1.3**
ACLC	**CERRO LA CRUZ**	**8.33**	**44**	*e*P		**Pn**	**08 11 59.7**	**-2.6**
TCA	**Tanti**	**8.63**	**63**	*e*P		**Pn**	**08 12 04.8**	**-1.6**
TRQA	**Tornquist**	**9.62**	**108**	*e*Pn		**Pn**	**08 12 20.8**	**+1.0**
	comp=Z,42nm,1.3s							
CYA	**Choya**	**9.73**	**45**	*e*P		Pn	08 12 16.7	-4.7
LVC	**Limon Verde**	**13.57**	**19**	Pn		**Pn**	**08 13 15.1**	**+0.9**
	comp=Z,6.4nm,0.3s,baz=227,slow=19,SNR=1.8							
LVC				LR		LR	08 18 15.1	
	comp=Z,683nm,21.8s,baz=208,slow=37							
CPUP	**Villa Florida**	**16.71**	**61**	Pn		**Pn**	**08 13 52.5**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=200,slow=17,SNR=2.6							
CPUP				Lg	Lg		08 18 26.4	
	comp=Z,0.1nm,0.3s,baz=156,slow=16,SNR=3.0							
CPUP				LR	LR		08 19 54.0	
	comp=Z,139nm,21.9s,baz=237,slow=36							
LPAZ	**La Paz**	**19.85**	**16**	P		**Pn**	**08 14 35.6**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=173,slow=8.7,SNR=18							
SIV	**San Ignacio**	**22.51**	**33**	P		**P**	**08 15 01.4**	**+0.1**
	comp=Z,14nm,1.1s,baz=229,slow=13,SNR=12							
SIV				LR		LR	08 25 25.0	
	comp=Z,575nm,18.4s,baz=210,slow=41							
NNA	**Nana**	**23.70**	**352**	LR		LR	08 21 51.8	
	comp=Z,66nm,21.8s,baz=177,slow=30							
SAML	**Samuel**	**28.19**	**22**	*e*P		**P**	**08 15 54.3**	**+0.2**
	comp=Z,5.8nm,1.4s							
BDFB	**Brasilia**	**30.29**	**56**	P		**P**	**08 16 12.4**	**-0.6**
	comp=Z,2.1nm,0.8s,baz=258,slow=9.3,SNR=2.5							
OTAV	**Otavalo**	**35.95**	**352**	*e*P		P	08 17 06.6	+3.9
	comp=Z,4.0nm,1.2s							
VNA1	**Neumayer--Stat**	**48.71**	**156**	P		P	08 18 48.1	+2.6
VNA2	**Neumayer--Watz**	**49.04**	**157**	P		P	08 18 51.5	+3.5
	baz=225,slow=16							
SNAA	**Sanae**	**50.59**	**157**	P		**P**	**08 18 57.3**	**-2.7**
SNAA	**Sanae**	**50.59**	**157**	P		**P**	**08 19 01.9**	**+2.0**
	comp=Z,3.4nm,0.9s,baz=284,slow=6.6,SNR=23							
SNAA	**Sanae**	**50.59**	**157**	*e*P		**P**	**08 18 56.9**	**-3.1**
	comp=Z,11nm,0.9s							
QSPA	**South Pole Qui**	**54.63**	**180**	P		P	08 19 32.9	+2.9
	comp=Z,3.9nm,0.8s,baz=157,slow=2.2,SNR=13							
QSPA	**South Pole Qui**	**54.63**	**180**	*e*P		P	08 19 32.7	+2.7
	comp=Z,10nm,1.0s							
TXAR	**Lajitas Array**	**70.54**	**332**	P		P	08 21 19.6	+3.1
	comp=Z,0.4nm,0.7s,baz=146,slow=7.7,SNR=4.0							
TXAR				LR		LR	08 47 59.3	
	comp=Z,59nm,18.2s,baz=0.0,slow=32							
BOSA	**Boshof**	**80.44**	**118**	P		**P**	**08 22 14.9**	**+1.2**
	comp=Z,2.3nm,0.9s,baz=233,slow=10,SNR=3.0							
ECSD	**EROS Data Cent**	**81.70**	**343**	*e*P		**P**	**08 22 21.1**	**+1.4**
	comp=Z,2.1nm,0.8s							
TOA0	**Torodi Ar. Sit**	**85.95**	**71**	*e*P		**P**	**08 22 42.3**	**+0.2**
TORD	**Torodi Ar. Bea**	**85.95**	**71**	P		**P**	**08 22 42.5**	**+0.4**
	comp=Z,1.9nm,1.0s,baz=234,slow=7.0,SNR=7.3							
TORD				LR		LR	08 59 17.9	
	comp=Z,34nm,19.7s,baz=190,slow=34							
ABKAR	**Akbulak array**	**143.67**	**53**	*e*P		**PKPdf**	**08 29 34.4**	**-1.7**
ZALV	**Zalesovo Beam**	**156.26**	**33**	PKP		**PKPdf**	**08 29 57.2**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=339,slow=3.7,SNR=4.2							
ZALV				PKPab		**PKPab**	**08 30 25.5**	**+1.8**
	comp=Z,0.7nm,0.5s,baz=295,slow=4.1,SNR=3.5							
MKAR	**Makanchi Array**	**158.77**	**51**	PKPab		**PKPab**	**08 30 34.9**	**0.0**
	comp=Z,0.9nm,0.9s,baz=336,slow=3.2,SNR=3.8							
SONM	**Songino Array**	**167.78**	**0**	PKPab		**PKPab**	**08 31 16.9**	**+2.6**
	comp=Z,0.4nm,0.5s,baz=0.0,slow=2.9,SNR=3.3							

*IDC **03** 08:29:45.0±1.0,23°.48N×125°.49E,h0km,mb3.9/8, mb1 4.0/10,mb1mx3.8/28,mbtmp3.9/10,ML3.3/2,MS3.1/6, Ms1 3.2/6,ms1mx2.8/39,Error ellipse: s-maj=31.5km s-min=17.9km az=76.0*

*ISCJB **03** 08:29:45.9±0.5,23°.61N±0°.03×125°.64E±0°.03,h27km, mb3.9/10,MS3.1/6,Error ellipse: s-maj=5.1km s-min=4.2km az=163.9*

*JMA **03** 08:29:49.2±0.1,23°.73N×125°.51E,h72km,M3.3*

*NEIC **03** 08:29:49.9±0.6,23°.48N×125°.46E,h35km,mb4.2/2,Error ellipse: s-maj=11.3km s-min=9.9km az=156.0*

ISC 03 08:29:47.9±0.8,23°.58N±0°.06×125°.63E±0°.05,h27km,n44, σ1$85/52,mb3.9/10,MS3.2/6,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JOGS	**Gusukube**	**1.19**	**350**	P		**Pn**	**08 30 08.3**	**-0.5**
JOGS				*e*S		**Sn**	**08 30 22.4**	**-1.8**
JMJ	**Miyako jima 2**	**1.27**	**346**	P		**Pn**	**08 30 09.4**	**-0.5**
JMJ				*e*S		**Sn**	**08 30 23.9**	**-2.1**
JIRB	**Irabujima**	**1.31**	**341**	P		**Pn**	**08 30 09.7**	**-0.8**
JIRB				*e*S		**Sn**	**08 30 25.4**	**-1.7**
JTJ	**Tarama**	**1.36**	**321**	P		**Pn**	**08 30 10.3**	**-0.8**
JTJ				*e*S		**Sn**	**08 30 26.3**	**-1.9**
JIKM	**Ikemajima**	**1.38**	**345**	P		**Pn**	**08 30 10.8**	**-0.7**
JISG	**Ishigakijimahi**	**1.57**	**310**	P		**Pn**	**08 30 13.1**	**-0.9**
JISG				*e*S		**Sn**	**08 30 29.9**	**-3.6**
JIJ	**Ishigaki jima**	**1.57**	**300**	P		**Pn**	**08 30 13.1**	**-0.9**
JIJ				*e*S		**Sn**	**08 30 31.3**	**-2.2**
JKRS	**Kuro-shima**	**1.62**	**294**	P		**Pn**	**08 30 14.2**	**-0.5**
JKRS				*e*S		**Sn**	**08 30 33.2**	**-1.6**
HATJ	**Hateruma jima**	**1.74**	**286**	P		**Pn**	**08 30 16.0**	**-0.3**
HATJ				*e*S		**Sn**	**08 30 35.9**	**-1.8**
IRIF	**Iriomote-Funau**	**1.90**	**294**	P		**Pn**	**08 30 18.2**	**-0.3**
IRIF				*e*S		**Sn**	**08 30 38.9**	**-2.6**
YOJ	**Yonaguni jima**	**2.55**	**291**	P		**Pn**	**08 30 27.0**	**-0.5**
YOJ				*e*S		**Sn**	**08 30 54.7**	**-3.0**
JYNG	**Yonagunijimaku**	**2.61**	**290**	P		**Pn**	**08 30 27.2**	**-1.1**
JYNG				*e*S		**Sn**	**08 30 55.8**	**-3.2**
JKE	**Kume jima 2**	**2.93**	**21**	P		**Pn**	**08 30 31.3**	**-1.4**
JKE				*e*S		**Sn**	**08 31 04.2**	**-2.8**
NACB	**Ninganchiao**	**3.74**	**280**	*e*Pn		**Pn**	**08 30 43.6**	**-0.3**
YULB	**Yu-li**	**3.98**	**268**	*e*Pn		**Pn**	**08 30 44.7**	**-2.6**
YULB				*e*Sn		**Sn**	**08 31 28.6**	**-4.5**
JOW	**Kunigami**	**4.03**	**36**	P		**Pn**	**08 30 46.6**	**-1.2**
JOW	**Kunigami**	**4.03**	**36**	*e*Pn		**Pn**	**08 30 46.8**	**-1.1**
YHNB	**Yeheng**	**4.04**	**286**	*e*Pn		**Pn**	**08 30 48.5**	**+0.4**
TWG	**Pinlang**	**4.26**	**261**	*e*Pn		**Pn**	**08 30 48.6**	**-2.4**
SSLB	**Suanglung**	**4.29**	**274**	*e*Pn		**Pn**	**08 30 51.1**	**-0.4**
TPUB	**Ta-pu**	**4.60**	**268**	*e*Pn		**Pn**	**08 30 55.2**	**-0.6**
JOKE	**Okinoerabujima**	**4.61**	**35**	P		**Pn**	**08 30 54.3**	**-1.5**
JTK	**Tokunoshima**	**5.15**	**35**	P		**Pn**	**08 31 00.7**	**-2.5**
JMZ	**Minamidaito 2**	**5.55**	**65**	P		Pn	08 31 05.3	-3.4
JAMN	**Amaminishikomi**	**5.63**	**34**	P		**Pn**	**08 31 08.0**	**-1.9**
JAM	**Amami Oshima**	**5.99**	**36**	P		**Pn**	**08 31 12.4**	**-2.4**
KSAR	**Wonju Array Be**	**13.95**	**7**	Pn		**Pn**	**08 33 04.0**	**+0.2**
KSRS	**Korea Array**	**13.97**	**8**	Pn		**Pn**	**08 33 04.0**	**0.0**
	0.2nm,0.3s,baz=184,slow=15,SNR=4.5							
MJAR	**Matsushiro Arr**	**16.87**	**37**	Pn		**P**	**08 33 46.9**	**+2.8**
	0.1nm,0.3s,baz=226,slow=8.6,SNR=5.3							
GUMO	**Guam**	**20.74**	**115**	LR		LR	08 40 54.2	
	comp=Z,14nm,19.8s,baz=70,slow=32							
CMAR	**Chiang Mai Arr**	**25.41**	**263**	P		**P**	**08 35 13.8**	**+0.4**
	1.3nm,0.5s,baz=61,slow=9.4,SNR=5.0							
SONM	**Songino Array**	**28.65**	**332**	P		**P**	**08 35 45.0**	**+2.6**
	0.4nm,0.6s,baz=152,slow=9.6,SNR=2.9							
PSI	**Prapat**	**33.08**	**235**	P		**P**	**08 36 22.0**	**+0.2**
	9.4nm,1.0s,baz=15,slow=3.9,SNR=6.5							
MKAR	**Makanchi Array**	**41.63**	**315**	P		**P**	**08 37 34.7**	**+0.9**
	0.4nm,0.5s,baz=109,slow=8.7,SNR=2.9							
MKAR				LR		LR	08 56 36.9	
	comp=Z,24nm,18.8s,baz=184,slow=39							
ZALV	**Zalesovo Beam**	**43.01**	**325**	P		**P**	**08 37 44.4**	**-0.5**
	0.4nm,0.4s,baz=128,slow=10.0,SNR=2.3							
ZALV				LR		LR	08 55 47.2	
	comp=Z,22nm,18.0s,baz=70,slow=36							
WRAB	**Tennant Creek**	**44.08**	**168**	*e*P		**P**	**08 37 53.7**	**-0.1**
	6.3nm,1.0s							
WRA	**Warramunga Arr**	**44.08**	**168**	P		**P**	**08 37 54.0**	**+0.1**
	4.8nm,0.7s,baz=349,slow=8.8,SNR=28							
ASAR	**Alice Springs**	**47.65**	**170**	P		**P**	**08 38 22.5**	**+0.6**
	0.8nm,0.8s,baz=354,slow=13,SNR=17							
ABKAR	**Akbulak array**	**56.77**	**314**	*e*P		**P**	**08 39 31.1**	**+1.6**
	1.0nm,0.6s							
ARCES	**ARCESS Array B**	**71.60**	**339**	LR		LR	09 17 25.8	
	comp=Z,37nm,18.6s,baz=262,slow=40							
FINES	**FINESS Array B**	**74.00**	**330**	P		**P**	**08 41 22.0**	**+1.2**
	1.5nm,0.9s,baz=70,slow=4.6,SNR=3.4							
MLR	**Muntele Rosu**	**79.97**	**315**	LR		LR	09 20 42.2	
	comp=Z,14nm,18.7s,baz=236,slow=38							
NOA	**NORSAR Array B**	**80.63**	**333**	LR		LR	09 22 02.6	
	comp=Z,12nm,20.2s,baz=235,slow=39							
HOPE	**Hope Point**	**146.53**	**199**	*e*PKPdf		**PKPdf**	**08 49 21.2**	**-3.7**

JMA 03 08:38:37.7±0.3,32°.99N×142°.70E,h48km,M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**2.19**	**320**	P		Pn	08 39 12.7	+1.7
BSO1				S		Sn	08 39 38.7	+2.3
BSO3	**Boso 3**	**2.57**	**315**	P		Pn	08 39 18.2	+1.8
BSO3				*e*S		Sn	08 39 48.8	+2.6
JOD2	**Odawara 2**	**3.76**	**308**	S		Sn	08 40 17.4	+1.2
JYN	**Shimob**	**4.25**	**307**	P		Pn	08 39 42.3	+2.2
JYN				*e*S		Sn	08 40 30.6	+2.1
JAG	**Ashikaga**	**4.35**	**323**	P		Pn	08 39 43.2	+2.0
JRY	**Ryogami san**	**4.35**	**315**	P		Pn	08 39 43.5	+2.1
JFT	**Otama**	**4.91**	**337**	P		Pn	08 39 50.9	+1.9
JFT				*e*S		Sn	08 40 44.0	-0.6
JMK	**Ichinoseki**	**6.07**	**349**	P		Pn	08 40 06.0	+1.2
JMK				*e*S		Sn	08 41 11.7	-1.2

IDC 03 08:50:51.1±19.0,29°.64N×52°.43E,h0km,mb3.6/4, mb1 3.6/5,mb1mx3.3/27,mbtmp3.5/5,ML3.3/1,Error ellipse: s-maj=389.5km s-min=36.9km az=5.0,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BRTR	**Keskin Array B**	**18.40**	**308**	P		Pn	08 55 07.9	0.0
	0.1nm,0.3s,baz=143,slow=13,SNR=2.9							
MKAR	**Makanchi Array**	**28.81**	**45**	P		P	08 56 50.8	0.0
	0.2nm,0.4s,baz=240,slow=10,SNR=3.6							
ZALV	**Zalesovo Beam**	**33.76**	**35**	P		P	08 57 34.3	0.0
	0.5nm,0.3s,baz=244,slow=9.5,SNR=3.5							
FINES	**FINESS Array B**	**36.26**	**339**	P		P	08 57 55.2	-0.5
	0.3nm,0.3s,baz=147,slow=8.0,SNR=4.5							
ARCES	**ARCESS Array B**	**42.81**	**346**	P		P	08 58 50.5	+0.2
	1.3nm,1.0s,baz=152,slow=6.5,SNR=2.8							

IDC 03 08:53:16.8±24.0,17°.75S×178°.53W,h650km±329km, mb3.3/6,mb1 3.5/6,mb1mx3.1/20,mbtmp4.3/6,Error ellipse: s-maj=100.6km s-min=51.0km az=75.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**38.60**	**241**	P		P	08 59 47.6	+0.4
	2.4nm,0.5s,baz=86,slow=8.9,SNR=11							
JAY	**Jayapura**	**42.75**	**286**	P		P	09 00 20.7	+0.6
	19nm,0.9s,baz=96,slow=19,SNR=2.9							
WRA	**Warramunga Arr**	**44.55**	**259**	P		P	09 00 33.3	-0.5
	1.4nm,0.3s,baz=94,slow=7.6,SNR=74							
ASAR	**Alice Springs**	**44.72**	**254**	P		P	09 00 35.0	-0.1
	8.6nm,0.5s,baz=86,slow=8.6,SNR=140							
TXAR	**Lajitas Array**	**86.01**	**58**	P		P	09 04 51.1	+0.2
	0.6nm,0.7s,baz=212,slow=6.4,SNR=8.0							
PDAR	**Pinedale Array**	**87.32**	**43**	P		P	09 04 56.6	-0.3
	0.2nm,0.4s,baz=202,slow=3.6,SNR=3.1							

TRN 03 08:56:24.3,17°.59N×62°.86W,h3km,M3.7(FDF),2C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SMRT	**St. Maarten**	**0.50**	**336**	*e*P		Pb	08 56 35.7	-0.1
SMRT				*e*S		Sn	08 56 47.8	+0.1
ANWB	**Willy Bob**	**1.02**	**85**	*e*P		Pn	08 56 47.7	+2.1
SEG	**Port Louis**	**1.75**	**132**	*i*P		Pg	08 56 58.2	+0.3
LZG	**Guadaloupe-1**	**1.77**	**144**	*i*P		Pg	08 56 58.4	0.0
MGG	**Marie-Galante**	**2.22**	**138**	*e*P		Pb	08 57 04.8	-0.3

GUC 03 09:21:46.9±0.6,35°.37S×73°.46W,h23km±6km,ML3.7, 1C-3D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
COCH	**Cobquecura**	**0.94**	**144**	*i*P		Pb	09 22 03.9	-0.6
COCH				*i*S		Sb	09 22 16.1	-0.4
TALC	**Talca**	**1.49**	**92**	*i*P		Pn	09 22 11.9	-0.4
TALC				*i*S		Sn	09 22 31.7	+0.7
LNCH	**Linares**	**1.59**	**108**	*i*P		Pn	09 22 14.0	+0.3
LNCH				*i*S		Sn	09 22 34.4	+0.9
NICH	**Los Niches**	**1.86**	**79**	*i*P		Pn	09 22 18.0	+0.6
NICH				*i*S		Sb	09 22 42.5	-0.7
CLCH	**Cerro Calan**	**3.12**	**52**	*e*P		Pn	09 22 36.1	+1.4
CLCH				*e*S		Sn	09 23 13.1	+1.7
CLCH				AML		AML	09 23 36.2	
	comp=E,188nm,0.7s							
PEL	**Peldehue**	**3.19**	**47**	*e*P		Pn	09 22 37.3	+1.5
PEL				AML		AML	09 23 38.6	
	comp=E,265nm,0.8s							

MEX 03 09:25:38.3±0.7,15°.30N×93°.49W,h83km±8km,MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		**0.48**	**33**	*e*P		Pn	09 25 50.7	-1.5
PCIG				*e*S		Sn	09 26 00.9	-1.5
TGIG		**1.51**	**13**	*i*P		Pn	09 26 03.0	-1.0
TGIG				*e*S		Sn	09 26 21.1	-2.2
CCIG	**Comitan**	**1.62**	**53**	*e*P		Pn	09 26 04.7	-0.9
CCIG				*e*S		Sn	09 26 24.6	-1.6

*SJA **03** 09:36:17.8±0.4,38°.33S×73°.92W,h33km,ML3.3,MW2.6*

*ISCJB **03** 09:36:48.6±1.4,35°.58S±0°.05×73°.6W±0°.1,h10km,Error ellipse: s-maj=12.8km s-min=6.4km az=172.6*

*GUC **03** 09:36:52.8±0.5,35°.74S×73°.39W,h41km±5km,ML3.4*

ISC 03 09:36:51.4±2.1,35°.74S±0°.06×73°.5W±0°.1,h10km,n13, σ2$33/13,2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
COCH	**Cobquecura**	**0.70**	**125**	*i*P		**Pg**	**09 37 05.7**	**+0.8**
COCH				*i*S		**Sg**	**09 37 15.6**	**+1.5**
CCSP	**San Pedro de C**	**1.15**	**164**	*e*P		**Pb**	**09 37 13.5**	**+0.1**
CCSP				*i*S		**Sb**	**09 37 29.3**	**+0.9**
LNCH	**Linares**	**1.55**	**95**	*i*P		**Pn**	**09 37 17.3**	**-1.8**
LNCH				*i*S		**Sn**	**09 37 36.8**	**-2.4**
TALC	**Talca**	**1.56**	**78**	*i*S		**Sn**	**09 37 38.4**	**-1.1**
NICH	**Los Niches**	**2.00**	**69**	*e*P		**Pn**	**09 37 25.3**	**+0.1**
NICH				AML		AML	09 38 07.4	
	comp=N,970nm,0.6s							
ARCO	**CERRO ARCO**	**4.76**	**54**	AML		AML	09 39 31.1	
	comp=Z,5.8nm,0.6s							
AUSP	**Uspallata**	**4.89**	**45**	*e*P		**Pn**	**09 38 03.9**	**-1.4**
AUSP				*e*S		**Sb**	**09 39 22.0**	**+5.5**
ASAL	**Salagasta**	**4.98**	**52**	*e*P		**Pn**	**09 38 05.9**	**-0.4**
ASAL				*e*S		**Sb**	**09 39 16.2**	**-2.6**
RTLS	**Leoncito**	**5.26**	**43**	*e*P		**Pn**	**09 38 09.2**	**-1.2**
RTCV	**Cerro Valdivia**	**5.65**	**48**	*e*P		Pn	09 38 12.5	-3.1
RTLL	**Cerro Villicun**	**6.08**	**45**	*e*P		Pn	09 38 18.8	-2.5
AMOG	**MOGNA**	**6.36**	**43**	*e*P		Pn	09 38 22.3	-3.0
AVFE	**Valle Fertil**	**7.16**	**47**	*e*P		Pn	09 38 32.3	-4.0

*CSEM **03** 10:39:46.9,37°.53N×24°.59W,h10km,ML3.1*

PDA 03 10:39:46.9±0.6,37°.53N×24°.59W,h10km,MD3.8,ML3.1, Error ellipse: s-maj=5.7km s-min=1.6km az=76.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BART	**Pico Bartolome**	**0.52**	**298**	*i*P		Pg	10 39 55.6	-1.6
BART				*e*S		Sg	10 40 02.1	-2.1
BART				A		A	10 40 05.2	
	2μm,0.3s							
PSMN	**Pico do Norte,**	**0.65**	**216**	*i*P		Pg	10 39 57.5	-2.1
PSMN				*e*S		Sg	10 40 05.3	-2.9
PSMN				A		A	10 40 16.5	
	149nm,0.5s							
PSMA	**Santa Maria**	**0.69**	**219**	*i*P		Pg	10 39 58.0	-2.3
PSMA				*e*S		Sg	10 40 06.2	-3.1
PSMA				A		A	10 40 07.0	
	226nm,0.2s							
GRON	**Grota Negra**	**0.79**	**288**	*e*P		Pg	10 39 57.6	-4.6
GRON				*e*S		Sg	10 40 06.1	-6.4
GRON				A		A	10 40 08.4	
	113nm,0.1s							
PDA	**Ponta Delgada**	**0.88**	**284**	*e*P		Pg	10 40 00.9	-3.0
PDA				*e*S		Sg	10 40 11.0	-4.4
PDA				A		A	10 40 12.6	
	256nm,0.3s							
PDA	**Ponta Delgada**	**0.88**	**284**	*e*P		Pg	10 40 00.9	-3.0
PDA				*e*S		Sg	10 40 11.0	-4.4
PSET	**Sete Cidades**	**0.95**	**288**	*e*P		Pg	10 40 01.5	-3.7
PSET				*e*S		Sg	10 40 12.6	-4.9
PSET				A		A	10 40 16.0	
	366nm,0.3s							
PSET	**Sete Cidades**	**0.95**	**288**	*e*P		Pg	10 40 01.5	-3.7
PSET				*e*S		Sg	10 40 12.6	-4.9
ADH	**Angra Heroismo**	**2.37**	**299**	*e*S		Sn	10 40 47.0	-8.0
ADH				A		A	10 40 50.3	
	38nm,0.3s							
ADH	**Angra Heroismo**	**2.37**	**299**	*e*S		Sn	10 40 47.0	-8.0

*IDC **03** 10:39:55.0±1.8,1°.58N×126°.45E,h0km,mb3.8/4, mb1 4.1/4,mb1mx3.6/22,mbtmp3.8/4,Error ellipse: s-maj=168.6km s-min=25.4km az=66.0*

*ISCJB **03** 10:39:58.0±1.2,1°.85N±0°.09×126°.78E±0°.08,h35km, mb3.7/4,Error ellipse: s-maj=14.6km s-min=8.7km az=35.5*

*DJA **03** 10:40:02.3±1.1,2°.N±5°×12°.7E±°,h24km±18km,M3.7/4, MLv3.7/4*

ISC 03 10:40:00.1±1.3,1°.8N±0°.1×126°.80E±0°.09,h35km,n7, σ1$25/10,mb3.7/4,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.17**	**151**	S		**Sn**	**10 40 35.2**	**+0.4**
LBMI	**Labuha**	**2.52**	**164**	P		**Pn**	**10 40 40.0**	**+1.3**
LBMI				S		**Sn**	**10 41 08.0**	**-0.2**
KMSI	**Cibinong**	**3.07**	**247**	P		**Pn**	**10 40 47.9**	**+1.8**
KMSI				S		**Sn**	**10 41 20.5**	**-1.2**
WRA	**Warramunga Arr**	**22.84**	**161**	P		**P**	**10 44 58.6**	**-1.8**
	2.5nm,0.4s,baz=339,slow=11,SNR=34							
ASAR	**Alice Springs**	**26.24**	**165**	P		**P**	**10 45 31.2**	**-1.0**
	0.8nm,0.3s,baz=344,slow=11,SNR=41							
ASAR				PcP		**PcP**	**10 48 58.6**	**+0.2**
	0.2nm,0.6s,baz=356,slow=1.3,SNR=3.1							
MKAR	**Makanchi Array**	**59.17**	**326**	P		**P**	**10 49 57.7**	**+0.1**
	0.3nm,0.4s,baz=121,slow=7.3,SNR=4.8							
VNDA	**Vanda**	**81.52**	**173**	P		**P**	**10 52 13.0**	**-0.5**
	0.4nm,0.5s,baz=316,slow=6.6,SNR=4.6							

IDC 03 11:09:58.8±8.7,17°.21S×176°.14W,h0km,mb3.4/2, mb1 3.7/2,mb1mx3.4/19,mbtmp3.4/2,Error ellipse: s-maj=367.5km s-min=69.2km az=141.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.88**	**259**	P		P	11 18 31.1	-0.2
	0.1nm,0.5s,baz=94,slow=7.1,SNR=5.6							
ASAR	**Alice Springs**	**47.06**	**253**	P		P	11 18 32.6	-0.1
	0.6nm,0.6s,baz=89,slow=8.8,SNR=12							
BRTR	**Keskin Array B**	**145.79**	**317**	PKPbc		PKPdf	11 29 39.5	-0.4
	0.2nm,0.4s,baz=38,slow=7.3,SNR=2.9							

ISC 03 11:42:50.0±1.5,44°.33N±0°.06×15°.26E±0°.04,h7km±13km, n15,σ0$58/27,2D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NVLJ	**Novalja**	**0.36**	**310**	*i*Pg		**Pg**	**11 42 56.8**	**-0.2**
NVLJ				Sg		**Sg**	**11 43 01.8**	**0.0**
UDBI	**Udbina**	**0.41**	**62**	*i*Pg		**Pg**	**11

SEY	**Seymchan**	**145.77**	**320**	PKPbc	**PKPdf**	**12 29 40.1**	**+0.2**
	1.2nm,0.9s,baz=102,slow=4.2,SNR=4.6						
GEYT	**Alibeck**	**147.91**	**88**	PKPbc	**PKPbc**	**12 29 48.8**	**+1.3**
	1.9nm,0.5s,baz=251,slow=4.4,SNR=3.6						
MKAR	**Makanchi Array**	**167.35**	**76**	PKPab	**PKPab**	**12 31 14.3**	**+1.0**
	0.5nm,0.8s,baz=300,slow=4.4,SNR=4.4						

FUNV ***03*** *12:11:05.0,6°.80N×73°.30W,h172km,MW4.9*
BJI ***03*** *12:11:05.3,6°.69N×73°.68W,h160km,mB5.0/2*
IDC ***03*** *12:11:05.5±0.5,6°.81N×72°.89W,h151km±4km,mb4.0/20, mb1 4.1/25,mb1mx4.0/31,mbtmp4.4/25,MS3.1/2, Ms1 3.0/2,ms1mx2.7/22,Error ellipse: s-maj=9.9km s-min=8.4km az=104.0*
ISCJB ***03*** *12:11:06.1±0.3,6°.77N±0°.04×72°.95W±0°.03,h171km±3km, mb4.4/71,Error ellipse: s-maj=5.0km s-min=4.1km az=167.0*
NEIC ***03*** *12:11:06.6±0.2,6°.76N×72°.94W,mb4.6/53,Error ellipse: s-maj=4.5km s-min=4.0km az=54.0*
NEIC Felt at Bucaramanga and Monteria.
ISC 03 12:11:06.3±0.4,**6°.77N**±0°.04×**72°.95W**±0°.04,**h158**km±3km, **h158**km;**pP-P,n412,**∘**0**≤**91**/451,**mb4.4**/71,**Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.26**	**30**	*e*P	**Pn**	**12 11 36.0**	**+1.5**
CAPV				*e*S	**Sn**	**12 11 57.3**	**+1.2**
ROSC	**El Rosal**	**2.34**	**216**	P	**Pn**	**12 11 47.9**	**+1.6**
	201nm,0.3s,baz=150,slow=2.5,SNR=596						
ROSC				S	**Sn**	**12 12 17.8**	**+0.6**
	680nm,0.3s,baz=76,slow=16,SNR=19						
ROSC	**El Rosal**	**2.34**	**216**	*e*Pn	**Pn**	**12 11 47.8**	**+1.4**
ROSC				*e*Sn	**Sn**	**12 12 16.6**	**-0.6**
ROSC				S	**Sn**	**12 12 17.8**	**+0.6**
SOCV	**Socops**	**2.57**	**54**	*e*P	**Pn**	**12 11 50.2**	**+1.5**
VIGV	**El Vigia**	**2.59**	**37**	*e*P	**Pn**	**12 11 49.7**	**+0.7**
VIGV				*e*S	**Sn**	**12 12 22.4**	**+0.3**
SDV	**Santo Domingo**	**3.12**	**47**	*e*Pn	**Pn**	**12 11 57.4**	**+1.7**
ELOV	**Elorza**	**3.45**	**86**	*e*P	**Pn**	**12 12 01.8**	**+2.1**
VIRV	**Villa del Rosa**	**3.75**	**8**	*e*P	**Pn**	**12 12 01.8**	**-1.8**
VIRV				*e*S	**Sn**	**12 12 43.4**	**-4.9**
QARV	**Quebrada Arrib**	**4.18**	**35**	*e*P	**Pn**	**12 12 09.5**	**+0.3**
QARV				*e*S	**Sn**	**12 12 56.2**	**-2.0**
SANV	**Sanarito**	**4.34**	**51**	*e*P	**Pn**	**12 12 12.0**	**+0.6**
SANV				*e*S	**Sn**	**12 13 01.3**	**-0.7**
CURV	**Curarigua**	**4.38**	**42**	*e*P	**Pn**	**12 12 11.8**	**-0.1**
CURV				*e*S	**Sn**	**12 13 01.8**	**-1.1**
DABV	**Dabajuro**	**4.72**	**29**	*e*P	**Pn**	**12 12 15.6**	**-0.6**
DABV				*e*S	**Sn**	**12 13 08.2**	**-2.6**
TEPV	**Terepaima**	**4.89**	**49**	*e*P	**Pn**	**12 12 19.4**	**+0.9**
TEPV				*e*S	**Sn**	**12 13 14.4**	**-0.5**
SIQV	**Siquisique**	**4.95**	**39**	*e*P	**Pn**	**12 12 19.1**	**-0.2**
SIQV				*e*S	**Sn**	**12 13 13.5**	**-2.9**
MAPV	**Macapo**	**5.39**	**55**	*e*P	**Pn**	**12 12 25.3**	**+0.2**
TURV	**Turiamo**	**6.24**	**54**	*e*P	**Pn**	**12 12 36.0**	**-0.3**
TURV				*e*S	**Sn**	**12 13 44.7**	**-2.2**
BCIP	**Isla Barro Col**	**7.23**	**290**	*e*Pn	Pn	12 12 46.0	-3.5
	116nm,0.8s						
BCIP				*e*Sn	**Sn**	**12 14 05.0**	**-5.5**
BIRV	**Birongo**	**7.56**	**60**	*e*P	**Pn**	**12 12 53.7**	**-0.2**
OTAV	**Otavalo**	**8.49**	**220**	*e*Pn	**Pn**	**12 13 05.8**	**-1.0**
PCRV	**Puerto La Cruz**	**8.89**	**67**	P	**Pn**	**12 13 11.8**	**+0.1**
	4.4nm,0.3s,baz=248,slow=6.3,SNR=16						
PCRV				S	**Sn**	**12 14 48.9**	**-1.7**
	5.9nm,0.3s,baz=240,slow=8.1,SNR=3.1						
PCRV				LR	LR	12 17 56.1	
	comp=Z,89nm,21.2s,baz=236,slow=46						
GUNV	**Guanoco**	**10.46**	**70**	*e*P	**Pn**	**12 13 32.0**	**-0.3**
PCJ	**Portland Cotta**	**11.66**	**340**	*i* P	**Pn**	**12 13 49.5**	**+1.5**
HOJ	**Hope**	**11.77**	**342**	*i* P	**Pn**	**12 13 52.3**	**+2.8**
GWJ	**Greenwich**	**11.83**	**342**	*i* P	**Pn**	**12 13 52.0**	**+1.7**
STH	**Stony Hill**	**11.86**	**342**	*i* P	**Pn**	**12 13 52.2**	**+1.6**
STH				*i* S	Sn	12 15 50.0	-12
MCJ	**Malvern**	**12.02**	**338**	*i* P	**Pn**	**12 13 54.4**	**+1.7**
CVJ	**Coleyville**	**12.24**	**339**	*i* P	**Pn**	**12 13 57.6**	**+2.0**
MTDJ	**Mount Denham**	**12.24**	**339**	*e*Pn	**Pn**	**12 13 57.6**	**+2.0**
	161nm,0.6s						
SDDR	**Presa de Saban**	**12.25**	**7**	*e*Pn	**Pn**	**12 13 57.0**	**+1.3**
SDDR				*e*Sn	Sn	12 16 04.5	-6.9
BBJ	**Bamboo Saint A**	**12.29**	**340**	*i* P	**Pn**	**12 13 58.1**	**+1.8**
GRGR	**Grenville**	**12.35**	**64**	*e*P	**P**	**12 14 03.9**	**+1.2**
JTS	**JuntasAbangare**	**12.38**	**287**	P	**Pn**	**12 13 57.9**	**+0.5**
	1.2nm,0.3s,baz=59,slow=6.5,SNR=9.7						
JTS				S	**Sn**	**12 16 16.2**	**+1.7**
	0.1nm,0.3s,baz=114,slow=19,SNR=1.8						
CRPR	**Cabo Rojo, PR**	**12.54**	**26**	Pn	**Pn**	**12 13 58.6**	**-0.8**
CRPR				*e*Sn	Sn	12 16 08.2	-10
CELP	**Cerrillos**	**12.84**	**28**	*e*Pn	**Pn**	**12 14 03.1**	**-0.2**
SJG	**San Juan**	**13.08**	**30**	*e*Pn	**Pn**	**12 14 05.2**	**-1.1**
	24nm,0.5s						
GTBY	**Guantanamo Bay**	**13.25**	**351**	*e*Pn	**Pn**	**12 14 10.4**	**+1.9**
	24nm,0.4s						
STVI	**Saint Thomas**	**13.90**	**33**	*e*Pn	**Pn**	**12 14 16.5**	**-0.3**
FDF	**Fort de France**	**14.03**	**55**	*e*Pn	**Pn**	**12 14 19.4**	**+1.0**
	124nm,0.8s						
ATAH	**Atahualpa**	**14.84**	**202**	P	**Pn**	**12 14 29.6**	**+0.7**
	0.3nm,0.3s,baz=358,slow=13,SNR=1.9						
PTGA	**Pitinga**	**14.94**	**119**	P	**Pn**	**12 14 30.1**	**+0.3**
	0.8nm,0.3s,baz=306,slow=15,SNR=9.5						
H05N1	**Guadeloupe/Mar**	**15.02**	**50**	P	**Pn**	**12 14 30.2**	**-0.5**
	SNR=11						
SAML	**Samuel**	**18.40**	**148**	*e*P	**P**	**12 15 10.3**	**+0.9**
	11nm,1.0s						
LPAZ	**La Paz**	**23.40**	**168**	P	**P**	**12 16 01.8**	**0.0**
	1.5nm,0.3s,baz=325,slow=5.3,SNR=15						
SIV	**San Ignacio**	**25.48**	**153**	P	**P**	**12 16 21.1**	**+1.0**
	0.7nm,0.6s,baz=353,slow=16,SNR=2.3						
SIV				pP	**pP**	**12 16 51.5**	**-1.5**
	3.9nm,0.8s,baz=350,slow=9.7,SNR=6.6						
VBMS	**Vicksburg**	**30.16**	**329**	P	**P**	**12 17 03.1**	**+1.6**
	baz=30						
035Z	**Hargill**	**30.92**	**312**	P	**P**	**12 17 09.2**	**+1.0**
	baz=31						
737A	**Port Lavaca**	**31.16**	**317**	P	**P**	**12 17 10.7**	**+0.3**
	baz=31						
035A	**Encino**	**31.21**	**313**	P	**P**	**12 17 11.5**	**+0.7**
	baz=31						
439A	**Center Grove,**	**31.46**	**322**	P	**P**	**12 17 13.5**	**+0.5**
	baz=32						
034A	**Hebbronville**	**31.71**	**313**	P	**P**	**12 17 15.6**	**+0.3**
	baz=32						
934A	**Benavides**	**31.90**	**314**	P	**P**	**12 17 17.0**	**+0.1**
	baz=32						
735A	**Kenedy**	**32.15**	**316**	P	**P**	**12 17 19.6**	**+0.5**
	baz=32						
338A	**Crockett**	**32.19**	**322**	P	**P**	**12 17 20.4**	**+1.0**
	baz=32						
834A	**Tilden**	**32.23**	**314**	P	**P**	**12 17 20.1**	**+0.4**
	baz=32						
933A	**Laredo**	**32.45**	**313**	P	**P**	**12 17 21.5**	**-0.2**
	baz=32						
337A	**Centerville**	**32.51**	**322**	P	**P**	**12 17 22.8**	**+0.6**
	baz=33						
436A	**Wall Ranch, Ga**	**32.71**	**320**	P	**P**	**12 17 24.5**	**+0.5**
	baz=33						
535A	**Dale**	**32.73**	**318**	P	**P**	**12 17 24.3**	**+0.2**
	baz=33						
237A	**Washetta, Mont**	**32.94**	**323**	P	**P**	**12 17 26.9**	**+0.9**
	baz=33						
138A	**Matatall Enter**	**32.98**	**324**	P	**P**	**12 17 27.4**	**+1.1**
	baz=33						
733A	**Divot King Ran**	**33.11**	**314**	P	**P**	**12 17 27.1**	**-0.3**
	baz=33						
336A	**Riesel**	**33.16**	**321**	P	**P**	**12 17 27.8**	**0.0**
	baz=33						
435B	**Jarrell**	**33.23**	**319**	P	**P**	**12 17 29.0**	**+0.6**
	baz=33						
BDFB	**Brasilia**	**33.25**	**132**	P	**P**	**12 17 28.8**	**-0.1**
	1.7nm,0.3s,baz=297,slow=12,SNR=3.1						
137A	**Heron Place, G**	**33.33**	**323**	P	**P**	**12 17 30.2**	**+1.0**
	baz=33						
534A	**Blanco**	**33.34**	**317**	P	**P**	**12 17 29.0**	**-0.4**
	baz=33						
832A	**Faith Ranch, C**	**33.34**	**313**	P	**P**	**12 17 29.4**	**-0.1**
	baz=33						
Z38A	**Mt. Pleasant**	**33.35**	**325**	P	**P**	**12 17 30.6**	**+1.1**
	baz=34						
Y39A	**Lockesburg**	**33.37**	**327**	P	**P**	**12 17 30.5**	**+0.9**
	baz=34						
236A	**Katherine and**	**33.38**	**322**	P	**P**	**12 17 29.9**	**+0.2**
	baz=34						
335A	**Moody**	**33.45**	**320**	P	**P**	**12 17 30.8**	**+0.4**
	baz=34,SNR=7.8						
MIAR	**Mount Ida**	**33.56**	**328**	P	**P**	**12 17 31.9**	**+0.6**
	baz=34						
MIAR	**Mount Ida**	**33.56**	**328**	*e*P	**P**	**12 17 31.1**	**-0.2**
	4.6nm,0.8s						
732A	**Laxson Ranch,**	**33.59**	**314**	P	**P**	**12 17 31.1**	**-0.5**
	baz=34						
434A	**Burnet**	**33.70**	**318**	P	**P**	**12 17 32.1**	**-0.4**
	baz=34						
136A	**Ennis**	**33.71**	**322**	P	**P**	**12 17 33.0**	**+0.4**
	baz=34						
Y38A	**Idabel**	**33.71**	**326**	P	**P**	**12 17 32.7**	**+0.1**
	baz=34						
LUPA	**Lehigh Univers**	**33.76**	**357**	*e*P	**P**	**12 17 35.4**	**+2.5**
	3.9nm,0.9s						
BRNJ	**Basking Ridge**	**33.80**	**358**	*e*P	**P**	**12 17 35.2**	**+1.9**
	36nm,1.3s						
PBMO	**Poplar Bluff**	**33.87**	**334**	*e*P	**P**	**12 17 34.8**	**+0.9**
	18nm,0.8s						
632A	**Uvalde**	**33.92**	**315**	P	**P**	**12 17 34.7**	**+0.2**
	baz=34,SNR=6.7						
WHTX	**Lake Whitney**	**33.95**	**321**	P	**P**	**12 17 35.0**	**+0.3**
	baz=34						
334A	**Lometa**	**34.01**	**319**	P	**P**	**12 17 35.4**	**+0.1**
	baz=34,SNR=7.2						
433A	**Art**	**34.20**	**318**	P	**P**	**12 17 36.5**	**-0.4**
	baz=34,SNR=25						
Y37A	**Hugo**	**34.25**	**325**	P	**P**	**12 17 37.8**	**+0.6**
	baz=34						
135A	**Vickery Place,**	**34.30**	**322**	P	**P**	**12 17 38.3**	**+0.6**
	baz=34						
X38A	**Whitesboro**	**34.32**	**327**	P	**P**	**12 17 38.5**	**+0.6**
	baz=34						
532A	**Rocksprings**	**34.37**	**316**	P	**P**	**12 17 38.4**	**0.0**
	baz=34,SNR=16						
234A	**Clairette**	**34.38**	**320**	P	**P**	**12 17 38.8**	**+0.4**
	baz=34						
631A	**Perdido Creek**	**34.42**	**314**	P	**P**	**12 17 38.8**	**0.0**
	baz=34,SNR=7.3						
W38A	**Poteau**	**34.46**	**328**	P	**P**	**12 17 39.2**	**+0.1**
	baz=35						
333A	**Richland Sprin**	**34.49**	**318**	P	**P**	**12 17 39.3**	**-0.1**
	baz=35						
BLO	**Bloomington**	**34.51**	**341**	*e*P	**P**	**12 17 40.8**	**+1.4**
	14nm,0.6s						
JCT	**Junction City**	**34.52**	**317**	P	**P**	**12 17 39.8**	**+0.1**
	baz=35						
X37A	**Clayton**	**34.56**	**326**	P	**P**	**12 17 40.3**	**+0.4**
	baz=35						
134A	**White-Moore Ra**	**34.73**	**321**	P	**P**	**12 17 41.6**	**+0.2**
	baz=35						
KSPA	**Keystone Colle**	**34.74**	**356**	*e*P	**P**	**12 17 43.4**	**+2.1**
	14nm,0.7s						
Z35A	**Perchaven, San**	**34.74**	**323**	P	**P**	**12 17 41.9**	**+0.5**
	baz=35						
432A	**Menard**	**34.75**	**317**	P	**P**	**12 17 41.5**	**-0.2**
	baz=35						
531A	**Rocksprings**	**34.84**	**315**	P	**P**	**12 17 42.0**	**-0.5**
	baz=35						
233A	**Rising Star**	**34.88**	**319**	P	**P**	**12 17 42.7**	**-0.1**
	baz=35,SNR=7.6						
W37A	**Quinton**	**35.00**	**327**	P	**P**	**12 17 43.9**	**+0.2**
	baz=35						
Y35A	**Marietta**	**35.01**	**324**	P	**P**	**12 17 43.6**	**-0.2**
	baz=35						
332A	**Millersview**	**35.03**	**318**	P	**P**	**12 17 44.3**	**+0.3**
	baz=35,SNR=11						
X36A	**Centrahoma**	**35.09**	**325**	P	**P**	**12 17 44.5**	**0.0**
	baz=35						
Z34A	**Collier Ranch,**	**35.17**	**322**	P	**P**	**12 17 45.2**	**0.0**
	baz=35,SNR=5.7						
431A	**Sonora**	**35.19**	**316**	P	**P**	**12 17 45.5**	**+0.1**
	baz=35,SNR=7.5						
133A	**Hamilton Ranch**	**35.28**	**320**	P	**P**	**12 17 46.4**	**+0.3**
	baz=35,SNR=8.5						
232A	**Coleman**	**35.29**	**319**	P	**P**	**12 17 46.0**	**-0.2**
	baz=35,SNR=15						
530A	**J-C Ranch, Com**	**35.39**	**315**	P	**P**	**12 17 46.8**	**-0.3**
	baz=36						
V37A	**Hulbert**	**35.41**	**328**	P	**P**	**12 17 47.3**	**+0.1**
	baz=36						
W36A	**Watumka**	**35.44**	**326**	P	**P**	**12 17 47.4**	**0.0**
	baz=36						
331A	**San Angelo**	**35.45**	**317**	P	**P**	**12 17 47.5**	**-0.1**
	baz=36,SNR=7.2						
Y34A	**Reagan Ranch,**	**35.48**	**323**	P	**P**	**12 17 48.0**	**+0.3**
	baz=36,SNR=5.8						
Z33A	**Whitaker Ranch**	**35.63**	**321**	P	**P**	**12 17 49.5**	**+0.4**
	baz=36,SNR=8.2						
430A	**Baggett Ranch,**	**35.69**	**316**	P	**P**	**12 17 49.5**	**-0.2**
	baz=36						
ABTX	**Abilene, Hawle**	**35.75**	**320**	P	**P**	**12 17 50.3**	**+0.1**
	baz=36,SNR=7.3						
ABTX	**Abilene, Hawle**	**35.75**	**320**	*e*P	**P**	**12 17 50.1**	**-0.1**
231A	**Bronte**	**35.76**	**318**	P	**P**	**12 17 49.9**	**-0.4**
	baz=36,SNR=6.9						
TUL1	**Tulsa**	**35.77**	**327**	P	**P**	**12 17 50.3**	**+0.1**
	baz=36						
TUL1	**Tulsa**	**35.77**	**327**	*e*P	**P**	**12 17 50.0**	**-0.3**
	12nm,0.6s						
SFIN	**Scholer Farm**	**35.79**	**341**	P	**P**	**12 17 50.8**	**+0.5**
	baz=36						
SFIN	**Scholer Farm**	**35.79**	**341**	*e*P	**P**	**12 17 51.0**	**+0.7**
W35A	**Tecumseh**	**35.81**	**325**	P	**P**	**12 17 50.3**	**-0.3**
	baz=36						
X34A	**Smith Ranch, M**	**35.97**	**324**	P	**P**	**12 17 52.6**	**+0.6**
	baz=36						
529A	**Stev Forest Ra**	**36.00**	**314**	P	**P**	**12 17 52.2**	**-0.2**
	baz=36						
330A	**Mertzon**	**36.01**	**317**	P	**P**	**12 17 52.2**	**-0.3**
	baz=36						
Y33A	**Hilltop Ranch,**	**36.03**	**322**	P	**P**	**12 17 52.9**	**+0.3**
	baz=36						
429A	**Davenport Ranc**	**36.05**	**315**	P	**P**	**12 17 52.8**	**-0.1**
	baz=36						
Z32A	**Haskell**	**36.09**	**321**	P	**P**	**12 17 53.3**	**+0.3**
	baz=36,SNR=17						
U36A	**Oologah**	**36.11**	**328**	P	**P**	**12 17 53.2**	**+0.1**
	baz=36						
V35A	**Meyer Ranch, C**	**36.23**	**326**	P	**P**	**12 17 54.6**	**+0.4**
	baz=36						
T37A	**Cheneyville 18**	**36.25**	**330**	P	**P**	**12 17 54.3**	**0.0**
	baz=36,SNR=11						
230A	**Sterling City**	**36.26**	**317**	P	**P**	**12 17 54.7**	**+0.1**
	baz=36						
131A	**Roby**	**36.27**	**319**	P	**P**	**12 17 54.7**	**+0.1**
	baz=36						
W34A	**Bridge Creek,**	**36.38**	**325**	P	**P**	**12 17 55.4**	**-0.1**
	baz=36,SNR=5.2						
W34A	**Bridge Creek,**	**36.38**	**325**	*e*P	**P**	**12 17 55.2**	**-0.2**
	10.0nm,0.4s						
Z31A	**Sharp Cattle R**	**36.52**	**320**	P	**P**	**12 17 56.7**	**0.0**
	baz=37,SNR=5.2						
Y32A	**R-V Farms, Ver**	**36.53**	**321**	P	**P**	**12 17 56.8**	**+0.1**
	baz=37,SNR=7.6						
130A	**Snyder**	**36.60**	**318**	P	**P**	**12 17 57.2**	**-0.2**
	baz=37						
329A	**Wagon Wheel Ra**	**36.62**	**316**	P	**P**	**12 17 57.7**	**+0.1**
	baz=37,SNR=16						
U35A	**Pawnee**	**36.62**	**327**	P	**P**	**12 17 57.4**	**-0.1**
	baz=37,SNR=11						
TXAR	**Lajitas Array**	**36.63**	**312**	P	**P**	**12 17 57.5**	**-0.3**
	6.2nm,0.7s,baz=127,slow=9.1,SNR=98						
TXAR				sP	**sP**	**12 18 47.7**	**-2.1**
	1.2nm,0.8s,baz=124,slow=9.0,SNR=2.0						
TXAR				PcP	**PcP**	**12 20 18.5**	**+1.0**
	0.5nm,0.6s,baz=130,slow=5.3,SNR=3.9						
WMOK	**Wichita Mounta**	**36.63**	**323**	*e*P	**P**	**12 17 56.8**	**-0.8**
	5.1nm,0.6s						
V34A	**Guthrie**	**36.67**	**326**	P	**P**	**12 17 57.6**	**-0.3**
	baz=37						
V34A	**Guthrie**	**36.67**	**326**	*e*P	**P**	**12 17 57.4**	**-0.5**
	24nm,1.0s						
T36A	**Boggs Farm, Ca**	**36.69**	**329**	P	**P**	**12 17 58.1**	**+0.1**
	baz=37						
S37A	**Fort Scott**	**36.70**	**330**	P	**P**	**12 17 57.8**	**-0.3**
	baz=37,SNR=7.7						
X32A	**Elmer**	**36.72**	**322**	P	**P**	**12 17 58.6**	**+0.3**
	baz=37						
229A	**Bryant Ranch,**	**36.78**	**317**	P	**P**	**12 17 59.3**	**+0.3**
	baz=37,SNR=11						
T35A	**Sooner Cattle**	**36.91**	**328**	P	**P**	**12 17 59.7**	**-0.2**
	baz=37						
Y31A	**Rekieta Farm,**	**37.02**	**321**	P	**P**	**12 18 01.4**	**+0.6**
	baz=37,SNR=22						
S36A	**Lake Cedric, C**	**37.05**	**330**	P	**P**	**12 18 00.4**	**-0.7**
	baz=37						
V33A	**Lossen Ranch,**	**37.09**	**325**	P	**P**	**12 18 01.1**	**-0.3**
	baz=37,SNR=7.1						
U34A	**Anderson Ranch**	**37.11**	**326**	P	**P**	**12 18 01.5**	**-0.1**
	baz=37						
R37A	**Teagarden Farm**	**37.13**	**331**	P	**P**	**12 18 01.8**	**0.0**
	baz=37						
Z30A	**Sanderson Ranc**	**37.14**	**319**	P	**P**	**12 18 02.2**	**+0.3**
	baz=37,SNR=6.6						
W32A	**Sentinel**	**37.17**	**323**	P	**P**	**12 18 01.8**	**-0.3**
	baz=37,SNR=10						
129A	**Stewart Farms,**	**37.22**	**318**	P	**P**	**12 18 02.8**	**+0.1**
	baz=37,SNR=9.2						
X31A	**McDonald Ranch**	**37.28**	**322**	P	**P**	**12 18 03.0**	**-0.1**
	baz=37,SNR=6.4						
T34A	**McClaskey Farm**	**37.35**	**327**	P	**P**	**12 18 03.5**	**-0.1**
	baz=38						
Y30A	**Stafford Cattl**	**37.36**	**320**	P	**P**	**12 18 04.3**	**+0.5**
	baz=38,SNR=5.5						
S35A	**Otter Creek Ra**	**37.39**	**329**	P	**P**	**12 18 03.6**	**-0.3**
	baz=38						
Q37A	**Longview Farm,**	**37.40**	**332**	P	**P**	**12 18 03.9**	**-0.1**
	baz=38,SNR=7.7						
228A	**UT Block 9, Go**	**37.41**	**316**	P	**P**	**12 18 04.0**	**-0.3**
	baz=38						
U33A	**Lingo Farm, Me**	**37.43**	**326**	P	**P**	**12 18 03.9**	**-0.4**
	baz=38						
V32A	**Arapaho**	**37.46**	**324**	P	**P**	**12 18 04.8**	**+0.2**
	baz=38						
Z29A	**Hungry Hill Ra**	**37.50**	**319**	P	**P**	**12 18 05.0**	**0.0**
	baz=38,SNR=15						
W31A	**Holland Ranch,**	**37.63**	**322**	P	**P**	**12 18 05.6**	**-0.4**
	baz=38,SNR=6.1						
128A	**Castleberry Fa**	**37.63**	**317**	P	**P**	**12 18 06.6**	**+0.5**
	baz=38,SNR=22						
PTN	**Potsdam (NY)**	**37.70**	**358**	*e*P	**P**	**12 18 08.0**	**+1.6**
	23nm,0.7s						
X30A	**Coker Ranch, T**	**37.71**	**321**	P	**P**	**12 18 07.1**	**+0.3**
	baz=38,SNR=12						
WVL	**Waterville**	**37.76**	**4**	*e*P	**P**	**12 18 08.5**	**+1.6**
	30nm,1.3s						
S34A	**Willow Spring**	**37.81**	**328**	P	**P**	**12 18 07.7**	**+0.2**
	baz=38						
Y29A	**Porterfield Fa**	**37.85**	**319**	P	**P**	**12 18 08.2**	**+0.2**
	baz=38,SNR=21						
Q36A	**Arnold C. Orve**	**37.95**	**331**	P	**P**	**12 18 08.1**	**-0.5**
	baz=38						
Z28A	**Tucker Farm, M**	**37.97**	**318**	P	**P**	**12 18 08.5**	**-0.5**
	baz=38,SNR=8.6						
V31A	**Spring Creek L**	**37.97**	**323**	P	**P**	**12 18 08.7**	**-0.2**
	baz=38						
Q35A	**Mercer Eighty,**	**38.15**	**330**	P	**P**	**12 18 10.2**	**-0.1**
	baz=38						
S33A	**Kaszmaul Farm,**	**38.21**	**327**	P	**P**	**12 18 10.8**	**-0.1**
	baz=38						
X29A	**Tulia**	**38.24**	**320**	P	**P**	**12 18 11.2**	**0.0**
	baz=38,SNR=5.2						
Y28A	**McKinney Farm,**	**38.25**	**319**	P	**P**	**12 18 11.1**	**-0.2**
	baz=38,SNR=14						
R34A	**Isabella, Hill**	**38.34**	**329**	P	**P**	**12 18 11.8**	**-0.1**
	baz=38						
P36A	**Good Intent, A**	**38.35**	**332**	P	**P**	**12 18 11.6**	**-0.3**
	baz=38						
U31A	**Nine Bar Ranch**	**38.38**	**324**	P	**P**	**12 18 12.6**	**+0.3**
	baz=38						
AMTX	**Amarillo**	**38.50**	**321**	P	**P**	**12 18 13.7**	**+0.3**
	baz=39						
AMTX	**Amarillo**	**38.50**	**321**	*e*P	**P**	**12 18 13.7**	**+0.3**
	25nm,1.0s						
X28A	**Dimmitt**	**38.60**	**320**	P	**P**	**12 18 14.2**	**-0.1**
	baz=39,SNR=8.8						
KSU1	**Kansas State U**	**38.62**	**330**	P	**P**	**12 18 14.0**	**-0.3**
	baz=39						
MSTX	**Muleshoe**	**38.63**	**319**	P	**P**	**12 18 14.6**	**0.0**
	baz=39						
MSTX	**Muleshoe**	**38.63**	**319**	*e*P	**P**	**12 18 14.4**	**-0.1**
	24nm,1.1s						
O36A	**Bolckow**	**38.65**	**333**	P	**P**	**12 18 13.9**	**-0.5**
	baz=39						
Q34A	**Chapman**	**38.65**	**329**	P	**P**	**12 18 14.1**	**-0.4**
	baz=39						
P35A	**Duane Minner,**	**38.66**	**331**	P	**P**	**12 18 14.4**	**-0.1**
	baz=39						
R33A	**Olander Ranch,**	**38.73**	**328**	P	**P**	**12 18 15.6**	**+0.5**
	baz=39						
T31A	**Randall Ranch,**	**38.79**	**325**	P	**P**	**12 18 15.4**	**-0.3**
	baz=39						
S32A	**Newby Ranch, P**	**38.80**	**326**	P	**P**	**12 18 15.5**	**-0.2**
	baz=39						
U30A	**WK&E Inc. Balk**	**38.96**	**323**	P	**P**	**12 18 17.7**	**+0.5**
	baz=39						
V29A	**Stinnett**	**39.05**	**322**	P	**P**	**12 18 18.8**	**+0.9**
	baz=39,SNR=6.5						
JFWS	**Jewell Farm**	**39.10**	**340**	*e*P	**P**	**12 18 18.1**	**-0.1**
	15nm,0.7s						
Q33A	**Connelly Farm,**	**39.16**	**329**	P	**P**	**12 18 19.3**	**+0.6**
	baz=39						
O35A	**Humboldt**	**39.19**	**332**	P	**P**	**12 18 19.7**	**+0.7**
	baz=39						
Q32A	**Meitler Ranch,**	**39.53**	**328**	P	**P**	**12 18 21.6**	**-0.3**
	baz=40						
R31A	**Burdett**	**39.54**	**326**	P	**P**	**12 18 21.7**	**-0.2**
	baz=40						
S30A	**Montezuma**	**39.61**	**325**	P	**P**	**12 18 22.7**	**+0.1**
	baz=40						
V27A	**Dan Oppiter Fa**	**39.79**	**321**	P	**P**	**12 18 24.5**	**+0.4**
	baz=40						
R30A	**Dighton**	**39.

EYMN	Ely	43.98	342	P	P	12 18 58.0	+0.2
	baz=44,SNR=6.0						
EYMN	Ely	43.98	342	eP	P	12 18 57.8	0.0
	9.3nm,0.6s						
W18A	Petrified Fore	44.02	315	P	P	12 18 59.7	+1.1
	baz=44						
W18A	Petrified Fore	44.02	315	eP	P	12 18 58.9	+0.3
	27nm,1.1s						
ISCO	Idaho Springs	44.05	323	P	P	12 18 59.8	+0.9
	baz=44,SNR=12						
ISCO	Idaho Springs	44.05	323	eP	P	12 18 59.7	+0.8
	10nm,1.0s						
K27A	Flueckinger Fa	44.15	329	P	P	12 18 59.0	-0.3
	baz=44						
J28A	Allard Ranch,	44.17	330	P	P	12 18 59.3	-0.1
	baz=44						
MVCO	Mesa Verde	44.31	318	P	P	12 19 01.7	+0.9
	baz=44,SNR=6.5						
MVCO	Mesa Verde	44.31	318	eP	P	12 19 01.3	+0.4
	20nm,1.4s						
J27A	Elkhorn Farm,	44.42	330	P	P	12 19 02.2	+0.7
	baz=44						
I28A	Midland	44.56	331	P	P	12 19 02.6	+0.1
	baz=45						
K26A	Motz Farm, Whi	44.63	328	P	P	12 19 04.1	+0.9
	baz=45						
214A	Organ Pipe Nat	44.79	309	P	P	12 19 05.5	+0.9
	baz=45						
N23A	Red Feather La	44.95	324	P	P	12 19 07.2	+1.3
	baz=45,SNR=6.3						
J26A	Sides Ranch, S	45.01	329	P	P	12 19 06.7	+0.6
	baz=45						
G28A	Parade	45.24	332	P	P	12 19 09.4	+1.5
	baz=45						
WUAZ	Wupatki	45.38	315	P	P	12 19 10.4	+1.1
	baz=45,SNR=20						
WUAZ	Wupatki	45.38	315	eP	P	12 19 10.0	+0.7
	21nm,0.9s						
O20A	White River Ci	45.85	322	P	P	12 19 13.6	+0.7
	baz=46						
I25A	Rochford	45.85	329	P	P	12 19 13.1	+0.2
	baz=46						
D30A	Buchanan	45.88	336	P	P	12 19 13.3	+0.5
	baz=46						
G27A	Dupree	45.95	332	P	P	12 19 13.6	+0.2
	baz=46						
K23A	Bowen Ranch, D	45.98	326	P	P	12 19 14.9	+1.0
	baz=46						
I24A	Kuemmerle Ranc	46.20	328	P	P	12 19 16.2	+0.7
	baz=46						
G26A	Maurine	46.20	331	P	P	12 19 15.7	+0.2
	baz=46						
C30A	Mose, Pekin	46.24	336	P	P	12 19 15.9	+0.3
	baz=46						
E28A	Huff	46.29	334	P	P	12 19 16.3	+0.2
	baz=46						
F27A	Lemmon	46.36	332	P	P	12 19 16.8	+0.2
	baz=46						
J23A	Dilts Ranch, B	46.38	327	P	P	12 19 17.7	+0.7
	baz=46						
K22A	Casper	46.41	326	P	P	12 19 17.5	+0.2
	baz=46						
G25A	Newell	46.53	330	P	P	12 19 18.7	+0.7
	baz=47						
E27A	Carson	46.56	333	P	P	12 19 19.6	+1.3
	baz=47						
F26A	Lodgepole	46.65	332	P	P	12 19 19.1	+0.2
	baz=47						
SRU	San Rafael	46.69	319	eP	P	12 19 20.3	+0.7
B30A	Myrvik Farm, E	46.79	337	P	P	12 19 20.6	+0.7
	baz=47						
GLA	Glamis	46.80	310	P	P	12 19 20.8	+0.6
	baz=47						
MDND	Maddock	46.82	336	P	P	12 19 20.4	+0.3
	baz=47						
J22A	Midwest	46.89	327	P	P	12 19 21.3	+0.4
	baz=47,SNR=10						
E26A	Carlson Angus	47.01	332	P	P	12 19 22.0	+0.4
	baz=47,SNR=6.0						
P17A	Butcher Ranch,	47.03	320	eP	P	12 19 23.0	+0.8
B29A	Wagenman Farm,	47.20	336	P	P	12 19 23.7	+0.5
	baz=47						
I22A	9 Mile Ranch,	47.21	327	P	P	12 19 23.8	+0.4
	baz=47						
J21A	Lysite	47.38	326	P	P	12 19 25.1	+0.3
	baz=48						
ULM	Lac du Bonnet	47.40	340	P	P	12 19 23.9	-0.6
	4.2nm,0.3s,baz=157,slow=7.5,SNR=22						
ULM				LR	LR	12 39 58.6	
	comp=Z,24nm,18.6s,baz=288,slow=37						
D26A	Manning	47.41	333	P	P	12 19 24.9	+0.1
	baz=48						
MSU	Marysvale	47.46	318	eP	P	12 19 26.3	+0.8
	22nm,1.2s						
F24A	Ekalaka	47.50	330	P	P	12 19 25.5	-0.1
	baz=48						
SWSC	Sam W. Stewart	47.50	309	P	P	12 19 25.7	+0.1
	baz=48						
IRM	Iron Mountain	47.51	311	P	P	12 19 26.3	+0.6
	baz=48						
C27A	Sayler Ranch,	47.52	334	P	P	12 19 26.1	+0.6
	baz=48						
G23A	Biddle	47.52	329	P	P	12 19 25.8	+0.1
	baz=48						
A29A	Manning Farm,	47.52	337	P	P	12 19 25.7	+0.1
	baz=48						
BC3	Big Chuckawall	47.53	310	P	P	12 19 25.7	-0.2
	baz=48						
I21A	Big Trails, Te	47.60	326	P	P	12 19 26.7	+0.3
	baz=48,SNR=8.4						
H22A	Clearmont	47.61	328	P	P	12 19 26.8	+0.4
	baz=48						
F23A	Volborg	47.89	330	P	P	12 19 28.8	+0.3
	baz=48						
B27A	Peters Farms,	47.94	335	P	P	12 19 29.8	+1.0
	baz=48						
E24A	Baker	47.94	331	P	P	12 19 29.4	+0.5
	baz=48						
H21A	Big Horn, Sher	48.00	327	P	P	12 19 29.8	+0.3
	baz=48						
G22A	Birney	48.00	328	P	P	12 19 29.6	+0.2
	baz=48,SNR=7.3						
BELC	Belle Mtn. Jos	48.08	310	P	P	12 19 30.5	+0.2
	baz=48						
I20A	Worland	48.15	326	P	P	12 19 30.9	+0.3
	baz=48,SNR=12						
GMRC	Granite Mounta	48.15	311	P	P	12 19 30.9	+0.1
	baz=48						
SCHQ	Schefferville	48.18	5	P	P	12 19 31.1	+0.6
	34nm,0.7s,baz=193,slow=6.6,SNR=62						
SCHQ				ScP	ScP	12 24 34.8	-0.4
	3.8nm,0.8s,baz=109,slow=2.9,SNR=4.9						
BW06	Boulder Array	48.22	324	eP	P	12 19 31.0	-0.3
	9.0nm,1.2s						
BW06				epP	pP	12 20 07.7	+0.7
PDAR	Pinedale Array	48.22	324	P	P	12 19 30.9	-0.4
	3.0nm,0.7s,baz=119,slow=8.3,SNR=24						
PDAR				pP	pP	12 20 05.6	-1.4
	1.5nm,0.9s,baz=116,slow=8.0,SNR=2.6						
PDAR				PcP	PcP	12 20 56.2	+0.2
	1.5nm,0.9s,baz=100,slow=3.0,SNR=4.8						
J19A	Crowheart	48.24	325	P	P	12 19 31.8	+0.5
	baz=48						
D24A	Glendive	48.35	332	P	P	12 19 33.0	+1.0
	baz=48						
F22A	Rosebud	48.36	329	P	P	12 19 32.7	+0.6
	baz=48						
TCUT	Toone Canyon	48.38	321	eP	P	12 19 32.8	+0.2
	16nm,0.6s						
E23A	Ismay	48.38	330	P	P	12 19 32.5	+0.2
	baz=48						
H20A	Greybull	48.42	327	P	P	12 19 32.9	+0.2
	baz=48,SNR=5.8						
G21A	Lodge Grass	48.48	328	P	P	12 19 33.3	+0.2
	baz=49,SNR=6.8						
SHPR	Sheep Range	48.55	314	eP	P	12 19 34.1	+0.2
	9.1nm,1.3s						
E22A	Miles City	48.66	330	P	P	12 19 34.6	+0.2
	baz=49						
B25A	Knox Farm, Ray	48.67	333	P	P	12 19 35.9	+1.5
	baz=49						
I19A	Meeteetse	48.69	326	P	P	12 19 35.1	+0.3
	baz=49						
C24A	Savage	48.70	332	P	P	12 19 35.6	+1.0
	baz=49						
HWUT	Hardware Ranch	48.75	322	eP	P	12 19 35.1	-0.2
	3.7nm,0.7s						
DUG	Dugway	48.77	319	P	P	12 19 35.9	+0.4
	baz=49						
DUG	Dugway	48.77	319	eP	P	12 19 36.3	+0.9
	33nm,1.9s						
D23A	Lindsay	48.81	331	P	P	12 19 36.1	+0.5
	baz=49						
G20A	Bridger	49.01	327	P	P	12 19 37.4	+0.2
	baz=49,SNR=6.7						
H19A	Powell	49.08	326	P	P	12 19 37.9	+0.2
	baz=49						
SHOC	Shoshone	49.09	313	P	P	12 19 38.4	+0.5
	baz=49						
A25A	Svangstu Ranch	49.15	334	P	P	12 19 38.6	+0.6
	baz=49						
GSC	Goldstone	49.23	312	P	P	12 19 39.6	+0.6
	baz=49,SNR=6.3						
C23A	Lambert	49.25	332	P	P	12 19 40.3	+1.5
	baz=49						
D22A	Cohagen	49.27	330	P	P	12 19 39.8	+0.8
	baz=49,SNR=14						
DGMT	Dagmar	49.28	333	P	P	12 19 39.9	+0.9
	baz=49,SNR=5.8						
DGMT	Dagmar	49.28	333	eP	P	12 19 39.5	+0.5
	18nm,0.5s						
BGU	Big Grassy Mou	49.30	320	eP	P	12 19 39.7	+0.2
	6.9nm,0.7s						
E21A	Keefer Ranch,	49.30	329	P	P	12 19 39.7	+0.5
	baz=49						
REDW	Red Top Meadow	49.34	324	eP	P	12 19 39.9	+0.1
	16nm,1.0s						
SNOW	Snow King Moun	49.34	324	eP	P	12 19 40.3	+0.4
	4.2nm,0.5s						
LOHW	Long Hollow	49.34	324	eP	P	12 19 39.8	-0.1
	3.9nm,0.6s						
F20A	Billings	49.36	328	P	P	12 19 40.4	+0.7
	baz=50,SNR=8.2						
TPAW	Teton Pass	49.47	324	eP	P	12 19 40.8	-0.1
	4.0nm,0.6s						
TPAW				epP	pP	12 20 17.7	+1.0
MOOW	Moose Ponds	49.51	324	eP	P	12 19 40.6	-0.5
	3.3nm,0.8s						
A24A	Westby	49.52	333	P	P	12 19 42.4	+1.5
	baz=50						
TPNV	Topopah Spring	49.53	314	P	P	12 19 42.1	+0.8
	baz=50,SNR=9.0						
C22A	Vida	49.54	331	P	P	12 19 42.1	+1.0
	baz=50,SNR=7.0						
D21A	La Casta Ranch	49.61	330	P	P	12 19 42.3	+0.7
	baz=50,SNR=7.4						
B23A	Brockton	49.64	332	P	P	12 19 43.0	+1.3
	baz=50						
R11A	Troy Canyon, C	49.70	316	P	P	12 19 43.4	+0.8
	baz=50,SNR=11						
R11A	Troy Canyon, C	49.70	316	eP	P	12 19 43.1	+0.5
	10nm,1.4s						
R11A				epP	pP	12 20 19.0	+0.6
IMW	Indian Meadow	49.71	324	eP	P	12 19 42.6	-0.1
	3.9nm,0.6s						
FURC	Furnace Creek,	49.76	313	P	P	12 19 43.9	+1.1
	baz=50						
EDW2	Edwards Air Fo	49.94	311	P	P	12 19 44.9	+0.6
	baz=50						
LRMC	Laurel Mountai	49.96	311	P	P	12 19 45.0	+0.5
	baz=50						
B22A	Reddig Ranch S	49.99	332	P	P	12 19 45.5	+1.0
	baz=50						
GCMT	Greycliff	50.16	327	eP	P	12 19 46.2	+0.3
	5.5nm,0.9s						
GCMT				epP	pP	12 20 23.3	+1.5
GCMT				esP	sP	12 20 40.7	+1.3
C21A	Desert Coulee	50.19	330	P	P	12 19 46.9	+1.0
	baz=50						
GRAC	Grapevine Rang	50.36	313	P	P	12 19 48.1	+0.7
	baz=50						
A22A	Carney Farms,	50.44	332	P	P	12 19 49.4	+1.6
	baz=50,SNR=11						
C20A	Veseth Ranch,	50.56	330	P	P	12 19 49.5	+0.8
	baz=51						
ISA	Isabella	50.62	311	P	P	12 19 49.6	+0.2
	baz=51						
ARVC	Arvin	50.67	310	P	P	12 19 50.1	+0.4
	baz=51						
BSC	Santa Cruz Isl	50.86	309	P	P	12 19 52.2	+0.9
	baz=51						
B20A	Solberg Farm,	51.06	331	P	P	12 19 53.6	+1.2
	baz=51,SNR=11						
VES	Vestal, Richgr	51.14	311	P	P	12 19 54.0	+0.7
	baz=51						
BOZ	Bozeman (W)	51.15	326	P	P	12 19 53.7	+0.4
	baz=51,SNR=7.6						
MCMT	McKenzie Canyo	51.36	324	eP	P	12 19 55.2	+0.2
	2.9nm,0.7s						
MCMT				esP	sP	12 20 48.5	-0.2
RCTC	Rector, Farmer	51.44	312	P	P	12 19 55.8	+0.4
	baz=52						
B19A	Brinkman Farms	51.52	330	P	P	12 19 56.9	+1.0
	baz=52						
HLID	Hailey	51.59	322	P	P	12 19 56.8	+0.1
	baz=52,SNR=8.9						
HLID	Hailey	51.59	322	eP	P	12 19 56.5	-0.1
	5.6nm,1.0s						
SMMC	Simmler	51.63	310	P	P	12 19 57.5	+0.6
	baz=52						
NVAR	Mina Array Bea	51.64	315	P	P	12 19 57.4	+0.2
	2.8nm,0.7s,baz=117,slow=7.2,SNR=17						
EGMT	Eagleton	51.65	329	P	P	12 19 57.6	+0.7
	baz=52						
MFID	Camas Ranch	52.38	321	eP	P	12 20 02.4	-0.1
	7.1nm,0.9s						
SLMT	Seeley Lake	53.14	326	eP	P	12 20 08.1	+0.1
	1.8nm,0.6s						
MSO	Missoula	53.15	326	P	P	12 20 08.6	+0.6
	baz=53						
WVOR	Wild Horse Val	53.68	319	eP	P	12 20 11.8	-0.2
	8.8nm,1.0s						
WVOR				epP	pP	12 20 48.3	0.0
M04C	Macdoel	55.52	317	P	P	12 20 26.1	+0.8
	baz=56						
J05D	Fort Rock, OR	55.77	319	P	P	12 20 27.7	+0.6
	baz=56						
I05D	Terrebonne, OR	56.31	320	P	P	12 20 31.9	+1.2
	baz=56						
J04D	Umpqua Nationa	56.33	318	P	P	12 20 31.9	+0.9
	baz=56						
EDM	Edmonton	56.75	332	eP	P	12 20 33.1	-0.5
	17nm,1.2s						
I04A	Tendick Farm,	56.76	319	P	P	12 20 34.4	+0.4
	baz=57						
YKA	Yellowknife Ar	63.38	340	P	P	12 21 18.3	-0.2
	0.9nm,0.3s,baz=139,slow=8.5,SNR=33						
TIC	Torodi	67.41	86	eP	P	12 21 44.6	-0.8
LIC	Lamto	67.44	86	eP	P	12 21 44.9	-0.7
	32nm,0.7s						
DLBC	Dease Lake	67.45	331	P	P	12 21 45.1	+0.2
	0.9nm,0.3s,baz=144,slow=7.0						
DBIC	Dimbokro	67.57	86	P	P	12 21 46.0	-0.4
	12nm,0.8s,baz=248,slow=3.7,SNR=24						
KIC	Kosan Boka	67.71	86	eP	P	12 21 46.7	-0.6
	39nm,0.7s						
SUMG	Summit	69.01	11	eP	P	12 21 55.0	+0.2
	46nm,0.9s						
ESDC	Sonseca Array	69.56	50	P	P	12 21 57.6	-0.8
	0.5nm,0.6s,baz=286,slow=5.0,SNR=3.5						
INK	Inuvik	73.14	340	P	P	12 22 17.9	-1.2
	0.9nm,0.3s,baz=100,slow=12,SNR=13						
TOA0	Torodi Ar. Sit	73.58	78	eP	P	12 22 21.4	-1.4
TORD	Torodi Ar. Bea	73.58	78	P	P	12 22 21.6	-1.2
	1.0nm,0.3s,baz=284,slow=6.6,SNR=47						
TAM	Tamanrasset	76.81	68	eP	P	12 22 41.7	+0.4
	4.3nm,0.5s						
ILAR	Eielson Array	77.09	335	P	P	12 22 41.7	-0.2
	1.0nm,0.8s,baz=104,slow=4.2,SNR=11						
ILAR				pP	pP	12 23 19.4	-1.3
	0.5nm,0.7s,baz=98,slow=5.4,SNR=3.0						
BPAW	Bear Paw Mtn.	78.72	334	eP	P	12 22 51.1	+0.1
	0.5nm,0.9s						
BPAW				epP	pP	12 23 30.2	+0.3
NB2	NORSAR Subarra	81.29	29	P	P	12 23 05.2	+0.4
	comp=Z,3.0nm,0.8s,baz=268,slow=5.3						
NOA	NORSAR Array B	81.29	29	P	P	12 23 05.5	+0.6
	comp=Z,3.4nm,0.7s,baz=268,slow=5.4,SNR=13						
GERES	GERESS Array B	82.75	42	P	P	12 23 11.4	-1.4
	comp=Z,1.1nm,0.7s,baz=259,slow=2.7,SNR=11						
SPITS	Spitsbergen Ar	83.28	12	P	P	12 23 15.0	+0.2
	comp=Z,1.5nm,0.4s,baz=183,slow=5.5,SNR=6.9						
ARCES	ARCESS Array B	86.67	20	P	P	12 23 31.8	0.0
	comp=Z,3.0nm,0.7s,baz=274,slow=4.1,SNR=22						
FINES	FINESS Array B	88.41	28	P	P	12 23 40.0	-0.2
	comp=Z,4.1nm,1.0s,baz=278,slow=5.6,SNR=8.3						
ZALV	Zalesovo Beam	116.68	14	PKP	PKPdf	12 29 31.4	-0.3
	comp=Z,1.4nm,0.3s,baz=289,slow=1.4,SNR=11						
MKAR	Makanchi Array	122.32	20	PKP	PKPdf	12 29 42.3	-0.5
	comp=Z,0.9nm,0.3s,baz=307,slow=2.4,SNR=24						
SONM	Songino Array	125.63	1	PKP	PKPdf	12 29 49.7	+0.4
	comp=Z,1.2nm,0.6s,baz=323,slow=1.3,SNR=5.5						
WMQ	Urumqi	126.69	17	ePKP	PKPdf	12 29 51.6	+0.2
HHC	Hu-ho-hao-te	132.44	355	ePKP	PKPdf	12 30 00.2	-2.2
HHC				PP	PP	12 32 28.8	+2.8
HHC				SKS	SKSdf	12 36 53.6	-5.7
HHC				SS	SS	12 49 51.4	-0.2
HHC				LN			
	comp=Z,130nm,22.2s						
HHC				LE			
	comp=Z,180nm,22.2s						
HHC				LZ			
	comp=Z,37nm,21.0s						
LZH	Lanzhou	137.27	4	ePKP	PKPdf	12 30 11.0	-0.7
LZH				sPKP		12 31 10.3	
CD2	Chengdu	142.41	5	PKP	PKPdf	12 30 19.2	-1.8
SHL	Shillong	144.64	24	iP	PKPab	12 30 24.0	-0.2
KMI	Kunming	148.03	7	PKPbc	PKPdf	12 30 30.3	-0.7
ASAR	Alice Springs	149.22	234	PKP	PKPdf	12 30 32.5	-0.2
	comp=Z,2.1nm,0.7s,baz=104,slow=1.4,SNR=20						
ASAR				PKPbc	PKPbc	12 30 36.2	-0.9
	comp=Z,2.0nm,0.6s,baz=119,slow=3.4,SNR=70						
ASAR				pPKPbc	pPKPbc	12 31 16.1	-2.5
	comp=Z,4.1nm,0.9s,baz=119,slow=3.1,SNR=5.8						
WRA	Warramunga Arr	150.46	241	PKP	PKPdf	12 30 35.0	+0.3
	comp=Z,2.0nm,0.4s,baz=108,slow=2.7,SNR=4.7						
WRA				PKPbc	PKPbc	12 30 39.5	-0.7
	comp=Z,1.9nm,0.3s,baz=106,slow=2.7,SNR=70						
WRA				pPKPbc	pPKPbc	12 31 18.9	-2.9
	comp=Z,3.4nm,0.5s,baz=108,slow=2.4,SNR=5.0						
SLVN	Son La	151.91	6	ePKPbc	PKPbc	12 30 44.5	+0.9
CMAR	Chiang Mai Arr	153.69	18	PKP	PKPdf	12 30 40.4	+0.8
	comp=Z,1.3nm,0.7s,baz=288,slow=2.3,SNR=7.0						
CMAR				PKPbc	PKiKP	12 30 47.6	0.0
	comp=Z,3.3nm,0.6s,baz=322,slow=2.8,SNR=15						
CMAR				PKPab	PKPab	12 30 58.3	-2.3
	comp=Z,1.6nm,0.8s,baz=340,slow=5.1,SNR=4.6						

MOS ***03*** *12:13:23.9±4.4, 11°.44S×163°.75E, h33km, mb5.4/24, Error ellipse: s-maj=16.7km s-min=9.5km az=48.8*
IDC ***03*** *12:13:23.9±0.4, 11°.45S×163°.75E, h0km, mb4.6/25, mb1 4.8/27, mb1mx4.8/28, mbtmp4.6/27, ML4.4/2, MS4.0/19, Ms1 4.0/19, ms1mx3.9/25, Error ellipse: s-maj=17.1km s-min=12.5km az=107.0*
BJI ***03*** *12:13:28.1, 11°.05S×164°.46E, h42km, mb4.8/31, mB4.9/25, Ms4.8/21, Ms7 4.3/21*
ISCJB ***03*** *12:13:29.6±1.4, 11°.41S±0°.04×163°.55E±0°.04, h42km±12km, mb5.1/98, MS3.9/19, Error ellipse: s-maj=8.2km s-min=5.4km az=143.7*
NEIC ***03*** *12:13:32.2±0.8, 11°.41S×163°.59E, h56km±7km, mb5.3/64, Error ellipse: s-maj=6.1km s-min=3.5km az=135.0*

ISC 03 12:13:30.6±0.4, 11°.47S±0°.05×163°.82E±0°.05, h42km±2km, n394,σ1°36/412, mb5.2/97, MS4.0/20, 12C-13D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.31	298	eP		Pn	12 14 32.0	-1.7
HNR				e			12 15 18.3	
HNR	Honiara	4.31	298	iP		Pn	12 14 36.0	+2.3
HNR				eS		Sn	12 15 25.0	+2.2
HNR	Honiara	4.31	298	ePn		Pn	12 14 32.0	-1.7
HNR				eSn		Sn	12 15 18.3	-4.6
DZM	Mont Dzumac	10.84	167	ePn		Pn	12 15 59.8	-3.5
	33nm,0.4s							
DZM	Mont Dzumac	10.84	167	Pn		Pn	12 15 59.7	-3.5
	6.3nm,0.3s,baz=270,slow=24,SNR=127							
DZM				Sn		Sn	12 17 55.5	-7.8
	3.0nm,0.3s,baz=330,slow=20,SNR=5.2							
DZM	Mont Dzumac	10.84	167	eP		Pn	12 15 59.5	-3.9
TARA	Tarawa	15.63	36	ePn		Pn	12 17 09.1	+1.0
TARA				eSn		Sn	12 19 56.2	-4.1
PMG	Port Moresby	16.51	276	iP		Pn	12 17 18.9	-0.4
PMG				pmax		pmax		
	comp=Z,622nm,1.3s							
PMG	Port Moresby	16.51	276	P		P	12 17 21.9	+0.4
	baz=16,SNR=6.9							
PMG				P		P	12 17 21.9	+0.4
	baz=16,SNR=6.9							
PMG				P		P	12 17 21.9	+0.4
	baz=16,SNR=6.9							
PMG	Port Moresby	16.51	276	ePn		Pn	12 17 17.6	-1.7
	comp=Z,25nm,1.0s							
EIDS	Eidsvold	18.34	219	P		Pn	12 17 44.2	+2.4
	baz=18,SNR=4.4							
EIDS	Eidsvold	18.34	219	ePn		Pn	12 17 44.3	+2.4
	comp=Z,41nm,1.3s							
CTA	Charters Tower	18.94	241	P		P	12 17 46.9	-1.4
	comp=Z,0.5nm,0.3s,baz=58,slow=13,SNR=18							
CTA				LR		LR	12 25 15.2	
	comp=Z,1μm,18.5s,baz=74,slow=38							
CTAO	Charters Tower	18.94	241	eP		P	12 17 48.1	-0.1
CTAO				pmax		pmax		
	comp=Z,81nm,1.0s							
CTAO	Charters Tower	18.94	241	eP		P	12 17 48.1	-0.1
	comp=Z,81nm,1.0s							
MTSU	Mount Surprise	19.98	248	P		P	12 18 00.1	+0.6
	baz=20,SNR=36							
COEN	Coen	20.29	261	P		P	12 18 02.9	0.0
	baz=20,SNR=18							
COEN	Coen	20.29	261	eP		P	12 18 03.0	0.0
	comp=Z,12nm,0.9s							
KWAJ	Kwajalein Atol	20.49	11	eP		P	12 18 05.0	-0.1
KWAJ				pmax		pmax		
	comp=Z,73nm,0.4s							
KWAJ	Kwajalein Atol	20.49	11	eP		P	12 18 05.0	-0.1
	comp=Z,73nm,0.4s							
RMQ	Roma	20.61	221	P		P	12 18 07.1	+0.8
	baz=20,SNR=42							
ARMA	Armidale	21.99	209	P		P	12 18 22.0	+0.7
	baz=22,SNR=9.3							
ARMA	Armidale	21.99	209	eP		P	12 18 22.4	+1.1
	comp=Z,46nm,0.9s							
QLP	Quilpie	23.80	228	P		P	12 18 39.1	-0.5
	baz=24,SNR=34							
RAO	Raoul Island	24.56	139	LR		LR	12 26 34.2	
	comp=Z,575nm,21.2s,baz=332,slow=32							
JAY	Jayapura	24.59	289	LR		LR	12 29 03.9	
	comp=Z,244nm,19.7s,baz=51,slow=38							
QIS	Mount Isa	24.94	246	P		P	12 18 48.5	-1.6
	baz=25,SNR=24							
CMSA	Cobar Meteorol	26.06	217	P		P	12 19 00.9	+0.7
	baz=26,SNR=22							
STKA	Stephens Creek	28.85	222	P		P	12 19 24.4	-0.7
	comp=Z,25nm,0.8s,baz=28,slow=8.8,SNR=36							
STKA				PcP		PcP	12 22 33.4	-0.7
	comp=Z,2.8nm,0.6s,baz=53,slow=5.1,SNR=2.9							
STKA				LR		LR	12 30 28.3	
	comp=Z,479nm,18.5s,baz=33,slow=36							
STKA	Stephens Creek	28.85	222	P		P	12 19 24.5	-0.7
STKA							12 22 33.4	
STKA				pmax		pmax		
	comp=Z,25nm,0.8s							
STKA				pmax		pmax		
	comp=Z,3.0nm,0.6s							
STKA				MLR		MLR		
	comp=Z,479nm,18.5s					

H11S1 WAKE ISLAND Hy 29.92 5 T T 12 51 00.4
baz=188,slow=76,SNR=58
KDU Kakadu 30.67 264 P **P** **12 19 39.4 -2.1**
baz=30,SNR=6.3
TOO Toolangi 30.76 209 P **P** **12 19 43.4 +1.4**
baz=31,SNR=6.2
ASAR Alice Springs 30.92 243 P **P** **12 19 41.1 -2.5**
comp=Z,5.8nm,0.8s,baz=73,slow=9.6,SNR=38
ASAR PcP **PcP** **12 22 38.6 -1.1**
comp=Z,1.2nm,0.8s,baz=58,slow=3.7,SNR=4.2
ASAR LR LR 12 31 40.0
comp=Z,251nm,18.6s,baz=69,slow=36
H11N1 WAKE ISLAND Hy 31.14 6 T T 12 52 31.9
baz=185,slow=77,SNR=32
H11N3 WAKE ISLAND Hy 31.14 6 T T 12 52 32.8
baz=185,slow=77,SNR=28
H11N2 WAKE ISLAND Hy 31.15 6 T T 12 52 33.7
baz=185,slow=77,SNR=32
HTT Hallett 31.58 222 P **P** **12 19 48.5 -0.9**
baz=32,SNR=24
ARPS Mount Arapiles 32.04 215 P **P** **12 19 54.5 +1.2**
baz=32,SNR=5.2
RPZ Rata Peaks 32.73 170 P **P** **12 19 58.8 -0.5**
comp=Z,6.9nm,0.6s,baz=267,slow=4.8,SNR=6.2
RPZ LR LR 12 32 24.1
comp=Z,340nm,18.7s,baz=342,slow=35
BBOO Buckleboo 33.17 226 P **P** **12 20 02.3 -1.0**
baz=33,SNR=18
BBOO Buckleboo 33.17 226 *e*P **P** **12 20 02.5 -0.8**
comp=Z,3.7nm,1.0s
KNRA Kununurra 34.31 259 P **P** **12 20 11.2 -2.1**
baz=34,SNR=15
WRKA Warakurna 36.21 243 P **P** **12 20 27.3 -2.4**
baz=36,SNR=7.4
LBMI Labuha 37.63 284 P **P** **12 20 41.0 -0.8**
comp=Z,66nm,1.3s,comp=Z,3um
MMRI Maumere 41.02 270 P **P** **12 21 07.3 -2.8**
comp=Z,107nm,1.1s
MMRI Maumere 41.02 270 *e*P **P** **12 21 07.1 -3.0**
comp=Z,149nm,1.2s
MBWA Marble Bar 43.27 251 *e*P **P** **12 21 28.3 -0.1**
comp=Z,36nm,1.1s
KAPI Kappang 44.04 275 *e*P P 12 21 40.5 +5.8
comp=Z,80nm,1.6s
MEEK Meekatharra 45.06 244 P **P** **12 21 41.3 -1.4**
baz=45,SNR=12
PPT Papeete 45.43 103 LR LR 12 37 36.6
comp=Z,101nm,21.5s,baz=276,slow=32
PPT2 Papeete2 45.43 103 *e*LR LR 12 34 33.3
comp=Z,533nm,35.2s
TBI Tubuai 45.93 111 *e*LR LR 12 35 00.4
comp=Z,530nm,31.5s
MORW Morawa 47.76 241 P **P** **12 22 02.5 -1.4**
baz=48,SNR=5.2
KBKI Kotabaru 47.89 276 P **P** **12 22 03.5 -1.5**
comp=Z,26nm,1.1s,comp=Z,3um
DNP Denpasar 47.90 269 P **P** **12 22 03.8 -1.3**
comp=Z,268nm,0.8s
IGBI Denpasar 47.94 268 P **P** **12 22 03.4 -2.0**
comp=Z,112nm,1.2s
SRBI Singaraja 47.98 269 P **P** **12 22 03.9 -1.8**
comp=Z,60nm,1.0s
JAGI Jajag, Banyuwa 48.96 269 P **P** **12 22 10.3 -3.0**
comp=Z,68nm,1.0s
JAGI Jajag, Banyuwa 48.96 269 P **P** **12 22 10.7 -2.6**
baz=49,SNR=3.9
JAGI Jajag, Banyuwa 48.96 269 *e*P **P** **12 22 10.3 -3.0**
comp=Z,68nm,1.0s
PWJI Pagerwojo 51.33 269 P **P** **12 22 29.4 -1.8**
comp=Z,40nm,1.4s
UWJI Ujung Watu 52.41 271 P **P** **12 22 37.7 -1.6**
comp=Z,54nm,1.1s,comp=Z,3um
MJAR Matsushiro Arr 53.50 334 P **P** **12 22 45.0 -2.0**
comp=Z,2.8nm,1.1s,baz=164,slow=8.8,SNR=5.4
MJAR LR LR 12 44 07.4
comp=Z,59nm,21.6s,baz=140,slow=34
KPJI Karang Pucung 54.24 269 P **P** **12 22 52.7 -0.1**
comp=Z,86nm,0.8s
CISI Cisompet, Garu 55.30 269 P **P** **12 22 58.7 -1.8**
comp=Z,106nm,0.8s
CISI Cisompet, Garu 55.30 269 *e*P **P** **12 22 58.3 -2.2**
comp=Z,47nm,0.6s
LEM Lembang 55.61 270 P **P** **12 23 01.9 -1.0**
comp=Z,89nm,0.8s,baz=61,slow=5.2,SNR=18
LEM Lembang 55.61 270 P **P** **12 23 02.5 -0.4**
baz=55,SNR=4.5
ASAJ Asahikawa 58.59 342 P **P** **12 23 23.1 0.0**
comp=Z,14nm,1.0s,baz=222,slow=10
ASAJ Asahikawa 58.59 342 P **P** **12 23 23.2 0.0**
ASAJ pmax pmax
comp=Z,14nm,1.0s
KSRS Korea Array 59.18 327 P **P** **12 23 26.6 -0.7**
comp=Z,2.9nm,0.9s,baz=142,slow=7.5,SNR=11
KSRS LR LR 12 46 43.6
comp=Z,111nm,19.6s,baz=141,slow=34
KSAR Wonju Array Be 59.19 327 P **P** **12 23 26.6 -0.8**
KSAR Wonju Array Be 59.19 327 P **P** **12 23 26.6 -0.8**
RKT Rikitea 59.22 110 *e*LR LR 12 41 10.0
comp=Z,566nm,30.2s
NJ2 Nanjing 61.01 317 *e*P **P** **12 23 40.7 +0.7**
NJ2 PMZ
comp=Z,20nm,0.8s
QIZ Qiongzhong 61.23 299 P P 12 23 45.3 +3.6
QIZ S **S** **12 32 00.6 +1.6**
QIZ PMZ
comp=Z,15nm,1.9s
QIZ LN
comp=Z,140nm,31.7s
QIZ LE
comp=Z,65nm,24.4s
QIZ LZ
comp=Z,250nm,23.1s
USRK Ussuriysk Ar. 62.50 335 P **P** **12 23 48.9 -0.9**
comp=Z,4.8nm,0.9s,baz=131,slow=5.3,SNR=11
USRK LR LR 12 48 37.6
comp=Z,93nm,21.6s,baz=148,slow=34
MDJ Mudanjiang 63.86 333 P **P** **12 23 58.8 0.0**
MDJ pP **pP** **12 24 08.1 -3.1**
MDJ sP **sP** **12 24 11.8 -4.2**
MDJ PcP **PcP** **12 24 34.7 +0.4**
MDJ PP **PP** **12 26 17.7 -2.1**
MDJ S **S** **12 32 28.8 -2.4**
MDJ sS **sS** **12 32 47.0 -4.7**
MDJ ScS **SKSac** **12 33 47.4 -1.6**
MDJ SS **SS** **12 36 39.4 -1.0**
MDJ PMZ
comp=Z,4.0nm,0.7s
MDJ PMZ
comp=Z,33nm,4.9s
MDJ LN
comp=Z,110nm,22.3s
MDJ LE
comp=Z,74nm,18.4s
MDJ LZ
comp=Z,160nm,21.3s
PETK Petropavlovsk- 64.53 356 P **P** **12 24 02.6 -0.4**
comp=Z,7.4nm,1.0s,baz=152,slow=6.7,SNR=5.1
PETK LR LR 12 47 48.8
comp=Z,70nm,20.9s,baz=166,slow=32
CN2 Changchun 65.15 330 *e*P **P** **12 24 07.5 +0.2**
CN2 *ep*P **pP** **12 24 23.8 +4.1**
VNDA Vanda 66.05 180 P **P** **12 24 12.4 -0.2**
comp=Z,3.9nm,0.9s,baz=3.5,slow=7.6,SNR=11
VNDA LR LR 12 48 31.2
comp=Z,125nm,20.5s,baz=343,slow=32
PSI Prapat 66.06 278 P **P** **12 24 14.1 +0.2**
comp=Z,2.3nm,0.5s,baz=142,slow=7.7,SNR=3.1
SBA Scott Base 66.39 179 *e*P **P** **12 24 15.9 +1.1**
SBA pmax pmax
comp=Z,12nm,1.3s
SBA Scott Base 66.39 179 *e*P **P** **12 24 15.9 +1.1**
comp=Z,12nm,1.3s
KLR Kul'dur 66.71 338 *e*P P 12 24 13.2 -4.0
GYA Guiyang 67.10 305 P **P** **12 24 22.0 +1.7**
GYA pP **pP** **12 24 33.2 +0.4**
GYA sP **sP** **12 24 40.0 +2.4**
GYA PP **PP** **12 26 51.4 +2.7**
GYA S **S** **12 33 11.0 -0.8**
GYA sS **sS** **12 33 31.6 -0.9**
GYA SKS **SKSac** **12 34 12.2 -2.5**
GYA SS **SS** **12 37 32.5 +0.7**
GYA PMZ
comp=Z,30nm,1.0s
GYA PMZ
comp=Z,130nm,5.0s
GYA LN
comp=Z,550nm,18.9s
GYA LE
comp=Z,560nm,19.2s
GYA LZ
comp=Z,570nm,18.8s
BJI Beijing 67.64 322 P **P** **12 24 24.2 +1.0**
BJI S **S** **12 33 21.8 +4.4**
BJI PMZ
comp=Z,10.0nm,0.8s
BJI PMZ
comp=Z,40nm,4.4s
BJI LN
comp=Z,130nm,19.3s
BJI LE
comp=Z,130nm,18.9s
BJI LZ
comp=Z,230nm,41.3s
XAN Xi'an 69.02 313 P **P** **12 24 35.2 +3.1**
XAN pP **pP** **12 24 46.5 +1.9**
KMI Kunming 69.74 302 P **P** **12 24 38.9 +1.9**
KMI pP **pP** **12 24 49.6 +0.2**
KMI sP **sP** **12 24 55.1 +0.8**
KMI S **S** **12 33 43.9 +0.5**
KMI PMZ
comp=Z,7.0nm,0.8s
KMI PMZ
comp=Z,38nm,4.3s
KMI LN
comp=Z,160nm,13.7s
KMI LE
comp=Z,130nm,13.7s
KMI LZ
comp=Z,160nm,22.5s
CMAR Chiang Mai Arr 70.56 294 P **P** **12 24 41.1 -0.7**
comp=Z,1.3nm,0.7s,baz=120,slow=4.8,SNR=6.9
CMAR LR LR 12 52 54.2
comp=Z,48nm,21.7s,baz=129,slow=34
CMAR Chiang Mai Arr 70.56 294 *ce*P **P** **12 24 44.7 +2.9**
HHC Hu-ho-hao-te 70.94 321 *e*P **P** **12 24 45.9 +2.0**
HHC PP **PP** **12 27 25.8 +4.1**
HHC S **S** **12 33 57.2 +0.5**
HHC sS **sS** **12 34 19.2 +1.7**
HHC SS **SS** **12 38 32.9 +2.4**
HHC PMZ
comp=Z,14nm,0.9s
HHC PMZ
comp=Z,87nm,8.6s
HHC LN
comp=Z,110nm,16.0s
HHC LE
comp=Z,150nm,18.5s
HHC LZ
comp=Z,93nm,19.7s
CD2 Chengdu 71.37 308 P **P** **12 24 48.6 +2.0**
CD2 pP **pP** **12 25 00.5 +1.4**
CD2 sP **sP** **12 25 05.2 +1.3**
CD2 PP **PP** **12 27 29.1 +3.6**
CD2 S **S** **12 34 02.3 +0.4**
CD2 sS **sS** **12 34 22.1 -0.6**
CD2 SS **SS** **12 38 39.0 +1.7**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,90nm,5.9s
CD2 LN
comp=Z,160nm,7.1s
CD2 LZ
comp=Z,170nm,7.2s
LZH Lanzhou 73.65 313 *e*P **P** **12 25 01.9 +1.7**
LZH pP **pP** **12 25 13.3 +0.5**
LZH sP **sP** **12 25 20.5 +2.9**
LZH S **SKiKP** **12 34 26.3 -0.7**
LZH sS **sS** **12 34 45.6 -3.4**
LZH SS **SS** **12 39 15.0 +2.7**
LZH PMZ
comp=Z,28nm,1.0s
LZH PMZ
comp=Z,140nm,4.2s
LZH LN
comp=Z,400nm,14.7s
LZH LE
comp=Z,550nm,15.2s
LZH LZ
comp=Z,570nm,16.8s
SEY Seymchan 74.70 355 P **P** **12 25 04.6 -0.9**
comp=Z,1.6nm,0.7s,baz=137,slow=6.1,SNR=11
SEY Seymchan 74.70 355 *ep* **P** **12 25 04.7 -0.8**
KDAK Kodiak Island 77.67 22 *i*P **P** **12 25 22.6 +0.1**
KDAK Kodiak Island 77.67 22 *e*P **P** **12 25 23.1 +0.7**
comp=Z,513nm,2.8s
SONM Songino Array 77.90 325 P **P** **12 25 23.1 -1.1**
comp=Z,2.3nm,0.7s,baz=150,slow=6.4,SNR=15
SONM LR LR 12 57 51.8
comp=Z,80nm,21.5s,baz=114,slow=34
GTA Gaotai 78.00 315 *e*P **P** **12 25 25.5 +0.6**
GTA pP **PcP** **12 25 35.6 +1.1**
GTA sP **sP** **12 25 39.8 -2.6**
GTA PMZ
comp=Z,3.0nm,0.6s
QSPA South Pole Qui 78.54 180 LR LR 12 58 41.0
comp=Z,78nm,18.3s,baz=16,slow=35
QSPA South Pole Qui 78.54 180 *e*P **P** **12 25 27.2 -0.2**
comp=Z,84nm,2.5s
SVW2 Sparrevohn 79.11 19 *e*P **P** **12 25 31.3 +0.9**
comp=Z,40nm,0.9s
BILL Bilibino 79.32 1 *ce*P **P** **12 25 31.1 -0.3**
BILL pmax pmax
comp=Z,51nm,1.9s
BILL Bilibino 79.32 1 *e*P **P** **12 25 31.3 -0.1**
RSO Redoubt South 79.56 20 *e*P **P** **12 25 32.7 -0.4**
comp=Z,44nm,0.8s
BRLK Bradley Lake 79.71 21 *e*P **P** **12 25 34.2 +0.5**
comp=Z,38nm,0.9s
ZAK Zakamensk 80.97 326 *e*P **P** **12 25 40.0 -0.8**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
TLY Talaya 81.44 327 *e*P **P** **12 25 42.7 -0.4**
TLY pmax pmax
comp=Z,4.0nm,1.3s
TLY MLR MLR
comp=Z,38nm,15.0s
PPLA Purkeypile 81.53 19 *e*P **P** **12 25 43.8 +0.2**
comp=Z,41nm,1.8s
CAST Castle Rocks 81.94 18 *e*P **P** **12 25 45.0 -0.5**
SML Sawmill 82.04 21 *e*P **P** **12 25 45.9 -0.2**
SML pmax pmax
comp=Z,5.0nm,1.0s
SML Sawmill 82.04 21 *e*P **P** **12 25 45.9 -0.2**
comp=Z,5.3nm,1.0s
DIV Divide 82.50 22 *e*P **P** **12 25 49.4 +0.8**
comp=Z,33nm,0.8s
TRF Thorofare Moun 82.53 19 *e*P **P** **12 25 48.0 -0.8**
BMRM Bremner River 82.84 23 *e*P **P** **12 25 51.1 +0.7**
comp=Z,20nm,0.8s
MCK McKinley 83.16 19 *e*P **P** **12 25 51.8 -0.1**
MCK McKinley 83.16 19 *e*P **P** **12 25 51.8 -0.1**
DHY Denali Highway 83.22 20 *e*P **P** **12 25 52.9 +0.5**
comp=Z,10nm,1.0s
BWN Browne 83.29 19 *e*P **P** **12 25 52.7 +0.1**
comp=Z,33nm,1.0s
IM04 Indian Mountai 83.33 16 *e*P **P** **12 25 53.2 +0.5**
HARP HAARP 83.56 21 *e*P **P** **12 25 54.9 +1.0**
comp=Z,30nm,0.8s
MAW Mawson 83.62 202 P **P** **12 25 54.0 -0.3**
comp=Z,12nm,1.2s,baz=82,slow=7.6,SNR=8.0
MAW Mawson 83.62 202 P **P** **12 25 54.0 -0.3**
PAX Paxson 83.81 21 *e*P **P** **12 25 55.6 +0.3**
PAX pmax pmax
comp=Z,41nm,2.0s
PAX Paxson 83.81 21 *e*P **P** **12 25 55.6 +0.3**
comp=Z,41nm,2.0s
COLA College 84.28 19 *d i*P **P** **12 25 56.3 -1.2**
COLA College 84.28 19 *e*P **P** **12 25 57.0 -0.5**
comp=Z,44nm,0.7s
ILAR Eielson Array 84.52 19 P **P** **12 25 58.1 -0.7**
comp=Z,4.7nm,0.7s,baz=244,slow=6.8,SNR=68
COLD Coldfoot 85.23 16 *e*P **P** **12 26 03.3 +1.0**
comp=Z,4.6nm,0.8s
WDC Whiskeytown Da 85.28 47 *e*P **P** **12 26 04.2 +1.0**
WDC Whiskeytown Da 85.28 47 *e*P **P** **12 26 04.2 +1.0**
N02D Trinity Center 85.29 47 P **P** **12 26 05.0 +1.7**
baz=86,SNR=5.2
M02C Callahan 85.33 46 P **P** **12 26 05.2 +1.7**
baz=86,SNR=8.1
YBH Yreka Blue Hor 85.54 46 *e*P **P** **12 26 06.0 +1.4**
YBH Yreka Blue Hor 85.54 46 *e*P **P** **12 26 06.0 +1.4**
WRAK Wrangell Islan 85.64 30 *e*P **P** **12 26 04.9 +0.4**
comp=Z,10nm,0.8s
HUMO Hull Mountain 85.66 45 *e*P **P** **12 26 06.5 +1.4**
comp=Z,28nm,1.0s
CMB Columbia Colle 86.06 50 *e*P **P** **12 26 07.8 +0.7**
CMB pmax pmax
comp=Z,16nm,1.0s
CMB Columbia Colle 86.06 50 *e*P **P** **12 26 07.8 +0.7**
comp=Z,16nm,1.0s
M04C Macdoel 86.17 46 P **P** **12 26 09.2 +1.5**
baz=86,SNR=6.1
LBCM Butte Creek Ri 86.22 47 P **P** **12 26 08.5 +0.5**
G03D McMinnville, O 86.34 43 P **P** **12 26 09.9 +1.6**
baz=87
ARVC Arvin 86.40 53 P **P** **12 26 10.5 +1.7**
baz=87
VES Vestal, Richgr 86.41 53 P **P** **12 26 09.7 +0.8**
baz=87
EGAK Eagle 86.43 21 *e*P **P** **12 26 08.9 +0.7**
comp=Z,42nm,0.8s
I04A Tendick Farm, 86.44 44 P **P** **12 26 09.8 +0.9**
baz=87
J04D Umpqua Nationa 86.46 45 P **P** **12 26 10.7 +1.5**
baz=87,SNR=9.0
DAWY Dawson 86.64 22 *e*P **P** **12 26 09.8 +0.4**
comp=Z,21nm,1.1s
ISA Isabella 86.83 53 *e*P **P** **12 26 11.7 +0.6**
ISA pmax pmax
comp=Z,16nm,1.1s
ISA Isabella 86.83 53 P **P** **12 26 11.9 +0.9**
baz=87,SNR=6.8
ISA Isabella 86.83 53 *e*P **P** **12 26 11.7 +0.6**
comp=Z,16nm,1.1s
WAKR Walker 86.91 50 *e*P **P** **12 26 12.5 +1.0**
EDW2 Edwards Air Fo 86.99 54 P **P** **12 26 13.4 +1.5**
baz=87,SNR=11
BFSC Mount Baldy Ra 87.08 54 P **P** **12 26 13.3 +0.9**
baz=87,SNR=6.8
J05D Fort Rock, OR 87.08 45 P **P** **12 26 13.7 +1.5**
baz=87,SNR=16
K05A Summer Lake 87.14 46 *e*P **P** **12 26 13.9 +1.4**
comp=Z,32nm,0.9s
109C Camp Elliot, M 87.16 56 P **P** **12 26 14.2 +1.6**
baz=87
LVP Lakeview Peak 87.20 42 P **P** **12 26 13.5 +0.9**
MURC Murrieta 87.27 55 P **P** **12 26 14.1 +0.9**
baz=88
MOD Modoc 87.30 46 *e*P **P** **12 26 13.9 +0.6**
comp=Z,17nm,1.0s
I05D Terrebonne, OR 87.34 44 P **P** **12 26 14.2 +0.9**
baz=88
CWC Cottonwood Cre 87.36 52 P **P** **12 26 14.4 +0.8**
baz=88
LRMC Laurel Mountai 87.39 53 P **P** **12 26 15.1 +1.3**
baz=88
VFP Flag Point 87.58 43 P **P** **12 26 15.3 +0.8**
G05D Wamic, OR 87.65 43 P **P** **12 26 15.7 +1.0**
baz=88
DLBC Dease Lake 87.68 29 P **P** **12 26 14.6 -0.1**
comp=Z,5.1nm,1.0s,baz=242,slow=8.6,SNR=8.2
MPMC Manual Prospec 87.71 53 P **P** **12 26 16.7 +1.2**
baz=88,SNR=6.3
MONP Monument Peak 87.72 56 P **P** **12 26 16.7 +1.2**
baz=88,SNR=6.3
NVAR Mina Array Bea 87.74 50 P **P** **12 26 15.8 +0.3**
comp=Z,9.5nm,0.9s,baz=236,slow=8.0,SNR=41
LON Longmire 87.81 42 *e*P **P** **12 26 16.5 +1.0**
LON pmax pmax
comp=Z,29nm,1.8s
LON Longmire 87.81 42 *e*P **P** **12 26 16.5 +1.0**
comp=Z,29nm,1.8s
D05A Enumclaw 87.84 41 *e*P **P** **12 26 17.0 +1.5**
comp=Z,83nm,1.5s
PFO Pinyon Flat Ob 87.88 55 *e*P **P** **12 26 16.6 +0.4**
PFO pmax pmax
comp=Z,22nm,1.4s
PFO Pinyon Flat Ob 87.88 55 *e*P **P** **12 26 16.6 +0.4**
comp=Z,22nm,1.4s
FMW Mount Fremont 87.96 41 P **P** **12 26 17.2 +0.8**
WPW White Pass 87.97 42 P **P** **12 26 17.1 +0.8**
GSC Goldstone 88.04 54 *e*P **P** **12 26 17.9 +1.0**
GSC Goldstone 88.04 54 P **P** **12 26 17.7 +0.8**
baz=88
GSC Goldstone 88.04 54 *e*P **P** **12 26 17.9 +1.0**
GRAC Grapevine Rang 88.06 52 P **P** **12 26 18.4 +1.5**
baz=88
WMQ Urumqi 88.06 315 *e*P **P** **12 26 17.0 +0.2**
WMQ pP **pP** **12 26 30.4 +0.8**
WMQ sP **sP** **12 26 35.6 +1.2**
WMQ PMZ
comp=Z,7.0nm,0.8s
WMQ LN
comp=Z,76nm,18.5s
WMQ LE
comp=Z,98nm,25.4s
WMQ LZ
comp=Z,130nm,22.1s
SWSC Sam W. Stewart 88.24 56 P **P** **12 26 19.1 +1.3**
baz=88
HEC Hector,Ludlow 88.29 54 P **P** **12 26 19.3 +1.2**
baz=88
FURC Furnace Creek, 88.31 52 P **P** **12 26 18.8 +0.9**
baz=88,SNR=11
BELC Belle Mtn. Jos 88.34 55 P **P** **12 26 19.4 +0.9**
baz=89,SNR=13
NAC Naches 88.45 42 P **P** **12 26 19.4 +0.9**
SHOC Shoshone 88.61 53 P **P** **12 26 20.6 +1.1**
baz=89
WVOR Wild Horse Val 88.64 46 *e*P **P** **12 26 20.3 +0.7**
WVOR pmax pmax
comp=Z,58nm,1.6s
WVOR Wild Horse Val 88.64 46 *e*P **P** **12 26 20.2 +0.7**
comp=Z,58nm,1.6s
BC3 Big Chuckawall 88.69 55 P **P** **12 26 21.3 +1.3**
baz=89,SNR=11
GMRC Granite Mounta 88.81 54 P **P** **12 26 21.5 +0.8**
baz=89,SNR=6.0
TPNV Topopah Spring 88.91 52 P **P** **12 26 21.6 +0.6**
baz=89,SNR=8.7
GLA Glamis 89.05 56 *e*P **P** **12 26 23.1 +1.4**
GLA pmax pmax
comp=Z,46nm,1.5s
GLA Glamis 89.05 56 P **P** **12 26 23.2 +1.6**
baz=89
GLA Glamis 89.05 56 *e*P **P** **12 26 23.1 +1.4**
comp=Z,46nm,1.5s
IRM Iron Mountain 89.07 55 P **P** **12 26 23.1 +1.4**
baz=89,SNR=11
G08A Pilot Rock 89.25 44 *e*P **P** **12 26 23.4 +1.0**
comp=Z,21nm,1.1s
WTV Waterville 89.31 41 P **P** **12 26 23.0 +0.5**
LDFC Landfair 89.33 54 *e*P **P** **12 26 24.5 +1.5**
comp=Z,24nm,0.8s
Y12C Blythe 89.47 56 P **P** **12 26 24.6 +1.1**
baz=90
NEE2 Needles Airpor 89.64 55 P **P** **12 26 26.4 +2.1**
baz=90
SHPR Sheep Range 89.64 53 *e*P **P** **12 26 25.4 +0.9**
R11A Troy Canyon, C 89.78 51 P **P** **12 26 25.9 +0.8**
baz=90,SNR=16
R11A Troy Canyon, C 89.78 51 *e*P **P** **12 26 25.5 +0.3**
comp=Z,17nm,1.3s
D08A Wollman Farm, 89.79 42 *e*P **P** **12 26 25.8 +1.0**
comp=Z,39nm,1.5s
B08A Colville Reser 89.91 41 *e*P **P** **12 26 25.6 +0.3**
comp=Z,13nm,1.2s
PDMCI Parker Dam,Lak 89.91 55 P **P** **12 26 26.8 +1.2**
baz=90,SNR=7.0
BMO Blue Mountains 90.25 44 *e*P **P** **12 26 27.6 +0.5**
comp=Z,37nm,1.5s
ELK Elko 90.64 49 *e*P **P** **12 26 29.9 +0.7**
ELK pmax pmax
comp=Z,47nm,1.6s
ELK Elko 90.64 49 *e*P **P** **12 26 29.9 +0.7**
comp=Z,46nm,1.6s
SYO Syowa Base 90.82 197 *ieX* P 12 26 36.8 +7.7
MFID Camas Ranch 90.89 46 *e*P **P** **12 26 31.3 +1.2**
comp=Z,22nm,1.0s
INK Inuvik 90.92 19 P **P** **12 26 29.2 -0.2**
comp=Z,2.7nm,0.8s,baz=147,slow=0.8,SNR=5.8
INK Inuvik 90.92 19 *e*P **P** **12 26 29.4 -0.1**
INK pmax pmax
comp=Z,14nm,1.4s
INK Inuvik 90.92 19 *e*P **P** **12 26 29.4 -0.1**
comp=Z,14nm,1.4s
CCUT Cedar City 91.29 52 *e*P **P** **12 26 33.2 +0.9**
comp=Z,18nm,1.3s
NEW Newport 91.30 41 *e*P **P** **12 26 32.1 +0.3**

NEW pmax pmax
comp=Z,15nm,1.0s
NEW Newport 91.30 41 P **P 12 26 32.1 +0.3**
baz=92
NEW Newport 91.30 41 *eP* **P 12 26 32.1 +0.3**
comp=Z,15nm,1.0s
HLID Hailey 91.93 46 P **P 12 26 36.4 +1.4**
baz=92
HLID Hailey 91.93 46 *eP* **P 12 26 36.0 +1.1**
comp=Z,16nm,1.1s
DUG Dugway 92.31 50 *eP* **P 12 26 38.0 +1.2**
DUG pmax pmax
comp=Z,12nm,1.3s
DUG Dugway 92.31 50 P **P 12 26 37.9 +1.1**
baz=92
DUG Dugway 92.31 50 *eP* **P 12 26 38.0 +1.2**
comp=Z,12nm,1.3s
WUAZ Wupatki 92.40 54 P **P 12 26 38.6 +1.2**
baz=93
MSU Marysvale 92.42 51 *eP* **P 12 26 38.9 +1.5**
MSU pmax pmax
comp=Z,18nm,1.3s
MSU Marysvale 92.42 51 *eP* **P 12 26 38.9 +1.5**
comp=Z,18nm,1.3s
MKAR Makanchi Array 92.54 317 P **P 12 26 37.0 -0.5**
comp=Z,2.3nm,0.8s,baz=97,slow=6.3,SNR=14
MKAR LR LR 13 09 53.4
comp=Z,34nm,19.6s,baz=90,slow=37
HVU Hansel Valley 92.69 48 *eP* **P 12 26 39.8 +1.2**
HVU pmax pmax
comp=Z,4.0nm,0.7s
HVU Hansel Valley 92.69 48 *eP* **P 12 26 39.8 +1.2**
comp=Z,4.1nm,0.7s
BSMT Bassoo Peak 92.71 42 P **P 12 26 39.1 +0.5**
ZALV Zalesovo Beam 92.80 324 P **P 12 26 36.2 -2.3**
comp=Z,1.1nm,0.7s,baz=100,slow=3.5,SNR=5.7
ZALV LR LR 13 06 17.1
comp=Z,75nm,21.9s,baz=70,slow=34
MSO Missoula 93.02 43 P **P 12 26 40.7 +0.8**
baz=93
MCMT McKenzie Canyo 93.31 45 *eP* **P 12 26 42.6 +1.1**
comp=Z,4.2nm,1.2s
CHMT Chamberlain Mo 93.50 43 *eP* **P 12 26 42.4 +0.1**
comp=Z,11nm,1.3s
WALA Waterton Lakes 93.56 41 *eP* **P 12 26 43.2 +0.9**
comp=Z,17nm,1.0s
DLMT Dillon 93.61 45 *eP* **P 12 26 43.3 +0.6**
comp=Z,26nm,1.2s
W18A Petrified Fore 93.63 55 P **P 12 26 44.1 +1.1**
baz=94
LRM Limekiln Ridge 93.81 44 *eP* **P 12 26 44.4 +0.7**
comp=Z,121nm,1.3s
BOZ Bozeman (W) 94.33 44 P **P 12 26 47.4 +1.4**
baz=94
IMW Indian Meadow 94.46 46 *eP* **P 12 26 47.4 +0.6**
comp=Z,5.3nm,1.0s
EDM Edmonton 94.84 37 *eP* **P 12 26 48.0 0.0**
EDM pmax pmax
comp=Z,22nm,1.0s
EDM Edmonton 94.84 37 *eP* **P 12 26 48.0 0.0**
comp=Z,22nm,1.0s
PDAR Pinedale Array 95.23 48 P **P 12 26 49.9 -0.4**
comp=Z,4.3nm,1.1s,baz=260,slow=2.7,SNR=12
KSH Kashi 95.55 309 P **P 12 26 54.5 +2.8**
KSH pP **pP 12 27 07.2 +2.6**
KSH sP **sP 12 27 12.0 +2.7**
KSH PP **PP 12 30 48.0 +4.7**
KSH SKS **SKSac 12 37 25.1 +0.4**
KSH S **S 12 38 04.0 -1.6**
KSH sS **sS 12 38 28.1 +0.8**
KSH PMZ
comp=Z,5.0nm,0.4s
KSH PMZ
comp=Z,160nm,4.2s
KSH LN
comp=Z,110nm,5.3s
KSH LE
comp=Z,130nm,4.3s
KSH LZ
comp=Z,270nm,5.1s
J19A Crowheart 95.68 47 P **P 12 26 53.5 +1.3**
baz=96
KURK Kurchatov 95.76 320 P **P 12 26 50.5 -1.7**
KURK Kurchatov 95.76 320 P **P 12 26 50.5 -1.7**
KURBB Kurchatov Arra 95.80 320 P **P 12 26 50.5 -1.9**
comp=Z,0.2nm,0.6s,baz=96,slow=5.8,SNR=4.5
I19A Meeteetse 95.86 46 P **P 12 26 54.1 +1.0**
baz=96
EGMT Eagleton 96.05 42 P **P 12 26 54.6 +0.9**
baz=96
EGMT Eagleton 96.05 42 *eP* **P 12 26 53.8 +0.1**
comp=Z,13nm,1.0s
YKA Yellowknife Ar 96.22 28 P **P 12 26 52.9 -1.0**
comp=Z,6.3nm,0.8s,baz=252,slow=4.6,SNR=18
YKA Yellowknife Ar 96.22 28 P **P 12 26 52.9 -1.0**
YKA pmax pmax
comp=Z,6.0nm,0.9s
ANMO Albuquerque 96.25 56 *ceP* **P 12 26 56.1 +1.1**
ANMO pmax pmax
comp=Z,40nm,2.5s
ANMO Albuquerque 96.25 56 *eP* **P 12 26 55.5 +0.5**
comp=Z,5.1nm,1.3s
I20A Worland 96.46 47 P **P 12 26 57.2 +1.5**
baz=97
SMCO Snowmass 96.53 51 *eP* **P 12 26 58.2 +1.7**
comp=Z,3.5nm,1.3s
SNAA Sanae 96.57 184 P **P 12 26 54.1 -1.5**
G20A Bridger 96.61 45 P **P 12 26 58.1 +1.7**
baz=97
B19A Brinkman Farms 96.66 42 P **P 12 26 57.6 +1.2**
baz=97
J21A Lysite 96.85 47 P **P 12 26 58.2 +0.6**
baz=97
A19A Klindworth Far 96.87 42 P **P 12 26 58.2 +0.8**
baz=97
I21A Big Trails, Te 97.04 47 P Pdif 12 26 58.8 +0.4
baz=97
C20A Veseth Ranch, 97.16 43 P Pdif 12 26 59.6 +0.9
baz=97
B20A Solberg Farm, 97.26 42 P Pdif 12 27 00.1 +0.9
baz=98
K22A Casper 97.42 48 P Pdif 12 27 00.2 0.0
baz=98
SDCO Great Sand Dun 97.45 53 P Pdif 12 27 02.2 +1.5
baz=98
N23A Red Feather La 97.58 50 P Pdif 12 27 01.7 +0.6
baz=98
E21A Keefer Ranch, 97.61 44 P Pdif 12 27 02.6 +1.8
baz=98
ISCO Idaho Springs 97.67 51 P Pdif 12 27 02.3 +0.7
baz=98
TXAR Lajitas Array 97.69 62 P Pdif 12 27 01.9 +0.2
comp=Z,0.2nm,0.5s,baz=235,slow=5.4,SNR=4.0
TXAR PP **PP 12 30 58.4 -1.7**
comp=Z,1.9nm,1.2s,baz=222,slow=5.0,SNR=6.9
D21A La Casita Ranch 97.74 44 P Pdif 12 27 02.4 +1.0
baz=98
C21A Desert Coulee 97.78 43 P Pdif 12 27 02.8 +1.3
baz=98
H22A Clearmont 97.83 46 P Pdif 12 27 02.1 +0.2
baz=98
B21A Ellsworth Farm 97.92 42 P Pdif 12 27 03.4 +1.3
baz=98
G22A Birney 97.96 46 P Pdif 12 27 04.3 +1.8
baz=98
F22A Rosebud 98.06 45 P Pdif 12 27 04.1 +1.2
baz=98
A21A Bergtoll Ranch 98.06 42 P Pdif 12 27 04.3 +1.5
baz=98
T25A Trinidad 98.22 54 P Pdif 12 27 04.7 +0.8
baz=98
D22A Cohagen 98.30 44 P Pdif 12 27 04.6 +0.7
baz=98
A22A Carney Farms, 98.72 42 P Pdif 12 27 06.5 +0.8
baz=99
E23A Ismay 98.81 44 P Pdif 12 27 07.4 +1.3
baz=99
D23A Lindsay 98.96 44 P Pdif 12 27 08.4 +1.6
baz=99
C23A Lambert 99.06 43 P **Pdif 12 27 08.6 +1.4**
baz=99
H24A Dirks Ranch, A 99.12 46 P **Pdif 12 27 08.5 +0.9**
baz=99
B23A Brockton 99.27 42 P **Pdif 12 27 09.2 +1.1**
baz=100
ARCES ARCESS Array B 116.26 345 PKP **PKPdf 12 32 08.2 -0.7**
comp=Z,2.9nm,0.6s,baz=68,slow=1.3,SNR=24
KBZ Khabaz 120.08 314 PKP **PKPdf 12 32 16.3 -0.7**
comp=Z,2.0nm,0.7s,baz=116,slow=5.5,SNR=5.3
VSR Storozhevoye 120.28 323 *e*PKIKP **PKPdf 12 32 16.2 -0.9**
VSR pmax pmax
comp=Z,6.0nm,0.6s
VSR pmax pmax
comp=N,6.0nm,0.8s
VSR pmax pmax
comp=E,4.0nm,0.5s
SCHQ Schefferville 121.38 32 PKP **PKPdf 12 32 18.8 -0.4**
comp=E,1.4nm,0.7s,baz=13,slow=18,SNR=2.5
FINES FINESS Array B 121.46 338 PKP **PKPdf 12 32 18.4 -0.6**
comp=E,4.4nm,0.9s,baz=122,slow=6.9,SNR=15
LPAZ La Paz 121.68 117 PKP **PKPdf 12 32 21.2 -0.5**
comp=E,1.8nm,0.7s,baz=286,slow=0.7,SNR=7.6
BOSA Boshof 123.50 224 PKP **PKPdf 12 32 24.3 0.0**
comp=E,2.5nm,0.7s,baz=170,slow=0.6,SNR=7.5
MALT Malatya 124.65 309 ⇓PKIKP **PKPdf 12 32 27.1 +1.0**
MALT Malatya 124.65 309 ⇓*i*P **PKPdf 12 32 27.0 +1.0**
CPUP Villa Florida 125.12 134 PKP **PKPdf 12 32 27.0 -0.2**
comp=E,2.4nm,0.8s,baz=159,slow=1.7,SNR=6.4
AKASG Malin Array Be 126.17 326 PKP **PKPdf 12 32 28.1 -0.4**
comp=E,3.8nm,0.7s,baz=56,slow=2.2,SNR=12
KIEV Kiev 126.18 326 *e*PKIKP **PKPdf 12 32 27.7 -0.8**
KIEV Kiev 126.18 326 *e*PKPdf **PKPdf 12 32 27.7 -0.8**
SDV Santo Domingo 126.41 87 *e*PKPdf **PKPdf 12 32 30.0 -0.2**
NB2 NORSAR Subarra 126.60 344 PKPdf **PKPdf 12 32 27.8 -1.2**
comp=Z,1.4nm,0.7s,baz=35,slow=1.8
NOA NORSAR Array B 126.60 344 PKP **PKPdf 12 32 28.5 -0.5**
comp=Z,2.8nm,0.8s,baz=35,slow=2.0,SNR=8.2
BRTR Keskin Array B 127.85 312 PKP **PKPdf 12 32 31.6 -0.7**
comp=Z,1.5nm,0.6s,baz=126,slow=2.1,SNR=9.8
SAML Samuel 129.05 111 *e*PKPdf **PKPdf 12 32 34.7 -0.4**
CFR Carcaliu 129.48 320 ⇑PKIKP **PKPdf 12 32 35.5 +0.6**
CFR Carcaliu 129.48 320 ⇑*i*P **PKPdf 12 32 35.5 +0.6**
BURAR Bucovina Array 130.02 324 ⇑PKIKP **PKPdf 12 32 37.8 +1.8**
BURAR Bucovina Array 130.02 324 ⇑*i*P **PKPdf 12 32 37.8 +1.8**
DOPR Dopca 130.78 322 ⇑*i*P **PKPdf 12 32 41.6 +4.2**
KOLS Kolonicke sedl 130.90 327 *e*PKIKP **PKPdf 12 32 38.0 +0.4**
KOLS Kolonicke sedl 130.90 327 *e*PKP **PKPdf 12 32 38.0 +0.4**
STHS Stebnicka Huta 131.15 328 *e*PKIKP **PKPdf 12 32 38.6 +0.6**
STHS Stebnicka Huta 131.15 328 *e*PKP **PKPdf 12 32 38.6 +0.6**
DRGR 131.90 325 ⇓PKIKP **PKPdf 12 32 39.4 -0.2**
DRGR 131.90 325 ⇓*i*P **PKPdf 12 32 39.4 -0.2**
OKC Ostrava-Krasne 132.43 330 *e*PKPdf **PKPdf 12 32 41.7 +1.3**
OKC Ostrava-Krasne 132.43 330 *e*PKIKP **PKPdf 12 32 41.7 +1.3**
GZR Gura Zlata 132.63 323 ⇓PKIKP **PKPdf 12 32 41.5 +0.5**
GZR Gura Zlata 132.63 323 ⇓*i*P **PKPdf 12 32 41.5 +0.5**
KDZ Kurdzhali 132.86 317 ⇑PKIKP **PKPdf 12 32 42.3 +0.8**
KDZ Kurdzhali 132.86 317 ⇑*i*P **PKPdf 12 32 42.3 +0.8**
DPC Dobruska-Polom 132.95 332 *e*PKPdf **PKPdf 12 32 42.0 +0.6**
DPC *ex* x 12 32 48.5
DPC Dobruska-Polom 132.95 332 *e*PKIKP **PKPdf 12 32 42.0 +0.6**
DPC *e* 12 32 48.5
UPC Upice 132.98 332 *e*PKPdf **PKPdf 12 32 42.7 +1.3**
UPC Upice 132.98 332 *e*PKIKP **PKPdf 12 32 42.7 +1.3**
CLL Collm 133.71 335 *i* PKIKP **PKPdf 12 32 43.8 +1.1**
CLL pmax pmax
comp=Z,4.0nm,0.8s
CLL Collm 133.71 335 *i* PKPdf **PKPdf 12 32 43.8 +1.1**
comp=Z,4.0nm,0.8s
CLL L L 13 31 00.0
comp=Z,100nm,18.1s
GOPC GO Pecny, Ondr 133.96 332 *e*PKPdf **PKPdf 12 32 46.0 +2.7**
MMB Musomiste 134.00 318 ⇓PKIKP **PKPdf 12 32 44.7 +1.0**
MMB Musomiste 134.00 318 ⇓*i*P **PKPdf 12 32 44.7 +1.0**
PRU Pruhonice 134.02 333 *e*PKPdf **PKPdf 12 32 44.0 +0.6**
PRU Pruhonice 134.02 333 *e*PKIKP **PKPdf 12 32 44.0 +0.6**
CLZ Clausthal 134.34 337 *e*PKPdf **PKPdf 12 32 44.7 +0.7**
PKSM Moragy 134.51 326 ⇓PKIKP **PKPdf 12 32 44.8 +0.4**
PKSM Moragy 134.51 326 ⇓*i*P **PKPdf 12 32 44.8 +0.4**
WERD Werda 134.65 335 *e*PKPdf **PKPdf 12 32 44.9 +0.3**
PLN Plauen 134.68 335 *e*PKPdf **PKPdf 12 32 45.1 +0.5**
GUNZ Gunzen 134.70 335 *e*PKPdf **PKPdf 12 32 44.9 +0.2**
WERN Wernitzgruen 134.74 334 *e*PKPdf **PKPdf 12 32 45.3 +0.5**
NKC Novy Kostel 134.75 334 *e*PKPdf **PKPdf 12 32 46.2 +1.4**
NKC Novy Kostel 134.75 334 *e*PKIKP **PKPdf 12 32 46.2 +1.4**
MOX Moxa 134.79 335 *e*PKPdf **PKPdf 12 32 45.0 +0.2**
IBBN Ibbenburen 134.92 339 *e*PKPdf **PKPdf 12 32 45.4 +0.4**
DIVS Divibare 135.00 323 ⇑*i*P **PKPdf 12 32 45.6 +0.1**
KHC Kasperske Hory 135.07 333 *e*PKPdf **PKPdf 12 32 45.7 +0.3**
KHC *ex* x 12 32 53.1
KHC Kasperske Hory 135.07 333 *e*PKIKP **PKPdf 12 32 45.7 +0.3**
KHC *e* 12 32 53.1
KHC Kasperske Hory 135.07 333 *e*PKPdf **PKPdf 12 32 45.8 +0.4**
MANZ Manzenberg 135.08 334 *e*PKPdf **PKPdf 12 32 45.8 +0.4**
ROTZ Rotzenmuhle 135.20 334 *e*PKPdf **PKPdf 12 32 45.9 +0.3**
GEC2 GERESS Array S 135.22 332 *e*PKPdf **PKPdf 12 32 45.9 +0.1**
GERES GERESS Array B 135.22 332 PKP **PKPdf 12 32 45.6 -0.2**
comp=Z,1.5nm,0.6s,baz=67,slow=1.7,SNR=14
UBBA Umterbreizbach 135.30 337 *e*PKPdf **PKPdf 12 32 45.8 +0.2**
WET Wettzell 135.37 333 *e*PKPdf **PKPdf 12 32 47.2 +1.2**
CRES Cresnjev 136.46 328 *i* PKPdf **PKPdf 12 32 48.1 +0.1**
BOJS Bojanci 136.78 328 *i* PKPdf **PKPdf 12 32 49.1 +0.4**
VISS Visnje 136.79 328 *i* PKPdf **PKPdf 12 32 48.9 +0.2**
MEM Membach 136.94 339 PKP **PKPdf 12 32 50.6 +1.8**
DOU Dourbes 137.85 340 PKP **PKPdf 12 32 52.9 +2.4**
TUE Stuetta 138.95 333 *e*PKPdf **PKPdf 12 32 53.0 0.0**
BNI Bardonecchia 141.23 334 *e*PKIKP **PKPdf 12 32 56.8 -0.2**
BNI Bardonecchia 141.23 334 *e*PKPdf **PKPdf 12 32 56.8 -0.2**
KEST Kesra 146.57 320 PKPbc **PKPbc 12 33 07.5 -0.6**
comp=Z,6.6nm,0.9s,baz=330,slow=1.9,SNR=16
CMAH Djebel Manchou 147.14 324 P **PKPbc 12 33 09.0 -0.7**
ABSA Djebel Ababsia 147.35 323 P **PKPbc 12 33 10.5 +0.2**
CKFL Kef-Lekhel 147.70 324 P **PKPbc 12 33 11.6 +0.3**
CASM Ain Smara 147.93 324 P **PKPbc 12 33 12.2 +0.4**
DFRA Djebel Bou Aff 148.08 325 P **PKPbc 12 33 13.0 +0.7**
CTEI Djebel Teioual 148.12 324 P **PKPbc 12 33 12.4 0.0**
SET Setif 148.59 325 P **PKPbc 12 33 14.0 +0.4**
PBRG Braganca 148.67 346 *e*PKPdf **PKPbc 12 33 13.8 +0.2**
POLO Lamas de Olo 149.31 348 *e*PKPdf **PKPbc 12 33 15.5 +0.2**
MVO Moncorvo 149.35 346 *e*PKPdf **PKPdf 12 33 12.2 +1.2**
ESDC Sonseca Array 149.89 341 PKP **PKPdf 12 33 11.5 -0.3**
comp=Z,0.8nm,0.9s,baz=9.3,slow=4.8,SNR=4.0
ESDC PKPbc **PKPbc 12 33 16.5 -0.2**
comp=Z,1.5nm,0.9s,baz=9.4,slow=2.8,SNR=4.1
PVIS Viseu 149.97 347 *e*PKPdf **PKPbc 12 33 17.3 +0.5**
MTE Manteigas 150.19 347 *e*PKPdf **PKPbc 12 33 16.0 +0.6**
PCAS Castello, Conde 150.73 348 *e*PKPdf **PKPbc 12 33 18.8 +0.2**
PMRV Masr??o 151.08 346 *e*PKPdf **PKPbc 12 33 20.1 +0.6**
PMTG Montargil 151.62 347 *e*PKPdf **PKPbc 12 33 20.8 +0.1**
PESTR Estremoz 151.66 346 *e*PKPdf **PKPbc 12 33 19.7 -1.1**
PBAR Barrancos 152.18 344 *e*PKPdf **PKPbc 12 33 22.5 +0.5**
PNCL Nicolau / Gran 152.60 347 *e*PKPdf **PKPbc 12 33 23.2 +0.3**
MESJ Messejana 152.79 346 *e*PKPdf **PKPbc 12 33 23.9 +0.5**
TORD Torodi Ar. Bea 162.46 277 PKP **PKPdf 12 33 28.2 -0.6**
comp=Z,3.0nm,1.0s,baz=344,slow=1.8,SNR=12
TORD PKPab **PKPab 12 34 16.1 -0.7**
comp=Z,1.9nm,1.0s,baz=77,slow=4.4,SNR=4.0

*IDC **03** 12:14:09.1±1.5, 7.°12N×91.°77E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.7/30, mbtmp3.8/10, ML3.9/2, Error ellipse: s-maj=33.4km s-min=28.8km az=35.0*
*ISCJB **03** 12:14:10.6±1.1, 7.°1N±0.°1×91.°8E±0.°1, h23km, mb3.7/8, Error ellipse: s-maj=21.6km s-min=15.6km az=161.3*
ISC 03 12:14:12.7±1.2, 7.°1N±0.°2×91.°8E±0.°1, h23km, n13, σ0s48/10, mb3.7/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.99**	**271**	Pn		Pn	**Pn**	**12 16 49.3**	**+0.5**
	1.3nm,0.3s,baz=84,slow=15,SNR=5.9								
PALK				Sn		Sn	Sn	12 18 37.1	-14
	4.6nm,0.3s,baz=4.8,slow=22,SNR=13								
CMAR	**Chiang Mai Arr**	**13.25**	**31**	Pn		Pn	**Pn**	**12 17 19.9**	**+0.4**
	0.1nm,0.3s,baz=230,slow=14,SNR=4.4								
H08S3	**Diego Garcia H**	**24.19**	**233**	T		T	T	12 45 46.5	
	baz=53,slow=76,SNR=4.8								
H08S2	**Diego Garcia H**	**24.19**	**233**	T		T	T	12 45 45.4	
	baz=53,slow=76,SNR=5.9								
H08S1	**Diego Carcia H**	**24.21**	**233**	T		T	T	12 45 47.6	
	baz=53,slow=76,SNR=5.0								
MKAR	**Makanchi Array**	**40.36**	**350**	P		P	**P**	**12 21 48.2**	**-0.5**
	0.6nm,0.5s,baz=168,slow=8.6,SNR=8.4								
SONM	**Songino Array**	**42.44**	**15**	P		P	**P**	**12 22 06.1**	**+0.3**
	1.0nm,0.7s,baz=195,slow=9.3,SNR=7.8								
GEYT	**Alibeck**	**43.23**	**320**	P		P	**P**	**12 22 12.7**	**+0.3**
	2.0nm,0.6s,baz=152,slow=6.5,SNR=3.0								
KURBB	**Kurchatov Arra**	**44.74**	**348**	P		P	**P**	**12 22 24.0**	**-0.2**
	0.9nm,0.5s,baz=172,slow=7.3,SNR=9.2								
ZALV	**Zalesovo Beam**	**47.03**	**354**	P		P	**P**	**12 22 42.0**	**-0.3**
	1.8nm,0.7s,baz=166,slow=9.2,SNR=7.4								
ASAR	**Alice Springs**	**51.27**	**128**	P		P	**P**	**12 23 15.2**	**0.0**
	0.5nm,0.8s,baz=307,slow=7.7,SNR=2.8								
BRTR	**Keskin Array B**	**61.16**	**312**	P		P	**P**	**12 24 25.0**	**-0.8**
	0.4nm,0.6s,baz=126,slow=3.9,SNR=3.1								
GERES	**GERESS Array B**	**76.83**	**318**	P		P	**P**	**12 26 02.8**	**-0.2**
	0.4nm,0.6s,baz=104,slow=4.8,SNR=3.7								

*ISCJB **03** 12:24:09.8±0.9, 32.°85N±0.°07×142.°6E±0.°2, h31km, mb3.5/3, Error ellipse: s-maj=20.1km s-min=5.0km az=153.2*
*JMA **03** 12:24:10.4±0.4, 32.°88N×142.°60E, h63km, M3.4*
*IDC **03** 12:24:14.5±3.4, 32.°23N×140.°74E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.4/27, mbtmp3.5/5, ML3.6/2, Error ellipse: s-maj=139.3km s-min=19.1km az=69.0*
ISC 03 12:24:11.5±1.3, 32.°88N±0.°07×142.°6E±0.°1, h31km, n17, σ1s38/28, mb3.5/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.24**	**322**	P		P	**Pn**	**12 24 45.5**	**-0.6**
BSO1				*e*S		S	**Sn**	**12 25 12.5**	**+0.1**
BSO3	**Boso 3**	**2.61**	**318**	P		P	**Pn**	**12 24 51.2**	**-0.1**
BSO3				*e*S		S	**Sn**	**12 25 22.6**	**+0.8**
BSO4	**Boso 4**	**2.84**	**318**	P		P	**Pn**	**12 24 55.0**	**+0.3**
BSO4				*e*S		S	**Sn**	**12 25 29.4**	**+1.6**
JOD2	**Odawara 2**	**3.79**	**310**	P		P	**Pn**	**12 25 06.3**	**-1.5**
JYN	**Shimob**	**4.28**	**309**	P		P	**Pn**	**12 25 13.9**	**-0.7**
JYN				*e*S		S	**Sn**	**12 26 03.1**	**-0.5**
JRY	**Ryogami san**	**4.39**	**316**	P		P	**Pn**	**12 25 15.5**	**-0.7**
JRY				*e*S		S	**Sn**	**12 26 05.8**	**-0.5**
JAG	**Ashikaga**	**4.40**	**324**	P		P	**Pn**	**12 25 16.3**	**+0.1**
JAG				*e*S		S	**Sn**	**12 26 05.7**	**-0.7**
JFT	**Otama**	**4.99**	**338**	P		P	**Pn**	**12 25 25.2**	**+0.8**
JFT				*e*S		S	**Sn**	**12 26 17.4**	**-3.6**
MJAR	**Matsushiro Arr**	**5.16**	**316**	Pn		Pn	**Pn**	**12 25 26.8**	**+0.1**
	1.2nm,0.3s,baz=159,slow=12,SNR=16								
MJAR				Sn		Sn	**Sn**	**12 26 24.2**	**-1.0**
	0.3nm,0.3s,baz=175,slow=21,SNR=4.3								
MAT	**Matsushiro**	**5.16**	**316**	P		P	**Pn**	**12 25 27.3**	**+0.5**
MAT				S		S	**Sn**	**12 26 24.9**	**-0.3**
MAT	**Matsushiro**	**5.16**	**316**	P		P	**Pn**	**12 25 27.2**	**+0.5**
MAT				*e*S		S	**Sn**	**12 26 24.8**	**-0.4**
CBIJ	**Chichi jima**	**5.78**	**184**	P		P	**Pn**	**12 25 34.6**	**-0.6**
JCJ	**Chichijima**	**5.78**	**184**	Pn		Pn	**Pn**	**12 25 34.5**	**-0.7**
	5.0nm,0.3s,baz=331,slow=19,SNR=5.6								
JCJ				Sn		Sn	**Sn**	**12 26 36.3**	**-4.2**
	3.9nm,0.3s,baz=103,slow=19,SNR=2.8								
JMK	**Ichinoseki**	**6.16**	**350**	P		P	**Pn**	**12 25 39.8**	**-0.6**
MKAR	**Makanchi Array**	**47.27**	**306**	P		P	**P**	**12 32 42.3**	**+0.5**
	0.3nm,0.5s,baz=94,slow=7.7,SNR=3.4								
WRA	**Warramunga Arr**	**53.12**	**190**	P		P	**P**	**12 33 26.6**	**+0.2**
	0.5nm,0.6s,baz=7.3,slow=7.5,SNR=4.1								
ASAR	**Alice Springs**	**56.85**	**190**	P		P	**P**	**12 33 55.5**	**+2.2**
	0.5nm,1.0s,baz=0.7,slow=7.4,SNR=2.9								

GUC 03 12:29:33.4±0.6, 34.°97S×72.°59W, h12km±4km, ML3.7, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.90**	**119**	⇑*i*P		Pg		12 29 49.9	-0.8
TALC				*i* S		Sg		12 30 02.1	-0.3
NICH	**Los Niches**	**1.12**	**92**	*e*P		Pb		12 29 53.4	-1.4
NICH				*e*S		Sb		12 30 08.4	-0.9
COCH	**Cobquecura**	**1.17**	**188**	⇓*i*P		Pb		12 29 53.9	-1.6
COCH				*i* S		Sb		12 30 09.7	-1.1
LNCH	**Linares**	**1.19**	**137**	⇑*i*P		Pn		12 29 54.5	-1.5
LNCH				*i* S		Sb		12 30 10.8	-0.7
CLCH	**Cerro Calan**	**2.32**	**48**	*e*P		Pn		12 30 12.2	+0.6
CLCH				*i* S		Sb		12 30 42.6	-1.4
CLCH					AML	AML		12 30 54.0	
	comp=N,437nm,0.5s								
PEL	**Peldehue**	**2.41**	**42**	⇓*i*P		Pn		12 30 13.8	+1.0
PEL					AML	AML		12 30 50.1	
	comp=N,558nm,0.5s								

IDC 03 12:39:54.9±1.5, 7.°66N×91.°89E, h0km, mb3.3/4, mb1 3.6/5, mb1mx3.4/28, mbtmp3.5/5, ML3.7/1, Error ellipse: s-maj=44.7km s-min=25.8km az=53.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.10**	**269**	Pn		Pn		12 42 34.5	-0.6
	0.6nm,0.3s,baz=95,slow=15,SNR=3.5								
PALK				Sn		Sn		12 44 24.5	-16
	0.6nm,0.3s,baz=180,slow=19,SNR=3.7								
H08S3	**Diego Garcia H**	**24.59**	**232**	T		T		13 11 43.8	
	baz=54,slow=74,SNR=3.3								
H08S2	**Diego Garcia H**	**24.60**	**232**	T		T		13 11 44.9	
	baz=54,slow=74,SNR=2.8								
H08S1	**Diego Carcia H**	**24.61**	**232**	T		T		13 11 43.2	
	baz=54								
MKAR	**Makanchi Array**	**39.85**	**350**	P		P		12 47 30.4	+0.1
	0.1nm,0.6s,baz=167,slow=8.9,SNR=2.3								
SONM	**Songino Array**	**41.90**	**15**	P		P		12 47 46.9	-0.3
	0.4nm,0.6s,baz=188,slow=8.7,SNR=2.6								
WRA	**Warramunga Arr**	**49.97**	**124**	P		P		12 48 50.3	-0.9
	0.5nm,0.8s,baz=307,slow=8.1,SNR=4.7								
ASAR	**Alice Springs**	**51.51**	**128**	P		P		12 49 03.6	+0.8
	0.4nm,1.0s,baz=306,slow=7.9,SNR=3.2								

SKHL 03 12:46:42.4±0.1, 47.°13N×135.°55E, h11km±1km, mb4.4/1, 1C-1D, Primorye

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHBR	**Khabarovsk**	**1.39**	**346**	⇓*i*Pg		Pn		12 47 07.5	-0.2
KHBR				pPg		Pg		12 47 10.9	+1.9
KHBR				*e*rx		rx		12 47 24.5	
KHBR				*e*Sg		Sn		12 47 25.9	-0.1
TEY	**Ternei**	**2.22**	**160**	⇑*i*Pn		Pn		12 47 19.3	+0.2
TEY				*e*Pg		Pb		12 47 23.0	+0.5
TEY					AMB	AMB		12 47 24.0	
	80nm,0.5s								
TEY				pPg		Pg		12 47 24.1	-0.8
TEY				*e*Sn		Sn		12 47 46.3	-0.2
TEY				*e*Sg		Sg		12 47 52.4	-1.3
TEY				A		A		12 47 53.2	
	240nm,0.2s								
KLR	**Kul'dur**	**3.30**	**311**	*e*rx		rx		12 47 45.2	
KLR				*e*Sg		Sg		12 48 26.4	-2.0
GRNR	**Gornyy**	**3.69**	**9**	*e*Sg		Sg		12 48 37.8	-3.1
GRTR	**Gornotajezhnoj**	**4.17**	**216**	*e*Pg		Pb		12 47 57.4	+1.8
GRTR				*e*Sg		Sg		12 48 52.4	-4.0
UGL	**Uglegorsk**	**4.78**	**64**	*e*rx		rx		12 48 18.5	
UGL				*e*rx		rx		12 48 44.0	
UGL				*e*rx		rx		12 48 58.1	
UGL				*e*Sg		Sg		12 49 12.0	-3.8
UGL				A		A		12 49 13.0	
	80nm,0.5s								
UGL				*e*Sg		Sb		12 49 35.1	+31
UGL				A		A		12 49 41.7	
	33nm,0.7s								
TYV	**Tymovskoe**	**5.98**	**49**	*e*Sg		Sg		12 49 48.2	-6.2
TYV				A		A		12 49 54.6	
	30nm,1.0s								
EKMR	**Ekimchan**	**6.18**	**345**	*e*Pn		Pn		12 48 13.4	-0.1
EKMR				*e*rx		rx		12 48 22.5	
EKMR				*e*Sn		Sn		12 49 24.0	-0.1
EKMR				*e*Sg		Sg		12 49 56.5	-4.2
EKMR				A		A		12 50 07.0	
	10.0nm,0.6s								

Error ellipse: s-maj=12.8km s-min=7.9km az=78.0
*IDC **03** 13:05:07.5±2.9, 4°21S×143°38E, h111^{km}, 24^{km}, mb3.9/12, mb1 4.0/15, mb1mx4.0/20, mbtmp4.3/15, MS3.0/1, Ms1 3.0/1, ms1mx2.6/29, Error ellipse: s-maj=27.6km s-min=10.7km az=98.0*

ISC 03 13:05:07.5±0.6, 4°15S±0°07×143°31E±0°08, h100^{km}, n30, σ1§45/30, mb4.1/13, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.06**	**302**	P	**Pn**	**13 05 55.1**	**+0.9**
	9.6nm,0.3s,baz=162,slow=9.5,SNR=49						
JAY				S	**Sn**	**13 06 30.6**	**+0.4**
	12nm,0.3s,baz=111,slow=15,SNR=5.9						
JAY				LR	LR	13 07 08.8	
	comp=Z,235nm,20.7s,baz=294,slow=38						
JAY	**Jayapura**	**3.06**	**302**	P	**Pn**	**13 05 57.0**	**+2.8**
	baz=3.0,SNR=6.9						
MANU	**Manus Island**	**4.56**	**63**	P	Pn	13 06 26.5	+12
	baz=5.0,SNR=4.1						
PMG	**Port Moresby**	**6.47**	**144**	P	**Pn**	**13 06 43.0**	**+2.8**
	baz=6.4,SNR=5.6						
PMG					**Pn**	**13 06 43.0**	**+2.8**
	baz=6.4,SNR=5.6						
PMG				P	**Pn**	**13 06 43.0**	**+2.8**
	baz=6.4,SNR=5.6						
PMG	**Port Moresby**	**6.47**	**144**	*e*Pn	Pn	13 06 37.1	-3.1
	23nm,0.4s						
PMG				*e*Sn	Sn	13 07 45.7	-7.0
COEN	**Coen**	**9.75**	**181**	P	Pn	13 07 28.0	+3.1
	baz=9.5,SNR=11						
FAKI	**Fak Fak**	**11.11**	**276**	P	**Pn**	**13 07 44.4**	**+1.0**
	baz=11,SNR=8.1						
SIJI	**Sorong**	**12.46**	**285**	P	**Pn**	**13 08 01.0**	**-0.4**
	3.8nm,0.3s,baz=95,slow=16,SNR=6.7						
KDU	**Kakadu**	**13.66**	**231**	P	**Pn**	**13 08 15.8**	**-1.4**
	baz=13,SNR=28						
QIS	**Mount Isa**	**16.70**	**192**	P	**Pn**	**13 08 55.2**	**-0.4**
	baz=16,SNR=5.8						
WRAB	**Tennant Creek**	**17.96**	**208**	*e*P	**P**	**13 09 09.7**	**-0.3**
	33nm,1.4s						
WRA	**Warramunga Arr**	**17.97**	**208**	P	**P**	**13 09 09.7**	**-0.5**
	1.0nm,0.3s,baz=32,slow=11,SNR=64						
WRA				S	S	13 12 20.7	-11
	0.1nm,0.3s,baz=28,slow=19,SNR=5.5						
KNRA	**Kununurra**	**18.33**	**230**	P	**P**	**13 09 13.4**	**-0.7**
	baz=18,SNR=5.6						
SOEI	**Soe**	**19.70**	**253**	P	**Pn**	**13 09 32.9**	**+1.3**
	baz=19,SNR=4.1						
SOEI	**Soe**	**19.70**	**253**	*e*P	**P**	**13 09 29.3**	**0.0**
	33nm,0.7s						
ASAR	**Alice Springs**	**21.42**	**204**	P	**P**	**13 09 47.2**	**-0.4**
	2.6nm,0.6s,baz=28,slow=11,SNR=31						
ASAR				S	**S**	**13 13 37.9**	**-1.9**
	1.5nm,0.8s,baz=24,slow=21,SNR=4.3						
WRKA	**Warakurna**	**25.29**	**213**	P	**P**	**13 10 24.3**	**-0.5**
	baz=25,SNR=5.9						
STKA	**Stephens Creek**	**27.63**	**183**	P	**P**	**13 10 43.6**	**-2.2**
	1.0nm,0.3s,baz=9.5,slow=6.1,SNR=1.8						
MJAR	**Matsushiro Arr**	**40.76**	**354**	P	**P**	**13 12 37.3**	**-1.5**
	1.2nm,0.4s,baz=179,slow=8.6,SNR=7.3						
KSAR	**Wonju Array Be**	**43.80**	**342**	P	**P**	**13 13 03.6**	**+0.3**
KSRS	**Korea Array**	**43.80**	**342**	P	**P**	**13 13 03.6**	**+0.3**
	8.8nm,0.8s,baz=162,slow=9.3,SNR=32						
CMAR	**Chiang Mai Arr**	**49.14**	**299**	P	**P**	**13 13 45.8**	**+0.3**
	1.5nm,0.6s,baz=125,slow=6.2,SNR=11						
USRK	**Ussuriysk Ar.**	**49.19**	**349**	P	**P**	**13 13 45.1**	**-0.3**
	5.7nm,0.8s,baz=175,slow=7.5,SNR=14						
PETK	**Petropavlovsk-**	**58.32**	**10**	P	**P**	**13 14 51.7**	**-0.1**
	6.0nm,0.8s,baz=165,slow=6.2,SNR=6.8						
SONM	**Songino Array**	**61.04**	**332**	P	**P**	**13 15 11.0**	**+0.2**
	1.8nm,0.8s,baz=157,slow=8.1,SNR=13						
MKAR	**Makanchi Array**	**73.75**	**321**	P	**P**	**13 16 29.9**	**-1.0**
	5.4nm,1.0s,baz=100,slow=8.1,SNR=24						
VNDA	**Vanda**	**73.99**	**176**	P	**P**	**13 16 30.7**	**-0.9**
	0.3nm,0.4s,baz=324,slow=7.0,SNR=6.6						
ZALV	**Zalesovo Beam**	**75.51**	**329**	P	**P**	**13 16 39.4**	**-1.4**
	2.1nm,0.6s,baz=114,slow=4.9,SNR=13						
BRVK	**Borovoye**	**83.20**	**324**	*e*P	P	13 17 20.1	-2.4
	11nm,1.4s						
ILAR	**Eielson Array**	**85.26**	**24**	P	**P**	**13 17 30.8**	**-2.0**
	1.5nm,0.8s,baz=259,slow=4.8,SNR=23						

*NEIC **03** 13:14:44.0, 50°42N×130°36W, h10^{km}, mb4.2/27, MW4.4(OTT), After OTT.*
*PGC **03** 13:14:44.3±4.8, 50°42N×130°36W, h10^{km}, MLSn3.7/42, Mw4.4/42, 210km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
*GCMT **03** 13:14:44.0±0.4, 50°42N×130°25W, h22^{km}±2^{km}, MW4.9/72, Moment Tensor Solution. s15,c16; s72,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.01±.14; $M_{\theta\theta}$-2.38±.12; $M_{\phi\phi}$2.37±.12; $M_{r\theta}$-0.23±.19; $M_{\theta\phi}$0.45±.10; $M_{\phi r}$0.38±.18; Best double couple: M_o2.45900×10^{16} NP1:$\phi_1$320.00000°, δ89.00000°, λ170.00000°. NP2: $\phi_2$51.00000°, δ80.00000°, λ1.00000°. Principal axes: T 2.4660, Plg8.0000°, Azm275.0000°; N -0.0130, Plg80.0000°, Azm132.0000°; P -2.4520, Plg6.0000°, Azm6.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **03** 13:14:45.9±0.8, 50°53N×130°17W, h0^{km}, mb3.7/11, mb1 4.0/20, mb1mx3.9/37, mbtmp3.8/20, ML4.1/9, MS3.7/33, Ms1 3.7/33, ms1mx3.7/43 Error ellipse: s-maj=14.3km s-min=8.5km az=58.0*

ISC 03 13:14:45.5±3.3, 50°57N±0°04×130°15W±0°05, h3^{km}±22^{km}, n431, σ1§64/366, mb3.9/18, MS3.8/26, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.29**	**86**	Pn	**Pn**	**13 15 08.4**	**-2.0**
HOLB				Sn	**Sb**	**13 15 25.3**	**-2.0**
BPBC	**Brooks Peninsu**	**1.58**	**104**	Pn	**Pn**	**13 15 11.6**	**-2.8**
PHC	**Port Hardy**	**1.73**	**84**	Pn	**Pn**	**13 15 14.9**	**-1.6**
PHC				Sn	**Sn**	**13 15 35.9**	**-3.2**
MAYB	**Maynard**	**1.91**	**94**	Pn	**Pn**	**13 15 17.1**	**-1.9**
FHRB	**Fair Harbour**	**2.01**	**104**	Pn	**Pn**	**13 15 18.0**	**-2.3**
BBB	**Bella Bella**	**2.06**	**37**	Pn	**Pn**	**13 15 20.3**	**-0.6**
	72nm,0.3s,baz=232,slow=7.8,SNR=2740						
BBB				Sn	**Sn**	**13 15 44.2**	**-3.0**
	baz=294,slow=20						
BBB				LR	LR	13 16 03.9	
	comp=Z,431nm,20.9s,baz=69,slow=37						
BBB	**Bella Bella**	**2.06**	**37**	Pn	**Pn**	**13 15 20.4**	**-0.6**
BBB				Sn	**Sn**	**13 15 44.2**	**-3.0**
EDB	**Eliza Dome**	**2.06**	**108**	Pn	**Pn**	**13 15 18.4**	**-2.6**
EDB				Sn	**Sn**	**13 15 43.1**	**-4.2**
TLCB	**Telegraph Cove**	**2.11**	**89**	Pn	**Pn**	**13 15 20.1**	**-1.6**
BNB	**Barry Inlet**	**2.25**	**334**	Pn	**Pn**	**13 15 21.1**	**-2.6**
WOSB	**Woss**	**2.33**	**99**	Pn	**Pn**	**13 15 23.1**	**-1.7**
ETB	**Estevan Point**	**2.62**	**116**	Pn	**Pn**	**13 15 26.2**	**-2.4**
NCRB	**Newcastle Ridg**	**2.62**	**92**	Pn	**Pn**	**13 15 27.1**	**-1.7**
GDR	**Gold River**	**2.76**	**105**	Pn	**Pn**	**13 15 28.6**	**-2.0**
BCBC	**Bella Coola**	**2.79**	**48**	Pn	**Pn**	**13 15 30.6**	**-0.3**
BCBC				Sn	**Sn**	**13 16 04.8**	**-0.3**
MOBC	**Moresby Island**	**2.82**	**337**	Pn	**Pn**	**13 15 29.2**	**-2.2**
DIB	**Dawson Inlet,**	**3.01**	**332**	Pn	**Pn**	**13 15 31.5**	**-2.5**
H02S1	**DAWSON INLET T**	**3.01**	**332**	Pn	**Pn**	**13 15 31.5**	**-2.5**
H02S1				Sn	**Sn**	**13 16 07.5**	**-3.0**
H02N1	**VAN INLET T-PH**	**3.07**	**332**	Pn	**Pn**	**13 15 32.4**	**-2.6**
H02N1				Sn	**Sn**	**13 16 09.1**	**-3.2**
VIB	**Van Inlet**	**3.07**	**332**	Pn	**Pn**	**13 15 32.5**	**-2.5**
VIB				Sn	**Sn**	**13 16 09.0**	**-3.3**
TOFB	**Tofino**	**3.09**	**116**	Pn	**Pn**	**13 15 32.6**	**-2.5**
CBB	**Campbell River**	**3.11**	**98**	Pn	**Pn**	**13 15 34.2**	**-1.3**
BTB	**Buttle Lake**	**3.18**	**108**	Pn	**Pn**	**13 15 34.6**	**-2.0**
OZB	**Mount Ozzard**	**3.42**	**116**	Pn	**Pn**	**13 15 37.1**	**-2.7**
ALB	**Alberni**	**3.67**	**109**	Pn	**Pn**	**13 15 41.9**	**-1.2**
BMSB	**Bamfield Mari**	**3.69**	**116**	Pn	**Pn**	**13 15 42.0**	**-1.3**
B928	**Bamfield**	**3.69**	**116**	Pn	**Pn**	**13 15 42.0**	**-1.3**
B927	**Port Alberni**	**3.70**	**109**	Pn	**Pn**	**13 15 42.0**	**-1.5**
RUBB	**Prince Rupert**	**3.77**	**359**	Pn	**Pn**	**13 15 43.9**	**-0.6**
TXB	**Texada**	**3.78**	**101**	Pn	**Pn**	**13 15 43.7**	**-0.9**
NDB	**Naden**	**3.80**	**334**	Pn	**Pn**	**13 15 43.3**	**-1.7**
MGB	**Mount Grey**	**3.87**	**112**	Pn	**Pn**	**13 15 44.2**	**-1.8**
SHB	**Sechelt**	**4.15**	**101**	Pn	**Pn**	**13 15 49.3**	**-0.6**
YOUB	**Youbou, Lake C**	**4.17**	**111**	Pn	**Pn**	**13 15 49.0**	**-1.1**
NLLB	**Nanaimo Lost L**	**4.20**	**106**	Pn	**Pn**	**13 15 49.4**	**-1.1**
PFB	**Port Renfrew**	**4.22**	**116**	Pn	**Pn**	**13 15 49.4**	**-1.3**
OCP	**Olym-Cheeka Pk**	**4.26**	**120**	Pn	**Pn**	**13 15 50.8**	**-0.5**
OCP	**Olym-Cheeka Pk**	**4.26**	**120**	P	**Pn**	**13 15 50.6**	**-0.6**
UBRB	**Upper Baezaeko**	**4.43**	**56**	Pn	**Pn**	**13 15 55.2**	**+1.5**
OTR	**Olympics--Tyee**	**4.54**	**121**	P	**Pn**	**13 15 55.8**	**+0.7**
LZB	**Mount Lazard**	**4.55**	**113**	Pn	**Pn**	**13 15 55.4**	**+0.1**
WPB	**Watts Point**	**4.56**	**99**	Pn	**Pn**	**13 15 55.4**	**+0.1**
BIB	**Bowen Island**	**4.56**	**102**	Pn	**Pn**	**13 15 54.7**	**-0.7**
WSLR	**Whistler**	**4.65**	**93**	Pn	**Pn**	**13 15 56.5**	**-0.1**
OBC	**Olympics--Boni**	**4.71**	**120**	Pn	**Pn**	**13 15 56.6**	**-0.9**
OBC	**Olympics--Boni**	**4.71**	**120**	P	**Pn**	**13 15 57.8**	**+0.3**
PGC	**Sidney**	**4.76**	**111**	Pn	**Pn**	**13 15 57.4**	**-0.6**
PGC	**Sidney**	**4.76**	**111**	*e*Pn	**Pn**	**13 15 55.8**	**-2.2**
PGC				*e*Sn	**Sn**	**13 16 51.9**	**-1.8**
SNB	**Saturna Island**	**4.87**	**109**	Pn	**Pn**	**13 15 59.9**	**+0.3**
VGZ	**Gonzales**	**4.94**	**113**	Pn	**Pn**	**13 16 00.8**	**+0.2**
HNB	**Haney**	**5.06**	**102**	Pn	**Pn**	**13 16 02.1**	**-0.1**
MCW	**Mount Constitu**	**5.12**	**109**	Pn	**Pn**	**13 16 03.3**	**+0.3**
MCW	**Mount Constitu**	**5.12**	**109**	P	**Pn**	**13 16 03.4**	**+0.4**
NLWA	**Neilton Lookou**	**5.21**	**125**	*e*Pn	Pn	13 16 01.1	-3.2
	21nm,0.8s						
LLLB	**Lillooet**	**5.27**	**86**	Pn	**Pn**	**13 16 05.2**	**+0.1**
FSB	**Fort Saint Jam**	**5.29**	**40**	Pn	**Pn**	**13 16 06.0**	**+0.7**
BLN	**Blyn Mountain**	**5.35**	**116**	Pn	**Pn**	**13 16 06.3**	**0.0**
BLN	**Blyn Mountain**	**5.35**	**116**	P	**Pn**	**13 16 06.7**	**+0.5**
VDB	**Vedder Mountai**	**5.43**	**103**	Pn	**Pn**	**13 16 08.3**	**+1.0**
WISH	**Wishkah**	**5.44**	**127**	Pn	**Pn**	**13 16 08.3**	**+0.8**
A05A	**Maple Falls**	**5.45**	**104**	Pn	**Pn**	**13 16 08.7**	**+1.1**
HDW	**Hoodsport**	**5.50**	**119**	Pn	**Pn**	**13 16 08.9**	**+0.6**
SMW	**South Mountain**	**5.54**	**123**	Pn	**Pn**	**13 16 09.0**	**+0.2**
MBW	**Mount Baker**	**5.64**	**105**	Pn	**Pn**	**13 16 11.1**	**+0.7**
CMW	**Cultus Mountai**	**5.65**	**109**	Pn	**Pn**	**13 16 11.5**	**+1.0**
GNW	**Green Mountain**	**5.67**	**119**	Pn	**Pn**	**13 16 11.1**	**+0.5**
HOPB	**Hope**	**5.75**	**98**	Pn	**Pn**	**13 16 12.7**	**+1.0**
JCW	**Jim Creek**	**5.87**	**111**	Pn	**Pn**	**13 16 13.7**	**+0.3**
B06A	**Marblemount**	**6.00**	**107**	Pn	**Pn**	**13 16 15.9**	**+0.8**
WRAK	**Wrangell Islan**	**6.01**	**348**	*e*Pn	**Pn**	**13 16 12.9**	**-2.3**
	46nm,0.8s						
WRAK				*e*Sn	**Sn**	**13 17 21.3**	**-3.1**
RPW	**Rockport**	**6.01**	**107**	Pn	**Pn**	**13 16 15.9**	**+0.6**
GPW	**Glacier Peak**	**6.38**	**109**	Pn	**Pn**	**13 16 21.4**	**+0.9**
FMW	**Mount Fremont**	**6.68**	**120**	Pn	**Pn**	**13 16 25.8**	**+1.1**
LON	**Longmire**	**6.71**	**121**	Pn	**Pn**	**13 16 26.1**	**+1.1**
LON	**Longmire**	**6.71**	**121**	Pn	**Pn**	**13 16 25.8**	**+0.8**
	20nm,0.6s						
LON				*e*Sn	**Sn**	**13 17 38.1**	**-3.9**
PNT	**Penticton**	**6.91**	**96**	Pn	**Pn**	**13 16 28.6**	**+0.9**
LTY	**Liberty**	**7.07**	**114**	Pn	**Pn**	**13 16 31.1**	**+1.2**
B08A	**Colville Reser**	**7.39**	**103**	Pn	**Pn**	**13 16 34.9**	**+0.7**
DLBC	**Dease Lake**	**7.89**	**0**	Pn	Pn	13 16 43.5	+2.4
	7.9nm,0.3s,baz=172,slow=5.8,SNR=158						
DLBC				Sn	**Sn**	**13 18 11.4**	**+0.6**
	1.3nm,0.3s,baz=222,slow=11,SNR=4.8						
DLBC				Lg	Lg	13 18 49.9	
	baz=289,slow=18,SNR=2.7						
DLBC	**Dease Lake**	**7.89**	**0**	Pn	Pn	13 16 43.2	+2.1
DLBC	**Dease Lake**	**7.89**	**0**	*e*Pn	**Pn**	**13 16 40.9**	**-0.2**
	40nm,0.6s						
DLBC				*e*Sn	**Sn**	**13 18 08.8**	**-2.0**
DLBC				Sn	**Sn**	**13 18 11.4**	**+0.6**
DLBC				Lg	Lg	13 18 49.9	
HAWA	**Hanford**	**8.19**	**117**	Pn	**Pn**	**13 16 44.9**	**-0.4**
	22nm,0.9s						
NEW	**Newport**	**8.80**	**100**	Pn	**Pn**	**13 16 54.5**	**+1.0**
	1.2nm,0.3s,baz=295,slow=13,SNR=13						
NEW				Lg	Lg	13 19 24.9	
	0.2nm,0.3s,baz=270,slow=20,SNR=2.2						
NEW				LR	LR	13 20 16.0	
	comp=Z,1μm,19.9s,baz=282,slow=38						
NEW	**Newport**	**8.80**	**100**	P	**Pn**	**13 16 54.4**	**+0.8**
	baz=8.9,SNR=7.7						
NEW				S	**Sn**	**13 18 32.8**	**-0.4**
	baz=8.9						
NEW	**Newport**	**8.80**	**100**	*e*Pn	Pn	13 16 50.4	-3.2
	8.9nm,0.9s						
NEW				Lg	Lg	13 19 24.9	
FNBB	**Fort Nelson**	**9.30**	**24**	Pn	**Pn**	**13 17 01.3**	**+0.9**
HUMO	**Hull Mountain**	**9.37**	**145**	Pn	Pn	13 16 57.0	-4.4
	24nm,1.1s						
J05D	**Fort Rock, OR**	**9.49**	**137**	P	**Pn**	**13 17 04.2**	**+1.0**
	baz=9.5						
PLBC	**Pleasant Camp**	**9.59**	**341**	Pn	**Pn**	**13 17 04.2**	**-0.2**
YBH	**Yreka Blue Hor**	**10.23**	**147**	Pn	**Pn**	**13 17 15.1**	**+1.9**
	0.1nm,0.3s,baz=331,slow=12,SNR=5.1						
YBH				LR	LR	13 20 26.8	
	comp=Z,340nm,20.9s,baz=330,slow=33						
YBH	**Yreka Blue Hor**	**10.23**	**147**	*e*Pn	Pn	13 17 09.7	-3.5
	33nm,1.8s						
BMO	**Blue Mountains**	**10.37**	**119**	*e*Pn	Pn	13 17 11.7	-3.4
	3.6nm,0.8s						
BSMT	**Bassoo Peak**	**10.41**	**99**	*e*Pn	**Pn**	**13 17 15.6**	**-0.2**
	5.5nm,0.8s						
WHY	**Whitehorse**	**10.46**	**347**	Pn	**Pn**	**13 17 17.6**	**+1.2**
WALA	**Waterton Lakes**	**10.60**	**92**	Pn	Pn	13 17 13.0	-5.4
JTMT	**Jette**	**10.77**	**99**	*e*Pn	Pn	13 17 15.5	-5.1
SWMT	**Swartz Lake**	**11.03**	**100**	*e*Pn	**Pn**	**13 17 22.2**	**-2.0**
	5.7nm,0.9s						
HYT	**Haines Junctio**	**11.08**	**341**	Pn	**Pn**	**13 17 25.3**	**+0.5**
HYT	**Haines Junctio**	**11.08**	**341**	*e*Pn	**Pn**	**13 17 23.9**	**-0.9**
MSO	**Missoula**	**11.34**	**103**	P	**Pn**	**13 17 28.9**	**+0.4**
	baz=3.1,SNR=6.7						
WVOR	**Wild Horse Val**	**11.35**	**131**	Pn	Pn	13 17 25.6	-3.0
	8.4nm,1.2s						
SLMT	**Seeley Lake**	**11.45**	**100**	*e*Pn	**Pn**	**13 17 27.6**	**-2.4**
	12nm,0.8s						
CHMT	**Chamberlain Mo**	**11.74**	**102**	*e*Pn	**Pn**	**13 17 32.4**	**-1.5**
	10.0nm,1.1s						
MFID	**Camas Ranch**	**12.10**	**121**	*e*Pn	**Pn**	**13 17 36.6**	**-2.3**
	4.7nm,1.0s						
LRM	**Limekiln Ridge**	**12.72**	**105**	*e*Pn	**Pn**	**13 17 46.1**	**-1.3**
	26nm,0.7s						
HLID	**Hailey**	**12.80**	**117**	P	**Pn**	**13 17 48.9**	**+0.5**
	baz=13,SNR=9.0						
HLID	**Hailey**	**12.80**	**117**	*e*Pn	**Pn**	**13 17 45.7**	**-2.7**
	5.3nm,1.0s						
DLMT	**Dillon**	**12.85**	**107**	*e*Pn	**Pn**	**13 17 48.6**	**-0.5**
	11nm,0.8s						
MCMT	**McKenzie Canyo**	**12.98**	**110**	Pn	**Pn**	**13 17 50.4**	**-0.6**
	1.7nm,0.4s						
BOZ	**Bozeman (W)**	**13.31**	**105**	P	**Pn**	**13 17 56.8**	**+1.5**
	baz=13,SNR=6.9						
EGMT	**Eagleton**	**13.55**	**93**	P	Pn	13 18 01.3	+2.8
	baz=14,SNR=9.1						
EGMT	**Eagleton**	**13.55**	**93**	*e*Pn	**Pn**	**13 17 57.5**	**-1.0**
	19nm,1.0s						
A19A	**Klindworth Far**	**13.93**	**88**	P	**Pn**	**13 18 05.9**	**+2.2**
	baz=14						
B19A	**Brinkman Farms**	**13.93**	**91**	P	Pn	13 18 06.3	+2.5
	baz=14,SNR=16						
YMR	**Madison River**	**14.20**	**107**	Pn	Pn	13 18 04.5	-3.2
	26nm,1.0s						
ELK	**Elko**	**14.30**	**128**	Pn	**Pn**	**13 18 10.9**	**+2.0**
	0.1nm,0.3s,baz=312,slow=14,SNR=2.5						
ELK				LR	LR	13 23 30.7	
	comp=Z,324nm,18.1s,baz=322,slow=37						
A20A	**Cobblestone Ra**	**14.46**	**88**	P	P	13 18 13.6	-4.5
	baz=15						
B20A	**Solberg Farm,**	**14.53**	**90**	P	Pn	13 18 14.2	+2.3
	baz=15						
H17A	**Grant Village**	**14.58**	**107**	P	**Pn**	**13 18 14.3**	**+1.4**
	baz=15						
IMW	**Indian Meadow**	**14.63**	**110**	Pn	**Pn**	**13 18 11.7**	**-1.9**
	20nm,0.9s						
YKA	**Yellowknife Ar**	**14.65**	**29**	Pn	**Pn**	**13 18 11.8**	**-1.6**
	1.0nm,0.3s,baz=222,slow=12,SNR=24						
YKA				Sn	Sn	13 20 48.1	-8.1
	0.4nm,0.3s,baz=222,slow=22,SNR=6.2						
YKW3	**Yellowknife Ar**	**14.70**	**29**	Pn	**Pn**	**13 18 13.6**	**-0.5**
C20A	**Veseth Ranch,**	**14.76**	**93**	P	**Pn**	**13 18 16.9**	**+1.9**
	baz=15,SNR=13						
NVAR	**Mina Array Bea**	**14.76**	**141**	Pn	**Pn**	**13 18 17.4**	**+2.1**
	0.2nm,0.3s,baz=329,slow=14,SNR=3.6						
MOOW	**Moose Ponds**	**14.83**	**110**	*e*Pn	**Pn**	**13 18 14.2**	**-2.1**
	16nm,0.8s						
TPAW	**Teton Pass**	**14.86**	**111**	Pn	**Pn**	**13 18 15.3**	**-1.3**
	34nm,0.9s						
REDW	**Red Top Meadow**	**14.99**	**111**	Pn	**Pn**	**13 18 17.6**	**-0.8**
	24nm,1.0s						
SNOW	**Snow King Moun**	**14.99**	**111**	*e*Pn	**Pn**	**13 18 17.9**	**-0.4**
	20nm,0.8s						
LOHW	**Long Hollow**	**14.99**	**110**	*e*Pn	**Pn**	**13 18 15.7**	**-2.8**
	14nm,0.9s						
RLMT	**Red Lodge**	**15.02**	**103**	P	**Pn**	**13 18 20.7**	**+1.9**
	baz=15,SNR=5.9						
RLMT	**Red Lodge**	**15.02**	**103**	*e*Pn	**Pn**	**13 18 17.8**	**-1.0**
	18nm,1.2s						
B21A	**Ellsworth Farm**	**15.17**	**89**	P	**P**	**13 18 22.6**	**-3.2**
	baz=15						
ROMN	**Roman Lake**	**15.21**	**20**	Pn	**Pn**	**13 18 21.1**	**+0.1**
MLAC	**Mammoth Lakes**	**15.25**	**144**	P	**Pn**	**13 18 22.0**	**+0.1**
	baz=15						
EGAK	**Eagle**	**15.38**	**342**	*e*Pn	**Pn**	**13 18 21.5**	**-1.7**
	11nm,0.8s						
F20A	**Billings**	**15.41**	**100**	P	**P**	**13 18 27.4**	**-1.1**
	baz=16,SNR=8.4						
H19A	**Powell**	**15.42**	**104**	P	**P**	**13 18 26.7**	**-2.0**
	baz=16,SNR=6.2						
G20A	**Bridger**	**15.63**	**102**	P	**P**	**13 18 29.5**	**-1.6**
	baz=16						
D21A	**La Casta Ranch**	**15.63**	**94**	P	**P**	**13 18 29.6**	**-1.4**
	baz=16,SNR=8.5						
A22A	**Carney Farms,**	**15.72**	**86**	P	**P**	**13 18 31.1**	**-0.8**
	baz=16						
I19A	**Meeteetse**	**15.74**	**106**	P	**P**	**13 18 30.7**	**-1.6**
	baz=16,SNR=16						
E21A	**Keefer Ranch,**	**15.78**	**96**	P	**P**	**13 18 31.1**	**-1.5**
	baz=16,SNR=7.0						
B22A	**Reddig Ranch S**	**15.86**	**89**	P	**P**	**13 18 32.2**	**-1.3**
	baz=16						
DUG	**Dugway**	**15.96**	**124**	P	**P**	**13 18 33.8**	**-0.9**
	baz=16,SNR=6.1						
DUG	**Dugway**	**15.96**	**124**	*e*Pn	**Pn**	**13 18 29.3**	**-1.7**
	11nm,1.0s						
R11A	**Troy Canyon, C**	**16.00**	**134**	P	**P**	**13 18 33.3**	**-2.0**
	baz=16,SNR=6.4						
C22A	**Vida**	**16.10**	**91**	P	**P**	**13 18 34.4**	**-1.8**
	baz=16,SNR=12						
BW06	**Boulder Array**	**16.11**	**111**	Pn	**Pn**	**13 18 31.2**	**-1.9**
	26nm,1.2s						
PDAR	**Pinedale Array**	**16.11**	**111**	Pn	**P**	**13 18 36.2**	**-0.2**
	0.1nm,0.3s,baz=322,slow=12,SNR=73						
D22A	**Cohagen**	**16.12**	**93**	P	**P**	**13 18 35.2**	**-1.2**
	baz=16,SNR=14						
H20A	**Greybull**	**16.12**	**104**	P	**P**	**13 18 34.8**	**-1.7**
	baz=16,SNR=17						
J19A	**Crowheart**	**16.12**	**109**	P	**P**	**13 18 35.2**	**-1.4**
	baz=16						
G21A	**Lodge Grass**	**16.26**	**100**	P	**P**	**13 18 36.1**	**-1.9**
	baz=16						
I20A	**Worland**	**16.31**	**105**	P	**P**	**13 18 38.0**	**-0.6**
	baz=16,SNR=16						
B23A	**Brockton**	**16.45**	**88**	P	**P**	**13 18 38.5**	**-1.5**
	baz=16,SNR=12						
NLU	**North Lily Min**	**16.52**	**123**	*e*Pn	**Pn**	**13 18 37.0**	**-1.4**
	6.9nm,1.1s						
C23A	**Lambert**	**16.53**	**90**	P	**P**	**13 18 40.1**	**-0.8**
	baz=17,SNR=6.3						
E22A	**Miles City**	**16.53**	**95**	P	**P**	**13 18 40.2**	**-0.8**
	baz=17						
F22A	**Rosebud**	**16.61**	**98**	P	**P**	**13 18 41.1**	**-0.8**
	baz=17,SNR=5.5						
H21A	**Big Horn, Sher**	**16.64**	**102**	P	**P**	**13 18 41.2**	**-1.1**
	baz=17						
D23A	**Lindsay**	**16.73**	**92**	P	**P**	**13 18 43.0**	**-0.2**
	baz=17,SNR=40						
ILAR	**Eielson Array**	**16.73**	**335**	Pn	**P**	**13 18 43.0**	**0.0**
	0.0nm,0.3s,baz=143,slow=12,SNR=14						
ILAR				LR	LR	13 24 52.8	
	comp=Z,192nm,20.9s,baz=150,slow=36						
TRF	**Thorofare Moun**	**16.83**	**328**	Pn	**P**	**13 18 45.7**	**+1.4**
G22A	**Birney**	**16.84**	**99**	P	**P**	**13 18 43.6**	**-0.8**
	baz=17						
TPNV	**Topopah Spring**	**16.87**	**138**	P	**P**	**13 18 44.9**	**0.0**
	baz

5.0nm,0.9s
J24A Dixon Ranch, L 18.78 103 P Pn 13 19 07.2 +1.0
baz=19
H25A Fruitdale 18.81 98 P Pn 13 19 07.8 +1.2
baz=19
F26A Lodgepole 18.86 94 P Pn 13 19 08.8 +1.7
baz=19,SNR=12
BBRC Big Bear Solar 18.95 144 P Pn 13 19 11.1 +2.6
baz=19
I25A Rochford 19.01 100 P Pn 13 19 10.7 +1.6
baz=19,SNR=12
G26A Maurine 19.14 95 P Pn 13 19 12.2 +1.7
baz=19
F27A Lemmon 19.26 93 P Pn 13 19 13.5 +1.5
baz=19
J25A Sunshine Ranch 19.29 102 P Pn 13 19 14.9 +2.5
baz=19
H26A Fairpoint 19.33 97 P Pn 13 19 14.3 +1.4
baz=19
PV04 Paradox Valley 19.36 121 P P 13 19 11.1 -1.2
N23A Red Feather La 19.39 111 P Pn 13 19 14.6 +0.8
baz=19
PHWY Pilot Hill 19.43 109 *e*P P 13 19 10.3 -2.9
19nm,1.1s
COLD Coldfoot 19.49 336 *e*P P 13 19 11.3 -2.0
11nm,0.9s
G27A Dupree 19.53 94 P Pn 13 19 15.8 +0.6
baz=20
BELC Belle Mtn. Jos 19.53 143 P Pn 13 19 14.5 -0.8
baz=20
I26A New Underwood 19.56 99 P Pn 13 19 16.2 +0.6
baz=20
C28A Hausauer Farms 19.62 87 P Pn 13 19 18.0 +1.9
baz=20
K25A Mack Ranch, Ha 19.66 104 P Pn 13 19 18.1 +1.3
baz=20
D28A Regan 19.68 88 P Pn 13 19 19.2 +2.3
baz=20
PFO Pinyon Flat Ob 19.70 144 P P 13 19 15.8 -0.2
0.1nm,0.3s,baz=17,slow=14,SNR=1.9
PFO LR LR 13 26 51.8
comp=Z,156nm,19.1s,baz=320,slow=37
PFO Pinyon Flat Ob 19.70 144 P Pn 13 19 16.4 -1.0
baz=20
IRM Iron Mountain 19.73 141 P Pn 13 19 18.2 +0.6
baz=20
H27A Howes 19.77 97 P Pn 13 19 19.3 +1.2
baz=20
J26A Sides Ranch, S 19.78 101 P Pn 13 19 19.8 +1.5
baz=20
E28A Huff 19.83 90 P Pn 13 19 20.1 +1.4
baz=20
L25A Engebretsen Ra 19.85 105 P Pn 13 19 20.7 +1.5
baz=20
A29A Manning Farm, 19.98 83 P Pn 13 19 20.7 +0.2
baz=20,SNR=15
PDMCI Parker Dam,Lak 20.02 138 P Pn 13 19 21.4 +0.4
baz=20
B29A Wagenman Farm, 20.03 84 P Pn 13 19 23.0 +1.9
baz=20
K26A Motz Farm, Whi 20.04 103 P Pn 13 19 21.7 +0.4
baz=20
BC3 Big Chuckawall 20.05 142 P Pn 13 19 20.6 -0.9
baz=20
F28A McLaughlin 20.05 92 P Pn 13 19 22.8 +1.5
baz=20
I27A Quinn 20.05 98 P Pn 13 19 21.9 +0.5
baz=20
MDND Maddock 20.07 86 P Pn 13 19 24.1 +2.5
baz=20,SNR=6.7
109C Camp Elliot, M 20.11 146 P Pn 13 19 21.6 -0.5
baz=20
M25A Palm-Egli Farm 20.21 107 P Pn 13 19 25.0 +1.5
baz=20
WUAZ Wupatki 20.27 131 P Pn 13 19 25.2 +1.0
baz=20
WUAZ Wupatki 20.27 131 *e*P P 13 19 20.6 -1.7
7.0nm,0.9s
ISCO Idaho Springs 20.27 113 P Pn 13 19 25.7 +1.3
baz=20
G28A Parade 20.30 94 P Pn 13 19 26.1 +1.7
baz=20
Y12C Blythe 20.34 140 P Pn 13 19 26.8 +2.0
baz=20
D29A Pettibone, Tap 20.35 88 P Pn 13 19 26.5 +1.6
baz=20
MONP Monument Peak 20.36 145 P Pn 13 19 26.9 +1.6
baz=20
H28A Mission Ridge 20.42 95 P Pn 13 19 27.6 +1.9
baz=20
MVCO Mesa Verde 20.44 122 P Pn 13 19 27.5 +1.2
baz=20,SNR=5.4
MVCO Mesa Verde 20.44 122 *e*P P 13 19 22.4 -1.7
17nm,1.1s
L26A Underwood Farm 20.46 104 P Pn 13 19 28.1 +1.7
baz=20
J27A Elkhorn Farm, 20.48 100 P Pn 13 19 30.7 +4.1
baz=20
E29A Napoleon 20.50 89 P Pn 13 19 29.3 +2.6
baz=20
A30A Hoffart Farm, 20.56 82 P Pn 13 19 29.9 +2.6
baz=21,SNR=5.2
K27A Flueckinger Fa 20.62 102 P Pn 13 19 30.9 +2.7
baz=21
I28A Midland 20.64 97 P Pn 13 19 30.3 +1.9
baz=21
F29A Eureka 20.68 91 P Pn 13 19 30.2 +1.5
baz=21
B30A Myrvik Farm, E 20.69 83 P Pn 13 19 29.9 +1.0
baz=21,SNR=9.4
M26A McRoberts Ranc 20.75 106 P Pn 13 19 31.2 +1.5
baz=21
GLA Glamis 20.82 141 P Pn 13 19 30.8 +0.2
baz=21
C30A Mose, Pekin 20.84 86 P Pn 13 19 32.1 +1.5
baz=21
D30A Buchanan 20.86 87 P Pn 13 19 32.2 +1.3
baz=21,SNR=12
J28A Allard Ranch, 20.88 99 P Pn 13 19 31.9 +0.7
baz=21
L27A T5 Ranch, Ells 20.91 103 P Pn 13 19 32.6 +1.0
baz=21
H29A Onida 20.95 95 P Pn 13 19 33.3 +1.3
baz=21
S22A 4UR Ranch, Cre 20.97 119 P Pn 13 19 32.6 0.0
baz=21,SNR=8.6
E30A Jud 20.99 89 P Pn 13 19 33.8 +1.4
baz=21
N26A Koester Ranch, 21.07 107 P P 13 19 34.7 +3.8
baz=21
Q24A Divide 21.09 114 P P 13 19 34.8 +3.5
baz=21
K28A Ten Mile Ranch 21.16 101 P P 13 19 35.9 +4.1
baz=21,SNR=7.9
I29A Vivian Onida 21.18 96 P P 13 19 35.8 +3.9
baz=21
M27A Reverse DX Ran 21.18 105 P P 13 19 35.6 +3.7
baz=21
F30A Leola 21.18 91 P P 13 19 35.8 +3.9
baz=21
O26A Horse Wrangler 21.37 109 P P 13 19 37.5 +3.4
baz=21
W18A Petrified Fore 21.40 128 P P 13 19 37.0 +2.6
baz=21
N27A Anderson Farm, 21.50 106 P P 13 19 37.5 +2.1
baz=22
SDCO Great Sand Dun 21.72 117 P P 13 19 40.0 +2.0
baz=22,SNR=7.2
SDCO Great Sand Dun 21.72 117 *e*P P 13 19 36.5 -1.4
5.2nm,1.1s
OGNE Ogallala 21.73 105 P P 13 19 40.1 +2.2
baz=22
ULM Lac du Bonnet 21.74 77 P P 13 19 37.3 -0.5
12nm,0.7s,baz=283,slow=11,SNR=7.5
ULM LR LR 13 28 34.0
comp=Z,252nm,20.0s,baz=275,slow=38
P26A Davis Ranch, A 21.77 110 P P 13 19 40.5 +2.0
baz=22
I30A Oacoma 21.79 96 P P 13 19 40.3 +1.9
baz=22
Q26A Hugo 22.08 112 P P 13 19 43.7 +1.9
baz=22
AGMN Agassiz Nation 22.30 82 P P 13 19 46.8 +3.0
baz=22,SNR=6.4
AGMN Agassiz Nation 22.30 82 P P 13 19 42.8 -1.0
28nm,1.0s
R26A Arlington 22.53 113 P P 13 19 48.5 +2.0
baz=22

214A Organ Pipe Nat 22.61 139 P P 13 19 48.2 +0.9
baz=23
T25A Trinidad 22.76 116 P P 13 19 50.6 +1.5
baz=23
R27A Eads 22.92 112 P P 13 19 52.8 +2.1
baz=23
Q28A Sharon Springs 23.00 109 P P 13 19 54.1 +2.6
baz=23
TUC Tucson 23.19 135 P P 13 19 49.9 -3.5
8.9nm,1.1s
T26A Comanche Natio 23.21 115 P P 13 19 55.0 +1.4
baz=23
ANMO Albuquerque 23.23 123 P P 13 19 54.1 +0.2
3.3nm,0.9s,baz=324,slow=9.8,SNR=9.8
ANMO LR LR 13 28 50.1
comp=Z,247nm,19.6s,baz=318,slow=36
ANMO Albuquerque 23.23 123 *e*P P 13 19 48.7 -5.2
S27A Las Animas 23.27 113 P P 13 19 56.0 +1.8
baz=23
M31A Lambtecht Ranc 23.40 101 P P 13 19 57.8 +2.4
baz=23
R28A Tribune 23.47 110 P P 13 19 58.4 +2.2
baz=24
ECSD EROS Data Cent 23.66 94 P P 13 19 59.5 +1.6
baz=24,SNR=13
ECSD EROS Data Cent 23.66 94 *e*P P 13 19 56.7 -1.3
12nm,0.8s
P30A Selden 23.66 106 P P 13 19 59.4 +1.3
baz=24
N31A Bailey Ranch, 23.71 102 P P 13 20 00.2 +1.7
baz=24
T27A Campo 23.79 114 P P 13 20 01.4 +1.9
baz=24
R29A Marienthal 23.82 109 P P 13 20 01.7 +2.0
baz=24
S28A Manter 23.92 112 P P 13 20 02.2 +1.6
baz=24
Q30A Quinter 24.03 107 P P 13 20 03.1 +1.5
baz=24
T28A Walsh 24.11 113 P P 13 20 04.2 +1.8
baz=24,SNR=5.5
SOLO Sioux Lookout 24.15 76 Pn P 13 20 03.0 +0.4
U27A Thompson Grove 24.17 115 P P 13 20 04.2 +1.1
baz=24
P31A Stockton 24.21 105 P P 13 20 03.9 +0.6
baz=24
S29A Ulysses 24.36 111 P P 13 20 05.9 +1.2
baz=24
M33A Taylor Creek F 24.39 99 P P 13 20 07.8 +2.9
baz=24
121A Cookes Peak, D 24.43 129 P P 13 20 06.9 +1.4
baz=24
V27A Dan Oppiter Fa 24.63 116 P P 13 20 09.0 +1.8
baz=25
PKLO Pickle Lake 24.84 72 Pn P 13 20 09.3 +0.5
NUNN Nunuq Camp, NU 24.88 39 Pn P 13 20 11.9 +2.9
EYMN Ely 25.17 81 *e*P P 13 20 09.3 -2.6
5.9nm,0.8s
N34A Lincoln 25.24 100 P P 13 20 14.0 +1.4
baz=25
O34A Beatrice 25.49 101 P P 13 20 16.2 +1.4
baz=26
N35A Tabor 25.76 99 P P 13 20 19.3 +2.0
baz=26
X28A Dimmitt 25.89 118 P P 13 20 20.2 +1.6
baz=26
AMTX Amarillo 25.92 116 P P 13 20 20.8 +1.9
baz=26
AMTX Amarillo 25.92 116 *e*P P 13 20 16.7 -2.1
22nm,1.0s
MSTX Muleshoe 25.97 119 P P 13 20 20.7 +1.4
baz=26
Q34A Chapman 26.08 104 P P 13 20 21.8 +1.6
baz=26
KSU1 Kansas State U 26.18 103 P P 13 20 22.8 +1.7
baz=26
X29A Tulia 26.22 117 P P 13 20 23.0 +1.4
baz=26
R34A Isabella, Hill 26.27 105 P P 13 20 23.7 +1.8
baz=26
P35A Duane Minner, 26.29 102 P P 13 20 24.0 +1.9
baz=26
Y28A McKinney Farm, 26.31 119 P P 13 20 23.8 +1.4
baz=26
V31A Spring Creek L 26.36 112 P P 13 20 24.6 +1.8
baz=26
U32A Winter Ranch, 26.45 110 P P 13 20 25.4 +1.8
baz=26
Y29A Porterfield Fa 26.66 118 P P 13 20 26.8 +1.2
baz=27,SNR=6.5
Q35A Mercer Eighty, 26.68 103 P P 13 20 27.6 +2.0
baz=27
W31A Holland Ranch, 26.71 114 P P 13 20 28.4 +2.4
baz=27
V32A Arapaho 26.87 112 P P 13 20 29.9 +2.5
baz=27
U33A Lingo Farm, Me 26.95 109 P P 13 20 30.1 +2.1
baz=27
Q36A Arnold C. Orve 26.98 102 P P 13 20 30.1 +1.8
baz=27
X31A McDonald Ranch 27.08 114 P P 13 20 31.3 +2.0
baz=27
Z29A Hungry Hill Ra 27.09 119 P P 13 20 30.9 +1.4
baz=27
T34A McClaskey Farm 27.12 107 P P 13 20 31.3 +1.7
baz=27
128A Castleberry Fa 27.14 121 P P 13 20 31.2 +1.3
baz=27
W32A Sentinel 27.16 113 P P 13 20 31.5 +1.5
baz=27
S35A Otter Creek Ra 27.23 105 P P 13 20 32.1 +1.5
baz=27
V33A Lossen Ranch, 27.25 110 P P 13 20 32.3 +1.5
baz=27
Y31A Rekieta Farm, 27.39 116 P P 13 20 33.7 +1.6
baz=27
T35A Sooner Cattle 27.60 107 P P 13 20 35.9 +2.0
baz=28
S36A Lake Cedric, C 27.65 104 P P 13 20 36.2 +1.9
baz=28
V34A Guthrie 27.70 110 P P 13 20 36.5 +1.6
baz=28
WMOK Wichita Mounta 27.70 113 *e*P P 13 20 33.4 -1.5
6.8nm,0.9s
Y32A R-V Farms, Ver 27.84 115 P P 13 20 37.9 +1.9
baz=28
T36A Boggs Farm, Ca 27.89 106 P P 13 20 38.1 +1.6
baz=28
Z31A Sharp Cattle R 27.93 117 P P 13 20 38.3 +1.4
baz=28
W34A Bridge Creek, 27.96 111 P P 13 20 39.3 +2.2
baz=28
130A Snyder 28.00 119 P P 13 20 39.2 +1.7
baz=28
S37A Fort Scott 28.10 103 P P 13 20 40.6 +2.2
baz=28
V35A Meyer Ranch, C 28.16 109 P P 13 20 40.7 +1.8
baz=28
RES Resolute Bay 28.24 19 LR LR 13 32 10.8
comp=Z,315nm,21.2s,baz=248,slow=37
Y33A Hilltop Ranch, 28.31 114 P P 13 20 42.0 +1.8
baz=28
Z32A Haskell 28.32 116 P P 13 20 41.7 +1.4
baz=28
X34A Smith Ranch, M 28.36 112 P P 13 20 42.6 +1.9
baz=28
U36A Oologah 28.42 107 P P 13 20 42.9 +1.7
baz=28
T37A Cheneyville 18 28.45 105 P P 13 20 43.1 +1.6
baz=28
V36A Jenks 28.69 108 P P 13 20 45.2 +1.6
baz=29
TUL1 Tulsa 28.70 107 P P 13 20 45.3 +1.6
baz=29
ABTX Abilene, Hawle 28.72 117 P P 13 20 45.3 +1.4
baz=29
Z33A Whitaker Ranch 28.74 115 P P 13 20 45.5 +1.3
baz=29
330A Mertzon 28.78 121 P P 13 20 45.8 +1.3
baz=29
Y34A Reagan Ranch, 28.85 113 P P 13 20 46.7 +1.6
baz=29
231A Bronte 28.86 119 P P 13 20 46.4 +1.3
baz=29
W36A Wetumka 28.95 109 P P 13 20 47.6 +1.6
baz=29
429A Davenport Ranc 28.99 123 P P 13 20 47.8 +1.3
baz=29

X35A Drake 29.01 111 P P 13 20 48.0 +1.5
baz=29
TXAR Lajitas Array 29.09 127 P P 13 20 48.9 +1.6
2.5nm,1.0s,baz=323,slow=7.9,SNR=18
TXAR PcP PcP 13 23 56.4 +1.1
0.8nm,1.1s,baz=46,slow=2.6,SNR=2.4
TXAR LR LR 13 33 12.2
comp=Z,137nm,18.9s,baz=0.0,slow=38
V37A Hulbert 29.11 107 P P 13 20 49.0 +1.6
baz=29
133A Hamilton Ranch 29.15 116 P P 13 20 49.3 +1.5
baz=29
Z34A Collier Ranch, 29.18 114 P P 13 20 49.4 +1.4
baz=29
529A Stev Forest Ra 29.21 124 P P 13 20 50.3 +1.9
baz=29
Y35A Marietta 29.31 112 P P 13 20 50.8 +1.6
baz=29
Z35A Perchaven, San 29.59 113 P P 13 20 53.1 +1.4
baz=30
233A Rising Star 29.59 117 P P 13 20 53.0 +1.3
baz=30
Y36A Durant 29.77 111 P P 13 20 55.3 +2.1
baz=30
X37A Clayton 29.84 109 P P 13 20 55.5 +1.7
baz=30
234A Clairette 30.04 116 P P 13 20 57.1 +1.5
baz=30
X38A Whitesboro 30.11 108 P P 13 20 58.1 +1.9
baz=30
JCT Junction City 30.25 120 P P 13 20 58.6 +1.1
baz=30
433A Art 30.43 119 P P 13 21 00.4 +1.3
baz=30
631A Perdido Creek 30.65 122 P P 13 21 01.2 +0.1
baz=31
MIAR Mount Ida 30.96 107 P P 13 21 05.6 +1.9
baz=31
SCHQ Schefferville 37.44 58 LR LR 13 35 55.6
comp=Z,272nm,21.7s,baz=294,slow=34
SEY Seymchan 41.56 318 P P 13 22 35.6 +1.7
1.2nm,0.7s,baz=84,slow=7.4,SNR=9.6
PETK Petropavlovsk- 42.91 303 P P 13 22 45.9 +0.8
2.2nm,0.9s,baz=96,slow=13,SNR=2.7
PETK LR LR 13 38 39.4
comp=Z,54nm,20.5s,baz=74,slow=33
H11N2 WAKE ISLAND Hy 57.88 262 T T 14 27 12.5
baz=42,slow=76,SNR=806
H11N3 WAKE ISLAND Hy 57.88 262 T T 14 27 14.2
baz=42,slow=76,SNR=930
H11N1 WAKE ISLAND Hy 57.90 262 T T 14 27 13.0
baz=42,slow=76,SNR=999
ARCES ARCESS Array B 58.89 10 LR LR 13 49 58.4
comp=Z,80nm,21.8s,baz=320,slow=36
H11S1 WAKE ISLAND Hy 58.91 261 T T 14 28 34.9
baz=56,slow=77,SNR=65
H11S2 WAKE ISLAND Hy 58.92 261 T T 14 28 36.7
baz=56,slow=77,SNR=39
H11S3 WAKE ISLAND Hy 58.93 261 T T 14 28 37.2
baz=56,slow=77,SNR=27
MJAR Matsushiro Arr 63.77 296 LR LR 13 48 32.4
comp=Z,32nm,21.9s,baz=40,slow=32
NOA NORSAR Array B 64.50 20 LR LR 13 53 31.9
comp=Z,85nm,19.8s,baz=275,slow=36
ROSC El Rosal 65.05 115 LR LR 13 58 10.3
comp=Z,39nm,18.1s,baz=230,slow=40
FINES FINESS Array B 66.73 12 P P 13 25 37.1 -0.3
0.5nm,0.7s,baz=348,slow=13,SNR=2.6
FINES LR LR 13 54 31.4
comp=Z,85nm,21.6s,baz=16,slow=36
JCJ Chichijima 68.16 286 LR LR 13 49 47.7
comp=Z,36nm,21.8s,baz=136,slow=31
KSRS Korea Array 68.81 301 LR LR 13 56 08.8
comp=Z,19nm,19.4s,baz=38,slow=36
PPT Papeete 69.96 200 LR LR 13 48 37.6
comp=Z,60nm,19.1s,baz=346,slow=29
SONM Songino Array 70.59 323 P P 13 26 02.3 +0.4
0.2nm,0.5s,baz=18,slow=5.2,SNR=1.8
SONM LR LR 13 58 27.9
comp=Z,69nm,18.7s,baz=37,slow=37
ZALV Zalesovo Beam 71.80 339 P P 13 26 09.5 +0.6
0.7nm,0.7s,baz=5.0,slow=2.8,SNR=6.3
ZALV LR LR 14 00 47.5
comp=Z,50nm,18.6s,baz=250,slow=38
OBN Obninsk 74.11 8 LR LR 14 02 00.2
comp=Z,49nm,18.7s,baz=84,slow=38
GERES GERESS Array B 76.22 24 P P 13 26 37.7 +2.7
0.1nm,0.3s,baz=330,slow=3.4,SNR=2.3
GERES LR LR 14 01 58.6
comp=Z,57nm,18.5s,baz=324,slow=37
AKASG Malin Array Be 77.59 13 LR LR 14 01 29.4
comp=Z,69nm,20.1s,baz=345,slow=36
ESDC Sonseca Array 78.51 39 P P 13 26 50.7 +2.7
0.3nm,0.6s,baz=322,slow=6.9,SNR=3.7
MKAR Makanchi Array 79.05 338 P P 13 26 50.8 0.0
0.2nm,0.6s,baz=30,slow=4.6,SNR=2.6
MKAR LR LR 14 04 20.8
comp=Z,66nm,19.4s,baz=13,slow=38
LPAZ La Paz 85.83 122 LR LR 14 08 14.0
comp=Z,29nm,21.1s,baz=330,slow=37
KBZ Khabaz 85.89 5 LR LR 14 09 26.3
comp=Z,42nm,18.3s,baz=11,slow=38
BRTR Keskin Array B 88.97 12 LR LR 14 09 37.1
comp=Z,34nm,20.5s,baz=313,slow=37
GEYT Alibeck 91.58 353 LR LR 14 13 22.6
comp=Z,23nm,18.7s,baz=210,slow=38
BDFB Brasilia 97.02 106 LR LR 14 17 30.7
comp=Z,35nm,18.7s,baz=329,slow=39
CMAR Chiang Mai Arr 98.86 313 LR LR 14 13 55.3
comp=Z,22nm,19.2s,baz=55,slow=36

IDC 03 13:24:27.7±45.0, 15°46'S×174°07'W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/31, mbtmp3.9/3, Error ellipse: s-maj=858.3km s-min=180.3km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.45**	**240**	P	P	13 32 32.6	-0.1
	1.4nm,0.6s,baz=99,slow=10.0,SNR=4.2						
WRA	**Warramunga Arr**	**49.21**	**257**	P	P	13 33 18.1	-0.1
	0.3nm,0.7s,baz=91,slow=7.2,SNR=8.1						
ASAR	**Alice Springs**	**49.48**	**252**	P	P	13 33 20.2	-0.1
	3.7nm,0.5s,baz=89,slow=8.2,SNR=71						

*KRSC **03** 13:26:50.3±0.7, 55°07'N×160°19'E, h-2km±4km, ML3.8*
*ISCJB **03** 13:26:51.4±0.6, 55°06'N±0°02'×160°22'E±0°06, h0km±5km, mb3.5/4, Error ellipse: s-maj=6.0km s-min=2.8km az=16.9*
*IDC **03** 13:26:59.2±2.6, 54°68'N×160°18'E, h78km±27km, mb3.1/4, mb1 3.5/6, mb1mx3.1/30, mbtmp3.4/6, Error ellipse: s-maj=31.7km s-min=25.5km az=132.0*

ISC 03 13:26:51.8±1.0, 55°09'N±0°02'×160°21'E±0°03, h7km±7km, n40, σ1°10/56, mb3.6/4, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZV	**Kizimen**	**0.05**	**63**	*i* P	Pg	13 26 53.1	-0.4
TUMR	**Tumrok**	**0.20**	**349**	*i* P	Pg	13 26 55.8	0.0
KMNR	**Kamenistaya**	**0.67**	**1**	*e*P	Pb	13 27 05.6	-0.3
KMNR				*e*S	Sb	13 27 17.5	+2.1
BZMR	**Bezymyannaya**	**0.86**	**10**	*e*P	Pg	13 27 08.4	0.0
BZMR				*e*S	Sb	13 27 22.4	+1.4
KIRR	**Kirishev**	**0.87**	**5**	*e*P	Pg	13 27 08.6	+0.1
KIRR				*e*S	Sb	13 27 22.5	+1.3
BZWR	**Bezymyannyi-We**	**0.89**	**10**	*e*P	Pb	13 27 09.4	-0.3
BZWR				*e*S	Sn	13 27 24.1	-0.1
BZGR	**Bezymyannyi-Gr**	**0.90**	**18**	*e*P	Pg	13 27 09.0	0.0
BZGR				*e*S	Sb	13 27 23.1	+1.1
ZLN	**Zelenaya**	**0.99**	**20**	*e*P	Pg	13 27 10.4	-0.4
ZLN				*e*S	Sb	13 27 25.7	+1.1
KOZ	**Kozyrevsk**	**0.99**	**349**	*e*P	Pg	13 27 10.5	-0.3
KOZ				*e*S	Sb	13 27 25.7	+1.1
MKZ	**Mys Kozlova**	**1.03**	**121**	*e*P	Pg	13 27 10.6	-0.9
MKZ				*e*S	Sb	13 27 25.7	+0.1
KII	**Karymskiy**	**1.15**	**203**	*i* P	Pg	13 27 13.0	-0.8
ESO	**Esso**	**1.20**	**315**	*e*P	Pg	13 27 12.7	-2.1
ESO				*e*S	Sg	13 27 29.7	-0.7
KLY	**Klyuchi**	**1.25**	**11**	*e*P	Pg	13 27 15.0	-0.8
KLY				*e*S	Sn	13 27 33.8	+1.0
SRDR	**Sredinnyy**	**1.26**	**347**	P	Pg	13 27 14.1	-1.9
BDR	**Baidarnaya**	**1.58**	**20**	*e*P	Pb	13 27 21.2	-0.3
BDR				*e*S	Sg	13 27 44.3	+1.6
SMKR	**Semkarok**	**1.66**	**25**	*e*P	Pb	13 27 22.6	-0.1
SMKR				*e*S	Sg	13 27 46.4	+1.4
SRKR	**Sorokina**	**1.66**	**19**	*e*P	Pn	13 27 21.7	+0.3

KBTR	**Krutoberegovo**	**1.85**	**52**	*eP*	**Pn**	**13 27 23.6**	**-0.4**
KBTR				*eS*	**Sb**	**13 27 48.6**	**-0.8**
GNL	**Ganaly**	**1.93**	**224**	*eP*	**Pn**	**13 27 25.0**	**-0.2**
GNL				*eS*	**Sn**	**13 27 50.3**	**+0.6**
KRX	**Arik**	**1.96**	**209**	*eP*	**Pn**	**13 27 26.2**	**+0.5**
SDLR	**Sedlovina**	**1.98**	**204**	*eP*	**Pn**	**13 27 26.1**	**+0.3**
SDLR				*eS*	**Sb**	**13 27 53.5**	**+0.5**
KRER	**Koryakskii**	**1.99**	**206**	*eP*	**Pn**	**13 27 27.1**	**+1.1**
KRER				*eS*	**Sb**	**13 27 54.5**	**+1.1**
NLC	**Nalytchevo**	**1.99**	**195**	*eP*	**Pn**	**13 27 25.8**	**-0.1**
NLC				*eS*	**Sn**	**13 27 52.7**	**+1.7**
SPN	**Mys Shipunski**	**2.00**	**183**	*eP*	**Pn**	**13 27 24.8**	**-1.2**
SPN				S	**Sn**	**13 27 50.9**	**-0.4**
SMAR	**Somma**	**2.01**	**205**	*eP*	**Pn**	**13 27 26.9**	**+0.5**
AVH	**Avacha**	**2.02**	**206**	*eP*	**Pn**	**13 27 27.3**	**+0.9**
KOK	**Koryaka**	**2.03**	**208**	*eP*	**Pn**	**13 27 27.5**	**+1.0**
UGLR	**Uglovaya**	**2.05**	**204**	*eP*	**Pn**	**13 27 27.7**	**+0.8**
PET	**Petropavlovsk**	**2.27**	**205**	*eP*	**Pn**	**13 27 30.6**	**+0.9**
PET				*eS*	**Sn**	**13 28 00.9**	**+3.1**
PETK	**Petropavlovsk-** 2.8nm,0.3s,baz=57,slow=15,SNR=36	**2.48**	**218**	P	**Pn**	**13 27 32.7**	**+0.1**
PETK				S	**Sb**	**13 28 08.2**	**+0.8**
	1.9nm,0.3s,baz=49,slow=31,SNR=3.7						
RUS	**Russkaya**	**2.85**	**201**	P	**Pn**	**13 27 38.6**	**+1.0**
RUS				S	**Sn**	**13 28 14.5**	**+2.4**
ASAK	**Asacha**	**3.04**	**208**	P	**Pn**	**13 27 42.0**	**+1.6**
SEY	**Seymchan** 0.1nm,0.3s,baz=135,slow=19,SNR=7.0	**8.84**	**336**	P	Pn	13 29 10.4	+11
H11N2	**WAKE ISLAND Hy** baz=355,slow=76,SNR=18	**35.66**	**169**	T	T	14 11 01.3	
H11N3	**WAKE ISLAND Hy** baz=355,slow=76,SNR=16	**35.68**	**169**	T	T	14 11 01.3	
H11N1	**WAKE ISLAND Hy** baz=355,slow=76,SNR=17	**35.68**	**169**	T	T	14 11 01.3	
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=46,slow=6.2,SNR=3.3	**47.38**	**294**	P	**P**	**13 35 24.8**	**-1.5**
NVAR	**Mina Array Bea** 0.3nm,0.5s,baz=316,slow=5.0,SNR=3.0	**55.02**	**71**	P	**P**	**13 36 23.6**	**-0.4**
TXAR	**Lajitas Array** 0.4nm,0.9s,baz=305,slow=3.2,SNR=3.9	**69.80**	**68**	P	**P**	**13 38 02.3**	**-0.6**
WRA	**Warramunga Arr** 0.5nm,1.0s,baz=21,slow=6.6,SNR=2.7	**77.93**	**205**	P	P	13 38 47.9	-2.4

*IDC **03** 13:40:51.7±0.8, 12°.85N×120°.84E, h0km, mb3.6/12, mb1 3.8/12, mb1mx3.7/28, mbtmp3.7/12, MS3.1/2, Ms1 3.1/2, ms1mx2.6/27, Error ellipse: s-maj=28.0km s-min=11.7km az=84.0*

*MAN **03** 13:40:53, 11°.04N×124°.86E, h4km, mb4.4, ML3.2, MS3.1*

ISC 03 13:40:51.4±1.3, 12°.96N±0°.03×121°.22E±0°.04, h0km±9km, n27, σ1s26/32, mb3.6/12, 2C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SJMP	**San Jose**	**0.50**	**191**		*eP*		**Pn**	**13 41 04.6**	**-1.2**
SJMP					*eS*		**Sb**	**13 41 13.4**	**+2.5**
PGP	**Puerto Galera**	**0.60**	**335**	⇑	*iP*		**Pg**	**13 41 03.8**	**+0.9**
PGP					*i*	S	**Sg**	**13 41 11.3**	**+0.6**
OTRP	**Odiongan**	**0.98**	**127**		*eP*		**Pg**	**13 41 10.3**	**+0.1**
OTRP					*eS*		**Sg**	**13 41 23.6**	**+0.6**
TGY	**Tagaytay City** baz=90,slow=2.1	**1.17**	**347**	Pg			**Pn**	**13 41 15.1**	**+0.1**
TGY				Lg		Lg		13 41 32.9	
	baz=270,slow=18								
TGY	**Tagaytay City**	**1.17**	**347**	⇓	*iP*		**Pn**	**13 41 15.2**	**+0.1**
TGY					*i*	S	**Sn**	**13 41 31.9**	**+0.1**
LUBP	**Lubang**	**1.22**	**309**		*eP*		**Pg**	**13 41 14.8**	**0.0**
LUBP					*eS*		**Sg**	**13 41 29.6**	**-1.1**
BUSP	**Coron**	**1.37**	**226**		*eP*		**Pn**	**13 41 17.8**	**0.0**
BUSP					*eS*		**Sn**	**13 41 36.2**	**-0.4**
AUQP	**San Andres**	**1.47**	**75**		*eP*		**Pn**	**13 41 17.0**	**-2.1**
GQP	**Guinayangan**	**1.52**	**52**	⇓	*eP*		**Pg**	**13 41 21.1**	**+0.5**
GQP					*eS*		**Sg**	**13 41 41.1**	**+0.7**
KALP	**Kalibo**	**1.68**	**139**	⇓	*eP*		**Pn**	**13 41 22.1**	**+0.1**
RCP	**Roxas**	**2.04**	**133**	⇓	*eP*		Pg	13 41 38.9	+8.4
CUYO	**Cuyo Island**	**2.10**	**185**		*eP*		**Pn**	**13 41 27.9**	**+0.1**
ENPP	**El Nido**	**2.47**	**225**		*eP*		**Pn**	**13 41 33.5**	**+0.6**
GUIM	**Jordan**	**2.68**	**150**		*eP*		**Pb**	**13 41 38.4**	**-1.8**
KAPI	**Kappang** comp=Z,27nm,21.0s,baz=349,slow=39	**17.91**	**185**	LR			LR	13 52 26.3	
CMAR	**Chiang Mai Arr** 0.7nm,0.3s,baz=93,slow=7.3,SNR=4.4	**22.12**	**287**	P			**P**	**13 45 45.0**	**-3.6**
KSRS	**Korea Array** 1.1nm,0.9s,baz=190,slow=13,SNR=3.4	**25.12**	**13**	P			**P**	**13 46 19.6**	**+1.7**
WRA	**Warramunga Arr** 0.5nm,0.6s,baz=333,slow=10,SNR=6.4	**35.15**	**158**	P			**P**	**13 47 47.4**	**+0.3**
SONM	**Songino Array** 0.6nm,0.6s,baz=155,slow=9.9,SNR=6.0	**36.91**	**343**	P			**P**	**13 48 02.0**	**+0.1**
ASAR	**Alice Springs** 0.8nm,0.6s,baz=338,slow=6.8,SNR=9.0	**38.46**	**161**	P			**P**	**13 48 15.7**	**+0.5**
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=133,slow=8.8,SNR=3.9	**46.92**	**324**	P			**P**	**13 49 23.9**	**+0.1**
STKA	**Stephens Creek** 2.0nm,0.9s,baz=348,slow=9.3,SNR=3.5	**48.67**	**157**	P			**P**	**13 49 39.3**	**+1.9**
STKA	comp=Z,44nm,19.7s,baz=29,slow=38			LR			LR	14 12 04.2	
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=123,slow=5.3,SNR=2.8	**49.94**	**333**	P			**P**	**13 49 47.6**	**+0.8**
KURBB	**Kurchatov Arra** 0.4nm,0.5s,baz=122,slow=10,SNR=7.5	**51.08**	**326**	P			**P**	**13 49 55.5**	**0.0**
SEY	**Seymchan** 1.7nm,0.9s,baz=229,slow=8.7,SNR=9.8	**54.57**	**17**	P			**P**	**13 50 22.4**	**+1.3**
BRTR	**Keskin Array B** 0.7nm,0.8s,baz=46,slow=4.2,SNR=3.1	**80.00**	**309**	P			**P**	**13 53 01.9**	**-1.1**
FINES	**FINESS Array B** 0.9nm,0.8s,baz=133,slow=8.2,SNR=2.6	**81.17**	**331**	P			**P**	**13 53 07.1**	**-1.5**

MEX 03 13:43:36.1±0.7, 17°.14N×95°.36W, h113km±12km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
CMIG	**Matias Romero**	**0.46**	**96**		*iP*		Pn	13 43 51.9	-1.1
CMIG					*i*	S	Sn	13 44 03.7	-2.0
VHO	**Vista Hermosa**	**1.32**	**267**		*eP*		Pn	13 44 00.4	-0.8
VHO					*eS*		Sn	13 44 19.2	-1.1
HUIG	**Huatulco**	**1.54**	**208**		*eP*		Pn	13 44 01.8	-1.9
HUIG					*eS*		Sn	13 44 22.8	-1.7
PNIG	**Pinotepa**	**2.76**	**255**		*eP*		Pn	13 44 16.2	-2.8

JMA 03 13:44:06.1±0.1, 26°.11N×129°.44E, h45km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
JOW	**Kunigami**	**1.27**	**305**		P		Pn	13 44 28.1	+0.7
JNTH	**Nagotoyohara**	**1.34**	**288**		P		Pn	13 44 28.7	+0.4
JNTH					*eS*		Sn	13 44 43.7	-1.2
JOKE	**Okinoerabujima**	**1.47**	**328**		P		Pn	13 44 31.2	+1.0
JOKE					*eS*		Sn	13 44 48.1	-0.1
JJT2	**Tamagusuku 2**	**1.52**	**271**		P		Pn	13 44 31.9	+1.1
JJT2					*eS*		Sn	13 44 50.1	+0.7
JIH	**Iheya**	**1.61**	**305**		P		Pn	13 44 33.1	+1.1
JIH					*eS*		Sn	13 44 51.8	+0.2
JMZ	**Minamidaito 2**	**1.63**	**100**		P		Pn	13 44 32.8	+0.5
JMZ					*eS*		Sn	13 44 50.8	-1.3
JTK	**Tokunoshima**	**1.73**	**345**		P		Pn	13 44 34.5	+0.8
JTK					*eS*		Sn	13 44 54.0	-0.5
JAGN	**Aguni-jima**	**2.03**	**284**		P		Pn	13 44 39.0	+1.2
JAGN					*eS*		Sn	13 45 01.9	0.0
JAMN	**Amaminishikomi**	**2.14**	**354**		P		Pn	13 44 40.3	+1.0
JAMN					*eS*		Sn	13 45 04.4	-0.2
JZK	**Kikaishima**	**2.25**	**12**		P		Pn	13 44 42.5	+1.7
JZK					*eS*		Sn	13 45 09.0	+1.7
JAM	**Amami Oshima**	**2.30**	**4**		P		Pn	13 44 43.0	+1.5
JAM					*eS*		Sn	13 45 08.0	-0.5
JKE	**Kume jima 2**	**2.39**	**276**		P		Pn	13 44 43.2	+0.4
JKE					*eS*		Sn	13 45 09.8	-1.1
JTAJ	**Takarajima**	**3.04**	**356**		*eS*		Sn	13 45 25.7	-1.1
JOGS	**Gusukube**	**3.89**	**251**		P		Pn	13 45 04.0	+0.7
JIRB	**Irabujima**	**4.06**	**253**		P		Pn	13 45 06.1	+0.4
JISG	**Ishigakijimahi**	**4.88**	**253**		P		Pn	13 45 16.0	-1.0

*NOU **03** 13:44:58.9±1.5, 13°.64S×166°.26E, h30km±999km, MD4.6*

*IDC **03** 13:45:04.3±0.9, 14°.24S×167°.21E, h82km±6km, mb3.7/12, mb1 3.8/12, mb1mx3.7/21, mbtmp4.0/12, Error ellipse: s-maj=27.8km s-min=16.8km az=103.0*

*ISCJB **03** 13:45:05.2±0.7, 14°.25S±0°.05×167°.11E±0°.09, h100km, mb3.7/12, Error ellipse: s-maj=13.2km s-min=5.8km az=166.1*

ISC 03 13:45:05.9±0.7, 14°.17S±0°.06×167°.2E±0°.1, h100km, n29, σ1s79/36, mb3.8/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
LIFNC	**LIFOU**	**6.57**	**180**		*eP*		**Pn**	**13 46 40.5**	**+0.6**
LIFNC					*eS*		**Sn**	**13 47 55.2**	**+1.8**
LIFNC					AMP			13 48 06.3	
	comp=Z,162μm,5.9s								
DZM	**Mont Dzumac**	**7.89**	**185**	P			**Pn**	**13 46 58.5**	**+0.5**
	comp=Z,10nm,0.3s,baz=90,slow=24,SNR=122								
DZM				S			**Sn**	**13 48 23.2**	**-2.4**
	baz=60,slow=20								
DZM	**Mont Dzumac**	**7.89**	**185**	*eP*			**Pn**	**13 46 58.2**	**+0.2**
NOUC	**Port Laguerre**	**7.93**	**186**	*eP*			**Pn**	**13 46 56.0**	**-2.4**
NOUC				*eS*			**Sn**	**13 48 24.7**	**-1.8**
NOUC				AMP				13 48 35.9	
	comp=Z,22nm,6.6s								
HNR	**Honiara**	**8.51**	**303**	P			Pn	13 47 12.0	+5.6
HNR				S			**Sn**	**13 48 41.0**	**+0.2**
EIDS	**Eidsvold** baz=20,SNR=3.6	**18.78**	**231**	P			**Pn**	**13 49 19.8**	**+0.8**
RMQ	**Roma** baz=22,SNR=9.3	**21.15**	**232**	P			**P**	**13 49 45.0**	**+1.9**
QLP	**Quilpie** baz=26,SNR=4.9	**24.75**	**237**	P			**P**	**13 50 18.8**	**+0.5**
STKA	**Stephens Creek** comp=Z,2.9nm,0.3s,baz=51,slow=8.1,SNR=17	**29.29**	**229**	P			**P**	**13 51 00.3**	**+1.3**
WRA	**Warramunga Arr** comp=Z,0.5nm,0.8s,baz=83,slow=8.2,SNR=5.2	**31.88**	**255**	P			**P**	**13 51 20.5**	**-1.5**
HTT	**Hallett** baz=33,SNR=3.2	**32.02**	**228**	P			**P**	**13 51 24.3**	**+1.2**
ASAR	**Alice Springs** comp=Z,0.4nm,0.5s,baz=75,slow=9.4,SNR=8.1	**32.80**	**248**	P			**P**	**13 51 28.5**	**-1.5**
BBOO	**Buckleboo** baz=35,SNR=13	**33.86**	**231**	P			**P**	**13 51 39.7**	**+0.6**
WRKA	**Warakurna** baz=39,SNR=4.9	**38.07**	**247**	P			**P**	**13 52 14.3**	**-0.8**
MEEK	**Meekatharra** baz=48,SNR=4.7	**46.92**	**247**	P			**P**	**13 53 26.7**	**-0.2**
VNDA	**Vanda** comp=Z,1.1nm,0.5s,baz=358,slow=7.3,SNR=15	**63.41**	**181**	P			**P**	**13 55 25.0**	**+0.5**
PETK	**Petropavlovsk-** comp=Z,2.8nm,0.9s,baz=150,slow=6.0,SNR=3.0	**67.50**	**354**	P			**P**	**13 55 53.7**	**+2.6**
CMAR	**Chng Mai Arr** comp=Z,0.5nm,0.3s,baz=125,slow=4.7,SNR=3.1	**74.65**	**294**	P			**P**	**13 56 37.2**	**+2.2**
CMAR				pP			**pP**	**13 56 58.4**	**-2.2**
	comp=Z,2.8nm,0.9s,baz=128,slow=4.6,SNR=3.1								
QSPA	**South Pole Qui** comp=Z,3.9nm,0.9s,baz=351,slow=1.5,SNR=10	**75.85**	**180**	P			**P**	**13 56 41.4**	**+0.3**
SEY	**Seymchan** comp=Z,0.8nm,0.6s,baz=126,slow=7.2,SNR=3.8	**77.72**	**353**	P			**P**	**13 56 51.8**	**+0.4**
SEY				pP			**pP**	**13 57 13.7**	**-3.5**
	comp=Z,0.4nm,0.5s,baz=161,slow=8.5,SNR=2.4								
SONM	**Songino Array** comp=Z,0.1nm,0.4s,baz=107,slow=7.7,SNR=2.5	**82.00**	**324**	P			**P**	**13 57 16.4**	**+1.4**
SONM				pP			**pP**	**13 57 37.8**	**-3.2**
	comp=Z,0.6nm,0.8s,baz=151,slow=8.2,SNR=3.6								
MAW	**Mawson** comp=Z,3.5nm,0.9s,baz=105,slow=21,SNR=12	**82.36**	**202**	P			**P**	**13 57 15.9**	**-0.5**
MAW	**Mawson** baz=84,SNR=5.1	**82.36**	**202**	P			**P**	**13 57 17.6**	**+1.1**
ILAR	**Eielson Array** comp=Z,0.2nm,0.8s,baz=241,slow=5.0,SNR=1.9	**86.03**	**18**	P			**P**	**13 57 33.9**	**-1.0**
MKAR	**Makanchi Array** comp=Z,0.2nm,0.6s,baz=101,slow=1.5,SNR=2.8	**96.75**	**316**	P			**P**	**13 58 26.6**	**+1.3**
MKAR				pP			**pP**	**13 58 46.8**	**-5.0**
	comp=Z,1.1nm,0.9s,baz=96,slow=6.5,SNR=6.2								
ARCES	**ARCESS Array B** comp=Z,1.0nm,0.6s,baz=48,slow=1.8,SNR=8.0	**119.70**	**345**	PKP			**PKPdf**	**14 03 44.0**	**+0.3**
FINES	**FINESS Array B** comp=Z,0.3nm,0.5s,baz=146,slow=3.7,SNR=4.8	**125.18**	**338**	PKP			**PKPdf**	**14 03 55.6**	**+1.2**
KEST	**Kesra** comp=Z,1.3nm,0.7s,baz=140,slow=4.7,SNR=3.5	**150.73**	**321**	PKPbc			**PKPbc**	**14 04 48.1**	**+1.0**
ESDC	**Sonseca Array** comp=Z,0.4nm,0.6s,baz=46,slow=1.1,SNR=3.5	**153.43**	**345**	PKPbc			**PKPbc**	**14 04 52.2**	**-0.9**

*ISCJB **03** 13:49:26.7±0.6, 50°.87N±0°.05×73°.87E±0°.07, h10km, mb3.4/1, MS3.1/2, Error ellipse: s-maj=7.1km s-min=6.2km az=142.2*

*NNC **03** 13:49:28.0±0.4, 50°.75N×73°.83E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=5.4km s-min=3.3km az=45.0*

*IDC **03** 13:49:30.1±2.5, 50°.89N×73°.64E, h33km±33km, mb3.2/1, mb1 3.3/7, mb1mx3.0/33, mbtmp3.2/7, ML2.7/6, MS3.1/2, Ms1 3.2/2, ms1mx2.6/21, Error ellipse: s-maj=21.8km s-min=10.5km az=14.0*

ISC 03 13:49:27.9±0.9, 50°.80N±0°.05×73°.79E±0°.05, h10km, n20, σ2s32/17, 8C-9D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
OTUK	**Ortayu** 3.6nm,0.4s	**2.73**	**201**	⇓	Pn		**Pn**	**13 50 12.1**	**+0.4**
OTUK				⇓	Sn		**Sb**	**13 50 47.0**	**-3.3**
	27nm,0.6s								
KURBB	**Kurchatov Arra** 12nm,0.5s	**3.02**	**92**	⇓	Pn		**Pn**	**13 50 16.0**	**+0.3**
KURBB				⇑	Lg		Lg	13 51 04.9	
	82nm,0.7s								
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=279,slow=14,SNR=61	**3.02**	**92**	Pn			**Pn**	**13 50 16.6**	**+1.0**
KURBB				Lg			Lg	13 51 01.0	
	0.5nm,0.3s,baz=279,slow=30,SNR=10								
BVA0	**Borovoye Array** 3.9nm,0.6s,baz=136,slow=18,SNR=27	**3.06**	**318**	Pn			**Pn**	**13 50 17.7**	**+1.4**
BVA0				⇑	Sn		**Sb**	**13 50 58.3**	**-1.6**
	18nm,0.6s,baz=124,slow=28,SNR=13								
BVAR	**Borovoye Array** 0.6nm,0.3s,baz=140,slow=15,SNR=8.1	**3.06**	**318**	Pn			**Pn**	**13 50 14.5**	**-1.8**
BVAR				Lg			Lg	13 50 55.8	
	3.0nm,0.3s,baz=138,slow=27,SNR=14								
KURK	**Kurchatov** 3.1nm,0.6s	**3.07**	**90**	⇓	Pn		**Pn**	**13 50 16.3**	**0.0**
KURK				⇓	Lg		Lg	13 51 06.1	
	20nm,1.0s								
BRVK	**Borovoye** 5.4nm,0.5s	**3.13**	**317**	⇓	Pn		**Pn**	**13 50 18.6**	**+1.3**
BRVK				⇓	Sn		**Sn**	**13 50 59.3**	**+4.6**
	114nm,1.1s								
MK31	**Makanchi Array** 0.1nm,0.1s,baz=44,slow=24,SNR=2.7	**6.90**	**122**	⇓	Sn		**Sn**	**13 52 31.0**	**+3.5**
MK31				⇑	Lg		Lg	13 53 07.7	
	3.7nm,0.6s,baz=306,slow=21,SNR=7.6								
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=304,slow=12,SNR=3.3	**6.90**	**122**	Pn			**Pn**	**13 51 10.1**	**+1.1**
MKAR					Sn		Sn	13 52 34.5	+6.9
	0.1nm,0.3s,baz=298,slow=23,SNR=2.6								
MKAR					Lg		Lg	13 53 05.0	
	0.6nm,0.3s,baz=305,slow=30,SNR=8.4								
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=254,slow=12,SNR=4.5	**7.45**	**61**	Pn			**Pn**	**13 51 16.3**	**-0.1**
ZALV					Sn		**Sn**	**13 52 39.3**	**-1.6**
	0.1nm,0.3s,baz=248,slow=25,SNR=4.1								
ZALV					Lg		Lg	13 53 24.9	
	0.2nm,0.3s,baz=252,slow=30,SNR=2.8								
TKM2	**Tokmak 2** 10nm,0.9s	**7.98**	**170**	⇑	Lg		Lg	13 53 40.1	
KK31	**Karatay Array** 6.4nm,0.9s	**8.02**	**197**	⇑	Lg		Lg	13 53 41.6	
AAK	**Ala-Archa** 14nm,1.0s	**8.19**	**176**	⇑	Lg		Lg	13 53 47.4	
PDGK	**Podgornoye** 1.3nm,0.5s	**8.43**	**150**	⇑	Sn		**Sn**	**13 53 08.2**	**+3.2**
PDGK				⇑	Lg		Lg	13 53 54.7	
	4.7nm,0.7s								
AB31	**Akulak array** 3.1nm,1s	**9.05**	**266**	⇓	Lg		Lg	13 54 15.1	
AKTO	**Aktyubinsk** 0.3nm,0.3s,baz=82,slow=12,SNR=5.1	**10.04**	**274**	Pn			Pn	13 51 48.4	-3.6
AKTO					Lg		Lg	13 54 42.0	
	0.1nm,0.3s,baz=126,slow=19,SNR=4.9								
GEYT	**Alibeck** 0.3nm,0.3s,baz=7.6,slow=12,SNR=2.4	**17.02**	**227**	Pn			**Pn**	**13 53 24.0**	**-1.9**
NOA	**NORSAR Array B** comp=Z,15nm,18.5s,baz=290,slow=39	**35.17**	**311**	LR			LR	14 12 08.2	
ESDC	**Sonseca Array** comp=Z,36nm,18.1s,baz=150,slow=36	**53.46**	**290**	LR			LR	14 21 38.2	
ILAR	**Eielson Array** 0.2nm,0.5s,baz=328,slow=5.6,SNR=4.8	**60.52**	**19**	P			**P**	**13 59 35.9**	**-1.7**

*ISCJB **03** 13:50:35.9±0.6, 1°.70S±0°.09×136°.44E±0°.05, h10km, mb3.8/7, MS3.1/2, Error ellipse: s-maj=13.4km s-min=6.4km az=12.7*

*IDC **03** 13:50:35.9±0.9, 1°.64S×136°.48E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.8/20, mbtmp3.8/9, ML3.1/2, MS3.0/3, Ms1 3.0/3, ms1mx2.7/21, Error ellipse: s-maj=28.2km s-min=18.6km az=56.0*

ISC 03 13:50:37.6±0.7, 1°.86S±0°.10×136°.42E±0°.07, h10km, n14, σ1s70/15, mb3.9/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
FAKI	**Fak Fak** baz=36,SNR=30	**4.29**	**256**	P			**Pn**	**13 51 43.7**	**+0.6**
JAY	**Jayapura** 0.7nm,0.3s,baz=342,slow=19,SNR=3.9	**4.33**	**99**	Pn			**Pn**	**13 51 44.6**	**+0.9**
JAY				Sn			**Sn**	**13 52 34.4**	**+0.1**
	1.2nm,0.3s,baz=246,slow=19,SNR=2.3								
SIJI	**Sorong** 1.0nm,0.3s,baz=106,slow=20,SNR=2.1	**5.24**	**281**	Pn			**Pn**	**13 51 56.5**	**+0.3**
SIJI				Sn			**Sn**	**13 52 57.6**	**+1.0**
	1.2nm,0.3s,baz=139,slow=19,SNR=2.9								
SIJI				LR			LR	13 53 41.6	
	comp=Z,65nm,20.0s,baz=45,slow=35								
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=9.2,slow=13,SNR=20	**18.09**	**186**	P			**Pn**	**13 54 46.5**	**-2.7**
WRA				S			Sn	13 58 02.6	-8.6
	0.3nm,0.3s,baz=4.1,slow=24,SNR=5.4								
CTA	**Charters Tower** 5.7nm,0.9s,baz=323,slow=10,SNR=4.2	**20.51**	**153**	P			Pn	13 55 21.6	+3.3
ASAR	**Alice Springs** 4.4nm,0.7s,baz=14,slow=12,SNR=32	**21.81**	**186**	P			**P**	**13 55 31.6**	**+1.5**
ASAR				S			**S**	**13 59 28.2**	**-3.3**
	0.4nm,0.7s,baz=356,slow=24,SNR=3.0								
ASAR				LR			LR	14 04 54.7	
	comp=Z,82nm,18.3s,baz=21,slow=39								
STKA	**Stephens Creek** 1.4nm,0.5s,baz=340,slow=8.4,SNR=8.4	**30.25**	**171**	P			**P**	**13 56 50.1**	**+1.3**
CMAR	**Chng Mai Arr** 0.4nm,0.3s,baz=122,slow=6.3,SNR=4.7	**42.03**	**300**	P			**P**	**13 58 29.9**	**+0.2**
SONM	**Songino Array** comp=Z,17nm,20.4s,baz=71,slow=36	**56.00**	**336**	LR			LR	14 23 57.1	
MKAR	**Makanchi Array** 0.7nm,0.7s,baz=113,slow=9.3,SNR=7.0	**67.73**	**323**	P			**P**	**14 01 33.9**	**-1.5**
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=149,slow=6.7,SNR=3.1	**70.06**	**330**	P			**P**	**14 01 48.7**	**-1.0**
VNDA	**Vanda** 0.4nm,0.6s,baz=318,slow=7.1,SNR=4.2	**76.83**	**174**	P			**P**	**14 02 31.1**	**+1.8**
ILAR	**Eielson Array** 0.9nm,1.0s,baz=251,slow=5.7,SNR=7.0	**86.02**	**25**	P			**P**	**14 03 16.3**	**-1.8**
TORD	**Torodi Ar. Bea** 0.2nm,0.7s,baz=49,slow=4.4,SNR=2.8	**133.82**	**286**	PKP			**PKPdf**	**14 09 56.6**	**+0.6**

*ISCJB **03** 14:09:26.0±0.9, 20°.68S±0°.07×68°.7W±0°.1, h112km, mb3.6/3, Error ellipse: s-maj=18.4km s-min=9.1km az=15.6*

*IDC **03** 14:09:27.6±1.3, 20°.76S×68°.76W, h113km±15km, mb3.4/4, mb1 3.5/7, mb1mx3.3/20, mbtmp3.8/7, Error ellipse: s-maj=24.8km s-min=14.7km az=107.0*

ISC 03 14:09:27.4±0.8, 20°.80S±0°.07×68°.7W±0°.1, h112km, n18, σ1s35/15, mb3.5/3, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
LVC	**Limon Verde** 2μm,0.3s,baz=16,slow=12,SNR=160	**1.81**	**186**	P			**Pn**	**14 09 59.3**	**+0.9**
LVC				S			**Sn**	**14 10 23.4**	**+1.4**
	4μm,0.3s,baz=73,slow=19,SNR=23								
LPAZ	**La Paz** 1.9nm,0.3s,baz=220,slow=7.4,SNR=25	**4.52**	**7**	P			**Pn**	**14 10 36.1**	**+1.7**
SIV	**San Ignacio** 0.9nm,0.3s,baz=254,slow=12,SNR=8.0	**8.67**	**58**	P			**Pn**	**14 11 29.4**	**-0.7**
CFAA	**Coronel Fontan** 0.6nm,0.3s,baz=315,slow=14.4,SNR=4.0	**10.77**	**178**	P			**Pn**	**14 11 56.4**	**-2.0**
CPUP	**Villa Florida** 0.3nm,0.3s,baz=309,slow=10,SNR=5.4	**11.78**	**120**	P			**Pn**	**14 12 12.7**	**+0.7**
BDFB	**Brasilia** 3.3nm,0.4s,baz=256,slow=4.2,SNR=3.2	**20.30**	**79**	P			**P**	**14 13 55.5**	**+0.9**
PTGA	**Pitinga** 0.8nm,0.4s,baz=176,slow=19,SNR=2.6	**21.69**	**24**	P			**P**	**14 14 07.6**	**-1.8**
TXAR	**Lajitas Array** 0.2nm,0.4s,baz=150,slow=9.9,SNR=5.8	**60.18**	**325**	P			**P**	**14 19 23.2**	**-0.5**
TORD	**Torodi Ar. Bea** 1.0nm,0.5s,baz=257,slow=5.4,SNR=11	**76.93**	**70**	P			**P**	**14 21 09.3**	**+1.2**
TORD				pP			**pP**	**14 21 37.2**	**+0.7**
	1.3nm,0.7s,baz=249,slow=5.0,SNR=5.6							

PCH	**Pirque**	**1.62**	**52**	⇑*iP*	**Pn**	**14 30 21.9**	**-0.7**
COCH	**Cobquecura**	**1.62**	**202**	⇑*iP*	**Pn**	**14 30 23.4**	**+0.9**
COCH				*i* S	**Sb**	**14 30 45.2**	**0.0**
IHA	**Instituto Hidr**	**1.63**	**12**	⇑*iP*	**Pn**	**14 30 21.4**	**-1.2**
IHA				*i* S	**Sn**	**14 30 41.8**	**-0.7**
SAN	**Santiago**	**1.64**	**45**	*eP*	**Pn**	**14 30 23.2**	**+0.4**
SAN				*i* S	**Sn**	**14 30 42.3**	**-0.7**
CLCH	**Cerro Calan**	**1.75**	**46**	⇑*iP*	**Pn**	**14 30 23.9**	**-0.5**
CLCH				*i* S	**Sn**	**14 30 45.9**	**0.0**
CLCH				AML	AML	14 30 58.5	
	comp=N,2µm,0.6s						
PEL	**Peldehue**	**1.86**	**38**	⇑*iP*	**Pn**	**14 30 25.6**	**-0.3**
PEL				*i* S	**Sn**	**14 30 48.9**	**+0.4**
PEL				AML	AML	14 30 56.9	
	comp=N,3µm,0.5s						
YECH	**El Yeso**	**1.89**	**60**	*eP*	**Pn**	**14 30 26.4**	**-0.1**
YECH				*i* S	**Sn**	**14 30 50.9**	**+1.4**
YECH				AML	AML	14 30 58.8	
	comp=N,1µm,0.9s						
AAGR	**Agrelo**	**3.09**	**61**	*eP*	Pn	14 30 46.0	+3.2
ARCO	**CERRO ARCO**	**3.15**	**57**	*eP*	Pb	14 30 48.7	-2.5
AUSP	**Uspallata**	**3.27**	**44**	*eP*	**Pn**	**14 30 48.0**	**+2.5**
AUSP				*eS*	**Sb**	**14 31 33.2**	**+0.4**
CANA	**Caviahue**	**3.36**	**166**	*eP*	**Pb**	**14 30 53.4**	**-1.4**
ASAL	**Salagasta**	**3.36**	**54**	*eP*	Pn	14 30 51.1	+4.6
ASAL				*eS*	**Sb**	**14 31 38.4**	**+3.0**
RTLS	**Leoncito**	**3.64**	**40**	*eP*	**Pn**	**14 30 53.3**	**+2.8**
RTCV	**Cerro Valdivia**	**4.03**	**48**	*eP*	Pn	14 30 59.2	+3.5
CFAA	**Coronel Fontan**	**4.39**	**48**	*eP*	**Pn**	**14 31 03.2**	**+2.5**
RTLL	**Cerro Villicun**	**4.45**	**43**	*eP*	**Pn**	**14 31 03.1**	**+1.7**
RTLL				*eS*	Sn	14 31 59.0	+6.6
ACAN	**Cantantal**	**4.69**	**61**	*eP*	Pn	14 31 08.8	+4.0
AMOG	**MOGNA**	**4.74**	**40**	*eP*	**Pn**	**14 31 07.1**	**+1.6**
AVFE	**Valle Fertil**	**5.54**	**46**	*eP*	**Pn**	**14 31 17.8**	**+1.4**
AVFE				AML	AML	14 32 48.7	
	comp=Z,20nm,0.6s						
ACHE	**Chepes**	**5.69**	**54**	*eP*	**Pn**	**14 31 20.7**	**+2.1**

IDC 03 14:39:24.7±2.6, 6°31'S×130°53'E, h0km, mb3.3/1, mb1 3.3/3, mb1mx3.2/19, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=159.9km s-min=33.0km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.05**	**165**	Pn	Pn	14 42 45.5	+0.3
	0.1nm,0.3s,baz=348,slow=12,SNR=8.2						
WRA				Sn	Sn	14 45 06.8	-15
	0.5nm,0.3s,baz=335,slow=22,SNR=12						
ASAR	**Alice Springs**	**17.56**	**170**	P	Pn	14 43 30.9	-0.3
	0.1nm,0.3s,baz=351,slow=12,SNR=4.9						
ASAR				S	Sn	14 46 33.9	-14
	0.1nm,0.3s,baz=338,slow=31,SNR=4.7						
MKAR	**Makanchi Array**	**67.94**	**326**	P	P	14 50 25.4	0.0
	0.1nm,0.4s,baz=130,slow=6.2,SNR=3.9						

*DDA **03** 15:19:56.6, 40°.27N×29°.54E, h7km, MD2.6*
*ISK **03** 15:19:56.8, 40°.11N×29°.43E, h16km, MD2.3*
*CSEM **03** 15:19:58.2±0.3, 40°.14N×29°.44E, h5km, MD2.3, Error ellipse: s-maj=7.4km s-min=5.5km az=113.0*
ISC 03 15:19:57.7±1.2, 40°.13N±0°.04×29°.48E±0°.03, h3km±11km, n16, σ1°53/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IZI	**Iznik**	**0.21**	**360**	*e*PG	**Pg**	**15 20 02.4**	**+0.6**
IZI				*e*SG	**Sg**	**15 20 06.2**	**+1.6**
IZI	**Iznik**	**0.21**	**360**	*e*Pg	**Pg**	**15 20 02.4**	**+0.6**
IZI				*e*Sg	**Sg**	**15 20 06.2**	**+1.6**
ULDT	**Uludag**	**0.26**	**274**	*i* P	**Pg**	**15 20 02.9**	**+0.2**
ULDT				*i* S	**Sg**	**15 20 07.1**	**+0.9**
ULDT	**Uludag**	**0.26**	**274**	*i* P	**Pg**	**15 20 02.9**	**+0.2**
ULDT				*i* S	**Sg**	**15 20 07.1**	**+0.9**
CAVI	**Cavuskoy**	**0.29**	**75**	*e*PG	**Pb**	**15 20 04.0**	**-1.6**
CAVI				*e*SG	**Sb**	**15 20 09.3**	**-1.5**
CAVI	**Cavuskoy**	**0.29**	**75**	*e*Pg	**Pb**	**15 20 04.0**	**-1.6**
CAVI				*e*Sg	**Sb**	**15 20 09.4**	**-1.5**
ARMT	**Armutlu**	**0.64**	**313**	*e*PG	**Pb**	**15 20 09.3**	**-2.2**
ARMT	**Armutlu**	**0.64**	**313**	*e*Pg	**Pb**	**15 20 09.4**	**-2.2**
TVSB	**Tavsanli**	**0.68**	**181**	*e*PG	**Pg**	**15 20 10.1**	**-0.5**
TVSB	**Tavsanli**	**0.68**	**181**	*e*Pg	**Pg**	**15 20 10.1**	**-0.5**
DURS	**Dursunbey**	**0.93**	**236**	*i* P	**Pn**	**15 20 16.8**	**-0.9**
DURS				*i* S	**Sn**	**15 20 32.6**	**+1.0**
DURS	**Dursunbey**	**0.93**	**236**	*i* P	**Pn**	**15 20 16.8**	**-0.9**
DURS				*i* S	**Sn**	**15 20 32.6**	**+1.0**
GDZ	**Gediz**	**1.04**	**180**	*i* P	**Pn**	**15 20 19.6**	**+0.4**
GDZ				*i* S	**Sn**	**15 20 36.5**	**+2.2**
GDZ	**Gediz**	**1.04**	**180**	*i* P	**Pn**	**15 20 19.6**	**+0.4**
GDZ				*i* S	**Sn**	**15 20 36.5**	**+2.2**
DEMI	**Demirci**	**1.23**	**209**	*i* P	**Pn**	**15 20 22.2**	**+0.4**
DEMI				*i* S	**Sn**	**15 20 41.7**	**+2.7**
DEMI	**Demirci**	**1.23**	**209**	*i* P	**Pn**	**15 20 22.2**	**+0.4**
DEMI				*i* S	**Sn**	**15 20 41.7**	**+2.7**

*ISCJB **03** 15:22:25.3±0.9, 36°.61N±0°.03×25°.6E±0°.1, h6km±8km, Error ellipse: s-maj=14.6km s-min=5.3km az=10.4*
*ATH **03** 15:22:25.6, 36°.60N×25°.58E, h7km, MD2.7/4*
*THE **03** 15:22:25.1, 36°.61N×25°.60E, h8km±3km, ML2.3/2, Error ellipse: s-maj=4.3km s-min=0.3km az=109.0*
*CSEM **03** 15:22:25.3±0.2, 36°.60N×25°.58E, h8km, ML2.3, Error ellipse: s-maj=4.7km s-min=2.7km az=84.0*
ISC 03 15:22:25.5±1.4, 36°.60N±0°.03×25°.59E±0°.06, h11km±11km, n23, σ0°43/33, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THR2	**Thira island,**	**0.20**	**219**	P	**Pg**	**15 22 29.5**	**-0.3**
THR2	**Thira island,**	**0.20**	**219**	P	**Pg**	**15 22 29.5**	**-0.3**
THR3	**Thira island,**	**0.25**	**218**	P	**Pg**	**15 22 30.4**	**-0.2**
THR3	**Thira island,**	**0.25**	**218**	P	**Pg**	**15 22 30.4**	**-0.2**
SANT	**Santorini**	**0.25**	**205**	*e*PG	**Pg**	**15 22 30.5**	**-0.3**
SANT				*e*SG	**Sg**	**15 22 34.3**	**0.0**
SANT	**Santorini**	**0.25**	**205**	P	**Pg**	**15 22 30.5**	**-0.3**
SANT				S	**Sg**	**15 22 34.6**	**+0.3**
SANT	**Santorini**	**0.25**	**205**	*e*Sg	**Sg**	**15 22 34.3**	**0.0**
SANT	**Santorini**	**0.25**	**205**	P	**Pg**	**15 22 30.5**	**-0.3**
SANT				S	**Sg**	**15 22 34.6**	**+0.3**
THR1	**Thera Island**	**0.25**	**205**	P	**Pg**	**15 22 30.4**	**-0.4**
THR1	**Thera Island**	**0.25**	**205**	P	**Pg**	**15 22 30.4**	**-0.4**
THR5	**Thira Island,**	**0.27**	**227**	P	**Pg**	**15 22 30.7**	**-0.3**
THR5	**Thira Island,**	**0.27**	**227**	P	**Pg**	**15 22 30.7**	**-0.3**
THR6	**Thira Island,**	**0.29**	**212**	P	**Pg**	**15 22 31.4**	**0.0**
THR6	**Thira Island,**	**0.29**	**212**	P	**Pg**	**15 22 31.4**	**0.0**
APE	**Apeiranthos**	**0.47**	**354**	*e*PB	**Pg**	**15 22 34.2**	**-0.5**
APE				*e*SB	**Sg**	**15 22 41.9**	**+0.9**
APE	**Apeiranthos**	**0.47**	**354**	P	**Pg**	**15 22 34.2**	**-0.5**
APE				S	**Sg**	**15 22 41.4**	**+0.4**
APE	**Apeiranthos**	**0.47**	**354**	P	**Pg**	**15 22 34.2**	**-0.5**
APE				S	**Sg**	**15 22 41.4**	**+0.4**
MHLO	**Agia Marina, M**	**0.96**	**276**	*e*PB	**Pg**	**15 22 43.8**	**-0.2**
MHLO				*e*SB	**Sb**	**15 22 56.7**	**-0.1**
MHLO	**Agia Marina, M**	**0.96**	**276**	P	**Pg**	**15 22 43.2**	**-0.8**
MHLO	**Agia Marina, M**	**0.96**	**276**	*e*Pb	**Pg**	**15 22 43.8**	**-0.2**
MHLO				*e*Sb	**Sb**	**15 22 56.7**	**-0.1**
MHLO				S	**Sb**	**15 22 57.3**	**+0.5**
MHLO	**Agia Marina, M**	**0.96**	**276**	P	**Pg**	**15 22 43.2**	**-0.8**
MHLO				S	**Sb**	**15 22 57.3**	**+0.5**
LAST	**Lasithi**	**1.44**	**184**	*e*PB	**Pg**	**15 22 52.8**	**-0.4**
LAST	**Lasithi**	**1.44**	**184**	*e*Pb	**Pg**	**15 22 52.8**	**-0.4**

IDC 03 15:29:25.6±1.8, 31°.30N×110°.83E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.2/28, mbtmp3.3/4, ML3.9/1, Error ellipse: s-maj=71.2km s-min=26.1km az=59.0, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.71**	**223**	Pn	Pn	15 33 21.2	+0.1
	0.2nm,0.3s,baz=31,slow=11,SNR=5.8						
MKAR	**Makanchi Array**	**26.84**	**313**	P	P	15 35 07.7	0.0
	0.1nm,0.5s,baz=111,slow=7.9,SNR=2.6						
KURBB	**Kurchatov Arra**	**30.75**	**318**	P	P	15 35 42.3	0.0
	0.3nm,0.5s,baz=114,slow=9.6,SNR=3.0						
ASAR	**Alice Springs**	**58.95**	**155**	P	P	15 39 26.8	-0.1
	0.2nm,0.5s,baz=332,slow=6.6,SNR=5.7						

*ISCJB **03** 15:51:38.7±0.6, 10°.22S±0°.08×73°.94W±0°.05, h150km, mb3.7/5, Error ellipse: s-maj=11.1km s-min=7.3km az=9.8*
*IDC **03** 15:51:40.2±1.9, 10°.19S×73°.91W, h152km±25km, mb3.6/5, mb1 3.8/10, mb1mx3.5/25, mbtmp4.1/10, MS3.3/1, Ms1 3.3/1, ms1mx2.7/17, Error ellipse: s-maj=40.6km s-min=16.3km az=30.0*
ISC 03 15:51:40.0±0.7, 10°.24S±0°.09×73°.95W±0°.08, h150km, n11, σ1°03/14, mb3.9/5, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**3.33**	**238**	P	**Pn**	**15 52 32.0**	**+0.4**
	65nm,0.3s,baz=85,slow=7.0,SNR=70						
NNA				S	**Sn**	**15 53 10.3**	**-1.4**
	60nm,0.3s,baz=316,slow=21,SNR=15						
ATAH	**Atahualpa**	**5.37**	**305**	P	**Pn**	**15 52 59.5**	**+0.8**
	4.1nm,0.3s,baz=148,slow=13,SNR=17						
ATAH				S	**Sn**	**15 53 59.5**	**-0.7**
	6.9nm,0.3s,baz=206,slow=5.6,SNR=4.0						
LPAZ	**La Paz**	**8.26**	**137**	P	**Pn**	**15 53 38.5**	**+1.1**
	0.3nm,0.3s,baz=328,slow=14,SNR=11						
SIV	**San Ignacio**	**13.78**	**116**	P	**Pn**	**15 54 48.7**	**-0.5**
	0.4nm,0.3s,baz=277,slow=16,SNR=4.8						
SIV				LR	LR	16 00 11.1	
	comp=Z,105nm,18.2s,baz=112,slow=37						
PTGA	**Pitinga**	**16.80**	**57**	P	**Pn**	**15 55 26.2**	**-0.4**
	0.6nm,0.3s,baz=238,slow=15,SNR=6.2						
BDFB	**Brasilia**	**25.82**	**105**	P	**P**	**15 56 57.9**	**+0.2**
	1.8nm,0.4s,baz=270,slow=7.1,SNR=3.2						
TXAR	**Lajitas Array**	**48.67**	**325**	P	**P**	**16 00 08.0**	**-1.2**
	0.4nm,0.6s,baz=162,slow=9.1,SNR=4.9						
TXAR				pP	**pP**	**16 00 44.4**	**+1.1**
	0.3nm,0.6s,baz=153,slow=11,SNR=3.1						
DBIC	**Dimbokro**	**70.82**	**79**	P	**P**	**16 02 40.0**	**-0.9**
	3.5nm,0.7s,baz=234,slow=7.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**78.59**	**74**	P	**P**	**16 03 25.0**	**-0.6**
	1.8nm,0.8s,baz=277,slow=4.9,SNR=9.8						
YKA	**Yellowknife Ar**	**79.03**	**342**	P	**P**	**16 03 27.7**	**+0.7**
	0.7nm,0.8s,baz=133,slow=7.0,SNR=3.1						
ZALV	**Zalesovo Beam**	**133.22**	**17**	PKP	**PKPdf**	**16 10 39.4**	**+1.6**
	0.5nm,0.7s,baz=291,slow=1.2,SNR=3.0						

IDC 03 15:59:08.8±1.9, 5°.30S×153°.73E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/27, mbtmp3.4/5, Error ellipse: s-maj=65.3km s-min=30.4km az=106.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.83**	**231**	P	P	16 04 24.4	+0.6
	0.4nm,0.8s,baz=51,slow=10.0,SNR=2.8						
WRA				PcP	PcP	16 08 07.7	+0.3
	0.9nm,1.1s,baz=59,slow=2.4,SNR=3.3						
ASAR	**Alice Springs**	**26.42**	**224**	P	P	16 04 46.0	-1.5
	0.2nm,0.8s,baz=48,slow=8.5,SNR=3.3						
ASAR				PcP	PcP	16 08 13.9	+0.7
	0.4nm,0.8s,baz=44,slow=2.4,SNR=3.9						
H11S3	**WAKE ISLAND Hy**	**26.88**	**28**	T	T	16 33 07.4	
	baz=205						
H11S2	**WAKE ISLAND Hy**	**26.88**	**28**	T	T	16 33 08.0	
	baz=205						
H11S1	**WAKE ISLAND Hy**	**26.89**	**28**	T	T	16 33 10.5	
	baz=205						
CMAR	**Chiang Mai Arr**	**58.93**	**295**	P	P	16 09 11.5	+1.2
	0.6nm,0.7s,baz=122,slow=5.4,SNR=4.9						
MKAR	**Makanchi Array**	**81.31**	**319**	P	P	16 11 27.1	-0.1
	0.5nm,0.7s,baz=110,slow=6.5,SNR=4.3						
ZALV	**Zalesovo Beam**	**82.08**	**326**	P	P	16 11 30.0	-1.1
	0.3nm,0.4s,baz=111,slow=6.5,SNR=2.8						
TORD	**Torodi Ar. Bea**	**151.34**	**288**	PKPbc	PKPbc	16 19 05.0	-0.5
	0.4nm,0.3s,baz=55,slow=2.5,SNR=13						

GUC 03 16:01:50.3±0.5, 36°.37S×72°.39W, h48km±3km, ML3.8, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.40**	**306**	⇓*iP*	Pn	16 02 00.5	+0.3
COCH				*i* S	Sn	16 02 07.8	+0.6
CCSP	**San Pedro de C**	**0.75**	**230**	⇑*iP*	Pn	16 02 04.6	0.0
CCSP				*i* S	Sn	16 02 15.9	+0.9
LNCH	**Linares**	**0.82**	**51**	⇑*iP*	Pn	16 02 06.0	+0.4
LNCH				*i* S	Sn	16 02 17.7	+0.9
TALC	**Talca**	**1.15**	**33**	⇑*iP*	Pn	16 02 10.3	+0.4
TALC				*i* S	Sn	16 02 25.3	+0.8
PEL	**Peldehue**	**3.51**	**24**	*eP*	Pn	16 02 43.3	+0.8
PEL				AML	AML	16 03 47.5	
	comp=E,180nm,0.2s						

IDC 03 16:02:37.3±2.7, 2°.46N×95°.74E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/27, mbtmp3.4/4, ML2.7/1, MS3.5/2, Ms1 3.5/2, ms1mx2.7/22, Error ellipse: s-maj=71.8km s-min=27.5km az=50.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.19**	**84**	Pn	Pn	16 03 29.3	+0.3
	0.9nm,0.3s,baz=270,slow=13,SNR=3.3						
H08S2	**Diego Garcia H**	**25.27**	**246**	T	T	16 34 21.4	
	baz=67,slow=76,SNR=24						
H08S3	**Diego Garcia H**	**25.28**	**246**	T	T	16 34 23.5	
	baz=67,slow=76,SNR=17						
H08S1	**Diego Garcia H**	**25.28**	**246**	T	T	16 34 21.4	
	baz=67,slow=76,SNR=26						
H01W3	**Cape Leeuwin H**	**40.96**	**157**	T	T	16 53 44.7	
	baz=332,slow=76,SNR=22						
H01W2	**Cape Leeuwin H**	**40.97**	**157**	T	T	16 53 47.4	
	baz=332,slow=76,SNR=20						
H01W1	**Cape Leeuwin H**	**40.98**	**157**	T	T	16 53 49.0	
	baz=332,slow=76,SNR=16						
WRA	**Warramunga Arr**	**43.93**	**122**	P	P	16 10 46.1	-0.3
	0.5nm,0.8s,baz=300,slow=9.1,SNR=2.7						
KSRS	**Korea Array**	**45.67**	**36**	LR	LR	16 30 38.1	
	comp=Z,12nm,19.6s,baz=45,slow=37						
MKAR	**Makanchi Array**	**45.69**	**347**	P	P	16 11 00.1	+0.1
	0.4nm,0.5s,baz=164,slow=7.1,SNR=6.1						
SONM	**Songino Array**	**46.13**	**10**	P	P	16 11 03.2	-0.4
	0.3nm,0.5s,baz=187,slow=8.8,SNR=2.4						
CTA	**Charters Tower**	**54.36**	**117**	LR	LR	16 37 52.5	
	comp=Z,197nm,19.0s,slow=39						

PGC 03 16:08:30.1±2.4, 50°.46N×130°.30W, h10km, MLSn3.0/30, Mw3.6/30, 205km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.40**	**82**	Pn	Pn	16 08 53.6	-2.1
HOLB				Sn	Sn	16 09 09.6	-4.6
BPBC	**Brooks Peninsu**	**1.65**	**100**	Pn	Pn	16 08 56.6	-2.6
PHC	**Port Hardy**	**1.84**	**81**	Pn	Pn	16 08 60.0	-1.8
PHC				Sn	Sn	16 09 21.0	-4.2
MAYB	**Maynard**	**2.00**	**90**	Pn	Pn	16 09 02.2	-2.0
FHRB	**Fair Harbour**	**2.08**	**100**	Pn	Pn	16 09 02.9	-2.2
EDB	**Eliza Dome**	**2.13**	**105**	Pn	Pn	16 09 03.5	-2.2
BBB	**Bella Bella**	**2.21**	**38**	Pn	Pn	16 09 05.1	-1.6
BBB				Sn	Sn	16 09 29.0	-5.0
TLCB	**Telegraph Cove**	**2.21**	**86**	Pn	Pn	16 09 05.4	-1.5
TLCB				Sn	Sn	16 09 31.2	-3.1
WOSB	**Woss**	**2.41**	**96**	Pn	Pn	16 09 08.1	-1.6
ETB	**Estevan Point**	**2.66**	**113**	Pn	Pn	16 09 11.4	-1.7
NCRB	**Newcastle Ridg**	**2.71**	**90**	Pn	Pn	16 09 12.4	-1.6
GDR	**Gold River**	**2.83**	**102**	Pn	Pn	16 09 13.8	-1.5
MOBC	**Moresby Island**	**2.88**	**340**	Pn	Pn	16 09 14.7	-1.4
BCBC	**Bella Coola**	**2.93**	**48**	Sn	Sn	16 09 48.9	-3.0
DIB	**Dawson Inlet,**	**3.06**	**335**	Pn	Pn	16 09 17.2	-1.3
VIB	**Van Inlet**	**3.12**	**334**	Pn	Pn	16 09 18.0	-1.5
VIB				Sn	Sn	16 09 53.6	-3.3
CBB	**Campbell River**	**3.20**	**96**	Pn	Pn	16 09 19.2	-1.2
BTB	**Buttle Lake**	**3.24**	**106**	Pn	Pn	16 09 19.8	-1.5
OZB	**Mount Ozzard**	**3.46**	**114**	Pn	Pn	16 09 22.4	-1.7
TXB	**Texada**	**3.85**	**99**	Pn	Pn	16 09 28.6	-0.8
RUBB	**Prince Rupert**	**3.87**	**0**	Pn	Pn	16 09 28.9	-0.7
MGB	**Mount Grey**	**3.92**	**110**	Pn	Pn	16 09 29.1	-1.4
YOUB	**Youbou, Lake C**	**4.22**	**109**	Pn	Pn	16 09 34.3	-0.2
SHB	**Sechelt**	**4.23**	**99**	Pn	Pn	16 09 34.0	-0.7
PFB	**Port Renfrew**	**4.26**	**114**	Pn	Pn	16 09 34.2	-0.9
UBRB	**Upper Baezaeko**	**4.57**	**55**	Pn	Pn	16 09 40.1	+0.6
LZB	**Mount Lazard**	**4.61**	**111**	Pn	Pn	16 09 40.2	+0.3
OFR	**Olym-F Res Ctr**	**4.62**	**121**	Pn	Pn	16 09 41.4	+1.4
WPB	**Watts Point**	**4.64**	**97**	Pn	Pn	16 09 40.5	+0.3
WSLR	**Whistler**	**4.74**	**91**	Pn	Pn	16 09 41.9	+0.1
OBC	**Olympics--Boni**	**4.74**	**118**	Pn	Pn	16 09 43.0	+1.2
PGC	**Sidney**	**4.81**	**110**	Pn	Pn	16 09 43.3	+0.8
SNB	**Saturna Island**	**4.93**	**107**	Pn	Pn	16 09 45.4	+1.1
HNB	**Haney**	**5.13**	**100**	Pn	Pn	16 09 48.0	+1.0
MCW	**Mount Constitu**	**5.18**	**107**	Pn	Pn	16 09 48.6	+0.9
LLLB	**Lillooet**	**5.37**	**85**	Pn	Pn	16 09 50.1	-0.3
VDB	**Vedder Mountai**	**5.50**	**102**	Pn	Pn	16 09 53.2	+1.1
A05A	**Maple Falls**	**5.53**	**102**	Pn	Pn	16 09 53.4	+1.0
MBW	**Mount Baker**	**5.71**	**104**	Pn	Pn	16 09 56.2	+1.0
CMW	**Cultus Mountai**	**5.71**	**108**	Pn	Pn	16 09 56.1	+1.0
JCW	**Jim Creek**	**5.92**	**109**	Pn	Pn	16 09 59.0	+1.1
B06A	**Marblemount**	**6.07**	**105**	Pn	Pn	16 10 00.8	+1.1
RPW	**Rockport**	**6.07**	**106**	Pn	Pn	16 10 01.0	+1.0
GPW	**Glacier Peak**	**6.44**	**108**	Pn	Pn	16 10 06.3	+1.1
FMW	**Mount Fremont**	**6.71**	**118**	Pn	Pn	16 10 11.2	+2.2
B08A	**Colville Reser**	**7.46**	**102**	Pn	Pn	16 10 19.6	+0.6
DLBC	**Dease Lake**	**7.99**	**1**	Pn	Pn	16 10 28.6	+2.2

*ISCJB **03** 16:39:34.4±1.4, 23°.8N±0°.2×94°.0E±0°.4, h10km, mb3.3/6, Error ellipse: s-maj=59.8km s-min=12.5km az=151.9*
*IDC **03** 16:39:35.0±1.8, 23°.85N×94°.01E, h0km, mb3.4/6, mb1 3.4/7, mb1mx3.3/30, mbtmp3.3/7, ML2.9/1, Error ellipse: s-maj=88.4km s-min=19.3km az=63.0*
ISC 03 16:39:36.2±1.2, 23°.8N±0°.2×93°.9E±0°.3, h10km, n8, σ0°42/8, mb3.4/6, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**2.52**	**314**	*e*PG	Pg	16 40 30.2	+5.5
SHL				*e*SG	**Sn**	**16 40 48.2**	**-0.2**
CMAR	**Chiang Mai Arr**	**7.12**	**138**	Pn	**Pn**	**16 41 20.5**	**0.0**
	0.1nm,0.3s,baz=314,slow=14,SNR=2.8						
CMAR				Lg	Lg	16 43 16.6	
	0.1nm,0.3s,baz=314,slow=26,SNR=4.1						
MKAR	**Makanchi Array**	**24.75**	**341**	P	**P**	**16 44 58.7**	**+0.8**
	0.7nm,0.7s,baz=155,slow=10,SNR=8.2						
SONM	**Songino Array**	**25.95**	**19**	P	**P**	**16 45 08.7**	**-0.3**
	0.2nm,0.4s,baz=218,slow=11,SNR=2.8						
KURBB	**Kurchatov Arra**	**29.30**	**340**	P	**P**	**16 45 38.9**	**+0.1**
	0.3nm,0.7s,baz=147,slow=8.6,SNR=4.2						
ZALV	**Zalesovo Beam**	**30.85**	**350**	P	**P**	**16 45 52.6**	**+0.1**
	0.2nm,0.3s,baz=128,slow=9.3,SNR=2.2						
WRA	**Warramunga Arr**	**58.70**	**134**	P	**P**	**16 49 34.0**	**-0.3**
	0.4nm,0.9s,baz=318,slow=7.6,SNR=2.3						
ASAR	**Alice Springs**	**61.13**	**138**	P	**P**	**16 49 51.1**	**+0.1**
	0.3nm,0.8s,baz=318,slow=6.7,SNR=5.3						

*ISCJB **03** 16:40:59.1±0.5, 0°.52N±0°.04×121°.20E±0°.03, h96km±6km, mb3.5/7, Error ellipse: s-maj=7.6km s-min=5.0km az=159.6*
*IDC **03** 16:40:59.9±5.3, 0°.48N×121°.44E, h90km±56km, mb3.2/7, mb1 3.3/8, mb1mx3.2/26, mbtmp3.6/8, ML3.5/1, Error ellipse: s-maj=50.0km s-min=21.0km az=65.0*
*DJA **03** 16:41:01.5±0.3, 0°.7N±2°×12°.1E±°, h52km±5km, M4.4/14, mb4.6/3, MLv4.3/14*
ISC 03 16:40:60.0±0.9, 0°.53N±0°.06×121°.23E±0°.04, h87km±9km, n19, σ1°07/31, mb3.6/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.72**	**94**	P	**Pn**	**16 41 16.8**	**+0.5**
MRSI				S	**Sn**	**16 41 27.4**	**-1.2**
MPSI	**Mapaga**	**1.34**	**262**	P	**Pn**	**16 41 23.9**	**+0.3**
MPSI				S	**Sn**	**16 41 41.2**	**-0.1**
APSI	**Ampana**	**1.49**	**163**	P	**Pn**	**16 41 25.1**	**-0.4**
APSI				S	**Sn**	**16 41 43.8**	**-0.9**
PCI	**Palu**	**1.99**	**224**	P	**Pn**	**16 41 31.2**	**-0.7**
PCI				S	**Sn**	**16 41 55.7**	**-0.6**
LUWI	**Luwuk**	**2.19**	**135**	P	**Pn**	**16 41 35.0**	**+0.3**
LUWI				S	**Sn**	**16 42 01.5**	**+0.3**
KMSI	**Cibinong**	**2.76**	**89**	P	**Pn**	**16 41 43.6**	**+1.4**
KMSI				S	**Sn**	**16 42 17.6**	**+3.0**
TTSI	**Tana Toraja**	**3.82**	**202**	P	**Pn**	**16 41 57.0**	**+0

MKAR Makanchi Array 58.84 314 P **P** **17 36 34.9 -1.4**
0.2nm,0.7s,baz=94,slow=8.7,SNR=2.6
KURBB Kurchatov Arra 61.61 318 P **P** **17 36 54.6 -0.6**
0.4nm,0.4s,baz=92,slow=7.6,SNR=9.7
ARCES ARCESS Array B 82.27 342 P **P** **17 38 60.0 +1.3**
1.0nm,0.9s,baz=57,slow=8.8,SNR=3.8
FINES FINESS Array B 86.81 336 P **P** **17 39 21.3 -0.4**
0.5nm,0.4s,baz=79,slow=4.7,SNR=15

IDC 03 17:27:33.2±1.7, 26°33S×176°31W, h0km, mb3.7/2, mb1 4.1/3, mb1mx3.6/30, mbtmp3.9/3, ML4.3/1, Error ellipse: s-maj=42.5km s-min=32.6km az=109.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**3.24**	**206**	Pn		Pn	17 28 25.2	-0.1
	32nm,0.3s,baz=68,slow=19,SNR=3.6							
RAO				Sn		Sn	17 29 04.8	+0.2
	67nm,0.3s,baz=323,slow=20,SNR=4.1							
ASAR	**Alice Springs**	**44.98**	**262**	P		P	17 35 50.8	+0.2
	0.5nm,0.4s,baz=96,slow=8.1,SNR=24							
WRA	**Warramunga Arr**	**45.61**	**267**	P		P	17 35 55.1	-0.5
	0.5nm,0.4s,baz=105,slow=7.6,SNR=9.5							
HFS	**Hagfors**	**145.51**	**351**	PKPbc		PKPdf	17 47 12.2	-0.6
	1.1nm,0.8s,baz=44,slow=5.0,SNR=3.8							
TORD	**Torodi Ar. Bea**	**166.75**	**172**	PKPab		PKPab	17 48 43.5	-0.6
	0.4nm,0.9s,baz=194,slow=4.1,SNR=2.7							

*IDC **03** 17:52:53.8±1.8, 31°.17S×177°.03W, h0km, mb3.7/2, mb1 4.0/5, mb1mx3.7/23, mbtmp3.9/5, ML3.7/3, Error ellipse: s-maj=43.2km s-min=27.5km az=91.0*
*ISCJB **03** 17:52:55.8±1.9, 31°.21S±0°.05×177°.0W±0°.3, h33km, mb3.6/2, Error ellipse: s-maj=33.2km s-min=5.7km az=6.2*
ISC 03 17:52:58.6±1.8, 31°.12S±0°.07×177°.1W±0°.2, h35km, n12, σ1§33/19, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**2.00**	**339**	Pn		**Pn**	**17 53 29.5**	**-0.3**
	33nm,0.3s,baz=93,slow=19,SNR=5.7							
RAO				Sn		**Sn**	**17 53 53.5**	**-0.1**
	146nm,0.3s,baz=127,slow=20,SNR=3.9							
WMGZ	**Waiomatatini S**	**7.63**	**208**	*e*PN		**Pn**	**17 54 47.2**	**-0.1**
WMGZ				SN		**Sn**	**17 56 15.4**	**+2.8**
HAZ	**Te Kaha**	**7.85**	**211**	*e*PN		**Pn**	**17 54 50.0**	**-0.2**
HAZ				SN		**Sn**	**17 56 19.8**	**+2.0**
PUZ	**Puketiti**	**7.92**	**208**	PN		**Pn**	**17 54 50.4**	**-0.8**
PUZ				*e*SN		**Sn**	**17 56 19.2**	**-0.3**
MWZ	**Matawai**	**8.44**	**210**	PN		**Pn**	**17 54 57.4**	**-1.0**
MWZ				*e*SN		**Sn**	**17 56 31.6**	**-0.9**
URZ	**Urewera**	**8.57**	**212**	Pn		**Pn**	**17 54 58.9**	**-1.1**
	0.4nm,0.3s,baz=87,slow=16,SNR=11							
URZ				Sn		**Sn**	**17 56 34.7**	**-0.8**
	1.4nm,0.3s,baz=324,slow=20,SNR=9.5							
URZ	**Urewera**	**8.57**	**212**	PN		**Pn**	**17 54 59.6**	**-0.4**
URZ				*e*SN		**Sn**	**17 56 34.5**	**-0.9**
RPZ	**Rata Peaks**	**15.68**	**213**	Pn		**Pn**	**17 56 33.8**	**-3.0**
	0.6nm,0.3s,baz=13,slow=14,SNR=5.4							
RPZ				Sn		Sn	17 59 19.7	-10
	0.3nm,0.3s,baz=11,slow=19,SNR=2.8							
ASAR	**Alice Springs**	**43.85**	**267**	P		**P**	**18 01 02.5**	**+0.8**
	0.5nm,0.7s,baz=105,slow=7.2,SNR=10							
WRA	**Warramunga Arr**	**44.90**	**272**	P		**P**	**18 01 11.2**	**+1.1**
	0.7nm,0.4s,baz=111,slow=7.9,SNR=6.0							
FINES	**FINESS Array B**	**146.09**	**340**	PKPbc		**PKPbc**	**18 12 34.4**	**+0.2**
	1.5nm,0.6s,baz=60,slow=3.4,SNR=14							
TORD	**Torodi Ar. Bea**	**162.07**	**176**	PKPab		**PKPab**	**18 13 43.4**	**+0.2**
	0.3nm,0.5s,baz=184,slow=4.0,SNR=3.7							

*KRSC **03** 18:22:06.7±1.2, 53°.23N×160°.46E, h54km±14km, ML4.4*
*ISCJB **03** 18:22:08.6±0.5, 53°.25N±0°.03×160°.40E±0°.05, h57km±3km, mb3.8/23, MS3.0/8, Error ellipse: s-maj=6.5km s-min=2.6km az=37.1*
*MOS **03** 18:22:08.7±1.5, 53°.25N×160°.31E, h63km, mb4.2/14, Error ellipse: s-maj=9.3km s-min=5.5km az=84.1*
*IDC **03** 18:22:12.1±1.7, 53°.44N×160°.17E, h70km±14km, mb3.5/22, mb1 3.7/23, mb1mx3.6/44, mbtmp3.9/23, MS3.1/9, Ms1 3.1/9, ms1mx2.9/29, Error ellipse: s-maj=16.5km s-min=12.6km az=145.0*
ISC 03 18:22:08.5±0.9, 53°23N±0°.03×160°44E±0°.04, h41km±8km, n113, σ1§36/156, mb3.9/23, MS3.1/8, 2C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.28**	**242**	*e*P		**Pn**	**18 22 17.0**	**+0.3**
SPN	**Mys Shipunski**	**0.28**	**242**	PN		**Pn**	**18 22 17.0**	**+0.3**
NLC	**Nalytchevo**	**0.66**	**265**	*e*P		**Pn**	**18 22 21.5**	**+0.1**
NLC				*e*S		**Sn**	**18 22 30.3**	**-0.4**
NLC	**Nalytchevo**	**0.66**	**265**	PN		**Pn**	**18 22 21.5**	**+0.1**
NLC				S		**Sn**	**18 22 30.3**	**-0.4**
SDLR	**Sedlovina**	**0.94**	**273**	*e*P		**Pn**	**18 22 25.7**	**+0.4**
SDLR				*e*S		**Sn**	**18 22 37.6**	**0.0**
SDLR	**Sedlovina**	**0.94**	**273**	PN		**Pn**	**18 22 25.7**	**+0.4**
SDLR				S		**Sn**	**18 22 37.6**	**0.0**
UGLR	**Uglovaya**	**0.97**	**269**	*e*P		**Pn**	**18 22 26.5**	**+0.7**
UGLR				*e*S		**Sn**	**18 22 38.9**	**+0.4**
SMAR	**Somma**	**0.99**	**272**	*e*P		**Pn**	**18 22 26.3**	**+0.2**
SMAR				*e*S		**Sn**	**18 22 38.7**	**-0.2**
SMAR	**Somma**	**0.99**	**272**	PN		**Pn**	**18 22 26.3**	**+0.2**
SMAR				S		**Sn**	**18 22 38.7**	**-0.2**
KII	**Karymskiy**	**1.00**	**324**	*e*P		**Pn**	**18 22 26.8**	**+0.7**
KII				*e*S		**Sn**	**18 22 38.8**	**-0.3**
KII	**Karymskiy**	**1.00**	**324**	PN		**Pn**	**18 22 26.8**	**+0.7**
KII				S		**Sn**	**18 22 38.8**	**-0.3**
KRER	**Koryakskii**	**1.02**	**275**	*e*P		**Pn**	**18 22 27.1**	**+0.6**
KRER				*e*S		**Sn**	**18 22 40.2**	**+0.5**
AVH	**Avacha**	**1.02**	**273**	*e*P		**Pn**	**18 22 27.2**	**+0.7**
AVH				*e*S		**Sn**	**18 22 40.2**	**+0.5**
AVH	**Avacha**	**1.02**	**273**	PN		**Pn**	**18 22 27.2**	**+0.7**
AVH				S		**Sn**	**18 22 40.2**	**+0.5**
KRX	**Arik**	**1.08**	**277**	*e*P		**Pn**	**18 22 27.6**	**+0.3**
KRX				*e*S		**Sn**	**18 22 40.8**	**-0.4**
KOK	**Koryaka**	**1.09**	**274**	*e*P		**Pn**	**18 22 27.8**	**+0.5**
KOK				*e*S		**Sn**	**18 22 41.1**	**-0.1**
KOK	**Koryaka**	**1.09**	**274**	PN		**Pn**	**18 22 27.8**	**+0.5**
KOK				S		**Sn**	**18 22 41.1**	**-0.1**
PET	**Petropavlovsk**	**1.10**	**260**	α *i* PN		**Pn**	**18 22 27.4**	**0.0**
PET				*e*S		**Sn**	**18 22 40.5**	**-0.8**
PET				pmax	pmax			
	comp=Z,388nm,0.4s							
PET				smax	smax			
	comp=N,2μm,0.4s							
PET				smax	smax			
	comp=E,3μm,0.4s							
RUS	**Russkaya**	**1.42**	**236**	*e*P		**Pn**	**18 22 31.7**	**-0.1**
RUS				*e*S		**Sn**	**18 22 48.5**	**-0.7**
RUS	**Russkaya**	**1.42**	**236**	PN		**Pn**	**18 22 31.7**	**-0.1**
RUS				S		**Sn**	**18 22 48.5**	**-0.7**
MKZ	**Mys Kozlova**	**1.53**	**29**	*e*P		**Pn**	**18 22 33.4**	**+0.1**
MKZ				*e*S		**Sn**	**18 22 51.3**	**-0.7**
MKZ	**Mys Kozlova**	**1.53**	**29**	PN		**Pn**	**18 22 33.4**	**+0.1**
MKZ				S		**Sn**	**18 22 51.3**	**-0.7**
MTVR	**Mutnovka**	**1.56**	**242**	*e*P		**Pn**	**18 22 34.3**	**+0.4**
MTVR				*e*S		**Sn**	**18 22 52.9**	**-0.1**
GNL	**Ganaly**	**1.56**	**288**	*e*P		**Pn**	**18 22 34.9**	**+1.0**
GNL				*e*S		**Sn**	**18 22 54.2**	**+1.2**
GNL	**Ganaly**	**1.56**	**288**	PN		**Pn**	**18 22 34.9**	**+1.0**
GNL				S		**Sn**	**18 22 54.2**	**+1.2**
I44RU	**PETROPAVLOVSK-**	**1.65**	**267**	P		**Pn**	**18 22 34.8**	**-0.1**
I44RU				S		**Sn**	**18 22 57.0**	**+2.1**
PETK	**Petropavlovsk-**	**1.66**	**267**	P		**Pn**	**18 22 36.1**	**+1.1**
	comp=E,120nm,0.3s,baz=91,slow=21,SNR=1660							
PETK				S		**Sn**	**18 22 56.5**	**+1.4**
	comp=E,238nm,0.3s,baz=83,slow=38,SNR=32							
PETK				LR		LR	18 23 29.7	
	comp=E,199nm,21.1s,baz=56,slow=51							
PETK	**Petropavlovsk-**	**1.66**	**267**	PN		**Pn**	**18 22 36.1**	**+1.1**
PETK				S		**Sn**	**18 22 56.5**	**+1.4**
PETK				pmax	pmax			
	comp=Z,120nm,0.3s							
PETK				smax	smax			
	comp=N,238nm,0.3s							
PETK				MLR	MLR			
	comp=Z,199nm,21.1s							
ASAK	**Asacha**	**1.76**	**242**	*e*P		**Pn**	**18 22 37.6**	**+1.0**
ASAK				*e*S		**Sn**	**18 22 58.1**	**+0.3**
KZV	**Kizimen**	**1.89**	**357**	*e*P		**Pn**	**18 22 39.8**	**+1.4**
KZV				*e*S		**Sn**	**18 23 02.2**	**+1.2**
APC	**Apacha**	**2.00**	**262**	*e*P		**Pn**	**18 22 41.7**	**+1.9**
APC				*e*S		**Sn**	**18 23 05.3**	**+1.7**
APC	**Apacha**	**2.00**	**262**	PN		**Pn**	**18 22 41.7**	**+1.9**
APC				S		**Sn**	**18 23 05.3**	**+1.7**
TUMR	**Tumrok**	**2.06**	**355**	*e*P		**Pn**	**18 22 42.8**	**+2.1**
TUMR				*e*S		**Sn**	**18 23 06.0**	**+0.7**
TUMR	**Tumrok**	**2.06**	**355**	PN		**Pn**	**18 22 42.8**	**+2.1**
TUMR				S		**Sn**	**18 23 06.0**	**+0.7**
MIPR	**Malaya Ipel'ka**	**2.44**	**248**	*e*P		**Pn**	**18 22 47.8**	**+2.1**
MIPR				*e*S		**Sn**	**18 23 16.3**	**+2.0**
KMNR	**Kamenistaya**	**2.53**	**357**	*e*P		**Pn**	**18 22 49.7**	**+2.5**
KMNR				*e*S		**Sn**	**18 23 18.9**	**+2.1**
KMNR	**Kamenistaya**	**2.53**	**357**	PN		**Pn**	**18 22 49.7**	**+2.5**
KMNR				S		**Sn**	**18 23 18.9**	**+2.1**
PAU	**Pauzhetka**	**2.84**	**233**	*e*P		**Pn**	**18 22 53.4**	**+2.1**
PAU				*e*S		**Sn**	**18 23 26.0**	**+1.7**
PAU	**Pauzhetka**	**2.84**	**233**	PN		**Pn**	**18 22 53.4**	**+2.1**
PAU				S		**Sn**	**18 23 26.0**	**+1.7**
KOZ	**Kozyrevsk**	**2.85**	**354**	*e*P		**Pn**	**18 22 53.7**	**+2.2**
KOZ				*e*S		**Sn**	**18 23 25.9**	**+1.3**
KOZ	**Kozyrevsk**	**2.85**	**354**	PN		**Pn**	**18 22 53.7**	**+2.2**
KOZ				S		**Sn**	**18 23 25.9**	**+1.3**
ESO	**Esso**	**2.88**	**340**	*e*P		**Pn**	**18 22 53.7**	**+1.8**
ESO				*e*S		**Sn**	**18 23 25.3**	**0.0**
ESO	**Esso**	**2.88**	**340**	PN		**Pn**	**18 22 53.7**	**+1.8**
ESO				S		**Sn**	**18 23 25.3**	**0.0**
KLY	**Klyuchi**	**3.09**	**2**	*e*P		**Pn**	**18 22 57.3**	**+2.6**
KLY				*e*S		**Sn**	**18 23 32.7**	**+2.3**
SRDR	**Sredinnyy**	**3.12**	**353**	*e*P		**Pn**	**18 22 56.6**	**+1.4**
SRDR				*e*S		**Sn**	**18 23 30.8**	**-0.4**
SRDR	**Sredinnyy**	**3.12**	**353**	PN		**Pn**	**18 22 56.6**	**+1.4**
SRDR				S		**Sn**	**18 23 30.8**	**-0.4**
KBTR	**Krutoberegovo**	**3.29**	**24**	*e*P		**Pn**	**18 22 59.1**	**+1.7**
KBTR				*e*S		**Sn**	**18 23 36.3**	**+1.1**
KBTR	**Krutoberegovo**	**3.29**	**24**	PN		**Pn**	**18 22 59.1**	**+1.7**
KBTR				S		**Sn**	**18 23 36.3**	**+1.1**
BDR	**Baidarnaya**	**3.37**	**7**	*e*P		**Pn**	**18 23 01.5**	**+2.8**
BDR				*e*S		**Sn**	**18 23 39.7**	**+2.2**
SMKR	**Semkarok**	**3.41**	**10**	*e*P		**Pn**	**18 23 01.4**	**+2.2**
SMKR				*e*S		**Sn**	**18 23 39.8**	**+1.4**
SMKR	**Semkarok**	**3.41**	**10**	PN		**Pn**	**18 23 01.4**	**+2.2**
SMKR				S		**Sn**	**18 23 39.8**	**+1.4**
SRKR	**Sorokina**	**3.46**	**7**	*e*P		**Pn**	**18 23 01.1**	**+1.3**
SRKR				*e*S		**Sn**	**18 23 39.3**	**-0.2**
SRKR	**Sorokina**	**3.46**	**7**	PN		**Pn**	**18 23 01.1**	**+1.3**
SRKR				S		**Sn**	**18 23 39.3**	**-0.2**
SKR	**Severo-Kuril's**	**3.70**	**228**	*e*P		**Pn**	**18 23 04.9**	**+1.9**
SKR				*e*S		**Sn**	**18 23 46.2**	**+0.9**
SKR	**Severo-Kuril's**	**3.70**	**228**	*e*PN		Pn	18 22 56.0	-7.0
SKR				pmax	pmax			
	comp=Z,30nm,0.5s							
BKI	**Bering**	**3.80**	**56**	*e*P		**Pn**	**18 23 05.3**	**+0.9**
BKI				*e*S		**Sn**	**18 23 45.6**	**-2.2**
BKI	**Bering**	**3.80**	**56**	PN		**Pn**	**18 23 05.3**	**+0.9**
OSSR	**Ossora**	**6.21**	**13**	*e*P		Pn	18 23 43.6	+6.2
SEY	**Seymchan**	**10.61**	**340**	P		**Pn**	**18 24 39.9**	**+2.2**
	comp=Z,0.0nm,0.3s,baz=151,slow=13,SNR=1.7							
SEY				LR		LR	18 29 07.2	
	comp=Z,78nm,19.5s,baz=162,slow=40							
UGL	**Uglegorsk**	**12.26**	**258**	*e*PN		Pn	18 25 05.5	+5.2
UGL				*e*SS		S	18 27 28.2	-14
ERM	**Erimo**	**16.13**	**233**	*i* P		**Pn**	**18 25 50.9**	**-1.1**
HABR	**Khabarovsk**	**16.68**	**264**	P		**Pn**	**18 25 57.9**	**-1.1**
HABR				*e*S		**Sn**	**18 29 02.2**	**-0.9**
HABR				pmax	pmax			
	comp=N,9.0nm,1.8s							
HABR				pmax	pmax			
	comp=E,23nm,1.8s							
HABR				pmax	pmax			
	comp=Z,12nm,1.8s							
HABR				MLR	MLR			
	comp=Z,57nm,19.0s							
YAK	**Yakutsk**	**18.51**	**311**	P		**P**	**18 26 18.9**	**-2.0**
	comp=Z,0.0nm,0.3s,baz=284,slow=17,SNR=8.4							
USRK	**Ussuriysk Ar.**	**20.71**	**256**	P		**P**	**18 26 46.2**	**+1.1**
	comp=Z,3.2nm,0.7s,baz=73,slow=12,SNR=7.1							
MJA0	**Matsu Arr-Jizo**	**22.78**	**232**	*e*P		**P**	**18 27 08.5**	**+1.2**
MJA0				pmax	pmax			
	comp=Z,5.0nm,0.7s							
MAT	**Matsushiro**	**22.80**	**232**	P		**P**	**18 27 08.1**	**+0.6**
MJAR	**Matsushiro Arr**	**22.80**	**232**	P		**P**	**18 27 08.1**	**+0.6**
	comp=Z,4.6nm,0.7s,baz=18,slow=9.4,SNR=16							
MJAR	**Matsushiro Arr**	**22.80**	**232**	P		**P**	**18 27 08.1**	**+0.6**
MJAR				pmax	pmax			
	comp=Z,5.0nm,0.7s							
KSRS	**Korea Array**	**27.46**	**248**	P		**P**	**18 27 52.4**	**+1.9**
	comp=Z,1.1nm,0.7s,baz=40,slow=8.7,SNR=7.3							
KSRS				LR		LR	18 38 09.4	
	comp=Z,23nm,18.1s,baz=98,slow=35							
KSRS	**Korea Array**	**27.46**	**248**	*e*P		**P**	**18 27 54.4**	**+4.0**
KSRS				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ILAR	**Eielson Array**	**28.57**	**45**	P		**P**	**18 28 00.0**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=263,slow=7.9,SNR=11							
ILAR				LR		LR	18 39 42.1	
	comp=Z,22nm,20.0s,baz=178,slow=37							
ILAR	**Eielson Array**	**28.57**	**45**	*e*P		**P**	**18 28 01.0**	**+0.9**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**33.81**	**169**	T		T	19 04 25.1	
	baz=353,slow=76,SNR=260							
H11N3	**WAKE ISLAND Hy**	**33.82**	**169**	T		T	19 04 25.7	
	baz=353,slow=76,SNR=178							
H11N1	**WAKE ISLAND Hy**	**33.83**	**169**	T		T	19 04 25.9	
	baz=353,slow=76,SNR=324							
SONM	**Songino Array**	**34.07**	**283**	P		**P**	**18 28 47.1**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=61,slow=7.4,SNR=4.6							
SONM				LR		LR	18 42 09.3	
	comp=Z,38nm,18.2s,baz=80,slow=35							
SONM	**Songino Array**	**34.07**	**283**	*e*P		**P**	**18 28 50.8**	**+2.0**
H11S1	**WAKE ISLAND Hy**	**34.99**	**170**	T		T	19 06 07.7	
	baz=352,slow=76,SNR=28							
H11S3	**WAKE ISLAND Hy**	**35.01**	**170**	T		T	19 06 12.3	
	baz=352,slow=76,SNR=59							
H11S2	**WAKE ISLAND Hy**	**35.01**	**170**	T		T	19 06 14.8	
	baz=352,slow=76,SNR=15							
ZALV	**Zalesovo Beam**	**42.88**	**303**	P		**P**	**18 30 01.2**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=90,slow=4.3,SNR=5.3							
ZALV				LR		LR	18 49 24.2	
	comp=Z,31nm,18.4s,baz=70,slow=38							
ZALV	**Zalesovo Beam**	**42.88**	**303**	*e*P		**P**	**18 30 04.4**	**+2.0**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.4s							
NVS	**Novosibirsk**	**43.21**	**305**	*e*P		P	18 30 00.8	-4.2
SPITS	**Spitsbergen Ar**	**47.03**	**350**	P		**P**	**18 30 33.4**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=39,slow=9.6,SNR=7.9							
SPITS	**Spitsbergen Ar**	**47.03**	**350**	P		**P**	**18 30 33.4**	**-1.7**
SPITS				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KURK	**Kurchatov**	**47.84**	**302**	*i* P		**P**	**18 30 39.8**	**-1.9**
KURK				pmax	pmax			
	comp=Z,6.0nm,1.3s							
MKAR	**Makanchi Array**	**48.28**	**296**	P		**P**	**18 30 42.8**	**-2.4**
	comp=Z,1.5nm,0.6s,baz=60,slow=7.4,SNR=22							
MKAR				LR		LR	18 50 58.8	
	comp=Z,21nm,20.3s,baz=27,slow=36							
MKAR	**Makanchi Array**	**48.28**	**296**	P		**P**	**18 30 42.8**	**-2.4**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
MKAR				MLR	MLR			
	comp=Z,21nm,20.3s							
ARCES	**ARCESS Array B**	**53.22**	**342**	P		**P**	**18 31 20.1**	**-2.0**
	comp=Z,0.8nm,0.7s,baz=38,slow=9.5,SNR=3.9							
ARCES	**ARCESS Array B**	**53.22**	**342**	*e*P		**P**	**18 31 21.9**	**-0.1**
ARCES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
NVAR	**Mina Array Bea**	**55.50**	**70**	P		**P**	**18 31 40.8**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=302,slow=7.5,SNR=7.2							
PDAR	**Pinedale Array**	**57.27**	**61**	P		**P**	**18 31 52.8**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=340,slow=4.7,SNR=7.9							
CMAR	**Chiang Mai Arr**	**58.41**	**258**	P		**P**	**18 32 00.5**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=27,slow=6.5,SNR=6.5							
CMAR				LR		LR	18 59 04.8	
	comp=Z,14nm,20.1s,baz=175,slow=38							
CMAR	**Chiang Mai Arr**	**58.41**	**258**	*e*P		**P**	**18 32 01.2**	**+1.3**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
FINES	**FINESS Array B**	**60.08**	**337**	P		**P**	**18 32 09.0**	**-1.8**
	comp=Z,0.6nm,0.6s,baz=46,slow=5.5,SNR=6.6							
FINES				LR		LR	19 02 50.0	
	comp=Z,14nm,18.8s,baz=278,slow=41							
FINES	**FINESS Array B**	**60.08**	**337**	P		**P**	**18 32 09.0**	**-1.8**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
FINES				MLR	MLR			
	comp=Z,14nm,18.8s							
NOA	**NORSAR Array B**	**63.47**	**344**	P		**P**	**18 32 32.4**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=13,slow=5.8,SNR=4.5							
HFS	**Hagfors**	**63.88**	**342**	P		**P**	**18 32 34.9**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=41,slow=2.7,SNR=14							
HFS	**Hagfors**	**63.88**	**342**	P		**P**	**18 32 34.9**	**-1.4**
HFS				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**68.60**	**329**	P		**P**	**18 33 05.5**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=30,slow=7.3,SNR=2.6							
TXAR	**Lajitas Array**	**70.39**	**67**	P		**P**	**18 33 19.6**	**+1.4**
	comp=Z,1.2nm,0.7s,baz=302,slow=4.5,SNR=18							
TXAR	**Lajitas Array**	**70.39**	**67**	P		**P**	**18 33 19.6**	**+1.4**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
EKA	**Eskdalemuir Ar**	**70.95**	**350**	P		**P**	**18 33 20.6**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=19,slow=5.6,SNR=4.0							
EKA	**Eskdalemuir Ar**	**70.95**	**350**	P		**P**	**18 33 20.6**	**-0.5**
EKA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
CLL	**Collm**	**72.30**	**339**	*i* P		**P**	**18 33 28.7**	**-0.5**
CLL				pmax	pmax			
	comp=Z,3.0nm,1.0s							
CLL	**Collm**	**72.30**	**339**	*i* P		**P**	**18 33 28.7**	**-0.5**
	comp=Z,3.0nm,1.0s							
GERES	**GERESS Array B**	**74.46**	**338**	LR		LR	19 10 04.8	
	comp=Z,9.7nm,18.3s,baz=338,slow=39							
WRA	**Warramunga Arr**	**76.30**	**205**	P		**P**	**18 33 52.7**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=19,slow=6.1,SNR=7.0							
WRA	**Warramunga Arr**	**76.30**	**205**	*e*P		**P**	**18 33 54.0**	**+1.2**
ASAR	**Alice Springs**	**79.97**	**205**	P		**P**	**18 34 13.7**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=16,slow=5.1,SNR=22							
ASAR	**Alice Springs**	**79.97**	**205**	P		**P**	**18 34 13.7**	**+0.6**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MMAI	**Mount Meron Ar**	**81.76**	**316**	P		**P**	**18 34 21.7**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=30,slow=5.1,SNR=4.0							
ESDC	**Sonseca Array**	**86.49**	**348**	P		**P**	**18 34 47.1**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=6.9,slow=4.7,SNR=3.7							

KRSC 03 19:04:29.4±1.8, 53°.97N×156°.58E, h353km±22km, ML4.0, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GNL	**Ganaly**	**0.85**	**108**	*e*P		Pn	19 05 16.4	+1.4
APC	**Apacha**	**1.10**	**162**	*e*P		Pn	19 05 16.5	+0.6
KOK	**Koryaka**	**1.40**	**118**	*e*P		Pn	19 05 19.2	+1.8
SDLR	**Sedlovina**	**1.54**	**116**	*e*P		Pn	19 05 18.9	+0.7
UGLR	**Uglovaya**	**1.54**	**119**	*e*P		Pn	19 05 19.3	+1.1
MIPR	**Malaya Ipel'ka**	**1.70**	**176**	*e*P		Pn	19 05 19.6	+0.5
NLC	**Nalytchevo**	**1.83**	**115**	*e*S		S	19 06 00.5	+0.2
RUS	**Russkaya**	**1.93**	**142**	*e*P		Pn	19 05 20.6	+0.1
SPN	**Mys Shipunski**	**2.23**	**112**	*e*P		Pn	19 05 22.6	0.0
SPN				*e*S		S	19 06 03.9	-1.5
KZV	**Kizimen**	**2.45**	**61**	*e*P		Pn	19 05 26.3	+1.9
MKZ	**Mys Kozlova**	**3.08**	**77**	*e*P		Pn	19 05 30.2	+0.7
MKZ				*e*S		S	19 06 15.7	-2.3
KBTR	**Krutoberegovo**	**4.23**	**55**	*e*P		Pn	19 05 40.5	-0.2
BKI	**Bering**	**5.60**	**73**	*e*S		S	19 07 05.4	-0.1

*ISCJB **03** 19:15:40.6±0.6, 34°.84N±0°.04×69°.90E±0°.06, h33km, mb3.6/7, Error ellipse: s-maj=8.1km s-min=4.8km az=141.3*
*IDC **03** 19:15:45.9±5.0, 34°.94N×70°.07E, h69km±40km, mb3.4/8, mb1 3.4/13, mb1mx3.2/46, mbtmp3.7/13, ML3.5/5, MS2.2/1, Ms1 2.2/1, ms1mx2.0/29, Error ellipse: s-maj=45.3km s-min=19.4km az=162.0*

4.3nm,0.8s,baz=45,slow=7.7,SNR=25
STKA Stephens Creek 28.49 187 P P 19 25 24.0 +1.3
2.5nm,0.8s,baz=16,slow=12,SNR=6.3
MKAR Makanchi Array 74.64 320 P P 19 31 08.3 +1.3
0.8nm,1.0s,baz=94,slow=6.2,SNR=2.8
ZALV Zalesovo Beam 76.12 328 P P 19 31 14.0 -1.3
0.3nm,0.5s,baz=108,slow=4.7,SNR=3.1

IDC ***03*** *19:22:25.7±1.7, 3.˚50S×149.˚52E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/29, mbtmp3.8/7, MS3.9/5, Ms1 3.9/5, ms1mx3.5/32, Error ellipse: s-maj=54.9km s-min=23.0km az=109.0*
ISCJB ***03*** *19:22:27.7±1.3, 3.˚4S±0.˚1×149.˚4E±0.˚3, h20km, mb3.8/8, MS3.8/4, Error ellipse: s-maj=42.1km s-min=12.9km az=11.4*
NEIC ***03*** *19:22:31.4±1.0, 3.˚47S×149.˚45E, h35km, mb4.5/1, Error ellipse: s-maj=33.7km s-min=10.4km az=103.0*
ISC 03 19:22:29.4±1.5, 3.˚4S±0.˚1×149.˚5E±0.˚3, h20km, n20, σ0s86/11, mb3.7/8, MS3.8/4, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.37**	**201**		Op	**Pn**	**19 24 02.8**	**+0.6**
GUMO	**Guam**	**17.51**	**345**		LR	LR	19 33 23.9	
	comp=Z,185nm,18.3s,baz=170,slow=37							
WRAB	**Tennant Creek**	**22.06**	**221**	*e*P		**P**	**19 27 23.5**	**+0.3**
	16nm,0.9s							
WRA	**Warramunga Arr**	**22.08**	**221**	P		**P**	**19 27 21.6**	**-1.8**
	11nm,0.9s,baz=42,slow=11,SNR=20							
WRA				LR		LR	19 36 35.1	
	comp=Z,358nm,18.6s,baz=35,slow=38							
DZM	**Mont Dzumac**	**24.80**	**140**	LR		LR	19 36 12.8	
	comp=Z,538nm,20.5s,baz=269,slow=34							
ASAR	**Alice Springs**	**25.12**	**215**	P		**P**	**19 27 52.8**	**-0.5**
	5.4nm,1.1s,baz=49,slow=7.6,SNR=13							
ASAR				LR		LR	19 38 37.0	
	comp=Z,327nm,19.5s,baz=40,slow=39							
H11S3	**WAKE ISLAND Hy**	**27.61**	**37**	T		T	19 57 09.8	
	baz=220,slow=76,SNR=18							
H11S2	**WAKE ISLAND Hy**	**27.61**	**37**	T		T	19 57 12.5	
	baz=220,slow=76,SNR=11							
H11S1	**WAKE ISLAND Hy**	**27.63**	**37**	T		T	19 57 06.3	
	baz=220,slow=76,SNR=13							
H11N1	**WAKE ISLAND Hy**	**28.67**	**36**	T		T	19 58 23.1	
	baz=218,slow=76,SNR=8.3							
H11N3	**WAKE ISLAND Hy**	**28.68**	**36**	T		T	19 58 24.9	
	baz=218,slow=76,SNR=11							
H11N2	**WAKE ISLAND Hy**	**28.69**	**36**	T		T	19 58 25.4	
	baz=218,slow=76,SNR=16							
STKA	**Stephens Creek**	**29.26**	**194**	LR		LR	19 41 36.4	
	comp=Z,147nm,18.5s,baz=15,slow=39							
CMAR	**Chiang Mai Arr**	**54.28**	**296**	P		**P**	**19 31 55.1**	**+0.5**
	0.8nm,0.9s,baz=109,slow=4.7,SNR=5.8							
SONM	**Songino Array**	**63.42**	**329**	P		**P**	**19 32 58.6**	**+0.8**
	0.3nm,0.6s,baz=111,slow=6.3,SNR=2.4							
LSA	**Lhasa**	**64.73**	**305**	P		**P**	**19 33 07.0**	**-0.1**
MKAR	**Makanchi Array**	**77.12**	**319**	P		**P**	**19 34 21.2**	**-0.4**
	0.6nm,0.8s,baz=104,slow=6.1,SNR=5.0							
ZALV	**Zalesovo Beam**	**78.18**	**327**	P		**P**	**19 34 26.5**	**-0.8**
	0.2nm,0.4s,baz=79,slow=7.6,SNR=2.9							
ILAR	**Eielson Array**	**82.17**	**23**	P		**P**	**19 34 48.6**	**0.0**
	0.5nm,1.0s,baz=221,slow=6.7,SNR=3.2							
TORD	**Torodi Ar. Bea**	**146.72**	**289**	PKPbc		**PKPbc**	**19 42 10.6**	**-0.4**
	1.0nm,0.8s,baz=61,slow=2.6,SNR=6.2							

IDC 03 19:27:56.6±4.1, 3.˚27S×148.˚82E, h0km, mb3.6/2, mb1 4.0/2, mb1mx3.5/27, mbtmp3.7/2, Error ellipse: s-maj=150.9km s-min=47.8km az=107.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.78**	**219**	P		P	19 32 50.5	+0.2
	3.5nm,0.9s,baz=44,slow=10,SNR=8.0							
ASAR	**Alice Springs**	**24.89**	**214**	P		P	19 33 21.2	-0.2
	1.1nm,0.9s,baz=46,slow=8.1,SNR=12							
TORD	**Torodi Ar. Bea**	**146.06**	**289**	PKPbc		PKPdf	19 47 38.8	0.0
	0.3nm,0.8s,baz=66,slow=3.4,SNR=3.4							

ISK ***03*** *19:28:44.7, 38.˚29N×38.˚76E, h5km, MD3.1*
DDA ***03*** *19:28:45.5, 38.˚30N×38.˚83E, h11km, MD3.0*
CSEM ***03*** *19:28:46.2±0.2, 38.˚28N×38.˚76E, h2km, MD3.0, Error ellipse: s-maj=5.1km s-min=4.2km az=171.0*
ISC 03 19:28:45.7±1.1, 38.˚28N±0.˚02×38.˚77E±0.˚02, h2km±10km, n63, σ0s98/87, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.27**	**38**	*i* P		**Pg**	**19 28 50.8**	**-0.2**
ELZG				*i* S		**Sg**	**19 28 54.8**	**+0.2**
ELZG	**Elazig**	**0.27**	**38**	*i* P		**Pg**	**19 28 50.8**	**-0.2**
ELZG				*i* S		**Sg**	**19 28 54.8**	**+0.2**
MALT	**Malatya**	**0.27**	**277**	*e*Pg		**Pg**	**19 28 51.3**	**+0.3**
MALT				*e*Sg		**Sb**	**19 28 56.5**	**-2.0**
MALT	**Malatya**	**0.27**	**277**	*e*Pg		**Pg**	**19 28 51.3**	**+0.3**
MALT				*e*Sg		**Sb**	**19 28 56.5**	**-2.0**
AKCD	**Akcadag**	**0.67**	**271**	*i* P		**Pg**	**19 28 59.0**	**+0.5**
AKCD				*i* S		**Sb**	**19 29 09.2**	**-0.8**
AKCD	**Akcadag**	**0.67**	**271**	*i* P		**Pg**	**19 28 59.0**	**+0.5**
AKCD				*i* S		**Sb**	**19 29 09.2**	**-0.8**
URFA	**Urfa**	**0.84**	**177**	*e*Pg		**Pg**	**19 29 01.8**	**0.0**
URFA				*e*Sg		**Sb**	**19 29 15.4**	**+0.6**
URFA	**Urfa**	**0.84**	**177**	*e*Pg		**Pg**	**19 29 01.8**	**0.0**
URFA				*e*Sg		**Sb**	**19 29 15.4**	**+0.6**
ATAB	**Bozova**	**0.89**	**205**	*i* P		**Pn**	**19 29 04.5**	**-0.8**
ATAB				*i* S		**Sn**	**19 29 18.4**	**-0.5**
ATAB	**Bozova**	**0.89**	**205**	*i* P		**Pn**	**19 29 04.5**	**-0.8**
KEMA	**Kemaliye**	**1.01**	**348**	*i* P		**Pg**	**19 29 04.4**	**-0.7**
KEMA				*i* S		**Sb**	**19 29 19.3**	**-0.5**
KEMA	**Kemaliye**	**1.01**	**348**	*i* P		**Pg**	**19 29 04.4**	**-0.7**
KEMA				*i* S		**Sb**	**19 29 19.3**	**-0.5**
DARE	**Darende-Malaty**	**1.05**	**286**	*e*PG		**Pg**	**19 29 05.4**	**-0.5**
DARE				*e*SG		**Sb**	**19 29 20.8**	**-0.2**
DARE	**Darende-Malaty**	**1.05**	**286**	*e*Pg		**Pg**	**19 29 05.4**	**-0.5**
DARE				*e*Sg		**Sb**	**19 29 20.8**	**-0.2**
DIYA	**Diyarbakir**	**1.12**	**108**	*i* P		**Pg**	**19 29 06.7**	**-0.5**
DIYA				*i* S		**Sb**	**19 29 22.6**	**-0.4**
DIYA	**Diyarbakir**	**1.12**	**108**	*i* P		**Pg**	**19 29 06.7**	**-0.5**
DIYA				*i* S		**Sb**	**19 29 22.6**	**-0.4**
DYBB	**Diyarbakir**	**1.13**	**106**	*e*PN		**Pg**	**19 29 07.1**	**-0.3**
DYBB				*e*SN		**Sn**	**19 29 23.8**	**-0.9**
DIY	**Diyarbakir**	**1.21**	**108**	*e*Sn		**Sg**	**19 29 23.8**	**-0.8**
GZT	**Gaziantep**	**1.33**	**226**	*i* P		**Pb**	**19 29 11.2**	**-0.3**
GZT				*i* S		**Sn**	**19 29 32.4**	**+2.6**
BINT	**Bingol**	**1.47**	**66**	*e*Pn		**Pg**	**19 29 16.2**	**+2.3**
ERZN	**Erzincan**	**1.50**	**29**	*e*PN		**Pn**	**19 29 13.4**	**-0.4**
EZC	**Erzincan**	**1.54**	**17**	*e*Pn		**Pn**	**19 29 13.4**	**-0.9**
MAZI	**Mazidag**	**1.56**	**121**	*e*PN		**Pn**	**19 29 14.1**	**-0.5**
MAZI	**Mazidag**	**1.56**	**121**	*e*Pn		**Pn**	**19 29 14.1**	**-0.5**
BNGB	**Bing¨ll**	**1.65**	**64**	*e*PN		**Pb**	**19 29 16.2**	**-0.8**
KMRS	**Kahramanmaras**	**1.67**	**243**	*e*PN		**Pn**	**19 29 15.8**	**-0.2**
KMRS	**Kahramanmaras**	**1.67**	**243**	*e*Pn		**Pn**	**19 29 15.8**	**-0.2**
HCB	**Kahramanmara¨**	**1.75**	**238**	*i* P		**Pn**	**19 29 16.6**	**-0.4**
HCB				*i* S		**Sg**	**19 29 43.3**	**+1.4**
MARD	**Mardin**	**1.86**	**121**	*i* P		**Pn**	**19 29 18.6**	**-0.1**
MARD				*i* S		**Sn**	**19 29 43.2**	**+0.3**
KELT	**Kelkit**	**1.90**	**11**	*i* P		**Pb**	**19 29 20.4**	**-0.9**
KELT				*i* S		**Sg**	**19 29 46.5**	**-0.3**
KELT	**Kelkit**	**1.90**	**11**	*i* P		**Pb**	**19 29 20.4**	**-0.9**
KELT				*i* S		**Sg**	**19 29 46.5**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.92**	**93**	*e*PN		**Pb**	**19 29 20.6**	**-0.8**
SUSE	**Susehri**	**1.98**	**347**	*i* P		**Pb**	**19 29 22.6**	**+0.1**
SUSE	**Susehri**	**1.98**	**347**	*i* P		**Pb**	**19 29 22.6**	**+0.1**
BNGL	**BINGOL**	**1.98**	**69**	*i* P		**Pn**	**19 29 21.2**	**+0.8**
KAMA	**Osmaniye**	**2.00**	**237**	*i* P		**Pn**	**19 29 19.8**	**-0.7**
KAMA				*i* S		**Sg**	**19 29 51.7**	**+1.9**
BEST	**Besiri**	**2.01**	**100**	*i* P		**Pn**	**19 29 20.1**	**-0.6**
BEST				*i* S		**Sb**	**19 29 48.6**	**+0.2**
KUZU	**Kuzuini**	**2.02**	**222**	*i* P		**Pn**	**19 29 20.0**	**-0.9**
KUZU	**Kuzuini**	**2.02**	**222**	*i* P		**Pn**	**19 29 20.0**	**-0.9**
ANDN	**Andirin**	**2.04**	**251**	*i* P		**Pn**	**19 29 21.4**	**+0.2**
ANDN				*i* S		**Sg**	**19 29 52.3**	**+1.0**
ANDN	**Andirin**	**2.04**	**251**	*i* P		**Pn**	**19 29 21.4**	**+0.2**
BTMT	**Batman**	**2.14**	**92**	*e*PN		**Pb**	**19 29 23.9**	**-1.4**
BTMT	**Batman**	**2.14**	**92**	*e*Pn		**Pb**	**19 29 23.9**	**-1.4**
GUMT	**Gumushane**	**2.24**	**14**	*e*PN		**Pn**	**19 29 25.0**	**+1.0**
GUMT	**Gumushane**	**2.24**	**14**	*e*Pn		**Pn**	**19 29 25.0**	**+1.0**
VRTB	**Varto-Mus**	**2.27**	**66**	*e*PN		**Pn**	**19 29 25.4**	**+1.0**
VRTB	**Varto-Mus**	**2.27**	**66**	*e*Pn		**Pn**	**19 29 25.4**	**+1.0**
BAYT	**Ayd¨¨ntepe-Bay**	**2.36**	**26**	*e*Pn		**Pn**	**19 29 26.6**	**+0.9**
BAYT	**Ayd¨¨ntepe-Bay**	**2.36**	**26**	*e*Pn		**Pn**	**19 29 26.6**	**+0.9**
KOZT	**Kozan**	**2.46**	**252**	*e*PN		**Pn**	**19 29 27.4**	**+0.5**
KOZT	**Kozan**	**2.46**	**252**	*e*Pn		**Pn**	**19 29 27.4**	**+0.5**
EKAR	**Karacoban**	**2.75**	**68**	*i* P		**Pb**	**19 29 35.6**	**-0.2**
TAHT	**Tahtakopru-Hat**	**2.81**	**228**	*e*PN		**Pn**	**19 29 32.7**	**+1.1**
TAHT	**Tahtakopru-Hat**	**2.81**	**228**	*e*Pn		**Pn**	**19 29 32.7**	**+1.1**
SIRN	**S¨¨rnak**	**2.98**	**104**	*i* P		**Pn**	**19 29 33.0**	**-1.1**
SIRN	**S¨¨rnak**	**2.98**	**104**	*i* P		**Pn**	**19 29 33.0**	**-1.1**
SIRT	**Sirnak**	**3.00**	**104**	*e*PN		**Pn**	**19 29 35.6**	**+1.3**
SIRT	**Sirnak**	**3.00**	**104**	*e*Pn		**Pn**	**19 29 35.7**	**+1.3**
YAYL	**Yayladag**	**3.09**	**224**	*i* P		**Pn**	**19 29 32.9**	**-2.7**
AGRB	**Hanur-Agry**	**3.54**	**67**	*e*PN		**Pn**	**19 29 43.5**	**+1.7**
AGRB	**Hanur-Agry**	**3.54**	**67**	*e*Pn		**Pn**	**19 29 43.5**	**+1.7**
CUKT	**Cukurca**	**3.97**	**104**	*e*PN		**Pn**	**19 29 49.3**	**+1.6**
CUKT	**Cukurca**	**3.97**	**104**	*e*Pn		**Pn**	**19 29 49.3**	**+1.6**

NIED ***03*** *19:33:00, 39.˚00N×140.˚90E, h5km, Mw5.0 Best double couple: M0 4.13000×10^16 NP1:φs18.00000°, δ40.00000°, λ99.00000°. NP2:φs186.00000°, δ51.00000°, λ83.00000°.*
BJI ***03*** *19:33:05.6, 38.˚86N×141.˚37E, h5km, mb4.9/75, mB5.0/51, Ms4.9/86, Ms7 4.8/77*
IDC ***03*** *19:33:10.8±0.3, 39.˚04N×140.˚78E, h0km, mb5.1/33, mb1 5.2/36, mb1mx5.1/39, mbtmp5.0/36, ML3.4/3, MS4.4/24, Ms1 4.4/24, ms1mx4.2/41, Error ellipse: s-maj=12.4km s-min=9.3km az=98.0*
ISCJB ***03*** *19:33:12.7±0.3, 39.˚06N±0.˚01×140.˚84E±0.˚01, h18km±2km, mb5.3/360, MS4.6/40, Error ellipse: s-maj=2.6km s-min=1.7km az=153.1*
JMA ***03*** *19:33:12.1, 39.˚02N×140.˚91E, h7km±1km, M5.2 Broadband fault plane solution: P waves. NP1: φs67.00000°, δ86.00000°, λ-170.00000°. NP2: φs336.00000°, δ80.00000°, λ-4.00000°. Principal axes: T Plg4.0000°, Azm201.0000°; N Plg79.0000°, Azm90.0000°; P Plg10.0000°, Azm292.0000°;*
JMA Felt IV J1.
NEIC ***03*** *19:33:14.7±1.2, 39.˚06N×140.˚72E, h25km±8km, mb5.4/204, MW5.0(NIED) Error ellipse: s-maj=3.6km s-min=2.4km az=138.0*
NEIC Felt at Ichinoseki and Sendai. Recorded [4 JMA] in Iwate, [3 JMA] in Akita and Miyagi, [2 JMA] in Fukushima and Yamagata and [1 JMA] in Aomori and Ibaraki.
GCMT ***03*** *19:33:14.7±0.2, 39.˚17N×140.˚91E, h12km, MW5.1/91, Moment Tensor Solution. s44,c55; s91,c165; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.40±.09; Mθθ-0.05±.09; Mφφ-4.35±.08; Mrθ-1.65±.33; Mθφ-0.97±.07; Mφr0.75±.27; Best double couple: M0 4.81500×10^16 NP1:φs353.00000°, δ51.00000°, λ64.00000°. NP2: φs211.00000°, δ46.00000°, λ118.00000°. Principal axes: T 5.0550, Plg70.0000°, Azm198.0000°; N -0.4820, Plg20.0000°, Azm10.0000°; P -4.5750, Plg3.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***03*** *19:33:15.1±0.9, 39.˚11N×140.˚80E, h37km, mb5.6/73, MS4.5/24 Error ellipse: s-maj=6.1km s-min=3.7km az=99.9*
SZGRF ***03*** *19:33:20.9, 40.˚11N×141.˚68E, h33km, mb5.3, MS4.6, Near east coast of eastern Honshu, Japan*
ISC 03 19:33:13.3±0.3, 39.˚04N±0.˚02×140.˚92E±0.˚02, h17km±1km, h16km:pP-P, n1393, σ1s18/1429, mb5.3/383, MS4.6/43, 125C-42D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JMK	**Ichinoseki**	**0.25**	**109**	⇓P		**Pg**	**19 33 17.1**	**-1.8**
JMK				S		**Sg**	**19 33 20.8**	**-1.9**
JRG	**Rokugo**	**0.42**	**329**	⇓P		**Pg**	**19 33 20.6**	**-1.3**
JRG				*e*S		**Sg**	**19 33 26.8**	**-0.9**
JYK	**Kaneyama**	**0.45**	**255**	⇓P		**Pg**	**19 33 21.0**	**-1.4**
JOM	**Ohasama**	**0.53**	**34**	⇑P		**Pg**	**19 33 22.4**	**-1.4**
JOM				S		**Sg**	**19 33 30.1**	**-0.8**
OFUJ	**Ofunato**	**0.59**	**85**	⇓P		**Pg**	**19 33 23.4**	**-1.6**
JIO	**Ouri**	**0.67**	**150**	⇓P		**Pg**	**19 33 24.7**	**-1.8**
JIO				*e*S		**Sg**	**19 33 33.6**	**-1.8**
JOU	**Okura**	**0.70**	**196**	⇑P		**Pg**	**19 33 25.3**	**-1.7**
JOU				S		**Sg**	**19 33 34.6**	**-1.7**
MIYJ	**Miyakonagasawa**	**0.89**	**52**	⇑P		**Pb**	**19 33 28.9**	**-1.4**
JYA	**Atsumi**	**1.04**	**245**	⇓P		**Pb**	**19 33 31.7**	**-1.2**
JYS	**Shirataka**	**1.05**	**220**	⇑P		**Pb**	**19 33 31.7**	**-1.4**
JTB	**Tobi-shima**	**1.07**	**279**	⇓P		**Pb**	**19 33 32.1**	**-1.3**
JTH	**Tanohata**	**1.16**	**39**	⇑P		**Pn**	**19 33 33.6**	**-1.3**
JAH	**Hinai**	**1.17**	**349**	⇑P		**Pn**	**19 33 34.2**	**-0.8**
JANG	**Nango**	**1.41**	**19**	⇑P		**Pn**	**19 33 37.8**	**-0.5**
JAW	**Awa shima**	**1.43**	**247**	⇓P		**Pn**	**19 33 38.5**	**0.0**
JIW	**Iwasaki**	**1.71**	**336**	⇑P		**Pn**	**19 33 42.6**	**+0.3**
JSD	**Sado**	**2.31**	**245**	⇓P		**Pn**	**19 33 50.6**	**0.0**
JHK	**Hiroka**	**2.33**	**221**	⇑P		**Pn**	**19 33 51.3**	**+0.4**
JKB	**Kayabe**	**2.85**	**2**	⇑P		**Pn**	**19 33 59.6**	**+1.6**
JSZ	**Suzu**	**3.21**	**242**	P		**Pn**	**19 34 03.6**	**+0.6**
MAJO	**Matsushiro**	**3.29**	**222**	*i* P		**Pn**	**19 34 05.4**	**+1.3**
MAJO	**Matsushiro**	**3.29**	**222**	*e*Pn		**Pn**	**19 34 04.1**	**0.0**
MAT	**Matsushiro**	**3.29**	**222**	P		**Pn**	**19 34 05.0**	**+0.9**
MAT				*e*S		**Sn**	**19 34 46.2**	**+3.4**
MAT	**Matsushiro**	**3.29**	**222**	P		**Pn**	**19 34 05.2**	**+1.1**
MJAR	**Matsushiro Arr**	**3.29**	**222**	Pn		**Pn**	**19 34 04.4**	**+0.3**
	16nm,0.3s,baz=26,slow=14,SNR=180							
MJAR					Sn	**Sb**	**19 34 53.9**	**+3.0**
	38nm,0.3s,baz=20,slow=18,SNR=5.5							
ERM	**Erimo**	**3.43**	**29**	*e*P		**Pn**	**19 34 06.6**	**+0.6**
ERM				*e*			19 34 47.6	
ERM	**Erimo**	**3.43**	**29**	*e*Pn		**Pn**	**19 34 06.6**	**+0.6**
ERM				*e*Sn		**Sn**	**19 34 47.6**	**+1.3**
JEM	**Erimo**	**3.43**	**29**	P		**Pn**	**19 34 06.8**	**+0.8**
JSH	**Shimam**	**3.66**	**350**	P		**Pn**	**19 34 10.7**	**+1.5**
I30JP	**ISUMI INFRASON**	**3.75**	**188**	Pn		**Pn**	**19 34 10.2**	**-0.3**
I30JP					Sn	**Sn**	**19 34 57.0**	**+2.8**
JCH	**Churui**	**4.03**	**27**	P		**Pn**	**19 34 14.8**	**+0.6**
JAR	**Ashorobuto**	**4.77**	**26**	⇑P		**Pn**	**19 34 24.0**	**-0.4**
ASAJ	**Asahikawa**	**5.23**	**13**	⇑*e*Pn		**Pn**	**19 34 31.7**	**+1.0**
JTKR	**Abashiri--Toko**	**5.42**	**24**	P		**Pn**	**19 34 33.1**	**-0.2**
JHJ2	**Mitsune**	**5.98**	**189**	*e*Pn		**Pn**	**19 34 41.5**	**+0.4**
JHJ2				*e*Sn		**Sn**	**19 35 43.6**	**-5.6**
YUK	**Yuzh-Kuril'sk**	**6.22**	**35**	*c i*P		**Pn**	**19 34 45.0**	**+0.7**
YUK				*i* S		**Sn**	**19 35 54.7**	**-0.3**
YUK					pmax	pmax		
	comp=N,71nm,0.5s							
YUK					pmax	pmax		
	comp=E,39nm,0.5s							
YUK					pmax	pmax		
	comp=Z,185nm,0.5s							
YUK					pmax	pmax		
	comp=Z,535nm,2.4s							
YUK					smax	smax		
	comp=N,572nm,0.6s							
YUK					smax	smax		
	comp=E,1μm,0.6s							
YUK					smax	smax		
	comp=N,1μm,3.0s							
YUK					smax	smax		
	comp=E,2μm,3.0s							
YUK					MLR	MLR		
	comp=N,2μm,14.0s							
YUK					MLR	MLR		
	comp=E,2μm,14.0s							
YUK					MLR	MLR		
	comp=Z,1μm,14.0s							
JAD	**Aida**	**6.77**	**235**	P		Pn	19 34 56.3	+4.3
JGT	**Gotsu**	**7.94**	**242**	P		Pn	19 35 11.6	+3.6
VLA	**Vladivostok**	**7.95**	**304**	*e*P		**Pn**	**19 35 09.5**	**+1.5**
YSS	**Yuzh-Sakhalins**	**8.03**	**9**	*c e*P		**Pn**	**19 35 10.0**	**+0.9**
YSS				*e*S		**Sn**	**19 36 44.1**	**+4.6**
YSS					pmax	pmax		
	comp=Z,120nm,1.0s							
YSS	**Yuzh-Sakhalins**	**8.03**	**9**	*e*Pn		**Pn**	**19 35 09.5**	**+0.4**
	comp=Z,154nm,1.0s							
KUR	**Kuril'sk**	**8.06**	**38**	*c i*P		**Pn**	**19 35 09.8**	**+0.2**
KUR				*i* S		**Sn**	**19 36 38.7**	**-1.6**
KUR					pmax	pmax		
	comp=Z,137nm,2.8s							
KUR					pmax	pmax		
	comp=N,25nm,0.6s							
KUR					pmax	pmax		
	comp=E,20nm,0.6s							
KUR					pmax	pmax		
	comp=Z,36nm,0.6s							
KUR					smax	smax		
	comp=N,841nm,3.4s							
KUR					smax	smax		
	comp=E,934nm,3.4s							
KUR					MLR	MLR		
	comp=N,1μm,18.0s							
KUR					MLR	MLR		
	comp=E,1μm,18.0s							
USRK	**Ussuriysk Ar.**	**8.44**	**311**		Pn	**Pn**	**19 35 14.5**	**-0.3**
	comp=E,3.3nm,0.3s,baz=118,slow=14,SNR=31							
USRK					Sn	**Sn**	**19 36 48.5**	**-1.2**
	baz=118,slow=26,SNR=2.8							
USRK					LR	LR	19 38 20.7	
	comp=E,4μm,18.6s,baz=122,slow=37							
KSULJ	**Uljin**	**9.39**	**259**	P		**Pn**	**19 35 30.8**	**+2.9**
	SNR=21							
KSULJ	**Uljin**	**9.39**	**259**	P		**Pn**	**19 35 30.8**	**+2.9**
	SNR=21							
KSJMJ	**Jumunjin**	**9.61**	**267**	P		**Pn**	**19 35 33.5**	**+2.7**
	SNR=25							
KSJMJ	**Jumunjin**	**9.61**	**267**	P		**Pn**	**19 35 33.5**	**+2.7**
	SNR=25							
KSTBA	**Taebaek**	**9.62**	**262**	P		Pn	19 35 34.7	+3.5
	SNR=11							
KSTBA	**Taebaek**	**9.62**	**262**	P		Pn	19 35 34.7	+3.5
	SNR=18							
KSDGY	**Daegwallycong**	**9.71**	**266**	P		**Pn**	**19 35 35.4**	**+3.1**
	SNR=18							
KSDGY	**Daegwallycong**	**9.71**	**266**	P		**Pn**	**19 35 35.4**	**+3.1**
	SNR=18							
KSSKC	**Sokcho**	**9.72**	**269**	P		**Pn**	**19 35 35.4**	**+3.0**
	SNR=33							
KSSKC	**Sokcho**	**9.72**	**269**	P		**Pn**	**19 35 35.4**	**+3.0**
	SNR=33							
KSJES	**JEONGSEON**	**9.77**	**264**	P		Pn	19 35 36.6	+3.5
	SNR=33							
KSJES	**JEONGSEON**	**9.77**	**264**	P		Pn	19 35 36.6	+3.5
	SNR=33							
SEHB	**SEOHWA**	**9.94**	**270**	P		Pn	19 35 38.8	+3.5
	SNR=101							
SEHB	**SEOHWA**	**9.94**	**270**	P		Pn	19 35 38.8	+3.5
	SNR=101							
KSYOW	**Yeongwol**	**10.00**	**263**	P		Pn	19 35 39.6	+3.5
	SNR=30							
KSYOW	**Yeongwol**	**10.00**	**263**	P		Pn	19 35 39.6	+3.5
	SNR=30							
KSEUS	**ULSEONG**	**10.05**	**258**	P		Pn	19 35 40.5	+3.5
	SNR=44							
KSEUS	**ULSEONG**	**10.05**	**258**	P		Pn	19 35 40.5	+3.5
	SNR=44							
UGL	**Uglegorsk**	**10.07**	**4**	*e*P		**Pn**	**19 35 39.3**	**+2.2**
UGL				*e*			19 37 31.1	
KSIJA	**INJE**	**10.09**	**268**	P		Pn	19 35 40.8	+3.3
	SNR=141							
KSIJA	**INJE**	**10.09**	**268**	P		Pn	19 35 40.8	+3.3
	SNR=141							
KSDAG	**Daegu**	**10.10**	**255**	P		Pn	19 35 41.5	+4.0
	SNR=6.7							
KSDAG	**Daegu**	**10.10**	**255**	P		Pn	19 35 41.6	+4.0
	SNR=20							
MDJ	**Mudanjiang**	**10.12**	**307**	P		Pn	**19 35 40.7**	**+2.9**
MDJ				S		**Sn**	**19 37 36.4**	**+5.5**
MDJ				PcP		**PcP**	**19 41 44.8**	**-2.0**
MDJ				ScP		**ScP**	**19 45 19.8**	**+1.5**
MDJ				PMZ				
	comp=E,68nm,1.2s							
MDJ				PMZ				
	comp=E,430nm,3.8s							
MDJ				LN				
	comp=E,3μm,17.6s							
MDJ				LE				
	comp=E,3μm,18.9s							
MDJ				LZ				
	comp=E,4μm,15.6s							
MDJ	**Mudanjiang**	**10.12**	**307**	*e*Pn		Pn	19 35 42.7	+4.9
	comp=E,73nm,1.1s							
KSWJU	**Wonju**	**10.25**	**265**	P		**Pn**	**19 35 42.8**	**+3.1**
	SNR=41							
HABR	**Khabarovsk**	**10.34**	**338**	*c e*P		**Pn**	**19 35 40.9**	**+0.1**
HABR				*e*			19 37 33.8	
HABR					pmax	pmax		
	comp=Z,48nm,2.1s							
HABR					pmax	pmax		
	comp=E,25nm,1.8s							
HABR					pmax	pmax		
	comp=N,21nm,2.1s							
HABR					MLR	MLR		
	comp=Z,2μm,16.0s							
KSRS	**Korea Array**	**10.34**	**265**		Pn	**Pn**	**19 35 40.4**	**-0.5**
	comp=Z,10nm,0.3s,baz=76,slow=14,SNR=

comp=N,14nm,0.3s,baz=90,slow=20,SNR=5.4
JCJ LR LR 19 40 53.6
comp=N,766nm,20.2s,baz=74,slow=39
KLR Kul'dur 12.12 330 *e*P **Pn** **19 36 04.3 -0.9**
KLR *e* 19 38 24.5
KLR pmax pmax
comp=N,170nm,1.8s
KLR pmax pmax
comp=E,220nm,1.8s
KLR pmax pmax
comp=Z,320nm,1.8s
KLR pmax pmax
comp=Z,2µm,7.5s
KLR MLR MLR
comp=Z,2µm,15.0s
CN2 Changchun 12.55 297 *e*P **Pn** **19 36 13.4 +2.4**
CN2 *e*sP 19 36 24.8
CN2 *e*S **Sn** **19 38 31.4 +1.1**
CN2 PMZ
comp=Z,40nm,1.9s
CN2 PMZ
comp=Z,480nm,4.0s
CN2 LN
comp=Z,3µm,11.0s
CN2 LE
comp=Z,1µm,11.0s
CN2 LZ
comp=Z,2µm,13.0s
KSJDO Jindo 12.56 253 P Pn 19 36 15.9 +4.6
SNR=11
KSBAR Backryungdo 12.74 270 P Pn 19 36 18.2 +4.5
SNR=28
KSHUK Heuksando 13.12 255 P Pn 19 36 23.5 +4.6
SNR=7.4
NKL Nikolayevsk 14.12 359 *e*P Pn 19 36 24.0 -8.4
NKL *e* 19 39 05.0
NKL pmax pmax
comp=N,400nm,4.0s
NKL pmax pmax
comp=Z,400nm,4.0s
NKL MLR MLR
comp=N,1µm,15.0s
NKL MLR MLR
comp=Z,2µm,15.0s
DL2 Dalian 15.01 276 ⇓P **Pn** **19 36 47.0 +2.4**
DL2 S **Sn** **19 39 36.1 +5.7**
SKR Severo-Kuril's 15.83 38 *e*P Pn 19 36 49.0 -6.3
SKR *e*S **Sn** **19 39 52.0 +1.8**
SKR pmax pmax
comp=E,800nm,4.0s
SKR pmax pmax
comp=Z,1µm,4.0s
SKR pmax pmax
comp=E,70nm,1.0s
SKR pmax pmax
comp=Z,110nm,1.0s
SKR smax smax
comp=N,600nm,12.0s
SKR smax smax
comp=E,800nm,12.0s
SKR MLR MLR
comp=N,1µm,16.0s
SKR MLR MLR
comp=E,1µm,16.0s
SKR MLR MLR
comp=Z,1µm,16.0s
SSE Sheshan 17.97 250 P **P** **19 37 22.9 +0.1**
SSE sP **sP** **19 37 30.1 +0.5**
SSE S **Sn** **19 40 44.2 +1.9**
SSE PMZ
comp=Z,79nm,1.4s
SSE PMZ
comp=Z,370nm,3.9s
SSE LN
comp=Z,950nm,11.8s
SSE LE
comp=Z,1µm,12.5s
SSE LZ
comp=Z,1µm,17.9s
PETK Petropavlovsk- 18.20 34 P **P** **19 37 26.2 +1.0**
comp=Z,0.2nm,0.3s,baz=221,slow=7.9,SNR=11
PETK PcP **PcP** **19 41 57.8 +0.4**
comp=Z,0.1nm,0.3s,baz=199,slow=3.1,SNR=4.2
PETK LR LR 19 45 12.4
comp=Z,432nm,18.5s,baz=226,slow=40
HIA Hailar 18.26 311 *e*P **Pn** **19 37 24.1 -1.7**
HIA pmax pmax
comp=Z,21nm,1.0s
HIA Hailar 18.26 311 *e*Pn **Pn** **19 37 24.1 -1.7**
comp=Z,21nm,1.0s
PET Petropavlovsk 18.56 35*b i*P **P** **19 37 28.9 -0.3**
PET *e*S **Sn** **19 40 53.9 -2.5**
PET pmax pmax
comp=Z,600nm,4.9s
PET pmax pmax
comp=Z,300nm,7.0s
PET pmax pmax
comp=Z,30nm,1.1s
PET MLR MLR
comp=Z,1µm,16.0s
PET MLR MLR
comp=Z,900nm,14.0s
PET Petropavlovsk 18.56 35 *e*P **P** **19 37 28.5 -0.7**
comp=Z,37nm,1.1s
TIA Tai'an 19.05 269 ⇑P **P** **19 37 34.6 0.0**
TIA S **S** **19 41 09.5 -0.7**
TIA sS **sS** **19 41 15.4 -2.3**
TIA SS SnSn 19 41 37.7 +15
TIA PcP **PcP** **19 41 55.1 -4.1**
TIA PMZ
comp=Z,90nm,1.9s
TIA LN
comp=Z,3µm,13.7s
TIA LE
comp=Z,2µm,14.5s
TIA LZ
comp=Z,2µm,18.4s
BJI Beijing 19.10 281 P **P** **19 37 35.0 -0.2**
BJI S **Sn** **19 41 08.4 -1.1**
BJI PMZ
comp=Z,56nm,1.8s
BJI PMZ
comp=Z,640nm,3.5s
BJI LE
comp=Z,3µm,14.4s
BJI LN
comp=Z,2µm,12.0s
BJI LZ
comp=Z,1µm,14.0s
BJT Baijiatuau 19.11 281 *e*P **P** **19 37 33.0 -2.3**
BJT pmax pmax
comp=Z,28nm,0.6s
BJT Baijiatuau 19.11 281 *e*P **P** **19 37 33.0 -2.3**
comp=Z,28nm,0.6s
NJ2 Nanjing 19.23 256 *e*P **P** **19 37 37.1 +0.4**
NJ2 pP **pP** **19 37 39.9 -1.5**
NJ2 S **Sn** **19 41 11.0 -1.9**
NJ2 sS **sS** **19 41 19.5 -2.0**
NJ2 PMZ
comp=Z,80nm,1.0s
NJ2 PMZ
comp=Z,580nm,10.8s
NJ2 LN
comp=Z,4µm,13.8s
NJ2 LE
comp=Z,4µm,13.4s
NJ2 LZ
comp=Z,4µm,13.3s
TATO Taipei 21.57 235 P **P** **19 38 03.5 +1.4**
comp=Z,118nm,1.1s
YHNB Yeheng 21.86 235 *e*P **P** **19 38 03.9 -1.4**
comp=Z,67nm,1.3s
NACB Ninganchiao 22.08 234 *e*P **P** **19 38 05.5 -2.0**
comp=Z,35nm,1.0s
TIY Taiyuan 22.34 276 *e*P **P** **19 38 09.7 -0.6**
TIY S S 19 42 04.1 -11
TIY PMZ
comp=Z,210nm,6.2s
TIY LN
comp=Z,2µm,12.7s
TIY LE
comp=Z,1µm,13.0s
TIY LZ
comp=Z,2µm,12.8s
HHC Hu-ho-hao-te 22.53 284 *e*P **P** **19 38 10.5 -2.0**
HHC S S 19 42 07.5 -12
HHC PMZ
comp=Z,26nm,0.9s
HHC PMZ
comp=Z,120nm,6.2s
HHC LN
comp=Z,1µm,11.4s
HHC LE
comp=Z,3µm,13.7s
HHC LZ
comp=Z,4µm,13.6s
SSLB Suanglung 22.76 234 *e*P **P** **19 38 12.1 -2.8**
comp=Z,49nm,1.2s
YULB Yu-li 22.83 233 *e*P **P** **19 38 13.5 -2.1**
comp=Z,28nm,0.7s
CIT Chita 22.99 313 *e*P **P** **19 38 17.1 0.0**
CIT *e* 19 38 28.9
CIT *e* 19 38 43.2
CIT *e* 19 38 56.6
CIT pmax pmax
comp=Z,104nm,2.1s
TPUB Ta-pu 23.32 234 *e*P **P** **19 38 18.2 -2.3**
comp=Z,86nm,0.9s
WHN Wuhan 23.34 257 ⇓P **P** **19 38 19.7 -1.1**
WHN S **S** **19 42 32.4 -0.5**
WHN LN
comp=Z,4µm,13.5s
WHN LE
comp=Z,2µm,14.5s
WHN LZ
comp=Z,4µm,13.1s
TWG Pinlang 23.39 232 *e*P **P** **19 38 20.6 -0.8**
comp=Z,474nm,1.0s
QZH Quanzhou 23.50 240 ⇓*i*P **P** **19 38 21.6 -0.7**
QZH S **S** **19 42 29.2 -6.2**
QZH LN
comp=Z,3µm,14.4s
QZH LE
comp=Z,2µm,15.6s
QZH LZ
comp=Z,3µm,14.5s
BTO Baotou 23.73 284 *e*P **P** **19 38 22.0 -2.6**
YAK Yakutsk 24.03 347 P **P** **19 38 25.1 -2.0**
comp=Z,20nm,0.8s,baz=340,slow=22,SNR=40
YAK S **S** **19 42 40.2 -3.2**
comp=Z,2.0nm,0.4s,baz=344,slow=22,SNR=5.6
YAK Yakutsk 24.03 347*c i*P **P** **19 38 24.4 -2.8**
YAK *e**PP **pP** **19 38 31.1 -1.1**
YAK *e* 19 38 54.6
YAK *e*S **S** **19 42 37.9 -5.4**
YAK *e**SS sS 19 42 58.5 +6.9
YAK pmax pmax
comp=Z,277nm,1.1s
YAK pmax pmax
comp=N,107nm,1.4s
YAK pmax pmax
comp=E,29nm,1.6s
YAK pmax pmax
comp=Z,57nm,1.0s
YAK pmax pmax
comp=N,93nm,1.9s
YAK pmax pmax
comp=E,45nm,1.3s
YAK smax smax
comp=N,695nm,3.5s
YAK smax smax
comp=E,584nm,4.2s
YAK MLR MLR
comp=Z,915nm,15.0s
YAK MLR MLR
comp=N,738nm,14.0s
YAK MLR MLR
comp=E,394nm,11.0s
YAK Yakutsk 24.03 347 *e*P **P** **19 38 24.2 -2.9**
comp=E,244nm,0.9s
YAK S **S** **19 42 40.2 -3.2**
SEY Seymchan 24.91 12 P **P** **19 38 35.8 +0.6**
comp=E,66nm,0.9s,baz=210,slow=7.3,SNR=214
BOD Bodaibo 25.64 326 *e*P **P** **19 38 41.1 -0.7**
BOD pmax pmax
comp=Z,45nm,1.1s
XAN Xi'an 26.11 269 P **P** **19 38 45.1 -1.3**
XAN pP **pP** **19 38 51.1 -0.3**
XAN S **S** **19 43 16.0 -1.1**
XAN PMZ
comp=Z,9.0nm,2.0s
XAN PMZ
comp=Z,37nm,3.6s
XAN LN
comp=Z,850nm,16.4s
XAN LZ
comp=Z,260nm,19.4s
SONM Songino Array 26.38 301 P **P** **19 38 48.0 -0.8**
comp=Z,6.8nm,1.0s,baz=103,slow=9.1,SNR=31
SONM PcP **PcP** **19 42 13.8 -0.4**
comp=Z,1.3nm,0.5s,baz=145,slow=1.6,SNR=6.2
SONM LR LR 19 49 38.2
comp=Z,1µm,18.6s,baz=108,slow=38
ENH Enshi 27.19 261 *e*P **P** **19 38 54.2 -1.9**
comp=Z,22nm,0.8s
SZP Santa 27.85 226 *e*P **P** **19 39 02.1 0.0**
comp=Z,108nm,0.9s
GZH Guangzhou 28.32 244 P **P** **19 39 04.0 -2.2**
GZH PP **PnPn** **19 39 54.7 -0.3**
GZH S S 19 43 46.0 -6.1
GZH SS **SnSn** **19 45 12.6 +3.0**
GZH LN
comp=Z,3µm,13.3s
GZH LE
comp=Z,3µm,13.7s
GZH LZ
comp=Z,3µm,14.4s
IRK Irkutsk 28.49 310 *e*P **P** **19 39 07.1 -0.4**
IRK pmax pmax
comp=Z,25nm,1.9s
TLY Talaya 28.75 308 LR LR 19 51 16.0
comp=Z,2µm,18.2s,baz=112,slow=38
TLY Talaya 28.75 308 *e*P P 19 39 15.0 +5.1
TLY *e* 19 40 07.5
TLY *e*S S 19 43 51.7 -6.8
TLY pmax pmax
comp=Z,7.0nm,1.0s
TLY MLR MLR
comp=Z,1µm,13.0s
ZAK Zakamensk 28.75 306 ⇑*i*P **P** **19 39 08.7 -1.3**
ZAK *e* 19 42 20.6
ZAK pmax pmax
comp=Z,6.0nm,1.1s
LZH Lanzhou 29.41 276 P **P** **19 39 15.8 -0.2**
LZH pP **pP** **19 39 19.1 -2.0**
LZH sP **sP** **19 39 22.0 -1.2**
LZH PP **PnPn** **19 40 14.0 +4.2**
LZH S **S** **19 44 06.2 -3.1**
LZH sS **sS** **19 44 21.0 +3.3**
LZH PMZ
comp=Z,23nm,1.0s
LZH PMZ
comp=Z,130nm,4.1s
LZH LN
comp=Z,1µm,12.4s
LZH LE
comp=Z,2µm,13.0s
LZH LZ
comp=Z,2µm,13.3s
MOY Mondy 30.38 308 *e*P **P** **19 39 24.9 +0.5**
GYA Guiyang 31.23 257 ⇑*i*P **P** **19 39 30.7 -1.5**
GYA PP **PnPn** **19 40 35.6 +1.4**
GYA PcP **PcP** **19 42 28.9 +2.3**
GYA S S 19 44 30.4 -7.6
GYA ScP **ScP** **19 46 10.0 +1.2**
GYA SS **SnSn** **19 46 21.8 +1.1**
GYA PMZ
comp=Z,70nm,1.0s
GYA PMZ
comp=Z,110nm,5.3s
GYA LN
comp=Z,950nm,16.8s
GYA LE
comp=Z,940nm,15.9s
GYA LZ
comp=Z,1µm,18.3s
CD2 Chengdu 31.34 267 P **P** **19 39 34.1 +1.1**
CD2 pP **pP** **19 39 38.5 +0.4**
CD2 sP **sP** **19 39 41.1 +0.9**
CD2 PP **PnPn** **19 40 36.7 +1.2**
CD2 S **S** **19 44 39.3 -0.2**
CD2 PMZ
comp=Z,30nm,0.5s
CD2 PMZ
comp=Z,110nm,4.5s
CD2 LN
comp=Z,2µm,16.0s
CD2 LZ
comp=Z,1µm,16.0s
GTA Gaotai 31.65 284 *e*P **P** **19 39 34.2 -1.6**
GTA pP **pP** **19 39 38.3 -2.6**
GTA sP **sP** **19 39 42.0 -0.9**
GTA PcP **PcP** **19 42 28.5 +1.0**
GTA S **S** **19 44 39.8 -4.5**
GTA PcS **PcS** **19 46 12.2 +0.1**
GTA PMZ
comp=Z,4.0nm,1.1s
GTA PMZ
comp=Z,79nm,5.5s
GTA LN
comp=Z,770nm,16.9s
GTA LE
comp=Z,2µm,16.9s
GTA LZ
comp=Z,3µm,17.1s
BILL Bilibino 32.23 18*c e*P **P** **19 39 40.5 +0.1**
BILL pmax pmax
comp=Z,56nm,1.0s
BILL MLR MLR
comp=Z,459nm,18.0s
BILL Bilibino 32.23 18 *e*P **P** **19 39 40.0 -0.4**
comp=Z,72nm,1.1s
QIZ Qiongzhong 33.45 242 P **P** **19 39 52.7 +1.2**
QIZ S **S** **19 45 13.7 +1.3**
QIZ sS **sS** **19 45 18.9 -1.9**
QIZ PMZ
comp=Z,20nm,1.9s
QIZ LN
comp=Z,850nm,15.1s
QIZ LZ
comp=Z,900nm,16.4s
QIZ Qiongzhong 33.45 242 P **P** **19 39 51.4 -0.1**
comp=Z,29nm,1.2s
ATKA Atka Island 33.49 52 *e*P **P** **19 39 51.9 +0.4**
comp=Z,103nm,1.0s
ATKA *e*PcP **PcP** **19 42 32.7 +0.6**
KMI Kunming 34.93 258 P **P** **19 40 04.1 -0.5**
KMI pP **pP** **19 40 07.7 -2.0**
KMI sP **sP** **19 40 11.4 -0.4**
KMI PP **PnPn** **19 41 22.7 +1.3**
KMI S **S** **19 45 33.7 -2.0**
KMI PMZ
comp=Z,15nm,1.1s
KMI LN
comp=Z,740nm,14.7s
KMI LE
comp=Z,1µm,14.7s
KMI LZ
comp=Z,1µm,13.7s
SLVN Son La 36.23 252 *e*P **P** **19 40 14.8 -0.8**
comp=Z,20nm,1.1s
UNV Unalaska Valle 38.22 50 P **P** **19 40 30.0 -2.0**
SKNT Sakolnakorn 38.95 246 P **P** **19 40 41.0 +2.4**
comp=Z,29nm,1.0s
UBPT Khong Chiam 39.05 243 P **P** **19 40 40.7 +1.3**
comp=Z,27nm,2.3s
MYLDM Lahad Datu 39.35 217 *e*P **P** **19 40 43.8 +1.9**
comp=Z,123nm,1.5s
DLV T Lat 39.44 236 *e*P **P** **19 40 43.6 +0.7**
CRAI Chiangrai 39.52 254 P **P** **19 40 43.2 -0.2**
comp=Z,53nm,1.1s
SDKM Sandakan 39.57 219 ⇑P **P** **19 40 43.3 -0.5**
SDKM Sandakan 39.57 219 ⇑P **P** **19 40 43.3 -0.5**
WMQ Urumqi 39.62 295 P **P** **19 40 45.1 +1.1**
WMQ pP **pP** **19 40 50.1 +0.9**
WMQ sP **sP** **19 40 52.9 +1.7**
WMQ PP **PnPn** **19 42 20.1 +2.1**
WMQ PcP **PcP** **19 42 52.6 +1.7**
WMQ S **S** **19 46 44.1 -2.2**
WMQ ScS **ScS** **19 50 47.9 -3.4**
WMQ PMZ
comp=Z,16nm,0.7s
WMQ PMZ
comp=Z,120nm,3.8s
WMQ LN
comp=Z,470nm,24.0s
WMQ LE
comp=Z,470nm,28.0s
WMQ LZ
comp=Z,640nm,28.3s
KKM Kota Kinabalu 39.71 221 ⇓P **P** **19 40 45.3 +0.3**
KKM Kota Kinabalu 39.71 221 ⇓P **P** **19 40 45.3 +0.3**
KKM Kota Kinabalu 39.71 221 *e*P **P** **19 40 42.8 -2.3**
TNTI Ternate 40.05 201 P **P** **19 40 50.3 +2.6**
comp=Z,81nm,1.9s,comp=Z,1µm
TNTI Ternate 40.05 201 *e*P **P** **19 40 47.3 -0.4**
comp=Z,201nm,1.6s
KHON Khomkaen 40.20 247 P **P** **19 40 50.3 +1.3**
comp=Z,12nm,1.0s
ZALV Zalesovo Beam 40.30 311 P **P** **19 40 48.9 -0.5**
comp=Z,33nm,0.9s,baz=87,slow=7.6,SNR=117
ZALV PcP **PcP** **19 42 52.8 +0.1**
comp=Z,3.5nm,0.5s,baz=108,slow=3.3,SNR=4.0
ZALV LR LR 19 57 39.4
comp=Z,607nm,19.9s,baz=70,slow=36
TSM Tawau 40.42 217 ⇓P **P** **19 40 51.6 +0.8**
TSM Tawau 40.42 217 ⇓P **P** **19 40 51.6 +0.8**
SIJI Sorong 40.69 195 P **P** **19 40 52.7 -0.3**
comp=Z,44nm,0.8s,baz=8.0,slow=7.8,SNR=18
CMAI Chiengmai2 40.69 254 P **P** **19 40 54.8 +1.5**
comp=Z,233nm,0.7s,comp=Z,15µm
UTTA Uttaradit 40.93 250 P **P** **19 40 56.0 +1.0**
comp=Z,4.6nm,0.9s,comp=Z,56nm
SRPI Serui, Papua 40.93 187 P P 19 41 04.3 +9.3
comp=Z,55nm,0.8s
CHAI Chaiyaphum 41.08 247 P **P** **19 40 57.0 +0.7**
comp=Z,7.6nm,0.9s
LAMP Lampang 41.12 252 P **P** **19 40 58.8 +2.2**
comp=Z,59nm,1.0s,comp=Z,66nm
NVS Novosibirsk 41.19 312 ⇑*i*P **P** **19 40 56.1 -0.7**
NVS *i* 19 42 54.7
NVS *i* S **S** **19 47 06.7 -2.6**
NVS pmax pmax
comp=E,70nm,2.0s
NVS pmax pmax
comp=Z,114nm,2.0s
NVS pmax pmax
comp=N,17nm,1.8s
NVS smax smax
comp=N,19nm,2.1s
NVS smax smax
comp=E,43nm,2.1s
KMSI Cibinong 41.30 206 P **P** **19 40 58.5 +0.5**
comp=E,167nm,1.1s,comp=E,2µm
JAY Jayapura 41.35 180 P **P** **19 40 59.4 +1.0**
comp=E,14nm,0.8s,baz=306,slow=7.2,SNR=4.1
JAY LR LR 19 56 25.7
comp=E,393nm,20.6s,baz=7.0,slow=34
LBMI Labuha 41.36 201 P P 19 41 02.1 +3.6
comp=E,59nm,1.3s,comp=E,867nm
PBKT Sadao Pong 41.38 249 P **P** **19 40 59.5 +0.8**
comp=E,12nm,2.2s
CMMT Chiang Mai 41.45 253 P **P** **19 41 00.0 +0.7**
comp=E,28nm,1.1s,comp=E,634nm
CHTO Chiang Mai 41.45 253 *e*P **P** **19 40 59.2 -0.1**
CHTO *e* 19 42 57.2
CHTO pmax pmax
comp=Z,18nm,1.1s
CHTO Chiang Mai 41.45 253 *e*P **P** **19 40 59.2 -0.1**
comp=Z,18nm,1.1s
CHTO *e*PcP **PcP** **19 42 57.2 +0.1**
CMAR Chiang Mai Arr 41.67 253 P **P** **19 40 60.0 -1.2**
comp=Z,2.9nm,0.8s,baz=52,slow=4.3,SNR=18
CMAR PcP **PcP** **19 42 57.7 -0.1**
comp=Z,8.4nm,1.0s,baz=27,slow=2.8,SNR=8.7
CMAR LR LR 20 00 26.1
comp=Z,366nm,19.4s,baz=81,slow=39
LSA Lhasa 41.68 273 P **P** **19 41 01.9 +0.2**
LSA Lhasa 41.68 273 *e*P **P** **19 41 01.8 +0.1**
LSA pmax pmax
comp=Z,19nm,1.2s
LSA Lhasa 41.68 273 *e*P **P** **19 41 01.8 +0.1**
comp=Z,19nm,1.2s
MRSI Marisa 42.13 209 P **P** **19 41 05.1 +0.3**
comp=Z,55nm,1.1s
FAKI Fak Fak 42.51 193 P P 19 41 14.3 +6.4
comp=Z,74nm,2.4s,comp=Z,1µm
MHMT Maesariang 42.60 253 P **P** **19 41 10.8 +2.1**
comp=Z,18nm,1.0s,comp=Z,301nm

MK31	**Makanchi Array**	**42.75**	**300**	P	**P**			**19 41 08.3**	**-1.4**
MK31				pmax	pmax				
	comp=Z,46nm,0.9s								
MKAR	**Makanchi Array**	**42.75**	**300**	P	**P**			**19 41 09.2**	**-0.4**
	comp=Z,32nm,0.9s,baz=87,slow=8.3,SNR=100								
MPSI	**Mapaga**	**43.06**	**212**	P	**P**			**19 41 12.7**	**+0.3**
	comp=Z,24nm,1.1s								
SHL	**Shillong**	**43.08**	**267**	*e*P	**P**			**19 41 11.1**	**-1.6**
SHL				AMB	AMB			19 41 14.5	
	comp=Z,34nm,1.0s								
SANI	**Sanana**	**43.13**	**202**	P	**P**			**19 41 14.2**	**+1.2**
	comp=Z,132nm,0.9s,comp=Z,2µm								
UTHA	**Uthaitani**	**43.14**	**249**	P	**P**			**19 41 15.9**	**+2.8**
	comp=Z,5.2nm,1.0s,comp=Z,66nm								
LUWI	**Luwuk**	**43.23**	**207**	P	**P**			**19 41 15.6**	**+1.9**
	comp=Z,53nm,1.5s,comp=Z,1µm								
LUWI	**Luwuk**	**43.23**	**207**	*e*P	**P**			**19 41 12.5**	**-1.2**
	comp=Z,204nm,1.8s								
APSI	**Ampana**	**43.52**	**209**	P	**P**			**19 41 17.3**	**+1.2**
	comp=Z,78nm,1.3s,comp=Z,873nm								
NLAI	**Namlea**	**43.95**	**200**	P	P			19 41 23.5	+3.9
	comp=Z,45nm,1.2s,comp=Z,942nm								
PCI	**Palu**	**44.21**	**211**	P	**P**			**19 41 22.0**	**+0.3**
	comp=Z,62nm,1.1s								
KURK	**Kurchatov**	**44.41**	**306** ⇑	*i*P	**P**			**19 41 22.1**	**-0.8**
KURK				pmax	pmax				
	comp=Z,154nm,0.9s								
KURK	**Kurchatov**	**44.41**	**306**	P	**P**			**19 41 22.4**	**-0.5**
	SNR=40								
KURK	**Kurchatov**	**44.41**	**306** ⇑	*i*P	**P**			**19 41 22.1**	**-0.8**
	comp=Z,154nm,0.9s								
PHET	**Kaeng Krachan**	**44.78**	**246**	P	**P**			**19 41 27.5**	**+1.3**
	comp=Z,34nm,0.8s,comp=Z,288nm								
SBUM	**Sibu**	**44.83**	**223** ⇓	P	**P**			**19 41 27.3**	**+0.6**
SBUM	**Sibu**	**44.83**	**223** ⇓	P	**P**			**19 41 27.3**	**+0.6**
SBUM	**Sibu**	**44.83**	**223**	*e*P	**P**			**19 41 26.8**	**+0.1**
	comp=Z,13nm,1.1s								
TAPN	**Taplejung**	**45.45**	**272**	*e*P	**P**			**19 41 31.9**	**0.0**
	comp=Z,74nm,1.3s								
PDGK	**Podgornoye**	**45.52**	**296**	P	**P**			**19 41 29.9**	**-1.9**
PDGK				pmax	pmax				
	comp=Z,58nm,1.5s								
OHAK	**Old Harbor**	**45.57**	**44**	*e*P	**P**			**19 41 31.9**	**-0.2**
	comp=Z,58nm,1.0s								
RSO	**Redoubt South**	**45.59**	**39**	*e*P	**P**			**19 41 33.0**	**+0.6**
	comp=Z,129nm,1.0s								
RSO				*e*PcP	**PcP**			**19 43 11.3**	**+0.7**
CAST	**Castle Rocks**	**45.81**	**35**	*e*P	P			19 41 30.3	-3.6
	comp=Z,24nm,0.9s								
KDAK	**Kodiak Island**	**45.89**	**43**	*i* P	**P**			**19 41 34.9**	**+0.3**
KDAK	**Kodiak Island**	**45.89**	**43**	*e*P	**P**			**19 41 34.7**	**+0.1**
	comp=Z,58nm,1.0s								
ODAN	**Odare**	**45.94**	**271**	*e*P	**P**			**19 41 35.7**	**0.0**
	comp=Z,63nm,0.9s								
TTSI	**Tana Toraja**	**46.17**	**210**	P	**P**			**19 41 38.8**	**+1.6**
	comp=Z,12nm,1.6s								
BPAW	**Bear Paw Mtn.**	**46.28**	**34**	*e*P	**P**			**19 41 38.6**	**+1.0**
	comp=Z,56nm,1.6s								
BPAW				*e*PcP	**PcP**			**19 43 13.2**	**+0.4**
RAMN	**Ramite**	**46.51**	**272**	*e*P	**P**			**19 41 40.1**	**-0.1**
	comp=Z,122nm,1.1s								
BRLK	**Bradley Lake**	**46.58**	**40**	*e*P	**P**			**19 41 41.5**	**+1.5**
	comp=Z,96nm,1.5s								
GUN	**Gumba**	**46.60**	**274**	*e*P	**P**			**19 41 41.0**	**0.0**
	comp=Z,228nm,0.9s								
COLD	**Coldfoot**	**46.61**	**30**	*e*P	**P**			**19 41 40.9**	**+0.8**
	comp=Z,461nm,3.0s								
COLD				*e*PcP	**PcP**			**19 43 15.3**	**+1.5**
TRF	**Thorofare Moun**	**46.61**	**35**	*e*P	**P**			**19 41 40.6**	**+0.2**
	comp=Z,20nm,1.0s								
KSM	**Kuching**	**46.68**	**224** ⇑	P	**P**			**19 41 41.5**	**+0.3**
KSM	**Kuching**	**46.68**	**224** ⇑	P	**P**			**19 41 41.5**	**+0.3**
KSM	**Kuching**	**46.68**	**224**	*e*P	**P**			**19 41 41.1**	**-0.2**
	comp=Z,20nm,0.8s								
BWN	**Browne**	**46.95**	**34**	*e*P	**P**			**19 41 45.0**	**+2.2**
	comp=Z,176nm,1.2s								
RC01	**Rabbit Creek A**	**47.02**	**38**	*e*P	**P**			**19 41 43.7**	**+0.3**
	comp=Z,36nm,1.0s								
SPSI	**Sidrap Palu**	**47.03**	**209**	P	**P**			**19 41 45.2**	**+1.2**
	comp=Z,19nm,2.3s								
KKN	**Kakani**	**47.13**	**274**	*e*P	**P**			**19 41 45.1**	**+0.1**
	comp=Z,140nm,0.9s								
PKI	**Pulchoki**	**47.13**	**273**	*e*P	**P**			**19 41 44.8**	**-0.4**
	comp=Z,24nm,0.7s								
PKIN	**Phulchoki**	**47.14**	**273**	*e*P	**P**			**19 41 44.8**	**-0.3**
	comp=Z,36nm,1.0s								
MCK	**McKinley**	**47.20**	**35**	*e*P	**P**			**19 41 45.4**	**+0.6**
MCK				*e*				19 43 16.7	
MCK				pmax	pmax				
	comp=Z,31nm,0.9s								
MCK	**McKinley**	**47.20**	**35**	*e*P	**P**			**19 41 45.4**	**+0.6**
	comp=Z,31nm,0.9s								
MCK				*e*PcP	**PcP**			**19 43 16.7**	**+0.7**
STKI	**Sintang**	**47.24**	**222**	P	**P**			**19 41 46.4**	**+0.8**
	comp=Z,34nm,1.0s,comp=Z,3µm								
SEW	**Seward**	**47.26**	**40**	*e*P	**P**			**19 41 45.1**	**-0.2**
	comp=Z,59nm,1.2s								
PMR	**Palmer**	**47.27**	**38**	*e*P	**P**			**19 41 45.0**	**-0.3**
PMR				pmax	pmax				
	comp=Z,34nm,1.1s								
PMR	**Palmer**	**47.27**	**38**	*e*P	**P**			**19 41 45.0**	**-0.3**
	comp=Z,34nm,1.1s								
AAA	**Alma-Ata**	**47.31**	**297**	*e*P	**P**			**19 41 47.2**	**+1.2**
AAA				pmax	pmax				
	comp=Z,500nm,3.6s								
AAA				MLR	MLR				
	comp=Z,800nm,16.0s								
DMN	**Daman**	**47.35**	**274**	*e*P	**P**			**19 41 46.8**	**0.0**
	comp=Z,111nm,1.1s								
GKN	**Gorkha**	**47.52**	**274**	*e*P	**P**			**19 41 47.9**	**-0.1**
	comp=Z,133nm,1.0s								
TARA	**Tarawa**	**47.55**	**134**	*e*P	**P**			**19 41 48.1**	**+0.1**
COLA	**College**	**47.61**	**33**	*c i*P	**P**			**19 41 49.3**	**+1.4**
COLA				pmax	pmax				
	comp=Z,197nm,1.8s								
COLA	**College**	**47.61**	**33**	*e*P	**P**			**19 41 48.5**	**+0.6**
	comp=Z,28nm,1.0s								
COLA				*e*				19 41 59.2	
SML	**Sawmill**	**47.63**	**37**	*e*P	**P**			**19 41 48.7**	**+0.5**
SML				pmax	pmax				
	comp=Z,6.0nm,0.9s								
SML	**Sawmill**	**47.63**	**37**	*e*P	**P**			**19 41 48.6**	**+0.5**
	comp=Z,6.0nm,0.9s								
CCB	**Clear Creek Bu**	**47.64**	**33**	*e*P	**P**			**19 41 48.9**	**+0.7**
	comp=Z,41nm,1.4s								
SRIT	**Nakonsritamara**	**47.81**	**242**	P	**P**			**19 41 51.6**	**+1.5**
	comp=Z,256nm,0.8s,comp=Z,14µm								
KAPI	**Kappang**	**48.00**	**209**	P	**P**			**19 41 50.8**	**-0.7**
	comp=Z,23nm,0.8s,baz=29,slow=10,SNR=12								
KAPI	**Kappang**	**48.00**	**209**	P	**P**			**19 41 52.8**	**+1.3**
	SNR=9.2								
ILAR	**Eielson Array**	**48.03**	**33**	P	**P**			**19 41 51.5**	**+0.2**
	comp=Z,20nm,0.8s,baz=271,slow=6.1,SNR=252								
SKLT	**Songkhla**	**48.15**	**239**	P	P			19 42 01.8	+9.1
TRTT	**Trang**	**48.29**	**241**	P	**P**			**19 41 56.0**	**+2.2**
	comp=Z,21nm,0.9s								
TKM2	**Tokmak 2**	**48.36**	**297**	P	**P**			**19 41 55.1**	**+0.8**
	SNR=68								
TKM2	**Tokmak 2**	**48.36**	**297**	*e*P	**P**			**19 41 54.4**	**+0.1**
TKM2				pmax	pmax				
	comp=Z,77nm,1.0s								
TKM2	**Tokmak 2**	**48.36**	**297**	*e*P	**P**			**19 41 54.4**	**+0.1**
	comp=Z,77nm,1.0s								
KOLN	**Koldanda**	**48.44**	**275**	*e*P	**P**			**19 41 55.2**	**0.0**
	comp=Z,96nm,0.9s								
PMG	**Port Moresby**	**48.54**	**172**	*e*P	**P**			**19 41 56.8**	**+1.2**
PMG	**Port Moresby**	**48.54**	**172**	*e*P	**P**			**19 41 56.8**	**+1.2**
BBKI	**Banjar Baru**	**48.65**	**216**	P	**P**			**19 41 57.6**	**+1.1**
	comp=Z,61nm,1.2s								
BOK	**Bokaro**	**48.66**	**269**	*e*P	**P**			**19 41 55.1**	**-1.5**
BOK				AMB	AMB			19 41 57.6	
	comp=Z,37nm,1.3s								
PAX	**Paxson**	**48.83**	**36**	*e*P	**P**			**19 41 55.1**	**-2.4**
PAX				*e*				19 43 22.2	
PAX				pmax	pmax				
	comp=Z,35nm,1.6s								
PAX	**Paxson**	**48.83**	**36**	*e*P	**P**			**19 41 55.1**	**-2.4**
	comp=Z,35nm,1.6s								
PAX				*e*PcP	**PcP**			**19 43 22.2**	**+0.3**
KZA	**Kyzart**	**48.88**	**296**	P	**P**			**19 41 59.7**	**+1.1**
	SNR=21								
KBK	**Karagaybulak**	**48.89**	**297**	P	**P**			**19 41 59.0**	**+0.5**
	SNR=64								
CHMS	**Chumysh**	**48.92**	**297**	P	**P**			**19 41 59.1**	**+0.6**
	SNR=14								
DIV	**Divide**	**48.93**	**38**	*e*P	**P**			**19 41 59.3**	**+1.0**
	comp=Z,88nm,1.3s								
BVA0	**Borovoye Array**	**48.95**	**311**	*i* P	**P**			**19 41 57.9**	**-0.6**
BVA0				pmax	pmax				
	comp=Z,32nm,1.4s								
BVAR	**Borovoye Array**	**48.95**	**311**	PcP	**PcP**			**19 43 22.0**	**-0.4**
	comp=Z,8.4nm,0.7s,baz=75,slow=4.8,SNR=4.6								
OTUK	**Ortayu**	**48.95**	**304**	P	**P**			**19 41 58.3**	**-0.3**
OTUK				pmax	pmax				
	comp=Z,65nm,1.2s								
BRVK	**Borovoye**	**49.01**	**311**	*e*P	**P**			**19 41 58.1**	**-0.8**
BRVK				*e*				19 43 22.3	
BRVK				pmax	pmax				
	comp=Z,24nm,1.0s								
BRVK	**Borovoye**	**49.01**	**311**	P	**P**			**19 41 59.2**	**+0.3**
	SNR=17								
BRVK	**Borovoye**	**49.01**	**311**	*e*P	**P**			**19 41 58.1**	**-0.8**
	comp=Z,24nm,1.0s								
BRVK				*e*PcP	**PcP**			**19 43 22.3**	**-0.4**
USP	**Ospenovka**	**49.01**	**298**	P	**P**			**19 41 59.3**	**+0.2**
	SNR=12								
EYAK	**Cordova Ski Ar**	**49.03**	**39**	*e*P	**P**			**19 42 00.7**	**+1.8**
	comp=Z,34nm,1.0s								
HARP	**HAARP**	**49.04**	**36**	*e*P	**P**			**19 42 00.8**	**+1.7**
	comp=Z,66nm,1.0s								
FRU	**Bishkek**	**49.07**	**297**	*e*P	**P**			**19 41 59.0**	**-0.6**
FRU				*e*S	**S**			**19 49 02.0**	**-1.6**
FRU				pmax	pmax				
	comp=Z,160nm,2.1s								
FRU				MLR	MLR				
	comp=E,600nm,14.0s								
PKDT	**Phuket**	**49.18**	**242**	P	**P**			**19 42 03.0**	**+2.3**
	comp=E,95nm,0.8s								
AAK	**Ala-Archa**	**49.22**	**297**	P	**P**			**19 42 01.0**	**+0.1**
	SNR=12								
AAK	**Ala-Archa**	**49.22**	**297**	P	**P**			**19 42 00.6**	**-0.3**
AAK				pmax	pmax				
	comp=Z,32nm,1.1s								
KSH	**Kashi**	**49.26**	**292**	P	P			19 42 05.4	+4.2
KSH				pP	pP			19 42 10.7	+4.3
KSH				PcP	**PcP**			**19 43 28.0**	**+4.0**
KSH				PP	**PP**			**19 43 59.7**	**+4.8**
KSH				PcS	**PcS**			**19 47 23.2**	**+2.6**
KSH				S	**S**			**19 49 06.9**	**+0.3**
KSH				SS	**SS**			**19 52 38.2**	**+0.5**
KSH				PMZ					
	comp=Z,65nm,1.1s								
KSH				LN					
	comp=Z,1µm,11.5s								
KSH				LE					
	comp=Z,870nm,12.5s								
KSH				LZ					
	comp=Z,1µm,12.9s								
UCH	**Uchtor**	**49.34**	**296**	P	**P**			**19 42 02.2**	**0.0**
	SNR=23								
DGPR	**DIGLIPUR**	**49.47**	**252**	*e*P	**P**			**19 42 02.3**	**-0.6**
DGPR				AMB	AMB			19 42 06.0	
	comp=Z,124nm,0.9s								
PBKI	**Pangkalan Bun**	**49.50**	**220**	P	**P**			**19 42 03.0**	**-0.1**
	comp=Z,48nm,1.0s								
KULM	**Kulim**	**49.52**	**238**	*e*P	**P**			**19 42 02.8**	**-0.4**
	comp=Z,42nm,1.3s								
BMRM	**Bremner River**	**49.52**	**38**	*e*P	**P**			**19 42 03.5**	**+0.8**
	comp=Z,27nm,0.8s								
BMRM				*e*PcP	**PcP**			**19 43 25.1**	**+0.7**
EKS2	**Erkin-Say**	**49.71**	**297**	P	**P**			**19 42 04.6**	**+0.1**
	SNR=39								
EKS2	**Erkin-Say**	**49.71**	**297**	*e*P	**P**			**19 42 04.4**	**-0.2**
EKS2				pmax	pmax				
	comp=Z,32nm,1.0s								
EKS2	**Erkin-Say**	**49.71**	**297**	*e*P	**P**			**19 42 04.4**	**-0.2**
	comp=Z,32nm,1.0s								
IPM	**Ipoh**	**49.88**	**237**	*e*P	**P**			**19 42 05.8**	**-0.2**
	comp=Z,47nm,1.3s								
AML	**Almayashu**	**49.95**	**296**	P	**P**			**19 42 08.0**	**+1.3**
	SNR=36								
EGAK	**Eagle**	**50.46**	**33**	*e*P	**P**			**19 42 10.0**	**+0.2**
	comp=Z,21nm,1.1s								
MMRI	**Maumere**	**50.51**	**204**	P	P			19 42 14.7	+4.0
	comp=Z,94nm,1.4s,comp=Z,2µm								
MMRI	**Maumere**	**50.51**	**204**	*e*P	**P**			**19 42 10.2**	**-0.5**
	comp=Z,143nm,1.3s								
SOEI	**Soe**	**50.95**	**201**	P	P			19 42 20.4	+6.2
	comp=Z,141nm,1.8s								
SOEI	**Soe**	**50.95**	**201**	*e*P	**P**			**19 42 14.2**	**+0.1**
	comp=Z,174nm,1.2s								
HNR	**Honiara**	**51.37**	**156**	*e*P	P			19 42 26.0	+8.9
	comp=Z,74nm,0.9s								
DDI	**Dehra Dun**	**51.52**	**281**	*e*P	**P**			**19 42 15.4**	**-2.9**
DDI				AMB	AMB			19 42 19.4	
	comp=Z,42nm,0.0s								
KK31	**Karatay Array**	**51.80**	**299**	*i* P	**P**			**19 42 20.0**	**-0.2**
KK31				pmax	pmax				
	comp=Z,65nm,1.4s								
KKAR	**Karatay Array**	**51.80**	**299**	*e*P	**P**			**19 42 20.0**	**-0.3**
KKAR	**Karatay Array**	**51.80**	**299**	*e*P	**P**			**19 42 20.0**	**-0.3**
SMLA	**Simla**	**51.83**	**282**	*e*P	**P**			**19 42 19.5**	**-1.0**
SMLA				AMB	AMB			19 42 21.9	
	comp=Z,79nm,0.8s								
DHRM	**DHARAMSHALA**	**51.98**	**284**	*e*P	**P**			**19 42 20.8**	**-1.2**
DHRM				AMB	AMB			19 42 23.6	
	comp=Z,53nm,0.9s								
PPBI	**Pangkal Pinang**	**51.99**	**226**	P	**P**			**19 42 22.3**	**+0.4**
	comp=Z,37nm,1.7s								
PSI	**Prapat**	**52.51**	**237**	*e*P	**P**			**19 42 26.2**	**+0.3**
PSI				pmax	pmax				
	comp=Z,29nm,1.0s								
PSI	**Prapat**	**52.51**	**237**	*e*P	**P**			**19 42 26.2**	**+0.3**
	comp=Z,29nm,1.0s								
COEN	**Coen**	**52.76**	**177**	*e*P	**P**			**19 42 27.6**	**+0.1**
	comp=Z,7.8nm,0.8s								
INK	**Inuvik**	**52.79**	**28**	P	**P**			**19 42 28.4**	**+1.2**
	comp=Z,29nm,0.8s,baz=291,slow=7.0,SNR=50								
INK	**Inuvik**	**52.79**	**28**	*e*P	**P**			**19 42 27.9**	**+0.8**
INK				pmax	pmax				
	comp=Z,35nm,0.8s								
INK	**Inuvik**	**52.79**	**28**	*e*P	**P**			**19 42 27.9**	**+0.8**
	comp=Z,35nm,0.8s								
CMBY	**CAMPBELL BAY**	**52.89**	**246**	*e*P	**P**			**19 42 29.0**	**+0.4**
CMBY				AMB	AMB			19 42 32.8	
	comp=Z,104nm,0.7s								
NDI	**New Delhi**	**52.94**	**279**	*e*P	**P**			**19 42 28.5**	**-0.3**
HYT	**Haines Junctio**	**52.94**	**37**	*e*P	**P**			**19 42 30.5**	**+2.0**
CHLP	**Challavanipeta**	**52.99**	**264**	*e*P	**P**			**19 42 30.0**	**+0.7**
CHLP				IAmb	IAmb			19 42 32.5	
	comp=Z,59nm,1.3s								
CHLP				*e*PcP	**PcP**			**19 43 38.8**	**+0.8**
CHLP				IVMs_BB	IVMs_BB			20 04 31.6	
	comp=Z,243nm,5.0s								
BKNI	**Bangkinang**	**53.04**	**233**	P	**P**			**19 42 31.0**	**+1.3**
	comp=Z,133nm,1.0s,comp=Z,2µm								
BKNI	**Bangkinang**	**53.04**	**233**	*e*P	**P**			**19 42 29.9**	**+0.2**
	comp=Z,119nm,1.0s								
PMBI	**Palembang**	**53.40**	**227**	P	**P**			**19 42 34.7**	**+2.5**
	comp=Z,233nm,0.7s								
SVE	**Sverdlovsk**	**53.40**	**318**	*d i*P	**P**			**19 42 32.1**	**+0.3**
SVE				pmax	pmax				
	comp=Z,86nm,1.0s								
SVE				MLR	MLR				
	comp=Z,1µm,16.0s								
MNSI	**Mandailing Nat**	**53.60**	**235**	P	**P**			**19 42 35.6**	**+1.8**
	comp=Z,21nm,1.0s								
NGJI	**Ngawi**	**53.65**	**217**	P	**P**			**19 42 35.2**	**+1.1**
	comp=Z,48nm,1.9s								
SDSI	**Sungai Dareh**	**53.78**	**232**	P	**P**			**19 42 37.6**	**+2.5**
	comp=Z,130nm,0.5s								
VIS	**Vishakhapatnam**	**54.01**	**264**	*e*P	**P**			**19 42 35.3**	**-1.5**
VIS				AMB	AMB			19 42 38.0	
	comp=Z,37nm,1.4s								
PPI	**Padang Panjang**	**54.05**	**233**	P	**P**			**19 42 38.9**	**+1.8**
	comp=Z,19nm,1.7s								
SOKR	**Solikamsk**	**54.51**	**322**	*d i*P	**P**			**19 42 40.4**	**+0.6**
SOKR				pmax	pmax				
	comp=Z,30nm,1.1s								
SOKR				MLR	MLR				
	comp=Z,260nm,16.0s								
GSI	**Gunungsitoli**	**54.52**	**237**	P	**P**			**19 42 41.5**	**+1.0**
	comp=Z,138nm,1.3s								
GSI	**Gunungsitoli**	**54.52**	**237**	*e*P	**P**			**19 42 40.2**	**-0.3**
	comp=Z,136nm,1.1s								
ARU	**Arti**	**54.61**	**318**	*e*P	**P**			**19 42 40.5**	**-0.2**
ARU				pmax	pmax				
	comp=Z,67nm,1.0s								
ARU	**Arti**	**54.61**	**318**	*e*P	**P**			**19 42 40.5**	**-0.2**
	comp=Z,67nm,1.0s								
DZET	**Dzherino**	**54.65**	**294**	P	**P**			**19 42 40.9**	**-0.4**
DZET				pmax	pmax				
	comp=Z,34nm,1.1s								
LHSI	**Lahat**	**54.84**	**228**	P	**P**			**19 42 43.7**	**+0.9**
	comp=Z,140nm,1.1s								
KPJI	**Karang Pucung**	**54.85**	**220**	P	**P**			**19 42 42.6**	**-0.2**
	comp=Z,84nm,0.9s								
BESE	**Bessie Mountai**	**54.88**	**40**	*e*P	**P**			**19 42 44.8**	**+2.2**
	comp=Z,8.1nm,0.9s								
KLI	**Kotabumi**	**54.93**	**226**	P	**P**			**19 42 43.6**	**+0.2**
	comp=Z,96nm,1.1s								
MDSI	**Maura Dua**	**55.01**	**227**	P	**P**			**19 42 44.1**	**+0.1**
BHPL	**Bhopal**	**55.54**	**273**	*e*P	**P**			**19 42 45.7**	**-2.1**
PVM	**Polavaram**	**55.60**	**265**	*e*P	**P**			**19 42 48.1**	**-0.2**
PVM				IAmb	IAmb			19 42 49.8	
	comp=Z,28nm,1.0s								
PVM				*e*pP	**pP**			**19 42 55.2**	**+1.6**
PVM				*e*PcP	**PcP**			**19 43 46.7**	**-1.3**
PVM				IVMs_BB	IVMs_BB			20 04 54.3	
	comp=Z,339nm,5.7s								
KBL	**Kabul**	**56.35**	**290**	*e*P	**P**			**19 42 53.0**	**-0.8**
KBL				pmax	pmax				
	comp=Z,84nm,0.9s								
KBL	**Kabul**	**56.35**	**290**	*e*P	**P**			**19 42 53.0**	**-0.8**
	comp=Z,84nm,0.9s								
AB31	**Akbulak array**	**56.36**	**309**	*i* P	**P**			**19 42 52.9**	**-0.5**
AB31				pmax	pmax				
	comp=Z,78nm,1.1s								
ABKAR	**Akbulak array**	**56.36**	**309**	*e*P	**P**			**19 42 53.1**	**-0.3**
RPR	**Rampur**	**56.49**	**268**	*e*P	**P**			**19 42 54.0**	**-0.7**
RPR				IAmb	IAmb			19 42 55.7	
	comp=Z,44nm,1.1s								
RPR				IVMs_BB	IVMs_BB			20 11 46.5	
	comp=Z,946nm,4.7s								
SRSP	**Sriramsagar**	**57.19**	**268**	*e*P	**P**			**19 42 58.9**	**-0.8**
SRSP				IAmb	IAmb			19 43 02.5	
	comp=Z,75nm,1.1s								
SRSP				*e*pP	**pP**			**19 43 05.6**	**+0.6**
SRSP				IVMs_BB	IVMs_BB			20 07 12.8	
	comp=Z,560nm,4.5s								
DLBC	**Dease Lake**	**57.30**	**39**	P	**P**			**19 43 01.5**	**+1.5**
	comp=Z,12nm,1.0s,baz=289,slow=5.5,SNR=12								
ADKI	**Addanki**	**57.71**	**264**	*e*P	**P**			**19 43 04.0**	**+0.7**
ADKI				IAmb	IAmb			19 43 07.0	
	comp=Z,43nm,1.1s								
ADKI				*e*PcP	**PcP**			**19 43 55.9**	**-0.3**
ADKI				IVMs_BB	IVMs_BB			19 51 50.5	
	comp=Z,687nm,4.8s								
NJS	**Nagarjunasagar**	**57.81**	**266**	*e*P	**P**			**19 43 03.6**	**-0.4**
NJS				IAmb	IAmb			19 43 06.4	
	comp=Z,26nm,1.0s								
NJS				*e*pP	**pP**			**19 43 11.2**	**+1.8**
NJS				*e*PcP	**PcP**			**19 43 57.0**	**+0.4**
NJS				IVMs_BB	IVMs_BB			20 09 57.8	
	comp=Z,715nm,4.5s								
HYB	**Hyderabad**	**57.89**	**267**	*i* P	**P**			**19 43 04.0**	**-0.7**
HYB				*e*PcP	**PcP**			**19 43 57.0**	**0.0**
HYB	**Hyderabad**	**57.89**	**267**	*e*P	**P**			**19 43 02.6**	**-2.0**
HYBB	**Hyderabad (bro**	**57.89**	**267**	*e*P	**P**			**19 43 04.4**	**-0.3**
HYBB				IAmb	IAmb			19 43 06.8	
	comp=Z,44nm,1.2s								
HYBB				*e*PcP	**PcP**			**19 43 57.6**	**+0.6**
HYBB				IVMs_BB	IVMs_BB			20 12 03.0	
	comp=Z,876nm,4.9s								
ALE	**Alert**	**58.14**	**4**	P	**P**			**19 43 06.0**	**+0.5**
	comp=Z,493nm,1.0s,SNR=64								
SRLM	**Srisailam**	**58.40**	**265**	*e*P	**P**			**19 43 07.6**	**-0.6**
SRLM				IAmb	IAmb			19 43 10.3	
	comp=Z,45nm,1.0s								
SRLM				IVMs_BB	IVMs_BB			20 10 44.3	
	comp=Z,962nm,5.4s								
SPA0	**Spitsbergen Ar**	**58.49**	**349**	*e*P	**P**			**19 43 08.2**	**+0.2**
KBS	**Kingsbay**	**58.62**	**350**	*e*P	**P**			**19 43 09.3**	**+0.4**
KBS				pmax	pmax				
	comp=Z,60nm,1.1s								
KBS	**Kingsbay**	**58.62**	**350**	*e*P	**P**			**19 43 09.2**	**+0.4**
	comp=Z,60nm,1.1s								
PRGR	**Permogore**	**58.88**	**326**	*e*P	**P**			**19 43 09.9**	**-1.0**
PRGR				pmax	pmax				
	comp=Z,55nm,0.9s								
WRAB	**Tennant Creek**	**58.98**	**187**	*c i*P	**P**			**19 43 11.7**	**-0.3**
WRAB				pmax	pmax				
	comp=Z,197nm,1.0s								
WRAB	**Tennant Creek**	**58.98**	**187**	*e*P	**P**			**19 43 11.0**	**-1.0**
	comp=Z,70nm,0.9s								
WRA	**Warramunga

comp=Z,79nm,1.0s
ITEG Tejag 64.64 293 *e*P **P 19 43 50.6 +0.2**
IKOO Kooshah 64.70 292 *e*P **P 19 43 51.2 +0.4**
EIDS Eidsvold 64.77 170 *e*P **P 19 43 50.8 -0.1**
comp=Z,62nm,1.3s
PGC Sidney 65.24 47 *e*P **P 19 43 54.7 +0.9**
DZM Mont Dzumac 65.32 154 P **P 19 43 56.0 +1.4**
comp=Z,28nm,0.9s,baz=270,slow=24,SNR=10
DZM Mont Dzumac 65.32 154 *e*P **P 19 43 55.5 +0.9**
comp=Z,26nm,0.9s
MOS Moscow 65.42 323 *e*P **P 19 43 51.9 -2.9**
MOS pmax pmax
comp=Z,400nm,2.2s
MOS pmax pmax
comp=Z,112nm,1.3s
NLWA Neilton Lookou 65.66 48 *e*P **P 19 43 58.4 +1.8**
comp=Z,66nm,1.1s
KULLO Kullorsuaq 66.02 5⇑ *i*P **P 19 43 58.2 -0.2**
comp=Z,46nm,0.9s
MBW Mount Baker 66.04 46 P **P 19 44 00.1 +0.9**
OBN Obninsk 66.27 323 *c i*P **P 19 43 59.9 -0.3**
OBN *i* 19 44 10.5
OBN *i* 19 44 25.5
OBN *e*S **S 19 52 51.5 +3.0**
OBN *e*SS **SS 19 57 01.0 -2.9**
OBN pmax pmax
comp=Z,100nm,1.7s
OBN MLR MLR
comp=Z,342nm,15.0s
OBN Obninsk 66.27 323 P **P 19 44 00.1 -0.1**
comp=Z,259nm,1.3s,SNR=8.7
OBN Obninsk 66.27 323 *e*P **P 19 43 59.9 -0.3**
comp=Z,55nm,1.0s
MSVF Nonsavu 66.31 141 *e*P **P 19 44 01.7 +0.7**
MSVF pmax pmax
comp=Z,28nm,1.1s
MSVF Nonsavu 66.31 141 *e*P **P 19 44 01.7 +0.7**
comp=Z,28nm,1.1s
B06A Marblemount 66.42 46 *e*P **P 19 44 02.9 +1.5**
comp=Z,40nm,1.0s
D05A Enumclaw 66.85 47 *e*P **P 19 44 06.6 +2.4**
comp=Z,72nm,1.3s
F04D Rainier, OR 66.86 49 P **P 19 44 06.4 +2.2**
baz=67
FINES FINESS Array B 66.86 332 P **P 19 44 03.7 -0.3**
comp=Z,38nm,0.8s,baz=57,slow=7.0,SNR=134
FINES LR LR 20 14 44.5
comp=Z,317nm,19.9s,baz=89,slow=37
ISHM Shahmirzad 66.95 298 *e*P **P 19 44 05.7 +0.4**
VSR Storozhevoye 67.17 318 *e*P **P 19 44 05.5 -0.7**
VSR pmax pmax
comp=Z,50nm,1.3s
VSR pmax pmax
comp=N,40nm,1.2s
VSR pmax pmax
comp=E,40nm,1.2s
VSR MLR MLR
comp=N,530nm,15.0s
VSR MLR MLR
comp=E,510nm,15.0s
VSR MLR MLR
comp=Z,880nm,15.0s
TDL Tradedollar La 67.18 48 P **P 19 44 07.9 +1.5**
G03D McMinnville, O 67.18 50 P **P 19 44 07.6 +1.4**
baz=67
LON Longmire 67.19 48 *e*P **P 19 44 07.4 +0.9**
LON pmax pmax
comp=Z,13nm,1.1s
LON Longmire 67.19 48 *e*P **P 19 44 07.4 +0.9**
comp=Z,13nm,1.1s
NLW Nelson Butte 67.30 46 P **P 19 44 08.7 +1.5**
MOR8 Moi Rana 67.35 339⇑ *i*P **P 19 44 05.6 -1.5**
MOR8 IAmb IAmb 19 44 08.3
comp=Z,52nm,0.8s
IFIR Firoozkooh 67.40 298 *e*P **P 19 44 08.6 +0.4**
B08A Colville Reser 67.70 45 P **P 19 44 10.4 +0.8**
IDMV Damavand 67.93 298 *e*P **P 19 44 11.9 +0.3**
I03D Drain, OR 67.95 51 P **P 19 44 12.9 +1.7**
baz=68,SNR=5.7
VLL Laurance Lake 67.98 49 P **P 19 44 13.4 +1.9**
EDM Edmonton 68.03 39 *e*P **P 19 44 11.5 -0.1**
EDM pmax pmax
comp=Z,47nm,1.2s
EDM Edmonton 68.03 39 *e*P **P 19 44 11.5 -0.1**
comp=Z,47nm,1.2s
G05D Wamic, OR 68.31 49 P **P 19 44 15.2 +1.7**
baz=68
IVRN Varamin 68.46 298 *e*P **P 19 44 14.8 +0.2**
I04A Tendick Farm, 68.47 51 P **P 19 44 15.8 +1.3**
baz=68,SNR=9.7
GOF Gofitskoye 68.48 311 *e*P **P 19 44 14.8 +0.3**
GOF *e*S **SKiKP 19 54 02.3 -5.0**
GOF pmax pmax
comp=Z,120nm,0.8s
VSU Vasula 68.53 329 *c i*P **P 19 44 14.5 -0.1**
VSU pmax pmax
comp=Z,194nm,1.1s
C09A Chrisman Ranch 68.61 45 P **P 19 44 16.3 +1.0**
L02D Cave Junction, 68.65 53 P **P 19 44 17.8 +2.2**
baz=68
D08A Wollman Farm, 68.67 46 *e*P **P 19 44 16.6 +1.0**
comp=Z,50nm,1.4s
SUMG Summit 68.69 360⇑ *i*P **P 19 44 16.6 +0.8**
comp=Z,108nm,1.1s
SUMG Summit 68.69 360⇑ *i*P **P 19 44 16.6 +0.8**
SUMG pmax pmax
comp=Z,110nm,1.1s
SUMG Summit 68.69 360 *e*P **P 19 44 16.0 +0.2**
comp=Z,111nm,1.1s
HAWA Hanford 68.70 47 P **P 19 44 16.5 +0.6**
comp=Z,19nm,1.3s
IGZV Ghazvin 68.73 300 *e*P **P 19 44 16.9 +0.4**
HUMO Hull Mountain 68.80 52 *e*P **P 19 44 18.7 +2.1**
comp=Z,41nm,1.7s
I05D Terrebonne, OR 68.80 50 P **P 19 44 18.5 +1.8**
baz=69
J04D Umpqua Nationa 68.96 51 P **P 19 44 19.3 +1.5**
baz=69
NEW Newport 68.97 44 *e*P **P 19 44 18.0 +0.4**
NEW pmax pmax
comp=Z,39nm,1.1s
NEW Newport 68.97 44 P **P 19 44 18.7 +1.1**
baz=69,SNR=23
NEW Newport 68.97 44 *e*P **P 19 44 18.0 +0.4**
comp=Z,39nm,1.1s
NCK Nalchik 69.02 309⇓ *i*P **P 19 44 18.7 +0.7**
DGRG David-gareji 69.08 307 P **P 19 44 18.5 +0.1**
ZEI Tsey 69.24 309 *e*P **P 19 44 16.8 -2.7**
ZEI pmax pmax
comp=Z,243nm,1.0s
NSS Namsos 69.28 339 *e*P **P 19 44 18.9 -0.2**
KHMM Horse Mountain 69.28 54 *e*P **P 19 44 22.2 +2.5**
comp=Z,49nm,1.1s
KIV Kislovodsk 69.31 310 *c i*P **P 19 44 20.4 +0.6**
KIV *e* 19 46 51.4
KIV pmax pmax
comp=Z,346nm,1.0s
KIV MLR MLR
comp=Z,191nm,15.0s
KIV Kislovodsk 69.31 310 P **P 19 44 20.6 +0.8**
SNR=121
KIV Kislovodsk 69.31 310 *i* P **P 19 44 20.6 +0.8**
SNR=145
KIV Kislovodsk 69.31 310 *e*P **P 19 44 20.2 +0.4**
comp=Z,288nm,0.9s
KBZ Khabaz 69.31 310 P **P 19 44 20.1 +0.5**
comp=Z,59nm,0.9s,baz=52,slow=4.4,SNR=70
KBZ LR LR 20 19 34.3
comp=Z,266nm,18.1s,baz=52,slow=40
TBLG Delisi 69.31 307 P **P 19 44 19.9 +0.1**
YBH Yreka Blue Hor 69.44 53 *e*P **P 19 44 21.9 +1.3**
YBH pmax pmax
comp=Z,28nm,1.3s
YBH Yreka Blue Hor 69.44 53 *e*P **P 19 44 21.9 +1.3**
comp=Z,28nm,1.3s
J05D Fort Rock, OR 69.46 51 P **P 19 44 22.6 +1.8**
baz=69,SNR=10
M02C Callahan 69.54 53 P **P 19 44 22.4 +1.2**
baz=69,SNR=6.6
ONI Oni 69.62 309 P **P 19 44 22.5 +0.8**
ISRB Sarab 69.63 303 *e*P **P 19 44 21.6 -0.4**
G08A Pilot Rock 69.66 48 *e*P **P 19 44 23.1 +1.1**
comp=Z,167nm,2.9s
NEY Neytrino 69.69 310 *d i*P **P 19 44 24.0 +1.7**
NEY pmax pmax
comp=Z,15nm,0.9s
ARMA Armidale 69.82 170 *e*P **P 19 44 23.5 +0.7**
comp=Z,56nm,1.0s
N02D Trinity Center 69.87 53 P **P 19 44 24.6 +1.4**
baz=70,SNR=7.7
M04C Macdoel 69.94 52 P **P 19 44 25.3 +1.4**
baz=70,SNR=14
K05A Summer Lake 69.98 51 *e*P **P 19 44 26.1 +1.9**
comp=Z,66nm,1.3s
WBK Wadi Bani Khal 70.09 283 P **P 19 44 26.5 +1.7**
SNR=9.9
WDC Whiskeytown Da 70.19 54 *e*P **P 19 44 26.4 +1.2**
WDC pmax pmax
comp=Z,22nm,1.1s
WDC Whiskeytown Da 70.19 54 *e*P **P 19 44 26.4 +1.2**
comp=Z,22nm,1.1s
GNI Garni 70.21 306 *c i*P **P 19 44 26.2 +0.8**
GNI pmax pmax
comp=Z,56nm,1.7s
GNI Garni 70.21 306⇑ *i*P **P 19 44 26.3 +0.8**
SNR=5.4
GNI Garni 70.21 306 *e*P **P 19 44 25.9 +0.4**
comp=Z,56nm,1.1s
WALA Waterton Lakes 70.22 42 *e*P **P 19 44 25.9 +0.5**
comp=Z,25nm,1.2s
AKH Akhalkalaki 70.27 308 P **P 19 44 26.4 +0.6**
AKH Akhalkalaki 70.27 308⇓ *i*P **P 19 44 27.1 +1.2**
IMRD Marand 70.41 304 *e*P **P 19 44 26.3 -0.5**
BSMT Bassoo Peak 70.48 44 *e*P **P 19 44 27.9 +0.8**
comp=Z,65nm,2.0s
FORT Forest 70.48 192 *e*P **P 19 44 26.7 -0.1**
comp=Z,28nm,0.7s
IZAR Zarasai 70.51 327 *e*P **P 19 44 27.3 +0.4**
IZAR IAmb IAmb 19 44 29.5
comp=Z,21nm,1.0s
SMDO Samad 70.53 284 P **P 19 44 28.9 +1.2**
SNR=6.9
STKA Stephens Creek 70.56 179 P **P 19 44 27.5 +0.3**
comp=Z,11nm,0.7s,baz=350,slow=7.9,SNR=22
STKA Stephens Creek 70.56 179 P **P 19 44 27.5 +0.3**
STKA pmax pmax
comp=Z,11nm,0.7s
IDID Didziasalis 70.59 326 *e*P **P 19 44 27.7 +0.4**
IDID IAmb IAmb 19 44 30.1
comp=Z,30nm,0.9s
BLMT Blacktail Moun 70.61 44 *e*P **P 19 44 28.9 +1.0**
ISAL Salakas 70.68 327 *e*P **P 19 44 28.3 +0.4**
ISAL IAmb IAmb 19 44 30.8
comp=Z,58nm,1.0s
TBLU Trondheim 70.75 339 *e*P **P 19 44 27.1 -1.0**
HOQ Hoqain 70.78 285 P **P 19 44 30.0 +0.9**
SNR=5.5
LBCM Butte Creek Ri 70.79 53 P **P 19 44 30.2 +1.2**
IIGN Ignalina 70.79 327 *e*P **P 19 44 28.9 +0.4**
IIGN IAmb IAmb 19 44 31.4
comp=Z,41nm,0.9s
IAZR Azarshahr 70.82 303 *e*P **P 19 44 29.3 -0.1**
MOD Modoc 70.82 51 *e*P **P 19 44 29.9 +0.7**
comp=Z,278nm,2.9s
JTMT Jette 70.82 44 *e*P **P 19 44 30.7 +1.6**
UOSS Wadi Hilu 70.84 287 *e*P **P 19 44 29.8 +0.4**
comp=Z,367nm,2.8s
NACGM Naroo 70.84 326 *e*P **P 19 44 27.0 -1.9**
BMO Blue Mountains 70.86 47 *e*P **P 19 44 30.0 +0.7**
comp=Z,18nm,1.2s
JMDO Jabal Madar 70.88 284 P **P 19 44 30.6 +0.9**
SNR=7.7
SWMT Swartz Lake 71.11 44 *e*P **P 19 44 31.1 +0.3**
comp=Z,29nm,1.2s
SOC Sochi 71.28 311 *c i*P **P 19 44 31.7 0.0**
SOC *e**PP **pP 19 44 39.9 +2.7**
SOC *e* 19 47 10.1
SOC *e*S S 19 53 42.2 -6.3
SOC *e*SS **SS 19 58 17.7 -4.1**
SOC pmax pmax
comp=Z,78nm,0.9s
SOC MLR MLR
comp=Z,484nm,19.0s
WVOR Wild Horse Val 71.51 50 *e*P **P 19 44 34.1 +0.8**
WVOR pmax pmax
comp=Z,53nm,1.6s
WVOR Wild Horse Val 71.51 50 *e*P **P 19 44 34.1 +0.8**
comp=Z,53nm,1.6s
ARQ Aragi 71.52 285 P **P 19 44 34.6 +1.1**
SNR=6.4
SLMT Seeley Lake 71.55 44 *e*P **P 19 44 33.9 +0.3**
comp=Z,18nm,0.7s
MSO Missoula 71.56 44 P **P 19 44 34.0 +0.5**
baz=71,SNR=10
MSO Missoula 71.56 44 *e*P **P 19 44 34.2 +0.6**
comp=Z,17nm,1.1s
BBOO Buckleboo 71.62 184 *e*P **P 19 44 34.1 +0.4**
comp=Z,676nm,2.9s
ILULI Ilulissat 71.70 4 *i*P **P 19 44 33.8 0.0**
comp=Z,29nm,0.9s
ANN Anapa 71.87 313 *e*P **P 19 44 34.4 -0.8**
ANN *e*S **S 19 53 54.9 -0.3**
ANN pmax pmax
comp=Z,81nm,1.1s
ANN MLR MLR
comp=N,395nm,20.0s
ANN MLR MLR
comp=Z,313nm,20.0s
ANN MLR MLR
comp=E,402nm,20.0s
NB2 NORSAR Subarra 72.19 337 P **P 19 44 36.6 -0.4**
comp=Z,51nm,0.9s,baz=38,slow=5.9
NB2 NORSAR Subarra 72.19 337 P **P 19 44 36.6 -0.4**
baz=38,slow=5.9
NOA NORSAR Array B 72.19 337 P **P 19 44 37.0 +0.1**
comp=Z,29nm,0.8s,baz=39,slow=6.1,SNR=106
NOA LR LR 20 18 45.8
comp=Z,289nm,20.2s,baz=40,slow=38
FFC Flin Flon 72.24 33 *e*P **P 19 44 37.2 -0.1**
FFC pmax pmax
comp=Z,26nm,1.1s
FFC Flin Flon 72.24 33 *e*P **P 19 44 37.2 -0.1**
comp=Z,26nm,1.1s
NC602 NORSAR Array S 72.33 337 *e*P **P 19 44 37.4 -0.3**
FCC Fort Churchill 72.39 27 *e*P **P 19 44 38.0 -0.1**
FCC Fort Churchill 72.39 27 *e*P **P 19 44 38.0 -0.1**
NAO01 NORSAR Array S 72.45 337 *e*P **P 19 44 37.9 -0.5**
AKASG Malin Array Be 72.48 322 P **P 19 44 38.4 -0.4**
comp=Z,18nm,0.6s,baz=46,slow=6.6,SNR=104
AKASG LR LR 20 18 58.9
comp=Z,320nm,21.3s,baz=65,slow=38
KIEV Kiev 72.49 322 *c i*P **P 19 44 38.5 -0.4**
KIEV Kiev 72.49 322 *e*P **P 19 44 38.2 -0.7**
comp=Z,38nm,0.9s
MFID Camas Ranch 72.58 48 *e*P **P 19 44 40.6 +0.9**
comp=Z,267nm,2.8s
HRY Holter Researc 72.77 43 *e*P **P 19 44 41.4 +0.6**
comp=Z,15nm,0.6s
A19A Klindworth Far 72.97 40 P **P 19 44 42.6 +0.8**
baz=73,SNR=12
LRM Limekiln Ridge 72.99 44 *e*P **P 19 44 42.9 +0.6**
comp=Z,338nm,1.1s
SUW Suwalki 73.00 327 *e*P **P 19 44 41.4 -0.4**
SUW Suwalki 73.00 327 *e*P **P 19 44 41.4 -0.4**
CMB Columbia Colle 73.03 55 *e*P **P 19 44 43.1 +0.7**
CMB pmax pmax
comp=Z,57nm,1.4s
CMB Columbia Colle 73.03 55 *e*P **P 19 44 43.0 +0.7**
comp=Z,57nm,1.4s
EGMT Eagleton 73.03 41 P **P 19 44 43.0 +0.8**
baz=73,SNR=16
EGMT Eagleton 73.03 41 *e*P **P 19 44 42.3 0.0**
comp=Z,38nm,1.1s
B19A Brinkman Farms 73.17 41 P **P 19 44 43.8 +0.8**
baz=73
DLMT Dillon 73.20 45 *e*P **P 19 44 43.9 +0.5**
comp=Z,30nm,0.9s
HLID Hailey 73.30 47 P **P 19 44 45.4 +1.3**
baz=73,SNR=20
HLID Hailey 73.30 47 *e*P **P 19 44 45.1 +1.0**
comp=Z,16nm,1.2s
WAKR Walker 73.35 54 *e*P **P 19 44 45.6 +1.1**
MCMT McKenzie Canyo 73.40 45 *e*P **P 19 44 45.0 +0.3**
A20A Cobblestone Ra 73.41 40 P **P 19 44 45.5 +1.0**
baz=73
BOZ Bozeman (W) 73.55 44 *e*P **P 19 44 46.2 +0.7**
BOZ pmax pmax
comp=Z,25nm,0.8s
BOZ Bozeman (W) 73.55 44 P **P 19 44 46.5 +1.1**
baz=73,SNR=35
BOZ Bozeman (W) 73.55 44 *e*P **P 19 44 46.2 +0.7**
comp=Z,25nm,0.8s
SIM Simferopol' 73.63 315 *c e*P **P 19 44 45.8 0.0**
SIM pmax pmax
comp=Z,39µm,1.0s
SIM MLR MLR
comp=Z,200nm,16.0s
B20A Solberg Farm, 73.65 40 P **P 19 44 46.6 +0.7**
baz=74
KONO Kongsberg 73.79 337 *e*P **P 19 44 46.1 -0.3**
KONO pmax pmax
comp=Z,557nm,3.0s
KONO Kongsberg 73.79 337 *e*P **P 19 44 46.1 -0.3**
comp=Z,557nm,3.0s
A21A Bergtoll Ranch 73.83 39 P **P 19 44 48.0 +1.1**
baz=74
SFJD Kangerlussuaq 73.93 5 *i*P **P 19 44 47.3 +0.2**
comp=Z,29nm,0.9s
SFJD Kangerlussuaq 73.93 5 *i*P **P 19 44 47.3 +0.2**
SFJD pmax pmax
comp=Z,29nm,0.9s
SFJD Kangerlussuaq 73.93 5 *e*P **P 19 44 47.2 +0.2**
comp=Z,32nm,0.9s
NVAR Mina Array Bea 74.11 53 P **P 19 44 50.3 +1.4**
comp=Z,25nm,1.0s,baz=289,slow=5.7,SNR=73
C20A Veseth Ranch, 74.13 41 P **P 19 44 49.6 +0.9**
baz=74,SNR=13
B21A Ellsworth Farm 74.16 40 P **P 19 44 50.0 +1.2**
baz=74,SNR=5.0
QLMT Earthquake Lak 74.18 45 *e*P **P 19 44 50.1 +0.8**
comp=Z,1.5nm,0.9s
GCMT Greycliff 74.52 43 *e*P **P 19 44 52.3 +1.2**
comp=Z,12nm,0.6s
C21A Desert Coulee 74.52 40 P **P 19 44 51.6 +0.6**
baz=74
YMR Madison River 74.54 45 *e*P **P 19 44 52.7 +1.4**
comp=Z,10nm,0.6s
ELK Elko 74.56 50 *e*P **P 19 44 52.7 +1.1**
ELK pmax pmax
comp=Z,63nm,2.1s
ELK Elko 74.56 50 *e*P **P 19 44 52.7 +1.1**
comp=Z,63nm,2.1s
SORM Soroca 74.60 320⇑ *i*P **P 19 44 51.6 +0.3**
YFT Old Faithful 74.75 45 *e*P **P 19 44 54.9 +2.3**
comp=Z,34nm,1.1s
B22A Reddig Ranch S 74.75 40 P **P 19 44 52.9 +0.6**
baz=75
RCTC Rector, Farmer 74.80 56 P **P 19 44 54.4 +1.8**
baz=75
SMMC Simmler 74.91 57 P **P 19 44 55.4 +2.0**
baz=75
H17A Grant Village 74.92 45 P P 19 44 56.8 +3.2
baz=75,SNR=13
H17A Grant Village 74.92 45 *e*P **P 19 44 56.1 +2.4**
comp=Z,46nm,1.0s
TIN Tinemaha 74.99 54 P **P 19 44 55.7 +1.7**
baz=75
IMW Indian Meadow 75.05 45 *e*P **P 19 44 56.2 +1.8**
comp=Z,22nm,0.9s
FLWY Flagg Ranch 75.06 45 *e*P **P 19 44 56.4 +2.0**
comp=Z,175nm,2.2s
D21A La Casta Ranch 75.07 41 P **P 19 44 55.4 +1.2**
baz=75,SNR=5.5
KIS Kishinev 75.12 319 *e*P **P 19 44 54.0 -0.4**
comp=Z,200nm,2.0s
KIS *e*LQ LQ 20 12 42.0
KIS *e*LR LR 20 14 48.0
comp=Z,800nm,16.0s
KIS Kishinev 75.12 319 *e*P **P 19 44 54.0 -0.4**
KIS *e* 19 45 03.0
KIS *e* 19 45 10.0
KIS pmax pmax
comp=Z,200nm,2.0s
KIS pmax pmax
comp=Z,400nm,4.0s
KIS MLR MLR
comp=Z,800nm,16.0s
KIS MLR MLR
comp=Z,800nm,16.0s
KIS MLR MLR
comp=E,600nm,16.0s
KIS MLR MLR
comp=N,600nm,16.0s
B23A Brockton 75.14 39 P **P 19 44 55.2 +0.7**
baz=75,SNR=8.7
FXWY Fox Creek 75.16 46 *e*P **P 19 44 56.6 +1.6**
comp=N,16nm,0.9s
RLMT Red Lodge 75.16 44 P **P 19 44 56.2 +1.2**
baz=75,SNR=14
RLMT Red Lodge 75.16 44 *e*P **P 19 44 56.1 +1.2**
comp=N,49nm,1.5s
VES Vestal, Richgr 75.18 56 P **P 19 44 56.0 +1.1**
baz=75
HOMB Homborsund 75.23 336 *e*P P 19 44 58.9 +4.2
MALT Malatya 75.24 307⇑ *i*P **P 19 44 56.7 +1.3**
MOOW Moose Ponds 75.25 45 *e*P **P 19 44 56.6 +1.1**
comp=N,24nm,1.1s
TPAW Teton Pass 75.30 46 *e*P **P 19 44 57.0 +1.2**
comp=N,31nm,1.4s
A24A Westby 75.30 38 P **P 19 44 56.3 +0.8**
baz=75
F20A Billings 75.31 42 P **P 19 44 55.8 +0.2**
baz=75
HVU Hansel Valley 75.36 48 *e*P **P 19 44 57.2 +1.2**
HVU Hansel Valley 75.36 48 *e*P **P 19 44 57.2 +1.2**
E21A Keefer Ranch, 75.38 41 P **P 19 44 56.7 +0.7**
baz=75
LOHW Long Hollow 75.41 45 *e*P **P 19 44 57.2 +0.8**
comp=N,12nm,1.2s
SNOW Snow King Moun 75.43 46 *e*P **P 19 44 57.8 +1.3**
comp=N,22nm,1.1s
D22A Cohagen 75.43 41 P **P 19 44 57.2 +1.0**
baz=75
REDW Red Top Meadow 75.44 46 *e*P **P 19 44 57.4 +0.8**
comp=N,30nm,1.3s
C23A Lambert 75.49 40 P **P 19 44 57.4 +0.9**
baz=75,SNR=5.6
BSD Bornholm Skovb 75.50 331⇑ *i*P **P 19 44 56.1 -0.3**
comp=N,47nm,1.0s
BSD Bornholm Skovb 75.50 331⇑ *i*P **P 19 44 56.1 -0.3**
BSD pmax pmax
comp=Z,47nm,1.0s
DGMT Dagmar 75.52 39 P **P 19 44 57.6 +0.9**
baz=75
DGMT Dagmar 75.52 39 *e*P **P 19 44 56.6 -0.1**
comp=Z,342nm,2.8s
LVV L'vov 75.54 323 *e*P **P 19 44 56.3 -0.4**
LVV *e*S **S 19 54 37.3 +0.8**
LVV *e* 19 55 09.7
LVV *e* 19 59 23.1
LVV MLR MLR
comp=Z,200nm,17.0s
LVV MLR MLR
comp=N,400nm,15.0s
LVV MLR MLR
comp=E,40nm,12.0s
BEL Belsk 75.56 326 *e*P **P 19 44 57.5 +0.7**
BEL Belsk 75.56 326 *e*P **P 19 44 57.5 +0.7**
GRAC Grapevine Rang 75.56 54 P **P 19 44 58.9 +1.7**
baz=76,SNR=17
H19A Powell 75.61 44 P **P 19 44 58.8 +1.4**
baz=75,SNR=9.1
BORG Borgarnes 75.61 352 *i*P P 19 45 00.3 +3.4
BORG Borgarnes 75.61 352 *e*P **P 19 44 58.6 +1.7**
comp=E,277nm,1.9s
G20A Bridger 75.66 43 P **P 19 44 57.7 0.0**
baz=76,SNR=5.6
ISA Isabella 75.68 56 *e*P **P 19 44 58.5 +0.6**
ISA pmax pmax
comp=Z,12nm,1.0s
ISA Isabella 75.68 56 P **P 19 44 58.5 +0.6**
baz=76
ISA Isabella 75.68 56 *e*P **P 19 44 58.5 +0.6**
comp=Z,12nm,1.0s
A25A Svangstu Ranch 75.72 38 P **P 19 44 58.7 +0.9**
baz=76
ARVC Arvin 75.78 56 P **P 19 44 59.6 +1.3**
baz=76
F21A Absaloka Mine, 75.83 42 P **P 19 44 59.5 +0.9**
baz=76
R11A Troy Canyon, C 75.84 52 P **P 19 45 00.2 +1.3**
baz=76,SNR=47
D23A Lindsay 75.91 40 P **P 19 45 00.1 +1.1**
baz=76,SNR=8.5
BSC Santa Cruz Isl 75.95 58 P **P 19 45 00.9 +1.5**
baz=76
COP Copenhagen 75.97 333⇑ *i*P **P 19 44 59.5 +0.5**
comp=Z,26nm,1.0s
COP Copenhagen 75.97 333⇑ *i*P **P 19 44 59.5 +0.5**

COP pmax pmax
comp=Z,26nm,1.0s
I19A Meeteetse 76.02 44 P **P 19 45 00.9 +1.1**
baz=76,SNR=10
E22A Miles City 76.03 41 P **P 19 45 00.7 +1.0**
baz=76,SNR=8.9
C24A Savage 76.05 39 P **P 19 45 00.4 +0.6**
baz=76
MPMC Manual Prospec 76.07 55 P **P 19 45 01.1 +0.8**
baz=76,SNR=14
B25A Knox Farm, Ray 76.16 38 P **P 19 45 01.4 +1.1**
baz=76
HWUT Hardware Ranch 76.17 47 *eP* **P 19 45 01.8 +1.1**
comp=Z,42nm,1.2s
G21A Lodge Grass 76.19 42 P **P 19 45 01.5 +0.8**
baz=76,SNR=12
FURC Furnace Creek, 76.21 54 P **P 19 45 02.4 +1.6**
baz=76,SNR=18
A26A Wade Farm, Ken 76.26 37 P **P 19 45 01.8 +0.9**
baz=76
H20A Greybull 76.26 43 P **P 19 45 02.0 +0.9**
baz=76,SNR=6.1
KWP Kalwaria Pacla 76.28 324 *eP* **P 19 45 01.6 +0.6**
KWP Kalwaria Pacla 76.28 324⇑ *eP* **P 19 45 01.7 +0.7**
LRMC Laurel Mountai 76.30 55 P **P 19 45 02.8 +1.3**
baz=76
TPNV Topopah Spring 76.30 54 P **P 19 45 02.8 +1.3**
baz=76,SNR=27
E23A Ismay 76.31 41 P **P 19 45 02.7 +1.4**
baz=76,SNR=8.8
F22A Rosebud 76.31 42 P **P 19 45 02.4 +1.0**
baz=76
DUG Dugway 76.34 49 *eP* **P 19 45 02.8 +1.1**
DUG pmax pmax
comp=Z,32nm,1.0s
DUG Dugway 76.34 49 P **P 19 45 03.1 +1.4**
baz=76,SNR=33
DUG Dugway 76.34 49 *eP* **P 19 45 02.8 +1.1**
comp=Z,32nm,1.0s
D24A Glendive 76.38 40 P **P 19 45 02.8 +1.1**
baz=76
EDW2 Edwards Air Fo 76.47 56 P **P 19 45 03.8 +1.4**
baz=76,SNR=7.9
MUD Monsted U'grnd 76.48 335⇑ *iP* **P 19 45 02.2 +0.3**
comp=Z,27nm,1.0s
MUD Monsted U'grnd 76.48 335⇑ *iP* **P 19 45 02.2 +0.3**
MUD pmax pmax
comp=Z,27nm,1.0s
J19A Crowheart 76.50 45 P **P 19 45 03.7 +1.1**
baz=76,SNR=24
C25A Freed Ranch, W 76.50 39 P **P 19 45 03.4 +1.1**
baz=76
BURAR Bucovina Array 76.50 321⇓ *iP* **P 19 45 03.2 +0.8**
B26A Jensen Ranch, 76.53 38 P **P 19 45 03.7 +1.2**
baz=76
BW06 Boulder Array 76.55 46 *eP* **P 19 45 03.1 +0.2**
comp=Z,35nm,1.4s
PDAR Pinedale Array 76.55 46 P **P 19 45 03.4 +0.5**
comp=Z,8.6nm,0.8s,baz=316,slow=2.5,SNR=65
I20A Worland 76.55 44 P **P 19 45 04.8 +2.0**
baz=76,SNR=17
TESR Tescani 76.55 320⇑ *iP* **P 19 45 03.0 +0.4**
TCUT Toone Canyon 76.57 48 *eP* **P 19 45 03.9 +0.8**
comp=Z,49nm,1.3s
A27A Ledoux Ranch, 76.59 37 P **P 19 45 03.7 +0.9**
baz=76
DECC Green Verdugo 76.64 57 P **P 19 45 04.6 +1.3**
baz=77
CTU Camp Tracy 76.65 48 *eP* **P 19 45 03.8 +0.4**
comp=Z,22nm,1.1s
G22A Birney 76.67 42 P **P 19 45 04.5 +1.1**
baz=76,SNR=9.9
H21A Big Horn, Sher 76.68 43 P **P 19 45 04.5 +1.0**
baz=76,SNR=10
CFR Carcaliu 76.69 318⇑ *iP* **P 19 45 03.7 +0.3**
E24A Baker 76.77 40 P **P 19 45 05.0 +1.1**
baz=77
F23A Volborg 76.79 41 P **P 19 45 05.0 +0.9**
baz=77,SNR=6.5
D25A Fairfield 76.86 39 P **P 19 45 05.7 +1.3**
baz=77
JLU Jordanelle 76.88 48 *eP* **P 19 45 05.0 +0.1**
comp=Z,22nm,1.2s
NLU North Lily Min 76.93 49 *eP* **P 19 45 06.1 +1.0**
comp=Z,18nm,0.9s
SHOC Shoshone 76.94 54 P **P 19 45 06.6 +1.6**
baz=77
VRI Vrincioaia 76.95 319⇑ *iP* **P 19 45 05.7 +0.8**
J20A Shoshoni 76.97 44 P **P 19 45 06.4 +1.2**
baz=77,SNR=12
B27A Peters Farms, 76.97 37 P **P 19 45 05.9 +1.0**
baz=77
GSC Goldstone 76.97 55 *eP* **P 19 45 05.6 +0.3**
GSC pmax pmax
comp=Z,32nm,1.4s
GSC Goldstone 76.97 55 P **P 19 45 06.7 +1.4**
baz=77,SNR=8.6
GSC Goldstone 76.97 55 *eP* **P 19 45 05.6 +0.3**
comp=Z,32nm,1.4s
KOLS Kolonicke sedl 76.98 324 *eP* **P 19 45 05.1 +0.2**
KOLS pmax pmax
comp=Z,18nm,1.0s
KOLS Kolonicke sedl 76.98 324 *eP* **P 19 45 05.1 +0.2**
C26A Wahner Farm, P 76.98 38 P **P 19 45 06.1 +1.1**
baz=77
FMP Fort Macarthur 77.00 57 P **P 19 45 06.6 +1.3**
baz=77
PLOR Plostina 77.00 319⇑ *iP* **P 19 45 05.6 +0.4**
TIRR Tirgusor 77.03 317 *eP* **P 19 45 05.3 0.0**
TIRR pmax pmax
comp=Z,22nm,1.0s
TIRR Tirgusor 77.03 317⇑ *iP* **P 19 45 05.7 +0.4**
TIRR Tirgusor 77.03 317 *eP* **P 19 45 05.2 0.0**
comp=Z,22nm,1.0s
H22A Clearmont 77.06 43 P **P 19 45 06.6 +1.0**
baz=77
A28A Rude Farm, Bot 77.07 36 P **P 19 45 06.6 +1.1**
baz=77
BFSC Mount Baldy Ra 77.09 56 P **P 19 45 07.4 +1.4**
baz=77
I21A Big Trails, Te 77.09 44 P **P 19 45 07.2 +1.4**
baz=77,SNR=37
STHS Stebnicka Huta 77.10 324 *eP* **P 19 45 06.3 +0.7**
STHS pmax pmax
comp=Z,27nm,0.9s
STHS Stebnicka Huta 77.10 324 *eP* **P 19 45 06.3 +0.7**
RRX Edison Barstow 77.11 56 P **P 19 45 07.7 +1.7**
baz=77
HARR Harsova 77.13 318⇓ *iP* **P 19 45 06.5 +0.7**
MPU Maple Canyon 77.15 49 *eP* **P 19 45 07.5 +1.1**
comp=Z,93nm,1.0s
G23A Biddle 77.15 42 P **P 19 45 07.1 +1.0**
baz=77,SNR=8.0
OJC Ojcow 77.16 326 *eP* **P 19 45 06.5 +0.5**
OJC Ojcow 77.16 326⇑ *eP* **P 19 45 06.5 +0.5**
OJC Ojcow 77.16 326 *eP* **P 19 45 06.4 +0.4**
UZH Uzhgorod 77.18 323 *eP* **P 19 45 05.9 -0.2**
UZH *e* 19 45 15.2
F24A Ekalaka 77.20 41 P **P 19 45 07.4 +1.1**
baz=77,SNR=10
BRTR Keskin Array B 77.24 311 P **P 19 45 06.9 +0.2**
comp=Z,19nm,1.0s,baz=88,slow=3.4,SNR=67
BRTR LR LR 20 23 38.7
comp=Z,155nm,18.8s,baz=46,slow=39
SHPR Sheep Range 77.26 53 *eP* **P 19 45 08.2 +1.2**
E25A Miller Ranch, 77.27 40 P **P 19 45 07.8 +1.1**
baz=77,SNR=6.6
ARCR ARCALIA 77.29 321⇓ *iP* **P 19 45 08.1 +1.4**
BMR Baia Mare 77.29 322⇑ *iP* **P 19 45 08.0 +1.3**
J21A Lysite 77.32 44 P **P 19 45 08.4 +1.2**
baz=77,SNR=18
C27A Sayler Ranch, 77.34 38 P **P 19 45 07.5 +0.4**
baz=77
D26A Manning 77.37 39 P **P 19 45 08.0 +0.8**
baz=77
TUQ Turquoise Moun 77.45 55 P **P 19 45 09.1 +1.1**
baz=77,SNR=12
I22A 9 Mile Ranch, 77.47 43 P **P 19 45 08.7 +0.8**
baz=77,SNR=11
NIE Niedzica 77.52 325 *eP* **P 19 45 08.8 +0.8**
NIE Niedzica 77.52 325⇑ *eP* **P 19 45 08.9 +0.9**
A29A Manning Farm, 77.54 36 P **P 19 45 08.9 +0.8**
baz=77,SNR=17
ISR Istrita 77.56 319⇑ *iP* **P 19 45 09.4 +1.1**
DOPR Dopca 77.56 320⇑ *iP* **P 19 45 09.5 +1.2**
G24A Alzada 77.57 41 P **P 19 45 09.1 +0.6**
baz=77
HEC Hector,Ludlow 77.57 55 P **P 19 45 09.8 +1.2**
baz=78
H23A Clabaugh Cattl 77.58 42 P **P 19 45 08.7 +0.1**
baz=77
MSAB Monastry St. A 77.59 317⇑ *iP* **P 19 45 09.2 +0.8**
MLR Muntele Rosu 77.61 319⇓ *iP* **P 19 45 09.3 +0.6**
ANTO Ankara 77.64 312 *eP* **P 19 45 09.4 +0.5**
ANTO pmax pmax
comp=Z,45nm,1.0s
ANTO Ankara 77.64 312⇓ *iP* **P 19 45 09.8 +0.9**
ANTO Ankara 77.64 312 P **P 19 45 09.9 +0.9**
SNR=11
ANTO Ankara 77.64 312 *eP* **P 19 45 09.4 +0.5**
comp=Z,44nm,1.0s
F25A Bowman 77.64 40 P **P 19 45 09.4 +0.6**
baz=77
PSN Preselentsi 77.68 317 *eP* **P 19 45 09.7 +0.8**
CCUT Cedar City 77.70 52 *eP* **P 19 45 10.8 +1.3**
comp=Z,27nm,1.3s
E26A Carlson Angus 77.75 39 P **P 19 45 09.8 +0.4**
baz=78
D27A Center 77.76 38 P **P 19 45 09.1 -0.3**
baz=78
MURC Murrieta 77.78 57 P **P 19 45 10.6 +0.8**
baz=78
J22A Midwest 77.80 43 P **P 19 45 10.3 +0.4**
baz=78,SNR=38
MSU Marysvale 77.80 50 *eP* **P 19 45 11.6 +1.6**
MSU pmax pmax
comp=Z,30nm,1.2s
MSU Marysvale 77.80 50 *eP* **P 19 45 11.6 +1.6**
comp=Z,30nm,1.2s
B29A Wagenman Farm, 77.81 36 P **P 19 45 10.2 +0.6**
baz=78
SECR 77.86 319⇑ *iP* **P 19 45 11.4 +1.4**
C28A Hausauer Farms 77.87 37 P **P 19 45 11.2 +1.2**
baz=78
H24A Dirks Ranch, A 77.90 42 P **P 19 45 10.6 +0.3**
baz=78,SNR=8.4
CJR Cluj-Napoca 77.92 321⇓ *iP* **P 19 45 11.4 +1.1**
A30A Hoffart Farm, 77.95 35 P **P 19 45 11.0 +0.6**
baz=78
RUE Ruedersdorf 77.95 330 *eP* **P 19 45 10.7 +0.4**
comp=Z,46nm,1.1s
RUE Ruedersdorf 77.95 330 *eP* **P 19 45 10.5 +0.2**
comp=Z,74nm,1.2s
SULR 78.01 318⇑ *iP* **P 19 45 11.3 +0.6**
P17A Butcher Ranch, 78.03 49 *eP* **P 19 45 12.6 +1.4**
GMRC Granite Mounta 78.03 55 P **P 19 45 12.1 +0.9**
baz=78,SNR=9.4
F26A Lodgepole 78.08 40 P **P 19 45 11.9 +0.7**
baz=78
LANS Liptovska Anna 78.09 325 *eP* **P 19 45 12.2 +1.0**
LANS Liptovska Anna 78.09 325 *eP* **P 19 45 12.2 +1.0**
BSEG Bad Segeberg 78.10 333 *eP* **P 19 45 11.5 +0.4**
comp=Z,52nm,1.1s
VOIR 78.10 320⇓ *iP* **P 19 45 12.3 +0.9**
KECS Kecovo 78.12 324 *eP* **P 19 45 11.6 +0.3**
KECS pmax pmax
comp=Z,10.0nm,1.0s
KECS Kecovo 78.12 324 *eP* **P 19 45 11.6 +0.3**
MDND Maddock 78.14 37 P **P 19 45 12.6 +1.1**
baz=78
D28A Regan 78.16 38 P **P 19 45 12.7 +1.1**
baz=78
OKC Ostrava-Krasne 78.17 326⇑ *eP* **P 19 45 12.0 +0.5**
OKC Ostrava-Krasne 78.17 326 *eP* **P 19 45 12.0 +0.5**
G25A Newell 78.17 41 P **P 19 45 12.5 +0.7**
baz=78
KSP Ksiaz 78.20 328 *eP* **P 19 45 12.3 +0.6**
KSP Ksiaz 78.20 328⇑ *eP* **P 19 45 12.3 +0.6**
E27A Carson 78.22 39 P **P 19 45 13.1 +1.1**
baz=78
PFO Pinyon Flat Ob 78.26 56 *eP* **P 19 45 12.9 +0.3**
PFO Pinyon Flat Ob 78.26 56 P **P 19 45 13.6 +1.0**
baz=78,SNR=5.8
PFO Pinyon Flat Ob 78.26 56 *eP* **P 19 45 12.8 +0.3**
109C Camp Elliot, M 78.29 57 P **P 19 45 14.0 +1.5**
baz=78
K22A Casper 78.29 44 P **P 19 45 13.2 +0.6**
baz=78
K22A Casper 78.29 44 *eP* **P 19 45 12.7 +0.1**
comp=Z,291nm,2.7s
B30A Myrvik Farm, E 78.29 36 P **P 19 45 12.8 +0.5**
baz=78,SNR=19
J23A Dilts Ranch, B 78.30 43 P **P 19 45 13.3 +0.7**
baz=78
DRGR 78.30 322⇑ *iP* **P 19 45 12.7 +0.3**
BELC Belle Mtn. Jos 78.31 56 P **P 19 45 13.5 +0.7**
baz=78,SNR=5.6
ARR Arges 78.36 320⇓ *iP* **P 19 45 14.3 +1.5**
SRU San Rafael 78.39 49 *eP* **P 19 45 13.9 +0.7**
SRU pmax pmax
comp=Z,25nm,0.9s
SRU San Rafael 78.39 49 *eP* **P 19 45 13.9 +0.7**
comp=Z,25nm,0.9s
F27A Lemmon 78.39 39 P **P 19 45 13.8 +0.8**
baz=78
PRD Provadia 78.43 317 *eP* **P 19 45 13.5 +0.4**
I24A Kuemmerle Ranc 78.47 42 P **P 19 45 13.8 +0.3**
baz=78
MORC Moravsky Berou 78.47 326 *eP* **P 19 45 13.6 +0.3**
MORC pmax pmax
comp=Z,231nm,1.0s
MORC Moravsky Berou 78.47 326⇑ *eP* **P 19 45 13.9 +0.6**
MORC Moravsky Berou 78.47 326 *eP* **P 19 45 13.6 +0.3**
comp=Z,231nm,1.0s
H25A Fruitdale 78.48 41 P **P 19 45 14.1 +0.7**
baz=78
G26A Maurine 78.51 40 P **P 19 45 14.4 +0.7**
baz=78,SNR=10
E28A Huff 78.54 38 P **P 19 45 15.2 +1.4**
baz=78
DPC Dobruska-Polom 78.56 327⇑ *iP* **P 19 45 14.7 +0.9**
DPC *ex* x 19 45 24.9
DPC Dobruska-Polom 78.56 327⇑ *iP* **P 19 45 14.7 +0.9**
DPC *e* 19 45 24.9
UPC Upice 78.57 328⇑ *eP* **P 19 45 14.5 +0.7**
UPC Upice 78.57 328 *eP* **P 19 45 14.5 +0.7**
KRLC Kraliky 78.57 327⇑ *iP* **P 19 45 14.5 +0.6**
KRLC Kraliky 78.57 327⇑ *iP* **P 19 45 14.5 +0.6**
RSSD Black Hills 78.60 42 *eP* **P 19 45 14.6 +0.2**
RSSD Black Hills 78.60 42 *eP* **P 19 45 14.6 +0.2**
K23A Bowen Ranch, D 78.70 44 P **P 19 45 15.1 +0.3**
baz=78
BAR Barrett 78.70 57 *eP* **P 19 45 15.7 +0.9**
comp=Z,9.2nm,1.4s
D29A Pettibone, Tap 78.72 37 P **P 19 45 14.9 +0.2**
baz=78
LOT Lotru 78.73 320⇑ *iP* **P 19 45 15.5 +0.6**
MONP Monument Peak 78.73 57 P **P 19 45 16.1 +0.9**
baz=79
IRM Iron Mountain 78.75 55 P **P 19 45 16.0 +0.8**
baz=79,SNR=8.9
C30A Mose, Pekin 78.77 36 P **P 19 45 15.3 +0.3**
baz=78
G27A Dupree 78.79 40 P **P 19 45 15.4 +0.3**
baz=79,SNR=5.2
PSZ Piszkesteto 78.81 324 *eP* **P 19 45 15.3 +0.1**
PSZ pmax pmax
comp=Z,46nm,1.1s
PSZ Piszkesteto 78.81 324⇑ *iP* **P 19 45 15.9 +0.7**
PSZ Piszkesteto 78.81 324 *eP* **P 19 45 15.3 +0.1**
comp=Z,46nm,1.1s
PSZ Piszkesteto 78.81 324⇑ *e*SKPdf **P 19 45 16.4 +1.2**
J24A Dixon Ranch, L 78.82 43 P **P 19 45 15.8 +0.4**
baz=79
I25A Rochford 78.83 42 P **P 19 45 16.5 +0.9**
baz=79,SNR=12
DEV Deva 78.85 321⇓ *iP* **P 19 45 16.4 +1.0**
BC3 Big Chuckawall 78.88 56 P **P 19 45 16.9 +1.0**
baz=79,SNR=9.1
H26A Fairpoint 78.90 41 P **P 19 45 16.2 +0.4**
baz=79
F28A McLaughlin 79.01 39 P **P 19 45 16.8 +0.5**
baz=79
O20A White River Ci 79.03 47 P **P 19 45 17.7 +0.9**
baz=79,SNR=6.6
O20A White River Ci 79.03 47 *eP* **P 19 45 17.5 +0.8**
comp=Z,22nm,1.1s
E29A Napoleon 79.05 38 P **P 19 45 16.8 +0.3**
baz=79
MVH1 Achvaich 79.07 342 *eP* **P 19 45 16.4 +0.1**
D30A Buchanan 79.08 37 P **P 19 45 17.0 +0.3**
baz=79,SNR=7.5
IBP Imperial Bould 79.09 57 P **P 19 45 18.4 +1.3**
baz=79
SWSC Sam W. Stewart 79.11 56 P **P 19 45 17.8 +0.8**
baz=79
PVCC Panska Ves 79.15 328⇑ *iP* **P 19 45 17.6 +0.7**
PVCC AMS AMS 20 22 10.0
comp=Z,500nm,16.0s
PVCC Panska Ves 79.15 328⇑ *iP* **P 19 45 17.6 +0.7**
PVCC MLR MLR
comp=Z,500nm,16.0s
K24A Anderson Ranch 79.16 43 P **P 19 45 17.6 +0.2**
baz=79
SZH Strazhica 79.16 318 *eP* **P 19 45 17.3 +0.2**
CLL Collm 79.17 330 *eP* **P 19 45 16.9 -0.1**
comp=Z,40nm,1.1s
CLL Collm 79.17 330⇑ *iP* **P 19 45 17.0 -0.1**
CLL pmax pmax
comp=Z,48nm,1.0s
CLL Collm 79.17 330 *eP* **P 19 45 16.4 -0.6**
comp=Z,50nm,0.9s
CLL Collm 79.17 330⇑ *iP* **P 19 45 17.0 -0.1**
comp=Z,48nm,1.0s
CLL *e*PP **PP 19 48 16.0 +0.2**
CLL *e*S **S 19 55 16.0 +0.2**
CLL *e*ScS **ScS 19 55 38.0 -0.7**
CLL *e*SP **SPn 19 56 00.0 +3.5**
CLL *e*SS **SS 20 00 18.0 -2.9**
CLL LmH 20 17 00.0
comp=N,300nm,19.8s
CLL LmH 20 17 00.0
comp=E,500nm,18.3s
SIRR Siria 79.18 322⇓ *iP* **P 19 45 18.0 +0.8**
J25A Sunshine Ranch 79.23 42 P **P 19 45 18.0 +0.4**
baz=79
VRAC Vranov 79.23 327⇑ *iP* **P 19 45 18.5 +1.1**
H27A Howes 79.24 40 P **P 19 45 18.5 +0.8**
baz=79,SNR=7.1
GZR Gura Zlata 79.26 321⇑ *iP* **P 19 45 18.1 +0.3**
I26A New Underwood 79.27 41 P **P 19 45 18.6 +0.7**
baz=79
PDMCI Parker Dam,Lak 79.30 54 P **P 19 45 19.4 +1.3**
baz=79
FBE Freiberg 79.33 329 *eP* **P 19 45 18.4 +0.5**
comp=Z,59nm,1.3s
JMB Yambol 79.37 317 P **P 19 45 18.5 +0.2**
JMB Yambol 79.37 317⇑ *iP* **P 19 45 18.8 +0.5**
JMB Yambol 79.37 317 P **P 19 45 18.5 +0.2**
JMB Yambol 79.37 317 P **P 19 45 18.5 +0.2**
Y12C Blythe 79.41 55 P **P 19 45 20.4 +1.7**
baz=79,SNR=7.4
E30A Jud 79.45 37 P **P 19 45 19.2 +0.5**
baz=79
SMOL Smolenice 79.47 326 *eP* **P 19 45 20.3 +1.6**
SMOL Smolenice 79.47 326 *eP* **P 19 45 20.3 +1.6**
F29A Eureka 79.49 38 P **P 19 45 19.3 +0.3**
baz=79
G28A Parade 79.51 39 P **P 19 45 19.6 +0.5**
baz=79
AGMN Agassiz Nation 79.51 35 P **P 19 45 18.7 -0.3**
baz=79,SNR=5.4
AGMN Agassiz Nation 79.51 35 *eP* **P 19 45 18.2 -0.8**
comp=Z,24nm,1.3s
BUD Budapest 79.52 324⇑ *eP* **P 19 45 20.1 +1.1**
GOPC GO Pecny, Ondr 79.53 328⇑ *eP* **P 19 45 19.7 +0.6**
GOPC AMS AMS 20 23 10.0
comp=Z,500nm,16.4s
RAYN Ar Rayn 79.54 292 *eP* **P 19 45 19.6 0.0**
comp=Z,43nm,1.4s
PRA Prague 79.56 328⇑ *iP* **P 19 45 19.8 +0.6**
PRA AMS AMS 20 22 10.0
comp=Z,600nm,21.8s
PRA Prague 79.56 328⇑ *iP* **P 19 45 19.8 +0.6**
PRA MLR MLR
comp=Z,600nm,21.8s
PKSN Nyarlorinc 79.57 323⇓ *eP* **P 19 45 20.8 +1.5**
PRU Pruhonice 79.58 328⇑ *iP* **P 19 45 19.8 +0.5**
PRU AMS AMS 20 21 50.0
comp=Z,400nm,20.8s
PRU Pruhonice 79.58 328⇑ *iP* **P 19 45 19.8 +0.5**
PRU MLR MLR
comp=Z,400nm,20.8s
I27A Quinn 79.65 41 P **P 19 45 21.1 +1.2**
baz=80
J26A Sides Ranch, S 79.66 42 P **P 19 45 21.0 +1.0**
baz=80
GLA Glamis 79.67 56 P **P 19 45 21.6 +1.5**
baz=80
BZS Buzias 79.67 322⇑ *iP* **P 19 45 20.2 +0.3**
EDRB Edirne 79.71 316 P **P 19 45 20.1 -0.1**
EDRB Edirne 79.71 316 P **P 19 45 20.1 -0.1**
TREC Trest 79.71 327⇑ *iP* **P 19 45 20.6 +0.5**
TREC AMS AMS 20 23 00.0
comp=Z,400nm,16.0s
TREC Trest 79.71 327⇑ *iP* **P 19 45 20.6 +0.5**
TREC MLR MLR
comp=Z,400nm,16.0s
KAC Achnashellach 79.72 342 *eP* **P 19 45 20.1 +0.2**
NEUB Neuenburg 79.73 330 *eP* **P 19 45 20.1 +0.1**
comp=Z,55nm,1.1s
K25A Mack Ranch, Ha 79.73 43 P **P 19 45 21.2 +0.8**
baz=80
H28A Mission Ridge 79.74 40 P **P 19 45 21.2 +0.8**
baz=80,SNR=5.6
CLZ Clausthal 79.75 331 *eP* **P 19 45 20.7 +0.4**
comp=Z,66nm,1.3s
PKS7 Kunszentmiklos 79.78 324⇓ *eP* **P 19 45 21.7 +1.3**
PHWY Pilot Hill 79.79 45 *eP* **P 19 45 21.2 +0.2**
comp=Z,15nm,1.1s
N23A Red Feather La 79.80 45 P **P 19 45 22.2 +1.1**
baz=80,SNR=16
PV04 Paradox Valley 79.81 49 *eP* **P 19 45 22.7 +1.7**
F30A Leola 79.88 38 P **P 19 45 21.5 +0.5**
baz=80
PKSG 79.88 324⇓ *eP* **P 19 45 22.2 +1.2**
KPL Plockton 79.94 342 *eP* **P 19 45 21.7 +0.6**
KPL AMB AMB 19 45 23.1
comp=Z,156nm,2.9s
CSKK Cs˘ˇkako 79.96 324⇑ *eP* **P 19 45 22.0 +0.6**
L25A Engebretsen Ra 80.00 43 P **P 19 45 22.8 +0.9**
baz=80
KSB Sheil Bridge 80.01 342 *eP* **P 19 45 21.9 +0.4**
K26A Motz Farm, Whi 80.04 42 P **P 19 45 22.7 +0.6**
baz=80
TANN Tannenbergstha 80.08 329 *eP* **P 19 45 22.3 +0.2**
comp=Z,15nm,1.2s
WERD Werda 80.12 330 *eP* **P 19 45 22.5 +0.2**
comp=Z,22nm,1.2s
PKST T˘s 80.14 325⇓ *eP* **P 19 45 23.2 +0.8**
PLN Plauen 80.15 330 *eP* **P 19 45 22.7 +0.3**
comp=Z,31nm,1.4s
I28A Midland 80.15 40 P **P 19 45 23.3 +0.8**
baz=80,SNR=8.6
PKS2 Kecel 80.17 323⇓ *eP* **P 19 45 23.3 +0.8**
GUNZ Gunzen 80.17 329 *eP* **P 19 45 22.8 +0.2**
H29A Onida 80.18 39 P **P 19 45 23.3 +0.6**
baz=80
WERN Wernitzgruen 80.22 329 *eP* **P 19 45 23.1 +0.3**
comp=Z,29nm,1.1s
NKC Novy Kostel 80.23 329⇑ *iP* **P 19 45 23.2 +0.3**
NKC Novy Kostel 80.23 329⇑ *iP* **P 19 45 23.2 +0.3**
MPEP Malo Peshtene 80.23 319 *eP* **P 19 45 23.6 +0.6**
MOX Moxa 80.23 330 *eP* **P 19 45 23.0 +0.2**
comp=Z,25nm,1.2s
MOX *e*L L 20 23 45.0
comp=Z,254nm,19.3s
WUAZ Wupatki 80.24 52 P **P 19 45 25.1 +1.8**
baz=80,SNR=5.7
WUAZ Wupatki 80.24 52 *eP* **P 19 45 24.7 +1.3**
comp=Z,44nm,1.3s
J27A Elkhorn Farm, 80.26 41 P **P 19 45 24.0 +0.8**
baz=80
IBBN Ibbenburen 80.33 333 *eP* **P 19 45 23.3 0.0**
comp=Z,49nm,1.0s
G30A Faulkton 80.33 38 P **P 19 45 23.8 +0.2**
baz=80,SNR=10
SMCO Snowmass 80.40 47 *eP* **P 19 45 25.0 +0.6**
comp=Z,23nm,1.1s
ESY Stoneypath 80.45 340 *eP* **P 19 45 24.1 +0.1**
M25A Palm-Egli Farm 80.46 44 P **P 19 45 26.1 +1.7**
baz=80
SOP Sopron 80.48 326⇑ *eP* **P 19 45 25.6 +1.4**
K27A Flueckinger Fa 80.53 42 P **P 19 45 25.1 +0.4**
baz=80
J28A Allard Ranch, 80.53 41 P **P 19 45 25.9 +1.2**
baz=80,SNR=6.3
CSS Prodhromos 80.53 307 *eP* **P 19 45 23.9 -0.9**
CSS Prodhromos 80.53 307 P **P 19 45 24.1 -0.6**

PKS9 **Tamasi** 80.53 324⇓ *eP* P 19 45 25.0 +0.5
L26A **Underwood Farm** 80.56 43 P P 19 45 26.2 +1.3
baz=80
KDZ **Kurdzhali** 80.56 317⇑ *iP* P 19 45 25.8 +1.0
MANZ **Manzenberg** 80.56 329 *eP* P 19 45 24.9 +0.3
comp=Z,36nm,1.0s
I29A **Vivian Onida** 80.57 40 P P 19 45 25.4 +0.6
baz=80
PGB **Panagyurishte** 80.58 318 *eP* P 19 45 25.6 +0.7
CONA **Conrad Observa** 80.60 326 *iP* P 19 45 25.9 +1.0
comp=Z,30nm,1.0s,SNR=29
PLD **Plovdiv** 80.62 317 *eP* P 19 45 24.8 -0.2
KHC **Kasperske Hory** 80.64 328⇑ *eP* P 19 45 25.5 +0.4
KHC AMS AMS 20 23 50.0
comp=Z,500nm,17.8s
KHC **Kasperske Hory** 80.64 328 *eP* P 19 45 25.5 +0.4
KHC MLR MLR
comp=Z,500nm,17.8s
KHC MLR MLR
comp=E,400nm,16.0s
KHC **Kasperske Hory** 80.64 328 *eP* P 19 45 24.9 -0.2
comp=E,14nm,0.9s
PKSM **Moragy** 80.64 323⇓ *iP* P 19 45 25.3 +0.2
ROTZ **Rotzenmuhle** 80.69 329 *eP* P 19 45 26.1 +0.8
comp=Z,30nm,1.2s
UBBA **Unterbreizbach** 80.71 331 *eP* P 19 45 25.4 +0.1
comp=Z,58nm,1.9s
ISCO **Idaho Springs** 80.74 46 *eP* P 19 45 27.1 +0.9
ISCO pmax pmax
comp=Z,12nm,1.0s
ISCO **Idaho Springs** 80.74 46 P P 19 45 27.3 +1.2
baz=81,SNR=12
ISCO **Idaho Springs** 80.74 46 *eP* P 19 45 27.1 +0.9
comp=Z,12nm,1.0s
ALN **Alexandroupoli** 80.75 316 P P 19 45 25.4 -0.3
ALN **Alexandroupoli** 80.75 316 P P 19 45 25.4 -0.3
ALN **Alexandroupoli** 80.75 316 P P 19 45 25.4 -0.3
GEC2 **GERESS Array S** 80.81 328 *eP* P 19 45 26.0 0.0
comp=Z,18nm,1.1s
GERES **GERESS Array B** 80.81 328 P P 19 45 26.1 0.0
comp=Z,11nm,0.9s,baz=35,slow=4.9,SNR=66
GERES LR LR 20 22 55.6
comp=Z,416nm,21.9s,baz=34,slow=37
MVCO **Mesa Verde** 80.85 49 P P 19 45 27.9 +1.1
baz=81,SNR=8.7
MVCO **Mesa Verde** 80.85 49 *eP* P 19 45 27.8 +1.1
comp=Z,78nm,1.8s
RDO **Rodhopi** 80.85 316 *eP* P 19 45 26.7 +0.5
comp=Z,86nm,1.0s
RDO **Rodhopi** 80.85 316 P P 19 45 26.4 +0.1
RZN **Rozhen** 80.91 317 *eP* P 19 45 27.4 +0.6
WET **Wettzell** 80.91 328 *eP* P 19 45 27.1 +0.6
comp=Z,30nm,1.2s
KULA **Kula-Manisa** 80.93 313 P P 19 45 22.8 -4.1
KULA **Kula-Manisa** 80.93 313 P P 19 45 22.8 -4.1
WTSB **Winterswijk** 80.95 333 *eP* P 19 45 26.4 -0.2
comp=Z,36nm,1.0s
K28A **Ten Mile Ranch** 80.97 41 P P 19 45 28.1 +1.0
baz=81
J29A **Okreek** 81.00 40 P P 19 45 27.7 +0.6
baz=81
PGBU **Glenifferbraes** 81.03 341 *eP* P 19 45 27.0 0.0
PGBU AMB AMB 19 45 28.7
comp=Z,75nm,2.6s
VTS **Vitosha** 81.05 319 P P 19 45 27.8 +0.2
VTS **Vitosha** 81.05 319⇑ *iP* P 19 45 28.4 +0.8
VTS **Vitosha** 81.05 319 *eP* P 19 45 27.9 +0.3
VTS **Vitosha** 81.05 319 P P 19 45 27.8 +0.2
VTS **Vitosha** 81.05 319 P P 19 45 27.8 +0.2
I30A **Oacoma** 81.08 39 P P 19 45 27.8 +0.2
baz=81
ESK **Eskdalemuir** 81.14 340 *iP* P 19 45 29.2 +1.6
GRF **Grafenberg Arr** 81.14 330 *eP* P 19 45 28.4 +0.6
comp=Z,76nm,1.3s
GRF *eL* L 20 22 53.0
comp=Z,301nm,19.3s
GRFO **Grafenberg** 81.15 330 *eP* P 19 45 27.9 +0.1
GRFO pmax pmax
comp=Z,52nm,0.9s
GRFO **Grafenberg** 81.15 330 *eP* P 19 45 27.9 +0.1
comp=Z,52nm,0.9s
BUG **Bochum-Univer** 81.21 333 *eP* P 19 45 27.9 -0.1
comp=Z,42nm,1.2s
ARSA **Arzberg** 81.26 326 *iP* P 19 45 29.1 +0.6
comp=Z,16nm,0.9s,SNR=13
M27A **Reverse DX Ran** 81.28 43 P P 19 45 29.6 +0.9
baz=81
N26A **Koester Ranch,** 81.33 44 P P 19 45 29.5 +0.4
baz=81
MOA **Molln** 81.34 327 *iP* P 19 45 29.4 +0.5
comp=Z,18nm,1.4s,SNR=7.9
L28A **Connealy Angus** 81.39 42 P P 19 45 30.0 +0.7
baz=81
S22A **4UR Ranch, Cre** 81.46 48 P P 19 45 31.5 +1.5
baz=81,SNR=11
K29A **Lazy Trails An** 81.47 41 P P 19 45 30.7 +1.1
baz=81
J30A **Dallas** 81.48 40 P P 19 45 30.3 +0.7
baz=81
MMB **Musomiste** 81.50 318⇑ *iP* P 19 45 30.4 +0.6
MMB **Musomiste** 81.50 318 *eP* P 19 45 30.3 +0.5
KAVA **Kavala** 81.50 317 P P 19 45 29.1 -0.7
KAVA **Kavala** 81.50 317 P P 19 45 29.1 -0.7
W18A **Petrified Fore** 81.51 51 P P 19 45 31.5 +1.3
baz=81
DIVS **Divibare** 81.57 321⇑ *iP* P 19 45 30.5 +0.3
DIVS **Divibare** 81.57 321 P P 19 45 28.7 -1.5
Q24A **Divide** 81.58 46 P P 19 45 31.6 +1.0
baz=81
NVR **Nevrokopi** 81.60 317 P P 19 45 30.2 -0.1
NVR **Nevrokopi** 81.60 317 P P 19 45 30.2 -0.1
KKB **Krupnik** 81.64 318 *eP* P 19 45 31.0 +0.5
EYMN **Ely** 81.67 33 P P 19 45 30.6 +0.1
baz=81,SNR=7.3
214A **Organ Pipe Nat** 81.67 56 P P 19 45 31.9 +1.0
baz=82
O26A **Horse Wrangler** 81.69 44 P P 19 45 31.9 +0.9
baz=82,SNR=6.2
N27A **Anderson Farm,** 81.71 43 P P 19 45 32.0 +1.0
baz=82
KESW **Keswick, Cumbr** 81.76 340 *eP* P 19 45 31.4 +0.5
TAU **Tasmania Unive** 81.77 175 P P 19 45 31.8 +1.0
TAU **Tasmania Unive** 81.77 175 P P 19 45 31.8 +1.0
TNS **Taunus Mts** 81.78 331 *eP* P 19 45 31.3 +0.1
comp=Z,29nm,1.2s
OGNE **Ogallala** 81.88 43 P P 19 45 32.3 +0.4
baz=82
K30A **Basset** 81.89 40 P P 19 45 32.1 +0.2
baz=82
L29A **Maesberg Ranch** 81.89 41 P P 19 45 32.6 +0.6
baz=82
SRS **Serrai** 81.91 317 P P 19 45 31.6 -0.3
SRS **Serrai** 81.91 317 P P 19 45 31.6 -0.3
SRS **Serrai** 81.91 317 P P 19 45 31.6 -0.3
M28A **Bar X Bar Ranc** 81.91 42 P P 19 45 32.7 +0.6
baz=82
HPK **Haverah Park** 81.91 339 *eP* P 19 45 31.9 +0.2
HPK AMB AMB 19 45 33.2
comp=Z,76nm,3.0s
PERS **Pernice** 81.91 326 *iP* P 19 45 32.1 +0.2
SOKA **Soboth** 81.92 326 *iP* P 19 45 32.3 +0.3
comp=Z,50nm,1.1s,SNR=39
RJOB **Jochberg** 82.05 328 *eP* P 19 45 33.2 +0.6
comp=Z,59nm,1.0s
P26A **Davis Ranch, A** 82.16 45 P P 19 45 34.2 +0.7
baz=82
O27A **Beecher Island** 82.18 44 P P 19 45 33.8 +0.3
baz=82
SDCO **Great Sand Dun** 82.22 47 P P 19 45 34.7 +0.7
baz=82,SNR=14
SDCO **Great Sand Dun** 82.22 47 *eP* P 19 45 34.8 +0.7
comp=Z,9.9nm,1.0s
KNT **Kendrikon** 82.24 318 P P 19 45 32.3 -1.4
KNT **Kendrikon** 82.24 318 P P 19 45 32.3 -1.4
KNT **Kendrikon** 82.24 318 P P 19 45 32.3 -1.4
HGN **Heimansgroeve** 82.25 333 *eP* P 19 45 33.2 -0.3
comp=Z,46nm,1.2s
OBKA **Obir** 82.26 326 *iP* P 19 45 33.8 0.0
comp=Z,16nm,1.1s,SNR=11
VAY **Valandovo** 82.30 318⇑ *iP* P 19 45 34.9 +0.9
VAY **Valandovo** 82.30 318 P P 19 45 34.0 +0.1
VAY **Valandovo** 82.30 318 P P 19 45 34.0 +0.1
VAY **Valandovo** 82.30 318 P P 19 45 34.0 +0.1
BEBN **Eben Emael** 82.31 333 P P 19 45 33.7 -0.1
N28A **Pribbeno Ranch** 82.33 43 P P 19 45 34.5 +0.2
baz=82

KBA **Koelnbreinsper** 82.34 327 *iP* P 19 45 34.5 +0.2
comp=Z,65nm,1.2s,SNR=33
FUR **Furstenfeldbru** 82.34 329 *eP* P 19 45 34.4 +0.3
comp=Z,96nm,1.0s
LHO **Holmfirth** 82.34 339 *eP* P 19 45 33.5 -0.5
MEM **Membach** 82.35 333 P P 19 45 33.8 -0.2
MEM **Membach** 82.35 333 *eP* P 19 45 34.3 +0.2
MEM pmax pmax
comp=Z,47nm,1.0s
MEM **Membach** 82.35 333 *eP* P 19 45 34.2 +0.2
comp=Z,47nm,1.0s
L30A **Spencer Herefo** 82.36 41 P P 19 45 34.8 +0.4
baz=82
SKO **Skopje** 82.41 319⇑ *eP* P 19 45 35.8 +1.3
PLE **Pljevlja** 82.43 321⇑ *iP* P 19 45 35.5 +0.7
KBI1 **Birley Grange** 82.50 338 *eP* P 19 45 34.0 -0.9
Q26A **Hugo** 82.51 45 P P 19 45 35.9 +0.6
baz=82
PLG **Polygyros** 82.52 317 P P 19 45 33.8 -1.4
PLG **Polygyros** 82.52 317 P P 19 45 33.8 -1.4
PLG **Polygyros** 82.52 317 P P 19 45 33.8 -1.4
IVA **Berane** 82.52 321⇑ *iP* P 19 45 35.9 +0.7
MYKA **Terra Mystica** 82.56 326 *iP* P 19 45 35.0 -0.4
comp=Z,26nm,1.2s,SNR=13
P27A **Ficken Ranch,** 82.58 44 P P 19 45 36.2 +0.5
baz=82
ECSD **EROS Data Cent** 82.59 38 P P 19 45 35.3 -0.1
baz=82,SNR=18
ECSD **EROS Data Cent** 82.59 38 *eP* P 19 45 35.4 -0.1
comp=Z,19nm,0.9s
M30A **Dale-Ortello V** 82.59 41 P P 19 45 35.9 +0.3
baz=82
O28A **Krutsinger Ran** 82.61 43 P P 19 45 36.3 +0.6
baz=82
LJU **Ljubljana** 82.63 326 *iP* P 19 45 35.3 -0.4
GRG **Griva** 82.65 318 P P 19 45 32.6 -3.2
GRG **Griva** 82.65 318 P P 19 45 32.6 -3.2
GRG **Griva** 82.65 318 P P 19 45 32.6 -3.2
L31A **Butterfield Fa** 82.65 40 P P 19 45 36.4 +0.6
baz=82
STU **Stuttgart** 82.68 330 *eP* P 19 45 35.9 +0.1
comp=Z,46nm,0.9s
STU **Stuttgart** 82.68 330 *eP* P 19 45 36.1 +0.3
STU pmax pmax
comp=Z,45nm,1.0s
STU **Stuttgart** 82.68 330 *eP* P 19 45 36.0 +0.3
comp=Z,45nm,1.0s
VISS **Visnje** 82.68 325⇑ *iP* P 19 45 35.4 -0.5
PVY **Plav** 82.69 320 *eP* P 19 45 36.2 0.0
TUC **Tucson** 82.73 54 *eP* P 19 45 37.3 +0.8
TUC **Tucson** 82.73 54 *eP* P 19 45 37.3 +0.8
BCLA **Clavier** 82.76 333 P P 19 45 35.6 -0.6
comp=Z,15nm,1.3s
UPM **Unac-Piva** 82.76 321⇑ *iP* P 19 45 36.4 -0.2
GMM **Mts of Mourne** 82.82 341 *eP* P 19 45 36.5 +0.1
CADS **Cadrg** 82.83 326 *iP* P 19 45 35.5 -1.3
WATA **Walderalm** 82.88 328⇑ *iP* P 19 45 37.2 +0.1
comp=Z,15nm,0.8s,SNR=11
WTTA **Wattenberg** 82.91 328 *i* PcP P 19 45 37.5 +0.3
comp=Z,32nm,0.9s,SNR=19
KSCO **Kaye Shedlock'** 82.94 45 P P 19 45 38.6 +1.0
baz=83
KSCO **Kaye Shedlock'** 82.94 45 P P 19 45 38.0 +0.5
ABTA **Abfaltersbach** 82.95 327⇑ *iP* P 19 45 36.5 -0.8
comp=Z,25nm,1.0s,SNR=14
R26A **Arlington** 82.99 46 P P 19 45 38.1 +0.3
baz=83,SNR=8.4
NKY **Niksic** 83.01 321⇑ *iP* P 19 45 37.6 -0.2
P28A **Saint Francis** 83.01 44 P P 19 45 38.4 +0.5
baz=83,SNR=5.3
SNF **Seneffe** 83.04 334 P P 19 45 37.5 -0.1
MOTA **Moosalm** 83.06 328 *iP* P 19 45 38.2 +0.1
comp=Z,41nm,1.0s,SNR=37
NKME **Niksic** 83.06 321⇑ *iP* P 19 45 38.1 +0.1
WLF **Walferdange** 83.08 332 P P 19 45 38.1 +0.2
WLF **Walferdange** 83.08 332 *eP* P 19 45 37.7 -0.2
WLF pmax pmax
comp=Z,141nm,2.1s
WLF **Walferdange** 83.08 332 *eP* P 19 45 37.6 -0.2
comp=Z,141nm,2.1s
RETA **Reutte** 83.09 329 *i* PcP P 19 45 38.5 +0.4
comp=Z,55nm,0.9s,SNR=41
PHP **Peshkopia** 83.12 319 P P 19 45 37.6 -0.7
PHP **Peshkopia** 83.12 319 P P 19 45 37.6 -0.7
PHP **Peshkopia** 83.12 319 P P 19 45 37.6 -0.7
BRY **Bratogost** 83.17 321⇑ *iP* P 19 45 37.9 -0.7
TTG **Podgorica** 83.17 321⇑ *iP* P 19 45 38.2 -0.2
SPMN **St. Paul** 83.22 35 P P 19 45 39.2 +0.5
baz=83
LIT **Litokhoron** 83.22 317 P P 19 45 38.1 -0.7
LIT **Litokhoron** 83.22 317 P P 19 45 38.1 -0.7
LIT **Litokhoron** 83.22 317 P P 19 45 38.1 -0.7
TRI **Trieste** 83.23 326 *eP* P 19 45 37.3 -1.4
TRI pmax pmax
comp=Z,34nm,1.0s
TRI **Trieste** 83.23 326 *eP* P 19 45 37.3 -1.4
comp=Z,34nm,1.0s
T25A **Trinidad** 83.27 47 P P 19 45 40.7 +1.3
baz=83,SNR=11
DOU **Dourbes** 83.28 333 P P 19 45 38.6 -0.3
FOEL **Foel Wylfa** 83.30 339 *eP* P 19 45 39.4 +0.5
FOEL AMB AMB 19 45 42.1
comp=Z,66nm,0.9s
FNA **Florina** 83.31 318 P P 19 45 38.2 -1.1
FNA **Florina** 83.31 318 P P 19 45 38.2 -1.1
FNA **Florina** 83.31 318 P P 19 45 38.2 -1.1
Q28A **Sharon Springs** 83.34 44 P P 19 45 40.2 +0.6
baz=83
R27A **Eads** 83.36 45 P P 19 45 40.5 +0.8
baz=83
OHR **Ohrid** 83.36 319⇑ *iP* P 19 45 38.4 -1.2
BFO **Black Forest** 83.37 330 *eP* P 19 45 39.7 +0.3
comp=Z,49nm,1.2s
BFO **Black Forest** 83.37 330 *iP* P 19 45 39.7 +0.3
BFO **Black Forest** 83.37 330 *eP* P 19 45 39.4 -0.1
comp=Z,38nm,1.0s
XOR **Xorichti** 83.37 316 P P 19 45 36.8 -2.8
XOR **Xorichti** 83.37 316 P P 19 45 36.8 -2.8
DRME **Dracevica, Mon** 83.38 320⇑ *iP* P 19 45 39.9 +0.3
BUM **Brajici-Budva** 83.44 321⇑ *iP* P 19 45 39.5 -0.5
FETA **Feichten** 83.48 328 *i* PcP P 19 45 40.4 +0.2
comp=Z,37nm,0.9s,SNR=16
ULC **Ulcinj** 83.52 320⇑ *iP* P 19 45 40.0 -0.3
SCHQ **Schefferville** 83.52 16 P P 19 45 39.8 -0.3
comp=Z,8.4nm,0.7s,baz=350,slow=6.2,SNR=12
SCHQ LR LR 20 25 21.9
comp=Z,159nm,21.7s,baz=348,slow=38
HCY **Herceg Novi** 83.53 321⇑ *iP* P 19 45 39.7 -0.6
LAZ **Ladron** 83.56 51 *eP* P 19 45 41.6 +0.7
comp=Z,6.6nm,0.6s
N31A **Bailey Ranch,** 83.58 41 P P 19 45 41.3 +0.6
baz=83
ANMO **Albuquerque** 83.60 50*c* *iP* P 19 45 42.4 +1.3
ANMO pmax pmax
comp=Z,99nm,1.2s
ANMO **Albuquerque** 83.60 50 *eP* P 19 45 42.3 +1.2
comp=Z,21nm,1.1s
DAVA **Damuels** 83.61 329 *iP* P 19 45 40.6 -0.2
comp=Z,54nm,0.9s,SNR=21
TIR **Tirane** 83.66 320 *eP* P 19 45 40.9 -0.1
TIR pmax pmax
comp=Z,57nm,0.8s
TIR **Tirane** 83.66 320 *eP* P 19 45 40.9 -0.1
comp=Z,58nm,0.8s
T26A **Comanche Natio** 83.70 46 P P 19 45 42.3 +0.7
baz=84,SNR=14
SMIA **Simia** 83.72 316 P P 19 45 39.8 -1.6
KBN **Korca** 83.73 319 P P 19 45 40.8 -0.7
KBN **Korca** 83.73 319 P P 19 45 40.8 -0.7
KBN **Korca** 83.73 319 P P 19 45 40.8 -0.7
S27A **Las Animas** 83.73 46 P P 19 45 42.6 +0.9
baz=84
NEST **Nestorio** 83.75 318 P P 19 45 40.6 -1.0
URZ **Urewera** 83.80 152 *eP* P 19 45 39.5 -1.9
comp=Z,21nm,0.9s
P30A **Selden** 83.84 43 P P 19 45 42.7 +0.7
baz=84
O31A **Woolen Ranch,** 83.88 42 P P 19 45 42.2 0.0
baz=84
ECH **Echery** 83.91 331 *eP* P 19 45 41.8 -0.4
ECH pmax pmax
comp=Z,19nm,0.9s
ECH **Echery** 83.91 331 *eP* P 19 45 41.8 -0.4
comp=Z,19nm,0.9s
M33A **Taylor Creek F** 83.92 40 P P 19 45 42.4 +0.1
baz=84
Q29A **Oakley** 83.92 44 P P 19 45 42.9 +0.4
baz=84
LPM **Los Pinos Moun** 83.93 50 *eP* P 19 45 43.7 +0.9
comp=Z,6.1nm,1.0s
ATAL **Atalanti** 83.95 316 P P 19 45 40.8 -1.8
ATAL **Atalanti** 83.95 316 P P 19 45 40.8 -1.8
N32A **Stulken Farm,** 83.96 41 P P 19 45 42.8 +0.1
baz=84
FUORN **Ofenpass-Fuorn** 83.99 328 *eP* P 19 45 43.4 +0.5
comp=Z,89nm,0.9s
LKR **Lokris** 83.99 316 P P 19 45 41.0 -1.8
LKR **Lokris** 83.99 316 P P 19 45 41.0 -1.8
L34A **Svendsen Farm,** 84.03 39 P P 19 45 43.3 +0.4
baz=84
AXAR **Agios Charalam** 84.09 316 P P 19 45 42.1 -1.2
AXAR **Agios Charalam** 84.09 316 P P 19 45 42.1 -1.2
MONM **Monmouth** 84.12 338 *eP* P 19 45 42.6 -0.5
MONM AMB AMB 19 45 44.6
comp=Z,61nm,2.7s
R29A **Marienthal** 84.17 44 P P 19 45 44.2 +0.4
baz=84
Q30A **Quinter** 84.27 43 P P 19 45 44.4 +0.1
baz=84
T27A **Campo** 84.27 46 P P 19 45 45.5 +1.0
baz=84
M34A **Aspy Farms, Fr** 84.28 40 P P 19 45 44.8 +0.6
baz=84
P31A **Stockton** 84.32 42 P P 19 45 44.7 +0.2
baz=84
S28A **Manter** 84.36 45 P P 19 45 46.2 +1.4
baz=84
BKZ **Black Stump Fm** 84.38 153 *eP* P 19 45 45.6 +1.1
comp=Z,17nm,0.9s
N33A **J Bar K, Exete** 84.41 41 P P 19 45 45.7 +0.8
baz=84
121A **Cookes Peak, D** 84.45 52 P P 19 45 46.4 +0.9
baz=84,SNR=12
121A **Cookes Peak, D** 84.45 52 *eP* P 19 45 46.5 +1.1
comp=Z,28nm,1.1s
TUE **Stuetta** 84.48 329 *eP* P 19 45 44.9 -0.4
comp=Z,362nm,0.4s
CBKS **Cedar Bluff** 84.64 43 P P 19 45 46.4 +0.2
baz=84
KALE **Kalithea** 84.64 316 P P 19 45 44.4 -1.8
KALE **Kalithea** 84.64 316 P P 19 45 44.4 -1.8
P32A **Huiting Farm,** 84.65 42 P P 19 45 46.3 +0.2
baz=84
DSL **Palaion Diasel** 84.66 317 P P 19 45 43.7 -2.5
DSL **Palaion Diasel** 84.66 317 P P 19 45 43.7 -2.5
SRN **Sarande** 84.68 318 P P 19 45 45.3 -0.9
SRN **Sarande** 84.68 318 P P 19 45 45.3 -0.9
Q31A **Ellis** 84.69 43 P P 19 45 47.0 +0.7
baz=84
ZKR **Zakros** 84.70 312 P P 19 45 45.5 -0.9
ZKR **Zakros** 84.70 312 P P 19 45 45.5 -0.9
M35A **Neola** 84.74 39 P P 19 45 47.3 +0.7
baz=84
R30A **Dighton** 84.74 44 P P 19 45 46.6 -0.1
baz=85
EFP **Efpalio** 84.75 316 P P 19 45 44.7 -1.9
SGD **Sagiada** 84.76 318 P P 19 45 45.2 -1.4
S29A **Ulysses** 84.76 45 P P 19 45 47.1 +0.3
baz=85
IGT **Igoumenitsa** 84.77 318 P P 19 45 45.8 -0.9
IGT **Igoumenitsa** 84.77 318 P P 19 45 45.8 -0.9
IGT **Igoumenitsa** 84.77 318 P P 19 45 45.8 -0.9
N34A **Lincoln** 84.81 40 P P 19 45 47.0 +0.1
baz=85
O33A **Hebron** 84.84 41 P P 19 45 47.3 +0.2
baz=85
LAKA **Lakka** 84.84 316 P P 19 45 45.7 -1.4
LAKA **Lakka** 84.84 316 P P 19 45 45.7 -1.4
GUR **Goura** 84.87 316 P P 19 45 45.2 -2.2
GUR **Goura** 84.87 316 P P 19 45 45.2 -2.2
KLV **Kalavryta, Ach** 84.89 316 P P 19 45 45.3 -2.1
KLV **Kalavryta, Ach** 84.89 316 P P 19 45 45.3 -2.1
KEK **Kerkira** 84.91 318 P P 19 45 45.6 -1.8
KEK **Kerkira** 84.91 318 P P 19 45 45.6 -1.8
T29A **Hugoton** 85.00 45 P P 19 45 48.7 +0.7
baz=85
U28A **Mallet** 85.04 46 P P 19 45 48.9 +0.6
baz=85
LAST **Lasithi** 85.09 312 P P 19 45 47.1 -1.4
LAST **Lasithi** 85.09 312 P P 19 45 47.1 -1.4
S30A **Montezuma** 85.11 44 P P 19 45 49.0 +0.5
baz=85
Q32A **Meitler Ranch,** 85.14 42 P P 19 45 48.5 -0.1
baz=85
V27A **Dan Oppiter Fa** 85.14 47 P P 19 45 49.4 +0.6
baz=85
R31A **Burdett** 85.14 43 P P 19 45 48.6 0.0
baz=85
LKD2 **Lefkada island** 85.14 317 P P 19 45 46.4 -2.2
LKD2 **Lefkada island** 85.14 317 P P 19 45 46.4 -2.2
DRO **Drossia** 85.20 316 P P 19 45 47.0 -1.9
O34A **Beatrice** 85.21 40 P P 19 45 48.6 -0.4
baz=85
N35A **Tabor** 85.22 39 P P 19 45 49.5 +0.5
baz=85
RLS **Riolos of Patr** 85.25 316 P P 19 45 48.1 -1.0
RLS **Riolos of Patr** 85.25 316 P P 19 45 48.1 -1.0
P33A **Williams Farm,** 85.26 42 P P 19 45 49.2 0.0
baz=85
PMOR **Pomariorio Ree** 85.34 113 *eT* T 21 19 21.7
comp=Z,64nm,0.2s
SENIN **Lac Senin/Sane** 85.39 330 *eP* P 19 45 49.7 -0.2
comp=Z,17nm,0.8s
V28A **Channing** 85.49 47 P P 19 45 51.1 +0.6
baz=85
T30A **Plains** 85.50 45 P P 19 45 51.1 +0.6
baz=85
Q33A **Connelly Farm,** 85.51 42 P P 19 45 50.5 +0.1
baz=85,SNR=7.7
U29A **Oasis Ranch, S** 85.52 46 P P 19 45 51.3 +0.7
baz=85
O35A **Humboldt** 85.54 40 P P 19 45 51.6 +1.1
baz=85
SCIA **State Center** 85.60 37 *eP* P 19 45 51.1 +0.3
comp=Z,36nm,0.8s
P34A **Walnut Farm, R** 85.62 41 P P 19 45 51.2 +0.2
baz=85
ITM **Ithomi** 85.64 316 P P 19 45 49.0 -2.1
ITM **Ithomi** 85.64 316 P P 19 45 49.0 -2.1
BFZ **Birch Farm** 85.65 154 *eP* P 19 45 53.3 +2.6
comp=Z,32nm,0.9s
S31A **Mullinville** 85.65 44 P P 19 45 51.7 +0.5
baz=86
DYA **Yadsworthy** 85.70 338 *eP* P 19 45 50.8 -0.3
DYA AMB AMB 19 45 53.6
comp=Z,60nm,2.1s
V29A **Stinnett** 85.80 46 P P 19 45 52.8 +0.8
baz=86
PPT **Papeete** 85.88 116 LR LR 20 16 56.4
comp=Z,149nm,22.0s,baz=356,slow=30
S32A **Cowby Ranch, P** 85.89 43 P P 19 45 52.6 +0.3
baz=86
PPT2 **Papeete2** 85.89 116 *eLR* LR 20 12 50.6
comp=Z,716nm,24.5s,baz=290
PPT2 **Papeete2** 85.89 116 *eT* T 21 20 03.6
comp=Z,16nm,0.3s
DAMY **Dhamar** 85.92 285 *eP* P 19 45 54.0 +0.8
comp=Z,70nm,1.1s
T31A **Randall Ranch,** 85.93 44 P P 19 45 53.0 +0.4
baz=86
PAE **Paea** 85.94 116 *eT* T 21 20 06.5
comp=Z,3.4nm,0.3s
R33A **Olander Ranch,** 85.94 42 P P 19 45 53.0 +0.3
baz=86
AQU **L'Aquila** 86.02 324 *eP* P 19 45 53.1 +0.2
AQU **L'Aquila** 86.02 324⇓ *iP* P 19 45 53.7 +0.8
AQU **L'Aquila** 86.02 324 *eP* P 19 45 53.1 +0.2
Q34A **Chapman** 86.03 41 P P 19 45 53.3 +0.2
baz=86
TIAR **Tiarei** 86.03 116 *eT* T 21 20 13.3
comp=Z,7.1nm,0.3s
P35A **Duane Minner,** 86.04 41 P P 19 45 53.6 +0.6
baz=86
KSU1 **Kansas State U** 86.06 41 P P 19 45 53.3 +0.1
baz=86
O36A **Bolckow** 86.11 40 P P 19 45 53.9 +0.5
baz=86,SNR=6.2
JFWS **Jewell Farm** 86.17 35 *eP* P 19 45 51.6 -2.1
JFWS pmax pmax
comp=Z,27nm,1.1s
JFWS **Jewell Farm** 86.17 35 *eP* P 19 45 51.6 -2.1

comp=Z,27nm,1.1s
T32A **Huddler Ranch,** **86.28** **44** P **P** **19 45 55.1 +0.8**
baz=86,SNR=5.5
JSA **Saint Aubin** **86.28** **337** *e*P **P** **19 45 54.0 0.0**
CCA1 **Carnmenellis** **86.29** **339** *e*P **P** **19 45 54.0 0.0**
CCA1 AMB AMB 19 45 55.5
comp=Z,71nm,2.8s
R34A **Isabella, Hill** **86.33** **42** P **P** **19 45 55.1 +0.5**
baz=86
V30A **Spur Ranch, Mi** **86.34** **46** P **P** **19 45 55.6 +0.9**
baz=86
U31A **Nine Bar Ranch** **86.37** **45** P **P** **19 45 55.3 +0.5**
baz=86
P36A **Good Intent, A** **86.38** **40** P **P** **19 45 54.9 +0.1**
baz=86,SNR=8.4
X28A **Dimmitt** **86.39** **48** P **P** **19 45 55.8 +0.8**
baz=86,SNR=5.2
AMTX **Amarillo** **86.42** **47** P **P** **19 45 56.3 +1.2**
baz=86
AMTX **Amarillo** **86.42** **47** *e*P **P** **19 45 55.7 +0.6**
comp=Z,14nm,0.9s
MSTX **Muleshoe** **86.45** **48** P **P** **19 45 56.0 +0.7**
baz=86,SNR=7.8
MSTX **Muleshoe** **86.45** **48** *e*P **P** **19 45 55.2 -0.1**
comp=Z,15nm,1.0s
S33A **Kaszmaul Farm,** **86.47** **43** P **P** **19 45 56.0 +0.8**
baz=86
Q35A **Mercer Eighty,** **86.54** **41** P **P** **19 45 55.9 +0.4**
baz=86,SNR=12
BNI **Bardonecchia** **86.71** **329** *e*P **P** **19 45 55.3 -1.1**
BNI pmax pmax
comp=Z,140nm,2.8s
BNI **Bardonecchia** **86.71** **329** *e*P **P** **19 45 55.3 -1.1**
comp=Z,140nm,2.8s
T33A **Patterson Ranc** **86.72** **43** P **P** **19 45 57.2 +0.8**
baz=86
X29A **Tulia** **86.72** **47** P **P** **19 45 57.4 +0.8**
baz=87
Q36A **Arnold C. Orve** **86.76** **41** P **P** **19 45 57.2 +0.6**
baz=87
Y28A **McKinney Farm,** **86.80** **48** P **P** **19 45 57.8 +0.8**
baz=87,SNR=7.1
V31A **Spring Creek L** **86.81** **45** P **P** **19 45 58.4 +1.4**
baz=87
U32A **Winter Ranch,** **86.83** **44** P **P** **19 45 58.0 +0.9**
baz=87
S34A **Willow Spring** **86.86** **42** P **P** **19 45 57.6 +0.5**
baz=87,SNR=8.4
TIP **Timpagrande** **86.86** **320** *e*P **P** **19 45 56.4 -0.8**
comp=Z,11nm,1.1s
R35A **Emporia Munici** **86.86** **41** P **P** **19 45 58.2 +1.1**
baz=87,SNR=12
MEH **Mehetia** **87.14** **116** *e*T T 21 21 36.8
comp=Z,110nm,0.3s
Z28A **Tucker Farm, M** **87.16** **49** P **P** **19 45 59.4 +0.6**
baz=87,SNR=12
Y29A **Porterfield Fa** **87.16** **48** P **P** **19 45 59.5 +0.8**
baz=87
W31A **Holland Ranch,** **87.18** **46** P **P** **19 45 59.5 +0.7**
baz=87
X30A **Coker Ranch, T** **87.20** **47** P **P** **19 45 59.4 +0.5**
baz=87
R36A **Gordon, Harris** **87.22** **41** P **P** **19 45 59.3 +0.5**
baz=87,SNR=8.6
U33A **Lingo Farm, Me** **87.27** **44** P **P** **19 45 59.7 +0.5**
baz=87
S35A **Otter Creek Ra** **87.28** **42** P **P** **19 45 59.7 +0.5**
baz=87,SNR=17
V32A **Arapaho** **87.29** **45** P **P** **19 46 00.6 +1.4**
baz=87
T34A **McClaskey Farm** **87.32** **43** P **P** **19 45 59.9 +0.5**
baz=87,SNR=6.3
Q37A **Longview Farm,** **87.33** **40** P **P** **19 45 59.4 +0.1**
baz=87
X31A **McDonald Ranch** **87.57** **46** P **P** **19 46 01.3 +0.6**
baz=87,SNR=10
R37A **Teagarden Farm** **87.57** **41** P **P** **19 46 00.5 0.0**
baz=87
U34A **Anderson Ranch** **87.58** **43** P **P** **19 46 01.1 +0.5**
baz=87,SNR=6.7
U34A **Anderson Ranch** **87.58** **43** *e*P **P** **19 46 00.7 +0.1**
comp=Z,39nm,1.3s
Z29A **Hungry Hill Ra** **87.58** **48** P **P** **19 46 01.5 +0.8**
baz=87,SNR=30
128A **Castleberry Fa** **87.58** **49** P **P** **19 46 01.3 +0.5**
baz=87,SNR=7.3
Y30A **Stafford Cattl** **87.59** **47** P **P** **19 46 01.7 +0.9**
baz=87
W32A **Sentinel** **87.61** **45** P **P** **19 46 01.5 +0.6**
baz=88,SNR=6.8
V33A **Lossen Ranch,** **87.63** **44** P **P** **19 46 01.5 +0.6**
baz=88
S36A **Lake Cedric, C** **87.63** **41** P **P** **19 46 01.2 +0.3**
baz=87
T35A **Sooner Cattle** **87.76** **43** P **P** **19 46 02.2 +0.7**
baz=88
228A **UT Block 9, Go** **87.88** **49** P **P** **19 46 02.7 +0.5**
baz=88
Z30A **Sanderson Ranc** **87.89** **48** P **P** **19 46 02.9 +0.6**
baz=88,SNR=11
Y31A **Rekieta Farm,** **87.89** **47** P **P** **19 46 02.9 +0.6**
baz=88
T36A **Boggs Farm, Ca** **87.98** **42** P **P** **19 46 03.2 +0.7**
baz=88,SNR=7.7
CEL **Celeste** **88.00** **320** *e*P **P** **19 46 01.1 -1.5**
comp=Z,52nm,0.9s
W33A **Caddo, Fort Co** **88.02** **45** P **P** **19 46 03.9 +1.1**
baz=88
V34A **Guthrie** **88.03** **44** P **P** **19 46 03.8 +1.0**
baz=88
V34A **Guthrie** **88.03** **44** *e*P **P** **19 46 02.9 +0.1**
comp=Z,13nm,0.9s
U35A **Pawnee** **88.05** **43** P **P** **19 46 03.5 +0.6**
baz=88
X32A **Elmer** **88.11** **46** P **P** **19 46 03.9 +0.7**
baz=88,SNR=9.6
WMOK **Wichita Mounta** **88.16** **45** *e*P **P** **19 46 03.3 -0.1**
WMOK pmax pmax
comp=Z,12nm,1.1s
WMOK **Wichita Mounta** **88.16** **45** *e*P **P** **19 46 03.3 -0.1**
comp=Z,12nm,1.1s
Y32A **R-V Farms, Ver** **88.33** **46** P **P** **19 46 04.9 +0.6**
baz=88
W34A **Bridge Creek,** **88.34** **44** P **P** **19 46 05.1 +0.8**
baz=88
W34A **Bridge Creek,** **88.34** **44** *e*P **P** **19 46 04.6 +0.3**
comp=Z,29nm,1.1s
Z31A **Sharp Cattle R** **88.43** **47** P **P** **19 46 05.3 +0.5**
baz=88,SNR=7.0
T37A **Cheneyville 18** **88.43** **41** P **P** **19 46 04.7 +0.1**
baz=88,SNR=6.4
229A **Bryant Ranch,** **88.44** **49** P **P** **19 46 06.0 +1.1**
baz=88
V35A **Meyer Ranch, C** **88.45** **43** P **P** **19 46 05.2 +0.4**
baz=88
X33A **Lawton** **88.46** **45** P **P** **19 46 05.5 +0.6**
baz=88
HDIL **Hopedale** **88.48** **36** P **P** **19 46 05.1 +0.2**
baz=88
HDIL **Hopedale** **88.48** **36** *e*P **P** **19 46 04.7 -0.1**
comp=Z,653nm,1.1s
130A **Snyder** **88.48** **48** P **P** **19 46 06.0 +0.9**
baz=88
LPIG **La Paz** **88.53** **60** LR LR 20 18 03.7
comp=Z,448nm,20.3s,baz=282,slow=30
329A **Wagon Wheel Ra** **88.69** **50** P **P** **19 46 07.1 +1.1**
baz=89,SNR=8.4
131A **Roby** **88.76** **48** P **P** **19 46 07.2 +0.9**
baz=89
X34A **Smith Ranch, M** **88.78** **45** P **P** **19 46 07.6 +1.2**
baz=89
Y33A **Hilltop Ranch,** **88.78** **46** P **P** **19 46 07.1 +0.7**
baz=89,SNR=5.9
Z32A **Haskell** **88.82** **47** P **P** **19 46 07.6 +1.0**
baz=89,SNR=12
W35A **Tecumseh** **88.89** **44** P **P** **19 46 07.6 +0.8**
baz=89
TUL1 **Tulsa** **88.90** **43** P **P** **19 46 07.7 +0.9**
baz=89
TUL1 **Tulsa** **88.90** **43** *e*P **P** **19 46 07.0 +0.1**
comp=Z,64nm,1.8s
230A **Sterling City** **88.91** **49** P **P** **19 46 08.2 +1.1**
baz=89,SNR=5.5
V36A **Jenks** **88.91** **43** P **P** **19 46 07.9 +0.9**
baz=89,SNR=5.3
SADO **Sadowa** **89.10** **27** LR LR 20 30 41.3
comp=Z,138nm,18.4s,baz=303,slow=39
TXAR **Lajitas Array** **89.21** **52** P **P** **19 46 09.2 +0.6**
comp=Z,4.9nm,0.8s,baz=293,slow=3.3,SNR=50
330A **Mertzon** **89.22** **49** P **P** **19 46 08.9 +0.3**
baz=89,SNR=10.0
ABTX **Abilene, Hawle** **89.23** **47** P **P** **19 46 09.2 +0.7**
baz=89
ABTX **Abilene, Hawle** **89.23** **47** *e*P **P** **19 46 08.7 +0.2**
comp=Z,33nm,1.3s
Z33A **Whitaker Ranch** **89.24** **46** P **P** **19 46 09.1 +0.6**
baz=89
W36A **Wetumka** **89.25** **44** P **P** **19 46 09.2 +0.7**
baz=89,SNR=5.4
V37A **Hulbert** **89.26** **42** P **P** **19 46 09.2 +0.6**
baz=89,SNR=12
Y34A **Reagan Ranch,** **89.30** **45** P **P** **19 46 09.4 +0.6**
baz=89
231A **Bronte** **89.34** **48** P **P** **19 46 09.8 +0.7**
baz=89
429A **Davenport Ranc** **89.36** **50** P **P** **19 46 09.5 +0.3**
baz=89
X35A **Drake** **89.40** **44** P **P** **19 46 09.8 +0.5**
baz=89
529A **Stev Forest Ra** **89.52** **51** P **P** **19 46 10.5 +0.5**
baz=89,SNR=6.0
SLM **Saint Louis** **89.57** **38** *e*P **P** **19 46 10.1 +0.1**
SLM pmax pmax
comp=Z,32nm,0.9s
SLM **Saint Louis** **89.57** **38** *e*P **P** **19 46 10.1 +0.1**
comp=Z,32nm,0.9s
X36A **Centrahoma** **89.61** **44** P **P** **19 46 11.1 +0.9**
baz=89,SNR=9.7
SFIN **Scholer Farm** **89.61** **35** P **P** **19 46 10.5 +0.4**
baz=89,SNR=5.7
SFIN **Scholer Farm** **89.61** **35** *e*P **P** **19 46 09.8 -0.3**
comp=Z,40nm,1.3s
430A **Baggett Ranch,** **89.63** **50** P **P** **19 46 11.1 +0.6**
baz=89,SNR=10
Z34A **Collier Ranch,** **89.65** **46** P **P** **19 46 11.3 +0.8**
baz=90
133A **Hamilton Ranch** **89.65** **47** P **P** **19 46 11.7 +1.1**
baz=90
W37A **Quinton** **89.68** **43** P **P** **19 46 11.6 +1.0**
baz=90
331A **San Angelo** **89.73** **49** P **P** **19 46 11.6 +0.6**
baz=90
Y35A **Marietta** **89.74** **45** P **P** **19 46 11.5 +0.6**
baz=90
232A **Coleman** **89.76** **48** P **P** **19 46 11.7 +0.6**
baz=90
TBI **Tubuai** **89.88** **121** *e*T T 21 25 01.4
comp=Z,150nm,0.4s
Z35A **Perchaven, San** **90.05** **45** P **P** **19 46 12.9 +0.6**
baz=90,SNR=6.9
332A **Millersview** **90.08** **48** P **P** **19 46 13.4 +0.9**
baz=90,SNR=19
431A **Sonora** **90.08** **49** P **P** **19 46 12.9 +0.3**
baz=90,SNR=7.1
233A **Rising Star** **90.10** **47** P **P** **19 46 13.2 +0.5**
baz=90,SNR=8.6
X37A **Clayton** **90.12** **43** P **P** **19 46 13.4 +0.8**
baz=90
134A **White-Moore Ra** **90.15** **46** P **P** **19 46 13.5 +0.6**
baz=90
Y36A **Durant** **90.15** **44** P **P** **19 46 13.4 +0.6**
baz=90
W38A **Poteau** **90.21** **42** P **P** **19 46 13.8 +0.8**
baz=90,SNR=8.5
X38A **Whitesboro** **90.35** **43** P **P** **19 46 14.3 +0.6**
baz=90,SNR=9.4
432A **Menard** **90.42** **49** P **P** **19 46 14.6 +0.5**
baz=90,SNR=10
Y37A **Hugo** **90.45** **44** P **P** **19 46 15.4 +1.2**
baz=90,SNR=8.0
OLIL **Olney** **90.49** **36** *e*P **P** **19 46 14.9 +0.6**
comp=Z,39nm,1.0s
135A **Vickery Place,** **90.54** **46** P **P** **19 46 15.2 +0.6**
baz=90
234A **Clairette** **90.54** **47** P **P** **19 46 15.5 +0.8**
baz=90,SNR=7.9
Z36A **Blue Ridge** **90.55** **45** P **P** **19 46 15.3 +0.6**
baz=90
333A **Richland Sprin** **90.56** **48** P **P** **19 46 15.7 +1.0**
baz=90,SNR=17
PTN **Potsdam (NY)** **90.70** **25** *e*P **P** **19 46 15.3 +0.2**
PTN pmax pmax
comp=Z,42nm,1.4s
PTN **Potsdam (NY)** **90.70** **25** *e*P **P** **19 46 15.3 +0.2**
comp=Z,42nm,1.4s
JCT **Junction City** **90.70** **49** P **P** **19 46 16.0 +0.6**
baz=91,SNR=6.4
SIUC **Southern Illin** **90.79** **38** *e*P **P** **19 46 15.9 +0.2**
comp=Z,55nm,1.1s
532A **Rocksprings** **90.90** **49** P **P** **19 46 17.0 +0.6**
baz=91,SNR=15
433A **Art** **90.92** **48** P **P** **19 46 16.8 +0.4**
baz=91,SNR=5.3
WHTX **Lake Whitney** **90.94** **46** P **P** **19 46 16.9 +0.4**
baz=91
PBMO **Poplar Bluff** **90.95** **39** *e*P **P** **19 46 17.1 +0.7**
comp=Z,27nm,1.0s
Y38A **Idabel** **90.97** **43** P **P** **19 46 17.0 +0.4**
baz=91
334A **Lometa** **90.98** **47** P **P** **19 46 17.4 +0.7**
baz=91,SNR=16
631A **Perdido Creek** **91.02** **50** P **P** **19 46 17.8 +0.9**
baz=91,SNR=12
Z37A **Pogue Cattle C** **91.04** **44** P **P** **19 46 17.6 +0.6**
baz=91
136A **Ennis** **91.09** **45** P **P** **19 46 17.6 +0.5**
baz=91
MIAR **Mount Ida** **91.11** **42** *e*P **P** **19 46 17.6 +0.4**
MIAR pmax pmax
comp=Z,18nm,0.9s
MIAR **Mount Ida** **91.11** **42** P **P** **19 46 18.1 +0.9**
baz=91,SNR=10
MIAR **Mount Ida** **91.11** **42** *e*P **P** **19 46 17.6 +0.4**
comp=Z,18nm,0.9s
Y39A **Lockesburg** **91.30** **43** P **P** **19 46 18.8 +0.7**
baz=91,SNR=8.1
MMNY **Mt. Morris Dam** **91.32** **28** *e*P **P** **19 46 18.6 +0.6**
comp=Z,90nm,1.3s
434A **Burnet** **91.35** **48** P **P** **19 46 18.9 +0.5**
baz=91,SNR=7.3
Z38A **Mt. Pleasant** **91.35** **44** P **P** **19 46 19.0 +0.6**
baz=91
632A **Uvalde** **91.42** **50** P **P** **19 46 19.7 +0.8**
baz=91
236A **Katherine and** **91.45** **46** P **P** **19 46 19.6 +0.8**
baz=91
533A **Kerrville** **91.45** **49** P **P** **19 46 19.7 +0.7**
baz=91
335A **Moody** **91.48** **47** P **P** **19 46 19.7 +0.7**
baz=91
ACSO **Alum Creek Sta** **91.50** **32** *e*P **P** **19 46 19.7 +0.8**
comp=Z,32nm,1.3s
WCI **Wyandotte Cave** **91.73** **35** *e*P **P** **19 46 20.0 -0.1**
WCI pmax pmax
comp=Z,14nm,1.1s
WCI **Wyandotte Cave** **91.73** **35** *e*P **P** **19 46 20.0 -0.1**
comp=Z,14nm,1.1s
336A **Riesel** **91.73** **46** P **P** **19 46 20.9 +0.7**
baz=92
435B **Jarrell** **91.76** **47** P **P** **19 46 21.0 +0.7**
baz=92
534A **Blanco** **91.81** **48** P **P** **19 46 21.0 +0.4**
baz=92,SNR=10
633A **Saathoff Ranch** **91.82** **49** P **P** **19 46 21.7 +1.1**
baz=92
732A **Laxson Ranch,** **91.88** **50** P **P** **19 46 22.2 +1.3**
baz=92
832A **Faith Ranch, C** **92.20** **50** P **P** **19 46 23.6 +1.2**
baz=92
436A **Wall Ranch, Ga** **92.22** **47** P **P** **19 46 23.8 +1.3**
baz=92
238A **Jacksonville** **92.23** **45** P **P** **19 46 23.8 +1.4**
baz=92
634A **China Grove, S** **92.36** **49** P **P** **19 46 23.9 +0.8**
baz=92
536A **Bastrop** **92.59** **47** P **P** **19 46 25.6 +1.4**
baz=92
338A **Crockett** **92.61** **45** P **P** **19 46 25.7 +1.5**
baz=92
734A **La Parita Cree** **92.63** **49** P **P** **19 46 25.2 +0.8**
baz=92
TRY **Troy** **92.77** **25** *e*P **P** **19 46 23.6 -1.1**
comp=Z,9.6nm,0.9s
636A **Smothers Creek** **93.04** **48** P **P** **19 46 28.0 +1.8**
baz=93
735A **Kenedy** **93.07** **49** P **P** **19 46 28.3 +2.0**
baz=93
933A **Laredo** **93.12** **50** P **P** **19 46 27.8 +1.2**
baz=93,SNR=5.8
KEST **Kesra** **93.20** **322** P **P** **19 46 27.0 0.0**
comp=Z,2.0nm,0.9s,baz=6.3,slow=9.2,SNR=7.2
KEST LR LR 20 33 05.8
comp=Z,146nm,18.4s,baz=310,slow=39
OXF **Oxford** **93.26** **40** *e*P **P** **19 46 27.1 0.0**
OXF pmax pmax
comp=Z,65nm,1.2s
OXF **Oxford** **93.26** **40** *e*P **P** **19 46 27.1 0.0**
comp=Z,65nm,1.2s
439A **Center Grove,** **93.34** **45** P **P** **19 46 29.6 +2.0**
baz=93
736A **Circle Diamond** **93.42** **48** P **P** **19 46 29.9 +1.9**
baz=93
835A **Beeville** **93.48** **49** P **P** **19 46 30.4 +2.1**
baz=93
637A **Eagle Lake** **93.49** **47** P **P** **19 46 30.5 +2.3**
baz=93
034A **Hebbronville** **93.87** **50** P **P** **19 46 32.2 +2.1**
baz=94
035Z **Hargill** **94.69** **50** P **P** **19 46 33.8 -0.1**
baz=95
TKL **Tuckaleechee C** **94.98** **35** LR LR 20 31 12.1
comp=Z,122nm,19.6s,baz=299,slow=37
BLA **Blacksburg** **95.11** **32** *e*P **P** **19 46 37.3 +1.6**
BLA pmax pmax
comp=Z,20nm,1.1s
BLA **Blacksburg** **95.11** **32** *e*P **P** **19 46 37.2 +1.6**
comp=Z,20nm,1.1s
ESDC **Sonseca Array** **95.32** **334** P **P** **19 46 36.0 -0.6**
comp=Z,2.6nm,0.8s,baz=14,slow=3.4,SNR=11
ESDC LR LR 20 33 54.0
comp=Z,306nm,19.7s,baz=50,slow=38
KMSC **Kings Mountain** **96.49** **34** P **P** **19 46 41.9 -0.1**
baz=96
RKT **Rikitea** **99.86** **112** *e*LR LR 20 19 24.6
comp=Z,486nm,24.0s
TORD **Torodi Ar. Bea** **115.64** **315** PKP **PKPdf** **19 51 54.0 -1.1**
comp=Z,1.7nm,0.7s,baz=20,slow=2.5,SNR=18
TORD PKKPbc **PKKPbc** **20 02 27.0 +0.6**
comp=Z,1.1nm,0.8s,baz=239,slow=2.3,SNR=4.6
VNDA **Vanda** **117.00** **175** PKP **PKPdf** **19 51 54.5 -1.3**
comp=Z,1.4nm,1.0s,baz=318,slow=4.6,SNR=5.0
MAW **Mawson** **121.17** **206** PKP **PKPdf** **19 52 03.9 -0.2**
comp=Z,3.5nm,0.9s,baz=2.7,slow=2.9,SNR=5.6
SDV **Santo Domingo** **124.03** **39** *e*PKPdf **PKPdf** **19 52 11.5 -0.1**
DBIC **Dimbokro** **124.56** **317** PKP **PKPdf** **19 52 11.8 -0.5**
comp=Z,5.7nm,0.6s,baz=20,slow=1.6,SNR=8.5
BOSA **Boshof** **126.54** **261** PKP **PKPdf** **19 52 15.3 -0.5**
comp=Z,5.6nm,0.9s,baz=297,slow=4.0,SNR=5.0
OTAV **Otavalo** **126.83** **52** *e*PKPdf **PKPdf** **19 52 17.2 -0.1**
QSPA **South Pole Qui** **128.78** **180** *e*PKPdf **PKPdf** **19 52 17.4 -1.4**
QSPA *e*PP **PP** **19 54 23.5 -2.5**
SNAA **Sanae** **142.54** **198** P PKPpre 19 52 34.9
SNAA **Sanae** **142.54** **198** *e*PKHKP PKPpre 19 52 34.2
SNAA **Sanae** **142.54** **198** *e*PKPpre PKPpre 19 52 34.2
SAML **Samuel** **143.07** **42** *e*PKPpre PKPpre 19 52 42.2
VNA1 **Neumayer--Stat** **144.52** **197** P **PKPab** **19 52 45.3 -0.7**
LPAZ **La Paz** **145.97** **56** PKPbc **PKPbc** **19 52 53.4 +0.1**
comp=Z,31nm,0.9s,baz=343,slow=4.4,SNR=50
RCBR **Riachuelo** **146.82** **354** *e*PKPdf **PKPbc** **19 52 54.4 -0.7**
LVC **Limon Verde** **149.78** **66** *e*PKPbc **PKPbc** **19 53 03.8 +0.9**
LCO **Las Campanas** **152.07** **79** *e*PKPbc **PKPbc** **19 53 08.6 +0.4**
BDFB **Brasilia** **155.41** **21** PKPab **PKPab** **19 53 32.3 +0.5**
comp=Z,5.3nm,0.6s,baz=352,slow=12,SNR=5.3
CPUP **Villa Florida** **160.14** **56** PKP **PKPdf** **19 53 11.2 -0.6**
comp=Z,1.6nm,1.0s,baz=318,slow=3.7,SNR=3.1
CPUP PKPab **PKPab** **19 53 52.3 +0.4**
comp=Z,5.8nm,1.1s,baz=343,slow=7.5,SNR=6.8

MOS ***03*** *19:43:13.6±1.8,52.°84N×108.°26E,h10km,mb4.4/1,Error ellipse: s-maj=51.6km s-min=36.6km az=51.1*
BYKL ***03*** *19:43:14.0±0.2,52.°96N×108.°15E*
ISC 03 19:43:14.1±1.1,52.°95N±0.°02×108.°20E±0.°02,h4km±10km,
n47,σ1.°88/81,**3C-1D,Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OGRR	**Ongureny**	**0.78**	**333**	⇑*i*Pg	**Pg**	**19 43 28.4**		**-0.8**
OGRR				*e*Sg	**Sg**	**19 43 39.0**		**-0.3**
OGRR				Pmax				
	93nm,0.2s							
OGRR				Smax				
	669nm,0.2s							
OGRR	**Ongureny**	**0.78**	**333**	⇑*i*Pg	**Pn**	**19 43 32.5**		**+0.5**
OGRR				*e*Sg	**Sn**	**19 43 42.9**		**-1.3**
OGRR				Pmax				
	174nm,0.1s							
OGRR				Smax				
	1μm,0.2s							
OGRR	**Ongureny**	**0.78**	**333**	*e*PG	**Pg**	**19 43 28.4**		**-0.8**
OGRR				*e*		19 43 42.8		
OGRR				pmax	pmax			
	comp=Z,172nm,0.1s							
OGRR				smax	smax			
	comp=E,1μm,0.3s							
UUDB	**Ulan-Yde**	**1.13**	**197**	⇑*i*Pg	**Pb**	**19 43 34.7**		**-1.6**
UUDB				*e*Sg	**Sb**	**19 43 50.1**		**-1.2**
UUDB				Pmax				
	comp=E,44nm,0.1s							
UUDB				Smax				
	comp=E,153nm,0.2s							
UUDB	**Ulan-Yde**	**1.13**	**197**	*e*Pg	**Pn**	**19 43 38.8**		**+2.0**
UUDB				*e*Sg	**Sn**	**19 43 53.4**		**+0.6**
UUDB				Pmax				
	comp=E,64nm,0.2s							
UUDB				Smax				
	comp=E,244nm,0.2s							
TRG	**Tyrgan**	**1.14**	**261**	*e*Pg	**Pb**	**19 43 34.6**		**-1.8**
TRG				*e*Sg	**Sb**	**19 43 49.9**		**-1.6**
TRG				Pmax				
	comp=E,110nm,0.1s							
TRG				Smax				
	comp=E,845nm,0.3s							
TRG	**Tyrgan**	**1.14**	**261**	*e*Pg	**Pn**	**19 43 38.9**		**+2.0**
TRG				*e*Sg	**Sn**	**19 43 54.3**		**+1.4**
TRG				Pmax				
	comp=E,247nm,0.2s							
TRG				Smax				
	comp=E,1μm,0.3s							
TRG	**Tyrgan**	**1.14**	**261**	*e*PG	**Pb**	**19 43 34.6**		**-1.8**
TRG				*e*		19 43 50.2		
TRG				pmax	pmax			
	comp=Z,248nm,0.2s							
TRG				smax	smax			
	comp=N,1μm,0.3s							
SYVR	**Suvo**	**1.29**	**56**	⇓*i*Pg	**Pn**	**19 43 37.4**		**-1.6**
SYVR				*e*Sg	**Sn**	**19 43 55.7**		**-1.1**
SYVR				Pmax				
	comp=N,47nm,0.2s							
SYVR				Smax				
	comp=N,67nm,0.3s							
SYVR	**Suvo**	**1.29**	**56**	*e*Pg	**Pg**	**19 43 41.6**		**+2.7**
SYVR				*e*Sg	**Sg**	**19 43 59.6**		**+3.9**
SYVR				Pmax				
	comp=N,69nm,0.3s							
SYVR				Smax				
	comp=N,123nm,0.3s							
KAB	**Kabansk**	**1.30**	**227**	*e*Pg	**Pn**	**19 43 37.9**		**-1.2**
KAB				*e*Sg	**Sb**	**19 43 55.3**		**-1.0**
KAB				Pmax				
	comp=N,159nm,0.4s							
KAB				Smax				
	comp=N,255nm,0.2s							
KAB	**Kabansk**	**1.30**	**227**	*e*Sg	**Sg**	**19 43 59.1**		**+3.1**
KAB				Smax				
	comp=N,700nm,0.3s							
HRMR	**Khuramsha**	**1.53**	**210**	*e*Pg	**Pn**	**19 43 41.7**		**-0.5**
HRMR				*e*Sg	**Sb**	**19 44 02.1**		**-0.6**
HRMR				Pmax				
	comp=N,65nm,0.2s							
HRMR				Smax				
	comp=N,1μm,0.2s							
HRMR	**Khuramsha**	**1.53**	**210**	*e*Pg	**Pg**	**19 43 46.0**		**+2.6**
HRMR				*e*Sg	**Sg**	**19 44 05.7**		**+2.5**
HRMR				Pmax				
	comp=N,107nm,0.2s							
HRMR				Smax				
	comp=N,1μm,0.3s							
LSTR	**Listvyanka**	**2.33**	**244**	*e*Pn	**Pn**	**19 43 51.9**		**-1.3**
LSTR				*e*Pg	**Pb**	**19 43 55.5**		**-1.1**
LSTR				*e*Sg	**Sb**	**19 44 24.2**		**-1.5**
LSTR				Pmax				

	comp=N,7.0nm,0.1s							
LSTR					Smax			
	comp=N,20nm,0.1s							
LSTR	**Listvyanka**	**2.33**	**244**	*e*Pg		**Pg**	**19 43 59.5**	**+0.8**
LSTR				*e*Sg		**Sg**	**19 44 28.7**	**-0.2**
LSTR				Pmax				
	comp=N,9.0nm,0.1s							
LSTR				Smax				
	comp=N,62nm,0.3s							
LSTR	**Listvyanka**	**2.33**	**244**	*e*PN		**Pb**	**19 43 55.2**	**-1.4**
LSTR				*e*S		**Sb**	**19 44 23.8**	**-1.9**
IRK	**Irkutsk**	**2.50**	**255**	*e*Pn		**Pn**	**19 43 54.2**	**-1.3**
IRK				*e*Sg		**Sb**	**19 44 29.7**	**-0.9**
IRK				Smax				
	comp=N,106nm,0.2s							
IRK	**Irkutsk**	**2.50**	**255**	*e*Pn		**Pb**	**19 43 59.0**	**-0.5**
IRK				*e*Sg		**Sg**	**19 44 34.1**	**-0.2**
IRK				Smax				
	comp=N,303nm,0.3s							
NIZ	**Nizh Angarsk**	**2.94**	**15**	*e*Pn		**Pn**	**19 44 01.1**	**-0.5**
NIZ				*e*Sg		**Sb**	**19 44 44.1**	**+0.8**
NIZ				Smax				
	comp=N,32nm,0.4s							
NIZ	**Nizh Angarsk**	**2.94**	**15**	*e*Pn		**Pb**	**19 44 05.7**	**-1.4**
NIZ				*e*Sg		**Sg**	**19 44 47.7**	**-0.8**
NIZ				Smax				
	comp=N,40nm,0.4s							
TLY	**Talaya**	**3.07**	**247**	*e*Pg		**Pb**	**19 44 08.9**	**-0.4**
TLY				*e*Sg		**Sb**	**19 44 48.1**	**+1.0**
TLY				Pmax				
	comp=N,3.0nm,0.1s							
TLY				Smax				
	comp=N,29nm,0.2s							
TLY	**Talaya**	**3.07**	**247**	*e*Sg		**Sg**	**19 44 52.1**	**-0.6**
TLY				Smax				
	comp=N,56nm,0.3s							
TLY	**Talaya**	**3.07**	**247**	*e*PN		**Pb**	**19 44 10.1**	**+0.8**
TLY				*e*S		**Sb**	**19 44 47.8**	**+0.7**
CIT	**Chita**	**3.40**	**104**	*e*Sg		**Sg**	**19 45 00.8**	**-2.6**
CIT				Smax				
	comp=N,126nm,0.2s							
CIT	**Chita**	**3.40**	**104**	*e*Pn		**Pb**	**19 44 12.7**	**-2.3**
CIT				*e*Sg		**Sg**	**19 45 04.5**	**+1.1**
CIT				Smax				
	comp=N,220nm,0.2s							
KMO	**Kumora**	**3.43**	**30**	*e*Pn		**Pn**	**19 44 08.5**	**+0.2**
KMO				*e*Pg		**Pb**	**19 44 15.6**	**+0.2**
KMO				*e*Sg		**Sb**	**19 45 00.3**	**+3.0**
KMO				Pmax				
	comp=N,6.0nm,0.4s							
KMO				Smax				
	comp=N,26nm,0.5s							
ARS	**Arshan**	**3.68**	**256**	*e*Pn		**Pn**	**19 44 09.8**	**-2.1**
ARS				*e*Pg		**Pb**	**19 44 20.4**	**+0.7**
ARS				*e*Sg		**Sb**	**19 45 06.8**	**+2.1**
ARS				Pmax				
	comp=N,6.0nm,0.3s							
ARS				Smax				
	comp=N,110nm,0.4s							
ARS	**Arshan**	**3.68**	**256**	*e*Pg		**Pg**	**19 44 23.6**	**-1.0**
ARS				*e*Sg		**Sg**	**19 45 10.1**	**-2.2**
ARS				Smax				
	comp=N,214nm,0.4s							
YOA	**Uoyan**	**3.79**	**31**	*e*Pg		**Pb**	**19 44 21.9**	**+0.3**
YOA				*e*Sg		**Sg**	**19 45 11.8**	**-4.1**
YOA				Pmax				
	comp=N,11nm,0.2s							
YOA				Smax				
	comp=N,48nm,0.4s							
YOA	**Uoyan**	**3.79**	**31**	*e*Sg		**Sg**	**19 45 15.8**	**-0.1**
YOA				Smax				
	comp=N,190nm,1.0s							
ZAK	**Zakamensk**	**4.00**	**232**	*e*Pg		**Pb**	**19 44 26.6**	**+1.5**
ZAK				*e*Sg		**Sg**	**19 45 18.6**	**-3.8**
ZAK				Pmax				
	comp=N,5.0nm,0.6s							
ZAK				Smax				
	comp=N,17nm,0.4s							
ZAK	**Zakamensk**	**4.00**	**232**	*e*Sg		**Sg**	**19 45 22.0**	**-0.4**
ZAK				Smax				
	comp=N,21nm,0.5s							
UKT	**Uakit**	**4.08**	**49**	*e*Pn		**Pn**	**19 44 16.6**	**-0.7**
UKT				*e*Pg		**Pb**	**19 44 26.6**	**+0.1**
UKT				*e*Sg		**Sb**	**19 45 20.2**	**+4.1**
UKT				Pmax				
	comp=N,3.0nm,0.2s							
UKT				Smax				
	comp=N,14nm,0.4s							
UKT	**Uakit**	**4.08**	**49**	*e*Sg		**Sg**	**19 45 24.9**	**-0.1**
UKT				Smax				
	comp=N,25nm,0.6s							
KPC	**Khapcheranga**	**4.17**	**139**	*e*Pn		**Pn**	**19 44 16.5**	**-2.1**
KPC				*e*Pg		**Pb**	**19 44 29.6**	**+1.4**
KPC				*e*Sg		**Sg**	**19 45 23.3**	**-4.9**
KPC				Pmax				
	comp=N,9.0nm,0.4s							
KPC				Smax				
	comp=N,32nm,0.3s							
KPC	**Khapcheranga**	**4.17**	**139**	*e*Sg		**Sg**	**19 45 27.6**	**-0.6**
KPC				Smax				
	comp=N,32nm,0.2s							
MOY	**Mondy**	**4.60**	**257**	*e*Pn		**Pn**	**19 44 24.7**	**+0.1**
MOY				*e*Pg		**Pb**	**19 44 35.0**	**-0.5**
MOY				*e*Sg		**Sb**	**19 45 34.2**	**+2.9**
MOY				Pmax				
	comp=N,6.0nm,0.4s							
MOY				Smax				
	comp=N,19nm,0.5s							
MOY	**Mondy**	**4.60**	**257**	*e*Sg		**Sg**	**19 45 39.6**	**-2.3**
MOY				Smax				
	comp=N,33nm,0.5s							
ORL	**Orlik**	**5.11**	**269**	*e*Pn		**Pn**	**19 44 31.8**	**+0.2**
ORL				*e*Sg		**Sb**	**19 45 50.6**	**+4.7**
ORL				Smax				
	comp=N,14nm,0.6s							
ORL	**Orlik**	**5.11**	**269**	*e*Pn		Pn	19 44 35.9	+4.3
ORL				*e*Sg		**Sg**	**19 45 55.7**	**-2.5**
ORL				Smax				
	comp=N,23nm,0.6s							
NLYR	**Nelyaty**	**5.61**	**48**	*e*Sg		Sg	19 46 08.1	-6.1
NLYR				Smax				
	comp=N,32nm,1.4s							
NLYR	**Nelyaty**	**5.61**	**48**	*e*Sg		**Sg**	**19 46 13.3**	**-0.9**
NLYR				Smax				
	comp=N,74nm,1.6s							
NLYR	**Nelyaty**	**5.61**	**48**	*e*PN		Pb	19 44 56.9	+4.3
NLYR				*e*			19 46 06.9	
NLYR				pmax		pmax		
	comp=Z,27nm,0.7s							
NLYR				smax		smax		
	comp=N,73nm,0.7s							
TUP	**Tupik**	**7.14**	**73**	*e*Pn		**Pn**	**19 44 59.9**	**+0.6**
TUP				*e*Sg		Sg	19 46 54.8	-8.3
TUP				Smax				
	comp=N,23nm,1.0s							
TUP	**Tupik**	**7.14**	**73**	*e*Sg		**Sg**	**19 47 00.0**	**-3.1**
TUP				Smax				
	comp=N,38nm,1.0s							
TUP	**Tupik**	**7.14**	**73**	*e*PN		**Pn**	**19 45 00.3**	**+1.0**
TUP				*e*			19 45 23.1	
TUP				*e*			19 46 54.1	
TUP				pmax		pmax		
	comp=Z,11nm,0.9s							
TUP				smax		smax		
	comp=N,37nm,1.4s							

IDC 03 19:48:27.4±2.0, 4°.19S×151°.68E, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.4/31, mbtmp3.5/3, Error ellipse: s-maj=147.6km s-min=28.5km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.03**	**226**	P	P	19 53 33.9	-0.6
	1.3nm,1.0s,baz=53,slow=10.0,SNR=4.4						
ASAR	**Alice Springs**	**25.87**	**220**	P	P	19 54 01.5	+0.4
	0.5nm,0.8s,baz=48,slow=8.7,SNR=5.6						
ILAR	**Eielson Array**	**82.02**	**22**	P	P	20 00 49.1	0.0
	0.3nm,0.6s,baz=251,slow=5.8,SNR=4.8						

*ISCJB **03** 20:05:44.9±0.6, 12°.88N±0°.04×90°.43W±0°.04, h10km, mb3.7/3, Error ellipse: s-maj=7.2km s-min=4.4km az=40.3*

*IDC **03** 20:05:46.9±1.6, 13°.80N×89°.67W, h0km, mb3.6/4, mb1 4.1/6, mb1mx3.7/42, mbtmp3.7/6, ML3.6/2, MS3.5/1, Ms1 3.5/1, ms1mx2.8/30, Error ellipse: s-maj=83.9km s-min=16.8km az=40.0*

*CASC **03** 20:05:47.3±1.7, 12°.98N×90°.37W, h11km±13km, MD4.1, ML3.9*

ISC 03 20:05:47.6±0.9, 13°.04N±0°.07×90°.33W±0°.06, h10km, n28, σ1§24/33, mb3.7/3, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**1.05**	**41**	*e*P	**Pb**	**20 06 07.9**	**-0.1**
RTR	**El Retiro**	**1.08**	**38**	*e*P	**Pb**	**20 06 08.5**	**-0.1**
SNJE	**San Jose**	**1.08**	**41**	*e*P	**Pb**	**20 06 08.2**	**-0.3**
IXG	**Ixpaco**	**1.13**	**354**	*e*P	**Pb**	**20 06 07.6**	**-1.8**
BOQS	**Boqueron**	**1.23**	**56**	*e*P	**Pn**	**20 06 10.8**	**-0.4**
BOQS				*e*S	**Sn**	**20 06 29.3**	**+1.4**
RBDL	**Robledal**	**1.23**	**30**	*e*P	**Pn**	**20 06 10.7**	**-0.5**
SNET	**Serv Nac Est T**	**1.25**	**59**	*e*P	**Pn**	**20 06 10.7**	**-0.5**
SNET				*e*S	**Sb**	**20 06 28.6**	**+1.1**
SNET				AML	AML	20 06 36.6	
	comp=Z,2μm,0.3s						
LFRS	**El Faro**	**1.36**	**65**	*e*P	**Pn**	**20 06 12.2**	**-0.7**
LFU	**La Fuente**	**1.38**	**59**	*e*P	**Pn**	**20 06 12.7**	**-0.2**
LBRS	**Las Brisas**	**1.43**	**61**	*e*P	**Pn**	**20 06 12.8**	**-0.9**
NBG	**Las Nubes**	**1.54**	**359**	*e*P	**Pn**	**20 06 16.2**	**+0.8**
SNVI	**San Vicente**	**1.56**	**69**	*e*P	**Pn**	**20 06 14.9**	**-0.6**
VSM	**San Miguel**	**2.04**	**79**	*e*P	**Pn**	**20 06 22.3**	**+0.1**
MRL	**Marmol**	**2.10**	**17**	*e*P	**Pn**	**20 06 24.5**	**+1.4**
CNCH	**Conchagua**	**2.44**	**84**	*e*P	**Pn**	**20 06 27.2**	**-0.4**
COPN	**Copaltepe**	**3.75**	**103**	*e*P	**Pn**	**20 06 44.8**	**-0.8**
JTS	**JuntasAbangare**	**5.94**	**117**	Pn	**Pn**	**20 07 15.4**	**-0.3**
	comp=Z,3.9nm,0.3s,baz=319,slow=19,SNR=14						
JTS				Sn	**Sn**	**20 08 22.3**	**-1.5**
	comp=Z,1.4nm,0.3s,baz=305,slow=18,SNR=2.4						
JTS				Lg	Lg	20 08 49.1	
	baz=139,slow=19,SNR=3.4						
CMIG	**Matias Romero**	**5.96**	**313**	Pn	**Pn**	**20 07 15.4**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=127,slow=14,SNR=4.9						
CMIG				Sn	**Sn**	**20 08 25.8**	**+1.4**
	comp=Z,1.8nm,0.3s,baz=43,slow=14,SNR=4.3						
CMIG				LR	LR	20 09 56.3	
	comp=Z,429nm,18.3s,baz=145,slow=42						
JCR	**Jicaral**	**6.02**	**121**	*e*P	**Pn**	**20 07 15.7**	**-1.1**
JCR				*e*S	**Sn**	**20 08 25.2**	**-0.7**
CGA2	**Cerro Gallo 2**	**6.49**	**117**	*e*P	**Pn**	**20 07 25.0**	**+1.7**
URSC	**Urasca**	**7.17**	**116**	*e*P	**Pn**	**20 07 34.5**	**+1.7**
URSC				*e*S	**Sn**	**20 08 55.6**	**+1.1**
BUS	**Buena Vista**	**7.32**	**118**	*e*P	**Pn**	**20 07 36.7**	**+1.7**
BUS				*e*S	Sn	20 08 51.9	-6.6
TXAR	**Lajitas Array**	**20.40**	**325**	P	**P**	**20 10 24.5**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=150,slow=12,SNR=18						
NVAR	**Mina Array Bea**	**35.43**	**321**	P	**P**	**20 12 44.8**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=127,slow=8.2,SNR=8.5						
YKA	**Yellowknife Ar**	**52.33**	**346**	P	P	20 14 56.2	-3.2
	comp=Z,0.8nm,0.8s,baz=131,slow=8.5,SNR=4.0						
ILAR	**Eielson Array**	**64.36**	**337**	P	**P**	**20 16 20.4**	**-2.9**
	comp=Z,0.3nm,0.8s,baz=127,slow=5.8,SNR=3.8						
WRA	**Warramunga Arr**	**136.72**	**255**	PKP	**PKPdf**	**20 25 14.2**	**+3.0**
	comp=Z,0.4nm,0.8s,baz=89,slow=2.5,SNR=3.1						
CMAR	**Chiang Mai Arr**	**147.39**	**344**	PKPbc	**PKPdf**	**20 25 30.5**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=355,slow=3.1,SNR=6.3						

*NEIC **03** 20:06:06.8, 50°.96N×179°.21W, h4km, ML3.7(AEIC), After AEIC.*

*IDC **03** 20:06:12.2±5.8, 51°.20N×179°.07W, h60km±52km, mb3.6/19, mb1 3.7/20, mb1mx3.6/31, mbtmp3.9/20, ML3.1/1, MS3.1/2, Ms1 3.1/2, ms1mx2.8/44, Error ellipse: s-maj=24.7km s-min=15.1km az=163.0*

ISC 03 20:06:06.9±1.9, 50°.9N±0°.1×179°.14W±0°.03, h22km±12km, n54, σ1§15/57, mb4.0/19, 1C-5D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GALAA	**Gareloi Lava P**	**0.89**	**15**	P	**Pb**	**20 06 23.9**	**+0.3**
GAEA	**Gareloi East**	**0.91**	**16**	P	**Pb**	**20 06 24.1**	**+0.1**
GANE	**Gareloi Northe**	**0.94**	**14**	P	**Pb**	**20 06 24.6**	**0.0**
AMKA	**Amchitka**	**1.09**	**296**	P	**Pn**	**20 06 25.7**	**-1.1**
AMKA				S	**Sn**	**20 06 40.7**	**-0.4**
TASE	**Tanaga Southea**	**1.16**	**36**	P	**Pb**	**20 06 28.4**	**+0.1**
TANO	**Tanaga North**	**1.20**	**32**	P	**Pb**	**20 06 28.8**	**-0.1**
TAFP	**Tanaga Falls P**	**1.23**	**36**	P	**Pb**	**20 06 29.2**	**-0.3**
TAFP				S	**Sb**	**20 06 47.0**	**+2.1**
CERAA	**Semis' Rag'd T**	**1.24**	**324**	P	**Pn**	**20 06 28.9**	**0.0**
CESW	**Semis' Southwe**	**1.28**	**321**	P	**Pb**	**20 06 30.0**	**-0.3**
CEAP	**Semis' Anvil P**	**1.36**	**324**	P	**Pb**	**20 06 31.7**	**+0.1**
KIKV	**Kanaga Island**	**1.57**	**51**	P	**Pn**	**20 06 34.0**	**+0.5**
KIKV				S	**Sb**	**20 06 56.3**	**+1.5**
KICM	**Kanaga Island**	**1.58**	**50**	P	**Pn**	**20 06 34.5**	**+0.9**
KIRH	**Kanaga Island**	**1.62**	**51**	P	**Pb**	**20 06 35.6**	**-0.5**
LSPA	**Little Sitkin**	**1.77**	**307**	P	**Pn**	**20 06 37.1**	**+0.8**
LSPA				S	**Sb**	**20 07 00.9**	**+0.4**
LSSA	**Little Sitkin**	**1.80**	**306**	P	**Pn**	**20 06 37.3**	**+0.7**
LSNW	**Little Sitkin**	**1.81**	**307**	P	**Pn**	**20 06 37.3**	**+0.6**
ADAG	**Mount Adagdak**	**1.92**	**55**	P	**Pb**	**20 06 40.8**	**-0.4**
ETKA	**Kagalaska Isla**	**1.96**	**60**	P	**Pb**	**20 06 41.2**	**-0.7**
GSCK	**Great Sitkin C**	**2.17**	**58**	P	**Pb**	**20 06 44.2**	**-1.2**
GSTD	**Great Sitkin T**	**2.20**	**57**	P	**Pb**	**20 06 45.1**	**-0.9**
GSTD				S	**Sb**	**20 07 12.4**	**-0.4**
GSMY	**Great Sitkin M**	**2.24**	**58**	P	**Pb**	**20 06 45.0**	**-1.7**
GSTR	**Great Sitkin T**	**2.26**	**57**	P	**Pn**	**20 06 45.3**	**+2.3**
ATKA	**Atka Island**	**3.35**	**65**	P	**Pn**	**20 06 59.7**	**+1.8**
ATKA				S	**Sb**	**20 07 42.9**	**-2.9**
PETK	**Petropavlovsk-**	**14.42**	**288**	P	**P**	**20 09 36.0**	**-0.2**
	0.2nm,0.3s,baz=67,slow=15,SNR=3.7						
PETK				LR	LR	20 13 48.0	
	comp=Z,91nm,21.7s,baz=152,slow=32						
SEY	**Seymchan**	**19.45**	**319**	P	**Pn**	**20 10 32.7**	**-0.2**
	0.1nm,0.3s,baz=118,slow=10,SNR=6.4						
ILAR	**Eielson Array**	**21.75**	**38**	P	**P**	**20 10 55.1**	**-1.4**
	1.0nm,0.8s,baz=256,slow=11,SNR=14						
ASAJ	**Asahikawa**	**26.49**	**270**	P	**P**	**20 11 44.0**	**+1.6**
	4.8nm,1.0s,baz=31,slow=5.9						
H11N2	**WAKE ISLAND Hy**	**33.01**	**205**	T	T	20 47 58.2	
	baz=8.5,slow=76						
H11N3	**WAKE ISLAND Hy**	**33.02**	**205**	T	T	20 48 00.0	
	baz=8.5						
H11N1	**WAKE ISLAND Hy**	**33.03**	**205**	T	T	20 47 59.7	
	baz=8.5,slow=76						
USRK	**Ussuriysk Ar.**	**33.14**	**278**	LR	LR	20 29 51.1	
	comp=Z,33nm,18.2s,baz=137,slow=43						
YKA	**Yellowknife Ar**	**35.71**	**46**	P	**P**	**20 13 03.2**	**-0.1**
	1.2nm,0.6s,baz=281,slow=7.4,SNR=6.9						
KSRS	**Korea Array**	**39.43**	**271**	P	**P**	**20 13 36.0**	**+1.0**
	1.3nm,0.8s,baz=52,slow=8.9,SNR=6.4						
PDAR	**Pinedale Array**	**46.66**	**72**	P	**P**	**20 14 34.3**	**+0.5**
	1.8nm,0.8s,baz=328,slow=5.3,SNR=4.5						
SONM	**Songino Array**	**46.66**	**297**	P	**P**	**20 14 34.2**	**+0.6**
	1.2nm,0.8s,baz=59,slow=8.0,SNR=11						
SPITS	**Spitsbergen Ar**	**50.83**	**356**	P	**P**	**20 15 04.1**	**-1.0**
	3.1nm,0.5s,baz=46,slow=7.1,SNR=17						
ZALV	**Zalesovo Beam**	**54.20**	**314**	P	**P**	**20 15 29.2**	**-1.1**
	0.3nm,0.3s,baz=50,slow=8.6,SNR=2.3						
ZALV				PcP	**PcP**	**20 16 34.6**	**+0.2**
	0.3nm,0.3s,baz=354,slow=2.9,SNR=5.1						
ARCES	**ARCESS Array B**	**58.52**	**350**	P	**P**	**20 15 59.4**	**-1.5**
	1.2nm,0.7s,baz=26,slow=8.6,SNR=6.4						
TXAR	**Lajitas Array**	**58.94**	**81**	P	**P**	**20 16 03.3**	**-1.2**
	0.2nm,0.6s,baz=309,slow=4.3,SNR=2.9						
MKAR	**Makanchi Array**	**60.16**	**308**	P	**P**	**20 16 11.8**	**-0.8**
	1.0nm,0.5s,baz=49,slow=6.0,SNR=15						
FINES	**FINESS Array B**	**66.19**	**347**	P	**P**	**20 16 50.9**	**-1.4**
	1.6nm,0.7s,baz=32,slow=7.5,SNR=10.0						
NOA	**NORSAR Array B**	**68.09**	**355**	P	**P**	**20 17 02.2**	**-2.2**
	0.7nm,0.8s,baz=344,slow=7.2,SNR=3.6						
AKASG	**Malin Array Be**	**75.93**	**342**	P	**P**	**20 17 50.6**	**-0.8**
	3.5nm,0.4s,baz=20,slow=5.8,SNR=11						
GEYT	**Alibeck**	**78.28**	**317**	P	**P**	**20 18 05.1**	**+0.2**
	0.8nm,0.5s,baz=20,slow=4.6,SNR=2.4						
GERES	**GERESS Array B**	**80.02**	**351**	P	**P**	**20 18 13.8**	**-0.5**
	0.5nm,0.6s,baz=35,slow=4.9,SNR=6.7						
DRGR		**80.87**	**345**	*j*P	**P**	**20 18 19.0**	**+0.1**
DOPR	**Dopca**	**81.20**	**343**	*j*P	**P**	**20 18 22.5**	**+1.9**
WRA	**Warramunga Arr**	**81.52**	**224**	P	**P**	**20 18 24.8**	**+2.3**
	0.3nm,0.8s,baz=33,slow=5.7,SNR=2.8						
MLR	**Muntele Rosu**	**81.56**	**342**	*j*P	**P**	**20 18 24.3**	**+1.7**
BZS	**Buzias**	**82.19**	**345**	*j*P	**P**	**20 18 25.9**	**+0.1**
GZR	**Gura Zlata**	**82.22**	**345**	*j*P	**P**	**20 18 26.1**	**+0.1**
DIVS	**Divibare**	**83.92**	**346**	*j*P	**P**	**20 18 35.1**	**+0.2**
ASAR	**Alice Springs**	**84.99**	**222**	P	**P**	**20 18 42.1**	**+1.8**
	0.4nm,1.0s,baz=23,slow=5.4,SNR=3.0						
BRTR	**Keskin Array B**	**85.28**	**335**	P	**P**	**20 18 41.5**	**-0.5**
	1.3nm,0.7s,baz=68,slow=3.8,SNR=9.8						

*MDD **03** 20:09:21.5±1.9, 36°.80N×12°.28W, h20km, mb3.7/5, Error ellipse: s-maj=18.2km s-min=15.4km az=11.0, PRXIMO*

*INMG **03** 20:09:22.9±1.1, 36°.70N×12°.50W, h10km, ML2.4, Error ellipse: s-maj=6.4km s-min=6.2km az=175.0*

ISC 03 20:09:22.8±3.7, 37°.0N±0°.1×12°.0W±0°.2, h10km, n40, σ1§00/72, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**2.53**	**85**	*e*Sn	**Sn**	**20 10 35.2**	**+0.3**
PFVI				A	A	20 10 36.1	
	6.2nm,0.2s						
PFVI	**Vila Bisbo**	**2.53**	**85**	Pn	**Pn**	**20 10 03.9**	**-0.1**
	1.8nm,0.2s,SNR=4.0						
PFVI				Sn	**Sn**	**20 10 35.1**	**+0.3**
	11nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**2.67**	**76**	*e*Pn	**Pn**	**20 10 06.7**	**+0.9**
PTEO				*e*Sn	**Sn**	**20 10 38.5**	**+0.3**
PTEO				A	A	20 10 43.5	
	11nm,0.5s						
PTEO	**Sao Teotonio**	**2.67**	**76**	Pn	**Pn**	**20 10 06.7**	**+0.9**
PTEO				Sn	**Sn**	**20 10 38.5**	**+0.3**
	5.6nm,0.5s						
MORF	**Marmelete**	**2.69**	**82**	*e*Sn	**Sn**	**20 10 38.9**	**+0.1**
MORF				A	A	20 10 40.1	
	6.2nm,0.1s						
MORF	**Marmelete**	**2.69**	**82**	Sn	**Sn**	**20 10 38.9**	**+0.1**
	6.2nm,0.1s						
PMAFR	**Mafra**	**2.92**	**46**	*e*Pn	**Pn**	**20 10 09.9**	**+0.6**
PMAFR				*e*Sn	**Sn**	**20 10 46.7**	**+2.2**
PMAFR				A	A	20 10 47.2	
	466nm,0.2s						
PMAFR	**Mafra**	**2.92**	**46**	Pn	**Pn**	**20 10 09.3**	**0.0**
	1.4nm,0.1s,SNR=17						
PMAFR				Sn	**Sn**	**20 10 45.7**	**+1.2**
	16nm,0.2s,SNR=7.9						
PNCL	**Nicolau / Gran**	**2.98**	**66**	*e*Pn	**Pn**	**20 10 10.8**	**+0.7**
PNCL				*e*Sn	**Sn**	**20 10 47.3**	**+1.5**
PNCL				A	A	20 10 49.9	
	5.1nm,0.1s						
PACT	**Alcochete**	**3.08**	**53**	*e*Pn	**Pn**	**20 10 11.7**	**+0.2**
PACT				*e*Sn	**Sn**	**20 10 50.7**	**+2.4**
MESJ	**Messejana**	**3.12**	**73**	*e*Pn	**Pn**	**20 10 13.1**	**+1.0**
MESJ				*e*Sn	**Sn**	**20 10 50.4**	**+0.9**
MESJ				A	A	20 10 53.4	
	2.7nm,0.2s						
MESJ	**Messejana**	**3.12**	**73**	Pn	**Pn**	**20 10 13.1**	**+1.0**
MESJ				Sn	**Sn**	**20 10 50.4**	**+0.9**
	2.7nm,0.2s						
PCVE	**Castro Verde**	**3.22**	**77**	*e*Pn	**Pn**	**20 10 14.2**	**+0.8**
PCVE				*e*Sn	**Sn**	**20 10 52.6**	**+0.8**
PCVE	**Castro Verde**	**3.22**	**77**	Pn	**Pn**	**20 10 14.2**	**+0.8**
PCVE				Sn	**Sn**	**20 10 52.6**	**+0.8**
PBDV	**Barranco-do-Ve**	**3.25**	**84**	*e*Pn	**Pn**	**20 10 14.6**	**+0.7**
PBDV				*e*Sn	**Sn**	**20 10 53.4**	**+0.7**
PBDV				A	A	20 10 59.0	
	2.9nm,0.4s						
PBDV	**Barranco-do-Ve**	**3.25**	**84**	Pn	**Pn**	**20 10 14.6**	**+0.7**
PBDV				Sn	**Sn**	**20 10 53.4**	**+0.7**
	2.9nm,0.4s						
PVAQ	**Vaqueiros**	**3.44**	**81**	*e*Pn	**Pn**	**20 10 16.9**	**+0.5**
PVAQ				*e*Sn	**Sn**	**20 10 57.6**	**+0.4**
PVAQ				A	A	20 11 01.9	
	5.6nm,0.7s						
PVAQ	**Vaqueiros**	**3.44**	**81**	Pn	**Pn**	**20 10 16.9**	**+0.5**
PVAQ				Sn	**Sn**	**20 10 57.6**	**+0.4**
	5.6nm,0.7s						
EVO	**Evora**	**3.52**	**62**	*e*Sn	**Sn**	**20 10 59.7**	**+0.5**
EVO				A	A	20 11 02.9	
	7.2nm,0.1s						
EVO	**Evora**	**3.52**	**62**	Sn	**Sn**	**20 10 59.7**	**+0.5**
	7.2nm,0.1s						
EGRO	**El Granado**	**3.64**	**80**	Pn	**Pn**	**20 10 19.3**	**+0.2**
	0.4nm,0.1s,SNR=7.9						
EGRO				Sn	**Sn**	**20 11 01.2**	**-1.0**
	2.0nm,0.3s,SNR=6.2						
PMTG	**Montargil**	**3.64**	**54**	*e*Pn	**Pn**	**20 10 19.7**	**+0.5**
PMTG				*e*Sn	**Sn**	**20 11 02.6**	**+0.4**
PMTG				A	A	20 11 04.8	
	2.4nm,0.1s						
PESTR	**Estremoz**	**3.96**	**60**	*e*Sn	**Sn**	**20 11 10.6**	**+0.4**
PESTR				A	A	20 11 14.3	
	2.0nm,0.5s						
PBAR	**Barrancos**	**4.11**	**71**	*e*Pn	**Pn**	**20 10 26.1**	**+0.4**
PBAR				*e*Sn	**Sn**	**20 11 13.3**	**-0.5**
PBAR				A	A	20 11 16.0	
	4.4nm,0.1s						
PBAR	**Barrancos**	**4.11**	**71**	Pn	**Pn**	**20 10 26.1**	**+0.4**
PBAR				Sn	**Sn**	**20 11 13.3**	**-0.5**
	4.4nm,0.1s						
PCAS	**Casmilo, Conde**	**4.12**	**40**	*e*Pn	**Pn**	**20 10 26.5**	**+0.6**
PCAS				*e*Sn	**Sn**	**20 11 15.4

*ISCJB **03** 20:22:26.4±1.3, 4.1°S±0.2° × 151.3°E±0.3°, h10km, mb3.7/7, MS3.9/16, Error ellipse: s-maj=45.2km s-min=18.4km az=29.4*
*IDC **03** 20:22:26.2±1.5, 4.0°8S × 151.39°E, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.8/26, mbtmp3.9/7, MS3.9/18, Ms1 3.9/18, ms1mx3.7/34, Error ellipse: s-maj=53.3km s-min=23.6km az=120.0*
*GCMT **03** 20:23:04.0±0.3, 3.39°S × 149.38°E, h20km±1km, MW5.0/75, Moment Tensor Solution. s23,c27; s75,c103; Duration: 0 Moment tensor: Scale 10^16 Nm; Mr=0.76±.15; Mθθ=2.02±.13; Mϕϕ=1.26±.12; Mrθ=0.72±.25; Mθϕ=2.95±.10; Mϕr=0.92±.22; Best double couple: M=3.62300×10^16 NP1:ϕs=102.00000°, δ75.00000°, λ-18.00000°. NP2: ϕs=197.00000°, δ72.00000°, λ-165.00000°. Principal axes: T 3.7610, Plg2.0000°, Azm150.0000°; N -0.2790, Plg67.0000°, Azm245.0000°; P -3.4860, Plg23.0000°, Azm59.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 03 20:22:27.3±1.8, 4.1°S±0.3° × 151.4°E±0.4, h10km, n24, σ1s74/8, mb3.8/7, MS3.9/16, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**10.79**	**278**		LR		LR	20 28 11.9	
	comp=Z,578nm,20.7s,baz=75,slow=32								
GUMO	**Guam**	**18.77**	**340**		LR		LR	20 33 45.3	
	comp=Z,174nm,19.2s,baz=152,slow=36								
WRA	**Warramunga Arr**	**22.87**	**225**	P			**P**	**20 27 30.3**	**-0.9**
	6.0nm,1.1s,baz=47,slow=10.0,SNR=8.2								
ASAR	**Alice Springs**	**25.73**	**219**	P			**P**	**20 27 59.7**	**+1.5**
	1.8nm,0.8s,baz=52,slow=9.3,SNR=9.3								
ASAR					LR		LR	20 38 58.2	
	comp=Z,374nm,18.8s,baz=42,slow=38								
STKA	**Stephens Creek**	**29.09**	**197**	LR			LR	20 40 33.0	
	comp=Z,233nm,19.3s,baz=17,slow=37								
KAPI	**Kappang**	**31.55**	**267**	LR			LR	20 43 53.6	
	comp=Z,151nm,18.6s,baz=85,slow=41								
MJAR	**Matsushiro Arr**	**42.30**	**344**	LR			LR	20 46 16.1	
	comp=Z,91nm,20.1s,baz=180,slow=34								
LEM	**Lembang**	**43.65**	**264**	LR			LR	20 50 24.3	
	comp=Z,96nm,21.9s,baz=108,slow=38								
KSRS	**Korea Array**	**46.79**	**334**	LR			LR	20 48 50.6	
	comp=Z,128nm,21.9s,baz=156,slow=34								
RAR	**Rarotonga**	**50.33**	**114**	LR			LR	20 51 08.2	
	comp=Z,49nm,20.9s,baz=303,slow=34								
CMAR	**Chiang Mai Arr**	**56.33**	**295**	P			**P**	**20 32 10.3**	**+1.4**
	1.2nm,0.9s,baz=120,slow=5.9,SNR=6.1								
CMAR					LR		LR	20 53 54.3	
	comp=Z,57nm,21.1s,baz=122,slow=34								
PETK	**Petropavlovsk-**	**57.28**	**5**	LR			LR	20 51 36.2	
	comp=Z,100nm,21.6s,baz=185,slow=31								
SONM	**Songino Array**	**65.03**	**328**	LR			LR	21 01 48.3	
	comp=Z,117nm,19.5s,baz=129,slow=36								
VNDA	**Vanda**	**73.54**	**178**	LR			LR	21 02 57.9	
	comp=Z,80nm,19.7s,baz=339,slow=33								
MKAR	**Makanchi Array**	**78.91**	**319**	P			**P**	**20 34 31.5**	**+0.5**
	0.4nm,0.8s,baz=103,slow=6.2,SNR=3.5								
ZALV	**Zalesovo Beam**	**79.83**	**327**	P			**P**	**20 34 34.7**	**-1.1**
	0.7nm,0.8s,baz=97,slow=4.9,SNR=2.0								
ILAR	**Eielson Array**	**82.08**	**22**	P			**P**	**20 34 48.0**	**+0.3**
	0.3nm,0.7s,baz=258,slow=4.5,SNR=3.6								
MAW	**Mawson**	**85.64**	**203**	LR			LR	21 11 07.3	
	comp=Z,76nm,21.1s,baz=62,slow=34								
BBB	**Bella Bella**	**87.42**	**37**	LR			LR	21 09 53.4	
	comp=Z,83nm,18.7s,baz=278,slow=33								
INK	**Inuvik**	**88.34**	**21**	P			**P**	**20 35 19.4**	**+0.5**
	0.9nm,0.4s,baz=270,slow=2.6,SNR=4.1								
YBH	**Yreka Blue Hor**	**89.66**	**48**	LR			LR	21 08 23.0	
	comp=Z,99nm,21.7s,baz=281,slow=31								
GEYT	**Alibeck**	**95.10**	**308**	LR			LR	21 19 09.1	
	comp=Z,57nm,21.6s,baz=310,slow=36								
PDAR	**Pinedale Array**	**99.44**	**47**	LR			LR	21 15 31.5	
	comp=Z,67nm,20.2s,baz=281,slow=32								
TORD	**Torodi Ar. Bea**	**148.77**	**289**	PKPbc			**PKPab**	**20 42 17.0**	**-2.9**
	2.9nm,1.1s,baz=88,slow=3.5,SNR=8.7								

IDC 03 20:27:31.7±1.7, 3.45°S × 147.15°E, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.5/20, mbtmp3.6/4, Error ellipse: s-maj=60.8km s-min=27.6km az=115.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.62**	**216**	P			P	20 32 13.6	+0.8
	2.5nm,0.9s,baz=41,slow=11,SNR=7.8								
ASAR	**Alice Springs**	**23.83**	**211**	P			P	20 32 46.3	-0.5
	1.0nm,0.8s,baz=43,slow=7.2,SNR=10								
CMAR	**Chiang Mai Arr**	**52.22**	**296**	P			P	20 36 44.9	-0.1
	0.8nm,1.0s,baz=116,slow=6.1,SNR=4.4								
ILAR	**Eielson Array**	**83.09**	**23**	P			P	20 39 59.1	0.0
	0.4nm,0.9s,baz=248,slow=4.8,SNR=3.9								

*IDC **03** 20:39:48.4±0.7, 9.35°S × 123.79°E, h0km, mb4.0/9, mb1 4.2/11, mb1mx4.0/36, mbtmp4.1/11, ML4.5/2, Error ellipse: s-maj=46.9km s-min=15.6km az=70.0*
*NEIC **03** 20:39:53.2±0.6, 9.43°S × 123.80°E, h35km, mb4.2/6, Error ellipse: s-maj=22.2km s-min=9.2km az=56.0*
*ISCJB **03** 20:39:55.1±0.3, 9.59°S±0.04° × 123.86°E±0.05, h66km, mb4.0/13, Error ellipse: s-maj=8.5km s-min=3.9km az=140.3*
*DJA **03** 20:39:56.9±0.4, 10°S±4'× 12°4E±', h58km±6km, M4.4/10, mb4.4/7, mB4.6/2, MLv4.3/10, Mw(mB)3.8/2*
*AUST **03** 20:39:56.6, 10.005° × 124.01°E, h25km*

ISC 03 20:39:57.3±0.5, 9.60°S±0.05° × 123.78°E±0.06, h66km, n46, σ1s77/46, mb4.0/13, Timor region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.51**	**108**	P			**Pn**	**20 40 11.2**	**+1.2**
SOEI					S		**Sn**	**20 40 19.2**	**0.0**
SOEI	**Soe**	**0.51**	**108**	*e*Pg			**Pn**	**20 40 07.3**	**-2.7**
MMRI	**Maumere**	**1.80**	**302**	P			**Pn**	**20 40 26.6**	**+0.4**
MMRI					S		**Sn**	**20 40 49.1**	**+1.0**
MMRI	**Maumere**	**1.80**	**302**	*e*Pn			Pn	20 40 21.5	-4.7
WSI	**Waingapu**	**3.43**	**269**	P			**Pn**	**20 40 48.4**	**0.0**
WSI					S		**Sn**	**20 41 28.5**	**+0.6**
BSSI	**Bau Bau, Buton**	**4.73**	**316**	P			**Pn**	**20 41 06.5**	**+0.3**
BSSI					S		**Sn**	**20 42 01.5**	**+1.7**
BKSI	**Bulukumba**	**5.59**	**319**	P			**Pn**	**20 41 17.9**	**0.0**
	84nm,0.9s,0.2nm								
BKSI					S		**Sn**	**20 42 22.2**	**+1.5**
	84nm,0.9s,0.2nm								
KDI	**Kendari**	**5.72**	**348**	P			**Pn**	**20 41 19.7**	**-0.1**
	28nm,0.8s,0.1nm								
KAPI	**Kappang**	**6.06**	**318**	Pn			**Pn**	**20 41 26.6**	**+2.2**
	2.0nm,0.3s,baz=148,slow=9.7,SNR=9.8								
SPSI	**Sidrap Palu**	**6.87**	**324**	P			**Pn**	**20 41 36.4**	**+1.0**
	15nm,1.2s,0.1nm								
SPSI					S		**Sn**	**20 42 54.6**	**+2.4**
	15nm,1.2s,0.1nm								
TTSI	**Tana Toraja**	**7.61**	**329**	P			**Pn**	**20 41 46.1**	**+0.5**
	18nm,0.9s,370nm0.1nm								
KNRA	**Kununurra**	**7.75**	**142**	P			Pn	20 41 42.8	-4.7
	baz=7.3,SNR=9.7								
LUWI	**Luwuk**	**8.56**	**353**	P			**Pn**	**20 42 00.8**	**+2.2**
	baz=9.0,SNR=3.9								
FITZ	**Fitzroy Crossi**	**8.64**	**168**	*e*Pn			**Pn**	**20 41 58.4**	**-1.3**
	9.0nm,0.6s								
FITZ					*e*Sn		Sn	20 43 27.9	-7.7
KDU	**Kakadu**	**9.06**	**111**	P			**Pn**	**20 42 05.2**	**-0.3**
	baz=8.7,SNR=13								
MBWA	**Marble Bar**	**12.14**	**198**	Pn			**Pn**	**20 42 44.8**	**-2.7**
WRA	**Warramunga Arr**	**14.48**	**136**	Pn			Pn	20 43 15.1	-3.9
	1.8nm,0.3s,baz=315,slow=13,SNR=54								
WRA					Sn		Sn	20 45 46.4	-12
	1.5nm,0.3s,baz=310,slow=23,SNR=14								
WRAB	**Tennant Creek**	**14.48**	**136**	*e*Pn			Pn	20 43 14.8	-4.1
	6.5nm,0.4s								
WRAB					*e*Sn		Sn	20 45 46.6	-12
WRKA	**Warakurna**	**15.94**	**165**	P			**Pn**	**20 43 37.1**	**-0.6**
	baz=16,SNR=27								
ASAR	**Alice Springs**	**17.01**	**147**	P			**Pn**	**20 43 51.0**	**0.0**
	2.2nm,0.3s,baz=317,slow=12,SNR=94								
ASAR					S		Sn	20 46 49.0	-10
	0.9nm,0.3s,baz=320,slow=23,SNR=17								
KKM	**Kota Kinabalu**	**17.27**	**334**	*e*Pn			**P**	**20 43 57.4**	**+2.5**
	6.2nm,0.7s								
MEEK	**Meekatharra**	**17.64**	**195**	P			**P**	**20 44 01.8**	**+3.0**
	baz=17,SNR=4.8								
QIS	**Mount Isa**	**18.75**	**127**	P			**Pn**	**20 44 13.1**	**+1.0**
	baz=18,SNR=12								
MORW	**Morawa**	**20.68**	**199**	P			**P**	**20 44 33.3**	**+1.3**
	baz=20,SNR=4.7								
MNAI	**Manna**	**21.31**	**283**	P			P	20 44 46.6	+7.8
	baz=22,SNR=4.8								
HTT	**Hallett**	**27.51**	**152**	P			**P**	**20 45 39.2**	**+1.4**
	baz=27,SNR=3.4								
STKA	**Stephens Creek**	**27.64**	**146**	P			**P**	**20 45 41.2**	**+2.3**
	2.9nm,0.9s,baz=328,slow=9.0,SNR=4.7								
STKA	**Stephens Creek**	**27.64**	**146**	P			**P**	**20 45 41.1**	**+2.2**
	0.8nm,0.9s								
ARPS	**Mount Arapiles**	**31.61**	**152**	P			**P**	**20 46 16.9**	**+2.9**
	baz=31,SNR=7.9								
CMAR	**Chiang Mai Arr**	**37.12**	**319**	P			**P**	**20 47 00.7**	**-1.1**
	0.9nm,0.9s,baz=137,slow=6.2,SNR=7.3								
LSA	**Lhasa**	**50.14**	**322**	*e*P			**P**	**20 48 45.0**	**-1.8**
	4.2nm,1.0s								
USRK	**Ussuriysk Ar.**	**54.06**	**7**	P			**P**	**20 49 13.2**	**-1.8**
	1.0nm,0.5s,baz=191,slow=7.9,SNR=4.6								
SONM	**Songino Array**	**59.23**	**346**	P			**P**	**20 49 49.7**	**-2.1**
	0.6nm,0.6s,baz=166,slow=9.5,SNR=5.8								
MK31	**Makanchi Array**	**67.22**	**330**	*e*P			**P**	**20 50 43.1**	**-1.6**
MKAR	**Makanchi Array**	**67.22**	**330**	P			**P**	**20 50 43.5**	**-1.1**
	1.9nm,0.5s,baz=134,slow=7.5,SNR=30								
MAW	**Mawson**	**70.32**	**201**	P			**P**	**20 51 04.9**	**+1.4**
	1.6nm,0.7s,baz=72,slow=8.7,SNR=4.1								
VNDA	**Vanda**	**70.70**	**172**	P			**P**	**20 51 07.2**	**+1.5**
	0.9nm,0.8s,baz=321,slow=11,SNR=5.2								
ZAA0	**Zalesovo Array**	**71.36**	**337**	*e*P			**P**	**20 51 06.9**	**-3.1**
ZALV	**Zalesovo Beam**	**71.36**	**337**	P			**P**	**20 51 07.2**	**-2.8**
	0.5nm,0.3s,baz=141,slow=5.7,SNR=5.9								
SBA	**Scott Base**	**71.66**	**171**	*e*P			**P**	**20 51 13.9**	**+2.4**
	1.8nm,0.9s								
KURK	**Kurchatov**	**71.69**	**332**	*e*P			**P**	**20 51 10.4**	**-1.6**
	2.4nm,0.7s								
QSPA	**South Pole Qui**	**80.40**	**180**	P			**P**	**20 52 02.9**	**+1.4**
	2.2nm,0.6s,baz=324,slow=1.0,SNR=23								
SNAA	**Sanae**	**91.66**	**195**	P			**P**	**20 52 54.5**	**-2.6**
SNAA	**Sanae**	**91.66**	**195**	*e*P			P	20 52 53.9	-3.2
	1.9nm,0.8s								
TORD	**Torodi Ar. Bea**	**123.21**	**279**	PKP			**PKPdf**	**20 58 47.7**	**+0.1**
	0.8nm,0.7s,baz=81,slow=1.2,SNR=7.1								
CPUP	**Villa Florida**	**144.27**	**178**	PKP			**PKPdf**	**20 59 25.9**	**-0.7**
	1.3nm,0.6s,baz=174,slow=3.7,SNR=6.2								

MAN 03 20:41:20, 11.18°N × 124.81°E, h15km, mb3.9, ML2.7, MS2.3, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.17**	**95**	⇓*i*P			Pb	20 41 25.9	+1.1
PLP				*i* S			Sb	20 41 28.9	+0.9
OCLP	**Ormoc**	**0.24**	**237**	*e*P			Pb	20 41 26.9	+0.9
OCLP				*e*S			Sb	20 41 29.8	-0.3
MSLP	**Maasin**	**1.04**	**177**	*e*P			Pg	20 41 40.2	+0.1
MSLP				*e*S			Sb	20 41 52.8	-0.4

MEX 03 20:54:06.1±0.8, 17.06°N × 99.59°W, h39km±14km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.32**	**233**	*i* P			Pn	20 54 16.4	+1.8
ACX				*i* S			Sn	20 54 22.5	+1.6
ACP2	**Acapulco**	**0.34**	**236**	*e*P			Pn	20 54 13.0	-1.7
ACP2				*e*S			Sn	20 54 19.3	-1.8
CAIG	**El Cayaco**	**0.65**	**269**	*i* P			Pn	20 54 16.7	-2.1
CAIG				*i* S			Sn	20 54 26.3	-1.6
MEIG	**Mezcala**	**0.86**	**358**	*e*P			Pn	20 54 19.5	-2.3
MEIG				*i* S			Sn	20 54 30.6	-2.7
TLIG	**Tlapa**	**1.10**	**63**	*e*P			Pn	20 54 23.7	-1.5
TLIG				*e*S			Sn	20 54 37.1	-2.1
PLIG	**Platanillo**	**1.32**	**4**	*e*P			Pn	20 54 26.9	-1.4
PLIG				*e*S			Sn	20 54 43.2	-1.6
ARIG	**Puente Sto Nin**	**1.41**	**329**	*e*P			Pn	20 54 27.8	-1.5
ARIG				*e*S			Sn	20 54 44.8	-1.9
PNIG	**Pinotepa**	**1.56**	**115**	*e*P			Pn	20 54 29.4	-1.9
PNIG				*e*S			Sn	20 54 47.3	-3.0
YAIG	**Yautepec**	**1.86**	**16**	*e*P			Pn	20 54 33.6	-2.0
YAIG				*e*S			Sn	20 54 56.6	-1.4
ZIIG	**Zihuatanejo**	**1.87**	**287**	*e*P			Pn	20 54 34.2	-1.4
ZIIG				*e*S			Sn	20 54 56.2	-1.7

MEX 03 20:59:56.5±0.5, 16.80°N × 100.20W, h5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.26**	**345**	*i* P			Pg	21 00 01.2	-0.4
CAIG				*i* S			Sg	21 00 05.0	0.0
ACX	**Acapulco**	**0.33**	**77**	*e*P			Pb	21 00 05.1	+0.2
ACX				*i* S			Sg	21 00 08.9	+1.5
MEIG	**Mezcala**	**1.25**	**26**	*e*P			Pg	21 00 16.2	-4.5
MEIG				*e*S			Sg	21 00 32.4	-4.6
ARIG	**Puente Sto Nin**	**1.48**	**354**	*e*P			Pn	21 00 20.6	-3.3
ARIG				*e*S			Sn	21 00 39.1	-4.7
PLIG	**Platanillo**	**1.72**	**23**	*e*P			Pn	21 00 23.7	-3.6
PLIG				*e*S			Sn	21 00 45.2	-4.5
TLIG	**Tlapa**	**1.73**	**64**	*e*P			Pn	21 00 24.6	-2.9
TLIG				*e*S			Sn	21 00 46.0	-4.1

IDC 03 21:01:59.9±2.2, 4.54°S × 152.12°E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/28, mbtmp3.5/3, Error ellipse: s-maj=160.0km s-min=26.9km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.11**	**227**	P			P	21 07 06.4	-1.4
	0.8nm,1.1s,baz=51,slow=10.0,SNR=2.5								
ASAR	**Alice Springs**	**25.89**	**221**	P			P	21 07 33.7	-0.1
	0.8nm,0.9s,baz=52,slow=11,SNR=4.5								
ILAR	**Eielson Array**	**82.18**	**22**	P			P	21 14 21.2	-1.3
	0.4nm,0.6s,baz=242,slow=5.2,SNR=8.2								
TORD	**Torodi Ar. Bea**	**149.58**	**288**	PKPbc			PKPbc	21 21 54.5	+2.0
	0.4nm,0.7s,baz=89,slow=4.5,SNR=3.0								

*MOS **03** 21:12:23.4±2.0, 51.64°N × 157.27°E, h124km, mb4.2/1, Error ellipse: s-maj=29.6km s-min=7.1km az=69.4*
*KRSC **03** 21:12:23.9±2.0, 51.73°N × 157.56°E, h135km±17km, ML4.0*
*ISCJB **03** 21:12:25.0±0.4, 51.80°N±0.06° × 157.3°E±0.1, h135km±3km, mb3.3/6, Error ellipse: s-maj=13.7km s-min=5.4km az=39.8*
*IDC **03** 21:12:27.3±1.1, 51.98°N × 157.03°E, h140km±11km, mb3.2/7, mb1 3.4/8, mb1mx3.1/27, mbtmp3.6/8, Error ellipse: s-maj=29.8km s-min=16.0km az=145.0*

ISC 03 21:12:25.9±0.7, 51.79°N±0.05° × 157.46°E±0.06, h133km±5km, n54, σ1s21/79, mb3.4/6, 1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.52**	**231**	*e*P			**Pn**	**21 12 45.3**	**0.0**
PAU				*e*S			**Sn**	**21 13 00.2**	**+0.2**
PAU	**Pauzhetka**	**0.52**	**231**	PN			**Pn**	**21 12 45.3**	**0.0**
PAU				S			**Sn**	**21 13 00.2**	**+0.2**
MIPR	**Malaya Ipel'ka**	**0.65**	**319**	*e*P			**Pn**	**21 12 45.5**	**-0.7**
MIPR				*e*S			**Sn**	**21 13 00.2**	**-1.4**
ASAK	**Asacha**	**0.65**	**25**	*e*P			**Pn**	**21 12 46.1**	**-0.2**
ASAK				*e*S			**Sn**	**21 13 01.2**	**-0.6**
MTVR	**Mutnovka**	**0.82**	**33**	*e*P			**Pn**	**21 12 47.7**	**0.0**
MTVR				*e*S			**Sn**	**21 13 04.3**	**+0.1**
RUS	**Russkaya**	**0.92**	**45**	*e*P			**Pn**	**21 12 47.7**	**-0.5**
RUS				*e*S			**Sn**	**21 13 04.5**	**-0.7**
RUS	**Russkaya**	**0.92**	**45**	PN			**Pn**	**21 12 47.7**	**-0.5**
RUS				S			**Sn**	**21 13 04.5**	**-0.7**
APC	**Apacha**	**1.15**	**351**	*e*P			**Pn**	**21 12 50.0**	**-0.4**
APC				*e*S			**Sn**	**21 13 07.8**	**-1.3**
APC	**Apacha**	**1.15**	**351**	PN			**Pn**	**21 12 50.0**	**-0.4**
APC				S			**Sn**	**21 13 07.8**	**-1.3**
PETK	**Petropavlovsk-**	**1.33**	**6**	P			**Pn**	**21 12 52.1**	**-0.2**
	21nm,0.3s,baz=178,slow=13,SNR=362								
PETK					S		**Sn**	**21 13 12.8**	**+0.4**
	6.0nm,0.3s,baz=170,slow=25,SNR=9.9								
PETK	**Petropavlovsk-**	**1.33**	**6**	PN			**Pn**	**21 12 52.1**	**-0.2**
PETK				S			**Sn**	**21 13 12.8**	**+0.4**
PETK					pmax	pmax			
	comp=Z,21nm,0.3s								
PETK					smax	smax			
	comp=N,6.0nm,0.3s								
SKR	**Severo-Kuril's**	**1.39**	**218**	*e*P			**Pn**	**21 12 53.2**	**+0.2**
SKR				*e*S			**Sn**	**21 13 14.1**	**+0.6**
SKR	**Severo-Kuril's**	**1.39**	**218**	*e*PN			Pn	21 12 43.5	-9.5
SKR				*i* S			Sn	21 13 04.5	-9.0
SKR					pmax	pmax			
	comp=E,30nm,0.5s								
SKR					pmax	pmax			
	comp=Z,50nm,0.5s								
SKR					smax	smax			
	comp=N,1μm,1.0s								
SKR					smax	smax			
	comp=E,410nm,0.5s								
PET	**Petropavlovsk**	**1.44**	**30**	*e*P			**Pn**	**21 12 53.2**	**-0.2**
PET				*e*S			**Sn**	**21 13 14.1**	**-0.4**
PET	**Petropavlovsk**	**1.44**	**30**	⇓*i*PN			**Pn**	**21 12 53.2**	**-0.2**
PET				*e*S			**Sn**	**21 13 14.0**	**-0.4**
PET					pmax	pmax			
	comp=Z,44nm,0.4s								
PET					smax	smax			
	comp=E,210nm,0.7s								
PET					smax	smax			
	comp=N,263nm,0.5s								
UGLR	**Uglovaya**	**1.65**	**30**	*e*P			**Pn**	**21 12 57.0**	**+1.1**
UGLR				*e*S			**Sn**	**21 13 20.4**	**+1.5**
KOK	**Koryaka**	**1.67**	**25**	*e*P			**Pn**	**21 12 57.2**	**+1.1**
KOK				*e*S			**Sn**	**21 13 21.0**	**+1.7**
KOK	**Koryaka**	**1.67**	**25**	PN			**Pn**	**21 12 57.2**	**+1.1**
KOK				S			**Sn**	**21 13 21.0**	**+1.7**
AVH	**Avacha**	**1.67**	**27**	*e*P			**Pn**	**21 12 57.2**	**+1.0**
AVH				*e*S			**Sn**	**21 13 21.1**	**+1.8**
AVH	**Avacha**	**1.67**	**27**	PN			**Pn**	**21 12 57.2**	**+1.0**
AVH				S			**Sn**	**21 13 21.1**	**+1.8**
SMAR	**Somma**	**1.69**	**29**	*e*P			**Pn**	**21 12 57.4**	**+0.9**
SMAR				*e*S			**Sn**	**21 13 21.3**	**+1.4**
SMAR	**Somma**	**1.69**	**29**	PN			**Pn**	**21 12 57.4**	**+0.9**
SMAR				S			**Sn**	**21 13 21.3**	**+1.4**
KRER	**Koryakskii**	**1.71**	**27**	*e*P			**Pn**	**21 12 57.6**	**+0.9**
KRER				*e*S			**Sn**	**21 13 21.8**	**+1.5**
SDLR	**Sedlovina**	**1.73**	**30**	*e*P			**Pn**	**21 12 57.1**	**+0.3**
SDLR				*e*S			**Sn**	**21 13 21.0**	**+0.5**
SDLR	**Sedlovina**	**1.73**	**30**	PN			**Pn**	**21 12 57.1**	**+0.3**
SDLR				S			**Sn**	**21 13 21.0**	**+0.5**
KRX	**Arik**	**1.73**	**24**	*e*P			**Pn**	**21 12 57.6**	**+0.7**
KRX				*e*S			**Sn**	**21 13 21.7**	**+1.0**
GNL	**Ganaly**	**1.93**	**9**	*e*P			**Pn**	**21 12 59.3**	**+0.1**
GNL	**Ganaly**	**1.93**	**9**	PN			**Pn**	**21 12 59.3**	**+0.1**
SPN	**Mys Shipunski**	**2.04**	**49**	*e*P			**Pn**	**21 13 00.6**	**+0.1**
SPN				*e*S			**Sn**	**21 13 26.4**	**-0.6**
SPN	**Mys Shipunski**	**2.04**	**49**	PN			**Pn**	**21 13 00.6**	**+0.1**
SPN				S			**Sn**	**21 13 26.4**	**-0.6**
KZV	**Kizimen**	**3.73**	**26**	*e*P			**Pn**	**21 13 23.9**	**+1.6**
KZV				*e*S			**Sn**	**21 14 06.7**	**+0.7**
MKZ	**Mys Kozlova**	**3.78**	**41**	*e*P			**Pn**	**21 13 22.1**	**-0.6**
MKZ				*e*S			**Sn**	**21 14 03.1**	**-3.6**
MKZ	**Mys Kozlova**	**3.78**	**41**	PN			**Pn**	**21 13 22.1**	**-0.6**
MKZ				S			**Sn**	**21 14 03.1**	**-3.6**
TUMR	**Tumrok**	**3.85**	**24**	*e*P			**Pn**	**21 13 25.7**	**+2.0**
TUMR	**Tumrok**	**3.85**	**24**	PN			**Pn**	**21 13 25.7**	**+2.0**
KBTR	**Krutoberegovo**	**5.44**	**33**	*e*P			**Pn**	**21 13 44.5**	**-0.2**
KBTR				*e*S			**Sn**	**21 14 42.2**	**-4.0**
KBTR	**Krutoberegovo**	**5.44**	**33**	PN			**Pn**	**21 13 44.5**	**-0.2**
BKI	**Bering**	**6.12**	**53**	*e*P			**Pn**	**21 13 53.3**	**-0.6**
BKI				*e*S			Sn	21 14 55.9	-6.8
BKI	**Bering**	**6.12**	**53**	PN			**Pn**	**21 13 53.3**	**-0.6**
USRK	**Ussuriysk Ar.**	**18.59**	**256**	P			**P**	**21 16 32.1**	**-0.6**
	comp=N,0.1nm,0.3s,baz=37,slow=9.6,SNR=3.1								
MJAR	**Matsushiro Arr**	**20.47**	**229**	P			**P**	**21 16 53.6**	**+0.6**
	comp=N,2.2nm,0.7s,baz=19,slow=8.2,SNR=8.9								
ILAR	**Eielson Array**	**30.88**	**44**	P			**P**	**21 18 30.0**	**+0.7**
	comp=N,0.3nm,0.7s,baz=268,slow=8.2,SNR=5.4								
ILAR	**Eielson Array**	**30.88**	**44**	P			**P**	**21 18 30.0**	**+0.7**
H11N2	**WAKE ISLAND Hy**	**32.84**	**163**	T			T	21 54 24.2	
	baz=351,slow=74								
H11N3	**WAKE ISLAND Hy**	**32.86**	**163**	T			T	21 54 30.8	
	baz=351,slow=74								
H11N1	**WAKE ISLAND Hy**	**32.86**	**163**	T			T	21 54 29.5

σ1⁹58/26, **mb3.9/6, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.99**	**205**	P	**Pn**	**21 39 50.1**	**+2.0**
TNTI				S	**Sn**	**21 40 11.7**	**-1.1**
SGSI	**Sangihe**	**2.88**	**292**	P	**Pn**	**21 40 02.0**	**+2.1**
SGSI				S	**Sn**	**21 40 32.4**	**-1.5**
LBMI	**Labuha**	**3.28**	**192**	P	Pn	21 40 10.6	+5.4
LBMI				S	**Sn**	**21 40 47.3**	**+3.9**
SIJI	**Sorong** 5.3nm,0.3s,baz=299,slow=11,SNR=24	**4.60**	**138**	P	**Pn**	**21 40 24.2**	**+1.1**
SIJI	4.2nm,0.3s,baz=160,slow=21,SNR=16			S	**Sn**	**21 41 14.3**	**-1.1**
KMSI	**Cibinong**	**4.67**	**245**	P	**Pn**	**21 40 24.2**	**+0.3**
LUWI	**Luwuk** 38nm,1.2s,0.4nm	**6.51**	**236**	P	**Pn**	**21 40 49.8**	**+0.8**
LUWI	38nm,1.2s,0.4nm			S	**Sn**	**21 42 00.4**	**-1.5**
MRSI	**Marisa** 170nm,0.6s,1μm0.6nm	**6.60**	**252**	P	**Pn**	**21 40 50.9**	**+0.8**
APSI	**Ampana** 83nm,0.6s,724nm0.3nm	**7.41**	**242**	P	**Pn**	**21 41 02.2**	**+1.0**
APSI	83nm,0.6s,724nm0.3nm			S	**Sn**	**21 42 24.4**	**+0.6**
MPSI	**Mapaga** 15nm,0.8s,0.0nm	**8.59**	**255**	P	**Pn**	**21 41 18.2**	**+0.9**
SRPI	**Serui, Papua** 10μm729nm,0.8s	**9.18**	**119**	P	Px	21 41 42.0	
TTSI	**Tana Toraja** 36nm,0.6s	**10.07**	**236**	P	**Pn**	**21 41 37.8**	**+0.4**
SPSI	**Sidrap Palu**	**10.65**	**232**	P	**Pn**	**21 41 46.4**	**+1.1**
KAPI	**Kappang** 3.0nm,0.3s,baz=40,slow=7.9,SNR=6.5	**11.32**	**228**	P	**Pn**	**21 41 56.0**	**+1.6**
KAPI	0.5nm,0.3s,baz=180,slow=20,SNR=4.7			S	**Sn**	**21 43 57.1**	**-1.9**
WRA	**Warramunga Arr** 4.1nm,0.3s,baz=345,slow=11,SNR=74	**23.19**	**165**	P	**P**	**21 44 13.1**	**-0.8**
ASAR	**Alice Springs** 1.3nm,0.5s,baz=352,slow=7.8,SNR=37	**26.68**	**168**	P	**P**	**21 44 44.8**	**-0.7**
ASAR	0.4nm,0.5s,baz=352,slow=2.3,SNR=5.4			PcP	**PcP**	**21 48 05.6**	**-1.4**
CMAR	**Chiang Mai Arr** 0.7nm,0.9s,baz=118,slow=9.3,SNR=4.0	**32.71**	**301**	P	**P**	**21 45 38.9**	**0.0**
CMAR	0.6nm,0.9s,baz=108,slow=6.3,SNR=3.3			pP	**pP**	**21 46 04.2**	**+2.6**
STKA	**Stephens Creek** 5.4nm,0.3s,baz=332,slow=8.0,SNR=56	**36.56**	**161**	P	**P**	**21 46 11.2**	**-0.7**
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=113,slow=7.8,SNR=6.5	**59.33**	**325**	P	**P**	**21 49 08.6**	**+1.4**
VNDA	**Vanda** 1.6nm,0.9s,baz=314,slow=7.0,SNR=5.7	**82.12**	**173**	P	**P**	**21 51 23.3**	**-1.5**

*IDC **03** 21:42:54.7±1.4, 12°.60N×121°.59E, h0km, mb3.2/4, mb1 3.5/4, mb1mx3.2/25, mbtmp3.3/4, MS2.7/2, Ms1 2.7/2, ms1mx2.5/16, Error ellipse: s-maj=60.2km s-min=18.1km az=65.0*

*ISCJB **03** 21:42:56.3±0.5, 12°.59N±0°.05×121°.50E±0°.05, h10km, mb3.3/4, MS2.6/1, Error ellipse: s-maj=7.1km s-min=6.6km az=0.0*

*MAN **03** 21:42:57, 12°.47N×121°.48E, h9km, mb4.6, ML3.5, MS3.4*

ISC 03 21:42:56.5±0.9,**12°.58N**±0°.05×**121°.47E**±0°.04,**h10**km,**n19,** σ1⁹**10/17, mb3.3/4, 2C-1D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.36**	**251**	*e*P	**Pb**	**21 43 05.1**	**+0.1**
OTRP	**Odiongan**	**0.58**	**112**	*e*P	**Pb**	**21 43 08.7**	**-0.1**
PGP	**Puerto Galera**	**1.04**	**331**↑	*e*P	**Pb**	**21 43 15.9**	**-0.9**
BUSP	**Coron**	**1.37**	**245**	*e*P	**Pb**	**21 43 22.3**	**+0.1**
AUQP	**San Andres**	**1.39**	**58**	*e*P	**Pn**	**21 43 23.3**	**+1.4**
TGY	**Tagaytay City** baz=90,slow=20	**1.60**	**341**	Pg	**Pn**	**21 43 23.8**	**-1.1**
TGY	baz=90,slow=14			Lg	Lg	21 43 50.4	
RCP	**Roxas**	**1.61**	**129**↑	*e*P	**Pn**	**21 43 24.8**	**-0.2**
GQP	**Guinayangan**	**1.62**	**36**↓	*e*P	**Pn**	**21 43 25.2**	**0.0**
GQP				*e*S	Sn	21 43 42.5	-3.7
LUBP	**Lubang**	**1.65**	**314**	*e*P	**Pn**	**21 43 27.2**	**+1.6**
CUYO	**Cuyo Island**	**1.78**	**194**	*e*P	**Pn**	**21 43 26.6**	**-0.7**
GUIM	**Jordan**	**2.23**	**150**	*e*P	**Pn**	**21 43 33.2**	**-0.3**
ENPP	**El Nido**	**2.42**	**236**	*e*P	**Pn**	**21 43 36.7**	**+0.5**
MSLP	**Maasin**	**4.12**	**126**	*e*P	**Pn**	**21 44 01.2**	**+1.6**
KAPI	**Kappang** comp=Z,24nm,18.9s,baz=109,slow=35	**17.56**	**186**	LR	LR	21 53 07.2	
CMAR	**Chiang Mai Arr** 0.5nm,0.7s,baz=102,slow=7.9,SNR=4.1	**22.47**	**288**	P	**P**	**21 47 57.6**	**+1.5**
KSRS	**Korea Array** comp=Z,19nm,19.1s,baz=190,slow=39	**25.43**	**12**	LR	LR	21 59 29.9	
WRA	**Warramunga Arr** 0.3nm,0.6s,baz=331,slow=10.0,SNR=3.0	**34.71**	**158**	P	**P**	**21 49 44.8**	**-2.1**
SONM	**Songino Array** 0.5nm,0.7s,baz=154,slow=7.0,SNR=3.0	**37.34**	**343**	P	**P**	**21 50 08.9**	**-0.3**
ASAR	**Alice Springs** 0.4nm,0.8s,baz=341,slow=6.8,SNR=3.5	**38.02**	**161**	P	**P**	**21 50 15.7**	**+0.6**

IDC 03 22:22:30.6±1.2,**17°.35S×174°.45W, h0km, mb4.3/6, mb1 4.4/6, mb1mx3.9/21, mbtmp4.3/6, Error ellipse: s-maj=31.6km s-min=30.3km az=95.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 12nm,0.3s,baz=289,slow=3.1,SNR=37	**22.11**	**198**	P	P	22 27 28.1	+0.5
URZ	2.3nm,0.6s,baz=141,slow=17,SNR=3.8			S	S	22 31 11.8	-20
RPZ	**Rata Peaks** 4.8nm,0.5s,baz=69,slow=2.1,SNR=2.2	**29.01**	**202**	P	P	22 28 32.6	+0.4
STKA	**Stephens Creek** 0.6nm,0.4s,baz=78,slow=9.3,SNR=3.6	**42.21**	**242**	P	P	22 30 24.6	-0.9
WRA	**Warramunga Arr** 0.7nm,0.5s,baz=96,slow=7.3,SNR=11	**48.44**	**259**	P	P	22 31 15.1	-0.1
ASAR	**Alice Springs** 4.2nm,0.7s,baz=89,slow=8.5,SNR=50	**48.57**	**254**	P	P	22 31 16.2	+0.1
QSPA	**South Pole Qui** 2.4nm,0.8s,baz=52,slow=0.9,SNR=9.2	**72.71**	**180**	P	P	22 33 59.9	-0.5
BRTR	**Keskin Array B** 0.7nm,1.0s,baz=151,slow=5.1,SNR=3.7	**146.98**	**318**	PKPbc	PKPbc	22 42 15.5	-0.2
GERES	**GERESS Array B** 0.3nm,0.6s,baz=29,slow=3.0,SNR=4.1	**147.89**	**350**	PKPbc	PKPbc	22 42 17.7	-0.2
TORD	**Torodi Ar. Bea** 0.3nm,0.8s,baz=338,slow=0.5,SNR=2.8	**174.41**	**138**	PKP	PKPdf	22 42 41.0	-2.4
TORD	0.6nm,1.0s,baz=251,slow=4.4,SNR=3.0			PKPab	PKPab	22 44 15.9	+0.2

*IDC **03** 22:25:13.5±2.2, 42°.49N×124°.47W, h0km, mb3.0/1, mb1 3.6/4, mb1mx3.3/30, mbtmp3.2/4, ML3.1/2, MS2.8/3, Ms1 2.8/3, ms1mx2.6/10, Error ellipse: s-maj=38.9km s-min=14.8km az=37.0*

*PNSN **03** 22:25:19.5, 42°.49N×124°.18W, h36km, MD3.1, Fault plane solution: NP1:ϕs205.00000°, δ35.00000°, NP2: ϕs25.00000°, δ55.00000°, Principal axes: T Plg10.0000°, Azm115.0000°; P Plg80.0000°, Azm295.0000°;*

*NEIC **03** 22:25:19.6, 42°.44N×124°.15W, h33km, MW3.7(BRK), After NCEDC.*

NEIC Felt [II] at Agness and Gold Beach. Also felt at Brookings, Grants Pass and Port Orford.

ISC 03 22:25:19.7±1.2,**42°.44N**±0°.03×**124°.17W**±0°.06, **h30**km±10km,**n55,** σ0⁹**74/56, 11C-4D, Near coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**0.23**	**190**	*e*Pn	**Pb**	**22 25 26.4**	**0.0**
KBO				*e*Sn	**Sn**	**22 25 32.3**	**+0.4**
KEBM	**Edson Butte**	**0.45**	**345**	↑P	**Pb**	**22 25 29.2**	**-0.1**
L02D	**Cave Junction,** baz=0.5,SNR=1000	**0.51**	**124**	P	**Pb**	**22 25 30.5**	**+0.2**
L02D	baz=0.5			S	**Sn**	**22 25 38.8**	**+0.1**
KSXB	**Camp Six Broad**	**0.65**	**160**	↑P	**Pb**	**22 25 32.2**	**-0.5**
KTRM	**Thompson Ridge**	**0.80**	**132**	↑P	**Pb**	**22 25 34.0**	**-1.1**
HUMO	**Hull Mountain**	**0.91**	**79**	*e*Pn	**Pn**	**22 25 35.8**	**-0.6**
HUMO				*e*Sn	**Sb**	**22 25 48.5**	**-0.4**
DBO	**Dodson Butte**	**0.96**	**45**	↑P	**Pn**	**22 25 36.7**	**-0.5**
UMPQ	**Umpqua Communi**	**1.05**	**36**	↓P	**Pn**	**22 25 38.0**	**-0.3**
BBOR	**Butler Butte**	**1.19**	**68**	↓P	**Pn**	**22 25 40.4**	**0.0**
YBH	**Yreka Blue Hor** 59nm,0.3s,baz=295,slow=15,SNR=720	**1.30**	**123**	Pg	**Pn**	**22 25 41.9**	**0.0**
YBH	comp=Z,11nm,21.9s,baz=24,slow=22			LR	LR	22 25 45.9	
YBH	70nm,0.3s,baz=184,slow=15,SNR=13			Lg	Lg	22 26 00.6	
HSO	**Harness Mounta**	**1.34**	**36**	P	**Pn**	**22 25 42.4**	**0.0**
I03D	**Drain, OR** baz=1.4,SNR=64	**1.39**	**25**	P	**Pn**	**22 25 42.6**	**-0.4**
I03D	baz=1.4			S	**Sn**	**22 25 60.0**	**-0.4**
LAMM	**Antelope Mount**	**1.42**	**125**	↑P	**Pn**	**22 25 44.2**	**+0.6**
BUOR	**Burton Butte**	**1.44**	**96**	↓P	**Pn**	**22 25 44.5**	**+0.7**
M02C	**Callahan** baz=1.5,SNR=564	**1.44**	**136**	P	**Pn**	**22 25 44.1**	**+0.4**
M02C	baz=1.5			S	**Sn**	**22 26 01.9**	**+0.2**
RNO	**Roman Nose**	**1.50**	**12**	↓P	**Pn**	**22 25 44.5**	**-0.2**
LAB	**Little Aspen B**	**1.57**	**96**	P	**Pn**	**22 25 46.4**	**+0.7**
VSP	**Spence Mountai**	**1.65**	**93**	↑P	**Pn**	**22 25 47.2**	**+0.5**
J04D	**Umpqua Nationa** baz=1.7,SNR=46	**1.71**	**62**	P	**Pn**	**22 25 48.2**	**+0.6**
K04D	**Chiloquin, OR** baz=1.8,SNR=29	**1.80**	**83**	P	**Pn**	**22 25 48.9**	**+0.1**
N02D	**Trinity Center** baz=1.9,SNR=76	**1.83**	**143**	P	**Pn**	**22 25 49.6**	**+0.4**
N02D	baz=1.9			S	**Sn**	**22 26 12.1**	**+0.7**
HOG	**Hogback Mounta**	**1.84**	**95**	↑P	**Pn**	**22 25 49.7**	**+0.3**
M04C	**Macdoel** baz=1.9,SNR=53	**1.86**	**110**	P	**Pn**	**22 25 50.2**	**+0.6**
I04A	**Tendick Farm,** baz=1.8,SNR=54	**1.87**	**43**	P	**Pn**	**22 25 50.2**	**+0.6**
I04A	baz=1.8			S	**Sn**	**22 26 12.5**	**+0.3**
HBO	**Huckleberry Mo**	**1.95**	**43**	↑P	**Pn**	**22 25 51.5**	**+0.7**
WDC	**Whiskeytown Da**	**2.23**	**146**	*e*Pn	**Pn**	**22 25 54.9**	**+0.3**
WDC				*e*Sn	**Sn**	**22 26 20.7**	**-0.4**
COR	**Corvallis**	**2.23**	**16**	*e*Pn	**Pn**	**22 25 54.6**	**0.0**
J05D	**Fort Rock, OR** baz=2.3,SNR=40	**2.32**	**68**	P	**Pn**	**22 25 56.1**	**+0.2**
WIFE	**Three Sisters-**	**2.36**	**46**	↑P	**Pn**	**22 25 56.9**	**+0.4**
LBCM	**Butte Creek Ri**	**2.66**	**126**	↑P	**Pn**	**22 26 01.1**	**+0.6**
KIPM	**Iron Peak**	**2.68**	**169**	*e*Pn	**Pn**	**22 26 01.2**	**+0.3**
KIPM				*e*Sn	**Sn**	**22 26 31.6**	**-0.9**
KCPM	**Cahto Peak**	**2.79**	**171**	*e*Pn	**Pn**	**22 26 02.3**	**-0.1**
KCPM				*e*Sn	**Sn**	**22 26 34.1**	**-0.9**
I05D	**Terrebonne, OR** baz=2.8,SNR=7.9	**2.80**	**47**	P	**Pn**	**22 26 02.8**	**+0.3**
G03D	**McMinnville, O** baz=2.8	**2.84**	**13**	S	**Sn**	**22 26 35.9**	**-0.3**
MOD	**Modoc** baz=3.4	**2.93**	**99**	↑P	**Pn**	**22 26 04.1**	**-0.2**
G05D	**Wamic, OR** baz=3.7	**3.48**	**35**	S	**Sn**	**22 26 51.0**	**-0.9**
F04D	**Rainier, OR** baz=3.7	**3.73**	**13**	S	**Sn**	**22 26 58.6**	**+0.5**
WVOR	**Wild Horse Val**	**4.10**	**88**	*e*Pn	**Pn**	**22 26 19.2**	**-1.1**
BMO	**Blue Mountains**	**5.53**	**62**	*e*Pn	**Pn**	**22 26 40.8**	**+0.8**
NVAR	**Mina Airpy Bea** 0.9nm,0.3s,baz=301,slow=14,SNR=10	**5.01**	**130**	Pn	**Pn**	**22 26 48.5**	**+1.8**
MFID	**Camas Ranch**	**6.20**	**78**	*e*Pn	**Pn**	**22 26 50.0**	**+0.8**
ELK	**Elko** 0.2nm,0.3s,baz=291,slow=13,SNR=5.6	**6.91**	**101**	Pn	**Pn**	**22 27 02.2**	**+3.1**
ELK	comp=Z,84nm,18.9s,baz=268,slow=41			LR	LR	22 30 07.6	
NEW	**Newport** comp=Z,54nm,20.2s,baz=262,slow=36	**7.65**	**38**	LR	LR	22 29 56.2	
MCMT	**McKenzie Canyo**	**8.55**	**70**	*e*Pn	**Pn**	**22 27 22.9**	**+1.3**
DUG	**Dugway**	**8.84**	**101**	*e*Pn	**Pn**	**22 27 26.0**	**+0.5**
MSU	**Marysvale**	**9.95**	**109**	*e*Pn	**Pn**	**22 27 40.5**	**-0.2**
PDAR	**Pinedale Array** baz=267,slow=13,SNR=2.5	**10.78**	**83**	Pn	Pn	22 27 56.0	+3.9
DLBC	**Dease Lake** comp=Z,34nm,18.8s,baz=84,slow=39	**16.43**	**349**	LR	LR	22 35 49.7	
TXAR	**Lajitas Array** 0.5nm,0.6s,baz=303,slow=8.5,SNR=8.3	**21.08**	**122**	P	**P**	**22 30 01.2**	**-0.3**
H11N3	**WAKE ISLAND Hy** baz=50,slow=74,SNR=34	**61.55**	**271**	T	T	23 42 12.1	
H11N2	**WAKE ISLAND Hy** baz=50,slow=74,SNR=28	**61.55**	**271**	T	T	23 42 11.5	
H11N1	**WAKE ISLAND Hy** baz=50,slow=74,SNR=44	**61.57**	**271**	T	T	23 42 11.5	
H11S1	**WAKE ISLAND Hy** baz=50,slow=75,SNR=8.3	**62.46**	**270**	T	T	23 43 21.6	
H11S2	**WAKE ISLAND Hy** baz=50,slow=75,SNR=3.9	**62.46**	**270**	T	T	23 43 21.6	
H11S3	**WAKE ISLAND Hy** baz=50,slow=75,SNR=3.6	**62.47**	**270**	T	T	23 43 25.9	

*ISCJB **03** 23:30:17.9±1.1, 32°.96N±0°.10×142°.5E±0°.2, h39km, mb3.6/3, Error ellipse: s-maj=22.5km s-min=8.4km az=147.2*

*JMA **03** 23:30:17.4±0.5, 32°.90N×142°.50E, h63km, M3.5*

*IDC **03** 23:30:18.9±8.5, 32°.37N×141°.41E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/25, mbtmp3.5/4, ML3.6/1, MS2.2/1, Ms1 2.2/1, ms1mx2.0/28, Error ellipse: s-maj=311.8km s-min=27.4km az=69.0*

ISC 03 23:30:20.0±1.6,**32°.92N**±0°.10×**142°.5E**±0°.2,**h39**km,**n15,** σ1⁹**11/21, mb3.6/3, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.15**	**324**	P	**Pn**	**23 30 51.9**	**-1.0**
JHJ2	**Mitsune**	**2.27**	**276**	P	**Pn**	**23 30 54.0**	**-1.1**
BSO3	**Boso 3**	**2.51**	**319**	P	**Pn**	**23 30 57.0**	**-1.1**
BSO4	**Boso 4**	**2.75**	**319**	P	**Pn**	**23 31 00.9**	**-0.6**
JOD2	**Odawara 2**	**3.68**	**310**	P	**Pn**	**23 31 12.6**	**-1.8**
JHU	**Hanno**	**3.96**	**318**	P	**Pn**	**23 31 16.7**	**-1.6**
JHU				S	**Sn**	**23 32 02.6**	**-0.9**
JHO	**Hitachi**	**4.02**	**337**	P	**Pn**	**23 31 17.5**	**-1.5**
JYN	**Shimob**	**4.18**	**309**	P	**Pn**	**23 31 20.3**	**-1.0**
JYN				S	**Sn**	**23 32 09.2**	**+0.4**
JRY	**Ryogami san**	**4.30**	**317**	P	**Pn**	**23 31 21.7**	**-1.2**
JRY				S	**Sn**	**23 32 11.7**	**0.0**
JAG	**Ashikaga**	**4.31**	**325**	P	**Pn**	**23 31 22.6**	**-0.5**
JAG				S	**Sn**	**23 32 11.4**	**-0.7**
MJAR	**Matsushiro Arr** 2.4nm,0.3s,baz=164,slow=14,SNR=23	**5.06**	**317**	Pn	**Pn**	**23 31 33.3**	**-0.1**
MJAR	0.5nm,0.3s,baz=277,slow=6.5,SNR=5.8			Sn	**Sn**	**23 32 29.9**	**-0.7**
MJAR	comp=Z,25nm,18.9s,baz=140,slow=41			LR	LR	23 33 37.9	
MAT	**Matsushiro**	**5.06**	**317**	P	**Pn**	**23 31 33.5**	**+0.1**
MAT				S	**Sn**	**23 32 30.8**	**+0.1**
SONM	**Songino Array** 0.3nm,0.4s,baz=108,slow=9.4,SNR=4.5	**30.97**	**309**	P	**P**	**23 36 35.6**	**+2.0**
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=87,slow=9.8,SNR=4.7	**47.16**	**306**	P	**P**	**23 38 49.5**	**+1.0**
WRA	**Warramunga Arr** 0.4nm,0.4s,baz=5.1,slow=7.6,SNR=2.8	**53.14**	**190**	P	**P**	**23 39 33.0**	**-1.0**

*IDC **03** 23:46:54.6±1.1, 7°.33N×92°.29E, h0km, mb3.7/11, mb1 3.9/13, mb1mx3.7/31, mbtmp3.8/13, ML4.2/2, MS3.0/4, Ms1 3.1/4, ms1mx2.6/39, Error ellipse: s-maj=32.7km s-min=21.1km az=47.0*

*ISCJB **03** 23:46:56.1±0.8, 7°.3N±0°.1×92°.3E±0°.1, h24km, mb3.7/11, MS3.1/2, Error ellipse: s-maj=16.7km s-min=14.4km az=15.5*

ISC 03 23:46:58.2±1.0,**7°.3N**±0°.2×**92°.3E**±0°.1,**h24**km,**n18,** σ0⁹**57/13, mb3.8/11, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele** 2.0nm,0.3s,baz=89,slow=14,SNR=13	**11.49**	**271**	Pn	**Pn**	**23 49 40.8**	**-0.1**
PALK	0.8nm,0.3s,baz=168,slow=20,SNR=6.4			Sn	Sn	23 51 32.1	-17
PALK	comp=Z,43nm,20.6s,baz=96,slow=30			LR	LR	23 52 39.7	
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=228,slow=14,SNR=4.6	**12.83**	**30**	Pn	**Pn**	**23 49 59.3**	**0.0**
CMAR	comp=Z,60nm,19.5s,baz=172,slow=36			LR	LR	23 54 31.1	
LEM	**Lembang** comp=Z,44nm,18.1s,baz=13,slow=42	**20.77**	**132**	LR	LR	00 01 35.9	
H08S3	**Diego Garcia H** baz=52,slow=75,SNR=33	**24.70**	**233**	T	T	00 18 11.1	
H08S2	**Diego Garcia H** baz=52,slow=75,SNR=27	**24.70**	**233**	T	T	00 18 10.4	
H08S1	**Diego Carcia H** baz=52,slow=75,SNR=27	**24.72**	**233**	T	T	00 18 05.8	
MKAR	**Makanchi Array** 1.0nm,0.7s,baz=170,slow=8.6,SNR=11	**40.26**	**349**	P	**P**	**23 54 33.1**	**-0.1**
SONM	**Songino Array** 0.3nm,0.3s,baz=186,slow=8.7,SNR=2.9	**42.13**	**14**	P	**P**	**23 54 49.1**	**+0.4**
GEYT	**Alibeck**	**43.41**	**320**	P	**P**	**23 55 00.1**	**+0.9**
KURBB	**Kurchatov Arra** 1.2nm,0.7s,baz=168,slow=7.3,SNR=9.6	**44.66**	**348**	P	**P**	**23 55 09.1**	**+0.1**
ZALV	**Zalesovo Beam** 0.6nm,0.5s,baz=167,slow=7.4,SNR=4.7	**46.89**	**354**	P	**P**	**23 55 25.9**	**-0.6**
BVAR	**Borovoye Array** 0.8nm,0.6s,baz=128,slow=12,SNR=3.8	**48.94**	**343**	P	**P**	**23 55 41.4**	**-1.1**
JAY	**Jayapura** comp=Z,31nm,18.0s,slow=43	**49.30**	**100**	LR	LR	00 22 06.1	
WRA	**Warramunga Arr** 0.6nm,0.9s,baz=303,slow=8.7,SNR=2.7	**49.46**	**124**	P	**P**	**23 55 47.0**	**+0.1**
ASAR	**Alice Springs** 0.4nm,0.8s,baz=325,slow=7.9,SNR=3.4	**50.99**	**128**	P	**P**	**23 55 58.5**	**0.0**
BRTR	**Keskin Array B** 0.3nm,0.5s,baz=123,slow=6.5,SNR=2.8	**61.40**	**311**	P	**P**	**23 57 12.5**	**-0.4**
FINES	**FINESS Array B** 0.8nm,0.7s,baz=96,slow=5.7,SNR=4.8	**72.34**	**333**	P	**P**	**23 58 21.3**	**-0.6**
GERES	**GERESS Array B** 0.8nm,0.7s,baz=93,slow=4.5,SNR=9.5	**77.01**	**318**	P	**P**	**23 58 49.8**	**+0.4**

*UPP **03** 23:47:33.3, 67°.83N×20°.20E, h0km, ML1.4, Mining explosion.*

*ISCJB **03** 23:47:34.2±0.4, 67°.84N±0°.03×20°.17E±0°.07, h0km, Error ellipse: s-maj=5.1km s-min=3.4km az=157.1*

*CSEM **03** 23:47:35.1±0.2, 67°.88N×20°.27E, h1km, ML2.0, Error ellipse: s-maj=7.8km s-min=4.8km az=171.0, Mining explosion.*

*NAO **03** 23:47:35.4±1.3, 67°.72N×20°.81E, ML2.0*

*HEL **03** 23:47:36.2, 67°.99N×20°.32E, h0km, ML2.0, Explosion*

*HEL **03** 23:47:36.4±0.4, 68°.03N×20°.16E, h0km, ML2.0, ML1.7(UPP), Explosion*

*BER **03** 23:47:36.7±3.9, 67°.86N×20°.30E, h0km, ML1.6, ML2.0(NAO), Suspected explosion*

*IDC **03** 23:47:37.4±0.8, 67°.76N×20°.83E, h0km, mb1 2.8/5, mb1mx2.7/30, mbtmp2.8/5, ML2.3/5, Error ellipse: s-maj=15.0km s-min=7.4km az=108.0*

ISC 03 23:47:34.6±0.7,**67.77N**±0°.03×**20°.33E**±0°.02,**h0**km,**n57,** σ1⁹**40/80, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.19**	**0**	*i* P	**Pg**	**23 47 39.4**	**+1.2**
KUA				*i* S	**Sg**	**23 47 41.6**	**+0.9**
KUA	**Kurravaara**	**0.19**	**0**	P	**Pg**	**23 47 39.4**	**+1.2**
KUA				S	**Sg**	**23 47 41.6**	**+0.9**
KUA	**Kurravaara**	**0.19**	**0**	P	**Pg**	**23 47 39.4**	**+1.2**
KUA				S	**Sg**	**23 47 41.6**	**+0.9**
NIKU	**Nikkaluokta**	**0.50**	**282**	*i* P	**Pg**	**23 47 45.4**	**+1.1**
NIKU	**Nikkaluokta**	**0.50**	**282**	P	**Pg**	**23 47 45.3**	**+1.1**
NIKU	**Nikkaluokta**	**0.50**	**282**	P	**Pg**	**23 47 45.4**	**+1.1**
LANU	**Lannavaara**	**0.69**	**65**	*i* P	**Pb**	**23 47 50.2**	**+0.7**
LANU	**Lannavaara**	**0.69**	**65**	P	**Pb**	**23 47 50.2**	**+0.7**
LANU	**Lannavaara**	**0.69**	**65**	P	**Pb**	**23 47 50.2**	**+0.7**
MASU	**Masugnsbyn**	**0.71**	**115**	*i* P	**Pn**	**23 47 51.7**	**-0.2**
MASU	**Masugnsbyn**	**0.71**	**115**	P	**Pn**	**23 47 51.7**	**-0.2**
MASU	**Masugnsbyn**	**0.71**	**115**	P	**Pn**	**23 47 51.7**	**-0.2**
SALU	**Saltoluokta**	**0.80**	**242**	*i* P	**Pb**	**23 47 51.8**	**+0.4**
SALU	**Saltoluokta**	**0.80**	**242**	P	**Pb**	**23 47 51.8**	**+0.4**
SALU	**Saltoluokta**	**0.80**	**242**	P	**Pb**	**23 47 51.8**	**+0.4**
KIF	**Kilpisjarvi**	**1.26**	**8**	*e*PB	**Pg**	**23 47 56.4**	**-2.3**
KIF				*e*S	Sg	23 48 08.0	-7.0
PAJU	**Pajala**	**1.31**	**123**	*e*P	**Pn**	**23 48 02.1**	**+2.0**
PAJU	**Pajala**	**1.31**	**123**	P	**Pn**	**23 48 02.2**	**+2.0**
PAJU	**Pajala**	**1.31**	**123**	P	**Pn**	**23 48 02.1**	**+2.0**
HEF	**Hetta** baz=248	**1.41**	**61**	*e*P	**Pn**	**23 47 59.4**	**-2.1**
HEF				*e*SN	**Sn**	**23 48 22.4**	**+1.7**
HEF	**Hetta**	**1.41**	**61**	P	**Pn**	**23 47 59.3**	**-2.1**
KTK1	**Kautokeino**	**1.65**	**39**	*e*P	**Pn**	**23 48 03.2**	**-1.7**
KTK1				*e*Sg	**Sg**	**23 48 27.9**	**+0.3**
KTK1	**Kautokeino** SNR=50	**1.65**	**39**	*e*P	**Pn**	**23 48 03.2**	**-1.7**
KTK1	SNR=90			*e*Sg	**Sg**	**23 48 27.9**	**+0.3**
STEI	**Steigen**	**1.94**	**277**	*e*P	**Pn**	**23 48 08.0**	**-0.7**
STEI				*e*Pg	**Pb**	**23 48 11.4**	**+0.6**
STEI	comp=Z,9.2nm,0.4s			IAML		23 48 42.2	
STEI	**Steigen** SNR=50	**1.94**	**277**	*e*P	**Pn**	**23 48 08.0**	**-0.7**
TRO	**Tromso**	**1.95**	**345**	*e*P	**Pn**	**23 48 06.6**	**-2.3**
TRO				*e*Sg	**Sn**	**23 48 32.3**	**-1.7**
TRO	comp=Z,9.1nm,0.3s			IAML		23 48 37.5	
TRO	**Tromso** SNR=50	**1.95**	**345**	*e*P	**Pn**	**23 48 06.6**	**-2.3**
SGF	**Sodankyl**	**2.39**	**95**	*e*P	**Pn**	**23 48 15.8**	**+0.8**
SGF				*e*S	**Sb**	**23 48 49.8**	**+1.2**
SGF	**Sodankyl**	**2.39**	**95**	P	**Pn**	**23 48 15.8**	**+0.8**
RNF	**Rovaniemi**	**2.50**	**115**	*e*P	**Pn**	**23 48 18.1**	**+1.7**
RNF				*e*S	**Sb**	**23 48 52.9**	**+1.3**
RNF	**Rovaniemi**	**2.50**	**115**	P	**Pn**	**23 48 18.1**	**+1.7**
LOF	**Lofoten**	**2.59**	**281**	*e*Sg	**Sg**	**23 48 57.0**	**-0.7**
LOF	comp=Z,10nm,0.4s			IAML		23 48 58.5	
LOF	**Lofoten** SNR=90	**2.59**	**281**	*e*Sg	**Sg**	**23 48 57.0**	**-0.7**
ARA0	**ARCESS Array S** baz=228,slow=16	**2.60**	**44**	Pn	**Pn**	**23 48 16.9**	**-0.9**
ARA0	baz=229,slow=28			Sn	**Sn**	**23 48 50.3**	**+0.3**
ARA0	**ARCESS Array S** baz=228,slow=16	**2.60**	**44**	Pn	**Pn**	**23 48 16.9**	**-0.9**
ARA0	baz=229,slow=28			Sn	**Sn**	**23 48 50.3**	**+0.3**
ARA0	**ARCESS Array S** baz=228,sl

comp=Z,0.1nm,0.3s,baz=339,slow=23,SNR=2.6
FINES Lg Lg 23 51 08.1
comp=Z,0.2nm,0.3s,baz=342,slow=18,SNR=4.9
NOA NORSAR Array B 7.81 215 Pn **Pn 23 49 32.2 +2.8**
comp=Z,0.1nm,0.3s,baz=23,slow=12,SNR=2.4
NOA Lg Lg 23 51 43.7
comp=Z,0.3nm,0.3s,baz=37,slow=23,SNR=5.9
HFS Hagfors 8.19 204 Sn **Sn 23 51 05.2 -2.5**
baz=7.3,slow=28
HFS Lg Lg 23 51 53.4
baz=24,slow=28
HFS Hagfors 8.19 204 Sn **Sn 23 51 05.2 -2.5**
baz=7.3,slow=28
HFS Lg Lg 23 51 53.4
baz=24,slow=28
HFS Hagfors 8.19 204 Pn **Pn 23 49 36.3 +1.7**
comp=Z,0.1nm,0.3s,baz=13,slow=13,SNR=3.1
HFS Sn **Sn 23 51 05.9 -1.9**
comp=Z,0.1nm,0.3s,baz=18,slow=24,SNR=4.5
HFS Lg Lg 23 51 50.2
comp=Z,0.2nm,0.3s,baz=27,slow=29,SNR=3.4
SPITS Spitsbergen Ar 10.53 356 Pn **Pn 23 50 09.0 +2.4**
baz=164,slow=16,SNR=2.7

IDC 04 00:06:00.9±2.3, 17°.63S×177°.17W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.7/31, mbtmp3.6/4, Error ellipse: s-maj=131.9km s-min=29.1km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.84**	**259**	P		P	00 14 25.1	-0.1
	0.4nm,0.4s,baz=97,slow=7.3,SNR=3.8							
ASAR	**Alice Springs**	**46.00**	**254**	P		P	00 14 26.4	-0.1
	0.5nm,0.5s,baz=86,slow=8.6,SNR=8.7							
TXAR	**Lajitas Array**	**84.85**	**57**	P		P	00 18 38.3	+0.3
	0.2nm,0.7s,baz=201,slow=6.6,SNR=4.2							
ILAR	**Eielson Array**	**85.36**	**13**	P		P	00 18 39.1	-0.4
	0.2nm,0.3s,baz=220,slow=4.9,SNR=5.5							

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*NNC **04** 00:13:57.9±3.3, 37°.35N×71°.66E, h150km±43km, mb2.6, mpv3.6, Error ellipse: s-maj=39.5km s-min=10.5km az=160.0*

ISC 04 00:13:59.5±3.5, 37°.4N±0°.2×71°.69E±0°.09, h109km, n10, σ1§12/14, 5C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.68**	**303**	⇓P		**Pn**	**00 14 40.7**	**-0.7**
	5.3nm,0.4s							
DZET				⇑S		**Sn**	**00 15 15.3**	**+1.8**
	16nm,0.2s							
SFK	**Sufi-Kurgan**	**3.00**	**28**	⇓P		**Pn**	**00 14 46.1**	**+0.4**
	21nm,0.3s							
SFK				⇑S		**Sn**	**00 15 23.2**	**+2.0**
	42nm,0.5s							
AML	**Almayashu**	**5.00**	**17**	P		**Pn**	**00 15 12.4**	**-0.3**
	SNR=37							
UCH	**Uchtor**	**5.32**	**23**	P		**Pn**	**00 15 16.2**	**-0.8**
	SNR=37							
KZA	**Kyzart**	**5.45**	**29**	P		**Pn**	**00 15 17.3**	**-1.4**
	SNR=6.0							
EKS2	**Erkin-Say**	**5.53**	**16**	P		**Pn**	**00 15 19.8**	**+0.3**
	SNR=8.6							
AAK	**Ala-Archa**	**5.69**	**21**	P		**Pn**	**00 15 21.2**	**-0.5**
	SNR=7.7							
AAK	**Ala-Archa**	**5.69**	**21**	⇑P		**Pn**	**00 15 20.9**	**-0.8**
	5.7nm,0.5s							
AAK				⇑S		**Sn**	**00 16 26.1**	**+0.4**
KK31	**Karatay Array**	**5.80**	**351**	⇓P		**Pn**	**00 15 22.8**	**-0.4**
	1.4nm,0.5s,baz=178,slow=13,SNR=16							
KK31				⇑S		**Sn**	**00 16 27.1**	**-1.3**
	1.8nm,0.2s,baz=170,slow=28,SNR=3.7							
CHMS	**Chumysh**	**6.09**	**22**	P		**Pn**	**00 15 26.4**	**-0.7**
	SNR=5.7							

NNC 04 00:17:26.0±2.8, 37°.53N×71°.57E, h169km±27km, mb2.5, mpv3.6, 5C-4D, Error ellipse: s-maj=26.8km s-min=9.3km az=160.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.51**	**301**	⇓P		Pn	00 18 07.9	-0.5
	7.3nm,0.4s							
DZET				⇓S		Sn	00 18 41.9	+0.6
	43nm,0.3s							
SFK	**Sufi-Kurgan**	**2.90**	**31**	⇑P		Pn	00 18 12.8	-0.5
	21nm,0.3s							
SFK				⇓S		Sn	00 18 50.4	+0.3
	23nm,0.2s							
AAK	**Ala-Archa**	**5.57**	**23**	⇑P		Pn	00 18 47.8	+0.4
	2.7nm,0.4s							
AAK				⇓S		Sn	00 19 52.5	+1.3
	8.1nm,0.6s							
KK31	**Karatay Array**	**5.62**	**352**	P		Pn	00 18 49.5	+1.5
	1.3nm,0.2s,baz=168,slow=13,SNR=28							
KK31				⇑S		Sn	00 19 51.2	-1.1
	5.5nm,0.3s,baz=173,slow=22,SNR=17							
AB31	**Akbulak array**	**14.43**	**328**	⇑P		P	00 20 44.6	+0.2
	0.5nm,0.5s							
AKTO	**Aktyubinsk**	**16.14**	**327**	⇑P		Pn	00 21 05.6	+2.3
	0.3nm,0.3s							

SJA 04 00:40:49.1±0.8, 31°.69S×69°.57W, h99km±12km, ML3.8, MW2.7, 1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.26**	**115**	*e*P		Pn	00 41 05.0	+1.3
AUSP	**Uspallata**	**0.56**	**164**	*e*P		Pn	00 41 06.6	+0.9
RTCV	**Cerro Valdivia**	**0.90**	**101**	*e*P		Pn	00 41 09.0	+0.6
RTCV				*e*S		Sn	00 41 24.3	+1.3
RTLL	**Cerro Villicun**	**1.00**	**69**	*e*P		Pn	00 41 10.8	+1.3
RTLL				*e*S		Sn	00 41 26.5	+1.5
ASAL	**Salagasta**	**1.10**	**145**	*e*P		Pn	00 41 11.4	+0.7
ASAL				⇓*e*S		Sn	00 41 28.3	+1.4
AMOG	**MOGNA**	**1.19**	**51**	*e*P		Pn	00 41 13.0	+1.3
AMOG				*e*S		Sn	00 41 29.4	+0.7
SLA	**San Lorenzo**	**7.81**	**28**	AML		AML	00 41 57.1	
	comp=Z,9.3nm,0.1s							

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*MOS **04** 00:53:30.4±1.8, 59°.64N×150°.96E, h20km, mb4.2/1, Error ellipse: s-maj=31.3km s-min=12.3km az=88.7*
MOS Felt (II) at Magadan.
*NERS **04** 00:53:33.1, 59°.76N×150°.83E, h8km, Felt I=II MSK at Magadan(24km)*

ISC 04 00:53:32.6±1.0, 59°.78N±0°.04×150°.88E±0°.06, h10km±9km, n14, σ1§52/22, 7C, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MA2	**Magadan**	**0.21**	**195**	⇑*i*Pg		**Pg**	**00 53 36.5**	**-0.4**
MA2				Pgmax			00 53 36.6	
	930nm,0.2s							
MA2				*e*Sg		**Sg**	**00 53 40.0**	**+0.1**
MA2				Sgmax			00 53 40.1	
	15μm,0.2s							
MA2				Sgmax			00 53 40.1	
	24μm,0.2s							
MA2	**Magadan**	**0.21**	**195**	⇑*i*P		**Pg**	**00 53 36.5**	**-0.4**
MA2				*e*			00 53 40.1	
MGD	**Magadan 1**	**0.28**	**345**	⇑*i*Pg		**Pb**	**00 53 40.7**	**+1.0**
MGD				Pgmax			00 53 40.9	
	3μm,0.2s							
MGD				*e*Sg		**Sb**	**00 53 45.2**	**+0.8**
MGD				Sgmax			00 53 45.6	
	4μm,0.2s							
MGD				Sgmax			00 53 45.6	
	6μm,0.2s							
MGD	**Magadan 1**	**0.28**	**345**	*e*P		**Pb**	**00 53 40.6**	**+0.9**
MGD				*e*			00 53 45.2	
TLAR	**Talaya**	**1.55**	**28**	⇑*i*Pg		**Pg**	**00 54 02.4**	**+0.1**
TLAR				Pgmax			00 54 03.5	
	120nm,0.5s							
TLAR				*e*Sg		**Sg**	**00 54 22.9**	**+0.5**
TLAR				Sgmax			00 54 25.0	
	430nm,0.3s							
OCHR	**Omchak**	**2.40**	**323**	⇑*i*P		**Pn**	**00 54 14.1**	**+2.1**
OCHR				⇑*i*Pg		**Pb**	**00 54 17.1**	**+1.2**
OCHR				Pgmax			00 54 18.0	
	100nm,0.2s							
OCHR				*e*S		**Sn**	**00 54 40.1**	**-1.4**
OCHR				*e*Sg		**Sg**	**00 54 48.8**	**-0.8**
OCHR				Sgmax			00 54 50.9	
	240nm,0.2s							
OCHR				Sgmax			00 54 50.9	
	270nm,0.2s							
SEY	**Seymchan**	**3.25**	**12**	*e*P		**Pn**	**00 54 25.3**	**+1.8**
SEY				*e*Pg		**Pg**	**00 54 33.9**	**-0.8**
SEY				*e*Sg		**Sg**	**00 55 15.3**	**-1.4**
SEY				Sgmax			00 55 16.4	
	120nm,0.2s							
SEY	**Seymchan**	**3.25**	**12**	*c i*P		**Pn**	**00 54 23.4**	**-0.1**
SUUS	**Susuman**	**3.28**	**338**	*e*P		**Pn**	**00 54 26.6**	**+2.5**
SUUS				*e*Sg		**Sg**	**00 55 15.6**	**-2.2**
SUUS				Sgmax			00 55 23.3	
	160nm,0.3s							
SUUS	**Susuman**	**3.28**	**338**	*e*P		**Pn**	**00 54 26.6**	**+2.5**
PET	**Petropavlovsk**	**8.02**	**144**	*i* P		**Pn**	**00 55 28.5**	**-0.6**
YAK	**Yakutsk**	**10.55**	**291**	*i* P		**Pn**	**00 56 03.6**	**-0.1**
MAJO	**Matsushiro**	**24.65**	**205**	*i* P		P	00 58 47.2	-6.0
COLA	**College**	**27.89**	**53**	*i* P		**P**	**00 59 19.7**	**-2.4**

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*IDC **04** 00:54:17.7±0.8, 13°.57S×166°.72E, h0km, mb4.2/13, mb1 4.3/13, mb1mx4.2/31, mbtmp4.2/13, MS3.9/13, Ms1 3.9/13, ms1mx3.6/30, Error ellipse: s-maj=29.7km s-min=18.7km az=115.0*
*ISCJB **04** 00:54:22.5±0.6, 13°.53S±0°.05×166°.5E±0°.1, h39km, mb4.2/16, MS3.9/13, Error ellipse: s-maj=18.1km s-min=7.8km az=177.5*
*NEIC **04** 00:54:22.6±2.2, 13°.48S×166°.60E, h28km±14km, mb4.7/4, Error ellipse: s-maj=16.4km s-min=11.7km az=101.0*

ISC 04 00:54:24.3±0.7, 13°.49S±0°.08×166°.6E±0°.2, h39km, n41, σ1§21/34, mb4.2/16, MS3.9/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.53**	**181**	*e*Pn		**Pn**	**00 56 27.0**	**+1.6**
	23nm,0.3s							
DZM				*e*Sn		**Sn**	**00 58 02.0**	**+1.5**
	39nm,0.8s							
DZM				*e*LR		LR	00 58 31.1	
	886nm,26.6s							
DZM	**Mont Dzumac**	**8.53**	**181**	*e*P		**Pn**	**00 56 25.0**	**-0.4**
DZM	**Mont Dzumac**	**8.53**	**181**	*e*Pn		**Pn**	**00 56 26.2**	**+0.8**
CTA	**Charters Tower**	**20.56**	**249**	P		Pn	00 58 59.6	-2.5
	5.9nm,0.9s,baz=78,slow=14,SNR=7.9							
STKA	**Stephens Creek**	**29.34**	**227**	P		**P**	**01 00 23.5**	**0.0**
	4.8nm,1.0s,baz=38,slow=7.9,SNR=5.6							
STKA				LR		LR	01 12 11.3	
	comp=Z,400nm,18.4s,baz=44,slow=37							
WRAB	**Tennant Creek**	**31.52**	**254**	*e*P		**P**	**01 00 42.6**	**-0.3**
	4.2nm,0.6s							
WRA	**Warramunga Arr**	**31.53**	**254**	P		**P**	**01 00 41.3**	**-1.8**
	2.2nm,0.8s,baz=84,slow=9.3,SNR=7.8							
WRA				LR		LR	01 13 25.4	
	comp=Z,547nm,18.0s,baz=85,slow=36							
ASAR	**Alice Springs**	**32.54**	**247**	P		**P**	**01 00 50.4**	**-1.6**
	2.1nm,0.7s,baz=74,slow=9.7,SNR=28							
ASAR				ScP		**ScP**	**01 07 21.1**	**+2.0**
	1.5nm,0.8s,baz=114,slow=2.8,SNR=11							
ASAR				LR		LR	01 13 24.9	
	comp=Z,250nm,19.9s,baz=78,slow=35							
GUMO	**Guam**	**34.47**	**320**	LR		LR	01 14 11.7	
	comp=Z,90nm,20.0s,baz=135,slow=34							
PPT2	**Papeete2**	**42.34**	**101**	*e*LR		LR	01 14 22.8	
	273nm,27.8s							
PPT	**Papeete**	**42.34**	**101**	LR		LR	01 16 41.0	
	comp=Z,78nm,19.8s,baz=321,slow=32							
TBI	**Tubuai**	**42.67**	**110**	*e*LR		LR	01 15 11.4	
	222nm,24.5s							
KAPI	**Kappang**	**46.94**	**276**	LR		LR	01 21 53.1	
	comp=Z,55nm,18.1s,baz=129,slow=35							
MJAR	**Matsushiro Arr**	**56.52**	**333**	P		**P**	**01 04 02.5**	**-0.2**
	3.3nm,1.0s,baz=155,slow=6.1,SNR=5.1							
LEM	**Lembang**	**58.34**	**270**	LR		LR	01 31 08.4	
	comp=Z,75nm,19.1s,baz=42,slow=38							
ASAJ	**Asahikawa**	**61.37**	**340**	*e*P		**P**	**01 04 37.8**	**+1.6**
	18nm,1.9s							
KSRS	**Korea Array**	**62.37**	**326**	P		**P**	**01 04 42.5**	**-0.5**
	1.1nm,0.8s,baz=140,slow=6.3,SNR=4.6							
KSAR	**Wonju Array Be**	**62.38**	**326**	P		**P**	**01 04 42.5**	**-0.6**
VNDA	**Vanda**	**64.08**	**181**	P		**P**	**01 04 53.1**	**-0.7**
	0.7nm,0.9s,baz=341,slow=6.4,SNR=3.2							
VNDA				LR		LR	01 30 30.8	
	comp=Z,47nm,18.9s,baz=0.5,slow=34							
USRK	**Ussuriysk Ar.**	**65.50**	**333**	P		**P**	**01 05 04.4**	**+0.9**
	2.8nm,0.9s,baz=134,slow=5.5,SNR=12							
CMAR	**Chiang Mai Arr**	**73.87**	**294**	P		**P**	**01 05 56.9**	**+1.3**
	0.6nm,0.3s,baz=110,slow=4.9,SNR=4.1							
QSPA	**South Pole Qui**	**76.53**	**180**	*e*P		**P**	**01 06 09.8**	**-0.5**
	3.9nm,0.9s							
SEY	**Seymchan**	**76.99**	**353**	LR		LR	01 36 11.0	
	comp=Z,66nm,20.7s,baz=193,slow=33							
SONM	**Songino Array**	**81.13**	**324**	P		**P**	**01 06 36.0**	**+0.2**
	0.3nm,0.5s,baz=134,slow=6.4,SNR=5.9							
MAW	**Mawson**	**82.79**	**202**	LR		LR	01 37 13.5	
	comp=Z,82nm,21.6s,baz=62,slow=31							
COLA	**College**	**85.34**	**18**	*e*P		**P**	**01 06 57.8**	**+1.0**
	7.9nm,1.0s							
ILAR	**Eielson Array**	**85.55**	**18**	P		**P**	**01 06 56.5**	**-1.4**
	2.4nm,0.5s,baz=236,slow=4.6,SNR=43							
ILAR				LR		LR	01 41 05.4	
	comp=Z,87nm,19.5s,baz=220,slow=33							
PDAR	**Pinedale Array**	**94.58**	**47**	LR		LR	01 44 45.9	
	comp=Z,58nm,18.4s,baz=246,slow=32							
SNAA	**Sanae**	**94.74**	**183**	P		P	01 07 35.2	-6.1
MKAR	**Makanchi Array**	**95.87**	**317**	P		**P**	**01 07 47.2**	**+0.3**
	0.8nm,0.8s,baz=102,slow=5.3,SNR=5.8							
VNA1	**Neumayer~Stat**	**95.99**	**182**	P		**P**	**01 07 45.3**	**-1.6**
ZALV	**Zalesovo Beam**	**96.02**	**324**	P		**P**	**01 07 46.3**	**-1.0**
	0.5nm,0.6s,baz=61,slow=8.9,SNR=3.3							
TXAR	**Lajitas Array**	**96.25**	**61**	LR		LR	01 43 51.7	
	comp=Z,27nm,19.4s,baz=0.0,slow=31							
ARCES	**ARCESS Array B**	**118.90**	**345**	PKP		**PKPdf**	**01 13 07.4**	**-0.6**
	1.7nm,0.5s,baz=58,slow=1.3,SNR=18							
FINES	**FINESS Array B**	**124.34**	**338**	PKP		**PKPdf**	**01 13 18.3**	**-0.3**
	0.7nm,0.7s,baz=335,slow=2.7,SNR=7.2							
NOA	**NORSAR Array B**	**129.27**	**345**	PKP		**PKPdf**	**01 13 28.2**	**0.0**
	0.5nm,0.6s,baz=16,slow=3.2,SNR=3.2							
BRTR	**Keskin Array B**	**131.22**	**311**	SKPbc		**SKPab**	**01 16 56.5**	**+1.5**
	0.8nm,0.9s,baz=98,slow=4.2,SNR=5.4							
GERES	**GERESS Array B**	**138.26**	**333**	PKP		**PKPdf**	**01 13 44.9**	**-0.6**
	0.3nm,0.5s,baz=48,slow=2.0,SNR=4.9							
GERES				SKPbc		**SKiKP**	**01 17 19.7**	**-1.1**
	1.0nm,0.8s,baz=31,slow=3.1,SNR=11							
GERES				SKPab		**SKPab**	**01 17 27.6**	**+2.4**
	0.6nm,0.7s,baz=64,slow=6.1,SNR=5.0							
KEST	**Kesra**	**149.85**	**321**	PKPbc		**PKPbc**	**01 14 11.2**	**+0.4**
	1.4nm,0.6s,baz=150,slow=0.9,SNR=15							
ESDC	**Sonseca Array**	**152.63**	**344**	PKPbc		**PKPbc**	**01 14 15.2**	**-1.9**
	0.4nm,0.6s,baz=7.4,slow=2.9,SNR=3.9							
ESDC				PKPab		**PKPab**	**01 14 29.4**	**+1.7**
	1.3nm,0.9s,baz=29,slow=3.4,SNR=4.2							
TORD	**Torodi Ar. Bea**	**165.32**	**270**	PKP		**PKPdf**	**01 14 25.5**	**0.0**
	0.3nm,0.7s,baz=146,slow=1.3,SNR=3.0							

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*NIED **04** 01:07:00, 34°.20N×137°.10E, h380km, Mw4.2 Best double couple: M0 2.64000×10^15 NP1:φ=322.00000°, δ=26.00000°, λ=84.00000°. NP2:φ=148.00000°, δ=64.00000°, λ=93.00000°.*
*BJI **04** 01:07:41.1, 33°.91N×137°.11E, h334km, mb4.4/22, mB4.3/11*
*NEIC **04** 01:07:42.1±0.6, 33°.95N×137°.14E, h331km±5km, mb4.3/26, Error ellipse: s-maj=7.8km s-min=4.5km az=131.0*
*ISCJB **04** 01:07:42.5±0.2, 34°.01N±0°.04×137°.17E±0°.04, h348km±1km, mb4.0/45, Error ellipse: s-maj=6.2km s-min=4.9km az=159.0*
*JMA **04** 01:07:42.8±0.2, 34°.16N×137°.14E, h351km±2km, M3.9*
*IDC **04** 01:07:43.9±1.1, 34°.02N×137°.14E, h347km±11km, mb3.5/22, mb1 3.7/26, mb1mx3.6/37, mbtmp4.2/26, Error ellipse: s-maj=11.3km s-min=9.2km az=89.0*

ISC 04 01:07:43.1±0.4, 34°.07N±0°.05×137°.09E±0°.04, h340km±3km, n103, σ1§16/136, mb4.0/45, 12C-2D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TTO3	**TONANKAI O.B.S**	**0.33**	**129**	⇑P		**Pn**	**01 08 27.5**	**+1.7**
TTO2	**TONANKAI O.B.S**	**0.34**	**189**	⇑P		**Pn**	**01 08 27.4**	**+1.7**
TTO4	**TONANKAI O.B.S**	**0.38**	**100**	⇑P		**Pn**	**01 08 27.2**	**+1.5**
TTO4					S	**S**	**01 09 01.6**	**+1.8**
JIE	**Ise**	**0.45**	**315**	⇑P		**Pn**	**01 08 26.9**	**+0.8**
JIE					S	**S**	**01 09 01.2**	**+0.6**
TK01	**Tokai 1**	**0.52**	**126**	*e*S		**S**	**01 09 01.8**	**+1.6**
TTO1	**TONANKAI O.B.S**	**0.52**	**210**	⇑P		**Pn**	**01 08 27.7**	**+1.7**
TTO5	**TONANKAI O.B.S**	**0.55**	**71**	P		**Pn**	**01 08 27.6**	**+1.5**
TTO5					S	**S**	**01 09 02.8**	**+2.2**
TK02	**Tokai 2**	**0.57**	**103**	⇑P		**Pn**	**01 08 27.8**	**+1.7**
TK02				*e*S		**S**	**01 09 04.2**	**+3.6**
JWY	**Kouya**	**1.25**	**277**	⇑P		**Pn**	**01 08 30.3**	**+1.3**
JWZ	**Kozaga**	**1.27**	**245**	⇑P		**Pn**	**01 08 29.6**	**+0.5**
JGM	**Miyama**	**1.65**	**349**	⇑P		**Pn**	**01 08 32.0**	**+0.8**
JGM					S	**S**	**01 09 10.2**	**+0.5**
JWT	**Wachi**	**1.84**	**311**	⇑P		**Pn**	**01 08 33.4**	**+1.0**
JWT					S	**S**	**01 09 13.1**	**+1.2**
JYN	**Shimob**	**1.86**	**40**	P		**Pn**	**01 08 33.1**	**+0.6**
JOD2	**Odawara 2**	**2.03**	**54**	⇓P		**Pn**	**01 08 33.7**	**0.0**
JOD2					S	**S**	**01 09 13.7**	**-0.6**
JAI	**Aioi**	**2.21**	**264**	⇑P		**Pn**	**01 08 36.0**	**+0.9**
JKG	**Kaga**	**2.29**	**344**	P		**Pn**	**01 08 36.1**	**+0.6**
JRY	**Ryogami san**	**2.44**	**37**	P		**Pn**	**01 08 37.1**	**+0.2**
JRY					S	**S**	**01 09 19.6**	**-0.5**
MAJO	**Matsushiro**	**2.63**	**20**	*e*Pn		**Pn**	**01 08 38.5**	**+0.1**
MAJO				*e*S		**S**	**01 09 21.6**	**-1.3**
MAT	**Matsushiro**	**2.63**	**20**	P		**Pn**	**01 08 38.5**	**+0.1**
MAT					S	**S**	**01 09 21.4**	**-1.4**
MAT	**Matsushiro**	**2.63**	**20**	P		**Pn**	**01 08 38.4**	**+0.1**
MAT					S	**S**	**01 09 21.2**	**-1.6**
MJAR	**Matsushiro Arr**	**2.63**	**20**	P		**Pn**	**01 08 38.5**	**+0.1**
	17nm,0.3s,baz=187,slow=8.7,SNR=353							
MJAR					S	**S**	**01 09 21.1**	**-1.7**
	1.5nm,0.3s,baz=198,slow=17,SNR=10							
JMN	**Monobe**	**2.69**	**264**	⇑P		**Pn**	**01 08 40.5**	**+1.4**
JMN					S	**S**	**01 09 25.0**	**+1.0**
KSCPR	**CHUPUNGNYEONG**	**7.77**	**289**	P		**Pn**	**01 09 36.5**	**+2.1**
	SNR=13							
KSCHJ	**Chungju**	**7.95**	**293**	P		**Pn**	**01 09 38.7**	**+2.3**
	SNR=5.8							
KSBON	**Boeun**	**7.97**	**290**	P		**P**	**01 09 39.2**	**+2.4**
	SNR=11							
KSRS	**Korea Array**	**8.18**	**297**	P		**P**	**01 09 41.4**	**-1.2**
	1.4nm,0.3s,baz=111,slow=12,SNR=68							
KSGUS	**GUNSAN**	**8.68**	**286**	P		**P**	**01 09 50.4**	**+2.2**
	SNR=6.5							
KSSWO	**Suwon**	**8.83**	**294**	P		**P**	**01 09 49.3**	**-0.6**
	SNR=6.2							
KSMUS	**Musan**	**9.20**	**297**	P		**P**	**01 09 53.5**	**-0.4**
	SNR=7.1							
KSGAH	**Ganghwa**	**9.37**	**296**	P		**P**	**01 09 55.1**	**-0.7**
	SNR=5.5							
USRK	**Ussuriysk Ar.**	**10.86**	**340**	P		**P**	**01 10 13.0**	**+0.7**
	0.3nm,0.3s,baz=146,slow=10,SNR=5.4							
ASAJ	**Asahikawa**	**10.90**	**21**	P		**Pn**	**01 10 10.5**	**-1.2**
	baz=219,slow=10							
ASAJ	**Asahikawa**	**10.90**	**21**	*e*Pn		**Pn**	**01 10 10.6**	**-1.0**
MDJ	**Mudanjiang**	**12.02**	**333**	P		**P**	**01 10 25.7**	**+0.6**
MDJ					S	**S**	**01 12 39.0**	**+0.4**
MDJ					ScP	**ScP**	**01 18 39.6**	**+0.5**
MDJ					PcS	**PcS**	**01 19 13.4**	**+0.3**
MDJ					PMZ			
	3.0nm,0.7s							
MDJ					PMZ			
	17nm,4.4s							
MDJ					LZ			
	19nm,19.3s							
MDJ					LN			
	14nm,19.7s							
MDJ					LE			
	20nm,17.3s							
YSS	**Yuzh-Sakhalins**	**13.56**	**17**	*e*P		**P**	**01 10 42.3**	**+0.1**
NACB	**Ninganchiao**	**16.73**	**238**	*e*P		**P**	**01 11 16.0**	**-1.1**
	21nm,0.4s							
BJI	**Beijing**	**17.71**	**296**	P		**P**	**01 11 27.3**	**0.0**
BJI					sP	**sP**	**01 12 58.1**	**-2.3**
BJI					S	**S**	**01 14 32.1**	**-1.2**
BJI					PMZ			
	31nm,0.6s							
BJI					LN			
	95nm,8.2s							
BJI					LE			
	15nm,3.6s							
BJI					LZ			
	9.0nm,14.6s							
BJT	**Baijiatuan**	**17.71**	**296**	*e*P		**P**	**01 11 27.9**	**+0.5**
	23nm,0.6s							
TPUB	**Ta-pu**	**17.97**	**238**	*e*P		**P**	**01 11 29.6**	**-0.7**
	20nm,0.6s							
WHN	**Wuhan**	**19.53**	**266**	P		**P**	**01 11 47.2**	**+0.3**
HHC	**Hu-ho-hao-te**	**21.32**	**296**	*e*P		**P**	**01 12 03.4**	**-0.5**
HHC					sP	**sP**	**01 13 41.6**	**+1.3**
HHC					S	**S**	**01 15 35.3**	**-1.7**
HHC					PMZ			
	33nm,0.8s							
HHC					PMZ			
	69nm,4.8s							
XAN	**Xi'an**	**23.31**	**278**	P		**P**	**01 12 22.1**	**+0.1**
XAN					pP	pP	01 12 28.6	-49
XAN					PMZ			
	3.0nm,0.6s							
ENH	**Enshi**	**23.64**	**268**	*e*P		**P**	**01 12 24.8**	**-0.1**
	21nm,0.6s							
PETK	**Petropavlovsk-**	**24.03**	**31**	P		**P**	**01 12 29.1**	**+0.9**
	7.4nm,0.9s,baz=216,slow=4.8,SNR=8.2							
SONM	**Songino Array**	**26.75**	**310**	P		**P**	**01 12 54.5**	**+1.9**
	1.5nm,0.6s,baz=102,slow=7.1,SNR=14							
LZH	**Lanzhou**	**27.21**	**284**	*e*P		**P**	**01 12 56.7**	**-0.2**
LZH					pP	**pP**	**01 14 00.2**	**+0.1**
LZH					sP	**sP**	**01 14 41.7**	**+1.7**
LZH					PMZ			
	15nm,1.0s							
GYA	**Guiyang**	**27.28**	**262**	*e*P		**P**	**01 12 57.8**	**+0.2**
GYA					pP	**pP**	**01 14 00.2**	**-0.6**
GYA					sP	**sP**	**01 14 37.5**	**-3.2**
GYA					S	**S**	**01 17 12.0**	**+0.3**
GYA					sS	sS	01 19 01.2	-6.9
GYA					PMZ			

ARU	**Arti**	**56.26**	**319**	*e*P		**P**	**01 16 49.3**	**+0.5**
	2.6nm,0.7s							
ABKAR	**Akbulak array**	**57.16**	**311**	*e*P		**P**	**01 16 55.8**	**+0.6**
ASAR	**Alice Springs**	**57.50**	**183**	P		**P**	**01 16 57.9**	**+0.1**
	0.9nm,0.6s,baz=13,slow=13,SNR=16							
INK	**Inuvik**	**58.60**	**26**	*e*P		**P**	**01 17 05.0**	**+0.3**
	3.8nm,0.6s							
DZM	**Mont Dzumac**	**62.43**	**149**	P		**P**	**01 17 30.3**	**-0.8**
	7.2nm,0.8s,baz=90,slow=20,SNR=3.8							
FORT	**Forrest**	**65.06**	**189**	*e*P		**P**	**01 17 46.6**	**-1.2**
ARCES	**ARCESS Array B**	**65.50**	**339**	P		**P**	**01 17 49.9**	**-0.4**
	1.1nm,0.5s,baz=64,slow=8.7,SNR=16							
STKA	**Stephens Creek**	**65.73**	**176**	P		**P**	**01 17 51.4**	**-0.7**
	1.4nm,0.6s,baz=307,slow=7.7,SNR=4.1							
RES	**Resolute Bay**	**66.31**	**13**	*e*P		**P**	**01 17 55.4**	**+0.2**
	4.1nm,0.8s							
YKA	**Yellowknife Ar**	**68.11**	**28**	P		**P**	**01 18 07.0**	**+0.4**
	1.0nm,0.4s,baz=298,slow=6.3,SNR=12							
FINES	**FINESS Array B**	**69.76**	**331**	P		**P**	**01 18 16.8**	**+0.1**
	1.6nm,0.5s,baz=77,slow=5.0,SNR=38							
KBZ	**Khabaz**	**70.12**	**310**	P		**P**	**01 18 19.3**	**+0.1**
	2.0nm,0.8s,baz=164,slow=1.9,SNR=4.4							
EDM	**Edmonton**	**73.83**	**36**	*e*P		**P**	**01 18 41.5**	**+0.5**
AKASG	**Malin Array Be**	**74.43**	**321**	P		**P**	**01 18 44.4**	**0.0**
	1.6nm,0.7s,baz=49,slow=5.5,SNR=6.1							
NEW	**Newport**	**74.69**	**42**	*e*P		**P**	**01 18 46.5**	**+0.5**
	2.4nm,0.9s							
NB2	**NORSAR Subarra**	**75.50**	**336**	P		**P**	**01 18 50.3**	**0.0**
	comp=Z,0.6nm,0.6s,baz=43,slow=5.9							
NOA	**NORSAR Array B**	**75.50**	**336**	P		**P**	**01 18 50.5**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=31,slow=5.5,SNR=5.7							
BRTR	**Keskin Array B**	**78.11**	**310**	P		**P**	**01 19 06.2**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=67,slow=4.2,SNR=5.6							
BUR08	**Bucovina Ar. S**	**78.37**	**320**	*e*P		**P**	**01 19 07.2**	**+0.6**
LRM	**Limekiln Ridge**	**78.71**	**42**	*e*P		**P**	**01 19 09.0**	**+0.4**
	comp=Z,29nm,1.0s							
DLMT	**Dillon**	**78.91**	**42**	*e*P		**P**	**01 19 10.2**	**+0.6**
	comp=Z,10nm,1.4s							
HLID	**Hailey**	**78.96**	**45**	*e*P		**P**	**01 19 11.1**	**+1.2**
	comp=Z,0.9nm,0.6s							
NVAR	**Mina Array Bea**	**79.58**	**51**	P		**P**	**01 19 14.5**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=297,slow=5.7,SNR=7.4							
MORC	**Moravsky Berou**	**80.84**	**325**	*e*P		**P**	**01 19 20.3**	**+0.7**
	comp=Z,4.9nm,0.7s							
PSZ	**Piszkesteto**	**80.94**	**323**	*e*P		**P**	**01 19 21.5**	**+1.3**
	comp=Z,4.0nm,1.0s							
TPAW	**Teton Pass**	**80.99**	**43**	*e*P		**P**	**01 19 21.0**	**+0.2**
	comp=Z,2.7nm,0.7s							
HWUT	**Hardware Ranch**	**81.82**	**45**	*e*P		**P**	**01 19 25.5**	**+0.5**
	comp=Z,2.0nm,0.7s							
DUG	**Dugway**	**81.95**	**47**	*e*P		**P**	**01 19 26.2**	**+0.4**
	comp=Z,1.5nm,0.7s							
PDAR	**Pinedale Array**	**82.24**	**43**	P		**P**	**01 19 27.9**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=342,slow=3.1,SNR=16							
KHC	**Kasperske Hory**	**83.14**	**327**	*e*P		**P**	**01 19 32.1**	**+0.6**
	comp=Z,1.3nm,0.7s							
GERES	**GERESS Array B**	**83.29**	**326**	P		**P**	**01 19 32.1**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=39,slow=5.5,SNR=19							
SRU	**San Rafael**	**84.01**	**46**	*e*P		**P**	**01 19 36.9**	**+0.6**
	comp=Z,6.6nm,1.0s							
SMCO	**Snowmass**	**86.06**	**44**	*e*P		**P**	**01 19 45.5**	**-1.1**
	comp=Z,12nm,1.0s							
ECSD	**EROS Data Cent**	**88.40**	**36**	*e*P		**P**	**01 19 57.7**	**+0.6**
	comp=Z,26nm,2.2s							
TXAR	**Lajitas Array**	**94.72**	**50**	P		**P**	**01 20 27.5**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=288,slow=3.4,SNR=19							
TORD	**Torodi Ar. Bea**	**116.72**	**310**	PKP		**PKPdf**	**01 25 46.9**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=30,slow=1.5,SNR=9.6							
LPAZ	**La Paz**	**151.24**	**58**	PKPbc		**PKPbc**	**01 26 58.2**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=346,slow=2.2,SNR=15							

*IDC **04** 01:20:08.5±1.0, 11°.07N×124°.82E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/34, mbtmp3.7/7, Error ellipse: s-maj=76.7km s-min=18.8km az=73.0*
*MAN **04** 01:20:12, 11°.08N×124°.83E, h4km, mb4.6, ML3.5, MS3.4*
ISC 04 01:20:11.3±1.0, 11°.14N±0°.04×124°.80E±0°.07, h14km±7km, n15, σ1§03/18, mb3.6/7, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.18**	**82**	⇓*e*P		**Pg**	**01 20 15.8**	**+0.1**
PLP				*i* S		**Sg**	**01 20 18.4**	**-0.1**
OCLP	**Ormoc**	**0.20**	**244**	*e*P		**Pb**	**01 20 17.1**	**+0.3**
MSLP	**Maasin**	**1.00**	**176**	*e*P		**Pg**	**01 20 30.8**	**+0.1**
MSLP				*e*S		**Sn**	**01 20 46.2**	**+1.3**
CNP	**Catarman**	**1.37**	**355**	*e*P		**Pg**	**01 20 38.1**	**+0.4**
TBP	**Tagbilaran**	**1.71**	**213**	*e*P		**Pn**	**01 20 41.3**	**+0.6**
TBP				*e*S		**Sg**	**01 21 05.7**	**-0.7**
RCP	**Roxas**	**2.06**	**282**	⇑*e*P		**Pb**	**01 20 48.5**	**+0.1**
GUIM	**Jordan**	**2.23**	**257**	*e*P		**Pb**	**01 20 50.3**	**-1.1**
PAGZ	**Pagadian**	**3.56**	**203**	*e*P		**Pn**	**01 21 08.0**	**+1.9**
WRA	**Warramunga Arr**	**32.28**	**163**	P		**P**	**01 26 38.1**	**-1.7**
	0.3nm,0.4s,baz=338,slow=7.1,SNR=2.9							
USRK	**Ussuriysk Ar.**	**33.52**	**9**	P		**P**	**01 26 49.9**	**-0.6**
	1.4nm,0.6s,baz=197,slow=9.0,SNR=5.0							
ASAR	**Alice Springs**	**35.72**	**166**	P		**P**	**01 27 08.8**	**-0.9**
	0.6nm,0.7s,baz=349,slow=7.5,SNR=6.0							
SONM	**Songino Array**	**39.71**	**341**	P		**P**	**01 27 44.5**	**+1.1**
	0.3nm,0.5s,baz=142,slow=7.3,SNR=2.5							
MKAR	**Makanchi Array**	**50.46**	**323**	P		**P**	**01 29 08.2**	**-0.5**
	0.4nm,0.6s,baz=127,slow=7.1,SNR=4.3							
ZALV	**Zalesovo Beam**	**53.17**	**332**	P		**P**	**01 29 27.8**	**-1.0**
	0.6nm,0.6s,baz=126,slow=9.7,SNR=2.8							
ARCES	**ARCESS Array B**	**82.88**	**340**	P		**P**	**01 32 35.4**	**+0.2**
	1.6nm,0.9s,baz=81,slow=7.5,SNR=3.7							

MAN 04 01:29:22, 11°.09N×124°.84E, h7km, mb4.2, ML3.0, MS2.7, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.16**	**61**	⇓*i*P		Pg	01 29 26.8	+1.5
PLP				*i* S		Sg	01 29 29.6	+2.0
OCLP	**Ormoc**	**0.23**	**261**	*e*P		Pg	01 29 28.0	+1.5
OCLP				*e*S		Sg	01 29 30.8	+1.3
MSLP	**Maasin**	**0.95**	**179**	*e*P		Pn	01 29 41.6	-0.1
MSLP				*e*S		Sn	01 29 57.1	+1.6
CNP	**Catarman**	**1.43**	**353**	*e*P		Pb	01 29 49.1	+0.1
CNP				*e*S		Sg	01 30 08.1	+0.2

*KRNET **04** 01:36:16.8±0.1, 40°.82N×70°.89E, mb3.5*
*NNC **04** 01:36:21.6±1.4, 41°.02N×71°.20E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=13.1km s-min=12.3km az=108.0*
ISC 04 01:36:18.6±2.3, 41°.06N±0°.04×71°.14E±0°.04, h0km±21km, n21, σ1§03/31, 16C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.97**	**40**	*e*P		**Pn**	**01 36 40.0**	**+0.5**
	baz=39							
ARK				*e*S		Sn	01 36 59.7	+5.7
	baz=39							
SFK	**Sufi-Kurgan**	**2.08**	**119**	⇑Pn		**Pn**	**01 36 56.0**	**+1.0**
	13nm,0.6s							
SFK				⇑Sn		**Sb**	**01 37 23.5**	**-0.4**
	125nm,0.5s							
SFK	**Sufi-Kurgan**	**2.08**	**119**	*e*P		**Pn**	**01 36 56.0**	**+1.0**
	baz=111							
SFK				*e*S		**Sb**	**01 37 23.5**	**-0.4**
	baz=111							
KK31	**Karatay Array**	**2.10**	**347**	⇓Pn		**Pb**	**01 36 57.7**	**+0.2**
	13nm,0.5s,baz=161,slow=14,SNR=260							
KK31				⇑Sn		**Sg**	**01 37 27.0**	**+1.0**
	30nm,0.3s,baz=172,slow=27,SNR=28							
AML	**Almayashu**	**2.20**	**60**	P		**Pn**	**01 36 57.3**	**+0.6**
	SNR=60							
AML	**Almayashu**	**2.20**	**60**	⇑*i*P		**Pn**	**01 36 57.5**	**+0.8**
	baz=57							
AML				⇑*i*S		**Sb**	**01 37 27.0**	**-0.3**
	baz=57							
EKS2	**Erkin-Say**	**2.54**	**50**	P		**Pn**	**01 37 03.1**	**+1.9**
	SNR=42							
EKS2	**Erkin-Say**	**2.54**	**50**	⇑*i*P		**Pb**	**01 37 04.2**	**-0.9**
	baz=49							
EKS2				⇑*i*S		**Sg**	**01 37 39.8**	**-0.4**
	baz=49							
UCH	**Uchtor**	**2.79**	**64**	P		**Pn**	**01 37 05.9**	**+1.0**
	SNR=11							
UCH	**Uchtor**	**2.79**	**64**	⇑*i*P		**Pn**	**01 37 05.5**	**+0.6**
	baz=61							
UCH				⇑*i*S		**Sg**	**01 37 46.8**	**-1.3**
	baz=61							
DZET	**Dzherino**	**2.87**	**219**	⇓Pn		**Pb**	**01 37 11.5**	**+0.9**
	13nm,0.4s							
DZET				⇑Sn		**Sb**	**01 37 45.3**	**-1.0**
	41nm,0.4s							
AAK	**Ala-Archa**	**2.96**	**57**	P		**Pb**	**01 37 12.8**	**+0.5**
	SNR=20							
AAK	**Ala-Archa**	**2.96**	**57**	⇓Pn		**Pb**	**01 37 12.3**	**-0.1**
	20nm,0.5s							
AAK				⇓Sn		**Sb**	**01 37 48.5**	**-0.6**
	17nm,0.5s							
AAK	**Ala-Archa**	**2.96**	**57**	⇑*i*P		**Pb**	**01 37 12.8**	**+0.5**
	baz=55							
AAK				⇑*i*S		**Sb**	**01 37 49.3**	**+0.2**
	baz=55							
KZA	**Kyzart**	**3.25**	**70**	P		**Pb**	**01 37 18.8**	**+1.4**
	SNR=5.6							
KBK	**Karagaybulak**	**3.26**	**59**	P		**Pb**	**01 37 15.8**	**-1.6**
	SNR=9.9							
CHMS	**Chumysh**	**3.32**	**53**	P		**Pb**	**01 37 19.5**	**+1.2**
	SNR=11							
CHMS	**Chumysh**	**3.32**	**53**	⇑*i*P		**Pb**	**01 37 18.8**	**+0.5**
	baz=52							
CHMS				⇑*i*S		**Sb**	**01 38 01.3**	**+2.1**
	baz=52							
USP	**Ospenovka**	**3.33**	**47**	P		**Pb**	**01 37 18.6**	**0.0**
	SNR=9.8							
TKM2	**Tokmak 2**	**3.81**	**59**	⇑Pn		**Pn**	**01 37 18.8**	**+0.1**
	7.8nm,0.6s							
TKM2				⇑Lg		Lg	01 38 23.1	
	9.1nm,0.5s							
AB31	**Akbulak array**	**11.38**	**320**	⇓Pn		**Pn**	**01 39 00.6**	**-1.6**
	0.4nm,0.6s							

*NIED **04** 01:37:00, 32°.90N×142°.50E, h5km, Mw4.0 Best double couple: M0 1.25000×10^15 NP1:φs341.00000°, δ26.00000°, λ-89.00000°. NP2:φs160.00000°, δ64.00000°, λ-90.00000°.*
*IDC **04** 01:37:49.5±0.7, 32°.85N×142°.58E, h0km, mb3.9/17, mb1 4.1/22, mb1mx4.0/42, mbtmp4.0/22, ML3.8/3, MS2.5/2, Ms1 2.5/2, ms1mx2.3/41, Error ellipse: s-maj=18.6km s-min=15.7km az=83.0*
*NEIC **04** 01:37:50.9±0.3, 32°.86N×142°.57E, h10km, mb4.5/4, MW4.0(NIED), Error ellipse: s-maj=7.3km s-min=6.4km az=89.0*
*ISCJB **04** 01:37:52.6±0.4, 32°.88N±0°.04×142°.46E±0°.05, h33km, mb4.0/21, MS2.2/1, Error ellipse: s-maj=7.2km s-min=4.2km az=144.3*
*JMA **04** 01:37:52.2±0.2, 32°.90N×142°.47E, h93km, M3.6*
ISC 04 01:37:54.2±0.5, 32°.84N±0°.05×142°.50E±0°.07, h33km, n47, σ1§35/58, mb4.0/21, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.21**	**325**	P		**Pn**	**01 38 26.9**	**-1.2**
BSO1				S		**Sn**	**01 38 53.3**	**-0.7**
JHJ2	**Mitsune**	**2.27**	**278**	P		**Pn**	**01 38 28.3**	**-1.1**
JHJ2				S		**Sn**	**01 38 56.4**	**+0.2**
JHJ2	**Mitsune**	**2.27**	**278**	*e*Pn		**Pn**	**01 38 28.5**	**-0.9**
JHCJ	**Hachijojimakas**	**2.28**	**277**	S		**Sn**	**01 38 55.7**	**-0.8**
BSO2	**Boso 2**	**2.40**	**323**	S		**Sn**	**01 38 58.5**	**-0.5**
BSO3	**Boso 3**	**2.56**	**320**	P		**Pn**	**01 38 32.0**	**-1.2**
BSO3				S		**Sn**	**01 39 02.2**	**-0.9**
BSO4	**Boso 4**	**2.80**	**321**	P		**Pn**	**01 38 35.8**	**-0.8**
BSO4				S		**Sn**	**01 39 07.8**	**-1.3**
JOD2	**Odawara 2**	**3.72**	**311**	P		**Pn**	**01 38 47.5**	**-1.9**
JOD2				S		**Sn**	**01 39 30.2**	**-1.9**
JYT	**Yasato**	**3.88**	**331**	P		**Pn**	**01 38 50.8**	**-0.7**
JYT				S		**Sn**	**01 39 33.6**	**-2.3**
JHU	**Hanno**	**4.01**	**319**	P		**Pn**	**01 38 51.7**	**-1.7**
JHU				S		**Sn**	**01 39 38.1**	**-1.2**
MJAR	**Matsushiro Arr**	**5.11**	**317**	Pn		**Pn**	**01 39 08.2**	**-0.3**
	5.2nm,0.3s,baz=160,slow=13,SNR=72							
MJAR				Sn		**Sn**	**01 40 03.7**	**-2.7**
	3.3nm,0.3s,baz=162,slow=18,SNR=7.1							
MAJO	**Matsushiro**	**5.11**	**317**	*e*Pn		**Pn**	**01 39 08.0**	**-0.5**
	37nm,0.8s							
MAJO				*e*Sn		**Sn**	**01 40 05.7**	**-0.7**
MAT	**Matsushiro**	**5.11**	**317**	P		**Pn**	**01 39 08.0**	**-0.5**
MAT				S		**Sn**	**01 40 04.5**	**-1.9**
CBIJ	**Chichi jima**	**5.73**	**183**	Pn		**Pn**	**01 39 15.7**	**-1.3**
CBIJ				Sn		**Sn**	**01 40 17.9**	**-3.7**
JCJ	**Chichijima**	**5.73**	**183**	Pn		**Pn**	**01 39 15.7**	**-1.3**
	8.4nm,0.3s,baz=354,slow=20,SNR=6.9							
JCJ				Sn		**Sn**	**01 40 17.9**	**-3.7**
	14nm,0.3s,baz=60,slow=20,SNR=4.5							
ASAJ	**Asahikawa**	**11.26**	**0**	Pn		**Pn**	**01 40 30.3**	**-2.4**
	baz=218,slow=12							
ASAJ	**Asahikawa**	**11.26**	**0**	*e*Pn		**Pn**	**01 40 29.6**	**-3.1**
	1.8nm,0.5s							
KSRS	**Korea Array**	**12.78**	**295**	Pn		**Pn**	**01 40 54.4**	**+0.8**
	0.1nm,0.3s,baz=104,slow=13,SNR=4.3							
KSRS				LR		LR	01 46 09.0	
	comp=Z,320nm,18.6s,baz=106,slow=39							
KSAR	**Wonju Array Be**	**12.81**	**295**	Pn		**Pn**	**01 40 54.4**	**+0.5**
USRK	**Ussuriysk Ar.**	**14.00**	**327**	Pn		**Pn**	**01 41 08.7**	**-1.4**
	0.1nm,0.3s,baz=137,slow=13,SNR=10							
YOJ	**Yonaguni jima**	**19.01**	**249**	*e*P		**Pn**	**01 42 13.3**	**-0.8**
	34nm,1.1s							
YULB	**Yu-li**	**20.90**	**249**	*e*P		**P**	**01 42 34.2**	**+0.3**
PETK	**Petropavlovsk-**	**23.02**	**24**	LR		LR	01 54 24.1	
	comp=Z,8.0nm,18.8s,baz=160,slow=43							
SEY	**Seymchan**	**30.76**	**9**	P		**P**	**01 44 06.1**	**-0.1**
	1.0nm,0.5s,baz=184,slow=6.0,SNR=6.5							
SONM	**Songino Array**	**31.01**	**310**	P		**P**	**01 44 10.2**	**+1.5**
	3.3nm,0.9s,baz=113,slow=9.4							
CMAR	**Chiang Mai Arr**	**41.50**	**261**	P		**P**	**01 45 38.6**	**+0.2**
	1.2nm,0.4s,baz=43,slow=8.5,SNR=5.5							
ZALV	**Zalesovo Beam**	**45.46**	**316**	P		**P**	**01 46 10.4**	**+0.5**
	0.5nm,0.6s,baz=93,slow=7.5,SNR=3.3							
MKAR	**Makanchi Array**	**47.19**	**306**	P		**P**	**01 46 24.5**	**+0.8**
	1.8nm,0.6s,baz=89,slow=9.8,SNR=15							
KURK	**Kurchatov**	**49.29**	**311**	*e*P		**P**	**01 46 39.7**	**0.0**
	13nm,0.6s							
ILAR	**Eielson Array**	**52.60**	**31**	P		**P**	**01 47 03.5**	**-1.0**
	0.3nm,0.6s,baz=264,slow=6.4,SNR=4.3							
WRA	**Warramunga Arr**	**53.06**	**190**	P		**P**	**01 47 08.0**	**-0.3**
	1.9nm,0.7s,baz=8.7,slow=7.7,SNR=18							
KKAR	**Karatay Array**	**56.07**	**303**	*e*P		**P**	**01 47 30.6**	**+0.5**
	1.2nm,0.5s							
ASAR	**Alice Springs**	**56.78**	**189**	P		**P**	**01 47 36.4**	**+1.1**
	0.5nm,0.7s,baz=22,slow=11,SNR=5.0							
ABKAR	**Akulak array**	**61.37**	**312**	*e*P		**P**	**01 48 06.5**	**-0.2**
	1.9nm,0.5s							
GEYT	**Alibeck**	**66.70**	**301**	P		**P**	**01 48 42.8**	**+0.7**
	0.9nm,0.6s,baz=321,slow=1.9,SNR=5.3							
YKA	**Yellowknife Ar**	**67.00**	**29**	P		**P**	**01 48 43.4**	**0.0**
	0.7nm,0.7s,baz=292,slow=6.8,SNR=3.5							
FINES	**FINESS Array B**	**72.94**	**333**	P		**P**	**01 49 20.2**	**+0.3**
	2.5nm,0.8s,baz=64,slow=8.7,SNR=12							
KBZ	**Khabaz**	**74.34**	**312**	P		**P**	**01 49 29.5**	**+1.1**
	3.3nm,0.9s,baz=303,slow=2.0,SNR=5.8							
NVAR	**Mina Array Bea**	**76.80**	**53**	P		**P**	**01 49 43.9**	**+1.0**
	0.2nm,0.3s,baz=325,slow=4.6,SNR=2.7							
AKASG	**Malin Array Be**	**78.17**	**323**	P		**P**	**01 49 50.4**	**+0.3**
	0.6nm,0.4s,baz=46,slow=6.7,SNR=6.2							
NB2	**NORSAR Subarra**	**78.40**	**338**	P		**P**	**01 49 51.5**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=40,slow=5.6							
NOA	**NORSAR Array B**	**78.40**	**338**	P		**P**	**01 49 51.7**	**+0.5**
	comp=Z,1.7nm,0.9s,baz=39,slow=5.7,SNR=4.2							
BRTR	**Keskin Array B**	**82.32**	**313**	P		**P**	**01 50 13.6**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=118,slow=2.8,SNR=6.1							
CLL	**Collm**	**85.18**	**331**	*i* P		**P**	**01 50 27.6**	**+0.6**
	comp=Z,6.0nm,1.2s							
TXAR	**Lajitas Array**	**91.95**	**53**	P		**P**	**01 51 00.1**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=305,slow=4.0,SNR=5.8							
TORD	**Torodi Ar. Bea**	**120.90**	**314**	PKP		**PKPdf**	**01 56 43.5**	**-0.3**
	comp=Z,0.1nm,0.5s,baz=5.1,slow=1.6,SNR=6.0							
LPAZ	**La Paz**	**147.79**	**67**	PKPbc		**PKPbc**	**01 57 38.1**	**+1.2**
	comp=Z,1.0nm,0.9s,baz=61,slow=9.8,SNR=4.8							

IDC 04 01:45:05.9±2.2, 13°.24S×166°.04E, h37km±9km, mb3.7/6, mb1 3.9/6, mb1mx3.6/34, mbtmp3.9/6, MS3.5/2, Ms1 3.5/2, ms1mx2.8/29, Error ellipse: s-maj=64.2km s-min=23.9km az=124.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.09**	**226**	P		P	01 51 03.5	+0.3
	2.2nm,0.6s,baz=53,slow=8.2,SNR=7.7							
STKA				pP		pP	01 51 13.3	-0.4
	2.7nm,0.6s,baz=48,slow=8.4,SNR=3.3							
STKA				LR		LR	02 02 31.4	
	comp=Z,95nm,18.3s,baz=29,slow=36							

WRA	**Warramunga Arr**	**31.07**	**253**	P		P	01 51 20.7	0.0
	0.6nm,0.5s,baz=80,slow=6.8,SNR=5.4							
WRA				pP		pP	01 51 31.6	+0.3
	1.5nm,0.8s,baz=86,slow=8.5,SNR=4.8							
ASAR	**Alice Springs**	**32.12**	**247**	P		P	01 51 29.4	-0.6
	1.1nm,0.8s,baz=74,slow=9.3,SNR=10							
ASAR				pP		pP	01 51 40.9	+0.3
	0.9nm,0.7s,baz=75,slow=9.9,SNR=4.9							
ASAR				ScP		ScP	01 58 00.2	+0.6
	0.7nm,0.7s,baz=104,slow=2.8,SNR=6.3							
ASAR				LR		LR	02 02 39.3	
	comp=Z,86nm,19.3s,baz=91,slow=33							
USRK	**Ussuriysk Ar.**	**65.03**	**334**	P		P	01 55 43.7	+1.4
	0.7nm,0.5s,baz=129,slow=2.7,SNR=4.0							
SONM	**Songino Array**	**80.60**	**324**	P		P	01 57 13.5	-1.3
	0.1nm,0.4s,baz=104,slow=6.1,SNR=2.0							
ILAR	**Eielson Array**	**85.50**	**18**	P		P	01 57 39.4	-0.1
	0.8nm,0.5s,baz=230,slow=5.5,SNR=26							

*IDC **04** 01:56:48.2±0.5, 38°.77N×70°.45E, h0km, mb4.4/33, mb1 4.5/39, mb1mx4.4/51, mbtmp4.4/39, ML4.1/5, MS3.7/15, Ms1 3.7/15, ms1mx3.4/40, Error ellipse: s-maj=11.0km s-min=8.6km az=179.0*
*ISCJB **04** 01:56:49.3±0.1, 38°.83N±0°.02×70°.38E±0°.02, h10km, mb4.5/94, MS3.7/16, Error ellipse: s-maj=3.0km s-min=2.4km az=17.5*
*SZGRF **04** 01:56:50.7, 37°.81N×70°.58E, h33km, mb4.7, Afghanistan-Tajikistan border region*
*NNC **04** 01:56:50.9±1.1, 38°.88N×70°.11E, h0km, mb5.0, mpv4.9, Error ellipse: s-maj=14.1km s-min=4.6km az=157.0*
*BJI **04** 01:56:54.9, 39°.07N×70°.44E, h57km, mb4.7/32, mb4.6/21, Ms4.2/29, Ms7 3.9/27*
*NEIC **04** 01:56:56.7±0.9, 38°.90N×70°.45E, h60km±8km, mb4.7/28, Error ellipse: s-maj=7.4km s-min=4.5km az=188.0*
NEIC Felt at Dushanbe, Garm and Isfara.
*MOS **04** 01:56:57.6±1.1, 39°.08N×70°.45E, h77km, mb4.9/35, Error ellipse: s-maj=6.0km s-min=4.7km az=113.8*
ISC 04 01:56:50.5±0.3, 38°.86N±0°.03×70°.18E±0°.03, h10km, n358, σ2§04/353, mb4.6/107, MS3.6/18, 37C-33D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**1.06**	**267**	⇓P		**Pg**	**01 57 09.9**	**-1.1**
	1μm,0.4s							
DZET				⇓S		**Sn**	**01 57 24.8**	**-1.6**
	5μm,0.5s							
DZET	**Dzherino**	**1.06**	**267**	P		**Pg**	**01 57 09.8**	**-1.1**
DZET				pmax		pmax		
	comp=Z,1μm,0.4s							
SFK	**Sufi-Kurgan**	**2.82**	**65**	⇑Pn		**Pn**	**01 57 38.3**	**+2.5**
	comp=Z,59nm,0.9s							
SFK				⇑Pg		**Pb**	**01 57 42.7**	**+1.7**
	comp=Z,211nm,0.4s							
SFK				⇓Lg		Lg	01 58 20.6	
	comp=Z,1μm,0.7s							
SFK	**Sufi-Kurgan**	**2.82**	**65**	PN		**Pn**	**01 57 37.9**	**+2.1**
SFK				pmax		pmax		
	comp=Z,101nm,0.8s							
AML	**Almayashu**	**4.22**	**38**	P		**Pn**	**01 57 57.7**	**+2.5**
	SNR=186							
KK31	**Karatay Array**	**4.25**	**3**	⇑Pn		Pn	01 57 58.7	+3.5
	comp=Z,73nm,0.5s,baz=177,slow=12,SNR=759							
KK31				⇓Sn		**Sn**	**01 58 50.1**	**+5.3**
	comp=Z,165nm,0.5s,baz=187,slow=23							
KK31				⇑Lg		Lg	01 59 04.3	
	comp=Z,294nm,0.7s,baz=183,slow=30,SNR=4.5							
KK31	**Karatay Array**	**4.25**	**3**	*e*PN		**Pn**	**01 57 58.1**	**+2.9**
KK31							01 58 49.4	
KK31				pmax		pmax		
	comp=Z,62nm,0.3s							
KK31				smax		smax		
	comp=N,62nm,0.3s							
KK31				pmax		pmax		
	comp=N,558nm,0.7s							
KKAR	**Karatay Array**	**4.25**	**3**	*e*PN		**Pn**	**01 57 58.0**	**+2.8**
KKAR	**

OTUK ⇓Sn **Sn** **02 00 53.4 -1.0**
comp=Z,95nm,0.7s
OTUK ⇑Lg Lg 02 01 52.5
comp=Z,223nm,1.1s
GEYT Alibeck 9.52 268 Pn **Pn** **01 59 05.7 -2.0**
comp=Z,2.2nm,0.3s,baz=96,slow=9.1,SNR=21
GEYT Sn **Sn** **02 00 50.1 -4.6**
comp=Z,5.7nm,0.3s,baz=59,slow=24,SNR=4.1
GEYT Lg Lg 02 02 04.8
baz=106,slow=30,SNR=2.0
GEYT LR LR 02 03 44.3
comp=Z,343nm,19.9s,baz=45,slow=43
SMLA Simla 9.61 141 *e*P **Pn** **01 59 09.1 +0.3**
SMLA *e*S Sn 02 00 51.9 -4.9
SMLA AML AML 02 00 52.4
comp=N,333nm,0.4s
SMLA AML AML 02 00 52.5
comp=E,393nm,0.4s
ISFR Sfrayin 9.79 263 *e*P **Pn** **01 59 09.7 -1.9**
ISHV Shirvan 9.91 266 *e*P **Pn** **01 59 12.2 -1.0**
IDAH Dahanechah 10.36 237 *e*P **Pn** **01 59 21.2 +1.7**
IKOO Kooshah 11.13 238 *e*P **Pn** **01 59 27.8 -2.1**
JOSI Joshimath 11.31 134 *ex* Pn 01 59 28.8 -3.6
JOSI *e*S Sn 02 01 28.9 -10
JOSI AML AML 02 01 35.7
comp=E,106nm,0.7s
JOSI AML AML 02 01 36.3
comp=N,88nm,0.5s
KALG Kalgarh 11.72 140 *e*S Sn 02 01 38.2 -10
KHET Khetri 11.73 155 *e*P **Pn** **01 59 37.6 -0.4**
KHET *ex* x 02 01 41.6
MK31 Makanchi Array 11.90 44 ⇑Pn **Pn** **01 59 41.6 +1.4**
comp=N,7.6nm,0.7s,baz=228,slow=9.6,SNR=54
MK31 ⇑Lg Lg 02 03 12.4
comp=N,14nm,0.9s,baz=20,slow=47,SNR=3.5
MK31 Makanchi Array 11.90 44 *i* P **Pn** **01 59 40.6 +0.4**
MK31 pmax pmax
comp=Z,23nm,1.0s
MK31 pmax pmax
comp=N,25nm,1.0s
MK31 Makanchi Array 11.90 44 *e*Pn **Pn** **01 59 40.8 +0.6**
MKAR Makanchi Array 11.90 44 Pn **Pn** **01 59 38.0 -2.2**
comp=N,0.4nm,0.3s,baz=231,slow=12,SNR=32
MKAR Lg Lg 02 02 55.9
comp=N,0.1nm,0.3s,baz=237,slow=26,SNR=3.0
MKAR LR LR 02 04 08.3
comp=N,60nm,20.3s,baz=234,slow=37
LGTI Lohaghat 12.54 135 *ex* Pn 01 59 38.7 -10
AB31 Akbulak array 12.72 328 ⇑Pn **Pn** **01 59 50.4 -1.0**
comp=N,24nm,0.6s
AB31 ⇓Sn **Sn** **02 02 11.3 -1.7**
comp=N,128nm,0.8s
AB31 Akbulak array 12.72 328 P **Pn** **01 59 50.3 -1.0**
AB31 02 02 07.4
AB31 pmax pmax
comp=Z,34nm,0.6s
AB31 smax smax
comp=N,38nm,0.4s
ABKAR Akbulak array 12.72 328 *e*Pn **Pn** **01 59 50.1 -1.2**
ABKAR *e*Sn Sn 02 02 05.4 -7.6
KURBB Kurchatov Arra 13.16 24 ⇑Pn **Pn** **01 59 56.2 -1.1**
comp=N,18nm,0.8s
KURBB ⇓Lg Lg 02 03 50.6
comp=N,64nm,0.8s
KURBB Kurchatov Arra 13.16 24 Pn Pn 01 59 54.0 -3.3
comp=N,0.2nm,0.3s,baz=213,slow=12,SNR=35
KURBB Sn Sn 02 02 17.3 -6.3
comp=N,0.1nm,0.3s,baz=208,slow=27,SNR=3.3
KURBB Lg Lg 02 03 42.2
comp=N,0.2nm,0.3s,baz=227,slow=29,SNR=5.2
KURK Kurchatov 13.27 24 ⇓Pn **Pn** **01 59 56.6 -2.2**
comp=N,4.1nm,0.7s
KURK ⇓Lg Lg 02 03 52.4
comp=N,30nm,1.2s
KURK Kurchatov 13.27 24 *e*P **Pn** **01 59 56.6 -2.2**
KURK *e* 02 02 22.6
KURK Kurchatov 13.27 24 *e*Pn **Pn** **01 59 56.6 -2.2**
KURK *e*Sn **Sn** **02 02 22.6 -3.7**
KURK Lg Lg 02 03 42.2
AGRA Agra 13.29 148 *ex* Pn 01 59 56.2 -3.0
AGRA *e*S Sn 02 02 16.9 -10
AGRA AML AML 02 02 34.8
comp=E,57nm,0.4s
AGRA AML AML 02 02 41.0
comp=N,57nm,0.5s
ISHM Shahmirzad 13.78 262 *e*P **Pn** **02 00 05.8 -0.4**
WMQ Urumqi 14.05 64 *e*P **Pn** **02 00 11.5 +1.9**
WMQ pP P 02 00 23.0 +5.5
WMQ PP **PnPn** **02 00 24.5 +7.1**
WMQ sP 02 00 30.5
WMQ S **Sn** **02 02 47.8 +2.2**
WMQ PMZ
comp=N,24nm,0.7s
BVA0 Borovoye Array 14.17 1 Pn **Pn** **02 00 09.8 -1.3**
comp=N,18nm,0.9s,baz=174,slow=12,SNR=77
BVA0 ⇓Sn **Sn** **02 02 48.0 -0.2**
comp=N,34nm,1.1s,baz=169,slow=23,SNR=2.6
BVA0 Borovoye Array 14.17 1 *i* P **Pn** **02 00 09.7 -1.3**
BVA0 *e* 02 02 47.9
BVA0 pmax pmax
comp=Z,20nm,1.0s
BVA0 smax smax
comp=N,24nm,1.0s
BVAR Borovoye Array 14.17 1 Pn **Pn** **02 00 08.9 -2.2**
comp=N,3.2nm,0.3s,baz=172,slow=12,SNR=28
BVAR Sn **Sn** **02 02 44.3 -3.9**
comp=N,0.5nm,0.3s,baz=220,slow=26,SNR=2.3
BVAR Lg Lg 02 04 17.2
comp=N,0.8nm,0.3s,baz=148,slow=28,SNR=3.6
BRVK Borovoye 14.20 0 ⇑Pn **Pn** **02 00 10.4 -1.1**
comp=N,60nm,1.1s
BRVK ⇑Sn **Sn** **02 02 45.3 -3.7**
comp=N,34nm,0.9s
BRVK Borovoye 14.20 0 ⇓*e*P **Pn** **02 00 11.1 -0.4**
BRVK pmax pmax
comp=Z,32nm,1.2s
BRVK Borovoye 14.20 0 *e*Pn **Pn** **02 00 10.7 -0.8**
AKTO Aktyubinsk 14.43 327 ⇑Pn **Pn** **02 00 14.1 -0.6**
comp=Z,143nm,0.8s
AKTO ⇑Sn **Sn** **02 02 54.1 -0.6**
comp=Z,76nm,0.8s
AKTO Aktyubinsk 14.43 327 Pn **Pn** **02 00 14.3 -0.4**
comp=Z,2.2nm,0.3s,baz=141,slow=14,SNR=48
AKTO Sn **Sn** **02 02 49.9 -4.7**
comp=Z,1.0nm,0.3s,baz=45,slow=19,SNR=7.0
AKTO Lg Lg 02 04 34.0
baz=329,slow=18,SNR=1.7
AKTO LR LR 02 06 16.6
comp=Z,320nm,18.4s,baz=140,slow=39
AKTO Aktyubinsk 14.43 327 P **Pn** **02 00 14.0 -0.6**
AKTO 02 02 52.3
AKTO pmax pmax
comp=Z,174nm,0.9s
AKTO smax smax
comp=N,206nm,1.4s
IMEH Mehriz 14.75 244 *e*P **Pn** **02 00 19.4 0.0**
ISAD Sadrabad 15.13 248 *e*P **Pn** **02 00 24.6 +0.1**
IZEF Zefreh 15.64 253 *e*P **Pn** **02 00 31.8 +0.6**
KOLN Koldanda 15.73 131 *e*P Pn 02 00 27.8 -4.6
comp=N,28nm,0.5s
IGZV Ghazvin 16.01 267 *e*P **Pn** **02 00 33.8 -2.2**
IKLH Kolahrood 16.02 256 *e*P **P** **02 00 41.7 +2.1**
GKN Gorkha 16.19 128 *e*P Pn 02 00 32.3 -5.9
comp=N,123nm,0.6s
KKN Kakani 16.74 127 *e*P Pn 02 00 39.2 -6.1
comp=N,36nm,0.6s
DMN Daman 16.76 128 *e*P Pn 02 00 40.2 -5.4
comp=N,72nm,0.7s
IPIR Pirpir 16.81 254 *e*P **P** **02 00 48.3 -0.2**
PKIN Phulchoki 16.96 127 *e*P Pn 02 00 42.9 -5.3
comp=N,27nm,0.6s
PKI Pulchoki 16.98 127 *e*P Pn 02 00 43.0 -5.4
ISRV Sarvestan 16.98 241 *e*P **P** **02 00 51.8 +1.4**
GUN Gumba 17.04 125 *e*P Pn 02 00 43.8 -5.4
comp=N,160nm,1.1s
IHRS Heris 18.09 276 *e*P **P** **02 01 03.5 +1.0**
ZALV Zalesovo Beam 18.09 29 P **Pn** **02 01 00.6 -1.2**
comp=N,3.4nm,0.3s,baz=226,slow=12,SNR=68
RAMN Ramite 18.16 126 *e*P Pn 02 00 58.8 -4.3
comp=N,84nm,0.6s
NVS Novosibirsk 18.26 25 *e*P **Pn** **02 01 02.9 -0.8**
NVS *e*S **Sn** **02 04 24.5 -2.9**
NVS pmax pmax
comp=Z,28nm,1.2s
NVS pmax pmax
comp=N,39nm,1.7s

NVS pmax pmax
comp=E,6.0nm,0.8s
NVS smax smax
comp=N,19nm,1.4s
NVS smax smax
comp=E,20nm,2.2s
TAPN Taplejung 18.60 123 *e*P P 02 01 02.9 -5.3
comp=E,30nm,0.5s
ODAN Odare 18.73 125 *e*P P 02 01 05.3 -4.3
comp=E,60nm,0.8s
SVE Sverdlovsk 19.05 344 ⇓*i*P **P** **02 01 12.8 +0.2**
SVE *e*S Sn 02 04 37.5 -9.1
SVE pmax pmax
comp=Z,38nm,1.1s
SVE MLR MLR
comp=Z,481nm,11.0s
DGRG David-gareji 19.12 286 P **Pn** **02 01 15.5 +1.0**
ARU Arti 19.19 340 *d i*P **P** **02 01 14.5 +0.3**
ARU S **Sn** **02 04 47.7 -2.3**
ARU pmax pmax
comp=Z,32nm,1.2s
ARU Arti 19.19 340 *e*P **P** **02 01 13.9 -0.3**
comp=Z,27nm,0.9s
ARU *e*Sn **Sn** **02 04 46.9 -3.1**
LSA Lhasa 19.55 112 P **P** **02 01 18.7 -0.1**
LSA Lhasa 19.55 112 *e*P **P** **02 01 20.0 +1.1**
LSA pmax pmax
comp=Z,20nm,0.8s
LSA Lhasa 19.55 112 *e*P **P** **02 01 20.0 +1.1**
comp=Z,20nm,0.8s
TBLG Delisi 19.60 287 P **Pn** **02 01 21.8 +1.7**
GNI Garni 19.66 282 P **Pn** **02 01 23.0 +2.0**
comp=Z,0.6nm,0.3s,baz=208,slow=1.0,SNR=12
GNI LR LR 02 10 25.9
comp=Z,147nm,19.8s,baz=99,slow=41
GNI Garni 19.66 282 *i* P **Pn** **02 01 22.1 +1.1**
GNI Garni 19.66 282 *e*P **Pn** **02 01 22.5 +1.5**
ZEI Tsey 20.24 290 *e*P Pn 02 01 29.6 +1.6
ZEI pmax pmax
comp=Z,93nm,0.9s
NCK Nalchik 20.50 292 ⇑*i*P Pn 02 01 31.1 +0.3
AKH Akhalkalaki 20.54 286 P Pn 02 01 34.5 +3.0
HVS Khovu-Aksy 20.56 46 ⇓*i*P **P** **02 01 28.8 -0.5**
HVS pmax pmax
comp=Z,73nm,1.1s
ONI Oni 20.57 289 P Pn 02 01 33.9 +2.3
KBZ Khabaz 21.02 292 P **P** **02 01 37.6 +3.4**
comp=Z,11nm,0.8s,baz=118,slow=8.6,SNR=19
GOF Gofitskoye 21.05 296 *e*P **P** **02 01 36.6 +2.0**
GOF *e*S **S** **02 05 23.3 -5.5**
GOF pmax pmax
comp=Z,184nm,1.2s
SRSP Sriramsagar 21.09 158 *e*P **P** **02 01 34.2 -0.8**
SRSP IAmb IAmb 02 01 36.8
comp=Z,21nm,1.1s
NEY Neytrino 21.12 291 *i* P **P** **02 01 37.9 +2.4**
KIV Kislovodsk 21.19 293 *e*P **P** **02 01 40.0 +3.8**
KIV *e*S Sn 02 05 34.6 -4.1
KIV *e* 02 05 40.0
KIV pmax pmax
comp=Z,39nm,0.9s
KIV MLR MLR
comp=Z,192nm,14.0s
KIV Kislovodsk 21.19 293 *e*P **P** **02 01 39.0 +2.9**
comp=Z,37nm,0.8s
RPR Rampur 21.45 156 *e*P **P** **02 01 40.4 +1.5**
RPR IAmb IAmb 02 01 43.1
comp=Z,23nm,0.8s
KLRI Killari 21.46 163 *e*P **P** **02 01 40.2 +1.1**
KLRI IAmb IAmb 02 01 45.1
comp=Z,35nm,0.8s
SOKR Solikamsk 22.43 342 *c i*P **P** **02 01 51.9 +2.7**
SOKR pmax pmax
comp=Z,80nm,1.5s
SOKR MLR MLR
comp=Z,230nm,18.0s
SHL Shillong 22.57 120 *e*P **P** **02 01 51.0 -0.2**
HYBB Hyderabad (bro 22.58 159 *e*P **P** **02 01 50.0 -1.1**
HYBB IAmb IAmb 02 01 53.7
comp=Z,20nm,0.8s
HYB Hyderabad 22.58 159 *i* P **P** **02 01 50.0 -1.1**
GTA Gaotai 22.95 79 *e*P **P** **02 01 54.4 -0.6**
GTA pP pP 02 02 08.7 +11
GTA sP sP 02 02 15.9 +17
GTA S **S** **02 05 59.6 -5.6**
GTA PMZ
comp=Z,13nm,1.4s
GTA PMZ
comp=Z,79nm,4.5s
GTA LN
comp=Z,200nm,12.6s
GTA LE
comp=Z,300nm,13.1s
GTA LZ
comp=Z,220nm,11.4s
SOC Sochi 23.32 291 *e*P **P** **02 02 00.0 +1.4**
SOC *e**PP pP 02 02 15.2 +14
SOC *e* 02 02 25.9
SOC *e*S **S** **02 06 11.0 -0.2**
SOC *e*SS **SnSn** **02 06 52.1 +6.6**
SOC pmax pmax
comp=Z,35nm,1.0s
CHLP Challavanipeta 23.60 145 *e*P **P** **02 02 02.8 +1.3**
CHLP IAmb IAmb 02 02 08.4
comp=Z,39nm,1.5s
NJS Nagarjunasagar 23.62 158 *e*P **P** **02 02 00.1 -1.6**
NJS IAmb IAmb 02 02 03.2
comp=Z,17nm,1.1s
PVM Polavaram 23.74 152 *e*P **P** **02 02 01.5 -1.4**
PVM IAmb IAmb 02 02 06.2
comp=Z,46nm,1.7s
SRLM Srisailam 23.93 159 *e*P **P** **02 02 03.2 -1.6**
SRLM IAmb IAmb 02 02 05.3
comp=Z,22nm,0.8s
ADKI Addanki 24.49 157 *e*P **P** **02 02 08.4 -1.4**
ADKI IAmb IAmb 02 02 10.6
comp=Z,16nm,1.0s
RCLA Racherla 24.56 159 *e*P **P** **02 02 09.2 -1.3**
RCLA IAmb IAmb 02 02 13.6
comp=Z,41nm,1.0s
URV Uravakonda 24.62 163 *e*P **P** **02 02 10.0 -1.2**
URV IAmb IAmb 02 02 12.4
comp=Z,20nm,0.8s
MALT Malatya 24.77 279 ⇓*i*P **P** **02 02 15.8 +3.4**
VSR Storozhevoye 24.96 310 *e*P **P** **02 02 12.9 -1.0**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,60nm,0.9s
VSR pmax pmax
comp=Z,30nm,0.9s
ANN Anapa 25.00 294 *e*P **P** **02 02 13.5 -0.8**
ANN *e**PP pP 02 02 28.2 +11
ANN *e*S **S** **02 06 34.8 -3.3**
ANN pmax pmax
comp=Z,62nm,1.2s
ANN MLR MLR
comp=N,139nm,16.0s
ANN MLR MLR
comp=E,93nm,16.0s
ANN MLR MLR
comp=Z,153nm,16.0s
RAYN Ar Rayn 25.96 241 *e*P **P** **02 02 23.4 +0.2**
comp=Z,4.0nm,0.7s
ZAK Zakamensk 26.00 53 *e*P **P** **02 02 22.9 -0.6**
ZAK *e* 02 03 06.3
ZAK pmax pmax
comp=Z,8.0nm,1.8s
SKHT Srikalahasti 26.40 159 *e*P **P** **02 02 27.3 +0.1**
TLY Talaya 26.55 50 P **P** **02 02 27.8 -0.6**
comp=Z,1.7nm,0.6s,baz=232,slow=6.2,SNR=3.9
TLY Talaya 26.55 50 *e*P **P** **02 02 28.6 +0.2**
TLY pmax pmax
comp=Z,5.0nm,1.5s
LZH Lanzhou 26.77 85 *e*P **P** **02 02 33.4 +2.7**
LZH pP pP 02 02 46.2 +12
LZH sP sP 02 02 54.0 +19
LZH PMZ
comp=Z,18nm,1.0s
LZH PMZ
comp=Z,72nm,4.3s
LZH LN
comp=Z,150nm,15.2s
LZH LE
comp=Z,320nm,14.0s

LZH LZ
comp=Z,99nm,16.1s
PRGR Permogore 27.36 334 *e*P **P** **02 02 37.7 +2.2**
PRGR pmax pmax
comp=Z,27nm,0.9s
SIM Simferopol' 27.36 295 *c i*P **P** **02 02 37.2 +1.5**
SIM pmax pmax
comp=Z,24nm,0.9s
SIM MLR MLR
comp=N,110nm,19.5s
MOS Moscow 27.44 319 *e*P **P** **02 02 37.4 +1.2**
MOS *e* 02 03 26.3
MOS *e*S **S** **02 07 17.7 +1.3**
MOS pmax pmax
comp=Z,100nm,1.5s
MOS pmax pmax
comp=Z,68nm,1.3s
SONM Songino Array 27.60 59 P **P** **02 02 36.9 -1.1**
comp=Z,2.4nm,1.0s,baz=264,slow=9.8,SNR=15
OBN Obninsk 27.75 317 P **P** **02 02 39.7 +0.7**
comp=Z,13nm,0.5s,baz=126,slow=20,SNR=10.0
OBN Obninsk 27.75 317 ⇓*e*P **P** **02 02 39.7 +0.7**
OBN *e**PP pP 02 02 55.2 +13
OBN 02 03 29.0
OBN *e*S **S** **02 07 21.4 +0.1**
OBN *e*SS **SnSn** **02 08 36.0 +2.7**
OBN pmax pmax
comp=Z,44nm,1.2s
OBN MLR MLR
comp=Z,136nm,26.0s
OBN Obninsk 27.75 317 *e*P **P** **02 02 41.4 +2.4**
comp=Z,52nm,1.3s
ASF Jabal al Asfar 27.80 266 P **P** **02 02 42.1 +2.3**
comp=Z,0.4nm,0.3s,baz=229,slow=1.7,SNR=3.4
BRTR Keskin Array B 28.18 283 P **P** **02 02 45.0 +1.7**
comp=Z,6.1nm,1.0s,baz=90,slow=5.6,SNR=14
BRTR Keskin Array B 28.18 283 *c e*P **P** **02 02 45.7 +2.5**
BRTR pmax pmax
comp=Z,6.0nm,1.0s
CD2 Chengdu 28.54 96 P P 02 02 43.7 -2.7
CD2 pP pP 02 02 57.1 +7.6
CD2 sP sP 02 03 03.6 +13
CD2 S S 02 07 27.2 -7.2
CD2 sS sS 02 07 50.5 +11
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,70nm,4.9s
CD2 LN
comp=Z,290nm,9.7s
CD2 LZ
comp=Z,290nm,11.4s
MMAI Mount Meron Ar 28.64 269 P **P** **02 02 49.0 +1.6**
comp=Z,0.3nm,0.5s,baz=52,slow=9.3,SNR=2.1
ANTO Ankara 28.79 284 *e*P P 02 02 51.9 +3.3
ANTO pmax pmax
comp=Z,15nm,1.1s
ANTO Ankara 28.79 284 *e*P P 02 02 51.9 +3.3
comp=Z,15nm,1.1s
KMI Kunming 30.64 107 P **P** **02 03 06.4 +1.1**
KMI PMZ
comp=Z,8.0nm,0.9s
KMI LN
comp=Z,110nm,13.7s
KMI LE
comp=Z,110nm,15.8s
KMI LZ
comp=Z,130nm,11.7s
AKASG Malin Array Be 31.00 306 P **P** **02 03 08.2 +0.3**
comp=Z,4.6nm,0.7s,baz=80,slow=7.5,SNR=23
AKASG LR LR 02 17 58.0
comp=Z,136nm,20.2s,baz=105,slow=41
AKASG Malin Array Be 31.00 306 *i* P **P** **02 03 08.1 +0.2**
AKASG pmax pmax
comp=Z,7.0nm,0.7s
KIEV Kiev 31.01 306 *e*P **P** **02 03 08.9 +0.9**
KIEV Kiev 31.01 306 *e*P **P** **02 03 10.0 +2.0**
comp=Z,11nm,0.8s
XAN Xi'an 31.37 87 P **P** **02 03 10.0 -1.4**
XAN pP pP 02 03 22.9 +8.4
XAN PMZ
comp=Z,3.0nm,0.7s
XAN PMZ
comp=Z,16nm,5.2s
XAN LN
comp=Z,130nm,17.3s
XAN LE
comp=Z,61nm,18.3s
XAN LZ
comp=Z,64nm,15.3s
CFR Carcaliu 31.59 295 ⇑*i*P **P** **02 03 16.0 +2.8**
HHC Hu-ho-hao-te 31.62 73 *e*P **P** **02 03 13.5 -0.2**
HHC pP pP 02 03 28.2 +11
HHC sP sP 02 03 34.3 +16
HHC PP **PnPn** **02 04 21.0 +3.9**
HHC S **S** **02 08 18.2 -4.5**
HHC sS sS 02 08 38.7 +11
HHC SS **SnSn** **02 10 08.8 +0.6**
HHC PMZ
comp=Z,26nm,0.9s
HHC PMZ
comp=Z,66nm,5.0s
HHC LN
comp=Z,190nm,12.3s
HHC LE
comp=Z,310nm,16.7s
HHC LZ
comp=Z,130nm,13.9s
CMAR Chiang Mai Arr 32.19 121 P **P** **02 03 16.8 -1.9**
comp=Z,1.3nm,0.3s,baz=313,slow=9.2,SNR=3.7
CMAR LR LR 02 18 06.5
comp=Z,98nm,19.6s,baz=319,slow=40
CMAR Chiang Mai Arr 32.19 121 *c e*P P 02 03 24.1 +5.4
CMAR pmax pmax
comp=Z,1.0nm,0.3s
PLOR Plostina 32.59 297 ⇑*i*P **P** **02 03 24.8 +2.7**
PRAR RASCA 32.82 299 ⇑*i*P **P** **02 03 26.7 +2.7**
PALK Pallekele 32.85 160 P **P** **02 03 23.3 -1.2**
comp=Z,5.2nm,0.7s,baz=8.1,slow=7.1,SNR=3.8
PALK Pallekele 32.85 160 P **P** **02 03 23.3 -1.2**
PALK pmax pmax
comp=Z,5.0nm,0.7s
PALK Pallekele 32.85 160 *e*P **P** **02 03 25.2 +0.6**
GYA Guiyang 32.90 101 *e*P **P** **02 03 24.7 -0.3**
GYA PMZ
comp=Z,10.0nm,0.8s
JMB Yambol 33.00 290 ⇑*i*P **P** **02 03 28.4 +2.8**
NACGM Naroch 33.10 313 *e* **P** **02 03 26.0 -0.3**
MLR Muntele Rosu 33.11 296 P **P** **02 03 28.8 +2.1**
comp=Z,6.5nm,1.1s,baz=38,slow=3.6,SNR=22
MLR Muntele Rosu 33.11 296 ⇑*i*P **P** **02 03 29.3 +2.6**
IDID Didziasalis 33.20 314 *e*P **P** **02 03 28.6 +1.4**
IDID IAmb IAmb 02 03 30.5
comp=Z,9.8nm,1.1s
SZH Strazhica 33.36 292 *e*P **P** **02 03 31.6 +2.9**
DOPR Dopca 33.47 297 ⇓*i*P **P** **02 03 32.3 +2.6**
IIGN Ignalina 33.50 314 *e*P **P** **02 03 31.1 +1.3**
IIGN IAmb IAmb 02 03 34.2
comp=Z,7.9nm,0.9s
BURAR Bucovina Array 33.50 300 ⇓*i*P **P** **02 03 32.8 +2.8**
BUR08 Bucovina Ar. S 33.51 300 *e*P **P** **02 03 31.3 +1.1**
IZAR Zarasai 33.56 315 *e*P **P** **02 03 31.6 +1.2**
ISAL Salakas 33.59 314 *e*P **P** **02 03 31.8 +1.2**
VOIR 33.74 296 ⇑*i*P **P** **02 03 34.8 +2.6**
ARR Arges 34.04 296 ⇓*i*P **P** **02 03 37.3 +2.6**
ARCR ARCALIA 34.11 299 ⇓*i*P **P** **02 03 37.8 +2.6**
LVV L'vov 34.27 304 *e*P **P** **02 03 36.9 +0.3**
RZN Rozhen 34.50 289 *e*P P 02 03 42.1 +3.2
LOT Lotru 34.64 296 ⇑*i*P **P** **02 03 42.3 +2.3**
CJR Cluj-Napoca 34.65 298 ⇑*i*P **P** **02 03 42.5 +2.5**
MPEP Malo Peshtene 34.93 293 *e*P P 02 03 45.7 +3.4
SUW Suwalki 35.05 311 *e*P **P** **02 03 45.5 +2.3**
SUW Suwalki 35.05 311 *e*P **P** **02 03 45.5 +2.3**
KWP Kalwaria Pacla 35.13 304 *e*P **P** **02 03 46.5 +2.5**
KWP Kalwaria Pacla 35.13 304 *e*P **P** **02 03 46.6 +2.5**
FINES FINESS Array B 35.18 325 P **P** **02 03 44.8 +0.5**
comp=Z,7.5nm,0.7s,baz=126,slow=9.1,SNR=28
FINES PP **PnPn** **02 04 58.5 -3.2**
comp=Z,4.9nm,0.8s,baz=122,slow=14,SNR=4.1
FINES LR LR 02 19 00.2
comp=Z,174nm,19.5s,baz=92,slow=38
DEV Deva 35.20 297 ⇑*i*P **P** **02 03 46.9 +2.2**
BJI Beijing 35.23 73 P P 02 03 41.0 -3.9
BJI PP **PnPn** **02 05 02.2 -0.5**
BJI PcP **PcP** **02 06 14.0 -1.7**

BJI S S 02 09 10.0 -8.4
BJI ScS ScS 02 13 56.9 -8.5
BJI PMZ
comp=Z,10.0nm,0.6s
BJI LN
comp=Z,200nm,16.8s
BJI LE
comp=Z,130nm,14.8s
BJI LZ
comp=Z,100nm,21.3s
MMB Musomiste 35.25 290 ⇓ *i*P **P 02 03 47.4 +2.3**
DRGR 35.25 299 ⇑ *i*P **P 02 03 47.4 +2.2**
GZR Gura Zlata 35.34 296 ⇑ *i*P **P 02 03 48.3 +2.3**
UZH Uzhgorod 35.42 302 *e*P **P 02 03 49.0 +2.5**
UZH *i* 02 04 04.0
UZH *e* 02 04 19.0
KOLS Kolonicke sedl 35.43 302 *e*P **P 02 03 48.0 +1.4**
KOLS pmax pmax
comp=Z,7.0nm,1.0s
KOLS Kolonicke sedl 35.43 302 *e*P **P 02 03 48.0 +1.4**
KOLS *e*PP **PP 02 05 07.8 +0.9**
VTS Vitosha 35.44 291 ⇓ *i*P **P 02 03 49.0 +2.0**
VTS Vitosha 35.44 291 *e*P **P 02 03 48.9 +2.0**
SIRR Siria 36.02 298 ⇓ *i*P **P 02 03 53.9 +2.2**
IDI Anoyia 36.03 279 P **P 02 03 53.9 +1.9**
comp=Z,6.3nm,0.9s,baz=12,slow=14,SNR=3.6
STHS Stebnicka Huta 36.09 303 *e*P P 02 03 55.5 +3.2
STHS pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 36.09 303 *e*P P 02 03 55.5 +3.2
STHS *e*PP **PnPn 02 05 13.3 +0.1**
BZS Buzias 36.13 297 ⇓ *i*P **P 02 03 54.5 +1.9**
KECS Kecovo 36.63 302 *e*P **P 02 03 59.5 +2.6**
KECS pmax pmax
comp=Z,2.0nm,0.9s
KECS Kecovo 36.63 302 *e*P **P 02 03 59.5 +2.6**
NIE Niedzica 36.69 303 *e*P **P 02 03 59.5 +2.0**
NIE Niedzica 36.69 303 *e*P **P 02 03 59.5 +2.0**
OJC Ojcow 37.00 305 *e*P **P 02 04 00.4 +0.5**
OJC Ojcow 37.00 305 *e*P **P 02 04 00.5 +0.5**
OJC pmax pmax
comp=Z,13nm,0.9s
OJC Ojcow 37.00 305 *e*P **P 02 04 00.5 +0.5**
comp=Z,13nm,0.9s
PSZ Piszkesteto 37.07 301 *e*P P 02 04 04.7 +4.0
PSZ pmax pmax
comp=Z,3.0nm,0.8s
PSZ Piszkesteto 37.07 301 *e*P P 02 04 04.7 +4.0
comp=Z,3.4nm,0.8s
PKSM Moragy 38.11 298 ⇑ *i*P **P 02 04 11.5 +2.1**
MORC Moravsky Berou 38.47 304 *e*P **P 02 04 13.7 +1.2**
MORC pmax pmax
comp=Z,23nm,1.1s
MORC Moravsky Berou 38.47 304 *e*P **P 02 04 13.7 +1.2**
comp=Z,23nm,1.1s
GKP Gorka Klasztor 38.54 310 *e*P **P 02 04 14.6 +1.7**
GKP Gorka Klasztor 38.54 310 *e*P **P 02 04 14.6 +1.7**
ARCES ARCESS Array B 38.72 337 P **P 02 04 14.5 +0.2**
comp=Z,3.6nm,0.7s,baz=108,slow=7.3,SNR=20
ARCES LR LR 02 21 17.5
comp=Z,287nm,18.5s,baz=122,slow=38
ARE0 ARCESS Array S 38.72 337 *e*P **P 02 04 14.6 +0.3**
KRLC Kraliky 38.94 305 *i*P **P 02 04 17.6 +1.1**
KRLC *e*PP **PnPn 02 05 49.2 +1.4**
KRLC Kraliky 38.94 305 *i*P **P 02 04 17.6 +1.1**
KRLC *e* 02 05 49.2
VRAC Vranov 39.13 303 P **P 02 04 19.3 +1.3**
comp=Z,2.3nm,0.3s,baz=83,slow=10,SNR=11
KSP Ksiaz 39.20 306 *e*P **P 02 04 21.6 +3.1**
KSP Ksiaz 39.20 306 *e*P **P 02 04 21.6 +3.1**
DPC Dobruska-Polom 39.22 305 *i*P **P 02 04 21.4 +2.7**
DPC *ex* x 02 04 29.7
DPC *ex* x 02 05 38.2
DPC Dobruska-Polom 39.22 305 *i*P **P 02 04 21.4 +2.7**
UPC Upice 39.40 305 *i*P **P 02 04 22.1 +1.9**
UPC *ex* x 02 04 30.2
UPC Upice 39.40 305 *i*P **P 02 04 22.1 +1.9**
CONA Conrad Observa 39.76 301 ⇓ *i*P **P 02 04 25.8 +2.4**
comp=Z,11nm,1.1s,SNR=8.7
NJ2 Nanjing 39.84 84 *e*P **P 02 04 23.6 -0.5**
NJ2 LN
comp=Z,700nm,17.9s
NJ2 LE
comp=Z,830nm,18.2s
NJ2 LZ
comp=Z,150nm,18.6s
TREC Trest 39.85 304 *i*P **P 02 04 26.2 +2.2**
TREC *es*P sP 02 04 46.0 +18
TREC Trest 39.85 304 *i*P **P 02 04 26.2 +2.2**
TREC *e* 02 04 46.0
BSD Bornholm Skovb 39.91 313 *i*P **PP 02 05 58.9 +3.0**
comp=Z,19nm,0.9s
ARSA Arzberg 40.09 300 ⇑ *i*P **P 02 04 28.2 +2.2**
comp=Z,3.8nm,1.1s
GOPC GO Pecny, Ondr 40.24 305 *i*P **P 02 04 30.2 +3.0**
PVCC Panska Ves 40.32 306 *e*P P 02 04 31.2 +3.4
PVCC Panska Ves 40.32 306 *e*P P 02 04 31.2 +3.4
PRU Pruhonice 40.39 305 *i*P **P 02 04 30.3 +1.9**
PRU *ex* x 02 04 38.2
PRU *e*PP **PnPn 02 06 07.1 +2.1**
PRU Pruhonice 40.39 305 *i*P **P 02 04 30.3 +1.9**
PRU *e* 02 06 07.1
SOKA Soboth 40.51 300 ⇓ *i*P **P 02 04 32.1 +2.5**
comp=Z,17nm,1.7s,SNR=13
HFS Hagfors 40.82 320 P **P 02 04 32.2 +0.3**
comp=Z,11nm,0.5s,baz=105,slow=9.3,SNR=37
HFS PP **PP 02 06 05.0 -0.7**
comp=Z,4.5nm,0.6s,baz=99,slow=9.8,SNR=4.1
OBKA Obir 40.86 299 ⇑ *i*P **P 02 04 34.6 +2.1**
comp=Z,10.0nm,1.4s
FBE Freiberg 41.05 306 *e*P **P 02 04 36.5 +2.6**
comp=Z,25nm,1.3s
GEC2 GERESS Array S 41.07 303 *e*P **P 02 04 36.8 +2.6**
comp=Z,11nm,1.5s
GERES GERESS Array B 41.07 303 P **P 02 04 35.9 +1.7**
comp=Z,1.4nm,0.7s,baz=79,slow=6.9,SNR=16
GERES PP **PnPn 02 06 12.6 -0.5**
comp=Z,1.7nm,0.7s,baz=74,slow=10,SNR=5.3
GERES LR LR 02 23 30.1
comp=Z,106nm,20.1s,baz=68,slow=39
KHC Kasperske Hory 41.11 303 *i*P **P 02 04 36.3 +1.8**
KHC *ex* x 02 04 44.9
KHC *es*P sP 02 04 57.1 +18
KHC Kasperske Hory 41.11 303 *i*P **P 02 04 36.3 +1.8**
KHC *e* 02 04 57.1
KHC Kasperske Hory 41.11 303 *e*P **P 02 04 36.4 +1.9**
CLL Collm 41.23 307 *e*P **P 02 04 37.3 +1.9**
comp=Z,19nm,1.4s
CLL Collm 41.23 307 *i*P **P 02 04 35.7 +0.4**
CLL pmax pmax
comp=Z,19nm,1.4s
CLL Collm 41.23 307 *e*P **P 02 04 35.8 +0.4**
comp=Z,17nm,1.3s
CLL Collm 41.23 307 *i*P **P 02 04 35.7 +0.4**
comp=Z,19nm,1.4s
CLL *i* sP sP 02 04 57.7 +18
CLL *e*PP **PP 02 06 10.0 -0.3**
CLL L L 02 23 00.0
comp=Z,100nm,18.5s
GORS Gorjuse 41.27 299 *e*P P 02 04 39.1 +3.2
CUC Castrocucco 41.46 289 *e*P **P 02 04 40.3 +2.9**
comp=Z,6.6nm,0.8s
WET Wettzell 41.56 304 *e*P **P 02 04 40.7 +2.5**
comp=Z,9.0nm,1.3s
TANN Tannenbergstha 41.67 306 *e*P **P 02 04 41.4 +2.4**
comp=Z,12nm,1.4s
NKC Novy Kostel 41.70 305 *i*P **P 02 04 42.0 +2.7**
NKC Novy Kostel 41.70 305 *i*P **P 02 04 42.0 +2.7**
WERN Wernitzgruen 41.74 305 *e*P **P 02 04 42.4 +2.8**
comp=Z,15nm,1.7s
GUNZ Gunzen 41.76 305 *e*P **P 02 04 42.3 +2.5**
comp=Z,24nm,1.8s
WERD Werda 41.76 306 *e*P **P 02 04 42.3 +2.5**
comp=Z,10.0nm,1.3s
PLN Plauen 41.85 306 *e*P **P 02 04 42.9 +2.4**
comp=Z,8.0nm,1.3s
ROTZ Rotzenmuhle 41.91 305 *e*P **P 02 04 44.0 +3.0**
comp=Z,12nm,1.6s
MANZ Manzenberg 41.95 305 *e*P **P 02 04 44.0 +2.7**
comp=Z,17nm,1.7s
NEUB Neuenburg 42.01 307 *e*P **P 02 04 44.0 +2.3**
comp=Z,23nm,1.2s
NB2 NORSAR Subarra 42.12 322 P **P 02 04 42.2 -0.4**
comp=Z,22nm,1.0s,baz=95,slow=8.6
NB2 NORSAR Subarra 42.12 322 P PP 02 06 08.5 -11
comp=Z,3.1nm,0.9s,baz=103,slow=7.9
NOA NORSAR Array B 42.12 322 P **P 02 04 42.5 -0.1**
comp=Z,11nm,0.9s,baz=94,slow=8.2,SNR=25
NOA PP **PP 02 06 19.4 -0.4**
comp=Z,3.2nm,0.8s,baz=91,slow=12,SNR=5.1
NOA LR LR 02 23 17.6
comp=Z,75nm,19.5s,baz=85,slow=38
MOX Moxa 42.18 306 *e*P **P 02 04 45.5 +2.4**
comp=Z,10.0nm,1.3s
NAO01 NORSAR Array S 42.27 321 *e*P **P 02 04 43.9 +0.2**
comp=Z,15nm,1.0s
YAK Yakutsk 42.45 37 P **P 02 04 43.7 -1.5**
comp=Z,0.8nm,0.3s,baz=89,slow=22,SNR=5.6
YAK Yakutsk 42.45 37 *e*P **P 02 04 43.6 -1.5**
YAK *e* 02 06 20.4
YAK *e* 02 06 36.6
YAK *e*S S 02 11 00.9 -5.7
YAK *e*SSS SSS 02 14 40.0
YAK *e* 02 14 43.3
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK pmax pmax
comp=Z,56nm,3.3s
YAK pmax pmax
comp=N,31nm,4.1s
YAK smax smax
comp=N,34nm,3.4s
YAK smax smax
comp=E,23nm,3.8s
YAK MLR MLR
comp=Z,122nm,12.0s
YAK MLR MLR
comp=E,74nm,12.0s
YAK Yakutsk 42.45 37 *e*P **P 02 04 43.8 -1.3**
comp=E,26nm,0.7s
GRF Grafenberg Arr 42.56 305 *e*P P 02 04 49.5 +3.2
comp=Z,32nm,1.5s
GRFO Grafenberg 42.56 305 *e*P **P 02 04 48.8 +2.5**
GRFO pmax pmax
comp=Z,25nm,1.4s
GRFO Grafenberg 42.56 305 *e*P **P 02 04 48.8 +2.5**
comp=Z,25nm,1.4s
BSEG Bad Segeberg 42.63 311 *e*P **P 02 04 49.4 +2.6**
comp=Z,22nm,1.2s
CLZ Clausthal 42.81 308 *e*P **P 02 04 50.9 +2.6**
comp=Z,20nm,1.4s
KONO Kongsberg 42.86 319 *e*P **P 02 04 51.3 +2.8**
KONO pmax pmax
comp=Z,31nm,1.5s
KONO Kongsberg 42.86 319 *e*P **P 02 04 51.2 +2.8**
comp=Z,31nm,1.5s
FETA Feichten 43.35 301 ⇑ *i*P **P 02 04 53.2 +0.3**
comp=Z,4.1nm,1.0s
MDJ Mudanjiang 43.85 63 P P 02 04 54.0 -2.7
MDJ pP pP 02 05 07.6 +7.7
MDJ sP sP 02 05 13.9 +13
MDJ S S 02 11 20.2 -7.4
MDJ sS sS 02 11 44.2 +11
MDJ PMZ
comp=Z,4.0nm,1.0s
MDJ PMZ
comp=Z,7.0nm,2.9s
MDJ LN
comp=Z,100nm,12.2s
MDJ LE
comp=Z,78nm,13.1s
MDJ LZ
comp=Z,100nm,14.5s
DAVA Damuels 43.86 301 ⇑ *i*P **P 02 04 58.1 +1.1**
comp=Z,13nm,1.5s
DAVOX Davos/Dischmat 43.97 301 P **P 02 04 58.0 +0.1**
comp=Z,2.1nm,0.4s,baz=82,slow=3.6,SNR=8.9
STU Stuttgart 44.02 304 *e*P **P 02 05 00.6 +2.5**
comp=Z,15nm,1.2s
IPM Ipoh 44.21 133 *e*P **P 02 04 57.8 -2.1**
TNS Taunus Mts 44.24 306 *e*P **P 02 05 02.6 +2.7**
comp=Z,10.0nm,1.6s
IBBN Ibbenburen 44.35 309 *e*P **P 02 05 02.9 +2.3**
comp=Z,36nm,1.2s
BFO Black Forest 44.67 303 *e*P **P 02 05 05.2 +1.9**
comp=Z,9.0nm,1.3s
BFO Black Forest 44.67 303 *i*P **P 02 05 05.7 +2.4**
BFO Black Forest 44.67 303 *e*P **P 02 05 04.5 +1.1**
KSAR Wonju Array Be 44.74 73 P **P 02 05 02.5 -1.5**
KSAR Wonju Array Be 44.74 73 P **P 02 05 02.5 -1.5**
KSRS Korea Array 44.76 73 P **P 02 05 02.5 -1.6**
comp=Z,2.9nm,0.6s,baz=263,slow=7.0,SNR=16
KSRS LR LR 02 25 01.5
comp=Z,67nm,20.3s,baz=282,slow=38
KSRS Korea Array 44.76 73 P **P 02 05 02.5 -1.6**
KSRS pmax pmax
comp=Z,3.0nm,0.6s
KSRS MLR MLR
comp=Z,67nm,20.3s
BUG Bochum--Univer 44.78 308 *e*P **P 02 05 06.3 +2.3**
comp=Z,30nm,1.4s
SPITS Spitsbergen Ar 45.05 346 P **P 02 05 06.4 +0.5**
comp=Z,1.2nm,0.5s,baz=111,slow=12,SNR=6.3
USRK Ussuriysk Ar. 45.62 62 LR LR 02 25 34.1
comp=Z,109nm,18.0s,baz=277,slow=38
MEM Membach 45.71 307 *e*P **P 02 05 13.9 +2.4**
MEM Membach 45.71 307 *e*P **P 02 05 13.9 +2.4**
SENIN Lac Senin/Sane 45.80 301 *e*P P 02 05 15.8 +3.3
WLF Walferdange 45.80 305 P **P 02 05 13.8 +1.6**
comp=Z,12nm,1.6s
WLF Walferdange 45.80 305 *e*P **P 02 05 14.8 +2.6**
comp=Z,21nm,1.4s
WLF Walferdange 45.80 305 *e*P **P 02 05 13.9 +1.6**
WLF pmax pmax
comp=Z,19nm,1.3s
WLF Walferdange 45.80 305 *e*P **P 02 05 13.8 +1.6**
comp=Z,19nm,1.3s
KBS Kingsbay 46.17 347 *e*P **P 02 05 14.9 +0.2**
KBS pmax pmax
comp=Z,12nm,0.8s
KBS Kingsbay 46.17 347 *e*P **P 02 05 14.9 +0.2**
comp=Z,12nm,0.8s
SNF Seneffe 46.81 307 P **P 02 05 22.7 +2.7**
KEST Kesra 47.71 286 *e*P P 02 05 30.7 +3.2
EKA Eskdalemuir Ar 50.16 315 P **P 02 05 45.9 +0.1**
comp=Z,8.5nm,0.8s,baz=82,slow=8.3,SNR=15
ESK Eskdalemuir 50.19 315 *e*P **P 02 05 47.4 +1.3**
ESK pmax pmax
comp=Z,12nm,0.8s
ESK Eskdalemuir 50.19 315 *e*P **P 02 05 47.4 +1.3**
comp=Z,12nm,0.8s
DAG Danmarks Havn 52.28 343 *i*P **P 02 06 01.4 -0.1**
comp=Z,8.9nm,0.9s
DAG Danmarks Havn 52.28 343 *i*P **P 02 06 01.4 -0.1**
DAG pmax pmax
comp=Z,8.0nm,0.9s
MAJO Matsushiro 52.72 70 *e*P **P 02 06 03.8 -1.6**
MAJO pmax pmax
comp=Z,4.0nm,0.7s
MAJO Matsushiro 52.72 70 *e*P **P 02 06 03.8 -1.6**
comp=Z,4.1nm,0.7s
MJAR Matsushiro Arr 52.72 70 P **P 02 06 03.4 -2.0**
comp=Z,5.0nm,1.0s,baz=289,slow=9.8,SNR=10
SEY Seymchan 52.83 35 LR LR 02 30 52.7
comp=Z,47nn,19.0s,baz=120,slow=39
ESDC Sonseca Array 55.81 296 P **P 02 06 28.0 +0.1**
comp=Z,2.8nm,0.6s,baz=58,slow=6.7,SNR=17
TAM Tamanrasset 56.70 274 *e*P **P 02 06 36.4 +1.9**
TAM pmax pmax
comp=Z,5.0nm,1.3s
TAM Tamanrasset 56.70 274 *e*P **P 02 06 36.4 +1.9**
comp=Z,5.2nm,1.3s
SUMG Summit 58.62 340 *i*P **P 02 06 48.4 +0.7**
comp=Z,12nn,0.9s
SUMG Summit 58.62 340 *e*P **P 02 06 48.1 +0.4**
SUMG pmax pmax
comp=Z,10.0nm,0.8s
SUMG Summit 58.62 340 *e*P **P 02 06 48.1 +0.4**
comp=Z,10.0nm,0.8s
PETK Petropavlovsk- 58.74 45 P **P 02 06 45.8 -2.5**
comp=Z,4.8nm,1.0s,baz=14,slow=12,SNR=3.8
PETK LR LR 02 33 40.7
comp=Z,47nn,18.1s,baz=287,slow=38
TORD Torodi Ar. Bea 65.16 267 P **P 02 07 31.3 -0.7**
comp=Z,2.6nm,0.7s,baz=51,slow=5.8,SNR=24
RES Resolute Bay 66.30 356 *e*P **P 02 07 38.2 -0.2**
RES pmax pmax
comp=Z,6.0nm,1.1s
RES Resolute Bay 66.30 356 *e*P **P 02 07 38.2 -0.2**
comp=Z,6.0nm,1.1s
COLD Coldfoot 69.87 16 *e*P **P 02 08 00.6 -0.5**
comp=Z,7.0nm,0.9s
INK Inuvik 71.68 9 P **P 02 08 10.6 -1.4**
comp=Z,5.3nm,0.6s,baz=5.6,slow=8.0,SNR=14
INK Inuvik 71.68 9 P **P 02 08 10.6 -1.4**
INK pmax pmax
comp=Z,5.0nm,0.6s
INK Inuvik 71.68 9 *e*P **P 02 08 11.8 -0.2**
comp=Z,10nm,0.9s
BPAW Bear Paw Mtn. 72.34 18 *e*P **P 02 08 15.0 -1.1**
comp=Z,1.4nm,1.4s
COLA College 72.39 16 *e*P **P 02 08 15.7 -0.6**
COLA pmax pmax
comp=Z,4.0nm,0.7s
COLA College 72.39 16 *e*P **P 02 08 15.7 -0.6**
comp=Z,3.8nm,0.7s
ILAR Eielson Array 72.69 16 P **P 02 08 17.0 -1.1**
comp=Z,1.8nm,0.8s,baz=321,slow=5.3,SNR=24
YKA Yellowknife Ar 78.92 2 P **P 02 08 53.0 -0.7**
comp=Z,2.4nm,0.6s,baz=350,slow=5.6,SNR=18
YKA Yellowknife Ar 78.92 2 P **P 02 08 53.0 -0.7**
YKA Yellowknife Ar 78.92 2 P **P 02 08 53.0 -0.7**
SCHQ Schefferville 79.67 336 P **P 02 08 57.8 -0.2**
comp=Z,7.5nm,0.8s,baz=66,slow=5.1,SNR=8.0
SCHQ LR LR 02 43 36.0
comp=Z,62nm,18.7s,baz=26,slow=35
WRA Warramunga Arr 83.78 122 P **P 02 09 18.2 -1.9**
comp=Z,0.9nm,0.5s,baz=324,slow=4.9,SNR=8.9
WRA Warramunga Arr 83.78 122 *i*P **P 02 09 18.6 -1.5**
WRA pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 86.13 125 P **P 02 09 30.1 -1.7**
comp=Z,1.4nm,0.8s,baz=319,slow=4.5,SNR=9.7
FFC Flin Flon 86.54 355 *e*P **P 02 09 33.7 +0.2**
FFC pmax pmax
comp=Z,11nm,1.4s
FFC Flin Flon 86.54 355 *e*P **P 02 09 33.7 +0.2**
comp=Z,11nm,1.4s
FORT Forrest 87.76 133 *e*P **P 02 09 38.5 -1.0**
CPUP Villa Florida 134.61 270 PKP **PKPdf 02 16 08.6 -0.6**
comp=Z,1.2nm,0.6s,baz=39,slow=1.3,SNR=5.4

*ISCJB **04** 02:01:52.5±0.5,39.11N±0.03×33.28E±0.04,h6km±6km, Error ellipse: s-maj=5.2km s-min=4.8km az=141.8*
*CSEM **04** 02:01:52.4±0.1,39.11N×33.29E,h10km, MD2.5, Error ellipse: s-maj=2.4km s-min=2.2km az=98.0*
*DDA **04** 02:01:52.3,39.12N×33.30E,h19km, MD2.6*
*ISK **04** 02:01:52.1,39.11N×33.27E,h9km, MD2.5*
ISC 04 02:01:52.3±1.0,39.12N±0.03×33.27E±0.03,h11km±8km, n30,σ0°36/40,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
KULU	**Kulu**	**0.22**	**251**		*e*Pg	**Pg**	**02 01 56.7**		**-0.4**
KULU	**Kulu**	**0.22**	**251**		*e*Pg	**Pg**	**02 01 56.7**		**-0.4**
SERE	**Sereflikochisa**	**0.28**	**126**		*e*Pg	**Pg**	**02 01 58.4**		**+0.2**
SERE					*e*SG	**Sg**	**02 02 02.4**		**+0.4**
SERE	**Sereflikochisa**	**0.28**	**126**		*e*Pg	**Pg**	**02 01 58.4**		**+0.2**
SERE					*e*Sg	**Sg**	**02 02 02.4**		**+0.4**
AFSR	**Afˆar-Bala (A**	**0.37**	**335**		*e*PG	**Pg**	**02 01 59.9**		**+0.2**
AFSR	**Afˆar-Bala (A**	**0.37**	**335**		*e*Pg	**Pg**	**02 01 59.9**		**+0.2**
KAMT	**Kaman**	**0.43**	**53**		*e*PG	**Pg**	**02 02 00.8**		**0.0**
KAMT					*e*SG	**Sb**	**02 02 07.6**		**-0.8**
KAMT	**Kaman**	**0.43**	**53**		*e*Pg	**Pg**	**02 02 00.8**		**0.0**
KAMT					*e*Sg	**Sb**	**02 02 07.6**		**-0.8**
BBAL	**Bala**	**0.44**	**345**		*i* P	**Pg**	**02 02 01.2**		**+0.1**
BBAL					*i* S	**Sb**	**02 02 08.5**		**-0.5**
BBAL	**Bala**	**0.44**	**345**		*i* P	**Pg**	**02 02 01.2**		**+0.1**
BBAL					*i* S	**Sb**	**02 02 08.5**		**-0.5**
CHBY	**Cihanbeyli**	**0.61**	**209**		*e*PG	**Pb**	**02 02 05.0**		**-0.1**
CHBY	**Cihanbeyli**	**0.61**	**209**		*e*Pg	**Pb**	**02 02 05.0**		**-0.1**
ANTO	**Ankara**	**0.84**	**334**		*e*PG	**Pg**	**02 02 08.9**		**+0.4**
ANTO	**Ankara**	**0.84**	**334**		*e*Pg	**Pg**	**02 02 08.9**		**+0.4**
LOD	**Lodumlu**	**0.87**	**333**		*e*PG	**Pb**	**02 02 09.6**		**+0.1**
LOD	**Lodumlu**	**0.87**	**333**		*e*Pg	**Pb**	**02 02 09.6**		**+0.1**
SULT	**Sultanhani-AKS**	**0.93**	**168**		*e*PG	**Pb**	**02 02 10.5**		**-0.1**
SULT	**Sultanhani-AKS**	**0.93**	**168**		*e*Pg	**Pb**	**02 02 10.5**		**-0.1**
CDAG	**Cicekdag**	**0.99**	**59**		*i* P	**Pg**	**02 02 11.4**		**-0.1**
CDAG					*i* S	**Sb**	**02 02 25.1**		**+0.4**
CDAG	**Cicekdag**	**0.99**	**59**		*i* P	**Pg**	**02 02 11.4**		**-0.1**
CDAG					*i* S	**Sb**	**02 02 25.1**		**+0.4**
KDHN	**Kadinhani**	**1.08**	**237**		*i* P	**Pb**	**02 02 13.0**		**-0.1**
KDHN					*i* S	**Sn**	**02 02 29.0**		**+0.5**
KDHN	**Kadinhani**	**1.08**	**237**		*i* P	**Pb**	**02 02 13.0**		**-0.1**
KDHN					*i* S	**Sn**	**02 02 29.0**		**+0.5**
LADK	**Ladik-KONYA**	**1.16**	**218**		*e*PN	**Pg**	**02 02 14.8**		**+0.2**
LADK	**Ladik-KONYA**	**1.16**	**218**		*e*Pn	**Pg**	**02 02 14.8**		**+0.2**
AVNT	**Avonos**	**1.28**	**105**		*i* P	**Pn**	**02 02 15.6**		**-0.7**
AVNT	**Avonos**	**1.28**	**105**		*i* P	**Pn**	**02 02 15.6**		**-0.7**
KONT	**Konya--Tatoy**	**1.37**	**212**		*e*PN	**Pb**	**02 02 17.9**		**-0.1**
KONT	**Konya--Tatoy**	**1.37**	**212**		*e*Pn	**Pb**	**02 02 17.9**		**-0.1**
NIG	**Nigde**	**1.45**	**133**		*e*PN	**Pn**	**02 02 18.8**		**+0.1**
NIG	**Nigde**	**1.45**	**133**		*e*Pn	**Pn**	**02 02 18.8**		**+0.1**

*ISCJB **04** 02:05:38.7±0.6,37.24N±0.04×27.69E±0.04,h12km, Error ellipse: s-maj=6.7km s-min=4.1km az=144.7*
*CSEM **04** 02:05:38.3±0.3,37.27N×27.65E,h26km±4km, MD2.6, Error ellipse: s-maj=8.3km s-min=5.2km az=125.0*
*ISK **04** 02:05:38.2,37.27N×27.67E,h18km, MD2.6*
*DDA **04** 02:05:39,37.27N×27.63E,h7km, MD2.4*
ISC 04 02:05:38.2±1.1,37.26N±0.04×27.66E±0.04,h12km,n14, σ0°55/21,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
BDRM	**Kayabasi**	**0.26**	**222**		*i* P	**Pg**	**02 05 44.0**		**+0.4**
BDRM					*i* S	**Sb**	**02 05 48.6**		**-0.7**
BODT	**Bodrum**	**0.34**	**235**		*e*PG	**Pb**	**02 05 46.0**		**-0.3**
BODT					*e*SG	**Sb**	**02 05 51.6**		**-0.1**
BODT	**Bodrum**	**0.34**	**235**		*e*Pg	**Pb**	**02 05 46.0**		**-0.3**
BODT					*e*Sg	**Sb**	**02 05 51.6**		**-0.1**
AYDN	**Tasoluk**	**0.44**	**23**		*i* P	**Pb**	**02 05 47.8**		**-0.1**
AYDN					*i* S	**Sb**	**02 05 54.7**		**+0.2**
AYDN	**Tasoluk**	**0.44**	**23**		*i* P	**Pb**	**02 05 47.8**		**-0.1**
AYDN					*i* S	**Sb**	**02 05 54.7**		**+0.2**
YER	**Yerkesik**	**0.51**	**104**		*e*PG	**Pg**	**02 05 48.9**		**+0.7**
YER					*e*SG	**Sb**	**02 05 56.6**		**0.0**
YER	**Yerkesik**	**0.51**	**104**		*e*Pg	**Pg**	**02 05 48.9**		**+0.7**
YER					*e*Sg	**Sb**	**02 05 56.6**		**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.71**	**15**		*e*PG	**Pb**	**02 05 52.3**		**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.71**	**15**		*e*Pg	**Pb**	**02 05 52.3**		**-0.3**
NIS1	**Nisyros Isl.**	**0.76**	**211**		*e*PG	**Pb**	**02 05 53.7**		**+0.3**
NIS1	**Nisyros Isl.**	**0.76**	**211**		*e*Pg	**Pb**	**02 05 53.7**		**+0.3**
TURN	**Turunc**	**0.84**	**117**		*i* P	**Pg**	**02 05 52.8**		**-1.8**
DALY	**Dalyan (Muˆla**	**0.91**	**119**		*e*PG	**Pg**	**02 05 55.9**		**+0.2**
DALY	**Dalyan (Muˆla**	**0.91**	**119**		*e*Pg	**Pg**	**02 05 55.9**		**+0.2**

*ISCJB **04** 02:07:33.7±0.8,38.63N±0.03×39.83E±0.04,h0km±7km, Error ellipse: s-maj=5.8km s-min=4.2km az=139.0*
*ISK **04** 02:07:33.6,38.64N×39.87E,h6km, MD2.8*
*DDA **04** 02:07:33.7,38.66N×39.86E,h11km, MD2.7*
*CSEM **04** 02:07:34.8±0.3,38.61N×39.80E,h10km,MD2.8, Error ellipse: s-maj=8.0km s-min=7.1km az=49.0*
ISC 04 02:07:33.9±1.2,38.64N±0.02×39.84E±0.02,h7km±11km, n37,σ0°62/47,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
BINT	**Bingol**	**0.56**	**65**		*e*Pg	**Pn**	**02 07 48.2**		**-0.2**
ELZG	**Elazig**	**0.69**	**258**		*i* P	**Pg**	**02 07 46.6**		**-0.6**
ELZG					*i* S	**Sn**	**02 08 00.9**		**-0.4**
ELZG	**Elazig**	**0.69**	**258**		*i* P	**Pg**	**02 07 46.6**		**-0.6**
DYBB	**Diyarbakir**	**0.73**	**161**		*e*PG	**Pg**	**02 07 47.8**		**-0.1**
BNGB	**Bingˆl**	**0.74**	**62**		*e*PG	**Pg**	**02 07 48.1**		**0.0**
DIYA	**Diyarbakir**	**0.75**	**163**		*i* P	**Pb**	**02 07 49.5**		**+0.2**
DIYA					*i* S	**Sn**	**02 08 02.2**		**-0.5**
DIYA	**Diyarbakir**	**0.75**	**163**		*i* P	**Pb**	**02 07 49.5**		**+0.2**
DIYA					*i* S	**Sn**	**02 08 02.2**		**-0.5**
ERZN	**Erzincan**	**0.95**	**354**		*e*PG	**Pg**	**02 07 52.2**		**+0.1**
BNGL	**BINGOL**	**1.07**	**73**		*i* P	**Pn**	**02 07 55.6**		**+0.1**
MALT	**Malatya**	**1.16**	**254**		*e*PN	**Pg**	**02 07 56.4**		**+0.3**
MALT					*e*SN	**Sn**	**02 08 13.2**		**+0.4**
MALT	**Malatya**	**1.16**	**254**		*e*Pn	**Pg**	**02 07 56.4**		**+0.3**
MALT					*e*Sn	**Sn**	**02 08 13.2**		**+0.4**
SVAN	**Silvan-Diyarba**	**1.17**	**114**		*e*PN	**Pn**	**02 07 56.0**		**-0.7**
KEMA	**Kemaliye**	**1.23**	**301**		*i* P	**Pn**	**02 07 55.8**		**-1.7**
KEMA					*i* S	**Sn**	**02 08 14.9**		**+0.5**

KEMA	**Kemaliye**	**1.23 301**	*i* P	**Pn**	**02 07 55.8**	**-1.7**
KEMA			*i* S	**Sn**	**02 08 14.9**	**+0.5**
MAZI	**Mazidag**	**1.27 158**	*e*Pn	**Pg**	**02 07 58.1**	**-0.2**
MAZI	**Mazidag**	**1.27 158**	*e*Pn	**Pg**	**02 07 58.1**	**-0.2**
BEST	**Besiri**	**1.35 123**	*i* S	**Sg**	**02 08 17.3**	**0.0**
BTMT	**Batman**	**1.37 109**	*e*PN	**Pg**	**02 07 59.9**	**-0.2**
BTMT	**Batman**	**1.37 109**	*e*Pn	**Pg**	**02 07 59.9**	**-0.2**
URFA	**Urfa**	**1.45 214**	*e*PN	**Pb**	**02 08 00.9**	**-0.3**
URFA	**Urfa**	**1.45 214**	*e*Pn	**Pb**	**02 08 00.9**	**-0.3**
KOPT	**Kop Dagi**	**1.46 20**	*i* P	**Pb**	**02 08 01.6**	**0.0**
KOPT	**Kop Dagi**	**1.46 20**	*i* P	**Pb**	**02 08 01.6**	**0.0**
MARD	**Mardin**	**1.52 151**	*i* P	**Pb**	**02 08 02.2**	**-0.3**
MARD			*i* S	**Sg**	**02 08 23.1**	**+0.4**
KELT	**Kelkit**	**1.57 343**	*i* P	**Pb**	**02 08 03.1**	**-0.3**
KELT			*i* S	**Sg**	**02 08 24.9**	**+0.5**
KELT	**Kelkit**	**1.57 343**	*i* P	**Pb**	**02 08 03.1**	**-0.3**
KELT			*i* S	**Sg**	**02 08 24.9**	**+0.5**
EZM	**Erzurum**	**1.73 43**	*e*PN	**Pn**	**02 08 04.7**	**+0.1**
BAYT	**Ayd¨¬ntepe-Bay**	**1.76 7**	*e*PN	**Pn**	**02 08 05.3**	**+0.3**
BAYT	**Ayd¨¬ntepe-Bay**	**1.76 7**	*e*Pn	**Pn**	**02 08 05.3**	**+0.3**
GUMT	**Gumushane**	**1.84 351**	*e*PN	**Pb**	**02 08 06.6**	**-1.3**
GUMT	**Gumushane**	**1.84 351**	*e*Pn	**Pb**	**02 08 06.6**	**-1.3**
DARE	**Darende-Malaty**	**1.85 269**	*e*PN	**Pn**	**02 08 06.9**	**+0.8**
DARE	**Darende-Malaty**	**1.85 269**	*e*Pn	**Pn**	**02 08 06.9**	**+0.8**
SUSE	**Susehri**	**2.02 321**	*i* P	**Pb**	**02 08 11.8**	**+0.8**
SUSE	**Susehri**	**2.02 321**	*i* P	**Pb**	**02 08 11.8**	**+0.8**
SIRT	**Sirnak**	**2.34 118**	*e*PN	**Pn**	**02 08 13.5**	**+0.6**
SIRT	**Sirnak**	**2.34 118**	*e*Pn	**Pn**	**02 08 13.5**	**+0.6**

NIED ***04*** *02:16:00, 33˚.20N× 142˚.30E, h8km, Mw3.8 Best double couple: M₀6.20000×10¹⁴ NP1:φs=21.00000°, δ29.00000°, λ-109.00000°. NP2:φs=223.00000°, δ63.00000°, λ-80.00000°.*

IDC ***04*** *02:16:08.4±0.7, 32˚.97N× 142˚.59E, h0km, mb3.7/10, mb1 4.0/12, mb1mx3.7/35, mbtmp3.7/12, ML4.0/2, Error ellipse: s-maj=24.6km s-min=18.1km az=86.0*

ISCJB ***04*** *02:16:09.1±1.8, 32˚.94N±0˚.05× 142˚.41E±0˚.08, h17km±14km, mb3.8/12, Error ellipse: s-maj=12.2km s-min=5.3km az=148.0*

NEIC ***04*** *02:16:09.9±0.4, 32˚.96N× 142˚.53E, h10km, mb4.1/2, Error ellipse: s-maj=10.8km s-min=7.9km az=61.0*

JMA ***04*** *02:16:10.0±0.3, 33˚.17N× 142˚.34E, h0km, M3.9*

ISC 04 02:16:11.0±3.0, 33˚.03N±0˚.06× 142˚.45E±0˚.06, h15km±19km, n29, σ0°.86/35, mb3.7/12, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.03 323**		P	**Pn**	**02 16 44.0**	**-0.1**
BSO1				S	**Sn**	**02 17 08.9**	**0.0**
JHJ2	**Mitsune**	**2.21 273**		P	**Pn**	**02 16 47.9**	**+0.8**
JHJ2				S	**Sn**	**02 17 15.0**	**+0.8**
JHJ2	**Mitsune**	**2.21 273**		*e*Pn	**Pn**	**02 16 47.4**	**+0.3**
JHJ2				*e*Sn	**Sn**	**02 17 12.8**	**-1.3**
BSO2	**Boso 2**	**2.22 321**		S	**Sn**	**02 17 13.9**	**0.0**
BSO3	**Boso 3**	**2.39 318**		P	**Pn**	**02 16 49.2**	**-0.1**
BSO3				S	**Sn**	**02 17 18.5**	**+0.3**
BSO4	**Boso 4**	**2.62 319**		P	**Pn**	**02 16 53.4**	**+0.7**
BSO4				S	**Sn**	**02 17 24.9**	**+0.7**
JIM2	**Oshima 3**	**3.02 305**		P	**Pn**	**02 16 57.8**	**-0.5**
JIM2				S	**Sn**	**02 17 33.2**	**-1.0**
JOD2	**Odawara 2**	**3.56 310**		P	**Pn**	**02 17 05.4**	**-0.4**
JOD2				S	**Sn**	**02 17 47.2**	**-0.4**
JYT	**Yasato**	**3.69 330**		P	**Pn**	**02 17 07.4**	**0.0**
JHU	**Hanno**	**3.84 318**		P	**Pn**	**02 17 09.6**	**+0.1**
JHU				S	**Sn**	**02 17 54.2**	**-0.2**
JHO	**Hitachi**	**3.89 337**		P	Pn	02 17 08.8	-1.4
MJAR	**Matsushiro Arr**	**4.94 316**		Pn	**Pn**	**02 17 24.8**	**+0.1**
	2.8nm,0.3s,baz=199,slow=9.1,SNR=32						
MJAR				Sn	Sn	02 18 19.2	-2.3
	1.9nm,0.3s,baz=88,slow=15,SNR=9.1						
MAJO	**Matsushiro**	**4.94 316**		*e*Pn	**Pn**	**02 17 25.6**	**+0.9**
	23nm,0.8s						
MAT	**Matsushiro**	**4.94 316**		P	**Pn**	**02 17 25.6**	**+0.9**
MAT				S	Sn	02 18 18.7	-2.9
CBIJ	**Chichi jima**	**5.92 182**		Pn	**Pn**	**02 17 36.3**	**-1.9**
CBIJ				Sn	Sn	02 18 40.3	-5.4
JCJ	**Chichijima**	**5.92 182**		Pn	**Pn**	**02 17 36.3**	**-1.9**
	7.5nm,0.3s,baz=270,slow=20,SNR=6.0						
JCJ				Sn	Sn	02 18 40.3	-5.5
	13nm,0.3s,baz=270,slow=20,SNR=3.3						
SONM	**Songino Array**	**30.85 309**		P	**P**	**02 22 28.9**	**+2.3**
	0.5nm,0.6s,baz=114,slow=9.3,SNR=5.2						
MKAR	**Makanchi Array**	**47.05 305**		P	**P**	**02 24 43.1**	**+1.2**
	1.1nm,0.7s,baz=91,slow=10,SNR=9.1						
KURK	**Kurchatov**	**49.13 311**		*e*P	**P**	**02 24 58.2**	**+0.4**
	4.1nm,0.8s						
ILAR	**Eielson Array**	**52.45 31**		P	**P**	**02 25 22.1**	**-0.6**
	0.3nm,0.7s,baz=260,slow=6.1,SNR=6.3						
WRA	**Warramunga Arr**	**53.24 190**		P	**P**	**02 25 28.2**	**-0.8**
	1.7nm,0.5s,baz=6.8,slow=7.6,SNR=26						
ASAR	**Alice Springs**	**56.97 189**		P	**P**	**02 25 55.6**	**-0.2**
	0.5nm,0.6s,baz=20,slow=13,SNR=5.7						
ABKAR	**Akbulak array**	**61.21 312**		*e*P	**P**	**02 26 25.1**	**+0.1**
	0.3nm,0.4s						
FINES	**FINESS Array B**	**72.75 333**		P	**P**	**02 27 38.4**	**+0.2**
	5.0nm,1.2s,baz=92,slow=7.4,SNR=5.0						
NVAR	**Mina Array Bea**	**76.71 53**		P	**P**	**02 28 01.9**	**0.0**
	0.2nm,0.6s,baz=274,slow=7.1,SNR=2.7						
NB2	**NORSAR Subarra**	**78.20 338**		P	P	02 28 21.2	+12
	comp=Z,0.4nm,0.5s,baz=40,slow=5.9						
NOA	**NORSAR Array B**	**78.20 338**		P	**P**	**02 28 09.0**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=39,slow=5.7,SNR=2.4						
PDAR	**Pinedale Array**	**79.86 45**		P	**P**	**02 28 19.7**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=307,slow=14,SNR=2.7						
TXAR	**Lajitas Array**	**81.86 53**		P	**P**	**02 29 18.7**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=305,slow=4.4,SNR=3.7						

IDC 04 02:25:49.0±3.6, 13˚.05N× 51˚.14E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.4/49, mbtmp3.8/6, MS3.3/14, Ms1 3.3/14, ms1mx3.1/45, Error ellipse: s-maj=97.4km s-min=34.6km az=77.0, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**19.70 225**		LR	LR	02 37 49.1	
	comp=Z,98nm,18.9s,baz=296,slow=37						
GEYT	**Alibeck**	**25.55 13**		P	P	02 31 20.1	+0.5
	1.3nm,0.7s,baz=210,slow=5.1,SNR=4.6						
GEYT				LR	LR	02 43 17.4	
	comp=Z,206nm,18.1s,baz=185,slow=41						
GNI	**Garni**	**27.58 349**		LR	LR	02 44 33.1	
	comp=Z,105nm,20.1s,baz=160,slow=41						
BRTR	**Keskin Array B**	**30.73 333**		LR	LR	02 45 06.2	
	comp=Z,27nm,19.4s,baz=120,slow=38						
KBZ	**Khabaz**	**31.39 348**		LR	LR	02 46 57.8	
	comp=Z,80nm,20.1s,baz=164,slow=40						
IDI	**Anoyia**	**32.43 318**		LR	LR	02 45 31.7	
	comp=Z,20nm,19.5s,baz=344,slow=36						
AKTO	**Aktyubinsk**	**37.71 7**		LR	LR	02 51 44.4	
	comp=Z,90nm,18.0s,baz=180,slow=41						
MATP	**Matopo**	**40.03 214**		LR	LR	02 49 06.3	
	comp=Z,50nm,18.2s,baz=46,slow=35						
AKASG	**Malin Array Be**	**41.58 339**		LR	LR	02 51 56.3	
	comp=Z,16nm,20.7s,baz=105,slow=38						
CMAR	**Chiang Mai Arr**	**46.22 77**		P	P	02 34 16.6	+0.3
	1.3nm,0.4s,baz=274,slow=9.4,SNR=7.6						
GERES	**GERESS Array B**	**47.19 327**		LR	LR	02 56 28.3	
	comp=Z,24nm,19.1s,baz=316,slow=39						
BOSA	**Boshof**	**48.39 211**		LR	LR	02 55 07.6	
	comp=Z,37nm,18.6s,baz=94,slow=36						
ZALV	**Zalesovo Beam**	**48.68 26**		P	P	02 34 35.0	+0.2
	0.3nm,0.5s,baz=242,slow=6.1,SNR=2.8						
FINES	**FINESS Array B**	**51.62 345**		LR	LR	03 00 09.4	
	comp=Z,30nm,19.3s,baz=264,slow=40						
NOA	**NORSAR Array B**	**55.96 338**		LR	LR	03 00 44.9	
	comp=Z,8.9nm,19.5s,baz=300,slow=38						
SONM	**Songino Array**	**57.32 41**		P	P	02 35 37.5	-1.5
	0.2nm,0.3s,baz=265,slow=11,SNR=3.5						
ARCES	**ARCESS Array B**	**58.73 350**		LR	LR	03 04 04.9	
	comp=Z,41nm,18.5s,baz=130,slow=39						
WRA	**Warramunga Arr**	**88.14 111**		P	P	02 38 42.0	-0.3
	0.4nm,0.6s,baz=287,slow=6.9,SNR=3.4						
ASAR	**Alice Springs**	**88.69 115**		P	P	02 38 45.3	+0.4
	0.4nm,0.8s,baz=313,slow=4.2,SNR=4.3						

IDC 04 02:32:45.4±1.8, 5˚.52S× 151˚.70E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.4/33, mbtmp3.4/4, MS4.1/1, Ms1 4.1/1, ms1mx2.6/18, Error ellipse: s-maj=75.4km s-min=26.5km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.15 228**		P	P	02 37 42.9	-0.1
	0.3nm,0.7s,baz=52,slow=9.7,SNR=5.0						
ASAR	**Alice Springs**	**24.88 222**		P	P	02 38 11.1	+1.0
	0.3nm,0.5s,baz=54,slow=9.0,SNR=6.0						
KSRS	**Korea Array**	**48.15 334**		P	P	02 41 28.2	+0.8
	0.4nm,0.3s,baz=148,slow=7.4,SNR=4.1						
ASAJ	**Asahikawa**	**50.08 351**		LR	LR	02 58 34.9	
	comp=Z,212nm,20.5s,baz=193,slow=31						
ILAR	**Eielson Array**	**83.23 22**		P	P	02 45 13.9	+0.5
	0.2nm,0.7s,baz=228,slow=4.8,SNR=3.2						
TORD	**Torodi Ar. Bea**	**149.47 287**		PKPbc	PKPdf	02 52 35.4	+2.1
	1.1nm,1.2s,baz=58,slow=3.0,SNR=3.3						

DMN ***04*** *02:35:56.6±0.3, 30˚.06N× 80˚.05E, h10km, Ml4.7/9, Error ellipse: s-maj=19.8km s-min=5.4km az=26.0*

IDC ***04*** *02:35:56.7±0.5, 29˚.76N× 80˚.45E, h0km, mb4.4/30, mb1 4.5/30, mb1mx4.4/49, mbtmp4.4/30, ML4.2/1, MS3.5/9, Ms1 3.5/9, ms1mx3.0/46, Error ellipse: s-maj=14.0km s-min=11.4km az=19.0*

ISCJB ***04*** *02:35:57.1±0.7, 29˚.80N±0˚.02× 80˚.39E±0˚.02, h8km±4km, mb4.5/89, MS3.4/9, Error ellipse: s-maj=2.9km s-min=2.2km az=39.4*

BJI ***04*** *02:35:57.7, 29˚.89N× 80˚.48E, h11km, mb4.5/35, mB4.5/22, Ms4.2/15, Ms7 4.2/1*

NDI ***04*** *02:35:58.9±2.6, 29˚.77N× 80˚.54E, h10km, ML4.5, mb4.7(NEIC)*

NEIC ***04*** *02:35:59.1±2.8, 29˚.85N× 80˚.38E, h12km±17km, mb4.7/36, Error ellipse: s-maj=7.0km s-min=4.4km az=216.0*

MOS ***04*** *02:36:00.5±1.0, 29˚.81N× 80˚.42E, h33km, mb4.7/35, Error ellipse: s-maj=8.5km s-min=4.9km az=125.8*

ISC 04 02:35:59.5±0.4, 29˚.82N±0˚.03× 80˚.37E±0˚.03, h13km±2km, n299, σ1°.37/331, mb4.6/93, MS3.4/9, 37C-13D, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**0.30 207**		*e*P	Pg	02 36 01.1	-4.7
PTH				*e*S	**Sg**	**02 36 05.9**	**-4.3**
LGTI	**Lohaghat**	**0.39 197**		*e*P	**Pb**	**02 36 09.2**	**+1.1**
LGTI				*e*S	**Sn**	**02 36 17.2**	**-0.7**
JOSI	**Joshimath**	**1.02 316**		*e*P	Pb	02 36 13.5	-5.5
JOSI				*e*S	**Sb**	**02 37 04.4**	**+1.9**
JOSI				AML	AML	02 36 41.7	
	comp=N,7μm,0.7s						
JOSI				AML	AML	02 36 43.2	
	comp=E,9μm,0.8s						
KALG	**Kalgarh**	**1.44 258**		*e*P	**Pb**	**02 36 26.4**	**+0.2**
KALG				*e*S	**Sg**	**02 36 48.2**	**+2.2**
DDI	**Dehra Dun**	**2.07 285**		*e*P	**Pb**	**02 36 36.1**	**-0.8**
DDI				*e*S	**Sb**	**02 37 04.4**	**+1.9**
DDI				AML	AML	02 37 08.2	
	comp=N,4μm,0.7s						
DDI				AML	AML	02 37 10.4	
	comp=E,4μm,1.5s						
BISR	**Bishrakh**	**2.85 245**		*e*P	**Pn**	**02 36 45.2**	**+0.6**
NDI	**New Delhi**	**2.98 248**		*e*P	**Pn**	**02 36 47.0**	**+0.6**
NDI				*e*S	**Sn**	**02 37 24.0**	**+2.0**
SMLA	**Simla**	**3.06 296**		*i* P	**Pn**	**02 36 49.5**	**+2.1**
SMLA				*e*S	**Sn**	**02 37 24.7**	**+0.9**
SMLA				AML	AML	02 37 38.0	
	comp=N,9μm,0.3s						
SMLA				AML	AML	02 37 39.2	
	comp=E,11μm,0.4s						
KKR	**Kurukshetra**	**3.09 273**		*e*P	**Pn**	**02 36 49.2**	**+1.3**
KKR				*e*x	x	02 37 08.7	
BHGR	**Bahadurgarh**	**3.21 250**		*e*P	**Pn**	**02 36 50.7**	**+1.2**
BHGR				AMB	AMB	02 37 02.6	
	comp=Z,354nm,1.0s						
AGRA	**Agra**	**3.35 220**		*e*P	**Pn**	**02 36 52.6**	**+1.1**
AGRA				*e*S	**Sn**	**02 37 32.3**	**+1.1**
SDNR	**Sundarnagar**	**3.38 301**		*e*P	**Pn**	**02 36 55.0**	**+3.1**
SDNR				*e*x	**Sg**	**02 37 48.0**	**+0.1**
KOLN	**Koldanda**	**3.49 125**		*e*Pn	**Pn**	**02 36 54.5**	**+0.9**
KOLN				*e*Sn	**Sn**	**02 37 37.0**	**+2.1**
	comp=Z,259nm,0.4s						
BHK	**Bhakra**	**3.76 296**		*e*x	**Pg**	**02 37 09.4**	**-2.2**
BHK				*e*x	**Sg**	**02 38 03.6**	**+3.3**
GKN	**Gorkha**	**4.15 115**		*e*Pn	**Pn**	**02 37 03.3**	**+0.6**
GKN				*e*Sn	**Sn**	**02 37 52.9**	**+1.7**
	comp=Z,468nm,0.4s						
DHRM	**DHARAMSHALA**	**4.25 306**		*e*P	**Pn**	**02 37 05.7**	**+1.6**
DHRM				*e*S	**Sn**	**02 37 56.4**	**+2.7**
DHRM				AML	AML	02 38 29.7	
	comp=E,877nm,0.4s						
DHRM				AML	AML	02 38 29.8	
	comp=N,811nm,0.2s						
KHET	**Khetri**	**4.37 248**		*e*P	**Pn**	**02 37 06.0**	**+0.6**
KHET				*e*S	**Sn**	**02 37 56.7**	**+0.5**
DLH	**Dalhousie**	**4.65 307**		*e*P	Pn	02 37 13.0	+3.5
DLH				*e*S	**Sn**	**02 38 05.0**	**+1.6**
DMN	**Daman**	**4.71 117**		*e*Pn	**Pn**	**02 37 10.5**	**+0.1**
DMN				*e*Sn	**Sn**	**02 38 06.1**	**+1.2**
	comp=N,752nm,1.1s						
KKN	**Kakani**	**4.76 114**		*e*Pn	**Pn**	**02 37 11.3**	**+0.2**
KKN				*e*Sn	**Sn**	**02 38 07.5**	**+1.3**
	comp=N,521nm,0.9s						
PKIN	**Phulchoki**	**4.95 116**		*e*Pn	**Pn**	**02 37 13.7**	**0.0**
PKIN				*e*Sn	**Sn**	**02 38 11.9**	**+1.0**
	comp=N,188nm,0.7s						
PKI	**Pulchoki**	**4.96 116**		*e*Pn	**Pn**	**02 37 13.9**	**0.0**
PKI				*e*Sn	**Sn**	**02 38 11.6**	**+0.3**
	comp=N,753nm,1.2s						
GUN	**Gumba**	**5.19 110**		*e*Pn	**Pn**	**02 37 17.5**	**+0.4**
GUN				*e*Sn	**Sn**	**02 38 17.5**	**+0.5**
RAMN	**Ramite**	**6.19 116**		*e*Pn	**Pn**	**02 37 30.3**	**-0.4**
RAMN				*e*Sn	**Sn**	**02 38 40.3**	**-1.1**
	comp=N,197nm,0.4s						
ODAN	**Odare**	**6.85 114**		*e*Pn	**Pn**	**02 37 39.7**	**-0.1**
ODAN				*e*Sn	**Sn**	**02 38 56.2**	**-1.6**
	comp=N,187nm,0.6s						
TAPN	**Taplejung**	**6.91 109**		*e*Pn	**Pn**	**02 37 40.7**	**+0.1**
TAPN				*e*Sn	**Sn**	**02 38 57.5**	**-1.7**
	comp=N,495nm,1.2s						
CHCP	**Chirah Chowk**	**7.16 304**		P	**Pn**	**02 37 44.3**	**+0.4**
THW	**Thamme Wali**	**7.96 294**		P	**Pn**	**02 37 54.9**	**+0.1**
CEP	**Cherat**	**8.23 301**		P	**Pn**	**02 37 59.7**	**+1.0**
CEP				S	**Sn**	**02 39 33.0**	**+1.4**
NGP	**Nagpur**	**8.72 188**		*e*P	**Pn**	**02 38 05.3**	**0.0**
NGP				*e*x	**Sn**	**02 39 38.7**	**-4.7**
LSA	**Lhasa**	**9.37 88**		P	**Pn**	**02 38 14.7**	**+0.1**
LSA				S	Sn	02 39 50.2	-10
LSA	**Lhasa**	**9.37 88**		*e*P	**Pn**	**02 38 15.9**	**+1.3**
LSA				pmax	pmax		
	comp=Z,23nm,0.6s						
LSA	**Lhasa**	**9.37 88**		*e*Pn	**Pn**	**02 38 15.9**	**+1.3**
	comp=Z,23nm,0.6s						
KSH	**Kashi**	**10.32 341**		P	**Pn**	**02 38 25.1**	**-2.2**
KSH				sP		02 38 30.8	
KSH				PP	**PnPn**	**02 38 34.7**	**-0.5**
KSH				S	**Sn**	**02 40 18.0**	**-5.0**
KSH				sS		02 40 24.7	
KSH				SS	**SnSn**	**02 40 32.1**	**-3.0**
KSH				PcS	**PcS**	**02 48 08.2**	**+0.4**
KSH				PMZ			
	comp=Z,10.0nm,0.5s						
KSH				LN			
	comp=Z,520nm,5.4s						
KSH				LE			
	comp=Z,490nm,5.9s						
RPR	**Rampur**	**10.96 185**		*e*Pn	**Pn**	**02 38 33.6**	**-2.3**
RPR				IAmb	IAmb	02 38 35.2	
	comp=Z,24nm,0.6s						
RPR				*e*		02 40 29.5	
RPR				*e*Sn	**Sn**	**02 40 39.6**	**+1.1**
RPR				IVMs_BB	IVMs_BB	02 43 31.8	
	comp=Z,964nm,5.5s						
SRSP	**Sriramsagar**	**11.00 190**		*e*Pn	Pn	02 38 32.8	-3.8
SRSP				IAmb	IAmb	02 38 34.7	
	comp=Z,24nm,0.8s						
SRSP				*e*		02 40 31.2	
SRSP				*e*Sn	**Sn**	**02 40 39.5**	**0.0**
SRSP				IVMsBB		02 43 12.2	
	comp=Z,815nm,8.4s						
SHL	**Shillong**	**11.04 110**		*e*P	Pn	02 38 34.0	-3.3
SHL				*e*x	x	02 40 34.0	
CHLP	**Challavanipeta**	**11.76 163**		*e*Pn	Pn	02 38 43.5	-3.3
CHLP				IAmb	IAmb	02 38 51.0	
	comp=Z,34nm,1.2s						
CHLP				*e*		02 40 49.0	
CHLP				*e*Sn	**Sn**	**02 40 59.4**	**+1.5**
CHLP				IVMsBB		02 42 11.8	
	comp=Z,304nm,4.2s						
KLRI	**Killari**	**12.20 197**		*e*Pn	Pn	02 38 49.2	-3.8
KLRI				IAmb	IAmb	02 38 53.6	
	comp=Z,34nm,0.6s						
KLRI				*e*		02 40 58.4	
KLRI				*e*Sn	**Sn**	**02 41 10.1**	**+1.2**
KLRI				IVMs_BB	IVMs_BB	02 43 42.3	
	comp=Z,1μm,5.2s						
HYBB	**Hyderabad (bro**	**12.46 188**		*e*Pn	Pn	02 38 52.4	-4.2
HYBB				IAmb	IAmb	02 38 54.2	
	comp=Z,28nm,0.7s						
HYBB				*e*		02 41 04.0	
HYBB				*e*Sn	**Sn**	**02 41 15.7**	**+0.4**
HYBB				IVMsBB		02 43 44.3	
	comp=Z,787nm,4.8s						
HYB	**Hyderabad**	**12.46 188**		*i* P	Pn	02 38 52.5	-4.1
HYB				*e*S	Sn	02 41 04.0	-11
HYB	**Hyderabad**	**12.46 188**		*e*P	Pn	02 38 53.0	-3.5
PVM	**Polavaram**	**12.57 174**		*e*Pn	**Pn**	**02 38 55.8**	**-2.2**
PVM				IAmb	IAmb	02 38 58.3	
	comp=Z,5.0nm,0.6s						
PVM				*e*		02 41 05.0	
PVM				*e*Sn	**Sn**	**02 41 19.4**	**+1.5**
PVM				IVMs_BB	IVMs_BB	02 43 32.7	
	comp=Z,369nm,4.2s						
POO	**Poona**	**12.72 209**		*e*P	**Pn**	**02 38 58.4**	**-1.7**
BOM	**Bombay**	**12.87 214**		*ex*	Pn	02 39 09.0	+6.9
BOM				*ex*	x	02 41 38.1	
NJS	**Nagarjunasagar**	**13.24 184**		*e*Pn	Pn	02 39 03.3	-3.9
NJS				IAmb	IAmb	02 39 05.1	
	comp=Z,27nm,0.6s						
NJS				*e*		02 41 24.0	
NJS				*e*Sn	**Sn**	**02 41 35.6**	**+1.2**
NJS				IVMs_BB	IVMs_BB	02 44 51.2	
	comp=Z,877nm,4.7s						
TKM2	**Tokmak 2**	**13.62 345**		*e*P	**Pn**	**02 39 11.8**	**-0.7**
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TKM2	**Tokmak 2**	**13.62 345**		*e*Pn	**Pn**	**02 39 11.8**	**-0.7**
	comp=Z,5.0nm,0.9s						
SRLM	**Srisailam**	**13.73 186**		*e*Pn	Pn	02 39 09.6	-4.2
SRLM				IAmb	IAmb	02 39 11.2	
	comp=Z,34nm,0.7s						
SRLM				*e*		02 41 33.9	
SRLM				*e*Sn	**Sn**	**02 41 47.5**	**+1.2**
SRLM				IVMsBB		02 44 43.1	
	comp=Z,907nm,9.2s						
EKS2	**Erkin-Say**	**13.87 339**		*e*P	Pn	02 39 12.4	-3.4
EKS2				pmax	pmax		
	comp=Z,3.0nm,0.8s						
EKS2	**Erkin-Say**	**13.87 339**		*e*Pn	Pn	02 39 12.4	-3.4
	comp=Z,3.3nm,0.8s						
ADKI	**Addanki**	**13.92 182**		*e*Pn	**Pn**	**02 39 13.7**	**-2.7**
ADKI				IAmb	IAmb	02 39 16.8	
	comp=Z,14nm,0.6s						
ADKI				*e*Sn	**Sn**	**02 41 52.2**	**+1.3**
ADKI				IVMs_BB	IVMs_BB	02 45 23.1	
	comp=Z,1μm,4.9s						
RCLA	**Racherla**	**14.36 186**		*e*Pn	Pn	02 39 17.5	-5.0
RCLA				IAmb	IAmb	02 39 24.7	
	comp=Z,39nm,1.4s						
RCLA				*e*		02 41 47.2	
RCLA				*e*Sn	**Sn**	**02 42 03.3**	**+1.7**
RCLA				IVMs_BB	IVMs_BB	02 45 05.3	
	comp=Z,947nm,7.1s						
URV	**Uravakonda**	**15.08 192**		*e*Pn	**Pn**	**02 39 27.9**	**-4.4**
URV				IAmb	IAmb	02 39 39.1	
	comp=Z,13nm,0.8s						
URV				*e*		02 42 06.7	
URV				*e*Sn	**Sn**	**02 42 20.4**	**+1.1**
WMQ	**Urumqi**	**15.14 21**		P	**P**	**02 39 39.1**	**+1.0**
WMQ				pP	**pP**	**02 39 43.0**	**+1.1**
WMQ				sP	**sP**	**02 39 46.8**	**+3.1**
WMQ				PP	PP	02 39 51.0	
WMQ				*e*S	**Sn**	**02 42 27.1**	**+6.5**
WMQ				LR	LR		
	comp=N,450nm,13.0s						
WMQ				LR	LR		
	comp=E,200nm,9.0s						
WMQ				LR	LR		
	comp=Z,310nm,10.9s						
KKAR	**Karatay Array**	**15.43 332**		*e*P	**Pn**	**02 39 33.8**	**-3.0**
KKAR	**Karatay Array**	**15.43 332**		*e*Pn	**Pn**	**02 39 33.8**	**-3.0**
SKHT	**Srikalahasti**	**16.02 182**		*e*Pn	**Pn**	**02 39 42.4**	**-2.0**
SKHT				IAmb	IAmb	02 39 51.4	
	comp=Z,18nm,1.1s						
SKHT				*e*		02 42 28.4	
SKHT				*e*Sn	**Sn**	**02 42 41.4**	**-0.6**
MK31	**Makanchi Array**	**17.01 5**		*i* P	**P**	**02 39 58.6**	**-0.2**
MK31				pmax	pmax		
	comp=Z,34nm,0.8s						
MK31	**Makanchi Array**	**17.01 5**		*e*Pn	**P**	**02 39 58.8**	**0.0**
MKAR	**Makanchi Array**	**17.01 5**		Pn	Pn	02 39 52.1	-4.9
	comp=Z

LZH LE
comp=Z,310nm,12.8s
KURBB **Kurchatov Arra** 20.82 357 P **P** 02 40 39.5 -1.0
comp=Z,11nm,0.8s,baz=182,slow=10,SNR=88
LAMP Lampang 20.83 118 P Pn 02 40 42.2 -1.1
comp=Z,6.7nm,0.8s,comp=Z,91nm
KURK Kurchatov 20.91 357 *e*P **P** 02 40 40.0 -1.4
KURK pmax pmax
comp=Z,61nm,0.9s
KURK Kurchatov 20.91 357 *e*P **P** 02 40 40.0 -1.4
comp=Z,61nm,0.9s
UTTA Uttaradit 22.00 119 P **P** 02 40 54.4 +1.0
comp=Z,12nm,1.1s
PALK Pallekele 22.43 179 LR LR 02 49 32.5
comp=Z,120nm,19.5s,baz=342,slow=36
UTHA Uthaitani 22.56 125 P **P** 02 41 01.9 +2.5
comp=Z,7.1nm,0.9s
SLVN Son La 22.82 106 *e*P **P** 02 41 02.6 +0.4
comp=Z,8.4nm,0.9s
PBKT Sadao Pong 23.02 120 P **P** 02 41 04.2 -0.1
comp=Z,41nm,0.9s
SRDT SRDT 23.16 128 P **P** 02 41 07.3 +1.6
comp=Z,193nm,1.1s,comp=Z,6µm
ISHM Shahmirzad 23.49 292 *e*P **P** 02 41 09.9 +0.7
HVS Khovu-Aksy 23.51 21⇑*e*P **P** 02 41 11.2 +2.2
IZEF Zefreh 24.11 285 *e*P **P** 02 41 17.1 +1.8
CHAI Chaiyaphum 24.20 120 P **P** 02 41 16.5 +0.7
comp=Z,20nm,0.9s
BVA0 Borovoye Array 24.31 345 P **P** 02 41 14.5 -2.1
BVA0 pmax pmax
comp=Z,8.0nm,1.2s
BVAR Borovoye Array 24.31 345 P **P** 02 41 15.7 -0.9
comp=Z,3.1nm,0.8s,baz=144,slow=8.6,SNR=19
ZALV Zalesovo Beam 24.32 6 P **P** 02 41 15.9 -0.6
comp=Z,16nm,0.7s,baz=194,slow=9.6,SNR=64
ZALV LR LR 02 52 04.0
comp=Z,95nm,20.8s,baz=250,slow=40
ZALV Zalesovo Beam 24.32 6 P **P** 02 41 16.0 -0.6
BRVK Borovoye 24.37 345⇓*e*P **P** 02 41 17.9 +0.9
BRVK pmax pmax
comp=Z,10.0nm,1.7s
BRVK Borovoye 24.37 345 *e*P **P** 02 41 18.6 +1.6
comp=Z,5.5nm,1.0s
PHET Kaeng Krachan 24.53 129 P **P** 02 41 20.4 +1.6
comp=Z,9.3nm,0.8s
XAN Xi'an 24.55 73 P **P** 02 41 17.8 -1.2
XAN pP **pP** 02 41 22.4 -0.7
XAN PMZ
comp=Z,3.0nm,1.0s
KHON Khomkaen 24.57 118 P **P** 02 41 19.9 +0.7
comp=Z,16nm,0.9s
IKLH Kolahrood 24.75 286 *e*P **P** 02 41 22.9 +1.9
AB31 Akbulak array 24.86 327 P **P** 02 41 22.0 +0.5
ABKAR Akbulak array 24.86 327 *e*P **P** 02 41 22.1 +0.6
NVS Novosibirsk 25.09 4 *i*P **P** 02 41 22.4 -1.1
SKNT Sakolnakorn 25.10 115 P **P** 02 41 23.8 -0.2
comp=Z,19nm,1.0s
IPIR Pirpir 25.33 284 *e*P **P** 02 41 25.9 -0.4
PATY Pattaya 25.36 127 P **P** 02 41 29.1 +2.8
comp=Z,16nm,0.9s
IGZV Ghazvin 26.03 293 *e*P **P** 02 41 32.8 +0.2
AKTO Aktyubinsk 26.57 327 P **P** 02 41 37.1 +0.1
comp=Z,4.5nm,0.8s,baz=118,slow=12,SNR=8.7
AKTO Aktyubinsk 26.57 327 P **P** 02 41 37.3 +0.2
AKTO pmax pmax
comp=Z,10.0nm,1.4s
ZAK Zakamensk 26.80 34⇓*i*P **P** 02 41 39.9 +0.7
ZAK pmax pmax
comp=Z,6.0nm,1.0s
SONM Songino Array 26.90 41 P **P** 02 41 41.3 +1.1
comp=Z,8.4nm,0.9s,baz=235,slow=7.2,SNR=30
SONM PcP **PcP** 02 45 01.1 -1.1
comp=Z,0.6nm,0.5s,baz=216,slow=2.4,SNR=4.6
SONM LR LR 02 53 19.5
comp=Z,116nm,21.0s,baz=249,slow=39
HHC Hu-ho-hao-te 27.59 58 *e*P **P** 02 41 46.7 +0.3
HHC sP **sP** 02 41 52.7 +0.5
HHC PP **PnPn** 02 42 37.2 +5.7
HHC S **S** 02 46 27.8 +0.2
HHC sS **sS** 02 46 34.0 -0.3
HHC PMZ
comp=Z,31nm,1.1s
HHC PMZ
comp=Z,90nm,6.8s
HHC LN
comp=Z,110nm,9.2s
HHC LE
comp=Z,270nm,13.1s
TLY Talaya 27.84 32 *e*P **P** 02 41 50.9 +2.4
TLY pmax pmax
comp=Z,6.0nm,0.8s
TRTT Trang 28.41 136 P **P** 02 41 54.8 +1.0
comp=Z,20nm,1.4s
GNI Garni 30.78 299 P **P** 02 42 16.3 +1.5
comp=Z,2.5nm,0.3s,baz=173,slow=3.3,SNR=3.7
GNI Garni 30.78 299 *e*P **P** 02 42 15.6 +0.8
GNI pmax pmax
comp=Z,8.0nm,0.7s
GNI Garni 30.78 299 *e*P **P** 02 42 15.6 +0.8
comp=Z,8.0nm,0.7s
BJI Beijing 30.89 61 P **P** 02 42 15.2 -0.4
BJI S **S** 02 47 19.8 +0.6
BJI PMZ
comp=Z,5.0nm,0.6s
BJI LN
comp=Z,170nm,16.0s
BJI LE
comp=Z,61nm,5.8s
KULM Kulim 31.01 138 *e*P **P** 02 42 17.7 +0.9
comp=Z,9.0nm,0.9s
RAYN Ar Rayn 31.70 267 *e*P **P** 02 42 24.3 +1.3
comp=Z,18nm,1.7s
ZEI Tsey 31.86 304 *e*P **P** 02 42 23.5 -0.9
IPM Ipoh 31.89 138 *e*P **P** 02 42 24.1 -0.5
comp=Z,9.2nm,0.8s
GSI Gunungsitoli 32.74 147 *e*P **P** 02 42 32.8 +0.7
comp=Z,40nm,0.9s
KBZ Khabaz 32.78 305 P **P** 02 42 33.1 +1.0
comp=Z,4.0nm,0.9s,baz=150,slow=8.3,SNR=7.7
NJ2 Nanjing 32.97 76 *e*P **P** 02 42 34.1 +0.2
NJ2 PMZ
comp=Z,20nm,0.6s
KIV Kislovodsk 32.98 306 *e*P **P** 02 42 32.1 -1.9
KIV pmax pmax
comp=Z,8.0nm,0.8s
VSR Storozhevoye 37.26 317 *e*P **P** 02 43 10.7 0.0
VSR pmax pmax
comp=Z,10.0nm,1.2s
VSR pmax pmax
comp=N,7.0nm,0.8s
VSR pmax pmax
comp=E,20nm,1.1s
MMAI Mount Meron Ar 38.29 287 PcP **PcP** 02 45 34.8 +1.0
comp=E,0.4nm,0.4s,baz=29,slow=3.6,SNR=3.9
PRGR Permogore 39.13 334 P **P** 02 43 25.5 -0.8
PRGR pmax pmax
comp=Z,11nm,0.9s
SIM Simferopol' 39.19 306 *e*P **P** 02 43 27.6 +0.5
SIM pmax pmax
comp=Z,10.0nm,1.3s
EIL Elat 39.24 281 P **P** 02 43 28.8 +1.1
comp=Z,3.2nm,0.7s,baz=89,slow=7.8,SNR=3.9
BRTR Keskin Array B 39.26 297 P **P** 02 43 28.4 +0.6
comp=Z,2.7nm,0.9s,baz=116,slow=7.0,SNR=17
BRTR Keskin Array B 39.26 297*ce*P **P** 02 43 28.2 +0.3
BRTR pmax pmax
comp=Z,3.0nm,1.0s
CSS Prodhromos 39.77 290 *e*P **P** 02 43 32.1 +0.1
comp=Z,1.9nm,0.9s
KSAR Wonju Array Be 39.94 66 P **P** 02 43 33.4 0.0
KSAR Wonju Array Be 39.94 66 P **P** 02 43 33.4 0.0
KSRS Korea Array 39.97 66 P **P** 02 43 33.4 -0.2
comp=Z,3.6nm,0.8s,baz=273,slow=8.8,SNR=13
KSRS LR LR 03 01 31.5
comp=Z,48nm,19.1s,baz=320,slow=38
KSRS Korea Array 39.97 66 P **P** 02 43 33.4 -0.2
KSRS pmax pmax
comp=Z,4.0nm,0.8s
KSRS MLR MLR
comp=Z,48nm,19.1s
OBN Obninsk 40.06 322⇓*e*P **P** 02 43 34.6 +0.4
OBN *e* 02 43 42.9
OBN 02 45 39.0
OBN SSS SSS 02 53 04.0
OBN pmax pmax
comp=Z,23nm,1.2s
OBN MLR MLR
comp=Z,32nm,16.0s
KKM Kota Kinabalu 41.21 118 *e*P **P** 02 43 44.3 +0.1
comp=Z,11nm,0.9s
USRK Ussuriysk Ar. 42.96 56 P **P** 02 43 57.0 -1.1
comp=Z,1.1nm,0.6s,baz=245,slow=4.0,SNR=5.6
AKASG Malin Array Be 43.24 314 P **P** 02 44 00.1 -0.2
comp=Z,4.9nm,0.6s,baz=79,slow=6.7,SNR=20
AKBB Malin Array Si 43.24 314 *e*P **P** 02 43 59.9 -0.4
AKBB Malin Array Si 43.24 314 *e*P **P** 02 43 59.9 -0.4
KIEV Kiev 43.25 314 *e*P **P** 02 43 59.7 -0.6
KIEV pmax pmax
comp=Z,6.0nm,0.7s
KIEV Kiev 43.25 314 *e*P **P** 02 43 59.7 -0.6
comp=Z,6.4nm,0.7s
PSN Preselentsi 43.36 303⇑P **P** 02 44 01.1 -0.2
PSN Preselentsi 43.36 303⇑*i*P **P** 02 44 01.1 -0.2
CFR Carcaliu 43.43 306⇑P **P** 02 44 02.1 +0.2
CFR Carcaliu 43.43 306⇑*i*P **P** 02 44 02.1 +0.2
MSAB Monastry St. A 43.62 304⇑*i*P **P** 02 44 04.6 +1.1
VRI Vrincioaia 44.45 307⇑P **P** 02 44 11.9 +1.8
VRI Vrincioaia 44.45 307⇑*i*P **P** 02 44 11.9 +1.8
PLOR Plostina 44.50 306⇑P **P** 02 44 12.5 +1.9
PLOR Plostina 44.50 306⇑*i*P **P** 02 44 12.4 +1.9
JMB Yambol 44.55 302⇑P **P** 02 44 11.9 +1.0
JMB Yambol 44.55 302⇑*i*P **P** 02 44 11.9 +1.0
ISR Istrita 44.56 305⇑P **P** 02 44 13.3 +2.3
ISR Istrita 44.56 305⇑*i*P **P** 02 44 13.3 +2.3
MLR Muntele Rosu 44.98 306⇑P **P** 02 44 16.2 +1.7
MLR Muntele Rosu 44.98 306⇑*i*P **P** 02 44 16.1 +1.6
DOPR Dopca 45.38 307⇓*i*P **P** 02 44 18.6 +1.1
NACGM Naroch 45.42 319 *e* **P** 02 44 17.0 -0.7
IDID Didziasalis 45.53 320 *e*P **P** 02 44 18.6 0.0
IDID IAmb IAmb 02 44 23.8
comp=Z,5.8nm,1.0s
BURAR Bucovina Array 45.55 309⇑P **P** 02 44 20.0 +1.1
BURAR Bucovina Array 45.55 309⇑*i*P **P** 02 44 20.0 +1.1
VOIR 45.62 306⇓P **P** 02 44 19.7 +0.2
VOIR 45.62 306⇓*i*P **P** 02 44 19.7 +0.2
IIGN Ignalina 45.83 320 *e*P **P** 02 44 20.9 +0.1
IIGN IAmb IAmb 02 44 22.5
comp=Z,8.5nm,0.8s
IZAR Zarasai 45.89 320 *e*P **P** 02 44 21.4 +0.1
IZAR IAmb IAmb 02 44 23.0
comp=Z,12nm,0.6s
ARR Arges 45.91 306⇑*i*P **P** 02 44 21.9 +0.1
ISAL Salakas 45.92 320 *e*P **P** 02 44 21.6 0.0
ISAL IAmb IAmb 02 44 23.2
comp=Z,7.9nm,0.8s
LVV L'vov 46.45 312 *e*P **P** 02 44 26.7 +0.8
LVZ Lovozero 46.56 338*ce*P **P** 02 44 26.7 +0.2
LVZ pmax pmax
comp=Z,16nm,1.0s
MMB Musomiste 46.72 301⇓P **P** 02 44 27.4 -0.7
MMB Musomiste 46.72 301⇓*i*P **P** 02 44 27.4 -0.7
VTS Vitosha 47.03 302⇑P **P** 02 44 31.8 +1.1
VTS Vitosha 47.03 302⇑*i*P **P** 02 44 31.8 +1.1
GZR Gura Zlata 47.22 306⇑*i*P **P** 02 44 30.3 -1.7
DRGR 47.24 308⇑P **P** 02 44 33.6 +1.4
DRGR 47.24 308⇑*i*P **P** 02 44 33.6 +1.4
FIA1 FINESS Array S 47.34 328 *e*P **P** 02 44 32.7 +0.1
FINES FINESS Array B 47.34 328 P **P** 02 44 32.8 +0.1
comp=Z,8.9nm,0.8s,baz=109,slow=10,SNR=40
FINES FINESS Array B 47.34 328 *i*P P 02 44 24.7 -7.9
UZH Uzhgorod 47.54 310 *e*P **P** 02 44 34.6 +0.2
UZH *i* 02 44 42.4
KOLS Kolonicke sedl 47.56 311 *e*P **P** 02 44 34.5 -0.1
KOLS Kolonicke sedl 47.56 311 *e*P **P** 02 44 34.5 -0.1
SIRR Siria 47.98 307⇑*i*P **P** 02 44 39.5 +1.6
BZS Buzias 48.02 306⇑P **P** 02 44 39.3 +1.1
BZS Buzias 48.02 306⇑*i*P **P** 02 44 39.3 +1.1
MAJO Matsushiro 48.25 66 *e*P **P** 02 44 40.0 -0.1
MAJO pmax pmax
comp=Z,12nm,1.2s
MAJO Matsushiro 48.25 66 *e*P **P** 02 44 40.0 -0.1
comp=Z,12nm,1.2s
STHS Stebnicka Huta 48.25 311 *e*P **P** 02 44 40.3 +0.3
STHS pmax pmax
comp=Z,4.0nm,1.4s
STHS Stebnicka Huta 48.25 311 *e*P **P** 02 44 40.2 +0.3
MJAR Matsushiro Arr 48.25 66 LR LR 03 06 16.1
comp=Z,40nm,21.1s,baz=210,slow=38
PSZ Piszkesteto 49.14 309 *e*P **P** 02 44 47.5 +0.6
PSZ pmax pmax
comp=Z,3.0nm,0.8s
PSZ Piszkesteto 49.14 309 *e*P **P** 02 44 47.5 +0.6
comp=Z,3.1nm,0.8s
PKSM Moragy 50.07 307⇓P **P** 02 44 54.6 +0.7
PKSM Moragy 50.07 307⇓*i*P **P** 02 44 54.6 +0.7
OKC Ostrava-Krasne 50.26 312 *e*P **P** 02 44 56.3 +1.0
OKC *ex* x 02 45 02.8
OKC Ostrava-Krasne 50.26 312 *e*P **P** 02 44 56.3 +1.0
OKC *e* 02 45 02.8
ARCES ARCESS Array B 50.28 338 P **P** 02 44 55.5 +0.4
comp=Z,15nm,0.8s,baz=108,slow=7.8,SNR=33
YSS Yuzh-Sakhalins 50.47 52 *e*P **P** 02 44 56.7 -0.2
YSS pmax pmax
comp=Z,22nm,1.0s
YSS Yuzh-Sakhalins 50.47 52 *e*P **P** 02 44 56.7 -0.2
comp=Z,22nm,1.0s
MORC Moravsky Berou 50.66 312 *e*P **P** 02 44 58.1 -0.2
MORC pmax pmax
comp=Z,8.0nm,0.8s
MORC Moravsky Berou 50.66 312 *e*P **P** 02 44 58.1 -0.2
comp=Z,7.6nm,0.8s
KMBO Kilima Mbogo 51.35 241 P **P** 02 45 05.2 +1.0
comp=Z,1.7nm,0.7s,baz=36,slow=9.0,SNR=5.0
KMBO Kilima Mbogo 51.35 241 *i*P **P** 02 45 06.3 +2.1
KMBO pmax pmax
comp=Z,2.0nm,0.7s
KMBO Kilima Mbogo 51.35 241 *e*P **P** 02 45 05.3 +1.0
comp=Z,3.9nm,0.9s
DPC Dobruska-Polom 51.42 313 *e*P **P** 02 45 04.5 +0.4
DPC Dobruska-Polom 51.42 313 *e*P **P** 02 45 04.5 +0.4
UPC Upice 51.62 313 *e*P **P** 02 45 06.0 +0.5
UPC Upice 51.62 313 *e*P **P** 02 45 06.0 +0.5
CONA Conrad Observa 51.85 309⇑*i*P **P** 02 45 07.6 +0.2
comp=Z,8.2nm,1.0s,SNR=11
TREC Trest 52.01 311 *e*P **P** 02 45 09.0 +0.5
TREC Trest 52.01 311 *e*P **P** 02 45 09.0 +0.5
GOPC GO Pecny, Ondr 52.43 312 *e*P **P** 02 45 12.3 +0.7
PERS Pernice 52.47 308 *e*P **P** 02 45 12.6 +0.7
SOKA Soboth 52.52 308⇑*i*P **P** 02 45 12.8 +0.5
comp=Z,6.4nm,1.0s,SNR=9.0
PVCC Panska Ves 52.54 313 *e*P P 02 45 08.9 -3.4
PVCC *ep*P pP 02 45 14.5 -2.1
PVCC Panska Ves 52.54 313 *e*P P 02 45 08.9 -3.4
PVCC *e* 02 45 14.5
PRU Pruhonice 52.59 312 *e*P **P** 02 45 13.3 +0.6
PRU Pruhonice 52.59 312 *e*P **P** 02 45 13.3 +0.6
OBKA Obir 52.87 308⇑*i*P **P** 02 45 15.4 +0.5
comp=Z,6.0nm,1.1s,SNR=5.1
MOA Molln 52.93 309⇓*i*P **P** 02 45 15.1 -0.2
comp=Z,6.6nm,1.1s
GERES GERESS Array B 53.22 311 P **P** 02 45 17.6 +0.1
comp=Z,0.8nm,0.6s,baz=90,slow=6.7,SNR=13
KHC Kasperske Hory 53.27 311 *e*P **P** 02 45 18.0 +0.2
KHC Kasperske Hory 53.27 311 *e*P **P** 02 45 18.0 +0.2
CLL Collm 53.48 314 *i*P **P** 02 45 18.7 -0.6
CLL pmax pmax
comp=Z,5.0nm,1.4s
CLL Collm 53.48 314 *i*P **P** 02 45 18.7 -0.6
comp=Z,5.0nm,1.4s
AQU L'Aquila 54.26 303 *e*P **P** 02 45 25.4 +0.2
AQU pmax pmax
comp=Z,9.0nm,0.9s
AQU L'Aquila 54.26 303 *e*P **P** 02 45 25.4 +0.2
comp=Z,9.3nm,0.9s
NB2 NORSAR Subarra 54.36 326 P **P** 02 45 24.9 -0.7
comp=Z,8.2nm,0.9s,baz=89,slow=7.4
NOA NORSAR Array B 54.36 326 P **P** 02 45 25.0 -0.5
comp=Z,4.8nm,0.9s,baz=91,slow=7.2,SNR=15
WTTA Wattenberg 54.76 309⇓*i*P **P** 02 45 28.2 -0.7
comp=Z,7.1nm,1.0s
MOTA Moosalm 55.11 309⇑*i*P **P** 02 45 30.6 -0.8
comp=Z,6.9nm,0.8s,SNR=4.9
RETA Reutte 55.32 309⇑*i*P **P** 02 45 32.0 -0.8
comp=Z,5.1nm,0.9s,SNR=5.0
FETA Feichten 55.41 309⇑*i*P **P** 02 45 32.5 -1.1
comp=Z,6.1nm,1.0s,SNR=6.0
SEY Seymchan 55.75 32 P **P** 02 45 35.3 -0.2
comp=Z,3.9nm,1.0s,baz=281,slow=8.7,SNR=10
SEY Seymchan 55.75 32⇓*e*P **P** 02 45 34.7 -0.8
FUORN Ofenpass-Fuorn 55.79 308 *e*P **P** 02 45 36.5 +0.1
comp=Z,71nm,2.9s
STU Stuttgart 56.18 311 *e*P **P** 02 45 38.8 -0.1
STU pmax pmax
comp=Z,9.0nm,0.9s
STU Stuttgart 56.18 311 *e*P **P** 02 45 38.8 -0.1
comp=Z,8.6nm,0.9s
SOEI Soe 57.72 126 *e*P **P** 02 45 51.6 +1.3
WLF Walferdange 58.02 313 *e*P **P** 02 45 51.4 -0.4
WLF pmax pmax
comp=Z,3.0nm,0.6s
WLF Walferdange 58.02 313 *e*P **P** 02 45 51.4 -0.4
comp=Z,3.1nm,0.6s
BNI Bardonecchia 58.54 307 *e*P **P** 02 45 55.2 -0.6
BNI pmax pmax
comp=Z,9.0nm,1.0s
BNI Bardonecchia 58.54 307 *e*P **P** 02 45 55.2 -0.6
comp=Z,9.3nm,1.0s
KEST Kesra 58.83 296 P **P** 02 45 57.7 -0.2
comp=Z,3.5nm,0.9s,baz=296,slow=8.4,SNR=13
PETK Petropavlovsk- 59.35 43 LR LR 03 13 13.0
comp=Z,29nm,19.7s,baz=278,slow=38
BILL Bilibino 61.19 25 *e*P **P** 02 46 16.0 +2.6
BILL pmax pmax
comp=Z,8.0nm,1.7s
TAM Tamanrasset 66.41 284 *e*P **P** 02 46 48.1 -0.7
TAM pmax pmax
comp=Z,3.0nm,0.8s
TAM Tamanrasset 66.41 284 *e*P **P** 02 46 48.1 -0.7
comp=Z,2.9nm,0.8s
LSZ Lusaka 67.38 236 *e*P **P** 02 46 55.1 +0.2
LSZ pmax pmax
comp=Z,2.0nm,0.8s
LSZ Lusaka 67.38 236 *e*P **P** 02 46 55.0 +0.2
comp=Z,2.1nm,0.8s
ESDC Sonseca Array 67.61 304 P **P** 02 46 55.3 -0.7
comp=Z,2.2nm,0.8s,baz=61,slow=7.0,SNR=13
MATP Matopo 70.64 231 P **P** 02 47 13.1 -2.0
comp=Z,3.3nm,1.0s,baz=6.0,slow=3.6,SNR=4.0
WRA Warramunga Arr 71.75 127 P **P** 02 47 20.1 -1.5
comp=Z,8.4nm,0.8s,baz=320,slow=6.1,SNR=41
WRAB Tennant Creek 71.75 127 *e*P **P** 02 47 20.5 -1.2
WRAB pmax pmax
comp=Z,18nm,0.9s
WRAB Tennant Creek 71.75 127 *e*P **P** 02 47 20.5 -1.2
comp=Z,18nm,0.9s
TORD Torodi Ar. Bea 73.86 276 P **P** 02 47 33.8 -0.6
comp=Z,5.1nm,1.1s,baz=57,slow=5.9,SNR=20
ASAR Alice Springs 73.97 130 P **P** 02 47 33.0 -1.8
comp=Z,4.6nm,0.8s,baz=317,slow=6.2,SNR=32
PMG Port Moresby 75.07 110*ce*P **P** 02 47 42.9 +1.6
PMG Port Moresby 75.07 110 *e*P **P** 02 47 41.6 +0.3
comp=Z,44nm,1.1s
LBTB Lobatse 75.72 230 *e*P **P** 02 47 44.0 -1.0
LBTB pmax pmax
comp=Z,4.0nm,0.9s
LBTB Lobatse 75.72 230 *e*P **P** 02 47 44.0 -1.0
comp=Z,4.2nm,0.9s
COLD Coldfoot 76.06 18 *e*P **P** 02 47 46.3 +0.1
comp=Z,4.4nm,1.0s
BPAW Bear Paw Mtn. 78.10 21 *e*P **P** 02 47 57.3 -0.5
comp=Z,1.3nm,0.9s
BOSA Boshof 78.39 227 P **P** 02 47 59.3 -0.7
comp=Z,2.1nm,0.7s,baz=100,slow=20,SNR=3.7
BOSA LR LR 03 20 25.7
comp=Z,20nm,18.1s,baz=114,slow=34
COLA College 78.45 19 *e*P **P** 02 47 59.3 -0.3
COLA pmax pmax
comp=Z,14nm,1.0s
COLA College 78.45 19 *e*P **P** 02 47 59.3 -0.3
comp=Z,14nm,1.0s
ILAR Eielson Array 78.80 19 P **P** 02 48 00.6 -1.0
comp=Z,5.8nm,0.9s,baz=306,slow=4.2,SNR=54
ILAR PP **PP** 02 50 57.5 -1.8
comp=Z,0.5nm,0.8s,baz=310,slow=6.9,SNR=6.6
INK Inuvik 78.98 12 *e*P **P** 02 48 02.0 -0.4
INK pmax pmax
comp=Z,8.0nm,1.1s
INK Inuvik 78.98 12 *e*P **P** 02 48 02.0 -0.4
comp=Z,7.6nm,1.1s
MCK McKinley 78.99 20 *e*P **P** 02 48 02.2 -0.5
MCK pmax pmax
comp=Z,4.0nm,0.7s
MCK McKinley 78.99 20 *e*P **P** 02 48 02.2 -0.5
comp=Z,4.1nm,0.7s
RSO Redoubt South 80.13 24 *e*P **P** 02 48 10.2 +1.1
comp=Z,14nm,0.9s
EGAK Eagle 80.31 17 *e*P **P** 02 48 08.9 -0.8
comp=Z,3.0nm,0.4s
CTAO Charters Tower 80.51 120 *e*P **P** 02 48 11.2 -0.3
CTAO pmax pmax
comp=Z,11nm,0.9s
CTAO Charters Tower 80.51 120 *e*P **P** 02 48 11.2 -0.3
comp=Z,11nm,0.9s
SML Sawmill 80.61 21 *e*P **P** 02 48 11.0 -0.5
SML pmax pmax
comp=Z,4.0nm,1.0s
SML Sawmill 80.61 21 *e*P **P** 02 48 11.0 -0.5
comp=Z,3.9nm,1.0s
DAWY Dawson 81.33 17 *e*P **P** 02 48 14.7 -0.7
DBIC Dimbokro 82.59 273 P **P** 02 48 23.4 +0.7
comp=Z,7.0nm,1.0s,baz=327,slow=5.5,SNR=4.3
HYT Haines Junctio 84.53 18 *e*P **P** 02 48 32.3 +0.2
YKA Yellowknife Ar 87.22 7 P **P** 02 48 43.9 -1.2
comp=Z,1.7nm,0.8s,baz=338,slow=5.3,SNR=9.2
YKA Yellowknife Ar 87.22 7 P **P** 02 48 44.0 -1.2
comp=Z,46nm,18.6s,baz=64,slow=33
MAW Mawson 98.02 187 LR LR 03 29 11.4
comp=Z,46nm,18.6s,baz=64,slow=33
TXAR Lajitas Array 121.05 4 PKP **PKPdf** 02 54 52.0 -0.4
comp=Z,0.4nm,0.9s,baz=321,slow=1.8,SNR=3.7
TXAR Lajitas Array 121.05 4 PKIKP **PKPdf** 02 54 52.0 -0.4
TRQA Tornquist 147.88 245 *e*PKPbc **PKPbc** 02 55 44.3 0.0
LPAZ La Paz 148.16 288 PKPbc **PKPbc** 02 55 44.9 -1.5
comp=Z,3.0nm,0.9s,baz=53,slow=5.4,SNR=10
LPAZ La Paz 148.16 288 *e*PKP2 **PKPbc** 02 55 45.8 -0.6
LPAZ La Paz 148.16 288 *e*PKPbc **PKPbc** 02 55 45.8 -0.6
LVC Limon Verde 151.58 277 *e*PKPbc **PKPbc** 02 55 54.9 +0.7
LVC *e*PKPab **PKPab** 02 56 03.5 +0.7

IDC ***04*** *02:36:17.7±4.3, 6.71N×73.10W, h172km±29km, mb3.2/3, mb1 3.6/4, mb1mx3.1/25, mbtmp3.7/4, Error ellipse: s-maj=75.9km s-min=26.8km az=82.0*
ISCJB ***04*** *02:36:20.6±1.0, 7.44N±0.09×73.02W±0.06, h166km, mb3.4/3, Error ellipse: s-maj=13.3km s-min=8.2km az=160.2*
FUNV ***04*** *02:36:20.7, 7.19N×73.05W, h169km, MW3.7*
ISC 04 02:36:19.5±1.1, 7.3N±0.1×72.97W±0.08, h166km, n16, σ1§56/23, mb3.3/3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.89**	**47**	*e*P	**Pn**		**02 36 46.0**	**+0.7**
CAPV				*e*S	**Sn**		**02 37 06.4**	**+1.3**
VIGV	**El Vigia**	**2.23**	**45**	*e*P	**Pn**		**02 37 00.2**	**+1.8**
VIGV				*e*S	**Sn**		**02 37 29.2**	**+0.7**
SOCV	**Socops**	**2.33**	**64**	*e*P	**Pn**		**02 37 00.5**	**+1.0**
SOCV				*e*S	**Sn**		**02 37 31.8**	**+1.4**
ROSC	**El Rosal**	**2.75**	**210**	P	Pn		02 36 57.8	-7.1
ROSC	45nm,0.3s,baz=298,slow=5.3,SNR=74			S	Sn		02 37 27.8	-12
	47nm,0.3s,baz=102,slow=14,SNR=9.5							
VIRV	**Villa del Rosa**	**3.27**	**10**	*e*P	**Pn**		**02 37 12.5**	**+1.5**
VIRV				*e*S	**Sn**		**02 37 50.1**	**-0.9**
CURV	**Curarigua**	**4.04**	**47**	*e*P	**Pn**		**02 37 22.1**	**+1.3**
CURV				*e*S	**Sn**		**02 38 07.4**	**-1.3**
SANV	**Sanarito**	**4.06**	**57**	*e*P	**Pn**		**02 37 22.2**	**+1.0**
SANV				*e*S	**Sn**		**02 38 07.9**	**-1.4**
DABV	**Dabajuro**	**4.31**	**32**	*e*P	**Pn**		**02 37 26.2**	**+1.9**
DABV				*e*S	**Sn**		**02 38 12.5**	**-2.3**
SIQV	**Siquisique**	**4.59**	**43**	*e*P	**Pn**		**02 37 29.5**	**+1.5**
SIQV				*e*S	**Sn**		**02 38 19.5**	**-2.0**
TEPV	**Terepaima**	**4.60**	**54**	*e*P	**Pn**		**02 37 29.4**	**+1.3**
TURV	**Turiamo**	**5.98**	**58**	*e*P	**Pn**		**02 37 46.5**	**+0.3**
TXAR	**Lajitas Array**	**36.28**	**311**	P	**P**		**02 43 07.4**	**+0.1**
	0.3nm,0.4s,baz=126,slow=8.7,SNR=7.6							
PDAR	**Pinedale Array**	**47.81**	**324**	P	**P**		**02 44 40.8**	**+0.2**
	0.3nm,0.4s,baz=136,slow=7.7,SNR=3.6							
YKA	**Yellowknife Ar**	**62.90**	**340**	P	**P**		**02 46 28.2**	**+0.4**
	0.7nm,0.5s,baz=132,slow=6.6,SNR=9.1							
ASAR	**Alice Springs**	**149.49**	**235**	PKPbc	**PKPdf**		**02 55 45.9**	**+0.5**
	0.3nm,0.4s,baz=113,slow=3.7,SNR=5.0							
WRA	**Warramunga Arr**	**150.68**	**242**	PKPbc	**PKPbc**		**02 55 49.4**	**-3.6**
	0.4nm,0.4s,baz=107,slow=2.5,SNR=3.5							

*CSEM **04** 02:42:13.1, 38°.40N×21°.88E, h7km, ML1.9/9*
THE 04 02:42:13.1, 38°.40N×21°.88E, h7km, ML1.9/9, Error ellipse: s-maj=0.8km s-min=0.3km az=53.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.04**	**29**	P	Pg	02 42 14.4	-0.2
EFP				S	Sg	02 42 15.7	0.0
EFP	**Efpalio**	**0.04**	**29**	P	Pg	02 42 14.4	-0.2
EFP				S	Sg	02 42 15.7	0.0
UPR	**University Cam**	**0.14**	**214**	P	Pg	02 42 16.0	0.0
UPR	**University Cam**	**0.14**	**214**	P	Pg	02 42 16.0	0.0
TRIZ	**Trizonia**	**0.15**	**101**	P	Pg	02 42 16.5	+0.2
TRIZ	**Trizonia**	**0.15**	**101**	P	Pg	02 42 16.5	+0.2
LAKA	**Lakka**	**0.17**	**154**	P	Pg	02 42 16.7	0.0
LAKA				S	Sg	02 42 19.4	+0.3
LAKA	**Lakka**	**0.17**	**154**	P	Pg	02 42 16.7	0.0
LAKA				S	Sg	02 42 19.4	+0.3
KALE	**Kalithea**	**0.20**	**91**	P	Pg	02 42 17.3	0.0
KALE				S	Sg	02 42 20.3	+0.2
KALE	**Kalithea**	**0.20**	**91**	P	Pg	02 42 17.3	0.0
KALE				S	Sg	02 42 20.3	+0.2
PVO	**Paravola**	**0.36**	**308**	P	Pg	02 42 20.0	-0.1
PVO				S	Sg	02 42 25.4	+0.5
PVO	**Paravola**	**0.36**	**308**	P	Pg	02 42 20.0	-0.1
PVO				S	Sg	02 42 25.4	+0.5
KLV	**Kalavryta, Ach**	**0.41**	**149**	P	Pg	02 42 20.9	-0.3
KLV				S	Sg	02 42 27.0	+0.4
KLV	**Kalavryta, Ach**	**0.41**	**149**	P	Pg	02 42 20.9	-0.3
KLV				S	Sg	02 42 27.0	+0.4
DRO	**Drossia**	**0.46**	**197**	P	Pg	02 42 21.9	-0.2
DRO				S	Sg	02 42 29.0	+0.8
DRO	**Drossia**	**0.46**	**197**	P	Pg	02 42 21.9	-0.2
DRO				S	Sg	02 42 29.0	+0.8
RLS	**Riolos of Patr**	**0.47**	**224**	P	Pg	02 42 22.1	-0.1
RLS				S	Sg	02 42 28.9	+0.5
RLS	**Riolos of Patr**	**0.47**	**224**	P	Pg	02 42 22.1	-0.1
RLS				S	Sg	02 42 28.9	+0.5
DSF	**Desfina**	**0.51**	**88**	P	Pg	02 42 22.3	-0.7
DSF				S	Sg	02 42 30.4	+0.7
DSF	**Desfina**	**0.51**	**88**	P	Pg	02 42 22.3	-0.7
DSF				S	Sg	02 42 30.4	+0.7
EVR	**Evrytania**	**0.52**	**354**	P	Pg	02 42 22.9	-0.5
EVR				S	Sg	02 42 30.8	+0.4
EVR	**Evrytania**	**0.52**	**354**	P	Pg	02 42 22.9	-0.5
EVR				S	Sg	02 42 30.8	+0.4
GUR	**Goura**	**0.58**	**142**	P	Pg	02 42 24.0	-0.5
GUR				S	Sg	02 42 32.8	+0.5
GUR	**Goura**	**0.58**	**142**	P	Pg	02 42 24.0	-0.5
GUR				S	Sg	02 42 32.8	+0.5
MAKR	**Makrakomi, Fth**	**0.65**	**17**	P	Pg	02 42 25.4	-0.3
MAKR				S	Sg	02 42 35.0	+0.8
MAKR	**Makrakomi, Fth**	**0.65**	**17**	P	Pg	02 42 25.4	-0.3
MAKR				S	Sg	02 42 35.0	+0.8
AXAR	**Agios Charalam**	**0.71**	**58**	P	Pg	02 42 26.3	-0.6
AXAR	**Agios Charalam**	**0.71**	**58**	P	Pg	02 42 26.3	-0.6

*NAO **04** 02:42:38.9±1.4, 67°.66N×33°.82E, ML2.3*
*HEL **04** 02:42:39.8±0.3, 67°.70N×33°.70E, h0km, ML2.1, Explosion*
*CSEM **04** 02:42:39.6±0.5, 67°.61N×33°.60E, h2km, ML2.3, Error ellipse: s-maj=9.8km s-min=6.1km az=83.0, Mining explosion.*
ISC 04 02:42:36.3±1.9, 67°.64N±0°.04×34°.04E±0°.10, h0km, n33, σ1s91/49, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.40**	**266**	Pg	**Pg**	**02 42 42.9**	**-1.1**
APA0				Pg	**Pb**	**02 42 45.1**	**-1.2**
	baz=88,slow=16						
APA0				Lg	Lg	02 42 45.4	
APA0				Rg	Rg	02 42 46.5	
APA0				Lg	Lg	02 42 49.2	
	baz=90,slow=56						
APA0				Rg	Rg	02 42 49.9	
	baz=75,slow=37						
APA0	**Apatity Array**	**0.40**	**266**	Pg	**Pg**	**02 42 42.9**	**-1.1**
APA0				Pg	**Pb**	**02 42 45.1**	**-1.2**
	baz=88,slow=16						
APA0				Lg	Lg	02 42 45.4	
APA0				Rg	Rg	02 42 46.5	
APA0				Lg	Lg	02 42 49.2	
	baz=90,slow=56						
APA0				Rg	Rg	02 42 49.9	
	baz=75,slow=37						
APA0	**Apatity Array**	**0.40**	**266**	Pg	**Pg**	**02 42 42.9**	**-1.1**
	SNR=91						
APA0				Lg	Lg	02 42 45.3	
	baz=90,slow=38,SNR=90						
KU6	**Riekki**	**2.30**	**227**	*e*P	**Pb**	**02 43 18.5**	**-0.2**
KU6				*e*SB	**Sb**	**02 43 48.5**	**+0.8**
KU6				*e*SG	**Sg**	**02 43 49.8**	**-0.4**
MSF	**Maaselka**	**2.63**	**231**	*e*SG	**Sb**	**02 43 58.6**	**+1.5**
MSF	**Maaselka**	**2.63**	**231**	Sg	**Sb**	**02 43 58.6**	**+1.5**
SGF	**Sodankyl**	**2.89**	**270**	*e*P	**Pn**	**02 43 25.0**	**+1.5**
SGF				*e*S	**Sn**	**02 43 59.0**	**+0.1**
RNF	**Rovaniemi**	**3.30**	**256**	*e*P	**Pn**	**02 43 31.2**	**+2.1**
RNF	**Rovaniemi**	**3.30**	**256**	P	**Pn**	**02 43 31.2**	**+2.1**
KEV	**Kevo**	**3.34**	**313**	*e*P	**Pn**	**02 43 32.0**	**+2.3**
KEV				*e*SG	**Sb**	**02 44 18.4**	**+1.1**
KEV				MSG		02 44 20.4	
	comp=Z,8.8nm,0.2s						
KEV	**Kevo**	**3.34**	**313**	P	**Pn**	**02 43 31.9**	**+2.3**
ARA0	**ARCESS Array S**	**3.67**	**305**	Pn	**Pn**	**02 43 35.9**	**+1.7**
	baz=121,slow=16						
ARA0				Sn	**Sn**	**02 44 16.1**	**-1.9**
	baz=130,slow=28						
ARA0				Lg	Lg	02 44 27.0	
	baz=119,slow=37						
ARA0	**ARCESS Array S**	**3.67**	**305**	Pn	**Pn**	**02 43 35.9**	**+1.7**
	baz=121,slow=16						
ARA0				Sn	**Sn**	**02 44 16.1**	**-1.9**
	baz=130,slow=28						
ARA0				Lg	Lg	02 44 27.0	
	baz=119,slow=37						
ARA0	**ARCESS Array S**	**3.67**	**305**	Pn	**Pn**	**02 43 35.9**	**+1.7**
	baz=121,slow=15,SNR=50						
ARA0				Sn	**Sn**	**02 44 16.1**	**-1.9**
	baz=130,slow=25,SNR=50						
ARA0				Lg	Lg	02 44 27.0	
	SNR=20						
ARE0	**ARCESS Array S**	**3.67**	**305**	*e*S	**Sn**	**02 44 16.9**	**-1.2**
ARE0	**ARCESS Array S**	**3.67**	**305**	S	**Sn**	**02 44 16.9**	**-1.2**
HEF	**Hetta**	**3.98**	**286**	*e*P	**Pn**	**02 43 39.9**	**+1.4**
HEF				*e*S	**Sn**	**02 44 24.0**	**-1.8**
HEF				*e*SG	**Sb**	**02 44 37.3**	**+1.4**
HEF				MSG		02 44 43.0	
	comp=Z,3.7nm,0.2s						
HEF	**Hetta**	**3.98**	**286**	P	**Pn**	**02 43 39.8**	**+1.4**
HEF				S	**Sn**	**02 44 24.0**	**-1.8**
HEF				Sg	**Sb**	**02 44 37.2**	**+1.4**
OUL	**Oulu**	**4.16**	**236**	*e*P	**Pn**	**02 43 43.4**	**+2.5**
OUL	**Oulu**	**4.16**	**236**	P	**Pn**	**02 43 43.4**	**+2.5**
KJN	**Kajaani**	**4.41**	**219**	*e*SG	**Sb**	**02 44 52.3**	**+4.1**
KJN				MSG		02 45 00.6	
	comp=Z,2.4nm,0.2s						
KJN	**Kajaani**	**4.41**	**219**	Sg	**Sb**	**02 44 52.3**	**+4.1**
LANU	**Lannavaara**	**4.58**	**281**	*e*P	**Pn**	**02 43 47.7**	**+0.8**
LANU				*e*SG	**Sb**	**02 44 55.1**	**+1.9**
LANU	**Lannavaara**	**4.58**	**281**	P	**Pn**	**02 43 47.6**	**+0.8**
KALU	**Kalix**	**4.59**	**252**	*e*S	**Sn**	**02 44 40.2**	**-0.7**
KALU	**Kalix**	**4.59**	**252**	S	**Sn**	**02 44 40.1**	**-0.7**
ERTU	**Ertsjaerv**	**4.76**	**262**	*e*S	**Sn**	**02 44 43.4**	**-1.5**
ERTU	**Ertsjaerv**	**4.76**	**262**	S	**Sn**	**02 44 43.4**	**-1.5**
JOF	**Joensuu**	**4.87**	**195**	*e*P	**Pn**	**02 43 52.3**	**+1.6**
JOF	**Joensuu**	**4.87**	**195**	P	**Pn**	**02 43 52.3**	**+1.6**
FIA0	**FINESS Array S**	**7.09**	**213**	Pn	**Pn**	**02 44 21.5**	**+0.3**
	baz=17,slow=16						
FIA0				Sn	**Sn**	**02 45 38.3**	**-4.1**
	baz=35,slow=18						
FIA0				Lg	Lg	02 46 15.5	
	baz=31,slow=28						
FIA0	**FINESS Array S**	**7.09**	**213**	Pn	**Pn**	**02 44 21.5**	**+0.3**
	baz=17,slow=16						
FIA0				Sn	**Sn**	**02 45 38.3**	**-4.1**
	baz=35,slow=18						
FIA0				Lg	Lg	02 46 15.5	
	baz=31,slow=28						
FIA0	**FINESS Array S**	**7.09**	**213**	Pn	**Pn**	**02 44 21.5**	**+0.3**
	baz=17,slow=15,SNR=50						

*JMA **04** 02:43:03.6±0.2, 23°.93N×121°.73E, h2km±3km, M3.2*
*ISCJB **04** 02:43:04.3±0.4, 23°.93N±0°.01×121°.76E±0°.02, h8km±2km, mb3.3/5, Error ellipse: s-maj=2.9km s-min=1.9km az=38.0*
*TAP **04** 02:43:05.0, 23°.95N×121°.68E, h12km, ML4.0, B*
*IDC **04** 02:43:16.8±7.8, 23°.80N×121°.69E, h135km±76km, mb3.1/5, mb1 3.3/6, mb1mx2.9/45, mbtmp3.5/6, Error ellipse: s-maj=38.7km s-min=22.3km az=65.0*
ISC 04 02:43:04.3±0.9, 23°.93N±0°.02×121°.75E±0°.02, h13km±6km, n75, σ0s63/122, mb3.5/5, 5C-11D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.14**	**291**	⇑*i*P	**Pg**	**02 43 07.9**	**+0.1**
	baz=290						
TWD	**Chiawan**	**0.21**	**317**	⇑*i*P	**Pg**	**02 43 08.8**	**-0.1**
	baz=334						
TWD				*i* S	**Sg**	**02 43 11.5**	**-0.5**
	baz=334						
ESF	**Shoufeng Towns**	**0.23**	**256**	P	**Pb**	**02 43 10.0**	**-0.3**
	baz=248						
ESF				S	**Sg**	**02 43 13.3**	**+0.7**
	baz=248						
TEGC	**Jichi Village**	**0.29**	**222**	*e*P	**Pb**	**02 43 12.1**	**+0.7**
	baz=199						
TEGC				*e*S	**Sb**	**02 43 17.7**	**+1.5**
	baz=199						
ESL	**Shilin**	**0.31**	**249**	*i* P	**Pg**	**02 43 10.6**	**-0.1**
	baz=241						
ESL				S	**Sg**	**02 43 14.7**	**-0.3**
	baz=241						
EHP	**Heping Village**	**0.38**	**359**	*e*P	**Pb**	**02 43 12.8**	**-0.2**
	baz=4.0						
WHF	**Hehuan Shan**	**0.50**	**296**	⇑*i*P	**Pg**	**02 43 13.7**	**-0.4**
	baz=298						
WHF				*i* S	**Sg**	**02 43 19.7**	**-1.1**
	baz=298						
ENA	**Nanau**	**0.50**	**359**	⇑*i*P	**Pg**	**02 43 14.7**	**+0.5**
	baz=2.0						
ENA				S	**Sg**	**02 43 21.6**	**+0.7**
	baz=2.0						
EHY	**Hungye**	**0.57**	**223**	P	**Pg**	**02 43 15.5**	**0.0**
	baz=225						
EHY				S	**Sb**	**02 43 25.4**	**+1.0**
	baz=225						
WDT	**Danda**	**0.59**	**254**	⇓*i*P	**Pg**	**02 43 16.1**	**+0.1**
	baz=255						
WDT				*i* S	**Sg**	**02 43 24.4**	**+0.6**
	baz=255						
NNS	**Nan Shan**	**0.62**	**326**	P	**Pg**	**02 43 16.3**	**-0.1**
	baz=333						
NNS				S	**Sg**	**02 43 23.7**	**-0.9**
	baz=333						
TWT	**Tachien**	**0.62**	**302**	⇓*i*P	**Pg**	**02 43 16.7**	**+0.2**
	baz=311						
TWT				S	**Sg**	**02 43 24.4**	**-0.3**
	baz=311						
TWC	**Suao**	**0.69**	**7**	⇓P	**Pb**	**02 43 18.3**	**+0.1**
	baz=9.0						
TWC				*i* S	**Sb**	**02 43 27.8**	**+0.2**
	baz=9.0						
TWF1	**Yuli**	**0.71**	**216**	*e*P	**Pg**	**02 43 17.7**	**-0.3**
	baz=223						
ENTT	**Nioudou**	**0.73**	**347**	P	**Pb**	**02 43 18.9**	**0.0**
	baz=354						
ENTT				*i* S	**Sg**	**02 43 28.2**	**+0.1**
	baz=354						
SMLT	**Sun Moon Lake**	**0.78**	**267**	⇓*i*P	**Pg**	**02 43 19.2**	**-0.3**
	baz=273						
SMLT				S	**Sg**	**02 43 29.0**	**-0.7**
	baz=273						
TWE	**Neicheng**	**0.80**	**354**	⇑*i*P	**Pb**	**02 43 20.3**	**+0.3**
	baz=2.0						
TWE				*i* S	**Sb**	**02 43 30.8**	**0.0**
	baz=2.0						
TYC	**Yuchr**	**0.82**	**269**	⇓*i*P	**Pg**	**02 43 19.7**	**-0.5**
	baz=275						
TYC				S	**Sg**	**02 43 29.5**	**-1.4**
	baz=275						
NSK	**Sanguang**	**0.83**	**334**	*i* P	**Pg**	**02 43 20.2**	**-0.1**
	baz=340						
NSK				S	**Sg**	**02 43 30.8**	**-0.4**
	baz=340						
YUS	**Yu-Shan**	**0.84**	**240**	⇓*i*P	**Pg**	**02 43 20.9**	**0.0**
	baz=233						
YUS				*i* S	**Sg**	**02 43 32.2**	**+0.1**
	baz=233						
CHKT	**Chengkung**	**0.90**	**203**	P	**Pb**	**02 43 21.8**	**0.0**
	baz=187						
CHKT				*e*S	**Sn**	**02 43 35.9**	**+0.4**
	baz=187						
ALS	**Alishan**	**0.96**	**245**	⇓*i*P	**Pg**	**02 43 22.7**	**-0.2**
	baz=239						
ALS				S	**Sg**	**02 43 35.2**	**-0.3**
	baz=239						
WNT	**Mingjian**	**0.98**	**267**	⇓*i*P	**Pn**	**02 43 23.7**	**-0.1**
	baz=270						
WNT				*i* S	**Sn**	**02 43 37.3**	**-0.3**
	baz=270						
NSTT	**Nanjuang**	**0.98**	**316**	P	**Pb**	**02 43 23.2**	**0.0**
	baz=320						
NSTT				*e*S	**Sg**	**02 43 35.7**	**-0.4**
	baz=320						
TWQ1	**Liyutan**	**0.99**	**295**	P	**Pg**	**02 43 23.4**	**+0.1**
	baz=309						
TWQ1				*e*S	**Sg**	**02 43 36.4**	**+0.1**
	baz=309						
ELDTW	**Lidau**	**1.00**	**223**	*e*P	**Pb**	**02 43 22.1**	**-1.4**
	baz=217						
TCU	**Taichung**	**1.01**	**283**	⇓*i*P	**Pn**	**02 43 24.2**	**+0.1**
	baz=279						
TCU				*e*S	**Sn**	**02 43 38.2**	**-0.1**
	baz=279						
NSY	**Sanyi**	**1.03**	**299**	P	**Pn**	**02 43 24.5**	**0.0**
	baz=311						
NSY				S	**Sn**	**02 43 38.3**	**-0.5**
	baz=311						
CHN5	**Tsauling**	**1.04**	**252**	P	**Pg**	**02 43 24.4**	**+0.1**
	baz=238						
CHN5				*i* S	**Sn**	**02 43 39.2**	**+0.1**
	baz=238						
TWA	**Mucha**	**1.06**	**352**	*e*P	**Pb**	**02 43 24.7**	**+0.1**
	baz=350						
TWA				*e*S	**Sg**	**02 43 38.9**	**+0.2**
	baz=350						
TWB1	**Santiao Chiao**	**1.10**	**11**	*e*P	**Pg**	**02 43 26.1**	**+0.6**
	baz=12						
TWB1				*e*S	**Sn**	**02 43 40.6**	**+0.1**
	baz=12						
WGK	**Gukeng**	**1.12**	**258**	*e*P	**Pb**	**02 43 25.5**	**0.0**
	baz=254						
HSN	**Hsinchu**	**1.13**	**321**	*e*P	**Pb**	**02 43 25.8**	**+0.1**
	baz=328						
HSN				*e*S	**Sn**	**02 43 42.7**	**+1.5**
	baz=328						
TAP1	**Taipei**	**1.13**	**349**	*e*P	**Pg**	**02 43 26.4**	**+0.4**
	baz=357						
TAP1				*e*S	**Sg**	**02 43 40.9**	**+0.2**
	baz=357						
TAP	**Taipei**	**1.13**	**349**	*e*P	**Pg**	**02 43 26.6**	**+0.5**
	baz=354						
NWF	**Wu-fen Shan**	**1.14**	**1**	*e*P	**Pn**	**02 43 26.3**	**+0.2**
	baz=1.0						
NWF				*e*S	**Sb**	**02 43 41.1**	**+0.3**
	baz=1.0						
NCU	**National Centr**	**1.16**	**334**	*e*P	**Pg**	**02 43 26.6**	**-0.1**
	baz=338						
STYT	**Tauyuan**	**1.19**	**230**	P	**Pn**	**02 43 26.5**	**-0.3**
	baz=211						
STYT				*e*S	**Sb**	**02 43 42.1**	**0.0**
	baz=211						
CHN4	**Tsaushan**	**1.21**	**242**	⇓*i*P	**Pb**	**02 43 27.1**	**0.0**
	baz=237						
CHN4				S	**Sg**	**02 43 43.5**	**+0.2**
	baz=237						
JYNG	**Yonagunijimaku**	**1.21**	**64**	P	**Pb**	**02 43 27.2**	**+0.1**
TWS1	**Kuangyinshan**	**1.21**	**345**	*e*P	**Pg**	**02 43 27.8**	**+0.2**
	baz=353						
TWS1				S	**Sg**	**02 43 44.6**	**+1.3**
	baz=353						
CHN2	**Minshiung**	**1.23**	**252**	*e*P	**Pn**	**02 43 27.3**	**0.0**
	baz=248						
WTP	**Ta-pu**	**1.24**	**237**	*e*P	**Pn**	**02 43 26.9**	**-0.6**
	baz=231						
WTP				S	**Sg**	**02 43 45.6**	**+1.2**
	baz=231						
TWG	**Pinlang**	**1.27**	**210**	*e*P	**Pn**	**02 43 26.4**	**-1.4**
	baz=204						
YOJ	**Yonaguni jima**	**1.27**	**65**	P	**Pn**	**02 43 27.6**	**-0.2**
YOJ				S	**Sg**	**02 43 45.3**	**+0.1**
YOJ	**Yonaguni jima**	**1.27**	**65**	⇓P	**Pb**	**02 43 28.1**	**0.0**
	baz=67						
CHY	**Chiayi**	**1.29**	**251**	*e*P	**Pb**	**02 43 28.3**	**-0.1**
	baz=246						
CHY				*e*S	**Sn**	**02 43 45.5**	**+0.3**
	baz=246						
TWK	**Hsinying**	**1.33**	**241**	*e*P	**Pb**	**02 43 29.2**	**0.0**
	baz=234						
TWK				*e*S	**Sg**	**02 43 47.0**	**-0.2**
	baz=234						
CHN1	**Nanshi**	**1.34**	**237**	P	**Pb**	**02 43 29.5**	**+0.1**
	baz=231						
CHN1				S	**Sg**	**02 43 48.6**	**+1.0**
	baz=231						
WTCT	**Ta-ch'eng**	**1.35**	**268**	*e*P	**Pn**	**02 43 29.1**	**+0.3**
	baz=265						
TWY	**Chenhua**	**1.35**	**354**	*e*P	**Pb**	**02 43 29.8**	**+0.3**
	baz=345						
SGST	**Jiashian**	**1.36**	**232**	*e*P	**Pb**	**02 43 29.7**	**-0.1**
	baz=236						
SGST				*e*S	**Sg**	**02 43 49.6**	**+1.4**
	baz=236						
WSF	**Szhu**	**1.43**	**259**	*e*P	**Pn**	**02 43 30.2**	**+0.2**
	baz=255						
SSD	**Sandimen**	**1.56**	**221**	*e*P	**Pn**	**02 43 32.2**	**+0.4**
	baz=203						
SSD				*e*S	**Sb**	**02 43 53.3**	**+0.5**
	baz=203						
SCLT	**Jiali**	**1.61**	**243**	*e*P	**Pn**	**02 43 33.1**	**+0.6**
	baz=238						
TWM1	**Shoushan**	**1.64**	**228**	*e*P	**Pg**	**02 43 35.9**	**+0.1**
	baz=218						
TWM1				*e*S	**Sg**	**02 43 58.7**	**+1.5**
	baz=218						
SGLT	**Jiouru**	**1.67**	**224**	*e*P	**Pg**	**02 43 37.1**	**+0.9**
	baz=204						
EAST	**Anshuo**	**1.75**	**209**	*e*P	**Pn**	**02 43 33.5**	**-0.9**
	baz=204						
TAW	**Tawu**	**1.75**	**207**	*e*P	**Pb**	**02 43 36.4**	**+0.2**
	baz=202						
IRIF	**Iriomote-Funau**	**1.85**	**77**	P	**Pn**	**02 43 36.5**	**+0.7**
IRIF				*e*S	**Sb**	**02 44 00.6**	**-0.6**
SCZT	**Fangliau**	**1.86**	**214**	*e*P	**Pn**	**02 43 35.8**	**-0.2**
	baz=193						
HATJ	**Hateruma jima**	**1.88**	**86**	P	**Pn**	**02 43 36.6**	**+0.4**
WDGT	**Dungji**	**2.03**	**251**	*e*P	**Pn**	**02 43 38.3**	**0.0**
	baz=247						
WDGT				*e*S	**Sn**	**02 44 04.3**	**+0.8**
	baz=247						
PNG	**Penghu**	**2.04**	**260**	*e*P	**Pn**	**02 43 38.9**	**+0.5**
	baz=257						
PNG				*e*S	**Sn**	**02 44 04.3**	**+0.5**
	baz=257						
JKRS	**Kuro-shima**	**2.09**	**81**	P	**Pn**	**02 43 40.1**	**+1.1**
JKRS				S	**Sb**	**02 44 07.7**	**-0.2**
TWK1	**Hengchun**	**2.16**	**204**	*e*P	**Pn**	**02 43 41.3**	**+1.3**
	baz=187						
JIJ	**Ishigaki jima**	**2.23**	**78**	P	**Pn**	**02 43 40.7**	**-0.3**
JIJ				S	**Sn**	**02 44 08.1**	**-0.3**
JISG	**Ishigakijimahi**	**2.43**	**74**	P	**Pn**	**02 43 44.0**	**+0.3**
JISG				S	**Sn**	**02 44 12.2**	**-1.1**
KNM	**Kinmen**	**3.07**	**280**	*e*P	**Pn**	**02 43 54.0**	**+1.4**
	baz=276						
KSRS	**Korea Array**	**14.48**	**20**	P	**P**	**02 46 36.8**	**+1.1**
	0.3nm,0.3s,baz=207,slow=11,SNR=9.2						
SONM	**Songino Array**	**26.81**	**337**	P	**P**	**02 48 45.1**	**+0.7**
	0.7nm,1.0s,baz=145,slow=5.3,SNR=3.6						
MKAR	**Makanchi Array**	**38.88**	**316**	P	**P**	**02 50 28.8**	**-0.7**
	0.3nm,0.6s,baz=96,slow=11,SNR=2.7						
ZALV	**Zalesovo Beam**	**40.74**	**327**	P	**P**	**02 50 45.3**	**+0.5**
	1.1nm,0.7s,baz=111,slow=8.1,SNR=5.9						
WRA	**Warramunga Arr**	**45.30**	**163**	P	**P**	**02 51 20.2**	**-1.8**
	0.5nm,0.8s,baz=345,slow=8.7,SNR=4.7						
ILAR	**Eielson Array**	**69.20**	**27**	P	**P**	**02 54 09.3**	**-1.2**
	0.3nm,0.8s,baz=284,slow=7.3,SNR=3.2						

*ISCJB **04** 02:43:39.9±0.9, 13°.0N±0°.1×57°.6E±0°.1, h10km, mb3.8/13, MS3.1/2, Error ellipse: s-maj=20.8km s-min=19.2km az=9.6*
*IDC **04** 02:43:40.2±0.9, 13°.04N×57°.70E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.5/49, mbtmp3.8/10, MS3.2/2, Ms1 3.3/2, ms1mx2.6/33, Error ellipse: s-maj=24.4km s-min=21.5km az=146.0*
*NEIC **04** 02:43:42.1±0.9, 12°.97N×57°.70E, h10km, mb4.1/4, Error ellipse: s-maj=26.6km s-min=19.4km az=137.0*
ISC 04 02:43:42.1±0.9, 13°.1N±0°.2×57°.7E±0°.2, h10km, n20, σ1s55/14, mb3.9/13, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**23.37**	**145**	T	T	03 12 53.6	
	baz=325,slow=75,SNR=80						
H08N3	**Diego Garcia H**	**23.38**	**145**	T	T	03 12 54.5	
	baz=325,slow=75,SNR=54						
H08N1	**Diego Garcia H**	**23.39**	**145**	T	T	03 12 55.3	
	baz=325,slow=75,SNR=74						
KMBO	**Kilima Mbogo**	**24.68**	**237**	P	**P**	**02 49 05.3**	**+1.5**
	0.6nm,0.4s,baz=39,slow=12,SNR=4.1						
KMBO				LR	LR	02 57 59.4	
	comp=Z,42nm,19.2s,baz=130,slow=35						
KMBO	**Kilima Mbogo**	**24.68**	**237**	*e*P	**P**	**02 49 05.3**	**+1.5**
	1.8nm,0.7s						
GEYT	**Alibeck**	**24.77**	**1**	P	**P**	**02 49 04.2**	**0.0**
	1.3nm,0.4s,baz=188,slow=7.5,SNR=4.1						
EKS2	**Erkin-Say**	**32.63**	**22**	*e*P	**P**	**02 50 17.3**	**+3.0**
	7.3nm,1.0s						
TKM2	**Tokmak 2**	**33.55**	**24**	*e*P	**P**	**02 50 23.8**	**+1.4**
	2.2nm,0.7s						
MKAR	**Makanchi Array**	**39.48**	**27**	P	**P**	**02 51 13.5**	**+0.7**
	0.7nm,0.8s,baz=210,slow=6.3,SNR=3.9						
CMAR	**Chiang Mai Arr**	**40.01**	**77**	P	**P**	**02 51 18.6**	**+1.0**
	0.9nm,0.3s,baz=277,slow=8.4,SNR=7.0						
CMAR				LR	LR	03 07 36.4	
	comp=Z,34nm,18.3s,baz=212,slow=36						
KURBB	**Kurchatov Arra**	**41.14**	**20**	P	**P**	**02 51 26.4**	**+0.1**
	1.2nm,0.8s,baz=217,slow=8.3,SNR=12						
KURK	**Kurchatov**	**41.25**	**20**	*e*P	**P**	**02 51 28.2**	**+0.9**
	2.5nm,0.9s						
ZALV	**Zalesovo Beam**	**46.08**	**22**	P	**P**	**02 52 05.4**	**-0.8**
	1.7nm,0.8s,baz=228,slow=6.5,SNR=7.6						
FINES	**FINESS Array B**	**53.44**	**342**	P	**P**	**02 53 00.4**	**-1.7**
	2.0nm,1.1s,baz=178,slow=8.3,SNR=2.4						
TORD	**Torodi Ar. Bea**	**54.42**	**277**	P	**P**	**02 53 09.7**	**-0.4**
	0.4nm,0.9s,baz=61,slow=5.5,SNR=2.2						
H01W3	**Cape Leeuwin H**	**71.65**	**134**	T	T	04 13 03.4	

287nm,0.7s
AML Almayashu 3.82 34 P **Pn** 02 52 04.5 +1.9
SNR=56
KSH Kashi 4.02 81 Pn **Pn** 02 52 03.4 -1.8
KSH Sn **Sn** 02 52 50.3 -0.9
KSH smax smax
comp=N,120nm,0.9s
KSH smax smax
comp=E,100nm,0.9s
KK31 Karatay Array 4.12 357 ⇑P **Pn** 02 52 08.5 +2.1
comp=E,6.3nm,0.3s,baz=174,slow=11,SNR=336
KK31 ⇑S **Sb** 02 53 10.0 +3.0
comp=E,81nm,0.6s,baz=179,slow=23,SNR=4.0
UCH Uchtor 4.28 40 P **Pn** 02 52 11.2 +2.1
SNR=40
EKS2 Erkin-Say 4.30 30 P Pn 02 52 13.1 +4.1
SNR=20
KZA Kyzart 4.56 46 P Pn 02 52 15.7 +2.8
SNR=84
AAK Ala-Archa 4.58 36 P **Pn** 02 52 15.3 +2.4
SNR=27
AAK Ala-Archa 4.58 36 ⇑P **Pn** 02 52 15.4 +2.5
comp=E,22nm,0.5s
AAK ⇑S Sn 02 53 10.6 +5.5
comp=E,29nm,0.7s
KBK Karagaybulak 4.81 39 P Pn 02 52 19.8 +3.7
SNR=26
CHMS Chumysh 4.98 35 P **Pn** 02 52 20.6 +2.3
SNR=11
USP Ospenovka 5.09 32 P **Pn** 02 52 21.8 +2.0
SNR=21
ULHL Ulahol 5.24 50 P Pn 02 52 24.9 +2.9
SNR=10
TKM2 Tokmak 2 5.33 41 P **Pn** 02 52 25.4 +2.2
SNR=32
TKM2 Tokmak 2 5.33 41 ⇑P **Pn** 02 52 25.0 +1.8
comp=E,15nm,0.5s
TKM2 ⇓S Sn 02 53 29.3 +5.7
comp=E,20nm,0.6s
PDGK Podgornoye 7.83 54 ⇑P **Pn** 02 52 57.0 -0.3
comp=E,5.3nm,0.9s
GEYT Alibeck 10.04 268 Pn **Pn** 02 53 27.9 +0.2
comp=E,0.5nm,0.3s,baz=104,slow=11,SNR=4.1
GEYT Sn **Sn** 02 55 19.6 +0.5
comp=E,0.6nm,0.3s,baz=99,slow=15,SNR=2.8
GEYT Lg Lg 02 56 26.9
baz=70,slow=17,SNR=2.6
MK31 Makanchi Array 11.46 43 P **Pn** 02 53 49.3 +2.3
comp=E,1.0nm,0.7s,baz=237,slow=9.9,SNR=8.5
MKAR Makanchi Array 11.46 43 Pn **Pn** 02 53 45.3 -1.7
comp=E,0.1nm,0.3s,baz=232,slow=13,SNR=2.9
MKAR Lg Lg 02 56 56.6
comp=E,0.1nm,0.3s,baz=244,slow=27,SNR=2.5
KURBB Kurchatov Arra 12.84 23 Pn Pn 02 54 02.5 -3.4
comp=E,0.1nm,0.3s,baz=216,slow=12,SNR=6.9
KURBB Lg Lg 02 57 43.0
comp=E,0.0nm,0.3s,baz=192,slow=27,SNR=5.1
AB31 Akbulak array 12.90 326 ⇑P **Pn** 02 54 05.4 -1.2
comp=E,2.5nm,0.4s,baz=134,slow=13,SNR=83
AB31 S **Sn** 02 56 24.9 -4.0
comp=E,3.8nm,0.5s,baz=137,slow=23,SNR=23
BVAR Borovoye Array 14.05 359 Pn **Pn** 02 54 21.0 -1.4
comp=E,0.4nm,0.3s,baz=156,slow=11,SNR=4.7
AKTO Aktyubinsk 14.61 326 ⇓P **Pn** 02 54 29.3 -0.7
comp=E,2.2nm,0.7s
AKTO ⇑S **Sn** 02 57 10.5 -0.2
comp=E,14nm,0.8s
AKTO Aktyubinsk 14.61 326 Pn **Pn** 02 54 28.5 -1.5
comp=E,0.6nm,0.3s,baz=127,slow=14,SNR=8.3
ZALV Zalesovo Beam 17.74 28 P **Pn** 02 55 09.4 -0.7
comp=E,0.3nm,0.3s,baz=233,slow=13,SNR=15
SONM Songino Array 27.10 59 P **P** 02 56 45.9 +0.3
comp=E,0.7nm,0.6s,baz=12,SNR=5.2
BRTR Keskin Array B 28.65 283 P **P** 02 57 01.2 +1.8
comp=E,0.4nm,0.6s,baz=94,slow=7.9,SNR=4.3
HHC Hu-ho-hao-te 31.09 73 *e*P P 02 57 28.1 +7.0
HHC PP **PP** 02 58 30.2 -1.3
HHC S S 03 02 33.5 +9.1
HHC SS **SnSn** 03 04 07.3 +0.3
HHC Hu-ho-hao-te 31.09 73 ScS ScS 03 08 02.2 +8.7
HHC pmax pmax
comp=Z,22nm,1.1s
HHC pmax pmax
comp=Z,54nm,5.2s
HHC LR LR
comp=N,62nm,10.6s
HHC LR LR
comp=E,130nm,11.6s
HHC LR LR
comp=Z,34nm,11.8s
FINES FINESS Array B 35.38 324 P **P** 02 57 58.5 +0.5
comp=Z,0.8nm,0.6s,baz=120,slow=9.6,SNR=7.2
ARCES ARCESS Array B 38.81 336 P **P** 02 58 27.4 +0.3
comp=Z,1.0nm,0.7s,baz=106,slow=9.1,SNR=5.7
GERES GERESS Array B 41.43 303 P **P** 02 58 50.1 +0.9
comp=Z,0.4nm,0.6s,baz=60,slow=8.3,SNR=5.0
NB2 NORSAR Subarra 42.34 321 P **P** 02 58 54.8 -1.6
comp=Z,0.8nm,0.8s,baz=93,slow=8.6
NOA NORSAR Array B 42.34 321 P **P** 02 58 56.6 +0.2
comp=Z,0.5nm,0.6s,baz=116,slow=8.7,SNR=3.7
ESDC Sonseca Array 56.22 296 P **P** 03 00 42.8 +0.1
comp=Z,0.3nm,0.5s,baz=61,slow=6.9,SNR=4.9
TORD Torodi Ar. Bea 65.68 267 P **P** 03 01 47.5 +0.3
comp=Z,0.3nm,0.7s,baz=47,slow=5.1,SNR=4.3
ILAR Eielson Array 72.43 16 P **P** 03 02 27.4 -0.9
comp=Z,0.4nm,0.8s,baz=322,slow=4.6,SNR=5.2
YKA Yellowknife Ar 78.77 3 P **P** 03 03 05.1 +0.5
comp=Z,0.8nm,0.6s,baz=350,slow=5.9,SNR=5.3
WRA Warramunga Arr 83.41 122 P **P** 03 03 29.7 -0.3
comp=Z,1.1nm,0.7s,baz=325,slow=5.0,SNR=6.1
ASAR Alice Springs 85.78 125 P **P** 03 03 41.9 0.0
comp=Z,0.8nm,0.7s,baz=308,slow=4.7,SNR=7.6

*IDC **04** 03:08:58.2±9.5, 30.˚44S×179.˚39W, h312km±9.3km, mb3.1/2, mb1 3.4/3, mb1mx3.0/22, mbtmp4.0/3, Error ellipse: s-maj=91.8km s-min=47.6km az=14.0*
ISC 04 03:08:59.8±1.9, 30.˚3S±0.˚1×178.˚9E±0.˚3, h300km, n41, σ2s14/42, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**7.26**	**184**	*e*PN	Pn	03 10 49.9	+5.6
MXZ				SN	**S**	**03 12 08.9**	**+0.1**
HAZ	**Te Kaha**	**7.50**	**187**	PN	Pn	03 10 51.0	+3.9
HAZ				SN	**S**	**03 12 16.2**	**+2.2**
WMGZ	**Waiomatatini S**	**7.51**	**183**	PN	Pn	03 10 52.5	+5.2
PUZ	**Puketiti**	**7.78**	**184**	PN	**Pn**	**03 10 51.7**	**+1.2**
PUZ				SN	**S**	**03 12 18.3**	**-2.0**
TWGZ	**Tauwhareparae**	**7.90**	**185**	*e*PN	**Pn**	**03 10 53.7**	**+1.6**
URZ	**Urewera**	**8.08**	**190**	P	**Pn**	**03 10 56.5**	**+2.3**
	3.2nm,0.3s,baz=270,slow=4.9,SNR=28						
URZ				S	**S**	**03 12 30.1**	**+3.0**
	9.5nm,0.3s,baz=99,slow=22,SNR=19						
URZ	**Urewera**	**8.08**	**190**	PN	Pn	03 10 57.7	+3.4
URZ				SN	**S**	**03 12 30.7**	**+3.5**
MWZ	**Matawai**	**8.10**	**188**	PN	**Pn**	**03 10 56.5**	**+1.9**
MWZ				*e*SN	**S**	**03 12 27.4**	**-0.3**
TKGZ	**Te Karaka**	**8.17**	**186**	*e*PN	**Pn**	**03 10 57.2**	**+1.9**
RAGZ	**Rawiri**	**8.27**	**188**	PN	Pn	03 11 01.8	+5.1
RIGZ	**Rimuhau**	**8.44**	**186**	PN	Pn	03 11 03.3	+4.5
RAHZ	**Arahi**	**8.73**	**189**	PN	**Pn**	**03 11 04.2**	**+1.9**
NMHZ	**Naumai**	**8.95**	**191**	PN	**Pn**	**03 11 07.8**	**+2.8**
BKZ	**Black Stump Fm**	**9.07**	**192**	PN	**Pn**	**03 11 09.6**	**+3.1**
ARHZ	**Aropaoanui**	**9.08**	**189**	PN	**P**	**03 11 10.6**	**-0.6**
MCHZ	**McNeill Hill**	**9.30**	**191**	PN	**P**	**03 11 12.9**	**-0.7**
KWHZ	**Kaweka Forest**	**9.33**	**192**	PN	**P**	**03 11 12.8**	**-1.3**
WNVZ	**Wahianoa**	**9.41**	**196**	PN	**P**	**03 11 14.8**	**-0.3**
CKHZ	**Cape Kidnapper**	**9.46**	**189**	SN	**S**	**03 12 57.6**	**-0.6**
BHHZ	**Black Hill Sta**	**9.46**	**194**	PN	**Pn**	**03 11 14.2**	**+2.9**
KRHZ	**Kereru**	**9.56**	**192**	PN	**Pn**	**03 11 14.4**	**+2.0**
KAHZ	**Kahuranaki**	**9.62**	**189**	PN	**P**	**03 11 16.1**	**-1.1**
PNHZ	**Pukenui**	**9.85**	**192**	PN	**Pn**	**03 11 18.4**	**+2.4**
PXZ	**Pawanui**	**9.86**	**189**	PN	**Pn**	**03 11 17.1**	**+1.1**
PXZ				*e*SN	**S**	**03 13 02.2**	**-5.0**
PRHZ	**Porangahau**	**10.12**	**190**	PN	**Pn**	**03 11 21.2**	**+1.9**
BFZ	**Birch Farm**	**10.59**	**191**	SN	**S**	**03 13 20.1**	**-3.7**
MRZ	**Mangatainoka R**	**10.69**	**194**	PN	**Pn**	**03 11 26.6**	**+0.3**
MRZ				*e*SN	**S**	**03 13 22.0**	**-4.2**
OGWZ	**Otaki Gorge**	**10.93**	**195**	PN	**Pn**	**03 11 30.0**	**+0.8**
HOWZ	**Holdsworth Sta**	**10.93**	**194**	PN	**Pn**	**03 11 30.7**	**+1.5**
TMWZ	**Te Maipa**	**11.06**	**192**	PN	**P**	**03 11 33.0**	**-0.2**
MTW	**Mount Morrison**	**11.19**	**193**	PN	**Pn**	**03 11 33.7**	**+1.3**
CAW	**Cannon Point**	**11.23**	**195**	PN	**Pn**	**03 11 33.8**	**+0.9**
QRZ	**Quartz Range**	**11.72**	**205**	*e*PN	**P**	**03 11 42.4**	**+1.9**
NNZ	**Nelson**	**11.78**	**201**	SN	**S**	**03 13 51.2**	**+0.4**
TUWZ	**Tuamarina**	**11.82**	**199**	PN	**Pn**	**03 11 40.3**	**+0.4**
THZ	**Tophouse**	**12.43**	**201**	*e*PN	**Pn**	**03 11 48.4**	**+0.9**
THZ				*e*SN	**S**	**03 14 04.4**	**-1.0**
KHZ	**Kahutara**	**12.84**	**198**	PN	**Pn**	**03 11 52.9**	**+0.5**
MQZ	**McQueen's Vall**	**14.28**	**199**	SN	**S**	**03 14 41.8**	**-3.9**
ASAR	**Alice Springs**	**40.45**	**268**	P	P	03 16 19.2	+9.2
	0.4nm,0.5s,baz=107,slow=7.5,SNR=9.3						
WRA	**Warramunga Arr**	**41.43**	**274**	P	P	03 16 26.8	+8.9
	1.4nm,0.5s,baz=111,slow=7.8,SNR=21						
FINES	**FINESS Array B**	**144.09**	**338**	PKP	**PKPab**	**03 27 56.3**	**-1.3**
	2.0nm,0.6s,baz=48,slow=2.1,SNR=21						

GUC 04 03:14:24.5±0.8, 35.˚09S×72.˚71W, h20km±7km, ML3.5,1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U65B	**HualaæØ**	**0.76**	**81**	⇓*e*P	Pb	03 14 39.3	+0.2
U65B				*e*S	Sn	03 14 50.6	-0.4
TALC	**Talca**	**0.93**	**110**	*e*P	Pb	03 14 42.1	+0.2
TALC				*e*S	Sn	03 14 55.5	+0.3
LNCH	**Linares**	**1.18**	**130**	*e*P	Pb	03 14 46.3	+0.1
LNCH				*e*S	Sn	03 15 03.1	+1.8
NICH	**Los Niches**	**1.21**	**86**	*e*P	Pb	03 14 47.2	+0.4
NICH				*e*S	Sn	03 15 04.0	+1.7
U73B	**San Pedro**	**1.58**	**43**	*e*P	Pn	03 14 50.4	-1.0
U73B				*e*S	Sn	03 15 11.3	+0.1
U73B				AML	AML	03 15 16.4	
	comp=E,683nm,0.6s						
CHCH	**Chadas Angostu**	**2.05**	**56**	*e*P	Pb	03 15 00.3	-0.8
CLCH	**Cerro Calan**	**2.46**	**47**	*e*P	Pb	03 15 06.7	-1.6
CLCH				AML	AML	03 15 47.9	
	comp=N,240nm,0.9s						
PEL	**Peldehue**	**2.56**	**41**	*e*P	Pn	03 15 07.0	+2.0
PEL				AML	AML	03 15 56.2	
	comp=N,358nm,0.5s						

*IDC **04** 03:22:46.8±1.9, 28.˚33N×52.˚32E, h0km, mb3.7/11, mb1 3.7/13, mb1mx3.6/41, mbtmp3.7/13, ML3.4/2, MS3.0/7, Ms1 3.0/7, ms1mx2.6/38, Error ellipse: s-maj=40.1km s-min=20.0km az=161.0*
*ISCJB **04** 03:22:47.2±1.6, 28.˚3N±0.˚2×52.˚3E±0.˚1, h16km, mb3.5/11, MS3.0/5, Error ellipse: s-maj=30.1km s-min=14.5km az=164.9*
ISC 04 03:22:48.9±1.9, 28.˚3N±0.˚2×52.˚3E±0.˚1, h16km, n16, σ0s82/13, mb3.5/11, MS2.9/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEYT	**Alibeck**	**10.79**	**25**	Pn	**Pn**	**03 25 23.9**	**+1.1**
	0.3nm,0.3s,baz=239,slow=12,SNR=8.1						
GEYT				LR	LR	03 30 12.3	
	comp=Z,98nm,18.7s,baz=250,slow=42						
GNI	**Garni**	**13.39**	**334**	LR	LR	03 31 47.1	
	comp=Z,27nm,19.8s,baz=306,slow=40						
BRTR	**Keskin Array B**	**19.19**	**311**	P	**Pn**	**03 27 13.7**	**+0.7**
	0.1nm,0.3s,baz=134,slow=11,SNR=12						
AKTO	**Aktyubinsk**	**22.56**	**10**	P	**P**	**03 27 48.3**	**+0.1**
	0.8nm,0.5s,baz=209,slow=12,SNR=3.2						
AKTO				LR	LR	03 38 07.5	
	comp=Z,23nm,20.0s,baz=189,slow=41						
AAK	**Ala-Archa**	**22.98**	**46**	LR	LR	03 39 23.3	
	comp=Z,39nm,19.2s,baz=272,slow=44						
BVAR	**Borovoye Array**	**28.12**	**23**	P	**P**	**03 28 40.4**	**+0.4**
	0.2nm,0.3s,baz=218,slow=9.0,SNR=3.6						
AKASG	**Malin Array Be**	**28.39**	**328**	P	**P**	**03 28 42.2**	**-0.1**
	0.5nm,0.4s,baz=132,slow=7.7,SNR=2.9						
MKAR	**Makanchi Array**	**29.86**	**44**	P	**P**	**03 28 55.7**	**+0.2**
	0.6nm,0.9s,baz=231,slow=7.7,SNR=4.8						
MKAR				LR	LR	03 42 23.5	
	comp=Z,14nm,18.0s,baz=242,slow=40						
KURBB	**Kurchatov Arra**	**29.86**	**34**	P	**P**	**03 28 55.5**	**+0.1**
	0.2nm,0.2s,baz=237,slow=9.2,SNR=3.8						
ZALV	**Zalesovo Beam**	**34.95**	**34**	P	**P**	**03 29 39.3**	**-0.6**
	0.5nm,0.5s,baz=240,slow=8.4,SNR=4.5						
ZALV				LR	LR	03 45 43.9	
	comp=Z,21nm,21.6s,baz=70,slow=40						
FINES	**FINESS Array B**	**37.49**	**340**	P	**P**	**03 30 01.9**	**+0.4**
	0.9nm,0.5s,baz=146,slow=11,SNR=13						
NOA	**NORSAR Array B**	**42.67**	**332**	P	**P**	**03 30 43.0**	**-1.6**
	0.9nm,0.8s,baz=120,slow=8.0,SNR=3.3						
ARCES	**ARCESS Array B**	**44.11**	**347**	P	**P**	**03 30 55.2**	**-0.8**
	0.7nm,0.7s,baz=150,slow=9.8,SNR=4.2						
SONM	**Songino Array**	**45.84**	**50**	P	**P**	**03 31 10.0**	**-0.3**
	0.4nm,0.6s,baz=260,slow=5.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**49.32**	**263**	P	**P**	**03 31 38.5**	**+1.0**
	0.7nm,0.5s,baz=60,slow=8.2,SNR=20						
KSRS	**Korea Array**	**62.64**	**60**	LR	LR	04 01 34.1	
	comp=Z,87nm,19.1s,baz=206,slow=37						

IDC 04 03:25:18.1±6.9, 20.˚16S×174.˚64W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.6/25, mbtmp3.9/2, MS3.7/2, Ms1 3.7/2, ms1mx2.9/26, Error ellipse: s-maj=340.5km s-min=67.0km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**47.66**	**256**	P	P	03 33 56.6	0.0
	1.1nm,0.8s,baz=85,slow=8.3,SNR=9.3						
WRA	**Warramunga Arr**	**47.77**	**261**	P	P	03 33 57.3	-0.1
	1.5nm,0.8s,baz=101,slow=8.6,SNR=10.0						
GUMO	**Guam**	**52.07**	**307**	LR	LR	03 53 44.0	
	comp=Z,84nm,20.5s,baz=106,slow=33						
PSI	**Prapat**	**87.61**	**274**	LR	LR	04 18 20.6	
	comp=Z,33nm,18.0s,baz=22,slow=36						
BRTR	**Keskin Array B**	**148.89**	**315**	PKPbc	PKPbc	03 45 07.5	-0.7
	0.4nm,0.8s,baz=59,slow=3.7,SNR=3.6						

IDC 04 03:26:06.8±2.8, 28.˚15N×52.˚65E, h0km, mb3.7/4, mb1 3.6/5, mb1mx3.3/39, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=65.6km s-min=27.7km az=147.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**19.50**	**311**	P	Pn	03 30 36.8	-0.1
	0.1nm,0.3s,baz=132,slow=12,SNR=4.8						
BVAR	**Borovoye Array**	**28.11**	**23**	P	P	03 31 58.9	-1.3
	0.6nm,0.3s,baz=186,slow=10,SNR=6.0						
ZALV	**Zalesovo Beam**	**34.88**	**33**	P	P	03 33 01.0	+1.3
	0.5nm,0.4s,baz=242,slow=8.9,SNR=3.9						
FINES	**FINESS Array B**	**37.71**	**339**	P	P	03 33 23.4	-0.4
	0.6nm,0.5s,baz=144,slow=12,SNR=7.8						
TORD	**Torodi Ar. Bea**	**49.61**	**263**	P	P	03 35 00.0	-0.2
	0.4nm,0.4s,baz=61,slow=8.2,SNR=15						

*MAN **04** 03:42:46, 11.˚05N×124.˚84E, h2km, mb5.0, ML3.9, MS4.1*
MAN INTENSITY III - PASTRANA LEYTE; INTENSITY II - PALO; TACLOBAN LEYTE.
*ISCJB **04** 03:42:47.1±0.6, 11.˚15N±0.˚03×125.˚07E±0.˚05, h22km±4km, mb4.4/38, MS3.8/20, Error ellipse: s-maj=7.9km s-min=4.4km az=167.7*
*BJI **04** 03:42:49.3, 10.˚80N×125.˚21E, h54km, mb4.7/33, mB4.7/19, Ms4.2/19, Ms7 4.0/12*
*MOS **04** 03:42:49.5±1.0, 11.˚07N×124.˚96E, h46km, mb4.7/17, Error ellipse: s-maj=18.3km s-min=7.8km az=108.2*
*NEIC **04** 03:42:53.3±1.0, 11.˚15N×125.˚13E, h62km±9km, mb4.5/18, Error ellipse: s-maj=9.7km s-min=5.3km az=69.0*
NEIC Felt [III PIVS] at Pastrana and [II PIVS] at Palo and Tacloban, Leyte.
*IDC **04** 03:42:54.2±4.2, 11.˚08N×125.˚07E, h72km±40km, mb3.9/20, mb1 4.1/21, mb1mx4.0/32, mbtmp4.2/21, ML3.6/1, MS3.7/18, Ms1 3.7/18, ms1mx3.6/26, Error ellipse: s-maj=20.4km s-min=11.5km az=76.0*
ISC 04 03:42:47.5±0.7, 11.˚07N±0.˚03×124.˚90E±0.˚04, h14km±4km, n112, σ1s58/117, mb4.4/38, MS3.8/20, 3C-7D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**0.12**	**42**	⇓*i*P	**Pg**	**03 42 50.8**	**0.0**
PLP				*i* S	**Sg**	**03 42 53.1**	**-0.1**
OCLP	**Ormoc**	**0.28**	**266**	*e*P	**Pg**	**03 42 51.9**	**-1.5**
MSLP	**Maasin**	**0.93**	**182**	*e*P	**Pn**	**03 43 05.4**	**-0.9**
MSLP				*e*S	**Sn**	**03 43 20.8**	**+1.3**
TBP	**Tagbilaran**	**1.71**	**217**	*e*P	**Pb**	**03 43 17.6**	**-1.1**
TBP				*e*S	**Sg**	**03 43 41.7**	**-0.8**
MMPH	**Masbate**	**1.78**	**316**	⇓*i*P	**Pn**	**03 43 17.6**	**-0.3**
MMPH				*i* S	**Sb**	**03 43 41.1**	**-1.1**
RCP	**Roxas**	**2.16**	**283**	⇓*e*P	**Pb**	**03 43 23.9**	**-2.6**
RCP				*e*S	**Sn**	**03 43 47.2**	**-2.7**
BUTP	**Butuan**	**2.21**	**161**	*e*P	**Pb**	**03 43 25.5**	**-1.8**
GUIM	**Jordan**	**2.31**	**259**	*e*P	**Pn**	**03 43 25.6**	**+0.4**
PVCP	**Virac**	**2.61**	**344**	⇓*i*P	**Pn**	**03 43 30.2**	**+0.9**
PVCP				*i* S	**Sb**	**03 44 06.6**	**+0.5**
AUQP	**San Andres**	**3.12**	**316**	*e*P	**Pb**	**03 43 43.4**	**+0.6**
BUKP	**Musuan**	**3.18**	**177**	*e*P	**Pn**	**03 43 39.3**	**+2.1**
GQP	**Guinayangan**	**3.69**	**320**	⇓*e*P	**Pg**	**03 43 56.1**	**-2.2**
GQP				*e*S	**Sg**	**03 44 46.2**	**0.0**
SZP	**Santa**	**7.74**	**327**	*e*Pn	Pn	03 44 43.1	+3.2
TNTI	**Ternate**	**10.53**	**166**	*e*Pn	Pn	03 45 21.6	+3.5
	67nm,0.9s						
LUWI	**Luwuk**	**12.22**	**190**	*e*Pn	Pn	03 45 45.9	+4.6
SBUM	**Sibu**	**15.22**	**237**	*e*P	**P**	**03 46 30.1**	**+2.9**
	59nm,1.3s						
QIZ	**Qiongzhong**	**16.54**	**300**	P	**P**	**03 46 43.7**	**+1.9**
QIZ				pP	pP	03 46 56.8	+11
QIZ				sP	sP	03 47 03.4	+16
QIZ				S	**Sn**	**03 49 48.8**	**+5.9**
QIZ				PMZ			
	19nm,2.4s						
KAPI	**Kappang**	**16.78**	**198**	P	**P**	**03 46 46.1**	**+1.6**
	0.2nm,0.3s,baz=127,slow=20,SNR=2.4						
KAPI	**Kappang**	**16.78**	**198**	*e*Pn	**P**	**03 46 46.0**	**+1.5**
	18nm,1.0s						
SOEI	**Soe**	**20.70**	**182**	*e*P	Pn	03 47 30.6	+0.5
	22nm,0.8s						
JAY	**Jayapura**	**20.73**	**130**	P	**P**	**03 47 27.1**	**-0.8**
	13nm,0.8s,baz=319,slow=11,SNR=3.1						
NJ2	**Nanjing**	**21.61**	**346**	*e*P	**P**	**03 47 39.2**	**+2.0**
NJ2				PMZ			
	90nm,0.8s						
NJ2				LN			
	840nm,17.5s						
NJ2				LE			
	680nm,18.2s						
NJ2				LZ			
	760nm,17.8s						
IPM	**Ipoh**	**24.53**	**256**	*e*P	**P**	**03 48 10.5**	**+3.5**
	8.3nm,0.8s						
KMI	**Kunming**	**25.22**	**307**	P	**P**	**03 48 15.6**	**+2.2**
KMI				pP	pP	03 48 28.9	+11
KMI				SS		03 53 41.7	
KMI				PMZ			
	15nm,0.9s						
KMI				PMZ			
	91nm,5.3s						
KMI				LN			
	330nm,16.2s						
KMI				LE			
	140nm,15.6s						
KMI				LZ			
	260nm,15.4s						
CMAR	**Chiang Mai Arr**	**26.12**	**289**	P	**P**	**03 48 24.1**	**+2.6**
	1.1nm,0.3s,baz=109,slow=7.9,SNR=6.1						
CMAR				LR	LR	03 58 50.2	
	comp=Z,26nm,18.6s,baz=110,slow=36						
CMAR	**Chiang Mai Arr**	**26.12**	**289**	*ce*P	P	03 48 26.3	+4.9
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSAR	**Wonju Array Be**	**26.39**	**5**	P	**P**	**03 48 24.4**	**+0.8**
KSAR	**Wonju Array Be**	**26.39**	**5**	P	**P**	**03 48 24.4**	**+0.8**
KSRS	**Korea Array**	**26.41**	**5**	P	**P**	**03 48 24.4**	**+0.7**
	comp=Z,4.5nm,0.8s,baz=185,slow=10,SNR=28						
KSRS	**Korea Array**	**26.41**	**5**	P	**P**	**03 48 24.4**	**+0.7**
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.8s						
XAN	**Xi'an**	**27.13**	**330**	P	**P**	**03 48 30.2**	**-0.2**
XAN				PMZ			
	comp=Z,4.0nm,0.7s						
XAN				PMZ			
	comp=Z,15nm,4.5s						
XAN				LN			
	comp=Z,200nm,22.4s						
XAN				LE			
	comp=Z,130nm,20.4s						
CD2	**Chengdu**	**27.81**	**318**	P	**P**	**03 48 38.1**	**+1.5**
CD2				pP	pP	03 48 51.7	+11
CD2				S	**S**	**03 53 19.2**	**-0.2**
CD2				sS	sS	03 53 42.9	+17
CD2				PMZ			
	comp=Z,30nm,0.5s						
CD2				PMZ			
	comp=Z,60nm,5.1s						
CD2				LN			
	comp=Z,450nm,21.1s						
CD2				LZ			
	comp=Z,270nm,14.3s						
MJAR	**Matsushiro Arr**	**28.07**	**23**	P	**P**	**03 48 37.3**	**-1.4**
	comp=Z,1.2nm,0.6s,baz=199,slow=9.8,SNR=6.6						
MJAR				LR	LR	03 58 18.2	
	comp=Z,148nm,21.0s,baz=225,slow=33						
BJI	**Beijing**	**29.87**	**346**	P	**P**	**03 48 55.9**	**+1.3**
BJI				S	**S**	**03 53 50.7**	**-0.6**
BJI				PMZ			
	comp=Z,7.0nm,0.5s						
BJI				LN			
	comp=Z,91nm,11.2s						
BJI				LE			
	comp=Z,240nm,22.3s						
COEN	**Coen**	**30.77**	**143**	*e*P	**P**	**03 49 01.6**	**-1.2**
LZH	**Lanzhou**	**31.36**	**326**	*e*P	**P**	**03 49 10.1**	**+2.1**
LZH				pP	pP	03 49 24.7	+13
LZH				PMZ			
	comp=Z,13nm,1.0s						
HHC	**Hu-ho-hao-te**	**31.91**	**341**	*e*P	P	03 49 16.1	+3.4
HHC				PP	**PP**	**03 50 24.1**	**-0.8**
HHC				S	**S**	**03 54 22.3**	**-1.2**
HHC				sS	sS	03 54 47.8	+17
HHC				SS	**SnSn**	**03 56 17.8**	**+5.8**
HHC				ScS	ScS	03 59 39.1	-5.8
HHC				PMZ			
	comp=Z,18nm,1.2s						
HHC				PMZ			
	comp=Z,78nm,5.6s						
HHC				LN			
	comp=Z,260nm,15.1s						
HHC				LE			
	comp=Z,490nm,18.8s						
WRA	**Warramunga Arr**	**32.19**	**163**	P	**P**	**03 49 14.0**	**-1.4**
	comp=Z,1.8nm,0.9s,baz=343,slow=9.2,SNR=6.0						
WRA	**Warramunga Arr**	**32.19**	**163**	P	**P**	**03 49 14.0**	**-1.4**
CN2	**Changchun**	**32.61**	**1**	*e*P	**P**	**03 49 20.9**	**+2.1**
CN2				*e*S	**S**	**03 54 31.2**	**-3.0**
CN2				LN			
	comp=Z,160nm,16.0s						
CN2				LE			
	comp=Z,180nm,16.0s						
USRK	**Ussuriysk Ar.**	**33.57**	**9**	P	**P**	**03 49 26.9**	**-0.3**
	comp=Z,10nm,0.8s,baz=196,slow=8.6,SNR=17						
MDJ	**Mudanjiang**	**33.67**	**6**	P	**P**	**03 49 28.9**	**+0.9**
MDJ				PMZ			
	comp=Z,5.0nm,1.1s						
MDJ				PMZ			
	comp=Z,34nm,4.0s						
AS31	**Alice Springs**	**35.63**	**166**	*e*P	**P

STKA	**Stephens Creek**	**45.60**	**160**	P	**P**	**03 51 07.4**	**-0.1**
	comp=Z,7.5nm,0.9s,baz=334,slow=8.1,SNR=10						
STKA				LR	LR	04 12 57.9	
	comp=Z,96nm,19.4s,baz=18,slow=40						
STKA	**Stephens Creek**	**45.60**	**160**	*eP*	**P**	**03 51 07.7**	**+0.3**
STKA	**Stephens Creek**	**45.60**	**160**	*eP*	**P**	**03 51 07.8**	**+0.3**
	comp=Z,1.8nm,0.8s						
WMQ	**Urumqi**	**45.76**	**322**	P	**P**	**03 51 09.6**	**+0.8**
WMQ				pP	pP	03 51 25.1	+12
WMQ				S	**S**	**03 57 48.2**	**-3.9**
WMQ				ScS	ScS	04 00 55.2	-10
WMQ				SS	SS	04 01 07.9	-8.6
WMQ				PMZ			
	comp=Z,7.0nm,1.0s						
WMQ				PMZ			
	comp=Z,42nm,3.6s						
WMQ				LN			
	comp=Z,150nm,24.1s						
WMQ				LE			
	comp=Z,150nm,22.7s						
WMQ				LZ			
	comp=Z,210nm,23.4s						
PETK	**Petropavlovsk-**	**49.48**	**25**	P	**P**	**03 51 37.7**	**+0.3**
	comp=Z,3.9nm,0.8s,baz=205,slow=6.4,SNR=5.0						
MK31	**Makanchi Array**	**50.58**	**323**	*eP*	**P**	**03 51 46.3**	**+0.4**
MK31	**Makanchi Array**	**50.58**	**323**	*eP*	**P**	**03 51 46.3**	**+0.4**
MKAR	**Makanchi Array**	**50.58**	**323**	P	**P**	**03 51 46.3**	**+0.4**
	comp=Z,2.6nm,0.6s,baz=122,slow=8.1,SNR=29						
MKAR				LR	LR	04 14 23.6	
	comp=Z,101nm,20.6s,baz=114,slow=37						
MKAR	**Makanchi Array**	**50.58**	**323**	P	**P**	**03 51 46.3**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,101nm,20.6s						
MKAR	**Makanchi Array**	**50.58**	**323**	*eP*	**P**	**03 51 46.5**	**+0.6**
YAK	**Yakutsk**	**50.99**	**3**	*eP*	**P**	**03 51 47.2**	**-1.4**
YAK				*e*		03 53 09.5	
YAK				*e*		03 53 52.9	
YAK				*e*S	S	03 58 54.3	-11
YAK				*e**SS	**sS**	**03 59 11.2**	**-1.0**
YAK				*e*		04 01 31.5	
YAK				*e*SS	SS	04 02 30.4	-10
YAK				pmax	pmax		
	comp=Z,18nm,1.2s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,11nm,0.9s						
YAK				smax	smax		
	comp=E,37nm,4.1s						
YAK				smax	smax		
	comp=N,27nm,4.3s						
YAK				MLR	MLR		
	comp=Z,53nm,23.0s						
KSH	**Kashi**	**51.69**	**312**	P	**P**	**03 51 55.9**	**+1.4**
KSH				pP	pP	03 52 14.1	+15
KSH				PcP	**PcP**	**03 53 10.3**	**+2.3**
KSH				PP	PP	03 53 57.9	+5.8
KSH				PcS	**PcS**	**03 57 07.1**	**+1.1**
KSH				S	S	03 59 10.3	-5.6
KSH				sS	sS	03 59 43.0	+20
KSH				PMZ			
	comp=Z,10.0nm,0.8s						
KSH				PMZ			
	comp=Z,180nm,3.3s						
KSH				LN			
	comp=Z,110nm,3.6s						
KSH				LE			
	comp=Z,80nm,3.9s						
KSH				LZ			
	comp=Z,370nm,6.0s						
TKM2	**Tokmak 2**	**53.15**	**316**	*eP*	**P**	**03 52 05.9**	**+0.5**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TKM2	**Tokmak 2**	**53.15**	**316**	*eP*	**P**	**03 52 05.9**	**+0.5**
	comp=Z,2.5nm,0.7s						
ZALV	**Zalesovo Beam**	**53.28**	**332**	P	**P**	**03 52 05.5**	**-0.4**
	comp=Z,2.6nm,0.5s,baz=128,slow=7.0,SNR=12						
ZALV				LR	LR	04 14 37.0	
	comp=Z,64nm,21.6s,baz=70,slow=36						
AAK	**Ala-Archa**	**53.81**	**315**	LR	LR	04 17 41.7	
	comp=Z,207nm,20.4s,baz=88,slow=39						
EKS2	**Erkin-Say**	**54.31**	**315**	*eP*	**P**	**03 52 14.6**	**+0.8**
EKS2				pmax	pmax		
	comp=Z,4.0nm,0.8s						
EKS2	**Erkin-Say**	**54.31**	**315**	*eP*	**P**	**03 52 14.6**	**+0.8**
	comp=Z,3.8nm,0.8s						
NVS	**Novosibirsk**	**54.56**	**332**	*eP*	**P**	**03 52 14.9**	**-0.3**
KURK	**Kurchatov**	**54.65**	**326**	*eP*	**P**	**03 52 16.2**	**+0.3**
KURK				pmax	pmax		
	comp=Z,20nm,0.7s						
KURK	**Kurchatov**	**54.65**	**326**	*eP*	**P**	**03 52 16.1**	**+0.3**
	comp=Z,20nm,0.7s						
KKAR	**Karatay Array**	**56.73**	**315**	*eP*	**P**	**03 52 31.6**	**+0.5**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KKAR	**Karatay Array**	**56.73**	**315**	*eP*	**P**	**03 52 31.6**	**+0.5**
	comp=Z,3.6nm,0.6s						
BRVK	**Borovoye**	**60.31**	**325**	*ceP*	**P**	**03 52 56.0**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
BRVK	**Borovoye**	**60.31**	**325**	*eP*	**P**	**03 52 55.4**	**-0.4**
	comp=Z,4.8nm,0.7s						
GEYT	**Alibeck**	**64.98**	**307**	P	**P**	**03 53 28.1**	**+0.7**
	comp=Z,1.1nm,0.3s,baz=71,slow=6.2,SNR=3.1						
GEYT				LR	LR	04 26 04.6	
	comp=Z,86nm,18.6s,baz=145,slow=40						
ABKAR	**Akbulak array**	**65.39**	**319**	*eP*	**P**	**03 53 29.7**	**0.0**
SVE	**Sverdlovsk**	**66.81**	**327**	*iP*	**P**	**03 53 38.6**	**-0.1**
SVE				pmax	pmax		
	comp=Z,14nm,1.1s						
ARU	**Arti**	**67.82**	**327**	*diP*	**P**	**03 53 44.7**	**-0.4**
ARU				*PP	PcP	03 54 00.5	-11
ARU						03 56 10.3	
ARU				S	**S**	**04 02 38.9**	**-3.9**
ARU				SS	**SS**	**04 07 07.1**	**+2.9**
ARU				pmax	pmax		
	comp=Z,12nm,1.2s						
ARU	**Arti**	**67.82**	**327**	*eP*	**P**	**03 53 44.4**	**-0.7**
	comp=Z,8.4nm,0.8s						
BKZ	**Black Stump Fm**	**69.27**	**139**	*eP*	**P**	**03 53 55.3**	**+0.8**
	comp=Z,15nm,0.9s						
PRGR	**Permogore**	**75.23**	**331**	*eP*	**P**	**03 54 27.7**	**-2.0**
PRGR				pmax	pmax		
	comp=Z,11nm,0.9s						
RAYN	**Ar Rayn**	**76.02**	**292**	*eP*	**P**	**03 54 35.2**	**+0.1**
	comp=Z,2.5nm,1.0s						
KBZ	**Khabaz**	**76.67**	**312**	LR	LR	04 32 38.4	
	comp=Z,49nm,18.2s,baz=66,slow=39						
KDAK	**Kodiak Island**	**76.73**	**33**	*iP*	**P**	**03 54 38.5**	**+0.2**
KIV	**Kislovodsk**	**76.82**	**313**	*eP*	**P**	**03 54 37.1**	**-2.1**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,67nm,18.0s						
BPAW	**Bear Paw Mtn.**	**77.55**	**27**	*eP*	**P**	**03 54 43.0**	**+0.2**
	comp=Z,1.5nm,0.8s						
MCK	**McKinley**	**78.46**	**27**	*eP*	**P**	**03 54 46.5**	**-1.4**
MCK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MCK	**McKinley**	**78.46**	**27**	*eP*	**P**	**03 54 46.5**	**-1.4**
	comp=Z,7.0nm,0.7s						
ILAR	**Eielson Array**	**79.31**	**26**	P	**P**	**03 54 50.9**	**-1.7**
	comp=Z,0.8nm,0.8s,baz=248,slow=5.7,SNR=9.6						
ARCES	**ARCESS Array B**	**82.97**	**340**	P	**P**	**03 55 11.3**	**-0.7**
	comp=Z,2.4nm,0.6s,baz=77,slow=6.2,SNR=16						
ARCES				LR	LR	04 36 59.2	
	comp=Z,52nm,18.9s,baz=78,slow=39						
BRTR	**Keskin Array B**	**83.98**	**309**	P	**P**	**03 55 16.8**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=103,slow=6.2,SNR=3.2						
BRTR				LR	LR	04 38 33.0	
	comp=Z,31nm,18.7s,baz=76,slow=40						
INK	**Inuvik**	**84.04**	**21**	*eP*	**P**	**03 55 16.8**	**-0.6**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK	**Inuvik**	**84.04**	**21**	*eP*	**P**	**03 55 16.8**	**-0.6**
	comp=Z,1.7nm,0.5s						
FINES	**FINESS Array B**	**84.55**	**332**	P	**P**	**03 55 19.0**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=104,slow=4.4,SNR=6.8						
FINES				LR	LR	04 36 12.0	
	comp=Z,72nm,19.7s,baz=94,slow=38						
FINES	**FINESS Array B**	**84.55**	**332**	*iP*	**P**	**03 55 23.2**	**+3.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**85.09**	**321**	P	**P**	**03 55 21.5**	**-1.6**
	comp=Z,0.6nm,0.4s,baz=67,slow=3.7,SNR=7.2						
AKASG				LR	LR	04 35 29.0	
	comp=Z,41nm,21.5s,baz=265,slow=37						
AKASG	**Malin Array Be**	**85.09**	**321**	*ceP*	**P**	**03 55 21.8**	**-1.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BUR08	**Bucovina Ar. S**	**88.35**	**318**	*eP*	**P**	**03 55 38.6**	**-0.7**
MAW	**Mawson**	**89.99**	**200**	LR	LR	04 35 08.8	
	comp=Z,23nm,20.4s,baz=58,slow=35						
VNDA	**Vanda**	**90.89**	**172**	P	**P**	**03 55 50.6**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=315,slow=5.3,SNR=6.1						
VNDA				LR	LR	04 35 39.7	
	comp=Z,26nm,21.6s,baz=323,slow=35						
VNDA	**Vanda**	**90.89**	**172**	P	**P**	**03 55 50.6**	**+0.3**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
VNDA				MLR	MLR		
	comp=Z,27nm,21.6s						
VNDA	**Vanda**	**90.89**	**172**	*eP*	**P**	**03 55 50.4**	**+0.1**
	comp=Z,12nm,1.6s						
NOA	**NORSAR Array B**	**91.44**	**334**	LR	LR	04 40 52.1	
	comp=Z,100nm,19.1s,baz=60,slow=38						
YKA	**Yellowknife Ar**	**93.57**	**24**	P	**P**	**03 56 02.4**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=304,slow=4.6,SNR=4.4						
GERES	**GERESS Array B**	**95.23**	**322**	LR	LR	04 41 39.4	
	comp=Z,57nm,19.7s,baz=62,slow=37						
TXAR	**Lajitas Array**	**118.31**	**48**	PKP	**PKPdf**	**04 01 34.5**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=209,slow=2.3,SNR=3.9						
TORD	**Torodi Ar. Bea**	**118.72**	**292**	PKP	**PKPdf**	**04 01 35.0**	**-1.3**
	comp=Z,0.3nm,0.8s,baz=44,slow=1.3,SNR=4.1						

MEX 04 03:45:36.2±0.4, 17.90N×100.33W, h58km±3km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.38**	**358**	*i* P	Pn	03 45 45.3	-1.5
ARIG				*i* S	Sn	03 45 52.8	-1.7
MEIG	**Mezcala**	**0.68**	**88**	*i* P	Pn	03 45 48.6	-1.6
MEIG				*i* S	Sn	03 45 58.5	-1.9
CAIG	**El Cayaco**	**0.85**	**176**	*eP*	Pn	03 45 50.7	-1.5
CAIG				*i* S	Sn	03 46 02.1	-1.8
PLIG	**Platanillo**	**0.93**	**58**	*i* P	Pn	03 45 52.0	-1.4
PLIG				*i* S	Sn	03 46 04.2	-1.8
ZIIG	**Zihuatanejo**	**1.12**	**255**	*eP*	Pn	03 45 54.1	-1.6
ZIIG				*e*S	Sn	03 46 08.7	-1.5
ACX	**Acapulco**	**1.12**	**156**	*eP*	Pn	03 45 57.4	+1.6
ACX				*e*S	Sn	03 46 11.7	+1.4
YAIG	**Yautepec**	**1.54**	**51**	*i* P	Pn	03 45 59.8	-1.8
YAIG				*e*S	Sn	03 46 18.5	-2.1
MZVM		**1.66**	**39**	*eP*	Pn	03 46 01.9	-1.0
MZVM				*e*S	Sn	03 46 20.8	-2.4
TLIG	**Tlapa**	**1.72**	**101**	*eP*	Pn	03 46 03.1	-0.8
TLIG				*i* S	Sn	03 46 22.7	-2.3
AMVM	**AMECAMECA**	**1.91**	**50**	*eP*	Pn	03 46 05.5	-1.3
AMVM				*i* S	Sn	03 46 28.1	-2.0
IIO	**Organos**	**2.27**	**42**	*eP*	Pn	03 46 11.0	-0.9
IIO				*i* S	Sn	03 46 37.6	-1.4

JMA 04 04:53:01.1±0.4, 44.64N×148.81E, h30km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**2.55**	**241**	P	Pn	04 53 39.3	-1.1
NEM2				*e*S	Sn	04 54 07.9	-2.6
JRA	**Rausu**	**2.74**	**256**	P	Pn	04 53 44.3	+1.3
JRA				*e*S	Sn	04 54 16.1	+1.1
JNK	**Nakash**	**3.13**	**252**	P	Pn	04 53 48.6	+0.2
JNK				*e*S	Sn	04 54 23.7	-1.0
JAK	**Akkeshi**	**3.40**	**243**	P	Pn	04 53 51.2	-0.9
JAK				*e*S	Sn	04 54 28.4	-2.9
JTKR	**Abashiri--Toko**	**3.58**	**261**	P	Pn	04 53 56.6	+2.1
JAR	**Ashorobuto**	**3.88**	**252**	P	Pn	04 53 59.9	+1.2
JAR				*e*S	Sn	04 54 42.6	-0.6
JOB	**Onbets**	**4.00**	**246**	P	Pn	04 54 01.1	+0.8
JOB				*e*S	Sn	04 54 44.9	-1.2
JCH	**Churui**	**4.44**	**245**	P	Pn	04 54 06.0	-0.4
JCH				*e*S	Sn	04 54 55.0	-2.1
JKB	**Kayabe**	**6.31**	**247**	P	Pn	04 54 31.5	-0.5
JKB				*e*S	Sn	04 55 38.0	-5.0
JANG	**Nango**	**6.87**	**234**	*e*S	Sn	04 55 48.5	-8.4
JTH	**Tanohata**	**6.97**	**230**	*e*S	Sn	04 55 49.2	-10

GUC 04 04:54:34.8±0.5, 35.00S×72.45W, h42km±3km, ML3.5, 4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U65B	**HualaæØ**	**0.54**	**87**	*i*P	Pn	04 54 46.8	+0.6
U65B				*e*S	Sn	04 54 55.7	+1.4
U65B				AML	AML	04 54 55.9	
	comp=N,8μm,0.1s						
TALC	**Talca**	**0.78**	**121**	*e*P	Pn	04 54 50.1	+0.8
TALC				*e*S	Sn	04 55 01.7	+1.8
NICH	**Los Niches**	**1.00**	**91**	*e*P	Pn	04 54 54.2	+1.8
NICH				*e*S	Sn	04 55 08.7	+3.3
LNCH	**Linares**	**1.09**	**141**	*e*P	Pn	04 54 55.2	+1.5
LNCH				*e*S	Sn	04 55 10.3	+2.6
LNV	**Longovilo**	**1.35**	**40**	*e*P	Pn	04 54 59.6	+2.5
U73B	**San Pedro**	**1.37**	**39**	*e*P	Pn	04 54 59.1	+1.6
U73B				*e*S	Sn	04 55 17.6	+3.1
U73B				AML	AML	04 55 21.1	
	comp=E,2μm,0.6s						
CHCH	**Chadas Angostu**	**1.82**	**55**	*e*P	Pn	04 55 07.3	+3.5
CCSP	**San Pedro de C**	**1.92**	**196**	AML	AML	04 55 37.0	
	comp=N,580nm,0.5s						
CLCH	**Cerro Calan**	**2.25**	**45**	*e*P	Pn	04 55 13.7	+4.1

*SJA **04** 05:03:48.7±0.5, 36.71S×74.83W, h33km±111km, ML4.1, MW4.3*
*GUC **04** 05:04:06.0±0.8, 36.05S×73.78W, h29km±16km, ML4.1*
ISC 04 05:04:05.6±2.8, 36.05S±0.07×73.8W±0.2, h10km, n19, σ1s38/21, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.96**	**145**	*eP*	**Pg**	**05 04 23.5**	**-0.5**
CCSP				*e*S	**Sg**	**05 04 36.1**	**-0.5**
CCSP				AML	AML	05 04 41.0	
	comp=E,10μm,0.4s						
U14B	**Concepcin**	**0.98**	**145**	*eP*	**Pg**	**05 04 23.4**	**-1.1**
U14B				*e*S	**Sg**	**05 04 36.3**	**-1.0**
LNCH	**Linares**	**1.79**	**84**	*eP*	**Pn**	**05 04 36.3**	**-0.1**
LNCH				*e*S	**Sn**	**05 04 56.9**	**-2.3**
U65B	**HualaæØ**	**1.96**	**57**	*e*P	**Pn**	**05 04 38.1**	**-0.7**
U65B				AML	AML	05 05 19.6	
	comp=N,2μm,0.6s						
NICH	**Los Niches**	**2.33**	**64**	*eP*	**Pn**	**05 04 45.5**	**+1.5**
CANA	**Caviahue**	**2.85**	**131**	*eP*	**Pn**	**05 04 52.3**	**+1.0**
CANA				*e*S	**Sb**	**05 05 35.2**	**+3.6**
U73B	**San Pedro**	**2.88**	**43**	*e*P	Pn	05 04 50.3	-1.3
U73B				AML	AML	05 05 48.2	
	comp=E,784nm,0.7s						
AAGR	**Agrelo**	**5.05**	**56**	*eP*	**Pn**	**05 05 22.9**	**+1.4**
ARCO	**CERRO ARCO**	**5.13**	**53**	*eP*	**Pn**	**05 05 23.9**	**+1.3**
ARCO				AML	AML	05 06 54.3	
	comp=Z,34nm,0.6s						
AUSP	**Uspallata**	**5.28**	**45**	*eP*	**Pn**	**05 05 26.2**	**+1.3**
ASAL	**Salagasta**	**5.36**	**51**	*eP*	**Pn**	**05 05 27.1**	**+1.4**
RTLS	**Leoncito**	**5.65**	**43**	*eP*	**Pn**	**05 05 31.3**	**+1.4**
RTCV	**Cerro Valdivia**	**6.04**	**48**	*eP*	**Pn**	**05 05 35.3**	**+0.3**
CFAA	**Coronel Fontan**	**6.40**	**48**	*eP*	**Pn**	**05 05 39.8**	**-0.2**
RTLL	**Cerro Villicun**	**6.46**	**45**	*eP*	**Pn**	**05 05 40.8**	**-0.1**
ACAN	**Cantantal**	**6.64**	**57**	*eP*	**Pn**	**05 05 43.5**	**+0.2**
AMOG	**MOGNA**	**6.75**	**42**	*eP*	**Pn**	**05 05 44.6**	**-0.2**
VCA	**Vinchina**	**8.69**	**34**	*eP*	**Pn**	**05 06 11.9**	**+0.4**
TCA	**Tanti**	**8.99**	**61**	*eP*	Pn	05 06 13.9	-1.6

*NSSC **04** 05:03:55.1±2.2, 42.24N×36.81E, h0km±181km, MD2.8, ML3.5*
*DDA **04** 05:04:25.1, 40.03N×37.47E, h19km, ML4.3*
*ISK **04** 05:04:26.6, 40.11N×37.46E, h13km, ML4.3*
*BJI **04** 05:04:26.9, 40.40N×37.20E, h10km, mb4.4/2*
*NEIC **04** 05:04:26.0, 40.10N×37.45E, h11km, mb4.0/9, ML4.3(ISK),*

After ISK.
*IDC **04** 05:04:26.6±0.7, 40.05N×37.27E, h0km, mb3.7/13, mb1 3.8/22, mb1mx3.7/48, mbtmp3.7/22, ML3.7/7, MS3.1/16, Ms1 3.1/16, ms1mx2.9/45, Error ellipse: s-maj=10.8km s-min=7.3km az=164.0*
*CSEM **04** 05:04:26.9±0.1, 40.08N×37.44E, h2km, mb4.0/13, Error ellipse: s-maj=3.2km s-min=2.7km az=177.0*
*MOS **04** 05:04:27.0±1.3, 40.12N×37.25E, h10km, mb4.0/11, Error ellipse: s-maj=7.3km s-min=5.1km az=103.2*
ISC 04 05:04:27.2±0.8, 40.10N±0.02×37.40E±0.01, h4km±5km, n330, σ1s55/374, mb3.8/20, MS3.1/8, 12C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSDY	**Resadiye-TOKAT**	**0.31**	**350**	PG	**Pg**	**05 04 33.2**	**+0.1**
RSDY	**Resadiye-TOKAT**	**0.31**	**350**	*i* Pg	**Pg**	**05 04 33.2**	**+0.1**
SCER	**sogukcermik**	**0.31**	**221**	*i* P	**Pg**	**05 04 32.2**	**-1.1**
SCER				*i* S	**Sg**	**05 04 36.6**	**-0.8**
SCER	**sogukcermik**	**0.31**	**221**	*i* P	**Pg**	**05 04 32.2**	**-1.1**
SCER				*i* S	**Sg**	**05 04 36.6**	**-0.8**
SUSE	**Susehri**	**0.63**	**79**	*i* P	**Pg**	**05 04 36.8**	**-2.5**
SUSE				*i* S	**Sg**	**05 04 46.0**	**-1.5**
SUSE	**Susehri**	**0.63**	**79**	*i* P	**Pg**	**05 04 36.8**	**-2.5**
SUSE				*i* S	**Sg**	**05 04 46.0**	**-1.5**
TOKA	**Tokat**	**0.74**	**288**	*i* P	**Pg**	**05 04 40.1**	**-1.3**
TOKA				*i* S	**Sb**	**05 04 53.0**	**-0.1**
TOKA	**Tokat**	**0.74**	**288**	*i* P	**Pg**	**05 04 40.1**	**-1.3**
TOKA				*i* S	**Sb**	**05 04 53.0**	**-0.1**
GRSN	**GIRESUNGRSN**	**1.06**	**38**	*i* P	**Pg**	**05 04 45.1**	**-2.5**
GRSN				*i* S	**Sg**	**05 04 58.5**	**-2.8**
GRSN	**GIRESUNGRSN**	**1.06**	**38**	*i* P	**Pg**	**05 04 45.1**	**-2.5**
GRSN				*i* S	**Sg**	**05 04 58.5**	**-2.8**
KEMA	**Kemaliye**	**1.18**	**134**	*i* P	Pg	05 04 45.1	-4.8
KEMA				*i* S	**Sg**	**05 05 02.3**	**-2.9**
KVT	**Kavak**	**1.42**	**314**	*e*PN	**Pn**	**05 04 53.7**	**-0.1**
KVT	**Kavak**	**1.42**	**314**	*e*Pn	**Pn**	**05 04 53.7**	**-0.1**
KELT	**Kelkit**	**1.43**	**87**	*i* P	Pn	05 04 49.6	-4.5
KELT				*i* S	**Sb**	**05 05 09.4**	**-3.7**
DARE	**Darende-Malaty**	**1.52**	**177**	*e*PN	**Pn**	**05 04 54.2**	**-1.1**
DARE				*e*SN	**Sn**	**05 05 14.6**	**-1.0**
DARE	**Darende-Malaty**	**1.52**	**177**	*e*Pn	**Pn**	**05 04 54.2**	**-1.1**
DARE				*e*Sn	**Sn**	**05 05 14.6**	**-1.0**
EZC	**Erzincan**	**1.54**	**102**	*e*Pn	**Pg**	**05 04 58.1**	**+1.3**
HAVZ	**Havza**	**1.61**	**308**	*i* P	**Pn**	**05 04 56.8**	**+0.4**
HAVZ				*i* S	**Sg**	**05 05 19.1**	**+0.2**
HAVZ	**Havza**	**1.61**	**308**	*i* P	**Pn**	**05 04 56.8**	**+0.4**
HAVZ				*i* S	**Sg**	**05 05 19.1**	**+0.2**
PINB	**Pinarbasi**	**1.61**	**209**	*i* P	**Pn**	**05 04 54.4**	**-2.2**
PINB				*i* S	**Sn**	**05 05 16.8**	**-1.2**
GUMT	**Gumushane**	**1.64**	**76**	*e*PN	**Pn**	**05 04 54.3**	**-2.5**
GUMT				*e*SN	**Sn**	**05 05 15.8**	**-2.6**
GUMT	**Gumushane**	**1.64**	**76**	*e*Pn	**Pn**	**05 04 54.3**	**-2.5**
GUMT				*e*Sn	**Sn**	**05 05 15.8**	**-2.6**
YOZ	**Yozgat**	**1.66**	**255**	*e*PN	**Pn**	**05 04 56.0**	**-1.2**
YOZ	**Yozgat**	**1.66**	**255**	*e*Pn	**Pn**	**05 04 56.0**	**-1.2**
AKCD	**Akcadag**	**1.84**	**167**	*i* P	**Pn**	**05 04 57.0**	**-2.7**
AKCD				*i* S	**Sn**	**05 05 22.4**	**-1.1**
ERZN	**Erzincan**	**1.86**	**105**	*e*PN	**Pn**	**05 04 58.1**	**-1.9**
MALT	**Malatya**	**1.95**	**155**	*e*PN	**Pn**	**05 04 60.0**	**-1.2**
MALT	**Malatya**	**1.95**	**155**	*i*P	Pn	05 04 57.7	-3.5
MALT	**Malatya**	**1.95**	**155**	S	**Sn**	**05 05 24.9**	**-1.3**
MALT	**Malatya**	**1.95**	**155**	*e*Pn	**Pn**	**05 05 00.0**	**-1.2**
MACK	**Trabzon**	**2.00**	**64**	*i* P	**Pn**	**05 05 01.1**	**-0.6**
MACK				*i* S	**Sn**	**05 05 27.9**	**+0.7**
MACK	**Trabzon**	**2.00**	**64**	*i* P	**Pn**	**05 05 01.1**	**-0.6**
MACK				*i* S	**Sn**	**05 05 27.9**	**+0.7**
ELZG	**Elazig**	**2.02**	**142**	*i* P	**Pn**	**05 04 59.7**	**-2.4**
ELZG				*i* S	**Sn**	**05 05 26.8**	**-1.0**
ELZG	**Elazig**	**2.02**	**142**	*i* P	**Pn**	**05 04 59.7**	**-2.4**
ELZG				*i* S	**Sn**	**05 05 26.8**	**-1.0**
BAYT	**Ayd¯–ntepe-Bay**	**2.12**	**81**	*e*PN	**Pn**	**05 05 02.8**	**-0.8**
BAYT	**Ayd¯–ntepe-Bay**	**2.12**	**81**	*e*Pn	**Pn**	**05 05 02.8**	**-0.8**
DIKM	**Dikmen**	**2.24**	**314**	*e*PN	**Pn**	**05 05 05.0**	**-0.1**
DIKM	**Dikmen**	**2.24**	**314**	*e*Pn	**Pn**	**05 05 05.0**	**-0.1**
AVNT	**Avonos**	**2.37**	**237**	*i* P	**Pn**	**05 05 05.8**	**-1.2**
AVNT				*i* S	**Sb**	**05 05 39.3**	**-0.8**
AVNT	**Avonos**	**2.37**	**237**	*i* P	**Pn**	**05 05 05.8**	**-1.2**
AVNT				*i* S	**Sb**	**05 05 39.3**	**-0.8**
CDAG	**Cicekdag**	**2.38**	**260**	*i* P	**Pn**	**05 05 06.2**	**-0.8**
CDAG				*i* S	**Sg**	**05 05 43.2**	**-0.3**
CDAG	**Cicekdag**	**2.38**	**260**	*i* P	**Pn**	**05 05 06.2**	**-0.8**
KOPT	**Kop Dagi**	**2.38**	**91**	*i* P	**Pn**	**05 05 06.5**	**-0.7**
KOPT				*i* S	**Sg**	**05 05 44.0**	**+0.3**
KOPT	**Kop Dagi**	**2.38**	**91**	*i* P	**Pn**	**05 05 06.5**	**-0.7**
BYBT	**Boyabat**	**2.42**	**305**	*e*PN	**Pn**	**05 05 07.4**	**-0.1**
BYBT	**Boyabat**	**2.42**	**305**	*e*Pn	**Pn**	**05 05 07.4**	**-0.1**
KMRS	**Kahramanmaras**	**2.62**	**189**	*e*PN	**Pn**	**05 05 09.9**	**-0.3**
KMRS	**Kahramanmaras**	**2.62**	**189**	*e*Pn	**Pn**	**05 05 10.0**	**-0.3**
ANDN	**Andirin**	**2.64**	**198**	*i* P	**Pn**	**05 05 09.2**	**-1.5**
ANDN				*i* S	**Sb**	**05 05 49.2**	**+1.2**
ANDN	**Andirin**	**2.64**	**198**	*i* P	**Pn**	**05 05 09.2**	**-1.5**
BINT	**B

ANTO	**Ankara**	**3.54**	**268**	*e*P		**Pn**	**05 05 23.0**	**0.0**
ANTO	**Ankara**	**3.54**	**268**	*i*P		**Pn**	**05 05 23.6**	**+0.6**
ANTO	**Ankara**	**3.54**	**268**	S		**Sg**	**05 06 20.4**	**-0.6**
ANTO	**Ankara**	**3.54**	**268**	*e*P		**Pn**	**05 05 23.0**	**0.0**
ANTO	**Ankara**	**3.54**	**268**	*e*Pn		**Pn**	**05 05 23.7**	**+0.7**
ANTO	**Ankara**	**3.54**	**268**	*e*Pn		**Pn**	**05 05 23.0**	**0.0**
MAZI	**Mazidag**	**3.55**	**137**	*e*PN		**Pn**	**05 05 22.4**	**-0.8**
MAZI	**Mazidag**	**3.55**	**137**	*e*Pn		**Pn**	**05 05 22.4**	**-0.8**
KULU	**Kulu**	**3.56**	**254**	*e*PN		**Pn**	**05 05 24.3**	**+1.1**
KULU	**Kulu**	**3.56**	**254**	*e*Pn		**Pn**	**05 05 24.3**	**+1.1**
BR231	**Keskin MP Arra**	**3.56**	**267**	*e*Pn		Pn	05 05 13.0	-10
BR231				*e*Sn		**Sn**	**05 06 00.4**	**-5.4**
SULT	**Sultanhani-AKS**	**3.56**	**239**	*e*Pn		**Pn**	**05 05 23.9**	**+0.7**
SULT	**Sultanhani-AKS**	**3.56**	**239**	*e*Pn		**Pn**	**05 05 24.0**	**+0.7**
LOD	**Lodumlu**	**3.56**	**268**	*e*PN		**Pn**	**05 05 24.0**	**+0.7**
LOD	**Lodumlu**	**3.56**	**268**	*e*Pn		**Pn**	**05 05 24.0**	**+0.7**
DAGI	**Agillar**	**3.58**	**73**	*i* P		Pn	05 05 26.9	+3.3
DAGI				*i* S		**Sb**	**05 06 13.5**	**-1.4**
EKAR	**Karacoban**	**3.70**	**102**	*i* P		**Pb**	**05 05 32.5**	**-0.7**
EKAR				*i* S		**Sg**	**05 06 27.3**	**+1.3**
BTMT	**Batman**	**3.71**	**120**	*e*PN		**Pn**	**05 05 25.0**	**-0.3**
BTMT	**Batman**	**3.71**	**120**	*e*Pn		**Pn**	**05 05 25.0**	**-0.3**
CHBY	**Cihanbeyli**	**3.81**	**248**	*e*PN		**Pn**	**05 05 27.5**	**+0.8**
CHBY	**Cihanbeyli**	**3.81**	**248**	*e*Pn		**Pn**	**05 05 27.5**	**+0.8**
TAHT	**Tahtakopru-Hat**	**3.83**	**195**	*e*PN		**Pn**	**05 05 27.5**	**+0.6**
TAHT	**Tahtakopru-Hat**	**3.83**	**195**	*e*Pn		**Pn**	**05 05 27.5**	**+0.6**
MARD	**Mardin**	**3.84**	**135**	*i* P		**Pn**	**05 05 25.6**	**-1.5**
MARD				*i* S		**Sb**	**05 06 25.3**	**+3.0**
KRTS	**Karatas**	**3.86**	**205**	*e*PN		**Pn**	**05 05 27.9**	**+0.6**
KRTS	**Karatas**	**3.86**	**205**	*e*Pn		**Pn**	**05 05 27.9**	**+0.6**
SOC	**Sochi**	**3.89**	**26**	*e*P		**Pn**	**05 05 26.7**	**-1.0**
SOC				*e*			05 06 13.7	
SOC					pmax	pmax		
	comp=Z,23nm,0.6s							
SOC					smax	smax		
	comp=N,205nm,0.9s							
SOC					MLR	MLR		
	comp=Z,231nm,11.0s							
SOC	**Sochi**	**3.89**	**26**	*e*P		**Pn**	**05 05 26.7**	**-1.0**
	comp=Z,23nm,0.6s							
SOC				*e*S		**Sn**	**05 06 13.7**	**-0.2**
	comp=Z,231nm,11.0s							
EATA	**Eleskirt**	**3.92**	**92**	*i* P		**Pb**	**05 05 35.0**	**-2.1**
EATA				*i* S		**Sg**	**05 06 33.8**	**+0.6**
MERS	**Mersin**	**3.93**	**216**	*e*PN		**Pn**	**05 05 29.3**	**+0.9**
MERS	**Mersin**	**3.93**	**216**	*e*Pn		**Pn**	**05 05 29.3**	**+0.9**
KBSD	**Kabsdagh**	**3.95**	**140**	*e*P		**Pn**	**05 05 26.2**	**-2.4**
KBSD				*e*S		**Sg**	**05 06 31.6**	**-2.6**
KBSD					AML	AML	05 06 40.5	
	comp=Z,64nm,0.6s							
BTCH	**Batrach**	**4.12**	**191**	*e*P		**Pn**	**05 05 28.4**	**-2.5**
BTCH				*e*S		**Sg**	**05 06 36.6**	**-2.9**
BTCH					AML	AML	05 06 49.8	
	comp=N,244nm,0.7s							
BTCH					AML	AML	05 06 57.1	
	comp=E,193nm,0.7s							
BCAM	**Yenicaga**	**4.13**	**282**	*i* P		**Pn**	**05 05 30.8**	**-0.3**
BCAM				*i* S		Sg	05 06 48.3	+8.5
BCAM	**Yenicaga**	**4.13**	**282**	*i* P		**Pn**	**05 05 30.8**	**-0.3**
YAYL	**Yayladag**	**4.18**	**194**	*i* P		Pn	05 05 25.7	-6.2
TUTA	**Tutak**	**4.23**	**98**	*i* P		Pg	05 05 55.8	+7.5
TUTA				*i* S		Sg	05 06 55.8	+12
SFNV	**Sufian**	**4.25**	**149**	*e*P		**Pn**	**05 05 30.3**	**-2.4**
SFNV				*e*S		**Sb**	**05 06 38.5**	**+4.4**
AGRB	**Hanur-Agry**	**4.34**	**95**	*e*PN		**Pn**	**05 05 34.0**	**-0.1**
AGRB	**Hanur-Agry**	**4.34**	**95**	*e*Pn		**Pn**	**05 05 34.0**	**-0.1**
LADK	**Ladik-KONYA**	**4.34**	**246**	*e*PN		**Pn**	**05 05 35.4**	**+1.3**
LADK	**Ladik-KONYA**	**4.34**	**246**	*e*Pn		**Pn**	**05 05 35.4**	**+1.3**
ARNB	**Al Arnab**	**4.38**	**195**	*e*P		**Pn**	**05 05 32.1**	**-2.4**
ARNB				*e*S		**Sb**	**05 06 40.8**	**+3.0**
ARNB					AML	AML	05 06 56.0	
	comp=N,69nm,0.7s							
ARNB					AML	AML	05 07 02.2	
	comp=E,103nm,0.8s							
KDHN	**Kadinhani**	**4.39**	**251**	*i* P		**Pn**	**05 05 34.5**	**-0.1**
KDHN				*i* S		**Sg**	**05 06 44.2**	**-3.8**
KDHN	**Kadinhani**	**4.39**	**251**	*i* P		**Pn**	**05 05 34.5**	**-0.1**
CHVG	**Ch'k'valeri**	**4.39**	**52**	*e*PN		Pb	05 05 40.5	-4.4
KIZK	**Mersin**	**4.42**	**216**	*i* P		**Pn**	**05 05 37.5**	**+2.4**
KIZK	**Mersin**	**4.42**	**216**	*i* P		**Pn**	**05 05 37.5**	**+2.4**
KIZT	**Kizilcal**	**4.44**	**256**	*e*PN		**Pn**	**05 05 35.8**	**+0.4**
KIZT	**Kizilcal**	**4.44**	**256**	*e*Pn		**Pn**	**05 05 35.8**	**+0.4**
KONT	**Konya--Tatoy**	**4.47**	**243**	*e*PN		**Pn**	**05 05 37.2**	**+1.5**
KONT	**Konya--Tatoy**	**4.47**	**243**	*e*Pn		**Pn**	**05 05 37.2**	**+1.5**
AUMIH	**MIHALICIK**	**4.55**	**269**	*i* P		**Pn**	**05 05 36.2**	**-0.8**
SVRH	**Sivrihisar-ESK**	**4.57**	**264**	*e*PN		**Pn**	**05 05 38.6**	**+1.4**
SVRH	**Sivrihisar-ESK**	**4.57**	**264**	*e*Pn		**Pn**	**05 05 38.6**	**+1.4**
WRDH	**Warideh**	**4.65**	**190**	*e*P		**Pn**	**05 05 35.3**	**-2.8**
WRDH				*e*S		**Sb**	**05 06 48.2**	**+2.7**
ANN	**Anapa**	**4.70**	**0**	*e*P		**Pn**	**05 05 39.0**	**+0.2**
ANN				*e*S		**Sn**	**05 06 30.9**	**-2.9**
ANN					pmax	pmax		
	comp=Z,31nm,1.0s							
ANN	**Anapa**	**4.70**	**0**	*e*P		**Pn**	**05 05 39.0**	**+0.2**
	comp=Z,31nm,1.0s							
ANN				*e*S		**Sn**	**05 06 30.9**	**-2.9**
SIRT	**Sirnak**	**4.71**	**122**	*e*PN		**Pn**	**05 05 39.7**	**+0.6**
SIRT	**Sirnak**	**4.71**	**122**	*e*Pn		**Pn**	**05 05 39.7**	**+0.6**
MDUB	**Mudurnu**	**4.76**	**277**	*e*PN		**Pn**	**05 05 40.5**	**+0.8**
MDUB	**Mudurnu**	**4.76**	**277**	*e*Pn		**Pn**	**05 05 40.5**	**+0.8**
EAK	**Akyaka**	**4.78**	**81**	*i* P		**Pb**	**05 05 53.0**	**+1.5**
EAK				*i* S		**Sg**	**05 07 00.7**	**0.0**
ERMK	**Ermenek**	**4.93**	**227**	*i* P		**Pn**	**05 05 43.4**	**+1.2**
ERMK	**Ermenek**	**4.93**	**227**	*i* P		**Pn**	**05 05 43.4**	**+1.2**
MZRK	**Al-Mazaregh**	**4.98**	**148**	*e*P		**Pn**	**05 05 40.6**	**-2.1**
MZRK				*e*S		**Sb**	**05 06 57.8**	**+2.7**
YAL	**Yalta**	**5.00**	**332**	*e*P		**Pn**	**05 05 45.8**	**+2.8**
YAL	**Yalta**	**5.00**	**332**	*e*P		**Pn**	**05 05 45.8**	**+2.8**
ALU	**Alushta**	**5.09**	**335**	*e*P		**Pn**	**05 05 43.6**	**-0.6**
ALU				*e*S		**Sn**	**05 06 39.2**	**-4.2**
ALU	**Alushta**	**5.09**	**335**	*e*P		**Pn**	**05 05 43.6**	**-0.6**
ALU				*e*S		**Sn**	**05 06 39.2**	**-4.2**
SUDU	**Sudak**	**5.11**	**341**	*e*P		**Pn**	**05 05 45.9**	**+1.5**
SUDU				*e*S		**Sn**	**05 06 44.4**	**+0.6**
SUDU	**Sudak**	**5.11**	**341**	*e*P		**Pn**	**05 05 45.9**	**+1.5**
SUDU				*e*S		**Sn**	**05 06 44.4**	**+0.6**
CLDR	**Caldiran**	**5.12**	**99**	*e*PN		**Pn**	**05 05 45.1**	**+0.2**
CLDR	**Caldiran**	**5.12**	**99**	*e*Pn		**Pn**	**05 05 45.1**	**+0.2**
BIDA	**Albida**	**5.14**	**190**	*e*P		**Pn**	**05 05 43.3**	**-1.8**
BIDA				*e*S		**Sb**	**05 07 02.0**	**+2.0**
BIDA					AML	AML	05 07 20.9	
	comp=N,110nm,0.6s							
BIDA					AML	AML	05 07 27.0	
	comp=E,46nm,0.8s							
BOLV	**Bolvadin**	**5.18**	**257**	*i* P		**Pn**	**05 05 46.2**	**+0.6**
BOLV	**Bolvadin**	**5.18**	**257**	*i* P		**Pn**	**05 05 46.2**	**+0.6**
ONI	**Oni**	**5.20**	**59**	P		**Pn**	**05 05 47.3**	**+1.6**
ONI	**Oni**	**5.20**	**59**	P		**Pn**	**05 05 47.3**	**+1.6**
SEV	**Sevastopol'**	**5.23**	**329**	*e*P		**Pn**	**05 05 47.4**	**+1.2**
SEV				*e*S		**Sn**	**05 06 47.4**	**+0.5**
SEV	**Sevastopol'**	**5.23**	**329**	*e*P		**Pn**	**05 05 47.4**	**+1.2**
SEV				*e*S		**Sn**	**05 06 47.4**	**+0.5**
GULT	**Gulveren**	**5.28**	**276**	*e*PN		**Pn**	**05 05 48.4**	**+1.5**
GULT	**Gulveren**	**5.28**	**276**	*e*Pn		**Pn**	**05 05 48.4**	**+1.5**
SIM	**Simferopol'**	**5.42**	**335**	*e*P		**Pn**	**05 05 49.8**	**+1.0**
SIM				S		**Sn**	**05 06 50.0**	**-1.6**
SIM					pmax	pmax		
	comp=Z,9.0nm,1.1s							
SIM					smax	smax		
	comp=E,24nm,1.1s							
SIM					smax	smax		
	comp=N,13nm,0.8s							
SIM	**Simferopol'**	**5.42**	**335**	*e*P		**Pn**	**05 05 49.8**	**+1.0**
	comp=N,9.0nm,1.1s							
SIM				S		**Sn**	**05 06 50.0**	**-1.6**
	comp=N,13nm,0.8s							
KBZ	**Khabaz**	**5.48**	**47**	Pn		**Pn**	**05 05 51.3**	**+1.8**
	comp=N,0.7nm,0.3s,baz=215,slow=9.5,SNR=9.0							
KBZ				Sn		**Sn**	**05 06 56.1**	**+3.2**
	comp=N,0.6nm,0.3s,baz=60,slow=14,SNR=4.5							
KBZ				Lg		Lg	05 07 27.7	
	comp=N,0.3nm,0.3s,baz=90,slow=12,SNR=2.4							
KBZ				LR		LR	05 08 14.7	
	comp=N,150nm,18.8s,baz=202,slow=41							
KBZ	**Khabaz**	**5.48**	**47**	P		**Pn**	**05 05 51.3**	**+1.8**
KBZ							05 06 56.1	
KBZ					pmax	pmax		
	comp=Z,1.0nm,0.3s							
KBZ					smax	smax		
	comp=N,1.0nm,0.3s							
KBZ					MLR	MLR		
	comp=Z,150nm,18.8s							

KIV	**Kislovodsk**	**5.51**	**44**	*e*P		**Pn**	05 05 55.6	+5.5
KIV				*e*S		Sn	05 07 00.7	+6.8
KIV					pmax	pmax		
	comp=Z,13nm,0.7s							
KIV					MLR	MLR		
	comp=Z,11nm,7.0s							
KIV	**Kislovodsk**	**5.51**	**44**	*e*Pn		**Pn**	**05 05 51.5**	**+1.4**
KIV	**Kislovodsk**	**5.51**	**44**	*e*Pn		**Pn**	**05 05 51.5**	**+1.4**
HAKT	**HAKKARI**	**5.54**	**115**	*i* P		**Pb**	**05 06 03.5**	**-1.2**
HAKT				*i* S		Sb	05 07 18.3	+6.8
ZEI	**Tsey**	**5.58**	**59**	*e*P		**Pn**	**05 05 51.9**	**+0.8**
ZEI					pmax	pmax		
	comp=Z,42nm,0.4s							
HAWK	**Haweek**	**5.62**	**188**	*e*P		**Pn**	**05 05 50.0**	**-1.6**
HAWK				*e*S		**Sb**	**05 07 13.1**	**-0.5**
HAWK					AML	AML	05 07 37.0	
	comp=N,21nm,0.6s							
GNI	**Garni**	**5.63**	**87**	Pn		Pn	05 05 55.6	+3.8
	comp=N,1.8nm,0.3s,baz=33,slow=3.8,SNR=3.6							
GNI				Lg		Lg	05 07 32.0	
	comp=N,1.1nm,0.3s,baz=11,slow=16,SNR=1.7							
GNI	**Garni**	**5.63**	**87**	*e*Pn		Pb	05 05 59.1	-7.0
TBLG	**Delisi**	**5.80**	**71**	P		**Pb**	**05 06 09.9**	**+1.1**
ISP	**Isparta**	**5.82**	**249**	P		**Pn**	**05 05 55.7**	**+1.4**
ISP	**Isparta**	**5.82**	**249**	P		**Pn**	**05 05 55.7**	**+1.4**
ISP	**Isparta**	**5.82**	**249**	Pn		**Pn**	**05 05 55.7**	**+1.4**
CSS	**Prodhromos**	**6.06**	**213**	*e*Pn		Pb	05 06 05.8	-7.5
DGRG	**David-gareji**	**6.21**	**75**	P		**Pg**	**05 06 25.6**	**-0.5**
ZALF	**Zalf**	**7.16**	**180**	*e*P		**Pn**	**05 06 11.1**	**-1.6**
ZALF				*e*S		Sb	05 07 50.3	-7.6
MMAI	**Mount Meron Ar**	**7.25**	**193**	Pn		**Pn**	**05 06 13.2**	**-0.7**
	comp=N,2.5nm,0.3s,baz=358,slow=18,SNR=5.3							
MMAI				Lg		Lg	05 08 14.7	
	comp=N,1.6nm,0.3s,baz=11,slow=24,SNR=2.3							
PSN	**Preselentsi**	**7.75**	**301**	*i*P		**Pn**	**05 06 20.6**	**-0.1**
ASF	**Jabal al Asfar**	**7.92**	**183**	Pn		**Pn**	**05 06 23.1**	**0.0**
	comp=N,0.3nm,0.3s,baz=14,slow=8.3,SNR=2.6							
ASF				Lg		Lg	05 08 39.1	
	comp=N,0.2nm,0.3s,baz=300,slow=20,SNR=3.1							
TIRR	**Tirgusor**	**7.96**	**306**	*e*P		**Pn**	**05 06 20.9**	**-2.7**
TIRR				*e*			05 07 48.1	
TIRR	**Tirgusor**	**7.96**	**306**	*i*P		**Pn**	**05 06 22.8**	**-0.8**
TIRR	**Tirgusor**	**7.96**	**306**	*e*Pn		**Pn**	**05 06 20.9**	**-2.7**
TIRR				*e*Sn		**Sn**	**05 07 48.1**	**-5.9**
PRD	**Provadia**	**8.10**	**296**	*i*P		**Pn**	**05 06 25.7**	**+0.2**
PRD	**Provadia**	**8.10**	**296**	*e*P		Pn	05 06 30.1	+4.6
TLCR		**8.11**	**312**	*i*P		**Pn**	**05 06 25.4**	**-0.3**
MSAB	**Monastry St. A**	**8.16**	**302**	*i*P		**Pn**	**05 06 24.1**	**-2.2**
HARR	**Harsova**	**8.37**	**306**	*i*P		**Pn**	**05 06 28.8**	**-0.4**
CFR	**Carcaliu**	**8.51**	**310**	*i*P		**Pn**	**05 06 29.5**	**-1.5**
RDO	**Rodhopi**	**9.08**	**280**	*e*Pn		**Pn**	**05 06 38.5**	**-0.5**
RDO	**Rodhopi**	**9.08**	**280**	*e*Pn		**Pn**	**05 06 38.5**	**-0.5**
SZH	**Strazhica**	**9.14**	**294**	*e*P		**Pn**	**05 06 38.7**	**-1.1**
SZH	**Strazhica**	**9.14**	**294**	*e*P		**Pn**	**05 06 38.7**	**-1.1**
KDZ	**Kurdzhali**	**9.21**	**284**	*i*P		**Pn**	**05 06 42.0**	**+1.3**
KDZ	**Kurdzhali**	**9.21**	**284**	*e*P		**Pn**	**05 06 41.7**	**+1.0**
KDZ	**Kurdzhali**	**9.21**	**284**	*e*P		**Pn**	**05 06 41.7**	**+1.0**
APE	**Apeiranthos**	**9.77**	**256**	*i*P		**Pn**	**05 06 49.0**	**+0.5**
APE	**Apeiranthos**	**9.77**	**256**	*e*PB		**Pn**	**05 06 49.3**	**+0.8**
APE	**Apeiranthos**	**9.77**	**256**	*e*Pb		**Pn**	**05 06 49.3**	**+0.8**
APE				S		Px	05 07 14.3	
APE	**Apeiranthos**	**9.77**	**256**	P		**Pn**	**05 06 49.0**	**+0.5**
APE	**Apeiranthos**	**9.77**	**256**	P		**Pn**	**05 06 49.0**	**+0.5**
APE				S		Px	05 07 14.3	
MLR	**Muntele Rosu**	**9.99**	**306**	Pn		**Pn**	**05 06 51.9**	**+0.3**
	comp=N,0.2nm,0.3s,baz=167,slow=6.4,SNR=8.6							
MLR				Sn		**Sn**	**05 08 42.7**	**-1.4**
	comp=N,0.0nm,0.3s,baz=158,slow=19,SNR=1.6							
MLR				LR		LR	05 11 24.4	
	comp=N,36nm,20.9s,baz=130,slow=42							
MLR	**Muntele Rosu**	**9.99**	**306**	*i*P		**Pn**	**05 06 51.4**	**-0.2**
SANT	**Santorini**	**10.10**	**252**	*e*Pn		**Pn**	**05 06 50.1**	**-2.8**
TESR	**Tescani**	**10.12**	**313**	*i*P		**Pn**	**05 06 50.6**	**-2.6**
MMB	**Musomiste**	**10.46**	**283**	*i*P		**Pn**	**05 06 58.8**	**+0.8**
VOIR		**10.53**	**305**	*i*P		**Pn**	**05 06 58.7**	**-0.1**
DOPR	**Dopca**	**10.56**	**308**	*i*P		**Pn**	**05 06 58.5**	**-0.8**
EIL	**Elat**	**10.59**	**192**	LR		LR	05 11 06.9	
	comp=N,73nm,19.4s,baz=256,slow=38							
IDI	**Amoyia**	**11.01**	**248**	LR		LR	05 11 57.9	
	comp=N,67nm,19.0s,baz=88,slow=41							
VSR	**Storozhevoye**	**11.19**	**6**	*e*P		**Pn**	**05 07 06.7**	**-1.1**
VSR					pmax	pmax		
	comp=Z,10.0nm,0.4s							
VSR					pmax	pmax		
	comp=N,8.0nm,0.5s							
VSR					pmax	pmax		
	comp=E,6.0nm,0.7s							
VSR	**Storozhevoye**	**11.19**	**6**	*e*P		**Pn**	**05 07 06.7**	**-1.1**
	comp=E,8.0nm,0.5s							
BURAR	**Bucovina Array**	**11.56**	**315**	*i*P		**Pn**	**05 07 12.3**	**-0.7**
BUR04	**Bucovina Ar. S**	**11.56**	**315**	*e*Pn		**Pn**	**05 07 11.3**	**-1.7**
BUR04	**Bucovina Ar. S**	**11.56**	**315**	*e*Pn		**Pn**	**05 07 11.3**	**-1.7**
KIEV	**Kiev**	**12.05**	**334**	P		**Pn**	**05 07 19.0**	**-0.6**
KIEV	**Kiev**	**12.05**	**334**	P		**Pn**	**05 07 19.0**	**-0.6**
KIEV	**Kiev**	**12.05**	**334**	*e*Pn		**Pn**	**05 07 18.8**	**-0.8**
AKASG	**Malin Array Be**	**12.05**	**334**	Pn		**Pn**	**05 07 18.3**	**-1.3**
	comp=E,1.3nm,0.3s,baz=144,slow=12,SNR=11							
AKASG	**Malin Array Be**	**12.05**	**334**	*i* P		**Pn**	**05 07 20.2**	**+0.6**
AKASG					pmax	pmax		
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**12.05**	**334**	*i* P		**Pn**	**05 07 20.2**	**+0.6**
	comp=Z,1.0nm,0.5s							
DRGR		**12.59**	**307**	*i*P		**Pn**	**05 07 26.2**	**-0.8**
KOLS	**Kolonicke sedl**	**13.93**	**314**	*e*P		P	05 07 49.9	-3.6
KOLS	**Kolonicke sedl**	**13.93**	**314**	*e*PN		P	05 07 49.9	-3.6
STHS	**Stebnicka Huta**	**14.76**	**314**	*e*P		**P**	**05 08 05.2**	**+2.4**
STHS	**Stebnicka Huta**	**14.76**	**314**	*e*P		**P**	**05 08 05.2**	**+2.4**
STHS	**Stebnicka Huta**	**14.76**	**314**	*e*P		**P**	**05 08 05.2**	**+2.4**
PKSM	**Moragy**	**14.98**	**300**	*i*P		**P**	**05 08 05.3**	**+0.1**
OBN	**Obninsk**	**15.04**	**358**	Pn		**Pn**	**05 07 58.7**	**-1.5**
	comp=Z,7.9nm,0.3s,baz=212,slow=3.2,SNR=4.2							
OBN				LR		LR	05 15 22.3	
	comp=Z,54nm,19.5s,baz=90,slow=44							
OBN	**Obninsk**	**15.04**	**358**	*e*P		**Pn**	**05 07 59.1**	**-1.2**
OBN				S		**Sn**	**05 10 45.0**	**-2.1**
OBN					pmax	pmax		
	comp=Z,8.0nm,1.4s							
OBN					MLR	MLR		
	comp=Z,58nm,20.0s							
GEYT	**Alibeck**	**16.25**	**91**	LR		LR	05 15 50.4	
	comp=Z,51nm,18.4s,baz=5.0,slow=42							
VRAC	**Vranov**	**17.37**	**309**	LR		LR	05 16 22.7	
	comp=Z,54nm,18.1s,baz=128,slow=41							
AKTO	**Aktyubinsk**	**17.76**	**48**	P		**Pn**	**05 08 32.1**	**-3.1**
	comp=Z,0.8nm,0.3s,baz=237,slow=14,SNR=10							
AKTO				LR		LR	05 17 07.2	
	comp=Z,36nm,20.8s,baz=224,slow=43							
AKTO	**Aktyubinsk**	**17.76**	**48**	P		**Pn**	**05 08 32.1**	**-3.1**
AKTO					pmax	pmax		
	comp=Z,1.0nm,0.3s							
AKTO					MLR	MLR		
	comp=Z,36nm,20.8s							
AQU	**L'Aquila**	**18.18**	**285**	*e*P		**Pn**	**05 08 39.8**	**-0.6**
AQU					pmax	pmax		
	comp=Z,15nm,1.1s							
AQU	**L'Aquila**	**18.18**	**285**	*e*P		**Pn**	**05 08 39.8**	**-0.6**
	comp=Z,15nm,1.1s							
AQU	**L'Aquila**	**18.18**	**285**	*e*P		**Pn**	**05 08 39.8**	**-0.6**
	comp=Z,15nm,1.1s							
ABKAR	**Akbulak array**	**18.41**	**53**	*e*P		**Pn**	**05 08 42.1**	**-1.0**
	comp=Z,1.6nm,0.7s							
ABKAR	**Akbulak array**	**18.41**	**53**	*e*P		**Pn**	**05 08 42.1**	**-1.0**
	comp=Z,1.6nm,0.7s							
GERES	**GERESS Array B**	**18.98**	**305**	P		**P**	**05 08 48.5**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=108,slow=9.4,SNR=2.9							
GERES				LR		LR	05 16 32.4	
	comp=Z,46nm,20.1s,baz=104,slow=38							
KHC	**Kasperske Hory**	**19.15**	**306**	*e*P		**Pn**	**05 08 54.4**	**+2.3**
KHC	**Kasperske Hory**	**19.15**	**306**	*e*P		**Pn**	**05 08 54.4**	**+2.3**
KHC	**Kasperske Hory**	**19.15**	**306**	*e*P		**Pn**	**05 08 54.4**	**+2.3**
VSU	**Vasula**	**19.61**	**343**	*e*P		**P**	**05 08 56.7**	**+0.5**
VSU					pmax	pmax		
	comp=Z,33nm,1.1s							
VSU	**Vasula**	**19.61**	**343**	*e*P		**P**	**05 08 56.7**	**+0.5**
	comp=Z,33nm,1.1s							
NKC	**Novy Kostel**	**20.21**	**308**	*e*P		Pn	05 09 05.5	+0.7
NKC	**Novy Kostel**	**20.21**	**308**	*e*P		Pn	05 09 05.5	+0.7
NKC	**Novy Kostel**	**20.21**	**308**	*e*P		Pn	05 09 05.5	+0.7
CLL	**Collm**	**20.29**	**312**	*i* P		Pn	05 09 05.4	-0.3
CLL	**Collm**	**20.29**	**312**	*e*P		Pn	05 09 04.8	-0.9
	comp=Z,8.9nm,1.2s							
CLL	**Collm**	**20.29**	**312**	*e*P		Pn	05 09 04.8	-0.9
	comp=Z,8.9nm,1.2s							
CLL	**Collm**	**20.29**	**312**	*i* (P)		Pn	05 09 05.4	-0.3
	comp=Z,8.0nm,1.2s							
CLL				*i*			05 09 13.2	
CLL					Lm	MLR	05 17 00.0	
	comp=Z,100nm,21.7s							
FUORN	**Ofenpass-Fuorn**	**20.72**	**297**	*e*P		**P**	**05 09 08.1**	**-0.6**
	comp=Z,9.3nm,1.1s							
FUORN	**Ofenpass-Fuorn**	**20.72**	**297**	*e*P		**P**	**05 09 08.1**	**-0.6**
	comp=Z,9.3nm,1.1s							
GRFO	**Grafenberg**	**20.79**	**306**	*e*P		**P**	**05 09 08.9**	**-0.2**
GRFO					pmax	pmax		
	comp=Z,16nm,1.3s							
GRFO	**Grafenberg**	**20.79**	**306**	*e*P		**P**	**05 09 08.9**	**-0.2**
	comp=Z,16nm,1.3s							
GRFO	**Grafenberg**	**20.79**	**306**	*e*P		**P**	**05 09 08.9**	**-0.2**
	comp=Z,16nm,1.3s							
DAVOX	**Davos/Dischmat**	**21.00**	**298**	P		**P**	**05 09 11.9**	**+0.2**
	comp=Z,2.5nm,0.6s,baz=135,slow=7.7,SNR=4.8							
DAVOX	**Davos/Dischmat**	**21.00**	**298**	P		**P**	**05 09 11.9**	**+0.2**
DAVOX					pmax	pmax		
	comp=Z,3.0nm,0.6s							
ARU	**Arti**	**21.43**	**33**	P		**P**	**05 09 17.4**	**+1.4**
ARU				S		**S**	**05 13 13.6**	**-0.6**
ARU	**Arti**	**21.43**	**33**	P		**P**	**05 09 17.4**	**+1.4**
ARU				S		**S**	**05 13 13.6**	**-0.6**
ARU	**Arti**	**21.43**	**33**	*e*P		**P**	**05 09 18.7**	**+2.6**
	comp=Z,4.9nm,0.8s							
PRGR	**Permogore**	**22.15**	**10**	*e*P		**P**	**05 09 22.8**	**-0.8**
PRGR					pmax	pmax		
	comp=Z,13nm,0.6s							
PRGR	**Permogore**	**22.15**	**10**	*e*P		**P**	**05 09 22.8**	**-0.8**
	comp=Z,13nm,0.6s							
FINES	**FINESS Array B**	**22.48**	**346**	P		**P**	**05 09 27.6**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=154,slow=12,SNR=17							
FINES					LR	LR	05 20 07.8	
	comp=Z,45nm,19.4s,baz=197,slow=42							
FINES	**FINESS Array B**	**22.48**	**346**	P		**P**	**05 09 27.6**	**+0.4**
FINES					pmax	pmax		
	comp=Z,2.0nm,0.6s							
FINES					MLR	MLR		
	comp=Z,45nm,19.4s							
KEST	**Kesra

NPS	**Neapolis**	**0.56**	**270**	P	**Pb**	**05 06 28.2**	**-0.1**
NPS				*e*Sn	**Sb**	**05 06 36.2**	**0.0**
NPS				S	**Sb**	**05 06 37.2**	**+1.0**
NPS	**Neapolis**	**0.56**	**270**	P	**Pb**	**05 06 28.2**	**-0.1**
NPS				S	**Sb**	**05 06 37.2**	**+1.0**
LAST	**Lasithi**	**0.68**	**262**	*e*PN	**Pg**	**05 06 29.6**	**-0.5**
LAST				*e*SN	**Sg**	**05 06 39.4**	**+0.3**
LAST	**Lasithi**	**0.68**	**262**	*e*Pn	**Pg**	**05 06 29.6**	**-0.5**
KARP	**Karpathos**	**0.76**	**68**	*e*PB	**Pg**	**05 06 30.9**	**-0.6**
KARP				*e*SN	**Sn**	**05 06 43.5**	**-0.6**
KARP	**Karpathos**	**0.76**	**68**	*e*Pb	**Pg**	**05 06 30.9**	**-0.6**
KARP				S	**Sn**	**05 06 43.2**	**-0.9**
KARP	**Karpathos**	**0.76**	**68**	P	**Pg**	**05 06 31.2**	**-0.3**
KARP				S	**Sn**	**05 06 43.2**	**-0.9**
SIVA	**Sivas**	**1.25**	**259**	*e*PN	**Pb**	**05 06 40.1**	**+0.2**
SIVA				*e*SN	**Sg**	**05 06 56.8**	**-0.2**
SIVA	**Sivas**	**1.25**	**259**	P	**Pn**	**05 06 39.6**	**0.0**
SIVA				S	**Sg**	**05 06 57.5**	**+0.5**
SIVA	**Sivas**	**1.25**	**259**	P	**Pn**	**05 06 39.6**	**0.0**
SIVA				S	**Sg**	**05 06 57.5**	**+0.5**
SANT	**Santorini**	**1.30**	**328**	*e*PB	**Pn**	**05 06 40.6**	**+0.2**
SANT	**Santorini**	**1.30**	**328**	P	**Pn**	**05 06 40.7**	**+0.3**
SANT				S	**Sg**	**05 06 59.4**	**+0.7**
SANT	**Santorini**	**1.30**	**328**	P	**Pn**	**05 06 40.7**	**+0.3**
SANT				S	**Sg**	**05 06 59.4**	**+0.7**
THR6	**Thira Island,**	**1.32**	**326**	P	**Pn**	**05 06 41.0**	**+0.5**
THR6	**Thira Island,**	**1.32**	**326**	P	**Pn**	**05 06 41.0**	**+0.5**
THR3	**Thira Island,**	**1.36**	**328**	P	**Pn**	**05 06 41.5**	**+0.4**
THR3	**Thira Island,**	**1.36**	**328**	P	**Pn**	**05 06 41.5**	**+0.4**
THR5	**Thira Island,**	**1.39**	**326**	P	**Pn**	**05 06 42.0**	**+0.5**
THR5	**Thira Island,**	**1.39**	**326**	P	**Pn**	**05 06 42.0**	**+0.5**
NIS1	**Nisyros Isl.**	**1.51**	**28**	*e*PN	**Pb**	**05 06 45.0**	**+0.5**
NIS1	**Nisyros Isl.**	**1.51**	**28**	*e*Pn	**Pb**	**05 06 45.0**	**+0.5**
VAM	**Vamos**	**1.73**	**275**	*e*PN	**Pn**	**05 06 46.7**	**+0.5**
VAM	**Vamos**	**1.73**	**275**	*e*Pn	**Pn**	**05 06 46.7**	**+0.5**
ARG	**Arkhangelos**	**1.76**	**57**	*e*PN	**Pn**	**05 06 47.5**	**+0.8**
ARG	**Arkhangelos**	**1.76**	**57**	P	**Pn**	**05 06 46.7**	**0.0**
ARG	**Arkhangelos**	**1.76**	**57**	*e*Pn	**Pn**	**05 06 47.5**	**+0.8**
ARG	**Arkhangelos**	**1.76**	**57**	P	**Pn**	**05 06 46.7**	**0.0**
GVD	**Gavdhos**	**1.86**	**258**	*e*PN	**Pn**	**05 06 48.7**	**+0.6**
GVD	**Gavdhos**	**1.86**	**258**	*e*Pn	**Pn**	**05 06 48.7**	**+0.6**
MHLO	**Agia Marina, M**	**2.10**	**313**	*e*PB	**Pb**	**05 06 53.3**	**-1.1**
MHLO	**Agia Marina, M**	**2.10**	**313**	*e*Pb	**Pb**	**05 06 53.3**	**-1.1**
ANKY	**Antikythira Is**	**2.52**	**285**	*e*PN	**Pn**	**05 06 57.2**	**+0.1**
ANKY	**Antikythira Is**	**2.52**	**285**	*e*Pn	**Pn**	**05 06 57.2**	**+0.1**

MAN ***04*** *05:08:04, 11.06N×124.84E, h0km, mb4.8, ML3.7, MS3.7*
IDC ***04*** *05:08:04.9±1.0, 10.87N×124.17E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.5/38, mbtmp3.5/7, Error ellipse: s-maj=44.1km s-min=19.2km az=66.0*
ISCJB ***04*** *05:08:05.4±0.7, 11.14N±0.04×124.83E±0.05, h11km±5km, mb3.5/7, Error ellipse: s-maj=8.4km s-min=7.0km az=176.6*

ISC 04 05:08:04.9±1.1, 11.11N±0.04×124.78E±0.04, h7km±8km, n17, σ1§31/19, mb3.6/7, 2C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.18**	**251**	*e*P	**Pg**	**05 08 09.7**	**+1.2**
PLP	**Palo**	**0.20**	**74**	⇓*i*P	**Pg**	**05 08 08.8**	**-0.2**
PLP				*i* S	**Sg**	**05 08 11.9**	**+0.1**
BESP	**Borongan**	**0.81**	**53**	*e*P	**Pg**	**05 08 20.3**	**-0.2**
MSLP	**Maasin**	**0.97**	**175**	*e*P	**Pg**	**05 08 23.3**	**-0.2**
MSLP				*e*S	**Sn**	**05 08 38.9**	**0.0**
CNP	**Catarman**	**1.40**	**355**	*e*P	**Pb**	**05 08 31.0**	**-0.3**
TBP	**Tagbilaran**	**1.67**	**213**	*e*P	**Pb**	**05 08 35.4**	**-0.6**
RCP	**Roxas**	**2.04**	**283**	‖*e*P	**Pb**	**05 08 41.7**	**-0.6**
RCP				*e*S	**Sg**	**05 09 08.4**	**-2.3**
BUTP	**Butuan**	**2.28**	**159**	*e*P	**Pb**	**05 08 45.8**	**-0.6**
PVCP	**Virac**	**2.55**	**346**	‖*e*P	**Pn**	**05 08 48.5**	**+1.9**
BUKP	**Musuan**	**3.22**	**175**	*e*P	**Pn**	**05 08 57.2**	**+1.3**
CMAR	**Chiang Mai Arr**	**26.00**	**289**	P	**P**	**05 13 35.3**	**-3.4**
	0.6nm,0.3s,baz=88,slow=12,SNR=4.5						
WRA	**Warramunga Arr**	**32.26**	**163**	P	**P**	**05 14 34.9**	**+0.6**
	0.8nm,0.9s,baz=341,slow=9.7,SNR=3.3						
ASAR	**Alice Springs**	**35.70**	**166**	P	**P**	**05 15 04.6**	**+0.5**
	0.6nm,0.7s,baz=346,slow=8.1,SNR=7.4						
SONM	**Songino Array**	**39.74**	**341**	P	**P**	**05 15 38.8**	**+0.6**
	0.3nm,0.6s,baz=171,slow=10,SNR=2.8						
MKAR	**Makanchi Array**	**50.48**	**323**	P	**P**	**05 17 03.9**	**+0.4**
	0.5nm,0.7s,baz=115,slow=11,SNR=3.5						
KURBB	**Kurchatov Arra**	**54.56**	**326**	P	**P**	**05 17 33.8**	**+0.2**
	0.6nm,0.6s,baz=126,slow=6.9,SNR=4.7						
ILAR	**Eielson Array**	**79.33**	**26**	P	P	05 20 15.1	+4.0
	0.2nm,0.7s,baz=264,slow=5.1,SNR=3.6						

DJA 04 05:13:14.3±0.4, 8°S±8°×11°1E±°, h64km±10km, M3.9/7, MLv3.9/7, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WOJI	**Wonogiri, Jawa**	**0.53**	**46**	P	Pn	05 13 28.2	+1.3
NGJI	**Ngawi**	**1.24**	**48**	P	Pn	05 13 37.2	+1.6
PWJI	**Pagerwojo**	**1.27**	**82**	P	Pn	05 13 35.7	-0.3
PWJI				S	Sn	05 13 53.0	+0.8
KPJI	**Karang Pucung**	**1.82**	**299**	P	Pn	05 13 44.9	+1.5
UWJI	**Ujung Watu**	**1.82**	**13**	P	Pn	05 13 43.4	-0.1
CMJI	**Cimerak**	**2.11**	**281**	P	Pn	05 13 47.4	0.0
CMJI				S	Sn	05 14 13.7	+1.1
GRJI	**Gresik**	**2.31**	**56**	P	Pn	05 13 50.0	-0.1
CISI	**Cisompet, Garu**	**2.78**	**283**	P	Pn	05 13 56.9	+0.4
CISI				S	Sn	05 14 29.8	+0.8
BLJI	**Banyuglugur**	**3.06**	**82**	P	Pn	05 13 59.9	-0.4
CNJI	**Cibinong**	**3.50**	**285**	P	Pn	05 14 06.7	+0.5
CNJI				S	Sn	05 14 47.5	+1.1
JAGI	**Jajag, Banyuwa**	**3.58**	**94**	P	Pn	05 14 07.0	-0.5
KMMI	**Kalianget**	**3.59**	**71**	P	Pn	05 14 07.2	-0.3
ABJI	**Asem Bagus**	**3.68**	**84**	P	Pn	05 14 08.5	-0.3
SRBI	**Singaraja**	**4.63**	**89**	P	Pn	05 14 20.3	-1.4

NIED ***04*** *05:21:00, 18.70N×145.40E, h700km, Mw5.6 Best double couple: M0 2.54000×10^17 NP1:φs4.00000°, δ56.00000°, λ-37.00000°. NP2:φs116.00000°, δ60.00000°, λ-140.00000°.*
BJI ***04*** *05:21:13.9, 18.67N×145.22E, h459km, mb5.1/76, mB5.0/41*
MOS ***04*** *05:21:13.9±0.9, 18.56N×145.07E, h461km, mb5.2/82, MS4.1/5, Error ellipse: s-maj=8.0km s-min=4.6km az=106.0*
ISCJB ***04*** *05:21:14.6±0.4, 18.57N±0.02×145.07E±0.02, h461km±4km, mb5.1/288, Error ellipse: s-maj=3.2km s-min=2.6km az=149.1*
IDC ***04*** *05:21:15.9±0.6, 18.56N×145.17E, h469km±6km, mb4.5/35, mb1 4.7/37, mb1mx4.6/43, mbtmp5.3/37, Error ellipse: s-maj=9.4km s-min=6.1km az=92.0*
GCMT ***04*** *05:21:15.5±0.2, 18.57N×145.02E, h451km±1km, MW5.4/86, Moment Tensor Solution. s86,c135; Duration: 1§2 Moment tensor: Scale 10^17Nm; Mrr-0.87±.03; Mθθ-0.01±.04; Mϕϕ0.88±.05; Mrθ-0.88±.05; Mθϕ-0.81±.04; Mϕr0.15±.05; Best double couple: M0 1.48900×10^17 NP1:φs119.00000°, δ67.00000°, λ-125.00000°. NP2:φs0.00000°, δ41.00000°, λ-36.00000°. Principal axes: T 1.5120, Plg15.0000°, Azm234.0000°; N -0.0470, Plg32.0000°, Azm135.0000°; P -1.4650, Plg54.0000°, Azm346.0000°; nsta1 refers to body waves, cutoff=40s.*
NEIC ***04*** *05:21:15.5±0.1, 18.53N×145.09E, mb5.1/163 Error ellipse: s-maj=3.5km s-min=2.6km az=142.0*
DJA ***04*** *05:21:17.2±1.6, 18°N±8°×14°5E±°, h457km±17km, M5.1/81, mb5.3/81, mB5.6/44, Mw(mB)5.1/44, Mwp6.8/1*

ISC 04 05:21:15.0±0.3, 18.57N±0.03×145.10E±0.04, h460km±2km, h461km:pP-P, n960, σ1§22/1105, mb5.1/305, 27C-38D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.96**	**183**	P	**P**	**05 22 37.7**	**-1.9**
	480nm,0.3s,baz=37,slow=1.6,SNR=90						
GUMO				S	**S**	**05 23 43.5**	**-4.9**
	414nm,0.3s,baz=29,slow=22,SNR=13						
JHHJ	**Haha-jima-NKT**	**8.46**	**342**	P	**P**	**05 23 17.5**	**+2.1**
JHHJ				S	**S**	**05 24 54.1**	**-0.3**
CBIJ	**Chichi jima**	**8.90**	**343**	P	**P**	**05 23 21.2**	**+1.0**
CBIJ				S	**S**	**05 25 02.2**	**-0.8**
CBIJ	**Chichi jima**	**8.90**	**343**	*e*P	**P**	**05 23 21.1**	**+1.0**
CBIJ				*e*S	**S**	**05 24 59.9**	**-3.2**
CBIJ				S	S	05 25 01.8	-1.2
JCJ	**Chichijima**	**8.90**	**343**	P	**P**	**05 23 21.7**	**+1.5**
	63nm,0.3s,baz=283,slow=21,SNR=22						
JCJ				S	**S**	**05 25 01.8**	**-1.2**
	18nm,0.3s,baz=277,slow=22,SNR=8.1						
JHJ2	**Mitsune**	**15.24**	**343**	P	**P**	**05 24 27.4**	**-0.9**
JHJ2	**Mitsune**	**15.24**	**343**	*e*P	**P**	**05 24 27.5**	**-0.8**
	253nm,0.9s						
JHJ2				*e*S	**S**	**05 27 10.9**	**+2.9**
BSO1	**Boso 1**	**16.44**	**348**	P	**P**	**05 24 40.1**	**-0.3**
BSO3	**Boso 3**	**16.68**	**347**	P	**P**	**05 24 43.1**	**-0.1**
BSO4	**Boso 4**	**16.89**	**346**	P	**P**	**05 24 45.4**	**-0.3**
JWZ	**Kozaga**	**17.11**	**332**	P	**P**	**05 24 47.6**	**-0.5**
JIE	**Ise**	**17.45**	**336**	P	**P**	**05 24 49.6**	**-2.0**
JHMK	**Hamakita**	**17.45**	**339**	P	**P**	**05 24 49.7**	**-1.8**
JOD2	**Odawara 2**	**17.46**	**343**	P	**P**	**05 24 50.3**	**-1.5**
JOD2				S	**S**	**05 27 46.1**	**-4.0**
JKN2	**Miekihoku**	**17.48**	**335**	P	**P**	**05 24 50.2**	**-1.7**
JAMN	**Amaminishikomi**	**17.49**	**306**	P	**P**	**05 24 52.9**	**+0.8**
HMMJ	**Hamamatsu 2**	**17.50**	**339**	P	**P**	**05 24 51.0**	**-1.1**
JOW	**Kunigami**	**17.55**	**301**	*e*P	**P**	**05 24 53.5**	**+0.6**
	254nm,0.9s						
JTO	**Tosashimizu**	**18.01**	**325**	P	**P**	**05 24 57.8**	**+0.5**
JAO	**Obara**	**18.03**	**339**	P	**P**	**05 24 55.8**	**-1.7**
JYT	**Yasato**	**18.12**	**347**	P	**P**	**05 24 57.3**	**-1.0**
JEG	**Eigenji**	**18.22**	**337**	P	**P**	**05 24 59.9**	**+0.5**
MJAR	**Matsushiro Arr**	**18.91**	**343**	P	**P**	**05 25 04.3**	**-1.4**
	16nm,0.3s,baz=170,slow=9.9,SNR=238						
MJAR				S	**S**	**05 28 15.0**	**+0.9**
	baz=154,slow=16,SNR=3.6						
MJAR				ScP	**ScP**	**05 31 58.1**	**-2.1**
	0.1nm,0.3s,baz=217,slow=4.3,SNR=4.6						
MAJO	**Matsushiro**	**18.91**	**343**	*d*P	**P**	**05 25 04.2**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,2μm,0.8s						
MAJO	**Matsushiro**	**18.91**	**343**	*e*P	**P**	**05 25 04.5**	**-1.2**
	comp=Z,357nm,1.0s						
MAT	**Matsushiro**	**18.91**	**343**	P	**P**	**05 25 04.2**	**-1.6**
MAT				S	**S**	**05 28 09.6**	**-4.5**
JHS	**Saijyo**	**19.52**	**329**	P	**P**	**05 25 10.8**	**-0.6**
H11N1	**WAKE ISLAND Hy**	**20.62**	**83**	P	**P**	**05 25 21.4**	**0.0**
	baz=258,slow=12,SNR=12						
H11N2	**WAKE ISLAND Hy**	**20.62**	**83**	P	**P**	**05 25 21.5**	**+0.1**
	baz=258,slow=12,SNR=5.7						
H11N3	**WAKE ISLAND Hy**	**20.64**	**83**	P	**P**	**05 25 21.6**	**+0.1**
	baz=258,slow=12,SNR=10						
YOJ	**Yonaguni jima**	**21.36**	**290**	*e*P	**P**	**05 25 29.3**	**+1.1**
YOJ				pmax	pmax		
	comp=Z,30nm,0.6s						
YOJ	**Yonaguni jima**	**21.36**	**290**	*e*P	**P**	**05 25 29.3**	**+1.1**
	comp=Z,30nm,0.6s						
SMPI	**Sarmi**	**21.38**	**198**	P	**P**	**05 25 29.2**	**+0.7**
	comp=Z,139nm,1.7s,comp=Z,24μm						
JAY	**Jayapura**	**21.39**	**192**	P	**P**	**05 25 28.3**	**-0.4**
	comp=Z,85nm,0.8s,baz=342,slow=6.6,SNR=13						
GENI	**Genyem**	**21.58**	**194**	P	**P**	**05 25 31.3**	**+1.0**
	comp=Z,211nm,1.2s,comp=Z,3μm						
KSBUS	**Busan**	**21.84**	**323**	P	**P**	**05 25 35.6**	**+3.2**
	SNR=39						
KSBUS	**Busan**	**21.84**	**323**	P	**P**	**05 25 35.2**	**+2.8**
	SNR=5.7						
KSJJU	**Jeju**	**22.24**	**315**	P	**P**	**05 25 37.5**	**+1.3**
	SNR=9.3						
KSDAG	**Daegu**	**22.34**	**323**	P	**P**	**05 25 39.6**	**+2.7**
	SNR=24						
KSDAG	**Daegu**	**22.34**	**323**	P	**P**	**05 25 39.6**	**+2.7**
	SNR=24						
KSPHA	**Pohang**	**22.38**	**325**	P	**P**	**05 25 39.9**	**+2.6**
	SNR=44						
KSPHA	**Pohang**	**22.38**	**325**	P	**P**	**05 25 39.9**	**+2.6**
	SNR=10						
KSYOC	**YEONGCHEON**	**22.45**	**324**	P	**P**	**05 25 40.5**	**+2.6**
	SNR=28						
KSYOC	**YEONGCHEON**	**22.45**	**324**	P	**P**	**05 25 40.4**	**+2.6**
	SNR=10						
NACB	**Ninganchiao**	**22.57**	**288**	*e*P	**P**	**05 25 39.7**	**+0.4**
	comp=Z,56nm,0.8s						
YULB	**Yu-li**	**22.73**	**286**	*e*P	**P**	**05 25 41.3**	**+0.7**
	comp=Z,27nm,0.7s						
KSULJ	**Uljin**	**22.74**	**326**	P	**P**	**05 25 42.7**	**+2.2**
	SNR=95						
KSULJ	**Uljin**	**22.74**	**326**	P	**P**	**05 25 42.7**	**+2.2**
	SNR=95						
YHNB	**Yeheng**	**22.86**	**290**	*e*P	**P**	**05 25 42.6**	**+0.7**
	comp=Z,243nm,0.9s						
TWG	**Pinlang**	**22.86**	**285**	*e*P	**P**	**05 25 42.2**	**+0.3**
	comp=Z,124nm,0.8s						
KSEUS	**ULSEONG**	**22.87**	**324**	P	**P**	**05 25 43.8**	**+2.1**
	SNR=10						
KSEUS	**ULSEONG**	**22.87**	**324**	P	**P**	**05 25 43.8**	**+2.1**
	SNR=10						
KSJDO	**Jindo**	**23.03**	**317**	P	**P**	**05 25 43.5**	**+0.3**
	SNR=20						
KSJDO	**Jindo**	**23.03**	**317**	P	**P**	**05 25 43.5**	**+0.3**
	SNR=20						
KSKWJ	**Gwangju**	**23.05**	**319**	P	**P**	**05 25 43.5**	**+0.2**
	SNR=18						
KSKWJ	**Gwangju**	**23.05**	**319**	P	**P**	**05 25 43.5**	**+0.2**
	SNR=18						
SSLB	**Huanglung**	**23.09**	**287**	*e*P	**P**	**05 25 45.1**	**+1.2**
	comp=Z,71nm,0.9s						
KSCPR	**CHUPUNGNYEONG**	**23.18**	**323**	P	**P**	**05 25 44.6**	**0.0**
	SNR=9.9						
KSTBA	**Taebaek**	**23.29**	**326**	P	**P**	**05 25 47.2**	**+1.6**
	SNR=73						
KSJEU	**Jeongeup**	**23.30**	**320**	P	**P**	**05 25 46.1**	**+0.5**
	SNR=27						
KSJEU	**Jeongeup**	**23.30**	**320**	P	**P**	**05 25 46.1**	**+0.5**
	SNR=27						
TPUB	**Ta-pu**	**23.32**	**286**	*e*P	**P**	**05 25 46.8**	**+0.8**
	comp=Z,49nm,1.1s						
ERM	**Erimo**	**23.43**	**356**	P	**P**	**05 25 48.8**	**+2.2**
	comp=Z,248nm,0.8s,SNR=5.5						
ERM	**Erimo**	**23.43**	**356**	*c i*P	**P**	**05 25 47.5**	**+0.9**
ERM				pmax	pmax		
	comp=Z,40nm,1.1s						
SZP	**Santa**	**23.45**	**271**	*e*P	**P**	**05 25 47.5**	**+0.3**
	comp=Z,20nm,0.6s						
KSBON	**Boeun**	**23.48**	**323**	P	**P**	**05 25 47.5**	**+0.3**
	SNR=42						
KSBON	**Boeun**	**23.48**	**323**	P	**P**	**05 25 48.0**	**+0.8**
	SNR=6.4						
SWI	**Sorong**	**23.62**	**217**	P	**P**	**05 25 48.5**	**-0.2**
	comp=Z,195nm,1.2s,comp=Z,2μm						
SIJI	**Sorong**	**23.62**	**217**	P	**P**	**05 25 48.7**	**-0.1**
	comp=Z,124nm,0.8s,baz=23,slow=9.5,SNR=44						
TJN	**Taejon**	**23.64**	**322**	‖*e*P	**P**	**05 25 48.6**	**0.0**
KSCHJ	**Chungju**	**23.64**	**324**	P	**P**	**05 25 49.2**	**+0.6**
	SNR=7.3						
KSCHJ	**Chungju**	**23.64**	**324**	P	**P**	**05 25 49.2**	**+0.6**
	SNR=7.3						
KSDGY	**Daegwallycong**	**23.86**	**326**	P	**P**	**05 25 53.0**	**+2.3**
	SNR=18						
KSJMJ	**Jumunjin**	**23.96**	**327**	P	**P**	**05 25 53.2**	**+1.7**
	SNR=22						
KSWJU	**Wonju**	**23.98**	**325**	P	**P**	**05 25 52.4**	**+0.7**
	SNR=17						
KSCEA	**Cheonan**	**24.02**	**323**	P	**P**	**05 25 52.0**	**+0.1**
	SNR=60						
KSRS	**Korea Array**	**24.09**	**325**	P	**P**	**05 25 53.5**	**+0.9**
	comp=Z,118nm,0.8s,baz=146,slow=8.9,SNR=168						
KSRS				PcP	**PcP**	**05 29 18.9**	**+0.1**
	comp=Z,6.4nm,0.9s,baz=142,slow=4.4,SNR=4.9						
KSRS				ScP	**ScP**	**05 32 12.6**	**-0.7**
	comp=Z,7.9nm,0.9s,baz=132,slow=3.0,SNR=18						
KSRS	**Korea Array**	**24.09**	**325**	P	**P**	**05 25 53.5**	**+0.9**
KSRS						05 29 18.9	
KSRS				pmax	pmax		
	comp=Z,118nm,0.8s						
KSRS				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KSRS				pmax	pmax		
	comp=N,8.0nm,0.9s						
KSAR	**Wonju Array Be**	**24.10**	**325**	P	**P**	**05 25 53.5**	**+0.8**
KSAR						05 29 18.9	
KSAR	**Wonju Array Be**	**24.10**	**325**	P	**P**	**05 25 53.5**	**+0.8**
KSAR				PcP	**PcP**	**05 29 18.9**	**+0.1**
KSAR				ScP	**ScP**	**05 32 12.6**	**-0.8**
KSICN	**Icheon**	**24.25**	**324**	P	**P**	**05 25 54.8**	**+0.7**
	SNR=50						
KSIJA	**INJE**	**24.38**	**326**	P	**P**	**05 25 56.4**	**+1.2**
	SNR=9.5						
KSCHC	**Chuncheon**	**24.39**	**325**	P	**P**	**05 25 56.1**	**+0.8**
	SNR=39						
KSSKC	**Sokcho**	**24.39**	**327**	P	**P**	**05 25 56.9**	**+1.6**
	SNR=10.0						
SEHB	**SEOHWA**	**24.52**	**327**	P	**P**	**05 25 57.3**	**+0.9**
	SNR=38						
KSCWO	**Cheorwon**	**24.77**	**325**	P	**P**	**05 26 00.3**	**+1.6**
	SNR=9.4						
TNTI	**Ternate**	**24.82**	**227**	*e*P	**P**	**05 25 58.7**	**-0.7**
FAKI	**Fak Fak**	**24.82**	**212**	P	**P**	**05 25 58.7**	**-0.7**
	comp=N,171nm,1.1s,comp=N,2μm						
FAKI	**Fak Fak**	**24.82**	**212**	*e*P	**P**	**05 25 59.0**	**-0.4**
INCN	**Inchon**	**24.83**	**323**	P	P	05 26 04.5	+5.2
	SNR=9.4						
INCN	**Inchon**	**24.83**	**323**	*e*P	**P**	**05 25 59.0**	**-0.3**
	comp=N,154nm,1.0s						
INCN				*e*pP	**pP**	**05 27 20.2**	**+2.0**
SSE	**Sheshan**	**24.97**	**305**	P	**P**	**05 26 00.8**	**+0.3**
SSE				sP	**sP**	**05 28 11.0**	**-1.5**
SSE				S	**S**	**05 29 54.2**	**+3.5**
SSE				PMZ			
	comp=N,69nm,0.8s						
SSE				PMZ			
	comp=N,77nm,3.2s						
YNCB	**YEONCHEON**	**25.06**	**324**	P	**P**	**05 26 01.2**	**-0.1**
	SNR=47						
KSGAH	**Ganghwa**	**25.09**	**323**	P	**P**	**05 26 01.7**	**+0.2**
	SNR=79						
YUK	**Yuzh-Kuril'sk**	**25.40**	**1**	*d i*P	**P**	**05 26 04.6**	**+0.5**
YUK				*i* S	**S**	**05 29 56.3**	**-0.8**
YUK				pmax	pmax		
	comp=Z,237nm,3.2s						
YUK				pmax	pmax		
	comp=N,49nm,1.4s						
YUK				pmax	pmax		
	comp=E,79nm,1.4s						
YUK				pmax	pmax		
	comp=Z,115nm,1.4s						
YUK				MLR	MLR		
	comp=Z,169nm,13.0s						
ASAJ	**Asahikawa**	**25.56**	**356**	P	**P**	**05 26 07.2**	**+1.6**
	comp=Z,25nm,0.5s,baz=271,slow=9.5						
ASAJ	**Asahikawa**	**25.56**	**356**	P	**P**	**05 26 07.2**	**+1.6**
ASAJ				pmax	pmax		
	comp=Z,25nm,0.5s						
ASAJ	**Asahikawa**	**25.56**	**356**	*e*P	**P**	**05 26 06.5**	**+1.0**
	comp=Z,88nm,1.8s						
LBMI	**Labuha**	**25.76**	**224**	P	**P**	**05 26 07.9**	**+0.1**
	comp=Z,185nm,1.1s,comp=Z,2μm						
KUR	**Kuril'sk**	**26.69**	**4**	*d i*P	**P**	**05 26 16.5**	**+1.0**
KUR				*i* S	**S**	**05 30 11.4**	**-5.9**
KUR				pmax	pmax		
	comp=Z,40nm,0.6s						
KUR				pmax	pmax		
	comp=Z,116nm,0.1s						
VLA	**Vladivostok**	**26.91**	**338**	*d i*P	**P**	**05 26 18.5**	**+1.0**
VLA				pmax	pmax		
	comp=Z,245nm,1.1s						
NJ2	**Nanjing**	**27.17**	**305**	*e*P	**P**	**05 26 21.2**	**+1.2**
NJ2				S	**S**	**05 30 27.0**	**+1.7**
NJ2				PMZ			
	comp=Z,60nm,1.2s						
KMSI	**Cibinong**	**27.38**	**232**	P	**P**	**05 26 26.1**	**+4.0**
AAI	**Ambon**	**27.68**	**219**	P	**P**	**05 26 25.0**	**+0.3**
	comp=Z,310nm,0.8s,comp=Z,5μm,comp=Z,281μm						
SANI	**Sanana**	**27.81**	**225**	P	**P**	**05 26 24.8**	**-1.0**
	comp=Z,59nm,0.8s,comp=Z,852nm						
USRK	**Ussuriysk Ar.**	**27.82**	**340**	P	**P**	**05 26 26.6**	**+1.0**
	comp=Z,43nm,0.7s,baz=159,slow=8.6,SNR=89						
PMG	**Port Moresby**	**27.87**	**176**	*de*P	**P**	**05 26 25.7**	**-0.6**
PMG				pmax	pmax		
	comp=Z,404nm,1.3s						
PMG	**Port Moresby**	**27.87**	**176**	*e*P	**P**	**05 26 25.9**	**-0.5**
	comp=Z,46nm,0.7s						
NLAI	**Namlea**	**28.00**	**221**	P	**P**	**05 26 27.4**	**-0.1**
	comp=Z,136nm,1.2s,comp=Z,1μm						
YSS	**Yuzh-Sakhalins**	**28.38**	**357**	⇑*i*P	**P**	**05 26 30.9**	**+0.6**
YSS				*e**SP	**sP**	**05 28 40.0**	**-4.2**
YSS				*e*S	**S**	**05 30 41.0**	**-2.6**
YSS				smax	smax		
	comp=E,500nm,5.0s						
YSS	**Yuzh-Sakhalins**	**28.38**	**357**	*e*P	**P**	**05 26 30.9**	**+0.6**
	comp=E,34nm,0.7s						
DL2	**Dalian**	**28.73**	**320**	⇓*i*P	**P**	**05 26 34.1**	**+0.5**
DL2				sP	**sP**	**05 28 46.0**	**-1.5**
DL2				S	**S**	**05 30 49.2**	**-0.3**
DL2				PMZ			
	comp=E,32nm,0.9s						
DL2				PMZ			
	comp=E,330nm,2.6s						
MRSI	**Marisa**	**28.99**	**234**	P	**P**	**05 26 36.9**	**+0.7**
	comp=E,199nm,1.2s,comp=E,3μm						
MDJ	**Mudanjiang**	**29.03**	**337**	P	**P**	**05 26 37.1**	**+0.9**
MDJ				sP	**sP**	**05 28 48.6**	**-1.6**
MDJ				S	**S**	**05 30 56.8**	**+2.8**
MDJ				PMZ			
	comp=E,53nm,1.0s						
MDJ				PMZ			
	comp=E,240nm,4.8s						
MDJ	**Mudanjiang**	**29.03**	**337**

BJT Baijiatuau 32.83 317 *e*P P **05 27 09.5 +0.5**
BJT pmax pmax
comp=Z,54nm,0.9s
BJT Baijiatuau 32.83 317 *e*P P **05 27 09.5 +0.5**
comp=Z,54nm,0.9s
BJI Beijing 32.84 317 P P **05 27 09.6 +0.5**
BJI pP **pP 05 28 30.5 -0.2**
BJI sP **sP 05 29 22.9 -1.1**
BJI PcP **PcP 05 29 41.7 +0.8**
BJI S **S 05 31 49.7 -3.1**
BJI SS **SS 05 34 38.7 -5.6**
BJI ScS **ScS 05 36 40.0 -2.1**
BJI PMZ
comp=Z,73nm,1.3s
BJI PMZ
comp=Z,160nm,5.2s
TTSI Tana Toraja 32.88 232 P P **05 27 11.2 +1.4**
comp=Z,569nm,0.8s,comp=Z,5µm
SKR Severo-Kuril's 33.22 13 *e*P P 05 27 02.9 -9.3
SKR *e* 05 29 18.0
SKR *e* 05 31 54.0
SKR *e*PS PS 05 34 22.0
SKR pmax pmax
comp=Z,1µm,2.0s
SKR pmax pmax
comp=N,40nm,0.5s
SKR pmax pmax
comp=E,20nm,0.5s
SKR pmax pmax
comp=Z,40nm,0.5s
SKR smax smax
comp=E,1µm,12.0s
QIZ Qiongzhong 33.35 277 P P **05 27 14.0 +0.3**
QIZ pP **pP 05 28 34.5 -1.1**
QIZ S **S 05 32 02.5 +1.4**
QIZ sS **sS 05 34 31.4 -0.6**
QIZ PMZ
comp=E,15nm,1.6s
SPSI Sidrap Palu 33.53 231 P P **05 27 15.7 +0.4**
comp=E,316nm,0.8s,comp=E,3µm
BKB Balikpapan 34.02 238 P P **05 27 21.3 +1.8**
comp=E,257nm,1.0s,comp=E,3µm
BKSI Bulukumba 34.20 228 P P **05 27 22.0 +1.0**
comp=E,147nm,0.8s,comp=E,2µm
KAPI Kappang 34.26 229 P P **05 27 22.2 +0.7**
comp=E,1µm,0.6s,SNR=14
KAPI Kappang 34.26 229 P P **05 27 22.2 +0.7**
comp=E,133nm,0.6s,baz=66,slow=2.6,SNR=106
KAPI Kappang 34.26 229 P P **05 27 22.4 +1.0**
SNR=7.3
KAPI Kappang 34.26 229 *e*P P **05 27 20.8 -0.7**
comp=E,117nm,0.6s
TIY Taiyuan 34.30 311 *e*P P **05 27 22.8 +1.2**
TIY sP **sP 05 29 38.3 +1.3**
TIY S **S 05 32 18.3 +3.0**
TIY PMZ
comp=E,130nm,1.7s
TIY PMZ
comp=E,320nm,5.6s
ENH Enshi 34.32 297 *e*P P **05 27 23.0 +1.1**
comp=E,155nm,0.4s
BSSI Bau Bau, Buton 34.52 227 P P **05 27 24.7 +1.0**
comp=E,517nm,0.6s,comp=E,5µm
SOEI Soe 34.85 218 P P **05 27 25.8 -0.8**
comp=E,194nm,0.8s,comp=E,2µm
SOEI Soe 34.85 218 *e*P P **05 27 25.4 -1.2**
comp=E,122nm,0.8s
BTM Bintulu 34.85 248 ⇓P P **05 27 28.6 +2.0**
MMRI Maumere 35.21 222 P P **05 27 29.4 -0.1**
comp=E,218nm,1.0s,comp=E,3µm
MMRI Maumere 35.21 222 *e*P P **05 27 28.8 -0.7**
comp=E,125nm,0.8s
MMRI *e*S S **05 32 26.3 -3.0**
XAN Xi'an 35.69 303 P P **05 27 34.0 +0.6**
XAN S S **05 32 34.0 -2.4**
XAN PMZ
comp=E,17nm,0.9s
XAN PMZ
comp=E,55nm,6.4s
KBKI Kotabaru 35.83 236 P P **05 27 35.4 +0.7**
comp=E,84nm,0.9s,comp=E,3µm
PETK Petropavlovsk- 35.84 13 P P **05 27 35.4 +1.2**
comp=E,27nm,0.9s,baz=152,slow=7.7,SNR=49
PETK PcP **PcP 05 29 49.4 -0.1**
comp=E,16nm,0.7s,baz=183,slow=3.0,SNR=7.7
PETK ScP **ScP 05 32 49.3 -2.2**
comp=E,4.1nm,0.8s,baz=208,slow=8.0,SNR=3.8
DLV T Lat 35.88 265 *e*P P **05 27 36.7 +1.3**
comp=E,8.5nm,0.3s
SBUM Sibu 35.97 247 ⇑P P **05 27 37.4 +1.6**
PET Petropavlovsk 35.97 14 *e*P P **05 27 34.5 -0.8**
PET *e**PP **pP 05 28 58.7 +0.5**
PET *e**SP **sP 05 29 50.7 -0.6**
PET *i* S S **05 32 40.7 +0.8**
PET *e**SS SS **05 35 37.7 -4.7**
PET pmax pmax
comp=Z,66nm,1.1s
PET pmax pmax
comp=Z,200nm,5.6s
PET pmax pmax
comp=Z,100nm,16.5s
GYA Guiyang 36.26 290 P P **05 27 39.0 +0.7**
GYA pP **pP 05 29 02.5 +1.1**
GYA sP **sP 05 29 54.3 0.0**
GYA S S **05 32 47.1 +1.9**
GYA ScP **ScP 05 32 55.0 +1.2**
GYA ScS **ScS 05 37 01.0 -0.6**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,4.9s
HHC Hu-ho-hao-te 36.29 315 *e*P P **05 27 38.4 +0.1**
HHC pP **pP 05 29 01.8 +0.4**
HHC PP **PP 05 29 17.3 +3.2**
HHC sP **sP 05 29 52.8 -1.6**
HHC S S **05 32 45.4 +0.1**
HHC sS **sS 05 35 17.7 -0.1**
HHC SS **SS 05 35 45.3 -4.0**
HHC PMZ
comp=Z,62nm,1.0s
HHC PMZ
comp=Z,430nm,5.0s
HIA Hailar 36.81 332*d i*P P **05 27 43.0 +0.6**
HIA pmax pmax
comp=Z,190nm,1.2s
HIA Hailar 36.81 332 *e*P P **05 27 43.3 +0.9**
comp=Z,178nm,1.0s
BBKI Banjar Baru 36.98 237 P P **05 27 45.1 +0.9**
comp=Z,63nm,0.9s
BASI Baing, Sumba 37.47 222 P P **05 27 47.1 -1.1**
comp=Z,511nm,1.1s,comp=Z,5µm
STKI Sintang 37.79 245 P P **05 27 51.9 +1.0**
comp=Z,102nm,1.0s
UBPT Khong Chiam 38.00 271 P P **05 27 54.9 +2.2**
comp=Z,21nm,1.6s
KSM Kuching 38.11 248 ⇓P P **05 27 52.6 -0.9**
KSM Kuching 38.11 248 *e*P P **05 27 54.3 +0.7**
comp=Z,61nm,1.0s
CTAO Charters Tower 38.43 178 *e*P P **05 27 55.8 -0.3**
CTAO pmax pmax
comp=Z,27nm,0.8s
CTAO Charters Tower 38.43 178 *e*P P **05 27 55.8 -0.3**
comp=Z,27nm,0.8s
SLVN Son La 38.74 281 *e*P P **05 28 00.3 +1.5**
comp=Z,11nm,1.0s
PBKI Pangkalan Bun 39.11 241 P P **05 28 03.3 +1.6**
comp=Z,326nm,1.1s,comp=Z,4µm
SKNT Sakolnakorn 39.13 274 P P **05 28 03.9 +2.0**
comp=Z,16nm,1.4s
CD2 Chengdu 39.29 296 P P **05 28 03.9 +0.8**
CD2 pP **pP 05 29 28.3 +0.6**
CD2 PP **PP 05 29 47.1 +0.9**
CD2 sP **sP 05 30 21.0 +0.8**
CD2 S S **05 33 28.7 -1.4**
CD2 sS **sS 05 36 06.4 +1.9**
CD2 PMZ
comp=Z,240nm,1.0s
CD2 PMZ
comp=Z,180nm,8.4s
SRBI Singaraja 39.63 231 P P **05 28 07.3 +1.4**
comp=Z,129nm,1.1s,comp=Z,2µm
WRAB Tennant Creek 39.69 196 P P **05 28 06.3 0.0**
comp=Z,2µm,0.6s
WRAB Tennant Creek 39.69 196*c i*P P **05 28 06.2 0.0**
WRAB pmax pmax
comp=Z,953nm,1.7s
WRAB Tennant Creek 39.69 196 *e*P P **05 28 06.5 +0.2**
comp=Z,150nm,0.6s
WRA Warramunga Arr 39.70 196 P P **05 28 06.9 +0.5**
comp=Z,90nm,0.5s,baz=16,slow=8.7,SNR=307
WRA ScP **ScP 05 33 06.0 -0.7**
comp=Z,9.0nm,0.9s,baz=15,slow=4.2,SNR=8.7
WRA S S **05 33 35.3 -0.8**
comp=Z,16nm,1.2s,baz=15,slow=14,SNR=5.1
WRA Warramunga Arr 39.70 196 *i* P P **05 28 05.1 -1.3**
WRA pmax pmax
comp=Z,95nm,0.5s
KMI Kunming 39.73 287 P P **05 28 08.0 +1.1**
KMI sP **sP 05 30 24.1 -0.1**
KMI S S **05 33 37.8 +0.8**
KMI SS **SS 05 36 50.7 -5.8**
KMI PMZ
comp=Z,33nm,1.4s
KMI PMZ
comp=Z,160nm,4.4s
KMMI Kalianget 39.89 233 P P 05 28 11.3 +3.3
comp=Z,144nm,1.1s,comp=Z,3µm
DNP Denpasar 40.03 230 P P **05 28 10.1 +1.0**
comp=Z,427nm,0.8s
IGBI Denpasar 40.17 230 P P **05 28 10.7 +0.4**
comp=Z,181nm,0.6s
LZH Lanzhou 40.25 304 ⇓P P **05 28 13.0 +2.1**
LZH pP **pP 05 29 38.4 +2.5**
LZH sP **sP 05 30 27.8 -0.5**
LZH S S **05 33 44.3 +0.1**
LZH sS **sS 05 36 19.1 -0.1**
LZH SS **SS 05 37 02.4 -2.9**
LZH PMZ
comp=Z,200nm,1.0s
LZH PMZ
comp=Z,690nm,4.0s
KHON Khomkaen 40.33 274 P P **05 28 13.7 +2.2**
comp=Z,15nm,0.8s,comp=Z,1µm
BLJI Banyuglugur 40.62 233 P P **05 28 15.1 +1.3**
comp=Z,238nm,1.1s,comp=Z,2µm
JAGI Jajag, Banyuwa 40.67 231 P P **05 28 13.0 -0.8**
comp=Z,121nm,1.0s,comp=Z,2µm
JAGI Jajag, Banyuwa 40.67 231 *e*P P **05 28 13.0 -1.3**
comp=Z,134nm,0.9s
JAGI *e* 05 29 59.6
JAGI *e*ScP **ScP 05 33 05.4 -5.3**
GRJI Gresik 40.94 235 P P **05 28 18.4 +1.9**
comp=Z,153nm,0.6s,comp=Z,2µm
CHAI Chaiyaphum 41.19 273 P P **05 28 19.8 +1.3**
comp=Z,8.6nm,1.0s
CIT Chita 41.55 331 *e*P P **05 28 21.7 +0.8**
CIT pmax pmax
comp=Z,220nm,1.9s
NGJI Ngawi 42.01 235 P P **05 28 27.7 +2.7**
comp=Z,171nm,1.0s
PBKT Sadao Pong 42.04 274 P P **05 28 27.0 +1.8**
comp=Z,33nm,1.1s
PWJI Pagerwojo 42.16 234 P P **05 28 25.9 -0.2**
comp=Z,175nm,0.8s
UTTA Uttaradit 42.25 276 P P **05 28 28.4 +1.5**
comp=Z,10nm,1.0s,comp=Z,96nm
WOJI Wonogiri, Jawa 42.72 235 P P **05 28 31.6 +1.0**
comp=Z,83nm,0.8s
SONM Songino Array 42.89 322 P P **05 28 32.6 +0.9**
comp=Z,47nm,0.8s,baz=136,slow=7.2,SNR=244
SONM PcP **PcP 05 30 12.7 +0.2**
comp=Z,15nm,0.9s,baz=126,slow=3.7,SNR=8.0
SONM ScP **ScP 05 33 18.2 -1.0**
comp=Z,2.4nm,1.0s,baz=171,slow=3.0,SNR=3.7
KTGM Kuala Trenggan 42.99 258 ⇓P P **05 28 35.4 +2.7**
LAMP Lampang 43.02 277 P P **05 28 35.1 +2.2**
comp=Z,7.4nm,1.0s,comp=Z,96nm
ASAR Alice Springs 43.38 195 P P **05 28 35.5 -0.2**
comp=Z,35nm,0.4s,baz=12,slow=7.2,SNR=437
ASAR ScP **ScP 05 33 20.2 -1.2**
comp=Z,3.5nm,0.9s,baz=17,slow=3.8,SNR=5.0
ASAR S S **05 34 29.6 +0.3**
comp=Z,5.3nm,0.8s,baz=22,slow=20,SNR=14
CMAI Chiengmai2 43.40 280 P P **05 28 37.7 +1.6**
comp=Z,38nm,1.1s,comp=Z,1µm
CMMT Chiang Mai 43.62 278 P P **05 28 38.9 +1.2**
comp=Z,29nm,1.1s
CHTO Chiang Mai 43.62 278 *e*P P **05 28 38.9 +1.2**
CHTO pmax pmax
comp=Z,21nm,1.1s
CHTO Chiang Mai 43.62 278 *e*P P **05 28 38.9 +1.2**
comp=Z,21nm,1.1s
UTHA Uthaitani 43.66 273 P P **05 28 40.6 +2.6**
comp=Z,4.6nm,1.0s
CMAR Chiang Mai Arr 43.67 278 P P **05 28 39.8 +1.6**
comp=Z,33nm,0.9s,baz=68,slow=6.5,SNR=142
CMAR PcP **PcP 05 30 16.9 +1.4**
comp=Z,5.9nm,0.7s,baz=82,slow=3.0,SNR=7.1
CMAR Chiang Mai Arr 43.67 278*ce*P P **05 28 39.7 +1.6**
CMAR pmax pmax
comp=Z,43nm,0.9s
MYKOM Kota Tinggi 43.73 252 ⇑P P **05 28 40.4 +1.9**
KPJI Karang Pucung 43.99 237 P P **05 28 40.8 +0.3**
comp=Z,120nm,1.0s
KGM Kluang 44.11 253 ⇑P P **05 28 43.5 +2.0**
GTA Gaotai 44.18 308 P P **05 28 43.1 +1.2**
GTA S S **05 34 39.3 -1.4**
GTA sS **sS 05 37 14.7 -3.7**
GTA ScS **ScS 05 37 48.0 -1.1**
GTA SS **SS 05 38 04.8 -4.5**
GTA PMZ
comp=Z,53nm,1.2s
GTA PMZ
comp=Z,420nm,7.1s
SEY Seymchan 44.61 5 P P **05 28 45.5 +0.9**
comp=Z,26nm,0.6s,baz=184,slow=7.7,SNR=152
SEY PcP **PcP 05 30 18.6 +0.8**
comp=Z,22nm,0.9s,baz=191,slow=2.0,SNR=5.8
MHMT Maesarieng 44.66 277 P P **05 28 47.9 +2.1**
comp=Z,24nm,1.1s,comp=Z,483nm
SKLT Songkhla 44.70 261 P P **05 28 48.6 +2.5**
comp=Z,37nm,0.7s
YAK Yakutsk 44.74 350 P P **05 28 45.8 +0.1**
comp=Z,51nm,0.5s,baz=169,slow=22,SNR=71
YAK Yakutsk 44.74 350 *i* P P **05 28 45.4 -0.3**
YAK *e**PP **pP 05 30 11.9 -1.1**
YAK *e* 05 30 17.5
YAK *e* 05 30 38.6
YAK *e*S S **05 34 43.7 -4.0**
YAK *e* 05 37 47.3
YAK pmax pmax
comp=E,36nm,0.9s
YAK pmax pmax
comp=Z,432nm,0.9s
YAK pmax pmax
comp=N,132nm,1.1s
YAK pmax pmax
comp=Z,40nm,1.3s
YAK pmax pmax
comp=N,18nm,1.0s
YAK pmax pmax
comp=E,22nm,1.6s
YAK smax smax
comp=N,33nm,1.9s
YAK smax smax
comp=E,90nm,2.3s
YAK Yakutsk 44.74 350 P P **05 28 45.8 +0.1**
comp=E,64nm,0.7s
LEM Lembang 44.76 239 P P **05 28 47.3 +0.6**
comp=E,60nm,0.7s,baz=324,slow=14,SNR=13
CISI Cisompet, Garu 45.02 238 P P **05 28 47.7 -0.9**
comp=E,86nm,0.6s,comp=E,7µm
CISI Cisompet, Garu 45.02 238 *e*P P **05 28 46.9 -1.7**
comp=E,50nm,0.6s
KULM Kulim 45.31 259 *e*P P **05 28 52.5 +1.7**
comp=E,31nm,1.0s
BOD Bodaibo 45.41 337 *e*P P **05 28 50.6 -0.3**
BOD pmax pmax
comp=Z,55nm,1.1s
DZM Mont Dzumac 45.47 152 P P **05 28 52.6 +0.6**
comp=Z,40nm,0.4s,baz=270,slow=24,SNR=155
DZM Mont Dzumac 45.47 152 *e*P P **05 28 52.1 +0.1**
comp=Z,40nm,0.5s
ZAK Zakamensk 45.91 324 ⇑*i*P P **05 28 55.7 +0.6**
ZAK *e* 05 30 23.1
ZAK pmax pmax
comp=Z,45nm,1.4s
CGJI Cibinong 46.22 241 P P **05 28 56.2 -1.6**
comp=Z,224nm,0.8s,comp=Z,3µm
IRK Irkutsk 46.29 326 *e*P P **05 28 57.8 0.0**
IRK pmax pmax
comp=Z,131nm,1.6s
TLY Talaya 46.34 325 P P **05 28 59.3 +1.1**
comp=Z,290nm,1.0s,SNR=16
TLY Talaya 46.34 325 P P **05 28 59.3 +1.1**
comp=Z,19nm,0.6s,baz=154,slow=4.0,SNR=45
TLY Talaya 46.34 325 *e*P P **05 28 59.6 +1.4**
TLY *e* 05 30 55.8
TLY pmax pmax
comp=Z,91nm,1.4s
TLY MLR MLR
comp=Z,164nm,18.0s
TLY Talaya 46.34 325 P P **05 28 59.3 +1.1**
SNR=28
TLY Talaya 46.34 325 *e*P P **05 28 58.6 +0.4**
comp=Z,150nm,1.5s
TLY *e*PcP **pP 05 30 25.6 -0.7**
MDSI Maura Dua 46.37 244 P P **05 28 58.7 -0.2**
comp=Z,28nm,1.0s,comp=Z,1µm
LHSI Lahat 46.60 246 P P **05 29 01.4 +0.7**
comp=Z,83nm,0.9s
KASI Kota Agung 46.64 243 P P **05 29 00.1 -0.8**
comp=Z,153nm,1.0s
MBWA Marble Bar 46.65 213 *e*P P **05 29 00.7 -0.2**
comp=Z,69nm,0.7s
LWLI Liwa 46.74 244 P P **05 29 02.7 +0.8**
comp=Z,54nm,0.8s,comp=Z,6µm
MASI Maura Aman, Be 47.38 247 P P **05 29 07.8 +1.1**
comp=Z,186nm,1.1s
PSI Papat 47.82 257 P P **05 29 11.5 +1.4**
comp=Z,10nm,0.8s,baz=54,slow=6.6,SNR=5.7
MNSI Mandailing Nat 48.02 254 P P **05 29 13.0 +1.6**
comp=Z,107nm,0.7s
SHL Shillong 49.54 288 *i* P P **05 29 23.8 +0.9**
SHL *e*S S **05 35 55.0 -1.1**
GSI Gunungsitoli 49.64 255 P P **05 29 24.7 +1.1**
comp=Z,78nm,1.2s
GSI Gunungsitoli 49.64 255 *e*P P **05 29 24.4 +0.8**
comp=Z,48nm,0.9s
GSI *e*PcP **PcP 05 30 38.1 +1.1**
LSA Lhasa 50.08 293 P P **05 29 29.1 +1.9**
LSA PMZ
comp=Z,130nm,1.1s
LSA Lhasa 50.08 293 *e*P P **05 29 29.5 +2.3**
LSA pmax pmax
comp=Z,83nm,0.8s
LSA Lhasa 50.08 293 *e*P P **05 29 29.5 +2.3**
comp=Z,83nm,0.8s
STKA Stephens Creek 50.27 184 P P **05 29 27.6 -0.2**
comp=Z,7.9nm,0.5s,baz=5.7,slow=7.2,SNR=26
UNV Unalaska Valle 51.09 35 *e*P P **05 29 33.8 +0.2**
comp=Z,134nm,0.9s
BILL Bilibino 51.24 10*d i*P P **05 29 34.8 +0.4**
BILL *i* 05 30 41.9
BILL pmax pmax
comp=Z,172nm,1.3s
BILL Bilibino 51.24 10 *e*P P **05 29 34.9 +0.4**
comp=Z,113nm,0.9s
BILL *e*PcP **PcP 05 30 41.9 0.0**
FORT Forrest 51.73 199 *e*P P **05 29 39.1 +0.6**
comp=Z,184nm,0.8s
HVS Khovu-Aksy 51.78 321*c i*P P **05 29 41.2 +2.4**
HVS pmax pmax
comp=Z,828nm,2.2s
BBOO Buckleboo 51.81 190 *e*P P **05 29 38.6 -0.5**
comp=Z,48nm,1.3s
TAPN Taplejung 53.18 291 *e*P P **05 29 51.0 +1.5**
comp=Z,85nm,0.4s
ODAN Odare 53.49 290 *e*P P **05 29 52.7 +1.0**
comp=Z,116nm,0.6s
GAMB Gambell 53.79 22 *e*P P **05 29 53.6 +0.8**
comp=Z,100nm,1.6s
WMQ Urumqi 53.97 311 P P **05 29 56.6 +2.0**
WMQ PMZ
comp=Z,110nm,1.1s
WMQ PMZ
comp=Z,610nm,3.6s
KRAR Krasnoyarsk 53.97 327⇑ *e*P P **05 29 55.0 +0.7**
KRAR pmax pmax
comp=Z,200nm,2.2s
RAMN Ramite 54.19 290 *e*P P **05 29 57.5 +0.8**
comp=Z,42nm,0.5s
GUN Gumba 54.76 291 *e*P P **05 30 02.3 +1.5**
comp=Z,83nm,0.4s
PKI Pulchoki 55.20 291 *e*P P **05 30 04.5 +0.6**
comp=Z,66nm,0.4s
PKIN Phulchoki 55.21 291 *e*P P **05 30 04.5 +0.6**
comp=Z,65nm,0.3s
KKN Kakani 55.30 291 *e*P P **05 30 05.3 +0.8**
DMN Daman 55.47 291 *e*P P **05 30 06.6 +0.9**
comp=Z,71nm,0.4s
GKN Gorkha 55.85 292 *e*P P **05 30 09.3 +1.1**
comp=Z,434nm,1.0s
TNA Tin City 56.15 21 *e*P P **05 30 10.3 +1.0**
comp=Z,93nm,1.5s
KOLN Koldanda 56.78 291 *e*P P **05 30 15.6 +0.8**
comp=Z,126nm,0.8s
CHLP Challavanipeta 57.61 280 *e*P P **05 30 21.1 +0.8**
CHLP IAmb IAmb 05 30 22.6
comp=Z,54nm,1.0s
CHLP *e*PcP **PcP 05 31 08.2 +0.7**
ZALV Zalesovo Beam 57.77 323 P P **05 30 20.7 -0.1**
comp=Z,11nm,0.3s,baz=100,slow=6.3,SNR=91
ZALV PcP **PcP 05 31 07.0 -0.5**
comp=Z,13nm,0.7s,baz=108,slow=4.4,SNR=7.2
MK31 Makanchi Array 58.14 314 *i* P P **05 30 24.3 +0.8**
MK31 pmax pmax
comp=Z,21nm,0.6s
MKAR Makanchi Array 58.14 314 P P **05 30 24.4 +0.8**
comp=Z,33nm,0.8s,baz=91,slow=8.8,SNR=184
NVS Novosibirsk 58.87 323⇓ *i*P P **05 30 28.2 -0.1**
NVS pmax pmax
comp=N,31nm,1.6s
NVS pmax pmax
comp=Z,138nm,1.6s
NVS pmax pmax
comp=E,57nm,1.2s
KDAK Kodiak Island 59.78 33 P P **05 30 35.0 +0.7**
comp=E,418nm,0.9s,SNR=12
KDAK Kodiak Island 59.78 33 *i* P P **05 30 34.4 +0.1**
KDAK Kodiak Island 59.78 33 *e*P P **05 30 34.7 +0.4**
comp=E,27nm,0.7s
KDAK *e*pP **pP 05 32 07.8 -0.7**
PDGK Podgornoye 59.85 310 P P **05 30 35.8 +0.7**
PDGK pmax pmax
comp=Z,91nm,1.0s
PVM Polavaram 60.13 280 *e*P P **05 30 37.3 0.0**
PVM IAmb IAmb 05 30 39.2
comp=Z,30nm,0.9s
PVM *e*PcP **PcP 05 31 17.8 +0.2**
RSO Redoubt South 60.36 30 *e*P P **05 30 38.2 -0.2**
comp=Z,65nm,0.9s
KURK Kurchatov 60.99 318 P P **05 30 42.4 -0.1**
comp=Z,976nm,1.0s,SNR=98
KURK Kurchatov 60.99 318 P P **05 30 43.4 +0.9**
KURK pmax pmax
comp=Z,106nm,0.8s
KURK Kurchatov 60.99 318 P P **05 30 43.1 +0.6**
SNR=78
KURK Kurchatov 60.99 318 *e*P P **05 30 42.7 +0.2**
comp=Z,149nm,0.9s
KURK *e*PcP **PcP 05 31 20.0 -0.5**
KURBB Kurchatov Arra 61.04 318 P P **05 30 43.4 +0.6**
comp=Z,106nm,0.8s,baz=98,slow=6.8,SNR=678
PPLA Purkeypile 61.28 28 *e*P P **05 30 44.6 +0.2**
comp=Z,53nm,0.8s
SEW Seward 61.88 31 *e*P P **05 30 48.3 +0.2**
comp=Z,66nm,1.0s
SEW *e*PcP **PcP 05 31 24.3 +0.4**
RC01 Rabbit Creek A 61.95 30 *e*P P **05 30 48.5 -0.1**
comp=Z,62nm,0.4s
RC01 *e*PcP **PcP 05 31 24.3 +0.1**
RPR Rampur 61.98 282 *e*P P **05 30 49.6 +0.1**
RPR IAmb IAmb 05 30 51.4
comp=Z,43nm,1.1s
RPR *e*PcP **PcP 05 31 25.1 -0.1**
BPAW Bear Paw Mtn. 62.12 27 *e*P P **05 30 49.9 +0.1**
comp=Z,5.5nm,1.0s
BPAW *e*pP **pP 05 32 24.5 -0.3**
ULHL Ulahol 62.22 308 P P **05 30 52.4 +1.4**
SNR=12
TRF Thorofare Moun 62.26 27 *e*P P **05 30 50.2 -0.6**
comp=Z,14nm,0.8s
TRF *e*pP **pP 05 32 27.5 +1.5**
NDI New Delhi 62.29 293 *e*P P **05 30 52.0 +0.5**
KSH Kashi 62.48 305⇓ *i*P P 05 30 56.1 +3.4
KSH PcP **PcP 05 31 31.2 +4.2**
KSH pP pP 05 32 30.8 +2.9

KSH PP **PP** 05 33 20.1 +2.9
KSH PcS **PcS** 05 35 33.1 +2.1
KSH S **S** 05 38 42.9 -0.7
KSH ScS **ScS** 05 40 03.0 +3.9
KSH sS sS 05 41 35.1 +1.3
KSH PMZ
comp=Z,120nm,0.8s
TKM2 Tokmak 2 62.69 309 P **P** 05 30 55.1 +0.9
SNR=36
TKM2 Tokmak 2 62.69 309 P **P** 05 30 54.8 +0.7
TKM2 pmax pmax
comp=Z,38nm,0.8s
TKM2 Tokmak 2 62.69 309 *e*P **P** 05 30 55.0 +0.9
comp=Z,47nm,0.9s
SKHT Srikalahasti 62.70 276 *e*P **P** 05 30 54.6 +0.3
SKHT lAmb lAmb 05 30 56.1
comp=Z,32nm,0.9s
SKHT *e*PcP **PcP** 05 31 28.7 +0.5
SML Sawmill 62.76 29 *e*P **P** 05 30 53.9 -0.1
SML *e* 05 31 28.1
SML *e**PP **pP** 05 32 31.0 +1.7
SML pmax pmax
comp=Z,16nm,0.8s
SML Sawmill 62.76 29 *e*P **P** 05 30 53.9 -0.1
comp=Z,16nm,0.8s
SML *e*PcP **PcP** 05 31 28.1 +0.5
SML *e*pP **pP** 05 32 31.0 +1.7
SRSP Sriramsagar 62.84 282 *e*P **P** 05 30 54.8 -0.4
SRSP lAmb lAmb 05 30 56.3
comp=Z,59nm,1.0s
SRSP *e*PcP **PcP** 05 31 28.0 -0.7
MCK McKinley 62.91 27 *e*P **P** 05 30 54.7 -0.2
MCK *e* 05 31 27.0
MCK pmax pmax
comp=Z,27nm,0.7s
MCK McKinley 62.91 27 *e*P **P** 05 30 54.7 -0.2
comp=Z,27nm,0.7s
MCK *e*PcP **PcP** 05 31 27.0 -1.1
SRLM Srisailam 62.93 279 *e*P **P** 05 30 54.9 -0.9
SRLM lAmb lAmb 05 30 57.1
comp=Z,58nm,1.0s
SRLM *e*PcP **PcP** 05 31 28.6 -0.6
HYB Hyderabad 62.96 280 *i* P **P** 05 30 56.0 0.0
HYBB Hyderabad (bro 62.96 280 *e*P **P** 05 30 56.6 +0.6
HYBB lAmb lAmb 05 30 57.2
comp=Z,44nm,1.0s
KZA Kyzart 62.96 308 P **P** 05 30 58.0 +1.9
SNR=47
RCLA Racherla 63.01 278 *e*P **P** 05 30 54.5 -1.8
RCLA lAmb lAmb 05 30 57.6
comp=Z,42nm,1.2s
RCLA *e*PcP **PcP** 05 31 28.2 -1.2
KBK Karagaybulak 63.17 309 P **P** 05 30 58.2 +1.0
SNR=14
COLD Coldfoot 63.30 23 *e*P **P** 05 30 58.0 +0.7
comp=Z,18nm,0.9s
CHMS Chumysh 63.31 309 P **P** 05 30 58.7 +0.8
SNR=15
FRU Bishkek 63.41 309 *e*P **P** 05 30 56.0 -2.5
USP Ospenovka 63.49 310 P **P** 05 31 00.4 +1.3
SNR=20
UCH Uchtor 63.51 308 P **P** 05 31 00.7 +1.0
SNR=49
AAK Ala-Archa 63.51 309 P **P** 05 31 00.8 +1.5
SNR=8.6
COLA College 63.63 26 *d i*P **P** 05 30 58.9 -0.5
COLA pmax pmax
comp=Z,127nm,1.2s
COLA College 63.63 26 *e*P **P** 05 30 59.2 -0.2
comp=Z,20nm,0.7s
COLA *e*pP pP 05 32 42.6 +7.6
DIV Divide 63.85 30 *e*P **P** 05 31 01.5 +0.5
comp=Z,56nm,1.0s
DIV *e*PcP **PcP** 05 31 35.1 +3.0
ILAR Eielson Array 64.01 26 P **P** 05 31 00.6 -1.3
comp=Z,23nm,0.5s,baz=248,slow=5.9,SNR=406
ILAR pP **pP** 05 32 40.1 +2.4
comp=Z,8.1nm,0.8s,baz=260,slow=5.9,SNR=4.0
URZ Urewera 64.02 152 P **P** 05 31 01.0 -1.3
comp=Z,3.6nm,0.5s,baz=272,slow=4.2,SNR=4.6
EKS2 Erkin-Say 64.04 309 P **P** 05 31 03.8 +1.2
SNR=13
EKS2 Erkin-Say 64.04 309 *e*P **P** 05 31 03.1 +0.4
EKS2 *e* 05 31 33.3
EKS2 pmax pmax
comp=Z,129nm,1.8s
EKS2 Erkin-Say 64.04 309 *e*P **P** 05 31 03.1 +0.4
comp=Z,129nm,1.8s
EKS2 *e*PcP **PcP** 05 31 33.3 -0.1
AML Almayashu 64.12 308 P **P** 05 31 05.0 +1.5
SNR=31
PAX Paxson 64.29 28 *e*P **P** 05 31 04.3 +0.5
PAX *e* 05 31 27.8
PAX pmax pmax
comp=Z,60nm,0.5s
PAX Paxson 64.29 28 *e*P **P** 05 31 04.3 +0.5
comp=Z,60nm,0.5s
PAX *e*PcP PcP 05 31 27.8 -6.2
SFK Sufi-Kurgan 64.36 306 P **P** 05 31 05.6 +0.7
SFK pmax pmax
comp=Z,44nm,1.0s
BMRM Bremner River 64.39 31 *e*P **P** 05 31 05.0 +0.6
comp=Z,50nm,0.5s
BMRM *e*PcP **PcP** 05 31 35.1 +0.8
KLRI Killari 64.64 282 *e*P **P** 05 31 05.9 -0.9
KLRI lAmb lAmb 05 31 07.6
comp=Z,37nm,0.8s
BVA0 Borovoye Array 66.21 320 *i* P **P** 05 31 16.2 +0.1
BVA0 pmax pmax
comp=Z,219nm,1.2s
BRVK Borovoye 66.28 320 P **P** 05 31 16.9 +0.5
comp=Z,577nm,0.8s,SNR=49
BRVK Borovoye 66.28 320 *ce*P **P** 05 31 16.6 +0.2
BRVK pmax pmax
comp=Z,233nm,1.9s
BRVK Borovoye 66.28 320 P **P** 05 31 17.0 +0.6
SNR=48
BRVK Borovoye 66.28 320 *e*P **P** 05 31 16.7 +0.2
comp=Z,87nm,0.9s
BRVK *e*pP **pP** 05 32 53.8 +0.7
KK31 Karatay Array 66.41 310 *i* P **P** 05 31 18.1 +0.6
KK31 pmax pmax
comp=Z,75nm,0.8s
KKAR Karatay Array 66.41 310 *e*P **P** 05 31 18.1 +0.6
KKAR pmax pmax
comp=Z,54nm,0.7s
KKAR Karatay Array 66.41 310 *e*P **P** 05 31 18.1 +0.6
comp=Z,54nm,0.7s
EGAK Eagle 66.44 27 *e*P **P** 05 31 17.5 +0.3
comp=Z,18nm,0.6s
HYT Haines Junctio 67.83 31 *e*P **P** 05 31 27.1 +1.1
comp=Z,83nm,1.0s
DZET Dzherino 68.07 305 P **P** 05 31 28.7 +0.7
DZET pmax pmax
comp=Z,63nm,0.4s
INK Inuvik 69.72 23 P **P** 05 31 37.0 -0.1
comp=Z,40nm,0.8s,baz=272,slow=4.9,SNR=65
INK Inuvik 69.72 23 P **P** 05 31 37.0 -0.1
INK pmax pmax
comp=Z,20nm,0.9s
INK Inuvik 69.72 23 P **P** 05 31 37.0 -0.1
comp=Z,20nm,0.9s
SVE Sverdlovsk 71.66 325 *c i*P **P** 05 31 49.4 +0.5
SVE pmax pmax
comp=Z,139nm,1.3s
DLBC Dease Lake 71.71 33 *e*P **P** 05 31 49.6 +0.3
comp=Z,116nm,1.5s
DLBC *e*pP **pP** 05 33 31.7 +3.8
ARU Arti 72.84 325 P **P** 05 31 55.5 -0.3
comp=Z,718nm,1.0s,SNR=36
ARU Arti 72.84 325 *e*P **P** 05 31 55.8 0.0
ARU pmax pmax
comp=Z,119nm,1.0s
ARU Arti 72.84 325 *e*P **P** 05 31 55.8 0.0
comp=Z,119nm,1.0s
AB31 Akbulak array 73.05 317 P **P** 05 31 57.0 -0.1
AB31 pmax pmax
comp=Z,19nm,0.5s
ABKAR Akbulak array 73.05 317 *e*P **P** 05 31 56.9 -0.3
comp=Z,30nm,0.6s
SOKR Solikamsk 73.34 328 *d i*P **P** 05 31 58.7 +0.2
SOKR pmax pmax
comp=Z,90nm,1.0s
AKTO Aktyubinsk 74.08 318 P **P** 05 32 02.7 -0.4
AKTO pmax pmax
comp=Z,20nm,0.8s

IAKL Akhelmad 76.31 304 *e*P **P** 05 32 17.1 +0.9
GEYT Alibeck 76.51 306 P **P** 05 32 18.0 +1.0
comp=Z,29nm,0.9s,baz=17,slow=1.5,SNR=47
ISFR Sfrayin 76.80 305 *e*P **P** 05 32 20.0 +1.1
ISHV Shirvan 76.92 305 *e*P **P** 05 32 20.8 +1.3
OSR Olympics--Salm 77.17 44 P **P** 05 32 22.3 +1.9
NLWA Neilton Lookou 77.25 44 *e*P **P** 05 32 22.2 +1.4
comp=Z,35nm,0.6s
SMW South Mountain 77.62 44 P **P** 05 32 24.4 +1.5
HDW Hoodsport 77.73 44 P **P** 05 32 24.8 +1.3
GNW Green Mountain 77.90 44 P **P** 05 32 25.3 +1.0
F04D Rainier, OR 78.14 45 P **P** 05 32 27.1 +1.4
baz=78
MPOR Mary's Peak 78.16 47 P **P** 05 32 27.6 +1.6
G03D McMinnville, O 78.19 46 P **P** 05 32 27.2 +1.3
baz=78,SNR=5.3
LCW Lucas Creek 78.20 45 P **P** 05 32 27.6 +1.6
PRGR Permogore 78.25 331 *e*P **P** 05 32 23.3 -2.6
PRGR pmax pmax
comp=Z,79nm,0.8s
ALE Alert 78.27 4 P **P** 05 32 26.2 +0.5
comp=Z,471nm,0.7s,SNR=19
RVW Rose Valley 78.30 45 P **P** 05 32 28.0 +1.4
COR Corvallis 78.31 47 *e*P **P** 05 32 28.5 +1.9
COR pmax pmax
comp=Z,259nm,1.9s
COR Corvallis 78.31 47 *e*P **P** 05 32 28.5 +1.9
comp=Z,259nm,1.9s
YKA Yellowknife Ar 78.37 28 P **P** 05 32 26.2 -0.3
comp=Z,16nm,0.6s,baz=287,slow=5.1,SNR=76
YKA pP **pP** 05 34 08.1 +0.9
comp=Z,3.1nm,0.8s,baz=296,slow=6.0,SNR=2.8
I03D Drain, OR 78.51 48 P **P** 05 32 28.8 +1.1
baz=78,SNR=7.9
L02D Cave Junction, 78.72 49 P **P** 05 32 30.2 +1.3
baz=79
LON Longmire 78.78 44 *e*P **P** 05 32 29.2 0.0
LON pmax pmax
comp=Z,11nm,0.6s
LON Longmire 78.78 44 *e*P **P** 05 32 29.1 0.0
comp=Z,10nm,0.6s
WPW White Pass 78.96 44 P **P** 05 32 31.2 +0.9
HUMO Hull Mountain 79.06 49 *e*P **P** 05 32 31.3 +0.6
comp=Z,20nm,0.6s
I04A Tendick Farm, 79.14 47 P **P** 05 32 32.0 +0.9
baz=79,SNR=9.7
VLL Laurance Lake 79.20 46 P **P** 05 32 32.7 +1.2
SPA0 Spitsbergen Ar 79.20 351 *e*P **P** 05 32 30.9 +0.1
SPA0 lAmb lAmb 05 32 32.5
comp=Z,94nm,1.1s
TWW Teanaway 79.30 44 P **P** 05 32 33.2 +1.3
KBS Kingsbay 79.33 352 *e*P **P** 05 32 31.4 +0.1
KBS lAmb lAmb 05 32 32.9
comp=Z,274nm,0.7s
KBS Kingsbay 79.33 352 *e*P **P** 05 32 31.5 +0.1
KBS pmax pmax
comp=Z,61nm,0.7s
KBS Kingsbay 79.33 352 *e*P **P** 05 32 31.5 +0.1
comp=Z,61nm,0.7s
M02C Callahan 79.45 50 P **P** 05 32 34.5 +1.6
baz=79,SNR=14
YBH Yreka Blue Hor 79.47 50 *e*P **P** 05 32 34.0 +1.0
YBH pmax pmax
comp=Z,17nm,0.6s
YBH Yreka Blue Hor 79.47 50 *e*P **P** 05 32 34.0 +1.0
comp=Z,17nm,0.6s
J04D Umpqua Nationa 79.50 48 P **P** 05 32 34.3 +1.1
baz=79,SNR=12
G05D Wamic, OR 79.51 46 P **P** 05 32 34.2 +1.1
baz=79
WBK Wadi Bani Khal 79.62 290 P **P** 05 32 35.6 +1.5
SNR=6.3
N02D Trinity Center 79.67 50 P **P** 05 32 35.5 +1.5
baz=80,SNR=8.1
RES Resolute Bay 79.68 14 *e*P **P** 05 32 33.4 +0.1
RES *e**PP **pP** 05 34 12.1 -2.3
RES pmax pmax
comp=Z,124nm,1.4s
RES Resolute Bay 79.68 14 *e*P **P** 05 32 33.4 +0.1
comp=Z,124nm,1.4s
RES *e*pP **pP** 05 34 12.1 -2.3
I05D Terrebonne, OR 79.74 47 P **P** 05 32 35.1 +0.8
baz=80,SNR=8.1
WDC Whiskeytown Da 79.90 51 *e*P **P** 05 32 35.6 +0.4
WDC pmax pmax
comp=Z,80nm,1.6s
WDC Whiskeytown Da 79.90 51 *e*P **P** 05 32 35.6 +0.4
comp=Z,80nm,1.6s
K04D Chiloquin, OR 79.91 48 P **P** 05 32 36.4 +1.1
baz=80,SNR=8.0
M04C Macdoel 80.08 49 P **P** 05 32 37.4 +1.1
baz=80,SNR=16
J05D Fort Rock, OR 80.10 48 P **P** 05 32 37.5 +1.2
baz=80,SNR=38
IBAF Bafgh 80.12 300 *e*P **P** 05 32 37.2 +0.5
HSPB Hornsund (broa 80.12 350 *e*P **P** 05 32 36.3 +0.7
IGLO Ghaloghah 80.18 305 *e*P **P** 05 32 38.2 +1.2
SMDO Samad 80.31 291 P **P** 05 32 39.0 +1.2
SNR=7.7
LVZ Lovozero 80.35 339 *de*P **P** 05 32 36.2 -0.8
LVZ pmax pmax
comp=Z,112nm,2.2s
LVZ Lovozero 80.35 339 P **P** 05 32 36.4 -0.6
comp=Z,253nm,0.8s,SNR=7.1
LVZ Lovozero 80.35 339 *e*P **P** 05 32 36.3 -0.8
comp=Z,40nm,0.9s
IKIA Kiasar 80.38 305 *e*P **P** 05 32 39.0 +0.9
HAWA Hanford 80.38 44 *e*P **P** 05 32 38.1 +0.5
comp=Z,45nm,1.2s
OD2 Odessa Site #2 80.63 43 P **P** 05 32 39.4 +0.5
TMCR Tamitsa 80.64 335 *e*P **P** 05 32 36.5 -2.0
TMCR pmax pmax
comp=Z,169nm,1.0s
ISHM Shahmirzad 80.79 305 *e*P **P** 05 32 41.5 +1.2
HOQ Hoqain 80.82 292 P **P** 05 32 41.5 +1.2
SNR=13
ICHK Chekchek 80.89 301 *e*P **P** 05 32 40.8 -0.1
APA Apatity 80.93 339 *i*P **P** 05 32 40.0 0.0
APA *i**PP **pP** 05 34 20.0 -1.4
APA *e*S **S** 05 42 10.0 +0.3
APA pmax pmax
comp=Z,72nm,0.5s
APA MLR MLR
comp=Z,200nm,17.0s
IMEH Mehriz 80.96 300 *e*P **P** 05 32 40.6 -0.6
BANOM Banah 81.05 294 *i*P **P** 05 32 43.3 +1.8
SNR=6.9
IALA Alasht 81.09 305 *e*P **P** 05 32 42.6 +0.7
MOD Modoc 81.15 49 *e*P **P** 05 32 42.3 +0.4
comp=Z,31nm,1.0s
ILAS Lasjerd 81.17 304 *e*P **P** 05 32 43.0 +0.7
IFIR Firoozkooh 81.26 305 *e*P **P** 05 32 43.7 +1.0
NEW Newport 81.39 42 *e*P **P** 05 32 43.1 +0.2
NEW pmax pmax
comp=Z,26nm,0.9s
NEW Newport 81.39 42 P **P** 05 32 43.5 +0.6
baz=81
NEW Newport 81.39 42 *e*P **P** 05 32 43.0 +0.2
comp=Z,26nm,0.9s
IPRN Peran 81.41 305 *e*P **P** 05 32 43.7 +0.4
UOSS Wadi Hilu 81.41 293 P **P** 05 32 44.9 +1.5
comp=Z,245nm,0.6s,SNR=8.0
HATD Hatta, Dubai 81.51 293 *i*P **P** 05 32 44.8 +0.9
SNR=7.3
ISAD Sadrabad 81.57 301 *e*P **P** 05 32 44.2 -0.2
ARQ Araqi 81.59 292 P **P** 05 32 45.8 +1.5
SNR=5.5
ASHO Ashiyiah 81.61 293 *i*P **P** 05 32 45.2 +0.7
SNR=7.5
IDMV Damavand 81.84 305 *e*P **P** 05 32 46.5 +0.7
KEV Kevo 81.88 342 *e*P **P** 05 32 44.6 -0.2
KEV pmax pmax
comp=Z,70nm,0.8s
KEV Kevo 81.88 342 *e*P **P** 05 32 44.6 -0.2
comp=Z,70nm,0.8s
EDM Edmonton 82.03 37 *e*P **P** 05 32 46.0 0.0
EDM pmax pmax
comp=Z,21nm,0.8s
EDM Edmonton 82.03 37 *e*P **P** 05 32 46.0 0.0
comp=Z,21nm,0.8s
WVOR Wild Horse Val 82.17 48 *e*P **P** 05 32 47.1 0.0
WVOR pmax pmax
comp=Z,10.0nm,0.7s
WVOR Wild Horse Val 82.17 48 *e*P **P** 05 32 47.1 0.0
comp=Z,9.9nm,0.7s
CMB Columbia Colle 82.23 53 *e*P **P** 05 32 47.6 +0.2

CMB pmax pmax
comp=Z,28nm,0.7s
CMB Columbia Colle 82.23 53 *e*P **P** 05 32 47.5 +0.2
comp=Z,28nm,0.7s
IVRN Varamin 82.25 304 *e*P **P** 05 32 48.1 +0.5
ASUD Al Ashush, Dub 82.26 293 *i*P **P** 05 32 48.8 +1.1
SNR=6.5
HAMF Hammerfest 82.33 343 *e*P **P** 05 32 46.7 -0.4
HAMF lAmb lAmb 05 32 47.7
comp=Z,74nm,0.8s
BMO Blue Mountains 82.34 45 *e*P **P** 05 32 47.9 +0.1
comp=Z,28nm,0.6s
BMO *e*pP **pP** 05 34 31.3 +1.6
IZEF Zefreh 82.39 302 *e*P **P** 05 32 48.6 +0.1
ARCES ARCESS Array B 82.44 342 P **P** 05 32 47.4 -0.4
comp=Z,84nm,0.7s,baz=79,slow=7.2,SNR=280
ARE0 ARCESS Array S 82.44 342 *i*P **P** 05 32 47.2 -0.5
IR3 Iran Long-Peri 82.66 305 *e*P **P** 05 32 50.2 +0.5
IPAR Pars 82.69 299 *e*P **P** 05 32 50.9 +0.7
ISRV Sarvestan 82.77 298 *e*P **P** 05 32 50.4 -0.3
WAKR Walker 82.80 52 *e*P **P** 05 32 51.1 +0.6
comp=Z,21nm,0.6s
WAKR *e*pP **pP** 05 34 35.0 +2.5
IKLH Kolahrood 82.86 303 *e*P **P** 05 32 52.4 +1.4
IGZV Ghazvin 83.00 306 *e*P **P** 05 32 52.9 +1.3
BSMT Bassoo Peak 83.01 42 *e*P **P** 05 32 51.6 +0.3
comp=Z,67nm,1.2s
WALA Waterton Lakes 83.14 41 *e*P **P** 05 32 53.1 +1.2
comp=Z,168nm,1.8s
BLMT Blacktail Moun 83.22 42 *e*P **P** 05 32 52.6 +0.2
comp=Z,45nm,1.0s
SMMC Simmler 83.35 55 P **P** 05 32 53.9 +0.8
baz=83
JTMT Jette 83.36 42 *e*P **P** 05 32 52.9 -0.1
comp=Z,35nm,1.2s
JTMT *e*pP **pP** 05 34 37.1 +1.9
KTK1 Kautokeino 83.41 342 *e*P **P** 05 32 52.3 -0.3
KTK1 lAmb lAmb 05 32 53.3
comp=Z,50nm,0.9s
YBMT Yellow Bay 83.49 42 *e*P **P** 05 32 54.2 +0.6
comp=Z,20nm,0.6s
MLAC Mammoth Lakes 83.52 53 P **P** 05 32 55.4 +1.2
baz=83
IPIR Pirpir 83.60 302 *e*P **P** 05 32 53.6 -1.1
PKM Peak Mountain 83.62 55 P **P** 05 32 55.3 +0.7
baz=84,SNR=10
SWMT Swartz Lake 83.62 42 *e*P **P** 05 32 53.9 -0.4
comp=Z,7.8nm,0.5s
RCTC Rector, Farmer 83.62 54 P **P** 05 32 55.1 +0.8
baz=84
NVAR Mina Array Bea 83.67 52 P **P** 05 32 55.3 +0.5
comp=Z,30nm,0.6s,baz=266,slow=5.8,SNR=221
NVAR pP **pP** 05 34 38.3 +1.2
comp=Z,3.2nm,0.7s,baz=282,slow=4.8,SNR=2.7
IKAZ Kazeroun 83.71 299 *e*P **P** 05 32 55.5 +0.1
MFID Camas Ranch 83.81 46 *e*P **P** 05 32 55.6 +0.3
comp=Z,58nm,0.8s
SBC Santa Barbara 83.84 56 P **P** 05 32 56.7 +1.3
baz=84
VES Vestal, Richgr 83.89 54 P **P** 05 32 55.4 -0.3
baz=84,SNR=13
MSO Missoula 83.90 43 P **P** 05 32 55.8 +0.1
baz=84
SLMT Seeley Lake 84.04 42 *e*P **P** 05 32 56.1 -0.3
comp=Z,54nm,1.1s
SLMT *e*pP **pP** 05 34 39.2 +0.4
TRO Tromso 84.23 343 *e*P **P** 05 32 55.2 -1.4
TRO lAmb lAmb 05 32 56.2
comp=Z,126nm,0.7s
TRO Tromso 84.23 343 *e* **P** 05 32 54.9 -1.8
MOS Moscow 84.26 327 *e*P P 05 32 53.9 -3.2
MOS *e* 05 36 16.0
MOS *e*S **SKSac** 05 42 32.3 -3.8
MOS *e* 05 42 47.1
MOS pmax pmax
comp=Z,300nm,1.9s
MOS pmax pmax
comp=Z,112nm,1.4s
CHMT Chamberlain Mo 84.31 42 *e*P **P** 05 32 57.3 -0.5
comp=Z,9.3nm,0.5s
ARVC Arvin 84.31 55 P **P** 05 32 58.1 +0.3
baz=84
DAG Danmarks Havn 84.36 356 *i*P **P** 05 32 56.7 -0.5
comp=Z,68nm,0.9s
DAG Danmarks Havn 84.36 356 *i*P **P** 05 32 56.7 -0.5
DAG pmax pmax
comp=Z,57nm,0.9s
ISA Isabella 84.42 54 *e*P **P** 05 32 57.7 -0.7
ISA Isabella 84.42 54 P **P** 05 32 58.4 -0.1
baz=84
ISA Isabella 84.42 54 *e*P **P** 05 32 57.7 -0.7
BLG Laguna Peak 84.45 56 P **P** 05 32 59.0 +0.4
baz=84
CWC Cottonwood Cre 84.47 54 P **P** 05 32 59.3 +0.5
baz=84
OSI Osito Adit 84.56 55 P **P** 05 33 00.0 +0.9
baz=84
OSI Osito Adit 84.56 55 *e*P **P** 05 32 59.6 +0.5
comp=Z,15nm,0.7s
HLID Hailey 84.73 46 P **P** 05 33 00.8 +0.8
baz=85
HLID Hailey 84.73 46 *e*P **P** 05 33 00.3 +0.4
comp=Z,28nm,0.8s
GRAC Grapevine Rang 84.83 53 P **P** 05 33 01.2 +0.8
baz=85
DGRG David-gareji 84.94 312 P **P** 05 33 00.8 -0.1
DECC Green Verdugo 84.98 56 P **P** 05 33 01.4 +0.2
baz=85
MPMC Manual Prospec 85.05 54 P **P** 05 33 02.0 +0.3
baz=85,SNR=35
EDW2 Edwards Air Fo 85.05 55 P **P** 05 33 01.9 +0.3
baz=85,SNR=7.3
OBN Obninsk 85.08 327 *d i*P **P** 05 33 00.0 -1.1
OBN *e**PP **pP** 05 34 42.1 -1.7
OBN *e* 05 42 42.8
OBN SS SS 05 48 36.0 -0.7
OBN pmax pmax
comp=Z,70nm,1.4s
OBN MLR MLR
comp=Z,100nm,17.0s
OBN Obninsk 85.08 327 *e*P **P** 05 32 59.9 -1.1
LRMC Laurel Mountai 85.08 54 P **P** 05 33 02.5 +0.7
baz=85,SNR=7.1
ELK Elko 85.13 49 *e*P **P** 05 33 02.5 +0.4
ELK pmax pmax
comp=Z,30nm,0.8s
ELK Elko 85.13 49 *e*P **P** 05 33 02.5 +0.4
comp=Z,30nm,0.8s
FMP Fort Macarthur 85.19 56 P **P** 05 33 03.0 +0.9
baz=85
CIS Catalina Islan 85.20 57 P **P** 05 33 02.9 +0.6
baz=85
LRM Limekiln Ridge 85.22 43 *e*P **P** 05 33 02.4 0.0
comp=Z,664nm,1.0s
LRM *e*pP **pP** 05 34 49.5 +4.4
SCI San Clemente I 85.22 57 P **P** 05 33 02.8 +0.4
baz=85
VSR Storozhevoye 85.28 323 *e*P **P** 05 33 01.0 -1.2
VSR pmax pmax
comp=Z,100nm,1.2s
VSR pmax pmax
comp=N,20nm,1.0s
VSR pmax pmax
comp=E,30nm,0.8s
TBLG Delisi 85.28 312 P **P** 05 33 02.0 -0.5
HRY Holter Researc 85.29 42 *e*P **P** 05 33 03.2 +0.6
comp=E,32nm,0.5s
DLMT Dillon 85.30 44 *e*P **P** 05 33 02.5 -0.2
comp=E,36nm,1.1s
MCMT McKenzie Canyo 85.33 44 *e*P **P** 05 33 03.4 +0.4
comp=E,4.9nm,0.5s
FURC Furnace Creek, 85.39 53 P **P** 05 33 04.0 +0.9
baz=85,SNR=11
ZEI Tsey 85.49 314 *e*P P 05 33 00.5 -3.2
ZEI pmax pmax
comp=Z,193nm,1.1s
BFSC Mount Baldy Ra 85.51 56 P **P** 05 33 03.8 -0.1
baz=85
TPNV Topopah Spring 85.69 53 P **P** 05 33 05.0 +0.2
baz=86,SNR=66
R11A Troy Canyon, C 85.71 51 P **P** 05 33 05.3 +0.5
baz=86,SNR=53
R11A Troy Canyon, C 85.71 51 *e*P **P** 05 33 05.1 +0.3
comp=Z,45nm,1.3s
BOZ Bozeman (W) 85.82 43 P **P** 05 33 05.3 +0.1
baz=86,SNR=25

GSC Goldstone 85.82 54 eP P 05 33 05.6 +0.3
GSC pmax pmax
comp=Z,73nm,1.5s
GSC Goldstone 85.82 54 P P 05 33 05.6 +0.3
baz=86,SNR=18
GSC Goldstone 85.82 54 eP P 05 33 05.6 +0.3
comp=Z,74nm,1.5s
KBZ Khabaz 85.83 315 P P 05 33 04.5 -0.5
comp=Z,35nm,0.9s,baz=86,slow=1.8,SNR=53
GNI Garni 85.84 311 d iP P 05 33 05.4 0.0
GNI pmax pmax
comp=Z,41nm,1.5s
GNI Garni 85.84 311 P P 05 33 06.1 +0.7
SNR=9.1
GNI Garni 85.84 311 ⇑ iP P 05 33 05.8 +0.3
SNR=5.5
GNI Garni 85.84 311 eP P 05 33 05.7 +0.3
comp=Z,24nm,1.1s
ONI Oni 85.87 314 P P 05 33 05.2 -0.1
KIV Kislovodsk 85.89 315 P P 05 33 05.4 -0.1
comp=Z,249nm,1.0s,SNR=7.5
KIV Kislovodsk 85.89 315 eP P 05 33 04.8 -0.7
KIV e*PP pP 05 34 47.6 -0.8
KIV e*SP sP 05 35 35.2 -0.6
KIV e 05 42 45.2
KIV eSS SS 05 48 50.8 +1.3
KIV pmax pmax
comp=Z,40nm,0.9s
KIV MLR MLR
comp=Z,67nm,19.0s
KIV Kislovodsk 85.89 315 P P 05 33 05.2 -0.3
SNR=13
KIV Kislovodsk 85.89 315 ⇓ iP P 05 33 05.1 -0.4
SNR=7.0
KIV Kislovodsk 85.89 315 eP P 05 33 05.2 -0.3
comp=Z,40nm,0.9s
SHOC Shoshone 86.02 54 P P 05 33 07.1 +0.9
baz=86
BBRC Big Bear Solar 86.08 55 P P 05 33 07.2 +0.5
baz=86
MURC Murrieta 86.09 56 P P 05 33 06.5 0.0
baz=86,SNR=5.5
EGMT Eagleton 86.09 41 P P 05 33 06.7 +0.4
baz=86,SNR=12
EGMT Eagleton 86.09 41 eP P 05 33 06.3 0.0
comp=Z,47nm,1.3s
EGMT ePP PP 05 36 31.8 -2.3
QLMT Earthquake Lak 86.26 44 eP P 05 33 08.5 +1.1
comp=Z,7.5nm,1.2s
A19A Klindworth Far 86.34 39 P P 05 33 07.9 +0.5
baz=86,SNR=20
HEC Hector,Ludlow 86.35 55 P P 05 33 08.2 +0.4
baz=86,SNR=8.7
STEI Steigen 86.37 343 eP P 05 33 06.8 -0.3
STEI IAmb IAmb 05 33 07.7
comp=Z,103nm,0.8s
109C Camp Elliot, M 86.40 57 P P 05 33 08.2 +0.2
baz=86
B19A Brinkman Farms 86.41 40 P P 05 33 07.9 +0.1
baz=86,SNR=5.8
TUQ Turquoise Moun 86.45 54 P P 05 33 08.9 +0.5
baz=86,SNR=9.0
HVU Hansel Valley 86.50 47 eP P 05 33 09.3 +0.8
HVU pmax pmax
comp=Z,25nm,1.0s
HVU Hansel Valley 86.50 47 eP P 05 33 09.3 +0.8
comp=Z,25nm,1.0s
YMR Madison River 86.63 44 eP P 05 33 10.0 +0.8
comp=Z,40nm,1.0s
BGU Big Grassy Mou 86.64 48 eP P 05 33 09.8 +0.6
comp=Z,30nm,1.4s
SHPR Sheep Range 86.67 53 eP P 05 33 09.8 +0.4
comp=Z,32nm,0.9s
PFO Pinyon Flat Ob 86.67 56 P P 05 33 09.9 +0.5
comp=Z,120nm,1.4s,SNR=6.6
PFO Pinyon Flat Ob 86.67 56 eP P 05 33 09.7 +0.2
PFO pmax pmax
comp=Z,25nm,1.2s
PFO Pinyon Flat Ob 86.67 56 P P 05 33 09.9 +0.5
baz=87,SNR=11
PFO Pinyon Flat Ob 86.67 56 eP P 05 33 09.7 +0.2
comp=Z,24nm,1.2s
LOF Lofoten 86.69 344 eP P 05 33 08.1 -0.5
FIA1 FINESS Array S 86.76 335 eP P 05 33 07.5 -1.5
FINES FINESS Array B 86.76 335 P P 05 33 07.3 -1.8
comp=Z,33nm,0.6s,baz=90,slow=5.7,SNR=162
YFT Old Faithful 86.80 44 eP P 05 33 12.2 +2.2
comp=Z,22nm,0.9s
YNR Norris Junctio 86.80 44 P P 05 33 10.6 +0.6
comp=Z,60nm,1.2s
BAR Barrett 86.81 57 eP P 05 33 10.2 +0.1
comp=Z,7.0nm,0.7s
A20A Cobblestone Ra 86.85 39 P P 05 33 10.6 +0.7
baz=87
GMRC Granite Mounta 86.88 54 P P 05 33 10.7 +0.3
baz=87,SNR=23
BELC Belle Mtn. Jos 86.89 55 P P 05 33 11.0 +0.5
baz=87,SNR=20
MONP Monument Peak 86.94 56 P P 05 33 11.5 +0.6
baz=87,SNR=13
IMW Indian Meadow 86.95 45 eP P 05 33 11.5 +0.7
comp=Z,24nm,1.1s
B20A Solberg Farm, 86.98 40 P P 05 33 11.0 +0.5
baz=87,SNR=18
H17A Grant Village 86.99 44 P P 05 33 13.1 +2.1
baz=87,SNR=17
H17A Grant Village 86.99 44 eP P 05 33 13.0 +2.1
comp=Z,24nm,1.0s
GCMT Greycliff 87.03 43 eP P 05 33 11.7 +0.7
comp=Z,4.1nm,0.5s
FLWY Flagg Ranch 87.03 44 eP P 05 33 11.7 +0.6
comp=Z,40nm,1.0s
DUG Dugway 87.06 49 eP P 05 33 11.4 +0.3
DUG e 05 36 39.1
DUG pmax pmax
comp=Z,29nm,0.8s
DUG Dugway 87.06 49 P P 05 33 11.8 +0.7
baz=87,SNR=30
DUG Dugway 87.06 49 eP P 05 33 11.4 +0.3
comp=Z,29nm,0.8s
DUG ePP PP 05 36 39.0 -3.2
TPAW Teton Pass 87.10 45 eP P 05 33 11.1 -0.3
comp=Z,5.1nm,0.6s
MOOW Moose Ponds 87.13 45 eP P 05 33 11.9 +0.4
comp=Z,7.8nm,0.8s
LDFC Landfair 87.20 54 eP P 05 33 12.3 +0.4
comp=Z,27nm,0.8s
REDW Red Top Meadow 87.21 45 eP P 05 33 12.7 +0.8
comp=Z,36nm,1.6s
SNOW Snow King Moun 87.24 45 eP P 05 33 12.9 +0.8
comp=Z,4.3nm,0.5s
AHID Auburn Hatcher 87.28 46 eP P 05 33 12.8 +0.5
comp=Z,29nm,1.2s
IBP Imperial Bould 87.28 57 P P 05 33 12.9 +0.6
baz=87
LOHW Long Hollow 87.28 45 eP P 05 33 12.4 +0.1
comp=Z,11nm,1.1s
C20A Veseth Ranch, 87.29 40 P P 05 33 12.6 +0.6
baz=87,SNR=28
A21A Bergtoll Ranch 87.40 39 P P 05 33 12.9 +0.5
baz=87,SNR=5.7
HWUT Hardware Ranch 87.40 47 eP P 05 33 12.9 +0.1
comp=Z,21nm,1.0s
SWSC Sam W. Stewart 87.42 56 P P 05 33 13.0 +0.2
baz=87
BC3 Big Chuckawall 87.44 55 P P 05 33 13.8 +0.8
baz=87,SNR=15
IRM Iron Mountain 87.50 55 P P 05 33 13.7 +0.5
baz=87,SNR=12
DAGI Agillar 87.50 313 i P P 05 33 12.0 -1.2
FFC Flin Flon 87.51 32 P P 05 33 13.9 +1.1
comp=Z,331nm,1.0s,SNR=16
FFC Flin Flon 87.51 32 eP P 05 33 13.2 +0.4
FFC pmax pmax
comp=Z,55nm,1.0s
FFC Flin Flon 87.51 32 eP P 05 33 13.2 +0.4
comp=Z,55nm,1.0s
RLMT Red Lodge 87.56 43 P P 05 33 14.7 +1.2
baz=87,SNR=21
RLMT Red Lodge 87.56 43 eP P 05 33 14.6 +1.2
comp=Z,16nm,0.6s
DBOC Borcka 87.57 313 i P P 05 33 12.8 -0.6
DBOC Borcka 87.57 313 i P P 05 33 11.9 -1.5
B21A Ellsworth Farm 87.59 39 P P 05 33 14.2 +0.8
baz=88
CTU Camp Tracy 87.62 48 eP P 05 33 13.8 0.0
comp=Z,49nm,1.5s
CCUT Cedar City 87.63 51 eP P 05 33 14.8 +0.7
comp=Z,61nm,1.5s
NLU North Lily Min 87.67 49 eP P 05 33 14.3 +0.2
comp=Z,29nm,1.2s
DBAD Bademkaya 87.68 313 i P P 05 33 13.7 -0.3
DBAD Bademkaya 87.68 313 i P P 05 33 13.5 -0.5
DDEM Demirkent 87.69 312 i P P 05 33 14.1 +0.1
DDEM Demirkent 87.69 312 i P P 05 33 14.0 0.0
NEE2 Needles Airpor 87.69 54 P P 05 33 15.0 +1.0
baz=88,SNR=9.2
TCUT Toone Canyon 87.70 47 eP P 05 33 14.5 +0.2
comp=Z,13nm,0.8s
C21A Desert Coulee 87.80 40 P P 05 33 14.5 +0.2
baz=88,SNR=12
JLU Jordanelle 87.87 48 eP P 05 33 15.1 0.0
comp=Z,73nm,1.5s
H19A Powell 87.93 43 P P 05 33 15.8 +0.6
baz=88,SNR=5.6
MPU Maple Canyon 87.96 48 eP P 05 33 15.8 +0.3
comp=Z,121nm,1.3s
F20A Billings 88.00 42 P P 05 33 15.7 +0.3
baz=88
A22A Carney Farms, 88.00 39 P P 05 33 15.0 -0.3
baz=88,SNR=14
SOC Sochi 88.02 315 eP P 05 33 14.3 -1.1
SOC e*PP pP 05 34 57.0 -1.9
SOC e 05 36 49.5
SOC eS SKSac 05 42 57.5 -2.1
SOC eSS SS 05 49 24.5 +4.5
SOC pmax pmax
comp=Z,19nm,0.6s
Y12C Blythe 88.13 55 P P 05 33 17.0 +0.9
baz=88,SNR=7.1
GLA Glamis 88.14 56 eP P 05 33 16.8 +0.6
GLA pmax pmax
comp=Z,17nm,0.5s
GLA Glamis 88.14 56 P P 05 33 17.0 +0.7
baz=88,SNR=7.0
GLA Glamis 88.14 56 eP P 05 33 16.8 +0.6
comp=Z,17nm,0.5s
VSU Vasula 88.14 332 d iP P 05 33 14.3 -1.3
VSU pmax pmax
comp=Z,218nm,1.2s
MSU Marysvale 88.14 50 eP P 05 33 17.1 +0.7
MSU pmax pmax
comp=Z,90nm,1.7s
MSU Marysvale 88.14 50 eP P 05 33 17.1 +0.7
comp=Z,90nm,1.7s
I19A Meeteetse 88.18 44 P P 05 33 17.3 +0.9
baz=88,SNR=6.3
D21A La Casta Ranch 88.19 41 P P 05 33 16.4 +0.2
baz=88,SNR=6.7
G20A Bridger 88.20 43 P P 05 33 16.5 +0.1
baz=88,SNR=7.1
PDMCI Parker Dam,Lak 88.23 54 P P 05 33 17.4 +0.8
baz=88,SNR=22
B22A Reddig Ranch S 88.26 39 P P 05 33 16.8 +0.3
baz=88,SNR=5.7
BW06 Boulder Array 88.32 45 eP P 05 33 17.1 -0.1
comp=Z,6.3nm,0.8s
PDAR Pinedale Array 88.32 45 P P 05 33 17.1 -0.1
comp=Z,1.7nm,0.4s,baz=46,slow=2.1,SNR=42
E21A Keefer Ranch, 88.36 41 P P 05 33 17.3 +0.2
baz=88
J19A Crowheart 88.46 45 P P 05 33 18.4 +0.7
baz=88,SNR=23
TMUT Trail Mountain 88.54 49 eP P 05 33 19.0 +0.7
comp=Z,8.2nm,0.6s
C22A Vida 88.57 40 P P 05 33 18.2 +0.3
baz=88,SNR=12
A23A Redstone 88.63 38 P P 05 33 18.7 +0.5
baz=88
H20A Greybull 88.64 43 P P 05 33 19.2 +0.7
baz=88,SNR=7.3
D22A Cohagen 88.65 40 P P 05 33 18.8 +0.4
baz=88
B23A Brockton 88.78 39 P P 05 33 19.1 +0.2
baz=89,SNR=12
I20A Worland 88.78 44 P P 05 33 19.6 +0.4
baz=89,SNR=9.4
G21A Lodge Grass 88.84 42 P P 05 33 19.8 +0.4
baz=89,SNR=7.3
C23A Lambert 88.97 39 P P 05 33 20.6 +0.8
baz=89,SNR=15
ANN Anapa 89.01 317 eP P 05 33 17.1 -2.8
ANN e*PP pP 05 35 01.0 -2.7
ANN e 05 36 54.5
ANN eS SKSac 05 43 01.3 -4.0
ANN eSS SS 05 49 42.5 +8.4
ANN eSSS SSS 05 53 14.8
ANN pmax pmax
comp=Z,71nm,1.6s
SUMG Summit 89.05 1 ⇓ iP P 05 33 20.1 0.0
comp=Z,17nm,0.8s
SUMG Summit 89.05 1 ⇓ iP P 05 33 20.1 0.0
SUMG pmax pmax
comp=Z,17nm,0.8s
SUMG Summit 89.05 1 eP P 05 33 20.5 +0.4
comp=Z,15nm,0.7s
J20A Shoshoni 89.06 44 P P 05 33 20.8 +0.3
baz=89
SRU San Rafael 89.11 49 eP P 05 33 20.6 -0.2
SRU e*PP pP 05 35 06.6 +2.0
SRU pmax pmax
comp=Z,34nm,0.6s
SRU San Rafael 89.11 49 eP P 05 33 20.6 -0.2
comp=Z,34nm,0.6s
SRU epP pP 05 35 06.6 +2.0
E22A Miles City 89.11 41 P P 05 33 20.7 +0.2
baz=89,SNR=17
A24A Westby 89.16 38 P P 05 33 20.8 +0.2
baz=89
H21A Big Horn, Sher 89.20 43 P P 05 33 22.0 +0.9
baz=89,SNR=16
F22A Rosebud 89.20 42 P P 05 33 21.2 +0.2
baz=89,SNR=6.2
D23A Lindsay 89.24 40 P P 05 33 21.8 +0.7
baz=89,SNR=30
DGMT Dagmar 89.25 39 P P 05 33 21.1 0.0
baz=89,SNR=5.7
DGMT Dagmar 89.25 39 eP P 05 33 21.0 0.0
comp=Z,18nm,1.1s
I21A Big Trails, Te 89.39 44 P P 05 33 22.2 +0.2
baz=89,SNR=11
G22A Birney 89.43 42 P P 05 33 22.3 +0.2
baz=89
E23A Ismay 89.48 41 P P 05 33 22.5 +0.3
baz=89,SNR=14
J21A Lysite 89.49 44 P P 05 33 23.0 +0.5
baz=89,SNR=6.9
C24A Savage 89.55 39 P P 05 33 23.0 +0.5
baz=89,SNR=7.2
H22A Clearmont 89.66 43 P P 05 33 23.7 +0.5
baz=90,SNR=7.4
A25A Svangstu Ranch 89.67 38 P P 05 33 23.8 +0.8
baz=90
F23A Volborg 89.77 41 P P 05 33 23.4 -0.2
baz=90,SNR=11
D24A Glendive 89.80 40 P P 05 33 24.3 +0.6
baz=90,SNR=5.7
IZAR Zarasai 89.87 330 eP P 05 33 23.6 -0.1
IZAR IAmb IAmb 05 33 24.2
comp=Z,45nm,0.7s
IDID Didziasalis 89.88 330 eP P 05 33 23.5 -0.2
IDID IAmb IAmb 05 33 24.1
comp=Z,35nm,0.8s
WUAZ Wupatki 89.88 52 P P 05 33 25.7 +1.2
baz=90,SNR=23
WUAZ Wupatki 89.88 52 eP P 05 33 24.9 +0.4
comp=Z,50nm,1.2s
I22A 9 Mile Ranch, 89.88 43 P P 05 33 24.8 +0.6
baz=90,SNR=12
B25A Knox Farm, Ray 89.95 38 P P 05 33 24.9 +0.5
baz=90
G23A Biddle 90.01 42 P P 05 33 25.0 +0.2
baz=90,SNR=7.1
ISAL Salakas 90.03 330 eP P 05 33 24.3 -0.1
ISAL IAmb IAmb 05 33 24.9
comp=Z,31nm,0.9s
E24A Baker 90.06 40 P P 05 33 24.8 -0.2
baz=90
J22A Midwest 90.10 44 P P 05 33 25.3 0.0
baz=90,SNR=13
IIGN Ignalina 90.11 330 eP P 05 33 24.6 -0.2
IIGN IAmb IAmb 05 33 25.1
comp=Z,27nm,0.7s
214A Organ Pipe Nat 90.12 56 P P 05 33 26.3 +0.8
baz=90
214A Organ Pipe Nat 90.12 56 eP P 05 33 26.5 +1.0
comp=Z,51nm,1.2s
C25A Freed Ranch, W 90.16 39 P P 05 33 25.9 +0.6
baz=90,SNR=5.3
O20A White River Ci 90.30 47 P P 05 33 26.4 0.0
baz=90,SNR=19
O20A White River Ci 90.30 47 eP P 05 33 26.6 +0.3
comp=Z,46nm,1.2s
F24A Ekalaka 90.31 41 P P 05 33 26.4 +0.2
baz=90,SNR=8.0
A26A Wade Farm, Ken 90.31 37 P P 05 33 26.5 +0.5
baz=90
D25A Fairfield 90.39 39 P P 05 33 27.3 +0.9
baz=90,SNR=5.9
K22A Casper 90.40 44 P P 05 33 27.0 +0.3
baz=90
K22A Casper 90.40 44 eP P 05 33 26.6 -0.2
comp=Z,38nm,1.3s
PV04 Paradox Valley 90.55 49 eP P 05 33 28.1 +0.5
G24A Alzada 90.56 41 P P 05 33 27.2 -0.1
baz=90
E25A Miller Ranch, 90.65 40 P P 05 33 28.1 +0.5
baz=90,SNR=10.0
A27A Ledoux Ranch, 90.74 37 P P 05 33 28.3 +0.3
baz=91
H24A Dirks Ranch, A 90.74 42 P P 05 33 28.1 -0.1
baz=91,SNR=9.3
F25A Bowman 90.88 41 P P 05 33 29.4 +0.7
baz=91,SNR=8.1
PV01 Paradox Valley 90.90 49 eP P 05 33 29.1 -0.2
comp=Z,3μm,0.7s
PV01 epP pP 05 35 16.5 +3.2
PV01 ePP PP 05 37 12.1 -0.5
K23A Bowen Ranch, D 90.95 44 P P 05 33 29.2 0.0
baz=91,SNR=8.9
D26A Manning 90.98 39 P P 05 33 29.6 +0.4
baz=91
B27A Peters Farms, 91.00 38 P P 05 33 29.6 +0.4
baz=91
SIM Simferopol' 91.05 318 eP P 05 33 28.4 -1.1
SIM pmax pmax
comp=Z,13nm,0.9s
MALT Malatya 91.07 311 ⇑ iP P 05 33 29.6 -0.2
AKASG Malin Array Be 91.09 325 P P 05 33 28.5 -1.0
comp=Z,1.9nm,0.6s,baz=45,slow=4.9,SNR=16
AKASG PP PP 05 37 13.8 +0.6
comp=Z,1.7nm,0.8s,baz=47,slow=8.4,SNR=5.0
KIEV Kiev 91.10 325 d iP P 05 33 27.3 -2.2
KIEV Kiev 91.10 325 eP P 05 33 27.9 -1.6
comp=Z,45nm,1.8s
I24A Kuemmerle Ranc 91.10 43 P P 05 33 29.9 +0.1
baz=91,SNR=5.2
RAYN Ar Rayn 91.12 295 P P 05 33 29.9 -0.4
comp=Z,113nm,0.8s,SNR=6.5
RAYN Ar Rayn 91.12 295 eP P 05 33 29.7 -0.6
comp=Z,47nm,1.4s
RAYN epP pP 05 35 14.8 +0.5
C27A Sayler Ranch, 91.20 38 P P 05 33 30.0 -0.1
baz=91
E26A Carlson Angus 91.23 40 P P 05 33 30.7 +0.4
baz=91,SNR=27
G25A Newell 91.25 41 P P 05 33 30.3 -0.1
baz=91,SNR=5.1
W18A Petrified Fore 91.27 52 P P 05 33 31.7 +0.7
baz=91
A28A Rude Farm, Bot 91.32 37 P P 05 33 30.9 +0.3
baz=91
J24A Dixon Ranch, L 91.32 43 P P 05 33 30.9 0.0
baz=91
MVCO Mesa Verde 91.33 50 P P 05 33 31.7 +0.4
baz=91,SNR=22
MVCO Mesa Verde 91.33 50 eP P 05 33 31.3 +0.1
comp=Z,48nm,1.4s
RSSD Black Hills 91.36 42 eP P 05 33 31.0 -0.2
RSSD pmax pmax
comp=Z,21nm,1.1s
RSSD Black Hills 91.36 42 eP P 05 33 31.0 -0.2
comp=Z,21nm,1.1s
F26A Lodgepole 91.40 40 P P 05 33 31.5 +0.4
baz=91,SNR=11
H25A Fruitdale 91.41 42 P P 05 33 31.5 +0.3
baz=91,SNR=15
D27A Center 91.48 39 P P 05 33 32.2 +0.7
baz=91,SNR=6.2
K24A Anderson Ranch 91.50 44 P P 05 33 31.8 +0.1
baz=91
B28A Dugan Ranch, T 91.50 37 P P 05 33 32.1 +0.7
baz=91
N23A Red Feather La 91.56 46 P P 05 33 33.2 +1.0
baz=91,SNR=39
TUC Tucson 91.58 55 eP P 05 33 32.9 +0.6
TUC e*PP pP 05 35 17.8 +1.5
TUC pmax pmax
comp=Z,26nm,1.4s
TUC Tucson 91.58 55 eP P 05 33 32.9 +0.6
comp=Z,26nm,1.4s
TUC epP pP 05 35 17.8 +1.5
SMCO Snowmass 91.59 48 eP P 05 33 33.0 +0.4
comp=Z,49nm,1.3s
I25A Rochford 91.60 42 P P 05 33 32.3 0.0
baz=92,SNR=19
PHWY Pilot Hill 91.71 45 eP P 05 33 33.2 +0.3
comp=Z,27nm,1.3s
G26A Maurine 91.71 41 P P 05 33 32.8 +0.2
baz=92,SNR=23
F27A Lemmon 91.79 40 P P 05 33 33.2 +0.3
baz=92,SNR=17
E27A Carson 91.79 39 P P 05 33 33.4 +0.5
baz=92,SNR=25
J25A Sunshine Ranch 91.85 43 P P 05 33 33.3 0.0
baz=92,SNR=11
C28A Hausauer Farms 91.85 38 P P 05 33 33.6 +0.5
baz=92,SNR=5.6
A29A Manning Farm, 91.90 36 P P 05 33 33.5 +0.2
baz=92,SNR=22
H26A Fairpoint 91.93 41 P P 05 33 33.7 +0.1
baz=92,SNR=8.7
D28A Regan 92.01 38 P P 05 33 33.8 -0.1
baz=92
B29A Wagenman Farm, 92.06 37 P P 05 33 34.2 +0.1
baz=92
G27A Dupree 92.08 40 P P 05 33 34.4 +0.1
baz=92,SNR=34
I26A New Underwood 92.15 42 P P 05 33 35.0 +0.3
baz=92
K25A Mack Ranch, Ha 92.17 44 P P 05 33 35.2 +0.3
baz=92
MDND Maddock 92.24 38 P P 05 33 35.1 +0.2
baz=92
E28A Huff 92.24 39 P P 05 33 35.3 +0.3
baz=92
ISCO Idaho Springs 92.27 47 eP P 05 33 36.3 +0.7
ISCO pmax pmax
comp=Z,18nm,1.1s
ISCO Idaho Springs 92.27 47 P P 05 33 36.5 +0.9
baz=92,SNR=17
ISCO Idaho Springs 92.27 47 eP P 05 33 36.3 +0.7
comp=Z,18nm,1.1s
S22A 4UR Ranch, Cre 92.31 49 P P 05 33 36.6 +0.8
baz=92,SNR=36
L25A Engebretsen Ra 92.31 44 P P 05 33 36.3 +0.7
baz=92
SUW Suwalki 92.32 330 eP P 05 33 33.9 -1.2
SUW Suwalki 92.32 330 eP P 05 33 33.9 -1.2
J26A Sides Ranch, S 92.35 43 P P 05 33 36.1 +0.5
baz=92,SNR=9.7
H27A Howes 92.35 41 P P 05 33 35.6 0.0
baz=92
A30A Hoffart Farm, 92.41 36 P P 05 33 35.9 +0.2
baz=92,SNR=10
NB2 NORSAR Subarra 92.50 339 P P 05 33 34.4 -1.4
comp=Z,5.8nm,0.6s,baz=45,slow=4.6
NB2 NORSAR Subarra 92.50 339 P P 05 33 34.4 -1.4
baz=45,slow=4.6
NOA NORSAR Array B 92.50 339 P P 05 33 34.8 -1.1
comp=Z,5.6nm,0.6s,baz=45,slow=4.4,SNR=35
NOA PP PP 05 37 21.5 -2.5
comp=Z,3.9nm,0.8s,baz=44,slow=8.1,SNR=8.2
F28A McLaughlin 92.54 40 P P 05 33 36.7 +0.3
baz=92
K26A Motz Farm, Whi 92.58 43 P P 05 33 36.7 0.0
baz=92,SNR=8.0
M25A Palm-Egli Farm 92.59 45 P P 05 33 37.2 +0.3
baz=92
I27A Quinn 92.64 42 P P 05 33 36.6 -0.3
baz=92
D29A Pettibone, Tap 92.65 38 P P 05 33 36.6 -0.2

baz=92
B30A Myrvik Farm, E 92.66 37 P P 05 33 36.9 +0.1
baz=92,SNR=10
G28A Parade 92.86 40 P P 05 33 37.9 0.0
baz=93
E29A Napoleon 92.87 39 P P 05 33 37.1 -0.7
baz=93
L26A Underwood Farm 92.95 44 P P 05 33 38.2 -0.2
baz=93
Q24A Divide 92.96 47 P P 05 33 38.9 +0.1
baz=93
C30A Mose, Pekin 92.96 37 P P 05 33 38.3 +0.1
baz=93
H28A Mission Ridge 92.99 41 P P 05 33 39.0 +0.5
baz=93
J27A Elkhorn Farm, 93.07 42 P P 05 33 39.1 +0.2
baz=93,SNR=5.3
D30A Buchanan 93.11 38 P P 05 33 38.8 -0.1
baz=93,SNR=9.3
F29A Eureka 93.14 39 P P 05 33 38.7 -0.4
baz=93
M26A McRoberts Ranc 93.18 44 P P 05 33 39.6 +0.1
baz=93
K27A Flueckinger Fa 93.18 43 P P 05 33 39.2 -0.3
baz=93
I28A Midland 93.23 41 P P 05 33 39.3 -0.2
baz=93
SDCO Great Sand Dun 93.26 48 P P 05 33 40.6 +0.5
baz=93,SNR=16
SDCO Great Sand Dun 93.26 48 *e*P P 05 33 40.1 0.0
comp=Z,24nm,1.7s
G29A Hoven 93.41 40 P P 05 33 40.1 -0.2
baz=93
N26A Koester Ranch, 93.42 45 P P 05 33 40.5 -0.1
baz=93
J28A Allard Ranch, 93.47 42 P P 05 33 40.3 -0.5
baz=93,SNR=7.2
LAZ Ladron 93.51 52 *e*P P 05 33 41.5 +0.2
comp=Z,0.8nm,0.7s
H29A Onida 93.52 41 P P 05 33 40.3 -0.5
baz=93
F30A Leola 93.62 39 P P 05 33 40.9 -0.4
baz=94
O26A Horse Wrangler 93.64 45 P P 05 33 41.6 0.0
baz=94
M27A Reverse DX Ran 93.65 44 P P 05 33 42.1 +0.5
baz=94
K28A Ten Mile Ranch 93.74 43 P P 05 33 42.1 +0.1
baz=94
I29A Vivian Onida 93.76 41 P P 05 33 41.6 -0.4
baz=94
ANMO Albuquerque 93.79 51 *de*P P 05 33 42.8 +0.3
ANMO pmax pmax
comp=Z,38nm,1.0s
ANMO Albuquerque 93.79 51 *e*P P 05 33 43.0 +0.5
comp=Z,22nm,1.6s
BRTR Keskin Array B 93.79 314 P P 05 33 41.4 -1.0
comp=Z,17nm,0.9s,baz=92,slow=3.7,SNR=67
BRTR PP PP 05 37 36.6 +1.7
comp=Z,0.9nm,0.7s,baz=77,slow=6.2,SNR=3.0
121A Cookes Peak, D 93.81 54 P P 05 33 43.5 +0.9
baz=94
121A Cookes Peak, D 93.81 54 *e*P P 05 33 43.5 +0.9
comp=Z,49nm,1.7s
Y22D IRIS PASSCAL I 93.81 52 P P 05 33 43.3 +0.7
baz=94
N27A Anderson Farm, 93.89 45 P P 05 33 42.8 0.0
baz=94
G30A Faulkton 93.91 40 P P 05 33 42.6 0.0
baz=94
P26A Davis Ranch, A 93.93 46 P P 05 33 43.4 +0.4
baz=94
J29A Okreek 94.06 42 P P 05 33 42.9 -0.5
baz=94,SNR=7.5
Q26A Hugo 94.11 47 P P 05 33 43.3 -0.6
baz=94
AGMN Agassiz Nation 94.12 36 P P 05 33 43.2 -0.3
baz=94,SNR=5.8
AGMN Agassiz Nation 94.12 36 *e*P P 05 33 42.9 -0.5
comp=Z,6.1nm,1.0s
O27A Beecher Island 94.23 45 P P 05 33 44.2 -0.1
baz=94
ANTO Ankara 94.30 314 P P 05 33 44.4 -0.2
SNR=5.0
T25A Trinidad 94.30 49 P P 05 33 44.9 0.0
baz=94
M28A Bar X Bar Ranc 94.38 44 P P 05 33 45.4 +0.5
baz=94
K29A Lazy Trails An 94.39 42 P P 05 33 45.0 +0.1
baz=94
R26A Arlington 94.45 47 P P 05 33 45.6 +0.2
baz=94
P27A Ficken Ranch, 94.46 46 P P 05 33 45.4 +0.1
baz=94
N28A Pribbeno Ranch 94.61 44 P P 05 33 45.9 -0.1
baz=94
J30A Dallas 94.62 41 P P 05 33 45.2 -0.7
baz=94
L29A Maesberg Ranch 94.63 43 P P 05 33 45.6 -0.5
baz=94
KSCO Kaye Shedlock' 94.69 46 P P 05 33 46.9 +0.5
baz=95
O28A Krutsinger Ran 94.73 45 P P 05 33 46.4 -0.2
baz=95
T26A Comanche Natio 94.87 48 P P 05 33 48.1 +0.7
baz=95
K30A Basset 94.88 42 P P 05 33 46.6 -0.5
baz=95
R27A Eads 94.91 47 P P 05 33 47.7 +0.2
baz=95
BURAR Bucovina Array 94.97 324 ⇑ *i*P P 05 33 47.0 -0.5
P28A Saint Francis 95.01 46 P P 05 33 47.7 -0.2
baz=95
KWP Kalwaria Pacla 95.16 327 *e*P P 05 33 47.1 -1.1
KWP Kalwaria Pacla 95.16 327 *e*P P 05 33 47.2 -1.0
L30A Spencer Herefo 95.18 43 P P 05 33 47.9 -0.6
baz=95
Q28A Sharon Springs 95.20 46 P P 05 33 48.8 +0.1
baz=95
T27A Campo 95.54 48 P P 05 33 50.7 +0.4
baz=95
P29A Atwood 95.55 45 P P 05 33 51.0 +0.8
baz=95
R28A Tribune 95.56 47 P P 05 33 50.8 +0.5
baz=95
MLR Muntele Rosu 95.74 322 ⇓ *i*P P 05 33 50.3 -0.8
U27A Thompson Grove 95.77 49 P P 05 33 51.9 +0.5
baz=96
DOPR Dopca 95.80 322 ⇑ *i*P P 05 33 50.7 -0.5
KOLS Kolonicke sedl 95.81 326 *e*P P 05 33 50.0 -1.1
KOLS pmax pmax
comp=Z,20nm,2.4s
KOLS Kolonicke sedl 95.81 326 *e*P P 05 33 50.0 -1.1
Q29A Oakley 95.87 46 P P 05 33 52.1 +0.4
baz=96
T28A Walsh 95.94 48 P P 05 33 52.7 +0.6
baz=96
M31A Lambtecht Ranc 95.97 43 P P 05 33 52.7 +0.6
baz=96
R29A Marienthal 95.99 46 P P 05 33 52.3 0.0
baz=96
STHS Stebnicka Huta 96.05 327 *e*P P 05 33 52.7 +0.5
STHS pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 96.05 327 *e*P P 05 33 52.7 +0.5
V27A Dan Oppiter Fa 96.07 49 P P 05 33 53.2 +0.5
baz=96
ECSD EROS Data Cent 96.19 40 P P 05 33 52.4 -0.6
baz=96
ECSD EROS Data Cent 96.19 40 *e*P P 05 33 52.0 -1.0
comp=Z,9.3nm,1.2s
O31A Woolen Ranch, 96.35 44 P P 05 33 54.0 +0.2
baz=96
V28A Channing 96.51 49 P P 05 33 55.3 +0.6
baz=96
NIE Niedzica 96.53 327 *e*P P 05 33 53.0 -1.4
NIE Niedzica 96.53 327 *e*P P 05 33 53.0 -1.4
R30A Dighton 96.65 46 P P 05 33 55.6 +0.4
baz=96
CBKS Cedar Bluff 96.75 45 P P 05 33 55.8 +0.1
baz=97
DRGR 96.84 324 ⇑ *i*P P 05 33 55.1 -0.8
MSTX Muleshoe 96.94 51 P P 05 33 57.5 +0.8
baz=97
O32A Brockman Farm, 96.98 44 P P 05 33 56.6 0.0
baz=97
M33A Taylor Creek F 96.99 42 P P 05 33 56.4 -0.3
baz=97

KECS Kecovo 97.02 327 *e*P P 05 33 55.9 -0.7
KECS pmax pmax
comp=Z,3.0nm,0.9s
KECS Kecovo 97.02 327 PDIF P 05 33 55.9 -0.7
P32A Huiting Farm, 97.10 44 P Pdif 05 33 57.3 +0.1
baz=97
X28A Dimmitt 97.11 50 P Pdif 05 33 57.6 +0.2
baz=97
R31A Burdett 97.16 46 P Pdif 05 33 58.6 +1.1
baz=97
AMTX Amarillo 97.31 50 P Pdif 05 33 59.3 +0.9
baz=97
AMTX Amarillo 97.31 50 *e*P Pdif 05 33 58.7 +0.4
comp=Z,5.0nm,0.8s
OKC Ostrava-Krasne 97.36 329 *e*P P 05 33 57.2 -0.8
OKC Ostrava-Krasne 97.36 329 *e*P P 05 33 57.2 -0.8
OKC MLR MLR
comp=Z,500nm,20.7s
X29A Tulia 97.50 50 P Pdif 05 33 59.6 +0.4
baz=97
Z28A Tucker Farm, M 97.55 51 P Pdif 05 33 59.7 +0.3
baz=97
KSP Ksiaz 97.59 330 *e*P P 05 33 58.0 -1.0
KSP Ksiaz 97.59 330 *e*P P 05 33 58.1 -1.0
SPMN St. Paul 97.60 37 P P 05 33 59.2 -0.1
baz=97
R32A Long Quarter, 97.64 45 P P 05 33 59.5 -0.1
baz=98
T31A Randall Ranch, 97.65 47 P Pdif 05 34 00.3 +0.6
baz=98
MORC Moravsky Berou 97.69 329 ⇑ *i*P P 05 33 59.2 -0.4
128A Castleberry Fa 97.78 52 P Pdif 05 34 00.7 +0.2
baz=98
Y29A Porterfield Fa 97.80 51 P Pdif 05 34 01.2 +0.7
baz=98
S32A Newby Ranch, P 97.86 46 P Pdif 05 34 00.8 +0.2
baz=98
KRLC Kraliky 97.87 329 *e*P P 05 33 59.0 -1.4
KRLC *e*PP PP 05 38 04.1 -1.2
KRLC Kraliky 97.87 329 *e*P P 05 33 59.0 -1.4
KRLC *e* 05 38 04.1
U31A Nine Bar Ranch 97.89 48 P P 05 34 01.5 +0.7
baz=98
DPC Dobruska-Polom 97.91 330 *e*P P 05 33 59.7 -0.8
DPC *e*PP PP 05 38 02.0 -3.6
DPC Dobruska-Polom 97.91 330 *e*P P 05 33 59.7 -0.8
DPC *e* 05 38 02.0
UPC Upice 97.95 330 *e*P Pdif 05 33 59.2 -1.5
UPC Upice 97.95 330 *e*P Pdif 05 33 59.2 -1.5
Z29A Hungry Hill Ra 98.06 51 P P 05 34 02.3 +0.6
baz=98
R33A Olander Ranch, 98.19 45 P P 05 34 02.3 +0.3
baz=98
V31A Spring Creek L 98.19 48 P P 05 34 02.8 +0.6
baz=98
TXAR Lajitas Array 98.38 55 P P 05 34 03.7 +0.5
comp=Z,0.8nm,0.6s,baz=286,slow=2.9,SNR=11
TXAR pP pP 05 35 50.4 +2.7
comp=Z,0.2nm,0.6s,baz=270,slow=2.5,SNR=2.3
TXAR PKKPbc PKKPbc 05 50 31.6 -0.5
comp=Z,0.4nm,0.7s,baz=133,slow=3.6,SNR=5.9
W31A Holland Ranch, 98.41 49 P P 05 34 04.0 +0.9
baz=98
VRAC Vranov 98.47 329 ⇑ *i*P Pdif 05 34 03.0 0.0
PVCC Panska Ves 98.61 331 *e*P Pdif 05 34 03.0 -0.6
PVCC Panska Ves 98.61 331 *e*P Pdif 05 34 03.0 -0.6
R34A Isabella, Hill 98.69 45 P P 05 34 04.4 +0.2
baz=98
329A Wagon Wheel Ra 98.69 53 P P 05 34 05.4 +0.9
baz=99
V32A Arapaho 98.78 48 P P 05 34 05.7 +1.0
baz=99
Y31A Rekieta Farm, 98.78 50 P P 05 34 05.5 +0.7
baz=99
CLL Collm 98.79 332 *e*Pdiff Pdif 05 34 02.8 -1.6
CLL Collm 98.79 332 *i* P Pdif 05 34 03.0 -1.4
CLL pmax pmax
comp=Z,10.0nm,1.2s
GOPC GO Pecny, Ondr 98.93 330 *e*PP PP 05 38 10.0 -3.3
W32A Sentinel 98.94 48 P P 05 34 06.4 +0.9
baz=99
PRU Pruhonice 99.00 330 *e*P Pdif 05 34 04.3 -1.0
PRU *e*PP PP 05 38 09.1 -4.6
PRU Pruhonice 99.00 330 *e*P Pdif 05 34 04.3 -1.0
PRU *e* 05 38 09.1
TREC Trest 99.02 329 *e*P Pdif 05 34 03.9 -1.6
TREC Trest 99.02 329 *e*P Pdif 05 34 03.9 -1.6
TREC MLR MLR
comp=Z,500nm,19.2s
S34A Willow Spring 99.09 45 P Pdif 05 34 06.2 +0.1
baz=99
529A Stev Forest Ra 99.14 54 P Pdif 05 34 07.1 +0.6
baz=99
429A Davenport Ranc 99.16 53 P Pdif 05 34 07.2 +0.6
baz=99
X32A Elmer 99.26 49 P Pdif 05 34 07.1 +0.2
baz=99
MMB Musomiste 99.27 320 ⇑ *i*P Pdif 05 34 06.4 -0.4
P36A Good Intent, A 99.32 43 P Pdif 05 34 06.7 -0.3
baz=99
330A Mertzon 99.33 52 P Pdif 05 34 07.4 +0.1
baz=99
Y32A R-V Farms, Ver 99.35 49 P Pdif 05 34 08.0 +0.7
baz=99
T34A McClaskey Farm 99.40 46 P Pdif 05 34 07.9 +0.4
baz=99
NEUB Neuenburg 99.40 332 *e*Pdiff Pdif 05 34 06.1 -1.0
U34A Anderson Ranch 99.47 47 P Pdif 05 34 08.3 +0.6
baz=99
W33A Caddo, Fort Co 99.47 48 P Pdif 05 34 09.2 +1.3
baz=99
CLZ Clausthal 99.55 333 *e*Pdiff Pdif 05 34 06.5 -1.3
CLZ *e*PP PP 05 38 18.1 +0.2
430A Baggett Ranch, 99.58 53 P Pdif 05 34 09.0 +0.5
baz=100
TANN Tannenbergstha 99.66 331 *e*PP PP 05 38 19.2 +0.4
Z32A Haskell 99.67 50 P Pdif 05 34 09.2 +0.5
baz=100
WERD Werda 99.71 332 *e*Pdiff Pdif 05 34 07.5 -1.0
WERD *e*PP PP 05 38 19.5 +0.4
231A Bronte 99.72 52 P Pdif 05 34 09.4 +0.4
baz=100
PLN Plauen 99.75 332 *e*Pdiff Pdif 05 34 07.6 -1.1
PLN *e*PP PP 05 38 20.1 +0.8
GUNZ Gunzen 99.75 332 *e*Pdiff Pdif 05 34 07.5 -1.3
X33A Lawton 99.76 49 P Pdif 05 34 09.2 +0.1
baz=100
WERN Wernitzgruen 99.79 331 *e*Pdiff Pdif 05 34 07.9 -1.0
WERN *e*PP PP 05 38 20.5 +0.8
NKC Novy Kostel 99.80 331 *e*PP PP 05 38 19.5 -0.2
NKC Novy Kostel 99.80 331 *e*P Pdif 05 34 00.7 -8.2
NKC *e* 05 38 19.5
530A J-C Ranch, Com 99.80 54 P Pdif 05 34 10.2 +0.8
baz=100
R36A Gordon, Harris 99.83 44 P Pdif 05 34 09.1 -0.3
baz=100
MOX Moxa 99.88 332 *e*Pdiff Pdif 05 34 08.5 -0.8
MOX *e*PP PP 05 38 20.9 +0.6
ABTX Abilene, Hawle 99.89 51 P Pdif 05 34 10.4 +0.7
baz=100
T35A Sooner Cattle 99.91 46 P Pdif 05 34 10.1 +0.3
baz=100
331A San Angelo 99.94 52 P Pdif 05 34 10.4 +0.3
baz=100
KHC Kasperske Hory 100.04 330 *e*P Pdif 05 34 08.8 -1.3
KHC *e*PP PP 05 38 19.0 -2.6
KHC Kasperske Hory 100.04 330 *e*P Pdif 05 34 08.8 -1.3
KHC *e* 05 38 19.0
431A Sonora 100.11 53 P Pdif 05 34 11.1 +0.3
baz=100
MANZ Manzenberg 100.12 331 *e*Pdiff Pdif 05 34 09.2 -1.2
MANZ *e*PP PP 05 38 22.7 +0.5
GEC2 GERESS Array S 100.18 330 *e*Pdiff Pdif 05 34 09.4 -1.4
GEC2 *e*PP PP 05 38 23.5 +0.7
GERES GERESS Array B 100.18 330 P Pdif 05 34 09.8 -1.0
comp=Z,1.6nm,0.8s,baz=52,slow=5.2,SNR=16
GERES PP PP 05 38 23.5 +0.7
comp=Z,3.4nm,1.0s,baz=50,slow=7.2,SNR=11
GERES PKKPbc PKKPbc 05 50 25.0 -2.9
comp=Z,0.6nm,0.8s,baz=223,slow=3.3,SNR=6.5
Z33A Whitaker Ranch 100.20 50 P Pdif 05 34 12.1 +1.0
baz=100
ROTZ Rotzenmuhle 100.23 331 *e*Pdiff Pdif 05 34 10.5 -0.4
ROTZ *e*PP PP 05 38 23.9 +0.9
IBBN Ibbenburen 100.28 335 *e*Pdiff Pdif 05 34 10.0 -1.0

IBBN *e*PP PP 05 38 22.6 -0.6
WET Wettzell 100.36 330 *e*PP PP 05 38 24.9 +0.9
531A Rocksprings 100.40 53 P Pdif 05 34 12.9 +0.8
baz=100
332A Millersview 100.42 52 P Pdif 05 34 12.7 +0.5
baz=100
UBBA Unterbreizbach 100.46 333 *e*PP PP 05 38 24.7 +0.2
Y34A Reagan Ranch, 100.59 49 P Pdif 05 34 13.7 +0.9
baz=100
W35A Tecumseh 100.59 47 P Pdif 05 34 13.4 +0.6
baz=100
GRF Grafenberg Arr 100.74 332 *e*PP PP 05 38 27.7 +0.9
BUG Bochum--Univer 101.14 335 *e*PP PP 05 38 29.5 -0.1
RJOB Jochberg 101.39 329 *e*PP PP 05 38 32.7 +1.0
TNS Taunus Mts 101.57 333 *e*PP PP 05 38 32.7 -0.2
SNF Seneffe 103.05 336 P Pdif 05 34 22.6 -0.7
DOU Dourbes 103.26 335 P Pdif 05 34 23.7 -0.6
LRAL Lakeview Retre 108.53 44 *e*PKPdf **PKiKP** 05 38 50.5 -0.5
MVO Moncorvo 115.19 337 *e*PKPdf **PKPdf** 05 39 04.1 +0.5
ESDC Sonseca Array 115.26 334 PKP **PKPdf** 05 39 03.9 +0.1
comp=Z,0.7nm,0.5s,baz=22,slow=2.3,SNR=5.9
ESDC PP PP 05 40 11.8 +0.6
comp=Z,4.3nm,0.7s,baz=26,slow=7.2,SNR=16
ESDC PKKPab **PKKPab** 05 49 48.1 -1.0
comp=Z,0.2nm,0.4s,baz=211,slow=4.7,SNR=4.1
POLO Lamas de Olo 115.28 338 *e*PKPdf **PKPdf** 05 39 04.0 +0.2
MTE Manteigas 116.04 337 *e*PKPdf **PKPdf** 05 39 05.5 +0.2
PMRV Marv??o 116.83 336 *e*PKPdf **PKPdf** 05 39 07.1 +0.3
PESTR Estremoz 117.40 336 *e*PKPdf **PKPdf** 05 39 07.9 0.0
PBAR Barrancos 117.78 335 *e*PKPdf **PKPdf** 05 39 08.9 +0.3
EVO Evora 117.85 336 *e*PKPdf **PKPdf** 05 39 09.0 +0.3
PNCL Nicolau / Gran 118.41 337 *e*PKPdf **PKPdf** 05 39 10.1 +0.3
MESJ Messejana 118.53 336 *e*PKPdf **PKPdf** 05 39 09.2 -0.8
TAM Tamanrasset 122.99 314 *e*PKIKP **PKPdf** 05 39 20.0 +0.8
TAM Tamanrasset 122.99 314 *e*PKPdf **PKPdf** 05 39 20.0 +0.8
SNAA Sanae 123.68 192 PKIKP PKPpre 05 39 13.3
SNAA Sanae 123.68 192 PKPdf PKPpre 05 39 13.3
BOSA Boshof 124.46 248 PKP **PKPdf** 05 39 21.2 -0.5
comp=Z,0.9nm,0.4s,baz=93,slow=4.5,SNR=3.5
TORD Torodi Ar. Bea 132.09 309 PKhKP PKPpre 05 39 22.6
comp=Z,0.3nm,0.4s,baz=49,slow=2.3,SNR=6.4
TORD PKP **PKPdf** 05 39 36.0 -0.5
comp=Z,2.2nm,0.5s,baz=31,slow=1.4,SNR=27
TORD SKPbc **SKPbc** 05 42 18.4 -1.1
comp=Z,8.1nm,0.8s,baz=32,slow=2.7,SNR=17
ROSC El Rosal 134.71 63 PKP **PKPdf** 05 39 42.3 +0.3
comp=Z,2.8nm,0.4s,baz=253,slow=8.8,SNR=4.2
SDV Santo Domingo 135.42 55 *e*PKPdf **PKPdf** 05 39 42.9 -0.1
DBIC Dimbokro 141.18 308 PKhKP PKPpre 05 39 47.9
comp=Z,4.2nm,0.4s,baz=23,slow=3.4,SNR=21
SACV Santiago Islan 144.87 341 *e*PKPdf PKPbc 05 40 00.0 0.0
LCO Las Campanas 145.75 114 *e*PKPbc **PKPbc** 05 40 02.6 0.0
LVC Limon Verde 147.95 103 *e*PKPdf **PKPdf** 05 40 05.6 +0.6
LVC *e*PKPbc **PKiKP** 05 40 10.3 +0.1
LPAZ La Paz 148.24 91 PKPbc **PKPbc** 05 40 10.7 +0.6
comp=Z,42nm,0.5s,baz=352,slow=3.4,SNR=158
TRQA Tornquist 149.43 135 *e*PKPdf **PKPdf** 05 40 06.9 +0.2
TRQA *e*PKPbc **PKPbc** 05 40 11.5 -0.2
TRQA *e*PKPab **PKPab** 05 40 19.0 +0.6
PTGA Pitinga 149.68 57 *e*PKPbc **PKPbc** 05 40 13.4 +0.4
SAML Samuel 150.95 75 *e*PKPdf **PKPdf** 05 40 10.0 +0.4
SAML *e*PKPbc **PKPbc** 05 40 16.0 +0.1
SAML *e*PKPab **PKPab** 05 40 25.0 -0.3
CPUP Villa Florida 157.90 114 PKP **PKPdf** 05 40 18.6 -0.3
comp=Z,3.6nm,0.9s,baz=304,slow=2.8,SNR=9.4
CPUP PKPab **PKPab** 05 40 54.8 0.0
comp=Z,9.6nm,0.9s,baz=258,slow=6.1,SNR=16
BDFB Brasilia 167.13 79 PKP **PKPdf** 05 40 28.2 0.0
comp=Z,5.9nm,0.7s,baz=26,slow=3.5,SNR=11
BDFB PKPab **PKPab** 05 41 34.6 -1.2
comp=Z,1.6nm,0.6s,baz=318,slow=4.2,SNR=3.3

*ISCJB **04** 05:29:30.4±0.8, 1°.27N±0°.06×22°.3E±0°.2, h10km, Error ellipse: s-maj=11.1km s-min=4.4km az=35.5*
*CSEM **04** 05:29:30.9±0.1, 77°.26N×22°.40E, h10km, ML2.6, Error ellipse: s-maj=3.4km s-min=1.6km az=39.0*
*NAO **04** 05:29:31.2±1.0, 77°.21N×22°.39E, h9km±10km, ML2.6*
*BER **04** 05:29:33.8±1.2, 77°.22N×22°.47E, h23km±11km, MD2.1, ML2.1, ML2.6(NAO)*
ISC 04 05:29:31.7±1.0, 77°22N±0°.06×22°45E±0°.06, h10km, n15, σ0°93/27, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPEN	**Hopen**	**0.92**	**139**	Pg	**Pg**	**05 29 49.2**	**-0.2**
HOPEN				Lg	Lg	05 30 01.7	
HOPEN	**Hopen**	**0.92**	**139**	*e*P	**Pg**	**05 29 49.2**	**-0.2**
HOPEN				*e*S	**Sg**	**05 30 02.1**	**+0.7**
HOPEN				IAML		05 30 05.2	
	comp=Z,66nm,0.2s						
HOPEN	**Hopen**	**0.92**	**139**	*e*P	**Pg**	**05 29 49.2**	**-0.2**
	SNR=55						
HOPEN				Lg	Lg	05 30 01.7	
HOPEN				*e*S	**Sg**	**05 30 02.1**	**+0.7**
	SNR=55						
HSP	**Hornsund**	**1.56**	**266**	Pn	**Pn**	**05 29 58.3**	**-1.1**
HSP				Pg	**Pb**	**05 30 00.7**	**+0.1**
HSP				Lg	Lg	05 30 21.2	
HSP	**Hornsund**	**1.56**	**266**	Pn	**Pn**	**05 29 58.3**	**-1.1**
HSPB	**Hornsund (broa**	**1.57**	**265**	*e*P	**Pn**	**05 29 58.8**	**-0.8**
HSPB				*e*Pg	**Pb**	**05 30 01.0**	**+0.3**
HSPB				*e*Sg	**Sb**	**05 30 21.1**	**+0.5**
HSPB	**Hornsund (broa**	**1.57**	**265**	*e*P	**Pn**	**05 29 58.8**	**-0.8**
	SNR=55						
HSPB	**Hornsund (broa**	**1.57**	**265**	*e*Pg	**Pb**	**05 30 01.0**	**+0.3**
	SNR=94						
HSPB				*e*Sg	**Sb**	**05 30 21.1**	**+0.5**
	SNR=94						
SPA0	**Spitsbergen Ar**	**1.62**	**309**	Pn	**Pn**	**05 29 59.3**	**-0.9**
	baz=136,slow=18						
SPA0				Pg	**Pb**	**05 30 01.6**	**0.0**
	baz=131,slow=22						
SPA0				Lg	Lg	05 30 21.8	
	baz=124,slow=28						
SPA0	**Spitsbergen Ar**	**1.62**	**309**	*e*P	**Pn**	**05 29 59.4**	**-0.9**
SPA0				*e*Pg	**Pb**	**05 30 01.7**	**0.0**
SPA0				*e*Sg	**Sb**	**05 30 22.2**	**+0.1**
SPA0				IAML		05 30 24.7	
	comp=Z,32nm,0.4s						
SPA0	**Spitsbergen Ar**	**1.62**	**309**	Pn	**Pn**	**05 29 59.3**	**-0.9**
	baz=136,slow=18,SNR=641						
SPA0	**Spitsbergen Ar**	**1.62**	**309**	Pg	**Pb**	**05 30 01.6**	**0.0**
	baz=131,slow=20,SNR=3.7						
SPA0				Lg	Lg	05 30 21.8	
	baz=124,slow=27,SNR=2.6						
SPA0				*e*Sg	**Sb**	**05 30 22.2**	**+0.1**
	SNR=94						
KBS	**Kingsbay**	**2.77**	**313**	Pn	**Pn**	**05 30 14.9**	**-1.1**
KBS				Lg	Lg	05 30 56.6	
KBS	**Kingsbay**	**2.77**	**313**	*e*P	**Pn**	**05 30 15.0**	**-1.1**
KBS				*e*Sg	**Sb**	**05 30 57.3**	**+2.1**
KBS	**Kingsbay**	**2.77**	**313**	*e*P	**Pn**	**05 30 15.0**	**-1.1**
	SNR=55						
KBS				Lg	Lg	05 30 56.6	
KBS				*e*Sg	**Sb**	**05 30 57.3**	**+2.1**
	SNR=92						

*BJI **04** 05:41:33.9, 1°.26N×127°.90E, h115km, mb4.7/22, mB4.8/13*
*NEIC **04** 05:41:40.5±0.8, 1°.94N×127°.76E, h118km±7km, mb4.6/11, Error ellipse: s-maj=10.8km s-min=4.8km az=71.0*
*ISCJB **04** 05:41:41.1±0.5, 1°.85N±0°.03×127°.46E±0°.04, h133km±4km, mb4.4/21, Error ellipse: s-maj=6.9km s-min=4.9km az=144.9*
*IDC **04** 05:41:41.9±1.5, 1°.89N×127°.57E, h126km±14km, mb4.1/12, mb1 4.2/14, mb1mx3.9/32, mbtmp4.4/14, MS2.6/1, Ms1 2.6/1, ms1mx2.3/34, Error ellipse: s-maj=19.0km s-min=9.8km az=69.0*
*DJA **04** 05:41:42.5±0.4, 2°.N±3°×12°.7E±°, h98km±10km, M4.6/8, mb4.5/4, mB5.4/1, MLv4.6/8, Mw(mB)4.9/1*
ISC 04 05:41:41.5±0.4, 1°.89N±0°.04×127°.49E±0°.05, h119km±2km, n76, σ1°57/121, mb4.5/21, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.12**	**186**	P	**Pn**	**05 42 04.7**	**0.0**
TNTI				S	**Sn**	**05 42 22.8**	**+0.6**
TNTI	**Ternate**	**1.12**	**186**	*e*Pn	**Pn**	**05 42 04.9**	**+0.3**
TNTI				*e*Sn	**Sn**	**05 42 22.5**	**+0.3**
LBMI	**Labuha**	**2.51**	**180**	P	**Pn**	**05 42 22.2**	**+0.8**
LBMI				S	**Sn**	**05 42 54.3**	**+2.2**

SGSI	**Sangihe**	**2.65**	**312**	P		**Pn**	05 42 21.6	**-1.7**
SGSI				S		**Sn**	05 42 52.0	**-3.4**
KMSI	**Cibinong**	**3.75**	**250**	P		**Pn**	05 42 37.5	**-0.1**
KMSI				S		**Sn**	05 43 20.5	**-0.6**
SANI	**Sanana**	**4.19**	**201**	P		**Pn**	05 42 42.8	**-0.8**
SANI				S		**Sn**	05 43 26.4	**-5.4**
SIJI	**Sorong**	**4.66**	**126**	P		**Pn**	05 42 51.5	**+1.5**
	3.8nm,0.3s,baz=154,slow=22,SNR=7.8							
SIJI				S		**Sn**	05 43 42.8	**-0.4**
	0.7nm,0.3s,baz=330,slow=20,SNR=1.8							
SIJI				LR		LR	05 44 40.7	
	comp=Z,74nm,19.4s,baz=146,slow=39							
NLAI	**Namlea**	**5.11**	**184**	P		**Pn**	05 42 56.1	**+0.2**
	56nm,0.5s,5µm0.6nm							
MSAI	**Masohi**	**5.39**	**165**	P		**Pn**	05 43 00.7	**+0.9**
LUWI	**Luwuk**	**5.54**	**238**	P		**Pn**	05 43 03.3	**+1.5**
LUWI				S		**Sn**	05 44 04.3	**-0.1**
LUWI	**Luwuk**	**5.54**	**238**	P		Pn	05 43 07.3	+5.5
	baz=5.3,SNR=3.7							
LUWI	**Luwuk**	**5.54**	**238**	*e*Pn		**Pn**	05 43 03.8	**+2.0**
LUWI				*e*Sn		**Sn**	05 44 09.0	**+4.5**
AAI	**Ambon**	**5.58**	**173**	P		**Pn**	05 43 03.1	**+0.8**
	73nm,1.3s,0.4nm							
MRSI	**Marisa**	**5.72**	**256**	P		**Pn**	05 43 05.2	**+1.0**
APSI	**Ampana**	**6.47**	**245**	P		**Pn**	05 43 14.1	**-0.2**
FAKI	**Fak Fak**	**6.74**	**135**	P		**Pn**	05 43 19.5	**+1.5**
	baz=6.5,SNR=5.5							
MPSI	**Mapaga**	**7.75**	**259**	P		**Pn**	05 43 31.7	**+0.1**
MYLDM	**Lahad Datu**	**9.55**	**290**	*e*Pn		**Pn**	05 43 58.3	**+2.3**
SPSI	**Sidrap Palu**	**9.66**	**233**	P		**Pn**	05 43 58.1	**+0.6**
KAPI	**Kappang**	**10.34**	**228**	P		**Pn**	05 44 08.2	**+1.6**
	2.5nm,0.3s,baz=334,slow=4.6,SNR=9.2							
KAPI				S		**Sn**	05 45 57.4	**-3.2**
	2.7nm,0.3s,baz=172,slow=22,SNR=6.0							
SOEI	**Soe**	**12.01**	**195**	P		P	05 44 43.2	+6.3
	baz=12,SNR=3.8							
SBUM	**Sibu**	**15.27**	**272**	*e*Pn		**P**	05 45 14.5	**+1.5**
	22nm,0.8s							
KDU	**Kakadu**	**15.30**	**161**	P		**P**	05 45 14.6	**+1.2**
	baz=15,SNR=4.2							
KNRA	**Kununurra**	**17.50**	**176**	P		**P**	05 45 37.4	**-0.2**
	baz=17,SNR=7.5							
YULB	**Yu-li**	**22.20**	**345**	*e*P		**P**	05 46 26.3	**-2.0**
	9.7nm,0.7s							
TPUB	**Ta-pu**	**22.30**	**343**	*e*P		**P**	05 46 27.8	**-1.6**
	54nm,1.0s							
SSLB	**Suanglung**	**22.67**	**344**	*e*P		**P**	05 46 32.6	**-0.5**
	15nm,0.7s							
WRAB	**Tennant Creek**	**22.71**	**163**	*e*P		**P**	05 46 31.8	**-1.6**
	28nm,0.6s							
WRA	**Warramunga Arr**	**22.71**	**163**	P		**P**	05 46 32.3	**-1.1**
	23nm,0.6s,baz=343,slow=10,SNR=162							
WRA				PcP		**PcP**	05 50 21.5	**-0.2**
	0.4nm,0.4s,baz=329,slow=2.4,SNR=3.0							
WRA				ScP		**ScP**	05 53 48.0	**-0.7**
	0.4nm,0.8s,baz=339,slow=2.8,SNR=3.1							
QIS	**Mount Isa**	**25.27**	**153**	P		**P**	05 46 56.8	**-0.1**
	baz=25,SNR=7.7							
ASAR	**Alice Springs**	**26.16**	**167**	P		**P**	05 47 04.0	**-0.9**
	13nm,0.5s,baz=344,slow=7.3,SNR=224							
ASAR				PcP		**PcP**	05 50 28.8	**-0.5**
	1.0nm,0.6s,baz=356,slow=2.6,SNR=5.4							
ASAR				ScP		**ScP**	05 53 56.4	**-1.9**
	0.4nm,0.6s,baz=356,slow=3.0,SNR=4.9							
AS01	**Alice Springs**	**26.16**	**166**	*e*P		**P**	05 47 03.7	**-1.2**
WRKA	**Warakurna**	**26.78**	**178**	P		**P**	05 47 09.7	**-0.8**
	baz=26,SNR=30							
MEEK	**Meekatharra**	**29.63**	**196**	P		**P**	05 47 34.7	**-1.1**
	baz=29,SNR=21							
NJ2	**Nanjing**	**31.09**	**346**	*e*P		**P**	05 47 48.3	**-0.2**
NJ2				PMZ				
	20nm,0.6s							
GYA	**Guiyang**	**31.58**	**323**	*e*P		**P**	05 47 55.8	**+2.7**
GYA				pP		**pP**	05 48 21.0	**+1.8**
GYA				sP		**sP**	05 48 34.3	**+1.4**
GYA				S		**S**	05 52 54.6	**+1.2**
GYA				ScP		**ScP**	05 54 14.2	**-1.2**
GYA				ScS		**ScS**	05 58 12.0	**-1.8**
GYA				PMZ				
	10.0nm,0.8s							
GYA				PMZ				
	90nm,4.6s							
CMAR	**Chiang Mai Arr**	**32.47**	**302**	P		**P**	05 48 01.0	**+0.1**
	1.2nm,0.3s,baz=121,slow=6.5,SNR=9.1							
MORW	**Morawa**	**32.68**	**199**	P		**P**	05 48 02.2	**-0.4**
	baz=32,SNR=4.0							
ENH	**Enshi**	**32.99**	**331**	*e*P		**P**	05 48 05.7	**+0.4**
	4.8nm,0.4s							
KMI	**Kunming**	**33.22**	**316**	P		**P**	05 48 08.5	**+0.9**
KMI				PMZ				
	12nm,1.1s							
KMBL	**Kambalda**	**33.50**	**189**	P		**P**	05 48 08.7	**-1.0**
	baz=33,SNR=16							
BLDU	**Ballidu**	**33.92**	**197**	P		**P**	05 48 12.2	**-1.1**
	baz=34,SNR=11							
KLBR	**Kellerberrin**	**34.56**	**195**	P		**P**	05 48 17.9	**-0.9**
	baz=34,SNR=16							
KSAR	**Wonju Array Be**	**35.38**	**1**	P		**P**	05 48 25.9	**+0.1**
KSRS	**Korea Array**	**35.40**	**1**	P		**P**	05 48 25.9	**0.0**
	1.3nm,0.6s,baz=180,slow=11,SNR=8.3							
BBOO	**Buckleboo**	**35.45**	**168**	P		**P**	05 48 25.6	**-0.8**
	baz=35,SNR=88							
BBOO	**Buckleboo**	**35.45**	**168**	*e*P		**P**	05 48 25.6	**-0.8**
	26nm,0.4s							
MJAR	**Matsushiro Arr**	**35.88**	**15**	P		**P**	05 48 27.7	**-2.4**
	2.0nm,0.8s,baz=193,slow=8.1,SNR=5.6							
NWAO	**Narrogin (SRO)**	**35.96**	**195**	P		**P**	05 48 30.1	**-0.7**
	5.6nm,0.5s,baz=334,slow=4.0,SNR=13							
STKA	**Stephens Creek**	**36.15**	**159**	P		**P**	05 48 31.9	**-0.5**
	12nm,0.7s,baz=332,slow=8.1,SNR=31							
STKA				PcP		**PcP**	05 50 54.9	**-0.8**
	1.6nm,0.7s,baz=3.7,slow=6.2,SNR=3.7							
XAN	**Xi'an**	**36.39**	**334**	P		**P**	05 48 34.3	**-0.2**
XAN				pP		**pP**	05 48 59.4	**-1.7**
XAN				PMZ				
	6.0nm,0.8s							
CD2	**Chengdu**	**36.57**	**325**	P		**P**	05 48 35.9	**-0.2**
CD2				pP		**pP**	05 49 01.4	**-1.2**
CD2				sP		**sP**	05 49 14.9	**-1.4**
CD2				PP		**PP**	05 50 01.9	**+0.1**
CD2				S		**S**	05 54 12.1	**+2.0**
CD2				sS		**sS**	05 54 57.5	**+1.3**
CD2				SS		**SS**	05 56 57.2	**+2.4**
CD2				PMZ				
	20nm,0.7s							
CD2				PMZ				
	140nm,5.0s							
CD2				LN				
	140nm,5.5s							
CD2				LZ				
	170nm,6.7s							
HTT	**Hallett**	**36.75**	**164**	P		**P**	05 48 37.4	**-0.2**
	baz=37,SNR=7.5							
RKGY	**Rocky Gully**	**37.62**	**194**	P		**P**	05 48 45.4	**+0.5**
	baz=37,SNR=18							
BJI	**Beijing**	**39.34**	**346**	P		**P**	05 48 59.3	**+0.1**
BJI				pP		**pP**	05 49 24.7	**-1.3**
BJI				sP		**sP**	05 49 37.5	**-2.0**
BJI				S		**S**	05 54 53.9	**+2.4**
BJI				SS		**SS**	05 57 53.9	**+3.7**
BJI				PMZ				
	14nm,0.7s							
BJI				LN				
	85nm,9.4s							
BJI				LE				
	43nm,5.3s							
BJI				LZ				
	25nm,16.1s							
ARMA	**Armidale**	**39.52**	**146**	P		**P**	05 49 01.8	**+0.8**
	baz=39,SNR=4.5							
LZH	**Lanzhou**	**40.47**	**330**	⇑P		**P**	05 49 10.2	**+1.4**
LZH				pP		**pP**	05 49 35.4	**-0.3**
LZH				sP		**sP**	05 49 49.8	**+0.6**
LZH				PMZ				
	74nm,1.4s							
LZH				PMZ				
	200nm,4.5s							
ARPS	**Mount Arapiles**	**40.71**	**162**	P		**P**	05 49 10.7	**+0.2**
	baz=40,SNR=6.6							
HHC	**Hu-ho-hao-te**	**41.37**	**342**	*e*P		**P**	05 49 17.6	**+1.6**
HHC				pP		**pP**	05 49 41.1	**-2.0**
HHC				sP		**sP**	05 49 54.8	**-1.8**
HHC				PP		**PnPn**	05 51 01.3	**+1.5**
HHC				S		**S**	05 55 24.8	**+2.8**
HHC				sS		**sS**	05 56 10.3	**+1.5**
HHC				SS		**SS**	05 58 29.0	**-1.7**
HHC				PMZ				
	14nm,0.7s							
HHC				PMZ				
	98nm,5.7s							
USRK	**Ussuriysk Ar.**	**42.32**	**5**	P		**P**	05 49 23.3	**-0.2**
	2.6nm,0.8s,baz=197,slow=8.9,SNR=4.9							
MDJ	**Mudanjiang**	**42.59**	**2**	P		**P**	05 49 26.4	**+0.7**
MDJ				PMZ				
	5.0nm,1.0s							
MDJ				PMZ				
	26nm,3.7s							
SONM	**Songino Array**	**49.27**	**341**	P		**P**	05 50 18.3	**0.0**
	2.0nm,0.6s,baz=159,slow=8.3,SNR=11							
SONA1	**Songino Array**	**49.28**	**341**	*e*P		**P**	05 50 18.4	**+0.1**
WMQ	**Urumqi**	**54.66**	**325**	*e*P		**P**	05 50 59.7	**+1.5**
WMQ				pP		**pP**	05 51 22.2	**-4.3**
WMQ				sP		**sP**	05 51 38.9	**-0.8**
WMQ				PP		PP	05 53 10.0	+8.0
WMQ				PMZ				
	14nm,0.7s							
WMQ				PMZ				
	82nm,3.8s							
MK01	**Makanchi Array**	**59.47**	**326**	*e*P		**P**	05 51 32.0	**0.0**
MKAR	**Makanchi Array**	**59.49**	**326**	P		**P**	05 51 32.2	**0.0**
	4.6nm,0.4s,baz=119,slow=8.6,SNR=67							
MKAR	**Makanchi Array**	**59.49**	**326**	*e*P		**P**	05 51 32.3	**+0.2**
KSH	**Kashi**	**59.88**	**316**	P		**P**	05 51 36.0	**+0.9**
KSH				pP		**pP**	05 52 06.2	**+2.4**
KSH				PcP		**PcP**	05 52 22.9	**+2.5**
KSH				PP		PP	05 53 55.0	+6.4
KSH				PcS		**PcS**	05 56 24.2	**+1.4**
KSH				S		**S**	05 59 33.4	**-4.5**
KSH				sS		**sS**	06 00 28.1	**+0.7**
KSH				ScS		**ScS**	06 01 15.2	**+0.8**
KSH				PMZ				
	5.0nm,0.7s							
KSH				PMZ				
	33nm,3.5s							
KSH				LN				
	82nm,4.4s							
KSH				LE				
	100nm,3.7s							
KSH				LZ				
	250nm,5.0s							
TKM2	**Tokmak 2**	**61.62**	**319**	*e*P		**P**	05 51 46.6	**-0.3**
	3.3nm,0.8s							
EKS2	**Erkin-Say**	**62.72**	**318**	*e*P		**P**	05 51 54.1	**0.0**
	5.0nm,0.8s							
KURK	**Kurchatov**	**63.69**	**328**	*e*P		**P**	05 51 59.9	**-0.3**
	14nm,0.7s							
KKAR	**Karatay Array**	**65.09**	**317**	*e*P		**P**	05 52 09.4	**-0.2**
GEYT	**Alibeck**	**72.64**	**309**	P		**P**	05 52 56.6	**+0.2**
	1.5nm,0.7s,baz=114,slow=7.0,SNR=3.2							
ABKAR	**Akbulak array**	**74.05**	**321**	*e*P		**P**	05 53 03.8	**-0.6**
VNDA	**Vanda**	**81.52**	**173**	P		**P**	05 53 44.6	**-0.6**
	3.4nm,0.6s,baz=317,slow=6.7,SNR=38							
TORD	**Torodi Ar. Bea**	**124.20**	**287**	PKP		**PKPdf**	06 00 26.6	**-0.6**
	0.2nm,0.3s,baz=89,slow=1.7,SNR=8.5							

NNC 04 05:56:00.3±8.4, 36.80N×71.18E, h0km, mb3.7, mpv3.3, 4C-1D, Error ellipse: s-maj=70.6km s-min=29.2km az=174.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.74**	**318**	⇑Pn		Pn		05 56 46.4	+0.8
	2.6nm,0.3s								
DZET				⇓Sn		Sn		05 57 20.9	+1.3
	18nm,0.4s								
SFK	**Sufi-Kurgan**	**3.70**	**29**	⇑Pn		Pn		05 56 57.8	-1.3
	1.4nm,0.1s								
SFK				⇑Sn		Sn		05 57 45.1	+1.6
	4.0nm,0.3s								
KK31	**Karatay Array**	**6.32**	**356**	Pn		Pn		05 57 33.1	-1.7
	2.0nm,0.3s,baz=177,slow=13,SNR=49								
KK31				⇑Sn		Sn		05 58 47.1	-0.6
	0.7nm,0.4s,baz=184,slow=24								

*CSEM **04** 05:57:02.4±1.7, 37.65N×35.59E, h2km, MD2.6, Error ellipse: s-maj=31.7km s-min=14.5km az=132.0*
*DDA **04** 05:57:04.3, 37.56N×35.68E, h7km, MD2.6*
ISC 04 05:57:03.5±4.1, 37.6N±0.1×35.7E±0.1, h6km±14km, n6, σ0s48/12, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.17**	**132**	PG		**Pg**		**05 57 07.3**	**+0.5**
KOZT				*e*SG		**Sg**		05 57 08.6	**-0.5**
KOZT	**Kozan**	**0.17**	**132**	*i* Pg		**Pg**		05 57 07.3	**+0.5**
KOZT				*e*Sg		**Sg**		05 57 08.6	**-0.5**
ANDN	**Andirin**	**0.54**	**91**	*i* P		**Pg**		05 57 14.1	**+0.3**
ANDN				*i* S		**Sb**		05 57 23.0	**-0.3**
ANDN	**Andirin**	**0.54**	**91**	*i* P		**Pg**		05 57 14.1	**+0.3**
ANDN				*i* S		**Sb**		05 57 23.0	**-0.3**
CEYT	**Ceyhan**	**0.58**	**174**	*e*PG		**Pg**		05 57 14.5	**-0.2**
CEYT				*e*SG		**Sb**		05 57 25.1	**+0.5**
CEYT	**Ceyhan**	**0.58**	**174**	*e*Pg		**Pg**		05 57 14.5	**-0.2**
CEYT				*e*Sg		**Sb**		05 57 25.1	**+0.5**

*IDC **04** 05:59:41.2±0.8, 1.07N×126.33E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.1/37, mbtmp4.2/13, ML4.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/25, Error ellipse: s-maj=37.2km s-min=14.1km az=68.0*
*NEIC **04** 05:59:46.2±3.8, 0.99N×126.27E, h31km±28km, mb4.5/3, Error ellipse: s-maj=13.9km s-min=10.2km az=49.0*
*DJA **04** 05:59:47.6±0.3, 1°N±4′×12°6E±°, h35km, M4.5/8, mb4.6/1, MLv4.5/8*
ISC 04 05:59:44.7±1.4, 1.03N±0.05×126.33E±0.04, h17km±10km, n42, σ1s18/46, mb4.3/15, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.07**	**104**	P		**Pg**		**06 00 05.7**	**+0.2**
TNTI				S		**Sg**		06 00 19.6	**+0.1**
TNTI	**Ternate**	**1.07**	**104**	*e*Pn		**Pg**		06 00 06.1	**+0.6**
TNTI				*e*S		**Sb**		06 00 19.8	**+0.3**
LBMI	**Labuha**	**2.03**	**145**	P		**Pn**		06 00 19.2	**+1.0**
LBMI				S		**Sn**		06 00 44.1	**+0.9**
KMSI	**Cibinong**	**2.39**	**259**	P		**Pb**		06 00 25.3	**-1.9**
KMSI				S		**Sn**		06 00 53.4	**+1.4**
SGSI	**Sangihe**	**2.76**	**343**	P		**Pn**		06 00 30.0	**+1.8**
SGSI				S		**Sn**		06 01 02.5	**+1.4**
SANI	**Sanana**	**3.08**	**186**	P		**Pn**		06 00 32.8	**+0.2**
SANI				S		**Sn**		06 01 09.1	**+0.1**
LUWI	**Luwuk**	**4.11**	**240**	P		**Pn**		06 00 47.8	**+1.1**
LUWI	**Luwuk**	**4.11**	**240**	P		**Pb**		06 00 55.7	**-0.9**
	baz=2.8,SNR=3.8								
NLAI	**Namlea**	**4.31**	**170**	P		**Pn**		06 00 50.7	**+1.2**
MRSI	**Marisa**	**4.42**	**263**	P		**Pn**		06 00 53.4	**+2.4**
AAI	**Ambon**	**5.04**	**158**	P		**Pn**		06 01 00.3	**+0.7**
APSI	**Ampana**	**5.06**	**248**	P		Pn		06 01 04.0	+4.2
MSAI	**Masohi**	**5.07**	**149**	P		**Pn**		06 01 00.7	**+0.8**
SIJI	**Sorong**	**5.29**	**111**	LR		LR		06 03 34.0	
	comp=Z,169nm,19.1s,baz=54,slow=44								
KDI	**Kendari**	**6.18**	**217**	P		**Pn**		06 01 16.4	**+1.1**
MPSI	**Mapaga**	**6.46**	**264**	P		**Pn**		06 01 20.7	**+1.6**
BNDI	**Bandanaira**	**6.57**	**147**	P		**Pn**		06 01 21.3	**+0.7**
KAPI	**Kappang**	**8.90**	**228**	Pn		**Pn**		06 01 52.0	**-0.6**
	2.1nm,0.3s,baz=4.0,slow=10,SNR=8.2								
KAPI				Sn		**Sn**		06 03 34.4	**+1.9**
	1.5nm,0.3s,baz=86,slow=19,SNR=2.8								
KAPI	**Kappang**	**8.90**	**228**	Pn		**Pn**		06 01 52.0	**-0.6**
KAPI				Sn		**Sn**		06 03 34.4	**+1.9**
KAPI				*e*Sn		Sn		06 03 35.4	+2.9
KDU	**Kakadu**	**14.93**	**156**	P		**P**		06 03 21.9	**+1.3**
	baz=15,SNR=5.8								
WRAB	**Tennant Creek**	**22.27**	**160**	*e*P		**P**		06 04 40.3	**-0.9**
	40nm,1.4s								
WRA	**Warramunga Arr**	**22.27**	**160**	P		**P**		06 04 40.5	**-0.7**
	4.7nm,0.3s,baz=339,slow=11,SNR=92								
COEN	**Coen**	**22.37**	**132**	P		P		06 04 49.3	+7.1
	baz=23,SNR=4.2								
QIS	**Mount Isa**	**25.09**	**149**	P		**P**		06 05 09.2	**+0.5**
	baz=25,SNR=4.1								
ASAR	**Alice Springs**	**25.63**	**164**	P		**P**		06 05 12.8	**-0.8**
	2.5nm,0.4s,baz=347,slow=11,SNR=41								
WRKA	**Warakurna**	**25.98**	**176**	P		**P**		06 05 17.3	**+0.5**
	baz=26,SNR=15								
MEEK	**Meekatharra**	**28.49**	**195**	P		**P**		06 05 40.6	**+1.3**
	baz=28,SNR=3.3								
CMAR	**Chiang Mai Arr**	**31.97**	**304**	P		**P**		06 06 10.1	**-0.1**
	1.0nm,0.3s,baz=128,slow=11,SNR=5.0								
BBOO	**Buckleboo**	**34.89**	**166**	P		**P**		06 06 34.9	**-0.5**
	baz=35,SNR=7.6								
STKA	**Stephens Creek**	**35.78**	**157**	P		**P**		06 06 42.8	**-0.4**
	0.9nm,0.3s,baz=326,slow=8.9,SNR=6.8								
HTT	**Hallett**	**36.27**	**162**	P		P		06 06 42.6	-4.8
	baz=36,SNR=3.3								
MKAR	**Makanchi Array**	**59.55**	**326**	P		**P**		06 09 46.3	**-1.1**
	1.9nm,0.4s,baz=123,slow=8.6,SNR=33								
ZALV	**Zalesovo Beam**	**62.81**	**334**	P		**P**		06 10 07.6	**-1.7**
	0.7nm,0.4s,baz=125,slow=7.8,SNR=4.0								
KURBB	**Kurchatov Arra**	**63.79**	**328**	P		**P**		06 10 14.5	**-1.4**
	3.8nm,0.6s,baz=131,slow=6.1,SNR=54								
KURK	**Kurchatov**	**63.80**	**328**	*e*P		**P**		06 10 14.7	**-1.2**
BVAR	**Borovoye Array**	**69.36**	**328**	P		**P**		06 10 49.7	**-1.8**
	0.6nm,0.3s,baz=128,slow=9.6,SNR=7.2								
GEYT	**Alibeck**	**72.28**	**310**	P		**P**		06 11 08.1	**-1.4**
	1.4nm,0.5s,baz=160,slow=4.6,SNR=2.7								
ABKAR	**Akbulak array**	**73.98**	**321**	*e*P		**P**		06 11 18.6	**-0.8**
	1.5nm,0.4s								
ARU	**Arti**	**77.00**	**328**	*e*P		**P**		06 11 35.5	**-0.9**
	3.5nm,0.6s								
VNDA	**Vanda**	**80.82**	**173**	P		**P**		06 11 56.3	**-0.8**
	0.5nm,0.7s,baz=303,slow=6.0,SNR=3.5								
ARCES	**ARCESS Array B**	**92.83**	**340**	P		**P**		06 12 57.1	**+0.9**
	1.1nm,0.9s,baz=69,slow=3.3,SNR=2.7								
FINES	**FINESS Array B**	**94.00**	**332**	P		**P**		06 13 02.8	**+1.1**
	0.9nm,0.7s,baz=107,slow=10,SNR=4.4								

DDA 04 06:02:58.5, 38.29N×38.11E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.15**	**271**	*i* P		Pg		06 03 02.1	+0.5
AKCD				*i* S		Sg		06 03 04.8	+1.1
MALT	**Malatya**	**0.25**	**85**	*e*PG		Pb		06 03 04.9	-0.5
MALT				*e*SG		Sb		06 03 09.4	-0.5
KEMA	**Kemaliye**	**1.02**	**17**	*i* P		Pg		06 03 17.6	-0.5
KEMA				*i* S		Sb		06 03 32.2	+0.1

*BJI **04** 06:02:59.8, 35.88N×140.52E, h80km, mb4.9/54, mB4.8/32, Ms4.4/17, Ms7 4.4/11*
*NIED **04** 06:03:00, 36.00N×140.40E, h89km, Mw4.6 Best double couple: M0 8.52000×10^15 NP1:ϕs330.00000°, δ46.00000°, λ-161.00000°. NP2:ϕs227.00000°, δ77.00000°, λ-45.00000°.*
*MOS **04** 06:03:02.2±1.1, 35.97N×140.50E, h81km, mb5.1/23, Error ellipse: s-maj=8.5km s-min=5.1km az=115.1*
*ISCJB **04** 06:03:03.4±0.3, 35.96N±0.02×140.47E±0.03, h92km±2km, mb4.6/66, Error ellipse: s-maj=4.7km s-min=3.8km az=149.8*
*NEIC **04** 06:03:04.1±0.6, 35.93N×140.36E, h80km±5km, mb4.9/17, MW4.6(NIED), Error ellipse: s-maj=6.4km s-min=5.1km az=95.0*
NEIC Felt at Ayase and Yokohama. Recorded [3 JMA] in Ibaraki; [2 JMA] in Chiba, Fukushima, Gumma, Saitama and Tochigi; [1 JMA] in Kanagawa, Miyagi, Nagano, Niigata, Shizuoka, Tokyo and Yamanashi.
*JMA **04** 06:03:04.8±0.1, 35.94N×140.30E, h88km±1km, M4.5 Broadband fault plane solution: P waves. NP1: ϕs232.00000°, δ79.00000°, λ-63.00000°. NP2: ϕs343.00000°, δ29.00000°, λ-157.00000°. Principal axes: T Plg29.0000°, Azm301.0000°; N Plg26.0000°, Azm47.0000°; P Plg49.0000°, Azm171.0000°;*
JMA Felt III J1.
*IDC **04** 06:03:05.2±0.5, 35.88N×140.35E, h91km±4km, mb4.2/29, mb1 4.3/31, mb1mx4.3/35, mbtmp4.6/31, MS3.4/11, Ms1 3.4/11, ms1mx3.2/30 Error ellipse: s-maj=10.0km s-min=6.8km az=23.0*
ISC 04 06:03:04.5±0.3, 35.96N±0.03×140.34E±0.03, h81km±2km, h80km:pP-P, n252, σ1s67/281, mb4.8/67, 22C-15D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.29**	**337**	⇓P		**Pn**		**06 03 18.2**	**+1.4**
JYT				S		**Sn**		06 03 28.2	**+2.3**
I30JP	**ISUMI INFRASON**	**0.65**	**182**	P		**Pn**		06 03 21.2	**+1.5**
I30JP				S		**Sn**		06 03 34.2	**+3.3**
JAG	**Ashikaga**	**0.85**	**303**	⇓P		**Pn**		06 03 22.9	**+1.0**
JAG				S		**Sn**		06 03 36.2	**+1.4**
JRY	**Ryogami san**	**1.16**	**273**	⇓P		**Pn**		06 03 26.7	**+1.1**
JRY				S		**Sn**		06 03 43.1	**+1.7**
BSO3	**Boso 3**	**1.17**	**173**	⇑P		**Pn**		06 03 25.6	**+0.3**
BSO3				S		**Sn**		06 03 41.7	**+0.7**
JKT	**Katashina**	**1.19**	**313**	⇓P		**Pn**		06 03 26.9	**+0.9**
JKT				S		**Sn**		06 03 43.9	**+1.8**
JOD2	**Odawara 2**	**1.23**	**236**	⇑P		**Pn**		06 03 26.8	**+0.4**
JOD2				S		**Sn**		06 03 42.9	**0.0**
BSO1	**Boso 1**	**1.41**	**158**	⇑P		**Pn**		06 03 28.2	**+0.1**
BSO1				S		**Sn**		06 03 47.9	**+1.9**
MJAR	**Matsushiro Arr**	**1.81**	**289**	P		**Pn**		06 03 35.3	**+1.3**
	153nm,0.3s,baz=96,slow=12,SNR=2407								
MJAR				S		**Sn**		06 03 58.8	**+2.5**
	112nm,0.3s,baz=82,slow=25,SNR=14								
MJAR				LR		LR		06 04 15.5	
	comp=Z,893nm,19.6s,baz=95,slow

KSDGY Daegwallycong 9.51 284 P Pn 06 05 22.0 +3.4
SNR=6.2
VLA Vladivostok 9.68 320⇓ *i*P **Pn** **06 05 22.8 +2.0**
VLA pmax pmax
comp=Z,85nm,1.3s
SEHB SEOHWA 9.92 287 P **Pn** **06 05 26.8 +2.6**
SNR=6.6
SEHB SEOHWA 9.92 287 P **Pn** **06 05 26.8 +2.6**
SNR=6.6
KSIJA INJE 9.99 285 P Pn 06 05 28.3 +3.2
SNR=19
KSIJA INJE 9.99 285 P Pn 06 05 28.3 +3.2
SNR=19
KSCHJ Chungju 10.01 279 P **Pn** **06 05 27.8 +2.5**
SNR=12
KSCHJ Chungju 10.01 279 P **Pn** **06 05 27.8 +2.5**
SNR=12
KSCPR CHUPUNGNYEONG 10.01 275 P **Pn** **06 05 28.3 +2.9**
SNR=15
KSCPR CHUPUNGNYEONG 10.01 275 P **Pn** **06 05 28.3 +2.9**
SNR=15
KSRS Korea Array 10.08 282 P **Pn** **06 05 28.7 +2.4**
comp=Z,0.7nm,0.3s,baz=102,slow=13,SNR=87
KSRS LR LR 06 09 20.4
comp=Z,126nm,19.2s,baz=80,slow=37
KSRS Korea Array 10.08 282 P **Pn** **06 05 28.7 +2.4**
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KSRS MLR MLR
comp=Z,126nm,19.2s
KSAR Wonju Array Be 10.11 282 P **Pn** **06 05 28.7 +2.0**
KSAR Wonju Array Be 10.11 282 P **Pn** **06 05 28.7 +2.0**
KSBON Boeun 10.14 277 P **Pn** **06 05 30.0 +2.8**
SNR=11
KSCHC Chuncheon 10.20 284 P Pn 06 05 31.7 +3.8
SNR=25
KSCHC Chuncheon 10.20 284 P Pn 06 05 31.7 +3.8
SNR=25
KSNAH Namhae 10.20 267 P **Pn** **06 05 29.9 +2.0**
SNR=7.4
KSNAH Namhae 10.20 267 P **Pn** **06 05 29.9 +2.0**
SNR=7.4
USRK Ussuriysk Ar. 10.42 325 P **Pn** **06 05 32.0 +1.2**
comp=Z,0.9nm,0.3s,baz=137,slow=12,SNR=24
USRK LR LR 06 09 30.8
comp=Z,199nm,18.2s,baz=135,slow=37
KSCWO Cheorwon 10.47 285 P Pn 06 05 35.6 +4.0
SNR=5.9
KSCWO Cheorwon 10.47 285 P Pn 06 05 35.6 +4.0
SNR=5.9
KSICN Icheon 10.47 281 P Pn 06 05 34.7 +3.1
SNR=6.9
TJN Taejon 10.50 276⇓ *e*P **Pn** **06 05 34.7 +2.7**
KSCEA Cheonan 10.58 279 P Pn 06 05 36.8 +3.7
SNR=17
KUR Kuril'sk 10.88 29⇓ *i*P **Pn** **06 05 34.8 -2.4**
KUR *i* S Sn 06 07 26.6 -10
KUR MLR MLR
comp=Z,41nm,13.0s
YNCB YEONCHEON 10.92 285 P Pn 06 05 41.3 +3.5
SNR=25
KSGUS GUNSAN 10.98 274 P Pn 06 05 42.6 +4.0
SNR=6.5
KSMUS Musan 11.04 284 P Pn 06 05 42.7 +3.3
SNR=8.8
YSS Yuzh-Sakhalins 11.13 9⇑ *e*P **Pn** **06 05 38.0 -2.6**
YSS *e*S **Sn** **06 07 41.1 -2.0**
YSS pmax pmax
comp=Z,30nm,0.6s
YSS smax smax
comp=E,40µm,1.0s
YSS Yuzh-Sakhalins 11.13 9 *e*Pn **Pn** **06 05 39.4 -1.2**
comp=E,26nm,0.6s
KSSES Seosan 11.22 278 P **Pn** **06 05 44.8 +2.9**
SNR=13
MDJ Mudanjiang 11.91 320 P **Pn** **06 05 48.9 -2.2**
MDJ S **Sn** **06 08 00.5 -1.5**
MDJ PMZ
comp=E,3.0nm,0.4s
MDJ PMZ
comp=E,17nm,3.0s
MDJ Mudanjiang 11.91 320 *e*Pn **Pn** **06 05 51.8 +0.6**
comp=E,23nm,0.9s
HABR Khabarovsk 13.10 344 *e*P **Pn** **06 06 05.8 -1.3**
HABR *e*S **Sn** **06 08 31.4 +0.5**
HABR pmax pmax
comp=Z,42nm,1.3s
HABR MLR MLR
comp=Z,97nm,14.0s
CN2 Changchun 13.84 309 *e*P **Pn** **06 06 17.3 +0.3**
CN2 PMZ
comp=Z,10.0nm,0.8s
SNY Shenyang 14.30 299 ⇑P **Pn** **06 06 23.0 +0.1**
SNY S **Sn** **06 08 54.6 -5.5**
SNY PMZ
comp=Z,26nm,1.2s
SNY PMZ
comp=Z,150nm,3.5s
KLR Kul'dur 14.68 337 *e*P Pn 06 06 22.8 -4.9
DL2 Dalian 15.15 287 ⇑P **Pn** **06 06 35.0 +1.1**
DL2 S **Sn** **06 09 25.1 +4.3**
DL2 PMZ
comp=Z,79nm,1.0s
DL2 PMZ
comp=Z,140nm,4.9s
NJ2 Nanjing 18.23 264 *e*P **P** **06 07 11.0 -0.2**
NJ2 PMZ
comp=Z,30nm,0.8s
BJI Beijing 19.45 289 P **P** **06 07 22.1 -2.4**
BJI pP **pP** **06 07 38.5 -2.1**
BJI sP **sP** **06 07 47.8 -3.0**
BJI S **S** **06 10 59.7 -0.4**
BJI ScS **ScS** **06 18 53.2 +0.1**
BJI PMZ
comp=Z,19nm,1.3s
BJT Baijiatuau 19.46 289 *e*P **P** **06 07 22.8 -1.8**
BJT pmax pmax
comp=Z,47nm,0.7s
BJT Baijiatuau 19.46 289 *e*P **P** **06 07 22.8 -1.8**
comp=Z,47nm,0.7s
HIA Hailar 20.08 318⇑ *e*P **P** **06 07 29.1 -2.2**
HIA pmax pmax
comp=Z,27nm,1.6s
PETK Petropavlovsk- 21.05 30 P **P** **06 07 42.4 +0.6**
comp=Z,5.1nm,0.7s,baz=209,slow=12,SNR=4.5
WHN Wuhan 22.36 263 P **P** **06 07 54.5 -1.4**
GUMO Guam 22.65 168 P **P** **06 07 58.7 -0.3**
comp=Z,88nm,1.0s,baz=56,slow=7.3,SNR=2.5
HHC Hu-ho-hao-te 23.02 291 *e*P **P** **06 08 00.4 -2.3**
HHC pP **pP** **06 08 19.2 -0.2**
HHC sP **sP** **06 08 25.3 -4.1**
HHC PP **PnPn** **06 08 33.4 +2.0**
HHC S **S** **06 12 04.6 -2.4**
HHC sS Sn 06 12 30.9 +1.0
HHC SS **SnSn** **06 12 53.6 +6.3**
HHC PMZ
comp=Z,39nm,0.8s
HHC PMZ
comp=Z,77nm,5.4s
HHC LN
comp=Z,120nm,11.6s
HHC LE
comp=Z,170nm,11.2s
XAN Xi'an 25.75 275 P **P** **06 08 26.1 -1.5**
XAN pP **pP** **06 08 43.8 -2.3**
XAN PMZ
comp=Z,8.0nm,0.7s
ENH Enshi 26.39 266 *e*P **P** **06 08 31.6 -1.8**
comp=Z,15nm,0.6s
YAK Yakutsk 26.94 349 P **P** **06 08 37.5 -0.4**
comp=Z,2.6nm,0.5s,baz=142,slow=19,SNR=4.8
YAK Yakutsk 26.94 349 *e*P **P** **06 08 36.9 -1.0**
YAK *e**PP **pP** **06 08 58.9 +2.4**
YAK *e* 06 09 32.0
YAK *e*S S 06 13 15.5 +6.6
YAK *e**SS sS 06 13 51.5 +10
YAK *e*SS SS 06 14 44.2 -21
YAK *e* 06 19 16.4
YAK pmax pmax
comp=Z,18nm,0.9s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,12nm,1.0s
YAK pmax pmax
comp=N,14nm,1.3s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK smax smax
comp=E,43nm,2.2s
YAK smax smax
comp=N,57nm,2.2s
SONM Songino Array 27.69 306 P **P** **06 08 44.4 -0.6**
comp=N,13nm,0.8s,baz=112,slow=9.3,SNR=35
SONM LR LR 06 20 10.4
comp=N,144nm,18.6s,baz=107,slow=37
BOD Bodaibo 27.99 330 *e*P **P** **06 08 47.1 -0.3**
BOD pmax pmax
comp=Z,17nm,0.8s
SEY Seymchan 28.01 12 P **P** **06 08 48.6 +1.1**
comp=Z,1.2nm,0.4s,baz=218,slow=7.4,SNR=6.0
SEY Seymchan 28.01 12 P **P** **06 08 48.0 +0.5**
H11N2 WAKE ISLAND Hy 28.38 118 T T 06 38 38.9
baz=309,slow=75,SNR=15
H11N1 WAKE ISLAND Hy 28.39 118 T T 06 38 38.1
baz=309,slow=75,SNR=38
H11N3 WAKE ISLAND Hy 28.40 118 T T 06 38 55.4
baz=309,slow=75,SNR=24
H11S3 WAKE ISLAND Hy 29.04 120 T T 06 40 04.0
baz=314,slow=76,SNR=41
H11S1 WAKE ISLAND Hy 29.05 120 T T 06 40 02.8
baz=314,slow=76,SNR=60
H11S2 WAKE ISLAND Hy 29.06 120 T T 06 40 04.3
baz=314,slow=76,SNR=51
LZH Lanzhou 29.41 281 *e*P **P** **06 09 00.1 -0.3**
LZH pP **pP** **06 09 16.5 -2.6**
LZH sP **sP** **06 09 25.8 -2.8**
LZH PMZ
comp=Z,14nm,1.0s
GYA Guiyang 30.19 261 *e*P **P** **06 09 08.9 +1.5**
GYA pP **pP** **06 09 26.0 -0.1**
GYA sP **sP** **06 09 34.7 -0.8**
GYA S **S** **06 14 01.0 0.0**
GYA sS **sS** **06 14 31.0 -2.3**
GYA ScP **ScP** **06 15 41.6 -0.1**
GYA ScS **ScS** **06 19 37.5 -0.3**
GYA PMZ
comp=Z,10.0nm,0.8s
GYA PMZ
comp=Z,110nm,4.8s
GYA LN
comp=Z,550nm,16.9s
GYA LE
comp=Z,440nm,15.8s
GYA LZ
comp=Z,470nm,17.0s
ZAK Zakamensk 30.27 310 *e*P P 06 08 59.6 -8.2
ZAK pmax pmax
comp=Z,6.0nm,1.2s
TLY Talaya 30.40 313 P **P** **06 09 08.5 -0.4**
comp=Z,6.6nm,0.7s,baz=137,slow=3.9,SNR=18
TLY Talaya 30.40 313 P **P** **06 09 08.4 -0.4**
comp=Z,1.1nm,0.8s
CD2 Chengdu 30.82 271 P **P** **06 09 11.1 -1.7**
CD2 pP **pP** **06 09 28.7 -2.8**
CD2 sP **sP** **06 09 37.7 -3.3**
CD2 S **S** **06 14 09.6 -1.0**
CD2 sS **sS** **06 14 40.5 -2.4**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,70nm,3.9s
CD2 LN
comp=Z,130nm,6.3s
CD2 LZ
comp=Z,160nm,8.0s
GTA Gaotai 32.06 289 *e*P **P** **06 09 23.6 -0.1**
GTA pP **pP** **06 09 40.9 -1.7**
GTA sP **sP** **06 09 49.8 -2.2**
GTA PMZ
comp=Z,20nm,1.2s
KMI Kunming 33.95 262 P **P** **06 09 38.4 -2.0**
KMI pP **pP** **06 09 56.2 -3.1**
KMI PMZ
comp=Z,15nm,1.1s
KMI PMZ
comp=Z,93nm,5.9s
KMI LN
comp=Z,140nm,12.5s
KMI LE
comp=Z,74nm,13.5s
KRAR Krasnoyarsk 37.65 317 P **P** **06 10 12.0 +0.6**
KRAR pmax pmax
comp=Z,25nm,0.7s
JAY Jayapura 38.28 179 P **P** **06 10 15.0 -2.1**
comp=Z,14nm,0.8s,baz=3.5,slow=19,SNR=2.2
JAY Jayapura 38.28 179 P **P** **06 10 15.0 -2.1**
CMAR Chiang Mai Arr 40.39 256 P **P** **06 10 34.8 +0.1**
comp=Z,1.1nm,0.4s,baz=51,slow=6.2,SNR=3.8
CMAR LR LR 06 28 54.7
comp=Z,53nm,18.7s,baz=166,slow=38
WMQ Urumqi 40.56 298 P **P** **06 10 36.0 +0.1**
WMQ pP **pP** **06 10 54.4 -0.9**
WMQ PP **PnPn** **06 12 17.1 +1.9**
WMQ PcP **PcP** **06 12 38.0 +1.2**
WMQ PMZ
comp=Z,63nm,0.8s
WMQ PMZ
comp=Z,150nm,3.8s
LSA Lhasa 41.45 276 P **P** **06 10 44.2 +0.3**
LSA Lhasa 41.45 276 *e*P **P** **06 10 45.0 +1.1**
LSA pmax pmax
comp=Z,32nm,1.1s
LSA Lhasa 41.45 276 *e*P **P** **06 10 45.0 +1.1**
comp=Z,32nm,1.1s
ZALV Zalesovo Beam 42.01 313 P **P** **06 10 47.5 -0.1**
comp=Z,14nm,0.6s,baz=91,slow=6.6,SNR=60
ZALV ScP **ScP** **06 16 22.4 -1.9**
comp=Z,0.4nm,0.3s,baz=132,slow=2.1,SNR=3.6
ZALV LR LR 06 29 13.1
comp=Z,27nm,20.1s,baz=68,slow=37
NVS Novosibirsk 42.96 315⇑ *i*P **P** **06 10 54.6 -0.7**
NVS pmax pmax
comp=Z,21nm,0.8s
NVS pmax pmax
comp=N,2.0nm,0.4s
NVS pmax pmax
comp=E,11nm,0.5s
MK31 Makanchi Array 43.96 303 *i*P **P** **06 11 03.3 -0.2**
MK31 pmax pmax
comp=Z,25nm,0.7s
MKAR Makanchi Array 43.96 303 P **P** **06 11 03.4 -0.1**
comp=Z,22nm,0.7s,baz=90,slow=10.0,SNR=104
MKAR LR LR 06 29 56.0
comp=Z,71nm,18.4s,baz=81,slow=37
TAPN Taplejung 45.15 274 *e*P **P** **06 11 12.7 -0.8**
comp=Z,15nm,0.4s
ODAN Odare 45.62 274 *e*P **P** **06 11 16.1 -1.0**
comp=Z,20nm,0.6s
KURK Kurchatov 45.92 309 P **P** **06 11 18.2 -0.7**
KURK pmax pmax
comp=Z,32nm,0.8s
KURK Kurchatov 45.92 309 P **P** **06 11 18.9 0.0**
KURBB Kurchatov Arra 45.98 309 P **P** **06 11 18.9 -0.5**
comp=Z,27nm,0.5s,baz=86,slow=8.0,SNR=151
RAMN Ramite 46.22 275 *e*P **P** **06 11 20.2 -1.7**
comp=Z,27nm,0.6s
GUN Gumba 46.40 276 *e*P **P** **06 11 24.0 +0.6**
comp=Z,34nm,0.8s
PDGK Podgornoye 46.52 299 P **P** **06 11 23.4 -0.3**
PDGK pmax pmax
comp=Z,86nm,0.8s
PKI Pulchoki 46.92 276 *e*P **P** **06 11 26.5 -1.0**
comp=Z,21nm,0.8s
PKIN Phulchoki 46.93 276 *e*P **P** **06 11 27.1 -0.4**
comp=Z,21nm,0.8s
KKN Kakani 46.93 276 *e*P **P** **06 11 26.8 -0.6**
comp=Z,12nm,0.5s
DMN Daman 47.15 276 *e*P **P** **06 11 29.4 +0.2**
GKN Gorkha 47.36 277 *e*P **P** **06 11 30.0 -0.7**
comp=Z,88nm,0.8s
KOLN Koldanda 48.30 277 *e*P **P** **06 11 37.5 -0.5**
comp=Z,21nm,0.6s
ULHL Ulahol 49.10 298 P **P** **06 11 44.0 +0.1**
SNR=14
TKM2 Tokmak 2 49.38 299 P **P** **06 11 46.8 +0.7**
SNR=45
TKM2 Tokmak 2 49.38 299 *e*P **P** **06 11 46.6 +0.5**
TKM2 pmax pmax
comp=Z,42nm,0.7s
TKM2 Tokmak 2 49.38 299 *e*P **P** **06 11 46.6 +0.5**
comp=Z,42nm,0.7s
COEN Coen 49.72 176 *e*P **P** **06 11 48.1 -0.4**
comp=Z,6.5nm,1.1s
KZA Kyzart 49.85 298 P **P** **06 11 51.0 +1.1**
SNR=21
KBK Karagaybulak 49.91 299 P **P** **06 11 50.5 +0.5**
SNR=30
CHMS Chumysh 49.96 299 P **P** **06 11 53.1 +2.8**
SNR=5.2
KSH Kashi 50.05 295 P P 06 11 54.5 +3.4
KSH pP pP 06 12 15.1 +4.0
KSH PcP **PcP** **06 13 13.3 +3.5**
KSH PP PP 06 13 53.1 +6.4
KSH PcS **PcS** **06 17 09.2 +2.2**
KSH S **S** **06 18 58.7 +2.4**
KSH sS sS 06 19 35.7 +5.4
KSH ScS **ScS** **06 21 36.5 +1.7**
KSH PMZ
comp=Z,27nm,0.7s
KSH PMZ
comp=Z,120nm,3.7s
KSH LN
comp=Z,110nm,5.0s
KSH LE
comp=Z,150nm,4.8s
KSH LZ
comp=Z,230nm,6.9s
USP Ospenovka 50.07 300 P **P** **06 11 51.2 +0.2**
SNR=14
FRU Bishkek 50.10 299 *e*P **P** **06 11 51.0 -0.3**
FRU pmax pmax
comp=Z,60nm,1.2s
AAK Ala-Archa 50.24 299 P **P** **06 11 52.7 +0.1**
SNR=5.4
AAK Ala-Archa 50.24 299 P **P** **06 11 52.5 -0.1**
AAK pmax pmax
comp=Z,18nm,0.9s
UCH Uchtor 50.34 298 P **P** **06 11 54.2 +0.6**
SNR=21
BVA0 Borovoye Array 50.66 313 *i*P **P** **06 11 54.9 -0.4**
BVA0 pmax pmax
comp=Z,12nm,0.9s
BVAR Borovoye Array 50.66 313 P **P** **06 11 55.0 -0.3**
comp=Z,6.5nm,0.6s,baz=80,slow=8.1,SNR=30
BVAR Borovoye Array 50.66 313 P **P** **06 11 55.0 -0.3**
BRVK Borovoye 50.71 313 *e*P **P** **06 11 55.3 -0.5**
BRVK pmax pmax
comp=Z,17nm,0.9s
BRVK Borovoye 50.71 313 *e*P **P** **06 11 55.2 -0.5**
comp=Z,17nm,0.9s
EKS2 Erkin-Say 50.74 299 P **P** **06 11 56.4 +0.1**
SNR=13
EKS2 Erkin-Say 50.74 299 *e*P **P** **06 11 56.1 -0.2**
EKS2 pmax pmax
comp=Z,14nm,0.8s
EKS2 Erkin-Say 50.74 299 *e*P **P** **06 11 56.1 -0.2**
comp=Z,14nm,0.8s
ILAR Eielson Array 50.86 32 P **P** **06 11 57.3 +0.6**
comp=Z,1.0nm,0.7s,baz=270,slow=6.2,SNR=16
ILAR pP **pP** **06 12 18.0 +1.3**
comp=Z,6.9nm,0.8s,baz=270,slow=6.2,SNR=22
AML Almayashu 50.95 298 P **P** **06 11 58.8 +0.6**
SNR=37
KK31 Karatay Array 52.91 300 *i*P **P** **06 12 12.0 -0.3**
KK31 pmax pmax
comp=Z,21nm,0.8s
KKAR Karatay Array 52.91 300 *e*P **P** **06 12 11.8 -0.5**
KKAR Karatay Array 52.91 300 *e*P **P** **06 12 11.8 -0.5**
SVE Sverdlovsk 55.38 319⇓ *e*P **P** **06 12 30.3 +0.4**
SVE pmax pmax
comp=Z,27nm,0.8s
DZET Dzherino 55.53 296 P **P** **06 12 31.0 -0.5**
DZET pmax pmax
comp=Z,14nm,0.4s
INK Inuvik 55.74 27 P **P** **06 12 33.6 +1.3**
comp=Z,1.2nm,0.6s,baz=296,slow=1.2,SNR=4.9
INK pP **pP** **06 12 54.3 +1.7**
comp=Z,4.6nm,0.7s,baz=283,slow=7.4,SNR=8.3
WRAB Tennant Creek 55.88 187 *e*P **P** **06 12 32.4 -1.4**
WRAB pmax pmax
comp=Z,17nm,1.0s
WRAB Tennant Creek 55.88 187 *e*P **P** **06 12 32.4 -1.4**
comp=Z,17nm,1.0s
WRA Warramunga Arr 55.89 187 P **P** **06 12 32.5 -1.4**
comp=Z,11nm,0.4s,baz=2.9,slow=7.5,SNR=90
CTA Charters Tower 56.02 173 P **P** **06 12 33.5 -1.4**
comp=Z,2.4nm,0.5s,baz=326,slow=3.6,SNR=2.7
ARU Arti 56.59 319*c* *i*P **P** **06 12 38.2 -0.4**
ARU 06 13 32.2
ARU 06 14 41.2
ARU S **S** **06 20 25.4 +1.3**
ARU SS **SS** **06 24 11.1 -1.0**
ARU pmax pmax
comp=Z,31nm,0.7s
ARU Arti 56.59 319 *e*P **P** **06 12 37.8 -0.8**
AB31 Akbulak array 57.97 310 P **P** **06 12 47.7 -0.7**
AB31 pmax pmax
comp=Z,4.0nm,0.4s
ABKAR Akbulak array 57.97 310 *e*P **P** **06 12 48.0 -0.4**
AS31 Alice Springs 59.61 187 *e*P **P** **06 12 58.9 -1.2**
ASAR Alice Springs 59.61 187 P **P** **06 12 58.8 -1.2**
comp=Z,6.4nm,0.8s,baz=17,slow=11,SNR=46
ASAR pP **pP** **06 13 22.3 +1.8**
comp=Z,1.3nm,0.6s,baz=4.0,slow=5.5,SNR=2.5
DLBC Dease Lake 60.01 37 pP pP 06 13 24.7 +1.7
comp=Z,3.3nm,1.0s,baz=230,slow=4.5,SNR=3.1
MBWA Marble Bar 60.06 202 *e*P **P** **06 13 02.1 -1.0**
comp=Z,11nm,0.8s
PRGR Permogore 61.19 327 P **P** **06 13 09.0 -1.3**
PRGR pmax pmax
comp=Z,17nm,0.6s
IMYA Miami 62.87 297 *e*P **P** **06 13 21.7 -0.6**
GEYT Alibeck 63.59 299 P **P** **06 13 26.8 0.0**
comp=Z,4.8nm,0.6s,baz=34,slow=5.6,SNR=8.0
RES Resolute Bay 63.85 14 pP pP 06 13 49.1 +0.5
comp=Z,2.5nm,0.5s,baz=303,slow=6.0,SNR=3.6
ISFR Sfrayin 64.07 298 *e*P **P** **06 13 29.6 -0.6**
IDAH Dahanechah 64.67 293 *e*P **P** **06 13 33.2 -1.0**
ARCES ARCESS Array B 64.69 339 P **P** **06 13 33.4 -0.1**
comp=Z,2.4nm,0.6s,baz=57,slow=8.2,SNR=24
ARCES LR LR 06 45 07.4
comp=Z,18nm,18.5s,baz=52,slow=39
YKA Yellowknife Ar 65.17 30 pP pP 06 13 58.3 +0.9
comp=Z,1.1nm,0.7s,baz=306,slow=7.1,SNR=3.6
ITEG Tejag 65.42 294 *e*P **P** **06 13 38.5 -0.6**
IKOO Kooshah 65.46 293 *e*P **P** **06 13 38.0 -1.4**
STKA Stephens Creek 67.49 179 P **P** **06 13 51.1 -0.6**
comp=Z,2.8nm,0.5s,baz=348,slow=5.9,SNR=12
OBN Obninsk 68.43 323 P **P** **06 13 56.0 -1.4**
OBN *e* 06 14 19.3
OBN *SP **sP** **06 14 29.0 +1.7**
OBN pmax pmax
comp=Z,9.0nm,0.5s
OBN MLR MLR
comp=Z,51nm,15.0s
FINES FINESS Array B 69.36 332 P **P** **06 14 02.6 -0.5**
comp=Z,4.4nm,0.6s,baz=84,slow=5.2,SNR=30
FINES LR LR 06 46 38.3
comp=Z,25nm,20.0s,baz=82,slow=38
VSU Vasula 70.94 329 *i*P **P** **06 14 12.6 -0.2**
VSU pmax pmax
comp=Z,34nm,1.4s
KBZ Khabaz 70.94 310 P **P** **06 14 13.1 0.0**
comp=Z,12nm,0.9s,baz=45,slow=4.2,SNR=21
KIV Kislovodsk 70.95 311 *e*P **P** **06 14 13.2 -0.1**
KIV pmax pmax
comp=Z,37nm,1.1s
KIV MLR MLR
comp=Z,25nm,18.0s
KIV Kislovodsk 70.95 311 *e*P **P** **06 14 13.8 +0.5**
comp=Z,32nm,1.0s
GNI Garni 71.65 307 P **P** **06 14 18.0 +0.3**
GNI pmax pmax
comp=Z,14nm,1.2s
SUMG Summit 71.75 360 *i*P pP 06 14 39.5 +0.4
comp=Z,8.5nm,0.8s
ANN Anapa 73.64 314 *e*P P 06 14 18.5 -11
ANN *e*PP **PcP** **06 14 41.5 -3.1**
ANN pmax pmax
comp=Z,16nm,1.2s
SLMT Seeley Lake 74.10 43 *e*P P 06 14 25.7 -6.3
comp=Z,2.6nm,0.5s
AKASG Malin Array Be 74.61 322 P **P** **06 14 34.0 -0.7**
comp=Z,5.7nm,0.5s,baz=47,slow=6.2,SNR=27
AKASG LR LR 06 50 11.6

comp=Z,57nm,18.7s,baz=25,slow=38
AKASG **Malin Array Be** 74.61 322 P P 06 14 34.0 -0.7
KIEV **Kiev** 74.62 322 *c iP* P 06 14 33.9 -0.8
NB2 **NORSAR Subarra** 74.84 337 P P 06 14 35.3 -0.6
comp=Z,5.1nm,0.5s,baz=41,slow=5.9
NOA **NORSAR Array B** 74.84 337 P P 06 14 35.6 -0.3
comp=Z,6.1nm,0.7s,baz=39,slow=5.8,SNR=32
NOA LR LR 06 51 26.8
comp=Z,15nm,18.3s,baz=350,slow=39
LRM **Limekiln Ridge** 75.52 44 *eP* P 06 14 40.3 0.0
comp=Z,27nm,1.0s
DLMT **Dillon** 75.72 44 *eP* P 06 14 42.6 +1.2
comp=Z,5.6nm,1.1s
NVAR **Mina Array Bea** 76.33 52 P P 06 14 45.8 +0.7
comp=Z,0.9nm,0.6s,baz=293,slow=5.9,SNR=12
MALT **Malatya** 76.75 308 ⇓P P 06 14 48.5 +1.2
MALT **Malatya** 76.75 308 ⇓*iP* P 06 14 48.5 +1.2
RLMT **Red Lodge** 77.72 43 *eP* P 06 14 52.3 -0.4
KWP **Kalwaria Pacla** 78.49 324 *eP* P 06 14 57.2 +0.6
KWP **Kalwaria Pacla** 78.49 324 *eP* P 06 14 57.3 +0.6
BURAR **Bucovina Array** 78.61 321 ⇑P P 06 14 57.4 0.0
BURAR **Bucovina Array** 78.61 321 ⇑*iP* P 06 14 57.3 -0.1
BRTR **Keskin Array B** 78.91 311 P P 06 14 59.2 -0.1
comp=Z,2.5nm,0.8s,baz=97,slow=3.9,SNR=13
BRTR PP PP 06 17 57.6 -0.8
comp=Z,2.4nm,1.0s,baz=81,slow=7.6,SNR=5.8
BRTR **Keskin Array B** 78.91 311 P P 06 14 59.2 -0.1
BRTR 06 17 57.6
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR pmax pmax
comp=Z,2.0nm,1.0s
VRI **Vrincioaia** 78.98 319 ⇓P P 06 15 02.3 +2.9
VRI **Vrincioaia** 78.98 319 ⇓*iP* P 06 15 02.3 +2.9
TIRR **Tirgusor** 78.98 317 ⇑P P 06 15 03.9 +4.5
TIRR **Tirgusor** 78.98 317 ⇑*iP* P 06 15 03.9 +4.5
PDAR **Pinedale Array** 79.04 45 P P 06 15 00.6 +0.5
comp=Z,0.9nm,0.6s,baz=326,slow=2.1,SNR=10
PDAR pP pP 06 15 23.2 +1.7
comp=Z,0.7nm,0.6s,baz=1.5,slow=1.4,SNR=3.8
KOLS **Kolonicke sedl** 79.17 324 *eP* P 06 15 00.3 -0.1
KOLS pmax pmax
comp=Z,3.0nm,1.1s
KOLS **Kolonicke sedl** 79.17 324 *eP* P 06 15 00.3 -0.1
JLU **Jordanelle** 79.28 47 *eP* P 06 15 01.3 -0.2
comp=Z,3.2nm,0.8s
STHS **Stebnicka Huta** 79.33 324 *eP* P 06 15 02.3 +1.0
STHS pmax pmax
comp=Z,2.0nm,0.6s
STHS **Stebnicka Huta** 79.33 324 *eP* P 06 15 02.3 +1.0
OJC **Ojcow** 79.44 326 *eP* P 06 15 01.9 +0.1
OJC **Ojcow** 79.44 326 *eP* P 06 15 02.0 +0.1
MLR **Muntele Rosu** 79.64 319 ⇑P P 06 15 01.5 -1.6
MLR **Muntele Rosu** 79.64 319 ⇑*iP* P 06 15 01.5 -1.6
NIE **Niedzica** 79.77 325 *eP* P 06 15 04.2 +0.6
NIE **Niedzica** 79.77 325 *eP* P 06 15 04.3 +0.6
MSU **Marysvale** 80.14 49 *eP* P 06 15 06.9 +0.8
MSU pmax pmax
comp=Z,3.0nm,0.7s
MSU **Marysvale** 80.14 49 *eP* P 06 15 06.9 +0.8
comp=Z,2.5nm,0.7s
VOIR 80.14 320 ⇑P P 06 14 55.7 -10
VOIR 80.14 320 ⇑*iP* P 06 14 55.7 -10
RAYN **Ar Rayn** 80.25 292 *eP* P 06 15 06.0 -0.8
comp=Z,5.8nm,1.0s
KSP **Ksiaz** 80.55 328 *eP* P 06 15 07.9 +0.1
KSP **Ksiaz** 80.55 328 *eP* P 06 15 07.9 +0.1
MORC **Moravsky Berou** 80.78 326 ⇓P P 06 15 09.0 -0.1
MORC **Moravsky Berou** 80.78 326 ⇓*iP* P 06 15 09.0 -0.1
KRLC **Kraliky** 80.90 327 *eP* P 06 15 09.9 +0.2
KRLC **Kraliky** 80.90 327 *eP* P 06 15 09.9 +0.2
DPC **Dobruska-Polom** 80.90 327 *eP* P 06 15 10.1 +0.4
DPC *ex* x 06 15 21.1
DPC **Dobruska-Polom** 80.90 327 *eP* P 06 15 10.1 +0.4
CLL **Collm** 81.59 330 ⇑*iP* P 06 15 12.5 -0.8
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL **Collm** 81.59 330 *eP* P 06 15 13.0 -0.2
CLL **Collm** 81.59 330 ⇑*iP* P 06 15 12.5 -0.8
comp=Z,7.0nm,0.8s
CLL *i* PcP PcP 06 15 20.3 +1.3
CLL *i* 06 15 23.4
CLL *e*PP PP 06 18 20.0 0.0
comp=Z,3.0nm,1.1s
CLL *e*S S 06 25 24.0 +5.3
CLL *e*SS SS 06 30 30.0 -6.0
GOPC **GO Pecny, Ondr** 81.89 328 *eP* P 06 15 15.3 +0.4
PRU **Pruhonice** 81.94 328 *eP* P 06 15 15.3 +0.2
PRU **Pruhonice** 81.94 328 *eP* P 06 15 15.3 +0.2
KHC **Kasperske Hory** 83.00 328 *eP* P 06 15 20.5 -0.2
KHC *ex* x 06 15 32.7
KHC **Kasperske Hory** 83.00 328 *eP* P 06 15 20.5 -0.2
KHC **Kasperske Hory** 83.00 328 *eP* P 06 15 20.5 -0.2
comp=Z,1.5nm,1.2s
GERES **GERESS Array B** 83.16 328 P P 06 15 21.3 -0.4
comp=Z,0.9nm,0.6s,baz=40,slow=6.4,SNR=9.5
GERES PP PP 06 18 32.8 -0.2
comp=Z,0.3nm,0.5s,baz=28,slow=6.0,SNR=3.7
BFO **Black Forest** 85.81 330 *iP* P 06 15 35.4 +0.5
TXAR **Lajitas Array** 91.47 52 P P 06 16 02.9 +0.7
comp=Z,0.7nm,0.6s,baz=304,slow=2.5,SNR=9.7
TXAR pP pP 06 16 26.0 +1.9
comp=Z,0.6nm,0.6s,baz=309,slow=2.7,SNR=4.5
TORD **Torodi Ar. Bea** 117.45 314 PP PP 06 22 43.5 -10
comp=Z,0.7nm,1.1s,baz=33,slow=6.9,SNR=3.5
TORD PKKPbc **PKKPbc** 06 32 03.4 +0.4
comp=Z,0.0nm,100.0s,baz=201,slow=2.9,SNR=4.6
SAML **Samuel** 145.62 44 *e*PKPbc **PKPdf** 06 22 33.8 -0.2
PMSA **Palmer Station** 147.66 161 *e*PKPbc **PKPbc** 06 22 38.8 +0.1
LPAZ **La Paz** 147.98 60 PKPbc **PKPbc** 06 22 41.9 +0.1
comp=Z,1.3nm,0.5s,baz=293,slow=2.8,SNR=12
LPAZ pPKPbc **pPKPbc** 06 23 05.6 +1.2
comp=Z,1.7nm,0.7s,baz=359,slow=4.8,SNR=3.5

IDC ***04*** *06:08:42.9±1.3, 13.˚54N×90.˚48W, h0km, mb4.1/11, mb1 4.3/13, mb1mx4.1/26, mbtmp4.1/13, ML4.2/2, MS2.6/1, Ms1 2.6/1, ms1mx2.4/19, Error ellipse: s-maj=35.5km s-min=21.0km az=30.0*

ISCJB ***04*** *06:08:46.3±0.4, 13.˚40N±0.˚05×91.˚03W±0.˚03, h29km, mb4.2/27, Error ellipse: s-maj=7.2km s-min=2.8km az=26.9*

MEX ***04*** *06:08:49.0±0.4, 13.˚30N×91.˚29W, h15km, MD4.1*

NEIC ***04*** *06:08:50.9±0.5, 13.˚72N×90.˚77W, mb4.3/21, MD4.4(SNET), Error ellipse: s-maj=13.7km s-min=5.7km az=38.0*

NEIC Felt [II] at Ahuachapan, El Salvador.

CASC ***04*** *06:08:52.9±1.0, 13.˚52N×90.˚59W, h20km±4km, MD4.1, ML4.4*

ISC 04 06:08:47.5±0.6, 13.˚35N±0.˚07×91.˚08W±0.˚05, h29km, n153, σ1s51/173, mb4.3/27, 1C-7D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NBG	**Las Nubes**	**1.42**	**30**	⇓*eP*		**Pn**	**Pn**	**06 09 11.7**	**0.0**
NBG				*e*S		**Sn**	**Sn**	**06 09 28.7**	**-0.8**
RTR	**El Retiro**	**1.49**	**68**	⇓*eP*		**Pn**	**Pn**	**06 09 11.2**	**-1.4**
SBLS	**San Blas**	**1.49**	**71**	⇓*eP*		**Pn**	**Pn**	**06 09 11.2**	**-1.4**
SNJE	**San Jose**	**1.52**	**70**	⇓*eP*		**Pn**	**Pn**	**06 09 11.6**	**-1.4**
RBDL	**Robledal**	**1.55**	**61**	⇓*eP*		**Pn**	**Pn**	**06 09 12.3**	**-1.0**
BOQS	**Boqueron**	**1.79**	**77**	⇓*eP*		**Pn**	**Pn**	**06 09 15.7**	**-1.0**
BOQS				*e*S		**Sn**	**Sn**	**06 09 34.0**	**-4.5**
SNET	**Serv Nac Est T**	**1.82**	**79**	*eP*		**Pn**	**Pn**	**06 09 16.0**	**-1.0**
SNET				AML		AML	AML	06 09 45.2	
	comp=Z,7μm,0.5s								
SNET	**Serv Nac Est T**	**1.82**	**79**	*e*Pn		**Pn**	**Pn**	**06 09 16.1**	**-0.9**
SNET				*e*Sn		**Sn**	**Sn**	**06 09 37.5**	**-1.8**
LFU	**La Fuente**	**1.95**	**78**	⇓*eP*		**Pn**	**Pn**	**06 09 18.3**	**-0.5**
MTO2	**Montecristo 2**	**1.96**	**58**	*eP*		**Pn**	**Pn**	**06 09 18.4**	**-0.8**
LFRS	**El Faro**	**1.98**	**82**	*eP*		**Pn**	**Pn**	**06 09 18.6**	**-0.5**
LBRS	**Las Brisas**	**2.01**	**79**	⇓*eP*		**Pn**	**Pn**	**06 09 19.4**	**-0.3**
LBRS				*e*S		**Sn**	**Sn**	**06 09 38.9**	**-5.1**
MRL	**Marmol**	**2.17**	**38**	*eP*		**Pn**	**Pn**	**06 09 22.8**	**+0.9**
VSM	**San Miguel**	**2.73**	**88**	*eP*		**Pn**	**Pn**	**06 09 30.2**	**+0.6**
CAHU	**Cacacuatique**	**2.82**	**81**	*eP*		**Pn**	**Pn**	**06 09 30.1**	**-0.7**
CCIG	**Comitan**	**3.09**	**341**	*eP*		**Pn**	**Pn**	**06 09 34.9**	**+0.3**
CCIG				*e*S		**Sn**	**Sn**	**06 10 10.5**	**-0.2**
CCIG	**Comitan**	**3.09**	**341**	*eP*		**Pn**	**Pn**	**06 09 36.2**	**+1.6**
CCIG				*e*S		**Sn**	**Sn**	**06 10 10.5**	**-0.2**
PCIG		**3.13**	**319**	*eP*		**Pn**	**Pn**	**06 09 34.5**	**-0.4**
PCIG				*e*S		**Sn**	**Sn**	**06 10 08.5**	**-2.9**
PCIG		**3.13**	**319**	*eP*		**Pn**	**Pn**	**06 09 34.5**	**-0.4**
CNCH	**Conchagua**	**3.16**	**91**	*eP*		**Pn**	**Pn**	**06 09 35.1**	**-0.4**
TGIG		**3.94**	**330**	*eP*		**Pn**	**Pn**	**06 09 46.2**	**+0.1**
TGIG				*i* S		**Sn**	**Sn**	**06 10 30.5**	**-1.0**
TGIG		**3.94**	**330**	*eP*		**Pn**	**Pn**	**06 09 46.7**	**+0.6**
TGIG				*e*S		**Sn**	**Sn**	**06 10 29.0**	**-2.5**
COPN	**Copaltepe**	**4.53**	**104**	*eP*		**Pn**	**Pn**	**06 09 54.6**	**+0.4**
CMIG	**Matias Romero**	**5.23**	**316**	*eP*		**Pn**	**Pn**	**06 10 03.7**	**-0.1**
CMIG				*e*S		**Sn**	**Sn**	**06 11 00.0**	**-3.2**
CMIG	**Matias Romero**	**5.23**	**316**	Pn		**Pn**	**Pn**	**06 10 04.4**	**+0.5**
	comp=Z,2.8nm,0.3s,baz=136,slow=8.9,SNR=24								
CMIG				Sn		Sn	Sn	06 11 10.1	+6.8
	comp=Z,20nm,0.3s,baz=71,slow=20,SNR=6.9								
CMIG				LR		LR	LR	06 11 27.6	
	comp=Z,61nm,20.9s,baz=96,slow=30								
CMIG	**Matias Romero**	**5.23**	**316**	*eP*		**Pn**	**Pn**	**06 10 03.9**	**+0.1**
CMIG				Pn		**Pn**	**Pn**	**06 10 04.4**	**+0.5**
CMIG				*e*S		**Sn**	**Sn**	**06 11 00.0**	**-3.2**
CMIG				Sn		Sn	Sn	06 11 10.1	+6.8
HUIG	**Huatulco**	**5.43**	**297**	*eP*		**Pn**	**Pn**	**06 10 05.2**	**-1.5**
HUIG				*e*S		**Sn**	**Sn**	**06 11 04.5**	**-3.8**
HUIG	**Huatulco**	**5.43**	**297**	*eP*		**Pn**	**Pn**	**06 10 04.6**	**-2.1**
HUIG				*e*S		**Sn**	**Sn**	**06 11 04.5**	**-3.8**
JTS	**JuntasAbangare**	**6.72**	**116**	Pn		**Pn**	**Pn**	**06 10 25.0**	**+0.6**
	comp=Z,2.2nm,0.3s,baz=295,slow=24,SNR=8.8								
JTS				Lg		Lg	Lg	06 12 03.4	
	comp=Z,2.2nm,0.3s,baz=96,slow=22,SNR=9.6								
JTS	**JuntasAbangare**	**6.72**	**116**	*e*Pn		**Pn**	**Pn**	**06 10 26.6**	**+2.3**
JTS				*e*Sn		**Sn**	**Sn**	**06 11 41.6**	**+1.6**
JTS				Lg		Lg	Lg	06 12 03.4	
BCIP	**Isla Barro Col**	**11.78**	**110**	*e*Pn		**Pn**	**Pn**	**06 11 34.9**	**+1.1**
534A	**Blanco**	**17.95**	**339**	P		**P**	**P**	**06 12 56.4**	**+0.9**
	baz=18								
632A	**Uvalde**	**17.99**	**335**	P		**P**	**P**	**06 12 57.0**	**+1.1**
	baz=18								
631A	**Perdido Creek**	**18.25**	**333**	P		**P**	**P**	**06 13 00.1**	**+1.3**
	baz=18								
631A				S		**Sn**	**Sn**	**06 16 20.6**	**-1.2**
	baz=18								
LGNH	**LØogne**	**18.48**	**71**	*e*Pn		**P**	**P**	**06 12 59.5**	**-1.9**
	comp=Z,162nm,1.5s								
ROSC	**El Rosal**	**18.55**	**116**	P		**Pn**	**Pn**	**06 13 04.9**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=94,slow=22,SNR=4.9								
532A	**Rocksprings**	**18.59**	**335**	P		**Pn**	**Pn**	**06 13 03.8**	**+0.9**
	baz=18								
335A	**Moody**	**18.78**	**343**	P		**Pn**	**Pn**	**06 13 06.0**	**+0.9**
	baz=19								
JCT	**Junction City**	**18.86**	**336**	P		**Pn**	**Pn**	**06 13 07.6**	**+1.4**
	baz=19								
531A	**Rocksprings**	**18.89**	**334**	P		**Pn**	**Pn**	**06 13 08.6**	**+2.0**
	baz=19								
432A	**Menard**	**19.20**	**337**	P		**Pn**	**Pn**	**06 13 10.8**	**+0.4**
	baz=19								
530A	**J-C Ranch, Com**	**19.22**	**332**	P		**Pn**	**Pn**	**06 13 12.0**	**+1.5**
	baz=19								
333A	**Richland Sprin**	**19.31**	**339**	P		**Pn**	**Pn**	**06 13 11.6**	**-0.1**
	baz=19								
431A	**Sonora**	**19.36**	**335**	P		**Pn**	**Pn**	**06 13 13.1**	**+0.8**
	baz=19,SNR=7.4								
529A	**Stev Forest Ra**	**19.62**	**330**	P		**Pn**	**Pn**	**06 13 15.5**	**+0.2**
	baz=20								
332A	**Millersview**	**19.64**	**337**	P		**Pn**	**Pn**	**06 13 15.2**	**-0.4**
	baz=20								
430A	**Baggett Ranch,**	**19.72**	**333**	P		**Pn**	**Pn**	**06 13 16.8**	**+0.3**
	baz=20,SNR=6.2								
TXAR	**Lajitas Array**	**19.73**	**326**	P		**Pn**	**Pn**	**06 13 17.5**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=149,slow=13,SNR=50								
TXAR				PcP		**PcP**	**PcP**	**06 17 34.6**	**+1.4**
	comp=Z,0.0nm,0.3s,baz=134,slow=3.9,SNR=4.4								
331A	**San Angelo**	**19.84**	**336**	P		**Pn**	**Pn**	**06 13 18.1**	**+0.2**
	baz=20,SNR=5.8								
429A	**Davenport Ranc**	**19.88**	**332**	P		**Pn**	**Pn**	**06 13 18.6**	**+0.2**
	baz=20,SNR=7.6								
233A	**Rising Star**	**19.92**	**340**	P		**Pn**	**Pn**	**06 13 18.6**	**-0.2**
	baz=20								
LRAL	**Lakeview Retre**	**19.95**	**10**	P		**P**	**P**	**06 13 14.6**	**-2.7**
	comp=Z,3.4nm,0.8s								
232A	**Coleman**	**20.06**	**338**	P		**P**	**P**	**06 13 19.3**	**+0.7**
	baz=20								
Z38A	**Mt. Pleasant**	**20.13**	**350**	P		**P**	**P**	**06 13 19.4**	**+0.2**
	baz=20								
134A	**White-Moore Ra**	**20.18**	**343**	P		**P**	**P**	**06 13 20.3**	**+0.4**
	baz=20								
Z37A	**Pogue Cattle C**	**20.19**	**349**	P		**P**	**P**	**06 13 19.8**	**-0.2**
	baz=20								
330A	**Mertzon**	**20.23**	**334**	P		**P**	**P**	**06 13 21.6**	**+1.2**
	baz=20,SNR=5.7								
231A	**Bronte**	**20.35**	**337**	P		**P**	**P**	**06 13 22.9**	**+1.1**
	baz=20								
133A	**Hamilton Ranch**	**20.47**	**341**	P		**P**	**P**	**06 13 23.3**	**+0.2**
	baz=20								
SDV	**So Domingo**	**20.54**	**100**	*eP*		**P**	**P**	**06 13 23.5**	**-0.6**
	comp=Z,4.1nm,0.7s								
329A	**Wagon Wheel Ra**	**20.65**	**333**	P		**P**	**P**	**06 13 26.1**	**+1.0**
	baz=20								
ABTX	**Abilene, Hawle**	**20.72**	**339**	P		**P**	**P**	**06 13 26.0**	**+0.2**
	baz=21								
ABTX	**Abilene, Hawle**	**20.72**	**339**	*e*Pn		**P**	**P**	**06 13 26.9**	**+1.1**
	comp=Z,22nm,1.3s								
Y38A	**Idabel**	**20.75**	**351**	P		**P**	**P**	**06 13 25.3**	**-0.7**
	baz=20,SNR=6.5								
Z34A	**Collier Ranch,**	**20.88**	**344**	P		**P**	**P**	**06 13 27.7**	**+0.2**
	baz=21								
Y37A	**Hugo**	**20.95**	**349**	P		**P**	**P**	**06 13 27.6**	**-0.6**
	baz=21								
Z33A	**Whitaker Ranch**	**21.05**	**342**	P		**P**	**P**	**06 13 29.4**	**+0.2**
	baz=21								
GOGA	**Godfrey**	**21.14**	**18**	*eP*		**P**	**P**	**06 13 31.1**	**+0.8**
	comp=Z,9.4nm,0.9s								
130A	**Snyder**	**21.19**	**336**	P		**P**	**P**	**06 13 31.7**	**+0.9**
	baz=21								
MIAR	**Mount Ida**	**21.22**	**354**	P		**P**	**P**	**06 13 30.4**	**-0.7**
	baz=21								
MIAR	**Mount Ida**	**21.22**	**354**	*eP*		**P**	**P**	**06 13 29.8**	**-1.4**
	comp=Z,38nm,2.0s								
Z32A	**Haskell**	**21.29**	**340**	P		**P**	**P**	**06 13 32.0**	**+0.1**
	baz=21								
UALR	**University of**	**21.36**	**357**	*eP*		**P**	**P**	**06 13 31.0**	**-1.6**
	comp=Z,9.1nm,1.0s								
228A	**UT Block 9, Go**	**21.46**	**332**	P		**P**	**P**	**06 13 34.0**	**+0.3**
	baz=21								
X38A	**Whitesboro**	**21.50**	**352**	P		**P**	**P**	**06 13 33.6**	**-0.5**
	baz=21								
X37A	**Clayton**	**21.50**	**350**	P		**P**	**P**	**06 13 33.4**	**-0.7**
	baz=21								
Z31A	**Sharp Cattle R**	**21.53**	**339**	P		**P**	**P**	**06 13 35.2**	**+0.8**
	baz=21								
129A	**Stewart Farms,**	**21.58**	**335**	P		**P**	**P**	**06 13 35.4**	**+0.3**
	baz=22								
X36A	**Centrahoma**	**21.66**	**348**	P		**P**	**P**	**06 13 35.0**	**-0.9**
	baz=22								
128A	**Castleberry Fa**	**21.84**	**333**	P		**P**	**P**	**06 13 38.3**	**+0.5**
	baz=22								
W38A	**Poteau**	**21.85**	**352**	P		**P**	**P**	**06 13 37.2**	**-0.6**
	baz=22								
Z30A	**Sanderson Ranc**	**21.86**	**337**	P		**P**	**P**	**06 13 37.9**	**-0.1**
	baz=22								
Y32A	**R-V Farms, Ver**	**21.92**	**341**	P		**P**	**P**	**06 13 39.1**	**+0.5**
	baz=22								
W37A	**Quinton**	**22.05**	**350**	P		**P**	**P**	**06 13 39.4**	**-0.5**
	baz=22								
Z29A	**Hungry Hill Ra**	**22.06**	**336**	P		**P**	**P**	**06 13 40.7**	**+0.4**
	baz=22								
X33A	**Lawton**	**22.14**	**344**	P		**P**	**P**	**06 13 41.3**	**+0.3**
	baz=22								
Y31A	**Rekieta Farm,**	**22.15**	**339**	P		**P**	**P**	**06 13 41.8**	**+0.7**
	baz=22								
X32A	**Elmer**	**22.26**	**342**	P		**P**	**P**	**06 13 42.6**	**+0.3**
	baz=22								
Y30A	**Stafford Cattl**	**22.30**	**338**	P		**P**	**P**	**06 13 44.8**	**+2.0**
	baz=22								
W34A	**Bridge Creek,**	**22.61**	**346**	P		**P**	**P**	**06 13 45.4**	**-0.7**
	baz=22								
W34A	**Bridge Creek,**	**22.61**	**346**	*eP*		**P**	**P**	**06 13 45.0**	**-1.0**
	comp=Z,9.8nm,0.8s								
X31A	**McDonald Ranch**	**22.67**	**341**	P		**P**	**P**	**06 13 48.1**	**+1.4**
	baz=22,SNR=6.6								
V37A	**Hulbert**	**22.73**	**351**	P		**P**	**P**	**06 13 46.0**	**-1.3**
	baz=22								
X30A	**Coker Ranch, T**	**22.80**	**339**	P		**P**	**P**	**06 13 48.6**	**+0.5**
	baz=23								
Y28A	**McKinney Farm,**	**22.85**	**335**	P		**P**	**P**	**06 13 47.9**	**-0.7**
	baz=23								
TUL1	**Tulsa**	**22.86**	**350**	P		**P**	**P**	**06 13 46.9**	**-1.7**
	baz=23								
V35A	**Meyer Ranch, C**	**22.91**	**348**	P		**P**	**P**	**06 13 47.7**	**-1.5**
	baz=23								
X29A	**Tulia**	**23.11**	**337**	P		**P**	**P**	**06 13 50.6**	**-0.7**
	baz=23								
MSTX	**Muleshoe**	**23.12**	**335**	*eP*		**P**	**P**	**06 13 52.5**	**+1.0**
	comp=Z,5.2nm,0.8s								
V34A	**Guthrie**	**23.13**	**347**	P		**P**	**P**	**06 13 50.4**	**-1.0**
	baz=23								
TKL	**Tuckaleechee C**	**23.17**	**15**	P		**P**	**P**	**06 13 49.1**	**-2.6**
	comp=Z,7.3nm,0.8s,baz=183,slow=12,SNR=9.3								
W31A	**Holland Ranch,**	**23.17**	**341**	P		**P**	**P**	**06 13 52.1**	**+0.3**
	baz=23								
V33A	**Lossen Ranch,**	**23.30**	**345**	P		**P**	**P**	**06 13 52.3**	**-0.8**
	baz=23								
KMSC	**Kings Mountain**	**23.41**	**20**	P		**P**	**P**	**06 13 52.2**	**-2.0**
	baz=23								
U35A	**Pawnee**	**23.48**	**348**	P		**P**	**P**	**06 13 54.8**	**-0.1**
	baz=23								
AMTX	**Amarillo**	**23.49**	**338**	P		**P**	**P**	**06 13 56.1**	**+1.0**
	baz=23								
AMTX	**Amarillo**	**23.49**	**338**	P		**P**	**P**	**06 13 55.2**	**+0.1**
	comp=Z,6.4nm,0.7s								
AMTX				*e*pP		**pP**	**pP**	**06 14 06.1**	**+2.8**
T37A	**Cheneyville 18**	**23.92**	**352**	P		**P**	**P**	**06 13 58.0**	**-1.0**
	baz=24,SNR=6.2								
T35A	**Sooner Cattle**	**23.97**	**349**	P		**P**	**P**	**06 13 58.4**	**-1.1**
	baz=24								
T36A	**Boggs Farm, Ca**	**24.00**	**351**	P		**P**	**P**	**06 13 57.6**	**-2.2**
	baz=24								
T34A	**McClaskey Farm**	**24.20**	**348**	P		**P**	**P**	**06 14 00.6**	**-1.1**
	baz=24								
121A	**Cookes Peak, D**	**24.46**	**324**	P		**P**	**P**	**06 14 06.2**	**+1.9**
	baz=24								
121A	**Cookes Peak, D**	**24.46**	**324**	*eP*		**P**	**P**	**06 14 06.0**	**+1.8**
	comp=Z,9.0nm,0.7s								
S37A	**Fort Scott**	**24.54**	**353**	P		**P**	**P**	**06 14 03.1**	**-1.6**
	baz=24,SNR=6.5								
S36A	**Lake Cedric, C**	**24.61**	**351**	P		**P**	**P**	**06 14 03.9**	**-1.4**
	baz=24,SNR=18								
S35A	**Otter Creek Ra**	**24.68**	**350**	P		**P**	**P**	**06 14 04.6**	**-1.4**
	baz=24								
WCI	**Wyandotte Cave**	**25.14**	**9**	*eP*		**P**	**P**	**06 14 08.0**	**-2.2**
	comp=Z,16nm,0.9s								
WCI				*e*pP		**pP**	**pP**	**06 14 20.2**	**+1.6**
ANMO	**Albuquerque**	**25.61**	**330**	P		**P**	**P**	**06 14 15.6**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=149,slow=11,SNR=11								
ANMO	**Albuquerque**	**25.61**	**330**	*eP*		**P**	**P**	**06 14 15.9**	**+1.2**
	comp=Z,1.9nm,0.7s								
P35A	**Duane Minner,**	**26.44**	**351**	P		**P**	**P**	**06 14 22.1**	**+0.2**
	baz=26								
T25A	**Trinidad**	**26.52**	**336**	P		**P**	**P**	**06 14 23.7**	**+0.7**
	baz=26								
214A	**Organ Pipe Nat**	**27.20**	**316**	P		**P**	**P**	**06 14 31.4**	**+2.5**
	baz=27								
SDCO	**Great Sand Dun**	**27.49**	**335**	P		**P**	**P**	**06 14 33.1**	**+1.4**
	baz=27								
P26A	**Davis Ranch, A**	**28.26**	**340**	P		**P**	**P**	**06 14 38.9**	**+0.4**
	baz=28								
Q24A	**Divide**	**28.39**	**337**	P		**P**	**P**	**06 14 40.1**	**+0.3**
	baz=28								
MVCO	**Mesa Verde**	**28.41**	**330**	P		**P**	**P**	**06 14 41.2**	**+1.3**
	baz=28								
WUAZ	**Wupatki**	**28.67**	**324**	P		**P**	**P**	**06 14 44.2**	**+2.1**
	baz=29								
WUAZ	**Wupatki**	**28.67**	**324**	*eP*		**P**	**P**	**06 14 43.8**	**+1.6**
	comp=Z,5.7nm,0.8s								
NNA	**Nana**	**28.86**	**150**	*eP*		**P**	**P**	**06 14 45.6**	**+1.7**
	comp=Z,3.8nm,0.3s								
PFO	**Pinyon Flat Ob**	**30.65**	**315**	P		**P**	**P**	**06 15 01.2**	**+1.5**
	comp=Z,1.5nm,0.8s,baz=122,slow=9.5,SNR=2.4								
SPMN	**St. Paul**	**31.80**	**358**	*eP*		**P**	**P**	**06 15 07.4**	**-2.2**
	comp=Z,5.8nm,0.7s								
SADO	**Sadowa**	**32.93**	**16**	P		**P**	P	06 15 16.3	-3.1
	comp=Z,1.6nm,0.4s,baz=232,slow=9.8,SNR=4.6								
I22A	**9 Mile Ranch,**	**33.19**	**339**	P		**P**	**P**	**06 15 21.9**	**0.0**
	baz=33								
HWUT	**Hardware Ranch**	**33.33**	**331**	*eP*		**P**	**P**	**06 15 25.6**	**+2.3**
	comp=Z,4.6nm,1.0s								
VES	**Vestal, Richgr**	**33.70**	**317**	P		**P**	**P**	**06 15 27.8**	**+1.6**
	baz=34								
I20A	**Worland**	**33.82**	**338**	P		**P**	**P**	**06 15 27.3**	**-0.1**
	baz=34								
REDW	**Red Top Meadow**	**34.41**	**334**	*eP*		**P**	**P**	**06 15 32.4**	**-0.2**
	comp=Z,3.0nm,0.7s								
SNOW	**Snow King Moun**	**34.45**	**334**	*eP*		**P**	**P**	**06 15 33.6**	**+0.6**
	comp=Z,4.5nm,0.6s								
SNOW				*e*pP		**pP**	**pP**	**06 15 43.9**	**+2.3**
NVAR	**Mina Array Bea**	**34.74**	**321**	P		**P**	**P**	**06 15 38.2**	**+2.6**

IDC **04** *06:57:39.7±0.5, 8.47S×80.66W, h0km, mb4.3/25, mb1 4.4/31, mb1mx4.4/48, mbtmp4.3/31, ML3.8/4, MS5.0/23, Ms1 5.0/23, ms1mx4.9/27, Error ellipse: s-maj=17.2km s-min=9.3km az=50.0*

ISCJB **04** *06:57:43.1±0.2, 8.50S±0.04×80.45W±0.04, h28km, mb5.2/155, MS5.0/35, Error ellipse: s-maj=7.1km s-min=3.5km az=136.4*

BJI **04** *06:57:43.9, 8.50S×80.40W, h29km, mB5.5/29, Ms5.5/26, Ms7 5.2/29*

NEIC **04** *06:57:44.8±0.2, 8.47S×80.47W, mb5.3/129, MW5.7, ML5.0(ARE), Error ellipse: s-maj=5.9km s-min=3.4km az=50.0*

NEIC Felt [II] at Trujillo. Also felt at Santiago de Cao.

GCMT **04** *06:57:44.8±0.1, 8.71S×80.81W, h12km, MW5.6/116, Moment Tensor Solution. s73,c114; s116,c259; Duration: 1ſ5 Moment tensor: Scale 10¹⁷Nm; Mrr1.62±.02; Mθθ-0.34±.02; Mϕϕ-1.28±.02; Mrθ0.80±.06; Mθϕ0.55±.02; Mϕr-2.07±.06; Best double couple: Mo2.72200×10¹⁷ NP1:ϕs158.00000°,δ72.00000°, λ92.00000°. NP2:ϕs333.00000°,δ18.00000°,λ85.00000°. Principal axes: T 2.7680, Plg63.0000°, Azm71.0000°; N -0.0900, Plg1.0000°, Azm338.0000°; P -2.6760, Plg27.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

MOS **04** *06:57:44.7±0.9, 8.31S×80.48W, h35km, mb5.6/32, MS4.9/11 Error ellipse: s-maj=13.8km s-min=5.8km az=110.3*

SZGRF **04** *06:57:57.2, 8.69S×79.07W, h33km, mb5.3, MS5.0, Near coast of northern Peru*

NEIC **04** *06:58:00.2±0.0, 8.35S×80.49W, h10km, Moment Tensor Solution. s93 Moment tensor: Scale 10¹⁷Nm; Mrr1.42; Mθθ0.00; Mϕϕ-1.42; Mrθ1.83; Mθϕ0.31; Mϕr-3.18; Best double couple: Mo3.90000×10¹⁷ NP1:ϕs152.00000°, δ80.00000°,λ84.00000°. NP2:ϕs3.00000°,δ12.00000°, λ121.00000°. Principal axes: T 3.9800, Plg54.0000°, Azm53.0000°; N -0.0600, Plg6.0000°, Azm152.0000°; P -3.9200, Plg34.0000°, Azm246.0000°;*

ISC 04 06:57:44.8±0.4, 8.52S±0.04×80.52W±0.05, h29km±2km, h29km:pP-P, n757, σ1ſ48/781, mb5.3/154, MS5.0/37, 4C-3D, Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**2.52**	**57**	Pn	**Pn**	**06 58 24.9**	**+0.7**
	20nm,0.3s,baz=261,slow=12,SNR=74						
ATAH				Sn	**Sn**	**06 58 56.2**	**+2.1**
	130nm,0.3s,baz=304,slow=17,SNR=13						
ATAH				LR	LR	06 59 16.2	
	comp=Z,13μm,21.1s,baz=290,slow=37						
NNA	**Nana**	**5.00**	**134**	Pn	**Pn**	**06 58 56.4**	**-1.6**
	501nm,0.5s,SNR=7.2						
NNA	**Nana**	**5.00**	**134**	Pn	**Pn**	**06 58 56.2**	**-1.7**
	4.9nm,0.3s,baz=330,slow=12,SNR=20						
NNA				Sn	**Sn**	**06 59 57.4**	**+2.5**
	40nm,0.3s,baz=342,slow=18,SNR=7.3						
NNA				Lg	Lg	07 00 24.8	
	18nm,0.3s,baz=128,slow=19,SNR=2.2						
NNA				LR	LR	07 00 54.1	
	comp=Z,19μm,20.6s,baz=314,slow=38						
NNA	**Nana**	**5.00**	**134**	*e*P	**Pn**	**06 58 55.9**	**-2.1**
OTAV	**Otavalo**	**8.94**	**13**	*e*Pn	**Pn**	**06 59 50.4**	**-2.1**
PAYG	**Puerto Ayora**	**12.46**	**308**	*e*Pn	**Pn**	**07 00 41.0**	**+0.6**
	102nm,0.8s						
LPAZ	**La Paz**	**14.35**	**124**	Pn	**Pn**	**07 01 07.5**	**+0.9**
	0.2nm,0.3s,baz=298,slow=8.9,SNR=18						
LPAZ				Lg	Lg	07 05 21.9	
	0.1nm,0.3s,baz=235,slow=18,SNR=1.9						
ROSC	**El Rosal**	**14.65**	**25**	Pn	**Pn**	**07 01 10.7**	**0.0**
	baz=105,slow=20,SNR=2.9						
ROSC				LR	LR	07 07 00.2	
	comp=Z,13μm,19.3s,baz=198,slow=38						
SAML	**Samuel**	**17.14**	**93**	*e*Pn	**Pn**	**07 01 40.7**	**-1.8**
	50nm,1.0s						
SAML				*e*S	**S**	**07 05 04.7**	**+3.6**
BCIP	**Isla Barro Col**	**17.58**	**2**	*e*P	**Pn**	**07 01 46.7**	**-1.1**
	479nm,1.7s						
LVC	**Limon Verde**	**17.91**	**143**	P	**P**	**07 01 54.0**	**+1.4**
	26nm,0.3s,baz=310,slow=9.1,SNR=18						
LVC	**Limon Verde**	**17.91**	**143**	*e*P	**P**	**07 01 53.5**	**+0.9**
	573nm,2.4s						
JTS	**JuntasAbangare**	**19.20**	**347**	P	Pn	07 02 15.6	+8.0
	316nm,2.3s,SNR=5.3						
JTS	**JuntasAbangare**	**19.20**	**347**	P	**P**	**07 02 05.3**	**-1.2**
	0.3nm,0.3s,baz=338,slow=19,SNR=2.3						
JTS				LR	LR	07 08 36.9	
	comp=Z,4μm,18.4s,baz=170,slow=34						
JTS	**JuntasAbangare**	**19.20**	**347**	P	**P**	**07 02 07.0**	**+0.4**
JTS				pmax	pmax		
	comp=Z,87nm,1.8s						
JTS	**JuntasAbangare**	**19.20**	**347**	P	**P**	**07 02 05.3**	**-1.2**
JTS				*e*Pn	**Pn**	**07 02 09.1**	**+1.5**
SDV	**Santo Domingo**	**19.90**	**30**	*e*P	**P**	**07 02 14.9**	**+0.5**
	comp=Z,79nm,1.1s						
SIV	**San Ignacio**	**20.39**	**113**	P	**P**	**07 02 20.2**	**+0.6**
	comp=Z,18nm,0.7s,baz=304,slow=10,SNR=51						
PTGA	**Pitinga**	**21.89**	**70**	P	**P**	**07 02 35.2**	**-0.5**
	comp=Z,56nm,0.7s,baz=248,slow=14,SNR=67						
LCO	**Las Campanas**	**22.38**	**157**	*e*P	**P**	**07 02 42.9**	**+1.8**
	comp=Z,74nm,0.8s						
PCRV	**Puerto La Cruz**	**24.39**	**41**	P	**P**	**07 03 01.4**	**+0.5**
	comp=Z,15nm,0.7s,baz=190,slow=7.2,SNR=17						
PCRV				LR	LR	07 15 01.3	
	comp=Z,7μm,18.3s,baz=202,slow=43						
CFAA	**Coronel Fontan**	**25.66**	**155**	P	**P**	**07 03 12.7**	**+0.4**
	comp=Z,0.9nm,1.0s,baz=330,slow=9.7,SNR=9.7						
CPUP	**Villa Florida**	**28.25**	**132**	P	**P**	**07 03 36.1**	**+0.5**
	comp=Z,5.9nm,1.1s,baz=314,slow=11,SNR=7.9						
CPUP				LR	LR	07 17 21.2	
	comp=Z,4μm,18.2s,baz=322,slow=42						
GTBY	**Guantanamo Bay**	**28.77**	**11**	*e*P	**P**	**07 03 40.2**	**+0.1**
	comp=Z,201nm,1.4s						
LSP	**Las Mesas**	**29.66**	**27**	*e*P	**P**	**07 03 47.3**	**-0.9**
LSP				*epP*	**pP**	**07 03 57.4**	**+0.7**
CELP	**Cerrillos**	**29.80**	**27**	P	**P**	**07 03 50.7**	**+1.4**
SJG	**San Juan**	**30.03**	**28**	*e*P	**P**	**07 03 50.2**	**-1.1**
SJG				*e**PP	**pP**	**07 04 00.3**	**+0.4**
SJG				pmax	pmax		
	comp=Z,153nm,1.3s						
SJG	**San Juan**	**30.03**	**28**	*e*P	**P**	**07 03 50.2**	**-1.1**
	comp=Z,153nm,1.3s						
SJG				*epP*	**pP**	**07 04 00.3**	**+0.4**
ANWB	**Willy Bob**	**31.93**	**35**	*e*P	**P**	**07 04 06.8**	**-1.4**
BDFB	**Brasilia**	**32.53**	**106**	P	**P**	**07 04 13.8**	**+0.1**
	comp=Z,6.1nm,0.9s,baz=286,slow=10,SNR=9.2						
BDFB				LR	LR	07 18 11.7	
	comp=Z,9μm,18.2s,baz=274,slow=38						
BB16B	**Bebedouro**	**33.21**	**116**	*e*P	**P**	**07 04 16.9**	**-2.6**
BB16B				*i*		07 04 55.8	
BB16B				*i*		07 05 26.7	
BB16B				*i*		07 08 59.8	
BB16B				*i*		07 12 13.3	
BB16B				*i*		07 14 39.7	
BB16B				*i*		07 16 12.4	
BB16B				*i*		07 17 02.9	
TRQA	**Tornquist**	**33.84**	**153**	*e*P	**P**	**07 04 24.4**	**-0.3**
	comp=Z,24nm,1.2s						
934A	**Benavides**	**39.91**	**335**	P	**P**	**07 05 18.5**	**+2.1**
	baz=40						
835A	**Beeville**	**40.23**	**336**	P	**P**	**07 05 21.3**	**+2.2**
	baz=40						
933A	**Laredo**	**40.25**	**334**	P	**P**	**07 05 21.3**	**+2.1**
	baz=40,SNR=5.3						
834A	**Tilden**	**40.39**	**335**	P	**P**	**07 05 22.5**	**+2.1**
	baz=41						
736A	**Circle Diamond**	**40.53**	**337**	P	**P**	**07 05 24.1**	**+2.6**
	baz=41						
735A	**Kenedy**	**40.73**	**336**	P	**P**	**07 05 25.7**	**+2.5**
	baz=41						
539A	**Cross D Ranch,**	**40.76**	**341**	P	**P**	**07 05 26.3**	**+2.9**
	baz=41						
833A	**Chaparral WMA,**	**40.92**	**334**	P	**P**	**07 05 26.9**	**+2.2**
	baz=41						
HKT	**Hockley**	**40.99**	**340**	*e*P	**P**	**07 05 25.4**	**+0.2**
HKT				pmax	pmax		
	comp=Z,262nm,1.9s						
HKT	**Hockley**	**40.99**	**340**	*e*P	**P**	**07 05 25.4**	**+0.2**
	comp=Z,262nm,1.9s						
636A	**Smothers Creek**	**41.00**	**338**	P	**P**	**07 05 27.8**	**+2.4**
	baz=41						
734A	**La Parita Cree**	**41.02**	**336**	P	**P**	**07 05 27.8**	**+2.2**
	baz=41						
538A	**Harpers Horsep**	**41.12**	**340**	P	**P**	**07 05 29.0**	**+2.6**
	baz=41						
832A	**Faith Ranch, C**	**41.14**	**333**	P	**P**	**07 05 28.8**	**+2.2**
	baz=41						
635A	**Leesville**	**41.19**	**337**	P	**P**	**07 05 29.6**	**+2.6**
	baz=41						
733A	**Divot King Ran**	**41.22**	**335**	P	**P**	**07 05 29.7**	**+2.4**
	baz=41						
537A	**Green Hill Far**	**41.27**	**339**	P	**P**	**07 05 30.8**	**+3.2**
	baz=41						
439A	**Center Grove,**	**41.41**	**341**	P	P	07 05 32.3	+3.5
	baz=42						
634A	**China Grove, S**	**41.41**	**336**	P	**P**	**07 05 31.2**	**+2.3**
	baz=42						
732A	**Laxson Ranch,**	**41.52**	**334**	P	**P**	**07 05 32.4**	**+2.8**
	baz=42,SNR=5.8						
536A	**Bastrop**	**41.54**	**338**	P	**P**	**07 05 32.5**	**+2.6**
	baz=42						
VBMS	**Vicksburg**	**41.62**	**347**	P	**P**	**07 05 33.2**	**+2.8**
	baz=42						
535A	**Dale**	**41.69**	**338**	P	**P**	**07 05 33.7**	**+2.7**
	baz=42						
340A	**Bronson**	**41.72**	**343**	P	**P**	**07 05 34.1**	**+2.8**
	baz=42						
LRAL	**Lakeview Retre**	**41.78**	**352**	*e*P	**P**	**07 05 30.6**	**-1.1**
	comp=Z,84nm,1.5s						
GOGA	**Godfrey**	**41.79**	**356**	*e*P	**P**	**07 05 32.7**	**+0.8**
GOGA				pmax	pmax		
	comp=Z,44nm,1.3s						
GOGA	**Godfrey**	**41.79**	**356**	*e*P	**P**	**07 05 32.7**	**+0.8**
	comp=Z,44nm,1.3s						
633A	**Saathoff Ranch**	**41.82**	**335**	P	P	07 05 35.9	+3.8
	baz=42,SNR=5.3						
339A	**Huntington**	**41.84**	**342**	P	P	07 05 35.5	+3.2
	baz=42						
437A	**Phantom Ranch,**	**41.90**	**340**	P	P	07 05 36.2	+3.5
	baz=42						
534A	**Blanco**	**42.04**	**336**	P	**P**	**07 05 36.9**	**+2.9**
	baz=42,SNR=8.9						
436A	**Wall Ranch, Ga**	**42.07**	**339**	P	**P**	**07 05 37.0**	**+2.8**
	baz=42						
338A	**Crockett**	**42.10**	**341**	P	**P**	**07 05 37.3**	**+2.8**
	baz=42						
632A	**Uvalde**	**42.12**	**335**	P	**P**	**07 05 37.0**	**+2.4**
	baz=42,SNR=14						
337A	**Centerville**	**42.26**	**340**	P	**P**	**07 05 38.5**	**+2.8**
	baz=42						
NATX	**Nacogdoches**	**42.27**	**342**	P	**P**	**07 05 38.9**	**+3.0**
	baz=42						
NATX	**Nacogdoches**	**42.27**	**342**	*e*P	**P**	**07 05 36.2**	**+0.4**
NATX				*epP*	**pP**	**07 05 44.7**	**+0.1**
533A	**Kerrville**	**42.30**	**336**	P	**P**	**07 05 38.6**	**+2.5**
	baz=42,SNR=5.1						
435B	**Jarrell**	**42.37**	**338**	P	**P**	**07 05 39.2**	**+2.6**
	baz=42						
631A	**Perdido Creek**	**42.37**	**334**	P	**P**	**07 05 39.3**	**+2.6**
	baz=42,SNR=5.7						
239A	**Gary**	**42.46**	**342**	P	**P**	**07 05 39.8**	**+2.5**
	baz=43						
JSC	**Jenkinsville**	**42.57**	**359**	*e*P	P	07 05 45.6	+7.4
JSC				pmax	pmax		
	comp=Z,36nm,1.2s						
JSC	**Jenkinsville**	**42.57**	**359**	*e*P	P	07 05 45.6	+7.4
	comp=Z,36nm,1.2s						
238A	**Jacksonville**	**42.64**	**342**	P	**P**	**07 05 41.3**	**+2.6**
	baz=43,SNR=5.2						
336A	**Riesel**	**42.65**	**339**	P	**P**	**07 05 41.4**	**+2.5**
	baz=43						
434A	**Burnet**	**42.66**	**337**	P	**P**	**07 05 41.3**	**+2.3**
	baz=43,SNR=11						
532A	**Rocksprings**	**42.70**	**335**	P	**P**	**07 05 41.6**	**+2.2**
	baz=43,SNR=8.2						
335A	**Moody**	**42.76**	**338**	P	**P**	**07 05 42.0**	**+2.2**
	baz=43,SNR=5.9						
237A	**Washetta, Mont**	**42.86**	**341**	P	**P**	**07 05 43.3**	**+2.7**
	baz=43						
433A	**Art**	**42.92**	**336**	P	**P**	**07 05 42.8**	**+1.7**
	baz=43,SNR=11						
JCT	**Junction City**	**42.97**	**335**	*e*P	**P**	**07 05 41.4**	**-0.1**
JCT				pmax	pmax		
	comp=Z,34nm,1.2s						
JCT	**Junction City**	**42.97**	**335**	P	**P**	**07 05 43.6**	**+2.1**
	baz=43						
JCT	**Junction City**	**42.97**	**335**	*e*P	**P**	**07 05 41.4**	**-0.1**
	comp=Z,34nm,1.2s						
531A	**Rocksprings**	**43.01**	**334**	P	**P**	**07 05 44.0**	**+2.1**
	baz=43						
SLBS	**Sierra La Lagu**	**43.03**	**319**	*e*P	**P**	**07 05 42.5**	**+0.3**
	comp=Z,68nm,1.0s						
139A	**Bunkhouse Ranc**	**43.05**	**343**	P	**P**	**07 05 44.6**	**+2.5**
	baz=43						
236A	**Katherine and**	**43.10**	**340**	P	**P**	**07 05 45.4**	**+2.9**
	baz=43						
334A	**Lometa**	**43.11**	**338**	P	**P**	**07 05 45.3**	**+2.7**
	baz=43,SNR=16						
138A	**Matatall Enter**	**43.24**	**342**	P	**P**	**07 05 46.2**	**+2.6**
	baz=43						
432A	**Menard**	**43.31**	**336**	P	**P**	**07 05 47.1**	**+2.7**
	baz=44						
530A	**J C Ranch, Com**	**43.34**	**333**	P	**P**	**07 05 46.3**	**+1.8**
	baz=44						
333A	**Richland Sprin**	**43.39**	**337**	P	**P**	**07 05 46.8**	**+2.0**
	baz=44						
137A	**Heron Place, G**	**43.39**	**341**	P	**P**	**07 05 46.7**	**+1.8**
	baz=44						
WHTX	**Lake Whitney**	**43.41**	**339**	P	**P**	**07 05 46.9**	**+1.9**
	baz=44						
WHTX	**Lake Whitney**	**43.41**	**339**	*e*P	**P**	**07 05 46.7**	**+1.6**
	comp=Z,100nm,1.5s						
WHTX				*epP*	**pP**	**07 05 53.2**	**-0.6**
KMSC	**Kings Mountain**	**43.43**	**359**	P	**P**	**07 05 47.4**	**+2.2**
	baz=44						
KMSC	**Kings Mountain**	**43.43**	**359**	*e*P	**P**	**07 05 43.6**	**-1.5**
	comp=Z,58nm,1.3s						
431A	**Sonora**	**43.48**	**335**	P	**P**	**07 05 46.5**	**+0.8**
	baz=44						
136A	**Ennis**	**43.53**	**340**	P	**P**	**07 05 47.9**	**+1.9**
	baz=44						
OXF	**Oxford**	**43.62**	**349**	*e*P	**P**	**07 05 46.2**	**-0.4**
OXF				pmax	pmax		
	comp=Z,94nm,1.4s						
OXF	**Oxford**	**43.62**	**349**	*e*P	**P**	**07 05 46.2**	**-0.4**
	comp=Z,94nm,1.4s						
234A	**Clairette**	**43.67**	**338**	P	**P**	**07 05 48.8**	**+1.7**
	baz=44,SNR=5.6						
529A	**Stev Forest Ra**	**43.72**	**332**	P	**P**	**07 05 47.8**	**+0.2**
	baz=44,SNR=15						
332A	**Millersview**	**43.74**	**336**	P	**P**	**07 05 49.8**	**+2.1**
	baz=44						
TXAR	**Lajitas Array**	**43.75**	**330**	P	**P**	**07 05 46.4**	**-1.5**
	comp=Z,1.1nm,1.0s,baz=149,slow=11,SNR=7.7						
TXAR				PcP	**PcP**	**07 07 35.3**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=124,slow=4.6,SNR=2.2						
TXAR				LR	LR	07 22 39.6	
	comp=Z,1μm,18.1s,baz=0.0,slow=34						
Z38A	**Mt. Pleasant**	**43.76**	**342**	P	**P**	**07 05 48.3**	**+0.5**
	baz=44						
SWET	**Sewanee**	**43.80**	**354**	*e*P	**P**	**07 05 47.6**	**-0.6**
	comp=Z,69nm,1.6s						
430A	**Baggett Ranch,**	**43.84**	**334**	P	**P**	**07 05 50.6**	**+2.0**
	baz=44						
Z37A	**Pogue Cattle C**	**43.91**	**342**	P	**P**	**07 05 51.1**	**+2.1**
	baz=44						
135A	**Vickery Place,**	**43.91**	**339**	P	**P**	**07 05 51.1**	**+2.0**
	baz=44						
331A	**San Angelo**	**43.95**	**335**	P	**P**	**07 05 49.6**	**+0.1**
	baz=44						
233A	**Rising Star**	**43.97**	**337**	P	**P**	**07 05 49.9**	**+0.3**
	baz=44,SNR=14						
429A	**Davenport Ranc**	**44.00**	**333**	P	**P**	**07 05 50.5**	**+0.6**
	baz=44,SNR=5.3						
TKL	**Tuckaleechee C**	**44.05**	**356**	P	**P**	**07 05 48.5**	**-1.6**
	comp=Z,4.2nm,1.0s,baz=146,slow=10.0,SNR=3.2						
232A	**Coleman**	**44.15**	**336**	P	**P**	**07 05 51.5**	**+0.5**
	baz=44,SNR=16						
Y39A	**Lockesburg**	**44.15**	**344**	P	**P**	**07 05 51.1**	**+0.2**
	baz=44						
134A	**White-Moore Ra**	**44.16**	**339**	P	**P**	**07 05 52.1**	**+1.0**
	baz=44,SNR=13						
Z36A	**Blue Ridge**	**44.23**	**341**	P	**P**	**07 05 53.5**	**+1.9**
	baz=44						
MET	**Memphis--Engin**	**44.31**	**349**	*e*P	**P**	**07 05 51.5**	**-0.7**
	comp=Z,62nm,0.5s						
Y38A	**Idabel**	**44.32**	**343**	P	**P**	**07 05 54.2**	**+1.9**
	baz=44						
RCBR	**Riachuelo**	**44.33**	**90**	LR	LR	07 26 02.2	
	comp=Z,4μm,19.3s,baz=260,slow=38						
330A	**Mertzon**	**44.35**	**334**	P	**P**	**07 05 52.8**	**+0.1**
	baz=44						
231A	**Bronte**	**44.45**	**336**	P	**P**	**07 05 54.0**	**+0.5**
	baz=45						
UALR	**University of**	**44.49**	**346**	*e*P	**P**	**07 05 53.2**	**-0.5**
	comp=Z,117nm,1.8s						
133A	**Hamilton Ranch**	**44.50**	**338**	P	**P**	**07 05 55.4**	**+1.6**
	baz=45,SNR=5.5						
Z35A	**Perchaven, San**	**44.56**	**340**	P	**P**	**07 05 54.8**	**+0.6**
	baz=45,SNR=11						
MIAR	**Mount Ida**	**44.58**	**345**	*e*P	**P**	**07 05 54.0**	**-0.4**
MIAR				pmax	pmax		
	comp=Z,45nm,1.1s						
MIAR	**Mount Ida**	**44.58**	**345**	P	**P**	**07 05 54.2**	**-0.1**
	baz=45,SNR=26						
MIAR	**Mount Ida**	**44.58**	**345**	*e*P	**P**	**07 05 54.0**	**-0.4**
	comp=Z,45nm,1.1s						
230A	**Sterling City**	**44.74**	**335**	P	**P**	**07 05 55.9**	**+0.1**
	baz=45						
Y36A	**Durant**	**44.76**	**341**	P	**P**	**07 05 58.5**	**+2.6**
	baz=45						
329A	**Wagon Wheel Ra**	**44.77**	**334**	P	**P**	**07 05 56.0**	**0.0**
	baz=45,SNR=12						
ABTX	**Abilene, Hawle**	**44.79**	**337**	P	**P**	**07 05 56.1**	**0.0**
	baz=45,SNR=13						
ABTX	**Abilene, Hawle**	**44.79**	**337**	*e*P	**P**	**07 05 58.1**	**+1.9**
Z34A	**Collier Ranch,**	**44.83**	**339**	P	**P**	**07 05 57.7**	**+1.4**
	baz=45						
HBAR	**Harrisburg**	**44.87**	**348**	P	**P**	**07 05 58.1**	**+1.5**
TZTN	**Tazewell**	**44.91**	**357**	*e*P	P	07 06 04.0	+7.0
HALT	**Halls**	**44.97**	**350**	*e*P	**P**	**07 05 57.3**	**-0.1**
Y35A	**Marietta**	**45.01**	**340**	P	**P**	**07 05 58.2**	**+0.4**
	baz=45						
X38A	**Whitesboro**	**45.04**	**343**	P	**P**	**07 05 58.6**	**+0.5**
	baz=45,SNR=12						
Z33A	**Whitaker Ranch**	**45.05**	**338**	P	**P**	**07 05 58.3**	**+0.1**
	baz=45,SNR=12						
229A	**Bryant Ranch,**	**45.11**	**334**	P	**P**	**07 05 59.1**	**+0.3**
	baz=45						
X37A	**Clayton**	**45.12**	**343**	P	**P**	**07 05 59.0**	**+0.3**
	baz=45,SNR=15						
131A	**Roby**	**45.13**	**336**	P	**P**	**07 06 00.3**	**+1.4**
	baz=45						
130A	**Snyder**	**45.30**	**335**	P	**P**	**07 06 00.7**	**+0.5**
	baz=46						
Y34A	**Reagan Ranch,**	**45.30**	**340**	P	**P**	**07 06 02.0**	**+1.9**
	baz=46						
GLAT	**Glass**	**45.31**	**350**	*e*P	**P**	**07 06 00.7**	**+0.6**
UTMT	**University of**	**45.31**	**351**	*e*P	**P**	**07 05 59.2**	**-1.0**
	comp=Z,90nm,1.0s						
W38A	**Poteau**	**45.33**	**344**	P	**P**	**07 06 00.6**	**+0.3**
	baz=46						
Z32A	**Haskell**	**45.34**	**338**	P	**P**	**07 06 00.8**	**+0.3**
	baz=46,SNR=12						
X36A	**Centrahoma**	**45.40**	**342**	P	**P**	**07 06 03.6**	**+2.7**
	baz=46						
X35A	**Drake**	**45.44**	**341**	P	**P**	**07 06 01.8**	**+0.5**
	baz=46						
BLA	**Blacksburg**	**45.49**	**0**	*e*P	P	07 06 09.2	+7.6
BLA				pmax	pmax		
	comp=Z,54nm,1.6s						
BLA	**Blacksburg**	**45.49**	**0**	*e*P	P	07 06 09.2	+7.6
	comp=Z,54nm,1.6s						
VWCC	**Virginia Weste**	**45.53**	**1**	*e*P	**P**	**07 06 01.9**	**+0.1**
228A	**UT Block 9, Go**	**45.58**	**333**	P	**P**	**07 06 04.8**	**+2.3**
	baz=46						
Z31A	**Sharp Cattle R**	**45.60**	**337**	P	**P**	**07 06 04.9**	**+2.3**
	baz=46,SNR=9.7						
W37A	**Quinton**	**45.65**	**343**	P	**P**	**07 06 03.1**	**+0.2**
	baz=46,SNR=11						
Y33A	**Hilltop Ranch,**	**45.65**	**339**	P	**P**	**07 06 05.3**	**+2.4**
	baz=46						
129A	**Stewart Farms,**	**45.70**	**335**	P	**P**	**07 06 05.1**	**+1.7**
	baz=46						
PARMO	**Parma**	**45.77**	**350**	*e*P	**P**	**07 06 04.0**	**+0.2**
W36A	**Wetumka**	**45.89**	**342**	P	**P**	**07 06 04.0**	**-0.7**
	baz=46						
X34A	**Smith Ranch, M**	**45.91**	**340**	P	**P**	**07 06 05.4**	**+0.4**
	baz=46,SNR=17						
Y32A	**R-V Farms, Ver**	**45.94**	**338**	P	**P**	**07 06 05.5**	**+0.2**
	baz=46						
128A	**Castleberry Fa**	**45.96**	**334**	P	**P**	**07 06 05.9**	**+0.4**
	baz=46						
Z30A	**Sanderson Ranc**	**45.97**	**336**	P	**P**	**07 06 06.0**	**+0.5**
	baz=46						
PBMO	**Poplar Bluff**	**46.01**	**349**	*e*P	**P**	**07 06 04.6**	**-1.1**
	comp=Z,57nm,1.1s						
X33A	**Lawton**	**46.09**	**339**	P	**P**	**07 06 08.4**	**+2.1**
	baz=46						
W35A	**Tecumseh**	**46.10**	**341**	P	**P**	**07 06 06.4**	**-0.1**
	baz=46,SNR=12						
Z29A	**Hungry Hill Ra**	**46.18**	**335**	P	**P**	**07 06 07.2**	**0.0**
	baz=46,SNR=14						
Y31A	**Rekieta Farm,**	**46.22**	**337**	P	**P**	**07 06 07.5**	**+0.1**
	baz=46,SNR=27						
X32A	**Elmer**	**46.26**	**338**	P	**P**	**07 06 09.9**	**+2.2**
	baz=46,SNR=5.2						
V37A	**Hulbert**	**46.26**	**344**	P	**P**	**07 06 07.4**	**-0.3**
	baz=46,SNR=15						
WMOK	**Wichita Mounta**	**46.36**	**339**	*e*P	**P**	**07 06 07.6**	**-0.9**
WMOK				*e**PP	**pP**	**07 06 15.8**	**-1.6**
WMOK				pmax	pmax		
	comp=Z,62nm,1.3s						
WMOK	**Wichita Mounta**	**46.36**	**339**	*e*P	**P**	**07 06 07.6**	**-0.9**
	comp=Z,62nm,1.3s						
WMOK				*epP*	**pP**	**07 06 15.8**	**-1.6**
Y30A	**Stafford Cattl**	**46.39**	**336**	P	**P**	**07 06 11.9**	**+3.1**
	baz=47						
V36A	**Jenks**	**46.41**	**343**	P	**P**	**07 06 11.0**	**+2.2**
	baz=47						
GDL2	**Guadalupe Moun**	**46.45**	**332**	*e*P	**P**	**07 06 10.6**	**+1.2**
W34A	**Bridge Creek,**	**46.47**	**340**	P	**P**	**07 06 09.3**	**-0.1**
	baz=47						
W34A	**Bridge Creek,**	**46.47**	**340**	*e*P	**P**	**07 06 08.3**	**-1.1**
	comp=Z,190nm,1.5s						
W34A				*epP*	**pP**	**07 06 17.1**	**-1.1**
TUL1	**Tulsa**	**46.48**	**343**	P	**P**	**07 06 09.5**	**+0.1**
	baz=47,SNR=11						
TUL1	**Tulsa**	**46.48**	**343**	*e*P	**P**	**07 06 08.5**	**-0.9**
	comp=Z,68nm,1.0s						
Z28A	**Tucker Farm, M**	**46.49**	**335**	P	**P**	**07 06 10.1**	**+0.4**
	baz=47						

T37A Cheneyville 18 47.37 344 P P 07 06 16.1 -0.2
baz=48,SNR=11
X28A Dimmitt 47.47 336 P P 07 06 18.7 +1.3
baz=48
U34A Anderson Ranch 47.49 341 eP P 07 06 16.1 -1.2
comp=Z,145nm,1.6s
U34A epP pP 07 06 24.6 -1.6
OLIL Olney 47.54 352 eP P 07 06 16.1 -1.5
comp=Z,65nm,1.4s
T36A Boggs Farm, Ca 47.57 343 P P 07 06 17.7 -0.2
baz=48
AMTX Amarillo 47.58 336 P P 07 06 18.4 +0.2
baz=48
AMTX Amarillo 47.58 336 eP P 07 06 17.4 -0.8
comp=Z,35nm,1.0s
T35A Sooner Cattle 47.62 343 P P 07 06 18.2 -0.2
baz=48,SNR=12
V31A Spring Creek L 47.67 339 P P 07 06 19.1 +0.3
baz=48,SNR=16
BLO Bloomington 47.77 354 eP P 07 06 19.8 +0.4
BLO pmax pmax
comp=Z,157nm,2.4s
BLO Bloomington 47.77 354 eP P 07 06 19.8 +0.4
comp=Z,157nm,2.4s
SLM Saint Louis 47.78 350 eP P 07 06 18.6 -0.9
SLM Saint Louis 47.78 350 eP P 07 06 18.6 -0.9
U32A Winter Ranch, 47.92 340 P P 07 06 20.6 -0.1
baz=48
T34A McClaskey Farm 47.92 342 P P 07 06 20.5 -0.1
baz=48
S37A Fort Scott 47.94 345 P P 07 06 21.0 +0.2
baz=48
S36A Lake Cedric, C 48.11 344 P P 07 06 22.2 +0.1
baz=48
W28A Vega 48.12 336 P P 07 06 24.1 +1.8
baz=48,SNR=5.2
U31A Nine Bar Ranch 48.21 339 P P 07 06 24.7 +1.8
baz=48,SNR=5.1
S35A Otter Creek Ra 48.28 343 P P 07 06 23.9 +0.5
baz=48
T33A Patterson Ranc 48.31 341 P P 07 06 26.0 +2.3
baz=48
121A Cookes Peak, D 48.40 329 P P 07 06 26.2 +1.6
baz=49,SNR=5.7
121A Cookes Peak, D 48.40 329 eP P 07 06 24.4 -0.3
comp=Z,42nm,1.5s
121A epP pP 07 06 33.0 -0.5
R37A Teagarden Farm 48.47 345 P P 07 06 27.1 +2.3
baz=49
S34A Willow Spring 48.53 342 P P 07 06 27.3 +2.0
baz=49
V28A Channing 48.55 336 P P 07 06 28.0 +2.3
baz=49
T32A Huddler Ranch, 48.62 340 P P 07 06 29.1 +3.0
baz=49
U30A WK&E Inc. Balk 48.64 338 P P 07 06 28.9 +2.6
baz=49,SNR=6.2
R36A Gordon, Harris 48.65 344 P P 07 06 29.4 +3.2
baz=49
S33A Kaszmaul Farm, 48.70 341 P P 07 06 30.1 +3.5
baz=49
T31A Randall Ranch, 48.80 340 P P 07 06 29.8 +2.3
baz=49
V27A Dan Oppiter Fa 48.80 336 P P 07 06 29.9 +2.3
baz=49,SNR=12
R35A Emporia Munici 48.84 344 P P 07 06 30.3 +2.6
baz=49
Q37A Longview Farm, 48.90 346 P P 07 06 28.2 0.0
baz=49
SSPA Standing Stone 48.97 3 eP P 07 06 28.3 -0.3
SFIN Scholer Farm 49.03 353 P P 07 06 28.0 -1.1
baz=49
SFIN Scholer Farm 49.03 353 eP P 07 06 27.0 -2.1
comp=Z,122nm,1.5s
T30A Plains 49.06 339 P P 07 06 30.4 +0.9
baz=49
S32A Newby Ranch, P 49.10 341 P P 07 06 30.5 +0.7
baz=49
U28A Mallet 49.10 337 P P 07 06 29.8 -0.1
baz=49
LUPA Lehigh Univers 49.10 5 eP P 07 06 34.4 +4.7
comp=Z,5.5nm,1.3s
R34A Isabella, Hill 49.12 343 P P 07 06 29.7 -0.1
baz=49
S31A Mullinville 49.21 340 P P 07 06 32.3 +1.7
baz=49
Q36A Arnold C. Orve 49.24 345 P P 07 06 32.0 +1.3
baz=49
Q35A Mercer Eighty, 49.30 344 P P 07 06 32.3 +1.1
baz=50
R33A Olander Ranch, 49.35 342 P P 07 06 33.4 +1.8
baz=50
U27A Thompson Grove 49.38 336 P P 07 06 33.9 +1.9
baz=50,SNR=14
T29A Hugoton 49.43 338 P P 07 06 34.6 +2.2
baz=50,SNR=5.9
HDIL Hopedale 49.50 351 P P 07 06 34.9 +2.2
baz=50
S30A Montezuma 49.56 339 P P 07 06 35.0 +1.7
baz=50
LAZ Ladron 49.58 331 eP P 07 06 33.8 +0.1
comp=Z,29nm,1.9s
Q34A Chapman 49.61 343 P P 07 06 35.3 +1.7
baz=50
ODNJ Ogdensburg 49.66 6 eP P 07 06 41.8 +8.0
comp=Z,96nm,2.2s
KSU1 Kansas State U 49.68 344 P P 07 06 35.8 +1.7
baz=50
KSU1 Kansas State U 49.68 344 eP P 07 06 33.3 -0.9
KSU1 epP pP 07 06 42.0 -0.9
R32A Long Quarter, 49.68 341 P P 07 06 35.7 +1.5
baz=50
ANMO Albuquerque 49.70 332 P P 07 06 33.4 -1.2
comp=Z,4.5nm,1.1s,baz=159,slow=9.5,SNR=11
ANMO Albuquerque 49.70 332 eP P 07 06 34.0 -0.6
ANMO pmax pmax
comp=Z,43nm,1.4s
ANMO MLR MLR
comp=Z,3µm,15.0s
ANMO Albuquerque 49.70 332 eP P 07 06 33.9 -0.7
comp=Z,32nm,1.3s
T28A Walsh 49.71 337 P P 07 06 36.7 +2.2
baz=50,SNR=5.3
S29A Ulysses 49.78 339 P P 07 06 36.7 +1.7
baz=50
P36A Good Intent, A 49.80 345 P P 07 06 36.6 +1.6
baz=50
TUC Tucson 49.83 326 eP P 07 06 35.4 0.0
TUC pmax pmax
comp=Z,85nm,2.5s
TUC Tucson 49.83 326 eP P 07 06 35.4 0.0
comp=Z,85nm,2.5s
R31A Burdett 49.83 340 P P 07 06 37.5 +2.2
baz=50
T27A Campo 49.89 337 P P 07 06 38.2 +2.3
baz=50,SNR=5.3
P35A Duane Minner, 49.92 344 P P 07 06 38.1 +2.1
baz=50
Q33A Connelly Farm, 49.94 342 P P 07 06 37.6 +1.5
baz=50
S28A Manter 50.04 338 P P 07 06 37.6 +0.6
baz=50
R30A Dighton 50.08 340 P P 07 06 38.2 +1.0
baz=50
Q32A Meitler Ranch, 50.16 342 P P 07 06 39.0 +1.2
baz=50
P34A Walnut Farm, R 50.16 344 P P 07 06 38.8 +1.0
baz=50
O36A Bolckow 50.22 346 P P 07 06 39.0 +0.8
baz=50
P33A Williams Farm, 50.30 343 P P 07 06 40.4 +1.6
baz=50
T26A Comanche Natio 50.34 336 P P 07 06 39.8 +0.5
baz=50,SNR=5.7
CBKS Cedar Bluff 50.37 340 eP P 07 06 40.6 +1.2
CBKS pmax pmax
comp=Z,70nm,1.2s
CBKS Cedar Bluff 50.37 340 P P 07 06 41.4 +2.0
baz=51
CBKS Cedar Bluff 50.37 340 eP P 07 06 40.6 +1.2
comp=Z,70nm,1.2s
Q31A Ellis 50.43 341 P P 07 06 41.2 +1.3
baz=51
R29A Marienthal 50.50 339 P P 07 06 40.8 +0.3
baz=51
O35A Humboldt 50.58 345 P P 07 06 41.9 +0.9
baz=51
T25A Trinidad 50.64 335 P P 07 06 41.8 +0.1
baz=51,SNR=19
AAM Ann Arbor 50.66 357 eP P 07 06 40.1 -1.3
AAM pmax pmax
comp=Z,188nm,2.0s
AAM Ann Arbor 50.66 357 eP P 07 06 40.1 -1.3
comp=Z,188nm,2.0s
R28A Tribune 50.67 338 P P 07 06 42.5 +0.7
baz=51,SNR=10
Q30A Quinter 50.68 340 P P 07 06 42.1 +0.4
baz=51,SNR=5.3
214A Organ Pipe Nat 50.71 324 P P 07 06 42.1 0.0
baz=51
214A Organ Pipe Nat 50.71 324 eP P 07 06 42.2 0.0
comp=Z,38nm,1.6s
O34A Beatrice 50.71 344 P P 07 06 42.6 +0.7
baz=51
P32A Huiting Farm, 50.75 342 P P 07 06 42.9 +0.6
baz=51
Q29A Oakley 50.86 339 P P 07 06 43.7 +0.6
baz=51
BRYW Bryant College 50.86 9 eP P 07 06 42.8 -0.2
O33A Hebron 50.86 343 P P 07 06 43.6 +0.6
baz=51
P31A Stockton 50.90 341 P P 07 06 44.1 +0.7
baz=51
R27A Eads 50.99 337 P P 07 06 44.4 +0.3
baz=51,SNR=5.5
N35A Tabor 51.08 345 P P 07 06 44.9 +0.2
baz=51
P30A Selden 51.20 340 P P 07 06 45.9 +0.3
baz=51
O32A Brockman Farm, 51.24 343 P P 07 06 46.3 +0.4
baz=51
R26A Arlington 51.25 337 P P 07 06 46.6 +0.5
baz=51,SNR=32
N34A Lincoln 51.27 344 P P 07 06 46.7 +0.6
baz=52
Q28A Sharon Springs 51.32 339 P P 07 06 47.1 +0.5
baz=52
TRY Troy 51.39 6 eP P 07 06 46.2 -0.7
comp=Z,80nm,1.3s
W18A Petrified Fore 51.43 329 P P 07 06 47.2 -0.4
baz=52
W18A Petrified Fore 51.43 329 eP P 07 06 47.7 0.0
comp=Z,67nm,1.4s
W18A epP pP 07 06 56.4 -0.1
HRV Adam Dziewonsk 51.44 8 eP P 07 06 46.8 -0.5
HRV pmax pmax
comp=Z,45nm,1.3s
HRV Adam Dziewonsk 51.44 8 eP P 07 06 46.8 -0.5
comp=Z,45nm,1.3s
N33A J Bar K, Exete 51.44 344 P P 07 06 48.0 +0.6
baz=52
O31A Woolen Ranch, 51.46 342 P P 07 06 48.1 +0.5
baz=52
P29A Atwood 51.48 340 P P 07 06 48.7 +0.9
baz=52
SCIA State Center 51.51 348 eP P 07 06 48.7 +0.8
comp=Z,248nm,2.0s
KSCO Kaye Shedlock' 51.56 338 P P 07 06 48.8 +0.4
baz=52
KSCO Kaye Shedlock' 51.56 338 eP P 07 06 48.5 0.0
comp=Z,122nm,1.5s
SDCO Great Sand Dun 51.61 335 P P 07 06 48.7 -0.3
baz=52,SNR=23
SDCO Great Sand Dun 51.61 335 eP P 07 06 48.3 -0.8
comp=Z,35nm,1.1s
M35A Neola 51.66 345 P P 07 06 49.1 +0.1
baz=52
O30A MW Ranch, Wils 51.71 341 P P 07 06 50.7 +1.2
baz=52
P28A Saint Francis 51.74 339 P P 07 06 50.1 +0.3
baz=52
Q26A Hugo 51.82 337 P P 07 06 50.8 +0.3
baz=52,SNR=14
O29A 4D Ranch, Culb 51.91 340 P P 07 06 51.2 +0.3
baz=52
M34A Aspy Farms, Fr 51.92 345 P P 07 06 51.5 +0.6
baz=52
JFWS Jewell Farm 51.95 351 eP P 07 06 51.9 +0.8
JFWS pmax pmax
comp=Z,247nm,2.5s
JFWS Jewell Farm 51.95 351 eP P 07 06 51.9 +0.8
comp=Z,247nm,2.5s
N31A Bailey Ranch, 51.96 342 P P 07 06 52.2 +1.0
baz=52
P27A Ficken Ranch, 52.02 338 P P 07 06 52.4 +0.5
baz=52,SNR=5.5
ACCN Adirondack Com 52.03 6 eP P 07 06 50.8 -1.0
comp=Z,34nm,1.3s
ACCN epP pP 07 06 59.8 -0.9
M33A Taylor Creek F 52.15 344 P P 07 06 53.4 +0.8
baz=52
S22A 4UR Ranch, Cre 52.18 334 P P 07 06 54.0 +0.7
baz=52,SNR=9.8
O28A Krutsinger Ran 52.24 339 P P 07 06 53.7 +0.2
baz=52
BGNE Belgrade 52.26 343 P P 07 06 54.3 +0.8
baz=52
BGNE Belgrade 52.26 343 eP P 07 06 54.0 +0.5
comp=Z,89nm,1.4s
N30A Hueftle Ranch, 52.29 341 P P 07 06 54.6 +0.8
baz=52
P26A Davis Ranch, A 52.31 338 P P 07 06 54.3 +0.2
baz=52,SNR=5.9
FFD Franklin Falls 52.37 8 eP P 07 06 54.6 +0.4
comp=Z,61nm,1.4s
M31A Lambtecht Ranc 52.44 343 P P 07 06 55.3 +0.4
baz=53
N29A Votaw Ranch, W 52.48 341 P P 07 06 57.1 +2.0
baz=53
Q24A Divide 52.50 336 P P 07 06 56.2 +0.6
baz=53,SNR=6.0
MVCO Mesa Verde 52.50 332 P P 07 06 55.9 +0.3
baz=53,SNR=8.9
MVCO Mesa Verde 52.50 332 eP P 07 06 56.0 +0.3
comp=Z,30nm,1.2s
O27A Beecher Island 52.55 339 P P 07 06 56.4 +0.6
baz=53
WUAZ Wupatki 52.59 328 P P 07 06 56.5 +0.3
baz=53
WUAZ Wupatki 52.59 328 eP P 07 06 57.1 +0.9
comp=Z,31nm,1.4s
N28A Pribbeno Ranch 52.66 340 P P 07 06 57.4 +0.8
baz=53
GLA Glamis 52.68 323 eP P 07 06 57.7 +0.9
GLA Glamis 52.68 323 eP P 07 06 57.7 +0.9
MDV Middlebury 52.69 7 eP P 07 06 55.9 -0.7
MDV epP pP 07 07 04.4 -1.1
Y12C Blythe 53.00 324 P P 07 06 59.6 +0.5
baz=53
SADO Sadowa 53.06 1 P P 07 06 56.8 -2.4
comp=Z,2.6nm,0.6s,baz=241,slow=9.0,SNR=3.4
OGNE Ogallala 53.06 340 P P 07 07 00.2 +0.7
baz=53
OGNE Ogallala 53.06 340 eP P 07 07 00.0 +0.5
comp=Z,24nm,0.9s
OGNE LR LR
comp=Z,584nm,21.0s
PTN Potsdam (NY) 53.08 5 eP P 07 07 00.5 +1.0
PTN pmax pmax
comp=Z,97nm,1.8s
PTN Potsdam (NY) 53.08 5 eP P 07 07 00.5 +1.0
comp=Z,96nm,1.8s
IBP Imperial Bould 53.16 322 P P 07 07 00.8 +0.4
baz=53
LONY Lake Ozonia 53.16 5 eP P 07 06 59.9 -0.2
comp=Z,28nm,1.4s
L31A Butterfield Fa 53.16 343 P P 07 07 00.9 +0.7
baz=53
PDMCI Par Dam,Lak 53.18 325 P P 07 07 01.0 +0.6
baz=53
L30A Spencer Herefo 53.22 342 P P 07 07 01.1 +0.5
baz=53
PV01 Paradox Valley 53.28 332 eP P 07 07 01.1 -0.3
comp=Z,8µm,1.7s
PV01 epP pP 07 07 10.1 -0.2
ISCO Idaho Springs 53.40 336 eP P 07 07 01.8 -0.5
ISCO pmax pmax
comp=Z,45nm,1.5s
ISCO MLR MLR
comp=Z,577nm,19.0s
ISCO Idaho Springs 53.40 336 P P 07 07 02.3 0.0
baz=54,SNR=5.9
ISCO Idaho Springs 53.40 336 eP P 07 07 01.8 -0.5
comp=Z,45nm,1.5s
ISCO LR LR
comp=Z,577nm,19.0s
SMCO Snowmass 53.44 334 eP P 07 07 02.3 -0.4
comp=Z,47nm,1.5s
BC3 Big Chuckawall 53.48 324 P P 07 07 03.0 +0.2
baz=54
MONP Monument Peak 53.52 322 P P 07 07 03.6 +0.4
baz=54
L29A Maesberg Ranch 53.55 342 P P 07 07 03.7 +0.6
baz=54
PV04 Paradox Valley 53.65 332 eP P 07 07 05.0 +1.0
IRM Iron Mountain 53.66 324 P P 07 07 04.1 +0.1
baz=54
ECSD EROS Data Cent 54.02 346 P P 07 07 05.3 -1.1
baz=54
ECSD EROS Data Cent 54.02 346 eP P 07 07 04.5 -2.0
comp=Z,223nm,2.6s
PFO Pinyon Flat Ob 54.04 323 P P 07 07 06.1 -0.7
comp=Z,1.6nm,0.8s,baz=147,slow=5.8,SNR=2.2
PFO Pinyon Flat Ob 54.04 323 P P 07 07 08.1 +1.3
baz=54
BELC Belle Mtn. Jos 54.04 323 P P 07 07 08.3 +1.4
baz=54
RKT Rikitea 54.06 248 eS S 07 14 46.5 +4.6
comp=Z,1µm,26.0s
RKT eLR LR 07 22 52.5
comp=Z,4µm,27.2s,baz=86
RKT Rikitea 54.06 248 eT T 08 05 11.5
comp=Z,3.2nm,0.3s
K29A Lazy Trails An 54.14 342 P P 07 07 07.3 -0.1
baz=54
L27A T5 Ranch, Ells 54.17 340 P P 07 07 08.0 +0.3
baz=54
M25A Palm-Egli Farm 54.21 338 P P 07 07 08.0 0.0
baz=54
GMRC Granite Mounta 54.39 324 P P 07 07 09.7 +0.3
baz=55
J30A Dallas 54.41 343 P P 07 07 08.7 -0.6
baz=55
K28A Ten Mile Ranch 54.42 341 P P 07 07 09.2 -0.2
baz=55
N23A Red Feather La 54.46 336 P P 07 07 11.8 +1.8
baz=55
PHWY Pilot Hill 54.62 337 eP P 07 07 10.9 -0.3
comp=Z,91nm,2.0s
SPMN St. Paul 54.63 349 P P 07 07 10.1 -0.7
baz=55
SPMN St. Paul 54.63 349 eP P 07 07 09.4 -1.4
comp=Z,27nm,1.1s
K27A Flueckinger Fa 54.70 340 P P 07 07 13.3 +1.8
baz=55
J29A Okreek 54.73 342 P P 07 07 11.7 +0.1
baz=55,SNR=9.8
O20A White River Ci 54.78 334 P P 07 07 12.4 +0.2
baz=55,SNR=13
O20A White River Ci 54.78 334 eP P 07 07 11.9 -0.3
SRU San Rafael 54.98 332 eP P 07 07 14.1 +0.4
SRU pmax pmax
comp=Z,72nm,1.6s
SRU San Rafael 54.98 332 eP P 07 07 14.1 +0.4
comp=Z,72nm,1.6s
J27A Elkhorn Farm, 55.11 341 P P 07 07 14.8 +0.3
baz=55
CCUT Cedar City 55.17 328 eP P 07 07 15.6 +0.4
comp=Z,22nm,1.4s
BFSC Mount Baldy Ra 55.19 322 P P 07 07 15.3 +0.1
baz=55
I29A Vivian Onida 55.28 343 P P 07 07 15.5 -0.1
baz=56
MSU Marysvale 55.30 330 eP P 07 07 16.0 -0.1
MSU pmax pmax
comp=Z,38nm,1.6s
MSU Marysvale 55.30 330 eP P 07 07 16.0 -0.1
comp=Z,38nm,1.6s
SHPR Sheep Range 55.35 326 eP P 07 07 16.5 +0.1
P17A Butcher Ranch, 55.36 332 eP P 07 07 16.9 +0.4
GSC Goldstone 55.42 324 eP P 07 07 17.7 +0.8
GSC Goldstone 55.42 324 P P 07 07 17.1 +0.3
baz=56
GSC Goldstone 55.42 324 eP P 07 07 17.7 +0.8
J26A Sides Ranch, S 55.52 340 P P 07 07 17.8 +0.5
baz=56,SNR=13
I28A Midland 55.52 342 P P 07 07 18.9 +1.6
baz=56,SNR=9.1
SHOC Shoshone 55.55 325 P P 07 07 19.4 +1.7
baz=56
J25A Sunshine Ranch 55.83 340 P P 07 07 20.3 +0.7
baz=56
I27A Quinn 55.86 341 P P 07 07 19.5 -0.3
baz=56,SNR=12
G30A Faulkton 55.98 344 P P 07 07 19.8 -0.8
baz=56
LRMC Laurel Mountai 56.06 324 P P 07 07 23.1 +1.6
baz=56
K22A Casper 56.19 337 P P 07 07 25.0 +2.7
baz=56
K22A Casper 56.19 337 eP P 07 07 24.0 +1.8
comp=Z,79nm,1.4s
G29A Hoven 56.25 344 P P 07 07 23.3 +0.8
baz=56
TPNV Topopah Spring 56.28 326 P P 07 07 23.2 +0.1
baz=56
FURC Furnace Creek, 56.28 325 P P 07 07 24.1 +1.3
baz=56
MPMC Manual Prospec 56.35 324 P P 07 07 25.6 +2.0
baz=56
I25A Rochford 56.37 340 P P 07 07 23.9 +0.3
baz=57
H27A Howes 56.38 342 P P 07 07 22.9 -0.5
baz=57
NLU North Lily Min 56.38 331 eP P 07 07 23.7 0.0
comp=Z,13nm,1.3s
ARVC Arvin 56.50 322 P P 07 07 26.1 +1.6
baz=57
RSSD Black Hills 56.56 340 eP P 07 07 24.5 -0.5
RSSD Black Hills 56.56 340 eP P 07 07 24.5 -0.5
H26A Fairpoint 56.58 341 P P 07 07 26.8 +1.9
baz=57
JLU Jordanelle 56.59 332 eP P 07 07 25.9 +0.6
comp=Z,101nm,1.6s
ISA Isabella 56.66 323 eP P 07 07 26.4 +0.7
ISA Isabella 56.66 323 eP P 07 07 26.4 +0.7
CTU Camp Tracy 56.80 332 eP P 07 07 27.4 +0.7
comp=Z,40nm,1.4s
H25A Fruitdale 56.85 340 P P 07 07 28.3 +1.4
baz=57
DUG Dugway 56.92 331 eP P 07 07 27.6 +0.1
DUG pmax pmax
comp=Z,55nm,1.4s
DUG Dugway 56.92 331 P P 07 07 29.7 +2.2
baz=57,SNR=5.7
DUG Dugway 56.92 331 eP P 07 07 27.6 +0.1
comp=Z,54nm,1.4s
R11A Troy Canyon, C 56.93 327 P P 07 07 28.2 +0.5
baz=57,SNR=7.3
R11A Troy Canyon, C 56.93 327 eP P 07 07 27.3 -0.4
comp=Z,22nm,1.5s
TCUT Toone Canyon 56.98 332 eP P 07 07 28.2 +0.1
comp=Z,106nm,1.6s
G27A Dupree 57.00 342 P P 07 07 28.8 +0.9
baz=57
F28A McLaughlin 57.10 343 P P 07 07 29.6 +1.1
baz=57
G26A Maurine 57.13 342 P P 07 07 28.1 -0.7
baz=57
J21A Lysite 57.13 337 P P 07 07 29.1 +0.1
baz=57
VES Vestal, Richgr 57.14 323 P P 07 07 29.5 +0.5
baz=57
E30A Jud 57.19 345 P P 07 07 30.2 +1.0
baz=57
I22A 9 Mile Ranch, 57.23 338 P P 07 07 29.1 -0.5
baz=57
H24A Dirks Ranch, A 57.28 340 P P 07 07 29.4 -0.6
baz=58
G25A Newell 57.30 341 P P 07 07 29.6 -0.4
baz=58
J20A Shoshoni 57.39 336 P P 07 07 30.1 -0.7
baz=58
E29A Napoleon 57.44 344 P P 07 07 31.7 +0.8
baz=58
I21A Big Trails, Te 57.47 337 P P 07 07 30.8 -0.6
baz=58,SNR=5.2
F27A Lemmon 57.48 342 P P 07 07 30.4 -0.8
baz=58
BW06 Boulder Array 57.50 335 eP P 07 07 30.6 -1.1
comp=Z,31nm,1.4s
PDAR Pinedale Array 57.50 335 P P 07 07 30.3 -1.4
comp=Z,3.2nm,1.0s,baz=140,slow=5.8,SNR=17
PDAR LR LR 07 31 30.2

comp=Z,567nm,18.3s,baz=142,slow=35
RCTC **Rector, Farmer** 57.55 323 P P 07 07 32.0 +0.2
baz=58
F26A **Lodgepole** 57.65 342 P P 07 07 31.7 -0.7
baz=58,SNR=6.8
J19A **Crowheart** 57.71 336 P P 07 07 35.0 +2.0
baz=58,SNR=14
D30A **Buchanan** 57.71 345 P P 07 07 32.4 -0.4
baz=58
E28A **Huff** 57.73 344 P P 07 07 32.7 -0.2
baz=58
G24A **Alzada** 57.75 340 P P 07 07 35.0 +1.8
baz=58
H22A **Clearmont** 57.79 338 P P 07 07 34.8 +1.3
baz=58
E27A **Carson** 57.84 343 P P 07 07 34.0 +0.2
baz=58
I20A **Worland** 57.91 337 P P 07 07 33.7 -0.6
baz=58
F25A **Bowman** 57.97 341 P P 07 07 34.5 -0.2
baz=58
G23A **Biddle** 57.97 339 P P 07 07 34.2 -0.6
baz=58
H21A **Big Horn, Sher** 58.07 338 P P 07 07 34.5 -1.0
baz=58
HVU **Hansel Valley** 58.13 332 eP P 07 07 35.1 -1.0
HVU **Hansel Valley** 58.13 332 eP P 07 07 35.1 -1.0
E26A **Carlson Angus** 58.15 342 P P 07 07 34.8 -1.2
baz=58,SNR=9.0
AHID **Auburn Hatcher** 58.16 334 eP P 07 07 35.2 -1.1
comp=Z,35nm,1.2s
AGMN **Agassiz Nation** 58.17 348 P P 07 07 35.1 -0.8
baz=58,SNR=7.9
C30A **Mose, Pekin** 58.20 346 P P 07 07 38.8 +2.7
baz=58
F24A **Ekalaka** 58.22 341 P P 07 07 36.0 -0.4
baz=58
D28A **Regan** 58.26 344 P P 07 07 37.3 +0.6
baz=58
G22A **Birney** 58.30 339 P P 07 07 38.0 +0.9
baz=58
H20A **Greybull** 58.31 337 P P 07 07 36.1 -1.1
baz=58
I19A **Meeteetse** 58.32 336 P P 07 07 37.3 -0.1
baz=58,SNR=6.4
F23A **Volborg** 58.43 340 P P 07 07 36.8 -1.1
baz=59
E25A **Miller Ranch,** 58.46 342 P P 07 07 37.7 -0.4
baz=59
NVAR **Mina Array Bea** 58.48 326 P P 07 07 37.5 -1.1
comp=Z,0.7nm,0.4s,baz=168,slow=4.6,SNR=9.1
ELK **Elko** 58.53 330 P P 07 07 38.1 -0.9
comp=Z,7.5nm,1.2s,baz=116,slow=5.4,SNR=13
ELK **Elko** 58.53 330 P P 07 07 38.1 -0.9
ELK pmax pmax
comp=Z,8.0nm,1.2s
ELK **Elko** 58.53 330 eP P 07 07 38.4 -0.5
comp=Z,36nm,1.5s
REDW **Red Top Meadow** 58.54 334 eP P 07 07 39.1 +0.2
comp=Z,93nm,1.5s
SNOW **Snow King Moun** 58.58 335 eP P 07 07 39.2 -0.1
comp=Z,28nm,1.3s
MDND **Maddock** 58.61 345 P P 07 07 39.0 -0.1
baz=59
MDND **Maddock** 58.61 345 eP P 07 07 40.6 +1.5
comp=Z,568nm,1.2s
LOHW **Long Hollow** 58.63 335 eP P 07 07 39.2 -0.4
comp=Z,25nm,1.4s
G21A **Lodge Grass** 58.64 338 P P 07 07 41.0 +1.6
baz=59
D26A **Manning** 58.64 343 P P 07 07 39.2 -0.1
baz=59
TPAW **Teton Pass** 58.68 334 eP P 07 07 40.4 +0.3
comp=Z,25nm,1.1s
F22A **Rosebud** 58.68 339 P P 07 07 40.9 +0.6
baz=59
E24A **Baker** 58.77 339 P P 07 07 40.8 +0.3
baz=59
MOOW **Moose Ponds** 58.80 341 P P 07 07 42.3 +1.5
comp=Z,10nm,1.1s
FXWY **Fox Creek** 58.81 335 eP P 07 07 41.8 +0.8
comp=Z,20nm,1.3s
H19A **Powell** 58.84 334 eP P 07 07 44.0 +3.1
baz=59
B30A **Myrvik Farm, E** 58.85 337 P P 07 07 41.1 +0.3
baz=59
IMW **Indian Meadow** 58.86 346 P P 07 07 41.1 +0.3
baz=59
G20A **Bridger** 59.01 335 eP P 07 07 43.3 +1.0
baz=59
D25A **Fairfield** 59.01 337 P P 07 07 41.1 -1.0
baz=59
FLWY **Flagg Ranch** 59.02 342 P P 07 07 41.9 0.0
comp=Z,63nm,1.4s
E23A **Ismay** 59.06 335 eP P 07 07 42.7 +0.1
baz=59
B29A **Wagenman Farm,** 59.07 340 P P 07 07 41.2 -1.2
baz=59
WAKR **Walker** 59.12 346 P P 07 07 42.3 -0.3
comp=Z,7.6nm,1.0s
E22A **Miles City** 59.16 325 eP P 07 07 45.2 +1.8
baz=59
H17A **Grant Village** 59.24 340 P P 07 07 42.7 -0.9
comp=Z,54nm,1.5s
D24A **Glendive** 59.26 335 eP P 07 07 46.2 +2.3
baz=60,SNR=11
A30A **Hoffart Farm,** 59.30 341 P P 07 07 44.0 +0.1
baz=60,SNR=7.5
LKWY **Lake** 59.33 336 eP P 07 07 43.4 -0.5
LKWY e*PP pP 07 07 45.5 +1.0
LKWY pmax pmax 07 07 53.2 -0.3
comp=Z,48nm,1.5s
LKWY **Lake** 59.33 336 eP P 07 07 45.5 +1.0
comp=Z,48nm,1.5s
LKWY epP pP 07 07 53.1 -0.3
RLMT **Red Lodge** 59.34 337 P P 07 07 44.0 -0.4
baz=60,SNR=5.4
RLMT **Red Lodge** 59.34 337 eP P 07 07 43.6 -0.8
comp=Z,20nm,1.1s
B28A **Dugan Ranch, T** 59.36 345 P P 07 07 45.0 +0.7
baz=60
YFT **Old Faithful** 59.41 335 eP P 07 07 45.2 +0.2
comp=Z,45nm,1.2s
YFT epP pP 07 07 53.9 -0.2
F20A **Billings** 59.48 338 P P 07 07 46.0 +0.8
baz=60
C25A **Freed Ranch, W** 59.50 342 P P 07 07 45.1 -0.2
baz=60
A29A **Manning Farm,** 59.52 346 P P 07 07 44.7 -0.6
baz=60,SNR=12
D23A **Lindsay** 59.63 341 P P 07 07 46.2 -0.1
baz=60
YMR **Madison River** 59.65 335 eP P 07 07 46.7 +0.1
comp=Z,67nm,1.5s
YMR epP pP 07 07 55.5 -0.2
C24A **Savage** 59.70 341 P P 07 07 46.9 +0.2
baz=60
D22A **Cohagen** 59.94 340 P P 07 07 48.0 -0.3
baz=60
QLMT **Earthquake Lak** 59.97 335 eP P 07 07 48.9 +0.1
comp=Z,7.8nm,1.4s
QLMT epP pP 07 07 58.2 +0.3
B25A **Knox Farm, Ray** 59.98 343 P P 07 07 48.4 -0.1
baz=60
GCMT **Greycliff** 60.05 337 eP P 07 07 48.5 -0.7
comp=Z,48nm,1.2s
GCMT epP pP 07 07 57.6 -0.7
A27A **Ledoux Ranch,** 60.06 344 P P 07 07 49.7 +0.6
baz=60
D21A **La Casta Ranch** 60.14 339 P P 07 07 49.8 0.0
baz=60,SNR=12
C23A **Lambert** 60.18 341 P P 07 07 49.9 0.0
baz=60
A26A **Wade Farm, Ken** 60.22 344 P P 07 07 49.9 -0.3
baz=60
HLID **Hailey** 60.28 332 P P 07 07 51.1 +0.2
baz=60,SNR=13
HLID **Hailey** 60.28 332 eP P 07 07 50.8 -0.1
comp=Z,31nm,1.2s
C22A **Vida** 60.36 341 P P 07 07 51.1 0.0
baz=60
DGMT **Dagmar** 60.46 342 P P 07 07 52.9 +1.0
baz=61
DGMT **Dagmar** 60.46 342 eP P 07 07 53.6 +1.7
comp=Z,32nm,1.2s
A25A **Svangstu Ranch** 60.56 343 P P 07 07 52.6 +0.1
baz=61
MCMT **McKenzie Canyo** 60.57 334 eP P 07 07 53.0 0.0
B23A **Brockton** 60.70 342 P P 07 07 53.6 +0.1

baz=61,SNR=5.1
BOZ **Bozeman (W)** 60.72 335 eP P 07 07 53.0 -0.8
BOZ pmax pmax
comp=Z,63nm,1.5s
BOZ **Bozeman (W)** 60.72 335 P P 07 07 53.3 -0.5
baz=61,SNR=11
BOZ **Bozeman (W)** 60.72 335 eP P 07 07 53.0 -0.8
comp=Z,63nm,1.5s
A24A **Westby** 60.81 342 P P 07 07 54.6 +0.3
baz=61
MFID **Camas Ranch** 60.83 331 eP P 07 07 54.6 0.0
comp=Z,64nm,1.4s
C21A **Desert Coulee** 60.83 340 P P 07 07 54.4 -0.1
baz=61
B22A **Reddig Ranch S** 60.88 341 P P 07 07 54.6 -0.2
baz=61
DLMT **Dillon** 60.89 335 eP P 07 07 57.0 +2.0
A23A **Redstone** 61.10 342 P P 07 07 56.2 0.0
baz=61
LRM **Limekiln Ridge** 61.20 335 eP P 07 07 56.8 -0.4
comp=Z,253nm,1.5s
LRM epP pP 07 08 04.8 -1.4
B21A **Ellsworth Farm** 61.33 340 P P 07 07 58.1 +0.3
baz=62
A22A **Carney Farms,** 61.46 341 P P 07 07 58.8 +0.2
baz=62
WVOR **Wild Horse Val** 61.50 329 eP P 07 07 58.2 -1.0
WVOR pmax pmax
comp=Z,41nm,1.5s
WVOR **Wild Horse Val** 61.50 329 eP P 07 07 58.2 -1.0
comp=Z,41nm,1.5s
B20A **Solberg Farm,** 61.68 340 P P 07 08 00.2 0.0
baz=62,SNR=5.8
EGMT **Eagleton** 61.94 338 P P 07 08 02.0 0.0
baz=62
EGMT **Eagleton** 61.94 338 eP P 07 08 01.1 -0.9
comp=Z,51nm,1.3s
MOD **Modoc** 62.00 327 eP P 07 08 02.2 -0.3
comp=Z,25nm,1.0s
A19A **Klindworth Far** 62.35 339 P P 07 08 04.4 -0.2
baz=62,SNR=12
CHMT **Chamberlain Mo** 62.40 335 eP P 07 08 05.9 +0.6
comp=Z,48nm,2.2s
BMO **Blue Mountains** 62.61 331 eP P 07 08 05.2 -1.4
comp=Z,26nm,1.6s
MSO **Missoula** 62.62 335 P P 07 08 06.4 -0.2
baz=63,SNR=14
MSO **Missoula** 62.62 335 eP P 07 08 06.1 -0.5
comp=Z,72nm,1.4s
N02D **Trinity Center** 62.69 325 P P 07 08 08.0 +0.9
baz=63
M04C **Macdoel** 62.75 326 P P 07 08 08.1 +0.5
baz=63
SLMT **Seeley Lake** 62.76 335 eP P 07 08 07.3 -0.3
comp=Z,15nm,1.2s
K05A **Summer Lake** 62.88 328 eP P 07 08 08.2 -0.3
comp=Z,120nm,1.4s
SWMT **Swartz Lake** 63.19 335 eP P 07 08 10.1 -0.2
comp=Z,16nm,1.3s
YBH **Yreka Blue Hor** 63.20 326 P P 07 08 08.5 -2.0
comp=Z,4.4nm,1.0s,baz=357,slow=1.8,SNR=4.0
YBH **Yreka Blue Hor** 63.20 326 P P 07 08 08.5 -2.0
YBH pmax pmax
comp=Z,4.0nm,1.0s
YBH **Yreka Blue Hor** 63.20 326 eP P 07 08 12.2 +1.7
comp=Z,17nm,1.2s
J05D **Fort Rock, OR** 63.45 328 P P 07 08 13.3 +1.1
baz=64
JTMT **Jette** 63.49 335 eP P 07 08 12.6 +0.2
G08A **Pilot Rock** 63.73 331 eP P 07 08 13.8 -0.2
comp=Z,53nm,1.4s
BLMT **Blacktail Moun** 63.73 335 eP P 07 08 13.2 -0.9
BLMT epP pP 07 08 22.8 -0.4
BSMT **Bassoo Peak** 63.78 335 eP P 07 08 14.2 -0.1
comp=Z,31nm,1.3s
BSMT epP pP 07 08 23.0 -0.5
J04D **Umpqua Nationa** 63.89 327 P P 07 08 17.1 +1.9
baz=64
SCHQ **Schefferville** 64.15 9 P P 07 08 15.2 -1.2
comp=Z,5.8nm,1.0s,baz=192,slow=9.3,SNR=3.1
SCHQ LR LR 07 35 37.3
comp=Z,778nm,21.1s,baz=232,slow=36
I05D **Terrebonne, OR** 64.24 329 P P 07 08 18.7 +1.4
baz=64
WALA **Waterton Lakes** 64.38 336 eP P 07 08 17.8 -0.4
WALA epP pP 07 08 26.4 -0.9
HAWA **Hanford** 64.80 331 eP P 07 08 21.8 +1.0
comp=Z,38nm,1.6s
I03D **Drain, OR** 64.86 327 P P 07 08 22.2 +0.9
baz=65
NEW **Newport** 65.10 334 P P 07 08 21.6 -1.2
comp=Z,2.9nm,0.9s,baz=136,slow=7.6,SNR=6.5
NEW **Newport** 65.10 334 P P 07 08 21.6 -1.2
NEW pmax pmax
comp=Z,3.0nm,0.9s
NEW **Newport** 65.10 334 P P 07 08 23.0 +0.2
baz=65,SNR=5.3
NEW **Newport** 65.10 334 eP P 07 08 22.1 -0.7
comp=Z,21nm,1.2s
FFC **Flin Flon** 65.54 347 eP P 07 08 24.7 -0.7
FFC pmax pmax
comp=Z,27nm,1.5s
FFC **Flin Flon** 65.54 347 eP P 07 08 24.7 -0.7
comp=Z,27nm,1.5s
LON **Longmire** 66.16 330 eP P 07 08 29.3 -0.4
LON pmax pmax
comp=Z,9.0nm,1.2s
LON **Longmire** 66.16 330 eP P 07 08 29.3 -0.4
comp=Z,9.3nm,1.2s
TBI **Tubuai** 67.38 248 eS S 07 17 32.2 +0.1
comp=Z,2µm,29.5s
TBI eLQ LQ 07 26 10.4
comp=Z,386nm,28.5s
TBI eLR LR 07 29 00.8
comp=Z,3µm,26.5s,baz=87
EDM **Edmonton** 67.53 339 eP P 07 08 37.1 -1.2
EDM e*PP pP 07 08 45.9 -1.5
EDM **Edmonton** 67.53 339 eP P 07 08 37.1 -1.2
EDM epP pP 07 08 45.9 -1.5
PPT **Papeete** 67.58 255 LR LR 07 30 09.1
comp=Z,974nm,19.4s,baz=72,slow=29
PPT2 **Papeete2** 67.58 255 eS S 07 17 34.1 -0.7
comp=Z,529nm,23.5s
PPT2 **Papeete2** 67.58 255 eLR LR 07 29 03.9
comp=Z,5µm,27.2s,baz=96
NLWA **Neilton Lookou** 67.62 330 eP P 07 08 39.0 +0.1
comp=Z,34nm,1.2s
NLWA epP pP 07 08 47.7 -0.4
YKA **Yellowknife Ar** 75.52 344 P P 07 09 25.0 -1.2
comp=Z,1.6nm,0.8s,baz=139,slow=5.9,SNR=5.8
YKA **Yellowknife Ar** 75.52 344 P P 07 09 25.0 -1.2
VNA1 **Neumayer--Stat** 76.16 161 P P 07 09 30.6 +0.8
LIC **Lamto** 76.68 82 eP P 07 09 32.9 -0.9
comp=Z,130nm,1.7s
TIC **Toumodi** 76.76 81 eP P 07 09 33.9 -0.4
DBIC **Dimbokro** 76.92 81 P P 07 09 35.7 +0.5
comp=Z,16nm,1.0s,baz=261,slow=3.4,SNR=7.7
DBIC LR LR 07 40 43.9
comp=Z,2µm,22.0s,baz=234,slow=34
KIC **Kosan Boka** 76.98 81 eP P 07 09 35.0 -0.5
comp=Z,120nm,1.2s
DLBC **Dease Lake** 77.72 336 eP P 07 09 38.5 -0.3
SNAA **Sanae** 78.09 162 P P 07 09 36.1 -4.6
SNAA **Sanae** 78.09 162 P P 07 09 40.5 -0.3
comp=Z,1.6nm,0.9s,baz=280,slow=5.0,SNR=18
SNAA **Sanae** 78.09 162 *c i* P P 07 09 35.8 -4.9
SNAA pmax pmax
comp=Z,10.0nm,1.2s
SNAA MLR MLR
comp=Z,586nm,19.0s
SNAA **Sanae** 78.09 162 P P 07 09 40.5 -0.3
comp=Z,1.3nm,1.4s
MORF **Marmelete** 80.99 50 eP P 07 09 56.6 -0.5
MORF AMS AMS 07 43 14.5
comp=Z,1µm,22.3s
MORF **Marmelete** 80.99 50 eP P 07 09 56.5 -0.5
LIS **Lisbon** 81.06 49 eP P 07 09 56.7 -0.6
LIS AMS AMS 07 44 06.5
comp=E,1µm,19.7s
LIS **Lisbon** 81.06 49 eP P 07 09 56.7 -0.6
MESJ **Messejana** 81.48 50 eP P 07 09 58.9 -0.8
MESJ eS S 07 20 08.2 -1.3
MESJ AMS AMS 07 43 16.8
comp=Z,942nm,25.1s
MESJ **Messejana** 81.48 50 eP P 07 09 58.8 -0.8
MESJ eS S 07 20 08.1 -1.3
PCVE **Castro Verde** 81.55 50 eP P 07 10 10.3 +10

comp=Z,22nm,1.9s
QSPA **South Pole Qui** 81.59 180 eP P 07 10 00.0 +0.2
comp=Z,80nm,1.5s
PVAQ **Vaqueiros** 81.73 50 eS S 07 20 20.5 +8.4
PVAQ **Vaqueiros** 81.73 50 eLR LR 07 35 12.5
comp=Z,1µm,20.0s
PESTR **Estremoz** 82.26 49 eP P 07 10 15.8 +12
PMRV **Marv??o** 82.58 48 eS S 07 20 31.5 +11
PMRV **Marv??o** 82.58 48 eLR LR 07 37 03.7
comp=Z,792nm,22.0s
PVIS **Viseu** 82.60 47 eP P 07 10 13.5 +8.0
PGAV **Gavieira, Arco** 82.72 46 eS S 07 20 29.3 +7.1
PGAV **Gavieira, Arco** 82.72 46 eLR LR 07 37 58.8
comp=Z,629nm,18.0s
MTE **Manteigas** 82.75 47 eS S 07 20 34.1 +11
MTE **Manteigas** 82.75 47 eLR LR 07 38 10.6
comp=Z,849nm,20.0s
NVL **N'lazarevskaya** 82.80 161 eP P 07 10 08.8 +2.9
NVL eS S 07 20 24.3 +2.4
NVL pmax pmax
comp=Z,6.0nm,0.8s
MVO **Moncorvo** 83.36 47 eP P 07 10 16.1 +6.7
comp=Z,73nm,1.6s
MVO **Moncorvo** 83.36 47 eS S 07 20 35.0 +6.3
MVO **Moncorvo** 83.36 47 eLQ LQ 07 32 12.2
MVO eLR LR 07 38 11.2
comp=Z,572nm,20.0s
RES **Resolute Bay** 83.53 356 P P 07 10 09.4 -0.1
comp=Z,2.1nm,0.9s,baz=111,slow=8.6,SNR=2.4
PBRG **Braganca** 83.75 46 eP P 07 10 15.6 +4.2
comp=Z,95nm,1.6s
TOA0 **Torodi Ar. Sit** 84.42 76 eP P 07 10 14.5 -0.8
TORD **Torodi Ar. Bea** 84.42 76 P P 07 10 15.2 -0.1
comp=Z,9.2nm,0.9s,baz=274,slow=4.2,SNR=34
TORD LR LR 07 46 55.6
comp=Z,576nm,20.2s,baz=245,slow=35
DAWY **Dawson** 84.68 338 eP P 07 10 14.6 -1.0
PAB **San Pablo** 84.87 49 eP P 07 10 17.9 +0.7
PAB pmax pmax
comp=Z,44nm,1.3s
PAB **San Pablo** 84.87 49 eP P 07 10 17.9 +0.7
comp=Z,44nm,1.3s
INK **Inuvik** 85.14 343 eP P 07 10 17.0 -0.8
INK pmax pmax
comp=Z,29nm,1.3s
INK **Inuvik** 85.14 343 eP P 07 10 17.0 -0.8
comp=Z,29nm,1.3s
ESDC **Sonseca Array** 85.19 49 P P 07 10 18.9 +0.1
comp=Z,3.4nm,0.9s,baz=273,slow=5.2,SNR=12
ESDC LR LR 07 45 41.5
comp=Z,460nm,20.2s,baz=230,slow=34
ESLA **Sonseca Array** 85.19 49 eP P 07 10 18.6 -0.1
comp=Z,42nm,1.7s
ESLA epP pP 07 10 27.7 -0.4
SUMG **Summit** 85.36 12 *i* P P 07 10 19.0 -0.3
comp=Z,56nm,1.2s
SUMG **Summit** 85.36 12 *i* P P 07 10 19.0 -0.3
SUMG pmax pmax
comp=Z,56nm,1.2s
SUMG **Summit** 85.36 12 eP P 07 10 18.9 -0.4
comp=Z,48nm,1.1s
EGAK **Eagle** 85.71 338 eP P 07 10 19.9 -0.8
comp=Z,98nm,1.8s
VNDA **Vanda** 87.48 191 P P 07 10 29.3 0.0
comp=Z,0.7nm,0.9s,baz=342,slow=3.5,SNR=2.8
VNDA LR LR 07 42 36.6
comp=Z,426nm,19.0s,baz=124,slow=31
ILAR **Eielson Array** 87.88 337 P P 07 10 30.1 -1.3
comp=Z,1.1nm,0.9s,baz=146,slow=3.6,SNR=9.6
ILAR LR LR 07 50 34.2
comp=Z,328nm,20.1s,baz=116,slow=36
MCK **McKinley** 88.28 336 P P 07 10 32.6 -0.6
MCK pmax pmax
comp=Z,46nm,1.6s
MCK **McKinley** 88.28 336 P P 07 10 32.6 -0.6
comp=Z,46nm,1.6s
COLA **College** 88.30 337 P P 07 10 33.0 -0.2
COLA pmax pmax
comp=Z,47nm,1.6s
COLA MLR MLR
comp=Z,2µm,18.0s
COLA **College** 88.30 337 eP P 07 10 33.2 0.0
comp=Z,17nm,1.8s
TRF **Thorofare Moun** 88.73 335 eP P 07 10 34.3 -1.3
BPAW **Bear Paw Mtn.** 89.25 336 eP P 07 10 38.5 +0.7
comp=Z,15nm,1.6s
TAM **Tamanrasset** 89.64 67 eP P 07 10 40.9 +0.1
TAM pmax pmax
comp=Z,3.0nm,0.8s
TAM **Tamanrasset** 89.64 67 eP P 07 10 40.9 +0.1
comp=Z,3.4nm,0.8s
COLD **Coldfoot** 90.11 339 eP P 07 10 41.6 -0.1
comp=Z,90nm,2.1s
DAG **Danmarks Havn** 92.05 12 *i* P P 07 10 50.1 -0.5
comp=Z,21nm,1.3s
DAG **Danmarks Havn** 92.05 12 eP P 07 10 50.1 -0.5
DAG pmax pmax
comp=Z,41nm,1.3s
SYO **Syowa Base** 92.38 162 eP P 07 10 51.0 -1.3
SYO **Syowa Base** 92.38 162 epP pP 07 11 01.6 -0.1
SNF **Seneffe** 93.22 40 P P 07 10 56.1 -0.4
DOU **Dourbes** 93.35 40 AP pP 07 11 05.0 -1.5
comp=Z,10.0nm,1.6s
WLF **Walferdange** 94.28 41 AP pP 07 11 08.4 -2.4
comp=Z,18nm,1.9s
MEM **Membach** 94.32 40 P P 07 11 00.9 -0.6
TSUM **Tsumeb** 94.80 110 P P 07 11 04.3 -0.4
comp=Z,14nm,1.3s
KEST **Kesra** 94.80 55 LR LR 07 50 54.3
comp=Z,238nm,21.9s,baz=184,slow=34
GRF **Grafenberg Arr** 97.55 41 eP Pdif 07 11 24.9 +8.5
comp=Z,11nm,1.6s
GRF eL L 07 51 50.2
comp=Z,501nm,21.7s
NOA **NORSAR Array B** 98.23 29 LR LR 07 51 36.7
comp=Z,323nm,21.8s,baz=250,slow=33
NKC **Novy Kostel** 98.38 40 epP pP 07 11 28.5 -1.0
NKC ex x 07 22 05.5
NKC **Novy Kostel** 98.38 40 eP Pdif 07 11 28.5 +8.4
CLL **Collm** 98.79 39 ePdif Pdif 07 11 22.0 +0.2
CLL epPdif pP 07 11 30.0 -1.2
CLL eSPdif 07 11 34.0
CLL ePP PP 07 15 24.0 +0.6
CLL eSKSac SKSac 07 22 00.0 +2.1
CLL eSdif Sdif 07 22 58.0 +8.2
CLL ePS PS 07 24 21.0 +2.1
CLL eSS SS 07 29 30.0 -6.4
CLL eSSS SSS 07 33 18.0
KHC **Kasperske Hory** 99.06 42 epP pP 07 11 31.9 -0.7
KHC eSKS SKSac 07 22 00.4 +0.9
KHC eSP SP 07 24 18.3 +0.4
KHC AMS AMS 07 51 50.0
comp=Z,500nm,19.3s
KHC **Kasperske Hory** 99.06 42 eP pP 07 11 31.9 -0.7
KHC e 07 22 00.4
KHC e 07 24 18.3
KHC MLR MLR
comp=Z,500nm,19.3s
GERES **GERESS Array B** 99.13 42 LR LR 07 55 41.3
comp=Z,319nm,19.0s,baz=250,slow=35
DRV **Dumont d'Urvil** 99.47 195 SS SS 07 29 39.0 -5.2
DRV L L 07 38 00.0
DRV R 07 44 00.0
BOSA **Boshof** 99.58 121 LR LR 07 54 51.6
comp=Z,1µm,19.1s,baz=270,slow=34
PRA **Prague** 99.65 41 ex SKSac 07 22 12.0 +10
MAW **Mawson** 99.69 167 LR LR 07 53 06.5
comp=Z,685nm,20.9s,baz=236,slow=33
PRU **Pruhonice** 99.72 41 epP pP 07 11 37.3 +1.8
PRU eSKS SKSac 07 22 11.8 +9.2
PRU eSP SP 07 24 25.5 +0.6
PRU ex x 07 30 09.7
PRU AMS AMS 07 56 20.0
comp=Z,500nm,17.3s
PRU **Pruhonice** 99.72 41 eP Pdif 07 11 37.3 +11
PRU e 07 24 25.5
PRU MLR MLR
comp=Z,500nm,17.3s
PVCC **Panska Ves** 99.75 40 eSKS SKSac 07 22 10.8 +8.1
PVCC ex x 07 24 34.3
PVCC AMS AMS 07 57 40.0
comp=Z,500nm,16.9s
GOPC **GO Pecny, Ondr** 99.87 41 eSKS SKSac 07 22 11.5 +8.1
GOPC eSP SP 07 24 28.7 +2.1
GOPC AMS AMS 07 56 50.0

comp=Z,600nm,20.6s
TREC Trest 100.31 41 *e*SKS **SKSac 07 22 11.3 +5.7**
TREC AMS AMS 07 55 50.0
comp=Z,500nm,19.2s
UPC Upice 100.67 40 *e*pP pP 07 11 41.9 +2.1
UPC *e*SKS 07 22 12.0
UPC *e*SP **SP 07 24 36.8 +1.7**
UPC *e*SS **SS 07 30 06.1 +3.3**
UPC AMS AMS 07 57 00.0
comp=Z,500nm,18.5s
UPC Upice 100.67 40 *e*P Pdif 07 11 41.9 +12
UPC *e* 07 24 36.8
UPC *e* 07 30 06.1
UPC MLR MLR
comp=Z,500nm,18.5s
DPC Dobruska-Polom 100.87 40 *e*pP pP 07 11 40.3 -0.4
DPC *e*SKS **SKSac 07 22 13.4 +5.1**
DPC AMS AMS 07 57 30.0
comp=Z,500nm,18.6s
DPC Dobruska-Polom 100.87 40 *e*P **Pdif 07 11 40.3 +9.1**
DPC MLR MLR
comp=Z,500nm,18.6s
KRLC Kraliky 101.16 41 *e*pP pP 07 11 42.7 +0.6
KRLC Kraliky 101.16 41 *e*P Pdif 07 11 42.7 +10
OKC Ostrava-Krasne 102.05 41 *e*x SKSac 07 22 23.7 +10
OKC AMS AMS 07 58 00.0
comp=Z,500nm,20.7s
STHS Stebnicka Huta 104.07 41 *i* P **Pdif 07 11 43.8 -1.6**
STHS Stebnicka Huta 104.07 41 PDIF **Pdif 07 11 43.8 -1.6**
DZM Mont Dzumac 107.70 244 *e*LR LR 07 47 44.7
comp=Z,2μm,26.8s
AKASG Malin Array Be 109.03 39 PP PP 07 16 43.9 +4.2
comp=Z,0.3nm,0.3s,baz=275,slow=6.9,SNR=6.1
KIS Kishinev 109.36 43 *e* 07 27 04.0
KIS LRM MLR 07 57 02.0
comp=Z,400nm,24.0s
OBN Obninsk 112.29 34 *i* PKIKP **PKiKP 07 16 17.0 -0.7**
OBN *e*SS SS 07 32 51.6 +11
OBN pmax pmax
comp=Z,6.0nm,0.5s
OBN MLR MLR
comp=Z,322nm,19.0s
OBN Obninsk 112.29 34 *e*PKPdf **PKiKP 07 16 17.3 -0.4**
BRTR Keskin Array B 113.95 50 PKP **PKiKP 07 16 20.4 -1.1**
comp=Z,0.2nm,0.5s,baz=180,slow=2.9,SNR=2.8
BRTR PP **PP 07 17 19.5 +3.9**
comp=Z,0.3nm,0.3s,baz=258,slow=7.1,SNR=3.7
H11N3 WAKE ISLAND Hyl 14.02 288 T T 09 20 36.3
baz=91,slow=74,SNR=9.1
H11N2 WAKE ISLAND Hyl 14.03 288 T T 09 20 39.6
baz=91,slow=74,SNR=11
H11N1 WAKE ISLAND Hyl 14.03 288 T T 09 20 35.9
baz=91,slow=74,SNR=8.8
H11S2 WAKE ISLAND Hyl 14.19 286 T T 09 20 51.5
baz=91,slow=75,SNR=7.5
H11S1 WAKE ISLAND Hyl 14.19 286 T T 09 20 52.1
baz=91,slow=75,SNR=5.2
H11S3 WAKE ISLAND Hyl 14.21 286 T T 09 20 49.8
baz=91,slow=75,SNR=5.4
PET Petropavlovsk 115.05 325 *i* PKIKP **PKPdf 07 16 23.4 +0.4**
PET *e* 07 17 30.3
PET *e*PS **PS 07 27 03.2 +0.7**
PET *e*SS SS 07 33 21.0 +4.2
PET pmax pmax
comp=Z,100nm,11.1s
ANN Anapa 115.69 44 *i* PKIKP PKPpre 07 16 13.5
ANN pmax pmax
comp=Z,12nm,1.3s
SOC Sochi 117.59 45 *i* PKIKP **PKPdf 07 16 26.3 -1.9**
SOC *e* 07 17 36.1
SOC *e* 07 23 16.2
SOC *e*PS **PKKPdf 07 27 15.0 -4.7**
SOC *e*SS SS 07 33 49.6 -1.0
KIV Kislovodsk 119.54 44 *i* P **Pdif 07 12 49.5 -4.9**
KIV *e* 07 23 20.3
KIV *e*PS **PS 07 27 37.5 -6.3**
KIV *e*SS SS 07 34 10.0 -6.0
KIV *e*SSS SSS 07 38 35.2
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIV MLR MLR
comp=Z,188nm,20.0s
KBZ Khabaz 119.76 44 PKP **PKPdf 07 16 32.2 -0.1**
comp=Z,1.7nm,0.7s,baz=354,slow=0.9,SNR=4.8
ARU Arti 122.52 26 PKIKP PKPdf 07 16 44.3 +7.0
YUK Yuzh-Kuril'sk 126.45 320 ⇑ *i* PKIKP **PKPdf 07 16 49.6 +4.4**
YUK *i* 07 18 40.0
YUK *i* SS SS 07 35 41.9 -1.2
ABKAR Akbulak array 127.66 32 *e*PKPdf **PKPdf 07 16 47.2 -0.2**
BRVK Borovoye 129.68 22 ⇓ *e*PKIKP **PKPdf 07 16 50.9 -0.2**
BRVK Borovoye 129.68 22 *e*PKPdf **PKPdf 07 16 50.7 -0.4**
KLR Kul'dur 131.25 332 *e*PKIKP **PKPdf 07 16 56.0 +1.8**
NVS Novosibirsk 132.02 13 *e*PKIKP **PKPdf 07 16 56.2 +0.7**
NVS *i* 07 19 14.1
NVS pmax pmax
comp=Z,33nm,1.9s
NVS pmax pmax
comp=N,3.0nm,1.0s
NVS pmax pmax
comp=E,2.0nm,0.7s
GEYT Alibeck 132.62 45 PKP **PKPdf 07 16 55.7 -1.5**
comp=E,0.8nm,0.4s,baz=251,slow=9.0,SNR=2.8
ZALV Zalesovo Beam 133.19 12 PKhKP PKPpre 07 16 51.3
comp=E,0.3nm,0.4s,baz=277,slow=4.0,SNR=2.8
ZALV PKP **PKPdf 07 16 57.3 -0.5**
comp=E,2.4nm,0.7s,baz=270,slow=2.5,SNR=12
ASAR Alice Springs 133.58 226 PKhKP PKPpre 07 16 53.5
comp=E,0.6nm,0.9s,baz=134,slow=3.8,SNR=5.2
ASAR PKP **PKPdf 07 16 58.8 -0.7**
comp=E,1.0nm,0.8s,baz=122,slow=2.2,SNR=6.4
KURK Kurchatov 134.52 19 *e*PKIKP **PKPdf 07 16 59.9 -0.4**
KURK Kurchatov 134.52 19 *e*PKPdf **PKPdf 07 16 59.9 -0.4**
MJAR Matsushiro Arr 135.12 314 PKP **PKPdf 07 17 00.6 -1.4**
comp=E,2.6nm,1.0s,baz=285,slow=1.9,SNR=5.5
WRAB Tennant Creek 135.53 230 *e*PKIKP **PKPdf 07 17 03.8 +0.6**
WRAB Tennant Creek 135.53 230 *e*PKPdf **PKPdf 07 17 03.8 +0.6**
WRA Warramunga Arr 135.53 230 PKP **PKPdf 07 17 02.7 -0.5**
comp=E,2.1nm,0.9s,baz=117,slow=2.1,SNR=11
MDJ Mudanjiang 135.57 329 PKP **PKPdf 07 17 02.6 +0.1**
MDJ PPMZ
comp=E,25nm,3.7s
TLY Talaya 136.83 356 *i* PKIKP **PKPdf 07 17 06.5 +1.8**
KKAR Karatay Array 137.22 31 *e*PKIKP **PKPdf 07 17 07.0 +1.3**
KKAR Karatay Array 137.22 31 *e*PKPdf **PKPdf 07 17 07.0 +1.3**
ZAK Zakamensk 138.15 356 *e*PKIKP **PKPdf 07 17 06.1 -1.2**
ZAK pmax pmax
comp=Z,3.0nm,1.4s
MKAR Makanchi Array 139.13 18 PKP **PKPdf 07 17 08.3 -0.7**
comp=Z,1.3nm,0.8s,baz=318,slow=1.6,SNR=8.6
MKAR PP **PP 07 20 01.5 +0.4**
comp=Z,0.7nm,1.0s,baz=20,slow=4.6,SNR=3.7
MKAR Makanchi Array 139.13 18 PKIKP **PKPdf 07 17 08.3 -0.7**
MKAR 07 20 01.5
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR pmax pmax
comp=Z,1.0nm,1.0s
EKS2 Erkin-Say 139.18 29 *e*PKIKP **PKPdf 07 17 09.0 -0.4**
EKS2 Erkin-Say 139.18 29 *e*PKPdf **PKPdf 07 17 09.0 -0.4**
TKM2 Tokmak 2 139.84 27 *e*PKIKP **PKPdf 07 17 10.6 -0.1**
TKM2 Tokmak 2 139.84 27 *e*PKPdf **PKPdf 07 17 10.6 -0.1**
SONM Songino Array 140.38 353 PKhKP PKPpre 07 17 04.6
comp=Z,0.5nm,0.6s,baz=97,slow=5.8,SNR=4.4
SONM PKP **PKPdf 07 17 10.5 -0.9**
comp=Z,1.6nm,1.0s,baz=343,slow=2.8,SNR=6.2
SONM PP **PP 07 20 13.5 +4.8**
comp=Z,2.0nm,1.2s,baz=359,slow=2.7,SNR=6.5
SONM SKPbc **SKPbc 07 20 46.0 +0.2**
comp=Z,2.3nm,1.1s,baz=338,slow=1.6,SNR=5.7
KSRS Korea Array 141.38 323 PKP **PKPdf 07 17 12.4 -0.9**
comp=Z,1.5nm,0.8s,baz=13,slow=1.5,SNR=8.1
KSRS Korea Array 141.38 323 PKIKP **PKPdf 07 17 12.4 -0.9**
KSRS pmax pmax
comp=Z,2.0nm,0.8s
KSAR Wonju Array Be 141.41 323 PKIKP **PKPdf 07 17 12.4 -1.0**
KSAR Wonju Array Be 141.41 323 PKP **PKPdf 07 17 12.4 -1.0**
TJN Taejon 142.42 322 *i* PKIKP **PKPdf 07 17 17.0 +1.8**
KSH Kashi 142.65 31 PKP **PKPdf 07 17 17.0 +1.2**
KSH pPKP **pPKPdf 07 17 26.3 +0.8**
KSH PP **PP 07 20 23.2 +0.1**
KSH PKS **PKSdf 07 20 50.3 -1.4**
KSH SKS **SKSdf 07 24 20.0 -3.9**
KSH SKKS **SKKSac 07 27 13.1 -2.1**
KSH SS **SS 07 38 59.3 +1.6**
KSH PPMZ
comp=Z,200nm,5.0s
KSH LN
comp=Z,170nm,5.1s
KSH LE
comp=Z,150nm,5.1s
KSH LZ
comp=Z,310nm,6.3s
WMQ Urumqi 143.36 14 PKP **PKPdf 07 17 16.3 -0.5**
WMQ sPKP 07 17 31.7
WMQ PP **PP 07 20 31.3 +4.4**
WMQ SKS **SKSdf 07 24 20.6 -4.1**
WMQ SKKS **SKKSac 07 27 16.5 -2.4**
WMQ SS **SS 07 39 04.3 -0.7**
WMQ PPMZ
comp=Z,84nm,8.0s
WMQ LN
comp=Z,260nm,23.6s
WMQ LE
comp=Z,340nm,22.0s
WMQ LZ
comp=Z,290nm,18.6s
DL2 Dalian 143.79 330 *e*PKP PKPpre 07 17 09.5
DL2 PP PP 07 20 36.1 +6.3
BJI Beijing 145.25 337 PKPbc **PKPdf 07 17 20.1 0.0**
BJI PP **PP 07 20 37.7 -0.6**
BJI SS SS 07 39 26.5 -0.3
BJI PPMZ
comp=Z,120nm,6.6s
BJI LN
comp=Z,440nm,20.0s
BJI LE
comp=Z,140nm,20.0s
BJI LZ
comp=Z,360nm,21.3s
HHC Hu-ho-hao-te 146.06 343 *e*PKPbc **PKPab 07 17 23.7 +0.7**
HHC pPKP **pPKPdf 07 17 31.1 -0.2**
HHC PP **PP 07 20 45.3 +2.2**
HHC SKS **SKSdf 07 24 22.8 -6.1**
HHC SKKS **SKKSac 07 27 36.2 +1.7**
HHC PPMZ
comp=Z,100nm,10.8s
HHC LN
comp=Z,310nm,20.4s
HHC LE
comp=Z,290nm,18.4s
HHC LZ
comp=Z,280nm,19.4s
GTA Gaotai 149.24 359 *e*PKPbc **PKPdf 07 17 28.0 +1.0**
GTA pPKP **pPKPdf 07 17 38.7 +2.0**
GTA sPKP 07 17 42.2
GTA PP PP 07 21 09.4 +7.8
GTA SKS **SKSdf 07 24 31.3 -2.1**
GTA SKKS **SKKSac 07 27 51.5 -0.8**
GTA SS **SS 07 40 12.4 +0.8**
GTA PPMZ
comp=Z,330nm,10.2s
GTA LN
comp=Z,190nm,23.7s
GTA LE
comp=Z,230nm,19.9s
GTA LZ
comp=Z,360nm,20.4s
SOEI Soe 149.36 234 *e*PKPdf **PKPdf 07 17 29.2 +1.3**
NJ2 Nanjing 150.47 325 *e*PKPbc **PKPdf 07 17 31.3 +2.4**
NDI New Delhi 150.99 43 *e*P **PKPbc 07 17 35.5 -0.1**
LZH Lanzhou 152.27 352 *e*PKPbc **PKPdf 07 17 31.2 -0.6**
LZH pPKP **pPKPdf 07 17 41.0 -0.5**
LZH sPKP 07 17 45.5
LZH LN
comp=Z,940nm,19.0s
LZH LE
comp=Z,610nm,19.4s
LZH LZ
comp=Z,540nm,20.6s
XAN Xi'an 153.16 342 PKPbc **PKPbc 07 17 39.4 -1.0**
XAN pPKP **pPKPdf 07 17 47.1 +4.4**
XAN PP **PP 07 21 25.5 +1.4**
XAN SKKS 07 26 57.4
WHN Wuhan 154.05 330 PKPbc **PKPdf 07 17 33.6 -0.7**
WHN PP PP 07 21 38.1 +8.6
WHN LZ
comp=Z,830nm,15.8s
ENH Enshi 156.42 338 *e*PKPdf **PKPdf 07 17 34.5 -3.0**
CD2 Chengdu 157.37 350 PKP **PKPdf 07 17 37.4 -1.4**
CD2 pPKP **pPKPdf 07 17 48.7 +0.2**
CD2 sPKP 07 17 52.9
CD2 PP **PP 07 21 48.0 +0.5**
CD2 SKS **SKSdf 07 24 40.7 -2.4**
CD2 SKKS **SKKSac 07 28 33.8 -2.6**
CD2 SS **SS 07 41 41.6 +1.2**
CD2 PPMZ
comp=Z,250nm,7.6s
CD2 LN
comp=Z,340nm,20.2s
CD2 LZ
comp=Z,530nm,22.7s
LSA Lhasa 157.53 19 PKIKP **PKPdf 07 17 37.8 -1.8**
LSA MLR MLR
comp=Z,388nm,19.0s
LSA Lhasa 157.53 19 PKPdf **PKPdf 07 17 37.8 -1.8**
LSA LR LR
comp=Z,388nm,19.0s
GYA Guiyang 160.90 340 PKP **PKPdf 07 17 41.8 -1.4**
GYA sPKP 07 17 57.3
GYA PKPab **PKPab 07 18 26.0 +0.5**
GYA PKS **PKSdf 07 21 13.6 -3.1**
GYA PP **PP 07 22 10.4 +3.4**
GYA SKKS 07 28 52.3
GYA SS **SS 07 42 18.8 +0.4**
GYA PPMZ
comp=Z,180nm,8.0s
GYA LN
comp=Z,220nm,23.4s
GYA LE
comp=Z,190nm,24.0s
GYA LZ
comp=Z,210nm,22.6s
KMI Kunming 163.20 350 PKP **PKPdf 07 17 45.7 0.0**
KMI pPKP **pPKPdf 07 17 55.1 -0.3**
KMI PP PP 07 22 26.1 +7.0
KMI SS SS 07 42 41.2 -1.0
KMI PPMZ
comp=Z,280nm,8.5s
KMI LN
comp=Z,220nm,18.7s
KMI LE
comp=Z,180nm,22.9s
KMI LZ
comp=Z,410nm,20.5s
QIZ Qiongzhong 165.50 317 PKP **PKPdf 07 17 47.0 -0.6**
QIZ PP **PP 07 22 31.3 -0.8**
QIZ SS SS 07 43 09.2 +1.8
QIZ PPMZ
comp=Z,130nm,10.1s
QIZ LZ
comp=Z,340nm,20.9s
CMAR Chiang Mai Arr 170.11 3 PKP **PKPdf 07 17 50.0 -0.9**
comp=Z,0.8nm,0.3s,baz=291,slow=0.8,SNR=4.1
CMAR PKPab **PKPab 07 19 05.0 -0.9**
comp=Z,1.3nm,0.4s,baz=320,slow=8.4,SNR=6.2
CMAR PP **PP 07 22 58.2 +3.8**
comp=Z,1.1nm,0.3s,baz=319,slow=5.2,SNR=4.4

*ISCJB **04** 07:47:55.4±0.6, 10.8S±0.1×66.9E±0.1, h10km, mb3.9/9, Error ellipse: s-maj=20.8km s-min=9.3km az=143.7*
*IDC **04** 07:47:56.2±0.7, 10.78S×66.64E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.8/29, mbtmp4.0/9, Error ellipse: s-maj=25.8km s-min=20.5km az=154.0*
ISC 04 07:47:57.5±0.7, 10.8S±0.2×66.8E±0.1, h10km, n20, σ1§32/15, mb4.0/9, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N3	**Diego Garcia H**	**6.09**	**44**	Pn	**Pn**	**07 49 27.0**	**-0.4**
H08N3				T	T	07 55 59.4	
	baz=225,slow=75,SNR=300						
H08N1	**Diego Garcia H**	**6.11**	**44**	Pn	**Pn**	**07 49 27.2**	**-0.4**
H08N1				T	T	07 55 52.7	
	baz=225,slow=75,SNR=210						
H08N2	**Diego Garcia H**	**6.12**	**44**	Pn	**Pn**	**07 49 27.3**	**-0.4**
H08N2				T	T	07 55 52.3	
	baz=225,slow=75,SNR=173						
H08S1	**Diego Carcia H**	**6.45**	**61**	Pn	**Pn**	**07 49 29.4**	**-3.0**
	baz=267,slow=12,SNR=16						
H08S1				T	T	07 56 30.8	
	baz=285,slow=24,SNR=20						
H08S2	**Diego Garcia H**	**6.47**	**61**	Pn	Pn	07 49 29.4	-3.2
	baz=267,slow=12,SNR=33						
H08S2				T	T	07 56 30.8	
	baz=285,slow=24,SNR=19						
H08S3	**Diego Garcia H**	**6.47**	**61**	Pn	Pn	07 49 29.4	-3.2
	baz=267,slow=12,SNR=23						
H08S3				T	T	07 56 30.8	
	baz=285,slow=24,SNR=30						
LSZ	**Lusaka**	**37.81**	**259**	P	**P**	**07 55 14.2**	**-0.4**
	6.3nm,1.0s,baz=67,slow=12,SNR=7.0						
LBTB	**Lobatse**	**41.46**	**244**	P	**P**	**07 55 44.4**	**-0.6**
	3.4nm,0.9s,baz=100,slow=7.1,SNR=3.8						
CMAR	**Chiang Mai Arr**	**43.06**	**48**	P	**P**	**07 55 59.2**	**+1.3**
	0.8nm,0.4s,baz=240,slow=7.1,SNR=3.5						
H01W3	**Cape Leeuwin H**	**49.22**	**127**	T	T	08 49 41.2	
	baz=288,slow=75,SNR=19						
H01W2	**Cape Leeuwin H**	**49.22**	**127**	T	T	08 49 38.8	
	baz=288,slow=75,SNR=23						
H01W1	**Cape Leeuwin H**	**49.24**	**127**	T	T	08 49 35.9	
	baz=288,slow=75,SNR=20						
MAW	**Mawson**	**56.79**	**182**	P	**P**	**07 57 41.4**	**-0.1**
	1.9nm,0.8s,baz=321,slow=13,SNR=3.6						
MKAR	**Makanchi Array**	**59.00**	**12**	P	**P**	**07 57 56.1**	**-1.3**
	0.3nm,0.6s,baz=191,slow=7.0,SNR=4.7						
ASAR	**Alice Springs**	**64.89**	**111**	P	**P**	**07 58 38.8**	**+1.2**
	0.6nm,0.8s,baz=279,slow=6.0,SNR=6.1						
WRA	**Warramunga Arr**	**65.43**	**107**	P	**P**	**07 58 42.3**	**+1.3**
	0.7nm,0.7s,baz=276,slow=5.3,SNR=6.9						
SONM	**Songino Array**	**68.15**	**28**	P	**P**	**07 58 59.2**	**+1.2**
	2.3nm,0.9s,baz=217,slow=5.5,SNR=11						
ESDC	**Sonseca Array**	**82.43**	**313**	P	**P**	**08 00 20.2**	**-0.1**
	0.8nm,0.7s,baz=97,slow=4.5,SNR=5.3						
PDAR	**Pinedale Array**	**148.00**	**355**	PKPbc	**PKPbc**	**08 07 42.7**	**-1.1**
	0.8nm,0.9s,baz=68,slow=5.0,SNR=4.5						
NVAR	**Mina Array Bea**	**152.13**	**9**	PKPbc	**PKPbc**	**08 07 55.4**	**+1.4**
	0.5nm,0.7s,baz=294,slow=0.9,SNR=6.4						

*ISCJB **04** 07:59:22.2±0.7, 5.3N±0.1×96.1E±0.1, h150km, mb3.8/7, Error ellipse: s-maj=20.0km s-min=8.6km az=139.0*
*IDC **04** 07:59:22.6±2.1, 5.33N×96.12E, h142km±19km, mb3.4/6, mb1 3.6/9, mb1mx3.3/29, mbtmp3.9/9, Error ellipse: s-maj=34.5km s-min=14.2km az=55.0*
ISC 04 07:59:23.2±1.0, 5.4N±0.1×96.1E±0.2, h150km, n10, σ1§12/11, mb3.6/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.79**	**133**	P	**Pn**	**08 00 20.9**	**+0.1**
	4.2nm,0.3s,baz=285,slow=7.7,SNR=14						
PSI				S	**Sn**	**08 01 04.9**	**-0.7**
	3.4nm,0.3s,baz=311,slow=8.2,SNR=3.7						
CMAR	**Chiang Mai Arr**	**13.26**	**12**	P	**P**	**08 02 28.4**	**-1.7**
	baz=200,slow=10,SNR=3.9						
PALK	**Pallekele**	**15.46**	**278**	P	**P**	**08 02 54.1**	**-0.5**
	1.3nm,0.3s,baz=96,slow=15,SNR=5.3						
MKAR	**Makanchi Array**	**42.94**	**346**	P	**P**	**08 07 08.2**	**+1.1**
	0.1nm,0.4s,baz=157,slow=11,SNR=3.4						
SONM	**Songino Array**	**43.18**	**10**	P	**P**	**08 07 11.1**	**+1.9**
	0.3nm,0.4s,baz=175,slow=7.2,SNR=3.4						
WRA	**Warramunga Arr**	**45.22**	**125**	P	**P**	**08 07 25.8**	**0.0**
	2.7nm,0.6s,baz=305,slow=9.1,SNR=17						
ASAR	**Alice Springs**	**46.81**	**130**	P	**P**	**08 07 39.0**	**+0.8**
	3.6nm,0.6s,baz=301,slow=7.7,SNR=47						
JCJ	**Chichijima**	**48.82**	**59**	P	**P**	**08 07 53.5**	**-0.1**
	120nm,0.8s,baz=292,slow=23,SNR=7.2						
ZALV	**Zalesovo Beam**	**49.27**	**351**	P	**P**	**08 07 56.7**	**+0.2**
	0.4nm,0.3s,baz=165,slow=12,SNR=3.4						
ARCES	**ARCESS Array B**	**78.25**	**340**	P	**P**	**08 11 05.0**	**-1.0**
	0.8nm,0.7s,baz=101,slow=9.3,SNR=4.1						

*ISCJB **04** 08:01:25.9±0.3, 23.97N±0.02×121.76E±0.02, h53km±4km, Error ellipse: s-maj=3.8km s-min=2.6km az=143.8*
*TAP **04** 08:01:25.8, 23.99N×121.69E, h52km, ML3.9, B*
*JMA **04** 08:01:25.0±0.1, 23.94N×121.71E, h48km±1km, M2.9*
ISC 04 08:01:26.6±1.2, 23.98N±0.03×121.74E±0.03, h48km±6km, n66, σ0§96/96, 5C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.13**	**268**	P	**Pn**	**08 01 34.1**	**-0.2**
	baz=264						
HWA				*e*S	**Sn**	**08 01 41.1**	**+1.3**
	baz=264						
TWD	**Chiawan**	**0.17**	**306**	⇓ *i*P	**Pn**	**08 01 34.2**	**-0.3**
	baz=303						
TWD				S	**Sn**	**08 01 40.2**	**+0.1**
	baz=303						
ESF	**Shoufeng Towns**	**0.24**	**243**	*e*P	**Pn**	**08 01 35.2**	**+0.1**
	baz=246						
EHP	**Heping Village**	**0.33**	**360**	*e*P	**Pn**	**08 01 35.6**	**-0.3**
	baz=13						
ESL	**Shilin**	**0.33**	**240**	⇓ *i*P	**Pn**	**08 01 34.9**	**-0.9**
	baz=241						
ESL				*e*S	**Sn**	**08 01 40.8**	**-1.7**
	baz=241						
TEGC	**Jichi Village**	**0.33**	**214**	*e*P	**Pn**	**08 01 36.4**	**+0.5**
	baz=217						
TEGC				*e*S	**Sn**	**08 01 45.2**	**+2.9**
	baz=217						
ENA	**Nanau**	**0.44**	**360**	⇓ *i*P	**Pn**	**08 01 36.6**	**-0.5**
	baz=9.0						
ENA				S	**Sn**	**08 01 45.2**	**+0.6**
	baz=9.0						
WHF	**Hehuan Shan**	**0.47**	**290**	⇓ *i*P	**Pn**	**08 01 36.9**	**-0.9**
	baz=288						
WHF				*i* S	**Sn**	**08 01 44.9**	**-0.9**
	baz=288						
NNS	**Nan Shan**	**0.57**	**323**	⇓ *i*P	**Pn**	**08 01 38.0**	**-0.8**
	baz=332						
NNS				*e*S	**Sn**	**08 01 46.5**	**-0.9**
	baz=332						
TWT	**Tachien**	**0.58**	**298**	P	**Pn**	**08 01 38.8**	**-0.3**
	baz=298						
TWT				S	**Sn**	**08 01 47.4**	**-0.5**
	baz=298						
WDT	**Danda**	**0.60**	**248**	⇑ *i*P	**Pn**	**08 01 38.6**	**-0.7**
	baz=242						
WDT				S	**Sn**	**08 01 47.2**	**-1.2**
	baz=242						
EHY	**Hungye**	**0.61**	**219**	⇑ *i*P	**Pn**	**08 01 37.6**	**-1.6**
	baz=220						
TWC	**Suao**	**0.63**	**9**	⇓ *i*P	**Pn**	**08 01 39.4**	**0.0**
	baz=19						
TWC				S	**Sn**	**08 01 49.9**	**+1.3**
	baz=19						
ENTT	**Nioudou**	**0.68**	**346**	⇓ *i*P	**Pn**	**08 01 39.4**	**-0.6**
	baz=350						
TWE	**Neicheng**	**0.74**	**355**	*e*P	**Pn**	**08 01 40.6**	**-0.3**
	baz=353						
TWF1	**Yuli**	**0.75**	**213**	⇑ *i*P	**Pn**	**08 01 39.4**	**-1.6**
	baz=217						
NSK	**Sanguang**	**0.78**	**333**	⇓ *i*P	**Pn**	**08 01 40.8**	**-0.6**
	baz=334						
NSK				*i* S	**Sn**	**08 01 50.9**	**-1.2**
	baz=334						
SMLT	**Sun Moon Lake**	**0.78**	**263**	*e*P	**Pn**	**08 01 40.8**	**-0.6**
	baz=262						
ILA	**Ilan**	**0.78**	**0**	*e*P	**Pn**	**08 01 39.5**	**-1.9**
	baz=356						
TYC	**Yuchr**	**0.81**	**265**	⇓ *e*P	**Pn**	**08 01 41.2**	**-0.6**
	baz=262						
TYC				*e*S	**Sn**	**08 01 52.5**	**-0.4**
	baz=262						
YUS	**Yu-Shan**	**0.88**	**236**	⇑ *i*P	**Pn**	**08 01 42.7**	**-0.4**
	baz=230						
YUS				*e*S	**Sn**	**08 01 54.6**	**-0.5**
	baz=230						
NSTT	**Nanjuang**	**0.94**	**314**	*e*P	**Pn**	**08 01 43.7**	**+0.2**
	baz=303						
NSTT				S	**Sn**	**08 01 55.9**	**+0.1**
	baz=303						
CHKT	**Chengkung**	**0.94**	**202**	*e*P	**Pn**	**08 01 42.1**	**-1.4**
	baz=191						
TWQ1	**Liyutan**	**0.96**	**293**	*e*P	**Pn**	**08 01 43.4**	**-0.4**
	baz=293						
WNT	**Mingjian**	**0.97**	**264**	*e*P	**Pn**	**08 01 44.4**	**+0.4**
	baz=255						
WNT				*e*S	**Sn**	**08 01 58.2**	**+1.5**
	baz=255						
ALS	**Alishan**	**0.98**	**242**	⇑ *e*P	**Pn**	**08 01 44.2**	**-0.1**
	baz=234						

TCU	**Taichung** baz=279	**0.99**	**280**	*eP*		**Pn**	**08 01 44.4**	**+0.2**
NSY	**Sanyi** baz=296	**1.00**	**296**	*eP*		**Pn**	**08 01 44.2**	**-0.1**
NSY	baz=296			*eS*		**Sn**	**08 01 57.9**	**+0.6**
TWA	**Mucha** baz=341	**1.00**	**352**	P		**Pn**	**08 01 44.4**	**0.0**
TWA	baz=341			S		**Sn**	**08 01 57.5**	**0.0**
ELDTW	**Lidau** baz=214	**1.03**	**220**	*eP*		**Pn**	**08 01 43.3**	**-1.6**
TWB1	**Santiao Chiao** baz=22	**1.05**	**12**	*eP*		**Pn**	**08 01 45.0**	**+0.1**
TWB1	baz=22			*eS*		**Sn**	**08 02 00.4**	**+1.9**
CHN5	**Tsauling** baz=242	**1.05**	**249**	*eP*		**Pn**	**08 01 45.2**	**+0.1**
CHN5	baz=242			S		**Sn**	**08 01 59.8**	**+1.1**
TAP1	**Taipei** baz=350	**1.07**	**349**	*eP*		**Pn**	**08 01 45.6**	**+0.3**
HSN	**Hsinchu** baz=334	**1.08**	**319**	*eP*		**Pn**	**08 01 45.6**	**+0.3**
NWF	**Wu-fen Shan** baz=348	**1.08**	**2**	P		**Pn**	**08 01 45.6**	**+0.1**
NWF	baz=348			S		**Sn**	**08 02 00.3**	**+0.8**
NCU	**National Centr** baz=333	**1.11**	**333**	*eP*		**Pn**	**08 01 45.7**	**-0.1**
NCU	baz=333			*eS*		**Sn**	**08 02 00.6**	**+0.7**
WGK	**Gukeng** baz=245	**1.12**	**255**	*eP*		**Pn**	**08 01 46.3**	**+0.4**
TWS1	**Kuangyinshan** baz=345	**1.15**	**345**	*eP*		**Pn**	**08 01 45.4**	**-1.0**
TWS1	baz=345			*eS*		**Sn**	**08 02 01.2**	**+0.1**
JYNG	**Yonagunijimaku**	**1.19**	**67**	P		**Pn**	**08 01 46.6**	**-0.3**
JYNG				*eS*		**Sn**	**08 02 02.3**	**+0.3**
STYT	**Tauyuan** baz=220	**1.22**	**228**	*eP*		**Pn**	**08 01 47.4**	**0.0**
CHN4	**Tsaushan** baz=232	**1.23**	**239**	P		**Pn**	**08 01 47.8**	**+0.4**
CHN4	baz=232			S		**Sn**	**08 02 04.5**	**+1.6**
CHN2	**Minshiung** baz=248	**1.25**	**249**	*eP*		**Pn**	**08 01 48.1**	**+0.5**
YOJ	**Yonaguni jima**	**1.25**	**67**	P		**Pn**	**08 01 47.4**	**-0.3**
YOJ				*eS*		**Sn**	**08 02 03.8**	**+0.4**
YOJ	**Yonaguni jima** baz=68	**1.25**	**67**	P		**Pn**	**08 01 47.4**	**-0.3**
WTP	**Ta-pu** baz=234	**1.27**	**235**	*eP*		**Pn**	**08 01 48.3**	**+0.3**
TWY	**Chenhua** baz=345	**1.29**	**354**	*eP*		**Pn**	**08 01 47.1**	**-1.2**
CHY	**Chiayi** baz=247	**1.30**	**249**	*eP*		**Pn**	**08 01 48.3**	**-0.1**
TWG	**Pinlang** baz=198	**1.31**	**208**	*eP*		**Pn**	**08 01 46.2**	**-2.4**
WTCT	**Ta-ch'eng** baz=264	**1.34**	**265**	*eP*		**Pn**	**08 01 49.4**	**+0.4**
TWK	**Hsinying** baz=237	**1.35**	**239**	*eP*		**Pn**	**08 01 49.4**	**+0.2**
CHN1	**Nanshi** baz=234	**1.37**	**235**	*eP*		**Pn**	**08 01 49.4**	**+0.1**
SGST	**Jiashian** baz=222	**1.39**	**230**	*eP*		**Pn**	**08 01 50.1**	**+0.4**
ECL	**Taimali** baz=201	**1.56**	**208**	*eP*		**Pn**	**08 01 49.6**	**-2.3**
SSD	**Sandimen** baz=219	**1.60**	**220**	*eP*		**Pn**	**08 01 53.0**	**+0.5**
TWM1	**Shoushan** baz=226	**1.67**	**227**	*eP*		**Pn**	**08 01 55.2**	**+1.6**
EAST	**Anshuo** baz=200	**1.79**	**208**	*eP*		**Pn**	**08 01 53.9**	**-1.3**
IRIF	**Iriomote-Funau**	**1.85**	**79**	P		**Pn**	**08 01 55.1**	**-0.8**
IRIF				*eS*		**Sn**	**08 02 18.2**	**+0.1**
HATJ	**Hateruma jima**	**1.89**	**87**	P		**Pn**	**08 01 56.5**	**+0.1**
HATJ				*eS*		**Sn**	**08 02 19.2**	**+0.2**
SCZT	**Fangliau** baz=225	**1.91**	**213**	*eP*		**Pn**	**08 01 56.9**	**+0.2**
WDGT	**Dungji** baz=249	**2.04**	**250**	*eP*		**Pn**	**08 01 58.1**	**-0.5**
PNG	**Penghu** baz=258	**2.05**	**259**	*eP*		**Pn**	**08 01 57.7**	**-0.9**
JKRS	**Kuro-shima**	**2.09**	**83**	P		**Pn**	**08 01 59.7**	**+0.6**
JKRS				*eS*		**Sn**	**08 02 24.6**	**+0.7**
TSEB	**Hengchuen, Pin** baz=195	**2.21**	**201**	*eP*		**Pn**	**08 02 03.7**	**+2.8**
JIJ	**Ishigaki jima**	**2.22**	**80**	P		**Pn**	**08 02 00.7**	**-0.3**
JIJ				*eS*		**Sn**	**08 02 26.2**	**-1.1**
JISG	**Ishigakijimahi**	**2.42**	**75**	P		**Pn**	**08 02 03.7**	**0.0**
JISG				*eS*		**Sn**	**08 02 30.7**	**-1.4**
KNM	**Kinmen** baz=277	**3.05**	**279**	*eP*		**Pn**	**08 02 11.5**	**-0.9**

IDC 04 08:10:39.7±1.9, 3°43S×124°61E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/23, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=259.1km s-min=28.1km az=62.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=328,slow=13,SNR=5.6	**18.97**	**151**	P	P	08 15 01.8	-0.9
ASAR	**Alice Springs** 0.4nm,0.5s,baz=332,slow=12,SNR=11	**22.04**	**157**	P	P	08 15 36.8	+0.7
MKAR	**Makanchi Array** 0.4nm,0.9s,baz=126,slow=7.3,SNR=3.2	**62.35**	**329**	P	P	08 21 04.1	-0.1

*ISCJB **04** 08:33:34.8±0.5, 19°.36S±0°.09×177°.65W±0°.08, h500km, mb3.9/15, Error ellipse: s-maj=12.8km s-min=9.0km az=150.1*

*IDC **04** 08:33:36.5±2.2, 19°.37S×177°.67W, h505km±23km, mb3.3/12, mb1 3.5/14, mb1mx3.4/23, mbtmp4.2/14, Error ellipse: s-maj=14.5km s-min=12.5km az=114.0*

ISC 04 08:33:35.8±0.5, 19°3S±0°.1×177°62W±0°.09, h500km, n95, σ0°63/96, mb3.9/15, 15C-14D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue** baz=8.5,SNR=6.8	**7.28**	**89**	P	P	**08 35 24.6**	**-0.2**
DZM	**Mont Dzumac** 1.0nm,0.3s,baz=270,slow=24,SNR=9.8	**15.16**	**257**	P	P	**08 36 49.1**	**+1.3**
URZ	**Urewera** 3.1nm,0.3s,baz=301,slow=3.1,SNR=25	**19.41**	**193**	P	P	**08 37 26.9**	**-2.0**
RPZ	**Rata Peaks** 7.7nm,0.9s,baz=0.0,slow=10,SNR=4.2	**26.11**	**199**	P	P	**08 38 29.4**	**+0.4**
EIDS	**Eidsvold** baz=28,SNR=3.6	**29.52**	**253**	P	P	**08 38 59.0**	**-0.1**
ARMA	**Armidale** baz=29,SNR=10	**29.91**	**242**	P	P	**08 39 03.3**	**+0.8**
RMQ	**Roma** baz=30,SNR=7.7	**31.71**	**251**	P	P	**08 39 18.7**	**+0.7**
CMSA	**Cobar Meteorol** baz=34,SNR=26	**35.13**	**242**	P	P	**08 39 46.9**	**+0.1**
QLP	**Quilpie** baz=35,SNR=16	**35.76**	**251**	P	P	**08 39 52.0**	**-0.1**
MTSU	**Mount Surprise** baz=35,SNR=23	**36.02**	**266**	P	P	**08 39 54.4**	**-0.1**
TOO	**Toolangi** baz=36,SNR=12	**36.88**	**233**	P	P	**08 40 01.6**	**+0.3**
COEN	**Coen** baz=37,SNR=28	**37.88**	**272**	P	P	**08 40 10.0**	**+0.2**
STKA	**Stephens Creek** 6.3nm,0.6s,baz=88,slow=9.2,SNR=20	**38.63**	**243**	P	P	**08 40 15.9**	**+0.3**
STKA	2.1nm,0.7s,baz=80,slow=6.1,SNR=2.8			PcP	PcP	**08 42 16.2**	**+0.8**
ARPS	**Mount Arapiles** baz=38,SNR=5.4	**39.44**	**235**	P	P	**08 40 22.2**	**+0.1**
QIS	**Mount Isa** baz=39,SNR=5.6	**40.14**	**261**	P	P	**08 40 27.5**	**-0.6**
HTT	**Hallett** baz=40,SNR=9.5	**41.09**	**241**	P	P	**08 40 35.6**	**+0.1**
BBOO	**Buckleboo** baz=42,SNR=16	**43.39**	**242**	P	P	**08 40 53.4**	**-0.2**
JAY	**Jayapura** 38nm,0.7s,baz=118,slow=4.2,SNR=17	**44.03**	**287**	P	P	**08 40 59.4**	**+0.6**
WRA	**Warramunga Arr** 22nm,0.5s,baz=97,slow=7.3,SNR=863	**45.13**	**261**	P	P	**08 41 06.3**	**-1.0**
ASAR	**Alice Springs** 47nm,0.8s,baz=90,slow=8.0,SNR=552	**45.14**	**256**	P	P	**08 41 07.1**	**-0.3**
ASAR				PcP	PcP	**08 42 37.4**	**-0.1**
	2.0nm,0.6s,baz=113,slow=3.0,SNR=6.1						
ASAR	1.1nm,0.8s,baz=93,slow=15,SNR=7.4			S	S	**08 47 08.7**	**-1.5**
KDU	**Kakadu** baz=47,SNR=9.1	**48.29**	**270**	P	P	**08 41 30.7**	**-0.6**
FORT	**Forrest** baz=49,SNR=22	**50.09**	**246**	P	P	**08 41 43.8**	**-0.7**
WRKA	**Warakurna** baz=49,SNR=75	**50.13**	**253**	P	P	**08 41 44.6**	**-0.3**
KNRA	**Kununurra** baz=50,SNR=7.3	**51.10**	**265**	P	P	**08 41 51.6**	**-0.4**
SOEI	**Soe** baz=56,SNR=4.0	**56.83**	**271**	P	P	08 42 37.7	+5.0
MEEK	**Meekatharra** baz=57,SNR=16	**58.64**	**250**	P	P	**08 42 43.9**	**-1.0**
KLBR	**Kellerberrin** baz=58,SNR=13	**58.88**	**244**	P	P	**08 42 45.8**	**-0.5**
VNDA	**Vanda** 0.4nm,0.6s,baz=344,slow=6.2,SNR=6.3	**59.10**	**185**	P	P	**08 42 48.1**	**+1.1**
BLDU	**Ballidu** baz=59,SNR=25	**59.86**	**245**	P	P	**08 42 52.2**	**-0.7**
GIRL	**Giralia** baz=62,SNR=4.2	**63.21**	**254**	P	P	**08 43 15.8**	**+0.9**
MJAR	**Matsushiro Arr** 2.0nm,0.6s,baz=164,slow=6.7,SNR=11	**69.48**	**323**	P	P	**08 43 53.4**	**-0.2**
PETK	**Petropavlovsk-** 2.4nm,0.7s,baz=142,slow=7.3,SNR=3.1	**75.24**	**345**	P	P	**08 44 26.1**	**-0.4**
KSRS	**Korea Array** 0.4nm,0.5s,baz=140,slow=6.4,SNR=3.2	**76.25**	**318**	P	P	**08 44 32.8**	**+0.3**
USRK	**Ussuriysk Ar.** 1.2nm,0.5s,baz=142,slow=4.4,SNR=7.4	**78.20**	**326**	P	P	**08 44 43.5**	**+0.5**
NVAR	**Mina Array Bea** 0.7nm,0.8s,baz=221,slow=8.5,SNR=4.2	**79.93**	**43**	P	P	**08 44 53.3**	**+0.6**
MAW	**Mawson** 0.8nm,0.3s,baz=108,slow=8.1,SNR=6.6	**82.78**	**200**	P	P	**08 45 06.7**	**+0.2**
TXAR	**Lajitas Array** 0.3nm,0.7s,baz=204,slow=5.7,SNR=6.1	**86.13**	**57**	P	P	**08 45 24.9**	**+1.0**
ILAR	**Eielson Array** 0.2nm,0.4s,baz=229,slow=4.5,SNR=7.0	**87.10**	**13**	P	P	**08 45 26.5**	**-1.0**
ILAR	0.5nm,0.9s,baz=236,slow=4.1,SNR=4.6			pP	pP	**08 47 17.7**	**-0.6**
CMAR	**Chiang Mai Arr** 1.3nm,0.4s,baz=145,slow=2.6,SNR=7.5	**90.06**	**289**	P	P	**08 45 43.7**	**+1.4**
ZALV	**Zalesovo Beam** 1.0nm,0.6s,baz=109,slow=0.8,SNR=4.8	**109.80**	**321**	PKiKP	**PKiKP**	**08 51 08.0**	**-1.3**
MKAR	**Makanchi Array** 1.0nm,0.5s,baz=217,slow=0.6,SNR=17	**110.65**	**314**	PKiKP	**PKiKP**	**08 51 10.2**	**-1.0**
BOSA	**Boshof** 3.4nm,1.1s,baz=228,slow=14,SNR=2.1	**127.46**	**206**	PKP	**PKPdf**	**08 51 44.3**	**+0.1**
ARCES	**ARCESS Array B** 2.0nm,0.4s,baz=8.7,slow=1.2,SNR=25	**127.84**	**350**	PKP	**PKPdf**	**08 51 43.2**	**-0.3**
FINES	**FINESS Array B** 0.3nm,0.4s,baz=48,slow=2.1,SNR=4.5	**134.75**	**344**	PKhKP	PKPpre	08 51 48.6	
FINES	0.8nm,0.7s,baz=30,slow=3.4,SNR=4.5			PKP	**PKPdf**	**08 51 57.3**	**+0.6**
NB2	**NORSAR Subarra** comp=Z,0.3nm,0.4s,baz=17,slow=2.6	**137.86**	**354**	PKP	PKPpre	08 51 55.6	
NOA	**NORSAR Array B** comp=Z,1.1nm,0.7s,baz=17,slow=4.0,SNR=5.1	**137.86**	**354**	PKP	**PKPdf**	**08 52 03.2**	**+0.6**
AKASG	**Malin Array Be** comp=Z,1.1nm,0.4s,baz=42,slow=4.5,SNR=5.6	**142.16**	**332**	PKhKP	PKPpre	08 52 05.8	
WRDH	**Warideh**	**145.97**	**305**	*eP*	**PKPdf**	**08 52 17.8**	**0.0**
ZALF	**Zalf**	**145.99**	**301**	*eP*	**PKPdf**	**08 52 18.2**	**+0.3**
ARNB	**Al Arnab**	**146.19**	**306**	*eP*	**PKPbc**	**08 52 19.9**	**-0.3**
BURAR	**Bucovina Array**	**146.21**	**332**	*i* P	**PKPab**	**08 52 21.5**	**-0.4**
BRTR	**Keskin Array B** comp=Z,6.3nm,0.8s,baz=137,slow=3.6,SNR=25	**146.30**	**314**	PKPbc	**PKPbc**	**08 52 20.2**	**-0.3**
STHS	**Stebnicka Huta**	**146.38**	**338**	*e*PKP	**PKPbc**	**08 52 20.8**	**+0.6**
KOLS	**Kolonicke sedl**	**146.40**	**336**	*e*PKP	**PKPbc**	**08 52 20.6**	**+0.3**
CFR	**Carcaliu**	**146.53**	**326**	*i* P	**PKPbc**	**08 52 21.2**	**+0.5**
SALA	**Sala**	**146.53**	**300**	*e*P	**PKPbc**	**08 52 20.9**	**-0.5**
TIRR	**Tirgusor**	**146.85**	**325**	*i* P	**PKPbc**	**08 52 21.5**	**-0.1**
CLL	**Collm** comp=Z,13nm,1.1s	**147.00**	**348**	*i* PKP	**PKPbc**	**08 52 21.2**	**-0.6**
CLL				*e*		08 52 42.0	
UPC	**Upice**	**147.05**	**344**	*e*PKP	**PKPbc**	**08 52 22.6**	**+0.6**
DPC	**Dobruska-Polom**	**147.12**	**343**	*e*PKP	**PKPbc**	**08 52 22.4**	**+0.2**
DPC				*ex*	x	08 52 26.1	
KRLC	**Kraliky**	**147.24**	**343**	*e*PKP	**PKPbc**	**08 52 22.8**	**+0.3**
KRLC				*ex*	x	08 52 26.2	
MORC	**Moravsky Berou**	**147.29**	**342**	*i* P	**PKPbc**	**08 52 23.4**	**+0.7**
DOPR	**Dopca**	**147.35**	**330**	*i* P	**PKPbc**	**08 52 23.9**	**+1.0**
ISR	**Istrita**	**147.39**	**327**	*i* P	**PKPbc**	**08 52 23.3**	**+0.2**
MLR	**Muntele Rosu**	**147.43**	**329**	*i* P	**PKPbc**	**08 52 23.7**	**+0.4**
CJR	**Cluj-Napoca**	**147.61**	**332**	*i* P	**PKPbc**	**08 52 24.2**	**+0.6**
SECR		**147.69**	**328**	*i* P	**PKPbc**	**08 52 23.8**	**0.0**
VOIR		**147.90**	**329**	*i* P	**PKPbc**	**08 52 24.8**	**+0.3**
PRU	**Pruhonice**	**147.90**	**345**	*e*PKP	**PKPbc**	**08 52 24.2**	**0.0**
GOPC	**GO Pecny, Ondr**	**147.91**	**345**	*e*PKP	**PKPbc**	**08 52 24.2**	**-0.1**
DRGR		**147.94**	**333**	*i* P	**PKPbc**	**08 52 24.7**	**+0.2**
PSZ	**Piszkesteto**	**148.13**	**337**	*i* P	**PKPbc**	**08 52 25.3**	**+0.4**
ARR	**Arges**	**148.15**	**330**	*i* P	**PKPbc**	**08 52 26.5**	**+1.4**
PRD	**Provadia**	**148.23**	**324**	*i* P	**PKPbc**	**08 52 25.6**	**+0.4**
LOT	**Lotru**	**148.50**	**331**	*i* P	**PKPbc**	**08 52 25.5**	**-0.5**
KHC	**Kasperske Hory**	**148.93**	**346**	*e*PKP	**PKPbc**	**08 52 27.1**	**+0.3**
KHC				*ex*	x	08 52 32.2	
GZR	**Gura Zlata**	**149.00**	**332**	*i* P	**PKPbc**	**08 52 27.2**	**0.0**
GERES	**GERESS Array B** comp=Z,4.0nm,0.8s,baz=32,slow=2.6,SNR=25	**149.17**	**345**	PKPbc	**PKPbc**	**08 52 27.6**	**0.0**
BZS	**Buzias**	**149.33**	**333**	*i* P	**PKPbc**	**08 52 27.8**	**-0.1**
ISP	**Isparta**	**149.35**	**313**	*i* P	**PKPbc**	**08 52 27.4**	**-0.9**
CONA	**Conrad Observa** comp=Z,7.7nm,0.8s,SNR=7.1	**149.44**	**342**	*i* PKPbc	**PKPbc**	**08 52 28.4**	**+0.3**
PKSM	**Moragy**	**150.03**	**337**	*i* P	**PKPbc**	**08 52 29.2**	**-0.3**
KDZ	**Kurdzhali**	**150.35**	**324**	*i* P	**PKPbc**	**08 52 30.5**	**+0.1**
SOKA	**Soboth** comp=Z,5.5nm,0.8s,SNR=5.1	**150.81**	**342**	*i* PKPbc	**PKPbc**	**08 52 30.9**	**-0.5**
VTS	**Vitosha**	**150.88**	**327**	*i* P	**PKPbc**	**08 52 32.0**	**+0.2**
KBA	**Koelnbreinsper** comp=Z,5.5nm,0.5s	**150.90**	**344**	*i* PKPbc	**PKPbc**	**08 52 30.9**	**-0.8**
WATA	**Walderalm** comp=Z,5.2nm,0.5s,SNR=5.5	**151.07**	**347**	*i* PKPbc	**PKPbc**	**08 52 31.7**	**-0.3**
RETA	**Reutte** comp=Z,2.8nm,0.5s	**151.09**	**348**	*i* PKPbc	**PKPbc**	**08 52 32.0**	**0.0**
WTTA	**Wattenberg** comp=Z,12nm,0.5s,SNR=6.6	**151.13**	**347**	*i* PKPbc	**PKPbc**	**08 52 32.0**	**-0.3**
MOTA	**Moosalm** comp=Z,2.4nm,0.5s,SNR=5.2	**151.16**	**348**	*i* PKPbc	**PKPbc**	**08 52 32.1**	**-0.2**
DIVS	**Divibare**	**151.24**	**333**	*i* P	**PKPbc**	**08 52 32.8**	**+0.3**
MYKA	**Terra Mystica** comp=Z,5.9nm,0.5s	**151.24**	**344**	*i* PKPbc	**PKPbc**	**08 52 31.5**	**-0.8**
MMB	**Musomiste**	**151.32**	**325**	*i* P	**PKPbc**	**08 52 32.4**	**-0.3**
ABTA	**Abfaltersbach** comp=Z,12nm,0.6s,SNR=11	**151.41**	**345**	*i* PKPbc	**PKPbc**	**08 52 32.1**	**-0.7**
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,0.9s,baz=51,slow=1.7,SNR=3.7	**173.82**	**174**	PKP	**PKPdf**	**08 52 47.3**	**-1.0**

GUC 04 08:47:37.1±0.6, 37°58S×74°35W, h32km±7km, ML4.5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**1.24**	**54**	*eP*	Pn	08 47 58.5	+0.3
CCSP				*eS*	Sb	08 48 15.2	-0.3
CCSP	comp=E,7μm,0.5s			AML	AML	08 48 18.3	
U14B	**Concepcin**	**1.25**	**55**	*eP*	Pn	08 47 58.7	+0.3
U14B				*eS*	Sb	08 48 15.3	-0.5
U14B	comp=N,52μm,0.5s			AML	AML	08 48 20.1	
PSCH	**Puerto Saavedr**	**1.43**	**148**	*eP*	Pn	08 48 01.7	+0.9
PSCH				*eS*	Sb	08 48 20.2	-0.8
VLCH	**Valdivia**	**2.38**	**159**	*eP*	Pn	08 48 15.6	+1.6
TALC	**Talca**	**3.09**	**46**	*eP*	Pn	08 48 25.4	+1.6
OSCH	**Osorno**	**3.14**	**163**	*eP*	Pn	08 48 27.0	+2.7

*NIED **04** 08:52:00, 41°.90N×142°.30E, h53km, Mw3.9 Best double couple: M0 8.32000×10^14 NP1: φ=225.00000°, δ=27.00000°, λ=119.00000°. NP2: φ=13.00000°, δ=67.00000°, λ=76.00000°.*

*ISCJB **04** 08:52:18.5±0.4, 41°.93N±0°.03×142°.29E±0°.04, h71km±3km, mb3.5/9, Error ellipse: s-maj=6.3km s-min=4.1km az=44.7*

*JMA **04** 08:52:18.6±0.1, 41°.92N×142°.32E, h68km±2km, M3.5*

*IDC **04** 08:52:22.1±3.5, 42°.32N×142°.19E, h77km±40km, mb3.4/9, mb1 3.6/12, mb1mx3.4/27, mbtmp3.7/12, ML2.6/3, MS2.9/1, Ms1 2.9/1, ms1mx2.5/27, Error ellipse: s-maj=41.7km s-min=20.9km az=7.0*

ISC 04 08:52:19.3±0.8, 41°94N±0°.04×142°31E±0°.04, h64km±7km, n36, σ1°15/42, mb3.5/9, 3C-10D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.47**	**44**	P	Pn	**08 52 30.6**	**-0.7**
JNBK				*eS*	Sn	**08 52 40.1**	**0.0**
JEM	**Erimo**	**0.64**	**83**	P	Pn	**08 52 32.9**	**-0.1**
JEM				*eS*	Sn	**08 52 43.4**	**+0.3**
JBT2	**Biratori 2**	**0.84**	**3**	P	Pn	**08 52 35.2**	**-0.3**
JBT2				*eS*	Sn	**08 52 47.5**	**0.0**
JKB	**Kayabe**	**0.95**	**268**	P	Pn	**08 52 36.5**	**-0.4**
JKB				*eS*	Sn	**08 52 49.5**	**-0.4**
JCH	**Churui**	**1.03**	**49**	P	Pn	**08 52 37.9**	**0.0**
JCH				*eS*	Sn	**08 52 51.9**	**+0.2**
JNB	**Noboribetsu**	**1.08**	**300**	P	Pn	**08 52 37.8**	**-0.8**
JNB				*eS*	Sn	**08 52 52.3**	**-0.6**
JOT	**Ohata**	**1.10**	**240**	P	Pn	**08 52 38.4**	**-0.3**
JOT				*eS*	Sn	**08 52 52.9**	**-0.3**
JEW	**Eniwo**	**1.11**	**325**	P	Pn	**08 52 38.8**	**-0.1**
JEW				*eS*	Sn	**08 52 53.7**	**+0.3**
JFR	**Furan**	**1.24**	**10**	P	Pn	**08 52 40.4**	**-0.3**
JFR				*eS*	Sn	**08 52 56.7**	**0.0**
JYM2	**Yakumo 2**	**1.46**	**278**	P	Pn	**08 52 43.0**	**-0.5**
JSR	**Shiriuchi**	**1.47**	**255**	P	Pn	**08 52 43.4**	**-0.3**
JTM	**Tenmabayashi**	**1.48**	**220**	P	Pn	**08 52 43.9**	**+0.1**
JTM				*eS*	Sn	**08 53 02.9**	**+0.6**
JOB	**Onbets**	**1.49**	**49**	P	Pn	**08 52 44.7**	**+0.8**
JAB	**Ashibetsu**	**1.57**	**358**	P	Pn	**08 52 45.4**	**+0.4**
JAB				*eS*	Sn	**08 53 06.3**	**+1.9**
JANG	**Nango**	**1.67**	**201**	P	Pn	**08 52 46.5**	**+0.1**
JANG				*eS*	Sn	**08 53 07.2**	**+0.3**
JAR	**Ashorobuto**	**1.73**	**38**	P	Pn	**08 52 47.4**	**+0.2**
JAR				*eS*	Sn	**08 53 09.2**	**+0.8**
JHR	**Hokuryu**	**1.86**	**347**	P	Pn	**08 52 49.7**	**+0.8**
JHR				*eS*	Sn	**08 53 12.3**	**+1.0**
MJAR	**Matsushiro Arr** 0.4nm,0.3s,baz=24,slow=12,SNR=9.0	**6.26**	**212**	P	Pn	08 53 55.2	+6.2
USRK	**Ussuriysk Ar.** 0.1nm,0.3s,baz=94,slow=14,SNR=13	**7.89**	**290**	P	Pn	**08 54 11.9**	**+0.6**
KSRS	**Korea Array** 0.1nm,0.3s,baz=61,slow=15,SNR=4.4	**11.95**	**253**	P	Pn	08 55 10.9	+4.1
KSRS	0.2nm,0.3s,baz=67,slow=24,SNR=4.1			S	Sn	**08 57 23.7**	**+5.4**
SONM	**Songino Array** 0.9nm,0.6s,baz=79,slow=8.1,SNR=5.5	**25.95**	**295**	P	P	**08 57 45.0**	**-0.8**
H11N2	**WAKE ISLAND Hy** baz=324	**30.39**	**129**	T	T	09 30 07.9	
H11N1	**WAKE ISLAND Hy** baz=324	**30.40**	**129**	T	T	09 29 57.3	
H11N3	**WAKE ISLAND Hy** baz=324	**30.41**	**129**	T	T	09 30 02.5	
H11S1	**WAKE ISLAND Hy** baz=325,slow=76,SNR=34	**31.25**	**131**	T	T	09 31 12.9	
H11S3	**WAKE ISLAND Hy** baz=325,slow=76,SNR=27	**31.25**	**131**	T	T	09 31 03.6	
H11S2	**WAKE ISLAND Hy** baz=325,slow=76,SNR=20	**31.27**	**131**	T	T	09 31 13.8	
TGY	**Tagaytay City** comp=Z,21nm,20.2s,baz=92,slow=38	**33.35**	**220**	LR	LR	09 13 55.8	
ZALV	**Zalesovo Beam** 0.9nm,0.5s,baz=82,slow=11,SNR=6.4	**39.28**	**308**	P	P	**08 59 40.0**	**-1.6**
MKAR	**Makanchi Array** 1.4nm,0.8s,baz=80,slow=9.5,SNR=11	**42.27**	**298**	P	P	**09 00 05.1**	**-1.3**
ILAR	**Eielson Array** 0.5nm,0.9s,baz=272,slow=6.5,SNR=6.4	**45.03**	**35**	P	P	**09 00 26.7**	**-1.5**
FINES	**FINESS Array B** 1.4nm,0.5s,baz=64,slow=6.4,SNR=26	**64.82**	**332**	P	P	**09 02 50.4**	**-0.5**
NOA	**NORSAR Array B** 0.3nm,0.5s,baz=40,slow=6.0,SNR=3.4	**69.94**	**337**	P	P	**09 03 22.4**	**-1.0**
NVAR	**Mina Array Bea** 0.3nm,0.7s,baz=316,slow=5.0,SNR=3.3	**71.54**	**55**	P	P	**09 03 34.7**	**+0.9**
PDAR	**Pinedale Array** 0.2nm,0.5s,baz=308,slow=4.4,SNR=3.5	**73.77**	**47**	P	P	**09 03 46.9**	**0.0**
TXAR	**Lajitas Array** 0.2nm,0.7s,baz=304,slow=5.3,SNR=3.5	**86.60**	**53**	P	P	**09 04 57.0**	**+1.0**

*IDC **04** 08:54:46.4±7.0, 15°.10N×97°.50W, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/23, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=177.2km s-min=119.9km az=52.0*

*ISCJB **04** 08:54:56.2±0.6, 16°27N±0°.05×97°.90W±0°.03, h15km, mb3.6/4, Error ellipse: s-maj=8.2km s-min=3.3km az=18.3*

*MEX **04** 08:54:58.9±0.6, 16°.24N×97°.94W, h10km±4km, MD4.3*

ISC 04 08:54:56.1±1.0, 16°19N±0°.08×97°88W±0°.04, h15km, n16, σ1°63/24, mb3.6/4, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.31**	**310**	*i* P	**Pg**	**08 55 03.3**	**+0.6**
PNIG				*i* S	**Sg**	**08 55 07.1**	**0.0**
VHO	**Vista Hermosa**	**1.41**	**51**	*i* P	**Pn**	**08 55 21.4**	**0.0**
VHO				*i* S	**Sn**	**08 55 39.5**	**-0.2**
TLIG	**Tlapa**	**1.52**	**334**	*i* P	**Pn**	**08 55 21.8**	**-1.0**
TLIG				*i* S	**Sn**	**08 55 38.9**	**-3.4**
HUIG	**Huatulco**	**1.75**	**104**	*e*P	**Pg**	**08 55 27.5**	**-2.3**
HUIG				*i* S	**Sg**	**08 55 49.5**	**-3.2**
TPIG	**Tehuac#an**	**2.27**	**13**	*e*P	**Pn**	**08 55 33.8**	**+0.5**
TPIG				*e*S	**Sn**	**08 55 59.7**	**-1.5**
MEIG	**Mezcala**	**2.40**	**316**	*e*P	**Pn**	**08 55 35.0**	**0.0**
MEIG				*e*S	**Sn**	**08 56 01.7**	**-2.4**
CAIG	**El Cayaco**	**2.44**	**291**	*e*P	**Pn**	**08 55 35.4**	**0.0**
CAIG				*e*S	**Sn**	**08 56 03.7**	**-1.4**
PLIG	**Platanillo**	**2.68**	**325**	*e*P	**Pn**	**08 55 39.2**	**+0.3**
PLIG				*e*S	**Sn**	**08 56 09.5**	**-1.7**
CMIG	**Matias Romero**	**3.01**	**72**	*e*P	**Pn**	**08 55 43.7**	**+0.5**
CMIG				*e*S	**Sn**	**08 56 20.4**	**+1.3**
PCIG		**4.51**	**95**	*e*P	**Pn**	**08 56 05.9**	**+2

H01W2 **Cape Leeuwin H 30.60 161** T T 09 36 57.9
baz=338,slow=76,SNR=21
H01W1 **Cape Leeuwin H 30.60 161** T T 09 37 11.0
baz=338,slow=76,SNR=23
WRA Warramunga Arr 33.91 117 P **P** **09 05 18.9 -0.1**
0.4nm,0.6s,baz=288,slow=12,SNR=4.1
ASAR Alice Springs 34.94 123 P **P** **09 05 27.7 -0.2**
0.2nm,0.6s,baz=304,slow=7.1,SNR=3.7
SONM Songino Array 53.85 3 P **P** **09 07 58.7 -0.1**
1.3nm,0.6s,baz=184,slow=8.7,SNR=7.4
MKAR Makanchi Array 55.64 343 P **P** **09 08 10.0 -1.7**
0.2nm,0.5s,baz=142,slow=7.2,SNR=3.3
KURBB **Kurchatov Arra 60.18 343** P **P** **09 08 45.1 +1.7**
0.2nm,0.4s,baz=151,slow=6.1,SNR=2.5
TXAR Lajitas Array 146.27 44 PKPbc **PKPab** **09 18 18.1 +0.3**
0.2nm,0.6s,baz=316,slow=2.5,SNR=2.8

MAN 04 08:59:42,11°.04N×124°.86E,h9km,mb4.3,ML3.1,MS2.9, 1D,Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**0.17**	**45**	⇓*i*P	Pg	08 59 46.2	+0.5
PLP				*i* S	Sg	08 59 49.1	+0.9
OCLP	**Ormoc**	**0.24**	**272**	*e*P	Pg	08 59 47.5	+0.6
OCLP				eS	Sg	08 59 49.8	-0.5
BESP	**Borongan**	**0.80**	**46**	*e*P	Pg	08 59 56.9	-0.5
MSLP	**Maasin**	**0.90**	**180**	*e*P	Pn	09 00 00.9	0.0

*ISCJB **04** 09:01:21.0±0.7,21°.36S±0°.06×67°.7W±0°.1,h121km, mb4.1/4,Error ellipse: s-maj=14.7km s-min=7.7km az=23.3*
*IDC **04** 09:01:21.7±0.8,21°.33S×67°.91W,h127km±19km,mb3.8/3, mb1 3.5/6,mb1mx3.3/18,mbtmp4.0/6,Error ellipse: s-maj=37.8km s-min=11.7km az=102.0*
*NEIC **04** 09:01:22.2±0.9,21°.27S×67°.85W,h121km±13km,mb4.5/2, Error ellipse: s-maj=26.5km s-min=12.8km az=117.0*
ISC 04 09:01:22.1±0.9,21°.33S±0°.06×67°.8W±0°.1,h121km,n10, σ1s05/13,mb4.1/4,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.62**	**218**	P	**Pn**	**09 01 51.1**	**-0.1**
	2µm,0.3s,baz=32,slow=11,SNR=412						
LVC				S	**Sn**	**09 02 13.1**	**-0.4**
	1µm,0.3s,baz=93,slow=19,SNR=19						
LPAZ	**La Paz**	**5.02**	**357**	P	**Pn**	**09 02 35.8**	**-0.2**
	1.0nm,0.3s,baz=192,slow=8.5,SNR=34						
LPAZ				S	**Sn**	**09 03 34.1**	**+0.7**
	0.1nm,0.3s,baz=253,slow=17,SNR=1.8						
LPAZ	**La Paz**	**5.02**	**357**	*e*Pn	**Pn**	**09 02 36.3**	**+0.3**
LPAZ				S	**Sn**	**09 03 34.1**	**+0.7**
SIV	**San Ignacio**	**8.32**	**51**	P	**Pn**	**09 03 20.5**	**+0.5**
	2.6nm,0.3s,baz=257,slow=12,SNR=38						
BDFB	**Brasilia**	**19.62**	**77**	P	**P**	**09 05 40.9**	**-0.5**
	0.5nm,0.3s,baz=241,slow=10,SNR=7.4						
PTGA	**Pitinga**	**21.87**	**22**	P	**P**	**09 06 03.1**	**-2.1**
	1.4nm,0.3s,baz=184,slow=19,SNR=6.4						
DBIC	**Dimbokro**	**67.73**	**73**	P	**P**	**09 12 05.6**	**-1.4**
	1.6nm,0.5s,baz=219,slow=6.5,SNR=3.4						
DBIC	**Dimbokro**	**67.73**	**73**	*e*P	**P**	**09 12 07.9**	**+0.9**
	6.1nm,1.1s						
QSPA	**South Pole Qui**	**68.86**	**180**	*e*P	**P**	**09 12 14.8**	**+1.4**
	17nm,1.9s						
TORD	**Torodi Ar. Bea**	**76.36**	**70**	P	**P**	**09 12 58.5**	**0.0**
	1.3nm,0.6s,baz=254,slow=5.6,SNR=17						

*IDC **04** 09:06:42.9±0.5,0°.61S×134°.10E,h0km,mb4.3/21, mb1 4.4/25,mb1mx4.4/32,mbtmp4.3/25,ML4.0/4,MS3.7/18, Ms1 3.7/18,ms1mx3.5/34,Error ellipse: s-maj=18.4km s-min=10.8km az=65.0*
*MOS **04** 09:06:46.9±0.9,0°.54S×134°.05E,h34km,mb4.9/24,Error ellipse: s-maj=16.3km s-min=7.7km az=116.0*
*ISCJB **04** 09:06:46.6±0.2,0°.66S±0°.03×134°.01E±0°.03,h32km, mb4.6/61,MS3.7/13,Error ellipse: s-maj=4.4km s-min=3.6km az=148.0*
*DJA **04** 09:06:46.1±0.4,1°.5S±4°×13°.4E±°,h10km,M4.8/9,mb4.9/4, mB5.2/4,MLv4.9/9,Mw(mB)4.6/4*
*BJI **04** 09:06:47.3,0°.40S×134°.40E,h30km,mb4.7/33,mB4.9/17, Ms4.4/12,Ms7 4.2/10*
*NEIC **04** 09:06:50.4±1.4,0°.43S×134°.38E,h43km±13km,mb4.8/34, Error ellipse: s-maj=11.6km s-min=7.6km az=216.0*
NEIC Felt [IV] at Manokwari.
ISC 04 09:06:48.5±0.3,0°.65S±0°.04×134°.08E±0°.04,h32km,n166, σ1s71/183,mb4.7/61,MS3.7/13,6C-5D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**0.86**	**174**	P	**Pn**	**09 07 03.1**	**-1.3**
RKPI				S	**Sb**	**09 07 16.6**	**+0.4**
BAKI	**Biak**	**2.10**	**105**	P	**Pn**	**09 07 21.0**	**-0.4**
SRPI	**Serui, Papua**	**2.47**	**119**	P	**Pn**	**09 07 27.7**	**+1.1**
SRPI				S	**Sb**	**09 07 59.1**	**-3.3**
SIJI	**Sorong**	**2.82**	**266**	Pn	**Pn**	**09 07 29.7**	**-1.8**
	26nm,0.3s,baz=66,slow=14,SNR=49						
SIJI				Sn	**Sn**	**09 08 01.1**	**-3.3**
	73nm,0.3s,baz=18,slow=20,SNR=10.0						
SIJI				LR	LR	09 08 34.5	
	comp=Z,3µm,18.8s,baz=86,slow=39						
SWI	**Sorong**	**2.83**	**266**	P	**Pn**	**09 07 29.3**	**-2.2**
SWI	**Sorong**	**2.83**	**266**	P	**Pn**	**09 07 30.0**	**-1.5**
	baz=2.8,SNR=28						
FAKI	**Fak Fak**	**2.90**	**219**	P	**Pn**	**09 07 31.8**	**-0.7**
FAKI	**Fak Fak**	**2.90**	**219**	P	**Pn**	**09 07 32.3**	**-0.2**
	baz=2.9,SNR=55						
FAKI	**Fak Fak**	**2.90**	**219**	*e*Pn	**Pn**	**09 07 32.4**	**-0.2**
SMPI	**Sarmi**	**4.81**	**106**	P	**Pn**	**09 07 59.3**	**+0.5**
MSAI	**Masohi**	**5.80**	**242**	P	**Pn**	**09 08 11.9**	**-0.5**
	46nm,0.8s,645nm0.2nm						
GENI	**Genyem**	**6.38**	**108**	P	**Pn**	**09 08 20.7**	**+0.3**
	71nm,1.3s,3µm0.4nm						
JAY	**Jayapura**	**6.87**	**106**	Pn	**Pn**	**09 08 24.4**	**-2.8**
	0.4nm,0.3s,baz=247,slow=13,SNR=2.3						
JAY				LR	LR	09 11 15.2	
	comp=Z,950nm,18.8s,baz=306,slow=40						
NLAI	**Namlea**	**7.43**	**250**	P	**Pn**	**09 08 34.6**	**-0.2**
PALU	**Palau**	**7.95**	**3**	⇓P	**Pn**	**09 08 40.2**	**-1.7**
	baz=8.0,SNR=6.3						
KDU	**Kakadu**	**12.06**	**188**	P	**Pn**	**09 09 36.9**	**-1.4**
	baz=12,SNR=11						
SOEI	**Soe**	**13.31**	**227**	*e*Pn	**P**	**09 10 02.9**	**-1.8**
TTSI	**Tana Toraja**	**14.45**	**260**	P	**Pn**	**09 10 09.7**	**-1.2**
SPSI	**Sidrap Palu**	**14.67**	**257**	P	**Pn**	**09 10 13.2**	**-0.8**
BKSI	**Bulukumba**	**14.69**	**251**	P	**Pn**	**09 10 12.0**	**-2.2**
KAPI	**Kappang**	**14.95**	**253**	Pn	**Pn**	**09 10 16.4**	**-1.3**
	0.5nm,0.3s,baz=78,slow=19,SNR=1.7						
KAPI				LR	LR	09 17 22.7	
	comp=Z,125nm,19.8s,baz=88,slow=43						
KAPI	**Kappang**	**14.95**	**253**	*e*P	**P**	**09 10 23.2**	**+0.3**
	4.4nm,0.9s						
PMG	**Port Moresby**	**15.65**	**124**	*e*P	**Pn**	**09 10 27.8**	**+0.9**
PMG				pmax	pmax		
	comp=Z,39nm,1.1s						
PMG	**Port Moresby**	**15.65**	**124**	*e*P	**Pn**	**09 10 27.8**	**+0.9**
	comp=Z,39nm,1.1s						
KNRA	**Kununurra**	**15.82**	**199**	P	**Pn**	**09 10 27.4**	**-1.6**
	baz=16,SNR=39						
COEN	**Coen**	**15.99**	**146**	*e*P	**Pn**	**09 10 31.7**	**+0.4**
	comp=Z,30nm,1.2s						
MYLDM	**Lahad Datu**	**16.61**	**291**	*e*P	**P**	**09 10 44.1**	**+2.8**
	comp=Z,85nm,1.2s						
GUMO	**Guam**	**17.73**	**37**	LR	LR	09 16 11.9	
	comp=Z,81nm,21.5s,baz=213,slow=32						
WRAB	**Tennant Creek**	**19.16**	**179**	*d* iP	**P**	**09 11 08.0**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,34nm,1.1s						
WRAB	**Tennant Creek**	**19.16**	**179**	*e*P	**P**	**09 11 07.2**	**-2.3**
	comp=Z,22nm,0.8s						
WRA	**Warramunga Arr**	**19.17**	**179**	P	**P**	**09 11 07.3**	**-2.3**
	comp=Z,1.1nm,0.3s,baz=352,slow=12,SNR=50						
WRA				LR	LR	09 19 27.6	
	comp=Z,587nm,20.7s,baz=0.0,slow=40						
MTSU	**Mount Surprise**	**20.07**	**151**	⇑P	Pn	09 11 20.9	-0.6
	baz=20,SNR=4.5						
QIS	**Mount Isa**	**20.51**	**165**	P	**P**	**09 11 23.5**	**-0.6**
	baz=21,SNR=7.0						
SBUM	**Sibu**	**22.07**	**278**	*e*P	P	09 11 47.3	+6.3
	comp=Z,41nm,1.5s						
CTA	**Charters Tower**	**22.69**	**149**	P	**P**	**09 11 46.3**	**-1.4**
	comp=Z,32nm,0.8s,baz=326,slow=11,SNR=18						
CTAO	**Charters Tower**	**22.69**	**149**	*e*P	**P**	**09 11 49.4**	**+1.7**
CTAO				pmax	pmax		
	comp=Z,44nm,0.9s						
CTAO	**Charters Tower**	**22.69**	**149**	*e*P	**P**	**09 11 49.4**	**+1.7**
	comp=Z,44nm,0.9s						
ASAR	**Alice Springs**	**22.88**	**180**	P	**P**	**09 11 48.1**	**-1.5**
	comp=Z,8.8nm,0.7s,baz=7.8,slow=11,SNR=69						
ASAR				LR	LR	09 21 43.4	
	comp=Z,473nm,19.9s,baz=2.0,slow=39						
KSM	**Kuching**	**23.86**	**275**	*e*P	P	09 12 04.8	+5.5
	comp=Z,43nm,1.1s						
MBWA	**Marble Bar**	**24.73**	**214**	*e*P	**P**	**09 12 06.7**	**-0.5**
	comp=Z,20nm,0.9s						
WRKA	**Warakurna**	**24.88**	**193**	⇓P	**P**	**09 12 07.8**	**-0.8**
	baz=25,SNR=14						
KPJI	**Karang Pucung**	**25.94**	**255**	P	**P**	**09 12 18.7**	**+0.5**
LEM	**Lembang**	**27.10**	**256**	LR	LR	09 24 53.6	
	comp=Z,222nm,18.7s,baz=64,slow=40						
QLP	**Quilpie**	**27.57**	**160**	P	**P**	**09 12 32.8**	**0.0**
	baz=28,SNR=11						
EIDS	**Eidsvold**	**29.55**	**148**	*e*P	**P**	**09 12 51.1**	**+0.7**
	comp=Z,13nm,1.0s						
MDSI	**Maura Dua**	**30.11**	**262**	P	**P**	**09 12 56.0**	**+0.4**
FORT	**Forrest**	**30.50**	**190**	*e*P	**P**	**09 12 58.3**	**-0.5**
	comp=Z,43nm,1.1s						
QIZ	**Qiongzhong**	**30.81**	**311**	P	**P**	**09 13 02.9**	**+1.3**
QIZ				S	**S**	**09 18 04.5**	**+1.2**
QIZ				PMZ			
	comp=Z,8.0nm,1.8s						
STKA	**Stephens Creek**	**31.86**	**168**	P	**P**	**09 13 09.6**	**-1.1**
	comp=Z,3.2nm,0.9s,baz=342,slow=8.5,SNR=9.9						
STKA				LR	LR	09 27 26.1	
	comp=Z,310nm,20.1s,baz=345,slow=39						
STKA	**Stephens Creek**	**31.86**	**168**	*e*P	**P**	**09 13 11.0**	**+0.3**
	comp=Z,31nm,2.6s						
KMBL	**Kambalda**	**32.66**	**200**	⇑P	**P**	**09 13 17.8**	**0.0**
	baz=33						
BLDU	**Ballidu**	**34.06**	**207**	P	**P**	**09 13 29.8**	**-0.2**
	baz=34,SNR=6.4						
KLBR	**Kellerberrin**	**34.43**	**205**	⇓P	**P**	**09 13 33.0**	**-0.3**
	baz=35						
SKNT	**Sakolnakorn**	**34.45**	**302**	P	P	09 13 40.8	+7.2
	comp=Z,20nm,1.1s						
KHON	**Khomkaen**	**35.16**	**300**	P	P	09 13 48.9	+9.2
	comp=Z,8.2nm,0.9s						
PSI	**Prapat**	**35.31**	**276**	P	**P**	**09 13 40.0**	**-1.2**
	comp=Z,6.1nm,0.7s,baz=135,slow=11,SNR=5.8						
PSI	**Prapat**	**35.31**	**276**	P	**P**	**09 13 40.0**	**-1.2**
PSI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PSI	**Prapat**	**35.31**	**276**	*e*P	P	09 13 47.0	+5.7
	comp=Z,22nm,0.8s						
NJ2	**Nanjing**	**35.58**	**337**	*e*P	**P**	**09 13 42.1**	**-1.0**
NJ2				PMZ			
	comp=Z,30nm,0.6s						
CHAI	**Chaiyaphum**	**35.71**	**299**	P	P	09 13 52.2	+7.8
	comp=Z,4.5nm,0.8s						
PBKT	**Sadao Pong**	**36.87**	**299**	P	P	09 14 02.6	+8.3
	comp=Z,9.1nm,1.1s						
MJAR	**Matsushiro Arr**	**37.20**	**6**	P	**P**	**09 13 54.3**	**-2.7**
	comp=Z,1.1nm,0.6s,baz=193,slow=9.8,SNR=4.7						
MJAR				LR	LR	09 25 45.2	
	comp=Z,111nm,21.8s,baz=175,slow=31						
MJA0	**Matsu Arr-Jizo**	**37.21**	**6**	*e*P	**P**	**09 13 55.1**	**-1.9**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.6s						
UTTA	**Uttaradit**	**37.72**	**301**	P	P	09 14 08.9	+7.3
	comp=Z,4.0nm,0.8s						
GYA	**Guiyang**	**37.75**	**318**	*e*P	**P**	**09 14 03.8**	**+1.9**
GYA				pP	**pP**	**09 14 13.6**	**+2.3**
GYA				PP	**PnPn**	**09 15 32.0**	**+2.3**
GYA				S	**S**	**09 19 50.6**	**0.0**
GYA				sS	**sS**	**09 20 07.4**	**+1.3**
GYA				SS	**SnSn**	**09 22 25.5**	**-6.7**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
GYA				PMZ			
	comp=Z,110nm,4.9s						
GYA				LN			
	comp=Z,460nm,18.4s						
GYA				LE			
	comp=Z,390nm,19.0s						
GYA				LZ			
	comp=Z,480nm,18.6s						
UTHA	**Uthaitani**	**37.82**	**297**	P	P	09 14 10.8	+8.4
	comp=Z,5.5nm,1.1s						
H11N1	**WAKE ISLAND Hy**	**38.00**	**56**	T	T	09 54 36.2	
	baz=243,slow=75,SNR=8.2						
H11N2	**WAKE ISLAND Hy**	**38.02**	**56**	T	T	09 54 36.8	
	baz=243,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**38.02**	**56**	T	T	09 54 37.4	
	baz=243,slow=75,SNR=9.9						
DZM	**Mont Dzumac**	**38.03**	**126**	P	**P**	**09 14 03.3**	**-0.9**
	comp=Z,14nm,1.0s,baz=90,slow=24,SNR=44						
KSAR	**Wonju Array Be**	**38.34**	**352**	P	**P**	**09 14 05.0**	**-1.4**
KSAR	**Wonju Array Be**	**38.34**	**352**	P	**P**	**09 14 05.0**	**-1.4**
KSRS	**Korea Array**	**38.34**	**352**	P	**P**	**09 14 05.0**	**-1.5**
	comp=Z,0.8nm,0.8s,baz=161,slow=9.3,SNR=5.1						
KSRS				LR	LR	09 28 57.5	
	comp=Z,40nm,20.8s,baz=160,slow=35						
KSRS	**Korea Array**	**38.34**	**352**	*e*P	**P**	**09 14 06.0**	**-0.5**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LAMP	**Lampang**	**38.85**	**301**	P	P	09 14 19.4	+8.3
	comp=Z,4.8nm,0.8s,comp=Z,56nm						
CMAR	**Chiang Mai Arr**	**39.41**	**301**	P	**P**	**09 14 15.0**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=118,slow=6.3,SNR=11						
CMAR				LR	LR	09 30 26.7	
	comp=Z,49nm,20.0s,baz=136,slow=36						
CMAR	**Chiang Mai Arr**	**39.41**	**301**	*e*P	**P**	**09 14 15.4**	**-0.4**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CMMT	**Chiang Mai**	**39.56**	**301**	P	P	09 14 24.2	+7.2
	comp=Z,16nm,1.1s						
KMI	**Kunming**	**39.70**	**312**	P	**P**	**09 14 20.3**	**+1.9**
KMI				pP	**pP**	**09 14 31.3**	**+3.5**
KMI				PMZ			
	comp=Z,11nm,1.1s						
KMI				PMZ			
	comp=Z,60nm,4.7s						
KMI				LN			
	comp=Z,100nm,15.9s						
KMI				LE			
	comp=Z,130nm,16.7s						
KMI				LZ			
	comp=Z,98nm,17.6s						
XAN	**Xi'an**	**41.82**	**328**	P	**P**	**09 14 38.0**	**+2.5**
XAN				pP	**pP**	**09 14 46.0**	**+1.0**
XAN				PMZ			
	comp=Z,2.0nm,0.9s						
CD2	**Chengdu**	**42.60**	**320**	P	**P**	**09 14 42.4**	**+0.5**
CD2				pP	**pP**	**09 14 52.5**	**+1.1**
CD2				sP	**sP**	**09 14 56.9**	**+1.6**
CD2				PP	**PP**	**09 16 21.2**	**+0.1**
CD2				S	**S**	**09 21 02.4**	**-0.5**
CD2				sS	**sS**	**09 21 19.8**	**+1.2**
CD2				SS	**SS**	**09 24 13.8**	**0.0**
CD2				PMZ			
	comp=Z,20nm,0.5s						
CD2				PMZ			
	comp=Z,140nm,4.9s						
CD2				LN			
	comp=Z,240nm,5.9s						
CD2				LZ			
	comp=Z,160nm,11.4s						
BJT	**Baijiatuao**	**43.66**	**340**	*e*P	**P**	**09 14 49.8**	**-0.5**
BJT				pmax	pmax		
	comp=Z,25nm,0.8s						
BJT	**Baijiatuao**	**43.66**	**340**	*e*P	**P**	**09 14 49.8**	**-0.5**
	comp=Z,25nm,0.8s						
BJI	**Beijing**	**43.68**	**340**	P	**P**	**09 14 49.7**	**-0.7**
BJI				S	**S**	**09 21 16.9**	**-1.4**
BJI				PMZ			
	comp=Z,19nm,0.8s						
BJI				LN			
	comp=Z,86nm,11.2s						
BJI				LE			
	comp=Z,230nm,20.2s						
BJI				LZ			
	comp=Z,64nm,21.0s						
USRK	**Ussuriysk Ar.**	**44.70**	**358**	P	**P**	**09 14 57.5**	**-0.9**
	comp=Z,3.5nm,0.7s,baz=174,slow=6.7,SNR=16						
ASAJ	**Asahikawa**	**45.22**	**9**	*e*P	**P**	**09 15 01.0**	**-1.6**
	comp=Z,8.9nm,1.2s						
MDJ	**Mudanjiang**	**45.25**	**355**	P	**P**	**09 15 02.3**	**-0.6**
MDJ				pP	**pP**	**09 15 11.4**	**-1.1**
MDJ				sP	**sP**	**09 15 15.2**	**-1.1**
MDJ				S	**S**	**09 21 39.8**	**-1.2**
MDJ				sS	**sS**	**09 21 54.1**	**-2.6**
MDJ				PMZ			
	comp=Z,12nm,0.9s						
MDJ				PMZ			
	comp=Z,25nm,2.9s						
MDJ				LN			
	comp=Z,47nm,22.4s						
MDJ				LE			
	comp=Z,50nm,23.4s						
MDJ	**Mudanjiang**	**45.25**	**355**	*e*P	**P**	**09 15 02.5**	**-0.4**
	comp=Z,15nm,0.8s						
HHC	**Hu-ho-hao-te**	**46.10**	**336**	*e*P	**P**	**09 15 12.2**	**+2.3**
HHC				sP	**sP**	**09 15 27.5**	**+4.2**
HHC				S	**S**	**09 21 54.7**	**+1.0**
HHC				sS	**sS**	**09 22 10.2**	**+0.7**
HHC				SS	**SS**	**09 25 13.0**	**-6.3**
HHC				PMZ			
	comp=Z,17nm,0.9s						
HHC				PMZ			
	comp=Z,53nm,4.6s						
HHC				LN			
	comp=Z,160nm,13.5s						
HHC				LE			
	comp=Z,150nm,12.6s						
LZH	**Lanzhou**	**46.12**	**326**	*e*P	**P**	**09 15 12.0**	**+1.8**
LZH				pP	**pP**	**09 15 22.1**	**+2.4**
LZH				sP	**sP**	**09 15 26.4**	**+2.8**
LZH				PMZ			
	comp=Z,14nm,1.0s						
MSVF	**Nonsavu**	**46.42**	**114**	*e*P	**P**	**09 15 14.4**	**+1.7**
MSVF				pmax	pmax		
	comp=Z,30nm,1.1s						
MSVF	**Nonsavu**	**46.42**	**114**	*e*P	**P**	**09 15 14.4**	**+1.7**
	comp=Z,30nm,1.1s						
YSS	**Yuzh-Sakhalins**	**48.02**	**8**	⇑*e*P	**P**	**09 15 23.2**	**-1.3**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
KLR	**Kul'dur**	**49.73**	**358**	*e*P	P	09 15 33.3	-4.3
GTA	**Gaotai**	**50.73**	**326**	*e*P	**P**	**09 15 46.0**	**+0.4**
GTA				pP	**pP**	**09 15 55.4**	**+0.2**
GTA				sP	**sP**	**09 15 59.0**	**0.0**
GTA				PMZ			
	comp=Z,10.0nm,1.5s						
SONM	**Songino Array**	**53.97**	**337**	P	**P**	**09 16 08.5**	**-1.0**
	comp=Z,1.4nm,0.8s,baz=151,slow=7.1,SNR=6.3						
SONM				LR	LR	09 38 52.6	
	comp=Z,57nm,19.2s,baz=131,slow=36						
SONM	**Songino Array**	**53.97**	**337**	*e*P	**P**	**09 16 09.5**	**0.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PETK	**Petropavlovsk-**	**57.09**	**17**	P	**P**	**09 16 30.7**	**-1.0**
	comp=Z,5.0nm,1.0s,baz=177,slow=7.2,SNR=3.3						
PETK				LR	LR	09 36 42.8	
	comp=Z,19nm,21.6s,baz=229,slow=32						
TLY	**Talaya**	**58.14**	**338**	P	**P**	**09 16 38.1**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=83,slow=8.1,SNR=2.2						
TLY	**Talaya**	**58.14**	**338**	*e*P	P	09 16 48.0	+8.9
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WMQ	**Urumqi**	**60.56**	**323**	P	**P**	**09 16 58.8**	**+2.7**
WMQ				pP	**pP**	**09 17 08.8**	**+2.9**
WMQ				sP	**sP**	**09 17 12.8**	**+3.1**
WMQ				PMZ			
	comp=Z,9.0nm,1.0s						
WMQ				PMZ			
	comp=Z,76nm,4.1s						
YAK	**Yakutsk**	**62.61**	**358**	*e*P	**P**	**09 17 12.0**	**+2.6**
YAK				pmax	pmax		
	comp=Z,12nm,0.9s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.2s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.9s						
SEY	**Seymchan**	**64.90**	**9**	⇓*i*P	**P**	**09 17 25.1**	**+0.6**
MK31	**Makanchi Array**	**65.37**	**324**	*e*P	**P**	**09 17 27.7**	**-0.2**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MKAR	**Makanchi Array**	**65.37**	**324**	P	**P**	**09 17 27.8**	**-0.1**
	comp=Z,8.4nm,0.8s,baz=116,slow=7.9,SNR=75						
MKAR	**Makanchi Array**	**65.37**	**324**	P	**P**	**09 17 27.8**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MKAR	**Makanchi Array**	**65.37**	**324**	⇑P	**P**	**09 17 28.2**	**+0.2**
	baz=65						
MKAR	**Makanchi Array**	**65.37**	**324**	*e*P	**P**	**09 17 27.4**	**-0.5**
KSH	**Kashi**	**66.33**	**314**	P	**P**	**09 17 35.8**	**+1.4**
KSH				pP	**pP**	**09 17 49.2**	**+4.9**
KSH				PcP	**PcP**	**09 18 08.3**	**+4.2**
KSH				PP	PP	09 20 07.1	+6.4
KSH				PcS		09 22 12.3	
KSH				S	**S**	**09 26 17.5**	**-4.7**
KSH				sS	**sS**	**09 26 42.2**	**+3.6**
KSH				ScS	**ScS**	**09 27 29.1**	**+0.1**
KSH				PMZ			
	comp=Z,12nm,0.9s						
KSH				PMZ			
	comp=Z,180nm,5.3s						
KSH				LN			
	comp=Z,76nm,4.0s						
KSH				LE			
	comp=Z,99nm,4.9s						
KSH				LZ			
	comp=Z,200nm,5.0s						
ZALV	**Zalesovo Beam**	**67.88**	**331**	P	**P**	**09 17 42.3**	**-1.4**
	comp=Z,2.1nm,0.6s,baz=125,slow=6.6,SNR=8.0						
ZALV	**Zalesovo Beam**	**67.88**	**331**	*e*P	**P**	**09 17 42.7**	**-1.0**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TKM2	**Tokmak 2**	**67.90**	**317**	*e*P	**P**	**09 17 43.6**	**-0.8**
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TKM2	**Tokmak 2**	**67.90**	**317**	*e*P	**P**	**09 17 43.5**	**-0.8**
	comp=Z,5.6nm,0.9s						
EKS2	**Erkin-Say**	**69.04**	**317**	*e*P	**P**	**09 17 52.1**	**+0.7**
EKS2				pmax	pmax		
	comp=Z,6.0nm,0.9s						
EKS2	**Erkin-Say**	**69.04**	**317**	*e*P	**P**	**09 17 52.1**	**+0.7**
	comp=Z,5.8nm,0.9s						
NVS	**Novosibirsk**	**69.15**	**331**	*i* P	**P**	**09 17 50.3**	**-1.3**
KURK	**Kurchatov**	**69.41**	**326**	P	**P**	**09 17 52.8**	**-0.5**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KURK	**Kurchatov**	**69.41**	**326**	*e*P	**P**	**09 17 53.0**	**-0.3**
	comp=Z,18nm,0.8s						
KURBB	**Kurchatov Arra**	**69.42**	**326**	P	**P**	**09 17 52.8**	**-0.6**
	comp=Z,5.7nm,0.8s,baz=118,slow=5.8,SNR=48						
KK31	**Karatay Array**	**71.44**	**316**	*i* P	**P**	**09 18 05.7**	**-0.3**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.4s						

	comp=Z,40nm,18.0s,baz=67,slow=36								
ARU	**Arti**	**82.56**	**327**	*c*	*i*P		**P**	**09 19 08.9**	**+0.7**
ARU								09 22 17.0	
ARU					S		**S**	**09 29 24.3**	**+1.4**
ARU					SS		**SS**	**09 34 38.2**	**-6.6**
ARU					pmax	pmax			
	comp=Z,4.0nm,0.8s								
ARU	**Arti**	**82.56**	**327**		*e*P		**P**	**09 19 07.6**	**-0.6**
	comp=Z,13nm,1.5s								
PPLA	**Purkeypile**	**83.21**	**26**		*e*P		**P**	**09 19 11.8**	**+0.2**
	comp=Z,5.6nm,0.8s								
IM04	**Indian Mountai**	**83.38**	**23**		*e*P		**P**	**09 19 12.3**	**0.0**
CAST	**Castle Rocks**	**83.39**	**26**		*e*P		**P**	**09 19 13.1**	**+0.7**
	comp=Z,16nm,1.2s								
RC01	**Rabbit Creek A**	**83.91**	**28**		*e*P		**P**	**09 19 15.1**	**0.0**
	comp=Z,29nm,1.1s								
MCK	**McKinley**	**84.83**	**26**		*e*P		**P**	**09 19 18.7**	**-1.0**
MCK					pmax	pmax			
	comp=Z,17nm,1.2s								
MCK	**McKinley**	**84.83**	**26**		*e*P		**P**	**09 19 18.7**	**-1.0**
	comp=Z,17nm,1.2s								
COLD	**Coldfoot**	**85.09**	**22**		*e*P		**P**	**09 19 21.9**	**+0.9**
	comp=Z,5.2nm,0.9s								
CCB	**Clear Creek Bu**	**85.50**	**25**		*e*P		**P**	**09 19 22.3**	**-0.7**
	comp=Z,13nm,1.0s								
COLA	**College**	**85.52**	**25**		*e*P		**P**	**09 19 22.6**	**-0.5**
COLA					pmax	pmax			
	comp=Z,4.0nm,0.6s								
COLA	**College**	**85.52**	**25**		*e*P		**P**	**09 19 22.6**	**-0.5**
	comp=Z,3.5nm,0.6s								
ILAR	**Eielson Array**	**85.91**	**25**		P		**P**	**09 19 23.9**	**-1.2**
	comp=Z,4.1nm,0.9s,baz=258,slow=5.0,SNR=46								
ILAR					LR		LR	09 51 38.3	
	comp=Z,30nm,20.7s,baz=281,slow=31								
BMRM	**Bremner River**	**86.34**	**29**		*e*P		**P**	**09 19 27.6**	**+0.3**
	comp=Z,10nm,1.1s								
DAWY	**Dawson**	**89.06**	**26**		*e*P		**P**	**09 19 39.9**	**-0.4**
QSPA	**South Pole Qui**	**89.28**	**180**		*e*P		**P**	**09 19 43.4**	**+2.0**
	comp=Z,14nm,1.4s								
ARCES	**ARCESS Array B**	**97.04**	**340**		P		**P**	**09 20 15.1**	**-1.8**
	comp=Z,0.8nm,0.7s,baz=358,slow=4.1,SNR=3.7								
ARCES					LR		LR	10 06 01.9	
	comp=Z,26nm,21.6s,baz=102,slow=37								
ARCES	**ARCESS Array B**	**97.04**	**340**		*e*P		**P**	**09 20 15.4**	**-1.5**
ARCES					pmax	pmax			
	comp=Z,1.0nm,0.7s								
FINES	**FINESS Array B**	**99.12**	**332**		LR		LR	10 06 09.6	
	comp=Z,34nm,21.9s,baz=88,slow=36								
AKASG	**Malin Array Be**	**99.89**	**321**		*i*P		**Pdif**	**09 20 32.0**	**+1.9**
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.4s								
NVAR	**Mina Array Bea**	**104.16**	**51**		Pdiff		**Pdif**	**09 20 48.5**	**-1.1**
	comp=Z,0.7nm,0.9s,baz=282,slow=6.3,SNR=4.6								
STHS	**Stebnicka Huta**	**105.19**	**321**		*i*P		**Pdif**	**09 20 55.3**	**+1.6**
STHS	**Stebnicka Huta**	**105.19**	**321**		PDIF		**Pdif**	**09 20 55.3**	**+1.6**
TORD	**Torodi Ar. Bea**	**131.24**	**287**		PKP		**PKPdf**	**09 25 58.0**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=71,slow=2.4,SNR=4.9								
OTAV	**Otavalo**	**147.47**	**91**		*e*PKPdf		**PKPbc**	**09 26 30.7**	**-0.3**
LVC	**Limon Verde**	**147.81**	**137**		*e*PKPbc		**PKPbc**	**09 26 32.5**	**+1.1**
CPUP	**Villa Florida**	**151.00**	**159**		PKPbc		**PKPbc**	**09 26 38.9**	**-0.1**
	comp=Z,6.9nm,0.9s,baz=210,slow=3.1,SNR=16								
ROSC	**El Rosal**	**151.32**	**81**		PKPbc		**PKPbc**	**09 26 40.5**	**-0.1**
	comp=Z,11nm,0.7s,baz=258,slow=2.8,SNR=12								
LPAZ	**La Paz**	**152.36**	**128**		PKP		**PKPdf**	**09 26 35.8**	**-0.5**
	comp=Z,2.4nm,1.2s,baz=266,slow=1.2,SNR=4.0								
LPAZ					PKPbc		**PKiKP**	**09 26 43.4**	**0.0**
	comp=Z,3.9nm,0.9s,baz=354,slow=2.4,SNR=15								
LPAZ	**La Paz**	**152.36**	**128**		PKIKP		**PKPdf**	**09 26 35.8**	**-0.5**
LPAZ								09 26 43.4	
LPAZ					pmax	pmax			
	comp=Z,2.0nm,1.2s								
LPAZ					pmax	pmax			
	comp=Z,4.0nm,0.9s								
LPAZ	**La Paz**	**152.36**	**128**		*e*PKPdf		**PKPdf**	**09 26 37.1**	**+0.8**
LPAZ					*e*PKPbc		**PKiKP**	**09 26 44.1**	**+0.7**

*SJA **04** 09:52:47.7±0.7,35°.83S×73°.70W,h30km±76km,ML4.2, MW3.8*
*ISCJB **04** 09:53:11.4±0.7,34°.81S±0°.03×71°.9W±0°.1,h54km±7km, mb3.9/8,MS3.3/1,Error ellipse: s-maj=15.3km s-min=5.1km az=7.3*
*NEIC **04** 09:53:11.0,34°.76S×71°.86W,h35km, mb4.3/4, ML4.3(GUC),After GUC.*
NEIC Felt [III] at Curico, Iloca, Los Quenes, Pencahue and Romeral; [II] at Constitucion, Linares and Talca.
*GUC **04** 09:53:11.6±0.5,34°.76S×71°.86W,h35km±1km, ML4.3*
*IDC **04** 09:53:12.2±0.8,34°.70S×71°.41W,h45km±6km, mb3.5/5, mb1 3.5/8, mb1mx3.5/18, mbtmp3.6/8, ML3.2/3, MS2.8/3, Ms1 2.9/3, ms1mx2.7/14, Error ellipse: s-maj=31.2km s-min=16.7km az=97.0*

ISC 04 09:53:12.2±0.7,34°.82S±0°.03×71°.82W±0°.07,h47km±6km, n45,σ1ᵗ22/46,mb4.0/8,3C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
NICH	**Los Niches**	**0.52**	**110**	*e*P		**Pn**	**09 53 23.1**	**-0.4**
NICH				*e*S		**Sn**	**09 53 31.9**	**+0.3**
TALC	**Talca**	**0.59**	**165**	*e*P		**Pn**	**09 53 24.1**	**-0.4**
TALC				*e*S		**Sn**	**09 53 33.9**	**+0.7**
LNV	**Longovilo**	**0.93**	**21**	*e*P		**Pn**	**09 53 28.1**	**-0.9**
U73B	**San Pedro**	**0.96**	**20**	*e*P		**Pn**	**09 53 28.4**	**-1.0**
U73B				*e*S		**Sn**	**09 53 40.9**	**-1.1**
U73B				AML		AML	09 53 44.8	
	comp=E,9μm,0.5s							
LNCH	**Linares**	**1.04**	**170**↑	*e*P		**Pn**	**09 53 31.1**	**+0.7**
LNCH				*e*S		**Sn**	**09 53 46.3**	**+2.5**
CHCH	**Chadas Angostu**	**1.31**	**48**↑	*e*P		**Pn**	**09 53 34.3**	**+0.1**
TACH	**Talagante**	**1.38**	**32**	*e*P		**Pn**	**09 53 35.1**	**0.0**
TACH				*e*S		**Sn**	**09 53 52.9**	**+0.8**
PCH	**Pirque**	**1.62**	**42**	*e*P		**Pn**	**09 53 38.7**	**+0.2**
SAN	**Santiago**	**1.67**	**35**	*e*P		**Pn**	**09 53 39.5**	**+0.4**
SAN				*e*S		**Sn**	**09 54 00.2**	**+0.8**
LACH	**Col Las Americ**	**1.74**	**38**	*e*P		**Pn**	**09 53 39.0**	**-1.0**
CLCH	**Cerro Calan**	**1.78**	**37**↑	*e*P		**Pn**	**09 53 40.9**	**+0.3**
CLCH				*e*S		**Sn**	**09 54 03.5**	**+1.4**
CLCH				AML		AML	09 54 10.2	
	comp=N,6μm,0.7s							
IHA	**Instituto Hidr**	**1.80**	**5**	*e*P		**Pn**	**09 53 40.6**	**-0.2**
PEL	**Peldehue**	**1.92**	**30**↓	*e*P		**Pn**	**09 53 42.8**	**+0.2**
PEL				*e*S		**Sn**	**09 54 06.8**	**+1.2**
PEL				AML		AML	09 54 14.4	
	comp=E,4μm,0.5s							
CCSP	**San Pedro de C**	**2.27**	**207**	*e*P		Pn	09 53 50.8	+3.5
CCSP				AML		AML	09 54 35.4	
	comp=E,2μm,0.4s							
U14B	**Concepcin**	**2.27**	**206**	*e*P		Pn	09 53 53.1	+5.8
AAGR	**Agrelo**	**3.03**	**56**	*e*P		Pn	09 54 01.7	+3.9
ARCO	**CERRO ARCO**	**3.11**	**51**	*e*P		Pn	09 54 02.1	+3.1
ARCO				AML		AML	09 54 52.1	
	comp=Z,133nm,0.6s							
CANA	**Caviahue**	**3.12**	**169**	*e*P		Pn	09 54 04.7	+5.6
AUSP	**Uspallata**	**3.29**	**39**	*e*P		**Pn**	**09 54 03.6**	**+2.0**
ASAL	**Salagasta**	**3.34**	**49**	*e*P		Pn	09 54 05.1	+3.1
RTLS	**Leoncito**	**3.68**	**36**	*e*P		**Pn**	**09 54 09.1**	**+2.2**
RTLS				*e*S		Sn	09 55 09.4	+20
RTCV	**Cerro Valdivia**	**4.03**	**44**	*e*P		**Pn**	**09 54 12.7**	**+1.2**
RTCV				*e*S		Sn	09 55 15.9	+18
CFAA	**Coronel Fontan**	**4.40**	**44**	P		Pn	09 54 13.6	-2.9
	comp=Z,0.3nm,0.3s,baz=204,slow=12,SNR=16							
CFAA				LR		LR	09 55 28.3	
	comp=Z,15nm,21.0s,baz=226,slow=33							
CFAA	**Coronel Fontan**	**4.40**	**44**	*e*P		**Pn**	**09 54 17.4**	**+0.9**
RTLL	**Cerro Villicun**	**4.48**	**40**	*e*P		**Pn**	**09 54 18.5**	**+0.9**
ACAN	**Cantantal**	**4.63**	**58**	*e*P		**Pn**	**09 54 21.2**	**+1.5**
AMOG	**MOGNA**	**4.78**	**37**	*e*P		**Pn**	**09 54 22.3**	**+0.5**
LCO	**Las Campanas**	**5.87**	**10**	*e*Pn		**Pn**	**09 54 36.7**	**-0.3**
LCO				*e*Sn		Sn	09 55 53.9	+11
VCA	**Vinchina**	**6.80**	**28**	*e*P		**Pn**	**09 54 49.9**	**+0.2**
VCA				*e*S		Sn	09 56 18.6	+13
TRQA	**Tornquist**	**8.56**	**115**	*e*Pn		**Pn**	**09 55 14.3**	**+0.7**
	comp=Z,15nm,1.1s							
CPUP	**Villa Florida**	**15.07**	**60**	P		**Pn**	**09 56 39.3**	**-2.8**
	comp=Z,0.0nm,0.3s,baz=215,slow=7.3,SNR=2.3							
CPUP				LR		LR	10 03 13.9	
	comp=Z,112nm,21.4s,baz=245,slow=41							
LPAZ	**La Paz**	**18.75**	**11**	P		**P**	**09 57 27.6**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=179,slow=9.6,SNR=9.2							
SIV	**San Ignacio**	**21.09**	**30**	P		**P**	**09 57 49.4**	**-3.5**
	comp=Z,4.9nm,0.9s,baz=221,slow=9.9,SNR=16							
SAML	**Samuel**	**26.94**	**19**	*e*P		**P**	**09 58 48.8**	**-0.6**
	comp=Z,1.8nm,1.0s							
BDFB	**Brasilia**	**28.66**	**54**	LR		LR	10 11 33.5	
	comp=Z,77nm,20.8s,baz=230,slow=39							
JTS	**JuntasAbangare**	**46.56**	**342**	*e*P		**P**	**10 01 35.3**	**-0.3**
	comp=Z,49nm,1.8s							
SNAA	**Sanae**	**50.76**	**158**	P		**P**	**10 02 07.1**	**-0.1**
	comp=Z,0.4nm,0.9s,baz=291,slow=6.2,SNR=4.1							
QSPA	**South Pole Qui**	**55.41**	**180**	P		**P**	**10 02 43.1**	**+1.5**
	comp=Z,1.2nm,0.9s,baz=177,slow=3.3,SNR=5.6							
QSPA				pP		**pP**	**10 02 55.4**	**+0.7**
	comp=Z,1.6nm,0.9s,baz=148,slow=1.2,SNR=3.1							
QSPA				sP		**sP**	**10 03 01.0**	**+1.0**
	comp=Z,4.0nm,1.0s,baz=213,slow=1.2,SNR=5.4							
QSPA	**South Pole Qui**	**55.41**	**180**	*e*P		**P**	**10 02 42.7**	**+1.1**
	comp=Z,5.6nm,1.2s							
TXAR	**Lajitas Array**	**70.54**	**331**	P		**P**	**10 04 23.3**	**+0.9**
	comp=Z,0.2nm,0.7s,baz=156,slow=6.9,SNR=3.3							
TXAR				pP		**pP**	**10 04 35.5**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=155,slow=9.3,SNR=9.8							
BOSA	**Boshof**	**79.53**	**117**	pP		pP	10 05 26.9	-1.3
	comp=Z,1.7nm,0.7s,baz=206,slow=10,SNR=1.8							
ECSD	**EROS Data Cent**	**81.39**	**342**	*e*P		**P**	**10 05 23.5**	**-0.2**
	comp=Z,1.9nm,0.7s							
TORD	**Torodi Ar. Bea**	**84.32**	**70**	P		P	10 05 36.2	-3.4
	comp=Z,1.5nm,0.9s,baz=226,slow=3.6,SNR=6.9							
TORD				pP		pP	10 05 51.1	-2.3
	comp=Z,1.7nm,0.9s,baz=240,slow=3.8,SNR=7.2							
ZALV	**Zalesovo Beam**	**154.82**	**33**	PKPab		**PKPab**	**10 13 21.9**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=315,slow=4.9,SNR=2.5							
MKAR	**Makanchi Array**	**157.16**	**51**	PKPab		**PKPab**	**10 13 31.7**	**-1.8**
	comp=Z,0.4nm,0.8s,baz=241,slow=7.6,SNR=3.5							

GUC 04 10:02:23.4±0.7,37°.80S×73°.23W,h35km±8km,ML4.0,1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op	ISC	h m s	ISC
U14B	**Concepcin**	**0.95**	**7**	*e*P		Pn	10 02 40.7	+0.5
U14B				*e*S		Sn	10 02 53.1	+0.7
U14B				AML		AML	10 02 57.2	
	comp=N,22μm,0.4s							
CCSP	**San Pedro de C**	**0.96**	**6**	*e*P		Pn	10 02 41.0	+0.7
CCSP				*e*S		Sn	10 02 53.6	+0.9
CCSP				AML		AML	10 02 58.2	
	comp=E,7μm,0.4s							
PSCH	**Puerto Saavedr**	**1.01**	**187**	*e*P		Pn	10 02 41.2	+0.2
PSCH				*e*S		Sn	10 02 55.1	+1.2
VLCH	**Valdivia**	**2.00**	**180**	*e*P		Pn	10 02 56.1	+1.4
LNCH	**Linares**	**2.34**	**34**↓	*e*P		Pn	10 03 00.3	+0.9
TALC	**Talca**	**2.72**	**29**	*e*P		Pn	10 03 04.9	+0.4

WEL 04 10:52:10.4±0.4,38°.47S×175°.82E,h156km±3km,ML3.7/12, 20C-8D,Error ellipse: s-maj=2.2km s-min=1.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op	ISC	h m s	ISC
WPRZ	**Whakapapataran**	**0.27**	**101**	PN		Pn	10 52 31.6	0.0
ALRZ	**Allen Road**	**0.42**	**103**	PN		Pn	10 52 32.2	+0.1
ALRZ				SN		Sn	10 52 49.5	+0.8
OTVZ	**Oturere**	**0.70**	**190**	↓PN		Pn	10 52 33.9	+0.1
HIZ	**Hauiti**	**0.76**	**266**	↑PN		Pn	10 52 33.9	0.0
COVZ	**Chateau Observ**	**0.76**	**197**	↑PN		Pn	10 52 34.1	0.0
TUVZ	**Tukino**	**0.81**	**189**	↑PN		Pn	10 52 34.6	+0.1
FWVZ	**Far West T-bar**	**0.81**	**195**	PN		Pn	10 52 34.4	-0.2
DRZ	**Dome Shelter**	**0.83**	**194**	PN		Pn	10 52 34.8	-0.1
WHVZ	**Whangaehu Hut**	**0.83**	**193**	PN		Pn	10 52 34.5	-0.3
BKZ	**Black Stump Fm**	**0.87**	**143**	PN		Pn	10 52 34.6	-0.2
BKZ				SN		Sn	10 52 52.9	-0.7
BKZ				AML		AML	10 52 53.0	
WNVZ	**Wahianoa**	**0.88**	**191**	↑PN		Pn	10 52 34.9	0.0
PKVZ	**Pokaka**	**0.90**	**204**	PN		Pn	10 52 34.9	-0.1
MOVZ	**Moawhango**	**0.94**	**183**	↑PN		Pn	10 52 35.0	-0.3
MTVZ	**Mangateitei**	**0.95**	**197**	PN		Pn	10 52 35.4	-0.1
NMHZ	**Naumai**	**0.99**	**129**	PN		Pn	10 52 36.6	+0.8
NMHZ				SN		Sn	10 52 56.6	+1.3
BHHZ	**Black Hill Sta**	**1.03**	**170**	↑PN		Pn	10 52 35.8	-0.3
BHHZ				SN		Sn	10 52 54.1	-1.8
URZ	**Urewera**	**1.03**	**79**	↓PN		Pn	10 52 35.4	-0.6
URZ				SN		Sn	10 52 54.4	-1.1
URZ				AML		AML	10 52 55.6	
VRZ	**Vera Road**	**1.06**	**231**	↑PN		Pn	10 52 36.1	-0.1
KWHZ	**Kaweka Forest**	**1.06**	**154**	↑PN		Pn	10 52 36.5	+0.1
RAHZ	**Arahi**	**1.09**	**115**	PN		Pn	10 52 37.1	+0.7
RAHZ				SN		Sn	10 52 56.8	+0.3
MCHZ	**McNeill Hill**	**1.19**	**145**	PN		Pn	10 52 38.1	+0.7
ARHZ	**Aropaoanui**	**1.21**	**131**	PN		Pn	10 52 38.0	+0.5
SNGZ	**Shannon Statio**	**1.23**	**105**	↓PN		Pn	10 52 38.1	+0.3
KRHZ	**Kereru**	**1.25**	**160**	↑PN		Pn	10 52 37.9	-0.1
RAWZ	**Rawiri**	**1.25**	**92**	PN		Pn	10 52 37.9	-0.1
MWZ	**Matawai**	**1.35**	**85**	↓PN		Pn	10 52 38.5	-0.5
MWZ				AML		AML	10 52 59.8	
MWZ				AML		AML	10 52 59.9	
WAZ	**Wanganui**	**1.44**	**207**	↑PN		Pn	10 52 39.4	-0.4
PNHZ	**Pukenui**	**1.47**	**169**	PN		Pn	10 52 39.7	-0.5
LREZ	**Lake Rotokare**	**1.48**	**228**	↓PN		Pn	10 52 40.4	+0.1
CKHZ	**Cape Kidnapper**	**1.54**	**141**	PN		Pn	10 52 41.0	+0.2
RIGZ	**Rimuhau**	**1.54**	**99**	↓PN		Pn	10 52 40.8	-0.1
KNZ	**Kokohu**	**1.55**	**111**	PN		Pn	10 52 40.9	0.0
KAHZ	**Kahuranaki**	**1.56**	**149**	PN		Pn	10 52 41.2	+0.1
TKGZ	**Te Karaka**	**1.59**	**90**	PN		Pn	10 52 41.3	0.0
TSZ	**Takapari Road**	**1.59**	**176**	PN		Pn	10 52 40.8	-0.6
WPHZ	**Waipukurau**	**1.67**	**163**	PN		Pn	10 52 41.7	-0.5
PRGZ	**Paritu Road**	**1.68**	**106**	PN		Pn	10 52 41.9	-0.4
HAZ	**Te Kaha**	**1.70**	**66**	PN		Pn	10 52 41.2	-1.3
TWGZ	**Tauwhareparae**	**1.72**	**81**	PN		Pn	10 52 42.6	-0.2
PXZ	**Pawanui**	**1.76**	**153**	↑PN		Pn	10 52 42.7	-0.4
PXZ				AML		AML	10 53 09.4	
DVHZ	**Dannevirke**	**1.85**	**172**	PN		Pn	10 52 43.0	-1.1
CNGZ	**Carnagh Statio**	**1.87**	**91**	↑PN		Pn	10 52 44.5	+0.1
PRHZ	**Porangahau**	**1.90**	**161**	↑PN		Pn	10 52 44.1	-0.7
POWZ	**Post Office Ro**	**1.92**	**181**	↑PN		Pn	10 52 43.7	-1.2
PUZ	**Puketiti**	**1.96**	**79**	↓PN		Pn	10 52 44.5	-0.9
PUZ				AML		AML	10 53 10.9	
PUZ				AML		AML	10 53 12.0	
ANWZ	**Angora Road**	**2.05**	**166**	↑PN		Pn	10 52 45.6	-0.8
PRWZ	**Pori Road**	**2.09**	**177**	PN		Pn	10 52 45.8	-1.1
WMGZ	**Waiomatatini S**	**2.15**	**73**	↑PN		Pn	10 52 46.7	-0.9
MXZ	**Matakaoa Point**	**2.16**	**66**	PN		Pn	10 52 47.1	-0.7
MRZ	**Mangatainoka R**	**2.20**	**185**	↑PN		Pn	10 52 46.4	-1.8
MRZ				AML		AML	10 53 16.6	
MRZ				AML		AML	10 53 16.6	
BFZ	**Birch Farm**	**2.23**	**172**	PN		Pn	10 52 47.1	-1.5
TIWZ	**Tintock**	**2.31**	**179**	PN		Pn	10 52 47.7	-1.7
TIWZ				AML		AML	10 53 20.2	
OGWZ	**Otaki Gorge**	**2.40**	**192**	PN		Pn	10 52 48.7	-1.8
HOWZ	**Holdsworth Sta**	**2.44**	**185**	PN		Pn	10 52 48.9	-2.1
KIW	**Kapiti Island**	**2.49**	**196**	PN		Pn	10 52 49.4	-2.3
TMWZ	**Te Maipa**	**2.63**	**179**	PN		Pn	10 52 51.3	-2.2
MTW	**Mount Morrison**	**2.70**	**185**	PN		Pn	10 52 51.6	-2.6
CAW	**Cannon Point**	**2.70**	**192**	PN		Pn	10 52 51.5	-2.7
CAW				AML		AML	10 53 26.3	
CAW				AML		AML	10 53 26.4	
DUWZ	**D'Urville Isla**	**2.75**	**212**	PN		Pn	10 52 52.3	-2.6
PAWZ	**Paruwai Farm**	**2.92**	**186**	PN		Pn	10 52 54.2	-2.8
WEL	**Wellington**	**2.93**	**196**	PN		Pn	10 52 54.4	-2.6
TRWZ	**Traveller**	**2.93**	**182**	PN		Pn	10 52 54.6	-2.5
MSWZ	**Moikau Station**	**2.98**	**188**	↑PN		Pn	10 52 54.7	-2.9
MSWZ				AML		AML	10 53 31.7	
MSWZ				AML		AML	10 53 31.9	
TCW	**Tory Channel**	**2.99**	**203**	PN		Pn	10 52 55.2	-2.6
TCW				AML		AML	10 53 31.7	
TCW				AML		AML	10 53 33.7	
PLWZ	**Palliser**	**3.13**	**188**	PN		Pn	10 52 56.4	-3.3
TUWZ	**Tuamarina**	**3.29**	**205**	PN		Pn	10 52 58.3	-3.3
TUWZ				AML		AML	10 53 38.1	
TUWZ				AML		AML	10 53 39.8	
NNZ	**Nelson**	**3.33**	**214**	PN		Pn	10 52 58.8	-3.2
BSWZ	**Blackbirch Sta**	**3.57**	**204**	PN		Pn	10 53 02.0	-3.2
THZ	**Tophouse**	**3.98**	**213**	PN		Pn	10 53 07.1	-3.4
KHZ	**Kahutara**	**4.31**	**203**	↑PN		Pn	10 53 11.2	-3.5
KHZ				AML		AML	10 54 01.1	
LTZ	**Lake Taylor**	**5.08**	**211**	PN		Pn	10 53 20.5	-4.6
OXZ	**Oxford**	**5.63**	**209**	PN		Pn	10 53 27.1	-5.2
MQZ	**McQueen's Vall**	**5.75**	**204**	↑PN		Pn	10 53 28.2	-5.6

*ISCJB **04** 11:03:47.7±1.1,5°.80S±0°.09×147°.2E±0°.2,h78km,mb3.7/5, Error ellipse: s-maj=25.0km s-min=12.0km az=7.0*
*IDC **04** 11:03:55.0±2.8,5°.82S×146°.77E,h124km±24km,mb3.5/5, mb1 3.9/8,mb1mx3.5/34,mbtmp4.1/8,Error ellipse: s-maj=32.7km s-min=12.9km az=103.0*

ISC 04 11:03:49.5±1.0,5°.8S±0°.1×147°.0E±0°.2,h78km,n10, σ1ᵗ43/12,mb3.7/5,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op	ISC	h m s	ISC
JAY	**Jayapura**	**7.08**	**297**	P		Pn	11 05 34.1	+3.5
	3.1nm,0.3s,baz=110,slow=5.4,SNR=12							
COEN	**Coen**	**8.95**	**205**	P		**Pn**	**11 05 57.6**	**+1.5**
	baz=8.7,SNR=118							
CTA	**Charters Tower**	**14.23**	**183**	P		**P**	**11 07 11.6**	**-0.9**
	1.9nm,0.3s,baz=359,slow=14,SNR=24							
WRA	**Warramunga Arr**	**18.70**	**220**	P		**P**	**11 08 01.5**	**-0.4**
	1.3nm,0.3s,baz=42,slow=12,SNR=70							
WRA				S		**Sn**	**11 11 33.6**	**+1.6**
	baz=39,slow=18,SNR=2.8							
WRA				PcP		**PcP**	**11 12 27.2**	**0.0**
	0.1nm,0.3s,baz=33,slow=1.9,SNR=8.2							
ASAR	**Alice Springs**	**21.80**	**214**	P		**P**	**11 08 35.4**	**+0.1**
	5.0nm,0.4s,baz=52,slow=8.8,SNR=96							
ASAR				S		**S**	**11 12 28.8**	**-3.4**
	1.1nm,0.7s,baz=33,slow=18,SNR=5.3							
STKA	**Stephens Creek**	**26.44**	**190**	P		**P**	**11 09 19.6**	**+0.4**
	4.0nm,0.5s,baz=7.0,slow=7.2,SNR=12							
KSRS	**Korea Array**	**46.56**	**339**	P		**P**	**11 12 09.0**	**-0.5**
	0.5nm,0.6s,baz=150,slow=9.1,SNR=3.3							
SONM	**Songino Array**	**64.23**	**331**	P		**P**	**11 14 16.8**	**+0.4**
	0.3nm,0.6s,baz=123,slow=7.2,SNR=2.5							
ILAR	**Eielson Array**	**85.29**	**23**	P		**P**	**11 16 18.0**	**+0.5**
	0.6nm,0.7s,baz=254,slow=4.9,SNR=9.0							
TORD	**Torodi Ar. Bea**	**145.05**	**285**	PKP		**PKPbc**	**11 23 18.0**	**-0.5**
	0.5nm,0.4s,baz=88,slow=3.4,SNR=10							
TORD				pPKP		pPKPdf	11 23 51.2	+10
	1.0nm,0.7s,baz=67,slow=3.1,SNR=6.5							

*NIED **04** 11:12:00,44°.80N×149°.40E,h113km,Mw4.3 Best double couple: M0 2.88000×10¹⁵ NP1:φ1=251.00000°, δ8.00000°, λ74.00000°. NP2:φ2=87.00000°, δ83.00000°, λ92.00000°.*
*BJI **04** 11:12:00.4,45°.43N×149°.85E,h122km,mb4.7/12, mB4.8/12*
*ISCJB **04** 11:12:01.6±0.4,45°.21N±0°.04×149°.55E±0°.05, h119km±4km,mb4.3/47,Error ellipse: s-maj=7.1km s-min=4.4km az=138.6*
*MOS **04** 11:12:02.0±1.1,45°.39N×149°.47E,h119km,mb4.2/22, Error ellipse: s-maj=9.9km s-min=7.0km az=83.2*
*IDC **04** 11:12:02.9±0.7,45°.39N×149°.50E,h114km±6km,mb3.7/22, mb1 3.8/27,mb1mx3.8/32,mbtmp4.1/27, Error ellipse: s-maj=14.0km s-min=10.8km az=143.0*
*SKHL **04** 11:12:02.0±0.4,45°.24N×149°.69E,h118km±5km,mb5.0/6, msh5.4/6*
*NEIC **04** 11:12:03.9±0.7,45°.39N×149°.50E,h117km±6km,mb4.5/23, Error ellipse: s-maj=11.1km s-min=5.3km az=146.0*
*JMA **04** 11:12:05.6±0.5,44°.76N×149°.42E,h131km,M4.2*

ISC 04 11:12:02.8±0.5,45°.20N±0°.05×149°.63E±0°.05,h121km±3km, h120km:pP-P,n204,σ1ᵗ55/238,mb4.2/47,7C-9D,Kuril Islands

| Code |

SKR pmax pmax
comp=E,30nm,0.5s
SKR pmax pmax
comp=Z,50nm,0.5s
SKR pmax pmax
comp=N,40nm,0.3s
SKR Severo-Kuril's 7.00 36 *eP* **Pn 11 13 41.7 -0.9**
SKR AMB AMB 11 13 49.6
comp=N,150nm,1.0s
SKR *eS* **Sn 11 14 56.9 -3.8**
SKR A A 11 15 04.0
comp=N,200nm,0.9s
JKB Kayabe 7.07 245 P **Pn 11 13 42.1 -1.5**
JKB *eS* **Sn 11 14 56.6 -5.8**
JSH Shimam 7.38 253 P **Pn 11 13 48.1 +0.3**
JYM2 Yakumo 2 7.39 249 P **Pn 11 13 46.9 -1.0**
JYM2 *eS* **Sn 11 15 05.9 -4.3**
JSR Shiriuchi 7.65 245 P **Pn 11 13 49.6 -1.8**
JSR *eS* Sn 11 15 09.4 -7.1
JTM Tenmabayashi 7.67 238 P **Pn 11 13 49.5 -2.2**
JTM *eS* Sn 11 15 09.5 -7.5
JANG Nango 7.67 234 P **Pn 11 13 48.6 -3.2**
JANG *eS* Sn 11 15 08.1 -9.0
JTH Tanohata 7.78 230 P Pn 11 13 49.8 -3.4
JTH *eS* Sn 11 15 11.0 -8.6
JOSM Okushiri--Mats 8.00 251 P **Pn 11 13 55.1 -1.0**
OFUJ Ofunato 8.50 227 *eS* Sn 11 15 30.0 -7.2
JRG Rokugo 8.83 232 P **Pn 11 14 05.4 -2.0**
JRG *eS* Sn 11 15 38.5 -6.7
JIO Ouri 9.14 225 P **Pn 11 14 08.9 -2.7**
JIO *eS* Sn 11 15 43.7 -9.0
PEA0 Petropavlovsk- 9.51 31 *e*Pn **Pn 11 14 15.6 -1.0**
PETK Petropavlovsk- 9.51 31 P **Pn 11 14 15.1 -1.4**
comp=N,2.9nm,0.3s,baz=200,slow=15,SNR=49
PETK Petropavlovsk- 9.51 31 PN **Pn 11 14 15.1 -1.4**
PETK pmax pmax
comp=Z,3.0nm,0.3s
PET Petropavlovsk 9.81 34 *e*PN **Pn 11 14 18.4 -2.0**
PET Petropavlovsk 9.81 34 *e*P **Pn 11 14 18.4 -2.0**
PET Petropavlovsk 9.81 34 *e*Pn **Pn 11 14 18.4 -2.0**
NKL Nikolayevsk 9.88 327 *e*P **Pn 11 14 20.0 -1.4**
NKL AMB AMB 11 14 21.0
comp=Z,20nm,1.0s
JYA Atsumi 9.91 232 P **Pn 11 14 20.1 -1.8**
JYA *eS* **Sn 11 16 06.2 -5.0**
JFK Kawauchi 10.22 223 *e*S Sn 11 16 10.8 -8.2
MJAR Matsushiro Arr 12.22 229 P **Pn 11 14 52.0 -0.7**
comp=Z,0.3nm,0.3s,baz=36,slow=12,SNR=4.8
EKMR Ekimchan 13.44 312 *e*P **Pn 11 15 09.4 +0.8**
MDJ Mudanjiang 14.22 275 P **Pn 11 15 18.4 -0.1**
MDJ PMZ
comp=Z,36nm,4.1s
YASR Yasnyy 16.25 308 *e*P Pn 11 15 38.0 -5.8
YASR AMB AMB 11 15 38.6
comp=Z,4.0nm,0.8s
BMKR Bomnak 16.36 313 *e*P Pn 11 15 40.0 -5.2
KROS Kirovskiy 17.23 311 *e*P **P 11 15 55.5 0.0**
KROS AMB AMB 11 15 57.5
comp=Z,10.0nm,1.0s
SEY Seymchan 17.84 4 P **P 11 16 00.7 -1.3**
comp=Z,0.7nm,0.3s,baz=182,slow=9.2,SNR=32
SEY Seymchan 17.84 4‖ *e*P **P 11 16 01.5 -0.5**
SEY Seymchan 17.84 4‖ *e*P **P 11 16 01.5 -0.5**
KSRS Korea Array 18.01 252 P **Pn 11 16 04.8 -0.4**
comp=Z,0.2nm,0.3s,baz=65,slow=10,SNR=13
YAK Yakutsk 20.45 333 P **P 11 16 28.8 -1.5**
comp=Z,3.0nm,0.2s,baz=123,slow=15,SNR=6.9
YAK Yakutsk 20.45 333 *e*P **P 11 16 28.6 -1.7**
YAK pmax pmax
comp=Z,10.0nm,0.8s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK Yakutsk 20.45 333 *e*P **P 11 16 28.6 -1.7**
HHC Hu-ho-hao-te 27.99 275 *e*P **P 11 17 43.2 +1.0**
HHC pP **pP 11 18 05.7 -2.6**
HHC PP **PnPn 11 18 39.0 +2.9**
HHC S **S 11 22 14.5 -3.0**
HHC sS **sS 11 23 01.3 -2.0**
HHC PMZ
comp=N,20nm,0.8s
HHC PMZ
comp=N,58nm,4.6s
H11N2 WAKE ISLAND Hy 29.15 145 T T 11 48 54.8
baz=335,slow=76,SNR=248
H11N1 WAKE ISLAND Hy 29.16 145 T T 11 48 51.3
baz=335,slow=76,SNR=212
H11N3 WAKE ISLAND Hy 29.16 145 T T 11 48 58.0
baz=335,slow=76,SNR=212
SONM Songino Array 29.59 291 P **P 11 17 55.8 -0.5**
comp=N,0.6nm,0.7s,baz=54,slow=7.3,SNR=3.8
SONM Songino Array 29.59 291 P **P 11 17 55.8 -0.5**
SONM pmax pmax
comp=Z,1.0nm,0.7s
H11S1 WAKE ISLAND Hy 30.17 146 T T 11 50 16.7
baz=336,slow=76,SNR=510
H11S3 WAKE ISLAND Hy 30.18 146 T T 11 50 14.0
baz=336,slow=76,SNR=352
H11S2 WAKE ISLAND Hy 30.19 146 T T 11 50 14.5
baz=336,slow=76,SNR=288
TPUB Ta-pu 32.15 237 *e*P **P 11 18 21.1 +2.2**
comp=Z,52nm,1.7s
LZH Lanzhou 35.51 272 *e*P **P 11 18 48.1 +0.1**
LZH pP **pP 11 19 16.5 +1.8**
LZH sP **sP 11 19 30.1 +1.5**
LZH PMZ
comp=Z,15nm,1.0s
IM04 Indian Mountai 36.43 35 *e*P **P 11 18 55.7 +0.3**
PPLA Purkeypile 36.93 40 *e*P **P 11 19 01.5 +1.8**
comp=Z,52nm,2.2s
KDAK Kodiak Island 36.96 49 *i*P **P 11 19 01.7 +1.9**
KDAK Kodiak Island 36.96 49 *e*P **P 11 19 01.6 +1.8**
MLY Manley 37.62 37 *e*P **P 11 19 07.3 +1.8**
comp=Z,20nm,2.1s
COLD Coldfoot 37.97 33 *e*P **P 11 19 09.7 +1.4**
comp=Z,3.5nm,1.0s
CD2 Chengdu 38.32 264 P **P 11 19 11.1 -0.6**
CD2 pP **pP 11 19 38.4 -0.3**
CD2 sP **sP 11 19 52.6 +0.1**
CD2 PP **PP 11 20 40.9 -0.7**
CD2 S **S 11 24 55.9 -1.2**
CD2 sS **sS 11 25 43.8 -0.2**
CD2 SS **SS 11 27 49.7 -0.7**
CD2 PMZ
comp=Z,30nm,0.5s
CD2 PMZ
comp=Z,80nm,6.3s
CD2 LN
comp=Z,150nm,5.0s
CD2 LZ
comp=Z,120nm,5.5s
SEW Seward 38.35 45 *e*P **P 11 19 12.0 +0.5**
comp=Z,59nm,1.7s
MDM Murphy Dome 38.69 37 *e*P **P 11 19 15.9 +1.5**
comp=Z,16nm,1.8s
COLA College 38.85 37 *e*P **P 11 19 16.8 +1.2**
COLA College 38.85 37 *e*P **P 11 19 16.8 +1.2**
COLA College 38.85 37 *e*P **P 11 19 16.8 +1.2**
comp=Z,14nm,0.3s
CCB Clear Creek Bu 38.87 38 *e*P **P 11 19 16.9 +1.1**
comp=Z,11nm,1.9s
GYA Guiyang 39.00 256 *e*P **P 11 19 19.8 +2.3**
GYA pP **pP 11 19 47.6 +3.0**
GYA sP **sP 11 20 02.0 +3.7**
GYA PP **PnPn 11 20 54.3 +1.4**
GYA S **S 11 25 07.4 -0.1**
GYA PMZ
comp=Z,10.0nm,0.8s
SCM Sheep Creek Mo 39.23 42 *e*P **P 11 19 20.4 +1.4**
SCM pmax pmax
comp=Z,15nm,1.2s
SCM Sheep Creek Mo 39.23 42 *e*P **P 11 19 20.4 +1.4**
comp=Z,15nm,1.2s
IL1 Eielson Array 39.27 37 *e*P **P 11 19 19.9 +0.8**
ILAR Eielson Array 39.27 37 P **P 11 19 19.3 +0.2**
comp=Z,1.3nm,0.8s,baz=265,slow=7.8,SNR=22
ILAR pP **pP 11 19 44.5 -1.7**
comp=Z,0.7nm,0.9s,baz=275,slow=7.7,SNR=2.9
ILAR Eielson Array 39.27 37 P **P 11 19 19.3 +0.2**
ILAR *PP **pP 11 19 44.5 -1.7**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ZALV Zalesovo Beam 41.56 306 P **P 11 19 36.9 -1.3**
comp=Z,0.6nm,0.3s,baz=62,slow=6.4,SNR=4.4
ZALV PcP **PcP 11 21 34.0 +1.0**
comp=Z,0.3nm,0.3s,baz=151,slow=3.3,SNR=3.8
ZALV Zalesovo Beam 41.56 306 *i*P **P 11 19 37.0 -1.1**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
EGAK Eagle 41.71 37 *e*P **P 11 19 39.3 +0.1**
comp=Z,3.9nm,1.1s
DAWY Dawson 42.57 38 *e*P **P 11 19 47.6 +1.4**
WMQ Urumqi 43.22 291 *e*P **P 11 19 52.5 +0.7**
WMQ pP **pP 11 20 20.5 +1.2**
WMQ sP **sP 11 20 35.5 +2.5**
WMQ PMZ
comp=Z,8.0nm,0.8s
WMQ PMZ
comp=Z,79nm,4.0s
INK Inuvik 44.25 31 P **P 11 19 59.1 -0.4**
comp=Z,1.5nm,0.4s,baz=296,slow=7.4,SNR=15
INK Inuvik 44.25 31 *e*P **P 11 19 59.8 +0.2**
INK pmax pmax
comp=Z,3.0nm,0.8s
INK Inuvik 44.25 31 *e*P **P 11 19 59.8 +0.2**
INK Inuvik 44.25 31 *e*P **P 11 19 59.8 +0.2**
comp=Z,2.9nm,0.8s
MKAR Makanchi Array 45.50 297 P **P 11 20 09.2 -0.7**
comp=Z,0.4nm,0.4s,baz=81,slow=8.6,SNR=6.5
MKAR Makanchi Array 45.50 297 *e*P **P 11 20 09.6 -0.2**
MKAR Makanchi Array 45.50 297 *e*P **P 11 20 09.6 -0.2**
MKAR Makanchi Array 45.50 297 *e*P **P 11 20 09.6 -0.2**
MK01 Makanchi Array 45.50 297 *e*P **P 11 20 10.8 +1.0**
KURK Kurchatov 46.20 304 *e*P **P 11 20 14.4 -0.8**
KURK pmax pmax
comp=Z,3.0nm,0.7s
KURK Kurchatov 46.20 304 *e*P **P 11 20 14.4 -0.8**
KURK Kurchatov 46.20 304 *e*P **P 11 20 14.4 -0.8**
comp=Z,3.4nm,0.7s
KURBB Kurchatov Arra 46.29 304 P **P 11 20 15.1 -0.8**
comp=Z,1.8nm,0.5s,baz=70,slow=8.8,SNR=18
CMAR Chiang Mai Arr 49.63 255 P **P 11 20 43.6 +1.5**
comp=Z,0.6nm,0.5s,baz=36,slow=7.8,SNR=3.7
CMAR Chiang Mai Arr 49.63 255 P **P 11 20 43.6 +1.5**
CMAR pmax pmax
comp=Z,1.0nm,0.5s
BRVK Borovoye 50.01 309 P **P 11 20 44.0 -0.4**
BRVK pmax pmax
comp=Z,2.0nm,1.5s
BRVK Borovoye 50.01 309 *e*P **P 11 20 44.0 -0.4**
RES Resolute Bay 53.06 17 *e*P **P 11 21 07.0 +0.2**
RES pmax pmax
comp=Z,7.0nm,0.8s
RES Resolute Bay 53.06 17 *e*P **P 11 21 07.0 +0.2**
RES Resolute Bay 53.06 17 *e*P **P 11 21 07.0 +0.2**
comp=Z,6.9nm,0.8s
YKA Yellowknife Ar 53.60 35 P **P 11 21 11.0 +0.1**
comp=Z,1.8nm,0.7s,baz=301,slow=6.8,SNR=4.3
YKA Yellowknife Ar 53.60 35 P **P 11 21 11.0 +0.1**
YKA pmax pmax
comp=Z,2.0nm,0.7s
ARU Arti 54.50 317 *d i*P **P 11 21 16.5 -1.1**
ARU 11 23 17.4
ARU S **S 11 28 48.6 +1.7**
ARU SS **SS 11 32 27.3 -3.1**
ARU pmax pmax
comp=Z,5.0nm,0.6s
ARU Arti 54.50 317‖ *i*P **P 11 21 16.5 -1.1**
ARU Arti 54.50 317 *e*P **P 11 21 16.3 -1.3**
comp=Z,5.4nm,0.6s
PRGR Permogore 57.34 327 P **P 11 21 35.2 -2.5**
PRGR pmax pmax
comp=Z,7.0nm,0.4s
ABKAR Akbulak array 57.54 309 *e*P **P 11 21 38.8 -0.4**
comp=Z,4.7nm,0.7s
ARA0 ARCESS Array S 58.50 340 *e*P **P 11 21 44.7 -1.0**
ARCES ARCESS Array B 58.50 340 P **P 11 21 44.3 -1.4**
comp=Z,0.7nm,0.4s,baz=43,slow=8.8,SNR=13
ARCES ARCESS Array B 58.50 340 P **P 11 21 44.3 -1.4**
ARCES pmax pmax
comp=Z,1.0nm,0.4s
SUMG Summit 62.39 3 *e*P **P 11 22 11.9 -0.7**
SUMG pmax pmax
comp=Z,7.0nm,1.0s
SUMG Summit 62.39 3 *e*P **P 11 22 11.9 -0.7**
comp=Z,7.5nm,1.0s
FFC Flin Flon 63.47 38 *e*P **P 11 22 20.4 +0.9**
FFC pmax pmax
comp=Z,4.0nm,0.9s
FFC Flin Flon 63.47 38 *e*P **P 11 22 20.4 +0.9**
FFC Flin Flon 63.47 38 *e*P **P 11 22 20.4 +0.9**
comp=Z,4.3nm,0.9s
FINES FINESS Array B 64.38 334 P **P 11 22 24.1 -1.2**
comp=Z,1.9nm,0.4s,baz=35,slow=6.4,SNR=26
FINES FINESS Array B 64.38 334 P **P 11 22 24.1 -1.2**
FINES pmax pmax
comp=Z,2.0nm,0.4s
GEYT Alibeck 65.29 300 P **P 11 22 31.6 -0.1**
comp=Z,2.1nm,0.6s,baz=72,slow=4.8,SNR=4.0
NVAR Mina Array Bea 65.31 60 P **P 11 22 33.2 +1.2**
comp=Z,0.5nm,0.7s,baz=295,slow=7.2,SNR=5.2
NVAR pP **pP 11 23 01.4 -0.2**
comp=Z,0.4nm,0.8s,baz=285,slow=7.4,SNR=3.1
WRAB Tennant Creek 66.30 196 *e*P **P 11 22 39.5 +1.4**
WRAB pmax pmax
comp=Z,15nm,1.6s
WRAB Tennant Creek 66.30 196 *e*P **P 11 22 39.5 +1.4**
comp=Z,15nm,1.6s
WRA Warramunga Arr 66.31 196 P **P 11 22 39.3 +1.2**
comp=Z,1.0nm,0.5s,baz=13,slow=6.8,SNR=20
WRA Warramunga Arr 66.31 196 P **P 11 22 39.3 +1.2**
WRA pmax pmax
comp=Z,1.0nm,0.5s
PDAR Pinedale Array 67.62 51 P **P 11 22 47.0 +0.3**
comp=Z,0.4nm,0.7s,baz=300,slow=3.3,SNR=4.6
PDAR pP **pP 11 23 15.3 -1.0**
comp=Z,0.5nm,0.7s,baz=358,slow=4.5,SNR=4.1
NB2 NORSAR Subarra 68.88 340 P **P 11 22 53.1 -0.8**
comp=Z,1.7nm,0.5s,baz=28,slow=6.5
NOA NORSAR Array B 68.88 340 P **P 11 22 53.2 -0.8**
comp=Z,1.6nm,0.5s,baz=28,slow=6.6,SNR=16
NOA NORSAR Array B 68.88 340 P **P 11 22 53.2 -0.7**
NOA pmax pmax
comp=Z,2.0nm,0.5s
AS01 Alice Springs 70.01 195 *e*P **P 11 23 03.6 +2.4**
ASAR Alice Springs 70.02 195 P **P 11 23 03.3 +2.0**
comp=Z,1.2nm,0.7s,baz=12,slow=6.5,SNR=19
ASAR Alice Springs 70.02 195 P **P 11 23 03.3 +2.0**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
KIV Kislovodsk 70.11 313 *e*P **P 11 23 03.8 +2.0**
KIV pmax pmax
comp=Z,13nm,0.9s
KIV MLR MLR
comp=Z,22nm,17.0s
KIV Kislovodsk 70.11 313 *e*P **P 11 23 03.8 +2.0**
KBZ Khabaz 70.15 312 P **P 11 23 02.3 +0.3**
comp=Z,6.1nm,0.9s,baz=58,slow=3.3,SNR=13
KBZ Khabaz 70.15 312 P **P 11 23 02.3 +0.3**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
AKASG Malin Array Be 71.45 325 P **P 11 23 09.2 -0.5**
comp=Z,1.4nm,0.4s,baz=37,slow=6.3,SNR=8.5
AKASG Malin Array Be 71.45 325 P **P 11 23 09.2 -0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
KIEV Kiev 71.46 325 *c i*P **P 11 23 09.4 -0.3**
KIEV Kiev 71.46 325 *e*P **P 11 23 09.0 -0.8**
comp=Z,4.8nm,0.9s
AK11 Malin Array Si 71.49 325 *e*P **P 11 23 10.0 +0.1**
ANN Anapa 72.16 316 *e*P P 11 23 04.3 -10
ANN *e*PP **PcP 11 23 33.9 +2.2**
ANN *e*SS **SPn 11 32 57.9 +2.7**
ANN *e*SSS SSS 11 40 09.7
ANN pmax pmax
comp=Z,9.0nm,0.9s
OJC Ojcow 75.46 329 *e*P **P 11 23 34.1 +0.8**
OJC pmax pmax
comp=Z,4.0nm,0.8s
OJC Ojcow 75.46 329 *e*P **P 11 23 34.1 +0.8**
OJC Ojcow 75.46 329 *e*P **P 11 23 34.1 +0.8**
comp=Z,3.7nm,0.8s
BUR04 Bucovina Ar. S 75.50 325 *e*P **P 11 23 34.0 +0.4**
BURAR Bucovina Array 75.50 325‖ *i*P **P 11 23 34.3 +0.7**
STHS Stebnicka Huta 75.59 328 *e*P **P 11 23 33.4 -0.6**
STHS Stebnicka Huta 75.59 328 *e*P **P 11 23 33.4 -0.6**
KOLS Kolonicke sedl 75.60 327 *e*P **P 11 23 35.4 +1.3**
KOLS Kolonicke sedl 75.60 327 *e*P **P 11 23 35.4 +1.3**
DPC Dobruska-Polom 76.57 331 *e*P **P 11 23 40.6 +1.0**
DPC Dobruska-Polom 76.57 331 *e*P **P 11 23 40.6 +1.0**
MORC Moravsky Berou 76.63 330 *e*P **P 11 23 40.3 +0.3**
MORC pmax pmax
comp=Z,19nm,1.3s
MORC Moravsky Berou 76.63 330‖ *i*P **P 11 23 41.6 +1.7**
MORC Moravsky Berou 76.63 330 *e*P **P 11 23 40.2 +0.3**
comp=Z,19nm,1.3s
CLL Collm 76.83 334 *e*P **P 11 23 41.1 +0.2**
CLL pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 76.83 334 *e*P **P 11 23 41.1 +0.2**
CLL Collm 76.83 334 *e*P **P 11 23 41.1 +0.2**
comp=Z,4.1nm,0.7s
CLL Collm 76.83 334 *i*P **P 11 23 40.9 0.0**
comp=Z,4.0nm,0.7s
VOIR 77.31 324↑ *i*P **P 11 23 45.6 +1.7**
PRU Pruhonice 77.47 332 *e*P **P 11 23 45.4 +0.8**
PRU Pruhonice 77.47 332 *e*P **P 11 23 45.4 +0.8**
PRU Pruhonice 77.47 332 *e*P **P 11 23 45.4 +0.8**
BRTR Keskin Array B 77.81 315 P **P 11 23 47.1 +0.3**
comp=Z,1.0nm,0.8s,baz=90,slow=6.1,SNR=6.1
BRTR Keskin Array B 77.81 315 *c e*P **P 11 23 48.9 +2.1**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
KHC Kasperske Hory 78.53 332 *e*P **P 11 23 51.3 +0.8**
KHC Kasperske Hory 78.53 332 *e*P **P 11 23 50.9 +0.4**
KHC pmax pmax
comp=Z,4.0nm,1.1s
KHC Kasperske Hory 78.53 332 *e*P **P 11 23 50.9 +0.4**
KHC Kasperske Hory 78.53 332 *e*P **P 11 23 50.9 +0.4**
comp=Z,3.8nm,1.1s
BZS Buzias 78.57 326↑ *i*P **P 11 23 51.5 +0.8**
GERES GERESS Array B 78.74 332 P **P 11 23 52.0 +0.3**
comp=Z,1.3nm,0.5s,baz=27,slow=5.0,SNR=11
GERES GERESS Array B 78.74 332 P **P 11 23 52.0 +0.3**
GERES pmax pmax
comp=Z,1.0nm,0.5s
TX31 Lajitas Ar. Si 80.37 58 *e*P **P 11 24 02.4 +1.5**
TXAR Lajitas Array 80.37 58 P **P 11 24 02.2 +1.3**
comp=Z,0.8nm,0.4s,baz=298,slow=4.5,SNR=26
TXAR pP **pP 11 24 30.4 -1.1**
comp=Z,0.3nm,0.5s,baz=307,slow=5.0,SNR=3.2
TXAR Lajitas Array 80.37 58 P **P 11 24 02.2 +1.3**
TXAR *PP **pP 11 24 30.4 -1.1**
TXAR pmax pmax
comp=Z,1.0nm,0.4s
MSEY Mahe Island 96.22 270 *i*P **P 11 25 18.0 +0.5**
SNAA Sanae 150.37 197 *e*PKIKP **PKPdf 11 31 35.5 +2.3**
SNAA *e* 11 31 42.9
SNAA Sanae 150.37 197 *e*PKPdf **PKPdf 11 31 35.5 +2.3**
SNAA *e*PKPbc **PKPab 11 31 42.9 -2.6**

*IDC **04** 11:16:40.8±0.7, 10.46N×93.72E, h0km, mb4.0/13, mb1 4.0/15, mb1mx3.8/29, mbtmp3.9/15, ML3.9/2, MS3.0/6, Ms1 3.1/6, ms1mx2.7/44, Error ellipse: s-maj=26.7km s-min=14.6km az=54.0*
*ISCJB **04** 11:16:42.8±0.5, 10.50N±0.08×93.8E±0.1, h25km, mb4.2/17, MS3.0/4, Error ellipse: s-maj=17.1km s-min=9.0km az=145.8*
*NEIC **04** 11:16:46.2±1.3, 10.49N×93.74E, h35km±12km, mb4.4/2, Error ellipse: s-maj=14.4km s-min=6.9km az=63.0*
ISC 04 11:16:45.0±0.7, 10.5N±0.1×93.7E±0.1, h25km, n27, σ0 870/20, mb4.1/17, MS3.0/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PSI	**Prapat**	**9.25**	**146**	Pn		**Pn**	**11 18 58.0**	**+1.1**
	1.6nm,0.3s,baz=298,slow=17,SNR=3.1							
CMAR	**Chiang Mai Arr**	**9.39**	**32**	Pn		**Pn**	**11 18 59.0**	**+0.1**
	0.3nm,0.3s,baz=212,slow=14,SNR=4.8							
CMAR				LR		LR	11 22 37.5	
	comp=Z,96nm,20.1s,baz=209,slow=38							
PALK	**Pallekele**	**13.23**	**257**	LR		LR	11 24 47.7	
	comp=Z,58nm,18.8s,baz=86,slow=37							
H08S3	**Diego Garcia H**	**27.76**	**230**	T		T	11 51 36.6	
	baz=49,slow=76,SNR=6.8							
H08S2	**Diego Garcia H**	**27.76**	**230**	T		T	11 51 36.0	
	baz=49,slow=76,SNR=6.1							
H08S1	**Diego Carcia H**	**27.76**	**230**	T		T	11 51 37.1	
	baz=49,slow=76,SNR=5.7							
MKAR	**Makanchi Array**	**37.44**	**347**	P		**P**	**11 23 56.0**	**-0.2**
	1.3nm,0.8s,baz=163,slow=8.6,SNR=12							
SONM	**Songino Array**	**38.72**	**14**	P		**P**	**11 24 07.0**	**-0.1**
	0.9nm,0.9s,baz=188,slow=9.0,SNR=4.7							
SONM				LR		LR	11 41 24.2	
	comp=Z,38nm,18.8s,baz=184,slow=38							
KSRS	**Korea Array**	**40.82**	**43**	LR		LR	11 41 25.2	
	comp=Z,19nm,20.6s,baz=305,slow=36							
KURBB	**Kurchatov Arra**	**41.90**	**346**	P		**P**	**11 24 33.2**	**-0.1**
	1.1nm,0.8s,baz=157,slow=6.5,SNR=8.1							
KURK	**Kurchatov**	**41.97**	**346**	P		**P**	**11 24 33.2**	**-0.6**
GEYT	**Alibeck**	**41.98**	**317**	P		**P**	**11 24 34.1**	**-0.2**
	2.1nm,0.6s,baz=178,slow=9.6,SNR=13							
ZALV	**Zalesovo Beam**	**43.91**	**352**	P		**P**	**11 24 48.9**	**-0.6**
	4.1nm,0.8s,baz=178,slow=9.6,SNR=13							
ABKAR	**Akbulak array**	**47.73**	**331**	*e*P		**P**	**11 25 20.6**	**+0.8**
	1.8nm,0.7s							
MJAR	**Matsushiro Arr**	**47.77**	**50**	LR		LR	11 45 55.9	
	comp=Z,12nm,20.2s,baz=255,slow=37							
WRA	**Warramunga Arr**	**50.16**	**127**	P		**P**	**11 25 37.6**	**-1.3**
	1.9nm,1.0s,baz=306,slow=8.7,SNR=7.7							
WRAB	**Tennant Creek**	**50.17**	**127**	*e*P		**P**	**11 25 38.8**	**-0.1**
	8.8nm,1.3s							
ASAR	**Alice Springs**	**51.95**	**131**	P		**P**	**11 25 50.9**	**-1.4**
	1.1nm,0.8s,baz=308,slow=7.4,SNR=9.9							
KBZ	**Khabaz**	**54.87**	**317**	P		**P**	**11 26 14.4**	**+1.0**
	1.4nm,0.8s,baz=103,slow=6.3,SNR=2.9							
PMG	**Port Moresby**	**56.75**	**109**	*e*P		**P**	**11 26 27.5**	**+0.2**
	51nm,1.2s							
KMBO	**Kilima Mbogo**	**57.32**	**262**	P		**P**	**11 26 31.4**	**-0.3**
	6.8nm,0.2s,baz=76,slow=18,SNR=11							
BRTR	**Keskin Array B**	**60.40**	**310**	P		**P**	**11 26 52.1**	**-0.5**
	1.2nm,0.6s,baz=118,slow=8.1,SNR=8.2							
STKA	**Stephens Creek**	**62.24**	**134**	P		**P**	**11 27 04.7**	**-0.3**
	1.2nm,0.5s,baz=327,slow=9.6,SNR=3.1							
PETK	**Petropavlovsk-**	**66.14**	**36**	LR		LR	11 56 50.0	
	comp=Z,14nm,20.8s,baz=117,slow=36							
FINES	**FINESS Array B**	**70.20**	**332**	P		**P**	**11 27 54.9**	**-0.6**
	0.6nm,0.6s,baz=112,slow=9.2,SNR=3.3							
ARCES	**ARCESS Array B**	**72.66**	**340**	P		**P**	**11 28 10.5**	**+0.3**
	1.3nm,0.9s,baz=94,slow=8.4,SNR=3.3							
GERES	**GERESS Array B**	**75.59**	**318**	P		**P**	**11 28 28.4**	**+0.5**
	0.4nm,0.6s,baz=116,slow=6.1,SNR=4.0							

*GUC **04** 11:17:51.4±0.8, 28.75S×71.40W, h38km±9km, ML2.8*
*SJA **04** 11:17:55.9±1.2, 29.04S×71.19W, h19km±13km, ML3.1, MW3.9*
ISC 04 11:17:48.5±2.9, 28.68S±0.06×71.6W±0.1, h13km±15km, n14, σ1821/13, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VACH	**Vallenar**	**0.70**	**82**	*e*P		**Pg**	**11 18 03.3**	**+1.1**
VACH				*i* S		**Sb**	**11 18 12.4**	**+0.3**
LCO	**Las Campanas**	**0.81**	**114**	*e*P		**Pb**	**11 18 05.1**	**+0.4**
LCO				*e*S		**Sg**	**11 18 15.1**	**+0.1**
LCO				AML		AML	11 18 17.7	
	comp=E,1μm,0.4s							
LCO	**Las Campanas**	**0.81**	**114**	*e*P		**Pb**	**11 18 05.4**	**+0.7**
LCO				*e*S		**Sg**	**11 18 12.2**	**-2.9**
LCO				AML		AML	11 18 17.8	
	comp=E,1μm,0.3s							
LSCH	**La Serena**	**1.25**	**168**	*e*P		**Pn**	**11 18 11.9**	**+0.2**
LSCH				*e*S		**Sb**	**11 18 27.7**	**-0.4**
LSCH				AML		AML	11 18 28.9	
	comp=E,243nm,0.4s							
CPCH	**Copiapo**	**1.69**	**39**	*e*P		**Pn**	**11 18 18.2**	**+0.5**
CPCH				*e*S		**Sn**	**11 18 39.9**	**+0.8**
CDCH	**Caldera**	**1.73**	**22**	*e*P		**Pn**	**11 18 17.6**	**-0.6**
CDCH				*e*S		**Sn**	**11 18 39.0**	**-1.1**
VCA	**Vinchina**	**2.93**	**92**	*e*P		**Pb**	**11 18 40.1**	**-0.7**
AMOG	**MOGNA**	**3.48**	**131**	*e*P		Pn	11 18 46.2	+3.7
RTLS	**Leoncito**	**3.67**	**149**	*e*P		Pn	11 18 49.0	+3.8
RTLL	**Cerro Villicun**	**3.75**	**136**	*e*P		Pn	11 18 49.7	+3.6
AUSP	**Uspallata**	**4.00**	**153**	*e*P		Pn	11 18 53.3	+3.5
CFAA	**Coronel Fontan**	**4.09**	**136**	*e*P		Pn	11 18 52.8	+2.0
RTCV	**Cerro Valdivia**	**4.10**	**141**	*e*P		Pn	11 18 54.2	+3.2
ASAL	**Salagasta**	**4.55**	**150**	*e*P		Pn	11 19 00.6	+3.5

IDC 04 11:18:18.0±2.2, 22°30N×142°12E, h0km, mb3.7/2, mb1 3.8/5, mb1mx3.5/27, mbtmp3.7/5, ML3.6/3, MS2.7/1, Ms1 2.7/1, ms1mx2.0/35, Error ellipse: s-maj=112.9km s-min=22.4km az=85.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.78**	**1**	Pn	Pn	11 19 31.6	+0.3
	8.5nm,0.3s,baz=294,slow=19,SNR=4.1						
JCJ				Sn	Sn	11 20 20.1	-7.4
	28nm,0.3s,baz=287,slow=20,SNR=20						
JCJ				LR	LR	11 21 00.1	
	comp=Z,85nm,21.4s,baz=140,slow=34						
MJAR	**Matsushiro Arr**	**14.60**	**347**	Pn	Pn	11 21 44.2	-1.7
	0.2nm,0.3s,baz=168,slow=10,SNR=3.6						
KSRS	**Korea Array**	**19.45**	**324**	P	Pn	11 22 46.9	-0.4
	0.1nm,0.3s,baz=135,slow=11,SNR=3.3						
WRA	**Warramunga Arr**	**42.66**	**191**	P	P	11 26 17.0	+0.4
	0.4nm,0.2s,baz=10,slow=8.4,SNR=49						
ASAR	**Alice Springs**	**46.38**	**190**	P	P	11 26 45.6	-0.8
	0.3nm,0.3s,baz=9.9,slow=6.9,SNR=18						

IDC 04 11:30:33.8±1.4, 3°44N×123°68E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.5/44, mbtmp3.8/5, MS2.5/1, Ms1 2.5/1, ms1mx2.1/33, Error ellipse: s-maj=185.7km s-min=19.6km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**23.23**	**63**	LR	LR	11 45 44.8	
	comp=Z,12nm,18.5s,baz=121,slow=39						
WRA	**Warramunga Arr**	**25.48**	**156**	P	P	11 36 03.8	-0.1
	1.3nm,0.3s,baz=333,slow=10,SNR=40						
ASAR	**Alice Springs**	**28.72**	**160**	P	P	11 36 33.4	+0.3
	0.3nm,0.5s,baz=342,slow=7.6,SNR=24						
STKA	**Stephens Creek**	**39.03**	**155**	P	P	11 38 02.1	-0.3
	0.9nm,0.3s,baz=331,slow=7.3,SNR=4.8						
MKAR	**Makanchi Array**	**56.09**	**327**	P	P	11 40 15.2	+0.2
	0.3nm,0.4s,baz=122,slow=7.8,SNR=7.6						
KURBB	**Kurchatov Arra**	**60.37**	**329**	P	P	11 40 44.3	-0.4
	0.3nm,0.4s,baz=130,slow=5.8,SNR=4.0						

SZGRF ***04*** *11:38:53.1, 41°42N×13°61E, h10km, mb4.0, Southern Italy*
CSEM ***04*** *11:38:58.7±0.1, 42°16N×13°36E, h2km, ML4.2/12, Ms3.3, Error ellipse: s-maj=2.7km s-min=2.3km az=25.0*
ISCJB ***04*** *11:38:58.2±0.2, 42°17N±0°01×13°35E±0°02, h8km±1km, mb3.7/8, MS3.1/8, Error ellipse: s-maj=2.3km s-min=2.1km az=12.0*
ROM ***04*** *11:38:58.2±0.1, 42°18N×13°40E, h9km±1km, Ml3.7/48, Error ellipse: s-maj=0.9km s-min=0.9km az=90.0*
LDG ***04*** *11:38:59.8±0.1, 42°19N×13°39E, h2km, Ml3.1/15, Error ellipse: s-maj=4.1km s-min=2.9km az=14.0*
IDC ***04*** *11:38:59.3±0.9, 42°25N×13°29E, h0km, mb3.7/9, mb1 3.8/16, mb1mx3.7/33, mbtmp3.6/16, ML3.5/6, MS3.0/17, Ms1 3.0/17, ms1mx2.9/41, Error ellipse: s-maj=16.4km s-min=12.6km az=77.0*
PRU ***04*** *11:39:00.3, 42°17N×13°40E, h0km*
VIE ***04*** *11:39:00.9±0.9, 42°20N×13°41E, h10km, mb3.3/10, Ml3.3/11, ms3.3/1, Error ellipse: s-maj=9.7km s-min=8.5km az=71.0*
STR ***04*** *11:39:03.8±0.4, 42°43N×13°24E, h10km, Ml3.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
BEO ***04*** *11:39:22.5±6.8, 42°35N×15°58E, h0km*
ATH ***04*** *11:40:03.4, 40°75N×19°35E, h4km, MD3.9/5*
ISC 04 11:38:59.2±0.9, 42°17N±0°02×13°39E±0°01, h6km±6km, n282, σ1°49/316, mb3.7/8, MS3.2/8, 12C-8D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0106	**Roio Piano**	**0.13**	**360**	Pg	**Pg**	**11 39 01.6**	**-0.5**
T0106				Sg	**Sg**	**11 39 04.4**	**+0.4**
	132μm,0.7s						
FAGN	**Fagnano**	**0.17**	**58**	Pg	**Pg**	**11 39 02.2**	**-0.6**
FAGN				Sg	**Sg**	**11 39 04.9**	**-0.2**
	62μm,0.4s						
FAGN	**Fagnano**	**0.17**	**58**	Pg	**Pg**	**11 39 02.2**	**-0.6**
FAGN				Sg	**Sg**	**11 39 04.9**	**-0.2**
	62μm,0.4s						
AQU	**L'Aquila**	**0.18**	**4**	⇓*i*P	**Pg**	**11 39 03.4**	**+0.5**
AQU				S	**Sg**	**11 39 06.9**	**+1.6**
AQU	**L'Aquila**	**0.18**	**4**	Pg	**Pg**	**11 39 02.6**	**-0.3**
AQU				Sg	**Sg**	**11 39 05.9**	**+0.6**
	175μm,1.4s						
AQU	**L'Aquila**	**0.18**	**4**	Pg	**Pg**	**11 39 02.6**	**-0.3**
AQU				Sg	**Sg**	**11 39 05.9**	**+0.6**
	175μm,1.4s						
T0104	**Madonna delle**	**0.19**	**350**	Pg	**Pg**	**11 39 02.8**	**-0.2**
T0104				Sg	**Sg**	**11 39 06.2**	**+0.6**
FIAM	**Fiamignano**	**0.22**	**296**	Pg	**Pg**	**11 39 03.6**	**0.0**
FIAM				Sg	**Sg**	**11 39 07.4**	**+0.8**
	28μm,0.6s						
FIAM	**Fiamignano**	**0.22**	**296**	Pg	**Pg**	**11 39 03.6**	**0.0**
FIAM				Sg	**Sg**	**11 39 07.4**	**+0.8**
	28μm,0.6s						
VVLD	**Villa Vallelon**	**0.35**	**150**	Pg	**Pg**	**11 39 06.0**	**-0.1**
	6μm,0.4s						
VVLD	**Villa Vallelon**	**0.35**	**150**	Pg	**Pg**	**11 39 06.0**	**-0.1**
	6μm,0.4s						
CAMP	**Campotosto**	**0.36**	**3**	Pg	**Pg**	**11 39 05.8**	**-0.5**
CAMP				Sg	**Sg**	**11 39 11.7**	**+0.5**
	12μm,0.8s						
CAMP	**Campotosto**	**0.36**	**3**	Pg	**Pg**	**11 39 05.8**	**-0.5**
CAMP				Sg	**Sg**	**11 39 11.7**	**+0.5**
	12μm,0.8s						
CERT	**Cerreto**	**0.37**	**233**	Pg	**Pg**	**11 39 06.3**	**-0.2**
CERT				Sg	**Sg**	**11 39 12.5**	**+1.1**
	9μm,0.4s						
CERT	**Cerreto**	**0.37**	**233**	Pg	**Pg**	**11 39 06.3**	**-0.2**
CERT				Sg	**Sg**	**11 39 12.5**	**+1.1**
	9μm,0.4s						
VCEL	**Villa Celiera**	**0.40**	**57**	Pg	**Pg**	**11 39 06.9**	**-0.2**
VCEL				Sg	**Sg**	**11 39 12.1**	**-0.3**
	38μm,1.6s						
VCEL	**Villa Celiera**	**0.40**	**57**	Pg	**Pg**	**11 39 06.9**	**-0.2**
VCEL				Sg	**Sg**	**11 39 12.1**	**-0.3**
	38μm,1.6s						
INTR	**Introdacqua**	**0.42**	**112**	Pg	**Pg**	**11 39 06.5**	**-0.9**
INTR				Sg	**Sg**	**11 39 13.4**	**+0.5**
	11μm,0.8s						
INTR	**Introdacqua**	**0.42**	**112**	Pg	**Pg**	**11 39 06.5**	**-0.9**
INTR				Sg	**Sg**	**11 39 13.4**	**+0.5**
	11μm,0.8s						
SMA1	**SAN MARTINO**	**0.46**	**355**	Pg	**Pg**	**11 39 07.5**	**-0.6**
SMA1				Sg	**Sg**	**11 39 14.5**	**+0.4**
	16μm,1.2s						
SMA1	**SAN MARTINO**	**0.46**	**355**	Pg	**Pg**	**11 39 07.5**	**-0.6**
SMA1				Sg	**Sg**	**11 39 14.5**	**+0.4**
	16μm,1.2s						
TERO	**Teramo**	**0.48**	**20**	Pg	**Pg**	**11 39 07.4**	**-1.1**
	7μm,0.9s						
TERO	**Teramo**	**0.48**	**20**	Pg	**Pg**	**11 39 07.4**	**-1.1**
	7μm,0.9s						
LNSS	**Leonessa**	**0.50**	**329**	Pg	**Pg**	**11 39 08.1**	**-0.8**
LNSS				Sg	**Sg**	**11 39 16.1**	**+0.7**
	9μm,0.8s						
LNSS	**Leonessa**	**0.50**	**329**	Pg	**Pg**	**11 39 08.1**	**-0.8**
LNSS				Sg	**Sg**	**11 39 16.1**	**+0.7**
	9μm,0.8s						
MTCE	**Montecelio**	**0.50**	**253**	Pg	**Pg**	**11 39 08.4**	**-0.5**
MTCE				Sg	**Sg**	**11 39 16.4**	**+1.0**
	8μm,1.1s						
MTCE	**Montecelio**	**0.50**	**253**	Pg	**Pg**	**11 39 08.4**	**-0.5**
MTCE				Sg	**Sg**	**11 39 16.4**	**+1.0**
	8μm,1.1s						
POFI	**Posta Fibreno**	**0.52**	**152**	Pg	**Pg**	**11 39 08.7**	**-0.5**
	6μm,1.1s						
POFI	**Posta Fibreno**	**0.52**	**152**	Pg	**Pg**	**11 39 08.7**	**-0.5**
	6μm,1.1s						
SDI	**San Donato**	**0.56**	**145**	Pg	**Pg**	**11 39 09.4**	**-0.7**
SDI	**San Donato**	**0.56**	**145**	Pg	**Pg**	**11 39 09.4**	**-0.7**
MNS	**Montasola**	**0.56**	**292**	Pg	**Pg**	**11 39 09.2**	**-0.9**
	7μm,1.0s						
MNS	**Montasola**	**0.56**	**292**	Pg	**Pg**	**11 39 09.2**	**-0.9**
	7μm,1.0s						
GIUL	**Giuliano Di Ro**	**0.62**	**189**	Pg	**Pg**	**11 39 10.5**	**-0.7**
	4μm,1.1s						
GIUL	**Giuliano Di Ro**	**0.62**	**189**	Pg	**Pg**	**11 39 10.5**	**-0.7**
	4μm,1.1s						
RMP	**Rome, Mte Porz**	**0.62**	**235**	Pg	**Pg**	**11 39 10.6**	**-0.6**
RMP				Sg	**Sb**	**11 39 20.5**	**-1.1**
	7μm,0.6s						
RMP	**Rome, Mte Porz**	**0.62**	**235**	Pg	**Pg**	**11 39 10.6**	**-0.6**
RMP				Sg	**Sb**	**11 39 20.5**	**-1.1**
	7μm,0.6s						
RDP	**Rocca di Papa**	**0.65**	**230**	Pg	**Pg**	**11 39 11.2**	**-0.5**
	16μm,0.8s						
RDP	**Rocca di Papa**	**0.65**	**230**	Pg	**Pg**	**11 39 11.2**	**-0.5**
	16μm,0.8s						
MA9	**Marino**	**0.67**	**234**	Pg	**Pg**	**11 39 11.3**	**-0.9**
	8μm,0.7s						
MA9	**Marino**	**0.67**	**234**	Pg	**Pg**	**11 39 11.3**	**-0.9**
	8μm,0.7s						
NRCA	**Norcia**	**0.69**	**343**	Pg	**Pg**	**11 39 11.3**	**-1.2**
	5μm,1.4s						
NRCA	**Norcia**	**0.69**	**343**	Pg	**Pg**	**11 39 11.3**	**-1.2**
	5μm,1.4s						
SAMA	**S.Maria delle**	**0.71**	**237**	Pg	**Pg**	**11 39 12.2**	**-0.7**
	10μm,1.3s						
SAMA	**S.Maria delle**	**0.71**	**237**	Pg	**Pg**	**11 39 12.2**	**-0.7**
	10μm,1.3s						
LAV9	**Lanuvio**	**0.71**	**226**	Pg	**Pg**	**11 39 12.4**	**-0.5**
	10μm,0.4s						
LAV9	**Lanuvio**	**0.71**	**226**	Pg	**Pg**	**11 39 12.4**	**-0.5**
	10μm,0.4s						
CAFR	**Castel Frentan**	**0.72**	**85**	Pg	**Pg**	**11 39 12.7**	**-0.3**
	13μm,1.2s						
CAFR	**Castel Frentan**	**0.72**	**85**	Pg	**Pg**	**11 39 12.7**	**-0.3**
	13μm,1.2s						
ROM9	**Roma**	**0.73**	**242**	Pg	**Pg**	**11 39 12.9**	**-0.4**
	7μm,0.9s						
ROM9	**Roma**	**0.73**	**242**	Pg	**Pg**	**11 39 12.9**	**-0.4**
	7μm,0.9s						
CESX	**Cesi**	**0.74**	**306**	Pg	**Pg**	**11 39 12.3**	**-1.1**
	4μm,1.0s						
CESX	**Cesi**	**0.74**	**306**	Pg	**Pg**	**11 39 12.3**	**-1.1**
	4μm,1.0s						
RNI2	**Rionero Sannit**	**0.74**	**129**	Pg	**Pg**	**11 39 12.9**	**-0.6**
	5μm,1.0s						
RNI2	**Rionero Sannit**	**0.74**	**129**	Pg	**Pg**	**11 39 12.9**	**-0.6**
	5μm,1.0s						
CERA	**Filignano**	**0.74**	**140**	Pg	**Pg**	**11 39 12.3**	**-1.2**
	5μm,1.1s						
CERA	**Filignano**	**0.74**	**140**	Pg	**Pg**	**11 39 12.3**	**-1.2**
	5μm,1.1s						
TRTR	**Tortoreto Alta**	**0.74**	**31**	Pg	**Pb**	**11 39 14.1**	**-0.5**
	18μm,1.2s						
TRTR	**Tortoreto Alta**	**0.74**	**31**	Pg	**Pb**	**11 39 14.1**	**-0.5**
	18μm,1.2s						
OFFI	**Offida**	**0.79**	**16**	Pg	**Pg**	**11 39 14.3**	**-0.2**
	3μm,1.0s						
OFFI	**Offida**	**0.79**	**16**	Pg	**Pg**	**11 39 14.3**	**-0.2**
	3μm,1.0s						
MIDA	**Miranda**	**0.84**	**129**	Pg	**Pg**	**11 39 13.7**	**-1.6**
	3μm,0.8s						
MIDA	**Miranda**	**0.84**	**129**	Pg	**Pg**	**11 39 13.7**	**-1.6**
	3μm,0.8s						
FDMO	**Fiordimonte**	**0.89**	**346**	Pg	**Pg**	**11 39 14.8**	**-1.5**
	2μm,1.0s						
FDMO	**Fiordimonte**	**0.89**	**346**	Pg	**Pg**	**11 39 14.8**	**-1.5**
	2μm,1.0s						
CESI	**CESI - Serrava**	**0.90**	**337**	Pg	**Pg**	**11 39 15.2**	**-1.4**
	642nm,0.5s						
CESI	**CESI Serrava**	**0.90**	**337**	Pg	**Pg**	**11 39 15.2**	**-1.4**
	642nm,0.5s						
TRIV	**Trivento**	**0.96**	**115**	Pg	**Pg**	**11 39 16.3**	**-1.3**
	3μm,1.1s						
TRIV	**Trivento**	**0.96**	**115**	Pg	**Pg**	**11 39 16.3**	**-1.3**
	3μm,1.1s						
FRES	**Fresagrandinar**	**0.98**	**101**	Pg	**Pg**	**11 39 16.3**	**-1.7**
	2μm,0.9s						
FRES	**Fresagrandinar**	**0.98**	**101**	Pg	**Pg**	**11 39 16.3**	**-1.7**
	2μm,0.9s						
GUMA	**Gualdo di Mace**	**0.98**	**24**	Pg	**Pg**	**11 39 15.5**	**-2.5**
	7μm,0.7s						
GUMA	**Gualdo di Mace**	**0.98**	**24**	Pg	**Pg**	**11 39 15.5**	**-2.5**
	7μm,0.7s						
VAGA	**Valle Agricola**	**0.99**	**140**	Pg	**Pg**	**11 39 16.8**	**-1.4**
	1μm,0.8s						
VAGA	**Valle Agricola**	**0.99**	**140**	Pg	**Pg**	**11 39 16.8**	**-1.4**
	1μm,0.8s						
TOLF	**Tolfa**	**1.04**	**264**	Pg	**Pg**	**11 39 18.4**	**-0.7**
	1μm,0.9s						
TOLF	**Tolfa**	**1.04**	**264**	Pg	**Pg**	**11 39 18.4**	**-0.7**
	1μm,0.9s						
SGG	**Gregorio Mates**	**1.08**	**136**	Pg	**Pg**	**11 39 18.7**	**-1.3**
	1μm,0.8s						
SGG	**Gregorio Mates**	**1.08**	**136**	Pg	**Pg**	**11 39 18.7**	**-1.3**
	1μm,0.8s						
MODR	**Mondragone**	**1.09**	**160**	Pg	**Pb**	**11 39 18.6**	**-1.9**
	1μm,1.0s						
MODR	**Mondragone**	**1.09**	**160**	Pg	**Pb**	**11 39 18.6**	**-1.9**
	1μm,1.0s						
BSSO	**Busso**	**1.10**	**124**	Pg	**Pb**	**11 39 19.2**	**-1.5**
	3μm,1.3s						
BSSO	**Busso**	**1.10**	**124**	Pg	**Pb**	**11 39 19.2**	**-1.5**
	3μm,1.3s						
SNTG	**Esanatoglia**	**1.13**	**343**	Pg	**Pb**	**11 39 19.2**	**-2.0**
	2μm,1.1s						
SNTG	**Esanatoglia**	**1.13**	**343**	Pg	**Pb**	**11 39 19.2**	**-2.0**
	2μm,1.1s						
MGAB	**Montegabbione**	**1.20**	**309**	Pg	**Pb**	**11 39 20.8**	**-1.5**
	1μm,0.5s						
MGAB	**Montegabbione**	**1.20**	**309**	Pg	**Pb**	**11 39 20.8**	**-1.5**
	1μm,0.5s						
CING	**Cingoli**	**1.21**	**353**	Pg	**Pn**	**11 39 20.9**	**-1.9**
	2μm,0.6s						
CING	**Cingoli**	**1.21**	**353**	Pg	**Pn**	**11 39 20.9**	**-1.9**
	2μm,0.6s						
LATE	**Laterza**	**1.25**	**291**	Pg	**Pn**	**11 39 22.8**	**-0.5**
	2μm,1.3s						
LATE	**Laterza**	**1.25**	**291**	Pg	**Pn**	**11 39 22.8**	**-0.5**
	2μm,1.3s						
SACS	**San Casciano d**	**1.28**	**302**	Pg	**Pn**	**11 39 23.1**	**-0.7**
	4μm,1.9s						
ARVD	**Arcevia**	**1.36**	**346**	Pg	**Pn**	**11 39 23.5**	**-1.4**
	2μm,0.8s						
ARVD	**Arcevia**	**1.36**	**346**	Pg	**Pn**	**11 39 23.5**	**-1.4**
	2μm,0.8s						
MCIV	**Monte Civitell**	**1.40**	**296**	Pg	**Pn**	**11 39 25.3**	**-0.1**
	311nm,0.7s						
MCIV	**Monte Civitell**	**1.40**	**296**	Pg	**Pn**	**11 39 25.3**	**-0.1**
	311nm,0.7s						
ATVO	**AVT- Monte Val**	**1.41**	**330**	Pg	**Pn**	**11 39 24.2**	**-1.3**
	1μm,1.2s						
ATVO	**AVT- Monte Val**	**1.41**	**330**	Pg	**Pn**	**11 39 24.2**	**-1.3**
	1μm,1.2s						
MS1	**Monte Sant'Ang**	**1.96**	**103**	*e*Pn	**Pb**	**11 39 35.5**	**0.0**
CDT	**Castel del Mon**	**2.42**	**116**	*e*Pn	**Pn**	**11 39 38.2**	**-1.3**
NVLJ	**Novalja**	**2.62**	**24**	*i* Pn	**Pn**	**11 39 42.7**	**+0.6**
NVLJ				Sn	**Sn**	**11 40 13.6**	**-0.7**
NVLJ	**Novalja**	**2.62**	**24**	*i* Pn	**Pn**	**11 39 42.7**	**+0.6**
NVLJ				Sn	**Sn**	**11 40 13.5**	**-0.7**
UDBI	**Udbina**	**2.92**	**36**	*e*Pn	**Pn**	**11 39 47.4**	**+1.0**
UDBI				Sn	**Sn**	**11 40 20.1**	**-1.8**
UDBI	**Udbina**	**2.92**	**36**	*e*Pn	**Pn**	**11 39 47.3**	**+1.0**
UDBI				Sn	**Sn**	**11 40 20.0**	**-1.8**
STON	**Ston**	**3.27**	**76**	*i* Pn	**Pn**	**11 39 51.9**	**+0.9**
STON				Sn	**Sn**	**11 40 29.7**	**-0.4**
STON	**Ston**	**3.27**	**76**	*e*Pn	**Pn**	**11 39 52.3**	**+1.4**
STON	**Ston**	**3.27**	**76**	*i* Pn	**Pn**	**11 39 51.8**	**+0.9**
STON				Sn	**Sn**	**11 40 29.7**	**-0.4**
PGF	**Pioggiola**	**3.27**	**278**	*e*Pn	**Pn**	**11 39 51.3**	**+0.1**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**11 40 27.1**	**-3.4**
	52nn,0.9s						
PGF	**Pioggiola**	**3.27**	**278**	*e*Pn	**Pn**	**11 39 51.3**	**+0.1**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**11 40 27.1**	**-3.4**
	26nn,0.9s						
SKDS	**Skadanscina**	**3.40**	**7**	*e*Pn	**Pn**	**11 39 52.9**	**0.0**
SKDS				*e*Sn	**Sn**	**11 40 35.2**	**+1.6**
	comp=Z,76nm,0.5s						
SKDS	**Skadanscina**	**3.40**	**7**	*e*Pn	**Pn**	**11 39 52.9**	**0.0**
SKDS				*e*Sn	**Sn**	**11 40 35.2**	**+1.6**
	comp=Z,76nm,0.5s						
BOJS	**Bojanci**	**3.59**	**21**	*i* Pn	**Pn**	**11 39 56.2**	**+0.7**
BOJS	**Bojanci**	**3.59**	**21**	*i* Pn	**Pn**	**11 39 56.2**	**+0.7**
TREB	**Trebinje**	**3.71**	**80**	*e*Pn	**Pn**	**11 39 58.4**	**+1.2**
TREB	**Trebinje**	**3.71**	**80**	*e*Pn	**Pn**	**11 39 58.4**	**+1.2**
PDG	**Podgorica**	**4.36**	**85**	*e*Pn	**Pn**	**11 40 07.4**	**+1.4**
PDG	**Podgorica**	**4.36**	**85**	*e*Pn	**Pn**	**11 40 07.4**	**+1.4**
OBKA	**Obir**	**4.42**	**11**	*e*Pn	**Pn**	**11 40 07.5**	**+0.6**
OBKA				*e*Pg	Pg	11 40 27.4	+3.6
OBKA	**Obir**	**4.42**	**11**	*e*Pn	**Pn**	**11 40 07.5**	**+0.6**
MYKA	**Terra Mystica**	**4.46**	**2**	⇓*i*Pn	**Pn**	**11 40 08.9**	**+1.4**
	SNR=6.8						
MYKA	**Terra Mystica**	**4.46**	**2**	Pn	**Pn**	**11 40 08.9**	**+1.4**
	SNR=6.8						
ABTA	**Abfaltersbach**	**4.62**	**353**	⇑*i*Pn	**Pn**	**11 40 10.7**	**+1.1**
	SNR=23						
ABTA	**Abfaltersbach**	**4.62**	**353**	Pn	**Pn**	**11 40 10.7**	**+1.1**
	SNR=23						
SAOF	**Saorge**	**4.64**	**295**	P	**Pn**	**11 40 11.1**	**+1.2**
SAOF				S	**Sn**	**11 41 06.4**	**+2.3**
SAOF	**Saorge**	**4.64**	**295**	P	**Pn**	**11 40 11.1**	**+1.2**
SAOF				S	**Sn**	**11 41 06.4**	**+2.3**
SOKA	**Soboth**	**4.66**	**14**	⇑*i*Pn	**Pn**	**11 40 11.4**	**+1.2**
	SNR=8.0						
SOKA	**Soboth**	**4.66**	**14**	Pn	**Pn**	**11 40 11.4**	**+1.2**
	SNR=8.0						
SBF	**Sospel**	**4.68**	**293**	*e*Pn	**Pn**	**11 40 10.0**	**-0.5**
SBF	**Sospel**	**4.68**	**293**	*e*Pn	**Pn**	**11 40 10.0**	**-0.5**
REVF	**Revere**	**4.69**	**292**	P	**Pn**	**11 40 11.9**	**+1.4**
REVF	**Revere**	**4.69**	**292**	P	**Pn**	**11 40 11.9**	**+1.4**
BBLS	**Lazi?i**	**4.73**	**67**	*e*Pn	Pn	11 40 14.2	+3.1
BBLS	**Lazi?i**	**4.73**	**67**	*e*Pn	Pn	11 40 14.2	+3.1
AUTN	**L'Aution**	**4.73**	**295**	P	**Pn**	**11 40 12.2**	**+0.9**
AUTN				S	**Sn**	**11 41 08.8**	**+2.3**
AUTN	**L'Aution**	**4.73**	**295**	P	**Pn**	**11 40 12.2**	**+0.9**
AUTN				S	**Sn**	**11 41 08.8**	**+2.3**
TOUF	**Mont Tournerai**	**4.86**	**294**	P	**Pn**	**11 40 14.5**	**+1.5**
TOUF				S	**Sn**	**11 41 12.8**	**+3.2**
TOUF	**Mont Tournerai**	**4.86**	**294**	P	**Pn**	**11 40 14.5**	**+1.5**
TOUF				S	**Sn**	**11 41 12.8**	**+3.2**
MVIF	**Mont Vial**	**4.88**	**293**	P	**Pn**	**11 40 13.8**	**+0.5**
MVIF	**Mont Vial**	**4.88**	**293**	P	**Pn**	**11 40 13.8**	**+0.5**
KBA	**Koelnbreinsper**	**4.91**	**360**	*e*Pn	**Pn**	**11 40 15.3**	**+1.6**
KBA				*e*Sn	**Sn**	**11 41 14.5**	**+3.7**
KBA	**Koelnbreinsper**	**4.91**	**360**	⇓*i*Pn	**Pn**	**11 40 15.2**	**+1.5**
	SNR=8.4						
KBA	**Koelnbreinsper**	**4.91**	**360**	Pn	**Pn**	**11 40 15.2**	**+1.5**
	SNR=8.4						
KBA				*e*Sn	**Sn**	**11 41 14.5**	**+3.7**
SJES	**Sjenica**	**4.97**	**75**	*e*Pn	**Pn**	**11 40 16.5**	**+1.9**
CALN	**Calern**	**5.02**	**291**	P	**Pn**	**11 40 16.3**	**+1.1**
CALN	**Calern**	**5.02**	**291**	P	**Pn**	**11 40 16.3**	**+1.1**
FRF	**La Foret Royal**	**5.14**	**288**	*e*Pn	**Pn**	**11 40 15.3**	**-1.5**
	SNR=1.0						
FRF	**La Foret Royal**	**5.14**	**288**	*e*Pn	**Pn**	**11 40 15.3**	**-1.5**
	SNR=1.0						
LMR	**La Mourre**	**5.19**	**285**	*e*Pn	**Pn**	**11 40 16.9**	**-0.6**
	SNR=1.0						
LMR	**La Mourre**	**5.19**	**285**	*e*Pn	**Pn**	**11 40 16.9**	**-0.6**
	SNR=1.0						
DIVS	**Divibare**	**5.20**	**66**	*e*Pn	**Pn**	**11 40 20.0**	**+2.3**
DIVS	**Divibare**	**5.20**	**66**	⇑*i*P	**Pn**	**11 40 19.2**	**+1.5**
DIVS	**Divibare**	**5.20**	**66**	*e*Pn	**Pn**	**11 40 20.0**	**+2.3**
WTTA	**Wattenberg**	**5.24**	**347**	*e*Pn	**Pn**	**11 40 20.9**	**+2.6**
WTTA	**Wattenberg**	**5.24**	**347**	⇑*i*Pn	**Pn**	**11 40 20.1**	**+1.8**
	SNR=7.1						
WTTA	**Wattenberg**	**5.24**	**347**	Pn	**Pn**	**11 40 20.1**	**+1.8**
	SNR=7.1						
DAVOX	**Davos/Dischmat**	**5.24**	**333**	Pn	**Pn**	**11 40 18.9**	**+0.5**
	comp=Z,2.2nn,0.3s,baz=155,slow=16,SNR=17						
DAVOX				Sn	**Sn**	**11 41 20.1**	**+0.8**
	baz=107,slow=19,SNR=2.4						
DAVOX				LR	LR	11 42 53.8	
	comp=Z,143nn,19.1s,baz=83,slow=46						
ARSA	**Arzberg**	**5.30**	**16**	*e*Pn	**Pn**	**11 40 20.6**	**+1.6**
ARSA	**Arzberg**	**5.30**	**16**	⇓*i*Pn	**Pn**	**11 40 20.0**	**+1.0**
	SNR=6.9						
ARSA	**Arzberg**	**5.30**	**16**	Pn	**Pn**	**11 40 20.0**	**+1.0**
	SNR=6.9						
WATA	**Walderalm**	**5.32**	**347**	⇑*i*Pn	**Pn**	**11 40 20.7**	**+1.4**
	SNR=10						
WATA	**Walderalm**	**5.32**	**347**	Pn	**Pn**	**11 40 20.7**	**+1.4**
	SNR=10						
MOTA	**Moosalm**	**5.42**	**343**	⇑*i*Pn	**Pn**	**11 40 20.9**	**+0.2**
	SNR=11						
MOTA	**Moosalm**	**5.42**	**343**	Pn	**Pn**	**11 40 20.9**	**+0.2**
	SNR=11						
KEK	**Kerkira**	**5.44**	**115**	*e*PG	Pn	11 40 23.9	+3.0
MBDF	**Montbardon**	**5.45**	**300**	*e*Pn	**Pn**	**11 40 19.9**	**-1.2**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**11 41 19.2**	**-5.0**
	comp=Z,7.4nn,0.6s						
MBDF	**Montbardon**	**5.45**	**300**	*e*Pn	**Pn**	**11 40 19.9**	**-1.2**
	SNR=1.0						
RJOB	**Jochberg**	**5.58**	**356**	*e*Pn	**Pn**	**11 40 24.8**	**+2.0**
RJOB				*e*Sn	**Sn**	**11 41 32.2**	**+4.9**
RJOB	**Jochberg**	**5.58**	**356**	*e*Pn	**Pn

ECH	**Echery**	**7.47**	**326**	*e*Pn	**Pn**	**11 40 48.3**	**-0.5**
ECH	**Echery**	**7.47**	**326**	*e*Pn	**Pn**	**11 40 48.3**	**-0.5**
ECH	**Echery**	**7.47**	**326**	P	**Pn**	**11 40 49.5**	**+0.7**
GZR	**Gura Zlata**	**7.52**	**61**	⇑*i*P	**Pn**	**11 40 51.6**	**+2.1**
CDF	**Champ du Feu**	**7.58**	**327**	*e*Pn	**Pn**	**11 40 49.2**	**-1.1**
CDF				*e*Sn	Sn	11 42 10.2	-6.3
	comp=Z,7.5nm,0.6s						
CDF	**Champ du Feu**	**7.58**	**327**	*e*Pn	**Pn**	**11 40 49.2**	**-1.1**
HAU	**Haudompre**	**7.67**	**322**	*e*Pn	**Pn**	**11 40 49.9**	**-1.5**
	SNR=1.0						
HAU				*e*Sn	Sn	11 42 12.1	-6.5
	comp=Z,23nm,0.7s						
HAU	**Haudompre**	**7.67**	**322**	*e*Pn	**Pn**	**11 40 49.9**	**-1.5**
	SNR=1.0						
SRS	**Serrai**	**7.72**	**94**	*e*PN	Pn	11 40 56.8	+4.6
MMB	**Musomiste**	**7.74**	**91**	⇓*i*P	Pn	11 40 55.3	+2.8
LANF	**Langenberg**	**7.85**	**332**	P	**Pn**	**11 40 53.5**	**-0.4**
LANF	**Langenberg**	**7.85**	**332**	P	**Pn**	**11 40 53.5**	**-0.4**
PRU	**Pruhonice**	**7.86**	**5**	*e*PN	**Pn**	**11 40 55.1**	**+1.1**
PRU				*e*SN	**Sn**	**11 42 21.1**	**-2.1**
PRU	**Pruhonice**	**7.86**	**5**	Pn	**Pn**	**11 40 55.1**	**+1.1**
THEF	**They Montfort**	**7.99**	**322**	P	**Pn**	**11 40 56.2**	**+0.3**
THEF	**They Montfort**	**7.99**	**322**	P	**Pn**	**11 40 56.2**	**+0.3**
KECS	**Kecovo**	**8.05**	**36**	*e*Sn	**Sn**	**11 42 27.5**	**-0.5**
KECS	**Kecovo**	**8.05**	**36**	*e*PN	Pn	11 41 01.3	+4.6
KECS				*e*SN	**Sn**	**11 42 27.5**	**-0.5**
DRGR		**8.11**	**52**	⇑*i*P	Pn	11 41 01.4	+3.9
MORC	**Moravsky Berou**	**8.14**	**19**	⇓*i*P	Pn	11 41 02.6	+4.7
SMF	**Signal de Mont**	**8.16**	**306**	*e*Sn	**Pn**	**11 40 56.3**	**-1.9**
LANS	**Liptovska Anna**	**8.17**	**29**	*e*PN	Pn	11 41 02.3	+3.9
MTLF	**Montolieu**	**8.30**	**282**	*e*Pn	**Pn**	**11 40 57.9**	**-2.2**
MTLF				*e*Sn	Sn	11 42 27.2	-7.0
	comp=Z,1.7nm,0.5s						
MTLF	**Montolieu**	**8.30**	**282**	*e*Pn	**Pn**	**11 40 57.9**	**-2.2**
OKC	**Ostrava-Krasne**	**8.35**	**22**	AMS	AMS	11 45 10.0	
	comp=Z,200nm,14.1s						
PAGF	**Fort de Pagny**	**8.35**	**322**	*e*Pn	**Pn**	**11 40 59.0**	**-1.8**
PAGF				*e*Sn	Sn	11 42 28.6	-6.8
	comp=Z,0.2nm,0.3s						
PAGF	**Fort de Pagny**	**8.35**	**322**	*e*Pn	**Pn**	**11 40 59.0**	**-1.8**
DPC	**Dobruska-Polom**	**8.43**	**13**	AMS	AMS	11 44 30.0	
	comp=Z,300nm,13.9s						
SFTF	**Sexfontaines**	**8.43**	**319**	*e*Pn	**Pn**	**11 41 00.0**	**-1.9**
SFTF	**Sexfontaines**	**8.43**	**319**	*e*Pn	**Pn**	**11 41 00.0**	**-1.9**
LOR	**Lormes**	**8.48**	**310**	*e*Sn	**Pn**	**11 41 00.8**	**-1.8**
AVF	**Avril sur Loir**	**8.53**	**306**	*e*Sn	**Pn**	**11 41 01.3**	**-1.9**
	SNR=1.0						
UPC	**Upice**	**8.53**	**11**	AMS	AMS	11 44 40.0	
	comp=Z,300nm,13.9s						
SSF	**Saint Saulge**	**8.57**	**308**	*e*Sn	**Pn**	**11 41 02.1**	**-1.7**
MEZF	**Maizieres J'vi**	**8.63**	**320**	*e*Pn	**Pn**	**11 41 02.8**	**-1.8**
MEZF	**Maizieres J'vi**	**8.63**	**320**	*e*Pn	**Pn**	**11 41 02.8**	**-1.8**
CAF	**Calviac**	**8.67**	**292**	*e*Pn	**Pn**	**11 41 06.0**	**+0.8**
CAF				*e*Sn	Sn	11 42 36.1	-7.2
	comp=Z,1.0nm,0.4s						
CAF	**Calviac**	**8.67**	**292**	*e*Pn	**Pn**	**11 41 06.0**	**+0.8**
TCF	**Toulx Ste Croi**	**9.01**	**301**	*e*Sn	**Pn**	**11 41 08.1**	**-1.8**
VOIR		**9.04**	**65**	⇑*i*P	**Pn**	**11 41 12.6**	**+2.2**
STHS	**Stebnicka Huta**	**9.08**	**34**	*e*PN	Pn	11 41 15.9	+5.0
CLL	**Collm**	**9.14**	**358**	*e*Pn	**Pn**	**11 41 11.0**	**-0.6**
CLL				*e*Sn	Sn	11 42 38.0	-17
CLL				*e*Sg		11 44 02.0	
	comp=Z,25nm,1.5s						
MLR	**Muntele Rosu**	**9.66**	**66**	Pn	**Pn**	**11 41 21.0**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=246,slow=18,SNR=8.1						
MLR				LR	LR	11 45 54.4	
	comp=Z,47nm,19.2s,baz=254,slow=43						
MLR	**Muntele Rosu**	**9.66**	**66**	⇑*i*P	**Pn**	**11 41 21.0**	**+2.1**
BURAR	**Bucovina Array**	**10.00**	**53**	⇓*i*P	Pn	11 41 28.2	+4.7
ESDC	**Sonseca Array**	**13.36**	**265**	LR	LR	11 46 35.8	
	comp=Z,40nm,21.1s,baz=170,slow=34						
BRTR	**Keskin Array B**	**15.50**	**92**	Pn	**P**	**11 42 41.3**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=276,slow=13,SNR=2.8						
BRTR				LR	LR	11 49 23.7	
	comp=Z,26nm,21.5s,baz=280,slow=40						
MDT	**Midelt**	**17.04**	**243**	LR	LR	11 48 36.8	
	comp=Z,35nm,19.5s,baz=22,slow=34						
HFS	**Hagfors**	**17.99**	**1**	P	**P**	**11 43 11.0**	**+0.8**
	comp=Z,0.0nm,0.3s,baz=174,slow=14,SNR=2.1						
HFS				LR	LR	11 50 33.1	
	comp=Z,47nm,20.9s,baz=184,slow=39						
NOA	**NORSAR Array B**	**18.94**	**357**	P	**Pn**	**11 43 22.1**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=173,slow=12,SNR=2.7						
NOA				LR	LR	11 51 21.8	
	comp=Z,40nm,18.6s,baz=175,slow=39						
OBN	**Obninsk**	**19.94**	**42**	LR	LR	11 51 27.6	
	comp=Z,48nm,20.9s,baz=269,slow=38						
FINES	**FINESS Array B**	**20.76**	**17**	P	**P**	**11 43 40.8**	**+0.3**
	comp=Z,6.6nm,1.0s,baz=197,slow=12,SNR=12						
FINES				LR	LR	11 51 20.1	
	comp=Z,27nm,21.1s,baz=96,slow=36						
KBZ	**Khabaz**	**21.61**	**76**	P	**P**	**11 43 51.7**	**+1.9**
	comp=Z,3.8nm,1.0s,baz=299,slow=9.8,SNR=4.9						
KBZ				LR	LR	11 54 25.0	
	comp=Z,23nm,18.2s,baz=272,slow=43						
ARCES	**ARCESS Array B**	**28.14**	**9**	P	**P**	**11 44 51.8**	**0.0**
	comp=Z,0.8nm,0.7s,baz=184,slow=12,SNR=3.4						
ARCES				LR	LR	11 56 41.3	
	comp=Z,31nm,20.6s,baz=284,slow=38						
TORD	**Torodi Ar. Bea**	**30.65**	**203**	P	**P**	**11 45 15.7**	**+1.2**
	comp=Z,0.9nm,0.9s,baz=14,slow=8.5,SNR=5.0						
TORD				LR	LR	11 58 55.6	
	comp=Z,70nm,19.0s,baz=20,slow=39						
GEYT	**Alibeck**	**34.20**	**82**	P	**P**	**11 45 47.0**	**+1.4**
	comp=Z,0.7nm,0.4s,baz=301,slow=11,SNR=4.5						
DBIC	**Dimbokro**	**38.88**	**210**	LR	LR	12 02 52.7	
	comp=Z,29nm,20.1s,baz=68,slow=37						
ZALV	**Zalesovo Beam**	**47.20**	**50**	LR	LR	12 09 01.4	
	comp=Z,35nm,19.8s,baz=250,slow=38						
MKAR	**Makanchi Array**	**47.95**	**60**	P	**P**	**11 47 40.1**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=293,slow=6.2,SNR=3.7						
MKAR				LR	LR	12 08 40.9	
	comp=Z,28nm,18.6s,baz=306,slow=37						
SONM	**Songino Array**	**62.10**	**50**	P	**P**	**11 49 21.9**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=302,slow=8.4,SNR=6.3						
YKA	**Yellowknife Ar**	**67.67**	**337**	P	**P**	**11 49 56.1**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=48,slow=5.9,SNR=3.7						
ILAR	**Eielson Array**	**72.27**	**351**	P	**P**	**11 50 26.6**	**+1.6**
	comp=Z,0.3nm,1.0s,baz=350,slow=4.6,SNR=3.5						
MJAR	**Matsushiro Arr**	**86.87**	**41**	LR	LR	12 33 43.1	
	comp=Z,18nm,18.5s,baz=225,slow=38						
ASAR	**Alice Springs**	**127.81**	**89**	PKP	**PKPdf**	**11 58 06.1**	**+0.2**
	comp=Z,0.6nm,1.1s,baz=352,slow=2.8,SNR=2.5						

*CSEM **04** 11:41:13.5±1.5,26.69N×57.27E,h2km,ML3.6,Error ellipse: s-maj=69.2km s-min=18.5km az=157.0*
*OMAN **04** 11:41:15.4±0.6,26.75N×57.05E,h10km,Error ellipse: s-maj=86.9km s-min=7.0km az=312.0*
DSN 04 11:41:02.4±1.1,27.43N×57.76E,h10km,mb3.1/5, ML3.6/1,7C-2D,Error ellipse: s-maj=27.7km s-min=7.8km az=138.0,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**1.99**	**222**	⇓P	Pn	11 41 36.1	-0.1
	SNR=37						
BANOM	**Banah**	**1.99**	**222**	⇑S	Sn	11 41 50.7	-10
BANOM	**Banah**	**1.99**	**222**	⇑*e*P	Pn	11 41 35.8	-0.3
	SNR=37						
BANOM				⇑S	Sn	11 42 02.1	+0.9
BANOM	**Banah**	**1.99**	**222**	P	Pn	11 41 35.8	-0.4
	SNR=37						
BANOM				S	Sn	11 41 50.7	-10
HATD	**Hatta, Dubai**	**2.98**	**210**	⇓P	Pn	11 41 49.5	-0.3
HATD	**Hatta, Dubai**	**2.98**	**210**	P	Pn	11 41 49.5	-0.2
ASHO	**Ashiyiah**	**3.13**	**210**	⇑P	Pn	11 41 52.7	+0.8
	SNR=11						
ASHO	**Ashiyiah**	**3.13**	**210**	⇑*i*P	Pn	11 41 52.6	+0.7
	SNR=11						
ASHO	**Ashiyiah**	**3.13**	**210**	P	Pn	11 41 52.7	+0.8
	SNR=11						
ASUD	**Al Ashush, Dub**	**3.54**	**219**	⇑P	Pn	11 41 57.9	+0.3
	SNR=7.6						
ASUD	**Al Ashush, Dub**	**3.54**	**219**	⇑*i*P	Pn	11 41 58.0	+0.4
	SNR=7.6						
ASUD	**Al Ashush, Dub**	**3.54**	**219**	P	Pn	11 41 57.9	+0.4
	SNR=7.6						

*IDC **04** 12:02:46.7±1.2,2.48S×141.55E,h0km,mb3.5/5, mb1 3.8/6,mb1mx3.6/19,mbtmp3.6/6,ML3.9/1,Error ellipse: s-maj=23.7km s-min=11.7km az=5.0*
*ISCJB **04** 12:02:49.5±1.0,2.6S±0.1×141.4E±0.1,h29km,mb3.4/5,*

Error ellipse: s-maj=19.9km s-min=16.4km az=152.2
ISC 04 12:02:51.3±1.1,2.5S±0.2×141.3E±0.1,h29km,n13, σ1s24/7,mb3.5/5,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.58**	**268**	Pg	**Pb**	**12 03 03.1**	**-0.1**
	90nm,0.3s,baz=143,slow=4.4,SNR=414						
JAY				Lg	Lg	12 03 14.9	
	99nm,0.3s,baz=160,slow=15,SNR=12						
WRA	**Warramunga Arr**	**18.63**	**201**	P	**P**	**12 07 05.5**	**-1.3**
	0.4nm,0.3s,baz=21,slow=12,SNR=26						
ASAR	**Alice Springs**	**22.23**	**198**	P	**P**	**12 07 45.0**	**-0.9**
	0.6nm,0.6s,baz=26,slow=11,SNR=16						
STKA	**Stephens Creek**	**29.23**	**179**	P	**P**	**12 08 52.1**	**+1.4**
	1.6nm,1.0s,baz=351,slow=13,SNR=2.2						
H11S3	**WAKE ISLAND Hy**	**32.56**	**49**	T	T	12 43 36.7	
	baz=232,slow=75,SNR=54						
H11S2	**WAKE ISLAND Hy**	**32.57**	**49**	T	T	12 43 36.7	
	baz=232,slow=75,SNR=33						
H11S1	**WAKE ISLAND Hy**	**32.58**	**49**	T	T	12 43 35.6	
	baz=232,slow=75,SNR=27						
H11N1	**WAKE ISLAND Hy**	**33.45**	**48**	T	T	12 44 40.1	
	baz=229,slow=76,SNR=5.0						
H11N2	**WAKE ISLAND Hy**	**33.47**	**48**	T	T	12 44 41.2	
	baz=229,slow=76,SNR=7.3						
H11N3	**WAKE ISLAND Hy**	**33.47**	**48**	T	T	12 44 41.8	
	baz=229,slow=76,SNR=5.2						
MKAR	**Makanchi Array**	**71.21**	**322**	P	**P**	**12 14 08.6**	**+0.9**
	0.1nm,0.3s,baz=123,slow=5.3,SNR=2.1						
VNDA	**Vanda**	**75.78**	**175**	P	**P**	**12 14 34.0**	**-0.1**
	0.3nm,0.5s,baz=342,slow=7.4,SNR=3.8						
ILAR	**Eielson Array**	**84.58**	**24**	P	**P**	**12 15 20.7**	**-0.9**
	0.4nm,0.9s,baz=256,slow=4.1,SNR=4.9						

WEL 04 12:04:20.8±0.4,36.55S×176.74E,h237km±6km,ML3.6/6, 4C-1D,Error ellipse: s-maj=6.4km s-min=5.4km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.47**	**146**	PN	Pn	12 04 57.9	+0.4
MXZ	**Matakaoa Point**	**1.61**	**129**	PN	Pn	12 04 58.9	+0.1
URZ	**Urewera**	**1.74**	**170**	PN	Pn	12 04 60.0	+0.2
URZ				SN	S	12 05 30.1	-0.3
WMGZ	**Waiomatatini S**	**1.85**	**134**	⇑PN	Pn	12 05 00.8	+0.1
WMGZ				SN	S	12 05 31.2	-0.9
MWZ	**Matawai**	**1.89**	**161**	PN	Pn	12 05 01.3	+0.1
TWGZ	**Tauwhareparae**	**1.91**	**149**	⇑PN	Pn	12 05 01.7	+0.4
TWGZ				SN	S	12 05 32.9	-0.4
PUZ	**Puketiti**	**1.95**	**142**	⇑PN	Pn	12 05 01.4	-0.3
CNGZ	**Carnagh Statio**	**2.26**	**149**	PN	Pn	12 05 04.3	-0.3
SNGZ	**Shannon Statio**	**2.28**	**168**	PN	Pn	12 05 04.8	-0.1
RIGZ	**Rimuhau**	**2.31**	**160**	PN	Pn	12 05 04.8	-0.4
RAHZ	**Arahi**	**2.38**	**173**	PN	Pn	12 05 05.9	0.0
NMHZ	**Naumai**	**2.55**	**179**	⇓PN	Pn	12 05 07.9	+0.3
KNZ	**Kokohu**	**2.58**	**164**	PN	Pn	12 05 06.8	-1.1
BKZ	**Black Stump Fm**	**2.62**	**184**	⇑PN	Pn	12 05 07.7	-0.7
ARHZ	**Aropaoanui**	**2.72**	**176**	PN	Pn	12 05 08.9	-0.5
KWHZ	**Kaweka Forest**	**2.88**	**185**	PN	Pn	12 05 10.6	-0.7
MCHZ	**McNeill Hill**	**2.89**	**181**	PN	Pn	12 05 10.8	-0.5
WNVZ	**Wahianoa**	**2.92**	**198**	PN	Pn	12 05 11.8	0.0
KRHZ	**Kereru**	**3.11**	**185**	PN	Pn	12 05 12.3	-1.4
KAHZ	**Kahuranaki**	**3.25**	**178**	PN	Pn	12 05 13.8	-1.5
PNHZ	**Pukenui**	**3.39**	**187**	PN	Pn	12 05 14.9	-1.9
PXZ	**Pawanui**	**3.48**	**178**	PN	Pn	12 05 15.8	-2.1
PXZ				SN	S	12 05 57.9	-5.1
ANWZ	**Angora Road**	**3.92**	**183**	PN	Pn	12 05 20.7	-2.3
MRZ	**Mangatainoka R**	**4.21**	**192**	PN	Pn	12 05 23.8	-2.6
HOWZ	**Holdsworth Sta**	**4.45**	**192**	PN	Pn	12 05 26.6	-2.8

WEL 04 12:17:53.0±0.8,46.10S×165.93E,h5km,ML3.7/8,2C-2D, Error ellipse: s-maj=7.3km s-min=3.9km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.53**	**98**	⇓PG	Pb	12 18 04.0	-0.8
PYZ				SG	Sg	12 18 10.8	+0.6
DCZ	**Deep Cove**	**1.06**	**55**	P*	Pg	12 18 12.5	-0.8
DCZ				S*	Sb	12 18 28.1	+0.1
DCZ				AML	AML	12 18 29.9	
WHZ	**Wether Hill Ro**	**1.43**	**82**	PN	Pn	12 18 18.2	-1.3
WHZ				SN	Sn	12 18 38.8	+0.1
WHZ				AML	AML	12 18 38.9	
APZ	**The Paps**	**1.60**	**118**	PN	Pn	12 18 19.3	-2.8
APZ				AML	AML	12 18 39.7	
APZ				SN	Sn	12 18 42.7	-0.5
MLZ	**Mavora Lakes**	**1.75**	**65**	PN	Pn	12 18 23.7	-0.3
MLZ				AML	AML	12 18 53.1	
MLZ				AML	AML	12 18 54.3	
MSZ	**Milford Sound**	**2.01**	**45**	⇑PN	Pn	12 18 27.2	-0.3
MSZ				AML	AML	12 19 04.7	
MSZ				AML	AML	12 19 05.0	
SYZ	**Scrubby Hill**	**2.27**	**102**	PN	Pn	12 18 30.0	-1.1
WKZ	**Wanaka**	**2.52**	**61**	⇑PN	Pn	12 18 36.1	+1.4
WKZ				AML	AML	12 19 11.6	
WKZ				AML	AML	12 19 18.9	
EAZ	**Earnscleugh**	**2.53**	**71**	⇓PN	Pn	12 18 35.4	+0.7
EAZ				AML	AML	12 19 13.8	
EAZ				AML	AML	12 19 16.0	
TUZ	**Tuapeka**	**2.59**	**88**	PN	Pn	12 18 34.8	-0.7
JCZ	**Jackson Bay**	**2.85**	**46**	PN	Pn	12 18 40.3	+1.0
JCZ				AML	AML	12 19 34.1	
JCZ				AML	AML	12 19 36.5	

*KRNET **04** 12:31:36.2±0.1,39.40N×75.75E,mb3.8*
*NNC **04** 12:31:41.1±1.4,39.74N×75.09E,h0km,mb4.2,mpv3.9, Error ellipse: s-maj=11.7km s-min=4.1km az=154.0*
ISC 04 12:31:39.3±1.3,39.76N±0.04×75.15E±0.03,h5km±15km, n28,σ1s85/35,15C-14D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.68**	**111**	⇓*i*Pg	**Pg**	**12 31 52.1**	**-0.2**
KSH				Sg	**Sg**	**12 32 00.7**	**-0.5**
KSH				smax	smax		
	comp=N,1μm,0.8s						
KSH				smax	smax		
	comp=E,840nm,0.3s						
SFK	**Sufi-Kurgan**	**1.29**	**282**	⇑P	**Pg**	**12 32 04.7**	**+0.6**
	comp=E,161nm,0.3s						
SFK				⇓S	**Sg**	**12 32 21.8**	**+1.0**
	comp=E,197nm,0.3s						
NRN	**Naryn**	**1.79**	**21**	*e*P	**Pg**	**12 32 13.8**	**+0.2**
	baz=5.0						
NRN				*e*S	**Sg**	**12 32 41.4**	**+4.6**
	baz=5.0						
KZA	**Kyzart**	**2.31**	**2**	P	**Pb**	**12 32 21.5**	**-0.3**
	SNR=148						
KZA	**Kyzart**	**2.31**	**2**	⇓*i*P	**Pb**	**12 32 21.4**	**-0.3**
	baz=352						
KZA				⇓*i*S	**Sg**	**12 32 56.4**	**+2.7**
	baz=352						
UCH	**Uchtor**	**2.51**	**349**	P	**Pb**	**12 32 24.3**	**-0.8**
	SNR=103						
UCH	**Uchtor**	**2.51**	**349**	⇑*i*P	**Pb**	**12 32 24.2**	**-0.9**
	baz=342						
UCH				⇑*i*S	**Sg**	**12 33 01.2**	**+1.3**
	baz=342						
AML	**Almayashu**	**2.61**	**335**	P	**Pb**	**12 32 25.4**	**-1.5**
	SNR=30						
AML	**Almayashu**	**2.61**	**335**	⇑*i*P	**Pb**	**12 32 25.3**	**-1.5**
	baz=331						
AML				⇑*i*S	**Sb**	**12 33 02.3**	**+3.0**
	baz=331						
ULHL	**Ulahol**	**2.62**	**18**	P	**Pb**	**12 32 25.4**	**-1.3**
	SNR=46						
ULHL	**Ulahol**	**2.62**	**18**	⇑*i*P	**Pb**	**12 32 25.3**	**-1.4**
	baz=7.0						
ULHL				⇑*i*S	**Sg**	**12 33 02.3**	**-1.0**
	baz=7.0						
KBK	**Karagaybulak**	**2.90**	**357**	P	**Pb**	**12 32 30.0**	**-1.5**
	SNR=52						
AAK	**Ala-Archa**	**2.91**	**350**	P	**Pb**	**12 32 30.5**	**-1.3**
	SNR=34						
AAK	**Ala-Archa**	**2.91**	**350**	⇓Pn	**Pb**	**12 32 30.4**	**-1.4**
	comp=E,18nm,0.3s						
AAK				⇓Sn	**Sb**	**12 33 05.3**	**-2.4**
	comp=E,50nm,0.6s						
EKS	**Erkin-Say**	**3.08**	**341**	*i* P	**Pb**	**12 32 33.1**	**-1.5**
	baz=336						

FRU	**Bishkek**	**3.10**	**353**	*e*P	**Pb**	**12 32 32.0**	**-2.8**
	baz=346							
TKM2	**Tokmak 2**	**3.17**	**6**	P	**Pb**	**12 32 33.8**	**-2.5**
	SNR=333							
TKM2	**Tokmak 2**	**3.17**	**6**	⇓Pn	**Pb**	**12 32 33.8**	**-2.5**
	comp=E,128nm,0.3s							
TKM2				⇑Sn	**Sb**	**12 33 13.9**	**-1.4**
	comp=E,133nm,0.5s							
CHMS	**Chumysh**	**3.25**	**355**	P	**Pb**	**12 32 34.8**	**-2.6**
	SNR=49							
BTK	**Batken**	**3.35**	**276**	*e*P	**Pb**	**12 32 39.0**	**-0.1**
	baz=281							
BTK				*e*S	**Sg**	**12 33 25.0**	**-1.7**
	baz=281							
USP	**Ospenovka**	**3.54**	**352**	P	Pn	12 32 38.3	+3.5
	SNR=33							
KNDC	**Almaty**	**3.71**	**21**	⇓Pg	**Pg**	**12 32 48.6**	**-1.7**
	comp=E,32nm,0.3s							
KNDC				⇓Lg	Lg	12 33 38.4		
	comp=E,82nm,0.5s							
PDGK	**Podgornoye**	**4.82**	**41**	⇑Pg	**Pb**	**12 33 05.4**	**+1.2**
	comp=E,15nm,0.5s							
PDGK				⇑Lg	Lg	12 34 11.5		
	comp=E,95nm,0.8s							
KK31	**Karatay Array**	**4.83**	**315**	⇑Pn	**Pn**	**12 32 54.0**	**+1.4**
	comp=E,0.6nm,0.3s,baz=132,slow=17,SNR=2.9							
KK31				⇑Pg	**Pg**	**12 33 10.5**	**-1.3**
	comp=E,5.7nm,0.5s							
KK31				⇓Lg	Lg	12 34 13.3		
	comp=E,8.1nm,0.3s,baz=129,slow=28,SNR=5.6							
DZET	**Dzherino**	**5.00**	**261**	⇓Pn	**Pn**	**12 32 56.2**	**+1.1**
	comp=E,13nm,0.4s							
DZET				⇑Lg	Lg	12 34 23.1		
	comp=E,67nm,0.6s							
MK31	**Makanchi Array**	**8.74**	**34**	⇓Pn	Pn	12 33 50.1	+3.7
	comp=E,0.4nm,0.5s,baz=198,slow=12,SNR=8.0							
MK31				⇑Pg	Pg	12 34 21.8	-4.8
	comp=E,2.3nm,0.7s,baz=216,slow=15,SNR=4.8							
MK31				⇓Lg	Lg	12 36 18.8		
	comp=E,4.2nm,0.8s,baz=222,slow=26,SNR=3.9							
KURBB	**Kurchatov Array**	**11.12**	**11**	⇓Lg	Lg	12 37 35.5		
	comp=E,14nm,0.8s							
KURK	**Kurchatov**	**11.22**	**11**	⇑Lg	Lg	12 37 35.6		
	comp=E,9.8nm,1.3s							

*IDC **04** 12:42:01.5±1.7,7.97N×104.54W,h0km,mb3.9/8, mb1 4.2/8,mb1mx3.9/29,mbtmp3.9/8,MS3.4/11, Ms1 3.4/11,ms1mx3.3/22,Error ellipse: s-maj=81.2km s-min=18.6km az=60.0*
*ISCJB **04** 12:42:04.2±0.9,8.3N±0.1×103.8W±0.1,h10km,mb4.4/39, MS3.3/9,Error ellipse: s-maj=24.8km s-min=9.0km az=141.9*
*BJI **04** 12:42:04.4,8.30N×103.80W,h10km,Ms7 4.2/1*
*NEIC **04** 12:42:05.4±0.7,8.24N×103.90W,h10km,mb4.4/34,Error ellipse: s-maj=19.2km s-min=7.8km az=53.0*
ISC 04 12:42:05.2±1.0,8.3N±0.1×103.9W±0.2,h10km,n68, σ1s20/58,mb4.4/39,MS3.3/9,Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**12.44**	**44**	LR	LR	12 48 36.1	
	comp=Z,447nm,19.7s,baz=198,slow=30						
JTS	**JuntasAbangare**	**18.85**	**82**	LR	LR	12 51 47.1	
	comp=Z,195nm,18.3s,baz=276,slow=30						
TXAR	**Lajitas Array**	**20.96**	**1**	P	**P**	**12 46 49.4**	**+0.9**
	1.6nm,1.0s,baz=188,slow=8.5,SNR=11						
TXAR				LR	LR	12 54 21.7	
	comp=Z,317nm,18.8s,baz=0.0,slow=35						
TX31	**Lajitas Ar. Si**	**20.96**	**1**	*e*P	**P**	**12 46 49.0**	**+0.4**
JCT	**Junction City**	**22.44**	**9**	*e*P	**P**	**12 47 04.9**	**+0.6**
	21nm,1.2s						
HKT	**Hockley**	**22.87**	**18**	*e*P	**P**	**12 47 08.0**	**-0.9**
	13nm,1.4s						
121A	**Cookes Peak, D**	**24.41**	**352**	*e*P	**P**	**12 47 24.4**	**+0.3**
	27nm,1.6s						
TUC	**Tucson**	**24.75**	**346**	*e*P	**P**	**12 47 28.4**	**+1.2**
	17nm,1.5s						
MSTX	**Muleshoe**	**25.60**	**2**	*e*P	**P**	**12 47 34.6**	**-0.2**
	9.7nm,1.1s						
LAZ	**Ladron**	**26.18**	**354**	*e*P	**P**	**12 47 40.6**	**+0.5**
	8.3nm,1.5s						
OTAV	**Otavalo**	**26.62**	**106**	*e*P	**P**	**12 47 46.1**	**+1.4**
	12nm,1.5s						
ANMO	**Albuquerque**	**26.65**	**355**	P	**P**	**12 47 44.5**	**+0.1**
	0.2nm,0.3s,baz=176,slow=15,SNR=2.8						
ANMO				LR	LR	12 58 22.7	
	comp=Z,91nm,19.9s,baz=188,slow=36						
ANMO

	4.0nm,1.1s,baz=312,slow=8.2,SNR=5.8							
CPUP	**Villa Florida**	**56.83**	**129**	*e*P		**P**	**12 51 50.2**	**+0.1**
	0.2nm,0.6s							
INK	**Inuvik**	**63.09**	**348**	P		**P**	**12 52 31.4**	**-1.1**
	4.7nm,1.1s,baz=145,slow=8.2,SNR=4.7							
INK	**Inuvik**	**63.09**	**348**	*e*P		**P**	**12 52 32.0**	**-0.4**
	5.3nm,0.9s							
RND	**Reindeer**	**63.70**	**339**	*e*P		**P**	**12 52 37.1**	**+0.3**
	26nm,1.6s							
IL1	**Eielson Array**	**63.92**	**341**	*e*P		**P**	**12 52 37.5**	**-0.6**
ILAR	**Eielson Array**	**63.92**	**341**	P		**P**	**12 52 36.3**	**-1.8**
	1.9nm,1.1s,baz=153,slow=5.6,SNR=11							
COLD	**Coldfoot**	**66.55**	**342**	*e*P		**P**	**12 52 56.1**	**+1.0**
	8.9nm,1.5s							
NOA	**NORSAR Array B**	**94.59**	**26**	LR		LR	13 39 03.4	
	comp=Z,8.8nm,18.9s,baz=310,slow=36							
ARCES	**ARCESS Array B**	**95.02**	**16**	LR		LR	13 37 31.6	
	comp=Z,25nm,20.7s,baz=292,slow=35							
HHC	**Hu-ho-hao-te**	**121.21**	**329**	*e*PKP		**PKPdf**	**13 01 00.8**	**+1.8**
HHC				PP		PP	13 02 35.9	+7.6
HHC				SKKS			13 09 23.0	
HHC				LZ				
	47nm,17.1s							
WMQ	**Urumqi**	**127.09**	**349**	*e*PKP		**PKPdf**	**13 01 10.6**	**+0.5**
LZH	**Lanzhou**	**128.72**	**331**	*e*PKP		**PKPdf**	**13 01 09.6**	**-4.0**
LZH				sPKP			13 01 16.8	
CD2	**Chengdu**	**132.86**	**327**	PKP		**PKPdf**	**13 01 20.7**	**-0.7**
CMAR	**Chiang Mai Arr**	**145.14**	**320**	PKP		**PKPbc**	**13 01 41.2**	**-2.3**
	0.7nm,0.8s,baz=17,slow=1.5,SNR=5.1							

MEX 04 12:47:07.2±0.6, 15°22N×93°36W, h76km±10km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.50**	**16**	*i* P	Pn	12 47 19.2	-1.4
PCIG				*i* S	Sn	12 47 28.7	-1.7
TGIG		**1.56**	**8**	*e*S	Sn	12 47 32.0	-1.4
TGIG				*e*S	Sn	12 47 50.9	-2.2
CCIG	**Comitan**	**1.58**	**48**	*e*P	Pn	12 47 33.1	-0.6
CCIG				*e*S	Sn	12 47 51.2	-2.5

PGC 04 12:50:49.6±5.8, 50°50N×130°26W, h10km, MLSn2.9/24, Mw3.5/24, 201km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.36**	**83**	Pn	Pn	12 51 12.6	-2.1
HOLB				Sn	Sb	12 51 28.7	-4.0
BPBC	**Brooks Peninsu**	**1.63**	**101**	Pn	Pn	12 51 15.8	-2.6
PHC	**Port Hardy**	**1.81**	**82**	Pn	Pn	12 51 19.1	-1.7
PHC				Sn	Sn	12 51 39.6	-4.2
MAYB	**Maynard**	**1.98**	**92**	Pn	Pn	12 51 21.2	-2.1
FHRB	**Fair Harbour**	**2.06**	**101**	Pn	Pn	12 51 22.1	-2.1
EDB	**Eliza Dome**	**2.11**	**106**	Pn	Pn	12 51 22.6	-2.4
BBB	**Bella Bella**	**2.15**	**38**	Pn	Pn	12 51 24.1	-1.4
BBB				Sn	Sn	12 51 47.5	-4.8
TLCB	**Telegraph Cove**	**2.19**	**88**	Pn	Pn	12 51 24.5	-1.4
TLCB				Sn	Sn	12 51 50.0	-3.0
WOSB	**Woss**	**2.39**	**97**	Pn	Pn	12 51 27.2	-1.7
ETB	**Estevan Point**	**2.65**	**114**	Pn	Pn	12 51 30.6	-1.8
NCRB	**Newcastle Ridg**	**2.69**	**91**	Pn	Pn	12 51 31.4	-1.6
BCBC	**Bella Coola**	**2.88**	**48**	Sn	Sn	12 52 06.7	-3.4
TOFB	**Tofino**	**3.12**	**114**	Pn	Pn	12 51 37.0	-1.9
CBB	**Campbell River**	**3.17**	**97**	Pn	Pn	12 51 38.4	-1.2
BTB	**Buttle Lake**	**3.23**	**107**	Pn	Pn	12 51 39.0	-1.6
OZB	**Mount Ozzard**	**3.46**	**115**	Pn	Pn	12 51 41.8	-1.7
RUBB	**Prince Rupert**	**3.83**	**0**	Pn	Pn	12 51 47.4	-1.1
TXB	**Texada**	**3.83**	**100**	Pn	Pn	12 51 47.7	-1.0
MGB	**Mount Grey**	**3.91**	**110**	Pn	Pn	12 51 48.5	-1.4
YOUB	**Youbou, Lake C**	**4.21**	**110**	Pn	Pn	12 51 53.9	0.0
SHB	**Sechelt**	**4.21**	**100**	Pn	Pn	12 51 53.1	-0.8
PFB	**Port Renfrew**	**4.25**	**115**	Pn	Pn	12 51 53.4	-1.0
UBRB	**Upper Baezaeko**	**4.52**	**56**	Pn	Pn	12 51 58.8	+0.5
UBRB				Sn	Sn	12 52 48.7	-2.3
LZB	**Mount Lazard**	**4.59**	**112**	Pn	Pn	12 52 00.0	+0.8
BIB	**Bowen Island**	**4.62**	**101**	Pn	Pn	12 52 00.2	+0.8
SNB	**Saturna Island**	**4.92**	**108**	Pn	Pn	12 52 04.2	+0.6
HNB	**Haney**	**5.11**	**101**	Pn	Pn	12 52 07.0	+0.8
MCW	**Mount Constitu**	**5.16**	**108**	Pn	Pn	12 52 07.8	+0.9
LLLB	**Lillooet**	**5.34**	**86**	Pn	Pn	12 52 09.1	-0.3
VDB	**Vedder Mountai**	**5.49**	**102**	Pn	Pn	12 52 12.3	+0.9
A05A	**Maple Falls**	**5.51**	**103**	Pn	Pn	12 52 12.8	+1.2
MBW	**Mount Baker**	**5.70**	**104**	Pn	Pn	12 52 15.3	+0.8
CMW	**Cultus Mountai**	**5.70**	**108**	Pn	Pn	12 52 15.5	+1.1
JCW	**Jim Creek**	**5.91**	**110**	Pn	Pn	12 52 18.4	+1.2
B06A	**Marblemount**	**6.05**	**106**	Pn	Pn	12 52 20.2	+1.2
RPW	**Rockport**	**6.06**	**106**	Pn	Pn	12 52 19.8	+0.5
FMW	**Mount Fremont**	**6.71**	**119**	Pn	Pn	12 52 30.0	+1.6
B08A	**Colville Reser**	**7.44**	**103**	Pn	Pn	12 52 38.9	+0.6

MEX 04 13:02:45.8±0.8, 15°44N×92°30W, h178km±6km, MD3.5, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**0.85**	**11**	*e*P	Pn	13 03 11.6	-0.9
CCIG				*e*S	Sn	13 03 30.3	-2.9
PCIG		**0.92**	**287**	*e*P	Pn	13 03 11.6	-1.1
PCIG				*i* S	Sn	13 03 31.1	-2.3
TGIG		**1.55**	**330**	*e*P	Pn	13 03 16.4	-1.7
TGIG				*i* S	Sn	13 03 41.0	-2.2

*NEIC **04** 13:22:53.5, 32°.08N×115°.21W, h10km, ML2.8(PAS), After PAS.*
*ECX **04** 13:22:55.4±0.6, 32°.17N×115°.23W, h10km, MD2.7, ML2.9*
*MEX **04** 13:22:56.0±0.7, 32°.15N×115°.15W, h10km, MD3.8*
ISC 04 13:22:54.1±1.0, 32°16N±0°.03×115°23W±0°.03, h25km±9km, n31, σ0°90/42, 6C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.27**	**346**	*e*P	**Pb**	**13 23 00.6**	**0.0**
CPBX				*e*S	**Sb**	**13 23 05.3**	**+0.2**
CPBX	**Cerro Prieto**	**0.27**	**346**	*e*P	**Pb**	**13 23 00.7**	**0.0**
CPBX				*e*S	**Sb**	**13 23 04.2**	**-0.9**
CPBX				⇑*e*		13 23 06.4	
CPBX				IAML		13 23 06.4	
	comp=E,5μm,0.2s						
EMSC	**East Mesa**	**0.61**	**19**	⇓*i*P	**Pb**	**13 23 06.2**	**0.0**
SGL	**Mount Signal**	**0.64**	**319**	⇑*i*P	**Pb**	**13 23 06.9**	**+0.2**
RDX	**Rancho Dawling**	**0.65**	**249**	⇑*e*P	**Pn**	**13 23 07.5**	**-0.4**
RDX				IAML		13 23 17.1	
	comp=N,512nm,0.3s						
RDX				⇑*e*		13 23 17.1	
YMD	**Yuma Desert**	**0.70**	**56**	⇓*i*P	**Pb**	**13 23 07.2**	**-0.5**
ECBX	**El Chinero**	**0.70**	**168**	*e*P	**Pb**	**13 23 07.4**	**-0.3**
ECBX				*e*S	**Sb**	**13 23 17.3**	**+0.3**
COA	**Coachella**	**0.71**	**7**	⇓*i*P	**Pb**	**13 23 07.5**	**-0.3**
WESC	**Westside Schoo**	**0.73**	**325**	*e*P	**Pb**	**13 23 08.5**	**+0.2**
YUH	**Yuha Desert**	**0.76**	**310**	*e*P	**Pb**	**13 23 08.4**	**-0.4**
RMX	**La Rumorosa**	**0.84**	**302**	⇓*e*P	**Pb**	**13 23 10.1**	**-0.1**
RMX				*e*S	**Sb**	**13 23 21.7**	**+0.4**
GLA	**Glamis**	**0.95**	**21**	*e*Pg	**Pn**	**13 23 10.8**	**-1.1**
GLA				Sg	**Sb**	**13 23 22.4**	**-1.7**
SPIG	**San Pedro Mart**	**1.13**	**190**	*e*P	**Pn**	**13 23 14.8**	**+0.1**
SPIG				*e*S	**Sn**	**13 23 28.1**	**-1.5**
SPIG	**San Pedro Mart**	**1.13**	**190**	*e*P	**Pn**	**13 23 14.8**	**+0.1**
SPIG				*e*S	**Sn**	**13 23 28.1**	**-1.5**
SPIG	**San Pedro Mart**	**1.13**	**190**	*e*P	**Pb**	**13 23 14.9**	**-0.3**
SPIG				*e*S	**Sb**	**13 23 30.5**	**+1.0**
SPX	**San Pedro Mart**	**1.13**	**190**	*e*P	**Pn**	**13 23 14.8**	**+0.2**
SPX	**San Pedro Mart**	**1.13**	**190**	*e*P	**Pn**	**13 23 14.8**	**+0.2**
SPX				*e*S	**Sb**	**13 23 31.2**	**+1.6**
SPX				⇑*e*		13 23 32.1	
SPX				IAML		13 23 32.1	
	comp=N,157nm,0.3s						
CBX	**Cerro Bola**	**1.23**	**277**	*e*P	**Pn**	**13 23 16.0**	**+0.2**
CBX				*e*S	**Sb**	**13 23 32.6**	**+0.4**
CBX	**Cerro Bola**	**1.23**	**277**	*e*P	**Pn**	**13 23 16.0**	**+0.2**
CBX				*e*S	**Sb**	**13 23 32.6**	**+0.4**
CBX	**Cerro Bola**	**1.23**	**277**	*e*P	**Pn**	**13 23 16.2**	**+0.4**
CBX				*e*S	**Sb**	**13 23 33.4**	**+1.2**
ECNX	**Esteban Cantu**	**1.27**	**247**	*e*P	**Pb**	**13 23 17.1**	**-0.3**
BAR	**Barrett**	**1.33**	**293**	*e*Pn	**Pn**	**13 23 17.3**	**+0.2**
BAR				*e*S	**Sb**	**13 23 34.9**	**-0.1**
PBX	**Punta Banda**	**1.34**	**252**	*e*P	**Pb**	**13 23 18.2**	**-0.3**
PFO	**Pinyon Flat Ob**	**1.78**	**325**	*e*Pn	**Pn**	**13 23 22.8**	**-0.6**
214A	**Organ Pipe Nat**	**2.06**	**95**	*e*Pn	**Pn**	**13 23 26.4**	**-0.7**
LDFC	**Landfair**	**2.91**	**2**	Pn	**Pn**	**13 23 41.0**	**+2.1**
GSC	**Goldstone**	**3.40**	**338**	*e*Pg	Pb	13 23 59.5	+5.8
TUC	**Tucson**	**3.77**	**87**	Pn	**Pn**	**13 23 51.8**	**+1.1**
TUC				*e*Pg	Pb	13 24 05.8	+5.9
OSI	**Osito Adit**	**3.81**	**311**	*e*Pg	Pb	13 24 07.0	+6.2
WUAZ	**Wupatki**	**4.63**	**43**	*e*Pn	**Pn**	**13 24 04.8**	**+2.1**
W18A	**Petrified Fore**	**5.45**	**56**	*e*Pn	**Pn**	**13 24 15.8**	**+2.0**

IDC 04 13:33:32.2±3.8, 29°.84S×177°.72W, h53km±33km, mb3.6/4, mb1 3.8/4, mb1mx3.5/23, mbtmp3.9/4, Error ellipse: s-maj=57.4km s-min=50.7km az=17.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.61**	**343**	P	Pn	13 33 45.9	+1.0
	220nm,0.3s,baz=89,slow=8.1,SNR=18						
RAO				S	Sn	13 33 56.1	+1.9
	313nm,0.3s,baz=357,slow=23,SNR=13						
CTA	**Charters Tower**	**33.95**	**278**	P	P	13 40 12.5	+1.7
	3.2nm,0.8s,baz=115,slow=17						
STKA	**Stephens Creek**	**34.85**	**256**	P	P	13 40 18.9	+0.5
	1.2nm,0.9s,baz=110,slow=13,SNR=3.7						
ASAR	**Alice Springs**	**43.39**	**266**	P	P	13 41 28.7	-1.1
	0.4nm,0.5s,baz=102,slow=7.3,SNR=10						
WRA	**Warramunga Arr**	**44.32**	**271**	P	P	13 41 36.4	-0.9
	1.1nm,0.4s,baz=110,slow=8.1,SNR=22						
FINES	**FINESS Array B**	**144.70**	**340**	PKP	PKPdf	13 53 01.9	-0.4
	0.9nm,0.4s,baz=52,slow=4.3,SNR=11						

*ISCJB **04** 13:34:38.6±0.4, 32°.04N±0°.02×114°.99W±0°.03, h22km±5km, Error ellipse: s-maj=4.8km s-min=3.9km az=18.9*
*NEIC **04** 13:34:39.8, 32°.05N×115°.03W, h8km, ML3.4(PAS), ML3.7(ECX), After ECX.*
*ECX **04** 13:34:39.8±0.5, 32°.05N×115°.03W, h8km, MD3.3, ML3.6*
*MEX **04** 13:34:40.6±0.6, 32°.05N×114°.97W, h10km, MD3.9*
ISC 04 13:34:38.7±1.0, 32°02N±0°.02×115°05W±0°.03, h16km±9km, n35, σ0°94/52, 1C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.45**	**332**	*e*P	**Pg**	**13 34 48.0**	**+0.1**
CPBX				*e*S	**Sb**	**13 34 55.1**	**+0.2**
CPBX	**Cerro Prieto**	**0.45**	**332**	*e*P	**Pg**	**13 34 48.1**	**+0.1**
CPBX				*e*S	**Sg**	**13 34 54.4**	**+0.2**
ECBX	**El Chinero**	**0.54**	**180**	*e*P	**Pg**	**13 34 49.3**	**-0.2**
ECBX				*e*S	**Sb**	**13 34 57.4**	**0.0**
YMD	**Yuma Desert**	**0.69**	**39**	⇓*i*P	**Pg**	**13 34 51.2**	**-1.0**
EMSC	**East Mesa**	**0.72**	**5**	⇓*i*P	**Pg**	**13 34 52.2**	**-0.8**
RDX	**Rancho Dawling**	**0.76**	**264**	*e*P	**Pg**	**13 34 53.9**	**+0.2**
RDX				*e*S	**Sb**	**13 35 04.3**	**+0.4**
RDX				IAML		13 35 05.8	
	comp=N,2μm,0.5s						
RDX				⇑*e*		13 35 05.8	
COA	**Coachella**	**0.85**	**356**	⇓*i*P	**Pg**	**13 34 53.8**	**-1.4**
SGL	**Mount Signal**	**0.85**	**318**	*e*P	**Pg**	**13 34 54.0**	**-1.3**
WESC	**Westside Schoo**	**0.94**	**322**	*e*P	**Pb**	**13 34 56.1**	**-0.5**
SPIG	**San Pedro Mart**	**1.03**	**200**	*e*P	**Pb**	**13 34 58.3**	**-0.1**
SPIG				*e*S	**Sg**	**13 35 12.2**	**-0.1**
SPIG	**San Pedro Mart**	**1.03**	**200**	*e*P	**Pb**	**13 34 58.3**	**-0.1**
SPIG				*e*S	**Sg**	**13 35 12.2**	**-0.1**
SPX	**San Pedro Mart**	**1.03**	**200**	*e*P	**Pb**	**13 34 58.4**	**+0.1**
SPX				*e*S	**Sb**	**13 35 12.1**	**+0.4**
SPX	**San Pedro Mart**	**1.03**	**200**	*e*P	**Pb**	**13 34 58.5**	**+0.1**
SPX				*e*S	**Sn**	**13 35 13.1**	**+0.1**
SPX				⇓*e*		13 35 14.9	
SPX				IAML		13 35 14.9	
	comp=E,888nm,0.3s						
RMX	**La Rumorosa**	**1.05**	**304**	*e*P	**Pb**	**13 34 57.5**	**-1.1**
RMX				*e*S	**Sb**	**13 35 12.3**	**+0.2**
RMX				⇓*e*		13 35 13.0	
RMX				IAML		13 35 13.0	
	comp=N,971nm,0.2s						
GLA	**Glamis**	**1.05**	**10**	*e*Pg	**Pn**	**13 34 59.8**	**+0.9**
GLA				*e*Sg	**Sb**	**13 35 11.2**	**-0.9**
ECNX	**Esteban Cantu**	**1.36**	**255**	*e*P	**Pn**	**13 35 03.6**	**+0.4**
ECNX				*e*S	**Sg**	**13 35 22.7**	**-0.2**
CBX	**Cerro Bola**	**1.40**	**283**	*e*P	**Pn**	**13 35 02.6**	**-1.1**
CBX				*e*S	**Sn**	**13 35 21.2**	**-0.6**
CBX	**Cerro Bola**	**1.40**	**283**	*e*P	**Pn**	**13 35 02.6**	**-1.1**
CBX				*e*S	**Sn**	**13 35 21.2**	**-0.6**
CBX	**Cerro Bola**	**1.40**	**283**	*e*P	**Pn**	**13 35 03.4**	**-0.3**
CBX				*e*S	**Sb**	**13 35 23.4**	**+1.2**
CBX				⇓*e*		13 35 25.2	
CBX				IAML		13 35 25.2	
	comp=N,1μm,0.6s						
BAR	**Barrett**	**1.52**	**296**	*e*Pn	**Pn**	**13 35 04.7**	**-0.6**
BAR				*e*Sn	**Sb**	**13 35 26.1**	**+0.5**
214A	**Organ Pipe Nat**	**1.91**	**91**	*e*Pn	**Pn**	**13 35 08.8**	**-1.8**
PFO	**Pinyon Flat Ob**	**1.98**	**324**	*e*Pn	**Pn**	**13 35 10.4**	**-1.3**
MWC	**Mount Wilson**	**3.35**	**312**	*e*Pg	**Pb**	**13 35 38.5**	**+0.6**
PASC	**Pasadena Art C**	**3.40**	**310**	*e*Pg	**Pb**	**13 35 41.1**	**+2.6**
GSC	**Goldstone**	**3.59**	**336**	Pn	**Pn**	**13 35 35.3**	**+1.5**
TUC	**Tucson**	**3.63**	**84**	*e*Pn	**Pn**	**13 35 34.5**	**+0.1**
TUC				*e*Pg	**Pg**	**13 35 48.5**	**+0.1**
SHPR	**Sheep Range**	**4.48**	**359**	*e*Pn	**Pn**	**13 35 46.8**	**+0.7**
ISA	**Isabella**	**4.62**	**323**	*e*Pg	**Pg**	**13 36 05.8**	**-1.5**
WUAZ	**Wupatki**	**4.65**	**40**	*e*Pn	**Pn**	**13 35 49.4**	**+1.0**
W18A	**Petrified Fore**	**5.41**	**54**	*e*Pn	**Pn**	**13 35 59.9**	**+1.0**
CCUT	**Cedar City**	**5.69**	**14**	*e*Pn	**Pn**	**13 36 03.5**	**+0.7**
	comp=N,8.0nm,0.8s						
121A	**Cookes Peak, D**	**6.18**	**83**	*e*Pn	**Pn**	**13 36 09.0**	**-0.4**
	comp=N,6.1nm,0.6s						
R11A	**Troy Canyon, C**	**6.33**	**356**	Pn	**Pn**	**13 36 13.3**	**+1.8**
	comp=N,2.0nm,0.6s						
R11A				*e*Pg	**Pg**	**13 36 39.4**	**-0.6**
MSU	**Marysvale**	**6.89**	**19**	Pn	**Pn**	**13 36 19.0**	**-0.3**
	comp=N,3.6nm,0.5s						
MVCO	**Mesa Verde**	**7.49**	**44**	*e*Pn	**Pn**	**13 36 29.5**	**+2.1**
	comp=N,7.7nm,0.6s						

*ISCJB **04** 13:38:31.1±0.5, 14°.9S±0°.1×174°.7W±0°.1, h10km, mb4.1/15, MS4.1/15, Error ellipse: s-maj=18.1km s-min=11.7km az=44.3*
*IDC **04** 13:38:31.4±0.7, 14°.79S×174°.77W, h0km, mb4.1/12, mb1 4.3/12, mb1mx4.2/26, mbtmp4.1/12, MS4.1/18, Ms1 4.1/18, ms1mx4.0/22, Error ellipse: s-maj=29.3km s-min=17.5km az=128.0*
*NEIC **04** 13:38:32.6±0.5, 14°.88S×174°.63W, h10km, mb4.8/3, Error ellipse: s-maj=19.2km s-min=11.9km az=130.0*
*GCMT **04** 13:38:32.6±0.2, 14°.75S×174°.38W, h16km±1km, MW5.0/80, Moment Tensor Solution. s27,c36; s80,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.65±.12; $M_{\theta\theta}$0.64±.13; $M_{\phi\phi}$0.00±.10; $M_{r\theta}$-0.44±.32; $M_{\theta\phi}$3.60±.10; $M_{r\phi}$0.51±.29; Best double couple: M_o3.69500×10^{16} NP1:ϕ_s183.00000°, δ81.00000°, λ-170.00000°. NP2: ϕ_s92.00000°, δ80.00000°, λ-9.00000°. Principal axes: T 3.9370, Plg0.0000°, Azm317.0000°; N -0.4830, Plg76.0000°, Azm227.0000°; P -3.4540, Plg14.0000°, Azm48.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 04 13:38:32.8±0.7, 14°.9S±0°.1×174°.6W±0°.1, h10km, n51, σ1°12/22, mb4.0/15, MS4.1/15, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.91**	**72**	*e*Pn	Pn	13 39 11.4	-7.8
AFI				*e*Sn	Sn	13 39 43.5	-11
MSVF	**Nonsavu**	**7.60**	**247**	Pn	**Pn**	**13 40 25.4**	**+1.6**
RAO	**Raoul Island**	**14.65**	**191**	LR	LR	13 46 02.2	
	comp=Z,657nm,21.8s,baz=329,slow=31						
RAR	**Rarotonga**	**15.46**	**116**	LR	LR	13 46 39.2	
	comp=Z,484nm,21.3s,baz=294,slow=31						
DZM	**Mont Dzumac**	**19.33**	**245**	*e*P	**Pn**	**13 42 59.3**	**-0.3**
	102nm,1.4s						
DZM				*e*LR	LR	13 47 40.3	
	2μm,26.4s						
DZM	**Mont Dzumac**	**19.33**	**245**	LR	LR	13 49 04.0	
	comp=Z,1μm,21.8s,baz=359,slow=33						
PPT	**Papeete**	**24.19**	**100**	LR	LR	13 51 45.9	
	comp=Z,132nm,18.9s,baz=308,slow=33						
PAE	**Paea**	**24.19**	**100**	*e*T	T	14 08 11.6	
	6.8nm,0.2s						
PPT2	**Papeete2**	**24.19**	**100**	*e*LQ	LQ	13 48 33.1	
	3μm,26.2s						
PPT2				*e*LR	LR	13 49 34.6	
	184nm,24.2s						
PPT2	**Papeete2**	**24.19**	**100**	*e*T	T	14 08 12.6	
	8.9nm,0.3s						
TIAR	**Tiarei**	**24.41**	**100**	*e*T	T	14 08 27.8	
	5.6nm,0.3s						
URZ	**Urewera**	**24.43**	**196**	P	**P**	**13 43 53.3**	**+1.6**
	18nm,0.9s,baz=198,slow=1.7,SNR=7.5						
URZ				LR	LR	13 52 38.0	
	comp=Z,1μm,19.1s,baz=18,slow=35						
URZ	**Urewera**	**24.43**	**196**	*e*P	**P**	**13 43 50.3**	**-1.4**
TVO	**Taravao**	**24.51**	**100**	*e*T	T	14 08 35.8	
	3.5nm,0.4s						
TBI	**Tubuai**	**25.20**	**113**	*e*LQ	LQ	13 48 56.6	
	2μm,26.8s						
TBI				*e*LR	LR	13 50 02.9	
	623nm,29.0s,baz=286						
TBI	**Tubuai**	**25.20**	**113**	*e*T	T	14 09 31.0	
	32nm,0.3s						
PMOR	**Pomariorio Ree**	**25.82**	**94**	*e*T	T	14 10 12.1	
	4.7nm,0.2s						
VAH	**Vaihoa**	**26.06**	**94**	*e*T	T	14 10 30.2	
	10.0nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**37.90**	**330**	T	T	14 26 10.1	
	baz=149,slow=76,SNR=90						
H11S3	**WAKE ISLAND Hy**	**37.91**	**330**	T	T	14 26 11.1	
	baz=149,slow=76,SNR=93						
H11S1	**WAKE ISLAND Hy**	**37.92**	**330**	T	T	14 26 13.1	
	baz=149,slow=76,SNR=87						
RKT	**Rikitea**	**38.28**	**109**	*e*T	T	14 25 49.8	
	17nm,0.3s						
H11N3	**WAKE ISLAND Hy**	**38.87**	**332**	T	T	14 27 25.2	
	baz=151,slow=76,SNR=204						
H11N1	**WAKE ISLAND Hy**	**38.87**	**332**	T	T	14 27 23.5	
	baz=151,slow=76,SNR=155						
H11N2	**WAKE ISLAND Hy**	**38.88**	**332**	T	T	14 27 26.5	
	baz=151,slow=76,SNR=223						
STKA	**Stephens Creek**	**43.30**	**239**	P	**P**	**13 46 35.6**	**+0.6**
	3.3nm,1.1s,baz=104,slow=12,SNR=3.4						
STKA				LR	LR	14 02 46.9	
	comp=Z,256nm,19.8s,baz=54,slow=34						
JAY	**Jayapura**	**45.73**	**281**	LR	LR	14 04 09.9	
	comp=Z,215nm,20.2s,baz=16,slow=34						
WRA	**Warramunga Arr**	**48.83**	**256**	P	**P**	**13 47 16.6**	**-2.2**
	0.9nm,1.0s,baz=89,slow=7.6,SNR=3.6						
WRA				LR	LR	14 05 47.2	
	comp=Z,335nm,20.9s,baz=115,slow=34						
ASAR	**Alice Springs**	**49.16**	**251**	P	**P**	**13 47 20.4**	**-0.9**
	3.2nm,0.6s,baz=83,slow=8.0,SNR=52						
ASAR				LR	LR	14 06 30.6	
	comp=Z,264nm,21.6s,baz=86,slow=34						
SIJI	**Sorong**	**55.21**	**279**	LR	LR	14 10 07.9	
	comp=Z,295nm,21.8s,baz=352,slow=34						
RPN	**Rapa Nui**	**61.58**	**113**	LR	LR	14 09 42.3	
	comp=Z,61nm,21.6s,baz=298,slow=30						
SBA	**Scott Base**	**63.70**	**184**	*e*P	**P**	**13 49 04.5**	**+0.5**
	4.0nm,0.8s						
VNDA	**Vanda**	**63.80**	**186**	P	**P**	**13 49 04.0**	**-0.6**
	2.5nm,0.9s,baz=31,slow=7.5,SNR=12						
VNDA				LR	LR	14 10 42.3	
	comp=Z,820nm,21.9s,baz=27,slow=30						
PETK	**Petropavlovsk-**	**71.76**	**343**	LR	LR	14 16 50.0	
	comp=Z,47nm,19.3s,baz=155,slow=32						
NVAR	**Mina Array Bea**	**74.72**	**43**	P	**P**	**13 50 13.2**	**0.0**
	1.0nm,0.9s,baz=228,slow=8.3,SNR=9.4						
KSRS	**Korea Array**	**74.95**	**316**	P	**P**	**13 50 14.1**	**-0.1**
	0.8nm,0.9s,baz=138,slow=6.1,SNR=4.8						
KSAR	**Wonju Array Be**	**74.97**	**316**	P	**P**	**13 50 14.1**	**-0.3**
QSPA	**South Pole Qui**	**75.19**	**180**	*e*P	**P**	**13 50 13.8**	**-1.6**
	6.7nm,0.8s						
TXAR	**Lajitas Array**	**81.29**	**57**	P	**P**	**13 50 50.3**	**+0.5**
	0.6nm,0.9s,baz=256,slow=5.0,SNR=4.8						
SEY	**Seymchan**	**81.69**	**345**	LR	LR	14 23 27.6	
	comp=Z,128nm,19.8s,baz=162,slow=33						
COLA	**College**	**82.05**	**11**	*e*P	**P**	**13 50 52.0**	**-0.8**
	9.9nm,1.0s						
ILAR	**Eielson Array**	**82.14**	**12**	P	**P**	**13 50 53.1**	**-0.2**
	1.1nm,1.1s,baz=218,slow=6.0,SNR=5.7						
ILAR				LR	LR	14 21 29.1	
	comp=Z,44nm,20.9s,baz=231,slow=31						
PDAR	**Pin

3.1nm,0.7s,baz=86,slow=7.7,SNR=3.9
ASAR LR LR 14 22 26.9
comp=Z,102nm,21.1s,baz=82,slow=34
SBA Scott Base 63.85 184 *eP* **P 14 05 12.2 -1.3**
1.2nm,0.7s
VNDA Vanda 63.94 186 P **P 14 05 17.0 +2.8**
1.6nm,1.0s,baz=13,slow=4.2,SNR=4.4
MJAR Matsushiro Arr 67.56 320 LR LR 14 29 52.6
comp=Z,84nm,21.9s,baz=260,slow=32
NVAR Mina Array Bea 74.69 43 P **P 14 06 22.7 +1.1**
2.0nm,0.9s,baz=232,slow=10,SNR=7.2
KSRS Korea Array 74.75 316 LR LR 14 35 32.7
comp=Z,43nm,18.8s,baz=132,slow=33
QSPA South Pole Qui 75.34 180 *eP* **P 14 06 23.4 -1.4**
2.4nm,0.9s
TXAR Lajitas Array 81.31 57 P P 14 07 02.5 +4.0
1.0nm,1.0s,baz=207,slow=5.2,SNR=5.6
TXAR LR LR 14 35 03.5
comp=Z,62nm,21.7s,baz=0.0,slow=30
SEY Seymchan 81.51 345 P **P 14 06 58.0 -0.7**
1.6nm,1.0s,baz=122,slow=9.0,SNR=4.3
COLA College 81.92 11 *eP* **P 14 07 01.5 +0.7**
8.7nm,1.0s
ILAR Eielson Array 82.02 12 P **P 14 06 59.9 -1.4**
0.4nm,0.9s,baz=213,slow=5.8,SNR=6.4
PDAR Pinedale Array 82.62 42 LR LR 14 37 01.1
comp=Z,49nm,19.7s,baz=261,slow=31
CMAR Chiang Mai Arr 91.16 289 LR LR 14 43 25.2
comp=Z,38nm,21.7s,baz=145,slow=32
SONM Songino Array 93.45 319 LR LR 14 44 36.3
comp=Z,37nm,21.4s,baz=92,slow=32
BRTR Keskin Array B 144.79 321 PKP PKPbc 14 14 18.5 +0.4
2.7nm,0.8s,baz=64,slow=2.9,SNR=12
GERES GERESS Array B 145.24 350 PKP **PKPdf 14 14 19.6 +0.1**
0.5nm,0.6s,baz=25,slow=3.5,SNR=5.5

*ISCJB **04** 13:56:49.5±0.2, 1°.36N±0°.03×127°.41E±0°.03, h128km, mb4.5/28, Error ellipse: s-maj=4.3km s-min=3.6km az=157.4*
*NEIC **04** 13:56:50.7±0.6, 1°.33N×127°.36E, h127km±6km, mb4.6/12, Error ellipse: s-maj=8.0km s-min=5.6km az=63.0*
*IDC **04** 13:56:51.6±1.8, 1°.27N×127°.44E, h134km±17km, mb4.0/13, mb1 4.1/14, mb1mx3.8/35, mbtmp4.4/14, MS3.1/2, Ms1 3.1/2, ms1mx2.8/27, Error ellipse: s-maj=16.8km s-min=8.8km az=80.0*
*DJA **04** 13:56:52.1±0.5, 1°.N±4°×12°.7E±°, h105km±3km, M5.1/36, mb5.2/36, mB5.5/20, MLv5.4/15, Mw(mB)5.0/20*
ISC 04 13:56:51.0±0.5, 1°.32N±0°.05×127°.36E±0°.06, h128km±9km, n111, σ1°.15/117, mb4.5/28, 6C-7D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.54**	**179**	P	**Pn**	**13 57 10.3**	**+0.1**
TNTI				S	**Sn**	**13 57 22.4**	**-2.2**
TNTI	**Ternate**	**0.54**	**179**	*eP*	**Pn**	**13 57 10.2**	**+0.1**
TNTI				*eSn*	**Sn**	**13 57 27.0**	**+2.4**
LBMI	**Labuha**	**1.95**	**176**	P	**Pn**	**13 57 25.6**	**+1.3**
LBMI				S	**Sn**	**13 57 51.3**	**+1.5**
SGSI	**Sangihe**	**2.98**	**322**	P	**Pn**	**13 57 36.6**	**-0.7**
KMSI	**Cibinong**	**3.45**	**258**	P	**Pn**	**13 57 44.1**	**+0.6**
KMSI				S	**Sn**	**13 58 23.5**	**-0.6**
SANI	**Sanana**	**3.62**	**202**	P	**Pn**	**13 57 45.5**	**-0.1**
SANI				S	**Sn**	**13 58 24.0**	**-3.9**
SIJI	**Sorong**	**4.47**	**119**	P	**Pn**	**13 57 57.5**	**+0.5**
	11nm,0.3s,baz=311,slow=11,SNR=21						
NLAI	**Namlea**	**4.54**	**183**	P	**Pn**	**13 57 58.4**	**+0.5**
LUWI	**Luwuk**	**5.15**	**243**	P	**Pn**	**13 58 05.4**	**-0.7**
	1μm,0.8s,10μm6.9nm						
LUWI	**Luwuk**	**5.15**	**243**	P	**Pn**	**13 58 05.1**	**-1.0**
	baz=5.0,SNR=64						
LUWI	**Luwuk**	**5.15**	**243**	*eP*	**Pn**	**13 58 05.0**	**-1.0**
	850nm,0.8s						
MRSI	**Marisa**	**5.48**	**261**	P	**Pn**	**13 58 10.4**	**-0.1**
	533nm,0.5s,8μm2.5nm						
MATI	**Mati**	**5.70**	**349**	*eP*	**Pn**	**13 58 13.5**	**0.0**
APSI	**Ampana**	**6.12**	**249**	P	**Pn**	**13 58 18.6**	**-0.6**
	1μm,0.6s,16μm5.8nm						
FAKI	**Fak Fak**	**6.45**	**131**	P	**Pn**	**13 58 25.5**	**+1.8**
	135nm,1.6s,1μm0.5nm						
FAKI	**Fak Fak**	**6.45**	**131**	⇓P	**Pn**	**13 58 23.3**	**-0.3**
	baz=6.3,SNR=16						
FAKI	**Fak Fak**	**6.45**	**131**	*eP*	**Pn**	**13 58 24.9**	**+1.2**
	68nm,0.7s						
TOLI	**Toli-Toli**	**6.56**	**268**	*eP*	**Pn**	**13 58 24.9**	**-0.2**
	260nm,0.5s						
BUKP	**Musuan**	**6.91**	**341**	*eP*	**Pn**	**13 58 29.0**	**-0.8**
BUKP				*eS*	Sn	13 59 03.7	-43
KDI	**Kendari**	**7.06**	**222**	P	**Pn**	**13 58 31.8**	**-0.1**
	375nm,0.7s,7μm2.0nm						
MPSI	**Mapaga**	**7.52**	**263**	P	**Pn**	**13 58 37.8**	**-0.2**
	94nm,0.4s,2μm0.5nm						
BUTP	**Butuan**	**7.79**	**347**	*eP*	**Pn**	**13 58 41.3**	**-0.4**
PCI	**Palu**	**7.84**	**254**	P	**Pn**	**13 58 42.7**	**+0.4**
	249nm,1.0s,2μm0.7nm						
TTSI	**Tana Toraja**	**8.69**	**240**	P	**Pn**	**13 58 53.3**	**-0.5**
	790nm,0.7s,8μm						
MSLP	**Maasin**	**9.10**	**344**	*eP*	**Pn**	**13 58 58.0**	**-1.3**
SPSI	**Sidrap Palu**	**9.22**	**235**	P	**Pn**	**13 59 01.9**	**+0.9**
	409nm,0.5s,7μm						
BKSI	**Bulukumba**	**9.78**	**228**	P	**Pn**	**13 59 10.8**	**+2.3**
	472nm,0.5s,6μm						
KAPI	**Kappang**	**9.86**	**230**	P	**Pn**	**13 59 11.5**	**+1.9**
	47nm,0.3s,baz=36,slow=4.0,SNR=122						
KAPI				S	**Sn**	**14 00 56.9**	**-1.7**
	12nm,0.3s,baz=204,slow=21,SNR=13						
KAPI				LR	LR	14 03 06.9	
	comp=Z,79nm,19.3s,baz=94,slow=38						
KAPI	**Kappang**	**9.86**	**230**	*eP*	**Pn**	**13 59 09.3**	**-0.2**
	116nm,0.5s						
KAPI				S	**Sn**	**14 00 56.9**	**-1.7**
OCLP	**Ormoc**	**10.05**	**344**	*eP*	**Pn**	**13 59 11.6**	**-0.4**
BSSI	**Bau Bau, Buton**	**10.10**	**223**	P	**Pn**	**13 59 14.9**	**+2.2**
	166nm,0.6s,2μm						
GUIM	**Jordan**	**10.39**	**333**	*eP*	**Pn**	**13 59 15.3**	**-1.3**
BKB	**Balikpapan**	**10.77**	**256**	P	**Pn**	**13 59 22.9**	**+1.2**
	117nm,0.8s						
KKM	**Kota Kinabalu**	**12.06**	**293**	⇓P	Pn	13 59 42.3	+3.4
	baz=12,SNR=7.2						
KBKI	**Kotabaru**	**12.09**	**248**	P	**Pn**	**13 59 38.9**	**-0.3**
	55nm,0.9s,1μm						
BBKI	**Banjar Baru**	**13.38**	**249**	P	**Pn**	**13 59 56.6**	**+0.6**
	129nm,1.5s,2μm						
KDU	**Kakadu**	**14.81**	**160**	P	**Pn**	**14 00 11.9**	**-2.3**
	baz=15,SNR=7.2						
SRBI	**Singaraja**	**15.29**	**232**	P	**P**	**14 00 23.7**	**+1.6**
	56nm,1.2s						
IGBI	**Denpasar**	**15.79**	**230**	P	**P**	**14 00 29.3**	**+1.6**
	88nm,1.5s						
STKI	**Sintang**	**15.93**	**266**	P	**P**	**14 00 29.6**	**+0.5**
	38nm,1.2s,6μm						
BLJI	**Banyuglugur**	**16.41**	**237**	P	**P**	**14 00 37.6**	**+3.1**
	123nm,0.7s						
GMJI	**Gumukmas**	**16.83**	**235**	P	**Pn**	**14 00 42.5**	**+3.4**
	57nm,1.1s						
KNRA	**Kununurra**	**16.95**	**175**	P	**P**	**14 00 39.6**	**-0.7**
	baz=17,SNR=41						
KSM	**Kuching**	**17.04**	**271**	⇓P	**Pn**	**14 00 42.4**	**+0.6**
	baz=17,SNR=5.3						
KSM	**Kuching**	**17.04**	**271**	*eP*	**Pn**	**14 00 42.3**	**+0.5**
	20nm,0.7s						
NGJI	**Ngawi**	**18.05**	**241**	P	**Pn**	**14 00 57.3**	**+3.5**
	82nm,1.2s						
PWJI	**Pagerwojo**	**18.07**	**239**	P	**Pn**	**14 00 55.3**	**+1.2**
	158nm,0.9s,2μm						
KPJI	**Karang Pucung**	**20.29**	**245**	P	Pn	14 01 18.9	-1.2
	300nm,0.9s,3μm						
CMJI	**Cimerak**	**20.91**	**244**	P	**P**	**14 01 23.5**	**0.0**
	132nm,0.9s						
LEM	**Lembang**	**21.30**	**247**	P	**P**	**14 01 29.1**	**+1.3**
	83nm,1.9s						
LEM	**Lembang**	**21.30**	**247**	LR	LR	14 10 23.0	
	comp=Z,54nm,18.6s,baz=50,slow=38						
CISI	**Cisompet, Garu**	**21.39**	**245**	P	**P**	**14 01 29.1**	**+0.3**
	88nm,0.9s						
CISI	**Cisompet, Garu**	**21.39**	**245**	P	**P**	**14 01 29.0**	**+0.2**
	baz=21,SNR=9.9						
CISI	**Cisompet, Garu**	**21.39**	**245**	*eP*	**P**	**14 01 28.4**	**-0.4**
	45nm,0.6s						
PPBI	**Pangkal Pinang**	**21.50**	**261**	P	**P**	**14 01 30.6**	**+0.8**
	35nm,1.3s						
COEN	**Coen**	**21.82**	**135**	P	**P**	**14 01 33.7**	**+0.5**
	baz=22,SNR=5.8						
COEN	**Coen**	**21.82**	**135**	*eP*	**P**	**14 01 33.3**	**0.0**
CBJI	**Citeko**	**21.86**	**249**	P	**P**	**14 01 34.0**	**+0.3**
	73nm,0.7s						
CNJI	**Cibinong**	**21.92**	**247**	P	**P**	**14 01 34.1**	**-0.2**
	76nm,0.8s						
WRAB	**Tennant Creek**	**22.21**	**162**	*eP*	**P**	**14 01 36.1**	**-1.1**
	66nm,0.8s						
WRAB				*e*		14 01 42.5	
WRA	**Warramunga Arr**	**22.21**	**162**	P	**P**	**14 01 36.3**	**-0.9**
	34nm,0.5s,baz=343,slow=10,SNR=100						
WRA				S	**S**	**14 05 31.9**	**-1.2**
	3.6nm,0.9s,baz=344,slow=20,SNR=5.4						
TWG	**Pinlang**	**22.23**	**345**	*eP*	**P**	**14 01 34.7**	**-2.7**
	59nm,0.4s						
YULB	**Yu-li**	**22.72**	**345**	*eP*	**P**	**14 01 40.3**	**-1.8**
	11nm,0.8s						
TPUB	**Ta-pu**	**22.80**	**344**	*eP*	**P**	**14 01 42.0**	**-1.0**
	53nm,0.8s						
CGJI	**Cibinong**	**23.01**	**250**	P	**P**	**14 01 45.3**	**+0.2**
MBWA	**Marble Bar**	**23.55**	**198**	*eP*	**P**	**14 01 49.4**	**-0.6**
	7.6nm,0.6s						
BTDF	**Bukit Timah Da**	**23.58**	**270**	⇓P	**P**	**14 01 51.2**	**+0.9**
	baz=24,SNR=5.6						
BTDF				⇓P	**P**	**14 01 51.2**	**+0.9**
	baz=24,SNR=5.6						
XMI	**Christmas Isla**	**24.52**	**241**	⇓P	**P**	**14 01 59.1**	**+0.3**
	baz=24						
QIS	**Mount Isa**	**24.83**	**152**	P	**P**	**14 02 02.0**	**+0.4**
	baz=25,SNR=29						
MTSU	**Mount Surprise**	**25.54**	**140**	⇑P	**P**	**14 02 08.3**	**+0.2**
	baz=25,SNR=7.4						
AS31	**Alice Springs**	**25.64**	**166**	*eP*	**P**	**14 02 08.5**	**-0.4**
ASAR	**Alice Springs**	**25.64**	**166**	P	**P**	**14 02 08.4**	**-0.4**
	7.9nm,0.5s,baz=351,slow=7.4,SNR=72						
AS07	**Alice Springs**	**25.66**	**166**	⇑P	**P**	**14 02 08.5**	**-0.5**
	baz=26						
WRKA	**Warakurna**	**26.22**	**178**	P	**P**	**14 02 14.4**	**+0.3**
	baz=26,SNR=18						
IPM	**Ipoh**	**26.48**	**277**	*eP*	**P**	**14 02 16.3**	**-0.3**
	5.6nm,0.5s						
GIRL	**Giralia**	**27.04**	**207**	⇑P	**P**	**14 02 22.6**	**+1.2**
	baz=27,SNR=3.1						
CTA	**Charters Tower**	**28.21**	**140**	P	**P**	**14 02 30.5**	**-1.5**
	2.8nm,0.8s,baz=207,slow=2.6,SNR=3.9						
PSI	**Prapat**	**28.45**	**273**	P	**P**	**14 02 34.7**	**+0.4**
	2.9nm,0.3s,baz=71,slow=10.0,SNR=5.6						
MEEK	**Meekatharra**	**29.05**	**196**	P	**P**	**14 02 39.1**	**-0.2**
	baz=29,SNR=9.2						
FORT	**Forrest**	**31.93**	**179**	⇑P	**P**	**14 03 04.1**	**-0.5**
	baz=32,SNR=7.9						
MORW	**Morawa**	**32.10**	**199**	P	**P**	**14 03 06.1**	**0.0**
	baz=32,SNR=9.0						
QLP	**Quilpie**	**32.17**	**151**	P	**P**	**14 03 06.4**	**-0.3**
	baz=32,SNR=6.3						
KMBL	**Kambalda**	**32.92**	**189**	⇑P	**P**	**14 03 13.5**	**+0.3**
	baz=33,SNR=4.4						
BLDU	**Balliduu**	**33.34**	**197**	⇑P	**P**	**14 03 16.9**	**+0.1**
	baz=33,SNR=8.0						
ENH	**Enshi**	**33.42**	**331**	*eP*	**P**	**14 03 18.5**	**+0.8**
	4.1nm,0.5s						
KLBR	**Kellerberrin**	**33.98**	**195**	P	**P**	**14 03 22.4**	**0.0**
	baz=34,SNR=13						
BBOO	**Buckleboo**	**34.93**	**167**	P	**P**	**14 03 30.2**	**-0.4**
	baz=35,SNR=90						
BBOO	**Buckleboo**	**34.93**	**167**	*eP*	**P**	**14 03 30.0**	**-0.6**
	24nm,0.4s						
EIDS	**Eidsvold**	**35.09**	**141**	P	**P**	**14 03 32.1**	**0.0**
	baz=35,SNR=4.5						
NWAO	**Narrogin (SRO)**	**35.38**	**195**	P	**P**	**14 03 34.4**	**-0.1**
	7.2nm,0.5s,baz=329,slow=5.8,SNR=14						
STKA	**Stephens Creek**	**35.67**	**159**	P	**P**	**14 03 36.3**	**-0.6**
	23nm,0.7s,baz=328,slow=9.1,SNR=71						
STKA	**Stephens Creek**	**35.67**	**159**	*eP*	**P**	**14 03 36.8**	**-0.2**
KSAR	**Wonju Array Be**	**35.95**	**1**	P	**P**	**14 03 39.7**	**+0.5**
KSRS	**Korea Array**	**35.96**	**1**	P	**P**	**14 03 39.7**	**+0.4**
	2.5nm,0.7s,baz=176,slow=9.4,SNR=19						
HTT	**Hallett**	**36.24**	**164**	P	**P**	**14 03 42.1**	**+0.2**
	baz=36,SNR=9.6						
MJAR	**Matsushiro Arr**	**36.46**	**15**	P	**P**	**14 03 42.2**	**-1.4**
	0.7nm,0.5s,baz=192,slow=10,SNR=5.1						
CMSA	**Cobar Meteorol**	**37.02**	**154**	P	**P**	**14 03 48.8**	**+0.3**
	baz=37,SNR=20						
RKGY	**Rocky Gully**	**37.04**	**194**	P	**P**	**14 03 49.7**	**+1.2**
	baz=37,SNR=11						
ARMA	**Armidale**	**39.13**	**146**	P	**P**	**14 04 07.4**	**+1.1**
	baz=39,SNR=13						
ARPS	**Mount Arapiles**	**40.22**	**162**	P	**P**	**14 04 15.5**	**+0.5**
	baz=40,SNR=19						
TOO	**Toolangi**	**42.18**	**158**	⇓P	**P**	**14 04 32.5**	**+1.4**
	baz=42,SNR=7.5						
ASAJ	**Asahikawa**	**44.72**	**16**	P	**P**	**14 04 51.6**	**+0.3**
	1.3nm,0.4s,baz=222,slow=16						
SONM	**Songino Array**	**49.77**	**342**	P	**P**	**14 05 31.6**	**+1.0**
	2.0nm,0.7s,baz=158,slow=8.8,SNR=10						
MKAR	**Makanchi Array**	**59.88**	**326**	P	**P**	**14 06 44.0**	**+0.6**
	1.6nm,0.4s,baz=114,slow=7.8,SNR=23						
KURK	**Kurchatov**	**64.10**	**328**	*eP*	**P**	**14 07 11.4**	**+0.1**
	3.4nm,0.5s						
SEY	**Seymchan**	**64.23**	**12**	P	**P**	**14 07 11.7**	**-0.3**
	1.1nm,0.6s,baz=223,slow=7.0,SNR=10						
VNDA	**Vanda**	**80.97**	**173**	P	**P**	**14 08 50.7**	**-0.1**
	0.9nm,0.7s,baz=318,slow=4.8,SNR=6.4						
VNDA	**Vanda**	**80.97**	**173**	*eP*	**P**	**14 08 50.4**	**-0.4**
	1.5nm,0.8s						
SBA	**Scott Base**	**81.88**	**172**	*eP*	**P**	**14 08 55.8**	**+0.2**
	1.0nm,0.8s						
QSPA	**South Pole Qui**	**91.24**	**180**	*eP*	**P**	**14 09 42.1**	**+0.4**
TORD	**Torodi Ar. Bea**	**124.23**	**287**	PKP	**PKPdf**	**14 15 36.8**	**+1.1**
	0.1nm,0.4s,baz=22,slow=3.1,SNR=4.2						

MEX 04 14:18:29.5±0.9, 16°.69N×99°.73W, h16km±14km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.63**	**305**	*eP*	Pg	14 18 39.8	-2.0
CAIG				*eS*	Sg	14 18 47.2	-3.0
MEIG	**Mezcala**	**1.23**	**5**	*eP*	Pn	14 18 48.1	-4.2
MEIG				*eS*	Sb	14 19 02.8	-5.6
TLIG	**Tlapa**	**1.41**	**52**	*eP*	Pn	14 18 51.2	-3.6
TLIG				*eS*	Sn	14 19 08.1	-5.1
ARIG	**Puente Sto Nin**	**1.69**	**340**	*eP*	Pn	14 18 55.8	-2.6
ARIG				*eS*	Sn	14 19 15.7	-4.1
PLIG	**Platanillo**	**1.71**	**7**	*eP*	Pn	14 18 55.4	-3.4
PLIG				*i S*	Sn	14 19 15.7	-4.6

*JMA **04** 14:46:54.4±0.6, 20°.66N×122°.31E, h0km, M3.7*
ISC 04 14:46:56.1±2.8, 20°.3N±0°.1×122°.7E±0°.8, h31km, n5, σ1°.11/8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**4.15**	**13**	P	**Pn**	**14 47 57.4**	**0.0**
IRIF				*eS*	**Sn**	**14 48 44.1**	**-0.7**
JIJ	**Ishigaki jima**	**4.28**	**18**	P	**Pn**	**14 48 00.6**	**+1.5**
JIJ				*eS*	**Sn**	**14 48 47.3**	**-0.7**
JISG	**Ishigakijimahi**	**4.54**	**19**	P	**Pn**	**14 48 03.8**	**+1.1**
JISG				*eS*	**Sn**	**14 48 53.5**	**-0.9**
WRA	**Warramunga Arr**	**41.55**	**163**	P	**P**	**14 54 40.1**	**-0.9**
	0.2nm,0.7s,baz=345,slow=9.2,SNR=4.3						
ASAR	**Alice Springs**	**45.01**	**165**	P	**P**	**14 55 09.2**	**+0.3**
	0.3nm,0.9s,baz=349,slow=6.9,SNR=4.1						

*ISCJB **04** 14:48:00.6±0.9, 39°.50N±0°.05×122°.05E±0°.09, h10km, Error ellipse: s-maj=11.0km s-min=5.3km az=24.8*
*BJI **04** 14:48:04.9, 39°.33N×122°.23E, h7km, ML3.8/10*
ISC 04 14:48:03.8±1.0, 39°.33N±0°.04×122°.21E±0°.06, h10km, n7, σ2°.48/13, 5C-3D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DL2	**Dalian**	**0.62**	**227**	Pg	**Pg**	**14 48 15.0**	**-0.8**
DL2				Sg	**Sg**	**14 48 23.0**	**-1.0**
DL2				SMN			
	680nm,0.8s						
DL2				SME			
	800nm,1.0s						
KSBAR	**Backryungdo**	**2.38**	**124**	⇑P	**Pn**	**14 48 42.0**	**-0.9**
KSBAR				⇓S	**Sb**	**14 49 15.6**	**-0.6**
SNY	**Shenyang**	**2.70**	**22**	⇓Pg	**Pb**	**14 48 52.3**	**+0.1**
SNY				Sg	**Sb**	**14 49 27.5**	**+2.2**
SNY				SMN			
	410nm,0.5s						
SNY				SME			
	470nm,0.4s						
KSGAH	**Ganghwa**	**3.70**	**115**	⇓P	**Pb**	**14 49 09.0**	**-0.2**
KSDEI	**Deokjeokdo**	**3.70**	**123**	⇑P	**Pb**	**14 49 08.4**	**-0.8**
KSDEI				⇑S	**Sb**	**14 49 56.8**	**+2.7**
KSGBI	**Gyogryolbido**	**3.78**	**135**	⇑P	**Pn**	**14 49 02.9**	**+0.8**
KSGBI				⇑S	**Sb**	**14 50 00.4**	**+3.9**
CN2	**Changchun**	**5.08**	**27**	*e*Pg	**Pb**	**14 49 35.6**	**+2.9**
CN2				Sg	**Sg**	**14 50 42.2**	**-4.7**
CN2				SMN			
	190nm,0.6s						
CN2				SME			
	210nm,0.6s						

*ISCJB **04** 14:54:39.7±0.6, 25°.54N±0°.07×141°.2E±0°.1, h160km, mb3.5/9, Error ellipse: s-maj=15.2km s-min=8.0km az=31.6*
*IDC **04** 14:54:41.1±1.1, 25°.59N×141°.20E, h158km±13km, mb3.4/9, mb1 3.5/11, mb1mx3.2/35, mbtmp3.8/11, Error ellipse: s-maj=25.2km s-min=13.7km az=86.0*
*JMA **04** 14:54:43.1±0.3, 25°.59N×141°.11E, h129km, M3.8*
ISC 04 14:54:41.2±0.8, 25°.59N±0°.10×141°.2E±0°.1, h160km, n15, σ0°.75/18, mb3.5/9, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**1.34**	**39**	P	**Pn**	**14 55 10.3**	**+0.4**
JHHJ				S	**Sn**	**14 55 30.7**	**-1.3**
JCJ	**Chichijima**	**1.72**	**29**	P	**Pn**	**14 55 14.8**	**+1.0**
	200nm,0.3s,baz=192,slow=2.3,SNR=54						
JCJ				S	**Sn**	**14 55 39.0**	**-0.1**
	33nm,0.3s,baz=305,slow=22,SNR=7.1						
CBIJ	**Chichi jima**	**1.72**	**29**	P	**Pn**	**14 55 14.8**	**+1.0**
CBIJ				S	**Sn**	**14 55 38.9**	**-0.2**
MJAR	**Matsushiro Arr**	**11.22**	**347**	P	**Pn**	**14 57 16.0**	**-1.0**
	0.1nm,0.3s,baz=171,slow=16,SNR=3.6						
KSRS	**Korea Array**	**16.37**	**319**	P	**Pn**	**14 58 22.9**	**+1.1**
	0.0nm,0.3s,baz=126,slow=12,SNR=5.9						
CMAR	**Chiang Mai Arr**	**39.71**	**268**	P	**P**	**15 01 58.1**	**-0.1**
	0.2nm,0.5s,baz=51,slow=7.2,SNR=3.2						
WRA	**Warramunga Arr**	**45.76**	**189**	P	**P**	**15 02 46.8**	**0.0**
	4.4nm,0.6s,baz=10,slow=8.7,SNR=75						
ASAR	**Alice Springs**	**49.48**	**189**	P	**P**	**15 03 15.3**	**0.0**
	0.2nm,0.4s,baz=15,slow=13,SNR=6.5						
MKAR	**Makanchi Array**	**50.79**	**311**	P	**P**	**15 03 25.0**	**0.0**
	0.5nm,0.7s,baz=88,slow=7.1,SNR=4.2						
STKA	**Stephens Creek**	**57.15**	**180**	P	**P**	**15 04 10.9**	**-0.2**
	0.7nm,0.3s,baz=32,slow=4.4,SNR=8.5						
ILAR	**Eielson Array**	**59.44**	**28**	P	**P**	**15 04 27.8**	**+1.1**
	0.5nm,0.8s,baz=251,slow=5.8,SNR=6.5						
FINES	**FINESS Array B**	**78.91**	**334**	P	**P**	**15 06 26.3**	**-0.2**
	1.3nm,0.3s,baz=85,slow=4.6,SNR=24						
AKASG	**Malin Array Be**	**83.32**	**324**	P	**P**	**15 06 49.8**	**-0.2**
	0.6nm,0.7s,baz=53,slow=4.6,SNR=4.4						
NB2	**NORSAR Subarra**	**84.68**	**338**	P	**P**	**15 06 56.0**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=54,slow=5.1						
NOA	**NORSAR Array B**	**84.68**	**338**	P	**P**	**15 06 56.1**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=35,slow=5.2,SNR=4.7						

*ISCJB **04** 15:11:26.3±0.7, 34°.48N±0°.10×136°.31E±0°.10, h366km±4km, mb2.7/3, Error ellipse: s-maj=17.5km s-min=10.1km az=146.0*
*JMA **04** 15:11:27.5±0.1, 34°.59N×136°.25E, h359km±1km, M2.6*
*IDC **04** 15:11:27.1±1.5, 34°.41N×136°.33E, h361km±16km, mb2.6/3, mb1 2.8/6, mb1mx2.6/32, mbtmp3.3/6, Error ellipse: s-maj=24.4km s-min=20.6km az=109.0*
ISC 04 15:11:27.2±0.9, 34°.5N±0°.1×136°.29E±0°.08, h360km±7km, n21, σ0°.48/27, mb2.8/3, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TSUJ	**Tsu 2**	**0.23**	**27**	S	**S**	**15 12 48.2**	**+0.1**
JIE	**Ise**	**0.36**	**107**	P	**Pn**	**15 12 13.0**	**+0.7**
JIE				S	**S**	**15 12 48.4**	**-0.1**
JWY	**Kouya**	**0.64**	**244**	P	**Pn**	**15 12 13.5**	**+0.5**
JWY				S	**S**	**15 12 49.1**	**-0.6**
JWT	**Wachi**	**1.07**	**317**	P	**Pn**	**15 12 14.3**	**+0.1**
JWT				S	**S**	**15 12 50.6**	**-1.4**
JWZ	**Kozaga**	**1.08**	**206**	P	**Pn**	**15 12 14.6**	**+0.2**
JGM	**Miyama**	**1.25**	**16**	P	**Pn**	**15 12 15.4**	**+0.4**
JGM				S	**S**	**15 12 53.5**	**0.0**
JAI	**Aioi**	**1.68**	**246**	P	**Pn**	**15 12 17.7**	**+0.3**
JKG	**Kaga**	**1.77**	**1**	P	**Pn**	**15 12 17.7**	**-0.1**
JYN	**Shimob**	**2.10**	**61**	P	**Pn**	**15 12 20.1**	**0.0**
JMN	**Monobe**	**2.14**	**250**	P	**Pn**	**15 12 21.1**	**+0.6**
JOD2	**Odawara 2**	**2.42**	**71**	P	**Pn**	**15 12 22.5**	**+0.1**
MAT	**Matsushiro**	**2.57**	**37**	P	**Pn**	**15 12 23.4**	**-0.2**
MAT				*eS*	**S**	**15 13 08.7**	**-0.3**
MAT	**Matsushiro**	**2.57**	**37**	P	**Pn**	**15 12 23.6**	**0.0**
MJAR	**Matsushiro Arr**	**2.57**	**37**	P	**Pn**	**15 12 24.0**	**+0.4**
	3.2nm,0.3s,baz=199,slow=9.2,SNR=72						
JRY	**Ryogami san**	**2.62**	**54**	P	**Pn**	**15 12 24.2**	**+0.2**
JRY				S	**S**	**15 13 09.8**	**0.0**
JHS	**Saijyo**	**2.66**	**282**	P	**Pn**	**15 12 24.8**	**+0.4**
KSRS	**Korea Array**	**7.39**	**296**	P	**P**	**15 13 15.2**	**-0.2**
	0.1nm,0.3s,baz=108,slow=13,SNR=8.2						
ASAJ	**Asahikawa**	**10.77**	**25**	P	**P**	**15 13 55.0**	**+0.

*IDC **04** 16:12:51.4±1.2, 15°.23S×174°.63W, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/39, mbtmp3.8/5, Error ellipse: s-maj=46.7km s-min=28.0km az=117.0*
*NEIC **04** 16:12:52.9±0.7, 15°.17S×174°.68W, h10km, mb4.4/1, Error ellipse: s-maj=29.5km s-min=19.2km az=106.0*
ISC 04 16:12:53.1±1.0, **15°.25S**±0°.2×**174°.7W**±0°.3, **h10**km, **n9,** σ0§**71**/8, **mb4.0**/6, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.09**	**66**	*eP*		Pn		16 13 31.9	-10
WRA	**Warramunga Arr**	**48.68**	**257**	P		**P**		**16 21 37.8**	**-0.2**
	0.5nm,0.9s,baz=94,slow=6.8,SNR=3.2								
ASAR	**Alice Springs**	**48.99**	**252**	P		**P**		**16 21 40.5**	**+0.2**
	2.3nm,0.8s,baz=85,slow=8.0,SNR=23								
VNDA	**Vanda**	**63.46**	**186**	P		**P**		**16 23 22.6**	**-0.2**
	1.7nm,1.0s,baz=50,slow=4.1,SNR=7.0								
QSPA	**South Pole Qui**	**74.85**	**180**	*eP*		**P**		**16 24 34.2**	**+0.5**
	4.2nm,1.0s								
SEY	**Seymchan**	**82.00**	**345**	P		**P**		**16 25 13.8**	**+0.8**
	0.3nm,0.3s,baz=76,slow=17,SNR=4.1								
ILAR	**Eielson Array**	**82.49**	**12**	P		**P**		**16 25 15.4**	**0.0**
	0.4nm,0.8s,baz=199,slow=5.4,SNR=3.7								
BRTR	**Keskin Array B**	**145.21**	**320**	PKPbc		**PKPbc**		**16 32 30.6**	**-0.6**
	1.4nm,0.9s,baz=64,slow=3.7,SNR=5.3								
GERES	**GERESS Array B**	**145.74**	**350**	PKPbc		**PKPdf**		**16 32 31.0**	**-1.1**
	0.5nm,0.7s,baz=347,slow=3.0,SNR=3.6								

*IDC **04** 16:13:40.7±0.5, 14°.97S×174°.54W, h0km, mb4.3/20, mb1 4.5/21, mb1mx4.4/39, mbtmp4.3/21, ML3.5/1, MS4.8/5, Ms1 4.8/5, ms1mx4.5/10, Error ellipse: s-maj=21.0km s-min=13.9km az=130.0*
*ISCJB **04** 16:13:41.7±0.3, 15°.01S±0°.08×174°.74W±0°.08, h10km, mb4.5/49, MS5.0/13, Error ellipse: s-maj=13.4km s-min=8.4km az=141.2*
*GCMT **04** 16:13:42.9±0.1, 14°.69S×174°.41W, h13km, MW5.3/109, Moment Tensor Solution. s67,c113; s109,c191; Duration: 1§1 Moment tensor: Scale 10^17^Nm; Mrr-0.06±.01; Mθθ0.30±.02; Mϕϕ-0.23±.01; Mrθ0.01±.03; Mθϕ1.01±.02; Mrϕ0.10±.03; Best double couple: M◎1.05000×10^17^ NP1:ϕ◎188.00000°, δ89.00000°, λ-174.00000°. NP2:ϕ◎97.00000°, δ84.00000°, λ-1.00000°. Principal axes: T 1.0810, Plg4.0000°, Azm322.0000°; N -0.0620, Plg84.0000°, Azm193.0000°; P -1.0190, Plg4.0000°, Azm53.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **04** 16:13:42.9±0.3, 15°.03S×174°.62W, h10km, mb4.7/25 Error ellipse: s-maj=15.8km s-min=8.6km az=133.0*
*MOS **04** 16:13:55.0±1.7, 14°.88S×174°.94W, h107km, mb4.7/10, Error ellipse: s-maj=14.6km s-min=11.6km az=56.5*
*BJI **04** 16:13:56.4, 14°.855S×175°.17W, h105km, mb4.7/19, mB5.0/12*
ISC 04 16:13:42.9±0.5, **14°.9S**±0°.1×**174°.7W**±0°.1, **h10**km, **n188,** σ1§**35**/134, **mb4.6**/49, **MS5.0**/13, **22C-24D, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.52**	**247**	*eP*		Pn		16 15 40.7	+7.9
MSVF					pmax	pmax			
	comp=Z,35nm,1.0s								
MSVF	**Nonsavu**	**7.52**	**247**	*eP*		Pn		16 15 40.7	+7.9
	comp=Z,35nm,1.0s								
RAO	**Raoul Island**	**14.57**	**191**	LR		LR		16 21 14.1	
	comp=Z,2μm,21.4s,baz=346,slow=31								
DZM	**Mont Dzumac**	**19.25**	**246**	*eP*		Pn		16 18 20.2	+11
	comp=Z,84nm,1.2s								
DZM				*e*LR		LR		16 22 56.4	
	comp=Z,7μm,26.4s								
DZM	**Mont Dzumac**	**19.25**	**246**	P		**Pn**		**16 18 09.5**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=90,slow=20,SNR=2.1								
PAE	**Paea**	**24.24**	**100**	*e*T		T		16 43 37.2	
	comp=Z,16nm,0.3s								
PPT2	**Papeete2**	**24.24**	**100**	*e*LQ		LQ		16 23 43.2	
	comp=Z,9μm,26.2s								
PPT2				*e*LR		LR		16 24 43.0	
	comp=Z,926nm,24.5s								
PPT2	**Papeete2**	**24.24**	**100**	*e*T		T		16 43 38.3	
	comp=Z,19nm,0.4s								
URZ	**Urewera**	**24.35**	**196**	P		**P**		**16 19 01.2**	**+0.1**
	comp=Z,11nm,0.9s,baz=19,slow=7.7,SNR=3.1								
URZ	**Urewera**	**24.35**	**196**	P		**P**		**16 19 00.1**	**-1.0**
TIAR	**Tiarei**	**24.45**	**100**	*e*T		T		16 43 49.6	
	comp=Z,14nm,0.3s								
TVO	**Taravao**	**24.55**	**100**	*e*T		T		16 44 01.5	
	comp=Z,7.9nm,0.3s								
TBI	**Tubuai**	**25.22**	**113**	*e*LQ		LQ		16 24 10.3	
	comp=Z,7μm,27.2s								
TBI				*e*LR		LR		16 25 14.9	
	comp=Z,1μm,25.0s								
TBI	**Tubuai**	**25.22**	**113**	*e*T		T		16 44 54.9	
	comp=Z,41nm,0.2s								
MEH	**Mehetia**	**25.69**	**100**	*e*T		T		16 45 25.8	
	comp=Z,16nm,0.2s								
PMOR	**Pomariorio Ree**	**25.87**	**94**	*e*T		T		16 45 38.4	
	comp=Z,9.0nm,0.3s								
VAH	**Vaihoa**	**26.11**	**94**	*e*T		T		16 45 56.8	
	comp=Z,18nm,0.4s								
RPZ	**Rata Peaks**	**31.18**	**200**	LR		LR		16 31 52.8	
	comp=Z,2μm,18.4s,baz=26,slow=35								
TAOE	**Nuku Hiva Isla**	**34.29**	**84**	*e*T		T		16 56 08.7	
	comp=Z,190nm,0.3s								
H11S2	**WAKE ISLAND Hy**	**37.94**	**330**	T		T		17 01 14.8	
	baz=149,slow=76,SNR=124								
H11S3	**WAKE ISLAND Hy**	**37.95**	**330**	T		T		17 01 14.9	
	baz=149,slow=76,SNR=144								
H11S1	**WAKE ISLAND Hy**	**37.95**	**330**	T		T		17 01 14.7	
	baz=149,slow=76,SNR=150								
RKT	**Rikitea**	**38.31**	**108**	*e*LR		LR		16 31 18.9	
	comp=Z,779nm,25.5s								
RKT	**Rikitea**	**38.31**	**108**	*e*T		T		17 01 14.4	
	comp=Z,23nm,0.4s								
H11N3	**WAKE ISLAND Hy**	**38.90**	**332**	T		T		17 02 28.2	
	baz=151,slow=76,SNR=132								
H11N1	**WAKE ISLAND Hy**	**38.91**	**332**	T		T		17 02 32.6	
	baz=151,slow=76,SNR=372								
H11N2	**WAKE ISLAND Hy**	**38.92**	**332**	T		T		17 02 33.9	
	baz=151,slow=76,SNR=374								
STKA	**Stephens Creek**	**43.21**	**239**	P		**P**		**16 21 45.4**	**+0.9**
	comp=Z,8.1nm,1.1s,baz=71,slow=7.9,SNR=5.7								
WRA	**Warramunga Arr**	**48.75**	**256**	P		**P**		**16 22 28.1**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=90,slow=6.8,SNR=8.0								
AS31	**Alice Springs**	**49.09**	**252**	*eP*		**P**		**16 22 30.1**	**-0.8**
ASAR	**Alice Springs**	**49.09**	**252**	P		**P**		**16 22 30.2**	**-0.7**
	comp=Z,5.2nm,0.8s,baz=86,slow=7.7,SNR=28								
SIJI	**Sorong**	**55.17**	**280**	P		**P**		**16 23 16.5**	**+0.3**
	comp=Z,9.7nm,0.9s,baz=19,slow=5.6,SNR=4.5								
SBA	**Scott Base**	**63.62**	**184**	*eP*		**P**		**16 24 14.5**	**+0.9**
SBA					pmax	pmax			
	comp=Z,11nm,1.3s								
SBA	**Scott Base**	**63.62**	**184**	*eP*		**P**		**16 24 14.5**	**+0.9**
	comp=Z,11nm,1.3s								
VNDA	**Vanda**	**63.72**	**186**	P		**P**		**16 24 12.8**	**-1.5**
	comp=Z,1.9nm,0.8s,baz=0.3,slow=7.0,SNR=10								
MJAR	**Matsushiro Arr**	**67.79**	**320**	P		**P**		**16 24 39.7**	**-1.5**
	comp=Z,1.2nm,0.9s,baz=166,slow=7.8,SNR=4.3								
MAJO	**Matsushiro**	**67.79**	**320**	P		**P**		**16 24 43.0**	**+1.8**
MAJO					pmax	pmax			
	comp=Z,88nm,2.0s								
ERM	**Erimo**	**68.70**	**328**	*e*P		**P**		**16 24 46.1**	**-0.6**
ERM					pmax	pmax			
	comp=Z,28nm,1.2s								
YUK	**Yuzh-Kuril'sk**	**68.84**	**331**	*d*P		P		16 24 44.2	-3.3
YUK				*i*				16 25 10.2	
YUK				*i*	S	S		16 33 39.2	-12
YUK				*i*				16 34 25.1	
YUK					pmax	pmax			
	comp=Z,74nm,3.2s								
PET	**Petropavlovsk**	**71.47**	**343**	*e*P		P		16 25 00.8	-2.7
PET				*e*S		S		16 34 08.8	-13
PET				*e**SS		SKiKP		16 34 54.0	+10
PET				*e*SS		SS		16 38 43.9	-13
PET					pmax	pmax			
	comp=Z,10.0nm,1.4s								
PETK	**Petropavlovsk-**	**71.81**	**343**	P		**P**		**16 25 05.5**	**-0.1**
	comp=Z,3.7nm,0.9s,baz=138,slow=11,SNR=3.1								
CMB	**Columbia Colle**	**73.23**	**42**	*e*P		**P**		**16 25 15.0**	**+0.6**
CMB					pmax	pmax			
	comp=Z,6.0nm,0.9s								
CMB	**Columbia Colle**	**73.23**	**42**	*e*P		**P**		**16 25 15.0**	**+0.6**
	comp=Z,5.7nm,0.9s								
YBH	**Yreka Blue Hor**	**73.97**	**38**	P		**P**		**16 25 18.4**	**-0.4**
YBH					pmax	pmax			
	comp=Z,3.0nm,0.9s								
YBH	**Yreka Blue Hor**	**73.97**	**38**	*e*P		P		16 25 23.4	+4.6
	comp=Z,14nm,1.0s								
HUMO	**Hull Mountain**	**74.37**	**37**	*e*P		**P**		**16 25 21.5**	**+0.6**
NVAR	**Mina Array Bea**	**74.81**	**43**	P		**P**		**16 25 23.1**	**-0.8**
	comp=Z,3.2nm,0.8s,baz=230,slow=9.2,SNR=10.0								
KSRS	**Korea Array**	**74.96**	**316**	P		**P**		**16 25 25.0**	**+0.5**
	comp=Z,4.6nm,1.2s,baz=128,slow=6.1,SNR=12								
KSRS	**Korea Array**	**74.96**	**316**	P		**P**		**16 25 25.0**	**+0.5**
KSRS					pmax	pmax			
	comp=Z,5.0nm,1.2s								
KSAR	**Wonju Array Be**	**74.98**	**316**	P		**P**		**16 25 25.0**	**+0.4**
KSAR	**Wonju Array Be**	**74.98**	**316**	P		**P**		**16 25 25.0**	**+0.4**
MOD	**Modoc**	**75.52**	**39**	P		**P**		**16 25 28.4**	**+0.6**
	comp=Z,7.3nm,0.9s								
SHPR	**Sheep Range**	**75.91**	**46**	*e*P		P		16 25 33.7	+3.5
	comp=Z,6.7nm,1.2s								
USRK	**Ussuriysk Ar.**	**76.27**	**324**	P		**P**		**16 25 31.5**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=119,slow=2.4,SNR=4.6								
USRK					LR	LR		16 52 46.3	
	comp=Z,843nm,21.8s,baz=121,slow=31								
SSE	**Sheshan**	**76.69**	**308**	P		**P**		**16 25 34.2**	**-0.3**
SSE					S	S		16 35 13.7	-7.9
SSE					PMZ				
	comp=Z,28nm,0.8s								
SSE					PMZ				
	comp=Z,92nm,3.8s								
SSE					LN				
	comp=Z,160nm,26.1s								
SSE					LE				
	comp=Z,300nm,27.8s								
SSE					LZ				
	comp=Z,530nm,29.5s								
WVOR	**Wild Horse Val**	**76.84**	**39**	P		**P**		**16 25 37.1**	**+1.8**
WVOR					pmax	pmax			
	comp=Z,15nm,1.4s								
WVOR	**Wild Horse Val**	**76.84**	**39**	P		**P**		**16 25 37.1**	**+1.8**
	comp=Z,15nm,1.4s								
MDJ	**Mudanjiang**	**77.90**	**323**	P		**P**		**16 25 43.2**	**+2.2**
MDJ					pP	PcP		16 26 09.2	+18
MDJ					sP	sP		16 26 20.7	+35
MDJ					S	**S**		**16 35 30.7**	**-3.6**
MDJ					PMZ				
	comp=Z,4.0nm,1.2s								
MDJ					PMZ				
	comp=Z,56nm,3.5s								
MDJ					LN				
	comp=Z,250nm,26.5s								
MDJ					LE				
	comp=Z,540nm,26.9s								
MDJ					LZ				
	comp=Z,780nm,27.2s								
WUAZ	**Wupatki**	**78.10**	**48**	*e*P		P		16 25 47.4	+4.9
	comp=Z,9.3nm,1.1s								
NJ2	**Nanjing**	**78.90**	**307**	*e*P		**P**		**16 25 46.9**	**+0.1**
NJ2					S	S		16 35 37.0	-8.4
NJ2					PMZ				
	comp=Z,10.0nm,0.7s								
NJ2					LN				
	comp=Z,1μm,26.2s								
NJ2					LE				
	comp=Z,2μm,33.8s								
NJ2					LZ				
	comp=Z,1μm,28.3s								
BMO	**Blue Mountains**	**79.00**	**38**	*e*P		**P**		**16 25 48.9**	**+1.7**
	comp=Z,2.6nm,0.9s								
MFID	**Camas Ranch**	**79.10**	**39**	P		P		16 25 51.5	+3.7
	comp=Z,1.8nm,0.7s								
DUG	**Dugway**	**79.36**	**43**	P		P		16 25 53.2	+3.8
DUG					pmax	pmax			
	comp=Z,4.0nm,1.0s								
DUG	**Dugway**	**79.36**	**43**	P		P		16 25 53.2	+3.8
	comp=Z,4.2nm,1.0s								
BMRM	**Bremner River**	**79.36**	**14**	*e*P		**P**		**16 25 49.9**	**+1.2**
	comp=Z,25nm,1.2s								
HLID	**Hailey**	**80.05**	**40**	*e*P		**P**		**16 25 53.2**	**+0.2**
	comp=Z,6.0nm,1.0s								
TRF	**Thorofare Moun**	**80.39**	**11**	*e*P		**P**		**16 25 54.8**	**+0.4**
	comp=Z,11nm,0.9s								
MCK	**McKinley**	**80.90**	**11**	*e*P		**P**		**16 25 57.7**	**+0.8**
MCK					pmax	pmax			
	comp=Z,20nm,0.9s								
MCK	**McKinley**	**80.90**	**11**	*e*P		**P**		**16 25 57.7**	**+0.8**
	comp=Z,20nm,0.9s								
TXAR	**Lajitas Array**	**81.38**	**57**	P		**P**		**16 25 59.7**	**-0.7**
	comp=Z,1.4nm,1.0s,baz=226,slow=3.4,SNR=7.4								
TXAR					LR	LR		16 54 05.2	
	comp=Z,583nm,21.8s,baz=0.0,slow=30								
ANMO	**Albuquerque**	**81.45**	**50**	*e*P		P		16 26 04.2	+3.5
ANMO					pmax	pmax			
	comp=Z,30nm,1.4s								
ANMO	**Albuquerque**	**81.45**	**50**	*e*P		P		16 26 04.3	+3.5
	comp=Z,11nm,1.5s								
MCMT	**McKenzie Canyo**	**81.67**	**39**	*e*P		P		16 26 06.1	+4.3
	comp=Z,3nm,1.0s								
DLBC	**Dease Lake**	**81.72**	**22**	P		**P**		**16 26 00.2**	**-1.3**
	comp=Z,1.7nm,0.9s,baz=199,slow=18,SNR=2.6								
SEY	**Seymchan**	**81.75**	**345**	P		**P**		**16 26 00.9**	**-0.5**
	comp=Z,7.4nm,1.2s,baz=152,slow=4.8,SNR=10								
SEY	**Seymchan**	**81.75**	**345**	*e*P		**P**		**16 26 02.7**	**+1.3**
DLMT	**Dillon**	**82.09**	**39**	*e*P		**P**		**16 26 06.0**	**+2.1**
	comp=Z,4.6nm,1.0s								
COLA	**College**	**82.14**	**11**	*e*P		**P**		**16 26 04.5**	**+1.1**
COLA					pmax	pmax			
	comp=Z,52nm,1.1s								
COLA	**College**	**82.14**	**11**	*e*P		**P**		**16 26 04.3**	**+0.9**
	comp=Z,23nm,0.9s								
ILAR	**Eielson Array**	**82.23**	**12**	P		**P**		**16 26 04.7**	**+0.8**
	comp=Z,4.9nm,1.1s,baz=217,slow=6.7,SNR=14								
IMW	**Indian Meadow**	**82.39**	**41**	*e*P		P		16 26 09.8	+4.1
	comp=Z,8.9nm,1.3s								
LOHW	**Long Hollow**	**82.47**	**41**	P		P		16 26 09.4	+3.4
	comp=Z,4.5nm,1.3s								
CHMT	**Chamberlain Mo**	**82.49**	**37**	*e*P		P		16 26 11.0	+4.9
	comp=Z,3.9nm,1.2s								
PDAR	**Pinedale Array**	**82.74**	**42**	P		**P**		**16 26 06.8**	**-0.6**
	comp=Z,1.9nm,0.9s,baz=236,slow=1.6,SNR=7.0								
SMCO	**Snowmass**	**82.88**	**46**	*e*P		**P**		**16 26 08.3**	**-0.1**
SDCO	**Great Sand Dun**	**83.32**	**48**	*e*P		**P**		**16 26 09.9**	**-0.7**
	comp=Z,7.0nm,1.2s								
EGAK	**Eagle**	**83.45**	**14**	*e*P		**P**		**16 26 12.1**	**+1.8**
	comp=Z,6.6nm,0.9s								
MSTX	**Muleshoe**	**83.85**	**53**	*e*P		**P**		**16 26 12.6**	**-0.6**
	comp=Z,16nm,1.1s								
COLD	**Coldfoot**	**83.87**	**9**	*e*P		**P**		**16 26 13.7**	**+1.3**
	comp=Z,10nm,0.9s								
BILL	**Bilibino**	**83.89**	**353**	*c*P		**P**		**16 26 13.3**	**+0.8**
BILL					pmax	pmax			
	comp=Z,8.0nm,1.1s								
BJI	**Beijing**	**84.25**	**314**	P		**P**		**16 26 17.4**	**+2.5**
BJI					pP	PcP		16 26 43.3	+25
BJI					sP	sP		16 26 54.4	+35
BJI					S	**SKSac**		**16 36 36.1**	**-2.6**
BJI					PMZ				
	comp=Z,12nm,0.5s								
BJI					LN				
	comp=Z,130nm,24.9s								
BJI					LE				
	comp=Z,230nm,22.4s								
BJI					LZ				
	comp=Z,390nm,25.3s								
EDM	**Edmonton**	**85.73**	**32**	*e*P		P		16 26 26.3	+4.1
EDM	**Edmonton**	**85.73**	**32**	*e*P		P		16 26 26.3	+4.1
HHC	**Hu-ho-hao-te**	**87.81**	**313**	*e*P		**P**		**16 26 34.1**	**+1.4**
HHC					pP	pP		16 26 58.9	+23
HHC					sP	sP		16 27 16.0	+39
HHC					S	**SKKSac**		**16 37 07.2**	**-3.8**
HHC					sS	ScS		16 37 57.4	+35
HHC					PMZ				
	comp=Z,16nm,1.1s								
HHC					PMZ				
	comp=Z,67nm,4.9s								
HHC					LN				
	comp=Z,100nm,15.8s								
HHC					LE				
	comp=Z,250nm,17.6s								
HHC					LZ				
	comp=Z,200nm,18.8s								
MAW	**Mawson**	**87.84**	**199**	P		**P**		**16 26 30.7**	**-1.6**
	comp=Z,3.2nm,0.7s,baz=142,slow=6.1,SNR=12								
MAW					LR	LR		17 04 01.9	
	comp=Z,579nm,18.1s,baz=80,slow=34								
YAK	**Yakutsk**	**88.20**	**337**	*e*P		**P**		**16 26 33.4**	**-0.4**
YAK					pmax	pmax			
	comp=Z,6.0nm,0.8s								
KMI	**Kunming**	**89.71**	**296**	P		**P**		**16 26 44.5**	**+2.3**
KMI					pP	pP		16 27 12.4	+27
KMI					sP	sP		16 27 24.6	+38
KMI					PP	**PP**		**16 30 11.9**	**-2.6**
KMI					S	**SKKSac**		**16 37 26.2**	**0.0**
KMI					SS	SS		16 43 16.4	-15
KMI					PMZ				
	comp=Z,9.0nm,1.2s								
KMI					PMZ				
	comp=Z,47nm,3.5s								
KMI					LN				
	comp=Z,170nm,18.9s								
KMI					LE				
	comp=Z,300nm,18.9s								
KMI					LZ				
	comp=Z,330nm,18.9s								
YKA	**Yellowknife Ar**	**90.16**	**24**	P		**P**		**16 26 41.0**	**-2.0**
	comp=Z,0.8nm,0.8s,baz=107,slow=4.9,SNR=3.1								
YKA	**Yellowknife Ar**	**90.16**	**24**	P		**P**		**16 26 41.0**	**-2.0**
YKA					pmax	pmax			
	comp=Z,1.0nm,0.8s								
CD2	**Chengdu**	**90.52**	**302**	P		**P**		**16 26 44.9**	**-0.7**
CD2					PMZ				
	comp=Z,10.0nm,0.5s								
CD2					LN				
	comp=Z,210nm,11.0s								
CD2					LZ				
	comp=Z,320nm,27.8s								
CMAR	**Chiang Mai Arr**	**91.30**	**289**	P		**P**		**16 26 50.9**	**+1.4**
	comp=Z,1.0nm,0.9s,baz=104,slow=2.3,SNR=6.1								
LZH	**Lanzhou**	**91.95**	**307**	*e*P		**P**		**16 26 53.0**	**+0.7**
LZH					pP	pP		16 27 22.1	+26
LZH					sP	sP		16 27 33.5	+37
LZH					PMZ				
	comp=Z,14nm,1.0s								
SNAA	**Sanae**	**93.44**	**177**	P		P		16 26 50.2	-8.2
EKS2	**Erkin-Say**	**115.77**	**310**	*e*PKIKP		**PKPdf**		**16 32 26.2**	**+0.1**
EKS2	**Erkin-Say**	**115.77**	**310**	*e*PKPdf		**PKPdf**		**16 32 26.2**	**+0.1**
BVAR	**Borovoye Array**	**116.75**	**322**	PKP		**PKPdf**		**16 32 27.8**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=96,slow=4.3,SNR=3.0								
ARCES	**ARCESS Array B**	**123.97**	**352**	PKP		**PKPdf**		**16 32 41.3**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=68,slow=7.2,SNR=2.3								
KIV	**Kislovodsk**	**137.05**	**320**	*i* PKIKP		**PKPdf**		**16 33 06.1**	**-0.4**
KIV					pmax	pmax			
	comp=Z,2.0nm,0.8s								
KIV					MLR	MLR			
	comp=Z,242nm,21.0s								
CLL	**Collm**	**143.19**	**352**	*e*PKPdf		**PKPdf**		**16 33 16.0**	**-1.3**
KOLS	**Kolonicke sedl**	**143.34**	**341**	*e*PKIKP		**PKPdf**		**16 33 22.6**	**+4.9**
KOLS	**Kolonicke sedl**	**143.34**	**341**	*e*PKP		**PKPdf**		**16 33 22.6**	**+4.9**
KOLS				*e*				16 37 39.5	
BURAR	**Bucovina Array**	**143.47**	**337**	⇓PKIKP		PKPdf		16 33 24.6	+6.6
BURAR	**Bucovina Array**	**143.47**	**337**	⇓*i*P		PKPdf		16 33 24.6	+6.6
UPC	**Upice**	**143.47**	**349**	AMS		AMS		17 36 00.0	
	comp=Z,300nm,24.5s								
DPC	**Dobruska-Polom**	**143.56**	**348**	*e*PKP		PKPbc		16 33 15.2	-0.1
DPC				*ep*		**PKiKP**		**16 33 21.1**	**-0.3**
DPC					AMS	AMS		17 36 40.0	
	comp=Z,300nm,19.8s								
DPC	**Dobruska-Polom**	**143.56**	**348**	*e*PKIKP		PKPbc		16 33 15.2	-0.1
DPC					MLR	MLR			
	comp=Z,300nm,19.8s								
UZH	**Uzhgorod**	**143.60**	**341**	*e*PKIKP		PKPbc		16 33 15.8	+0.4
OKC	**Ostrava-Krasne**	**143.65**	**346**	AMS		AMS		17 33 00.0	
	comp=Z,300nm,19.3s								
PVCC	**Panska Ves**	**143.71**	**350**	AMS		AMS		17 32 00.0	
	comp=Z,400nm,18.1s								
PRU	**Pruhonice**	**144.24**	**350**	*e*PKP		**PKPab**		**16 33 17.3**	**+0.4**
PRU				*ex*		x		16 33 28.8	
PRU				*ex*		x		16 39 51.8	
PRU					AMS	AMS		17 36 30.0	
	comp=Z,400nm,21.5s								
PRU	**Pruhonice**	**144.24**	**350**	*e*PKIKP		**PKPab**		**16 33 17.3**	**+0.4**
PRU				*e*				16 39 51.8	
PRU					MLR	MLR			
	comp=Z,400nm,21.5s								
GOPC	**GO Pecny, Ondr**	**144.26**	**350**	AMS		AMS		17 36 20.0	
	comp=Z,400nm,19.0s								
KECS	**Kecovo**	**144.28**	**343**	*e*PKIKP		PKPbc		16 33 18.5	+1.0
KECS	**Kecovo**	**144.28**	**343**	*e*PKP		PKPbc		16 33 18.5	+1.0
VRI	**Vrincioaia**	**144.29**	**334**	⇓PKIKP		PKPdf		16 33 25.4	+6.0
VRI	**Vrincioaia**	**144.29**	**334**	⇓*i*P		PKPdf		16 33 25.4	+6.0
NKC	**Novy Kostel**	**144.31**	**352**	*ep*PKP		pPKPdf		16 33 31.1	+8.3
VRAC	**Vranov**	**144.49**	**347**	⇓PKIKP		PKPdf		16 33 25.5	+5.8
VRAC	**Vranov**	**144.49**	**347**	⇓*i*P		PKPdf		16 33 25.5	+5.8
KMBO	**Kilima Mbogo**	**144.62**	**246**	PKP		**PKPab**		**16 33 19.4**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=331,slow=19,SNR=2.9								
TIRR	**Tirgusor**	**144.63**	**331**	⇑PKIKP		**PKPab**		**16 33 17.2**	**-1.4**
TIRR	**Tirgusor**	**144.63**	**331**	⇑*i*P		**PKPab**		**16 33 17.2**	**-1.4**
TREC	**Trest**	**144.73**	**348**	AMS		AMS		17 34 40.0	
	comp=Z,300nm,22.9s								
DOPR	**Dopca**	**144.76**	**335**	⇓*i*P		**PKPdf**		**16 33 20.6**	**+0.3**
CJR	**Cluj-Napoca**	**144.82**	**338**	⇓*i*P		PKPdf		16 33 31.6	+11
MLR	**Muntele Rosu**	**144.92**	**

n21,σ1§50/31,3C-2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U73B	**San Pedro**	**0.56**	**110**	*e*P	**Pb**	**16 14 07.5**	**0.0**
U73B				*e*S	**Sb**	**16 14 15.7**	**+0.6**
U73B				AML	AML	16 14 16.3	
	comp=N,23μm,0.3s						
LNV	**Longovilo**	**0.58**	**113**	⇓*i*P	**Pg**	**16 14 08.3**	**+0.7**
LNV				*i* S	**Sb**	**16 14 16.8**	**+1.0**
IHA	**Instituto Hidr**	**0.78**	**26**	*e*P	**Pb**	**16 14 10.6**	**-0.7**
IHA				*e*S	**Sb**	**16 14 20.6**	**-1.0**
TACH	**Talagante**	**0.93**	**86**	⇑*i*P	**Pb**	**16 14 13.2**	**-0.7**
TACH				*i* S	**Sb**	**16 14 25.4**	**-0.5**
CHCH	**Chadas Angostu**	**1.18**	**100**	*e*P	**Pn**	**16 14 17.4**	**-0.6**
SAN	**Santiago**	**1.19**	**77**	*e*P	**Pn**	**16 14 17.2**	**-0.9**
PEL	**Peldehue**	**1.28**	**63**	⇑*e*P	**Pn**	**16 14 18.9**	**-0.5**
PEL				*e*S	**Sn**	**16 14 34.8**	**-1.4**
PEL				AML	AML	16 14 43.5	
	comp=E,2μm,0.3s						
PCH	**Pirque**	**1.29**	**86**	⇑*i*P	**Pn**	**16 14 19.1**	**-0.4**
CLCH	**Cerro Calan**	**1.31**	**76**	⇓*e*P	**Pn**	**16 14 19.2**	**-0.5**
CLCH				AML	AML	16 14 41.6	
	comp=E,545nm,0.4s						
NICH	**Los Niches**	**1.44**	**152**	*e*P	**Pg**	**16 14 23.1**	**-0.7**
NICH				*e*S	**Sg**	**16 14 42.5**	**-0.1**
TALC	**Talca**	**1.70**	**168**	*e*P	**Pb**	**16 14 26.7**	**-0.2**
TALC				*e*S	**Sb**	**16 14 48.8**	**+0.8**
AUSP	**Uspallata**	**2.70**	**57**	*e*P	**Pb**	**16 14 42.8**	**-1.3**
AUSP				*e*S	**Sb**	**16 15 19.2**	**+2.1**
ARCO	**CERRO ARCO**	**2.76**	**72**	*e*P	**Pb**	**16 14 45.6**	**+0.5**
ARCO				AML	AML	16 15 27.8	
	comp=Z,93nm,0.5s						
AAGR	**Agrelo**	**2.77**	**77**	*e*P	**Pb**	**16 14 42.9**	**-2.4**
ASAL	**Salagasta**	**2.93**	**68**	*e*P	**Pb**	**16 14 45.5**	**-2.5**
ASAL				*e*S	**Sb**	**16 15 25.0**	**+1.5**
RTLS	**Leoncito**	**3.02**	**51**	*e*P	**Pb**	**16 14 47.6**	**-1.9**
RTLS				*e*S	**Sb**	**16 15 29.8**	**+3.6**
RTCV	**Cerro Valdivia**	**3.50**	**59**	*e*P	Pn	16 14 53.2	+3.4
RTCV				*e*S	**Sb**	**16 15 39.6**	**-0.1**
CFAA	**Coronel Fontan**	**3.85**	**58**	*e*P	**Pn**	**16 14 56.8**	**+2.1**
RTLL	**Cerro Villicun**	**3.85**	**53**	*e*P	**Pn**	**16 14 56.3**	**+1.6**
AMOG	**MOGNA**	**4.10**	**48**	*e*P	**Pn**	**16 14 59.9**	**+1.8**
ACAN	**Cantantal**	**4.34**	**72**	*e*P	**Pn**	**16 15 03.5**	**+2.2**

IDC 04 16:18:54.5±7.1,2°25N×97°42E,h0km,mb3.3/3,mb1 3.5/3, mb1mx3.2/41,mbtmp3.3/3,Error ellipse: s-maj=365.9km s-min=30.6km az=56.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**26.74**	**248**	T	T	16 50 13.2	
	baz=67,slow=76,SNR=21						
H08S3	**Diego Garcia H**	**26.74**	**248**	T	T	16 50 13.4	
	baz=67,slow=76,SNR=26						
H08S1	**Diego Garcia H**	**26.76**	**248**	T	T	16 50 14.5	
	baz=67,slow=76,SNR=28						
WRA	**Warramunga Arr**	**42.41**	**123**	P	P	16 26 51.4	+0.1
	0.5nm,1.1s,baz=302,slow=9.2,SNR=4.6						
ASAR	**Alice Springs**	**43.86**	**128**	P	P	16 27 02.6	-0.4
	0.4nm,0.9s,baz=285,slow=8.5,SNR=3.8						
MKAR	**Makanchi Array**	**46.28**	**346**	P	P	16 27 21.7	-0.1
	0.2nm,0.6s,baz=157,slow=6.6,SNR=3.7						

*ISCJB **04** 16:31:01.7±0.7,42°.03N±0°.06×81°.08E±0°.08,h10km, mb3.5/5,Error ellipse: s-maj=8.9km s-min=8.3km az=38.8*
*IDC **04** 16:31:01.8±1.0,42°.10N×81°.01E,h0km,mb3.5/5, mb1 3.6/9,mb1mx3.4/37,mbtmp3.5/9,ML3.1/4,Error ellipse: s-maj=24.6km s-min=19.7km az=74.0*
*BJI **04** 16:31:03.4,42°.15N×80°.97E,h6km,ML3.6/11*
*NNC **04** 16:31:03.7±2.2,42°.18N×80°.88E,h0km,mb4.1,mpv3.9, Error ellipse: s-maj=17.7km s-min=11.3km az=145.0*

ISC 04 16:31:03.7±0.8,42°.07N±0°.07×80°.85E±0°.05,h10km,n25, σ1§50/22,mb3.5/5,9C-10D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**1.61**	**322**	⇑Pn	**Pn**	**16 31 31.3**	**-0.9**
	86nm,0.4s						
PDGK				⇑Sn	**Sg**	**16 31 55.2**	**-0.3**
	238nm,0.5s						
KNDC	**Almaty**	**3.09**	**293**	⇑Pg	**Pb**	**16 31 56.9**	**-1.8**
	91nm,0.7s						
KNDC				⇑Lg	Lg	16 32 40.0	
	223nm,0.5s						
TKM2	**Tokmak 2**	**3.98**	**284**	⇓Pn	Pn	16 32 08.4	+3.5
	15nm,0.5s						
TKM2				⇓Lg	Lg	16 33 07.0	
	139nm,0.6s						
KSH	**Kashi**	**4.49**	**237**	Pg	**Pg**	**16 32 32.6**	**+2.9**
KSH				Sg	Sg	16 33 42.9	+15
KSH				SMN			
	30nm,0.8s						
KSH				SME			
	37nm,0.9s						
AAK	**Ala-Archa**	**4.74**	**279**	⇓Pg	Pb	16 32 30.5	+3.5
	14nm,0.5s						
AAK				⇓Lg	Lg	16 33 31.8	
	52nm,0.6s						
AAK	**Ala-Archa**	**4.74**	**279**	Pn	Pg	16 33 08.7	+34
	1.5nm,0.3s,baz=131,slow=10,SNR=4.2						
AAK				Pg	Pb	16 33 20.0	+53
	5.8nm,0.3s,baz=104,slow=13,SNR=15						
AAK				Lg	Lg	16 34 21.4	
	7.2nm,0.3s,baz=184,slow=24,SNR=8.7						
AAK	**Ala-Archa**	**4.74**	**279**	PKIKP	Pb	16 32 30.4	+3.4
AAK						16 33 31.8	
AAK				pmax	pmax		
	comp=Z,14nm,0.5s						
AAK				pmax	pmax		
	comp=N,126nm,1.0s						
MK31	**Makanchi Array**	**4.84**	**12**	⇑Pn	**Pn**	**16 32 16.0**	**-0.6**
	comp=N,2.1nm,0.3s,baz=202,slow=14,SNR=245						
MK31				⇓Pg	**Pb**	**16 32 28.7**	**+0.1**
	comp=N,3.6nm,0.3s,baz=185,slow=14,SNR=3.6						
MK31				⇓Sn	**Sn**	**16 33 14.8**	**+2.2**
	comp=N,28nm,0.7s,baz=194,slow=21,SNR=6.9						
MK31				⇓Lg	Lg	16 33 30.0	
	comp=N,24nm,0.5s,baz=188,slow=30,SNR=6.0						
MK31	**Makanchi Array**	**4.84**	**12**	*e*P	**Pn**	**16 32 16.0**	**-0.6**
MKAR	**Makanchi Array**	**4.84**	**12**	Pn	**Pn**	**16 32 16.7**	**+0.1**
	comp=N,2.5nm,0.3s,baz=187,slow=13,SNR=83						
MKAR				Lg	Lg	16 33 28.4	
	comp=N,9.4nm,0.3s,baz=196,slow=32,SNR=8.1						
WMQ	**Urumqi**	**5.32**	**68**	Pg	**Pb**	**16 32 35.2**	**-1.7**
WMQ				Sg	**Sb**	**16 33 42.3**	**+1.5**
WMQ				SMN			
	comp=N,120nm,0.8s						
WMQ				SME			
	comp=N,71nm,0.8s						
SFK	**Sufi-Kurgan**	**5.92**	**252**	⇓Pg	**Pg**	**16 32 56.0**	**-1.1**
	comp=N,7.8nm,0.8s						
SFK				⇓Lg	Lg	16 34 18.5	
	comp=N,23nm,0.9s						
KK31	**Karatay Array**	**7.70**	**281**	Pg	Pb	16 33 23.3	+6.1
	comp=N,2.5nm,0.5s,baz=86,slow=16,SNR=8.8						
KK31				⇑Lg	Lg	16 35 06.4	
	comp=N,6.3nm,0.5s						
KURBB	**Kurchatov Arra**	**8.71**	**350**	⇑Lg	Lg	16 35 32.5	
	comp=N,48nm,0.7s						
KURBB	**Kurchatov Arra**	**8.71**	**350**	Pn	**Pn**	**16 33 08.6**	**-1.0**
	comp=N,0.1nm,0.3s,baz=90,slow=6.7,SNR=5.3						
KURBB				Lg	Lg	16 35 25.0	
	comp=N,0.3nm,0.3s,baz=159,slow=33,SNR=4.8						
KURK	**Kurchatov**	**8.79**	**351**	⇑Lg	Lg	16 35 35.7	
	comp=N,23nm,0.9s						
ZALV	**Zalesovo Beam**	**12.18**	**11**	Pn	**Pn**	**16 33 54.5**	**-2.7**
	comp=N,0.1nm,0.3s,baz=192,slow=13,SNR=5.2						
AB31	**Akbulak array**	**16.25**	**303**	⇓P	**P**	**16 34 54.6**	**-0.4**
	comp=N,0.4nm,0.5s,baz=99,slow=11,SNR=7.5						
AKTO	**Aktyubinsk**	**17.82**	**306**	⇑P	**P**	**16 35 14.2**	**+1.9**
	comp=N,0.7nm,0.6s						
SONM	**Songino Array**	**18.94**	**64**	P	**P**	**16 35 23.5**	**-1.3**
	comp=N,0.4nm,0.3s,baz=246,slow=12,SNR=5.5						
BRTR	**Keskin Array B**	**35.41**	**282**	P	**P**	**16 38 01.3**	**+1.4**
	comp=N,0.3nm,0.5s,baz=106,slow=3.1,SNR=2.9						
ARCES	**ARCESS Array B**	**39.30**	**333**	P	**P**	**16 38 33.6**	**+1.2**
	comp=N,0.9nm,0.6s,baz=94,slow=7.9,SNR=6.7						
TORD	**Torodi Ar. Bea**	**73.30**	**273**	P	**P**	**16 42 34.4**	**-1.2**
	comp=N,0.2nm,0.4s,baz=42,slow=5.3,SNR=5.5						
WRA	**Warramunga Arr**	**79.02**	**130**	P	**P**	**16 43 07.4**	**-0.6**
	comp=N,0.6nm,1.1s,baz=330,slow=5.6,SNR=4.6						
ASAR	**Alice Springs**	**81.73**	**132**	P	**P**	**16 43 22.1**	**-0.4**
	comp=N,0.3nm,0.9s,baz=318,slow=5.5,SNR=4.1						

*SZGRF **04** 16:34:54.6,43°.57N×7°.98E,h10km,mb3.7,Near south coast of France*
*NEIC **04** 16:34:54.0,43°.75N×8°.18E,h13km,ML3.6(ROM),After ROM.*
NEIC Felt in the San Remo-Savona area, Italy.
*ROM **04** 16:34:54.6±0.1,43°.79N×8°.18E,h11km,Ml3.4/26,Error ellipse: s-maj=0.7km s-min=0.3km az=166.0*
*LDG **04** 16:34:55.5±0.1,43°.75N×8°.20E,h10km,Md3.8/3,Ml3.7/48, Error ellipse: s-maj=2.0km s-min=1.1km az=24.0*
*GEN **04** 16:34:55.2,43°.78N×8°.18E,h4km,ML3.5*
*CSEM **04** 16:34:55.0±0.1,43°.80N×8°.14E,h10km,ML3.9/31,Ms3.0, Error ellipse: s-maj=3.4km s-min=2.1km az=163.0*
*VIE **04** 16:34:55.3±0.4,43°.68N×8°.25E,h10km,mb3.0/13, ml3.4/11,ms3.0/3,Error ellipse: s-maj=3.6km s-min=2.7km az=46.0*
*STR **04** 16:34:55.1±0.1,43°.60N×8°.19E,h10km,Ml3.7,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*PRU **04** 16:34:57.5,44°.00N×8°.21E,h0km*

ISC 04 16:34:55.0±0.8,43°.78N±0°.02×8°.14E±0°.02,h19km±2km, n281,σ1§41/417,12C-7D,Corsica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMI	**Imperia**	**0.22**	**306**	⇓*i*Pg	**Pb**	**16 35 00.1**	**+0.1**
IMI				Sg	**Sg**	**16 35 03.7**	**-0.4**
	6μm,0.7s						
IMI	**Imperia**	**0.22**	**306**	P	**Pb**	**16 35 00.1**	**+0.1**
IMI				S	**Sg**	**16 35 03.6**	**-0.5**
IMI	**Imperia**	**0.22**	**306**	P	**Pb**	**16 35 00.1**	**+0.1**
RORO	**Rocca Rossa**	**0.34**	**351**	Pg	**Pb**	**16 35 01.7**	**-0.7**
RORO				Sg	**Sg**	**16 35 06.1**	**-1.0**
	4μm,0.6s						
RORO	**Rocca Rossa**	**0.34**	**351**	P	**Pb**	**16 35 01.8**	**-0.7**
RORO				Sg	**Sg**	**16 35 06.1**	**-1.0**
	4μm,0.6s						
RORO				S	**Sb**	**16 35 06.6**	**-0.8**
RORO	**Rocca Rossa**	**0.34**	**351**	P	**Pb**	**16 35 01.6**	**-0.8**
SAOF	**Saorge**	**0.47**	**296**	Pg	**Pn**	**16 35 06.7**	**-0.1**
SAOF				Sg	**Sb**	**16 35 14.4**	**+3.1**
SAOF	**Saorge**	**0.47**	**296**	Pg	**Pn**	**16 35 06.7**	**-0.1**
SAOF				Sg	**Sb**	**16 35 14.4**	**+3.1**
SBF	**Sospel**	**0.52**	**279**	*e*Pg	**Pb**	**16 35 06.3**	**+0.8**
	SNR=1.0						
SBF				*e*Sg	**Sb**	**16 35 13.8**	**+1.2**
	4μm,0.3s						
SBF	**Sospel**	**0.52**	**279**	*e*Pg	**Pb**	**16 35 06.3**	**+0.8**
	SNR=1.0						
SBF				*e*Sg	**Sb**	**16 35 13.8**	**+1.2**
	2μm,0.3s						
SBF	**Sospel**	**0.52**	**279**	Pg	**Pb**	**16 35 06.4**	**+0.9**
SBF				Sg	**Sn**	**16 35 15.4**	**-0.4**
AUTN	**L'Aution**	**0.56**	**293**	Pg	**Pn**	**16 35 08.5**	**+0.3**
AUTN				Sg	**Sn**	**16 35 17.5**	**+0.5**
AUTN	**L'Aution**	**0.56**	**293**	Pg	**Pn**	**16 35 08.5**	**+0.3**
AUTN				Sg	**Sn**	**16 35 17.5**	**+0.5**
REVF	**Revere**	**0.56**	**266**	Pg	**Pb**	**16 35 06.9**	**+0.7**
REVF				Sg	**Sb**	**16 35 15.8**	**+2.0**
REVF	**Revere**	**0.56**	**266**	Pg	**Pb**	**16 35 06.9**	**+0.7**
REVF				Sg	**Sb**	**16 35 15.8**	**+2.0**
QLNO	**Quiliano**	**0.56**	**15**	Pg	**Pb**	**16 35 05.7**	**-0.5**
QLNO				Sg	**Sg**	**16 35 12.7**	**-1.2**
	5μm,0.3s						
QLNO	**Quiliano**	**0.56**	**15**	Pg	**Pb**	**16 35 05.7**	**-0.5**
QLNO				Sg	**Sg**	**16 35 12.7**	**-1.2**
	5μm,0.3s						
QLNO				S	**Sb**	**16 35 14.5**	**+0.7**
QLNO	**Quiliano**	**0.56**	**15**	P	**Pb**	**16 35 05.7**	**-0.5**
QLNO				S	**Sb**	**16 35 14.5**	**+0.7**
ENR	**Entracque**	**0.69**	**311**	P	**Pb**	**16 35 08.2**	**-0.1**
ENR				S	**Sb**	**16 35 17.9**	**+0.5**
TOUF	**Mont Tournerai**	**0.69**	**290**	Pg	**Pn**	**16 35 10.2**	**+0.3**
TOUF				Sg	**Sn**	**16 35 20.8**	**+0.7**
TOUF	**Mont Tournerai**	**0.69**	**290**	Pg	**Pn**	**16 35 10.2**	**+0.3**
TOUF				Sg	**Sn**	**16 35 20.8**	**+0.7**
MVIF	**Mont Vial**	**0.72**	**279**	Pg	**Pn**	**16 35 10.6**	**+0.2**
MVIF	**Mont Vial**	**0.72**	**279**	Pg	**Pn**	**16 35 10.6**	**+0.2**
PCP	**Piancastagn**	**0.81**	**21**	Pg	**Pb**	**16 35 10.2**	**-0.3**
PCP				Sg	**Sb**	**16 35 20.9**	**-0.3**
PCP	**Piancastagn**	**0.81**	**21**	P	**Pb**	**16 35 10.3**	**-0.3**
PCP				S	**Sg**	**16 35 20.6**	**-1.2**
GENL	**Genova Univers**	**0.86**	**43**	P	**Pb**	**16 35 11.3**	**-0.1**
GENL				S	**Sb**	**16 35 22.4**	**-0.1**
CALN	**Calern**	**0.91**	**269**	Pg	**Pn**	**16 35 13.0**	**+0.1**
CALN				Sg	**Sn**	**16 35 26.9**	**+1.4**
CALN	**Calern**	**0.91**	**269**	Pg	**Pn**	**16 35 13.0**	**+0.1**
CALN				Sg	**Sn**	**16 35 26.9**	**+1.4**
DOI	**San Damiano**	**0.97**	**319**	Pg	**Pb**	**16 35 13.0**	**-0.2**
DOI				Sg	**Sb**	**16 35 26.3**	**+0.6**
	2μm,0.4s						
DOI	**San Damiano**	**0.97**	**319**	Pg	**Pb**	**16 35 13.0**	**-0.2**
DOI				Sg	**Sb**	**16 35 26.3**	**+0.6**
	2μm,0.4s						
PZZ	**Stroppo**	**1.03**	**315**	Pg	**Pg**	**16 35 14.5**	**-0.6**
PZZ				Sg	**Sg**	**16 35 28.3**	**-0.5**
	2μm,0.4s						
FRF	**La Foret Royal**	**1.11**	**259**	*e*Pn	**Pg**	**16 35 15.9**	**-0.5**
	SNR=1.0						
FRF				*e*Sn	**Sg**	**16 35 30.6**	**-0.4**
	834nm,0.3s						
FRF	**La Foret Royal**	**1.11**	**259**	*e*Pn	**Pg**	**16 35 15.9**	**-0.5**
	SNR=1.0						
FRF				*e*Sn	**Sg**	**16 35 30.6**	**-0.4**
	417nm,0.3s						
MSSA	**Maissana**	**1.13**	**61**	⇑*i*Pg	**Pb**	**16 35 15.2**	**-0.7**
MSSA				Sg	**Sb**	**16 35 29.4**	**-0.8**
	651nm,0.6s						
MSSA	**Maissana**	**1.13**	**61**	⇑*i*Pg	**Pb**	**16 35 15.2**	**-0.7**
MSSA				Sg	**Sb**	**16 35 29.4**	**-0.8**
	651nm,0.6s						
SC2M	**Scurtabo**	**1.18**	**58**	Pg	**Pn**	**16 35 16.0**	**-0.5**
SC2M				Sg	**Sb**	**16 35 30.8**	**-0.9**
	2μm,0.4s						
SC2M	**Scurtabo**	**1.18**	**58**	Pg	**Pn**	**16 35 16.0**	**-0.5**
SC2M				Sg	**Sb**	**16 35 30.8**	**-0.9**
	2μm,0.4s						
SURF	**Saint Ours**	**1.19**	**307**	Pn	**Pg**	**16 35 19.0**	**+1.0**
SURF	**Saint Ours**	**1.19**	**307**	Pn	**Pg**	**16 35 19.0**	**+1.0**
BHB	**Bricherasio**	**1.23**	**330**	⇓*i*Pg	**Pb**	**16 35 17.5**	**-0.2**
BHB				Sg	**Sn**	**16 35 33.6**	**+0.2**
	833nm,0.5s						
BHB	**Bricherasio**	**1.23**	**330**	⇓*i*Pg	**Pb**	**16 35 17.5**	**-0.2**
BHB				Sg	**Sn**	**16 35 33.6**	**+0.2**
	833nm,0.5s						
LMR	**La Mourre**	**1.27**	**250**	*e*Pn	**Pn**	**16 35 17.9**	**+0.2**
LMR				*e*Sn	**Sb**	**16 35 33.7**	**-0.5**
	255nm,0.3s						
LMR	**La Mourre**	**1.27**	**250**	*e*Pn	**Pn**	**16 35 17.9**	**+0.2**
LMR				*e*Sn	**Sb**	**16 35 33.7**	**-0.5**
	128nm,0.3s						
OG22	**Abries**	**1.35**	**321**	Pn	**Pg**	**16 35 20.8**	**-0.3**
OG22	**Abries**	**1.35**	**321**	Pn	**Pg**	**16 35 20.8**	**-0.3**
BOB	**Bobbio (Coli)**	**1.36**	**43**	Pg	**Pn**	**16 35 19.3**	**+0.3**
	571nm,0.6s						
BOB	**Bobbio (Coli)**	**1.36**	**43**	Pg	**Pn**	**16 35 19.3**	**+0.3**
	571nm,0.6s						
MBDF	**Montbardon**	**1.36**	**314**	*e*Pn	**Pb**	**16 35 20.1**	**+0.1**
MBDF				*e*Sn	**Sb**	**16 35 37.1**	**0.0**
	857nm,0.5s						
MBDF	**Montbardon**	**1.36**	**314**	*e*Pn	**Pb**	**16 35 20.1**	**+0.1**
MBDF				*e*Sn	**Sb**	**16 35 37.1**	**0.0**
	429nm,0.5s						
PGF	**Pioggiola**	**1.38**	**153**	*e*Pn	**Pn**	**16 35 18.9**	**-0.5**
PGF				*e*Sn	**Sn**	**16 35 35.4**	**-1.8**
	231nm,0.2s						
PGF	**Pioggiola**	**1.38**	**153**	*e*Pn	**Pn**	**16 35 18.9**	**-0.5**
PGF				*e*Sn	**Sn**	**16 35 35.4**	**-1.8**
	116nm,0.2s						
RRL	**Rocca Remolon**	**1.50**	**320**	Pg	**Pb**	**16 35 22.1**	**-0.2**
	529nm,0.6s						
RRL	**Rocca Remolon**	**1.50**	**320**	Pg	**Pb**	**16 35 22.1**	**-0.2**
	529nm,0.6s						
RSP	**Reno Superiore**	**1.50**	**336**	Pg	**Pb**	**16 35 21.7**	**-0.7**
RSP				Sg	**Sb**	**16 35 41.0**	**-0.1**
	392nm,0.6s						
RSP	**Reno Superiore**	**1.50**	**336**	Pg	**Pb**	**16 35 21.7**	**-0.7**
RSP				Sg	**Sb**	**16 35 41.0**	**-0.1**
	392nm,0.6s						
BNI	**Bardonecchia**	**1.65**	**321**	Pg	**Pb**	**16 35 24.7**	**-0.1**
	333nm,0.9s						
BNI	**Bardonecchia**	**1.65**	**321**	*e*Pn	**Pb**	**16 35 24.5**	**-0.3**
BNI				*e*Sg	**Sg**	**16 35 47.4**	**-0.8**
BNI	**Bardonecchia**	**1.65**	**321**	*e*Pn	**Pb**	**16 35 24.5**	**-0.3**
BNI				*e*Sg	**Sg**	**16 35 47.4**	**-0.8**
VLC	**Villacollemand**	**1.67**	**76**	Pg	**Pn**	**16 35 23.5**	**+0.3**
	334nm,0.8s						
MAIM	**Mastiano**	**1.71**	**85**	Pg	**Pn**	**16 35 23.6**	**-0.1**
	197nm,0.5s						
PII	**Pisa**	**1.73**	**91**	Pg	**Pn**	**16 35 24.2**	**+0.2**
	83nm,0.2s						
TRAV	**Traversella**	**1.75**	**351**	Pg	**Pn**	**16 35 25.2**	**+0.7**
	268nm,0.4s						
ERBM	**Eremo**	**1.76**	**68**	Pg	**Pn**	**16 35 25.7**	**+1.2**
	500nm,0.9s						
BDI	**Bagni Di Lucca**	**1.80**	**80**	Pg	**Pn**	**16 35 25.2**	**+0.2**
	248nm,0.6s						
LSD	**Lago del Serru**	**1.83**	**337**	Pg	**Pn**	**16 35 26.5**	**+0.9**
	154μm,18.0s						
GSCL	**Gusciola**	**1.85**	**71**	Pg	**Pn**	**16 35 26.6**	**+0.8**
	171nm,0.6s						
CIRO	**Champorcher**	**1.87**	**348**	Pg	**Pn**	**16 35 26.9**	**+0.7**
	204nm,0.7s						
SMRF	**Simiane la Rot**	**1.87**	**277**	*e*P	**Pb**	**16 35 27.9**	**-0.6**
SMRF	**Simiane la Rot**	**1.87**	**277**	*e*Pg	**Pg**	**16 35 31.5**	**+0.6**
SMRF				*e*Sg	**Sg**	**16 35 56.0**	**+0.9**
	748nm,0.4s						
SMRF	**Simiane la Rot**	**1.87**	**277**	*e*P	**Pb**	**16 35 27.9**	**-0.6**
SMRF	**Simiane la Rot**	**1.87**	**277**	*e*Pg	**Pg**	**16 35 31.5**	**+0.6**
SMRF				*e*Sg	**Sg**	**16 35 56.0**	**+0.9**
	374nm,0.4s						
SASS	**Sassa**	**1.93**	**105**	Pg	**Pn**	**16 35 26.6**	**-0.2**
	207nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.98**	**306**	*e*P	**Pb**	**16 35 30.4**	**-0.1**
ORIF				*e*Sg	**Sg**	**16 35 59.3**	**+0.5**
	412nm,0.5s						
ORIF	**Oris-en-Rattie**	**1.98**	**306**	*e*P	**Pb**	**16 35 30.4**	**-0.1**
ORIF				*e*Sg	**Sg**	**16 35 59.3**	**+0.5**
	206nm,0.5s						
LPG	**La Plagne**	**1.98**	**330**	*e*P	**Pb**	**16 35 30.2**	**-0.4**
LPG	**La Plagne**	**1.98**	**330**	*e*Pg	**Pg**	**16 35 33.9**	**+0.8**
LPG				*e*Sg	**Sg**	**16 35 59.6**	**+0.7**
	383nm,0.8s						
LPG	**La Plagne**	**1.98**	**330**	*e*P	**Pb**	**16 35 30.2**	**-0.4**
LPG	**La Plagne**	**1.98**	**330**	*e*Pg	**Pg**	**16 35 33.9**	**+0.8**
LPG				*e*Sg	**Sg**	**16 35 59.6**	**+0.7**
	191nm,0.8s						
LPL	**La Plagne**	**2.00**	**330**	*e*P	**Pb**	**16 35 30.6**	**-0.4**
LPL	**La Plagne**	**2.00**	**330**	*e*Pg	**Pg**	**16 35 33.9**	**+0.4**
LPL				*e*Sg	**Sg**	**16 35 59.7**	**+0.1**
	296nm,0.5s						
LPL	**La Plagne**	**2.00**	**330**	*e*P	**Pb**	**16 35 30.6**	**-0.4**
LPL	**La Plagne**	**2.00**	**330**	*e*Pg	**Pg**	**16 35 33.9**	**+0.4**
LPL				*e*Sg	**Sg**	**16 35 59.7**	**+0.1**
	148nm,0.5s						
GDM	**Grand'Maison**	**2.03**	**315**	Pn	**Pb**	**16 35 30.3**	**-1.1**
GDM	**Grand'Maison**	**2.03**	**315**	Pn	**Pb**	**16 35 30.3**	**-1.1**
SATI	**Passo dei Sala**	**2.10**	**355**	Pg	**Pn**	**16 35 30.3**	**+0.8**
	316nm,0.9s						
MRGE	**Morge**	**2.13**	**339**	Pg	**Pb**	**16 35 32.0**	**-1.1**
	329nm,0.9s						
VARE	**Varese**	**2.13**	**12**	Pg	**Pn**	**16 35 30.9**	**+1.2**
	335nm,0.7s						
GRFL	**Gerfalco**	**2.16**	**106**	Pg	**Pn**	**16 35 30.6**	**+0.6**
	26nm,0.5s						
CASP	**Castiglione de**	**2.22**	**116**	Pg	**Pn**	**16 35 31.1**	**+0.3**
	203nm,0.3s						
MUGIO	**Muggio**	**2.23**	**16**	Pg	**Pn**	**16 35 32.1**	**+1.1**
GRN	**Grenoble**	**2.25**	**311**	Pn	**Pn**	**16 35 33.0**	**+1.7**
GRN	**Grenoble**	**2.25**	**311**	Pn	**Pn**	**16 35 33.0**	**+1.7**
OSPF	**L'Ospedale**	**2.25**	**160**	Pg	**Pn**	**16 35 33.7**	**+2.4**
CSNT	**Castellina Chi**	**2.31**	**97**	Pg	**Pn**	**16 35 33.0**	**+1.0**
	66nm,0.9s						
ARCI	**Arcidosso**	**2.60**	**110**	Pg	**Pn**	**16 35 36.4**	**+0.2**
	69nm,0.3s						
VIVF	**Saint-Julien-l**	**2.71**	**295**	*e*P	**Pb**	**16 35 40.3**	**-2.6**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**2.71**	**295**	*e*Pg	**Pg**	**16 35 46.8**	**-0.2**
VIVF				*e*Sg	**Sg**	**16 36 22.1**	**0.0**
	120nm,0.5s						
VIVF	**Saint-Julien-l**	**2.71**	**295**	*e*P	**Pb**	**16 35 40.3**	**-2.6**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**2.71**	**295**	*e*Pg	**Pg**	**16 35 46.8**	**-0.2**
VIVF				*e*Sg	**Sg**	**16 36 22.1**	**0.0**
	60nm,0.5s						
TUE	**Stuetta**	**2.82**	**17**	*e*Pn	**Pn**	**16 35 41.1**	**+1.8**
TUE	**Stuetta**	**2.82**	**17**	*e*Pn	**Pn**	**16 35 41.1**	**+1.8**

FILF	**Fillols**	**4.26**	**255**	Pn		**Pn**	16 35 59.6	+0.7
WTTA	**Wattenberg**	**4.26**	**34**	*e*Pn		Pn	16 36 02.5	+3.5
WTTA	**Wattenberg**	**4.26**	**34**	ǁ *i*Pn		**Pn**	**16 36 01.0**	**+2.0**
WTTA	**Wattenberg**	**4.26**	**34**	Pn		**Pn**	**16 36 01.0**	**+2.0**
ABTA	**Abfaltersbach** SNR=14	**4.28**	**45**	ǁ *i*Pn		**Pn**	**16 36 01.3**	**+2.2**
ABTA	**Abfaltersbach** SNR=14	**4.28**	**45**	Pn		**Pn**	**16 36 01.3**	**+2.2**
MTLF	**Montolieu** SNR=1.0	**4.33**	**266**	*e*Pn		**Pn**	**16 36 00.5**	**+0.7**
MTLF	**Montolieu** SNR=1.0	**4.33**	**266**	*e*Pg		**Pg**	**16 36 16.0**	**-1.8**
MTLF				*e*Sn		**Sn**	**16 36 47.7**	**-2.0**
MTLF				*e*Sg		**Sg**	**16 37 11.6**	**-2.3**
SPAK	**Spaichingen-Ko** 23nm,0.6s	**4.34**	**6**	Pn		**Pn**	**16 36 01.8**	**+1.7**
HAU	**Haudompre** SNR=1.0	**4.41**	**344**	*e*Pn		**Pn**	**16 36 02.2**	**+1.4**
HAU				*e*Sn		**Sn**	**16 36 50.2**	**-1.4**
HAU	**Haudompre** SNR=1.0	**4.41**	**344**	*e*Pn		**Pn**	**16 36 02.2**	**+1.4**
HAU				*e*Sn		**Sn**	**16 36 50.2**	**-1.4**
ECH	**Echery**	**4.49**	**352**	Pn		**Pn**	**16 36 03.5**	**+1.6**
ECH	**Echery**	**4.49**	**352**	*e*Pn		**Pn**	**16 36 03.6**	**+1.6**
ECH				*e*Sn		**Sn**	**16 36 53.6**	**0.0**
ECH	**Echery**	**4.49**	**352**	*e*Pn		**Pn**	**16 36 02.3**	**+0.3**
ECH				*e*Sn		**Sn**	**16 36 53.6**	**0.0**
ECH	**Echery**	**4.49**	**352**	*e*Pn		**Pn**	**16 36 02.3**	**+0.3**
CAF	**Calviac** SNR=1.0	**4.51**	**287**	*e*Pn		**Pn**	**16 36 03.1**	**+0.9**
CAF	**Calviac**	**4.51**	**287**	*e*P		Pn	16 36 05.9	+3.7
CAF	36nm,0.5s			*e*Sg		**Sg**	**16 37 18.0**	**-1.6**
CAF	**Calviac** SNR=1.0	**4.51**	**287**	*e*Pn		**Pn**	**16 36 03.1**	**+0.9**
CAF	**Calviac**	**4.51**	**287**	*e*P		Pn	16 36 05.9	+3.7
CAF	18nm,0.5s			*e*Sg		**Sg**	**16 37 18.0**	**-1.6**
AVF	**Avril sur Loir** SNR=1.0	**4.52**	**313**	*e*Pn		**Pn**	**16 36 03.9**	**+1.5**
AVF				*e*Sn		**Sn**	**16 36 53.6**	**-0.9**
AVF	40nm,0.6s			*e*Sg		**Sg**	**16 37 18.5**	**-1.7**
AVF	**Avril sur Loir** SNR=1.0	**4.52**	**313**	*e*Pn		**Pn**	**16 36 03.9**	**+1.5**
AVF				*e*Sn		**Sn**	**16 36 53.6**	**-0.9**
AVF	20nm,0.6s			*e*Sg		**Sg**	**16 37 18.5**	**-1.7**
SKDS	**Skadanscina** comp=Z,37nm,0.2s	**4.55**	**65**	ǁ *i*Pn		**Pn**	**16 36 02.9**	**+0.1**
SKDS				*e*Sn		**Sn**	**16 36 52.8**	**-2.3**
SKDS	**Skadanscina** comp=Z,37nm,0.2s	**4.55**	**65**	Pn		**Pn**	**16 36 02.9**	**+0.1**
SKDS				*e*Sn		**Sn**	**16 36 52.8**	**-2.3**
BFO	**Black Forest**	**4.55**	**2**	*e*Pn		**Pn**	**16 36 04.3**	**+1.5**
BFO				*e*Sn		**Sn**	**16 36 55.0**	**-0.2**
BFO	**Black Forest**	**4.55**	**2**	*e*Pn		**Pn**	**16 36 03.7**	**+0.8**
BFO				*e*Sn		**Sn**	**16 36 55.0**	**-0.2**
BFO	**Black Forest**	**4.55**	**2**	*e*Pn		**Pn**	**16 36 03.7**	**+0.8**
LOR	**Lormes** baz=145,SNR=1.0	**4.61**	**321**	*e*Pn		**Pn**	**16 36 05.1**	**+1.5**
LOR	**Lormes** baz=142	**4.61**	**321**	*e*Pg		**Pg**	**16 36 20.6**	**-2.5**
LOR	SNR=1.0			*e*Sn		**Sn**	**16 36 55.6**	**-0.9**
LOR	comp=Z,22nm,0.6s			*e*Sg		**Sg**	**16 37 20.6**	**-2.2**
LOR	**Lormes** SNR=1.0	**4.61**	**321**	*e*Pn		**Pn**	**16 36 05.1**	**+1.5**
LOR	**Lormes**	**4.61**	**321**	*e*Pg		**Pg**	**16 36 20.6**	**-2.5**
LOR				*e*Sn		**Sn**	**16 36 55.6**	**-0.9**
LOR	SNR=1.0 comp=Z,11nm,0.6s			*e*Sg		**Sg**	**16 37 20.6**	**-2.2**
SSF	**Saint Saulge** SNR=1.0	**4.63**	**317**	*e*Pn		**Pn**	**16 36 05.1**	**+1.3**
SSF	**Saint Saulge**	**4.63**	**317**	*e*Pg		**Pg**	**16 36 21.0**	**-2.5**
SSF				*e*Sn		**Sn**	**16 36 55.9**	**-1.1**
SSF	SNR=1.0 comp=Z,64nm,1.0s,SNR=1.0			*e*Sg		**Sg**	**16 37 21.5**	**-1.9**
SSF	**Saint Saulge** SNR=1.0	**4.63**	**317**	*e*Pn		**Pn**	**16 36 05.1**	**+1.3**
SSF	**Saint Saulge**	**4.63**	**317**	*e*Pg		**Pg**	**16 36 21.0**	**-2.5**
SSF				*e*Sn		**Sn**	**16 36 55.9**	**-1.1**
SSF	SNR=1.0 comp=Z,32nm,1.0s,SNR=1.0			*e*Sg		**Sg**	**16 37 21.5**	**-1.9**
CFON	**Fontmartina** comp=Z,1.2nm,0.2s,SNR=7.9	**4.66**	**246**	P		**Pn**	**16 36 05.2**	**+0.8**
BGF	**Bois d'Agland**	**4.66**	**308**	*e*Pn		**Pn**	**16 36 01.5**	**-2.8**
BGF	comp=Z,85nm,0.7s			*e*Sg		**Sg**	**16 37 22.5**	**-2.0**
BGF	**Bois d'Agland** comp=Z,42nm,0.7s	**4.66**	**308**	*e*Pn		**Pn**	**16 36 01.5**	**-2.8**
BGF				*e*Sg		**Sg**	**16 37 22.5**	**-2.0**
CADS	**Cadrg**	**4.66**	**56**	*i* Pn		**Pn**	**16 36 04.3**	**-0.1**
CADS	comp=Z,17nm,0.2s			*e*Sn		**Sn**	**16 36 57.3**	**-0.6**
CADS	**Cadrg** comp=Z,17nm,0.2s	**4.66**	**56**	*i* Pn		**Pn**	**16 36 04.3**	**-0.1**
CADS				*e*Sn		**Sn**	**16 36 57.3**	**-0.6**
CDF	**Champ du Feu** SNR=1.0	**4.67**	**353**	*e*Pn		**Pn**	**16 36 05.7**	**+1.2**
CDF	comp=Z,23nm,0.6s			*e*Sn		**Sn**	**16 36 56.5**	**-1.7**
CDF	**Champ du Feu** SNR=1.0	**4.67**	**353**	*e*Pn		**Pn**	**16 36 05.7**	**+1.2**
CDF	comp=Z,11nm,0.6s			*e*Sn		**Sn**	**16 36 56.5**	**-1.7**
THEF	**They Montfort**	**4.69**	**342**	Pn		**Pn**	**16 36 07.3**	**+2.5**
THEF	**They Montfort**	**4.69**	**342**	Pn		**Pn**	**16 36 07.3**	**+2.5**
CLLI	**Llivia** comp=Z,4.1nm,0.1s,SNR=36	**4.70**	**256**	P		**Pn**	**16 36 06.1**	**+1.1**
CLLI	comp=Z,7.9nm,0.3s,SNR=7.9			S		**Sn**	**16 36 57.6**	**-1.4**
MYKA	**Terra Mystica**	**4.82**	**52**	⇑ *i*Pn		**Pn**	**16 36 08.2**	**+1.7**
MYKA	**Terra Mystica**	**4.82**	**52**	Pn		**Pn**	**16 36 08.2**	**+1.7**
TCF	**Toulx Ste Croi** SNR=1.0	**4.89**	**303**	*e*Pn		**Pn**	**16 36 08.4**	**+0.8**
TCF	SNR=1.0			*e*Sn		**Sn**	**16 37 02.6**	**-1.1**
TCF	comp=Z,35nm,0.8s			*e*Sg		**Sg**	**16 37 30.0**	**-2.0**
TCF	**Toulx Ste Croi** SNR=1.0	**4.89**	**303**	*e*Pn		**Pn**	**16 36 08.4**	**+0.8**
TCF	SNR=1.0			*e*Sn		**Sn**	**16 37 02.6**	**-1.1**
TCF	comp=Z,18nm,0.8s			*e*Sg		**Sg**	**16 37 30.0**	**-2.0**
NVLJ	**Novalja**	**4.90**	**78**	*e*Pn		**Pn**	**16 36 09.3**	**+1.7**
NVLJ				Sn		**Sn**	**16 37 01.7**	**-2.2**
NVLJ	**Novalja**	**4.90**	**78**	*e*Pn		**Pn**	**16 36 09.3**	**+1.7**
NVLJ				Sn		**Sn**	**16 37 01.6**	**-2.2**
SFTF	**Sexfontaines** baz=148	**4.92**	**335**	*e*Pn		**Pn**	**16 36 08.5**	**+0.6**
SFTF	comp=Z,42nm,0.4s			*e*Sn		**Sn**	**16 37 02.8**	**-1.6**
SFTF	**Sexfontaines**	**4.92**	**335**	*e*Pn		**Pn**	**16 36 08.5**	**+0.6**
SFTF	comp=Z,21nm,0.4s			*e*Sn		**Sn**	**16 37 02.8**	**-1.6**
KBA	**Koelnbreinsper**	**4.93**	**46**	*e*Pn		Pn	16 36 11.3	+3.2
KBA	**Koelnbreinsper**	**4.93**	**46**	⇑ *i*Pn		**Pn**	**16 36 10.1**	**+1.9**
KBA	**Koelnbreinsper**	**4.93**	**46**	Pn		**Pn**	**16 36 10.1**	**+1.9**
RJF	**Les Rejaudoux**	**4.97**	**290**	*e*Pn		**Pn**	**16 36 10.3**	**+1.7**
RJF	comp=Z,38nm,0.7s			*e*Sg		**Sg**	**16 37 32.7**	**-1.9**
RJF	**Les Rejaudoux** comp=Z,19nm,0.7s	**4.97**	**290**	*e*Pn		**Pn**	**16 36 10.3**	**+1.7**
RJF				*e*Sg		**Sg**	**16 37 32.7**	**-1.9**
STU	**Stuttgart**	**5.04**	**8**	*e*Sn		**Sn**	**16 37 06.8**	**-0.5**
STU	**Stuttgart**	**5.04**	**8**	*e*Sn		**Sn**	**16 37 06.8**	**-0.5**
PAGF	**Fort de Pagny**	**5.06**	**341**	*e*Pn		**Pn**	**16 36 11.3**	**+1.5**
PAGF	comp=Z,9.9nm,0.5s			*e*Sn		**Sn**	**16 37 05.9**	**-1.8**
PAGF	**Fort de Pagny**	**5.06**	**341**	*e*Pn		**Pn**	**16 36 11.3**	**+1.5**
PAGF				*e*Sn		**Sn**	**16 37 05.9**	**-1.8**
	comp=Z,4.9nm,0.5s							
RJOB	**Jochberg**	**5.12**	**38**	*e*Pn		**Pn**	**16 36 12.8**	**+2.1**
RJOB	**Jochberg**	**5.12**	**38**	*e*Pn		**Pn**	**16 36 12.8**	**+2.1**
MEZF	**Maizieres J'vi** SNR=1.0	**5.19**	**337**	*e*Pn		**Pn**	**16 36 12.2**	**+0.7**
MEZF	comp=Z,25nm,0.5s			*e*Sn		**Sn**	**16 37 08.8**	**-2.0**
MEZF	**Maizieres J'vi** SNR=1.0	**5.19**	**337**	*e*Pn		**Pn**	**16 36 12.2**	**+0.7**
MEZF	comp=Z,13nm,0.5s			*e*Sn		**Sn**	**16 37 08.8**	**-2.0**
HYF	**Humbligny**	**5.21**	**314**	*e*Pn		**Pn**	**16 36 12.8**	**+1.0**
HYF				*e*Sg		**Sg**	**16 37 39.7**	**-2.3**
HYF	**Humbligny**	**5.21**	**314**	*e*Pn		**Pn**	**16 36 12.8**	**+1.0**
HYF				*e*Sg		**Sg**	**16 37 39.7**	**-2.3**
EMIR	**Miracle** comp=Z,1.5nm,0.3s,SNR=7.9	**5.21**	**251**	P		**Pn**	**16 36 12.9**	**+1.0**
EMIR	comp=Z,2.5nm,0.1s,SNR=7.9			S		**Sn**	**16 37 11.7**	**+0.2**
OBKA	**Obir**	**5.29**	**57**	*e*Pn		**Pn**	**16 36 14.5**	**+1.5**
OBKA				*e*Sn		**Sn**	**16 37 13.4**	**-0.1**
OBKA	**Obir**	**5.29**	**57**	⇑ *i*Pn		**Pn**	**16 36 13.8**	**+0.7**
OBKA	**Obir**	**5.29**	**57**	Pn		**Pn**	**16 36 13.8**	**+0.7**
OBKA				*e*Sn		**Sn**	**16 37 13.4**	**-0.1**
CSOR	**Sort** comp=Z,1.4nm,0.1s,SNR=15	**5.32**	**257**	P		**Pn**	**16 36 16.2**	**+2.7**
CSOR	comp=Z,2.9nm,0.2s,SNR=7.5			S		**Sn**	**16 37 15.7**	**+1.4**
LFF	**La Frestale**	**5.43**	**285**	*e*Pn		**Pn**	**16 36 16.7**	**+1.8**
LFF	comp=Z,63nm,0.8s,SNR=1.0			*e*Sg		**Sg**	**16 37 46.8**	**-2.4**
LFF	**La Frestale**	**5.43**	**285**	*e*Pn		**Pn**	**16 36 16.7**	**+1.8**
UDBI	**Udbina**	**5.54**	**80**	*e*Pn		**Pn**	**16 36 17.1**	**+0.6**
UDBI				Sn		**Sn**	**16 37 17.7**	**-1.8**
UDBI	**Udbina**	**5.54**	**80**	*e*Pn		**Pn**	**16 36 17.0**	**+0.6**
ETOS	**Mallorca** comp=Z,13nm,0.3s,SNR=7.9	**5.65**	**227**	P		**Pn**	**16 36 19.5**	**+1.5**
SOKA	**Soboth**	**5.66**	**57**	⇑ *i*Pn		**Pn**	**16 36 19.5**	**+1.3**
SOKA	**Soboth**	**5.66**	**57**	Pn		**Pn**	**16 36 19.5**	**+1.3**
EPF	**Esparros**	**5.73**	**265**	*e*Pn		**Pn**	**16 36 18.9**	**-0.2**
EPF	**Esparros**	**5.73**	**265**	*e*Pg		**Pg**	**16 36 42.2**	**-2.5**
EPF				*e*Sg		**Sg**	**16 37 56.4**	**-2.5**
EPF	**Esparros** comp=Z,17nm,0.6s	**5.73**	**265**	*e*Pn		**Pn**	**16 36 18.9**	**-0.2**
EPOB	**Peblet** comp=Z,0.1nm,0.1s,SNR=7.9	**5.75**	**247**	P		**Pn**	**16 36 20.6**	**+1.2**
MOA	**Molln**	**5.91**	**44**	*e*Pn		**Pn**	**16 36 24.2**	**+2.8**
MOA	**Molln**	**5.91**	**44**	*e*Pn		**Pn**	**16 36 24.2**	**+2.8**
WLF	**Walferdange**	**6.04**	**348**	PN		Pn	16 36 27.3	+4.0
ARSA	**Arzberg**	**6.24**	**54**	*e*Pn		**Pn**	**16 36 27.0**	**+1.0**
ARSA	**Arzberg** SNR=13	**6.24**	**54**	⇑ *i*Pn		**Pn**	**16 36 27.0**	**+1.0**
ARSA	**Arzberg** SNR=13	**6.24**	**54**	Pn		**Pn**	**16 36 27.0**	**+1.0**
WET	**Wettzell**	**6.28**	**30**	*e*Pn		**Pn**	**16 36 27.2**	**+0.6**
WET				*e*Sn		**Sn**	**16 37 35.7**	**-2.1**
WET	**Wettzell**	**6.28**	**30**	*e*Pn		**Pn**	**16 36 27.2**	**+0.6**
GEC2	**GERESS Array S**	**6.36**	**35**	*e*Pn		**Pn**	**16 36 28.0**	**+0.2**
GEC2				*e*Sn		**Sn**	**16 37 37.8**	**-2.1**
GEC2	**GERESS Array S**	**6.36**	**35**	*e*Pn		**Pn**	**16 36 28.0**	**+0.2**
ETSF	**Etsaut**	**6.41**	**265**	*e*Pn		**Pn**	**16 36 28.4**	**0.0**
ETSF	comp=Z,6.6nm,0.4s			*e*Sn		**Sn**	**16 37 38.7**	**-2.3**
ETSF	**Etsaut**	**6.41**	**265**	*e*Pn		**Pn**	**16 36 28.4**	**0.0**
TNS	**Taunus Mts**	**6.45**	**2**	*e*Pn		**Pn**	**16 36 30.3**	**+1.4**
TNS				*e*Sn		**Sn**	**16 37 41.6**	**-0.3**
TNS	**Taunus Mts**	**6.45**	**2**	*e*Pn		**Pn**	**16 36 30.3**	**+1.4**
TNS				*e*Sn		**Sn**	**16 37 41.6**	**-0.3**
MFF	**Saint Martin d** SNR=1.0	**6.50**	**299**	*e*Pn		Pn	16 36 33.2	+3.7
MFF				*e*Sn		**Sn**	**16 37 40.1**	**-3.0**
MFF	comp=Z,24nm,0.8s			*e*Sg		**Sg**	**16 38 20.3**	**-3.1**
KHC	**Kasperske Hory**	**6.54**	**33**	*e*PN		**Pn**	**16 36 30.4**	**+0.3**
KHC				*e*SN		**Sn**	**16 37 41.4**	**-2.7**
KHC	**Kasperske Hory**	**6.54**	**33**	Pn		**Pn**	**16 36 30.4**	**+0.3**
KHC	**Kasperske Hory**	**6.54**	**33**	*e*Pn		**Pn**	**16 36 30.2**	**+0.1**
ESAC	**San Caprasio** comp=Z,3.6nm,0.2s,SNR=7.9	**6.66**	**255**	P		**Pn**	**16 36 33.7**	**+1.8**
GIVF	**Givet**	**6.72**	**341**	*e*Pn		**Pn**	**16 36 32.8**	**+0.3**
GIVF	comp=Z,15nm,0.7s			*e*Sn		**Sn**	**16 37 45.7**	**-2.8**
GIVF	**Givet**	**6.72**	**341**	*e*Pn		**Pn**	**16 36 32.8**	**+0.3**
DOU	**Dourbes**	**6.77**	**340**	PN		Pn	16 36 36.4	+3.2
DOU	comp=E,4.8nm,0.0s			SN		**Sn**	**16 37 49.1**	**-0.6**
DOU	**Dourbes**	**6.77**	**340**	Pn		Pn	16 36 36.4	+3.2
DOU				Sn		**Sn**	**16 37 49.1**	**-0.6**
CONA	**Conrad Observa**	**6.80**	**50**	ǁ *i*Pn		**Pn**	**16 36 35.0**	**+1.2**
CONA	**Conrad Observa**	**6.80**	**50**	Pn		**Pn**	**16 36 35.0**	**+1.2**
BAIF	**Baives**	**6.83**	**338**	*e*Pn		**Pn**	**16 36 34.5**	**+0.4**
BAIF	comp=E,16nm,0.8s			*e*Sn		**Sn**	**16 37 48.6**	**-2.7**
BAIF	**Baives**	**6.83**	**338**	*e*Pn		**Pn**	**16 36 34.5**	**+0.4**
SJPF	**Ste Jean**	**6.85**	**268**	*e*Pn		**Pn**	**16 36 34.5**	**+0.1**
SJPF	comp=E,0.7nm,0.3s			*e*Sg		**Sg**	**16 38 31.0**	**-3.7**
SJPF	**Ste Jean**	**6.85**	**268**	*e*Pn		**Pn**	**16 36 34.5**	**+0.1**
EIBI	**Ibiza** comp=E,2.3nm,0.2s,SNR=7.9	**6.97**	**229**	P		**Pn**	**16 36 37.9**	**+1.8**
MEM	**Membach**	**6.98**	**349**	PN		Pn	16 36 39.3	+3.1
MEM	**Membach**	**6.98**	**349**	Pn		Pn	16 36 39.2	+3.1
STON	**Ston**	**7.03**	**94**	*e*Pn		**Pn**	**16 36 37.8**	**+0.9**
STON				Sn		**Sn**	**16 37 53.9**	**-2.3**
STON	**Ston**	**7.03**	**94**	*e*Pn		**Pn**	**16 36 37.7**	**+0.9**
NKC	**Novy Kostel**	**7.09**	**23**	*e*PN		**Pn**	**16 36 37.7**	**0.0**
NKC	**Novy Kostel**	**7.09**	**23**	Pn		**Pn**	**16 36 37.7**	**0.0**
MOX	**Moxa**	**7.26**	**18**	*e*Sn		**Sn**	**16 37 58.7**	**-3.2**
LDF	**La Druitiere**	**7.48**	**313**	*e*Pn		**Pn**	**16 36 43.3**	**+0.2**
LDF	comp=E,40nm,1.3s			*e*Sg		**Sg**	**16 38 50.7**	**-4.2**
LDF	**La Druitiere**	**7.48**	**313**	*e*Pn		**Pn**	**16 36 43.3**	**+0.2**
PRU	**Pruhonice**	**7.60**	**33**	*e*PN		**Pn**	**16 36 45.2**	**+0.6**
PRU	**Pruhonice**	**7.60**	**33**	Pn		**Pn**	**16 36 45.2**	**+0.6**
GOPC	**GO Pecny, Ondr**	**7.64**	**34**	*e*PN		**Pn**	**16 36 46.5**	**+1.3**
GOPC	**GO Pecny, Ondr**	**7.64**	**34**	Pn		**Pn**	**16 36 46.5**	**+1.3**
GRR	**Gorron**	**7.77**	**310**	*e*Pn		**Pn**	**16 36 47.6**	**+0.7**
GRR	comp=E,11nm,0.7s			*e*Sn		**Sn**	**16 38 11.1**	**-3.2**
GRR	**Gorron**	**7.77**	**310**	*e*Pn		**Pn**	**16 36 47.6**	**+0.7**
FLN	**La Foliniere** baz=125	**7.78**	**313**	*e*Pn		**Pn**	**16 36 47.1**	**0.0**
FLN	comp=E,12nm,0.7s			*e*Sn		**Sn**	**16 38 11.5**	**-3.0**
FLN	**La Foliniere**	**7.78**	**313**	*e*Pn		**Pn**	**16 36 47.1**	**0.0**
SMOL	**Smolenice**	**8.00**	**50**	*e*Pn		**Pn**	**16 36 51.3**	**+1.2**
SMOL	**Smolenice**	**8.00**	**50**	*e*PN		**Pn**	**16 36 51.3**	**+1.2**
CLL	**Collm**	**8.21**	**22**	*e*Sn		**Sn**	**16 38 25.0**	**-0.3**
CLL				*e*Sg			16 39 30.0	
SGMF	**Saint Gilles**	**8.68**	**305**	*e*Pn		**Pn**	**16 36 59.3**	**-0.2**
SGMF	comp=E,2.4nm,0.5s			*e*Sg			16 39 28.4	
SGMF	**Saint Gilles**	**8.68**	**305**	*e*Pn		**Pn**	**16 36 59.3**	**-0.2**
QUIF	**Quistinic**	**8.91**	**302**	*e*Pn		**Pn**	**16 37 02.7**	**+0.1**
QUIF	comp=E,1.7nm,0.5s			*e*Sg			16 39 35.0	
QUIF	**Quistinic**	**8.91**	**302**	*e*Pn		**Pn**	**16 37 02.7**	**+0.1**
ROSF	**Rostrenen**	**9.15**	**304**	*e*Pn		**Pn**	**16 37 05.7**	**-0.2**
ROSF	comp=E,26nm,1.1s			*e*Sg		Sn	16 39 41.7	+53
ROSF	**Rostrenen**	**9.15**	**304**	*e*Pn		**Pn**	**16 37 05.7**	**-0.2**
KECS	**Kecovo**	**9.77**	**57**	*e*Pn		**Pn**	**16 37 15.7**	**+1.3**
KECS	**Kecovo**	**9.77**	**57**	*e*PN		**Pn**	**16 37 15.7**	**+1.3**

*JMA **04** 16:41:08.2±0.3, 34.39N×138.17E, h289km±3km, M3.0*
*ISCJB **04** 16:41:09.2±0.9, 34.45N±0.09×138.10E±0.08, h280km±7km, mb3.0/2, Error ellipse: s-maj=14.3km s-min=10.1km az=168.6*
*IDC **04** 16:41:09.2±6.4, 34.28N×137.90E, h254km±68km, mb2.9/2, mb1 3.0/3, mb1mx2.7/41, mbtmp3.5/3, Error ellipse: s-maj=154.7km s-min=84.6km az=55.0*

ISC 04 16:41:10.1±1.3, 34.45N±0.09×138.09E±0.07, h275km±9km, n19, σ0.77/25, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHMK	**Hamakita**	**0.45**	**323**	P		**Pn**	**16 41 45.7**	**+0.1**
JYN	**Shimob**	**1.11**	**20**	P		**Pn**	**16 41 48.7**	**+0.2**
JIE	**Ise**	**1.14**	**267**	P		**Pn**	**16 41 48.6**	**0.0**
JOD2	**Odawara 2**	**1.15**	**45**	P		**Pn**	**16 41 49.0**	**+0.3**
JOD2				S		**S**	**16 42 19.5**	**+0.3**
JGM	**Miyama**	**1.68**	**318**	P		**Pn**	**16 41 52.4**	**+0.2**
JRY	**Ryogami san**	**1.70**	**23**	P		**Pn**	**16 41 52.8**	**+0.5**
JRY				S		**S**	**16 42 26.5**	**+0.7**
JWY	**Kouya**	**2.08**	**264**	P		**Pn**	**16 41 55.3**	**-0.2**
MJAR	**Matsushiro Arr** 3.8nm,0.3s,baz=188,slow=10,SNR=101	**2.09**	**3**	P		**Pn**	**16 41 55.3**	**-0.2**
MJAR	baz=231,slow=22,SNR=1.9			S		**S**	**16 42 30.2**	**-1.3**
MAT	**Matsushiro**	**2.09**	**3**	P		**Pn**	**16 41 55.4**	**-0.1**
MAT				S		**S**	**16 42 30.9**	**-0.6**
MAT	**Matsushiro**	**2.09**	**3**	P		**Pn**	**16 41 55.4**	**-0.1**
JWZ	**Kozaga**	**2.17**	**246**	P		**Pn**	**16 41 56.0**	**-0.3**
JAG	**Ashikaga**	**2.26**	**29**	P		**Pn**	**16 41 56.1**	**-0.9**
JKG	**Kaga**	**2.32**	**322**	P		**Pn**	**16 41 57.6**	**+0.1**
JWT	**Wachi**	**2.36**	**291**	P		**Pn**	**16 41 57.7**	**-0.2**
JWT				S		**S**	**16 42 35.1**	**-0.7**
BSO1	**Boso 1**	**2.39**	**84**	P		**Pn**	**16 41 56.7**	**-0.9**
BSO1				S		**S**	**16 42 35.8**	**+0.4**
JSZ	**Suzu**	**3.05**	**349**	P		**Pn**	**16 42 04.4**	**-0.2**
JNS	**Sasagawa**	**3.50**	**16**	P		**Pn**	**16 42 09.3**	**-0.2**
SONM	**Songino Array** 0.4nm,0.6s,baz=122,slow=11,SNR=2.5	**27.14**	**309**	P		**P**	**16 46 30.7**	**+2.4**
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=84,slow=9.4,SNR=6.5	**43.25**	**304**	P		**P**	**16 48 43.6**	**-1.1**

IDC 04 16:43:29.6±9.1, 2.14N×127.00E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/30, mbtmp3.6/3, MS3.7/1, Ms1 3.7/1, ms1mx2.9/32, Error ellipse: s-maj=165.8km s-min=141.4km az=78.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr** 0.9nm,0.5s,baz=341,slow=11,SNR=16	**23.10**	**162**	P		P	16 48 36.3	-1.0
ASAR	**Alice Springs** 0.3nm,0.4s,baz=347,slow=7.9,SNR=9.7	**26.52**	**166**	P		P	16 49 09.6	+0.4
JCJ	**Chichijima** comp=Z,144nm,19.1s,slow=36	**28.77**	**29**	LR		LR	17 00 59.9	
STKA	**Stephens Creek** 1.5nm,0.8s,baz=347,slow=6.9,SNR=5.3	**36.56**	**159**	P		P	16 50 37.5	+0.2

*BJI **04** 16:44:05.4, 2.51S×125.10E, h78km, mb4.7/27, mB4.8/16, Ms4.5/10, Ms7 4.3/11*
*IDC **04** 16:44:20.4±2.1, 0.36S×124.29E, h55km±20km, mb3.9/19, mb1 4.0/21, mb1mx4.0/31, mbtmp4.2/21, ML4.2/2, MS3.8/4, Ms1 3.9/4, ms1mx3.3/33, Error ellipse: s-maj=13.6km s-min=11.5km az=92.0*
*ISCJB **04** 16:44:21.2±0.3, 0.54S±0.03×124.39E±0.02, h83km±4km, mb4.2/27, Error ellipse: s-maj=5.1km s-min=3.6km az=10.1*
*NEIC **04** 16:44:22.1±1.4, 0.41S×124.30E, h73km±13km, mb4.4/8, Error ellipse: s-maj=13.3km s-min=7.6km az=69.0*
*DJA **04** 16:44:22.0±0.8, 1°S±2'×12'4E±', h24km±10km, M4.6/22, mb5.0/12, mb5.0/10, mB5.0/6, mB5.0/7, MLv4.8/22, Mw(mB)4.3/7, Mw(mB)4.3/6*

ISC 04 16:44:23.1±0.5, 0.54S±0.04×124.39E±0.03, h84km±3km, n67, σ1.68/89, mb4.2/27, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMSI	**Cibinong**	**1.18**	**340**	P		**Pn**	**16 44 42.3**	**-2.2**
KMSI				S		**Sn**	**16 44 58.2**	**-2.4**
LUWI	**Luwuk**	**1.69**	**253**	P		**Pn**	**16 44 50.5**	**-0.6**
LUWI				S		**Sn**	**16 45 12.5**	**+0.2**
LUWI	**Luwuk**	**1.69**	**253**	*e*Pn		**Pn**	**16 44 48.7**	**-2.4**
LUWI				*e*Sn		**Sn**	**16 45 11.5**	**-0.8**
SANI	**Sanana**	**2.19**	**133**	P		**Pn**	**16 44 55.4**	**-2.3**
SANI				S		**Sn**	**16 45 20.6**	**-3.5**
MRSI	**Marisa**	**2.65**	**292**	P		**Pn**	**16 45 01.5**	**-2.3**
MRSI				S		**Sn**	**16 45 33.7**	**-1.3**
APSI	**Ampana**	**2.77**	**262**	P		**Pn**	**16 45 04.3**	**-1.1**
APSI				S		Sn	16 45 48.7	+11
LBMI	**Labuha**	**3.11**	**92**	P		**Pn**	**16 45 09.1**	**-1.0**
LBMI				S		**Sn**	**16 45 45.2**	**-1.1**
TNTI	**Ternate**	**3.25**	**66**	P		**Pn**	**16 45 14.0**	**+2.1**
TNTI				S		**Sn**	**16 45 50.5**	**+0.9**
NLAI	**Namlea**	**3.81**	**135**	P		**Pn**	**16 45 19.0**	**-0.6**
TOLI	**Toli-Toli**	**3.95**	**295**	*e*Pn		**Pn**	**16 45 21.5**	**0.0**
TOLI				*e*Sn		**Sn**	**16 46 07.7**	**+0.9**
PCI	**Palu**	**4.57**	**265**	P		**Pn**	**16 45 30.5**	**+0.7**
PCI				S		**Sn**	**16 46 26.1

CD2				LN				
	370nm,19.4s							
CD2				LZ				
	460nm,20.2s							
KSAR	**Wonju Array Be**	**37.93**	**5**	P	**P**	**16 51 31.1**	**-1.4**
KSAR				PcP	**PcP**	**16 53 47.5**	**+0.6**
KSRS	**Korea Array**	**37.94**	**5**	P	**P**	**16 51 31.1**	**-1.5**
	1.9nm,0.8s,baz=182,slow=10.0,SNR=11							
KSRS				PcP	**PcP**	**16 53 47.5**	**+0.6**
	0.6nm,0.6s,baz=169,slow=2.6,SNR=4.5							
MAJO	**Matsushiro**	**39.06**	**18**	*eP*	**P**	**16 51 41.1**	**-0.9**
MAT	**Matsushiro**	**39.06**	**18**	P	**P**	**16 51 41.6**	**-0.4**
MJAR	**Matsushiro Arr**	**39.06**	**18**	P	**P**	**16 51 41.2**	**-0.8**
	3.7nm,0.7s,baz=197,slow=9.9,SNR=12							
LZH	**Lanzhou**	**41.15**	**334**	*eP*	P	16 52 04.1	+4.6
LZH				pP	pP	16 52 22.2	+2.8
LZH				sP	sP	16 52 31.0	+2.0
LZH				PMZ				
	13nm,1.0s							
HHC	**Hu-ho-hao-te**	**42.81**	**346**	*eP*	P	16 52 17.3	+4.4
HHC				pP	pP	16 52 35.3	+2.4
HHC				sP	sP	16 52 46.5	+4.0
HHC				PP	**PcP**	**16 54 02.4**	**-0.3**
HHC				S	S	16 58 46.9	+16
HHC				SS	SnSn	17 01 55.4	-10
HHC				PMZ				
	14nm,1.0s							
HHC				PMZ				
	65nm,5.1s							
HHC				LN				
	100nm,16.3s							
HHC				LE				
	210nm,17.8s							
HHC				LZ				
	95nm,15.3s							
USRK	**Ussuriysk Ar.**	**45.05**	**8**	P	**P**	**16 52 29.6**	**-1.0**
	2.2nm,0.4s,baz=195,slow=7.9,SNR=8.2							
MDJ	**Mudanjiang**	**45.19**	**5**	*eP*	**P**	**16 52 32.4**	**+0.7**
	4.6nm,0.6s							
GTA	**Gaotai**	**45.68**	**333**	*eP*	**P**	**16 52 36.6**	**+0.8**
GTA				pP	**pP**	**16 52 54.4**	**-1.7**
GTA				sP	**sP**	**16 53 04.3**	**-1.3**
GTA				PMZ				
	7.0nm,1.0s							
DZM	**Mont Dzumac**	**46.20**	**121**	P	**P**	**16 52 41.6**	**+1.5**
	16nm,1.0s,baz=91,slow=23,SNR=3.9							
SONM	**Songino Array**	**50.66**	**344**	P	**P**	**16 53 13.1**	**-1.0**
	2.3nm,0.8s,baz=162,slow=7.6,SNR=14							
SONM				PcP	**PcP**	**16 54 30.6**	**+0.2**
	1.0nm,0.6s,baz=166,slow=3.9,SNR=4.4							
WMQ	**Urumqi**	**54.97**	**328**	P	**P**	**16 53 47.6**	**+1.8**
WMQ				pP	**pP**	**16 54 06.6**	**-0.1**
WMQ				sP	**sP**	**16 54 15.6**	**-0.4**
WMQ				PMZ				
	7.0nm,0.8s							
WMQ				PMZ				
	62nm,4.1s							
WMQ				LN				
	89nm,18.7s							
WMQ				LE				
	130nm,18.7s							
WMQ				LZ				
	100nm,17.6s							
MKAR	**Makanchi Array**	**59.80**	**328**	P	**P**	**16 54 18.0**	**-1.7**
	3.0nm,0.4s,baz=125,slow=10,SNR=26							
PETK	**Petropavlovsk-**	**60.24**	**22**	P	**P**	**16 54 21.6**	**-0.8**
	4.6nm,0.9s,baz=170,slow=2.9,SNR=7.0							
YAK	**Yakutsk**	**62.53**	**3**	*eP*	**P**	**16 54 38.0**	**+0.2**
	29nm,0.6s							
ZALV	**Zalesovo Beam**	**63.38**	**335**	P	**P**	**16 54 41.5**	**-2.0**
	0.9nm,0.4s,baz=119,slow=5.2,SNR=5.0							
KURK	**Kurchatov**	**64.14**	**330**	*eP*	**P**	**16 54 47.2**	**-1.3**
	7.2nm,0.4s							
BRVK	**Borovoye**	**69.73**	**329**	P	**P**	**16 55 22.9**	**-1.1**
	1.5nm,0.4s							
ABKAR	**Akbulak array**	**74.00**	**322**	*eP*	**P**	**16 55 49.8**	**0.0**
	0.7nm,0.5s							
MAW	**Mawson**	**78.97**	**200**	P	**P**	**16 56 18.2**	**+0.8**
	2.3nm,1.0s,baz=50,slow=7.9,SNR=3.3							
VNDA	**Vanda**	**79.53**	**172**	P	**P**	**16 56 21.8**	**+1.5**
	0.7nm,0.6s,baz=275,slow=12,SNR=6.3							
VNDA				LR	LR	17 33 17.8		
	comp=Z,49nm,18.7s,baz=320,slow=37							
KMBO	**Kilima Mbogo**	**87.13**	**269**	P	**P**	**16 57 01.8**	**+0.9**
	0.6nm,0.3s,baz=156,slow=2.3,SNR=3.8							
KMBO				LR	LR	17 33 53.9		
	comp=Z,133nm,19.4s,baz=96,slow=34							
ILAR	**Eielson Array**	**89.93**	**25**	P	**P**	**16 57 11.1**	**-1.7**
	0.4nm,0.6s,baz=247,slow=4.8,SNR=8.2							
BRTR	**Keskin Array B**	**90.92**	**310**	P	**P**	**16 57 15.8**	**-2.4**
	0.3nm,0.5s,baz=52,slow=8.0,SNR=4.6							
ARCES	**ARCESS Array B**	**93.61**	**340**	P	**P**	**16 57 29.0**	**-0.8**
	1.3nm,0.8s,baz=75,slow=14,SNR=2.6							
FINES	**FINESS Array B**	**94.45**	**332**	P	**P**	**16 57 32.8**	**-0.9**
	1.3nm,0.8s,baz=62,slow=4.5,SNR=3.9							
TORD	**Torodi Ar. Bea**	**121.89**	**285**	PKP	**PKPdf**	**17 03 09.1**	**+0.3**
	0.8nm,0.6s,baz=73,slow=1.6,SNR=6.8							

IDC 04 17:22:37.2±2.8, 14°.76S×174°.07W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/20, mbtmp3.8/3, Error ellipse: s-maj=367.8km s-min=31.8km az=156.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S2	**WAKE ISLAND Hy**	**38.09**	**330**	T	T	18 10 33.2	
	baz=149,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**38.10**	**330**	T	T	18 10 33.0	
	baz=149,slow=76,SNR=17						
H11S1	**WAKE ISLAND Hy**	**38.11**	**330**	T	T	18 10 33.3	
	baz=149,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**39.04**	**331**	T	T	18 11 56.2	
	baz=150,slow=76,SNR=31						
H11N1	**WAKE ISLAND Hy**	**39.05**	**331**	T	T	18 11 43.0	
	baz=150,slow=76,SNR=30						
H11N2	**WAKE ISLAND Hy**	**39.06**	**331**	T	T	18 11 49.7	
	baz=150,slow=76,SNR=32						
WRA	**Warramunga Arr**	**49.36**	**256**	P	P	17 31 29.4	+0.5
	0.4nm,0.7s,baz=90,slow=6.7,SNR=4.5						
ASAR	**Alice Springs**	**49.70**	**251**	P	P	17 31 30.9	-0.6
	1.9nm,0.7s,baz=85,slow=8.2,SNR=29						
TXAR	**Lajitas Array**	**80.80**	**56**	P	P	17 34 53.4	0.0
	0.9nm,1.1s,baz=232,slow=4.4,SNR=5.0						

IDC 04 17:36:15.2±4.2, 18°.83S×176°.10W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.6/19, mbtmp3.6/3, Error ellipse: s-maj=276.5km s-min=29.6km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.63**	**260**	P	P	17 44 44.5	-1.1
	0.4nm,0.7s,baz=96,slow=8.3,SNR=3.5						
ASAR	**Alice Springs**	**46.66**	**255**	P	P	17 44 47.0	+1.1
	1.1nm,0.8s,baz=99,slow=7.8,SNR=6.3						
NVAR	**Mina Array Bea**	**78.59**	**43**	P	P	17 48 19.3	+0.2
	0.6nm,0.7s,baz=224,slow=6.3,SNR=3.5						
AKASG	**Malin Array Be**	**142.37**	**334**	PKP	PKPdf	17 55 47.1	-2.6
	0.9nm,0.6s,baz=39,slow=3.8,SNR=5.8						
BRTR	**Keskin Array B**	**146.97**	**315**	PKPbc	PKPbc	17 55 59.4	-0.9
	0.4nm,0.6s,baz=64,slow=2.9,SNR=3.6						

MAN 04 18:01:43, 8°.46N×126°.59E, h33km, mb4.6, ML3.4, MS3.4, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.08**	**298**	*eP*	Pn	18 02 01.9	+0.1
BUTP				*eS*	Sn	18 02 16.2	+0.6
MATI	**Mati**	**1.54**	**192**	*eP*	Pn	18 02 08.8	+0.7
BUKP	**Musuan**	**1.61**	**249**	*eP*	Pb	18 02 11.1	-1.2
BUKP				*eS*	Sn	18 02 30.0	+1.0
MSLP	**Maasin**	**2.38**	**314**	*eP*	Pn	18 02 21.5	+1.8

CSEM ***04*** *18:06:21.7, 39°.52N×29°.86W, h10km, ML3.5*
PDA 04 18:06:21.7±0.9, 39°.52N×29°.86W, h10km, MD3.7, ML3.5, Error ellipse: s-maj=7.7km s-min=2.3km az=23.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H07S1	**FLORES T-PHASE**	**1.05**	**263**	*eP*	Pg	18 06 37.7	-4.3
H07S1				*eS*	Sg	18 06 49.7	-6.1
PCED	**Cedros**	**1.27**	**134**	*eP*	Pn	18 06 40.9	-4.5
PCED				*eS*	Sb	18 06 54.6	-7.4
PCED				A	A	18 06 56.5	
	187nm,0.5s						
PCED	**Cedros**	**1.27**	**134**	*eP*	Pn	18 06 40.9	-4.5
PCED				*eS*	Sb	18 06 54.6	-7.4
CALA	**Caldeira**	**1.30**	**136**	*eS*	Sb	18 06 56.3	-6.8
CALA	**Caldeira**	**1.30**	**136**	*eS*	Sb	18 06 56.3	-6.8
HOR	**Horta**	**1.38**	**136**	*eP*	Pn	18 06 42.7	-4.3
HOR				*eS*	Sb	18 06 57.7	-7.5
HOR	**Horta**	**1.38**	**136**	*eP*	Pn	18 06 42.7	-4.3
HOR				*eS*	Sb	18 06 57.7	-7.5
ROSA	**Rosais**	**1.49**	**122**	*eP*	Pn	18 06 44.1	-4.4
ROSA				*eS*	Sn	18 07 00.3	-7.8
ROSA				A	A	18 07 02.9	
	95nm,0.2s						
ROSA	**Rosais**	**1.49**	**122**	*eP*	Pn	18 06 44.1	-4.4
ROSA				*eS*	Sn	18 07 00.3	-7.8
PCAN	**Candelaria**	**1.50**	**134**	*eP*	Pn	18 06 44.3	-4.4
PCAN				*eS*	Sn	18 07 00.7	-7.7
PCAN				A	A	18 07 02.6	
	225nm,0.2s						
PCAN	**Candelaria**	**1.50**	**134**	*eP*	Pn	18 06 44.3	-4.4
PCAN				*eS*	Sn	18 07 00.7	-7.7
PGRA	**Graciosa**	**1.54**	**108**	*eS*	Sn	18 07 01.2	-8.0
PGRA				A	A	18 07 02.1	
	195nm,0.4s						
PGRA	**Graciosa**	**1.54**	**108**	*eS*	Sn	18 07 01.2	-8.0
PPNO	**Prainha do Nor**	**1.62**	**130**	*eP*	Pn	18 06 45.8	-4.7
PPNO				*eS*	Sn	18 07 03.9	-7.6
PPNO				A	A	18 07 07.8	
	134nm,0.1s						
PPNO	**Prainha do Nor**	**1.62**	**130**	*eP*	Pn	18 06 45.8	-4.7
PPNO				*eS*	Sn	18 07 03.9	-7.6
PMAN	**Manadas**	**1.64**	**122**	*eP*	Pn	18 06 46.0	-4.5
PMAN				*eS*	Sn	18 07 03.8	-7.9
PMAN				A	A	18 07 06.4	
	96nm,0.3s						
PMAN	**Manadas**	**1.64**	**122**	*eP*	Pn	18 06 46.0	-4.5
PMAN				*eS*	Sn	18 07 03.8	-7.9

MEX 04 18:06:47.9±0.5, 14°.72N×93°.16W, h11km±34km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.98**	**357**	*i* P	Pg	18 07 03.7	-3.2
PCIG				*i* S	Sg	18 07 16.1	-3.6
CCIG	**Comitan**	**1.84**	**32**	*i* P	Pn	18 07 15.4	-4.4
CCIG				*i* S	Sn	18 07 38.5	-4.7
TGIG		**2.05**	**1**	*i* P	Pn	18 07 19.6	-2.8
TGIG				*eS*	Sn	18 07 43.4	-4.7

IDC 04 18:12:22.1±49.0, 22°.93S×175°.26W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.6/35, mbtmp4.1/3, Error ellipse: s-maj=913.1km s-min=157.1km az=87.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.12**	**247**	P	P	18 19 50.1	-1.3
	0.8nm,0.5s,baz=94,slow=12,SNR=8.0						
ASAR	**Alice Springs**	**46.49**	**259**	P	P	18 20 51.4	-0.1
	1.4nm,0.4s,baz=90,slow=7.3,SNR=127						
WRA	**Warramunga Arr**	**46.83**	**264**	P	P	18 20 55.0	+0.8
	1.1nm,0.4s,baz=100,slow=8.0,SNR=53						

CSEM ***04*** *18:12:52.4, 39°.44N×29°.89W, h10km, ML2.8*
PDA 04 18:12:52.4±0.6, 39°.44N×29°.89W, h10km, MD3.6, ML2.8, Error ellipse: s-maj=8.7km s-min=2.1km az=23.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H07S1	**FLORES T-PHASE**	**1.02**	**267**	*eS*	Sg	18 13 19.9	-5.5
PCED	**Cedros**	**1.23**	**131**	*eP*	Pn	18 13 10.8	-4.9
PCED				*eS*	Sb	18 13 24.7	-7.1
PCED				A	A	18 13 26.7	
	62nm,0.3s						
PCED	**Cedros**	**1.23**	**131**	*eP*	Pn	18 13 10.8	-4.9
PCED				*eS*	Sb	18 13 24.7	-7.1
CALA	**Caldeira**	**1.27**	**132**	*eS*	Sb	18 13 25.9	-7.0
CALA	**Caldeira**	**1.27**	**132**	*eS*	Sb	18 13 25.9	-7.0
HOR	**Horta**	**1.34**	**132**	*eS*	Sb	18 13 27.8	-7.1
HOR	**Horta**	**1.34**	**132**	*eS*	Sb	18 13 27.8	-7.1
PCAN	**Candelaria**	**1.47**	**131**	*eP*	Pn	18 13 14.4	-4.6
PCAN				*eS*	Sn	18 13 30.8	-7.5
PCAN				A	A	18 13 32.8	
	59nm,0.2s						
PCAN	**Candelaria**	**1.47**	**131**	*eP*	Pn	18 13 14.4	-4.6
PCAN				*eS*	Sn	18 13 30.8	-7.5
ROSA	**Rosais**	**1.47**	**119**	*eP*	Pn	18 13 14.4	-4.6
ROSA				*eS*	Sn	18 13 31.0	-7.4
ROSA				A	A	18 13 35.9	
	24nm,0.3s						
ROSA	**Rosais**	**1.47**	**119**	*eP*	Pn	18 13 14.4	-4.6
ROSA				*eS*	Sn	18 13 31.0	-7.4
PPNO	**Prainha do Nor**	**1.60**	**127**	*eS*	Sn	18 13 34.1	-7.5
PPNO				A	A	18 13 39.4	
	59nm,0.2s						
PPNO	**Prainha do Nor**	**1.60**	**127**	*eS*	Sn	18 13 34.1	-7.5
PMAN	**Manadas**	**1.62**	**119**	*eS*	Sn	18 13 34.2	-7.8
PMAN				A	A	18 13 36.5	
	28nm,0.4s						
PMAN	**Manadas**	**1.62**	**119**	*eS*	Sn	18 13 34.2	-7.8

CSEM ***04*** *18:14:08.8, 39°.43N×29°.82W, h10km, ML3.0*
PDA 04 18:14:08.8±0.6, 39°.43N×29°.82W, h10km, MD3.6, ML3.0, Error ellipse: s-maj=10.0km s-min=4.0km az=48.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**1.18**	**132**	*i* P	Pb	18 14 26.6	-4.8
PCED				*eS*	Sb	18 14 39.9	-6.8
PCED				A	A	18 14 43.8	
	111nm,0.3s						
CALA	**Caldeira**	**1.22**	**134**	*eP*	Pn	18 14 27.5	-4.5
CALA				*eS*	Sb	18 14 41.3	-6.6
CALA	**Caldeira**	**1.22**	**134**	*eP*	Pn	18 14 27.5	-4.5
CALA				*eS*	Sb	18 14 41.3	-6.6
PCAN	**Candelaria**	**1.42**	**132**	*i* P	Pn	18 14 30.1	-4.6
PCAN				*eS*	Sn	18 14 46.0	-7.5
PCAN				A	A	18 14 52.3	
	176nm,0.4s						
ROSA	**Rosais**	**1.42**	**119**	*eP*	Pn	18 14 30.0	-4.7
ROSA				*eS*	Sn	18 14 46.1	-7.3
ROSA				A	A	18 14 47.2	
	35nm,0.2s						
ROSA	**Rosais**	**1.42**	**119**	*eP*	Pn	18 14 30.0	-4.7
ROSA				*eS*	Sn	18 14 46.1	-7.3
PPNO	**Prainha do Nor**	**1.55**	**128**	*eP*	Pn	18 14 32.0	-4.5
PPNO				*eS*	Sn	18 14 49.3	-7.4
PPNO				A	A	18 14 54.7	
	82nm,0.1s						
PPNO	**Prainha do Nor**	**1.55**	**128**	*eP*	Pn	18 14 32.0	-4.5
PPNO				*eS*	Sn	18 14 49.3	-7.4
PMAN	**Manadas**	**1.57**	**120**	*eP*	Pn	18 14 31.9	-4.8
PMAN				*eS*	Sn	18 14 49.4	-7.6
PMAN				A	A	18 14 49.9	
	46nm,0.3s						
PMAN	**Manadas**	**1.57**	**120**	*eP*	Pn	18 14 31.9	-4.8
PMAN				*eS*	Sn	18 14 49.4	-7.6

CSEM ***04*** *18:15:05.0, 36°.74N×7°.19W, h46km, mb3.8/4*
INMG ***04*** *18:15:05.1±1.3, 36°.73N×7°.24W, h22km±3km, ML1.6, Error ellipse: s-maj=6.2km s-min=5.5km az=170.0*
IGIL ***04*** *18:15:05.4, 36°.72N×7°.25W, h22km, ML1.2*
MDD ***04*** *18:15:05.0±0.9, 36°.74N×7°.19W, h46km±26km, mb3.8/4, Error ellipse: s-maj=9.6km s-min=5.3km az=3.0, PRXIMO*
ISC 04 18:15:03.2±1.4, 36°.72N±0°.05×7°.16W±0°.02, h33km±4km, n48, σ0°69/85, 1C-3D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBDV	**Barranco-do-Ve**	**0.81**	**311**	*eP*	**Pb**	**18 15 19.2**	**+0.2**
PBDV				*eS*	**Sb**	**18 15 29.3**	**-0.4**
PBDV				A	A	18 15 29.6	
	10nm,0.1s						
PBDV	**Barranco-do-Ve**	**0.81**	**311**	P	**Pb**	**18 15 19.2**	**+0.2**
PBDV				S	**Sb**	**18 15 29.3**	**-0.4**
	10nm,0.1s						
PVAQ	**Vaqueiros**	**0.82**	**327**	*eP*	**Pb**	**18 15 19.4**	**+0.3**
PVAQ				*eS*	**Sb**	**18 15 29.6**	**-0.3**
PVAQ				A	A	18 15 30.4	
	16nm,0.1s						
PVAQ	**Vaqueiros**	**0.82**	**327**	P	**Pb**	**18 15 19.4**	**+0.3**
PVAQ				S	**Sb**	**18 15 29.6**	**-0.3**
	16nm,0.1s						
PVAQ	**Vaqueiros**	**0.82**	**327**	P	**Pb**	**18 15 19.4**	**+0.3**
PVAQ				S	**Sb**	**18 15 29.6**	**-0.3**
	16nm,0.1s						
EGRO	**El Granado**	**0.86**	**342**	⇓P	**Pb**	**18 15 19.9**	**+0.2**
	2.8nm,0.0s,SNR=18						
EGRO				S	**Sb**	**18 15 30.7**	**-0.2**
	8.8nm,0.1s,SNR=14						
EGRO	**El Granado**	**0.86**	**342**	P	**Pb**	**18 15 19.9**	**+0.2**
	2.8nm,0.0s,SNR=18						
EGRO				S	**Sb**	**18 15 30.7**	**-0.2**
	8.8nm,0.1s,SNR=14						
ESPR	**Espera**	**1.05**	**81**	⇑P	**Pb**	**18 15 23.3**	**+0.3**
	7.3nm,0.1s,SNR=18						
ESPR				S	**Sb**	**18 15 36.7**	**+0.2**
	2.3nm,0.1s,SNR=7.9						
ESPR	**Espera**	**1.05**	**81**	P	**Pb**	**18 15 23.3**	**+0.3**
	7.3nm,0.1s,SNR=18						
ESPR				S	**Sb**	**18 15 36.7**	**+0.2**
	2.3nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.12**	**20**	⇓P	**Pb**	**18 15 23.4**	**-0.7**
	0.6nm,0.1s,SNR=18						
EMIN				S	**Sn**	**18 15 36.6**	**-0.2**
	2.9nm,0.1s,SNR=11						
EMIN	**Mina Concepcio**	**1.12**	**20**	P	**Pb**	**18 15 23.4**	**-0.7**
	0.6nm,0.1s,SNR=18						
EMIN				S	**Sn**	**18 15 36.6**	**-0.2**
	2.9nm,0.1s,SNR=11						
PCVE	**Castro Verde**	**1.16**	**323**	*eP*	**Pb**	**18 15 24.1**	**-0.6**
PCVE				*eS*	**Sn**	**18 15 38.2**	**+0.5**
PCVE	**Castro Verde**	**1.16**	**323**	P	**Pb**	**18 15 24.1**	**-0.6**
PCVE				S	**Sn**	**18 15 38.2**	**+0.5**
PCVE	**Castro Verde**	**1.16**	**323**	P	**Pb**	**18 15 24.1**	**-0.6**
PCVE				S	**Sn**	**18 15 38.2**	**+0.5**
MORF	**Marmelete**	**1.33**	**297**	*eS*	**Sn**	**18 15 41.6**	**-0.6**
MORF				AML	AML	18 15 41.9	
	comp=N,4.8nm,0.2s						
MORF	**Marmelete**	**1.33**	**297**	*eS*	**Sn**	**18 15 41.7**	**-0.5**
MORF				A	A	18 15 43.6	
	comp=N,4.7nm,0.1s						
MORF	**Marmelete**	**1.33**	**297**	S	**Sn**	**18 15 41.6**	**-0.6**
	comp=N,4.8nm,0.2s						
MORF				S	**Sn**	**18 15 41.7**	**-0.5**
	comp=N,4.7nm,0.1s						
MORF	**Marmelete**	**1.33**	**297**	S	**Sn**	**18 15 41.6**	**-0.6**
	comp=N,4.8nm,0.2s						
MORF				S	**Sn**	**18 15 41.7**	**-0.5**
	comp=N,4.7nm,0.1s						
PFVI	**Vila Bisbo**	**1.40**	**288**	*eS*	**Sn**	**18 15 43.0**	**-0.8**
PFVI	**Vila Bisbo**	**1.40**	**288**	P	**Pn**	**18 15 26.5**	**+0.1**
	comp=N,1.1nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**18 15 42.8**	**-1.0**
	comp=N,5.6nm,0.1s,SNR=5.7						
PFVI	**Vila Bisbo**	**1.40**	**288**	P	**Pn**	**18 15 26.5**	**+0.1**
	comp=N,1.1nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**18 15 42.8**	**-1.0**
	comp=N,5.6nm,0.1s,SNR=5.7						
MESJ	**Messejana**	**1.41**	**323**	*eP*	**Pn**	**18 15 27.4**	**+0.9**
MESJ				*eS*	**Sn**	**18 15 43.6**	**-0.2**
MESJ				AML	AML	18 15 44.2	
	comp=E,2.2nm,0.1s						
MESJ	**Messejana**	**1.41**	**323**	*eP*	**Pn**	**18 15 27.4**	**+0.9**
MESJ				*eS*	**Sn**	**18 15 43.7**	**-0.2**
MESJ				A	A	18 15 45.9	
	comp=E,3.5nm,0.2s						
MESJ	**Messejana**	**1.41**	**323**	P	**Pn**	**18 15 27.4**	**+0.9**
MESJ				S	**Sn**	**18 15 43.7**	**-0.2**
	comp=E,3.5nm,0.2s						
MESJ	**Messejana**	**1.41**	**323**	P	**Pn**	**18 15 27.4**	**+0.9**
MESJ				S	**Sn**	**18 15 43.7**	**-0.2**
	comp=E,3.5nm,0.2s						
PBAR	**Barrancos**	**1.46**	**4**	*eP*	**Pn**	**18 15 28.4**	**+1.1**
PBAR				*eS*	**Sn**	**18 15 45.3**	**+0.1**
PBAR				A	A	18 15 46.1	
	comp=E,3.9nm,0.1s						
PBAR	**Barrancos**	**1.46**	**4**	P	**Pn**	**18 15 28.4**	**+1.1**
PBAR				S	**Sn**	**18 15 45.3**	**+0.1**
	comp=E,3.9nm,0.1s						
PBAR	**Barrancos**	**1.46**	**4**	P	**Pn**	**18 15 28.4**	**+1.1**
PBAR				S	**Sn**	**18 15 45.3**	**+0.1**
	comp=E,3.9nm,0.1s						
PTEO	**Sao Teotonio**	**1.50**	**304**	*eP*	**Pn**	**18 15 28.8**	**+1.0**
PTEO				*eS*	**Sn**	**18 15 45.9**	**-0.4**
PTEO				A	A	18 15 46.7	
	comp=E,8.4nm,1.0s						
PTEO	**Sao Teotonio**	**1.50**	**304**	P	**Pn**	**18 15 28.8**	**+1.0**
PTEO				S	**Sn**	**18 15 45.9**	**-0.4**
	comp=E,4.2nm,1.0s						
PTEO	**Sao Teotonio**	**1.50**	**304**	P	**Pn**	**18 15 28.8**	**+1.0**
PTEO				S	**Sn**	**18 15 45.9**	**-0.4**
	comp=E,4.2nm,1.0s						
PNCL	**Nicolau / Gran**	**1.77**	**322**	*ePn*	**Pn**	**18 15 32.7**	**+1.2**
PNCL				*eSn*	**Sn**	**18 15 53.0**	**+0.1**
ECAB	**El Cabril**	**1.94**	**45**	P	**Pn**	**18 15 34.5**	**+0.6**
	comp=E,0.1nm,0.0s,SNR=7.9						
ECAB				S	**Sn**	**18 15 55.8**	**-1.3**
	comp=E,1.2nm,0.0s,SNR=7.5						
ECAB	**El Cabril**	**1.94**	**45**	P	**Pn**	**18 15 34.5**	**+0.6**
	comp=E,0.1nm,0.0s,SNR=7.9						
ECAB				S	**Sn**	**18 15 55.8**	**-1.3**
	comp=E,1.2nm,0.0s,SNR=7.5						
EBAD	**Badajoz**	**2.04**	**3**	⇓P	**Pn**	**18 15 36.1**	**+0.9**
	comp=E,0.9nm,0.1s,SNR=18						
EBAD				S	**Sn**	**18 15 58.6**	**-0.9**
	comp=E,1.0nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.04**	**3**	P	**Pn**	**18 15 36.1**	**+0.9**
	comp=E,0.9nm,0.1s,SNR=18						
EBAD				S	**Sn**	**18 15 58.6**	**-0.9**
	comp=E,1.0nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**2.17**	**351**	*ePn*	**Pn**	**18 15 37.9**	**+0.8**
PESTR				*eSn*	**Sn**	**18 16 02.7**	**-0.2**
PESTR				A	A	18 16 03.7	
	comp=E,3.0nm,0.7s						
PMTG	**Montargil**	**2.50**	**341**	*ePn*	**Pn**	**18 15 42.5**	**+1.

NEIC **04** 18:21:30.6±1.4, 25°.00N×122°.35E, h16^{km}±9^{km}, mb4.5/5, ML4.6(TAP), Error ellipse: s-maj=12.2km s-min=11.2km az=196.0

NEIC Recorded [2 TAP] in I-lan and [1 TAP] in Hua-lien and T'ai-pei.

TAP **04** 18:21:30.8, 25°.00N×122°.30E, h12^{km}, ML4.3, C

BJI **04** 18:21:30.3, 25°.00N×122°.30E, h10^{km}, mb4.2/14, mB4.4/6, ML4.3/4, Ms4.2/11, Ms7 3.9/12

IDC **04** 18:21:34.1±3.6, 25°.08N×122°.39E, h42^{km}±34^{km}, mb3.7/14, mb1 3.8/16, mb1mx3.7/31, mbtmp3.9/16, ML3.2/2, MS3.6/9, Ms1 3.6/9, ms1mx3.2/37, Error ellipse: s-maj=23.1km s-min=13.1km az=68.0

ISC 04 18:21:31.3±0.5, **24°.99N**±0°.02×**122°.34E**±0°.02, **h20**^{km}±2^{km}, **n108**, σ**1.32**/168, **mb4.1**/17, **MS3.5**/8, **3C-13D**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.32**	**273**	⇓iP	**Pb**	**18 21 37.3**	**-1.0**
	baz=272						
TWB1				iS	**Sb**	**18 21 41.5**	**-1.5**
	baz=272						
NWF	**Wu-fen Shan**	**0.51**	**279**	⇓iP	**Pb**	**18 21 41.3**	**-0.4**
	baz=279						
NWF				iS	**Sb**	**18 21 48.0**	**-0.7**
	baz=279						
ILA	**Ilan**	**0.58**	**247**	eP	**Pb**	**18 21 42.3**	**-0.6**
	baz=244						
TWC	**Suao**	**0.59**	**229**	⇓iP	**Pb**	**18 21 42.1**	**-0.9**
	baz=226						
TWC				eS	**Sb**	**18 21 50.2**	**-0.7**
	baz=226						
TWE	**Neicheng**	**0.67**	**246**	eP	**Pb**	**18 21 43.7**	**-0.6**
	baz=243						
TWE				eS	**Sb**	**18 21 53.5**	**+0.4**
	baz=243						
PCYT	**Pengchaiyu**	**0.68**	**339**	⇓iP	**Pb**	**18 21 45.0**	**+0.4**
	baz=324						
PCYT				eS	**Sn**	**18 21 55.4**	**-0.4**
	baz=324						
TWA	**Mucha**	**0.69**	**269**	⇓iP	**Pb**	**18 21 44.5**	**-0.1**
	baz=268						
TWA				S	**Sb**	**18 21 54.0**	**+0.3**
	baz=268						
TWY	**Chenhua**	**0.73**	**293**	⇓iP	**Pb**	**18 21 45.5**	**+0.2**
	baz=294						
TWY				S	**Sn**	**18 21 55.8**	**-1.1**
	baz=294						
TAP1	**Taipei**	**0.74**	**274**	⇓P	**Pn**	**18 21 46.0**	**-0.6**
	baz=273						
TAP1				S	**Sb**	**18 21 56.1**	**+0.8**
	baz=273						
TAP	**Taipei**	**0.76**	**274**	P	**Pb**	**18 21 46.1**	**+0.3**
	baz=273						
TAP				eS	**Sb**	**18 21 55.4**	**-0.3**
	baz=273						
JYNG	**Yonagunijimaku**	**0.77**	**134**	P	**Pb**	**18 21 45.9**	**-0.1**
JYNG				S	**Sb**	**18 21 56.5**	**+0.4**
TATO	**Taipei**	**0.77**	**269**	ePg	**Pb**	**18 21 46.0**	**-0.1**
TATO				eSg	**Sb**	**18 21 53.5**	**-2.6**
ENA	**Nanau**	**0.78**	**224**	⇓iP	**Pb**	**18 21 45.6**	**-0.7**
	baz=211						
ENA				eS	**Sb**	**18 21 56.5**	**+0.1**
	baz=211						
ENTT	**Nioudou**	**0.79**	**244**	⇓P	**Pb**	**18 21 45.7**	**-0.6**
	baz=255						
ENTT				eS	**Sb**	**18 21 56.5**	**0.0**
	baz=255						
YOJ	**Yonaguni jima**	**0.81**	**131**	P	**Pb**	**18 21 46.4**	**-0.2**
YOJ				eS	**Sb**	**18 21 57.0**	**-0.1**
YOJ	**Yonaguni jima**	**0.81**	**131**	⇓iP	**Pb**	**18 21 46.5**	**-0.2**
	baz=116						
YOJ				iS	**Sb**	**18 21 57.8**	**+0.7**
	baz=116						
YOJ	**Yonaguni jima**	**0.81**	**131**	ePg	**Pb**	**18 21 46.4**	**-0.2**
YOJ				eSg	**Sn**	**18 21 58.7**	**-0.2**
TWS1	**Kuangyinshan**	**0.84**	**277**	P	**Pn**	**18 21 47.7**	**-0.4**
	baz=278						
TWS1				S	**Sn**	**18 21 59.4**	**-0.4**
	baz=278						
EHP	**Heping Village**	**0.87**	**219**	eP	**Pn**	**18 21 48.1**	**-0.3**
	baz=215						
YHNB	**Yeheng**	**0.93**	**250**	ePg	**Pb**	**18 21 48.1**	**-0.8**
YHNB				eSg	**Sb**	**18 21 59.0**	**-1.9**
NSK	**Sanguang**	**0.95**	**251**	P	**Pb**	**18 21 48.6**	**-0.5**
	baz=265						
NSK				S	**Sb**	**18 22 01.3**	**+0.1**
	baz=265						
NNS	**Nan Shan**	**1.04**	**238**	P	**Pb**	**18 21 50.7**	**0.0**
	baz=224						
NNS				eS	**Sn**	**18 22 04.7**	**-0.1**
	baz=224						
NCU	**National Centr**	**1.05**	**269**	eP	**Pn**	**18 21 51.1**	**+0.3**
	baz=268						
NCU				eS	**Sn**	**18 22 04.4**	**-0.5**
	baz=268						
NACB	**Ninganchiao**	**1.06**	**220**	ePn	**Pb**	**18 21 50.5**	**-0.4**
NACB				eSn	**Sb**	**18 22 02.3**	**-2.1**
TWD	**Chiawan**	**1.13**	**217**	⇓P	**Pn**	**18 21 52.0**	**0.0**
	baz=214						
TWD				S	**Sn**	**18 22 07.4**	**+0.5**
	baz=214						
HWA	**Hwalien**	**1.21**	**214**	eP	**Pb**	**18 21 54.6**	**+1.0**
	baz=220						
HWA				eS	**Sn**	**18 22 10.8**	**+1.9**
	baz=220						
HSN	**Hsinchu**	**1.26**	**262**	P	**Pn**	**18 21 53.3**	**-0.4**
	baz=262						
HSN				eS	**Sb**	**18 22 10.3**	**+0.2**
	baz=262						
NSTT	**Nanjuang**	**1.27**	**254**	⇑iP	**Pn**	**18 21 54.0**	**+0.1**
	baz=253						
NSTT				eS	**Sb**	**18 22 10.3**	**-0.1**
	baz=253						
TWT	**Tachien**	**1.29**	**235**	eP	**Pb**	**18 21 55.3**	**+0.3**
	baz=224						
TWT				eS	**Sb**	**18 22 13.0**	**+1.8**
	baz=224						
WHF	**Hehuan Shan**	**1.29**	**229**	⇓P	**Pb**	**18 21 55.1**	**-0.1**
	baz=228						
WHF				S	**Sb**	**18 22 12.0**	**+0.5**
	baz=228						
IRIF	**Iriomote-Funau**	**1.43**	**117**	P	**Pn**	**18 21 55.2**	**-0.8**
IRIF				eS	**Sn**	**18 22 12.8**	**-1.4**
ESL	**Shilin**	**1.44**	**215**	⇓iP	**Pb**	**18 21 56.9**	**-0.5**
	baz=216						
ESL				eS	**Sb**	**18 22 17.0**	**+1.8**
	baz=216						
NSY	**Sanyi**	**1.55**	**249**	eP	**Pb**	**18 21 58.5**	**-0.8**
	baz=263						
NSY				eS	**Sb**	**18 22 19.9**	**+1.4**
	baz=263						
TWQ1	**Liyutan**	**1.56**	**246**	eP	**Pb**	**18 21 58.7**	**-0.8**
	baz=261						
TWQ1				eS	**Sb**	**18 22 20.1**	**+1.2**
	baz=261						
HATJ	**Hateruma jima**	**1.63**	**125**	P	**Pn**	**18 21 58.5**	**-0.3**
WDT	**Danda**	**1.65**	**222**	eP	**Pb**	**18 22 00.8**	**-0.4**
	baz=222						
WDT				eS	**Sb**	**18 22 22.2**	**+0.5**
	baz=222						
JKRS	**Kuro-shima**	**1.70**	**116**	P	**Pn**	**18 21 59.0**	**-0.8**
SMLT	**Sun Moon Lake**	**1.71**	**230**	⇑P	**Pb**	**18 22 02.1**	**-0.1**
	baz=221						
SMLT				eS	**Sb**	**18 22 24.3**	**+0.9**
	baz=221						
TYC	**Yuchr**	**1.73**	**232**	eP	**Pb**	**18 22 02.1**	**-0.4**
	baz=230						
TYC				eS	**Sb**	**18 22 23.4**	**-0.4**
	baz=230						
TCU	**Taichung**	**1.73**	**241**	eP	**Pb**	**18 22 01.8**	**-0.6**
	baz=258						
TCU				eS	**Sb**	**18 22 23.4**	**-0.4**
	baz=258						
SSLB	**Suanglung**	**1.74**	**227**	ePn	**Pb**	**18 22 02.1**	**-0.6**
SSLB				eSn	**Sn**	**18 22 21.0**	**-1.1**
EHY	**Hungye**	**1.75**	**212**	eP	**Pn**	**18 22 00.9**	**+0.4**
	baz=214						
EHY				eS	**Sb**	**18 22 23.5**	**-0.7**
	baz=214						
JIJ	**Ishigaki jima**	**1.76**	**111**	P	**Pn**	**18 21 59.8**	**-0.8**
JISG	**Ishigakijimahi**	**1.84**	**102**	P	**Pn**	**18 22 01.3**	**-0.4**
YULB	**Yu-li**	**1.86**	**211**	ePn	**Pn**	**18 22 00.9**	**-1.1**
YULB				eSn	**Sn**	**18 22 22.7**	**-2.2**
WNT	**Mingjian**	**1.87**	**234**	eP	**Pb**	**18 22 04.5**	**-0.3**
	baz=252						
WNT				eS	**Sb**	**18 22 30.1**	**+2.3**
	baz=252						
TWF1	**Yuli**	**1.89**	**210**	eP	**Pn**	**18 22 02.6**	**+0.2**
	baz=210						
YUS	**Yu-Shan**	**1.96**	**221**	eP	**Pb**	**18 22 06.0**	**-0.7**
	baz=205						
YUS				eS	**Sb**	**18 22 30.0**	**-0.8**
	baz=205						
ALS	**Alishan**	**2.04**	**224**	eP	**Pb**	**18 22 07.2**	**-0.6**
	baz=208						
ALS				eS	**Sb**	**18 22 34.6**	**+1.8**
	baz=208						
CHN5	**Tsauling**	**2.06**	**228**	eP	**Pb**	**18 22 07.2**	**-0.8**
	baz=228						
CHN5				eS	**Sb**	**18 22 34.0**	**+0.8**
	baz=228						
WGK	**Gukeng**	**2.08**	**232**	eP	**Pb**	**18 22 07.3**	**-1.0**
	baz=250						
WGK				eS	**Sb**	**18 22 35.1**	**+1.3**
	baz=250						
CHKT	**Chengkung**	**2.08**	**205**	eP	**Pn**	**18 22 05.8**	**+0.7**
	baz=192						
CHKT				eS	**Sn**	**18 22 29.5**	**-1.0**
	baz=192						
JTJ	**Tarama**	**2.18**	**99**	P	**Pn**	**18 22 06.6**	**+0.2**
CHN2	**Minshiung**	**2.24**	**230**	eP	**Pb**	**18 22 09.3**	**-1.7**
	baz=247						
CHN2				eS	**Sb**	**18 22 40.2**	**+1.9**
	baz=247						
CHN4	**Tsaushan**	**2.28**	**225**	eP	**Pb**	**18 22 10.8**	**-1.1**
	baz=211						
CHN4				eS	**Sb**	**18 22 41.2**	**+1.6**
	baz=211						
CHY	**Chiayi**	**2.30**	**230**	eP	**Pb**	**18 22 10.0**	**-2.0**
	baz=247						
CHY				eS	**Sb**	**18 22 39.6**	**-0.4**
	baz=247						
TPUB	**Ta-pu**	**2.30**	**223**	ePn	**Pb**	**18 22 10.9**	**-1.2**
TPUB				eSn	**Sn**	**18 22 33.3**	**-2.5**
STYT	**Tauyuan**	**2.33**	**219**	eP	**Pb**	**18 22 10.9**	**-1.7**
	baz=206						
STYT				eS	**Sb**	**18 22 39.8**	**-1.1**
	baz=206						
WTP	**Ta-pu**	**2.35**	**223**	eP	**Pb**	**18 22 11.5**	**-1.5**
	baz=209						
WTP				eS	**Sb**	**18 22 40.9**	**-0.7**
	baz=209						
WSF	**Szhu**	**2.36**	**236**	eP	**Pb**	**18 22 11.3**	**-1.8**
	baz=236						
TWK	**Hsinying**	**2.41**	**225**	eP	**Pb**	**18 22 12.5**	**-1.6**
	baz=210						
TWK				eS	**Sb**	**18 22 42.5**	**-0.9**
	baz=210						
CHN1	**Nanshi**	**2.44**	**223**	eP	**Pb**	**18 22 12.9**	**-1.7**
	baz=209						
CHN1				eS	**Sb**	**18 22 44.6**	**+0.3**
	baz=209						
TWG	**Pinlang**	**2.45**	**208**	eP	**Pn**	**18 22 11.0**	**+0.7**
	baz=209						
TWG	**Pinlang**	**2.45**	**208**	ePn	**Pn**	**18 22 08.5**	**-1.7**
TWG				eSn	**Sn**	**18 22 37.1**	**-2.5**
TTN	**Taitung**	**2.48**	**206**	eP	**Pn**	**18 22 12.5**	**+1.9**
	baz=207						
SGST	**Jiashian**	**2.49**	**221**	eP	**Pb**	**18 22 13.3**	**-2.0**
	baz=208						
SGST				eS	**Sb**	**18 22 45.0**	**-0.6**
	baz=208						
CHN3	**Shinhua**	**2.63**	**224**	eP	**Pn**	**18 22 14.9**	**+2.4**
	baz=225						
SCLT	**Jiali**	**2.67**	**228**	eP	**Pn**	**18 22 14.7**	**+1.6**
	baz=229						
SCLT				eS	**Sb**	**18 22 48.5**	**-2.2**
	baz=229						
ECL	**Taimali**	**2.70**	**208**	eP	**Pn**	**18 22 14.7**	**+1.1**
	baz=197						
SSD	**Sandimen**	**2.73**	**215**	eP	**Pb**	**18 22 16.6**	**-2.8**
	baz=218						
SSD				eS	**Sn**	**18 22 49.3**	**+2.9**
	baz=218						
TWM1	**Shoushan**	**2.78**	**219**	eP	**Pb**	**18 22 18.2**	**-2.1**
	baz=221						
SGLT	**Jiouru**	**2.82**	**217**	eP	**Pb**	**18 22 18.1**	**-3.0**
	baz=220						
PNG	**Penghu**	**2.91**	**241**	eP	**Pn**	**18 22 18.6**	**+2.1**
	baz=242						
EAST	**Anshuo**	**2.94**	**208**	eP	**Pn**	**18 22 18.1**	**+1.2**
	baz=196						
TAW	**Tawu**	**2.94**	**207**	eP	**Pn**	**18 22 19.1**	**+2.2**
	baz=196						
WDGT	**Dungji**	**3.00**	**235**	eP	**Pb**	**18 22 21.5**	**-2.5**
	baz=237						
SCZT	**Fangliau**	**3.05**	**211**	eP	**Pn**	**18 22 21.1**	**+2.7**
	baz=200						
SCZT				eS	**Sn**	**18 22 57.5**	**+3.2**
	baz=200						
TWK1	**Hengchun**	**3.35**	**205**	eP	**Pn**	**18 22 25.4**	**+2.9**
	baz=196						
TSEB	**Hengchuen, Pin**	**3.35**	**204**	eP	**Pn**	**18 22 25.4**	**+2.8**
	baz=195						
QZH	**Quanzhou**	**3.40**	**270**	⇑iPn	**Pn**	**18 22 22.6**	**-0.6**
QZH				Sn	**Sn**	**18 23 00.2**	**-2.8**
QZH				SMN			
	310nm,0.6s						
QZH				SME			
	220nm,0.6s						
QZH				LN			
	4μm,9.3s						
QZH				LE			
	2μm,4.4s						
QZH				LZ			
	4μm,5.2s						
KNM	**Kinmen**	**3.60**	**262**	eP	**Pn**	**18 22 26.2**	**+0.3**
	baz=261						
JKE	**Kume jima 2**	**4.23**	**71**	P	Pn	18 22 38.7	+4.1
SSE	**Sheshan**	**6.16**	**351**	P	Pb	18 23 26.7	+8.7
SSE				S	**Sb**	**18 24 34.0**	**+2.7**
SSE				pmax	pmax		
	comp=Z,36nm,0.8s						
SSE				pmax	pmax		
	comp=Z,33μm,3.0s						
SSE				LR	LR		
	comp=N,830nm,11.2s						
SSE				LR	LR		
	comp=E,320nm,11.2s						
SSE				LR	LR		
	comp=Z,820nm,8.2s						
WHN	**Wuhan**	**8.98**	**310**	P	Pn	18 23 43.1	+3.3
WHN				S	Sn	18 25 27.0	+6.7
WHN				LZ			
	comp=Z,2μm,11.8s						
KSRS	**Korea Array**	**13.30**	**20**	P	**Pn**	**18 24 37.5**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=205,slow=14,SNR=3.5						
KSRS				LR	LR	18 30 27.6	
	comp=Z,232nm,20.0s,baz=198,slow=40						
MJAR	**Matsushiro Arr**	**17.82**	**46**	P	**Pn**	**18 25 37.2**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=229,slow=15,SNR=2.5						
MJAR				LR	LR	18 33 25.8	
	comp=Z,93nm,19.2s,baz=275,slow=40						
MDJ	**Mudanjiang**	**20.45**	**15**	P	**P**	**18 26 08.2**	**+0.8**
	comp=Z,30nm,1.3s						
USRK	**Ussuriysk Ar.**	**20.71**	**20**	P	**P**	**18 26 11.2**	**+0.9**
	comp=Z,5.0nm,0.8s,baz=204,slow=10,SNR=14						
USRK				LR	LR	18 34 39.7	
	comp=Z,153nm,18.1s,baz=188,slow=38						
CMAR	**Chiang Mai Arr**	**22.67**	**258**	P	**P**	**18 26 32.2**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=65,slow=8.3,SNR=9.3						
CMAR				PcP	**PcP**	**18 30 23.4**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=38,slow=1.4,SNR=4.3						
CMAR				LR	LR	18 35 29.7	
	comp=Z,58nm,21.1s,baz=70,slow=37						
GTA	**Gaotai**	**23.79**	**313**	eP	**P**	**18 26 43.8**	**+1.0**
GTA				pP	**pP**	**18 26 51.5**	**+2.6**
GTA				sP	**sP**	**18 26 55.7**	**+4.2**
GTA				PMZ			
	comp=Z,4.0nm,1.3s						
GUMO	**Guam**	**24.06**	**114**	LR	LR	18 34 26.8	
	comp=Z,12nm,21.8s,baz=305,slow=32						
SONM	**Songino Array**	**26.06**	**335**	P	**P**	**18 27 03.7**	**+0.3**
	comp=Z,2.7nm,1.0s,baz=145,slow=11,SNR=14						
SONM				LR	LR	18 38 53.3	
	comp=Z,159nm,20.4s,baz=162,slow=40						
MKAR	**Makanchi Array**	**38.50**	**315**	P	**P**	**18 28 53.2**	**+1.0**
	comp=Z,3.5nm,0.9s,baz=106,slow=10.0,SNR=30						
MKAR				LR	LR	18 44 34.9	
	comp=Z,91nm,18.7s,baz=116,slow=36						
PETK	**Petropavlovsk-**	**38.61**	**34**	LR	LR	18 43 35.0	
	comp=Z,37nm,21.2s,baz=241,slow=34						
ZALV	**Zalesovo Beam**	**40.15**	**326**	P	**P**	**18 29 05.6**	**-0.2**
	comp=Z,4.3nm,0.9s,baz=120,slow=8.8,SNR=15						
ZALV				LR	LR	18 46 48.0	
	comp=Z,181nm,18.0s,baz=70,slow=38						
KURK	**Kurchatov**	**42.16**	**319**	eP	**P**	**18 29 22.5**	**+0.1**
	comp=Z,7.5nm,1.1s						
WRAB	**Tennant Creek**	**46.16**	**164**	eP	**P**	**18 29 53.4**	**-1.3**
	comp=Z,16nm,1.1s						
WRA	**Warramunga Arr**	**46.17**	**164**	P	**P**	**18 29 55.0**	**+0.3**
	comp=Z,3.8nm,0.8s,baz=346,slow=8.7,SNR=18						
WRA				PcP	**PcP**	**18 31 30.7**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=346,slow=3.7,SNR=5.1						
BRVK	**Borovoye**	**47.79**	**320**	eP	**P**	**18 30 06.0**	**-1.1**
	comp=Z,4.2nm,0.8s						
ASAR	**Alice Springs**	**49.65**	**166**	P	**P**	**18 30 21.4**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=350,slow=7.0,SNR=14						
ASAR				PcP	**PcP**	**18 31 43.2**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=336,slow=2.4,SNR=5.4						
ABKAR	**Akbulak array**	**53.63**	**314**	eP	**P**	**18 30 50.3**	**-1.0**
	comp=Z,1.5nm,0.7s						
STKA	**Stephens Creek**	**59.47**	**161**	P	**P**	**18 31 33.8**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=4.1,slow=14,SNR=2.4						
ILAR	**Eielson Array**	**68.01**	**28**	P	**P**	**18 32 28.0**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=282,slow=7.6,SNR=4.3						
ARCES	**ARCESS Array B**	**69.18**	**338**	P	**P**	**18 32 33.9**	**-2.2**
	comp=Z,3.9nm,0.9s,baz=57,slow=8.8,SNR=6.4						
FINES	**FINESS Array B**	**71.28**	**330**	P	**P**	**18 32 48.0**	**-1.1**
	comp=Z,3.4nm,0.7s,baz=72,slow=5.5,SNR=26						
FINES				LR	LR	19 06 36.4	
	comp=Z,180nm,19.7s,baz=272,slow=38						
AKASG	**Malin Array Be**	**72.97**	**318**	P	**P**	**18 32 58.8**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=58,slow=5.9,SNR=6.9						
BRTR	**Keskin Array B**	**73.54**	**306**	P	**P**	**18 33 02.6**	**-0.5**
	comp=Z,2.1nm,0.9s,baz=110,slow=6.7,SNR=12						
GERES	**GERESS Array B**	**82.88**	**321**	P	**P**	**18 33 54.0**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=76,slow=7.2,SNR=3.6						

IDC **04** 18:33:59.9±0.9, 24°.17S×66°.72W, h176^{km}±7^{km}, mb3.9/14, mb1 4.0/18, mb1mx3.9/38, mbtmp4.3/18, MS3.5/1, Ms1 3.5/1, ms1mx2.7/26, Error ellipse: s-maj=12.9km s-min=9.4km az=62.0

ISCJB **04** 18:34:00.4±0.2, 24°.16S±0°.03×66°.97W±0°.04, h193^{km}±2^{km}, mb4.1/27, Error ellipse: s-maj=5.8km s-min=3.7km az=150.7

SJA **04** 18:34:00.5±0.9, 24°.14S×66°.88W, h201^{km}±8^{km}, ML3.0, MW3.3

NEIC **04** 18:34:00.1±0.6, 24°.12S×66°.75W, h182^{km}±6^{km}, mb4.3/16, Error ellipse: s-maj=9.6km s-min=6.6km az=74.0

GUC **04** 18:34:03.3±0.5, 23°.86S×67°.50W, h243^{km}±23^{km}, ML5.4

ISC 04 18:34:00.7±0.7, **24°.20S**±0°.04×**66°.94W**±0°.05, **h186**^{km}±6^{km}, **n340**, σ**1.07**/352, **mb4.2**/27, **6C**, **Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.41**	**112**	eP	**Pn**	**18 34 34.7**	**+2.3**
SLA				eS	**Sn**	**18 34 59.3**	**+2.3**
AZAP	**Zapla**	**1.71**	**91**	eP	**Pn**	**18 34 36.7**	**+1.3**
AZAP				eS	**Sn**	**18 35 03.0**	**+0.8**
HJA	**Humahuaca**	**1.71**	**55**	eP	**Pn**	**18 34 37.1**	**+1.5**
FSA	**Cafayete**	**2.06**	**156**	eP	**Pn**	**18 34 41.4**	**+2.4**
ASTB	**Santa Barbara**	**2.26**	**84**	eP	**Pn**	**18 34 42.6**	**+1.5**
YJA	**Yavi**	**2.40**	**33**	eP	**Pn**	**18 34 44.4**	**+1.3**
YJA				eS	**Sn**	**18 35 16.0**	**0.0**
LVC	**Limon Verde**	**2.41**	**311**	P	**Pn**	**18 34 44.1**	**+1.2**
	4μm,0.3s,baz=128,slow=5.1,SNR=13						
LVC				S	**Sn**	**18 35 17.3**	**+1.7**
	12μm,0.3s,baz=294,slow=19,SNR=28						
LVC	**Limon Verde**	**2.41**	**311**	eP	**Pn**	**18 34 44.6**	**+1.8**
LVC				eS	**Sn**	**18 35 16.7**	**+1.0**
AHML	**Horco Molle**	**2.95**	**151**	eP	**Pn**	**18 34 50.7**	**+1.6**
AHML				eS	**Sn**	**18 35 28.1**	**+1.1**
PB04	**IPOC Station P**	**3.04**	**309**	⇑eP	Pn	18 34 56.5	+6.5
PB04				eS	Sn	18 35 37.0	+8.5
PB04				AML	AML	18 35 45.9	
	comp=N,3μm,0.5s						
PB09	**IPOC Station P**	**3.20**	**318**	⇑eP	**Pn**	**18 34 53.5**	**+1.3**
PB09				eS	**Sn**	**18 35 31.4**	**-1.0**
PB09				AML	AML	18 35 36.6	
	comp=N,8μm,0.2s						
PB10	**IPOC Station P**	**3.38**	**281**	⇑eP	**Pn**	**18 34 55.6**	**+1.4**
PB10				eS	**Sn**	**18 35 34.7**	**-1.4**
PB10				AML	AML	18 35 38.9	
	comp=N,6μm,0.3s						
PB07	**IPOC Station P**	**3.67**	**312**	⇑eP	**Pn**	**18 34 58.5**	**+0.6**
PB07				eS	**Sn**	**18 35 40.4**	**-2.4**
PB07				AML	AML	18 35 43.3	
	comp=E,4μm,0.4s						
PB01	**IPOC Station P**	**3.93**	**323**	⇑eP	**Pn**	**18 35 01.3**	**+0.1**
PB01				eS	**Sn**	**18 35 46.5**	**-2.0**
PB01				AML	AML	18 35 48.1	
	comp=E,2μm,0.2s						
CYA	**Choya**	**4.34**	**167**	eP	**Pn**	**18 35 08.2**	**+1.9**
CYA				AML	AML	18 35 59.5	
	comp=Z,13nm,0.3s						
VCA	**Vinchina**	**4.66**	**194**	eP	**Pn**	**18 35 12.4**	**+1.9**
PB11	**IPOC Station P**	**5.09**	**330**	⇑eP	**Pn**	**18 35 14.9**	**-1.1**
ACLC	**CERRO LA CRUZ**	**5.20**	**180**	eP	**Pn**	**18 35 18.6**	**+1.0**
MNMC	**Minimini**	**5.62**	**333**	eP	**Pn**	**18 35 22.4**	**-0.6**
AVFE	**Valle Fertil**	**6.45**	**184**	eP	**Pn**	**18 35 34.0**	**+0.3**
AVFE				eS	**Sn**	**18 36 45.0**	**-2.2**
AMOG	**MOGNA**	**6.85**	**191**	eP	**Pn**	**18 35 38.9**	**0.0**
AMOG				eS	**Sn**	**18 36 55.2**	**-1.5**
ACHE	**Chepes**	**6.94**	**178**	eP	**Pn**	**18 35 40.0**	**-0.1**
CFAA	**Coronel Fontan**	**7.47**	**189**	P	**Pn**	**18 35 47.2**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=5.5,slow=5.7,SNR=45						
CFAA				S	**Sn**	**18 37 07.3**	**-3.8**
	comp=Z,1.9nm,0.3s,baz=118,slow=21,SNR=27						
CFAA	**Coronel Fontan**	**7.47**	**189**	eP	**Pn**	**18 35 47.6**	**+0.7**
CFAA				eS	**Sn**	**18 37 07.9**	**-3.2**
LPAZ	**La Paz**	**7.95**	**352**	P	**Pn**	**18 35 53.0**	**-1.0**
	comp=Z,2.1nm,0.3s,baz=149,slow=4.0,SNR=48						
LPAZ				S	**Sn**	**18 37 21.6**	**-2.1**
	comp=Z,0.9nm,0.3s,baz=40,slow=17,SNR=4.2						
CPUP	**Villa Florida**	**8.95**	**106**	P	**Pn**	**18 36 04.2**	**-2.1**
	comp=Z,0.7nm,0.3s,baz=276,slow=11,SNR=11						
SIV	**San Ignacio**	**9.85**	**35**	P	**Pn**	**18 36 15.5**	**-2.8**
	comp=Z,2.2nm,0.3s,baz=224,slow=14,SNR=42						
TRQA	**Tornquist**	**14.45**	**164**	ePn	**Pn**	**18 37 15.2**	**-1.4**
	comp=Z,9.5nm,0.6s						
SAML	**Samuel**	**15.59**	**14**	ePn	**Pn**	**18 37 28.1**	**-2.7**
	comp=Z,5.5nm,0.6s						
BDFB	**Brasilia**	**19.71**	**68**	P	**P**	**18 38 14.4**	**-1.8**
	comp=Z,3.3nm,0.3s,baz=238,slow=10,SNR=26						
PTGA	**Pitinga**	**24.29**	**17**	P	**P**	**18 38 59.0**	**-2.1**
	comp=Z,2.2nm,0.3s,baz=190,slow=15,SNR=4.8						
PCRV	**Puerto La Cruz**	**34.24**	**4**	LR	LR	18 55 23.8	
	comp=Z,69nm,19.9s,baz=37,slow=38						
933A	**Laredo**	**60.22**	**327**	P	**P**	**18 43 50.4**	**+1.1**
	baz=60						
736A	**Circle Diamond**	**60.28**	**330**	P	**P**	**18 43 50.7**	**+1.1**
	baz=61						
834A	**Tilden**	**60.29**	**328**	P	**P**	**18 43 50.5**	**+0.8**
	baz=61						
637A	**Eagle Lake**	**60.35**	**330**	P	**P**	**18 43 51.1**	**+0.9**
	baz=61						
735A	**Kenedy**	**60.54**	**329**	P	**P**	**18 43 52.4**	**+1.0**
	baz=61						
KMSC	**Kings Mountain**	**60.58**	**346**	P	**P**	**18 43 50.6**	**-0.9**
	baz=61						
439A	**Center Grove,**	**60.84**	**333**	P	**P**	**18 43 53.2**	**-0.2**
	baz=61						
833A	**Chaparral WMA,**	**60.86**	**327**	P	**P**	**18 43 54.6**	**+1.0**
	baz=61,SNR=11						
734A	**La Parita Cree**	**60.89**	**328**	P	**P**	**18 43 54.4**	**+0.6**
	baz=61						
635A	**Leesville**	**60.97**	**329**	P	**P**	**18 43 54.8**	**+0.5**
	baz=61						
340A	**Bronson**	**61.02**	**334**	P	**P**	**18 43 54.8**	**+0.2**
	baz=61						
832A	**Faith Ranch, C**	**61.12**	**327**	P	**P**	**18 43 56.1**	**+0.7**
	baz=61,SNR=5.3						
733A	**Divot King Ran**	**61.14**	**328**	P	**P**	**18 43 56.1**	**+0.6**
	baz=61						
634A	**China Grove, S**	**61.24**	**329**	P	**P**	**18 43 56.1**	**0.0**
	baz=62						
732A	**Laxson Ranch,**	**61.48**	**327**	P	**P**	**18 43 58.5**	**+0.7**
	baz=62						
338A	**Crockett**	**61.56**	**332**	P	**P**	**18 43 58.7**	**+0.5**
	baz=62						
NATX	**Nacogdoches**	**61.64**	**333**	P	**P**	**18 43 58.9**	**+0.2**
	baz=62						
633A	**Saathoff Ranch**	**61.70**	**328**	P	**P**	**18 43 59.8**	**+0.6**
	baz=62						

436A Wall Ranch, Ga 61.70 331 P P 18 43 59.8 +0.6
baz=62
534A Blanco 61.84 329 P P 18 43 59.7 -0.4
baz=62
632A Uvalde 62.03 328 P P 18 44 02.1 +0.6
baz=62
336A Riesel 62.25 331 P P 18 44 02.9 +0.1
baz=62
631A Perdido Creek 62.34 327 P P 18 44 04.1 +0.6
baz=63
434A Burnet 62.40 330 P P 18 44 04.3 +0.4
baz=63
335A Moody 62.41 331 P P 18 44 03.9 -0.1
baz=63
532A Rocksprings 62.60 328 P P 18 44 06.0 +0.7
baz=63,SNR=6.3
433A Art 62.73 329 P P 18 44 06.5 +0.4
baz=63
334A Lometa 62.82 330 P P 18 44 06.8 +0.1
baz=63
JCT Junction City 62.84 328 P P 18 44 07.3 +0.5
baz=63
JCT Junction City 62.84 328 eP P 18 44 07.0 +0.1
comp=Z,7.1nm,0.7s
531A Rocksprings 62.95 327 P P 18 44 07.8 +0.3
baz=63
WHTX Lake Whitney 63.03 331 P P 18 44 07.8 -0.2
baz=63
333A Richland Sprin 63.16 329 P P 18 44 09.0 +0.1
baz=63,SNR=11
432A Menard 63.17 328 P P 18 44 09.2 +0.2
baz=64,SNR=7.8
530A J-C Ranch, Com 63.33 327 P P 18 44 10.7 +0.7
baz=64
234A Clairette 63.35 330 P P 18 44 10.4 +0.3
baz=64,SNR=5.1
431A Sonora 63.40 328 P P 18 44 10.8 +0.3
baz=64
135A Vickery Place, 63.49 331 P P 18 44 11.2 +0.2
baz=64
332A Millersview 63.56 329 P P 18 44 11.9 +0.3
baz=64,SNR=8.6
MIAR Mount Ida 63.66 336 P P 18 44 12.1 +0.1
baz=64
Z36A Blue Ridge 63.69 333 P P 18 44 12.5 +0.3
baz=64
233A Rising Star 63.70 330 P P 18 44 12.9 +0.4
baz=64
529A Stev Forest Ra 63.75 326 P P 18 44 13.7 +0.8
baz=64,SNR=12
430A Baggett Ranch, 63.80 327 P P 18 44 13.7 +0.6
baz=64
331A San Angelo 63.83 328 P P 18 44 13.6 +0.3
baz=64
TXAR Lajitas Array 63.87 324 P P 18 44 14.3 +0.7
comp=Z,2.1nm,0.8s,baz=152,slow=8.5,SNR=22
232A Coleman 63.94 329 P P 18 44 14.3 +0.3
baz=64,SNR=6.4
Y37A Hugo 63.97 334 P P 18 44 14.7 +0.7
baz=64
133A Hamilton Ranch 64.21 330 P P 18 44 15.9 +0.2
baz=64
X38A Whitesboro 64.25 335 P P 18 44 16.1 +0.2
baz=64
330A Mertzon 64.27 328 P P 18 44 16.0 -0.2
baz=65
231A Bronte 64.30 329 P P 18 44 16.4 +0.1
baz=65
X37A Clayton 64.40 334 P P 18 44 16.4 -0.5
baz=65
Z34A Collier Ranch, 64.41 331 P P 18 44 17.3 +0.3
baz=65,SNR=6.5
W38A Poteau 64.49 335 P P 18 44 17.7 +0.3
baz=65
ABTX Abilene, Hawle 64.55 330 P P 18 44 18.2 +0.3
baz=65
230A Sterling City 64.64 328 P P 18 44 19.0 +0.4
baz=65
Z33A Whitaker Ranch 64.71 331 P P 18 44 19.1 +0.2
baz=65
329A Wagon Wheel Ra 64.73 327 P P 18 44 19.6 +0.3
baz=65,SNR=7.8
X36A Centrahoma 64.78 333 P P 18 44 19.1 -0.2
baz=65
Y34A Reagan Ranch, 64.84 332 P P 18 44 19.7 -0.1
baz=65
X35A Drake 64.89 333 P P 18 44 19.6 -0.4
baz=65
131A Roby 64.94 329 P P 18 44 20.8 +0.3
baz=65
229A Bryant Ranch, 65.04 328 P P 18 44 21.3 +0.1
baz=65
Z32A Haskell 65.05 330 P P 18 44 21.1 0.0
baz=65
130A Snyder 65.15 329 P P 18 44 22.2 +0.3
baz=65,SNR=8.1
W36A Wetumka 65.22 334 P P 18 44 21.7 -0.5
baz=66
Z31A Sharp Cattle R 65.36 330 P P 18 44 23.4 +0.3
baz=66,SNR=9.1
X34A Smith Ranch, M 65.42 332 P P 18 44 23.4 -0.1
baz=66
V37A Hulbert 65.44 335 P P 18 44 22.5 -1.1
baz=66
W35A Tecumseh 65.50 333 P P 18 44 23.4 -0.6
baz=66
228A UT Block 9, Go 65.55 327 P P 18 44 24.5 +0.1
baz=66
129A Stewart Farms, 65.61 328 P P 18 44 25.0 +0.2
baz=66,SNR=5.0
Y32A R-V Farms, Ver 65.62 331 P P 18 44 24.8 0.0
baz=66
X33A Lawton 65.66 332 P P 18 44 24.6 -0.4
baz=66
V36A Jenks 65.67 334 P P 18 44 24.9 -0.2
baz=66
TUL1 Tulsa 65.72 335 P P 18 44 24.9 -0.4
baz=66
Z30A Sanderson Ranc 65.80 329 P P 18 44 26.3 +0.3
baz=66
X32A Elmer 65.90 331 P P 18 44 26.9 +0.3
baz=66
128A Castleberry Fa 65.90 327 P P 18 44 27.0 +0.3
baz=66,SNR=7.0
Y31A Rekieta Farm, 65.95 330 P P 18 44 27.3 +0.4
baz=66,SNR=7.2
QSPA South Pole Qui 66.00 180 eP P 18 44 27.7 +0.7
comp=Z,5.4nm,0.5s
V35A Meyer Ranch, C 66.01 334 P P 18 44 27.3 +0.1
baz=66
Z29A Hungry Hill Ra 66.05 328 P P 18 44 27.9 +0.3
baz=66
W33A Caddo, Fort Co 66.16 332 P P 18 44 29.2 +1.0
baz=66
Y30A Stafford Cattl 66.17 329 P P 18 44 28.6 +0.2
baz=66
V34A Guthrie 66.35 333 P P 18 44 29.6 +0.3
baz=67
X31A McDonald Ranch 66.38 331 P P 18 44 29.7 +0.1
baz=67,SNR=9.1
Z28A Tucker Farm, M 66.40 328 P P 18 44 30.0 +0.1
baz=67
T37A Cheneyville 18 66.45 336 P P 18 44 30.1 +0.1
baz=67,SNR=6.0
W32A Sentinel 66.47 331 P P 18 44 30.7 +0.4
baz=67
U35A Pawnee 66.49 334 P P 18 44 30.1 -0.2
baz=67
Y29A Porterfield Fa 66.52 329 P P 18 44 30.9 +0.3
baz=67
X30A Coker Ranch, T 66.64 330 P P 18 44 31.8 +0.5
baz=67
V33A Lossen Ranch, 66.66 333 P P 18 44 31.6 +0.2
baz=67
T36A Boggs Farm, Ca 66.76 335 P P 18 44 32.0 +0.1
baz=67
Y28A McKinney Farm, 66.84 328 P P 18 44 33.0 +0.3
baz=67
U34A Anderson Ranch 66.87 333 P P 18 44 32.6 -0.1
baz=67
V32A Arapaho 66.89 332 P P 18 44 32.9 0.0
baz=67
SFIN Scholer Farm 66.94 343 P P 18 44 31.7 -1.3
baz=67
S37A Fort Scott 66.98 336 P P 18 44 33.4 +0.1
baz=67
X29A Tulia 67.02 329 P P 18 44 33.8 0.0
baz=67

U33A Lingo Farm, Me 67.11 333 P P 18 44 34.1 -0.1
baz=67
MSTX Muleshoe 67.14 328 P P 18 44 35.0 +0.4
baz=67,SNR=8.0
MSTX Muleshoe 67.14 328 eP P 18 44 34.4 -0.2
comp=Z,20nm,1.0s
S36A Lake Cedric, C 67.23 336 P P 18 44 34.7 -0.2
baz=68
T34A McClaskey Farm 67.24 334 P P 18 44 34.8 -0.2
baz=68
V31A Spring Creek L 67.28 331 P P 18 44 35.9 +0.6
baz=68
X28A Dimmitt 67.31 329 P P 18 44 35.9 +0.3
baz=68
AMTX Amarillo 67.37 329 P P 18 44 36.1 +0.1
baz=68
R37A Teagarden Farm 67.47 337 P P 18 44 36.5 +0.1
baz=68
S35A Otter Creek Ra 67.47 335 P P 18 44 36.4 0.0
baz=68
W29A Amraillo 67.55 330 P P 18 44 36.9 -0.2
baz=68
HDIL Hopedale 67.70 342 P P 18 44 36.5 -1.3
baz=68
T33A Patterson Ranc 67.72 333 P P 18 44 38.2 +0.2
baz=68
R36A Gordon, Harris 67.72 336 P P 18 44 37.8 -0.2
baz=68
Q37A Longview Farm, 67.83 337 P P 18 44 38.6 -0.1
baz=68
T32A Huddler Ranch, 68.08 333 P P 18 44 40.9 +0.6
baz=68
T31A Randall Ranch, 68.33 332 P P 18 44 42.2 +0.3
baz=69
R34A Isabella, Hill 68.37 335 P P 18 44 42.1 +0.1
baz=69
Q35A Mercer Eighty, 68.39 336 P P 18 44 42.5 +0.3
baz=69
U29A Oasis Ranch, S 68.48 331 P P 18 44 43.3 +0.5
baz=69
121A Cookes Peak, D 68.57 324 P P 18 44 45.4 +1.8
baz=69,SNR=6.7
P36A Good Intent, A 68.76 337 P P 18 44 43.9 -0.5
baz=69
U28A Mallet 68.85 330 P P 18 44 45.8 +0.7
baz=69
P35A Duane Minner, 68.97 336 P P 18 44 45.8 +0.1
baz=69
R32A Long Quarter, 69.06 334 P P 18 44 46.8 +0.5
baz=69
S30A Montezuma 69.12 332 P P 18 44 46.8 0.0
baz=69
O36A Bolckow 69.13 337 P P 18 44 46.0 -0.6
baz=69
U27A Thompson Grove 69.16 330 P P 18 44 47.9 +0.8
baz=70
Q33A Connelly Farm, 69.20 335 P P 18 44 47.6 +0.4
baz=70
R31A Burdett 69.28 333 P P 18 44 48.1 +0.4
baz=70
P34A Walnut Farm, R 69.29 336 P P 18 44 47.7 +0.1
baz=70
S29A Ulysses 69.39 332 P P 18 44 49.2 +0.8
baz=70
T28A Walsh 69.41 331 P P 18 44 49.4 +0.8
baz=70
Q32A Meitler Ranch, 69.48 334 P P 18 44 49.0 +0.1
baz=70
R30A Dighton 69.58 333 P P 18 44 49.6 0.0
baz=70
T27A Campo 69.64 330 P P 18 44 50.6 +0.6
baz=70,SNR=8.3
S28A Manter 69.70 331 P P 18 44 51.0 +0.6
baz=70
ANMO Albuquerque 69.74 326 P P 18 44 52.1 +1.3
comp=Z,3.6nm,0.8s,baz=134,slow=7.5,SNR=16
ANMO Albuquerque 69.74 326 eP P 18 44 51.0 +0.2
comp=Z,3.2nm,0.8s
O34A Beatrice 69.80 336 P P 18 44 50.7 -0.1
baz=70
CBKS Cedar Bluff 69.81 333 P P 18 44 51.3 +0.4
baz=70
Q31A Ellis 69.83 334 P P 18 44 51.7 +0.7
baz=70
N35A Tabor 70.01 337 P P 18 44 51.6 -0.4
baz=70
O33A Hebron 70.04 335 P P 18 44 52.1 -0.1
baz=70
R29A Marienthal 70.07 332 P P 18 44 53.2 +0.7
baz=70
T26A Comanche Natio 70.13 330 P P 18 44 54.1 +1.0
baz=70,SNR=7.2
Q30A Quinter 70.14 333 P P 18 44 53.3 +0.3
baz=70
N34A Lincoln 70.30 337 P P 18 44 53.5 -0.4
baz=71,SNR=6.4
Q29A Oakley 70.39 332 P P 18 44 54.9 +0.4
baz=71
O32A Brockman Farm, 70.46 335 P P 18 44 55.1 +0.3
baz=71
T25A Trinidad 70.48 329 P P 18 44 56.7 +1.4
baz=71,SNR=7.1
R26A Arlington 70.98 330 P P 18 44 59.1 +1.0
baz=71,SNR=5.3
O30A MW Ranch, Wils 71.10 334 P P 18 44 59.5 +0.8
baz=71
M33A Taylor Creek F 71.20 336 P P 18 44 59.2 0.0
baz=72
L34A Svendsen Farm, 71.25 337 P P 18 44 59.7 +0.2
baz=72
P28A Saint Francis 71.29 332 P P 18 45 01.1 +1.2
baz=72
BGNE Belgrade 71.41 336 P P 18 45 01.3 +0.8
baz=72
SDCO Great Sand Dun 71.49 329 P P 18 45 02.8 +1.4
baz=72,SNR=8.6
Q26A Hugo 71.52 331 P P 18 45 02.5 +1.1
baz=72
W18A Petrified Fore 71.59 324 P P 18 45 03.8 +1.9
baz=72
O27A Beecher Island 72.11 332 P P 18 45 06.0 +1.1
baz=72
S22A 4UR Ranch, Cre 72.13 328 P P 18 45 07.0 +1.7
baz=72
Q24A Divide 72.30 330 P P 18 45 07.4 +1.1
baz=73
L31A Butterfield Fa 72.33 336 P P 18 45 07.2 +1.2
baz=73
MVCO Mesa Verde 72.54 326 P P 18 45 08.9 +1.2
baz=73
N27A Anderson Farm, 72.65 332 P P 18 45 09.0 +1.0
baz=73
WUAZ Wupatki 72.77 323 P P 18 45 11.0 +2.1
baz=73
ECSD EROS Data Cent 72.89 338 P P 18 45 09.1 -0.1
baz=73,SNR=9.7
ECSD EROS Data Cent 72.89 338 eP P 18 45 08.1 -1.1
comp=Z,7.1nm,0.9s
SPMN St. Paul 73.01 341 P P 18 45 10.0 +0.2
baz=73
ISCO Idaho Springs 73.18 330 P P 18 45 12.6 +1.2
baz=74
Y12C Blythe 73.28 320 P P 18 45 13.4 +1.7
baz=74
J30A Dallas 73.56 336 P P 18 45 13.6 +0.4
baz=74
BC3 Big Chuckawall 73.76 319 P P 18 45 16.6 +1.9
baz=74,SNR=6.1
MONP Monument Peak 73.81 318 P P 18 45 17.1 +2.0
baz=74
IRM Iron Mountain 73.94 320 P P 18 45 17.5 +1.9
baz=74
J29A Okreek 73.95 335 P P 18 45 16.0 +0.6
baz=74
I30A Dacoma 74.04 336 P P 18 45 16.6 +0.7
baz=74
K27A Flueckinger Fa 74.10 334 P P 18 45 17.6 +1.2
baz=74
N23A Red Feather La 74.21 330 P P 18 45 18.8 +1.5
baz=74
J28A Allard Ranch, 74.31 335 P P 18 45 18.9 +1.3
baz=75
BELC Belle Mtn. Jos 74.33 319 P P 18 45 20.3 +2.4
baz=75
PFO Pinyon Flat Ob 74.33 319 P P 18 45 20.1 +2.1
baz=75
I29A Vivian Onida 74.46 336 P P 18 45 19.1 +0.7
baz=75

J27A Elkhorn Farm, 74.47 334 P P 18 45 19.7 +1.2
baz=75
VNDA Vanda 74.51 190 P P 18 45 18.6 +0.3
comp=Z,1.6nm,0.9s,baz=135,slow=3.5,SNR=8.4
GMRC Granite Mounta 74.67 320 P P 18 45 21.9 +1.9
baz=75,SNR=7.9
O20A White River Ci 74.68 328 P P 18 45 21.5 +1.5
baz=75,SNR=7.3
O20A White River Ci 74.68 328 eP P 18 45 20.3 +0.3
comp=Z,5.3nm,0.8s
MURC Murrieta 74.77 318 P P 18 45 22.5 +2.1
baz=75
H29A Onida 74.94 336 P P 18 45 21.6 +0.5
baz=75
J26A Sides Ranch, S 74.95 334 P P 18 45 22.6 +1.3
baz=75
HEC Hector,Ludlow 75.10 320 P P 18 45 24.4 +2.1
baz=75,SNR=5.2
EYMN Ely 75.13 343 P P 18 45 22.1 0.0
baz=75
K24A Anderson Ranch 75.19 332 P P 18 45 24.0 +1.2
baz=76
TUQ Turquoise Moun 75.28 320 P P 18 45 25.6 +2.1
baz=76
H28A Mission Ridge 75.29 336 P P 18 45 23.7 +0.6
baz=76
J25A Sunshine Ranch 75.31 333 P P 18 45 24.6 +1.2
baz=76
K23A Bowen Ranch, D 75.57 332 P P 18 45 26.2 +1.3
baz=76
G28A Parade 75.59 336 P P 18 45 25.9 +1.0
baz=76
J24A Dixon Ranch, L 75.62 333 P P 18 45 26.7 +1.5
baz=76
H27A Howes 75.66 335 P P 18 45 25.9 +0.6
baz=76
GSC Goldstone 75.71 320 P P 18 45 28.1 +2.3
baz=76
I25A Rochford 75.80 334 P P 18 45 27.6 +1.3
baz=76,SNR=8.0
EDW2 Edwards Air Fo 76.12 319 P P 18 45 29.7 +1.6
baz=76
G27A Dupree 76.23 335 P P 18 45 29.1 +0.6
baz=76
H25A Fruitdale 76.25 334 P P 18 45 29.6 +1.0
baz=76
G26A Maurine 76.41 335 P P 18 45 30.3 +0.8
baz=77
TPNV Topopah Spring 76.53 321 P P 18 45 32.5 +2.0
baz=77,SNR=6.0
FURC Furnace Creek, 76.55 321 P P 18 45 32.4 +2.0
baz=77
D30A Buchanan 76.57 338 P P 18 45 30.8 +0.5
baz=77,SNR=6.3
TORD Torodi Ar. Bea 76.59 69 P P 18 45 29.7 -1.4
comp=Z,2.2nm,0.6s,baz=254,slow=5.3,SNR=29
MPMC Manual Prospec 76.63 320 P P 18 45 32.5 +1.4
baz=77
G25A Newell 76.65 334 P P 18 45 31.4 +0.6
baz=77
AGMN Agassiz Nation 76.69 341 P P 18 45 30.9 0.0
baz=77
AGMN Agassiz Nation 76.69 341 eP P 18 45 29.1 -1.8
comp=Z,6.3nm,0.8s
H24A Dirks Ranch, A 76.74 333 P P 18 45 32.0 +0.6
baz=77,SNR=6.5
ARVC Arvin 76.80 319 P P 18 45 34.2 +2.3
baz=77
J21A Lysite 76.84 331 P P 18 45 33.2 +1.0
baz=77
I22A 9 Mile Ranch, 76.85 332 P P 18 45 33.1 +1.0
baz=77,SNR=6.3
F26A Loopole 76.91 335 P P 18 45 32.9 +0.7
baz=77
ISA Isabella 76.94 319 P P 18 45 32.5 +2.4
baz=77
E27A Carson 76.98 336 P P 18 45 33.6 +1.0
baz=77
C30A Mose, Pekin 76.99 339 P P 18 45 33.2 +0.5
baz=77
DUG Dugway 77.00 326 P P 18 45 35.1 +2.0
baz=77
J20A Shoshoni 77.13 331 P P 18 45 35.3 +1.6
baz=77
I21A Big Trails, Te 77.14 331 P P 18 45 34.5 +0.8
baz=77,SNR=10
R11A Troy Canyon, C 77.14 323 P P 18 45 35.6 +1.7
baz=77
G24A Alzada 77.16 334 P P 18 45 34.5 +0.8
baz=78
GRAC Grasvine Rang 77.21 321 P P 18 45 35.9 +1.8
baz=78
CWC Cottonwood Cre 77.24 320 P P 18 45 36.5 +2.0
baz=78
PKM Peak Mountain 77.24 318 P P 18 45 36.7 +2.2
baz=78
D28A Regan 77.27 337 P P 18 45 34.6 +0.4
baz=78
F25A Bowman 77.27 335 P P 18 45 35.0 +0.7
baz=78
E26A Carlson Angus 77.35 336 P P 18 45 35.3 +0.6
baz=78
BW06 Boulder Array 77.35 329 eP P 18 45 31.2 -3.8
comp=Z,1.4nm,0.7s
PDAR Pinedale Array 77.35 329 P P 18 45 35.8 +0.7
comp=Z,1.1nm,0.5s,baz=116,slow=6.7,SNR=13
VES Vestal, Richgr 77.43 319 P P 18 45 37.4 +2.1
baz=78
G23A Biddle 77.45 333 P P 18 45 36.1 +0.7
baz=78
MDND Maddock 77.50 338 P P 18 45 36.2 +0.7
baz=78
J19A Crowheart 77.50 330 P P 18 45 37.1 +1.3
baz=78
F24A Ekalaka 77.59 334 P P 18 45 36.8 +0.6
baz=78
B30A Myrvik Farm, E 77.60 339 P P 18 45 36.2 +0.3
baz=78
H21A Big Horn, Sher 77.68 332 P P 18 45 37.2 +0.5
baz=78,SNR=5.7
D26A Manning 77.81 336 P P 18 45 38.0 +0.8
baz=78
G22A Birney 77.84 333 P P 18 45 38.2 +0.6
baz=78
B29A Wagenman Farm, 77.95 339 P P 18 45 38.2 +0.3
baz=78
H20A Greybull 77.99 331 P P 18 45 39.3 +0.9
baz=78
I19A Meeteetse 78.08 330 P P 18 45 40.4 +1.4
baz=78
AHID Auburn Hatcher 78.08 328 eP P 18 45 39.4 +0.4
comp=Z,2.6nm,0.5s
E24A Baker 78.13 335 P P 18 45 40.4 +1.4
baz=78
G21A Lodge Grass 78.23 332 P P 18 45 40.8 +1.1
baz=78
D25A Fairfield 78.24 336 P P 18 45 40.9 +1.3
baz=78
B28A Dugan Ranch, T 78.27 338 P P 18 45 40.6 +0.9
baz=79
A29A Manning Farm, 78.30 339 P P 18 45 40.2 +0.3
baz=79,SNR=5.1
E23A Ismay 78.47 334 P P 18 45 41.4 +0.5
baz=79
LOHW Long Hollow 78.49 329 eP P 18 45 41.0 -0.2
comp=Z,2.5nm,0.6s
H19A Powell 78.57 331 P P 18 45 42.3 +0.7
baz=79
G20A Bridger 78.66 332 P P 18 45 42.7 +0.6
baz=79,SNR=7.6
ELK Elko 78.67 325 P P 18 45 43.6 +1.2
comp=Z,1.6nm,0.6s,baz=151,slow=5.8,SNR=9.0
SCHQ Schefferville 78.71 0 P P 18 45 41.8 -0.1
comp=Z,1.7nm,0.5s,baz=166,slow=7.7,SNR=4.9
NVAR Mina Array Bea 78.73 321 P P 18 45 44.0 +1.3
comp=Z,0.8nm,0.6s,baz=145,slow=6.1,SNR=8.1
C24A Savage 78.97 335 P P 18 45 44.9 +1.3
baz=79
D23A Lindsay 78.98 335 P P 18 45 44.9 +1.2
baz=79
RLMT Red Lodge 79.05 331 P P 18 45 45.2 +1.0
baz=79
E21A Keefer Ranch, 79.23 333 P P 18 45 46.1 +1.1
baz=80
D22A Cohagen 79.35 334 P P 18 45 46.7 +1.0
baz=80
C23A Lambert 79.49 335 P P 18 45 47.5 +1.1
baz=80

D21A	**La Casta Ranch**	**79.61**	**333**	P		**P**	**18 45 48.1 +1.0**
	baz=80,SNR=6.2						
A25A	**Svangstu Ranch**	**79.66**	**337**	P		**P**	**18 45 48.3 +1.1**
	baz=80						
DGMT	**Dagmar**	**79.66**	**336**	P		**P**	**18 45 48.8 +1.5**
	baz=80						
C22A	**Vida**	**79.72**	**334**	P		**P**	**18 45 48.4 +0.8**
	baz=80						
B23A	**Brockton**	**79.96**	**335**	P		**P**	**18 45 49.9 +1.0**
	baz=80						
A24A	**Westby**	**79.97**	**336**	P		**P**	**18 45 49.7 +0.8**
	baz=80						
C21A	**Desert Coulee**	**80.27**	**334**	P		**P**	**18 45 51.3 +0.7**
	baz=81						
HLID	**Hailey**	**80.29**	**327**	P		**P**	**18 45 52.8 +1.8**
	baz=81,SNR=11						
HLID	**Hailey**	**80.29**	**327**	*eP*		**P**	**18 45 52.2 +1.2**
	comp=Z,5.8nm,0.8s						
MCMT	**McKenzie Canyo**	**80.46**	**329**	*eP*		**P**	**18 45 49.4 -2.5**
	comp=Z,2.8nm,0.7s						
BOZ	**Bozeman (W)**	**80.51**	**330**	P		**P**	**18 45 52.9 +0.8**
	baz=81						
C20A	**Veseth Ranch,**	**80.55**	**333**	P		**P**	**18 45 52.5 +0.4**
	baz=81						
BOSA	**Boshof**	**80.59**	**117**	P		**P**	**18 45 53.0 -0.1**
	comp=Z,1.6nm,0.6s,baz=243,slow=5.7,SNR=7.1						
B21A	**Ellsworth Farm**	**80.72**	**334**	P		**P**	**18 45 54.0 +1.1**
	baz=81						
A22A	**Carney Farms,**	**80.74**	**335**	P		**P**	**18 45 54.0 +0.9**
	baz=81,SNR=5.8						
DLMT	**Dillon**	**80.74**	**329**	*eP*		**P**	**18 45 51.3 -2.0**
	comp=Z,10nm,1.4s						
MAW	**Mawson**	**81.23**	**163**	P		**P**	**18 45 56.9 +1.5**
	comp=Z,6.5nm,0.6s,baz=213,slow=6.7,SNR=27						
A20A	**Cobblestone Ra**	**81.44**	**334**	P		**P**	**18 45 57.5 +0.8**
	baz=82						
EGMT	**Eagleton**	**81.52**	**333**	P		**P**	**18 45 58.2 +1.0**
	baz=82						
B19A	**Brinkman Farms**	**81.52**	**333**	P		**P**	**18 45 57.9 +0.7**
	baz=82,SNR=5.7						
A19A	**Klindworth Far**	**81.81**	**334**	P		**P**	**18 45 59.4 +0.7**
	baz=82						
MSO	**Missoula**	**82.46**	**330**	P		**P**	**18 46 03.5 +1.3**
	baz=83						
M04C	**Macdoel**	**82.99**	**322**	P		**P**	**18 46 06.3 +1.2**
	baz=83						
YBH	**Yreka Blue Hor**	**83.45**	**321**	P		**P**	**18 46 06.9 -0.5**
	comp=Z,0.8nm,0.3s,baz=346,slow=4.2,SNR=3.3						
J05D	**Fort Rock, OR**	**83.65**	**323**	P		**P**	**18 46 09.8 +1.3**
	baz=84						
J04D	**Umpqua Nationa**	**84.10**	**323**	P		**P**	**18 46 12.1 +1.3**
	baz=84						
G03D	**McMinnville, O**	**86.01**	**324**	P		**P**	**18 46 21.7 +1.7**
	baz=86						
ESDC	**Sonseca Array**	**86.50**	**44**	P		**P**	**18 46 22.6 +0.1**
	comp=Z,0.5nm,0.6s,baz=249,slow=3.7,SNR=4.8						
EDM	**Edmonton**	**86.97**	**334**	*eP*		**P**	**18 46 23.8 -0.7**
	comp=Z,3.4nm,0.8s						
YKA	**Yellowknife Ar**	**94.33**	**340**	P		**P**	**18 46 58.7 +0.2**
	comp=Z,2.1nm,0.5s,baz=133,slow=4.4,SNR=12						
ASAR	**Alice Springs**	**128.30**	**205**	PKP		**PKPdf**	**18 52 45.9 +0.1**
	comp=Z,2.2nm,0.7s,baz=135,slow=1.7,SNR=47						
WRA	**Warramunga Arr**	**131.47**	**207**	PKP		**PKPdf**	**18 52 51.7 -0.1**
	comp=Z,1.7nm,0.5s,baz=156,slow=1.8,SNR=54						
PETK	**Petropavlovsk-**	**135.81**	**323**	PKP		**PKPdf**	**18 52 59.6 +0.8**
	comp=Z,1.0nm,0.6s,baz=109,slow=4.2,SNR=5.5						
ZALV	**Zalesovo Beam**	**143.54**	**28**	PKP	PKPbc		18 53 10.9 +0.2
	comp=Z,5.6nm,0.5s,baz=298,slow=4.2,SNR=40						
MKAR	**Makanchi Array**	**146.64**	**40**	PKPbc		**PKPdf**	**18 53 19.2 +0.7**
	comp=Z,10nm,0.7s,baz=328,slow=1.9,SNR=98						
CISI	**Cisompet, Garu**	**148.03**	**170**	*e*PKPbc		**PKPbc**	**18 53 25.7 +0.6**
MJAR	**Matsushiro Arr**	**155.14**	**306**	PKPab		**PKPab**	**18 53 57.6 +0.2**
	comp=Z,2.0nm,0.8s,baz=220,slow=1.1,SNR=7.4						
SONM	**Songino Array**	**155.82**	**11**	PKP		**PKPdf**	**18 53 33.3 +0.8**
	comp=Z,0.8nm,0.9s,baz=204,slow=2.1,SNR=4.7						
SONM				PKPab		**PKPab**	**18 53 59.8 -0.2**
	comp=Z,0.9nm,0.6s,baz=319,slow=4.3,SNR=6.7						

KRSC 04 18:38:46.8±1.1,56°19N×163°10E,h16km±6km,ML3.9,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**0.23**	**286**	*eP*	Pg	18 38 52.0	0.0
KBG				*eS*	Sg	18 38 55.1	-0.4
SMKR	**Semkarok**	**0.99**	**294**	*eP*	Pb	18 39 05.2	-0.4
SMKR				*eS*	Sb	18 39 17.7	-0.8
BDR	**Baidarnaya**	**1.12**	**290**	*eP*	Pb	18 39 07.6	-0.2
BDR				*eS*	Sb	18 39 22.1	-0.1
SRKR	**Sorokina**	**1.17**	**294**	*eP*	Pn	18 39 08.4	-0.1
SRKR				*eS*	Sb	18 39 22.9	-0.8
ZLN	**Zelenaya**	**1.30**	**263**	*eP*	Pn	18 39 10.6	+0.2
KLY	**Klyuchi**	**1.37**	**276**	*eP*	Pn	18 39 09.7	-1.5
KLY				*eS*	Sn	18 39 25.7	-3.3
KIRR	**Kirishev**	**1.57**	**262**	*eP*	Pb	18 39 15.3	-0.2
KMNR	**Kamenistaya**	**1.67**	**256**	*eP*	Pb	18 39 17.3	+0.1
KMNR				*eS*	Sb	18 39 39.2	+1.1
KOZ	**Kozyrevsk**	**1.81**	**267**	*eP*	Pb	18 39 18.5	-1.1
KOZ				*eS*	Sb	18 39 41.5	-0.5
MKZ	**Mys Kozlova**	**1.82**	**206**	*eP*	Pb	18 39 19.5	-0.1
MKZ				*eS*	Sb	18 39 43.4	+1.3
SRDR	**Sredinnyy**	**1.89**	**275**	*eP*	Pb	18 39 19.9	-1.1
SRDR				*eS*	Sn	18 39 42.8	+0.8
BKI	**Bering**	**1.90**	**120**	*eP*	Pb	18 39 20.9	-0.1
BKI				*eS*	Sb	18 39 45.0	+0.5
TUMR	**Tumrok**	**1.90**	**243**	*eP*	Pb	18 39 21.1	-0.2
TUMR				*eS*	Sb	18 39 46.5	+1.6
KZV	**Kizimen**	**1.93**	**237**	*eP*	Pb	18 39 21.4	-0.3
KZV				*eS*	Sb	18 39 45.9	+0.3
ESO	**Esso**	**2.48**	**266**	*eP*	Pb	18 39 29.7	-1.3
ESO				*eS*	Sb	18 39 59.5	-1.8
OSSR	**Ossora**	**3.06**	**360**	*eP*	Pn	18 39 36.6	+2.2
SPN	**Mys Shipunski**	**3.58**	**211**	*eP*	Pn	18 39 43.5	+2.0
SPN				*eS*	Sn	18 40 24.6	+1.1
NLC	**Nalytchevo**	**3.73**	**217**	*eP*	Pn	18 39 46.4	+2.8
NLC				*eS*	Sn	18 40 30.3	+3.2
SDLR	**Sedlovina**	**3.81**	**222**	*eP*	Pn	18 39 48.2	+3.3
SDLR				*eS*	Sn	18 40 32.8	+3.4
KRX	**Arik**	**3.84**	**224**	*eP*	Pn	18 39 49.1	+3.8
KRER	**Koryakskii**	**3.84**	**223**	*eP*	Pn	18 39 49.0	+3.6
SMAR	**Somma**	**3.85**	**222**	*eP*	Pn	18 39 49.1	+3.5
AVH	**Avacha**	**3.87**	**223**	*eP*	Pn	18 39 49.4	+3.7
UGLR	**Uglovaya**	**3.89**	**221**	*eP*	Pn	18 39 49.6	+3.7
GNL	**Ganaly**	**3.89**	**232**	*eP*	Pn	18 39 49.2	+3.2
KOK	**Koryaka**	**3.89**	**224**	*eP*	Pn	18 39 49.3	+3.3
PET	**Petropavlovsk**	**4.10**	**221**	*eP*	Pn	18 39 52.8	+4.2
PET				*eS*	Sn	18 40 40.1	+4.0
RUS	**Russkaya**	**4.63**	**217**	*eP*	Pn	18 39 58.7	+2.8

*CSEM **04** 18:43:40.2±0.3,39°20N×29°82W,h2km,ML3.6,Error ellipse: s-maj=17.2km s-min=6.3km az=34.0*
*IDC **04** 18:43:41.5±0.8,39°56N×30°07W,h0km,mb3.9/16, mb1 4.1/16,mb1mx3.9/50,mbtmp3.9/16,MS3.6/6, Ms1 3.6/6,ms1mx3.2/35,Error ellipse: s-maj=26.9km s-min=14.4km az=172.0*
*PDA **04** 18:43:42.4±0.7,39°48N×29°87W,h10km,MD3.6,ML3.6, Error ellipse: s-maj=5.2km s-min=2.4km az=34.0*
*NEIC **04** 18:43:43.1±0.6,39°56N×30°06W,h10km,mb4.4/3,Error ellipse: s-maj=19.7km s-min=9.7km az=173.0*

ISC 04 18:43:38.6±1.8,39°2N±0°1×29°86W±0°05,h1km±12km,n54,
σ1s31/55,mb4.0/19,MS3.5/5,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.05**	**120**	*eP*	**Pn**	**18 44 00.8**	**+0.2**
PCED				*eS*	**Sn**	**18 44 14.9**	**-1.0**
PCED				A	A	18 44 18.3	
	331nm,0.4s						
PCED	**Cedros**	**1.05**	**120**	*eP*	**Pn**	**18 44 00.8**	**+0.2**
PCED				*eS*	**Sn**	**18 44 14.9**	**-1.0**
H07S1	**FLORES T-PHASE**	**1.06**	**282**	*eP*	**Pb**	**18 43 58.4**	**-1.5**
H07S1	**FLORES T-PHASE**	**1.06**	**282**	Pn	**Pb**	**18 43 59.8**	**-0.1**
H07S1				Sn	**Sg**	**18 44 10.0**	**-2.9**
	SNR=5104						
H07S1				T	T	18 44 59.9	
CALA	**Caldeira**	**1.08**	**123**	*eP*	**Pn**	**18 44 01.5**	**+0.5**
CALA				*eS*	**Sn**	**18 44 16.1**	**-0.6**
CALA	**Caldeira**	**1.08**	**123**	*eP*	**Pn**	**18 44 01.5**	**+0.5**
CALA				*eS*	**Sn**	**18 44 16.1**	**-0.6**
HOR	**Horta**	**1.16**	**123**	*eP*	**Pn**	**18 44 03.0**	**+1.0**
HOR				*eS*	**Sn**	**18 44 17.8**	**-0.6**
HOR	**Horta**	**1.16**	**123**	*eP*	**Pn**	**18 44 03.0**	**+1.0**
HOR				*eS*	**Sn**	**18 44 17.8**	**-0.6**
PCAN	**Candelaria**	**1.29**	**123**	*eP*	**Pb**	**18 44 04.3**	**+0.6**
PCAN				*eS*	**Sb**	**18 44 21.0**	**+0.3**
PCAN				A	A	18 44 26.4	
	590nm,0.3s						
PCAN	**Candelaria**	**1.29**	**123**	*eP*	**Pb**	**18 44 04.3**	**+0.6**
PCAN				*eS*	**Sb**	**18 44 21.0**	**+0.3**
ROSA	**Rosais**	**1.34**	**109**	*eP*	**Pn**	**18 44 04.4**	**-0.1**
ROSA				*eS*	**Sb**	**18 44 20.8**	**-1.5**
ROSA				A	A	18 44 23.5	
	342nm,0.5s						
ROSA	**Rosais**	**1.34**	**109**	*eP*	**Pn**	**18 44 04.4**	**-0.1**
ROSA				*eS*	**Sb**	**18 44 20.8**	**-1.5**
PPNO	**Prainha do Nor**	**1.43**	**119**	*eP*	**Pn**	**18 44 06.2**	**+0.4**
PPNO				*eS*	**Sn**	**18 44 24.2**	**-1.1**
PPNO				A	A	18 44 27.3	
	150nm,0.2s						
PPNO	**Prainha do Nor**	**1.43**	**119**	*eP*	**Pn**	**18 44 06.2**	**+0.4**
PPNO				*eS*	**Sn**	**18 44 24.2**	**-1.1**
PGRA	**Graciosa**	**1.47**	**95**	*eP*	**Pn**	**18 44 05.3**	**-1.0**
PGRA				*eS*	**Sn**	**18 44 21.9**	**-4.3**
PGRA				A	A	18 44 24.0	
	197nm,0.4s						
PGRA	**Graciosa**	**1.47**	**95**	*eP*	**Pn**	**18 44 05.3**	**-1.0**
PMAN	**Manadas**	**1.48**	**111**	*eP*	**Pn**	**18 44 06.3**	**-0.2**
PMAN				*eS*	**Sn**	**18 44 24.5**	**-2.0**
PMAN				A	A	18 44 26.2	
	165nm,0.3s						
PMAN	**Manadas**	**1.48**	**111**	*eP*	**Pn**	**18 44 06.3**	**-0.2**
PMAN				*eS*	**Sn**	**18 44 24.5**	**-2.0**
ADH	**Angra Heroismo**	**2.11**	**103**	*eP*	**Pn**	**18 44 14.7**	**-0.4**
ADH	**Angra Heroismo**	**2.11**	**103**	*eP*	**Pn**	**18 44 14.7**	**-0.4**
PSET	**Sete Cidades**	**3.52**	**111**	*eP*	**Pn**	**18 44 34.5**	**0.0**
PSET	**Sete Cidades**	**3.52**	**111**	*eP*	**Pn**	**18 44 34.5**	**0.0**
PSMN	**Pico do Norte,**	**4.36**	**118**	*eP*	**Pn**	**18 44 46.8**	**+0.8**
PSMN				*eS*	**Sn**	**18 45 34.7**	**-2.8**
PSMN				A	A	18 45 36.2	
	9.7nm,0.3s						
PSMN	**Pico do Norte,**	**4.36**	**118**	*eP*	**Pn**	**18 44 46.8**	**+0.8**
PSMN				*eS*	**Sn**	**18 45 34.7**	**-2.8**
ESDC	**Sonseca Array**	**20.00**	**80**	P	**Pn**	**18 48 16.6**	**+2.2**
	0.2nm,0.4s,baz=274,slow=8.8,SNR=4.5						
ESDC				LR	LR	18 54 47.6	
	comp=Z,193nm,18.5s,baz=270,slow=33						
MDT	**Midelt**	**21.35**	**99**	LR	LR	18 56 03.6	
	comp=Z,106nm,18.1s,baz=326,slow=34						
BORG	**Borgarnes**	**26.10**	**8**	LR	LR	18 56 34.7	
	comp=Z,144nm,21.9s,baz=232,slow=30						
DAVOX	**Davos/Dischmat**	**29.80**	**62**	LR	LR	19 00 01.6	
	comp=Z,48nm,19.3s,baz=265,slow=33						
SFJD	**Kangerlussuaq**	**30.22**	**344**	LR	LR	18 59 12.2	
	comp=Z,131nm,18.7s,baz=156,slow=31						
GERES	**GERESS Array B**	**32.40**	**58**	P	P	18 50 13.0	+3.1
	0.2nm,0.4s,baz=273,slow=10,SNR=4.0						
GERES	**GERESS Array B**	**32.40**	**58**	P	P	18 50 13.0	+3.1
NOA	**NORSAR Array B**	**33.41**	**36**	P	**P**	**18 50 18.4**	**-0.2**
	0.9nm,0.8s,baz=220,slow=12,SNR=2.3						
SADO	**Sadowa**	**36.61**	**295**	LR	LR	19 04 16.0	
	comp=Z,226nm,21.0s,baz=96,slow=34						
TORD	**Torodi Ar. Bea**	**38.05**	**124**	P	P	18 51 04.3	+5.5
	2.4nm,1.1s,baz=315,slow=4.2,SNR=7.5						
FINES	**FINESS Array B**	**40.46**	**38**	P	P	18 51 20.0	+1.6
	3.7nm,0.8s,baz=270,slow=3.4,SNR=9.5						
FINES	**FINESS Array B**	**40.46**	**38**	P	P	18 51 20.0	+1.6
KIEV	**Kiev**	**42.31**	**54**	P	P	18 51 37.4	+3.7
	3.4nm,0.9s						
KIEV	**Kiev**	**42.31**	**54**	P	P	18 51 37.4	+3.7
	3.4nm,0.9s						
AKASG	**Malin Array Be**	**42.32**	**54**	P	**P**	**18 51 35.3**	**+1.5**
	2.1nm,0.8s,baz=268,slow=9.0,SNR=5.4						
BRTR	**Keskin Array B**	**48.09**	**68**	P	P	18 52 24.4	+4.3
	0.7nm,0.8s,baz=282,slow=8.7,SNR=4.4						
ECSD	**EROS Data Cent**	**49.02**	**298**	*eP*	**P**	**18 52 27.7**	**+0.7**
	5.2nm,0.9s						
ECSD	**EROS Data Cent**	**49.02**	**298**	*eP*	**P**	**18 52 27.7**	**+0.7**
	5.2nm,0.9s						
KBZ	**Khabaz**	**53.11**	**60**	P	P	18 53 01.3	+3.7
	0.6nm,0.4s,baz=315,slow=4.3,SNR=3.2						
ARU	**Arti**	**57.66**	**41**	P	**P**	**18 53 29.8**	**-0.5**
	4.4nm,1.0s						
ARU	**Arti**	**57.66**	**41**	P	**P**	**18 53 29.8**	**-0.5**
	4.4nm,1.0s						
PDAR	**Pinedale Array**	**58.13**	**301**	P	**P**	**18 53 33.1**	**-1.0**
	1.4nm,1.0s,baz=63,slow=6.8,SNR=7.8						
ANMO	**Albuquerque**	**59.55**	**292**	P	**P**	**18 53 45.6**	**+1.5**
	0.6nm,0.6s,baz=67,slow=3.4,SNR=4.0						
TXAR	**Lajitas Array**	**60.27**	**285**	P	**P**	**18 53 50.2**	**+1.2**
	0.8nm,0.8s,baz=77,slow=7.0,SNR=7.2						
ELK	**Elko**	**62.83**	**302**	P	P	18 54 08.3	+2.0
	0.8nm,0.5s,baz=88,slow=4.3,SNR=4.5						
LPAZ	**La Paz**	**65.75**	**221**	P	P	18 54 29.7	+3.7
	0.9nm,0.9s,baz=129,slow=6.2,SNR=3.7						
NVAR	**Mina Array Bea**	**66.05**	**301**	P	**P**	**18 54 28.7**	**+1.4**
	0.3nm,0.6s,baz=92,slow=4.5,SNR=4.3						
ZALV	**Zalesovo Beam**	**71.61**	**34**	P	**P**	**18 55 02.3**	**+0.8**
	3.8nm,1.1s,baz=308,slow=7.3,SNR=5.8						
MKAR	**Makanchi Array**	**75.19**	**41**	P	**P**	**18 55 24.0**	**+1.3**
	3.3nm,0.9s,baz=316,slow=5.1,SNR=12						
SONM	**Songino Array**	**85.04**	**28**	P	P	18 56 17.8	+1.7
	2.1nm,1.0s,baz=331,slow=6.5,SNR=8.6						

*IDC **04** 18:54:45.2±1.4,39°66N×30°12W,h0km,mb3.8/9, mb1 3.9/9,mb1mx3.6/45,mbtmp3.8/9,MS3.7/15, Ms1 3.7/15,ms1mx3.5/27,Error ellipse: s-maj=36.0km s-min=26.9km az=179.0*
*PDA **04** 18:54:46.6±0.7,39°45N×29°85W,h10km,MD3.7,ML3.6, Error ellipse: s-maj=4.7km s-min=1.8km az=24.0*
*CSEM **04** 18:54:46.6,39°45N×29°85W,h10km,ML3.6*

ISC 04 18:54:42.3±1.4,39°26N±0°09×29°84W±0°04,h1km±10km,
n48,σ1s53/50,mb3.9/9,MS3.7/14,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07S1	**FLORES T-PHASE**	**1.07**	**277**	*eP*	**Pb**	**18 55 02.9**	**-0.7**
H07S1				*eS*	**Sg**	**18 55 14.5**	**-2.1**
H07S1	**FLORES T-PHASE**	**1.07**	**277**	Pn	**Pn**	**18 55 04.4**	**0.0**
H07S1				Sn	**Sg**	**18 55 14.8**	**-1.8**
	SNR=6048						
H07S1				T	T	18 56 06.4	
PCED	**Cedros**	**1.09**	**125**	*eP*	**Pn**	**18 55 04.9**	**+0.3**
PCED				*eS*	**Sn**	**18 55 18.4**	**-1.9**
PCED				A	A	18 55 19.2	
	252nm,0.2s						
PCED	**Cedros**	**1.09**	**125**	*eP*	**Pn**	**18 55 04.9**	**+0.3**
PCED				*eS*	**Sn**	**18 55 18.4**	**-1.9**
CALA	**Caldeira**	**1.11**	**127**	*eP*	**Pn**	**18 55 05.5**	**+0.4**
CALA				*eS*	**Sn**	**18 55 19.6**	**-1.5**
CALA	**Caldeira**	**1.11**	**127**	*eP*	**Pn**	**18 55 05.5**	**+0.4**
CALA				*eS*	**Sn**	**18 55 19.6**	**-1.5**
HOR	**Horta**	**1.19**	**127**	*eP*	**Pg**	**18 55 06.8**	**+1.7**
HOR				*eS*	**Sn**	**18 55 21.3**	**-1.6**
HOR	**Horta**	**1.19**	**127**	*eP*	**Pg**	**18 55 06.8**	**+1.7**
HOR				*eS*	**Sn**	**18 55 21.3**	**-1.6**
PCAN	**Candelaria**	**1.32**	**127**	*eP*	**Pg**	**18 55 08.2**	**+0.6**
PCAN				*eS*	**Sg**	**18 55 24.6**	**-0.1**
PCAN				A	A	18 55 29.3	
	683nm,0.3s						
PCAN	**Candelaria**	**1.32**	**127**	*eP*	**Pg**	**18 55 08.2**	**+0.6**
PCAN				*eS*	**Sg**	**18 55 24.6**	**-0.1**
ROSA	**Rosais**	**1.35**	**113**	*eP*	**Pg**	**18 55 08.3**	**+0.1**
ROSA				*eS*	**Sb**	**18 55 24.2**	**-2.1**
PPNO	**Prainha do Nor**	**1.46**	**122**	*eP*	**Pg**	**18 55 10.2**	**0.0**
PPNO				*eS*	**Sb**	**18 55 28.1**	**-1.2**
PPNO				A	A	18 55 32.8	
	326nm,0.1s						
PPNO	**Prainha do Nor**	**1.46**	**122**	*eP*	**Pg**	**18 55 10.2**	**0.0**
PPNO				*eS*	**Sb**	**18 55 28.1**	**-1.2**
PGRA	**Graciosa**	**1.46**	**98**	*eP*	**Pn**	**18 55 09.2**	**-0.6**
PGRA				*eS*	**Sn**	**18 55 25.8**	**-3.8**
PGRA				A	A	18 55 27.6	
	123nm,0.4s						
PGRA	**Graciosa**	**1.46**	**98**	*eP*	**Pn**	**18 55 09.2**	**-0.6**
PGRA				*eS*	**Sn**	**18 55 25.8**	**-3.8**
PMAN	**Manadas**	**1.50**	**114**	*eP*	**Pb**	**18 55 10.2**	**-0.7**
PMAN				*eS*	**Sn**	**18 55 27.9**	**-2.6**
PMAN				A	A	18 55 30.9	
	210nm,0.3s						
PMAN	**Manadas**	**1.50**	**114**	*eP*	**Pb**	**18 55 10.2**	**-0.7**
PMAN				*eS*	**Sn**	**18 55 27.9**	**-2.6**

ADH	**Angra Heroismo**	**2.12**	**106**	*eP*		**Pn**	**18 55 18.5 -0.3**
ADH	**Angra Heroismo**	**2.12**	**106**	*eP*		**Pn**	**18 55 18.5 -0.3**
PSET	**Sete Cidades**	**3.53**	**113**	*eP*		**Pn**	**18 55 38.6 +0.3**
PSET	**Sete Cidades**	**3.53**	**113**	*eP*		**Pn**	**18 55 38.6 +0.3**
PDA	**Ponta Delgada**	**3.60**	**113**	*eP*		**Pn**	**18 55 39.7 +0.5**
PDA	**Ponta Delgada**	**3.60**	**113**	*eP*		**Pn**	**18 55 39.7 +0.5**
PSMA	**Santa Maria**	**4.35**	**120**	*eP*		**Pn**	**18 55 49.7 +0.3**
PSMN	**Pico do Norte,**	**4.38**	**119**	*eP*		**Pn**	**18 55 50.5 +0.5**
PSMN	**Pico do Norte,**	**4.38**	**119**	*eP*		**Pn**	**18 55 50.5 +0.5**
ESDC	**Sonseca Array**	**19.96**	**81**	P		**Pn**	**18 59 21.0 +3.5**
	0.1nm,0.4s,baz=284,slow=10,SNR=4.1						
ESDC				LR		LR	19 06 10.2
	comp=Z,240nm,18.1s,baz=290,slow=34						
SCHQ	**Schefferville**	**29.21**	**314**	LR		LR	19 11 29.3
	comp=Z,169nm,18.6s,baz=109,slow=35						
KEST	**Kesra**	**31.12**	**84**	LR		LR	19 12 51.3
	comp=Z,43nm,19.6s,baz=234,slow=35						
GERES	**GERESS Array B**	**32.33**	**58**	LR		LR	19 15 01.1
	comp=Z,56nm,18.2s,baz=238,slow=38						
NOA	**NORSAR Array B**	**33.33**	**36**	P		**P**	**19 01 23.2 +1.7**
	1.7nm,0.9s,baz=249,slow=9.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	**38.09**	**124**	P		P	19 02 09.0 +6.3
	1.3nm,1.1s,baz=272,slow=2.5,SNR=4.4						
TORD				LR		LR	19 17 18.9
	comp=Z,176nm,18.1s,baz=325,slow=35						
DBIC	**Dimbokro**	**39.49**	**139**	LR		LR	19 17 08.6
	comp=Z,167nm,19.6s,baz=304,slow=34						
FINES	**FINESS Array B**	**40.37**	**38**	P		**P**	**19 02 21.1 -0.2**
	1.7nm,0.8s,baz=297,slow=8.4,SNR=6.6						
FINES				LR		LR	19 17 20.3
	comp=Z,100nm,20.2s,baz=270,slow=34						
ARCES	**ARCESS Array B**	**41.81**	**26**	LR		LR	19 16 30.4
	comp=Z,89nm,20.9s,baz=258,slow=31						
AKASG	**Malin Array Be**	**42.25**	**54**	P		**P**	**19 02 38.9 +2.0**
	1.0nm,0.7s,baz=276,slow=8.2,SNR=4.3						
AKASG				LR		LR	19 19 50.2
	comp=Z,91nm,18.3s,baz=290,slow=36						
BRTR	**Keskin Array B**	**48.04**	**68**	LR		LR	19 23 41.3
	comp=Z,25nm,19.6s,baz=280,slow=36						
BDFB	**Brasilia**	**57.20**	**201**	LR		LR	19 25 45.8
	comp=Z,73nm,20.1s,baz=24,slow=32						
PDAR	**Pinedale Array**	**58.10**	**301**	LR		LR	19 28 51.2
	comp=Z,146nm,20.0s,baz=130,slow=36						
TXAR	**Lajitas Array**	**60.27**	**285**	P		**P**	**19 04 53.0 +0.5**
	0.2nm,0.6s,baz=80,slow=7.8,SNR=5.2						
ILAR	**Eielson Array**	**65.28**	**335**	LR		LR	19 31 26.1
	comp=Z,86nm,18.0s,baz=62,slow=34						
LPAZ	**La Paz**	**65.83**	**221**	LR		LR	19 30 55.5
	comp=Z,31nm,19.8s,baz=6.0,slow=33						
KURBB	**Kurchatov Arra**	**70.73**	**40**	P		P	19 06 02.2 +2.4
	1.1nm,0.9s,baz=314,slow=6.2,SNR=8.7						
ZALV	**Zalesovo Beam**	**71.52**	**35**	P		P	19 06 07.5 +3.0
	0.4nm,0.5s,baz=289,slow=9.2,SNR=6.9						
KMBO	**Kilima Mbogo**	**73.15**	**106**	LR		LR	19 38 39.8
	comp=Z,34nm,18.6s,baz=68,slow=36						
MKAR	**Makanchi Array**	**75.11**	**41**	P		P	19 06 28.1 +2.3
	2.2nm,0.9s,baz=311,slow=4.5,SNR=18						
SONM	**Songino Array**	**84.95**	**28**	P		P	19 07 21.5 +2.4
	1.2nm,1.0s,baz=355,slow=8.9,SNR=7.1						

IDC 04 18:57:58.3±1.0,4°62N×123°65E,h0km,mb3.8/6,
mb1 4.0/6,mb1mx3.6/39,mbtmp3.8/6,Error ellipse:
s-maj=152.6km s-min=16.4km az=66.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.58**	**157**	P	P	19 03 39.0	+0.5
	0.7nm,0.3s,baz=336,slow=9.7,SNR=18						
ASAR	**Alice Springs**	**29.85**	**161**	P	P	19 04 08.0	+0.4
	0.4nm,0.3s,baz=336,slow=7.8,SNR=18						
STKA	**Stephens Creek**	**40.12**	**156**	P	P	19 05 35.0	-1.1
	1.4nm,0.5s,baz=343,slow=10,SNR=7.5						
SONM	**Songino Array**	**45.53**	**344**	P	P	19 06 20.0	+0.1

comp=Z,282nm,18.2s,baz=340,slow=30
TORD Torodi Ar. Bea 85.60 71 P **P** **19 10 37.0 -1.8**
comp=Z,1.0nm,1.0s,baz=210,slow=8.3,SNR=4.5
TORD LR LR 19 48 41.2
comp=Z,26nm,18.6s,baz=135,slow=36
ZALV Zalesovo Beam 156.13 33 PKPab **PKPab** **19 18 21.4 -0.1**
comp=Z,0.2nm,0.4s,baz=278,slow=4.3,SNR=4.4
MKAR Makanchi Array 158.52 51 PKPab **PKPab** **19 18 31.3 -0.9**
comp=Z,0.5nm,0.9s,baz=266,slow=3.4,SNR=3.9

*CSEM **04** 18:59:01.0,39.37N×29.93W,h10km,ML2.8*
PDA 04 18:59:01.0±0.5,39.37N±29.93W,h10km,MD3.5,ML2.8,
Error ellipse: s-maj=6.7km s-min=1.5km az=23.0,
Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07S1	**FLORES T-PHASE**	**0.99**	**271**	*eS*	Sg	18 59 27.5	-5.5
PCED	**Cedros**	**1.21**	**127**	*eP*	Pn	18 59 19.2	-4.8
PCED				*eS*	Sb	18 59 33.0	-6.7
PCED				A	A	18 59 35.2	
	557nm,0.5s						
PCED	**Cedros**	**1.21**	**127**	*eP*	Pn	18 59 19.2	-4.8
PCED				*eS*	Sb	18 59 33.0	-6.7
CALA	**Caldeira**	**1.24**	**129**	*eP*	Pn	18 59 19.9	-4.6
CALA				*eS*	Sb	18 59 34.0	-6.7
CALA	**Caldeira**	**1.24**	**129**	*eP*	Pn	18 59 19.9	-4.6
CALA				*eS*	Sb	18 59 34.0	-6.7
PCAN	**Candelaria**	**1.45**	**128**	*eP*	Pn	18 59 22.5	-4.7
PCAN				*eS*	Sn	18 59 38.6	-7.7
PCAN				A	A	18 59 43.8	
	103nm,0.5s						
PCAN	**Candelaria**	**1.45**	**128**	*eP*	Pn	18 59 22.5	-4.7
PCAN				*eS*	Sn	18 59 38.6	-7.7
ROSA	**Rosais**	**1.47**	**116**	*eP*	Pn	18 59 23.0	-4.5
ROSA				*eS*	Sn	18 59 39.0	-7.8
ROSA				A	A	18 59 39.7	
	20nm,0.2s						
ROSA	**Rosais**	**1.47**	**116**	*eP*	Pn	18 59 23.0	-4.5
ROSA				*eS*	Sn	18 59 39.0	-7.8
PPNO	**Prainha do Nor**	**1.58**	**124**	*eP*	Pn	18 59 24.6	-4.5
PPNO	**Prainha do Nor**	**1.58**	**124**	*eP*	Pn	18 59 24.6	-4.5
PMAN	**Manadas**	**1.61**	**116**	*eP*	Pn	18 59 24.7	-4.8
PMAN				*eS*	Sn	18 59 42.6	-7.8
PMAN				A	A	18 59 43.0	
	21nm,0.2s						
PMAN	**Manadas**	**1.61**	**116**	*eP*	Pn	18 59 24.7	-4.8
PMAN				*eS*	Sn	18 59 42.6	-7.8

*IDC **04** 19:00:43.5±0.7,15.13S×174.49W,h0km,mb3.8/9,*
mb1 4.1/9,mb1mx3.9/28,mbtmp3.8/9,MS3.9/16,
Ms1 3.9/16,ms1mx3.8/22,Error ellipse: s-maj=29.5km
s-min=18.7km az=145.0
*ISCJB **04** 19:00:46.5±0.6,15.1S±0.2×174.5W±0.1,h33km,mb4.0/10,*
MS3.9/14,Error ellipse: s-maj=24.8km s-min=15.1km
az=143.5
ISC 04 19:00:48.7±0.7,15.2S±0.2×174.5W±0.2,h35km,n41,
σ1§07/15,mb3.9/10,MS3.9/14,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**14.38**	**192**	LR	LR	19 08 16.2	
	comp=Z,442nm,20.9s,baz=346,slow=31						
RAR	**Rarotonga**	**15.23**	**115**	LR	LR	19 08 51.8	
	comp=Z,200nm,18.1s,baz=291,slow=32						
DZM	**Mont Dzumac**	**19.31**	**246**	*e*LR	LR	19 09 41.6	
	1μm,25.9s						
PAE	**Paea**	**24.03**	**99**	*e*T	T	19 30 42.0	
	5.1nm,0.2s						
PPT	**Papeete**	**24.04**	**99**	LR	LR	19 13 16.1	
	comp=Z,82nm,18.5s,baz=277,slow=31						
PPT2	**Papeete2**	**24.04**	**99**	*e*LQ	LQ	19 10 44.3	
	1μm,26.8s						
PPT2				*e*LR	LR	19 11 45.0	
	128nm,25.0s						
PPT2	**Papeete2**	**24.04**	**99**	*e*T	T	19 30 42.6	
	7.5nm,0.2s						
URZ	**Urewera**	**24.17**	**196**	P	**P**	**19 06 03.0**	**+1.2**
	16nm,1.0s,baz=21,slow=8.6,SNR=2.2						
TIAR	**Tiarei**	**24.25**	**99**	*e*T	T	19 30 58.6	
	5.5nm,0.3s						
TBI	**Tubuai**	**24.98**	**113**	*e*LQ	LQ	19 11 12.3	
	1μm,26.8s						
TBI				*e*LR	LR	19 12 36.5	
	203nm,25.0s						
TBI	**Tubuai**	**24.98**	**113**	*e*T	T	19 32 00.3	
	38nm,0.3s						
PMOR	**Pomariorio Ree**	**25.69**	**93**	*e*T	T	19 32 43.0	
	3.6nm,0.2s						
RKT	**Rikitea**	**38.08**	**108**	*e*T	T	19 48 19.6	
	15nm,0.4s						
H11S2	**WAKE ISLAND Hy**	**38.22**	**330**	T	T	19 48 16.0	
	baz=149,slow=76,SNR=98						
H11S3	**WAKE ISLAND Hy**	**38.23**	**330**	T	T	19 48 14.9	
	baz=149,slow=76,SNR=76						
H11S1	**WAKE ISLAND Hy**	**38.24**	**330**	T	T	19 48 14.1	
	baz=149,slow=76,SNR=129						
H11N3	**WAKE ISLAND Hy**	**39.18**	**332**	T	T	19 49 30.7	
	baz=151,slow=76,SNR=105						
H11N1	**WAKE ISLAND Hy**	**39.19**	**332**	T	T	19 49 33.4	
	baz=151,slow=76,SNR=171						
H11N2	**WAKE ISLAND Hy**	**39.20**	**332**	T	T	19 49 32.0	
	baz=151,slow=76,SNR=96						
STKA	**Stephens Creek**	**43.24**	**239**	P	**P**	**19 08 46.1**	**-0.8**
	1.5nm,0.9s,baz=111,slow=8.6,SNR=2.9						
STKA				LR	LR	19 25 01.0	
	comp=Z,165nm,19.9s,baz=41,slow=34						
JAY	**Jayapura**	**45.89**	**281**	LR	LR	19 26 12.1	
	comp=Z,123nm,21.3s,baz=70,slow=33						
WRA	**Warramunga Arr**	**48.86**	**257**	P	**P**	**19 09 30.1**	**-1.3**
	0.6nm,0.8s,baz=92,slow=7.1,SNR=6.5						
ASAR	**Alice Springs**	**49.17**	**252**	P	**P**	**19 09 33.2**	**-0.5**
	1.9nm,0.6s,baz=86,slow=7.7,SNR=43						
ASAR				LR	LR	19 29 58.2	
	comp=Z,106nm,18.4s,baz=84,slow=36						
GUMO	**Guam**	**49.31**	**303**	LR	LR	19 28 08.2	
	comp=Z,111nm,18.9s,baz=122,slow=33						
RPN	**Rapa Nui**	**61.36**	**113**	P	**P**	**19 11 00.6**	**-0.9**
	74nm,0.7s,baz=270,slow=11,SNR=4.0						
VNDA	**Vanda**	**63.51**	**186**	LR	LR	19 33 18.7	
	comp=Z,49nm,21.9s,baz=26,slow=31						
MJAR	**Matsushiro Arr**	**68.07**	**320**	LR	LR	19 35 45.3	
	comp=Z,128nm,21.9s,baz=125,slow=31						
PETK	**Petropavlovsk-**	**72.08**	**343**	LR	LR	19 39 21.1	
	comp=Z,30nm,19.2s,baz=112,slow=32						
NVAR	**Mina Array Bea**	**74.87**	**43**	P	**P**	**19 12 24.9**	**-1.3**
	1.2nm,0.8s,baz=233,slow=8.9,SNR=3.9						
KSRS	**Korea Array**	**75.24**	**316**	P	**P**	**19 12 28.6**	**+0.5**
	0.5nm,0.8s,baz=130,slow=6.8,SNR=3.8						
KSRS				LR	LR	19 39 39.6	
	comp=Z,73nm,21.5s,baz=135,slow=31						
USRK	**Ussuriysk Ar.**	**76.55**	**324**	LR	LR	19 39 48.2	
	comp=Z,145nm,21.3s,baz=131,slow=31						
TXAR	**Lajitas Array**	**81.37**	**57**	P	**P**	**19 13 02.7**	**+0.4**
	0.1nm,0.7s,baz=236,slow=1.0,SNR=4.6						
TXAR				LR	LR	19 42 07.8	
	comp=Z,97nm,19.0s,baz=0.0,slow=30						
ILAR	**Eielson Array**	**82.42**	**12**	P	**P**	**19 13 06.3**	**-0.6**
	1.3nm,0.8s,baz=226,slow=6.2,SNR=7.5						
PDAR	**Pinedale Array**	**82.80**	**42**	P	**P**	**19 13 09.8**	**+0.1**
	0.4nm,0.8s,baz=270,slow=1.8,SNR=3.7						
PDAR				LR	LR	19 45 00.9	
	comp=Z,58nm,18.1s,baz=246,slow=32						
MAW	**Mawson**	**87.68**	**199**	LR	LR	19 51 04.4	
	comp=Z,138nm,18.1s,baz=64,slow=34						
CMAR	**Chiang Mai Arr**	**91.53**	**289**	LR	LR	19 49 29.4	
	comp=Z,55nm,21.9s,baz=118,slow=32						
ARCES	**ARCESS Array B**	**124.22**	**352**	PKP	**PKPdf**	**19 19 45.4**	**+2.2**
	1.4nm,0.8s,baz=8.4,slow=3.1,SNR=4.3						
KMBO	**Kilima Mbogo**	**144.67**	**246**	PKP	**PKPdf**	**19 20 24.3**	**+1.2**
	2.5nm,0.9s,baz=45,slow=4.3,SNR=2.8						
BRTR	**Keskin Array B**	**145.29**	**320**	PKPbc	**PKPab**	**19 20 23.4**	**+0.2**
	2.8nm,1.0s,baz=48,slow=1.8,SNR=12						
GERES	**GERESS Array B**	**145.74**	**350**	PKPbc	**PKPab**	**19 20 24.7**	**+0.2**
	1.2nm,0.9s,baz=44,slow=4.1,SNR=7.6						
DAVOX	**Davos/Dischmat**	**148.26**	**354**	PKPbc	**PKPbc**	**19 20 31.6**	**+0.2**
	1.1nm,0.6s,baz=341,slow=10,SNR=2.9						

*SJA **04** 19:04:34.8±0.8,34.95S×73.35W,h40km,ML3.8,MW3.4*
*ISCJB **04** 19:04:48.7±1.0,34.72S±0.04×71.97W±0.09,h20km±9km,*
Error ellipse: s-maj=12.1km s-min=6.2km az=10.0
*GUC **04** 19:04:49.6±0.6,34.74S×71.83W,h37km±2km,ML3.8*

ISC 04 19:04:47.6±1.4,34.73S±0.04×72.02W±0.06,h7km±10km,
n22,σ1§56/36,4C-6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.71**	**113**	*i*P	**Pg**	**19 05 01.2**	**0.0**
NICH				*i* S	**Sg**	**19 05 09.6**	**-0.8**
TALC	**Talca**	**0.74**	**155**	*i*P	**Pb**	**19 05 03.2**	**+0.4**
TALC				*i* S	**Sb**	**19 05 12.6**	**-0.5**
LNV	**Longovilo**	**0.92**	**33**	*i*P	**Pg**	**19 05 05.5**	**+0.2**
LNV				*i* S	**Sg**	**19 05 17.3**	**0.0**
U73B	**San Pedro**	**0.95**	**32**	*i*P	**Pg**	**19 05 05.9**	**0.0**
U73B				*i* S	**Sg**	**19 05 18.1**	**-0.1**
U73B				AML	AML	19 05 20.8	
	comp=E,6μm,0.2s						
CHCH	**Chadas Angostu**	**1.38**	**55**	*i*P	**Pn**	**19 05 11.6**	**-1.7**
TACH	**Talagante**	**1.40**	**40**	*i*P	**Pn**	**19 05 12.5**	**-1.1**
TACH				*i* S	**Sn**	**19 05 30.0**	**-2.2**
COCH	**Cobquecura**	**1.53**	**204**	*i*P	**Pb**	**19 06 16.2**	**-0.1**
COCH				*e*S	**Sg**	**19 05 37.8**	**+0.9**
SAN	**Santiago**	**1.70**	**42**	*e*P	**Pn**	**19 05 16.7**	**-1.0**
SAN				*i* S	**Sn**	**19 05 37.4**	**-2.3**
CLCH	**Cerro Calan**	**1.81**	**43**	*i*P	**Pn**	**19 05 18.2**	**-1.1**
CLCH				*i* S	**Sn**	**19 05 40.7**	**-1.8**
CLCH				AML	AML	19 05 44.3	
	comp=N,1μm,0.6s						
PEL	**Peldehue**	**1.93**	**35**	*i*P	**Pn**	**19 05 20.7**	**-0.2**
PEL				*e*S	**Sn**	**19 05 43.4**	**-2.0**
PEL				AML	AML	19 05 48.7	
	comp=N,1μm,0.5s						
AAGR	**Agrelo**	**3.12**	**59**	*e*P	**Pn**	**19 05 38.8**	**+1.5**
ARCO	**CERRO ARCO**	**3.19**	**55**	*e*P	**Pn**	**19 05 40.4**	**+2.1**
AUSP	**Uspallata**	**3.33**	**42**	*e*P	**Pn**	**19 05 41.4**	**+1.0**
AUSP				*e*S	**Sb**	**19 06 30.3**	**+2.3**
ASAL	**Salagasta**	**3.41**	**52**	*e*P	**Pn**	**19 05 42.8**	**+1.6**
RTLS	**Leoncito**	**3.71**	**39**	*e*P	**Pn**	**19 05 46.4**	**+0.9**
RTLS				*e*S	**Sb**	**19 06 38.5**	**-0.3**
RTCV	**Cerro Valdivia**	**4.08**	**47**	*e*P	**Pn**	**19 05 49.9**	**-0.6**
RTCV				*e*S	Sn	19 06 44.6	+6.1
CFAA	**Coronel Fontan**	**4.45**	**47**	*e*P	**Pn**	**19 05 54.7**	**-0.8**
CFAA				*e*S	**Sn**	**19 06 50.7**	**+3.2**
RTLL	**Cerro Villicun**	**4.51**	**42**	*e*P	**Pn**	**19 05 55.9**	**-0.5**
ACAN	**Cantantal**	**4.72**	**60**	*e*P	**Pn**	**19 05 58.5**	**-0.7**
AMOG	**MOGNA**	**4.81**	**39**	*e*P	**Pn**	**19 05 59.8**	**-0.7**
AVFE	**Valle Fertil**	**5.59**	**45**	*e*P	**Pn**	**19 06 09.4**	**-1.9**
AVFE				*e*S	**Sn**	**19 07 19.8**	**+4.0**
AVFE				AML	AML	19 07 24.7	
	comp=Z,20nm,0.4s						
ACHE	**Chepes**	**5.74**	**53**	*e*P	**Pn**	**19 06 11.3**	**-2.0**
ACHE				*e*S	**Sn**	**19 07 20.1**	**+0.6**

*MOS **04** 19:05:02.1±0.7,54.73N×111.11E,h12km,mb4.1/1,Error*
ellipse: s-maj=25.2km s-min=13.3km az=81.2
*BYKL **04** 19:05:03.2±0.2,54.77N×111.05E*
ISC 04 19:05:03.6±1.3,54.80N±0.03×111.00E±0.03,h9km±11km,
n29,σ1§69/59,7C,Lake Baikal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMO	**Kumura**	**1.10**	**6**	*i*Pg	**Pb**	**19 05 23.4**	**-1.3**
KMO				*e*Sg	**Sb**	**19 05 38.6**	**-0.4**
KMO				Pmax			
	142nm,0.4s						
KMO				Smax			
	552nm,0.3s						
KMO	**Kumura**	**1.10**	**6**	*e*PG	**Pb**	**19 05 23.2**	**-1.5**
KMO				*e*		19 05 38.4	
KMO				pmax	pmax		
	comp=Z,141nm,0.4s						
KMO				smax	smax		
	comp=E,556nm,0.6s						
NIZ	**Nizh Angarsk**	**1.29**	**320**	*i*Pg	**Pn**	**19 05 27.5**	**-0.2**
NIZ				*e*Sg	**Sn**	**19 05 45.7**	**+0.7**
NIZ				Pmax			
	comp=E,89nm,0.2s						
NIZ				Smax			
	comp=E,197nm,0.2s						
NIZ	**Nizh Angarsk**	**1.29**	**320**	*e*PG	**Pn**	**19 05 27.2**	**-0.5**
NIZ				*e*		19 05 45.6	
NIZ				pmax	pmax		
	comp=Z,108nm,0.4s						
NIZ				smax	smax		
	comp=E,196nm,0.4s						
SYVR	**Suvo**	**1.29**	**208**	*e*Pg	**Pn**	**19 05 27.0**	**-0.7**
SYVR				*e*Sg	**Sg**	**19 05 44.5**	**-0.4**
SYVR				Pmax			
	comp=E,25nm,0.1s						
SYVR				Smax			
	comp=E,169nm,0.1s						
YOA	**Uoyan**	**1.40**	**17**	*i*Pg	**Pn**	**19 05 29.0**	**-0.2**
YOA				*e*Sg	**Sg**	**19 05 48.8**	**+0.3**
YOA				Pmax			
	comp=E,135nm,0.2s						
YOA				Smax			
	comp=E,1μm,0.4s						
YOA	**Uoyan**	**1.40**	**17**	*i*PG	**Pn**	**19 05 29.0**	**-0.2**
YOA				*i*		19 05 48.9	
YOA				pmax	pmax		
	comp=Z,100nm,0.2s						
YOA				smax	smax		
	comp=E,1μm,0.4s						
UKT	**Uakit**	**1.66**	**64**	*i*Pg	**Pn**	**19 05 32.1**	**-0.8**
UKT				*e*Sg	**Sn**	**19 05 53.8**	**-0.5**
UKT				Pmax			
	comp=E,22nm,0.2s						
UKT				Smax			
	comp=E,325nm,0.3s						
UKT	**Uakit**	**1.66**	**64**	*e*PN	**Pn**	**19 05 32.0**	**-0.8**
UKT				*i*		19 05 53.8	
UKT				pmax	pmax		
	comp=Z,22nm,0.1s						
UKT				smax	smax		
	comp=N,294nm,0.3s						
SVKR	**Severomuysk**	**1.97**	**47**	*e*Pn	**Pn**	**19 05 37.5**	**+0.5**
SVKR				*i*Pg	**Pb**	**19 05 38.8**	**-0.7**
SVKR				*e*Sg	**Sg**	**19 06 05.7**	**-1.0**
SVKR				Pmax			
	comp=N,80nm,0.2s						
SVKR				Smax			
	comp=N,895nm,0.5s						
OGRR	**Ongureny**	**2.31**	**241**	*e*Pn	**Pn**	**19 05 41.7**	**0.0**
OGRR				*e*Pg	**Pb**	**19 05 44.7**	**-0.7**
OGRR				*e*Sn	**Sn**	**19 06 09.6**	**-0.7**
OGRR				*e*Sg	**Sb**	**19 06 15.1**	**+1.1**
OGRR				Pmax			
	comp=N,56nm,0.3s						
OGRR				Smax			
	comp=N,196nm,0.2s						
OGRR	**Ongureny**	**2.31**	**241**	*e*PN	**Pn**	**19 05 41.7**	**0.0**
OGRR				*e*		19 05 44.9	
OGRR				*e*		19 06 15.2	
OGRR				pmax	pmax		
	comp=Z,56nm,0.5s						
OGRR				smax	smax		
	comp=N,194nm,0.3s						
NLYR	**Nelyaty**	**3.16**	**56**	*i*Pn	**Pn**	**19 05 52.8**	**-0.6**
NLYR				*e*Pg	**Pb**	**19 05 59.9**	**+0.1**
NLYR				*e*Sg	**Sb**	**19 06 40.4**	**+2.1**
NLYR				Pmax			
	comp=N,7.0nm,0.3s						
NLYR				Smax			
	comp=N,145nm,1.0s						
CIT	**Chita**	**3.17**	**150**	*e*Pg	**Pb**	**19 05 59.3**	**-0.8**
CIT				*e*Sg	**Sb**	**19 06 40.4**	**+1.6**
CIT				Pmax			
	comp=N,23nm,0.1s						
CIT				Smax			
	comp=N,193nm,0.2s						
CIT	**Chita**	**3.17**	**150**	*e*PN	**Pn**	**19 05 52.1**	**-1.5**
CIT				*e*		19 05 59.7	
CIT				*e*		19 06 41.1	
CIT				pmax	pmax		
	comp=Z,42nm,0.3s						
CIT				smax	smax		
	comp=E,175nm,0.3s						
TRG	**Tyrgan**	**3.43**	**235**	*e*Pn	**Pn**	**19 05 57.4**	**+0.2**
TRG				*e*Pg	**Pb**	**19 06 04.7**	**+0.2**
TRG				*e*Sn	**Sn**	**19 06 35.8**	**-2.2**
TRG				*e*Sg	**Sb**	**19 06 48.9**	**+2.6**
TRG				Pmax			
	comp=E,7.0nm,0.2s						
TRG				Smax			
	comp=E,58nm,0.2s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOD	**Bodaibo**	**3.46**	**28**	*e*Pn	**Pn**	**19 05 57.2**	**-0.3**
BOD				*e*Pg	**Pb**	**19 06 04.4**	**-0.5**
BOD				*e*PgPg	**PbPb**	**19 06 06.8**	**-1.2**
BOD				*e*Sn	**Sb**	**19 06 48.7**	**+1.8**
BOD				*e*Sg	**Sb**	**19 06 48.7**	**+1.8**
BOD				max			
	comp=E,6.0nm,0.3s						
BOD				Smax			
	comp=E,26nm,0.2s						
UUDB	**Ulan-Yde**	**3.55**	**216**	*e*Pn	**Pn**	**19 05 58.5**	**-0.3**
UUDB				*e*Pg	**Pb**	**19 06 07.3**	**+0.8**
UUDB				*e*Sg	**Sg**	**19 06 53.9**	**-3.7**
UUDB				Pmax			
	comp=E,13nm,0.4s						
UUDB				Smax			
	comp=E,41nm,0.7s						
HRMR	**Khuramsha**	**4.00**	**219**	*e*Pn	**Pn**	**19 06 05.2**	**+0.2**
HRMR				*e*Pg	**Pb**	**19 06 15.7**	**+1.6**
HRMR				*e*Sn	**Sn**	**19 06 51.1**	**-0.8**
HRMR				*e*Sg	**Sg**	**19 07 08.2**	**-3.7**
HRMR				Pmax			
	comp=E,13nm,0.3s						
HRMR				Smax			
	comp=E,123nm,0.3s						
CRS	**Chara**	**4.60**	**60**	*e*Pn	**Pn**	**19 06 12.7**	**-0.6**
CRS				*e*Pg	**Pb**	**19 06 26.6**	**+2.2**
CRS				*e*		19 06 30.9	
CRS				*e*Sg	**Sg**	**19 07 25.9**	**-5.4**
CRS				max			
	comp=E,11nm,0.7s						
CRS				Smax			
	comp=E,75nm,1.7s						
CRS	**Chara**	**4.60**	**60**	*e*PN	**Pn**	**19 06 12.0**	**-1.3**
CRS				*e*S	**Sb**	**19 07 24.5**	**+4.6**
CRS				smax	smax		
	comp=E,70nm,0.9s						
KPC	**Khapcheranga**	**5.17**	**170**	*e*Pn	**Pn**	**19 06 19.9**	**-1.2**
KPC				*e*Pg	**Pb**	**19 06 35.7**	**+1.6**
KPC				*e*Sg	Sg	19 07 42.6	-6.9
KPC				Pmax			
	comp=E,3.0nm,0.2s						
KPC				Smax			
	comp=E,49nm,0.9s						
TUP	**Tupik**	**5.22**	**90**	*e*Pn	**Pn**	**19 06 20.0**	**-1.7**
TUP				*e*Pg	**Pb**	**19 06 36.2**	**+1.3**
TUP				*e*		19 07 15.7	
TUP				*e*Sg	Sb	19 07 43.1	+5.5
TUP				Pmax			
	comp=E,3.0nm,0.3s						
TUP				Smax			
	comp=E,66nm,0.9s						
TLY	**Talaya**	**5.41**	**238**	*e*Sg	Sb	19 07 49.7	+6.6
TLY				Smax			
	comp=E,21nm,0.3s						
ARS	**Arshan**	**5.89**	**244**	*e*	**Pg**	**19 06 58.4**	**+2.1**
ARS				*e*Sg	Sb	19 08 04.3	+7.4
ARS				Smax			
	comp=E,91nm,0.7s						
ZAK	**Zakamensk**	**6.46**	**230**	*e*Sg	Sg	19 08 24.1	-6.6
ZAK				Smax			
	comp=E,7.0nm,0.8s						
MOY	**Mondy**	**6.78**	**247**	*e*Pn	**Pn**	**19 06 45.6**	**+2.4**
MOY				*e*Sn	**Sn**	**19 07 58.9**	**-1.5**
MOY				*e*Sg	Sg	19 08 32.1	-8.8
MOY				Smax			
	comp=E,23nm,1.0s						
ORL	**Orlik**	**7.03**	**256**	*e*Pn	**Pn**	**19 06 47.8**	**+1.2**
ORL				*e*Sn	**Sn**	**19 08 04.2**	**-2.3**
ORL				*e*Sg	Sg	19 08 40.2	-8.7
ORL				Smax			
	comp=E,30nm,0.7s						
ORL	**Orlik**	**7.03**	**256**	*e*PN	**Pn**	**19 06 47.8**	**+1.2**
ORL				*e*		19 07 11.4	
ORL				*e*		19 08 39.8	
ORL				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ORL				smax	smax		
	comp=N,30nm,1.3s						

*IDC **04** 19:19:48.3±0.7,8.95S×161.11E,h0km,mb4.1/15,*
mb1 4.3/15,mb1mx4.1/36,mbtmp4.1/15,Error ellipse:
s-maj=24.2km s-min=17.5km az=110.0
*ISCJB **04** 19:19:53.1±0.6,8.86S±0.07×161.1E±0.1,h43km,*
mb4.1/15,Error ellipse: s-maj=14.6km s-min=9.3km
az=11.5
ISC 04 19:19:54.7±0.6,8.88S±0.09×161.1E±0.1,h43km,n39,
σ1§16/35,mb4.1/15,Bougainville - Solomon Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.28**	**245**	*i* P	Pn	19 20 21.0	+4.8
HNR				*i* S	Sn	19 20 42.0	+10
DZM	**Mont Dzumac**	**14.08**	**159**	Pn	**Pn**	**19 23 11.2**	**-0.4**
	0.0nm,0.3s,baz=270,slow=20,SNR=2.6						
CTA	**Charters Tower**	**18.19**	**231**	P	**Pn**	**19 24 06.2**	**+2.1**
	0.4nm,0.3s,baz=57,slow=12,SNR=4.9						
MTSU	**Mount Surprise**	**18.74**	**239**	P	**Pn**	**19 24 13.1**	**+2.3**
	baz=17,SNR=4.5						
RMQ	**Roma**	**21.07**	**212**	P	**P**	**19 24 38.0**	**+2.6**
	baz=20,SNR=5.2						
JAY	**Jayapura**	**21.27**	**286**	P	**P**	**19 24 37.2**	**-0.4**
	13nm,1.0s,baz=144,slow=4.9,SNR=6.8						
ARMA	**Armidale**	**23.19**	**201**	P	**P**	**19 24 59.3**	**+1.4**
	baz=22,SNR=8.9						
QLP	**Quilpie**	**23.80**	**220**	P	**P**	**19 25 04.0**	**+0.4**
	baz=22,SNR=4.3						
CMSA	**Cobar Meteorol**	**26.73**	**210**	P	**P**	**19 25 30.1**	**-0.1**
	baz=25,SNR=18						
H11S2	**WAKE ISLAND Hy**	**27.75**	**11**	T	T	19 54 43.8	
	baz=194,slow=76,SNR=99						
H11S3	**WAKE ISLAND Hy**	**27.75**	**11**	T	T	19 54 42.0	
	baz=194,slow=76,SNR=90						
H11S1	**WAKE ISLAND Hy**	**27.77**	**11**	T	T	19 54 45.7	
	baz=194,slow=76,SNR=77						
WRA	**Warramunga Arr**	**28.13**	**244**	P	**P**	**19 25 41.9**	**-1.0**
	2.3nm,0.3s,baz=73,slow=9.0,SNR=55						
WRA				PcP	**PcP**	**19 28 56.8**	**+0.2**
	0.4nm,0.7s,baz=70,slow=2.9,SNR=3.3						
H11N1	**WAKE ISLAND Hy**	**28.98**	**11**	T	T	19 56 10.4	
	baz=192,slow=76,SNR=370						
H11N3	**WAKE ISLAND Hy**	**28.98**	**11**	T	T	19 56 10.7	
	baz=192,slow=76,SNR=297						
H11N2	**WAKE ISLAND Hy**	**29.00**	**11**	T	T	19 56 11.6	
	baz=192,slow=76,SNR=570						
STKA	**Stephens Creek**	**29.20**	**216**	P	**P**	**19 25 51.9**	**-0.4**
	2.9nm,0.4s,baz=51,slow=16,SNR=26						
ASAR	**Alice Springs**	**29.90**	**237**	P	**P**	**19 25 57.0**	**-1.6**
	3.0nm,0.4s,baz=61,slow=10,SNR=106						
ASAR				PcP	**PcP**	**19 29 00.4**	**-0.5**
	0.3nm,0.7s,baz=82,slow=1.3,SNR=4.1						
TOO	**Toolangi**	**31.87**	**204**	P	**P**	**19 26 16.9**	**+1.1**
	baz=30,SNR=5.6						
HTT	**Hallett**	**31.88**	**217**	P	**P**	**19 26 15.9**	**-0.1**

0.7nm,0.9s,baz=114,slow=6.6,SNR=3.5
BOSA Boshof 123.40 227 PKP **PKPdf 19 38 47.8 -0.3**
1.4nm,0.8s,baz=207,slow=6.8,SNR=3.7
GERES GERESS Array B 131.70 332 PKP **PKPdf 19 39 03.6 +0.4**
0.4nm,0.6s,baz=90,slow=2.7,SNR=4.4
ESDC Sonseca Array 146.56 339 PKPbc **PKPbc 19 39 32.3 +0.4**
1.0nm,0.8s,baz=14,slow=3.4,SNR=4.5
TORD Torodi Ar. Bea 159.37 284 PKP **PKPdf 19 39 48.8 -0.7**
0.3nm,0.8s,baz=27,slow=1.1,SNR=2.8
TORD PKPab **PKPab 19 40 26.2 -1.1**
0.8nm,0.8s,baz=84,slow=3.7,SNR=6.8

IDC 04 19:20:35.5±1.9, 4°.12N×124°.85E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.3/42, mbtmp3.6/4, MS3.7/3, Ms1 3.7/3, ms1mx2.9/35, Error ellipse: s-maj=208.6km s-min=25.1km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.66**	**159**	P	P	19 26 07.4	0.0
	0.6nm,0.4s,baz=337,slow=10,SNR=4.8						
ASAR	**Alice Springs**	**28.99**	**163**	P	P	19 26 37.7	+0.5
	0.4nm,0.5s,baz=348,slow=7.1,SNR=4.4						
STKA	**Stephens Creek**	**39.18**	**157**	P	P	19 28 04.8	-0.6
	1.4nm,0.9s,baz=344,slow=13,SNR=3.1						
MKAR	**Makanchi Array**	**56.18**	**326**	P	P	19 30 17.2	-0.1
	0.2nm,0.3s,baz=119,slow=7.9,SNR=5.8						
ZALV	**Zalesovo Beam**	**59.40**	**334**	LR	LR	19 59 58.6	
	comp=Z,41nm,18.2s,baz=70,slow=40						
OBN	**Obninsk**	**85.67**	**325**	LR	LR	20 14 35.8	
	comp=Z,47nm,21.0s,baz=90,slow=38						
AKASG	**Malin Array Be**	**90.41**	**321**	LR	LR	20 18 53.1	
	comp=Z,43nm,21.4s,baz=40,slow=39						

*CSEM **04** 19:23:48.3, 39°.49N×29°.83W, h10km, ML2.7*
PDA 04 19:23:48.3±0.2, 39°.49N×29°.83W, h10km, MD3.6, ML2.7, Error ellipse: s-maj=4.3km s-min=1.8km az=49.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**1.23**	**134**	*e*P	Pn	19 24 06.8	-4.7
PCED				*e*S	Sb	19 24 20.7	-6.8
PCED				A	A	19 24 22.9	
	52nm,0.3s						
PCED	**Cedros**	**1.23**	**134**	*e*P	Pn	19 24 06.8	-4.7
PCED				*e*S	Sb	19 24 20.7	-6.8
CALA	**Caldeira**	**1.26**	**136**	*e*P	Pn	19 24 07.4	-4.7
CALA				*e*S	Sb	19 24 21.7	-6.9
CALA	**Caldeira**	**1.26**	**136**	*e*P	Pn	19 24 07.4	-4.7
CALA				*e*S	Sb	19 24 21.7	-6.9
HOR	**Horta**	**1.34**	**136**	*e*P	Pn	19 24 08.4	-4.6
HOR				*e*S	Sb	19 24 23.4	-7.2
HOR	**Horta**	**1.34**	**136**	*e*P	Pn	19 24 08.4	-4.6
HOR				*e*S	Sb	19 24 23.4	-7.2
ROSA	**Rosais**	**1.45**	**121**	*e*P	Pn	19 24 09.9	-4.7
ROSA				*e*S	Sn	19 24 26.1	-7.6
ROSA				A	A	19 24 31.9	
	22nm,0.4s						
ROSA	**Rosais**	**1.45**	**121**	*e*P	Pn	19 24 09.9	-4.7
ROSA				*e*S	Sn	19 24 26.1	-7.6
PCAN	**Candelaria**	**1.46**	**134**	*e*P	Pn	19 24 10.2	-4.6
PCAN				*e*S	Sn	19 24 26.6	-7.4
PMAN	**Manadas**	**1.60**	**122**	*e*S	Sn	19 24 29.8	-7.5
PMAN				A	A	19 24 33.3	
	12nm,0.2s						
PMAN	**Manadas**	**1.60**	**122**	*e*S	Sn	19 24 29.8	-7.5

*CSEM **04** 19:29:59.3, 39°.48N×29°.73W, h5km, ML2.8*
PDA 04 19:29:59.3±0.4, 39°.48N×29°.73W, h5km, MD3.6, ML2.8, Error ellipse: s-maj=6.5km s-min=2.7km az=52.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**1.17**	**137**	*e*P	Pg	19 30 17.3	-4.4
PCED				*e*S	Sg	19 30 30.9	-6.0
PCED				A	A	19 30 33.9	
	50nm,0.2s						
PCED	**Cedros**	**1.17**	**137**	*e*P	Pg	19 30 17.3	-4.4
PCED				*e*S	Sg	19 30 30.9	-6.0
CALA	**Caldeira**	**1.20**	**138**	*e*P	Pg	19 30 17.9	-4.6
CALA				*e*S	Sg	19 30 32.2	-6.0
CALA	**Caldeira**	**1.20**	**138**	*e*P	Pg	19 30 17.9	-4.6
CALA				*e*S	Sg	19 30 32.2	-6.0
ROSA	**Rosais**	**1.38**	**123**	*e*P	Pn	19 30 20.5	-4.8
ROSA				*e*S	Sb	19 30 36.1	-7.6
ROSA				A	A	19 30 37.9	
	34nm,0.3s						
ROSA	**Rosais**	**1.38**	**123**	*e*P	Pn	19 30 20.5	-4.8
ROSA				*e*S	Sb	19 30 36.1	-7.6
PCAN	**Candelaria**	**1.40**	**136**	*e*P	Pn	19 30 20.6	-5.0
PCAN				*e*S	Sb	19 30 36.9	-7.4
PCAN				A	A	19 30 40.5	
	97nm,0.1s						
PCAN	**Candelaria**	**1.40**	**136**	*e*P	Pn	19 30 20.6	-5.0
PCAN				*e*S	Sb	19 30 36.9	-7.4
PPNO	**Prainha do Nor**	**1.52**	**131**	*e*P	Pn	19 30 22.5	-4.8
PPNO				*e*S	Sn	19 30 39.8	-7.7
PPNO				A	A	19 30 43.9	
	50nm,0.2s						
PPNO	**Prainha do Nor**	**1.52**	**131**	*e*P	Pn	19 30 22.5	-4.8
PPNO				*e*S	Sn	19 30 39.8	-7.7
PMAN	**Manadas**	**1.53**	**123**	*e*P	Pn	19 30 22.6	-4.7
PMAN				*e*S	Sn	19 30 39.9	-7.7
PMAN				A	A	19 30 43.1	
	34nm,0.3s						
PMAN	**Manadas**	**1.53**	**123**	*e*P	Pn	19 30 22.6	-4.7
PMAN				*e*S	Sn	19 30 39.9	-7.7

NSSC 04 19:30:05.7±1.5, 35°.04N×36°.29E, h21km±6km, MD0.0, ML1.6, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIDA	**Albida**	**0.04**	**132**	*e*P	Pb	19 30 10.1	+0.6
BIDA				*e*S	Sb	19 30 11.8	-0.3
BIDA				AML	AML	19 30 13.8	
	comp=E,103nm,0.2s						
BIDA				AML	AML	19 30 15.0	
	comp=N,255nm,0.4s						
BIDA				AML	AML	19 30 15.9	
	comp=Z,195nm,0.4s						
BIDA	**Albida**	**0.04**	**132**	*e*P	Pb	19 30 10.0	+0.5
BIDA				*e*S	Sb	19 30 12.1	0.0
BIDA				AML	AML	19 30 13.8	
	comp=E,103nm,0.2s						
BIDA				AML	AML	19 30 15.0	
	comp=N,255nm,0.4s						
WRDH	**Warideh**	**0.48**	**12**	*e*P	Pb	19 30 16.0	+0.5
WRDH				*e*S	Sb	19 30 21.4	-0.8
WRDH				AML	AML	19 30 24.0	
	comp=N,34nm,0.3s						
WRDH				AML	AML	19 30 25.0	
	comp=E,44nm,0.6s						
WRDH	**Warideh**	**0.48**	**12**	*e*P	Pb	19 30 15.5	-0.1
WRDH				*e*S	Sb	19 30 21.0	-1.2
WRDH				AML	AML	19 30 24.0	
	comp=N,34nm,0.3s						
WRDH				AML	AML	19 30 25.0	
	comp=E,44nm,0.6s						
HAWK	**Haweek**	**0.53**	**169**	*e*P	Pb	19 30 16.4	0.0
HAWK				*e*S	Sb	19 30 22.8	-0.9
HAWK				AML	AML	19 30 24.3	
	comp=N,14nm,0.2s						
HAWK				AML	AML	19 30 24.8	
	comp=Z,11nm,0.2s						
HAWK				AML	AML	19 30 27.4	
	comp=E,11nm,0.3s						
ARNB	**Al Arnab**	**0.86**	**343**	*e*P	Pb	19 30 21.7	-0.4
ARNB				*e*S	Sb	19 30 32.2	-1.1
ARNB				AML	AML	19 30 35.2	
	comp=N,63nm,0.2s						
ARNB				AML	AML	19 30 35.5	
	comp=E,45nm,0.2s						
ARNB				AML	AML	19 30 35.8	
	comp=Z,21nm,0.3s						
ARNB	**Al Arnab**	**0.86**	**343**	*e*P	Pb	19 30 20.7	-1.4
ARNB				*e*S	Sb	19 30 31.8	-1.4
ARNB				AML	AML	19 30 35.2	
	comp=N,63nm,0.2s						
ARNB				AML	AML	19 30 35.5	
	comp=E,45nm,0.2s						
BTCH	**Batrach**	**1.01**	**8**	*e*P	Pb	19 30 24.3	-0.3
BTCH				*e*S	Sb	19 30 36.9	-0.6
BTCH				AML	AML	19 30 41.3	
	comp=N,18nm,0.2s						
BTCH				AML	AML	19 30 42.4	
	comp=E,27nm,0.2s						
BTCH	**Batrach**	**1.01**	**8**	*e*P	Pb	19 30 24.4	-0.2
BTCH				*e*S	Sb	19 30 36.5	-0.9
BTCH				AML	AML	19 30 41.3	
	comp=N,18nm,0.2s						
BTCH				AML	AML	19 30 42.4	
	comp=E,27nm,0.2s						

*CSEM **04** 19:33:10.4, 39°.50N×29°.87W, h13km, ML2.8*
PDA 04 19:33:10.4±0.3, 39°.50N×29°.87W, h13km±6km, MD3.8, ML2.8, Error ellipse: s-maj=6.0km s-min=2.0km az=21.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H07S1	**FLORES T-PHASE**	**1.04**	**264**	*e*S	Sb	19 33 38.0	-5.9
PCED	**Cedros**	**1.26**	**133**	*e*P	Pn	19 33 29.2	-4.4
PCED				*e*S	Sb	19 33 43.1	-7.0
PCED				A	A	19 33 44.7	
	43nm,0.3s						
PCED	**Cedros**	**1.26**	**133**	*e*P	Pn	19 33 29.2	-4.4
PCED				*e*S	Sb	19 33 43.1	-7.0
CALA	**Caldeira**	**1.29**	**135**	*e*S	Sb	19 33 44.3	-6.9
CALA	**Caldeira**	**1.29**	**135**	*e*S	Sb	19 33 44.3	-6.9
HOR	**Horta**	**1.37**	**135**	*e*P	Pn	19 33 30.7	-4.5
HOR				*e*S	Sn	19 33 45.9	-7.2
HOR	**Horta**	**1.37**	**135**	*e*P	Pn	19 33 30.7	-4.5
HOR				*e*S	Sn	19 33 45.9	-7.2
ROSA	**Rosais**	**1.49**	**121**	*e*P	Pn	19 33 32.4	-4.4
ROSA				*e*S	Sn	19 33 48.8	-7.3
ROSA				A	A	19 33 49.9	
	31nm,0.3s						
ROSA	**Rosais**	**1.49**	**121**	*e*P	Pn	19 33 32.4	-4.4
ROSA				*e*S	Sn	19 33 48.8	-7.3
PCAN	**Candelaria**	**1.50**	**133**	*e*P	Pn	19 33 32.5	-4.4
PCAN				*e*S	Sn	19 33 49.1	-7.2
PCAN				A	A	19 33 52.1	
	50nm,0.2s						
PCAN	**Candelaria**	**1.50**	**133**	*e*P	Pn	19 33 32.5	-4.4
PCAN				*e*S	Sn	19 33 49.1	-7.2
PPNO	**Prainha do Nor**	**1.62**	**129**	*e*P	Pn	19 33 34.3	-4.4
PPNO				*e*S	Sn	19 33 52.2	-7.3
PPNO				A	A	19 33 53.7	
	36nm,0.2s						
PPNO	**Prainha do Nor**	**1.62**	**129**	*e*P	Pn	19 33 34.3	-4.4
PPNO				*e*S	Sn	19 33 52.2	-7.3

IDC 04 19:48:43.4±3.0, 20°.76S×178°.80W, h0km, mb4.2/3, mb1 4.4/4, mb1mx3.8/30, mbtmp4.3/4, ML4.4/1, Error ellipse: s-maj=63.4km s-min=51.3km az=99.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**17.80**	**191**	P	P	19 52 53.3	-0.1
	1.4nm,0.3s,baz=36,slow=2.0,SNR=5.8						
CMSA	**Cobar Meteorol**	**33.50**	**244**	P	P	19 55 24.0	-0.7
	baz=29,SNR=6.7						
QLP	**Quilpie**	**34.27**	**253**	P	P	19 55 33.2	+1.7
	baz=30,SNR=3.1						
STKA	**Stephens Creek**	**37.00**	**244**	P	P	19 55 53.2	-1.7
	1.3nm,0.5s,baz=96,slow=10,SNR=9.0						
ASAR	**Alice Springs**	**43.73**	**257**	P	P	19 56 50.8	0.0
	2.0nm,0.6s,baz=94,slow=7.8,SNR=36						
WRA	**Warramunga Arr**	**43.82**	**262**	P	P	19 56 52.6	+1.1
	0.9nm,0.3s,baz=94,slow=8.3,SNR=63						
KDU	**Kakadu**	**47.21**	**272**	P	P	19 57 21.9	+3.5
	baz=44,SNR=3.1						
WRKA	**Warakurna**	**48.67**	**254**	P	P	19 57 28.0	-1.8
	baz=45,SNR=34						
KNRA	**Kununurra**	**49.90**	**267**	P	P	19 57 40.8	+1.7
	baz=46,SNR=9.0						
KLBR	**Kellerberrin**	**57.27**	**245**	P	P	19 58 27.6	-5.5
	baz=53,SNR=5.7						
MORW	**Morawa**	**59.04**	**248**	P	P	19 58 40.5	-5.0
	baz=55,SNR=3.5						
AKASG	**Malin Array Be**	**142.87**	**330**	PKP	PKPdf	20 08 17.5	-1.3
	0.7nm,0.4s,baz=35,slow=3.6,SNR=5.3						
MMAI	**Mount Meron Ar**	**147.29**	**299**	PKPbc	PKPbc	20 08 28.7	-0.7
	0.9nm,0.4s,baz=61,slow=4.6,SNR=3.6						

*IDC **04** 19:58:21.9±2.4, 28°.27N×52°.38E, h0km, mb3.6/5, mb1 3.5/7, mb1mx3.3/35, mbtmp3.5/7, ML3.4/2, Error ellipse: s-maj=53.6km s-min=24.9km az=151.0*
*ISCJB **04** 19:58:22.7±2.0, 28°.4N±0°.3×52°.4E±0°.2, h16km, mb3.6/5, Error ellipse: s-maj=38.9km s-min=18.3km az=156.7*
ISC 04 19:58:24.7±2.2, 28°.3N±0°.3×52°.3E±0°.2, h16km, n7, σ0§34/7, mb3.6/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEYT	**Alibeck**	**10.72**	**25**	Pn	**Pn**	**20 00 57.6**	**-0.1**
	0.4nm,0.3s,baz=224,slow=12,SNR=5.0						
BRTR	**Keskin Array B**	**19.17**	**311**	P	**Pn**	**20 02 48.7**	**+0.1**
	0.1nm,0.3s,baz=123,slow=10,SNR=3.5						
MKAR	**Makanchi Array**	**29.80**	**44**	P	**P**	**20 04 31.2**	**+0.4**
	0.5nm,0.9s,baz=224,slow=4.0,SNR=3.9						
ZALV	**Zalesovo Beam**	**34.88**	**34**	P	**P**	**20 05 14.7**	**-0.5**
	0.6nm,0.5s,baz=236,slow=9.9,SNR=4.7						
FINES	**FINESS Array B**	**37.44**	**340**	P	**P**	**20 05 37.1**	**+0.2**
	0.6nm,0.6s,baz=156,slow=10,SNR=5.2						
ARCES	**ARCESS Array B**	**44.05**	**347**	P	**P**	**20 06 31.4**	**0.0**
	0.7nm,0.8s,baz=137,slow=8.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**49.36**	**263**	P	**P**	**20 07 13.6**	**-0.1**
	0.5nm,0.5s,baz=62,slow=8.2,SNR=16						

*CRAAG **04** 20:45:51.4, 36°.54N×5°.22E, Ml3.4*
*ISCJB **04** 20:45:52.4±0.5, 36°.63N±0°.06×5°.14E±0°.08, h13km, Error ellipse: s-maj=11.4km s-min=4.4km az=135.6*
*CSEM **04** 20:45:52.8±0.2, 36°.56N×5°.16E, h5km, ML3.4, Error ellipse: s-maj=9.9km s-min=4.0km az=41.0*
*MDD **04** 20:45:53.2±0.5, 36°.54N×5°.16E, h0km, mb3.7/12, Error ellipse: s-maj=10.0km s-min=4.6km az=49.0, PRXIMO*
ISC 04 20:45:52.7±0.9, 36°.56N±0°.05×5°.18E±0°.03, h13km, n45, σ1§85/61, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SET	**Setif**	**0.40**	**154**	P	**Pg**	**20 46 00.5**	**-0.3**
SET	**Setif**	**0.40**	**154**	P	**Pg**	**20 46 00.5**	**-0.3**
SET	**Setif**	**0.40**	**154**	P	**Pg**	**20 46 00.5**	**-0.3**
DFRA	**Djebel Bou Aff**	**0.56**	**92**	P	**Pg**	**20 46 03.6**	**-0.2**
DFRA	**Djebel Bou Aff**	**0.56**	**92**	P	**Pg**	**20 46 03.6**	**-0.2**
DFRA	**Djebel Bou Aff**	**0.56**	**92**	P	**Pg**	**20 46 03.6**	**-0.2**
CKHR	**Kef el Ahmar**	**0.61**	**154**	P	**Pg**	**20 46 04.2**	**-0.4**
CKHR	**Kef el Ahmar**	**0.61**	**154**	P	**Pg**	**20 46 04.2**	**-0.4**
CKHR	**Kef el Ahmar**	**0.61**	**154**	P	**Pg**	**20 46 04.2**	**-0.4**
CASM	**Ain Smara**	**1.10**	**106**	P	**Pb**	**20 46 14.0**	**+0.4**
CASM	**Ain Smara**	**1.10**	**106**	P	**Pb**	**20 46 14.0**	**+0.4**
CASM	**Ain Smara**	**1.10**	**106**	P	**Pb**	**20 46 14.0**	**+0.4**
CTEI	**Djebel Teioual**	**1.11**	**116**	P	**Pg**	**20 46 16.0**	**+1.9**
CTEI	**Djebel Teioual**	**1.11**	**116**	P	**Pg**	**20 46 16.0**	**+1.9**
CTEI	**Djebel Teioual**	**1.11**	**116**	P	**Pg**	**20 46 16.0**	**+1.9**
CMAH	**Djebel Manchou**	**1.81**	**87**	P	**Pg**	**20 46 29.0**	**+1.6**
CMAH	**Djebel Manchou**	**1.81**	**87**	P	**Pg**	**20 46 29.0**	**+1.6**
CMAH	**Djebel Manchou**	**1.81**	**87**	P	**Pg**	**20 46 29.0**	**+1.6**
EMHD	**Djebel Mahouad**	**1.83**	**259**	P	**Pg**	**20 46 29.3**	**+1.4**
EMHD	**Djebel Mahouad**	**1.83**	**259**	P	**Pg**	**20 46 29.3**	**+1.4**
EMHD	**Djebel Mahouad**	**1.83**	**259**	P	**Pg**	**20 46 29.3**	**+1.4**
ETOS	**Mallorca**	**3.70**	**331**	P	**Pn**	**20 46 50.5**	**+0.9**
	7.8nm,0.4s,SNR=28						
ETOS				S	**Sn**	**20 47 32.5**	**-0.6**
	2.2nm,0.2s,SNR=4.6						
ETOS	**Mallorca**	**3.70**	**331**	P	**Pn**	**20 46 50.5**	**+0.9**
	7.8nm,0.4s,SNR=28						
ETOS				S	**Sn**	**20 47 32.5**	**-0.6**
	2.2nm,0.2s,SNR=4.6						
EIBI	**Ibiza**	**3.91**	**310**	P	**Pn**	**20 46 54.3**	**+1.9**
	1.0nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**20 47 37.4**	**-0.8**
	1.7nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.91**	**310**	P	**Pn**	**20 46 54.3**	**+1.9**
	1.0nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**20 47 37.4**	**-0.8**
	1.7nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**4.79**	**298**	P	**Pn**	**20 47 05.6**	**+1.0**
	0.1nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**4.79**	**298**	P	**Pn**	**20 47 05.6**	**+1.0**
	0.1nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**5.61**	**339**	P	**Pn**	**20 47 16.1**	**+0.2**
	1.4nm,0.2s,SNR=7.5						
CFON				S	**Sn**	**20 48 17.7**	**-2.6**
	2.1nm,0.3s,SNR=7.9						
CFON	**Fontmartina**	**5.61**	**339**	P	**Pn**	**20 47 16.1**	**+0.2**
	1.4nm,0.2s,SNR=7.5						
CFON				S	**Sn**	**20 48 17.7**	**-2.6**
	2.1nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**5.73**	**293**	P	**Pn**	**20 47 19.0**	**+1.5**
	0.3nm,0.1s,SNR=5.7						
ETOB	**Tobarra**	**5.73**	**293**	P	**Pn**	**20 47 19.0**	**+1.5**
	0.3nm,0.1s,SNR=5.7						
EPOB	**Poblet**	**5.75**	**328**	P	**Pn**	**20 47 18.9**	**+1.1**
	1.0nm,0.2s,SNR=7.9						
EPOB				S	**Sn**	**20 48 20.1**	**-3.6**
	0.3nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**5.75**	**328**	P	**Pn**	**20 47 18.9**	**+1.1**
	1.0nm,0.2s,SNR=7.9						
EPOB				S	**Sn**	**20 48 20.1**	**-3.6**
	0.3nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**5.83**	**312**	P	**Pn**	**20 47 20.3**	**+1.2**
	0.2nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**5.83**	**312**	P	**Pn**	**20 47 20.3**	**+1.2**
	0.2nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**6.05**	**333**	P	**Pn**	**20 47 23.7**	**+1.8**
	2.6nm,0.2s,SNR=10						
EMIR				S	**Sn**	**20 48 26.2**	**-4.8**
	4.1nm,0.3s						
EMIR	**Miracle**	**6.05**	**333**	P	**Pn**	**20 47 23.7**	**+1.8**
	2.6nm,0.2s,SNR=10						
EMIR				S	**Sn**	**20 48 26.2**	**-4.8**
	4.1nm,0.3s						
SJAF	**Saint Jean de**	**6.17**	**344**	P	**Pn**	**20 47 23.7**	**+0.1**
	0.2nm,0.1s,SNR=7.9						
SJAF	**Saint Jean de**	**6.17**	**344**	P	**Pn**	**20 47 23.7**	**+0.1**
	0.2nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**6.35**	**286**	P	**Pn**	**20 47 26.7**	**+0.6**
	0.6nm,0.3s,SNR=7.9						
SESP				S	**Sn**	**20 48 35.8**	**-2.7**
	0.5nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**6.35**	**286**	P	**Pn**	**20 47 26.7**	**+0.6**
	0.6nm,0.3s,SNR=7.9						
SESP				S	**Sn**	**20 48 35.8**	**-2.7**
	0.5nm,0.1s,SNR=7.9						
CLLI	**Llivia**	**6.41**	**338**	P	**Pn**	**20 47 28.5**	**+1.6**
	0.8nm,0.2s,SNR=11						
CLLI				S	**Sn**	**20 48 36.6**	**-3.3**
	0.3nm,0.2s						
CLLI	**Llivia**	**6.41**	**338**	P	**Pn**	**20 47 28.5**	**+1.6**
	0.8nm,0.2s,SNR=11						
CLLI				S	**Sn**	**20 48 36.6**	**-3.3**
	0.3nm,0.2s						
CSOR	**Sort**	**6.59**	**333**	P	**Pn**	**20 47 31.4**	**+2.0**
	0.7nm,0.2s,SNR=17						
CSOR				S	**Sn**	**20 48 42.4**	**-2.1**
	3.8nm,0.8s						
CSOR	**Sort**	**6.59**	**333**	P	**Pn**	**20 47 31.4**	**+2.0**
	0.7nm,0.2s,SNR=17						
CSOR				S	**Sn**	**20 48 42.4**	**-2.1**
	3.8nm,0.8s						

MAN 04 20:49:45, 9°.95N×126°.02E, h30km, mb4.3, ML3.2, MS3.0, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.05**	**202**	*e*P	Pn	20 50 03.7	0.0
BUTP				*e*S	Sb	20 50 18.4	+0.3
MSLP	**Maasin**	**1.15**	**279**	*e*P	Pb	20 50 05.8	-0.6
MSLP				*e*S	Sn	20 50 20.1	+0.2
PLP	**Palo**	**1.58**	**320**	*e*P	Pn	20 50 10.1	-0.9
PLP				*i* S	Sb	20 50 33.5	+0.3
BESP	**Borongan**	**1.73**	**341**	*e*P	Pn	20 50 14.2	+1.1
OCLP	**Ormoc**	**1.76**	**308**	*e*P	Pn	20 50 14.9	+1.4
TBP	**Tagbilaran**	**2.14**	**263**	*e*P	Pn	20 50 20.0	+1.3
TBP				*e*S	Sn	20 50 46.6	+2.4
GUIM	**Jordan**	**3.44**	**282**	*e*P	Pn	20 50 38.3	+1.8
RCP	**Roxas**	**3.59**	**297**	*i e*P	Pn	20 50 40.9	+2.3

DJA 04 20:54:16.7±0.5, 2°.5±4°×13°.7E±°, h22km±6km, M3.7/6, MLv3.7/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.49**	**317**	P	Pb	20 54 26.5	-0.1
SRPI				S	Sn	20 54 34.9	-1.3
BAKI	**Biak**	**1.13**	**336**	P	Pn	20 54 37.2	0.0
BAKI				S	Sn	20 54 53.4	+1.3
SMPI	**Sarmi**	**2.15**	**84**	P	Pn	20 54 49.2	-2.1
SMPI				S	Sn	20 55 15.8	-1.5
RKPI	**Ransiki, Papua**	**2.50**	**287**	P	Pn	20 54 56.5	+0.5
RKPI				S	Sb	20 55 38.0	+6.8
JAY	**Jayapura**	**4.14**	**94**	P	Pn	20 55 21.7	+3.0
FAKI	**Fak Fak**	**4.37**	**261**	P	Pn	20 55 21.5	-0.3
FAKI				S	Sn	20 56 12.8	+0.6

*NEIC **04** 21:13:23.3±0.6, 29°.79N×138°.25E, h469km±8km, mb4.8/20, Error ellipse: s-maj=9.6km s-min=8.6km az=105.0*
*JMA **04** 21:13:23.2±0.2, 29°.74N×138°.48E, h525km, M4.0*
*ISCJB **04** 21:13:24.6±0.3, 29°.80N±0°.03×138°.25E±0°.05, h497km, mb4.1/52, Error ellipse: s-maj=5.4km s-min=3.5km az=21.7*
*MOS **04** 21:13:24.5±1.1, 29°.77N×137°.94E, h485km, mb4.0/23, Error ellipse: s-maj=12.8km s-min=6.8km az=103.9*
*IDC **04** 21:13:25.6±1.0, 29°.81N×138°.14E, h492km±11km, mb3.5/26, mb1 3.6/31, mb1mx3.5/52, mbtmp4.4/31, Error ellipse: s-maj=13.4km s-min=7.2km az=77.0*
*BJI **04** 21:13:26.7, 29°.80N×137°.79E, h490km, mb4.5/20, mB4.3/12*
ISC 04 21:13:25.7±0.4, 29°.82N±0°.05×138°.22E±0°.06, h497km, n159, σ1§30/174, mb4.1/52, 3C-4D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**3.51**	**22**	*e*S	**S**	**21 15 40.3**	**-0.3**
JHJ2	**Mitsune**	**3.55**	**22**	P	**P**	**21 14 41.2**	**+0.9**
JHJ2				S	**S**	**21

JAMN	**Amaminishikomi**	**8.07**	**261**	P		**P**	**21 15 23.5**	**+0.7**
JOW	**Kunigami**	**9.26**	**254**	*e*P		**P**	**21 15 36.4**	**+1.2**
JMK	**Ichinoseki**	**9.44**	**14**	P		**P**	**21 15 37.9**	**+1.0**
JMK				S		**S**	**21 17 21.5**	**-3.3**
KSRS	**Korea Array**	**11.46**	**314**	P		**P**	**21 15 58.4**	**0.0**
	comp=Z,0.9nm,0.3s,baz=124,slow=10,SNR=24							
KSRS				S		**S**	**21 18 01.9**	**-2.4**
	comp=Z,0.0nm,0.3s,baz=135,slow=19,SNR=2.7							
KSRS	**Korea Array**	**11.46**	**314**	P		**P**	**21 15 58.4**	**0.0**
KSRS				S		**S**	**21 18 01.9**	**-2.4**
KSRS				pmax	pmax			
	comp=Z,1.0nm,0.3s							
JOT	**Ohata**	**11.76**	**10**	P		**P**	**21 16 02.8**	**+1.3**
JKB	**Kayabe**	**12.26**	**10**	P		**P**	**21 16 08.0**	**+1.3**
JOSM	**Okushiri--Mats**	**12.28**	**4**	P		**P**	**21 16 08.2**	**+1.2**
ERM	**Erimo**	**12.81**	**17**	*e*P		**P**	**21 16 13.9**	**+1.3**
ERM	**Erimo**	**12.81**	**17**	*e*P		**P**	**21 16 13.6**	**+1.0**
ERM				*e*S		**S**	**21 18 33.0**	**+2.8**
VLA	**Vladivostok**	**14.21**	**341**	P		**P**	**21 16 28.0**	**+0.6**
VLA				pmax	pmax			
	comp=Z,96nm,0.9s							
YOJ	**Yonaguni jima**	**14.55**	**252**	*e*P		P	21 16 27.7	-3.6
YOJ	**Yonaguni jima**	**14.55**	**252**	*e*P		P	21 16 27.7	-3.6
ASAJ	**Asahikawa**	**14.69**	**13**	*e*P		**P**	**21 16 34.5**	**+2.1**
USRK	**Ussuriysk Ar.**	**15.18**	**343**	P		**P**	**21 16 38.2**	**+0.6**
	comp=Z,1.7nm,0.3s,baz=157,slow=10,SNR=46							
YHNB	**Yeheng**	**15.83**	**255**	*e*P		**P**	**21 16 42.5**	**-2.3**
	comp=Z,177nm,1.9s							
NACB	**Ninganchiao**	**15.84**	**253**	*e*P		**P**	**21 16 41.5**	**-3.3**
	comp=Z,26nm,1.1s							
YULB	**Yu-li**	**16.42**	**251**	*e*P		**P**	**21 16 48.5**	**-2.5**
	comp=Z,14nm,0.6s							
SSLB	**Suanglung**	**16.54**	**253**	*e*P		**P**	**21 16 50.6**	**-1.5**
	comp=Z,83nm,1.6s							
TWG	**Pinlang**	**16.87**	**250**	*e*P		**P**	**21 16 54.5**	**-1.1**
	comp=Z,56nm,0.6s							
TPUB	**Ta-pu**	**17.02**	**252**	*e*P		**P**	**21 16 56.1**	**-1.0**
	comp=Z,69nm,1.6s							
GUMO	**Guam**	**17.29**	**158**	P		**P**	**21 16 59.4**	**-0.3**
	comp=Z,9.0nm,0.3s,baz=5.7,slow=10,SNR=5.7							
GUMO	**Guam**	**17.29**	**158**	P		**P**	**21 16 59.4**	**-0.3**
GUMO				pmax	pmax			
	comp=Z,9.0nm,0.3s							
GUMO	**Guam**	**17.29**	**158**	*e*P		**P**	**21 16 57.4**	**-2.3**
	comp=Z,206nm,1.2s							
YSS	**Yuzh-Sakhalins**	**17.47**	**10**	*e*P		**P**	**21 17 02.8**	**+1.8**
HABR	**Khabarovsk**	**18.79**	**353**	*e*P		**P**	**21 17 13.5**	**+0.4**
HABR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
KLR	**Kul'dur**	**20.00**	**348**	*e*P		**P**	**21 17 22.0**	**-2.2**
SZP	**Santa**	**20.31**	**237**	*e*P		**P**	**21 17 27.1**	**-0.3**
	comp=Z,60nm,0.7s							
HHC	**Hu-ho-hao-te**	**24.28**	**304**	*e*P		**P**	**21 18 03.7**	**+0.7**
HHC				S		**S**	**21 21 46.1**	**-0.2**
HHC				ScS		**ScS**	**21 28 04.4**	**-1.4**
HHC				PMZ				
	comp=Z,16nm,1.2s							
HHC				PMZ				
	comp=Z,45nm,5.4s							
ENH	**Enshi**	**24.85**	**278**	*e*P		**P**	**21 18 08.0**	**-0.1**
	comp=Z,38nm,0.5s							
QIZ	**Qiongzhong**	**27.91**	**254**	*e*P		**P**	**21 18 32.1**	**-3.1**
	comp=Z,180nm,2.3s							
SONA1	**Songino Array**	**30.33**	**315**	*e*P		**P**	**21 18 54.8**	**-1.2**
SONM	**Songino Array**	**30.33**	**315**	P		**P**	**21 18 56.5**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=125,slow=9.3,SNR=7.5							
SONM	**Songino Array**	**30.33**	**315**	P		**P**	**21 18 56.5**	**+0.5**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.5s							
SIJI	**Sorong**	**31.23**	**194**	P		**P**	**21 19 04.1**	**+0.1**
	comp=Z,13nm,0.8s,baz=41,slow=9.2,SNR=7.5							
JAY	**Jayapura**	**32.24**	**175**	P		**P**	**21 19 13.3**	**+0.6**
	comp=Z,9.9nm,0.8s,baz=36,slow=12,SNR=4.2							
JAY	**Jayapura**	**32.24**	**175**	P		**P**	**21 19 13.3**	**+0.6**
JAY				pmax	pmax			
	comp=Z,10.0nm,0.8s							
GTA	**Gaotai**	**32.81**	**297**	*e*P		**P**	**21 19 17.5**	**+0.1**
GTA				PMZ				
	comp=Z,7.0nm,0.9s							
FAKI	**Fak Fak**	**33.05**	**191**	*e*P		**P**	**21 19 19.6**	**0.0**
	comp=Z,33nm,1.3s							
TLY	**Talaya**	**33.63**	**320**	*i* P		**P**	**21 19 24.0**	**0.0**
SKNT	**Sakolnakorn**	**33.79**	**255**	P		**P**	**21 19 26.7**	**+0.9**
	comp=Z,28nm,1.0s							
SEY	**Seymchan**	**34.37**	**11**	P		**P**	**21 19 30.4**	**+0.4**
	comp=Z,1.2nm,0.2s,baz=208,slow=4.5,SNR=4.3							
SEY	**Seymchan**	**34.37**	**11**	P		**P**	**21 19 30.4**	**+0.4**
SEY				pmax	pmax			
	comp=Z,1.0nm,0.2s							
KHON	**Khomkaen**	**35.07**	**255**	P		**P**	**21 19 37.4**	**+0.9**
	comp=Z,7.1nm,0.7s,comp=Z,310nm							
CRAI	**Chiangrai**	**35.46**	**263**	P		**P**	**21 19 37.5**	**-2.3**
	comp=Z,184nm,1.3s,comp=Z,6μm							
CHAI	**Chaiyaphum**	**35.98**	**255**	P		**P**	**21 19 44.3**	**+0.2**
	comp=Z,17nm,0.8s,comp=Z,127nm							
UTTA	**Uttaradit**	**36.34**	**259**	P		**P**	**21 19 47.4**	**+0.3**
	comp=Z,4.9nm,0.8s,comp=Z,61nm							
PBKT	**Sadao Pong**	**36.52**	**257**	P		**P**	**21 19 49.1**	**+0.5**
	comp=Z,20nm,0.9s,comp=Z,1μm							
CMAI	**Chiengmai2**	**36.73**	**264**	P		**P**	**21 19 51.3**	**+0.8**
	comp=Z,26nm,0.9s							
LAMP	**Lampang**	**36.80**	**261**	P		**P**	**21 19 51.6**	**+0.7**
	comp=Z,6.7nm,0.7s,comp=Z,71nm							
CMMT	**Chiang Mai**	**37.26**	**262**	P		**P**	**21 19 54.7**	**0.0**
	comp=Z,37nm,0.8s,comp=Z,405nm							
CHTO	**Chiang Mai**	**37.27**	**262**	P		**P**	**21 19 54.8**	**0.0**
	comp=Z,121nm,0.9s,comp=Z,1μm							
CHTO	**Chiang Mai**	**37.27**	**262**	*e*P		**P**	**21 19 55.1**	**+0.3**
CHTO				pmax	pmax			
	comp=Z,19nm,0.6s							
CHTO	**Chiang Mai**	**37.27**	**262**	*e*P		**P**	**21 19 55.1**	**+0.3**
	comp=Z,19nm,0.6s							
CMAR	**Chiang Mai Arr**	**37.42**	**261**	P		**P**	**21 19 56.4**	**+0.4**
	comp=Z,4.0nm,0.5s,baz=69,slow=4.9,SNR=42							
CMAR	**Chiang Mai Arr**	**37.42**	**261**	P		**P**	**21 19 56.4**	**+0.4**
CMAR				pmax	pmax			
	comp=Z,4.0nm,0.5s							
CM01	**Chiang Mai Arr**	**37.42**	**261**	*e*P		**P**	**21 19 55.9**	**-0.1**
UTHA	**Uthaitani**	**38.29**	**257**	P		**P**	**21 20 04.2**	**+1.1**
	comp=Z,6.6nm,0.8s							
KSM	**Kuching**	**38.71**	**228**	*e*P		**P**	**21 20 07.9**	**+1.4**
	comp=Z,16nm,0.8s							
LSA	**Lhasa**	**40.63**	**282**	*e*P		**P**	**21 20 22.9**	**+0.4**
LSA				pmax	pmax			
	comp=Z,3.0nm,0.6s							
LSA	**Lhasa**	**40.63**	**282**	*e*P		**P**	**21 20 22.9**	**+0.4**
	comp=Z,2.9nm,0.6s							
SOEI	**Soe**	**41.58**	**201**	*e*P		**P**	**21 20 27.5**	**-2.2**
BILL	**Bilibino**	**41.68**	**15**	*e*P		**P**	**21 20 31.8**	**+2.2**
BILL							21 22 20.0	
BILL				pmax	pmax			
	comp=Z,4.0nm,0.7s							
TAPN	**Taplejung**	**44.14**	**280**	*e*P		**P**	**21 20 50.3**	**+0.4**
	comp=Z,15nm,0.4s							
ODAN	**Odare**	**44.55**	**279**	*e*P		**P**	**21 20 53.4**	**+0.4**
	comp=Z,38nm,0.7s							
ZAA0	**Zalesovo Array**	**45.14**	**318**	*e*P		**P**	**21 20 56.4**	**-0.5**
ZALV	**Zalesovo Beam**	**45.14**	**318**	P		**P**	**21 20 56.6**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=95,slow=7.0,SNR=12							
ZALV				PcP		**PcP**	**21 22 26.8**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=101,slow=2.3,SNR=4.8							
ZALV				ScP		**ScP**	**21 25 31.5**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=122,slow=5.2,SNR=5.3							
ZALV	**Zalesovo Beam**	**45.14**	**318**	P		**P**	**21 20 56.6**	**-0.3**
ZALV							21 22 26.8	
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ZALV				pmax	pmax			
	comp=N,1.0nm,0.6s							
RAMN	**Ramite**	**45.20**	**280**	*e*P		**P**	**21 20 58.5**	**+0.5**
	comp=N,35nm,0.5s							
GUN	**Gumba**	**45.55**	**281**	*e*P		**P**	**21 21 01.7**	**+0.8**
	comp=N,64nm,0.8s							
PSI	**Prapat**	**45.91**	**242**	P		**P**	**21 21 03.5**	**0.0**
	comp=N,3.9nm,0.5s,baz=347,slow=5.2,SNR=4.5							
PSI	**Prapat**	**45.91**	**242**	P		**P**	**21 21 03.5**	**0.0**
PSI				pmax	pmax			
	comp=Z,4.0nm,0.5s							
PKI	**Pulchoki**	**46.05**	**281**	*e*P		**P**	**21 21 04.7**	**+0.1**
	comp=Z,17nm,0.8s							
MK01	**Makanchi Array**	**46.05**	**308**	*e*P		**P**	**21 21 04.1**	**+0.1**
MKAR	**Makanchi Array**	**46.05**	**308**	P		**P**	**21 21 04.0**	**0.0**
	comp=Z,2.0nm,0.4s,baz=87,slow=9.8,SNR=59							
MKAR				PcP		**PcP**	**21 22 30.5**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=71,slow=4.9,SNR=5.4							
MKAR				ScP		**ScP**	**21 25 35.8**	**0.0**
	comp=Z,0.5nm,0.7s,baz=79,slow=5.7,SNR=5.6							
MKAR	**Makanchi Array**	**46.05**	**308**	P		**P**	**21 21 04.0**	**0.0**
MKAR							21 22 30.5	
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.4s							
MKAR				pmax	pmax			
	comp=N,1.0nm,0.7s							
MKAR	**Makanchi Array**	**46.05**	**308**	*e*P		**P**	**21 21 04.2**	**+0.2**
PKIN	**Phulchoki**	**46.05**	**281**	*e*P		**P**	**21 21 04.6**	**0.0**
	comp=N,5.8nm,0.4s							
KKN	**Kakani**	**46.09**	**281**	*e*P		**P**	**21 21 05.2**	**+0.3**
DMN	**Daman**	**46.29**	**281**	*e*P		**P**	**21 21 06.6**	**+0.2**
	comp=N,14nm,0.5s							
GKN	**Gorkha**	**46.59**	**282**	*e*P		**P**	**21 21 08.9**	**+0.4**
	comp=N,9.7nm,0.5s							
LEM	**Lembang**	**46.82**	**224**	P		**P**	**21 21 10.0**	**-0.4**
	comp=N,8.8nm,0.3s,baz=22,slow=22,SNR=4.0							
LEM	**Lembang**	**46.82**	**224**	P		**P**	**21 21 10.0**	**-0.4**
LEM				pmax	pmax			
	comp=Z,9.0nm,0.3s							
KOLN	**Koldanda**	**47.53**	**282**	*e*P		**P**	**21 21 16.4**	**+0.7**
	comp=Z,29nm,0.8s							
GSI	**Gunungsitoli**	**47.90**	**241**	*e*P		**P**	**21 21 18.2**	**-0.2**
	comp=Z,106nm,1.5s							
KURK	**Kurchatov**	**48.59**	**313**	P		**P**	**21 21 23.1**	**+0.1**
KURK				pmax	pmax			
	comp=Z,5.0nm,0.5s							
KURK	**Kurchatov**	**48.59**	**313**	*e*P		**P**	**21 21 22.4**	**-0.6**
	comp=Z,3.4nm,1.0s							
KURBB	**Kurchatov Arra**	**48.64**	**313**	P		**P**	**21 21 23.1**	**-0.3**
	comp=Z,4.6nm,0.5s,baz=92,slow=7.6,SNR=55							
WRAB	**Tennant Creek**	**49.60**	**185**	*ce*P		**P**	**21 21 31.0**	**+0.1**
WRAB				pmax	pmax			
	comp=Z,31nm,1.2s							
WRA	**Warramunga Arr**	**49.62**	**185**	P		**P**	**21 21 31.0**	**0.0**
	comp=Z,8.6nm,0.5s,baz=1.2,slow=7.7,SNR=167							
WRA				ScP		**ScP**	**21 25 51.5**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=356,slow=4.9,SNR=4.0							
WRA	**Warramunga Arr**	**49.62**	**185**	P		**P**	**21 21 31.0**	**0.0**
WRA				pmax	pmax			
	comp=Z,9.0nm,0.5s							
WRA				pmax	pmax			
	comp=N,1.0nm,0.7s							
CTA	**Charters Tower**	**50.22**	**170**	P		**P**	**21 21 36.3**	**+0.9**
	comp=N,4.2nm,0.7s,baz=8.1,slow=12,SNR=5.3							
CTA	**Charters Tower**	**50.22**	**170**	P		**P**	**21 21 36.3**	**+0.9**
CTA				pmax	pmax			
	comp=Z,4.0nm,0.7s							
AS01	**Alice Springs**	**53.34**	**185**	*e*P		**P**	**21 21 57.9**	**-0.1**
ASAR	**Alice Springs**	**53.34**	**185**	P		**P**	**21 21 58.0**	**0.0**
	comp=Z,2.8nm,0.6s,baz=4.1,slow=6.6,SNR=43							
ASAR	**Alice Springs**	**53.34**	**185**	P		**P**	**21 21 58.0**	**0.0**
ASAR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
BVAR	**Borovoye Array**	**53.67**	**316**	P		**P**	**21 22 00.3**	**+0.3**
	comp=Z,4.9nm,0.4s,baz=90,slow=7.3,SNR=21							
BVAR	**Borovoye Array**	**53.67**	**316**	P		**P**	**21 22 00.3**	**+0.3**
BVAR				pmax	pmax			
	comp=Z,5.0nm,0.4s							
BRVK	**Borovoye**	**53.74**	**316**	*e*P		**P**	**21 22 00.6**	**+0.2**
BRVK				pmax	pmax			
	comp=Z,8.0nm,1.2s							
IM04	**Indian Mountai**	**54.22**	**28**	*e*P		**P**	**21 22 02.7**	**-0.9**
KKAR	**Karatay Array**	**54.67**	**304**	*e*P		**P**	**21 22 07.8**	**+0.6**
KKAR	**Karatay Array**	**54.67**	**304**	*e*P		**P**	**21 22 07.8**	**+0.6**
IL1	**Eielson Array**	**57.04**	**30**	*e*P		**P**	**21 22 24.0**	**+0.8**
ILAR	**Eielson Array**	**57.04**	**30**	P		**P**	**21 22 23.9**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=252,slow=4.8,SNR=12							
KBL	**Kabul**	**57.70**	**294**	*e*P		**P**	**21 22 29.0**	**+0.3**
KBL				pmax	pmax			
	comp=Z,4.0nm,0.7s							
KBL	**Kabul**	**57.70**	**294**	*e*P		**P**	**21 22 28.9**	**+0.3**
	comp=Z,4.0nm,0.7s							
ARU	**Arti**	**60.13**	**321**	*d i*P		**P**	**21 22 44.1**	**-0.2**
ARU				S		**S**	**21 30 18.5**	**-0.1**
ARU				pmax	pmax			
	comp=Z,6.0nm,1.0s							
ARU	**Arti**	**60.13**	**321**	*e*P		**P**	**21 22 43.5**	**-0.7**
	comp=Z,4.5nm,0.5s							
ABKAR	**Akbulak array**	**60.69**	**313**	*e*P		**P**	**21 22 48.2**	**+0.1**
STKA	**Stephens Creek**	**61.44**	**177**	P		**P**	**21 22 53.8**	**+0.6**
	comp=Z,5.7nm,0.6s,baz=347,slow=5.8,SNR=13							
STKA	**Stephens Creek**	**61.44**	**177**	*e*P		**P**	**21 22 54.2**	**+1.0**
STKA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
STKA	**Stephens Creek**	**61.44**	**177**	*e*P		**P**	**21 22 54.2**	**+1.0**
	comp=Z,1.2nm,0.7s							
AKTO	**Aktyubinsk**	**61.65**	**314**	P		**P**	**21 22 53.9**	**-0.5**
	comp=Z,2.4nm,0.6s,baz=70,slow=13,SNR=11							
AKTO	**Aktyubinsk**	**61.65**	**314**	P		**P**	**21 22 53.9**	**-0.5**
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.6s							
GEYT	**Alibeck**	**65.10**	**301**	P		**P**	**21 23 16.9**	**0.0**
	comp=Z,0.6nm,0.4s,baz=104,slow=5.0,SNR=6.3							
ARCES	**ARCESS Array B**	**69.81**	**340**	P		**P**	**21 23 46.0**	**+0.8**
	comp=Z,1.2nm,0.4s,baz=62,slow=8.5,SNR=21							
ARCES	**ARCESS Array B**	**69.81**	**340**	P		**P**	**21 23 46.0**	**+0.8**
ARCES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
KBZ	**Khabaz**	**73.60**	**311**	P		**P**	**21 24 08.2**	**+0.5**
	comp=Z,4.5nm,0.7s,baz=59,slow=6.6,SNR=11							
KBZ	**Khabaz**	**73.60**	**311**	P		**P**	**21 24 08.2**	**+0.5**
KBZ				pmax	pmax			
	comp=Z,5.0nm,0.7s							
KIV	**Kislovodsk**	**73.64**	**311**	*e*P		**P**	**21 24 09.9**	**+1.8**
KIV				pmax	pmax			
	comp=Z,5.0nm,0.8s							
KIV	**Kislovodsk**	**73.64**	**311**	*e*P		**P**	**21 24 09.9**	**+1.8**
	comp=Z,4.6nm,0.8s							
FINES	**FINESS Array B**	**73.95**	**332**	P		**P**	**21 24 09.5**	**+0.1**
	comp=Z,1.8nm,0.4s,baz=75,slow=5.1,SNR=33							
FINES	**FINESS Array B**	**73.95**	**332**	P		**P**	**21 24 09.5**	**+0.1**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.4s							
AKASG	**Malin Array Be**	**78.35**	**322**	P		**P**	**21 24 33.4**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=50,slow=5.7,SNR=6.1							
AKASG	**Malin Array Be**	**78.35**	**322**	P		**P**	**21 24 33.4**	**-0.5**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
KIEV	**Kiev**	**78.36**	**322**	*i* P		**P**	**21 24 34.0**	**0.0**
NB2	**NORSAR Subarra**	**79.77**	**337**	P		**P**	**21 24 41.1**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=45,slow=4.8							
NOA	**NORSAR Array B**	**79.77**	**337**	P		**P**	**21 24 41.2**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=44,slow=4.6,SNR=7.0							
NOA	**NORSAR Array B**	**79.77**	**337**	P		**P**	**21 24 41.3**	**-0.1**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
RAYN	**Ar Rayn**	**80.88**	**292**	*e*P		**P**	**21 24 48.4**	**+0.5**
	comp=Z,5.2nm,0.8s							
NVAR	**Mina Array Bea**	**81.54**	**51**	P		**P**	**21 24 53.3**	**+2.0**
	comp=Z,0.5nm,0.8s,baz=262,slow=6.3,SNR=3.3							
BRTR	**Keskin Array B**	**81.59**	**311**	P		**P**	**21 24 51.9**	**+0.5**
	comp=Z,3.7nm,0.8s,baz=94,slow=4.0,SNR=26							
BRTR	**Keskin Array B**	**81.59**	**311**	P		**P**	**21 24 51.9**	**+0.5**
BRTR				pmax	pmax			
	comp=Z,4.0nm,0.8s							
BR231	**Keskin MP Arra**	**82.09**	**311**	*e*P		**P**	**21 24 52.3**	**-1.6**
BUR04	**Bucovina Ar. S**	**82.27**	**321**	*e*P		**P**	**21 24 55.0**	**+0.3**
BORG	**Borgarnes**	**84.40**	**351**	*i* P		**P**	**21 25 06.5**	**+1.8**
GERES	**GERESS Array B**	**87.36**	**327**	P		**P**	**21 25 18.7**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=39,slow=6.3,SNR=4.5							
TXAR	**Lajitas Array**	**96.69**	**51**	P		P	21 26 05.6	+3.0
	comp=Z,0.2nm,0.6s,baz=321,slow=2.3,SNR=2.6							
TORD	**Torodi Ar. Bea**	**120.16**	**309**	PKP		**PKPdf**	**21 31 19.9**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=53,slow=0.7,SNR=12							

WEL 04 21:25:37.1±0.4, 44°81'S×167°24'E, h33km, ML2.6/7, Error ellipse: s-maj=4.4km s-min=2.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.51**	**75**	PN		Pb	21 25 47.7	-0.1
MSZ				SN		Sb	21 25 54.9	-0.2
MSZ				AML		AML	21 25 55.2	
MSZ				AML		AML	21 25 55.2	
DCZ	**Deep Cove**	**0.67**	**185**	PN		Pn	21 25 49.8	-0.4
DCZ				SN		Sb	21 25 58.3	-1.3
MLZ	**Mavora Lakes**	**0.85**	**130**	PN		Pn	21 25 52.0	-0.9
MLZ				SN		Sn	21 26 02.7	-1.6
WHZ	**Wether Hill Ro**	**1.19**	**156**	PN		Pn	21 25 56.8	-0.7
WKZ	**Wanaka**	**1.26**	**91**	PN		Pn	21 25 58.4	-0.1
JCZ	**Jackson Bay**	**1.31**	**56**	PN		Pn	21 25 58.3	-1.0
EAZ	**Earnscleugh**	**1.52**	**107**	PN		Pn	21 26 02.0	-0.1

WEL 04 21:25:51.2±0.4, 44°86S×167°32E, h33km, ML2.5/7, 1C, Error ellipse: s-maj=4.5km s-min=1.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.47**	**68**	PN		Pb	21 26 01.0	-0.3
MSZ				SN		Sb	21 26 08.2	-0.1
MSZ				AML		AML	21 26 08.4	
MSZ				AML		AML	21 26 08.5	
DCZ	**Deep Cove**	**0.63**	**190**	SN		Sb	21 26 11.8	-0.8
DCZ				SN		Sn	21 26 11.9	-0.8
DCZ				AML		AML	21 26 13.9	
MLZ	**Mavora Lakes**	**0.78**	**129**	PN		Pn	21 26 05.2	-0.7
MLZ				SN		Sn	21 26 15.7	-0.9
WHZ	**Wether Hill Ro**	**1.13**	**157**	PN		Pn	21 26 10.2	-0.5
WHZ				SN		Sn	21 26 24.2	-1.0
WKZ	**Wanaka**	**1.21**	**89**	SN		Sn	21 26 27.0	-0.2
WKZ				AML		AML	21 26 28.3	
JCZ	**Jackson Bay**	**1.29**	**53**	PN		Pn	21 26 13.1	0.0
JCZ				SN		Sn	21 26 26.9	-2.4
EAZ	**Earnscleugh**	**1.46**	**106**	AML		AML	21 26 32.5	

*IDC **04** 21:31:43.0±2.5, 30°47N×139°13E, h419km±28km, mb2.7/5, mb1 2.8/7, mb1mx2.6/50, mbtmp3.5/7, Error ellipse: s-maj=67.1km s-min=16.8km az=72.0*

ISC 04 21:31:42.3±1.4, 30°4N±0°1×139°2E±0°3, h411km, n7, σ0°70/8, mb2.9/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**6.17**	**353**	P		**P**	**21 33 16.9**	**+0.1**
	0.3nm,0.3s,baz=174,slow=12,SNR=4.0							
MJAR				S		**S**	**21 34 35.2**	**+0.8**
	0.1nm,0.3s,baz=160,slow=14,SNR=3.5							
KSRS	**Korea Array**	**11.68**	**310**	P		**P**	**21 34 18.8**	**+0.7**
	0.2nm,0.3s,baz=127,slow=10,SNR=12							
MKAR	**Makanchi Array**	**46.35**	**307**	P		**P**	**21 39 28.4**	**-0.9**
	0.4nm,0.7s,baz=91,slow=10,SNR=5.9							
WRA	**Warramunga Arr**	**50.27**	**186**	P		**P**	**21 39 59.5**	**+0.4**
	0.2nm,0.3s,baz=2.5,slow=7.9,SNR=4.6							
ASAR	**Alice Springs**	**54.00**	**186**	P		**P**	**21 40 26.6**	**+0.4**
	0.2nm,0.6s,baz=7.8,slow=7.5,SNR=3.3							
AKTO	**Aktyubinsk**	**61.83**	**314**	P		**P**	**21 41 19.1**	**-0.3**
	0.5nm,0.4s,baz=84,slow=10,SNR=3.1							
FINES	**FINESS Array B**	**73.81**	**333**	P		**P**	**21 42 32.7**	**-0.3**
	0.6nm,0.7s,baz=81,slow=9.0,SNR=4.2							

*IDC **04** 21:36:16.1±1.0, 38°17S×73°44W, h0km, mb4.1/9, mb1 4.2/12, mb1mx4.0/33, mbtmp4.1/12, ML4.1/3, MS3.6/5, Ms1 3.6/5, ms1mx3.4/20, Error ellipse: s-maj=31.5km s-min=17.9km az=89.0*

*ISCJB **04** 21:36:17.1±0.8, 38°22S±0°04×73°6W±0°2, h18km, mb4.0/10, MS3.5/2, Error ellipse: s-maj=17.8km s-min=6.3km az=179.1*

*GUC **04** 21:36:19.7±0.5, 38°35S×73°48W, h26km±4km, ML4.1*

*NEIC **04** 21:36:19.0, 38°35S×73°48W, h26km, mb4.4/3, ML4.1(GUC), After GUC.*

NEIC Felt [IV] at Puerto Saavedra, [III] at Loncoche and Tolten and [II] at Temuco.

ISC 04 21:36:18.5±0.7, 38°27S±0°04×73°6W±0°1, h18km, n28, σ1°45/28, mb4.2/10, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PSCH	**Puerto Saavedr**	**0.54**	**165**	*e*P		**Pn**	**21 36 30.4**	**-0.9**
PSCH				*i* S		**Sb**	**21 36 36.9**	**0.0**
U14B	**Concepcin**	**1.47**	**16**	*e*P		**Pb**	**21 36 45.6**	**+0.4**
U14B				*i* S		**Sg**	**21 37 05.4**	**-0.4**
U14B				AML		AML	21 37 14.2	
	comp=N,9μm,0.5s							
CCSP

JKZ	**Kuzumaki**	**1.08 289**	P	Pn	21 55 17.6	+0.4
JKZ			*e*S	Sb	21 55 32.1	-0.2
JANG	**Nango**	**1.15 310**	P	Pn	21 55 17.5	-0.5
JANG			S	Sn	21 55 32.1	-0.5
JMK	**Ichinoseki**	**1.31 239**	P	Pn	21 55 20.9	+0.6
JMK			S	Sn	21 55 37.5	+0.8
JIO	**Ouri**	**1.56 221**	P	Pn	21 55 24.2	+0.5
JIO			S	Sn	21 55 43.9	+1.0
JRG	**Rokugo**	**1.59 262**	P	Pb	21 55 26.4	-0.5
JRG			S	Sb	21 55 47.3	+0.7

NIED **04** *21:55:00, 39.˚70N×142.˚70E, h38km, Mw6.3 Best double couple: M₀2.79000×10¹⁸ NP1:ϕs191.00000°, δ19.00000°, λ88.00000°. NP2:ϕs13.00000°, δ71.00000°, λ91.00000°.*

IDC **04** *21:55:47.5±0.3, 39.˚64N×142.˚59E, h0km, mb5.7/36, mb1 5.8/37, mb1mx5.8/37, mbtmp5.7/37, ML5.8/1, MS6.2/29, Ms1 6.2/29, ms1mx6.2/29, Error ellipse: s-maj=12.0km s-min=9.4km az=91.0*

BJI **04** *21:55:50.5, 39.˚53N×142.˚48E, h34km, mb6.1/77, mB6.3/75, Ms6.5/92, Ms7 6.5/86*

NEIC **04** *21:55:51.0±0.0, 39.˚71N×142.˚52E, h24km, Moment Tensor Solution. s54 Moment tensor: Scale 10¹⁸Nm; Mrr 1.69; Mϑϑ -0.11; Mϕϕ -1.58; Mrϑ 0.56; Mϑϕ -0.25; Mϕr 3.28; Best double couple: M₀3.70000×10¹⁸ NP1:ϕs9.00000°, δ76.00000°, λ90.00000°. NP2:ϕs189.00000°, δ13.00000°, λ89.00000°. Principal axes: T 3.7500, Plg58.0000°, Azm279.0000°; N -0.0700, Plg0.0000°, Azm189.0000°; P -3.6800, Plg31.0000°, Azm99.0000°;*

NEIC **04** *21:55:52.0±0.1, 39.˚70N×142.˚37E, h27km, mb6.4/282, ME6.2, MS6.1/277, MW6.3, MW6.2, MW6.2(NIED) Error ellipse: s-maj=3.4km s-min=2.3km az=143.0, Moment Tensor Solution. s132 Moment tensor: Scale 10¹⁸Nm; Mrr 1.69; Mϑϑ -0.77; Mϕϕ -0.92; Mrϑ 0.87; Mϑϕ -0.73; Mϕr 1.69; Best double couple: M₀2.50000×10¹⁸ NP1:ϕs231.00000°, δ21.00000°, λ109.00000°. NP2:ϕs31.00000°, δ70.00000°, λ83.00000°. Principal axes: T 2.5900, Plg64.0000°, Azm289.0000°; N -0.1700, Plg6.0000°, Azm33.0000°; P -2.4200, Plg24.0000°, Azm126.0000°; Broadband fault plane solution: P waves. NP1:ϕs190.00000°, δ20.00000°, λ90.00000°. NP2:ϕs10.00000°, δ70.00000°, λ90.00000°. Principal axes: T Plg65.0000°, Azm280.0000°; N Plg0.0000°, Azm0.0000°; P Plg25.0000°, Azm100.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [III] at Misawa. Felt in much of eastern Honshu and at Sapporo, Hokkaido. Felt [II] at Yuzhno-Kuril'sk, Kuril Islands. Recorded [4 JMA] in Iwate and Miyagi; [3 JMA] in Akita, Aomori, Fukushima and Yamagata; [2 JMA] in Chiba, Gumma, Ibaraki, Kanagawa, Niigata, Saitama, Tochigi and Yamanashi; [1 JMA] in Nagano, Shizuoka and Tokyo, Honshu. Also recorded [2 JMA] in eastern, southern and western Hokkaido.

JMA **04** *21:55:52.3±0.1, 39.˚66N×142.˚65E, h34km±1km, M6.4 Broadband fault plane solution: P waves. NP1: ϕs33.00000°, δ69.00000°, λ108.00000°. NP2: ϕs171.00000°, δ27.00000°, λ52.00000°. Principal axes: T Plg62.0000°, Azm330.0000°; N Plg17.0000°, Azm206.0000°; P Plg22.0000°, Azm109.0000°;*

JMA Felt IV J1.

MOS **04** *21:55:52.4±0.9, 39.˚79N×142.˚49E, h38km, mb6.5/120, MS6.3/97 Error ellipse: s-maj=5.5km s-min=3.6km az=101.5*

MOS Felt (II) at Yuzhno-Kuril'sk.

GCMT **04** *21:55:52.0±0.1, 39.˚68N×142.˚77E, h35km, MW6.3/131, Moment Tensor Solution. s123, c297; s131, c496; Duration: 38.4 Moment tensor: Scale 10¹⁸Nm; Mrr 2.15±.02; Mϑϑ 0.23±.01; Mϕϕ -2.37±.01; Mrϑ 0.47±.02; Mϑϕ -0.23±.01; Mϕr 2.35±.03; Best double couple: M₀3.30100×10¹⁸ NP1:ϕs10.00000°, δ68.00000°, λ94.00000°. NP2:ϕs179.00000°, δ22.00000°, λ80.00000°. Principal axes: T 3.1900, Plg66.0000°, Azm287.0000°; N 0.2300, Plg4.0000°, Azm188.0000°; P -3.4120, Plg23.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISCJB **04** *21:55:53.5±0.2, 39.˚64N±0.˚01×142.˚54E±0.˚01, h50km±2km, mb6.2/501, MS6.2/364 Error ellipse: s-maj=2.5km s-min=1.6km az=156.8*

SZGRF **04** *21:55:56.2, 40.˚44N×143.˚16E, h41km, mb6.2, MS6.4, Off east coast of Honshu, Japan*

ISC 04 21:55:52.4±0.2, 39.˚66N±0.˚02×142.˚58E±0.˚02, h30km±1km, h30km:pP-P, n2459, σ1s37/2574, mb6.3/526, MS6.2/368, 293C-52D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.59**	**262**	⇓P		**Pn**	**21 56 04.9**	**+0.2**
MIYJ				S		**Sn**	**21 56 13.7**	**+0.3**
JTH	**Tanohata**	**0.62**	**297**	⇓P		**Pn**	**21 56 05.4**	**+0.3**
JTH				*e*S		**Sn**	**21 56 14.2**	**+0.2**
OFUJ	**Ofunato**	**0.91**	**231**	⇓P		**Pn**	**21 56 09.4**	**+0.3**
OFUJ				S		**Sb**	**21 56 21.6**	**+0.1**
JOM	**Ohasama**	**1.01**	**260**	⇓P		**Pb**	**21 56 11.5**	**+0.2**
JOM				*e*S		**Sb**	**21 56 25.4**	**+1.1**
JKZ	**Kuzumaki**	**1.01**	**289**	⇓P		**Pb**	**21 56 11.5**	**+0.1**
JKZ				*e*S		**Sb**	**21 56 25.5**	**+1.1**
JANG	**Nango**	**1.08**	**311**	⇓P		**Pn**	**21 56 11.5**	**0.0**
JMK	**Ichinoseki**	**1.27**	**237**	⇓P		**Pn**	**21 56 14.9**	**+0.9**
JMK				S		**Sb**	**21 56 31.7**	**+0.1**
JRG	**Rokugo**	**1.53**	**261**	⇓P		**Pb**	**21 56 19.1**	**-0.9**
JIO	**Ouri**	**1.54**	**219**	⇓P		**Pn**	**21 56 18.1**	**+0.4**
JIO				*e*S		**Sn**	**21 56 37.0**	**+0.3**
JAH	**Hinai**	**1.58**	**290**	⇓P		**Pb**	**21 56 20.0**	**-1.0**
JAH				*e*S		**Sb**	**21 56 40.6**	**0.0**
JTM	**Tenmabayashi**	**1.61**	**315**	⇓P		**Pn**	**21 56 19.9**	**+1.1**
JOU	**Okura**	**1.98**	**230**	⇓P		**Pn**	**21 56 24.8**	**+1.0**
JOT	**Ohata**	**2.08**	**326**	⇓P		**Pn**	**21 56 26.0**	**+0.9**
ERM	**Erimo**	**2.39**	**10**	P		**Pn**	**21 56 29.5**	**0.0**
	20μm,0.8s							
ERM	**Erimo**	**2.39**	**10**	*d*	*i*P	**Pn**	**21 56 29.3**	**-0.2**
ERM	**Erimo**	**2.39**	**10**	*e*	Pn	**Pn**	**21 56 28.5**	**-1.0**
JKB	**Kayabe**	**2.52**	**333**	⇑P		**Pn**	**21 56 32.0**	**+0.8**
JNBK	**Urakawa-nobuka**	**2.62**	**3**	⇑P		**Pn**	**21 56 32.8**	**+0.2**
JAW	**Awa shima**	**2.86**	**246**	⇓P		**Pn**	**21 56 37.8**	**+1.9**
ONJ	**Iwakimizuishiy**	**2.91**	**209**	P		**Pn**	**21 56 36.8**	**+0.1**
JYM2	**Yakumo 2**	**2.97**	**326**	⇑P		**Pn**	**21 56 38.9**	**+1.5**
JEW	**Eniwo**	**3.29**	**345**	⇑P		**Pn**	**21 56 42.3**	**+0.5**
JSH	**Shimam**	**3.54**	**328**	⇑P		**Pn**	**21 56 46.5**	**+1.3**
JAB	**Ashibetsu**	**3.85**	**356**	⇑P		**Pn**	**21 56 50.4**	**+0.9**
JMP	**Maruseppu**	**4.38**	**7**	⇑P		**Pn**	**21 56 56.5**	**-0.3**
JGK	**Kuni**	**4.38**	**226**	⇑P		Pn	21 57 00.4	+3.5
NEM2	**Nemuro 2**	**4.40**	**32**	P		**Pn**	**21 56 54.9**	**-2.1**
JTKR	**Abashiri--Toko**	**4.42**	**13**	⇑P		**Pn**	**21 56 56.7**	**-0.6**
ASAJ	**Asahikawa**	**4.45**	**0**	*e*	Pn	**Pn**	**21 56 57.6**	**-0.2**
MAJO	**Matsushiro**	**4.64**	**229**	*c*	*i*P	Pn	21 57 03.9	+3.4
MAJO	**Matsushiro**	**4.64**	**229**	*e*	Pn	**Pn**	**21 57 02.2**	**+1.7**
MAT	**Matsushiro**	**4.64**	**229**	P		**Pn**	**21 57 03.6**	**+3.1**
MAT				*e*S		**Sn**	**21 57 57.0**	**+3.6**
MJAR	**Matsushiro Arr**	**4.64**	**229**	Pn		Pn	21 57 03.7	+3.2
	93nm,0.3s,baz=31,slow=11,SNR=1972							
MJAR				Sn		**Sn**	**21 57 56.9**	**+3.5**
	61nm,0.3s,baz=40,slow=21,SNR=4.2							
MJAR				Lg		Lg	21 58 14.2	
	106nm,0.3s,baz=36,slow=27,SNR=4.4							
MJAR				LR		LR	21 59 09.1	
	comp=Z,328μm,19.7s,baz=50,slow=44							
I30JP	**ISUMI INFRASON**	**4.70**	**203**	Pn		**Pn**	**21 56 58.7**	**-2.6**
	baz=37,slow=20,SNR=4.8							
I30JP				Sn		**Sn**	**21 57 56.5**	**+1.8**
JSS	**Shosan**	**4.77**	**354**	P		**Pn**	**21 57 03.1**	**+1.0**
JNG	**Nsakai**	**4.80**	**229**	P		Pn	21 57 05.9	+3.2
YUK	**Yuzh-Kuril'sk**	**5.01**	**28**	*c*	*i*P	**Pn**	**21 57 04.3**	**-1.1**
YUK				*i*	S	**Sn**	**21 57 58.1**	**-4.2**
YUK					pmax	pmax		
	comp=N,895nm,0.8s							
YUK					pmax	pmax		
	comp=Z,2μm,0.8s							
YUK					pmax	pmax		
	comp=E,948nm,0.4s							
YUK					pmax	pmax		
	comp=Z,10μm,2.2s							
YUK					smax	smax		
	comp=N,15nm,0.8s							
YUK					smax	smax		
	comp=E,11nm,0.8s							
JGN	**Niukaw**	**5.39**	**232**	P		**Pn**	21 57 14.4	+3.6
KUR	**Kuril'sk**	**6.80**	**33**	⇑*i*P		**Pn**	**21 57 28.9**	**-1.1**
KUR				*i*	S	**Sn**	**21 58 41.5**	**-4.9**
KUR					pmax	pmax		
	comp=N,292nm,1.2s							
KUR					pmax	pmax		
	comp=Z,404nm,1.2s							
KUR					pmax	pmax		
	comp=E,316nm,0.6s							
KUR					pmax	pmax		
	comp=Z,3μm,3.1s							
KUR					smax	smax		
	comp=N,3μm,1.2s							
KUR					smax	smax		
	comp=E,2μm,0.6s							
KUR					smax	smax		
	comp=N,25μm,3.9s							
KUR					smax	smax		
	comp=E,43μm,3.9s							
JHJ2	**Mitsune**	**6.91**	**200**	*e*	Pn	**Pn**	**21 57 30.4**	**-1.1**
JKY	**Yasaka**	**7.17**	**238**	⇑P		Pn	21 57 38.9	+3.8
YSS	**Yuzh-Sakhalins**	**7.29**	**1**	⇑*i*P		**Pn**	**21 57 37.1**	**+0.4**
YSS				*i*	S	**Sn**	**21 58 56.0**	**-2.4**
YSS					pmax	pmax		
	comp=Z,280nm,1.0s							
YSS					pmax	pmax		
	comp=Z,8μm,6.0s							
YSS					smax	smax		
	comp=E,44μm,8.0s							
YSS					smax	smax		
	comp=N,3μm,1.2s							
YSS					MLR	MLR		
	comp=Z,174μm,18.0s							
YSS					MLR	MLR		
	comp=N,147μm,19.0s							
YSS					MLR	MLR		
	comp=E,118μm,16.0s							
YSS	**Yuzh-Sakhalins**	**7.29**	**1**	*e*	Pn	**Pn**	**21 57 37.2**	**+0.5**
JKSM	**Kasumi**	**7.48**	**240**	P		Pn	21 57 43.2	+3.8
VLA	**Vladivostok**	**8.75**	**297**	*c*	*i*P	Pn	21 58 00.2	+3.5
VLA					pmax	pmax		
	comp=Z,2μm,2.5s							
USRK	**Ussuriysk Ar.**	**9.10**	**303**		Pn	Pn	21 58 04.8	+3.3
	comp=Z,12nm,0.3s,baz=108,slow=12,SNR=238							
USRK					Sn	Sn	21 59 56.8	+14
	baz=123,slow=26,SNR=1.5							
USRK					LR	LR	22 01 29.6	
	comp=Z,272μm,18.9s,baz=118,slow=38							
KSULL	**Ulleungdo**	**9.40**	**260**		P	Pn	21 58 08.9	+3.1
	SNR=14							
KSULL	**Ulleungdo**	**9.40**	**260**		P	**Pn**	**21 58 08.8**	**+3.0**
	SNR=38							
UGL	**Uglegorsk**	**9.42**	**358**	*c*	*i*P	**Pn**	**21 58 05.0**	**-0.9**
UGL					*e*		21 59 51.0	
UGL					pmax	pmax		
	comp=Z,8μm,6.0s							
UGL					pmax	pmax		
	comp=N,5μm,8.0s							
UGL					pmax	pmax		
	comp=E,2μm,4.0s							
UGL					pmax	pmax		
	comp=Z,240nm,0.8s							
UGL					MLR	MLR		
	comp=N,128μm,16.0s							
UGL					MLR	MLR		
	comp=E,118μm,16.0s							
UGL					MLR	MLR		
	comp=Z,275μm,16.0s							
HABR	**Khabarovsk**	**10.34**	**331**	*c*	*i*P	**Pn**	**21 58 17.6**	**-0.8**
HABR					*e*		22 00 13.1	
HABR					pmax	pmax		
	comp=N,333nm,3.5s							
HABR					pmax	pmax		
	comp=E,395nm,3.5s							
HABR					pmax	pmax		
	comp=Z,752nm,3.5s							
HABR					MLR	MLR		
	comp=N,94μm,17.0s							
HABR					MLR	MLR		
	comp=Z,154μm,17.0s							
HABR					MLR	MLR		
	comp=E,119μm,17.0s							
JTY	**Toyota**	**10.67**	**243**		P	**Pn**	**21 58 25.9**	**+2.8**
KSULJ	**Uljin**	**10.78**	**258**		P	Pn	21 58 28.6	+4.0
	SNR=59							
KSULJ	**Uljin**	**10.78**	**258**		P	Pn	21 58 29.0	+4.4
	SNR=46							
MDJ	**Mudanjiang**	**10.84**	**301**		P	Pn	21 58 28.7	+3.4
MDJ					sP		21 58 38.0	
MDJ					PMZ			
	comp=E,220nm,1.3s							
MDJ					PMZ			
	comp=E,9μm,5.3s							
MDJ					LN			
	comp=E,106μm,17.8s							
MDJ					LE			
	comp=E,172μm,16.1s							
MDJ					LZ			
	comp=E,266μm,17.8s							
MDJ	**Mudanjiang**	**10.84**	**301**	*e*	Pn	Pn	21 58 28.7	+3.4
KSJMJ	**Jumunjin**	**10.94**	**265**		P	Pn	21 58 30.3	+3.5
	SNR=124							
KSJMJ	**Jumunjin**	**10.94**	**265**		P	Pn	21 58 29.9	+3.1
	SNR=119							
KSPHA	**Pohang**	**10.99**	**256**		P	Pn	21 58 31.7	+4.2
	SNR=42							
KSPHA	**Pohang**	**10.99**	**256**		P	Pn	21 58 31.8	+4.3
	SNR=105							
KSTBA	**Taebaek**	**10.99**	**261**		P	Pn	21 58 32.1	+4.5
	SNR=22							
KSTBA	**Taebaek**	**10.99**	**261**		P	Pn	21 58 31.8	+4.2
	SNR=62							
KSSKC	**Sokcho**	**11.03**	**267**		P	Pn	21 58 33.0	+5.0
	SNR=25							
KSSKC	**Sokcho**	**11.03**	**267**		P	**Pn**	**21 58 31.0**	**+3.0**
	SNR=50							
KSDGY	**Daegwallycong**	**11.05**	**264**		P	Pn	21 58 31.6	+3.2
	SNR=113							
KSDGY	**Daegwallycong**	**11.05**	**264**		P	Pn	21 58 31.9	+3.5
	SNR=68							
KSJES	**JEONGSEON**	**11.12**	**263**		P	Pn	21 58 33.4	+4.1
	SNR=53							
KSJES	**JEONGSEON**	**11.12**	**263**		P	Pn	21 58 33.3	+4.0
	SNR=98							
TYV	**Tymovskoe**	**11.20**	**0**	*e*	P	**Pn**	**21 58 28.0**	**-2.3**
TYV					pmax	pmax		
	comp=Z,6μm,9.0s							
TYV					pmax	pmax		
	comp=E,2μm,7.0s							
TYV					pmax	pmax		
	comp=N,6μm,5.0s							
SEHB	**SEOHWA**	**11.24**	**267**		P	Pn	21 58 35.9	+4.9
	SNR=30							
SEHB	**SEOHWA**	**11.24**	**267**		P	Pn	21 58 34.6	+3.7
	SNR=44							
KSYOW	**Yeongwol**	**11.36**	**262**		P	Pn	21 58 36.5	+4.1
	SNR=51							
KSYOC	**YEONGCHEON**	**11.39**	**255**		P	Pn	21 58 37.2	+4.2
	SNR=28							
KSYOC	**YEONGCHEON**	**11.39**	**255**		P	Pn	21 58 37.0	+4.0
	SNR=59							
KSIJA	**INJE**	**11.41**	**266**		P	Pn	21 58 36.6	+3.4
	SNR=218							
KSIJA	**INJE**	**11.41**	**266**		P	Pn	21 58 36.5	+3.2
	SNR=141							
KSEUS	**ULSEONG**	**11.45**	**258**		P	Pn	21 58 37.6	+3.9
	SNR=69							
KSEUS	**ULSEONG**	**11.45**	**258**		P	Pn	21 58 37.6	+3.9
	SNR=69							
KSDAG	**Daegu**	**11.51**	**255**		P	Pn	21 58 38.2	+3.6
	SNR=67							
KSDAG	**Daegu**	**11.51**	**255**		P	Pn	21 58 38.6	+3.9
	SNR=45							
KSBUS	**Busan**	**11.57**	**252**		P	Pn	21 58 39.4	+4.0
	SNR=24							
KSWJU	**Wonju**	**11.60**	**263**		P	Pn	21 58 39.6	+3.7
	SNR=75							
KSRS	**Korea Array**	**11.69**	**264**		Pn	Pn	21 58 40.2	+3.2
	comp=N,5.0nm,0.3s,baz=76,slow=9.9,SNR=89							
KSRS					Sn	Sn	22 00 57.0	+11
	comp=N,5.6nm,0.3s,baz=70,slow=24,SNR=4.7							
KSRS					LR	LR	22 02 56.2	
	comp=N,132μm,18.6s,baz=76,slow=37							
KSRS	**Korea Array**	**11.69**	**264**		P	Pn	21 58 40.2	+3.2
KSRS								22 00 57.0
KSRS					pmax	pmax		
	comp=Z,5.0nm,0.3s							
KSRS					smax	smax		
	comp=N,6.0nm,0.3s							
KSRS					MLR	MLR		
	comp=Z,132μm,18.6s							
KSCHC	**Chuncheon**	**11.69**	**265**		P	Pn	21 58 40.6	+3.6
	SNR=82							
KS01	**Wonju Array Si**	**11.70**	**264**	*e*	Pn	**Pn**	**21 58 39.3**	**+2.1**
KS15	**Wonju Array Si**	**11.72**	**264**	*e*	Pn	**Pn**	**21 58 40.2**	**+2.8**
KSAR	**Wonju Array Be**	**11.72**	**264**		P	**Pn**	**21 58 40.2**	**+2.8**
KSAR							22 00 57.0	
KSAR	**Wonju Array Be**	**11.72**	**264**		Pn	**Pn**	**21 58 40.2**	**+2.8**
KSAR					Sn	Sn	22 00 57.0	+10
KSCHJ	**Chungju**	**11.81**	**261**		P	Pn	21 58 43.0	+4.2
	SNR=54							
KSSAJ	**Sangju**	**11.83**	**259**		P	Pn	21 58 42.7	+3.8
	SNR=42							
KSCWO	**Cheorwon**	**11.85**	**267**		P	Pn	21 58 42.7	+3.4
	SNR=101							
KSCPR	**CHUPUNGNYEONG**	**12.03**	**258**		P	Pn	21 58 45.5	+3.7
	SNR=63							
KSBON	**Boeun**	**12.07**	**259**		P	Pn	21 58 46.2	+3.9
	SNR=61							
KSICN	**Icheon**	**12.12**	**264**		P	Pn	21 58 46.1	+3.2
	SNR=56							
KSDDC	**Dongducheon**	**12.24**	**267**		P	**Pn**	**21 58 47.6**	**+3.0**
	SNR=38							
KLR	**Kul'dur**	**12.29**	**325**	⇓*i*P		Pn	21 58 41.2	-4.0
KLR					pmax	pmax		
	comp=N,1μm,3.6s							
KLR					pmax	pmax		
	comp=Z,3μm,3.6s							
KLR					pmax	pmax		
	comp=N,6μm,7.5s							
KLR					pmax	pmax		
	comp=E,4μm,7.5s							
KLR					pmax	pmax		
	comp=Z,9μm,7.5s							
YNCB	**YEONCHEON**	**12.31**	**267**		P	Pn	21 58 49.0	+3.4
	SNR=62							
KSCEA	**Cheonan**	**12.38**	**262**		P	Pn	21 58 50.1	+3.7
	SNR=34							
KSJIN	**Jinju**	**12.41**	**253**		P	Pn	21 58 52.6	+5.7
	SNR=34							
KSTEJ	**Daejeon**	**12.44**	**259**		P	Pn	21 58 50.8	+3.6
	SNR=35							
TJN	**Taejon**	**12.44**	**260**	*c*	*i*P	Pn	21 58 50.5	+3.2
KSSEO	**Seoul**	**12.45**	**265**		P	Pn	21 58 50.7	+3.3
	SNR=20							
KSSWO	**Suwon**	**12.47**	**264**		P	**Pn**	**21 58 50.6**	**+2.9**
	SNR=78							
KSMUS	**Musan**	**12.47**	**267**		P	**Pn**	**21 58 50.6**	**+2.8**
	SNR=68							
CBIJ	**Chichi jima**	**12.54**	**182**	*e*	Pn	**Pn**	**21 58 49.0**	**+0.3**
CBIJ					Sn	Sn	22 00 53.0	-14
JCJ	**Chichijima**	**12.54**	**182**		Pn	**Pn**	**21 58 46.8**	**-1.9**
	comp=Z,50nm,0.3s,baz=52,slow=19,SNR=9.9							
JCJ					Sn	Sn	22 00 53.0	-14
	comp=Z,37nm,0.3s,baz=72,slow=20,SNR=3.4							
JCJ					LR	LR	22 04 22.7	
	comp=Z,27μm,21.4s,baz=356,slow=41							
CBI	**Chichi jima**	**12.54**	**182**	*e*	Pn	**Pn**	**21 58 46.8**	**-1.9**
KSKOJ	**Gongju**	**12.57**	**260**		P	Pn	21 58 52.8	+3.6
	SNR=42							
KSNAH	**Namhae**	**12.63**	**252**		P	Pn	21 58 53.7	+3.8
	SNR=15							
KSJEO	**Jeonju**	**12.65**	**258**		P	Pn	21 58 53.7	+3.5
	SNR=22							
INCN	**Inchon**	**12.67**	**265**		Pn	**Pn**	**21 58 52.3**	**+1.8**
	SNR=47							
INCN	**Inchon**	**12.67**	**265**	*e*	Pn	Pn	21 58 53.6	+3.1
KSGAH	**Ganghwa**	**12.76**	**266**		P	**Pn**	**21 58 54.3**	**+2.6**
	SNR=38							
KSGUS	**GUNSAN**	**13.00**	**259**		P	Pn	21 58 58.0	+3.1
	SNR=25							
KSSES	**Seosan**	**13.00**	**262**		P	Pn	21 58 58.4	+3.4
	SNR=38							
KSJEU	**Jeongeup**	**13.09**	**256**		P	**Pn**	**21 58 59.0**	**+2.8**
	SNR=12							
JFU	**Fukue jima 2**	**13.17**	**242**		P	**Pn**	**21 58 59.4**	**+2.1**
KSKWJ	**Gwangju**	**13.18**	**255**		P	**Pn**	**21 59 00.4**	**+3.0**
	SNR=18							
KSKOH	**Goheung**	**13.21**	**252**		P	Pn	21 59 01.4	+3.6
	SNR=13							
KSGWJ	**Gwangju-acc**	**13.25**	**255**		P	**Pn**	**21 59 01.2**	**+2.9**
	SNR=18							
CN2	**Changchun**	**13.44**	**293**	⇑*i*P		**Pn**	**21 59 01.8**	**+0.8**
CN2				*e*	pP	**P**	**21 59 09.4**	**-0.6**
CN2				*e*	sP		21 59 14.1	
CN2				*e*	S	**Sn**	**22 01 30.5**	**+1.2**
CN2					PcS	**PcS**	**22 08 02.3**	**+0.4**
CN2					PMZ			
	comp=Z,90nm,0.8s							
CN2					PMZ			
	comp=Z,5μm,6.0s							
CN2					LN			
	comp=Z,63μm,18.0s							
CN2					LE			
	comp=Z,133μm,18.0s							
CN2					LZ			
	comp=Z,126μm,18.0s							
KSWAN	**Wando**	**13.73**	**252**		P	Pn	21 59 08.1	+3.2
	SNR=16							
KSJDO	**Jindo**	**13.98**	**253**		P	**Pn**	**21 59 10.5**	**+2.1**
	SNR=25							
KSBAR	**Backryungdo**	**14.03**	**269**		P	**Pn**	**21 59 11.0**	**+2.0**
	SNR=42							
KSJJU	**Jeju**	**14.30**	**249**		P	**Pn**	**21 59 14.8**	**+2.0**
	SNR=18							
KSSGP	**Seogwipo**	**14.42**	**249**		P	**Pn**	**21 59 16.6**	**+2.2**
	SNR=7.9							
KSHUK	**Heuksando**	**14.53**	**255**		P	**Pn**	**21 59 17.6**	**+1.8**
	SNR=18							
SKR	**Severo-Kuril's**	**14.55**	**36**	*e*	P	Pn	21 59 01.2	-15
SKR				*i*	S	**Sn**	**22 01 59.0**	**+2.8**
SKR					pmax	pmax		
	comp=N,4μm,3.5s							
SKR					pmax	pmax		
	comp=Z,6μm,3.5s							
SKR					pmax	pmax		
	comp=E,4μm,4.0s							
SKR					pmax	pmax		
	comp=N,450nm,1.0s							
SKR					pmax	pmax		
	comp=Z,780nm,1.0s							
SKR					pmax	pmax		
	comp=E,2μm,1.4s							
SKR					smax	smax		
	comp=E,23μm,8.0s							
SKR					smax	smax		
	comp=N,6μm,6.0s							
SKR					MLR	MLR		
	comp=N,27μm,18.0s							
SKR					MLR	MLR		
	comp=Z,72μm,18.0s							
SKR					MLR	MLR		
	comp=E,62μm,14.0s							
SNY	**Shenyang**	**14.57**	**285**	⇑P		**Pn**	**21 59 17.1**	**+0.8**
SNY					PMZ			
	comp=E,130nm,1.9s							
SNY					PMZ			
	comp=E,6μm,5.1s							
SNY					LN			
	comp=E,59μm,17.2s							
SNY					LE			
	comp=E,133μm,17.8s							
SNY					LZ			
	comp=E,161μm,18.1s							
DL2	**Dalian**	**16.24**	**274**	⇑*i*P		**Pn**	**21 59 39.0**	**+0.8**
DL2					S	**Sn**	**22 02 40.3**	**+2.9**
DL2					PMZ			
	comp=E,740nm,1.0s							
DL2				

PET eS Sn 22 02 54.1 -9.1
PET pmax pmax
comp=Z,5μm,7.0s
PET pmax pmax
comp=Z,4μm,8.9s
PET pmax pmax
comp=Z,318nm,0.9s
PET MLR MLR
comp=Z,48μm,19.0s
PET MLR MLR
comp=Z,43μm,19.0s
PET Petropavlovsk 17.32 34 ePn **Pn 21 59 51.8 +0.2**
comp=Z,3μm,1.7s
JOW Kunigami 17.49 227 ePn **Pn 21 59 51.7 -2.2**
comp=Z,354nm,1.0s
HIA Hailar 18.85 308 eP **P 22 00 07.7 -2.2**
HIA pmax pmax
comp=Z,272nm,0.9s
HIA Hailar 18.85 308 eP **P 22 00 07.7 -2.2**
comp=Z,272nm,0.9s
SSE Sheshan 19.39 250 P **P 22 00 13.9 -1.9**
SSE sP **sP 22 00 24.0 -3.7**
SSE S **S 22 03 51.4 -2.0**
SSE sS **Sn 22 03 57.7 +4.0**
SSE PMZ
comp=Z,420nm,1.5s
SSE PMZ
comp=Z,10μm,5.5s
SSE LN
comp=Z,62μm,16.3s
SSE LE
comp=Z,34μm,16.3s
SSE LZ
comp=Z,57μm,13.4s
BJI Beijing 20.26 280 P **P 22 00 23.2 -2.0**
BJI pP Pn 22 00 30.2 +2.9
BJI S **S 22 04 07.6 -3.2**
BJI PMZ
comp=Z,280nm,1.4s
BJI PMZ
comp=Z,4μm,3.8s
BJI LN
comp=Z,19μm,15.6s
BJI LE
comp=Z,101μm,16.2s
BJI LZ
comp=Z,57μm,18.6s
BJT Baijiatuau 20.26 280 eP **P 22 00 22.7 -2.6**
BJT pmax pmax
comp=Z,422nm,0.8s
BJT MLR MLR
comp=Z,96μm,18.0s
BJT Baijiatuau 20.26 280 eP **P 22 00 22.6 -2.6**
comp=Z,422nm,0.8s
BJT LR LR
comp=Z,96μm,18.0s
TIA Tai'an 20.35 268 ⇑P **P 22 00 24.4 -1.9**
TIA pP **pP 22 00 31.7 -2.6**
TIA sP **sP 22 00 34.8 -3.4**
TIA PP **PnPn 22 00 45.3 +1.8**
TIA S **S 22 04 07.1 -5.6**
TIA sS Sn 22 04 17.6 +0.8
TIA PcP **PcP 22 04 35.1 -3.3**
TIA SS **SnSn 22 04 37.5 +6.2**
TIA PMZ
comp=Z,430nm,1.8s
TIA PMZ
comp=Z,18μm,10.9s
TIA LN
comp=Z,38μm,15.5s
TIA LE
comp=Z,135μm,16.3s
TIA LZ
comp=Z,169μm,17.6s
NJ2 Nanjing 20.64 256 eP **P 22 00 28.6 -0.8**
NJ2 pP **pP 22 00 35.8 -1.6**
NJ2 sP **sP 22 00 39.0 -2.3**
NJ2 S **S 22 04 20.0 +1.6**
NJ2 sS **sS 22 04 30.3 -1.0**
NJ2 LN
comp=Z,95μm,18.2s
NJ2 LE
comp=Z,160μm,17.0s
NJ2 LZ
comp=Z,160μm,16.9s
YOJ Yonaguni jima 22.39 233 eP **P 22 00 46.6 -1.7**
YOJ eS **S 22 04 57.5 +4.9**
YOJ pmax pmax
comp=Z,314nm,0.9s
YOJ MLR MLR
comp=Z,62μm,21.0s
YOJ Yonaguni jima 22.39 233 eP **P 22 00 46.6 -1.7**
comp=Z,314nm,0.9s
YOJ eS **S 22 04 57.5 +4.9**
YOJ LR LR
comp=Z,62μm,21.0s
TATO Taipei 22.99 237 P **P 22 00 54.3 -0.2**
SNR=6.8
TATO Taipei 22.99 237 eP **P 22 00 53.8 -0.7**
comp=Z,634nm,1.0s
TATO LR LR
comp=Z,85μm,19.0s
YHNB Yeheng 23.27 236 eP **P 22 00 54.5 -3.0**
comp=Z,585nm,1.4s
YHNB LR LR
comp=Z,77μm,18.0s
NACB Ninganchiao 23.49 235 eP **P 22 00 55.5 -4.1**
comp=Z,252nm,1.0s
NACB LR LR
comp=Z,68μm,22.0s
CIT Chita 23.52 311 eP **P 22 00 57.0 -2.8**
CIT e 22 01 04.8
CIT e 22 01 09.9
CIT e 22 01 33.0
CIT e 22 01 38.8
CIT pmax pmax
comp=Z,4μm,2.5s
TIY Taiyuan 23.56 275 eP **P 22 00 58.0 -2.3**
TIY S **S 22 05 12.4 -0.1**
TIY PMZ
comp=Z,250nm,1.3s
TIY PMZ
comp=Z,6μm,9.4s
TIY LN
comp=Z,44μm,15.0s
TIY LE
comp=Z,57μm,16.3s
TIY LZ
comp=Z,78μm,17.9s
HHC Hu-ho-hao-te 23.64 283 eP **P 22 00 58.7 -2.4**
HHC pP **pP 22 01 05.9 -3.7**
HHC sP **sP 22 01 11.8 -1.5**
HHC PP **PnPn 22 01 31.5 +2.8**
HHC S **S 22 05 10.4 -3.4**
HHC sS sS 22 05 19.1 -9.1
HHC SS **SnSn 22 05 57.0 +4.9**
HHC LN
comp=Z,30μm,14.9s
HHC LE
comp=Z,121μm,16.7s
HHC LZ
comp=Z,146μm,16.7s
YAK Yakutsk 23.74 345 P **P 22 00 59.3 -2.3**
comp=Z,66nm,0.5s,baz=140,slow=19,SNR=123
YAK LR LR 22 11 00.8
comp=Z,38μm,20.0s,baz=150,slow=38
YAK Yakutsk 23.74 345*c iP* **P 22 00 59.4 -2.2**
YAK e*PP **pP 22 01 08.4 -1.8**
YAK ePPP PPP 22 01 32.7
YAK e 22 04 42.3
YAK eS **S 22 05 09.6 -5.1**
YAK e*SS **sS 22 05 26.5 -2.6**
YAK eSSS SSS 22 05 58.6
YAK e 22 12 06.8
YAK pmax pmax
comp=Z,1μm,1.0s
YAK pmax pmax
comp=N,519nm,0.9s
YAK pmax pmax
comp=E,130nm,1.1s
YAK smax smax
comp=N,9μm,2.6s
YAK smax smax
comp=E,7μm,3.2s
YAK MLR MLR
comp=Z,51μm,15.0s

YAK MLR MLR
comp=N,22μm,13.0s
YAK MLR MLR
comp=E,25μm,15.0s
YAK Yakutsk 23.74 345 eP **P 22 00 59.3 -2.3**
comp=E,1μm,0.7s
SEY Seymchan 24.04 11 P **P 22 01 04.0 -0.5**
comp=E,975nm,1.1s,baz=204,slow=8.0,SNR=398
SEY LR LR 22 11 26.6
comp=E,54μm,19.5s,baz=215,slow=39
SSLB Suanglung 24.17 236 eP **P 22 01 02.4 -3.7**
comp=E,402nm,1.0s
SSLB LR LR
comp=Z,52μm,22.0s
YULB Yu-li 24.24 234 eP **P 22 01 03.2 -3.4**
comp=Z,299nm,0.9s
YULB LR LR
comp=Z,35μm,22.0s
TPUB Ta-pu 24.73 235 eP **P 22 01 08.0 -3.1**
comp=Z,310nm,0.9s
TPUB LR LR
comp=Z,59μm,21.0s
WHN Wuhan 24.74 257 ⇓P **P 22 01 08.5 -2.6**
WHN pP **pP 22 01 23.3 +3.5**
WHN S **S 22 05 27.9 -3.4**
WHN PMZ
comp=Z,14μm,4.5s
WHN LN
comp=Z,79μm,15.4s
WHN LE
comp=Z,131μm,17.2s
WHN LZ
comp=Z,156μm,17.3s
TWG Pinlang 24.80 234 eP **P 22 01 09.7 -2.1**
comp=Z,2μm,0.8s
TWG LR LR
comp=Z,100μm,22.0s
BTO Baotou 24.84 283 eP **P 22 01 10.3 -1.8**
QZH Quanzhou 24.93 241 ⇑*i*P **P 22 01 11.8 -1.0**
QZH sP **sP 22 01 22.1 -3.1**
QZH S **S 22 05 30.6 -3.8**
QZH PMZ
comp=Z,640nm,1.3s
QZH PMZ
comp=Z,16μm,4.0s
QZH LN
comp=Z,80μm,15.2s
QZH LE
comp=Z,45μm,15.4s
QZH LZ
comp=Z,115μm,17.4s
SMY Shemya 25.20 48 eP P 22 01 23.1 +8.0
SMY Shemya 25.20 48 epP P 22 01 23.1 +8.0
BOD Bodaibo 25.87 324 ⇓*i*P **P 22 01 20.6 -0.5**
BOD pmax pmax
comp=Z,387nm,0.9s
GUMO Guam 26.05 175 eP sP 22 01 41.9 +6.5
GUMO MLR MLR
comp=Z,31μm,21.0s
GUMO Guam 26.05 175 esP sP 22 01 41.9 +6.5
GUMO LR LR
comp=Z,31μm,21.0s
ULN Ulaanbaatar 26.75 300 PFAKE 22 01 40.0 +11
ULN LR LR
comp=Z,145μm,18.0s
SONA1 Songino Array 27.18 299 eP **P 22 01 31.6 -1.7**
SONA0 Songino Array 27.18 299 eP **P 22 01 33.3 0.0**
SONM Songino Array 27.18 299 P **P 22 01 33.3 0.0**
comp=Z,322nm,1.1s,baz=105,slow=8.7,SNR=525
SONM LR LR 22 12 53.6
comp=Z,141μm,18.6s,baz=97,slow=38
XAN Xi'an 27.41 269 P **P 22 01 33.8 -1.5**
XAN pP **pP 22 01 40.7 -3.3**
XAN PP **PnPn 22 02 23.8 +3.7**
XAN S **S 22 06 07.8 -5.9**
XAN PMZ
comp=Z,1μm,8.3s
XAN LN
comp=Z,25μm,19.3s
XAN LZ
comp=Z,18μm,15.3s
SGCP Mt. Cagua 27.77 226 eP **P 22 01 41.2 +2.6**
AMKA Amchitka 27.98 53 eP **P 22 01 41.2 +1.1**
APYP Conner 28.53 227 eP **P 22 01 46.7 +1.4**
ENH Enshi 28.56 261 eP **P 22 01 45.0 -0.6**
comp=Z,265nm,0.8s
ENH LR LR
comp=Z,46μm,18.0s
H11N2 WAKE ISLAND Hy 28.84 126 T T 22 32 24.9
baz=318,slow=75
H11N1 WAKE ISLAND Hy 28.85 126 T T 22 32 30.8
baz=318,slow=75,SNR=6598
H11N3 WAKE ISLAND Hy 28.86 126 T T 22 32 25.8
baz=318,slow=75
CAUP Cauayan 28.95 224 eP P 22 01 52.9 +3.8
ABRA Dolores 29.00 227 eP P 22 01 53.9 +4.4
WAKE Wake Island 29.02 127 eP **P 22 01 49.6 -0.1**
WAKE epP **pP 22 01 55.8 -2.7**
WAKE esP **sP 22 02 01.5 -0.6**
WAKE LR LR
comp=Z,42μm,19.0s
IRK Irkutsk 29.10 308 eP **P 22 01 50.0 -0.1**
IRK eS S 22 06 46.9 +7.0
IRK pmax pmax
comp=Z,875nm,1.9s
SZP Santa 29.22 227 eP **P 22 01 50.6 -0.8**
comp=Z,579nm,1.1s
SZP LR LR
comp=Z,27μm,21.0s
TLY Talaya 29.39 307 P **P 22 01 53.4 +0.7**
comp=Z,1μm,1.2s
TLY Talaya 29.39 307 P **P 22 01 53.2 +0.4**
comp=Z,81nm,0.9s,baz=115,slow=8.7,SNR=58
TLY LR LR 22 14 25.3
comp=Z,79μm,18.4s,baz=100,slow=38
TLY Talaya 29.39 307*c iP* **P 22 01 53.1 +0.4**
TLY e 22 02 42.0
TLY ePPP PPP 22 02 57.9
TLY eS **S 22 06 43.4 -1.1**
TLY eSSS SSS 22 08 34.4
TLY pmax pmax
comp=Z,528nm,1.7s
TLY MLR MLR
comp=Z,72μm,19.0s
TLY Talaya 29.39 307 P **P 22 01 53.5 +0.8**
SNR=166
TLY Talaya 29.39 307 eP **P 22 01 53.2 +0.4**
comp=Z,294nm,1.1s
ZAK Zakamensk 29.45 304 ⇓*i*P **P 22 01 53.3 -0.1**
ZAK pmax pmax
comp=Z,440nm,1.5s
H11S1 WAKE ISLAND Hy 29.64 128 T T 22 33 25.8
baz=320,slow=76,SNR=398
H11S3 WAKE ISLAND Hy 29.64 128 T T 22 33 29.2
baz=320,slow=76,SNR=664
H11S2 WAKE ISLAND Hy 29.66 128 T T 22 33 22.2
baz=320,slow=76,SNR=689
GZH Guangzhou 29.75 245 P P 22 01 51.5 -4.7
GZH S S 22 06 42.0 -8.6
GZH PMZ
comp=Z,8μm,5.8s
GZH LN
comp=Z,48μm,22.5s
GZH LE
comp=Z,62μm,22.1s
GZH LZ
comp=Z,127μm,20.1s
BALP Baler 30.08 224 eP **P 22 01 58.2 -0.9**
BCPH Baguio City Da 30.09 226 ⇓*i*P **P 22 01 57.4 -2.0**
BOLP Bolinao 30.46 227 eP **P 22 02 01.3 -1.2**
LZH Lanzhou 30.62 276 ⇑P **P 22 02 03.5 -0.5**
LZH pP **pP 22 02 10.3 -2.5**
LZH sP **sP 22 02 14.0 -2.4**
LZH sS sS 22 07 13.6 -5.3
LZH SS **ScP 22 08 41.2 -0.9**
LZH PMZ
comp=Z,1μm,1.8s
LZH PMZ
comp=Z,3μm,4.2s
LZH LN
comp=Z,25μm,12.9s
LZH LE
comp=Z,96μm,13.8s
LZH LZ
comp=Z,96μm,14.2s
MOY Mondy 31.02 307 eP **P 22 02 07.7 +0.4**

MOY pmax pmax
comp=Z,1μm,3.3s
GQP Guinayangan 31.17 220 ⇓eP **P 22 02 09.2 +0.4**
BILL Bilibino 31.25 17*c iP* **P 22 02 08.7 -0.3**
BILL e*PP **pP 22 02 19.1 +1.4**
BILL e*SP **sP 22 02 23.2 +1.8**
BILL e 22 03 15.3
BILL ePPP PPP 22 03 30.3
BILL 22 05 04.0
BILL pmax pmax
comp=Z,544nm,2.5s
BILL Bilibino 31.25 17 eP **P 22 02 06.5 -2.4**
comp=Z,754nm,1.4s
TGY Tagaytay City 31.78 223 P **P 22 02 14.1 0.0**
comp=Z,138nm,0.3s,baz=90,slow=2.4
ATKA Atka Island 32.09 53 eP **P 22 02 16.3 -0.1**
comp=Z,155nm,1.2s
ATKA LR LR
comp=Z,12μm,22.0s
GYA Guiyang 32.63 257 ⇑*i*P **P 22 02 21.1 -0.6**
GYA pP **pP 22 02 30.4 -0.1**
GYA PP **PnPn 22 03 31.8 +1.9**
GYA S **S 22 07 32.1 -3.7**
GYA sS **sS 22 07 48.4 -2.0**
GYA ScP **ScP 22 08 50.9 +1.9**
GYA SS **SnSn 22 09 33.6 +1.9**
GYA PMZ
comp=Z,850nm,1.0s
GYA PMZ
comp=Z,5μm,8.1s
GYA LN
comp=Z,28μm,17.5s
GYA LE
comp=Z,31μm,20.9s
GYA LZ
comp=Z,37μm,21.0s
CD2 Chengdu 32.66 267 P **P 22 02 20.4 -1.4**
CD2 pP **pP 22 02 27.3 -3.3**
CD2 sP **sP 22 02 30.4 -3.9**
CD2 PP **PP 22 03 34.0 -1.8**
CD2 S **S 22 07 30.8 -5.3**
CD2 sS **sS 22 07 46.8 -3.9**
CD2 PMZ
comp=Z,230nm,0.9s
CD2 PMZ
comp=Z,6μm,10.1s
CD2 LN
comp=Z,75μm,13.5s
CD2 LZ
comp=Z,83μm,14.3s
GTA Gaotai 32.75 284 ⇑P **P 22 02 22.6 0.0**
GTA pP **pP 22 02 29.7 -1.8**
GTA sP **sP 22 02 32.7 -2.4**
GTA PP **PnPn 22 03 33.1 +1.8**
GTA PcP **PcP 22 05 08.4 +0.9**
GTA S **S 22 07 32.7 -4.8**
GTA ScP **ScP 22 08 49.8 +0.6**
GTA PcS **PcS 22 08 52.7 -0.1**
GTA ScS **ScS 22 12 48.0 -1.2**
GTA PMZ
comp=Z,210nm,1.4s
GTA PMZ
comp=Z,4μm,7.4s
GTA LN
comp=Z,47μm,17.8s
GTA LE
comp=Z,139μm,18.1s
GTA LZ
comp=Z,172μm,18.1s
MIDW Midway 34.87 97 eP P 22 02 45.6 +4.6
comp=Z,327nm,1.3s
MIDW LR LR
comp=Z,23μm,22.0s
QIZ Qiongzhong 34.88 243 P **P 22 02 41.8 +0.6**
QIZ S **S 22 08 12.7 +2.2**
QIZ PMZ
comp=Z,89nm,2.0s
QIZ PMZ
comp=Z,3μm,8.2s
QIZ LN
comp=Z,26μm,22.9s
QIZ LZ
comp=Z,43μm,18.4s
QIZ Qiongzhong 34.88 243 eP **P 22 02 42.5 +1.3**
comp=Z,144nm,1.3s
QIZ LR LR
comp=Z,43μm,18.0s
SPIA Saint Paul Isl 35.02 44 eP **P 22 02 43.6 +1.7**
comp=Z,1μm,1.6s
SPIA LR LR
comp=Z,11μm,22.0s
NIKH Nikolski High 35.39 52 eP **P 22 02 46.5 +1.3**
NIKH epP **pP 22 02 52.5 -1.5**
HVS Khovu-Aksy 35.56 305*c iP* **P 22 02 49.8 +3.0**
HVS pmax pmax
comp=Z,347nm,0.6s
HVS MLR MLR
comp=Z,28μm,15.0s
DAV Davao City (W) 35.87 210 P **P 22 02 49.6 0.0**
SNR=7.1
DAV Davao City (W) 35.87 210 PFAKE 22 03 00.0 +10
DAV LR LR
comp=Z,18μm,20.0s
GAMB Gambell 36.01 33 eP **P 22 02 51.3 +1.0**
comp=Z,2μm,2.8s
GAMB LR LR
comp=Z,19μm,20.0s
KRAR Krasnoyarsk 36.26 314*c iP* **P 22 02 53.0 +0.4**
KRAR pmax pmax
comp=Z,2μm,2.0s
KRAR MLR MLR
comp=Z,38μm,20.0s
KMI Kunming 36.32 259 ⇑P **P 22 02 53.9 +0.2**
KMI pP **pP 22 03 02.5 -0.1**
KMI sP **sP 22 03 06.1 -0.1**
KMI PP **PnPn 22 04 15.1 -1.0**
KMI S **S 22 08 27.4 -5.6**
KMI sS sS 22 08 41.9 -5.7
KMI PMZ
comp=Z,690nm,1.2s
KMI PMZ
comp=Z,7μm,5.9s
KMI LN
comp=Z,27μm,18.1s
KMI LE
comp=Z,42μm,17.3s
KMI LZ
comp=Z,58μm,16.2s
UNV Unalaska Valle 36.83 50 eP **P 22 02 56.7 -0.7**
comp=Z,97nm,1.4s
UNV LR LR
comp=Z,13μm,20.0s
SLVN Son La 37.65 253 eP **P 22 03 03.7 -1.2**
comp=Z,212nm,1.4s
SLVN LR LR
comp=Z,11μm,21.0s
KWAJ Kwajalein Atol 38.01 137 PFAKE 22 03 20.0 +12
KWAJ LR LR
comp=Z,26μm,22.0s
TNA Tin City 38.12 31 eP **P 22 03 09.4 +1.1**
comp=Z,813nm,1.6s
TNA LR LR
comp=Z,18μm,22.0s
FALS False Pass 38.65 49 eP **P 22 03 13.7 +0.9**
KDM Kudat 39.97 222 ⇓P **P 22 03 26.5 +2.3**
SDPT Sand Point 40.33 48 eP **P 22 03 25.5 -1.3**
SKNT Sakolnakorn 40.38 247 P **P 22 03 27.6 0.0**
comp=Z,646nm,1.0s,comp=Z,9μm
UBPT Khong Chiam 40.48 244 P **P 22 03 28.8 +0.3**
comp=Z,311nm,1.8s,comp=Z,8μm
WMQ Urumqi 40.53 294 P **P 22 03 29.6 +0.8**
WMQ PMZ
comp=Z,580nm,1.2s
WMQ PMZ
comp=Z,11μm,4.7s
WMQ LN
comp=Z,30μm,17.0s
WMQ LE
comp=Z,16μm,16.0s
WMQ LZ
comp=Z,21μm,18.6s
MYLDM Lahad Datu 40.63 219 ⇑P P 22 03 32.9 +3.3
MYLDM Lahad Datu 40.63 219 eP **P 22 03 31.2 +1.5**
comp=Z,997nm,1.5s
DLV T Lat 40.86 237 eP **P 22 03 32.8 +1.0**
ZAA0 Zalesovo Array 40.87 310 eP **P 22 03 29.6 -1.8**

ZAA1 Zalesovo Array 40.87 310 *e*P **P** 22 03 31.3 0.0
ZALV Zalesovo Beam 40.87 310 P **P** 22 03 31.3 0.0
comp=Z,221nm,0.6s,baz=92,slow=7.7,SNR=837
ZALV PcP **PcP** 22 05 31.6 0.0
comp=Z,64nm,0.8s,baz=98,slow=3.0,SNR=3.9
ZALV LR LR 22 21 27.1
comp=Z,72µm,18.2s,baz=76,slow=38
ZALV PKPPKP P'P'df 22 35 44.0 -9.4
comp=Z,0.7nm,0.7s,baz=297,slow=6.3,SNR=2.6
CRAI Chiangrai 40.93 254 P **P** 22 03 29.6 -2.6
comp=Z,267nm,1.4s
KKM Kota Kinabalu 41.03 222 *e*P **P** 22 03 34.1 +1.0
comp=Z,406nm,1.2s
BAKI Biak 41.09 190 P **P** 22 03 34.4 +1.0
comp=Z,320nm,1.3s,comp=Z,6µm
TNTI Ternate 41.12 204 P **P** 22 03 33.9 +0.2
comp=Z,429nm,2.3s,comp=Z,11µmcomp=Z,24µm
TNTI Ternate 41.12 204 *e*P **P** 22 03 33.7 0.0
TNTI LR LR
comp=Z,5µm,2.6s
comp=Z,17µm,22.0s
CHGN Chignik 41.47 46 *e*P **P** 22 03 35.4 -0.7
SMPI Sarmi 41.60 186 P **P** 22 03 38.5 +0.9
comp=Z,412nm,1.6s,comp=Z,8µm
KHON Khomkaen 41.63 248 P **P** 22 03 38.0 +0.1
comp=Z,155nm,1.2s,comp=Z,2µm
SWI Sorong 41.64 197 P **P** 22 03 37.8 -0.2
comp=Z,163nm,2.0s,comp=Z,5µm
SIJI Sorong 41.65 197 P **P** 22 03 38.3 +0.2
comp=Z,52nm,0.9s,baz=359,slow=15,SNR=31
RKPI Ransiki, Papua 41.69 193 P **P** 22 03 38.5 +0.1
comp=Z,236nm,2.3s,comp=Z,5µm
TSM Tawau 41.70 219 ⇑P **P** 22 03 40.0 +1.4
NVS Novosibirsk 41.74 312 ⇑*i*P **P** 22 03 38.5 +0.1
NVS *e* 22 03 50.4
NVS *e* 22 13 41.8
NVS pmax pmax
comp=E,603nm,1.9s
NVS pmax pmax
comp=Z,776nm,1.9s
NVS pmax pmax
comp=N,62nm,1.6s
JAY Jayapura 42.01 183 P **P** 22 03 41.0 0.0
comp=N,143nm,1.4s,comp=N,3µm
JAY Jayapura 42.01 183 P **P** 22 03 41.3 +0.3
comp=N,59nm,1.1s,baz=300,slow=5.0,SNR=14
CMAI Chiengmai2 42.10 255 P **P** 22 03 42.4 +0.4
comp=N,223nm,1.5s,comp=N,8µm
GENI Genyem 42.11 184 P **P** 22 03 41.8 0.0
comp=N,476nm,0.9s,comp=N,8µm
UTTA Uttaradit 42.35 251 P **P** 22 03 43.8 0.0
comp=N,77nm,1.1s,comp=N,731nm
LBMI Labuha 42.41 203 P **P** 22 03 44.6 +0.3
comp=N,362nm,1.9s,comp=N,8µm
KMSI Cibinong 42.45 208 P **P** 22 03 44.7 +0.1
comp=N,1µm,1.1s,comp=N,13µm
CHAI Chaiyaphum 42.51 248 P **P** 22 03 44.9 -0.3
comp=N,123nm,1.3s,comp=N,1µm
CMMT Chiang Mai 42.86 254 P **P** 22 03 48.0 0.0
comp=N,660nm,1.2s,comp=N,10µm
CHTO Chiang Mai 42.86 254 P **P** 22 03 48.0 0.0
comp=N,1µm,1.6s,comp=N,35µm
CHTO Chiang Mai 42.86 254 *e*P **P** 22 03 48.5 +0.5
CHTO pmax pmax
comp=Z,224nm,1.0s
CHTO MLR MLR
comp=Z,25µm,21.0s
CHTO Chiang Mai 42.86 254 P **P** 22 03 48.7 +0.7
SNR=84
CHTO Chiang Mai 42.86 254 *e*P **P** 22 03 48.5 +0.5
comp=Z,224nm,1.0s
CHTO LR LR
comp=Z,25µm,21.0s
SVW2 Sparrevohn 42.89 39 *e*P **P** 22 03 49.3 +1.5
comp=Z,215nm,1.3s
LSA Lhasa 42.94 273 P **P** 22 03 50.2 +1.1
LSA sP **sP** 22 04 01.3 -0.4
LSA S S 22 10 02.8 -10
LSA LN
comp=Z,20µm,17.0s
LSA LE
comp=Z,54µm,18.4s
LSA LZ
comp=Z,81µm,17.6s
LSA Lhasa 42.94 273 *e*P **P** 22 03 49.6 +0.5
LSA pmax pmax
comp=Z,894nm,1.8s
LSA MLR MLR
comp=Z,86µm,19.0s
LSA Lhasa 42.94 273 *e*P **P** 22 03 49.5 +0.5
LSA LR LR
comp=Z,86µm,19.0s
CM31 Chiang Mai Arr 43.09 254 *e*P **P** 22 03 50.4 +0.5
CMAR Chiang Mai Arr 43.09 254 P **P** 22 03 50.4 +0.5
comp=Z,41nm,0.8s,baz=46,slow=6.4,SNR=275
CMAR LR LR 22 22 57.7
comp=Z,15µm,19.6s,baz=72,slow=38
CM01 Chiang Mai Arr 43.10 253 *e*P **P** 22 03 48.4 -1.5
TOLI Toli-Toli 43.20 213 PFAKE 22 04 00.0 +9.3
TOLI LR LR
comp=Z,8µm,20.0s
MRSI Marisa 43.31 211 P **P** 22 03 52.2 +0.6
comp=Z,684nm,1.3s,comp=Z,11µm
FAKI Fak Fak 43.42 195 P **P** 22 03 52.3 -0.2
comp=Z,250nm,2.0s,comp=Z,6µmcomp=Z,17µm
FAKI Fak Fak 43.42 195 *e*P **P** 22 03 52.1 -0.3
FAKI comp=Z,2µm,2.3s LR LR
comp=Z,30µm,21.0s
MK32 Makanchi Array 43.55 300 *e*P **P** 22 03 53.6 +0.3
MKAR Makanchi Array 43.55 300 P **P** 22 03 53.6 +0.3
comp=Z,142nm,0.7s,baz=80,slow=9.8,SNR=1017
MKAR LR LR 22 22 51.6
comp=Z,74µm,19.2s,baz=68,slow=37
IM04 Indian Mountai 43.92 32 *e*P **P** 22 03 55.9 -0.1
MHMT Maesarieng 44.01 254 P **P** 22 03 57.8 +0.6
comp=Z,172nm,1.3s,comp=Z,3µm
SANI Sanana 44.21 204 P **P** 22 03 58.1 -0.7
comp=Z,376nm,1.1s,comp=Z,7µmcomp=Z,24µm
MPSI Mapaga 44.28 214 P **P** 22 03 59.9 +0.5
comp=Z,216nm,1.9s,comp=Z,5µm
RSO Redoubt South 44.29 40 *e*P **P** 22 03 59.9 +0.7
LUWI Luwuk 44.38 209 P **P** 22 03 58.5 -1.7
comp=Z,493nm,1.3s,comp=Z,8µm
LUWI Luwuk 44.38 209 *e*P **P** 22 03 58.2 -2.0
LUWI comp=Z,666nm,1.3s LR LR
comp=Z,7µm,22.0s
SHL Shillong 44.40 267 *i*P **P** 22 04 00.0 -0.5
SHL *e*S **S** 22 10 33.0 -0.4
PPLA Purkeypile 44.50 36 *e*P **P** 22 04 01.8 +0.9
comp=Z,2µm,1.7s
CAST Castle Rocks 44.55 36 *e*P **P** 22 04 02.5 +1.4
comp=Z,361nm,1.3s
KDAK Kodiak Island 44.55 44 P **P** 22 04 00.5 -0.6
comp=Z,1µm,0.9s,SNR=26
KDAK Kodiak Island 44.55 44 *i*P **P** 22 04 00.9 -0.2
KDAK Kodiak Island 44.55 44 *e*P **P** 22 04 00.7 -0.4
KDAK comp=Z,249nm,1.0s LR LR
comp=Z,33µm,22.0s
UTHA Uthaitani 44.57 250 P **P** 22 04 02.4 +0.7
comp=Z,46nm,1.4s,comp=Z,576nm
SPU Mount Spurr 44.60 39 *e*P **P** 22 04 02.8 +1.2
APSI Ampana 44.69 211 P **P** 22 04 02.6 -0.1
comp=Z,617nm,1.3s,comp=Z,10µmcomp=Z,20µm
NLAI Namlea 45.00 202 P **P** 22 04 05.7 +0.6
comp=Z,172nm,1.2s,comp=Z,4µmcomp=Z,18µm
BPAW Bear Paw Mtn. 45.04 35 *e*P **P** 22 04 05.8 +0.9
comp=Z,73nm,1.3s
KURK Kurchatov 45.08 306 P **P** 22 04 05.4 +0.1
comp=Z,3µm,1.2s
KURK Kurchatov 45.08 306 *e*P **P** 22 04 05.5 +0.1
KURK comp=Z,1µm,1.1s pmax pmax
KURK comp=Z,25µm,18.0s MLR MLR
KURK Kurchatov 45.08 306 P **P** 22 04 05.7 +0.3
SNR=347
KURK Kurchatov 45.08 306 *e*P **P** 22 04 05.5 +0.1
comp=Z,1µm,1.1s
KURK comp=Z,25µm,18.0s LR LR
BTM Bintulu 45.08 224 ⇑P **P** 22 04 06.7 +0.9
MLY Manley 45.15 33 *e*P **P** 22 04 07.0 +1.1
comp=Z,380nm,1.2s

KURBB Kurchatov Arra 45.15 306 P **P** 22 04 06.0 +0.1
comp=Z,324nm,0.8s,baz=82,slow=8.6,SNR=1628
SUA Susitna One 45.22 38 *e*P **P** 22 04 07.0 +0.5
comp=Z,482nm,1.4s
BRLK Bradley Lake 45.26 41 *e*P **P** 22 04 07.4 +0.6
comp=Z,3µm,2.7s
PATY Pattaya 45.32 246 P **P** 22 04 08.6 +0.9
comp=Z,72nm,1.2s,comp=Z,936nm
TRF Thorofare Moun 45.36 36 *e*P **P** 22 04 08.2 +0.6
comp=Z,796nm,1.9s
COLD Coldfoot 45.42 30 *e*P **P** 22 04 08.8 +0.9
comp=Z,2µm,2.5s
PCI Palu 45.42 213 P **P** 22 04 08.1 -0.4
comp=Z,644nm,1.2s,comp=Z,8µm
BNDI Bandanaira 45.49 198 P **P** 22 04 09.6 +0.6
comp=Z,874nm,1.6s,comp=Z,20µm
KHLT Khaolaem Dam 45.69 250 P **P** 22 04 11.5 +0.9
comp=Z,105nm,1.1s,comp=Z,3µm
BWN Browne 45.70 35 *e*P **P** 22 04 11.9 +1.8
comp=Z,2µm,1.2s
RC01 Rabbit Creek A 45.73 39 *e*P **P** 22 04 11.0 +0.5
comp=Z,952nm,1.6s
RC01 LR LR
comp=Z,12µm,20.0s
MCK McKinley 45.95 35 *e*P **P** 22 04 12.7 +0.5
MCK pmax pmax
comp=Z,397nm,1.3s
MCK MLR MLR
comp=Z,14µm,21.0s
MCK McKinley 45.95 35 *e*P **P** 22 04 12.7 +0.5
comp=Z,397nm,1.3s
MCK LR LR
comp=Z,14µm,21.0s
SEW Seward 45.95 40 *e*P **P** 22 04 12.1 -0.1
comp=Z,2µm,2.2s
SEW LR LR
comp=Z,15µm,21.0s
RND Reindeer 46.00 36 *e*P **P** 22 04 12.7 +0.1
RND pmax pmax
comp=Z,674nm,1.4s
RND MLR MLR
comp=Z,15µm,20.0s
RND Reindeer 46.00 36 *e*P **P** 22 04 12.7 +0.1
comp=Z,674nm,1.4s
RND LR LR
comp=Z,15µm,20.0s
SBUM Sibu 46.17 224 ⇑P **P** 22 04 15.9 +1.5
SBUM Sibu 46.17 224 *e*P **P** 22 04 14.9 +0.4
comp=Z,276nm,1.3s
SBUM LR LR
comp=Z,17µm,19.0s
PHET Kaeng Krachan 46.21 247 P **P** 22 04 15.6 +0.9
comp=Z,107nm,1.1s,comp=Z,1µm
MDM Murphy Dome 46.21 33 *e*P **P** 22 04 15.1 +0.9
comp=Z,810nm,1.4s
WRH Wood River Hil 46.29 34 *e*P **P** 22 04 15.2 +0.4
comp=Z,363nm,1.4s
SML Sawmill 46.35 38 *e*P **P** 22 04 15.8 +0.5
SML pmax pmax
comp=Z,236nm,1.6s
SML Sawmill 46.35 38 *e*P **P** 22 04 15.8 +0.5
comp=Z,236nm,1.6s
SML LR LR
comp=Z,3µm,22.0s
COLA College 46.38 34 *c i*P **P** 22 04 16.0 +0.6
COLA College 46.38 34 *e*P **P** 22 04 16.3 +0.9
comp=Z,301nm,1.1s
COLA *e*S **S** 22 11 03.8 +3.2
CCB Clear Creek Bu 46.41 34 *e*P **P** 22 04 15.9 +0.2
comp=Z,372nm,1.3s
TAPN Taplejung 46.72 272 ⇑*i*P **P** 22 04 19.8 +0.8
comp=Z,1µm,1.2s
HDA Harding Lake 46.79 34 *e*P **P** 22 04 18.6 -0.1
comp=Z,426nm,1.3s
IL1 Eielson Array 46.80 34 *e*P **P** 22 04 17.8 -1.0
ILAR Eielson Array 46.80 34 P **P** 22 04 18.8 0.0
comp=Z,43nm,0.7s,baz=266,slow=6.0,SNR=330
ILAR LR LR 22 26 06.8
comp=Z,10µm,19.9s,baz=296,slow=39
ILAR PKPPKP P'P'df 22 35 34.8 -12
comp=Z,0.8nm,1.1s,baz=11,slow=1.4,SNR=3.1
ILAR PKP2ab 22 36 37.2
comp=Z,2.2nm,1.3s,baz=149,slow=3.6,SNR=4.4
ILB Eielson Array 46.80 34 *e*P **P** 22 04 18.8 0.0
SCM Sheep Creek Mo 46.82 38 *e*P **P** 22 04 19.6 +0.5
SCM pmax pmax
comp=Z,524nm,1.3s
SCM MLR MLR
comp=Z,17µm,21.0s
SCM Sheep Creek Mo 46.82 38 *e*P **P** 22 04 19.6 +0.5
comp=Z,524nm,1.3s
SCM LR LR
comp=Z,17µm,21.0s
BKB Balikpapan 47.03 216 P **P** 22 04 22.2 +1.1
comp=Z,1µm,1.4s,comp=Z,17µm
TARA Tarawa 47.08 136 *e*pP **pP** 22 04 33.8 +3.2
TARA LR LR
comp=Z,31µm,20.0s
KDI Kendari 47.13 208 P **P** 22 04 22.7 +0.8
comp=Z,200nm,1.7s,comp=Z,6µm
ODAN Odare 47.21 272 ⇑*i*P **P** 22 04 23.3 +0.5
comp=Z,1µm,1.4s
TTSI Tana Toraja 47.37 212 P **P** 22 04 22.9 -0.8
comp=Z,75nm,1.4s,comp=Z,3µm
FYU Fort Yukon 47.38 31 *e*P **P** 22 04 25.0 +1.7
comp=Z,994nm,1.4s
PAX Paxson 47.57 36 *e*P **P** 22 04 26.7 +1.8
PAX pmax pmax
comp=Z,253nm,1.4s
PAX MLR MLR
comp=Z,12µm,20.0s
PAX Paxson 47.57 36 *e*P **P** 22 04 26.7 +1.8
comp=Z,253nm,1.4s
PAX LR LR
comp=Z,12µm,20.0s
DIV Divide 47.64 39 *e*P **P** 22 04 26.3 +0.8
comp=Z,1µm,1.6s
DIV LR LR
comp=Z,16µm,22.0s
RAMN Ramite 47.77 272 ⇑*i*P **P** 22 04 27.7 +0.5
comp=Z,2µm,1.3s
GUN Gumba 47.85 274 ⇑*i*P **P** 22 04 28.6 +0.7
KSM Kuching 48.03 226 ⇓P **P** 22 04 30.7 +1.8
KSM Kuching 48.03 226 *e*P **P** 22 04 29.8 +0.9
comp=Z,439nm,1.2s
AAA Alma-Ata 48.18 297 *i*P **P** 22 04 31.2 +1.3
AAA *i*S S 22 11 42.6 +16
AAA pmax pmax
comp=Z,8µm,2.3s
AAA smax smax
comp=E,10µm,4.3s
AAA MLR MLR
comp=Z,91µm,11.0s
SPSI Sidrap Palu 48.22 211 P **P** 22 04 29.9 -0.5
comp=Z,219nm,1.2s,comp=Z,4µm
BMRM Bremner River 48.23 39 *e*P **P** 22 04 31.0 +1.0
comp=Z,751nm,1.3s
BMRM LR LR
comp=Z,15µm,22.0s
RAGM Ragged Mountai 48.28 39 *e*P **P** 22 04 31.7 +1.3
comp=Z,934nm,1.7s
RAGM LR LR
comp=Z,23µm,21.0s
KKN Kani 48.37 274 ⇑*i*P **P** 22 04 32.3 +0.5
comp=Z,896nm,0.9s
PKI Pulchoki 48.38 274 ⇑*i*P **P** 22 04 32.2 +0.2
comp=Z,1µm,1.4s
PKIN Phulchoki 48.39 274 ⇑*i*P **P** 22 04 32.1 +0.2
comp=Z,1µm,1.4s
STKI Sintang 48.57 224 P **P** 22 04 34.0 +0.9
comp=Z,347nm,1.5s,comp=Z,24µm
DMN Daman 48.59 274 ⇑*i*P **P** 22 04 34.0 +0.5
comp=Z,808nm,1.1s
GKN Gorkha 48.76 275 ⇑*i*P **P** 22 04 35.0 +0.3
comp=Z,2µm,1.4s
PMG Port Moresby 49.00 174 P **P** 22 04 38.0 +1.7
PMG pmax pmax
comp=Z,311nm,1.2s
PMG Port Moresby 49.00 174 *e*P **P** 22 04 33.6 -2.7
comp=Z,450nm,1.0s
PMG *e*pP **pP** 22 04 46.5 +1.1
ULHL Ulahol 49.02 296 P **P** 22 04 37.0 +0.5
SNR=38
KBKI Kotabaru 49.16 216 P **P** 22 04 37.4 -0.2
comp=Z,144nm,2.5s,comp=Z,5µm
KAPI Kappang 49.19 211 P **P** 22 04 38.9 +1.1
comp=Z,1µm,1.2s,SNR=31

KAPI Kappang 49.19 211 P **P** 22 04 38.6 +0.9
SNR=28
KAPI Kappang 49.19 211 *e*P **P** 22 04 38.2 +0.5
comp=Z,238nm,1.6s
TKM2 Tokmak 2 49.23 297 P **P** 22 04 39.2 +1.0
SNR=451
TKM2 Tokmak 2 49.23 297 *i*P **P** 22 04 38.9 +0.8
TKM2 pmax pmax
comp=Z,488nm,0.9s
TKM2 Tokmak 2 49.23 297 *e*P **P** 22 04 39.1 +1.0
comp=Z,2µm,1.7s
TKM2 LR LR
comp=Z,55µm,19.0s
EGAK Eagle 49.24 33 *e*P **P** 22 04 37.7 +0.1
comp=Z,378nm,1.4s
EGAK LR LR
comp=Z,13µm,21.0s
SRIT Nakonsritamara 49.24 243 P **P** 22 04 39.2 +1.0
comp=Z,273nm,0.8s,comp=Z,12µm
KTGM Kuala Trenggan 49.29 237 ⇓P **P** 22 04 40.4 +1.7
BKSI Bulukumba 49.32 210 P **P** 22 04 38.5 -0.3
comp=Z,127nm,1.4s,comp=Z,3µmcomp=Z,18µm
BVAR Borovoye Array 49.52 311 P **P** 22 04 40.2 +0.3
comp=Z,67nm,0.6s,baz=85,slow=7.5,SNR=452
SURT Suratani 49.54 244 P **P** 22 04 41.2 +0.7
comp=Z,126nm,1.4s,comp=Z,3µm
BRVK Borovoye 49.57 311 P **P** 22 04 40.7 +0.4
comp=Z,1µm,1.8s
BRVK Borovoye 49.57 311 *c i*P **P** 22 04 40.6 +0.3
BRVK pmax pmax
comp=Z,368nm,1.2s
BRVK MLR MLR
comp=Z,56µm,18.0s
BRVK Borovoye 49.57 311 P **P** 22 04 41.0 +0.7
SNR=192
BRVK Borovoye 49.57 311 *e*P **P** 22 04 40.8 +0.4
comp=Z,239nm,1.0s
BRVK LR LR
comp=Z,58µm,19.0s
SKLT Songkhla 49.58 241 P **P** 22 04 42.1 +1.3
comp=Z,480nm,1.4s,comp=Z,10µm
OTUK Ortayu 49.67 304 *i*P **P** 22 04 41.5 +0.3
OTUK pmax pmax
comp=Z,274nm,0.9s
KOLN Koldanda 49.67 275 ⇑*i*P **P** 22 04 42.4 +0.7
comp=Z,502nm,0.9s
TRTT Trang 49.72 242 P **P** 22 04 42.7 +0.8
comp=Z,463nm,1.2s,comp=Z,6µm
KZA Kyzart 49.77 296 P **P** 22 04 43.9 +1.4
SNR=149
KBK Karagaybulak 49.77 297 P **P** 22 04 43.0 +0.8
SNR=283
CHMS Chumysh 49.78 297 P **P** 22 04 42.5 +0.4
SNR=100
USP Ospenovka 49.86 298 P **P** 22 04 43.1 +0.4
SNR=15
BBKI Banjar Baru 49.92 217 P **P** 22 04 43.3 -0.1
comp=Z,459nm,1.6s,comp=Z,11µm
FRU Bishkek 49.93 297 ⇑*i*P **P** 22 04 42.0 -1.3
FRU *e* 22 06 40.0
FRU *i*S **S** 22 11 54.0 +2.4
FRU pmax pmax
comp=Z,920nm,2.0s
FRU pmax pmax
comp=E,4µm,6.0s
FRU smax smax
comp=E,8µm,8.0s
BSSI Bau Bau, Buton 49.94 209 P **P** 22 04 43.5 0.0
comp=E,254nm,1.6s,comp=E,6µm
BOK Bokaro 49.96 269 *e*P **P** 22 04 43.0 -0.7
BOK AMB AMB 22 04 44.9
comp=Z,304nm,0.9s
AAK Ala-Archa 50.09 297 P **P** 22 04 45.2 +0.6
SNR=6.5
AAK Ala-Archa 50.09 297 *i*P **P** 22 04 44.9 +0.3
AAK pmax pmax
comp=Z,364nm,1.5s
AAK Ala-Archa 50.09 297 *e*P **P** 22 04 45.1 +0.5
comp=Z,232nm,1.1s
AAK LR LR
comp=Z,46nm,19.0s
DAWY Dawson 50.11 34 *e*P **P** 22 04 44.9 +0.5
KSH Kashi 50.21 292 ⇑*i*P P 22 04 49.8 +4.2
KSH pP pP 22 04 57.0 +2.3
KSH PcP **PcP** **22 06 08.1 +3.7**
KSH PP PP 22 06 46.1 +5.3
KSH PcS **PcS** **22 10 01.5 -0.1**
KSH S **S** **22 12 00.1 +4.3**
KSH ScS **ScS** **22 14 36.1 +1.5**
KSH PMZ
comp=Z,290nm,1.1s
KSH PMZ
comp=Z,11µm,5.4s
KSH LN
comp=Z,15µm,13.3s
KSH LE
comp=Z,16µm,10.6s
KSH LZ
comp=Z,43µm,15.0s
UCH Uchtor 50.22 296 P **P** 22 04 46.6 +0.6
SNR=84
EKS2 Erkin-Say 50.57 297 P **P** 22 04 48.7 +0.5
SNR=208
EKS2 Erkin-Say 50.57 297 *e*P **P** 22 04 48.7 +0.5
EKS2 pmax pmax
comp=Z,129nm,0.8s
EKS2 MLR MLR
comp=Z,39µm,21.0s
EKS2 Erkin-Say 50.57 297 *e*P **P** 22 04 48.7 +0.5
comp=Z,129nm,0.8s
EKS2 LR LR
comp=Z,39µm,21.0s
PKDT Phuket 50.61 243 P **P** 22 04 49.5 +0.8
comp=Z,645nm,1.2s,comp=Z,10µm
PBKI Pangkalan Bun 50.82 221 P **P** 22 04 50.6 +0.4
comp=Z,462nm,1.4s,comp=Z,8µm
AML Almayashu 50.82 296 P **P** 22 04 51.5 +1.0
SNR=5.8
DGPR DIGLIPUR 50.89 253 *e*P **P** 22 04 49.9 -0.8
DGPR AMB AMB 22 04 53.0
comp=Z,756nm,0.0s
KULM Kulim 50.94 239 ⇓P **P** 22 04 52.4 +1.2
KULM Kulim 50.94 239 *e*P **P** 22 04 51.5 +0.4
comp=Z,266nm,1.2s
KULM LR LR
comp=Z,9µm,21.0s
IPM Ipoh 51.30 238 ⇓P **P** 22 04 54.5 +0.6
IPM Ipoh 51.30 238 *e*P **P** 22 04 53.6 -0.2
comp=Z,224nm,1.1s
IPM LR LR
comp=Z,15µm,18.0s
PTH Pithoragarh 51.40 279 *e*P **P** 22 04 53.8 -0.9
LGTI Lohaghat 51.42 279 *ex* P 22 04 58.2 +3.6
HNR Honiara 51.43 158 PFAKE 22 05 10.0 +15
HNR LR LR
comp=Z,158µm,22.0s
MYKOM Kota Tinggi 51.56 233 ⇓P **P** 22 04 57.5 +1.7
MYKOM Kota Tinggi 51.56 233 *e*P **P** 22 04 56.6 +0.8
comp=Z,191nm,1.3s
MYKOM LR LR
comp=Z,14µm,18.0s
MMRI Maumere 51.62 206 P **P** 22 04 56.0 -0.2
comp=Z,734nm,1.2s,comp=Z,12µmcomp=Z,23µm
MMRI Maumere 51.62 206 *e*P **P** 22 04 55.9 -0.2
comp=Z,878nm,1.2s
INK Inuvik 51.64 28 P **P** 22 04 56.2 +0.6
comp=Z,92nm,0.9s,baz=280,slow=7.0,SNR=73
INK Inuvik 51.64 28 *e*P **P** 22 04 56.5 +0.8
INK pmax pmax
comp=Z,168nm,0.9s
INK MLR MLR
comp=Z,28µm,22.0s
INK Inuvik 51.64 28 *e*P **P** 22 04 56.5 +0.8
comp=Z,168nm,0.9s
INK LR LR
comp=Z,28µm,22.0s
HYT Haines Junctio 51.66 38 *e*P **P** 22 04 58.2 +2.1
KGM Kluang 51.72 234 ⇓P **P** 22 04 58.2 +1.2
SFK Sufi-Kurgan 51.77 294 *i*P **P** 22 04 57.9 +0.5
SOEI Soe 52.02 203 P **P** 22 04 58.7 -0.6
comp=Z,502nm,1.2s,comp=Z,8µmcomp=Z,26µm
SOEI Soe 52.02 203 *e*P **P** 22 04 58.0 -1.3
comp=Z,850nm,1.3s
SOEI LR LR
comp=Z,13µm,22.0s
PBA Port Blair 52.02 252 *e*P P 22 04 54.7 -4.6
KKAR Karatay Array 52.63 299 *e*P **P** 22 05 03.5 0.0

KKAR Karatay Array 52.63 299 *eP* **P** 22 05 03.5 0.0
DDI Dehra Dun 52.67 281 *eP* **P** 22 05 02.5 -1.5
DDI AMB AMB 22 05 05.2
comp=Z,440nm,0.8s
SDNR Sundarnagar 52.93 283 *eP* **P** 22 05 04.0 -1.9
SMLA Simla 52.95 282 *eP* **P** 22 05 05.9 -0.1
SMLA AMB AMB 22 05 12.3
comp=Z,2μm,0.6s
SMLA *i* S **S** 22 12 32.2 -1.3
SKAG Skagway 53.07 39 *eP* **P** 22 05 08.5 +2.1
DHRM DHARAMSHALA 53.08 284 *eP* **P** 22 05 06.5 -0.7
DLH Dalhousie 53.19 284 *eP* **P** 22 05 08.0 0.0
OPA Opana 53.21 91 *eP* **P** 22 05 06.9 -1.1
OPA *e**PP **pP** 22 05 19.3 +2.1
OPA Opana 53.21 91 *eP* **P** 22 05 06.9 -1.1
OPA *ep*P **pP** 22 05 19.3 +2.1
COEN Coen 53.34 179 *eP* **P** 22 05 09.5 +0.6
comp=Z,18nm,1.0s
COEN LR LR
comp=Z,7μm,22.0s
KIP Kipapa 53.35 92 PFAKE 22 05 20.0 +11
KIP LR LR
comp=Z,8μm,19.0s
PPBI Pangkal Pinang 53.36 228 P **P** 22 05 09.8 +0.7
comp=Z,227nm,1.6s,comp=Z,6μmcomp=Z,22μm
BHK Bhakra 53.38 283 *ex* **P** 22 05 11.2 +2.0
LHMI Lhok Sumawe 53.48 242 P **P** 22 05 11.3 +1.3
comp=Z,374nm,1.4s,comp=Z,10μm
LHMI Lhok Sumawe 53.48 242 *eP* **P** 22 05 11.2 +1.3
comp=Z,467nm,1.2s
LHMI LR LR
comp=Z,19μm,19.0s
BESE Bessie Mountai 53.57 40 *eP* **P** 22 05 12.1 +1.9
comp=Z,173nm,1.4s
BESE LR LR
comp=Z,4μm,21.0s
TSI Tuntungan 53.65 239 P **P** 22 05 11.8 +0.5
comp=Z,176nm,1.2s,comp=Z,5μm
SVE Sverdlovsk 53.81 318*d iP* **P** 22 05 12.7 +0.8
SVE *e* 22 07 10.2
SVE *ePPP* PPP 22 08 28.7
SVE *eS* **S** 22 12 44.7 +0.3
SVE *e* 22 15 01.1
SVE *eSS* **SS** 22 16 29.3 +4.4
SVE *eSSS* SSS 22 18 09.9
SVE pmax pmax
comp=Z,709nm,1.1s
SVE pmax pmax
comp=Z,4μm,15.1s
SVE MLR MLR
comp=E,73μm,16.0s
SVE MLR MLR
comp=N,17μm,16.0s
SVE MLR MLR
comp=Z,111μm,16.0s
SIT Sitka 53.81 42 *eP* **P** 22 05 14.0 +2.1
SIT Sitka 53.81 42 *eP* **P** 22 05 14.0 +2.1
SRBI Singaraja 53.84 214 P **P** 22 05 13.0 +0.4
comp=Z,279nm,2.2s,comp=Z,9μm
PSI Prapat 53.94 239 *eP* **P** 22 05 13.4 -0.1
PSI pmax pmax
comp=Z,142nm,1.0s
PSI Prapat 53.94 239 *eP* **P** 22 05 13.4 -0.1
comp=Z,142nm,1.0s
GRJI Gresik 54.05 218 P **P** 22 05 14.3 +0.2
comp=Z,255nm,1.0s,comp=Z,4μm
NDI New Delhi 54.11 280 *eP* **P** 22 05 14.0 -0.5
NDI *eS* **S** 22 12 48.0 -1.2
RGRI Rengat 54.17 233 P **P** 22 05 16.9 +1.8
comp=Z,562nm,0.9s,comp=Z,76μm
BLJI Banyuglugur 54.26 216 P **P** 22 05 14.8 -0.8
comp=Z,83nm,1.7s,comp=Z,4μmcomp=Z,20μm
CMBY CAMPBELL BAY 54.32 247 *eP* **P** 22 05 14.4 -1.7
CHLP Challavanipeta 54.33 265 *eP* **P** 22 05 15.5 -0.7
CHLP IAmb IAmb 22 05 18.3
comp=Z,347nm,1.4s
CHLP *ep*P **pP** 22 05 22.6 -2.8
CHLP *es*P **sP** 22 05 25.6 -3.4
CHLP *ePP* **PP** 22 07 13.9 -4.4
CHLP *eS* **S** 22 12 49.0 -3.4
CHLP IVMs_BB IVMs_BB 22 27 52.8
comp=Z,4μm,22.4s
UWJI Ujung Watu 54.37 220 P **P** 22 05 16.7 +0.3
comp=Z,398nm,1.3s,comp=Z,7μm
DNP Denpasar 54.37 214 P **P** 22 05 15.6 -0.8
comp=Z,476nm,1.4s,comp=Z,18μmcomp=Z,32μm
BKNI Bangkinang 54.45 235 P **P** 22 05 17.8 +0.7
comp=Z,754nm,1.2s,comp=Z,11μmcomp=Z,42μm
BKNI Bangkinang 54.45 235 *eP* **P** 22 05 17.9 +0.7
comp=Z,772nm,1.1s
BKNI LR LR
comp=Z,15μm,22.0s
IGBI Denpasar 54.53 214 P **P** 22 05 15.5 -2.0
comp=Z,173nm,1.3s,comp=Z,4μm
PMBI Palembang 54.77 229 P **P** 22 05 21.3 +1.9
comp=Z,596nm,1.1s,comp=Z,11μmcomp=Z,35μm
GMJI Gumukmas 54.80 216 P **P** 22 05 18.1 -1.4
comp=Z,115nm,1.5s,comp=Z,4μmcomp=Z,16μm
SOKR Solikamsk 54.82 322*c iP* **P** 22 05 19.4 +0.3
SOKR 22 07 21.2
SOKR S **S** 22 12 57.5 -0.3
SOKR SS **SS** 22 16 39.3 -1.3
SOKR pmax pmax
comp=Z,360nm,1.2s
SOKR MLR MLR
comp=Z,33μm,17.0s
NGJI Ngawi 54.94 219 P **P** 22 05 21.4 +0.9
comp=Z,306nm,1.3s,comp=Z,9μm
ARU Arti 55.02 318 P **P** 22 05 21.5 +0.8
comp=Z,3μm,1.5s
ARU Arti 55.02 318*c iP* **P** 22 05 20.9 +0.2
ARU 22 06 19.5
ARU 22 07 21.2
ARU PPP PPP 22 08 35.7
ARU S **S** 22 13 01.4 +0.7
ARU 22 15 07.0
ARU SS **SS** 22 16 47.9 +3.9
ARU SSS SSS 22 18 46.0
ARU pmax pmax
comp=Z,1μm,1.7s
ARU pmax pmax
comp=Z,2μm,9.0s
ARU MLR MLR
comp=Z,97μm,17.0s
ARU Arti 55.02 318 *eP* **P** 22 05 20.7 0.0
comp=Z,1μm,1.4s
ARU LR LR
comp=Z,74μm,18.0s
MNSI Mandailing Nat 55.02 236 P **P** 22 05 20.2 -1.0
comp=Z,71nm,1.0s,comp=Z,3μm
SDSI Sungai Dareh 55.19 233 P **P** 22 05 22.8 +0.4
comp=Z,521nm,1.4s
PWJI Pagerwojo 55.34 218 P **P** 22 05 22.0 -1.4
comp=Z,411nm,0.9s,comp=Z,6μmcomp=Z,17μm
VIS Vishakhapatnam 55.35 265 *eP* **P** 22 05 22.1 -1.6
PPI Padang Panjang 55.46 235 P **P** 22 05 24.1 -0.3
comp=Z,79nm,1.2s,comp=Z,4μmcomp=Z,38μm
CRAG Craig 55.51 43 *eP* **P** 22 05 26.2 +2.0
WRAK Wrangell Islan 55.57 42 *eP* **P** 22 05 26.8 +2.1
WRAK *ep*P **pP** 22 05 37.9 +4.0
WRAK LR LR
comp=Z,8μm,20.0s
GSI Gunungsitoli 55.94 239 P **P** 22 05 28.1 +0.2
comp=Z,703nm,2.2s,comp=Z,15μm
GSI Gunungsitoli 55.94 239 *eP* **P** 22 05 27.8 -0.1
comp=Z,881nm,1.2s
GSI LR LR
comp=Z,20μm,18.0s
DLBC Dease Lake 56.01 39 P **P** 22 05 29.4 +1.6
comp=Z,52nm,1.0s,baz=285,slow=8.3,SNR=30
DLBC Dease Lake 56.01 39 *eP* **P** 22 05 29.6 +1.7
DLBC LR LR
comp=Z,8μm,19.0s
POHA Pohakuloa 56.21 92 PFAKE 22 05 40.0 +10
POHA LR LR
comp=Z,7μm,21.0s
LHSI Lahat 56.22 229 P **P** 22 05 30.5 +0.7
comp=Z,613nm,1.5s,comp=Z,13μmcomp=Z,23μm
KLI Kotabumi 56.30 227 P **P** 22 05 30.1 -0.2
comp=Z,557nm,1.2s,comp=Z,9μm
MDSI Maura Dua 56.38 228 P **P** 22 05 30.5 -0.4
comp=Z,400nm,1.6s,comp=Z,9μm
CBJI Citeko 56.48 224 P **P** 22 05 32.3 +0.6
comp=Z,207nm,1.5s,comp=Z,6μm
PBSI Pulau Batu 56.50 237 P **P** 22 05 32.1 +0.2
comp=Z,358nm,1.5s,comp=Z,9μm

NGP Nagpur 56.69 271 *eP* **P** 22 05 32.8 -0.4
NGP *ex* x 22 13 34.3
BHPL Bhopal 56.79 274 *eP* **P** 22 05 31.2 -2.7
LWLI Liwa 56.88 228 P **P** 22 05 33.7 -0.9
comp=Z,113nm,1.1s,comp=Z,4μm
CISI Cisompet, Garu 56.93 222 P **P** 22 05 32.5 -2.4
comp=Z,145nm,1.1s,comp=Z,3μmcomp=Z,21μm
CISI Cisompet, Garu 56.93 222 *eP* **P** 22 05 31.8 -3.1
comp=Z,128nm,1.0s
CISI LR LR
comp=Z,4μm,20.0s
PVM Polavaram 56.94 265 *eP* **P** 22 05 34.2 -0.7
PVM IAmb IAmb 22 05 36.0
comp=Z,206nm,1.2s
PVM *ePP* **PP** 22 07 42.9 +1.2
PVM *eS* **S** 22 13 27.6 +0.4
PVM *eSS* **SS** 22 17 16.7 +0.9
PVM IVMs_BB IVMs_BB 22 31 28.3
comp=Z,4μm,19.9s
SISI Saibi 56.96 235 P **P** 22 05 35.0 -0.1
comp=Z,195nm,1.3s,comp=Z,5μm
ABKAR Akbulak array 56.97 309 *eP* **P** 22 05 35.0 +0.2
KASI Kota Agung 57.04 227 P **P** 22 05 33.6 -2.0
comp=Z,178nm,1.2s,comp=Z,3μm
CNJI Cibinong 57.08 223 P **P** 22 05 32.9 -3.0
comp=Z,190nm,1.1s,comp=Z,3μmcomp=Z,14μm
CGJI Cibinong 57.27 225 P **P** 22 05 34.5 -2.8
comp=Z,116nm,1.5s,comp=Z,3μm
KBL Kabul 57.36 290 *eP* **P** 22 05 37.7 -0.3
KBL pmax pmax
comp=Z,672nm,1.3s
KBL MLR MLR
comp=Z,33μm,19.0s
KBL Kabul 57.36 290 *eP* **P** 22 05 37.7 -0.3
comp=Z,672nm,1.3s
KBL LR LR
comp=Z,33μm,19.0s
ALE Alert 57.44 4 P **P** 22 05 38.0 +0.4
comp=Z,896nm,1.4s,SNR=67
PPSI Pulau Pagai 57.49 233 P **P** 22 05 38.7 -0.1
comp=Z,511nm,1.4s,comp=Z,9μm
AKTO Aktyubinsk 57.62 311 *i* P **P** 22 05 39.2 -0.2
AKTO pmax pmax
comp=Z,177nm,0.8s
HOPEN Hopen 57.72 346 *eP* **P** 22 05 38.5 -1.1
HOPEN *eS* **S** 22 13 36.8 +0.9
RPR Rampur 57.80 268 *eP* **P** 22 05 39.6 -1.4
RPR IAmb IAmb 22 05 41.7
comp=Z,392nm,1.2s
RPR *es*P **sP** 22 05 51.0 -2.8
RPR *eP* **PP** 22 07 54.0 +4.8
RPR *eS* **S** 22 13 33.7 -4.8
RPR IVMs_BB IVMs_BB 22 32 54.6
comp=Z,5μm,18.1s
SPA0 Spitsbergen Ar 58.13 349⇑ *iP* **P** 22 05 41.9 -0.7
SPA0 *eS* **S** 22 13 39.9 -1.5
KBS Kingsbay 58.23 350⇑ *iP* **P** 22 05 44.0 +0.8
KBS *eS* **S** 22 13 43.4 +0.8
KBS IVMs_BB IVMs_BB 22 33 07.8
comp=Z,13μm,22.6s
KBS Kingsbay 58.23 350 *eP* **P** 22 05 44.2 +1.0
KBS pmax pmax
comp=Z,528nm,1.3s
KBS MLR MLR
comp=Z,11μm,20.0s
KBS Kingsbay 58.23 350 *eP* **P** 22 05 44.2 +1.0
comp=Z,528nm,1.3s
KBS LR LR
comp=Z,11μm,20.0s
SRSP Sriramsagar 58.49 269 *eP* **P** 22 05 44.3 -1.6
SRSP IAmb IAmb 22 05 47.0
comp=Z,1μm,1.5s
SRSP *ePP* **PP** 22 07 58.6 +3.1
SRSP *eS* S 22 13 40.9 -6.7
SRSP *eSS* SS 22 17 32.5 -7.7
SRSP IVMs_BB IVMs_BB 22 32 54.7
comp=Z,6μm,17.7s
AKL Akola 58.51 272 *eP* **P** 22 05 44.1 -1.9
AKL AMB AMB 22 05 51.0
comp=Z,504nm,0.9s
ADKI Addanki 59.05 265 *eP* **P** 22 05 49.0 -0.7
ADKI *ePP* **PP** 22 07 58.0 -2.4
ADKI *eS* **S** 22 13 55.9 +1.1
ADKI IVMs_BB IVMs_BB 22 31 17.9
comp=Z,4μm,18.5s
HSPB Hornsund (broa 59.07 348⇓ *iP* **P** 22 05 48.8 -0.3
HSPB IVMs_BB IVMs_BB 22 31 26.5
comp=Z,4μm,23.6s
PRGR Permogore 59.08 326⇑ *iP* **P** 22 05 49.5 +0.2
PRGR *SP **sP** 22 06 00.3 -1.8
PRGR *eS* **S** 22 13 49.0 -4.9
PRGR pmax pmax
comp=Z,532nm,1.5s
NJS Nagarjunasagar 59.14 266 *eP* **P** 22 05 49.4 -1.0
NJS IAmb IAmb 22 05 50.8
comp=Z,176nm,1.2s
NJS *ePP* **PP** 22 08 04.3 +3.2
NJS *eS* **S** 22 13 50.3 -5.6
NJS *eSS* **SS** 22 17 55.6 +5.2
NJS IVMs_BB IVMs_BB 22 33 19.9
comp=Z,4μm,20.0s
HYB Hyderabad 59.21 268⇑ *iP* **P** 22 05 50.0 -0.9
HYB *e* 22 06 02.0
HYB *ePP* **PP** 22 08 00.0 -1.8
HYB *e* 22 09 40.0
HYB *eS* **S** 22 13 56.0 -1.0
HYB *ePS* **PnS** 22 14 11.5 -0.1
HYB *e* 22 14 22.0
HYB *eScS* **ScS** 22 15 36.0 -3.1
HYB *eSS* **SS** 22 17 54.0 +2.5
HYB Hyderabad 59.21 268 *eP* **P** 22 05 48.1 -2.9
HYB AMB AMB 22 05 52.2
comp=Z,251nm,0.4s
HYBB Hyderabad (bro 59.21 268 *eP* **P** 22 05 49.9 -1.1
HYBB IAmb IAmb 22 05 51.3
comp=Z,167nm,1.1s
HYBB *e* 22 06 02.8
HYBB *ePP* **PP** 22 08 00.3 -1.5
HYBB *eS* **S** 22 13 54.7 -2.3
HYBB *e* 22 14 10.0
HYBB *e* 22 15 31.2
HYBB *eSS* **SS** 22 17 52.4 +0.8
HYBB IVMs_BB IVMs_BB 22 33 33.4
comp=Z,4μm,16.0s
KNTN Kanton 59.47 124 *epP* **pP** 22 06 05.4 +3.4
KNTN LR LR
comp=Z,14μm,21.0s
CTA Charters Tower 59.54 176 P **P** 22 05 52.1 -0.8
comp=Z,10nm,0.5s,baz=356,slow=6.7,SNR=13
CTAO Charters Tower 59.54 176 *eP* **P** 22 05 53.6 +0.7
CTAO pmax pmax
comp=Z,76nm,1.3s
CTAO Charters Tower 59.54 176 *eP* **P** 22 05 53.6 +0.7
comp=Z,76nm,1.3s
SRLM Srisailam 59.73 266 *eP* **P** 22 05 53.2 -1.3
SRLM IAmb IAmb 22 05 54.7
comp=Z,177nm,1.1s
SRLM *ePP* **PP** 22 08 03.6 -2.8
SRLM *eS* **S** 22 13 58.8 -4.8
SRLM *eSS* **SS** 22 17 55.5 -4.2
SRLM IVMs_BB IVMs_BB 22 36 47.5
comp=Z,4μm,15.6s
WRAB Tennant Creek 59.78 189 P **P** 22 05 53.9 -0.7
comp=Z,1μm,1.0s,SNR=75
WRAB Tennant Creek 59.78 189*c iP* **P** 22 05 53.6 -1.0
WRAB pmax pmax
comp=Z,854nm,1.2s
WRAB MLR MLR
comp=Z,16μm,23.0s
WRAB Tennant Creek 59.78 189 *eP* **P** 22 05 53.7 -0.9
comp=Z,246nm,1.0s
WRA Warramunga Arr 59.79 189 P **P** 22 05 53.4 -1.2
comp=Z,116nm,0.8s,baz=8.7,slow=7.1,SNR=249
WRA LR LR 22 33 00.2
comp=Z,4μm,18.6s,baz=5.0,slow=37
WRA PKPPKP **P'P'df** 22 35 19.6 +4.6
comp=Z,6.0nm,1.3s,baz=175,slow=2.0,SNR=5.7
RES Resolute Bay 59.83 15 P **P** 22 05 53.9 -0.4
comp=Z,96nm,0.9s,baz=305,slow=6.4,SNR=133
RES Resolute Bay 59.83 15 P **P** 22 05 53.9 -0.4
RES pmax pmax
comp=Z,96nm,0.9s
RES Resolute Bay 59.83 15 *eP* **P** 22 05 54.3 -0.1
comp=Z,318nm,1.1s
RCLA Racherla 60.06 266 *eP* **P** 22 05 55.4 -1.3

RCLA IAmb IAmb 22 05 57.4
comp=Z,223nm,1.1s
RCLA *ePP* **PP** 22 08 11.0 +1.7
RCLA *eS* S 22 14 01.1 -6.8
RCLA *eSS* **SS** 22 18 09.4 +4.5
RCLA IVMs_BB IVMs_BB 22 33 09.2
comp=Z,5μm,22.1s
LVZ Lovozero 60.10 335 *eP* **P** 22 05 55.7 -0.6
LVZ pmax pmax
comp=Z,2μm,3.0s
LVZ MLR MLR
comp=Z,18μm,18.0s
LVZ Lovozero 60.10 335 P **P** 22 05 55.0 -1.3
comp=Z,424nm,1.4s,SNR=14
LVZ Lovozero 60.10 335 *eP* **P** 22 05 55.7 -0.6
comp=Z,2μm,3.0s
LVZ LR LR
comp=Z,18μm,18.0s
BJO Bjornoya 60.13 345⇑ *iP* **P** 22 05 56.2 -0.2
KLRI Killari 60.34 269 *eP* **P** 22 05 56.8 -1.9
KLRI IAmb IAmb 22 05 58.8
comp=Z,579nm,1.2s
KLRI *ePP* PP 22 08 18.1 +6.3
KLRI *eS* **S** 22 14 05.5 -6.0
KLRI *eSS* **SS** 22 18 07.0 -2.3
KLRI IVMs_BB IVMs_BB 22 34 19.7
comp=Z,6μm,19.2s
SKHT Srikalahasti 60.52 263 *eP* **P** 22 05 59.1 -0.7
SKHT IAmb IAmb 22 06 01.2
comp=Z,423nm,1.3s
SKHT *es*P **sP** 22 06 10.0 -2.7
SKHT *ePP* PP 22 08 18.5 +5.1
SKHT *eS* **S** 22 14 09.1 -4.7
SKHT *eSS* **SS** 22 18 09.7 -2.3
SKHT IVMs_BB IVMs_BB 22 34 07.0
comp=Z,4μm,22.3s
MDRS Chennai 60.52 262 *eP* **P** 22 05 57.9 -2.0
XMIS Christmas Isla 60.53 223 *eP* **P** 22 05 58.2 -1.7
comp=Z,299nm,1.4s
APA Apatity 60.68 335⇑ *iP* **P** 22 05 59.8 -0.4
APA *i* 22 08 12.0
APA *i* S **S** 22 14 10.0 -4.4
APA *i* PS **PnS** 22 14 34.0 +3.9
APA *i* SS **SS** 22 18 14.0 +1.6
APA *i* SSS SSS 22 20 52.0
APA pmax pmax
comp=Z,195nm,1.0s
APA MLR MLR
comp=Z,22μm,21.0s
TMCR Tamitsa 60.89 331 *eP* **P** 22 06 02.0 +0.3
TMCR *e* 22 08 16.8
TMCR *eS* **S** 22 14 22.9 +5.7
TMCR pmax pmax
comp=Z,387nm,1.1s
YKA Yellowknife Ar 61.08 31 P **P** 22 06 02.8 -0.3
comp=Z,33nm,0.8s,baz=298,slow=6.7,SNR=44
YKA PKP2bc 22 35 31.6
comp=Z,2.4nm,1.0s,baz=119,slow=2.1,SNR=3.9
YKB5 Yellowknife Ar 61.08 31 *eP* **P** 22 06 02.2 -0.8
KEV Kevo 61.32 339 *eP* **P** 22 06 04.6 +0.1
KEV pmax pmax
comp=Z,3μm,3.0s
KEV MLR MLR
comp=Z,12μm,21.0s
KEV Kevo 61.32 339 *eP* **P** 22 06 04.6 +0.1
comp=Z,3μm,3.0s
KEV LR LR
comp=Z,12μm,21.0s
HAMF Hammerfest 61.64 341⇑ *iP* **P** 22 06 04.7 -2.0
HAMF IVMs_BB IVMs_BB 22 40 01.3
comp=Z,9μm,14.9s
URV Uravakonda 61.67 266 *eP* **P** 22 06 07.0 -0.7
URV IAmb IAmb 22 06 08.1
comp=Z,194nm,1.3s
URV *ePP* PP 22 08 29.5 +5.9
URV *eS* **S** 22 14 22.8 -5.7
URV *eSS* **SS** 22 18 25.1 -5.1
URV IVMs_BB IVMs_BB 22 33 59.2
comp=Z,3μm,15.6s
ARA0 ARCESS Array S 61.87 339 *eP* **P** 22 06 07.6 -0.7
ARCES ARCESS Array B 61.87 339 P **P** 22 06 08.2 -0.1
comp=Z,23nm,0.7s,baz=58,slow=9.3,SNR=61
ARCES PKP2bc 22 35 26.9
comp=Z,1.5nm,0.8s,baz=179,slow=8.2,SNR=4.0
ARCES LR LR 22 37 09.8
comp=Z,13μm,19.4s,baz=50,slow=40
ARE0 ARCESS Array S 61.87 339⇑ *iP* **P** 22 06 07.9 -0.4
ARE0 *eS* **S** 22 14 28.6 -0.9
POO Poona 62.19 272 *eP* **P** 22 06 09.9 -1.4
POO *i* SCS **SKSac** 22 15 59.0 -2.4
BHJ Bhuj 62.74 278 *eP* **P** 22 06 13.2 -1.6
KTK1 Kautokeino 62.82 339⇑ *iP* **P** 22 06 14.6 -0.1
KTK1 *eS* **S** 22 14 41.9 +0.3
IMYA Miami 62.83 296 *eP* **P** 22 06 16.4 +0.9
DAG Danmarks Havn 63.24 355⇑ *iP* **P** 22 06 17.2 -0.1
DAG *i* S **S** 22 14 46.6 +0.1
DAG Danmarks Havn 63.24 355⇑ *iP* **P** 22 06 17.2 -0.1
DAG *i* S **S** 22 14 46.6 +0.1
DAG MLR MLR
comp=Z,7μm,22.0s
ISRO Mashad 63.28 296 *eP* **P** 22 06 19.1 +0.7
GEYT Alibeck 63.38 298 P **P** 22 06 19.0 0.0
comp=Z,108nm,0.9s,baz=29,slow=3.4,SNR=212
GEYT LR LR 22 36 25.8
comp=Z,22μm,19.1s,baz=45,slow=38
IMOG Moghan 63.48 296 *eP* **P** 22 06 20.7 +0.8
AS01 Alice Springs 63.51 189 *eP* **P** 22 06 17.8 -1.9
AS01 ⇑*e* 22 35 10.1
AS12 Alice Springs 63.52 189 *eP* **P** 22 06 19.2 -0.5
ASAR Alice Springs 63.52 189 P **P** 22 06 19.2 -0.5
comp=Z,63nm,0.9s,baz=7.9,slow=5.1,SNR=338
ASAR LR LR 22 33 36.1
comp=Z,5μm,22.0s,baz=358,slow=36
ASAR PKPPKP P'P'df 22 35 14.8 +5.7
comp=Z,3.1nm,1.1s,baz=179,slow=2.8,SNR=7.3
TRO Tromso 63.53 341⇑ *iP* **P** 22 06 18.2 -1.1
TRO IVMs_BB IVMs_BB 22 39 30.9
comp=Z,7μm,16.2s
IPAY Payeh 63.54 296 *eP* **P** 22 06 20.8 +0.6
IAKL Akhelmad 63.62 297 *eP* **P** 22 06 21.6 +0.8
IKRD Kardeh 63.70 297 *eP* **P** 22 06 18.3 -3.1
PALK Pallekele 63.84 257 *iP* **P** 22 06 22.8 +0.6
PALK Pallekele 63.84 257 P **P** 22 06 22.9 +0.7
SNR=7.1
PALK Pallekele 63.84 257 *i* P **P** 22 06 22.4 +0.2
SNR=10.0
PALK Pallekele 63.84 257 *eP* **P** 22 06 22.3 +0.1
comp=Z,108nm,1.4s
PALK LR LR
comp=Z,10μm,21.0s
ISHV Shirvan 63.87 298 *eP* **P** 22 06 23.0 +0.6
PGC Sidney 63.87 47 *eP* **P** 22 06 23.0 +1.1
comp=Z,3μm,1.2s
PGC LR LR
comp=Z,11μm,22.0s
ISFR Sfrayin 63.91 298 *eP* **P** 22 06 23.6 +0.8
GOA Goa 64.00 269 *eP* **P** 22 06 22.0 -1.1
GOA AMB AMB 22 06 24.2
comp=Z,549nm,1.2s
MBWA Marble Bar 64.16 204 P **P** 22 06 23.9 -0.1
SNR=14
MBWA Marble Bar 64.16 204 *eP* **P** 22 06 23.6 -0.4
comp=Z,336nm,1.2s
NLWA Neilton Lookou 64.28 49 *eP* **P** 22 06 26.1 +1.4
comp=Z,2μm,2.6s
NLWA LR LR
comp=Z,11μm,22.0s
A05A Maple Falls 64.46 47 P **P** 22 06 25.9 +0.1
MBW Mount Baker 64.68 47 P **P** 22 06 27.6 +0.1
CMW Cultus Mountai 64.75 47 P **P** 22 06 28.6 +0.8
IDAH Dahanechah 64.87 293 *eP* **P** 22 06 29.7 +0.7
JCW Jim Creek 64.97 47 *eP* **P** 22 06 29.9 +0.8
B06A Marblemount 65.05 47 *eP* **P** 22 06 30.6 +1.0
RPW Rockport 65.08 47 *eP* **P** 22 06 30.1 +0.2
BMW Boistfort Moun 65.14 49 *eP* **P** 22 06 31.4 +1.1
BMW Boistfort Moun 65.14 49 *eP* **P** 22 06 31.4 +1.1
EIDS Eidsvold 65.18 172 *eP* **P** 22 06 31.0 +0.4
comp=Z,118nm,1.1s
EIDS LR LR
comp=Z,9μm,21.0s
F03A Seaside 65.23 50 *eP* **P** 22 06 33.6 +2.7
KULLO Kullorsuaq 65.28 6⇑ *iP* **P** 22 06 30.4 -0.3
KULLO *i* S **S** 22 15 09.9 -1.9

NOUC	**Port Laguerre**	**65.32**	**156**	*e*P		**P**	**22 06 29.3**	**-2.2**
DZM	**Mont Dzumac**	**65.33**	**156**	*e*P		**P**	**22 06 33.0**	**+1.3**
	comp=Z,1µm,1.3s							
DZM				*e*S		**S**	**22 15 08.9**	**-4.9**
	comp=Z,18µm,29.9s							
DZM	**Mont Dzumac**	**65.33**	**156**	*e*LR		LR	22 26 06.9	
	comp=Z,24µm,21.8s							
DZM	**Mont Dzumac**	**65.33**	**156**	*e*P		**P**	**22 06 32.6**	**+0.9**
F04D	**Rainier, OR**	**65.47**	**50**	P		**P**	**22 06 33.7**	**+1.3**
	baz=65							
D05A	**Enumclaw**	**65.48**	**48**	*e*P		**P**	**22 06 33.9**	**+1.5**
	comp=Z,4µm,3.0s							
ITEG	**Tejag**	**65.58**	**293**	*e*P		**P**	**22 06 34.4**	**+0.8**
IKOO	**Kooshah**	**65.65**	**293**	*e*P		**P**	**22 06 34.9**	**+0.8**
STEI	**Steigen**	**65.69**	**341**	⇑*i*P		**P**	**22 06 33.1**	**-0.3**
MOS	**Moscow**	**65.69**	**323**	*c i*P		**P**	**22 06 33.0**	**-0.6**
MOS				*i*			22 06 43.8	
MOS				*e*			22 07 05.7	
MOS				*e*			22 08 55.3	
MOS				*e*PPP		PPP	22 10 30.6	
MOS				*e*S		**S**	**22 15 15.7**	**-1.7**
MOS				*e*			22 16 23.6	
MOS				*i* SS		**SS**	**22 19 28.5**	**-2.5**
MOS				*e*SSS		SSS	22 22 27.8	
MOS				pmax		pmax		
	comp=Z,1µm,1.5s							
MOS				pmax		pmax		
	comp=Z,5µm,3.4s							
MOS				pmax		pmax		
	comp=N,350nm,1.4s							
MOS				pmax		pmax		
	comp=N,3µm,3.9s							
MOS				pmax		pmax		
	comp=E,3µm,4.3s							
MOS				MLR		MLR		
	comp=N,29µm,16.0s							
MOS				MLR		MLR		
	comp=Z,47µm,16.0s							
MOS				MLR		MLR		
	comp=E,32µm,16.0s							
G03D	**McMinnville, O**	**65.79**	**51**	P		**P**	**22 06 35.6**	**+1.2**
	baz=66,SNR=6.8							
TDL	**Tradedollar La**	**65.80**	**49**	P		**P**	**22 06 35.8**	**+1.1**
LON	**Longmire**	**65.82**	**49**	*e*P		**P**	**22 06 35.4**	**+0.7**
LON				pmax		pmax		
	comp=Z,1µm,2.7s							
LON	**Longmire**	**65.82**	**49**	*e*P		**P**	**22 06 35.4**	**+0.7**
	comp=Z,1µm,2.7s							
TRD	**Trivandrum**	**65.88**	**261**	*e*P		**P**	**22 06 34.3**	**-1.2**
XMAS	**Kiritimati**	**65.89**	**109**	*e*P		P	22 06 39.9	+4.5
	comp=Z,730nm,1.7s							
XMAS				LR		LR		
	comp=Z,47µm,20.0s							
F04A	**Amboy**	**65.90**	**50**	P		**P**	**22 06 36.1**	**+1.0**
LOF	**Lofoten**	**65.97**	**341**	⇑*i*P		**P**	**22 06 34.4**	**-0.8**
LOF				*e*S		**S**	**22 15 20.4**	**0.0**
MTMW	**Mount Mitchell**	**65.97**	**49**	P		**P**	**22 06 36.9**	**+1.1**
WPW	**White Pass**	**66.00**	**49**	*e*P		**P**	**22 06 36.6**	**+0.7**
MSVF	**Nonsavu**	**66.00**	**143**	P		**P**	**22 06 37.7**	**+1.6**
	comp=Z,260nm,1.2s,SNR=6.5							
MSVF	**Nonsavu**	**66.00**	**143**	*e*P		**P**	**22 06 37.8**	**+1.6**
MSVF				pmax		pmax		
	comp=Z,500nm,1.7s							
MSVF				MLR		MLR		
	comp=Z,13µm,20.0s							
MSVF	**Nonsavu**	**66.00**	**143**	*e*P		**P**	**22 06 37.8**	**+1.6**
	comp=Z,500nm,1.7s							
MSVF				LR		LR		
	comp=Z,13µm,20.0s							
COR	**Corvallis**	**66.10**	**51**	*e*P		**P**	**22 06 38.7**	**+2.2**
COR				pmax		pmax		
	comp=Z,641nm,1.3s							
COR	**Corvallis**	**66.10**	**51**	*e*P		**P**	**22 06 38.7**	**+2.2**
	comp=Z,641nm,1.3s							
LTY	**Liberty**	**66.20**	**48**	*e*P		**P**	**22 06 37.6**	**+0.4**
	comp=Z,3µm,3.0s							
B08A	**Colville Reser**	**66.34**	**46**	P		**P**	**22 06 38.5**	**+0.4**
WTV	**Waterville**	**66.36**	**47**	P		**P**	**22 06 39.0**	**+0.8**
KEBM	**Edson Butte**	**66.40**	**53**	*e*P		**P**	**22 06 40.6**	**+2.1**
	comp=Z,1µm,1.8s							
PUL	**Pulkovo**	**66.40**	**329**	*c i*P		**P**	**22 06 38.2**	**+0.1**
PUL				pmax		pmax		
	comp=Z,573nm,1.2s							
PUL				MLR		MLR		
	comp=Z,40µm,20.0s							
OBN	**Obninsk**	**66.55**	**323**	*c i*P		**P**	**22 06 39.2**	**+0.1**
OBN				*i*			22 06 50.3	
OBN				*e*SP		**sP**	**22 06 53.8**	**+1.8**
OBN							22 07 12.0	
OBN				*i*			22 09 09.6	
OBN				PPP		PPP	22 10 50.0	
OBN				*i* S		**S**	**22 15 26.2**	**-1.5**
OBN				*i* SS		**SS**	**22 19 37.5**	**-6.7**
OBN				pmax		pmax		
	comp=Z,773nm,1.2s							
OBN				MLR		MLR		
	comp=Z,41µm,15.0s							
OBN	**Obninsk**	**66.55**	**323**	P		**P**	**22 06 39.7**	**+0.6**
	comp=Z,3µm,0.7s,SNR=44							
OBN	**Obninsk**	**66.55**	**323**	*e*P		**P**	**22 06 39.3**	**+0.2**
	comp=Z,2µm,1.6s							
OBN				LR		LR		
	comp=Z,32µm,19.0s							
I03D	**Drain, OR**	**66.56**	**52**	P		**P**	**22 06 41.4**	**+2.0**
	baz=66,SNR=21							
H04A	**Detroit Lake**	**66.72**	**51**	*e*P		**P**	**22 06 41.4**	**+0.9**
	comp=Z,318nm,1.1s							
EDM	**Edmonton**	**66.73**	**39**	*e*P		**P**	**22 06 40.4**	**0.0**
EDM				MLR		MLR		
	comp=Z,11µm,21.0s							
EDM	**Edmonton**	**66.73**	**39**	*e*P		**P**	**22 06 40.4**	**0.0**
EDM				*e*P'P'df		**P'P'df**	**22 35 14.8**	**-1.3**
EDM				LR		LR		
	comp=Z,11µm,21.0s							
KBO	**Bosley Butte**	**66.82**	**54**	*e*P		**P**	**22 06 43.8**	**+2.5**
KBO				*e*pP		**pP**	**22 06 50.9**	**+0.2**
COCO	**West Island**	**66.84**	**230**	*i* P		**P**	**22 06 43.0**	**+1.6**
COCO	**West Island**	**66.84**	**230**	*e*P		**P**	**22 06 42.8**	**+1.3**
	comp=Z,1µm,1.4s							
COCO				*e*pP		**pP**	**22 06 54.3**	**+3.5**
FIA0	**FINESS Array S**	**66.92**	**332**	*e*P		**P**	**22 06 41.3**	**-0.1**
FIA0	**FINESS Array S**	**66.92**	**332**	*e*P		**P**	**22 06 41.2**	**-0.1**
FINES	**FINESS Array B**	**66.92**	**332**	P		**P**	**22 06 41.2**	**-0.1**
	comp=Z,108nm,0.6s,baz=55,slow=7.2,SNR=398							
FINES				PKP2ab			22 35 15.4	
	comp=Z,4.0nm,1.0s,baz=300,slow=5.7,SNR=5.4							
FINES				LR		LR	22 38 55.9	
	comp=Z,40µm,18.8s,baz=89,slow=39							
G05D	**Wamic, OR**	**66.93**	**50**	P		**P**	**22 06 43.1**	**+1.3**
	baz=67							
E07A	**Sunnyside**	**67.05**	**48**	*e*P		**P**	**22 06 44.0**	**+1.4**
	comp=Z,1µm,2.2s							
I04A	**Tendick Farm,**	**67.07**	**52**	P		**P**	**22 06 44.2**	**+1.5**
	baz=67,SNR=39							
MOR8	**Moi Rana**	**67.22**	**340**	⇑*i*P		**P**	**22 06 41.8**	**-1.5**
L02D	**Cave Junction,**	**67.24**	**54**	P		**P**	**22 06 45.6**	**+1.8**
	baz=67,SNR=6.0							
C09A	**Chrisman Ranch**	**67.25**	**46**	P		**P**	**22 06 44.3**	**+0.5**
D08A	**Wollman Farm,**	**67.30**	**47**	*e*P		**P**	**22 06 44.6**	**+0.5**
	comp=Z,3µm,2.8s							
KONS	**Konsvik**	**67.32**	**340**	*e*P		**P**	**22 06 43.3**	**-0.5**
HAWA	**Hanford**	**67.33**	**48**	*e*P		**P**	**22 06 45.0**	**+0.7**
	comp=Z,941nm,2.1s							
HAWA				*e*P'P'df		**P'P'df**	**22 35 12.7**	**-2.0**
G06A	**Carlson Farm,**	**67.33**	**49**	*e*P		**P**	**22 06 45.1**	**+0.7**
	comp=Z,3µm,2.8s							
FLOS	**Flostrand**	**67.38**	**340**	*e*P		**P**	**22 06 44.0**	**-0.2**
HUMO	**Hull Mountain**	**67.39**	**53**	*e*P		**P**	**22 06 46.5**	**+1.7**
	comp=Z,653nm,2.1s							
I05D	**Terrebonne, OR**	**67.41**	**51**	P		**P**	**22 06 46.2**	**+1.2**
	baz=67,SNR=17							
IANJ	**Anjilo**	**67.55**	**298**	*e*P		**P**	**22 06 47.0**	**+0.8**
J04D	**Umpqua Nationa**	**67.56**	**52**	P		**P**	**22 06 47.3**	**+1.3**
	baz=67,SNR=11							
VSR	**Storozhevoye**	**67.57**	**319**	*e*P		**P**	**22 06 45.5**	**-0.2**
VSR				*e*			22 09 09.5	
VSR				pmax		pmax		
	comp=N,400nm,1.2s							
VSR				pmax		pmax		
	comp=Z,600nm,1.2s							
VSR				pmax		pmax		
	comp=E,520nm,1.4s							
VSR				pmax		pmax		
	comp=Z,1µm,3.9s							
VSR				pmax		pmax		
	comp=N,770nm,3.5s							
VSR				pmax		pmax		
	comp=E,800nm,3.4s							
MAK	**Makhachkala**	**67.57**	**308**	*c i*P		**P**	**22 06 46.1**	**+0.3**
MAK				*i*			22 07 17.0	
MAK				*e*			22 09 22.7	
MAK				*e*PPP		PPP	22 10 59.4	
MAK				*e*S		**S**	**22 15 41.1**	**+0.6**
MAK				*e*			22 16 41.2	
MAK				*e*SS		**SS**	**22 20 02.4**	**+1.7**
MAK				*e*SSS		SSS	22 23 05.8	
MAK				pmax		pmax		
	comp=Z,541nm,2.0s							
MAK				pmax		pmax		
	comp=Z,5µm,5.1s							
MAK				pmax		pmax		
	comp=E,513nm,2.0s							
MAK				pmax		pmax		
	comp=N,214nm,1.1s							
MAK				smax		smax		
	comp=N,1µm,9.6s							
MAK				smax		smax		
	comp=E,1µm,10.1s							
MAK				MLR		MLR		
	comp=N,31µm,17.0s							
MAK				MLR		MLR		
	comp=Z,28µm,13.0s							
MAK				MLR		MLR		
	comp=E,27µm,14.0s							
NEW	**Newport**	**67.62**	**45**	*e*P		**P**	**22 06 46.5**	**+0.3**
NEW				pmax		pmax		
	comp=Z,823nm,2.1s							
NEW				MLR		MLR		
	comp=Z,7µm,22.0s							
NEW	**Newport**	**67.62**	**45**	P		**P**	**22 06 46.7**	**+0.5**
	baz=68,SNR=45							
NEW	**Newport**	**67.62**	**45**	*e*P		**P**	**22 06 46.5**	**+0.3**
	comp=Z,823nm,2.1s							
NEW				LR		LR		
	comp=Z,7µm,22.0s							
JMIC	**Jan Mayen**	**67.72**	**350**	⇑*i*P		**P**	**22 06 47.2**	**+0.9**
JMIC				*e*S		**S**	**22 15 41.9**	**+0.5**
ISHM	**Shahmirzad**	**67.78**	**299**	*e*P		**P**	**22 06 48.4**	**+0.7**
KHMM	**Horse Mountain**	**67.87**	**55**	*e*P		**P**	**22 06 50.1**	**+2.1**
YBH	**Yreka Blue Hor**	**68.03**	**54**	*e*P		**P**	**22 06 50.1**	**+1.2**
YBH				pmax		pmax		
	comp=Z,953nm,2.1s							
YBH	**Yreka Blue Hor**	**68.03**	**54**	*e*P		**P**	**22 06 50.1**	**+1.2**
	comp=Z,953nm,2.1s							
E09A	**Wood Farm, Sta**	**68.05**	**47**	*e*P		**P**	**22 06 49.3**	**+0.5**
	comp=Z,2µm,2.3s							
E09A				*e*P'P'df		P'P'df	22 35 06.3	-7.2
SUMG	**Summit**	**68.06**	**0**	⇑*i*P		**P**	**22 06 49.9**	**+1.0**
	comp=Z,132nm,0.8s							
SUMG				*i* S		**S**	**22 15 47.6**	**+1.3**
SUMG	**Summit**	**68.06**	**0**	⇑*i*P		**P**	**22 06 49.9**	**+1.0**
SUMG				*i* S		**S**	**22 15 47.6**	**+1.3**
SUMG				pmax		pmax		
	comp=Z,130nm,0.8s							
SUMG				MLR		MLR		
	comp=Z,8µm,18.0s							
SUMG	**Summit**	**68.06**	**0**	*e*P		**P**	**22 06 49.3**	**+0.3**
	comp=Z,1µm,1.7s							
SUMG				*e*P'P'df		P'P'df	22 35 03.6	-11
SUMG				LR		LR		
	comp=Z,16µm,20.0s							
J05D	**Fort Rock, OR**	**68.06**	**52**	P		**P**	**22 06 50.0**	**+0.9**
	baz=68,SNR=35							
K04D	**Chiloquin, OR**	**68.12**	**52**	P		**P**	**22 06 50.6**	**+1.1**
	baz=68							
M02C	**Callahan**	**68.13**	**54**	P		**P**	**22 06 50.9**	**+1.4**
	baz=68,SNR=11							
AFI	**Afiamalu**	**68.15**	**132**	PFAKE			22 07 00.0	+10
AFI				LR		LR		
	comp=Z,14µm,21.0s							
IFIR	**Firoozkooh**	**68.24**	**299**	*e*P		**P**	**22 06 51.1**	**+0.6**
ILAS	**Lasjerd**	**68.25**	**298**	*e*P		**P**	**22 06 51.4**	**+0.8**
KMRM	**Mail Ridge**	**68.25**	**55**	*e*P		P	22 06 53.5	+3.2
	comp=Z,1µm,2.0s							
N02D	**Trinity Center**	**68.46**	**54**	P		**P**	**22 06 52.3**	**+0.7**
	baz=68,SNR=10.0							
M04C	**Macdoel**	**68.54**	**53**	P		**P**	**22 06 52.7**	**+0.5**
	baz=68,SNR=28							
IBAF	**Bafgh**	**68.55**	**294**	*e*P		**P**	**22 06 52.6**	**+0.2**
K05A	**Summer Lake**	**68.59**	**52**	*e*P		**P**	**22 06 54.0**	**+1.5**
	comp=Z,6µm,3.0s							
K05A				*e*P'P'df		P'P'df	22 35 03.2	-9.5
KIPM	**Iron Peak**	**68.62**	**56**	*e*P		**P**	**22 06 54.4**	**+1.7**
KCPM	**Cahto Peak**	**68.63**	**56**	*e*P		**P**	**22 06 54.8**	**+2.1**
	comp=Z,689nm,2.0s							
VSU	**Vasula**	**68.66**	**329**	*c i*P		**P**	**22 06 52.5**	**+0.1**
VSU				pmax		pmax		
	comp=Z,1µm,1.2s							
VSU				MLR		MLR		
	comp=Z,101µm,18.0s							
IDMV	**Damavand**	**68.77**	**299**	*e*P		**P**	**22 06 54.2**	**+0.3**
WDC	**Whiskeytown Da**	**68.78**	**54**	*e*P		**P**	**22 06 54.5**	**+1.0**
WDC				pmax		pmax		
	comp=Z,2µm,2.8s							
WDC				MLR		MLR		
	comp=Z,5µm,21.0s							
WDC	**Whiskeytown Da**	**68.78**	**54**	*e*P		**P**	**22 06 54.5**	**+1.0**
	comp=Z,2µm,2.8s							
WDC				LR		LR		
	comp=Z,5µm,21.0s							
F10A	**Beach Ranch, E**	**68.88**	**47**	*e*P		**P**	**22 06 54.8**	**+0.6**
	comp=Z,237nm,1.6s							
WALA	**Waterton Lakes**	**68.89**	**43**	*e*P		**P**	**22 06 54.0**	**-0.2**
	comp=Z,30µm,2.2s							
WALA				*e*P'P'df		P'P'df	22 35 00.3	-12
WALA				LR		LR		
	comp=Z,7µm,20.0s							
GOF	**Gofitskoye**	**69.03**	**312**	⇑*i*P		**P**	**22 06 55.7**	**+0.7**
GOF				*e*S		S	22 15 50.0	-7.9
GOF				pmax		pmax		
	comp=Z,668nm,1.2s							
BSMT	**Bassoo Peak**	**69.14**	**45**	*e*P		**P**	**22 06 56.5**	**+0.7**
NSS	**Namsos**	**69.15**	**339**	⇑*i*P		**P**	**22 06 54.8**	**-0.6**
NSS				*e*PP		**PP**	**22 09 27.7**	**+0.1**
NSS				*e*S		**S**	**22 15 57.6**	**-1.0**
BLMT	**Blacktail Moun**	**69.27**	**44**	*e*P		**P**	**22 06 57.6**	**+0.9**
IVRN	**Varamin**	**69.30**	**299**	*e*P		**P**	**22 06 57.1**	**+0.2**
IMEH	**Mehriz**	**69.33**	**294**	*e*P		**P**	**22 06 56.9**	**-0.5**
JTMT	**Jette**	**69.47**	**45**	*e*P		**P**	**22 06 58.6**	**+0.8**
IR3	**Iran Long-Peri**	**69.50**	**299**	*e*P		**P**	**22 06 58.5**	**+0.3**
IGZV	**Ghazvin**	**69.52**	**301**	*e*P		**P**	**22 06 59.0**	**+0.5**
YBMT	**Yellow Bay**	**69.55**	**44**	*e*P		**P**	**22 06 59.6**	**+1.3**
ISAD	**Sadrabad**	**69.69**	**295**	*e*P		**P**	**22 06 59.2**	**-0.4**
DGRG	**David-gareji**	**69.73**	**307**	P		**P**	**22 06 60.0**	**+0.5**
DGRG				*e*		S	22 16 16.7	+10
SWMT	**Swartz Lake**	**69.77**	**45**	*e*P		**P**	**22 07 00.2**	**+0.5**
DUS	**Dusheti**	**69.77**	**308**	P		**P**	**22 07 01.3**	**+1.6**
ZEI	**Tsey**	**69.85**	**309**	*e*P		P	22 06 56.3	-4.0
ZEI				*e*S		S	22 16 26.4	+18
ZEI				pmax		pmax		
	comp=Z,1µm,1.5s							
ZEI				pmax		pmax		
	comp=N,731nm,1.5s							
ZEI				pmax		pmax		
	comp=E,753nm,1.1s							
ZEI				pmax		pmax		
	comp=Z,3µm,6.2s							
ZEI				MLR		MLR		
	comp=Z,49µm,14.0s							
ZEI				MLR		MLR		
	comp=E,49µm,15.0s							
ZEI				MLR		MLR		
	comp=N,50µm,14.0s							
KIV	**Kislovodsk**	**69.88**	**311**	*e*P		**P**	**22 07 02.2**	**+1.9**
KIV	**Kislovodsk**	**69.88**	**311**	P		**P**	**22 07 01.9**	**+1.5**
	comp=N,5µm,1.0s							
KIV	**Kislovodsk**	**69.88**	**311**	*c i*P		**P**	**22 07 01.0**	**+0.6**
KIV				*e*			22 07 21.5	
KIV				*e*			22 09 34.9	
KIV				*e*S		**S**	**22 16 08.8**	**+0.6**
KIV				*e*SS		**SS**	**22 20 42.8**	**+6.3**
KIV				pmax		pmax		
	comp=Z,965nm,1.0s							
KIV				pmax		pmax		
	comp=Z,2µm,3.7s							
KIV				MLR		MLR		
	comp=Z,39µm,17.0s							
KIV	**Kislovodsk**	**69.88**	**311**	P		**P**	**22 07 01.4**	**+1.0**
	SNR=369							
KIV	**Kislovodsk**	**69.88**	**311**	*i* P		**P**	**22 07 01.2**	**+0.8**
	SNR=571							
KIV	**Kislovodsk**	**69.88**	**311**	*e*P		**P**	**22 07 01.0**	**+0.6**
	comp=Z,909nm,1.0s							
KIV				LR		LR		
	comp=Z,42µm,18.0s							
KBZ	**Khabaz**	**69.89**	**310**	P		**P**	**22 07 00.8**	**+0.5**
	comp=Z,282nm,1.1s,baz=34,slow=7.1,SNR=320							
KBZ				PKPPKP		P'P'df	22 35 02.4	-7.7
	comp=Z,0.3nm,0.4s,baz=198,slow=4.7,SNR=4.5							
KBZ				LR		LR	22 42 53.8	
	comp=Z,18µm,18.1s,baz=50,slow=40							
NSHM	**Saint Helena R**	**69.91**	**56**	*e*P		**P**	**22 07 01.7**	**+1.1**
MCCM	**Marconi Confer**	**69.95**	**57**	*e*pP		**pP**	**22 07 13.3**	**+3.1**
MCCM				LR		LR		
	comp=Z,9µm,21.0s							
TBLG	**Delisi**	**69.96**	**308**	*e*P		**P**	**22 07 01.2**	**+0.4**
TBLG	**Delisi**	**69.96**	**308**	P		**P**	**22 07 01.1**	**+0.4**
TBLG				S		S	22 16 19.3	+10
IZEF	**Zefreh**	**70.08**	**297**	*e*P		**P**	**22 07 02.1**	**+0.1**
WVOR	**Wild Horse Val**	**70.12**	**51**	*e*P		**P**	**22 07 02.6**	**+0.7**
WVOR				pmax		pmax		
	comp=Z,1µm,2.1s							
WVOR	**Wild Horse Val**	**70.12**	**51**	*e*P		**P**	**22 07 02.6**	**+0.7**
	comp=Z,1µm,2.1s							
WVOR				*e*P'P'df		P'P'df	22 34 58.3	-12
IBND	**Bandar-abas**	**70.19**	**290**	*e*P		**P**	**22 07 02.3**	**-0.1**
IBND				*e*P		**P**	**22 07 02.8**	**+0.3**
SLMT	**Seeley Lake**	**70.20**	**45**	*e*P		**P**	**22 07 02.7**	**+0.3**
MSO	**Missoula**	**70.21**	**45**	P		**P**	**22 07 02.6**	**+0.2**
	baz=70,SNR=45							
MSO	**Missoula**	**70.21**	**45**	*e*P		**P**	**22 07 02.5**	**+0.2**
	comp=Z,119nm,1.0s							
MSO				*e*P'P'df		P'P'df	22 34 57.2	-13
MSO				LR		LR		
	comp=Z,5µm,22.0s							
ARMA	**Armidale**	**70.23**	**172**	*e*P		**P**	**22 07 03.2**	**+0.7**
	comp=Z,178nm,1.2s							
ARMA				LR		LR		
	comp=Z,7µm,20.0s							
ONI	**Oni**	**70.23**	**309**	P		**P**	**22 07 03.0**	**+0.5**
ONI				S		**S**	**22 16 12.2**	**0.0**
IRAZ	**Razeghan**	**70.28**	**300**	*e*P		**P**	**22 07 03.3**	**+0.2**
IKLH	**Kolahrood**	**70.35**	**297**	*e*P		**P**	**22 07 04.0**	**+0.4**
ISRB	**Sarab**	**70.38**	**303**	*e*P		**P**	**22 07 03.7**	**0.0**
IHRS	**Heris**	**70.49**	**304**	*e*P		**P**	**22 07 04.4**	**0.0**
CHMT	**Chamberlain Mo**	**70.53**	**45**	*e*P		**P**	**22 07 04.3**	**-0.2**
SAC	**San Andreas**	**70.57**	**57**	*e*P		pP	22 07 18.0	+3.9
SAC	**San Andreas**	**70.57**	**57**	*e*pP		pP	22 07 18.0	+3.9
TBLU	**Trondheim**	**70.62**	**339**	⇑*i*P		**P**	**22 07 03.3**	**-1.2**
TBLU				*e*S		**S**	**22 16 13.6**	**-2.4**
TBLU				IVMs_BB		IVMs_BB	22 44 08.5	
	comp=Z,9µm,14.5s							
IZAR	**Zarasai**	**70.69**	**328**	IAmb		IAmb	22 07 07.0	
	comp=Z,90nm,0.8s							
IDID	**Didziasalis**	**70.78**	**327**	*e*P		**P**	**22 07 06.1**	**+0.6**
IDID				IAmb		IAmb	22 07 06.7	
	comp=Z,111nm,0.8s							
MICGM	**Minsk**	**70.84**	**326**	⇑*i*P		**P**	**22 07 04.0**	**-1.9**
ISAL	**Salakas**	**70.86**	**327**	*e*P		**P**	**22 07 06.7**	**+0.7**
ISAL				IAmb		IAmb	22 07 07.3	
	comp=Z,176nm,0.9s							
MNK	**Minsk**	**70.86**	**326**	*c i*P		**P**	**22 07 04.0**	**-2.0**
GNI	**Garni**	**70.88**	**307**	*c i*P		**P**	**22 07 07.5**	**+0.9**
GNI				pmax		pmax		
	comp=Z,308nm,1.2s							
GNI				MLR		MLR		
	comp=Z,24µm,18.0s							
GNI	**Garni**	**70.88**	**307**	P		**P**	**22 07 08.1**	**+1.5**
	SNR=55							
GNI	**Garni**	**70.88**	**307**	*i* P		**P**	**22 07 07.9**	**+1.3**
	SNR=41							
GNI	**Garni**	**70.88**	**307**	*e*P		**P**	**22 07 07.8**	**+1.3**
	comp=Z,548nm,1.4s							
GNI				LR		LR		
	comp=Z,28µm,21.0s							
AKH	**Akhalkalaki**	**70.90**	**308**	*e*P		**P**	**22 07 07.8**	**+1.0**
AKH	**Akhalkalaki**	**70.90**	**308**	P		**P**	**22 07 07.7**	**+1.0**
AKH				S		S	22 16 31.3	+11
AKH	**Akhalkalaki**	**70.90**	**308**	⇓*i*P		**P**	**22 07 07.8**	**+1.0**
IIGN	**Ignalina**	**70.97**	**327**	*e*P		**P**	**22 07 07.3**	**+0.7**
IIGN				IAmb		IAmb	22 07 07.9	
	comp=Z,140nm,0.8s							
CHVG	**Ch'k'valeri**	**70.97**	**310**	*e*P		**P**	**22 07 07.9**	**+1.0**
CHVG	**Ch'k'valeri**	**70.97**	**310**	P		**P**	**22 07 07.6**	**+0.6**
ILULI	**Ilulissat**	**70.97**	**5**	⇑*i*P		**P**	**22 07 06.5**	**+0.1**
FFC	**Flin Flon**	**71.01**	**34**	P		**P**	**22 07 06.2**	**-0.7**
	comp=Z,484nm,1.0s,SNR=22							
FFC	**Flin Flon**	**71.01**	**34**	*e*P		**P**	**22 07 07.0**	**+0.1**
FFC				pmax		pmax		
	comp=Z,1µm,2.1s							
FFC				MLR		MLR		
	comp=Z,6µm,21.0s							
FFC	**Flin Flon**	**71.01**	**34**	*e*P		**P**	**22 07 07.0**	**+0.1**
	comp=Z,1µm,2.1s							
FFC				LR		LR		
	comp=Z,6µm,21.0s							
NACGM	**Naroch**	**71.04**	**327**	*e*P		**P**	**22 07 06.0**	**-1.1**
IFTB	**Fath-abad**	**71.08**	**304**	*e*P		**P**	**22 07 08.3**	**+0.3**
ITBZ	**Tabriz**	**71.11**	**304**	*e*P		**P**	**22 07 08.1**	**-0.1**
IMRD	**Marand**	**71.12**	**305**	*e*P		**P**	**22 07 08.3**	**+0.2**
STKA	**Stephens Creek**	**71.18**	**181**	P		**P**	**22 07 07.8**	**-0.2**
	comp=Z,49nm,1.0s,baz=346,slow=7.2,SNR=69							
STKA				PKPPKP		**P'P'df**	**22 35 00.5**	**+4.2**
	comp=Z,2.1nm,0.8s,baz=261,slow=6.9,SNR=3.5							
STKA	**Stephens Creek**	**71.18**	**181**	*e*P		**P**	**22 07 07.8**	**-0.2**
	comp=Z,12nm,0.9s							
STKA				P'P'			22 35 00.5	
IPIR	**Pirpir**	**71.19**	**297**	*e*P		**P**	**22 07 07.6**	**-1.2**
WBK	**Wadi Bani Khal**	**71.19**	**284**	P		**P**	**22 07 09.8**	**+1.2**
	SNR=51							
MFID	**Camas Ranch**	**71.20**	**49**	*e*P		**P**	**22 07 09.2**	**+0.7**
	comp=Z,2µm,2.8s							

comp=Z,298nm,1.0s
SOC MLR MLR
comp=Z,27µm,17.0s
DLMT Dillon 71.84 46 *e*P **P 22 07 13.4 +1.0**
comp=Z,199nm,1.0s
DLMT LR LR
comp=Z,5µm,22.0s
B19A Brinkman Farms 71.85 42 P **P 22 07 12.7 +0.5**
baz=72,SNR=74
HOQ Hoqain 71.86 286 P **P 22 07 13.1 +0.5**
SNR=88
UOSS Wadi Hilu 71.88 288 P **P 22 07 12.2 -0.5**
comp=Z,2µm,0.9s,SNR=56
DYDN Diyadin 71.89 307 *i* P **P 22 07 14.0 +1.2**
MOL Molde 71.91 340⇑*i*P **P 22 07 11.9 -0.3**
MOL *e*S **S 22 16 33.0 +2.3**
HLID Hailey 71.93 48 P **P 22 07 13.5 +0.6**
baz=72,SNR=45
HLID Hailey 71.93 48 *e*P **P 22 07 13.5 +0.6**
comp=Z,130nm,1.3s
HLID LR LR
comp=Z,6µm,22.0s
DOMB Dombas 71.93 339 *e*P **P 22 07 12.7 +0.3**
WAKR Walker 71.94 55 *e*P **P 22 07 14.1 +0.9**
JMDO Jabal Madar 71.98 284 P **P 22 07 13.9 +0.5**
SNR=70
CLDR Caldiran 71.98 306 *e*P **P 22 07 14.6 +1.2**
HATD Hatta, Dubai 72.01 288 P **P 22 07 14.0 +0.6**
SNR=77
HATD Hatta, Dubai 72.01 288 *i* P **P 22 07 13.8 +0.3**
SNR=144
BCA Borcka 72.01 309 *e*P **P 22 07 13.8 +0.6**
MCMT McKenzie Canyo 72.03 46 *e*P **P 22 07 13.8 +0.1**
DBOC Borcka 72.04 309 *i* P **P 22 07 14.0 +0.6**
DAGI Agillar 72.06 309 *i* P **P 22 07 14.4 +0.8**
A20A Cobblestone Ra 72.09 41 P **P 22 07 14.2 +0.5**
baz=72,SNR=10
NB2 NORSAR Subarra 72.12 337 P **P 22 07 13.3 -0.3**
comp=Z,915nm,1.7s,baz=37,slow=6.2
NB2 NORSAR Subarra 72.12 337 P **P 22 07 13.3 -0.3**
baz=37,slow=6.2
NB200 NORSAR Array S 72.12 337 *e*P **P 22 07 11.8 -1.7**
NOA NORSAR Array B 72.12 337 P **P 22 07 11.8 -1.7**
comp=Z,164nm,0.9s,baz=38,slow=6.0,SNR=209
NOA PP **PP 22 09 56.6 +3.3**
comp=Z,12nm,0.9s,baz=45,slow=8.8,SNR=4.0
NOA LR LR 22 42 05.4
comp=Z,20µm,20.1s,baz=40,slow=38
ASHO Ashiyiah 72.14 287 P **P 22 07 14.8 +0.5**
SNR=74
ASHO Ashiyiah 72.14 287 *i* P **P 22 07 14.5 +0.2**
SNR=129
BOZ Bozeman (W) 72.20 45 *e*P **P 22 07 15.3 +0.8**
BOZ Bozeman (W) 72.20 45 P **P 22 07 15.4 +0.8**
baz=72,SNR=75
BOZ Bozeman (W) 72.20 45 *e*P **P 22 07 15.3 +0.8**
IBZA Bozab 72.20 300 *e*P **P 22 07 14.7 -0.2**
IKAZ Kazeroun 72.21 294 *e*P **P 22 07 15.5 +0.4**
NBO02 NORSAR Array S 72.22 338 *e*P **P 22 07 13.4 -0.8**
DBAD Bademkaya 72.22 309 *i* P **P 22 07 15.4 +0.7**
NAZ Nazwa, Dubai 72.26 288 P **P 22 07 14.7 -0.2**
SNR=42
NAZ Nazwa, Dubai 72.26 288 *i* P **P 22 07 15.0 +0.1**
SNR=63
NC602 NORSAR Array S 72.26 337⇑*i*P **P 22 07 13.8 -0.6**
NC602 *e*S **S 22 16 33.9 -1.1**
DDEM Demirkent 72.27 309 *i* P **P 22 07 15.7 +0.8**
AGRB Hanur-Agry 72.30 307 *e*P **P 22 07 16.6 +1.3**
B20A Solberg Farm, 72.33 41 P **P 22 07 15.3 +0.2**
baz=72,SNR=45
BBOO Buckleboo 72.36 186 *e*P **P 22 07 15.2 +0.1**
comp=Z,14nm,1.0s
BBOO LR LR
comp=Z,6µm,18.0s
ANN Anapa 72.37 314*c i*P **P 22 07 15.0 -0.3**
ANN *i* *PP **pP 22 07 22.3 -2.4**
ANN *i* 22 07 32.3
ANN *i* 22 09 55.0
ANN *i* PPP PPP 22 11 42.9
ANN *i* S **S 22 16 38.5 +1.8**
ANN *e*SS **SS 22 21 14.3 -0.1**
ANN pmax pmax
comp=N,238nm,1.6s
ANN pmax pmax
comp=Z,1µm,1.6s
ANN pmax pmax
comp=E,278nm,1.6s
ANN pmax pmax
comp=N,83nm,1.1s
ANN pmax pmax
comp=Z,509nm,1.2s
ANN pmax pmax
comp=E,96nm,1.1s
ANN smax smax
comp=N,2µm,5.4s
ANN smax smax
comp=E,2µm,7.4s
ANN MLR MLR
comp=E,13µm,21.0s
ANN MLR MLR
comp=N,31µm,21.0s
ANN MLR MLR
comp=Z,23µm,21.0s
AKN Aaknes 72.38 340⇑*i*P **P 22 07 15.3 +0.3**
AKN *e*S **S 22 16 36.9 +0.6**
EATA Eleskirt 72.44 307 *i* P **P 22 07 17.5 +1.3**
FAQ Al Faqa, Dubai 72.45 288 *i* P **P 22 07 16.0 -0.1**
SNR=52
A21A Bergtoll Ranch 72.53 40 P **P 22 07 16.7 +0.5**
baz=72,SNR=12
ARQ Araqi 72.59 286 P **P 22 07 17.6 +0.6**
SNR=112
IKOM Komasi 72.61 300 *e*P **P 22 07 16.8 -0.3**
VANB Van 72.64 306 *e*P **P 22 07 18.3 +1.1**
TVAN Van 72.67 306 *i* P **P 22 07 17.9 +0.4**
HOMI Horasan 72.68 308 *i* P **P 22 07 18.6 +1.1**
NV01 Mina Array Sit 72.70 54 *e*P **P 22 07 17.6 -0.1**
NVAR Mina Array Bea 72.70 54 P **P 22 07 18.6 +0.9**
comp=Z,42nm,0.8s,baz=292,slow=5.6,SNR=108
NVAR PKPPKP P'P'df 22 34 56.1 -9.3
comp=Z,0.6nm,0.8s,baz=132,slow=2.2,SNR=3.9
ASUD Al Ashush, Dub 72.72 288 P **P 22 07 18.4 +0.8**
SNR=38
ASUD Al Ashush, Dub 72.72 288 *i* P **P 22 07 18.0 +0.3**
SNR=16
IKFM Kafar-mosalman 72.77 299 *e*P **P 22 07 17.7 -0.1**
AKASG Malin Array Be 72.78 322 P **P 22 07 17.5 -0.1**
comp=Z,33nm,0.4s,baz=41,slow=6.2,SNR=422
AKASG LR LR 22 42 20.4
comp=Z,28µm,18.6s,baz=40,slow=38
AKBB Malin Array Si 72.78 322 *e*P **P 22 07 17.5 -0.1**
AKBB Malin Array Si 72.78 322 *e*P **P 22 07 17.5 -0.1**
KIEV Kiev 72.79 322*c i*P **P 22 07 17.3 -0.4**
KIEV Kiev 72.79 322 *e*P **P 22 07 17.6 -0.1**
comp=Z,903nm,1.6s
KIEV LR LR
comp=Z,30µm,18.0s
C20A Veseth Ranch, 72.81 42 P **P 22 07 18.5 +0.5**
baz=73,SNR=65
QLMT Earthquake Lak 72.82 46 *e*P **P 22 07 19.0 +0.7**
AK11 Malin Array Si 72.82 322 *e*P **P 22 07 17.6 -0.3**
MLAC Mammoth Lakes 72.84 55 P **P 22 07 20.1 +1.5**
baz=73,SNR=15
B21A Ellsworth Farm 72.85 41 P **P 22 07 18.4 +0.2**
baz=73,SNR=48
GEVA Gevas 73.02 306 *i* P **P 22 07 19.7 +0.2**
A22A Carney Farms, 73.03 40 P **P 22 07 18.8 -0.4**
baz=73,SNR=71
HKR Hakkari 73.03 305 *e*P **P 22 07 19.8 +0.2**
IDHR Dehrash 73.04 301 *e*P **P 22 07 19.1 -0.7**
EKAR Karacoban 73.07 307 *i* P **P 22 07 21.3 +1.4**
HAKT HAKKARI 73.07 305 *i* P **P 22 07 19.8 -0.1**
ERZM Erzurum 73.10 308 *i* P **P 22 07 21.1 +1.0**
EZM Erzurum 73.10 308 *e*P **P 22 07 21.5 +1.4**
OSL Oslo 73.15 337 *e*P **P 22 07 20.0 +0.4**
ELK Elko 73.17 51 *e*P **P 22 07 21.4 +0.9**
ELK pmax pmax
comp=Z,345nm,1.8s
ELK Elko 73.17 51 *e*P **P 22 07 21.4 +0.9**
comp=Z,345nm,1.8s
SUW Suwalki 73.17 328 *e*P **P 22 07 19.6 -0.3**
SUW *e*sP **sP 22 07 31.2 -1.6**
SUW *e*S **S 22 16 44.9 -0.5**
SUW LMZ LR 22 41 21.2
SUW Suwalki 73.17 328⇑*e*P **P 22 07 19.6 -0.3**
SUW *e**SP **sP 22 07 31.3 -1.6**
SUW *e*S **S 22 16 45.0 -0.5**
SUW pmax pmax
comp=Z,600nm,1.3s
SUW MLR MLR
comp=Z,40µm,19.8s
GCMT Greycliff 73.17 44 *e*P **P 22 07 20.9 +0.7**
MTUM Tungsten Hills 73.18 55 *e*P **P 22 07 21.3 +0.8**
YMR Madison River 73.18 46 *e*P **P 22 07 21.9 +1.5**
comp=Z,576nm,1.8s
SFJD Kangerlussuaq 73.19 5⇑*i*P **P 22 07 19.9 +0.1**
comp=Z,321nm,1.4s
SFJD Kangerlussuaq 73.19 5 *e*P **P 22 07 19.9 +0.1**
SFJD pmax pmax
comp=Z,189nm,1.0s
SFJD MLR MLR
comp=Z,22µm,21.0s
SFJD Kangerlussuaq 73.19 5 *e*P **P 22 07 19.9 +0.1**
comp=Z,189nm,1.0s
SFJD LR LR
comp=Z,22µm,21.0s
C21A Desert Coulee 73.20 41 P **P 22 07 20.6 +0.4**
baz=73,SNR=22
YNR Norris Junctio 73.31 45 *e*P **P 22 07 24.1 +2.9**
comp=Z,264nm,1.5s
RCTC Rector, Farmer 73.38 57 P **P 22 07 22.1 +0.7**
baz=73
FOO Floro 73.38 340⇑*i*P **P 22 07 19.8 -1.1**
YFT Old Faithful 73.39 46 *e*P **P 22 07 24.4 +2.7**
comp=Z,1µm,2.3s
TATV Tatvan 73.40 306 *i* P **P 22 07 22.4 +0.7**
MACK Trabzon 73.42 310 *i* P **P 22 07 21.9 +0.2**
HYA Hoyanger 73.44 340⇑*i*P **P 22 07 21.4 +0.2**
B22A Reddig Ranch S 73.44 40 P **P 22 07 21.7 0.0**
baz=73,SNR=13
SMMC Simmler 73.49 58 P **P 22 07 22.6 +0.5**
baz=73
VRTB Varto-Mus 73.50 307 *e*P **P 22 07 23.7 +1.4**
BAYT Ayd˜–ntepe-Bay 73.54 309 *e*P **P 22 07 23.8 +1.3**
KOPT Kop Dagi 73.56 308 *i* P **P 22 07 23.9 +1.1**
LKWY Lake 73.56 45 *e*P **P 22 07 24.0 +1.3**
LKWY pmax pmax
comp=Z,2µm,2.7s
LKWY Lake 73.56 45 *e*P **P 22 07 24.0 +1.3**
comp=Z,2µm,2.7s
A23A Redstone 73.56 39 P **P 22 07 22.4 +0.1**
baz=73
H17A Grant Village 73.57 46 P **P 22 07 24.6 +1.9**
baz=73,SNR=12
H17A Grant Village 73.57 46 *e*P **P 22 07 25.3 +2.5**
comp=Z,812nm,1.9s
TIN Tinemaha 73.58 55 P **P 22 07 23.5 +0.8**
baz=74
IMW Indian Meadow 73.69 46 *e*P **P 22 07 24.7 +1.2**
comp=Z,2µm,3.0s
FLWY Flagg Ranch 73.70 46 *e*P **P 22 07 25.1 +1.7**
comp=Z,1µm,2.0s
KONO Kongsberg 73.72 337⇑*i*P **P 22 07 22.5 -0.4**
KONO *e*S **S 22 16 50.9 -0.6**
KONO IVMs_BB IVMs_BB 22 42 49.4
comp=Z,8µm,17.8s
KONO Kongsberg 73.72 337 *e*P **P 22 07 23.1 +0.1**
KONO pmax pmax
comp=Z,1µm,2.5s
KONO MLR MLR
comp=Z,22µm,19.0s
KONO Kongsberg 73.72 337 *e*P **P 22 07 23.1 +0.1**
comp=Z,1µm,2.5s
KONO LR LR
comp=Z,22µm,19.0s
D21A La Casta Ranch 73.75 42 P **P 22 07 24.0 +0.5**
baz=74,SNR=27
VES Vestal, Richgr 73.76 57 P **P 22 07 23.6 -0.1**
baz=74,SNR=28
FXWY Fox Creek 73.80 46 *e*P **P 22 07 25.2 +1.1**
comp=Z,2µm,3.0s
FXWY LR LR
comp=Z,5µm,21.0s
BNGL BINGOL 73.81 307 *i* P **P 22 07 25.2 +1.0**
RLMT Red Lodge 73.82 44 P **P 22 07 24.6 +0.5**
baz=74,SNR=27
B23A Brockton 73.83 40 P **P 22 07 24.2 +0.2**
baz=74,SNR=68
PKM Peak Mountain 73.85 58 P **P 22 07 25.1 +0.6**
baz=74,SNR=12
C22A Vida 73.87 41 P **P 22 07 23.9 -0.2**
baz=74,SNR=8.6
MOOW Moose Ponds 73.89 46 *e*P **P 22 07 25.7 +1.1**
comp=Z,2µm,2.8s
MOOW LR LR
comp=Z,5µm,22.0s
GUMT Gumushane 73.89 309 *e*P **P 22 07 25.0 +0.5**
SIRT Sirnak 73.90 305 *e*P **P 22 07 25.4 +0.8**
SUE Sulen 73.91 340⇑*i*P **P 22 07 23.1 -1.0**
SIRN S˜–rnak 73.92 305 *i* P **P 22 07 25.1 +0.4**
TPAW Teton Pass 73.94 47 *e*P **P 22 07 26.2 +1.2**
comp=Z,486nm,1.8s
TPAW LR LR
comp=Z,5µm,20.0s
F20A Billings 73.98 43 P **P 22 07 25.4 +0.5**
baz=74,SNR=17
HVU Hansel Valley 73.98 49 *e*P **P 22 07 26.1 +1.0**
HVU pmax pmax
comp=Z,1µm,2.8s
HVU MLR MLR
comp=Z,4µm,20.0s
HVU Hansel Valley 73.98 49 *e*P **P 22 07 26.1 +1.0**
comp=Z,1µm,2.8s
HVU LR LR
comp=Z,4µm,20.0s
A24A Westby 74.01 39 P **P 22 07 25.0 +0.1**
baz=74,SNR=17
CWC Cottonwood Cre 74.04 56 P **P 22 07 26.1 +0.6**
baz=74
LOHW Long Hollow 74.05 46 *e*P **P 22 07 26.6 +1.0**
comp=Z,1µm,2.5s
LOHW LR LR
comp=Z,5µm,22.0s
E21A Keefer Ranch, 74.06 42 P **P 22 07 26.1 +0.8**
baz=74,SNR=7.9
SNOW Snow King Moun 74.06 47 *e*P **P 22 07 27.1 +1.4**
comp=Z,178nm,1.3s
SNOW LR LR
comp=Z,6µm,22.0s
BTMT Batman 74.07 306 *e*P **P 22 07 26.2 +0.7**
REDW Red Top Meadow 74.08 47 *e*P **P 22 07 26.8 +1.0**
comp=Z,675nm,2.1s
REDW LR LR
comp=Z,6µm,22.0s
BNGB Bingˆ¶l 74.08 308 *e*P **P 22 07 26.9 +1.2**
SIM Simferopol' 74.10 316 *e*P **P 22 07 25.8 +0.3**
SIM *e* 22 10 10.0
SIM *e*PPP PPP 22 11 52.0
SIM *e*S **S 22 16 56.0 -0.3**
SIM *e*PS **PnS 22 17 40.0 +8.2**
SIM *e*SS **SS 22 21 44.0 +3.3**
SIM pmax pmax
comp=Z,234nm,1.0s
SIM pmax pmax
comp=Z,450nm,8.6s
SIM MLR MLR
comp=N,15µm,20.1s
D22A Cohagen 74.11 41 P **P 22 07 26.0 +0.4**
baz=74,SNR=40
GRAC Grapevine Rang 74.15 55 P **P 22 07 27.1 +1.0**
baz=74,SNR=13
C23A Lambert 74.18 40 P **P 22 07 26.4 +0.4**
baz=74,SNR=24
SBC Santa Barbara 74.20 58 P **P 22 07 27.1 +0.9**
baz=74
DGMT Dagmar 74.22 39 P **P 22 07 26.1 -0.1**
baz=74,SNR=17
DGMT Dagmar 74.22 39 *e*P **P 22 07 26.5 +0.2**
comp=N,1µm,1.9s
DGMT LR LR
comp=Z,8µm,20.0s
KELT Kelkit 74.22 309 *i* P **P 22 07 27.7 +1.1**
H19A Powell 74.26 45 P **P 22 07 27.5 +0.9**
baz=74,SNR=15
ISA Isabella 74.26 57 *e*P **P 22 07 26.6 -0.1**
ISA pmax pmax
comp=Z,59nm,1.0s
ISA Isabella 74.26 57 P **P 22 07 26.8 +0.1**
baz=74,SNR=8.5
ISA Isabella 74.26 57 *e*P **P 22 07 26.6 -0.1**
comp=Z,59nm,1.0s
SVAN Silvan-Diyarba 74.28 307 *e*P **P 22 07 28.0 +1.2**
ERZN Erzincan 74.29 308 *e*P **P 22 07 29.0 +2.1**
AHID Auburn Hatcher 74.32 47 *e*P **P 22 07 27.7 +0.6**
comp=Z,2µm,3.0s
AHID LR LR
comp=Z,9µm,22.0s
G20A Bridger 74.32 44 P **P 22 07 26.7 -0.3**
baz=74,SNR=18
GRSN GIRESUNGRSN 74.32 310 *i* P **P 22 07 26.6 -0.3**
BER Bergen 74.32 339⇑*i*P **P 22 07 25.2 -1.3**
BER *e*S **SKiKP 22 16 51.8 +0.9**
BER IVMs_BB IVMs_BB 22 43 56.4
comp=Z,10µm,16.4s
ARVC Arvin 74.36 57 P **P 22 07 27.4 +0.2**
baz=74,SNR=15
ODD1 Odda 74.36 339⇑*i*P **P 22 07 27.1 +0.3**
BGU Big Grassy Mou 74.37 50 *e*P **P 22 07 28.2 +0.8**
comp=Z,1µm,2.0s
BGU LR LR
comp=Z,4µm,22.0s
A25A Svangstu Ranch 74.43 39 P **P 22 07 27.8 +0.4**
baz=74,SNR=14
R11A Troy Canyon, C 74.44 53 P **P 22 07 28.2 +0.3**
baz=74,SNR=49
R11A Troy Canyon, C 74.44 53 *e*P **P 22 07 28.4 +0.5**
comp=Z,642nm,1.8s
R11A LR LR
comp=Z,7µm,21.0s
SPUT South Promonto 74.47 49 *e*P **P 22 07 29.1 +1.2**
comp=Z,1µm,2.5s
SPUT LR LR
comp=Z,5µm,21.0s
F21A Absaloka Mine, 74.50 43 P **P 22 07 28.3 +0.3**
baz=74,SNR=8.4
BSC Santa Cruz Isl 74.52 59 P **P 22 07 28.7 +0.5**
baz=74
D23A Lindsay 74.59 41 P **P 22 07 29.1 +0.6**
baz=74,SNR=49
MPMC Manual Prospec 74.65 56 P **P 22 07 29.1 -0.1**
baz=74,SNR=63
I19A Meeteetse 74.67 45 P **P 22 07 29.8 +0.7**
baz=74,SNR=16
E22A Miles City 74.71 42 P **P 22 07 29.0 -0.1**
baz=74,SNR=16
OSI Osito Adit 74.74 58 P **P 22 07 29.8 +0.3**
baz=75,SNR=6.3
OSI Osito Adit 74.74 58 *e*P **P 22 07 30.8 +1.3**
comp=Z,250nm,2.3s
OSI LR LR
comp=Z,12µm,21.0s
C24A Savage 74.75 40 P **P 22 07 29.5 +0.2**
baz=74,SNR=33
HWUT Hardware Ranch 74.79 48 *e*P **P 22 07 30.6 +0.8**
comp=Z,2µm,2.6s
HWUT LR LR
comp=Z,4µm,22.0s
FURC Furnace Creek, 74.80 55 P **P 22 07 30.4 +0.7**
baz=75,SNR=69
SUSE Susehri 74.81 310 *i* P **P 22 07 29.6 -0.3**
BLS5 Blasjo 74.82 338⇑*i*P **P 22 07 29.7 +0.3**
BLS5 IVMs_BB IVMs_BB 22 43 47.8
comp=Z,8µm,18.1s
BLG Laguna Peak 74.83 58 P **P 22 07 30.2 +0.2**
baz=75
G21A Lodge Grass 74.85 43 P **P 22 07 30.1 0.0**
baz=75,SNR=23
RSUT Red Spur Mount 74.86 48 *e*P **P 22 07 31.3 +0.9**
B25A Knox Farm, Ray 74.86 39 P **P 22 07 30.2 +0.2**
baz=75
LRMC Laurel Mountai 74.88 56 P **P 22 07 31.0 +0.7**
baz=75,SNR=34
TPNV Topopah Spring 74.89 54 *e*P **P 22 07 31.2 +0.7**
TPNV pmax pmax
comp=Z,4µm,2.9s
TPNV MLR MLR
comp=Z,10µm,22.0s
TPNV Topopah Spring 74.89 54 P **P 22 07 31.3 +0.8**
baz=75,SNR=101
TPNV Topopah Spring 74.89 54 *e*P **P 22 07 31.2 +0.7**
comp=Z,4µm,2.9s
TPNV LR LR
comp=Z,10µm,22.0s
H20A Greybull 74.92 44 P **P 22 07 30.6 +0.2**
baz=75,SNR=20
SORM Soroca 74.94 321⇓*i*P **P 22 07 30.5 +0.2**
DUG Dugway 74.96 50 *e*P **P 22 07 31.7 +0.9**
DUG pmax pmax
comp=Z,1µm,2.3s
DUG MLR MLR
comp=Z,5µm,22.0s
DUG Dugway 74.96 50 P **P 22 07 31.9 +1.1**
baz=75,SNR=62
DUG Dugway 74.96 50 *e*P **P 22 07 31.7 +0.9**
comp=Z,1µm,2.3s
DUG LR LR
comp=Z,5µm,22.0s
A26A Wade Farm, Ken 74.97 38 P **P 22 07 31.1 +0.5**
baz=75,SNR=18
F22A Rosebud 74.99 43 P **P 22 07 30.9 +0.2**
baz=75,SNR=27
E23A Ismay 75.00 41 P **P 22 07 31.6 +0.8**
baz=75,SNR=9.0
EDW2 Edwards Air Fo 75.06 57 P **P 22 07 31.7 +0.4**
baz=75,SNR=35
DYBB Diyarbakir 75.06 307 *e*P **P 22 07 32.6 +1.3**
MARD Mardin 75.06 306 *i* P **P 22 07 32.0 +0.6**
ILIC ilic-Erzincan 75.07 309 *e*P **P 22 07 31.8 +0.3**
D24A Glendive 75.08 41 P **P 22 07 31.9 +0.7**
baz=75,SNR=15
DIYA Diyarbakir 75.09 307 *i* P **P 22 07 32.2 +0.7**
J19A Crowheart 75.14 46 P **P 22 07 32.7 +0.8**
baz=75,SNR=41
BORG Borgarnes 75.16 353 P **P 22 07 32.8 +1.5**
comp=Z,955nm,1.5s,SNR=11
BORG Borgarnes 75.16 353 *i* P **P 22 07 33.7 +2.4**
BORG Borgarnes 75.16 353 *e*P **P 22 07 33.2 +1.9**
comp=Z,436nm,1.5s
BORG LR LR
comp=Z,6µm,19.0s
HOMB Homborsund 75.17 337⇑*i*P **P 22 07 31.1 -0.3**
HOMB *e*S **S 22 17 07.1 -0.6**
MAZI Mazidag 75.17 306 *e*P **P 22 07 32.8 +0.7**
BW06 Boulder Array 75.18 46 *e*P **P 22 07 32.2 +0.1**
comp=Z,1µm,2.8s
BW06 LR LR
comp=Z,7µm,20.0s
PD31 Pinedale Array 75.18 46 *e*P **P 22 07 32.2 +0.1**
PDAR Pinedale Array 75.18 46 P **P 22 07 32.2 +0.1**
comp=Z,17nm,0.7s,baz=324,slow=2.0,SNR=112
PDAR LR LR 22 36 29.9
comp=Z,5µm,21.8s,baz=337,slow=32
TCUT Toone Canyon 75.19 49 PFAKE 22 07 40.0 +7.7
TCUT LR LR
comp=Z,5µm,21.0s
C25A Freed Ranch, W 75.20 40 P **P 22 07 32.4 +0.5**
baz=75,SNR=7.1
I20A Worland 75.20 45 P **P 22 07 33.0 +0.9**
baz=75,SNR=46
RSDY Resadiye-TOKAT 75.21 310 *e*P **P 22 07 33.1 +1.0**
DECC Green Verdugo 75.22 58 P **P 22 07 32.8 +0.6**
baz=75,SNR=6.9
KEMA Kemaliye 75.23 309 *i* P **P 22 07 33.4 +1.1**
B26A Jensen Ranch, 75.24 39 P **P 22 07 32.6 +0.5**
baz=75,SNR=5.7
CTU Camp Tracy 75.27 49 *e*P **P 22 07 33.4 +0.8**
comp=Z,2µm,2.8s
CTU LR LR
comp=Z,5µm,21.0s
A27A Ledoux Ranch, 75.31 38 P **P 22 07 33.0 +0.5**
baz=75,SNR=12
KMY Karmoy 75.33 339 *e*P **P 22 07 33.7 +1.4**
KMY *e*S **S 22 17 10.4 +0.9**
H21A Big Horn, Sher 75.34 44 P **P 22 07 33.2 +0.3**
baz=75,SNR=38
G22A Birney 75.34 43 P **P 22 07 32.9 0.0**
baz=75,SNR=29
PASC Pasadena Art C 75.36 58 PFAKE 22 07 50.0 +17
PASC LR LR
comp=Z,10µm,21.0s
MWC Mount Wilson 75.41 58 *e*P **P 22 07 34.3 +0.7**
MWC Mount Wilson 75.41 58 *e*P **P 22 07 34.3 +0.7**
ELZG Elazig 75.42 308 *i* P **P 22 07 34.7 +1.2**
E24A Baker 75.46 41 P **P 22 07 33.7 +0.2**
baz=75,SNR=21
F23A Volborg 75.47 42 P **P 22 07 33.7 +0.2**
baz=75,SNR=71
KIS Kishinev 75.49 320⇑*i*P **P 22 07 32.0 -1.5**
comp=Z,1µm,1.8s

KIS	**Kishinev**	**75.49**	**320**	*i* PcP	**PcP**	**22 07 42.0**	**-4.5**
KIS	**Kishinev**	**75.49**	**320**	*e*PP	PP	22 10 23.0	+0.7
KIS	**Kishinev**	**75.49**	**320**	*e*PcS		22 12 24.0	
KIS				*i* S	**S**	**22 17 10.0**	**-1.7**
	comp=Z,2µm,8.0s						
KIS	**Kishinev**	**75.49**	**320**	*i* PS		22 17 30.0	
KIS				*e*SS	SS	22 22 10.0	+8.4
KIS				*e*SSS	SSS	22 25 28.0	
KIS				LRM	MLR	22 43 48.0	
	comp=Z,31µm,20.0s						
KIS	**Kishinev**	**75.49**	**320**⇑	*i*P	**P**	**22 07 32.0**	**-1.5**
KIS				*i*		22 07 42.0	
KIS				*e*		22 10 23.0	
KIS				*e*		22 12 04.0	
KIS				*i* S	**S**	**22 17 10.0**	**-1.7**
KIS				*i*		22 17 30.0	
KIS				pmax	pmax		
	comp=N,500nm,1.8s						
KIS				pmax	pmax		
	comp=Z,1µm,1.8s						
KIS				pmax	pmax		
	comp=E,800nm,2.0s						
KIS				pmax	pmax		
	comp=Z,4µm,6.0s						
KIS				pmax	pmax		
	comp=N,2µm,4.0s						
KIS				pmax	pmax		
	comp=E,2µm,4.0s						
KIS				pmax	pmax		
	comp=Z,4µm,22.0s						
KIS				smax	smax		
	comp=N,2µm,8.0s						
KIS				smax	smax		
	comp=E,1µm,8.0s						
KIS				MLR	MLR		
	comp=Z,31µm,20.0s						
KIS				MLR	MLR		
	comp=N,21µm,19.0s						
KIS				MLR	MLR		
	comp=Z,30µm,17.0s						
KIS				MLR	MLR		
	comp=E,13µm,17.0s						
JLU	**Jordanelle**	**75.50**	**49**	*e*P	**P**	**22 07 34.8**	**+0.8**
	comp=E,568nm,1.9s						
JLU				LR	LR		
	comp=Z,5µm,22.0s						
SNART	**Snartemo**	**75.50**	**337**⇑	*i*P	**P**	**22 07 33.8**	**+0.4**
KVT	**Kavak**	**75.52**	**312**	*e*P	**P**	**22 07 35.2**	**+1.3**
SHOC	**Shoshone**	**75.52**	**55**	P	**P**	**22 07 34.4**	**+0.5**
	baz=75						
NLU	**North Lily Min**	**75.55**	**50**	*e*P	**P**	**22 07 35.0**	**+0.7**
	comp=Z,1µm,3.0s						
NLU				LR	LR		
	comp=Z,7µm,22.0s						
D25A	**Fairfield**	**75.55**	**40**	P	**P**	**22 07 34.5**	**+0.5**
	baz=75,SNR=13						
GSC	**Goldstone**	**75.56**	**56**	*e*P	**P**	**22 07 34.6**	**+0.4**
GSC				pmax	pmax		
	comp=Z,614nm,2.0s						
GSC	**Goldstone**	**75.56**	**56**	P	**P**	**22 07 34.5**	**+0.2**
	baz=76,SNR=32						
GSC	**Goldstone**	**75.56**	**56**	*e*P	**P**	**22 07 34.6**	**+0.4**
	comp=Z,614nm,2.0s						
BSD	**Bornholm Skovb**	**75.56**	**332**⇑	*i*P	**P**	**22 07 33.7**	**0.0**
	comp=Z,434nm,1.3s						
BSD				*i*		22 07 45.2	
BSD				*i* S	**S**	**22 17 09.9**	**-2.3**
BSD	**Bornholm Skovb**	**75.56**	**332**⇑	*i*P	**P**	**22 07 33.7**	**0.0**
BSD				*i*		22 07 45.2	
BSD				*i* S	**S**	**22 17 09.9**	**-2.3**
BSD				pmax	pmax		
	comp=Z,430nm,1.3s						
BSD				MLR	MLR		
	comp=Z,31µm,19.0s						
FMP	**Fort Macarthur**	**75.57**	**58**	P	**P**	**22 07 34.6**	**+0.4**
	baz=76						
DIKM	**Dikmen**	**75.60**	**312**	*e*P	**P**	**22 07 35.2**	**+1.0**
J20A	**Shoshoni**	**75.62**	**45**	P	**P**	**22 07 34.9**	**+0.4**
	baz=75,SNR=27						
BFSC	**Mount Baldy Ra**	**75.67**	**57**	P	**P**	**22 07 35.0**	**0.0**
	baz=76,SNR=14						
SCER	**sogukcermik**	**75.67**	**310**	*i* P	**P**	**22 07 36.9**	**+2.1**
SOFL	**Sornfelli, Far**	**75.67**	**346**	*e*P	**P**	**22 07 34.1**	**-0.2**
B27A	**Peters Farms,**	**75.69**	**38**	P	**P**	**22 07 34.4**	**-0.2**
	baz=76,SNR=8.0						
C26A	**Wahner Farm, P**	**75.69**	**39**	P	**P**	**22 07 34.8**	**+0.1**
	baz=76						
CIS	**Catalina Islan**	**75.69**	**58**	P	**P**	**22 07 35.1**	**+0.2**
	baz=76						
RRX	**Edison Barstow**	**75.69**	**57**	P	**P**	**22 07 35.1**	**+0.2**
	baz=76						
SVSK	**Karacayir**	**75.71**	**310**	*e*P	**P**	**22 07 36.3**	**+1.4**
HAVZ	**Havza**	**75.71**	**312**	*i* P	**P**	**22 07 35.9**	**+1.0**
TOKT	**Tokat**	**75.72**	**311**	*e*P	**P**	**22 07 36.1**	**+1.1**
H22A	**Clearmont**	**75.73**	**43**	P	**P**	**22 07 35.2**	**+0.2**
	baz=76,SNR=27						
BEL	**Belsk**	**75.75**	**327**	*e*P	**P**	**22 07 35.6**	**+0.7**
BEL				*es*P	**sP**	**22 07 47.3**	**-0.6**
BEL				*e*S	**S**	**22 17 14.1**	**-0.3**
BEL				LMZ	LR	22 43 14.9	
BEL	**Belsk**	**75.75**	**327**⇑	*e*P	**P**	**22 07 35.7**	**+0.8**
BEL				*e**SP	**sP**	**22 07 47.4**	**-0.5**
BEL				*e*S	**S**	**22 17 14.1**	**-0.3**
BEL				pmax	pmax		
	comp=Z,2µm,1.6s						
BEL				MLR	MLR		
	comp=Z,43µm,19.5s						
I21A	**Big Trails, Te**	**75.75**	**45**	P	**P**	**22 07 35.7**	**+0.4**
	baz=76,SNR=104						
TOKA	**Tokat**	**75.75**	**311**	*i* P	**P**	**22 07 36.1**	**+0.9**
MPU	**Maple Canyon**	**75.77**	**50**	*e*P	**P**	**22 07 36.4**	**+0.9**
	comp=Z,3µm,2.1s						
LVV	**L'vov**	**75.80**	**324**⇓	*i*P	**P**	**22 07 35.7**	**+0.5**
LVV				*e*		22 07 49.7	
LVV				*e*		22 10 28.3	
LVV				*e*		22 12 11.5	
LVV				*i* S	**S**	**22 17 14.9**	**-0.1**
LVV				*e*		22 17 48.5	
LVV				*e*		22 22 10.3	
LVV				MLR	MLR		
	comp=N,23µm,16.0s						
LVV				MLR	MLR		
	comp=E,34µm,16.0s						
LVV				MLR	MLR		
	comp=Z,34µm,16.0s						
A28A	**Rude Farm, Bot**	**75.80**	**37**	P	**P**	**22 07 35.7**	**+0.3**
	baz=76,SNR=11						
G23A	**Biddle**	**75.83**	**43**	P	**P**	**22 07 35.3**	**-0.3**
	baz=76,SNR=44						
SCI	**San Clemente I**	**75.86**	**59**	P	**P**	**22 07 36.6**	**+0.7**
	baz=76						
MALT	**Malatya**	**75.88**	**308**	*e*P	**P**	**22 07 37.9**	**+1.9**
MALT	**Malatya**	**75.88**	**308**⇑	*i*P	**P**	**22 07 37.4**	**+1.4**
F24A	**Ekalaka**	**75.88**	**42**	P	**P**	**22 07 36.4**	**+0.5**
	baz=76,SNR=35						
E25A	**Miller Ranch,**	**75.96**	**41**	P	**P**	**22 07 36.6**	**+0.3**
	baz=76,SNR=40						
J21A	**Lysite**	**75.97**	**45**	P	**P**	**22 07 36.8**	**+0.2**
	baz=76,SNR=33						
IAS	**Iasi**	**75.98**	**320**⇑	*i*P	**P**	**22 07 36.4**	**+0.1**
COP	**Copenhagen**	**75.99**	**334**⇑	*i*P	**P**	**22 07 36.7**	**+0.5**
COP				*i*		22 07 45.5	
COP				*i* S	**S**	**22 17 15.5**	**-1.4**
COP	**Copenhagen**	**75.99**	**334**⇑	*i*P	**P**	**22 07 36.7**	**+0.5**
COP				*i*		22 07 45.5	
COP				*i* S	**S**	**22 17 15.5**	**-1.4**
COP				MLR	MLR		
	comp=Z,18µm,19.0s						
BYBT	**Boyabat**	**76.00**	**312**	*e*P	**P**	**22 07 38.4**	**+1.9**
TUQ	**Turquoise Moun**	**76.04**	**56**	P	**P**	**22 07 37.5**	**+0.5**
	baz=76,SNR=42						
C27A	**Sayler Ranch,**	**76.05**	**39**	P	**P**	**22 07 37.1**	**+0.4**
	baz=76,SNR=6.3						
D26A	**Manning**	**76.08**	**40**	P	**P**	**22 07 37.1**	**+0.2**
	baz=76,SNR=26						
B28A	**Dugan Ranch, T**	**76.08**	**38**	P	**P**	**22 07 37.3**	**+0.4**
	baz=76,SNR=21						
BZK	**Bozkurt**	**76.11**	**313**	*e*P	**P**	**22 07 38.0**	**+0.8**
GKP	**Gorka Klasztor**	**76.11**	**330**	*e*P	**P**	**22 07 37.1**	**+0.2**
GKP				*es*P	**sP**	**22 07 48.8**	**-1.1**
GKP				*e*S	**S**	**22 17 17.2**	**-1.1**
GKP				LMZ	LR	22 43 47.4	
GKP	**Gorka Klasztor**	**76.11**	**330**⇑	*e*P	**P**	**22 07 37.1**	**+0.2**
GKP				*e**SP	**sP**	**22 07 48.9**	**-1.0**
GKP				*e*S	**S**	**22 17 17.2**	**-1.1**
GKP				pmax	pmax		
	comp=Z,800nm,1.6s						
GKP				MLR	MLR		
	comp=Z,35µm,18.6s						
I22A	**9 Mile Ranch,**	**76.13**	**44**	P	**P**	**22 07 38.0**	**+0.6**
	baz=76,SNR=45						
BBRC	**Big Bear Solar**	**76.13**	**57**	P	**P**	**22 07 37.8**	**+0.1**
	baz=76						
LEOM	**Leova**	**76.14**	**320**	*e*P	**P**	**22 07 37.5**	**+0.4**
LEOM	**Leova**	**76.14**	**320**⇓	*i*P	**P**	**22 07 37.4**	**+0.2**
HEC	**Hector,Ludlow**	**76.16**	**56**	P	**P**	**22 07 38.0**	**+0.4**
	baz=76,SNR=19						
DWU	**Dry Willow Pea**	**76.17**	**52**	*e*P	**P**	**22 07 38.8**	**+0.9**
URFA	**Urfa**	**76.19**	**307**	*e*P	**P**	**22 07 39.2**	**+1.4**
AKCD	**Akcadag**	**76.19**	**308**	*i* P	**P**	**22 07 39.1**	**+1.2**
G24A	**Alzada**	**76.25**	**42**	P	**P**	**22 07 37.9**	**-0.1**
	baz=76,SNR=9.3						
H23A	**Clabaugh Cattl**	**76.25**	**43**	P	**P**	**22 07 37.8**	**-0.3**
	baz=76						
A29A	**Manning Farm,**	**76.27**	**37**	P	**P**	**22 07 38.2**	**+0.2**
	baz=76,SNR=62						
DARE	**Darende-Malaty**	**76.28**	**309**	*e*P	**P**	**22 07 40.0**	**+1.7**
CCUT	**Cedar City**	**76.30**	**53**	*e*P	**P**	**22 07 39.5**	**+0.9**
	comp=Z,375nm,1.7s						
CCUT				LR	LR		
	comp=Z,6µm,21.0s						
F25A	**Bowman**	**76.33**	**41**	P	**P**	**22 07 39.0**	**+0.6**
	baz=76,SNR=22						
LLD	**Lille Linde**	**76.35**	**333**	*i* P	**P**	**22 07 38.4**	**+0.2**
LLD				*i*		22 07 51.5	
LLD	**Lille Linde**	**76.35**	**333**	*i* P	**P**	**22 07 38.4**	**+0.2**
LLD				*i*		22 07 51.5	
MURC	**Murrieta**	**76.36**	**58**	P	**P**	**22 07 38.7**	**-0.1**
	baz=76						
MSU	**Marysvale**	**76.41**	**51**	*e*P	**P**	**22 07 40.4**	**+1.2**
MSU	**Marysvale**	**76.41**	**51**	*e*P	**P**	**22 07 40.4**	**+1.2**
E26A	**Carlson Angus**	**76.45**	**40**	P	**P**	**22 07 39.0**	**-0.1**
	baz=76,SNR=27						
MUD	**Monsted U'grnd**	**76.45**	**335**⇑	*i*P	**P**	**22 07 39.3**	**+0.5**
	comp=Z,39nm,0.8s						
MUD				*i*		22 10 29.1	
MUD	**Monsted U'grnd**	**76.45**	**335**⇑	*i*P	**P**	**22 07 39.3**	**+0.5**
MUD				*i*		22 10 29.1	
MUD				pmax	pmax		
	comp=Z,39nm,0.8s						
MUD				MLR	MLR		
	comp=Z,31nm,18.0s						
D27A	**Center**	**76.47**	**39**	P	**P**	**22 07 39.7**	**+0.5**
	baz=76,SNR=7.8						
TMUT	**Trail Mountain**	**76.48**	**50**	*e*P	**P**	**22 07 40.7**	**+1.0**
	comp=Z,1µm,2.7s						
ATAB	**Bozova**	**76.49**	**308**	*i* P	**P**	**22 07 40.6**	**+1.2**
PRAR	**RASCA**	**76.51**	**321**⇑	*i*P	**P**	**22 07 39.4**	**+0.1**
KWP	**Kalwaria Pacla**	**76.53**	**325**	*e*P	**P**	**22 07 40.1**	**+0.7**
KWP				*es*P	**sP**	**22 07 52.0**	**-0.4**
KWP				*e*S	**S**	**22 17 23.0**	**-0.1**
KWP				*e*SKSac	SKSac	22 17 39.4	-9.3
KWP				LMZ	LR	22 44 21.6	
KWP	**Kalwaria Pacla**	**76.53**	**325**⇑	*e*P	**P**	**22 07 40.2**	**+0.8**
KWP				*e**SP	**sP**	**22 07 52.0**	**-0.4**
KWP				*e*S	**S**	**22 17 23.0**	**-0.1**
KWP				*e*		22 17 39.5	
KWP				pmax	pmax		
	comp=Z,1µm,1.3s						
KWP				MLR	MLR		
	comp=Z,45µm,16.8s						
CTKT	**Corum**	**76.54**	**312**	*i* P	**P**	**22 07 40.6**	**+0.7**
B29A	**Wagenman Farm,**	**76.54**	**37**	P	**P**	**22 07 39.9**	**+0.4**
	baz=76,SNR=17						
H24A	**Dirks Ranch, A**	**76.57**	**42**	P	**P**	**22 07 39.4**	**-0.4**
	baz=76,SNR=59						
C28A	**Hausauer Farms**	**76.59**	**38**	P	**P**	**22 07 40.3**	**+0.5**
	baz=76,SNR=19						
GMRC	**Granite Mounta**	**76.62**	**56**	P	**P**	**22 07 40.6**	**+0.3**
	baz=76,SNR=30						
I23A	**Meade Ranch, G**	**76.63**	**44**	P	**P**	**22 07 39.8**	**-0.5**
	baz=76						
A30A	**Hoffart Farm,**	**76.69**	**36**	P	**P**	**22 07 40.4**	**+0.1**
	baz=76,SNR=26						
TOS	**Tosya**	**76.71**	**313**	*e*P	**P**	**22 07 42.1**	**+1.5**
F26A	**Lodgepole**	**76.78**	**41**	P	**P**	**22 07 40.8**	**-0.1**
	baz=77,SNR=26						
LDFC	**Landfair**	**76.78**	**55**	*e*P	**P**	**22 07 41.8**	**+0.5**
	comp=Z,717nm,1.6s						
BUR04	**Bucovina Ar. S**	**76.82**	**322**	*e*P	**P**	**22 07 40.0**	**-1.2**
BURAR	**Bucovina Array**	**76.82**	**322**⇑	*i*P	**P**	**22 07 41.7**	**+0.5**
GIUM	**Giurgiulesti**	**76.84**	**319**⇑	*i*P	**P**	**22 07 41.9**	**+0.7**
PFO	**Pinyon Flat Ob**	**76.84**	**57**	P	**P**	**22 07 42.3**	**+0.7**
	comp=Z,454nm,1.9s,SNR=10						
PFO	**Pinyon Flat Ob**	**76.84**	**57**	*e*P	**P**	**22 07 41.9**	**+0.3**
PFO				pmax	pmax		
	comp=Z,738nm,2.1s						
PFO				MLR	MLR		
	comp=Z,10µm,20.0s						
PFO	**Pinyon Flat Ob**	**76.84**	**57**	P	**P**	**22 07 41.6**	**0.0**
	baz=77,SNR=12						
PFO	**Pinyon Flat Ob**	**76.84**	**57**	*e*P	**P**	**22 07 41.9**	**+0.3**
	comp=Z,738nm,2.1s						
PFO				LR	LR		
	comp=Z,10µm,20.0s						
G25A	**Newell**	**76.85**	**42**	P	**P**	**22 07 41.3**	**-0.1**
	baz=77,SNR=15						
PINB	**Pinarbasi**	**76.86**	**309**	*i* P	**P**	**22 07 42.9**	**+1.1**
109C	**Camp Elliot, M**	**76.86**	**58**	P	**P**	**22 07 41.8**	**+0.3**
	baz=77						
MDND	**Maddock**	**76.87**	**38**	P	**P**	**22 07 41.7**	**+0.4**
	baz=77,SNR=24						
MDND	**Maddock**	**76.87**	**38**	*e*P	**P**	**22 07 41.8**	**+0.4**
	comp=Z,5µm,1.8s						
MDND				LR	LR		
	comp=Z,12µm,22.0s						
D28A	**Regan**	**76.87**	**39**	P	**P**	**22 07 41.9**	**+0.5**
	baz=77,SNR=17						
ILGA	**Ilgaz**	**76.87**	**313**	*i* P	**P**	**22 07 43.0**	**+1.2**
BELC	**Belle Mtn. Jos**	**76.89**	**57**	P	**P**	**22 07 41.9**	**0.0**
	baz=77,SNR=16						
TESR	**Tescani**	**76.90**	**320**⇑	*i*P	**P**	**22 07 41.9**	**+0.3**
E27A	**Carson**	**76.92**	**40**	P	**P**	**22 07 42.2**	**+0.5**
	baz=77,SNR=11						
K22A	**Casper**	**76.94**	**45**	P	**P**	**22 07 42.2**	**+0.1**
	baz=77,SNR=18						
K22A	**Casper**	**76.94**	**45**	*e*P	**P**	**22 07 42.2**	**+0.1**
	comp=Z,1µm,2.0s						
K22A				LR	LR		
	comp=Z,4µm,22.0s						
J23A	**Dills Ranch, B**	**76.96**	**44**	P	**P**	**22 07 42.1**	**0.0**
	baz=77,SNR=6.0						
KNB	**Kanab**	**76.98**	**53**	*e*P	**P**	**22 07 43.7**	**+1.3**
KNB				pmax	pmax		
	comp=Z,1µm,2.2s						
KNB				MLR	MLR		
	comp=Z,7µm,22.0s						
KNB	**Kanab**	**76.98**	**53**	*e*P	**P**	**22 07 43.7**	**+1.3**
	comp=Z,1µm,2.2s						
KNB				LR	LR		
	comp=Z,7µm,22.0s						
SRU	**San Rafael**	**77.01**	**50**	*e*P	**P**	**22 07 43.1**	**+0.6**
SRU				pmax	pmax		
	comp=Z,1µm,2.3s						
SRU				MLR	MLR		
	comp=Z,7µm,22.0s						
SRU	**San Rafael**	**77.01**	**50**	*e*P	**P**	**22 07 43.1**	**+0.6**
	comp=Z,1µm,2.3s						
SRU				LR	LR		
	comp=Z,7µm,22.0s						
GZT	**Gaziantep**	**77.01**	**308**	*i* P	**P**	**22 07 43.7**	**+1.1**
B30A	**Myrvik Farm, E**	**77.03**	**37**	P	**P**	**22 07 42.6**	**+0.4**
	baz=77,SNR=31						
CFR	**Carcaliu**	**77.09**	**319**⇑	*i*P	**P**	**22 07 42.8**	**+0.2**
F27A	**Lemmon**	**77.09**	**40**	P	**P**	**22 07 42.7**	**+0.1**
	baz=77,SNR=11						
I24A	**Kuemmerle Ranc**	**77.14**	**43**	P	**P**	**22 07 42.7**	**-0.5**
	baz=77,SNR=14						
H25A	**Fruitdale**	**77.15**	**42**	P	**P**	**22 07 43.3**	**+0.2**
	baz=77,SNR=13						
PETR	**Petresti**	**77.17**	**320**⇑	*i*P	**P**	**22 07 44.6**	**+1.6**
G26A	**Maurine**	**77.20**	**41**	P	**P**	**22 07 43.2**	**-0.1**
	baz=77,SNR=44						
CANT	**Cankiri**	**77.22**	**312**	*e*P	**P**	**22 07 44.6**	**+1.1**
KOLS	**Kolonicke sedl**	**77.23**	**324**	*e*P	**P**	**22 07 43.9**	**+0.5**
KOLS				pmax	pmax		
	comp=Z,159nm,1.3s						
KOLS	**Kolonicke sedl**	**77.23**	**324**	*e*P	**P**	**22 07 43.9**	**+0.5**
KOLS				*e*PP	**PP**	**22 10 37.1**	**+0.2**
KOLS				*e*S	**S**	**22 17 25.4**	**-5.4**
KOLS				*e*SS	SS	22 23 08.0	+40
E28A	**Huff**	**77.25**	**39**	P	**P**	**22 07 43.5**	**-0.1**
	baz=77,SNR=12						
RSSD	**Black Hills**	**77.27**	**43**	*e*P	**P**	**22 07 44.0**	**0.0**
RSSD				pmax	pmax		
	comp=Z,996nm,2.1s						
RSSD				MLR	MLR		
	comp=Z,4µm,21.0s						
RSSD	**Black Hills**	**77.27**	**43**	*e*P	**P**	**22 07 44.0**	**0.0**
	comp=Z,996nm,2.1s						
RSSD				LR	LR		
	comp=Z,4µm,21.0s						
BAR	**Barrett**	**77.28**	**58**	*e*P	**P**	**22 07 44.7**	**+0.7**
	comp=Z,152nm,2.0s						
NEE2	**Needles Airpor**	**77.29**	**55**	P	**P**	**22 07 44.0**	**0.0**
	baz=77						
MONP	**Monument Peak**	**77.31**	**58**	P	**P**	**22 07 44.6**	**+0.2**
	baz=77,SNR=7.8						
VRI	**Vrincioaia**	**77.32**	**320**	*e*P	**P**	**22 07 44.2**	**+0.3**
VRI	**Vrincioaia**	**77.32**	**320**⇑	*i*P	**P**	**22 07 44.7**	**+0.8**
KMRS	**Kahramanmaras**	**77.32**	**308**	*e*P	**P**	**22 07 45.4**	**+1.2**
SAFT	**Safranbolu**	**77.33**	**313**	*e*P	**P**	**22 07 45.1**	**+1.0**
IRM	**Iron Mountain**	**77.33**	**56**	P	**P**	**22 07 44.6**	**+0.3**
	baz=77,SNR=27						
STHS	**Stebnicka Huta**	**77.33**	**325**	*e*P	**P**	**22 07 44.9**	**+0.9**
STHS				pmax	pmax		
	comp=Z,211nm,1.5s						
STHS	**Stebnicka Huta**	**77.33**	**325**	*e*P	**P**	**22 07 44.9**	**+0.9**
K23A	**Bowen Ranch, D**	**77.36**	**44**	P	**P**	**22 07 44.2**	**-0.2**
	baz=77,SNR=16						
PLOR	**Plostina**	**77.36**	**320**⇓	*i*P	**P**	**22 07 44.9**	**+0.7**
OJC	**Ojcow**	**77.37**	**326**	*e*P	**P**	**22 07 44.6**	**+0.5**
OJC				*es*P	**sP**	**22 07 55.7**	**-1.4**
OJC				*e*S	**S**	**22 17 31.1**	**-1.1**
OJC				*e*SKSac	**SKSac**	**22 17 52.7**	**-2.1**
OJC				LMZ	LR	22 44 27.0	
OJC	**Ojcow**	**77.37**	**326**⇑	*e*P	**P**	**22 07 44.7**	**+0.6**
OJC				*e**SP	**sP**	**22 07 55.7**	**-1.4**
OJC				*e*S	**S**	**22 17 31.2**	**-1.0**
OJC				*e*		22 17 52.7	
OJC				pmax	pmax		
	comp=Z,700nm,1.3s						
OJC				MLR	MLR		
	comp=Z,42µm,19.6s						
OJC	**Ojcow**	**77.37**	**326**	*e*P	**P**	**22 07 44.4**	**+0.3**
	comp=Z,814nm,1.4s						
HCB	**Kahramanmara~**	**77.42**	**308**	*i* P	**P**	**22 07 45.3**	**+0.7**
D29A	**Pettibone, Tap**	**77.43**	**38**	P	**P**	**22 07 44.2**	**-0.4**
	baz=77						
CDAG	**Cicekdag**	**77.44**	**311**	*i* P	**P**	**22 07 45.3**	**+0.5**
TIRR	**Tirgusor**	**77.44**	**318**	*e*P	**P**	**22 07 45.5**	**+0.9**
TIRR	**Tirgusor**	**77.44**	**318**	*e*P	**P**	**22 07 44.9**	**+0.3**
TIRR				pmax	pmax		
	comp=Z,205nm,1.2s						
TIRR				MLR	MLR		
	comp=Z,57µm,18.0s						
TIRR	**Tirgusor**	**77.44**	**318**⇑	*i*P	**P**	**22 07 44.9**	**+0.3**
TIRR	**Tirgusor**	**77.44**	**318**	*e*P	**P**	**22 07 44.9**	**+0.3**
	comp=Z,205nm,1.2s						
TIRR				LR	LR		
	comp=Z,57µm,18.0s						
UZH	**Uzhgorod**	**77.44**	**324**	*e*P	**P**	**22 07 42.4**	**-2.1**
UZH				*e*		22 07 53.0	
UZH				*i*		22 10 39.7	
UZH				*e*S	**S**	**22 17 27.2**	**-5.9**
UZH				*i*		22 17 47.7	
UZH				*i*		22 17 53.0	
UZH				*i* PS	PnS	22 18 02.9	-12
UZH				MLR	MLR		
	comp=N,15µm,16.0s						
UZH				MLR	MLR		
	comp=E,28µm,16.0s						
UZH				MLR	MLR		
	comp=Z,16µm,16.0s						
BC3	**Big Chuckawall**	**77.46**	**57**	P	**P**	**22 07 45.4**	**+0.4**
	baz=77,SNR=26						
G27A	**Dupree**	**77.48**	**41**	P	**P**	**22 07 44.6**	**-0.2**
	baz=77,SNR=14						
J24A	**Dixon Ranch, L**	**77.48**	**44**	P	**P**	**22 07 44.7**	**-0.3**
	baz=77,SNR=15						
I25A	**Rochford**	**77.50**	**43**	P	**P**	**22 07 45.2**	**0.0**
	baz=77,SNR=56						
C30A	**Mose, Pekin**	**77.50**	**37**	P	**P**	**22 07 44.8**	**-0.1**
	baz=77,SNR=20						
HARR	**Harsova**	**77.53**	**318**⇓	*i*P	**P**	**22 07 45.6**	**+0.5**
GRER		**77.53**	**319**⇓	*i*P	**P**	**22 07 47.2**	**+2.1**
H26A	**Fairpoint**	**77.58**	**42**	P	**P**	**22 07 45.5**	**+0.1**
	baz=77,SNR=17						
BMR	**Baia Mare**	**77.59**	**323**⇑	*i*P	**P**	**22 07 46.3**	**+0.9**
ARCR	**ARCALIA**	**77.61**	**322**⇑	*i*P	**P**	**22 07 47.0**	**+1.5**
ANDN	**Andirin**	**77.61**	**309**	*i* P	**P**	**22 07 46.9**	**+1.1**
O20A	**White River Ci**	**77.66**	**48**	P	**P**	**22 07 46.3**	**+0.1**
	baz=78,SNR=29						
O20A	**White River Ci**	**77.66**	**48**	*e*P	**P**	**22 07 46.4**	**+0.2**
	comp=Z,829nm,2.2s						
O20A				LR	LR		
	comp=Z,3µm,20.0s						
KAMA	**Osmaniye**	**77.67**	**308**	*i* P	**P**	**22 07 47.0**	**+0.8**
IBP	**Imperial Bould**	**77.67**	**58**	P	**P**	**22 07 46.8**	**+0.6**
	baz=78						
KUZU	**Kuzuini**	**77.69**	**308**	*i* P	**P**	**22 07 47.2**	**+1.0**
SWSC	**Sam W. Stewart**	**77.69**	**57**	P	**P**	**22 07 46.7**	**+0.5**
	baz=78,SNR=9.8						
F28A	**McLaughlin**	**77.71**	**40**	P	**P**	**22 07 46.2**	**+0.1**
	baz=78,SNR=15						
AVNT	**Avonos**	**77.71**	**310**	*i* P	**P**	**22 07 46.8**	**+0.4**
NIE	**Niedzica**	**77.74**	**326**	*e*P	**P**	**22 07 47.2**	**+0.9**
NIE				*es*P	**sP**	**22 07 59.0**	**-0.3**
NIE				*e*S	**S**	**22 17 37.3**	**+0.9**
NIE				*e*SKSac	**SKSac**	**22 17 55.2**	**-2.5**
NIE				LMZ	LR	22 45 03.4	
NIE	**Niedzica**	**77.74**	**326**⇑	*e*P	**P**	**22 07 47.2**	**+0.9**
NIE				*e**SP	**sP**	**22 07 59.1**	**-0.3**
NIE				*e*S	**S**	**22 17 37.4**	**+1.0**
NIE				*e*		22 17 55.3	
NIE				pmax	pmax		
	comp=Z,300nm,1.4s						
NIE				MLR	MLR		
	comp=Z,25µm,18.2s						
E29A	**Napoleon**	**77.76**	**39**	P	**P**	**22 07 46.3**	**-0.1**
	baz=78,SNR=7.2						
RAO	**Raoul Island**	**77.79**	**145**	PFAKE		22 08 00.0	+13
RAO				LR	LR		
	comp=Z,12µm,20.0s						
BR101	**Keskin Array S**	**77.79**	**312**	*e*P	**P**	**22 07 47.1**	**+

comp=Z,47µm,19.4s
E30A Jud 78.16 38 P P 22 07 48.6 -0.1
baz=78,SNR=34
ANTO Ankara 78.18 312 eP P 22 07 50.0 +1.0
ANTO Ankara 78.18 312 eP P 22 07 49.3 +0.4
ANTO pmax pmax
comp=Z,589nm,1.4s
ANTO MLR MLR
comp=Z,11µm,22.0s
ANTO Ankara 78.18 312⇑iP P 22 07 49.8 +0.9
ANTO Ankara 78.18 312 P P 22 07 49.9 +1.0
SNR=154
ANTO Ankara 78.18 312 eP P 22 07 49.3 +0.4
comp=Z,589nm,1.4s
ANTO LR LR
comp=Z,11µm,22.0s
LOD Lodumlu 78.19 312 eP P 22 07 49.8 +0.8
F29A Eureka 78.20 39 P P 22 07 48.9 +0.1
baz=78,SNR=21
G28A Parade 78.20 40 P P 22 07 49.0 +0.1
baz=78,SNR=14
BR231 Keskin MP Arra 78.21 312 eP P 22 07 46.9 -2.2
BBAL Bala 78.21 312 iP P 22 07 49.4 +0.2
PV09 Paradox Valley 78.23 50 eP P 22 07 50.5 +1.0
SECR 78.23 320⇓iP P 22 07 49.8 +0.8
CJR Cluj-Napoca 78.23 322⇑iP P 22 07 50.2 +1.1
GLA Glamis 78.25 57 eP P 22 07 50.1 +0.7
GLA pmax pmax
comp=Z,723nm,2.1s
GLA Glamis 78.25 57 P P 22 07 50.3 +0.9
baz=78,SNR=14
GLA Glamis 78.25 57 eP P 22 07 50.1 +0.7
comp=Z,723nm,2.1s
NIG Nigde 78.30 310 eP P 22 07 50.9 +1.1
AFSR Af ar-Bala (A 78.31 312 eP P 22 07 50.6 +0.9
LANS Liptovska Anna 78.31 326 eP P 22 07 51.2 +1.8
LANS Liptovska Anna 78.31 326 eP P 22 07 51.2 +1.8
J26A Sides Ranch, S 78.33 43 P P 22 07 49.7 0.0
baz=78,SNR=41
MLA1 Latheron 78.33 342⇑iP P 22 07 49.3 0.0
I27A Quinn 78.33 42 P P 22 07 49.9 +0.2
baz=78,SNR=8.1
CEYT Ceyhan 78.34 309 eP P 22 07 51.1 +1.4
KSP Ksiaz 78.35 329 eP P 22 07 50.1 +0.6
KSP esP sP 22 08 01.9 -0.7
KSP eS S 22 17 41.2 -1.5
KSP eSKSac SKSac 22 17 59.0 -2.9
KSP LMZ LR 22 44 56.9
KSP Ksiaz 78.35 329⇑eP P 22 07 50.1 +0.6
KSP e*SP sP 22 08 01.9 -0.7
KSP eS S 22 17 41.3 -1.5
KSP e 22 17 59.1
KSP pmax pmax
comp=Z,500nm,1.5s
KSP MLR MLR
comp=Z,32µm,19.3s
OKC Ostrava-Krasne 78.36 327⇑iP P 22 07 50.1 +0.5
OKC ePP PP 22 10 47.9 +1.7
OKC eS S 22 17 43.8 +0.9
OKC eSKS SKSac 22 18 01.5 -0.4
OKC AMS AMS 22 45 10.0
comp=Z,34µm,18.7s
OKC Ostrava-Krasne 78.36 327⇑iP P 22 07 50.1 +0.5
OKC e 22 10 47.9
OKC eS S 22 17 43.8 +0.9
OKC e 22 18 01.5
OKC MLR MLR
comp=Z,34µm,18.7s
SERE Sereflikochisa 78.36 311 eP P 22 07 51.1 +1.1
KECS Kecovo 78.36 325 eP P 22 07 50.2 +0.5
KECS pmax pmax
comp=Z,55nm,1.3s
KECS Kecovo 78.36 325 eP P 22 07 50.2 +0.5
PV10 Paradox Valley 78.36 50 eP P 22 07 51.3 +1.1
SULR 78.39 319⇑iP P 22 07 50.3 +0.4
K25A Mack Ranch, Ha 78.40 44 P P 22 07 50.0 -0.2
baz=78
H28A Mission Ridge 78.43 41 P P 22 07 50.5 +0.4
baz=78,SNR=32
PV04 Paradox Valley 78.43 50 eP P 22 07 51.8 +1.3
PHWY Pilot Hill 78.44 45 eP P 22 07 50.8 +0.2
comp=Z,767nm,2.1s
PHWY LR LR
comp=Z,4µm,21.0s
N23A Red Feather La 78.44 46 P P 22 07 51.6 +1.0
baz=78,SNR=12
N23A Red Feather La 78.44 46 eP P 22 07 51.6 +1.0
comp=Z,1µm,2.2s
N23A LR LR
comp=Z,8µm,22.0s
VOIR 78.45 320⇓iP P 22 07 51.0 +0.7
TAHT Tahtakopru-Hat 78.49 308 eP P 22 07 51.8 +1.2
PV05 Paradox Valley 78.53 50 eP P 22 07 51.9 +0.8
YURE YUREGIR 78.53 308 iP P 22 07 52.1 +1.3
F30A Leola 78.59 39 P P 22 07 51.1 +0.1
baz=78,SNR=11
KARA Karaisali 78.59 309 eP P 22 07 52.2 +1.0
DRGR 78.59 323⇑iP P 22 07 51.6 +0.5
ABTO Aybut 78.60 283 P P 22 07 51.3 -0.2
SNR=18
G29A Hoven 78.61 40 P P 22 07 51.7 +0.5
baz=78,SNR=7.9
KULU Kulu 78.62 312 eP P 22 07 52.1 +0.7
MORC Moravsky Berou 78.66 327 eP P 22 07 51.9 +0.6
MORC pmax pmax
comp=Z,2µm,1.5s
MORC Moravsky Berou 78.66 327⇑iP P 22 07 52.0 +0.6
MORC Moravsky Berou 78.66 327 eP P 22 07 51.9 +0.6
comp=Z,2µm,1.5s
MORC LR LR
comp=Z,168µm,19.0s
L25A Engebretsen Ra 78.66 44 P P 22 07 52.2 +0.6
baz=78,SNR=13
MDUB Mudurnu 78.68 314 eP P 22 07 52.4 +0.7
K26A Motz Farm, Whi 78.70 43 P P 22 07 51.7 -0.1
baz=78,SNR=29
ARR Arges 78.70 321⇓iP P 22 07 53.1 +1.4
DPC Dobruska-Polom 78.72 328⇑iP P 22 07 52.7 +1.0
DPC esP sP 22 08 04.5 -0.2
DPC ex x 22 11 03.4
DPC eS S 22 17 47.1 +0.2
DPC AMS AMS 22 45 30.0
comp=Z,28µm,18.6s
DPC Dobruska-Polom 78.72 328⇑iP P 22 07 52.7 +1.0
DPC e 22 08 04.5
DPC eS S 22 17 47.1 +0.2
DPC MLR MLR
comp=Z,28µm,18.6s
UPC Upice 78.72 328⇑iP P 22 07 52.3 +0.7
UPC epP pP 22 08 03.3 +2.1
UPC ePP PP 22 10 50.8 +1.6
UPC eS S 22 17 46.9 +0.1
UPC AMS AMS 22 45 10.0
comp=Z,30µm,18.1s
UPC Upice 78.72 328⇑iP P 22 07 52.3 +0.7
UPC e 22 08 03.3
UPC e 22 10 50.8
UPC eS S 22 17 46.9 +0.1
UPC MLR MLR
comp=Z,30µm,18.1s
BTAS Taskesti 78.72 314 iP P 22 07 52.1 +0.2
KRLC Kraliky 78.74 328⇑iP P 22 07 52.5 +0.7
KRLC epP pP 22 08 02.2 +0.9
KRLC Kraliky 78.74 328⇑iP P 22 07 52.5 +0.7
KRLC e 22 08 02.2
HLG Helgoland 78.74 335 eP P 22 07 52.2 +0.6
comp=Z,314nm,1.3s
HLG epP pP 22 08 04.0 +2.8
YAYL Yayladag 78.76 308 iP P 22 07 50.5 -1.7
I28A Midland 78.83 41 P P 22 07 52.2 -0.2
baz=79,SNR=78
WUAZ Wupatki 78.84 53 P P 22 07 53.9 +1.1
baz=79,SNR=50
WUAZ Wupatki 78.84 53 eP P 22 07 53.8 +1.1
comp=Z,163nm,1.1s
WUAZ LR LR
comp=Z,9µm,22.0s
PRD Provadia 78.85 318⇓iP P 22 07 53.2 +0.8
PRD Provadia 78.85 318 iP P 22 07 53.4 +1.0
KRTS Karatas 78.85 308 eP P 22 07 53.5 +0.9
MVH1 Achvaich 78.86 343⇑iP P 22 07 52.0 -0.2
H29A Onida 78.87 40 P P 22 07 52.2 -0.4
baz=79,SNR=14
SULT Sultanhani-AKS 78.88 311 eP P 22 07 53.6 +0.8

GOLR 78.92 320⇑iP P 22 07 53.8 +1.0
AUMIH MIHALICIK 78.93 313 iP P 22 07 53.2 +0.1
J27A Elkhorn Farm, 78.93 42 P P 22 07 53.6 +0.6
baz=79,SNR=26
MCD Coleburn Disti 78.96 342⇑eP P 22 07 52.8 +0.1
CHBY Cihanbeyli 78.99 311 eP P 22 07 53.8 +0.3
SMCO Snowmass 79.03 48 eP P 22 07 54.5 +0.5
comp=Z,489nm,1.9s
SMCO LR LR
comp=Z,6µm,22.0s
SPNC Sapanca-Adapaz 79.03 314 eP P 22 07 54.2 +0.8
G30A Faulkton 79.04 39 P P 22 07 53.3 -0.2
baz=79,SNR=94
PSZ Piszkesteto 79.05 325 eP P 22 07 53.5 -0.1
PSZ pmax pmax
comp=Z,658nm,1.5s
PSZ MLR MLR
comp=Z,52µm,18.0s
PSZ Piszkesteto 79.05 325 eP P 22 07 53.5 -0.1
comp=Z,658nm,1.5s
PSZ LR LR
comp=Z,52µm,18.0s
LOT Lotru 79.07 321 eP P 22 07 53.9 +0.1
LOT Lotru 79.07 321⇑iP P 22 07 54.1 +0.3
SILT Sile 79.07 315 eP P 22 07 54.5 +0.8
GULT Gulveren 79.09 314 eP P 22 07 54.4 +0.5
M25A Palm-Egli Farm 79.11 45 P P 22 07 54.7 +0.6
baz=79,SNR=22
MME1 Meikle Cairn 79.13 342⇑eP P 22 07 53.6 -0.1
HUMR Humele 79.14 320⇓iP P 22 07 53.4 -0.6
MERS Mersin 79.17 309 eP P 22 07 55.0 +0.6
AUSIV SIVRIHISAR 79.19 313 iP P 22 07 54.5 0.0
SVRH Sivrihisar-ESK 79.19 313 eP P 22 07 54.7 +0.2
K27A Flueckinger Fa 79.20 43 P P 22 07 54.2 -0.3
baz=79,SNR=11
J28A Allard Ranch, 79.21 42 P P 22 07 55.0 +0.5
baz=79,SNR=47
L26A Underwood Farm 79.22 44 P P 22 07 55.1 +0.5
baz=79,SNR=6.7
I29A Vivian Onida 79.26 41 P P 22 07 54.6 -0.1
baz=79,SNR=37
CLL Collm 79.27 330 eP P 22 07 54.6 0.0
comp=Z,246nm,1.0s
CLL epP pP 22 08 06.4 +2.3
CLL Collm 79.27 330⇑iP P 22 07 54.6 0.0
CLL eS S 22 17 47.0 -5.6
CLL pmax pmax
comp=Z,246nm,1.0s
CLL MLR MLR
comp=Z,26µm,18.0s
CLL Collm 79.27 330 eP P 22 07 54.5 -0.1
comp=Z,216nm,0.9s
CLL LR LR
comp=Z,26µm,18.0s
CLL Collm 79.27 330⇑iP P 22 07 54.6 0.0
comp=Z,246nm,1.0s
CLL ePmax 22 07 54.0
CLL ePlp 22 07 55.0
CLL i sP sP 22 08 06.3 -1.3
CLL ePP PP 22 10 55.0 +1.2
comp=N,1µm,16.8s
CLL ePP PP 22 10 55.0 +1.2
comp=E,800nm,15.5s
CLL ePP PP 22 10 55.0 +1.2
comp=Z,2µm,15.3s
CLL ePPP PPP 22 12 45.0
CLL eS S 22 17 49.0 -3.6
comp=N,1µm,13.1s
CLL eS S 22 17 49.0 -3.6
comp=E,2µm,10.8s
CLL eSKSac SKSac 22 18 03.0 -5.4
CLL eSS SS 22 23 04.0 +5.7
CLL eSSS SSS 22 26 26.0
CLL LmH 22 42 00.0
comp=N,18µm,20.9s
CLL LmH 22 42 00.0
comp=E,24µm,21.0s
CLL Lmax 22 46 00.0
CLL LmV 22 46 00.0
comp=Z,26µm,18.0s
PVCC Panska Ves 79.28 329⇑iP P 22 07 55.5 +0.8
PVCC epP pP 22 08 06.9 +2.7
PVCC ePP PP 22 10 52.3 -1.6
PVCC eS S 22 17 54.0 +1.3
PVCC AMS AMS 22 45 50.0
comp=Z,46µm,18.0s
PVCC Panska Ves 79.28 329⇑iP P 22 07 55.5 +0.8
PVCC e 22 08 06.9
PVCC e 22 10 52.3
PVCC eS S 22 17 54.0 +1.3
PVCC MLR MLR
comp=Z,46µm,18.0s
HRT Hereke 79.29 315 eP P 22 07 55.5 +0.5
KLYT Kilyos 79.33 315 eP P 22 07 55.5 +0.5
MDO Dochfour 79.34 343⇑iP P 22 07 54.8 -0.1
DRUM Mains of Drumt 79.37 341⇑eP P 22 07 55.1 +0.1
DRUM AMS AMS 22 47 50.3
comp=Z,10µm,16.3s
KIZT Kizilcal 79.37 312 eP P 22 07 55.8 +0.3
ISCO Idaho Springs 79.38 47 eP P 22 07 56.5 +0.7
ISCO pmax pmax
comp=Z,563nm,1.8s
ISCO MLR MLR
comp=Z,8µm,21.0s
ISCO Idaho Springs 79.38 47 P P 22 07 56.8 +1.0
baz=79,SNR=45
ISCO Idaho Springs 79.38 47 eP P 22 07 56.5 +0.7
comp=Z,563nm,1.8s
ISCO LR LR
comp=Z,8µm,21.0s
FBE Freiberg 79.44 330 eP P 22 07 56.1 +0.6
comp=Z,609nm,1.6s
FBE epP pP 22 08 07.9 +2.8
ISK Istanbul-Kandi 79.45 315 eP P 22 07 56.1 +0.3
ISK Istanbul-Kandi 79.45 315 P P 22 07 55.2 -0.6
ISK Istanbul-Kandi 79.45 315 P P 22 07 55.2 -0.6
ISK Istanbul-Kandi 79.45 315 P P 22 07 55.2 -0.6
MVCO Mesa Verde 79.46 50 P P 22 07 56.9 +0.7
baz=79,SNR=35
MVCO Mesa Verde 79.46 50 eP P 22 07 56.8 +0.7
comp=Z,1µm,2.1s
MVCO LR LR
comp=Z,6µm,22.0s
SIRR Siria 79.47 323⇑iP P 22 07 56.4 +0.6
KDHN Kadinhani 79.48 312 iP P 22 07 56.2 +0.1
KAC Achnashellach 79.50 343⇑iP P 22 07 56.2 +0.4
ESKT Eskisehir 79.52 313 eP P 22 07 56.6 +0.2
BUY Buyukada 79.57 315 iP P 22 07 56.5 +0.1
M26A McRoberts Ranc 79.58 44 P P 22 07 57.4 +0.7
baz=79,SNR=19
CTYL Yal??k??y-??at 79.58 316 eP P 22 07 57.0 +0.6
GZR Gura Zlata 79.59 322⇑iP P 22 07 56.8 +0.3
L27A T5 Ranch, Ells 79.59 43 P P 22 07 56.8 +0.2
baz=79
CAVI Cavuskoy 79.62 314 eP P 22 07 57.4 +0.7
CTKS Kestanelik-??a 79.63 316 eP P 22 07 57.1 +0.3
K28A Ten Mile Ranch 79.64 42 P P 22 07 57.2 +0.3
baz=80,SNR=37
KIZK Mersin 79.66 309 iP P 22 07 57.0 +0.1
SMOL Smolenice 79.67 326 eP P 22 07 58.0 +1.2
SMOL Smolenice 79.67 326 eP P 22 07 58.0 +1.2
GOPC GO Pecny, Ondr 79.68 329⇑iP P 22 07 57.6 +0.7
GOPC esP sP 22 08 09.2 -0.7
GOPC ePP PP 22 10 53.8 -3.4
GOPC eS S 22 17 56.8 -0.2
GOPC AMS AMS 22 45 40.0
comp=Z,35µm,19.6s
J29A Okreek 79.69 41 P P 22 07 57.0 -0.1
baz=80,SNR=32
AUKUT KUTAHYA 79.69 314 iP P 22 07 59.8 +2.6
PRA Prague 79.69 329⇑iP P 22 07 57.7 +0.8
PRA ePP PP 22 10 54.5 -2.8
PRA eS S 22 17 58.8 +1.7
PRA AMS AMS 22 46 00.0
comp=Z,38µm,18.4s
PRA Prague 79.69 329⇑iP P 22 07 57.7 +0.8
PRA e 22 10 54.5
PRA eS S 22 17 58.8 +1.7
PRA MLR MLR
comp=Z,38µm,18.4s
DGAR Diego Garcia 79.70 251 eP P 22 07 57.1 -0.3
DGAR e*PP pP 22 08 11.5 +4.5
DGAR pmax pmax
comp=Z,813nm,1.3s
DGAR MLR MLR
comp=Z,6µm,18.0s
DGAR Diego Garcia 79.70 251 eP P 22 07 57.1 -0.3
comp=Z,813nm,1.3s
DGAR epP pP 22 08 11.5 +4.5
DGAR LR LR
comp=Z,6µm,18.0s
PRU Pruhonice 79.72 329⇑iP P 22 07 57.6 +0.6
PRU epP pP 22 08 09.1 +2.5
PRU ePP PP 22 10 59.0 +1.5
PRU eS S 22 17 57.1 -0.3
PRU eSCS ScS 22 18 17.5 -1.3
PRU AMS AMS 22 46 00.0
comp=Z,37µm,19.2s
PRU Pruhonice 79.72 329⇑iP P 22 07 57.6 +0.6
PRU e 22 08 09.1
PRU e 22 10 59.0
PRU eS S 22 17 57.1 -0.3
PRU e 22 18 17.5
PRU MLR MLR
comp=Z,37µm,19.2s
KONT Konya--Tatoy 79.73 311 eP P 22 07 57.8 +0.5
IZI Iznik 79.73 314 eP P 22 07 58.0 +0.6
KPL Plockton 79.73 343⇑eP P 22 07 56.2 -0.7
KPL AMB AMB 22 07 58.6
comp=Z,529nm,1.6s
KPL AMS AMS 22 46 45.6
comp=Z,6µm,18.9s
BUD Budapest 79.76 325⇑eP P 22 07 58.1 +0.8
I30A Oacoma 79.78 40 P P 22 07 57.8 +0.2
baz=80,SNR=29
JMB Yambol 79.79 317 P P 22 07 57.6 0.0
JMB Yambol 79.79 317⇑iP P 22 07 58.2 +0.6
JMB Yambol 79.79 317 iP P 22 07 58.1 +0.5
JMB Yambol 79.79 317 P P 22 07 57.6 0.0
JMB Yambol 79.79 317 P P 22 07 57.6 0.0
SLVT Silivri 79.80 316 eP P 22 07 58.5 +0.8
KSB Sheil Bridge 79.80 343⇑eP P 22 07 57.6 +0.3
NEUB Neuenburg 79.81 331 eP P 22 07 57.7 +0.2
comp=Z,338nm,1.1s
NEUB epP pP 22 08 09.5 +2.4
CLZ Clausthal 79.81 332 eP P 22 07 58.2 +0.6
comp=Z,482nm,1.4s
CLZ epP pP 22 08 10.0 +2.8
OUZ Omahuta 79.83 155 PFAKE 22 08 10.0 +12
OUZ LR LR
comp=Z,16µm,21.0s
PKSN Nyarlorinc 79.83 324 eP P 22 08 00.0 +2.3
EDU Dundee 79.83 341⇑eP P 22 07 57.7 +0.2
AUKIR K¯rka- Seyitg 79.87 313 iP P 22 07 58.0 -0.2
CRAR CRAIOVA 79.87 320⇓iP P 22 07 58.9 +0.9
TREC Trest 79.88 328⇑iP P 22 07 58.6 +0.6
TREC epP pP 22 08 08.3 +0.8
TREC AMS AMS 22 46 00.0
comp=Z,32µm,18.9s
TREC Trest 79.88 328⇑iP P 22 07 58.6 +0.6
TREC e 22 08 08.3
TREC MLR MLR
comp=Z,32µm,18.9s
PHSR Pinarhisar 79.88 316 eP P 22 07 59.1 +1.0
ARMT Armutlu 79.91 315 eP P 22 07 58.5 +0.2
M27A Reverse DX Ran 79.94 44 P P 22 07 59.2 +0.6
baz=80,SNR=6.1
BZS Buzias 79.97 322 eP P 22 07 58.4 -0.2
BZS Buzias 79.97 322⇓iP P 22 07 58.6 +0.1
BZS Buzias 79.97 322⇑iP P 22 07 58.6 +0.1
BZS Buzias 79.97 322⇓iP P 22 07 58.7 +0.2
N26A Koester Ranch, 79.98 45 P P 22 07 59.3 +0.5
baz=80
BOLV Bolvadin 80.01 312 iP P 22 07 59.5 +0.4
HWQ Hawqa 80.01 306 eP P 22 07 59.2 +0.1
MDNY Mudanya-Bursa 80.03 315 eP P 22 07 59.4 +0.5
PKS7 Kunszentmiklos 80.03 325⇑eP P 22 07 59.5 +0.7
ULDT Uludag 80.05 314 iP P 22 07 59.6 +0.3
L28A Connealy Angus 80.06 43 P P 22 07 59.2 0.0
baz=80
S22A 4UR Ranch, Cre 80.08 49 P P 22 08 00.4 +0.7
baz=80,SNR=28
S22A 4UR Ranch, Cre 80.08 49 eP P 22 08 00.5 +0.9
comp=Z,774nm,2.1s
S22A LR LR
comp=Z,6µm,22.0s
W18A Petrified Fore 80.11 52 P P 22 08 00.6 +0.9
baz=80,SNR=9.0
W18A Petrified Fore 80.11 52 eP P 22 08 01.1 +1.4
comp=Z,1µm,2.5s
W18A LR LR
comp=Z,10µm,22.0s
PKSG 80.11 325⇑eP P 22 07 59.7 +0.5
CRLT Corlu 80.12 316 eP P 22 08 00.8 +1.4
EDRB Edirne 80.14 317 eP P 22 08 00.3 +0.8
EDRB Edirne 80.14 317 P P 22 07 57.8 -1.7
EDRB Edirne 80.14 317 P P 22 07 57.8 -1.7
K29A Lazy Trails An 80.15 42 P P 22 07 60.0 +0.3
baz=80,SNR=18
J30A Dallas 80.17 41 P P 22 07 59.6 -0.1
baz=80,SNR=37
TANN Tannenbergstha 80.19 330 eP P 22 08 00.1 +0.4
comp=Z,342nm,1.8s
TANN epP pP 22 08 11.9 +2.6
CSKK Cs¯‡kako 80.19 325⇑eP P 22 08 00.2 +0.5
Q24A Divide 80.21 47 P P 22 08 00.9 +0.5
baz=80,SNR=19
Q24A Divide 80.21 47 eP P 22 08 00.8 +0.4
comp=Z,413nm,2.3s
Q24A LR LR
comp=Z,6µm,21.0s
WERD Werda 80.22 330 eP P 22 08 00.2 +0.4
comp=Z,325nm,1.6s
WERD epP pP 22 08 12.0 +2.6
214A Organ Pipe Nat 80.25 57 P P 22 08 00.8 +0.5
baz=80,SNR=10.0
PLN Plauen 80.25 330 eP P 22 08 00.6 +0.7
comp=Z,466nm,1.7s
PLN epP pP 22 08 12.4 +2.9
EREN Erenkoy 80.27 308 eP P 22 08 00.8 +0.5
ERMK Ermenek 80.28 310 iP P 22 08 00.4 -0.2
GUNZ Gunzen 80.28 330 eP P 22 08 00.6 +0.4
comp=Z,392nm,1.6s
GUNZ epP pP 22 08 12.4 +2.7
ESY Stoneypath 80.30 341⇑eP P 22 08 00.1 0.0
HDMB Hadim 80.32 310 eP P 22 08 00.6 -0.3
WERN Wernitzgruen 80.33 330 eP P 22 08 00.9 +0.5
comp=Z,324nm,1.5s
WERN epP pP 22 08 12.7 +2.7
TKR Tekirdag 80.33 316 eP P 22 08 03.7 +3.2
MOX Moxa 80.33 331 eP P 22 08 00.7 +0.3
comp=Z,367nm,1.6s
MOX epP pP 22 08 12.6 +2.7
MOX eL L 22 46 33.6
comp=Z,16µm,18.8s
NKC Novy Kostel 80.34 330⇑iP P 22 08 00.7 +0.2
NKC epP pP 22 08 12.5 +2.5
NKC ePP PP 22 11 04.9 +2.2
NKC eS S 22 18 04.3 +0.3
NKC AMS AMS 22 47 20.0
comp=Z,20µm,17.5s
NKC Novy Kostel 80.34 330⇑iP P 22 08 00.7 +0.2
NKC e 22 08 12.5
NKC e 22 11 04.9
NKC eS S 22 18 04.3 +0.3
NKC MLR MLR
comp=Z,20µm,17.5s
O26A Horse Wrangler 80.34 45 P P 22 08 01.1 +0.3
baz=80,SNR=22
IBBN Ibbenburen 80.35 334 eP P 22 08 00.6 +0.2
comp=Z,364nm,1.2s
IBBN epP pP 22 08 12.4 +2.4
TVSB Tavsanli 80.35 314 eP P 22 08 01.3 +0.5
PKST T¯s 80.37 325⇑eP P 22 08 00.9 +0.2
N27A Anderson Farm, 80.37 44 P P 22 08 01.1 +0.2
baz=80,SNR=26
BANR Banloc 80.38 322⇑iP P 22 08 01.4 +0.7
KCTX Karacabey (Bur 80.39 315 eP P 22 08 01.4 +0.5
EDI Edinburgh 80.43 341 AMS AMS 22 47 40.9
comp=Z,10µm,18.5s
EYMN Ely 80.44 34 P P 22 08 00.6 -0.5
baz=80,SNR=18
EYMN Ely 80.44 34 eP P 22 08 00.5 -0.5
comp=Z,1µm,2.3s
EYMN LR LR
comp=Z,8µm,22.0s
BHL Bhannes 80.44 306 eP P 22 08 01.4 0.0
RAYN Ar Rayn 80.50 293 P P 22 08 01.9 +0.1

comp=Z,835nm,1.6s
RAYN Ar Rayn 80.50 293 *e*P **P 22 08 01.7 -0.1**
comp=Z,94nm,1.1s
RAYN LR LR
comp=Z,15µm,19.0s
OGNE Ogallala 80.54 44 P **P 22 08 01.9 0.0**
baz=80,SNR=31
BEYL Beirut 80.56 306 *e*P **P 22 08 02.2 +0.3**
BNT Bandirma 80.57 315 *e*P **P 22 08 02.4 +0.6**
L29A Maesberg Ranch 80.57 42 P **P 22 08 01.3 -0.6**
baz=80
MRMT Marmara Adasi 80.57 316 *e*P **P 22 08 02.4 +0.5**
K30A Basset 80.58 41 P **P 22 08 02.0 +0.1**
baz=80,SNR=20
M28A Bar X Bar Ranc 80.58 43 P **P 22 08 02.0 0.0**
baz=80,SNR=6.6
GDZ Gediz 80.59 313 *i* P **P 22 08 02.3 +0.1**
RCY Rachaya 80.60 306 *e*P **P 22 08 02.7 +0.4**
MPEP Malo Peshtene 80.60 320 *i* P **P 22 08 02.5 +0.5**
EDC Edincik 80.60 315 *e*P **P 22 08 01.4 -0.6**
DQRL Deir Qamar 80.62 306 *e*P **P 22 08 02.6 +0.3**
MANZ Manzenberg 80.67 330 *e*P **P 22 08 02.7 +0.5**
comp=Z,194nm,1.3s
MANZ *e*pP **pP 22 08 14.6 +2.8**
SOP Sopron 80.68 326⇑ *e*P **P 22 08 03.4 +1.1**
DST Dursunbey 80.71 314 *e*P **P 22 07 59.8 -2.8**
SART Tekirdag 80.73 316 *i* P **P 22 08 03.2 +0.4**
RKY Sarkoy-Tekirda 80.73 316 *e*P **P 22 08 03.5 +0.7**
PKS9 Tamasi 80.78 325 *e*P **P 22 08 03.5 +0.7**
KHC Kasperske Hory 80.78 329⇑ *i*P **P 22 08 03.4 +0.6**
KHC *es*P **sP 22 08 15.2 -0.7**
KHC *e*PP **PP 22 11 09.3 +2.9**
KHC *e*S **S 22 18 08.4 -0.3**
KHC AMS AMS 22 46 40.0
comp=Z,36µm,18.0s
KHC Kasperske Hory 80.78 329⇑ *i*P **P 22 08 03.4 +0.6**
KHC *e* 22 08 15.2
KHC *e* 22 11 09.3
KHC *e*S **S 22 18 08.4 -0.3**
KHC MLR MLR
comp=Z,36µm,18.0s
KHC Kasperske Hory 80.78 329 *e*P **P 22 08 03.2 +0.4**
comp=Z,238nm,1.6s
KHC LR LR
comp=Z,14µm,20.0s
UBBA Unterbreizbach 80.78 332 *e*P **P 22 08 02.9 +0.3**
comp=Z,321nm,1.7s
UBBA *e*pP **pP 22 08 14.8 +2.6**
CONA Conrad Observa 80.79 327 *i* P **P 22 08 04.0 +1.0**
comp=Z,5µm,4.5s,SNR=201
DURS Dursunbey 80.79 314 *i* P **P 22 08 03.1 -0.1**
P26A Davis Ranch, A 80.80 46 P **P 22 08 03.4 +0.1**
baz=81,SNR=35
ROTZ Rotzenmuhle 80.81 330 *e*P **P 22 08 03.8 +0.8**
comp=Z,525nm,1.6s
ROTZ *e*pP **pP 22 08 15.7 +3.2**
LFK Lefkose 80.83 308 *e*P **P 22 08 03.7 +0.3**
SUTC Sutluce-Ispart 80.83 311 *e*P **P 22 08 02.6 -0.9**
O27A Beecher Island 80.84 45 P **P 22 08 03.3 -0.1**
baz=81,SNR=28
SDCO Great Sand Dun 80.85 48 P **P 22 08 04.0 +0.3**
baz=81,SNR=33
SDCO Great Sand Dun 80.85 48 *e*P **P 22 08 04.3 +0.5**
comp=Z,1µm,2.9s
SDCO LR LR
comp=Z,5µm,22.0s
PGBU Glenifferbraes 80.85 342⇑ *e*P **P 22 08 02.5 -0.5**
PGBU AMB AMB 22 08 04.5
comp=Z,574nm,1.5s
PGBU AMS AMS 22 49 10.8
comp=Z,7µm,14.6s
ISP Isparta 80.87 312 *e*P **P 22 08 03.2 -0.4**
ISP Isparta 80.87 312 *e*P **P 22 08 03.2 -0.4**
ISP pmax pmax
comp=Z,196nm,1.4s
ISP MLR MLR
comp=Z,14µm,19.0s
ISP Isparta 80.87 312⇑ *i*P **P 22 08 03.3 -0.4**
ISP Isparta 80.87 312 *e*P **P 22 08 03.2 -0.4**
comp=Z,196nm,1.4s
ISP LR LR
comp=Z,14µm,19.0s
ISP Isparta 80.87 312 P **P 22 08 02.4 -1.2**
PKSM Moragy 80.90 324⇑ *e*P **P 22 08 03.4 -0.1**
M29A Burnside Ranch 80.90 43 P **P 22 08 03.3 -0.4**
baz=81,SNR=6.3
GAZI Gazipasa 80.91 310 *i* P **P 22 08 02.8 -0.9**
GEC2 GERESS Array S 80.96 329 *e*P **P 22 08 04.1 +0.2**
comp=Z,283nm,1.6s
GEC2 *e*pP **pP 22 08 15.9 +2.4**
GEC2 GERESS Array S 80.96 329 *e*P **P 22 08 03.9 0.0**
GEC2 GERESS Array S 80.96 329 *e*P **P 22 08 03.9 0.0**
GERES GERESS Array B 80.96 329 P **P 22 08 03.9 0.0**
comp=Z,27nm,0.7s,baz=35,slow=5.6,SNR=257
GERES PKKPbc **PKKPbc 22 26 39.9 -0.4**
comp=Z,0.8nm,0.9s,baz=203,slow=3.0,SNR=6.5
GERES PKPPKP **P'P'df 22 34 46.2 -4.7**
comp=Z,0.1nm,0.3s,baz=249,slow=3.7,SNR=3.8
GERES LR LR 22 47 04.0
comp=Z,31µm,20.2s,baz=22,slow=38
WTSB Winterswijk 80.96 334 *e*P **P 22 08 03.6 -0.1**
comp=Z,691nm,1.8s
WTSB *e*pP **pP 22 08 16.0 +2.8**
comp=Z,687nm,1.7s
PGB Panagyurishte 80.97 319 *i* P **P 22 08 04.2 +0.2**
KDZ Kurdzhali 80.98 318⇑ *i*P **P 22 08 05.1 +1.1**
RAR Rarotonga 80.98 127 PFAKE 22 08 20.0 +16
RAR LR LR
comp=Z,16µm,21.0s
ESK Eskdalemuir 80.98 341 P **P 22 08 03.2 -0.5**
comp=Z,468nm,1.0s,SNR=7.8
ESK Eskdalemuir 80.98 341⇑ *e*P **P 22 08 03.9 +0.2**
ESK AMB AMB 22 08 04.9
comp=Z,218nm,3.8s
ESK AMS AMS 22 48 31.6
comp=Z,14µm,17.9s
ESK Eskdalemuir 80.98 341 *i* P **P 22 08 04.5 +0.8**
ESK Eskdalemuir 80.98 341 PFAKE 22 08 10.0 +6.3
ESK LR LR
comp=Z,19µm,19.0s
N28A Pribbeno Ranch 80.99 44 P **P 22 08 03.6 -0.6**
baz=81,SNR=5.1
PLD Plovdiv 81.02 318 P **P 22 08 04.0 -0.2**
PLD Plovdiv 81.02 318 *i* P **P 22 08 04.2 0.0**
PLD Plovdiv 81.02 318 P **P 22 08 04.0 -0.2**
PLD Plovdiv 81.02 318 P **P 22 08 04.0 -0.2**
L30A Spencer Herefo 81.04 42 P **P 22 08 03.7 -0.7**
baz=81,SNR=17
WET Wettzell 81.05 329 *e*P **P 22 08 05.0 +0.7**
comp=Z,357nm,1.4s
WET *e*pP **pP 22 08 16.8 +3.0**
DEMI Demirci 81.05 314 *i* P **P 22 08 03.8 -0.8**
LCP Cassop 81.06 340⇑ *i*P **P 22 08 04.2 0.0**
KHAL Karahalli 81.08 313 *i* P **P 22 08 04.5 -0.3**
BCK Bucak 81.08 312 *e*P **P 22 08 03.8 -1.0**
ECK Cauldkaine Hil 81.09 341⇑ *e*P **P 22 08 03.6 -0.7**
MAMC Mammari 81.09 309 P **P 22 08 05.1 +0.4**
KHL Karahalli 81.10 313 *e*P **P 22 08 05.6 +0.8**
ERIK Erikli-Kesan 81.10 316 *e*P **P 22 08 05.4 +0.8**
Q26A Hugo 81.15 46 P **P 22 08 05.6 +0.4**
baz=81,SNR=28
CSS Prodhromos 81.16 308 P **P 22 08 05.6 +0.5**
CSS Prodhromos 81.16 308 *e*P **P 22 08 05.2 0.0**
CSS Prodhromos 81.16 308 *e*P **P 22 08 05.4 +0.3**
CSS Prodhromos 81.16 308 *e*P **P 22 08 05.0 -0.1**
comp=Z,83nm,1.5s
CSS LR LR
comp=Z,3µm,21.0s
CSS Prodhromos 81.16 308 P **P 22 08 03.7 -1.4**
LPK Lapseki 81.18 316 *e*P **P 22 08 06.0 +0.9**
ALN Alexandroupoli 81.19 317 *e*P **P 22 08 05.3 +0.2**
ALN Alexandroupoli 81.19 317 P **P 22 08 03.8 -1.3**
ALN Alexandroupoli 81.19 317 *e*P **P 22 08 05.4 +0.3**
ALN Alexandroupoli 81.19 317 P **P 22 08 03.8 -1.3**
ALN Alexandroupoli 81.19 317 P **P 22 08 03.8 -1.3**
P27A Ficken Ranch, 81.23 45 P **P 22 08 05.2 -0.3**
baz=81,SNR=11
BUG Bochum--Univer 81.24 334 *e*P **P 22 08 05.2 +0.1**
comp=Z,317nm,1.4s
BUG *e*pP **pP 22 08 17.0 +2.3**
ENEZ Enez 81.25 316 *e*P **P 22 08 06.2 +0.8**
GRF Grafenberg Arr 81.25 330 *e*P **P 22 08 06.0 +0.7**
comp=Z,462nm,1.1s
GRF *e*pP **pP 22 08 17.9 +3.0**
GRF *e*L L 22 49 31.4
comp=Z,17µm,18.5s
GRFO Grafenberg 81.25 330 *e*P **P 22 08 05.4 +0.1**
GRFO pmax pmax
comp=Z,702nm,1.4s
GRFO MLR MLR
comp=Z,16µm,19.0s
GRFO Grafenberg 81.25 330 *e*P **P 22 08 05.4 +0.1**
comp=Z,702nm,1.4s
GRFO LR LR
comp=Z,16µm,19.0s
M30A Dale-Ortello V 81.26 42 P **P 22 08 05.2 -0.4**
baz=81,SNR=9.6
O28A Krutsinger Ran 81.26 44 P **P 22 08 05.4 -0.3**
baz=81,SNR=16
RDO Rodhopi 81.28 317 *e*P **P 22 08 06.4 +0.8**
RDO Rodhopi 81.28 317 *e*P **P 22 08 06.2 +0.7**
RDO LR LR
comp=Z,114µm,20.0s
RDO Rodhopi 81.28 317 P **P 22 08 03.2 -2.4**
ECSD EROS Data Cent 81.30 39 P **P 22 08 05.4 -0.2**
baz=81,SNR=96
ECSD EROS Data Cent 81.30 39 *e*P **P 22 08 05.3 -0.3**
comp=Z,2µm,2.3s
ECSD LR LR
comp=Z,8µm,21.0s
TUC Tucson 81.31 55 *e*P **P 22 08 06.6 +0.6**
TUC pmax pmax
comp=Z,560nm,2.0s
TUC MLR MLR
comp=Z,9µm,21.0s
TUC Tucson 81.31 55 *e*P **P 22 08 06.6 +0.6**
comp=Z,560nm,2.0s
TUC LR LR
comp=Z,9µm,21.0s
GELI Tayfur-Gelibol 81.32 316 *e*P **P 22 08 06.3 +0.5**
RZN Rozhen 81.32 318 *i* P **P 22 08 06.6 +0.6**
LEF Lefka 81.32 309 *e*P **P 22 08 05.9 0.0**
L31A Butterfield Fa 81.33 41 P **P 22 08 06.1 +0.2**
baz=81,SNR=38
N29A Votaw Ranch, W 81.38 43 P **P 22 08 06.0 -0.2**
baz=81,SNR=11
VTS Vitosha 81.43 319 P **P 22 08 06.1 -0.5**
VTS Vitosha 81.43 319⇑ *i*P **P 22 08 07.3 +0.7**
VTS Vitosha 81.43 319 *i* P **P 22 08 07.1 +0.5**
VTS Vitosha 81.43 319 P **P 22 08 06.1 -0.5**
VTS Vitosha 81.43 319 P **P 22 08 06.1 -0.5**
ANTB Antalya 81.43 311 *e*P **P 22 08 04.6 -1.9**
KULA Kula-Manisa 81.45 314 *e*P **P 22 08 06.9 +0.2**
KULA Kula-Manisa 81.45 314 P **P 22 08 03.6 -3.1**
KULA Kula-Manisa 81.45 314 P **P 22 08 03.6 -3.1**
ARSA Arzberg 81.46 327 *i* P **P 22 08 07.1 +0.6**
comp=Z,3µm,3.7s,SNR=92
ALFC Alevga 81.47 309 P **P 22 08 06.7 -0.1**
MOA Molln 81.52 328 *i* P **P 22 08 07.3 +0.5**
comp=Z,3µm,4.1s,SNR=69
KORT Korkueli 81.54 311 *i* P **P 22 08 06.5 -0.7**
SZAC Souni-Zanaja 81.57 308 P **P 22 08 07.9 +0.6**
GCD Castle Douglas 81.58 341⇑ *i*P **P 22 08 06.7 -0.2**
KSCO Kaye Shedlock' 81.58 46 P **P 22 08 07.6 +0.1**
baz=81
KSCO Kaye Shedlock' 81.58 46 *e*P **P 22 08 08.1 +0.7**
comp=Z,952nm,1.8s
KSCO *e*PKKPdf **PKKPdf 22 26 25.9 -1.7**
KSCO LR LR
comp=Z,5µm,21.0s
KESW Keswick, Cumbr 81.61 341⇑ *e*P **P 22 08 07.6 +0.5**
KESW AMB AMB 22 08 08.7
comp=Z,437nm,1.5s
KESW AMS AMS 22 48 58.6
comp=Z,13µm,18.0s
R26A Arlington 81.63 47 P **P 22 08 07.9 +0.2**
baz=82,SNR=54
AKHS Akhisar 81.66 314 *i* P **P 22 08 07.4 -0.3**
AKS Akhisar 81.66 314 *e*P **P 22 08 07.7 0.0**
P28A Saint Francis 81.67 45 P **P 22 08 08.0 +0.2**
baz=82,SNR=27
N30A Hueftle Ranch, 81.68 43 P **P 22 08 07.4 -0.4**
baz=82
AKMC Akamas 81.72 309 P **P 22 08 08.0 -0.1**
GAL1 Galloway 81.76 342⇑ *e*P **P 22 08 07.6 -0.3**
GAL1 AMS AMS 22 50 20.8
comp=Z,9µm,16.2s
SMTH Samothraki Isl 81.77 317 *e*P **P 22 08 07.7 -0.5**
DENT Denizli 81.77 313 *e*P **P 22 08 08.9 +0.6**
O29A 4D Ranch, Culb 81.79 44 P **P 22 08 08.3 -0.1**
baz=82,SNR=10
HPK Haverah Park 81.79 340⇑ *e*P **P 22 08 08.4 +0.3**
HPK AMB AMB 22 08 10.3
comp=Z,342nm,1.7s
HPK AMS AMS 22 48 12.9
comp=Z,15µm,20.5s
EZN Ezine 81.80 316 *e*P **P 22 08 08.7 +0.4**
PPCY Paphos 81.81 309 P **P 22 08 08.7 +0.2**
GOLH Golhisar 81.83 312 *i* P **P 22 08 08.5 -0.2**
TNS Taunus Mts 81.84 332 *e*P **P 22 08 08.8 +0.3**
comp=Z,327nm,1.6s
TNS *e*pP **pP 22 08 20.6 +2.5**
M31A Lambtecht Ranc 81.86 42 P **P 22 08 08.4 -0.4**
baz=82,SNR=7.1
DIVS Divibare 81.88 322⇑ *i*P **P 22 08 08.8 0.0**
DIVS Divibare 81.88 322 P **P 22 08 07.9 -0.9**
T25A Trinidad 81.89 48 P **P 22 08 09.6 +0.4**
baz=82,SNR=54
T25A Trinidad 81.89 48 *e*P **P 22 08 09.7 +0.4**
comp=Z,2µm,2.3s
T25A LR LR
comp=Z,4µm,19.0s
MMB Musomiste 81.90 318⇑ *i*P **P 22 08 09.6 +0.6**
MMB Musomiste 81.90 318 *i* P **P 22 08 09.5 +0.6**
KAVA Kavala 81.92 318 *e*P **P 22 08 09.6 +0.6**
KAVA Kavala 81.92 318 P **P 22 08 07.8 -1.2**
KAVA Kavala 81.92 318 P **P 22 08 07.8 -1.2**
BOZC Bozcaada 81.94 316 *i* P **P 22 08 09.0 -0.1**
SPMN St. Paul 81.96 36 P **P 22 08 08.4 -0.7**
baz=82,SNR=12
SPMN St. Paul 81.96 36 *e*P **P 22 08 08.8 -0.4**
comp=Z,808nm,2.2s
ELL Elmali 81.97 312 *e*P **P 22 08 09.6 +0.1**
AYVA Ayvalik 81.97 315 *i* P **P 22 08 09.1 -0.2**
Q28A Sharon Springs 81.99 45 P **P 22 08 09.6 0.0**
baz=82,SNR=21
NVR Nevrokopi 82.00 318 *e*P **P 22 08 09.9 +0.4**
NVR Nevrokopi 82.00 318 P **P 22 08 07.5 -2.0**
NVR Nevrokopi 82.00 318 P **P 22 08 07.5 -2.0**
R27A Eads 82.00 46 P **P 22 08 09.5 -0.1**
baz=82,SNR=24
KKB Krupnik 82.02 319 *i* P **P 22 08 10.1 +0.6**
P29A Atwood 82.09 44 P **P 22 08 10.1 +0.1**
baz=82,SNR=11
PERS Pernice 82.12 326 *i* P **P 22 08 10.2 +0.2**
PERS *i* 22 08 19.6
PERS *e*S **S 22 18 20.9 -1.7**
SOKA Soboth 82.12 327 *i* P **P 22 08 10.4 +0.4**
comp=Z,1µm,1.7s,SNR=257
L33A Hoskins 82.13 40 P **P 22 08 09.9 -0.2**
baz=82
O30A MW Ranch, Wils 82.14 43 P **P 22 08 09.9 -0.4**
baz=82,SNR=9.8
ANMO Albuquerque 82.21 51*c* *i*P **P 22 08 11.7 +0.8**
ANMO pmax pmax
comp=Z,324nm,1.2s
ANMO MLR MLR
comp=Z,13µm,24.0s
ANMO Albuquerque 82.21 51 *e*P **P 22 08 11.6 +0.8**
comp=Z,1µm,2.5s
ANMO LR LR
comp=Z,6µm,22.0s
RJOB Jochberg 82.21 328 *e*P **P 22 08 11.2 +0.7**
comp=Z,342nm,1.3s
RJOB *e*pP **pP 22 08 23.1 +3.1**
LHO Holmfirth 82.22 339⇑ *i*P **P 22 08 10.3 0.0**
BGNE Belgrade 82.24 41 P **P 22 08 10.2 -0.5**
baz=82,SNR=15
BGNE Belgrade 82.24 41 *e*P **P 22 08 10.6 -0.1**
comp=Z,361nm,0.9s
BGNE LR LR
comp=Z,8µm,21.0s
PRK Paraskevi 82.25 315 P **P 22 08 09.7 -1.0**
PRK Paraskevi 82.25 315 *e*P **P 22 08 10.8 +0.1**
PRK Paraskevi 82.25 315 P **P 22 08 09.7 -1.0**
PRK Paraskevi 82.25 315 P **P 22 08 09.7 -1.0**
N31A Bailey Ranch, 82.26 42 P **P 22 08 10.9 +0.1**
baz=82,SNR=9.0
HGN Heimansgroeve 82.27 334 *e*P **P 22 08 10.4 -0.1**
comp=Z,558nm,1.7s
HGN *e*pP **pP 22 08 22.9 +2.7**
HGN *e*PP **PP 22 11 22.1 +3.6**
HGN *e*S **S 22 18 28.9 +5.1**
AYDB Zeytinkoy-Aydi 82.28 314 *e*P **P 22 08 11.6 +0.5**
TAU Tasmania Unive 82.30 176 *e*P **P 22 08 12.0 +1.5**
TAU pmax pmax
comp=Z,160nm,1.4s
TAU MLR MLR
comp=Z,6µm,20.0s
TAU Tasmania Unive 82.30 176 *e*P **P 22 08 12.0 +1.5**
comp=Z,160nm,1.4s
TAU LR LR
comp=Z,6µm,20.0s
IZM Izmir 82.31 314 *e*P **P 22 08 11.3 +0.1**
SRS Serrai 82.31 318 P **P 22 08 09.2 -1.9**
SRS Serrai 82.31 318 *e*P **P 22 08 11.1 0.0**
SRS Serrai 82.31 318 P **P 22 08 09.2 -1.9**
SRS Serrai 82.31 318 P **P 22 08 09.2 -1.9**
BEBN Eben Emael 82.32 334 P **P 22 08 10.8 -0.1**
T26A Comanche Natio 82.33 47 P **P 22 08 11.6 +0.1**
baz=82,SNR=86
LIA Limnos Island 82.36 316 *e*P **P 22 08 11.2 -0.1**
LIA Limnos Island 82.36 316 P **P 22 08 09.2 -2.1**
LIA Limnos Island 82.36 316 P **P 22 08 09.2 -2.1**
S27A Las Animas 82.37 47 P **P 22 08 11.2 -0.4**
baz=82
MEM Membach 82.37 334 P **P 22 08 11.0 -0.1**
MEM Membach 82.37 334 *e*P **P 22 08 11.2 0.0**
MEM pmax pmax
comp=Z,144nm,1.1s
MEM MLR MLR
comp=Z,35µm,20.0s
MEM Membach 82.37 334 *e*P **P 22 08 11.2 0.0**
comp=Z,144nm,1.1s
MEM LR LR
comp=Z,35µm,20.0s
LENM Lemitar 82.43 52 *e*P **P 22 08 12.9 +0.9**
BLCB Balcova 82.44 314 *e*P **P 22 08 11.8 +0.1**
OBKA Obir 82.46 327 *i* P **P 22 08 11.8 0.0**
comp=Z,3µm,3.6s,SNR=35
FUR Furstenfeldbru 82.47 330 *e*P **P 22 08 12.3 +0.6**
comp=Z,333nm,1.0s
FUR *e*pP **pP 22 08 24.2 +2.9**
SISC Sisak 82.48 325 P **P 22 08 12.1 +0.3**
AYDN Tasoluk 82.49 313 *i* P **P 22 08 12.6 +0.6**
SIGR SIGRI 82.50 316 *e*P **P 22 08 12.3 +0.3**
SIGR SIGRI 82.50 316 *e*P **P 22 08 11.3 -0.7**
SIGR SIGRI 82.50 316 P **P 22 08 10.4 -1.6**
SIGR SIGRI 82.50 316 P **P 22 08 10.4 -1.6**
P30A Selden 82.50 44 P **P 22 08 11.8 -0.4**
baz=82,SNR=27
AKAS Kas 82.50 311 *i* P **P 22 08 11.4 -0.9**
KBA Koelnbreinsper 82.51 328 *i* P **P 22 08 12.5 +0.3**
comp=Z,2µm,3.4s,SNR=75
R28A Tribune 82.51 46 P **P 22 08 12.3 0.0**
baz=82,SNR=6.9
Y22D IRIS PASSCAL I 82.52 52 P **P 22 08 13.3 +0.8**
baz=82
LPM Los Pinos Moun 82.53 51 *e*P **P 22 08 13.3 +0.7**
O31A Woolen Ranch, 82.55 43 P **P 22 08 11.7 -0.7**
baz=82,SNR=11
SCHQ Schefferville 82.56 17 P **P 22 08 12.0 -0.1**
comp=Z,25nm,0.8s,baz=354,slow=5.4,SNR=22
SCHQ LR LR 22 50 18.8
comp=Z,9µm,18.0s,baz=345,slow=40
SCHQ Schefferville 82.56 17 *e*P **P 22 08 12.1 0.0**
comp=Z,112nm,1.2s
Q29A Oakley 82.57 45 P **P 22 08 12.3 -0.2**
baz=82,SNR=18
M33A Taylor Creek F 82.61 41 P **P 22 08 12.3 -0.4**
baz=82,SNR=13
YER Yerkesik 82.63 313 *e*P **P 22 08 13.8 +1.0**
TURN Turunc 82.63 312 *i* P **P 22 08 14.7 +2.0**
KNT Kendrikon 82.63 319 *e*P **P 22 08 12.8 +0.1**
KNT Kendrikon 82.63 319 P **P 22 08 10.3 -2.4**
KNT Kendrikon 82.63 319 *e*P **P 22 08 13.0 +0.3**
KNT Kendrikon 82.63 319 P **P 22 08 10.3 -2.4**
KNT Kendrikon 82.63 319 P **P 22 08 10.3 -2.4**
GMM Mts of Mourne 82.64 342⇑ *i*P **P 22 08 12.6 +0.1**
DALY Dalyan (Mu¨la 82.64 312 *e*P **P 22 08 13.5 +0.7**
N32A Stulken Farm, 82.64 42 P **P 22 08 12.5 -0.4**
baz=82,SNR=6.8
BNM Barren Site 82.65 51 *e*P **P 22 08 13.9 +0.7**
SOH Sokhos 82.65 318 P **P** 22 08 09.6 -3.3
SOH Sokhos 82.65 318 *e*P **P 22 08 12.5 -0.4**
SOH Sokhos 82.65 318 P **P** 22 08 09.6 -3.3
SOH Sokhos 82.65 318 P **P** 22 08 09.6 -3.3
MOZS Mozjanca 82.67 327 *i* P **P 22 08 12.5 -0.4**
OUR Ouranopolis 82.68 317 *e*P **P 22 08 13.5 +0.6**
OUR Ouranopolis 82.68 317 P **P 22 08 11.0 -1.9**
OUR Ouranopolis 82.68 317 *e*P **P 22 08 12.5 -0.4**
OUR Ouranopolis 82.68 317 P **P 22 08 11.0 -1.9**
OUR Ouranopolis 82.68 317 P **P 22 08 11.0 -1.9**
VAY Valandovo 82.68 319⇑ *i*P **P 22 08 14.0 +1.0**
VAY Valandovo 82.68 319 P **P 22 08 12.2 -0.8**
VAY Valandovo 82.68 319 P **P 22 08 12.2 -0.8**
VAY Valandovo 82.68 319 P **P 22 08 12.2 -0.8**
URLA Izmir 82.70 315 *i* P **P 22 08 13.0 -0.2**
STNC Stoke 82.72 339⇑ *e*P **P 22 08 13.5 +0.6**
STNC AMS AMS 22 49 01.6
comp=Z,14µm,21.2s
L34A Svendsen Farm, 82.72 40 P **P 22 08 13.0 -0.2**
baz=82,SNR=24
MYKA Terra Mystica 82.74 327 *i* P **P 22 08 13.0 -0.2**
comp=Z,715nm,2.2s,SNR=82
PLE Pijevlja 82.74 322⇑ *i*P **P 22 08 14.2 +0.8**
UCC Uccle 82.76 335 P **P 22 08 12.9 -0.2**
comp=Z,372nm,2.9s
UCC Uccle 82.76 335 *e*P **P 22 08 13.1 -0.1**
UCC pmax pmax
comp=Z,168nm,1.4s
UCC MLR MLR
comp=Z,52µm,18.0s
UCC Uccle 82.76 335 *e*P **P 22 08 13.1 -0.1**
comp=Z,168nm,1.4s
UCC LR LR
comp=Z,52µm,18.0s
STU Stuttgart 82.77 331 *e*P **P 22 08 13.5 +0.2**
comp=Z,254nm,1.0s
STU *e*pP **pP 22 08 25.4 +2.5**
STU Stuttgart 82.77 331 *e*P **P 22 08 13.5 +0.2**
STU pmax pmax
comp=Z,188nm,0.9s
STU MLR MLR
comp=Z,17µm,19.0s
STU Stuttgart 82.77 331 *e*P **P 22 08 13.5 +0.2**
comp=Z,188nm,0.9s
STU LR LR
comp=Z,17µm,19.0s
SKO Skopje 82.77 320⇑ *i*P **P 22 08 14.9 +1.5**
SKO Skopje 82.77 320 P **P 22 08 13.8 +0.4**
SKO Skopje 82.77 320 P **P 22 08 13.8 +0.4**
SKO Skopje 82.77 320 P **P 22 08 13.8 +0.4**
BCLA Clavier 82.77 334 P **P 22 08 13.1 -0.1**
comp=Z,68nm,1.6s
CWF Charnwood Fore 82.79 339⇑ *e*P **P 22 08 13.2 -0.1**
CWF AMS AMS 22 45 43.0
comp=Z,12µm,22.3s
R29A Marienthal 82.82 45 P **P 22 08 13.8 -0.1**
baz=83,SNR=11
LJU Ljubljana 82.83 326 *e*P **P 22 08 13.3 -0.4**
LJU *e* 22 08 22.9
LJU *i* SKSac **S 22 18 26.9 -3.0**
ZEY ¨zmir 82.84 315 *i* P **P 22 08 13.6 -0.2**
IVA Berane 82.85 321⇑ *i*P **P 22 08 14.5 +0.6**
T27A Campo 82.91 47 P **P 22 08 14.0 -0.4**
baz=83,SNR=20
Q30A Quinter 82.92 44 P **P 22 08 14.0 -0.4**
baz=83,SNR=22
PLG Polygyros 82.93 318 P **P 22 08 11.9 -2.4**
PLG Polygyros 82.93 318 *e*P **P 22 08 14.1 -0.2**
PLG Polygyros 82.93 318 P **P 22 08 11.9 -2.4**
PLG Polygyros 82.93 318 P **P 22 08 11.9 -2.4**
HORT Hortiatis 82.94 318 *e*P **P 22 08 15.5 +1.0**
HORT Hortiatis 82.94 318 *e*P **P 22 08 14.2 -0.3**
HORT Hortiatis 82.94 318 P **P 22 08 11.9 -2.6**
HORT Hortiatis 82.94 318 P **P 22 08 11.9 -2.6**
BOJS Bojanci 82.95 326 *i* P **P 22 08 14.0 -0.3**
BOJS *e* 22 08 22.7
BOJS *e* SKSac **S 22 18 28.6 -2.4**
BOJS *es* **ScS 22 18 49.5 +4.0**
M34A Aspy Farms, Fr 82.97 41 P **P 22 08 14.1 -0.4**
baz=83

CHOS **Chios island** 82.98 315 *e*P P 22 08 15.2 +0.5
CHOS **Chios island** 82.98 315 *e*P P 22 08 14.8 +0.1
CHOS **Chios island** 82.98 315 P P 22 08 13.5 -1.2
CHOS **Chios island** 82.98 315 P P 22 08 13.5 -1.2
P31A **Stockton** 82.98 43 P P 22 08 14.4 -0.2
baz=83,SNR=43
THE **Thessaloniki** 82.99 318 P P 22 08 12.6 -1.9
THE **Thessaloniki** 82.99 318 *e*P P 22 08 14.1 -0.4
THE **Thessaloniki** 82.99 318 P P 22 08 12.6 -1.9
THE **Thessaloniki** 82.99 318 P P 22 08 12.6 -1.9
S28A **Manter** 83.00 46 P P 22 08 14.7 -0.1
baz=83,SNR=11
WME **Myndd Eilian** 83.00 341⇑ *i*P P 22 08 14.2 -0.2
O32A **Brockman Farm,** 83.02 42 P P 22 08 13.8 -1.0
baz=83
WATA **Walderalm** 83.02 329⇑ *i*P P 22 08 14.9 +0.1
comp=Z,352nm,1.4s,SNR=90
L35A **Bielow Farm, R** 83.03 40 P P 22 08 14.1 -0.7
baz=83
PVY **Plav** 83.03 321⇑ *i*P P 22 08 15.1 +0.2
SMG **Samos** 83.03 314 *e*P P 22 08 14.8 -0.1
SNF **Seneffe** 83.03 335 P P 22 08 14.5 -0.1
GRG **Griva** 83.04 319 *e*P P 22 08 15.2 +0.3
GRG **Griva** 83.04 319 P P 22 08 13.3 -1.6
GRG **Griva** 83.04 319 *e*P P 22 08 14.9 0.0
GRG **Griva** 83.04 319 P P 22 08 13.3 -1.6
GRG **Griva** 83.04 319 P P 22 08 13.3 -1.6
121A **Cookes Peak, D** 83.04 53 P P 22 08 16.2 +1.0
baz=83,SNR=65
WTTA **Wattenberg** 83.05 329⇑ *i*P P 22 08 15.2 +0.2
WTTA **Wattenberg** 83.05 329 *i* PcP P 22 08 15.3 +0.3
comp=Z,3μm,3.6s,SNR=98
UPM **Unac-Piva** 83.07 322⇑ *i*P P 22 08 14.7 -0.5
N33A **J Bar K, Exete** 83.09 42 P P 22 08 14.2 -0.9
baz=83
ABTA **Abfaltersbach** 83.12 328 *i* P P 22 08 14.5 -0.7
comp=Z,1μm,3.6s,SNR=76
WLF **Walferdange** 83.12 333 P P 22 08 15.3 +0.3
comp=Z,230nm,2.7s
WLF **Walferdange** 83.12 333 *e*P P 22 08 15.7 +0.6
comp=Z,948nm,2.4s
WLF *e*pP **pP** 22 08 27.5 +2.8
WLF **Walferdange** 83.12 333 *e*P P 22 08 15.4 +0.3
WLF pmax pmax
comp=Z,415nm,1.7s
WLF MLR MLR
comp=Z,28μm,18.0s
WLF **Walferdange** 83.12 333 *e*P P 22 08 15.4 +0.3
comp=Z,416nm,1.7s
WLF LR LR
comp=Z,28μm,18.0s
PAIG **Paliouri** 83.14 317 P P 22 08 13.7 -1.6
PAIG **Paliouri** 83.14 317 *e*P P 22 08 15.2 -0.1
PAIG **Paliouri** 83.14 317 P P 22 08 13.7 -1.6
PAIG **Paliouri** 83.14 317 P P 22 08 13.7 -1.6
BDRM **Kayabasi** 83.15 313 *i*P P 22 08 15.7 +0.2
JAVS **Javornik** 83.15 327 *i*P P 22 08 14.6 -0.8
JAVS *i* 22 08 24.7
JAVS *i* SKSac **S** 22 18 30.8 -2.5
JAVS *e*S **ScS** 22 18 48.1 +0.8
FOEL **Foel Wylfa** 83.17 340⇑ *e*P P 22 08 15.8 +0.5
FOEL AMB AMB 22 08 16.8
comp=Z,419nm,3.0s
FOEL AMS AMS 22 48 54.4
comp=Z,11μm,21.7s
MOTA **Moosalm** 83.20 329 *i* PcP P 22 08 16.0 +0.2
comp=Z,505nm,1.4s,SNR=210
T28A **Walsh** 83.21 47 P P 22 08 15.1 -0.8
baz=83,SNR=9.0
RETA **Reutte** 83.22 329 *i* PcP P 22 08 16.1 +0.4
comp=Z,3μm,3.4s,SNR=171
BODT **Bodrum** 83.23 313 *e*P P 22 08 16.2 +0.3
DOU **Dourbes** 83.28 334 P P 22 08 15.7 -0.2
comp=Z,76nm,2.0s
CBKS **Cedar Bluff** 83.30 44 P P 22 08 15.6 -0.7
baz=83,SNR=5.1
U27A **Thompson Grove** 83.30 48 P P 22 08 16.6 +0.2
baz=83,SNR=30
P32A **Huiting Farm,** 83.32 43 P P 22 08 15.5 -0.8
baz=83,SNR=36
NKY **Niksic** 83.33 322⇑ *i*P P 22 08 16.1 -0.3
Q31A **Ellis** 83.35 44 P P 22 08 15.9 -0.7
baz=83,SNR=8.7
ARG **Arkhangelos** 83.36 312 P P 22 08 15.7 -0.9
ARG **Arkhangelos** 83.36 312 *e*P P 22 08 16.6 0.0
ARG **Arkhangelos** 83.36 312 P P 22 08 15.7 -0.9
ARG **Arkhangelos** 83.36 312 P P 22 08 15.7 -0.9
NKME **Niksic** 83.38 322⇑ *i*P P 22 08 16.2 -0.4
R30A **Dighton** 83.39 45 P P 22 08 16.7 -0.1
baz=83,SNR=22
YRE **Yr Eifl** 83.41 341⇑ *e*P P 22 08 16.1 -0.4
S29A **Ulysses** 83.41 46 P P 22 08 16.8 -0.1
baz=83,SNR=9.3
HLM1 **Long Mynd** 83.42 340⇑ *e*P P 22 08 16.7 +0.1
HLM1 AMB AMB 22 08 17.9
comp=Z,246nm,2.6s
HLM1 AMS AMS 22 49 22.5
comp=Z,12μm,20.4s
TRI **Trieste** 83.42 327 *e*P P 22 08 15.4 -1.3
TRI pmax pmax
comp=Z,412nm,1.5s
TRI MLR MLR
comp=Z,28μm,19.0s
TRI **Trieste** 83.42 327 *e*P P 22 08 15.4 -1.3
comp=Z,412nm,1.5s
TRI LR LR
comp=Z,28μm,19.0s
M35A **Neola** 83.44 40 P P 22 08 17.0 +0.1
baz=83,SNR=45
BFO **Black Forest** 83.45 331 *e*P P 22 08 17.1 +0.2
comp=Z,700nm,1.8s
BFO *e*pP **pP** 22 08 29.0 +2.5
BFO **Black Forest** 83.45 331 P P 22 08 16.1 -0.8
comp=Z,743nm,0.9s,SNR=72
BFO **Black Forest** 83.45 331 *i* P P 22 08 16.7 -0.2
BFO **Black Forest** 83.45 331 *e*P P 22 08 16.1 -0.8
comp=Z,348nm,1.4s
BFO LR LR
comp=Z,19μm,19.0s
BRY **Bratogost** 83.47 322⇑ *i*P P 22 08 16.6 -0.6
PHP **Peshkopia** 83.48 320 P P 22 08 15.4 -1.8
PHP **Peshkopia** 83.48 320 P P 22 08 15.4 -1.8
PHP **Peshkopia** 83.48 320 P P 22 08 15.4 -1.8
ELSH **Elham, Standar** 83.48 337⇑ *e*P P 22 08 16.4 -0.5
ELSH AMB AMB 22 08 17.8
comp=Z,280nm,1.2s
UDBI **Udbina** 83.49 325 P P 22 08 16.6 -0.6
PDG **Podgorica** 83.49 321 P P 22 08 15.4 -1.7
TTG **Podgorica** 83.49 321 *i*P P 22 08 17.2 +0.1
TTG **Podgorica** 83.49 321 P P 22 08 15.4 -1.7
TTG **Podgorica** 83.49 321 P P 22 08 15.4 -1.7
N34A **Lincoln** 83.50 41 P P 22 08 16.5 -0.8
baz=83,SNR=17
O33A **Hebron** 83.51 42 P P 22 08 16.4 -0.9
baz=83,SNR=9.2
AOS **Alonnisos** 83.58 317 *e*P P 22 08 18.0 +0.3
AOS **Alonnisos** 83.58 317 *e*P P 22 08 17.5 -0.2
AOS **Alonnisos** 83.58 317 P P 22 08 15.8 -1.9
AOS **Alonnisos** 83.58 317 P P 22 08 15.8 -1.9
FETA **Feichten** 83.61 329 *i* PcP P 22 08 18.0 +0.1
comp=Z,2μm,3.9s,SNR=82
ABSI **Aberstueckl** 83.61 329⇑ *i*P P 22 08 17.4 -0.5
LIT **Litokhoron** 83.63 318 P P 22 08 15.9 -2.0
LIT **Litokhoron** 83.63 318 *e*P P 22 08 17.1 -0.8
LIT **Litokhoron** 83.63 318 P P 22 08 15.9 -2.0
LIT **Litokhoron** 83.63 318 P P 22 08 15.9 -2.0
NIS1 **Nisyros Isl.** 83.63 313 *e*P P 22 08 15.1 -2.9
NIS1 **Nisyros Isl.** 83.63 313 *e*P P 22 08 17.3 -0.7
T29A **Hugoton** 83.64 46 P P 22 08 17.7 -0.4
baz=84
DSB **Dublin** 83.65 342 *e*P P 22 08 18.2 +0.5
comp=Z,466nm,1.5s
DSB LR LR
comp=Z,8μm,18.0s
U28A **Mallet** 83.67 47 P P 22 08 18.1 -0.2
baz=84,SNR=12
FNA **Florina** 83.69 319 *e*P P 22 08 17.8 -0.4
FNA **Florina** 83.69 319 P P 22 08 16.5 -1.7
FNA **Florina** 83.69 319 *e*P P 22 08 18.0 -0.2
FNA **Florina** 83.69 319 P P 22 08 16.5 -1.7
FNA **Florina** 83.69 319 P P 22 08 16.5 -1.7
EIL **Elat** 83.71 303 *e*P P 22 08 18.8 +0.3
DRME **Dracevica, Mon** 83.71 321⇑ *i*P P 22 08 18.6 +0.3
DAVA **Damuels** 83.73 330⇑ *i*P P 22 08 17.4 -1.1
DAVA **Damuels** 83.73 330 *i* PcP P 22 08 18.7 +0.2
comp=Z,1μm,2.2s,SNR=110
OHR **Ohrid** 83.73 320⇑ *i*P P 22 08 17.5 -0.9
S30A **Montezuma** 83.75 45 P P 22 08 18.7 +0.1
baz=84,SNR=20
BUM **Brajici-Budva** 83.76 322⇑ *i*P P 22 08 18.4 -0.2
URZ **Urewera** 83.77 153 *e*pP **pP** 22 08 29.9 +2.1
URZ LR LR
comp=Z,9μm,21.0s
V27A **Dan Oppiter Fa** 83.77 48 P P 22 08 19.2 +0.3
baz=84
R31A **Burdett** 83.80 44 P P 22 08 18.2 -0.7
baz=84,SNR=19
STEIN **Stein am Rhein** 83.80 331⇑ *i*P P 22 08 18.5 -0.2
comp=Z,2μm,2.5s
Q32A **Meitler Ranch,** 83.80 43 P P 22 08 18.2 -0.6
baz=84,SNR=43
XOR **Xorichti** 83.80 317 *e*P P 22 08 18.3 -0.5
XOR **Xorichti** 83.80 317 P P 22 08 16.2 -2.6
XOR **Xorichti** 83.80 317 P P 22 08 16.2 -2.6
KOSI **Kohlern** 83.81 328⇑ *i*P P 22 08 18.7 -0.2
NEO **Neokhori** 83.83 317 *e*P P 22 08 18.3 -0.7
NEO **Neokhori** 83.83 317 P P 22 08 15.2 -3.8
NEO **Neokhori** 83.83 317 P P 22 08 15.2 -3.8
HCY **Herceg Novi** 83.84 322⇑ *i*P P 22 08 18.3 -0.6
KZN **Kozani** 83.84 319 P P 22 08 18.0 -1.1
KZN **Kozani** 83.84 319 *e*P P 22 08 18.2 -0.9
KZN **Kozani** 83.84 319 P P 22 08 18.0 -1.1
KZN **Kozani** 83.84 319 P P 22 08 18.0 -1.1
ULC **Ulcinj** 83.85 321 *e*P P 22 08 18.7 -0.3
NVLJ **Novalja** 83.86 325 P P 22 08 18.0 -0.9
SLE **Schleitheim** 83.86 331⇑ *i*P P 22 08 18.8 -0.2
comp=Z,2μm,2.7s
LIENZ **Kamor/St.Gall** 83.87 330⇑ *i*P P 22 08 19.0 -0.2
comp=Z,2μm,4.2s
WEIN **Weingarten** 83.87 330⇑ *i*P P 22 08 19.2 +0.2
comp=Z,1μm,2.7s
STRD **Stroud** 83.89 339⇑ *e*P P 22 08 19.2 +0.3
STRD AMB AMB 22 08 20.2
comp=Z,715nm,1.8s
STRD AMS AMS 22 49 57.0
comp=Z,11μm,19.4s
TRULL **Truellikon** 83.89 331⇑ *i*P P 22 08 19.3 +0.2
comp=Z,2μm,2.4s
STON **Ston** 83.89 323 P P 22 08 18.0 -1.1
O34A **Beatrice** 83.89 41 P P 22 08 18.5 -0.8
baz=84,SNR=21
FYTO **Fytoko, Volos** 83.90 317 P P 22 08 17.0 -2.3
FYTO **Fytoko, Volos** 83.90 317 P P 22 08 17.0 -2.3
MCH1 **Michaelchurch** 83.92 339⇑ *e*P P 22 08 19.2 +0.1
MCH1 AMB AMB 22 08 20.3
comp=Z,379nm,2.2s
MCH1 AMS AMS 22 49 37.7
comp=Z,13μm,20.3s
N35A **Tabor** 83.92 40 P P 22 08 19.6 +0.2
baz=84,SNR=41
P33A **Williams Farm,** 83.93 43 P P 22 08 18.8 -0.6
baz=84,SNR=19
HMNX **Herstmonceux** 83.97 337⇑ *e*P P 22 08 19.4 0.0
HMNX AMB AMB 22 08 20.9
comp=Z,577nm,1.7s
HMNX AMS AMS 22 48 10.7
comp=Z,11μm,21.2s
FLACH **Flaach** 84.00 331⇑ *i*P P 22 08 19.4 -0.2
comp=Z,1μm,2.5s
WILA **Wila** 84.00 330⇑ *i*P P 22 08 19.5 -0.2
comp=Z,2μm,3.0s
MONM **Monmouth** 84.01 339⇑ *e*P P 22 08 19.5 -0.1
MONM AMB AMB 22 08 20.8
comp=Z,488nm,1.9s
MONM AMS AMS 22 50 12.6
comp=Z,15μm,20.1s
MOSI **Grossmontoni** 84.01 329⇑ *i*P P 22 08 19.9 -0.1
TIR **Tirane** 84.02 320 *e*P P 22 08 19.3 -0.5
TIR pmax pmax
comp=Z,259nm,1.0s
TIR MLR MLR
comp=Z,29μm,21.0s
TIR **Tirane** 84.02 320 *e*P P 22 08 19.3 -0.5
comp=Z,259nm,1.0s
TIR LR LR
comp=Z,29μm,21.0s
TIR **Tirane** 84.02 320 P P 22 08 18.6 -1.2
SWN1 **Swindon** 84.02 339⇑ *e*P P 22 08 19.9 +0.3
SWN1 AMB AMB 22 08 21.9
comp=Z,735nm,1.7s
SWN1 AMS AMS 22 49 09.9
comp=Z,13μm,20.3s
WOL **Wolverton** 84.03 338⇑ *e*P P 22 08 19.4 -0.4
WOL AMB AMB 22 08 21.5
comp=Z,336nm,1.8s
WOL AMS AMS 22 49 09.4
comp=Z,14μm,20.4s
MRKA **Markates** 84.08 317 *e*P P 22 08 19.6 -0.6
MRKA **Markates** 84.08 317 P P 22 08 16.8 -3.4
LPW **Lampeter** 84.10 340⇑ *e*P P 22 08 20.5 +0.4
LPW AMB AMB 22 08 21.3
comp=Z,473nm,1.6s
LPW AMS AMS 22 49 10.9
comp=Z,10μm,21.0s
ACHB **Acheberg** 84.10 331⇑ *i*P P 22 08 20.3 +0.1
comp=Z,2μm,2.5s
KBN **Korca** 84.10 319 P P 22 08 18.7 -1.7
KBN **Korca** 84.10 319 P P 22 08 18.7 -1.7
KBN **Korca** 84.10 319 P P 22 08 18.7 -1.7
EREA **Eretria** 84.11 316 *e*P P 22 08 19.9 -0.5
EREA **Eretria** 84.11 316 P P 22 08 16.3 -4.1
CGRP **Cima Grappa** 84.11 328⇑ *i*P P 22 08 18.5 -2.0
KARY **Karystos** 84.12 316 P P 22 08 14.0 -6.4
PLONS **Plons/SG** 84.12 330⇑ *i*P P 22 08 20.3 -0.1
comp=Z,2μm,3.2s
V28A **Channing** 84.12 48 P P 22 08 20.5 -0.1
baz=84,SNR=9.3
FUORN **Ofenpass-Fuorn** 84.12 329⇑ *i*P P 22 08 20.4 -0.2
comp=Z,3μm,2.4s
FUORN **Ofenpass-Fuorn** 84.12 329 *e*P P 22 08 21.1 +0.4
comp=Z,1μm,1.4s
FUORN LR LR
comp=Z,22μm,18.0s
NEST **Nestorio** 84.13 319 P P 22 08 18.3 -2.3
R32A **Long Quarter,** 84.14 44 P P 22 08 20.1 -0.5
baz=84,SNR=9.9
T30A **Plains** 84.14 46 P P 22 08 20.7 +0.1
baz=84
DAVOX **Davos/Dischmat** 84.14 329⇑ *i*P P 22 08 20.6 0.0
comp=Z,782nm,1.7s
SMIA **Simia** 84.15 317 *e*P P 22 08 20.2 -0.4
SMIA **Simia** 84.15 317 P P 22 08 18.3 -2.3
ZUR **Degenried** 84.16 331⇑ *i*P P 22 08 20.8 +0.3
comp=Z,2μm,3.1s
U29A **Oasis Ranch, S** 84.16 47 P P 22 08 20.4 -0.4
baz=84,SNR=6.2
Q33A **Connelly Farm,** 84.18 43 P P 22 08 20.1 -0.6
baz=84,SNR=51
SULZ **Cheisacher** 84.20 331⇑ *i*P P 22 08 20.9 +0.2
comp=Z,3μm,2.7s
APE **Apeiranthos** 84.22 314 *e*P P 22 08 20.0 -1.0
APE **Apeiranthos** 84.22 314 *c* iP P 22 08 19.7 -1.3
APE pmax pmax
comp=Z,182nm,1.1s
APE **Apeiranthos** 84.22 314 ⇓ *i*P P 22 08 20.0 -1.0
APE **Apeiranthos** 84.22 314 *e*P P 22 08 19.5 -1.5
O35A **Humboldt** 84.23 41 P P 22 08 20.3 -0.6
baz=84,SNR=16
BATH **Bath** 84.23 339⇑ *e*P P 22 08 20.5 -0.2
BATH AMB AMB 22 08 21.8
comp=Z,390nm,1.9s
BATH AMS AMS 22 49 48.0
comp=Z,12μm,20.0s
THL **Klokotos Trika** 84.27 318 *e*P P 22 08 19.9 -1.2
THL **Klokotos Trika** 84.27 318 P P 22 08 16.8 -4.3
P34A **Walnut Farm, R** 84.30 42 P P 22 08 21.0 -0.3
baz=84,SNR=20
S31A **Mullinville** 84.31 45 P P 22 08 21.2 -0.2
baz=84,SNR=18
SCIA **State Center** 84.31 38 *e*P P 22 08 21.6 +0.2
comp=Z,348nm,1.0s
SCIA LR LR
comp=Z,8μm,21.0s
OTER1 **Otterbach 1 (B** 84.35 331⇑ *i*P P 22 08 21.5 +0.1
BKZ **Black Stump Fm** 84.37 154 *e*pP **pP** 22 08 30.6 -0.4
BKZ LR LR
comp=Z,12μm,22.0s
ATAL **Atalanti** 84.39 317 P P 22 08 19.3 -2.5
ATAL **Atalanti** 84.39 317 P P 22 08 19.3 -2.5
BERNI **Berninapass** 84.39 329⇑ *i*P P 22 08 21.5 -0.5
comp=Z,2μm,3.7s
KARP **Karpathos** 84.39 312 *e*P P 22 08 21.9 0.0
KARP **Karpathos** 84.39 312 P P 22 08 20.4 -1.5
KARP **Karpathos** 84.39 312 P P 22 08 20.4 -1.5
PMOR **Pomariorio Ree** 84.41 115 *e*P P 22 08 22.4 +0.3
comp=Z,159nm,1.1s
PMOR **Pomariorio Ree** 84.41 115 *e*T T 23 41 31.2
comp=Z,92nm,0.2s
PTL **Penteli** 84.41 316 *e*P P 22 08 20.6 -1.4
PTL **Penteli** 84.41 316 P P 22 08 19.6 -2.4
PTL **Penteli** 84.41 316 P P 22 08 19.6 -2.4
LLS **Linth-Limmern** 84.43 330⇑ *i*P P 22 08 21.9 -0.2
comp=Z,1μm,3.0s
LKR **Lokris** 84.43 317 *e*P P 22 08 20.9 -1.1
LKR **Lokris** 84.43 317 P P 22 08 19.2 -2.8
LKR **Lokris** 84.43 317 P P 22 08 19.2 -2.8
V29A **Stinnett** 84.43 47 P P 22 08 22.1 -0.1
baz=84
U30A **WK&E Inc. Balk** 84.45 46 P P 22 08 22.0 -0.2
baz=84,SNR=18
MUO **Muotathal** 84.47 330⇑ *i*P P 22 08 22.1 -0.2
comp=Z,2μm,2.6s
W28A **Vega** 84.48 48 P P 22 08 23.0 +0.5
baz=84,SNR=5.9
MABI **Malga Bissina** 84.49 329⇑ *i*P P 22 08 22.2 -0.2
ATHU **Athens Univers** 84.52 316 P P 22 08 19.0 -3.4
ATHU **Athens Univers** 84.52 316 P P 22 08 19.0 -3.4
BALST **Balsthal** 84.52 331⇑ *i*P P 22 08 22.2 -0.2
comp=Z,3μm,3.7s
AXAR **Agios Charalam** 84.53 317 *e*P P 22 08 21.6 -0.9
AXAR **Agios Charalam** 84.53 317 P P 22 08 20.4 -2.1
AXAR **Agios Charalam** 84.53 317 P P 22 08 20.4 -2.1
S32A **Newby Ranch, P** 84.54 44 P P 22 08 22.0 -0.6
baz=84,SNR=6.6
ATH **Athens Observa** 84.55 316 *e*P P 22 08 21.2 -1.4
VDL **Val di Lei** 84.56 330⇑ *i*P P 22 08 22.7 -0.1
comp=Z,2μm,3.7s
TUE **Stuetta** 84.61 330⇑ *i*P P 22 08 22.9 -0.1
TUE **Stuetta** 84.61 330 *e*P P 22 08 22.9 -0.1
comp=Z,376nm,0.6s
TUE LR LR
comp=Z,31μm,19.0s
R33A **Olander Ranch,** 84.61 43 P P 22 08 22.6 -0.3
baz=84,SNR=15
MAKR **Makrakomi, Fth** 84.62 318 *e*P P 22 08 22.0 -1.0
MAKR **Makrakomi, Fth** 84.62 318 P P 22 08 20.2 -2.8
MAKR **Makrakomi, Fth** 84.62 318 P P 22 08 20.2 -2.8
VILL **Villia** 84.62 316 P P 22 08 19.8 -3.2
BNALP **Bannalp** 84.63 330⇑ *i*P P 22 08 23.0 -0.1
comp=Z,1μm,2.5s
BOURR **Bourrignon** 84.64 331⇑ *i*P P 22 08 23.0 0.0
comp=Z,2μm,3.1s
Q34A **Chapman** 84.70 42 P P 22 08 23.1 -0.3
baz=84,SNR=10
P35A **Duane Minner,** 84.73 42 P P 22 08 22.9 -0.7
baz=84,SNR=15
KSU1 **Kansas State U** 84.74 42 P P 22 08 22.8 -0.8
baz=84,SNR=8.7
KSU1 **Kansas State U** 84.74 42 *e*P P 22 08 23.5 -0.1
KSU1 LR LR
comp=Z,9μm,22.0s
SANT **Santorini** 84.76 314 *e*P P 22 08 22.1 -1.6
comp=Z,295nm,1.1s
SANT LR LR
comp=Z,12μm,18.0s
THR6 **Thira Island,** 84.81 314 P P 22 08 21.7 -2.2
THR6 **Thira Island,** 84.81 314 P P 22 08 21.7 -2.2
O36A **Bolckow** 84.81 41 P P 22 08 24.0 +0.1
baz=85,SNR=18
HASLI **Hasliberg/Brie** 84.83 330⇑ *i*P P 22 08 23.3 -0.7
comp=Z,2μm,2.5s
SALO **Salr** 84.84 328⇑ *i*P P 22 08 23.8 -0.2
DSF **Desfina** 84.86 317 *e*P P 22 08 22.6 -1.6
DSF **Desfina** 84.86 317 P P 22 08 20.4 -3.8
DSF **Desfina** 84.86 317 P P 22 08 20.4 -3.8
EVR **Evrytania** 84.86 318 *e*P P 22 08 23.4 -0.9
EVR **Evrytania** 84.86 318 P P 22 08 21.1 -3.2
EVR **Evrytania** 84.86 318 P P 22 08 21.1 -3.2
FUSIO **Fusio** 84.89 330⇑ *i*P P 22 08 24.3 0.0
comp=Z,2μm,3.4s
W29A **Amraillo** 84.90 48 P P 22 08 24.8 +0.2
baz=85
LTK **Loutraki** 84.91 316 *e*P P 22 08 22.4 -2.1
LTK **Loutraki** 84.91 316 P P 22 08 20.7 -3.8
LTK **Loutraki** 84.91 316 P P 22 08 20.7 -3.8
JFWS **Jewell Farm** 84.92 36 *e*P P 22 08 23.7 -0.7
JFWS pmax pmax
comp=Z,128nm,1.0s
JFWS MLR MLR
comp=Z,8μm,22.0s
JFWS **Jewell Farm** 84.92 36 *e*P P 22 08 23.7 -0.7
comp=Z,128nm,1.0s
JFWS LR LR
comp=Z,8μm,22.0s
T32A **Huddler Ranch,** 84.93 45 P P 22 08 24.7 +0.1
baz=85,SNR=24
LOUT **Loutraki** 84.93 316 P P 22 08 19.0 -5.6
HEX **Exmoor** 84.97 339⇑ *i*P P 22 08 24.1 -0.4
V30A **Spur Ranch, Mi** 84.98 47 P P 22 08 25.2 +0.2
baz=85
R34A **Isabella, Hill** 85.00 43 P P 22 08 24.3 -0.6
baz=85,SNR=9.0
PPT **Papeete** 85.01 118 P P 22 08 26.0 +0.9
comp=Z,43nm,1.1s,baz=289,slow=5.3,SNR=2.7
PPT LR LR 22 39 17.4
comp=Z,15μm,21.9s,baz=292,slow=31
PPT **Papeete** 85.01 118 P P 22 08 26.0 +0.9
U31A **Nine Bar Ranch** 85.01 46 P P 22 08 25.6 +0.5
baz=85,SNR=21
X28A **Dimmitt** 85.01 49 P P 22 08 25.7 +0.5
baz=85,SNR=26
PPT2 **Papeete2** 85.02 118 *e*P P 22 08 25.8 +0.6
comp=Z,162nm,1.5s
PPT2 **Papeete2** 85.02 118 *e*S S 22 18 49.3 -3.3
comp=Z,10μm,29.5s
PPT2 *e*SS **SS** 22 24 25.7 -0.9
comp=Z,3μm,25.8s
PPT2 **Papeete2** 85.02 118 *e*LR LR 22 34 55.1
comp=Z,36μm,22.5s,baz=316
PPT2 **Papeete2** 85.02 118 *e*T T 23 42 16.0
comp=Z,57nm,0.3s
AMTX **Amarillo** 85.05 48 P P 22 08 25.8 +0.5
baz=85
AMTX **Amarillo** 85.05 48 *e*P P 22 08 20.3 -5.0
AMTX LR LR
comp=Z,4μm,21.0s
SRN **Sarande** 85.06 319 P P 22 08 22.9 -2.2
SRN **Sarande** 85.06 319 P P 22 08 22.9 -2.2
THAL **Thalero** 85.06 317 *e*P P 22 08 23.4 -1.8
THAL **Thalero** 85.06 317 P P 22 08 22.0 -3.2
MSTX **Muleshoe** 85.07 49 P P 22 08 25.8 +0.4
baz=85,SNR=8.5
MSTX **Muleshoe** 85.07 49 *e*P P 22 08 24.4 -1.0
comp=Z,2μm,2.6s
P36A **Good Intent, A** 85.07 41 P P 22 08 24.9 -0.3
baz=85,SNR=34
PAE **Paea** 85.07 118 *e*P P 22 08 25.7 +0.4
comp=Z,33nm,1.4s
PAE **Paea** 85.07 118 *e*T T 23 42 18.9
comp=Z,9.4nm,0.3s
KALE **Kalithea** 85.08 317 *e*P P 22 08 23.8 -1.5
KALE **Kalithea** 85.08 317 P P 22 08 21.6 -3.7
KALE **Kalithea** 85.08 317 P P 22 08 21.6 -3.7
SERG **Sergoula** 85.10 317 P P 22 08 22.6 -2.8
WIMIS **Wimmis** 85.11 331⇑ *i*P P 22 08 24.7 -0.6
comp=Z,1μm,3.9s
MHLO **Agia Marina, M** 85.11 315 *e*P P 22 08 23.5 -2.0
FIESA **Fieschergalp** 85.11 330⇑ *i*P P 22 08 25.0 -0.6
comp=Z,1μm,2.6s
S33A **Kaszmaul Farm,** 85.12 44 P P 22 08 25.5 0.0
baz=85,SNR=8.6
TRIZ **Trizonia** 85.13 317 P P 22 08 22.7 -2.8
SGD **Sagiada** 85.14 319 *e*P P 22 08 25.2 -0.3
SGD **Sagiada** 85.14 319 P P 22 08 23.4 -2.1
DID **Didima** 85.15 316 *e*P P 22 08 22.6 -3.1
DID **Didima** 85.15 316 P P 22 08 21.4 -4.3
DID **Didima** 85.15 316 P P 22 08 21.4 -4.3
IGT **Igoumenitsa** 85.15 319 *e*P P 22 08 25.0 -0.6
IGT **Igoumenitsa** 85.15 319 P P 22 08 23.1 -2.5
IGT **Igoumenitsa** 85.15 319 *e*P P 22 08 25.2 -0.4
IGT **Igoumenitsa** 85.15 319 P P 22 08 23.1 -2.5
IGT **Igoumenitsa** 85.15 319 P P 22 08 23.1 -2.5
TIAR **Tiarei** 85.16 117 *e*P P 22 08 25.8 0.0
comp=Z,51nm,1.3s

TIAR Tiarei 85.16 117 eT T 23 42 25.5
comp=Z,26nm,0.3s
EFP Efpalio 85.17 317 eP P 22 08 25.0 -0.7
EFP Efpalio 85.17 317 P P 22 08 23.7 -2.0
MUGIO Muggio 85.18 329⇑ iP P 22 08 25.5 -0.2
comp=Z,1µm,2.5s
DIDY Didyma 85.18 316 eP P 22 08 23.3 -2.6
DIDY Didyma 85.18 316 P P 22 08 21.2 -4.7
Q35A Mercer Eighty, 85.22 42 P P 22 08 25.6 -0.3
baz=85,SNR=41
HTL Hartland 85.22 340⇑ eP P 22 08 25.9 +0.2
HTL AMB AMB 22 08 27.2
comp=Z,439nm,1.5s
HTL AMS AMS 22 50 29.5
comp=Z,11µm,21.5s
ZKR Zakros 85.24 313 eP P 22 08 26.0 -0.1
ZKR Zakros 85.24 313 P P 22 08 25.1 -1.0
ZKR Zakros 85.24 313 P P 22 08 25.1 -1.0
TORNY Torny/Romont 85.27 331⇑ iP P 22 08 26.0 -0.1
comp=Z,2µm,3.4s
LAKA Lakka 85.27 317 eP P 22 08 25.7 -0.6
LAKA Lakka 85.27 317 P P 22 08 22.4 -3.9
LAKA Lakka 85.27 317 P P 22 08 22.4 -3.9
KRND KRANIDI 85.28 316 eP P 22 08 23.9 -2.4
KRND KRANIDI 85.28 316 P P 22 08 21.7 -4.6
KEK Kerkira 85.29 319 eP P 22 08 25.7 -0.6
KEK Kerkira 85.29 319 P P 22 08 23.7 -2.6
KEK Kerkira 85.29 319 P P 22 08 23.7 -2.6
BRANT Les Verrieres 85.31 332⇑ iP P 22 08 26.3 -0.1
comp=Z,2µm,3.0s
GUR Goura 85.31 317 eP P 22 08 24.7 -1.9
GUR Goura 85.31 317 P P 22 08 22.1 -4.5
GUR Goura 85.31 317 P P 22 08 22.1 -4.5
KLV Kalavryta, Ach 85.33 317 eP P 22 08 25.2 -1.4
KLV Kalavryta, Ach 85.33 317 P P 22 08 22.9 -3.7
KLV Kalavryta, Ach 85.33 317 P P 22 08 22.9 -3.7
LKBD Leukerbad 85.34 331⇑ iP P 22 08 26.4 -0.2
comp=Z,1µm,2.4s
X29A Tulia 85.35 48 P P 22 08 27.1 +0.2
baz=85,SNR=34
T33A Patterson Ranc 85.37 44 P P 22 08 26.5 -0.3
baz=85
TVO Taravao 85.38 117 eP P 22 08 27.4 +0.4
comp=Z,31nm,1.1s
TVO Taravao 85.38 117 eT T 23 42 42.2
comp=Z,4.7nm,0.4s
EMBD Embd, Matterta 85.40 330⇑ iP P 22 08 26.9 0.0
comp=Z,1µm,3.6s
Y28A McKinney Farm, 85.42 49 P P 22 08 27.3 +0.1
baz=85,SNR=52
Q36A Arnold C. Orve 85.44 42 P P 22 08 26.6 -0.5
baz=85,SNR=13
V31A Spring Creek L 85.45 46 P P 22 08 27.6 +0.4
baz=85,SNR=25
W30A Crooket Farms 85.46 47 P P 22 08 28.2 +0.8
baz=85
U32A Winter Ranch, 85.47 45 P P 22 08 27.7 +0.4
baz=85,SNR=14
NPS Neapolis 85.47 313 P P 22 08 22.3 -5.0
NPS Neapolis 85.47 313 eP P 22 08 26.4 -0.9
NPS Neapolis 85.47 313 P P 22 08 22.3 -5.0
NPS Neapolis 85.47 313 P P 22 08 22.3 -5.0
SENIN Lac Senin/Sane 85.48 331⇑ iP P 22 08 27.2 -0.2
comp=Z,2µm,3.7s
SENIN Lac Senin/Sane 85.48 331 eP P 22 08 27.3 -0.2
MMK Mattmark 85.49 330⇑ iP P 22 08 27.3 -0.2
comp=Z,2µm,3.1s
VANNI Vissoie, Val d 85.50 330⇑ iP P 22 08 27.5 +0.1
comp=Z,1µm,2.8s
S34A Willow Spring 85.52 43 P P 22 08 27.3 -0.2
baz=85,SNR=25
R35A Emporia Munici 85.54 42 P P 22 08 27.8 +0.3
baz=85,SNR=35
LKD2 Lefkada island 85.55 318 eP P 22 08 27.0 -0.6
LKD2 Lefkada island 85.55 318 P P 22 08 25.5 -2.1
LKD2 Lefkada island 85.55 318 P P 22 08 25.5 -2.1
DYA Yadsworthy 85.58 339‖ eP P 22 08 27.4 -0.1
DYA AMB AMB 22 08 28.5
comp=Z,476nm,1.7s
DYA AMS AMS 22 52 07.2
comp=Z,15µm,16.6s
DYA Yadsworthy 85.58 339 eP P 22 08 27.1 -0.4
comp=Z,543nm,1.3s
DYA LR LR
comp=Z,18µm,20.0s
DRO Drossia 85.63 317 eP P 22 08 27.7 -0.3
DRO Drossia 85.63 317 P P 22 08 25.5 -2.5
AIGLE Aigle 85.63 331⇑ iP P 22 08 27.6 -0.4
comp=Z,2µm,4.2s
GRYON Gryon 85.65 331⇑ iP P 22 08 27.8 -0.3
comp=Z,822nm,2.3s
BFZ Birch Farm 85.65 155 eP P 22 08 29.3 +1.6
comp=Z,192nm,1.2s
BFZ LR LR
comp=Z,11µm,21.0s
RLS Riolos of Patr 85.68 317 eP P 22 08 28.0 -0.2
RLS Riolos of Patr 85.68 317 P P 22 08 25.6 -2.6
RLS Riolos of Patr 85.68 317 P P 22 08 25.6 -2.6
DIX Grande Dixence 85.68 331⇑ iP P 22 08 28.4 -0.1
comp=Z,2µm,4.2s
VLX Vlachokerasia 85.71 316 eP P 22 08 26.4 -2.1
VLX Vlachokerasia 85.71 316 P P 22 08 25.3 -3.2
VLX Vlachokerasia 85.71 316 P P 22 08 25.3 -3.2
GIMEL St. Georges / 85.72 331⇑ iP P 22 08 28.5 0.0
comp=Z,2µm,3.9s
SNZO South Karori 85.73 156 PFAKE 22 08 40.0 +12
SNZO LR LR
comp=Z,10µm,21.0s
VAL Valentia 85.75 344⇓ iS S 22 19 02.8 +4.1
VAL eSS SS 22 24 38.4 +4.4
Z28A Tucker Farm, M 85.78 50 P P 22 08 28.9 -0.1
baz=86,SNR=26
Y29A Porterfield Fa 85.78 49 P P 22 08 29.4 +0.4
baz=86,SNR=18
SALAN Lac Salanfe 85.79 331⇑ iP P 22 08 28.6 -0.3
comp=Z,1µm,3.4s
GLMI Grayling 85.79 32 eP P 22 08 29.4 +0.7
GLMI epP pP 22 08 42.3 +4.0
GLMI LR LR
comp=Z,9µm,20.0s
EXG Exogi 85.81 318 P P 22 08 26.5 -2.4
W31A Holland Ranch, 85.82 47 P P 22 08 29.5 +0.4
baz=86,SNR=23
X30A Coker Ranch, T 85.82 48 P P 22 08 29.3 +0.1
baz=86,SNR=9.4
EMV Vieux Emosson 85.89 331⇑ iP P 22 08 29.2 -0.3
comp=Z,2µm,3.2s
VLI Veliai 85.89 316 eP P 22 08 26.9 -2.4
VLI Veliai 85.89 316 P P 22 08 25.1 -4.2
VLI Veliai 85.89 316 P P 22 08 25.1 -4.2
R36A Gordon, Harris 85.90 42 P P 22 08 29.2 -0.2
baz=86,SNR=50
U33A Lingo Farm, Me 85.92 45 P P 22 08 29.6 +0.1
baz=86,SNR=5.7
V32A Arapaho 85.93 46 P P 22 08 30.5 +0.9
baz=86,SNR=25
TAOE Nuku Hiva Isla 85.94 105 eS S 22 18 58.0 -3.8
comp=Z,8µm,24.5s
TAOE Nuku Hiva Isla 85.94 105 eLR LR 22 35 31.8
comp=Z,29µm,21.2s,baz=321
TAOE Nuku Hiva Isla 85.94 105 eT T 23 43 31.3
comp=Z,170nm,0.3s
AMT Artemida-Makis 85.94 317 eP P 22 08 28.7 -0.9
AMT Artemida-Makis 85.94 317 P P 22 08 28.0 -1.6
S35A Otter Creek Ra 85.95 43 P P 22 08 29.9 +0.3
baz=86,SNR=104
BOB Bobbio (Coli) 85.97 329⇑ iP P 22 08 29.4 -0.3
T34A McClaskey Farm 85.98 44 P P 22 08 29.6 -0.2
baz=86,SNR=41
KFL Anninata 85.99 318 P P 22 08 28.1 -1.7
Q37A Longview Farm, 86.02 41 P P 22 08 29.4 -0.5
baz=86
VLS Valsamata 86.04 318 P P 22 08 27.7 -2.4
VLS Valsamata 86.04 318 eP P 22 08 29.2 -0.9
VLS Valsamata 86.04 318 P P 22 08 27.7 -2.4
VLS Valsamata 86.04 318 P P 22 08 27.7 -2.4
MRGE Morge 86.07 331⇑ iP P 22 08 30.2 -0.1
ITM Ithomi 86.09 316 eP P 22 08 29.2 -1.1
ITM Ithomi 86.09 316 P P 22 08 27.6 -2.7
ITM Ithomi 86.09 316 P P 22 08 27.6 -2.7
VLC Villacollemand 86.09 328 eP P 22 08 31.0 +0.8
comp=Z,2µm,2.9s
VLC LR LR
comp=Z,32µm,20.0s
SIVA Sivas 86.10 313 eP P 22 08 29.5 -0.9
SIVA Sivas 86.10 313 P P 22 08 28.4 -2.0
SIVA Sivas 86.10 313 P P 22 08 28.4 -2.0
CCA1 Carnmenellis 86.16 340⇑ eP P 22 08 30.3 -0.1
CCA1 AMB AMB 22 08 31.5
comp=Z,428nm,1.7s
VAM Vamos 86.16 314 eP P 22 08 30.0 -0.7
128A Castleberry Fa 86.19 50 P P 22 08 31.0 0.0
baz=86,SNR=52
Z29A Hungry Hill Ra 86.19 49 P P 22 08 31.1 +0.1
baz=86,SNR=128
X31A McDonald Ranch 86.20 47 P P 22 08 30.8 -0.1
baz=86,SNR=48
JSA Saint Aubin 86.21 338⇑ eP P 22 08 30.3 -0.3
JSA AMB AMB 22 08 31.7
comp=Z,397nm,1.6s
JSA AMS AMS 22 48 05.0
comp=Z,14µm,22.7s
Y30A Stafford Cattl 86.22 48 P P 22 08 30.8 -0.3
baz=86,SNR=11
U34A Anderson Ranch 86.23 44 P P 22 08 31.3 +0.3
baz=86,SNR=22
U34A Anderson Ranch 86.23 44 eP P 22 08 31.3 +0.3
comp=Z,2µm,2.3s
U34A LR LR
comp=Z,6µm,20.0s
R37A Teagarden Farm 86.25 42 P P 22 08 30.6 -0.5
baz=86,SNR=14
W32A Sentinel 86.25 46 P P 22 08 31.2 0.0
baz=86,SNR=49
AQU L'Aquila 86.26 325 eP P 22 08 31.2 +0.1
AQU pmax pmax
comp=Z,694nm,1.8s
AQU MLR MLR
comp=Z,24µm,18.0s
AQU L'Aquila 86.26 325⇑ iP P 22 08 31.2 +0.1
AQU L'Aquila 86.26 325 eP P 22 08 31.2 +0.1
comp=Z,694nm,1.8s
AQU LR LR
comp=Z,24µm,18.0s
MEH Mehetia 86.26 117 eP P 22 08 31.7 +0.4
comp=Z,47nm,1.1s
MEH Mehetia 86.26 117 eT T 23 43 48.4
comp=Z,310nm,0.3s
V33A Lossen Ranch, 86.28 45 P P 22 08 31.3 0.0
baz=86,SNR=11
S36A Lake Cedric, C 86.30 42 P P 22 08 31.3 0.0
baz=86,SNR=33
ZKS Zakynthos 86.30 317 eP P 22 08 30.2 -1.2
ZKS Zakynthos 86.30 317 P P 22 08 28.2 -3.2
ANKY Antikythira Is 86.32 315 eP P 22 08 30.5 -1.0
MONC Moncucco Torin 86.32 330⇑ iP P 22 08 30.8 -0.5
KHZ Kahutara 86.39 158 eP P 22 08 36.7 +5.4
comp=Z,99nm,1.4s
KHZ LR LR
comp=Z,19µm,21.0s
PYL PYLOS 86.40 316 eP P 22 08 30.5 -1.3
PYL PYLOS 86.40 316 P P 22 08 28.1 -3.7
PYL PYLOS 86.40 316 P P 22 08 28.1 -3.7
T35A Sooner Cattle 86.42 44 P P 22 08 31.8 -0.2
baz=86,SNR=21
228A UT Block 9, Go 86.49 50 P P 22 08 32.2 -0.3
baz=86,SNR=10
Z30A Sanderson Ranc 86.51 49 P P 22 08 32.5 0.0
baz=86,SNR=57
Y31A Rekieta Farm, 86.52 48 P P 22 08 32.6 0.0
baz=86,SNR=20
129A Stewart Farms, 86.55 50 P P 22 08 32.8 0.0
baz=86,SNR=15
GVD Gavdhos 86.64 314 eP P 22 08 32.3 -0.8
GVD Gavdhos 86.64 314 eP P 22 08 33.6 +0.5
comp=Z,1µm,1.7s
GVD LR LR
comp=Z,36µm,20.0s
T36A Boggs Farm, Ca 86.65 43 P P 22 08 32.8 -0.3
baz=86,SNR=12
W33A Caddo, Fort Co 86.67 46 P P 22 08 33.5 +0.3
baz=86,SNR=12
S37A Fort Scott 86.67 42 P P 22 08 32.8 -0.3
baz=86,SNR=50
V34A Guthrie 86.69 45 P P 22 08 33.3 0.0
baz=86,SNR=23
V34A Guthrie 86.69 45 eP P 22 08 33.6 +0.4
comp=Z,2µm,2.2s
V34A LR LR
comp=Z,5µm,19.0s
U35A Pawnee 86.71 44 P P 22 08 33.7 +0.3
baz=86,SNR=16
X32A Elmer 86.74 47 P P 22 08 33.5 -0.1
baz=87,SNR=51
WMOK Wichita Mounta 86.80 46 eP P 22 08 33.7 -0.2
WMOK pmax pmax
comp=Z,834nm,2.3s
WMOK MLR MLR
comp=Z,6µm,21.0s
WMOK Wichita Mounta 86.80 46 eP P 22 08 33.7 -0.2
comp=Z,834nm,2.3s
WMOK LR LR
comp=Z,6µm,21.0s
BNI Bardonecchia 86.82 330⇑ iP P 22 08 33.9 0.0
BNI Bardonecchia 86.82 330 eP P 22 08 33.5 -0.5
BNI pmax pmax
comp=Z,1µm,3.0s
BNI MLR MLR
comp=Z,22µm,22.0s
BNI Bardonecchia 86.82 330 eP P 22 08 33.5 -0.5
comp=Z,1µm,3.0s
BNI LR LR
comp=Z,22µm,22.0s
RPZ Rata Peaks 86.89 160 epP pP 22 08 45.9 +2.5
RPZ LR LR
comp=Z,11µm,21.0s
Y32A R-V Farms, Ver 86.96 47 P P 22 08 34.5 -0.1
baz=87,SNR=38
W34A Bridge Creek, 86.99 45 P P 22 08 35.2 +0.5
baz=87,SNR=18
W34A Bridge Creek, 86.99 45 eP P 22 08 35.3 +0.5
comp=Z,2µm,2.4s
W34A LR LR
comp=Z,6µm,22.0s
DAMY Dhamar 86.99 286 eP P 22 08 36.0 +0.6
comp=Z,557nm,1.6s
DAMY LR LR
comp=Z,15µm,19.0s
CUC Castrocucco 87.02 322 eP P 22 08 33.3 -1.6
comp=Z,48nm,1.2s
CUC LR LR
comp=Z,16µm,19.0s
229A Bryant Ranch, 87.06 50 P P 22 08 35.5 +0.3
baz=87,SNR=13
Z31A Sharp Cattle R 87.06 48 P P 22 08 35.5 +0.3
baz=87,SNR=50
X33A Lawton 87.10 46 P P 22 08 35.3 0.0
baz=87
130A Snyder 87.10 49 P P 22 08 35.4 0.0
baz=87,SNR=16
T37A Cheneyville 18 87.11 42 P P 22 08 35.1 -0.2
baz=87,SNR=22
V35A Meyer Ranch, C 87.11 45 P P 22 08 35.2 -0.1
baz=87,SNR=8.1
TIP Timpagrande 87.20 321 eP P 22 08 35.4 -0.4
comp=Z,151nm,1.6s
TIP LR LR
comp=Z,13µm,19.0s
TIP Timpagrande 87.20 321 P P 22 08 34.3 -1.5
HDIL Hopedale 87.22 37 P P 22 08 35.7 -0.1
baz=87,SNR=22
HDIL Hopedale 87.22 37 eP P 22 08 35.7 -0.1
comp=Z,3µm,2.5s
HDIL LR LR
comp=Z,600nm,21.0s
U36A Oologah 87.23 43 P P 22 08 35.8 -0.1
baz=87,SNR=5.6
329A Wagon Wheel Ra 87.30 51 P P 22 08 36.4 0.0
baz=87,SNR=19
131A Roby 87.38 49 P P 22 08 36.9 +0.2
baz=87,SNR=33
Y33A Hilltop Ranch, 87.42 47 P P 22 08 36.9 0.0
baz=87,SNR=43
X34A Smith Ranch, M 87.42 46 P P 22 08 36.8 -0.1
baz=87,SNR=23
Z32A Haskell 87.45 48 P P 22 08 37.1 0.0
baz=87,SNR=80
230A Sterling City 87.53 50 P P 22 08 37.7 +0.2
baz=87,SNR=17
W35A Tecumseh 87.54 45 P P 22 08 37.8 +0.3
baz=87,SNR=14
TUL1 Tulsa 87.56 44 P P 22 08 37.1 -0.4
baz=87,SNR=12
TUL1 Tulsa 87.56 44 eP P 22 08 37.6 +0.1
comp=Z,979nm,2.0s
TUL1 LR LR
comp=Z,10µm,21.0s
V36A Jenks 87.57 44 P P 22 08 37.6 0.0
baz=87,SNR=15
SLBS Sierra La Lagu 87.63 61 eP P 22 08 38.7 +0.6
comp=Z,478nm,2.0s
SLBS LR LR
comp=Z,5µm,19.0s
LTX Lajitas 87.80 53 eP P 22 08 38.6 -0.3
LTX Lajitas 87.80 53 eP P 22 08 38.6 -0.3
TXAR Lajitas Array 87.80 53 P P 22 08 38.6 -0.3
comp=Z,25nm,1.0s,baz=292,slow=3.4,SNR=96
TXAR PKKPbc PKKPbc 22 26 25.7 +1.6
comp=Z,1.0nm,0.9s,baz=134,slow=3.6,SNR=4.2
TXAR LR LR 22 43 04.3
comp=Z,6µm,21.2s,baz=0.0,slow=32
330A Mertzon 87.84 50 P P 22 08 38.7 -0.3
baz=88,SNR=25
ABTX Abilene, Hawle 87.85 48 P P 22 08 39.2 +0.2
baz=88,SNR=37
ABTX Abilene, Hawle 87.85 48 eP P 22 08 39.3 +0.2
comp=Z,1µm,2.3s
ABTX LR LR
comp=Z,5µm,20.0s
Z33A Whitaker Ranch 87.87 47 P P 22 08 39.1 0.0
baz=88,SNR=16
W36A Wetumka 87.90 45 P P 22 08 39.2 0.0
baz=88,SNR=18
V37A Hulbert 87.93 43 P P 22 08 39.3 0.0
baz=88,SNR=24
Y34A Reagan Ranch, 87.94 46 P P 22 08 39.4 0.0
baz=88,SNR=13
231A Bronte 87.96 49 P P 22 08 39.4 -0.1
baz=88,SNR=20
429A Davenport Ranc 87.97 51 P P 22 08 39.5 -0.1
baz=88,SNR=11
ODZ Otahua Downs 88.02 161 eP P 22 08 41.3 +2.1
comp=Z,154nm,1.4s
X35A Drake 88.05 46 P P 22 08 39.6 -0.3
baz=88,SNR=13
529A Stev Forest Ra 88.13 52 P P 22 08 40.3 -0.1
baz=88,SNR=19
430A Baggett Ranch, 88.25 51 P P 22 08 40.7 -0.3
baz=88,SNR=25
X36A Centrahoma 88.26 45 P P 22 08 41.0 +0.2
baz=88,SNR=25
AAM Ann Arbor 88.27 32 eP P 22 08 41.1 +0.3
AAM pmax pmax
comp=Z,216nm,1.1s
AAM MLR MLR
comp=Z,9µm,20.0s
AAM Ann Arbor 88.27 32 eP P 22 08 41.1 +0.3
comp=Z,216nm,1.1s
AAM LR LR
comp=Z,9µm,20.0s
133A Hamilton Ranch 88.28 48 P P 22 08 41.2 +0.2
baz=88,SNR=14
SLM Saint Louis 88.29 39 eP P 22 08 40.8 -0.1
SLM pmax pmax
comp=Z,297nm,0.9s
SLM Saint Louis 88.29 39 eP P 22 08 40.8 -0.1
comp=Z,297nm,0.9s
Z34A Collier Ranch, 88.29 47 P P 22 08 40.6 -0.4
baz=88,SNR=10.0
W37A Quinton 88.34 44 P P 22 08 41.5 +0.3
baz=88,SNR=9.2
CEL Celeste 88.34 321 eP P 22 08 39.8 -1.5
comp=Z,100nm,1.1s
CEL LR LR
comp=Z,23µm,21.0s
331A San Angelo 88.35 50 P P 22 08 41.1 -0.3
baz=88,SNR=21
SFIN Scholer Farm 88.36 36 P P 22 08 41.4 +0.2
baz=88,SNR=16
SFIN Scholer Farm 88.36 36 PFAKE 22 08 50.0 +8.8
SFIN LR LR
comp=Z,9µm,22.0s
Y35A Marietta 88.38 46 P P 22 08 41.2 -0.3
baz=88
232A Coleman 88.38 49 P P 22 08 41.6 0.0
baz=88,SNR=36
530A J-C Ranch, Com 88.64 51 P P 22 08 42.9 0.0
baz=88
Z35A Perchaven, San 88.69 46 P P 22 08 42.6 -0.3
baz=88,SNR=18
431A Sonora 88.69 50 P P 22 08 42.8 -0.3
baz=89,SNR=18
332A Millersview 88.70 49 P P 22 08 43.5 +0.5
baz=88,SNR=55
233A Rising Star 88.72 48 P P 22 08 43.5 +0.3
baz=89,SNR=31
X37A Clayton 88.78 44 P P 22 08 43.2 -0.1
baz=89,SNR=12
134A White-Moore Ra 88.78 47 P P 22 08 43.6 +0.2
baz=89,SNR=8.0
Y36A Durant 88.80 45 P P 22 08 43.3 -0.1
baz=89,SNR=25
W38A Poteau 88.87 44 P P 22 08 43.9 +0.1
baz=89,SNR=30
X38A Whitesboro 89.01 44 P P 22 08 44.7 +0.3
baz=89,SNR=34
432A Menard 89.03 50 P P 22 08 44.4 -0.3
baz=89,SNR=30
TBI Tubuai 89.10 122 ePP PP 22 12 15.3 -0.1
comp=Z,515nm,30.0s
TBI eSKSac SKSac 22 19 09.5 -2.9
comp=Z,4µm,30.6s
TBI eS SKKSac 22 19 27.7 +3.4
comp=Z,4µm,28.2s
TBI eSS SS 22 25 24.1 -2.0
comp=Z,2µm,28.0s
TBI Tubuai 89.10 122 eLR LR 22 36 35.7
comp=Z,18µm,26.8s,baz=313
TBI Tubuai 89.10 122 eT T 23 47 18.1
comp=Z,216nm,0.4s
531A Rocksprings 89.11 51 P P 22 08 44.6 -0.4
baz=89
Y37A Hugo 89.11 45 P P 22 08 44.7 -0.1
baz=89,SNR=7.0
234A Clairette 89.17 48 P P 22 08 45.5 +0.3
baz=89,SNR=20
135A Vickery Place, 89.17 47 P P 22 08 45.7 +0.5
baz=89,SNR=6.6
333A Richland Sprin 89.18 49 P P 22 08 45.2 -0.1
baz=89,SNR=47
Z36A Blue Ridge 89.19 46 P P 22 08 45.0 -0.3
baz=89,SNR=24
OLIL Olney 89.22 37 eP P 22 08 45.6 +0.3
comp=Z,240nm,0.9s
OLIL LR LR
comp=Z,9µm,22.0s
JCT Junction City 89.32 50 eP P 22 08 45.8 -0.2
JCT pmax pmax
comp=Z,642nm,2.1s
JCT MLR MLR
comp=Z,9µm,22.0s
JCT Junction City 89.32 50 P P 22 08 46.0 0.0
baz=89,SNR=19
JCT Junction City 89.32 50 eP P 22 08 45.8 -0.2
comp=Z,642nm,2.1s
JCT LR LR
comp=Z,9µm,22.0s
SIUC Southern Illin 89.50 39 eP P 22 08 46.8 +0.2
comp=Z,373nm,1.0s
532A Rocksprings 89.51 50 P P 22 08 46.8 -0.1
baz=89,SNR=49
433A Art 89.53 49 P P 22 08 46.6 -0.4
baz=89,SNR=17
WHTX Lake Whitney 89.57 47 P P 22 08 47.1 0.0
baz=89,SNR=8.2
WHTX Lake Whitney 89.57 47 eP P 22 08 47.8 +0.7
comp=Z,1µm,2.4s
PTN Potsdam (NY) 89.58 26 eP P 22 08 46.4 -0.5
PTN pmax pmax
comp=Z,934nm,2.1s
PTN Potsdam (NY) 89.58 26 eP P 22 08 46.4 -0.5
comp=Z,934nm,2.1s
BLO Bloomington 89.60 36 eP P 22 08 47.2 +0.1
BLO pmax pmax
comp=Z,1µm,2.3s
BLO Bloomington 89.60 36 eP P 22 08 47.2 +0.1
comp=Z,1µm,2.3s
334A Lometa 89.61 48 P P 22 08 47.3 0.0
baz=90,SNR=65
Y38A Idabel 89.63 44 P P 22 08 46.9 -0.4

baz=89,SNR=7.4
631A **Perdido Creek** 89.63 51 P P 22 08 46.8 -0.7
baz=90,SNR=7.7
PBMO **Poplar Bluff** 89.65 40 eP P 22 08 47.5 +0.1
comp=Z,2µm,2.5s
LONY **Lake Ozonia** 89.67 26 eP P 22 08 47.0 -0.3
comp=Z,82nm,1.1s
LONY LR LR
comp=Z,10µm,20.0s
Z37A **Pogue Cattle C** 89.69 45 P P 22 08 47.6 0.0
baz=90,SNR=14
DRLN **Deer Lake** 89.70 13 eP P 22 08 47.1 -0.2
comp=Z,338nm,2.1s
136A **Ennis** 89.73 46 P P 22 08 47.5 -0.3
baz=90,SNR=5.6
MIAR **Mount Ida** 89.78 43 eP P 22 08 48.2 +0.2
MIAR pmax pmax
comp=Z,166nm,0.9s
MIAR MLR MLR
comp=Z,9µm,21.0s
MIAR **Mount Ida** 89.78 43 P P 22 08 48.4 +0.4
baz=90,SNR=34
MIAR **Mount Ida** 89.78 43 eP P 22 08 48.2 +0.2
comp=Z,166nm,0.9s
MIAR LR LR
comp=Z,9µm,21.0s
PQI **Presque Isle** 89.81 21 eP P 22 08 47.3 -0.6
comp=Z,102nm,1.0s
PQI LR LR
comp=Z,24µm,19.0s
Y39A **Lockesburg** 89.96 44 P P 22 08 48.6 -0.3
baz=90,SNR=28
434A **Burnet** 89.97 49 P P 22 08 48.6 -0.4
baz=90,SNR=28
Z38A **Mt. Pleasant** 90.00 45 P P 22 08 48.8 -0.3
baz=90,SNR=8.2
632A **Uvalde** 90.03 51 P P 22 08 49.2 -0.1
baz=90,SNR=28
533A **Kerrville** 90.07 50 P P 22 08 49.2 -0.3
baz=90,SNR=19
137A **Heron Place, G** 90.07 46 P P 22 08 48.8 -0.6
baz=90
PARMO **Parma** 90.08 40 eP P 22 08 49.7 +0.3
236A **Katherine and** 90.08 47 P P 22 08 49.4 -0.1
baz=90
335A **Moody** 90.11 48 P P 22 08 49.7 0.0
baz=90,SNR=10.0
MMNY **Mt. Morris Dam** 90.16 29 eP P 22 08 49.6 0.0
CLTB **Caltabellotta** 90.17 322 PFAKE 22 09 00.0 +10
CLTB LR LR
comp=Z,12µm,21.0s
UALR **University of** 90.24 42 eP P 22 08 49.9 -0.2
comp=Z,528nm,2.1s
ACSO **Alum Creek Sta** 90.27 33 eP P 22 08 50.3 +0.1
comp=Z,243nm,0.9s
ACSO LR LR
comp=Z,7µm,21.0s
PVMO **Portageville** 90.30 40 PFAKE 22 09 00.0 +10
PVMO LR LR
comp=Z,8µm,20.0s
VSL **Villasalto** 90.35 326 eP P 22 08 49.8 -0.8
comp=Z,86nm,1.3s
VSL LR LR
comp=Z,13µm,18.0s
336A **Riesel** 90.36 47 P P 22 08 51.0 +0.2
baz=90,SNR=12
NCB **Newcomb** 90.37 26 PFAKE 22 09 00.0 +9.4
NCB LR LR
comp=Z,10µm,20.0s
435B **Jarrell** 90.39 48 P P 22 08 51.0 0.0
baz=90,SNR=12
138A **Matatall Enter** 90.39 45 P P 22 08 51.0 +0.2
baz=90
534A **Blanco** 90.43 49 P P 22 08 50.9 -0.3
baz=90,SNR=53
633A **Saathoff Ranch** 90.43 50 P P 22 08 51.5 +0.4
baz=90,SNR=18
Z39A **Irene McRaven,** 90.44 45 P P 22 08 51.4 +0.3
baz=90
WCI **Wyandotte Cave** 90.47 36 eP P 22 08 51.1 -0.1
WCI pmax pmax
comp=Z,151nm,1.0s
WCI MLR MLR
comp=Z,5µm,20.0s
WCI **Wyandotte Cave** 90.47 36 eP P 22 08 51.1 -0.1
comp=Z,151nm,1.0s
WCI LR LR
comp=Z,5µm,20.0s
237A **Washetta, Mont** 90.49 46 P P 22 08 51.4 0.0
baz=90
732A **Laxson Ranch,** 90.49 51 P P 22 08 52.0 +0.5
baz=90,SNR=16
GNAR **Gosnell** 90.50 40 eP P 22 08 52.4 +1.1
GLAT **Glass** 90.62 39 eP P 22 08 52.9 +1.0
MDV **Middlebury** 90.69 25 eP P 22 08 51.9 -0.1
MSEY **Mahe Island** 90.72 265 PFAKE 22 09 00.0 +7.3
MSEY LR LR
comp=Z,5µm,21.0s
PKME **Peaks-Kenny Pk** 90.74 22 eP P 22 08 52.7 +0.5
comp=Z,79nm,1.1s
PKME LR LR
comp=Z,8µm,20.0s
139A **Bunkhouse Ranc** 90.76 45 P P 22 08 52.7 +0.2
baz=91
UTMT **University of** 90.77 39 eP P 22 08 53.3 +0.8
comp=Z,240nm,0.9s
832A **Faith Ranch, C** 90.81 52 P P 22 08 53.0 +0.1
baz=91,SNR=14
436A **Wall Ranch, Ga** 90.85 48 P P 22 08 53.6 +0.5
baz=91,SNR=25
238A **Jacksonville** 90.87 46 P P 22 08 53.4 +0.3
baz=91
HALT **Halls** 90.88 40 eP P 22 08 53.7 +0.6
WDD **Wield Dalam** 90.90 320 eP P 22 08 52.1 -1.0
comp=Z,164nm,1.4s
WDD LR LR
comp=Z,12µm,21.0s
733A **Divot King Ran** 90.90 51 P P 22 08 53.6 +0.2
baz=91,SNR=13
535A **Dale** 90.95 49 P P 22 08 53.8 +0.2
baz=91,SNR=8.0
634A **China Grove, S** 90.98 50 P P 22 08 54.0 +0.4
baz=91
ACCN **Adirondack Com** 91.08 26 eP P 22 08 53.8 0.0
comp=Z,164nm,1.2s
ACCN LR LR
comp=Z,11µm,19.0s
833A **Chaparral WMA,** 91.13 51 P P 22 08 54.6 +0.2
baz=91,SNR=10
437A **Phantom Ranch,** 91.18 47 P P 22 08 55.4 +0.8
baz=91
536A **Bastrop** 91.21 48 P P 22 08 54.8 +0.1
baz=91,SNR=15
239A **Gary** 91.22 45 P P 22 08 54.6 -0.1
baz=91
HNH **Hanover** 91.24 24 PFAKE 22 09 10.0 +15
HNH LR LR
comp=Z,13µm,21.0s
734A **La Parita Cree** 91.25 50 P P 22 08 55.9 +1.0
baz=91,SNR=7.1
338A **Crockett** 91.25 46 P P 22 08 55.2 +0.3
baz=91
WVL **Waterville** 91.27 22 eP P 22 08 55.0 +0.3
comp=Z,459nm,1.9s
WVL LR LR
comp=Z,18µm,20.0s
NATX **Nacogdoches** 91.31 46 P P 22 08 55.3 +0.2
baz=91
635A **Leesville** 91.31 49 P P 22 08 55.6 +0.4
baz=91,SNR=8.7
438A **Sam Houston St** 91.62 47 P P 22 08 57.2 +0.6
baz=92
537A **Green Hill Far** 91.64 48 P P 22 08 57.5 +0.8
baz=92,SNR=10
TRY **Troy** 91.66 26 eP P 22 08 57.0 +0.4
comp=Z,124nm,1.1s
636A **Smothers Creek** 91.66 49 P P 22 08 57.0 +0.2
baz=92,SNR=19
735A **Kenedy** 91.68 50 P P 22 08 57.3 +0.4
baz=92,SNR=9.9
339A **Huntington** 91.69 46 P P 22 08 57.1 +0.2
baz=92
933A **Laredo** 91.72 52 P P 22 08 57.7 +0.5
baz=92,SNR=23
EMMW **East Machias** 91.76 21 eP P 22 08 57.1 +0.2
comp=Z,435nm,2.1s
834A **Tilden** 91.78 51 P P 22 08 57.8 +0.4
baz=92

OXF **Oxford** 91.95 41 eP P 22 08 58.4 +0.3
OXF pmax pmax
comp=Z,190nm,1.0s
OXF MLR MLR
comp=Z,5µm,20.0s
OXF **Oxford** 91.95 41 eP P 22 08 58.4 +0.3
comp=Z,190nm,1.0s
OXF LR LR
comp=Z,5µm,20.0s
SSPA **Standing Stone** 91.98 30 eP P 22 08 58.3 +0.2
comp=Z,110nm,1.0s
SSPA LR LR
comp=Z,7µm,18.0s
439A **Center Grove,** 91.98 46 P P 22 08 58.9 +0.6
baz=92
340A **Bronson** 92.00 45 P P 22 08 58.6 +0.3
baz=92
538A **Harpers Horsep** 92.01 47 P P 22 08 58.9 +0.5
baz=92
HKT **Hockley** 92.02 48 eP P 22 08 59.2 +0.8
HKT pmax pmax
comp=Z,439nm,2.2s
HKT MLR MLR
comp=Z,7µm,22.0s
HKT **Hockley** 92.02 48 eP P 22 08 59.1 +0.8
comp=Z,439nm,2.2s
HKT LR LR
comp=Z,7µm,22.0s
736A **Circle Diamond** 92.05 49 P P 22 09 00.1 +1.5
baz=92,SNR=15
835A **Beeville** 92.09 50 P P 22 08 60.0 +1.1
baz=92
637A **Eagle Lake** 92.11 48 P P 22 08 59.6 +0.7
baz=92,SNR=8.2
440A **Kirbyville** 92.47 46 P P 22 09 01.3 +0.8
baz=92
034A **Hebbronville** 92.48 52 P P 22 09 01.9 +1.3
baz=92,SNR=10
539A **Cross D Ranch,** 92.53 47 P P 22 09 01.6 +0.8
baz=92
HRV **Adam Dziewonsk** 92.55 25 eP P 22 09 01.3 +0.6
HRV pmax pmax
comp=Z,114nm,1.1s
HRV MLR MLR
comp=Z,12µm,22.0s
HRV **Adam Dziewonsk** 92.55 25 eP P 22 09 01.3 +0.6
comp=Z,114nm,1.1s
HRV LR LR
comp=Z,12µm,22.0s
737A **Port Lavaca** 92.55 49 P P 22 09 01.2 +0.2
baz=92
ODNJ **Ogdensburg** 92.79 27 eP P 22 09 02.2 +0.3
035A **Encino** 92.92 51 P P 22 09 02.6 0.0
baz=93
738A **Farr-Stevens R** 92.95 48 P P 22 09 02.3 -0.5
baz=93
SWET **Sewanee** 93.08 38 eP P 22 09 02.8 -0.5
BRYW **Bryant College** 93.09 25 eP P 22 09 03.9 +0.7
BRYW epP pP 22 09 15.0 +2.1
BRYW LR LR
comp=Z,8µm,20.0s
TZTN **Tazewell** 93.09 36 eP P 22 09 03.4 0.0
comp=Z,152nm,1.5s
PAL **Palisades** 93.11 27 PFAKE 22 09 10.0 +6.7
PAL LR LR
comp=Z,10µm,18.0s
MVL **Millersville** 93.11 29 eP P 22 09 03.6 +0.3
comp=Z,32nm,1.0s
BRNJ **Basking Ridge** 93.16 27 PFAKE 22 09 20.0 +16
BRNJ LR LR
comp=Z,3µm,20.0s
YLE **Yale** 93.17 26 PFAKE 22 09 10.0 +6.5
YLE LR LR
comp=Z,8µm,20.0s
VBMS **Vicksburg** 93.19 43 P P 22 09 03.8 0.0
baz=93
VBMS **Vicksburg** 93.19 43 PFAKE 22 09 20.0 +16
VBMS LR LR
comp=Z,6µm,21.0s
035Z **Hargill** 93.29 52 P P 22 09 04.8 +0.4
baz=93
KEST **Kesra** 93.47 324 P P 22 09 04.4 -0.8
comp=Z,8.6nm,1.1s,baz=6.4,slow=0.8,SNR=20
KEST PP PP 22 12 51.0 +2.1
comp=Z,11nm,1.2s,baz=345,slow=6.8,SNR=5.5
KEST LR LR 22 55 55.8
comp=Z,7µm,18.8s,baz=332,slow=39
CMAH **Djebel Manchou** 93.60 325 P P 22 09 08.0 +2.3
TKL **Tuckaleechee C** 93.72 36 eP P 22 09 06.0 -0.3
TKL **Tuckaleechee C** 93.72 36 eP P 22 09 06.0 -0.3
ABSA **Djebel Ababsia** 93.86 325 P P 22 09 09.0 +2.0
BLA **Blacksburg** 93.89 33 eP P 22 09 07.0 -0.1
BLA pmax pmax
comp=Z,99nm,1.0s
BLA MLR MLR
comp=Z,12µm,20.0s
BLA **Blacksburg** 93.89 33 eP P 22 09 07.0 -0.1
comp=Z,99nm,1.0s
BLA LR LR
comp=Z,12µm,20.0s
VWCC **Virginia Weste** 94.05 33 eP P 22 09 09.8 +2.1
VWCC epP pP 22 09 19.7 +2.2
CKFL **Kef-Lekhel** 94.09 326 P P 22 09 11.0 +2.9
PBRG **Braganca** 94.25 338 eP P 22 09 08.3 -0.3
comp=Z,75nm,0.9s
PBRG **Braganca** 94.25 338 ePP PP 22 12 57.4 +2.8
CBN **Corbin** 94.28 30 eP P 22 09 09.2 +0.4
CBN epP pP 22 09 21.5 +3.1
CBN LR LR
comp=Z,7µm,18.0s
CASM **Ain Smara** 94.31 326 P P 22 09 11.5 +2.5
DFRA **Djebel Bou Aff** 94.33 326 P P 22 09 15.0 +5.8
LRAL **Lakeview Retre** 94.33 40 eP P 22 09 08.8 -0.3
comp=Z,30nm,1.1s
LRAL LR LR
comp=Z,6µm,22.0s
CTEI **Djebel Teioual** 94.51 326 P P 22 09 12.9 +2.9
JSRW **J. Sargeant Re** 94.52 31 eP P 22 09 10.0 +0.1
PGAV **Gavieira, Arco** 94.55 339 eP P 22 09 09.6 -0.4
comp=Z,79nm,1.6s
PGAV **Gavieira, Arco** 94.55 339 ePP PP 22 12 59.8 +2.8
PGAV **Gavieira, Arco** 94.55 339 eLQ LQ 22 38 23.1
PGAV eLR LR 22 44 26.0
comp=Z,9µm,20.0s
PCAB **Cabril** 94.71 338 ePP PP 22 13 00.7 +2.5
SET **Setif** 94.83 327 P P 22 09 11.0 -0.4
FURI **Furi** 94.91 286 eP P 22 09 14.1 +1.6
comp=Z,1µm,2.6s
FURI LR LR
comp=Z,10µm,21.0s
MVO **Moncorvo** 94.93 337 eP P 22 09 11.0 -0.8
comp=Z,80nm,1.2s
MVO **Moncorvo** 94.93 337 ePP PP 22 12 58.9 -1.0
MVO eS SKSac 22 19 57.0 +12
MVO **Moncorvo** 94.93 337 eLQ LQ 22 38 07.3
MVO eLR LR 22 44 04.9
comp=Z,16µm,18.0s
POLO **Lamas de Olo** 94.96 338 eP P 22 09 11.5 -0.4
comp=Z,43nm,1.7s
POLO **Lamas de Olo** 94.96 338 ePP PP 22 13 03.7 +3.5
KMSC **Kings Mountain** 95.25 35 P P 22 09 12.4 -0.8
baz=95,SNR=7.9
KMSC **Kings Mountain** 95.25 35 eP P 22 09 12.7 -0.6
comp=Z,72nm,1.2s
KMSC LR LR
comp=Z,10µm,22.0s
ES19 **SONSECA Array** 95.28 335 eP P 22 09 12.9 -0.4
ESDC **Sonseca Array** 95.33 335 P P 22 09 12.9 -0.7
comp=Z,12nm,0.9s,baz=20,slow=3.8,SNR=43
ESDC PP PP 22 13 01.6 -1.5
comp=Z,28nm,1.3s,baz=26,slow=7.8,SNR=4.1
ESDC LR LR 23 00 01.9
comp=Z,13µm,18.0s,baz=25,slow=40
PAB **San Pablo** 95.57 335 eP P 22 09 14.5 -0.3
PAB pmax pmax
comp=Z,47nm,1.3s
PAB MLR MLR
comp=Z,24µm,18.0s
PAB **San Pablo** 95.57 335 eP P 22 09 14.5 -0.3
comp=Z,47nm,1.3s
PAB LR LR
comp=Z,24µm,18.0s
PVIS **Viseu** 95.59 338 ePP PP 22 13 18.8 +14
GOGA **Godfrey** 95.72 37 eP P 22 09 15.8 +0.3
GOGA pmax pmax
comp=Z,303nm,2.3s
GOGA MLR MLR
comp=Z,8µm,21.0s
GOGA **Godfrey** 95.72 37 eP P 22 09 15.8 +0.3
comp=Z,303nm,2.3s
GOGA LR LR
comp=Z,8µm,21.0s
MTE **Manteigas** 95.78 338 eP P 22 09 15.5 -0.2
comp=Z,57nm,1.4s
MTE **Manteigas** 95.78 338 ePP PP 22 13 20.2 +14
MTE **Manteigas** 95.78 338 eLQ LQ 22 38 45.8
MTE eLR LR 22 42 10.1
comp=Z,18µm,18.0s
MTE **Manteigas** 95.78 338 eP P 22 09 14.4 -1.3
comp=Z,53nm,1.3s
MTE LR LR
comp=Z,19µm,19.0s
BRAL **Brewton** 95.93 41 PFAKE 22 09 30.0 +14
BRAL LR LR
comp=Z,6µm,21.0s
JSC **Jenkinsville** 96.00 35 eP P 22 09 16.8 +0.1
JSC pmax pmax
comp=Z,243nm,2.4s
JSC **Jenkinsville** 96.00 35 eP P 22 09 16.8 +0.1
comp=Z,243nm,2.4s
PCAS **Casmilo, Conde** 96.38 338 eP P 22 09 17.5 -0.8
comp=Z,65nm,2.3s
PCAS **Casmilo, Conde** 96.38 338 ePP PP 22 13 14.2 +3.1
PMRV **Marv??o** 96.63 337 eP P 22 09 19.0 -0.5
comp=Z,41nm,1.4s
PMRV **Marv??o** 96.63 337 ePP PP 22 13 15.7 +2.6
PMRV **Marv??o** 96.63 337 eLQ LQ 22 38 59.8
PMRV eLR LR 22 44 30.3
comp=Z,12µm,20.0s
CNNC **Cliffs of the** 96.64 32 PFAKE 22 09 30.0 +10
CNNC LR LR
comp=Z,9µm,20.0s
PESTR **Estremoz** 97.21 337 eP P 22 09 21.9 -0.2
comp=Z,40nm,2.3s
PESTR **Estremoz** 97.21 337 ePP PP 22 13 19.2 +1.7
PMTG **Montargil** 97.21 337 eP P 22 09 21.6 -0.5
comp=Z,45nm,2.3s
PMTG **Montargil** 97.21 337 ePP PP 22 13 18.4 +0.9
TIGA **Tifton** 97.30 38 P P 22 09 22.4 -0.2
baz=97
TIGA **Tifton** 97.30 38 PFAKE 22 09 30.0 +7.3
TIGA LR LR
comp=Z,6µm,22.0s
AIS **Amsterdam Isla** 97.45 226 SS SS 22 27 27.0 +1.7
AIS R 22 42 00.0
PMAFR **Mafra** 97.62 338 eP P 22 09 18.7 -5.3
PMAFR **Mafra** 97.62 338 ePP PP 22 13 23.4 +2.7
EVO **Evora** 97.64 337 ePP PP 22 13 22.4 +1.6
PBAR **Barrancos** 97.68 336 eP P 22 09 23.9 -0.3
comp=Z,74nm,1.6s
PBAR **Barrancos** 97.68 336 ePP PP 22 13 23.7 +2.6
PMST **Lisbon--Monsan** 97.80 338 ePP PP 22 13 24.4 +2.4
LIS **Lisbon** 97.81 338 eP Pdif 22 09 24.9 +0.1
LIS ePP PP 22 13 22.9 +0.9
LIS AMS AMS 22 58 52.7
comp=N,17µm,17.4s
LIS **Lisbon** 97.81 338 eP Pdif 22 09 24.9 +0.1
LIS e 22 13 22.9
PNCL **Nicolau / Gran** 98.19 337 eP P 22 09 25.6 -0.9
comp=N,58nm,1.3s
PNCL **Nicolau / Gran** 98.19 337 ePP PP 22 13 27.1 +2.1
MESJ **Messejana** 98.35 337 eP Pdif 22 09 27.3 +0.1
MESJ ePP PP 22 13 26.9 +0.7
MESJ AMS AMS 23 01 28.7
comp=Z,11µm,13.8s
MESJ **Messejana** 98.35 337 eP Pdif 22 09 27.3 +0.1
comp=Z,62nm,1.4s
MESJ **Messejana** 98.35 337 ePP PP 22 13 27.7 +1.5
MESJ **Messejana** 98.35 337 eP Pdif 22 09 27.3 +0.1
MESJ e 22 13 26.9
PVAQ **Vaqueiros** 98.59 336 eLQ LQ 22 42 22.7
PVAQ eLR LR 22 45 34.7
comp=Z,35µm,20.0s
RKT **Rikitea** 98.91 113 ePP PP 22 13 33.1 +1.0
comp=Z,559nm,31.0s
RKT eSKSac SKSac 22 20 04.6 -1.2
comp=Z,4µm,28.2s
RKT eSP SP 22 22 23.1 -1.0
comp=Z,5µm,31.0s
RKT eSS SS 22 27 48.0 +1.9
comp=Z,5µm,27.5s
RKT **Rikitea** 98.91 113 eLR LR 22 41 14.2
comp=Z,21µm,22.0s,baz=308
MORF **Marmelete** 98.97 337 eP P 22 09 29.8 -0.3
MORF ePP PP 22 13 31.8 +0.8
MORF AMS AMS 22 59 42.1
comp=Z,11µm,17.9s
MORF **Marmelete** 98.97 337 eP P 22 09 29.8 -0.3
MORF e 22 13 31.8
H07S1 **FLORES T-PHASE** 101.13 355 eLR LR 22 44 28.5
PGRA **Graciosa** 101.21 353 eLR LR 22 45 02.8
comp=Z,336nm,22.0s
ROSA **Rosais** 101.54 353 eLR LR 22 45 25.6
comp=Z,396nm,18.5s
PSET **Sete Cidades** 102.14 351 eLR LR 22 45 02.8
comp=Z,215nm,20.0s
KMBO **Kilima Mbogo** 102.50 279 P Pdif 22 09 45.3 -1.1
comp=Z,14nm,1.0s,baz=31,slow=7.8,SNR=15
KMBO PP PP 22 13 52.5 -6.9
comp=Z,2.8nm,0.8s,baz=54,slow=6.7,SNR=3.3
KMBO **Kilima Mbogo** 102.50 279 i P Pdif 22 09 46.2 -0.2
KMBO pmax pmax
comp=Z,14nm,1.0s
KMBO **Kilima Mbogo** 102.50 279 P Pdif 22 09 46.7 +0.3
SNR=5.6
KMBO **Kilima Mbogo** 102.50 279 ePdif Pdif 22 09 46.3 -0.1
KMBO PP PP 22 13 52.5 -6.9
KMBO LR LR
comp=Z,7µm,21.0s
PTCN **Pitcairn Islan** 103.61 111 PFAKE 22 10 00.0 +9.3
PTCN LR LR
comp=Z,9µm,20.0s
BBSR **BB Station** 104.00 24 ePKiKP PKiKP 22 14 20.8 +11
BBSR LR LR
comp=Z,9µm,22.0s
PMOZ **Porto Moniz, M** 105.48 342 eLR LR 22 49 34.1
comp=Z,5µm,20.0s
ABPO **Ambohimpanom** 105.90 258 PFAKE 22 14 20.0
ABPO LR LR
comp=Z,5µm,22.0s
DRV **Dumont d'Urvil** 106.02 181 Pdif Pdif 22 09 48.0 -12
DRV PP **PKiKP** **22 14 13.0 +0.9**
DRV SKS SKSac 22 20 23.0 -14
DRV SKKS **SKKSac** **22 21 27.0 +1.6**
DRV SP SP 22 23 11.0 -26
DRV SS SKKPbc 22 29 09.0 -11
DRV L L 22 40 00.0
DRV R 22 46 00.0
SNET **Serv Nac Est T** 108.33 54 PFAKE 22 14 30.0
SNET LR LR
comp=Z,6µm,22.0s
CASY **Casey** 108.46 193 PFAKE 22 14 30.0
CASY LR LR
comp=Z,3µm,20.0s
PAF **Port-aux-Franc** 109.15 221 Pdif Pdif 22 10 02.0 -13
PAF PP PKiKP 22 14 32.0 +14
PAF SKKS **SKSac** **22 20 50.0 -1.7**
PAF SP SP 22 23 52.0 -18
PAF SS **SS** **22 30 08.0 +1.9**
PAF L L 22 40 00.0
PAF R 22 48 00.0
GTBY **Guantanamo Bay** 111.06 38 PFAKE 22 14 30.0
GTBY LR LR
comp=Z,5µm,20.0s
MTDJ **Mount Denham** 111.31 41 PFAKE 22 14 40.0
MTDJ LR LR
comp=Z,7µm,21.0s
GRTK **Grand Turk** 111.48 34 PFAKE 22 14 40.0
GRTK LR LR
comp=Z,7µm,20.0s
JTS **JuntasAbangare** 113.58 52 PFAKE 22 14 40.0
JTS LR LR
comp=Z,3µm,20.0s
SDDR **Presa de Saban** 113.64 35 PFAKE 22 14 40.0
SDDR LR LR
comp=Z,7µm,19.0s
AGP **Aguadilla** 115.91 32 PFAKE 22 14 40.0 +7.5
AGP LR LR
comp=Z,5µm,22.0s
TOA0 **Torodi Ar. Sit** 116.09 317 ePKP1 PKPpre 22 14 26.7
TOA0 **Torodi Ar. Sit** 116.09 317 ePKPdf **PKPdf** **22 14 31.5 -1.4**

TORD	**Torodi Ar. Bea**	**116.09**	**317**	PKP	**PKPdf**	**22 14 31.5**	**-1.4**
	comp=Z,2.5nm,0.7s,baz=16,slow=1.7,SNR=35						
TORD				PP	PP	22 15 30.4	-6.5
	comp=Z,12nm,1.0s,baz=22,slow=6.5,SNR=7.5						
TORD				PKKPbc	**PKKPbc**	**22 25 02.9**	**+1.2**
	comp=Z,1.7nm,1.0s,baz=232,slow=1.8,SNR=7.7						
TORD				SKKPbc	SKKPbc	22 28 38.6	-4.1
	comp=Z,1.5nm,1.2s,baz=202,slow=1.2,SNR=4.0						
CRPR	**Cabo Rojo, PR**	**116.28**	**32**	PFAKE		22 14 40.0	+6.8
CRPR				LR	LR		
	comp=Z,3µm,21.0s						
SJG	**San Juan**	**116.58**	**31**	PFAKE		22 14 50.0	+16
SJG				LR	LR		
	comp=Z,23µm,20.0s						
STVI	**Saint Thomas**	**116.82**	**29**	PFAKE		22 14 50.0	+16
STVI				LR	LR		
	comp=Z,3µm,21.0s						
VNDA	**Vanda**	**117.51**	**175**	PKP	**PKPdf**	**22 14 32.9**	**-0.9**
	comp=Z,2.8nm,1.0s,baz=322,slow=4.5,SNR=9.0						
VNDA				PP	**PP**	**22 15 45.6**	**-1.2**
	comp=Z,5.2nm,1.1s,baz=354,slow=9.1,SNR=4.7						
VNDA				PKKPbc	**PKKPbc**	**22 24 58.6**	**+0.8**
	comp=Z,2.5nm,1.1s,baz=340,slow=1.8,SNR=4.7						
VNDA	**Vanda**	**117.51**	**175**	*e*PKPdf	**PKPdf**	**22 14 33.3**	**-0.4**
VNDA				PP	**PP**	**22 15 45.6**	**-1.2**
VNDA				PKKPbc	**PKKPbc**	**22 24 58.6**	**+0.8**
BCIP	**Isla Barro Col**	**117.52**	**49**	PFAKE		22 14 50.0	+14
BCIP				LR	LR		
	comp=Z,4µm,22.0s						
CRZF	**Crozet Islands**	**117.76**	**231**	Pdif	Pdif	22 10 36.0	-17
CRZF				PP	PP	22 15 26.0	-23
CRZF				SP	SP	22 25 31.0	+0.8
CRZF				SS	SS	22 31 17.0	-43
CRZF				L	L	22 45 00.0	
SBA	**Scott Base**	**118.17**	**174**	PFAKE		22 14 50.0	+15
SBA				LR	LR		
	comp=Z,2µm,20.0s						
PAYG	**Puerto Ayora**	**118.26**	**65**	PFAKE		22 14 50.0	+13
PAYG				LR	LR		
	comp=Z,6µm,21.0s						
LSZ	**Lusaka**	**118.30**	**273**	*e*PKIKP	**PKPdf**	**22 14 37.2**	**0.0**
LSZ				MLR	MLR		
	comp=Z,5µm,20.0s						
LSZ	**Lusaka**	**118.30**	**273**	*e*PKPdf	**PKPdf**	**22 14 37.2**	**0.0**
LSZ				LR	LR		
	comp=Z,5µm,20.0s						
ANWB	**Willy Bob**	**118.60**	**27**	PFAKE		22 14 50.0	+12
ANWB				LR	LR		
	comp=Z,6µm,21.0s						
ITZ	**Itezhi-Tezhi**	**120.26**	**274**	*i* P	PP	22 16 16.5	+10
MAW	**Mawson**	**122.30**	**206**	PKP	**PKPdf**	**22 14 42.7**	**-0.4**
	comp=Z,11nm,1.0s,baz=13,slow=2.5,SNR=12						
MAW	**Mawson**	**122.30**	**206**	*e*PKPdf	**PKPdf**	**22 14 42.9**	**-0.2**
SDV	**Santo Domingo**	**122.73**	**40**	*e*PKPdf	**PKPdf**	**22 14 45.5**	**-0.4**
SDV				LR	LR		
	comp=Z,4µm,21.0s						
BBGH	**Gun Hill**	**123.57**	**26**	PFAKE		22 15 00.0	+13
BBGH				LR	LR		
	comp=Z,7µm,21.0s						
SACV	**Santiago Islan**	**124.15**	**344**	PFAKE		22 15 00.0	+12
SACV				LR	LR		
	comp=Z,4µm,20.0s						
ROSC	**El Rosal**	**124.17**	**46**	PKP	**PKPdf**	**22 14 48.7**	**-0.3**
	comp=Z,35nm,1.2s,baz=275,slow=1.2,SNR=17						
ROSC	**El Rosal**	**124.17**	**46**	*e*PKPdf	**PKPdf**	**22 14 49.4**	**+0.4**
DBIC	**Dimbokro**	**124.95**	**319**	PKP	**PKPdf**	**22 14 49.0**	**-1.0**
	comp=Z,6.8nm,0.6s,baz=12,slow=2.6,SNR=16						
DBIC				PP	**PP**	**22 16 33.8**	**-3.8**
	comp=Z,46nm,1.1s,baz=8.6,slow=8.8,SNR=11						
DBIC	**Dimbokro**	**124.95**	**319**	PKIKP	**PKPdf**	**22 14 49.0**	**-1.0**
DBIC						22 16 33.8	
DBIC				pmax	pmax		
	comp=Z,46nm,1.2s						
DBIC	**Dimbokro**	**124.95**	**319**	*e*PKPdf	**PKPdf**	**22 14 48.5**	**-1.5**
DBIC				*e*pPKPdf	**pPKPdf**	**22 15 00.8**	**+0.9**
TIC	**Toumodi**	**125.06**	**319**	*e*PKP1	**PKPdf**	**22 14 49.0**	**-1.2**
KIC	**Kosan Boka**	**125.16**	**319**	*e*PKP1	**PKPdf**	**22 14 48.1**	**-2.3**
	comp=Z,156nm,1.5s						
LIC	**Lamto**	**125.42**	**319**	*e*PKP1	**PKPdf**	**22 14 49.6**	**-1.3**
	comp=Z,131nm,1.5s						
OTAV	**Otavalo**	**125.43**	**54**	*e*PKPdf	**PKPdf**	**22 14 51.8**	**+0.3**
OTAV				LR	LR		
	comp=Z,4µm,22.0s						
LBTB	**Lobatse**	**125.81**	**266**	*e*PKIKP	**PKPdf**	**22 14 51.3**	**-0.1**
LBTB	**Lobatse**	**125.81**	**266**	*e*PKPdf	**PKPdf**	**22 14 51.3**	**-0.1**
BOSA	**Boshof**	**127.91**	**262**	PKP	**PKPdf**	**22 14 54.4**	**-0.9**
	comp=Z,29nm,1.2s,baz=102,slow=1.2,SNR=14						
TSUM	**Tsumeb**	**128.77**	**277**	*e*PKPdf	**PKPdf**	**22 14 57.6**	**+0.4**
QSPA	**South Pole Qui**	**129.40**	**180**	PKP	**PKPdf**	**22 14 55.7**	**-1.1**
	comp=Z,6.4nm,0.6s,baz=303,slow=1.2,SNR=32						
SYO	**Syowa Base**	**130.96**	**208**	*e*P	**PKPdf**	**22 14 57.7**	**-1.9**
SYO	**Syowa Base**	**130.96**	**208**	*i*PKPdf	**PKPdf**	**22 15 00.4**	**+0.8**
SYO	**Syowa Base**	**130.96**	**208**	*i*X	**PP**	**22 17 14.8**	**-2.3**
SUR	**Sutherland**	**133.05**	**260**	*e*PKPdf	**PKPdf**	**22 15 05.9**	**+0.8**
SUR				LR	LR		
	comp=Z,32µm,22.0s						
NNA	**Nana**	**135.62**	**63**	PFAKE		22 15 20.0	+10
NNA				LR	LR		
	comp=Z,5µm,20.0s						
PTGA	**Pitinga**	**136.13**	**34**	*e*PKPdf	**PKPdf**	**22 15 11.2**	**0.0**
PTGA				*e*PP	**PP**	**22 17 49.7**	**-0.3**
PTGA				LR	LR		
	comp=Z,4µm,21.0s						
NVL	**N'lazarevskaya**	**140.06**	**203**	*e*PKHKP	PKPpre	22 15 08.6	
NVL				MLR	MLR		
	comp=Z,4µm,22.0s						
SAML	**Samuel**	**141.73**	**44**	*e*PKPpre	PKPpre	22 15 15.0	
SAML				LR	LR		
	comp=Z,2µm,21.0s						
ASCN	**Ascension**	**142.25**	**321**	PFAKE		22 15 30.0	+7.7
ASCN				LR	LR		
	comp=Z,6µm,22.0s						
SNAA	**Sanae**	**143.53**	**198**	P	PKPab	22 15 12.2	-7.1
SNAA	**Sanae**	**143.53**	**198**	PFAKE		22 15 30.0	+7.1
SNAA				LR	LR		
	comp=Z,4µm,22.0s						
LPAZ	**La Paz**	**144.54**	**58**	PKP	**PKPab**	**22 15 24.4**	**-1.0**
	comp=Z,22nm,0.8s,baz=346,slow=4.7,SNR=67						
LPAZ	**La Paz**	**144.54**	**58**	*e*PKPdf	**PKPab**	**22 15 25.1**	**-0.3**
VNA1	**Neumayer--Stat**	**145.49**	**197**	P	**PKPdf**	**22 15 25.4**	**-0.8**
RCBR	**Riachuelo**	**146.29**	**357**	*e*PKPdf	**PKPdf**	**22 15 29.7**	**+0.4**
RCBR				LR	LR		
	comp=Z,5µm,22.0s						
CEN1	**Los Morros**	**147.91**	**69**	*e*P	**PKPdf**	**22 15 33.0**	**+1.1**
LVC	**Limon Verde**	**148.35**	**67**	*e*PKPdf	**PKPdf**	**22 15 34.1**	**+1.2**
LVC				LR	LR		
	comp=Z,6µm,20.0s						
PMSA	**Palmer Station**	**150.47**	**157**	PFAKE		22 15 50.0	+3.5
PMSA				LR	LR		
	comp=Z,4µm,20.0s						
LCO	**Las Campanas**	**150.69**	**79**	*e*PKPdf	**PKPdf**	**22 15 35.3**	**-1.1**
LCO				*e*PKPbc	**PKPbc**	**22 15 41.8**	**-0.1**
LCO				LR	LR		
	comp=Z,9µm,22.0s						
CLCH	**Cerro Calan**	**152.77**	**87**	*e*P	**PKPbc**	**22 15 44.4**	**-1.9**
BDFB	**Brasilia**	**154.34**	**24**	PKP	**PKPdf**	**22 15 42.3**	**+0.4**
	comp=Z,17nm,1.1s,baz=301,slow=1.4,SNR=15						
BDFB				PKPbc	**PKPbc**	**22 15 50.1**	**-0.1**
	comp=Z,32nm,1.1s,baz=345,slow=3.8,SNR=15						
BDFB				PKPab	**PKPab**	**22 16 04.2**	**+0.1**
	comp=Z,27nm,1.0s,baz=323,slow=3.1,SNR=7.6						
BDFB	**Brasilia**	**154.34**	**24**	PKIKP	**PKPdf**	**22 15 42.3**	**+0.4**
BDFB						22 15 50.1	
BDFB						22 16 04.3	
BDFB				pmax	pmax		
	comp=Z,27nm,1.0s						
BDFB	**Brasilia**	**154.34**	**24**	*e*PKPdf	**PKPdf**	**22 15 42.7**	**+0.8**
BDFB				PKPbc	**PKPbc**	**22 15 50.1**	**-0.1**
BDFB				PKPab	**PKPab**	**22 16 04.2**	**+0.1**
PLCA	**Paso Flores**	**154.75**	**103**	PKP	**PKPdf**	**22 15 41.0**	**-0.8**
	comp=Z,11nm,1.2s,baz=298,slow=2.5,SNR=3.0						
PLCA				PKPbc	**PKiKP**	**22 15 50.5**	**+0.2**
	comp=Z,17nm,1.1s,baz=300,slow=3.9,SNR=6.8						
PLCA	**Paso Flores**	**154.75**	**103**	PKP	**PKPdf**	**22 15 41.0**	**-0.8**
PLCA				*e*PKPdf	**PKPdf**	**22 15 41.4**	**-0.3**
PLCA				PKPbc	**PKiKP**	**22 15 50.5**	**+0.2**
CPUP	**Villa Florida**	**158.72**	**57**	PKP	**PKPdf**	**22 15 46.8**	**-0.3**
	comp=Z,31nm,1.2s,baz=332,slow=1.1,SNR=18						
CPUP				PKPab	**PKPab**	**22 16 22.3**	**-0.4**
	comp=Z,9.1nm,0.7s,baz=322,slow=3.9,SNR=12						
BB16B	**Bebedouro**	**159.12**	**30**	*i*	**PKPab**	**22 16 21.2**	**-3.3**
BB16B				*i*		22 17 03.7	
BB16B				*i*		22 19 58.3	
BB16B				*i*		22 20 24.3	
BB16B				*i*		22 21 48.0	
BB16B				*i*		22 25 13.4	
TRQA	**Tornquist**	**160.82**	**93**	*e*PKPdf	**PKPdf**	**22 15 47.8**	**-1.4**

JMA 04 21:59:12.6, 39.65N×142.62E, h33km±1km, M3.8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.62**	**264**	P	Pn	21 59 24.7	-0.4
MIYJ				S	Sb	21 59 33.4	-0.4
JTH	**Tanohata**	**0.65**	**297**	P	Pn	21 59 25.3	-0.2
JTH				S	Sb	21 59 34.4	-0.1
OFUJ	**Ofunato**	**0.93**	**233**	P	Pn	21 59 29.4	0.0
OFUJ				S	Sn	21 59 41.4	-0.2
JOM	**Ohasama**	**1.04**	**261**	S	Sb	21 59 45.1	-0.4
JKZ	**Kuzumaki**	**1.05**	**289**	S	Sn	21 59 44.8	+0.2
JMK	**Ichinoseki**	**1.29**	**238**	S	Sn	21 59 51.4	+1.0

JMA 04 22:15:20.7±0.1, 39.64N×142.69E, h32km±2km, M3.7
IDC 04 22:15:23.0±13.0, 39.95N×141.98E, h0km, mb3.4/2, mb1 3.3/3, mb1mx3.1/26, mbtmp3.2/3, ML2.8/1, Error ellipse: s-maj=262.7km s-min=45.4km az=99.0
ISC 04 22:15:19.0±2.6, 39.67N±0.05×142.6E±0.1, h10km±12km, **n17,σ0s90/22, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.64**	**262**	P	**Pn**	**22 15 33.6**	**-0.5**
MIYJ				*e*S	**Sn**	**22 15 42.8**	**-1.5**
JTH	**Tanohata**	**0.65**	**295**	P	**Pn**	**22 15 34.1**	**-0.2**
OFUJ	**Ofunato**	**0.95**	**232**	P	**Pn**	**22 15 38.2**	**-0.2**
OFUJ				S	**Sb**	**22 15 50.4**	**+0.2**
JKZ	**Kuzumaki**	**1.05**	**288**	P	**Pn**	**22 15 40.4**	**+0.5**
JKZ				S	**Sn**	**22 15 54.4**	**-0.3**
JOM	**Ohasama**	**1.05**	**260**	P	**Pn**	**22 15 40.2**	**+0.4**
JOM				S	**Sn**	**22 15 54.6**	**0.0**
JANG	**Nango**	**1.11**	**310**	P	**Pn**	**22 15 40.6**	**-0.1**
JMK	**Ichinoseki**	**1.31**	**237**	P	**Pb**	**22 15 43.6**	**0.0**
JMK				S	**Sb**	**22 16 00.3**	**-0.2**
JIO	**Ouri**	**1.57**	**220**	P	**Pn**	**22 15 46.8**	**-0.1**
JIO				S	**Sn**	**22 16 05.9**	**-1.4**
JRG	**Rokugo**	**1.57**	**261**	P	**Pg**	**22 15 48.9**	**-0.2**
JRG				S	**Sg**	**22 16 10.0**	**+0.6**
JAH	**Hinai**	**1.62**	**289**	P	**Pg**	**22 15 49.5**	**-0.6**
JAH				S	**Sg**	**22 16 11.5**	**+0.4**
JTM	**Tenmabayashi**	**1.64**	**314**	P	**Pb**	**22 15 48.8**	**-0.5**
MJAR	**Matsushiro Arr**	**4.68**	**230**	Pn	Pn	22 16 33.3	+3.6
	0.5nm,0.3s,baz=45,slow=14,SNR=4.6						
MJAR				Sn	**Sb**	**22 17 39.2**	**+1.6**
	0.1nm,0.3s,baz=48,slow=29,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**28.81**	**127**	T	T	22 51 52.6	
	baz=318,slow=75,SNR=7.8						
H11N1	**WAKE ISLAND Hy**	**28.82**	**127**	T	T	22 51 53.1	
	baz=318,slow=75,SNR=8.0						
H11N3	**WAKE ISLAND Hy**	**28.82**	**127**	T	T	22 51 52.7	
	baz=318,slow=75,SNR=8.1						
ZALV	**Zalesovo Beam**	**40.90**	**310**	P	**P**	**22 23 03.3**	**+2.2**
	0.3nm,0.4s,baz=89,slow=9.7,SNR=2.2						
MKAR	**Makanchi Array**	**43.59**	**300**	P	**P**	**22 23 22.1**	**-1.0**
	0.2nm,0.7s,baz=93,slow=7.2,SNR=3.2						

CRAAG 04 22:21:29.6, 35.88N×4.05E, Ml3.8
MDD 04 22:21:31.4±0.5, 35.96N×4.13E, h0km±6km, mb3.4/22, Error ellipse: s-maj=9.1km s-min=4.3km az=19.0, PRXIMO
CSEM 04 22:21:33.3±0.3, 36.08N×3.99E, h10km, mb3.4, Error ellipse: s-maj=7.3km s-min=5.5km az=159.0
ISC 04 22:21:32.5±1.2, 36.04N±0.06×3.98E±0.03, h10km±7km, **n94,σ1s16/114, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKET	**Djebel Ketaf**	**0.08**	**276**	P	**Pg**	**22 21 34.9**	**-0.1**
AKET	**Djebel Ketaf**	**0.08**	**276**	P	**Pg**	**22 21 34.9**	**-0.1**
AKET	**Djebel Ketaf**	**0.08**	**276**	P	**Pg**	**22 21 34.9**	**-0.1**
ATAF	**Djebel Tarf**	**0.29**	**125**	P	Pg	22 21 34.0	-4.4
ATAF	**Djebel Tarf**	**0.29**	**125**	P	Pg	22 21 34.0	-4.4
ATAF	**Djebel Tarf**	**0.29**	**125**	P	Pg	22 21 34.0	-4.4
ADJB	**Djebel Djouab**	**0.46**	**285**	P	**Pb**	**22 21 42.8**	**+0.1**
ADJB	**Djebel Djouab**	**0.46**	**285**	P	**Pb**	**22 21 42.8**	**+0.1**
ADJB	**Djebel Djouab**	**0.46**	**285**	P	**Pb**	**22 21 42.8**	**+0.1**
EMHD	**Djebel Mahouad**	**0.85**	**281**	P	**Pn**	**22 21 50.2**	**-0.4**
EMHD	**Djebel Mahouad**	**0.85**	**281**	P	**Pn**	**22 21 50.2**	**-0.4**
EMHD	**Djebel Mahouad**	**0.85**	**281**	P	**Pn**	**22 21 50.2**	**-0.4**
SET	**Setif**	**1.16**	**82**	P	Pb	22 21 51.0	-3.6
SET	**Setif**	**1.16**	**82**	P	Pb	22 21 51.0	-3.6
SET	**Setif**	**1.16**	**82**	P	Pb	22 21 51.0	-3.6
CKHR	**Kef el Ahmar**	**1.24**	**91**	P	**Pg**	**22 21 56.3**	**0.0**
CKHR	**Kef el Ahmar**	**1.24**	**91**	P	**Pg**	**22 21 56.3**	**0.0**
CKHR	**Kef el Ahmar**	**1.24**	**91**	P	**Pg**	**22 21 56.3**	**0.0**
DFRA	**Djebel Bou Aff**	**1.61**	**71**	P	**Pg**	**22 22 05.0**	**+1.6**
DFRA	**Djebel Bou Aff**	**1.61**	**71**	P	**Pg**	**22 22 05.0**	**+1.6**
DFRA	**Djebel Bou Aff**	**1.61**	**71**	P	**Pg**	**22 22 05.0**	**+1.6**
CTEI	**Djebel Teioual**	**1.96**	**89**	P	**Pg**	**22 22 10.0**	**-0.1**
CTEI	**Djebel Teioual**	**1.96**	**89**	P	**Pg**	**22 22 10.0**	**-0.1**
CTEI	**Djebel Teioual**	**1.96**	**89**	P	**Pg**	**22 22 10.0**	**-0.1**
EBNR	**Beni Rached**	**2.00**	**278**	P	Pn	22 22 00.0	-6.4
CASM	**Ain Smara**	**2.04**	**83**	P	Pg	22 22 16.0	+4.4
CASM	**Ain Smara**	**2.04**	**83**	P	Pg	22 22 16.0	+4.4
CASM	**Ain Smara**	**2.04**	**83**	P	Pg	22 22 16.0	+4.4
ECHA	**Ech Chlef**	**2.12**	**274**	P	Pn	22 22 04.3	-3.7
ECHA	**Ech Chlef**	**2.12**	**274**	P	Pn	22 22 04.3	-3.7
ECHF	**Ech Chlef**	**2.14**	**274**	P	Pn	22 22 04.3	-4.0
ECHF	**Ech Chlef**	**2.14**	**274**	P	Pn	22 22 04.3	-4.0
ETRT	**Tiaret**	**2.28**	**254**	P	**Pn**	**22 22 08.9**	**-1.4**
ETRT	**Tiaret**	**2.28**	**254**	P	**Pn**	**22 22 08.9**	**-1.4**
ETRT	**Tiaret**	**2.28**	**254**	P	**Pn**	**22 22 08.9**	**-1.4**
EANR	**'Ain N'Sour**	**2.34**	**269**	P	**Pn**	**22 22 11.2**	**+0.1**
EANR	**'Ain N'Sour**	**2.34**	**269**	P	**Pn**	**22 22 11.2**	**+0.1**
EANR	**'Ain N'Sour**	**2.34**	**269**	P	**Pn**	**22 22 11.2**	**+0.1**
CMAH	**Djebel Manchou**	**2.83**	**77**	P	**Pg**	**22 22 27.0**	**+0.2**
CMAH	**Djebel Manchou**	**2.83**	**77**	P	**Pg**	**22 22 27.0**	**+0.2**
CMAH	**Djebel Manchou**	**2.83**	**77**	P	**Pg**	**22 22 27.0**	**+0.2**
ABSA	**Djebel Ababsia**	**2.84**	**84**	P	**Pg**	**22 22 27.0**	**+0.1**
CABS	**Djebel Ababsia**	**2.84**	**84**	P	**Pg**	**22 22 27.0**	**+0.1**
CABS	**Djebel Ababsia**	**2.84**	**84**	P	**Pg**	**22 22 27.0**	**+0.1**
EIBI	**Ibiza**	**3.65**	**326**	P	**Pn**	**22 22 29.7**	**+0.7**
	0.7nm,0.3s,SNR=7.9						
EIBI				S	**Sn**	**22 23 13.2**	**+1.1**
	1.4nm,0.6s,SNR=7.9						
EIBI	**Ibiza**	**3.65**	**326**	P	**Pn**	**22 22 29.7**	**+0.7**
	0.7nm,0.3s,SNR=7.9						
EIBI				S	**Sn**	**22 23 13.2**	**+1.1**
	1.4nm,0.6s,SNR=7.9						
ETOS	**Mallorca**	**3.84**	**346**	P	**Pn**	**22 22 31.4**	**-0.2**
	0.2nm,0.2s,SNR=7.9						
ETOS				S	**Sn**	**22 23 16.6**	**-0.2**
	0.8nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.84**	**346**	P	**Pn**	**22 22 31.4**	**-0.2**
	0.2nm,0.2s,SNR=7.9						
ETOS				S	**Sn**	**22 23 16.6**	**-0.2**
	0.8nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**4.28**	**310**	P	**Pn**	**22 22 39.2**	**+1.5**
	0.3nm,0.4s,SNR=7.9						
EBEN				S	**Sn**	**22 23 27.3**	**-0.5**
	0.5nm,0.5s,SNR=7.9						
EBEN	**Beniarda**	**4.28**	**310**	P	**Pn**	**22 22 39.2**	**+1.5**
	0.3nm,0.4s,SNR=7.9						
EBEN				S	**Sn**	**22 23 27.3**	**-0.5**
	0.5nm,0.5s,SNR=7.9						
EMUR	**La Murta**	**4.56**	**295**	P	**Pn**	**22 22 42.2**	**+0.7**
	3.4nm,0.4s,SNR=10.0						
EMUR				S	**Sn**	**22 23 34.1**	**-0.4**
	0.8nm,0.3s,SNR=4.7						
EMUR	**La Murta**	**4.56**	**295**	P	**Pn**	**22 22 42.2**	**+0.7**
	3.4nm,0.4s,SNR=10.0						
EMUR				S	**Sn**	**22 23 34.1**	**-0.4**
	0.8nm,0.3s,SNR=4.7						
ENIJ	**Nijar**	**5.07**	**282**	P	**Pn**	**22 22 49.1**	**+0.5**
	2.3nm,0.3s,SNR=7.9						
ENIJ				S	**Sn**	**22 23 47.2**	**0.0**
	2.6nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**5.07**	**282**	P	**Pn**	**22 22 49.1**	**+0.5**
	2.3nm,0.3s,SNR=7.9						
ENIJ				S	**Sn**	**22 23 47.2**	**0.0**
	2.6nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**5.12**	**302**	P	**Pn**	**22 22 50.2**	**+1.0**
	3.9nm,0.8s,SNR=13						
ETOB				S	**Sn**	**22 23 48.1**	**-0.3**
	1.3nm,0.3s,SNR=6.1						
ETOB	**Tobarra**	**5.12**	**302**	P	**Pn**	**22 22 50.2**	**+1.0**
	3.9nm,0.8s,SNR=13						
ETOB				S	**Sn**	**22 23 48.1**	**-0.3**
	1.3nm,0.3s,SNR=6.1						
EBR	**Ebro Roquetas**	**5.50**	**331**	P	**Pn**	**22 22 54.4**	**-0.1**
	43nm,0.2s,SNR=7.9						
EBR				S	**Sn**	**22 23 55.9**	**-1.9**
	24nm,0.3s,SNR=7.9						
EBR	**Ebro Roquetas**	**5.50**	**331**	P	**Pn**	**22 22 54.4**	**-0.1**
	43nm,0.2s,SNR=7.9						
EBR				S	**Sn**	**22 23 55.9**	**-1.9**
	24nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**5.56**	**322**	P	**Pn**	**22 22 55.7**	**+0.2**
	0.1nm,0.2s,SNR=7.9						
EMOS				S	**Sn**	**22 23 58.3**	**-1.3**
	1.2nm,1.1s,SNR=7.9						
EMOS	**Mosqueruela**	**5.56**	**322**	P	**Pn**	**22 22 55.7**	**+0.2**
	0.1nm,0.2s,SNR=7.9						
EMOS				S	**Sn**	**22 23 58.3**	**-1.3**
	1.2nm,1.1s,SNR=7.9						
EBER	**Berja**	**5.61**	**281**	P	**Pn**	**22 22 57.3**	**+1.3**
	1.0nm,0.3s,SNR=7.9						
EBER	**Berja**	**5.61**	**281**	P	**Pn**	**22 22 57.3**	**+1.3**
	1.0nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**5.62**	**294**	P	**Pn**	**22 22 57.8**	**+1.6**
	1.2nm,0.3s,SNR=7.9						
SESP				S	**Sn**	**22 24 00.2**	**-0.7**
	2.8nm,0.4s,SNR=7.9						
SESP	**Santiago Espad**	**5.62**	**294**	P	**Pn**	**22 22 57.8**	**+1.6**
	1.2nm,0.3s,SNR=7.9						
SESP				S	**Sn**	**22 24 00.2**	**-0.7**
	2.8nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**5.77**	**338**	P	**Pn**	**22 22 58.7**	**+0.5**
	0.2nm,0.2s,SNR=7.9						
EPOB				S	**Sn**	**22 24 02.2**	**-2.3**
	1.0nm,1.5s,SNR=7.9						
EPOB	**Poblet**	**5.77**	**338**	P	**Pn**	**22 22 58.7**	**+0.5**
	0.2nm,0.2s,SNR=7.9						
EPOB				S	**Sn**	**22 24 02.2**	**-2.3**
	1.0nm,1.5s,SNR=7.9						
EVIA	**Vianos**	**5.78**	**299**	P	**Pn**	**22 23 00.2**	**+1.8**
	0.4nm,0.2s,SNR=7.9						
EVIA				S	**Sn**	**22 24 04.2**	**-0.7**
	1.9nm,0.4s,SNR=7.9						
EVIA	**Vianos**	**5.78**	**299**	P	**Pn**	**22 23 00.2**	**+1.8**
	0.4nm,0.2s,SNR=7.9						
EVIA				S	**Sn**	**22 24 04.2**	**-0.7**
	1.9nm,0.4s,SNR=7.9						
CFON	**Fontmartina**	**5.84**	**349**	P	**Pn**	**22 22 59.9**	**+0.7**
	0.1nm,0.3s,SNR=7.9						
CFON				S	**Sn**	**22 24 03.7**	**-2.5**
	0.5nm,1.2s,SNR=7.9						
CFON	**Fontmartina**	**5.84**	**349**	P	**Pn**	**22 22 59.9**	**+0.7**
	0.1nm,0.3s,SNR=7.9						
CFON				S	**Sn**	**22 24 03.7**	**-2.5**
	0.5nm,1.2s,SNR=7.9						
EQES	**Quesada**	**5.92**	**289**	P	**Pn**	**22 23 02.2**	**+1.9**
	3.5nm,0.4s,SNR=11						
EQES				S	**Sn**	**22 24 07.9**	**-0.4**
	2.1nm,0.6s,SNR=7.9						
EQES	**Quesada**	**5.92**	**289**	P	**Pn**	**22 23 02.2**	**+1.9**
	3.5nm,0.4s,SNR=11						
EQES				S	**Sn**	**22 24 07.9**	**-0.4**
	2.1nm,0.6s,SNR=7.9						
EQUE	**Quentar**	**6.08**	**283**	P	**Pn**	**22 23 04.3**	**+1.8**
	0.7nm,0.2s,SNR=7.9						
EQUE				S	**Sn**	**22 24 11.7**	**-0.5**
	0.7nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**6.08**	**283**	P	**Pn**	**22 23 04.3**	**+1.8**
	0.7nm,0.2s,SNR=7.9						
EQUE				S	**Sn**	**22 24 11.7**	**-0.5**
	0.7nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**6.17**	**343**	P	**Pn**	**22 23 04.1**	**+0.4**
	22nm,0.3s,SNR=47						
EMIR				S	**Sn**	**22 24 11.8**	**-2.6**
	1.4nm,0.4s,SNR=48						

baz=322
H11S2 WAKE ISLAND Hy 29.58 129 T T 23 03 00.9
baz=322
ZALV Zalesovo Beam 40.95 310 P **P** **22 32 59.9 +0.1**
0.4nm,0.4s,baz=84,slow=9.2,SNR=2.7
MKAR Makanchi Array 43.64 300 P **P** **22 33 21.9 +0.1**
0.3nm,0.7s,baz=72,slow=6.2,SNR=4.6

JMA 04 22:28:02.4±0.1, 39.67N×142.67E, h31km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.66**	**262**	P	Pb	22 28 15.0	-0.6
MIYJ				S	Sb	22 28 24.0	-0.5
JTH	**Tanohata**	**0.68**	**294**	P	Pb	22 28 15.4	-0.4
JTH				*e*S	Sb	22 28 25.0	+0.1
OFUJ	**Ofunato**	**0.97**	**233**	P	Pn	22 28 19.7	-0.2
OFUJ				S	Sn	22 28 32.1	-0.6
JKZ	**Kuzumaki**	**1.08**	**287**	P	Pn	22 28 21.8	+0.3
JKZ				S	Sn	22 28 35.1	-0.3
JOM	**Ohasama**	**1.08**	**260**	P	Pn	22 28 21.7	+0.3
JOM				S	Sn	22 28 35.6	+0.2
JANG	**Nango**	**1.13**	**309**	P	Pn	22 28 21.6	-0.5
JMK	**Ichinoseki**	**1.33**	**238**	P	Pn	22 28 25.3	+0.4
JMK				*e*S	Sn	22 28 42.2	+0.6
JIO	**Ouri**	**1.59**	**221**	P	Pn	22 28 28.7	+0.3
JIO				*e*S	Sn	22 28 48.4	+0.5
JRG	**Rokugo**	**1.60**	**261**	P	Pb	22 28 30.3	-1.0
JRG				*e*S	Sb	22 28 50.1	-1.0
JAH	**Hinai**	**1.65**	**289**	P	Pn	22 28 30.6	+1.4
JAH				*e*S	Sn	22 28 51.2	-1.3
JTM	**Tenmabayashi**	**1.66**	**313**	P	Pn	22 28 29.9	+0.6
JTM				*e*S	Sn	22 28 50.4	+0.8

*CSEM **04** 22:34:29.1, 39.47N×29.87W, h15km, ML2.9*
PDA 04 22:34:29.1±0.3, 39.47N×29.87W, h15km, MD3.7, ML2.9, Error ellipse: s-maj=3.7km s-min=0.8km az=24.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H07S1	**FLORES T-PHASE**	**1.04**	**265**	*e*P	Pb	22 34 44.7	-4.1
H07S1				*e*S	Sb	22 34 56.5	-5.7
PCED	**Cedros**	**1.24**	**132**	*e*P	Pn	22 34 47.6	-4.3
PCED				*e*S	Sb	22 35 01.3	-6.8
PCED				A	A	22 35 02.4	
	53nm,0.3s						
PCED	**Cedros**	**1.24**	**132**	*e*P	Pn	22 34 47.6	-4.3
PCED				*e*S	Sb	22 35 01.3	-6.8
CALA	**Caldeira**	**1.27**	**134**	*e*S	Sb	22 35 02.4	-6.8
CALA	**Caldeira**	**1.27**	**134**	*e*S	Sb	22 35 02.4	-6.8
HOR	**Horta**	**1.35**	**134**	*e*S	Sn	22 35 04.1	-7.0
HOR	**Horta**	**1.35**	**134**	*e*S	Sn	22 35 04.1	-7.0
ROSA	**Rosais**	**1.48**	**120**	*e*P	Pn	22 34 50.6	-4.6
ROSA				*e*S	Sn	22 35 07.1	-7.1
ROSA				A	A	22 35 08.8	
	16nm,0.1s						
ROSA	**Rosais**	**1.48**	**120**	*e*P	Pn	22 34 50.6	-4.6
ROSA				*e*S	Sn	22 35 07.1	-7.1
PCAN	**Candelaria**	**1.48**	**132**	*e*P	Pn	22 34 50.9	-4.3
PCAN				*e*S	Sn	22 35 07.2	-7.1
PCAN				A	A	22 35 08.3	
	69nm,0.3s						
PCAN	**Candelaria**	**1.48**	**132**	*e*P	Pn	22 34 50.9	-4.3
PCAN				*e*S	Sn	22 35 07.2	-7.1
PPNO	**Prainha do Nor**	**1.60**	**128**	*e*S	Sn	22 35 10.3	-7.2
PPNO				A	A	22 35 14.6	
	67nm,0.3s						
PPNO	**Prainha do Nor**	**1.60**	**128**	*e*S	Sn	22 35 10.3	-7.2
PMAN	**Manadas**	**1.62**	**120**	*e*S	Sn	22 35 10.7	-7.1
PMAN				A	A	22 35 12.5	
	29nm,0.2s						
PMAN	**Manadas**	**1.62**	**120**	*e*S	Sn	22 35 10.7	-7.1

*IDC **04** 22:35:47.6±2.7, 39.81N×143.40E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/36, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=71.2km s-min=29.5km az=71.0*
*ISCJB **04** 22:35:52.9±1.5, 39.61N±0.04×142.81E±0.09, h17km±8km, mb3.4/3, Error ellipse: s-maj=11.9km s-min=7.5km az=179.3*
*JMA **04** 22:35:55.0±0.1, 39.64N×142.69E, h31km±1km, M3.8*
ISC 04 22:35:53.3±1.8, 39.68N±0.05×142.8E±0.2, h21km±7km, n22, σ0983/24, mb3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.74**	**262**	P	**Pb**	**22 36 07.9**	**+0.5**
MIYJ				*e*S	**Sb**	**22 36 16.6**	**-0.5**
JTH	**Tanohata**	**0.74**	**291**	P	**Pb**	**22 36 08.3**	**0.0**
JTH				*e*S	**Sb**	**22 36 17.5**	**+0.3**
OFUJ	**Ofunato**	**1.04**	**235**	P	**Pb**	**22 36 12.4**	**-0.2**
OFUJ				S	**Sb**	**22 36 25.0**	**-0.7**
JKZ	**Kuzumaki**	**1.15**	**286**	P	**Pb**	**22 36 14.8**	**+0.3**
JKZ				*e*S	**Sb**	**22 36 28.9**	**0.0**
JOM	**Ohasama**	**1.16**	**260**	P	**Pn**	**22 36 14.6**	**+0.3**
JOM				S	**Sb**	**22 36 28.9**	**-0.2**
JANG	**Nango**	**1.19**	**306**	P	**Pn**	**22 36 14.8**	**+0.1**
JMK	**Ichinoseki**	**1.40**	**239**	P	**Pn**	**22 36 17.9**	**+0.3**
JMK				S	**Sn**	**22 36 35.0**	**-0.5**
JIO	**Ouri**	**1.65**	**223**	P	**Pn**	**22 36 21.2**	**+0.2**
JIO				*e*S	**Sn**	**22 36 41.1**	**-0.4**
JRG	**Rokugo**	**1.67**	**261**	P	**Pb**	**22 36 22.8**	**-0.6**
JTM	**Tenmabayashi**	**1.71**	**311**	P	**Pn**	**22 36 23.2**	**+1.3**
JAH	**Hinai**	**1.71**	**288**	P	**Pb**	**22 36 23.7**	**-0.4**
JAH				*e*S	**Sb**	**22 36 45.2**	**0.0**
MJAR	**Matsushiro Arr**	**4.77**	**230**	P	**Pn**	**22 37 06.8**	**+2.8**
	0.8nm,0.3s,baz=45,slow=12,SNR=8.3						
MJAR				S	**Sb**	**22 38 13.6**	**+0.6**
	0.3nm,0.3s,baz=58,slow=31,SNR=2.2						
USRK	**Ussuriysk Ar.**	**9.21**	**303**	Pn	Pn	22 38 10.0	+5.1
	0.1nm,0.3s,baz=106,slow=14,SNR=3.2						
USRK				S	Sn	22 39 55.4	+7.5
	0.3nm,0.3s,baz=139,slow=29,SNR=4.5						
H11N2	**WAKE ISLAND Hy 28.73**	**127**		T	T	23 12 32.3	
	baz=318,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy 28.74**	**127**		T	T	23 12 34.2	
	baz=318,slow=75,SNR=43						
H11N3	**WAKE ISLAND Hy 28.75**	**127**		T	T	23 12 34.9	
	baz=318,slow=75,SNR=29						
H11S1	**WAKE ISLAND Hy 29.54**	**129**		T	T	23 13 26.2	
	baz=319						
H11S3	**WAKE ISLAND Hy 29.54**	**129**		T	T	23 13 28.7	
	baz=319						
H11S2	**WAKE ISLAND Hy 29.56**	**129**		T	T	23 13 31.1	
	baz=319						
ZALV	**Zalesovo Beam**	**40.97**	**310**	P	**P**	**22 43 34.1**	**-0.3**
	0.2nm,0.3s,baz=98,slow=7.5,SNR=3.3						
MKAR	**Makanchi Array**	**43.67**	**300**	P	**P**	**22 43 56.8**	**+0.3**
	0.2nm,0.5s,baz=78,slow=6.6,SNR=4.4						
WRA	**Warramunga Arr**	**59.83**	**189**	P	**P**	**22 45 56.2**	**-1.0**
	0.3nm,0.4s,baz=8.8,slow=6.9,SNR=2.8						

GUC 04 22:36:31.3±0.6, 34.69S×71.82W, h30km±4km, ML3.6, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.58**	**123**	*i*P	Pb	22 36 42.8	-0.3
NICH				*i* S	Sb	22 36 51.5	+0.3
TALC	**Talca**	**0.73**	**168**	*i*P	Pb	22 36 45.0	-0.5
TALC				*i* S	Sb	22 36 54.9	-0.2
LNV	**Longovilo**	**0.80**	**25**	*e*P	Pn	22 36 46.4	-0.3
LNV				*i* S	Sb	22 36 57.3	0.0
CHCH	**Chadas Angostu**	**1.23**	**53**	*i*P	Pn	22 36 52.9	+0.4
CHCH				*i* S	Sb	22 37 08.9	-0.5
TACH	**Talagante**	**1.26**	**36**	*i*P	Pn	22 36 53.6	+0.6
PCH	**Pirque**	**1.52**	**46**	*e*P	Pn	22 36 57.3	+0.7
SAN	**Santiago**	**1.56**	**38**	*e*P	Pn	22 36 58.2	+1.0
SAN				*i* S	Sb	22 37 18.3	-0.7
COCH	**Cobquecura**	**1.65**	**208**	*e*P	Pn	22 36 57.6	-0.5
CLCH	**Cerro Calan**	**1.67**	**40**	*i*P	Pn	22 36 59.4	+0.7
CLCH				*i* S	Sb	22 37 21.3	-1.0
CLCH				AML	AML	22 37 30.2	
	comp=E,854nm,0.5s						
PEL	**Peldehue**	**1.81**	**32**	*e*P	Pn	22 37 01.6	+1.1
PEL				*e*S	Sb	22 37 25.2	-0.9
PEL				AML	AML	22 37 33.0	
	comp=E,1μm,0.4s						

IDC 04 22:43:50.5±12.0, 14.34N×90.31W, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.5/29, mbtmp3.4/3, ML3.7/1, Error ellipse: s-maj=381.9km s-min=114.1km az=25.0, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**19.38**	**323**	P	P	22 48 18.4	+0.3
	0.1nm,0.3s,baz=139,slow=12,SNR=5.5						
NVAR	**Mina Array Bea**	**34.46**	**319**	P	P	22 50 40.1	-0.4
	0.5nm,0.6s,baz=134,slow=9.0,SNR=5.5						
ILAR	**Eielson Array**	**63.18**	**336**	P	P	22 54 20.3	+0.1
	0.3nm,0.7s,baz=111,slow=6.8,SNR=3.7						

JMA 04 22:45:04.7±0.1, 39.66N×142.65E, h32km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.65**	**263**	P	Pb	22 45 17.2	-0.4
MIYJ				S	Sb	22 45 25.9	-0.6
JTH	**Tanohata**	**0.67**	**295**	P	Pn	22 45 17.6	-0.3
JTH				S	Sb	22 45 26.8	-0.2
OFUJ	**Ofunato**	**0.96**	**233**	P	Pn	22 45 21.9	0.0
JOM	**Ohasama**	**1.07**	**260**	P	Pn	22 45 23.8	+0.4
JOM				S	Sn	22 45 37.7	+0.6
JKZ	**Kuzumaki**	**1.07**	**288**	P	Pn	22 45 23.7	+0.2
JKZ				S	Sn	22 45 37.2	-0.1
JANG	**Nango**	**1.13**	**310**	P	Pn	22 45 23.8	-0.5
JMK	**Ichinoseki**	**1.32**	**238**	P	Pn	22 45 27.3	+0.5
JMK				S	Sn	22 45 44.1	+0.8
JIO	**Ouri**	**1.57**	**220**	P	Pn	22 45 30.9	+0.5
JRG	**Rokugo**	**1.58**	**261**	P	Pb	22 45 32.7	-0.6
JAH	**Hinai**	**1.64**	**289**	P	Pb	22 45 32.8	-1.4
JTM	**Tenmabayashi**	**1.65**	**313**	P	Pn	22 45 32.0	+0.5

*IDC **04** 22:46:05.5±0.6, 29.52N×142.87E, h0km, mb4.1/19, mb1 4.2/23, mb1mx4.1/37, mbtmp4.0/23, ML3.2/3, Error ellipse: s-maj=18.4km s-min=14.3km az=89.0*
*ISCJB **04** 22:46:07.6±0.3, 29.43N±0.03×142.69E±0.06, h22km, mb4.4/39, Error ellipse: s-maj=7.6km s-min=4.3km az=177.9*
*NEIC **04** 22:46:08.9±3.9, 29.47N×142.78E, h20km±24km, mb4.8/11, Error ellipse: s-maj=7.0km s-min=5.5km az=56.0*
*MOS **04** 22:46:09.1±1.2, 29.56N×142.77E, h33km, mb4.7/16, Error ellipse: s-maj=14.1km s-min=6.8km az=115.7*
ISC 04 22:46:08.9±0.4, 29.53N±0.05×142.79E±0.09, h22km, n99, σ1941/106, mb4.4/38, 3C-5D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.48**	**193**	Pn	**Pn**	**22 46 46.9**	**-1.1**
CBIJ				Sn	**Sn**	**22 47 13.2**	**-4.5**
JCJ	**Chichijima**	**2.48**	**193**	Pn	**Pn**	**22 46 46.9**	**-1.1**
	20nm,0.3s,baz=292,slow=14,SNR=4.6						
JCJ				Sn	**Sn**	**22 47 13.2**	**-4.5**
	37nm,0.3s,baz=318,slow=18,SNR=4.4						
CBI	**Chichi jima**	**2.49**	**192**	*e*Pn	**Pn**	**22 46 46.9**	**-1.2**
CBI				*e*Sn	**Sn**	**22 47 13.2**	**-4.6**
MJAR	**Matsushiro Arr**	**7.98**	**332**	Pn	**Pn**	**22 48 02.5**	**-1.1**
	0.7nm,0.3s,baz=165,slow=11,SNR=9.9						
MJAR				Sn	**Sn**	**22 49 28.5**	**-4.5**
	baz=158,slow=13,SNR=2.9						
MAJO	**Matsushiro**	**7.98**	**332**	P	**Pn**	**22 48 03.0**	**-0.5**
MAJO	**Matsushiro**	**7.98**	**332**	*e*Pn	**Pn**	**22 48 02.5**	**-1.1**
MAT	**Matsushiro**	**7.98**	**332**	P	**Pn**	**22 48 02.7**	**-0.8**
MAT				S	Px	22 48 15.7	
TJN	**Taejon**	**14.63**	**302**	P	**P**	**22 49 40.0**	**-0.7**
YUK	**Yuzh-Kuril'sk**	**14.68**	**9**	P	**Pn**	**22 49 33.5**	**-1.7**
YUK				*e*S	**Sn**	**22 52 13.4**	**-3.7**
YUK				pmax	pmax		
	comp=N,54nm,0.9s						
YUK				pmax	pmax		
	comp=Z,27nm,0.9s						
YUK				pmax	pmax		
	comp=E,43nm,0.4s						
KSRS	**Korea Array**	**14.69**	**306**	Pn	**Pn**	**22 49 35.7**	**+0.3**
	baz=116,slow=14,SNR=9.0						
KS15	**Wonju Array Si**	**14.72**	**306**	*e*Pn	**Pn**	**22 49 35.7**	**0.0**
KSAR	**Wonju Array Be**	**14.72**	**306**	P	**Pn**	**22 49 35.7**	**0.0**
KSAR	**Wonju Array Be**	**14.72**	**306**	Pn	**Pn**	**22 49 35.7**	**0.0**
USRK	**Ussuriysk Ar.**	**16.98**	**333**	Pn	**Pn**	**22 50 03.3**	**-1.6**
	comp=E,0.1nm,0.3s,baz=147,slow=17,SNR=4.0						
KLR	**Kul'dur**	**21.40**	**340**	*e*P	**P**	**22 50 52.0**	**-3.0**
HIA	**Hailar**	**26.38**	**325**	*i*P	**P**	**22 51 45.5**	**+1.9**
HIA				pmax	pmax		
	comp=Z,15nm,1.6s						
SONA1	**Songino Array**	**33.38**	**313**	*e*P	**P**	**22 52 47.0**	**+1.3**
SONA0	**Songino Array**	**33.38**	**313**	*e*P	**P**	**22 52 47.1**	**+1.4**
SONM	**Songino Array**	**33.38**	**313**	P	**P**	**22 52 47.1**	**+1.4**
	comp=Z,1.5nm,0.9s,baz=100,slow=5.1,SNR=8.9						
SEY	**Seymchan**	**33.99**	**8**	P	**P**	**22 52 50.7**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=194,slow=7.5,SNR=4.9						
SEY	**Seymchan**	**33.99**	**8**	*i*P	**P**	**22 52 51.0**	**+0.4**
ZAK	**Zakamensk**	**36.18**	**316**	*e*P	**P**	**22 53 10.3**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.9s						
CHTO	**Chiang Mai**	**41.19**	**265**	*e*P	**P**	**22 53 53.0**	**+0.9**
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CHTO	**Chiang Mai**	**41.19**	**265**	*e*P	**P**	**22 53 53.0**	**+0.9**
	comp=Z,5.8nm,1.0s						
CM31	**Chiang Mai Arr**	**41.33**	**265**	*e*P	**P**	**22 53 53.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**41.33**	**265**	P	**P**	**22 53 53.8**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=57,slow=10,SNR=5.1						
ZAA0	**Zalesovo Array**	**48.03**	**318**	*e*P	**P**	**22 54 46.9**	**+0.7**
ZAA1	**Zalesovo Array**	**48.03**	**318**	*e*P	**P**	**22 54 47.2**	**+1.0**
ZALV	**Zalesovo Beam**	**48.03**	**318**	P	**P**	**22 54 47.2**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=61,slow=7.1,SNR=5.0						
ZALV				PcP	**PcP**	**22 56 14.4**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=100,slow=4.5,SNR=5.1						
NVS	**Novosibirsk**	**49.04**	**319**	*e*P	**P**	**22 54 54.3**	**+0.3**
NVS				pmax	pmax		
	comp=Z,13nm,1.6s						
MK32	**Makanchi Array**	**49.37**	**308**	*e*P	**P**	**22 54 58.0**	**+1.3**
MKAR	**Makanchi Array**	**49.37**	**308**	P	**P**	**22 54 58.0**	**+1.3**
	comp=Z,1.9nm,0.8s,baz=92,slow=8.6,SNR=18						
CTAO	**Charters Tower**	**49.44**	**176**	*e*P	**P**	**22 54 57.2**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,50nm,1.7s						
CTAO	**Charters Tower**	**49.44**	**176**	*e*P	**P**	**22 54 57.2**	**-0.2**
	comp=Z,50nm,1.7s						
WRAB	**Tennant Creek**	**49.84**	**190**	*i*P	**P**	**22 55 00.9**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,29nm,1.7s						
WRAB	**Tennant Creek**	**49.84**	**190**	*e*P	**P**	**22 55 01.4**	**+0.9**
	comp=Z,15nm,0.8s						
WRA	**Warramunga Arr**	**49.86**	**190**	P	**P**	**22 55 00.0**	**-0.6**
	comp=Z,6.4nm,0.8s,baz=10.0,slow=8.1,SNR=27						
KURK	**Kurchatov**	**51.69**	**313**	*e*P	**P**	**22 55 14.9**	**+0.8**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AS12	**Alice Springs**	**53.58**	**190**	*e*P	**P**	**22 55 28.1**	**-0.3**
ASAR	**Alice Springs**	**53.58**	**190**	P	**P**	**22 55 28.1**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=2.0,slow=5.1,SNR=5.6						
EIDS	**Eidsvold**	**55.16**	**171**	*e*P	**P**	**22 55 40.5**	**+0.7**
	comp=Z,33nm,1.5s						
ILAR	**Eielson Array**	**55.33**	**29**	P	**P**	**22 55 39.1**	**-1.5**
	comp=Z,1.2nm,0.9s,baz=264,slow=6.5,SNR=9.5						
ILB	**Eielson Array**	**55.33**	**29**	*e*P	**P**	**22 55 39.1**	**-1.5**
BRVK	**Borovoye**	**56.69**	**316**	*i*P	**P**	**22 55 50.4**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KKAR	**Karatay Array**	**58.12**	**305**	*e*P	**P**	**22 56 02.3**	**+1.5**
KKAR	**Karatay Array**	**58.12**	**305**	*e*P	**P**	**22 56 02.2**	**+1.5**
DAWY	**Dawson**	**58.58**	**30**	*e*P	**P**	**22 56 04.8**	**+1.1**
STKA	**Stephens Creek**	**61.08**	**181**	P	**P**	**22 56 21.1**	**0.0**
	comp=Z,3.4nm,1.0s,baz=336,slow=5.9,SNR=5.7						
SVE	**Sverdlovsk**	**61.64**	**322**	*e*P	**P**	**22 56 25.7**	**+1.0**
SVE				pmax	pmax		
	comp=Z,8.0nm,1.3s						
ARU	**Arti**	**62.84**	**322**	*d*P	**P**	**22 56 33.0**	**+0.2**
ARU				S	**S**	**23 05 02.0**	**+1.2**
ARU				pmax	pmax		
	comp=Z,11nm,1.2s						
ARU	**Arti**	**62.84**	**322**	*e*P	**P**	**22 56 33.5**	**+0.7**
	comp=Z,8.2nm,1.1s						
ABKAR	**Akbulak array**	**63.79**	**314**	*e*P	**P**	**22 56 40.1**	**+0.8**
PRGR	**Permogore**	**67.73**	**329**	P	**P**	**22 57 04.6**	**+0.3**
PRGR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GEYT	**Alibeck**	**68.64**	**302**	P	**P**	**22 57 11.4**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=90,slow=5.5,SNR=3.9						
YKA	**Yellowknife Ar**	**69.76**	**29**	P	**P**	**22 57 16.7**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=295,slow=6.4,SNR=3.6						
YKB5	**Yellowknife Ar**	**69.76**	**29**	*e*P	**P**	**22 57 16.7**	**-0.2**
K05A	**Summer Lake**	**74.88**	**49**	*e*P	**P**	**22 57 49.8**	**+1.6**
	comp=Z,22nm,1.3s						
FIA0	**FINESS Array S**	**76.00**	**334**	*e*P	**P**	**22 57 54.0**	**0.0**
FIA0	**FINESS Array S**	**76.00**	**334**	*e*P	**P**	**22 57 54.0**	**0.0**
FINES	**FINESS Array B**	**76.00**	**334**	P	**P**	**22 57 54.0**	**0.0**
	comp=Z,5.2nm,1.1s,baz=76,slow=2.4,SNR=8.7						
FINES	**FINESS Array B**	**76.00**	**334**	*i*P	**P**	**22 57 54.7**	**+0.7**
FINES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KIV	**Kislovodsk**	**76.77**	**313**	*e*P	**P**	**22 58 01.2**	**+2.3**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SWMT	**Swartz Lake**	**76.97**	**43**	*e*P	**P**	**22 58 01.6**	**+1.6**
VSU	**Vasula**	**77.53**	**331**	P	**P**	**22 58 04.0**	**+1.4**
VSU				pmax	pmax		
	comp=Z,27nm,1.3s						
MFID	**Camas Ranch**	**77.85**	**47**	*e*P	**P**	**22 58 06.8**	**+1.8**
	comp=Z,11nm,1.4s						
NV01	**Mina Array Sit**	**78.61**	**52**	*e*P	**P**	**22 58 09.9**	**+0.6**
NVAR	**Mina Array Bea**	**78.61**	**52**	P	**P**	**22 58 09.8**	**+0.4**
	comp=Z,3.3nm,0.9s,baz=282,slow=5.3,SNR=13						
LRM	**Limekiln Ridge**	**78.74**	**44**	*e*P	**P**	**22 58 11.1**	**+1.1**
R11A	**Troy Canyon, C**	**80.51**	**51**	*e*P	**P**	**22 58 20.7**	**+1.0**
	comp=Z,5.5nm,1.3s						
TPNV	**Topopah Spring**	**80.75**	**53**	*e*P	**P**	**22 58 21.8**	**+0.8**
TPNV				pmax	pmax		
	comp=Z,7.0nm,1.3s						
TPNV	**Topopah Spring**	**80.75**	**53**	*e*P	**P**	**22 58 21.8**	**+0.8**
	comp=Z,7.4nm,1.3s						
AKASG	**Malin Array Be**	**80.97**	**324**	P	**P**	**22 58 20.7**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=46,slow=5.7,SNR=4.7						
AKASG	**Malin Array Be**	**80.97**	**324**	*ce*P	**P**	**22 58 23.0**	**+1.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKBB	**Malin Array Si**	**80.97**	**324**	*e*P	**P**	**22 58 20.7**	**-0.9**
AKBB	**Malin Array Si**	**80.97**	**324**	*e*P	**P**	**22 58 20.7**	**-0.9**
KIEV	**Kiev**	**80.98**	**324**	*i*P	**P**	**22 58 22.4**	**+0.7**
DUG	**Dugway**	**81.42**	**49**	*e*P	**P**	**22 58 25.6**	**+1.2**
DUG				pmax	pmax		
	comp=Z,9.0nm,1.4s						
DUG	**Dugway**	**81.42**	**49**	*e*P	**P**	**22 58 25.6**	**+1.2**
	comp=Z,8.5nm,1.4s						
NB200	**NORSAR Array S**	**81.55**	**338**	*e*P	**P**	**22 58 24.9**	**+0.3**
NOA	**NORSAR Array B**	**81.55**	**338**	P	**P**	**22 58 24.9**	**+0.3**
	comp=Z,2.7nm,1.0s,baz=40,slow=5.2,SNR=3.2						
BW06	**Boulder Array**	**82.12**	**45**	*e*P	**P**	**22 58 28.2**	**0.0**
PD31	**Pinedale Array**	**82.12**	**45**	*e*P	**P**	**22 58 28.5**	**+0.3**
PDAR	**Pinedale Array**	**82.12**	**45**	P	**P**	**22 58 28.5**	**+0.3**
	comp=Z,1.3nm,1.0s,baz=318,slow=2.0,SNR=7.9						
RAYN	**Ar Rayn**	**84.65**	**294**	*e*P	**P**	**22 58 42.6**	**+1.3**
	comp=Z,16nm,1.1s						
BR101	**Keskin Array S**	**84.74**	**313**	*e*P	**P**	**22 58 42.5**	**+0.9**
BRTR	**Keskin Array B**	**84.74**	**313**	P	**P**	**22 58 42.5**	**+0.9**
	comp=Z,1.7nm,1.0s,baz=106,slow=3.8,SNR=8.2						
BRTR	**Keskin Array B**	**84.74**	**313**	*ce*P	**P**	**22 58 42.5**	**+0.9**
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BUR04	**Bucovina Ar. S**	**84.94**	**323**	*e*P	**P**	**22 58 42.5**	**0.0**
BR231	**Keskin MP Arra**	**85.22**	**313**	*e*P	**P**	**22 58 43.5**	**-0.5**
GEC2	**GERESS Array S**	**89.70**	**329**	*e*P	**P**	**22 59 05.0**	**-0.4**
GEC2	**GERESS Array S**	**89.70**	**329**	*e*P	**P**	**22 59 05.0**	**-0.4**
GERES	**GERESS Array B**	**89.70**	**329**	P	**P**	**22 59 05.0**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=48,slow=4.4,SNR=4.5						
TX31	**Lajitas Ar. Si**	**93.72**	**53**	*e*P	**P**	**22 59 25.4**	**+0.9**
LTX	**Lajitas**	**93.73**	**53**	*e*P	**P**	**22 59 25.7**	**+1.2**
LTX	**Lajitas**	**93.73**	**53**	*e*P	**P**	**22 59 25.6**	**+1.2**
TXAR	**Lajitas Array**	**93.73**	**53**	P	**P**	**22 59 25.6**	**+1.2**
	comp=Z,2.5nm,1.0s,baz=298,slow=2.7,SNR=15						
PQI	**Presque Isle**	**99.20**	**21**	*e*P	**Pdif**	**22 59 52.3**	**+3.5**
	comp=Z,56nm,0.4s						
TORD	**Torodi Ar. Bea**	**123.35**	**313**	PKP	**PKPdf**	**23 05 04.6**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=353,slow=3.4,SNR=2.8						
LPAZ	**La Paz**	**148.73**	**72**	PKPbc	**PKPbc**	**23 05 56.5**	**+0.6**
	comp=Z,2.3nm,1.0s,baz=300,slow=0.4,SNR=6.9						

*IDC **04** 22:48:57.8±1.1, 2.75S×138.99E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.6/21, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=26.3km s-min=22.1km az=138.0*
*ISCJB **04** 22:49:02.3±1.0, 2.95S±0.1×139.01E±0.10, h46km, mb3.6/4, Error ellipse: s

JKZ	**Kuzumaki**	**1.08 288**	P	Pn	23 23 45.4	+0.2
JKZ			S	Sn	23 23 59.2	-0.1
JANG	**Nango**	**1.14 309**	P	Pn	23 23 45.4	-0.5
JMK	**Ichinoseki**	**1.33 238**	P	Pn	23 23 49.2	+0.7
JMK			S	Sn	23 24 05.5	+0.3
JIO	**Ouri**	**1.58 221**	P	Pn	23 23 52.6	+0.6
JRG	**Rokugo**	**1.60 261**	P	Pb	23 23 54.0	-0.7
JRG			S	Sb	23 24 14.7	+0.2
JAH	**Hinai**	**1.65 289**	P	Pb	23 23 54.3	-1.4
JAH			S	Sb	23 24 15.3	-0.8
JTM	**Tenmabayashi**	**1.67 313**	P	Pn	23 23 53.8	+0.7
JTM			S	Sn	23 24 14.8	+1.3

MEX 05 00:06:23.3±0.6, 18°48N×100°22W, h54km±5km, MD4.1, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.24**	**212**	*e*P	Pn	00 06 30.8	-1.7
ARIG				*e*S	Sn	00 06 37.3	-1.6
PLIG	**Platanillo**	**0.68**	**98**	*e*P	Pn	00 06 35.5	-1.7
PLIG				*e*S	Sn	00 06 45.4	-1.9
YAIG	**Yautepec**	**1.15**	**71**	*e*P	Pn	00 06 41.8	-1.6
YAIG				*e*S	Sn	00 06 56.1	-2.2
CAIG	**El Cayaco**	**1.43**	**182**	*e*P	Pn	00 06 45.0	-2.0
CAIG				*i* S	Sn	00 07 02.7	-1.9
TLIG	**Tlapa**	**1.82**	**120**	*e*P	Pn	00 06 51.6	-0.8
TLIG				*e*S	Sn	00 07 12.7	-1.7

JMA 05 00:11:46.4±0.1, 39°62N×142°63E, h32km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.63**	**266**	P	Pb	00 11 58.6	-0.4
MIYJ				S	Sb	00 12 06.9	-0.7
JTH	**Tanohata**	**0.67**	**299**	P	Pn	00 11 59.3	-0.4
JTH				*e*S	Sb	00 12 08.6	-0.2
OFUJ	**Ofunato**	**0.92**	**234**	P	Pn	00 12 03.0	-0.1
OFUJ				S	Sn	00 12 15.0	-0.2
JOM	**Ohasama**	**1.04**	**262**	P	Pn	00 12 05.2	+0.4
JOM				*e*S	Sb	00 12 18.9	-0.5
JKZ	**Kuzumaki**	**1.07**	**290**	P	Pn	00 12 05.4	+0.2
JKZ				S	Sn	00 12 19.3	+0.3
JANG	**Nango**	**1.14**	**312**	P	Pn	00 12 06.1	-0.1
JANG				*e*S	Sb	00 12 21.7	-0.4
JMK	**Ichinoseki**	**1.28**	**239**	P	Pn	00 12 08.5	+0.4
JMK				S	Sn	00 12 24.8	+0.7
JIO	**Ouri**	**1.53**	**221**	P	Pn	00 12 11.9	+0.4
JIO				S	Sn	00 12 30.4	+0.1
JRG	**Rokugo**	**1.56**	**262**	P	Pb	00 12 13.6	-1.1
JRG				S	Sb	00 12 34.6	+0.6
JAH	**Hinai**	**1.64**	**291**	P	Pn	00 12 14.4	+1.5
JTM	**Tenmabayashi**	**1.67**	**315**	P	Pn	00 12 14.4	+1.0
JTM				S	Sn	00 12 34.9	+1.2

*ISCJB **05** 00:25:10.7±0.5, 45°.49N±0°.06×149°.96E±0°.07, h100km, mb4.0/19, Error ellipse: s-maj=10.0km s-min=4.2km az=141.6*
*JMA **05** 00:25:12.6±0.3, 45°.51N×149°.86E, h30km, M4.3*
*IDC **05** 00:25:12.2±4.3, 45°.57N×149°.65E, h100km±39km, mb3.6/13, mb1 3.8/15, mb1mx3.6/42, mbtmp4.0/15, Error ellipse: s-maj=20.6km s-min=17.5km az=98.0*
*MOS **05** 00:25:13.2±1.6, 45°.60N×149°.77E, h122km, mb4.2/9, Error ellipse: s-maj=13.8km s-min=10.8km az=83.0*
*SKHL **05** 00:25:13.1±0.8, 45°.31N×149°.94E, h125km±5km, mb5.0/4, msh5.3/1*

ISC 05 00:25:11.9±0.6, 45°47N±0°.06×150°01E±0°.06, h100km, n77, σ2500/84, mb3.9/19, 7C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.53**	**262**	*d* iPN	**Pn**	**00 25 40.0**	**+1.5**
KUR				*i* S	**Sn**	**00 26 00.6**	**+1.9**
KUR				pmax	pmax		
	comp=N,155nm,0.4s						
KUR				pmax	pmax		
	comp=Z,271nm,0.4s						
KUR				pmax	pmax		
	comp=E,33nm,0.2s						
KUR				smax	smax		
	comp=E,638nm,0.3s						
KUR				smax	smax		
	comp=N,1μm,0.6s						
KUR	**Kuril'sk**	**1.53**	**262**	*i* iP	**Pn**	**00 25 40.0**	**+1.5**
KUR				AMB	AMB	00 25 40.8	
	comp=N,540nm,0.3s						
KUR				*i* S	**Sn**	**00 26 00.8**	**+2.1**
KUR				A	A	00 26 02.0	
	comp=N,5μm,2.0s						
KUR				A	A	00 26 02.0	
	comp=N,9μm,2.0s						
KUR				A	A	00 26 02.3	
	comp=N,1μm,0.5s						
KUR				A	A	00 26 02.3	
	comp=N,2μm,0.5s						
SHO	**Shikotan**	**2.77**	**236**	*e*P	**Pn**	**00 25 55.0**	**+0.4**
SHO				AMB	AMB	00 25 59.4	
	comp=N,130nm,0.7s						
SHO				*e*S	**Sn**	**00 26 25.8**	**-1.7**
SHO				A	A	00 26 26.2	
	comp=N,410nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.29**	**246**	iPN	Pn	00 26 04.1	+2.7
YUK				*i* S	**Sn**	**00 26 42.4**	**+2.8**
YUK				pmax	pmax		
	comp=N,71nm,0.5s						
YUK				pmax	pmax		
	comp=E,57nm,0.5s						
YUK				pmax	pmax		
	comp=Z,92nm,0.5s						
YUK				smax	smax		
	comp=N,166nm,0.3s						
YUK				smax	smax		
	comp=E,118nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.29**	**246**	iP	Pn	00 26 03.5	+2.1
YUK				AMB	AMB	00 26 04.7	
	comp=E,70nm,0.5s						
YUK				AMB	AMB	00 26 04.7	
	comp=E,60nm,0.5s						
YUK				AMB	AMB	00 26 04.7	
	comp=E,90nm,0.5s						
YUK				*e*S	**Sn**	**00 26 41.4**	**+1.8**
YUK				A	A	00 26 43.1	
	comp=E,170nm,0.3s						
YUK				A	A	00 26 43.1	
	comp=E,120nm,0.3s						
NEM2	**Nemuro 2**	**3.71**	**237**	P	**Pn**	**00 26 05.9**	**-1.2**
NEM2				*e*S	**Sn**	**00 26 45.7**	**-4.2**
JRA	**Rausu**	**3.81**	**248**	P	**Pn**	**00 26 10.2**	**+1.8**
JRA				*e*S	**Sn**	**00 26 53.2**	**+1.0**
JNK	**Nakash**	**4.23**	**245**	P	**Pn**	**00 26 15.0**	**+0.9**
JNK				*e*S	**Sn**	**00 27 01.9**	**-0.5**
JAK	**Akkeshi**	**4.55**	**239**	P	**Pn**	**00 26 17.4**	**-1.0**
JAK				*e*S	**Sn**	**00 27 05.9**	**-4.2**
JTKR	**Abashiri--Toko**	**4.60**	**253**	P	**Pn**	**00 26 21.1**	**+2.0**
JMP	**Maruseppu**	**4.96**	**255**	P	**Pn**	**00 26 25.9**	**+1.9**
JAR	**Ashorobuto**	**4.97**	**246**	P	**Pn**	**00 26 25.4**	**+1.2**
JAR				*e*S	**Sn**	**00 27 20.2**	**-0.2**
YSS	**Yuzh-Sakhalins**	**5.25**	**289**	PN	**Pn**	**00 26 27.8**	**-0.1**
YSS				*e*S	**Sn**	**00 27 29.2**	**+2.0**
YSS				smax	smax		
	comp=N,40nm,1.0s						
YSS	**Yuzh-Sakhalins**	**5.25**	**289**	*e*P	**Pn**	**00 26 29.5**	**+1.6**
YSS				AMB	AMB	00 26 33.9	
	comp=N,120nm,0.7s						
YSS				*e*S	**Sn**	**00 27 27.0**	**-0.2**
YSS				A	A	00 27 32.2	
	comp=N,40nm,1.0s						
JKK2	**Kamakawa 2**	**5.42**	**255**	P	**Pn**	**00 26 32.3**	**+2.0**
JCH	**Churui**	**5.58**	**242**	P	**Pn**	**00 26 31.7**	**-0.7**
JCH				*e*S	**Sn**	**00 27 31.1**	**-4.0**
ERM	**Erimo**	**6.04**	**238**	*e* iPN	**Pn**	**00 26 40.5**	**+1.8**
ERM	**Erimo**	**6.04**	**238**	iP	**Pn**	**00 26 40.5**	**+1.8**
JBT2	**Biratori 2**	**6.12**	**247**	*e*S	**Sn**	**00 27 46.6**	**-1.9**
JNBK	**Urakawa-nobuka**	**6.14**	**241**	*e*S	**Sn**	**00 27 43.7**	**-5.0**
UGL	**Uglegorsk**	**6.50**	**307**	*e*P	Pn	00 26 48.2	+3.3
JNB	**Noboribetsu**	**7.13**	**248**	*e*S	**Sn**	**00 28 10.4**	**-2.6**
JKB	**Kayabe**	**7.43**	**244**	P	**Pn**	**00 26 56.8**	**-0.7**
JKB				*e*S	**Sn**	**00 28 14.4**	**-5.7**
JTM	**Tenmabayashi**	**8.04**	**238**	*e*S	Sn	00 28 26.8	-8.3
JANG	**Nango**	**8.05**	**234**	*e*S	Sn	00 28 24.2	-11
PETK	**Petropavlovsk-**	**9.14**	**30**	P	**Pn**	**00 27 21.4**	**+0.6**
	comp=N,0.3nm,0.3s,baz=214,slow=18,SNR=5.2						
KLR	**Kul'dur**	**12.94**	**293**	*e*PN	**Pn**	**00 28 11.3**	**-0.5**
KLR	**Kul'dur**	**12.94**	**293**	*e*P	**Pn**	**00 28 11.3**	**-0.5**
EKMR	**Ekimchan**	**13.47**	**311**	*e*P	**P**	**00 28 23.6**	**-0.8**
EKMR				AMB	AMB	00 28 25.5	
	comp=N,4.0nm,0.5s						
CN2	**Changchun**	**17.55**	**273**	*e*P	**P**	**00 29 09.0**	**-0.6**
SEY	**Seymchan**	**17.55**	**4**	P	**P**	**00 29 08.8**	**-0.8**
	comp=N,1nm,0.3s,baz=166,slow=9.0,SNR=12						
SEY	**Seymchan**	**17.55**	**4**	iP	**P**	**00 29 09.6**	**+0.1**
SEY	**Seymchan**	**17.55**	**4**	*e*P	**P**	**00 29 09.6**	**+0.1**
HHC	**Hu-ho-hao-te**	**28.23**	**274**	*e*P	**P**	**00 30 55.5**	**+0.1**
HHC				PP	**PnPn**	**00 31 49.8**	**+0.8**
HHC				S	**S**	**00 35 30.1**	**-3.9**
HHC				sS	**sS**	**00 36 12.4**	**-0.4**
HHC				SS	**SnSn**	**00 37 00.6**	**-0.7**
HHC	**Hu-ho-hao-te**	**28.23**	**274**	ScS	ScS	00 41 28.4	-2.7
HHC				pmax	pmax		
	comp=Z,22nm,1.2s						
HHC				pmax	pmax		
	comp=Z,110nm,5.3s						
H11N2	**WAKE ISLAND Hy**	**29.22**	**146**	T	T	01 02 02.5	
	baz=335,slow=76,SNR=609						
H11N1	**WAKE ISLAND Hy**	**29.23**	**146**	T	T	01 02 05.0	
	baz=335,slow=76,SNR=485						
H11N3	**WAKE ISLAND Hy**	**29.24**	**146**	T	T	01 02 00.4	
	baz=335,slow=76,SNR=378						
H11S1	**WAKE ISLAND Hy**	**30.25**	**147**	T	T	01 03 15.7	
	baz=336,slow=76,SNR=499						
H11S3	**WAKE ISLAND Hy**	**30.26**	**147**	T	T	01 03 21.9	
	baz=336,slow=76,SNR=406						
H11S2	**WAKE ISLAND Hy**	**30.27**	**147**	T	T	01 03 20.6	
	baz=336,slow=76,SNR=341						
HVS	**Khovu-Aksy**	**37.09**	**300**	iP	**P**	**00 32 14.1**	**+1.7**
HVS				pmax	pmax		
	comp=Z,24nm,0.8s						
HVS	**Khovu-Aksy**	**37.09**	**300**	*e*P	**P**	**00 32 14.1**	**+1.7**
COLA	**College**	**38.47**	**37**	*e*P	P	00 32 27.2	+3.5
COLA				pmax	pmax		
	comp=Z,15nm,1.2s						
COLA	**College**	**38.47**	**37**	*e*P	P	00 32 27.2	+3.5
ILAR	**Eielson Array**	**38.89**	**38**	P	**P**	**00 32 29.2**	**+2.0**
	comp=Z,1.1nm,1.0s,baz=268,slow=6.4,SNR=9.3						
ILAR	**Eielson Array**	**38.89**	**38**	*e*P	**P**	**00 32 29.4**	**+2.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	**38.89**	**38**	*e*P	**P**	**00 32 29.4**	**+2.2**
MKAR	**Makanchi Array**	**45.61**	**297**	P	**P**	**00 33 20.2**	**-1.8**
	comp=Z,1.2nm,0.9s,baz=69,slow=7.0,SNR=9.0						
MKAR	**Makanchi Array**	**45.61**	**297**	P	**P**	**00 33 20.2**	**-1.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KURK	**Kurchatov**	**46.27**	**304**	P	**P**	**00 33 25.6**	**-1.4**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**46.27**	**304**	*e*P	**P**	**00 33 25.6**	**-1.4**
KURBB	**Kurchatov Arra**	**46.36**	**303**	P	**P**	**00 33 25.6**	**-2.1**
	comp=Z,0.5nm,0.6s,baz=73,slow=8.0,SNR=5.9						
RES	**Resolute Bay**	**52.73**	**18**	P	**P**	**00 34 15.5**	**-0.2**
	comp=Z,6.1nm,0.9s,baz=342,slow=6.5,SNR=7.9						
RES	**Resolute Bay**	**52.73**	**18**	P	**P**	**00 34 15.5**	**-0.2**
RES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ARU	**Arti**	**54.49**	**317**	*d* iP	**P**	**00 34 26.7**	**-2.1**
ARU				*PP	**pP**	**00 34 53.5**	**+0.5**
ARU						00 36 27.5	
ARU				S	**S**	**00 41 55.8**	**-3.9**
ARU				SS	**SS**	**00 45 36.8**	**-6.0**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARU	**Arti**	**54.49**	**317**	iP	**P**	**00 34 26.7**	**-2.1**
FINES	**FINESS Array B**	**64.26**	**334**	P	**P**	**00 35 33.8**	**-2.1**
	comp=Z,1.8nm,0.6s,baz=25,slow=7.9,SNR=13						
FINES	**FINESS Array B**	**64.26**	**334**	*e*P	**P**	**00 35 34.1**	**-1.8**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**64.26**	**334**	*e*P	**P**	**00 35 34.1**	**-1.8**
GEYT	**Alibeck**	**65.39**	**300**	P	**P**	**00 35 43.7**	**0.0**
	comp=Z,2.2nm,0.6s,baz=305,slow=5.2,SNR=6.0						
WRA	**Warramunga Arr**	**66.64**	**196**	P	**P**	**00 35 51.7**	**0.0**
	comp=Z,0.9nm,0.8s,baz=15,slow=6.9,SNR=12						
WRA	**Warramunga Arr**	**66.64**	**196**	P	**P**	**00 35 51.7**	**0.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PDAR	**Pinedale Array**	**67.24**	**52**	PcP	**PcP**	**00 36 24.4**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=338,slow=3.5,SNR=3.9						
NOA	**NORSAR Array B**	**68.72**	**340**	P	**P**	**00 36 02.7**	**-1.7**
	comp=Z,1.6nm,0.9s,baz=26,slow=6.5,SNR=4.0						
NOA	**NORSAR Array B**	**68.72**	**340**	P	**P**	**00 36 02.7**	**-1.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KIV	**Kislovodsk**	**70.12**	**313**	*e*P	**P**	**00 36 14.3**	**+0.9**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KIV	**Kislovodsk**	**70.12**	**313**	*e*P	**P**	**00 36 14.3**	**+0.9**
KBZ	**Khabaz**	**70.17**	**313**	P	**P**	**00 36 12.2**	**-1.3**
	comp=Z,2.6nm,0.9s,baz=80,slow=7.1,SNR=4.5						
KBZ	**Khabaz**	**70.17**	**313**	P	**P**	**00 36 12.2**	**-1.3**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ASAR	**Alice Springs**	**70.35**	**196**	P	**P**	**00 36 15.6**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=12,slow=6.2,SNR=8.3						
ASAR	**Alice Springs**	**70.35**	**196**	P	**P**	**00 36 15.6**	**+0.9**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GNI	**Garni**	**71.68**	**309**	P	**P**	**00 36 24.7**	**+1.7**
GNI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
BRTR	**Keskin Array B**	**77.81**	**315**	P	**P**	**00 36 57.9**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=78,slow=4.1,SNR=8.4						
BRTR	**Keskin Array B**	**77.81**	**315**	*e*P	**P**	**00 36 58.5**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GERES	**GERESS Array B**	**78.62**	**332**	P	**P**	**00 37 01.8**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=35,slow=5.8,SNR=6.8						
TXAR	**Lajitas Array**	**80.00**	**58**	P	**P**	**00 37 11.3**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=305,slow=6.4,SNR=2.7						

IDC 05 00:31:58.7±6.9, 20°.10S×169°.25E, h45km±55km, mb3.9/4, mb1 4.1/5, mb1mx3.7/19, mbtmp4.1/5, ML3.5/1, Error ellipse: s-maj=86.3km s-min=48.7km az=141.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**2.00**	**250**	*e*P	Pn	00 32 27.2	-2.8
LIFNC				*e*S	Sn	00 32 50.6	-3.4
BAYA	**Yate Dam**	**3.01**	**227**	*e*S	Sn	00 33 19.1	+0.3
DZM	**Mont Dzumac**	**3.27**	**233**	P	Pn	00 32 47.2	-0.4
	4.9nm,0.3s,baz=90,slow=24,SNR=35						
DZM				S	Sn	00 33 25.8	+0.3
	12nm,0.3s,baz=165,slow=20,SNR=5.4						
CTA	**Charters Tower**	**21.60**	**266**	P	P	00 36 46.7	+1.8
	5.6nm,0.8s,baz=87,slow=9.5,SNR=6.2						
STKA	**Stephens Creek**	**27.41**	**239**	P	P	00 37 40.1	0.0
	2.0nm,0.6s,baz=72,slow=8.5,SNR=9.4						
WRA	**Warramunga Arr**	**32.77**	**264**	P	P	00 38 26.4	-1.3
	0.7nm,0.5s,baz=91,slow=8.3,SNR=8.9						
ASAR	**Alice Springs**	**32.94**	**257**	P	P	00 38 29.1	-0.2
	5.3nm,0.6s,baz=87,slow=9.0,SNR=77						
GERES	**GERESS Array B**	**145.25**	**331**	PKPbc	PKPbc	00 51 30.6	-0.6
	0.8nm,0.6s,baz=35,slow=4.9,SNR=8.5						

*NIED **05** 00:53:00, 43°.80N×147°.20E, h68km, Mw4.3 Best double couple: M₀2.96000×10¹⁵ NP1:φ₀142.00000°, δ42.00000°, λ88.00000°. NP2:φ₀324.00000°, δ48.00000°, λ91.00000°.*
*BJI **05** 00:53:07.2, 43°.89N×148°.01E, h55km, mb4.7/6, mB5.2/5*
*ISCJB **05** 00:53:11.8±0.5, 43°.98N±0°.04×147°.37E±0°.05, h56km±3km, mb4.4/46, MS4.1/2, Error ellipse: s-maj=7.8km s-min=4.5km az=45.0*
*MOS **05** 00:53:11.5±0.9, 44°.03N×147°.30E, h53km, mb4.7/18, Error ellipse: s-maj=9.7km s-min=6.7km az=80.1*
MOS Felt (II-III) at Malokuril'skoye.
*IDC **05** 00:53:12.9±0.6, 44°.07N×147°.27E, h50km±6km, mb4.0/21, mb1 4.2/24, mb1mx4.2/27, mbtmp4.3/24, Error ellipse: s-maj=14.6km s-min=11.3km az=128.0*
*SKHL **05** 00:53:13.5±0.5, 44°.03N×147°.16E, h63km±5km, mb5.2/7*
SKHL Felt (II-III) at Malokurilskoe.

*NEIC **05** 00:53:13.4±0.6, 44°.04N×147°.35E, h55km±6km, mb4.3/10, Error ellipse: s-maj=8.6km s-min=5.0km az=138.0*
NEIC Felt [III] at Shakotan. Recorded [1 JMA] in eastern Hokkaido.
*JMA **05** 00:53:14.4±0.3, 43°.82N×147°.18E, h30km, M4.9*
JMA Felt I J1.

ISC 05 00:53:13.0±0.6, 43°99N±0°.05×147°38E±0°.05, h52km±4km, h51km:pP-P, n184, σ0°98/195, mb4.3/46, 31C-16D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.41**	**254**	*e*P	**Pn**	**00 53 23.0**	**-0.4**
SHO				AMB	AMB	00 53 27.7	
	520nm,0.3s						
SHO				*e*S	**Sn**	**00 53 30.0**	**-0.8**
SHO				A	A	00 53 30.2	
	7μm,0.8s						
YUK	**Yuzh-Kuril'sk**	**1.09**	**273**	*i* PN	**Pn**	**00 53 31.9**	**-0.1**
YUK				*i* S	**Sn**	**00 53 45.5**	**-0.6**
YUK				pmax	pmax		
	comp=N,327nm,0.2s						
YUK				pmax	pmax		
	comp=Z,1μm,0.2s						
YUK				pmax	pmax		
	comp=E,209nm,0.1s						
YUK				smax	smax		
	comp=N,6.0nm,0.4s						
YUK				smax	smax		
	comp=E,4.0nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.09**	**273**	*i* P	**Pn**	**00 53 31.5**	**-0.5**
YUK				AMB	AMB	00 53 33.5	
	comp=E,330nm,0.2s						
YUK				AMB	AMB	00 53 33.5	
	comp=E,210nm,0.2s						
YUK				AMB	AMB	00 53 33.5	
	comp=E,1μm,0.2s						
YUK				*i* S	**Sn**	**00 53 45.5**	**-0.6**
YUK				A	A	00 53 47.9	
	comp=E,6μm,0.4s						
YUK				A	A	00 53 47.9	
	comp=E,4μm,0.4s						
YUK				A	A	00 53 47.9	
	comp=E,6μm,0.4s						
KUR	**Kuril'sk**	**1.29**	**16**	*c* iPN	**Pn**	**00 53 34.4**	**-0.3**
KUR				*i* S	**Sn**	**00 53 49.6**	**-1.4**
KUR				pmax	pmax		
	comp=N,68nm,0.2s						
KUR				pmax	pmax		
	comp=E,105nm,0.2s						
KUR				pmax	pmax		
	comp=Z,240nm,0.4s						
KUR				smax	smax		
	comp=N,2μm,0.4s						
KUR				smax	smax		
	comp=E,4μm,0.4s						
KUR	**Kuril'sk**	**1.29**	**16**	*e*P	**Pn**	**00 53 34.4**	**-0.3**
KUR				AMB	AMB	00 53 35.6	
	comp=E,1μm,0.3s						
KUR				*i* S	**Sn**	**00 53 49.8**	**-1.2**
KUR				A	A	00 53 50.2	
	comp=E,6μm,2.0s						
KUR				A	A	00 53 50.2	
	comp=E,8μm,2.0s						
KUR				A	A	00 53 53.2	
	comp=E,2μm,0.5s						
KUR				A	A	00 53 53.2	
	comp=E,8μm,0.5s						
NEM2	**Nemuro 2**	**1.34**	**243**	P	**Pn**	**00 53 34.7**	**-0.6**
NEM2				*e*S	**Sn**	**00 53 49.5**	**-2.5**
JRA	**Rausu**	**1.63**	**269**	P	**Pn**	**00 53 39.8**	**+0.5**
JNK	**Nakash**	**1.96**	**259**	P	**Pn**	**00 53 44.2**	**+0.3**
JAK	**Akkeshi**	**2.19**	**244**	P	**Pn**	**00 53 46.5**	**-0.4**
JAK				*e*S	**Sn**	**00 54 10.8**	**-1.9**
JTKR	**Abashiri--Toko**	**2.50**	**271**	P	**Pn**	**00 53 52.3**	**+1.1**
JAR	**Ashorobuto**	**2.71**	**256**	P	**Pn**	**00 53 55.1**	**+1.1**
JOB	**Onbets**	**2.80**	**248**	P	**Pn**	**00 53 55.7**	**+0.5**
JOB				*e*S	**Sn**	**00 54 26.5**	**-1.2**
JMP	**Maruseppu**	**2.90**	**272**	P	**Pn**	**00 53 58.1**	**+1.4**
JCH	**Churui**	**3.23**	**246**	P	**Pn**	**00 54 00.9**	**-0.4**
JKK2	**Kamakawa 2**	**3.34**	**270**	P	**Pn**	**00 54 04.5**	**+1.7**
ASAJ	**Asahikawa**	**3.45**	**274**	*e*Pn	**Pn**	**00 54 05.6**	**+1.4**
JFR	**Furan**	**3.57**	**258**	P	**Pn**	**00 54 07.8**	**+1.9**
ERM	**Erimo**	**3.67**	**239**	*d* iPN	**Pn**	**00 54 09.2**	**+2.0**
ERM	**Erimo**	**3.67**	**239**	iP	**Pn**	**00 54 09.2**	**+2.0**
ERM	**Erimo**	**3.67**	**239**	*e*Pn	**Pn**	**00 54 09.1**	**+1.9**
ERM				*e*Sn	**Sn**	**00 54 49.8**	**+0.6**
JEM	**Erimo**	**3.67**	**239**	P	**Pn**	**00 54 08.6**	**+1.4**
JNBK	**Urakawa-nobuka**	**3.79**	**245**	P	**Pn**	**00 54 08.6**	**-0.3**
YSS	**Yuzh-Sakhalins**	**4.40**	**314**	PN	**Pn**	**00 54 20.0**	**+2.8**
YSS				*e*S	**Sn**	**00 55 03.1**	**-4.0**
YSS				smax	smax		
	comp=N,50nm,0.8s						
YSS				smax	smax		
	comp=E,110nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.40**	**314**	*e*P	**Pn**	**00 54 18.0**	**+0.8**
YSS				AMB	AMB	00 54 21.2	
	comp=E,1μm,0.3s						
YSS				*e*S	**Sn**	**00 55 05.2**	**-1.9**
YSS				A	A	00 55 08.8	
	comp=E,830nm,0.7s						
YSS	**Yuzh-Sakhalins**	**4.40**	**314**	*e*Pn	**Pn**	**00 54 18.3**	**+1.1**
UGL	**Uglegorsk**	**6.27**	**326**	*e*PN	Pn	00 54 57.2	+14
UGL				*e*S	**Sn**	**00 55 53.3**	**+0.2**
UGL	**Uglegorsk**	**6.27**	**326**	*e*P	**Pn**	**00 54 44.0**	**+1.2**
UGL				*e*S	**Sn**	**00 55 52.2**	**-0.9**
TYV	**Tymovskoe**	**7.59**	**337**	AMS	AMS	01 19 39.0	
	comp=E,1μm,18.0s						
TEY	**Ternei**	**7.77**	**281**	*e*P	Pn	00 55 08.2	+4.8
TEY				AMB	AMB	00 55 08.8	
	comp=E,20nm,0.8s						
TEY				AMB	AMB	00 55 08.8	
	comp=E,30nm,0.8s						
SKR	**Severo-Kuril's**	**8.95**	**38**	*e*PN	Pn	00 55 08.9	-11
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR	**Severo-Kuril's**	**8.95**	**38**	*e*P	Pn	00 55 09.4	-10
SKR				AMB	AMB	00 55 12.6	
	comp=Z,40nm,0.5s						
HABR	**Khabarovsk**	**9.64**	**302**	*e*PN	Pn	00 55 44.0	+15
HABR				MLR	MLR		
	comp=Z,261nm,17.0s						
HABR	**Khabarovsk**	**9.64**	**302**	*e*P	Pn	00 55 44.0	+15
HABR				AMS	AMS	01 00 03.6	
	comp=Z,300nm,17.0s						
NKL	**Nikolayevsk**	**10.18**	**337**	*e*P	**Pn**	**00 55 39.0**	**+2.7**
MAJO	**Matsushiro**	**10.21**	**226**

comp=Z,0.7nm,0.5s,baz=86,slow=10,SNR=4.8
H11N2 WAKE ISLAND Hy 29.17 140 T T 01 29 56.7
baz=330,slow=76,SNR=2223
H11N1 WAKE ISLAND Hy 29.19 140 T T 01 29 59.9
baz=330,slow=76,SNR=1862
H11N3 WAKE ISLAND Hy 29.19 140 T T 01 29 58.8
baz=330,slow=76,SNR=1955
H11S1 WAKE ISLAND Hy 30.15 141 T T 01 31 08.1
baz=332,slow=76,SNR=2209
H11S3 WAKE ISLAND Hy 30.15 141 T T 01 31 09.6
baz=332,slow=76,SNR=1449
H11S2 WAKE ISLAND Hy 30.17 141 T T 01 31 07.7
baz=332,slow=76,SNR=1101
KDAK Kodiak Island 38.97 48 *i* P **P 01 00 33.4 -0.3**
BPAW Bear Paw Mtn. 39.44 37 *eP* **P 01 00 37.3 -0.3**
comp=Z,0.4nm,0.6s
SML Sawmill 40.73 41 *eP* **P 01 00 48.2 -0.2**
SML pmax pmax
comp=Z,2.0nm,0.7s
SML Sawmill 40.73 41 *eP* **P 01 00 48.2 -0.2**
SML Sawmill 40.73 41 *eP* **P 01 00 48.2 -0.2**
comp=Z,2.0nm,0.7s
COLA College 40.78 36 P **P 01 00 49.7 +1.0**
COLA pmax pmax
comp=Z,12nm,0.7s
COLA College 40.78 36 *eP* **P 01 00 49.7 +1.0**
ZALV Zalesovo Beam 40.99 307 P **P 01 00 50.6 +0.1**
comp=Z,0.3nm,0.4s,baz=88,slow=10,SNR=2.9
ZALV PcP **PcP 01 02 49.9 +0.2**
comp=Z,3.3nm,0.4s,baz=91,slow=2.2,SNR=18
ILAR Eielson Array 41.20 36 P **P 01 00 52.0 -0.1**
comp=Z,0.9nm,0.5s,baz=272,slow=8.6,SNR=26
ILAR PcP **PcP 01 02 49.0 -1.3**
comp=Z,0.7nm,0.7s,baz=284,slow=3.5,SNR=4.1
MKAR Makanchi Array 44.62 297 P **P 01 01 19.8 -0.3**
comp=Z,1.1nm,0.6s,baz=79,slow=8.7,SNR=11
MKAR PcP **PcP 01 03 02.2 +0.1**
comp=Z,0.8nm,0.5s,baz=64,slow=4.1,SNR=5.9
HYT Haines Junctio 46.04 41 *eP* **P 01 01 32.7 +1.4**
comp=Z,16nm,0.9s
CMAR Chiang Mai Arr 47.75 254 P **P 01 01 45.5 +0.6**
comp=Z,1.0nm,0.3s,baz=48,slow=6.9,SNR=6.0
CMAR Chiang Mai Arr 47.75 254 *ceP* **P 01 01 46.2 +1.3**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 47.75 254⇑ *eP* **P 01 01 46.2 +1.3**
BRVK Borovoye 49.53 309 P **P 01 01 58.8 +0.6**
BRVK pmax pmax
comp=Z,3.0nm,1.6s
BRVK Borovoye 49.53 309 *eP* **P 01 01 58.8 +0.6**
YKA Yellowknife Ar 55.51 34 P **P 01 02 42.4 +0.1**
comp=Z,2.3nm,0.7s,baz=300,slow=7.0,SNR=5.1
YKA PcP **PcP 01 03 41.9 +0.2**
comp=Z,0.9nm,0.5s,baz=304,slow=4.1,SNR=4.0
PRGR Permogore 57.46 326 P **P 01 02 55.4 -0.7**
PRGR pmax pmax
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 59.08 340 P **P 01 03 06.4 -1.0**
comp=Z,1.3nm,0.7s,baz=45,slow=7.7,SNR=7.4
GEYT Alibeck 64.47 299 P **P 01 03 44.3 +0.1**
comp=Z,1.4nm,0.5s,baz=64,slow=3.4,SNR=3.7
WRAB Tennant Creek 64.72 194⇑ *eP* **P 01 03 45.9 +0.2**
WRAB pmax pmax
comp=Z,13nm,1.2s
WRA Warramunga Arr 64.73 194 P **P 01 03 45.8 0.0**
comp=Z,4.2nm,0.7s,baz=9.6,slow=6.7,SNR=24
WRA pP **pP 01 04 00.1 -0.1**
comp=Z,3.3nm,0.8s,baz=15,slow=6.9,SNR=9.0
WRA Warramunga Arr 64.73 194 *i* P **P 01 03 46.2 +0.4**
WRA pmax pmax
comp=Z,4.0nm,0.7s
FINES FINESS Array B 64.74 333 P **P 01 03 43.8 -1.7**
comp=Z,3.7nm,0.6s,baz=41,slow=5.4,SNR=21
FINES FINESS Array B 64.74 333 *i* P **P 01 03 43.7 -1.7**
FINES pmax pmax
comp=Z,4.0nm,0.6s
OBN Obninsk 65.22 324 P **P 01 03 48.6 0.0**
OBN pmax pmax
comp=Z,8.0nm,1.3s
OBN MLR MLR
comp=Z,133nm,25.0s
OBN Obninsk 65.22 324 *eP* **P 01 03 48.6 0.0**
FFC Flin Flon 65.41 37 *i* P **P 01 03 50.9 +1.0**
FFC Flin Flon 65.41 37 *i* P **P 01 03 50.9 +1.0**
LRM Limekiln Ridge 66.07 49 *eP* **P 01 03 55.3 +0.7**
comp=Z,59nm,1.0s
VSR Storozhevoye 66.66 319 *eP* **P 01 03 57.4 -0.6**
VSR pmax pmax
comp=N,4.0nm,0.8s
VSR pmax pmax
comp=Z,7.0nm,0.8s
VSR pmax pmax
comp=E,2.0nm,0.7s
NVAR Mina Array Bea 67.31 58 P **P 01 04 03.2 +0.6**
comp=E,3.3nm,0.8s,baz=292,slow=7.2,SNR=23
NVAR pP **pP 01 04 17.4 +0.2**
comp=E,0.9nm,0.7s,baz=297,slow=6.8,SNR=4.0
ASAR Alice Springs 68.45 193 P **P 01 04 10.1 +0.6**
comp=E,2.1nm,0.7s,baz=9.3,slow=5.4,SNR=16
ASAR pP **pP 01 04 23.9 -0.2**
comp=E,1.4nm,0.8s,baz=12,slow=6.4,SNR=5.4
NB2 NORSAR Subarra 69.44 339 P **P 01 04 13.9 -1.4**
comp=Z,1.0nm,0.4s,baz=31,slow=6.5
NOA NORSAR Array B 69.44 339 P **P 01 04 14.1 -1.2**
comp=Z,1.0nm,0.4s,baz=30,slow=6.6,SNR=15
DUG Dugway 69.47 54 *eP* **P 01 04 16.4 +0.4**
DUG pmax pmax
comp=Z,3.0nm,1.3s
DUG Dugway 69.47 54 *eP* **P 01 04 17.3 +1.3**
DUG Dugway 69.47 54 *eP* **P 01 04 16.4 +0.4**
comp=Z,3.5nm,1.3s
PDAR Pinedale Array 69.63 50 P **P 01 04 17.2 +0.1**
comp=Z,2.0nm,0.7s,baz=325,slow=1.7,SNR=20
KIV Kislovodsk 69.73 312 *eP* **P 01 04 18.1 +0.7**
KIV pmax pmax
comp=Z,16nm,0.9s
KIV MLR MLR
comp=Z,93nm,17.0s
KIV Kislovodsk 69.73 312 *eP* **P 01 04 18.1 +0.7**
KIV Kislovodsk 69.73 312 *eP* **P 01 04 18.2 +0.8**
comp=Z,11nm,0.7s
KBZ Khabaz 69.76 312 P **P 01 04 17.7 +0.2**
comp=Z,6.0nm,0.7s,baz=70,slow=4.4,SNR=19
AKASG Malin Array Be 71.48 324 P **P 01 04 27.0 -0.9**
comp=Z,1.9nm,0.5s,baz=38,slow=6.3,SNR=12
AKASG Malin Array Be 71.48 324 *ceP* **P 01 04 27.2 -0.7**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
KIEV Kiev 71.50 324⇓ *eP* **P 01 04 27.4 -0.5**
RSSD Black Hills 71.67 46 *eP* **P 01 04 28.8 -0.6**
RSSD pmax pmax
comp=Z,2.0nm,0.6s
RSSD Black Hills 71.67 46 *eP* **P 01 04 28.8 -0.6**
comp=Z,1.7nm,0.6s
O20A White River Ci 72.13 51 *eP* **P 01 04 32.0 -0.2**
comp=Z,2.5nm,0.8s
KWP Kalwaria Pacla 75.00 326 *eP* **P 01 04 48.7 +0.1**
KWP Kalwaria Pacla 75.00 326 *eP* **P 01 04 48.7 +0.1**
BURAR Bucovina Array 75.54 324 ⇓ *iP* **P 01 04 51.6 -0.3**
OJC Ojcow 75.66 328 *eP* **P 01 04 52.3 -0.1**
OJC Ojcow 75.66 328 *eP* **P 01 04 52.3 -0.1**
OJC Ojcow 75.66 328 *eP* **P 01 04 52.3 -0.1**
STKA Stephens Creek 75.68 185 P **P 01 04 53.0 +0.5**
comp=Z,1.1nm,0.5s,baz=324,slow=7.5,SNR=3.9
STKA Stephens Creek 75.68 185 P **P 01 04 53.0 +0.5**
KOLS Kolonicke sedl 75.73 326 *eP* **P 01 04 52.7 -0.1**
KOLS pmax pmax
comp=Z,3.0nm,0.8s
KOLS Kolonicke sedl 75.73 326 *eP* **P 01 04 52.7 -0.1**
STHS Stebnicka Huta 75.75 327 *eP* **P 01 04 53.6 +0.6**
STHS pmax pmax
comp=Z,3.0nm,0.7s
STHS Stebnicka Huta 75.75 327 *eP* **P 01 04 53.6 +0.6**
TESR Tescani 75.77 322⇑ *iP* **P 01 04 52.9 -0.2**
MALT Malatya 75.94 310⇑ *iP* **P 01 04 55.7 +1.3**
NIE Niedzica 76.11 328 *eP* **P 01 04 55.3 +0.3**
NIE Niedzica 76.11 328 *eP* **P 01 04 55.3 +0.3**
CFR Carcaliu 76.12 321⇑ *iP* **P 01 04 54.5 -0.6**
ARCR ARCALIA 76.32 324⇑ *iP* **P 01 04 55.3 -0.9**
KSP Ksiaz 76.44 331 *eP* **P 01 04 56.8 0.0**
KSP Ksiaz 76.44 331 *eP* **P 01 04 56.9 +0.1**
TIRR Tirgusor 76.54 320⇓ *iP* **P 01 04 57.6 +0.1**
ANMO Albuquerque 76.73 54⇑ *iP* **P 01 04 59.5 +0.5**
ANMO pmax pmax
comp=Z,2.0nm,0.8s
DPC Dobruska-Polom 76.84 330⇑ *iP* **P 01 04 59.4 +0.3**
DPC Dobruska-Polom 76.84 330⇑ *iP* **P 01 04 59.4 +0.3**
MORC Moravsky Berou 76.87 329⇓ *iP* **P 01 04 59.1 -0.2**
MLR Muntele Rosu 76.87 322⇓ *iP* **P 01 04 59.6 +0.1**
MSAB Monastry St. A 77.09 320⇑ *iP* **P 01 05 01.3 +0.7**
CLL Collm 77.18 333⇑ *iP* **P 01 05 00.1 -0.9**
CLL pmax pmax
comp=Z,8.0nm,0.6s
CLL Collm 77.18 333⇑ *iP* **P 01 05 00.1 -0.9**
CLL Collm 77.18 333⇑ *iP* **P 01 05 00.1 -0.9**
comp=Z,8.0nm,0.6s
CLL *i* PcP **PcP 01 05 12.6 +1.0**
DRGR 77.25 325⇑ *iP* **P 01 05 01.3 -0.2**
VOIR 77.31 322⇓ *iP* **P 01 05 02.6 +0.7**
SCHQ Schefferville 77.34 19 P **P 01 05 01.6 -0.2**
comp=Z,3.7nm,0.8s,baz=2.2,slow=6.5,SNR=5.1
BRTR Keskin Array B 77.50 314 P **P 01 05 02.4 -0.8**
comp=Z,2.0nm,0.8s,baz=73,slow=3.8,SNR=15
BRTR Keskin Array B 77.50 314 *ceP* **P 01 05 03.2 0.0**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
VRAC Vranov 77.61 330⇓ *iP* **P 01 05 03.8 +0.4**
GOPC GO Pecny, Ondr 77.75 331⇑ *eP* **P 01 05 04.4 +0.2**
PRU Pruhonice 77.77 331⇑ *eP* **P 01 05 04.3 0.0**
PRU Pruhonice 77.77 331 *eP* **P 01 05 04.3 0.0**
PRU Pruhonice 77.77 331 *eP* **P 01 05 04.3 0.0**
TREC Trest 78.02 330⇑ *eP* **P 01 05 05.9 +0.2**
TREC Trest 78.02 330 *eP* **P 01 05 05.9 +0.2**
BZS Buzias 78.64 324⇓ *iP* **P 01 05 08.8 -0.4**
KHC Kasperske Hory 78.83 331⇑ *iP* **P 01 05 10.2 0.0**
KHC Kasperske Hory 78.83 331⇑ *iP* **P 01 05 10.2 0.0**
KHC Kasperske Hory 78.83 331 *eP* **P 01 05 10.2 0.0**
KHC Kasperske Hory 78.83 331 *eP* **P 01 05 09.8 -0.4**
comp=Z,2.0nm,0.6s
JMB Yambol 78.92 320⇑ *iP* **P 01 05 11.5 +0.7**
CONA Conrad Observa 79.02 329⇑ *iP* **P 01 05 11.8 +0.4**
comp=Z,4.1nm,0.7s
GERES GERESS Array B 79.03 331 P **P 01 05 11.0 -0.4**
comp=Z,1.5nm,0.4s,baz=39,slow=6.1,SNR=17
GERES GERESS Array B 79.03 331 P **P 01 05 11.0 -0.4**
GERES GERESS Array B 79.03 331 *eP* **P 01 05 11.0 -0.4**
GRFO Grafenberg 79.15 333 *eP* **P 01 05 12.0 +0.1**
GRFO pmax pmax
comp=Z,6.0nm,1.0s
GRFO Grafenberg 79.15 333 *eP* **P 01 05 12.0 +0.1**
comp=Z,6.0nm,1.0s
KDZ Kurdzhali 80.10 320⇑ *iP* **P 01 05 17.1 -0.2**
VTS Vitosha 80.37 322⇓ *iP* **P 01 05 18.9 +0.1**
SOKA Soboth 80.38 329⇑ *iP* **P 01 05 18.4 -0.3**
comp=Z,4.8nm,0.7s,SNR=10
GROS Grobnik 80.39 329 *i* P **P 01 05 18.3 -0.5**
ISP Isparta 80.54 314⇑ *iP* **P 01 05 19.8 0.0**
DIVS Divibare 80.55 325⇑ *iP* **P 01 05 19.0 -0.7**
LEGS Legarje 80.89 328 *i* P **P 01 05 20.7 -0.7**
MMB Musomiste 80.93 321⇓ *iP* **P 01 05 22.0 +0.3**
WATA Walderalm 81.06 331⇓ *iP* **P 01 05 22.3 -0.2**
comp=Z,4.4nm,0.4s,SNR=10.0
WTTA Wattenberg 81.10 331⇑ *iP* **P 01 05 22.7 0.0**
comp=Z,6.1nm,0.4s
VISS Visnje 81.19 329 *i* P **P 01 05 22.1 -0.9**
MOTA Moosalm 81.22 332⇑ *iP* **P 01 05 23.0 -0.3**
comp=Z,3.8nm,0.5s
TXAR Lajitas Array 82.38 56 P **P 01 05 30.2 +0.5**
comp=Z,4.3nm,0.7s,baz=302,slow=4.1,SNR=55
TXAR pP **pP 01 05 44.9 +0.3**
comp=Z,0.6nm,0.5s,baz=301,slow=3.8,SNR=3.5
SIUC Southern Illin 83.89 42 *eP* **P 01 05 36.6 -0.6**
comp=Z,18nm,0.9s
TORD Torodi Ar. Bea 115.11 323 PKP **PKPdf 01 11 47.7 -1.1**
comp=Z,0.5nm,0.5s,baz=17,slow=1.7,SNR=12
VNDA Vanda 121.56 176 PKP **PKPdf 01 11 59.4 +0.1**
comp=Z,0.9nm,0.8s,baz=320,slow=3.3,SNR=4.2
SNAA Sanae 148.73 198 P PKPpre 01 12 39.0
BDFB Brasilia 148.86 30 PKPbc **PKPbc 01 12 55.4 +0.1**
comp=Z,4.5nm,0.7s,baz=92,slow=1.3,SNR=6.6
VNA1 Neumayer--Stat 150.65 196 P **PKPbc 01 12 58.8 +1.0**

*ISCJB **05** 01:05:43.3±1.4, 36°.61N±0°.09×2°.33W±0°.07, h24km±8km, Error ellipse: s-maj=15.6km s-min=7.4km az=157.6*
*MDD **05** 01:05:43.9±1.0, 36°.65N×2°.35W, h9km±5km, mb3.5/1, mbLg1.6/10, Error ellipse: s-maj=8.5km s-min=3.7km az=164.0, PRXIMO*
*CSEM **05** 01:05:43.9, 36°.65N×2°.35W, h9km, ML1.6*
ISC 05 01:05:41.2±2.1, 36°.50N±0°.10×2°.30W±0°.05, h18km±9km, n32, σ1°25/40, 1C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
ENIJ	**Nijar**	**0.48**	**9**	⇑Pg	**Pg**	**01 05 50.3**	**-0.6**
	18nm,0.2s,SNR=18						
ENIJ				Lg	Lg	01 05 54.8	
	51nm,0.1s,SNR=7.9						
ENIJ	**Nijar**	**0.48**	**9**	Pg	**Pg**	**01 05 50.3**	**-0.6**
	18nm,0.2s,SNR=18						
ENIJ				Lg	Lg	01 05 54.8	
	51nm,0.1s,SNR=7.9						
EBER	**Berja**	**0.62**	**310**	⇓Pg	**Pg**	**01 05 53.1**	**-0.5**
	13nm,0.4s,SNR=18						
EBER				Lg	Lg	01 05 59.8	
	26nm,0.3s,SNR=29						
EBER	**Berja**	**0.62**	**310**	Pg	**Pg**	**01 05 53.1**	**-0.5**
	13nm,0.4s,SNR=18						
EBER				Lg	Lg	01 05 59.8	
	26nm,0.3s,SNR=29						
GORA	**Gorafe**	**1.15**	**329**	Pg	**Pb**	**01 06 03.8**	**+1.2**
	0.4nm,0.1s,SNR=7.9						
GORA				Lg	Lg	01 06 15.5	
	7.7nm,0.2s,SNR=7.9						
GORA	**Gorafe**	**1.15**	**329**	Pg	**Pb**	**01 06 03.8**	**+1.2**
	0.4nm,0.1s,SNR=7.9						
GORA				Lg	Lg	01 06 15.5	
	7.7nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**1.16**	**308**	Pg	**Pg**	**01 06 03.0**	**-0.6**
	1.1nm,0.1s,SNR=9.5						
EQUE				Lg	Lg	01 06 14.9	
	2.0nm,0.1s						
EQUE	**Quentar**	**1.16**	**308**	Pg	**Pg**	**01 06 03.0**	**-0.6**
	1.1nm,0.1s,SNR=9.5						
EQUE				Lg	Lg	01 06 14.9	
	2.0nm,0.1s						
ECOG	**Cogollos-Vega**	**1.28**	**308**	Pg	**Pb**	**01 06 05.2**	**+0.4**
	0.4nm,0.2s,SNR=7.9						
ECOG				Lg	Lg	01 06 20.5	
	1.3nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.28**	**308**	Pg	**Pb**	**01 06 05.2**	**+0.4**
	0.4nm,0.2s,SNR=7.9						
ECOG				Lg	Lg	01 06 20.5	
	1.3nm,0.2s,SNR=7.9						
SELV	**Sierra Elvira**	**1.36**	**303**	Pg	**Pn**	**01 06 07.3**	**+1.9**
	0.3nm,0.1s,SNR=7.9						
SELV				Lg	Lg	01 06 23.7	
	0.5nm,0.1s,SNR=7.9						
SELV	**Sierra Elvira**	**1.36**	**303**	Pg	**Pn**	**01 06 07.3**	**+1.9**
	0.3nm,0.1s,SNR=7.9						
SELV				Lg	Lg	01 06 23.7	
	0.5nm,0.1s,SNR=7.9						
EQES	**Quesada**	**1.44**	**335**	Pg	**Pb**	**01 06 08.5**	**+0.9**
	0.2nm,0.2s,SNR=15						
EQES				Lg	Lg	01 06 25.4	
	2.7nm,0.5s,SNR=4.0						
EQES	**Quesada**	**1.44**	**335**	Pg	**Pb**	**01 06 08.5**	**+0.9**
	0.2nm,0.2s,SNR=15						
EQES				Lg	Lg	01 06 25.4	
	2.7nm,0.5s,SNR=4.0						
EMUR	**La Murta**	**1.59**	**32**	Pn	**Pn**	**01 06 09.4**	**+0.9**
	4.9nm,0.8s,SNR=5.4						
EMUR				Sn	**Sn**	**01 06 27.3**	**-1.3**
	17nm,1.0s						
EMUR	**La Murta**	**1.59**	**32**	Pn	**Pn**	**01 06 09.4**	**+0.9**
	4.9nm,0.8s,SNR=5.4						
EMUR				Sn	**Sn**	**01 06 27.3**	**-1.3**
	17nm,1.0s						
SESP	**Santiago Espad**	**1.63**	**353**	Pg	**Pn**	**01 06 11.0**	**+1.8**
	0.9nm,0.2s,SNR=7.9						
SESP				Lg	Lg	01 06 30.8	
	3.3nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**1.63**	**353**	Pg	**Pn**	**01 06 11.0**	**+1.8**
	0.9nm,0.2s,SNR=7.9						
SESP				Lg	Lg	01 06 30.8	
	3.3nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.99**	**273**	Pn	**Pn**	**01 06 14.8**	**+0.8**
	0.2nm,0.1s,SNR=7.9						
EMIJ				Sn	Sn	01 06 35.8	-2.8
	0.8nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.99**	**273**	Pn	**Pn**	**01 06 14.8**	**+0.8**
	0.2nm,0.1s,SNR=7.9						
EMIJ				Sn	Sn	01 06 35.8	-2.8
	0.8nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**2.15**	**356**	Pn	**Pn**	**01 06 17.2**	**+1.0**
	0.5nm,0.2s,SNR=7.9						
EVIA				Pg	**Pg**	**01 06 21.5**	**-0.9**
	30nm,0.7s,SNR=5.1						
EVIA				Sn	**Sn**	**01 06 40.9**	**-1.5**
	2.5nm,0.3s,SNR=7.9						
EVIA				Lg	Lg	01 06 47.0	
	18nm,0.6s,SNR=7.9						
EVIA	**Vianos**	**2.15**	**356**	Pn	**Pn**	**01 06 17.2**	**+1.0**
	0.5nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**2.23**	**15**	Pn	**Pn**	**01 06 18.3**	**+1.0**
	1.6nm,0.5s,SNR=6.2						
ETOB				Sn	**Sn**	**01 06 44.2**	**-0.2**
	0.7nm,0.2s						
ETOB	**Tobarra**	**2.23**	**15**	Pn	**Pn**	**01 06 18.3**	**+1.0**
	1.6nm,0.5s,SNR=6.2						
ETOB				Sn	**Sn**	**01 06 44.2**	**-0.2**
	0.7nm,0.2s						
EADA	**Adamuz**	**2.47**	**313**	Pn	**Pb**	**01 06 25.7**	**+0.7**
	0.2nm,0.2s,SNR=7.9						
EADA				Sn	**Sn**	**01 06 48.5**	**-1.8**
	0.4nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.47**	**313**	Pn	**Pb**	**01 06 25.7**	**+0.7**
	0.2nm,0.2s,SNR=7.9						
EADA				Sn	**Sn**	**01 06 48.5**	**-1.8**
	0.4nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**2.94**	**303**	Pn	**Pn**	**01 06 27.6**	**+0.4**
	0.1nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**2.94**	**303**	Pn	**Pn**	**01 06 27.6**	**+0.4**
	0.1nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**3.43**	**338**	Lg	Lg	01 07 27.4	
	1.5nm,0.4s,baz=156,slow=29,SNR=7.9						
ESDC	**Sonseca Array**	**3.43**	**338**	Lg	Lg	01 07 27.4	
	1.5nm,0.4s,SNR=7.9						
EIBI	**Ibiza**	**3.84**	**48**	Pn	**Pn**	**01 06 41.0**	**+1.7**
	0.2nm,0.1s,SNR=7.9						
EIBI				Sn	**Sn**	**01 07 21.8**	**-2.2**
	0.0nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**3.84**	**48**	Pn	**Pn**	**01 06 41.0**	**+1.7**
	0.2nm,0.1s,SNR=7.9						
EIBI				Sn	**Sn**	**01 07 21.8**	**-2.2**
	SNR=7.9						

*IDC **05** 01:06:58.3±1.0, 10°.45N×93°.84E, h0km, mb3.8/10, mb1 3.8/10, mb1mx3.7/27, mbtmp3.8/10, Error ellipse: s-maj=41.9km s-min=20.3km az=50.0*
*ISCJB **05** 01:06:59.4±0.8, 10°.5N±0°.2×93°.9E±0°.2, h19km, mb3.7/10, Error ellipse: s-maj=34.4km s-min=16.6km az=141.5*
ISC 05 01:07:01.3±1.0, 10°.5N±0°.2×93°.9E±0°.2, h19km, n10, σ0s86/10, mb3.7/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.52**	**347**	P	**P**	**01 14 13.8**	**-0.3**
	1.0nm,0.8s,baz=169,slow=8.0,SNR=8.8						
SONM	**Songino Array**	**38.72**	**14**	P	**P**	**01 14 24.3**	**0.0**
	0.7nm,1.0s,baz=205,slow=6.4,SNR=3.2						
GEYT	**Alibeck**	**42.13**	**316**	P	**P**	**01 14 54.1**	**+1.5**
	5.6nm,0.7s,baz=139,slow=7.7,SNR=15						
ZALV	**Zalesovo Beam**	**43.97**	**352**	P	**P**	**01 15 07.0**	**-0.2**
	2.0nm,0.7s,baz=181,slow=9.6,SNR=11						
WRA	**Warramunga Arr**	**50.00**	**127**	P	**P**	**01 15 55.3**	**+0.6**
	0.6nm,0.7s,baz=305,slow=8.5,SNR=5.2						
ASAR	**Alice Springs**	**51.79**	**131**	P	**P**	**01 16 07.8**	**-0.5**
	0.2nm,0.4s,baz=308,slow=7.0,SNR=3.6						
BRTR	**Keskin Array B**	**60.57**	**310**	P	**P**	**01 17 09.4**	**-1.5**
	0.9nm,0.6s,baz=125,slow=7.8,SNR=11						
FINES	**FINESS Array B**	**70.32**	**332**	P	**P**	**01 18 13.4**	**0.0**
	1.6nm,1.0s,baz=196,slow=1.4,SNR=3.4						
GERES	**GERESS Array B**	**75.74**	**318**	P	**P**	**01 18 45.8**	**-0.1**
	0.4nm,0.7s,baz=85,slow=4.4,SNR=4.3						
TORD	**Torodi Ar. Bea**	**89.75**	**283**	P	**P**	**01 19 59.5**	**+0.3**
	0.2nm,0.7s,baz=97,slow=3.5,SNR=2.2						

IDC 05 01:15:57.0±44.0, 25°.76S×178°.19E, h565km±400km, mb3.2/3, mb1 3.3/3, mb1mx2.9/18, mbtmp4.3/3, Error ellipse: s-maj=343.8km s-min=96.8km az=87.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
CTA	**Charters Tower**	**29.91**	**274**	P	P	01 21 20.0	0.0
	4.8nm,0.4s,baz=95,slow=10.0,SNR=7.2						
STKA	**Stephens Creek**	**32.53**	**251**	P	P	01 21 42.0	-0.2
	7.0nm,0.4s,baz=96,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**40.15**	**263**	P	P	01 22 44.8	-0.2
	0.7nm,0.3s,baz=100,slow=8.3,SNR=12						
BRTR	**Keskin Array B**	**147.32**	**304**	PKPbc	PKPbc	01 34 37.2	-0.7
	0.3nm,0.6s,baz=90,slow=2.9,SNR=3.7						

*ISCJB **05** 01:17:16.5±0.4, 5°.91N±0°.03×125°.92E±0°.06, h120km±4km, mb4.0/9, Error ellipse: s-maj=10.3km s-min=5.2km az=168.4*
*MAN **05** 01:17:17, 5°.93N×125°.90E, h110km, mb5.0, ML3.9, MS4.0*
*DJA **05** 01:17:20.9±1.4, 6°.N±11°.×12°.6E±°, h115km±14km, M4.7/10, mb4.6/10, mB5.2/6, MLv4.8/9, Mw(mB)4.5/6*
*IDC **05** 01:17:20.3±5.9, 5°.81N×125°.52E, h145km±55km, mb3.7/9, mb1 3.8/9, mb1mx3.6/24, mbtmp4.1/9, Error ellipse: s-maj=47.1km s-min=12.9km az=77.0*
ISC 05 01:17:17.5±0.8, 5°.92N±0°.05×125°.92E±0°.08, h116km±7km, n41, σ1°35/48, mb4.0/9, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
GSPH	**General Santos**	**0.98**	**280**⇓	*eP*	**Pn**	**01 17 37.6**	**-1.5**
GSPH				*i* S	**Sn**	**01 17 52.6**	**-2.7**
MATI	**Mati**	**1.07**	**18**	*eP*	**Pn**	**01 17 40.1**	**+0.2**
MATI				*eS*	**Sn**	**01 17 56.5**	**-0.3**
CTBH	**Cotabato--PC H**	**2.10**	**308**	*eP*	**Pn**	**01 17 51.6**	**-0.4**
CTBH				*i* S	**Sn**	**01 18 17.6**	**-0.9**
BUKP	**Musuan**	**2.12**	**336**	*eP*	**Pn**	**01 17 53.2**	**+0.8**
BUKP				*eS*	**Sn**	**01 18 19.6**	**+0.6**
SGSI	**Sangihe**	**2.25**	**190**	P	**Pn**	**01 17 54.9**	**+0.9**
CGP	**Cagayan de Oro**	**2.79**	**334**	*eP*	**Pn**	**01 18 02.1**	**+1.1**
CGP				*i* S	**Sn**	**01 18 37.2**	**+2.8**
BUTP	**Butuan**	**3.04**	**354**	*eP*	**Pn**	**01 18 01.5**	**-2.7**
PAGZ	**Pagadian**	**3.16**	**307**	*eP*	**Pn**	**01 18 06.2**	**+0.4**
TNTI	**Ternate**	**5.32**	**164**	P	**Pn**	**01 18 34.7**	**0.0**
	74nm,0.8s,0.6nm						
LBMI	**Labuha**	**6.71**	**166**	P	**Pn**	**01 18 54.1**	**+0.6**
	38nm,1.0s,1μm0.2nm						
LBMI				S	**Sn**	**01 20 07.5**	**-1.0**
	38nm,1.0s,1μm0.2nm						
MRSI	**Marisa**	**6.71**	**216**	P	**Pn**	**01 18 55.0**	**+1.5**
	72nm,0.8s,1μm0.3nm						
LUWI	**Luwuk**	**7.60**	**205**	P	**Pn**	**01 19 07.4**	**+1.8**
	76nm,1.0s,3μm0.5nm						
LUWI	**Luwuk**	**7.60**	**205**	P	Pn	01 19 10.6	+5.1
	baz=8.0,SNR=7.3						
SANI	**Sanana**	**7.92**	**179**	P	**Pn**	**01 19 07.5**	**-2.4**
	37nm,0.4s,3μm0.4nm						
APSI	**Ampana**	**8.02**	**212**	P	**Pn**	**01 19 14.2**	**+3.0**
	50nm,0.7s,2μm0.3nm						
MPSI	**Mapaga**	**8.18**	**227**	P	**Pn**	**01 19 13.9**	**+0.5**
	14nm,1.2s						
NLAI	**Namlea**	**9.18**	**173**	P	**Pn**	**01 19 25.3**	**-1.6**
	38nm,0.3s						
FAKI	**Fak Fak**	**10.82**	**144**	P	**Pn**	**01 19 50.2**	**+1.0**
	baz=11,SNR=

baz=34,SNR=8.7
FORT Forrest 36.55 177 P **P** **01 24 12.0 -0.1**
baz=37,SNR=14
BLDU Ballidu 37.38 193 P **P** **01 24 18.6 -0.6**
baz=38,SNR=14
KLBR Kellerberrin 38.11 191 P **P** **01 24 24.9 -0.4**
baz=39,SNR=17
USRK Ussurivsk Ar. 38.50 7 P **P** **01 24 30.4 +2.1**
2.1nm,0.6s,baz=180,slow=6.7,SNR=6.5
BBOO Buckleboo 39.71 167 P **P** **01 24 39.0 +0.4**
baz=40,SNR=73
STKA Stephens Creek 40.45 159 P **P** **01 24 45.3 +0.6**
4.7nm,0.6s,baz=332,slow=8.6,SNR=25
HTT Hallett 41.03 163 P **P** **01 24 50.6 +1.0**
baz=41,SNR=7.7
RKGY Rocky Gully 41.19 191 P **P** **01 24 52.0 +1.3**
baz=42,SNR=9.3
SONM Songino Array 44.98 341 PcP **PcP** **01 27 00.3 -0.3**
0.8nm,0.7s,baz=184,slow=3.3,SNR=4.9
MKAR Makanchi Array 55.31 325 P **P** **01 26 38.2 -0.9**
1.2nm,0.5s,baz=123,slow=7.7,SNR=22
MKAR PcP **PcP** **01 27 36.6 -1.8**
0.7nm,0.7s,baz=120,slow=4.3,SNR=4.9
ILAR Eielson Array 83.48 26 P **P** **01 29 32.1 +0.1**
0.4nm,0.8s,baz=265,slow=4.3,SNR=5.0
ARCES ARCESS Array B 88.12 340 P **P** **01 29 53.3 -1.6**
2.0nm,0.9s,baz=69,slow=6.6,SNR=14
FINES FINESS Array B 89.53 332 P **P** **01 29 59.4 -2.2**
0.7nm,0.6s,baz=46,slow=5.5,SNR=6.1
TORD Torodi Ar. Bea 121.45 289 PKP **PKPdf** **01 35 56.9 -1.4**
0.9nm,0.8s,baz=64,slow=1.9,SNR=16

IDC 05 01:26:11.5±7.1, 14°47S×69°13W, h88km±72km, mb3.6/3, mb1 3.6/4, mb1mx3.3/23, mbtmp3.9/4, ML2.9/1, Error ellipse: s-maj=106.4km s-min=62.4km az=49.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.05**	**152**	P			Pn	01 26 44.9	-0.2
	5.0nm,0.3s,baz=131,slow=8.0,SNR=217								
LPAZ				S			Sn	01 27 10.8	+0.1
	3.6nm,0.3s,baz=79,slow=13,SNR=20								
BDFB	**Brasilia**	**20.42**	**96**	P			P	01 30 41.8	-0.1
	1.2nm,0.4s,baz=272,slow=11,SNR=4.6								
DBIC	**Dimbokro**	**67.10**	**76**	P			P	01 36 56.4	+0.3
	2.8nm,0.9s,baz=270,slow=5.1,SNR=5.5								
TORD	**Torodi Ar. Bea**	**75.29**	**72**	P			P	01 37 45.5	-0.1
	0.7nm,0.5s,baz=260,slow=5.1,SNR=16								

ISCJB ***05*** *02:04:05.5±0.7, 31°.04N±0°.01×80°.53E±0°.02, h8km±4km, mb4.5/69, MS4.0/38, Error ellipse: s-maj=2.8km s-min=2.2km az=41.0*

IDC ***05*** *02:04:05.3±0.4, 30°.98N×80°.45E, h0km, mb4.5/26, mb1 4.6/29, mb1mx4.5/35, mbtmp4.4/29, ML3.9/3, MS3.9/30, Ms1 3.9/30, ms1mx3.7/45, Error ellipse: s-maj=13.9km s-min=9.3km az=24.0*

BJI ***05*** *02:04:05.8, 30°.97N×80°.54E, h10km, mb4.7/54, mB4.9/44, ML4.4/1, Ms4.5/51, Ms7 4.3/50*

SZGRF ***05*** *02:04:07.9, 31°.94N×82°.43E, h33km, mb4.7, Xizang*

DMN ***05*** *02:04:07.0±0.3, 31°.33N×80°.37E, h10km, Ml5.1/9, Error ellipse: s-maj=14.4km s-min=5.2km az=38.0*

NEIC ***05*** *02:04:07.2±0.2, 31°.06N×80°.54E, h10km, mb4.8/23, Error ellipse: s-maj=7.8km s-min=5.0km az=40.0*

MOS ***05*** *02:04:09.4±1.2, 31°.13N×80°.63E, h33km, mb4.7/24, MS4.0/13, Error ellipse: s-maj=7.7km s-min=4.5km az=114.8*

NDI ***05*** *02:04:09.0±2.5, 30°.95N×80°.53E, h10km, ML4.7, mb4.8(NEIC)*

ISC 05 02:04:08.0±0.4, 31°.06N±0°.03×80°.50E±0°.03, h14km±2km, n303, σ1§89/355, mb4.6/69, MS4.0/38, 16C-22D, Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JOSI	**Joshimath**	**0.95**	**238**	*e*P			Pb	02 04 20.0	-6.4
JOSI				*e*S			Sb	02 04 31.1	-7.8
JOSI				AML			AML	02 04 43.9	
	comp=N,31μm,0.9s								
JOSI				AML			AML	02 04 45.2	
	comp=E,19μm,0.7s								
PTH	**Pithoragarh**	**1.53**	**189**	*e*P			Pn	02 04 29.9	-5.2
PTH				*e*S			Sn	02 04 48.7	-6.1
LGTI	**Lohaghat**	**1.62**	**188**	*e*P			**Pg**	**02 04 38.7**	**-0.5**
LGTI				*ex*			x	02 05 05.4	
DDI	**Dehra Dun**	**2.23**	**251**	*e*P			**Pn**	**02 04 46.0**	**+1.4**
DDI				*e*S			**Sb**	**02 05 14.0**	**-1.6**
SMLA	**Simla**	**2.86**	**272**	*e*P			**Pn**	**02 04 55.0**	**+1.8**
SMLA				*i* P			Pb	02 04 55.3	-3.4
SMLA				*e*S			**Sn**	**02 05 30.2**	**+2.9**
SMLA				AML			AML	02 05 38.6	
	comp=E,8μm,0.5s								
SMLA				AML			AML	02 05 38.7	
	comp=N,7μm,0.5s								
SDNR	**Sundarnagar**	**3.05**	**279**	*e*P			**Pn**	**02 04 59.0**	**+3.1**
SDNR				*ex*			x	02 06 05.0	
BHK	**Bhakra**	**3.51**	**277**	*ex*			**Pb**	**02 05 09.5**	**-0.5**
BHK				*ex*			x	02 06 03.6	
NDI	**New Delhi**	**3.71**	**231**	*e*P			**Pn**	**02 05 04.5**	**-0.4**
NDI				*ex*			x	02 05 52.0	
DHRM	**DHARAMSHALA**	**3.77**	**289**	*e*P			**Pn**	**02 05 07.6**	**+1.7**
DHRM				*e*S			**Sn**	**02 05 51.7**	**+1.5**
BHGR	**Bahadurgarh**	**3.89**	**233**	*e*P			**Pn**	**02 05 08.2**	**+0.8**
BHGR				*e*S			**Sn**	**02 05 53.4**	**+0.5**
KOLN	**Koldanda**	**4.25**	**140**	*e*Pn			**Pn**	**02 05 13.7**	**+1.1**
KOLN				*e*Sn			**Sn**	**02 06 03.7**	**+1.5**
	comp=N,1μm,0.7s								
AGRA	**Agra**	**4.42**	**211**	*e*P			**Pn**	**02 05 15.1**	**+0.4**
AGRA				*e*S			**Sn**	**02 06 03.0**	**-3.0**
KUDL	**Kundal**	**4.54**	**231**	*e*P			**Pn**	**02 05 16.7**	**+0.3**
KUDL				*e*S			**Sn**	**02 06 08.5**	**-0.4**
GKN	**Gorkha**	**4.72**	**129**	*e*Pn			**Pn**	**02 05 20.0**	**+1.0**
GKN				*e*Sn			**Sn**	**02 06 13.4**	**-0.3**
	comp=N,4μm,1.2s								
KHET	**Khetri**	**5.05**	**235**	*e*P			**Pn**	**02 05 24.0**	**+0.6**
KHET				*e*S			**Sn**	**02 06 18.1**	**-3.6**
DMN	**Daman**	**5.30**	**129**	*e*Pn			**Pn**	**02 05 27.7**	**+0.7**
DMN				*e*Sn			**Sn**	**02 06 28.4**	**+0.5**
	comp=N,1μm,0.9s								
KKN	**Kakani**	**5.30**	**127**	*e*Pn			**Pn**	**02 05 27.7**	**+0.8**
KKN				*e*Sn			**Sn**	**02 06 27.9**	**0.0**
	comp=N,691nm,0.8s								
PKIN	**Phulchoki**	**5.51**	**128**	*e*Pn			**Pn**	**02 05 30.5**	**+0.6**
PKIN				*e*Sn			**Sn**	**02 06 33.1**	**-0.2**
	comp=N,762nm,0.8s								
PKI	**Pulchoki**	**5.52**	**128**	*e*Pn			**Pn**	**02 05 30.4**	**+0.2**
PKI				*e*Sn			**Sn**	**02 06 33.3**	**-0.3**
	comp=N,1μm,1.0s								
GUN	**Gumba**	**5.65**	**122**	*e*Pn			**Pn**	**02 05 32.5**	**+0.6**
GUN				*e*Sn			**Sn**	**02 06 35.2**	**-1.5**
CHCP	**Chirah Chowk**	**6.64**	**295**	P			Pn	02 05 48.5	+3.2
RAMN	**Ramite**	**6.74**	**126**	*e*Pn			**Pn**	**02 05 46.6**	**-0.1**
RAMN				*e*Sn			**Sn**	**02 07 01.3**	**-2.1**
	comp=N,883nm,0.8s								
SARP	**Sargodha**	**6.74**	**279**	P			Pn	02 05 51.7	+5.2
TAPN	**Taplejung**	**7.31**	**119**	*e*Pn			**Pn**	**02 05 55.0**	**+0.3**
TAPN				*e*Sn			**Sn**	**02 07 15.0**	**-2.6**
	comp=N,500nm,0.8s								
ODAN	**Odare**	**7.35**	**123**	*e*Pn			**Pn**	**02 05 55.5**	**+0.4**
ODAN				*e*Sn			**Sn**	**02 07 15.9**	**-2.6**
	comp=N,379nm,0.7s								
THW	**Thamme Wali**	**7.64**	**285**	P			Pn	02 06 02.2	+3.3
CEP	**Cherat**	**7.76**	**293**	P			**Pn**	**02 06 02.6**	**+1.9**
CEP				S			**Sn**	**02 07 30.0**	**+1.5**
KSH	**Kashi**	**9.21**	**338**	P			**Pn**	**02 06 19.1**	**-1.4**
KSH				pP				02 06 24.2	
KSH				sP				02 06 27.1	
KSH				S			**Sn**	**02 07 59.7**	**-4.2**
KSH				sS				02 08 08.0	
KSH				PMZ					
	comp=N,22nm,0.4s								
KSH				LN					
	comp=N,3μm,4.1s								
KSH				LE					
	comp=N,2μm,4.5s								
KSH				LZ					
	comp=N,6μm,11.3s								
LSA	**Lhasa**	**9.30**	**96**	P			**Pn**	**02 06 24.3**	**+2.1**
LSA				S			**Sn**	**02 08 04.0**	**-2.9**
LSA				LE					
	comp=N,2μm,10.0s								
LSA				LZ					
	comp=N,3μm,9.3s								
LSA	**Lhasa**	**9.30**	**96**	*e*P			**Pn**	**02 06 23.2**	**+1.0**
LSA				*e*S			**Sn**	**02 08 04.8**	**-2.1**
LSA				pmax			pmax		
	comp=Z,47nm,0.9s								
LSA	**Lhasa**	**9.30**	**96**	*e*Pn			**Pn**	**02 06 23.1**	**+1.0**
	comp=Z,47nm,0.9s								
LSA				*e*S			**Sn**	**02 08 04.8**	**-2.1**
NGP	**Nagpur**	**9.96**	**188**	*e*P			**Pn**	**02 06 29.3**	**-1.5**
NGP				*ex*			x	02 08 15.0	
KBL	**Kabul**	**10.24**	**293**	*e*P			**Pn**	**02 06 33.5**	**-1.3**
KBL				*e*S			**Sn**	**02 08 24.9**	**-4.6**
KBL				pmax			pmax		
	comp=Z,33nm,0.9s								
KBL	**Kabul**	**10.24**	**293**	*e*Pn			**Pn**	**02 06 33.5**	**-1.3**
	comp=Z,33nm,0.9s								
KBL				*e*S			**Sn**	**02 08 24.9**	**-4.6**
SFK	**Sufi-Kurgan**	**10.59**	**329**	P			**Pn**	**02 06 40.3**	**+0.8**
SFK								02 08 34.6	
SFK				pmax			pmax		
	comp=Z,15nm,0.5s								
SFK				smax			smax		
	comp=N,174nm,1.3s								
SHL	**Shillong**	**11.43**	**116**	*e*P			**Pn**	**02 06 48.3**	**-2.7**
SHL				*e*S			Sn	02 08 49.5	-9.0
ULHL	**Ulahol**	**11.67**	**344**	P			**Pn**	**02 06 54.9**	**+0.6**
	SNR=26								
KZA	**Kyzart**	**11.77**	**341**	P			**Pn**	**02 06 56.0**	**+0.1**
	SNR=15								
UCH	**Uchtor**	**12.13**	**338**	P			**Pn**	**02 07 01.0**	**+0.2**
	SNR=34								
RPR	**Rampur**	**12.20**	**185**	*e*Pn			Pn	02 06 57.8	-3.7
RPR				IAmb			IAmb	02 07 01.6	
	comp=Z,17nm,0.8s								
RPR				*e*				02 09 07.5	
RPR				*e*Sn			**Sn**	**02 09 19.3**	**+2.0**
RPR				IVMs_BB			IVMs_BB	02 12 15.0	
	comp=Z,1μm,8.6s								
SRSP	**Sriramsagar**	**12.24**	**190**	*e*Pn			Pn	02 06 57.3	-4.7
SRSP				IAmb			IAmb	02 07 07.7	
	comp=Z,26nm,0.8s								
SRSP				*e*				02 09 04.2	
SRSP				*e*Sn			**Sn**	**02 09 17.8**	**-0.5**
SRSP				IVMs_BB			IVMs_BB	02 10 44.0	
	comp=Z,2μm,4.8s								
PDGK	**Podgornoye**	**12.27**	**357**	P			**Pn**	**02 07 01.9**	**-0.3**
PDGK								02 09 16.4	
PDGK				pmax			pmax		
	comp=Z,46nm,0.9s								
PDGK				smax			smax		
	comp=N,58nm,1.7s								
DZET	**Dzherino**	**12.29**	**312**	P			**Pn**	**02 07 02.3**	**-0.4**
DZET				pmax			pmax		
	comp=Z,13nm,0.5s								
DZET				pmax			pmax		
	comp=N,52nm,1.5s								
AML	**Almayashu**	**12.32**	**336**	P			**Pn**	**02 07 02.9**	**-0.4**
	SNR=23								
KBK	**Karagaybulak**	**12.39**	**341**	P			Pn	02 07 07.5	+3.4
	SNR=8.3								
TKM2	**Tokmak 2**	**12.46**	**343**	*i* P			**Pn**	**02 07 04.4**	**-0.7**
TKM2				pmax			pmax		
	comp=Z,19nm,1.2s								
TKM2	**Tokmak 2**	**12.46**	**343**	*e*Pn			**Pn**	**02 07 04.1**	**-1.1**
	comp=Z,15nm,1.0s								
TKM2				*e*S			Sn	02 09 09.1	-15
AAK	**Ala-Archa**	**12.50**	**339**	P			**Pn**	**02 07 06.3**	**+0.6**
	SNR=8.6								
AAK	**Ala-Archa**	**12.50**	**339**	Pn			P	02 07 54.4	+37
	comp=Z,1.7nm,0.3s,baz=155,slow=11,SNR=22								
AAK				Sn			Sn	02 10 12.7	+48
	comp=Z,0.3nm,0.3s,baz=6.7,slow=16,SNR=5.4								
AAK				LR			LR	02 13 04.5	
	comp=Z,301nm,20.1s,baz=139,slow=43								
AAK	**Ala-Archa**	**12.50**	**339**	*i* P			**Pn**	**02 07 05.1**	**-0.5**
AAK				pmax			pmax		
	comp=Z,26nm,0.9s								
FRU	**Bishkek**	**12.65**	**340**	*e*P			**Pn**	**02 07 08.0**	**+0.5**
FRU				*e*				02 09 30.0	
FRU				pmax			pmax		
	comp=Z,60nm,1.4s								
FRU				MLR			MLR		
	comp=E,3μm,10.0s								
EKS2	**Erkin-Say**	**12.76**	**337**	P			**Pn**	**02 07 10.2**	**+1.1**
	SNR=7.1								
EKS2	**Erkin-Say**	**12.76**	**337**	*e*P			**Pn**	**02 07 09.2**	**+0.1**
EKS2				*e*S			**Sn**	**02 09 30.3**	**-0.7**
EKS2				pmax			pmax		
	comp=Z,16nm,0.9s								
EKS2	**Erkin-Say**	**12.76**	**337**	*e*Pn			**Pn**	**02 07 09.2**	**+0.1**
	comp=Z,16nm,0.9s								
EKS2				*e*S			**Sn**	**02 09 30.3**	**-0.7**
CHLP	**Challavanipeta**	**12.91**	**165**	*e*Pn			**Pn**	**02 07 08.4**	**-2.8**
CHLP				IAmb			IAmb	02 07 12.6	
	comp=Z,13nm,1.0s								
CHLP				*e*				02 09 24.0	
CHLP				*e*Sn			**Sn**	**02 09 36.3**	**+1.6**
CHLP				IVMs_BB			IVMs_BB	02 12 53.5	
	comp=Z,2μm,6.4s								
KLRI	**Killari**	**13.41**	**196**	*e*Pn			Pn	02 07 12.7	-5.3
KLRI				IAmb			IAmb	02 07 16.7	
	comp=Z,42nm,0.8s								
KLRI				*e*				02 09 31.0	
KLRI				IVMs_BB			IVMs_BB	02 12 20.3	
	comp=Z,2μm,9.0s								
HYBB	**Hyderabad (bro**	**13.70**	**188**	*e*Pn			Pn	02 07 16.9	-5.0
HYBB				IAmb			IAmb	02 07 21.1	
	comp=Z,14nm,0.7s								
HYBB				*e*				02 09 42.0	
HYBB				*e*Sn			**Sn**	**02 09 54.9**	**+0.8**
HYBB				IVMs_BB			IVMs_BB	02 12 36.4	
	comp=Z,1μm,13.9s								
HYB	**Hyderabad**	**13.70**	**188**	*i* P			Pn	02 07 17.0	-5.0
HYB				*e*S			Sn	02 09 40.0	-14
HYB				*e*				02 12 32.0	
PVM	**Polavaram**	**13.79**	**175**	*e*P			Pn	02 07 19.6	-3.5
PVM				IAmb			IAmb	02 07 29.6	
	comp=Z,6.4nm,0.7s								
PVM				*e*				02 09 46.4	
PVM				IVMs_BB			IVMs_BB	02 12 46.3	
	comp=Z,830nm,8.1s								
WMQ	**Urumqi**	**13.95**	**22**	P			**Pn**	**02 07 25.8**	**+0.5**
WMQ				pP			**P**	**02 07 30.4**	**-3.0**
WMQ				sP				02 07 32.8	
WMQ				PP			**PnPn**	**02 07 36.3**	**+3.0**
WMQ				S			**Sn**	**02 10 00.0**	**0.0**
WMQ				PMZ					
	comp=Z,49nm,1.0s								
WMQ				PMZ					
	comp=Z,230nm,4.1s								
WMQ				LN					
	comp=Z,1μm,10.0s								
WMQ				LE					
	comp=Z,710nm,8.9s								
WMQ				LZ					
	comp=Z,1μm,10.7s								
KK31	**Karatay Array**	**14.40**	**329**	*e*P			Pn	02 07 27.2	-4.3
KK31				pmax			pmax		
	comp=Z,5.0nm,0.4s								
KKAR	**Karatay Array**	**14.40**	**329**	*e*P			**Pn**	**02 07 28.8**	**-2.7**
KKAR				*e*				02 10 04.1	
KKAR	**Karatay Array**	**14.40**	**329**	*e*Pn			**Pn**	**02 07 28.8**	**-2.7**
KKAR				*e*Sn			Sn	02 10 04.1	-6.9
NJS	**Nagarjunasagar**	**14.48**	**185**	*e*Pn			Pn	02 07 26.9	-5.8
NJS				IAmb			IAmb	02 07 34.5	
	comp=Z,21nm,0.6s								
NJS				*e*				02 10 00.8	
NJS				*e*Sn			**Sn**	**02 10 14.9**	**+1.8**
NJS				IVMs_BB			IVMs_BB	02 13 33.5	
	comp=Z,2μm,10.2s								
SRLM	**Srisailam**	**14.97**	**186**	*e*Pn			Pn	02 07 33.5	-5.7
SRLM				IAmb			IAmb	02 07 38.2	
	comp=Z,32nm,0.6s								
SRLM				*e*				02 10 12.7	
SRLM				*e*Sn			**Sn**	**02 10 26.0**	**+1.0**
SRLM				IVMs_BB			IVMs_BB	02 13 29.5	
	comp=Z,1μm,10.3s								
ADKI	**Addanki**	**15.16**	**182**	*e*Pn			**Pn**	**02 07 38.1**	**-3.6**
ADKI				IAmb			IAmb	02 07 41.0	
	comp=Z,11nm,0.9s								
ADKI				*e*				02 10 19.0	
ADKI				*e*Sn			**Sn**	**02 10 30.2**	**+0.8**
ADKI				IVMs_BB			IVMs_BB	02 13 37.5	
	comp=Z,1μm,11.5s								
RCLA	**Racherla**	**15.60**	**186**	*e*Pn			Pn	02 07 41.6	-6.0
RCLA				IAmb			IAmb	02 07 46.2	
	comp=Z,9.3nm,0.7s								
RCLA				*e*				02 10 29.5	
RCLA				*e*Sn			**Sn**	**02 10 42.9**	**+2.6**
RCLA				IVMs_BB			IVMs_BB	02 14 23.9	
	comp=Z,1μm,6.2s								
MK31	**Makanchi Array**	**15.77**	**5**	*e*P			**Pn**	**02 07 47.8**	**-1.8**
MK31								02 10 38.7	
MK31				pmax			pmax		
	comp=Z,85nm,1.2s								
MKAR	**Makanchi Array**	**15.77**	**5**	Pn			**Pn**	**02 07 48.6**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=181,slow=12,SNR=14								
MKAR				Sn			**Sn**	**02 10 39.7**	**-4.4**
	comp=Z,0.1nm,0.3s,baz=176,slow=23,SNR=2.2								
MKAR				LR			LR	02 14 50.0	
	comp=Z,275nm,18.3s,baz=188,slow=41								
URV	**Uravakonda**	**16.31**	**191**	*e*Pn			**Pn**	**02 07 54.2**	**-2.6**
URV				IAmb			IAmb	02 07 56.8	
	comp=Z,19nm,0.8s								
URV				*e*				02 10 42.7	
URV				*e*Sn			**Sn**	**02 10 57.1**	**-0.6**
URV				IVMs_BB			IVMs_BB	02 14 04.7	
	comp=Z,1μm,12.9s								
SKHT	**Srikalahasti**	**17.26**	**183**	*e*Pn			**Pn**	**02 08 05.4**	**-3.3**
SKHT				IAmb			IAmb	02 08 15.4	
	comp=Z,113nm,2.1s								
SKHT				*e*				02 11 05.2	
SKHT				*e*Sn			**Sn**	**02 11 17.2**	**-3.3**
SKHT				IVMs_BB			IVMs_BB	02 15 54.9	
	comp=Z,1μm,5.9s								
IMYA	**Miami**	**17.76**	**293**	*e*P			**P**	**02 08 18.4**	**+2.6**
GTA	**Gaotai**	**17.82**	**57**	*e*P			**P**	**02 08 16.2**	**-0.2**
GTA				pP			**pP**	**02 08 19.7**	**-0.7**
GTA				sP			**sP**	**02 08 22.8**	**+0.5**
GTA				S			**Sn**	**02 11 33.6**	**-0.6**
GTA				sS			**S**	**02 11 39.3**	**-1.7**
GTA				SS			**SnSn**	**02 11 57.1**	**+9.4**
GTA				PMZ					
	comp=Z,8.0nm,1.6s								
GTA				PMZ					
	comp=Z,280nm,4.7s								
GTA				LN					
	comp=Z,2μm,15.7s								
GTA				LE					
	comp=Z,660nm,14.7s								
GTA				LZ					
	comp=Z,570nm,15.2s								
ISRO	**Mashad**	**18.25**	**292**	*e*P			**Pn**	**02 08 20.8**	**-0.2**
IKOO	**Kooshah**	**18.33**	**280**	*e*P			**Pn**	**02 08 22.1**	**-0.1**
ITEG	**Tejag**	**18.54**	**281**	*e*P			**Pn**	**02 08 25.5**	**+0.9**
IPAY	**Payeh**	**18.65**	**293**	*e*P			**Pn**	**02 08 26.0**	**0.0**
IKRD	**Kardeh**	**19.09**	**293**	*e*P			P	02 08 22.9	-7.6
KURBB	**Kurchatov Arra**	**19.59**	**356**	P			**P**	**02 08 35.1**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=185,slow=12,SNR=99								
KURBB				S			**S**	**02 12 13.3**	**-3.1**
	baz=177,slow=20,SNR=2.3								
GEYT	**Alibeck**	**19.65**	**296**	P			**P**	**02 08 36.5**	**0.0**
	comp=Z,0.5nm,0.3s,baz=108,slow=9.5,SNR=14								
GEYT				S			**S**	**02 12 16.7**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=99,slow=27,SNR=3.2								
GEYT				LR			LR	02 17 41.8	
	comp=Z,836nm,20.1s,baz=135,slow=42								
KURK	**Kurchatov**	**19.68**	**356**	*e*P			**P**	**02 08 36.1**	**-0.5**
KURK				S			**S**	**02 12 13.3**	**-4.8**
KURK				pmax			pmax		
	comp=Z,116nm,1.1s								
KURK	**Kurchatov**	**19.68**	**356**	P			**P**	**02 08 36.6**	**+0.1**
	SNR=29								
KURK	**Kurchatov**	**19.68**	**356**	*e*Pn			**P**	**02 08 36.1**	**-0.5**
	comp=Z,116nm,1.1s								
KURK				S			**S**	**02 12 13.3**	**-4.8**
ISHV	**Shirvan**	**19.88**	**295**	*e*P			**Pn**	**02 08 44.0**	**+3.2**
CD2	**Chengdu**	**19.94**	**84**	P			**Pn**	**02 08 41.1**	**-0.3**
CD2				pP			**pP**	**02 08 43.9**	**+0.2**
CD2				sP			**sP**	**02 08 45.3**	**-0.2**
CD2				S			**S**	**02 12 23.5**	**-0.2**
CD2				sS			**sS**	**02 12 28.9**	**-1.3**
CD2				PcP			**PcP**	**02 12 59.5**	**+3.3**
CD2				PcS			**PcS**	**02 16 36.9**	**+3.1**
CD2				PMZ					
	comp=Z,110nm,1.2s								
CD2				PMZ					
	comp=Z,300nm,3.7s								
CD2				LN					
	comp=Z,1μm,10.1s								
CD2				LZ					
	comp=Z,870nm,8.0s								
CMAI	**Chiengmai2**	**20.05**	**119**	P			**P**	**02 08 40.5**	**-0.5**
	comp=Z,32nm,1.1s								
LZH	**Lanzhou**	**20.07**	**69**	*e*P			Pn	02 08 42.1	-0.9
LZH				pP			pP	02 08 44.8	-0.4
LZH				sP			sP	02 08 48.0	+0.9
LZH				S			**S**	**02 12 23.1**	**-3.4**
LZH				sS			Sn	02 12 29.0	+0.3
LZH				SS			**SnSn**	**02 12 49.8**	**+6.7**
LZH				PMZ					
	comp=Z,27nm,1.0s								
LZH				PMZ					
	comp=Z,130nm,4.0s								
LZH				LN					
	comp=Z,2μm,12.7s								
LZH				LE					
	comp=Z,710nm,10.0s								
LZH				LZ					
	comp=Z,780nm,13.0s								
MHMT	**Maesarieng**	**20.36**	**125**	P			Pn	02 08 47.9	+1.7
	comp=Z,16nm,1.0s,comp=Z,451nm								
KMI	**Kunming**	**20.48**	**101**	P			**P**	**02 08 45.4**	**-0.4**
KMI				pP			**pP**	**02 08 52.2**	**+2.4**
KMI				sP			**sP**	**02 08 55.8**	**+4.2**
KMI				PP			**PnPn**	**02 09 07.7**	**+4.6**
KMI				S			**S**	**02 12 29.4**	**-5.5**
KMI				sS			**sS**	**02 12 42.3**	**+1.0**
KMI				PMZ					
	comp=Z,33nm,1.6s								
KMI				PMZ					
	comp=Z,230nm,3.7s								
KMI				LN					
	comp=Z,350nm,16.8s								
KMI				LE					
	comp=Z,650nm,16.8s								
KMI				LZ					
	comp=Z,800nm,20.3s								
CHTO	**Chiang Mai**	**20.67**	**122**	P			**P**	**02 08 47.7**	**+0.2**
	comp=Z,67nm,1.3s								
CHTO	**Chiang Mai**	**20.67**	**122**	*e*P			**P**	**02 08 47.0**	**-0.5**
CHTO				pmax			p

BVA0 pmax pmax
comp=Z,17nm,0.9s
BVAR Borovoye Array 23.15 344 P **P** **02 09 13.4 -0.4**
comp=Z,4.7nm,0.6s,baz=157,slow=12,SNR=19
BVAR PcP **PcP** **02 13 01.8 -0.1**
comp=Z,1.2nm,0.8s,baz=164,slow=2.7,SNR=3.5
BVAR LR LR 02 19 03.2
comp=Z,225nm,21.5s,baz=158,slow=39
UTHA Uthaitani 23.20 127 P **P** **02 09 16.2 +1.6**
comp=Z,8.3nm,1.3s,comp=Z,81nm
BRVK Borovoye 23.20 344⇑ *e*P **P** **02 09 14.8 +0.5**
BRVK pmax pmax
comp=Z,4.0nm,1.5s
BRVK MLR MLR
comp=Z,686nm,18.0s
BRVK Borovoye 23.20 344 P **P** **02 09 18.2 +3.9**
SNR=11
BRVK Borovoye 23.20 344 *e*P **P** **02 09 15.1 +0.8**
comp=Z,22nm,0.9s
GYA Guiyang 23.37 95⇑ *i*P **P** **02 09 15.0 -1.4**
GYA PP **PnPn** **02 09 47.4 +4.9**
GYA S **S** **02 13 24.0 -5.1**
GYA SS **SnSn** **02 14 09.8 +5.7**
GYA ScP **ScP** **02 16 42.2 +1.4**
GYA PMZ
comp=Z,20nm,0.9s
GYA PMZ
comp=Z,110nm,4.8s
GYA LN
comp=Z,490nm,16.6s
GYA LE
comp=Z,420nm,17.0s
GYA LZ
comp=Z,470nm,16.8s
PBKT Sadao Pong 23.58 123 P **P** **02 09 18.8 +0.4**
comp=Z,27nm,1.2s,comp=Z,1μm
PALK Pallekele 23.67 179 LR LR 02 17 46.0
comp=Z,338nm,20.6s,baz=4.2,slow=35
NVS Novosibirsk 23.85 4 *e*P **P** **02 09 17.8 -2.8**
NVS *e*S **S** **02 13 36.7 +0.8**
NVS pmax pmax
comp=Z,119nm,2.5s
NVS pmax pmax
comp=N,48nm,1.8s
NVS pmax pmax
comp=E,17nm,1.8s
NVS smax smax
comp=N,15nm,2.3s
NVS smax smax
comp=E,13nm,1.6s
AB31 Akbulak array 23.89 325 *i* P **P** **02 09 20.8 -0.3**
AB31 pmax pmax
comp=Z,23nm,1.3s
IZEF Zefreh 23.94 282 *e*P **P** **02 09 18.2 -3.8**
XAN Xi'an 24.11 75 P **P** **02 09 23.1 -0.3**
XAN pP **pP** **02 09 26.9 -0.8**
XAN S **S** **02 13 36.5 -4.2**
XAN PMZ
comp=Z,8.0nm,1.3s
XAN PMZ
comp=Z,42nm,4.3s
XAN LN
comp=Z,580nm,18.4s
XAN LZ
comp=Z,220nm,13.3s
IDMV Damavand 24.17 288 *e*P **P** **02 09 25.0 +0.8**
CHAI Chaiyaphum 24.76 123 P **P** **02 09 29.8 +0.5**
comp=Z,10.0nm,1.1s,comp=Z,421nm
ENH Enshi 24.92 84 *e*P **P** **02 09 30.7 -0.1**
comp=Z,7.6nm,0.5s
KHON Khomkaen 25.09 121 P **P** **02 09 34.6 +2.3**
comp=Z,9.0nm,1.0s
MOY Mondy 25.54 30 *e*P **P** **02 09 37.5 +1.3**
MOY pmax pmax
comp=Z,30nm,1.5s
AKTO Aktyubinsk 25.60 326 P **P** **02 09 36.4 -0.3**
comp=Z,9.1nm,0.8s,baz=121,slow=10.0,SNR=20
AKTO LR LR 02 20 14.8
comp=Z,377nm,20.9s,baz=138,slow=38
BTO Baotou 25.66 60 *e*P **P** **02 09 37.3 -0.2**
ZAK Zakamensk 25.72 35⇑ *i*P **P** **02 09 38.3 +0.4**
ZAK pmax pmax
comp=Z,17nm,1.3s
SONM Songino Array 25.91 42 P **P** **02 09 41.6 +2.0**
comp=Z,49nm,1.3s,baz=230,slow=10,SNR=69
SONM PcP **PcP** **02 13 07.5 -0.8**
comp=Z,1.1nm,0.4s,baz=218,slow=3.7,SNR=6.0
SONM LR LR 02 20 55.2
comp=Z,193nm,19.7s,baz=236,slow=39
TLY Talaya 26.74 33 *e*P **P** **02 09 48.0 +1.0**
TLY pmax pmax
comp=Z,15nm,1.3s
TLY MLR MLR
comp=Z,225nm,13.0s
HHC Hu-ho-hao-te 26.86 60 *e*P **P** **02 09 46.6 -1.7**
HHC PP **PnPn** **02 10 30.6 +0.6**
HHC S **S** **02 14 18.9 -5.6**
HHC PMZ
comp=Z,28nm,1.1s
HHC PMZ
comp=Z,120nm,5.1s
HHC LN
comp=Z,1μm,19.6s
HHC LE
comp=Z,460nm,15.7s
HHC LZ
comp=Z,120nm,15.1s
TIY Taiyuan 27.09 67 *e*P **P** **02 09 51.7 +1.3**
TIY S S 02 14 20.3 -7.8
TIY PMZ
comp=Z,130nm,6.8s
TIY LN
comp=Z,420nm,10.1s
TIY LE
comp=Z,380nm,7.5s
TIY LZ
comp=Z,410nm,9.7s
WHN Wuhan 29.02 82 P **P** **02 10 08.4 +0.8**
WHN LN
comp=Z,900nm,7.4s
WHN LE
comp=Z,570nm,6.5s
WHN LZ
comp=Z,1μm,10.8s
QIZ Qiongzhong 29.07 107 P **P** **02 10 07.4 -0.7**
QIZ sP **sP** **02 10 12.2 -2.1**
QIZ S **S** **02 15 00.0 +0.6**
QIZ PMZ
comp=Z,10.0nm,1.5s
QIZ PMZ
comp=Z,77nm,4.3s
ARU Arti 29.64 335*c i*P **P** **02 10 13.5 +0.7**
ARU 02 11 04.7
ARU S **S** **02 15 09.6 +1.9**
ARU SS **SnSn** **02 16 36.4 0.0**
ARU pmax pmax
comp=Z,6.0nm,1.0s
ARU Arti 29.64 335 *e*P **P** **02 10 13.9 +1.1**
comp=Z,8.5nm,1.2s
BJI Beijing 30.21 63 P **P** **02 10 17.4 -0.7**
BJI S **S** **02 15 22.7 +5.7**
BJI PMZ
comp=Z,6.0nm,0.5s
BJI LN
comp=Z,780nm,20.8s
BJI LE
comp=Z,260nm,16.0s
BJI LZ
comp=Z,140nm,17.2s
GNI Garni 30.28 297 P **P** **02 10 20.6 +1.7**
GNI pmax pmax
comp=Z,23nm,3.8s
GNI MLR MLR
comp=Z,207nm,17.0s
RAYN Ar Rayn 31.89 265 *e*P **P** **02 10 34.6 +1.5**
comp=Z,9.3nm,1.2s
KBZ Khabaz 32.16 304 P P 02 10 38.9 +3.7
comp=Z,0.6nm,0.5s,baz=159,slow=5.5,SNR=4.0
KBZ LR LR 02 26 34.2
comp=Z,164nm,18.4s,baz=78,slow=42
KIV Kislovodsk 32.35 304 *e*P **P** **02 10 37.0 0.0**
KIV *e*S **S** **02 15 52.0 +1.4**
KIV pmax pmax
comp=Z,3.0nm,0.9s
KIV MLR MLR
comp=Z,214nm,15.0s
NJ2 Nanjing 32.59 78 *e*P **P** **02 10 39.3 +0.2**
NJ2 S **S** **02 15 55.0 +0.7**
NJ2 PMZ
comp=Z,30nm,1.2s
NJ2 LN
comp=Z,390nm,15.0s
NJ2 LE
comp=Z,470nm,17.5s
NJ2 LZ
comp=Z,430nm,13.8s
GSI Gunungsitoli 33.73 148 P **P** **02 10 49.5 +0.4**
GSI Gunungsitoli 33.73 148 *e*P **P** **02 10 49.0 -0.2**
comp=Z,34nm,1.2s
HIA Hailar 34.59 47⇓ *e*P **P** **02 10 56.9 +0.6**
HIA pmax pmax
comp=Z,15nm,1.0s
HIA MLR MLR
comp=Z,184nm,17.0s
MALT Malatya 35.10 294⇓ P **P** **02 11 02.9 +1.9**
MALT Malatya 35.10 294⇓ *i*P **P** **02 11 02.9 +1.9**
BOD Bodaibo 35.25 31 *e*P **P** **02 11 02.6 +0.7**
BOD pmax pmax
comp=Z,20nm,1.6s
SNY Shenyang 35.95 60⇑ P **P** **02 11 09.0 +0.9**
SNY S **S** **02 16 49.2 +3.2**
SNY PMZ
comp=Z,8.0nm,0.5s
SNY PMZ
comp=Z,140nm,5.4s
SNY LN
comp=Z,230nm,26.0s
SNY LE
comp=Z,380nm,13.5s
SNY LZ
comp=Z,470nm,11.8s
VSR Storozhevoye 36.44 316 *e*P **P** **02 11 14.1 +1.9**
VSR pmax pmax
comp=E,8.0nm,0.9s
VSR pmax pmax
comp=Z,9.0nm,0.9s
VSR pmax pmax
comp=N,3.0nm,0.8s
CN2 Changchun 37.45 57 *e*P **P** **02 11 23.9 +3.0**
PRGR Permogore 38.06 334 P **P** **02 11 22.9 -2.9**
PRGR pmax pmax
comp=Z,6.0nm,1.1s
BRTR Keskin Array B 38.79 296 P **P** **02 11 33.1 +0.7**
comp=Z,5.8nm,0.9s,baz=107,slow=8.0,SNR=30
BRTR LR LR 02 30 06.1
comp=Z,141nm,21.5s,baz=89,slow=40
TJN Taejon 39.04 69⇑ *e*P **P** **02 11 33.8 -0.6**
OBN Obninsk 39.16 321 P **P** **02 11 35.8 +0.7**
OBN *e* 02 13 09.0
OBN *e* 02 13 49.9
OBN pmax pmax
comp=Z,17nm,1.7s
OBN MLR MLR
comp=Z,160nm,19.0s
KSAR Wonju Array Be 39.35 67 P **P** **02 11 36.7 -0.3**
KSAR 02 13 44.2
KSAR Wonju Array Be 39.35 67 P **P** **02 11 36.6 -0.3**
KSAR PcP **PcP** **02 13 44.2 -1.1**
KSRS Korea Array 39.38 67 P **P** **02 11 36.6 -0.5**
comp=Z,3.6nm,0.6s,baz=270,slow=8.5,SNR=18
KSRS PcP **PcP** **02 13 44.2 -1.1**
comp=Z,0.7nm,0.5s,baz=318,slow=2.5,SNR=4.9
KSRS LR LR 02 30 03.3
comp=Z,106nm,19.3s,baz=280,slow=40
KSRS Korea Array 39.38 67 P **P** **02 11 36.7 -0.5**
KSRS 02 13 44.2
KSRS pmax pmax
comp=Z,4.0nm,0.6s
KSRS pmax pmax
comp=Z,1.0nm,0.5s
KSRS MLR MLR
comp=Z,106nm,19.3s
ANTO Ankara 39.44 296 *e*P **P** **02 11 39.4 +1.6**
ANTO pmax pmax
comp=Z,7.0nm,0.8s
ANTO Ankara 39.44 296 *e*P **P** **02 11 39.4 +1.6**
comp=Z,6.5nm,0.8s
MDJ Mudanjiang 40.48 56 P **P** **02 11 46.8 +0.6**
MDJ PMZ
comp=Z,10.0nm,1.0s
MDJ PMZ
comp=Z,59nm,4.5s
MDJ LN
comp=Z,440nm,15.5s
MDJ LE
comp=Z,80nm,12.1s
MDJ LZ
comp=Z,290nm,13.8s
VLA Vladivostok 42.12 59 P **P** **02 11 59.9 +0.2**
VLA pmax pmax
comp=Z,17nm,0.7s
VLA MLR MLR
comp=Z,469nm,25.0s
USRK Ussuriysk Ar. 42.18 57 P **P** **02 12 01.1 +0.9**
comp=Z,5.1nm,0.6s,baz=265,slow=8.5,SNR=13
USRK LR LR 02 30 29.6
comp=Z,149nm,20.8s,baz=258,slow=38
KLR Kul'dur 42.29 49 *e*P **P** **02 11 58.2 -2.8**
AKASG Malin Array Be 42.47 313 P **P** **02 12 03.3 +0.8**
comp=Z,0.9nm,0.5s,baz=110,slow=9.9,SNR=9.4
AKASG LR LR 02 32 39.2
comp=Z,209nm,20.9s,baz=75,slow=40
AKASG Malin Array Be 42.47 313*ce*P **P** **02 12 04.5 +2.1**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
KIEV Kiev 42.48 313⇑ *e*P **P** **02 12 03.4 +0.9**
KIEV Kiev 42.48 313 *e*P **P** **02 12 03.2 +0.7**
comp=Z,12nm,1.6s
CFR Carcaliu 42.81 304⇓ P **P** **02 12 06.7 +1.4**
CFR Carcaliu 42.81 304⇓ *i*P **P** **02 12 06.7 +1.4**
JMB Yambol 44.00 301⇑ P **P** **02 12 17.2 +2.3**
JMB Yambol 44.00 301⇑ *i*P **P** **02 12 17.2 +2.3**
YAK Yakutsk 44.17 31 *i* P **P** **02 12 16.8 +0.8**
YAK pmax pmax
comp=Z,38nm,1.0s
MLR Muntele Rosu 44.35 305⇓ P **P** **02 12 20.1 +2.2**
MLR Muntele Rosu 44.35 305⇓ *i*P **P** **02 12 20.1 +2.2**
DOPR Dopca 44.74 306⇑ *i*P **P** **02 12 22.5 +1.6**
BURAR Bucovina Array 44.86 308 ⇑P **P** **02 12 25.1 +3.2**
BURAR Bucovina Array 44.86 308 ⇑*i*P **P** **02 12 25.1 +3.2**
RDO Rodhopi 44.87 299 *e*P **P** **02 12 23.0 +1.1**
comp=Z,25nm,1.4s
VOIR 44.98 305⇓ P **P** **02 12 24.3 +1.4**
VOIR 44.98 305⇓ *i*P **P** **02 12 24.3 +1.4**
LVZ Lovozero 45.45 338 P **P** **02 12 27.0 +0.7**
LVZ pmax pmax
comp=Z,22nm,1.4s
NPS Neapolis 45.65 291 *e*PB **P** **02 12 27.8 -0.4**
NVR Nevrokopi 46.11 299 *e*PG **P** **02 12 32.4 +0.6**
SRS Serrai 46.34 299 *e*PN **P** **02 12 34.1 +0.5**
FINES FINESS Array B 46.35 327 P **P** **02 12 34.5 +1.1**
comp=Z,2.3nm,0.6s,baz=111,slow=10,SNR=14
FINES LR LR 02 31 30.1
comp=Z,362nm,18.1s,baz=90,slow=35
PAIG Paliouri 46.42 297 *e*PN **P** **02 12 33.9 -0.3**
EREA Eretria 46.44 295 *e*PB P 02 12 30.0 -4.4
VTS Vitosha 46.47 301⇓ P **P** **02 12 36.5 +1.7**
VTS Vitosha 46.47 301⇓ *i*P **P** **02 12 36.5 +1.7**
KWP Kalwaria Pacla 46.57 311 *e*P **P** **02 12 36.6 +1.3**
KWP Kalwaria Pacla 46.57 311 *e*P **P** **02 12 36.6 +1.3**
DRGR 46.58 307⇓ P P 02 12 39.0 +3.5
DRGR 46.58 307⇓ *i*P P 02 12 39.0 +3.5
MRKA Markates 46.66 296 *e*PB **P** **02 12 36.2 0.0**
VAM Vamos 46.75 291 *e*PN **P** **02 12 37.2 +0.3**
UZH Uzhgorod 46.83 309 *e*P **P** **02 12 37.6 +0.3**
UZH *i* 02 12 55.8
KOLS Kolonicke sedl 46.84 310 *e*P **P** **02 12 39.5 +2.1**
KOLS pmax pmax
comp=Z,3.0nm,1.1s
KOLS Kolonicke sedl 46.84 310 *e*P **P** **02 12 39.5 +2.1**
KNT Kendrikon 46.85 299 *e*PG **P** **02 12 37.7 +0.1**
XOR Xorichti 46.87 297 *e*PN **P** **02 12 34.9 -2.9**
SMIA Simia 46.93 296 *e*PN **P** **02 12 38.3 +0.1**
DID Didima 47.13 294 *e*PB **P** **02 12 38.2 -1.6**
GRG Griva 47.25 299 *e*PN **P** **02 12 41.1 +0.3**
AXAR Agios Charalam 47.37 296 *e*PN **P** **02 12 39.0 -2.7**
THAL Thalero 47.48 295 *e*PB **P** **02 12 45.7 +3.1**
VLI Veliai 47.51 293 *e*PN **P** **02 12 40.8 -1.9**
STHS Stebnicka Huta 47.52 310 *e*P **P** **02 12 44.3 +1.5**
STHS Stebnicka Huta 47.52 310 *e*P **P** **02 12 44.2 +1.5**
MJAR Matsushiro Arr 47.66 67 P **P** **02 12 43.6 -0.4**
comp=Z,1.6nm,0.5s,baz=277,slow=9.3,SNR=6.9
MJAR LR LR 02 35 14.8
comp=Z,179nm,20.4s,baz=300,slow=39
MAKR Makrakomi, Fth 47.73 296 *e*PN **P** **02 12 43.7 -0.9**
THL Klokotos Trika 47.74 297 *e*PN **P** **02 12 43.3 -1.2**
GUR Goura 47.75 295 *e*PN **P** **02 12 43.7 -1.1**
VLX Vlachokerasia 47.82 294 *e*PN **P** **02 12 43.6 -1.7**
KLV Kalavryta, Ach 47.88 295 *e*PN P 02 12 41.8 -3.9
LAKA Lakka 47.98 295 *e*PN **P** **02 12 45.0 -1.5**
EVR Evrytania 48.00 296 *e*PN **P** **02 12 45.8 -0.9**
FNA Florina 48.05 299 *e*PG **P** **02 12 46.2 -0.8**
NIE Niedzica 48.13 310 *e*P **P** **02 12 49.1 +1.7**
NIE Niedzica 48.13 310 *e*P **P** **02 12 49.1 +1.7**
ITM Ithomi 48.21 294 *e*PN **P** **02 12 45.4 -2.9**
AMT Artemida-Makis 48.32 294 *e*PN **P** **02 12 48.9 -0.2**
PYL PYLOS 48.41 294 *e*PN **P** **02 12 47.8 -2.0**
ARCES ARCESS Array B 49.17 338 P **P** **02 12 56.0 +0.8**
comp=Z,13nm,1.0s,baz=94,slow=7.5,SNR=22
ARCES LR LR 02 34 01.4
comp=Z,182nm,19.4s,baz=110,slow=36
ARCES ARCESS Array B 49.17 338 P **P** **02 12 56.0 +0.8**
OKC Ostrava-Krasne 49.52 311 *e*P **P** **02 12 59.2 +1.1**
OKC Ostrava-Krasne 49.52 311 *e*P **P** **02 12 59.2 +1.1**
MORC Moravsky Berou 49.92 311⇓ P **P** **02 13 02.8 +1.6**
MORC Moravsky Berou 49.92 311⇓ *i*P **P** **02 13 02.8 +1.6**
MORC Moravsky Berou 49.92 311 *e*P **P** **02 13 02.7 +1.6**
comp=Z,40nm,1.4s
KRLC Kraliky 50.39 311 *e*P **P** **02 13 06.2 +1.4**
KRLC Kraliky 50.39 311 *e*P **P** **02 13 06.2 +1.4**
VRAC Vranov 50.56 310⇓ P **P** **02 13 08.0 +1.9**
VRAC Vranov 50.56 310⇓ *i*P **P** **02 13 07.9 +1.9**
DPC Dobruska-Polom 50.67 312 *e*P **P** **02 13 07.7 +0.8**
DPC AMS AMS 02 36 00.0
comp=Z,200nm,16.8s
DPC Dobruska-Polom 50.67 312 *e*P **P** **02 13 07.7 +0.8**
DPC MLR MLR
comp=Z,200nm,16.8s
UPC Upice 50.86 312 *e*P **P** **02 13 09.7 +1.4**
UPC AMS AMS 02 37 00.0
comp=Z,200nm,16.1s
UPC Upice 50.86 312 *e*P **P** **02 13 09.7 +1.4**
UPC MLR MLR
comp=Z,200nm,16.1s
TREC Trest 51.28 310 *e*P **P** **02 13 12.2 +0.7**
TREC Trest 51.28 310 *e*P **P** **02 13 12.2 +0.7**
GOPC GO Pecny, Ondr 51.69 311 *e*P **P** **02 13 15.4 +0.9**
PVCC Panska Ves 51.78 312 *e*P **P** **02 13 12.5 -2.6**
PVCC Panska Ves 51.78 312 *e*P **P** **02 13 12.5 -2.6**
PRU Pruhonice 51.84 311 *e*P **P** **02 13 16.0 +0.4**
PRU AMS AMS 02 35 00.0
comp=Z,100nm,15.7s
PRU Pruhonice 51.84 311 *e*P **P** **02 13 16.0 +0.4**
PRU MLR MLR
comp=Z,100nm,15.7s
KAPI Kappang 51.88 127 LR LR 02 40 29.1
comp=Z,37nm,18.2s,baz=322,slow=42
KMBO Kilima Mbogo 52.05 240 P **P** **02 13 17.0 -0.8**
comp=Z,0.6nm,0.3s,baz=30,slow=11,SNR=4.7
KMBO LR LR 02 34 09.9
comp=Z,101nm,20.3s,baz=148,slow=35
CUC Castrocucco 52.37 299 *e*P **P** **02 13 21.0 +1.3**
comp=Z,7.8nm,0.8s
GERES GERESS Array B 52.49 310 P **P** **02 13 19.7 -0.9**
comp=Z,0.5nm,0.5s,baz=87,slow=8.1,SNR=9.4
GERES LR LR 02 40 16.5
comp=Z,112nm,19.5s,baz=82,slow=41
KHC Kasperske Hory 52.55 310 *e*P **P** **02 13 20.7 -0.2**
KHC Kasperske Hory 52.55 310 *e*P **P** **02 13 21.0 +0.1**
KHC pmax pmax
comp=Z,4.0nm,1.6s
KHC Kasperske Hory 52.55 310 *e*P **P** **02 13 21.0 +0.1**
comp=Z,4.2nm,1.6s
CEL Celeste 52.67 297 *e*P **P** **02 13 24.6 +2.5**
comp=Z,8.8nm,1.0s
CLL Collm 52.71 313 *i* P **P** **02 13 22.2 +0.2**
CLL *e*S S 02 21 08.0 +19
CLL pmax pmax
comp=Z,5.0nm,1.2s
CLL Collm 52.71 313 *i* P **P** **02 13 22.2 +0.2**
comp=Z,5.0nm,1.2s
CLL *e*S S 02 21 08.0 +19
CLL *e*SS **SKiKP** **02 24 48.0 +5.7**
NKC Novy Kostel 53.16 312 *e*P **P** **02 13 25.9 +0.5**
NKC AMS AMS 02 34 20.0
comp=Z,400nm,17.4s
NKC Novy Kostel 53.16 312 *e*P **P** **02 13 25.9 +0.5**
NKC MLR MLR
comp=N,400nm,17.4s
NB2 NORSAR Subarra 53.40 325 P **P** **02 13 26.9 -0.1**
comp=Z,1.1nm,0.6s,baz=88,slow=7.4
NOA NORSAR Array B 53.40 325 P **P** **02 13 27.3 +0.3**
comp=Z,2.9nm,0.9s,baz=92,slow=7.0,SNR=4.7
NOA LR LR 02 37 07.6
comp=Z,196nm,21.4s,baz=75,slow=37
GRF Grafenberg Arr 54.01 311 *e*P **P** **02 13 33.0 +1.4**
comp=Z,10.0nm,1.3s
SEY Seymchan 54.65 32⇓ *e*P **P** **02 13 36.6 +0.6**
KEST Kesra 58.39 295 P **P** **02 14 03.4 +0.2**
comp=Z,1.5nm,0.8s,baz=67,slow=13,SNR=6.5
KEST LR LR 02 43 14.8
comp=Z,17nm,18.0s,baz=280,slow=40
KEST Kesra 58.39 295 *e*P **P** **02 14 04.9 +1.7**
FAKI Fak Fak 59.70 115 *e*P **P** **02 14 11.4 -1.0**
comp=Z,23nm,0.8s
GUMO Guam 61.27 91 LR LR 02 42 11.8
comp=Z,47nm,20.3s,baz=173,slow=37
ESDC Sonseca Array 67.02 303 P **P** **02 15 00.8 +0.1**
comp=Z,4.6nm,0.8s,baz=56,slow=7.0,SNR=19
WRA Warramunga Arr 72.41 127 P **P** **02 15 33.2 -0.8**
comp=Z,11nm,0.7s,baz=324,slow=6.0,SNR=46
WRAB Tennant Creek 72.41 127⇓ *e*P **P** **02 15 33.2 -0.8**
WRAB pmax pmax
comp=Z,84nm,1.3s
WRAB MLR MLR
comp=Z,245nm,19.0s
WRAB Tennant Creek 72.41 127 *e*P **P** **02 15 33.7 -0.3**
comp=Z,65nm,1.6s
TORD Torodi Ar. Bea 73.83 276 P **P** **02 15 42.0 -0.6**
comp=Z,3.8nm,1.0s,baz=60,slow=3.0,SNR=23
TORD LR LR 02 52 00.4
comp=Z,97nm,18.6s,baz=80,slow=39
AS31 Alice Springs 74.69 130 *e*P **P** **02 15 46.8 -0.6**
ASAR Alice Springs 74.69 130 P **P** **02 15 46.5 -0.9**
comp=Z,6.7nm,0.7s,baz=318,slow=5.8,SNR=42
IM04 Indian Mountai 74.73 20 *e*P **P** **02 15 46.8 -0.2**
COLD Coldfoot 74.85 18 *e*P **P** **02 15 48.1 +0.4**
comp=Z,7.7nm,1.1s
FORT Forrest 76.30 139 *e*P **P** **02 15 55.5 -0.8**
comp=Z,73nm,1.8s
CAST Castle Rocks 77.06 22 *e*P **P** **02 16 00.4 0.0**
comp=Z,12nm,0.6s
COLA College 77.25 19*de*P **P** **02 16 01.0 -0.3**
COLA pmax pmax
comp=Z,41nm,1.1s
COLA MLR MLR
comp=Z,287nm,24.0s
COLA College 77.25 19 *e*P **P** **02 16 01.3 0.0**
comp=Z,6.4nm,1.0s
ILAR Eielson Array 77.59 19 P **P** **02 16 02.5 -0.8**
comp=Z,3.4nm,1.0s,baz=310,slow=4.8,SNR=33
ILAR PP **PP** **02 18 55.8 -1.8**
comp=Z,1.8nm,1.1s,baz=322,slow=6.9,SNR=8.4
ILAR LR LR 02 55 09.8
comp=Z,98nm,18.2s,baz=314,slow=39
INK Inuvik 77.75 12 P **P** **02 16 03.6 -0.4**
comp=Z,2.1nm,0.5s,baz=323,slow=3.1,SNR=5.2
EGAK Eagle 79.09 17 *e*P **P** **02 16 11.5 -0.1**
BOSA Boshof 79.31 227 P **P** **02 16 12.2 -1.2**
comp=Z,4.0nm,0.7s,baz=20,slow=2.7,SNR=11
BOSA LR LR 02 50 11.0
comp=Z,58nm,18.8s,baz=344,slow=35
SML Sawmill 79.42 21 *e*P **P** **02 16 11.6 -2.0**
SML pmax pmax
comp=Z,3.0nm,1.1s
SML Sawmill 79.42 21 *e*P **P** **02 16 11.6 -2.0**
comp=Z,3.3nm,1.1s
HARP HAARP 79.92 20 *e*P **P** **02 16 16.2 0.0**
comp=Z,30nm,1.0s
DAWY Dawson 80.12 17 *e*P **P** **02 16 17.1 -0.1**
DBIC Dimbokro 82.63 273 P **P** **02 16 31.3 0.0**
comp=Z,14nm,1.1s,baz=73,slow=7.2,SNR=5.4
DBIC LR LR 02 57 22.5
comp=Z,178nm,19.0s,baz=41,slow=39
HYT Haines Junctio 83.32 18 *e*P **P** **02 16 33.5 -0.9**

STKA	**Stephens Creek**	**85.24**	**132**	P		**P**	**02 16 42.6**	**-1.6**
	comp=Z,5.5nm,0.7s,baz=320,slow=4.6,SNR=3.8							
STKA				LR		LR	03 00 34.9	
	comp=Z,32nm,18.0s,baz=213,slow=40							
STKA	**Stephens Creek**	**85.24**	**132**	*eP*		**P**	**02 16 42.9**	**-1.4**
YKA	**Yellowknife Ar**	**85.98**	**7**	P		**P**	**02 16 46.4**	**-1.1**
	comp=Z,3.4nm,0.8s,baz=343,slow=5.0,SNR=11							
SCHQ	**Schefferville**	**89.95**	**342**	LR		LR	03 00 17.0	
	comp=Z,50nm,18.8s,baz=34,slow=38							
EDM	**Edmonton**	**95.21**	**8**	*eP*		**P**	**02 17 30.7**	**-0.4**
EDM	**Edmonton**	**95.21**	**8**	*eP*		**P**	**02 17 30.7**	**-0.4**
MAW	**Mawson**	**99.26**	**187**	LR		LR	02 58 55.0	
	comp=Z,77nm,18.3s,baz=59,slow=33							
TXAR	**Lajitas Array**	**119.81**	**4**	PKP		**PKPdf**	**02 22 57.9**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=164,slow=1.8,SNR=6.9							
QSPA	**South Pole Qui**	**120.86**	**180**	PKP		**PKPdf**	**02 22 58.3**	**-0.7**
	comp=Z,3.6nm,1.1s,baz=272,slow=2.1,SNR=3.8							
CPUP	**Villa Florida**	**142.87**	**266**	PKhKP		PKPpre	02 23 38.8	
	comp=Z,1.2nm,0.7s,baz=132,slow=5.3,SNR=3.1							
LPAZ	**La Paz**	**147.86**	**290**	PKPbc		**PKPbc**	**02 23 52.6**	**-1.4**
	comp=Z,6.0nm,1.2s,baz=17,slow=6.7,SNR=10.0							
TRQA	**Tornquist**	**148.48**	**247**	*e*PKPbc		**PKPbc**	**02 23 54.3**	**-0.1**
LVC	**Limon Verde**	**151.50**	**280**	PKPbc		**PKPbc**	**02 24 02.2**	**-0.3**
	comp=Z,23nm,1.0s,baz=88,slow=4.9,SNR=3.7							
CFAA	**Coronel Fontan**	**153.33**	**261**	PKPbc		**PKPbc**	**02 24 07.3**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=72,slow=5.8,SNR=3.1							

DJA 05 02:14:12.0±1.6,**9°S**±8°×**11°0E**±°,**h19**km±17km,**M3.5/7, MLv3.5/7,Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WOJI	**Wonogiri, Jawa**	**1.52**	**44**	P		Pn	02 14 37.9	-0.3
WOJI				S		Sn	02 14 56.8	-0.6
CMJI	**Cimerak**	**1.81**	**309**	P		Pn	02 14 41.6	-0.6
CMJI				S		Sn	02 15 05.5	+0.9
PWJI	**Pagerwojo**	**2.13**	**65**	P		Pn	02 14 45.2	-1.4
PWJI				S		Sn	02 15 12.2	-0.3
NGJI	**Ngawi**	**2.23**	**46**	P		Pb	02 14 51.8	+0.2
CISI	**Cisompet, Garu**	**2.45**	**304**	P		Pn	02 14 51.6	+0.6
CNJI	**Cibinong**	**3.15**	**301**	P		Pn	02 14 59.9	-0.7

IDC 05 02:20:39.1±6.8,**28°03N×53°12E,h0**km,**mb3.6/2, mb1 3.5/3,mb1mx3.2/**38,**mbtmp3.5/3,ML2.9/1,Error ellipse: s-maj=136.5km s-min=47.9km az=113.0, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BRTR	**Keskin Array B**	**19.90**	**311**	P		P	02 25 12.3	0.0
	0.0nm,0.3s,baz=132,slow=10,SNR=4.9							
FINES	**FINESS Array B**	**37.97**	**339**	P		P	02 27 58.2	-0.1
	1.5nm,0.9s,baz=139,slow=9.3,SNR=5.1							
TORD	**Torodi Ar. Bea**	**50.02**	**264**	P		P	02 29 35.5	-0.1
	0.3nm,0.5s,baz=58,slow=8.0,SNR=11							

*CSEM **05** 02:22:32.1,39°44N×29°89W,h10km,ML3.0*

PDA 05 02:22:32.1±1.0,**39°44N×29°89W,h10**km,**MD3.6,ML3.0, Error ellipse: s-maj=9.7km s-min=3.3km az=21.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H07S1	**FLORES T-PHASE**	**1.02**	**267**	*e*S		Sg	02 22 59.4	-5.9
PCED	**Cedros**	**1.22**	**131**	*e*P		Pn	02 22 51.2	-4.1
PCED				*e*S		Sb	02 23 04.1	-7.1
PCED				A		A	02 23 07.4	
	94nm,0.3s							
PCED	**Cedros**	**1.22**	**131**	*e*P		Pn	02 22 51.2	-4.1
PCED				*e*S		Sb	02 23 04.1	-7.1
CALA	**Caldeira**	**1.25**	**132**	*e*S		Sb	02 23 05.3	-7.0
CALA	**Caldeira**	**1.25**	**132**	*e*S		Sb	02 23 05.3	-7.0
HOR	**Horta**	**1.33**	**132**	*e*P		Pn	02 22 52.4	-4.4
HOR				*e*S		Sb	02 23 07.3	-7.0
HOR	**Horta**	**1.33**	**132**	*e*P		Pn	02 22 52.4	-4.4
HOR				*e*S		Sb	02 23 07.3	-7.0
PCAN	**Candelaria**	**1.46**	**131**	*e*P		Pn	02 22 54.1	-4.5
PCAN				*e*S		Sn	02 23 10.2	-7.6
PCAN				A		A	02 23 15.2	
	78nm,0.4s							
PCAN	**Candelaria**	**1.46**	**131**	*e*P		Pn	02 22 54.1	-4.5
PCAN				*e*S		Sn	02 23 10.2	-7.6
ROSA	**Rosais**	**1.47**	**119**	*e*P		Pn	02 22 54.0	-4.6
ROSA				*e*S		Sn	02 23 09.9	-8.0
ROSA				A		A	02 23 10.9	
	29nm,0.3s							
ROSA	**Rosais**	**1.47**	**119**	*e*P		Pn	02 22 54.0	-4.6
ROSA				*e*S		Sn	02 23 09.9	-8.0
PGRA	**Graciosa**	**1.53**	**105**	*e*S		Sn	02 23 11.7	-7.8
PGRA				A		A	02 23 13.5	
	38nm,0.4s							
PGRA	**Graciosa**	**1.53**	**105**	*e*S		Sn	02 23 11.7	-7.8
PMAN	**Manadas**	**1.61**	**119**	*e*P		Pn	02 22 56.2	-4.4
PMAN				*e*S		Sn	02 23 13.8	-7.7
PMAN				A		A	02 23 15.1	
	60nm,0.3s							
PMAN	**Manadas**	**1.61**	**119**	*e*P		Pn	02 22 56.2	-4.4
PMAN				*e*S		Sn	02 23 13.8	-7.7

*THE **05** 02:39:26.8,36°49N×28°83E,h3km±2km,ML3.2/3,Error ellipse: s-maj=3.1km s-min=1.2km az=136.0*
*DDA **05** 02:39:26.1,36°51N×28°75E,h39km,MD3.0*
*ATH **05** 02:39:26.6,36°51N×28°74E,h31km±2km,MD3.5/7*
*ISCJB **05** 02:39:27.4±0.4,36°51N±0°02×28°79E±0°02,h29km±3km, Error ellipse: s-maj=3.7km s-min=2.9km az=170.4*
*ISK **05** 02:39:27.5,36°61N×28°85E,h22km,ML3.0*
*CSEM **05** 02:39:27.3±0.1,36°51N×28°84E,h20km,ML3.0,Error ellipse: s-maj=3.3km s-min=2.4km az=171.0*

ISC 05 02:39:27.2±1.0,**36°52N**±0°02×**28°81E**±0°02,**h20**km±3km, **n107,**σ**0°72**/163,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DALY	**Dalyan (Mu˘la**	**0.32**	**338**	PG		**Pg**	**02 39 33.8**	**-0.4**
DALY				SG		**Sb**	**02 39 39.0**	**0.0**
DALY	**Dalyan (Mu˘la**	**0.32**	**338**	*i* Pg		**Pg**	**02 39 33.8**	**-0.4**
DALY				*i* Sg		**Sb**	**02 39 39.0**	**0.0**
TURN	**Turunc**	**0.39**	**335**	*i* P		**Pn**	**02 39 37.0**	**-0.7**
TURN				*i* S		**Sn**	**02 39 44.8**	**+0.3**
TURN	**Turunc**	**0.39**	**335**	*i* P		**Pn**	**02 39 37.0**	**-0.7**
TURN				*i* S		**Sn**	**02 39 44.8**	**+0.3**
ARG	**Arkhangelos**	**0.63**	**241**	*e*PN		**Pg**	**02 39 39.0**	**-0.4**
ARG				*e*SN		**Sg**	**02 39 48.3**	**+0.2**
ARG	**Arkhangelos**	**0.63**	**241**	P		**Pb**	**02 39 39.0**	**-0.4**
ARG				S		**Sg**	**02 39 48.5**	**+0.4**
ARG	**Arkhangelos**	**0.63**	**241**	P		**Pb**	**02 39 39.0**	**-0.4**
ARG				S		**Sg**	**02 39 48.5**	**+0.4**
AKAS	**Kas**	**0.71**	**114**	*i* P		**Pb**	**02 39 40.4**	**-0.5**
AKAS				*i* S		**Sn**	**02 39 52.9**	**+0.3**
AKAS	**Kas**	**0.71**	**114**	*i* P		**Pb**	**02 39 40.4**	**-0.5**
AKAS				*i* S		**Sn**	**02 39 52.9**	**+0.3**
KSL	**Kastellorizon**	**0.73**	**120**	*e*PN		**Pb**	**02 39 41.2**	**0.0**
KSL				*e*SN		**Sn**	**02 39 53.8**	**+0.9**
YER	**Yerkesik**	**0.74**	**326**	*e*PG		**Pb**	**02 39 41.2**	**-0.2**
YER				*e*SG		**Sg**	**02 39 51.9**	**+0.2**
YER	**Yerkesik**	**0.74**	**326**	*e*Pg		**Pb**	**02 39 41.3**	**-0.2**
YER				*e*Sg		**Sg**	**02 39 51.9**	**+0.2**
ELL	**Elmali**	**0.92**	**75**	*e*PG		**Pb**	**02 39 44.8**	**+0.3**
ELL				*e*SG		**Sg**	**02 39 57.5**	**+0.3**
ELL	**Elmali**	**0.92**	**75**	*e*Pg		**Pb**	**02 39 44.8**	**+0.3**
ELL				*e*Sg		**Sg**	**02 39 57.5**	**+0.3**
GOLH	**Golhisar**	**0.94**	**40**	*i* P		**Pb**	**02 39 44.3**	**-0.5**
GOLH				*i* S		**Sn**	**02 39 59.1**	**+0.8**
GOLH	**Golhisar**	**0.94**	**40**	*i* P		**Pb**	**02 39 44.3**	**-0.5**
GOLH				*i* S		**Sn**	**02 39 59.1**	**+0.8**
BDRM	**Kayabasi**	**1.22**	**297**	*i* P		**Pn**	**02 39 49.3**	**+0.1**
BDRM				*i* S		**Sg**	**02 40 06.4**	**-0.4**
BDRM	**Kayabasi**	**1.22**	**297**	*i* P		**Pn**	**02 39 49.3**	**+0.1**
BDRM				*i* S		**Sg**	**02 40 06.4**	**-0.4**
DENT	**Denizli**	**1.25**	**8**	*e*PN		**Pn**	**02 39 49.2**	**-0.3**
DENT	**Denizli**	**1.25**	**8**	*e*Pn		**Pn**	**02 39 49.2**	**-0.3**
NIS1	**Nisyros Isl.**	**1.31**	**274**	*e*PN		**Pb**	**02 39 51.4**	**+0.2**
NIS1	**Nisyros Isl.**	**1.31**	**274**	*e*PN		**Pn**	**02 39 50.5**	**+0.1**
NIS1				*e*SN		**Sn**	**02 40 06.3**	**-1.1**
NIS1	**Nisyros Isl.**	**1.31**	**274**	P		**Pb**	**02 39 51.3**	**+0.2**
NIS1				*e*Sn		**Sn**	**02 40 06.3**	**-1.1**
NIS1				S		**Sg**	**02 40 10.1**	**+0.4**
NIS1	**Nisyros Isl.**	**1.31**	**274**	P		**Pb**	**02 39 51.3**	**+0.2**
BODT	**Bodrum**	**1.32**	**295**	*e*PN		**Pb**	**02 39 51.6**	**+0.3**
BODT	**Bodrum**	**1.32**	**295**	*e*Pn		**Pb**	**02 39 51.6**	**+0.3**
KORT	**Korkueli**	**1.33**	**68**	*i* P		**Pb**	**02 39 51.6**	**0.0**
KORT				*i* S		**Sg**	**02 40 10.9**	**+0.6**
KORT	**Korkueli**	**1.33**	**68**	*i* P		**Pb**	**02 39 51.6**	**0.0**
KORT				*i* S		**Sg**	**02 40 10.9**	**+0.6**
AYDN	**Tasoluk**	**1.36**	**327**	*i* P		**Pb**	**02 39 52.0**	**0.0**
AYDN				*i* S		**Sb**	**02 40 09.8**	**+0.8**
AYDN	**Tasoluk**	**1.36**	**327**	*i* P		**Pb**	**02 39 52.0**	**0.0**
AYDN				*i* S		**Sb**	**02 40 09.8**	**+0.8**
ANTB	**Antalya**	**1.53**	**75**	*e*PN		**Pn**	**02 39 53.3**	**-0.1**
ANTB	**Antalya**	**1.53**	**75**	*e*Pn		**Pn**	**02 39 53.3**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.60**	**333**	*e*PN		**Pn**	**02 39 54.4**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.60**	**333**	*e*Pn		**Pn**	**02 39 54.4**	**-0.1**
KARP	**Karpathos**	**1.65**	**234**	*e*PN		**Pn**	**02 39 55.1**	**0.0**
KARP				*e*SN		**Sn**	**02 40 15.0**	**-0.7**
KARP	**Karpathos**	**1.65**	**234**	*e*Pn		**Pn**	**02 39 55.1**	**0.0**
KARP				*e*Sn		**Sn**	**02 40 15.0**	**-0.7**
KARP				S		**Sb**	**02 40 18.0**	**+0.7**
KARP	**Karpathos**	**1.65**	**234**	P		**Pn**	**02 39 54.9**	**-0.2**
KARP				S		**Sb**	**02 40 18.0**	**+0.7**
BCK	**Bucak**	**1.71**	**56**	*e*PN		**Pn**	**02 39 55.8**	**-0.1**
BCK	**Bucak**	**1.71**	**56**	*e*Pn		**Pn**	**02 39 55.8**	**-0.1**
KHL	**Karahalli**	**1.89**	**17**	*e*PN		**Pn**	**02 39 57.5**	**-0.9**
KHL	**Karahalli**	**1.89**	**17**	*e*Pn		**Pn**	**02 39 57.5**	**-0.9**
ISP	**Isparta**	**1.89**	**46**	*e*PN		**Pn**	**02 39 58.2**	**-0.3**
ISP	**Isparta**	**1.89**	**46**	*e*Pn		**Pn**	**02 39 58.2**	**-0.3**
ISP	**Isparta**	**1.89**	**46**	P		**Pn**	**02 39 58.7**	**+0.3**
ISP				S		**Sb**	**02 40 23.7**	**-0.6**
ISP	**Isparta**	**1.89**	**46**	P		**Pn**	**02 39 58.7**	**+0.3**
ISP				S		**Sb**	**02 40 23.7**	**-0.6**
KHAL	**Karahalli**	**1.93**	**16**	*i* P		**Pn**	**02 39 58.1**	**-0.9**
KHAL				*i* S		**Sn**	**02 40 22.6**	**-0.1**
KHAL	**Karahalli**	**1.93**	**16**	*i* P		**Pn**	**02 39 58.1**	**-0.9**
KHAL				*i* S		**Sn**	**02 40 22.6**	**-0.1**
SMG	**Samos**	**1.97**	**308**	*e*PB		**Pn**	**02 39 59.8**	**+0.3**
SMG				*e*SN		**Sn**	**02 40 23.5**	**-0.1**
SMG	**Samos**	**1.97**	**308**	P		**Pn**	**02 39 59.9**	**+0.4**
SMG				*e*Sn		**Sn**	**02 40 23.5**	**-0.1**
SMG				S		**Sb**	**02 40 25.5**	**-1.0**
SMG	**Samos**	**1.97**	**308**	P		**Pn**	**02 39 59.9**	**+0.4**
SMG				S		**Sb**	**02 40 25.5**	**-1.0**
MANT	**Manisa**	**1.98**	**354**	*i* P		**Pn**	**02 39 58.8**	**-0.9**
MANT				*i* S		**Sn**	**02 40 23.4**	**-0.7**
MANT	**Manisa**	**1.98**	**354**	*i* P		**Pn**	**02 39 58.8**	**-0.9**
MANT				*i* S		**Sn**	**02 40 23.4**	**-0.7**
KULA	**Kula-Manisa**	**1.99**	**357**	P		**Pn**	**02 39 59.4**	**-0.5**
KULA				S		**Sn**	**02 40 25.4**	**+1.1**
KULA	**Kula-Manisa**	**1.99**	**357**	P		**Pn**	**02 39 59.4**	**-0.5**
KULA				S		**Sn**	**02 40 25.4**	**+1.1**
SUTC	**Sutluce-Ispart**	**2.00**	**61**	*e*PN		**Pn**	**02 40 00.0**	**0.0**
SUTC	**Sutluce-Ispart**	**2.00**	**61**	*e*Pn		**Pn**	**02 40 00.0**	**0.0**
IZM	**Izmir**	**2.24**	**327**	*e*PN		**Pn**	**02 40 03.4**	**+0.2**
IZM	**Izmir**	**2.24**	**327**	*e*Pn		**Pn**	**02 40 03.4**	**+0.2**
BLCB	**Balcova**	**2.33**	**324**	*e*PN		**Pn**	**02 40 05.0**	**+0.6**
BLCB	**Balcova**	**2.33**	**324**	*e*Pn		**Pn**	**02 40 05.0**	**+0.6**
AKS	**Akhisar**	**2.48**	**342**	*e*PN		**Pn**	**02 40 06.0**	**-0.5**
AKS	**Akhisar**	**2.48**	**342**	*e*Pn		**Pn**	**02 40 06.0**	**-0.5**
ZEY	**˘zmir**	**2.51**	**314**	*i* P		**Pn**	**02 40 07.0**	**+0.1**
ZEY				*i* S		**Sn**	**02 40 37.8**	**+0.9**
DEMI	**Demirci**	**2.52**	**358**	*i* P		**Pn**	**02 40 06.4**	**-0.7**
DEMI				*i* S		**Sn**	**02 40 36.8**	**-0.5**
DEMI	**Demirci**	**2.52**	**358**	*i* P		**Pn**	**02 40 06.4**	**-0.7**
DEMI				*i* S		**Sn**	**02 40 36.8**	**-0.5**
ZKR	**Zakros**	**2.53**	**237**	*e*PN		**Pn**	**02 40 07.7**	**+0.6**
ZKR				*e*SN		**Sn**	**02 40 37.1**	**-0.3**
ZKR	**Zakros**	**2.53**	**237**	P		**Pn**	**02 40 07.8**	**+0.6**
ZKR				*e*Sn		**Sn**	**02 40 37.1**	**-0.3**
ZKR	**Zakros**	**2.53**	**237**	P		**Pn**	**02 40 07.8**	**+0.6**
ZKR				S		**Sn**	**02 40 37.7**	**+0.3**
URLA	**Izmir**	**2.54**	**317**	*e*P		**Pn**	**02 40 09.2**	**+1.8**
URLA				*i* S		**Sn**	**02 40 37.1**	**-0.7**
URLA	**Izmir**	**2.54**	**317**	*e*P		**Pn**	**02 40 09.2**	**+1.8**
URLA				*i* S		**Sn**	**02 40 37.1**	**-0.7**
GDZ	**Gediz**	**2.62**	**12**	*i* P		**Pn**	**02 40 07.8**	**-0.7**
GDZ	**Gediz**	**2.62**	**12**	*i* P		**Pn**	**02 40 07.8**	**-0.7**
APE	**Apeiranthos**	**2.69**	**283**	*e*PN		**Pn**	**02 40 10.7**	**+1.4**
APE	**Apeiranthos**	**2.69**	**283**	P		**Pn**	**02 40 10.4**	**+1.1**
APE	**Apeiranthos**	**2.69**	**283**	*e*Pn		**Pn**	**02 40 10.7**	**+1.4**
APE	**Apeiranthos**	**2.69**	**283**	P		**Pn**	**02 40 10.4**	**+1.1**
CHOS	**Chios island**	**2.87**	**311**	*e*PN		**Pn**	**02 40 12.8**	**+0.8**
CHOS	**Chios island**	**2.87**	**311**	*e*PN		**Pn**	**02 40 12.3**	**+0.3**
CHOS				*e*SN		**Sn**	**02 40 45.4**	**-0.6**
CHOS	**Chios island**	**2.87**	**311**	*e*Pn		**Pn**	**02 40 12.8**	**+0.8**
CHOS				*e*Sn		**Sn**	**02 40 45.4**	**-0.6**
CHOS				S		**Sn**	**02 40 47.0**	**+1.0**
CHOS	**Chios island**	**2.87**	**311**	P		**Pn**	**02 40 13.0**	**+1.0**
CHOS				S		**Sn**	**02 40 47.0**	**+1.0**
NPS	**Neapolis**	**2.88**	**245**	*e*PN		**Pn**	**02 40 11.4**	**-0.6**
NPS				*e*SN		**Sn**	**02 40 44.0**	**-2.1**
NPS	**Neapolis**	**2.88**	**245**	*e*Pn		**Pn**	**02 40 11.4**	**-0.6**
NPS				*e*Sn		**Sn**	**02 40 44.0**	**-2.1**
TVSB	**Tavsanli**	**2.97**	**10**	*e*PN		**Pn**	**02 40 13.0**	**-0.3**
TVSB	**Tavsanli**	**2.97**	**10**	*e*Pn		**Pn**	**02 40 13.0**	**-0.3**
HDMB	**Hadim**	**2.99**	**80**	*e*PN		**Pn**	**02 40 14.9**	**+1.2**
HDMB	**Hadim**	**2.99**	**80**	*e*Pn		**Pn**	**02 40 14.9**	**+1.2**
KONT	**Konya--Tatoy**	**3.17**	**62**	*e*PN		**Pn**	**02 40 16.7**	**+0.6**
KONT	**Konya--Tatoy**	**3.17**	**62**	*e*Pn		**Pn**	**02 40 16.7**	**+0.6**
PRK	**Paraskevi**	**3.38**	**324**	*e*PN		**Pn**	**02 40 19.8**	**+1.0**
PRK	**Paraskevi**	**3.38**	**324**	*e*Pn		**Pn**	**02 40 19.8**	**+1.0**
PRK	**Paraskevi**	**3.38**	**324**	P		**Pn**	**02 40 20.0**	**+1.2**
KIZT	**Kizilcal**	**3.39**	**45**	*e*PN		**Pn**	**02 40 19.0**	**-0.1**
KIZT	**Kizilcal**	**3.39**	**45**	*e*Pn		**Pn**	**02 40 19.0**	**-0.1**
SIGR	**SIGRI**	**3.56**	**320**	*e*PN		**Pn**	**02 40 22.8**	**+1.5**
SIGR	**SIGRI**	**3.56**	**320**	P		**Pn**	**02 40 22.4**	**+1.1**
SIGR	**SIGRI**	**3.56**	**320**	*e*Pn		**Pn**	**02 40 22.8**	**+1.5**
SIGR	**SIGRI**	**3.56**	**320**	P		**Pn**	**02 40 22.4**	**+1.1**
SVRH	**Sivrihisar-ESK**	**3.62**	**35**	*e*PN		**Pn**	**02 40 22.3**	**0.0**
SVRH	**Sivrihisar-ESK**	**3.62**	**35**	*e*Pn		**Pn**	**02 40 22.3**	**0.0**
KCTX	**Karacabey (Bur**	**3.76**	**355**	*e*PN		**Pn**	**02 40 24.4**	**+0.5**
KCTX	**Karacabey (Bur**	**3.76**	**355**	*e*Pn		**Pn**	**02 40 24.5**	**+0.5**
CSS	**Prodhromos**	**4.00**	**112**	P		**Pn**	**02 40 26.1**	**-1.2**
CSS	**Prodhromos**	**4.00**	**112**	P		**Pn**	**02 40 26.1**	**-1.2**
GVD	**Gavdhos**	**4.19**	**248**	*e*PN		**Pn**	**02 40 30.8**	**+0.8**
GVD	**Gavdhos**	**4.19**	**248**	*e*Pn		**Pn**	**02 40 30.8**	**+0.8**
VLI	**Veliai**	**4.72**	**274**	*e*PN		**Pn**	**02 40 38.3**	**+1.0**
VLI	**Veliai**	**4.72**	**274**	*e*Pn		**Pn**	**02 40 38.3**	**+1.0**

*ISCJB **05** 02:54:28.9±4.0,30°8N±0°3×14°2E±°,h24km,mb3.5/3, Error ellipse: s-maj=168.8km s-min=11.2km az=163.5*
*IDC **05** 02:54:28.9±5.0,30°55N×141°74E,h0km,mb3.4/3, mb1 3.6/4,mb1mx3.3/34,mbtmp3.4/4,ML3.5/1,Error ellipse: s-maj=195.3km s-min=25.2km az=71.0*
*JMA **05** 02:54:30.5±0.4,31°41N×142°57E,h0km,M3.7*

ISC 05 02:54:30.6±5.0,**30°8N**±0°4×**14°2E**±°,**h24**km,**n6,**σ**1°29/7, mb3.5/3,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JOD2	**Odawara 2**	**5.15**	**330**	P		**Pn**	**02 55 47.1**	**+0.9**
JRY	**Ryogami san**	**5.88**	**333**	P		**Pn**	**02 55 56.7**	**+0.5**
JRY				S		**Sn**	**02 57 01.0**	**-1.8**
MJAR	**Matsushiro Arr**	**6.61**	**331**	Pn		**Pn**	**02 56 06.5**	**+0.3**
	0.9nm,0.3s,baz=158,slow=12,SNR=7.3							
MKAR	**Makanchi Array**	**48.20**	**307**	P		**P**	**03 03 10.2**	**+1.1**
	0.3nm,0.7s,baz=90,slow=9.0,SNR=2.4							
WRA	**Warramunga Arr**	**51.04**	**190**	P		**P**	**03 03 30.1**	**-0.8**
	0.3nm,0.4s,baz=5.7,slow=7.6,SNR=3.6							
ASAR	**Alice Springs**	**54.77**	**189**	P		**P**	**03 03 57.8**	**-0.5**
	0.1nm,0.3s,baz=7.8,slow=7.5,SNR=3.0							

*NIED **05** 02:58:00,39°60N×142°70E,h26km,Mw3.7 Best double couple: M03.61000×10^14 NP1:φs33.00000°,δ15.00000°, λ-87.00000°. NP2:φs210.00000°,δ75.00000°, λ-91.00000°.*
*JMA **05** 02:58:38.9±0.1,39°63N×142°70E,h31km±2km,M4.0*

ISC 05 02:58:38.4±3.2,**39°63N**±0°05×**142°7E**±0°2,**h24**km±16km, **n11,**σ**0°49**/21,**5C-2D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.69**	**266**	||P	**Pb**	**02 58 51.9**	**+0.2**
MIYJ				S		**Sb**	**02 59 00.8**	**0.0**
JTH	**Tanohata**	**0.72**	**296**	⇑P		**Pb**	**02 58 52.6**	**+0.3**
JTH				S		**Sb**	**02 59 02.4**	**+0.7**
OFUJ	**Ofunato**	**0.97**	**236**	P		**Pn**	**02 58 56.4**	**-0.2**
OFUJ				S		**Sb**	**02 59 09.0**	**-0.1**
JOM	**Ohasama**	**1.11**	**262**	⇑P		**Pb**	**02 58 58.7**	**-0.1**
JOM				S		**Sb**	**02 59 12.9**	**+0.1**
JKZ	**Kuzumaki**	**1.12**	**289**	⇑P		**Pn**	**02 58 58.8**	**+0.2**
JKZ				S		**Sn**	**02 59 13.1**	**-0.2**
JANG	**Nango**	**1.18**	**309**	⇑P		**Pn**	**02 58 58.8**	**-0.6**
JMK	**Ichinoseki**	**1.34**	**240**	⇑P		**Pn**	**02 59 02.0**	**+0.4**
JMK				*e*S		**Sn**	**02 59 18.8**	**+0.1**
JIO	**Ouri**	**1.58**	**222**	P		**Pn**	**02 59 05.2**	**+0.3**
JIO				S		**Sn**	**02 59 24.5**	**-0.1**
JRG	**Rokugo**	**1.62**	**262**	||P	**Pb**	**02 59 07.0**	**-0.6**
JRG				*e*S		**Sb**	**02 59 28.3**	**+0.7**
JAH	**Hinai**	**1.69**	**290**	P		**Pb**	**02 59 07.8**	**-1.0**
JAH				*e*S		**Sb**	**02 59 29.0**	**-0.6**
JTM	**Tenmabayashi**	**1.71**	**313**	P		**Pn**	**02 59 07.1**	**+0.4**
JTM				*e*S		**Sn**	**02 59 28.4**	**+0.7**

*BJI **05** 03:18:06.8,8°08S×127°58E,h173km,mb4.5/24,mB4.7/13*
*ISCJB **05** 03:18:09.9±0.3,7°64S±0°03×127°75E±0°03,h185km±4km, mb4.4/35,Error ellipse: s-maj=4.8km s-min=4.3km az=175.7*
*NEIC **05** 03:18:10.3±0.5,7°56S×127°76E,h171km±5km,mb4.7/19, Error ellipse: s-maj=6.8km s-min=5.3km az=216.0*
*DJA **05** 03:18:11.3±0.2,8°S±3°×12°8E±°,h169km±4km,M5.0/24, mB5.5/6,mb4.7/24,MLv5.1/15,Mw(mB)4.9/6*
*IDC **05** 03:18:11.3±2.3,7°48S×127°72E,h177km±21km,mb4.0/16, mb1 4.2/19,mb1mx4.1/24,mbtmp4.6/19,MS2.7/1, Ms1 2.7/1,ms1mx2.3/29,Error ellipse: s-maj=18.4km s-min=10.6km az=63.0*

ISC 05 03:18:10.2±0.4,**7°66S**±0°04×**127°79E**±0°04,**h171**km±3km, **n133,**σ**1°65**/163,**mb4.4**/35,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SAUI	**Saumlaki**	**3.49**	**95**	P		**Pn**	**03 19 06.6**	**+2.0**
SAUI				S		**Sn**	**03 19 48.9**	**+1.9**
SAUI	**Saumlaki**	**3.49**	**95**	*e*Pn		**Pn**	**03 19 05.6**	**+1.0**
SAUI				*e*Sn		**Sn**	**03 19 42.6**	**-4.4**
BNDI	**Bandanaira**	**3.76**	**34**	P		**Pn**	**03 19 08.9**	**+0.9**
AAI	**Ambon**	**3.97**	**6**	P		**Pn**	**03 19 11.9**	**+1.2**
AAI	**Ambon**	**3.97**	**6**	P		**Pn**	**03 19 12.6**	**+1.9**
	baz=3.8,SNR=3.8							
SOEI	**Soe**	**4.06**	**239**	P		**Pn**	**03 19 13.8**	**+1.9**
SOEI				S		**Sn**	**03 19 58.6**	**-1.5**
SOEI	**Soe**	**4.06**	**239**	P		**Pn**	**03 19 11.9**	**0.0**
	baz=4.4,SNR=84							
SOEI	**Soe**	**4.06**	**239**	*e*Pn		**Pn**	**03 19 11.8**	**-0.1**
SOEI				*e*S		**Sn**	**03 19 59.7**

MNSI Mandailing Nat 29.36 285 P **P** **03 23 57.0 -0.4**
23nm,0.8s

KULM Kulim 29.98 295 *eP* **P** **03 24 01.7 -1.1**
20nm,0.7s

PSI Prapat 30.62 289 P **P** **03 24 07.7 -0.9**
35nm,0.8s,baz=129,slow=5.4,SNR=40

PSI Prapat 30.62 289 P **P** **03 24 07.7 -0.9**
baz=31,SNR=14

PSI Prapat 30.62 289 *eP* **P** **03 24 07.2 -1.4**
42nm,0.8s

ARPS Mount Arapiles 31.68 158 P **P** **03 24 19.8 +2.4**
baz=32,SNR=7.1

TRTT Trang 31.96 298 P **P** **03 24 20.3 0.0**
19nm,1.0s

CHAI Chaiyaphum 34.66 313 P P 03 24 46.8 +3.3
4.2nm,0.8s,86nm

CMAR Chiang Mai Arr 38.52 313 P **P** **03 25 15.8 -0.4**
2.2nm,0.5s,baz=143,slow=6.8,SNR=10

CMAR PcP **PcP** **03 27 26.6 +1.0**
3.7nm,0.7s,baz=165,slow=2.7,SNR=12

CMAI Chiengmai2 39.40 315 P P 03 25 27.2 +3.5
10nm,1.1s

GYA Guiyang 39.63 330 *eP* **P** **03 25 26.9 +1.4**

GYA pP **pP** **03 26 03.2 +0.7**

GYA sP **sP** **03 26 23.0 +1.1**

GYA S **S** **03 31 18.0 +2.0**

GYA sS **sS** **03 32 22.4 +1.6**

GYA PMZ
10.0nm,0.8s

GYA PMZ
110nm,4.9s

NJ2 Nanjing 40.40 348 *eP* **P** **03 25 31.3 -0.3**

NJ2 PMZ
50nm,1.2s

CD2 Chengdu 44.73 330 P **P** **03 26 06.8 +0.2**

CD2 pP **pP** **03 26 43.8 -0.6**

CD2 sP **sP** **03 27 02.9 -0.7**

CD2 PP **PP** **03 27 55.1 +0.3**

CD2 S **S** **03 32 32.6 +2.0**

CD2 sS **sS** **03 33 37.9 +1.4**

CD2 PMZ
10.0nm,0.5s

CD2 PMZ
100nm,4.3s

KSAR Wonju Array Be 44.87 0 P P 03 26 03.7 -3.7

KSRS Korea Array 44.88 0 P P 03 26 03.7 -3.8
3.0nm,0.6s,baz=173,slow=9.0,SNR=20

KSRS LR LR 03 46 01.2
comp=Z,9.7nm,20.8s,baz=160,slow=37

MJAR Matsushiro Arr 45.05 12 P **P** **03 26 06.4 -2.5**
1.7nm,0.8s,baz=188,slow=10.0,SNR=6.1

XAN Xi'an 45.17 338 P **P** **03 26 08.5 -1.5**

XAN PMZ
4.0nm,0.7s

BJI Beijing 48.66 348 P **P** **03 26 38.5 +1.6**

BJI PMZ
7.0nm,0.5s

LZH Lanzhou 49.00 334 *eP* **P** **03 26 41.9 +2.2**

LZH pP **pP** **03 27 18.4 +0.3**

LZH sP **sP** **03 27 35.5 -1.7**

LZH PMZ
13nm,1.0s

HHC Hu-ho-hao-te 50.53 344 *eP* **P** **03 26 54.1 +3.0**

HHC PP **PP** **03 28 53.2 +4.4**

HHC S **S** **03 33 55.3 +3.2**

HHC sS **sS** **03 34 59.2 -0.1**

HHC ScS **ScS** **03 36 25.1 +0.6**

HHC SS **SS** **03 37 29.8 +1.1**

HHC PMZ
15nm,1.1s

HHC PMZ
53nm,5.3s

LSA Lhasa 51.19 318 *eP* **P** **03 26 56.2 -0.5**
5.1nm,0.4s

CN2 Changchun 51.26 358 *eP* P 03 27 01.8 +5.4

TAPN Taplejung 52.12 313 *eP* **P** **03 27 02.7 -0.7**
24nm,0.8s

RAMN Ramite 52.69 312 *eP* **P** **03 27 07.1 -0.5**
43nm,0.7s

GTA Gaotai 53.53 333 *eP* **P** **03 27 12.8 -0.6**

GTA pP **pP** **03 27 48.9 -3.5**

GTA PMZ
8.0nm,1.0s

GUN Gumba 53.76 313 *eP* **P** **03 27 14.5 -1.0**
32nm,0.7s

PKI Pulchoki 53.92 312 *eP* **P** **03 27 15.2 -1.4**
11nm,0.5s

PKIN Phulchoki 53.93 312 *eP* **P** **03 27 15.2 -1.5**

PKIN Phulchoki 53.93 312 *eP* **P** **03 27 15.4 -1.3**
11nm,0.7s

KKN Kakani 54.13 312 *eP* **P** **03 27 17.1 -1.0**
12nm,0.5s

GKN Gorkha 54.72 312 *eP* **P** **03 27 21.2 -1.1**
22nm,0.7s

KOLN Koldanda 55.36 311 *eP* **P** **03 27 26.0 -0.9**
32nm,0.6s

SONM Songino Array 58.41 343 P **P** **03 27 47.3 -0.5**
4.5nm,0.9s,baz=169,slow=6.8,SNR=18

SONM PcP **PcP** **03 28 36.3 -0.4**
1.1nm,0.6s,baz=149,slow=4.4,SNR=3.5

WMQ Urumqi 62.78 328 P **P** **03 28 19.7 +2.3**

WMQ pP **pP** **03 28 57.7 0.0**

WMQ sP **sP** **03 29 14.7 -1.5**

WMQ PMZ
7.0nm,1.0s

WMQ PMZ
62nm,3.8s

PETK Petropavlovsk- 65.65 19 P **P** **03 28 35.8 -0.1**
2.2nm,0.5s,baz=192,slow=6.3,SNR=5.4

KSH Kashi 67.04 319 P **P** **03 28 45.0 -0.2**

KSH PcP **PcP** **03 29 14.4 +2.2**

KSH pP **pP** **03 29 28.1 +2.2**

KSH PP **PP** **03 31 18.1 +2.8**

KSH PcS 03 33 16.2

KSH S **S** **03 37 19.9 -5.4**

KSH ScS **SKSac** **03 38 23.0 -3.1**

KSH sS **sS** **03 38 38.4 +2.5**

KSH PMZ
9.0nm,0.4s

KSH PMZ
170nm,4.1s

KSH LN
91nm,4.8s

KSH LE
120nm,4.2s

KSH LZ
170nm,5.1s

MK31 Makanchi Array 67.60 328 *eP* **P** **03 28 48.0 -0.3**

MKAR Makanchi Array 67.60 328 P **P** **03 28 48.0 -0.3**
4.1nm,0.5s,baz=125,slow=7.7,SNR=52

MKAR PcP **PcP** **03 29 13.7 -0.5**
3.0nm,0.6s,baz=116,slow=5.5,SNR=9.7

ZALV Zalesovo Beam 71.22 335 P **P** **03 29 08.6 -1.8**
5.1nm,0.6s,baz=134,slow=5.1,SNR=24

KURBB Kurchatov Arra 71.94 329 P **P** **03 29 14.7 -0.1**
12nm,0.6s,baz=133,slow=5.1,SNR=19

KURK Kurchatov 71.96 330 *eP* **P** **03 29 14.2 -0.6**
31nm,0.7s

VNDA Vanda 72.07 173 P **P** **03 29 16.9 +1.8**
0.6nm,0.7s,baz=305,slow=7.1,SNR=6.1

KKAR Karatay Array 72.41 320 P **P** **03 29 17.2 -0.5**
1.2nm,0.6s

IMYA Miami 76.96 310 *eP* **P** **03 29 42.5 -1.8**

IMOG Moghan 77.46 310 *eP* **P** **03 29 46.1 -1.1**

BVAR Borovoye Array 77.47 329 P **P** **03 29 46.0 -0.5**
3.3nm,0.5s,baz=128,slow=9.3,SNR=9.9

BRVK Borovoye 77.54 329 *eP* **P** **03 29 46.2 -0.7**
9.3nm,0.8s

IKRD Kardeh 78.31 310 *eP* P 03 29 46.1 -5.7

GEYT Alibeck 78.98 311 P **P** **03 29 54.4 -0.8**
1.8nm,0.4s,baz=318,slow=2.0,SNR=4.8

ABKAR Akbulak array 81.67 322 *eP* **P** **03 30 08.8 -0.5**
2.1nm,0.4s

QSPA South Pole Qui 82.32 180 *eP* **P** **03 30 12.4 -0.1**
3.0nm,0.8s

AKTO Aktyubinsk 83.26 323 P **P** **03 30 16.9 -0.6**
7.0nm,0.7s,baz=107,slow=7.3,SNR=8.9

ARU Arti 85.11 329 *eP* **P** **03 30 25.8 -0.8**
12nm,1.0s

RAYN Ar Rayn 86.01 294 *eP* **P** **03 30 30.9 -1.1**
3.6nm,0.8s

KBZ Khabaz 91.56 314 P **P** **03 30 56.2 -1.3**
0.9nm,0.7s,baz=32,slow=2.1,SNR=3.9

ILAR Eielson Array 94.88 25 P **P** **03 31 10.5 -1.9**
0.3nm,0.5s,baz=255,slow=4.4,SNR=7.5

BRTR Keskin Array B 98.03 309 P **P** **03 31 25.7 -1.7**
0.7nm,0.7s,baz=144,slow=7.2,SNR=5.3

ARCES ARCESS Array B 101.43 339 P **Pdif** **03 31 38.6 -3.1**
1.9nm,0.8s,baz=74,slow=7.6,SNR=5.1

YKA Yellowknife Ar 109.30 26 PKiKP **PKiKP** **03 36 19.1 -0.4**
1.0nm,0.6s,baz=283,slow=1.5,SNR=5.0

GERES GERESS Array B 111.51 320 PKiKP **PKiKP** **03 36 23.7 -0.6**
0.7nm,0.6s,baz=72,slow=1.2,SNR=9.0

NVAR Mina Array Bea 113.42 51 PKiKP **PKiKP** **03 36 29.8 +1.3**
1.4nm,1.1s,baz=245,slow=4.3,SNR=4.6

LOHW Long Hollow 117.93 44 *e*PKPdf **PKPdf** **03 36 36.8 -0.2**

PDAR Pinedale Array 118.91 45 PKP **PKPdf** **03 36 39.1 +0.2**
0.9nm,0.7s,baz=22,slow=1.4,SNR=10

PV01 Paradox Valley 120.96 50 *e*PKPdf **PKPdf** **03 36 44.1 +1.1**

TORD Torodi Ar. Bea 126.78 281 PKP **PKPdf** **03 36 53.8 -0.7**
1.3nm,0.5s,baz=25,slow=2.2,SNR=32

TXAR Lajitas Array 127.15 59 PKP **PKPdf** **03 36 55.4 +0.5**
0.6nm,0.6s,baz=225,slow=1.3,SNR=8.1

DBIC Dimbokro 133.02 272 PKP **PKPdf** **03 37 07.3 +1.0**
1.3nm,0.5s,baz=96,slow=3.8,SNR=5.4

LVC Limon Verde 145.75 152 *e*PKPbc **PKPab** **03 37 31.9 +1.1**

CPUP Villa Florida 145.85 172 PKPbc **PKPab** **03 37 30.9 +0.3**
4.8nm,0.7s,baz=188,slow=1.5,SNR=16

LPAZ La Paz 151.46 147 PKPbc **PKPbc** **03 37 46.7 +1.1**
3.8nm,0.5s,baz=21,slow=1.3,SNR=44

LPAZ PKPab **PKPab** **03 37 56.6 +2.3**
8.8nm,0.6s,baz=205,slow=3.6,SNR=22

*IDC **05** 03:21:20.4±2.8, 1°.56N×126°.88E, h70km±27km, mb4.0/15, mb1 4.1/17, mb1mx3.9/37, mbtmp4.3/17, Error ellipse: s-maj=21.5km s-min=12.3km az=83.0*
*ISCJB **05** 03:21:21.6±0.4, 1°.53N±0°.04×126°.93E±0°.04, h103km, mb4.2/16, Error ellipse: s-maj=6.3km s-min=5.3km az=161.9*
*DJA **05** 03:21:21.8±0.6, 2°N±3°×12°7E±°, h24km±9km, M4.6/14, mB5.0/9, mb4.9/9, MLv4.9/14, Mw(mB)4.4/9*
ISC 05 03:21:23.9±0.6, 1°.44N±0°.05×126°.90E±0°.06, h103km, n33, σ2°20/44, mb4.3/16, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.81**	**145**	P	**Pn**	**03 21 40.0**	**-2.7**
TNTI				S	**Sn**	**03 21 52.7**	**-4.0**
LBMI	**Labuha**	**2.15**	**164**	P	**Pn**	**03 21 59.0**	**+0.4**
LBMI				S	**Sn**	**03 22 29.9**	**+4.9**
SGSI	**Sangihe**	**2.62**	**328**	P	**Pn**	**03 22 01.6**	**-3.2**
KMSI	**Cibinong**	**3.04**	**254**	P	**Pn**	**03 22 09.8**	**-0.6**
KMSI				S	**Sn**	**03 22 46.1**	**-0.1**
SANI	**Sanana**	**3.58**	**195**	P	**Pn**	**03 22 16.5**	**-1.1**
SANI				S	**Sn**	**03 22 54.8**	**-4.3**
LUWI	**Luwuk**	**4.81**	**239**	P	**Pn**	**03 22 35.3**	**+1.2**
LUWI				S	**Sn**	**03 23 31.4**	**+2.7**
SIJI	**Sorong**	**4.93**	**118**	P	**Pn**	**03 22 34.7**	**-1.0**
	baz=258,slow=7.1,SNR=3.8						
MRSI	**Marisa**	**5.05**	**259**	P	**Pn**	**03 22 36.2**	**-1.2**
	102nm,0.6s,3μm0.4nm						
MRSI				S	**Sn**	**03 23 35.6**	**+1.0**
	102nm,0.6s,3μm0.4nm						
APSI	**Ampana**	**5.75**	**246**	P	**Pn**	**03 22 47.7**	**+0.8**
	153nm,1.0s,2μm1.5nm						
KDI	**Kendari**	**6.86**	**219**	P	**Pn**	**03 23 01.9**	**-0.1**
	69nm,0.9s,1μm0.3nm						
FAKI	**Fak Fak**	**6.88**	**129**	P	**Pn**	**03 23 03.5**	**+1.3**
	96nm,1.2s,946nm0.3nm						
MPSI	**Mapaga**	**7.09**	**261**	P	**Pn**	**03 23 04.7**	**-0.4**
	22nm,0.8s,533nm0.1nm						
TTSI	**Tana Toraja**	**8.37**	**238**	P	**Pn**	**03 23 21.7**	**-0.8**
	45nm,1.3s,607nm						
SPSI	**Sidrap Palu**	**8.92**	**233**	P	**Pn**	**03 23 28.1**	**-1.9**
	44nm,0.8s,583nm						
BKSI	**Bukukumba**	**9.54**	**225**	P	**Pn**	**03 23 37.7**	**-0.7**
KAPI	**Kappang**	**9.60**	**228**	P	**Pn**	**03 23 37.5**	**-1.7**
	3.6nm,0.3s,baz=50,slow=7.9,SNR=3.5						
KAPI				S	**Sn**	**03 25 22.1**	**-3.1**
	1.1nm,0.3s,baz=127,slow=20,SNR=2.1						
WRA	**Warramunga Arr**	**22.46**	**161**	P	**P**	**03 26 13.6**	**-1.2**
	24nm,0.7s,baz=341,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**25.86**	**165**	P	**P**	**03 26 48.8**	**+2.6**
	11nm,0.8s,baz=323,slow=6.0,SNR=3.6						
NWAO	**Narrogin (SRO)**	**35.38**	**194**	P	**P**	**03 28 11.0**	**+1.2**
	12nm,0.8s,baz=327,slow=3.4,SNR=4.1						
KSRS	**Korea Array**	**35.85**	**1**	P	**P**	**03 28 12.3**	**-1.4**
	2.3nm,0.8s,baz=179,slow=10.0,SNR=6.5						
STKA	**Stephens Creek**	**35.94**	**158**	P	**P**	**03 28 14.7**	**0.0**
	6.1nm,0.7s,baz=323,slow=6.6,SNR=7.5						
MJAR	**Matsushiro Arr**	**36.47**	**15**	P	P	03 28 15.9	-3.2
	2.8nm,0.7s,baz=189,slow=10,SNR=9.3						
HHC	**Hu-ho-hao-te**	**41.62**	**342**	*eP*	**P**	**03 29 05.2**	**+3.1**
HHC				PP	**PnPn**	**03 30 46.0**	**0.0**
HHC				S	**S**	**03 35 16.3**	**+5.4**
HHC				sS	**sS**	**03 35 48.0**	**-4.0**
HHC				SS	**SS**	**03 38 18.8**	**-1.3**
HHC				ScS	**ScS**	**03 38 58.7**	**+3.6**
HHC				pmax	pmax		
	comp=Z,18nm,1.1s						
HHC				pmax	pmax		
	comp=Z,67nm,5.3s						
HHC				LR	LR		
	comp=N,73nm,13.3s						
HHC				LR	LR		
	comp=E,76nm,13.3s						
HHC				LR	LR		
	comp=Z,50nm,13.3s						
USRK	**Ussuriysk Ar.**	**42.82**	**5**	P	**P**	**03 29 11.2**	**-0.4**
	comp=Z,3.9nm,0.9s,baz=190,slow=7.4,SNR=5.2						
SONM	**Songino Array**	**49.51**	**342**	P	**P**	**03 30 03.0**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=161,slow=7.8,SNR=4.6						
PETK	**Petropavlovsk-**	**57.48**	**21**	P	**P**	**03 31 01.9**	**-0.3**
	comp=Z,4.2nm,0.6s,baz=179,slow=5.9,SNR=3.8						
MKAR	**Makanchi Array**	**59.53**	**326**	P	**P**	**03 31 16.6**	**0.0**
	comp=Z,1.3nm,0.4s,baz=119,slow=7.9,SNR=6.6						
ZALV	**Zalesovo Beam**	**62.70**	**334**	P	**P**	**03 31 35.3**	**-2.5**
	comp=Z,1.0nm,0.8s,baz=100,slow=7.9,SNR=2.9						
KURBB	**Kurchatov Arra**	**63.76**	**328**	P	**P**	**03 31 44.8**	**0.0**
	comp=Z,1.8nm,0.4s,baz=130,slow=6.0,SNR=6.5						
BVAR	**Borovoye Array**	**69.33**	**327**	P	**P**	**03 32 20.3**	**0.0**
	comp=Z,0.5nm,0.4s,baz=132,slow=8.7,SNR=2.6						
AKTO	**Aktyubinsk**	**75.56**	**322**	P	**P**	**03 32 57.0**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=99,slow=13,SNR=2.7						
VNDA	**Vanda**	**81.14**	**173**	P	**P**	**03 33 28.1**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=295,slow=5.4,SNR=7.1						
TORD	**Torodi Ar. Bea**	**123.77**	**287**	PKP	**PKPdf**	**03 40 11.2**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=68,slow=2.0,SNR=2.8						

*NNC **05** 03:28:43.2±7.1, 37°.82N×71°.95E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=68.7km s-min=20.7km az=158.0*
ISC 05 03:28:42.4±3.3, 37°.8N±0°.2×72°.00E±0°.09, h10km, n11, σ1°48/13, 7C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.50**	**28**	↑P	**Pn**	**03 29 25.3**	**+2.0**
	9.9nm,0.4s						
SFK				↑S	**Sb**	**03 30 00.5**	**+2.1**
	30nm,0.3s						
DZET	**Dzherino**	**2.69**	**293**	↑P	**Pn**	**03 29 26.9**	**+1.1**
	30nm,0.3s						
DZET				↑S	**Sb**	**03 30 02.9**	**-0.9**
	122nm,0.5s						
KSH	**Kashi**	**3.55**	**60**	Pn	Pn	03 29 30.7	-7.0
KSH				Sn	Sn	03 30 08.2	-12
KSH				smax	smax		
	comp=N,59nm,0.4s						
KSH				smax	smax		
	comp=E,38nm,0.3s						
AML	**Almayashu**	**4.51**	**16**	P	**Pn**	**03 29 50.5**	**-0.6**
	SNR=26						
UCH	**Uchtor**	**4.82**	**23**	P	**Pn**	**03 29 54.2**	**-1.3**
	SNR=13						
KZA	**Kyzart**	**4.95**	**29**	P	**Pn**	**03 29 55.0**	**-2.1**
	SNR=12						
EKS2	**Erkin-Say**	**5.04**	**15**	P	**Pn**	**03 29 57.2**	**-0.9**
	SNR=12						
AAK	**Ala-Archa**	**5.19**	**21**	P	**Pn**	**03 29 59.2**	**-1.0**
	SNR=5.4						
AAK	**Ala-Archa**	**5.19**	**21**	↑P	**Pn**	**03 29 58.7**	**-1.5**
	comp=E,8.3nm,0.7s						
AAK				↑S	**Sn**	**03 31 00.1**	**-0.1**
	comp=E,3.7nm,0.5s						
KK31	**Karatay Array**	**5.41**	**348**	P	**Pn**	**03 30 02.3**	**-0.9**
	comp=E,4.0nm,0.5s,baz=171,slow=17,SNR=40						
KK31				↑S	**Sn**	**03 31 05.9**	**+0.3**
	comp=E,1.8nm,0.2s,baz=173,slow=24,SNR=11						
TKM2	**Tokmak 2**	**5.80**	**27**	P	Pn	03 30 06.3	-2.4
	SNR=8.3						

*ISCJB **05** 04:11:31.2±0.7, 37°.53N±0°.05×38°.70E±0°.05, h6km±7km, Error ellipse: s-maj=8.6km s-min=5.9km az=148.6*
*CSEM **05** 04:11:31.4, 37°.55N×38°.65E, h7km, MD2.6*
*DDA **05** 04:11:31.4, 37°.55N×38°.65E, h7km, MD2.6*
ISC 05 04:11:31.1±1.0, 37°.53N±0°.04×38°.71E±0°.04, h10km±9km, n11, σ0°48/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URFA	**Urfa**	**0.12**	**135**	PG	**Pg**	**04 11 34.0**	**-0.1**
URFA				*e*SG	**Sg**	**04 11 36.1**	**-0.1**
ATAB	**Bozova**	**0.34**	**260**	*i* P	**Pg**	**04 11 37.4**	**-0.4**
ATAB				*i* S	**Sg**	**04 11 42.5**	**+0.3**
ATAB	**Bozova**	**0.34**	**260**	*i* P	**Pg**	**04 11 37.4**	**-0.4**
ATAB				*i* S	**Sg**	**04 11 42.5**	**+0.3**
MALT	**Malatya**	**0.81**	**344**	*e*PG	**Pg**	**04 11 47.1**	**+0.3**
GZT	**Gaziantep**	**0.93**	**260**	*i* P	**Pg**	**04 11 48.6**	**-0.3**
GZT				*i* S	**Sn**	**04 12 04.1**	**+0.2**
AKCD	**Akcadag**	**0.99**	**321**	*i* P	**Pn**	**04 11 51.1**	**-0.1**
AKCD				*i* S	**Sg**	**04 12 03.0**	**0.0**
AKCD	**Akcadag**	**0.99**	**321**	*i* P	**Pn**	**04 11 51.1**	**-0.1**
AKCD				*i* S	**Sg**	**04 12 02.9**	**0.0**
ELZG	**Elazig**	**0.99**	**13**	*i* P	**Pg**	**04 11 49.4**	**-0.7**
ELZG				*i* S	**Sb**	**04 12 04.4**	**+0.7**
ELZG	**Elazig**	**0.99**	**13**	*i* P	**Pg**	**04 11 49.4**	**-0.7**
ELZG				*i* S	**Sb**	**04 12 04.4**	**+0.7**
HCB	**Kahramanmara¯**	**1.45**	**263**	*i* P	**Pn**	**04 11 57.7**	**+0.3**
HCB				*i* S	**Sn**	**04 12 15.5**	**-1.0**
KAMA	**Osmaniye**	**1.66**	**259**	*i* P	**Pb**	**04 12 02.0**	**+0.1**
KAMA				*i* S	**Sn**	**04 12 21.5**	**-0.4**

*ISCJB **05** 04:12:46.6±0.4, 5°.87S±0°.06×107°.90E±0°.09, h300km, mb3.6/9, Error ellipse: s-maj=12.9km s-min=8.2km az=160.5*
*DJA **05** 04:12:46.5±1.7, 6°S±8°×10°8E±°, h323km±22km, M3.8/15, MLv3.9/10, MLv3.8/15*
*IDC **05** 04:12:47.7±0.8, 6°.07S×107°.57E, h310km±9km, mb3.4/9, mb1 3.5/9, mb1mx3.2/34, mbtmp4.1/9, Error ellipse: s-maj=31.9km s-min=12.7km az=58.0*
ISC 05 04:12:46.9±0.7, 6°.04S±0°.08×107°.78E±0°.10, h300km, n33, σ1°25/35, mb3.8/9, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEM	**Lembang**	**0.80**	**191**	P	**Pn**	**04 13 28.7**	**+2.0**
LEM	**Lembang**	**0.80**	**191**	P	**Pn**	**04 13 28.4**	**+1.7**
	54nm,0.3s,baz=342,slow=6.4,SNR=25						
CBJI	**Citeko**	**0.99**	**248**	P	**Pn**	**04 13 29.4**	**+2.1**
CNJI	**Cibinong**	**1.41**	**207**	P	**Pn**	**04 13 29.8**	**+0.2**
CISI	**Cisompet, Garu**	**1.50**	**179**	P	**Pn**	**04 13 30.5**	**+0.3**
SKJI	**Sukabumi**	**1.54**	**232**	P	**Pn**	**04 13 31.6**	**+1.2**
SBJI	**Serang**	**1.64**	**267**	P	**Pn**	**04 13 33.0**	**+2.0**
KPJI	**Karang Pucung**	**1.72**	**138**	P	**Pn**	**04 13 33.4**	**+1.8**
CMJI	**Cimerak**	**1.85**	**159**	P	**Pn**	**04 13 32.8**	**+0.2**
CGJI	**Cibinong**	**2.15**	**255**	P	**Pn**	**04 13 36.0**	**+1.1**
TPI	**Tanjungpandan**	**3.27**	**358**	P	**Pn**	**04 13 46.6**	**+1.2**
KASI	**Kota Agung**	**3.30**	**279**	P	**Pn**	**04 13 47.6**	**+1.8**
PPBI	**Pangkal Pinang**	**4.19**	**337**	P	**Pn**	**04 13 56.7**	**+1.4**
CMAR	**Chiang Mai Arr**	**25.86**	**340**	P	**P**	**04 17 52.7**	**+0.8**
	2.2nm,0.5s,baz=182,slow=8.2,SNR=15						
WRA	**Warramunga Arr**	**29.27**	**121**	P	**P**	**04 18 23.1**	**+0.8**
	0.3nm,0.3s,baz=292,slow=10,SNR=5.9						
WRA				PcP	**PcP**	**04 21 20.8**	**-0.2**
	0.3nm,0.3s,baz=313,slow=2.2,SNR=3.7						
ASAR	**Alice Springs**	**30.64**	**128**	P	**P**	**04 18 36.1**	**+1.9**
	0.4nm,0.3s,baz=302,slow=8.1,SNR=13						
ASAR				PcP	**PcP**	**04 21 24.6**	**0.0**
	0.4nm,0.5s,baz=295,slow=2.0,SNR=6.7						
ODAN	**Odare**	**38.20**	**330**	*eP*	**P**	**04 19 38.4**	**-0.5**
	16nm,0.5s						
TAPN	**Taplejung**	**38.45**	**331**	*eP*	**P**	**04 19 41.1**	**+0.1**
	13nm,0.6s						
RAMN	**Ramite**	**38.68**	**329**	*eP*	**P**	**04 19 43.0**	**+0.2**
PKI	**Pulchoki**	**39.80**	**328**	*eP*	**P**	**04 19 52.1**	**-0.1**
PKIN	**Phulchoki**	**39.81**	**328**	*eP*	**P**	**04 19 52.5**	**+0.3**
GUN	**Gumba**	**39.83**	**329**	*eP*	**P**	**04 19 51.9**	**-0.5**
DMN	**Daman**	**39.99**	**328**	*eP*	**P**	**04 19 52.9**	**-0.7**
	6.0nm,0.2s						
GKN	**Gorkha**	**40.55**	**328**	*eP*	**P**	**04 19 57.3**	**-0.8**
	7.3nm,0.3s						
KOLN	**Koldanda**	**40.93**	**326**	*eP*	**P**	**04 20 00.4**	**-0.8**
	11nm,0.5s						
KSRS	**Korea Array**	**47.18**	**22**	P	**P**	**04 20 50.7**	**+0.6**
	1.6nm,0.6s,baz=204,slow=8.7,SNR=6.8						
SONM	**Songino Array**	**53.66**	**359**	P	**P**	**04 21 38.9**	**+0.6**
	1.7nm,0.4s,baz=177,slow=7.8,SNR=13						
USRK	**Ussuriysk Ar.**	**54.57**	**21**	P	**P**	**04 21 44.3**	**-0.4**
	2.1nm,0.5s,baz=196,slow=6.3,SNR=7.0						
MKAR	**Makanchi Array**	**57.26**	**339**	P	**P**	**04 22 02.9**	**-0.8**
	3.8nm,0.4s,baz=155,slow=7.8,SNR=57						
ZALV	**Zalesovo Beam**	**62.81**	**345**	P	**P**	**04 22 39.3**	**-1.6**
	0.9nm,0.4s,baz=155,slow=4.9,SNR=3.6						
BRTR	**Keskin Array B**	**81.77**	**311**	P	**P**	**04 24 31.2**	**-1.9**
	0.5nm,0.7s,baz=118,slow=7.7,SNR=4.4						
TXAR	**Lajitas Array**	**142.36**	**48**	PKP	**PKPdf**	**04 31 42.2**	**-2.6**
	0.1nm,0.4s,baz=201,slow=1.5,SNR=3.2						
CPUP	**Villa Florida**	**144.72**	**204**	PKP	**PKPdf**	**04 31 49.5**	**+0.7**
	0.6nm,0.4s,baz=130,slow=3.4,SNR=4.6						

*ISCJB **05** 04:12:53.5±0.8, 41°.9S±0°.1×84°.8E±0°.3, h10km, mb3.9/8, MS4.0/20, Error ellipse: s-maj=27.3km s-min=18.9km az=177.5*
*IDC **05** 04:12:53.5±1.1, 41°.92S×84°.76E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/33, mbtmp3.9/8, MS4.0/20, Ms1 4.0/20, ms1mx3.8/32, Error ellipse: s-maj=35.3km s-min=24.1km az=85.0*
ISC 05 04:12:55.0±0.9, 41°.9S±0°.2×84°.8E±0°.3, h10km, n27, σ0°35/8, mb4.0/8, MS4.1/20, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**23.96**	**83**	T	T	04 42 48.9	
	baz=244,slow=74,SNR=140						
H01W3	**Cape Leeuwin H**	**23.97**	**83**	T	T	04 42 49.7	
	baz=244,slow=74,SNR=125						
H01W1	**Cape Leeuwin H**	**23.98**	**83**	T	T	04 42 49.9	
	baz=244,slow=74,SNR=125						
MAW	**Mawson**	**28.33**	**198**	LR	LR	04 27 42.5	
	comp=Z,174nm,21.4s,baz=60,slow=31						
H08S2	**Diego Garcia H**	**35.84**	**339**	T	T	04 57 21.9	
	baz=164,slow=75,SNR=123						
H08S1	**Diego Carcia H**	**35.85**	**339**	T	T	04 57 25.5	
	baz=164,slow=75,SNR=214						
H08S3	**Diego Garcia H**	**35.86**	**339**	T	T	04 57 26.5	
	baz=164,slow=75,SNR=166						
LEM	**Lembang**	**40.40**	**36**	LR	LR	04 34 19.9	
	comp=Z,122nm,19.0s,baz=236,slow=32						
ASAR	**Alice Springs**	**44.48**	**82**	P	**P**	**04 21 06.8**	**+0.3**
	1.1nm,0.8s,baz=221,slow=8.2,SNR=7.9						
ASAR				LR	LR	04 37 38.1	
	comp=Z,417nm,20.0s,baz=238,slow=33						
STKA	**Stephens Creek**	**45.78**	**97**	LR	LR	04 36 39.2	
	comp=Z,211nm,20.9s,baz=212,slow=31						
VNDA	**Vanda**	**46.67**	**163**	P	**P**	**04 21 23.2**	**0.0**
	0.5nm,0.8s,baz=266,slow=5.9,SNR=4.2						
VNDA				LR	LR	04 38 55.9	
	comp=Z,260nm,20.6s,baz=274,slow=34						
WRA	**Warramunga Arr**	**47.07**	**78**	P	**P**	**04 21 27.1**	**+0.1**
	1.7nm,0.8s,baz=234,slow=7.9,SNR=6.4						
WRA				LR	LR	04 38 53.0	
	comp=Z,115nm,19.6s,baz=240,slow=33						
QSPA	**South Pole Qui**	**48.22**	**180**	P	**P**	**04 21 35.5**	**-0.1**
	0.7nm,0.7s,baz=273,slow=4.0,SNR=3.1				

SONM	**Songino Array**	**91.41**	**14**	P	**P**	**04 26 00.7**	**-0.2**
	1.0nm,0.9s,baz=180,slow=5.2,SNR=3.7						
SONM				LR	LR	05 04 43.0	
	comp=Z,46nm,21.5s,baz=196,slow=34						
BRTR	**Keskin Array B**	**93.60**	**323**	P	**P**	**04 26 11.5**	**+0.3**
	0.1nm,0.3s,baz=151,slow=6.3,SNR=2.6						
BRTR				LR	LR	05 03 28.4	
	comp=Z,31nm,19.8s,baz=127,slow=32						
TORD	**Torodi Ar. Bea**	**93.62**	**284**	LR	LR	05 05 30.6	
	comp=Z,83nm,20.3s,baz=160,slow=34						
DBIC	**Dimbokro**	**94.14**	**275**	LR	LR	05 03 59.1	
	comp=Z,88nm,19.2s,baz=116,slow=33						
AKTO	**Aktyubinsk**	**94.92**	**343**	LR	LR	05 08 28.7	
	comp=Z,41nm,18.7s,slow=35						
BVAR	**Borovoye Array**	**95.39**	**351**	LR	LR	05 06 36.8	
	comp=Z,121nm,18.6s,baz=238,slow=34						
ZALV	**Zalesovo Beam**	**95.50**	**0**	LR	LR	05 06 35.1	
	comp=Z,60nm,21.7s,baz=250,slow=34						

GUC 05 04:13:05.4±0.6, 34.72S×72.05W, h11km±3km, ML3.8,5C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.73**	**113**	*i*P	Pg	04 13 19.4	-0.1
NICH				*i* S	Sb	04 13 29.9	-0.3
TALC	**Talca**	**0.76**	**153**	*i*P	Pg	04 13 19.1	-0.9
TALC				*i* S	Sg	04 13 29.1	-0.8
LNV	**Longovilo**	**0.93**	**35**	*i*P	Pg	04 13 22.3	-1.0
LNV				*i* S	Sg	04 13 35.1	-0.3
LNCH	**Linares**	**1.18**	**162**	*i*P	Pb	04 13 26.5	-1.3
LNCH				*i* S	Sb	04 13 42.3	-0.9
CHCH	**Chadas Angostu**	**1.40**	**56**	*e*P	Pn	04 13 30.2	-0.8
CHCH				*i* S	Sn	04 13 48.8	-0.7
TACH	**Talagante**	**1.41**	**41**	*i*P	Pn	04 13 30.3	-0.8
COCH	**Cobquecura**	**1.53**	**203**	*e*P	Pn	04 13 29.7	-3.0
COCH				*i* S	Sn	04 13 49.6	-3.0
PCH	**Pirque**	**1.68**	**50**	*e*P	Pn	04 13 34.4	-0.6
SAN	**Santiago**	**1.71**	**43**	*e*P	Pn	04 13 36.0	+0.7
SAN				*e*S	Sb	04 13 58.5	-0.1
IHA	**Instituto Hidr**	**1.73**	**11**	*e*P	Pn	04 13 34.8	-0.6
IHA				*i* S	Sn	04 13 57.5	+0.1
CLCH	**Cerro Calan**	**1.82**	**44**	*e*P	Pn	04 13 37.6	+0.8
CLCH				*e*S	Sn	04 14 01.0	+0.9
CLCH				AML	AML	04 14 08.8	
	comp=N,933nm,0.7s						
PEL	**Peldehue**	**1.94**	**36**	*e*P	Pn	04 13 38.8	+0.3
PEL				*i* S	Sn	04 14 04.0	+1.1
PEL				AML	AML	04 14 15.0	
	comp=N,940nm,0.5s						

*IDC **05** 04:26:55.8±1.0, 29.95N×69.15E, h0km, mb3.6/8, mb1 3.6/9, mb1mx3.4/41, mbtmp3.5/9, ML3.3/1, Error ellipse: s-maj=25.2km s-min=22.6km az=65.0*
*ISCJB **05** 04:26:57.1±1.0, 30.0N±0.1×69.2E±0.2, h19km, mb3.5/8, Error ellipse: s-maj=21.6km s-min=19.6km az=18.0*

ISC 05 04:26:58.9±1.2, 30.0N±0.2×69.2E±0.2, h19km, n9, σ1s24/9, mb3.5/8, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**19.61**	**28**	P	**P**	**04 31 25.6**	**-0.5**
	0.1nm,0.3s,baz=211,slow=12,SNR=3.6						
KURBB	**Kurchatov Arra**	**21.75**	**16**	P	**P**	**04 31 47.8**	**-1.4**
	0.5nm,0.5s,baz=208,slow=9.7,SNR=4.4						
BVAR	**Borovoye Array**	**23.01**	**2**	P	**P**	**04 32 02.7**	**+0.1**
	0.6nm,0.5s,baz=186,slow=12,SNR=2.6						
ZALV	**Zalesovo Beam**	**26.48**	**21**	P	**P**	**04 32 37.0**	**+2.3**
	1.5nm,0.4s,baz=224,slow=10,SNR=4.7						
BRTR	**Keskin Array B**	**30.55**	**298**	P	**P**	**04 33 11.3**	**0.0**
	0.4nm,0.6s,baz=109,slow=9.7,SNR=2.8						
ARCES	**ARCESS Array B**	**46.64**	**340**	P	**P**	**04 35 26.1**	**+0.4**
	0.5nm,0.6s,baz=119,slow=7.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**64.14**	**271**	P	**P**	**04 37 32.1**	**-0.3**
	0.5nm,0.8s,baz=58,slow=5.3,SNR=6.8						
WRA	**Warramunga Arr**	**79.99**	**120**	P	**P**	**04 39 06.3**	**-0.9**
	0.4nm,0.6s,baz=318,slow=5.0,SNR=2.6						
ASAR	**Alice Springs**	**81.91**	**123**	P	**P**	**04 39 18.2**	**+0.7**
	0.3nm,0.7s,baz=309,slow=6.0,SNR=2.7						

KRSC 05 04:29:05.2±0.9, 55.90N×161.10E, h129km±9km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZGR	**Bezymyannyi-Gr**	**0.23**	**280**	*e*P	Pn	04 29 24.2	+1.1
BZMR	**Bezymyannaya**	**0.35**	**276**	*e*P	Pn	04 29 24.4	+0.8
KLY	**Klyuchi**	**0.48**	**329**	*e*P	Pn	04 29 24.5	+0.5
KLY				*e*S	Sn	04 29 39.0	+0.7
KMNR	**Kamenistaya**	**0.51**	**254**	*e*P	Pn	04 29 25.2	+0.9
BDR	**Baidarnaya**	**0.67**	**5**	*e*P	Pn	04 29 26.6	+1.3
BDR				*e*S	Sn	04 29 42.3	+1.7
SMKR	**Semkarok**	**0.71**	**17**	*e*P	Pn	04 29 26.7	+1.1
SMKR				*e*S	Sn	04 29 42.7	+1.6
SRKR	**Sorokina**	**0.76**	**3**	*e*P	Pn	04 29 26.8	+0.9
SRKR				*e*S	Sn	04 29 42.1	+0.4
TUMR	**Tumrok**	**0.82**	**222**	*e*P	Pn	04 29 28.1	+1.5
TUMR				*e*S	Sn	04 29 44.4	+1.6
SRDR	**Sredinnyy**	**0.88**	**299**	*e*P	Pn	04 29 27.3	+0.3
SRDR				*e*S	Sn	04 29 43.0	-0.5
KZV	**Kizimen**	**0.92**	**211**	*e*P	Pn	04 29 28.5	+1.1
KBTR	**Krutoberegovo**	**1.01**	**72**	*e*P	Pn	04 29 29.0	+1.0
KBTR				*e*S	Sn	04 29 46.3	+0.9
MKZ	**Mys Kozlova**	**1.40**	**165**	*e*P	Pn	04 29 33.1	+1.1
MKZ				*e*S	Sn	04 29 54.1	+1.7
BKI	**Bering**	**2.85**	**102**	*e*P	Pn	04 29 51.6	+1.8
BKI				*e*S	Sn	04 30 25.5	+1.4
GNL	**Ganaly**	**2.87**	**221**	*e*P	Pn	04 29 51.5	+1.3
SPN	**Mys Shipunski**	**2.88**	**193**	*e*P	Pn	04 29 50.4	+0.2
SPN				*e*S	Sn	04 30 24.8	0.0
KRX	**Arik**	**2.92**	**210**	*e*P	Pn	04 29 52.3	+1.4
NLC	**Nalytchevo**	**2.92**	**201**	*e*P	Pn	04 29 52.5	+1.8
SDLR	**Sedlovina**	**2.93**	**207**	*e*P	Pn	04 29 52.0	+1.0
KRER	**Koryakskii**	**2.94**	**209**	*e*P	Pn	04 29 54.3	+3.1
AVH	**Avacha**	**2.98**	**208**	*e*P	Pn	04 29 54.2	+2.6
UGLR	**Uglovaya**	**3.01**	**207**	*e*P	Pn	04 29 53.9	+1.9
RUS	**Russkaya**	**3.79**	**205**	*e*P	Pn	04 30 03.5	+1.4

DJA 05 04:34:32.6±0.6, 0.7N±4.7×122.3E±, h88km±13km, M3.6/6, MLv3.6/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.78**	**44**	P	Pn	04 34 50.6	+0.9
KMSI				S	Sn	04 35 11.6	+9.1
LUWI	**Luwuk**	**1.24**	**213**	P	Pn	04 34 56.1	+1.1
LUWI				S	Sn	04 35 13.3	+1.4
MRSI	**Marisa**	**1.57**	**287**	P	Pn	04 34 59.9	+0.8
MRSI				S	Sn	04 35 19.8	+0.5
APSI	**Ampana**	**2.01**	**243**	P	Pn	04 35 04.9	0.0
APSI				S	Sn	04 35 29.6	+0.1
SANI	**Sanana**	**3.27**	**129**	P	Pn	04 35 20.6	-1.1
MPSI	**Mapaga**	**3.56**	**275**	P	Pn	04 35 25.8	+0.2

*ISCJB **05** 05:00:37.9±0.4, 21.68N±0.06×142.9E±0.1, h311km, mb3.8/28, Error ellipse: s-maj=14.2km s-min=7.8km az=170.3*
*IDC **05** 05:00:38.4±1.4, 21.68N×142.98E, h304km±13km, mb3.6/29, mb1 3.8/32, mb1mx3.7/47, mbtmp4.3/32, Error ellipse: s-maj=12.4km s-min=9.2km az=81.0*

ISC 05 05:00:39.0±0.6, 21.72N±0.07×143.0E±0.1, h311km, n34, σ0s78/38, mb3.8/27, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.40**	**352**	P	**Pn**	**05 02 01.3**	**-0.2**
	56nm,0.3s,baz=345,slow=19,SNR=14						
JCJ				S	**S**	**05 03 06.4**	**-1.7**
	23nm,0.3s,baz=262,slow=23,SNR=5.8						
GUMO	**Guam**	**8.28**	**167**	P	**Pn**	**05 02 36.3**	**+0.1**
	6.7nm,0.3s,baz=7.1,slow=8.1,SNR=3.6						
MJAR	**Matsushiro Arr**	**15.35**	**345**	P	**Pn**	**05 04 00.2**	**-0.9**
	0.6nm,0.3s,baz=165,slow=10.0,SNR=4.2						
KSRS	**Korea Array**	**20.39**	**324**	P	**P**	**05 04 53.9**	**+0.8**
	6.1nm,0.6s,baz=145,slow=9.0,SNR=36						
USRK	**Ussuriysk Ar.**	**24.20**	**340**	P	**P**	**05 05 29.1**	**+1.1**
	2.3nm,0.7s,baz=164,slow=10,SNR=5.3						
SONM	**Songino Array**	**39.21**	**321**	P	**P**	**05 07 38.7**	**+0.8**
	0.8nm,0.5s,baz=127,slow=6.9,SNR=6.8						
CMAR	**Chiang Mai Arr**	**41.40**	**274**	P	**P**	**05 07 57.2**	**+1.2**
	1.0nm,0.3s,baz=81,slow=6.6,SNR=5.8						
WRA	**Warramunga Arr**	**42.26**	**192**	P	**P**	**05 08 02.1**	**-0.7**
	1.6nm,0.3s,baz=11,slow=8.0,SNR=22						
ASAR	**Alice Springs**	**45.97**	**192**	P	**P**	**05 08 31.1**	**-0.9**
	0.7nm,0.5s,baz=11,slow=6.1,SNR=14						
STKA	**Stephens Creek**	**53.31**	**181**	P	**P**	**05 09 25.9**	**-0.8**
	0.8nm,0.4s,baz=6.3,slow=9.2,SNR=3.7						
ZALV	**Zalesovo Beam**	**54.08**	**322**	P	**P**	**05 09 32.2**	**+0.1**
	1.5nm,0.4s,baz=104,slow=7.3,SNR=10						
ZALV				PcP	**PcP**	**05 10 32.4**	**-0.2**
	2.0nm,0.4s,baz=118,slow=5.0,SNR=7.9						
MKAR	**Makanchi Array**	**54.55**	**313**	P	**P**	**05 09 36.1**	**+0.4**
	1.3nm,0.4s,baz=88,slow=7.8,SNR=17						
MKAR				PcP	**PcP**	**05 10 35.0**	**+0.4**
	0.9nm,0.6s,baz=81,slow=5.2,SNR=6.9						
KURBB	**Kurchatov Arra**	**57.39**	**317**	P	**P**	**05 09 55.5**	**0.0**
	4.8nm,0.5s,baz=96,slow=7.6,SNR=53						
KURBB				PcP	**PcP**	**05 10 45.1**	**-0.4**
	0.4nm,0.3s,baz=97,slow=4.2,SNR=3.3						
ILAR	**Eielson Array**	**62.10**	**27**	P	**P**	**05 10 26.6**	**-0.6**
	1.5nm,0.6s,baz=259,slow=5.3,SNR=36						
BVAR	**Borovoye Array**	**62.54**	**319**	P	**P**	**05 10 30.9**	**+0.7**
	7.8nm,0.3s,baz=96,slow=7.5,SNR=53						
BVAR				PcP	**PcP**	**05 11 06.1**	**-0.2**
	1.1nm,0.6s,baz=94,slow=5.8,SNR=3.5						
INK	**Inuvik**	**67.62**	**24**	P	**P**	**05 11 02.7**	**+0.3**
	1.6nm,0.6s,baz=272,slow=8.0,SNR=4.5						
AKTO	**Aktyubinsk**	**70.43**	**317**	P	**P**	**05 11 19.9**	**-0.1**
	1.5nm,0.6s,baz=86,slow=9.2,SNR=6.8						
SPITS	**Spitsbergen Ar**	**75.78**	**350**	P	**P**	**05 11 51.1**	**+0.5**
	0.5nm,0.3s,baz=84,slow=7.9,SNR=11						
YKA	**Yellowknife Ar**	**76.52**	**28**	P	**P**	**05 11 55.3**	**+0.4**
	3.7nm,0.7s,baz=292,slow=6.0,SNR=18						
ARCES	**ARCESS Array B**	**78.84**	**341**	P	**P**	**05 12 08.3**	**+0.7**
	6.5nm,0.7s,baz=73,slow=8.6,SNR=50						
YBH	**Yreka Blue Hor**	**78.94**	**50**	P	**P**	**05 12 10.1**	**+1.3**
	2.7nm,1.0s,baz=268,slow=4.8						
NEW	**Newport**	**80.38**	**42**	P	**P**	**05 12 17.1**	**+0.8**
	2.2nm,0.6s,baz=240,slow=8.1,SNR=3.6						
KBZ	**Khabaz**	**82.23**	**314**	P	**P**	**05 12 26.6**	**+0.7**
	3.9nm,0.7s,baz=125,slow=1.9,SNR=11						
FINES	**FINESS Array B**	**83.08**	**334**	P	**P**	**05 12 29.4**	**-0.6**
	3.9nm,0.4s,baz=77,slow=4.4,SNR=41						
NVAR	**Mina Array Bea**	**83.27**	**51**	P	**P**	**05 12 32.5**	**+0.8**
	1.9nm,0.7s,baz=275,slow=5.5,SNR=19						
ELK	**Elko**	**84.54**	**48**	P	**P**	**05 12 38.8**	**+0.8**
	1.4nm,0.6s,baz=275,slow=2.8						
AKASG	**Malin Array Be**	**87.39**	**324**	P	**P**	**05 12 49.9**	**-1.4**
	0.4nm,0.4s,baz=51,slow=4.3,SNR=3.0						
PDAR	**Pinedale Array**	**87.50**	**45**	P	**P**	**05 12 52.6**	**+0.3**
	0.3nm,0.5s,baz=95,slow=1.0,SNR=4.6						
NOA	**NORSAR Array B**	**88.86**	**339**	P	**P**	**05 12 57.4**	**-0.7**
	1.0nm,0.7s,baz=45,slow=4.4,SNR=3.1						
BRTR	**Keskin Array B**	**90.20**	**313**	P	**P**	**05 13 04.5**	**-0.4**
	0.6nm,0.6s,baz=62,slow=3.4,SNR=5.0						
GERES	**GERESS Array B**	**96.48**	**329**	P	**P**	**05 13 32.2**	**-1.2**
	0.1nm,0.4s,baz=300,slow=38,SNR=2.5						
TXAR	**Lajitas Array**	**98.18**	**54**	P	Pdif	05 13 42.9	+1.4
	0.2nm,0.8s,baz=282,slow=4.5,SNR=2.6						
TORD	**Torodi Ar. Bea**	**128.59**	**309**	PKP	**PKPdf**	**05 19 10.1**	**0.0**
	0.3nm,0.6s,baz=46,slow=1.1,SNR=6.4						
LPAZ	**La Paz**	**150.11**	**85**	PKPbc	**PKPbc**	**05 19 55.7**	**+1.0**
	2.6nm,0.6s,baz=297,slow=2.3,SNR=27						

WEL 05 05:09:10.4±0.3, 43.10S×174.29E, h33km, ML3.6/18, 2C-3D, Error ellipse: s-maj=3.4km s-min=1.9km az=90.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.88**	**321**	PN	Pn	05 09 25.5	-0.9
KHZ				SN	Sn	05 09 36.0	-2.0
KHZ				AML	AML	05 09 37.0	
CRLZ	**Canterbury Las**	**1.30**	**248**	PN	Pn	05 09 32.0	-0.3
CRLZ				SN	Sn	05 09 47.6	-1.0
CRLZ				AML	AML	05 09 49.2	
MQZ	**McQueen's Vall**	**1.34**	**242**	⇓P	Pn	05 09 32.2	-0.5
MQZ				SN	Sn	05 09 46.8	-2.5
CMWZ	**Cape Campbell**	**1.35**	**358**	PN	Pn	05 09 32.8	-0.2
CMWZ				SN	Sn	05 09 49.2	-0.6
CMWZ				AML	AML	05 10 01.3	
BSWZ	**Blackbirch Sta**	**1.42**	**348**	PN	Pn	05 09 33.4	-0.5
BSWZ				AML	AML	05 09 53.3	
BSWZ				AML	AML	05 09 53.6	
LTZ	**Lake Taylor**	**1.52**	**281**	PN	Pn	05 09 35.1	-0.2
LTZ				SN	Sn	05 09 52.6	-1.3
LTZ				AML	AML	05 09 53.1	
OXZ	**Oxford**	**1.66**	**261**	PN	Pn	05 09 36.7	-0.5
THZ	**Tophouse**	**1.68**	**322**	PN	Pn	05 09 37.4	-0.2
THZ				AML	AML	05 09 58.8	
THZ				AML	AML	05 09 59.5	
TUWZ	**Tuamarina**	**1.69**	**351**	PN	Pn	05 09 37.0	-0.6
TUWZ				AML	AML	05 09 56.1	
TUWZ				AML	AML	05 09 58.6	
PLWZ	**Palliser**	**1.69**	**25**	PN	Pn	05 09 36.7	-1.0
BHW	**Baring Head**	**1.75**	**15**	PN	Pn	05 09 37.3	-1.1
MSWZ	**Moikau Station**	**1.83**	**23**	PN	Pn	05 09 38.3	-1.2
MSWZ				AML	AML	05 09 59.9	
MSWZ				AML	AML	05 10 00.3	
WEL	**Wellington**	**1.85**	**11**	PN	Pn	05 09 39.0	-0.8
TCW	**Tory Channel**	**1.89**	**360**	PN	Pn	05 09 39.3	-1.1
TCW				SN	Sn	05 09 59.4	-3.6
TCW				AML	AML	05 10 00.3	
PAWZ	**Paruwai Farm**	**1.92**	**27**	PN	Pn	05 09 39.5	-1.2
PAWZ				AML	AML	05 10 01.9	
PAWZ				AML	AML	05 10 02.0	
TRWZ	**Traveller**	**1.99**	**32**	PN	Pn	05 09 40.8	-1.0
TRWZ				AML	AML	05 10 04.5	
TRWZ				AML	AML	05 10 05.0	
NNZ	**Nelson**	**2.00**	**340**	PN	Pn	05 09 41.2	-0.7
CAW	**Cannon Point**	**2.08**	**17**	PN	Pn	05 09 41.9	-1.0
CAW				AML	AML	05 10 04.6	
CAW				AML	AML	05 10 05.6	
MTW	**Mount Morrison**	**2.14**	**25**	PN	Pn	05 09 42.6	-1.3
MTW				AML	AML	05 10 06.3	
MTW				AML	AML	05 10 09.0	
DSZ	**Denniston Nort**	**2.28**	**306**	PN	Pn	05 09 43.8	-2.0
KIW	**Kapiti Island**	**2.29**	**12**	PN	Pn	05 09 45.0	-0.8
DUWZ	**D'Urville Isla**	**2.31**	**353**	PN	Pn	05 09 45.5	-0.7
HOWZ	**Holdsworth Sta**	**2.38**	**23**	PN	Pn	05 09 46.1	-1.1
HOWZ				SN	Sn	05 10 11.4	-3.9
RPZ	**Rata Peaks**	**2.43**	**254**	PN	Pn	05 09 48.2	+0.3
RPZ				AML	AML	05 10 16.2	
RPZ				AML	AML	05 10 17.5	
WVZ	**Waitaha Valley**	**2.60**	**269**	PN	Pn	05 09 50.8	+0.7
TIWZ	**Tintock**	**2.61**	**28**	AML	AML	05 10 19.1	
TIWZ				AML	AML	05 10 20.4	
MRZ	**Mangatainoka R**	**2.62**	**22**	PN	Pn	05 09 49.3	-1.1
MRZ				AML	AML	05 10 19.4	
MRZ				AML	AML	05 10 20.0	
QRZ	**Quartz Range**	**2.62**	**329**	PN	Pn	05 09 50.6	+0.2
BFZ	**Birch Farm**	**2.83**	**32**	PN	Pn	05 09 52.0	-1.2
PRWZ	**Pori Road**	**2.84**	**27**	PN	Pn	05 09 52.4	-1.0
POWZ	**Post Office Ro**	**2.92**	**23**	PN	Pn	05 09 53.9	-0.7
DVHZ	**Dannevirke**	**3.13**	**27**	PN	Pn	05 09 56.1	-1.4
LBZ	**Lake Benmore**	**3.24**	**245**	PN	Pn	05 09 59.7	+0.8
TSZ	**Takapari Road**	**3.29**	**23**	PN	Pn	05 09 58.7	-0.9
FOZ	**Fox Glacier**	**3.39**	**261**	⇓P	Pn	05 10 01.2	+0.3
PNHZ	**Pukenui**	**3.49**	**25**	PN	Pn	05 10 01.6	-0.9
KRHZ	**Kereru**	**3.79**	**25**	PN	Pn	05 10 05.1	-1.5
BHHZ	**Black Hill Sta**	**3.85**	**21**	PN	Pn	05 10 06.6	-0.8
MOVZ	**Moawhango**	**3.85**	**17**	PN	Pn	05 10 07.1	-0.3
WNVZ	**Wahianoa**	**3.90**	**15**	PN	Pn	05 10 07.7	-0.5
WHVZ	**Whangaehu Hut**	**3.94**	**15**	PN	Pn	05 10 08.4	-0.5
TUVZ	**Tukino**	**3.97**	**16**	PN	Pn	05 10 09.2	+0.1
VRZ	**Vera Road**	**3.99**	**5**	PN	Pn	05 10 09.7	+0.5
VRZ				AML	AML	05 10 55.1	
MCHZ	**McNeill Hill**	**4.08**	**27**	PN	Pn	05 10 09.7	-0.8
JCZ	**Jackson Bay**	**4.13**	**254**	⇓PN	Pn	05 10 12.1	+0.8
EAZ	**Earnscleugh**	**4.17**	**238**	PN	Pn	05 10 12.3	+0.7
EAZ				AML	AML	05 10 57.1	
WKZ	**Wanaka**	**4.18**	**244**	PN	Pn	05 10 12.6	+0.8
TUZ	**Tuapeka**	**4.38**	**228**	⇑PN	Pn	05 10 15.3	+0.7
HIZ	**Hauiti**	**4.60**	**6**	PN	Pn	05 10 17.9	+0.3
MSZ	**Milford Sound**	**4.86**	**249**	PN	Pn	05 10 21.3	+0.2
MLZ	**Mavora Lakes**	**4.93**	**241**	PN	Pn	05 10 23.6	+1.3
SYZ	**Scrubby Hill**	**5.02**	**225**	⇑PN	Pn	05 10 24.5	+1.1
MWZ	**Matawai**	**5.36**	**28**	PN	Pn	05 10 25.5	-2.6

MEX 05 05:15:54.0±0.5, 17.34N×100.84W, h22km±53km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.62**	**117**	*e*P	Pb	05 16 04.1	-2.0
CAIG				*e*S	Sb	05 16 12.0	-2.4
ZIIG	**Zihuatanejo**	**0.66**	**294**	*e*P	Pb	05 16 04.4	-2.4
ZIIG				*e*S	Sb	05 16 13.3	-2.2
ARIG	**Puente Sto Nin**	**1.05**	**26**	*e*P	Pn	05 16 09.8	-3.6
ARIG				*e*S	Sb	05 16 22.9	-4.1
MEIG	**Mezcala**	**1.30**	**63**	*e*P	Pn	05 16 14.5	-2.6
MEIG				*i* S	Sn	05 16 30.4	-3.4

RSPR 05 05:20:40.0, 18.32N×68.83W, h110km±2km, MD3.5/12, 10C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.47**	**65**	*e*P	Pn	05 20 56.0	-0.6
PCDR	**Punta Cana, DR**	**0.47**	**65**	*e*S	Sn	05 21 08.8	-0.3
IMO	**Isla Mona**	**0.90**	**103**	*e*P	Pn	05 21 00.2	+0.1
AGPR	**Aguadilla, PR**	**1.64**	**84**	*e*S	Sn	05 21 30.5	+0.4
AGPR	**Aguadilla, PR**	**1.64**	**84**	*e*P	Pn	05 21 08.4	0.0
LSP	**Las Mesas**	**1.66**	**95**	*e*S	Sn	05 21 30.4	-0.3
LSP	**Las Mesas**	**1.66**	**95**	*e*P	Pn	05 21 08.9	+0.2
CRPR	**Cabo Rojo, PR**	**1.66**	**100**	*e*P	Pn	05 21 07.9	-0.8
AOPR	**Arecibo Observ**	**1.97**	**89**	*e*P	Pn	05 21 12.3	-0.3
AOPR	**Arecibo Observ**	**1.97**	**89**	*e*S	Sn	05 21 37.1	-0.5
OBIP	**Obispado Ponce**	**2.13**	**97**	*e*P	Pn	05 21 13.8	-0.8
OBIP	**Obispado Ponce**	**2.13**	**97**	*e*S	Sn	05 21 41.0	-0.1
CELP	**Cerrillos**	**2.15**	**96**	*e*P	Pn	05 21 14.4	-0.5
CELP				*e*S	Sn	05 21 41.4	-0.2
SJG	**San Juan**	**2.55**	**94**	*e*P	Pn	05 21 19.4	-0.7
SJG	**San Juan**	**2.55**	**94**	*e*P	Pn	05 21 20.6	+0.5
SJG				*e*S	Sn	05 21 51.2	+0.3
STVI	**Saint Thomas**	**3.68**	**89**	*e*P	Pn	05 21 34.5	-0.5

*IDC **05** 05:27:25.2±1.0, 13.55N×121.67E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/26, mbtmp3.8/7, MS3.1/7, Ms1 3.2/7, ms1mx2.8/41, Error ellipse: s-maj=46.9km s-min=13.1km az=53.0*
*MAN **05** 05:27:29.13.42N×121.46E, h19km, mb4.7, ML3.6, MS3.6*
MAN INTENSITY III - BOAC MARINDUQUE; INTENSITY II - NAUJAN ORIENTAL MINDORO.
*NEIC **05** 05:27:30.2±0.6, 13.56N×121.69E, h35km, mb4.2/3, Error ellipse: s-maj=27.3km s-min=9.0km az=59.0*
NEIC Felt [III PIVS] at Boac, Marinduque and [II PIVS] at Naujan, Mindoro.

ISC 05 05:27:28.9±0.7, 13.45N±0.04×121.49E±0.03, h22km±6km, n28, σ1s16/30, mb4.0/10, MS2.9/6, 2C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.52**	**276**	⇓*e*P	Pb	**05 27 39.4**	**0.0**
PGP				*e*S	**Sb**	**05 27 46.6**	**0.0**
TGY	**Tagaytay City**	**0.84**	**321**	Pn	**Pb**	**05 27 44.7**	**-0.2**
	baz=270,slow=8.1						
TGY				Sn	**Sn**	**05 27 58.0**	**+0.7**
	baz=270,slow=19						
TGY	**Tagaytay City**	**0.84**	**321**	⇓*i*P	**Pb**	**05 27 44.8**	**0.0**
TGY				*i* S	**Sn**	**05 27 58.2**	**+0.9**
GQP	**Guinayangan**	**1.04**	**64**	*e*P	**Pn**	**05 27 47.4**	**-0.8**
GQP				*e*S	**Sn**	**05 28 04.0**	**+2.0**
SJMP	**San Jose**	**1.04**	**200**	*e*P	**Pn**	**05 27 47.9**	**-0.4**
AUQP	**San Andres**	**1.17**	**96**	*e*P	**Pb**	**05 27 51.2**	**+0.8**
OTRP	**Odiongan**	**1.20**	**154**	*e*P	**Pn**	**05 27 48.2**	**-2.1**
OTRP				*e*S	**Sn**	**05 28 06.2**	**+0.2**
LUBP	**Lubang**	**1.24**	**283**	*e*P	**Pn**	**05 27 49.9**	**-1.0**
BUSP	**Coron**	**1.91**	**221**	*e*P	**Pn**	**05 28 00.9**	**+0.7**
BUSP				*e*S	**Sn**	**05 28 21.3**	**-2.2**
RCP	**Roxas**	**2.24**	**147**	⇑*e*P	**Pn**	**05 28 05.4**	**+0.7**
BALP	**Baler**	**2.28**	**2**	*e*P	**Pb**	**05 28 08.3**	**-1.2**
PVCP	**Virac**	**2.60**	**

JFK			S		**Sn**	**05 53 29.3**	**-1.1**
JHO	**Hitachi**	**0.83 257**	⇓P		**Pn**	**05 53 18.9**	**-0.5**
JFT	**Otama**	**1.21 306**	⇓P		**Pn**	**05 53 24.4**	**+0.1**
JFT			S		**Sn**	**05 53 39.5**	**-0.5**
JMM	**Marumori**	**1.23 330**	⇓P		**Pn**	**05 53 23.9**	**-0.5**
JMM			S		**Sn**	**05 53 38.9**	**-1.3**
JFY	**Yanaizu**	**1.61 292**	⇓P		**Pn**	**05 53 29.2**	**-0.4**
JFY			S		**Sn**	**05 53 48.4**	**-1.0**
MJAR	**Matsushiro Arr**	**2.71 265**	P		**Pn**	**05 53 44.9**	**+0.4**
	29nm,0.3s,baz=88,slow=15,SNR=195						
MJAR			S		**Sn**	**05 54 16.5**	**+0.2**
	14nm,0.3s,baz=75,slow=24,SNR=9.9						
MAT	**Matsushiro**	**2.72 265**	P		**Pn**	**05 53 45.0**	**+0.4**
MAT			S		**Sn**	**05 54 16.6**	**+0.3**
USRK	**Ussuriysk Ar.**	**10.37 318**	P		**Pn**	**05 55 30.9**	**+1.7**
	0.2nm,0.3s,baz=132,slow=16,SNR=4.6						
KSRS	**Korea Array**	**10.92 277**	P		**Pn**	**05 55 38.9**	**+2.3**
	baz=87,slow=16,SNR=4.3						
KSRS			LR		LR	05 59 09.3	
	comp=Z,28nm,20.8s,baz=88,slow=34						
SEY	**Seymchan**	**26.99 11**	P		**P**	**05 58 40.2**	**+1.5**
	0.9nm,0.2s,baz=183,slow=23,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**27.92 121**	T		T	06 28 43.2	
	baz=313						
H11N1	**WAKE ISLAND Hy**	**27.93 121**	T		T	06 28 34.2	
	baz=313,slow=74						
H11N3	**WAKE ISLAND Hy**	**27.94 121**	T		T	06 28 46.4	
	baz=313,slow=74						
SONM	**Songino Array**	**28.02 304**	P		**P**	**05 58 47.3**	**-0.9**
	1.8nm,0.8s,baz=107,slow=8.8,SNR=6.7						
H11S1	**WAKE ISLAND Hy**	**28.63 123**	T		T	06 29 58.7	
	baz=315,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hy**	**28.63 123**	T		T	06 29 58.8	
	baz=315,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**28.65 123**	T		T	06 30 00.1	
	baz=315,slow=75,SNR=6.6						
MKAR	**Makanchi Array**	**44.35 302**	P		**P**	**06 01 05.8**	**-1.2**
	0.5nm,0.6s,baz=98,slow=9.3,SNR=3.6						
WRA	**Warramunga Arr**	**56.85 188**	P		**P**	**06 02 40.2**	**-1.1**
	0.5nm,0.8s,baz=5.5,slow=7.5,SNR=4.4						
ASAR	**Alice Springs**	**60.58 188**	P		**P**	**06 03 06.2**	**-1.0**
	0.1nm,0.3s,baz=102,slow=30,SNR=3.0						
NVAR	**Mina Array Bea**	**75.02 53**	P		**P**	**06 04 39.5**	**+1.3**
	0.5nm,0.8s,baz=304,slow=5.4,SNR=4.3						
LPAZ	**La Paz**	**146.70 60**	PKPbc		**PKPbc**	**06 12 38.3**	**-0.7**
	0.7nm,0.6s,baz=319,slow=2.5,SNR=6.3						

WEL 05 06:19:49.6±0.5, 38.76S×175.45E, h163km±3km, ML3.9/17, 8C-21D, Error ellipse: s-maj=3.0km s-min=2.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUVZ	**Tukino**	**0.54**	**163**	⇓PN	Pn	06 20 13.0	+0.2
TUVZ				SN	Sn	06 20 30.7	0.0
WHVZ	**Whangaehu Hut**	**0.54**	**168**	⇓PN	Pn	06 20 12.9	0.0
WHVZ				SN	Sn	06 20 31.0	0.0
WNVZ	**Wahianoa**	**0.58**	**168**	⇓PN	Pn	06 20 13.2	+0.1
WNVZ				SN	Sn	06 20 30.9	-0.4
VRZ	**Vera Road**	**0.65**	**235**	PN	Pn	06 20 13.0	-0.2
VRZ				SN	Sn	06 20 32.4	+1.0
MOVZ	**Moawhango**	**0.69**	**160**	⇓PN	Pn	06 20 13.4	-0.3
MOVZ				SN	Sn	06 20 30.9	-1.2
ALRZ	**Allen Road**	**0.73**	**75**	PN	Pn	06 20 13.2	-0.5
BHHZ	**Black Hill Sta**	**0.88**	**147**	⇓PN	Pn	06 20 14.5	-0.3
BHHZ				SN	Sn	06 20 32.9	-1.3
BKZ	**Black Stump Fm**	**0.91**	**117**	⇓PN	Pn	06 20 14.8	-0.3
BKZ				AML	AML	06 20 35.8	
BKZ				AML	AML	06 21 40.3	
KWHZ	**Kaweka Forest**	**1.01**	**132**	⇑PN	Pn	06 20 16.0	+0.2
WAZ	**Wanganui**	**1.06**	**200**	PN	Pn	06 20 16.1	-0.1
NMHZ	**Naumai**	**1.11**	**108**	⇑PN	Pn	06 20 17.3	+0.6
KRHZ	**Kereru**	**1.14**	**141**	⇓PN	Pn	06 20 16.9	0.0
MCHZ	**McNeill Hill**	**1.19**	**126**	⇓PN	Pn	06 20 18.0	+0.7
RAHZ	**Arahi**	**1.29**	**98**	⇓PN	Pn	06 20 18.3	+0.1
PNHZ	**Pukenui**	**1.30**	**153**	⇓PN	Pn	06 20 18.1	-0.2
ARHZ	**Aropaoanui**	**1.31**	**113**	⇓PN	Pn	06 20 18.6	+0.3
TSZ	**Takapari Road**	**1.36**	**163**	⇓PN	Pn	06 20 18.6	-0.3
TSZ				AML	AML	06 20 41.4	
TSZ				AML	AML	06 20 44.5	
URZ	**Urewera**	**1.40**	**70**	PN	Pn	06 20 17.8	-1.3
URZ				AML	AML	06 20 40.9	
URZ				AML	AML	06 20 41.2	
WHHZ	**Waihua**	**1.43**	**103**	PN	Pn	06 20 19.5	0.0
SNGZ	**Shannon Statio**	**1.48**	**92**	⇓PN	Pn	06 20 19.8	-0.2
WPHZ	**Waipukurau**	**1.52**	**150**	⇓PN	Pn	06 20 20.2	-0.2
KAHZ	**Kahuranaki**	**1.52**	**134**	⇓PN	Pn	06 20 20.6	+0.2
CKHZ	**Cape Kidnapper**	**1.56**	**126**	PN	Pn	06 20 21.0	+0.2
DVHZ	**Dannevirke**	**1.64**	**160**	PN	Pn	06 20 20.9	-0.8
PXZ	**Pawanui**	**1.68**	**140**	⇓PN	Pn	06 20 21.7	-0.3
PXZ				AML	AML	06 20 47.3	
PXZ				AML	AML	06 20 47.3	
PXZ				AML	AML	06 20 47.5	
PXZ				AML	AML	06 20 47.5	
MWZ	**Matawai**	**1.69**	**76**	PN	Pn	06 20 21.1	-1.1
MWZ				AML	AML	06 20 45.9	
MWZ				AML	AML	06 20 47.8	
KNZ	**Kokohu**	**1.76**	**99**	PN	Pn	06 20 22.3	-0.6
PRHZ	**Porangahau**	**1.77**	**149**	⇓PN	Pn	06 20 22.6	-0.4
PRWZ	**Pori Road**	**1.84**	**167**	PN	Pn	06 20 23.6	-0.2
ANWZ	**Angora Road**	**1.88**	**155**	⇓PN	Pn	06 20 23.7	-0.5
MRZ	**Mangatainoka R**	**1.91**	**177**	⇑PN	Pn	06 20 23.3	-1.2
MRZ				AML	AML	06 20 49.2	
MRZ				AML	AML	06 20 51.1	
TKGZ	**Te Karaka**	**1.91**	**81**	PN	Pn	06 20 24.0	-0.6
BFZ	**Birch Farm**	**2.02**	**162**	PN	Pn	06 20 24.8	-1.0
TIWZ	**Tintock**	**2.05**	**171**	PN	Pn	06 20 25.1	-1.0
TIWZ				AML	AML	06 20 52.4	
TIWZ				AML	AML	06 20 54.2	
OGWZ	**Otaki Gorge**	**2.07**	**186**	PN	Pn	06 20 25.2	-1.1
HAZ	**Te Kaha**	**2.09**	**62**	PN	Pn	06 20 24.8	-1.8
HOWZ	**Holdsworth Sta**	**2.14**	**179**	⇑PN	Pn	06 20 25.6	-1.5
KIW	**Kapiti Island**	**2.14**	**191**	PN	Pn	06 20 25.5	-1.7
KIW				AML	AML	06 20 53.6	
KIW				AML	AML	06 20 56.1	
CPWZ	**Castlepoint**	**2.23**	**165**	SN	Sn	06 20 56.5	-1.6
DUWZ	**D'Urville Isla**	**2.36**	**209**	PN	Pn	06 20 27.5	-2.2
CAW	**Cannon Point**	**2.37**	**187**	PN	Pn	06 20 28.2	-1.6
CAW				AML	AML	06 21 00.1	
CAW				AML	AML	06 21 00.1	
TMWZ	**Te Maipa**	**2.37**	**172**	PN	Pn	06 20 28.3	-1.6
MTW	**Mount Morrison**	**2.40**	**179**	⇑PN	Pn	06 20 28.3	-1.9
MTW				AML	AML	06 21 00.5	
MTW				AML	AML	06 21 00.8	
WEL	**Wellington**	**2.58**	**191**	PN	Pn	06 20 30.4	-1.9
WEL				AML	AML	06 21 04.2	
WEL				AML	AML	06 21 05.8	
TCW	**Tory Channel**	**2.61**	**200**	PN	Pn	06 20 30.6	-2.1
TCW				AML	AML	06 21 05.2	
TCW				AML	AML	06 21 07.2	
PAWZ	**Paruwai Farm**	**2.62**	**180**	PN	Pn	06 20 30.7	-2.2
PAWZ				AML	AML	06 21 04.9	
PAWZ				AML	AML	06 21 05.2	
TRWZ	**Traveller**	**2.65**	**176**	PN	Pn	06 20 31.2	-2.0
TRWZ				AML	AML	06 21 05.8	
TRWZ				AML	AML	06 21 06.3	
MSWZ	**Moikau Station**	**2.66**	**183**	PN	Pn	06 20 31.1	-2.2
MSWZ				AML	AML	06 21 05.0	
MSWZ				AML	AML	06 21 05.1	
BHW	**Baring Head**	**2.69**	**189**	PN	Pn	06 20 31.3	-2.3
BHW				AML	AML	06 21 04.4	
BHW				AML	AML	06 21 06.5	
PLWZ	**Palliser**	**2.81**	**183**	PN	Pn	06 20 32.7	-2.6
TUWZ	**Tuamarina**	**2.91**	**203**	PN	Pn	06 20 33.6	-2.7
TUWZ				AML	AML	06 21 10.7	
TUWZ				AML	AML	06 21 12.0	
NNZ	**Nelson**	**2.93**	**212**	⇓PN	Pn	06 20 33.7	-2.9
QRZ	**Quartz Range**	**3.05**	**226**	⇑PN	Pn	06 20 34.5	-3.6
BSWZ	**Blackbirch Sta**	**3.13**	**202**	PN	Pn	06 20 37.3	-2.5
THZ	**Tophouse**	**3.58**	**212**	⇑PN	Pn	06 20 41.3	-3.5
KHZ	**Kahutara**	**3.94**	**201**	⇑PN	Pn	06 20 46.2	-3.1
DSZ	**Denniston Nort**	**4.08**	**222**	PN	Pn	06 20 47.0	-4.3
LTZ	**Lake Taylor**	**4.69**	**210**	PN	Pn	06 20 55.3	-3.9
OXZ	**Oxford**	**5.24**	**208**	PN	Pn	06 21 01.5	-4.8
MQZ	**McQueen's Vall**	**5.38**	**202**	⇓PN	Pn	06 21 02.9	-5.2
RPZ	**Rata Peaks**	**5.96**	**212**	⇓PN	Pn	06 21 11.9	-3.9
LBZ	**Lake Benmore**	**6.87**	**213**	PN	Pn	06 21 23.0	-4.9

IDC 05 06:32:31.6±48.0, 16.78S×176.11W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.7/3, Error ellipse: s-maj=897.3km s-min=174.3km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.09**	**241**	P	P	06 40 18.1	+0.8
	0.6nm,0.5s,baz=96,slow=10,SNR=4.1						
WRA	**Warramunga Arr**	**47.00**	**258**	P	P	06 41 04.1	-0.9
	0.3nm,0.8s,baz=98,slow=7.6,SNR=5.7						
ASAR	**Alice Springs**	**47.21**	**253**	P	P	06 41 06.4	-0.2
	2.2nm,0.6s,baz=88,slow=8.2,SNR=38						

GUC 05 06:34:05.4±0.7, 34.75S×72.65W, h39km±2km, ML4.1, 3C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**1.05**	**128**	⇑*i*P	Pn	06 34 24.3	+0.7
TALC				*i* S	Sn	06 34 38.7	+1.6
NICH	**Los Niches**	**1.19**	**103**	⇑*i*P	Pn	06 34 26.8	+1.2
NICH				*i* S	Sn	06 34 42.4	+1.9
LNV	**Longovilo**	**1.29**	**53**	⇓*i*P	Pn	06 34 27.8	+0.8
COCH	**Cobquecura**	**1.38**	**185**	⇓*i*P	Pn	06 34 29.2	+1.1
COCH				*i* S	Sn	06 34 47.1	+1.9
LNCH	**Linares**	**1.39**	**142**	⇓*i*P	Pn	06 34 29.7	+1.4
LNCH				*i* S	Sn	06 34 47.7	+2.3
TACH	**Talagante**	**1.79**	**53**	⇓*i*P	Pn	06 34 34.7	+0.9
TACH				*e*S	Sn	06 34 57.1	+1.8
IHA	**Instituto Hidr**	**1.91**	**26**	⇓*i*P	Pn	06 34 36.3	+0.8
SAN	**Santiago**	**2.09**	**52**	*i* S	Sn	06 35 04.6	+1.7
CLCH	**Cerro Calan**	**2.21**	**53**	⇓*i*P	Pn	06 34 41.2	+1.5
CLCH				*i* S	Sn	06 35 07.5	+1.7
CLCH				AML	AML	06 35 20.7	
	comp=N,2μm,0.5s						
PEL	**Peldehue**	**2.29**	**46**	⇑*i*P	Pn	06 34 42.2	+1.5
PEL				*i* S	Sn	06 35 09.9	+2.3
PEL				AML	AML	06 35 23.5	
	comp=E,1μm,0.4s						

*ISCJB **05** 06:58:25.2±2.1, 60.9N×0.4×166.2E×0.2, h15km, mb3.4/6, Error ellipse: s-maj=63.4km s-min=15.9km az=5.4*
*IDC **05** 06:58:25.4±2.8, 60.81N×166.45E, h0km, mb3.4/6, mb1 3.8/7, mb1mx3.5/30, mbtmp3.4/7, ML2.6/1, Error ellipse: s-maj=77.2km s-min=21.4km az=10.0*
ISC 05 06:58:26.9±2.5, 60.8N±0.5×166.3E±0.1, h15km, n7, σ1.900/7, mb3.5/6, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SEY	**Seymchan**	**6.92**	**294**	Pn	**Pn**	**07 00 07.6**	**0.0**
	0.1nm,0.3s,baz=180,slow=20,SNR=1.8						
SEY				Lg	Lg	07 02 07.0	
	0.1nm,0.3s,baz=233,slow=20,SNR=2.3						
ILAR	**Eielson Array**	**21.41**	**59**	P	**P**	**07 03 14.0**	**+0.2**
	0.6nm,0.8s,baz=272,slow=11,SNR=9.5						
INK	**Inuvik**	**25.93**	**48**	P	**P**	**07 03 56.3**	**-1.7**
	0.5nm,0.5s,baz=271,slow=6.5,SNR=3.7						
YKA	**Yellowknife Ar**	**35.47**	**52**	P	**P**	**07 05 22.7**	**+0.6**
	0.6nm,0.6s,baz=302,slow=8.2,SNR=3.5						
NVAR	**Mina Array Bea**	**50.50**	**80**	P	**P**	**07 07 23.5**	**-0.7**
	0.4nm,0.6s,baz=315,slow=8.9,SNR=4.3						
PDAR	**Pinedale Array**	**51.25**	**70**	P	**P**	**07 07 30.2**	**+0.4**
	0.6nm,0.7s,baz=342,slow=4.8,SNR=7.6						
TXAR	**Lajitas Array**	**64.92**	**75**	P	**P**	**07 09 05.8**	**+0.3**
	0.2nm,0.8s,baz=326,slow=4.4,SNR=3.6						

*CSEM **05** 08:22:11.0, 42.55N×20.11E, h0km, ML1.5*
BEO 05 08:22:11.0±0.5, 42.55N×20.11E, h0km, ML1.5/4, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDG	**Podgorica**	**0.64**	**260**	*e*Pg	Pg	08 22 22.6	-0.7
PDG	**Podgorica**	**0.64**	**260**	*e*Pg	Pg	08 22 22.6	-0.7
SJES	**Sjenica**	**0.72**	**352**	*e*Pg	Pg	08 22 23.4	-1.6
SJES				*e*Sg	Sg	08 22 33.5	-0.9
SELS	**Selova**	**1.00**	**48**	*e*Pg	Pg	08 22 29.1	-1.1
SELS	**Selova**	**1.00**	**48**	*e*Pg	Pg	08 22 29.1	-1.1
BARS	**Barje**	**1.28**	**77**	*e*Pg	Pg	08 22 34.0	-1.7
BARS				*e*Sg	Sg	08 22 51.9	-0.5
BARS	**Barje**	**1.28**	**77**	*e*Pg	Pg	08 22 34.0	-1.7
BARS				*e*Sg	Sg	08 22 51.9	-0.5
BBLS	**Lazi?i**	**1.41**	**339**	*e*Pg	Pn	08 22 35.8	-2.3
BBLS				*e*Sg	Sg	08 22 56.5	-0.2
BBLS	**Lazi?i**	**1.41**	**339**	*e*Pg	Pn	08 22 35.8	-2.3
BBLS				*e*Sg	Sg	08 22 56.5	-0.2

*ISCJB **05** 08:37:58.1±0.3, 38.86N±0.01×23.63E±0.02, h11km±2km, Error ellipse: s-maj=2.7km s-min=2.1km az=4.8*
*CSEM **05** 08:37:58.0±0.1, 38.86N×23.65E, h8km, ML3.2, Error ellipse: s-maj=2.4km s-min=1.8km az=104.0*
*THE **05** 08:37:58.8, 38.85N×23.61E, h7km, ML3.2/22, Error ellipse: s-maj=0.7km s-min=0.4km az=92.0*
*ATH **05** 08:37:58.0, 38.86N×23.60E, h24km, MD3.1/33, ML3.8*
ISC 05 08:37:58.4±0.8, 38.86N±0.01×23.63E±0.02, h14km±5km, n154, σ0.967/227, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRKA	**Markates**	**0.15**	**192**	*e*PB	**Pg**	**08 38 02.6**	**+0.3**
MRKA	**Markates**	**0.15**	**192**	P	**Pg**	**08 38 02.1**	**-0.2**
MRKA	**Markates**	**0.15**	**192**	*e*Pb	**Pg**	**08 38 02.6**	**+0.3**
MRKA				S	**Sg**	**08 38 04.5**	**-0.4**
MRKA	**Markates**	**0.15**	**192**	P	**Pg**	**08 38 02.1**	**-0.2**
MRKA				S	**Sg**	**08 38 04.5**	**-0.4**
SMIA	**Simia**	**0.33**	**274**	*e*PB	**Pg**	**08 38 05.2**	**0.0**
SMIA				*e*SB	**Sg**	**08 38 09.9**	**+0.1**
SMIA	**Simia**	**0.33**	**274**	P	**Pg**	**08 38 05.2**	**0.0**
SMIA				*e*Sb	**Sg**	**08 38 09.9**	**+0.1**
SMIA				S	**Sg**	**08 38 10.4**	**+0.6**
SMIA	**Simia**	**0.33**	**274**	P	**Pg**	**08 38 05.2**	**0.0**
SMIA				S	**Sg**	**08 38 10.4**	**+0.6**
AOS	**Alonnisos**	**0.37**	**32**	*e*PB	**Pb**	**08 38 06.5**	**-0.3**
AOS				*e*SB	**Sb**	**08 38 11.9**	**-0.5**
AOS	**Alonnisos**	**0.37**	**32**	P	**Pb**	**08 38 06.4**	**-0.3**
AOS				*e*Sb	**Sb**	**08 38 11.9**	**-0.5**
AOS				S	**Sb**	**08 38 12.3**	**-0.1**
AOS	**Alonnisos**	**0.37**	**32**	P	**Pb**	**08 38 06.4**	**-0.3**
AOS				S	**Sb**	**08 38 12.3**	**-0.1**
EREA	**Eretria**	**0.50**	**151**	*e*PN	**Pg**	**08 38 08.4**	**+0.2**
EREA				*e*SN	**Sb**	**08 38 16.1**	**0.0**
EREA	**Eretria**	**0.50**	**151**	*e*Pn	**Pg**	**08 38 08.4**	**+0.2**
EREA				S	**Sb**	**08 38 15.9**	**-0.2**
EREA	**Eretria**	**0.50**	**151**	P	**Pg**	**08 38 08.5**	**+0.2**
EREA				S	**Sb**	**08 38 15.9**	**-0.2**
ATAL	**Atalanti**	**0.50**	**251**	P	**Pg**	**08 38 08.0**	**-0.4**
ATAL				S	**Sg**	**08 38 15.4**	**+0.3**
ATAL	**Atalanti**	**0.50**	**251**	P	**Pg**	**08 38 08.0**	**-0.4**
ATAL				S	**Sg**	**08 38 15.4**	**+0.3**
LKR	**Lokris**	**0.53**	**248**	*e*PN	**Pg**	**08 38 08.1**	**-0.8**
LKR				*e*SN	**Sg**	**08 38 16.0**	**-0.1**
LKR	**Lokris**	**0.53**	**248**	*e*Pn	**Pg**	**08 38 08.1**	**-0.8**
LKR	**Lokris**	**0.53**	**248**	P	**Pg**	**08 38 08.4**	**-0.5**
LKR				*e*Sn	**Sg**	**08 38 16.0**	**-0.1**
LKR	**Lokris**	**0.53**	**248**	P	**Pg**	**08 38 08.4**	**-0.5**
LKR				S	**Sg**	**08 38 15.8**	**-0.3**
NEO	**Neokhori**	**0.55**	**325**	P	**Pb**	**08 38 09.8**	**-0.1**
NEO				S	**Sg**	**08 38 17.0**	**+0.4**
NEO	**Neokhori**	**0.55**	**325**	P	**Pb**	**08 38 09.8**	**-0.1**
NEO				S	**Sg**	**08 38 17.0**	**+0.4**
XOR	**Xorichti**	**0.61**	**326**	*e*PN	**Pg**	**08 38 10.3**	**-0.1**
XOR				*e*SN	**Sg**	**08 38 18.2**	**-0.4**
XOR	**Xorichti**	**0.61**	**326**	*e*Pn	**Pg**	**08 38 10.3**	**-0.1**
XOR	**Xorichti**	**0.61**	**326**	P	**Pg**	**08 38 10.6**	**+0.2**
XOR				*e*Sn	**Sg**	**08 38 18.2**	**-0.4**
XOR				S	**Sb**	**08 38 19.3**	**-0.1**
XOR	**Xorichti**	**0.61**	**326**	P	**Pg**	**08 38 10.6**	**+0.2**
XOR				S	**Sb**	**08 38 19.3**	**-0.1**
VIL2	**Platees**	**0.70**	**204**	*e*PN	**Pg**	**08 38 11.9**	**-0.2**
VILL	**Villia**	**0.73**	**200**	P	**Pg**	**08 38 12.0**	**-0.7**
VILL				S	**Sb**	**08 38 23.5**	**+0.5**
VILL	**Villia**	**0.73**	**200**	P	**Pg**	**08 38 12.0**	**-0.7**
VILL				S	**Sb**	**08 38 23.5**	**+0.5**
AXAR	**Agios Charalam**	**0.76**	**264**	*e*PN	**Pg**	**08 38 13.0**	**-0.2**
AXAR				*e*SN	**Sg**	**08 38 23.3**	**0.0**
AXAR	**Agios Charalam**	**0.76**	**264**	P	**Pg**	**08 38 13.1**	**-0.2**
AXAR				*e*Sn	**Sg**	**08 38 23.3**	**0.0**
AXAR				S	**Sb**	**08 38 24.1**	**+0.3**
AXAR	**Agios Charalam**	**0.76**	**264**	P	**Pg**	**08 38 13.1**	**-0.2**
AXAR				S	**Sb**	**08 38 24.1**	**+0.3**
FYTO	**Fytoko, Volos**	**0.77**	**316**	P	**Pb**	**08 38 13.7**	**+0.1**
FYTO				S	**Sb**	**08 38 23.9**	**0.0**
FYTO	**Fytoko, Volos**	**0.77**	**316**	P	**Pb**	**08 38 13.7**	**+0.1**
FYTO				S	**Sb**	**08 38 23.9**	**0.0**
PTL	**Penteli**	**0.83**	**167**	*e*PN	**Pg**	**08 38 14.3**	**-0.2**
PTL				*e*SN	**Sb**	**08 38 25.6**	**0.0**
PTL	**Penteli**	**0.83**	**167**	P	**Pg**	**08 38 14.3**	**-0.2**
PTL				*e*Sn	**Sb**	**08 38 25.6**	**0.0**
PTL	**Penteli**	**0.83**	**167**	P	**Pg**	**08 38 14.3**	**-0.2**
PTL				S	**Sb**	**08 38 25.9**	**+0.3**
ATH	**Athens Observa**	**0.89**	**176**	*e*PN	**Pg**	**08 38 15.4**	**-0.2**
ATH				*e*SN	**Sg**	**08 38 27.2**	**0.0**
ATH	**Athens Observa**	**0.89**	**176**	P	**Pg**	**08 38 15.4**	**-0.2**
ATH				*e*Sn	**Sg**	**08 38 27.2**	**0.0**
ATH				S	**Sb**	**08 38 28.0**	**+0.8**
ATH	**Athens Observa**	**0.89**	**176**	P	**Pg**	**08 38 15.4**	**-0.2**
ATH				S	**Sb**	**08 38 28.0**	**+0.8**
ATHU	**Athens Univers**	**0.90**	**172**	P	**Pg**	**08 38 15.5**	**-0.3**
ATHU				S	**Sb**	**08 38 28.0**	**+0.4**
ATHU	**Athens Univers**	**0.90**	**172**	P	**Pg**	**08 38 15.5**	**-0.3**
ATHU				S	**Sb**	**08 38 28.0**	**+0.4**
DSF	**Desfina**	**0.97**	**243**	*e*PB	**Pb**	**08 38 15.5**	**-1.5**
DSF				*e*SB	**Sg**	**08 38 30.2**	**+0.3**
DSF	**Desfina**	**0.97**	**243**	P	**Pb**	**08 38 15.6**	**-1.5**
DSF				*e*Sb	**Sg**	**08 38 30.2**	**+0.3**
DSF	**Desfina**	**0.97**	**243**	P	**Pb**	**08 38 15.6**	**-1.5**
DSF				S	**Sn**	**08 38 30.8**	**-0.5**
LTK	**Loutraki**	**0.98**	**212**	*e*PN	**Pb**	**08 38 16.2**	**-1.0**
LTK	**Loutraki**	**0.98**	**212**	P	**Pb**	**08 38 16.2**	**-1.0**
LTK				S	**Sn**	**08 38 31.7**	**+0.2**
LTK	**Loutraki**	**0.98**	**212**	P	**Pb**	**08 38 16.2**	**-1.0**
LTK				S	**Sn**	**08 38 31.7**	**+0.2**
LOUT	**Loutraki**	**1.01**	**211**	*e*PN	**Pb**	**08 38 16.8**	**-0.9**
LOUT	**Loutraki**	**1.01**	**211**	P	**Pb**	**08 38 16.8**	**-0.9**
LOUT				S	**Sn**	**08 38 32.2**	**0.0**
LOUT	**Loutraki**	**1.01**	**211**	P	**Pb**	**08 38 16.8**	**-0.9**
LOUT				S	**Sn**	**08 38 32.2**	**0.0**
KARY	**Karystos**	**1.04**	**142**	P	**Pb**	**08 38 18.1**	**-0.1**
KARY				S	**Sg**	**08 38 32.5**	**+0.5**
PAIG	**Paliouri**	**1.07**	**2**	*e*PN	**Pn**	**08 38 19.1**	**+0.1**
PAIG	**Paliouri**	**1.07**	**2**	P	**Pn**	**08 38 19.1**	**+0.1**
PAIG				S	**Sn**	**08 38 34.5**	**+0.8**
PAIG	**Paliouri**	**1.07**	**2**	P	**Pn**	**08 38 19.1**	**+0.1**
PAIG				S	**Sn**	**08 38 34.5**	**+0.8**
NAIG	**Nisos Aigina**	**1.10**	**186**	*e*PN	**Pb**	**08 38 19.1**	**-0.2**
NAIG	**Nisos Aigina**	**1.10**	**186**	*e*Pn	**Pb**	**08 38 19.1**	**-0.2**
THAL	**Thalero**	**1.12**	**223**	*e*PN	**Pb**	**08 38 18.8**	**-0.7**
THAL	**Thalero**	**1.12**	**223**	P	**Pb**	**08 38 18.9**	**-0.6**
THAL				S	**Sn**	**08 38 35.5**	**+0.7**
THAL	**Thalero**	**1.12**	**223**	P	**Pb**	**08 38 18.9**	**-0.6**
THAL				S	**Sn**	**08 38 35.5**	**+0.7**
ACOR	**Acrocorinthos**	**1.14**	**212**	P	**Pb**	**08 38 19.6**	**-0.2**
ACOR				S	**Sn**	**08 38 35.4**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.18**	**278**	*e*PN	**Pn**	**08 38 20.3**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.18**	**278**	P	**Pn**	**08 38 20.4**	**-0.1**
MAKR				S	**Sg**	**08 38 37.6**	**+1.1**
MAKR	**Makrakomi, Fth**	**1.18**	**278**	P	**Pn**	**08 38 20.4**	**-0.1**
MAKR				S	**Sg**	**08 38 37.6**	**+1.1**
KALE	**Kalithea**	**1.26**	**249**	*e*PN	**Pn**	**08 38 21.0**	**-0.6**
KALE	**Kalithea**	**1.26**	**249**	P	**Pn**	**08 38 20.7**	**-0.9**
KALE	**Kalithea**	**1.26**	**249**	*e*Pn	**Pn**	**08 38 21.0**	**-0.6**
KALE	**Kalithea**	**1.26**	**249**	P	**Pn**	**08 38 20.7**	**-0.9**
SERG	**Sergoula**	**1.31**	**251**	P	**Pb**	**08 38 22.6**	**-0.2**
SERG				S	**S

MMB	**Musomiste**	**2.73**	**2**	*e*P	**Pn**	**08 38 42.4**	**+0.5**
ALN	**Alexandroupoli**	**2.76**	**42**	*e*PN	**Pn**	**08 38 39.2**	**-3.0**
ALN	**Alexandroupoli**	**2.76**	**42**	*e*Pn	**Pn**	**08 38 39.2**	**-3.0**
THR5	**Thira Island,**	**2.79**	**150**	*e*P	**Pb**	**08 38 47.5**	**-0.6**
THR5	**Thira Island,**	**2.79**	**150**	*e*P	**Pb**	**08 38 47.5**	**-0.6**
ERIK	**Erikli-Kesan**	**2.87**	**50**	*e*PN	**Pn**	**08 38 41.5**	**-2.2**
ERIK	**Erikli-Kesan**	**2.87**	**50**	*e*Pn	**Pn**	**08 38 41.5**	**-2.2**
RZN	**Rozhen**	**2.95**	**16**	*e*P	**Pn**	**08 38 45.6**	**+0.6**
RZN	**Rozhen**	**2.95**	**16**	*e*P	**Pn**	**08 38 45.6**	**+0.6**
KKB	**Krupnik**	**3.04**	**352**	*e*P	**Pn**	**08 38 46.8**	**+0.7**
KKB	**Krupnik**	**3.04**	**352**	*e*P	**Pn**	**08 38 46.8**	**+0.7**

IDC ***05*** *08:40:08.9±1.9, 9°.53N×126°.16E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/25, mbtmp3.7/4, MS3.2/2, Ms1 3.2/2, ms1mx2.5/33, Error ellipse: s-maj=177.5km s-min=27.2km az=65.0*

ISCJB ***05*** *08:40:22.6±0.7, 9°.42N±0°.05×125°.91E±0°.09, h131km±5km, mb3.5/4, Error ellipse: s-maj=14.2km s-min=7.0km az=165.9*

MAN ***05*** *08:40:23, 9°.40N×125°.91E, h114km, mb4.5, ML3.4, MS3.3*

ISC 05 08:40:23.7±0.9, 9°.38N±0°.05×125°.90E±0°.09, h124km±7km**, n24,** σ1**°43/25, mb3.5/4, 1C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.49**	**214**	*e*P	**Pn**	**08 40 42.2**	**+0.2**
BUTP				*e*S	**Sn**	**08 40 56.8**	**+0.9**
SCPH	**Surigao**	**0.57**	**315**⇓	*e*P	**Pn**	**08 40 43.3**	**+0.8**
SCPH				*e*S	**Sn**	**08 40 57.1**	**+0.4**
MSLP	**Maasin**	**1.27**	**306**	*e*P	**Pn**	**08 40 49.1**	**+0.2**
MSLP				*e*S	**Sn**	**08 41 08.1**	**+0.2**
CGP	**Cagayan de Oro**	**1.50**	**232**⇓	*e*P	**Pn**	**08 40 51.4**	**-0.1**
CGP				*e*S	**Sn**	**08 41 12.1**	**-0.4**
BUKP	**Musuan**	**1.70**	**209**	*e*P	**Pn**	**08 40 54.4**	**+0.5**
BUKP				*e*S	**Sn**	**08 41 11.9**	**-4.9**
PLP	**Palo**	**1.99**	**333**	*e*S	**Sn**	**08 41 21.4**	**-2.6**
TBP	**Tagbilaran**	**2.03**	**279**	*e*P	**Pn**	**08 40 58.0**	**+0.2**
TBP				*e*S	**Sn**	**08 41 23.6**	**-0.3**
MATI	**Mati**	**2.44**	**172**	*e*P	**Pn**	**08 41 04.0**	**+1.0**
PAGZ	**Pagadian**	**2.92**	**239**	*e*P	**Pn**	**08 41 10.3**	**+1.2**
CNP	**Catarman**	**3.34**	**339**	*e*P	**Pn**	**08 41 13.5**	**-1.2**
CNP				*e*S	**Sn**	**08 41 53.7**	**-0.3**
GUIM	**Jordan**	**3.49**	**291**	*e*P	**Pn**	**08 41 17.2**	**+0.7**
RCP	**Roxas**	**3.78**	**305**⇑	*e*P	**Pn**	**08 41 21.4**	**+0.9**
KAPI	**Kappang** comp=Z,30nm,21.0s,baz=70,slow=40	**15.55**	**203**	LR	LR	08 50 35.5	
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=344,slow=9.3,SNR=11	**30.30**	**164**	P	**P**	**08 46 22.2**	**-1.3**
WRA				PcP	**PcP**	**08 49 21.9**	**+0.8**
	0.1nm,0.5s,baz=344,slow=2.9,SNR=2.8						
ASAR	**Alice Springs** 0.3nm,0.3s,baz=348,slow=7.1,SNR=9.5	**33.76**	**167**	P	**P**	**08 46 53.1**	**-0.7**
ASAR				P	**PcP**	**08 49 31.1**	**+0.5**
	0.4nm,0.7s,baz=344,slow=3.1,SNR=5.4						
H11S3	**WAKE ISLAND Hy** baz=262,slow=73,SNR=11	**40.53**	**73**	T	T	09 31 16.1	
H11S1	**WAKE ISLAND Hy** baz=262,slow=73,SNR=6.0	**40.54**	**73**	T	T	09 31 21.7	
H11S2	**WAKE ISLAND Hy** baz=262,slow=73,SNR=5.7	**40.55**	**73**	T	T	09 31 14.0	
H11N1	**WAKE ISLAND Hy** baz=262,slow=75	**40.89**	**71**	T	T	09 31 42.4	
H11N2	**WAKE ISLAND Hy** baz=262	**40.90**	**71**	T	T	09 31 44.8	
H11N3	**WAKE ISLAND Hy** baz=262,slow=75	**40.91**	**71**	T	T	09 31 44.4	
STKA	**Stephens Creek** 3.2nm,0.5s,baz=342,slow=8.2,SNR=14	**43.69**	**161**	P	**P**	**08 48 17.4**	**+0.9**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=102,slow=6.5,SNR=3.1	**52.51**	**323**	P	**P**	**08 49 24.7**	**+0.5**
QSPA	**South Pole Qui** comp=Z,32nm,18.4s,baz=330,slow=35	**99.25**	**180**	LR	LR	09 38 34.3	

ISCJB ***05*** *08:49:45.0±0.7, 22°.72S×68°.71W, h98km±7km, mb3.7/4, mb1 3.8/6, mb1mx3.5/23, mbtmp4.0/6, MS2.9/2, Ms1 2.9/2, ms1mx2.6/24, Error ellipse: s-maj=25.9km s-min=20.8km az=84.0*

ISC 05 08:49:46.6±0.8, 22°.89S±0°.08×68°.6W±0°.1, h94km**, n11,** σ1**°70/13, mb4.0/3, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde** baz=43,slow=2.1	**0.40**	**312**	P	**Pn**	**08 50 01.8**	**+0.4**
LVC				S	**Sn**	**08 50 12.1**	**-0.2**
	60µm,0.3s,baz=315,slow=19,SNR=336						
LPAZ	**La Paz** 0.3nm,0.3s,baz=180,slow=7.1,SNR=26	**6.58**	**4**	P	**Pn**	**08 51 19.9**	**-1.4**
CFAA	**Coronel Fontan** 0.1nm,0.3s,baz=0.9,slow=14,SNR=7.8	**8.69**	**178**	P	**Pn**	**08 51 49.0**	**-0.5**
CFAA				S	**Sn**	**08 53 23.1**	**-2.7**
	0.1nm,0.3s,baz=229,slow=18,SNR=2.7						
CPUP	**Villa Florida** 0.1nm,0.3s,baz=303,slow=12,SNR=8.3	**10.80**	**111**	P	**Pn**	**08 52 18.9**	**+0.6**
CPUP				LR	LR	08 57 25.9	
	comp=Z,56nm,20.8s,baz=314,slow=42						
BDFB	**Brasilia** 7.8nm,0.5s,baz=254,slow=12,SNR=16	**20.70**	**73**	P	**P**	**08 54 18.9**	**-0.6**
PTGA	**Pitinga** comp=Z,35nm,20.8s,baz=218,slow=40	**23.56**	**22**	LR	LR	09 05 14.0	
SNAA	**Sanae** 0.5nm,0.8s,baz=291,slow=6.4,SNR=8.9	**60.88**	**161**	P	**P**	**08 59 49.9**	**+0.9**
SNAA				sP	**sP**	**09 00 26.3**	**+3.5**
	0.5nm,0.6s,baz=292,slow=7.4,SNR=2.9						
TORD	**Torodi Ar. Bea** 0.8nm,0.4s,baz=259,slow=5.7,SNR=11	**77.54**	**70**	P	**P**	**09 01 31.5**	**-1.2**
TORD				pP	**pP**	**09 01 58.8**	**+1.8**
	1.7nm,0.6s,baz=252,slow=5.4,SNR=5.0						
YKA	**Yellowknife Ar** 1.0nm,0.8s,baz=143,slow=4.1,SNR=4.3	**92.59**	**340**	P	P	09 02 43.1	-3.9
ASAR	**Alice Springs** 0.6nm,0.8s,baz=145,slow=2.3,SNR=6.3	**128.82**	**207**	PKP	**PKPdf**	**09 08 42.8**	**-1.0**
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=321,slow=2.0,SNR=3.3	**146.56**	**37**	PKPbc	**PKPdf**	**09 09 15.1**	**-0.4**

IGQ 05 09:03:57±2.1, 2°.01S×81°.30W, h8km±165km**, Mb4.2, 3C-1D, Error ellipse: s-maj=12.1km s-min=4.9km az=7.0, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIS	**Cerro-Chispas-**	**1.12**	**31**	P	Pn	09 04 19.1	+0.2
CHIS	**Cerro-Chispas-**	**1.12**	**31**	S	Sg	09 04 32.5	-0.6
MAG1	**Magdalena**	**2.46**	**38**	P	Pn	09 04 39.5	+2.0
RIOE	**Riobamba**	**2.68**	**85**	P	Pn	09 04 42.2	+1.3
IGUA	**Igualata**	**2.71**	**79**	P	Pb	09 04 44.7	-1.9
BMAS	**Trigal station**	**2.87**	**80**	P	Pn	09 04 46.0	+2.4
BBIL	**Ulba Tungurahu**	**2.87**	**79**	⇑P	Pb	09 04 47.8	-1.2
ARRY	**Arrayan**	**2.89**	**80**	P	Pb	09 04 47.0	-2.4
JUI6	**Juive**	**2.89**	**78**	P	Pn	09 04 45.3	+1.5
PAT1	**Patacocha**	**2.91**	**80**	P	Pn	09 04 46.5	+2.2
BPAT	**Tungurahua Vol**	**2.91**	**80**	⇑P	Pn	09 04 46.5	+2.2
ULBA	**Ulba**	**2.95**	**79**	P	Pb	09 04 48.7	-1.6
BULB	**Ulba Tungurahu**	**2.95**	**79**	P	Pn	09 04 47.1	+2.4
BRUN	**Tungurahua Vol**	**2.95**	**79**	⇑P	Pn	09 04 46.9	+2.3
PAST	**Pastocalle**	**2.96**	**64**	P	Pn	09 04 46.3	+1.3
PISA	**Pisayambo**	**3.07**	**72**	P	Pb	09 04 50.8	-1.7
CAMI	**Rancho Maria**	**3.10**	**65**	P	Pb	09 04 50.1	-2.8
MACE	**Macas**	**3.11**	**95**	P	Pn	09 04 49.5	+2.8
BMOR	**Cotopaxi Volca**	**3.12**	**66**	P	Pb	09 04 51.0	-2.4
NAS2	**Nasa**	**3.14**	**64**	P	Pb	09 04 51.5	-2.3
BREF	**Cotopaxi Volca**	**3.16**	**65**	P	Pn	09 04 51.0	+3.2
BTAM	**Cotopaxi Volca**	**3.19**	**65**	⇓P	Pb	09 04 52.8	-2.0
VC1	**Cotopaxi 1**	**3.20**	**65**	P	Pb	09 04 52.5	-2.4
PITA	**Cotopaxi Volc**	**3.21**	**63**	P	Pn	09 04 51.2	+2.8
TAMB	**Tambo**	**3.21**	**66**	P	Pb	09 04 52.8	-2.3
JUA2	**San Juan 2**	**3.23**	**57**	P	Pn	09 04 51.9	+3.2
COV1	**Cotopaxi Volc**	**3.25**	**66**	P	Pn	09 04 51.1	+1.9
TERV	**Terraza Guagua**	**3.26**	**56**	P	Pn	09 04 51.0	+1.9
PINO	**Pino**	**3.26**	**56**	P	Pn	09 04 51.8	+2.5
GGP	**Refugio Guagua**	**3.27**	**56**	P	Pn	09 04 51.9	+2.6
YANA	**Yana**	**3.32**	**55**	P	Pn	09 04 51.0	+1.1
ANTI	**Antisana**	**3.50**	**64**	P	Pn	09 04 56.1	+3.5
OTAV	**Otavalo**	**3.62**	**52**	P	Pn	09 04 56.3	+2.3
COTA	**Cotacachi**	**3.77**	**52**	P	Pn	09 04 59.1	+2.9

NEIC ***05*** *09:04:58.8±0.8, 6°.97S×129°.84E, h128km±7km, mb4.5/9, Error ellipse: s-maj=8.6km s-min=6.1km az=58.0*

ISCJB ***05*** *09:04:59.0±0.3, 7°.03S±0°.03×129°.96E±0°.04, h150km, mb4.2/16, Error ellipse: s-maj=5.6km s-min=4.1km az=163.2*

IDC ***05*** *09:04:59.9±3.0, 6°.94S×129°.93E, h134km±27km, mb4.0/11, mb1 4.1/13, mb1mx3.9/29, mbtmp4.4/13, MS2.8/1, Ms1 2.8/1, ms1mx2.3/24, Error ellipse: s-maj=30.6km s-min=12.2km az=68.0*

BJI ***05*** *09:05:00.3, 7°.10S×129°.90E, h159km, mb4.6/4, mB4.3/2*

DJA ***05*** *09:05:01.2±0.3, 7°.5±2°×13°.0E±°, h150km±6km, M4.7/13, mb4.6/12, mB5.2/6, MLv4.8/13, Mw(mB)4.6/6*

ISC 05 09:05:00.7±0.5, 6°.99S±0°.05×130°.06E±0°.05, h150km**, n68,** σ1**°48/64, mb4.2/16, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.58**	**129**	P	**Pn**	**09 05 32.7**	**+1.6**
SAUI				S	**Sn**	**09 05 54.3**	**-0.1**
BNDI	**Bandanaira**	**2.46**	**356**	P	**Pn**	**09 05 43.5**	**+2.2**
AAI	**Ambon**	**3.77**	**330**	P	**Pn**	**09 06 00.2**	**+2.2**
AAI	**Ambon** baz=3.8,SNR=6.7	**3.77**	**330**	P	**Pn**	**09 05 59.0**	**+1.0**
FAKI	**Fak Fak**	**4.59**	**28**	P	**Pn**	**09 06 08.3**	**-0.6**
FAKI				S	**Sn**	**09 06 57.2**	**-4.7**
FAKI	**Fak Fak** baz=4.6,SNR=24	**4.59**	**28**	P	**Pn**	**09 06 08.2**	**-0.6**
FAKI	**Fak Fak**	**4.59**	**28**	*e*Pn	**Pn**	**09 06 07.8**	**-1.1**
NLAI	**Namlea**	**4.75**	**322**	P	**Pn**	**09 06 12.0**	**+1.1**
KDU	**Kakadu** baz=6.2,SNR=745	**6.14**	**157**	P	**Pn**	**09 06 28.2**	**-1.1**
SIJI	**Sorong** 7.9nm,0.3s,baz=203,slow=12,SNR=36	**6.20**	**11**	P	**Pn**	**09 06 29.6**	**-0.6**
SIJI				S	Sn	09 07 34.8	-5.4
	12nm,0.3s,baz=274,slow=19,SNR=12						
SWI	**Sorong** 34nm,0.8s,3µm0.6nm	**6.20**	**11**	P	**Pn**	**09 06 30.1**	**-0.1**
SWI				S	Sn	09 07 35.0	-5.2
	34nm,0.8s,3µm0.6nm						
SWI	**Sorong** baz=6.2,SNR=4.1	**6.20**	**11**	P	**Pn**	**09 06 30.3**	**+0.1**
SOEI	**Soe** 115nm,0.7s,2µm1.1nm	**6.35**	**244**	P	**Pn**	**09 06 30.7**	**-1.6**
SOEI				S	**Sn**	**09 07 41.2**	**-2.8**
	115nm,0.7s,2µm1.1nm						
SOEI	**Soe** baz=6.3,SNR=14	**6.35**	**244**	P	Pn	09 06 29.1	-3.2
SOEI	**Soe** 91nm,0.7s	**6.35**	**244**	*e*Pn	Pn	09 06 28.0	-4.3
SANI	**Sanana** 34nm,0.7s,0.1nm	**6.37**	**320**	P	**Pn**	**09 06 33.4**	**+1.0**
LBMI	**Labuha** 74nm,0.8s,1µm0.2nm	**6.81**	**338**	P	**Pn**	**09 06 39.7**	**+1.4**
RKPI	**Ransiki, Papua** 96nm,0.6s,13µm1.1nm	**6.82**	**37**	P	**Pn**	**09 06 39.7**	**+1.3**
RKPI				S	**Sn**	**09 07 54.6**	**-0.4**
	96nm,0.6s,13µm1.1nm						
KNRA	**Kununurra** baz=8.8,SNR=51	**8.73**	**188**	P	Pn	09 07 00.6	-3.3
WRAB	**Tennant Creek** 17nm,0.6s	**13.52**	**162**	*e*Pn	Pn	09 08 02.6	-4.1
WRAB				*e*Sn	Sn	09 10 24.7	-12
WRA	**Warramunga Arr** 2.6nm,0.3s,baz=352,slow=13,SNR=103	**13.53**	**163**	P	Pn	09 08 01.6	-5.2
WRA				S	Sn	09 10 25.7	-11
	11nm,0.3s,baz=348,slow=24,SNR=12						
COEN	**Coen** baz=15,SNR=14	**14.63**	**119**	P	**Pn**	**09 08 20.6**	**-0.1**
COEN	**Coen** 33nm,0.9s	**14.63**	**119**	*e*Pn	**P**	**09 08 22.1**	**-0.9**
BBKI	**Banjar Baru**	**15.55**	**282**	P	**P**	**09 08 35.3**	**+2.1**
BBKI				S	**P**	**09 08 35.2**	**+2.1**
JAGI	**Jajag, Banyuwa** baz=16,SNR=3.4	**15.83**	**264**	P	**Pn**	**09 08 34.1**	**-1.4**
QIS	**Mount Isa** baz=16,SNR=31	**16.36**	**146**	P	**Pn**	**09 08 41.3**	**-0.6**
ASAR	**Alice Springs** 2.7nm,0.3s,baz=349,slow=10,SNR=177	**16.99**	**168**	P	**P**	**09 08 48.5**	**-0.5**
ASAR				S	S	09 11 50.0	-8.5
	3.0nm,0.3s,baz=352,slow=27,SNR=8.9						
MTSU	**Mount Surprise** baz=18,SNR=35	**17.77**	**130**	P	**Pn**	**09 09 00.1**	**+1.2**
WRKA	**Warakurna** baz=18,SNR=17	**18.02**	**185**	P	**P**	**09 09 00.8**	**+0.4**
CTA	**Charters Tower** 6.2nm,0.9s,baz=309,slow=13,SNR=4.1	**20.40**	**131**	P	Pn	09 09 28.8	-1.2
CTAO	**Charters Tower**	**20.40**	**131**	*e*P	Pn	09 09 28.3	-1.6
KSM	**Kuching** 8.1nm,0.6s	**21.43**	**292**	*e*P	**P**	**09 09 34.0**	**-3.2**
LEM	**Lembang** comp=Z,24nm,18.4s,baz=250,slow=39	**22.28**	**269**	LR	LR	09 19 17.9	
QLP	**Quilpie** baz=24,SNR=24	**23.70**	**147**	P	**P**	**09 10 00.5**	**+1.6**
FORT	**Forrest** baz=24,SNR=12	**23.74**	**184**	P	**P**	**09 09 59.8**	**+0.6**
FORT	**Forrest** 15nm,0.6s	**23.74**	**184**	*e*P	**P**	**09 09 59.0**	**-0.2**
BBOO	**Buckleboo** baz=26,SNR=31	**26.29**	**169**	P	**P**	**09 10 22.6**	**+0.3**
STKA	**Stephens Creek** 6.5nm,0.4s,baz=340,slow=10.0,SNR=54	**27.00**	**158**	P	**P**	**09 10 29.6**	**+0.8**
CMAR	**Chiang Mai Arr** 7.4nm,0.7s,baz=140,slow=7.0,SNR=25	**39.77**	**310**	P	**P**	**09 12 18.8**	**-0.4**
CHTO	**Chiang Mai** 6.1nm,0.8s	**39.98**	**310**	*e*P	**P**	**09 12 19.6**	**-1.3**
MJAR	**Matsushiro Arr** 2.7nm,0.8s,baz=189,slow=9.3,SNR=7.6	**43.97**	**9**	P	**P**	**09 12 52.6**	**-0.5**
KSAR	**Wonju Array Be**	**44.25**	**358**	P	**P**	**09 12 55.5**	**+0.3**
KSRS	**Korea Array** 0.9nm,0.5s,baz=172,slow=9.0,SNR=4.2	**44.26**	**358**	P	**P**	**09 12 55.5**	**+0.3**
HHC	**Hu-ho-hao-te**	**50.55**	**342**	*e*P	P	09 13 49.2	+5.2
HHC				PP	PP	09 15 48.3	+6.8
HHC				S	**S**	**09 20 52.6**	**+5.7**
HHC				sS	sS	09 21 49.3	+3.0
HHC				PMZ			
	16nm,1.3s						
HHC				PMZ			
	32nm,5.3s						
HHC				LN			
	94nm,14.9s						
HHC				LE			
	90nm,13.9s						
HHC				LZ			
	46nm,15.3s						
CN2	**Changchun**	**50.73**	**356**	*e*P	P	09 13 50.2	+5.1
USRK	**Ussuriysk Ar.** 2.1nm,0.6s,baz=182,slow=6.9,SNR=6.6	**50.98**	**2**	P	**P**	**09 13 47.9**	**+0.9**
ODAN	**Odare** 14nm,0.4s	**53.29**	**311**	*e*P	**P**	**09 14 03.8**	**-1.0**
TAPN	**Taplejung** 22nm,0.4s	**53.32**	**312**	*e*P	**P**	**09 14 04.2**	**-0.8**
RAMN	**Ramite** 38nm,0.5s	**53.94**	**311**	*e*P	**P**	**09 14 08.9**	**-0.5**
GTA	**Gaotai**	**53.99**	**331**	*e*P	**P**	**09 14 09.8**	**+0.3**
GTA				PMZ			
	8.0nm,0.7s						
GUN	**Gumba** 30nm,0.4s	**54.99**	**311**	*e*P	**P**	**09 14 16.3**	**-0.9**
PKI	**Pulchoki** 12nm,0.5s	**55.16**	**311**	*e*P	**P**	**09 14 17.2**	**-1.2**
PKIN	**Phulchoki** 6.7nm,0.5s	**55.18**	**311**	*e*P	**P**	**09 14 17.2**	**-1.2**
KKN	**Kakani**	**55.38**	**311**	*e*P	**P**	**09 14 18.7**	**-1.1**
GKN	**Gorkha** 21nm,0.3s	**55.97**	**311**	*e*P	**P**	**09 14 23.0**	**-0.9**
KOLN	**Koldanda** 19nm,0.4s	**56.64**	**310**	*e*P	**P**	**09 14 27.9**	**-0.8**
SONM	**Songino Array** 2.4nm,0.6s,baz=162,slow=7.3,SNR=15	**58.45**	**341**	P	**P**	**09 14 41.7**	**+0.8**
MKAR	**Makanchi Array** 19nm,0.5s,baz=119,slow=8.1,SNR=128	**68.25**	**327**	P	**P**	**09 15 45.8**	**+0.5**
ZALV	**Zalesovo Beam** 1.1nm,0.3s,baz=133,slow=5.8,SNR=9.1	**71.60**	**334**	P	**P**	**09 16 05.0**	**-0.5**
KURK	**Kurchatov** 2.7nm,0.5s	**72.54**	**329**	*e*P	**P**	**09 16 10.7**	**-0.5**
KKAR	**Karatay Array** 1.7nm,0.5s	**73.37**	**319**	*e*P	**P**	**09 16 16.3**	**-0.1**
GEYT	**Alibeck** 0.5nm,0.5s,baz=159,slow=4.5,SNR=5.1	**80.25**	**310**	P	**P**	**09 16 55.2**	**+0.2**
ABKAR	**Akbulak array** 0.5nm,0.4s	**82.54**	**322**	*e*P	**P**	**09 17 06.3**	**-0.5**
ILAR	**Eielson Array** 0.5nm,0.8s,baz=262,slow=5.2,SNR=5.7	**93.31**	**25**	P	**P**	**09 17 57.5**	**-0.7**
TORD	**Torodi Ar. Bea** 1.3nm,0.6s,baz=80,slow=1.6,SNR=9.7	**128.87**	**281**	PKP	**PKPdf**	**09 23 52.0**	**+0.4**
DBIC	**Dimbokro**	**135.25**	**272**	PKP	**PKPdf**	**09 24 04.1**	**+0.5**
	2.4nm,0.6s,baz=135,slow=1.4,SNR=4.4						
CPUP	**Villa Florida** 2.5nm,0.5s,baz=202,slow=1.1,SNR=13	**146.11**	**168**	PKPbc	**PKPab**	**09 24 25.3**	**+0.6**
LPAZ	**La Paz** 2.8nm,0.4s,baz=208,slow=3.5,SNR=47	**150.69**	**142**	PKPbc	**PKPbc**	**09 24 38.9**	**+1.9**

NEIC 05 09:27:45.6, 66°.36N×149°.76W, h11km**, ML3.6**(AEIC)**, After AEIC., Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PS06	**TAPS Pump Stn6**	**0.51**	**179**	P	Pg	09 27 55.4	-0.2
PS06				S	Sg	09 28 02.2	-0.1
PS05	**TAPS Pump Stn5**	**0.58**	**322**	P	Pg	09 27 56.8	-0.1
PS05				S	Sg	09 28 04.8	+0.3
COLD	**Coldfoot**	**0.89**	**349**	P	Pg	09 28 02.3	-0.4
COLD				S	Sg	09 28 13.8	-0.5
MLY	**Manley**	**1.40**	**197**	P	Pn	09 28 10.6	-0.5
MLY				S	Sn	09 28 29.1	-0.4
MDM	**Murphy Dome**	**1.55**	**155**	P	Pn	09 28 12.8	-0.3
MDM				S	Sb	09 28 34.4	+0.5
COLA	**College**	**1.69**	**151**	P	Pn	09 28 14.9	-0.1
COLA				S	Sb	09 28 38.3	+0.4
NEA	**Nenana**	**1.81**	**171**	P	Pn	09 28 16.7	0.0
FYU	**Fort Yukon**	**1.83**	**82**	P	Pn	09 28 16.8	-0.2
CCB	**Clear Creek Bu**	**1.91**	**154**	P	Pn	09 28 17.7	-0.3
CCB				S	Sb	09 28 45.0	+0.9
WRH	**Wood River Hil**	**2.02**	**159**	P	Pn	09 28 19.6	0.0
BPAW	**Bear Paw Mtn.**	**2.33**	**193**	P	Pn	09 28 23.5	-0.3
MCK	**McKinley**	**2.66**	**172**	P	Pn	09 28 28.9	+0.4
TRF	**Thorofare Moun**	**2.93**	**185**	P	Pn	09 28 32.4	0.0
RND	**Reindeer**	**2.99**	**172**	P	Pn	09 28 33.7	+0.6
RIDG	**Independ'e Rid**	**3.36**	**139**	P	Pn	09 28 38.7	+0.7
PPLA	**Purkeypile**	**3.63**	**198**	P	Pn	09 28 41.7	-0.2
EGAK	**Eagle**	**3.91**	**110**	P	Pn	09 28 46.1	+0.5
SKT	**Skwentna**	**4.47**	**191**	P	Pn	09 28 54.2	+0.9
DAWY	**Dawson**	**4.94**	**113**	P	Pn	09 28 59.1	-0.6
RC01	**Rabbit Creek A** 66nm,0.4s	**5.29**	**180**	*e*Pn	Pn	09 29 02.4	-2.1
BMRM	**Bremner River** 22nm,0.8s	**5.88**	**155**	*e*Pn	Pn	09 29 14.0	+1.4
RSO	**Redoubt South** 42nm,0.6s	**6.07**	**194**	*e*Pn	Pn	09 29 10.3	-5.2
INK	**Inuvik** 12nm,0.8s	**6.57**	**65**	*e*Pn	Pn	09 29 22.4	+0.4

SJA ***05*** *09:29:36.5±0.5, 33°.90S×68°.61W, h28km±2km, ML4.0*

ISCJB ***05*** *09:29:38.1±1.0, 33°.89S±0°.04×68°.46W±0°.03, h32km±8km, mb4.3/13, MS3.6/3, Error ellipse: s-maj=6.7km s-min=4.5km az=7.0*

GUC ***05*** *09:29:38.4±0.6, 34°.43S×69°.34W, h150km, ML4.8*

IDC ***05*** *09:29:38.4±0.5, 33°.80S×68°.61W, h26km±3km, mb4.2/11, mb1 4.3/15, mb1mx4.1/31, mbtmp4.3/15, ML4.0/3, MS3.5/6, Ms1 3.5/6, ms1mx3.2/18, Error ellipse: s-maj=19.7km s-min=12.6km az=94.0*

NEIC ***05*** *09:29:38.3±0.6, 33°.78S×68°.62W, h27km±4km, mb4.4/2, MD4.0(SJA), Error ellipse: s-maj=12.1km s-min=6.7km az=81.0*

NEIC Felt [III] in the San Rafael area.

ISC 05 09:29:38.4±0.6, 33°.84S±0°.05×68°.62W±0°.04, h27km±4km**, n49,** σ1**°29/65, mb4.5/13, MS3.6/3, 3C-4D, Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVIZ	**Vizcacheras**	**0.37**	**13**	*i* P	**Pb**	**09 29 46.2**	**-0.5**
AAGR	**Agrelo**	**0.77**	**347**	*i* P	**Pb**	**09 29 53.3**	**0.0**
AAGR				*i* P	**Pb**	**09 29 53.3**	**0.0**
ARCO	**CERRO ARCO**	**1.03**	**345**	*i* P	**Pb**	**09 29 57.5**	**-0.1**
ARCO				*i* S	**Sb**	**09 30 13.5**	**+2.7**
ARCO				AML	AML	09 30 16.0	
	comp=Z,3µm,0.6s						
YECH	**El Yeso**	**1.23**	**278**⇓	*i* P	**Pb**	**09 30 02.4**	**+1.2**
YECH				*i* S	**Sb**	**09 30 22.3**	**+5.5**
YECH				AML	AML	09 30 27.9	
	comp=N,23µm,0.7s						
ASAL	**Salagasta**	**1.26**	**352**	*i* P	**Pb**	**09 30 01.0**	**-0.5**
PCH	**Pirque**	**1.59**	**277**⇑	*i* P	**Pb**	**09 30 06.5**	**-0.7**
PCH				*i* S	**Sb**	**09 30 27.1**	**+0.1**
FSR	**Penalolen**	**1.63**	**282**⇓	*i* P	**Pb**	**09 30 08.0**	**+0.1**
FSR				*i* S	**Sb**	**09 30 29.5**	**+1.4**
LACH	**Col Las Americ**	**1.64**	**283**⇓	*i* P	**Pn**	**09 30 06.5**	**+1.0**
LACH				*i* S	**Sb**	**09 30 28.0**	**-0.3**
CLCH	**Cerro Calan**	**1.66**	**285**⇓	*i* P	**Pb**	**09 30 07.5**	**-0.8**
CLCH				*i* S	**Sb**	**09 30 29.9**	**+1.1**
CLCH				AML	AML	09 30 30.8	
	comp=N,18µm,0.5s						
AUSP	**Uspallata**	**1.73**	**338**	*i* P	**Pb**	**09 30 08.7**	**-1.0**
STL	**Santa Lucia**	**1.73**	**283**	*e*P	**Pn**	**09 30 07.8**	**+1.0**
STL				*i* S	**Sb**	**09 30 30.3**	**-0.7**
SAN	**Santiago**	**1.75**	**282**⇑	*i* P	**Pb**	**09 30 08.8**	**-1.0**
SAN				*i* S	**Sb**	**09 30 31.3**	**0.0**
PEL	**Peldehue**	**1.86**	**291**⇑	*i* P	**Pb**	**09 30 10.4**	**-1.3**
PEL				*i* S	**Sb**	**09 30 35.1**	**+0.5**
PEL				AML	AML	09 30 37.0	
	comp=N,4µm,0.5s						
RTCV	**Cerro Valdivia**	**1.97**	**2**	*i* P	**Pn**	**09 30 11.1**	**+1.1**

BOSA				LR	LR	10 14 04.1			
	comp=N,34nm,18.0s,baz=118,slow=34								
LBTB	**Lobatse**	**79.77**	**113**	P	**P**	**09 41 44.5**	**0.0**		
	comp=N,1.7nm,0.5s,baz=268,slow=6.2,SNR=4.0								
TORD	**Torodi Ar. Bea**	**81.50**	**68**	P	**P**	**09 41 54.1**	**+0.5**		
	comp=N,8.9nm,0.8s,baz=251,slow=5.1,SNR=53								
TORD				pP	**pP**	**09 42 03.3**	**+1.0**		
	comp=N,4.2nm,0.6s,baz=255,slow=4.7,SNR=13								
MATP	**Matopo**	**84.52**	**111**	P	**P**	**09 42 09.7**	**+0.3**		
	comp=N,1.6nm,0.7s,baz=245,slow=4.7,SNR=4.1								
PDAR	**Pinedale Array**	**84.95**	**331**	pP	pP	09 42 20.3	+0.5		
	comp=N,0.5nm,0.9s,baz=126,slow=3.8,SNR=4.5								
NVAR	**Mina Array Bea**	**85.42**	**323**	P	**P**	**09 42 13.5**	**0.0**		
	comp=N,0.5nm,0.8s,baz=159,slow=4.5,SNR=4.4								
NVAR				pP	**pP**	**09 42 22.6**	**+0.3**		
	comp=N,0.7nm,0.8s,baz=144,slow=6.3,SNR=5.4								
ASAR	**Alice Springs**	**118.93**	**204**	PKP	**PKPdf**	**09 48 23.9**	**-1.0**		
	comp=N,0.3nm,0.7s,baz=140,slow=1.5,SNR=4.7								
ASAR				pPKP	**pPKPdf**	**09 48 32.6**	**-1.3**		
	comp=N,0.3nm,0.6s,baz=160,slow=1.6,SNR=2.0								
AKASG	**Malin Array Be**	**120.00**	**47**	PKP	**PKPdf**	**09 48 24.4**	**-1.5**		
	comp=N,0.2nm,0.3s,baz=267,slow=1.9,SNR=3.0								
AKASG				pPKP	**pPKPdf**	**09 48 33.8**	**-1.1**		
	comp=N,0.5nm,0.4s,baz=251,slow=2.8,SNR=1.8								
WRA	**Warramunga Arr**	**122.22**	**206**	PKP	**PKPdf**	**09 48 30.6**	**-0.7**		
	comp=N,0.8nm,0.7s,baz=159,slow=1.5,SNR=15								
WRA				pPKP	**pPKPdf**	**09 48 38.3**	**-2.0**		
	comp=N,0.7nm,0.6s,baz=165,slow=1.7,SNR=5.0								
ZALV	**Zalesovo Beam**	**152.51**	**35**	PKPbc	**PKPbc**	**09 49 31.3**	**-0.2**		
	comp=N,1.5nm,0.5s,baz=306,slow=3.4,SNR=7.4								
ZALV				pPKPbc	**pPKPbc**	**09 49 40.0**	**-0.6**		
	comp=N,2.0nm,0.4s,baz=308,slow=3.5,SNR=5.5								
MKAR	**Makanchi Array**	**154.48**	**51**	PKPbc	**PKPbc**	**09 49 36.5**	**+0.3**		
	comp=N,0.7nm,0.7s,baz=282,slow=1.8,SNR=6.8								
MKAR				pPKPbc	**pPKPbc**	**09 49 45.3**	**+0.1**		
	comp=N,0.9nm,0.7s,baz=310,slow=1.7,SNR=6.7								

*ISCJB **05** 09:30:36.6±0.6,31°.90N±0°.02×114°.98W±0°.02, h8km±.5km, mb4.0/4, MS3.1/2, Error ellipse: s-maj=3.3km s-min=2.9km az=164.3*

*IDC **05** 09:30:36.5±1.0,31°.85N×115°.05W, h0km, mb4.1/3, mb1 4.0/9, mb1mx3.7/44, mbtmp3.7/9, ML3.6/6, MS3.0/4, Ms1 3.0/4, ms1mx2.7/34, Error ellipse: s-maj=21.8km s-min=10.5km az=45.0*

*NEIC **05** 09:30:39.0,31°.92N×115°.07W, h12km, mb3.9/5, ML4.4(PAS), ML4.5(ECX), After ECX.*

*ECX **05** 09:30:39.0±0.5,31°.92N×115°.07W, h10km, MD4.4, ML4.6*

*MEX **05** 09:30:40.2±0.5,31°.89N×115°.04W, h9km±.7km, MD3.8*

ISC 05 09:30:38.1±1.0,31°.89N±0°.02×115°.03W±0°.02, h8km±8km, n110, σ1§67/127, mb4.1/4, 6C-6D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBX	**El Chinero**	**0.41**	**183**	⇑*e*P	**Pg**	**09 30 46.0**	**-0.1**
ECBX				*e*S	**Sg**	**09 30 52.0**	**+0.4**
CPBX	**Cerro Prieto**	**0.58**	**336**	*e*P	**Pg**	**09 30 50.0**	**+0.6**
CPBX				*e*S	**Sb**	**09 30 59.1**	**+0.2**
RDX	**Rancho Dawling**	**0.78**	**273**	⇑*e*P	**Pg**	**09 30 53.1**	**0.0**
RDX				*e*S	**Sg**	**09 31 03.7**	**+0.4**
YMD	**Yuma Desert**	**0.78**	**31**	⇓*i*P	**Pg**	**09 30 52.4**	**-0.9**
EMSC	**East Mesa**	**0.85**	**2**	⇓*i*P	**Pg**	**09 30 53.7**	**-0.8**
SPIG	**San Pedro Mart**	**0.92**	**204**	*e*P	**Pg**	**09 30 55.4**	**-0.4**
SPIG				*e*S	**Sg**	**09 31 07.5**	**-0.2**
SPIG	**San Pedro Mart**	**0.92**	**204**	*e*P	**Pg**	**09 30 55.4**	**-0.4**
SPIG				*e*S	**Sg**	**09 31 08.0**	**+0.3**
SPIG	**San Pedro Mart**	**0.92**	**204**	⇓*e*P	**Pg**	**09 30 55.4**	**-0.4**
SPIG				*e*S	**Sg**	**09 31 08.2**	**+0.5**
SPX	**San Pedro Mart**	**0.92**	**204**	*e*P	**Pg**	**09 30 55.4**	**-0.4**
SPX				*e*S	**Sg**	**09 31 08.0**	**+0.3**
SPX	**San Pedro Mart**	**0.92**	**204**	⇓*e*P	**Pg**	**09 30 55.4**	**-0.4**
SPX				*e*S	**Sg**	**09 31 08.4**	**+0.7**
SPX				⇑*e*		09 31 09.7	
SPX				IAML		09 31 09.7	
	comp=N,11μm,0.2s						
SGL	**Mount Signal**	**0.96**	**322**	⇑*i*P	**Pg**	**09 30 54.9**	**-1.8**
COA	**Coachella**	**0.98**	**355**	⇓*i*P	**Pg**	**09 30 55.4**	**-1.6**
DREC	**Desert Rsrch C**	**0.98**	**339**	*e*P	**Pg**	**09 30 55.9**	**-1.2**
YUH	**Yuha Desert**	**1.07**	**315**	⇑*i*P	**Pg**	**09 30 56.6**	**-2.1**
RMX	**La Rumorosa**	**1.14**	**309**	*e*P	**Pb**	**09 30 57.9**	**-2.3**
RMX				*e*S	**Sb**	**09 31 13.1**	**-2.1**
GLA	**Glamis**	**1.18**	**8**	P	**Pb**	**09 30 58.1**	**-2.6**
	baz=1.1						
GLA				S	**Sb**	**09 31 11.9**	**-4.3**
	baz=1.1						
GLA	**Glamis**	**1.18**	**8**	*e*Pn	**Pb**	**09 30 57.8**	**-2.9**
GLA				*e*Sn	Sn	09 31 23.7	+6.6
IBP	**Imperial Bould**	**1.19**	**311**	P	**Pb**	**09 30 58.6**	**-2.3**
	baz=1.1						
IBP				S	**Sb**	**09 31 15.5**	**-1.0**
	baz=1.1						
SWSC	**Sam W. Stewart**	**1.24**	**329**	P	**Pn**	**09 30 58.6**	**-3.0**
	baz=1.2						
ECNX	**Esteban Cantu**	**1.36**	**261**	*e*P	**Pn**	**09 31 01.6**	**-1.8**
ECNX				*e*S	**Sb**	**09 31 19.9**	**-1.4**
CBX	**Cerro Bola**	**1.45**	**288**	*e*P	**Pn**	**09 31 03.1**	**-1.7**
CBX				*i* S	**Sn**	**09 31 20.4**	**-3.6**
CBX	**Cerro Bola**	**1.45**	**288**	*e*P	**Pn**	**09 31 03.1**	**-1.7**
CBX				*e*S	**Sn**	**09 31 20.3**	**-3.8**
CBX	**Cerro Bola**	**1.45**	**288**	⇑*e*P	**Pn**	**09 31 03.2**	**-1.6**
CBX				*e*S	**Sn**	**09 31 22.1**	**-2.0**
CBX				⇓*e*		09 31 27.6	
CBX				IAML		09 31 27.6	
	comp=E,10μm,0.4s						
PBX	**Punta Banda**	**1.45**	**265**	*e*P	**Pn**	**09 31 03.0**	**-1.6**
PBX				*e*S	**Sn**	**09 31 22.5**	**-1.4**
MONP	**Monument Peak**	**1.55**	**311**	P	**Pn**	**09 31 03.9**	**-2.3**
	baz=1.5						
MONP				S	**Sn**	**09 31 26.4**	**-0.1**
	baz=1.5						
BAR	**Barrett**	**1.60**	**300**	*e*Pn	**Pn**	**09 31 04.9**	**-1.8**
BAR				*e*Sn	**Sb**	**09 31 28.5**	**+0.1**
BC3	**Big Chuckawall**	**1.80**	**349**	P	**Pn**	**09 31 07.2**	**-2.3**
	baz=1.8						
214A	**Organ Pipe Nat**	**1.89**	**87**	P	**Pn**	**09 31 07.6**	**-3.0**
	baz=1.9						
214A	**Organ Pipe Nat**	**1.89**	**87**	*e*Pn	**Pn**	**09 31 07.7**	**-3.0**
214A				*e*S	**Sb**	**09 31 37.9**	**+1.4**
Y12C	**Blythe**	**1.91**	**13**	P	**Pn**	**09 31 08.8**	**-2.1**
	baz=1.9						
109C	**Camp Elliot, M**	**2.02**	**300**	P	**Pn**	**09 31 10.9**	**-1.6**
	baz=2.0						
109C				Sb	**Sb**	**09 31 40.7**	**+0.2**
	baz=2.0						
PFO	**Pinyon Flat Ob**	**2.10**	**325**	Pn	**Pn**	**09 31 11.4**	**-2.3**
	comp=E,5.4nm,0.3s,baz=147,slow=12,SNR=53						
PFO				Lg	Lg	09 31 42.4	
	comp=E,40nm,0.3s,baz=120,slow=14,SNR=6.1						
PFO				LR	LR	09 31 46.3	
	comp=E,184nm,19.1s,baz=190,slow=33						
PFO	**Pinyon Flat Ob**	**2.10**	**325**	P	**Pn**	**09 31 11.4**	**-2.3**
	baz=2.1						
BELC	**Belle Mtn. Jos**	**2.26**	**339**	Pb	**Pn**	**09 31 15.8**	**-0.1**
	baz=2.2						
IRM	**Iron Mountain**	**2.27**	**357**	P	**Pn**	**09 31 13.9**	**-2.0**
	baz=2.2						
MURC	**Murrieta**	**2.51**	**314**	Pg	**Pb**	**09 31 23.2**	**-0.1**
	baz=2.5						
BBRC	**Big Bear Solar**	**2.85**	**327**	Pb	**Pb**	**09 31 27.2**	**-2.2**
	baz=2.8						
GMRC	**Granite Mounta**	**2.94**	**350**	P	**Pn**	**09 31 23.5**	**-1.6**
	baz=2.9						
LDFC	**Landfair**	**3.19**	**359**	*e*Pn	**Pn**	**09 31 28.1**	**-0.5**
LDFC				*e*Pg	Pg	09 31 43.7	+4.5
BFSC	**Mount Baldy Ra**	**3.22**	**317**	Sb	**Sb**	**09 32 17.0**	**+1.9**
	baz=3.2						
CIS	**Catalina Islan**	**3.23**	**299**	P	**Pn**	**09 31 26.9**	**-2.1**
	baz=3.2						
FMP	**Fort Macarthur**	**3.30**	**304**	Sb	**Sb**	**09 32 19.5**	**+2.3**
	baz=3.3						
PASC	**Pasadena Art C**	**3.50**	**312**	*e*Pn	**Pb**	**09 31 40.0**	**-0.2**
PASC				*e*Sn	**Sb**	**09 32 22.0**	**-0.9**
TUC	**Tucson**	**3.63**	**82**	*e*Pn	**Pn**	**09 31 31.6**	**-2.9**
TUC				*e*Pg	**Pg**	**09 31 46.5**	**-1.1**
TUC				*e*S	**Sg**	**09 32 34.1**	**-0.5**
DECC	**Green Verdugo**	**3.64**	**311**	Sb	**Sb**	**09 32 29.0**	**+1.9**
	baz=3.6						
GSC	**Goldstone**	**3.72**	**337**	*e*Pn	**Pn**	**09 31 36.4**	**+0.5**
GSC				*e*Pg	Pg	09 31 53.3	+3.9
EDW2	**Edwards Air Fo**	**3.88**	**321**	Sb	**Sb**	**09 32 37.9**	**+3.9**
	baz=3.8						
BLG	**Laguna Peak**	**4.05**	**304**	P	**Pn**	**09 31 39.0**	**-1.4**
	baz=4.0						
WUAZ	**Wupatki**	**4.73**	**39**	P	**Pn**	**09 31 49.7**	**-0.2**
	baz=4.7						
WUAZ	**Wupatki**	**4.73**	**39**	*e*Pn	**Pn**	**09 31 49.7**	**-0.2**
ISA	**Isabella**	**4.74**	**324**	*e*Pn	**Pn**	**09 31 50.9**	**+1.1**
PKM	**Peak Mountain**	**5.01**	**308**	P	**Pn**	**09 31 53.6**	**-0.1**
	baz=5.0						
SMMC	**Simmler**	**5.37**	**311**	P	**Pn**	**09 31 59.1**	**+0.5**
	baz=5.3						
W18A	**Petrified Fore**	**5.47**	**52**	P	**Pn**	**09 31 59.9**	**-0.1**
	baz=5.5						
W18A	**Petrified Fore**	**5.47**	**52**	*e*Pn	**Pn**	**09 32 00.1**	**+0.1**
	comp=E,100nm,0.6s						
CCUT	**Cedar City**	**5.82**	**13**	*e*Pn	**Pn**	**09 32 05.4**	**+0.6**
121A	**Cookes Peak, D**	**6.17**	**82**	P	**Pn**	**09 32 08.2**	**-1.5**
	baz=6.2						
121A	**Cookes Peak, D**	**6.17**	**82**	*e*Pn	**Pn**	**09 32 08.0**	**-1.7**
R11A	**Troy Canyon, C**	**6.47**	**356**	*e*Pn	**Pn**	**09 32 13.8**	**+0.1**
R11A				*e*Sg	**Sg**	**09 34 10.7**	**+5.0**
MSU	**Marysvale**	**7.01**	**19**	*e*Pn	**Pn**	**09 32 22.9**	**+1.7**
NVAR	**Mina Array Bea**	**7.06**	**339**	Pn	Pn	09 32 26.6	+4.7
	comp=E,0.1nm,0.3s,baz=157,slow=12,SNR=4.1						
NVAR				Lg	Lg	09 34 36.7	
	comp=E,0.2nm,0.3s,baz=194,slow=34,SNR=2.5						
LAZ	**Ladron**	**7.08**	**67**	*e*Pn	**Pn**	**09 32 21.9**	**-0.2**
LPM	**Los Pinos Moun**	**7.45**	**69**	*e*Pn	**Pn**	**09 32 26.8**	**-0.4**
CMB	**Columbia Colle**	**7.55**	**326**	*e*Pn	**Pn**	**09 32 29.7**	**+1.2**
MVCO	**Mesa Verde**	**7.56**	**44**	P	**Pn**	**09 32 29.8**	**+0.9**
	baz=7.6						
MVCO	**Mesa Verde**	**7.56**	**44**	*e*Pn	**Pn**	**09 32 29.6**	**+0.7**
ANMO	**Albuquerque**	**7.79**	**65**	Pn	**Pn**	**09 32 31.8**	**-0.1**
	comp=E,0.7nm,0.3s,baz=244,slow=13,SNR=8.4						
ANMO				Lg	Lg	09 34 41.8	
	comp=E,0.3nm,0.3s,baz=41,slow=20,SNR=3.2						
ANMO	**Albuquerque**	**7.79**	**65**	*e*Pn	**Pn**	**09 32 31.4**	**-0.5**
ANMO				Lg	Lg	09 34 41.8	
TMUT	**Trail Mountain**	**8.02**	**22**	*e*Pn	**Pn**	**09 32 36.1**	**+1.0**
SRU	**San Rafael**	**8.09**	**26**	*e*Pn	**Pn**	**09 32 36.7**	**+0.7**
PV01	**Paradox Valley**	**8.18**	**39**	*e*Pn	**Pn**	**09 32 37.7**	**+0.4**
PV04	**Paradox Valley**	**8.20**	**36**	*e*Pn	**Pn**	**09 32 40.5**	**+2.9**
P17A	**Butcher Ranch,**	**8.34**	**24**	*e*Pn	Pn	09 32 43.7	+4.3
DUG	**Dugway**	**8.48**	**12**	*e*Pn	**Pn**	**09 32 40.0**	**-1.3**
MPU	**Maple Canyon**	**8.57**	**18**	*e*Pn	**Pn**	**09 32 43.8**	**+1.3**
ELK	**Elko**	**8.84**	**359**	Pn	**Pn**	**09 32 48.3**	**+1.9**
	comp=E,0.1nm,0.3s,baz=194,slow=12,SNR=3.7						
ELK				Lg	Lg	09 35 20.8	
	comp=E,0.2nm,0.3s,baz=110,slow=15,SNR=4.9						
BGU	**Big Grassy Mou**	**9.16**	**10**	*e*Pn	**Pn**	**09 32 50.7**	**0.0**
JLU	**Jordanelle**	**9.16**	**17**	*e*Pn	**Pn**	**09 32 51.9**	**+1.1**
CTU	**Camp Tracy**	**9.18**	**16**	*e*Pn	**Pn**	**09 32 52.3**	**+1.3**
SDCO	**Great Sand Dun**	**9.77**	**51**	*e*Pn	**Pn**	**09 33 00.1**	**+1.0**
SMCO	**Snowmass**	**9.79**	**40**	*e*Pn	**Pn**	**09 33 01.5**	**+2.0**
O20A	**White River Ci**	**9.89**	**32**	*e*Pn	**Pn**	**09 33 02.8**	**+2.1**
HVU	**Hansel Valley**	**10.04**	**10**	*e*Pn	**Pn**	**09 33 03.4**	**+0.7**
HWUT	**Hardware Ranch**	**10.09**	**15**	*e*Pn	**Pn**	**09 33 04.3**	**+0.8**
TXAR	**Lajitas Array**	**10.11**	**102**	Pn	**Pn**	**09 33 04.1**	**+0.4**
	comp=E,0.5nm,0.3s,baz=281,slow=13,SNR=45						
TXAR				Lg	Lg	09 36 00.2	
	comp=E,0.4nm,0.3s,baz=295,slow=32,SNR=6.4						
MSTX	**Muleshoe**	**10.51**	**75**	*e*Pn	Pn	09 33 12.8	+3.7
MOD	**Modoc**	**10.85**	**339**	Pn	Pn	09 33 17.4	+3.6
ISCO	**Idaho Springs**	**10.98**	**41**	*e*Pn	**Pn**	**09 33 16.9**	**+1.2**
AHID	**Auburn Hatcher**	**11.30**	**15**	*e*Pn	**Pn**	**09 33 19.4**	**-0.5**
MFID	**Camas Ranch**	**11.53**	**357**	*e*Pn	**Pn**	**09 33 26.1**	**+3.0**
YBH	**Yreka Blue Hor**	**11.59**	**330**	LR	LR	09 38 26.9	
	comp=E,60nm,20.1s,baz=172,slow=40						
PDAR	**Pinedale Array**	**11.70**	**20**	Pn	**Pn**	**09 33 28.0**	**+2.5**
	comp=E,0.1nm,0.3s,baz=212,slow=10,SNR=3.9						
FXWY	**Fox Creek**	**12.15**	**14**	*e*Pn	Pn	09 33 35.9	+4.2
MCMT	**McKenzie Canyo**	**13.03**	**7**	Pn	**Pn**	**09 33 46.8**	**+3.1**
JCT	**Junction City**	**13.11**	**92**	*e*Pn	**Pn**	**09 33 46.7**	**+2.0**
RLMT	**Red Lodge**	**13.96**	**17**	*e*Pn	**Pn**	**09 33 58.1**	**+1.7**
NEW	**Newport**	**16.44**	**355**	Pn	**P**	**09 34 31.8**	**-0.1**
	comp=E,0.1nm,0.3s,baz=180,slow=12,SNR=3.2						
NEW	**Newport**	**16.44**	**355**	*e*P	**Pn**	**09 34 29.4**	**+0.3**
	comp=E,4.8nm,1.0s						
TUL1	**Tulsa**	**16.46**	**71**	*e*P	**Pn**	**09 34 29.7**	**+0.3**
	comp=E,9.9nm,1.0s						
MIAR	**Mount Ida**	**18.14**	**76**	*e*P	**Pn**	**09 34 50.7**	**+0.3**
	comp=E,7.1nm,1.0s						
PBMO	**Poplar Bluff**	**20.87**	**70**	*e*P	**P**	**09 35 21.3**	**+0.8**
	comp=E,6.6nm,1.0s						
EDM	**Edmonton**	**21.36**	**3**	*e*P	**P**	**09 35 25.8**	**+0.1**
	comp=E,8.6nm,1.1s						
BBB	**Bella Bella**	**22.43**	**339**	LR	LR	09 43 52.0	
	comp=E,67nm,18.8s,baz=124,slow=35						
DLBC	**Dease Lake**	**28.45**	**343**	P	**P**	**09 36 34.6**	**+1.4**
	comp=E,4.6nm,0.8s,baz=99,slow=13,SNR=5.1						
DLBC				LR	LR	09 49 40.3	
	comp=E,55nm,21.6s,baz=171,slow=40						
ILAR	**Eielson Array**	**38.32**	**339**	P	**P**	**09 38 00.6**	**+1.7**
	comp=E,0.9nm,0.8s,baz=154,slow=6.9,SNR=8.2						
FINES	**FINESS Array B**	**81.79**	**18**	P	**P**	**09 42 57.1**	**0.0**
	comp=E,2.0nm,0.8s,baz=354,slow=6.7,SNR=4.9						
WRA	**Warramunga Arr**	**117.40**	**263**	PKP	**PKPdf**	**09 49 23.9**	**-0.8**
	comp=E,0.3nm,0.5s,baz=73,slow=2.6,SNR=4.6						
ASAR	**Alice Springs**	**119.36**	**259**	PKP	**PKPdf**	**09 49 27.1**	**-1.4**
	comp=E,0.5nm,0.8s,baz=88,slow=1.6,SNR=5.0						
QSPA	**South Pole Qui**	**121.72**	**180**	PKP	**PKPdf**	**09 49 31.8**	**+0.1**
	comp=E,0.6nm,0.7s,baz=262,slow=2.0,SNR=5.5						
BOSA	**Boshof**	**145.67**	**95**	PKPbc	**PKPdf**	**09 50 16.9**	**-0.6**
	comp=E,3.8nm,0.7s,baz=292,slow=5.4,SNR=7.8						

*NIED **05** 09:32:00, 39°.60N×142°.70E, h38km, Mw3.4 Best double couple: M0 1.43000×10^14 NP1:ϕs 194.00000°, δ3.00000°, λ95.00000°. NP2:ϕs 9.00000°, δ87.00000°, λ90.00000°.*

JMA 05 09:32:39.2±0.1, 39°.63N×142°.70E, h31km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.68**	**266**	P	Pb	09 32 52.2	-0.5
MIYJ				*e*S	Sb	09 33 01.2	-0.7
JTH	**Tanohata**	**0.71**	**296**	P	Pn	09 32 52.8	-0.4
OFUJ	**Ofunato**	**0.97**	**236**	P	Pn	09 32 56.6	-0.1
OFUJ				S	Sn	09 33 09.1	-0.3
JOM	**Ohasama**	**1.10**	**262**	P	Pn	09 32 59.0	+0.5
JOM				*e*S	Sb	09 33 13.3	-0.4
JKZ	**Kuzumaki**	**1.11**	**289**	P	Pn	09 32 59.2	+0.5
JKZ				S	Sn	09 33 13.2	+0.1
JANG	**Nango**	**1.18**	**310**	P	Pn	09 32 59.2	-0.3
JANG				*e*S	Sn	09 33 13.6	-0.9
JMK	**Ichinoseki**	**1.33**	**240**	P	Pn	09 33 02.3	+0.6
JMK				S	Sn	09 33 19.2	+0.9
JIO	**Ouri**	**1.58**	**222**	P	Pn	09 33 05.7	+0.7
JIO				*e*S	Sn	09 33 24.8	+0.5
JRG	**Rokugo**	**1.61**	**262**	P	Pb	09 33 07.2	-1.2
JRG				*e*S	Sb	09 33 28.8	+0.4
JAH	**Hinai**	**1.68**	**290**	P	Pb	09 33 08.1	-1.4
JAH				S	Sb	09 33 29.5	-0.8
JTM	**Tenmabayashi**	**1.70**	**313**	P	Pn	09 33 07.5	+0.8
JTM				S	Sn	09 33 28.3	+0.8

IDC 05 09:44:21.3±37.0, 23°.73S×170°.96W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.6/35, mbtmp4.0/3, Error ellipse: s-maj=711.6km s-min=178.4km az=89.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.47**	**248**	P	P	09 52 16.9	-1.4
	0.6nm,0.5s,baz=92,slow=13,SNR=5.8						
ASAR	**Alice Springs**	**50.20**	**258**	P	P	09 53 19.9	+0.6
	2.1nm,0.4s,baz=102,slow=7.1,SNR=71						
WRA	**Warramunga Arr**	**50.66**	**263**	P	P	09 53 22.8	+0.1
	0.6nm,0.3s,baz=102,slow=7.3,SNR=11						

*IDC **05** 09:46:30.8±0.9, 0°.83N×122°.98E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.8/32, mbtmp4.0/8, ML4.6/1, MS2.4/2, Ms1 2.5/2, ms1mx2.2/38, Error ellipse: s-maj=41.6km s-min=16.5km az=79.0*

*ISCJB **05** 09:46:39.7±0.5, 0°.69N±0°.05×122°.72E±0°.04, h100km, mb3.9/9, Error ellipse: s-maj=7.2km s-min=5.8km az=25.3*

*NEIC **05** 09:46:40.1±1.1, 0°.70N×122°.73E, h84km±12km, mb4.0/2, Error ellipse: s-maj=18.3km s-min=7.2km az=63.0*

*DJA **05** 09:46:41.3±0.6, 1°.N±4°×12°.3E±°, h32km±8km, M4.4/12, mb4.5/4, mB4.6/1, MLv4.3/12, Mw(mB)3.8/1*

ISC 05 09:46:41.0±0.7, 0°.69N±0°.06×122°.71E±0°.05, h100km, n24, σ1§72/28, mb4.0/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.80**	**255**	P	**Pn**	**09 46 56.4**	**-2.9**
MRSI				S	**Sn**	**09 47 07.8**	**-5.3**
KMSI	**Cibinong**	**1.28**	**95**	P	**Pn**	**09 47 02.8**	**-1.8**
KMSI				S	**Sn**	**09 47 20.5**	**-1.9**
LUWI	**Luwuk**	**1.72**	**178**	P	**Pn**	**09 47 10.2**	**+0.1**
LUWI	**Luwuk**	**1.72**	**178**	*e*Pn	**Pn**	**09 47 09.0**	**-1.1**
LUWI				*e*Sn	**Sn**	**09 47 29.0**	**-3.1**
APSI	**Ampana**	**1.91**	**214**	P	**Pn**	**09 47 11.2**	**-1.3**
TOLI	**Tolí-Tolí**	**1.96**	**283**	*e*Pn	**Pn**	**09 47 11.4**	**-1.7**
TOLI				*e*Sn	**Sn**	**09 47 36.6**	**-1.0**
MPSI	**Mapaga**	**2.83**	**263**	P	**Pn**	**09 47 24.2**	**-0.3**
SANI	**Sanana**	**4.26**	**130**	P	**Pn**	**09 47 44.4**	**+0.7**
TTSI	**Tana Toraja**	**4.70**	**218**	P	**Pn**	**09 47 50.6**	**+0.9**
SPSI	**Sidrap Palu**	**5.48**	**212**	P	**Pn**	**09 48 00.5**	**+0.3**
	38nm,0.7s,566nm0.2nm						
KAPI	**Kappang**	**6.39**	**208**	Pn	**Pn**	**09 48 11.7**	**-0.9**
	11nm,0.3s,baz=18,slow=16,SNR=6.5						
KAPI				LR	LR	09 50 33.8	
	comp=Z,32nm,21.9s,baz=74,slow=37						
WRAB	**Tennant Creek**	**23.46**	**152**	*e*P	**P**	**09 51 41.9**	**+0.1**
	9.0nm,1.4s						
WRA	**Warramunga Arr**	**23.46**	**152**	P	**P**	**09 51 41.6**	**-0.1**
	1.0nm,0.7s,baz=327,slow=11,SNR=10						
ASAR	**Alice Springs**	**26.54**	**157**	P	**P**	**09 52 11.1**	**+1.4**
	0.2nm,0.4s,baz=340,slow=13,SNR=8.2						
CMAR	**Chiang Mai Arr**	**29.26**	**309**	LR	LR	10 04 10.7	
	comp=Z,6.8nm,19.3s,baz=215,slow=36						
STKA	**Stephens Creek**	**37.00**	**153**	P	**P**	**09 53 41.5**	**+0.5**
	2.1nm,1.0s,baz=323,slow=11,SNR=3.3						
STKA	**Stephens Creek**	**37.00**	**153**	P	**P**	**09 53 41.5**	**+0.5**
STKA				*e*P	**P**	**09 53 42.1**	**+1.0**
MJAR	**Matsushiro Arr**	**38.46**	**20**	P	**P**	**09 53 52.5**	**-0.8**
	2.3nm,0.8s,baz=201,slow=10.0,SNR=7.2						
ASAJ	**Asahikawa**	**46.72**	**20**	P	**P**	**09 55 01.0**	**+1.1**
	6.1nm,1.0s,baz=234,slow=8.7,SNR=4.4						
SONM	**Songino Array**	**49.05**	**345**	P	**P**	**09 55 19.4**	**+1.4**
	2.4nm,0.8s,baz=156,slow=8.5,SNR=11						
MKAR	**Makanchi Array**	**57.88**	**328**	P	**P**	**09 56 23.8**	**+1.3**
	0.8nm,0.6s,baz=122,slow=8.4,SNR=8.9						

*ISCJB **05** 10:41:08.8±0.3, 36°.67N±0°.02×2°.44W±0°.01, h11km±2km, mb3.7/10, MS3.3/14, Error ellipse: s-maj=2.6km s-min=2.0km az=175.1*

*CRAAG **05** 10:41:09.5, 36°.60N×2°.29W, Mb3.9*

*IDC **05** 10:41:09.3±0.9, 36°.64N×2°.41W, h0km, mb3.8/10, mb1 3.9/15, mb1mx3.7/38, mbtmp3.6/15, ML3.6/5, MS3.3/18, Ms1 3.3/18, ms1mx3.1/40, Error ellipse: s-maj=19.2km s-min=15.8km az=66.0*

*CSEM **05** 10:41:09.5±0.1, 36°.59N×2°.35W, h5km, ML4.2/18, Error ellipse: s-maj=2.9km s-min=2.5km az=148.0*

*MDD **05** 10:41:10.9±0.3, 36°.56N×2°.33W, h10km, mbLg3.8/43, Error ellipse: s-maj=3.4km s-min=2.9km az=151.0, PRXIMO*

MDD EMS: III ZONA EPICENTRAL.

*NEIC **05** 10:41:10.3, 36°.60N×2°.28W, h0km, MN3.8(MDD), After MDD.*

NEIC Felt at Almeria, Spain.

*IGIL **05** 10:41:10.0, 36°.59N×2°.30W, h0km, ML3.1*

*SFS **05

463nm,0.2s,SNR=7.9
SESP Santiago Espad 1.51 354 Pn **Pb** **10 41 38.3 +0.4**
113nm,0.3s,SNR=7.9
SESP Sn **Sb** **10 41 57.6 +0.2**
649nm,0.2s,SNR=7.9
SESP Lg Lg 10 42 00.5
463nm,0.2s,SNR=7.9
ZAI Zaio 1.67 191 Pn **Pb** **10 41 41.0 +0.3**
ZAI Sn **Sn** **10 41 59.0 -2.1**
ZAI Zaio 1.67 191 Pn **Pb** **10 41 41.0 +0.3**
ZAI *i* S **Sn** **10 41 59.0 -2.1**
EMAL Malaga-Limoner 1.68 276 *e*S **Sn** **10 41 58.5 -2.7**
EMIJ Mijas 1.96 269 Pn **Pn** **10 41 41.2 -1.9**
90nm,0.5s,SNR=62
EMIJ Sn **Sn** **10 42 03.6 -4.3**
634nm,0.5s,SNR=8.1
EMIJ Mijas 1.96 269 Pn **Pn** **10 41 41.2 -1.9**
90nm,0.5s,SNR=62
EMIJ Sn **Sn** **10 42 03.7 -4.3**
634nm,0.5s,SNR=8.1
TOU Touzarine 2.01 215 Pn **Pn** **10 41 42.0 -2.0**
TOU Sn Sn 10 42 02.0 -7.4
TOU Touzarine 2.01 215 *i* P **Pn** **10 41 42.0 -2.0**
EVIA Vianos 2.02 356 ⇑Pn **Pn** **10 41 45.1 +0.9**
35nm,0.2s,SNR=18
EVIA Pg **Pg** **10 41 49.2 +1.0**
SNR=7.9
EVIA Vianos 2.02 356 Pn **Pn** **10 41 45.1 +0.9**
35nm,0.2s,SNR=18
ETOB Tobarra 2.12 17 Pn **Pn** **10 41 46.3 +0.8**
9.4nm,0.1s,SNR=114
ETOB Pg **Pb** **10 41 49.6 +1.3**
32nm,0.2s,SNR=7.9
ETOB Sn **Sn** **10 42 12.5 +0.3**
169nm,0.2s,SNR=5.0
ETOB Tobarra 2.12 17 Pn **Pn** **10 41 46.3 +0.8**
9.4nm,0.1s,SNR=114
PVLZ Peæn de 2.14 228 *e*P **Pg** **10 41 50.1 -0.4**
REAL Reales 2.31 268 *e*P **Pn** **10 41 46.9 -1.2**
EADA Adamuz 2.36 312 Pn **Pn** **10 41 49.8 +1.1**
0.8nm,0.2s,SNR=7.9
EADA Pg **Pg** **10 41 54.8 +0.2**
2.5nm,0.1s,SNR=45
EADA Sn **Sn** **10 42 17.6 -0.4**
71nm,0.2s,SNR=7.9
EADA Lg Lg 10 42 26.9
229nm,0.3s,SNR=9.1
EADA Adamuz 2.36 312 Pn **Pn** **10 41 49.8 +1.1**
0.8nm,0.2s,SNR=7.9
LIJA Lijar 2.47 278 *e*P **Pn** **10 41 51.9 +1.6**
OKGL Djebel Kef Gue 2.48 103 Pn **Pn** **10 41 50.1 -0.3**
10.0nm,0.2s,SNR=7.9
OKGL Pg **Pb** **10 41 55.5 +1.1**
78nm,0.2s,SNR=7.9
OKGL Sn **Sn** **10 42 19.9 -1.1**
2µm,0.5s,SNR=7.9
OKGL Djebel Kef Gue 2.48 103 Pn **Pn** **10 41 50.1 -0.3**
10.0nm,0.2s,SNR=7.9
CEU Ceuta 2.55 255 *e*P **Pn** **10 41 50.1 -1.2**
CEU *e*S **Sn** **10 42 23.9 +1.3**
EBEN Beniarda 2.68 38 Pn **Pn** **10 41 53.0 -0.1**
1.1nm,0.1s,SNR=12
EBEN Pg **Pg** **10 42 01.0 +0.3**
35nm,0.6s,SNR=7.9
EBEN Sn **Sn** **10 42 24.6 -1.3**
45nm,0.3s,SNR=5.0
EBEN Beniarda 2.68 38 Pn **Pn** **10 41 53.0 -0.1**
1.1nm,0.1s,SNR=12
DKH Dar Kharkhour 2.69 246 Pn Pn 10 41 50.0 -3.3
DKH Sn Sn 10 42 13.0 -13
DKH Dar Kharkhour 2.69 246 *e*P Pn 10 41 50.0 -3.3
MOMI Momias 2.73 265 *e*P **Pn** **10 41 54.8 +0.9**
ESPR Espera 2.83 276 Pn **Pn** **10 41 56.6 +1.4**
36nm,0.4s,SNR=30
ESPR Sn **Sn** **10 42 29.0 -0.6**
304nm,0.5s,SNR=4.1
ESPR Lg Lg 10 42 42.7
1µm,1.2s,SNR=7.9
ESPR Espera 2.83 276 Pn **Pn** **10 41 56.6 +1.4**
36nm,0.4s,SNR=30
ESPR Sn **Sn** **10 42 29.0 -0.6**
304nm,0.5s,SNR=4.1
ESPR Lg Lg 10 42 42.7
1µm,1.2s,SNR=7.9
ECAB El Cabril 2.85 302 Pn **Pn** **10 41 55.9 +0.4**
5.7nm,0.3s,SNR=38
ECAB Pg **Pg** **10 42 03.6 -0.4**
79nm,0.4s,SNR=7.9
ECAB Sn **Sn** **10 42 28.9 -1.2**
36nm,0.2s,SNR=7.9
ECAB Lg Lg 10 42 43.1
589nm,0.6s,SNR=5.0
ECAB El Cabril 2.85 302 Pn **Pn** **10 41 55.9 +0.4**
5.7nm,0.3s,SNR=38
EANR 'Ain N'Sour 2.86 102 P **Pn** **10 41 55.5 -0.1**
EANR 'Ain N'Sour 2.86 102 Pn **Pn** **10 41 55.5 -0.1**
EANR 'Ain N'Sour 2.86 102 P **Pn** **10 41 55.5 -0.1**
GIBL Gibalbin 2.92 275 *e*P **Pn** **10 41 58.1 +1.7**
CNIL Conil 3.00 266 *e*P **Pn** **10 41 57.5 +0.1**
ECHF Ech Chlef 3.01 98 Sn **Sn** **10 42 31.5 -2.4**
ECHF Ech Chlef 3.01 98 Sn **Sn** **10 42 31.5 -2.4**
ECHA Ech Chlef 3.03 98 P **Sn** **10 42 31.5 -3.0**
EBNR Beni Rached 3.14 95 P Pg 10 42 22.0 +12
TSY Tnine Yamani 3.19 248 Pn **Pn** **10 41 57.0 -3.1**
TSY Sn Sn 10 42 24.0 -14
TSY Tnine Yamani 3.19 248 *e*P **Pn** **10 41 57.0 -3.1**
ETRT Tiaret 3.20 111 P **Pn** **10 42 00.0 -0.3**
ETRT Tiaret 3.20 111 Pn **Pn** **10 42 00.0 -0.3**
ETRT Tiaret 3.20 111 P **Pn** **10 42 00.0 -0.3**
ESDC Sonseca Array 3.31 338 Pn **Pn** **10 42 03.0 +1.1**
4.7nm,0.3s,baz=154,slow=13,SNR=39
ESDC Pg **Pg** **10 42 12.0 -0.8**
32nm,0.3s,baz=159,slow=17,SNR=86
ESDC Lg Lg 10 42 52.7
78nm,0.3s,baz=156,slow=29,SNR=12
ESDC Sonseca Array 3.31 338 Pn **Pn** **10 42 02.9 +1.1**
1.5nm,0.1s,baz=149,slow=13,SNR=31
ESDC Pg **Pg** **10 42 12.8 0.0**
48nm,0.2s,baz=161,slow=18,SNR=9.6
ESDC Lg Lg 10 42 56.9
8.4nm,0.2s,baz=161,slow=28,SNR=8.7
ESDC Sonseca Array 3.31 338 Pn **Pn** **10 42 02.9 +1.1**
1.5nm,0.1s,SNR=31
ESDC Sonseca Array 3.31 338 Pg **Pg** **10 42 12.8 0.0**
48nm,0.2s,SNR=9.6
ESDC Lg Lg 10 42 56.9
8.4nm,0.2s,SNR=8.7
ESLA Sonseca Array 3.31 338 *e*Pn **Pn** **10 42 02.9 +1.1**
ESLA Sonseca Array 3.31 338 *e*Pg **Pg** **10 42 13.6 +0.8**
ESLA Sonseca Array 3.31 338 *e*Pn **Pn** **10 42 02.9 +1.1**
ESLA *e*Pg **Pg** **10 42 13.6 +0.8**
ESLA *e*Sg **Sg** **10 42 56.0 +0.3**
PAB San Pablo 3.33 332 *e*Pn **Pn** **10 42 03.8 +1.7**
PAB San Pablo 3.33 332 *e*Pg **Pg** **10 42 13.8 +0.7**
PAB San Pablo 3.33 332 *e*Pn **Pn** **10 42 03.8 +1.7**
PAB *e*Pg **Pg** **10 42 13.8 +0.7**
PAB *e*Sg **Sg** **10 42 57.4 +1.2**
TGT Taghat 3.37 222 Pn **Pn** **10 42 02.0 -0.6**
TGT Sn Sn 10 42 31.0 -12
TGT Taghat 3.37 222 *i* P **Pn** **10 42 02.0 -0.6**
EMIN Mina Concepcio 3.64 290 Pn **Pn** **10 42 06.1 -0.2**
0.6nm,0.1s,SNR=7.1
EMIN Pg **Pg** **10 42 17.5 -1.7**
52nm,0.6s,SNR=7.9
EMIN Sn **Sn** **10 42 48.0 -1.6**
21nm,0.3s,SNR=5.6
EMIN Lg Lg 10 43 07.4
200nm,0.7s,SNR=7.9
EMIN Mina Concepcio 3.64 290 Pn **Pn** **10 42 06.1 -0.2**
0.6nm,0.1s,SNR=7.1
EMIN Mina Concepcio 3.64 290 Pg **Pg** **10 42 17.5 -1.7**
52nm,0.6s,SNR=7.9
EMIN Sn **Sn** **10 42 48.0 -1.6**
21nm,0.3s,SNR=5.6
EMIN Lg Lg 10 43 07.4
200nm,0.7s,SNR=7.9
EIBI Ibiza 3.78 49 Pn **Pn** **10 42 08.3 0.0**
13nm,0.1s,SNR=7.9
EIBI Sn **Sn** **10 42 50.0 -3.1**
67nm,0.2s,SNR=5.7
EIBI Ibiza 3.78 49 Pn **Pn** **10 42 08.3 0.0**
13nm,0.1s,SNR=7.9
EIBI Sn **Sn** **10 42 50.0 -3.1**
67nm,0.2s,SNR=5.7
MIF Mishlifen 3.98 217 Pn **Pn** **10 42 08.0 -3.2**
MIF Sn Sn 10 42 47.0 -11

MIF Mishlifen 3.98 217 *i* P **Pn** **10 42 08.0 -3.2**
EMOS Mosqueruela 4.02 21 Pn **Pn** **10 42 13.5 +1.8**
2.2nm,0.3s,SNR=7.9
EMOS Pg **Pb** **10 42 23.7 +2.9**
36nm,0.6s,SNR=22
EMOS Sn **Sn** **10 42 57.5 -1.6**
13nm,0.3s,SNR=7.9
EMOS Lg Lg 10 43 20.3
565nm,1.7s,SNR=7.9
EMOS Mosqueruela 4.02 21 Pn **Pn** **10 42 13.5 +1.8**
2.2nm,0.3s,SNR=7.9
PBAR Barrancos 4.05 294 *e*Pn **Pn** **10 42 12.5 +0.6**
PBAR *e*Sg **Sg** **10 43 20.3 +0.8**
PBAR A A 10 43 38.2
172nm,0.6s
PBAR Barrancos 4.05 294 Pn **Pn** **10 42 12.5 +0.6**
PBAR Lg Lg 10 43 20.3
172nm,0.6s
PBAR Barrancos 4.05 294 Pn **Pn** **10 42 12.5 +0.6**
PBAR Lg Lg 10 43 20.3
172nm,0.6s
ETOR Torete 4.20 3 Pn **Pn** **10 42 15.5 +1.4**
33nm,0.1s,SNR=17
ETOR Pg **Pg** **10 42 28.6 -1.4**
205nm,0.4s,SNR=20
ETOR Sn **Sn** **10 43 02.0 -1.5**
114nm,0.3s,SNR=7.9
ETOR Lg Lg 10 43 23.8
526nm,1.3s,SNR=7.9
ETOR Torete 4.20 3 Pn **Pn** **10 42 15.5 +1.4**
33nm,0.1s,SNR=17
CZD Col de Zad 4.21 213 Pn **Pn** **10 42 15.0 +0.7**
CZD Col de Zad 4.21 213 *i* P **Pn** **10 42 15.0 +0.7**
EGRO El Granado 4.21 284 Pn **Pn** **10 42 14.1 0.0**
1.3nm,0.1s,SNR=7.9
EGRO Pg **Pg** **10 42 28.8 -1.3**
28nm,0.4s,SNR=7.9
EGRO Sn **Sn** **10 43 01.1 -2.5**
58nm,0.5s,SNR=7.9
EGRO Lg Lg 10 43 25.3
2µm,20.0s,SNR=5.0
EGRO El Granado 4.21 284 Pn **Pn** **10 42 14.1 0.0**
1.3nm,0.1s,SNR=7.9
MDT Midelt 4.23 207 Pn **Pn** **10 42 15.6 +1.1**
1.1nm,0.3s,baz=42,slow=13,SNR=25
MDT Sn **Sn** **10 43 02.5 -1.7**
4.9nm,0.3s,baz=45,slow=16,SNR=9.2
MDT LR LR 10 43 55.7
comp=Z,250nm,18.2s,baz=360,slow=39
GUD Guadarrama 4.26 341 Pn **Pn** **10 42 16.2 +1.2**
4.7nm,0.2s,SNR=22
GUD Pg **Pg** **10 42 29.9 -1.2**
4.2nm,0.2s,SNR=5.8
GUD Sn **Sn** **10 43 03.0 -2.1**
60nm,0.6s,SNR=7.9
GUD Lg Lg 10 43 27.1
532nm,0.9s,SNR=7.9
GUD Guadarrama 4.26 341 Pn **Pn** **10 42 16.2 +1.2**
4.7nm,0.2s,SNR=22
EBAD Badajoz 4.28 301 Pn **Pn** **10 42 15.4 +0.4**
2.2nm,0.1s,SNR=7.9
EBAD Badajoz 4.28 301 Pn **Pn** **10 42 15.4 +0.4**
2.2nm,0.1s,SNR=7.9
PVAQ Vaqueiros 4.37 282 *e*Pn **Pn** **10 42 16.5 +0.2**
PVAQ *e*Sn **Sn** **10 43 04.9 -2.7**
PVAQ *e*Sg **Sg** **10 43 32.8 +3.0**
PVAQ A A 10 43 43.8
79nm,0.6s
PVAQ Vaqueiros 4.37 282 Pn **Pn** **10 42 16.5 +0.2**
PVAQ Sn **Sn** **10 43 04.9 -2.7**
PVAQ Lg Lg 10 43 32.8
79nm,0.6s
PVAQ Vaqueiros 4.37 282 Pn **Pn** **10 42 16.5 +0.2**
PVAQ Sn **Sn** **10 43 04.9 -2.7**
PVAQ Lg Lg 10 43 32.8
79nm,0.6s
PBDV Barranco-do-Ve 4.52 280 *e*Pn **Pn** **10 42 18.5 +0.1**
PBDV *e*Sn **Sn** **10 43 09.7 -1.6**
PBDV A A 10 43 57.6
107nm,0.7s
PBDV Barranco-do-Ve 4.52 280 Pn **Pn** **10 42 18.5 +0.1**
PBDV Sn **Sn** **10 43 09.7 -1.6**
107nm,0.7s
PBDV Barranco-do-Ve 4.52 280 Pn **Pn** **10 42 18.5 +0.1**
PBDV Sn **Sn** **10 43 09.7 -1.6**
107nm,0.7s
EPLA Plasencia 4.53 321 Pn **Pn** **10 42 19.9 +1.4**
5.4nm,0.3s,SNR=22
EPLA Pg **Pg** **10 42 34.7 -1.4**
25nm,0.4s,SNR=10
EPLA Sn **Sn** **10 43 10.1 -1.3**
21nm,0.2s,SNR=7.9
EPLA Lg Lg 10 43 33.1
510nm,0.8s,SNR=5.1
EPLA Plasencia 4.53 321 Pn **Pn** **10 42 19.9 +1.4**
5.4nm,0.3s,SNR=22
PCVE Castro Verde 4.66 284 *e*Pn **Pn** **10 42 20.8 +0.5**
PCVE *e*Sg **Sg** **10 43 40.5 +1.4**
PCVE A A 10 43 45.2
9.5nm,0.7s
PCVE Castro Verde 4.66 284 Pn **Pn** **10 42 20.8 +0.5**
PCVE Lg Lg 10 43 40.5
9.5nm,0.7s
PCVE Castro Verde 4.66 284 Pn **Pn** **10 42 20.8 +0.5**
PCVE Lg Lg 10 43 40.5
9.5nm,0.7s
PESTR Estremoz 4.73 300 *e*Pn **Pn** **10 42 22.0 +0.8**
PESTR *e*Sn **Sn** **10 43 14.7 -1.6**
PESTR *e*Sg **Sg** **10 43 38.9 -2.3**
PESTR A A 10 43 57.3
129nm,0.7s
MESJ Messejana 4.84 286 *e*P **Pn** **10 42 22.7 -0.1**
MESJ *e*S **Sn** **10 43 15.6 -3.6**
MESJ AML AML 10 43 19.2
comp=E,30nm,0.7s
MESJ Messejana 4.84 286 *e*Pn **Pn** **10 42 23.1 +0.3**
MESJ *e*Sg **Sg** **10 43 44.3 -0.7**
MESJ A A 10 44 03.2
comp=E,80nm,0.6s
MESJ Messejana 4.84 286 Pn **Pn** **10 42 23.1 +0.3**
MESJ Sn **Sn** **10 43 15.6 -3.6**
comp=E,30nm,0.7s
MESJ Lg Lg 10 43 44.3
comp=E,80nm,0.6s
MESJ Messejana 4.84 286 Pn **Pn** **10 42 23.1 +0.3**
MESJ Sn **Sn** **10 43 15.6 -3.6**
comp=E,30nm,0.7s
MESJ Lg Lg 10 43 44.3
comp=E,80nm,0.6s
ZFT Errachidia 4.86 201 Pn **Pn** **10 42 25.0 +1.7**
ZFT Sn Sn 10 43 13.0 -7.0
ZFT Errachidia 4.86 201 Pn **Pn** **10 42 25.0 +1.7**
PMRV Marv??o 4.87 307 *e*Pn **Pn** **10 42 24.6 +1.3**
PMRV *e*Sn **Sn** **10 43 17.5 -2.5**
PMRV *e*Sg **Sg** **10 43 41.5 -4.4**
PMRV A A 10 43 55.0
comp=E,187nm,0.6s
PMRV Marv??o 4.87 307 Pn **Pn** **10 42 24.6 +1.3**
PMRV Sn **Sn** **10 43 17.5 -2.5**
PMRV Lg Lg 10 43 41.5
comp=E,187nm,0.6s
PMRV Marv??o 4.87 307 Pn **Pn** **10 42 24.6 +1.3**
PMRV Sn **Sn** **10 43 17.5 -2.5**
PMRV Lg Lg 10 43 41.5
comp=E,187nm,0.6s
EVO Evora 4.89 295 *e*Pn **Pn** **10 42 24.7 +1.2**
EVO *e*Sn **Sn** **10 43 18.7 -1.7**
EVO *e*Sg **Sg** **10 43 47.9 +1.4**
comp=E,343nm,0.7s
EVOP Sao Brissos 4.97 294 *e*Pn **Pn** **10 42 24.7 +0.1**
EVOP *e*Sn **Sn** **10 43 18.7 -3.6**
EVOP *e*Sg **Sg** **10 43 47.9 -1.2**
comp=E,172nm,0.7s
KIB El Ksiba 5.05 218 Pn **Pn** **10 42 23.0 -2.8**
KIB Sn Sn 10 43 12.0 -13
KIB El Ksiba 5.05 218 Pn **Pn** **10 42 23.0 -2.8**
MORF Marmelete 5.10 280 *e*P **Pn** **10 42 25.7 -0.6**
MORF *e*S **Sn** **10 43 21.8 -3.7**
MORF AML AML 10 43 24.4
comp=N,29nm,0.6s
MORF Marmelete 5.10 280 *e*Pn **Pn** **10 42 28.2 +1.8**
MORF *e*Sn **Sn** **10 43 24.6 -0.9**
MORF A A 10 44 11.5
comp=N,40nm,0.8s
MORF Marmelete 5.10 280 Pn **Pn** **10 42 28.2 +1.8**

MORF Sn **Sn** **10 43 21.8 -3.7**
comp=N,29nm,0.6s
MORF Sn **Sn** **10 43 24.6 -0.9**
comp=N,40nm,0.8s
MORF Marmelete 5.10 280 Pn **Pn** **10 42 28.2 +1.8**
MORF Sn **Sn** **10 43 24.6 -0.9**
comp=N,40nm,0.8s
ETOS Mallorca 5.14 51 Pn **Pn** **10 42 27.1 +0.2**
comp=N,8.0nm,0.3s,SNR=7.9
ETOS Sn **Sn** **10 43 22.9 -3.6**
comp=N,14nm,0.2s,SNR=7.9
ETOS Mallorca 5.14 51 Pn **Pn** **10 42 27.1 +0.2**
comp=N,8.0nm,0.3s,SNR=7.9
ETOS Sn **Sn** **10 43 22.9 -3.6**
comp=N,14nm,0.2s,SNR=7.9
PNCL Nicolau / Gran 5.15 289 *e*Pn **Pn** **10 42 27.1 +0.1**
PNCL *e*Sn **Sn** **10 43 27.6 +0.9**
PNCL A A 10 44 12.9
comp=N,54nm,0.7s
PTEO Sao Teotonio 5.18 282 *e*Pn **Pn** **10 42 28.0 +0.5**
PTEO *e*Sn **Sn** **10 43 24.4 -3.2**
PTEO *e*Sg **Sg** **10 43 59.3 +3.4**
PTEO A A 10 44 00.9
comp=N,95nm,0.8s
PTEO Sao Teotonio 5.18 282 Pn **Pn** **10 42 28.0 +0.5**
PTEO Sn **Sn** **10 43 24.4 -3.2**
PTEO Lg Lg 10 43 59.3
comp=N,47nm,0.8s
PTEO Sao Teotonio 5.18 282 Pn **Pn** **10 42 28.0 +0.5**
PTEO Sn **Sn** **10 43 24.4 -3.2**
PTEO Lg Lg 10 43 59.3
comp=N,47nm,0.8s
PFVI Vila Bisbo 5.22 278 *e*Pn **Pn** **10 42 27.9 -0.1**
PFVI *e*Sn **Sn** **10 43 26.5 -2.0**
PFVI A A 10 43 40.0
comp=N,47nm,0.6s
PFVI Vila Bisbo 5.22 278 Pn **Pn** **10 42 28.1 +0.1**
comp=N,12nm,0.1s,SNR=50
PFVI Sn **Sn** **10 43 25.5 -3.1**
comp=N,14nm,0.2s,SNR=7.9
PFVI Vila Bisbo 5.22 278 Pn **Pn** **10 42 28.1 +0.1**
comp=N,12nm,0.1s,SNR=50
PFVI Sn **Sn** **10 43 25.5 -3.1**
comp=N,14nm,0.2s,SNR=7.9
PMTG Montargil 5.26 300 *e*Pn **Pn** **10 42 29.0 +0.5**
PMTG *e*Sn **Sn** **10 43 26.5 -2.9**
PMTG *e*Sg **Sg** **10 43 59.1 +0.8**
PMTG A A 10 44 03.6
comp=N,134nm,0.8s
ESAC San Caprasio 5.30 15 Pn **Pn** **10 42 31.6 +2.4**
comp=N,5.1nm,0.4s,SNR=6.2
ESAC Pg Pg 10 42 54.7 +3.7
comp=N,30nm,0.3s,SNR=9.2
ESAC Lg Lg 10 44 01.2
comp=N,67nm,0.8s,SNR=7.9
ESAC San Caprasio 5.30 15 Pn **Pn** **10 42 31.6 +2.4**
comp=N,5.1nm,0.4s,SNR=6.2
EPOB Poblet 5.43 28 Pn **Pn** **10 42 32.4 +1.4**
comp=N,3.1nm,0.3s,SNR=7.9
EPOB Sn **Sn** **10 43 32.1 -1.7**
comp=N,4.0nm,0.3s,SNR=7.9
EPOB Poblet 5.43 28 Pn **Pn** **10 42 32.4 +1.4**
comp=N,3.1nm,0.3s,SNR=7.9
EPOB Sn **Sn** **10 43 32.1 -1.7**
comp=N,4.0nm,0.3s,SNR=7.9
MTE Manteigas 5.56 314 *e*Pn **Pn** **10 42 34.6 +1.9**
MTE *e*Sn **Sn** **10 43 36.0 -0.9**
MTE *e*Sg **Sg** **10 44 08.3 +0.4**
MTE A A 10 44 21.8
comp=N,156nm,0.7s
MTE Manteigas 5.56 314 Pn **Pn** **10 42 34.6 +1.9**
MTE Sn **Sn** **10 43 36.0 -0.9**
MTE Lg Lg 10 44 08.3
comp=N,78nm,0.7s
MTE Manteigas 5.56 314 *e*Pn **Pn** **10 42 33.6 +0.9**
MTE Sn **Sn** **10 43 36.0 -0.9**
MTE Lg Lg 10 44 08.3
comp=N,78nm,0.7s
MTE Manteigas 5.56 314 *e*Pn **Pn** **10 42 33.6 +0.9**
MTE *e*Sn **Sn** **10 43 34.1 -2.8**
PACT Alcochete 5.58 295 *e*Pn **Pn** **10 42 32.9 0.0**
PACT *e*Sn **Sn** **10 43 37.0 -0.2**
PACT *e*Sg **Sg** **10 44 07.8 -0.6**
PACT A A 10 44 15.3
comp=N,143nm,0.7s
TZC Tazercounte 5.62 219 Pn **Pn** **10 42 32.0 -1.7**
TZC Sn Sn 10 43 25.0 -14
TZC Tazercounte 5.62 219 *e*P **Pn** **10 42 32.0 -1.7**
PMST Lisbon--Monsan 5.82 293 *e*Sg **Sg** **10 44 19.0 +2.6**
PMST A A 10 44 21.1
comp=N,70nm,0.7s
MVO Moncorvo 5.83 323 *e*Pn **Pn** **10 42 38.1 +1.7**
MVO *e*Sn **Sn** **10 43 41.1 -2.5**
MVO *e*Sg **Sg** **10 44 16.2 -0.3**
MVO A A 10 44 28.2
comp=N,130nm,0.7s
MVO Moncorvo 5.83 323 Pn **Pn** **10 42 37.9 +1.5**
comp=N,2.0nm,0.3s,SNR=6.3
MVO Sn **Sn** **10 43 40.9 -2.7**
comp=N,72nm,0.5s,SNR=7.9
MVO Lg Lg 10 44 16.0
comp=N,355nm,0.7s,SNR=6.7
MVO Moncorvo 5.83 323 Pn **Pn** **10 42 37.9 +1.5**
comp=N,2.0nm,0.3s,SNR=6.3
MVO Lg Lg 10 44 16.0
comp=N,355nm,0.7s,SNR=6.7
PCAS Casmilo, Conde 5.93 307 *e*Pn **Pn** **10 42 38.9 +1.1**
PCAS *e*Sn **Sn** **10 43 41.9 -4.1**
PCAS *e*Sg **Sg** **10 44 18.1 -1.7**
PCAS A A 10 44 27.0
comp=N,150nm,0.7s
PVIS Viseu 5.97 315 *e*Pn **Pn** **10 42 39.7 +1.4**
PVIS *e*Sn **Sn** **10 43 43.6 -3.4**
PVIS *e*Sg **Sg** **10 44 22.7 +1.7**
PVIS A A 10 44 29.4
comp=N,60nm,0.7s
PVIS Viseu 5.97 315 Pn **Pn** **10 42 39.7 +1.4**
PVIS Sn **Sn** **10 43 43.6 -3.4**
PVIS Lg Lg 10 44 22.7
comp=N,30nm,0.7s
PVIS Viseu 5.97 315 Pn **Pn** **10 42 39.7 +1.4**
PVIS Lg Lg 10 44 22.7
comp=N,30nm,0.7s
PMAFR Mafra 5.97 295 *e*Pn **Pn** **10 42 39.4 +1.1**
PMAFR *e*Sn **Sn** **10 43 44.4 -2.6**
PMAFR *e*Sg **Sg** **10 44 18.1 -3.0**
PMAFR A A 10 44 33.9
comp=N,126nm,0.6s
PMAFR Mafra 5.97 295 Pn **Pn** **10 42 39.0 +0.7**
comp=N,13nm,0.3s,SNR=7.9
PMAFR Sn **Sn** **10 43 44.3 -2.6**
comp=N,100nm,0.7s,SNR=7.9
PMAFR Lg Lg 10 44 24.0
comp=N,745nm,0.8s,SNR=7.9
PMAFR Mafra 5.97 295 Pn **Pn** **10 42 39.0 +0.7**
comp=N,13nm,0.3s,SNR=7.9
PMAFR Lg Lg 10 44 24.0
comp=N,745nm,0.8s,SNR=7.9
EMIR Miracle 6.08 28 Pn **Pn** **10 42 39.7 -0.2**
comp=N,2.9nm,0.2s,SNR=7.9
EMIR Sn **Sn** **10 43 46.8 -3.1**
comp=N,6.4nm,0.5s,SNR=7.9
EMIR Miracle 6.08 28 Pn **Pn** **10 42 39.7 -0.2**
comp=N,2.9nm,0.2s,SNR=7.9
EARA Aranguren 6.18 5 Lg Lg 10 44 26.1
comp=N,280nm,1.2s,SNR=7.9
EARA Aranguren 6.18 5 Lg Lg 10 44 26.1
comp=N,280nm,1.2s,SNR=7.9
PBRG Braganca 6.20 328 *e*Pn **Pn** **10 42 43.1 +1.5**
PBRG *e*Sg **Sg** **10 44 25.7 -2.9**
PBRG A A 10 44 38.4
comp=N,77nm,0.7s
PBRG Braganca 6.20 328 Pn **Pn** **10 42 43.1 +1.5**
PBRG Lg Lg 10 44 25.7
comp=N,39nm,0.7s
PBRG Braganca 6.20 328 Pn **Pn** **10 42 43.1 +1.5**
PBRG Lg Lg 10 44 25.7
comp=N,39nm,0.7s
IPRE Itoiz 6.23 7 Lg Lg 10 44 30.0
comp=N,131nm,1.1s,SNR=7.9
IPRE Itoiz 6.23 7 Lg Lg 10 44 30.0
comp=N,131nm,1.1s,SNR=7.9
IELO Elcoad 6.28 7 Pn **Pn** **10 42 44.9 +2.3**
comp=N,1.6nm,0.2s,SNR=7.9
IELO Pg **Pg** **10 43 09.1 -0.5**
comp=N,63nm,0.9s,SNR=7.9

IELO Lg Lg 10 44 31.1
comp=N,485nm,2.0s,SNR=7.9
IELO Elcoad 6.28 7 Pn **Pn 10 42 44.9 +2.3**
comp=N,1.6nm,0.2s,SNR=7.9
ECAL Calabor 6.32 329 Pn **Pn 10 42 44.7 +1.6**
comp=N,0.3nm,0.3s,SNR=6.2
ECAL Sn **Sn 10 43 52.3 -3.3**
comp=N,10nm,0.3s,SNR=5.7
ECAL Lg Lg 10 44 30.5
comp=N,397nm,1.0s,SNR=4.9
ECAL Calabor 6.32 329 Pn **Pn 10 42 44.7 +1.6**
comp=N,0.3nm,0.3s,SNR=6.2
ECAL Lg Lg 10 44 30.5
comp=N,397nm,1.0s,SNR=4.9
CFON Fontmartina 6.34 34 Pn **Pn 10 42 43.9 +0.5**
comp=N,1.6nm,0.2s,SNR=8.1
CFON Sn **Sn 10 43 52.5 -3.7**
comp=N,4.6nm,0.3s,SNR=7.9
CFON Fontmartina 6.34 34 Pn **Pn 10 42 43.9 +0.5**
comp=N,1.6nm,0.2s,SNR=8.1
CSOR Sort 6.35 24 Pn **Pn 10 42 45.9 +2.3**
comp=N,2.7nm,0.3s,SNR=7.9
CSOR Lg Lg 10 44 33.6
comp=N,231nm,3.8s,SNR=7.9
CSOR Sort 6.35 24 Pn **Pn 10 42 45.9 +2.3**
comp=N,2.7nm,0.3s,SNR=7.9
CSOR Lg Lg 10 44 33.6
comp=N,231nm,3.8s,SNR=7.9
POLO Lamas de Olo 6.37 320 *e*Pn **Pn 10 42 45.3 +1.4**
POLO *e*Sn **Sn 10 43 53.2 -3.7**
POLO *e*Sg **Sg 10 44 30.1 -3.8**
POLO A A 10 44 45.0
comp=N,33nm,0.7s
ETSF Etsaut 6.42 12 *e*Pn **Pn 10 42 44.3 -0.3**
ETSF *e*Sg **Sg 10 44 32.5 -3.1**
comp=N,300nm,1.5s
ETSF Etsaut 6.42 12 Pn **Pn 10 42 44.3 -0.3**
ETSF Lg Lg 10 44 32.5
comp=N,150nm,1.5s
ETSF Etsaut 6.42 12 *e*Pn **Pn 10 42 44.3 -0.3**
ETSF Lg Lg 10 44 32.5
comp=N,150nm,1.5s
VIEF Viey 6.52 16 P **Pn 10 42 45.4 -0.5**
VIEF S **Sn 10 43 55.8 -4.8**
VIEF Viey 6.52 16 P **Pn 10 42 45.4 -0.5**
SJPF Ste Jean 6.55 7 *e*Pn **Pn 10 42 47.5 +1.3**
SJPF *e*Sg **Sg 10 44 36.0 -3.5**
comp=N,169nm,1.2s
SJPF Ste Jean 6.55 7 Pn **Pn 10 42 47.5 +1.3**
SJPF Lg Lg 10 44 36.0
comp=N,84nm,1.2s
SJPF Ste Jean 6.55 7 *e*Pn **Pn 10 42 47.5 +1.3**
SJPF Lg Lg 10 44 36.0
comp=N,84nm,1.2s
ELIZ Elizondo 6.57 5 Pn **Pn 10 42 49.3 +2.7**
comp=N,2.1nm,0.2s,SNR=9.6
ELIZ Pg Pg 10 43 10.8 -4.5
comp=N,24nm,0.6s,SNR=7.9
ELIZ Lg Lg 10 44 42.6
comp=N,87nm,1.0s,SNR=7.1
ELIZ Elizondo 6.57 5 Pn **Pn 10 42 49.3 +2.7**
comp=N,2.1nm,0.2s,SNR=9.6
ELIZ Lg Lg 10 44 42.6
comp=N,87nm,1.0s,SNR=7.1
REYF Montagne du Re 6.62 13 P **Pn 10 42 47.6 +0.3**
REYF S **Sn 10 43 57.3 -5.7**
REYF Montagne du Re 6.62 13 P **Pn 10 42 47.6 +0.3**
EALK Alkurruntz 6.63 5 Pn **Pn 10 42 49.8 +2.6**
comp=N,6.8nm,0.3s,SNR=9.9
EALK Pg Pg 10 43 13.3 -3.0
comp=N,36nm,0.8s,SNR=7.9
EALK Sn **Sn 10 43 59.5 -3.6**
comp=N,12nm,0.3s,SNR=7.9
EALK Lg Lg 10 44 43.8
comp=N,857nm,2.4s,SNR=9.5
EALK Alkurruntz 6.63 5 Pn **Pn 10 42 49.8 +2.6**
comp=N,6.8nm,0.3s,SNR=9.9
EALK Lg Lg 10 44 43.8
comp=N,857nm,2.4s,SNR=9.5
PTO Porto 6.65 315 *e*Pn **Pn 10 42 49.0 +1.4**
PTO *e*Sg **Sg 10 44 43.6 +0.8**
PTO Porto 6.65 315 Pn **Pn 10 42 49.0 +1.4**
PTO Lg Lg 10 44 43.6
PTO Porto 6.65 315 Pn **Pn 10 42 49.0 +1.4**
PTO Lg Lg 10 44 43.6
LABF Labassere 6.69 15 P **Pn 10 42 48.2 0.0**
LABF Labassere 6.69 15 P **Pn 10 42 48.2 0.0**
MELF Melles 6.69 20 P **Pn 10 42 48.7 +0.4**
MELF Melles 6.69 20 P **Pn 10 42 48.7 +0.4**
EPF Esparros 6.73 17 *e*Pn **Pn 10 42 50.3 +1.5**
EPF *e*Sg **Sg 10 44 41.9 -3.6**
comp=N,78nm,1.0s
EPF Esparros 6.73 17 Pn **Pn 10 42 50.3 +1.5**
EPF Lg Lg 10 44 41.9
comp=N,39nm,1.0s
EPF Esparros 6.73 17 *e*Pn **Pn 10 42 50.3 +1.5**
EPF Lg Lg 10 44 41.9
comp=N,39nm,1.0s
PCAB Cabril 6.73 321 *e*Pn **Pn 10 42 50.1 +1.3**
PCAB *e*Sn **Sn 10 44 02.1 -3.7**
PCAB *e*Sg **Sg 10 44 45.4 -0.2**
PCAB A A 10 44 53.3
comp=N,93nm,0.7s
PCAB Cabril 6.73 321 Pn **Pn 10 42 50.1 +1.3**
PCAB Sn **Sn 10 44 02.1 -3.7**
PCAB Lg Lg 10 44 45.4
comp=N,47nm,0.7s
PCAB Cabril 6.73 321 Pn **Pn 10 42 50.1 +1.3**
PCAB Lg Lg 10 44 45.4
comp=N,47nm,0.7s
MLS Moulis 6.87 22 P **Pn 10 42 51.3 +0.7**
MLS Moulis 6.87 22 P **Pn 10 42 51.3 +0.7**
ELOB Lobios 6.87 322 Pn **Pn 10 42 52.1 +1.4**
comp=N,4.6nm,0.2s,SNR=9.3
ELOB Sn **Sn 10 44 04.4 -4.7**
comp=N,40nm,0.9s,SNR=7.9
ELOB Lobios 6.87 322 Pn **Pn 10 42 52.1 +1.4**
comp=N,4.6nm,0.2s,SNR=9.3
EARI Arriondas 7.03 343 Pn **Pn 10 42 53.8 +0.9**
comp=N,5.4nm,0.4s,SNR=6.2
EARI Sn **Sn 10 44 09.4 -3.7**
comp=N,13nm,0.6s,SNR=7.9
EARI Lg Lg 10 44 56.1
comp=N,332nm,1.3s,SNR=4.7
EARI Arriondas 7.03 343 Pn **Pn 10 42 53.8 +0.9**
comp=N,5.4nm,0.4s,SNR=6.2
EARI Lg Lg 10 44 56.1
comp=N,332nm,1.3s,SNR=4.7
PGAV Gavieira, Arco 7.04 321 *e*Pn **Pn 10 42 54.6 +1.5**
PGAV *e*Sn **Sn 10 44 11.3 -2.3**
PGAV *e*Sg **Sg 10 44 55.6 +0.1**
PGAV A A 10 45 10.1
comp=N,60nm,0.6s
EAGO Agolada(Pontev 7.60 326 Sn **Sn 10 44 22.2 -4.9**
comp=N,5.7nm,0.4s,SNR=7.9
CMAH Djebel Manchou 7.85 87 P **Pn 10 43 06.3 +2.1**
CMAH Djebel Manchou 7.85 87 Pn **Pn 10 43 06.3 +2.1**
CMAH Djebel Manchou 7.85 87 Pn **Pn 10 43 06.3 +2.1**
LFF La Frestale 8.64 15 *e*Pn **Pn 10 43 14.0 -0.9**
LFF *e*Sg **Sg 10 45 41.3 -5.2**
comp=N,5.1nm,0.4s
LFF La Frestale 8.64 15 Pn **Pn 10 43 14.0 -0.9**
LFF Lg Lg 10 45 41.3
comp=N,2.6nm,0.4s
LFF La Frestale 8.64 15 *e*Pn **Pn 10 43 14.0 -0.9**
LFF Lg Lg 10 45 41.3
comp=N,2.6nm,0.4s
CAF Calviac 8.95 21 *e*Pn **Pn 10 43 18.3 -0.9**
CAF *e*Sg **Sg 10 45 51.0 -5.5**
comp=N,1.6nm,0.2s
CAF Calviac 8.95 21 Pn **Pn 10 43 18.3 -0.9**
CAF Lg Lg 10 45 51.0
comp=N,0.8nm,0.2s
CAF Calviac 8.95 21 *e*Pn **Pn 10 43 18.3 -0.9**
CAF Lg Lg 10 45 51.0
comp=N,0.8nm,0.2s
RJF Les Rejaudoux 9.16 17 *e*Pn **Pn 10 43 21.0 -1.0**
RJF *e*Sg Sn 10 45 57.6 +52
comp=N,6.0nm,0.5s
RJF Les Rejaudoux 9.16 17 Pn **Pn 10 43 21.0 -1.0**
RJF Lg Lg 10 45 57.6
comp=N,3.0nm,0.5s
RJF Les Rejaudoux 9.16 17 *e*Pn **Pn 10 43 21.0 -1.0**
RJF Lg Lg 10 45 57.6
comp=N,3.0nm,0.5s
KEST Kesra 9.49 92 Pn **Pn 10 43 27.3 +0.5**
comp=N,0.1nm,0.3s,baz=299,slow=19,SNR=2.1
KEST Sn **Sn 10 45 11.8 -2.0**
comp=N,0.1nm,0.3s,baz=211,slow=12,SNR=1.9
VSL Villasalto 9.68 69 *e*Pn **Pn 10 43 30.3 +1.1**
VSL Villasalto 9.68 69 *e*Pn **Pn 10 43 30.3 +1.1**
MFF Saint Martin d 10.11 9 *e*Pn **Pn 10 43 34.3 -0.8**
MFF *e*Sg Sn 10 46 27.4 +59
comp=N,2.1nm,0.4s
MFF Saint Martin d 10.11 9 Pn **Pn 10 43 34.3 -0.8**
MFF Lg Lg 10 46 27.4
comp=N,1.1nm,0.4s
MFF Saint Martin d 10.11 9 *e*Pn **Pn 10 43 34.3 -0.8**
MFF Lg Lg 10 46 27.4
comp=N,1.1nm,0.4s
QUIF Quistinic 11.31 357 *e*Pn **Pn 10 43 50.8 -0.6**
QUIF *e*Sn Sn 10 45 49.7 -8.4
comp=N,4.5nm,0.5s
QUIF Quistinic 11.31 357 Pn **Pn 10 43 50.8 -0.6**
QUIF Sn Sn 10 45 49.7 -8.4
comp=N,2.2nm,0.5s
QUIF Quistinic 11.31 357 *e*Pn **Pn 10 43 50.8 -0.6**
FLN La Foliniere 12.22 6 *e*Pn **Pn 10 44 03.0 -0.8**
FLN La Foliniere 12.22 6 Pn **Pn 10 44 03.0 -0.8**
FLN La Foliniere 12.22 6 *e*Pn **Pn 10 44 03.0 -0.8**
DAVOX Davos/Dischmat 13.64 38 LR LR 10 49 56.4
comp=N,44nm,20.6s,baz=259,slow=39
GERES GERESS Array B 16.94 39 Pn **P 10 45 09.6 +0.5**
comp=N,0.1nm,0.3s,baz=222,slow=8.6,SNR=4.2
GERES LR LR 10 51 45.4
comp=N,180nm,20.0s,baz=236,slow=38
VRAC Vranov 18.72 41 LR LR 10 53 07.2
comp=N,109nm,18.2s,baz=241,slow=38
EKA Eskdalemuir Ar 18.73 359 P **Pn 10 45 29.2 +0.3**
baz=172,slow=11,SNR=2.6
KOLS Kolonicke sedl 21.75 48 *e*P **P 10 46 05.7 +4.2**
IDI Anoyia 22.06 85 P **P 10 46 06.6 +1.5**
comp=N,17nm,1.0s,baz=221,slow=20,SNR=2.9
MLR Muntele Rosu 23.01 59 P **P 10 46 17.8 +2.7**
comp=N,2.8nm,1.0s,baz=287,slow=5.0,SNR=12
MLR LR LR 10 54 50.6
comp=N,26nm,21.8s,baz=274,slow=36
TORD Torodi Ar. Bea 23.65 170 P **P 10 46 23.1 +1.5**
comp=N,3.8nm,0.8s,baz=353,slow=9.4,SNR=28
TORD LR LR 10 56 08.3
comp=N,125nm,18.1s,baz=355,slow=38
HFS Hagfors 25.69 19 LR LR 10 58 23.5
comp=N,82nm,18.2s,baz=192,slow=40
NOA NORSAR Array B 25.91 15 LR LR 10 58 53.8
comp=N,81nm,18.2s,baz=200,slow=41
AKASG Malin Array Be 26.59 48 P **P 10 46 47.4 -0.8**
comp=N,1.0nm,0.6s,baz=245,slow=10,SNR=3.3
BRTR Keskin Array B 28.34 73 LR LR 10 57 37.9
comp=N,16nm,20.9s,baz=264,slow=35
DBIC Dimbokro 29.89 185 LR LR 10 59 24.7
comp=N,59nm,18.1s,baz=348,slow=37
FINES FINESS Array B 30.59 27 LR LR 11 00 20.9
comp=N,47nm,18.6s,baz=268,slow=38
OBN Obninsk 32.25 43 LR LR 11 00 20.1
comp=N,66nm,20.9s,baz=270,slow=36
AKTO Aktyubinsk 44.68 52 P **P 10 49 23.6 +0.6**
comp=N,1.0nm,0.6s,baz=346,slow=17,SNR=2.2
ZALV Zalesovo Beam 59.83 43 LR LR 11 17 46.6
comp=N,29nm,18.9s,baz=250,slow=37
MKAR Makanchi Array 61.11 51 P **P 10 51 25.3 +1.0**
comp=N,0.2nm,0.4s,baz=287,slow=5.4,SNR=5.3
MKAR LR LR 11 20 14.0
comp=N,21nm,18.1s,baz=340,slow=38
YKA Yellowknife Ar 67.39 332 P **P 10 52 07.2 +2.0**
comp=N,1.0nm,0.9s,baz=57,slow=5.8,SNR=4.0
SONM Songino Array 74.65 41 P **P 10 52 50.2 +0.5**
comp=N,0.3nm,0.4s,baz=298,slow=3.1,SNR=2.2
SONM LR LR 11 26 47.0
comp=N,40nm,18.9s,baz=54,slow=37
PDAR Pinedale Array 76.91 314 P **P 10 53 02.7 -0.1**
comp=N,1.5nm,1.0s,baz=83,slow=4.6,SNR=7.6
TXAR Lajitas Array 81.28 300 P **P 10 53 27.0 +0.1**
comp=N,0.2nm,0.8s,baz=64,slow=6.1,SNR=2.9
TXAR LR LR 11 29 29.8
comp=N,20nm,18.4s,baz=0.0,slow=36
TXAR Lajitas Array 81.28 300 P **P 10 53 27.0 +0.1**
KSRS Korea Array 93.11 37 LR LR 11 39 37.5
comp=N,21nm,18.1s,baz=354,slow=38
MJAR Matsushiro Arr 98.53 31 LR LR 11 44 01.1
comp=N,19nm,18.8s,baz=275,slow=38

NNC 05 11:04:26.2±6.6, 37.82N×74.58E, h0km, mb3.5, mpv3.1, 5C-1D, Error ellipse: s-maj=53.1km s-min=30.5km az=121.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.35**	**339**	⇑Pn	Pn	11 05 06.4	0.0
	1.9nm,0.3s						
SFK				⇓Sn	Sb	11 05 37.9	-1.7
	6.5nm,0.3s						
DZET	**Dzherino**	**4.63**	**284**	⇑Pn	Pn	11 05 37.9	+0.2
	4.9nm,0.4s						
DZET				⇑Sn	Sn	11 06 33.8	+1.5
	5.2nm,0.3s						
KK31	**Karatay Array**	**6.12**	**331**	⇑Pn	Pn	11 05 56.3	-1.7
	0.3nm,0.2s,baz=142,slow=10,SNR=24						
KK31				⇑Sn	Sn	11 07 05.2	-3.5
	0.6nm,0.4s,baz=152,slow=24,SNR=5.1						

JMA 05 11:04:32.4±0.1, 26.94N×128.11E, h59km±1km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIH	**Iheya**	**0.16**	**307**	P	Pn	11 04 41.6	+0.1
JIH				S	Sn	11 04 48.3	+0.2
JOW	**Kunigami**	**0.18**	**126**	P	Pn	11 04 41.6	-0.1
JOW				S	Sn	11 04 48.4	+0.1
JNTH	**Nagotoyohara**	**0.43**	**191**	P	Pn	11 04 43.6	+0.1
JNTH				S	Sn	11 04 51.6	0.0
JOKE	**Okinoerabujima**	**0.59**	**44**	P	Pn	11 04 45.5	+0.2
JOKE				S	Sn	11 04 54.6	-0.1
JAGN	**Aguni-jima**	**0.85**	**246**	P	Pn	11 04 48.2	-0.3
JAGN				S	Sn	11 04 59.9	-0.4
JJT2	**Tamagusuku 2**	**0.86**	**202**	P	Pn	11 04 49.6	+1.0
JJT2				S	Sn	11 05 02.9	+2.4
JTK	**Tokunoshima**	**1.13**	**41**	P	Pn	11 04 52.1	0.0
JTK				S	Sn	11 05 06.5	-0.2
JKE	**Kume jima 2**	**1.33**	**243**	P	Pn	11 04 54.3	-0.5
JKE				S	Sn	11 05 11.2	-0.4
JAMN	**Amaminishikomi**	**1.61**	**36**	P	Pn	11 04 58.2	-0.3
JAMN				*e*S	Sn	11 05 17.3	-0.9
JAM	**Amami Oshima**	**1.98**	**42**	P	Pn	11 05 03.8	+0.3
JAM				S	Sn	11 05 26.8	-0.4
JZK	**Kikaishima**	**2.15**	**50**	P	Pn	11 05 06.1	+0.3
JZK				*e*S	Sn	11 05 32.1	+0.8
JTAJ	**Takarajima**	**2.41**	**23**	P	Pn	11 05 09.3	-0.1
JTAJ				*e*S	Sn	11 05 37.3	-0.4
JMZ	**Minamidaito 2**	**3.00**	**111**	P	Pn	11 05 15.4	-2.2
JMZ				*e*S	Sn	11 05 47.2	-5.2
JOGS	**Gusukube**	**3.26**	**229**	P	Pn	11 05 20.8	-0.3
JOGS				*e*S	Sn	11 05 58.0	-0.7

IDC 05 11:06:51.2±13.0, 15.06S×165.59E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.6/36, mbtmp3.9/4, ML4.0/1, Error ellipse: s-maj=224.8km s-min=35.8km az=55.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.02**	**173**	Pn	Pn	11 08 35.6	+0.1
	2.4nm,0.3s,baz=287,slow=19,SNR=15						
DZM				Sn	Sn	11 09 56.3	+0.1
	baz=282,slow=14						
STKA	**Stephens Creek**	**27.55**	**228**	P	P	11 12 39.9	0.0
	1.6nm,0.4s,baz=56,slow=9.4,SNR=6.3						
WRA	**Warramunga Arr**	**30.17**	**256**	P	P	11 13 03.5	+0.1
	0.2nm,0.5s,baz=85,slow=9.1,SNR=6.6						
ASAR	**Alice Springs**	**31.04**	**249**	P	P	11 13 11.0	-0.1
	1.0nm,0.6s,baz=78,slow=9.3,SNR=40						

IDC 05 11:55:06.1±2.0, 1.78N×67.08E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.4/27, mbtmp3.7/3, Error ellipse: s-maj=86.6km s-min=32.8km az=49.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**8.95**	**154**	T	T	12 06 12.6	
	baz=332,slow=76,SNR=607						
H08N3	**Diego Garcia H**	**8.97**	**154**	T	T	12 06 13.6	
	baz=332,slow=76,SNR=581						
H08N1	**Diego Carcia H**	**8.97**	**154**	T	T	12 06 14.7	
	baz=332,slow=76,SNR=640						
BRTR	**Keskin Array B**	**48.48**	**325**	P	P	12 03 50.2	-0.6
	0.4nm,0.4s,baz=134,slow=8.7,SNR=4.0						
ZALV	**Zalesovo Beam**	**54.01**	**13**	P	P	12 04 31.9	-0.1
	1.2nm,0.6s,baz=209,slow=7.7,SNR=5.7						
H01W3	**Cape Leeuwin H**	**57.16**	**134**	T	T	13 06 29.0	
	baz=299,slow=75,SNR=17						
H01W2	**Cape Leeuwin H**	**57.17**	**134**	T	T	13 06 28.8	
	baz=299,slow=75,SNR=14						
H01W1	**Cape Leeuwin H**	**57.18**	**134**	T	T	13 06 29.8	
	baz=299,slow=75,SNR=15						
ASAR	**Alice Springs**	**69.62**	**116**	P	P	12 06 17.6	-0.2
	0.5nm,0.7s,baz=280,slow=5.8,SNR=7.5						
TXAR	**Lajitas Array**	**147.82**	**345**	PKPbc	PKPbc	12 14 53.7	-0.2
	1.3nm,0.8s,baz=59,slow=3.0,SNR=13						

IDC 05 11:55:49.1±1.9, 1.83N×67.22E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/45, mbtmp3.6/4, Error ellipse: s-maj=82.7km s-min=26.8km az=48.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**8.94**	**155**	T	T	12 06 56.9	
	baz=332						
H08N3	**Diego Garcia H**	**8.95**	**155**	T	T	12 06 58.0	
	baz=332						
H08N1	**Diego Carcia H**	**8.96**	**155**	T	T	12 06 59.1	
	baz=332						
BRTR	**Keskin Array B**	**48.52**	**325**	P	P	12 04 33.7	-0.4
	0.3nm,0.4s,baz=142,slow=7.2,SNR=2.5						
ZALV	**Zalesovo Beam**	**53.93**	**13**	P	P	12 05 14.3	0.0
	0.6nm,0.4s,baz=204,slow=7.5,SNR=3.8						
H01W3	**Cape Leeuwin H**	**57.09**	**134**	T	T	13 07 13.0	
	baz=299						
H01W2	**Cape Leeuwin H**	**57.10**	**134**	T	T	13 07 13.0	
	baz=299						
H01W1	**Cape Leeuwin H**	**57.11**	**134**	T	T	13 07 14.2	
	baz=299						
WRA	**Warramunga Arr**	**69.21**	**112**	P	P	12 06 58.2	-0.2
	0.7nm,0.8s,baz=291,slow=5.7,SNR=3.1						
ASAR	**Alice Springs**	**69.51**	**116**	P	P	12 07 00.2	+0.1
	0.3nm,0.7s,baz=285,slow=5.9,SNR=4.6						
TXAR	**Lajitas Array**	**147.81**	**345**	PKPbc	PKPbc	12 15 36.6	-0.3
	0.7nm,0.9s,baz=35,slow=2.4,SNR=5.2						

*IDC **05** 11:58:26.8±2.2, 54.26N×86.03E, h0km, mb1 3.3/2, mb1mx3.1/43, mbtmp3.3/2, ML3.3/2, Error ellipse: s-maj=18.1km s-min=10.6km az=58.0*
*NNC **05** 11:58:30.8±6.3, 53.93N×86.08E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=47.1km s-min=39.3km az=14.0*
ISC 05 11:58:26.8±3.2, 54.3N±0.2×86.1E±0.2, h10km, n7, σ1s 61/9, 7C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.82**	**243**	*i*		12 03 40.0	
	baz=66,slow=313,SNR=2.7						
ZALV	**Zalesovo Beam**	**0.82**	**243**	Pg	**Pg**	**11 58 40.7**	**-1.9**
	1.2nm,0.3s,baz=65,slow=18,SNR=16						
ZALV				Lg	Lg	11 58 52.9	
	6.0nm,0.3s,baz=64,slow=30,SNR=37						
KURK	**Kurchatov**	**5.81**	**234**	⇑Pn	**Pn**	**11 59 54.8**	**+1.9**
	1.2nm,0.7s						
KURK				⇑Sn	**Sn**	**12 01 01.0**	**+1.6**
	0.3nm,0.5s						
KURK				⇓Lg	Lg	12 01 32.2	
	1.6nm,0.8s						
KURBB	**Kurchatov Arra**	**5.91**	**234**	⇑Pn	**Pn**	**11 59 56.2**	**+1.9**
	2.8nm,0.5s,baz=55,slow=14						
KURBB				⇓Sn	**Sn**	**12 01 01.7**	**-0.4**
	1.7nm,0.6s						
KURBB				⇑Lg	Lg	12 01 35.9	
	4.7nm,0.7s,baz=58,slow=34						
MKAR	**Makanchi Array**	**7.92**	**199**	Pn	**Pn**	**12 00 23.0**	**+1.1**
	0.5nm,0.3s,baz=21,slow=13,SNR=29						
MKAR				Lg	Lg	12 02 37.3	
	0.1nm,0.3s,baz=23,slow=29,SNR=5.4						
MK07	**Makanchi Array**	**7.95**	**199**	⇑Pn	**Pn**	**12 00 22.9**	**+0.6**
	1.6nm,0.5s						
MK07				⇑Sn	**Sn**	**12 01 52.1**	**-0.2**
	1.3nm,0.8s						
MK07				⇑Lg	Lg	12 02 33.7	
	1.2nm,0.8s						
BVAR	**Borovoye Array**	**9.39**	**268**	Pn	**Pn**	**12 00 42.8**	**+0.8**
	0.2nm,0.3s,baz=74,slow=16,SNR=2.6						

IDC 05 12:29:56.0±4.2, 25.94S×131.06E, h0km, mb1 3.4/3, mb1mx3.3/17, mbtmp3.2/3, ML3.2/3, Error ellipse: s-maj=34.3km s-min=24.0km az=78.0, Northern Territory

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**3.44**	**49**	Pn	Pn	12 30 52.0	+1.1
	0.3nm,0.3s,baz=228,slow=11,SNR=38						
ASAR				Sn	Sn	12 31 33.6	+1.3
	1.3nm,0.3s,baz=231,slow=25,SNR=12						
ASAR				Lg	Lg	12 31 44.3	
	7.1nm,0.3s,baz=227,slow=28,SNR=41						
WRA	**Warramunga Arr**	**6.69**	**27**	Pn	Pn	12 31 36.7	+1.1
	0.5nm,0.3s,baz=205,slow=14,SNR=43						
WRA				Sn	Sn	12 32 53.1	+0.5
	0.8nm,0.3s,baz=209,slow=25,SNR=12						
WRA				Lg	Lg	12 33 27.5	
	0.4nm,0.3s,baz=206,slow=29,SNR=4.7						
STKA	**Stephens Creek**	**10.96**	**125**	Pn	Pn	12 32 32.5	-1.6
	0.2nm,0.3s,baz=291,slow=11,SNR=5.8						
STKA				Sn	Sn	12 34 33.0	-4.4
	0.3nm,0.3s,baz=260,slow=11,SNR=5.9						

*MOS **05** 12:32:50.9±0.6, 44.10N×46.52E, h8km, mb4.3/1, Error ellipse: s-maj=10.2km s-min=6.9km az=60.1*
*CSEM **05** 12:32:50.1, 44.10N×46.52E, h8km, mb4.3*
ISC 05 12:32:51.0±2.0, 44.08N±0.08×46.51E±0.04, h2km±11km, n37, σ0s 86/69, 4C-2D, Ukraine - Moldova - Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRO	**Groznyy**	**0.93**	**216**	⇓*i*Pg	**Pb**	**12 33 10.3**	**+0.5**
GRO				*i* S	**Sn**	**12 33 25.7**	**+0.8**
GRO	**Groznyy**	**0.93**	**216**	*i* Pg	**Pb**	**12 33 10.3**	**+0.5**
GRO				*i* Sg	**Sn**	**12 33 25.7**	**+0.8**
DBC	**Dubki**	**1.08**	**167**	⇑*i*PG	**Pg**	**12 33 10.8**	**-0.8**
DBC				*i* S	**Sg**	**12 33 25.8**	**+0.2**
DBC	**Dubki**	**1.08**	**167**	*i* Pg	**Pg**	**12 33 10.8**	**-0.8**
DBC				*i* Sg	**Sg**	**12 33 25.8**	**+0.2**
BUJR	**Buynaksk**	**1.32**	**161**	*e*PG	**Pn**	**12 33 15.7**	**-0.7**
BUJR				*i* S	**Sn**	**12 33 36.4**	**+1.8**
BUJR				pmax	pmax		
	comp=Z,68nm,0.3s						
BUJR	**Buynaksk**	**1.32**	**161**	*e*Pg	**Pn**	**12 33 15.7**	**-0.7**
	comp=Z,68nm,0.3s						
BUJR				*i* Sg	**Sn**	**12 33 36.4**	**+1.8**
MAK	**Makhachkala**	**1.33**	**147**	*e*PG	**Pg**	**12 33 17.5**	**+1.1**
MAK				*e*		12 33 35.4	
MAK				pmax	pmax		
	comp=Z,220nm,0.3s						
MAK				smax	smax		
	comp=N,589nm,0.4s						
MAK				smax	smax		
	comp=E,344nm,0.5s						
MAK	**Makhachkala**	**1.33**	**147**	*e*Pg	**Pg**	**12 33 17.5**	**+1.1**
	comp=E,220nm,0.3s						
MAK				*e*Sg	**Sn**	**12 33 35.4**	**+0.7**
	comp=E,589nm,0.4s						
TRKR	**Terskaya**	**1.33**	**255**	*i* PG	**Pn**	**12 33 15.4**	**-1.1**
TRKR				*i* S	**Sn**	**12 33 34.8**	**0.0**
TRKR				pmax	pmax		
	comp=Z,107nm,0.1s						
TRKR				smax	smax		
	comp=N,414nm,0.2s						
TRKR	**Terskaya**	**1.33**	**255**	*i* Pg	**Pn**	**12 33 15.4**	**-1.1**
	comp=N,107nm,0.1s						
TRKR				*i* Sg	**Sn**	**12 33 34.8**	**0.0**

	comp=N,414nm,0.2s							
ARKR	**Arakani**	**1.51**	**166**	⇑*i*PG	**Pn**	**12 33 18.0**	**-1.1**
ARKR				*i* S	**Sn**	**12 33 39.0**	**-0.4**
ARKR				pmax	pmax		
	comp=Z,38nm,0.2s						
ARKR	**Arakani**	**1.51**	**166**	*i* Pg	**Pn**	**12 33 18.0**	**-1.1**
	comp=Z,38nm,0.2s						
ARKR				*i* Sg	**Sn**	**12 33 39.0**	**-0.4**
BTKR	**Batakoyurt**	**1.59**	**244**	⇑*i*PG	**Pn**	**12 33 20.2**	**+0.1**
BTKR				*i* S	**Sg**	**12 33 43.7**	**+1.7**
BTKR	**Batakoyurt**	**1.59**	**244**	*i* Pg	**Pn**	**12 33 20.2**	**+0.1**
BTKR				*i* Sg	**Sg**	**12 33 43.7**	**+1.7**
PRTR	**Priterechnaya**	**1.64**	**259**	*e*PN	**Pn**	**12 33 20.6**	**-0.2**
PRTR				*i* S	**Sg**	**12 33 43.8**	**+0.1**
PRTR				smax	smax		
	comp=N,436nm,0.2s						
PRTR	**Priterechnaya**	**1.64**	**259**	*e*Pn	**Pn**	**12 33 20.6**	**-0.2**
	comp=N,436nm,0.2s						
PRTR				*i* Sg	**Sg**	**12 33 43.8**	**+0.1**
VLKR	**Vladikavkaz**	**1.68**	**233**	*e*PN	**Pn**	**12 33 21.9**	**+0.5**
VLKR				*e*S	**Sg**	**12 33 45.7**	**+0.7**
VLKR	**Vladikavkaz**	**1.68**	**233**	*e*Pn	**Pn**	**12 33 21.9**	**+0.5**
VLKR				*e*Sg	**Sg**	**12 33 45.7**	**+0.7**
GNBR	**Gunib**	**1.72**	**169**	⇑*i*PN	**Pn**	**12 33 21.9**	**0.0**
GNBR				*i* S	**Sb**	**12 33 44.9**	**-0.4**
GNBR	**Gunib**	**1.72**	**169**	*i* Pn	**Pn**	**12 33 21.9**	**0.0**
GNBR				*i* Sg	**Sb**	**12 33 44.9**	**-0.4**
ARNR	**Ardon**	**1.85**	**242**	*e*PN	**Pb**	**12 33 24.7**	**-0.7**
ARNR				*e*S	**Sg**	**12 33 49.8**	**-0.5**
ARNR				pmax	pmax		
	comp=Z,17nm,0.1s						
ARNR				smax	smax		
	comp=N,102nm,0.3s						
ARNR	**Ardon**	**1.85**	**242**	*e*Pn	**Pb**	**12 33 24.7**	**-0.7**
	comp=N,17nm,0.1s						
ARNR				*e*Sg	**Sg**	**12 33 49.8**	**-0.5**
	comp=N,102nm,0.3s						
STDR	**Stavd-Durt**	**1.91**	**249**	⇓*i*PN	**Pn**	**12 33 25.1**	**+0.6**
STDR				*e*S	**Sg**	**12 33 51.8**	**-0.4**
STDR	**Stavd-Durt**	**1.91**	**249**	*i* Pn	**Pn**	**12 33 25.1**	**+0.6**
STDR				*e*Sg	**Sg**	**12 33 51.8**	**-0.4**
KORR	**Kora**	**2.03**	**242**	*e*PN	**Pn**	**12 33 26.9**	**+0.7**
KORR				*e*S	**Sb**	**12 33 54.9**	**+0.6**
KORR				pmax	pmax		
	comp=Z,48nm,0.3s						
KORR				smax	smax		
	comp=E,104nm,0.3s						
KORR	**Kora**	**2.03**	**242**	*e*Pn	**Pn**	**12 33 26.9**	**+0.7**
	comp=E,48nm,0.3s						
KORR				*e*Sg	**Sb**	**12 33 54.9**	**+0.6**
LACR	**Lac**	**2.04**	**233**	*e*PN	**Pn**	**12 33 26.8**	**+0.5**
LACR				pmax	pmax		
	comp=Z,30nm,0.1s						
LACR	**Lac**	**2.04**	**233**	*e*Pn	**Pn**	**12 33 26.8**	**+0.5**
	comp=Z,30nm,0.1s						
LSNR	**Lesken**	**2.10**	**249**	*e*PN	**Pn**	**12 33 28.5**	**+1.3**
LSNR				*e*S	**Sb**	**12 33 56.5**	**+0.1**
LSNR				pmax	pmax		
	comp=Z,18nm,0.1s						
LSNR				smax	smax		
	comp=N,238nm,0.3s						
ZEI	**Tsey**	**2.29**	**237**	*e*PN	**Pn**	**12 33 30.8**	**+0.8**
ZEI				*i* S	**Sb**	**12 34 00.7**	**-1.3**
ZEI	**Tsey**	**2.29**	**237**	*e*Pn	**Pn**	**12 33 30.8**	**+0.8**
ZEI				*i* Sn	**Sb**	**12 34 00.7**	**-1.3**
DIGR	**Digorskoe uzhe**	**2.43**	**242**	*e*PN	**Pn**	**12 33 32.5**	**+0.6**
DIGR				*e*S	**Sb**	**12 34 04.3**	**-1.7**
DIGR	**Digorskoe uzhe**	**2.43**	**242**	*e*Pn	**Pn**	**12 33 32.5**	**+0.6**
DIGR				*e*Sn	**Sb**	**12 34 04.3**	**-1.7**
ONI	**Oni**	**2.68**	**237**	P	**Pb**	**12 33 38.6**	**-1.0**
ONI				S	**Sb**	**12 34 12.8**	**-0.1**
DGRG	**David-gareji**	**2.75**	**198**	P	**Pb**	**12 33 39.5**	**-1.3**
DGRG				S	**Sg**	**12 34 20.0**	**+0.7**
KIV	**Kislovodsk**	**2.76**	**269**	*e*PN	**Pn**	**12 33 36.8**	**+0.5**
KIV				pmax	pmax		
	comp=Z,14nm,0.3s						
KIV	**Kislovodsk**	**2.76**	**269**	*e*Pn	**Pn**	**12 33 36.8**	**+0.5**
	comp=Z,14nm,0.3s						

IDC 05 12:45:51.0±36.0, 8°98S×160°41E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/25, mbtmp3.6/3, Error ellipse: s-maj=604.3km s-min=98.5km az=53.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.64**	**226**	*e*P	Pn	12 46 19.0	+12
HNR				*e*S	Sn	12 46 40.0	+22
WRA	**Warramunga Arr**	**27.45**	**244**	P	P	12 51 39.0	+0.1
	0.4nm,0.5s,baz=72,slow=9.1,SNR=6.5						
STKA	**Stephens Creek**	**28.71**	**215**	P	P	12 51 50.6	+0.6
	0.6nm,0.5s,baz=54,slow=8.7,SNR=3.2						
H11N1	**WAKE ISLAND Hy**	**29.22**	**13**	T	T	13 22 13.0	
	baz=192,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**29.23**	**13**	T	T	13 22 12.7	
	baz=192,slow=76,SNR=18						
H11N2	**WAKE ISLAND Hy**	**29.24**	**13**	T	T	13 22 10.2	
	baz=192,slow=76,SNR=30						
ASAR	**Alice Springs**	**29.25**	**237**	P	P	12 51 54.5	-0.5
	0.2nm,0.4s,baz=62,slow=10,SNR=15						

IDC 05 12:53:18.9±3.6, 19°93S×175°41W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/25, mbtmp4.1/3, Error ellipse: s-maj=166.5km s-min=55.6km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**47.01**	**256**	P	P	13 01 52.6	+0.2
	1.0nm,0.4s,baz=89,slow=8.6,SNR=44						
ASAR				PcP	PcP	13 03 23.5	-1.3
	0.3nm,0.6s,baz=101,slow=4.0,SNR=6.5						
WRA	**Warramunga Arr**	**47.09**	**261**	P	P	13 01 52.5	-0.4
	0.9nm,0.3s,baz=97,slow=7.7,SNR=30						
CMAR	**Chiang Mai Arr**	**92.23**	**289**	P	P	13 06 32.0	+0.8
	0.5nm,0.5s,baz=121,slow=3.1,SNR=4.6						
BRTR	**Keskin Array B**	**148.22**	**315**	PKPbc	PKPbc	13 13 06.7	-0.6
	0.4nm,0.5s,baz=114,slow=5.0,SNR=2.8						

*NIED **05** 13:22:00, 29°20N×130°00E, h38km, Mw4.1 Best double couple: M₀1.65000×10¹⁵ NP1:φs330.00000°, δ32.00000°, λ-144.00000°. NP2:φs208.00000°, δ72.00000°, λ-63.00000°.*

*IDC **05** 13:22:32.8±0.9, 28°74N×129°21E, h0km, mb3.7/7, mb1 3.8/9, mb1mx3.6/51, mbtmp3.6/9, ML3.1/2, MS3.1/9, Ms1 3.1/9, ms1mx3.0/32, Error ellipse: s-maj=31.4km s-min=17.6km az=73.0*

*JMA **05** 13:22:35.6±0.1, 29°23N×130°02E, h63km±3km, M3.5*

*ISCJB **05** 13:22:36.0±0.4, 29°21N±0°03×130°03E±0°07, h55km±5km, mb3.7/7, MS3.1/7, Error ellipse: s-maj=10.5km s-min=3.3km az=23.2*

ISC 05 13:22:36.8±1.1, 29°21N±0°04×130°04E±0°07, h42km±13km, n30, σ0°72/36, mb3.8/7, MS3.2/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.64**	**347**	P	Pn	**13 22 49.0**	**-0.6**
JNN				*e*S	**Sn**	**13 22 59.0**	**+0.4**
JTAJ	**Takarajima**	**0.73**	**265**	P	**Pn**	**13 22 50.4**	**-0.3**
JTAJ				*e*S	**Sn**	**13 23 00.6**	**-0.2**
JAM	**Amami Oshima**	**0.89**	**206**	P	**Pn**	**13 22 52.1**	**-0.7**
JAM				*e*S	**Sn**	**13 23 04.0**	**-0.5**
JZK	**Kikaishima**	**0.90**	**184**	P	**Pn**	**13 22 52.8**	**-0.2**
JZK				*e*S	**Sn**	**13 23 06.4**	**+1.6**
JYAK	**Yakushimahirau**	**1.10**	**22**	P	**Pn**	**13 22 55.0**	**-0.8**
JYAK				*e*S	**Sn**	**13 23 10.1**	**+0.3**
JAMN	**Amaminishikomi**	**1.23**	**218**	P	**Pn**	**13 22 57.1**	**-0.4**
JAMN				*e*S	**Sn**	**13 23 13.0**	**+0.1**
JKC	**Kuchinoerabu**	**1.25**	**6**	P	**Pn**	**13 22 57.5**	**-0.3**
JKC				S	**Sn**	**13 23 13.9**	**+0.4**
JTN	**Tanegashima 3**	**1.65**	**29**	P	**Pn**	**13 23 03.3**	**0.0**
JTN				*e*S	**Sn**	**13 23 23.7**	**+0.3**
JTK	**Tokunoshima**	**1.71**	**214**	P	**Pn**	**13 23 04.3**	**+0.1**
JTK				S	**Sn**	**13 23 26.4**	**+1.5**
JTSR	**Tashiro 2**	**2.09**	**21**	P	**Pn**	**13 23 09.3**	**-0.1**
JTSR				*e*S	**Sn**	**13 23 35.3**	**+1.1**
JOKE	**Okinoerabujima**	**2.25**	**215**	P	**Pn**	**13 23 12.0**	**+0.4**
JOKE				*e*S	**Sn**	**13 23 39.9**	**+1.7**
JIH	**Iheya**	**2.84**	**221**	P	**Pn**	**13 23 19.5**	**-0.1**
JIH				*e*S	**Sn**	**13 23 52.1**	**-0.5**
JOW	**Kunigami**	**2.84**	**214**	P	**Pn**	**13 23 19.5**	**-0.2**
JOW				*e*S	**Sn**	**13 23 52.2**	**-0.4**
JNTH	**Nagotoyohara**	**3.22**	**214**	P	**Pn**	**13 23 25.0**	**+0.1**
JNTH				*e*S	**Sn**	**13 24 01.6**	**-0.5**
JAGN	**Aguni-jima**	**3.60**	**224**	P	**Pn**	**13 23 30.7**	**+0.6**
JKE	**Kume jima 2**	**4.07**	**226**	P	**Pn**	**13 23 36.7**	**+0.1**
KSRS	**Korea Array**	**8.41**	**348**	Pn	Pn	13 24 41.7	+5.7
	0.1nm,0.3s,baz=163,slow=13,SNR=3.3						
KSRS				LR	LR	13 28 08.3	
	comp=Z,96nm,18.9s,baz=160,slow=38						
MJAR	**Matsushiro Arr**	**10.03**	**41**	Pn	Pn	13 25 09.9	+12
	0.3nm,0.3s,baz=227,slow=15,SNR=3.6						
MJAR				LR	LR	13 28 57.3	
	comp=Z,40nm,18.7s,baz=220,slow=35						
GUMO	**Guam**	**20.76**	**135**	LR	LR	13 33 47.6	
	comp=Z,21nm,20.6s,baz=57,slow=32						
SONM	**Songino Array**	**26.06**	**322**	P	**P**	**13 28 07.3**	**+1.0**
	0.8nm,0.4s,baz=124,slow=12,SNR=3.0						
SONM				LR	LR	13 39 50.3	
	comp=Z,78nm,18.5s,baz=66,slow=40						
CMAR	**Chiang Mai Arr**	**30.30**	**256**	LR	LR	13 40 02.7	
	comp=Z,26nm,20.6s,baz=114,slow=36						
MKAR	**Makanchi Array**	**40.83**	**309**	P	**P**	**13 30 14.7**	**+0.4**
	0.2nm,0.5s,baz=99,slow=8.9,SNR=2.4						
MKAR				LR	LR	13 48 06.5	
	comp=Z,17nm,19.2s,baz=180,slow=38						
ZALV	**Zalesovo Beam**	**40.92**	**320**	LR	LR	13 48 52.3	
	comp=Z,34nm,18.2s,baz=70,slow=39						
KURBB	**Kurchatov Arra**	**43.87**	**314**	P	**P**	**13 30 38.5**	**-0.4**
	1.2nm,0.2s,baz=104,slow=8.7,SNR=3.5						
WRA	**Warramunga Arr**	**49.05**	**175**	P	**P**	**13 31 18.5**	**-1.3**
	1.0nm,0.6s,baz=354,slow=8.3,SNR=13						
BVAR	**Borovoye Array**	**49.17**	**316**	P	**P**	**13 31 20.7**	**+0.2**
	0.7nm,0.4s,baz=60,slow=12,SNR=4.0						
ASAR	**Alice Springs**	**52.71**	**176**	P	**P**	**13 31 46.2**	**-1.1**
	0.6nm,0.6s,baz=7.2,slow=14,SNR=16						
ILAR	**Eielson Array**	**61.06**	**29**	P	P	13 32 53.1	+7.1
	0.3nm,0.7s,baz=288,slow=6.5,SNR=3.2						
FINES	**FINES Array B**	**71.06**	**330**	LR	LR	14 07 52.7	
	comp=Z,29nm,18.2s,baz=276,slow=38						
AKASG	**Malin Array Be**	**74.31**	**320**	LR	LR	14 09 42.4	
	comp=Z,33nm,18.3s,baz=160,slow=38						

*ISCJB **05** 13:30:41.7±0.8, 23°9N±0°2×45°7W±0°1, h10km, mb3.8/9, MS3.2/7, Error ellipse: s-maj=24.9km s-min=19.2km az=167.8*

*IDC **05** 13:30:41.8±1.1, 23°82N×45°76W, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.7/28, mbtmp3.7/9, MS3.2/7, Ms1 3.2/7, ms1mx2.9/37, Error ellipse: s-maj=33.4km s-min=23.7km az=177.0*

ISC 05 13:30:43.2±0.9, 23°8N±0°2×45°8W±0°2, h10km, n20, σ0°69/9, mb3.9/9, MS3.2/7, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**34.73**	**339**	LR	LR	13 51 00.4	
	comp=Z,29nm,20.2s,baz=260,slow=35						
H10N2	**ASCENSION HYDR**	**43.84**	**132**	T	T	14 25 26.1	
	baz=317,slow=75,SNR=14						
H10N3	**ASCENSION HYDR**	**43.84**	**132**	T	T	14 25 25.0	
	baz=317,slow=75,SNR=16						
H10N1	**ASCENSION HYDR**	**43.86**	**132**	T	T	14 25 26.7	
	baz=317,slow=75,SNR=14						
ATAH	**Atahualpa**	**44.28**	**230**	LR	LR	13 57 42.2	
	comp=Z,46nm,19.9s,baz=24,slow=37						
H10S3	**ASCENSION HYDR**	**44.54**	**133**	T	T	14 26 18.2	
	baz=318,slow=74,SNR=58						
H10S1	**ASCENSION HYDR**	**44.54**	**133**	T	T	14 26 19.3	
	baz=318,slow=74,SNR=46						
H10S2	**ASCENSION HYDR**	**44.56**	**133**	T	T	14 26 18.7	
	baz=318,slow=74,SNR=60						
LPAZ	**La Paz**	**45.45**	**211**	P	**P**	**13 39 03.1**	**-0.2**
	0.9nm,0.8s,baz=23,slow=7.7,SNR=2.4						
LPAZ				LR	LR	13 57 12.4	
	comp=Z,33nm,18.6s,baz=356,slow=35						
TORD	**Torodi Ar. Bea**	**46.06**	**95**	P	**P**	**13 39 07.5**	**-0.1**
	2.2nm,1.0s,baz=304,slow=8.0,SNR=8.9						
TORD				LR	LR	13 57 49.1	
	comp=Z,28nm,19.4s,baz=155,slow=35						
GERES	**GERESS Array B**	**52.50**	**46**	LR	LR	13 59 48.6	
	comp=Z,15nm,18.4s,baz=249,slow=33						
NOA	**NORSAR Array B**	**53.59**	**30**	LR	LR	13 59 06.2	
	comp=Z,16nm,18.3s,baz=80,slow=32						
PDAR	**Pinedale Array**	**55.29**	**307**	P	**P**	**13 40 17.6**	**+0.4**
	1.2nm,1.0s,baz=86,slow=8.2,SNR=6.9						
ARCES	**ARCESS Array B**	**61.37**	**22**	P	**P**	**13 40 58.8**	**-0.2**
	1.1nm,0.7s,baz=270,slow=4.5,SNR=3.7						
NVAR	**Mina Array Bea**	**62.33**	**302**	P	**P**	**13 41 07.0**	**+0.7**
	0.1nm,0.5s,baz=106,slow=4.9,SNR=2.7						
AKASG	**Malin Array Be**	**62.57**	**44**	P	**P**	**13 41 07.1**	**-0.3**
	0.4nm,0.3s,baz=273,slow=6.8,SNR=4.2						
BRTR	**Keskin Array B**	**67.33**	**55**	P	**P**	**13 41 38.9**	**+0.1**
	0.8nm,0.8s,baz=280,slow=7.0,SNR=6.2						
ILAR	**Eielson Array**	**73.32**	**334**	P	**P**	**13 42 13.7**	**-1.1**
	0.2nm,0.6s,baz=76,slow=4.0,SNR=3.2						
KURBB	**Kurchatov Arra**	**91.11**	**32**	P	**P**	**13 43 49.1**	**+1.0**
	0.4nm,0.7s,baz=311,slow=5.2,SNR=8.5						
MKAR	**Makanchi Array**	**95.52**	**33**	LR	LR	14 25 03.0	
	comp=Z,13nm,19.1s,baz=358,slow=34						

IDC 05 13:47:34.5±39.0, 8°64S×157°60E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=647.8km s-min=107.7km az=45.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.15**	**241**	P	P	13 53 01.4	-0.2
	1.0nm,1.1s,baz=68,slow=9.4,SNR=6.8						
ASAR	**Alice Springs**	**27.16**	**234**	P	P	13 53 20.1	+0.3
	0.7nm,1.1s,baz=67,slow=8.3,SNR=3.4						
STKA	**Stephens Creek**	**27.49**	**211**	P	P	13 53 22.5	-0.2
	0.5nm,0.6s,baz=29,slow=12,SNR=3.6						

*IDC **05** 13:56:41.9±1.4, 3°47N×79°11W, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.5/35, mbtmp3.8/5, ML3.4/2, Error ellipse: s-maj=43.5km s-min=23.0km az=46.0*

*ISCJB **05** 13:56:43.4±1.3, 3°5N±0°2×79°0W±0°2, h19km, mb3.4/3, Error ellipse: s-maj=25.3km s-min=19.8km az=37.6*

ISC 05 13:56:44.4±1.2, 3°5N±0°2×79°1W±0°2, h19km, n7, σ1°25/7, mb3.5/3, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**4.98**	**74**	Pn	**Pn**	**13 57 58.7**	**+0.2**
	10nm,0.3s,baz=270,slow=15,SNR=12						
PTGA	**Pitinga**	**19.59**	**102**	P	**P**	**14 01 10.9**	**-0.7**
	0.4nm,0.3s,baz=294,slow=14,SNR=5.4						
LPAZ	**La Paz**	**22.42**	**151**	P	**P**	**14 01 43.4**	**+0.6**
	1.1nm,0.8s,baz=306,slow=8.7,SNR=3.1						
SIV	**San Ignacio**	**26.30**	**138**	P	**P**	**14 02 19.9**	**+0.8**
	1.1nm,0.8s,baz=279,slow=13,SNR=2.1						
ANMO	**Albuquerque**	**40.31**	**324**	P	**P**	**14 04 21.4**	**+0.4**
	0.6nm,0.6s,baz=151,slow=10,SNR=2.0						
ASAR	**Alice Springs**	**142.30**	**235**	PKP	**PKPdf**	**14 16 14.6**	**-2.1**
	0.2nm,0.3s,baz=124,slow=2.5,SNR=8.3						
WRA	**Warramunga Arr**	**143.48**	**241**	PKP	**PKPdf**	**14 16 19.3**	**+0.5**
	2.0nm,0.7s,baz=111,slow=3.0,SNR=22						

*ISCJB **05** 13:57:08.7±0.3, 13°74N±0°04×120°39E±0°05, h120km, mb4.0/19, Error ellipse: s-maj=7.6km s-min=4.8km az=156.5*

*MAN **05** 13:57:10, 13°80N×120°54E, h102km, mb4.9, ML3.9, MS4.0*

*IDC **05** 13:57:10.0±0.5, 13°75N×120°70E, h126km±4km, mb3.7/19, mb1 3.8/20, mb1mx3.7/41, mbtmp4.1/20, MS2.3/1, Ms1 2.3/1, ms1mx2.0/47, Error ellipse: s-maj=16.6km s-min=9.7km az=63.0*

ISC 05 13:57:09.7±0.5, 13°76N±0°04×120°50E±0°06, h120km, n44, σ1°40/50, mb4.0/19, 1C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.25**	**264**	*e*P	**Pn**	**13 57 28.0**	**+1.6**
TGY	**Tagaytay City**	**0.54**	**51**	P	**Pn**	**13 57 29.4**	**+1.5**
TGY				S	**Sn**	**13 57 43.5**	**+1.7**
	baz=180,slow=20						
TGY	**Tagaytay City**	**0.54**	**51**	⇑*i*P	**Pn**	**13 57 29.5**	**+1.5**
TGY				*i* S	**Sn**	**13 57 43.4**	**+1.6**
SJMP	**San Jose**	**1.43**	**155**	*e*P	**Pn**	**13 57 37.5**	**+1.2**
SJMP				*e*S	**Sn**	**13 57 56.7**	**+0.3**
BUSP	**Coron**	**1.77**	**190**	*e*P	**Pn**	**13 57 41.7**	**+1.3**
BUSP				*e*S	**Sn**	**13 58 04.7**	**+1.0**
GQP	**Guinayangan**	**1.90**	**85**	⇓*e*P	**Pn**	**13 57 43.0**	**+1.2**
OTRP	**Odiongan**	**2.03**	**133**	*e*P	**Pn**	**13 57 44.3**	**+0.8**
OTRP				*e*S	**Sn**	**13 58 09.5**	**+0.1**
SCZP	**Santa Cruz**	**2.08**	**344**	*e*P	**Pn**	**13 57 44.2**	**+0.1**
AUQP	**San Andres**	**2.16**	**101**	*e*P	**Pn**	**13 57 48.1**	**+3.0**
BALP	**Baler**	**2.23**	**28**	*e*P	**Pn**	**13 57 47.2**	**+1.2**
BOLP	**Bolinao**	**2.67**	**348**	*e*P	**Pn**	**13 57 52.6**	**+1.0**
RCP	**Roxas**	**3.10**	**135**	⇓*e*P	**Pn**	**13 57 58.8**	**+1.6**
PVCP	**Virac**	**3.56**	**92**	*e*P	**Pn**	**13 58 04.8**	**+1.5**
GUIM	**Jordan**	**3.72**	**147**	*e*P	**Pn**	**13 58 08.4**	**+2.8**
CNP	**Catarman**	**4.24**	**107**	*e*P	**Pn**	**13 58 14.3**	**+1.9**
KAPI	**Kappang**	**18.67**	**182**	P	**Pn**	**14 01 20.2**	**0.0**
	1.3nm,0.3s,baz=38,slow=4.8,SNR=8.6						
CMAR	**Chiang Mai Arr**	**21.23**	**286**	P	**P**	**14 01 49.6**	**+3.5**
	3.9nm,0.8s,baz=99,slow=7.5,SNR=33						
GUMO	**Guam**	**23.68**	**88**	P	**P**	**14 02 10.4**	**-0.1**
	32nm,0.7s,baz=270,slow=20,SNR=2.8						
PSI	**Prapat**	**23.94**	**245**	P	**P**	**14 02 14.8**	**+1.7**
	7.6nm,0.8s,baz=76,slow=4.5,SNR=6.8						
KSRS	**Korea Array**	**24.51**	**14**	LR	LR	14 11 36.0	
	comp=Z,7.0nm,19.2s,baz=102,slow=35						
SONM	**Songino Array**	**35.95**	**344**	P	**P**	**14 03 58.8**	**+0.1**
	2.7nm,0.7s,baz=160,slow=9.2,SNR=5.9						
WRA	**Warramunga Arr**	**36.15**	**158**	P	**P**	**14 03 58.8**	**-1.8**
	0.7nm,0.4s,baz=335,slow=9.6,SNR=11						
WRA				PcP	**PcP**	**14 06 22.0**	**-1.9**
	0.3nm,0.9s,baz=342,slow=2.7,SNR=3.4						
WRKA	**Warakurna**	**39.30**	**169**	P	**P**	**14 04 26.4**	**-0.7**
	baz=34,SNR=18						
ASAR	**Alice Springs**	**39.44**	**160**	P	**P**	**14 04 27.2**	**-1.0**
	0.7nm,0.3s,baz=335,slow=7.6,SNR=49						
ASAR				PcP	**PcP**	**14 06 32.4**	**-1.7**
	0.2nm,0.4s,baz=339,slow=2.9,SNR=4.2						
MEEK	**Meekatharra**	**40.20**	**183**	P	**P**	**14 04 34.3**	**-0.1**
	baz=35,SNR=5.0						
CTA	**Charters Tower**	**42.11**	**142**	P	**P**	**14 04 49.2**	**-1.0**
	baz=324,slow=8.7						
MORW	**Morawa**	**42.79**	**186**	P	**P**	**14 04 55.6**	**+0.1**
	baz=37,SNR=4.5						
KMBL	**Kambalda**	**44.89**	**178**	P	**P**	**14 05 11.8**	**-0.5**
	baz=40,SNR=11						
MKAR	**Makanchi Array**	**45.87**	**324**	P	**P**	**14 05 21.4**	**+1.5**
	1.7nm,0.6s,baz=130,slow=8.8,SNR=20						
BBOO	**Buckleboo**	**48.64**	**162**	P	**P**	**14 05 40.0**	**-1.5**
	baz=44,SNR=6.1						
ZALV	**Zalesovo Beam**	**48.92**	**333**	P	**P**	**14 05 43.5**	**+0.2**
	2.9nm,0.3s,baz=130,slow=6.6,SNR=11						
PETK	**Petropavlovsk-**	**49.07**	**29**	P	**P**	**14 05 45.0**	**+0.5**
	2.0nm,0.8s,baz=208,slow=5.9,SNR=3.0						
STKA	**Stephens Creek**	**49.68**	**156**	P	**P**	**14 05 48.2**	**-1.3**
	0.8nm,0.7s,baz=342,slow=10,SNR=3.4						
KURBB	**Kurchatov Arra**	**50.03**	**326**	P	**P**	**14 05 53.2**	**+1.3**
	6.8nm,0.6s,baz=128,slow=7.6,SNR=48						
HTT	**Hallett**	**50.11**	**160**	P	**P**	**14 05 52.3**	**-0.4**
	baz=45,SNR=3.0						
BVAR	**Borovoye Array**	**55.62**	**326**	P	**P**	**14 06 33.8**	**+0.9**
	2.4nm,0.7s,baz=124,slow=9.9,SNR=12						
KBZ	**Khabaz**	**71.70**	**312**	P	**P**	**14 08 19.1**	**+0.5**
	1.2nm,0.5s,baz=54,slow=4.3,SNR=3.8						
ILAR	**Eielson Array**	**78.78**	**26**	P	**P**	**14 08 57.1**	**-1.8**
	0.2nm,0.7s,baz=281,slow=5.3,SNR=4.5						
ARCES	**ARCESS Array B**	**78.96**	**339**	P	**P**	**14 08 59.3**	**-0.5**
	1.1nm,0.5s,baz=81,slow=7.6,SNR=18						
BRTR	**Keskin Array B**	**78.96**	**308**	P	**P**	**14 09 00.5**	**-0.1**
	0.4nm,0.4s,baz=103,slow=1.4,SNR=3.5						
FINES	**FINESS Array B**	**80.14**	**331**	P	**P**	**14 09 05.7**	**-0.6**
	0.7nm,0.6s,baz=60,slow=5.5,SNR=3.5						
INK	**Inuvik**	**83.11**	**21**	P	**P**	**14 09 20.8**	**-1.0**
	1.2nm,0.8s,baz=311,slow=11,SNR=2.8						
NOA	**NORSAR Array B**	**87.12**	**333**	P	**P**	**14 09 40.1**	**-1.8**
	0.7nm,0.6s,baz=69,slow=4.7,SNR=2.9						
TXAR	**Lajitas Array**	**119.56**	**44**	PKP	**PKPdf**	**14 15 45.5**	**-0.6**
	0.1nm,0.6s,baz=321,slow=2.3,SNR=2.5						

*ISCJB **05** 14:29:31.5±2.3, 34°24S±0°04×72°7W±0°1, h10km±17km, mb3.8/1, Error ellipse: s-maj=14.5km s-min=6.9km az=176.9*

*IDC **05** 14:29:31.2±2.8, 34°33S×72°64W, h0km, mb3.8/2, mb1 3.7/6, mb1mx3.6/23, mbtmp3.6/6, ML3.6/4, MS2.7/2, Ms1 2.7/2, ms1mx2.5/21, Error ellipse: s-maj=58.7km s-min=21.7km az=95.0*

*GUC **05** 14:29:33.1±0.7, 34°25S×72°57W, h6km±2km, ML4.1*

ISC 05 14:29:33.0±2.5, 34°28S±0°05×72°6W±0°1, h7km±14km, n13, σ0°77/20, 4C-1D, Near coast of central Chile

| Code | Station Name | Δ° | AZ° | Phase ID Op |

*REY **05** 14:50:49.7, 71°.90N×10°.41W, h10km*

ISC 05 14:50:44.3±0.5, **71°.43N**±0°.06×**5°.34W**±0°.05, **h10**km, **n106,** σ1ᵎ**78**/106, **mb3.8**/19, **MS3.2**/21, **1C, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMIC	**Jan Mayen**	**1.12**	**248**	Pg	**Pb**	**14 51 04.2**	**-1.5**
JMIC				Lg	Lg	14 51 18.2	
JMIC	**Jan Mayen**	**1.12**	**248**	Pg	**Pb**	**14 51 04.2**	**-1.5**
JMIC				Lg	Lg	14 51 18.2	
JMIC	**Jan Mayen**	**1.12**	**248**	Pn	**Pb**	**14 51 05.2**	**-0.5**
	15nm,0.3s,baz=94,slow=6.3,SNR=3.2						
JMIC				Sn	**Sb**	**14 51 18.2**	**-2.1**
	14nm,0.3s,baz=143,slow=21,SNR=3.8						
JMI	**Jan Mayen**	**1.21**	**247**	*e*P	**Pn**	**14 51 06.3**	**-1.0**
SCO	**Scoresbysund**	**5.52**	**268**	*i* P	Pn	14 52 12.2	+5.8
ILEI	**Leirhofn**	**6.45**	**224**	P	**Pn**	**14 52 19.1**	**-0.1**
	baz=204						
ILEI				S	**Sn**	**14 53 30.7**	**-1.8**
	baz=204						
ILEI	**Leirhofn**	**6.45**	**224**	P	**Pn**	**14 52 19.0**	**-0.1**
ILEI				S	**Sn**	**14 53 30.7**	**-1.8**
DAG	**Danmarks Havn**	**6.47**	**332**⇑	*i* P	**Pn**	**14 52 17.3**	**-2.1**
DAG				*i* S	Sn	14 53 20.8	-12
IGIL	**Gilhagi**	**6.69**	**222**	P	**Pn**	**14 52 23.1**	**+0.6**
	baz=203						
IGIL				S	**Sn**	**14 53 38.2**	**-0.5**
	baz=203						
IGIL	**Gilhagi**	**6.69**	**222**	P	**Pn**	**14 52 23.1**	**+0.6**
IGIL				S	**Sn**	**14 53 38.2**	**-0.5**
IHED	**Heoinshofoi**	**6.90**	**225**	S	**Sn**	**14 53 41.8**	**-1.9**
	baz=206						
IDIM	**Dimmadalsˆjs**	**6.92**	**223**	P	**Pn**	**14 52 25.8**	**+0.2**
	baz=205						
IDIM				S	**Sn**	**14 53 43.0**	**-1.2**
	baz=205						
IDIM	**Dimmadalsˆjs**	**6.92**	**223**	P	**Pn**	**14 52 25.8**	**+0.2**
IDIM				S	**Sn**	**14 53 43.0**	**-1.2**
IGHA	**Grjothals**	**6.96**	**222**	P	**Pn**	**14 52 27.0**	**+0.8**
	baz=203						
IGHA				S	**Sn**	**14 53 44.7**	**-0.6**
	baz=203						
IGHA	**Grjothals**	**6.96**	**222**	P	**Pn**	**14 52 27.0**	**+0.8**
IGHA				S	**Sn**	**14 53 44.7**	**-0.6**
IGRS	**Grimsstaoir**	**7.03**	**219**	P	**Pn**	**14 52 28.4**	**+1.3**
	baz=201						
IGRS				S	**Sn**	**14 53 48.1**	**+1.2**
	baz=201						
IGRS	**Grimsstaoir**	**7.03**	**219**	P	**Pn**	**14 52 28.4**	**+1.3**
IGRS				S	**Sn**	**14 53 48.1**	**+1.2**
IMEL	**Melhnausar**	**7.20**	**221**	P	**Pn**	**14 52 30.5**	**+1.1**
	baz=203						
IMEL				S	**Sn**	**14 53 51.8**	**+0.7**
	baz=203						
IMEL	**Melhnausar**	**7.20**	**221**	P	**Pn**	**14 52 30.5**	**+1.1**
IMEL				S	**Sn**	**14 53 51.8**	**+0.7**
LOF	**Lofoten**	**7.31**	**108**	*e*P	**Pn**	**14 52 28.2**	**-2.8**
LOF				*e*S	Sn	14 53 45.2	-8.7
LOF	**Lofoten**	**7.31**	**108**	*e*P	**Pn**	**14 52 28.2**	**-2.8**
	SNR=47						
STEI	**Steigen**	**7.95**	**106**	*e*P	**Pn**	**14 52 37.2**	**-2.5**
STEI	**Steigen**	**7.95**	**106**	*e*P	**Pn**	**14 52 37.2**	**-2.5**
	SNR=47						
KONS	**Konsvik**	**8.25**	**118**	*e*P	**Pn**	**14 52 40.9**	**-2.9**
KONS				*e*S	Sn	14 54 05.5	-11
KONS				IAML		14 54 13.3	
	comp=Z,4.7nm,0.7s						
KONS	**Konsvik**	**8.25**	**118**	*e*P	**Pn**	**14 52 40.9**	**-2.9**
	SNR=47						
STOK	**Stokkvaagen**	**8.34**	**119**	*e*P	**Pn**	**14 52 42.4**	**-2.7**
STOK				IAML		14 54 11.7	
	comp=N,7.0nm,0.3s						
STOK	**Stokkvaagen**	**8.34**	**119**	*e*P	**Pn**	**14 52 42.4**	**-2.7**
	SNR=47						
FLOS	**Flostrand**	**8.44**	**118**	*e*P	**Pn**	**14 52 44.0**	**-2.4**
FLOS	**Flostrand**	**8.44**	**118**	*e*P	**Pn**	**14 52 44.0**	**-2.4**
	SNR=47						
KBS	**Kingsbay**	**8.67**	**22**	*e*Pn	**Pn**	**14 52 47.9**	**-1.7**
	comp=N,41nm,0.6s						
KBS	**Kingsbay**	**8.67**	**22**	*e*Pn	**Pn**	**14 52 47.9**	**-1.7**
	comp=N,41nm,0.6s						
SPA0	**Spitsbergen Ar**	**8.77**	**30**	Pn	**Pn**	**14 52 49.9**	**-1.1**
	baz=229,slow=8.6						
SPA0	**Spitsbergen Ar**	**8.77**	**30**	Pn	**Pn**	**14 52 49.9**	**-1.1**
	baz=229,slow=8.6						
SPA0	**Spitsbergen Ar**	**8.77**	**30**	Pn	**Pn**	**14 52 49.8**	**-1.1**
	baz=229,slow=8.3,SNR=50						
SPITS	**Spitsbergen Ar**	**8.77**	**30**	Pn	**Pn**	**14 52 50.0**	**-0.9**
	baz=219,slow=18,SNR=176						
SPITS				LR	LR	14 55 19.2	
	comp=N,97nm,21.6s,baz=245,slow=31						
MOR8	**Moi Rana**	**8.86**	**117**	*e*P	**Pn**	**14 52 51.0**	**-1.3**
MOR8				*e*S	Sn	14 54 23.5	-8.5
MOR8	**Moi Rana**	**8.86**	**117**	*e*P	**Pn**	**14 52 51.0**	**-1.3**
	SNR=47						
BORG	**Borgarnes**	**8.95**	**229**	LR	LR	14 55 41.9	
	comp=N,64nm,19.9s,baz=20,slow=33						
NSS	**Namsos**	**9.46**	**128**	*e*P	**Pn**	**14 52 58.3**	**-2.1**
NSS				*e*S	Sn	14 54 37.0	-10
NSS				IAML		14 54 41.6	
	comp=Z,3.7nm,0.4s						
NSS	**Namsos**	**9.46**	**128**	*e*P	**Pn**	**14 52 58.3**	**-2.1**
	SNR=47						
SUMG	**Summit**	**10.22**	**292**	*i* P	**Pn**	**14 53 12.4**	**+1.2**
SUMG	**Summit**	**10.22**	**292**	*e*P	**Pn**	**14 53 10.8**	**-0.4**
	comp=Z,7.9nm,0.6s						
ARA0	**ARCESS Array S**	**10.42**	**86**	Pn	**Pn**	**14 53 11.1**	**-2.5**
	baz=296,slow=12						
ARA0	**ARCESS Array S**	**10.42**	**86**	Pn	**Pn**	**14 53 11.1**	**-2.5**
	baz=296,slow=12						
ARA0	**ARCESS Array S**	**10.42**	**86**	Pn	**Pn**	**14 53 11.1**	**-2.5**
	baz=296,slow=12,SNR=50						
ARCES	**ARCESS Array B**	**10.42**	**86**	Pn	**Pn**	**14 53 10.9**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=295,slow=12,SNR=9.4						
ARCES				LR	LR	14 56 28.5	
	comp=Z,80nm,21.6s,baz=268,slow=33						
NB2	**NORSAR Subarra**	**12.32**	**139**	Pn	Pn	14 53 35.6	-3.9
NB2	**NORSAR Subarra**	**12.32**	**139**	Pn	Pn	14 53 35.6	-3.9
NOA	**NORSAR Array B**	**12.32**	**139**	Pn	**Pn**	**14 53 38.3**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=334,slow=13,SNR=3.5						
NOA				LR	LR	14 58 25.9	
	comp=Z,140nm,18.9s,baz=335,slow=38						
HFS	**Hagfors**	**13.67**	**136**	Pn	**Pn**	**14 53 56.3**	**-1.6**
	baz=322,slow=9.3						
HFS	**Hagfors**	**13.67**	**136**	Pn	**Pn**	**14 53 56.3**	**-1.6**
	baz=322,slow=9.3						
HFS	**Hagfors**	**13.67**	**136**	Pn	**Pn**	**14 53 56.5**	**-1.4**
	comp=Z,1.1nm,0.3s,baz=340,slow=13,SNR=22						
HFS				LR	LR	14 58 48.0	
	comp=Z,206nm,21.6s,baz=318,slow=36						
FIA0	**FINESS Array S**	**15.82**	**113**	P	**Pn**	**14 54 24.0**	**-2.7**
	baz=329,slow=10						
FIA0	**FINESS Array S**	**15.82**	**113**	P	**Pn**	**14 54 24.0**	**-2.7**
	baz=329,slow=10						
FINES	**FINESS Array B**	**15.82**	**113**	Pn	**Pn**	**14 54 24.2**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=316,slow=11,SNR=4.8						
FINES				LR	LR	14 59 47.4	
	comp=Z,135nm,18.4s,baz=276,slow=35						
EKA	**Eskdalemuir Ar**	**16.19**	**176**	Pn	**Pn**	**14 54 31.1**	**-0.4**
	baz=1.9,slow=11,SNR=3.5						
SFJD	**Kangerlussuaq**	**16.33**	**277**	LR	LR	15 00 13.5	
	comp=Z,50nm,20.0s,baz=37,slow=35						
CLL	**Collm**	**21.83**	**148**	*e*(P)	**P**	**14 55 39.0**	**+2.6**
	comp=Z,7.0nm,1.3s						
BRG	**Berggiesshubel**	**22.41**	**147**	*e*P	**P**	**14 55 44.9**	**+2.2**
	comp=Z,14nm,1.7s						
NKC	**Novy Kostel**	**22.78**	**150**	*e*P	**P**	**14 55 49.2**	**+2.6**
UPC	**Upice**	**23.14**	**144**	*e*P	**P**	**14 55 52.7**	**+2.4**
UPC	**Upice**	**23.14**	**144**	P	**P**	**14 55 52.7**	**+2.4**
DPC	**Dobruska-Polom**	**23.35**	**143**	*e*P	**P**	**14 55 54.2**	**+1.7**
DPC				*ex*	x	14 56 04.1	
DPC	**Dobruska-Polom**	**23.35**	**143**	P	**P**	**14 55 54.2**	**+1.7**
PRU	**Pruhonice**	**23.37**	**146**	*e*P	**P**	**14 55 54.2**	**+1.6**
PRU				*e*pP	**pP**	**14 55 59.1**	**+3.6**
PRU	**Pruhonice**	**23.37**	**146**	P	**P**	**14 55 54.2**	**+1.6**
GOPC	**GO Pecny, Ondr**	**23.48**	**146**	*e*P	**P**	**14 55 55.4**	**+1.6**
GOPC	**GO Pecny, Ondr**	**23.48**	**146**	P	**P**	**14 55 55.4**	**+1.6**
RES	**Resolute Bay**	**23.95**	**319**	P	**P**	**14 56 01.3**	**+3.3**
	comp=Z,1.3nm,0.5s,baz=59,slow=13,SNR=4.9						
RES				LR	LR	15 04 59.2	
	comp=Z,102nm,19.8s,baz=56,slow=36						
ECH	**Echery**	**24.02**	**159**	*e*P	**P**	**14 56 00.0**	**+1.0**
	comp=Z,4.8nm,0.9s						
ECH	**Echery**	**24.02**	**159**	*e*P	**P**	**14 56 00.0**	**+1.0**
	comp=Z,4.8nm,0.9s						
KHC	**Kasperske Hory**	**24.03**	**148**	*e*P	**P**	**14 56 02.7**	**+3.6**
FRB	**Frobisher Bay**	**24.12**	**284**	LR	LR	15 04 36.2	
	comp=Z,58nm,21.3s,baz=342,slow=34						
OBN	**Obninsk**	**24.17**	**110**	LR	LR	15 04 49.1	
	comp=Z,99nm,19.0s,baz=96,slow=35						
GERES	**GERESS Array B**	**24.33**	**148**	P	**P**	**14 56 02.7**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=357,slow=8.0,SNR=8.1						
GERES				LR	LR	15 04 59.1	
	comp=Z,53nm,18.3s,baz=324,slow=35						
VRAC	**Vranov**	**24.40**	**144**	LR	LR	15 05 27.4	
	comp=Z,44nm,20.7s,baz=340,slow=36						
DAVOX	**Davos/Dischmat**	**25.77**	**155**	LR	LR	15 05 08.2	
	comp=Z,35nm,20.5s,baz=346,slow=34						
KOLS	**Kolonicke sedl**	**25.93**	**136**	*e*P	**P**	**14 56 17.7**	**+1.4**
	comp=Z,5.5nm,1.3s						
KOLS	**Kolonicke sedl**	**25.93**	**136**	*e*P	**P**	**14 56 17.7**	**+1.4**
KECS	**Kecovo**	**25.97**	**139**	*e*P	**P**	**14 56 19.9**	**+3.3**
AKASG	**Malin Array Be**	**25.99**	**125**	P	**P**	**14 56 15.9**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=333,slow=9.8,SNR=7.2						
AKASG				LR	LR	15 06 17.3	
	comp=Z,68nm,18.8s,baz=350,slow=36						
MLR	**Muntele Rosu**	**30.02**	**133**	LR	LR	15 09 22.2	
	comp=Z,46nm,20.4s,baz=348,slow=37						
SCHQ	**Schefferville**	**30.56**	**270**	LR	LR	15 07 49.3	
	comp=Z,64nm,19.7s,baz=108,slow=34						
AKTO	**Aktyubinsk**	**34.90**	**93**	P	**P**	**14 57 35.6**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=318,slow=9.1,SNR=4.5						
AKTO				LR	LR	15 11 21.6	
	comp=Z,37nm,19.5s,baz=342,slow=36						
KBZ	**Khabaz**	**36.18**	**114**	P	**P**	**14 57 44.7**	**-1.8**
	comp=Z,1.1nm,0.6s,baz=315,slow=5.7,SNR=3.6						
ABKAR	**Akbulak array**	**36.54**	**92**	*e*P	**P**	**14 57 49.4**	**-0.2**
	comp=Z,2.5nm,0.8s						
ABKAR	**Akbulak array**	**36.54**	**92**	*e*P	**P**	**14 57 49.4**	**-0.2**
	comp=Z,2.5nm,0.8s						
KEST	**Kesra**	**36.59**	**160**	LR	LR	15 13 10.7	
	comp=Z,18nm,18.5s,baz=204,slow=37						
BVAR	**Bovoye Array**	**36.62**	**79**	P	**P**	**14 57 50.4**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=310,slow=5.1,SNR=6.0						
BRTR	**Keskin Array B**	**37.34**	**127**	P	**P**	**14 57 57.2**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=347,slow=6.3,SNR=3.5						
BRTR				LR	LR	15 15 08.5	
	comp=Z,33nm,18.0s,baz=352,slow=39						
YKA	**Yellowknife Ar**	**37.82**	**314**	P	**P**	**14 58 01.2**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=24,slow=8.1,SNR=3.0						
ZALV	**Zalesovo Beam**	**40.22**	**66**	LR	LR	15 17 32.8	
	comp=Z,17nm,20.6s,baz=164,slow=40						
KURK	**Kurchatov**	**41.18**	**74**	P	**P**	**14 58 28.9**	**+0.5**
KURK	**Kurchatov**	**41.18**	**74**	P	**P**	**14 58 28.9**	**+0.5**
KURBB	**Kurchatov Arra**	**41.23**	**74**	P	**P**	**14 58 28.9**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=334,slow=7.5,SNR=3.9						
ILAR	**Eielson Array**	**41.55**	**336**	P	**P**	**14 58 32.8**	**+1.5**
	comp=Z,1.2nm,1.0s,baz=9.3,slow=7.3,SNR=10						
ILAR				LR	LR	15 17 33.2	
	comp=Z,25nm,19.0s,baz=88,slow=39						
MKAR	**Makanchi Array**	**45.78**	**73**	P	**P**	**14 59 05.5**	**0.0**
	comp=Z,0.2nm,0.4s,baz=345,slow=4.9,SNR=4.4						
MKAR				LR	LR	15 19 56.2	
	comp=Z,19nm,18.7s,baz=342,slow=38						
GEYT	**Alibeck**	**46.13**	**101**	LR	LR	15 18 12.2	
	comp=Z,30nm,19.9s,baz=245,slow=36						
PDAR	**Pinedale Array**	**54.34**	**299**	LR	LR	15 23 27.0	
	comp=Z,43nm,20.8s,baz=12,slow=36						
TORD	**Torodi Ar. Bea**	**58.41**	**172**	P	**P**	**15 00 40.3**	**+0.5**
	comp=Z,3.3nm,0.7s,baz=353,slow=6.7,SNR=26						
TORD				LR	LR	15 26 04.0	
	comp=Z,41nm,18.8s,baz=160,slow=36						
HHC	**Hu-ho-hao-te**	**59.52**	**52**	*e*P	**P**	**15 00 48.5**	**+1.1**
HHC				PP	**PP**	**15 03 01.1**	**+2.8**
HHC				S	**S**	**15 08 54.1**	**-2.5**
HHC				sS	**sS**	**15 09 01.7**	**-0.2**
HHC				ScS	**ScS**	**15 10 34.4**	**-2.9**
HHC	**Hu-ho-hao-te**	**59.52**	**52**	SS	SS	15 12 50.0	-1.0
HHC				pmax	pmax		
	comp=Z,13nm,1.1s						
HHC				pmax	pmax		
	comp=Z,32nm,5.2s						
HHC				LR	LR		
	comp=N,75nm,14.5s						
HHC				LR	LR		
	comp=E,93nm,14.5s						
HHC				LR	LR		
	comp=Z,51nm,14.1s						
TXAR	**Lajitas Array**	**65.09**	**288**	LR	LR	15 31 04.2	
	comp=Z,17nm,19.9s,baz=0.0,slow=37						
KSRS	**Korea Array**	**66.49**	**39**	LR	LR	15 34 29.0	
	comp=Z,20nm,18.1s,baz=115,slow=40						
CMAR	**Chiang Mai Arr**	**77.11**	**71**	P	**P**	**15 02 38.0**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=318,slow=6.8,SNR=5.4						
ASAR	**Alice Springs**	**126.91**	**48**	PKP	**PKPdf**	**15 09 46.1**	**-1.6**
	comp=Z,0.2nm,0.7s,baz=14,slow=2.4,SNR=5.6						

*IDC **05** 14:54:08.0±0.8, 34°.30N×73°.60E, h0km, mb3.7/9, mb1 3.8/12, mb1mx3.6/51, mbtmpg3.6/12, ML3.1/3, Error ellipse: s-maj=25.7km s-min=17.2km az=48.0*

*ISCJB **05** 14:54:09.0±0.5, 34°.30N±0°.05×73°.76E±0°.09, h22km, mb3.6/9, Error ellipse: s-maj=11.3km s-min=4.2km az=151.1*

*NDI **05** 14:54:11.3±3.0, 34°.38N×73°.43E, h15km±346km, ML3.9*

*NNC **05** 14:54:13.5±4.4, 34°.49N×72°.83E, h0km, mb3.9, mpv3.8, Error ellipse: s-maj=58.3km s-min=31.1km az=111.0*

ISC 05 14:54:11.5±0.6, **34°.30N**±0°.06×**73°.57E**±0°.08, **h22**km, **n36,** σ1ᵎ**87**/41, **mb3.5**/9, **3C-3D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**2.66**	**130**	*e*P	**Pb**	**14 54 57.0**	**-1.6**
DLH				*ex*	**Sb**	**14 55 32.0**	**+1.0**
SDNR	**Sundarnagar**	**4.00**	**133**	*e*P	**Pn**	**14 55 13.0**	**+1.5**
SDNR				*ex*	**Sb**	**14 56 11.0**	**+1.8**
SMLA	**Simla**	**4.38**	**135**	*i* P	**Pn**	**14 55 17.8**	**+1.1**
SMLA				*i* S	**Sn**	**14 56 09.4**	**+2.3**
SMLA				*i* S	**Sn**	**14 56 09.6**	**+2.5**
SMLA				AML	AML	14 56 12.2	
	comp=E,1μm,0.2s						
SMLA				AML	AML	14 56 12.7	
	comp=N,1μm,0.2s						
SFK	**Sufi-Kurgan**	**5.70**	**359**	⇓Pn	**Pn**	**14 55 38.0**	**+3.0**
	comp=N,4.4nm,0.5s						
SFK				⇑Sn	**Sn**	**14 56 44.4**	**+4.4**
	comp=N,10nm,0.3s						
JOSI	**Joshimath**	**6.29**	**125**	*e*P	Pb	14 55 54.4	-6.1
JOSI				*e*S	Sn	14 57 01.3	+6.8
JOSI				AML	AML	14 57 48.4	
	comp=E,68nm,0.6s						
JOSI				AML	AML	14 57 49.6	
	comp=N,102nm,0.9s						
NDI	**New Delhi**	**6.41**	**150**	*e*S	**Sn**	**14 56 57.0**	**0.0**
KHET	**Khetri**	**6.50**	**162**	*e*P	**Pn**	**14 55 46.1**	**+0.3**
KHET				*e*S	**Sn**	**14 56 57.1**	**-2.2**
KHET				AML	AML	14 57 33.0	
	comp=N,110nm,0.7s						
AGRA	**Agra**	**7.99**	**151**	*e*P	**Pn**	**14 56 08.9**	**+2.6**
AGRA				*e*S	**Sn**	**14 57 33.5**	**-2.4**
AGRA				AML	AML	14 58 24.6	
	comp=E,52nm,0.4s						
AGRA				AML	AML	14 58 25.9	
	comp=N,44nm,0.2s						
TKM2	**Tokmak 2**	**8.75**	**10**	⇓Pn	**Pn**	**14 56 18.2**	**+1.3**
	comp=N,1.8nm,0.5s						
KK31	**Karatay Array**	**9.11**	**346**	Pn	**Pn**	**14 56 22.3**	**+0.7**
	comp=N,3.2nm,0.5s,baz=160,slow=11,SNR=32						
KK31				⇑Sn	**Sn**	**14 58 00.3**	**-3.2**
	comp=N,1.6nm,0.3s,baz=167,slow=23,SNR=12						
KOLN	**Koldanda**	**10.79**	**124**	*e*P	**Pn**	**14 56 44.4**	**-0.4**
	comp=N,4.9nm,0.4s						
GKN	**Gorkha**	**11.37**	**121**	*e*P	**Pn**	**14 56 51.1**	**-1.6**
	comp=N,9.2nm,0.4s						
DMN	**Daman**	**11.93**	**121**	*e*P	**Pn**	**14 56 58.9**	**-1.7**
	comp=N,9.7nm,0.6s						
KKN	**Kakani**	**11.95**	**120**	*e*P	**Pn**	**14 56 58.8**	**-2.0**
	comp=N,12nm,0.5s						
PKIN	**Phulchoki**	**12.16**	**120**	*e*P	**Pn**	**14 57 01.0**	**-2.7**
	comp=N,13nm,0.6s						
PKIN	**Phulchoki**	**12.16**	**120**	*e*P	**Pn**	**14 57 02.0**	**-1.7**
	comp=N,9.6nm,0.5s						
PKI	**Pulchoki**	**12.17**	**120**	*e*P	**Pn**	**14 57 02.1**	**-1.8**
	comp=N,5.6nm,0.4s						
GUN	**Gumba**	**12.32**	**118**	*e*P	**Pn**	**14 57 04.4**	**-1.5**
RAMN	**Ramite**	**13.39**	**120**	*e*P	**Pn**	**14 57 17.7**	**-2.8**
	comp=N,12nm,0.5s						
TAPN	**Taplejung**	**13.98**	**116**	*e*P	Pn	14 57 25.0	-3.6
	comp=N,5.5nm,0.3s						
ODAN	**Odare**	**14.02**	**118**	*e*P	Pn	14 57 25.3	-3.7
	comp=N,6.0nm,0.4s						
MKAR	**Makanchi Array**	**14.12**	**25**	Pn	**Pn**	**14 57 30.4**	**+0.3**
	comp=N,0.0nm,0.3s,baz=224,slow=16,SNR=2.4						
KURBB	**Kurchatov Arra**	**16.71**	**11**	Pn	**Pn**	**14 58 01.3**	**-2.8**
	comp=N,0.0nm,0.3s,baz=203,slow=10,SNR=3.8						
AB31	**Akbulak array**	**18.03**	**330**	⇓Pn	**Pn**	**14 58 19.2**	**-1.3**
	comp=N,0.4nm,0.5s,baz=160,slow=9.0,SNR=9.9						
BVAR	**Borovoye Array**	**18.86**	**354**	P	**P**	**14 58 29.8**	**-0.1**
	comp=N,0.4nm,0.3s,baz=159,slow=10,SNR=8.8						
AKTO	**Aktyubinsk**	**19.73**	**329**	⇑Pn	**Pn**	**14 58 41.3**	**+0.2**
	comp=N,2.1nm,0.6s						
AKTO	**Aktyubinsk**	**19.73**	**329**	P	**Pn**	**14 58 41.5**	**+0.4**
	comp=N,0.5nm,0.3s,baz=120,slow=7.7,SNR=6.8						
ZALV	**Zalesovo Beam**	**21.19**	**19**	P	**P**	**14 58 53.1**	**-2.2**
	comp=N,1.0nm,0.5s,baz=211,slow=12,SNR=6.3						
CMAR	**Chiang Mai Arr**	**27.56**	**118**	P	**P**	**14 59 58.4**	**+1.4**
	comp=N,0.4nm,0.5s,baz=290,slow=9.2,SNR=3.9						
MLR	**Muntele Rosu**	**37.70**	**302**	P	**P**	**15 01 26.6**	**+1.2**
	comp=N,0.6nm,0.8s,baz=116,slow=7.3,SNR=4.3						
ARCES	**ARCESS Array B**	**43.97**	**338**	P	**P**	**15 02 17.1**	**+0.5**
	comp=N,0.5nm,0.6s,baz=112,slow=8.9,SNR=4.3						
HFS	**Hagfors**	**46.09**	**323**	P	**P**	**15 02 33.0**	**-0.5**
	comp=N,2.3nm,0.7s,baz=77,slow=6.2,SNR=5.3						
NOA	**NORSAR Array B**	**47.39**	**324**	P	**P**	**15 02 43.3**	**-0.5**
	comp=N,1.3nm,0.8s,baz=96,slow=7.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**67.81**	**271**	P	**P**	**15 05 08.0**	**-0.1**
	comp=N,0.9nm,0.6s,baz=49,slow=5.5,SNR=13						
WRA	**Warramunga Arr**	**79.04**	**123**	P	**P**	**15 06 13.4**	**-0.7**
	comp=N,0.4nm,0.7s,baz=321,slow=4.5,SNR=7.5						
ASAR	**Alice Springs**	**81.27**	**126**	P	**P**	**15 06 25.5**	**-0.6**
	comp=N,0.4nm,0.8s,baz=302,slow=5.5,SNR=7.1						

*TRN **05** 14:54:31.7, 18°.03N×63°.90W, h35km, M3.5(FDF)*

*ISCJB **05** 14:54:33.3±0.5, 18°.07N±0°.09×63°.90W±0°.03, h33km, Error ellipse: s-maj=12.7km s-min=3.4km az=11.9*

*NEIC **05** 14:54:33.1, 18°.07N×63°.90W, h4km, MD3.5(RSPR), After RSPR.*

*RSPR **05** 14:54:33.1, 18°.07N×63°.90W, h4km±1km, MD3.5/7*

ISC 05 14:54:33.9±1.2, **18°.05N**±0°.06×**63°.90W**±0°.03, **h35**km, **n49,** σ0ᵎ**84**/63, **27C-8D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SABA	**Saba**	**0.76**	**124**⇑	*e*P	Pn	**14 54 47.3**	**-0.8**
SABA	**Saba**	**0.76**	**124**	*e*S	Sn	**14 54 58.7**	**+0.4**
SABA	**Saba**	**0.76**	**124**	⇓*i*P	Pn	**14 54 46.7**	**-1.5**
SABA	**Saba**	**0.76**	**124**⇑	*e*P	Pn	**14 54 47.3**	**-0.8**
SABA				*e*S	Sn	**14 54 57.2**	**-1.2**
SABA				*e*S	Sn	**14 54 58.7**	**+0.4**
SABA	**Saba**	**0.76**	**124**⇑	*e*P	Pn	**14 54 47.3**	**-0.8**
SABA				*e*S	Sn	**14 54 58.7**	**+0.4**
TBVI	**Tortola**	**0.78**	**298**⇑	*i*P	Pn	**14 54 47.1**	**-1.3**
TBVI	**Tortola**	**0.78**	**298**⇑	*i*P	Pn	**14 54 47.1**	**-1.3**
TBVI	**Tortola**	**0.78**	**298**	*i* Pu	Pn	**14 54 47.1**	**-1.3**
SMRT	**St. Maarten**	**0.78**	**90**⇑	*e*P	Pn	**14 54 47.7**	**-0.8**
SMRT	**St. Maarten**	**0.78**	**90**	*e*S	Sn	**14 54 59.1**	**0.0**
SMRT	**St. Maarten**	**0.78**	**90**	⇓*i*P	Pn	**14 54 47.6**	**-0.9**
SMRT	**St. Maarten**	**0.78**	**90**⇑	*e*P	Pn	**14 54 47.7**	**-0.8**
SMRT				*e*S	Sn	**14 54 59.1**	**0.0**
SMRT				*e*S	Sn	**14 54 59.4**	**+0.4**
SMRT	**St. Maarten**	**0.78**	**90**⇑	*e*P	Pn	**14 54 47.7**	**-0.8**
SMRT				*e*S	Sn	**14 54 59.1**	**0.0**
CDVI	**St. Croix**	**0.88**	**250**⇑	*e*P	Pn	**14 54 48.3**	**-1.5**
CDVI	**St. Croix**	**0.88**	**250**	*e*S	Sn	**14 55 00.9**	**-0.5**
CDVI	**St. Croix**	**0.88**	**250**⇑	*e*P	Pn	**14 54 48.3**	**-1.5**
CDVI				*e*S	Sn	**14 55 00.9**	**-0.5**
CDVI	**St. Croix**	**0.88**	**250**⇑	*e*P	Pn	**14 54 48.3**	**-1.5**
CDVI				*e*S	Sn	**14 55 00.9**	**-0.5**
SEUS	**St. E

BDFB	**Brasilia**	**31.82**	**52**	LR	LR	15 26 00.6		
	comp=E,107nm,18.7s,baz=212,slow=39							
SNAA	**Sanae**	**48.26**	**156**	P	**P**	**15 13 54.6**	**-0.1**	
	comp=E,1.3nm,1.0s,baz=274,slow=5.0,SNR=8.9							
QSPA	**South Pole Qui**	**52.09**	**180**	P	**P**	**15 14 24.3**	**+0.4**	
	comp=E,1.5nm,0.8s,baz=152,slow=1.2,SNR=7.2							
QSPA	**South Pole Qui**	**52.09**	**180**	*eP*	**P**	**15 14 24.2**	**+0.4**	
	comp=E,3.7nm,1.1s							
TXAR	**Lajitas Array**	**72.78**	**333**	P	**P**	**15 16 43.5**	**+1.0**	
	comp=E,0.5nm,0.7s,baz=152,slow=7.8,SNR=7.1							
DBIC	**Dimbokro**	**77.73**	**71**	P	**P**	**15 17 11.6**	**+0.4**	
	comp=E,4.8nm,0.7s,baz=170,slow=8.1,SNR=5.1							
BOSA	**Boshof**	**79.28**	**118**	P	**P**	**15 17 19.6**	**-0.2**	
	comp=E,3.0nm,0.9s,baz=190,slow=7.2,SNR=4.0							
NVAR	**Mina Array Bea**	**86.59**	**326**	P	**P**	**15 17 58.5**	**+1.1**	
	comp=E,0.3nm,0.8s,baz=134,slow=5.2,SNR=3.1							
TORD	**Torodi Ar. Bea**	**86.82**	**71**	P	**P**	**15 17 58.6**	**-0.2**	
	comp=E,0.9nm,0.9s,baz=246,slow=4.6,SNR=4.5							
ABKAR	**Akbulak array**	**145.17**	**56**	*e*PKPbc	**PKPab**	**15 24 50.8**	**0.0**	
ZALV	**Zalesovo Beam**	**158.38**	**36**	PKPab	**PKPab**	**15 25 45.0**	**-0.2**	
	comp=E,1.0nm,0.7s,baz=323,slow=4.5,SNR=4.1							
MKAR	**Makanchi Array**	**160.31**	**56**	PKPab	**PKPab**	**15 25 54.0**	**0.0**	
	comp=E,0.6nm,0.8s,baz=291,slow=3.8,SNR=4.2							
SONM	**Songino Array**	**170.33**	**360**	PKPab	**PKPab**	**15 26 38.1**	**+0.1**	
	comp=E,0.2nm,0.4s,baz=325,slow=2.3,SNR=2.5							

IDC 05 15:18:25.7±10.0, 14°35.5S×166°75.5E, h138km±109km, mb3.3/3, mb1 3.5/4, mb1mx3.2/33, mbtmp3.8/4, ML3.5/1, Error ellipse: s-maj=219.2km s-min=65.3km az=81.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.68**	**182**	P	Pn	15 20 15.1	+0.2
	0.8nm,0.3s,baz=270,slow=20,SNR=5.3						
DZM				S	Sn	15 21 40.7	+0.1
	0.5nm,0.3s,baz=90,slow=20,SNR=3.0						
STKA	**Stephens Creek**	**28.86**	**229**	P	P	15 24 11.9	+0.6
	1.1nm,0.4s,baz=63,slow=12,SNR=11						
WRA	**Warramunga Arr**	**31.43**	**255**	P	P	15 24 34.1	-0.1
	0.2nm,0.4s,baz=86,slow=8.5,SNR=4.4						
ASAR	**Alice Springs**	**32.34**	**248**	P	P	15 24 41.6	-0.5
	0.4nm,0.4s,baz=82,slow=8.8,SNR=54						

NIED ***05*** *15:24:00, 33.00N×142.60E, h8km, Mw3.6 Best double couple: M03.00000×10^14 NP1:φ24.00000°, δ30.00000°, λ-98.00000°. NP2:φ214.00000°, δ61.00000°, λ-85.00000°.*

IDC ***05*** *15:24:37.6±1.1, 32.99N×142.74E, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.5/40, mbtmp3.6/7, ML3.6/1, Error ellipse: s-maj=36.2km s-min=22.2km az=89.0*

ISCJB ***05*** *15:24:40.5±0.8, 33.06N±0.06×142.63E±0.07, h33km, mb3.5/5, Error ellipse: s-maj=10.8km s-min=6.3km az=44.3*

JMA ***05*** *15:24:41.4±0.5, 33.04N×142.56E, h59km, M3.5*

ISC 05 15:24:42.4±1.0, 33.06N±0.08×142.63E±0.09, h33km, n16, σ0.97/22, mb3.6/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.10**	**320**	P	**Pn**	**15 25 14.6**	**-0.2**
BSO1				*e*S	**Sn**	**15 25 39.4**	**-0.1**
JHJ2	**Mitsune**	**2.36**	**272**	P	**Pn**	**15 25 18.2**	**-0.7**
JHJ2				*e*S	**Sn**	**15 25 45.7**	**-1.0**
BSO3	**Boso 3**	**2.47**	**315**	P	**Pn**	**15 25 20.0**	**-0.2**
BSO3				*e*S	**Sn**	**15 25 50.2**	**+1.1**
BSO4	**Boso 4**	**2.71**	**316**	P	**Pn**	**15 25 24.1**	**+0.6**
BSO4				*e*S	**Sn**	**15 25 55.9**	**+0.8**
JYN	**Shimob**	**4.17**	**307**	*e*S	**Sn**	**15 26 30.4**	**-0.9**
JRY	**Ryogami san**	**4.26**	**315**	*e*S	**Sn**	**15 26 33.1**	**-0.5**
JFT	**Otama**	**4.83**	**338**	P	**Pn**	**15 25 52.7**	**-0.1**
JFT				*e*S	**Sn**	**15 26 44.3**	**-3.2**
MJAR	**Matsushiro Arr**	**5.03**	**315**	Pn	**Pn**	**15 25 55.8**	**+0.3**
	2.4nm,0.3s,baz=132,slow=14,SNR=20						
MJAR				Sn	**Sn**	**15 26 52.4**	**-0.1**
	1.7nm,0.3s,baz=131,slow=24,SNR=6.9						
MAT	**Matsushiro**	**5.03**	**315**	P	**Pn**	**15 25 55.9**	**+0.3**
MAT				S	**Sn**	**15 26 52.3**	**-0.3**
ASAJ	**Asahikawa**	**11.04**	**360**	Pn	**Pn**	**15 27 17.5**	**-0.4**
	baz=202,slow=11						
TAPN	**Taplejung**	**47.36**	**278**	*e*P	P	15 33 10.0	-3.8
KURBB	**Kurchatov Arra**	**49.29**	**311**	P	**P**	**15 33 29.0**	**+1.1**
	0.4nm,0.4s,baz=84,slow=8.1,SNR=6.5						
ILAR	**Eielson Array**	**52.35**	**31**	P	**P**	**15 33 50.4**	**-0.4**
	0.2nm,0.5s,baz=267,slow=6.3,SNR=4.7						
WRA	**Warramunga Arr**	**53.30**	**190**	P	**P**	**15 33 57.7**	**-0.5**
	0.7nm,0.5s,baz=7.5,slow=7.6,SNR=4.8						
ASAR	**Alice Springs**	**57.02**	**190**	P	**P**	**15 34 25.0**	**-0.1**
	0.2nm,0.8s,baz=358,slow=6.3,SNR=5.5						
TXAR	**Lajitas Array**	**91.73**	**53**	P	**P**	**15 37 47.8**	**+0.8**
	0.2nm,0.7s,baz=337,slow=2.1,SNR=2.4						

IDC ***05*** *15:29:14.1±8.2, 36.21N×70.55E, h174km±76km, mb3.3/8, mb1 3.5/12, mb1mx3.2/43, mbtmp4.0/12, MS3.5/2, Ms1 3.5/2, ms1mx2.3/38, Error ellipse: s-maj=40.4km s-min=16.6km az=20.0*

MOS ***05*** *15:29:14.5±1.2, 36.29N×70.30E, h196km, mb4.1/7, Error ellipse: s-maj=16.2km s-min=7.2km az=86.3*

ISCJB ***05*** *15:29:17.3±0.4, 36.58N±0.03×70.39E±0.06, h204km, mb3.6/10, Error ellipse: s-maj=6.7km s-min=3.9km az=160.5*

NNC ***05*** *15:29:22.8±1.8, 37.01N×70.31E, h199km±11km, mb3.1, mpv4.1, Error ellipse: s-maj=19.1km s-min=9.2km az=167.0*

NDI ***05*** *15:31:10.0±2.0, 32.59N×74.27E, h10km, ML3.6*

ISC 05 15:29:17.8±0.6, 36.57N±0.05×70.38E±0.06, h204km, n71, σ1.73/74, mb3.8/10, 10C-9D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.56**	**332**	⇑P	**Pn**	**15 30 02.7**	**0.0**
	108nm,0.4s						
DZET				⇑S	**S**	**15 30 34.5**	**-2.7**
	332nm,0.7s						
DZET	**Dzherino**	**2.56**	**332**	PN	**Pn**	**15 30 02.6**	**0.0**
DZET				pmax	pmax		
	comp=Z,109nm,0.4s						
CEP	**Cherat**	**3.01**	**155**	P	**Pn**	**15 30 07.5**	**-0.5**
CEP				S	**S**	**15 30 45.0**	**-1.5**
CHCP	**Chirah Chowk**	**3.74**	**140**	P	**Pn**	**15 30 16.5**	**-0.1**
SFK	**Sufi-Kurgan**	**4.23**	**35**	⇓P	**Pn**	**15 30 23.2**	**+0.4**
	comp=Z,8.2nm,0.3s						
SFK				⇓S	**S**	**15 31 11.7**	**-1.6**
	comp=Z,170nm,0.6s						
SFK	**Sufi-Kurgan**	**4.23**	**35**	PN	**Pn**	**15 30 23.1**	**+0.4**
SFK				pmax	pmax		
	comp=Z,10.0nm,0.3s						
SARP	**Sargodha**	**5.00**	**157**	P	**Pn**	**15 30 31.1**	**-1.3**
DLH	**Dalhousie**	**6.11**	**129**	*e*P	Px	15 31 37.0	
DLH				*e*S	**S**	**15 31 54.0**	**-2.9**
AML	**Almayashu**	**6.12**	**24**	P	**Pn**	**15 30 47.2**	**+0.2**
	SNR=119						
UCH	**Uchtor**	**6.50**	**28**	P	**Pn**	**15 30 52.1**	**+0.2**
	SNR=41						
KK31	**Karatay Array**	**6.53**	**1**	⇑P	**Pn**	**15 30 52.2**	**+0.2**
	comp=Z,3.1nm,0.2s,baz=181,slow=13,SNR=139						
KK31				⇓S	**S**	**15 32 01.1**	**-5.3**
	comp=Z,18nm,0.5s,baz=189,slow=22,SNR=14						
KK31	**Karatay Array**	**6.53**	**1**	PN	**Pn**	**15 30 52.1**	**+0.2**
KK31				pmax	pmax		
	comp=Z,11nm,0.2s						
EKS2	**Erkin-Say**	**6.63**	**22**	P	**Pn**	**15 30 53.9**	**+0.7**
	SNR=24						
KZA	**Kyzart**	**6.67**	**33**	P	**Pn**	**15 30 54.0**	**-0.2**
	SNR=12						
AAK	**Ala-Archa**	**6.84**	**26**	P	**Pn**	**15 30 56.8**	**+0.7**
	SNR=7.2						
AAK	**Ala-Archa**	**6.84**	**26**	⇓P	**Pn**	**15 30 56.6**	**+0.5**
	comp=Z,3.9nm,0.3s						
AAK				⇑S	**S**	**15 32 10.8**	**-3.1**
	comp=Z,76nm,1.0s						
AAK	**Ala-Archa**	**6.84**	**26**	*e*PN	**Pn**	**15 30 56.6**	**+0.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.2s						
KBK	**Karagaybulak**	**7.03**	**29**	P	**Pn**	**15 30 58.8**	**+0.3**
	SNR=8.4						
CHMS	**Chumysh**	**7.25**	**26**	P	**Pn**	**15 31 01.8**	**+0.5**
	SNR=9.9						
USP	**Ospenovka**	**7.40**	**24**	P	**Pn**	**15 31 03.7**	**+0.5**
	SNR=6.9						
TKM2	**Tokmak 2**	**7.51**	**31**	P	**Pn**	**15 31 05.3**	**+0.6**
	SNR=30						
TKM2	**Tokmak 2**	**7.51**	**31**	⇓P	**Pn**	**15 31 04.9**	**+0.1**
	comp=Z,11nm,0.4s						
TKM2				⇑S	**S**	**15 32 27.0**	**-2.8**
	comp=Z,21nm,0.7s						
SMLA	**Simla**	**7.82**	**132**	*i* x	**Pn**	**15 31 07.4**	**-1.4**
SMLA				*i* S	S	15 32 30.9	-6.2
SMLA				*i* S	S	15 32 31.9	-5.2
SMLA				AML	AML	15 32 32.5	
	comp=E,1μm,0.3s						
SMLA				AML	AML	15 32 33.7	
	comp=N,963nm,0.3s						
KHET	**Khetri**	**9.63**	**150**	*e*S	S	15 33 11.6	-8.6
KHET				AML	AML	15 33 13.3	
JOSI	**Joshimath**	**9.72**	**125**	*e*x	x	15 32 54.9	
JOSI				AML	AML	15 33 40.2	
	comp=N,52nm,0.1s						
JOSI				AML	AML	15 33 41.5	
	comp=E,44nm,0.6s						
NDI	**New Delhi**	**9.74**	**142**	*e*S	S	15 33 12.0	-11
MK31	**Makanchi Array**	**13.53**	**37**	⇓P	**Pn**	**15 32 22.3**	**+0.6**
	comp=E,8.3nm,0.7s,baz=209,slow=8.8,SNR=41						
MK31	**Makanchi Array**	**13.53**	**37**	*i* P	**P**	**15 32 25.3**	**+1.2**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR	**Makanchi Array**	**13.53**	**37**	P	**Pn**	**15 32 22.5**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=210,slow=11,SNR=24						
KOLN	**Koldanda**	**14.21**	**124**	*e*P	**P**	**15 32 31.9**	**0.0**
	comp=Z,3.2nm,0.3s						
GKN	**Gorkha**	**14.76**	**121**	*e*P	**P**	**15 32 38.8**	**+0.8**
	comp=Z,11nm,0.3s						
AB31	**Akbulak array**	**14.79**	**332**	⇑P	**Pn**	**15 32 37.2**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=141,slow=11,SNR=17						
AB31				⇑S	**S**	**15 35 17.2**	**-3.9**
	comp=Z,0.6nm,0.2s						
AB31	**Akbulak array**	**14.79**	**332**	*e*P	**Pn**	**15 32 37.2**	**+0.1**
AB31				S	**S**	**15 35 17.1**	**-3.9**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.2s						
AB31				smax	smax		
	comp=N,1.0nm,0.3s						
KURBB	**Kurchatov Arra**	**15.23**	**20**	⇓P	**Pn**	**15 32 41.6**	**-0.7**
	comp=N,3.4nm,0.8s						
KURBB	**Kurchatov Arra**	**15.23**	**20**	P	**P**	**15 32 42.9**	**+0.2**
	comp=N,0.1nm,0.3s,baz=207,slow=10,SNR=8.8						
KURK	**Kurchatov**	**15.33**	**20**	⇑P	**Pn**	**15 32 42.5**	**-1.2**
	comp=N,2.2nm,1.4s						
KURK	**Kurchatov**	**15.33**	**20**	P	**Pn**	**15 32 42.9**	**-0.8**
KKN	**Kakani**	**15.34**	**121**	*e*P	**P**	**15 32 46.8**	**+2.4**
	comp=N,7.9nm,0.5s						
PKIN	**Phulchoki**	**15.55**	**121**	*e*P	**Pn**	**15 32 48.9**	**+2.1**
	comp=N,6.6nm,0.3s						
PKI	**Pulchoki**	**15.56**	**121**	*e*P	**Pn**	**15 32 49.1**	**+2.0**
	comp=N,15nm,0.7s						
BVA0	**Borovoye Array**	**16.46**	**0**	P	**Pn**	**15 32 58.2**	**+0.9**
	comp=N,1.7nm,0.5s,baz=163,slow=10,SNR=19						
BVA0	**Borovoye Array**	**16.46**	**0**	*i* P	**Pn**	**15 32 58.1**	**+0.9**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**16.46**	**0**	P	**Pn**	**15 32 58.3**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=165,slow=11,SNR=16						
BVAR	**Borovoye Array**	**16.46**	**0**	P	**Pn**	**15 32 58.3**	**+1.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**16.48**	**331**	⇓P	**Pn**	**15 32 58.8**	**+1.2**
	comp=Z,11nm,0.8s						
AKTO	**Aktyubinsk**	**16.48**	**331**	P	**Pn**	**15 32 58.9**	**+1.4**
	comp=Z,1.2nm,0.3s,baz=146,slow=12,SNR=34						
AKTO	**Aktyubinsk**	**16.48**	**331**	P	**Pn**	**15 32 58.7**	**+1.2**
AKTO				pmax	pmax		
	comp=Z,11nm,0.8s						
BRVK	**Borovoye**	**16.49**	**360**	⇑P	**P**	**15 32 56.6**	**-0.1**
	comp=Z,3.2nm,0.5s						
BRVK	**Borovoye**	**16.49**	**360**	*e*P	**Pn**	**15 33 00.7**	**+3.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
RAMN	**Ramite**	**16.77**	**120**	*e*P	**Pn**	**15 33 02.5**	**+1.0**
	comp=Z,11nm,0.6s						
ODAN	**Odare**	**17.38**	**119**	*e*P	**Pn**	**15 33 09.8**	**+1.1**
	comp=Z,10nm,0.6s						
ZALV	**Zalesovo Beam**	**20.07**	**25**	P	**P**	**15 33 36.7**	**+1.3**
	comp=Z,6.5nm,0.3s,baz=221,slow=11,SNR=35						
ZALV	**Zalesovo Beam**	**20.07**	**25**	*i* P	**P**	**15 33 36.7**	**+1.3**
ZALV				pmax	pmax		
	comp=Z,7.0nm,0.3s						
NVS	**Novosibirsk**	**20.30**	**22**	*e*P	**P**	**15 33 39.0**	**+1.2**
NVS				pmax	pmax		
	comp=N,3.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,1.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ARU	**Arti**	**21.41**	**342**	*d* iP	**P**	**15 33 53.4**	**+3.9**
ARU						15 34 24.0	
ARU				S	S	15 37 50.5	+17
ARU				SS		15 38 34.3	
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KIV	**Kislovodsk**	**22.32**	**298**	*e*P	**P**	**15 33 55.9**	**-2.7**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SONM	**Songino Array**	**28.71**	**56**	P	**P**	**15 34 56.1**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=261,slow=9.6,SNR=2.5						
CMAR	**Chiang Mai Arr**	**30.92**	**118**	LR	LR	15 48 11.7	
	comp=Z,21nm,20.5s,baz=214,slow=37						
KIEV	**Kiev**	**32.53**	**309**	*e*P	**P**	**15 35 29.4**	**+0.1**
FINES	**FINESS Array B**	**37.15**	**326**	P	**P**	**15 36 11.1**	**+2.4**
	comp=Z,2.3nm,0.6s,baz=124,slow=10,SNR=12						
FINES	**FINESS Array B**	**37.15**	**326**	*ce*P	**P**	**15 36 11.1**	**+2.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	**ARCESS Array B**	**40.90**	**338**	P	**P**	**15 36 41.6**	**+2.0**
	comp=Z,2.0nm,0.6s,baz=117,slow=8.2,SNR=14						
ARCES	**ARCESS Array B**	**40.90**	**338**	*e*P	**P**	**15 36 41.8**	**+2.2**
NB2	**NORSAR Subarra**	**44.03**	**323**	P	**P**	**15 37 06.6**	**+1.6**
	comp=Z,1.2nm,0.5s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.03**	**323**	P	**P**	**15 37 06.8**	**+1.9**
	comp=Z,1.4nm,0.5s,baz=97,slow=7.8,SNR=5.9						
NOA	**NORSAR Array B**	**44.03**	**323**	P	**P**	**15 37 06.9**	**+1.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YAK	**Yakutsk**	**44.20**	**36**	*e*P	**P**	**15 37 07.2**	**+1.0**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
JMIC	**Jan Mayen**	**52.32**	**336**	LR	LR	16 00 20.7	
	comp=Z,155nm,19.3s,baz=250,slow=35						
TORD	**Torodi Ar. Bea**	**65.22**	**268**	P	**P**	**15 39 38.1**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=56,slow=7.2,SNR=3.1						
WRA	**Warramunga Arr**	**82.45**	**122**	P	**P**	**15 41 14.7**	**-2.9**
	comp=Z,0.3nm,0.5s,baz=319,slow=5.1,SNR=8.6						
ASAR	**Alice Springs**	**84.70**	**124**	P	**P**	**15 41 28.2**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=306,slow=3.7,SNR=5.6						

MAN 05 15:32:40, 12.83N×123.00E, h20km, mb4.8, ML3.7, MS3.6, 3C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.58**	**327**	*e*P	Pb	15 32 51.7	+0.1
OTRP	**Odiongan**	**1.07**	**244**	*e*P	Pb	15 32 58.6	-1.1
OTRP				*e*S	Sn	15 33 14.7	+0.6
GQP	**Guinayangan**	**1.20**	**333**	⇑*e*P	Pn	15 33 01.4	-0.3
GQP				*e*S	Sn	15 33 19.0	+1.7
RCP	**Roxas**	**1.29**	**191**	⇑*e*P	Pn	15 33 02.3	-0.6
KALP	**Kalibo**	**1.32**	**210**	*e*P	Sn	15 33 18.9	-1.3
PVCP	**Virac**	**1.35**	**56**	⇑*e*P	Pb	15 33 04.6	-0.1
PVCP				*i* S	Sn	15 33 21.2	0.0
CNP	**Catarman**	**1.65**	**101**	*e*P	Pn	15 33 08.0	+0.1
SJMP	**San Jose**	**1.88**	**259**	*e*P	Pn	15 33 11.6	+0.7

NIED ***05*** *15:48:00, 35.80N×135.70E, h360km, Mw4.7 Best double couple: M01.07000×10^16 NP1:φ43.00000°, δ41.00000°, λ-165.00000°. NP2:φ301.00000°, δ80.00000°, λ-50.00000°.*

BJI ***05*** *15:48:31.7, 35.61N×135.87E, h340km, mb4.8/52, mB4.3/25*

MOS ***05*** *15:48:34.7±0.9, 35.77N×135.66E, h346km, mb4.5/24, Error ellipse: s-maj=8.0km s-min=5.5km az=90.8*

ISCJB ***05*** *15:48:35.5±0.1, 35.73N±0.02×135.67E±0.02, h349km±1km, mb4.4/117, Error ellipse: s-maj=3.5km s-min=2.2km az=160.0*

NEIC ***05*** *15:48:35.6±0.3, 35.68N×135.58E, h342km±3km, mb4.5/61, MW4.6(NIED), Error ellipse: s-maj=4.5km s-min=3.1km az=133.0*

IDC ***05*** *15:48:35.9±0.9, 35.74N×135.64E, h344km±8km, mb4.0/38, mb1 4.1/41, mb1mx4.1/44, mbtmp4.7/41, Error ellipse: s-maj=8.7km s-min=6.9km az=101.0*

JMA ***05*** *15:48:36.0±0.1, 35.79N×135.72E, h346km±1km, M4.7*

ISC 05 15:48:35.6±0.4, 35.77N±0.03×135.70E±0.03, h342km±3km, h342km:pP-P, n511, σ1.18/578, mb4.4/128, 23C-22D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFM	**Mihama**	**0.34**	**136**	P	**Pn**	**15 49 19.9**	**+1.2**
JFM				S	S	15 49 53.4	+0.1
JKY	**Yasaka**	**0.51**	**254**	⇑P	**Pn**	**15 49 20.2**	**+1.2**
JKY				S	S	15 49 54.4	+0.6
JWT	**Wachi**	**0.55**	**207**	⇑P	**Pn**	**15 49 20.1**	**+0.9**
JWT				S	**S**	**15 49 54.1**	**+0.1**
JKG	**Kaga**	**0.72**	**45**	⇓P	**Pn**	**15 49 20.3**	**+0.9**
JKG				S	**S**	**15 49 54.9**	**+0.3**
JGM	**Miyama**	**0.83**	**95**	⇓P	**Pn**	**15 49 20.8**	**+0.9**
JGM				S	**S**	**15 49 55.9**	**+0.5**
JKSM	**Kasumi**	**0.86**	**258**	⇑P	**Pn**	**15 49 21.0**	**+1.0**
JKSM				S	**S**	**15 49 55.9**	**+0.4**
JWY	**Kouya**	**1.55**	**183**	⇑P	**Pn**	**15 49 24.4**	**+0.9**
JWY				S	**S**	**15 50 01.5**	**-0.3**
JTT	**Ttatey**	**1.56**	**57**	⇓P	**Pn**	**15 49 24.3**	**+1.1**
JIE	**Ise**	**1.61**	**149**	⇑P	**Pn**	**15 49 24.8**	**+1.2**
JIE				S	**S**	**15 50 02.2**	**+0.1**
SAI	**Saigo**	**1.96**	**283**	P	**Pn**	**15 49 26.9**	**+1.1**
JNG	**Nsakai**	**2.04**	**71**	⇓P	**Pn**	**15 49 27.4**	**+0.9**
JSZ	**Suzu**	**2.14**	**38**	⇓P	**Pn**	**15 49 28.0**	**+0.9**
JSZ				S	**S**	**15 50 08.2**	**-0.3**
MAJO	**Matsushiro**	**2.17**	**69**	*d* iP	**Pn**	**15 49 28.0**	**+0.6**
MAJO	**Matsushiro**	**2.17**	**69**	*e*Pn	**Pn**	**15 49 28.2**	**+0.8**
MAT	**Matsushiro**	**2.17**	**69**	P	**Pn**	**15 49 28.0**	**+0.6**
MAT				*e*S	**S**	**15 50 10.6**	**+1.6**
MAT	**Matsushiro**	**2.17**	**69**	P	**Pn**	**15 49 28.0**	**+0.6**
MJAR	**Matsushiro Arr**	**2.17**	**69**	P	**Pn**	**15 49 28.3**	**+0.9**
	104nm,0.3s,baz=251,slow=9.3,SNR=1152						
JAI	**Aioi**	**2.23**	**208**	⇑P	**Pn**	**15 49 29.0**	**+1.1**
JAI				S	**S**	**15 50 10.7**	**+0.8**
JWZ	**Kozaga**	**2.24**	**180**	⇑P	**Pn**	**15 49 28.6**	**+0.6**
JWZ				S	**S**	**15 50 09.0**	**-1.1**
JHS	**Saijyo**	**2.25**	**251**	⇑P	**Pn**	**15 49 29.1**	**+1.0**
JHS				S	**S**	**15 50 10.9**	**+0.8**
JHG	**Hegura jima**	**2.29**	**25**	⇓P	**Pn**	**15 49 29.6**	**+1.4**
JHG				S	**S**	**15 50 12.5**	**+2.0**
TTO1	**TONANKAI O.B.S**	**2.32**	**157**	⇑P	**Pn**	**15 49 30.3**	**+2.0**
JYN	**Shimob**	**2.33**	**96**	⇓P	**Pn**	**15 49 29.1**	**+0.4**
TK02	**Tokai 2**	**2.49**	**137**	P	**Pn**	**15 49 31.4**	**+1.7**
TK02				S	**S**	**15 50 15.5**	**+2.4**
JMN	**Monobe**	**2.53**	**217**	⇑P	**Pn**	**15 49 31.6**	**+1.2**
JMN				S	**S**	**15 50 14.1**	**-0.3**
JRY	**Ryogami san**	**2.61**	**84**	⇓P	**Pn**	**15 49 31.1**	**+0.2**
JOD2	**Odawara 2**	**2.81**	**99**	⇓P	**Pn**	**15 49 33.4**	**+0.7**
JOD2				S	**S**	**15 50 19.5**	**+1.0**
JGT	**Gotsu**	**2.85**	**256**	⇑P	**Pn**	**15 49 33.8**	**+0.8**
JHT	**Toyohira**	**2.90**	**249**	P	**Pn**	**15 49 34.6**	**+1.1**
JHT				S	**S**	**15 50 21.2**	**+1.1**
JHK	**Hiroka**	**3.05**	**60**	⇓P	**Pn**	**15 49 34.8**	**+0.1**
JSD	**Sado**	**3.05**	**41**	⇓P	**Pn**	**15 49 35.3**	**+0.6**
JSD				S	**S**	**15 50 21.8**	**-0.5**
JTO	**Tosashimizu**	**3.77**	**220**	⇑P	**Pn**	**15 49 43.2**	**+1.4**
JTO				S	**S**	**15 50 36.0**	**+0.9**
I30JP	**ISUMI INFRASON**	**3.79**	**96**	P	**Pn**	**15 49 41.5**	**-0.4**
I30JP				S	**S**	**15 50 34.8**	**-0.7**
JAW	**Awa shima**	**3.90**	**46**	P	**Pn**	**15 49 43.3**	**+0.3**
JAW				S	**S**	**15 50 37.2**	**-0.1**
JFT	**Otama**	**4.12**	**64**	⇓P	**Pn**	**15 49 45.4**	**+0.1**
JFT				S	**S**	**15 50 40.7**	**-0.8**
KSULL	**Ulleungdo**	**4.22**	**295**	P	**Pn**	**15 49 47.8**	**+1.5**
	SNR=20						
KSULL	**Ulleungdo**	**4.22**	**295**	P	**Pn**	**15 49 47.8**	**+1.5**
	SNR=20						
JFK	**Kawauchi**	**4.46**	**68**	⇓P	**Pn**	**15 49 47.9**	**-1.0**
JFK				S	**S**	**15 50 44.4**	**-3.7**
JMM	**Marumori**	**4.59**	**61**	⇓P	**Pn**	**15 49 49.8**	**-0.5**
JMM				S	**S**	**15 50 46.7**	**-3.9**
KSPHA	**Pohang**	**5.15**	**277**	P	**Pn**	**15 49 57.6**	**+1.2**
	SNR=34						
KSPHA	**Pohang**	**5.15**	**277**	P	**Pn**	**15 49 57.8**	**+1.3**
	SNR=5.8						
KSULJ	**Uljin**	**5.17**	**282**	P	**Pn**	**15 49 57.9**	**+1.3**
	SNR=12						
KSULJ	**Uljin**	**5.17**	**282**	P	**Pn**	**15 49 57.9**	**+1.3**
	SNR=12						
JOG2	**Oga 2**	**5.25**	**37**	P	**Pn**	**15 49 58.0**	**+0.5**
JOG2

KSDDC Dongducheon 7.25 290 P Pn 15 50 22.6 +2.0
SNR=8.2
KSSEO Seoul 7.26 286 P Pn 15 50 22.6 +1.8
SNR=12
YNCB YEONCHEON 7.38 290 P Pn 15 50 24.1 +1.9
SNR=33
KSMUS Musan 7.47 289 P Pn 15 50 25.2 +1.9
SNR=8.0
INCN Inchon 7.49 286 *e*P Pn 15 50 24.2 +0.7
comp=Z,72nm,0.9s
KSSES Seosan 7.54 280 P Pn 15 50 25.8 +1.7
SNR=6.8
KSGAH Ganghwa 7.68 287 P Pn 15 50 27.3 +1.7
SNR=32
VLA Vladivostok 7.91 339 *c i*P Pn 15 50 29.3 +1.0
ERM Erimo 8.52 41 *e*P Pn 15 50 34.4 -1.2
ERM Erimo 8.52 41 *e*P Pn 15 50 33.9 -1.7
comp=Z,72nm,0.3s
ERM *e*S S 15 51 54.5 -19
USRK Ussuriysk Ar. 8.88 342 P Pn 15 50 41.4 +1.4
comp=Z,11nm,0.3s,baz=162,slow=11,SNR=304
ASAJ Asahikawa 9.87 30 P Pn 15 50 50.1 -1.7
baz=219,slow=13
ASAJ S S 15 52 34.5 -9.0
baz=165,slow=20
ASAJ Asahikawa 9.87 30 *e*Pn Pn 15 50 49.6 -2.2
comp=Z,25nm,0.5s
ASAJ S S 15 52 34.5 -9.0
ASAJ *e*S S 15 52 36.4 -7.1
MDJ Mudanjiang 9.99 334 P P 15 50 54.7 -0.3
MDJ S S 15 52 46.9 +0.8
MDJ PcP PcP 15 56 31.0 +1.9
MDJ PcS PcS 15 59 56.8 -5.7
MDJ ScS ScS 16 03 04.9 +2.0
MDJ PMZ
comp=Z,140nm,0.9s
MDJ PMZ
comp=Z,100nm,4.5s
MDJ Mudanjiang 9.99 334 *e*P P 15 50 54.5 -0.5
comp=Z,112nm,0.8s
CBIJ Chichi jima 10.27 146 P Pn 15 50 51.9 -4.9
CBIJ S S 15 52 39.5 -13
JCJ Chichijima 10.27 146 P Pn 15 50 51.9 -4.9
comp=Z,28nm,0.3s,baz=258,slow=23,SNR=9.1
JCJ S S 15 52 39.5 -13
comp=Z,66nm,0.3s,baz=289,slow=22,SNR=14
CN2 Changchun 11.24 319 ⇓ *i*P P 15 51 09.5 +0.6
CN2 sP sP 15 52 27.3
CN2 *e*S S 15 53 13.5 -0.4
CN2 PMZ
comp=Z,100nm,0.8s
CN2 PMZ
comp=Z,150nm,3.0s
YUK Yuzh-Kuril'sk 11.35 40 ⇓ *i*P P 15 51 10.9 +0.8
YUK *i* S S 15 53 10.2 -6.1
YUK pmax pmax
comp=E,26nm,0.3s
YUK pmax pmax
comp=N,74nm,0.6s
YUK pmax pmax
comp=Z,110nm,0.6s
YUK pmax pmax
comp=Z,455nm,2.1s
YUK smax smax
comp=E,851nm,2.3s
YUK smax smax
comp=N,856nm,2.3s
YSS Yuzh-Sakhalins 12.36 23 ⇓ *e*P P 15 51 21.0 -0.3
YSS *i* S S 15 53 29.0 -9.2
YSS pmax pmax
comp=N,140nm,0.9s
YSS pmax pmax
comp=E,90nm,0.9s
YSS pmax pmax
comp=Z,190nm,0.9s
YSS smax smax
comp=N,60nm,0.9s
YSS smax smax
comp=E,40nm,0.9s
YSS Yuzh-Sakhalins 12.36 23 *e*P P 15 51 20.9 -0.3
comp=E,130nm,0.6s
HABR Khabarovsk 12.70 358 *ce*P P 15 51 23.5 -1.5
HABR *e*S S 15 53 43.8 -1.4
HABR pmax pmax
comp=E,12nm,1.1s
HABR pmax pmax
comp=N,13nm,1.1s
HABR pmax pmax
comp=Z,24nm,1.1s
HABR MLR MLR
comp=Z,39nm,14.0s
SSE Sheshan 12.98 253 P Pn 15 51 30.9 +1.8
SSE PMZ
comp=Z,140nm,0.9s
SSE PMZ
comp=Z,95nm,2.7s
KUR Kuril'sk 13.21 41 *d i*P Pn 15 51 32.9 +1.3
KUR *i* S S 15 53 51.9 -3.9
KUR pmax pmax
comp=E,26nm,0.9s
KUR pmax pmax
comp=Z,32nm,0.9s
KUR pmax pmax
comp=N,11nm,0.9s
KLR Kul'dur 13.76 349 *e*P P 15 51 31.2 -5.5
KLR *e* 15 54 02.0
UGL Uglegorsk 14.10 17 *e*P P 15 51 38.8 -1.5
UGL *e*S S 15 54 12.7 -0.9
NJ2 Nanjing 14.47 260 *e*P P 15 51 43.3 -1.4
NJ2 PMZ
comp=N,20nm,0.6s
TIA Tai'an 15.05 277 ⇓ P P 15 51 51.1 +0.1
TIA PMZ
comp=N,90nm,0.7s
BJI Beijing 15.98 291 P P 15 52 00.6 -0.5
BJI S S 15 54 48.3 -3.3
BJI PMZ
comp=N,20nm,0.9s
BJI LN
comp=N,93nm,5.4s
BJI LE
comp=N,99nm,4.7s
BJI LZ
comp=N,18nm,20.9s
BJT Baijiatuau 15.99 291 *e*P P 15 52 00.4 -0.8
BJT pmax pmax
comp=Z,27nm,0.4s
BJT Baijiatuau 15.99 291 *e*P P 15 52 00.3 -0.8
comp=Z,27nm,0.4s
YHNB Yeheng 16.58 232 *e*P P 15 52 05.9 -1.9
comp=Z,15nm,0.4s
SSLB Suanglung 17.48 231 *e*P P 15 52 14.3 -3.2
comp=Z,17nm,0.5s
YULB Yu-li 17.55 229 *e*P P 15 52 13.3 -5.0
comp=Z,12nm,0.5s
NKL Nikolayevsk 17.73 10 *i*P P 15 52 15.5 -4.2
NKL pmax pmax
comp=Z,400nm,1.0s
NKL pmax pmax
comp=N,90nm,0.4s
NKL pmax pmax
comp=E,30nm,0.4s
NKL pmax pmax
comp=Z,180nm,0.4s
HIA Hailar 17.84 324 *e*P P 15 52 19.5 -1.5
HIA pmax pmax
comp=Z,27nm,0.6s
HIA Hailar 17.84 324 *e*P P 15 52 19.5 -1.5
comp=Z,27nm,0.6s
TPUB Ta-pu 18.04 231 *e*P P 15 52 19.7 -3.7
comp=Z,26nm,0.8s
TWG Pinlang 18.12 229 *e*P P 15 52 22.5 -1.7
comp=Z,92nm,0.4s
WHN Wuhan 18.61 260 ⇓ P P 15 52 29.0 -0.3
WHN PMZ
comp=Z,140nm,0.6s
HHC Hu-ho-hao-te 19.58 292 *e*P P 15 52 38.0 -1.7
HHC S S 15 55 54.5 -6.3
HHC ScS ScS 16 03 26.1 -2.1
HHC PMZ
comp=Z,15nm,1.0s
HHC PMZ
comp=Z,54nm,5.0s
XAN Xi'an 22.01 273 P P 15 53 01.9 -0.5
XAN PMZ
comp=Z,17nm,0.6s

CLNS Chul'man 22.30 344 *e*P P 15 53 05.1 +0.3
CLNS pmax pmax
comp=Z,44nm,1.0s
CLNS pmax pmax
comp=N,35nm,1.1s
CLNS pmax pmax
comp=E,15nm,0.9s
ENH Enshi 22.62 263 *e*P P 15 53 07.2 -0.8
comp=E,93nm,0.7s
PETK Petropavlovsk- 23.24 35 P P 15 53 13.8 +0.5
comp=E,32nm,0.7s,baz=213,slow=7.8,SNR=28
GUMO Guam 23.58 157 P P 15 53 17.1 +0.4
comp=E,30nm,0.7s,baz=342,slow=19,SNR=2.3
PET Petropavlovsk 23.63 36 *e*P P 15 53 18.4 +1.6
PET pmax pmax
comp=Z,51nm,0.6s
SONM Songino Array 24.79 308 P P 15 53 28.4 +0.8
comp=Z,19nm,0.7s,baz=111,slow=9.3,SNR=53
SONM ScP ScP 15 59 59.0 -0.2
comp=Z,1.7nm,1.0s,baz=97,slow=4.5,SNR=6.4
LZH Lanzhou 25.74 280 *e*P P 15 53 36.4 +0.2
LZH pP pP 15 54 37.5 +0.4
LZH sP sP 15 55 19.2 -0.3
LZH S S 15 57 37.0 -2.4
LZH PMZ
comp=Z,68nm,1.0s
LZH PMZ
comp=Z,260nm,4.0s
GYA Guiyang 26.46 258 *e*P P 15 53 42.0 -0.6
GYA pP pP 15 54 43.2 -1.7
GYA sP sP 15 55 23.8 -2.2
GYA S S 15 57 49.0 -1.8
GYA sS sS 15 59 39.6 -7.4
GYA ScP ScP 16 00 04.4 +0.1
GYA ScS ScS 16 03 54.0 -1.5
GYA PMZ
comp=Z,10.0nm,0.8s
YAK Yakutsk 26.55 354 P P 15 53 42.7 -0.1
comp=Z,2.3nm,0.3s,baz=140,slow=7.9,SNR=7.9
YAK Yakutsk 26.55 354 *e*P P 15 53 41.8 -1.0
YAK *e*S S 15 57 47.8 -3.4
YAK pmax pmax
comp=Z,18nm,0.9s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK smax smax
comp=N,2.0nm,0.3s
YAK smax smax
comp=E,25nm,1.5s
YAK Yakutsk 26.55 354 *e*P P 15 53 42.5 -0.2
comp=E,24nm,0.7s
CD2 Chengdu 27.05 269 P P 15 53 46.0 -1.7
CD2 pP pP 15 54 48.1 -2.9
CD2 sP sP 15 55 29.0 -2.3
CD2 PcP PcP 15 56 57.8 -1.1
CD2 S S 15 57 58.1 -1.9
CD2 sS sS 15 59 54.2 -2.6
CD2 PMZ
comp=E,30nm,0.6s
CD2 PMZ
comp=E,90nm,7.3s
ZAK Zakamensk 27.56 312 *e*P P 15 53 52.4 +0.4
ZAK pmax pmax
comp=Z,2.0nm,1.0s
TLY Talaya 27.81 315 P P 15 53 53.5 -0.6
comp=Z,2.9nm,0.5s,baz=117,slow=14,SNR=4.4
TLY Talaya 27.81 315 *e*P P 15 53 54.8 +0.7
TLY pmax pmax
comp=Z,4.0nm,0.8s
QIZ Qiongzhong 28.25 241 P P 15 53 57.7 -0.6
QIZ pP pP 15 54 59.7 -2.5
QIZ PP PnPn 15 55 08.8 +0.3
QIZ S S 15 58 18.7 -0.1
QIZ PMZ
comp=Z,16nm,1.6s
QIZ PMZ
comp=Z,70nm,3.3s
GTA Gaotai 28.55 288 *e*P P 15 54 00.8 -0.1
GTA pP pP 15 55 01.3 -3.6
GTA sP sP 15 55 38.6 -6.3
GTA ScP ScP 16 00 10.5 -0.1
GTA PMZ
comp=Z,15nm,0.8s
SEY Seymchan 29.09 16 P P 15 54 05.9 +0.7
comp=Z,11nm,0.6s,baz=204,slow=7.5,SNR=123
KMI Kunming 30.20 259 P P 15 54 14.6 -1.1
KMI pP pP 15 55 24.1 +4.0
KMI PMZ
comp=Z,34nm,1.0s
SKNT Sakolnakorn 33.81 245 P P 15 54 47.0 +0.2
comp=Z,32nm,1.2s
UBPT Khong Chiam 33.85 241 P P 15 54 47.5 +0.5
comp=E,63nm,0.9s,comp=Z,590nm
DLV T Lat 34.17 233 *e*P P 15 54 50.5 +0.5
comp=Z,55nm,0.7s
AMKA Amchitka 34.66 49 *e*P P 15 54 54.1 +0.6
KHON Khomkaen 35.07 245 P P 15 54 57.5 +0.1
comp=Z,22nm,0.6s
CMAI Chiengmai2 35.80 254 P P 15 55 03.9 +0.1
comp=Z,38nm,0.9s,comp=Z,629nm
UTTA Uttaradit 35.90 249 P P 15 55 04.4 -0.1
comp=Z,7.1nm,0.8s,comp=Z,117nm
CHAI Chaiyaphum 35.97 245 P P 15 55 04.8 -0.2
comp=Z,18nm,0.6s,comp=Z,137nm
PBKT Sadao Pong 36.30 247 P P 15 55 07.7 -0.1
comp=Z,16nm,0.7s
CMMT Chiang Mai 36.51 252 P P 15 55 09.2 -0.4
comp=Z,34nm,0.7s
CHTO Chiang Mai 36.51 252 P P 15 55 09.3 -0.4
comp=Z,112nm,0.7s
CHTO Chiang Mai 36.51 252 *e*P P 15 55 09.2 -0.4
CHTO pmax pmax
comp=Z,15nm,0.6s
CHTO Chiang Mai 36.51 252 *e*P P 15 55 09.2 -0.4
comp=Z,15nm,0.6s
BILL Bilibino 36.62 19 *c i*P P 15 55 10.5 +0.7
BILL *e* 15 56 40.0
BILL *e* 15 57 23.8
BILL pmax pmax
comp=Z,52nm,0.9s
KMSI Cibinong 36.68 200 P P 15 55 12.5 +1.6
comp=Z,174nm,1.0s
CMAR Chiang Mai Arr 36.72 252 P P 15 55 11.3 0.0
comp=Z,5.6nm,0.5s,baz=48,slow=7.9,SNR=16
CMAR PP PP 15 56 43.6 +0.1
comp=Z,1.2nm,0.9s,baz=50,slow=8.4,SNR=4.6
CMAR PcP PcP 15 57 26.0 +0.4
comp=Z,0.7nm,0.7s,baz=50,slow=1.4,SNR=3.8
CMAR ScP ScP 16 00 39.2 +0.2
comp=Z,1.8nm,0.8s,baz=19,slow=3.1,SNR=15
WMQ Urumqi 37.31 297 P P 15 55 16.9 +0.9
WMQ pP pP 15 56 25.6 +3.3
WMQ sP sP 15 57 04.9 +3.2
WMQ PMZ
comp=Z,19nm,0.9s
WMQ PMZ
comp=Z,42nm,4.0s
MRSI Marisa 37.38 203 P P 15 55 17.3 +0.5
comp=Z,26nm,0.7s
MHMT Maesarieng 37.66 252 P P 15 55 19.7 +0.5
comp=Z,8.0nm,0.7s
LSA Lhasa 37.71 274 P P 15 55 20.4 +0.4
LSA Lhasa 37.71 274 *e*P P 15 55 20.7 +0.7
LSA pmax pmax
comp=Z,25nm,0.6s
LSA Lhasa 37.71 274 *e*P P 15 55 20.7 +0.7
comp=Z,25nm,0.6s
MPSI Mapaga 38.20 206 P P 15 55 24.1 +0.5
comp=Z,21nm,1.0s
LUWI Luwuk 38.56 201 P P 15 55 27.1 +0.5
comp=Z,40nm,0.6s,comp=Z,637nm
LUWI Luwuk 38.56 201 *e*P P 15 55 23.8 -2.8
comp=Z,25nm,0.6s
FAKI Fak Fak 38.62 186 *e*P P 15 55 26.6 -0.5
comp=Z,17nm,0.6s
ZALV Zalesovo Beam 39.40 314 P P 15 55 33.4 +0.3
comp=Z,1.8nm,0.4s,baz=96,slow=7.4,SNR=16
ZALV PcP PcP 15 57 33.1 -0.2
comp=Z,2.0nm,0.6s,baz=116,slow=3.1,SNR=5.5
ZALV ScP ScP 16 00 47.5 -1.1
comp=Z,2.8nm,0.6s,baz=105,slow=3.5,SNR=12
NVS Novosibirsk 40.42 315 *e*P P 15 55 41.1 -0.2
NVS *e*S S 16 01 22.1 -1.2
NVS pmax pmax
comp=E,7.0nm,1.0s
NVS pmax pmax
comp=Z,10.0nm,1.0s
NVS pmax pmax
comp=N,2.0nm,0.6s
NVS smax smax
comp=E,12nm,2.0s
MKAR Makanchi Array 40.90 303 P P 15 55 45.8 +0.5
comp=E,6.9nm,0.5s,baz=84,slow=10.0,SNR=93
MKAR ScP ScP 16 00 54.2 -0.5
comp=E,1.7nm,0.6s,baz=86,slow=4.6,SNR=12
TAPN Taplejung 41.41 272 *e*P P 15 55 50.2 +0.2
comp=E,82nm,0.3s
KSM Kuching 41.47 220 *e*P P 15 55 50.2 -0.1
comp=E,12nm,0.6s
ODAN Odare 41.87 272 *e*P P 15 55 53.5 -0.2
comp=E,42nm,0.3s
STKI Sintang 42.08 218 P P 15 55 55.9 +0.8
comp=E,25nm,1.1s,comp=E,4μm
RAMN Ramite 42.47 272 *e*P P 15 55 58.4 -0.1
comp=E,74nm,0.4s
GUN Gumba 42.67 274 *e*P P 15 56 00.2 0.0
comp=E,60nm,0.4s
SURT Suratani 42.91 241 P P 15 56 02.1 +0.3
comp=E,26nm,0.8s,comp=E,245nm
TRTT Trang 43.06 239 P P 15 56 03.7 +0.7
comp=E,19nm,1.0s
KURK Kurchatov 43.10 309 P P 15 56 03.4 +0.6
KURK pmax pmax
comp=Z,2.0nm,0.4s
KURK Kurchatov 43.10 309 *e*P P 15 56 02.7 -0.1
comp=Z,8.5nm,0.7s
KURBB Kurchatov Arra 43.16 309 P P 15 56 03.4 +0.1
comp=Z,2.2nm,0.3s,baz=88,slow=8.6,SNR=28
PKI Pulchoki 43.18 274 *e*P P 15 56 03.9 -0.4
comp=Z,24nm,0.5s
PKIN Phulchoki 43.19 274 *e*P P 15 56 03.9 -0.4
comp=Z,13nm,0.3s
KKN Kakani 43.20 274 *e*P P 15 56 04.2 -0.1
comp=Z,18nm,0.3s
KAPI Kappang 43.24 204 *e*P P 15 56 03.6 -0.8
comp=Z,10nm,0.5s
DMN Daman 43.41 274 *e*P P 15 56 05.9 -0.1
comp=Z,20nm,0.5s
GKN Gorkha 43.64 275 *e*P P 15 56 07.6 -0.1
comp=Z,38nm,0.3s
BBKI Banjar Baru 43.65 211 P P 15 56 07.2 -0.4
comp=Z,133nm,1.0s
KOLN Koldanda 44.57 275 *e*P P 15 56 15.1 0.0
comp=Z,52nm,0.7s
MMRI Maumere 45.96 199 P P 15 56 24.6 -1.0
comp=Z,45nm,0.8s
MMRI Maumere 45.96 199 *e*P P 15 56 24.3 -1.3
comp=Z,38nm,0.8s
TKM2 Tokmak 2 46.16 298 P P 15 56 28.4 +1.2
SNR=8.8
TKM2 Tokmak 2 46.16 298 *e*P P 15 56 28.1 +0.9
TKM2 pmax pmax
comp=Z,6.0nm,0.6s
TKM2 Tokmak 2 46.16 298 *e*P P 15 56 28.1 +0.9
comp=Z,6.2nm,0.6s
SOEI Soe 46.55 196 P P 15 56 29.0 -1.3
comp=Z,66nm,0.8s
SOEI Soe 46.55 196 *e*P P 15 56 29.1 -1.3
comp=Z,41nm,0.8s
KZA Kyzart 46.60 297 P P 15 56 32.2 +1.4
SNR=6.7
KBK Karagaybulak 46.68 298 P P 15 56 32.5 +1.3
SNR=6.9
KSH Kashi 46.69 293 P P 15 56 35.1 +3.9
KSH pP pP 15 57 45.1 +4.4
KSH PcP PcP 15 58 00.6 +2.0
KSH PP PP 15 58 29.1 +4.2
KSH PcS PcS 16 01 55.1 +1.0
KSH S S 16 02 58.2 +3.9
KSH sS sS 16 05 04.1 +5.4
KSH PMZ
comp=Z,16nm,0.8s
KSH PMZ
comp=Z,90nm,3.1s
KSH LN
comp=Z,180nm,5.1s
KSH LE
comp=Z,160nm,4.9s
KSH LZ
comp=Z,280nm,6.1s
PPBI Pangkal Pinang 46.76 223 P P 15 56 32.2 +0.3
comp=Z,43nm,0.8s,comp=Z,3μm
USP Ospenovka 46.87 299 P P 15 56 33.1 +0.6
SNR=10.0
PSI Prapat 47.25 235 P P 15 56 35.2 -0.6
comp=Z,4.7nm,0.4s,baz=52,slow=4.7,SNR=8.0
WSI Waingapu 47.48 201 P P 15 56 36.4 -0.9
comp=Z,227nm,0.4s
AML Almayashu 47.71 297 P P 15 56 40.6 +1.3
SNR=22
BVAR Borovoye Array 48.01 312 P P 15 56 41.6 +0.7
comp=Z,1.3nm,0.4s,baz=108,slow=8.4,SNR=12
BRVK Borovoye 48.07 312 *e*P P 15 56 42.2 +0.8
BRVK pmax pmax
comp=Z,3.0nm,1.1s
CHLP Challavanipeta 48.51 263 *e*P P 15 56 45.1 -0.1
CHLP IAmb IAmb 15 56 46.3
comp=Z,21nm,1.1s
PWJI Pagerwojo 49.03 212 P P 15 56 47.1 -1.9
GSI Gumungsitoli 49.25 235 *e*P P 15 56 50.2 -0.6
comp=Z,39nm,0.5s
KKAR Karatay Array 49.74 299 *e*P P 15 56 54.5 +0.3
KKAR pmax pmax
comp=Z,5.0nm,0.4s
KKAR Karatay Array 49.74 299 *e*P P 15 56 54.5 +0.3
comp=Z,5.3nm,0.4s
LEM Lembang 49.93 218 P P 15 56 55.9 -0.1
comp=Z,58nm,0.7s,baz=4.8,slow=8.9,SNR=20
RSO Redoubt South 50.72 37 *e*P P 15 57 02.4 +1.0
comp=Z,38nm,0.6s
PPLA Purkeypile 50.82 34 *e*P P 15 57 03.6 +1.6
comp=Z,13nm,0.8s
KDAK Kodiak Island 51.09 41 *i*P P 15 57 04.3 +0.5
KDAK Kodiak Island 51.09 41 *e*P P 15 57 04.0 +0.2
PVM Polavaram 51.14 264 *e*P P 15 57 04.7 -0.1
PVM IAmb IAmb 15 57 05.6
comp=Z,15nm,0.7s
BPAW Bear Paw Mtn. 51.29 33 *e*P P 15 57 06.6 +1.3
comp=Z,1.8nm,0.6s
COLD Coldfoot 51.48 29 *e*P P 15 57 07.8 +1.2
comp=Z,9.9nm,0.9s
RPR Rampur 52.19 267 *e*P P 15 57 12.2 -0.3
RPR IAmb IAmb 15 57 12.7
comp=Z,31nm,0.5s
MCK McKinley 52.22 33 *e*P P 15 57 12.8 +0.7
MCK pmax pmax
comp=Z,15nm,0.6s
MCK McKinley 52.22 33 *e*P P 15 57 12.8 +0.7
comp=Z,15nm,0.6s
COLA College 52.58 32 *c i*P P 15 57 15.6 +1.0
COLA pmax pmax
comp=Z,94nm,1.2s
COLA College 52.58 32 *e*P P 15 57 15.6 +1.0
comp=Z,19nm,0.6s
SML Sawmill 52.71 35 *e*P P 15 57 16.4 +0.7
SML pmax pmax
comp=Z,5.0nm,0.8s
SML Sawmill 52.71 35 *e*P P 15 57 16.4 +0.7
comp=Z,5.1nm,0.8s
SRSP Sriramsagar 52.92 267 *e*P P 15 57 16.8 -1.1
SRSP IAmb IAmb 15 57 18.2
comp=Z,54nm,1.3s
ILAR Eielson Array 53.00 32 P P 15 57 17.9 +0.2
comp=Z,11nm,0.8s,baz=262,slow=5.9,SNR=160
ILAR Eielson Array 53.00 32 P P 15 57 18.0 +0.2
ADKI Addanki 53.23 263 *e*P P 15 57 16.4 -3.7
ADKI IAmb IAmb 15 57 18.9
comp=Z,26nm,1.4s
NJS Nagarjunasagar 53.38 264 *e*P P 15 57 21.0 -0.2
NJS IAmb IAmb 15 57 21.6
comp=Z,23nm,1.1s
HYB Hyderabad 53.54 266 *i*P P 15 57 21.0 -1.3
HYBB Hyderabad (bro 53.54 266 *e*P P 15 57 21.9 -0.4
HYBB IAmb IAmb 15 57 22.6
comp=Z,25nm,0.9s
ARU Arti 54.23 318 *d i*P P 15 57 27.9 +1.2
ARU *PP pP 15 58 39.6 +1.0
ARU 15 59 21.2
ARU S S 16 04 39.9 +3.3
ARU SS SS 16 08 25.2 +1.7
ARU pmax pmax

comp=Z,9.0nm,1.0s
ARU Arti 54.23 318 *e*P P 15 57 26.6 -0.1
comp=Z,6.0nm,0.6s
RCLA Racherla 54.26 263 *e*P P
RCLA IAmb IAmb 15 57 32.2
comp=Z,107nm,2.1s
SKHT Srikalahasti 54.59 261 *e*P P 15 57 30.0 +0.2
SKHT IAmb IAmb 15 57 30.6
comp=Z,17nm,0.8s
BMRM Bremner River 54.62 36 *e*P P 15 57 30.5 +1.1
comp=Z,25nm,0.8s
KLRI Killari 54.78 268 *e*P P 15 57 30.3 -0.9
KLRI IAmb IAmb 15 57 30.9
comp=Z,50nm,0.5s
ABKAR Akbulak array 55.20 309 *e*P P 15 57 32.8 -0.9
comp=Z,4.6nm,0.4s
WRAB Tennant Creek 55.41 182 *ce*P P 15 57 34.8 -0.7
WRAB pmax pmax
comp=Z,38nm,1.2s
WRAB Tennant Creek 55.41 182 *e*P P 15 57 34.8 -0.7
comp=Z,21nm,0.6s
WRA Warramunga Arr 55.42 182 P P 15 57 34.9 -0.7
comp=Z,16nm,0.4s,baz=356,slow=7.7,SNR=196
WRA PcP **PcP** 15 58 31.8 +0.6
comp=Z,4.2nm,0.8s,baz=352,slow=4.0,SNR=5.6
WRA ScP **ScP** 16 01 56.5 +0.1
comp=Z,0.7nm,0.8s,baz=0.2,slow=5.5,SNR=3.1
WRA Warramunga Arr 55.42 182 *i*P P 15 57 34.9 -0.7
WRA pmax pmax
comp=Z,19nm,0.4s
EGAK Eagle 55.43 31 *e*P P 15 57 35.4 +0.4
comp=Z,8.0nm,0.6s
URV Uravakonda 55.90 264 *e*P P 15 57 38.8 -0.4
URV IAmb IAmb 15 57 39.4
comp=Z,12nm,0.8s
DAWY Dawson 56.33 32 *e*P P 15 57 42.3 +0.8
INK Inuvik 57.58 26 P P 15 57 50.8 +0.8
comp=Z,15nm,0.4s,baz=296,slow=7.2,SNR=22
INK Inuvik 57.58 26 *e*P P 15 57 50.8 +0.8
INK pmax pmax
comp=Z,7.0nm,0.4s
INK Inuvik 57.58 26 *e*P P 15 57 50.8 +0.8
comp=Z,7.1nm,0.4s
HYT Haines Junctio 58.02 35 *e*P P 15 57 55.5 +2.1
ASAR Alice Springs 59.14 182 P P 15 58 00.9 -0.4
comp=Z,6.3nm,0.3s,baz=357,slow=5.1,SNR=478
PRGR Permogore 59.28 326 P P 15 58 01.0 -0.7
PRGR pmax pmax
comp=Z,6.0nm,0.7s
GEYT Alibeck 60.36 297 P P 15 58 09.1 -0.4
comp=Z,3.0nm,0.6s,baz=338,slow=3.2,SNR=5.0
DLBC Dease Lake 62.41 36 *e*P P 15 58 24.6 +1.8
KEV Kevo 62.94 338 *e*P P 15 58 26.2 +0.2
KEV pmax pmax
comp=Z,4.0nm,0.8s
KEV Kevo 62.94 338 *e*P P 15 58 26.1 +0.2
comp=Z,4.4nm,0.8s
ARCES ARCESS Array B 63.51 338 P P 15 58 29.8 +0.1
comp=Z,5.5nm,0.6s,baz=64,slow=8.9,SNR=42
RES Resolute Bay 64.92 13 *e*P P 15 58 38.8 +0.2
RES pmax pmax
comp=Z,22nm,0.7s
RES Resolute Bay 64.92 13 *e*P P 15 58 38.8 +0.2
comp=Z,22nm,0.7s
OBN Obninsk 66.28 322 *e*P P 15 58 46.8 -0.8
OBN *e* 16 01 17.7
OBN pmax pmax
comp=Z,4.0nm,1.0s
DAG Danmarks Havn 66.58 354⇑ *i*P P 15 58 49.1 0.0
comp=Z,12nm,0.8s
DAG Danmarks Havn 66.58 354⇑ *i*P P 15 58 49.1 0.0
DAG pmax pmax
comp=Z,9.0nm,0.8s
FORT Forrest 66.59 187 *e*P P 15 58 49.3 -0.4
comp=Z,14nm,0.7s
YKA Yellowknife Ar 67.16 28 P P 15 58 53.4 +0.4
comp=Z,2.9nm,0.5s,baz=297,slow=6.3,SNR=15
STKA Stephens Creek 67.52 175 P P 15 58 55.7 +0.2
comp=Z,7.0nm,0.6s,baz=342,slow=6.0,SNR=32
FINES FINESS Array B 67.72 331 P P 15 58 56.2 -0.2
comp=Z,4.4nm,0.4s,baz=71,slow=5.7,SNR=58
FINES FINESS Array B 67.72 331 *i*P P 15 58 56.2 -0.2
FINES pmax pmax
comp=Z,4.0nm,0.4s
KBZ Khabaz 68.16 309 P P 15 58 59.6 +0.2
comp=Z,2.7nm,1.1s,baz=87,slow=4.6,SNR=3.9
KIV Kislovodsk 68.18 309 *e*P P 15 59 00.4 +0.6
KIV pmax pmax
comp=Z,7.0nm,1.0s
NWAO Narrogin (SRO) 70.50 196 P P 15 59 12.9 -0.8
comp=Z,26nm,0.7s
NLWA Neilton Lookou 70.92 45 *e*P P 15 59 18.1 +1.9
HDW Hoodsport 71.24 44 P P 15 59 20.2 +2.0
SUMG Summit 71.87 358⇑ *i*P P 15 59 23.0 +1.2
comp=Z,14nm,0.7s
SUMG Summit 71.87 358⇑ *i*P P 15 59 23.0 +1.2
SUMG pmax pmax
comp=Z,14nm,0.7s
SUMG Summit 71.87 358 *e*P P 15 59 22.8 +0.9
comp=Z,16nm,0.8s
AKASG Malin Array Be 72.39 320 P P 15 59 24.3 -0.5
comp=Z,0.8nm,0.5s,baz=49,slow=6.2,SNR=4.8
TDL Tradedollar La 72.43 45 P P 15 59 26.9 +1.5
G03D McMinnville, O 72.44 47 P P 15 59 26.7 +1.5
baz=72
LVP Lakeview Peak 72.48 46 P P 15 59 27.2 +1.7
EDM Edmonton 73.13 36 *e*P P 15 59 29.9 +0.7
EDM Edmonton 73.13 36 *e*P P 15 59 29.9 +0.7
I03D Drain, OR 73.23 48 P P 15 59 31.8 +2.0
baz=73
VLL Laurance Lake 73.24 46 P P 15 59 31.8 +1.8
HFS Hagfors 73.25 334 P P 15 59 29.1 -0.6
comp=Z,4.8nm,0.5s,baz=64,slow=6.6
TRW Toppenish Ridg 73.43 45 P P 15 59 32.6 +1.6
NB2 NORSAR Subarra 73.48 335 P P 15 59 30.4 -0.6
comp=Z,4.2nm,0.6s,baz=43,slow=5.6
NOA NORSAR Array B 73.48 335 P P 15 59 30.7 -0.4
comp=Z,4.4nm,0.7s,baz=45,slow=5.7,SNR=16
G05D Wamic, OR 73.57 46 P P 15 59 32.6 +0.7
baz=74
I04A Tendick Farm, 73.74 48 P P 15 59 34.0 +1.2
baz=74
L02D Cave Junction, 73.92 49 P P 15 59 35.2 +1.3
baz=74
VTHM Trough 74.05 46 P P 15 59 36.3 +1.7
I05D Terrebonne, OR 74.07 47 P P 15 59 36.2 +1.5
baz=74
NEW Newport 74.19 42 P P 15 59 36.4 +1.0
comp=Z,2.5nm,0.7s
NEW Newport 74.19 42 P P 15 59 36.2 +0.9
baz=74
J04D Umpqua Nationa 74.23 48 P P 15 59 37.3 +1.4
baz=74
YBH Yreka Blue Hor 74.71 49 P P 15 59 39.0 +0.5
comp=Z,6.8nm,0.7s
YBH Yreka Blue Hor 74.71 49 P P 15 59 39.0 +0.5
J05D Fort Rock, OR 74.73 48 P P 15 59 39.9 +1.2
baz=75
K04D Chiloquin, OR 74.79 48 P P 15 59 40.6 +1.6
baz=75
M02C Callahan 74.82 50 P P 15 59 39.9 +0.8
baz=75
N02D Trinity Center 75.14 50 P P 15 59 42.5 +1.5
baz=75
M04C Macdoel 75.22 49 P P 15 59 43.6 +2.1
baz=75
BMO Blue Mountains 76.11 44 *e*P P 15 59 46.5 +0.2
comp=Z,8.4nm,1.2s
BRTR Keskin Array B 76.15 309 P P 15 59 46.6 -0.1
comp=Z,1.7nm,0.8s,baz=120,slow=3.9,SNR=8.1
BRTR Keskin Array B 76.15 309 *i*P P 15 59 47.4 +0.7
BRTR pmax pmax
comp=Z,2.0nm,0.8s
SWMT Swartz Lake 76.32 41 *e*P P 15 59 48.1 +0.6
comp=Z,2.6nm,0.6s
SLMT Seeley Lake 76.75 41 *e*P P 15 59 50.6 +0.7
comp=Z,21nm,0.6s
MSO Missoula 76.77 41 P P 15 59 50.4 +0.4
baz=77
WVOR Wild Horse Val 76.78 47 *e*P P 15 59 51.0 +0.8
WVOR pmax pmax
comp=Z,3.0nm,0.5s
WVOR Wild Horse Val 76.78 47 *e*P P 15 59 51.0 +0.8
comp=Z,2.5nm,0.5s
KOLS Kolonicke sedl 77.04 322 *e*P P 15 59 51.3 0.0
KOLS Kolonicke sedl 77.04 322 *e*P P 15 59 51.3 0.0
FFC Flin Flon 77.18 30 *e*P P 15 59 52.2 +0.2
FFC pmax pmax
comp=Z,10.0nm,0.8s
FFC Flin Flon 77.18 30 *e*P P 15 59 52.2 +0.2
comp=Z,1.3nm,0.4s,baz=30,slow=5.4,SNR=9.5
TUQ Turquoise Moun 82.73 51 P P 16 00 22.9 +0.9
baz=83,SNR=5.2
F25A Bowman 82.78 37 P P 16 00 22.6 +0.7
baz=83
HEC Hector,Ludlow 82.85 52 P P 16 00 23.3 +0.8
baz=83
D27A Center 82.86 35 P P 16 00 23.3 +1.1
baz=83
B29A Wagenman Farm, 82.86 33 P P 16 00 23.0 +0.7
baz=83
E26A Carlson Angus 82.87 36 P P 16 00 23.1 +0.7
baz=83
A30A Hoffart Farm, 82.97 33 P P 16 00 23.5 +0.7
baz=83
H24A Dirks Ranch, A 83.06 39 P P 16 00 23.8 +0.4
baz=83
MSU Marysvale 83.07 47 *e*P P 16 00 25.5 +1.7
MSU pmax pmax
comp=Z,3.0nm,0.7s
MSU Marysvale 83.07 47 *e*P P 16 00 25.4 +1.7
comp=Z,2.6nm,0.7s
D28A Regan 83.24 35 P P 16 00 24.9 +0.7
baz=83
GMRC Granite Mounta 83.31 52 P P 16 00 25.5 +0.6
baz=83
K22A Casper 83.50 41 P P 16 00 26.2 +0.4
baz=83
PFO Pinyon Flat Ob 83.53 53 P P 16 00 26.7 +0.6
baz=83
BELC Belle Mtn. Jos 83.58 53 P P 16 00 26.8 +0.5
baz=84
H25A Fruitdale 83.63 38 P P 16 00 26.4 +0.1
baz=84
C30A Mose, Pekin 83.82 33 P P 16 00 27.8 +0.7
baz=84
G27A Dupree 83.92 37 P P 16 00 28.3 +0.7
baz=84
I25A Rochford 83.99 39 P P 16 00 28.9 +0.6
baz=84
MONP Monument Peak 84.00 54 P P 16 00 29.2 +0.6
baz=84
IRM Iron Mountain 84.03 52 P P 16 00 29.1 +0.6
baz=84
D30A Buchanan 84.14 34 P P 16 00 29.3 +0.6
baz=84
BC3 Big Chuckawall 84.15 53 P P 16 00 29.4 +0.3
baz=84
O20A White River Ci 84.27 44 P P 16 00 30.4 +0.6
baz=84
H27A Howes 84.38 37 P P 16 00 30.4 +0.4
baz=84
E30A Jud 84.52 34 P P 16 00 31.2 +0.6
baz=84
G28A Parade 84.63 36 P P 16 00 32.1 +0.9
baz=84
I27A Quinn 84.80 38 P P 16 00 32.8 +0.6
baz=85
J26A Sides Ranch, S 84.83 39 P P 16 00 33.4 +1.1
baz=85
H28A Mission Ridge 84.87 37 P P 16 00 33.6 +1.2
baz=85
K25A Mack Ranch, Ha 84.92 40 P P 16 00 33.3 +0.4
baz=85
GLA Glamis 84.94 53 P P 16 00 33.7 +0.7
baz=85
F30A Leola 84.96 35 P P 16 00 33.6 +0.8
baz=85
N23A Red Feather La 85.02 42 P P 16 00 34.3 +0.7
baz=85
L25A Engebretsen Ra 85.20 40 P P 16 00 35.4 +1.2
baz=85
I28A Midland 85.29 37 P P 16 00 35.3 +0.8
baz=85
WUAZ Wupatki 85.52 49 P P 16 00 37.2 +1.3
baz=85
I29A Vivian Onida 85.70 37 P P 16 00 37.6 +1.1
baz=86
ISCO Idaho Springs 85.97 43 P P 16 00 38.9 +0.7
baz=86
MVCO Mesa Verde 86.11 46 P P 16 00 39.4 +0.5
baz=86
K28A Ten Mile Ranch 86.13 38 P P 16 00 39.3 +0.6
baz=86
J29A Okreek 86.14 37 P P 16 00 39.4 +0.8
baz=86
EYMN Ely 86.60 30 P P 16 00 41.5 +0.8
baz=86
J30A Dallas 86.61 37 P P 16 00 41.8 +0.9
baz=86
K29A Lazy Trails An 86.62 38 P P 16 00 42.1 +1.1
baz=86
S22A 4UR Ranch, Cre 86.71 45 P P 16 00 42.9 +1.1
baz=87
N27A Anderson Farm, 86.91 40 P P 16 00 43.5 +1.0
baz=87
L29A Maesberg Ranch 87.05 38 P P 16 00 43.8 +0.7
baz=87
OGNE Ogallala 87.07 40 P P 16 00 43.8 +0.5
baz=87
SDCO Great Sand Dun 87.47 44 P P 16 00 46.2 +0.8
baz=87
ECSD EROS Data Cent 87.68 35 P P 16 00 46.4 +0.5
baz=88
ECSD EROS Data Cent 87.68 35 *e*P P 16 00 46.2 +0.2
comp=Z,6.8nm,0.9s
SCHQ Schefferville 87.70 13 P P 16 00 46.1 +0.3
comp=Z,1.9nm,0.2s,baz=37,slow=20,SNR=3.3
L31A Butterfield Fa 87.79 37 P P 16 00 47.2 +0.7
baz=88
P27A Ficken Ranch, 87.79 41 P P 16 00 47.6 +0.9
baz=88
O28A Krutsinger Ran 87.80 40 P P 16 00 47.7 +1.0
baz=88
P28A Saint Francis 88.22 41 P P 16 00 49.3 +0.6
baz=88
R26A Arlington 88.22 43 P P 16 00 49.1 +0.4
baz=88
O29A 4D Ranch, Culb 88.31 40 P P 16 00 49.6 +0.6
baz=88
M31A Lambtecht Ranc 88.34 38 P P 16 00 49.7 +0.6
baz=88
T25A Trinidad 88.51 44 P P 16 00 50.4 +0.1
baz=88
Q28A Sharon Springs 88.55 41 P P 16 00 50.9 +0.6
baz=88
R27A Eads 88.58 42 P P 16 00 50.8 +0.4
baz=88
T26A Comanche Natio 88.94 43 P P 16 00 52.7 +0.5
baz=89
P30A Selden 89.03 40 P P 16 00 53.0 +0.6
baz=89
M33A Taylor Creek F 89.05 37 P P 16 00 53.0 +0.6
baz=89
R28A Tribune 89.08 42 P P 16 00 53.6 +0.9
baz=89
Q29A Oakley 89.12 41 P P 16 00 53.5 +0.7
baz=89
P31A Stockton 89.50 39 P P 16 00 55.1 +0.6
baz=89
S28A Manter 89.58 42 P P 16 00 55.4 +0.4
baz=89
121A Cookes Peak, D 89.72 49 P P 16 00 56.5 +0.6
baz=90
P32A Huiting Farm, 89.82 39 P P 16 00 56.2 +0.2
baz=90
U27A Thompson Grove 89.91 43 P P 16 00 57.0 +0.3
baz=90
R30A Dighton 89.94 41 P P 16 00 57.1 +0.4
baz=90
N34A Lincoln 89.95 37 P P 16 00 56.8 +0.2
baz=90
S29A Ulysses 89.98 42 P P 16 00 57.2 +0.3
baz=90
Q32A Meitler Ranch, 90.31 39 P P 16 00 58.4 +0.1
baz=90
S30A Montezuma 90.32 41 P P 16 00 59.2 +0.8
baz=90
N35A Tabor 90.34 36 P P 16 00 59.3 +0.8
baz=90
O34A Beatrice 90.35 37 P P 16 00 58.8 +0.3
baz=90
P33A Williams Farm, 90.42 38 P P 16 00 59.1 +0.3
baz=90
Q33A Connelly Farm, 90.68 39 P P 16 01 00.7 +0.7
baz=90
RCLA Racherla 54.26 263 *e*P P
RCLA IAmb IAmb 15 57 32.2
comp=Z,107nm,2.1s
SKHT Srikalahasti 54.59 261 *e*P P 15 57 30.0 +0.2
SKHT IAmb IAmb 15 57 30.6
comp=Z,17nm,0.8s
BMRM Bremner River 54.62 36 *e*P P 15 57 30.5 +1.1
comp=Z,25nm,0.8s
KLRI Killari 54.78 268 *e*P P 15 57 30.3 -0.9
KLRI IAmb IAmb 15 57 30.9
comp=Z,50nm,0.5s
ABKAR Akbulak array 55.20 309 *e*P P 15 57 32.8 -0.9
comp=Z,4.6nm,0.4s
WRAB Tennant Creek 55.41 182 *ce*P P 15 57 34.8 -0.7
WRAB pmax pmax
comp=Z,38nm,1.2s
WRAB Tennant Creek 55.41 182 *e*P P 15 57 34.8 -0.7
comp=Z,21nm,0.6s
WRA Warramunga Arr 55.42 182 P P 15 57 34.9 -0.7
comp=Z,16nm,0.4s,baz=356,slow=7.7,SNR=196
WRA PcP **PcP** 15 58 31.8 +0.6
comp=Z,4.2nm,0.8s,baz=352,slow=4.0,SNR=5.6
WRA ScP **ScP** 16 01 56.5 +0.1
comp=Z,0.7nm,0.8s,baz=0.2,slow=5.5,SNR=3.1
WRA Warramunga Arr 55.42 182 *i*P P 15 57 34.9 -0.7
WRA pmax pmax
comp=Z,19nm,0.4s
EGAK Eagle 55.43 31 *e*P P 15 57 35.4 +0.4
comp=Z,8.0nm,0.6s
URV Uravakonda 55.90 264 *e*P P 15 57 38.8 -0.4
URV IAmb IAmb 15 57 39.4
comp=Z,12nm,0.8s
DAWY Dawson 56.33 32 *e*P P 15 57 42.3 +0.8
INK Inuvik 57.58 26 P P 15 57 50.8 +0.8
comp=Z,15nm,0.4s,baz=296,slow=7.2,SNR=22
INK Inuvik 57.58 26 *e*P P 15 57 50.8 +0.8
INK pmax pmax
comp=Z,7.0nm,0.4s
INK Inuvik 57.58 26 *e*P P 15 57 50.8 +0.8
comp=Z,7.1nm,0.4s
HYT Haines Junctio 58.02 35 *e*P P 15 57 55.5 +2.1
ASAR Alice Springs 59.14 182 P P 15 58 00.9 -0.4
comp=Z,6.3nm,0.3s,baz=357,slow=5.1,SNR=478
PRGR Permogore 59.28 326 P P 15 58 01.0 -0.7
PRGR pmax pmax
comp=Z,6.0nm,0.7s
GEYT Alibeck 60.36 297 P P 15 58 09.1 -0.4
comp=Z,3.0nm,0.6s,baz=338,slow=3.2,SNR=5.0
DLBC Dease Lake 62.41 36 *e*P P 15 58 24.6 +1.8
KEV Kevo 62.94 338 *e*P P 15 58 26.2 +0.2
KEV pmax pmax
comp=Z,4.0nm,0.8s
KEV Kevo 62.94 338 *e*P P 15 58 26.1 +0.2
comp=Z,4.4nm,0.8s
ARCES ARCESS Array B 63.51 338 P P 15 58 29.8 +0.1
comp=Z,5.5nm,0.6s,baz=64,slow=8.9,SNR=42
RES Resolute Bay 64.92 13 *e*P P 15 58 38.8 +0.2
RES pmax pmax
comp=Z,22nm,0.7s
RES Resolute Bay 64.92 13 *e*P P 15 58 38.8 +0.2
comp=Z,22nm,0.7s
OBN Obninsk 66.28 322 *e*P P 15 58 46.8 -0.8
OBN *e* 16 01 17.7
OBN pmax pmax
comp=Z,4.0nm,1.0s
DAG Danmarks Havn 66.58 354⇑ *i*P P 15 58 49.1 0.0
comp=Z,12nm,0.8s
DAG Danmarks Havn 66.58 354⇑ *i*P P 15 58 49.1 0.0
DAG pmax pmax
comp=Z,9.0nm,0.8s
FORT Forrest 66.59 187 *e*P P 15 58 49.3 -0.4
comp=Z,14nm,0.7s
YKA Yellowknife Ar 67.16 28 P P 15 58 53.4 +0.4
comp=Z,2.9nm,0.5s,baz=297,slow=6.3,SNR=15
STKA Stephens Creek 67.52 175 P P 15 58 55.7 +0.2
comp=Z,7.0nm,0.6s,baz=342,slow=6.0,SNR=32
FINES FINESS Array B 67.72 331 P P 15 58 56.2 -0.2
comp=Z,4.4nm,0.4s,baz=71,slow=5.7,SNR=58
FINES FINESS Array B 67.72 331 *i*P P 15 58 56.2 -0.2
FINES pmax pmax
comp=Z,4.0nm,0.4s
KBZ Khabaz 68.16 309 P P 15 58 59.6 +0.2
comp=Z,2.7nm,1.1s,baz=87,slow=4.6,SNR=3.9
KIV Kislovodsk 68.18 309 *e*P P 15 59 00.4 +0.6
KIV pmax pmax
comp=Z,7.0nm,1.0s
NWAO Narrogin (SRO) 70.50 196 P P 15 59 12.9 -0.8
comp=Z,26nm,0.7s
NLWA Neilton Lookou 70.92 45 *e*P P 15 59 18.1 +1.9
HDW Hoodsport 71.24 44 P P 15 59 20.2 +2.0
SUMG Summit 71.87 358⇑ *i*P P 15 59 23.0 +1.2
comp=Z,14nm,0.7s
SUMG Summit 71.87 358⇑ *i*P P 15 59 23.0 +1.2
SUMG pmax pmax
comp=Z,14nm,0.7s
SUMG Summit 71.87 358 *e*P P 15 59 22.8 +0.9
comp=Z,16nm,0.8s
AKASG Malin Array Be 72.39 320 P P 15 59 24.3 -0.5
comp=Z,0.8nm,0.5s,baz=49,slow=6.2,SNR=4.8
TDL Tradedollar La 72.43 45 P P 15 59 26.9 +1.5
G03D McMinnville, O 72.44 47 P P 15 59 26.7 +1.5
baz=72
LVP Lakeview Peak 72.48 46 P P 15 59 27.2 +1.7
EDM Edmonton 73.13 36 *e*P P 15 59 29.9 +0.7
EDM Edmonton 73.13 36 *e*P P 15 59 29.9 +0.7
I03D Drain, OR 73.23 48 P P 15 59 31.8 +2.0
baz=73
VLL Laurance Lake 73.24 46 P P 15 59 31.8 +1.8
HFS Hagfors 73.25 334 P P 15 59 29.1 -0.6
comp=Z,4.8nm,0.5s,baz=64,slow=6.6
TRW Toppenish Ridg 73.43 45 P P 15 59 32.6 +1.6
NB2 NORSAR Subarra 73.48 335 P P 15 59 30.4 -0.6
comp=Z,4.2nm,0.6s,baz=43,slow=5.6
NOA NORSAR Array B 73.48 335 P P 15 59 30.7 -0.4
comp=Z,4.4nm,0.7s,baz=45,slow=5.7,SNR=16
G05D Wamic, OR 73.57 46 P P 15 59 32.6 +0.7
baz=74
I04A Tendick Farm, 73.74 48 P P 15 59 34.0 +1.2
baz=74
L02D Cave Junction, 73.92 49 P P 15 59 35.2 +1.3
baz=74
VTHM Trough 74.05 46 P P 15 59 36.3 +1.7
I05D Terrebonne, OR 74.07 47 P P 15 59 36.2 +1.5
baz=74
NEW Newport 74.19 42 P P 15 59 36.4 +1.0
comp=Z,2.5nm,0.7s
NEW Newport 74.19 42 P P 15 59 36.2 +0.9
baz=74
J04D Umpqua Nationa 74.23 48 P P 15 59 37.3 +1.4
baz=74
YBH Yreka Blue Hor 74.71 49 P P 15 59 39.0 +0.5
comp=Z,6.8nm,0.7s
YBH Yreka Blue Hor 74.71 49 P P 15 59 39.0 +0.5
J05D Fort Rock, OR 74.73 48 P P 15 59 39.9 +1.2
baz=75
K04D Chiloquin, OR 74.79 48 P P 15 59 40.6 +1.6
baz=75
M02C Callahan 74.82 50 P P 15 59 39.9 +0.8
baz=75
N02D Trinity Center 75.14 50 P P 15 59 42.5 +1.5
baz=75
M04C Macdoel 75.22 49 P P 15 59 43.6 +2.1
baz=75
BMO Blue Mountains 76.11 44 *e*P P 15 59 46.5 +0.2
comp=Z,8.4nm,1.2s
BRTR Keskin Array B 76.15 309 P P 15 59 46.6 -0.1
comp=Z,1.7nm,0.8s,baz=120,slow=3.9,SNR=8.1
BRTR Keskin Array B 76.15 309 *i*P P 15 59 47.4 +0.7
BRTR pmax pmax
comp=Z,2.0nm,0.8s
SWMT Swartz Lake 76.32 41 *e*P P 15 59 48.1 +0.6
comp=Z,2.6nm,0.6s
SLMT Seeley Lake 76.75 41 *e*P P 15 59 50.6 +0.7
comp=Z,21nm,0.6s
MSO Missoula 76.77 41 P P 15 59 50.4 +0.4
baz=77
WVOR Wild Horse Val 76.78 47 *e*P P 15 59 51.0 +0.8
WVOR pmax pmax
comp=Z,3.0nm,0.5s
WVOR Wild Horse Val 76.78 47 *e*P P 15 59 51.0 +0.8
comp=Z,2.5nm,0.5s
KOLS Kolonicke sedl 77.04 322 *e*P P 15 59 51.3 0.0
KOLS Kolonicke sedl 77.04 322 *e*P P 15 59 51.3 0.0
FFC Flin Flon 77.18 30 *e*P P 15 59 52.2 +0.2
FFC pmax pmax
comp=Z,10.0nm,0.8s
FFC Flin Flon 77.18 30 *e*P P 15 59 52.2 +0.2
comp=Z,1.3nm,0.4s,baz=30,slow=5.4,SNR=9.5
TUQ Turquoise Moun 82.73 51 P P 16 00 22.9 +0.9
baz=83,SNR=5.2
F25A Bowman 82.78 37 P P 16 00 22.6 +0.7
baz=83
HEC Hector,Ludlow 82.85 52 P P 16 00 23.3 +0.8
baz=83
D27A Center 82.86 35 P P 16 00 23.3 +1.1
baz=83
B29A Wagenman Farm, 82.86 33 P P 16 00 23.0 +0.7
baz=83
E26A Carlson Angus 82.87 36 P P 16 00 23.1 +0.7
baz=83
A30A Hoffart Farm, 82.97 33 P P 16 00 23.5 +0.7
baz=83
H24A Dirks Ranch, A 83.06 39 P P 16 00 23.8 +0.4
baz=83
MSU Marysvale 83.07 47 *e*P P 16 00 25.5 +1.7
MSU pmax pmax
comp=Z,3.0nm,0.7s
MSU Marysvale 83.07 47 *e*P P 16 00 25.4 +1.7
comp=Z,2.6nm,0.7s
D28A Regan 83.24 35 P P 16 00 24.9 +0.7
baz=83
GMRC Granite Mounta 83.31 52 P P 16 00 25.5 +0.6
baz=83
K22A Casper 83.50 41 P P 16 00 26.2 +0.4
baz=83
PFO Pinyon Flat Ob 83.53 53 P P 16 00 26.7 +0.6
baz=83
BELC Belle Mtn. Jos 83.58 53 P P 16 00 26.8 +0.5
baz=84
H25A Fruitdale 83.63 38 P P 16 00 26.4 +0.1
baz=84
C30A Mose, Pekin 83.82 33 P P 16 00 27.8 +0.7
baz=84
G27A Dupree 83.92 37 P P 16 00 28.3 +0.7
baz=84
I25A Rochford 83.99 39 P P 16 00 28.9 +0.6
baz=84
MONP Monument Peak 84.00 54 P P 16 00 29.2 +0.6
baz=84
IRM Iron Mountain 84.03 52 P P 16 00 29.1 +0.6
baz=84
D30A Buchanan 84.14 34 P P 16 00 29.3 +0.6
baz=84
BC3 Big Chuckawall 84.15 53 P P 16 00 29.4 +0.3
baz=84
O20A White River Ci 84.27 44 P P 16 00 30.4 +0.6
baz=84
H27A Howes 84.38 37 P P 16 00 30.4 +0.4
baz=84
E30A Jud 84.52 34 P P 16 00 31.2 +0.6
baz=84
G28A Parade 84.63 36 P P 16 00 32.1 +0.9
baz=84
I27A Quinn 84.80 38 P P 16 00 32.8 +0.6
baz=85
J26A Sides Ranch, S 84.83 39 P P 16 00 33.4 +1.1
baz=85
H28A Mission Ridge 84.87 37 P P 16 00 33.6 +1.2
baz=85
K25A Mack Ranch, Ha 84.92 40 P P 16 00 33.3 +0.4
baz=85
GLA Glamis 84.94 53 P P 16 00 33.7 +0.7
baz=85
F30A Leola 84.96 35 P P 16 00 33.6 +0.8
baz=85
N23A Red Feather La 85.02 42 P P 16 00 34.3 +0.7
baz=85
L25A Engebretsen Ra 85.20 40 P P 16 00 35.4 +1.2
baz=85
I28A Midland 85.29 37 P P 16 00 35.3 +0.8
baz=85
WUAZ Wupatki 85.52 49 P P 16 00 37.2 +1.3
baz=85
I29A Vivian Onida 85.70 37 P P 16 00 37.6 +1.1
baz=86
ISCO Idaho Springs 85.97 43 P P 16 00 38.9 +0.7
baz=86
MVCO Mesa Verde 86.11 46 P P 16 00 39.4 +0.5
baz=86
K28A Ten Mile Ranch 86.13 38 P P 16 00 39.3 +0.6
baz=86
J29A Okreek 86.14 37 P P 16 00 39.4 +0.8
baz=86
EYMN Ely 86.60 30 P P 16 00 41.5 +0.8
baz=86
J30A Dallas 86.61 37 P P 16 00 41.8 +0.9
baz=86
K29A Lazy Trails An 86.62 38 P P 16 00 42.1 +1.1
baz=86
S22A 4UR Ranch, Cre 86.71 45 P P 16 00 42.9 +1.1
baz=87
N27A Anderson Farm, 86.91 40 P P 16 00 43.5 +1.0
baz=87
L29A Maesberg Ranch 87.05 38 P P 16 00 43.8 +0.7
baz=87
OGNE Ogallala 87.07 40 P P 16 00 43.8 +0.5
baz=87
SDCO Great Sand Dun 87.47 44 P P 16 00 46.2 +0.8
baz=87
ECSD EROS Data Cent 87.68 35 P P 16 00 46.4 +0.5
baz=88
ECSD EROS Data Cent 87.68 35 *e*P P 16 00 46.2 +0.2
comp=Z,6.8nm,0.9s
SCHQ Schefferville 87.70 13 P P 16 00 46.1 +0.3
comp=Z,1.9nm,0.2s,baz=37,slow=20,SNR=3.3
L31A Butterfield Fa 87.79 37 P P 16 00 47.2 +0.7
baz=88
P27A Ficken Ranch, 87.79 41 P P 16 00 47.6 +0.9
baz=88
O28A Krutsinger Ran 87.80 40 P P 16 00 47.7 +1.0
baz=88
P28A Saint Francis 88.22 41 P P 16 00 49.3 +0.6
baz=88
R26A Arlington 88.22 43 P P 16 00 49.1 +0.4
baz=88
O29A 4D Ranch, Culb 88.31 40 P P 16 00 49.6 +0.6
baz=88
M31A Lambtecht Ranc 88.34 38 P P 16 00 49.7 +0.6
baz=88
T25A Trinidad 88.51 44 P P 16 00 50.4 +0.1
baz=88
Q28A Sharon Springs 88.55 41 P P 16 00 50.9 +0.6
baz=88
R27A Eads 88.58 42 P P 16 00 50.8 +0.4
baz=88
T26A Comanche Natio 88.94 43 P P 16 00 52.7 +0.5
baz=89
P30A Selden 89.03 40 P P 16 00 53.0 +0.6
baz=89
M33A Taylor Creek F 89.05 37 P P 16 00 53.0 +0.6
baz=89
R28A Tribune 89.08 42 P P 16 00 53.6 +0.9
baz=89
Q29A Oakley 89.12 41 P P 16 00 53.5 +0.7
baz=89
P31A Stockton 89.50 39 P P 16 00 55.1 +0.6
baz=89
S28A Manter 89.58 42 P P 16 00 55.4 +0.4
baz=89
121A Cookes Peak, D 89.72 49 P P 16 00 56.5 +0.6
baz=90
P32A Huiting Farm, 89.82 39 P P 16 00 56.2 +0.2
baz=90
U27A Thompson Grove 89.91 43 P P 16 00 57.0 +0.3
baz=90
R30A Dighton 89.94 41 P P 16 00 57.1 +0.4
baz=90
N34A Lincoln 89.95 37 P P 16 00 56.8 +0.2
baz=90
S29A Ulysses 89.98 42 P P 16 00 57.2 +0.3
baz=90
Q32A Meitler Ranch, 90.31 39 P P 16 00 58.4 +0.1
baz=90
S30A Montezuma 90.32 41 P P 16 00 59.2 +0.8
baz=90
N35A Tabor 90.34 36 P P 16 00 59.3 +0.8
baz=90
O34A Beatrice 90.35 37 P P 16 00 58.8 +0.3
baz=90
P33A Williams Farm, 90.42 38 P P 16 00 59.1 +0.3
baz=90
Q33A Connelly Farm, 90.68 39 P P 16 01 00.7 +0.7
baz=90
F26A Bowman 82.78 37 P P
baz=83
HEC Hector,Ludlow 82.85 52 P P
baz=83
D27A Center 82.86 35 P P
baz=83
B29A Wagenman Farm, 82.86 33 P P
baz=83
E26A Carlson Angus 82.87 36 P P
baz=83
A30A Hoffart Farm, 82.97 33 P P
baz=83
H24A Dirks Ranch, A 83.06 39 P P
baz=83
MSU Marysvale 83.07 47 *e*P P
MSU pmax pmax
comp=Z,3.0nm,0.7s
MSU Marysvale 83.07 47 *e*P P
comp=Z,2.6nm,0.7s
D28A Regan 83.24 35 P P
baz=83
GMRC Granite Mounta 83.31 52 P P
baz=83
K22A Casper 83.50 41 P P
baz=83
PFO Pinyon Flat Ob 83.53 53 P P
baz=83
BELC Belle Mtn. Jos 83.58 53 P P
baz=84
H25A Fruitdale 83.63 38 P P
baz=84
C30A Mose, Pekin 83.82 33 P P
baz=84
G27A Dupree 83.92 37 P P
baz=84
I25A Rochford 83.99 39 P P
baz=84
MONP Monument Peak 84.00 54 P P
baz=84
IRM Iron Mountain 84.03 52 P P
baz=84
D30A Buchanan 84.14 34 P P
baz=84
BC3 Big Chuckawall 84.15 53 P P
baz=84
O20A White River Ci 84.27 44 P P
baz=84
H27A Howes 84.38 37 P P
baz=84
E30A Jud 84.52 34 P P
ba

P34A	**Walnut Farm, R**	**90.77**	**38**	P		**P**	**16 01 00.9**	**+0.4**
	baz=91							
P36A	**Good Intent, A**	**91.52**	**37**	P		**P**	**16 01 04.3**	**+0.4**
	baz=91							
Q35A	**Mercer Eighty,**	**91.69**	**38**	P		**P**	**16 01 05.6**	**+0.9**
	baz=92							
X29A	**Tulia**	**91.97**	**44**	P		**P**	**16 01 07.4**	**+1.2**
	baz=92							
S34A	**Willow Spring**	**92.03**	**39**	P		**P**	**16 01 06.8**	**+0.5**
	baz=92							
R36A	**Gordon, Harris**	**92.37**	**38**	P		**P**	**16 01 08.0**	**+0.2**
	baz=92							
T34A	**McClaskey Farm**	**92.51**	**40**	P		**P**	**16 01 08.8**	**+0.3**
	baz=92							
S36A	**Lake Cedric, C**	**92.79**	**38**	P		**P**	**16 01 10.3**	**+0.5**
	baz=93							
Z29A	**Hungry Hill Ra**	**92.83**	**45**	P		**P**	**16 01 11.0**	**+0.8**
	baz=93							
T35A	**Sooner Cattle**	**92.94**	**39**	P		**P**	**16 01 11.1**	**+0.6**
	baz=93							
Z30A	**Sanderson Ranc**	**93.14**	**45**	P		**P**	**16 01 11.9**	**+0.4**
	baz=93							
S37A	**Fort Scott**	**93.14**	**38**	P		**P**	**16 01 11.8**	**+0.4**
	baz=93							
T36A	**Boggs Farm, Ca**	**93.15**	**39**	P		**P**	**16 01 12.1**	**+0.7**
	baz=93							
X32A	**Elmer**	**93.34**	**43**	P		**P**	**16 01 12.7**	**+0.3**
	baz=93							
Y32A	**R-V Farms, Ver**	**93.56**	**43**	P		**P**	**16 01 14.1**	**+0.6**
	baz=93							
T37A	**Cheneyville 18**	**93.59**	**38**	P		**P**	**16 01 13.8**	**+0.4**
	baz=93							
Z32A	**Haskell**	**94.06**	**44**	P		**P**	**16 01 16.3**	**+0.6**
	baz=94							
W35A	**Tecumseh**	**94.09**	**41**	P		**P**	**16 01 16.3**	**+0.5**
	baz=94							
V37A	**Hulbert**	**94.44**	**39**	P		**P**	**16 01 17.6**	**+0.2**
	baz=94							
TXAR	**Lajitas Array**	**94.48**	**49**	P		**P**	**16 01 18.7**	**+0.9**
	comp=Z,0.9nm,0.4s,baz=286,slow=3.3,SNR=17							
332A	**Millersview**	**95.33**	**45**	P		**P**	**16 01 21.6**	**+0.1**
	baz=95							
ESDC	**Sonseca Array**	**96.22**	**330**	P		**P**	**16 01 25.2**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=330,slow=7.8,SNR=5.8							
TORD	**Torodi Ar. Bea**	**114.76**	**310**	PKP	PKPdf		16 06 34.9	-1.4
	comp=Z,0.2nm,0.4s,baz=72,slow=1.2,SNR=5.2							
BOSA	**Boshof**	**121.80**	**256**	PKP		**PKPdf**	**16 06 48.8**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=27,slow=2.3,SNR=2.6							
QSPA	**South Pole Qui**	**125.52**	**180**	PKP		**PKPdf**	**16 06 55.4**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=152,slow=0.4,SNR=13							
NVL	**N'lazarevskaya**	**134.37**	**203**	*e*PKHKP	PKPpre		16 06 58.0	
NVL				pmax	pmax			
	comp=Z,3.0nm,0.5s							
SAML	**Samuel**	**148.23**	**37**	*e*PKPbc		**PKPbc**	**16 07 41.8**	**-0.2**
LPAZ	**La Paz**	**151.24**	**54**	PKPbc		**PKPbc**	**16 07 50.5**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=301,slow=2.0,SNR=5.4							

NNC 05 15:49:53.8±6.8, 38.26N×71.25E, h0km, mb3.6, mpv3.2, 4C-2D, Error ellipse: s-maj=79.6km s-min=20.7km az=164.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**1.98**	**287**	⇑Pn	Pn	15 50 28.0	-0.6
	11nm,0.4s						
DZET				⇓Sn	Sb	15 50 56.3	+0.2
	28nm,0.4s						
SFK	**Sufi-Kurgan**	**2.48**	**44**	⇑Pn	Pn	15 50 32.9	-2.9
	8.1nm,0.4s						
SFK				⇑Sn	Sb	15 51 10.3	-0.5
	10nm,0.4s						
KK31	**Karatay Array**	**4.87**	**354**	⇓Pn	Pn	15 51 05.0	-3.4
	0.5nm,0.3s,baz=176,slow=14,SNR=11						
KK31				⇑Sn	Sn	15 52 03.0	-2.5
	0.8nm,0.4s,baz=179,slow=24,SNR=4.4						

*ISCJB **05** 15:57:34.8±0.5, 54.28S±0.09×136.8W±0.2, h10km, mb4.5/17, MS4.7/19, Error ellipse: s-maj=15.5km s-min=11.8km az=29.4*
*IDC **05** 15:57:35.0±0.6, 54.24S×136.90W, h0km, mb4.4/11, mb1 4.6/11, mb1mx4.5/23, mbtmp4.4/11, MS4.7/19, Ms1 4.7/19, ms1mx4.6/22, Error ellipse: s-maj=24.2km s-min=17.7km az=152.0*
*NEIC **05** 15:57:36.6±0.4, 54.17S×136.87W, h10km, mb4.8/6, Error ellipse: s-maj=17.0km s-min=11.0km az=139.0*
*GCMT **05** 15:57:36.6±0.1, 54.41S×136.58W, h12km, MW5.3/95, Moment Tensor Solution. s63,c96; s95,c161; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr=0.16±.02; Mθθ=0.84±.02; Mϕϕ=-0.67±.02; Mrθ=0.27±.04; Mϕθ=0.66±.01; Mϕr=0.16±.04; Best double couple: M=0.104500×10^17 NP1:ϕs=115.00000°, δ=77.00000°, λ=6.00000°. Principal axes: T 1.1600, Plg13.0000°, Azm339.0000°; N -0.2310, Plg76.0000°, Azm179.0000°; P -0.9300, Plg5.0000°, Azm70.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **05** 15:57:37.6, 54.00S×137.00W, h10km, mB5.1/2, Ms4.9/3, Ms7 4.6/3*

ISC 05 15:57:36.5±0.4, 54.17S±0.09×136.6W±0.1, h10km, n59, σ1s76/41, mb4.7/17, MS4.7/19, 2C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**30.80**	**200**	*e*P	**P**	**16 03 53.6**	**+1.9**
	18nm,1.5s						
RKT	**Rikitea**	**31.03**	**3**	*e*S	**S**	**16 08 54.4**	**-4.6**
	435nm,25.5s						
RKT				*e*LQ	LQ	16 10 36.6	
	714nm,27.0s						
RKT				*e*LR	LR	16 11 54.9	
	3μm,28.0s,baz=179						
RKT	**Rikitea**	**31.03**	**3**	*e*T	T	16 36 16.1	
	24nm,0.4s						
VNDA	**Vanda**	**31.74**	**201**	P	**P**	**16 03 59.9**	**-0.1**
	1.5nm,0.9s,baz=84,slow=8.1,SNR=7.5						
VNDA				LR	LR	16 13 30.2	
	comp=Z,1μm,21.4s,baz=83,slow=30						
TBI	**Tubuai**	**32.26**	**337**	*e*LR	LR	16 12 21.9	
	5μm,28.0s,baz=170						
TBI	**Tubuai**	**32.26**	**337**	*e*T	T	16 37 42.1	
	120nm,0.4s						
URZ	**Urewera**	**35.05**	**278**	LR	LR	16 15 30.1	
	comp=Z,1μm,20.3s,baz=141,slow=31						
RPZ	**Rata Peaks**	**35.17**	**265**	LR	LR	16 15 33.5	
	comp=Z,2μm,20.2s,baz=146,slow=31						
QSPA	**South Pole Qui**	**36.00**	**180**	P	**P**	**16 04 37.4**	**+0.1**
	4.7nm,0.8s,baz=92,slow=5.2,SNR=17						
QSPA				LR	LR	16 17 34.6	
	comp=Z,3μm,18.1s,baz=54,slow=33						
MEH	**Mehetia**	**37.29**	**342**	*e*T	T	16 44 00.0	
	11nm,0.2s						
RAR	**Rarotonga**	**37.32**	**323**	LR	LR	16 15 51.9	
	comp=Z,1μm,19.4s,baz=140,slow=29						
TVO	**Taravao**	**37.61**	**340**	*e*T	T	16 44 23.5	
	3.6nm,0.3s						
PAE	**Paea**	**37.80**	**340**	*e*T	T	16 44 37.0	
	4.7nm,0.3s						
TIAR	**Tiarei**	**37.85**	**340**	*e*T	T	16 44 41.2	
	4.2nm,0.3s						
PPT2	**Papeete2**	**37.87**	**340**	*e*S	**S**	**16 10 43.2**	**-1.5**
	256nm,25.4s						
PPT2				*e*LR	LR	16 15 01.5	
	5μm,25.8s,baz=175						
PPT2	**Papeete2**	**37.87**	**340**	*e*T	T	16 44 42.3	
	12nm,0.3s						
PPT	**Papeete**	**37.89**	**340**	LR	LR	16 16 24.2	
	comp=Z,1μm,19.5s,baz=142,slow=30						
RAO	**Raoul Island**	**38.82**	**293**	LR	LR	16 17 17.5	
	comp=Z,326nm,20.9s,baz=280,slow=31						
VAH	**Vaihoa**	**39.80**	**343**	*e*T	T	16 47 07.6	
	62nm,0.3s						
PMOR	**Pomariorio Ree**	**40.07**	**343**	*e*T	T	16 47 28.2	
	5.0nm,0.3s						
CASY	**Casey**	**49.66**	**209**	*e*P	**P**	**16 06 27.7**	**0.0**
	17nm,1.2s						
VNA1	**Neumayer--Stat**	**50.13**	**160**	P	**P**	**16 06 29.2**	**-2.0**
SNAA	**Sanae**	**50.31**	**163**	LR	LR	16 25 35.7	
	comp=Z,342nm,20.8s,baz=236,slow=33						
DZM	**Mont Dzumac**	**53.16**	**284**	*e*LR	LR	16 22 07.2	
	1μm,22.4s						
SYO	**Syowa Base**	**57.10**	**178**	⇑*e*P	**P**	**16 07 19.8**	**-2.5**

MAW	**Mawson**	**57.68**	**189**	P		**P**	**16 07 25.8**	**-0.5**
	5.6nm,0.8s,baz=168,slow=8.4,SNR=9.4							
MAW				LR		LR	16 31 21.0	
	comp=Z,523nm,18.3s,baz=158,slow=35							
STKA	**Stephens Creek**	**60.24**	**256**	P		**P**	**16 07 43.9**	**-0.8**
	2.8nm,1.1s,baz=125,slow=7.8,SNR=4.2							
STKA				LR		LR	16 29 35.8	
	comp=Z,484nm,19.6s,baz=152,slow=32							
CPUP	**Villa Florida**	**62.93**	**98**	P		**P**	**16 08 03.0**	**+0.2**
	5.2nm,1.1s,baz=237,slow=7.3,SNR=4.7							
CPUP				LR		LR	16 30 52.0	
	comp=Z,1μm,20.6s,baz=222,slow=32							
LPAZ	**La Paz**	**64.36**	**82**	LR		LR	16 29 51.2	
	comp=Z,368nm,21.5s,baz=204,slow=30							
ASAR	**Alice Springs**	**70.88**	**256**	P		**P**	**16 08 52.4**	**-1.2**
	4.5nm,1.1s,baz=135,slow=7.0,SNR=18							
ASAR				LR		LR	16 35 31.8	
	comp=Z,814nm,20.6s,baz=134,slow=32							
OTAV	**Otavalo**	**72.12**	**63**	*e*P		**P**	**16 09 03.4**	**+1.8**
	13nm,1.3s							
H01W1	**Cape Leeuwin H**	**72.47**	**234**	T		T	17 28 54.7	
	baz=143,slow=76,SNR=55							
H01W2	**Cape Leeuwin H**	**72.47**	**234**	T		T	17 28 55.2	
	baz=143,slow=76,SNR=57							
H01W3	**Cape Leeuwin H**	**72.48**	**234**	T		T	17 28 56.0	
	baz=143,slow=76,SNR=43							
SAML	**Samuel**	**73.09**	**82**	*e*P		**P**	**16 09 06.2**	**-0.7**
	11nm,1.3s							
WRA	**Warramunga Arr**	**73.54**	**259**	P		**P**	**16 09 08.5**	**-1.1**
	5.0nm,1.0s,baz=143,slow=5.0,SNR=17							
WRA				LR		LR	16 38 39.6	
	comp=Z,650nm,18.3s,baz=150,slow=34							
WRAB	**Tennant Creek**	**73.55**	**259**	*e*P		**P**	**16 09 07.6**	**-2.0**
	9.8nm,1.1s							
BDFB	**Brasilia**	**76.66**	**98**	P		**P**	**16 09 27.8**	**+0.1**
	7.7nm,0.8s,baz=224,slow=4.4,SNR=7.9							
BDFB				LR		LR	16 39 04.8	
	comp=Z,675nm,21.7s,baz=206,slow=32							
ROSC	**El Rosal**	**78.19**	**64**	P		**P**	**16 09 38.8**	**+2.3**
	3.0nm,0.4s,baz=237,slow=1.3,SNR=8.0							
ROSC				LR		LR	16 37 30.9	
	comp=Z,273nm,20.8s,baz=202,slow=31							
TXAR	**Lajitas Array**	**87.90**	**28**	P		**P**	**16 10 27.8**	**+1.8**
	2.3nm,1.1s,baz=167,slow=5.4,SNR=8.6							
TXAR				LR		LR	16 40 46.8	
	comp=Z,46nm,20.1s,baz=0.0,slow=29							
JCT	**Junction City**	**90.10**	**31**	P		**P**	**16 10 37.7**	**+1.4**
	22nm,1.3s							
NVAR	**Mina Array Bea**	**93.57**	**14**	P		**P**	**16 10 53.2**	**+0.9**
	1.3nm,1.1s,baz=206,slow=6.0,SNR=3.8							
BOSA	**Boshof**	**96.08**	**164**	LR		LR	16 48 32.6	
	comp=Z,855nm,21.6s,baz=146,slow=32							
PDAR	**Pinedale Array**	**99.30**	**20**	LR		LR	16 47 41.5	
	comp=Z,310nm,20.2s,baz=212,slow=30							
ILAR	**Eielson Array**	**118.87**	**355**	PKP		**PKPdf**	**16 16 24.8**	**+1.2**
	0.7nm,1.0s,baz=188,slow=2.5,SNR=4.5							
TORD	**Torodi Ar. Bea**	**127.62**	**125**	PKP		**PKPdf**	**16 16 40.8**	**-1.1**
	1.2nm,0.7s,baz=203,slow=0.9,SNR=6.7							
KMI	**Kunming**	**127.83**	**261**	PKP		**PKPdf**	**16 16 42.2**	**-0.1**
KMI				sPKP			16 16 50.4	
KMI				SS		SS	16 35 57.5	+0.2
KMI				LN				
	120nm,21.2s							
KMI				LE				
	98nm,24.0s							
KMI				LZ				
	160nm,21.2s							
CN2	**Changchun**	**128.09**	**294**	*e*PKP		**PKPdf**	**16 16 39.8**	**-2.0**
CD2	**Chengdu**	**131.56**	**267**	PKP		**PKPdf**	**16 16 48.4**	**-0.6**
HHC	**Hu-ho-hao-te**	**133.87**	**282**	*e*PKP		**PKPdf**	**16 16 55.1**	**+2.0**
HHC				PP		**PP**	**16 19 28.6**	**+5.0**
HHC				PKS		**PKSdf**	**16 20 30.0**	**+0.6**
HHC				SKS		**SKSdf**	**16 24 04.7**	**+0.7**
HHC				SKKS		**SKKSac**	**16 26 19.6**	**+1.2**
HHC				SS		**SS**	**16 37 13.6**	**+2.6**
HHC				PPMZ				
	35nm,5.1s							
HHC				LN				
	98nm,20.4s							
HHC				LE				
	88nm,18.0s							
HHC				LZ				
	77nm,19.4s							
LZH	**Lanzhou**	**135.18**	**272**	*e*PKP		**PKPdf**	**16 16 53.2**	**-2.5**
LZH				sPKP			16 16 59.9	
ESDC	**Sonseca Array**	**145.25**	**95**	PKPbc		**PKPdf**	**16 17 14.2**	**+0.5**
	1.8nm,0.6s,baz=239,slow=3.4,SNR=19							
ESLA	**Sonseca Array**	**145.25**	**95**	*e*PKP		**PKPdf**	**16 17 14.2**	**+0.5**
RAYN	**Ar Rayn**	**149.35**	**184**	*e*PKPbc		**PKPbc**	**16 17 25.6**	**+0.2**
WMQ	**Urumqi**	**149.63**	**268**	*e*PKPbc		**PKPdf**	**16 17 20.6**	**-0.2**
WMQ				LN				
	120nm,27.4s							
WMQ				LE				
	150nm,30.4s							
WMQ				LZ				
	130nm,28.7s							
KEST	**Kesra**	**150.07**	**114**	PKPbc		**PKPbc**	**16 17 27.4**	**+0.6**
	1.6nm,0.8s,baz=223,slow=1.6,SNR=5.0							
MKAR	**Makanchi Array**	**154.45**	**269**	PKPbc		**PKPbc**	**16 17 34.9**	**-1.4**
	0.9nm,1.0s,baz=96,slow=4.3,SNR=3.9							
ZALV	**Zalesovo Beam**	**155.94**	**286**	PKPab		**PKPab**	**16 17 55.3**	**-1.5**
	3.0nm,0.7s,baz=121,slow=4.1,SNR=13							
SOKA	**Soboth**	**160.53**	**101**	⇑iPKPdf		**PKPdf**	**16 17 36.3**	**+0.7**
	4.2nm,1.1s							

IDC 05 16:11:19.1±2.1, 22.10S×179.44W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.8/27, mbtmp4.0/4, Error ellipse: s-maj=149.8km s-min=33.4km az=159.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.90**	**246**	P	P	16 18 21.4	+0.3
	1.0nm,0.4s,baz=91,slow=11,SNR=8.5						
ASAR	**Alice Springs**	**42.87**	**259**	P	P	16 19 19.4	-0.2
	1.4nm,0.5s,baz=93,slow=7.4,SNR=92						
WRA	**Warramunga Arr**	**43.08**	**264**	P	P	16 19 20.7	-0.5
	1.3nm,0.3s,baz=102,slow=8.4,SNR=38						
TXAR	**Lajitas Array**	**89.04**	**58**	P	P	16 24 16.4	0.0
	0.2nm,0.6s,baz=223,slow=3.4,SNR=3.5						

*IDC **05** 16:15:37.9±1.8, 58.09S×148.77E, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.1/15, mbtmp4.1/8, MS4.1/3, Ms1 4.1/3, ms1mx3.7/17, Error ellipse: s-maj=103.7km s-min=16.7km az=81.0*
*NEIC **05** 16:15:38.8±0.6, 58.13S×149.09E, h10km, mb4.6/4, Error ellipse: s-maj=44.1km s-min=8.2km az=79.0*

ISC 05 16:15:39.1±0.8, 58.15S±0.1×149.0E±0.4, h10km, n31, σ0s87/20, mb4.0/9, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAU	**Tasmania Unive**	**15.29**	**355**	*e*P	**P**	**16 19 20.3**	**+0.6**
	34nm,0.9s						
RPZ	**Rata Peaks**	**19.92**	**53**	LR	LR	16 26 34.0	
	comp=Z,479nm,20.7s,baz=328,slow=33						
VNDA	**Vanda**	**19.95**	**172**	P	**P**	**16 20 11.7**	**+0.8**
	2.3nm,0.8s,baz=345,slow=12,SNR=14						
VNDA	**Vanda**	**19.95**	**172**	*e*Pn	**Pn**	**16 20 12.6**	**+0.1**
	19nm,0.7s						
SBA	**Scott Base**	**20.68**	**169**	*e*P	**P**	**16 20 18.3**	**-0.4**
STKA	**Stephens Creek**	**26.75**	**346**	P	**P**	**16 21 19.4**	**+0.6**
	3.5nm,0.9s,baz=163,slow=11,SNR=5.6						
STKA	**Stephens Creek**	**26.75**	**346**	*e*P	**P**	**16 21 19.4**	**+0.6**
	1.0nm,1.0s						
URZ	**Urewera**	**27.01**	**55**	LR	LR	16 31 13.1	
	comp=Z,280nm,18.0s,baz=226,slow=35						
QSPA	**South Pole Qui**	**31.95**	**180**	P	**P**	**16 22 05.7**	**+0.9**
	3.8nm,0.9s,baz=8.9,slow=4.7,SNR=8.7						
QSPA	**South Pole Qui**	**31.95**	**180**	*e*P	**P**	**16 22 05.9**	**+1.1**
	9.5nm,1.2s						
H01W1	**Cape Leeuwin H**	**32.79**	**300**	T	T	16 56 46.5	
	baz=145,slow=76,SNR=93						
H01W2	**Cape Leeuwin H**	**32.80**	**300**	T	T	16 56 44.7	
	baz=145,slow=76,SNR=96						
H01W3	**Cape Leeuwin H**	**32.81**	**300**	T	T	16 56 47.6	
	baz=145,slow=76,SNR=121						
ASAR	**Alice Springs**	**36.11**	**336**	P	**P**	**16 22 40.2**	**-0.8**
	2.3nm,0.9s,baz=165,slow=9.6,SNR=21						
CTAO	**Charters Tower**	**38.06**	**356**	*e*P	**P**	**16 22 58.6**	**+0.9**
WRA	**Warramunga Arr**	**39.63**	**338**	P	**P**	**16 23 09.9**	**-0.9**
	3.2nm,0.8s,baz=167,slow=7.2,SNR=18						
WRAB	**Tennant Creek**	**39.64**	**338**	*e*P	**P**	**16 23 10.0**	**-0.9**
	4.8nm,0.8s						

SNAA	**Sanae**	**48.97**	**191**	P		**P**	**16 24 25.6**	**+0.5**
	1.2nm,1.1s,baz=170,slow=8.2,SNR=5.6							
PMSA	**Palmer Station**	**54.86**	**163**	P		**P**	**16 25 07.1**	**-1.8**
	21nm,0.7s							
H08S2	**Diego Garcia H**	**76.42**	**277**	T		T	17 51 14.0	
	baz=148,slow=76,SNR=10							
H08S1	**Diego Garcia H**	**76.42**	**277**	T		T	17 51 13.9	
	baz=148,slow=76,SNR=8.1							
H08S3	**Diego Garcia H**	**76.44**	**277**	T		T	17 51 13.5	
	baz=148,slow=76,SNR=11							
H08N1	**Diego Garcia H**	**78.29**	**277**	T		T	17 52 49.2	
	baz=245,slow=75,SNR=24							
H08N3	**Diego Garcia H**	**78.30**	**277**	T		T	17 52 45.8	
	baz=245,slow=75,SNR=19							
H08N2	**Diego Garcia H**	**78.31**	**277**	T		T	17 52 48.1	
	baz=245,slow=75,SNR=19							
BOSA	**Boshof**	**81.66**	**228**	P		**P**	**16 27 57.5**	**+0.1**
	3.4nm,1.0s,baz=135,slow=4.3,SNR=3.2							
CMAR	**Chiang Mai Arr**	**86.76**	**313**	P		**P**	**16 28 22.9**	**-0.2**
	0.3nm,0.3s,baz=185,slow=5.1,SNR=4.2							
CMAR				LR		LR	17 05 03.4	
	comp=Z,118nm,21.6s,baz=165,slow=34							
KEST	**Kesra**	**145.25**	**248**	PKPbc		**PKPdf**	**16 35 16.9**	**+0.5**
	1.5nm,1.0s,baz=135,slow=4.8,SNR=3.8							
AKASG	**Malin Array Be**	**145.25**	**284**	PKPbc		**PKPbc**	**16 35 14.8**	**-0.6**
	0.7nm,0.4s,baz=100,slow=2.2,SNR=7.4							
FINES	**FINESS Array B**	**151.88**	**301**	PKPbc		**PKPbc**	**16 35 31.4**	**-1.2**
	0.8nm,0.7s,baz=106,slow=3.0,SNR=3.3							
GERES	**GERESS Array B**	**152.30**	**270**	PKPbc		**PKPbc**	**16 35 34.2**	**+0.1**
	0.2nm,0.4s,baz=112,slow=1.1,SNR=3.6							

*ISCJB **05** 16:29:56.0±0.3, 9.92S±0.04×124.96E±0.05, h10km, mb4.1/9, MS3.7/3, Error ellipse: s-maj=7.9km s-min=4.6km az=139.7*
*IDC **05** 16:29:55.7±0.8, 9.91S×124.95E, h0km, mb4.1/7, mb1 4.2/12, mb1mx4.0/28, mbtmp4.2/12, ML4.0/5, MS3.6/4, Ms1 3.5/4, ms1mx3.0/27, Error ellipse: s-maj=31.1km s-min=16.0km az=66.0*
*NEIC **05** 16:29:57.9±1.6, 9.97S×124.93E, h13km±11km, mb4.4/4, Error ellipse: s-maj=12.6km s-min=6.0km az=53.0*
*AUST **05** 16:30:01.4±0.6, 10.03S×124.79E, h30km, Error ellipse: s-maj=1.0km s-min=1.0km az=340.0*
*DJA **05** 16:30:05.9±0.7, 10°S±6'×12°4E±', h10km, M4.0/9, mb4.3/9, mB4.6/2, MLv3.8/2, Mw(mB)3.8/2*

ISC 05 16:29:58.2±0.5, 9.93S±0.06×124.85E±0.06, h10km, n52, σ1s58/47, mb4.3/9, MS3.6/3, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.60**	**287**	P	**Pb**	**16 30 11.1**	**+0.3**
SOEI	**Soe**	**0.60**	**287**	P	**Pb**	**16 30 11.1**	**+0.3**
	baz=0.6,SNR=497						
SOEI	**Soe**	**0.60**	**287**	*e*Pg	**Pb**	**16 30 11.3**	**+0.5**
MMRI	**Maumere**	**2.88**	**296**	P	**Pn**	**16 30 46.1**	**+1.9**
MMRI	**Maumere**	**2.88**	**296**	*e*Pn	**Pn**	**16 30 45.7**	**+1.6**
WSI	**Waingapu**	**4.49**	**273**	P	**Pn**	**16 31 07.0**	**+0.7**
BSSI	**Bau Bau, Buton**	**5.72**	**311**	P	**Pn**	**16 31 23.4**	**+0.1**
	56nm,1.2s,653nm						
KDI	**Kendari**	**6.33**	**339**	P	**Pn**	**16 31 32.5**	**+0.8**
	23nm,0.8s						
BKSI	**Bulukumba**	**6.55**	**314**	P	**Pn**	**16 31 35.7**	**+1.1**
	18nm,0.7s,445nm						
KNRA	**Kunumura**	**6.87**	**147**	P	**Pn**	**16 31 38.7**	**-0.4**
	baz=6.8,SNR=130						
NLAI	**Namlea**	**7.01**	**19**	P	Pn	16 31 46.8	+5.8
	23nm,0.7s						
KAPI	**Kappang**	**7.03**	**314**	Pn	**Pn**	**16 31 41.7**	**+0.6**
	0.4nm,0.3s,baz=142,slow=17,SNR=2.2						
SANI	**Sanana**	**7.91**	**8**	P	Pn	16 31 58.4	+5.1
	30nm,0.8s						
KDU	**Kakadu**	**7.96**	**111**	P	**Pn**	**16 31 55.0**	**+0.9**
	baz=8.0,SNR=16						
LUWI	**Luwuk**	**9.07**	**347**	P	**Pn**	**16 32 08.9**	**-0.4**
	20nm,0.6s						
FAKI	**Fak Fak**	**10.13**	**47**	P	**Pn**	**16 32 26.1**	**+2.4**
	baz=10,SNR=6.7						
SIJI	**Sorong**	**11.04**	**36**	Pn	**Pn**	**16 32 33.1**	**-3.2**
	0.2nm,0.3s,baz=229,slow=19,SNR=3.1						
MBWA	**Marble Bar**	**12.20**	**203**	*e*P	**Pn**	**16 32 50.7**	**-1.4**
WRA	**Warramunga Arr**	**13.53**	**138**	Pn	**Pn**	**16 33 07.2**	**-3.1**
	2.0nm,0.3s,baz=312,slow=14,SNR=47						
WRA				Sn	Sn	16 35 27.1	-14
	0.9nm,0.3s,baz=315,slow=25,SNR=5.0						
WRAB	**Tennant Creek**	**13.53**	**138**	*e*P	**Pn**	**16 33 07.5**	**-2.8**
	9.3nm,0.7s						
WRAB				*e*S	Sn	16 35 29.8	-11
WRKA	**Warakurna**	**15.38**	**168**	P	**Pn**	**16 33 31.9**	**-3.5**
	baz=15,SNR=27						
ASAR	**Alice Springs**	**16.17**	**149**	Pn	**Pn**	**16 33 43.1**	**-2.6**
	0.8nm,0.3s,baz=319,slow=12,SNR=108						
ASAR				Sn	Sn	16 36 34.3	-11
	0.7nm,0.3s,baz=316,slow=21,SNR=5.7						
LEM	**Lembang**	**17.32**	**279**	Pn	**P**	**16 34 01.9**	**+0.1**
	2.0nm,0.3s,baz=22,slow=8.8,SNR=9.1						
JAY	**Jayapura**	**17.39**	**66**	LR	LR	16 42 15.2	
	comp=Z,79nm,21.5s,baz=142,slow=43						
MEEK	**Meekatharra**	**17.63**	**199**	P	**P**	**16 34 05.3**	**+0.2**
	baz=18,SNR=8.1						
QIS	**Mount Isa**	**17.71**	**128**	P	**Pn**	**16 34 04.0**	**-1.2**
	baz=18,SNR=5.5						
COEN	**Coen**	**18.37**	**104**	P	**P**	**16 34 15.8**	**+2.5**
	baz=18,SNR=5.1						
COEN	**Coen**	**18.37**	**104**	P	**P**	**16 34 13.8**	**

LPAZ				S	S	16 38 29.9	+0.6	
	0.8nm,0.3s,baz=209,slow=10,SNR=2.5							
DBIC	**Dimbokro**	**68.19**	**74**	P	P	16 47 25.2	-0.8	
	4.2nm,0.8s,baz=198,slow=5.3,SNR=4.4							
TORD	**Torodi Ar. Bea**	**76.73**	**71**	P	P	16 48 16.8	+0.4	
	1.7nm,0.5s,baz=252,slow=5.4,SNR=25							
ASAR	**Alice Springs**	**131.41**	**208**	PKP	PKPdf	16 55 35.4	-0.7	
	0.2nm,0.5s,baz=125,slow=1.7,SNR=8.4							
WRA	**Warramunga Arr**	**134.41**	**211**	PKP	PKPdf	16 55 41.3	-0.4	
	0.4nm,0.4s,baz=146,slow=1.6,SNR=8.4							

*ISCJB **05** 16:45:25.1±0.7,6.89N±0.07×73.09W±0.09, h166km, Error ellipse: s-maj=15.1km s-min=6.5km az=33.8*
*FUNV **05** 16:45:27.0,6.82N×73.09W, h164km, MW3.1*
*IDC **05** 16:45:28.9±7.3,4.94N×76.70W, h94km±72km, mb1 3.2/1, mb1mx2.7/27, mbtmp3.7/1, ML2.2/1, Error ellipse: s-maj=79.1km s-min=69.0km az=10.0*

ISC 05 16:45:25.4±1.2, 6.87N±0.07×73.08W±0.09, h166km, n13, σ1§09/18, 4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.25**	**37**	⇓*e*P	**Pn**	**16 45 54.8**	**+0.7**
CAPV				*e*S	**Sn**	**16 46 16.4**	**+0.3**
ROSC	**El Rosal**	**2.35**	**212**	P	**Pn**	**16 46 06.5**	**+0.5**
	13nm,0.3s,baz=273,slow=19,SNR=59						
ROSC				S	**Sn**	**16 46 35.9**	**-1.5**
	18nm,0.3s,baz=272,slow=23,SNR=15						
VIGV	**El Vigia**	**2.59**	**41**	⇓*e*P	**Pn**	**16 46 09.4**	**+0.9**
VIGV				*e*S	**Sn**	**16 46 40.6**	**-1.4**
SOCV	**Socops**	**2.62**	**57**	⇓*e*P	**Pn**	**16 46 09.7**	**+1.0**
SOCV				*e*S	**Sn**	**16 46 41.2**	**-1.1**
ELOV	**Elorza**	**3.57**	**88**	*e*P	**Pn**	**16 46 21.2**	**+0.6**
VIRV	**Villa del Rosa**	**3.67**	**10**	⇓*e*P	**Pn**	**16 46 22.2**	**+0.3**
VIRV				*e*S	**Sn**	**16 47 03.9**	**-2.2**
CURV	**Curarigua**	**4.39**	**44**	*e*P	**Pn**	**16 46 32.1**	**+0.8**
DABV	**Dabajuro**	**4.70**	**31**	*e*P	**Pn**	**16 46 36.6**	**+1.5**
BAUV	**El Baul**	**5.40**	**67**	*e*P	**Pn**	**16 46 43.7**	**-0.6**
MAPV	**Macapo**	**5.44**	**57**	*e*P	**Pn**	**16 46 45.2**	**+0.3**
MONV	**Montecano**	**5.91**	**31**	*e*P	**Pn**	**16 46 51.6**	**+0.5**
ASAR	**Alice Springs**	**149.17**	**234**	PKPbc	**PKPbc**	**17 04 56.1**	**+1.0**
	0.1nm,0.4s,baz=119,slow=3.3,SNR=6.1						
WRA	**Warramunga Arr**	**150.40**	**241**	PKPbc	**PKPbc**	**17 04 58.1**	**0.0**
	0.3nm,0.3s,baz=113,slow=3.1,SNR=2.3						

*KRSC **05** 16:58:01.6±0.6,54.63N×161.55E, h72km±8km, ML4.2*
*ISCJB **05** 16:58:02.6±0.3,54.64N±0.02×161.55E±0.05, h80km±3km, mb3.9/11, Error ellipse: s-maj=5.6km s-min=2.8km az=21.8*
*MOS **05** 16:58:02.7±1.0,54.66N×161.51E, h84km, mb4.2/7, Error ellipse: s-maj=10.6km s-min=5.6km az=79.5*
*IDC **05** 16:58:05.5±2.2,54.84N×160.96E, h91km±20km, mb3.3/6, mb1 3.6/8, mb1mx3.2/29, mbtmp3.6/8, MS3.7/2, Ms1 3.7/2, ms1mx2.9/24, Error ellipse: s-maj=29.3km s-min=17.1km az=129.0*

ISC 05 16:58:02.8±0.6, 54.63N±0.03×161.52E±0.03, h68km±4km, n91, σ1§61/129, mb3.8/11, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.15**	**122**	*e*P	**Pn**	**16 58 13.6**	**+0.7**
MKZ				*e*S	**Sn**	**16 58 21.2**	**+0.9**
MKZ	**Mys Kozlova**	**0.15**	**122**	PN	**Pn**	**16 58 13.6**	**+0.7**
MKZ				S	**Sn**	**16 58 21.2**	**+0.9**
KZV	**Kizimen**	**0.85**	**305**	*i* P	**Pn**	**16 58 19.6**	**+0.1**
KZV				*e*S	**Sn**	**16 58 31.7**	**-0.2**
TUMR	**Tumrok**	**1.02**	**310**	*e*P	**Pn**	**16 58 22.1**	**+0.5**
TUMR				*e*S	**Sn**	**16 58 36.3**	**+0.8**
TUMR	**Tumrok**	**1.02**	**310**	PN	**Pn**	**16 58 22.1**	**+0.5**
TUMR				S	**Sn**	**16 58 36.3**	**+0.8**
KMNR	**Kamenistaya**	**1.34**	**327**	*e*P	**Pn**	**16 58 26.8**	**+1.1**
KMNR				*e*S	**Sn**	**16 58 44.1**	**+1.3**
KMNR	**Kamenistaya**	**1.34**	**327**	PN	**Pn**	**16 58 26.8**	**+1.1**
KMNR				S	**Sn**	**16 58 44.1**	**+1.3**
KII	**Karymskiy**	**1.35**	**245**	*e*P	**Pn**	**16 58 26.7**	**+1.0**
KII	**Karymskiy**	**1.35**	**245**	PN	**Pn**	**16 58 26.7**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**1.39**	**341**	*e*P	**Pn**	**16 58 27.4**	**+1.1**
BZGR				*e*S	**Sn**	**16 58 45.0**	**+1.3**
BZMR	**Bezymyannaya**	**1.43**	**336**	*e*P	**Pn**	**16 58 28.0**	**+1.1**
BZMR				*e*S	**Sn**	**16 58 46.3**	**+1.3**
ZLN	**Zelenaya**	**1.45**	**344**	*e*P	**Pn**	**16 58 28.1**	**+1.1**
ZLN	**Zelenaya**	**1.45**	**344**	PN	**Pn**	**16 58 28.1**	**+1.1**
BZWR	**Bezymyannyi-We**	**1.46**	**337**	*e*P	**Pn**	**16 58 27.9**	**+0.7**
BZWR				*e*S	**Sn**	**16 58 46.2**	**+0.6**
KIRR	**Kirishev**	**1.48**	**334**	*e*S	**Sn**	**16 58 47.4**	**+1.2**
LGNR	**Loginova**	**1.53**	**342**	*e*P	**Pn**	**16 58 29.4**	**+1.1**
LGNR	**Loginova**	**1.53**	**342**	PN	**Pn**	**16 58 29.4**	**+1.1**
KOZ	**Kozyrevsk**	**1.71**	**327**	*e*P	**Pn**	**16 58 31.6**	**+1.2**
KOZ				*e*S	**Sn**	**16 58 52.8**	**+1.4**
KOZ	**Kozyrevsk**	**1.71**	**327**	PN	**Pn**	**16 58 31.6**	**+1.2**
KOZ				S	**Sn**	**16 58 52.8**	**+1.4**
KBTR	**Krutoberegovo**	**1.74**	**25**	*e*P	**Pn**	**16 58 32.1**	**+1.2**
KBTR				*e*S	**Sn**	**16 58 53.5**	**+1.3**
KBTR	**Krutoberegovo**	**1.74**	**25**	PN	**Pn**	**16 58 32.1**	**+1.2**
KBTR				S	**Sn**	**16 58 53.5**	**+1.3**
KLY	**Klyuchi**	**1.75**	**344**	*e*P	**Pn**	**16 58 31.6**	**+0.6**
KLY				*e*S	**Sn**	**16 58 52.6**	**+0.2**
SPN	**Mys Shipunski**	**1.78**	**211**	*e*P	**Pn**	**16 58 31.6**	**+0.3**
SPN				*e*S	**Sn**	**16 58 52.6**	**-0.3**
SPN	**Mys Shipunski**	**1.78**	**211**	PN	**Pn**	**16 58 31.6**	**+0.3**
SPN				S	**Sn**	**16 58 52.6**	**-0.3**
BDR	**Baidarnaya**	**1.95**	**355**	*e*P	**Pn**	**16 58 35.5**	**+1.8**
BDR				*e*S	**Sn**	**16 58 59.4**	**+2.2**
NLC	**Nalytchevo**	**1.95**	**222**	*e*P	**Pn**	**16 58 34.7**	**+1.1**
NLC				*e*S	**Sn**	**16 58 58.1**	**+1.0**
NLC	**Nalytchevo**	**1.95**	**222**	PN	**Pn**	**16 58 34.7**	**+1.1**
NLC				S	**Sn**	**16 58 58.1**	**+1.0**
SMKR	**Semkarok**	**1.95**	**359**	*e*P	**Pn**	**16 58 35.2**	**+1.4**
SMKR				*e*S	**Sn**	**16 58 59.0**	**+1.7**
SMKR	**Semkarok**	**1.95**	**359**	PN	**Pn**	**16 58 35.2**	**+1.4**
SMKR				S	**Sn**	**16 58 59.0**	**+1.7**
SRDR	**Sredinnyy**	**1.97**	**329**	*e*P	**Pn**	**16 58 34.7**	**+0.7**
SRDR				*e*S	**Sn**	**16 58 58.1**	**+0.3**
SRDR	**Sredinnyy**	**1.97**	**329**	PN	**Pn**	**16 58 34.7**	**+0.7**
SRDR				S	**Sn**	**16 58 58.1**	**+0.3**
SRKR	**Sorokina**	**2.04**	**355**	*e*P	**Pn**	**16 58 36.3**	**+1.5**
SRKR	**Sorokina**	**2.04**	**355**	PN	**Pn**	**16 58 36.3**	**+1.5**
SDLR	**Sedlovina**	**2.07**	**230**	*e*P	**Pn**	**16 58 36.8**	**+1.5**
SDLR				*e*S	**Sn**	**16 59 01.6**	**+1.5**
SDLR	**Sedlovina**	**2.07**	**230**	PN	**Pn**	**16 58 36.8**	**+1.5**
SDLR				S	**Sn**	**16 59 01.6**	**+1.5**
ESO	**Esso**	**2.07**	**310**	*e*P	**Pn**	**16 58 35.8**	**+0.6**
ESO				*e*S	**Sn**	**16 59 00.0**	**0.0**
ESO	**Esso**	**2.07**	**310**	PN	**Pn**	**16 58 35.8**	**+0.6**
ESO				S	**Sn**	**16 59 00.0**	**0.0**
KRER	**Koryakskii**	**2.11**	**232**	*e*P	**Pn**	**16 58 37.2**	**+1.2**
KRER				*e*S	**Sn**	**16 59 02.4**	**+1.1**
SMAR	**Somma**	**2.11**	**231**	*e*P	**Pn**	**16 58 37.7**	**+1.6**
SMAR				*e*S	**Sn**	**16 59 03.0**	**+1.6**
SMAR	**Somma**	**2.11**	**231**	PN	**Pn**	**16 58 37.7**	**+1.6**
SMAR				S	**Sn**	**16 59 03.0**	**+1.6**
KRX	**Arik**	**2.12**	**234**	*e*P	**Pn**	**16 58 37.6**	**+1.5**
KRX				*e*S	**Sn**	**16 59 02.9**	**+1.4**
UGLR	**Uglovaya**	**2.14**	**229**	*e*P	**Pn**	**16 58 38.0**	**+1.7**
UGLR				*e*S	**Sn**	**16 59 03.6**	**+1.7**
AVH	**Avacha**	**2.14**	**231**	*e*P	**Pn**	**16 58 38.2**	**+1.9**
AVH				*e*S	**Sn**	**16 59 04.1**	**+2.2**
AVH	**Avacha**	**2.14**	**231**	PN	**Pn**	**16 58 38.2**	**+1.9**
AVH				S	**Sn**	**16 59 04.1**	**+2.2**
KOK	**Koryaka**	**2.17**	**233**	*e*P	**Pn**	**16 58 38.4**	**+1.7**
KOK	**Koryaka**	**2.17**	**233**	PN	**Pn**	**16 58 38.4**	**+1.7**
GNL	**Ganaly**	**2.30**	**247**	*e*P	**Pn**	**16 58 40.4**	**+1.9**
GNL	**Ganaly**	**2.30**	**247**	PN	**Pn**	**16 58 40.4**	**+1.9**
PET	**Petropavlovsk**	**2.34**	**228**	*e*P	**Pn**	**16 58 40.5**	**+1.6**
PET				*e*S	**Sn**	**16 59 08.4**	**+1.8**
PET	**Petropavlovsk**	**2.34**	**228**	*e*PN	**Pn**	**16 58 40.2**	**+1.3**
PET				*e*S	**Sn**	**16 59 08.3**	**+1.7**
PET				pmax	pmax		
	comp=Z,89nm,0.6s						
PET				smax	smax		
	comp=E,253nm,0.5s						
PET				smax	smax		
	comp=N,351nm,0.6s						
BKI	**Bering**	**2.63**	**76**	*e*P	**Pn**	**16 58 43.0**	**+0.1**
BKI				*e*S	**Sn**	**16 59 12.3**	**-1.4**
BKI	**Bering**	**2.63**	**76**	PN	**Pn**	**16 58 43.0**	**+0.1**
BKI				S	**Sn**	**16 59 12.3**	**-1.4**
PETK	**Petropavlovsk-**	**2.73**	**237**	P	**Pn**	**16 58 45.8**	**+1.6**
	comp=N,2.5nm,0.3s,baz=68,slow=18,SNR=30						
PETK				S	**Sn**	**16 59 16.6**	**+0.5**
	comp=N,5.5nm,0.3s,baz=36,slow=19,SNR=5.9						
PETK	**Petropavlovsk-**	**2.73**	**237**	PN	**Pn**	**16 58 45.8**	**+1.6**
PETK				S	**Sn**	**16 59 16.6**	**+0.5**
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK				smax	smax		
	comp=N,6.0nm,0.3s						
RUS	**Russkaya**	**2.84**	**220**	*e*P	**Pn**	**16 58 46.6**	**+0.9**
RUS	**Russkaya**	**2.84**	**220**	PN	**Pn**	**16 58 46.6**	**+0.9**
MTVR	**Mutnovka**	**2.93**	**224**	*e*P	**Pn**	**16 58 47.5**	**+0.4**
APC	**Apacha**	**3.10**	**238**	*e*P	**Pn**	**16 58 50.7**	**+1.5**
APC	**Apacha**	**3.10**	**238**	PN	**Pn**	**16 58 50.7**	**+1.5**
ASAK	**Asacha**	**3.12**	**225**	*e*P	**Pn**	**16 58 52.1**	**+2.5**
OSSR	**Ossora**	**4.71**	**10**	*e*P	**Pn**	**16 59 12.7**	**+1.6**
SEY	**Seymchan**	**9.57**	**334**	P	**Pn**	**17 00 16.9**	**-0.5**
	comp=N,0.0nm,0.3s,baz=163,slow=19,SNR=2.0						
SEY	**Seymchan**	**9.57**	**334**	PN	**Pn**	**17 00 17.0**	**-0.5**
ERM	**Erimo**	**17.49**	**231**	*e*P	**Pn**	**17 02 00.7**	**-1.2**
YAK	**Yakutsk**	**18.12**	**307**	*e*P	**P**	**17 02 08.5**	**-0.4**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MJA0	**Matsu Arr-Jizo**	**24.15**	**231**	*e*P	**P**	**17 03 16.3**	**+4.0**
MAJO	**Matsushiro**	**24.17**	**231**	*e*P	**P**	**17 03 14.3**	**+1.9**
MAJO				pmax	pmax		
	comp=Z,43nm,1.2s						
MJAR	**Matsushiro Arr**	**24.17**	**231**	P	**P**	**17 03 12.4**	**0.0**
	comp=Z,1.2nm,0.7s,baz=9.8,slow=7.3,SNR=5.8						
TLY	**Talaya**	**33.98**	**289**	*e*P	**P**	**17 04 39.4**	**-0.1**
TLY				pmax	pmax		
	comp=Z,1.0nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**35.08**	**171**	T	T	17 42 18.6	
	baz=355,slow=76,SNR=120						
H11N3	**WAKE ISLAND Hy**	**35.10**	**171**	T	T	17 42 15.5	
	baz=355,slow=76,SNR=115						
H11N1	**WAKE ISLAND Hy**	**35.10**	**171**	T	T	17 42 14.6	
	baz=355,slow=76,SNR=142						
HHC	**Hu-ho-hao-te**	**35.52**	**268**	*e*P	**P**	**17 04 51.9**	**-1.0**
HHC				PP	**PnPn**	**17 06 14.0**	**+0.3**
HHC				S	**S**	**17 10 19.6**	**-3.8**
HHC				sS	**sS**	**17 10 50.7**	**-1.0**
HHC				SS	**SnSn**	**17 12 40.8**	**-8.5**
HHC	**Hu-ho-hao-te**	**35.52**	**268**	ScS	ScS	17 15 01.8	-3.3
HHC				pmax	pmax		
	comp=Z,14nm,1.1s						
HHC				pmax	pmax		
	comp=Z,53nm,5.1s						
HHC				LR	LR		
	comp=N,59nm,13.1s						
HHC				LR	LR		
	comp=E,35nm,12.9s						
HHC				LR	LR		
	comp=Z,72nm,15.7s						
H11S1	**WAKE ISLAND Hy**	**36.28**	**172**	T	T	17 43 37.4	
	baz=333,slow=76,SNR=9.0						
H11S3	**WAKE ISLAND Hy**	**36.29**	**172**	T	T	17 43 34.2	
	baz=333,slow=76,SNR=8.9						
H11S2	**WAKE ISLAND Hy**	**36.30**	**172**	T	T	17 43 38.5	
	baz=333,slow=76,SNR=8.6						
KURK	**Kurchatov**	**47.64**	**301**	*e*P	**P**	**17 06 29.5**	**-2.1**
KURK				pmax	pmax		
	comp=Z,9.0nm,5.0s						
BVAR	**Borovoye Array**	**50.10**	**308**	LR	LR	17 29 05.5	
	comp=Z,165nm,21.9s,baz=89,slow=37						
ARU	**Arti**	**52.84**	**317**	P	**P**	**17 07 13.3**	**+2.6**
ARU						17 09 10.2	
ARU				S	**S**	**17 14 37.3**	**+3.4**
ARU				SS	**SS**	**17 18 10.6**	**-2.0**
NVAR	**Mina Array Bea**	**54.44**	**72**	P	**P**	**17 07 25.1**	**+2.0**
	comp=Z,0.5nm,0.7s,baz=312,slow=7.2,SNR=5.1						
PFO	**Pinyon Flat Ob**	**58.97**	**75**	LR	LR	17 28 15.6	
	comp=Z,35nm,20.4s,baz=57,slow=31						
FINES	**FINESS Array B**	**59.04**	**337**	P	**P**	**17 07 52.6**	**-2.3**
	comp=Z,0.7nm,0.6s,baz=2.7,slow=4.0,SNR=5.2						
FINES	**FINESS Array B**	**59.04**	**337**	*i* P	**P**	**17 07 55.4**	**+0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**59.32**	**258**	P	**P**	**17 07 55.5**	**-2.0**
	comp=Z,0.3nm,0.7s,baz=33,slow=6.7,SNR=4.8						
CMAR	**Chiang Mai Arr**	**59.32**	**258**	*e*P	**P**	**17 07 57.3**	**-0.2**
OBN	**Obninsk**	**61.67**	**328**	*e*P	**P**	**17 08 12.9**	**0.0**
OBN				*e*PP	**pP**	**17 08 30.8**	**0.0**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KIV	**Kislovodsk**	**68.88**	**317**	*e*P	**P**	**17 08 57.6**	**-2.3**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TXAR	**Lajitas Array**	**69.27**	**68**	P	**P**	**17 09 03.9**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=292,slow=4.2,SNR=8.1						
ANN	**Anapa**	**70.16**	**321**	*e*P	P	17 09 02.3	-5.3
ANN				MLR	MLR		
	comp=Z,188nm,18.0s						
ASAR	**Alice Springs**	**81.51**	**205**	P	**P**	**17 10 13.3**	**+0.9**
	comp=Z,0.6nm,0.9s,baz=19,slow=4.7,SNR=12						

NNC 05 17:15:39.6±2.9, 36.89N×70.32E, h216km±24km, mb2.5, mpv3.7, 5C-5D, Error ellipse: s-maj=32.1km s-min=15.6km az=160.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.25**	**329**	⇑P	Pn	17 16 21.8	-0.2
	9.2nm,0.2s						
DZET				⇓S	S	17 16 55.7	+0.8
	243nm,0.5s						
SFK	**Sufi-Kurgan**	**4.00**	**38**	⇑P	Pn	17 16 41.6	-0.6
	2.6nm,0.3s						
SFK				⇑S	S	17 17 32.1	+0.8
	21nm,0.4s						
KK31	**Karatay Array**	**6.21**	**1**	⇑P	Pn	17 17 10.4	+0.7
	1.4nm,0.2s,baz=189,slow=14,SNR=103						
KK31				S	S	17 18 22.1	+0.8
	1.1nm,0.3s,baz=189,slow=22,SNR=6.0						
AAK	**Ala-Archa**	**6.58**	**28**	P	Pn	17 17 15.0	+0.4
	4.5nm,0.6s						
AAK				⇑S	S	17 18 30.0	-0.2
	15nm,0.8s						
TKM2	**Tokmak 2**	**7.26**	**32**	⇓P	Pn	17 17 23.2	-0.3
	5.9nm,0.6s						
TKM2				⇓S	S	17 18 46.0	-0.3
	5.7nm,0.8s						
MK31	**Makanchi Array**	**13.31**	**38**	⇓P	Pn	17 18 40.3	0.0
	0.4nm,0.4s,baz=219,slow=14,SNR=16						
AB31	**Akbulak array**	**14.48**	**332**	⇓P	P	17 18 56.7	+1.2
	0.6nm,0.4s,baz=138,slow=13,SNR=26						

*NEIC **05** 17:18:38.0±0.3,21.48S×179.31W, mb4.4/17, Error ellipse: s-maj=10.9km s-min=8.7km az=132.0*
*ISCJB **05** 17:18:38.2±0.6,21.48S±0.07×179.34W±0.06, h613km±8km, mb4.2/36, Error ellipse: s-maj=10.6km s-min=7.3km az=153.3*
*IDC **05** 17:18:38.6±0.5,21.42S×179.37W, h607km±5km, mb3.8/20, mb1 4.0/21, mb1mx3.9/25, mbtmp4.8/21, Error ellipse: s-maj=10.4km s-min=8.9km az=166.0*

ISC 05 17:18:38.6±0.5, 21.61S±0.06×179.27W±0.07, h613km±5km, h613km:pP-P, n170, σ1§25/195, mb4.3/36, 24C-17D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.61**	**326**	*e*P	**P**	**17 20 09.6**	**+0.1**
RAO	**Raoul Island**	**7.71**	**171**	P	**P**	**17 20 35.9**	**+0.5**
	291nm,0.3s,baz=265,slow=19,SNR=3.8						
NIUE	**Niue**	**9.12**	**76**	P	**P**	**17 20 48.5**	**-0.5**
	baz=9.1,SNR=4.2						
AFI	**Afiamalu**	**10.47**	**44**	*e*P	P	17 20 58.9	-3.5
	132nm,0.6s						
DZM	**Mont Dzumac**	**13.27**	**265**	P	**P**	**17 21 30.2**	**+0.1**
	3.0nm,0.3s,baz=183,slow=20,SNR=13						
URZ	**Urewera**	**16.88**	**190**	P	**P**	**17 22 02.0**	**-1.2**
	4.0nm,0.3s,baz=266,slow=3.8,SNR=18						
URZ				S	**S**	**17 24 43.7**	**-6.0**
	1.5nm,0.3s,baz=42,slow=24,SNR=8.6						
URZ	**Urewera**	**16.88**	**190**	*e*P	**P**	**17 22 02.8**	**-0.4**
	109nm,1.3s						
URZ				S	**S**	**17 24 43.6**	**-6.0**
RPZ	**Rata Peaks**	**23.47**	**198**	P	**P**	**17 23 00.9**	**-1.5**
	10nm,1.0s,baz=348,slow=3.1,SNR=7.8						
EIDS	**Eidsvold**	**27.42**	**256**	P	**P**	**17 23 38.4**	**+1.0**
	baz=27,SNR=14						
ARMA	**Armidale**	**27.52**	**245**	P	**P**	**17 23 40.6**	**+2.3**
	baz=28,SNR=17						
RMQ	**Roma**	**29.55**	**254**	P	**P**	**17 23 58.0**	**+2.1**
	baz=30,SNR=10						
CNB	**Canberra Magne**	**30.62**	**237**	P	**P**	**17 24 07.3**	**+2.3**
	baz=31,SNR=16						
CTA	**Charters Tower**	**32.22**	**266**	P	**P**	**17 24 19.2**	**+0.6**
	20nm,0.4s,baz=91,slow=11,SNR=60						
CTA				PcP	**PcP**	**17 26 47.8**	**-0.3**
	4.0nm,0.5s,baz=45,slow=1.4,SNR=3.6						
RABL	**Rabaul**	**32.68**	**298**	P	P	17 24 27.9	+5.3
	baz=33,SNR=4.3						
CMSA	**Cobar Meteorol**	**32.74**	**245**	P	**P**	**17 24 24.3**	**+1.5**
	baz=33,SNR=50						
QLP	**Quilpie**	**33.60**	**254**	P	**P**	**17 24 31.2**	**+1.0**
	baz=34,SNR=28						
TOO	**Toolangi**	**34.29**	**234**	P	**P**	**17 24 37.5**	**+1.8**
	baz=34,SNR=6.4						
MTSU	**Mount Surprise**	**34.37**	**269**	P	**P**	**17 24 37.5**	**+0.8**
	baz=34,SNR=25						
STKA	**Stephens Creek**	**36.24**	**245**	P	**P**	**17 24 53.5**	**+1.5**
	5.0nm,0.4s,baz=93,slow=10,SNR=36						
STKA				PcP	**PcP**	**17 26 59.8**	**0.0**
	2.4nm,0.8s,baz=105,slow=6.7,SNR=3.0						
STKA				ScP	**S**	**17 29 51.0**	**+0.7**
	4.5nm,1.1s,baz=88,slow=3.9,SNR=3.8						
COEN	**Coen**	**36.49**	**276**	P	**P**	**17 24 55.0**	**+0.9**
	baz=36,SNR=18						
HTT	**Hallett**	**38.66**	**243**	P	**P**	**17 25 12.7**	**+1.1**
	baz=39,SNR=4.3						
ASAR	**Alice Springs**	**43.12**	**258**	P	**P**	**17 25 47.4**	**+0.5**
	14nm,0.8s,baz=88,slow=8.0,SNR=317						
ASAR				PcP	**PcP**	**17 27 22.9**	**+0.5**
	4.6nm,0.7s,baz=105,slow=4.0,SNR=16						
ASAR				ScP	**ScP**	**17 30 18.8**	**+2.6**
	2.3nm,0.8s,baz=98,slow=4.1,SNR=10.0						
ASAR				S	**S**	**17 31 28.3**	**-2.1**
	5.1nm,0.8s,baz=95,slow=15,SNR=31						
ASAR				PKiKP	**PKiKP**	**17 34 21.8**	**-1.5**
	0.2nm,0.6s,baz=111,slow=1.4,SNR=4.8						
WRAB	**Tennant Creek**	**43.27**	**263**	*e*P	**P**	**17 25 47.6**	**-0.5**
	18nm,1.0s						
WRA	**Warramunga Arr**	**43.28**	**263**	P	**P**	**17 25 48.1**	**-0.1**
	4.9nm,0.3s,baz=96,slow=7.6,SNR=50						
WRA				PcP	**PcP**	**17 27 23.6**	**+0.7**
	1.5nm,0.6s,baz=96,slow=4.5,SNR=5.0						
WRA				ScP	**ScP**	**17 30 19.5**	**+2.7**
	1.5nm,0.8s,baz=92,slow=4.2,SNR=4.6						
WRA				S	**S**	**17 31 29.1**	**-3.6**
	2.1nm,0.8s,baz=99,slow=10,SNR=8.1						
WRA				PKiKP	**PKiKP**	**17 34 21.9**	**-1.6**
	0.7nm,1.0s,baz=72,slow=0.5,SNR=2.2						
JAY	**Jayapura**	**43.29**	**290**	P	**P**	**17 25 48.4**	**+0.1**
	36nm,0.6s,baz=139,slow=4.1,SNR=38						
KDU	**Kakadu**	**46.80**	**273**	P	**P**	**17 26 14.9**	**-0.1**
	baz=47,SNR=14						
WRKA	**Warakurna**	**48.03**	**255**	P	**P**	**17 26 24.5**	**+0.5**
	baz=48,SNR=15						
KNRA	**Kununurra**	**49.41**	**268**	P	**P**	**17 26 34.6**	**+0.3**
	baz=49,SNR=5.4						
GUMO	**Guam**	**49.62**	**312**	P	**P**	**17 26 35.3**	**-0.5**
	47nm,0.7s,baz=198,slow=20,SNR=3.3						
SOEI	**Soe**	**55.36**	**273**	P	**P**	**17 27 18.3**	**+1.4**
	baz=55,SNR=8.4						
SOEI	**Soe**	**55.36**	**273**	*e*P	**P**	**17 27 17.6**	**+0.7**
	17nm,0.6s						
MEEK	**Meekatharra**	**56.44**	**252**	P	**P**	**17 27 24.0**	**0.0**
	baz=56,SNR=3.4						
SBA	**Scott Base**	**56.69**	**184**	*e*P	P	17 27 28.1	+3.3
	17nm,1.0s						
VNDA	**Vanda**	**56.71**	**185**	P	**P**	**17 27 27.9**	**+3.0**
	4.5nm,0.7s,baz=357,slow=7.7,SNR=39						
CASY	**Casey**	**62.45**	**205**	*e*P	**P**	**17 28 04.4**	**+1.4**
	18nm,0.9s						
QSPA	**South Pole Qui**	**68.46**	**180**	P	**P**	**17 28 42.7**	**+2.0**
	36nm,0.8s,baz=82,slow=4.1,SNR=14						
QSPA				S	**S**	**17 36 54.3**	**-0.6**
	1.2nm,1.1s,baz=13,slow=15,SNR=2.8						
QSPA	**South Pole Qui**	**68.46**	**180**	*e*P	**P**	**17 28 42.6**	**+2.0**
	38nm,0.8s						
QSPA				S	**S**	**17 36 54.3**	**-0.6**
MJAR	**Matsushiro Arr**	**70.41**	**325**	P	**P**	**17 28 52.0**	**-0.5**
	2.6nm,0.5s,baz=164,slow=6.8,SNR=9.1						
TPUB	**Ta-pu**	**73.59**	**304**	*e*P	**P**	**17 29 09.6**	**-1.5**
KSRS	**Korea Array**	**76.94**	**319**	P	**P**	**17 29 28.8

	comp=Z,4.8nm,1.2s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**139.93**	**352**	PKhKP	PKPpre	17 36 49.8	
	comp=Z,1.7nm,0.6s,baz=16,slow=4.6,SNR=5.6						
NOA				PKP	**PKPdf**	**17 36 58.1**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=14,slow=4.0,SNR=3.8						
AKASG	**Malin Array Be**	**143.38**	**329**	PKP	PKPab	17 37 01.8	-1.0
	comp=Z,7.7nm,0.5s,baz=42,slow=4.4,SNR=53						
MALT	**Malatya**	**143.64**	**306**	⇑*i*P	**PKPdf**	**17 37 05.0**	**-0.2**
JHLN	**Al Jahlan**	**144.29**	**301**	*e*P	**PKPab**	**17 37 08.4**	**+1.6**
ZALF	**Zalf**	**145.72**	**297**	*e*P	**PKPbc**	**17 37 11.2**	**+0.6**
BTCH	**Batrach**	**145.76**	**303**	*e*P	**PKPbc**	**17 37 10.5**	**-0.2**
BEL	**Belsk**	**146.05**	**338**	*e*PKP	**PKPbc**	**17 37 11.4**	**+0.6**
ARNB	**Al Arnab**	**146.19**	**303**	*e*P	**PKPbc**	**17 37 12.2**	**+0.3**
ASF	**Jabal al Asfar**	**146.21**	**296**	PKPbc	**PKPdf**	**17 37 10.7**	**+1.0**
	comp=Z,3.8nm,0.7s,baz=72,slow=4.9,SNR=8.6						
SALA	**Sala**	**146.26**	**297**	*e*P	**PKPbc**	**17 37 13.1**	**+0.8**
TOTH	**TOTAH**	**146.39**	**298**	*e*P	**PKPbc**	**17 37 13.2**	**+0.8**
BRTR	**Keskin Array B**	**146.68**	**310**	PKPbc	**PKPbc**	**17 37 12.7**	**-0.5**
	comp=Z,6.2nm,0.7s,baz=134,slow=4.6,SNR=18						
BRTR				pPKPbc	pPKPbc	17 39 29.8	-2.2
	comp=Z,1.0nm,0.6s,baz=111,slow=3.2,SNR=4.0						
BRBR	**Barbar**	**146.78**	**298**	*e*P	**PKPbc**	**17 37 13.8**	**+0.1**
BSEG	**Bad Segeberg**	**146.91**	**350**	*e*PKPbc	**PKPbc**	**17 37 13.1**	**0.0**
KWP	**Kalwaria Pacia**	**147.06**	**333**	*e*PKP	**PKPbc**	**17 37 13.5**	**-0.2**
TLCR		**147.08**	**322**	⇑*i*P	**PKPbc**	**17 37 13.6**	**-0.2**
ANTO	**Ankara**	**147.22**	**311**	⇑*i*P	**PKPbc**	**17 37 14.4**	**-0.1**
BURAR	**Bucovina Array**	**147.41**	**329**	⇓*i*P	**PKPbc**	**17 37 15.4**	**+0.6**
TESR	**Tescani**	**147.44**	**326**	⇓*i*P	**PKPbc**	**17 37 14.3**	**-0.5**
CFR	**Carcaliu**	**147.47**	**323**	⇓*i*P	**PKPbc**	**17 37 14.9**	**+0.1**
RUE	**Ruedersdorf**	**147.58**	**345**	*e*PKPbc	**PKPbc**	**17 37 14.9**	**+0.1**
OJC	**Ojcow**	**147.74**	**337**	*e*PKP	**PKPbc**	**17 37 15.3**	**-0.1**
TIRR	**Tirgusor**	**147.74**	**321**	⇑*i*P	**PKPbc**	**17 37 15.5**	**-0.1**
KOLS	**Kolonicke sedl**	**147.78**	**333**	*e*PKP	**PKPbc**	**17 37 15.8**	**+0.2**
KOLS				*e*		17 39 34.9	
VRI	**Vrincioaia**	**147.82**	**325**	⇑*i*P	**PKPbc**	**17 37 15.4**	**-0.4**
STHS	**Stebnicka Huta**	**147.83**	**335**	*e*PKP	**PKPbc**	**17 37 16.1**	**+0.4**
STHS				*e*		17 39 34.8	
PLOR	**Plostina**	**147.87**	**325**	⇑*i*P	**PKPbc**	**17 37 16.0**	**+0.1**
HARR	**Harsova**	**147.88**	**322**	⇓*i*P	**PKPbc**	**17 37 15.1**	**-0.8**
NIE	**Niedzica**	**148.19**	**335**	*e*PKP	**PKPbc**	**17 37 17.0**	**+0.4**
EIL	**Elat**	**148.21**	**292**	PKPbc	**PKPbc**	**17 37 17.3**	**+0.1**
	baz=58,slow=5.4						
PSN	**Preselentsi**	**148.33**	**320**	⇓*i*P	**PKPbc**	**17 37 17.4**	**+0.3**
KSP	**Ksiaz**	**148.38**	**341**	*e*PKP	**PKPbc**	**17 37 17.3**	**+0.3**
DOPR	**Dopca**	**148.46**	**326**	⇓*i*P	**PKPbc**	**17 37 17.7**	**+0.3**
OKC	**Ostrava-Krasne**	**148.64**	**338**	⇑*i*PKP	**PKPbc**	**17 37 17.6**	**0.0**
UPC	**Upice**	**148.76**	**341**	⇑*e*PKP	**PKPbc**	**17 37 18.1**	**+0.2**
UPC				*ex*	x	17 39 42.8	
DPC	**Dobruska-Polom**	**148.80**	**341**	⇑*i*PKP	**PKPbc**	**17 37 18.5**	**+0.4**
CLL	**Collm**	**148.85**	**345**	*e*PKPbc	**PKPbc**	**17 37 18.1**	**0.0**
CLL	**Collm**	**148.85**	**345**	⇑*i*PKPbc	**PKPbc**	**17 37 18.0**	**0.0**
	comp=Z,30nm,1.3s						
CLL				*i* PKPab	**PKPab**	**17 37 24.0**	**-0.6**
	comp=Z,4.0nm,0.8s						
CLL				*i* pPKPab	**pPKPab**	**17 39 38.6**	**-0.8**
CLL				*i*		17 39 43.1	
	comp=Z,13nm,1.2s						
KECS	**Kecovo**	**148.88**	**334**	*e*PKP	**PKPbc**	**17 37 18.9**	**+0.6**
KRLC	**Kraliky**	**148.89**	**340**	⇑*e*PKP	**PKPbc**	**17 37 18.4**	**+0.1**
KRLC				*ep*PKP	**pPKPdf**	**17 39 38.8**	**+3.7**
MORC	**Moravsky Berou**	**148.90**	**339**	⇓*i*P	**PKPbc**	**17 37 18.7**	**+0.4**
MORC	**Moravsky Berou**	**148.90**	**339**	*e*PKPbc	**PKPbc**	**17 37 18.4**	**+0.1**
CLZ	**Clausthal**	**148.91**	**348**	*e*PKPbc	**PKPbc**	**17 37 18.4**	**+0.1**
VOIR		**148.99**	**326**	⇓*i*P	**PKPbc**	**17 37 18.6**	**-0.1**
BRG	**Berggiesshubel**	**149.01**	**344**	*e*PKP	**PKPbc**	**17 37 18.4**	**-0.1**
	comp=Z,17nm,1.2s						
BRG				*ep*PKP	pPKPdf	17 39 42.6	+7.4
	comp=Z,9.5nm,1.5s						
BRG				*e*		18 13 40.8	
BRG	**Berggiesshubel**	**149.01**	**344**	*e*PKPbc	**PKPbc**	**17 37 18.6**	**+0.1**
PRD	**Provadia**	**149.07**	**320**	⇑*i*P	**PKPbc**	**17 37 19.4**	**+0.5**
FBE	**Freiberg**	**149.12**	**344**	*e*PKPbc	**PKPbc**	**17 37 19.2**	**+0.5**
PVCC	**Panska Ves**	**149.16**	**343**	⇑*e*PKP	**PKPbc**	**17 37 19.2**	**+0.3**
DRGR		**149.20**	**330**	⇓*i*P	**PKPbc**	**17 37 19.2**	**0.0**
NEUB	**Neuenburg**	**149.22**	**346**	*e*PKPbc	**PKPbc**	**17 37 19.0**	**0.0**
ARR	**Arges**	**149.25**	**326**	⇑*i*P	**PKPbc**	**17 37 20.4**	**+1.0**
PSZ	**Piszkesteto**	**149.56**	**334**	*e*PKPbc	**PKPbc**	**17 37 20.6**	**+0.5**
PRA	**Prague**	**149.61**	**342**	⇑*e*PKP	**PKPbc**	**17 37 20.5**	**+0.6**
GOPC	**GO Pecny, Ondr**	**149.65**	**342**	⇑*e*PKP	**PKPbc**	**17 37 20.1**	**0.0**
GOPC				*ex*	x	17 39 44.5	
PRU	**Pruhonice**	**149.65**	**342**	⇑*e*PKP	**PKPbc**	**17 37 20.0**	**0.0**
PRU				*ex*	x	17 39 43.8	
MOX	**Moxa**	**149.79**	**346**	*e*PKPbc	**PKPbc**	**17 37 20.3**	**-0.1**
TANN	**Tannenbergstha**	**149.81**	**345**	*e*PKPbc	**PKPbc**	**17 37 20.4**	**-0.1**
PLN	**Plauen**	**149.81**	**345**	*e*PKPbc	**PKPbc**	**17 37 20.4**	**0.0**
WERD	**Werda**	**149.81**	**345**	*e*PKPbc	**PKPbc**	**17 37 20.5**	**0.0**
GUNZ	**Gunzen**	**149.88**	**345**	*e*PKPbc	**PKPbc**	**17 37 20.8**	**+0.2**
WERN	**Wernitzgruen**	**149.94**	**345**	*e*PKPbc	**PKPbc**	**17 37 21.0**	**+0.2**
NKC	**Novy Kostel**	**149.98**	**345**	⇑*e*PKP	**PKPbc**	**17 37 20.9**	**+0.1**
TREC	**Trest**	**149.99**	**341**	⇑*e*PKP	**PKPbc**	**17 37 20.9**	**0.0**
JMB	**Yambol**	**149.99**	**320**	⇓*i*P	**PKPbc**	**17 37 21.3**	**+0.2**
SIRR	**Siria**	**150.07**	**330**	⇑*i*P	**PKPbc**	**17 37 21.5**	**+0.3**
GZR	**Gura Zlata**	**150.18**	**328**	⇓*i*P	**PKPbc**	**17 37 20.1**	**-1.4**
MANZ	**Manzenberg**	**150.29**	**345**	*e*PKPbc	**PKPbc**	**17 37 21.7**	**+0.1**
ROTZ	**Rotzenmuhle**	**150.47**	**345**	*e*PKPbc	**PKPbc**	**17 37 22.1**	**+0.1**
SRS	**Strehaia**	**150.47**	**326**	⇓*i*P	**PKPbc**	**17 37 22.4**	**+0.3**
BZS	**Buzias**	**150.58**	**329**	⇓*i*P	**PKPbc**	**17 37 22.0**	**+0.3**
KHC	**Kasperske Hory**	**150.69**	**343**	⇑*e*PKP	**PKPbc**	**17 37 22.5**	**0.0**
KHC				*ep*PKP	pPKPdf	17 39 46.8	+8.8
KHC	**Kasperske Hory**	**150.69**	**343**	*e*PKPbc	**PKPbc**	**17 37 22.6**	**0.0**
MEM	**Membach**	**150.76**	**353**	PKP	**PKPbc**	**17 37 22.4**	**-0.2**
TNS	**Taunus Mts**	**150.80**	**350**	*e*PKPbc	**PKPbc**	**17 37 22.7**	**-0.1**
WET	**Wettzell**	**150.87**	**344**	*e*PKPbc	**PKPbc**	**17 37 22.8**	**-0.2**
GEC2	**GERESS Array S**	**150.92**	**342**	*e*PKPbc	**PKPbc**	**17 37 23.0**	**-0.2**
GERES	**GERESS Array B**	**150.92**	**342**	PKP	**PKPdf**	**17 37 16.2**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=323,slow=3.3,SNR=3.9						
GERES				PKPbc	**PKPbc**	**17 37 22.9**	**-0.3**
	comp=Z,4.7nm,0.7s,baz=42,slow=2.2,SNR=41						
GERES				pPKPbc	**pPKPbc**	**17 39 40.5**	**-2.9**
	comp=Z,0.6nm,0.6s,baz=45,slow=7.1,SNR=5.4						
CONA	**Conrad Observa**	**151.06**	**339**	⇑*i*PKiKP	**PKPbc**	**17 37 23.5**	**0.0**
	comp=Z,11nm,0.7s						
DOU	**Dourbes**	**151.41**	**355**	PKP	**PKPbc**	**17 37 24.1**	**0.0**
PKSM	**Moragy**	**151.44**	**333**	⇓*i*P	**PKPbc**	**17 37 24.2**	**-0.1**
WLF	**Walferdange**	**151.68**	**353**	*e*PKPbc	**PKPbc**	**17 37 25.0**	**+0.3**
VTS	**Vitosha**	**151.87**	**323**	⇓*i*P	**PKPbc**	**17 37 24.7**	**-0.9**
PERS	**Pernice**	**152.43**	**338**	*i* PKPbc	**PKPbc**	**17 37 25.6**	**-0.9**
DIVS	**Divibare**	**152.48**	**329**	⇓*i*P	**PKPbc**	**17 37 26.8**	**0.0**
BFO	**Black Forest**	**152.65**	**349**	*e*PKPbc	**PKPbc**	**17 37 25.3**	**-1.6**
WTTA	**Wattenberg**	**152.93**	**344**	⇑*i*PKPbc	**PKPbc**	**17 37 27.2**	**-0.5**
	comp=Z,11nm,1.0s						
PDKS	**Pedkum**	**152.97**	**338**	*i* PKPbc	**PKPbc**	**17 37 27.1**	**-0.6**
MOTA	**Moosalm**	**152.99**	**344**	⇑*i*PKPbc	**PKPbc**	**17 37 27.5**	**-0.3**
	comp=Z,5.9nm,0.9s						
BOJS	**Bojanci**	**153.36**	**337**	*i* PKPbc	**PKPbc**	**17 37 28.4**	**-0.1**
LIC	**Lamto**	**163.72**	**159**	*e*PKIKP	**PKPdf**	**17 37 28.6**	**-4.7**
	comp=Z,44nm,0.9s						
KIC	**Kosan Boka**	**163.94**	**160**	*e*PKP2	PKPdf	17 37 27.6	-6.0
	comp=Z,16nm,0.9s						
TIC	**Toumodi**	**164.12**	**159**	*e*PKP2	**PKPdf**	**17 37 29.1**	**-4.6**
DBIC	**Dimbokro**	**164.20**	**159**	PKP	**PKPdf**	**17 37 32.9**	**-0.9**
	comp=Z,3.6nm,0.6s,baz=220,slow=2.8,SNR=7.7						
DBIC				PKPab	**PKPab**	**17 38 31.5**	**-0.2**
	comp=Z,6.0nm,0.8s,baz=204,slow=5.9,SNR=8.9						
TORD	**Torodi Ar. Bea**	**171.53**	**186**	PKP	**PKPdf**	**17 37 37.8**	**-0.9**
	comp=Z,3.5nm,0.9s,baz=326,slow=0.8,SNR=17						
TORD				PKPab	**PKPab**	**17 39 04.5**	**+0.4**
	comp=Z,2.9nm,0.8s,baz=181,slow=4.1,SNR=11						
TORD				PP	**PP**	**17 42 53.8**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=166,slow=5.1,SNR=5.2						

MEX 05 17:20:42.0±0.8, 19°23N×98°92W, h10km±3km, MD3.7, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMVM	**AMECAMECA**	**0.16**	**126**	*i* P	Pg	17 20 44.8	-1.0
AMVM				*i* S	Sg	17 20 48.0	-0.6
PBIG	**Penon de los B**	**0.27**	**324**	*i* P	Pg	17 20 46.7	-0.7
PBIG				*i* S	Sg	17 20 51.2	+0.2
UNM	**Universidad Na**	**0.27**	**293**	*i* P	Pg	17 20 46.8	-1.0
UNM				*e*S	Sg	17 20 51.2	-0.5
MZVM		**0.29**	**263**	*i* P	Pg	17 20 47.3	-0.7
MZVM				*i* S	Sg	17 20 52.5	+0.6
PPM	**Popocatepetl**	**0.32**	**120**	*i* P	Pg	17 20 48.0	-1.1
PPM				*i* S	Sg	17 20 53.3	-0.4
YAIG	**Yautepec**	**0.39**	**201**	*e*P	Pg	17 20 47.7	-2.2
YAIG				*i* S	Sg	17 20 52.9	-2.3
IIO	**Organos**	**0.41**	**27**	*i* P	Pg	17 20 49.8	-0.8
IIO				*i* S	Sg	17 20 55.6	-0.8
MAVM	**Malinalco, Edo**	**0.61**	**244**	*e*P	Pg	17 20 51.9	-2.2
MAVM				*i* S	Sg	17 21 00.5	-1.7
ZUVM	**ZUMPANGO**	**0.62**	**346**	*e*P	Pg	17 20 53.1	-1.3
ZUVM				*e*S	Sg	17 21 02.0	-0.7
TOVM	**TOLUCA**	**0.72**	**275**	*e*P	Pg	17 20 54.3	-2.0
TOVM				*e*S	Sg	17 21 04.3	-1.8
PLIG	**Platanillo**	**1.00**	**214**	*e*P	Pg	17 20 58.8	-2.6
PLIG				*i* S	Sg	17 21 11.1	-3.3
ATVM	**ATLACOMULCO**	**1.02**	**302**	*e*P	Pg	17 20 59.4	-2.7
ATVM				*e*S	Sg	17 21 12.1	-3.6
DEIG	**Demacu**	**1.08**	**354**	*i* P	Pg	17 21 00.7	-2.4
DEIG				*i* S	Sg	17 21 12.6	-4.8
ARIG	**Puente Sto Nin**	**1.65**	**235**	*e*P	Pn	17 21 10.4	-0.7
ARIG				*e*S	Sn	17 21 31.5	-0.9
CAIG	**El Cayaco**	**2.52**	**211**	*e*P	Pn	17 21 24.1	+1.1
ZIIG	**Zihuatanejo**	**2.90**	**237**	*e*P	Pb	17 21 31.2	-2.7

NIED ***05*** *17:39:00, 33°.10N×142°.50E, h8km, Mw4.1 Best double couple: Mo1.67000×10^15 NP1:φs±17.00000°, δ23.00000°, λ-100.00000°. NP2:φs±208.00000°, δ67.00000°, λ-86.00000°.*

NEIC ***05*** *17:39:06.6±2.7, 32°.90N×142°.49E, h1km±16km, mb4.3/3, Error ellipse: s-maj=8.4km s-min=5.7km az=71.0*

IDC ***05*** *17:39:06.7±0.6, 32°.93N×142°.51E, h0km, mb3.8/15, mb1 4.0/18, mb1mx3.9/28, mbtmp3.8/18, ML3.6/3, MS3.1/4, Ms1 3.2/4, ms1mx2.8/39, Error ellipse: s-maj=20.3km s-min=15.5km az=84.0*

JMA ***05*** *17:39:07.9±0.3, 33°.14N×142°.45E, h5km, M3.9*

ISCJB ***05*** *17:39:09.9±0.5, 33°.05N±0°.04×142°.48E±0°.06, h33km, mb3.8/18, MS3.4/2, Error ellipse: s-maj=8.2km s-min=4.4km az=139.5*

ISC 05 17:39:11.4±0.6, 32°96N±0°.05×142°42E±0°.07, h33km, n48, σ1s60/65, mb3.8/18, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.07**	**325**	P	**Pn**	**17 39 41.8**	**-1.6**
BSO1				S	**Sn**	**17 40 07.9**	**+0.1**
JHJ2	**Mitsune**	**2.19**	**275**	P	**Pn**	**17 39 46.0**	**+0.5**
JHJ2				S	**Sb**	**17 40 14.0**	**-3.2**
JHJ2	**Mitsune**	**2.19**	**275**	*e*P	**Pn**	**17 39 45.4**	**-0.2**
BSO3	**Boso 3**	**2.43**	**320**	P	**Pn**	**17 39 48.1**	**-0.5**
BSO3				S	**Sn**	**17 40 18.1**	**+1.1**
BSO4	**Boso 4**	**2.66**	**320**	P	**Pn**	**17 39 51.8**	**-0.1**
BSO4				S	**Sn**	**17 40 23.5**	**+0.5**
KTR	**Katsuura**	**2.80**	**322**	S	**Sn**	**17 40 25.8**	**-0.6**
JOD2	**Odawara 2**	**3.59**	**311**	P	**Pn**	**17 40 03.3**	**-1.5**
JOD2				S	**Sn**	**17 40 45.9**	**-0.3**
JYT	**Yasato**	**3.74**	**331**	P	**Pn**	**17 40 06.2**	**-0.6**
JYT				S	**Sn**	**17 40 49.4**	**-0.3**
JHU	**Hanno**	**3.88**	**319**	P	**Pn**	**17 40 08.1**	**-0.7**
JHU				S	**Sn**	**17 40 51.9**	**-1.3**
JHO	**Hitachi**	**3.95**	**338**	P	**Pn**	**17 40 07.4**	**-2.3**
JHO				S	**Sn**	**17 40 50.0**	**-4.9**
JYN	**Shimob**	**4.09**	**309**	P	**Pn**	**17 40 12.1**	**+0.4**
JYN				S	**Sn**	**17 40 58.6**	**+0.2**
JRY	**Ryogami san**	**4.21**	**317**	P	**Pn**	**17 40 11.8**	**-1.6**
JRY				S	**Sn**	**17 41 01.2**	**-0.2**
JAG	**Ashikaga**	**4.23**	**326**	P	**Pn**	**17 40 12.7**	**-0.9**
JAG				S	**Sn**	**17 41 00.1**	**-1.8**
JNY	**Yasuok**	**4.47**	**304**	P	**Pn**	**17 40 18.3**	**+1.3**
JFK	**Kawauchi**	**4.58**	**344**	P	**Pn**	**17 40 15.5**	**-2.9**
JFK				S	Sn	17 41 03.3	-7.1
JFT	**Otama**	**4.86**	**340**	P	**Pn**	**17 40 20.9**	**-1.3**
JFT				X		17 41 12.2	
MJAR	**Matsushiro Arr**	**4.98**	**317**	Pn	**Pn**	**17 40 23.4**	**-0.5**
	1.7nm,0.3s,baz=157,slow=12,SNR=16						
MJAR				Sn	**Sn**	**17 41 18.6**	**-1.7**
	2.0nm,0.3s,baz=147,slow=24,SNR=6.6						
MAJO	**Matsushiro** 24nm,0.8s	**4.98**	**317**	*e*P	**Pn**	**17 40 23.9**	**0.0**
MAT	**Matsushiro**	**4.98**	**317**	P	**Pn**	**17 40 23.7**	**-0.1**
MAT				S	**Sn**	**17 41 19.3**	**-1.0**
MAT	**Matsushiro**	**4.98**	**317**	P	**Pn**	**17 40 23.8**	**-0.1**
MAT				S	**Sn**	**17 41 19.6**	**-0.7**
JNS	**Sasagawa**	**5.47**	**333**	P	**Pn**	**17 40 29.6**	**-1.0**
JNS				S	**Sn**	**17 41 31.7**	**-0.7**
CBIJ	**Chichi jima**	**5.85**	**182**	Pn	**Pn**	**17 40 33.7**	**-2.1**
CBIJ				Sn	**Sn**	**17 41 36.2**	**-5.5**
JCJ	**Chichijima**	**5.85**	**182**	Pn	**Pn**	**17 40 33.7**	**-2.1**
	7.8nm,0.3s,baz=296,slow=22,SNR=8.0						
JCJ				Sn	**Sn**	**17 41 36.2**	**-5.5**
	12nm,0.3s,baz=342,slow=20,SNR=2.6						
JMK	**Ichinoseki**	**6.06**	**351**	P	**Pn**	**17 40 36.9**	**-1.8**
JMK				S	Sn	17 41 39.8	-7.0
ASAJ	**Asahikawa** baz=223,slow=9.1	**11.14**	**1**	Pn	**Pn**	**17 41 44.8**	**-3.5**
ASAJ				Sn	Sn	17 43 42.6	-9.1
	baz=198,slow=19						
KSRS	**Korea Array**	**12.67**	**295**	Pn	**Pn**	**17 42 09.7**	**+0.4**
	0.1nm,0.3s,baz=108,slow=12,SNR=3.3						
KSRS				LR	LR	17 47 27.1	
	comp=Z,61nm,20.2s,baz=82,slow=39						
KSAR	**Wonju Array Be**	**12.70**	**295**	Pn	**Pn**	**17 42 09.7**	**0.0**
USRK	**Ussuriysk Ar.**	**13.86**	**327**	LR	LR	17 47 58.3	
	comp=Z,46nm,20.4s,baz=182,slow=38						
ENH	**Enshi** 1.8nm,0.4s	**28.11**	**273**	*e*P	**P**	**17 44 59.7**	**-0.7**
SEY	**Seymchan**	**30.65**	**9**	P	**P**	**17 45 22.6**	**+0.2**
	0.9nm,0.7s,baz=182,slow=8.2,SNR=6.6						
SONM	**Songino Array**	**30.88**	**309**	P	**P**	**17 45 25.4**	**+0.6**
	0.8nm,0.6s,baz=93,slow=8.9,SNR=5.7						
CMAR	**Chiang Mai Arr**	**41.45**	**261**	P	**P**	**17 46 55.7**	**+0.4**
	0.4nm,0.9s,baz=49,slow=9.0,SNR=4.2						
CMAR				LR	LR	18 06 43.0	
	comp=Z,22nm,18.7s,baz=310,slow=40						
ZALV	**Zalesovo Beam**	**45.33**	**315**	P	**P**	**17 47 26.6**	**+0.5**
	0.2nm,0.3s,baz=90,slow=5.0,SNR=3.7						
ZALV				PcP	**PcP**	**17 49 05.8**	**+0.5**
	1.0nm,0.7s,baz=112,slow=1.6,SNR=4.6						
MKAR	**Makanchi Array**	**47.07**	**306**	P	**P**	**17 47 40.9**	**+1.0**
	1.4nm,0.9s,baz=93,slow=8.8,SNR=9.0						
KURK	**Kurchatov** 8.2nm,0.9s	**49.16**	**311**	*e*P	**P**	**17 47 56.6**	**+0.6**
ILAR	**Eielson Array**	**52.53**	**31**	P	**P**	**17 48 20.8**	**-0.4**
	0.5nm,0.7s,baz=273,slow=6.8,SNR=6.0						
WRA	**Warramunga Arr**	**53.17**	**190**	P	**P**	**17 48 25.8**	**-0.5**
	1.6nm,0.5s,baz=6.7,slow=7.7,SNR=10						
WRA				PcP	**PcP**	**17 49 34.8**	**+0.7**
	1.0nm,0.8s,baz=9.3,slow=4.1,SNR=2.7						
KKAR	**Karatay Array** 0.6nm,0.5s	**55.95**	**303**	*e*P	**P**	**17 48 47.0**	**+0.5**
ASAR	**Alice Springs**	**56.89**	**189**	P	**P**	**17 48 53.0**	**-0.2**
	0.6nm,0.7s,baz=353,slow=5.8,SNR=24						
ASAR				PcP	**PcP**	**17 49 50.1**	**+1.7**
	0.7nm,0.8s,baz=17,slow=4.4,SNR=6.0						
FINES	**FINESS Array B**	**72.81**	**333**	P	**P**	**17 50 36.9**	**+0.6**
	2.2nm,0.9s,baz=266,slow=5.6,SNR=4.6						
KBZ	**Khabaz** 1.4nm,0.6s,baz=47,slow=2.2,SNR=4.0	**74.21**	**312**	P	**P**	**17 50 46.1**	**+1.3**
NVAR	**Mina Array Bea**	**76.78**	**53**	P	**P**	**17 51 00.7**	**+0.7**
	0.5nm,0.7s,baz=283,slow=8.2,SNR=5.8						
NOA	**NORSAR Array B**	**78.26**	**338**	P	**P**	**17 51 08.4**	**+0.7**
	0.8nm,0.8s,baz=15,slow=5.3,SNR=3.3						
PDAR	**Pinedale Array**	**79.93**	**45**	P	**P**	**17 51 17.6**	**+0.1**
	0.2nm,0.4s,baz=349,slow=2.8,SNR=3.8						
BRTR	**Keskin Array B**	**82.19**	**313**	P	**P**	**17 51 30.1**	**+0.8**
	0.8nm,0.7s,baz=53,slow=4.8,SNR=4.5						
CLL	**Collm**	**85.04**	**331**	*e*P	**P**	**17 51 44.0**	**+0.4**
GERES	**GERESS Array B**	**86.61**	**329**	LR	LR	18 34 16.3	
	comp=Z,27nm,18.1s,baz=355,slow=38						
TXAR	**Lajitas Array**	**91.93**	**53**	P	**P**	**17 52 17.2**	**+0.3**
	0.5nm,0.8s,baz=322,slow=2.6,SNR=6.3						

IDC 05 17:40:55.6±5.2, 17°19S×65°48W, h0km, mb4.1/1, mb1 4.3/2, mb1mx3.7/21, mbtmp4.2/2, ML4.5/1, MS3.1/4, Ms1 3.2/4, ms1mx2.9/25, Error ellipse: s-maj=260.1km s-min=26.7km az=9.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.69**	**289**	Pn	Pn	17 41 40.9	-0.1
	69nm,0.3s,baz=110,slow=12,SNR=865						
LPAZ				Sn	Sn	17 42 15.6	+0.7
	300nm,0.3s,baz=36,slow=19,SNR=41						
LPAZ				LR	LR	17 42 48.1	
	comp=Z,250nm,18.0s,baz=130,slow=42						
CPUP	**Villa Florida**	**11.83**	**142**	LR	LR	17 48 24.3	
	comp=Z,40nm,19.9s,baz=332,slow=38						
TORD	**Torodi Ar. Bea**	**72.85**	**70**	P	P	17 52 27.1	+0.2
	1.6nm,0.8s,baz=256,slow=6.6,SNR=7.7						
TORD				LR	LR	18 23 02.5	
	comp=Z,45nm,18.2s,baz=180,slow=35						
NOA	**NORSAR Array B**	**98.60**	**29**	LR	LR	18 34 23.6	
	comp=Z,7.3nm,20.4s,baz=75,slow=32						
SONM	**Songino Array** 0.2nm,0.3s,baz=323,slow=2.2,SNR=3.0	**148.72**	**11**	PKPbc	PKPbc	18 00 44.3	-0.9

ISCJB ***05*** *17:48:19.3±1.0, 33°.25N±0°.07×142°.73E±0°.09, h33km, mb3.6/2, Error ellipse: s-maj=12.5km s-min=7.0km az=143.2*

JMA ***05*** *17:48:19.8±0.3, 33°.16N×142°.61E, h63km, M3.4*

IDC ***05*** *17:48:22.8±1.8, 32°.30N×140°.64E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.3/26, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=76.4km s-min=22.8km az=83.0*

ISC 05 17:48:19.7±1.5, 33°18N±0°.09×142°8E±0°.1, h33km, n19, σ1s08/33, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.09**	**315**	P	**Pn**	**17 48 52.2**	**+0.4**
BSO1				S	**Sn**	**17 49 17.1**	**+0.7**
BSO2	**Boso 2**	**2.29**	**314**	S	**Sn**	**17 49 21.8**	**+0.1**
BSO3	**Boso 3**	**2.47**	**311**	P	**Pn**	**17 48 57.3**	**-0.1**
BSO3				S	**Sn**	**17 49 26.7**	**+0.4**
BSO4	**Boso 4**	**2.70**	**313**	P	**Pn**	**17 49 01.5**	**+0.8**
BSO4				S	**Sn**	**17 49 32.8**	**+0.6**
JOD2	**Odawara 2**	**3.69**	**305**	P	**Pn**	**17 49 13.8**	**-0.5**
JOD2				S	**Sn**	**17 49 53.7**	**-3.0**
JYT	**Yasato**	**3.70**	**326**	P	**Pn**	**17 49 16.1**	**+1.6**
JYT				S	**Sn**	**17 49 57.5**	**+0.5**
JHO	**Hitachi**	**3.87**	**333**	P	**Pn**	**17 49 17.1**	**+0.3**
JHO				S	**Sn**	**17 50 00.4**	**-0.7**
JHU	**Hanno**	**3.92**	**314**	P	**Pn**	**17 49 18.7**	**+1.2**
JHU				S	**Sn**	**17 50 01.4**	**-1.0**
JYN	**Shimob**	**4.19**	**305**	P	**Pn**	**17 49 21.9**	**+0.6**
JYN				S	**Sn**	**17 50 08.7**	**-0.4**
JAG	**Ashikaga**	**

	baz=213							
ENA				S		Sn	18 00 14.3	+0.8
	baz=213							
ENTT	**Nioudou**	**0.39**	**263**	*eP*		**Pn**	18 00 06.2	0.0
	baz=257							
ENTT				*eS*		**Sn**	18 00 14.5	+0.3
	baz=257							
NWF	**Wu-fen Shan**	**0.43**	**334**	P		**Pn**	18 00 06.3	-0.4
	baz=335							
NWF				*eS*		**Sn**	18 00 14.5	-0.5
	baz=335							
TWA	**Mucha**	**0.47**	**309**	P		**Pn**	18 00 06.5	-0.5
	baz=308							
TWA				*eS*		**Sn**	18 00 14.8	-0.8
	baz=308							
TAP	**Taipei**	**0.56**	**309**	*eP*		**Pn**	18 00 07.3	-0.8
	baz=308							
TAP				*eS*		**Sn**	18 00 17.3	0.0
	baz=308							
NSK	**Sanguang**	**0.57**	**269**	P		**Pn**	18 00 07.6	-0.7
	baz=265							
NSK				S		**Sn**	18 00 16.8	-0.8
	baz=265							
NNS	**Nan Shan**	**0.61**	**246**	*eP*		**Pn**	18 00 08.4	-0.3
	baz=242							
NNS				*eS*		**Sn**	18 00 18.3	-0.2
	baz=242							
TWS1	**Kuangyinshan**	**0.66**	**309**	P		**Pn**	18 00 08.8	-0.4
	baz=308							
TWS1				S		**Sn**	18 00 19.0	-0.3
	baz=308							
TWY	**Chenhua**	**0.69**	**329**	*eP*		**Pn**	18 00 08.9	-0.5
	baz=330							
TWY				*eS*		**Sn**	18 00 20.6	+0.9
	baz=330							
TWD	**Chiawan**	**0.70**	**211**	*eP*		**Pn**	18 00 09.0	-0.7
	baz=207							
TWD				*eS*		**Sn**	18 00 20.2	+0.1
	baz=207							
NCU	**National Centr**	**0.78**	**291**	*eP*		**Pn**	18 00 10.2	-0.4
	baz=289							
NCU				*eS*		**Sn**	18 00 21.6	-0.2
	baz=289							
HWA	**Hwalien**	**0.79**	**206**	*eP*		**Pn**	18 00 10.2	-0.6
	baz=203							
HWA				*eS*		**Sn**	18 00 21.1	-0.9
	baz=203							
WHF	**Hehuan Shan**	**0.85**	**231**	*eP*		**Pn**	18 00 11.3	-0.7
	baz=227							
WHF				*eS*		**Sn**	18 00 23.7	-0.4
	baz=227							
TWT	**Tachien**	**0.86**	**240**	*eP*		**Pn**	18 00 11.9	+0.1
	baz=237							
TWT				*eS*		**Sn**	18 00 24.2	+0.4
	baz=237							
NSTT	**Nanjuang**	**0.90**	**267**	*eP*		**Pn**	18 00 11.3	-0.8
	baz=264							
NSTT				*eS*		**Sn**	18 00 23.7	-0.8
	baz=264							
JYNG	**Yonagunijimaku**	**0.90**	**105**	P		**Pn**	18 00 12.0	-0.1
JYNG				*eS*		**Sn**	18 00 24.7	+0.2
HSN	**Hsinchu**	**0.93**	**277**	*eS*		**Sn**	18 00 24.2	-1.1
	baz=277							
PCYT	**Pengchaiyu**	**0.94**	**5**	*eP*		**Pn**	18 00 12.4	-0.3
	baz=6.0							
PCYT				*eS*		**Sn**	18 00 26.8	+1.3
	baz=6.0							
YOJ	**Yonaguni jima**	**0.96**	**103**	P		**Pn**	18 00 12.7	-0.2
YOJ				*eS*		**Sn**	18 00 26.0	+0.2
ESL	**Shilin**	**1.01**	**210**	*eP*		**Pn**	18 00 11.9	-1.7
	baz=207							
ESL				*eS*		**Sn**	18 00 25.4	-1.5
	baz=207							
NSY	**Sanyi**	**1.15**	**257**	*eP*		**Pn**	18 00 15.1	-0.3
	baz=254							
NSY				*eS*		**Sn**	18 00 30.3	0.0
	baz=254							
TWQ1	**Liyutan**	**1.16**	**253**	*eP*		**Pn**	18 00 15.1	-0.5
	baz=251							
TWQ1				*eS*		**Sn**	18 00 29.8	-0.7
	baz=251							
WDT	**Danda**	**1.21**	**220**	*eP*		**Pn**	18 00 15.9	-0.6
	baz=218							
WDT				*eS*		**Sn**	18 00 30.8	-1.4
	baz=218							
SMLT	**Sun Moon Lake**	**1.27**	**231**	*eP*		**Pn**	18 00 17.4	+0.2
	baz=229							
SMLT				*eS*		**Sn**	18 00 34.8	+1.3
	baz=229							
TYC	**Yuchr**	**1.29**	**233**	*eP*		**Pn**	18 00 17.3	0.0
	baz=231							
TYC				*eS*		**Sn**	18 00 34.7	+1.0
	baz=231							
TCU	**Taichung**	**1.31**	**246**	*eP*		**Pn**	18 00 17.2	-0.3
	baz=244							
TCU				*eS*		**Sn**	18 00 35.3	+1.1
	baz=244							
EHY	**Hungye**	**1.32**	**208**	*eP*		**Pn**	18 00 16.6	-1.1
	baz=205							
EHY				*eS*		**Sn**	18 00 33.5	-1.0
	baz=205							
WNT	**Mingjian**	**1.44**	**236**	*eP*		**Pn**	18 00 19.6	+0.4
	baz=234							
WNT				*eS*		**Sn**	18 00 37.8	+0.6
	baz=234							
TWF1	**Yuli**	**1.47**	**206**	*eP*		**Pn**	18 00 19.3	-0.4
	baz=203							
YUS	**Yu-Shan**	**1.52**	**219**	*eP*		**Pn**	18 00 20.7	-0.1
	baz=216							
YUS				*eS*		**Sn**	18 00 40.4	+0.5
	baz=216							
ALS	**Alishan**	**1.59**	**223**	*eP*		**Pn**	18 00 22.0	+0.4
	baz=221							
ALS				*eS*		**Sn**	18 00 42.7	+1.3
	baz=221							
CHN5	**Tsauling**	**1.61**	**228**	*eP*		**Pn**	18 00 22.2	+0.4
	baz=226							
CHN5				*eS*		**Sn**	18 00 42.7	+1.1
	baz=226							
IRIF	**Iriomote-Funau**	**1.62**	**102**	P		**Pn**	18 00 21.5	-0.2
IRIF				*eS*		**Sn**	18 00 41.5	-0.1
WGK	**Gukeng**	**1.64**	**233**	*eP*		**Pn**	18 00 22.0	+0.1
	baz=231							
WGK				*eS*		**Sn**	18 00 42.8	+0.8
	baz=231							
CHKT	**Chengkung**	**1.68**	**200**	*eP*		**Pn**	18 00 21.9	-0.6
	baz=198							
CHKT				*eS*		**Sn**	18 00 39.6	-3.4
	baz=198							
WTCT	**Ta-ch'eng**	**1.76**	**243**	*eS*		**Sn**	18 00 44.1	-0.8
	baz=240							
CHN2	**Minshiung**	**1.80**	**231**	*eS*		**Sn**	18 00 47.0	+1.1
	baz=229							
CHN4	**Tsaushan**	**1.84**	**224**	*eP*		**Pn**	18 00 25.2	+0.5
	baz=222							
CHN4				*eS*		**Sn**	18 00 49.8	+2.8
	baz=222							
CHY	**Chiayi**	**1.86**	**231**	*eP*		**Pn**	18 00 24.8	-0.1
	baz=229							
CHY				*eS*		**Sn**	18 00 47.6	+0.4
	baz=229							
STYT	**Tauyuan**	**1.89**	**217**	*eP*		**Pn**	18 00 26.0	+0.6
	baz=215							
STYT				*eS*		**Sn**	18 00 49.5	+1.3
	baz=215							
JKRS	**Kuro-shima**	**1.90**	**103**	P		**Pn**	18 00 25.5	+0.1
JKRS				*eS*		**Sn**	18 00 48.7	+0.5
WTP	**Ta-pu**	**1.91**	**222**	*eP*		**Pn**	18 00 26.0	+0.3
	baz=219							
WTP				*eS*		**Sn**	18 00 51.0	+2.3
	baz=219							
WSF	**Szhu**	**1.92**	**237**	*eS*		**Sn**	18 00 48.4	-0.5
	baz=235							
TWK	**Hsinying**	**1.97**	**224**	*eP*		**Pn**	18 00 27.6	+1.1
	baz=222							
TWK				*eS*		**Sn**	18 00 52.8	+2.7
	baz=222							
JIJ	**Ishigaki jima**	**1.99**	**99**	P		**Pn**	18 00 26.5	-0.2
JIJ				*eS*		**Sn**	18 00 50.1	-0.4
CHN1	**Nanshi**	**2.00**	**222**	*eP*		**Pn**	18 00 27.6	+0.7
	baz=220							
CHN1				*eS*		**Sn**	18 00 53.5	+2.5
	baz=220							
SGST	**Jiashian**	**2.05**	**219**	*eP*		**Pn**	18 00 28.4	+0.9
	baz=217							
SGST				*eS*		**Sn**	18 00 53.5	+1.4
	baz=217							
JISG	**Ishigakijimahi**	**2.12**	**92**	P		**Pn**	18 00 28.4	0.0
JISG				*eS*		**Sn**	18 00 53.3	-0.3
SCLT	**Jiali**	**2.23**	**228**	*eS*		**Sn**	18 00 56.2	-0.1
	baz=226							
ECL	**Taimali**	**2.29**	**205**	*eP*		**Pn**	18 00 30.3	-0.4
	baz=203							
ECL				*eS*		**Sn**	18 00 54.9	-2.9
	baz=203							
SSD	**Sandimen**	**2.30**	**213**	*eP*		**Pn**	18 00 32.1	+1.2
	baz=211							
SSD				*eS*		**Sn**	18 00 59.2	+1.1
	baz=211							
EAST	**Anshuo**	**2.52**	**205**	*eP*		**Pn**	18 00 35.9	+1.9
	baz=203							
EAST				*eS*		**Sn**	18 01 02.1	-1.5
	baz=203							
WDGT	**Dungji**	**2.56**	**237**	*eS*		**Sn**	18 01 01.3	-3.2
	baz=235							

*IDC **05** 18:04:09.0±1.0, 23.°10N×143.°74E, h0km, mb3.7/9, mb1 3.8/10, mb1mx3.6/26, mbtmpg3.7/10, ML3.3/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/3, Error ellipse: s-maj=34.9km s-min=20.5km az=75.0*

*ISCJB **05** 18:04:14.0±0.8, 23.°1N±0.°1×143.°6E±0.°2, h48km, mb3.6/9, MS3.2/1, Error ellipse: s-maj=28.7km s-min=15.2km az=162.9*

ISC 05 18:04:15.6±0.9, 23.°1N±0.°1×143.°6E±0.°2, h48km, n12, σ0§88/10, mb3.7/9, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**9.53**	**173**		LR	LR	18 09 41.2	
	comp=Z,49nm,20.1s,baz=5.5,slow=35							
KSRS	**Korea Array**	**19.68**	**320**	P		**Pn**	18 08 42.3	-0.1
	0.1nm,0.3s,baz=134,slow=12,SNR=3.7							
USRK	**Ussuriysk Ar.**	**23.12**	**338**	P		**P**	18 09 18.6	+1.2
	1.6nm,0.7s,baz=144,slow=10,SNR=4.4							
SONM	**Songino Array**	**38.54**	**319**	P		**P**	18 11 34.0	+0.3
	0.3nm,0.5s,baz=132,slow=8.7,SNR=2.8							
CTA	**Charters Tower**	**43.00**	**176**	P		**P**	18 12 10.8	+0.3
	2.4nm,0.5s,baz=350,slow=12,SNR=4.0							
WRA	**Warramunga Arr**	**43.73**	**193**	P		**P**	18 12 16.2	-0.2
	0.4nm,0.3s,baz=15,slow=8.2,SNR=3.8							
ZALV	**Zalesovo Beam**	**53.38**	**321**	P		**P**	18 13 28.6	-1.6
	0.6nm,0.6s,baz=116,slow=6.6,SNR=3.4							
MKAR	**Makanchi Array**	**54.07**	**312**	P		**P**	18 13 36.1	+0.7
	0.5nm,0.4s,baz=88,slow=9.3,SNR=15							
ILAR	**Eielson Array**	**60.60**	**27**	P		**P**	18 14 20.8	-0.4
	0.5nm,0.8s,baz=267,slow=6.1,SNR=6.3							
AKTO	**Aktyubinsk**	**69.82**	**317**	LR		LR	18 47 19.6	
	comp=Z,14nm,18.4s,slow=37							
NVAR	**Mina Array Bea**	**81.95**	**52**	P		**P**	18 16 31.3	+0.5
	0.2nm,0.6s,baz=298,slow=3.9,SNR=3.0							
FINES	**FINESS Array B**	**82.10**	**335**	P		**P**	18 16 30.2	-0.6
	0.3nm,0.3s,baz=81,slow=3.6,SNR=7.4							

*ISCJB **05** 18:08:28.5±1.4, 7.°45S×0.°09×124.°35E±0.°08, h33km, Error ellipse: s-maj=14.3km s-min=9.9km az=24.8*

*DJA **05** 18:08:29.9±4.6, 8.°5S×12.°4E±°, h17km±64km, M3.7/6, mb3.6/2, MLv3.7/6*

ISC 05 18:08:31.6±1.9, 7.°6S±0.°1×124.°29E±0.°10, h35km, n9, σ2§13/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.12**	**181**	P		**Pn**	18 09 05.7	+1.1
SOEI				S		**Sn**	18 09 32.3	+2.5
SOEI	**Soe**	**2.12**	**181**	P		**Pn**	18 09 06.8	+2.2
	baz=1.8,SNR=74							
MMRI	**Maumere**	**2.27**	**244**	P		**Pn**	18 09 06.0	-0.6
MMRI				S		**Sn**	18 09 34.6	+1.3
BSSI	**Bau Bau, Buton**	**4.05**	**291**	P		**Pn**	18 09 30.5	-0.6
WSI	**Waingapu**	**4.44**	**242**	P		**Pn**	18 09 36.0	-0.4
KNRA	**Kununurra**	**9.12**	**152**	P		**Pn**	18 10 37.8	-3.0
	baz=8.7,SNR=3.4							
KDU	**Kakadu**	**9.50**	**123**	P		**Pn**	18 10 46.8	+0.8
	baz=9.1,SNR=7.8							
WRKA	**Warakurna**	**17.73**	**168**	P		**Pn**	18 12 33.1	-2.8
	baz=17,SNR=3.4							
QIS	**Mount Isa**	**19.62**	**133**	P		P	18 12 50.4	-6.8
	baz=19,SNR=4.9							

WEL 05 18:10:34.3±0.4, 38.°25S×175.°49E, h169km±4km, ML3.5/12, 3C, Error ellipse: s-maj=5.2km s-min=4.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WHVZ	**Whangaehu Hut**	**1.03**	**176**	PN		Pn	18 11 01.1	-0.4
WHVZ				SN		Sn	18 11 22.9	+0.3
WNVZ	**Wahianoa**	**1.08**	**175**	PN		Pn	18 11 02.1	+0.4
WNVZ				SN		Sn	18 11 22.3	-0.8
MOVZ	**Moawhango**	**1.18**	**170**	⇑PN		Pn	18 11 02.7	+0.3
MOVZ				SN		Sn	18 11 23.9	-0.3
BKZ	**Black Stump Fm**	**1.21**	**140**	⇑PN		Pn	18 11 02.8	+0.1
BKZ				SN		Sn	18 11 24.4	-0.2
URZ	**Urewera**	**1.28**	**91**	PN		Pn	18 11 03.0	-0.2
URZ				SN		Sn	18 11 25.0	-0.5
URZ				SN			18 11 25.1	
BHHZ	**Black Hill Sta**	**1.32**	**160**	PN		Pn	18 11 03.7	0.0
BHHZ				SN		Sn	18 11 25.6	-0.9
RAHZ	**Arahi**	**1.42**	**118**	PN		Pn	18 11 04.9	+0.3
RAHZ				SN		Sn	18 11 28.8	+0.8
KRHZ	**Kereru**	**1.55**	**154**	PN		Pn	18 11 05.7	-0.1
ARHZ	**Aropaoanui**	**1.56**	**131**	PN		Pn	18 11 06.0	+0.2
PNHZ	**Pukenui**	**1.75**	**162**	PN		Pn	18 11 07.3	-0.6
TSZ	**Takapari Road**	**1.84**	**169**	⇑PN		Pn	18 11 08.2	-0.7
TSZ				AML		AML	18 11 34.9	
HAZ	**Te Kaha**	**1.88**	**75**	PN		Pn	18 11 08.4	-0.8
WPHZ	**Waipukurau**	**1.96**	**158**	PN		Pn	18 11 09.3	-0.9
WPHZ				SN		Sn	18 11 35.9	-2.1
PXZ	**Pawanui**	**2.08**	**149**	AML		AML	18 10 60.0	
PXZ				PN		Pn	18 11 10.3	-1.1
PXZ				AML		AML	18 11 30.8	
ANWZ	**Angora Road**	**2.34**	**161**	PN		Pn	18 11 12.9	-1.5
MRZ	**Mangatainoka R**	**2.41**	**178**	PN		Pn	18 11 13.5	-1.8
MRZ				SN		Sn	18 11 43.4	-3.8
OGWZ	**Otaki Gorge**	**2.58**	**185**	PN		Pn	18 11 15.5	-1.7
HOWZ	**Holdsworth Sta**	**2.65**	**180**	PN		Pn	18 11 15.7	-2.4
KIW	**Kapiti Island**	**2.65**	**190**	PN		Pn	18 11 15.9	-2.1
CAW	**Cannon Point**	**2.87**	**186**	PN		Pn	18 11 18.5	-2.4
TCW	**Tory Channel**	**3.10**	**197**	PN		Pn	18 11 21.3	-2.3
TRWZ	**Traveller**	**3.15**	**177**	PN		Pn	18 11 21.2	-3.1
MSWZ	**Moikau Station**	**3.17**	**183**	PN		Pn	18 11 21.3	-3.2
TUWZ	**Tuamarina**	**3.39**	**200**	PN		Pn	18 11 24.6	-2.7
QRZ	**Quartz Range**	**3.44**	**221**	PN		Pn	18 11 25.0	-2.9
KHZ	**Kahutara**	**4.42**	**199**	AML		AML	18 12 27.4	

WEL 05 18:27:23.9±0.6, 38.°64S×175.°66E, h251km±5km, ML3.6/10, 1C-3D, Error ellipse: s-maj=11.0km s-min=7.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MOVZ	**Moawhango**	**0.77**	**175**	PN		Pn	18 27 57.4	-0.5
MOVZ				SN		Sn	18 28 23.4	-1.4
BKZ	**Black Stump Fm**	**0.84**	**130**	⇓PN		Pn	18 27 58.7	+0.5
BKZ				*e*SN		S	18 28 25.1	-0.1
BKZ				AML		AML	18 29 10.3	
BHHZ	**Black Hill Sta**	**0.91**	**160**	PN		Pn	18 27 58.5	0.0
BHHZ				SN		S	18 28 25.4	-0.5
URZ	**Urewera**	**1.20**	**72**	⇓PN		Pn	18 27 60.0	-0.2
URZ				SN		S	18 28 29.0	+0.4
DREZ	**Durham Road**	**1.27**	**244**	PN		Pn	18 28 01.3	+0.8
PNHZ	**Pukenui**	**1.34**	**162**	PN		Pn	18 28 01.3	+0.2
TSZ	**Takapari Road**	**1.44**	**171**	PN		Pn	18 28 01.6	-0.2
HAZ	**Te Kaha**	**1.89**	**63**	PN		Pn	18 28 04.8	-0.7
MRZ	**Mangatainoka R**	**2.02**	**182**	PN		Pn	18 28 05.0	-1.6
MRZ				AML		AML	18 28 40.2	
MRZ				AML		AML	18 28 40.8	
OGWZ	**Otaki Gorge**	**2.21**	**190**	PN		Pn	18 28 06.5	-1.8
HOWZ	**Holdsworth Sta**	**2.26**	**183**	PN		Pn	18 28 06.9	-1.9
KIW	**Kapiti Island**	**2.30**	**194**	PN		Pn	18 28 06.8	-2.3
CAW	**Cannon Point**	**2.51**	**190**	PN		Pn	18 28 08.8	-2.4
CAW				AML		AML	18 28 47.4	
MTW	**Mount Morrison**	**2.52**	**183**	PN		Pn	18 28 09.3	-2.0
DUWZ	**D'Urville Isla**	**2.55**	**211**	PN		Pn	18 28 08.4	-3.2
TCW	**Tory Channel**	**2.79**	**202**	PN		Pn	18 28 11.1	-2.9
TCW				AML		AML	18 28 50.7	
TCW				AML		AML	18 28 51.7	
TUWZ	**Tuamarina**	**3.09**	**205**	PN		Pn	18 28 14.1	-3.2
NNZ	**Nelson**	**3.12**	**214**	⇑PN		Pn	18 28 13.5	-4.1
QRZ	**Quartz Range**	**3.26**	**227**	PN		Pn	18 28 13.7	-5.5
BSWZ	**Blackbirch Sta**	**3.37**	**203**	PN		Pn	18 28 17.1	-3.3
THZ	**Tophouse**	**3.77**	**213**	PN		Pn	18 28 20.4	-4.6
KHZ	**Kahutara**	**4.11**	**203**	PN		Pn	18 28 24.9	-3.9
DSZ	**Denniston Nort**	**4.29**	**222**	⇓PN		Pn	18 28 24.9	-6.1

IDC 05 18:27:32.6±4.6, 3.°58S×152.°02E, h0km, mb3.1/2, mb1 3.4/2, mb1mx3.1/31, mbtmp3.1/2, Error ellipse: s-maj=232.9km s-min=47.4km az=118.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.71**	**225**	P		P	18 32 47.1	+0.7
	0.2nm,0.4s,baz=54,slow=10,SNR=5.4							
ASAR	**Alice Springs**	**26.56**	**220**	P		P	18 33 12.4	0.0
	0.3nm,0.7s,baz=55,slow=9.0,SNR=4.7							
TORD	**Torodi Ar. Bea**	**149.18**	**290**	PKPbc		PKPbc	18 47 23.1	-1.1
	0.2nm,0.5s,baz=88,slow=2.0,SNR=3.5							

IDC 05 18:41:36.8±6.0, 30.°96S×178.°40W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/25, mbtmp3.5/2, Error ellipse: s-maj=234.9km s-min=62.1km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.74**	**268**	P		P	18 49 34.7	-1.4
	0.5nm,0.8s,baz=110,slow=8.0,SNR=6.1							
WRA	**Warramunga Arr**	**43.78**	**273**	P		P	18 49 45.4	+0.9
	0.3nm,0.3s,baz=114,slow=8.1,SNR=3.1							
FINES	**FINESS Array B**	**145.55**	**339**	PKPbc		PKPdf	19 01 15.6	-0.6
	0.9nm,0.7s,baz=48,slow=2.8,SNR=3.4							

*NIED **05** 18:44:00, 33.°10N×142.°30E, h5km, Mw3.7 Best double couple: M0 3.72000×10^14 NP1:φs10.00000°, δ14.00000°, λ-69.00000°. NP2:φs169.00000°, δ77.00000°, λ-95.00000°.*

*JMA **05** 18:44:19.6±0.3, 33.°09N×142.°29E, h2km, M3.8*

*ISCJB **05** 18:44:21.0±0.9, 32.°98N±0.°06×142.°4E±0.°1, h40km, mb3.7/3, Error ellipse: s-maj=15.5km s-min=5.8km az=151.8*

*IDC **05** 18:44:23.6±3.6, 32.°32N×140.°81E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.4/27, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=142.3km s-min=23.7km az=68.0*

ISC 05 18:44:22.1±1.5, 33.°02N±0.°08×142.°5E±0.°1, h40km, n22, σ1§44/36, mb3.7/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.08**	**322**	P		**Pn**	18 44 53.5	-0.4
BSO1				S		**Sn**	18 45 18.4	+0.1
BSO2	**Boso 2**	**2.27**	**320**	S		**Sn**	18 45 23.7	+0.3
JHJ2	**Mitsune**	**2.28**	**273**	P		**Pn**	18 44 56.1	-1.1
BSO3	**Boso 3**	**2.44**	**317**	P		**Pn**	18 44 59.1	-0.1
BSO3				S		**Sn**	18 45 28.8	+1.1
BSO4	**Boso 4**	**2.68**	**318**	P		**Pn**	18 45 03.2	+0.6
BSO4				S		**Sn**	18 45 33.0	-0.7
KTR	**Katsuura**	**2.81**	**320**	S		**Sn**	18 45 37.8	+0.8
JOD2	**Odawara 2**	**3.63**	**309**	P		**Pn**	18 45 14.5	-1.2
JOD2				S		**Sn**	18 45 54.6	-2.7
JYT	**Yasato**	**3.73**	**330**	P		**Pn**	18 45 17.7	+0.6
JYT				S		**Sn**	18 46 00.0	+0.1
JHU	**Hanno**	**3.90**	**317**	P		**Pn**	18 45 18.6	-0.8
JHU				S		**Sn**	18 46 00.7	-3.2
JHO	**Hitachi**	**3.93**	**336**	P		**Pn**	18 45 19.0	-0.8
JHO				S		**Sn**	18 46 00.8	-3.9
JYN	**Shimob**	**4.12**	**308**	P		**Pn**	18 45 22.5	-0.1
JYN				S		**Sn**	18 46 08.5	-1.1
JRY	**Ryogami san**	**4.23**	**316**	P		**Pn**	18 45 23.1	-0.9
JRY				S		**Sn**	18 46 11.3	-0.9
JAG	**Ashikaga**	**4.24**	**324**	P		**Pn**	18 45 24.0	-0.1
JAG				S		**Sn**	18 46 10.5	-1.8
JNY	**Yasuok**	**4.52**	**302**	P		**Pn**	18 45 29.5	+1.5
JNY				S		**Sn**	18 46 19.1	-0.2
MJAR	**Matsushiro Arr**	**5.00**	**316**	Pn		**Pn**	18 45 35.1	+0.5
	2.1nm,0.3s,baz=154,slow=13,SNR=30							
MJAR					Sn	**Sn**	18 46 28.3	-2.8
	2.3nm,0.3s,baz=149,slow=22,SNR=7.3							
MAT	**Matsushiro**	**5.00**	**316**	P		**Pn**	18 45 34.9	+0.3
MAT				S		**Sn**	18 46 30.5	-0.6
MAT	**Matsushiro**	**5.00**	**316**	P		**Pn**	18 45 35.4	+0.8
MAT				S		**Sn**	18 46 30.7	-0.4
JIE	**Ise**	**5.04**	**287**	P		**Pn**	18 45 35.1	-0.1
JCJ	**Chichijima**	**5.92**	**183**	Pn		**Pn**	18 45 45.4	-1.8
	baz=354,slow=18							
MKAR	**Makanchi Array**	**47.11**	**306**	P		**P**	18 52 52.1	+2.0
	0.7nm,0.8s,baz=88,slow=9.5,SNR=5.6							
KURBB	**Kurchatov Arra**	**49.25**	**311**	P		**P**	18 53 08.3	+1.7
	0.5nm,0.7s,baz=85,slow=7.4,SNR=9.5							
WRA	**Warramunga Arr**	**53.25**	**190**	P		**P**	18 53 36.6	-0.1
	0.5nm,0.6s,baz=5.1,slow=7.5,SNR=2.6							

*ISCJB **05** 18:45:37.2±0.6, 39.°17N±0.°03×141.°02E±0.°05, h13km±5km, mb3.6/2, Error ellipse: s-maj=7.2km s-min=5.4km az=153.0*

*JMA **05** 18:45:37.5, 39.°16N×141.°00E, h7km, M3.2 Broadband fault plane solution: P waves. NP1:φs18.00000°, δ89.00000°, λ94.00000°. NP2:φs122.00000°, δ4.00000°, λ14.00000°. Principal axes: T Plg46.0000°, Azm292.0000°; N Plg4.0000°, Azm198.0000°; P Plg44.0000°, Azm104.0000°;*

JMA Felt I J1.

*IDC **05** 18:45:46.8±2.6, 39.°66N×140.°73E, h107km±33km, mb3.1/2, mb1 3.2/5, mb1mx2.9/27, mbtmp3.5/5 Error ellipse: s-maj=60.4km s-min=26.5km az=121.0*

ISC 05 18:45:37.7±1.1, 39.°15N±0.°03×140.°99E±0.°04, h6km±11km, n18, σ0§47/16, 3C-4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JMK	**Ichinoseki**	**0.26**	**138**	⇓P		**Pg**	18 45 42.8	0.0
JMK				S		**Sg**	18 45 46.9	+0.6
JRG	**Rokugo**	**0.37

PCI			S	Sg	18 57 17.0	+0.5
APSI	**Ampana**	**2.12 108**	P	Pn	18 57 29.6	-0.8
MRSI	**Marisa**	**2.43 72**	P	Pn	18 57 32.2	-2.4
MRSI			S	Sn	18 58 06.1	+1.7
TTSI	**Tana Toraja**	**2.76 176**	P	Pn	18 57 40.3	+1.0
LUWI	**Luwuk**	**3.23 104**	P	Pn	18 57 46.0	+0.2
SPSI	**Sidrap Palu**	**3.67 178**	P	Pn	18 57 52.2	+0.4
BKSI	**Bulukumba**	**5.04 174**	P	Pn	18 58 10.9	+0.3

*IDC **05** 19:06:13.0±0.5, 19°.73N×75°.36W, h0km, mb4.5/21, mb1 4.7/25, mb1mx4.6/30, mbtmp4.5/25, ML3.2/2, MS4.0/23, Ms1 4.0/23, ms1mx3.9/31, Error ellipse: s-maj=15.7km s-min=12.0km az=55.0*

*MOS **05** 19:06:14.2±0.9, 19°.91N×75°.39W, h10km, mb5.0/36, MS4.3/7, Error ellipse: s-maj=7.7km s-min=5.5km az=103.0*

*ISCJB **05** 19:06:15.1±0.6, 19°.72N±0°.02×75°.38W±0°.02, h23km±4km, mb4.7/163, MS4.2/28, Error ellipse: s-maj=3.8km s-min=2.7km az=11.7*

*NEIC **05** 19:06:17.0±0.7, 19°.72N×75°.37W, h24km±5km, mb4.7/98, Error ellipse: s-maj=3.7km s-min=2.7km az=220.0*

NEIC Felt [IV] at Guantanamo. Also felt at Baracoa and Santiago de Cuba.

*BJI **05** 19:06:16.0, 19°.70N×75°.40W, h18km, mB4.8/1, Ms4.9/4, Ms7 4.5/4*

*JSN **05** 19:06:17.8±0.8, 19°.61N×75°.64W, h0km±72km, MD4.9*

*SZGRF **05** 19:06:21.6, 19°.68N×74°.61W, h33km, mb5.1, MS4.0, Cuba region*

ISC 05 19:06:16.4±0.3, **19°.74N**±0°.05×**75°.39W**±0°.04, **h21**km±2km, **n671**, σ0**91**/681, **mb4.8**/163, **MS4.2**/30, **34C-28D, Cuba region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTBY	**Guantanamo Bay**	**0.32**	**55**	*e*Pg	**Pb**	**19 06 23.3**	**0.0**
GTBY				*e*Sg	**Sb**	**19 06 28.0**	**-0.1**
CMJ	**Castle Mountai**	**1.85**	**210**	*i* P	**Pn**	**19 06 46.3**	**-0.7**
BNJ	**Bonny Gate**	**2.05**	**227**	*i* P	**Pn**	**19 06 48.4**	**-1.3**
GWJ	**Greenwich**	**2.09**	**218**	*i* P	**Pn**	**19 06 49.0**	**-1.4**
YHJ	**Yallahs**	**2.12**	**210**	*i* P	**Pn**	**19 06 50.1**	**-0.6**
STH	**Stony Hill**	**2.14**	**219**	*i* P	**Pn**	**19 06 49.5**	**-1.4**
STH				*i* S	**Sn**	**19 07 13.5**	**-3.3**
HOJ	**Hope**	**2.16**	**217**	*i* P	**Pn**	**19 06 49.5**	**-1.6**
BBJ	**Bamboo Saint A**	**2.23**	**233**	*i* P	**Pn**	**19 06 50.8**	**-1.5**
CVJ	**Coleyville**	**2.53**	**234**	*i* P	**Pn**	**19 06 54.8**	**-1.6**
MTDJ	**Mount Denham**	**2.53**	**234**	*e*Pn	**Pn**	**19 06 54.4**	**-2.1**
PCJ	**Portland Cotta**	**2.60**	**220**	*i* P	**Pn**	**19 06 56.8**	**-0.5**
MBJ	**Montego Bay**	**2.69**	**241**	*i* S	**Sn**	**19 07 27.0**	**-3.7**
MCJ	**Malvern**	**2.83**	**231**	*i* P	**Pn**	**19 06 59.9**	**-0.7**
SDDR	**Presa de Saban**	**3.94**	**100**	*e*Pn	**Pn**	**19 07 14.8**	**-1.0**
SDDR				*e*Sn	**Sn**	**19 07 58.2**	**-3.2**
GRTK	**Grand Turk**	**4.36**	**65**	*e*Pn	**Pn**	**19 07 21.2**	**-0.2**
SMN1	**Samana, DR**	**5.79**	**94**	*e*Pn	**Pn**	**19 07 40.6**	**-0.6**
OBIP	**Obispado Ponce**	**8.48**	**100**	*e*P	**Pn**	**19 08 19.8**	**+1.6**
CELP	**Cerrillos**	**8.50**	**100**	*e*Pn	**Pn**	**19 08 19.9**	**+1.6**
BCIP	**Isla Barro Col**	**11.36**	**203**	*e*Pn	**Pn**	**19 08 56.2**	**-1.4**
	27nm,0.6s						
SDV	**Santo Domingo**	**11.73**	**156**	*e*Pn	**Pn**	**19 09 04.2**	**+1.3**
	25nm,0.4s						
JTS	**JuntasAbangare**	**13.17**	**226**	Pn	**Pn**	**19 09 23.0**	**+0.6**
	9.3nm,0.3s,baz=70,slow=18,SNR=34						
JTS				LR	LR	19 14 13.3	
	comp=Z,881nm,22.0s,baz=40,slow=36						
JTS	**JuntasAbangare**	**13.17**	**226**	*c i*P	**Pn**	**19 09 24.7**	**+2.3**
JTS				pmax	pmax		
	comp=Z,19nm,1.2s						
TIGA	**Tifton**	**13.79**	**329**	P	**Pn**	**19 09 32.2**	**+1.5**
	baz=14						
PCRV	**Puerto La Cruz**	**14.07**	**131**	Pn	**Pn**	**19 09 35.3**	**+0.5**
	comp=Z,16nm,0.3s,baz=330,slow=1.5,SNR=62						
PCRV				Sn	Sn	19 11 59.3	-11
	comp=Z,0.6nm,0.3s,baz=233,slow=20,SNR=2.8						
PCRV				LR	LR	19 14 33.8	
	comp=Z,473nm,21.7s,baz=308,slow=36						
ROSC	**El Rosal**	**14.83**	**176**	Pn	**Pn**	**19 09 46.4**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=60,slow=8.1,SNR=7.9						
ROSC				LR	LR	19 16 09.3	
	comp=Z,332nm,20.5s,baz=2.0,slow=40						
GOGA	**Godfrey**	**15.40**	**334**	*e*P	**Pn**	**19 09 49.4**	**-3.2**
GOGA				pmax	pmax		
	comp=Z,30nm,1.2s						
GOGA	**Godfrey**	**15.40**	**334**	*e*Pn	**Pn**	**19 09 49.4**	**-3.2**
	comp=Z,30nm,1.2s						
BBSR	**BB Station**	**15.81**	**35**	*e*Pn	**Pn**	**19 09 53.8**	**-4.0**
	comp=Z,24nm,0.6s						
KMSC	**Kings Mountain**	**16.22**	**342**	*e*Pn	**Pn**	**19 09 58.7**	**-4.3**
	comp=Z,19nm,0.8s						
LRAL	**Lakeview Retre**	**16.82**	**324**	*e*Pn	**Pn**	**19 10 08.1**	**-2.6**
	comp=Z,21nm,1.0s						
TKL	**Tuckaleechee C**	**17.50**	**337**	Pn	**Pn**	**19 10 16.0**	**-3.1**
	comp=Z,0.4nm,0.3s,baz=147,slow=10.0,SNR=9.1						
TKL				Sn	Sn	19 13 15.4	-18
	comp=Z,0.2nm,0.3s,baz=248,slow=19,SNR=2.0						
VWCC	**Virginia Weste**	**17.90**	**348**	*e*P	**Pn**	**19 10 21.6**	**-2.5**
BLA	**Blacksburg**	**17.95**	**347**	*e*P	**Pn**	**19 10 22.7**	**-2.1**
BLA				pmax	pmax		
	comp=Z,192nm,1.4s						
BLA	**Blacksburg**	**17.95**	**347**	*e*P	**Pn**	**19 10 22.7**	**-2.1**
	comp=Z,192nm,1.4s						
VBMS	**Vicksburg**	**18.40**	**315**	P	**Pn**	**19 10 31.1**	**+0.9**
	baz=18						
CBN	**Corbin**	**18.48**	**355**	*e*P	**Pn**	**19 10 31.2**	**0.0**
	comp=Z,79nm,1.0s						
OXF	**Oxford**	**19.26**	**323**	*e*P	**Pn**	**19 10 40.4**	**-0.3**
OXF				pmax	pmax		
	comp=Z,49nm,1.0s						
OXF	**Oxford**	**19.26**	**323**	*e*P	**Pn**	**19 10 40.4**	**-0.3**
	comp=Z,49nm,1.0s						
OTAV	**Otavalo**	**19.61**	**189**	*e*P	**Pn**	**19 10 47.4**	**+1.9**
	comp=Z,29nm,1.0s						
340A	**Bronson**	**20.31**	**309**	P	**P**	**19 10 51.8**	**+0.7**
	baz=20						
539A	**Cross D Ranch,**	**20.32**	**304**	P	Pn	19 10 52.3	-1.0
	baz=20						
439A	**Center Grove,**	**20.66**	**306**	P	**P**	**19 10 55.7**	**+0.8**
	baz=21						
WCI	**Wyandotte Cave**	**20.71**	**335**	*e*P	**P**	**19 10 55.8**	**+0.3**
WCI				pmax	pmax		
	comp=Z,16nm,0.7s						
WCI	**Wyandotte Cave**	**20.71**	**335**	*e*P	**P**	**19 10 55.8**	**+0.3**
	comp=Z,16nm,0.7s						
SSPA	**Standing Stone**	**20.94**	**355**	*e*P	**P**	**19 10 59.0**	**+1.2**
	comp=Z,64nm,1.1s						
239A	**Gary**	**21.04**	**309**	P	**P**	**19 10 60.0**	**+1.0**
	baz=21						
NATX	**Nacogdoches**	**21.05**	**308**	*e*P	**P**	**19 11 01.0**	**+1.9**
	comp=Z,34nm,0.6s						
HKT	**Hockley**	**21.12**	**303**	*e*P	**P**	**19 11 01.1**	**+1.2**
HKT				pmax	pmax		
	comp=Z,60nm,1.6s						
HKT	**Hockley**	**21.12**	**303**	*e*P	**P**	**19 11 01.1**	**+1.2**
	comp=Z,60nm,1.6s						
737A	**Port Lavaca**	**21.17**	**299**	P	**P**	**19 11 02.3**	**+1.9**
	baz=21						
438A	**Sam Houston St**	**21.18**	**305**	P	**P**	**19 11 01.9**	**+1.4**
	baz=21						
637A	**Eagle Lake**	**21.32**	**301**	P	**P**	**19 11 03.1**	**+1.0**
	baz=21						
139A	**Bunkhouse Ranc**	**21.33**	**311**	P	**P**	**19 11 03.1**	**+1.0**
	baz=21						
338A	**Crockett**	**21.34**	**307**	P	**P**	**19 11 03.6**	**+1.4**
	baz=21						
ACSO	**Alum Creek Sta**	**21.44**	**344**	*e*P	**P**	**19 11 03.9**	**+0.7**
	comp=Z,69nm,1.2s						
Z39A	**Irene McRaven,**	**21.49**	**313**	P	**P**	**19 11 05.4**	**+1.5**
	baz=22						
238A	**Jacksonville**	**21.51**	**309**	P	**P**	**19 11 05.4**	**+1.3**
	baz=22						
537A	**Green Hill Far**	**21.56**	**303**	P	**P**	**19 11 06.2**	**+1.6**
	baz=22						
SIUC	**Southern Illin**	**21.58**	**329**	*e*P	**P**	**19 11 05.1**	**+0.3**
	comp=Z,48nm,0.7s						
YLE	**Yale**	**21.61**	**5**	*e*P	**P**	**19 11 05.0**	**0.0**
	comp=Z,63nm,0.9s						
437A	**Phantom Ranch,**	**21.73**	**305**	P	**P**	**19 11 07.5**	**+1.0**
	baz=22						
736A	**Circle Diamond**	**21.75**	**299**	P	**P**	**19 11 07.7**	**+1.0**
	baz=22						
337A	**Centerville**	**21.75**	**306**	P	**P**	**19 11 08.0**	**+1.3**
	baz=22						
138A	**Matatall Enter**	**21.82**	**310**	P	**P**	**19 11 08.1**	**+0.7**
	baz=22						
Y39A	**Lockesburg**	**21.82**	**314**	P	**P**	**19 11 08.2**	**+0.8**
	baz=22						
MIAR	**Mount Ida**	**21.84**	**316**	*e*P	**P**	**19 11 08.3**	**+0.7**
MIAR				pmax	pmax		
	comp=Z,27nm,0.9s						
MIAR	**Mount Ida**	**21.84**	**316**	P	**P**	**19 11 08.0**	**+0.4**
	baz=22,SNR=18						
MIAR	**Mount Ida**	**21.84**	**316**	*e*P	**P**	**19 11 08.3**	**+0.7**
	comp=Z,27nm,0.9s						
OLIL	**Olney**	**21.89**	**333**	*e*P	**P**	**19 11 08.3**	**+0.2**
	comp=Z,64nm,0.8s						
636A	**Smothers Creek**	**21.93**	**300**	P	**P**	**19 11 09.7**	**+1.1**
	baz=22						
237A	**Washetta, Mont**	**22.02**	**308**	P	**P**	**19 11 10.5**	**+1.0**
	baz=22						
035A	**Encino**	**22.03**	**293**	P	**P**	**19 11 10.5**	**+0.8**
	baz=22						
Z38A	**Mt. Pleasant**	**22.05**	**312**	P	**P**	**19 11 10.5**	**+0.6**
	baz=22						
436A	**Wall Ranch, Ga**	**22.22**	**304**	P	**P**	**19 11 12.8**	**+1.1**
	baz=22						
Y38A	**Idabel**	**22.25**	**313**	P	**P**	**19 11 12.9**	**+0.9**
	baz=22						
137A	**Heron Place, G**	**22.27**	**309**	P	**P**	**19 11 12.8**	**+0.5**
	baz=22,SNR=6.3						
735A	**Kenedy**	**22.33**	**298**	P	**P**	**19 11 14.0**	**+1.1**
	baz=22						
635A	**Leesville**	**22.48**	**300**	P	**P**	**19 11 15.4**	**+0.9**
	baz=22						
Z37A	**Pogue Cattle C**	**22.48**	**311**	P	**P**	**19 11 15.8**	**+1.3**
	baz=22						
535A	**Dale**	**22.54**	**301**	P	**P**	**19 11 16.0**	**+0.8**
	baz=23						
034A	**Hebbronville**	**22.57**	**293**	P	**P**	**19 11 16.0**	**+0.6**
	baz=23,SNR=8.5						
QUA2	**Belchertown**	**22.61**	**6**	*e*P	**P**	**19 11 15.6**	**-0.2**
	comp=Z,31nm,1.1s						
834A	**Tilden**	**22.73**	**296**	P	**P**	**19 11 17.9**	**+0.7**
	baz=23						
X38A	**Whitesboro**	**22.75**	**315**	P	**P**	**19 11 18.0**	**+0.8**
	baz=23,SNR=44						
W38A	**Poteau**	**22.78**	**316**	P	**P**	**19 11 18.0**	**+0.4**
	baz=23,SNR=8.6						
136A	**Ennis**	**22.78**	**308**	P	**P**	**19 11 18.8**	**+1.1**
	baz=23						
SLM	**Saint Louis**	**22.80**	**329**	*e*P	**P**	**19 11 18.5**	**+0.6**
SLM				pmax	pmax		
	comp=Z,16nm,0.6s						
SLM	**Saint Louis**	**22.80**	**329**	*e*P	**P**	**19 11 18.4**	**+0.6**
	comp=Z,16nm,0.6s						
435B	**Jarrell**	**22.84**	**303**	P	**P**	**19 11 18.8**	**+0.4**
	baz=23						
SFIN	**Scholer Farm**	**22.89**	**337**	P	**P**	**19 11 18.4**	**-0.3**
	baz=23,SNR=18						
SFIN	**Scholer Farm**	**22.89**	**337**	*e*P	**P**	**19 11 18.4**	**-0.3**
	comp=Z,49nm,0.8s						
Y37A	**Hugo**	**22.90**	**312**	P	**P**	**19 11 19.7**	**+0.8**
	baz=23						
335A	**Moody**	**22.93**	**304**	P	**P**	**19 11 20.2**	**+1.0**
	baz=23						
734A	**La Parita Cree**	**22.95**	**298**	P	**P**	**19 11 20.0**	**+0.5**
	baz=23						
634A	**China Grove, S**	**22.95**	**299**	P	**P**	**19 11 20.1**	**+0.6**
	baz=23						
X37A	**Clayton**	**23.06**	**314**	P	**P**	**19 11 21.1**	**+0.5**
	baz=23,SNR=12						
Z36A	**Blue Ridge**	**23.10**	**310**	P	**P**	**19 11 21.6**	**+0.6**
	baz=23						
933A	**Laredo**	**23.21**	**294**	P	**P**	**19 11 21.9**	**-0.3**
	baz=23,SNR=6.8						
WHTX	**Lake Whitney**	**23.25**	**306**	P	**P**	**19 11 22.9**	**+0.3**
	baz=23						
534A	**Blanco**	**23.27**	**301**	P	**P**	**19 11 22.9**	**0.0**
	baz=23,SNR=9.0						
434A	**Burnet**	**23.40**	**303**	P	**P**	**19 11 23.7**	**-0.3**
	baz=23,SNR=7.8						
W37A	**Quinton**	**23.42**	**315**	P	**P**	**19 11 24.1**	**0.0**
	baz=24,SNR=11						
833A	**Chaparral WMA,**	**23.50**	**296**	P	**P**	**19 11 25.1**	**+0.1**
	baz=24,SNR=6.5						
733A	**Divot King Ran**	**23.53**	**297**	P	**P**	**19 11 25.1**	**-0.2**
	baz=24						
AAM	**Ann Arbor**	**23.55**	**345**	*e*P	**P**	**19 11 26.2**	**+0.8**
AAM				pmax	pmax		
	comp=Z,18nm,0.6s						
AAM	**Ann Arbor**	**23.55**	**345**	*e*P	**P**	**19 11 26.2**	**+0.8**
	comp=Z,18nm,0.6s						
334A	**Lometa**	**23.58**	**304**	P	**P**	**19 11 25.9**	**+0.1**
	baz=24,SNR=11						
633A	**Saathoff Ranch**	**23.66**	**299**	P	**P**	**19 11 26.6**	**0.0**
	baz=24,SNR=12						
V37A	**Hulbert**	**23.67**	**317**	P	**P**	**19 11 26.8**	**+0.1**
	baz=24,SNR=11						
X36A	**Centrahoma**	**23.73**	**313**	P	**P**	**19 11 27.2**	**0.0**
	baz=24,SNR=6.4						
Z35A	**Perchaven, San**	**23.73**	**309**	P	**P**	**19 11 27.6**	**+0.4**
	baz=24						
533A	**Kerrville**	**23.74**	**300**	P	**P**	**19 11 27.8**	**+0.3**
	baz=24						
234A	**Clairette**	**23.78**	**305**	P	**P**	**19 11 27.9**	**+0.2**
	baz=24,SNR=5.1						
Y35A	**Marietta**	**23.86**	**311**	P	**P**	**19 11 28.8**	**+0.4**
	baz=24,SNR=9.0						
HDIL	**Hopedale**	**23.92**	**333**	P	**P**	**19 11 29.5**	**+0.6**
	baz=24						
HDIL	**Hopedale**	**23.92**	**333**	*e*P	**P**	**19 11 29.2**	**+0.3**
	comp=Z,20nm,0.6s						
W36A	**Wetumka**	**23.95**	**314**	P	**P**	**19 11 29.0**	**-0.3**
	baz=24,SNR=5.9						
832A	**Faith Ranch, C**	**23.98**	**295**	P	**P**	**19 11 29.4**	**-0.3**
	baz=24,SNR=6.6						
134A	**White-Moore Ra**	**23.98**	**307**	P	**P**	**19 11 29.6**	**-0.1**
	baz=24,SNR=8.2						
433A	**Art**	**24.03**	**302**	P	**P**	**19 11 30.2**	**0.0**
	baz=24,SNR=22						
HNH	**Hanover**	**24.03**	**6**	*e*P	**P**	**19 11 30.9**	**+1.0**
	comp=Z,45nm,1.3s						
X35A	**Drake**	**24.07**	**312**	P	**P**	**19 11 29.9**	**-0.5**
	baz=24,SNR=17						
732A	**Laxson Ranch,**	**24.10**	**297**	P	**P**	**19 11 30.7**	**0.0**
	baz=24						
TUL1	**Tulsa**	**24.11**	**316**	P	**P**	**19 11 31.1**	**+0.3**
	baz=24,SNR=39						
TUL1	**Tulsa**	**24.11**	**316**	*e*P	**P**	**19 11 31.5**	**+0.7**
	comp=Z,90nm,0.7s						
V36A	**Jenks**	**24.14**	**316**	P	**P**	**19 11 31.2**	**+0.2**
	baz=24,SNR=23						
333A	**Richland Sprin**	**24.16**	**303**	P	**P**	**19 11 31.1**	**-0.2**
	baz=24,SNR=18						
632A	**Uvalde**	**24.18**	**298**	P	**P**	**19 11 31.7**	**+0.2**
	baz=24,SNR=11						
NCB	**Newcomb**	**24.18**	**2**	*e*P	**P**	**19 11 31.8**	**+0.5**
	comp=Z,25nm,0.9s						
Z34A	**Collier Ranch,**	**24.23**	**309**	P	**P**	**19 11 32.7**	**+0.8**
	baz=24,SNR=6.5						
T37A	**Cheneyville 18**	**24.31**	**320**	P	**P**	**19 11 33.1**	**+0.5**
	baz=24,SNR=19						
U36A	**Oologah**	**24.36**	**317**	P	**P**	**19 11 33.2**	**+0.1**
	baz=24,SNR=7.3						
233A	**Rising Star**	**24.37**	**305**	P	**P**	**19 11 33.0**	**-0.3**
	baz=24						
Y34A	**Reagan Ranch,**	**24.40**	**310**	P	**P**	**19 11 33.8**	**+0.3**
	baz=24,SNR=12						
W35A	**Tecumseh**	**24.40**	**313**	P	**P**	**19 11 33.5**	**0.0**
	baz=24,SNR=20						
532A	**Rocksprings**	**24.47**	**300**	P	**P**	**19 11 34.5**	**+0.3**
	baz=24,SNR=45						
JCT	**Junction City**	**24.51**	**301**	*e*P	**P**	**19 11 35.6**	**+1.0**
JCT				pmax	pmax		
	comp=Z,59nm,0.7s						
JCT	**Junction City**	**24.51**	**301**	P	**P**	**19 11 34.5**	**0.0**
	baz=24,SNR=35						
JCT	**Junction City**	**24.51**	**301**	*e*P	**P**	**19 11 35.5**	**+1.0**
	comp=Z,59nm,0.7s						
133A	**Hamilton Ranch**	**24.63**	**306**	P	**P**	**19 11 35.4**	**-0.3**
	baz=25,SNR=7.6						
432A	**Menard**	**24.64**	**302**	P	**P**	**19 11 35.8**	**+0.1**
	baz=25,SNR=8.0						
S37A	**Fort Scott**	**24.67**	**321**	P	**P**	**19 11 36.4**	**+0.6**
	baz=25,SNR=25						
V35A	**Meyer Ranch, C**	**24.72**	**315**	P	**P**	**19 11 35.9**	**-0.4**
	baz=25,SNR=7.5						
X34A	**Smith Ranch, M**	**24.78**	**311**	P	**P**	**19 11 37.4**	**+0.5**
	baz=25,SNR=10						
332A	**Millersview**	**24.78**	**303**	P	**P**	**19 11 36.9**	**-0.1**
	baz=25,SNR=45						
631A	**Perdido Creek**	**24.80**	**298**	P	**P**	**19 11 37.4**	**+0.2**
	baz=25,SNR=8.3						
LONY	**Lake Ozonia**	**24.82**	**1**	*e*P	**P**	**19 11 37.5**	**+0.4**
	comp=Z,13nm,1.0s						
Z33A	**Whitaker Ranch**	**24.82**	**308**	P	**P**	**19 11 38.1**	**+0.8**
	baz=25,SNR=32						
T36A	**Boggs Farm, Ca**	**24.86**	**318**	P	**P**	**19 11 38.0**	**+0.4**
	baz=25,SNR=19						
232A	**Coleman**	**24.90**	**304**	P	**P**	**19 11 38.4**	**+0.3**
	baz=25,SNR=8.0						
U35A	**Pawnee**	**25.00**	**316**	P	**P**	**19 11 39.2**	**+0.3**
	baz=25,SNR=25						
531A	**Rocksprings**	**25.01**	**299**	P	**P**	**19 11 39.2**	**+0.1**
	baz=25						
R37A	**Teagarden Farm**	**25.04**	**322**	P	**P**	**19 11 39.9**	**+0.7**
	baz=25,SNR=22						
Y33A	**Hilltop Ranch,**	**25.05**	**309**	P	**P**	**19 11 40.0**	**+0.6**
	baz=25						
W34A	**Bridge Creek,**	**25.07**	**313**	P	**P**	**19 11 40.3**	**+0.8**
	baz=25,SNR=5.9						
W34A	**Bridge Creek,**	**25.07**	**313**	*e*P	**P**	**19 11 39.9**	**+0.4**
	comp=Z,28nm,0.8s						
S36A	**Lake Cedric, C**	**25.11**	**320**	P	**P**	**19 11 40.2**	**+0.4**
	baz=25,SNR=21						
SADO	**Sadowa**	**25.15**	**354**	P	**P**	**19 11 40.0**	**-0.1**
	comp=Z,26nm,0.9s,baz=192,slow=8.4,SNR=12						
T35A	**Sooner Cattle**	**25.18**	**317**	P	**P**	**19 11 41.3**	**+0.9**
	baz=25,SNR=14						
ABTX	**Abilene, Hawle**	**25.20**	**305**	P	**P**	**19 11 41.3**	**+0.6**
	baz=25,SNR=9.8						
ABTX	**Abilene, Hawle**	**25.20**	**305**	*e*P	**P**	**19 11 41.6**	**+0.9**
	comp=Z,25nm,0.8s						
Q37A	**Longview Farm,**	**25.20**	**323**	P	**P**	**19 11 40.9**	**+0.3**
	baz=25,SNR=5.9						
WVL	**Waterville**	**25.21**	**10**	*e*P	**P**	**19 11 41.5**	**+0.9**
	comp=Z,36nm,1.0s						
V34A	**Guthrie**	**25.22**	**314**	P	**P**	**19 11 41.3**	**+0.4**
	baz=25,SNR=20						
V34A	**Guthrie**	**25.22**	**314**	*e*P	**P**	**19 11 41.4**	**+0.6**
	comp=Z,51nm,0.8s						
X33A	**Lawton**	**25.22**	**310**	P	**P**	**19 11 41.3**	**+0.4**
	baz=25,SNR=22						
431A	**Sonora**	**25.23**	**301**	P	**P**	**19 11 41.3**	**+0.2**
	baz=25,SNR=8.7						
331A	**San Angelo**	**25.30**	**302**	P	**P**	**19 11 42.1**	**+0.4**
	baz=25,SNR=11						
PTGA	**Pitinga**	**25.35**	**142**	P	**P**	**19 11 42.1**	**-0.1**
	comp=Z,7.2nm,0.7s,baz=333,slow=14,SNR=8.8						
Z32A	**Haskell**	**25.36**	**307**	P	**P**	**19 11 42.6**	**+0.4**
	baz=25,SNR=32						
R36A	**Gordon, Harris**	**25.44**	**321**	P	**P**	**19 11 43.2**	**+0.3**
	baz=26,SNR=9.8						
231A	**Bronte**	**25.45**	**303**	P	**P**	**19 11 43.3**	**+0.3**
	baz=26,SNR=6.8						
W33A	**Caddo, Fort Co**	**25.51**	**312**	P	**P**	**19 11 43.9**	**+0.4**
	baz=26						
WMOK	**Wichita Mounta**	**25.52**	**311**	*e*P	**P**	**19 11 43.4**	**-0.3**
WMOK				pmax	pmax		
	comp=Z,12nm,0.6s						
WMOK	**Wichita Mounta**	**25.52**	**311**	*e*P	**P**	**19 11 43.4**	**-0.3**
	comp=Z,12nm,0.6s						
S35A	**Otter Creek Ra**	**25.52**	**319**	P	**P**	**19 11 43.7**	**0.0**
	baz=26,SNR=8.9						
U34A	**Anderson Ranch**	**25.57**	**315**	P	**P**	**19 11 44.7**	**+0.7**
	baz=26						
U34A	**Anderson Ranch**	**25.57**	**315**	*e*P	**P**	**19 11 44.3**	**+0.3**
	comp=Z,73nm,1.0s						
Y32A	**R-V Farms, Ver**	**25.65**	**309**	P	**P**	**19 11 45.0**	**+0.2**
	baz=26,SNR=18						
530A	**J-C Ranch, Com**	**25.66**	**299**	P	**P**	**19 11 45.5**	**+0.6**
	baz=26						
T34A	**McClaskey Farm**	**25.68**	**317**	P	**P**	**19 11 45.6**	**+0.6**
	baz=26,SNR=14						
X32A	**Elmer**	**25.73**	**310**	P	**P**	**19 11 45.6**	**+0.1**
	baz=26,SNR=9.8						
V33A	**Lossen Ranch,**	**25.73**	**313**	P	**P**	**19 11 45.1**	**-0.5**
	baz=26,SNR=7.6						
430A	**Baggett Ranch,**	**25.77**	**300**	P	**P**	**19 11 46.1**	**+0.1**
	baz=26,SNR=5.5						
131A	**Roby**	**25.79**	**305**	P	**P**	**19 11 46.3**	**+0.2**
	baz=26						
Q36A	**Arnold C. Orve**	**25.84**	**322**	P	**P**	**19 11 46.7**	**+0.2**
	baz=26,SNR=8.4						
R35A	**Emporia Munici**	**25.86**	**320**	P	**P**	**19 11 47.0**	**+0.4**
	baz=26						
Z31A	**Sharp Cattle R**	**25.87**	**307**	P	**P**	**19 11 46.9**	**+0.1**
	baz=26,SNR=28						
330A	**Mertzon**	**25.93**	**302**	P	**P**	**19 11 47.1**	**-0.4**
	baz=26,SNR=9.4						
U33A	**Lingo Farm, Me**	**25.95**	**315**	P	**P**	**19 11 47.7**	**+0.2**
	baz=26						
S34A	**Willow Spring**	**26.03**	**318**	P	**P**	**19 11 48.5**	**+0.2**
	baz=26						
W32A	**Sentinel**	**26.04**	**311**	P	**P**	**19 11 48.3**	**-0.1**
	baz=26,SNR=21						
230A	**Sterling City**	**26.05**	**303**	P	**P**	**19 11 49.2**	**+0.6**
	baz=26						
Q35A	**Mercer Eighty,**	**26.11**	**321**	P	**P**	**19 11 49.5**	**+0.6**
	baz=26						
P36A	**Good Intent, A**	**26.14**	**324**	P	**P**	**19 11 49.4**	**+0.2**
	baz=26,SNR=13						
GLMI	**Grayling**	**26.16**	**345**	*e*P	**P**	**19 11 50.8**	**+1.5**
	comp=Z,106nm,0.8s						
V32A	**Arapaho**	**26.20**	**312**	P	**P**	**19 11 50.2**	**+0.3**
	baz=26						
130A	**Snyder**	**26.21**	**304**	P	**P**	**19 11 49.7**	**-0.2**
	baz=26						
Y31A	**Rekieta Farm,**	**26.24**	**308**	P	**P**	**19 11 50.0**	**-0.1**
	baz=26,SNR=17						
429A	**Davenport Ranc**	**26.26**	**300**	P	**P**	**19 11 50.0**	**-0

228A **UT Block 9, Go** 27.31 302 P P 19 12 00.1 +0.2
baz=27
O34A **Beatrice** 27.36 323 P P 19 12 01.2 +0.9
baz=27
TXAR **Lajitas Array** 27.38 296 P P 19 12 01.2 +0.6
comp=Z,1.5nm,0.8s,baz=120,slow=9.1,SNR=18
TXAR PcP PcP 19 15 20.1 +0.6
comp=Z,1.0nm,0.6s,baz=131,slow=2.5,SNR=4.8
TXAR ScP ScP 19 19 01.2 +2.3
comp=Z,0.6nm,0.9s,baz=108,slow=4.1,SNR=4.1
128A **Castleberry Fa** 27.41 303 P P 19 12 00.6 -0.2
baz=27,SNR=9.8
P33A **Williams Farm,** 27.46 320 P P 19 12 01.8 +0.6
baz=28
R32A **Long Quarter,** 27.48 318 P P 19 12 01.8 +0.6
baz=28
S31A **Mullinville** 27.52 315 P P 19 12 02.3 +0.6
baz=28,SNR=11
X29A **Tulia** 27.52 308 P P 19 12 01.3 -0.5
baz=28,SNR=7.3
Z28A **Tucker Farm, M** 27.58 305 P P 19 12 02.6 +0.3
baz=28
AMTX **Amarillo** 27.70 308 P P 19 12 03.5 +0.2
baz=28
AMTX **Amarillo** 27.70 308 eP P 19 12 03.5 +0.2
comp=Z,7.7nm,0.6s
M35A **Neola** 27.70 326 P P 19 12 03.7 +0.5
baz=28
Q32A **Meitler Ranch,** 27.72 319 P P 19 12 04.4 +1.0
baz=28
U30A **WK&E Inc. Balk** 27.73 312 P P 19 12 04.5 +0.9
baz=28
O33A **Hebron** 27.81 322 P P 19 12 05.0 +0.8
baz=28
T30A **Plains** 27.92 313 P P 19 12 05.4 +0.2
baz=28
R31A **Burdett** 27.92 317 P P 19 12 06.0 +0.8
baz=28,SNR=9.9
X28A **Dimmitt** 27.93 307 P P 19 12 05.9 +0.5
baz=28
L35A **Bielow Farm, R** 28.08 327 P P 19 12 07.4 +0.8
baz=28
P32A **Huiting Farm,** 28.13 320 P P 19 12 08.1 +1.0
baz=28
MSTX **Muleshoe** 28.14 306 P P 19 12 07.8 +0.5
baz=28,SNR=5.8
MSTX **Muleshoe** 28.14 306 eP P 19 12 06.7 -0.7
comp=Z,7.9nm,0.7s
S30A **Montezuma** 28.18 315 P P 19 12 07.5 -0.2
baz=28,SNR=6.1
Q31A **Ellis** 28.25 318 P P 19 12 09.5 +1.3
baz=28
O32A **Brockman Farm,** 28.33 321 P P 19 12 09.9 +1.0
baz=28
CBKS **Cedar Bluff** 28.36 317 eP P 19 12 10.4 +1.3
CBKS pmax pmax
comp=Z,30nm,0.6s
CBKS **Cedar Bluff** 28.36 317 P P 19 12 10.0 +0.9
baz=28
CBKS **Cedar Bluff** 28.36 317 eP P 19 12 10.4 +1.3
comp=Z,30nm,0.6s
R30A **Dighton** 28.41 316 P P 19 12 10.0 +0.4
baz=28,SNR=18
L34A **Svendsen Farm,** 28.41 326 P P 19 12 10.3 +0.8
baz=28
P31A **Stockton** 28.55 319 P P 19 12 11.0 +0.2
baz=29,SNR=6.5
M33A **Taylor Creek F** 28.58 324 P P 19 12 11.7 +0.6
baz=29
S29A **Ulysses** 28.61 314 P P 19 12 11.9 +0.4
baz=29,SNR=6.7
N32A **Stulken Farm,** 28.67 322 P P 19 12 12.5 +0.6
baz=29
Q30A **Quinter** 28.76 317 P P 19 12 13.2 +0.5
baz=29,SNR=5.6
U28A **Mallet** 28.77 311 P P 19 12 13.7 +0.8
baz=29
O31A **Woolen Ranch,** 28.89 320 P P 19 12 14.9 +1.0
baz=29
BGNE **Belgrade** 29.00 323 eP P 19 12 15.9 +1.1
L33A **Hoskins** 29.03 325 P P 19 12 16.3 +1.2
baz=29
T28A **Walsh** 29.05 312 P P 19 12 16.3 +1.0
baz=29
R29A **Marienthal** 29.05 315 P P 19 12 15.4 +0.1
baz=29,SNR=5.6
P30A **Selden** 29.10 318 P P 19 12 15.8 0.0
baz=29,SNR=11
S28A **Manter** 29.13 313 P P 19 12 16.5 +0.4
baz=29,SNR=6.6
Q29A **Oakley** 29.20 316 P P 19 12 17.0 +0.3
baz=29,SNR=21
U27A **Thompson Grove** 29.22 310 P P 19 12 17.1 +0.1
baz=29
O30A **MW Ranch, Wils** 29.36 319 P P 19 12 18.7 +0.7
baz=29
M31A **Lambtecht Ranc** 29.43 322 P P 19 12 19.8 +1.1
baz=30
T27A **Campo** 29.44 312 P P 19 12 19.5 +0.5
baz=30
R28A **Tribune** 29.46 315 P P 19 12 19.1 +0.1
baz=30,SNR=34
P29A **Atwood** 29.57 318 P P 19 12 20.8 +0.9
baz=30
O29A **4D Ranch, Culb** 29.78 319 P P 19 12 22.7 +0.9
baz=30
ECSD **EROS Data Cent** 29.80 328 P P 19 12 21.5 -0.3
baz=30,SNR=9.4
ECSD **EROS Data Cent** 29.80 328 eP P 19 12 20.7 -1.2
comp=Z,22nm,1.4s
Q28A **Sharon Springs** 29.85 316 P P 19 12 22.8 +0.3
baz=30
L31A **Butterfield Fa** 29.90 324 P P 19 12 23.7 +0.9
baz=30
M30A **Dale-Ortello V** 30.08 322 P P 19 12 25.2 +0.8
baz=30
P28A **Saint Francis** 30.08 317 P P 19 12 24.7 +0.2
baz=30,SNR=7.9
N29A **Votaw Ranch, W** 30.09 320 P P 19 12 24.8 +0.3
baz=30
R27A **Eads** 30.09 314 P P 19 12 24.8 +0.1
baz=30,SNR=8.0
T26A **Comanche Natio** 30.11 311 P P 19 12 24.9 -0.1
baz=30
L30A **Spencer Herefo** 30.25 322 P P 19 12 26.0 +0.1
baz=30
KSCO **Kaye Shedlock'** 30.35 315 P P 19 12 27.2 +0.2
baz=30
M29A **Burnside Ranch** 30.50 321 P P 19 12 28.7 +0.5
baz=31
R26A **Arlington** 30.55 313 P P 19 12 29.0 +0.3
baz=31
N28A **Pribbeno Ranch** 30.57 319 P P 19 12 29.4 +0.6
baz=31
P27A **Ficken Ranch,** 30.60 316 P P 19 12 29.8 +0.6
baz=31
K30A **Basset** 30.66 324 P P 19 12 30.4 +0.9
baz=31
T25A **Trinidad** 30.68 311 P P 19 12 30.2 +0.3
baz=31,SNR=15
L29A **Maesberg Ranch** 30.76 322 P P 19 12 30.8 +0.3
baz=31
O27A **Beecher Island** 30.88 317 P P 19 12 32.0 +0.4
baz=31
Q26A **Hugo** 30.90 314 P P 19 12 32.1 +0.3
baz=31,SNR=5.8
SAML **Samuel** 30.94 156 eP P 19 12 31.8 -0.4
comp=Z,11nm,0.9s
J30A **Dallas** 31.02 325 P P 19 12 32.3 -0.3
baz=31
EYMN **Ely** 31.02 339 P P 19 12 32.3 -0.3
baz=31,SNR=11
EYMN **Ely** 31.02 339 eP P 19 12 31.8 -0.8
comp=Z,22nm,1.2s
OGNE **Ogallala** 31.02 319 P P 19 12 32.8 0.0
baz=31
LPM **Los Pinos Moun** 31.24 304 eP P 19 12 36.4 +1.4
comp=Z,4.1nm,0.8s
ANMO **Albuquerque** 31.32 305 eP P 19 12 37.3 +1.6
ANMO pmax pmax
comp=Z,26nm,1.7s
ANMO **Albuquerque** 31.32 305 eP P 19 12 36.8 +1.1
comp=Z,2.9nm,0.9s
O26A **Horse Wrangler** 31.45 317 P P 19 12 37.2 +0.6
baz=32
J29A **Okreek** 31.53 324 P P 19 12 37.7 +0.5
baz=32
M27A **Reverse DX Ran** 31.58 319 P P 19 12 38.0 +0.3
baz=32
121A **Cookes Peak, D** 31.62 300 P P 19 12 38.6 +0.3
baz=32
K28A **Ten Mile Ranch** 31.68 322 P P 19 12 38.5 -0.1
baz=32,SNR=5.7
N26A **Koester Ranch,** 31.71 318 P P 19 12 39.1 +0.3
baz=32
SDCO **Great Sand Dun** 31.73 311 P P 19 12 39.3 0.0
baz=32,SNR=13
SDCO **Great Sand Dun** 31.73 311 eP P 19 12 39.5 +0.2
comp=Z,4.6nm,0.7s
I29A **Vivian Onida** 31.92 325 P P 19 12 40.7 +0.2
baz=32
Q24A **Divide** 32.03 313 P P 19 12 41.4 -0.6
baz=32,SNR=7.0
J28A **Allard Ranch,** 32.05 323 P P 19 12 42.0 +0.2
baz=32
K27A **Flueckinger Fa** 32.18 321 P P 19 12 43.6 +0.6
baz=32
H29A **Onida** 32.27 326 P P 19 12 43.8 +0.2
baz=32
I28A **Midland** 32.38 324 P P 19 12 44.6 0.0
baz=32
F30A **Leola** 32.50 329 P P 19 12 45.9 +0.2
baz=33
M25A **Palm-Egli Farm** 32.56 318 P P 19 12 47.6 +1.2
baz=33
S22A **4UR Ranch, Cre** 32.68 310 P P 19 12 48.1 +0.5
baz=33
H28A **Mission Ridge** 32.74 325 P P 19 12 47.5 -0.2
baz=33,SNR=5.8
K26A **Motz Farm, Whi** 32.74 321 P P 19 12 47.7 -0.2
baz=33,SNR=8.2
ISCO **Idaho Springs** 32.75 314 eP P 19 12 49.1 +0.9
ISCO pmax pmax
comp=Z,9.0nm,0.7s
ISCO **Idaho Springs** 32.75 314 P P 19 12 48.5 +0.3
baz=33,SNR=18
ISCO **Idaho Springs** 32.75 314 eP P 19 12 49.1 +0.9
comp=Z,8.8nm,0.7s
L25A **Engebretsen Ra** 32.91 319 P P 19 12 49.7 +0.4
baz=33
I27A **Quinn** 32.91 323 P P 19 12 49.6 +0.3
baz=33
G28A **Parade** 32.95 326 P P 19 12 50.0 +0.4
baz=33
AGMN **Agassiz Nation** 32.95 335 eP P 19 12 49.5 +0.1
comp=Z,21nm,1.2s
J26A **Sides Ranch, S** 33.04 322 P P 19 12 51.2 +0.7
baz=33
K25A **Mack Ranch, Ha** 33.10 320 P P 19 12 50.5 -0.6
baz=33,SNR=5.3
H27A **Howes** 33.28 324 P P 19 12 52.9 +0.3
baz=33
D30A **Buchanan** 33.30 330 P P 19 12 52.8 +0.2
baz=33
SMCO **Snowmass** 33.39 312 eP P 19 12 54.2 +0.2
comp=Z,8.8nm,0.9s
F28A **McLaughlin** 33.41 327 P P 19 12 53.8 +0.3
baz=34
N23A **Red Feather La** 33.50 316 P P 19 12 54.4 -0.4
baz=34
J25A **Sunshine Ranch** 33.51 321 P P 19 12 54.7 0.0
baz=33,SNR=5.8
C30A **Mose, Pekin** 33.61 331 P P 19 12 55.4 +0.1
baz=34
H26A **Fairpoint** 33.66 324 P P 19 12 55.0 -0.8
baz=34,SNR=5.6
G27A **Dupree** 33.69 325 P P 19 12 55.9 -0.2
baz=34,SNR=5.7
MVCO **Mesa Verde** 33.69 308 P P 19 12 56.1 -0.3
baz=34
MVCO **Mesa Verde** 33.69 308 eP P 19 12 57.4 +1.0
comp=Z,6.9nm,0.8s
I25A **Rochford** 33.84 322 P P 19 12 57.3 -0.3
baz=34,SNR=8.0
E28A **Huff** 33.85 328 P P 19 12 57.7 +0.3
baz=34
W18A **Petrified Fore** 33.92 304 P P 19 12 59.3 +0.9
baz=34
F27A **Lemmon** 34.06 326 P P 19 12 59.8 +0.6
baz=34
RSSD **Black Hills** 34.08 322 eP P 19 13 00.3 +0.6
RSSD pmax pmax
comp=Z,2.0nm,0.8s
RSSD **Black Hills** 34.08 322 eP P 19 13 00.3 +0.6
comp=Z,2.1nm,0.8s
PV01 **Paradox Valley** 34.09 310 eP P 19 13 01.6 +1.6
B30A **Myrvik Farm, E** 34.10 332 P P 19 12 59.6 0.0
baz=34,SNR=7.9
E27A **Carson** 34.19 327 P P 19 13 00.5 +0.1
baz=34
D28A **Regan** 34.22 329 P P 19 13 00.7 0.0
baz=34
K23A **Bowen Ranch, D** 34.26 319 P P 19 13 01.5 +0.3
baz=34
I24A **Kuemmerle Ranc** 34.27 321 P P 19 13 01.4 +0.1
baz=34
G25A **Newell** 34.38 324 P P 19 13 02.1 0.0
baz=34,SNR=8.0
F26A **Lodgepole** 34.39 325 P P 19 13 01.8 -0.3
baz=34
A30A **Hoffart Farm,** 34.46 333 P P 19 13 03.1 +0.4
baz=34
C28A **Hausauer Farms** 34.50 330 P P 19 13 03.3 +0.3
baz=35
E26A **Carlson Angus** 34.68 326 P P 19 13 05.0 +0.3
baz=35
O20A **White River Ci** 34.69 313 P P 19 13 06.0 +1.0
baz=35,SNR=6.5
O20A **White River Ci** 34.69 313 eP P 19 13 06.0 +1.0
comp=Z,10nm,0.8s
H24A **Dirks Ranch, A** 34.75 322 P P 19 13 05.0 -0.3
baz=35
K22A **Casper** 34.77 318 P P 19 13 05.8 +0.2
baz=35
K22A **Casper** 34.77 318 eP P 19 13 06.5 +0.9
comp=Z,13nm,1.0s
A29A **Manning Farm,** 34.85 332 P P 19 13 06.0 0.0
baz=35,SNR=6.8
F25A **Bowman** 34.86 325 P P 19 13 06.2 0.0
baz=35
C27A **Sayler Ranch,** 35.04 329 P P 19 13 07.9 +0.3
baz=35
D26A **Manning** 35.04 327 P P 19 13 08.2 +0.5
baz=35
E25A **Miller Ranch,** 35.19 326 P P 19 13 09.5 +0.4
baz=35
WUAZ **Wupatki** 35.32 304 P P 19 13 10.6 +0.1
baz=35,SNR=16
WUAZ **Wupatki** 35.32 304 eP P 19 13 11.7 +1.3
comp=Z,14nm,0.8s
I22A **9 Mile Ranch,** 35.40 320 P P 19 13 10.3 -0.7
baz=35,SNR=6.8
G23A **Biddle** 35.49 322 P P 19 13 12.0 +0.3
baz=36
SCHQ **Schefferville** 35.63 8 P P 19 13 12.8 +0.1
comp=Z,24nm,0.6s,baz=198,slow=7.1,SNR=36
SCHQ PcP PcP 19 15 41.0 0.0
comp=Z,2.8nm,0.9s,baz=236,slow=5.4,SNR=4.0
SCHQ LR LR 19 26 18.9
comp=Z,301nm,21.7s,baz=222,slow=34
214A **Organ Pipe Nat** 35.64 298 P P 19 13 13.6 +0.5
baz=36,SNR=5.3
214A **Organ Pipe Nat** 35.64 298 eP P 19 13 15.3 +2.2
comp=Z,7.7nm,1.0s
J21A **Lysite** 35.71 318 P P 19 13 13.9 +0.2
baz=36,SNR=17
A27A **Ledoux Ranch,** 35.78 331 P P 19 13 14.8 +0.8
baz=36
F23A **Volborg** 35.81 323 P P 19 13 14.1 -0.3
baz=36
I21A **Big Trails, Te** 35.85 319 P P 19 13 14.8 -0.1
baz=36,SNR=12
SRU **San Rafael** 35.88 310 eP P 19 13 15.8 +0.5
SRU pmax pmax
comp=Z,4.0nm,0.7s
SRU **San Rafael** 35.88 310 eP P 19 13 15.8 +0.5
comp=Z,3.6nm,0.7s
G22A **Birney** 36.03 322 P P 19 13 15.9 -0.4
baz=36,SNR=5.9
D24A **Glendive** 36.08 326 P P 19 13 16.9 +0.3
baz=36
J20A **Shoshoni** 36.11 318 P P 19 13 17.2 +0.1
baz=36
A26A **Wade Farm, Ken** 36.12 330 P P 19 13 17.9 +1.0
baz=36
H21A **Big Horn, Sher** 36.14 321 P P 19 13 17.6 +0.3
baz=36
E23A **Ismay** 36.22 324 P P 19 13 18.5 +0.6
baz=36
F22A **Rosebud** 36.33 323 P P 19 13 19.5 +0.7
baz=36
I20A **Worland** 36.44 319 P P 19 13 19.8 -0.1
baz=36,SNR=6.6
LPAZ **La Paz** 36.51 168 P P 19 13 20.6 -0.6
comp=Z,1.2nm,0.6s,baz=13,slow=8.5,SNR=5.3
LPAZ LR LR 19 29 49.1
comp=Z,222nm,18.8s,baz=333,slow=39
LPAZ **La Paz** 36.51 168 eP P 19 13 23.2 +2.0
E22A **Miles City** 36.54 324 P P 19 13 20.7 +0.1
baz=37
G21A **Lodge Grass** 36.56 321 P P 19 13 20.8 -0.2
baz=37
H20A **Greybull** 36.64 320 P P 19 13 21.5 -0.1
baz=37
J19A **Crowheart** 36.68 317 P P 19 13 21.8 -0.2
baz=37,SNR=8.9
BW06 **Boulder Array** 36.77 316 eP P 19 13 22.4 -0.4
comp=Z,5.2nm,0.7s
PDAR **Pinedale Array** 36.77 316 P P 19 13 22.9 +0.1
comp=Z,3.8nm,0.6s,baz=112,slow=9.4,SNR=34
PDAR PcP PcP 19 15 44.8 -0.2
comp=Z,2.1nm,0.9s,baz=97,slow=7.6,SNR=4.6
PDAR LR LR 19 29 40.9
comp=Z,472nm,18.3s,baz=118,slow=38
MSU **Marysvale** 36.87 308 eP P 19 13 24.8 +1.0
MSU pmax pmax
comp=Z,3.0nm,0.7s
MSU **Marysvale** 36.87 308 eP P 19 13 24.8 +1.0
comp=Z,2.8nm,0.7s
DGMT **Dagmar** 36.88 328 P P 19 13 23.8 +0.3
baz=37
I19A **Meeteetse** 37.02 318 P P 19 13 25.1 +0.1
baz=37,SNR=9.1
D22A **Cohagen** 37.09 325 P P 19 13 26.0 +0.7
baz=37
JLU **Jordanelle** 37.12 312 eP P 19 13 26.4 +0.5
comp=Z,5.9nm,0.6s
G20A **Bridger** 37.16 321 P P 19 13 25.4 -0.6
baz=37
H19A **Powell** 37.34 319 P P 19 13 27.5 0.0
baz=37,SNR=5.3
F20A **Billings** 37.43 321 P P 19 13 28.8 +0.4
baz=38
D21A **La Casta Ranch** 37.49 324 P P 19 13 29.1 +0.4
baz=38
HWUT **Hardware Ranch** 37.60 313 eP P 19 13 30.4 +0.5
comp=Z,4.6nm,0.6s
RLMT **Red Lodge** 37.74 320 P P 19 13 31.1 0.0
baz=38,SNR=12
RLMT **Red Lodge** 37.74 320 eP P 19 13 31.2 +0.1
comp=Z,15nm,0.8s
LOHW **Long Hollow** 37.84 317 eP P 19 13 33.0 +1.1
comp=Z,8.2nm,0.7s
REDW **Red Top Meadow** 37.88 316 eP P 19 13 32.6 +0.3
comp=Z,15nm,0.7s
DUG **Dugway** 37.92 311 eP P 19 13 33.5 +0.9
DUG pmax pmax
comp=Z,8.0nm,0.7s
DUG **Dugway** 37.92 311 P P 19 13 32.8 +0.3
baz=38,SNR=14
DUG **Dugway** 37.92 311 eP P 19 13 33.5 +0.9
comp=Z,7.6nm,0.7s
MOOW **Moose Ponds** 37.99 317 eP P 19 13 33.3 +0.1
comp=Z,11nm,0.8s
IRM **Iron Mountain** 37.99 301 P P 19 13 34.0 +0.9
baz=38,SNR=7.4
TPAW **Teton Pass** 38.01 317 eP P 19 13 33.4 0.0
comp=Z,7.4nm,0.7s
A22A **Carney Farms,** 38.09 327 P P 19 13 34.7 +1.0
baz=38
SPUT **South Promonto** 38.09 313 eP P 19 13 34.3 +0.3
comp=Z,8.4nm,1.0s
BC3 **Big Chuckawall** 38.14 300 P P 19 13 34.8 +0.3
baz=38
IMW **Indian Meadow** 38.19 317 eP P 19 13 35.6 +0.7
comp=Z,10.0nm,0.7s
SIV **San Ignacio** 38.20 157 P P 19 13 35.2 +0.3
comp=Z,0.8nm,0.3s,baz=354,slow=10.0,SNR=3.0
B21A **Ellsworth Farm** 38.31 326 P P 19 13 36.7 +1.1
baz=38
BGU **Big Grassy Mou** 38.35 312 eP P 19 13 36.0 -0.2
comp=Z,5.6nm,0.9s
C20A **Veseth Ranch,** 38.42 324 P P 19 13 36.9 +0.3
baz=38,SNR=5.7
HVU **Hansel Valley** 38.50 313 eP P 19 13 37.4 0.0
HVU pmax pmax
comp=Z,7.0nm,1.0s
HVU **Hansel Valley** 38.50 313 eP P 19 13 37.4 0.0
comp=Z,6.7nm,1.0s
GMRC **Granite Mounta** 38.54 301 P P 19 13 38.1 +0.3
baz=38
MONP **Monument Peak** 38.80 298 P P 19 13 40.8 +0.6
baz=39
R11A **Troy Canyon, C** 39.36 307 P P 19 13 45.1 +0.3
baz=39,SNR=6.9
109C **Camp Elliot, M** 39.37 298 P P 19 13 45.9 +1.3
baz=39
BOZ **Bozeman (W)** 39.45 319 P P 19 13 45.8 +0.5
baz=40
TPNV **Topopah Spring** 39.50 305 P P 19 13 46.9 +1.0
baz=40,SNR=7.5
A19A **Klindworth Far** 39.53 325 P P 19 13 46.5 +0.6
baz=40
GSC **Goldstone** 39.56 302 P P 19 13 46.7 +0.3
baz=40
MURC **Murrieta** 39.57 299 P P 19 13 46.6 +0.3
baz=40
EGMT **Eagleton** 39.57 323 P P 19 13 46.9 +0.7
baz=40
EGMT **Eagleton** 39.57 323 eP P 19 13 46.5 +0.2
comp=Z,4.7nm,1.0s
MCMT **McKenzie Canyo** 39.83 317 eP P 19 13 49.7 +1.1
comp=Z,3.8nm,0.7s
ELK **Elko** 39.85 311 eP P 19 13 49.0 +0.2
ELK pmax pmax
comp=Z,5.0nm,0.8s
ELK **Elko** 39.85 311 eP P 19 13 49.0 +0.2
comp=Z,5.3nm,0.8s
FURC **Furnace Creek,** 39.86 304 P P 19 13 49.2 +0.5
baz=40
DLMT **Dillon** 39.91 318 eP P 19 13 49.1 -0.1
comp=Z,27nm,1.5s
BFSC **Mount Baldy Ra** 40.05 300 P P 19 13 50.8 +0.4
baz=40
MPMC **Manual Prospec** 40.27 303 P P 19 13 52.8 +0.4
baz=40
HLID **Hailey** 40.31 315 P P 19 13 52.8 +0.2
baz=40,SNR=8.5
HLID **Hailey** 40.31 315 eP P 19 13 52.3 -0.3
comp=Z,5.9nm,0.8s
FFC **Flin Flon** 40.35 336 eP P 19 13 51.5 -1.0
FFC pmax pmax
comp=Z,14nm,0.8s
FFC **Flin Flon** 40.35 336 eP P 19 13 51.5 -1.0
comp=Z,14nm,0.8s
EDW2 **Edwards Air Fo** 40.43 301 P P 19 13 54.4 +0.9
baz=40,SNR=5.1
ISA **Isabella** 40.97 302 P P 19 13 57.9 -0.1
baz=41
CHMT **Chamberlain Mo** 41.04 320 eP P 19 13 58.6 0.0
comp=Z,25nm,1.8s
MFID **Camas Ranch** 41.21 314 eP P 19 14 00.0 +0.1
comp=Z,19nm,1.5s
SLMT **Seeley Lake** 41.34 320 eP P 19 14 01.3 +0.3
comp=Z,7.4nm,0.9s
MSO **Missoula** 41.42 320 P P 19 14 02.1 +0.5
baz=41
NVAR **Mina Array Bea** 41.44 306 P P 19 14 03.1 +1.0
comp=Z,2.1nm,0.7s,baz=98,slow=7.3,SNR=20
NVAR PcP PcP 19 16 00.7 +0.9
comp=Z,1.9nm,0.7s,baz=138,slow=3.7,SNR=7.5
SWMT **Swartz Lake** 41.77 321 eP P 19 14 05.0 +0.5
comp=Z,4.8nm,0.8s
BSMT **Bassoo Peak** 42.40 321 eP P 19 14 10.2 +0.5
comp=Z,17nm,1.3s
WVOR **Wild Horse Val** 42.81 312 eP P 19 14 13.1 +0.1
WVOR pmax pmax
comp=Z,10.0nm,1.1s
WVOR **Wild Horse Val** 42.81 312 eP P 19 14 13.1 +0.1
comp=Z,9.6nm,1.1s
NEW **Newport** 43.99 320 eP P 19 14 21.6 -0.7
NEW pmax pmax
comp=Z,6.0nm,0.8s
NEW **Newport** 43.99 320 P P 19 14 22.8 +0.4

baz=44
NEW Newport 43.99 320 *e*P P 19 14 21.6 -0.7
comp=Z,5.9nm,0.8s
BDFB Brasilia 44.28 141 P P 19 14 24.5 -0.5
comp=Z,5.9nm,0.8s,baz=292,slow=12,SNR=6.7
BDFB LR LR 19 33 16.3
comp=Z,263nm,20.7s,baz=310,slow=37
EDM Edmonton 44.37 328 *e*P P 19 14 25.2 -0.1
EDM pmax pmax
comp=Z,49nm,1.3s
EDM Edmonton 44.37 328 *e*P P 19 14 25.2 -0.1
comp=Z,49nm,1.3s
J05D Fort Rock, OR 44.89 312 P P 19 14 29.2 -0.5
baz=45
M04C Macdoel 44.91 310 P P 19 14 29.8 0.0
baz=45
J04D Umpqua Nationa 45.49 312 P P 19 14 35.4 +0.9
baz=46
I04A Tendick Farm, 45.85 312 P P 19 14 36.8 -0.4
baz=46
I03D Drain, OR 46.48 312 P P 19 14 42.4 +0.3
baz=46
CPUP Villa Florida 49.04 158 LR LR 19 38 13.1
comp=Z,148nm,19.5s,baz=350,slow=39
SFJD Kangerlussuaq 49.84 12 LR LR 19 35 31.7
comp=Z,144nm,19.0s,baz=227,slow=35
YKA Yellowknife Ar 50.49 338 P P 19 15 12.4 -0.2
comp=Z,2.9nm,0.7s,baz=128,slow=8.6,SNR=12
ILULI Ilulissat 51.67 11⇑*i*P P 19 15 21.1 -0.3
comp=Z,33nm,0.9s
DLBC Dease Lake 55.09 328 *e*P P 19 15 48.0 +1.1
comp=Z,27nm,1.3s
RES Resolute Bay 55.97 354 *e*P P 19 15 52.0 -0.8
RES pmax pmax
comp=Z,11nm,0.9s
RES Resolute Bay 55.97 354 *e*P P 19 15 52.0 -0.8
comp=Z,11nm,0.9s
SUMG Summit 56.84 12⇓*i*P P 19 16 00.0 +0.5
comp=Z,34nm,1.0s
SUMG Summit 56.84 12⇓*i*P P 19 16 00.0 +0.5
SUMG pmax pmax
comp=Z,34nm,1.0s
SUMG Summit 56.84 12 *e*P P 19 15 58.8 -0.7
comp=Z,51nm,1.3s
INK Inuvik 60.23 339 LR LR 19 42 35.2
comp=Z,405nm,21.2s,baz=106,slow=36
INK Inuvik 60.23 339 *e*P P 19 16 21.5 -1.2
INK pmax pmax
comp=Z,5.0nm,1.1s
INK Inuvik 60.23 339 *e*P P 19 16 21.5 -1.2
comp=Z,4.9nm,1.1s
EGAK Eagle 62.03 344 *e*P P 19 16 35.5 +0.5
comp=Z,3.2nm,0.8s
DAG Danmarks Havn 63.53 12⇑*i*P P 19 16 43.7 -1.1
comp=Z,13nm,0.8s
DAG Danmarks Havn 63.53 12⇑*i*P P 19 16 43.7 -1.1
DAG pmax pmax
comp=Z,10.0nm,0.8s
ESDC Sonseca Array 63.57 55 P P 19 16 45.6 -0.2
comp=Z,3.3nm,0.9s,baz=275,slow=6.3,SNR=13
MDT Midelt 63.75 62 LR LR 19 39 14.9
comp=Z,304nm,20.8s,baz=333,slow=31
ILAR Eielson Array 64.44 333 P P 19 16 50.5 -0.5
comp=Z,1.3nm,0.5s,baz=99,slow=4.3,SNR=18
ILAR LR LR 19 46 28.4
comp=Z,248nm,20.8s,baz=112,slow=38
COLA College 64.86 333 *e*P P 19 16 53.7 0.0
COLA pmax pmax
comp=Z,16nm,1.0s
COLD Coldfoot 66.09 336 *e*P P 19 17 02.1 +0.5
comp=Z,23nm,1.4s
BPAW Bear Paw Mtn. 66.14 332 *e*P P 19 17 01.3 -0.7
comp=Z,1.7nm,0.8s
SNF Seneffe 68.51 42 P P 19 17 17.9 +0.6
DOU Dourbes 68.75 43 P P 19 17 19.3 +0.5
comp=Z,9.4nm,1.5s
BCLA Clavier 69.17 42 P P 19 17 22.1 +0.8
TIC Toumodi 69.33 90 *e*P P 19 17 22.4 -0.6
LIC Lamto 69.45 91 *e*P P 19 17 23.6 -0.2
DBIC Dimbokro 69.47 90 P P 19 17 23.6 -0.2
comp=Z,10nm,0.9s,baz=294,slow=5.7,SNR=7.4
DBIC LR LR 19 43 03.7
comp=Z,60nm,22.0s,baz=265,slow=32
KIC Kosan Boka 69.68 90 *e*P P 19 17 24.7 -0.5
comp=Z,51nm,1.0s
WLF Walferdange 69.80 43 P P 19 17 25.1 -0.2
comp=Z,16nm,1.4s
WLF Walferdange 69.80 43 *e*P P 19 17 25.7 +0.4
comp=Z,32nm,1.4s
WLF Walferdange 69.80 43 *e*P P 19 17 25.3 0.0
WLF pmax pmax
comp=Z,17nm,1.0s
WLF Walferdange 69.80 43 *e*P P 19 17 25.3 0.0
comp=Z,17nm,1.0s
BUG Bochum–Univer 70.29 41 *e*P P 19 17 28.7 +0.5
comp=Z,14nm,1.0s
IBBN Ibbenburen 70.48 40 *e*P P 19 17 29.8 +0.4
comp=Z,29nm,1.0s
ECH Echery 70.65 45 *e*P P 19 17 29.8 -0.8
ECH pmax pmax
comp=Z,14nm,1.1s
ECH Echery 70.65 45 *e*P P 19 17 29.8 -0.8
comp=Z,14nm,1.1s
TNS Taunus Mts 71.19 42 *e*P P 19 17 34.4 +0.5
comp=Z,32nm,1.5s
NB2 NORSAR Subarra 71.31 31 P P 19 17 35.3 +1.0
comp=Z,15nm,1.0s,baz=279,slow=6.2
NOA NORSAR Array B 71.31 31 P P 19 17 34.8 +0.5
comp=Z,12nm,1.1s,baz=279,slow=6.0,SNR=5.8
NOA LR LR 19 46 58.1
comp=Z,62nm,18.5s,baz=270,slow=34
BFO Black Forest 71.40 44 *e*P P 19 17 34.9 -0.3
comp=Z,7.0nm,1.0s
BFO Black Forest 71.40 44*ce*P P 19 17 35.9 +0.7
BSEG Bad Segeberg 71.79 38 *e*P P 19 17 37.6 +0.3
comp=Z,17nm,1.2s
UBBA Unterbreizbach 72.08 42 *e*P P 19 17 39.3 +0.3
comp=Z,20nm,1.5s
CLZ Clausthal 72.15 41 *e*P P 19 17 40.1 +0.5
comp=Z,20nm,1.1s
DAVA Damuels 72.61 45⇑*i*P P 19 17 43.0 +0.4
comp=Z,10nm,0.9s
HFS Hagfors 72.65 32 LR LR 19 44 37.1
comp=Z,79nm,20.5s,baz=282,slow=32
GRF Grafenberg Arr 73.05 43 *e*P P 19 17 45.3 +0.3
comp=Z,18nm,1.6s
GRF *e*L L 19 43 35.6
comp=Z,87nm,22.0s
NEUB Neuenburg 73.12 41 *e*P P 19 17 45.7 +0.4
comp=Z,36nm,1.5s
MOX Moxa 73.12 42 *e*P P 19 17 45.6 +0.2
comp=Z,14nm,1.3s
MOX *e*L L 19 43 48.4
comp=Z,88nm,20.4s
RETA Reutte 73.16 45⇑*i*P P 19 17 46.1 +0.3
comp=Z,21nm,1.0s,SNR=13
FETA Feichten 73.23 45⇓*i*P P 19 17 46.6 +0.3
comp=Z,16nm,0.9s,SNR=13
FUR Furstenfeldbru 73.37 44 *e*P P 19 17 47.3 +0.4
comp=Z,17nm,0.9s
MOTA Moosalm 73.42 45⇓*i*P P 19 17 48.0 +0.7
comp=Z,9.5nm,0.9s
PLN Plauen 73.49 42 *e*P P 19 17 47.6 +0.1
comp=Z,14nm,1.0s
MANZ Manzenberg 73.56 42 *e*P P 19 17 48.1 +0.1
comp=Z,9.0nm,1.0s
WERD Werda 73.59 42 *e*P P 19 17 48.5 +0.3
comp=Z,21nm,1.4s
GUNZ Gunzen 73.63 42 *e*P P 19 17 48.6 +0.2
comp=Z,15nm,1.2s
ROTZ Rotzenmuhle 73.66 42 *e*P P 19 17 49.3 +0.7
comp=Z,21nm,1.2s
WERN Wernitzgruen 73.67 42 *e*P P 19 17 49.1 +0.5
comp=Z,10.0nm,1.2s
TOB4 Torodi Ar. Sit 73.67 82 *e*P P 19 17 47.4 -1.8
TORD Torodi Ar. Bea 73.68 82 P P 19 17 48.6 -0.6
comp=Z,5.2nm,0.8s,baz=288,slow=5.7,SNR=27
TORD LR LR 19 45 45.3
comp=Z,188nm,21.3s,baz=275,slow=32
TANN Tannenbergstha 73.70 42 *e*P P 19 17 48.9 +0.1
comp=Z,17nm,1.2s
NKC Novy Kostel 73.72 42 *e*P P 19 17 49.7 +0.8
NKC AMS AMS 19 45 40.0
comp=Z,200nm,18.2s
NKC Novy Kostel 73.72 42 *e*P P 19 17 49.7 +0.8
NKC MLR MLR
comp=Z,200nm,18.2s
CLL Collm 73.86 41 *e*P P 19 17 49.7 +0.1
comp=Z,11nm,1.1s
CLL Collm 73.86 41 *i*P P 19 17 49.7 +0.1
CLL pmax pmax
comp=Z,11nm,1.1s
CLL Collm 73.86 41 *i*P P 19 17 49.7 +0.1
comp=Z,11nm,1.1s
CLL *i*sP **sP** 19 18 00.1 +1.2
CLL LmV 19 46 00.0
comp=Z,100nm,18.8s
RUE Ruedersdorf 74.09 39 *e*P P 19 17 51.7 +0.7
comp=Z,45nm,1.7s
FBE Freiberg 74.15 41 *e*P P 19 17 51.9 +0.5
comp=Z,24nm,1.3s
WET Wettzell 74.22 43 *e*P P 19 17 52.1 +0.2
comp=Z,21nm,1.3s
RJOB Jochberg 74.46 44 *e*P P 19 17 53.2 -0.1
comp=Z,8.0nm,1.1s
ABTA Abfaltersbach 74.48 45⇑*i*P P 19 17 53.7 +0.2
comp=Z,13nm,1.1s,SNR=7.1
BRG Berggiesshubel 74.53 41 *e*P P 19 17 54.0 +0.5
comp=Z,15nm,1.2s
comp=N,105nm,18.7s
comp=E,102nm,27.7s
comp=Z,135nm,15.4s
BRG Berggiesshubel 74.53 41 *e*P P 19 17 53.6 0.0
comp=Z,15nm,1.2s
BRG Berggiesshubel 74.53 41 *e*P P 19 17 54.0 +0.5
BRG pmax pmax
comp=Z,15nm,1.2s
BRG MLR MLR
comp=N,105nm,18.7s
BRG MLR MLR
comp=E,102nm,27.7s
BRG MLR MLR
comp=Z,135nm,15.4s
TAM Tamanrasset 74.53 71 *e*P P 19 17 55.6 +1.3
TAM pmax pmax
comp=Z,3.0nm,1.0s
TAM Tamanrasset 74.53 71 *e*P P 19 17 55.6 +1.3
comp=Z,2.5nm,1.0s
KEST Kesra 74.60 57 P P 19 17 54.6 +0.2
comp=Z,4.4nm,0.8s,baz=110,slow=3.1,SNR=14
KEST LR LR 19 46 13.3
comp=Z,30nm,21.0s,baz=264,slow=32
KHC Kasperske Hory 74.67 43 *e*P P 19 17 55.4 +0.9
KHC *ep*P **pP** 19 18 02.4 +1.1
KHC AMS AMS 19 45 30.0
comp=Z,200nm,19.9s
KHC Kasperske Hory 74.67 43 *e*P P 19 17 55.4 +0.9
KHC *e* 19 18 02.4
KHC MLR MLR
comp=Z,200nm,19.9s
KHC Kasperske Hory 74.67 43 *e*P P 19 17 54.8 +0.3
comp=Z,6.9nm,1.3s
GEC2 GERESS Array S 74.81 43 *e*P P 19 17 55.5 +0.1
comp=Z,17nm,1.2s
GERES GERESS Array B 74.81 43 P P 19 17 55.4 0.0
comp=Z,5.5nm,0.9s,baz=270,slow=4.0,SNR=32
GERES LR LR 19 47 04.4
comp=Z,129nm,19.4s,baz=272,slow=33
KBA Koelnbreinsper 74.97 45⇑*i*P P 19 17 56.5 +0.1
comp=Z,16nm,1.2s,SNR=5.5
PVCC Panska Ves 74.99 41 *e*P P 19 17 56.6 +0.3
PVCC AMS AMS 19 45 00.0
comp=Z,200nm,21.0s
PVCC Panska Ves 74.99 41 *e*P P 19 17 56.6 +0.3
PVCC MLR MLR
comp=Z,200nm,21.0s
PRA Prague 75.01 42 *e*P P 19 17 57.5 +1.1
PRA Prague 75.01 42 *e*P P 19 17 57.5 +1.1
PRU Pruhonice 75.09 42 *e*P P 19 17 57.8 +0.9
PRU *ep*P **pP** 19 18 05.0 +1.4
PRU Pruhonice 75.09 42 *e*P P 19 17 57.8 +0.9
PRU *e* 19 18 05.0
GOPC GO Pecny, Ondr 75.27 42 *e*P P 19 17 59.2 +1.3
MYKA Terra Mystica 75.27 45 *i*P P 19 17 58.3 +0.3
comp=Z,17nm,1.2s,SNR=7.0
MOA Molln 75.40 44⇑*i*P P 19 17 58.7 0.0
comp=Z,12nm,0.8s,SNR=8.0
ARCES ARCESS Array B 75.42 21 P P 19 17 58.4 0.0
comp=Z,10.0nm,1.0s,baz=289,slow=4.2,SNR=20
ARCES LR LR 19 48 37.9
comp=Z,42nm,19.3s,baz=256,slow=34
CADS Cadrg 75.42 46 *i*P P 19 17 58.9 0.0
TREC Trest 75.85 42 AMS AMS 19 47 00.0
comp=Z,100nm,17.4s
UPC Upice 75.89 41 *e*P P 19 18 02.3 +0.8
UPC AMS AMS 19 46 50.0
comp=Z,200nm,18.4s
UPC Upice 75.89 41 *e*P P 19 18 02.3 +0.8
UPC MLR MLR
comp=Z,200nm,18.4s
OBKA Obir 75.90 45⇑*i*P P 19 18 01.6 -0.1
comp=Z,16nm,1.1s,SNR=8.7
LJU Ljubljana 76.00 46 *e*P P 19 18 02.5 +0.3
CEY Cerknica 76.00 46 *i*P P 19 18 02.7 +0.5
DPC Dobruska-Polom 76.12 41 *e*P P 19 18 03.7 +0.9
DPC AMS AMS 19 47 10.0
comp=Z,200nm,23.7s
DPC Dobruska-Polom 76.12 41 *e*P P 19 18 03.7 +0.9
DPC MLR MLR
comp=Z,200nm,23.7s
SOKA Soboth 76.19 45⇑*i*P P 19 18 03.0 -0.3
comp=Z,21nm,1.3s,SNR=16
PERS Pernice 76.25 45 *i*P P 19 18 03.1 -0.6
ARSA Arzberg 76.37 44⇓*i*P P 19 18 03.8 -0.5
comp=Z,7.4nm,1.1s,SNR=5.5
CONA Conrad Observa 76.42 44 *i*P P 19 18 04.7 +0.1
comp=Z,9.9nm,1.0s,SNR=6.1
KRLC Kraliky 76.48 41 *e*P P 19 18 06.0 +1.2
KRLC Kraliky 76.48 41 *e*P P 19 18 06.0 +1.2
VRAC Vranov 76.55 42⇓*i*P P 19 18 06.1 +0.9
VRAC Vranov 76.55 42⇓*i*P P 19 18 06.1 +0.9
MORC Moravsky Berou 77.03 42⇓*i*P P 19 18 09.3 +1.3
MORC Moravsky Berou 77.03 42⇓*i*P P 19 18 09.3 +1.3
MORC Moravsky Berou 77.03 42 *e*P P 19 18 08.2 +0.2
comp=Z,60nm,1.3s
OKC Ostrava-Krasne 77.39 41 *e*P P 19 18 10.9 +1.0
OKC *ep*P **PcP** 19 18 20.7 +0.3
OKC Ostrava-Krasne 77.39 41 *e*P P 19 18 10.9 +1.0
OKC *e* 19 18 20.7
FINES FINESS Array B 78.20 29 P P 19 18 14.3 +0.2
comp=Z,6.8nm,0.5s,baz=260,slow=3.5,SNR=67
FINES LR LR 19 48 36.9
comp=Z,118nm,21.1s,baz=284,slow=32
CUC Castrocucco 78.47 52 *e*P P 19 18 15.9 -0.3
comp=Z,16nm,1.2s
PKSM Moragy 78.72 45⇓P P 19 18 18.0 +0.7
PKSM Moragy 78.72 45⇓*i*P P 19 18 18.0 +0.7
PKSM Moragy 78.72 45⇓*e*P P 19 18 17.8 +0.5
PSZ Piszkesteto 79.04 43⇓P P 19 18 21.2 +2.0
PSZ Piszkesteto 79.04 43⇓*i*P P 19 18 21.2 +2.0
PSZ Piszkesteto 79.04 43 *e*P P 19 18 20.5 +1.3
comp=Z,46nm,1.8s
PSZ Piszkesteto 79.04 43⇓*e*P P 19 18 20.7 +1.5
LVZ Lovozero 79.12 21 *e*P P 19 18 19.4 +0.2
LVZ pmax pmax
comp=Z,30nm,1.2s
KECS Kecovo 79.25 42 *e*P P 19 18 21.9 +1.7
KECS pmax pmax
comp=Z,2.0nm,1.1s
KECS Kecovo 79.25 42 *e*P P 19 18 21.8 +1.6
STHS Stebnicka Huta 79.44 41 *e*P P 19 18 23.3 +2.0
STHS pmax pmax
comp=Z,3.0nm,1.0s
STHS Stebnicka Huta 79.44 41 *e*P P 19 18 23.3 +2.0
VSU Vasula 79.53 32⇓*i*P P 19 18 21.8 +0.3
VSU pmax pmax
comp=Z,88nm,1.2s
KOLS Kolonicke sedl 80.23 42 *e*P P 19 18 27.7 +2.1
KOLS pmax pmax
comp=Z,16nm,1.6s
KOLS Kolonicke sedl 80.23 42 *e*P P 19 18 27.7 +2.1
DIVS Divibare 80.25 47⇓*i*P P 19 18 27.2 +1.3
SIRR Siria 80.69 44⇓*i*P P 19 18 28.7 +0.6
PUL Pulkovo 80.76 30 *e*P P 19 18 29.2 +1.1
PUL pmax pmax
comp=Z,27nm,0.8s
NACGM Naroch 80.83 35 *e* P 19 18 28.0 -0.6
BZS Buzias 80.88 45⇑P P 19 18 29.8 +0.7
BZS Buzias 80.88 45⇑*i*P P 19 18 29.8 +0.7
LVV L'vov 81.03 40 *e*P P 19 18 29.7 -0.1
DRGR 81.21 43⇑P P 19 18 30.4 -0.5
DRGR 81.21 43⇑*i*P P 19 18 30.4 -0.5
GZR Gura Zlata 81.72 45⇓P P 19 18 34.9 +1.2
GZR Gura Zlata 81.72 45⇓*i*P P 19 18 34.9 +1.2
BILL Bilibino 81.78 340⇓*i*P P 19 18 33.9 +0.4
BILL pmax pmax
comp=Z,13nm,1.2s
TMCR Tamitsa 82.08 24 *e*P P 19 18 35.6 +0.6
TMCR pmax pmax
comp=Z,25nm,1.1s
BURAR Bucovina Array 82.53 42⇑P P 19 18 39.5 +1.6
BURAR Bucovina Array 82.53 42⇑*i*P P 19 18 39.5 +1.6
ARR Arges 82.96 44⇓*i*P P 19 18 37.2 -2.9
VTS Vitosha 82.97 47⇑P P 19 18 41.7 +1.4
VTS Vitosha 82.97 47⇑*i*P P 19 18 41.7 +1.4
VOIR 83.20 44⇓P P 19 18 42.7 +1.3
VOIR 83.20 44⇓*i*P P 19 18 42.7 +1.3
DOPR Dopca 83.23 44⇑*i*P P 19 18 42.8 +1.3
MMB Musomiste 83.68 48⇑P P 19 18 45.1 +1.2
MMB Musomiste 83.68 48⇑*i*P P 19 18 45.1 +1.2
MLR Muntele Rosu 83.77 44⇑P P 19 18 46.2 +1.8
MLR Muntele Rosu 83.77 44⇑*i*P P 19 18 46.2 +1.8
KIEV Kiev 83.79 38 *e*P P 19 18 44.7 +0.5
AKASG Malin Array Be 83.80 38 P P 19 18 44.1 -0.1
comp=Z,0.9nm,0.5s,baz=288,slow=3.9,SNR=10
AKASG LR LR 19 52 04.3
comp=Z,101nm,21.4s,baz=320,slow=33
PLOR Plostina 84.09 43⇑P P 19 18 42.5 -3.4
PLOR Plostina 84.09 43⇑*i*P P 19 18 42.5 -3.4
VRI Vrincioaia 84.14 43⇑P P 19 18 46.0 -0.1
VRI Vrincioaia 84.14 43⇑*i*P P 19 18 46.0 -0.1
KDZ Kurdzhali 84.84 48⇑P P 19 18 49.1 -0.6
KDZ Kurdzhali 84.84 48⇑*i*P P 19 18 49.1 -0.6
CFR Carcaliu 85.32 44⇑P P 19 18 51.4 -0.6
CFR Carcaliu 85.32 44⇑*i*P P 19 18 51.4 -0.6
OBN Obninsk 85.84 32⇓*i*P P 19 18 54.5 +0.1
OBN pmax pmax
comp=Z,52nm,1.3s
OBN MLR MLR
comp=Z,94nm,18.0s
MOS Moscow 86.06 31 *e*P P 19 18 53.9 -1.6
MOS pmax pmax
comp=Z,40nm,0.8s
PRGR Permogore 86.37 24 *e*P P 19 18 54.9 -2.0
PRGR pmax pmax
comp=Z,30nm,1.4s
VSR Storozhevoye 89.15 35 *e*P P 19 19 09.9 -0.5
VSR pmax pmax
comp=Z,10.0nm,1.1s
VSR pmax pmax
comp=N,7.0nm,1.0s
VSR pmax pmax
comp=E,5.0nm,1.1s
SEY Seymchan 89.49 340⇓*i*P P 19 19 12.7 +0.9
BRTR Keskin Array B 91.32 47 P P 19 19 21.1 +0.1
comp=E,1.5nm,0.9s,baz=306,slow=4.2,SNR=11
BRTR LR LR 19 59 38.3
comp=E,27nm,18.7s,baz=288,slow=35
BRTR Keskin Array B 91.32 47*ce*P P 19 19 21.3 +0.3
BRTR pmax pmax
comp=Z,2.0nm,0.9s
PETK Petropavlovsk- 94.20 331 LR LR 20 05 40.2
comp=Z,104nm,18.1s,baz=35,slow=38
ARU Arti 94.82 24*di*P P 19 19 36.8 +0.2
ARU 19 23 24.4
ARU S **SKSac** 19 30 10.7 -0.3
ARU SS **SS** 19 37 07.7 -4.4
ARU pmax pmax
comp=Z,6.0nm,1.2s
ARU Arti 94.82 24 *e*P P 19 19 37.1 +0.5
comp=Z,4.2nm,1.0s
KIV Kislovodsk 95.04 40 *e*P P 19 19 37.3 -0.7
KIV pmax pmax
comp=Z,3.0nm,1.1s
WMQ Urumqi 114.87 13 *e*PKP PKPdf 19 24 55.9 -0.1
WMQ LN
comp=Z,74nm,19.4s
WMQ LE
comp=Z,56nm,22.3s
WMQ LZ
comp=Z,99nm,19.5s
HHC Hu-ho-hao-te 119.38 354 *e*PKP **PKPdf** 19 25 07.0 +2.2
HHC PP PP 19 26 31.6 +7.0
HHC PKS **PKSdf** 19 28 42.4 +0.8
HHC SKS **SKSdf** 19 32 18.0 +2.0
HHC SKKS **SKKSac** 19 33 23.7 -1.6
HHC SS **SS** 19 42 49.3 +4.2
HHC PPMZ
comp=Z,16nm,5.3s
HHC LN
comp=Z,90nm,20.4s
HHC LE
comp=Z,110nm,18.6s
HHC LZ
comp=Z,75nm,20.4s
LZH Lanzhou 124.47 1 *e*PKP **PKPdf** 19 25 12.4 -2.4
LZH sPKP 19 25 18.7
LZH LN
comp=Z,220nm,17.7s
LZH LE
comp=Z,180nm,15.7s
LZH LZ
comp=Z,160nm,17.2s
WHN Wuhan 129.13 349 PKP **PKPdf** 19 25 26.6 +3.0
CD2 Chengdu 129.63 1 PKP **PKPdf** 19 25 23.0 -1.6
KMI Kunming 135.37 2 PKP **PKPdf** 19 25 35.9 +0.1
KMI SS SS 19 46 03.0 -1.5
KMI LN
comp=Z,100nm,19.3s
KMI LE
comp=Z,110nm,17.6s
KMI LZ
comp=Z,100nm,16.0s
CTA Charters Tower 140.92 262 PKP **PKPdf** 19 25 45.2 -0.5
comp=Z,2.0nm,0.6s,baz=81,slow=21,SNR=3.5
CMAR Chiang Mai Arr 141.63 9 PKhKP PKPpre 19 25 41.0
comp=Z,1.4nm,1.1s,baz=320,slow=4.0,SNR=4.4
CMAR PKP **PKPdf** 19 25 46.6 -0.6
comp=Z,0.8nm,0.9s,baz=307,slow=2.9,SNR=7.5
STKA Stephens Creek 144.75 242 PKP **PKPab** 19 25 50.9 -0.2
comp=Z,40nm,0.9s,baz=99,slow=4.3,SNR=63
WRAB Tennant Creek 152.04 265 *e*PKIKP **PKPdf** 19 26 04.4 0.0
WRAB *e* 19 26 10.0
WRAB Tennant Creek 152.04 265 *e*PKPdf **PKPdf** 19 26 04.4 0.0
WRAB *e*PKPbc **PKPbc** 19 26 10.0 -1.0
WRA Warramunga Arr 152.06 264 PKP **PKPdf** 19 26 04.0 -0.4
comp=Z,16nm,1.0s,baz=79,slow=1.2,SNR=54
WRA PKPbc **PKPbc** 19 26 09.6 -1.5
comp=Z,15nm,0.7s,baz=86,slow=2.8,SNR=41
ASAR Alice Springs 152.53 257 PKP **PKPdf** 19 26 04.2 -0.8
comp=Z,6.3nm,0.9s,baz=91,slow=1.4,SNR=46
ASAR PKPbc **PKPbc** 19 26 10.5 -1.5
comp=Z,17nm,0.8s,baz=83,slow=2.3,SNR=85

IDC 05 19:27:06.1±52.0, 18.18°S×172.70°W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/21, mbtmp3.6/3, Error ellipse: s-maj=1003.0km s-min=176.3km az=82.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.30**	**243**	P	P	19 35 09.4	-0.4
	0.4nm,0.5s,baz=66,slow=10.0,SNR=2.9						
WRA	**Warramunga Arr**	**49.92**	**259**	P	P	19 36 02.1	+0.1
	0.3nm,0.4s,baz=96,slow=6.9,SNR=2.1						
ASAR	**Alice Springs**	**49.94**	**254**	P	P	19 36 02.1	-0.1
	0.9nm,0.8s,baz=88,slow=8.4,SNR=7.5						

IDC 05 19:41:46.6±1.8, 31.51°S×71.24°W, h0km, mb3.8/1, mb1 3.7/2, mb1mx3.5/18, mbtmp3.6/2, ML3.5/1, Error ellipse: s-maj=106.7km s-min=44.6km az=96.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**9.22**	**177**	Pn	Pn	19 44 00.6	-0.3
	0.1nm,0.3s,baz=352,slow=12,SNR=1.8						
TORD	**Torodi Ar. Bea**	**82.73**	**70**	P	P	19 54 13.1	+0.4
	0.7nm,0.8s,baz=253,slow=5.2,SNR=3.6						
H11S2	**WAKE ISLAND Hyd**	**26.45**	**271**	T	T	22 19 44.6	
	baz=110						
H11S1	**WAKE ISLAND Hyd**	**26.47**	**271**	T	T	22 19 45.2	
	baz=110						
H11S3	**WAKE ISLAND Hyd**	**26.47**	**271**	T	T	22 19 45.2	
	baz=110						
BVAR	**Borovoye Array**	**144.98**	**41**	PKP	PKPdf	20 01 25.1	-0.2

0.5nm,0.5s,baz=304,slow=2.9,SNR=5.0
KURBB **Kurchatov Arra 150.58 41** PKPbc PKPbc 20 01 39.2 -0.8
0.3nm,0.7s,baz=312,slow=3.4,SNR=4.5
ZALV **Zalesovo Beam 151.76 30** PKPbc PKPbc 20 01 41.6 -1.1
0.9nm,0.5s,baz=304,slow=3.1,SNR=5.0
SONM **Songino Array 163.60 6** PKP PKPdf 20 01 52.1 +0.8
0.2nm,0.5s,baz=333,slow=1.6,SNR=2.5

*IDC **05** 19:44:59.9±8.1,28°.14S×179°.19W,h372km±55km,mb3.2/6, mb1 3.4/8,mb1mx3.2/19,mbtmp4.1/8, Error ellipse: s-maj=93.4km s-min=19.4km az=47.0*

ISC 05 19:44:58.6±2.8,28°.2S±0°.3×179°.3W±0°.3,h350km,n9, σ0s88/10,mb3.4/6,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**10.46**	**196**	P	**Pn**	**19 47 22.1**	**+0.2**
	1.4nm,0.3s,baz=280,slow=4.4,SNR=5.5						
DZM	**Mont Dzumac**	**14.32**	**292**	P	**Pn**	**19 48 08.6**	**+0.9**
	1.0nm,0.3s,baz=91,slow=23,SNR=5.1						
CTA	**Charters Tower**	**32.41**	**277**	P	**P**	**19 50 57.5**	**+0.3**
	1.1nm,0.4s,baz=111,slow=14,SNR=2.6						
STKA	**Stephens Creek**	**33.96**	**254**	P	**P**	**19 51 10.2**	**-0.1**
	1.0nm,0.7s,baz=96,slow=10,SNR=3.0						
ASAR	**Alice Springs**	**42.17**	**265**	P	**P**	**19 52 18.4**	**+0.1**
	0.9nm,0.5s,baz=102,slow=7.3,SNR=30						
ASAR				PcP	**PP**	**19 54 03.1**	**-1.3**
	0.2nm,0.5s,baz=111,slow=4.1,SNR=4.9						
WRA	**Warramunga Arr**	**42.95**	**271**	P	**P**	**19 52 24.1**	**-0.4**
	1.4nm,0.5s,baz=111,slow=8.2,SNR=8.4						
VNDA	**Vanda**	**50.15**	**185**	P	**P**	**19 53 19.9**	**+0.9**
	0.7nm,0.5s,baz=0.8,slow=7.2,SNR=7.8						
MAW	**Mawson**	**73.95**	**201**	P	**P**	**19 55 55.6**	**-0.3**
	1.6nm,0.5s,baz=129,slow=13,SNR=8.2						
TORD	**Torodi Ar. Bea**	**164.97**	**184**	PKPab	**PKPab**	**20 05 18.9**	**-1.2**
	0.3nm,0.7s,baz=183,slow=4.1,SNR=4.5						

*GUC **05** 19:51:13.8±0.7,31°.63S×71°.67W,h33km±8km,ML3.6*
*SJA **05** 19:51:15.2±0.8,31°.55S×71°.85W,h33km,ML3.7*

ISC 05 19:51:12.4±2.5,31°.62S±0°.04×71°.78W±0°.06,h1km±17km, n22,σ1s75/31,1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLL	**Tololo Astrono**	**1.67**	**30**	*e*P	**Pn**	**19 51 43.1**	**+0.1**
TLL				*e*S	**Sn**	**19 52 05.6**	**+0.3**
TLL				AML	AML	19 52 08.8	
	comp=E,947nm,0.9s						
LSCH	**La Serena**	**1.77**	**15**	*e*S	**Sn**	**19 52 07.2**	**0.0**
PEL	**Peldehue**	**1.78**	**149**	*e*P	**Pn**	**19 51 43.9**	**-0.5**
PEL				*e*S	**Sn**	**19 52 06.8**	**-0.9**
PEL				AML	AML	19 52 13.7	
	comp=E,1μm,1.5s						
SAN	**Santiago**	**2.06**	**153**	*e*S	**Sn**	**19 52 14.3**	**-0.2**
CLCH	**Cerro Calan**	**2.06**	**150**	*e*P	**Pn**	**19 51 48.3**	**+0.1**
CLCH				*e*S	**Sn**	**19 52 13.6**	**-1.0**
CLCH				AML	AML	19 52 18.3	
	comp=N,677nm,0.5s						
AUSP	**Uspallata**	**2.12**	**107**	*e*P	**Pb**	**19 51 52.0**	**+0.2**
AUSP				*e*S	**Sb**	**19 52 19.6**	**+0.9**
RTLS	**Leoncito**	**2.12**	**95**	*e*P	**Pb**	**19 51 52.2**	**+0.3**
RTLS				*e*S	**Sb**	**19 52 19.6**	**+0.8**
LNV	**Longovilo**	**2.35**	**172**	*e*P	**Pn**	**19 51 52.2**	**+0.1**
CHCH	**Chadas Angostu**	**2.50**	**158**	*e*P	**Pn**	**19 51 54.5**	**+0.3**
CHCH				*e*S	**Sn**	**19 52 25.5**	**+0.2**
ASAL	**Salagasta**	**2.68**	**112**	*e*P	**Pb**	**19 52 01.2**	**0.0**
ASAL				*e*S	**Sb**	**19 52 38.5**	**+3.8**
ARCO	**CERRO ARCO**	**2.70**	**118**	*e*P	**Pb**	**19 52 00.8**	**-0.8**
RTCV	**Cerro Valdivia**	**2.77**	**96**	*e*P	**Pb**	**19 52 00.9**	**-1.8**
RTLL	**Cerro Villicun**	**2.84**	**85**	*e*P	**Pb**	**19 52 01.8**	**-2.1**
AAGR	**Agrelo**	**2.90**	**121**	*e*P	**Pb**	**19 52 03.5**	**-1.3**
AAGR				*e*P	**Pb**	**19 52 03.5**	**-1.3**
AMOG	**MOGNA**	**2.90**	**77**	*e*P	**Pb**	**19 52 03.3**	**-1.6**
AMOG				*e*S	**Sg**	**19 52 47.2**	**+1.8**
CFAA	**Coronel Fontan**	**3.02**	**91**	*e*P	Pn	19 52 04.6	+3.1
CFAA				⇓*e*S	**Sb**	**19 52 45.8**	**+1.3**
AVFE	**Valle Fertil**	**3.83**	**77**	*e*P	Pn	19 52 15.2	+2.6
AVFE				*e*S	**Sn**	**19 53 01.2**	**+2.9**
AVFE				AML	AML	19 53 12.1	
	comp=Z,126nm,0.4s						
ACAN	**Cantantal**	**3.96**	**101**	*e*P	Pn	19 52 16.4	+2.1
ACAN				*e*S	**Sb**	**19 53 08.8**	**-2.5**
VCA	**Vinchina**	**4.22**	**48**	*e*P	Pn	19 52 22.8	+4.8
APLL	**PUNTA DE LOS L**	**4.67**	**76**	*e*P	**Pn**	**19 52 26.0**	**+1.9**
ACLC	**CERRO LA CRUZ**	**4.71**	**64**	*e*P	Pn	19 52 27.5	+2.8
ACLC				*e*S	**Sb**	**19 53 30.5**	**-2.6**
TCA	**Tanti**	**6.14**	**89**	*e*P	**Pn**	**19 52 45.2**	**+0.8**
TCA				*e*S	**Sn**	**19 53 59.8**	**+4.4**

*ISCJB **05** 19:59:39.4±0.8,17°.6S±0°.2×178°.8W±0°.2,h539km, mb3.6/10, Error ellipse: s-maj=31.6km s-min=16.6km az=155.0*
*IDC **05** 19:59:43.9±6.1,17°.66S×178°.83W,h582km±72km, mb3.1/10,mb1 3.4/10,mb1mx3.1/34,mbtmp4.1/10,Error ellipse: s-maj=29.4km s-min=25.1km az=109.0*

ISC 05 19:59:40.2±0.9,17°.6S±0°.2×178°.8W±0°.2,h539km,n10, σ0s80/11,mb3.5/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.15**	**260**	P	**P**	**20 05 32.4**	**0.0**
	8.3nm,1.0s,baz=12,slow=24,SNR=4.2						
STKA	**Stephens Creek**	**38.46**	**241**	P	**P**	**20 06 17.2**	**+1.0**
	2.2nm,0.4s,baz=86,slow=6.6,SNR=22						
JAY	**Jayapura**	**42.48**	**286**	P	**P**	**20 06 48.6**	**0.0**
	7.8nm,0.8s,baz=148,slow=9.7,SNR=5.8						
WRA	**Warramunga Arr**	**44.34**	**259**	P	**P**	**20 07 02.8**	**-0.1**
	1.2nm,0.6s,baz=93,slow=6.9,SNR=18						
ASAR	**Alice Springs**	**44.53**	**254**	P	**P**	**20 07 04.8**	**+0.4**
	13nm,0.5s,baz=89,slow=7.8,SNR=480						
ASAR				PcP	**PcP**	**20 08 35.8**	**-0.2**
	0.4nm,0.5s,baz=103,slow=3.6,SNR=5.0						
QSPA	**South Pole Qui**	**72.44**	**180**	P	**P**	**20 10 10.9**	**-1.0**
	1.4nm,1.0s,baz=56,slow=1.3,SNR=4.4						
NVAR	**Mina Array Bea**	**79.46**	**44**	P	**P**	**20 10 51.6**	**+0.4**
	0.6nm,0.8s,baz=232,slow=9.3,SNR=4.2						
ILAR	**Eielson Array**	**85.68**	**13**	P	**P**	**20 11 20.8**	**-0.9**
	0.1nm,0.3s,baz=222,slow=5.2,SNR=4.1						
TXAR	**Lajitas Array**	**86.14**	**58**	P	**P**	**20 11 25.9**	**+1.1**
	0.3nm,0.8s,baz=212,slow=4.4,SNR=4.7						
CMAR	**Chiang Mai Arr**	**88.45**	**290**	P	**P**	**20 11 34.9**	**-0.8**
	0.1nm,0.3s,baz=101,slow=4.7,SNR=2.5						

MAN 05 20:00:57,15°.60N×120°.16E,h79km,mb4.5,ML3.4,MS3.3, 1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCZP	**Santa Cruz**	**0.29**	**306**	*e*P	Pn	20 01 11.5	+2.4
SCZP				*e*S	Sn	20 01 20.7	+2.6
BOLP	**Bolinao**	**0.81**	**343**	*e*P	Pn	20 01 15.9	+2.1
BOLP				*e*S	Sn	20 01 31.5	+5.2
BCPH	**Baguio City Da**	**0.88**	**28**	⇓*i*P	Pn	20 01 15.9	+1.1
BCPH				*i* S	Sn	20 01 31.1	+3.0
BALP	**Baler**	**1.38**	**84**	*e*P	Pn	20 01 21.4	+0.7
LUBP	**Lubang**	**1.86**	**177**	*e*P	Pn	20 01 28.4	+1.4

IDC 05 20:10:45.5±54.0,17°.69S×173°.07W,h0km,mb3.7/3, mb1 3.8/3,mb1mx3.5/36,mbtmp3.7/3,Error ellipse: s-maj=1043.0km s-min=190.2km az=81.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.21**	**242**	P	P	20 18 48.6	0.0
	0.9nm,0.7s,baz=72,slow=9.6,SNR=3.8						
WRA	**Warramunga Arr**	**49.67**	**259**	P	P	20 19 39.0	-0.5
	1.2nm,1.2s,baz=97,slow=6.9,SNR=2.7						
ASAR	**Alice Springs**	**49.74**	**254**	P	P	20 19 40.1	+0.1
	0.9nm,0.6s,baz=91,slow=7.9,SNR=18						

MEX 05 21:13:46.5±0.7,16°.25N×98°.08W,h10km±3km,MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.15**	**343**	*i* P	Pg	21 13 49.1	-0.8
PNIG				*e*S	Sg	21 13 52.0	-0.3
TLIG	**Tlapa**	**1.39**	**340**	*e*P	Pn	21 14 08.2	-3.9
TLIG				*e*S	Sb	21 14 25.1	-5.4
VHO	**Vista Hermosa**	**1.53**	**58**	*e*P	Pn	21 14 10.4	-3.7
VHO				*e*S	Sn	21 14 28.8	-5.4
HUIG	**Huatulco**	**1.96**	**104**	*e*P	Pn	21 14 15.9	-3.8
HUIG				*i* S	Sn	21 14 40.5	-3.9

*ISCJB **05** 21:18:01.3±0.8,11°.9N±0°.1×142°.4E±0°.1,h42km,mb3.7/6, Error ellipse: s-maj=22.0km s-min=10.3km az=142.7*
*IDC **05** 21:18:05.7±3.7,11°.92N×142°.58E,h70km±39km,mb3.4/6, mb1 3.5/7,mb1mx3.3/36,mbtmp3.6/7,ML3.1/1,Error ellipse: s-maj=39.0km s-min=18.4km az=105.0*

ISC 05 21:18:03.3±1.0,11°.9N±0°.2×142°.4E±0°.1,h42km,n7, σ0s70/8,mb3.8/6,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.94**	**55**	P	**Pn**	**21 18 48.4**	**+0.9**
	2.8nm,0.3s,baz=174,slow=18,SNR=1.8						
GUMO				S	**Sn**	**21 19 21.0**	**-0.5**
	7.2nm,0.3s,baz=323,slow=20,SNR=3.3						
WRA	**Warramunga Arr**	**32.65**	**194**	P	**P**	**21 24 31.4**	**-0.1**
	0.3nm,0.5s,baz=17,slow=9.5,SNR=4.7						
ASAR	**Alice Springs**	**36.33**	**193**	P	**P**	**21 25 03.4**	**0.0**
	0.2nm,0.5s,baz=20,slow=12,SNR=4.8						
MKAR	**Makanchi Array**	**61.02**	**317**	P	**P**	**21 28 13.1**	**+0.4**
	0.4nm,0.6s,baz=100,slow=7.7,SNR=5.3						
KURBB	**Kurchatov Arra**	**64.34**	**321**	P	**P**	**21 28 34.6**	**-0.1**
	0.6nm,0.5s,baz=105,slow=7.0,SNR=4.1						
BVAR	**Borovoye Array**	**69.73**	**322**	P	**P**	**21 29 09.0**	**+0.1**
	0.7nm,0.5s,baz=98,slow=8.1,SNR=7.7						
ILAR	**Eielson Array**	**71.10**	**25**	P	**P**	**21 29 16.0**	**-1.1**
	0.9nm,0.5s,baz=247,slow=6.1,SNR=19						

*IDC **05** 21:23:27.0±2.8,30°.82N×80°.09E,h0km,mb3.4/5, mb1 3.5/7,mb1mx3.3/45,mbtmp3.3/7,ML3.0/2,MS3.9/1, Ms1 3.9/1,ms1mx2.3/34,Error ellipse: s-maj=79.7km s-min=22.1km az=75.0*
*ISCJB **05** 21:23:30.4±0.7,30°.94N±0°.09×80°.25E±0°.10,h33km, mb3.2/5,MS3.8/1,Error ellipse: s-maj=15.4km s-min=8.7km az=137.1*

ISC 05 21:23:31.7±0.9,30°.9N±0°.1×80°.1E±0°.1,h35km,n9,σ1s15/9, mb3.2/5,Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOSI	**Joshimath**	**0.60**	**232**	*e*P	**Pn**	**21 23 42.8**	**-1.2**
JOSI				*e*S	**Sn**	**21 23 54.2**	**+1.5**
MKAR	**Makanchi Array**	**15.93**	**5**	Pn	**Pn**	**21 27 12.3**	**-0.9**
	0.0nm,0.3s,baz=189,slow=12,SNR=2.3						
KURBB	**Kurchatov Arra**	**19.70**	**357**	P	**Pn**	**21 27 59.0**	**-0.6**
	0.1nm,0.3s,baz=181,slow=10,SNR=4.6						
CMAR	**Chiang Mai Arr**	**21.11**	**122**	P	**P**	**21 28 12.5**	**-1.0**
	0.6nm,0.6s,baz=313,slow=9.5,SNR=8.2						
ZALV	**Zalesovo Beam**	**23.25**	**7**	P	**P**	**21 28 36.3**	**+0.5**
	0.4nm,0.4s,baz=182,slow=11,SNR=3.9						
SONM	**Songino Array**	**26.23**	**42**	P	**P**	**21 29 04.7**	**+1.3**
	0.2nm,0.4s,baz=227,slow=7.7,SNR=2.7						
TGY	**Tagaytay City**	**41.00**	**105**	LR	LR	21 48 07.0	
	comp=Z,157nm,21.8s,baz=90,slow=36						
WRA	**Warramunga Arr**	**72.60**	**127**	P	**P**	**21 34 56.2**	**+0.4**
	0.5nm,0.7s,baz=323,slow=6.0,SNR=6.9						
ASAR	**Alice Springs**	**74.86**	**130**	P	**P**	**21 35 09.5**	**+0.5**
	0.3nm,0.7s,baz=319,slow=6.0,SNR=5.6						

*IDC **05** 21:47:24.9±0.6,57°.47S×157°.86E,h0km,mb4.7/13, mb1 4.8/14,mb1mx4.6/30,mbtmp4.7/14,ML4.1/1,MS3.8/12, Ms1 3.8/12,ms1mx3.7/17,Error ellipse: s-maj=28.4km s-min=15.0km az=74.0*
*ISCJB **05** 21:47:25.4±0.4,57°.49S±0°.05×157°.80E±0°.10,h10km, mb5.0/30,MS3.8/11,Error ellipse: s-maj=8.2km s-min=5.8km az=31.8*
*NEIC **05** 21:47:27.1±0.6,57°.52S×157°.61E,h12km±3km,mb5.1/18, Error ellipse: s-maj=8.7km s-min=6.6km az=115.0*

ISC 05 21:47:26.6±0.4,57°.48S±0°.06×157°.89E±0°.08,h10km,n185, σ1s32/179,mb5.2/32,MS3.8/11,24C-18D,Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCQ	**Macquarie Isla**	**3.05**	**12**	⇓P	**Pn**	**21 48 13.5**	**-1.3**
	baz=3.1,SNR=23						
MCQ	**Macquarie Isla**	**3.05**	**12**	*e*Pn	**Pn**	**21 48 13.9**	**-0.9**
APZ	**The Paps**	**12.32**	**34**	PN	**Pn**	**21 50 22.5**	**+0.6**
APZ				SN	**Sn**	**21 52 35.3**	**-3.9**
DRV	**Dumont d'Urvil**	**12.39**	**215**	P	Pn	21 50 14.0	-8.8
DRV				R		21 52 00.0	
SYZ	**Scrubby Hill**	**12.94**	**37**	PN	**Pn**	**21 50 31.6**	**+1.2**
WHZ	**Wether Hill Ro**	**13.15**	**32**	PN	**Pn**	**21 50 35.1**	**+1.8**
WHZ				SN	**Sn**	**21 52 56.5**	**-3.1**
WHZ	**Wether Hill Ro**	**13.15**	**32**	*e*Pn	**Pn**	**21 50 34.3**	**+1.0**
DCZ	**Deep Cove**	**13.32**	**29**	*e*Pn	**Pn**	**21 50 36.8**	**+1.3**
TUZ	**Tuapeka**	**13.62**	**37**	PN	**Pn**	**21 50 40.8**	**+1.2**
MLZ	**Mavora Lakes**	**13.72**	**32**	PN	**Pn**	**21 50 42.9**	**+1.8**
JCZ	**Jackson Bay**	**15.05**	**32**	PN	**Pn**	**21 51 01.1**	**+1.8**
TAU	**Tasmania Unive**	**16.05**	**331**	*e*Pn	**Pn**	**21 51 10.5**	**-1.7**
	72nm,1.1s						
RPZ	**Rata Peaks**	**16.07**	**37**	Pn	**Pn**	**21 51 12.9**	**+0.4**
	0.8nm,0.3s,baz=221,slow=5.0,SNR=4.3						
RPZ				LR	LR	21 56 17.4	
	comp=Z,283nm,18.8s,baz=187,slow=33						
MOO	**Moorlands**	**16.52**	**331**	⇑P	**P**	**21 51 20.0**	**-0.8**
	baz=17,SNR=6.0						
KHZ	**Kahutara**	**18.06**	**40**	*e*Pn	**P**	**21 51 42.1**	**+4.3**
	55nm,1.2s						
VNDA	**Vanda**	**20.18**	**177**	P	**P**	**21 52 00.7**	**-0.1**
	4.5nm,0.8s,baz=355,slow=11,SNR=19						
VNDA				LR	LR	21 58 23.1	
	comp=Z,269nm,19.9s,baz=359,slow=33						
VNDA	**Vanda**	**20.18**	**177**	*e*P	**P**	**21 51 59.9**	**-0.8**
	24nm,1.2s						
SBA	**Scott Base**	**20.69**	**175**	*e*P	Pn	21 52 10.4	+1.8
	71nm,1.6s						
TOO	**Toolangi**	**21.54**	**332**	⇑P	**P**	**21 52 17.5**	**+1.6**
	baz=22,SNR=7.3						
BKZ	**Black Stump Fm**	**21.98**	**42**	*e*P	**P**	**21 52 23.1**	**+2.6**
	113nm,1.3s						
URZ	**Urewera**	**23.00**	**42**	LR	LR	22 01 27.2	
	comp=Z,343nm,18.4s,baz=208,slow=37						
URZ	**Urewera**	**23.00**	**42**	*e*P	**P**	**21 52 34.1**	**+2.7**
	398nm,2.2s						
ARPS	**Mount Arapiles**	**23.30**	**326**	⇑P	**P**	**21 52 35.5**	**+1.1**
	baz=23,SNR=5.7						
CASY	**Casey**	**23.41**	**228**	*e*P	**P**	**21 52 35.1**	**-0.1**
	14nm,0.9s						
CMSA	**Cobar Meteorol**	**27.27**	**337**	⇓P	**P**	**21 53 12.2**	**+1.3**
	baz=27,SNR=7.3						
HTT	**Hallett**	**27.30**	**324**	⇓P	**P**	**21 53 12.4**	**+1.3**
	baz=27,SNR=3.1						
STKA	**Stephens Creek**	**27.95**	**329**	P	**P**	**21 53 17.2**	**+0.2**
	3.2nm,0.9s,baz=151,slow=12,SNR=6.3						
STKA				LR	LR	22 03 07.5	
	comp=Z,795nm,18.9s,baz=198,slow=34						
BBOO	**Buckleboo**	**28.82**	**320**	⇓P	**P**	**21 53 25.1**	**+0.3**
	baz=29,SNR=13						
BBOO	**Buckleboo**	**28.82**	**320**	*e*P	**P**	**21 53 25.7**	**+0.9**
	15nm,0.7s						
QLP	**Quilpie**	**32.37**	**337**	⇓P	**P**	**21 53 57.4**	**+1.2**
	baz=32,SNR=17						
QSPA	**South Pole Qui**	**32.62**	**180**	P	**P**	**21 53 58.7**	**+0.5**
	8.3nm,0.9s,baz=1.2,slow=4.7,SNR=39						
QSPA				PcP	**PcP**	**21 56 43.2**	**-0.6**
	1.9nm,0.6s,baz=250,slow=1.1,SNR=11						
FORT	**Forrest**	**33.71**	**310**	⇑P	**P**	**21 54 08.0**	**+0.1**
	baz=34,SNR=16						
FORT	**Forrest**	**33.71**	**310**	*e*P	**P**	**21 54 08.1**	**+0.3**
	46nm,0.8s						
H01W1	**Cape Leeuwin H**	**36.86**	**289**	T	T	22 33 57.0	
	baz=141,slow=76,SNR=45						
H01W2	**Cape Leeuwin H**	**36.87**	**289**	T	T	22 33 57.0	
	baz=141,slow=76,SNR=38						
NWAO	**Narrogin (SRO)**	**36.88**	**294**	P	**P**	**21 54 34.6**	**-0.4**
	14nm,0.7s,baz=149,slow=7.3,SNR=7.3						
H01W3	**Cape Leeuwin H**	**36.88**	**289**	T	T	22 33 57.6	
	baz=141,slow=76,SNR=44						
KLBR	**Kellerberrin**	**37.71**	**296**	⇓P	**P**	**21 54 42.5**	**+0.4**
	baz=38,SNR=17						
AS01	**Alice Springs**	**37.95**	**323**	*e*P	**P**	**21 54 44.8**	**+0.6**
AS12	**Alice Springs**	**37.96**	**323**	*e*P	**P**	**21 54 44.3**	**0.0**
ASAR	**Alice Springs**	**37.96**	**323**	P	**P**	**21 54 44.3**	**0.0**
	30nm,0.8s,baz=164,slow=8.6,SNR=240						
ASAR				PcP	**PcP**	**21 56 59.3**	**-0.7**
	0.8nm,0.7s,baz=140,slow=3.2,SNR=3.5						
ASAR				LR	LR	22 08 08.7	
	comp=Z,134nm,19.4s,baz=130,slow=33						
WRKA	**Warakurna**	**38.72**	**314**	P	**P**	**21 54 50.9**	**+0.2**
	baz=39,SNR=21						
BLDU	**Ballidu**	**39.02**	**296**	⇑P	**P**	**21 54 52.6**	**-0.6**
	baz=39,SNR=6.0						
MAW	**Mawson**	**40.60**	**216**	P	**P**	**21 55 05.9**	**0.0**
	8.5nm,0.9s,baz=124,slow=9.0,SNR=13						
MAW				LR	LR	22 11 01.4	
	comp=Z,159nm,20.0s,baz=65,slow=35						
MAW	**Mawson**	**40.60**	**216**	*e*P	**P**	**21 55 06.3**	**+0.5**
	1.9nm,0.9s						
MORW	**Morawa**	**40.62**	**296**	⇑P	**P**	**21 55 06.8**	**+0.3**
	baz=41,SNR=6.0						
WRA	**Warramunga Arr**	**41.31**	**325**	P	**P**	**21 55 12.0**	**-0.2**
	19nm,0.8s,baz=162,slow=7.3,SNR=90						
WRA				PcP	**PcP**	**21 57 09.6**	**-1.1**
	1.1nm,0.8s,baz=160,slow=2.9,SNR=3.2						
WRAB	**Tennant Creek**	**41.31**	**325**	P	**P**	**21 55 12.0**	**-0.2**
	186nm,0.8s,SNR=17						
WRAB	**Tennant Creek**	**41.31**	**325**	*e*P	**P**	**21 55 12.2**	**0.0**
	23nm,0.8s						
MEEK	**Meekatharra**	**41.45**	**301**	⇑P	**P**	**21 55 13.0**	**-0.3**
	baz=42,SNR=6.4						
COEN	**Coen**	**44.85**	**340**	*e*P	**P**	**21 55 40.6**	**-0.3**
	287nm,3.0s						
MBWA	**Marble Bar**	**45.70**	**306**	*e*P	**P**	**21 55 45.2**	**-2.4**
	420nm,3.0s						
SYO	**Syowa Base**	**46.15**	**206**	⇑*e*P	**P**	**21 55 49.0**	**-1.5**
KNRA	**Kununurra**	**47.12**	**320**	⇓P	**P**	**21 55 58.5**	**-0.2**
	baz=47,SNR=6.6						
KDU	**Kakadu**	**48.72**	**326**	⇓P	**P**	**21 56 11.1**	**0.0**
	baz=49,SNR=6.5						
TBI	**Tubuai**	**50.74**	**71**	*e*LR	LR	22 10 26.3	
	345nm,37.0s						
VNA1	**Neumayer--Stat**	**51.78**	**186**	P	**P**	**21 56 33.1**	**-0.6**
PMSA	**Palmer Station**	**53.97**	**159**	LR	LR	22 15 59.8	
	comp=Z,48nm,19.4s,baz=188,slow=32						
PPT2	**Papeete2**	**55.52**	**67**	*e*LR	LR	22 13 15.3	
	288nm,29.8s						
PPT	**Papeete**	**55.54**	**67**	LR	LR	22 18 49.9	
	comp=Z,35nm,18.0s,baz=102,slow=34						
JAY	**Jayapura**	**56.48**	**339**	P	**P**	**21 57 07.1**	**-1.6**
	54nm,0.4s,8μm						
RKT	**Rikitea**	**58.55**	**84**	*e*T	T	23 00 12.1	
	17nm,0.2s						
BSSI	**Bau Bau, Buton**	**58.93**	**315**	P	**P**	**21 57 29.0**	**+3.2**
	30nm,1.2s						
SANI	**Sanana**	**60.78**	**323**	P	**P**	**21 57 39.1**	**+0.6**
	28nm,1.1s						
UGM	**Wanagama**	**61.48**	**304**	*e*P	**P**	**21 57 43.6**	**+0.3**
	112nm,1.2s						
CISI	**Cisompet, Garu**	**63.02**	**301**	*e*P	**P**	**21 57 52.1**	**-1.6**
	21nm,0.9s						
LEM	**Lembang**	**63.76**	**302**	P	**P**	**21 57 59.5**	**+0.7**
	38nm,0.8s,baz=153,slow=14,SNR=9.0						
CGJI	**Cibinong**	**64.83**	**300**	P	**P**	**21 58 07.2**	**+1.6**
	33nm,1.0s						
KASI	**Kota Agung**	**66.35**	**299**	P	**P**	**21 58 18.1**	**+2.7**
	25nm,1.0s						
GSI	**Gunungsitoli**	**75.61**	**296**	P	**P**	**21 59 13.3**	**+1.7**
	50nm,0.9s						
GSI	**Gunungsitoli**	**75.61**	**296**	*e*P	**P**	**21 59 13.1**	**+1.5**
	32nm,0.9s						
PSI	**Prapat**	**76.27**	**298**	P	**P**	**21 59 14.5**	**-1.0**
	3.8nm,0.5s,baz=150,slow=8.0,SNR=4.5						
IPM	**Ipoh**	**76.76**	**301**	*e*P	**P**	**21 59 18.5**	**+0.3**
	16nm,1.3s						
KULM	**Kulim**	**77.64**	**301**	*e*P	**P**	**21 59 23.4**	**+0.4**
	14nm,0.9s						
H08S2	**Diego Garcia H**	**81.13**	**270**	T	T	23 29 02.6	
	baz=147,slow=76,SNR=16						
H08S1	**Diego Garcia H**	**81.14**	**270**	T	T	23 29 03.4	
	baz=147,slow=76,SNR=17						
H08S3	**Diego Garcia H**	**81.15**	**270**	T	T	23 29 04.1	
	baz=147,slow=76,SNR=16						
BOSA	**Boshof**	**85.45**	**220**	P	**P**	**22 00 04.2**	**-0.3**
	7.5nm,0.7s,baz=150,slow=4.2,SNR=21						
BOSA				LR	LR	22 32 26.0	
	comp=Z,53nm,19.9s,baz=144,slow=32						
PALK	**Palikele**	**89.25**	**285**	P	**P**	**22 00 22.3**	**-0.5**
	8.0nm,0.9s,baz=88,slow=6.0,SNR=4.2						
CM01	**Chiang Mai Arr**	**89.98**	**306**	*e*P	**P**	**22 00 26.5**	**+0.6**
CM31	**Chiang Mai Arr**	**90.02**	**306**	*e*P	**P**	**22 00 26.3**	**+0.1**
CMAR	**Chiang Mai Arr**	**90.02**	**306**	P	**P**	**22 00 26.3**	**+0.1**
	1.4nm,1.0s,baz=184,slow=3.7,SNR=11						
CMAR				LR	LR	22 39 46.6	
	comp=Z,29nm,19.4s,baz=164,slow=35						
CHTO	**Chiang Mai**	**90.33**	**306**	*e*P	**P**	**22 00 28.6**	**+1.0**
	25nm,0.6s						
CPUP	**Villa Florida**	**91.42**	**149**	P	**P**	**22 00 33.6**	**+0.8**
	2.9nm,1.0s,baz=203,slow=6.5,SNR=4.0						
GYA	**Guiyang**	**94.00**	**316**	P	**P**	**22 00 47.0**	**+2.5**
GYA				PP	**PP**	**22 04 34.6**	**+3.6**
GYA				SKS	**SKSac**	**22 11 20.0**	**+0.8**
GYA				S	**S**	**22 11 53.2**	**-1.5**
GYA				PMZ			
	20nm,1.0s						
GYA				PMZ			

comp=Z,0.7nm,1.0s,baz=107,slow=1.3,SNR=3.5

INK	Inuvik	135.07 29	*e*PKPdf	PKPdf	22 06 43.7	-0.6
AOS	Alonnisos	145.20 258	P	PKPbc	22 07 01.9	-1.3
AOS	Alonnisos	145.20 258	P	PKPbc	22 07 01.9	-1.3
PTN	Potsdam (NY)	145.25 89	*e*PKPdf	PKPbc	22 07 03.0	-0.2
KLV	Kalavryta, Ach	145.27 255	P	PKPbc	22 07 02.7	-0.9
KLV	Kalavryta, Ach	145.27 255	P	PKPbc	22 07 02.7	-0.9
ALN	Alexandroupoli	145.28 263	P	PKPbc	22 07 02.9	-0.5
ALN	Alexandroupoli	145.28 263	P	PKPbc	22 07 02.9	-0.5
ALN	Alexandroupoli	145.28 263	P	PKPbc	22 07 02.9	-0.5
XOR	Xorichti	145.70 258	P	PKPbc	22 07 03.5	-1.0
XOR	Xorichti	145.70 258	P	PKPbc	22 07 03.5	-1.0
RDO	Rodhopi	145.73 262	P	PKPdf	22 07 03.8	-0.6
RDO	Rodhopi	145.73 262	P	PKPdf	22 07 03.8	-0.6
RDO	Rodhopi	145.73 262	P	PKPdf	22 07 03.8	-0.6
KDZ	Kurdzhali	146.15 263 ⇑	*i*P	PKPdf	22 07 05.1	0.0
TIRR	Tirgusor	146.44 269 ⇓	*i*P	PKPdf	22 07 05.4	-0.1
TIRR	Tirgusor	146.44 269	*e*PKPdf	PKPbc	22 07 06.3	-0.5
MSAB	Monastry St. A	146.51 268 ⇑	*i*P	PKPdf	22 07 05.8	+0.2
NVR	Nevrokopi	146.77 261	P	PKPdf	22 07 06.6	+0.4
NVR	Nevrokopi	146.77 261	P	PKPdf	22 07 06.6	+0.4
NVR	Nevrokopi	146.77 261	P	PKPdf	22 07 06.6	+0.4
MMB	Musomiste	147.01 261 ⇑	*i*P	PKPdf	22 07 06.8	+0.2
MMB	Musomiste	147.01 261 ⇑	*i*P	PKPdf	22 07 06.8	+0.2
CFR	Carcaliu	147.06 270 ⇓	*i*P	PKPbc	22 07 07.9	-0.7
KNT	Kendrikon	147.15 260	P	PKPbc	22 07 08.2	-0.9
KNT	Kendrikon	147.15 260	P	PKPbc	22 07 08.2	-0.9
KNT	Kendrikon	147.15 260	P	PKPbc	22 07 08.2	-0.9
VTS	Vitosha	147.99 262 ⇑	*i*P	PKPdf	22 07 09.8	+1.4
SECR		148.08 268 ⇑	*i*P	PKPdf	22 07 08.1	-0.2
OBN	Obninsk	148.22 291	PKPbc	PKPbc	22 07 11.2	-0.2
	comp=Z,27nm,0.8s,baz=295,slow=0.9,SNR=10					
OBN	Obninsk	148.22 291	*e*PKPbc	PKPbc	22 07 11.6	+0.1
VRI	Vrincioaia	148.26 270 ⇑	*i*P	PKPbc	22 07 11.1	-0.8
PLOR	Plostina	148.29 270 ⇑	*i*P	PKPbc	22 07 11.4	-0.6
MLR	Muntele Rosu	148.44 269	PKPbc	PKPbc	22 07 11.5	-1.0
	comp=Z,2.0nm,0.8s,baz=118,slow=1.6,SNR=18					
MLR	Muntele Rosu	148.44 269 ⇓	*i*P	PKPbc	22 07 11.5	-1.0
RES	Resolute Bay	148.63 29	*e*PKPdf	PKPdf	22 07 09.8	+1.6
CEL	Celeste	148.65 249	*e*PKPbc	PKPbc	22 07 12.9	-0.3
PHP	Peshkopia	148.83 258	P	PKPbc	22 07 13.0	-0.6
PHP	Peshkopia	148.83 258	P	PKPbc	22 07 13.0	-0.6
VOIR		148.89 268 ⇓	*i*P	PKPbc	22 07 13.1	-0.5
DOPR	Dopca	149.05 269 ⇓	*i*P	PKPbc	22 07 13.4	-0.5
LOT	Lotru	149.59 267 ⇑	*i*P	PKPbc	22 07 15.3	-0.1
AKASG	Malin Array Be	149.78 279	PKPbc	PKPbc	22 07 14.7	-0.8
	comp=Z,6.9nm,0.6s,baz=83,slow=2.6,SNR=30					
AKBB	Malin Array Si	149.78 279	*e*PKPdf	pPKPdf	22 07 14.7	+0.5
KIEV	Kiev	149.78 279	*e*PKPdf	PKPdf	22 07 12.8	+2.0
KEST	Kesra	149.79 238	PKPbc	PKPbc	22 07 16.5	+0.3
	comp=Z,1.4nm,0.8s,baz=124,slow=3.6,SNR=5.2					
AK11	Malin Array Si	149.79 279	*e*PKPdf	pPKPdf	22 07 14.8	+0.5
BUR04	Bucovina Ar. S	150.16 271	*e*PKPbc	PKPbc	22 07 16.6	-0.1
DIVS	Divibare	150.73 261 ⇓	*i*P	PKPbc	22 07 17.6	-0.6
BZS	Buzias	150.86 265 ⇓	*i*P	PKPbc	22 07 17.4	-0.9
DRGR		151.01 268 ⇑	*i*P	PKPbc	22 07 18.1	-0.6
SIRR	Siria	151.25 266 ⇓	*i*P	PKPbc	22 07 18.6	-0.6
KOLS	Kolonicke sedl	152.52 271	*e*PKP	PKPbc	22 07 22.5	+0.5
KOLS		*e*			22 07 32.9	
KWP	Kalwaria Pacla	152.69 273	*e*PKP	PKPbc	22 07 22.0	-0.4
PKSM	Moragy	152.84 263 ⇑	*i*P	PKPbc	22 07 20.9	-1.9
PKSM	Moragy	152.84 263 ‖	*e*PKPPKPdf	PKPbc	22 07 22.3	-0.5
NACGM	Naroch	153.14 286	*e*	PKPbc	22 07 21.0	-2.1
PSZ	Piszkesteto	153.21 267 ⇑	*i*P	PKPpre	22 07 05.7	
STHS	Stebnicka Huta	153.35 271	*e*PKP	PKPbc	22 07 23.9	0.0
ARSA	Arzberg	155.16 262 ⇑	*i*PKPab	PKPab	22 07 43.3	-0.5
	comp=Z,7.4nm,1.3s					
FIA0	FINESS Array S	155.65 300	*e*PKPbc	PKPdf	22 07 27.8	+8.8
FIA0			*e*PKPab	PKPab	22 07 45.1	-0.4
FINES	FINESS Array B	155.65 300	PKPbc	PKPdf	22 07 27.8	+8.8
	comp=Z,1.1nm,0.6s,baz=116,slow=3.2,SNR=6.3					
FINES			PKPab	PKPab	22 07 45.1	-0.4
	comp=Z,1.5nm,0.9s,baz=95,slow=4.8,SNR=4.3					
ABTA	Abfaltersbach	156.44 258 ⇓	*i*PKPab	PKPab	22 07 49.0	-0.4
	comp=Z,8.2nm,1.3s					
GEC2	GERESS Array S	157.09 263	*e*PKPab	PKPab	22 07 50.7	-1.5
GERES	GERESS Array B	157.09 263	PKPab	PKPab	22 07 50.7	-1.5
	comp=Z,1.0nm,0.8s,baz=120,slow=5.8,SNR=5.5					
FETA	Feichten	157.56 256 ⇑	*i*PKPab	PKPab	22 07 53.7	-0.6
	comp=Z,8.6nm,1.1s					
MOTA	Moosalm	157.56 257 ⇑	*i*PKPab	PKPab	22 07 53.5	-0.8
	comp=Z,3.6nm,0.7s					
DAVOX	Davos/Dischmat	157.84 255	PKPab	PKPab	22 07 55.1	-0.5
	comp=Z,4.7nm,0.9s,baz=153,slow=6.8,SNR=4.9					
BRG	Berggiesshubel	158.09 268	*e*P	PKPab	22 07 55.5	-0.8
	comp=Z,4.1nm,1.2s					
ESDC	Sonseca Array	158.63 221	PKPab	PKPab	22 07 58.2	-0.8
	comp=Z,0.9nm,0.7s,baz=154,slow=4.5,SNR=5.2					
CLL	Collm	158.82 268 ⇓	*i*PKPab	PKPab	22 07 59.1	-0.3
	comp=Z,8.0nm,1.1s					
CLL			*i*		22 08 09.5	
	comp=Z,7.0nm,1.4s					
HFS	Hagfors	161.41 293	PKPab	PKPab	22 08 09.7	-0.8
	comp=Z,3.7nm,0.8s,baz=198,slow=4.1,SNR=4.9					

IDC ***05*** *21:55:36.8±1.2, 1.°38N×123.°19E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/25, mbtmp3.6/5, ML3.7/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/18, Error ellipse: s-maj=59.6km s-min=19.8km az=71.0*
ISCJB ***05*** *21:55:41.8±0.8, 1.°28N±0.°06×122.°90E±0.°05, h39km, mb3.4/4, Error ellipse: s-maj=9.1km s-min=7.1km az=2.0*
DJA ***05*** *21:55:44.6±0.9, 1.°N±4.°×12.°3E±.°, h11km±7km, M4.1/13, mb4.3/5, mB4.6/1, MLv4.1/5, ML4.1/13, Mw(mB)3.8/1*
ISC 05 21:55:43.6±1.0, 1.°26N±0.°09×122.°84E±0.°05, h39km, n18, σ1§62/19, mb3.5/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	Marisa	1.19	229	P	Pn	21 56 01.3	-2.4
MRSI				S	Sn	21 56 18.4	-0.2
KMSI	Cibinong	1.33	121	P	Pn	21 56 07.1	+1.4
KMSI				S	Sn	21 56 24.7	+2.5
LUWI	Luwuk	2.29	182	P	Pn	21 56 19.6	+0.8
LUWI				S	Sn	21 56 45.0	-0.8
APSI	Ampana	2.46	209	P	Pn	21 56 21.9	+0.7
MPSI	Mapaga	3.08	253	P	Pn	21 56 31.6	+1.9
MPSI				S	Sn	21 57 08.1	+2.9
PCI	Palu	3.69	234	P	Pn	21 56 39.2	+1.1
SANI	Sanana	4.56	136	P	Pn	21 56 49.5	-0.5
TTSI	Tana Toraja	5.23	215	P	Pn	21 57 00.4	+1.1
	57nm,0.7s,577nm0.2nm						
SPSI	Sidrap Palu	6.03	211	P	Pn	21 57 11.0	+0.7
	30nm,0.7s,0.1nm						
NLAI	Namlea	6.18	136	P	Pn	21 57 14.7	+2.4
	39nm,1.1s,0.2nm						
KAPI	Kappang	6.95	206	Pn	Pn	21 57 23.7	+0.7
	1.3nm,0.3s,baz=68,slow=16,SNR=7.1						
KAPI				LR	LR	22 00 36.9	
	comp=Z,67nm,20.6s,baz=23,slow=42						
BKSI	Bulukumba	7.08	202	P	Pn	21 57 24.9	+0.2
STKI	Sintang	11.42	264	P	Pn	21 58 28.5	+4.3
STKI	Sintang	11.42	264	P	Pn	21 58 28.5	+4.3
	34nm,0.9s,8µm						
WRA	Warramunga Arr	23.90	152	P	P	22 00 51.5	-2.4
	1.9nm,0.6s,baz=333,slow=10.0,SNR=24						
ASAR	Alice Springs	27.02	157	P	P	22 01 20.9	-1.3
	0.3nm,0.6s,baz=342,slow=15,SNR=5.3						
SONM	Songino Array	48.53	345	P	P	22 04 21.2	-1.8
	0.5nm,0.7s,baz=151,slow=6.3,SNR=3.4						
MKAR	Makanchi Array	57.46	328	P	P	22 05 28.8	+0.1
	0.3nm,0.8s,baz=120,slow=7.6,SNR=3.1						

DJA 05 22:02:49.5±0.6, 0.°N±3.°×12.°3E±.°, h17km±8km, M4.0/7, mb4.3/1, MLv3.9/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	Cibinong	0.85	74	P	Pb	22 03 03.4	-2.5
KMSI				S	Sb	22 03 17.2	+0.2
LUWI	Luwuk	1.43	196	P	Pn	22 03 14.7	+0.1
LUWI				S	Sb	22 03 33.9	+0.3
APSI	Ampana	1.96	231	P	Pn	22 03 19.4	-2.5
SANI	Sanana	3.69	130	P	Pn	22 03 46.0	+0.2
SANI				S	Sn	22 04 30.5	+1.5
TTSI	Tana Toraja	4.74	225	P	Pn	22 04 00.5	+0.3
TTSI				S	Sn	22 04 56.6	+1.8
SPSI	Sidrap Palu	5.46	218	P	Pn	22 04 10.1	0.0
SPSI				S	Sn	22 05 13.9	+1.4

DJA 05 22:04:13.2±0.6, 9.°S±11.°×11.°1E±.°, h93km±20km, M3.6/13, mb3.5/3, MLv3.7/13, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PWJI	Pagerwojo	1.38	45	P	Pn	22 04 36.6	-1.0
PWJI				S	Sn	22 04 53.7	-2.2
NGJI	Ngawi	1.74	21	P	Pn	22 04 43.3	+1.1
KPJI	Karang Pucung	2.50	311	P	Pn	22 04 52.3	+0.2
UWJI	Ujung Watu	2.57	3	P	Pn	22 04 52.0	-1.0
CMJI	Cimerak	2.64	297	P	Pn	22 04 53.4	-0.6
GMJI	Gumukmas	2.69	75	P	Pn	22 04 54.1	-0.6
BLJI	Banyuglugur	3.02	66	P	Pn	22 04 57.6	-1.4
CISI	Cisompet, Garu	3.30	296	P	Pn	22 05 02.1	-0.9
CNJI	Cibinong	4.02	294	P	Pn	22 05 12.4	-0.2
SRBI	Singaraja	4.44	79	P	Pn	22 05 18.2	0.0
CGJI	Cibinong	5.61	295	P	Pn	22 05 33.7	-0.4
	10nm,1.1s						

NSSC ***05*** *22:05:16.0±1.2, 37.°56N×35.°69E, h0km±11km, MD1.5, ML3.6*
IDC ***05*** *22:05:16.3±0.9, 37.°55N×35.°58E, h0km, mb3.4/4, mb1 3.5/11, mb1mx3.4/40, mbtmp3.5/11, ML3.6/7, MS2.1/3, Ms1 2.1/3, ms1mx2.0/28, Error ellipse: s-maj=19.1km s-min=10.5km az=60.0*
DDA ***05*** *22:05:17.4, 37.°52N×35.°57E, h27km, ML3.9*
ISK ***05*** *22:05:17.8, 37.°48N×35.°57E, h5km, ML3.6*
ISCJB ***05*** *22:05:18.0±0.4, 37.°45N±0.°02×35.°59E±0.°02, h5km±3km, mb3.4/4, Error ellipse: s-maj=2.6km s-min=2.4km az=177.3*
CSEM ***05*** *22:05:18.4±0.1, 37.°47N×35.°60E, h2km, ML3.6, Error ellipse: s-maj=3.0km s-min=2.6km az=145.0*
NIC ***05*** *22:05:20.1, 37.°68N×35.°64E, h25km, mb4.4, ML4.1*
ISC 05 22:05:18.6±0.8, 37.°47N±0.°02×35.°60E±0.°01, h14km±5km, n152, σ1§50/196, mb3.5/4, 4C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOZT	Kozan	0.18	85	PG	Pg	22 05 22.6	-0.3
KOZT				*e*SG	Sg	22 05 26.1	+0.3
KOZT	Kozan	0.18	85	*i* Pg	Pg	22 05 22.6	-0.3
KOZT				*e*Sg	Sg	22 05 26.1	+0.3
CEYT	Ceyhan	0.47	165	*e*PG	Pb	22 05 28.9	+0.3
CEYT	Ceyhan	0.47	165	*e*Pg	Pb	22 05 28.9	+0.3
KARA	Karaisali	0.48	245	PG	Pg	22 05 27.4	-0.6
KARA				*e*SG	Sg	22 05 34.2	-0.3
KARA	Karaisali	0.48	245	*i* Pg	Pg	22 05 27.4	-0.6
KARA				*e*Sg	Sg	22 05 34.2	-0.3
ANDN	Andirin	0.61	79	*i* P	Pg	22 05 29.8	-0.7
ANDN				*i* S	Sb	22 05 39.6	+0.2
ANDN	Andirin	0.61	79	*i* P	Pg	22 05 29.8	-0.7
ANDN				*i* S	Sb	22 05 39.6	+0.2
KAMA	Osmaniye	0.90	108	*i* P	Pg	22 05 34.7	-1.3
KAMA				*i* S	Sn	22 05 49.8	+0.1
KRTS	Karatas	0.91	191	*e*PG	Pb	22 05 36.2	+0.1
KRTS	Karatas	0.91	191	*e*Pg	Pb	22 05 36.2	+0.1
NIG	Nigde	1.01	310	*e*PG	Pb	22 05 36.5	-1.5
NIG	Nigde	1.01	310	*e*Pg	Pb	22 05 36.5	-1.5
KMRS	Kahramanmaras	1.04	87	*e*PG	Pb	22 05 37.6	-0.7
KMRS				*e*SG	Sn	22 05 53.5	+0.4
KMRS	Kahramanmaras	1.04	87	*e*Pg	Pb	22 05 37.6	-0.7
KMRS				*e*Sg	Sn	22 05 53.5	+0.4
MERS	Mersin	1.04	235	*e*PG	Pb	22 05 38.2	-0.3
MERS	Mersin	1.04	235	*e*Pg	Pb	22 05 38.2	-0.3
HCB	Kahramanmara¯	1.05	96	*i* P	Pb	22 05 37.8	-0.8
HCB				*i* S	Sn	22 05 53.7	+0.3
TAHT	Tahtakopru-Hat	1.19	156	*e*PN	Pb	22 05 41.2	+0.4
TAHT	Tahtakopru-Hat	1.19	156	*e*Pn	Pb	22 05 41.2	+0.4
BSTP	Nigde	1.27	293	*i* P	Pn	22 05 42.1	+0.1
BSTP				*i* S	Sg	22 06 01.6	+1.8
PINB	Pinarbasi	1.37	28	*i* P	Pn	22 05 42.4	-1.0
PINB				*i* S	Sg	22 06 03.1	+0.4
PINB	Pinarbasi	1.37	28	*i* P	Pn	22 05 42.4	-1.0
PINB				*i* S	Sg	22 06 03.1	+0.4
KUZU	Kuzuini	1.37	120	*i* P	Pn	22 05 43.3	0.0
KUZU				*i* S	Sb	22 06 01.9	+0.6
KUZU	Kuzuini	1.37	120	*i* P	Pn	22 05 43.3	0.0
KUZU				*i* S	Sb	22 06 01.9	+0.6
AVNT	Avonos	1.44	336	*i* P	Pn	22 05 43.6	-0.7
AVNT				*i* S	Sn	22 06 03.1	0.0
AVNT	Avonos	1.44	336	*i* P	Pn	22 05 43.6	-0.7
AVNT				*i* S	Sn	22 06 03.1	0.0
YAYL	Yayladag	1.49	164	*i* P	Pn	22 05 42.8	-2.2
YAYL				*i* S	Sn	22 06 04.0	-0.2
YAYL	Yayladag	1.49	164	*i* P	Pn	22 05 42.8	-2.2
YAYL				*i* S	Sn	22 06 04.0	-0.2
KIZK	Mersin	1.52	230	*i* P	Pn	22 05 45.8	+0.4
KIZK				*i* S	Sg	22 06 08.8	+1.1
KIZK	Mersin	1.52	230	*i* P	Pn	22 05 45.8	+0.4
KIZK				*i* S	Sg	22 06 08.8	+1.1
GZT	Gaziantep	1.57	93	*i* P	Pn	22 05 46.0	-0.1
BTCH	Batrach	1.58	154	*i* P	Pn	22 05 46.0	-0.3
BTCH				*e*S	Sn	22 06 07.1	+0.5
BTCH				AML	AML	22 06 13.8	
	comp=E,1µm,0.6s						
BTCH				AML	AML	22 06 15.7	
	comp=N,1µm,0.4s						
ARNB	Al Arnab	1.63	169	*i* P	Pn	22 05 47.3	+0.4
ARNB				*e*S	Sb	22 06 10.2	+1.3
ARNB				AML	AML	22 06 13.1	
	comp=E,2µm,0.4s						
ARNB				AML	AML	22 06 13.8	
	comp=N,1µm,0.4s						
SULT	Sultanhani-AKS	1.80	295	*e*PN	Pn	22 05 50.1	+0.8
SULT	Sultanhani-AKS	1.80	295	*e*Pn	Pn	22 05 50.1	+0.8
DARE	Darende-Malaty	1.85	53	*e*PN	Pn	22 05 51.2	+1.3
DARE	Darende-Malaty	1.85	53	*e*Pn	Pn	22 05 51.3	+1.3
SLNF	Slenfeh	1.93	165	*i* P	Pn	22 05 51.3	+0.2
SLNF				*e*S	Sb	22 06 16.9	-0.8
SLNF				AML	AML	22 06 23.4	
	comp=E,523nm,0.4s						
SLNF				AML	AML	22 06 29.3	
	comp=N,2µm,0.4s						
AKCD	Akcadag	2.02	65	*i* P	Pn	22 05 52.9	+0.6
AKCD				*i* S	Sb	22 06 19.8	-0.3
AKCD	Akcadag	2.02	65	*i* P	Pn	22 05 52.9	+0.6
AKCD				*i* S	Sb	22 06 19.8	-0.3
ATAB	Bozova	2.15	89	*i* P	Pg	22 05 58.8	-0.9
ATAB				*i* S	Sg	22 06 29.0	+1.4
ATAB	Bozova	2.15	89	*i* P	Pg	22 05 58.8	-0.9
SERE	Sereflikochisa	2.18	313	*e*PN	Pn	22 05 55.3	+0.8
SERE	Sereflikochisa	2.18	313	*e*Pn	Pn	22 05 55.3	+0.8
YOZ	Yozgat	2.18	354	*e*PN	Pn	22 05 55.5	+0.9
YOZ	Yozgat	2.18	354	*e*Pn	Pn	22 05 55.5	+0.9
SLMH	Al Salmeh	2.25	123	*i* P	Pn	22 05 54.5	-0.9
SLMH				*e*S	Sn	22 06 23.1	+0.2
SLMH				AML	AML	22 06 43.7	
	comp=N,194nm,0.5s						
SLMH				AML	AML	22 06 55.1	
	comp=E,354nm,0.8s						
ERMK	Ermenek	2.30	250	*i* P	Pb	22 05 58.6	-1.4
ERMK				*i* S	Sg	22 06 31.9	-0.6
ERMK	Ermenek	2.30	250	*i* P	Pb	22 05 58.6	-1.4
CDAG	Cicekdag	2.36	336	*i* P	Pn	22 05 57.3	+0.4
CDAG				*i* S	Sb	22 06 32.0	+2.1
CDAG	Cicekdag	2.36	336	*i* P	Pn	22 05 57.3	+0.4
CDAG				*i* S	Sb	22 06 32.0	+2.1
MALT	Malatya	2.39	68	*e*PN	Pn	22 05 58.4	+0.9
MALT	Malatya	2.39	68	*e*Pn	Pn	22 05 58.4	+0.9
KAMT	Kaman	2.41	323	*e*PN	Pn	22 05 58.6	+1.0
KAMT	Kaman	2.41	323	*e*Pn	Pn	22 05 58.7	+1.0
CHBY	Cihanbeyli	2.41	298	*e*PN	Pn	22 05 58.7	+1.1
CHBY	Cihanbeyli	2.41	298	*e*Pn	Pn	22 05 58.7	+1.1
URFA	Urfa	2.57	90	*e*PN	Pn	22 06 00.7	+0.9
URFA	Urfa	2.57	90	*e*Pn	Pn	22 06 00.7	+0.9
KULU	Kulu	2.58	308	*e*PN	Pn	22 06 01.3	+1.3
KULU	Kulu	2.58	308	*e*Pn	Pn	22 06 01.3	+1.3
KONT	Konya--Tatoy	2.61	282	*e*PN	Pn	22 06 02.2	+1.8
KONT	Konya--Tatoy	2.61	282	*e*Pn	Pn	22 06 02.2	+1.8
SCER	sogukcermik	2.68	26	*i* P	Pb	22 06 07.3	+1.0
SCER				*i* S	Sg	22 06 44.6	0.0
SCER	sogukcermik	2.68	26	*i* P	Pb	22 06 07.3	+1.0
SVSK	Karacayir	2.68	24	*e*PN	Pn	22 06 03.2	+1.9
SVSK	Karacayir	2.68	24	*e*Pn	Pn	22 06 03.2	+1.9
BRTR	Keskin Array B	2.73	326	Pn	Pn	22 06 02.1	+0.1
	comp=E,2.3nm,0.3s,baz=154,slow=13,SNR=70						
BRTR				Pg	Pb	22 06 07.4	+0.2
	comp=E,5.9nm,0.3s,baz=158,slow=14,SNR=47						
BRTR				Lg	Lg	22 06 41.2	
	comp=E,5.4nm,0.3s,baz=178,slow=17,SNR=5.5						
AFSR	Af˙ar-Bala (A	2.80	316	*e*PN	Pn	22 06 04.6	+1.6
AFSR	Af˙ar-Bala (A	2.80	316	*e*Pn	Pn	22 06 04.6	+1.6
BBAL	Bala	2.84	318	*i* P	Pn	22 06 04.9	+1.3
BBAL				*i* S	Sg	22 06 48.4	-1.4
BBAL	Bala	2.84	318	*i* P	Pn	22 06 04.9	+1.3
ELZG	Elazig	2.87	68	*i* P	Pn	22 06 04.9	+0.9
ELZG				*i* S	Sg	22 06 53.3	+2.6
ELZG	Elazig	2.87	68	*i* P	Pn	22 06 04.9	+0.9
GAZI	Gazipasa	2.90	246	*i* P	Pn	22 06 07.3	+3.0
GAZI				*i* S	Sb	22 06 43.6	-1.9
GAZI	Gazipasa	2.90	246	*i* P	Pn	22 06 07.3	+3.0
GAZI				*i* S	Sb	22 06 43.6	-1.9
TOKA	Tokat	2.94	13	*i* P	Pn	22 06 05.5	+0.7
TOKA	Tokat	2.94	13	*i* P	Pn	22 06 05.5	+0.7
TOKT	Tokat	2.94	14	*e*PN	Pn	22 06 06.5	+1.5
TOKT	Tokat	2.94	14	*e*Pn	Pn	22 06 06.5	+1.5
MAMC	Mammari	2.99	221 ⇑	P	Pn	22 06 06.9	+1.4
	baz=37						
MAMC	Mammari	2.99	221 ⇑	P	Pn	22 06 06.9	+1.4
ILIC	ilic-Erzincan	3.06	49	*e*PN	Pn	22 06 08.9	+2.2
ILIC	ilic-Erzincan	3.06	49	*e*Pn	Pn	22 06 08.9	+2.2
CSS	Prodhromos	3.10	217	P	Pn	22 06 09.0	+2.0
	baz=33						
CSS				S	Sn	22 06 47.0	+3.1
CSS	Prodhromos	3.10	217	*e*PN	Pn	22 06 09.2	+2.2
CSS	Prodhromos	3.10	217	P	Pn	22 06 09.0	+2.0
CSS				S	Sn	22 06 47.0	+3.1
HWQ	Hawqa	3.19	175	*e*P	Pn	22 06 09.0	+0.5
HWQ	Hawqa	3.19	175	*e*P	Pn	22 06 09.0	+0.5
CTKT	Corum	3.21	349	*i* P	Pn	22 06 11.0	+2.2
CTKT	Corum	3.21	349	*i* P	Pn	22 06 11.0	+2.2
RSDY	Resadiye-TOKAT	3.22	24	*e*PN	Pn	22 06 10.3	+1.5
RSDY	Resadiye-TOKAT	3.22	24	*e*Pn	Pn	22 06 10.3	+1.5
ANTO	Ankara	3.25	318	*e*PN	Pn	22 06 11.2	+2.0
ANTO	Ankara	3.25	318	*e*Pn	Pn	22 06 11.2	+2.0
KIZT	Kizilcal	3.25	297	*e*PN	Pn	22 06 10.6	+1.4
KIZT	Kizilcal	3.25	297	*e*Pn	Pn	22 06 10.6	+1.4
LOD	Lodumlu	3.28	318	*e*PN	Pn	22 06 11.3	+1.7
LOD	Lodumlu	3.28	318	*e*Pn	Pn	22 06 11.3	+1.7
FKH	Fakeheh	3.28	168	*e*P	Pn	22 06 10.9	+1.3
FKH	Fakeheh	3.28	168	*e*P	Pn	22 06 10.9	+1.3
ERBA	Erbaa	3.33	15	*i* P	Pn	22 06 11.8	+1.5
ERBA				*i* S	Sg	22 07 05.5	-0.2
ERBA	Erbaa	3.33	15	*i* P	Pn	22 06 11.8	+1.5
ALFC	Alevga	3.34	227	P	Pn	22 06 09.4	-1.0
	baz=43						
ALFC				S	Sn	22 06 52.6	+2.7
ALFC	Alevga	3.34	227	P	Pn	22 06 09.4	-1.0
ALFC				S	Sn	22 06 52.6	+2.7
SZAC	Souni-Zanaja	3.48	220 ⇓	P	Pn	22 06 14.4	+2.0
	baz=36						
SZAC				S	Sn	22 06 57.1	+3.7
SZAC	Souni-Zanaja	3.48	220 ⇓	P	Pn	22 06 14.4	+2.0
SZAC				S	Sn	22 06 57.1	+3.7
CANT	Cankiri	3.49	334	*e*PN	Pn	22 06 14.1	+1.6
BHL	Bhannes	3.55	179	*e*P	Pn	22 06 14.2	+0.8
BHL	Bhannes	3.55	179	*e*P	Pn	22 06 14.2	+0.8
AKMC	Akamas	3.59	228 ⇑	P	Pn	22 06 13.9	+0.1
	baz=44						
AKMC	Akamas	3.59	228 ⇑	P	Pn	22 06 13.9	+0.1
DIYA	Diyarbakir	3.62	81	*i* P	Pg	22 06 26.8	-1.1
DIYA				*i* S

EREA	**Eretria**	**0.65**	**22**	*e*PB	Pg	22 06 34.9	+0.1
EREA				*e*SN	Sb	22 06 44.4	-0.2
EREA	**Eretria**	**0.65**	**22**	S	Sg	22 06 42.5	-0.9
EREA				*e*Sn	Sb	22 06 44.4	-0.2
EREA	**Eretria**	**0.65**	**22**	P	Pg	22 06 35.1	+0.3
EREA				S	Sg	22 06 42.5	-0.9
KARY	**Karystos**	**0.68**	**71**	P	Pg	22 06 35.2	-0.1
KARY				S	Sb	22 06 45.2	-0.1
MRKA	**Markates**	**0.89**	**358**	*e*PN	Pb	22 06 39.6	0.0
MRKA				*e*SN	Sn	22 06 52.6	-0.8
LKR	**Lokris**	**0.97**	**330**	*e*PN	Pg	22 06 40.7	-0.1
GUR	**Goura**	**1.02**	**277**	*e*PN	Pg	22 06 42.0	+0.1
GUR	**Goura**	**1.02**	**277**	P	Pb	22 06 41.3	-0.6
GUR	**Goura**	**1.02**	**277**	*e*Pn	Pg	22 06 42.0	+0.1
GUR	**Goura**	**1.02**	**277**	P	Pb	22 06 41.3	-0.6
GUR				S	Sb	22 06 55.8	+0.4
VLX	**Vlachokerasia**	**1.08**	**246**	*e*PN	Pb	22 06 42.6	-0.4

WEL 05 22:06:24.1±0.4, 37°87S×176°71E, h5km, ML3.9/1, Error ellipse: s-maj=6.1km s-min=3.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WHVZ	**Whangaehu Hut**	**1.66**	**212**	P*	Pn	22 06 52.0	-2.3
WHVZ				S*	Sn	22 07 12.3	-3.8
BHHZ	**Black Hill Sta**	**1.69**	**197**	P*	Pn	22 06 52.6	-1.9
BHHZ				S*	Sn	22 07 12.7	-3.9
WNVZ	**Wahianoa**	**1.69**	**211**	P*	Pn	22 06 52.1	-2.5
WNVZ				S*	Sn	22 07 13.6	-3.3

*ISK **05** 22:07:46.2, 39°13N×29°06E, h5km, MD2.6*
*DDA **05** 22:07:47.1, 39°12N×29°07E, h7km, MD2.7*
CSEM 05 22:07:47.2±0.1, 39°11N×29°08E, h10km, MD2.7, Error ellipse: s-maj=2.2km s-min=1.8km az=103.0, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.29**	**257**	*i* P	Pg	22 07 53.4	+0.3
DEMI				*i* S	Sg	22 07 57.6	+0.5
DEMI	**Demirci**	**0.29**	**257**	*i* P	Pg	22 07 53.4	+0.2
DEMI				*i* S	Sg	22 07 57.6	+0.5
GDZ	**Gediz**	**0.32**	**93**	*i* P	Pg	22 07 54.0	+0.3
GDZ				*i* S	Sg	22 07 58.3	+0.2
GDZ	**Gediz**	**0.32**	**93**	*i* P	Pg	22 07 54.0	+0.3
GDZ				*i* S	Sg	22 07 58.3	+0.2
TVSB	**Tavsanli**	**0.45**	**41**	*e*PG	Pg	22 07 55.9	-0.4
TVSB				*e*SG	Sg	22 08 01.5	-0.9
TVSB	**Tavsanli**	**0.45**	**41**	*e*Pg	Pg	22 07 55.9	-0.4
TVSB	**Tavsanli**	**0.45**	**41**	*e*Sg	Sg	22 08 01.5	-0.9
KULA	**Kula-Manisa**	**0.68**	**209**	*e*PG	Pg	22 08 00.1	-0.3
KULA				*e*SG	Sg	22 08 09.7	+0.4
KULA	**Kula-Manisa**	**0.68**	**209**	*e*Pg	Pg	22 08 00.1	-0.3
KULA				*e*Sg	Sg	22 08 09.7	+0.3
DURS	**Dursunbey**	**0.68**	**317**	*i* P	Pb	22 08 00.9	-0.4
DURS				*i* S	Sg	22 08 09.4	-0.1
DURS	**Dursunbey**	**0.68**	**317**	*i* P	Pg	22 08 00.9	+0.4
DURS				*i* S	Sg	22 08 09.4	-0.1
MANT	**Manisa**	**0.74**	**214**	*i* P	Pg	22 08 01.5	-0.3
MANT				*i* S	Sg	22 08 11.5	-0.1
MANT	**Manisa**	**0.74**	**214**	*i* P	Pg	22 08 01.5	-0.3
MANT				*i* S	Sg	22 08 11.5	-0.1
KHAL	**Karahalli**	**0.81**	**156**	*i* P	Pg	22 08 03.1	+0.2
KHAL				*i* S	Sb	22 08 14.3	-0.2
KHAL	**Karahalli**	**0.81**	**156**	*i* P	Pg	22 08 03.1	+0.2
KHAL				*i* S	Sb	22 08 14.3	-0.2
ARMT	**Armutlu**	**1.47**	**354**	*e*PN	Pn	22 08 13.9	+0.2
ARMT	**Armutlu**	**1.47**	**354**	*e*Pn	Pn	22 08 13.9	+0.2

*CSEM **05** 22:08:14.4±0.3, 36°47N×2°32W, h5km, ML2.3, Error ellipse: s-maj=6.3km s-min=3.8km az=165.0*
*SFS **05** 22:08:15.0, 36°48N×2°35W, h0km, ML2.7*
MDD 05 22:08:15.2±1.1, 36°48N×2°30W, h0km, mbLg2.3/14, 2C-1D, Error ellipse: s-maj=10.4km s-min=5.4km az=166.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENIJ	**Nijar**	**0.49**	**9**	⇑P	Pg	22 08 23.8	-1.1
	31nm,0.1s,SNR=18						
ENIJ				S	Sg	22 08 28.4	-2.9
	276nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**0.49**	**9**	P	Pg	22 08 23.8	-1.0
	31nm,0.1s,SNR=18						
ENIJ				S	Sg	22 08 28.4	-2.9
	276nm,0.2s,SNR=7.9						
EBER	**Berja**	**0.63**	**312**	⇓P	Pg	22 08 26.6	-0.9
	21nm,0.1s,SNR=18						
EBER				S	Sg	22 08 33.3	-2.6
	153nm,0.2s,SNR=5.1						
EBER	**Berja**	**0.63**	**312**	P	Pg	22 08 26.6	-1.0
	21nm,0.1s,SNR=18						
EBER				S	Sg	22 08 33.3	-2.6
	153nm,0.2s,SNR=5.1						
GORA	**Gorafe**	**1.16**	**330**	P	Pg	22 08 36.9	-0.7
	5.7nm,0.1s,SNR=7.9						
GORA				S	Sg	22 08 51.6	-1.2
	12nm,0.1s,SNR=7.9						
GORA	**Gorafe**	**1.16**	**330**	P	Pg	22 08 36.9	-0.7
	5.7nm,0.1s,SNR=7.9						
GORA				S	Sg	22 08 51.6	-1.1
	12nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**1.16**	**309**	⇑P	Pg	22 08 36.6	-1.1
	8.0nm,0.1s,SNR=18						
EQUE				S	Sg	22 08 52.4	-0.6
	11nm,0.2s,SNR=4.9						
EQUE	**Quentar**	**1.16**	**309**	P	Pg	22 08 36.6	-1.1
	8.0nm,0.1s,SNR=18						
EQUE				S	Sg	22 08 52.4	-0.5
	11nm,0.2s,SNR=4.9						
ECOG	**Cogollos-Vega**	**1.29**	**308**	P	Pg	22 08 39.0	-1.1
	2.5nm,0.2s,SNR=14						
ECOG				S	Sg	22 08 56.8	-0.1
	6.6nm,0.3s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.29**	**308**	P	Pg	22 08 39.0	-1.1
	2.5nm,0.2s,SNR=14						
ECOG				S	Sg	22 08 56.8	-0.1
	6.6nm,0.3s,SNR=7.9						
SELV	**Sierra Elvira**	**1.37**	**304**	P	Pg	22 08 40.6	-1.0
	1.3nm,0.1s,SNR=7.9						
SELV				S	Sg	22 08 58.7	-0.7
	8.4nm,0.3s,SNR=7.9						
SELV	**Sierra Elvira**	**1.37**	**304**	P	Pg	22 08 40.6	-1.0
	1.3nm,0.1s,SNR=7.9						
SELV				S	Sg	22 08 58.7	-0.7
	8.4nm,0.3s,SNR=7.9						
EQES	**Quesada**	**1.45**	**335**	P	Pn	22 08 42.0	-0.9
	0.6nm,0.1s,SNR=27						
EQES				S	Sg	22 09 00.7	-1.6
	6.1nm,0.2s,SNR=15						
EQES	**Quesada**	**1.45**	**335**	P	Pn	22 08 42.0	-1.0
	0.6nm,0.1s,SNR=27						
EQES				S	Sg	22 09 00.7	-1.6
	6.1nm,0.2s,SNR=15						
EMUR	**La Murta**	**1.60**	**32**	P	Pn	22 08 44.3	-0.6
	0.1nm,0.0s,SNR=7.5						
EMUR				S	Sn	22 09 06.1	-0.2
	6.7nm,0.3s,SNR=9.2						
EMUR	**La Murta**	**1.60**	**32**	P	Pn	22 08 44.3	-0.6
	0.1nm,0.0s,SNR=7.5						
EMUR				S	Sn	22 09 06.1	-0.2
	6.7nm,0.3s,SNR=9.2						
SESP	**Santiago Espad**	**1.65**	**353**	P	Pn	22 08 44.3	-1.4
	0.7nm,0.1s,SNR=7.9						
SESP				S	Sn	22 09 06.5	-1.2
	15nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**1.65**	**353**	P	Pn	22 08 44.3	-1.4
	0.7nm,0.1s,SNR=7.9						
SESP				S	Sn	22 09 06.5	-1.2
	15nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.99**	**273**	P	Pn	22 08 47.9	-2.3
	1.2nm,0.1s,SNR=9.9						
EMIJ				S	Sn	22 09 10.9	-5.0
	6.1nm,0.2s,SNR=12						
EMIJ	**Mijas**	**1.99**	**273**	P	Pn	22 08 47.9	-2.3
	1.2nm,0.1s,SNR=9.9						
EMIJ				S	Sn	22 09 10.9	-5.0
	6.1nm,0.2s,SNR=12						
EVIA	**Vianos**	**2.16**	**356**	P	Pn	22 08 51.5	-1.2
	0.5nm,0.1s,SNR=6.9						
EVIA				S	Sn	22 09 18.3	-1.9
	128nm,0.4s,SNR=7.9						
EVIA	**Vianos**	**2.16**	**356**	P	Pn	22 08 51.5	-1.1
	0.5nm,0.1s,SNR=6.9						
EVIA				S	Sn	22 09 18.3	-1.9
	128nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**2.24**	**15**	P	Pn	22 08 51.9	-1.8
	0.2nm,0.1s,SNR=9.8						
ETOB	**Tobarra**	**2.24**	**15**	P	Pn	22 08 51.9	-1.8
	0.2nm,0.1s,SNR=9.8						
EADA	**Adamuz**	**2.47**	**314**	P	Pn	22 08 55.8	-1.1
	0.0nm,0.0s,SNR=7.9						
EADA				S	Sn	22 09 25.6	-2.3
	6.4nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**2.47**	**314**	P	Pn	22 08 55.8	-1.1
	SNR=7.9						
EADA				S	Sn	22 09 25.6	-2.2
	6.4nm,0.4s,SNR=7.9						
ECAB	**El Cabril**	**2.95**	**304**	P	Pn	22 09 02.0	-1.4
	0.1nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**2.95**	**304**	P	Pn	22 09 02.0	-1.4
	0.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.72**	**291**	P	Pn	22 09 12.3	-1.7
	0.2nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.72**	**291**	P	Pn	22 09 12.3	-1.6
	0.2nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**3.85**	**48**	P	Pn	22 09 14.1	-1.6
	0.1nm,0.1s,SNR=7.9						
EIBI				S	Sn	22 09 57.0	-4.7
	1.4nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.85**	**48**	P	Pn	22 09 14.1	-1.6
	0.1nm,0.1s,SNR=7.9						
EIBI				S	Sn	22 09 57.0	-4.7
	1.4nm,0.2s,SNR=7.9						
PBAR	**Barrancos**	**4.13**	**296**	*e*Pn	Pn	22 09 19.0	-0.6
EGRO	**El Granado**	**4.28**	**286**	S	Sn	22 10 07.8	-4.4
	1.4nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.28**	**286**	S	Sn	22 10 07.8	-4.4
	1.4nm,0.1s,SNR=7.9						
ETOR	**Torete**	**4.34**	**2**	P	Pn	22 09 21.4	-1.1
	1.2nm,0.1s,SNR=7.9						
ETOR	**Torete**	**4.34**	**2**	P	Pn	22 09 21.4	-1.1
	1.2nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.37**	**303**	P	Pn	22 09 21.3	-1.6
	0.0nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.37**	**303**	P	Pn	22 09 21.3	-1.6
	SNR=7.9						
PVAQ	**Vaqueiros**	**4.43**	**284**	*e*Pn	Pn	22 09 22.9	-0.8
PVAQ	**Vaqueiros**	**4.43**	**284**	P	Pn	22 09 22.9	-0.8
PVAQ	**Vaqueiros**	**4.43**	**284**	P	Pn	22 09 22.9	-0.8

*CSEM **05** 22:08:41.8, 36°66N×2°36W, h8km, ML2.7*
INMG 05 22:08:42.2±1.2, 36°68N×2°36W, h7km±3km, ML2.7, 1C-1D, Error ellipse: s-maj=4.1km s-min=2.7km az=155.0, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENIJ	**Nijar**	**0.32**	**22**	⇑P	Pg	22 08 47.9	-0.6
	193nm,0.2s,SNR=18						
ENIJ				S	Sg	22 08 52.6	-0.2
	336nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**0.32**	**22**	P	Pg	22 08 47.9	-0.6
	193nm,0.2s,SNR=18						
ENIJ				S	Sg	22 08 52.6	-0.2
	336nm,0.2s,SNR=7.9						
EBER	**Berja**	**0.48**	**297**	⇓P	Pg	22 08 50.9	-0.9
	62nm,0.2s,SNR=18						
EBER				S	Sg	22 08 57.6	-0.6
	954nm,0.3s,SNR=25						
EBER	**Berja**	**0.48**	**297**	P	Pg	22 08 50.9	-0.9
	62nm,0.2s,SNR=18						
EBER				S	Sg	22 08 57.6	-0.7
	954nm,0.3s,SNR=25						
GORA	**Gorafe**	**0.97**	**326**	P	Pg	22 09 00.8	-0.2
	65nm,0.2s,SNR=7.9						
GORA	**Gorafe**	**0.97**	**326**	P	Pg	22 09 00.8	-0.2
	65nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**1.01**	**302**	P	Pg	22 09 00.7	-1.2
	36nm,0.2s,SNR=17						
EQUE				S	Sg	22 09 12.5	-2.7
	68nm,0.3s,SNR=8.3						
EQUE	**Quentar**	**1.01**	**302**	P	Pg	22 09 00.7	-1.2
	36nm,0.2s,SNR=17						
EQUE				S	Sg	22 09 12.5	-2.7
	68nm,0.3s,SNR=8.3						
ECOG	**Cogollos-Vega**	**1.14**	**302**	P	Pg	22 09 03.2	-1.1
	35nm,0.3s,SNR=15						
ECOG				S	Sg	22 09 16.8	-2.3
	88nm,0.3s,SNR=8.8						
ECOG	**Cogollos-Vega**	**1.14**	**302**	P	Pg	22 09 03.2	-1.0
	35nm,0.3s,SNR=15						
ECOG				S	Sg	22 09 16.8	-2.4
	88nm,0.3s,SNR=8.8						
SELV	**Sierra Elvira**	**1.23**	**297**	P	Pb	22 09 04.9	-1.0
	21nm,0.3s,SNR=7.9						
SELV				S	Sg	22 09 19.9	-2.1
	74nm,0.5s,SNR=7.9						
SELV	**Sierra Elvira**	**1.23**	**297**	P	Pb	22 09 04.9	-1.0
	21nm,0.3s,SNR=7.9						
SELV				S	Sg	22 09 19.9	-2.1
	74nm,0.5s,SNR=7.9						
EQES	**Quesada**	**1.26**	**333**	P	Pn	22 09 05.1	-1.4
	2.0nm,0.1s,SNR=7.9						
EQES				S	Sb	22 09 22.2	-0.8
	104nm,0.5s,SNR=11						
EQES	**Quesada**	**1.26**	**333**	P	Pn	22 09 05.1	-1.3
	2.0nm,0.1s,SNR=7.9						
EQES				S	Sb	22 09 22.2	-0.8
	104nm,0.5s,SNR=11						
SESP	**Santiago Espad**	**1.45**	**354**	S	Sn	22 09 27.8	-0.7
	110nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**1.45**	**354**	S	Sn	22 09 27.8	-0.7
	110nm,0.3s,SNR=7.9						
EMLI	**Melilla**	**1.46**	**199**	S	Sn	22 09 22.4	-5.8
	81nm,0.1s,SNR=7.9						
EMEL	**Melilla**	**1.46**	**200**	S	Sn	22 09 22.4	-5.8
	81nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**1.47**	**37**	S	Sn	22 09 25.5	-3.1
	29nm,0.3s,SNR=6.2						
EMUR	**La Murta**	**1.47**	**37**	S	Sn	22 09 25.5	-3.1
	29nm,0.3s,SNR=6.2						
EMIJ	**Mijas**	**1.95**	**267**	S	Sn	22 09 33.8	-6.7
	33nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**1.95**	**267**	S	Sn	22 09 33.8	-6.6
	33nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**1.96**	**357**	P	Pn	22 09 14.8	-1.2
	3.8nm,0.2s,SNR=7.9						
EVIA				S	Sn	22 09 41.7	+0.7
	424nm,0.6s,SNR=7.9						
EVIA	**Vianos**	**1.96**	**357**	P	Pn	22 09 14.8	-1.3
	3.8nm,0.2s,SNR=7.9						
EVIA				S	Sn	22 09 41.7	+0.7
	424nm,0.6s,SNR=7.9						
ETOB	**Tobarra**	**2.07**	**18**	P	Pn	22 09 16.2	-1.2
	2.4nm,0.1s,SNR=13						
ETOB				S	Sn	22 09 41.1	-2.4
	54nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**2.07**	**18**	P	Pn	22 09 16.2	-1.3
	2.4nm,0.1s,SNR=13						
ETOB				S	Sn	22 09 41.1	-2.5
	54nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**2.31**	**311**	P	Pn	22 09 21.4	+0.7
	0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	22 09 47.1	-2.4
	20nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**2.31**	**311**	P	Pn	22 09 21.4	+0.7
	0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	22 09 47.1	-2.4
	20nm,0.4s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**2.50**	**104**	P	Pn	22 09 22.0	-1.4
	8.0nm,0.1s,SNR=7.9						
OKGL				S	Sn	22 09 50.7	-3.6
	117nm,0.3s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**2.50**	**104**	P	Pn	22 09 22.0	-1.4
	8.0nm,0.1s,SNR=7.9						
OKGL				S	Sn	22 09 50.7	-3.6
	117nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**2.64**	**39**	P	Pn	22 09 21.4	-3.9
	0.2nm,0.1s,SNR=7.0						
EBEN				S	Sn	22 09 52.2	-5.4
	1.7nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**2.64**	**39**	P	Pn	22 09 21.4	-3.9
	0.2nm,0.1s,SNR=7.0						
EBEN				S	Sn	22 09 52.2	-5.4
	1.7nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**2.81**	**301**	P	Pn	22 09 25.4	-2.2
	0.2nm,0.1s,SNR=10						
ECAB				S	Sn	22 09 58.2	-3.5
	3.9nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**2.81**	**301**	P	Pn	22 09 25.4	-2.2
	0.2nm,0.1s,SNR=10						
ECAB				S	Sn	22 09 58.2	-3.6
	3.9nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.61**	**289**	P	Pn	22 09 36.0	-2.6
	0.2nm,0.1s,SNR=7.2						
EMIN				S	Sn	22 10 17.4	-4.1
	3.2nm,0.5s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.61**	**289**	P	Pn	22 09 36.0	-2.6
	0.2nm,0.1s,SNR=7.2						
EMIN				S	Sn	22 10 17.4	-4.1
	3.2nm,0.5s,SNR=7.9						
EIBI	**Ibiza**	**3.75**	**50**	P	Pn	22 09 38.1	-2.4
	0.7nm,0.1s,SNR=8.4						
EIBI				S	Sn	22 10 19.2	-5.8
	3.4nm,0.2s						
EIBI	**Ibiza**	**3.75**	**50**	P	Pn	22 09 38.1	-2.4
	0.7nm,0.1s,SNR=8.4						
EIBI				S	Sn	22 10 19.2	-5.8
	3.4nm,0.2s						
PBAR	**Barrancos**	**4.01**	**293**	*e*Pn	Pn	22 09 42.8	-1.3
PBAR				*e*Sg	Sg	22 10 50.2	-1.0
PBAR				A	A	22 10 55.9	
	13nm,0.6s						
PBAR	**Barrancos**	**4.01**	**293**	P	Pn	22 09 42.8	-1.3
PBAR				S	Sg	22 10 50.2	-1.0
	13nm,0.6s						
PBAR	**Barrancos**	**4.01**	**293**	P	Pn	22 09 42.8	-1.3
PBAR				S	Sg	22 10 50.2	-1.0
	13nm,0.6s						
EGRO	**El Granado**	**4.18**	**283**	P	Pn	22 09 43.9	-2.5
	0.9nm,0.2s,SNR=7.9						
EGRO				S	Sn	22 10 31.2	-4.4
	2.4nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**4.18**	**283**	P	Pn	22 09 43.9	-2.5
	0.9nm,0.2s,SNR=7.9						
EGRO				S	Sn	22 10 31.2	-4.4
	2.4nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.23**	**301**	P	Pn	22 09 44.8	-2.3
	0.3nm,0.1s,SNR=5.7						
EBAD				S	Sn	22 10 31.5	-5.3
	4.9nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**4.23**	**301**	P	Pn	22 09 44.8	-2.3
	0.3nm,0.1s,SNR=5.7						
EBAD				S	Sn	22 10 31.5	-5.3
	4.9nm,0.3s,SNR=7.9						
PVAQ	**Vaqueiros**	**4.35**	**281**	*e*Pn	Pn	22 09 46.8	-1.9
PVAQ				*e*Sn	Sn	22 10 35.3	-4.4
PVAQ	**Vaqueiros**	**4.35**	**281**	P	Pn	22 09 46.8	-1.9
PVAQ				S	Sn	22 10 35.3	-4.4
PVAQ	**Vaqueiros**	**4.35**	**281**	P	Pn	22 09 46.8	-1.9
PVAQ				S	Sn	22 10 35.3	-4.4
EPLA	**Plasencia**	**4.47**	**320**	P	Pn	22 09 48.9	-1.6
	0.2nm,0.1s,SNR=6.1						
EPLA	**Plasencia**	**4.47**	**320**	P	Pn	22 09 48.9	-1.6
	0.2nm,0.1s,SNR=6.1						
PBDV	**Barranco-do-Ve**	**4.50**	**279**	*e*Pn	Pn	22 09 50.1	-0.7
PBDV	**Barranco-do-Ve**	**4.50**	**279**	P	Pn	22 09 50.1	-0.7
PBDV	**Barranco-do-Ve**	**4.50**	**279**	P	Pn	22 09 50.1	-0.7
PCVE	**Castro Verde**	**4.64**	**284**	*e*Pn	Pn	22 09 51.4	-1.3
PCVE	**Castro Verde**	**4.64**	**284**	P	Pn	22 09 51.4	-1.3
PCVE	**Castro Verde**	**4.64**	**284**	P	Pn	22 09 51.4	-1.3
PESTR	**Estremoz**	**4.69**	**299**	*e*Sn	Sn	22 10 44.9	-3.1
MESJ	**Messejana**	**4.82**	**286**	*e*Pn	Pn	22 09 53.3	-1.9
MESJ	**Messejana**	**4.82**	**286**	P	Pn	22 09 53.3	-1.9
MESJ	**Messejana**	**4.82**	**286**	P	Pn	22 09 53.3	-1.9
PMRV	**Marv??o**	**4.83**	**306**	*e*Pn	Pn	22 09 54.8	-0.6
PMRV				*e*Sg	Sg	22 11 16.8	-0.6
PMRV				A	A	22 11 22.9	
	8.3nm,0.5s						
PMRV	**Marv??o**	**4.83**	**306**	P	Pn	22 09 54.8	-0.6
PMRV				S	Sg	22 11 16.8	-0.6
	8.3nm,0.5s						
PMRV	**Marv??o**	**4.83**	**306**	P	Pn	22 09 54.8	-0.6
PMRV				S	Sg	22 11 16.8	-0.6
	8.3nm,0.5s						
MORF	**Marmelete**	**5.08**	**279**	*e*Pn	Pn	22 09 58.1	-0.7
MORF				*e*Sn	Sn	22 10 54.5	-3.2
MORF	**Marmelete**	**5.08**	**279**	P	Pn	22 09 58.1	-0.7
MORF				S	Sn	22 10 54.5	-3.2
MORF	**Marmelete**	**5.08**	**279**	P	Pn	22 09 58.1	-0.7
MORF				S	Sn	22 10 54.5	-3.2
ETOS	**Mallorca**	**5.11**	**51**	P	Pn	22 09 57.9	-1.3
	0.7nm,0.2s,SNR=6.9						
ETOS				S	Sn	22 10 54.1	-4.4
	0.6nm,0.1s						
ETOS	**Mallorca**	**5.11**	**51**	P	Pn	22 09 57.9	-1.3
	0.7nm,0.2s,SNR=6.9						
ETOS				S	Sn	22 10 54.1	-4.4
	0.6nm,0.1s						
PNCL	**Nicolau / Gran**	**5.12**	**288**	*e*Pn	Pn	22 09 57.5	-1.8
PTEO	**Sao Teotonio**	**5.16**	**282**	*e*Sn	Sn	22 10 57.1	-2.6
PTEO	**Sao Teotonio**	**5.16**	**282**	S	Sn	22 10 57.1	-2.6
PTEO	**Sao Teotonio**	**5.16**	**282**	S	Sn	22 10 57.1	-2.6
PFVI	**Vila Bisbo**	**5.20**	**277**	*e*Pn	Pn	22 09 59.1	-1.4
PFVI	**Vila Bisbo**	**5.20**	**277**	P	Pn	22 09 57.1	-3.4
	0.6nm,0.2s,SNR=7.9						
PFVI				S	Sn	22 10 55.0	-5.7
	1.0nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.20**	**277**	P	Pn	22 09 57.1	-3.4
	0.6nm,0.2s,SNR=7.9						
PFVI				S	Sn	22 10 55.0	-5.7
	1.0nm,0.2s,SNR=7.9						

*ISCJB **05** 22:59:31.3±0.9, 56°0S±0°1×27°5W±0°4, h112km, mb4.0/6, Error ellipse: s-maj=36.2km s-min=17.7km az=159.3*
*

TKM2	**Tokmak 2**	**4.70**	**37**	⇑Pn	Pn	23 08 44.8	+1.6		
	2.5nm,0.7s								
AB31	**Akbulak array**	**13.09**	**324**	⇓Pn	Pn	23 10 37.0	-0.9		
	0.4nm,0.6s,baz=130,slow=14,SNR=10								

ISCJB ***05*** *23:18:36.2±1.1,3.9S±0.2×102.6W±0.2,h10km,mb4.1/16, MS3.7/12,Error ellipse: s-maj=36.2km s-min=10.8km az=140.1*

NEIC ***05*** *23:18:37.5±0.7,3.90S×102.66W,h10km,mb4.2/8,Error ellipse: s-maj=26.3km s-min=10.3km az=49.0*

IDC ***05*** *23:18:37.0±1.1,3.73S×102.48W,h0km,mb4.0/10, mb1 4.3/10,mb1mx4.0/31,mbtmp4.0/10,MS3.8/12, Ms1 3.8/12,ms1mx3.6/21,Error ellipse: s-maj=50.4km s-min=15.9km az=51.0*

ISC 05 23:18:38.2±1.0,3.8S±0.2×102.6W±0.2,h10km,n41, σ0.6s65/25,mb4.1/16,MS3.7/12,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**22.09**	**20**	LR	LR	23 30 11.3	
	comp=Z,181nm,19.2s,baz=190,slow=32						
JTS	**JuntasAbangare**	**22.43**	**51**	LR	LR	23 30 00.5	
	comp=Z,345nm,21.4s,baz=228,slow=31						
ATAH	**Atahualpa**	**24.27**	**99**	LR	LR	23 31 02.2	
	comp=Z,262nm,20.4s,baz=270,slow=31						
OTAV	**Otavalo**	**24.42**	**81**	*eP*	**P**	**23 23 59.1**	**+1.4**
	11nm,1.4s						
NNA	**Nana**	**26.71**	**109**	LR	LR	23 32 03.5	
	comp=Z,255nm,21.3s,baz=282,slow=30						
LPIG	**La Paz**	**28.74**	**345**	LR	LR	23 33 09.7	
	comp=Z,147nm,22.0s,baz=177,slow=30						
TXAR	**Lajitas Array**	**32.96**	**358**	P	**P**	**23 25 12.2**	**-1.1**
	1.1nm,1.0s,baz=199,slow=7.6,SNR=4.8						
TXAR				LR	LR	23 37 18.3	
	comp=Z,190nm,19.1s,baz=0.0,slow=34						
LPAZ	**La Paz**	**36.02**	**113**	P	**P**	**23 25 39.9**	**-0.8**
	1.2nm,0.5s,baz=316,slow=5.7,SNR=9.2						
LPAZ				LR	LR	23 37 48.2	
	comp=Z,105nm,19.8s,baz=288,slow=32						
LPAZ	**La Paz**	**36.02**	**113**	*eP*	**P**	**23 25 39.7**	**-1.0**
	1.3nm,0.6s						
LVC	**Limon Verde**	**37.56**	**123**	P	**P**	**23 25 53.6**	**+0.3**
	14nm,0.7s,baz=302,slow=8.1,SNR=5.3						
LVC	**Limon Verde**	**37.56**	**123**	*eP*	**P**	**23 25 52.9**	**-0.4**
	3.7nm,0.6s						
MIAR	**Mount Ida**	**39.06**	**12**	*eP*	**P**	**23 26 05.6**	**+0.2**
	6.8nm,0.9s						
SAML	**Samuel**	**39.44**	**99**	*eP*	**P**	**23 26 07.9**	**-1.0**
	2.2nm,0.8s						
CFAA	**Coronel Fontan**	**42.48**	**135**	P	**P**	**23 26 34.4**	**+0.5**
	0.6nm,0.8s,baz=297,slow=7.4,SNR=8.5						
PTGA	**Pitinga**	**42.66**	**87**	P	**P**	**23 26 35.7**	**+0.2**
	3.0nm,0.7s,baz=286,slow=10,SNR=5.9						
PTGA	**Pitinga**	**42.66**	**87**	P	**P**	**23 26 35.2**	**-0.3**
NVAR	**Mina Array Bea**	**44.47**	**342**	P	**P**	**23 26 50.5**	**+0.5**
	0.7nm,0.9s,baz=178,slow=8.1,SNR=3.7						
PDAR	**Pinedale Array**	**46.78**	**353**	P	**P**	**23 27 08.6**	**+0.4**
	0.7nm,0.7s,baz=187,slow=6.8,SNR=5.4						
CPUP	**Villa Florida**	**48.72**	**122**	P	**P**	**23 27 23.0**	**-0.3**
	1.1nm,0.6s,baz=260,slow=6.1,SNR=3.6						
CPUP				LR	LR	23 45 37.6	
	comp=Z,65nm,18.9s,baz=297,slow=33						
MCMT	**McKenzie Canyo**	**49.28**	**350**	*eP*	**P**	**23 27 28.3**	**+0.8**
	1.7nm,1.2s						
BDFB	**Brasilia**	**54.88**	**106**	LR	LR	23 50 01.7	
	comp=Z,87nm,19.0s,baz=235,slow=34						
SCHQ	**Schefferville**	**65.48**	**22**	LR	LR	23 55 56.7	
	comp=Z,85nm,22.0s,baz=22,slow=34						
YKA	**Yellowknife Ar**	**66.74**	**354**	P	**P**	**23 29 29.1**	**-0.2**
	2.1nm,1.0s,baz=163,slow=5.8,SNR=4.6						
INK	**Inuvik**	**75.11**	**349**	*eP*	**P**	**23 30 20.0**	**0.0**
	7.2nm,1.0s						
ILAR	**Eielson Array**	**75.73**	**342**	P	**P**	**23 30 24.1**	**+0.3**
	3.4nm,0.9s,baz=151,slow=4.2,SNR=21						
COLD	**Coldfoot**	**78.40**	**343**	*eP*	**P**	**23 30 38.0**	**-0.7**
	6.7nm,1.1s						
H11N3	**WAKE ISLAND Hy 91.77**	**290**		T	T	01 13 23.2	
	baz=102,slow=79,SNR=16						
H11N2	**WAKE ISLAND Hy 91.78**	**290**		T	T	01 13 23.1	
	baz=102,slow=79,SNR=17						
H11N1	**WAKE ISLAND Hy 91.79**	**290**		T	T	01 13 17.7	
	baz=102,slow=79,SNR=15						
H11S2	**WAKE ISLAND Hy 91.89**	**288**		T	T	01 13 23.8	
	baz=94,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy 91.90**	**288**		T	T	01 13 24.9	
	baz=94,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hy 91.91**	**288**		T	T	01 13 25.1	
	baz=94,slow=75,SNR=18						
JMIC	**Jan Mayen**	**94.89**	**19**	LR	LR	00 15 29.0	
	comp=Z,25nm,19.4s,baz=260,slow=36						
PETK	**Petropavlovsk-**	**98.88**	**323**	LR	LR	00 08 48.0	
	comp=Z,40nm,19.8s,baz=226,slow=30						
BRTR	**Keskin Array B**	**126.67**	**42**	PKP		**PKPdf**	**23 37 42.6**	**+0.1**
	0.9nm,0.9s,baz=266,slow=1.3,SNR=3.8						
SONM	**Songino Array**	**129.56**	**335**	PKhKP	PKPpre	23 37 44.6	
	0.2nm,0.6s,baz=149,slow=3.0,SNR=2.2						
ZALV	**Zalesovo Beam**	**129.64**	**354**	PKhKP	PKPpre	23 37 44.9	
	1.1nm,0.8s,baz=357,slow=2.9,SNR=3.0						
KURK	**Kurchatov**	**133.23**	**359**	PKP		**PKPdf**	**23 37 55.2**	**+0.7**
KURBB	**Kurchatov Arra**	**133.33**	**359**	PKP		**PKPdf**	**23 37 55.2**	**+0.6**
	0.5nm,0.3s,baz=356,slow=1.7,SNR=4.8								
MKAR	**Makanchi Array**	**136.96**	**355**	PKP		**PKPdf**	**23 38 01.6**	**0.0**
	0.9nm,0.9s,baz=349,slow=2.5,SNR=6.8								
CMAR	**Chiang Mai Arr**	**154.42**	**306**	PKP		**PKPdf**	**23 38 31.5**	**-0.2**
	0.5nm,0.3s,baz=318,slow=1.2,SNR=3.0								
CMAR				PKPbc		**PKiKP**	**23 38 40.3**	**+0.2**
	0.9nm,0.8s,baz=345,slow=1.3,SNR=6.1								

GUC 05 23:30:33.8±0.5,34.60S×71.77W,h12km±3km,ML3.5,4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.60**	**133**	*eP*	Pg	23 30 45.3	-0.3
NICH				*i* S	Sb	23 30 54.3	-0.4
TALC	**Talca**	**0.81**	**172**	⇑*iP*	Pg	23 30 48.9	-0.6
TALC				*i* S	Sg	23 30 59.9	-0.2
CHCH	**Chadas Angostu**	**1.14**	**55**	⇑*iP*	Pb	23 30 54.1	-1.3
CHCH				*i* S	Sb	23 31 09.4	-0.8
TACH	**Talagante**	**1.17**	**36**	⇑*iP*	Pb	23 30 54.2	-1.7
LNCH	**Linares**	**1.26**	**174**	⇑*iP*	Pn	23 30 56.5	-0.7
LNCH				*i* S	Sb	23 31 13.4	-0.2
SAN	**Santiago**	**1.46**	**39**	*i* S	Sn	23 31 18.6	-0.6
CLCH	**Cerro Calan**	**1.57**	**41**	*eP*	Pn	23 31 00.8	-0.8
CLCH				*eS*	Sn	23 31 21.8	-0.2
CLCH				AML	AML	23 31 26.9	
	comp=N,953nm,0.5s						
PEL	**Peldehue**	**1.71**	**32**	*eP*	Pn	23 31 03.1	-0.3
PEL				*i* S	Sn	23 31 25.3	+0.1
PEL				AML	AML	23 31 30.0	
	comp=N,773nm,0.4s						
COCH	**Cobquecura**	**1.75**	**208**	*eP*	Pn	23 31 03.7	-0.1
COCH				*i* S	Sn	23 31 25.9	-0.1

IDC ***05*** *23:32:41.4±1.1,7.65N×91.95E,h0km,mb3.8/8, mb1 3.9/10,mb1mx3.6/41,mbtmp3.8/10,ML3.7/1,MS2.9/2, Ms1 2.9/2,ms1mx2.5/50,Error ellipse: s-maj=34.3km s-min=19.2km az=52.0*

ISCJB ***05*** *23:32:42.8±0.8,7.6N±0.1×91.9E±0.1,h24km,mb3.7/8, MS3.3/1,Error ellipse: s-maj=17.0km s-min=15.0km az=12.3*

ISC 05 23:32:45.0±1.1,7.6N±0.2×91.9E±0.1,h24km,n14, σ0.37/10,mb3.8/8,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.15**	**269**	Pn	**Pn**	**23 35 23.2**	**+0.1**
	0.5nm,0.3s,baz=83,slow=14,SNR=3.9						
PALK				Sn	Sn	23 37 13.5	-14
	0.8nm,0.3s,baz=165,slow=20,SNR=4.5						
PALK				LR	LR	23 39 11.5	
	comp=Z,27nm,19.4s,baz=104,slow=35						
CMAR	**Chiang Mai Arr**	**12.72**	**32**	Pn	**Pn**	**23 35 44.8**	**+0.2**
	baz=227,slow=14,SNR=5.5						
H08S3	**Diego Garcia H**	**24.63**	**232**	T	T	00 03 34.3	
	baz=52,slow=75,SNR=12						
H08S2	**Diego Garcia H**	**24.63**	**232**	T	T	00 03 34.9	
	baz=52,slow=75,SNR=11						
H08S1	**Diego Carcia H**	**24.65**	**232**	T	T	00 03 34.3	
	baz=52,slow=75,SNR=10.0						
MKAR	**Makanchi Array**	**39.88**	**350**	P	**P**	**23 40 16.9**	**+0.1**
	0.8nm,0.6s,baz=172,slow=9.0,SNR=10						
SONM	**Songino Array**	**41.90**	**15**	P	**P**	**23 40 33.4**	**-0.2**
	1.7nm,0.7s,baz=194,slow=8.0,SNR=10						
GEYT	**Alibeck**	**42.94**	**320**	P	**P**	**23 40 42.6**	**+0.4**
	2.2nm,0.7s,baz=116,slow=6.9,SNR=6.2						
KURBB	**Kurchatov Arra**	**44.27**	**348**	P	**P**	**23 40 52.6**	**0.0**
	0.5nm,0.3s,baz=171,slow=7.4,SNR=5.2						
ZALV	**Zalesovo Beam**	**46.53**	**354**	P	**P**	**23 41 10.5**	**0.0**
	0.5nm,0.4s,baz=171,slow=9.8,SNR=4.1						
WRA	**Warramunga Arr**	**49.92**	**124**	P	**P**	**23 41 37.0**	**-0.2**
	0.9nm,0.9s,baz=305,slow=9.1,SNR=4.0						
ASAR	**Alice Springs**	**51.46**	**128**	P	**P**	**23 41 49.1**	**+0.4**
	0.4nm,0.8s,baz=297,slow=6.1,SNR=3.5						
OBN	**Obninsk**	**64.42**	**328**	LR	LR	00 15 59.8	
	comp=Z,19nm,18.4s,baz=264,slow=40						
FINES	**FINESS Array B**	**71.90**	**333**	P	**P**	**23 44 05.3**	**-0.7**
	1.0nm,0.8s,baz=109,slow=7.5,SNR=2.9						

NNC 05 23:56:35.2±5.1,38.23N×71.92E,h0km,mb3.6,mpv2.8, 3C-1D,Error ellipse: s-maj=52.0km s-min=13.3km az=161.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.17**	**34**	⇑Pn	Pn	23 57 12.7	-0.1
	0.5nm,0.2s						
SFK				⇑Sn	Sn	23 57 41.6	+1.1
	2.0nm,0.2s						
DZET	**Dzherino**	**2.49**	**284**	⇑Sn	Sn	23 57 49.3	+1.0
	8.0nm,0.5s						
KK31	**Karatay Array**	**4.99**	**348**	Pn	Pn	23 57 52.2	+0.8
	1.0nm,0.3s,baz=156,slow=11,SNR=46						
KK31				⇓Sn	Sn	23 58 50.7	+1.0
	0.2nm,0.3s,baz=170,slow=24,SNR=6.4						

ISCJB ***05*** *23:58:47.9±0.3,1.65N±0.05×66.81E±0.04,h10km, mb4.7/78,MS3.8/20,Error ellipse: s-maj=7.1km s-min=5.6km az=0.7*

BJI ***05*** *23:58:47.9,1.70N×66.80E,h10km,mb4.7/22,mB4.8/15, Ms4.6/13,MS7 4.2/10*

IDC ***05*** *23:58:48.2±0.5,1.68N×66.87E,h0km,mb4.4/36, mb1 4.5/36,mb1mx4.5/40,mbtmp4.4/36,MS3.7/16, Ms1 3.7/16,ms1mx3.5/45,Error ellipse: s-maj=12.8km s-min=12.1km az=75.0*

MOS ***05*** *23:58:48.3±1.1,1.75N×66.75E,h10km,mb5.0/22,Error ellipse: s-maj=10.4km s-min=5.3km az=112.5*

NEIC ***05*** *23:58:49.8±0.2,1.69N×66.88E,h10km,mb4.9/19,Error ellipse: s-maj=6.5km s-min=6.1km az=180.0*

ISC 05 23:58:50.2±0.5,1.68N±0.07×66.86E±0.07,h12km±2km, h11km:pP-P,n382,σ1s23/379,mb4.8/78,MS3.7/20, 37C-20D,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**8.96**	**153**	T	T	00 09 56.5	
	baz=332,slow=75,SNR=2473						
H08N3	**Diego Garcia H**	**8.98**	**153**	T	T	00 09 57.6	
	baz=332,slow=75,SNR=2193						
H08N1	**Diego Carcia H**	**8.98**	**153**	T	T	00 09 58.2	
	baz=332,slow=75,SNR=2407						
PALK	**Pallekele**	**14.87**	**68**	LR	LR	00 07 01.3	
	comp=Z,625nm,18.4s,baz=250,slow=33						
OPO	**Ambohidratompo**	**27.92**	**223**	LR	LR	00 12 59.0	
	comp=Z,318nm,20.4s,baz=22,slow=30						
KMBO	**Kilima Mbogo**	**29.74**	**265**	LR	LR	00 16 03.1	
	comp=Z,186nm,18.1s,baz=114,slow=35						
RAYN	**Ar Rayn**	**30.00**	**318**	*eP*	**P**	**00 05 00.6**	**+1.5**
	6.1nm,1.0s						
ITEG	**Tejag**	**31.97**	**347**	*eP*	**P**	**00 05 19.7**	**+3.1**
KBL	**Kabul**	**32.75**	**3**	*eP*	**P**	**00 05 26.4**	**+3.0**
KBL				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KBL	**Kabul**	**32.75**	**3**	*eP*	**P**	**00 05 26.4**	**+3.0**
	comp=Z,10.0nm,1.0s						
IPIR	**Pirpir**	**34.30**	**336**	*eP*	**P**	**00 05 37.1**	**+0.1**
IMOG	**Moghan**	**34.96**	**349**	*eP*	**P**	**00 05 45.1**	**+2.5**
IMYA	**Miami**	**35.05**	**350**	*eP*	**P**	**00 05 45.2**	**+1.9**
IPAY	**Payeh**	**35.35**	**349**	*eP*	**P**	**00 05 49.1**	**+3.1**
CM31	**Chiang Mai Arr**	**35.60**	**60**	*eP*	**P**	**00 05 47.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**35.60**	**60**	P	**P**	**00 05 47.9**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=248,slow=9.8,SNR=15						
CMAR				PcP	**PcP**	**00 08 16.6**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=244,slow=4.1,SNR=6.9						
CMAR				LR	LR	00 19 05.1	
	comp=Z,70nm,20.6s,baz=272,slow=34						
CHTO	**Chiang Mai**	**35.75**	**59**	*eP*	**P**	**00 05 50.9**	**+1.5**
CHTO				pmax	pmax		
	comp=Z,18nm,1.3s						
CHTO	**Chiang Mai**	**35.75**	**59**	*eP*	**P**	**00 05 50.9**	**+1.5**
	comp=Z,18nm,1.3s						
LSA	**Lhasa**	**36.19**	**37**	*eP*	**P**	**00 05 56.1**	**+2.6**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
LSA	**Lhasa**	**36.19**	**37**	*eP*	**P**	**00 05 56.1**	**+2.6**
	comp=Z,7.5nm,0.8s						
ISHM	**Shahmirzad**	**36.21**	**341**	*eP*	**P**	**00 05 56.2**	**+2.7**
GEYT	**Alibeck**	**36.96**	**348**	P	**P**	**00 06 00.0**	**+0.5**
	comp=Z,4.3nm,1.0s,baz=142,slow=7.5,SNR=9.4						
GEYT				LR	LR	00 21 12.0	
	comp=Z,92nm,19.0s,baz=225,slow=36						
IKOM	**Komasi**	**37.04**	**333**	*eP*	**P**	**00 06 02.0**	**+1.6**
IBZA	**Bozab**	**37.13**	**334**	*eP*	**P**	**00 06 02.2**	**+0.9**
IDHR	**Dehrash**	**37.99**	**332**	*eP*	**P**	**00 06 09.1**	**+0.6**
KSH	**Kashi**	**38.56**	**11**	P	**P**	**00 06 11.1**	**-2.0**
KSH				pP	**pP**	**00 06 15.1**	**-1.6**
KSH				PP	**PP**	**00 07 42.0**	**+0.5**
KSH				PcP	**PcP**	**00 08 26.1**	**+0.4**
KSH				S	**S**	**00 12 04.2**	**-4.9**
KSH				sS	**ScP**	**00 12 12.2**	**-1.7**
KSH				PcS	**PcS**	**00 12 14.1**	**-1.0**
KSH				SS	SnSn	00 14 42.1	-15
KSH				pmax	pmax		
	comp=Z,25nm,0.9s						
KSH				pmax	pmax		
	comp=Z,110nm,3.3s						
KSH				LR	LR		
	comp=N,190nm,4.8s						
KSH				LR	LR		
	comp=E,210nm,4.6s						
KSH				LR	LR		
	comp=Z,450nm,10.2s						
KSH	**Kashi**	**38.56**	**11**	P	**P**	**00 06 11.1**	**-2.0**
KSH				pP	**pP**	**00 06 15.1**	**-1.6**
KSH				PP	**PP**	**00 07 42.0**	**+0.5**
KSH				PcP	**PcP**	**00 08 26.1**	**+0.4**
KSH				S	**S**	**00 12 04.2**	**-4.9**
KSH				sS	**ScP**	**00 12 12.2**	**-1.7**
KSH				PcS	**PcS**	**00 12 14.1**	**-1.0**
KSH				SS	SnSn	00 14 42.1	-15
KSH				PMZ			
	comp=Z,25nm,0.9s						
KSH				PMZ			
	comp=Z,110nm,3.3s						
KSH				LN			
	comp=Z,190nm,4.8s						
KSH				LE			
	comp=Z,210nm,4.6s						
KSH				LZ			
	comp=Z,450nm,10.2s						
ISRB	**Sarab**	**40.06**	**336**	*eP*	**P**	**00 06 26.6**	**+0.8**
KZA	**Kyzart**	**40.91**	**10**	P	**P**	**00 06 34.9**	**+1.8**
	SNR=8.8						
UCH	**Uchtor**	**40.95**	**9**	P	**P**	**00 06 35.1**	**+1.7**
	SNR=7.3						
SLVN	**Son La**	**41.03**	**59**	*eP*	**P**	**00 06 33.6**	**-0.2**
	comp=Z,13nm,1.4s						
ITBZ	**Tabriz**	**41.04**	**335**	*eP*	**P**	**00 06 35.1**	**+1.3**
EKS2	**Erkin-Say**	**41.27**	**8**	P	**P**	**00 06 37.8**	**+2.2**
	SNR=11						
EKS2	**Erkin-Say**	**41.27**	**8**	*eP*	**P**	**00 06 37.6**	**+2.0**
EKS2				pmax	pmax		
	comp=Z,119nm,0.8s						
EKS2	**Erkin-Say**	**41.27**	**8**	*eP*	**P**	**00 06 37.6**	**+2.0**
	comp=Z,120nm,0.8s						
AAK	**Ala-Archa**	**41.34**	**9**	*eP*	**P**	**00 06 38.8**	**+2.5**
AAK				pmax	pmax		
	comp=Z,70nm,0.3s						
AAK	**Ala-Archa**	**41.34**	**9**	*eP*	**P**	**00 06 38.8**	**+2.5**
	comp=Z,70nm,0.3s						
KBK	**Karagaybulak**	**41.43**	**9**	P	**P**	**00 06 39.2**	**+2.2**
	SNR=5.1						
TKM2	**Tokmak 2**	**41.79**	**10**	P	**P**	**00 06 41.4**	**+1.4**
	SNR=5.8						
TKM2	**Tokmak 2**	**41.79**	**10**	*eP*	**P**	**00 06 41.4**	**+1.4**
TKM2				pmax	pmax		
	comp=Z,9.0nm,0.4s						
TKM2	**Tokmak 2**	**41.79**	**10**	*eP*	**P**	**00 06 41.4**	**+1.4**
	comp=Z,9.1nm,0.4s						
LSZ	**Lusaka**	**41.80**	**245**	P	**P**	**00 06 40.7**	**+0.4**
	comp=Z,10nm,0.9s,baz=55,slow=10,SNR=13						
LSZ				LR	LR	00 21 00.0	
	comp=Z,162nm,20.0s,baz=142,slow=32						
LSZ	**Lusaka**	**41.80**	**245**	*eP*	**P**	**00 06 41.0**	**+0.7**
LSZ	**Lusaka**	**41.80**	**245**	*eP*	**P**	**00 06 41.0**	**+0.7**
USP	**Ospenovka**	**41.96**	**8**	P	**P**	**00 06 42.5**	**+1.3**
	SNR=7.0						
GNI	**Garni**	**43.24**	**335**	P	**P**	**00 06 52.3**	**+0.6**
	comp=Z,9.1nm,0.8s,baz=142,slow=4.9,SNR=8.5						
GNI				LR	LR	00 25 07.7	
	comp=Z,48nm,18.5s,baz=139,slow=36						
GNI	**Garni**	**43.24**	**335**	*eP*	**P**	**00 06 52.1**	**+0.3**
GNI				pmax	pmax		
	comp=Z,87nm,1.7s						
GNI	**Garni**	**43.24**	**335**	*eP*	**P**	**00 06 52.1**	**+0.3**
	comp=Z,87nm,1.7s						
MATP	**Matopo**	**43.54**	**238**	P	**P**	**00 06 54.7**	**+0.3**
	comp=Z,13nm,0.9s,baz=47,slow=9.3,SNR=16						
CD2	**Chengdu**	**45.41**	**46**	P	**P**	**00 07 08.4**	**-0.8**
CD2				pP	**pP**	**00 07 11.6**	**-1.3**
CD2				sP	**sP**	**00 07 12.9**	**-1.4**
CD2				PP	**PP**	**00 08 55.0**	**-0.5**
CD2				S	**S**	**00 13 51.0**	**+0.5**
CD2				sS	**sS**	**00 13 56.4**	**-0.1**
CD2	**Chengdu**	**45.41**	**46**	SS	SS	00 17 15.6	+1.5
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,60nm,5.4s						
CD2				LR	LR		
	comp=N,160nm,6.3s						
CD2				LR	LR		
	comp=Z,120nm,8.4s						
CD2	**Chengdu**	**45.41**	**46**	P	**P**	**00 07 08.4**	**-0.8**
CD2				pP	**pP**	**00 07 11.6**	**-1.3**
CD2				sP	**sP**	**00 07 12.9**	**-1.4**
CD2				PP	**PP**	**00 08 55.0**	**-0.5**
CD2				S	**S**	**00 13 51.0**	**+0.5**
CD2				sS	**sS**	**00 13 56.4**	**-0.1**
CD2				PMZ			
	comp=Z,20nm,0.5s						
CD2				PMZ			
	comp=Z,60nm,5.4s						
CD2				LN			
	comp=Z,160nm,6.3s						
CD2				LZ			
	comp=Z,120nm,8.4s						
MK01	**Makanchi Array**	**46.88**	**15**	*eP*	**P**	**00 07 20.2**	**-0.3**
MK32	**Makanchi Array**	**46.90**	**14**	*eP*	**P**	**00 07 20.4**	**-0.2**
MKAR	**Makanchi Array**	**46.90**	**14**	P	**P**	**00 07 20.4**	**-0.2**
	comp=Z,2.7nm,0.8s,baz=206,slow=8.1,SNR=27						
MKAR				PcP	**PcP**	**00 08 52.7**	**-0.6**
	comp=Z,1.2nm,1.1s,baz=189,slow=2.8,SNR=3.2						
MKAR				LR	LR	00 27 30.9	
	comp=Z,74nm,19.0s,baz=216,slow=37						
KBZ	**Khabaz**	**46.98**	**336**	P	**P**	**00 07 21.6**	**+0.4**
	comp=Z,10nm,0.9s,baz=160,slow=7.7,SNR=20						
KBZ				LR	LR	00 27 55.1	
	comp=Z,42nm,19.1s,baz=192,slow=37						
KIV	**Kislovodsk**	**47.25**	**336**	*eP*	**P**	**00 07 24.2**	**+0.7**
KIV				pmax	pmax		
	comp=Z,13nm,1.1s						
KIV				MLR	MLR		
	comp=Z,32nm,16.0s						
KIV	**Kislovodsk**	**47.25**	**336**	*eP*	**P**	**00 07 22.9**	**-0.6**
	comp=Z,15nm,1.1s						
ABKAR	**Akbulak array**	**47.76**	**354**	*eP*	**P**	**00 07 28.2**	**+0.9**
LBTB	**Lobatse**	**47.98**	**234**	*eP*	**P**	**00 07 30.2**	**+0.7**
LBTB				pmax	pmax		
	comp=Z,30nm,1.1s						
LBTB	**Lobatse**	**47.98**	**234**	*eP*	**P**	**00 07 30.2**	**+0.7**
	comp=Z,30nm,1.1s						
LZH	**Lanzhou**	**48.40**	**41**	*eP*	**P**	**00 07 35.4**	**+2.8**
LZH				pP	**pP**	**00 07 39.1**	**+2.8**
LZH				sP	**sP**	**00 07 41.8**	**+4.0**
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
LZH	**Lanzhou**	**48.40**	**41**	*eP*	**P**	**00 07 35.4**	**+2.8**
LZH				pP	**pP**	**00 07 39.1**	**+2.8**
LZH				sP	**sP**	**00 07 41.8**	**+4.0**
LZH				PMZ			
	comp=Z,13nm,1.0s						
BR101	**Keskin Array S**	**48.44**	**326**	*eP*	**P**	**00 07 32.7**	**-0.1**
BRTR	**Keskin Array B**	**48.44**	**326**	P	**P**	**00 07 32.7**	**-0.1**
	comp=Z,7.1nm,0.8s,baz=144,slow=11,SNR=50						
BRTR	**Keskin Array B**	**48.44**	**326**	*ePeP*	**P**	**00 07 33.7**	**+0.9**
BRTR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BR231	**Keskin MP Arra**	**49.01**	**325**	*eP*	**P**	**00 07 34.4**	**-2.8**
AKTO	**Aktyubinsk**	**49.15**	**353**	P	**P**	**00 07 38.0**	**+0.1**
	comp=Z,13nm,0.9s,baz=174,slow=7.3,SNR=33						
KURBB	**Kurchatov Arra**	**49.76**	**10**	P	**P**	**00 07 42.6**	**0.0**
	comp=Z,4.6nm,0.8s,baz=206,slow=7.8,SNR=24						
KURBB				PcP	**PcP**	**00 09 03.0**	**-0.4**
	comp=Z,0.4nm,0.2s,baz=190,slow=2.8,SNR=3.8						
KURK	**Kurchatov**	**49.86**	**10**	P	**P**	**00 07 43.1**	**-0.2**
	comp=Z,62nm,0.7s,SNR=7.4						
KURK	**Kurchatov**	**49.86**	**10**	P	**P**	**00 07 42.6**	**-0.7**
KURK				*e*		00 07 43.8	
KURK						00 09 03.0	
KURK	**Kurchatov**	**49.86**	**10**	P	**P**	**00 07 42.6**	**-0.7**
KURK				eP	**pP**	**00 07 43.8**	**-3.2**
KURK				PcP	**PcP**	**00 09 03.0**	**-0

KDZ	Kurdzhali	54.49	322	⇑*i*	P		P	00 08 18.7	+0.7
DESF	Desfina	54.57	318	*e*	P		P	00 08 17.0	-1.7
DSF	Desfina	54.57	318	*e*	P		P	00 08 14.5	-4.2
NEO	Neokhori	54.57	319	*e*	P		P	00 08 18.5	-0.2
PAIG	Paliouri	54.61	320	*e*	P		P	00 08 18.5	-0.4
XOR	Xorichti	54.63	319	*e*	P		P	00 08 19.0	0.0
KLV	Kalavryta, Ach	54.64	317	*e*	P		P	00 08 19.0	-0.2
OUR	Ouranopolis	54.64	320	*e*	P		P	00 08 20.0	+1.0
NVS	Novosibirsk	54.65	12	*e*	P		P	00 08 17.7	-1.1
NVS	comp=N,13nm,1.0s				pmax	pmax			
NVS	comp=Z,20nm,1.0s				pmax	pmax			
NVS	comp=E,5.0nm,1.0s				pmax	pmax			
AXAR	Agios Charalam	54.66	318	*e*	P		P	00 08 19.0	-0.3
AMT	Artemida-Makis	54.68	316	*e*	P		P	00 08 22.0	+2.5
KALE	Kalithea	54.82	317	*e*	P		P	00 08 20.0	-0.5
LAKA	Lakka	54.85	317	*e*	P		P	00 08 18.0	-2.7
DRO	Drossia	54.89	317	*e*	P		P	00 08 21.0	0.0
ARU	Arti	54.99	354		P	P		00 08 21.5	+0.2
	comp=E,50nm,1.1s,SNR=5.1								
ARU	Arti	54.99	354	*d i*	P		P	00 08 21.5	+0.2
ARU					S		S	00 16 04.1	+1.1
ARU	comp=Z,21nm,1.7s				pmax	pmax			
ARU	Arti	54.99	354	*e*	P		P	00 08 20.9	-0.4
	comp=Z,18nm,1.3s								
EFP	Efpalio	55.00	317	*e*	P		P	00 08 22.0	+0.3
PLG	Polygyros	55.00	320	*e*	P		P	00 08 27.5	+5.7
CFR	Carcaliu	55.10	327	⇑*i*	P		P	00 08 22.4	+0.1
CFR	Carcaliu	55.10	327	⇑*i*	P		P	00 08 22.4	+0.1
RLS	Riolos of Patr	55.11	317	*e*	P		P	00 08 23.5	+1.0
MAKR	Makrakomi, Fth	55.14	318	*e*	P		P	00 08 22.5	-0.3
SVE	Sverdlovsk	55.20	356	*e*	P		P	00 08 23.2	+0.4
SVE	comp=Z,18nm,1.2s				pmax	pmax			
NVR	Nevrokopi	55.28	321	*e*	P		P	00 08 24.5	+0.8
EVR	Evrytania	55.31	318	*e*	P		P	00 08 24.0	-0.1
EVR	Evrytania	55.31	318	*e*	P		P	00 08 31.0	+6.9
SRS	Serrai	55.32	321	*e*	P		P	00 08 24.0	0.0
HORT	Hortiatis	55.35	320	*e*	P		P	00 08 28.5	+4.2
LIT	Litokhoron	55.48	319	*e*	P		P	00 08 25.5	+0.3
MMB	Musomiste	55.50	322	⇓*i*	P		P	00 08 25.0	-0.3
MMB	Musomiste	55.50	322	⇓*i*	P		P	00 08 25.0	-0.3
THL	Klokotos Trika	55.51	319	*e*	P		P	00 08 24.0	-1.3
PDO	Prodromos	55.57	317	*e*	P		P	00 08 25.5	-0.4
VLS	Valsamata	55.77	316	*e*	P		P	00 08 28.0	+0.7
KNT	Kendrikon	55.78	321	*e*	P		P	00 08 27.0	-0.3
ISR	Istrita	55.93	326	⇑*i*	P		P	00 08 23.5	-4.9
ISR	Istrita	55.93	326	⇑*i*	P		P	00 08 23.5	-4.9
GRG	Griva	55.99	320	*e*	P		P	00 08 28.5	-0.3
LKD2	Lefkada island	56.02	317	*e*	P		P	00 08 26.0	-3.1
HHC	Hu-ho-hao-te	56.08	40	*e*	P		P	00 08 33.9	+4.3
HHC					PP	PP		00 10 40.7	+6.0
HHC					S		S	00 16 19.4	+0.9
HHC					sS		sS	00 16 36.1	+11
HHC					ScS		ScS	00 18 16.9	-2.3
HHC	Hu-ho-hao-te	56.08	40		SS		SS	00 20 06.3	+1.4
HHC	comp=Z,20nm,1.2s				pmax	pmax			
HHC	comp=Z,63nm,5.4s				pmax	pmax			
HHC	comp=N,110nm,14.9s				LR	LR			
HHC	comp=E,110nm,15.9s				LR	LR			
HHC	comp=Z,120nm,15.1s				LR	LR			
HHC	Hu-ho-hao-te	56.08	40	*e*	P		P	00 08 33.9	+4.3
HHC					PP		PP	00 10 40.7	+6.0
HHC					S		S	00 16 19.4	+0.9
HHC					ScS		ScS	00 18 16.9	-2.3
HHC					SS		SS	00 20 06.3	+1.4
HHC	comp=Z,20nm,1.2s				PMZ				
HHC	comp=Z,63nm,5.4s				PMZ				
HHC	comp=N,110nm,14.9s				LN				
HHC	comp=E,110nm,15.9s				LE				
HHC	comp=Z,120nm,15.1s				LZ				
VRI	Vrincioaia	56.30	327	⇑*i*	P		P	00 08 32.2	+1.2
VRI	Vrincioaia	56.30	327	⇑*i*	P		P	00 08 32.2	+1.2
JAN	Janina	56.33	318	*e*	P		P	00 08 32.5	+1.2
PLOR	Plostina	56.33	327	⇑*i*	P		P	00 08 32.6	+1.3
PLOR	Plostina	56.33	327	⇑*i*	P		P	00 08 32.6	+1.3
VTS	Vitosha	56.38	322	⇓*i*	P		P	00 08 32.4	+0.7
VTS	Vitosha	56.38	322	⇓*i*	P		P	00 08 32.4	+0.7
MLR	Muntele Rosu	56.49	326		P		P	00 08 33.2	+0.7
	comp=Z,1.3nm,1.0s,baz=141,slow=6.5,SNR=9.9								
MLR	Muntele Rosu	56.49	326	⇓*i*	P		P	00 08 34.1	+1.6
MLR	Muntele Rosu	56.49	326	⇓*i*	P		P	00 08 34.1	+1.6
FNA	Florina	56.56	320	*e*	P		P	00 08 32.0	-0.9
IGT	Igoumenitsa	56.61	318	*e*	P		P	00 08 34.0	+0.7
IAS	Iasi	56.71	329	⇑*i*	P		P	00 08 33.2	-0.6
IAS	Iasi	56.71	329	⇑*i*	P		P	00 08 33.2	-0.6
SGD	Sagiada	56.72	318	*e*	P		P	00 08 34.5	+0.5
VOIR		56.96	326	⇑*i*	P		P	00 08 34.1	-1.6
VOIR		56.96	326	⇑*i*	P		P	00 08 34.1	-1.6
KEK	Kerkira	57.06	318	*e*	P		P	00 08 37.0	+0.5
DOPR	Dopca	57.09	327	⇑*i*	P		P	00 08 36.6	0.0
SONA0	Songino Array	57.25	31	*e*	P		P	00 08 38.4	+0.5
SONM	Songino Array	57.25	31		P		P	00 08 38.4	+0.5
	comp=Z,4.2nm,1.0s,baz=222,slow=6.6,SNR=18								
SONM					LR		LR	00 33 20.5	
	comp=Z,186nm,21.1s,baz=254,slow=36								
H01W3	Cape Leeuwin H baz=300	57.25	134		T		T	01 10 19.4	
H01W2	Cape Leeuwin H baz=300	57.26	134		T		T	01 10 18.8	
H01W1	Cape Leeuwin H baz=300	57.27	134		T		T	01 10 18.2	
NJ2	Nanjing	57.45	53	*e*	P		P	00 08 39.6	+0.3
NJ2	comp=Z,30nm,0.7s				pmax	pmax			
NJ2	Nanjing	57.45	53	*e*	P		P	00 08 39.6	+0.3
NJ2	comp=Z,30nm,0.7s				PMZ				
LOT	Lotru	57.69	325	⇑*i*	P		P	00 08 37.8	-3.1
BURAR	Bucovina Array	58.21	328	⇑*i*	P		P	00 08 44.7	+0.2
BURAR	Bucovina Array	58.21	328	⇑*i*	P		P	00 08 44.7	+0.2
BUR04	Bucovina Ar. S	58.21	328	*e*	P		P	00 08 44.6	+0.1
GZR	Gura Zlata	58.22	325	⇓*i*	P		P	00 08 45.0	+0.4
GZR	Gura Zlata	58.22	325	⇓*i*	P		P	00 08 45.0	+0.4
AKASG	Malin Array Be	58.27	333		P		P	00 08 43.6	-1.1
	comp=Z,4.2nm,0.9s,baz=127,slow=5.9,SNR=14								
AKBB	Malin Array Si	58.27	333	*e*	P		P	00 08 43.6	-1.1
AKBB	Malin Array Si	58.27	333	*e*	P		P	00 08 43.6	-1.1
KIEV	Kiev	58.28	333	⇑*e*	P		P	00 08 44.3	-0.5
TLY	Talaya	58.58	26	*e*	P		P	00 08 49.0	+2.0
TLY	comp=Z,4.0nm,0.9s				pmax	pmax			
TLY	comp=Z,56nm,15.0s				MLR	MLR			
OBN	Obninsk	58.68	340	⇓*i*	P		P	00 08 47.5	0.0
OBN	comp=Z,28nm,1.7s				pmax	pmax			
OBN	comp=Z,31nm,16.0s				MLR	MLR			
MOS	Moscow	58.84	341	*e*	P		P	00 08 46.0	-2.6
MOS	comp=Z,45nm,1.0s				pmax	pmax			
BZS	Buzias	59.02	324	⇓*i*	P		P	00 08 49.7	-0.4
BZS	Buzias	59.02	324	⇓*i*	P		P	00 08 49.7	-0.4
DRGR		59.07	326	⇑*i*	P		P	00 08 50.7	+0.2
DRGR		59.07	326	⇑*i*	P		P	00 08 50.7	+0.2
DIVS	Divibare	59.16	322	⇓*i*	P		P	00 08 49.3	-1.9
CUC	Castrocucco	59.90	316	*e*	P		P	00 08 56.5	+0.1
LVV	L'vov	60.20	330	*e*	P		P	00 08 58.0	-0.1
KOLS	Kolonicke sedl	60.57	328	*e*	P		P	00 09 01.1	+0.4
KOLS	comp=Z,13nm,1.3s				pmax	pmax			
KWP	Kalwaria Pacla	60.76	329	*e*	P		P	00 09 01.6	-0.4
KWP	Kalwaria Pacla	60.76	329	*e*	P		P	00 09 01.6	-0.4
PKSM	Moragy	61.09	324	⇑*i*	P		P	00 09 03.4	-0.9
PKSM	Moragy	61.09	324	⇑*i*	P		P	00 09 03.4	-0.9
STHS	Stebnicka Huta	61.40	328	*e*	P		P	00 09 06.7	+0.3
STHS	comp=Z,2.0nm,0.9s				pmax	pmax			
NIE	Niedzica	61.90	327	*e*	P		P	00 09 09.2	-0.5
NIE	Niedzica	61.90	327	*e*	P		P	00 09 09.2	-0.5
PRGR	Permogore	61.93	349		P		P	00 09 07.7	-1.9
PRGR	comp=Z,10.0nm,1.2s				pmax	pmax			
NACGM	Naroch	62.26	335	*e*			P	00 09 10.0	-1.9
AQU	L'Aquila	62.57	318	⇑*i*	P		P	00 09 15.1	+0.7
AQU	L'Aquila	62.57	318	⇑*i*	P		P	00 09 15.1	+0.7
OJC	Ojcow	62.63	328	*e*	P		P	00 09 13.8	-0.8
OJC	Ojcow	62.63	328	*e*	P		P	00 09 13.8	-0.8
KEST	Kesra	63.02	310		P		P	00 09 17.4	-0.2
	comp=Z,1.9nm,1.0s,baz=185,slow=6.1,SNR=4.0								
OKC	Ostrava-Krasne	63.30	327	*e*	P		P	00 09 17.7	-1.4
OKC	Ostrava-Krasne	63.30	327	*e*	P		P	00 09 17.7	-1.4
CONA	Conrad Observa	63.60	324	⇑*i*	P		P	00 09 20.4	-0.8
	comp=Z,13nm,0.9s,SNR=8.7								
MORC	Moravsky Berou	63.60	327	⇓	P		P	00 09 17.1	-4.0
MORC	Moravsky Berou	63.60	327	⇓*i*	P		P	00 09 17.1	-4.0
VRAC	Vranov	63.88	326		P		P	00 09 22.6	-0.4
	comp=Z,6.5nm,0.7s,baz=118,slow=4.5,SNR=7.8								
KRLC	Kraliky	64.18	327	*e*	P		P	00 09 24.1	-0.8
KRLC	Kraliky	64.18	327	*e*	P		P	00 09 24.1	-0.8
TREC	Trest	64.50	325	*e*	P		P	00 09 26.1	-0.9
TREC	Trest	64.50	325	*e*	P		P	00 09 26.1	-0.9
MOA	Molln	64.50	324	⇑*i*	P		P	00 09 25.4	-1.6
	comp=Z,9.0nm,0.9s								
DPC	Dobruska-Polom	64.57	327	*e*	P		P	00 09 26.3	-1.2
DPC	Dobruska-Polom	64.57	327	*e*	P		P	00 09 26.3	-1.2
UPC	Upice	64.82	327	*e*	P		P	00 09 28.5	-0.6
UPC				*e*	pP		pP	00 09 31.2	-1.6
UPC	Upice	64.82	327	*e*	P		P	00 09 28.5	-0.6
UPC				*e*				00 09 31.2	
ABTA	Abfaltersbach	65.05	322	⇑*i*	P		P	00 09 29.7	-1.0
	comp=Z,7.2nm,0.9s,SNR=5.5								
GOPC	GO Pecny, Ondr	65.20	326	*e*	P		P	00 09 30.6	-1.0
GEC2	GERESS Array S	65.30	324	*e*	P		P	00 09 30.8	-1.5
GEC2	GERESS Array S	65.30	324	*e*	P		P	00 09 30.8	-1.5
GERES	GERESS Array B	65.30	324		P		P	00 09 30.8	-1.5
	comp=Z,0.9nm,0.9s,baz=116,slow=6.1,SNR=5.3								
PRU	Pruhonice	65.38	326	*e*	P		P	00 09 31.7	-0.9
PRU	Pruhonice	65.38	326	*e*	P		P	00 09 31.7	-0.9
TOA0	Torodi Ar. Sit	65.45	284	*e*	P		P	00 09 33.3	-0.5
TORD	Torodi Ar. Bea	65.45	284		P		P	00 09 33.3	-0.5
	comp=Z,2.3nm,1.0s,baz=108,slow=5.3,SNR=11								
TORD					PcP		PcP	00 10 05.7	0.0
	comp=Z,3.0nm,1.1s,baz=105,slow=3.8,SNR=6.9								
PRA	Prague	65.48	326	*e*	P		P	00 09 32.7	-0.6
PRA	Prague	65.48	326	*e*	P		P	00 09 32.7	-0.6
KHC	Kasperske Hory	65.51	325	*e*	P		P	00 09 31.6	-2.0
KHC				*e*	pP		pP	00 09 37.0	-0.4
KHC				*ex*			x	00 09 42.7	
KHC	Kasperske Hory	65.51	325	*e*	P		P	00 09 31.6	-2.0
KHC				*e*				00 09 37.0	
KHC	Kasperske Hory	65.51	325	*e*	P		P	00 09 32.1	-1.5
PVCC	Panska Ves	65.63	326	*e*	P		P	00 09 33.2	-1.1
PVCC	Panska Ves	65.63	326	*e*	P		P	00 09 33.2	-1.1
WTTA	Wattenberg	65.82	322	⇑*i*	P		P	00 09 34.4	-1.4
	comp=Z,7.5nm,0.9s								
BRG	Berggiesshubel	66.14	326	*e*	P		P	00 09 37.0	-0.6
	comp=Z,4.8nm,0.9s								
BRG	Berggiesshubel	66.14	326	*e*	P		P	00 09 37.0	-0.6
BRG	comp=Z,5.0nm,0.9s				pmax	pmax			
KS15	Wonju Array Si	66.23	50	*e*	P		P	00 09 37.7	-0.7
KSAR	Wonju Array Be	66.23	50		P		P	00 09 37.7	-0.7
KSAR	Wonju Array Be	66.23	50		P		P	00 09 37.7	-0.7
KSRS	Korea Array	66.26	50		P		P	00 09 37.7	-0.9
	comp=Z,0.8nm,0.4s,baz=262,slow=8.4,SNR=6.6								
KSRS					LR		LR	00 41 47.2	
	comp=Z,42nm,18.8s,baz=206,slow=39								
FUORN	Ofenpass-Fuorn	66.40	321	*e*	P		P	00 09 39.8	+0.2
	comp=Z,9.3nm,1.0s								
NKC	Novy Kostel	66.68	325	*e*	P		P	00 09 40.8	-0.3
NKC	Novy Kostel	66.68	325	*e*	P		P	00 09 40.8	-0.3
DAVOX	Davos/Dischmat	66.70	321		P		P	00 09 40.5	-1.0
	comp=Z,8.4nm,0.8s,baz=130,slow=7.2,SNR=16								
CLL	Collm	66.87	327	⇑*i*	P		P	00 09 41.2	-1.0
CLL	comp=Z,10.0nm,1.0s				pmax	pmax			
CLL	Collm	66.87	327	⇑*i*	P		P	00 09 41.2	-1.0
	comp=Z,10.0nm,1.0s								
CLL				*i*	sP		sP	00 09 46.7	-0.7
	comp=Z,6.0nm,1.2s								
DAVA	Damuels	66.91	322	⇑*i*	P		P	00 09 41.7	-1.1
	comp=Z,12nm,0.8s,SNR=8.3								
FIA0	FINESS Array S	67.09	340	*e*	P		P	00 09 42.7	-0.7
FIA0	FINESS Array S	67.09	340	*e*	P		P	00 09 42.6	-0.7
FINES	FINESS Array B	67.09	340		P		P	00 09 42.7	-0.7
	comp=Z,6.5nm,1.0s,baz=131,slow=5.9,SNR=16								
FINES	FINESS Array B	67.09	340	*ce*	P		P	00 09 43.2	-0.2
FINES	comp=Z,7.0nm,1.0s				pmax	pmax			
GRFO	Grafenberg	67.14	324	*e*	P		P	00 09 43.2	-0.8
GRFO	Grafenberg	67.14	324	*e*	P		P	00 09 43.2	-0.8
SENIN	Lac Senin/Sane	68.18	320	*e*	P		P	00 09 50.2	-0.7
	comp=Z,13nm,0.8s								
BFO	Black Forest	68.29	322		P		P	00 09 50.2	-1.1
	comp=Z,63nm,0.8s,SNR=5.3								
BFO	Black Forest	68.29	322	*ce*	P		P	00 09 51.1	-0.2
BFO	Black Forest	68.29	322	*e*	P		P	00 09 50.8	-0.5
	comp=Z,47nm,1.8s								
MAW	Mawson	69.20	182		P		P	00 09 56.1	-0.3
	comp=Z,6.9nm,1.1s,baz=329,slow=7.0,SNR=5.8								
WRA	Warramunga Arr	69.49	112		P		P	00 09 58.9	-0.4
	comp=Z,6.7nm,0.9s,baz=287,slow=5.8,SNR=29								
WRAB	Tennant Creek	69.50	112	*e*	P		P	00 09 59.7	+0.3
WRAB	comp=Z,50nm,2.5s				pmax	pmax			
WRAB	Tennant Creek	69.50	112	*e*	P		P	00 09 59.6	+0.2
	comp=Z,8.9nm,0.8s								
AS12	Alice Springs	69.77	116	*e*	P		P	00 10 00.6	-0.4
ASAR	Alice Springs	69.77	116		P		P	00 10 00.6	-0.4
	comp=Z,4.2nm,0.8s,baz=285,slow=6.1,SNR=35								
AS01	Alice Springs	69.81	116	*e*	P		P	00 09 59.3	-2.0
HFS	Hagfors	71.02	335		P		P	00 10 07.5	-0.4
	comp=Z,7.2nm,0.8s,baz=134,slow=6.4,SNR=11								
DBIC	Dimbokro	71.65	276		P		P	00 10 12.7	+0.1
	comp=Z,9.5nm,1.0s,baz=96,slow=9.2,SNR=4.2								
KLR	Kul'dur	72.53	38	*e*	P		P	00 10 13.0	-4.2
NB200	NORSAR Array S	72.54	335	*e*	P		P	00 10 16.1	-1.0
NOA	NORSAR Array B	72.54	335		P		P	00 10 16.1	-1.0
	comp=Z,2.3nm,1.0s,baz=112,slow=6.3,SNR=4.2								
SYO	Syowa Base	72.97	190	*je*	X		P	00 10 17.9	-1.4
ARA0	ARCESS Array S	73.07	346	*e*	P		P	00 10 19.7	-0.3
ARCES	ARCESS Array B	73.07	346		P		P	00 10 19.7	-0.3
	comp=Z,4.1nm,0.8s,baz=111,slow=6.6,SNR=8.7								
ARCES					LR		LR	00 42 33.5	
	comp=Z,26nm,21.4s,baz=98,slow=36								
MDT	Midelt	73.55	304		P		P	00 10 23.9	+0.2
	comp=Z,2.0nm,0.8s,baz=153,slow=6.8,SNR=4.5								
ES19	SONSECA Array	74.18	311	*e*	P		P	00 10 27.4	+0.2
ESDC	Sonseca Array	74.22	311		P		P	00 10 26.9	-0.5
	comp=Z,5.6nm,0.8s,baz=87,slow=5.1,SNR=25								
EKA	Eskdalemuir Ar	77.34	327		P		P	00 10 44.1	-0.8
	comp=Z,1.9nm,0.7s,baz=103,slow=6.3,SNR=6.2								
STKA	Stephens Creek	77.96	123		P		P	00 10 48.6	-0.3
	comp=Z,1.4nm,0.8s,baz=270,slow=6.1,SNR=3.4								
CTA	Charters Tower	80.62	111		LR		LR	00 42 59.0	
	comp=Z,123nm,21.5s,baz=262,slow=33								
NVL	N'lazarevskaya	80.66	196	*e*	P		P	00 11 03.6	+0.9
NVL	comp=Z,14nm,0.9s				pmax	pmax			
SNAA	Sanae	85.30	197		LR		LR	00 40 53.6	
	comp=Z,16nm,21.1s,baz=306,slow=30								
SEY	Seymchan	86.46	27		P		P	00 11 32.2	-0.5
	comp=Z,0.7nm,0.5s,baz=245,slow=7.6,SNR=4.3								
SEY	Seymchan	86.46	27	⇓*e*	P		P	00 11 34.0	+1.3
VNDA	Vanda	92.72	167		P		P	00 12 01.8	-0.1
	comp=Z,0.8nm,1.0s,baz=257,slow=5.3,SNR=3.8								
ILAR	Eielson Array	109.26	15		PP		PP	00 17 45.9	-2.6
	comp=Z,0.4nm,0.9s,baz=338,slow=6.1,SNR=4.1								
C23A	Lambert baz=130	130.23	353		PKPdf		PKPdf	00 17 59.4	-1.3
F25A	Bowman baz=132	131.83	351		PKPdf		PKPdf	00 18 03.2	-0.7
G05D	Wamic, OR baz=133	132.72	8		PKPdf		PKPdf	00 18 04.6	-0.9
KMSC	Kings Mountain baz=133	132.80	324		PKPdf		PKPdf	00 18 05.1	-0.8
I23A	Meade Ranch, G baz=134	134.04	352		PKPdf		PKPdf	00 18 06.2	-2.0
NVAR	Mina Array Bea	139.80	6		PKhKP		PKPpre	00 18 14.0	
	comp=Z,0.5nm,0.8s,baz=108,slow=2.9,SNR=3.4								
S22A	4UR Ranch, Cre baz=140	140.34	352		PKPdf		PKPdf	00 18 18.2	-2.0
V30A	Spur Ranch, Mi baz=141	140.97	344		PKPdf		PKPdf	00 18 19.3	-1.9
Z38A	Mt. Pleasant baz=141	141.26	335		PKPdf		PKPdf	00 18 19.8	-1.8
W31A	Holland Ranch, baz=141	141.30	343		PKPdf		PKPdf	00 18 19.8	-1.9
MPMC	Manual Prospec baz=142	142.23	6		PKPdf		PKPdf	00 18 21.9	-1.7
SHOC	Shoshone baz=142	142.50	4		PKPdf		PKPdf	00 18 22.5	-1.3
Z32A	Haskell baz=143	142.89	341		PKPdf		PKPdf	00 18 22.2	-2.4
WUAZ	Wupatki baz=143	142.96	358		PKPdf		PKPdf	00 18 22.9	-1.9
WUAZ	Wupatki	142.96	358	*e*	PKPdf		PKPdf	00 18 23.2	-1.6
ANMO	Albuquerque	143.03	351	*e*	PKIKP		PKPbc	00 18 22.9	+1.2
ANMO	Albuquerque	143.03	351	*e*	PKPdf		PKPbc	00 18 22.9	+1.2
Z31A	Sharp Cattle R baz=143	143.09	342		PKPdf		PKPbc	00 18 22.8	+1.1
MSTX	Muleshoe baz=143	143.22	346		PKPdf		PKPdf	00 18 24.0	-1.3
MSTX	Muleshoe	143.22	346	*e*	PKPdf		PKPdf	00 18 24.6	-0.7
RRX	Edison Barstow baz=143	143.45	5		PKPdf		PKPdf	00 18 24.3	-1.2
ABTX	Abilene, Hawle baz=143	143.57	341		PKPdf		PKPbc	00 18 24.2	+1.2
Z29A	Hungry Hill Ra baz=143	143.61	344		PKPdf		PKPbc	00 18 23.9	+0.7
GMRC	Granite Mounta baz=143	143.65	4		PKPdf		PKPbc	00 18 24.5	+1.1
131A	Roby baz=144	143.76	342		PKPdf		PKPbc	00 18 24.7	+1.1
Z28A	Tucker Farm, M baz=144	143.77	345		PKPdf		PKPbc	00 18 24.3	+0.6
233A	Rising Star baz=144	143.87	339		PKPdf		PKPbc	00 18 24.5	+0.6
130A	Snyder baz=144	144.01	342		PKPdf		PKPbc	00 18 25.1	+0.7
PDMCI	Parker Dam,Lak baz=144	144.19	1		PKPdf		PKPbc	00 18 25.7	+0.9
334A	Lometa baz=144	144.24	338		PKPdf		PKPbc	00 18 25.7	+0.6
232A	Coleman baz=144	144.24	340		PKPdf		PKPbc	00 18 25.9	+0.8
129A	Stewart Farms, baz=144	144.24	344		PKPdf		PKPbc	00 18 25.8	+0.6
IRM	Iron Mountain baz=144	144.30	3		PKPdf		PKPdf	00 18 26.2	-0.8
BELC	Belle Mtn. Jos baz=144	144.40	4		PKPdf		PKPdf	00 18 27.0	-0.3
231A	Bronte baz=144	144.42	341		PKPdf		PKPbc	00 18 26.2	+0.6
128A	Castleberry Fa baz=144	144.42	344		PKPdf		PKPbc	00 18 26.3	+0.6
HKT	Hockley	144.47	334	*e*	PKIKP		PKPdf	00 18 27.8	+0.5
HKT	Hockley	144.47	334	*e*	PKPdf		PKPdf	00 18 27.8	+0.5
435B	Jarrell baz=144	144.48	337		PKPdf		PKPbc	00 18 26.4	+0.6
333A	Richland Sprin baz=144	144.52	339		PKPdf		PKPbc	00 18 26.5	+0.5
MURC	Murrieta baz=144	144.70	6		PKPdf		PKPdf	00 18 27.3	-0.4
230A	Sterling City baz=144	144.72	342		PKPdf		PKPbc	00 18 26.8	+0.2
434A	Burnet baz=145	144.72	338		PKPdf		PKPbc	00 18 26.9	+0.3
Y12C	Blythe baz=144	144.73	2		PKPdf		PKPdf	00 18 27.2	-0.5
332A	Millersview baz=145	144.74	340		PKPdf		PKPbc	00 18 27.2	+0.5
PFO	Pinyon Flat Ob baz=145	144.76	5		PKiKP		PKPdf	00 18 28.7	+0.7
PFO	Pinyon Flat Ob comp=Z,7.1nm,0.9s	144.76	5	*e*	P		PKPdf	00 18 28.8	+0.8
BC3	Big Chuckawall baz=145	144.78	3		PKiKP		PKPbc	00 18 27.3	+0.4
229A	Bryant Ranch, baz=145	144.85	343		PKiKP		PKPdf	00 18 27.8	-0.3
228A	UT Block 9, Go baz=145	144.93	344		PKiKP		PKPdf	00 18 28.1	-0.2
331A	San Angelo baz=145	145.03	341		PKiKP		PKPdf	00 18 28.5	+0.1
433A	Art baz=145	145.08	339		PKiKP		PKPdf	00 18 28.2	-0.2
637A	Eagle Lake baz=145	145.13	334		PKiKP		PKPdf	00 18 29.7	+1.2
330A	Mertzon baz=145	145.18	342		PKiKP		PKPdf	00 18 28.9	+0.2
432A	Menard baz=145	145.22	340		PKiKP		PKPdf	00 18 28.8	0.0
OTAV	Otavalo	145.27	273	*e*	PKPab		PKPdf	00 18 30

CAIG	**El Cayaco**	**0.18**	**263**	*i* P	Pn	23 59 59.4	-3.6
CAIG				*i* S	Sn	00 00 04.3	-6.7
MEIG	**Mezcala**	**0.96**	**27**	*e*P	Pn	00 00 09.3	-1.9
MEIG				*e*S	Sn	00 00 21.7	-2.0
ARIG	**Puente Sto Nin**	**1.23**	**348**	*i* P	Pn	00 00 13.3	-1.5
ARIG				*e*S	Sn	00 00 27.7	-2.6
ZIIG	**Zihuatanejo**	**1.43**	**292**	*e*P	Pn	00 00 16.1	-1.4
ZIIG				*i* S	Sn	00 00 33.4	-1.7
TLIG	**Tlapa**	**1.52**	**71**	*e*P	Pn	00 00 17.8	-1.2
TLIG				*i* S	Sn	00 00 35.6	-2.1

*CSEM **06** 00:06:21.4, 36.07N×22.16E, h3km, MD3.1*
ATH 06 00:06:21.4, 36.07N×22.16E, h3km, MD3.1/9, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.74**	**73**	*e*PB	Pg	00 06 35.9	+0.2
KYTH	**Kithira**	**0.74**	**73**	*e*Pb	Pg	00 06 35.9	+0.2
PYL	**PYLOS**	**0.89**	**338**	*e*PG	Pg	00 06 37.7	-0.8
PYL				*e*SG	Sg	00 06 50.9	+0.8
PYL	**PYLOS**	**0.89**	**338**	*e*Pg	Pg	00 06 37.7	-0.8
PYL				*e*Sg	Sg	00 06 50.9	+0.8
VLI	**Veliai**	**0.90**	**44**	*e*PG	Pg	00 06 38.5	-0.2
VLI				*e*SG	Sg	00 06 50.9	+0.5
VLI	**Veliai**	**0.90**	**44**	*e*Pg	Pg	00 06 38.5	-0.2
VLI				*e*Sg	Sg	00 06 50.9	+0.5
ANKY	**Antikythira Is**	**0.95**	**102**	*e*PG	Pg	00 06 39.9	+0.3
ANKY				*e*SG	Sg	00 06 51.8	-0.1
ANKY	**Antikythira Is**	**0.95**	**102**	*e*Pg	Pg	00 06 39.9	+0.3
ANKY				*e*Sg	Sg	00 06 51.8	-0.1
ITM	**Ithomi**	**1.12**	**350**	*e*PB	Pg	00 06 41.8	-1.2
ITM				*e*SB	Sb	00 06 58.6	0.0
ITM	**Ithomi**	**1.12**	**350**	*e*Pb	Pg	00 06 41.8	-1.2
ITM				*e*Sb	Sb	00 06 58.6	0.0
VLX	**Vlachokerasia**	**1.31**	**8**	*e*PB	Pg	00 06 45.0	-1.7
VLX	**Vlachokerasia**	**1.31**	**8**	*e*Pb	Pg	00 06 45.0	-1.7
AMT	**Artemida-Makis**	**1.50**	**346**	*e*PN	Pn	00 06 49.4	+0.1
AMT	**Artemida-Makis**	**1.50**	**346**	*e*Pn	Pn	00 06 49.4	+0.1
DID	**Didima**	**1.67**	**31**	*e*PG	Pn	00 06 52.3	+0.6
DID	**Didima**	**1.67**	**31**	*e*Pg	Pn	00 06 52.3	+0.6
GUR	**Goura**	**1.87**	**4**	*e*PB	Pb	00 06 56.2	-0.2
GUR	**Goura**	**1.87**	**4**	*e*Pb	Pb	00 06 56.2	-0.2
DRO	**Drossia**	**1.91**	**349**	*e*PN	Pb	00 06 57.0	0.0
DRO	**Drossia**	**1.91**	**349**	*e*Pn	Pb	00 06 57.0	0.0

*NNC **06** 00:06:39.9±1.6, 40.77N×72.84E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=18.4km s-min=9.2km az=59.0*
*KRNET **06** 00:06:39.2±0.1, 40.69N×72.71E, h23km, mb3.4*
ISC 06 00:06:38.6±2.3, 40.66N±0.04×72.70E±0.04, h3km±19km, n26, σ1.536/40, 16C-12D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.89**	**136**	⇓P	**Pb**	**00 06 56.9**	**+0.1**
	2.8nm,0.1s						
SFK				⇓S	**Sn**	**00 07 10.2**	**-1.4**
	32nm,0.2s						
SFK	**Sufi-Kurgan**	**0.89**	**136**	*e*P	**Pb**	**00 06 56.8**	**+0.1**
	baz=138						
SFK				*e*S	**Sn**	**00 07 10.2**	**-1.4**
	baz=138						
BTK	**Batken**	**1.56**	**248**	*e*P	**Pn**	**00 07 07.8**	**+0.5**
	baz=247						
BTK				*e*S	**Sg**	**00 07 29.7**	**+1.0**
	baz=247						
AML	**Almayashu**	**1.65**	**27**	P	**Pn**	**00 07 07.7**	**-1.1**
	SNR=43						
AML	**Almayashu**	**1.65**	**27**	⇑*i*P	**Pn**	**00 07 08.3**	**-0.5**
	baz=27						
AML				⇑*i*S	**Sb**	**00 07 31.6**	**+0.3**
	baz=27						
UCH	**Uchtor**	**2.08**	**40**	P	**Pb**	**00 07 15.7**	**-1.4**
	SNR=44						
UCH	**Uchtor**	**2.08**	**40**	⇑*i*P	**Pb**	**00 07 15.8**	**-1.4**
	baz=41						
UCH				⇑*i*S	**Sb**	**00 07 43.8**	**+0.2**
	baz=41						
EKS2	**Erkin-Say**	**2.16**	**22**	P	**Pn**	**00 07 17.0**	**+1.4**
	SNR=27						
EKS2	**Erkin-Say**	**2.16**	**22**	⇓*i*P	**Pn**	**00 07 16.9**	**+1.4**
	baz=22						
EKS2				⇓*i*S	**Sb**	**00 07 45.9**	**+0.3**
	baz=22						
EKS	**Erkin-Say**	**2.17**	**22**	⇓*i*P	**Pb**	**00 07 17.7**	**-0.8**
	baz=22						
EKS				⇓*e*S	**Sb**	**00 07 46.5**	**+0.7**
	baz=22						
KZA	**Kyzart**	**2.39**	**53**	P	**Pb**	**00 07 21.1**	**-1.3**
	SNR=10.0						
KZA	**Kyzart**	**2.39**	**53**	⇑*i*P	**Pb**	**00 07 20.9**	**-1.5**
	baz=53						
KZA				⇑*i*S	**Sb**	**00 07 51.4**	**-1.0**
	baz=53						
AAK	**Ala-Archa**	**2.39**	**34**	P	**Pb**	**00 07 20.5**	**-1.8**
	SNR=22						
AAK	**Ala-Archa**	**2.39**	**34**	⇓Pn	**Pb**	**00 07 20.5**	**-1.8**
	23nm,0.3s						
AAK				⇑Lg	Lg	00 07 52.3	
	27nm,0.3s						
AAK	**Ala-Archa**	**2.39**	**34**	⇓*i*P	**Pb**	**00 07 20.5**	**-1.8**
	baz=34						
AAK				⇓*i*S	**Sb**	**00 07 51.9**	**-0.3**
	baz=34						
FRU	**Bishkek**	**2.60**	**33**	*e*P	**Pb**	**00 07 25.0**	**-0.9**
	baz=33						
FRU				*e*S	**Sb**	**00 07 58.0**	**-0.3**
	baz=33						
KBK	**Karagaybulak**	**2.61**	**39**	P	**Pb**	**00 07 24.6**	**-1.6**
	SNR=9.9						
KBK	**Karagaybulak**	**2.61**	**39**	⇑*i*P	**Pb**	**00 07 24.5**	**-1.6**
	baz=40						
KBK				⇑*i*S	**Sb**	**00 07 58.6**	**-0.1**
	baz=40						
CHMS	**Chumysh**	**2.80**	**33**	P	**Pn**	**00 07 26.0**	**+1.8**
	SNR=5.4						
CHMS	**Chumysh**	**2.80**	**33**	⇑*i*P	**Pn**	**00 07 25.9**	**+1.7**
	baz=33						
CHMS				⇑*i*S	**Sn**	**00 08 00.7**	**+2.2**
	baz=33						
USP	**Ospenovka**	**2.93**	**27**	P	**Pn**	**00 07 27.4**	**+1.3**
	SNR=15						
KK31	**Karatay Array**	**2.94**	**327**	⇓Pn	**Pn**	**00 07 26.9**	**+0.7**
	1.8nm,0.2s,baz=124,slow=12,SNR=47						
KK31				⇑Lg	Lg	00 08 08.9	
	2.9nm,0.3s,baz=124,slow=24,SNR=4.1						
TKM2	**Tokmak 2**	**3.13**	**43**	P	**Pb**	**00 07 35.1**	**+0.1**
	SNR=6.5						
TKM2	**Tokmak 2**	**3.13**	**43**	⇓Pn	**Pn**	**00 07 31.1**	**+2.1**
	5.3nm,0.5s						
TKM2				⇑Lg	Lg	00 08 14.6	
	20nm,0.8s						
TKM2	**Tokmak 2**	**3.13**	**43**	⇑*i*P	**Pn**	**00 07 31.3**	**+2.3**
	baz=43						
TKM2				⇑*i*S	**Sb**	**00 08 11.7**	**-1.9**
	baz=43						
DZET	**Dzherino**	**3.51**	**239**	⇓Pn	**Pb**	**00 07 39.8**	**-1.6**
	3.6nm,0.4s						
DZET				⇑Sn	**Sb**	**00 08 24.8**	**+0.2**
	7.5nm,0.4s						

*CSEM **06** 00:07:27.6±0.1, 39.23N×29.74W, h2km, mb4.7/16, Error ellipse: s-maj=7.7km s-min=3.8km az=31.0*
*IDC **06** 00:07:27.9±0.6, 39.39N×29.92W, h0km, mb4.0/23, mb1 4.2/23, mb1mx4.0/39, mbtmp4.1/23, MS3.4/19, Ms1 3.4/19, ms1mx3.2/50, Error ellipse: s-maj=21.5km s-min=13.5km az=155.0*
*PDA **06** 00:07:29.0±0.7, 39.54N×29.81W, h10km, MD4.4, ML3.8, Error ellipse: s-maj=4.7km s-min=1.4km az=24.0*
*NEIC **06** 00:07:29.1±0.2, 39.23N×29.75W, h10km, mb4.7/17, Error ellipse: s-maj=6.7km s-min=4.3km az=204.0*
*MOS **06** 00:07:31.2±0.9, 39.37N×29.84W, h33km, mb4.6/16, Error ellipse: s-maj=20.7km s-min=7.4km az=48.3*
ISC 06 00:07:30.6±0.7, 39.28N±0.05×29.58W±0.05, h17km±3km, n209, σ1.529/226, mb4.4/46, MS3.4/20, 5C-1D, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.94**	**133**	*e*P	**Pb**	**00 07 47.3**	**-1.1**
PCED				*e*S	**Sg**	**00 08 00.9**	**-0.2**
PCED				A	A	00 08 03.5	
	367nm,0.3s						
PCED	**Cedros**	**0.94**	**133**	*e*P	**Pb**	**00 07 47.6**	**-0.8**
PCED				*e*S	**Sg**	**00 08 00.9**	**-0.2**
PCED	**Cedros**	**0.94**	**133**	*e*P	**Pb**	**00 07 47.6**	**-0.8**
PCED				*e*S	**Sg**	**00 08 01.4**	**+0.3**
CALA	**Caldeira**	**0.97**	**135**	*e*P	**Pb**	**00 07 48.6**	**-0.4**
CALA				*e*S	**Sn**	**00 08 03.1**	**+0.2**
CALA	**Caldeira**	**0.97**	**135**	*e*P	**Pb**	**00 07 48.6**	**-0.4**
CALA				*e*S	**Sn**	**00 08 03.1**	**+0.2**
CALA	**Caldeira**	**0.97**	**135**	*e*P	**Pb**	**00 07 48.9**	**-0.1**
CALA				*e*S	**Sn**	**00 08 03.1**	**+0.2**
HOR	**Horta**	**1.05**	**135**	*e*P	**Pb**	**00 07 49.8**	**-0.5**
HOR				*e*S	**Sg**	**00 08 04.7**	**+0.1**
HOR	**Horta**	**1.05**	**135**	*e*P	**Pb**	**00 07 49.8**	**-0.5**
HOR				*e*S	**Sg**	**00 08 04.7**	**+0.1**
HOR	**Horta**	**1.05**	**135**	*e*P	**Pb**	**00 07 50.3**	**+0.1**
HOR				*e*S	**Sn**	**00 08 05.7**	**+1.0**
PCAN	**Candelaria**	**1.18**	**133**	*e*P	**Pn**	**00 07 50.9**	**-1.3**
PCAN				*e*S	**Sn**	**00 08 08.1**	**+0.2**
PCAN				A	A	00 08 11.7	
	650nm,0.4s						
PCAN	**Candelaria**	**1.18**	**133**	*e*P	**Pn**	**00 07 50.9**	**-1.3**
PCAN				*e*S	**Sn**	**00 08 08.1**	**+0.2**
PCAN	**Candelaria**	**1.18**	**133**	*e*P	**Pn**	**00 07 50.9**	**-1.3**
ROSA	**Rosais**	**1.18**	**118**	*e*P	**Pn**	**00 07 50.9**	**-1.4**
ROSA				*e*S	**Sb**	**00 08 06.8**	**-0.6**
ROSA				A	A	00 08 12.7	
	396nm,0.5s						
ROSA	**Rosais**	**1.18**	**118**	*e*P	**Pn**	**00 07 50.9**	**-1.4**
ROSA				*e*S	**Sb**	**00 08 06.8**	**-0.6**
ROSA	**Rosais**	**1.18**	**118**	*e*P	**Pn**	**00 07 50.6**	**-1.6**
ROSA				*e*S	**Sb**	**00 08 06.6**	**-0.8**
PGRA	**Graciosa**	**1.26**	**101**	*e*P	**Pn**	**00 07 51.3**	**-2.1**
PGRA				*e*S	**Sb**	**00 08 07.9**	**-2.0**
PGRA				A	A	00 08 08.3	
	218nm,0.4s						
PGRA	**Graciosa**	**1.26**	**101**	*e*P	**Pn**	**00 07 51.3**	**-2.1**
PGRA				*e*S	**Sb**	**00 08 07.9**	**-2.0**
PGRA	**Graciosa**	**1.26**	**101**	*e*P	**Pn**	**00 07 51.1**	**-2.3**
PGRA				*e*S	**Sb**	**00 08 07.2**	**-2.7**
H07N1	**FLORES T-PHASE**	**1.27**	**290**	*e*P	Pn	00 07 44.8	-8.7
H07N1				*e*S	Sb	00 07 56.5	-14
H07N1	**FLORES T-PHASE**	**1.27**	**290**	T	T	00 08 51.7	
	SNR=5008						
H07S1	**FLORES T-PHASE**	**1.27**	**275**	*e*P	Pn	00 07 45.8	-7.8
H07S1				*e*S	Sb	00 07 58.1	-12
H07S1	**FLORES T-PHASE**	**1.27**	**275**	T	T	00 08 52.2	
PPNO	**Prainha do Nor**	**1.30**	**128**	*e*P	**Pn**	**00 07 53.0**	**-1.0**
PPNO				*e*S	**Sn**	**00 08 10.8**	**-0.2**
PPNO				A	A	00 08 15.3	
	315nm,0.2s						
PPNO	**Prainha do Nor**	**1.30**	**128**	*e*P	**Pn**	**00 07 53.0**	**-1.0**
PPNO				*e*S	**Sn**	**00 08 10.8**	**-0.2**
PMAN	**Manadas**	**1.32**	**119**	*e*P	**Pn**	**00 07 53.0**	**-1.3**
PMAN				*e*S	**Sn**	**00 08 10.7**	**-0.8**
PMAN				A	A	00 08 13.6	
	257nm,0.4s						
PMAN	**Manadas**	**1.32**	**119**	*e*P	**Pn**	**00 07 53.2**	**-1.1**
PMAN				*e*S	**Sn**	**00 08 10.7**	**-0.8**
PMAN	**Manadas**	**1.32**	**119**	*e*P	**Pn**	**00 07 53.2**	**-1.1**
PMAN				*e*S	**Sn**	**00 08 10.4**	**-1.1**
ADH	**Angra Heroismo**	**1.93**	**108**	*e*P	**Pn**	**00 08 01.0**	**-1.5**
ADH				*e*S	**Sn**	**00 08 24.8**	**-1.5**
ADH				A	A	00 08 27.2	
	40nm,0.3s						
ADH	**Angra Heroismo**	**1.93**	**108**	*e*P	**Pn**	**00 08 01.0**	**-1.5**
ADH				*e*S	**Sn**	**00 08 24.8**	**-1.5**
PSET	**Sete Cidades**	**3.35**	**114**	*e*P	**Pn**	**00 08 20.9**	**-1.3**
PSET	**Sete Cidades**	**3.35**	**114**	*e*P	**Pn**	**00 08 20.9**	**-1.3**
PDA	**Ponta Delgada**	**3.43**	**115**	*e*P	**Pn**	**00 08 22.1**	**-1.1**
PDA				*e*S	**Sn**	**00 09 01.6**	**-1.8**
PDA				A	A	00 09 05.2	
	35nm,0.3s						
PDA				A	A	00 09 06.1	
	52nm,0.4s						
PDA	**Ponta Delgada**	**3.43**	**115**	*e*P	**Pn**	**00 08 22.1**	**-1.1**
PDA				*e*S	**Sn**	**00 09 01.6**	**-1.8**
PSMA	**Santa Maria**	**4.18**	**122**	*e*P	**Pn**	**00 08 32.7**	**-0.8**
PSMA				*e*S	**Sn**	**00 09 20.3**	**-1.6**
PSMA				A	A	00 09 21.9	
	15nm,0.1s						
PSMN	**Pico do Norte,**	**4.22**	**121**	*e*P	**Pn**	**00 08 33.2**	**-0.9**
PSMN				*e*S	**Sn**	**00 09 21.2**	**-1.7**
PSMN				A	A	00 09 22.8	
	15nm,0.3s						
PSMN	**Pico do Norte,**	**4.22**	**121**	*e*P	**Pn**	**00 08 33.2**	**-0.9**
PSMN				*e*S	**Sn**	**00 09 21.2**	**-1.7**
ESDC	**Sonseca Array**	**19.76**	**81**	P	**Pn**	**00 12 03.8**	**+2.5**
	3.7nm,1.0s,baz=282,slow=9.4,SNR=9.1						
ESDC				LR	LR	00 18 59.6	
	comp=Z,109nm,18.1s,baz=275,slow=35						
ES19	**SONSECA Array**	**19.81**	**81**	*e*P	**Pn**	**00 12 02.4**	**+0.6**
ES19	**SONSECA Array**	**19.81**	**81**	*e*P	**Pn**	**00 12 02.4**	**+0.6**
MDT	**Midelt**	**21.15**	**100**	LR	LR	00 19 21.9	
	comp=Z,70nm,18.5s,baz=284,slow=33						
DRLN	**Deer Lake**	**22.23**	**306**	*e*P	**P**	**00 12 23.4**	**-2.9**
	437nm,2.7s						
DRLN	**Deer Lake**	**22.23**	**306**	*e*P	**P**	**00 12 23.4**	**-2.9**
	437nm,2.7s						
EKA	**Eskdalemuir Ar**	**23.85**	**39**	P	**P**	**00 12 42.3**	**-0.3**
	3.1nm,1.0s,baz=249,slow=5.1,SNR=3.7						
BORG	**Borgarnes**	**25.97**	**8**	LR	LR	00 20 10.8	
	comp=Z,76nm,21.4s,baz=205,slow=30						
BFO	**Black Forest**	**28.57**	**59**	*i* P	**P**	**00 13 28.3**	**+2.8**
BFO	**Black Forest**	**28.57**	**59**	*i* P	**P**	**00 13 28.3**	**+2.8**
SCHQ	**Schefferville**	**29.35**	**314**	LR	LR	00 24 02.6	
	comp=Z,84nm,20.4s,baz=78,slow=34						
DAVOX	**Davos/Dischmat**	**29.55**	**62**	LR	LR	00 24 03.2	
	comp=Z,25nm,18.2s,baz=267,slow=34						
KEST	**Kesra**	**30.92**	**84**	LR	LR	00 24 25.3	
	comp=Z,33nm,21.3s,baz=299,slow=33						
NKC	**Novy Kostel**	**31.39**	**56**	*e*P	**P**	**00 13 50.5**	**0.0**
NKC				*e*P	**pP**	**00 13 55.1**	**-0.6**
NKC				*ex*	x	00 13 58.2	
NKC	**Novy Kostel**	**31.39**	**56**	*e*P	**P**	**00 13 50.5**	**0.0**
NKC				*e*		00 13 58.2	
NKC	**Novy Kostel**	**31.39**	**56**	*e*P	**P**	**00 13 50.5**	**0.0**
CLL	**Collm**	**31.83**	**54**	*i* P	**P**	**00 13 55.3**	**+1.0**
CLL				pmax	pmax		
	comp=Z,10.0nm,1.7s						
CLL	**Collm**	**31.83**	**54**	*i* P	**P**	**00 13 55.3**	**+1.0**
	comp=Z,10.0nm,1.7s						
CLL	**Collm**	**31.83**	**54**	*i* P	**P**	**00 13 55.3**	**+1.0**
KHC	**Kasperske Hory**	**32.08**	**58**	*e*P	**P**	**00 13 57.5**	**+1.0**
KHC				*e*pP	**pP**	**00 14 00.8**	**-0.9**
KHC				*e*sP	**sP**	**00 14 04.1**	**+0.3**
KHC	**Kasperske Hory**	**32.08**	**58**	*e*P	**P**	**00 13 57.5**	**+1.0**
KHC				*e*		00 14 04.1	
KHC	**Kasperske Hory**	**32.08**	**58**	*e*P	**P**	**00 13 57.5**	**+1.0**
GEC2	**GERESS Array S**	**32.15**	**58**	*e*P	**P**	**00 13 58.7**	**+1.5**
GEC2	**GERESS Array S**	**32.15**	**58**	*e*P	**P**	**00 13 58.7**	**+1.5**
GEC2	**GERESS Array S**	**32.15**	**58**	*e*P	**P**	**00 13 58.7**	**+1.5**
GERES	**GERESS Array B**	**32.15**	**58**	P	**P**	**00 13 58.7**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=270,slow=6.0,SNR=5.2						
GERES				LR	LR	00 25 19.2	
	comp=Z,36nm,20.1s,baz=254,slow=33						
BRG	**Berggiesshubel**	**32.39**	**55**	*e*(P)	**P**	**00 14 00.2**	**+1.0**
	comp=Z,4.3nm,1.3s						
BRG	**Berggiesshubel**	**32.39**	**55**	*e*P	**P**	**00 14 00.2**	**+1.0**
BRG				pmax	pmax		
	comp=Z,4.0nm,1.3s						
PRA	**Prague**	**32.66**	**56**	*e*P	**P**	**00 14 03.1**	**+1.6**
PRA	**Prague**	**32.66**	**56**	*e*P	**P**	**00 14 03.1**	**+1.6**
PRA	**Prague**	**32.66**	**56**	P	**P**	**00 14 03.1**	**+1.6**
PRU	**Pruhonice**	**32.73**	**56**	*e*P	**P**	**00 14 03.2**	**+1.1**
PRU				*ex*	x	00 14 09.9	
PRU	**Pruhonice**	**32.73**	**56**	*e*P	**P**	**00 14 03.2**	**+1.1**
PRU				*e*		00 14 09.9	
PRU	**Pruhonice**	**32.73**	**56**	P	**P**	**00 14 03.2**	**+1.1**
GOPC	**GO Pecny, Ondr**	**32.88**	**56**	*e*P	**P**	**00 14 05.0**	**+1.5**
GOPC				*e*pP	**pP**	**00 14 09.7**	**+0.9**
GOPC	**GO Pecny, Ondr**	**32.88**	**56**	P	**P**	**00 14 05.0**	**+1.5**
NB2	**NORSAR Subarra**	**33.20**	**36**	P	**P**	**00 14 07.1**	**+1.0**
	comp=Z,5.4nm,1.1s,baz=249,slow=8.6						
NB200	**NORSAR Array S**	**33.20**	**36**	*e*P	**P**	**00 14 05.7**	**-0.5**
NB200	**NORSAR Array S**	**33.20**	**36**	*e*P	**P**	**00 14 05.7**	**-0.5**
NOA	**NORSAR Array B**	**33.20**	**36**	P	**P**	**00 14 05.7**	**-0.5**
	comp=Z,2.7nm,0.9s,baz=250,slow=9.1,SNR=4.8						
NOA				LR	LR	00 25 20.6	
	comp=Z,31nm,20.9s,baz=245,slow=32						
TREC	**Trest**	**33.33**	**58**	*e*P	**P**	**00 14 08.0**	**+0.6**
TREC				*ex*	x	00 14 15.7	
TREC	**Trest**	**33.33**	**58**	*e*P	**P**	**00 14 08.0**	**+0.6**
TREC				*e*		00 14 15.7	
TREC	**Trest**	**33.33**	**58**	P	**P**	**00 14 08.0**	**+0.6**
FRB	**Frobisher Bay**	**33.58**	**330**	LR	LR	00 25 34.0	
	comp=Z,69nm,18.4s,baz=214,slow=33						
JMIC	**Jan Mayen**	**33.59**	**12**	LR	LR	00 24 21.7	
	comp=Z,51nm,18.1s,baz=228,slow=30						
UPC	**Upice**	**33.69**	**55**	*e*P	**P**	**00 14 11.4**	**+0.9**
UPC				*e*pP	**pP**	**00 14 15.2**	**-0.5**
UPC				*e*sP	**sP**	**00 14 18.7**	**+0.8**
UPC	**Upice**	**33.69**	**55**	*e*P	**P**	**00 14 11.4**	**+0.9**
UPC				*e*		00 14 18.7	
UPC	**Upice**	**33.69**	**55**	P	**P**	**00 14 11.4**	**+0.9**
DPC	**Dobruska-Polom**	**33.88**	**56**	*e*P	**P**	**00 14 11.9**	**-0.4**
DPC				*e*pP	**pP**	**00 14 16.8**	**-0.7**
DPC				AMS	AMS	00 26 40.0	
	comp=Z,100nm,14.8s						
DPC	**Dobruska-Polom**	**33.88**	**56**	*e*P	**P**	**00 14 11.9**	**-0.4**
DPC				MLR	MLR		
	comp=Z,100nm,14.8s						
DPC	**Dobruska-Polom**	**33.88**	**56**	P	**P**	**00 14 11.9**	**-0.4**
HFS	**Hagfors**	**34.03**	**38**	P	**P**	**00 14 15.4**	**+2.0**
	comp=Z,2.0nm,0.8s,baz=275,slow=15,SNR=3.8						
VRAC	**Vranov**	**34.05**	**57**	LR	LR	00 26 18.5	
	comp=Z,27nm,20.0s,baz=206,slow=33						
OJC	**Ojcow**	**36.11**	**56**	*e*P	**P**	**00 14 33.5**	**+2.1**
OJC				pmax	pmax		
	comp=Z,15nm,1.4s						
OJC	**Ojcow**	**36.11**	**56**	*e*P	**P**	**00 14 33.5**	**+2.1**
	comp=Z,15nm,1.4s						
OJC	**Ojcow**	**36.11**	**56**	*e*P	**P**	**00 14 33.5**	**+2.1**
	comp=Z,15nm,1.4s						
KOLS	**Kolonicke sedl**	**37.80**	**58**	*e*P	**P**	**00 14 47.1**	**+1.3**
KOLS				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KOLS	**Kolonicke sedl**	**37.80**	**58**	*e*P	**P**	**00 14 47.1**	**+1.3**
TOA0	**Torodi Ar. Sit**	**37.93**	**125**	*e*P	**P**	**00 14 48.4**	**+1.2**
TOA0	**Torodi Ar. Sit**	**37.93**	**125**	*e*P	**P**	**00 14 48.4**	**+1.2**
TORD	**Torodi Ar. Bea**	**37.93**	**125**	P	**P**	**00 14 48.4**	**+1.2**
	comp=Z,2.7nm,1.2s,baz=309,slow=9.4,SNR=7.3						
TORD				LR	LR	00 29 49.8	
	comp=Z,79nm,18.3s,baz=335,slow=35						
DBIC	**Dimbokro**	**39.37**	**139**	LR	LR	00 29 38.4	
	comp=Z,86nm,20.5s,baz=338,slow=34						
BUR04	**Bucovina Ar. S**	**39.91**	**59**	*e*P	**P**	**00 15 05.5**	**+1.9**
BUR04	**Bucovina Ar. S**	**39.91**	**59**	*e*P	**P**	**00 15 05.5**	**+1.9**
FIA0	**FINESS Array S**	**40.24**	**38**	*e*P	**P**	**00 15 06.2**	**+0.2**
FIA0	**FINESS Array S**	**40.24**	**38**	*e*P	**P**	**00 15 06.2**	**+0.2**
FIA0	**FINESS Array S**	**40.24**	**38**	*e*P	**P**	**00 15 06.2**	**+0.2**
FINES	**FINESS Array B**	**40.24**	**38**	P	**P**	**00 15 06.2**	**+0.2**
	comp=Z,5.1nm,0.8s,baz=261,slow=7.7,SNR=15						
KIEV	**Kiev**	**42.06**	**54**	⇑*e*P	**P**	**00 15 21.8**	**+0.7**
AKASG	**Malin Array Be**	**42.07**	**54**	P	**P**	**00 15 21.6**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=277,slow=8.0,SNR=9.4						
AKASG				LR	LR	00 32 31.2	
	comp=Z,56nm,18.6s,baz=275,slow=36						
AKBB	**Malin Array Si**	**42.07**	**54**	*e*P	**P**	**00 15 21.6**	**+0.4**
AKBB	**Malin Array Si**	**42.07**	**54**	*e*P	**P**	**00 15 21.6**	**+0.4**
AKBB	**Malin Array Si**	**42.07**	**54**	*e*P	**P**	**00 15 21.6**	**+0.4**
TKL	**Tuckaleechee C**	**42.64**	**283**	LR	LR	00 29 47.4	
	comp=Z,51nm,20.2s,baz=74,slow=32						
OBN	**Obninsk**	**45.86**	**47**	P	**P**	**00 15 52.9**	**+1.3**
	comp=Z,4.5nm,0.4s,baz=198,slow=12,SNR=3.5						
OBN	**Obninsk**	**45.86**	**47**	⇑*e*P	**P**	**00 15 52.7**	**+1.2**
OBN				pmax	pmax		
	comp=Z,24nm,1.7s						
RES	**Resolute Bay**	**46.06**	**340**	P	**P**	**00 15 51.1**	**-1.7**
	comp=Z,1.4nm,0.7s,baz=59,slow=3.2,SNR=4.3						
BR231	**Keskin MP Arra**	**47.18**	**68**	*e*P	P	00 16 07.7	+5.4
BR101	**Keskin Array S**	**47.85**	**68**	*e*P	**P**	**00 16 08.4**	**+0.9**
BR101	**Keskin Array S**	**47.85**	**68**	*e*P	**P**	**00 16 08.4**	**+0.9**
BRTR	**Keskin Array B**	**47.85**	**68**	P	**P**	**00 16 08.4**	**+0.9**
	comp=Z,1.0nm,1.0s,baz=289,slow=4.4,SNR=6.8						
BRTR	**Keskin Array B**	**47.85**	**68**	*ce*P	**P**	**00 16 09.1**	**+1.6**
BRTR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
PTGA	**Pitinga**	**48.59**	**222**	P	**P**	**00 16 13.1**	**-0.1**
	comp=Z,2.8nm,0.7s,baz=55,slow=8.7,SNR=5.5						
PTGA	**Pitinga**	**48.59**	**222**	*e*P	**P**	**00 16 13.4**	**+0.1**
PTGA	**Pitinga**	**48.59**	**222**	*e*P	**P**	**00

comp=Z,3.1nm,1.1s,baz=34,slow=5.5,SNR=7.2
LPAZ La Paz 65.97 221 PKIKP **P** **00 18 16.2 -0.5**
LPAZ pmax pmax
comp=Z,3.0nm,1.1s
LPAZ La Paz 65.97 221 *e*P **P** **00 18 16.8 +0.1**
LPAZ La Paz 65.97 221 *e*P **P** **00 18 16.8 +0.1**
LPAZ La Paz 65.97 221 *e*P **P** **00 18 16.8 +0.1**
NV01 Mina Array Sit 66.18 301 *e*P **P** **00 18 16.2 -1.4**
NV01 Mina Array Sit 66.18 301 *e*P **P** **00 18 16.2 -1.4**
NVAR Mina Array Bea 66.19 301 P **P** **00 18 17.2 -0.3**
comp=Z,0.6nm,0.8s,baz=64,slow=4.1,SNR=3.5
KURK Kurchatov 70.57 40 P **P** **00 18 45.0 +0.6**
KURK pmax pmax
comp=Z,2.0nm,0.9s
KURK Kurchatov 70.57 40 P **P** **00 18 45.0 +0.6**
comp=Z,2.0nm,0.9s
KURK Kurchatov 70.57 40 *e*P **P** **00 18 45.1 +0.6**
KURBB Kurchatov Arra 70.58 40 P **P** **00 18 45.0 +0.4**
comp=Z,2.4nm,0.9s,baz=312,slow=6.0,SNR=18
ZAA1 Zalesovo Array 71.39 35 *e*P **P** **00 18 49.8 +0.4**
ZAA1 Zalesovo Array 71.39 35 *e*P **P** **00 18 49.8 +0.4**
ZAA0 Zalesovo Array 71.39 35 *e*P **P** **00 18 49.3 -0.1**
ZAA0 Zalesovo Array 71.39 35 *e*P **P** **00 18 49.3 -0.1**
ZALV Zalesovo Beam 71.39 35 P **P** **00 18 49.8 +0.4**
comp=Z,2.2nm,0.9s,baz=299,slow=6.5,SNR=13
ZALV Zalesovo Beam 71.39 35 *i* P **P** **00 18 49.7 +0.3**
ZALV pmax pmax
comp=Z,2.0nm,0.9s
EKS2 Erkin-Say 72.93 49 *e*P **P** **00 19 01.5 +2.5**
EKS2 pmax pmax
comp=Z,5.0nm,1.0s
EKS2 Erkin-Say 72.93 49 *e*P **P** **00 19 01.5 +2.5**
comp=Z,5.0nm,1.0s
EKS2 Erkin-Say 72.93 49 *e*P **P** **00 19 01.5 +2.5**
comp=Z,4.9nm,1.0s
MK32 Makanchi Array 74.96 41 *e*P **P** **00 19 11.2 +0.5**
MK32 Makanchi Array 74.96 41 *e*P **P** **00 19 11.2 +0.5**
MKAR Makanchi Array 74.96 41 P **P** **00 19 11.2 +0.6**
comp=Z,3.6nm,0.8s,baz=314,slow=5.2,SNR=35
MKAR Makanchi Array 74.96 41 *e*P **P** **00 19 11.4 +0.7**
MKAR Makanchi Array 74.96 41 *e*P **P** **00 19 11.4 +0.7**
MKAR Makanchi Array 74.96 41 *e*P **P** **00 19 11.4 +0.7**
MK01 Makanchi Array 74.98 41 *e*P **P** **00 19 10.9 +0.1**
MK01 Makanchi Array 74.98 41 *e*P **P** **00 19 10.9 +0.1**
SEY Seymchan 78.12 359 P **P** **00 19 27.4 -0.9**
comp=Z,1.4nm,0.2s,baz=174,slow=0.7,SNR=6.5
SEY Seymchan 78.12 359 P *i* P **P** **00 19 28.3 +0.1**
TLY Talaya 80.65 27 *i* P **P** **00 19 43.3 +1.0**
TLY pmax pmax
comp=Z,5.0nm,1.7s
ZAK Zakamensk 81.58 28 *e*P P 00 19 44.1 -3.3
ZAK pmax pmax
comp=Z,3.0nm,0.8s
BOSA Boshof 84.68 134 LR LR 00 54 34.5
comp=Z,49nm,20.7s,baz=304,slow=33
SONA1 Songino Array 84.83 28 *e*P **P** **00 20 04.9 +0.7**
SONA1 Songino Array 84.83 28 *e*P **P** **00 20 04.9 +0.7**
SONA0 Songino Array 84.84 28 *e*P **P** **00 20 04.7 +0.4**
SONA0 Songino Array 84.84 28 *e*P **P** **00 20 04.7 +0.4**
SONM Songino Array 84.84 28 P **P** **00 20 04.7 +0.4**
comp=Z,1.8nm,0.8s,baz=335,slow=6.4,SNR=8.3
HHC Hu-ho-hao-te 92.73 28 *e*P **P** **00 20 43.0 +1.1**
HHC PP **PP** **00 24 25.8 +2.8**
HHC Hu-ho-hao-te 92.73 28 SKS **SKSac** **00 31 15.7 +0.6**
HHC Hu-ho-hao-te 92.73 28 S **S** **00 31 44.2 -2.1**
HHC Hu-ho-hao-te 92.73 28 SS SS 00 37 57.2 -0.2
HHC pmax pmax
comp=Z,18nm,1.2s
HHC pmax pmax
comp=Z,110nm,5.6s
HHC LR LR
comp=N,86nm,19.4s
HHC LR LR
comp=E,76nm,19.8s
HHC LR LR
comp=Z,44nm,17.7s
ASAR Alice Springs 159.06 47 PKP **PKPdf** **00 27 28.7 +0.7**
comp=Z,0.9nm,0.5s,baz=349,slow=8.3,SNR=15
ASAR PKPab **PKPab** **00 28 04.9 +0.3**
comp=Z,1.1nm,0.8s,baz=321,slow=4.2,SNR=7.3

IDC 06 00:28:12.9±48.0, 57.05S×145.02E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/28, mbtmp3.8/3, MS3.2/1, Ms1 3.1/1, ms1mx2.7/21, Error ellipse: s-maj=830.9km s-min=205.8km az=156.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**25.28**	**353**	P		P	00 33 40.6	-0.1
	2.0nm,0.7s,baz=171,slow=11,SNR=5.3							
ASAR	**Alice Springs**	**34.31**	**342**	P		P	00 35 00.6	-0.3
	0.5nm,0.5s,baz=167,slow=10,SNR=10							
MAW	**Mawson**	**36.67**	**219**	LR		LR	00 48 59.8	
	comp=Z,32nm,19.5s,baz=61,slow=34							
WRA	**Warramunga Arr**	**37.89**	**344**	P		P	00 35 31.7	+0.2
	1.2nm,0.8s,baz=171,slow=7.6,SNR=10							

*IDC **06** 00:38:47.9±0.6, 2.66S×141.28E, h0km, mb4.1/15, mb1 4.3/16, mb1mx4.3/30, mbtmp4.2/16, ML4.4/1, MS3.5/8, Ms1 3.6/8, ms1mx3.3/27, Error ellipse: s-maj=15.5km s-min=13.1km az=49.0*
*NEIC **06** 00:38:48.9±1.9, 2.67S×141.41E, h8km±11km, mb5.0/24, Error ellipse: s-maj=9.8km s-min=6.4km az=86.0*
*ISCJB **06** 00:38:50.8±0.3, 2.62S±0.04×141.36E±0.05, h29km, mb4.6/36, MS3.5/7, Error ellipse: s-maj=6.6km s-min=5.6km az=7.7*
*DJA **06** 00:38:52.4±3.2, 3.3S±16.2×14.2E±2.8, h53km±12km, M4.8/12, mb4.7/12, mB5.3/7, MLv4.9/1, Mw(mB)4.7/7*

ISC 06 00:38:52.5±0.5, 2.55S±0.06×141.38E±0.06, h29km, n106, σ1§58/83, mb4.7/36, MS3.6/7, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAY	**Jayapura**	**0.68**	**273**	Pn		**Pb**	**00 39 03.0**	**-2.9**
	112nm,0.3s,baz=109,slow=6.1,SNR=208							
JAY				Sn		**Sb**	**00 39 13.4**	**-1.6**
	295nm,0.3s,baz=245,slow=16,SNR=30							
BAKI	**Biak**	**5.44**	**284**	P		**Pb**	**00 40 25.7**	**-1.2**
	107nm,0.9s,2µm0.5nm							
RKPI	**Ransiki, Papua**	**7.28**	**278**	P		Pb	00 40 49.2	-8.9
	69nm,0.9s,54µm							
FAKI	**Fak Fak**	**9.13**	**267**	P		Pn	00 41 09.1	+6.6
	baz=9.0,SNR=4.0							
FAKI	**Fak Fak**	**9.13**	**267**	*e*Pn		**Pn**	**00 41 03.6**	**+1.1**
COEN	**Coen**	**11.47**	**171**	*e*Pn		**Pn**	**00 41 32.6**	**-1.9**
KDU	**Kakadu**	**13.39**	**221**	P		**Pn**	**00 42 01.4**	**+0.7**
	baz=13,SNR=4.8							
LBMI	**Labuha**	**14.01**	**278**	P		P	00 42 20.5	+3.7
	49nm,1.0s,855nm							
NLAI	**Namlea**	**14.28**	**267**	P		**P**	**00 42 22.9**	**+3.1**
	33nm,1.0s,3µm							
TNTI	**Ternate**	**14.40**	**283**	*e*Pn		**Pn**	**00 42 15.7**	**+1.2**
MTSU	**Mount Surprise**	**15.75**	**170**	P		**P**	**00 42 37.5**	**+1.3**
	baz=16,SNR=3.9							
GUMO	**Guam**	**16.41**	**12**	LR		LR	00 49 00.9	
	comp=Z,152nm,18.6s,baz=196,slow=37							
GUMO	**Guam**	**16.41**	**12**	*e*Pn		**Pn**	**00 42 37.9**	**-2.9**
	438nm,1.5s							
QIS	**Mount Isa**	**17.98**	**185**	P		**P**	**00 43 02.7**	**+1.9**
	baz=18,SNR=4.9							
KNRA	**Kununurra**	**18.02**	**223**	P		**P**	**00 43 03.4**	**+2.1**
	baz=18,SNR=5.5							
DAV	**Davao City (W)**	**18.44**	**301**	*e*P		**Pn**	**00 43 09.4**	**+3.2**
	259nm,0.3s							
SOEI	**Soe**	**18.45**	**246**	P		Pn	00 43 12.8	+6.4
	68nm,0.8s							
SOEI	**Soe**	**18.45**	**246**	P		Pn	00 43 12.9	+6.4
	baz=18,SNR=4.9							
SOEI	**Soe**	**18.45**	**246**	*e*P		**Pn**	**00 43 08.8**	**+2.4**
	68nm,0.9s							
WRAB	**Tennant Creek**	**18.59**	**201**	*e*P		**P**	**00 43 06.5**	**-1.1**
	56nm,1.4s							
WRA	**Warramunga Arr**	**18.60**	**201**	P		**P**	**00 43 05.6**	**-2.2**
	1.2nm,0.3s,baz=21,slow=12,SNR=48							
LUWI	**Luwuk**	**18.66**	**274**	*e*P		**P**	**00 43 06.8**	**-1.6**
	77nm,1.4s							
MRSI	**Marisa**	**19.67**	**279**	P		Pn	00 43 27.5	+6.5
	25nm,0.9s							
HNR	**Honiara**	**19.68**	**111**	*e*P		**P**	**00 43 18.7**	**-0.8**
	68nm,1.0s							
APSI	**Ampana**	**19.79**	**274**	P		Pn	00 43 27.9	+5.5
	90nm,1.2s,869nm							
MMRI	**Maumere**	**19.98**	**252**	*e*P		**P**	**00 43 22.4**	**-0.4**
	32nm,0.3s							
BSSI	**Bau Bau, Buton**	**21.13**	**260**	P		**P**	**00 43 39.4**	**+4.1**
	80nm,1.2s,1µm							
BKSI	**Bulukumba**	**21.39**	**262**	P		P	00 43 45.3	+7.3
	21nm,1.0s							
TTSI	**Tana Toraja**	**21.54**	**268**	P		P	00 43 47.8	+8.1
	36nm,1.6s							
PCI	**Palu**	**21.60**	**274**	P		P	00 43 53.4	+13
SPSI	**Sidrap Palu**	**21.62**	**266**	P		P	00 43 51.0	+10
KAPI	**Kappang**	**21.72**	**263**	P		**P**	**00 43 39.8**	**-1.8**
	2.9nm,0.7s,baz=288,slow=6.4,SNR=1.9							
AS01	**Alice Springs**	**22.19**	**198**	*e*P		**P**	**00 43 43.7**	**-2.9**
AS12	**Alice Springs**	**22.20**	**198**	*e*P		**P**	**00 43 44.4**	**-2.4**
ASAR	**Alice Springs**	**22.20**	**198**	P		**P**	**00 43 44.4**	**-2.4**
	5.3nm,0.8s,baz=32,slow=10.0,SNR=58							
ASAR					LR	LR	00 53 34.0	
	comp=Z,216nm,19.8s,baz=24,slow=40							
QLP	**Quilpie**	**24.05**	**174**	P		**P**	**00 44 05.3**	**0.0**
	baz=24,SNR=4.7							
MYLDM	**Lahad Datu**	**24.11**	**289**	*e*P		**P**	**00 44 02.3**	**-3.8**
	262nm,2.0s							
EIDS	**Eidsvold**	**24.53**	**158**	P		**P**	**00 44 11.9**	**+2.2**
	baz=24,SNR=4.4							
RMQ	**Roma**	**24.83**	**164**	P		**P**	**00 44 15.6**	**+3.1**
	baz=25,SNR=5.8							
WRKA	**Warrakurna**	**25.67**	**208**	P		**P**	**00 44 18.9**	**-1.3**
	baz=25,SNR=22							
MBWA	**Marble Bar**	**28.05**	**227**	*e*P		**P**	**00 44 40.9**	**-0.7**
	235nm,2.6s							
CMSA	**Cobar Meteorol**	**29.12**	**172**	P		**P**	**00 44 52.1**	**+1.2**
	baz=29,SNR=9.9							
STKA	**Stephens Creek**	**29.17**	**180**	P		**P**	**00 44 48.9**	**-2.5**
	1.2nm,0.6s,baz=359,slow=10,SNR=4.3							
BBOO	**Buckleboo**	**30.51**	**189**	*e*P		P	00 44 59.8	-3.5
	106nm,2.1s							
FORT	**Forrest**	**30.77**	**203**	P		**P**	**00 45 07.7**	**+2.0**
	baz=31,SNR=6.3							
FORT	**Forrest**	**30.77**	**203**	*e*P		**P**	**00 45 04.8**	**-0.9**
	22nm,0.8s							
MEEK	**Meekatharra**	**32.41**	**220**	P		**P**	**00 45 19.6**	**-0.6**
	baz=32,SNR=4.2							
H11S3	**WAKE ISLAND Hy**	**32.53**	**49**	T		T	01 19 37.6	
	baz=232,slow=76,SNR=1268							
H11S2	**WAKE ISLAND Hy**	**32.54**	**49**	T		T	01 19 43.0	
	baz=232,slow=76,SNR=1061							
H11S1	**WAKE ISLAND Hy**	**32.54**	**49**	T		T	01 19 39.7	
	baz=232,slow=76,SNR=974							
H11N1	**WAKE ISLAND Hy**	**33.42**	**47**	T		T	01 20 50.6	
	baz=229,slow=76,SNR=169							
H11N2	**WAKE ISLAND Hy**	**33.44**	**47**	T		T	01 20 50.3	
	baz=229,slow=76,SNR=194							
H11N3	**WAKE ISLAND Hy**	**33.44**	**47**	T		T	01 20 52.3	
	baz=229,slow=76,SNR=126							
MJAR	**Matsshiro Arr**	**39.01**	**356**	P		**P**	**00 46 15.8**	**-0.7**
	0.9nm,0.5s,baz=182,slow=8.9,SNR=3.7							
MJAR					LR	LR	01 01 24.2	
	comp=Z,25nm,19.6s,baz=170,slow=35							
MAJO	**Matsushiro**	**39.01**	**356**	*e*P		**P**	**00 46 15.8**	**-0.7**
	33nm,1.8s							
KS15	**Wonju Array Si**	**41.72**	**344**	*e*P		**P**	**00 46 40.0**	**+1.0**
KSAR	**Wonju Array Be**	**41.72**	**344**	P		**P**	**00 46 40.0**	**+1.0**
KSRS	**Korea Array**	**41.72**	**344**	P		**P**	**00 46 40.0**	**+1.1**
	1.0nm,0.5s,baz=162,slow=8.7,SNR=6.2							
KSRS					LR	LR	01 01 42.4	
	comp=Z,63nm,20.0s,baz=167,slow=33							
KS01	**Wonju Array Si**	**41.75**	**344**	*e*P		**P**	**00 46 39.9**	**+0.7**
PSI	**Prapat**	**42.77**	**277**	P		**P**	**00 46 47.3**	**-0.8**
	baz=43,SNR=5.9							
PSI	**Prapat**	**42.77**	**277**	*e*P		**P**	**00 46 49.8**	**+1.7**
	14nm,1.1s							
CM01	**Chiang Mai Arr**	**46.67**	**298**	*e*P		**P**	**00 47 16.4**	**-2.5**
CM31	**Chiang Mai Arr**	**46.69**	**298**	*e*P		**P**	**00 47 19.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**46.69**	**298**	P		**P**	**00 47 19.1**	**-0.1**
	0.5nm,0.3s,baz=111,slow=6.2,SNR=4.5							
CMAR					LR	LR	01 10 05.3	
	comp=Z,29nm,18.2s,baz=168,slow=40							
USRK	**Ussuriysk Ar.**	**47.30**	**351**	LR		LR	01 04 22.8	
	comp=Z,85nm,21.4s,baz=161,slow=32							
LSA	**Lhasa**	**57.71**	**308**	*e*P		**P**	**00 48 40.2**	**-1.3**
	12nm,1.4s							
SONA0	**Songino Array**	**58.75**	**333**	*e*P		**P**	**00 48 47.8**	**-0.2**
SONM	**Songino Array**	**58.75**	**333**	P		**P**	**00 48 47.8**	**-0.2**
	0.3nm,0.3s,baz=150,slow=6.0,SNR=2.6							
SONA1	**Songino Array**	**58.76**	**333**	*e*P		P	00 48 42.8	-5.2
SEY	**Seymchan**	**65.84**	**5**	P		**P**	**00 49 35.6**	**+0.6**
	1.2nm,0.2s,baz=356,slow=23,SNR=4.0							
SEY					LR	LR	01 16 28.2	
	comp=Z,36nm,19.6s,baz=176,slow=34							
MK01	**Makanchi Array**	**71.29**	**321**	*e*P		**P**	**00 50 10.6**	**+1.1**
MK32	**Makanchi Array**	**71.31**	**322**	*e*P		**P**	**00 50 10.8**	**+1.2**
MKAR	**Makanchi Array**	**71.31**	**322**	P		**P**	**00 50 10.8**	**+1.2**
	3.2nm,0.9s,baz=105,slow=7.6,SNR=26							
MKAR	**Makanchi Array**	**71.31**	**322**	*e*P		**P**	**00 50 11.1**	**+1.5**
ZAA0	**Zalesovo Array**	**73.16**	**329**	*e*P		**P**	**00 50 20.3**	**-0.1**
ZALV	**Zalesovo Beam**	**73.16**	**329**	P		**P**	**00 50 20.3**	**-0.1**
	2.0nm,0.5s,baz=114,slow=6.2,SNR=11							
ZAA1	**Zalesovo Array**	**73.16**	**329**	*e*P		**P**	**00 50 20.3**	**-0.1**
TKM2	**Tokmak 2**	**74.28**	**316**	*e*P		**P**	**00 50 28.8**	**+1.3**
	8.1nm,0.8s							
KURK	**Kurchatov**	**75.14**	**324**	*e*P		**P**	**00 50 32.4**	**+0.4**
	7.8nm,1.0s							
EKS2	**Erkin-Say**	**75.47**	**315**	*e*P		**P**	**00 50 36.2**	**+1.9**
	11nm,1.1s							
VNDA	**Vanda**	**75.71**	**175**	P		**P**	**00 50 33.6**	**-1.2**
	1.5nm,0.7s,baz=330,slow=8.0,SNR=11							
VNDA	**Vanda**	**75.71**	**175**	*e*P		**P**	**00 50 35.2**	**+0.3**
KKAR	**Karatay Array**	**77.90**	**315**	*e*P		**P**	**00 50 49.1**	**+1.2**
BRVK	**Borovoye**	**80.79**	**325**	*e*P		**P**	**00 51 04.5**	**+1.1**
	15nm,1.0s							
MLY	**Manley**	**83.13**	**23**	*e*P		**P**	**00 51 16.4**	**+0.9**
	12nm,1.3s							
MAW	**Mawson**	**83.28**	**202**	P		**P**	**00 51 16.1**	**0.0**
	5.7nm,1.0s,baz=42,slow=6.6,SNR=7.1							
MAW	**Mawson**	**83.28**	**202**	*e*P		P	00 51 19.8	+3.7
RND	**Reindeer**	**83.34**	**25**	*e*P		**P**	**00 51 16.6**	**0.0**
	26nm,1.4s							
BWN	**Browne**	**83.34**	**24**	*e*P		**P**	**00 51 16.4**	**-0.1**
	321nm,1.0s							
WRH	**Wood River Hil**	**84.00**	**24**	*e*P		**P**	**00 51 19.8**	**-0.2**
	20nm,1.4s							
COLD	**Coldfoot**	**84.13**	**21**	*e*P		**P**	**00 51 22.0**	**+1.5**
	14nm,1.6s							
CCB	**Clear Creek Bu**	**84.18**	**24**	*e*P		**P**	**00 51 20.5**	**-0.3**
	12nm,1.2s							
IL1	**Eielson Array**	**84.59**	**24**	*e*P		**P**	**00 51 21.6**	**-1.3**
ILAR	**Eielson Array**	**84.59**	**24**	P		**P**	**00 51 21.8**	**-1.1**
	3.6nm,0.8s,baz=257,slow=4.5,SNR=31							
ILB	**Eielson Array**	**84.59**	**24**	*e*P		**P**	**00 51 21.8**	**-1.1**
GEYT	**Alibeck**	**86.24**	**308**	P		**P**	**00 51 32.6**	**+0.8**
	0.9nm,0.4s,baz=119,slow=5.1,SNR=4.2							
ABKAR	**Akbulak array**	**86.33**	**320**	*e*P		**P**	**00 51 32.0**	**+0.1**
DAWY	**Dawson**	**87.57**	**26**	*e*P		**P**	**00 51 39.0**	**+1.3**
	37nm,1.6s							
INK	**Inuvik**	**90.53**	**22**	P		**P**	**00 51 51.8**	**+0.4**
	1.4nm,0.3s,baz=249,slow=4.4,SNR=3.8							
INK	**Inuvik**	**90.53**	**22**	*e*P		**P**	**00 51 52.3**	**+0.9**
YBH	**Yreka Blue Hor**	**96.10**	**48**	LR		LR	01 26 37.2	
	comp=Z,67nm,20.3s,baz=294,slow=30							
TORD	**Torodi Ar. Bea**	**138.77**	**287**	PKhKP		PKPpre	00 58 15.0	
	0.8nm,0.7s,baz=88,slow=3.5,SNR=3.6							
TORD				PKP		**PKiKP**	**00 58 18.4**	**-0.8**
	0.9nm,0.7s,baz=74,slow=1.5,SNR=8.0							
ROSC	**El Rosal**	**144.29**	**85**	PKP		PKPbc	00 58 26.3	+0.5
	2.4nm,0.5s,baz=268,slow=7.2,SNR=5.0							
LPAZ	**La Paz**	**145.35**	**124**	PKPbc		**PKPdf**	**00 58 29.5**	**0.0**
	3.6nm,0.8s,baz=260,slow=2.3,SNR=13							
CPUP	**Villa Florida**	**146.06**	**149**	PKPbc		**PKPbc**	**00 58 30.1**	**-0.3**
	5.0nm,1.0s,baz=207,slow=4.5,SNR=3.8							
DBIC	**Dimbokro**	**146.11**	**278**	PKPbc		**PKPab**	**00 58 31.5**	**-0.2**
	3.3nm,0.6s,baz=76,slow=4.0,SNR=5.1							

DJA 06 00:48:55.1±1.1, 8.3S±10.7×107.7E±., h23km±11km, M3.6/6, MLv3.6/6, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.65**	**47**	P		Pb	00 49 08.2	+0.4
CISI				S		Sn	00 49 17.6	-0.9
CNJI	**Cibinong**	**0.72**	**343**	P		Pb	00 49 08.8	-0.2
CNJI				S		Sn	00 49 19.3	-0.8
CMJI	**Cimerak**	**1.12**	**79**	P		Pn	00 49 14.0	-1.4
LEM	**Lembang**	**1.20**	**13**	P		Pn	00 49 17.0	+0.3
SKJI	**Sukabumi**	**1.26**	**322**	P		Pn	00 49 16.8	-0.5
KPJI	**Karang Pucung**	**1.71**	**67**	P		Pn	00 49 23.5	0.0
CGJI	**Cibinong**	**2.14**	**310**	P		Pn	00 49 27.7	-1.7

*MOS **06** 01:01:06.4±1.2, 51.77N×97.79E, h11km, mb4.1/4, Error ellipse: s-maj=13.8km s-min=11.8km az=19.0*
*ASRS **06** 01:01:10.3±1.0, 51.58N×97.73E, h15km, Ms3.5/3*
*IDC **06** 01:01:10.6±0.8, 52.10N×97.44E, h0km, mb3.6/6, mb1 3.7/9, mb1mx3.5/31, mbtmp3.6/9, ML3.1/3, MS2.8/4, Ms1 2.8/4, ms1mx2.5/39, Error ellipse: s-maj=28.5km s-min=9.5km az=5.0*

ISC 06 01:01:07.7±0.5, 51.65N±0.08×97.69E±0.04, h10km, n41, σ1§80/38, mb3.6/6, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ORL	**Orlik**	**1.58**	**55**	*e*PG		**Pn**	**01 01 34.1**	**-1.8**
ORL				*e*			01 01 52.3	
ORL				pmax		pmax		
	comp=Z,425nm,0.3s							
ORL				smax		smax		
	comp=N,1µm,0.4s							
MOY	**Mondy**	**2.06**	**88**	*e*PN		**Pb**	**01 01 43.6**	**-1.5**
MOY				*e*			01 02 09.2	
MOY				pmax		pmax		
	comp=Z,261nm,0.5s							
MOY				smax		smax		
	comp=N,2µm,0.7s							
ARS	**Arshan**	**2.95**	**83**	*e*PN		**Pb**	**01 01 59.2**	**-1.1**
ARS				*e*			01 02 36.9	
ARS				pmax		pmax		
	comp=Z,291nm,0.4s							
ARS				smax		smax		
	comp=E,1µm,0.5s							
TLY	**Talaya**	**3.71**	**87**	Pn		**Pb**	**01 02 12.0**	**-1.2**
	comp=E,0.1nm,0.3s,baz=269,slow=11,SNR=54							
TLY				Sn		**Sb**	**01 02 58.9**	**+0.7**
	comp=E,0.7nm,0.3s,baz=72,slow=20,SNR=21							
TLY	**Talaya**	**3.71**	**87**	PN		**Pb**	**01 02 12.0**	**-1.2**
TLY							01 02 58.9	
TLY				smax		smax		
	comp=N,1.0nm,0.3s							
ZAK	**Zakamensk**	**3.75**	**108**	*e*PN		**Pn**	**01 02 06.0**	**+0.4**
ZAK				*e*			01 02 14.0	
ZAK				*e*			01 03 02.0	
ZAK				pmax		pmax		
	comp=Z,51nm,0.6s							
ZAK				smax		smax		
	comp=N,655nm,1.2s							
IRK	**Irkutsk**	**4.11**	**79**	*e*PN		**Pb**	**01 02 19.5**	**-0.6**
IRK				*e*			01 03 10.0	
IRK				pmax		pmax		
	comp=Z,277nm,0.1s							
IRK				smax		smax		
	comp=N,896nm,0.4s							
ABNR	**Abakan**	**4.34**	**301**	*i* PN		**Pb**	**01 02 25.6**	**+1.7**
LSTR	**Listvyanka**	**4.44**	**84**	*e*PN		**Pb**	**01 02 25.6**	**-0.1**
LSTR				*e*			01 03 20.0	
LSTR				pmax		pmax		
	comp=Z,43nm,0.5s							
LSTR				smax		smax		
	comp=N,406nm,1.6s							
KRAR	**Krasnoyarsk**	**5.22**	**329**	*e*PN		**Pn**	**01 02 23.9**	**-1.8**
KAB	**Kabansk**	**5.57**	**82**	*e*PN		**Pb**	**01 02 45.7**	**+0.8**
KAB				pmax		pmax		
	comp=Z,170nm,0.2s							
OGRR	**Ongureny**	**6.35**	**68**	*e*PN		**Pn**	**01 02 40.2**	**-1.0**
OGRR				*e*			01 02 58.7	
OGRR				*e*			01 04 16.5	
OGRR				pmax		pmax		
	comp=Z,31nm,1.2s							
OGRR				smax		smax		
	comp=N,292nm,2.2s							
AKAR	**Aktash**	**6.50**	**262**	*e*Pg		Pg	01 03 08.8	-3.2
AKAR				*e*Sg		**Sg**	**01 04 32.4**	**-3.8**
AKAR	**Aktash**	**6.50**	**262**	*e*P[3]		Pg	01 03 08.8	-3.2
SONM	**Songino Array**	**6.81**	**121**	LR		LR	01 05 39.0	
	comp=N,101nm,20.7s,baz=288,slow=37							
UKR	**Ust'-Kan**	**8.13**	**270**	*e*Pg		Pg	01 03 38.0	-5.3
UKR				*e*Sg		**Sg**	**01 05 24.3**	**-4.2**
ZALV	**Zalesovo Beam**	**8.14**	**291**	Pn		**Pn**	**01 03 07.6**	**+1.9**
	comp=N,0.3nm,0.3s,baz=102,slow=12,SNR=5.5							
ZALV				Lg		Lg	01 05 19.5	
	comp=N,2.0nm,0.3s,baz=119,slow=27,SNR=13							
ZALV				LR		LR	01 06 17.9	
	comp=N,54nm,19.7s,baz=70,slow=39							
ZALV	**Zalesovo Beam**	**8.14**	**291**	*e*P		**Pn**	**01 03 08.1**	**+2.4**
NIZ	**Nizh Angarsk**	**8.15**	**55**	*e*P		**Pn**	**01 03 04.8**	**-1.1**
NIZ				pmax		pmax		
	comp=Z,17nm,0.7s							
NVS	**Novosibirsk**	**9.24**	**296**	*e*Sg		Sn	01 05 59.2	+54
MKAR	**Makanchi Array**	**11.18**	**250**	Pn		Pn	01 03 53.3	+5.8
	comp=Z,0.1nm,0.3s,baz=68,slow=13,SNR=4.7							
MKAR				Pg			01 04 34.7	
	comp=Z,0.1nm,0.3s,baz=69,slow=15,SNR=7.0							
MKAR				Lg		Lg	01 07 05.0	
	comp=Z,0.1nm,0.3s,baz=66,slow=32,SNR=4.7							
MKAR				LR		LR	01 08 28.2	
	comp=Z,38nm,20.2s,baz=36,slow=39							
KURK	**Kurchatov**	**12.01**	**273**	P		Pn	01 04 05.7	+7.0
KURBB	**Kurchatov Arra**	**12.08**	**273**	Pn		Pn	01 04 05.7	+5.9
	comp=Z,0.0nm,0.3s,baz=74,slow=16,SNR=3.6							
KURBB				Lg		Lg	01 07 29.1	

*MOS **06** 01:16:18.8±1.4, 8.°80S×157.°62E, h33km, mb5.0/33, MS4.9/15, Error ellipse: s-maj=8.5km s-min=7.7km az=46.4*

*ISCJB **06** 01:16:19.8±0.2, 8.°86S±0.°03×157.°59E±0.°03, h43km, mb5.0/95, MS4.7/37, Error ellipse: s-maj=5.1km s-min=4.2km az=153.6*

*NEIC **06** 01:16:20.2±1.4, 8.°87S×157.°53E, h36km±5km, mb5.2/1, Error ellipse: s-maj=16.6km s-min=14.3km az=76.0*

*GCMT **06** 01:16:20.2±0.2, 8.°89S×157.°60E, h12km, MW5.2/97, Moment Tensor Solution. s66,c101; s97,c150; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.01±.01; $M_{\theta\theta}$0.63±.01; $M_{\phi\phi}$-0.64±.01; $M_{r\theta}$-0.00±.04; $M_{\theta\phi}$0.41±.01; $M_{\phi r}$-0.23±.04; Best double couple: M_o0.79300×10^{17} NP1:ϕ_s29.00000°, δ84.00000°, λ-166.00000°. NP2:ϕ_s298.00000°, δ76.00000°, λ-7.00000°. Principal axes: T 0.7620, Plg5.0000°, Azm163.0000°; N 0.0610, Plg74.0000°, Azm53.0000°; P -0.8230, Plg15.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **06** 01:16:22.2, 8.°30S×157.°68E, h46km, mb5.0/61, mB5.4/56, Ms5.0/57, Ms7 4.7/57*

ISC 06 01:16:21.0±0.3, **8.°91S**±0.°05×**157.°79E**±0.°05, **h44**km±2km, **h44**km:**pP-P, n323,**σ1s**68**/369, **mb5.1**/94, **MS4.6**/37, **10C-10D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.19**	**104**	*e*P	**Pn**	**01 16 53.7**	**-1.3**
HNR				*e*		01 17 17.0	
HNR	**Honiara**	**2.19**	**104**	*e*Pn	**Pn**	**01 16 53.7**	**-1.3**
HNR				*e*Sn	**Sn**	**01 17 17.0**	**-3.8**
PMG	**Port Moresby**	**10.51**	**266**	*d i*P	**Pn**	**01 18 50.7**	**+1.6**
PMG	**Port Moresby**	**10.51**	**266**	*e*Pn	**Pn**	**01 18 50.1**	**+1.0**
COEN	**Coen**	**15.17**	**249**	⇑P	**Pn**	**01 19 54.1**	**+1.6**
	baz=15,SNR=4.1						
COEN	**Coen**	**15.17**	**249**	*e*Pn	**Pn**	**01 19 49.8**	**-2.7**
DZM	**Mont Dzumac**	**15.51**	**149**	*e*P	**Pn**	**01 19 57.2**	**+0.4**
	202nm,1.6s						
DZM				*e*LR	LR	01 23 35.8	
	6μm,27.2s						
DZM	**Mont Dzumac**	**15.51**	**149**	Pn	**Pn**	**01 19 56.6**	**-0.2**
	0.3nm,0.3s,baz=272,slow=21,SNR=5.4						
PATS	**Pohnpei**	**15.65**	**2**	P	**P**	**01 20 03.9**	**+1.7**
	baz=16,SNR=5.1						
CTA	**Charters Tower**	**15.74**	**224**	Pn	**Pn**	**01 19 58.2**	**-1.5**
	0.7nm,0.3s,baz=50,slow=14,SNR=3.4						
CTA				LR	LR	01 25 35.4	
	comp=Z,3μm,18.6s,baz=46,slow=36						
CTAO	**Charters Tower**	**15.74**	**224**	*e*P	**Pn**	**01 19 56.4**	**-3.4**
CTAO				pmax	pmax		
	comp=Z,68nm,1.3s						
CTAO	**Charters Tower**	**15.74**	**224**	*e*Pn	**Pn**	**01 19 56.4**	**-3.4**
	comp=Z,68nm,1.3s						
MTSU	**Mount Surprise**	**15.98**	**234**	P	**P**	**01 20 06.5**	**+0.7**
	baz=16,SNR=6.4						
EIDS	**Eidsvold**	**17.57**	**200**	P	**P**	**01 20 24.8**	**+1.5**
	baz=18,SNR=7.6						
EIDS	**Eidsvold**	**17.57**	**200**	*e*Pn	**P**	**01 20 23.8**	**+0.5**
	comp=Z,129nm,1.4s						
JAY	**Jayapura**	**18.14**	**290**	P	**P**	**01 20 26.4**	**-3.4**
	comp=Z,0.5nm,0.3s,baz=126,slow=14,SNR=14						
JAY				LR	LR	01 27 06.2	
	comp=Z,2μm,20.3s,baz=360,slow=36						
GENI	**Genyem**	**18.61**	**289**	P	**Pn**	**01 20 37.9**	**+2.3**
	comp=Z,117nm,0.8s,comp=Z,4μm						
RMQ	**Roma**	**19.46**	**205**	P	**Pn**	**01 20 47.2**	**+1.6**
	baz=20,SNR=20						
KWAJ	**Kwajalein Atol**	**20.14**	**29**	*e*P	**P**	**01 20 49.7**	**-1.8**
KWAJ				pmax	pmax		
	comp=Z,287nm,0.8s						
KWAJ	**Kwajalein Atol**	**20.14**	**29**	*e*P	**P**	**01 20 49.7**	**-1.8**
	comp=Z,287nm,0.8s						
SMPI	**Sarmi**	**20.19**	**289**	P	**P**	**01 20 51.4**	**-0.7**
	comp=Z,255nm,1.9s,comp=Z,46μm						
QIS	**Mount Isa**	**21.03**	**235**	P	**P**	**01 21 01.0**	**-0.2**
	baz=21,SNR=7.0						
MSVF	**Nonsavu**	**21.56**	**116**	P	**P**	**01 21 09.7**	**+2.8**
	comp=Z,345nm,1.3s,SNR=10						
MSVF	**Nonsavu**	**21.56**	**116**	*e*P	**P**	**01 21 09.0**	**+2.0**
MSVF				pmax	pmax		
	comp=Z,135nm,1.4s						
MSVF	**Nonsavu**	**21.56**	**116**	*e*P	**P**	**01 21 09.0**	**+2.0**
	comp=Z,135nm,1.4s						
QLP	**Quilpie**	**21.77**	**214**	P	**P**	**01 21 10.5**	**+1.4**
	baz=22,SNR=9.7						
ARMA	**Armidale**	**22.16**	**194**	⇓P	**P**	**01 21 14.1**	**+0.8**
	baz=22,SNR=16						
ARMA	**Armidale**	**22.16**	**194**	*e*P	**P**	**01 21 12.5**	**-0.8**
	comp=Z,294nm,2.1s						
BAKI	**Biak**	**22.90**	**288**	P	**P**	**01 21 24.0**	**+2.7**
	comp=Z,121nm,1.3s,comp=Z,3μm						
RKPI	**Ransiki, Papua**	**24.62**	**286**	P	**P**	**01 21 37.8**	**+0.3**
	comp=Z,214nm,1.1s,comp=Z,19μm						
CMSA	**Cobar Meteorol**	**25.17**	**205**	P	**P**	**01 21 42.5**	**+0.2**
	baz=25,SNR=22						
WRAB	**Tennant Creek**	**25.17**	**242**	P	**P**	**01 21 40.0**	**-2.4**
	comp=Z,246nm,1.5s,SNR=43						
WRAB	**Tennant Creek**	**25.17**	**242**	*d i*P	**P**	**01 21 40.9**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,79nm,1.0s						
WRAB	**Tennant Creek**	**25.17**	**242**	*e*P	**P**	**01 21 40.5**	**-1.9**
	comp=Z,42nm,1.0s						
WRA	**Warramunga Arr**	**25.18**	**242**	P	**P**	**01 21 40.6**	**-2.0**
	comp=Z,13nm,0.5s,baz=68,slow=9.7,SNR=121						
WRA				PcP	**PcP**	**01 25 15.9**	**+0.2**
	comp=Z,3.0nm,0.9s,baz=69,slow=2.8,SNR=7.6						
WRA				LR	LR	01 31 08.6	
	comp=Z,4μm,19.4s,baz=70,slow=36						
GUMO	**Guam**	**25.77**	**330**	LR	LR	01 30 57.9	
	comp=Z,957nm,20.6s,baz=149,slow=34						
FAKI	**Fak Fak**	**26.08**	**282**	*e*P	**P**	**01 21 48.5**	**-2.2**
	comp=Z,50nm,1.0s						
YNG	**Young**	**26.70**	**198**	⇓P	**P**	**01 21 57.9**	**+1.7**
	baz=27,SNR=4.9						
AS01	**Alice Springs**	**27.11**	**234**	*e*P	**P**	**01 21 56.5**	**-3.5**
AS12	**Alice Springs**	**27.15**	**234**	*e*P	**P**	**01 21 58.0**	**-2.3**
AS12				*e*PcP	**PcP**	**01 25 19.8**	**-0.5**
ASAR	**Alice Springs**	**27.15**	**234**	P	**P**	**01 21 58.0**	**-2.3**
	comp=Z,3.8nm,0.9s,baz=64,slow=9.6,SNR=20						
ASAR				PcP	**PcP**	**01 25 19.8**	**-0.5**
	comp=Z,2.7nm,1.1s,baz=67,slow=1.2,SNR=4.2						
ASAR				LR	LR	01 31 50.3	
	comp=Z,2μm,21.5s,baz=58,slow=35						
ASAR	**Alice Springs**	**27.15**	**234**	P	**P**	**01 21 58.1**	**-2.3**
ASAR						01 25 19.8	
ASAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ASAR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ASAR				MLR	MLR		
	comp=Z,2μm,21.5s						
STKA	**Stephens Creek**	**27.36**	**211**	P	**P**	**01 22 02.5**	**+0.4**
	comp=Z,10nm,0.8s,baz=33,slow=12,SNR=20						
STKA				LR	LR	01 32 05.2	
	comp=Z,2μm,20.5s,baz=29,slow=35						
STKA	**Stephens Creek**	**27.36**	**211**	*e*P	**P**	**01 22 03.5**	**+1.5**
STKA	**Stephens Creek**	**27.36**	**211**	*e*P	**P**	**01 22 01.0**	**-1.0**
	comp=Z,59nm,2.0s						
SIJI	**Sorong**	**27.59**	**285**	P	**P**	**01 22 02.5**	**-1.8**
	comp=Z,4.7nm,0.3s,baz=94,slow=8.0,SNR=5.9						
BNDI	**Bandanaira**	**28.03**	**277**	P	**P**	**01 22 11.2**	**+3.0**
	comp=Z,175nm,1.7s,comp=Z,3μm						
NLAI	**Namlea**	**31.02**	**279**	P	**P**	**01 22 37.3**	**+2.5**
	comp=Z,40nm,1.9s,comp=Z,1μm						
BBOO	**Buckleboo**	**31.13**	**217**	*e*P	**P**	**01 22 34.2**	**-1.4**
	comp=Z,47nm,1.4s						
LBMI	**Labuha**	**31.26**	**284**	P	**P**	**01 22 39.7**	**+2.8**
	comp=Z,121nm,1.3s,comp=Z,2μm						
WRKA	**Warakurna**	**32.33**	**237**	P	**P**	**01 22 43.7**	**-2.6**
	baz=32,SNR=11						
SANI	**Sanana**	**32.36**	**280**	P	**P**	**01 22 46.9**	**+0.3**
SOEI	**Soe**	**33.08**	**266**	P	P	01 22 59.6	+6.6
URZ	**Urewera**	**34.01**	**152**	LR	LR	01 35 20.3	
	comp=Z,2μm,18.2s,baz=336,slow=34						
KMSI	**Cibinong**	**34.97**	**284**	P	sP	01 23 26.2	-0.4
MMRI	**Maumere**	**35.13**	**268**	P	**P**	**01 23 11.4**	**+0.7**
MMRI	**Maumere**	**35.13**	**268**	*e*P	**P**	**01 23 07.6**	**-3.0**
	comp=Z,347nm,1.7s						
FORT	**Forrest**	**35.23**	**228**	P	**P**	**01 23 10.9**	**-0.4**
	baz=35,SNR=8.0						
FORT	**Forrest**	**35.23**	**228**	*e*P	**P**	**01 23 09.3**	**-2.0**
	comp=Z,102nm,1.5s						
LUWI	**Luwuk**	**35.72**	**281**	P	P	01 23 23.1	+7.4
RPZ	**Rata Peaks**	**36.55**	**164**	P	**P**	**01 23 23.3**	**+0.9**
	comp=Z,15nm,0.9s,baz=11,slow=5.2,SNR=4.2						
RPZ				LR	LR	01 37 19.3	
	comp=Z,2μm,19.4s,baz=324,slow=34						
APSI	**Ampana**	**36.84**	**280**	P	P	01 23 31.5	+6.2
MRSI	**Marisa**	**36.91**	**283**	P	sP	01 23 41.0	-2.2
BSSI	**Bau Bau, Buton**	**37.07**	**272**	P	**P**	**01 23 26.6**	**-0.7**
BKSI	**Bulukumba**	**37.53**	**273**	P	**P**	**01 23 31.7**	**+0.5**
KAPI	**Kappang**	**37.94**	**273**	P	**P**	**01 23 33.9**	**-0.7**
	comp=Z,193nm,1.7s,SNR=8.7						
KAPI	**Kappang**	**37.94**	**273**	P	**P**	**01 23 33.1**	**-1.5**
	comp=Z,12nm,1.0s,baz=102,slow=9.3,SNR=11						
KAPI	**Kappang**	**37.94**	**273**	*e*P	**P**	**01 23 32.6**	**-2.0**
	comp=Z,114nm,1.5s						
SPSI	**Sidrap Palu**	**38.08**	**275**	P	pP	01 23 47.9	0.0
PCI	**Palu**	**38.61**	**280**	P	P	01 23 47.8	+7.5
JCJ	**Chichijima**	**38.86**	**338**	LR	LR	01 38 43.7	
	comp=Z,435nm,20.0s,baz=130,slow=35						
MEEK	**Meekatharra**	**41.04**	**239**	P	**P**	**01 23 59.2**	**-1.1**
	baz=41,SNR=5.5						
TSM	**Tawau**	**41.90**	**287**	⇑P	**P**	**01 24 07.8**	**+0.2**
RAR	**Rarotonga**	**42.63**	**112**	LR	LR	01 39 38.0	
	comp=Z,327nm,20.2s,baz=266,slow=33						
JAGI	**Jajag, Banyuwa**	**43.12**	**267**	P	**P**	**01 24 14.8**	**-2.6**
	baz=43,SNR=5.6						
JAGI	**Jajag, Banyuwa**	**43.12**	**267**	*e*P	P	01 24 12.3	-5.1
	comp=Z,366nm,1.6s						
BTM	**Bintulu**	**46.16**	**283**	⇓P	**P**	**01 24 42.4**	**+0.7**
UGM	**Wanagama**	**46.74**	**268**	*e*P	**P**	**01 24 43.5**	**-2.8**
	comp=Z,191nm,1.2s						
SBUM	**Sibu**	**46.80**	**282**	⇓P	**P**	**01 24 46.9**	**+0.2**
SBUM	**Sibu**	**46.80**	**282**	*e*P	**P**	**01 24 44.7**	**-2.0**
	comp=Z,95nm,1.7s						
YULB	**Yu-li**	**48.01**	**313**	*e*P	**P**	**01 24 54.3**	**-1.6**
	comp=Z,71nm,1.6s						
KPJI	**Karang Pucung**	**48.37**	**268**	P	**P**	**01 25 01.1**	**+2.2**
KSM	**Kuching**	**48.42**	**280**	⇑P	**P**	**01 24 58.4**	**-1.0**
KSM	**Kuching**	**48.42**	**280**	*e*P	**P**	**01 24 57.9**	**-1.4**
	comp=Z,60nm,1.3s						
YHNB	**Yeheng**	**48.74**	**314**	*e*P	**P**	**01 25 01.1**	**-0.6**
	comp=Z,106nm,1.2s						
MJAR	**Matushiro Arr**	**48.82**	**339**	P	**P**	**01 24 59.3**	**-2.7**
	comp=Z,1.8nm,0.5s,baz=170,slow=9.4,SNR=5.8						
MJAR				LR	LR	01 46 20.6	
	comp=Z,145nm,18.6s,baz=175,slow=37						
MJAR	**Matsushiro Arr**	**48.82**	**339**	P	**P**	**01 24 59.3**	**-2.7**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MJAR				MLR	MLR		
	comp=Z,145nm,18.6s						
MAJO	**Matsushiro**	**48.82**	**339**	*e*P	**P**	**01 25 00.2**	**-1.8**
MAJO				pmax	pmax		
	comp=Z,33nm,1.2s						
MAJO	**Matsushiro**	**48.82**	**339**	*e*P	**P**	**01 24 59.3**	**-2.7**
	comp=Z,97nm,2.4s						
CISI	**Cisompet, Garu**	**49.45**	**268**	P	**P**	**01 25 08.1**	**+0.8**
CISI	**Cisompet, Garu**	**49.45**	**268**	*e*P	**P**	**01 25 04.6**	**-2.7**
	comp=Z,447nm,2.0s						
LEM	**Lembang**	**49.71**	**269**	P	**P**	**01 25 10.4**	**+1.0**
CNJI	**Cibinong**	**50.15**	**268**	P	**P**	**01 25 10.9**	**-1.6**
TPI	**Tanjungpandan**	**50.21**	**274**	P	P	01 25 19.6	+6.6
CBJI	**Citeko**	**50.51**	**269**	P	**P**	**01 25 12.4**	**-2.9**
QZH	**Quanzhou**	**50.91**	**312**	⇑P	**P**	**01 25 17.5**	**-0.5**
QZH				S	**S**	**01 32 31.0**	**-0.7**
QZH				PMZ			
	comp=Z,900nm,6.1s						
QZH				LZ			
	comp=Z,1μm,30.4s						
CGJI	**Cibinong**	**51.64**	**269**	P	**P**	**01 25 20.9**	**-2.8**
PPT	**Papeete**	**51.81**	**105**	LR	LR	01 42 32.5	
	comp=Z,425nm,21.8s,baz=280,slow=30						
PPT2	**Papeete2**	**51.81**	**105**	*e*S	S	01 32 59.0	+14
	comp=Z,361nm,24.5s						
PPT2				*e*LQ	LQ	01 38 19.7	
	comp=Z,1μm,25.5s						
PPT2				*e*LR	LR	01 40 25.9	
	comp=Z,745nm,23.0s						
TBI	**Tubuai**	**52.39**	**113**	*e*LQ	LQ	01 38 29.1	
	comp=Z,3μm,32.0s						
TBI				*e*LR	LR	01 40 46.9	
	comp=Z,1μm,30.5s						
KASI	**Kota Agung**	**52.94**	**270**	P	**P**	**01 25 31.8**	**-1.6**
	comp=Z,46nm,1.1s,comp=Z,0.1nm						
SSE	**Sheshan**	**53.03**	**320**	P	**P**	**01 25 32.7**	**-1.0**
SSE				S	**S**	**01 33 00.6**	**-0.1**
SSE				PMZ			
	comp=Z,38nm,0.8s						
SSE				PMZ			
	comp=Z,240nm,4.9s						
SSE				LN			
	comp=Z,320nm,23.4s						
SSE				LE			
	comp=Z,190nm,22.8s						
SSE				LZ			
	comp=Z,410nm,24.2s						
MDSI	**Maura Dua**	**53.39**	**271**	P	**P**	**01 25 34.4**	**-2.3**
	comp=Z,22nm,1.6s,comp=Z,562nmcomp=Z,0.1nm						
KSRS	**Korea Array**	**53.94**	**331**	P	**P**	**01 25 39.0**	**-1.3**
	comp=Z,6.3nm,0.9s,baz=152,slow=7.9,SNR=15						
KSRS				LR	LR	01 47 52.7	
	comp=Z,305nm,19.7s,baz=136,slow=35						
KSRS	**Korea Array**	**53.94**	**331**	P	**P**	**01 25 39.0**	**-1.3**
KSRS				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KS15	**Wonju Array Si**	**53.95**	**331**	*e*P	**P**	**01 25 39.0**	**-1.4**
KS01	**Wonju Array Si**	**53.97**	**331**	*e*P	**P**	**01 25 39.4**	**-1.1**
KS01				*e*pP	**pP**	**01 25 49.7**	**-3.4**
ASAJ	**Asahikawa**	**54.55**	**347**	LR	LR	01 47 51.3	
	comp=Z,1μm,19.9s,baz=174,slow=35						
MYKOM	**Kota Tinggi**	**54.79**	**279**	⇑P	**P**	**01 25 48.4**	**+1.5**
QIZ	**Qiongzhong**	**54.81**	**301**	P	**P**	**01 25 47.2**	**+0.2**
QIZ				S	**S**	**01 33 25.0**	**-0.2**
QIZ				PMZ			
	comp=Z,20nm,2.1s						
QIZ				PMZ			
	comp=Z,250nm,6.8s						
QIZ				LZ			
	comp=Z,610nm,20.3s						
NJ2	**Nanjing**	**55.16**	**319**	*e*P	**P**	**01 25 49.4**	**+0.2**
NJ2				pP	**pP**	**01 26 01.8**	**0.0**
NJ2				sP	**sP**	**01 26 07.6**	**+0.7**
NJ2				PP	**PP**	**01 27 52.2**	**-0.9**
NJ2				S	**S**	**01 33 29.0**	**-0.3**
NJ2				sS	**sS**	**01 33 50.0**	**-0.3**
NJ2				PMZ			
	comp=Z,40nm,0.7s						
NJ2				PMZ			
	comp=Z,930nm,5.9s						
NJ2				LN			
	comp=Z,650nm,19.4s						
NJ2				LE			
	comp=Z,1μm,21.9s						
NJ2				LZ			
	comp=Z,450nm,21.1s						
WHN	**Wuhan**	**57.24**	**315**	P	**P**	**01 26 03.6**	**-0.5**
WHN				S	S	01 33 50.5	-6.5
WHN				LZ			
	comp=Z,1μm,22.8s						
USRK	**Ussuriysk Ar.**	**57.80**	**338**	P	**P**	**01 26 07.3**	**-0.5**
	comp=Z,9.1nm,1.0s,baz=152,slow=8.6,SNR=12						
USRK				LR	LR	01 50 29.5	
	comp=Z,236nm,19.5s,baz=134,slow=36						
IPM	**Ipoh**	**58.13**	**281**	⇓P	**P**	**01 26 11.4**	**+0.7**
IPM	**Ipoh**	**58.13**	**281**	*e*P	**P**	**01 26 09.1**	**-1.7**
	comp=Z,33nm,1.3s						
DL2	**Dalian**	**58.26**	**327**	*e*P	**P**	**01 26 11.3**	**+0.2**
DL2				S	**S**	**01 34 11.5**	**+1.5**
DL2				PMZ			
	comp=Z,28nm,1.2s						
DL2				LN			
	comp=Z,320nm,13.8s						
DL2				LZ			
	comp=Z,290nm,23.5s						
KULM	**Kulim**	**58.68**	**282**	⇑P	**P**	**01 26 15.9**	**+1.3**
KULM	**Kulim**	**58.68**	**282**	*e*P	**P**	**01 26 13.3**	**-1.3**
	comp=Z,29nm,1.3s						
TIA	**Tai'an**	**58.96**	**322**	*e*P	**P**	**01 26 14.8**	**-1.3**
TIA				S	**S**	**01 34 19.3**	**-0.1**
TIA				LN			
	comp=Z,500nm,14.9s						
TIA				LE			
	comp=Z,290nm,14.2s						
TIA				LZ			
	comp=Z,380nm,17.3s						
MDJ	**Mudanjiang**	**59.06**	**337**	P	**P**	**01 26 15.8**	**-0.8**
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,180nm,7.1s						
MDJ	**Mudanjiang**	**59.06**	**337**	P	**P**	**01 26 15.9**	**-0.7**
MDJ				pP	**pP**	**01 26 27.3**	**-1.9**
MDJ				sP	**sP**	**01 26 32.2**	**-2.2**
MDJ				PcP	**PcP**	**01 27 03.7**	**-1.3**
MDJ				PP	**PP**	**01 28 24.9**	**-2.7**
MDJ				ScP	**ScP**	**01 30 57.4**	**-4.8**
MDJ				PcS	**PcS**	**01 31 07.3**	**+0.5**
MDJ				S	**S**	**01 34 20.3**	**0.0**
MDJ				PMZ			
	comp=Z,11nm,1.1s						
MDJ				PMZ			
	comp=Z,180nm,6.3s						
MDJ				LN			
	comp=Z,460nm,15.7s						
MDJ				LE			
	comp=Z,520nm,17.7s						
MDJ				LZ			
	comp=Z,580nm,23.5s						
SKNT	**Sakolnakorn**	**59.09**	**296**	P	**P**	**01 26 19.3**	**+2.0**
	comp=Z,87nm,1.4s						
CN2	**Changchun**	**60.11**	**333**	*e*P	**P**	**01 26 22.9**	**-0.9**
CN2				*e*S	**S**	**01 34 36.4**	**+2.5**
CN2				PMZ			
	comp=Z,10.0nm,1.0s						
CN2				PMZ			
	comp=Z,230nm,4.0s						
CN2				LN			
	comp=Z,520nm,16.0s						
CN2				LE			
	comp=Z,470nm,16.0s						
CN2				LZ			
	comp=Z,350nm,20.0s						
TRTT	**Trang**	**60.23**	**284**	P	**P**	**01 26 27.8**	**+2.6**
	comp=Z,17nm,0.9s						
CHAI	**Chaiyaphum**	**60.50**	**294**	P	**P**	**01 26 28.1**	**+1.1**
	comp=Z,4.9nm,1.2s						
ENH	**Enshi**	**60.57**	**312**	*e*P	**P**	**01 26 25.8**	**-1.5**
	comp=Z,86nm,1.5s						
GYA	**Guiyang**	**60.81**	**307**	⇑*i*P	**P**	**01 26 28.8**	**-0.3**
GYA				pP	**pP**	**01 26 44.0**	**+2.1**
GYA				sP	**sP**	**01 26 49.2**	**+2.2**
GYA				PP	**PP**	**01 28 47.5**	**+3.9**
GYA				ScP	**ScP**	**01 31 10.8**	**+0.2**
GYA				sS	**sS**	**01 35 05.5**	**+0.5**
GYA				SS	**SS**	**01 38 42.3**	**-1.2**
GYA				PMZ			
	comp=Z,20nm,1.0s						
GYA				PMZ			
	comp=Z,230nm,6.8s						
GYA				LN			
	comp=Z,230nm,18.4s						
GYA				LE			
	comp=Z,330nm,19.0s						
GYA				LZ			
	comp=Z,380nm,20.0s						
SLVN	**Son La**	**60.84**	**300**	*e*P	**P**	**01 26 28.9**	**-0.4**
	comp=Z,43nm,1.5s						
GSI	**Gunungsitoli**	**60.84**	**276**	*e*P	**P**	**01 26 26.7**	**-2.7**
	comp=Z,67nm,1.2s						
PBKT	**Sadao Pong**	**61.64**	**294**	P	**P**	**01 26 34.8**	**+0.1**
	comp=Z,30nm,1.8s						
PEA2	**Petropavlovsk-**	**61.78**	**360**	*e*P	**P**	**01 26 34.7**	**-0.3**
PETK	**Petropavlovsk-**	**61.78**	**360**	P	**P**	**01 26 34.7**	**-0.3**
	comp=Z,2.3nm,0.6s,baz=147,slow=8.4,SNR=3.2						
PETK				LR	LR	01 52 07.0	
	comp=Z,379nm,19.6s,baz=174,slow=35						
BJI	**Beijing**	**62.06**	**325**	P	**P**	**01 26 39.0**	**+1.9**
BJI				S	**S**	**01 34 59.5**	**+0.7**
BJI				SS	**SS**	**01 38 56.3**	**-6.1**
BJI				PMZ			
	comp=Z,13nm,0.6s						
BJI				PMZ			
	comp=Z,260nm,7.8s						
BJI				LN			
	comp=Z,470nm,18.0s						
BJI				LE			
	comp=Z,310nm,15.2s						
BJI				LZ			
	comp=Z,300nm,20.5s						
KLR	**Kul'dur**	**62.24**	**341**	*e*P	P	01 26 33.2	-5.0
KLR				*e*S	**S**	**01 35 02.5**	**+1.7**
UTTA	**Uttaradit**	**62.42**	**295**	P	**P**	**01 26 40.8**	**+0.9**
	comp=Z,6.0nm,0.9s						
TIY	**Taiyuan**	**62.81**	**321**	*e*P	**P**	**01 26 44.7**	**+2.4**
TIY				S	**S**	**01 35 04.6**	**-4.0**
TIY				SS	**SS**	**01 39 13.1**	**-1.4**
TIY				PMZ			
	comp=Z,210nm,9.0s						
TIY				LN			
	comp=Z,330nm,14.2s						
TIY				LE			
	comp=Z,93nm,9.8s						
TIY				LZ			
	comp=Z,290nm,15.0s						
SMY	**Shemya**	**62.97**	**11**	*e*P	**P**	**01 26 42.4**	**-0.5**
SMY	**Shemya**	**62.97**	**11**	*e*P	**P**	**01 26 42.4**	**-0.5**
XAN	**Xi'an**	**63.00**	**315**	P	**P**	**01 26 42.6**	**-1.0**
XAN				sP	**sP**	**01 26 59.9**	**-1.6**
XAN				PcP	**PcP**	**01 27 22.2**	**+0.9**
XAN				PP	**PP**	**01 29 00.4**	**-2.3**
XAN				ScP		01 31 18.3	
XAN				S	**S**	**01 35 06.2**	**-4.8**
XAN				SS	SS	01 39 07.5	-10
XAN				PMZ			
	comp=Z,29nm,1.3s						
XAN				PMZ			
	comp=Z,230nm,8.7s						
XAN				LN			
	comp=Z,170nm,20.2s						
XAN				LE			
	comp=Z,340nm,21.5s						
XAN				LZ			
	comp=Z,420nm,22.9s						
KHLT	**Khaolaem Dam**	**63.24**	**291**	P	**P**	**01 26 47.3**	**+1.9**
	comp=Z,12nm,1.4s						
KMI	**Kunming**	**63.38**	**304**	P	**P**	**01 26 47.4**	**+0.9**
KMI				pP	**pP**	**01 27 01.7**	**+2.4**
KMI				sP	**sP**	**01 27 07.9**	**+3.5**
KMI				S	**S**	**01 35 20.3**	**+3.9**
KMI				PMZ			
	comp=Z,48nm,1.5s						
KMI				PMZ			
	comp=Z,420nm,5.8s						
KMI				LN			
	comp=Z,260nm,20.0s						
KMI				LE			
	comp=Z,340nm,19.2s						
KMI				LZ			
	comp=Z,440nm,18.4s						
NKL	**Nikolayevsk**	**63.52**	**349**	*e*P	P	01 26 38.0	-8.5
NKL				*e*		01 35 16.0	
NKL			

RKT **Rikitea** 65.67 111 *e*LQ LQ 01 44 04.3
comp=Z,534nm,33.5s
RKT *e*LR LR 01 46 56.5
comp=Z,418nm,27.0s
HIA Hailar 66.83 334 *e*P **P 01 27 07.0 -1.2**
HIA pmax pmax
comp=Z,6.0nm,1.2s
LZH Lanzhou 67.62 315 *e*P **P 01 27 14.7 +1.1**
LZH pP **pP 01 27 27.8 +1.3**
LZH sP **sP 01 27 32.6 +1.0**
LZH S **S 01 36 10.0 +2.2**
LZH PMZ
comp=Z,130nm,1.3s
LZH PMZ
comp=Z,440nm,6.2s
LZH LN
comp=Z,710nm,19.2s
LZH LE
comp=Z,510nm,18.7s
LZH LZ
comp=Z,750nm,20.2s
NIKH Nikolski High 67.88 21 *e*P P 01 27 18.7 +4.0
comp=Z,74nm,1.2s
VNDA Vanda 68.61 179 P **P 01 27 20.0 +1.1**
comp=Z,1.6nm,0.7s,baz=335,slow=5.8,SNR=9.2
VNDA LR LR 01 54 02.9
comp=Z,606nm,18.0s,baz=359,slow=33
VNDA Vanda 68.61 179 *e*P **P 01 27 19.8 +0.8**
comp=Z,36nm,1.8s
UNV Unalaska Valle 69.43 22 *e*P **P 01 27 24.2 -0.1**
comp=Z,20nm,1.0s
CLNS Chul'man 70.89 342 *e*P **P 01 27 33.7 +0.4**
CLNS pmax pmax
comp=N,7.0nm,1.1s
CLNS pmax pmax
comp=Z,14nm,1.2s
SEY Seymchan 71.75 357 P **P 01 27 38.9 +0.6**
comp=Z,0.3nm,0.3s,baz=87,slow=2.3,SNR=4.2
SEY LR LR 01 58 48.1
comp=Z,190nm,19.1s,baz=160,slow=36
SEY Seymchan 71.75 357 *e*P **P 01 27 38.3 0.0**
MIR Mirnyy 71.97 202⇑ *e*P P 01 27 49.0 +9.4
MIR pmax pmax
comp=Z,40nm,1.5s
GTA Gaotai 72.03 316 ⇓P **P 01 27 41.3 +0.7**
GTA pP **pP 01 27 51.8 -1.8**
GTA sP **sP 01 27 55.6 -3.1**
GTA S **S 01 36 59.8 +0.5**
GTA sS **SKiKP 01 37 17.1 +2.8**
GTA PMZ
comp=Z,9.0nm,1.7s
GTA PMZ
comp=Z,290nm,8.1s
GTA LN
comp=Z,260nm,18.5s
GTA LE
comp=Z,300nm,20.0s
GTA LZ
comp=Z,370nm,19.0s
SONA0 Songino Array 72.44 326 *e*P **P 01 27 42.8 -0.1**
SONM Songino Array 72.44 326 P **P 01 27 42.8 -0.1**
comp=Z,4.6nm,0.8s,baz=138,slow=5.6,SNR=11
SONM LR LR 02 00 01.8
comp=Z,231nm,19.3s,baz=102,slow=36
SONM Songino Array 72.44 326 P **P 01 27 42.8 -0.1**
SONM pmax pmax
comp=Z,5.0nm,0.8s
SONM MLR MLR
comp=Z,231nm,19.3s
SONA1 Songino Array 72.45 326 *e*P **P 01 27 41.4 -1.6**
SHL Shillong 72.65 300 *e*P **P 01 27 45.0 +0.3**
YAK Yakutsk 74.03 347 LR LR 01 59 49.1
comp=Z,276nm,19.8s,baz=102,slow=35
YAK Yakutsk 74.03 347 *e*P **P 01 27 54.3 +2.5**
YAK *e**PP **pP 01 28 03.6 -1.2**
YAK *e* 01 30 37.0
YAK *e*PPP PPP 01 32 29.0
YAK *e*S **S 01 37 24.0 +3.2**
YAK *e* 01 38 07.6
YAK *e*SS **SS 01 42 12.2 +5.6**
YAK pmax pmax
comp=N,9.0nm,0.7s
YAK pmax pmax
comp=Z,33nm,0.8s
YAK pmax pmax
comp=E,7.0nm,0.7s
YAK pmax pmax
comp=Z,14nm,0.6s
YAK smax smax
comp=N,164nm,3.1s
YAK smax smax
comp=E,176nm,3.5s
YAK MLR MLR
comp=E,230nm,17.0s
YAK MLR MLR
comp=Z,349nm,20.0s
YAK MLR MLR
comp=N,363nm,16.0s
LSA Lhasa 74.63 304 *e*P **P 01 27 56.0 -0.6**
LSA pmax pmax
comp=Z,21nm,1.1s
LSA Lhasa 74.63 304 *e*P **P 01 27 56.0 -0.6**
comp=Z,21nm,1.1s
BOD Bodaibo 75.42 338 *e*P **P 01 27 59.0 -0.9**
BOD pmax pmax
comp=Z,10.0nm,1.8s
ZAK Zakamensk 75.58 327⇑ *i*P **P 01 28 00.2 -1.0**
ZAK pmax pmax
comp=Z,8.0nm,1.6s
BILL Bilibino 77.00 3⇓ *i*P **P 01 28 08.4 -0.3**
BILL *e* 01 31 07.2
BILL *i*S S 01 38 15.5 +22
BILL pmax pmax
comp=Z,12nm,1.2s
BILL Bilibino 77.00 3 *e*P **P 01 28 08.3 -0.4**
comp=Z,33nm,1.2s
PALK Pallekele 78.48 279 *i*P **P 01 28 20.1 +1.9**
SVW2 Sparrevohn 78.75 21 *e*P **P 01 28 20.1 +1.5**
QSPA South Pole Qui 81.07 180 P **P 01 28 31.8 +0.4**
comp=Z,6.5nm,1.0s,baz=320,slow=1.7,SNR=15
PMR Palmer 81.45 23 *e*P **P 01 28 31.8 -1.3**
PMR Palmer 81.45 23 *e*P **P 01 28 31.8 -1.3**
CAST Castle Rocks 81.52 20 *e*P **P 01 28 32.2 -1.3**
comp=Z,15nm,0.9s
PAF Port-aux-Franc 81.73 221 S **S 01 38 43.0 -1.5**
PAF R 01 55 00.0
SML Sawmill 81.89 23 *e*P **P 01 28 35.1 -0.4**
SML pmax pmax
comp=Z,8.0nm,1.1s
SML Sawmill 81.89 23 *e*P **P 01 28 35.1 -0.4**
comp=Z,7.9nm,1.1s
WMQ Urumqi 82.11 317 P **P 01 28 38.8 +1.7**
WMQ pP **pP 01 28 52.1 +1.8**
WMQ sP **sP 01 28 57.2 +1.9**
WMQ PP **PP 01 31 46.6 +0.8**
WMQ S **S 01 38 48.2 -0.5**
WMQ sS **sS 01 39 08.2 -2.6**
WMQ PMZ
comp=Z,21nm,1.2s
WMQ PMZ
comp=Z,280nm,6.0s
WMQ LN
comp=Z,300nm,20.1s
WMQ LE
comp=Z,310nm,22.7s
WMQ LZ
comp=Z,370nm,28.0s
BPAW Bear Paw Mtn. 82.33 20 *e*P **P 01 28 37.0 -0.7**
comp=Z,2.9nm,1.3s
RND Reindeer 82.65 21 *e*P **P 01 28 38.9 -0.6**
RND pmax pmax
comp=Z,37nm,1.2s
RND Reindeer 82.65 21 *e*P **P 01 28 38.9 -0.6**
comp=Z,37nm,1.2s
MCK McKinley 82.82 21 *e*P **P 01 28 39.6 -0.7**
MCK pmax pmax
comp=Z,61nm,1.1s
MCK McKinley 82.82 21 *e*P **P 01 28 39.6 -0.7**
comp=Z,61nm,1.1s
MLY Manley 83.00 20 *e*P **P 01 28 40.8 -0.4**
comp=Z,22nm,1.4s
WRH Wood River Hil 83.56 21 *e*P **P 01 28 43.2 -0.8**
comp=Z,35nm,1.4s
MAW Mawson 83.70 203 P **P 01 28 45.7 +0.9**
comp=Z,16nm,1.2s,baz=91,slow=7.9,SNR=6.3
MAW LR LR 02 03 02.1
comp=Z,332nm,19.2s,baz=64,slow=34
MAW Mawson 83.70 203 *e*P **P 01 28 45.4 +0.6**
CCB Clear Creek Bu 83.76 21 *e*P **P 01 28 43.7 -1.4**
comp=Z,14nm,1.2s
MDM Murphy Dome 83.80 20 *e*P **P 01 28 44.0 -1.3**
comp=Z,19nm,1.1s
COLA College 83.88 20 *e*P **P 01 28 45.0 -0.7**
COLA pmax pmax
comp=Z,20nm,0.8s
COLA College 83.88 20 *e*P **P 01 28 45.0 -0.7**
comp=Z,20nm,0.8s
HDA Harding Lake 83.92 21 *e*P **P 01 28 46.1 +0.2**
comp=Z,27nm,1.2s
IL1 Eielson Array 84.16 21 *e*P **P 01 28 45.4 -1.8**
ILAR Eielson Array 84.16 21 P **P 01 28 46.5 -0.6**
comp=Z,7.4nm,1.0s,baz=257,slow=5.3,SNR=25
ILAR LR LR 02 02 43.0
comp=Z,190nm,19.6s,baz=255,slow=33
ILB Eielson Array 84.16 21 *e*P **P 01 28 46.5 -0.6**
COLD Coldfoot 84.55 18 *e*P **P 01 28 49.6 +0.5**
comp=Z,18nm,1.4s
HYT Haines Junctio 85.83 26 *e*P **P 01 28 57.4 +1.6**
EGAK Eagle 86.23 22 *e*P **P 01 28 58.2 +0.7**
comp=Z,20nm,1.1s
DAWY Dawson 86.55 23 *e*P **P 01 28 59.9 +0.8**
comp=Z,16nm,1.2s
MK01 Makanchi Array 86.65 318 *e*P **P 01 28 58.6 -1.4**
MK32 Makanchi Array 86.67 318 *e*P **P 01 28 59.1 -1.0**
MKAR Makanchi Array 86.67 318 P **P 01 28 59.1 -1.0**
comp=Z,3.5nm,0.8s,baz=96,slow=6.0,SNR=15
MKAR LR LR 02 06 19.5
comp=Z,176nm,22.0s,baz=100,slow=35
MKAR Makanchi Array 86.67 318 P **P 01 28 59.1 -1.0**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR MLR MLR
comp=Z,176nm,22.0s
MKAR Makanchi Array 86.67 318 *e*P **P 01 28 58.5 -1.6**
ZAA0 Zalesovo Array 87.31 326 *e*P **P 01 29 00.7 -2.3**
ZALV Zalesovo Beam 87.31 326 P **P 01 29 01.9 -1.1**
comp=Z,0.7nm,0.3s,baz=121,slow=5.7,SNR=5.9
ZALV LR LR 02 07 53.0
comp=Z,198nm,21.6s,baz=70,slow=36
ZALV Zalesovo Beam 87.31 326 *i*P **P 01 29 04.3 +1.3**
ZALV pmax pmax
comp=Z,3.0nm,0.8s
ZAA1 Zalesovo Array 87.31 326 *e*P **P 01 29 01.9 -1.1**
NVS Novosibirsk 88.47 326 *e*P **P 01 29 09.9 +1.4**
NVS pmax pmax
comp=Z,19nm,1.9s
NVS pmax pmax
comp=N,4.0nm,1.3s
NVS pmax pmax
comp=E,6.0nm,1.3s
CMB Columbia Colle 89.06 51 *e*P **P 01 29 13.2 +1.5**
CMB pmax pmax
comp=Z,31nm,2.1s
CMB Columbia Colle 89.06 51 *e*P **P 01 29 13.2 +1.5**
comp=Z,31nm,2.1s
KSH Kashi 89.36 310 P **P 01 29 14.3 +1.1**
KSH pP **pP 01 29 29.1 +2.5**
KSH sP **sP 01 29 34.1 +2.6**
KSH PP **PP 01 32 49.0 +4.3**
KSH SKS **SKSac 01 39 39.2 -0.9**
KSH S **S 01 39 56.9 -3.3**
KSH sS **sS 01 40 22.1 -0.4**
KSH SS **SS 01 45 59.2 +3.2**
KSH PMZ
comp=Z,24nm,1.2s
KSH PMZ
comp=Z,520nm,6.0s
KSH LN
comp=Z,170nm,5.6s
KSH LE
comp=Z,200nm,4.7s
KSH LZ
comp=Z,410nm,7.5s
KURK Kurchatov 90.05 321 *e*P **P 01 29 13.6 -2.4**
KURK pmax pmax
comp=Z,12nm,1.7s
KURK Kurchatov 90.05 321 *e*P **P 01 29 13.6 -2.4**
comp=Z,12nm,1.7s
ISA Isabella 90.09 54 *e*P **P 01 29 17.1 +0.4**
ISA Isabella 90.09 54 P **P 01 29 17.7 +1.1**
baz=90
ISA Isabella 90.09 54 *e*P **P 01 29 17.1 +0.4**
MWC Mount Wilson 90.16 56 *e*P **P 01 29 18.4 +1.3**
MWC Mount Wilson 90.16 56 *e*P **P 01 29 18.4 +1.3**
EDW2 Edwards Air Fo 90.33 55 P **P 01 29 19.3 +1.5**
baz=91
MTUM Tungsten Hills 90.34 52 *e*P **P 01 29 18.7 +0.8**
BFSC Mount Baldy Ra 90.49 56 P **P 01 29 19.3 +0.7**
baz=91
INK Inuvik 90.54 20 *e*P **P 01 29 17.2 -0.6**
INK pmax pmax
comp=Z,11nm,1.1s
INK Inuvik 90.54 20 *e*P **P 01 29 17.2 -0.6**
comp=Z,11nm,1.1s
LRMC Laurel Mountai 90.69 54 P **P 01 29 21.8 +2.3**
baz=91
NV01 Mina Array Sit 90.74 51 *e*P **P 01 29 20.9 +1.1**
NVAR Mina Array Bea 90.74 51 P **P 01 29 21.8 +2.0**
comp=Z,4.6nm,0.8s,baz=243,slow=6.7,SNR=27
MPMC Manual Prospec 90.95 54 P **P 01 29 21.8 +1.0**
baz=91
GRAC Grapevine Rang 91.21 53 P **P 01 29 23.7 +1.8**
baz=92
WVOR Wild Horse Val 91.24 47 *e*P **P 01 29 22.5 +0.6**
WVOR pmax pmax
comp=Z,89nm,2.6s
WVOR Wild Horse Val 91.24 47 *e*P **P 01 29 22.5 +0.6**
comp=Z,89nm,2.6s
GSC Goldstone 91.36 55 P **P 01 29 23.8 +1.2**
baz=92
SYO Syowa Base 91.41 199⇓ *e*P **P 01 29 21.8 -0.2**
FURC Furnace Creek, 91.52 53 P **P 01 29 24.6 +1.5**
baz=92
G08A Pilot Rock 91.55 45 *e*P **P 01 29 24.4 +1.1**
comp=Z,14nm,1.5s
HEC Hector,Ludlow 91.67 55 P **P 01 29 25.4 +1.4**
baz=92
BELC Belle Mtn. Jos 91.80 56 P **P 01 29 25.6 +0.8**
baz=92
TPNV Topopah Spring 92.09 53 *e*P **P 01 29 27.5 +1.5**
TPNV pmax pmax
comp=Z,14nm,1.1s
TPNV Topopah Spring 92.09 53 P **P 01 29 27.7 +1.7**
baz=92
TPNV Topopah Spring 92.09 53 *e*P **P 01 29 27.5 +1.5**
comp=Z,14nm,1.1s
BC3 Big Chuckawall 92.19 56 P **P 01 29 28.9 +2.4**
baz=92
GMRC Granite Mounta 92.20 55 P **P 01 29 28.2 +1.6**
baz=92
IRM Iron Mountain 92.52 56 P **P 01 29 29.9 +1.9**
baz=93
R11A Troy Canyon, C 92.83 52 P **P 01 29 31.3 +1.8**
baz=93
R11A Troy Canyon, C 92.83 52 *e*P **P 01 29 31.1 +1.7**
comp=Z,12nm,1.3s
F10A Beach Ranch, E 92.87 44 *e*P **P 01 29 28.4 -0.9**
comp=Z,6.1nm,0.8s
SHPR Sheep Range 92.88 54 *e*P **P 01 29 30.5 +0.8**
MFID Camas Ranch 93.44 47 *e*P **P 01 29 33.9 +1.8**
comp=Z,18nm,1.8s
ELK Elko 93.46 49 P **P 01 29 34.1 +1.7**
comp=Z,2.5nm,0.8s,baz=233,slow=4.7,SNR=7.0
ELK Elko 93.46 49 P **P 01 29 34.1 +1.7**
ELK pmax pmax
comp=Z,3.0nm,0.8s
ELK Elko 93.46 49 *e*P **P 01 29 34.4 +2.0**
comp=Z,11nm,1.5s
CCUT Cedar City 94.45 53 *e*P **P 01 29 37.7 +0.7**
comp=Z,12nm,1.4s
HLID Hailey 94.48 47 P **P 01 29 38.6 +1.6**
baz=95
HLID Hailey 94.48 47 *e*P **P 01 29 38.3 +1.4**
comp=Z,7.2nm,1.3s
KNB Kanab 94.81 53 *e*P **P 01 29 40.2 +1.6**
KNB pmax pmax
comp=Z,24nm,1.6s
KNB Kanab 94.81 53 *e*P **P 01 29 40.2 +1.6**
comp=Z,24nm,1.6s
MSU Marysvale 95.50 52 *e*P **P 01 29 43.7 +1.9**
MSU Marysvale 95.50 52 *e*P **P 01 29 43.7 +1.9**
BRVK Borovoye 95.55 323 *e*P **P 01 29 41.2 -0.2**
BRVK pmax pmax
comp=Z,6.0nm,1.7s
YKA Yellowknife Ar 96.73 28 P **P 01 29 48.0 +1.5**
comp=Z,0.9nm,0.7s,baz=262,slow=4.5,SNR=4.3
YKA Yellowknife Ar 96.73 28 P **P 01 29 48.0 +1.5**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKB5 Yellowknife Ar 96.73 28 *e*P **P 01 29 47.9 +1.4**
BW06 Boulder Array 97.92 48 *e*P Pdif 01 29 53.2 +0.5
PD31 Pinedale Array 97.92 48 *e*P Pdif 01 29 53.2 +0.5
PDAR Pinedale Array 97.92 48 P Pdif 01 29 53.2 +0.5
comp=Z,1.2nm,0.9s,baz=282,slow=1.7,SNR=8.1
PDAR LR LR 02 08 02.0
comp=Z,123nm,20.5s,baz=281,slow=32
MAK Makhachkala 110.85 313 *i* PKIKP **PKiKP 01 34 51.8 +2.4**
MAK *e* 01 35 28.6
MAK *e*PPP PPP 01 37 42.7
MAK *e* 01 41 26.6
MAK *e* 01 42 01.4
MAK *e*PS **PS 01 45 00.1 +1.2**
MAK *e*SS SS 01 51 02.5 +7.4
MAK pmax pmax
comp=Z,40nm,0.3s
MAK MLR MLR
comp=Z,447nm,22.0s
KIV Kislovodsk 114.16 314 *i* PKIKP PKPdf 01 34 54.0 -1.9
KIV pmax pmax
comp=Z,4.0nm,0.9s
KIV MLR MLR
comp=Z,164nm,20.0s
FIA0 FINESS Array S 116.80 336 *e*PKIKP **PKPdf 01 35 00.5 +0.2**
FIA0 FINESS Array S 116.80 336 *e*PKPdf **PKPdf 01 35 00.5 +0.2**
FINES FINESS Array B 116.80 336 PKP **PKPdf 01 35 00.5 +0.2**
comp=Z,1.5nm,0.9s,baz=121,slow=0.8,SNR=3.6
FINES FINESS Array B 116.80 336 PKIKP **PKPdf 01 35 00.5 +0.2**
FINES pmax pmax
comp=Z,2.0nm,0.9s
SIM Simferopol' 119.83 317 PKIKP PKPdf 01 35 16.8 +10
SIM *e* 01 36 28.0
SIM *e*PPP PPP 01 38 59.0
SIM *e* 01 42 12.0
SIM pmax pmax
comp=Z,50nm,9.3s
SIM MLR MLR
comp=Z,80nm,15.0s
AKASG Malin Array Be 120.70 325 PKP **PKPdf 01 35 07.9 -0.2**
comp=Z,2.1nm,0.8s,baz=52,slow=2.5,SNR=7.1
AKASG Malin Array Be 120.70 325 PKIKP **PKPdf 01 35 07.9 -0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKBB Malin Array Si 120.70 325 *e*PKIKP **PKPdf 01 35 07.9 -0.2**
AKBB Malin Array Si 120.70 325 *e*PKPdf **PKPdf 01 35 07.8 -0.2**
AK11 Malin Array Si 120.74 325 *e*PKPdf **PKPdf 01 35 05.7 -2.5**
BR101 Keskin Array S 121.72 311 *e*PKPdf **PKPdf 01 35 10.5 -0.1**
BR101 *e*PP **PP 01 36 42.1 -1.6**
BRTR Keskin Array B 121.72 311 PKP **PKPdf 01 35 10.5 -0.1**
comp=Z,1.2nm,1.0s,baz=132,slow=2.1,SNR=5.2
BRTR PP **PP 01 36 42.1 -1.6**
comp=Z,1.7nm,1.0s,baz=94,slow=6.1,SNR=7.6
BRTR Keskin Array B 121.72 311 PKIKP **PKPdf 01 35 10.5 -0.1**
BRTR 01 36 42.2
BRTR pmax pmax
comp=Z,1.0nm,1.0s
BRTR pmax pmax
comp=Z,2.0nm,1.0s
NB200 NORSAR Array S 122.40 341 *e*PKPdf **PKPdf 01 35 12.1 +1.0**
NOA NORSAR Array B 122.40 341 PKP **PKPdf 01 35 12.1 +1.0**
comp=Z,0.4nm,0.8s,baz=57,slow=2.6,SNR=2.5
OKC Ostrava-Krasne 127.22 328 *e*PP PP 01 37 16.8 -2.9
OKC AMS AMS 02 32 50.0
comp=Z,300nm,19.1s
DPC Dobruska-Polom 127.83 330 *e*PKPdf **PKPdf 01 35 23.8 +1.9**
DPC *es*PKP 01 35 38.9
DPC *e*PP **PP 01 37 22.1 -1.7**
DPC *ex* x 01 38 44.7
DPC AMS AMS 02 34 40.0
comp=Z,400nm,14.9s
DPC Dobruska-Polom 127.83 330 *e*PKIKP **PKPdf 01 35 23.8 +1.9**
DPC *e* 01 35 38.9
DPC *e* 01 37 22.1
DPC MLR MLR
comp=Z,400nm,14.9s
UPC Upice 127.89 330 *e*PKPdf **PKPdf 01 35 23.4 +1.5**
UPC *e*PP **PP 01 37 20.8 -3.3**
UPC AMS AMS 02 34 40.0
comp=Z,400nm,18.1s
UPC Upice 127.89 330 *e*PKIKP **PKPdf 01 35 23.4 +1.5**
UPC *e* 01 37 20.8
UPC MLR MLR
comp=Z,400nm,18.1s
LPAZ La Paz 128.11 119 PKP **PKPdf 01 35 24.1 0.0**
comp=Z,2.3nm,1.1s,baz=266,slow=3.3,SNR=3.3
LPAZ La Paz 128.11 119 PKIKP **PKPdf 01 35 24.1 0.0**
LPAZ pmax pmax
comp=Z,2.0nm,1.1s
PVCC Panska Ves 128.58 331 *e*PKPdf **PKPdf 01 35 23.8 +0.6**
PVCC *e*PP **PP 01 37 24.2 -4.4**
PVCC Panska Ves 128.58 331 *e*PKIKP **PKPdf 01 35 23.8 +0.6**
PVCC *e* 01 37 24.2
BRG Berggiesshubel 128.65 331 *e*PKP **PKPdf 01 35 24.6 +1.2**
comp=Z,4.1nm,0.9s
comp=N,300nm,21.9s
comp=E,130nm,20.4s
comp=Z,553nm,21.6s
BRG Berggiesshubel 128.65 331 *e*PKIKP **PKPdf 01 35 24.6 +1.2**
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG MLR MLR
comp=N,300nm,21.9s
BRG MLR MLR
comp=E,130nm,20.4s
BRG MLR MLR
comp=Z,553nm,21.6s
CLL Collm 128.80 332 *e*PKIKP **PKPdf 01 35 22.0 -1.6**
CLL *e* 01 37 30.0
CLL pmax pmax
comp=Z,7.0nm,1.5s
CLL Collm 128.80 332 *e*PP PP 01 37 30.0 0.0
CLL *e*(SKPdf) 01 38 48.0
CLL *e*SS SS 01 54 54.0 +10
CLL LmV 02 33 00.0
comp=Z,200nm,21.4s
GOPC GO Pecny, Ondr 128.87 330 *e*PP PP 01 37 29.7 -0.9
GOPC *ex* x 01 38 44.1
GOPC AMS AMS 02 34 40.0
comp=Z,300nm,16.7s
TREC Trest 128.92 329 *e*PKPdf **PKPdf 01 35 24.2 +0.2**
TREC *e*PP **PP 01 37 32.5 +1.6**
TREC *ex* x 01 38 47.7
TREC AMS AMS 02 32 40.0
comp=Z,600nm,19.8s
TREC Trest 128.92 329 *e*PKIKP **PKPdf 01 35 24.2 +0.2**
TREC *e* 01 37 32.5
TREC MLR MLR
comp=Z,600nm,19.8s
PRA Prague 128.94 330 *e*PKPdf **PKPdf 01 35 24.5 +0.6**
PRA *ex* x 01 35 29.7
PRA *e*PP PP 01 37 22.6 -8.4
PRA *ex* x 01 38 44.1
PRA AMS AMS 02 35 30.0
comp=Z,500nm,20.4s
PRA Prague 128.94 330 *e*PKIKP **PKPdf 01 35 24.5 +0.6**
PRA *e* 01 35 29.7
PRA MLR MLR
comp=Z,500nm,20.4s
PRU Pruhonice 128.94 330 *e*PKPdf **PKPdf 01 35 23.4 -0.5**
PRU *e*pPKP **pPKPdf 01 35 36.8 -0.9**
PRU *e*PP PP 01 37 25.3 -5.7
PRU *ex* x 01 38 43.7
PRU *e*SKSSKS 01 57 21.2
PRU AMS AMS 02 35 30.0
comp=Z,400nm,17.6s
PRU Pruhonice 128.94 330 *e*PKIKP **PKPdf 01 35 23.4 -0.5**
PRU *e* 01 35 36.8
PRU MLR MLR
comp=Z,400nm,17.6s
CONA Conrad Observa 129.57 327⇑ *i*PKiKP **PKiKP 01 35 27.4 +1.3**
comp=Z,4.7nm,1.3s
NKC Novy Kostel 129.79 332 *e*PKPdf **PKPdf 01 35 25.1 -0.5**
NKC *e*PP **PP 01 37 36.3 -0.2**
NKC *ex* x 01 38 44.7
NKC Novy Kostel 129.79 332 *e*PKIKP **PKPdf 01 35 25.1 -0.5**
NKC *e* 01 37 36.3
KHC Kasperske Hory 129.98 330 *e*PKPdf **PKPdf 01 35 27.5 +1.5**

KHC				*e*SPKP			01 35 42.3	
KHC				*e*PP	PP		01 37 30.9	-6.9
KHC				*e*SKP			01 38 45.4	
KHC				*e*SKSSKS			01 57 26.5	
KHC				AMS	AMS		02 32 00.0	
	comp=Z,600nm,21.4s							
KHC	**Kasperske Hory**	**129.98**	**330**	*e*PKIKP	**PKPdf**		**01 35 27.5**	**+1.5**
KHC				*e*			01 35 42.3	
KHC				MLR	MLR			
	comp=Z,600nm,21.4s							
GEC2	**GERESS Array S**	**130.11**	**330**	*e*PKIKP	**PKPdf**		**01 35 27.0**	**+0.7**
GEC2	**GERESS Array S**	**130.11**	**330**	*e*PKPdf	**PKPdf**		**01 35 27.0**	**+0.7**
GERES	**GERESS Array B**	**130.11**	**330**	PKP	**PKPdf**		**01 35 27.0**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=80,slow=1.1,SNR=7.4							
GERES	**GERESS Array B**	**130.11**	**330**	PKIKP	**PKPdf**		**01 35 27.0**	**+0.7**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BDFB	**Brasilia**	**144.67**	**134**	PKP	**PKPdf**		**01 35 53.5**	**-0.6**
	comp=Z,13nm,0.7s,baz=155,slow=0.7,SNR=12							
BDFB	**Brasilia**	**144.67**	**134**	PKIKP	**PKPdf**		**01 35 53.5**	**-0.6**
BDFB				pmax	pmax			
	comp=Z,13nm,0.7s							
BDFB	**Brasilia**	**144.67**	**134**	*e*PKPdf	**PKPab**		**01 35 52.5**	**-0.2**
ESDC	**Sonseca Array**	**145.30**	**335**	PKPbc	**PKPbc**		**01 35 52.8**	**-1.4**
	comp=Z,1.3nm,0.9s,baz=28,slow=2.9,SNR=4.2							
TOA0	**Torodi Ar. Sit**	**156.17**	**282**	*e*PKPdf	**PKPdf**		**01 36 07.1**	**-4.6**
TORD	**Torodi Ar. Bea**	**156.17**	**282**	PKP	**PKPdf**		**01 36 12.9**	**+1.2**
	comp=Z,1.3nm,1.1s,baz=56,slow=1.7,SNR=4.5							

*IDC **06** 01:25:47.6±1.3, 8.70S×157.48E, h0km, mb3.8/8, mb1 4.1/8, mb1mx3.9/31, mbtmp3.8/8, Error ellipse: s-maj=41.0km s-min=22.1km az=123.0*
*ISCJB **06** 01:25:49.8±1.0, 8.5S±0.1×157.2E±0.2, h19km, mb3.8/8, Error ellipse: s-maj=26.9km s-min=17.9km az=34.0*

ISC 06 01:25:51.3±1.2, 8.6S±0.2×157.2E±0.2, h19km, n9, σ1s67/9, mb3.9/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAY	**Jayapura**	**17.51**	**289**	P		**Pn**	**01 29 51.8**	**-2.8**
	0.4nm,0.3s,baz=108,slow=16,SNR=2.7							
WRA	**Warramunga Arr**	**24.86**	**240**	P		**P**	**01 31 12.9**	**-0.1**
	1.2nm,0.7s,baz=68,slow=9.4,SNR=8.4							
ASAR	**Alice Springs**	**26.91**	**233**	P		**P**	**01 31 31.2**	**-0.3**
	0.7nm,1.0s,baz=70,slow=11,SNR=4.0							
STKA	**Stephens Creek**	**27.37**	**210**	P		**P**	**01 31 36.2**	**+0.7**
	1.8nm,0.8s,baz=44,slow=13,SNR=3.1							
KSRS	**Korea Array**	**53.37**	**331**	P		**P**	**01 35 11.0**	**+1.4**
	0.5nm,0.3s,baz=131,slow=5.5,SNR=4.1							
CMAR	**Chiang Mai Arr**	**63.46**	**295**	P		**P**	**01 36 21.4**	**+0.9**
	0.8nm,0.3s,baz=118,slow=5.0,SNR=7.0							
SONM	**Songino Array**	**71.85**	**327**	P		**P**	**01 37 14.7**	**+1.6**
	0.6nm,0.6s,baz=132,slow=4.1,SNR=2.7							
ILAR	**Eielson Array**	**84.03**	**21**	P		**P**	**01 38 19.0**	**-1.3**
	0.8nm,0.9s,baz=254,slow=5.3,SNR=5.7							
NVAR	**Mina Array Bea**	**90.96**	**51**	P		**P**	**01 38 53.6**	**-1.0**
	0.2nm,0.3s,baz=253,slow=4.6,SNR=3.0							

*IDC **06** 01:38:45.3±1.1, 47.1N±0.2×155.8E±0.2, h0km, mb3.7/9, mb1 3.8/10, mb1mx3.6/27, mbtmp3.7/10, ML2.4/1, Error ellipse: s-maj=31.5km s-min=23.5km az=155.0*
*ISCJB **06** 01:38:46.5±1.0, 47.2N±0.1×155.8E±0.2, h18km, mb3.7/9, Error ellipse: s-maj=24.3km s-min=16.3km az=43.8*

ISC 06 01:38:48.3±1.1, 47.1N±0.2×155.8E±0.2, h18km, n13, σ0s66/10, mb3.7/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PETK	**Petropavlovsk-**	**6.11**	**11**	Pn		**Pn**	**01 40 16.8**	**-0.8**
	0.4nm,0.3s,baz=181,slow=14,SNR=5.1							
H11S1	**WAKE ISLAND Hy**	**29.93**	**159**	T		T	02 16 09.7	
	baz=346,slow=76,SNR=9.7							
H11S3	**WAKE ISLAND Hy**	**29.95**	**159**	T		T	02 16 05.4	
	baz=346,slow=76,SNR=15							
H11S2	**WAKE ISLAND Hy**	**29.95**	**159**	T		T	02 16 09.6	
	baz=346,slow=76,SNR=8.9							
SONM	**Songino Array**	**32.91**	**290**	P		**P**	**01 45 21.2**	**-0.2**
	0.7nm,0.6s,baz=79,slow=7.5,SNR=2.9							
INK	**Inuvik**	**40.35**	**33**	P		**P**	**01 46 24.9**	**+0.6**
	1.2nm,0.7s,baz=282,slow=5.8,SNR=4.0							
ZALV	**Zalesovo Beam**	**43.85**	**306**	P		**P**	**01 46 52.8**	**-0.3**
	0.4nm,0.3s,baz=46,slow=6.2,SNR=3.4							
MKAR	**Makanchi Array**	**48.36**	**298**	P		**P**	**01 47 29.9**	**+1.1**
	0.7nm,0.7s,baz=64,slow=7.6,SNR=6.8							
CMAR	**Chiang Mai Arr**	**54.22**	**258**	P		**P**	**01 48 12.3**	**-0.6**
	0.8nm,0.3s,baz=36,slow=7.8,SNR=2.8							
FINES	**FINESS Array B**	**64.44**	**336**	P		**P**	**01 49 23.4**	**+0.4**
	0.5nm,0.6s,baz=36,slow=5.2,SNR=3.0							
ASAR	**Alice Springs**	**73.19**	**201**	P		**P**	**01 50 17.6**	**-0.2**
	0.4nm,0.8s,baz=25,slow=7.1,SNR=3.2							
TXAR	**Lajitas Array**	**75.71**	**62**	P		**P**	**01 50 32.7**	**-0.1**
	0.5nm,0.7s,baz=291,slow=4.8,SNR=8.4							
BRTR	**Keskin Array B**	**79.33**	**318**	P		**P**	**01 50 53.3**	**+0.4**
	0.4nm,0.7s,baz=24,slow=7.9,SNR=2.9							

*ISCJB **06** 01:42:01.3±0.6, 24.20S±0.05×67.15W±0.06, h186km±5km, mb3.1/3, Error ellipse: s-maj=10.2km s-min=6.6km az=150.5*
*IDC **06** 01:42:01.2±1.4, 24.17S×67.02W, h167km±12km, mb3.0/3, mb1 3.5/6, mb1mx3.2/22, mbtmp3.7/6, Error ellipse: s-maj=18.9km s-min=17.1km az=38.0*
*SJA **06** 01:42:02.0±0.8, 24.21S×67.10W, h182km±11km, ML2.7*

ISC 06 01:42:01.6±0.9, 24.24S±0.06×67.19W±0.06, h181km±8km, n19, σ1s44/28, mb3.1/3, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SLA	**San Lorenzo**	**1.61**	**108**	*e*P		**Pn**	**01 42 35.7**	**+0.8**
SLA				*e*S		**Sn**	**01 43 00.2**	**-0.5**
SLA				AML	AML		01 43 06.8	
	comp=Z,68nm,0.7s							
HJA	**Humahuaca**	**1.93**	**58**	*e*P		**Pn**	**01 42 39.0**	**+0.6**
HJA				*e*P		**Pn**	**01 42 39.0**	**+0.6**
AZAP	**Zapla**	**1.94**	**90**	*e*P		**Pn**	**01 42 39.1**	**+0.7**
AZAP				*e*S		**Sn**	**01 43 06.2**	**-0.6**
FSA	**Cafayete**	**2.13**	**150**	*e*P		**Pn**	**01 42 42.3**	**+1.9**
FSA				*e*S		**Sn**	**01 43 10.8**	**+0.2**
LVC	**Limon Verde**	**2.26**	**315**	P		**Pn**	**01 42 42.7**	**+0.8**
	comp=Z,2μm,0.3s,baz=143,slow=5.3,SNR=338							
LVC				S		**Sn**	**01 43 12.4**	**-0.8**
	comp=Z,720nm,0.3s,baz=357,slow=4.9,SNR=4.5							
ASTB	**Santa Barbara**	**2.49**	**84**	*e*P		**Pn**	**01 42 45.1**	**+0.7**
ASTB				*e*S		**Sn**	**01 43 16.5**	**-1.2**
YJA	**Yavi**	**2.57**	**37**	*e*P		**Pn**	**01 42 46.0**	**+0.4**
ALOL	**LOMAS DE OLMED**	**2.98**	**83**	*e*P		**Pn**	**01 42 50.0**	**-0.1**
AHML	**Horco Molle**	**3.04**	**147**	*e*P		**Pn**	**01 42 51.6**	**+0.7**
AHML				*e*S		**Sn**	**01 43 28.4**	**-0.9**
AHML				AML	AML		01 43 33.2	
	comp=Z,9.4nm,0.8s							
CFAA	**Coronel Fontan**	**7.40**	**187**	P		**Pn**	**01 43 47.1**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=5.7,slow=10,SNR=6.1							
CFAA				S		**Sn**	**01 45 06.7**	**-3.7**
	comp=Z,0.1nm,0.3s,baz=103,slow=19,SNR=4.7							
LPAZ	**La Paz**	**7.96**	**353**	P		**Pn**	**01 43 54.8**	**-0.2**
	comp=Z,1.5nm,0.3s,baz=161,slow=8.1,SNR=51							
LPAZ				S		**Sn**	**01 45 21.8**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=25,slow=17,SNR=4.0							
SIV	**San Ignacio**	**10.01**	**36**	P		**Pn**	**01 44 18.5**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=228,slow=14,SNR=5.3							
BDFB	**Brasilia**	**19.94**	**68**	P		**P**	**01 46 19.4**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=243,slow=10,SNR=17							
TXAR	**Lajitas Array**	**63.77**	**325**	P		**P**	**01 52 15.8**	**+1.3**
	comp=Z,0.2nm,0.7s,baz=156,slow=6.7,SNR=2.8							
TORD	**Torodi Ar. Bea**	**76.82**	**69**	P		**P**	**01 53 33.8**	**0.0**
	comp=Z,0.4nm,0.5s,baz=258,slow=5.7,SNR=21							
PDAR	**Pinedale Array**	**77.26**	**329**	P		**P**	**01 53 37.5**	**+1.5**
	comp=Z,0.3nm,0.8s,baz=124,slow=7.7,SNR=2.3							
ASAR	**Alice Springs**	**128.17**	**205**	PKP		**PKPdf**	**02 00 48.0**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=137,slow=1.9,SNR=5.0							
WRA	**Warramunga Arr**	**131.34**	**207**	PKP		**PKPdf**	**02 00 54.6**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=152,slow=1.6,SNR=4.9							
MKAR	**Makanchi Array**	**146.82**	**40**	PKPbc		**PKPbc**	**02 01 21.4**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=304,slow=2.9,SNR=3.9							

MEX 06 01:44:23.5±0.5, 16.21N×98.05W, h9km±2km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PNIG	**Pinotepa**	**0.20**	**338**	*i* P		Pg	01 44 27.3	-0.4
PNIG				*e*S		Sg	01 44 30.3	-0.2
TLIG	**Tlapa**	**1.44**	**340**	*e*P		Pn	01 44 46.8	-3.1
TLIG				*e*S		Sn	01 45 03.7	-5.4
VHO	**Vista Hermosa**	**1.53**	**56**	*e*P		Pn	01 44 47.4	-4.0
VHO				*e*S		Sn	01 45 06.7	-4.9
HUIG	**Huatulco**	**1.92**	**103**	*e*P		Pn	01 44 52.9	-3.5
HUIG				*i* S		Sn	01 45 15.8	-4.9

*ISCJB **06** 01:59:18.3±0.2, 43.22N±0.03×139.92E±0.05, h198km±2km, mb4.0/46, Error ellipse: s-maj=6.2km s-min=5.1km az=43.4*
*MOS **06** 01:59:18.5±0.8, 43.26N×139.92E, h201km, mb4.1/24, Error ellipse: s-maj=11.5km s-min=6.7km az=102.5*
*IDC **06** 01:59:18.9±2.3, 43.26N×139.81E, h187km±22km, mb3.7/19, mb1 3.9/20, mb1mx3.7/28, mbtmp4.1/20, Error ellipse: s-maj=13.5km s-min=10.5km az=95.0*
*NEIC **06** 01:59:19.2±0.5, 43.23N×139.85E, h190km±6km, mb4.3/14, Error ellipse: s-maj=9.9km s-min=6.4km az=130.0*
*JMA **06** 01:59:19.1±0.1, 43.26N×139.82E, h187km±1km, M3.6*

ISC 06 01:59:19.6±0.5, 43.24N±0.04×139.92E±0.04, h196km±5km, n116, σ1s04/133, mb4.1/46, 3C-5D, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JSK	**Shakotan**	**0.42**	**74**	P		**Pn**	**01 59 44.8**	**-1.1**
JSK				*e*S		**Sn**	**02 00 04.2**	**-2.0**
JSH	**Shimam**	**0.60**	**171**	P		**Pn**	**01 59 45.3**	**-1.4**
JSH				*e*S		**Sn**	**02 00 05.2**	**-2.3**
JNB	**Noboribetsu**	**1.13**	**133**	P		**Pn**	**01 59 48.9**	**-0.9**
JYM2	**Yakumo 2**	**1.17**	**163**	P		**Pn**	**01 59 49.2**	**-1.0**
JEW	**Eniwo**	**1.19**	**109**	P		**Pn**	**01 59 49.9**	**-0.4**
JEW				*e*S		**Sn**	**02 00 14.5**	**+0.5**
JOSM	**Okushiri--Mats**	**1.20**	**196**	P		**Pn**	**01 59 49.5**	**-0.9**
JOSM				*e*S		**Sn**	**02 00 13.5**	**-0.7**
JHR	**Hokuryu**	**1.41**	**68**	P		**Pn**	**01 59 52.1**	**+0.1**
JHR				*e*S		**Sn**	**02 00 17.3**	**0.0**
JKB	**Kayabe**	**1.58**	**148**	P		**Pn**	**01 59 52.7**	**-1.0**
JYG	**Yagishiri**	**1.61**	**42**	P		**Pn**	**01 59 52.9**	**-1.0**
JSR	**Shiriuchi**	**1.75**	**168**	P		**Pn**	**01 59 54.6**	**-0.7**
JSR				*e*S		**Sn**	**02 00 21.9**	**-1.0**
JFR	**Furan**	**1.96**	**91**	P		**Pn**	**01 59 56.9**	**-0.4**
JFR				*e*S		**Sn**	**02 00 26.1**	**-0.5**
JOT	**Ohata**	**2.04**	**155**	P		**Pn**	**01 59 56.9**	**-1.3**
ASAJ	**Asahikawa**	**2.13**	**65**	*e*Pn		**Pn**	**01 59 58.8**	**-0.4**
ASAJ				*e*S		**Sn**	**02 00 30.3**	**+0.4**
JKK2	**Kamakawa 2**	**2.15**	**72**	P		**Pn**	**01 59 59.4**	**0.0**
JKK2				*e*S		**Sn**	**02 00 30.7**	**+0.4**
JNBK	**Urakawa-nobuka**	**2.29**	**114**	P		**Pn**	**02 00 00.1**	**-0.8**
JWK2	**Keihoku**	**2.52**	**34**	P		**Pn**	**02 00 03.8**	**+0.5**
JSE	**Soyaes**	**2.58**	**47**	P		**Pn**	**02 00 04.2**	**+0.2**
JCH	**Churui**	**2.60**	**103**	P		**Pn**	**02 00 02.7**	**-1.7**
JCH				*e*S		**Sn**	**02 00 36.0**	**-3.2**
ERM	**Erimo**	**2.68**	**116**	*i* PN		**Pn**	**02 00 06.1**	**+0.8**
ERM	**Erimo**	**2.68**	**116**	*e*Pn		**Pn**	**02 00 05.1**	**-0.2**
ERM				*e*S		**Sn**	**02 00 39.0**	**-1.9**
YSS	**Yuzh-Sakhalins**	**4.22**	**27**	*e*PN		**Pn**	**02 00 23.7**	**-0.2**
YSS	**Yuzh-Sakhalins**	**4.22**	**27**	*e*Pn		**Pn**	**02 00 23.7**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**4.38**	**78**	*e*PN		**Pn**	**02 00 24.4**	**-1.6**
USRK	**Ussuriysk Ar.**	**5.83**	**282**	P		**Pn**	**02 00 47.0**	**+2.5**
	0.2nm,0.3s,baz=90,slow=16,SNR=4.5							
HABR	**Khabarovsk**	**6.24**	**329**	*e*PN		**Pn**	**02 00 49.2**	**-0.6**
HABR				*e*S		**Sn**	**02 02 01.0**	**-0.2**
HABR				pmax	pmax			
	comp=Z,31nm,0.7s							
HABR				MLR	MLR			
	comp=Z,119nm,14.0s							
MAJO	**Matsushiro**	**6.82**	**192**	*e*PN		**Pn**	**02 00 57.3**	**-0.2**
MAJO	**Matsushiro**	**6.82**	**192**	*e*Pn		**Pn**	**02 00 57.0**	**-0.5**
MAT	**Matsushiro**	**6.82**	**192**	P		**Pn**	**02 00 56.9**	**-0.6**
MAT				*e*S		**Sn**	**02 02 18.1**	**+3.1**
MJAR	**Matsushiro Arr**	**6.82**	**192**	P		**Pn**	**02 00 57.1**	**-0.4**
	comp=Z,1.5nm,0.3s,baz=7.4,slow=13,SNR=15							
MJAR	**Matsushiro Arr**	**6.82**	**192**	PN		**Pn**	**02 00 57.1**	**-0.4**
MJAR				pmax	pmax			
	comp=Z,2.0nm,0.3s							
KLR	**Kul'dur**	**8.24**	**319**	*e*PN		Pn	02 01 10.9	-5.0
KLR				pmax	pmax			
	comp=E,28nm,1.4s							
KLR				pmax	pmax			
	comp=Z,36nm,1.4s							
KSRS	**Korea Array**	**10.82**	**242**	P		**Pn**	**02 01 49.8**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=54,slow=12,SNR=3.9							
SEY	**Seymchan**	**21.02**	**16**	P		**P**	**02 03 46.0**	**-1.8**
	comp=Z,4.3nm,0.7s,baz=208,slow=15,SNR=11							
SEY	**Seymchan**	**21.02**	**16**	*i* P		**P**	**02 03 46.7**	**-1.1**
HHC	**Hu-ho-hao-te**	**21.16**	**273**	*e*P		**P**	**02 03 50.0**	**+0.5**
HHC				PP		**pP**	**02 04 23.9**	**+1.3**
HHC				S		**S**	**02 07 28.8**	**-4.2**
HHC				SS		**SnSn**	**02 08 20.4**	**+3.8**
HHC				pmax	pmax			
	comp=Z,20nm,1.1s							
HHC				pmax	pmax			
	comp=Z,170nm,5.4s							
SONM	**Songino Array**	**23.81**	**293**	P		**P**	**02 04 14.1**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=81,slow=8.7,SNR=6.8							
SONM	**Songino Array**	**23.81**	**293**	*e*P		**P**	**02 04 14.8**	**+0.2**
SONM				pmax	pmax			
	comp=Z,2.0nm,0.4s							
TLY	**Talaya**	**25.72**	**302**	*i* P		**P**	**02 04 32.0**	**+0.3**
TLY				pmax	pmax			
	comp=Z,3.0nm,0.9s							
ZALV	**Zalesovo Beam**	**37.09**	**306**	P		**P**	**02 06 10.3**	**-0.4**
	comp=Z,4.7nm,0.3s,baz=89,slow=8.9,SNR=25							
ZALV				PcP		**PcP**	**02 08 26.8**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=97,slow=5.1,SNR=4.5							
ZALV	**Zalesovo Beam**	**37.09**	**306**	*e*P		**P**	**02 06 10.6**	**-0.1**
ZALV				pmax	pmax			
	comp=Z,5.0nm,0.3s							
MKAR	**Makanchi Array**	**40.11**	**296**	P		**P**	**02 06 35.6**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=82,slow=9.9,SNR=9.1							
MKAR	**Makanchi Array**	**40.11**	**296**	*e*P		**P**	**02 06 36.0**	**-0.1**
MKAR	**Makanchi Array**	**40.11**	**296**	*e*P		**P**	**02 06 36.0**	**-0.1**
KURK	**Kurchatov**	**41.41**	**303**	P		**P**	**02 06 45.7**	**-0.8**
KURK				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KURK	**Kurchatov**	**41.41**	**303**	*e*P		**P**	**02 06 45.5**	**-1.0**
	comp=Z,17nm,0.7s							
CAST	**Castle Rocks**	**42.88**	**38**	*e*P		**P**	**02 06 59.3**	**+1.1**
	comp=Z,5.5nm,0.7s							
BPAW	**Bear Paw Mtn.**	**43.30**	**37**	*e*P		**P**	**02 07 02.3**	**+0.7**
	comp=Z,0.6nm,0.8s							
COLD	**Coldfoot**	**43.40**	**32**	*e*P		**P**	**02 07 03.1**	**+0.8**
	comp=Z,3.7nm,1.0s							
COLA	**College**	**44.56**	**35**	*i* P		**P**	**02 07 11.5**	**0.0**
COLA				pmax	pmax			
	comp=Z,29nm,0.8s							
COLA	**College**	**44.56**	**35**	*e*P		**P**	**02 07 12.3**	**+0.8**
	comp=Z,7.3nm,0.8s							
CCB	**Clear Creek Bu**	**44.61**	**36**	*e*P		**P**	**02 07 12.4**	**+0.5**
	comp=Z,2.9nm,0.6s							
ILAR	**Eielson Array**	**44.98**	**35**	P		**P**	**02 07 15.8**	**+0.9**
	comp=Z,3.0nm,0.6s,baz=280,slow=9.1,SNR=51							
ILAR	**Eielson Array**	**44.98**	**35**	P		**P**	**02 07 15.8**	**+0.9**
ILAR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
DHY	**Denali Highway**	**45.04**	**38**	*e*P		**P**	**02 07 15.5**	**-0.1**
	comp=Z,20nm,0.6s							
BVA0	**Borovoye Array**	**45.70**	**308**	*i* P		**P**	**02 07 20.6**	**-0.2**
BVA0				pmax	pmax			
	comp=Z,6.0nm,0.4s							
BRVK	**Borovoye**	**45.76**	**308**	*i* P		**P**	**02 07 22.2**	**+1.1**
BRVK				pmax	pmax			
	comp=Z,6.0nm,1.0s							
TKM2	**Tokmak 2**	**45.91**	**293**	*e*P		**P**	**02 07 23.4**	**+0.6**
TKM2				pmax	pmax			
	comp=Z,5.0nm,0.5s							
TKM2	**Tokmak 2**	**45.91**	**293**	*e*P		**P**	**02 07 23.4**	**+0.6**
	comp=Z,5.0nm,0.5s							
KK31	**Karatay Array**	**49.23**	**295**	*e*P		**P**	**02 07 47.6**	**-0.5**
KK31				pmax	pmax			
	comp=Z,1.0nm,0.4s							
KKAR	**Karatay Array**	**49.23**	**295**	*e*P		**P**	**02 07 47.8**	**-0.3**
KKAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
KKAR	**Karatay Array**	**49.23**	**295**	*e*P		**P**	**02 07 47.8**	**-0.3**
	comp=Z,1.6nm,0.6s							
INK	**Inuvik**	**49.46**	**29**	P		**P**	**02 07 50.0**	**+0.7**
	comp=Z,11nm,0.4s,baz=311,slow=6.1,SNR=95							
INK	**Inuvik**	**49.46**	**29**	*e*P		**P**	**02 07 50.1**	**+0.7**
INK				pmax	pmax			
	comp=Z,12nm,0.5s							
INK	**Inuvik**	**49.46**	**29**	*e*P		**P**	**02 07 50.0**	**+0.7**
	comp=Z,12nm,0.5s							
ARU	**Arti**	**51.06**	**315**	*d* P		**P**	**02 08 01.4**	**-0.1**
ARU				S		**S**	**02 15 04.7**	**+1.3**
ARU				pmax	pmax			
	comp=Z,4.0nm,1.0s							
AB31	**Akbulak array**	**53.20**	**306**	*e*P		**P**	**02 08 17.2**	**-0.2**
AB31				pmax	pmax			
	comp=Z,3.0nm,0.3s							
ABKAR	**Akbulak array**	**53.20**	**306**	*e*P		**P**	**02 08 17.5**	**+0.1**
	comp=Z,5.5nm,0.5s							
AKTO	**Aktyubinsk**	**53.80**	**308**	P		**P**	**02 08 21.0**	**-0.8**
AKTO				pmax	pmax			
	comp=Z,3.0nm,0.9s							
PRGR	**Permogore**	**55.00**	**324**	P		**P**	**02 08 27.9**	**-2.3**
PRGR				pmax	pmax			
	comp=Z,7.0nm,0.4s							
RES	**Resolute Bay**	**56.90**	**15**	*e*P		**P**	**02 08 43.3**	**-0.1**
RES				pmax	pmax			
	comp=Z,7.0nm,0.8s							
RES	**Resolute Bay**	**56.90**	**15**	*e*P		**P**	**02 08 43.2**	**-0.1**
	comp=Z,7.3nm,0.8s							
ARCES	**ARCESS Array B**	**57.81**	**338**	P		**P**	**02 08 49.1**	**-0.9**
	comp=Z,1.5nm,0.5s,baz=55,slow=7.8,SNR=19							
ARCES	**ARCESS Array B**	**57.81**	**338**	*e*P		**P**	**02 08 49.5**	**-0.4**
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.5s							
YKA	**Yellowknife Ar**	**59.07**	**31**	P		**P**	**02 08 58.9**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=305,slow=6.8,SNR=8.8							
YKA	**Yellowknife Ar**	**59.07**	**31**	P		**P**	**02 08 58.9**	**+0.2**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.4s							
BHV	**Bhavnagar**	**59.44**	**272**	*e*P		P	02 09 06.0	+4.2
OBN	**Obninsk**	**62.50**	**321**	*e*P		**P**	**02 09 21.6**	**-0.3**
OBN				*i* *PP		**pP**	**02 10 08.4**	**+1.4**
OBN				*i*			02 11 41.7	
OBN				pmax	pmax			
	comp=Z,10.0nm,1.2s							
FINES	**FINESS Array B**	**62.83**	**330**	P		**P**	**02 09 23.5**	**-0.5**
	comp=Z,4.0nm,0.4s,baz=61,slow=7.1,SNR=72							
FINES	**FINESS Array B**	**62.83**	**330**	P		**P**	**02 09 23.5**	**-0.5**
FINES				pmax	pmax			
	comp=Z,4.0nm,0.4s							
WRAB	**Tennant Creek**	**63.07**	**186**	*e*P		**P**	**02 09 25.8**	**-0.2**
WRAB				pmax	pmax			
	comp=Z,3.0nm,0.8s							
WRAB	**Tennant Creek**	**63.07**	**186**	*e*P		**P**	**02 09 25.8**	**-0.2**
	comp=Z,2.6nm,0.8s							
WRA	**Warramunga Arr**	**63.08**	**186**	P		**P**	**02 09 25.6**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=3.5,slow=6.9,SNR=16							
WRA	**Warramunga Arr**	**63.08**	**186**	*e*P		**P**	**02 09 25.7**	**-0.4**
WRA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
VSR	**Storozhevoye**	**63.58**	**316**	*e*P		**P**	**02 09 28.6**	**-0.5**
VSR				pmax	pmax			
	comp=N,5.0nm,0.6s							
VSR				pmax	pmax			
	comp=Z,6.0nm,0.6s							
VSR				pmax	pmax			
	comp=E,3.0nm,0.5s							
SUMG	**Summit**	**64.48**	**359**	*e*P		**P**	**02 09 35.8**	**+0.7**
SUMG				pmax	pmax			
	comp=Z,118nm,2.9s							
SUMG	**Summit**	**64.48**	**359**	*e*P		**P**	**02 09 35.8**	**+0.7**
	comp=Z,118nm,2.9s							
KIV	**Kislovodsk**	**66.07**	**308**	*e*P		**P**	**02 09 46.7**	**+1.3**
KIV				pmax	pmax			
	comp=Z,9.0nm,1.1s							
KBZ	**Khabaz**	**66.08**	**308**	P		**P**	**02 09 45.8**	**+0.5**
	comp=Z,5.2nm,1.1s,baz=286,slow=2.6,SNR=5.1							
KBZ	**Khabaz**	**66.08**	**308**	P		**P**	**02 09 45.8**	**+0.5**
KBZ				pmax	pmax			
	comp=Z,5.0nm,1.1s							
ASAR	**Alice Springs**	**66.80**	**186**	P		**P**	**02 09 50.3**	**+0.2**
	comp=Z

MKAR	**Makanchi Array**	**55.12**	**312**	P		P	02 19 21.2	0.0		
	0.1nm,0.4s,baz=99,slow=8.9,SNR=2.7									
ARCES	**ARCESS Array B**	**78.93**	**342**	P		P	02 21 53.2	+1.0		
	2.8nm,0.9s,baz=73,slow=10,SNR=4.2									
FINES	**FINESS Array B**	**83.29**	**335**	P		P	02 22 14.0	-1.5		
	0.7nm,0.6s,baz=64,slow=4.4,SNR=4.9									

*IDC **06** 02:31:24.7±1.5, 37.°95N×21.°26E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.3/26, mbtmp3.4/4, MS3.4/1, Ms1 3.4/1, ms1mx2.6/26, Error ellipse: s-maj=60.2km s-min=25.5km az=119.0*

*ISCJB **06** 02:31:27.0±0.3, 37.°86N±0.°02×21.°40E±0.°02, h8km±2km, mb3.2/4, Error ellipse: s-maj=2.7km s-min=2.5km az=23.4*

*CSEM **06** 02:31:27.0±0.1, 37.°86N×21.°40E, h1km, MD3.4, Error ellipse: s-maj=2.7km s-min=2.3km az=46.0*

*THE **06** 02:31:27.3, 37.°85N×21.°41E, h19km±1km, ML3.4/8, Error ellipse: s-maj=1.2km s-min=0.5km az=246.0*

*ATH **06** 02:31:27.1, 37.°89N×21.°40E, h14km±1km, MD3.4/36, ML2.8*

ISC 06 02:31:27.1±1.0, 37.°88N±0.°01×21.°40E±0.°01, h16km±7km, n164, σ1§04/216, mb3.4/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
VTN	**Vitineika**	**0.17**	**283**	P		**Pb**		**02 31 32.5**	**+0.6**
VTN				S		**Sb**		**02 31 36.1**	**+0.9**
VTN	**Vitineika**	**0.17**	**283**	P		**Pb**		**02 31 32.6**	**+0.6**
VTN				S		**Sb**		**02 31 36.1**	**+0.9**
RLS	**Riolos of Patr**	**0.19**	**16**	*e*PG		**Pb**		**02 31 32.2**	**-0.1**
RLS	**Riolos of Patr**	**0.19**	**16**	*e*Pg		**Pb**		**02 31 32.2**	**-0.1**
RLS				S		**Sb**		**02 31 36.9**	**+1.2**
RLS	**Riolos of Patr**	**0.19**	**16**	P		**Pb**		**02 31 32.4**	**+0.1**
RLS				S		**Sb**		**02 31 36.9**	**+1.2**
DRO	**Drossia**	**0.26**	**73**	*e*PG		**Pb**		**02 31 33.1**	**-0.3**
DRO	**Drossia**	**0.26**	**73**	P		**Pb**		**02 31 33.1**	**-0.3**
DRO				S		**Sb**		**02 31 37.5**	**-0.2**
DRO	**Drossia**	**0.26**	**73**	P		**Pb**		**02 31 33.1**	**-0.3**
DRO				S		**Sb**		**02 31 37.5**	**-0.2**
AMT	**Artemida-Makis**	**0.42**	**144**	*e*PG		**Pg**		**02 31 35.3**	**-0.4**
AMT	**Artemida-Makis**	**0.42**	**144**	P		**Pg**		**02 31 35.2**	**-0.4**
AMT				S		**Sg**		**02 31 41.3**	**-0.1**
AMT	**Artemida-Makis**	**0.42**	**144**	P		**Pg**		**02 31 35.2**	**-0.4**
AMT				S		**Sb**		**02 31 42.1**	**-0.3**
UPR	**University Cam**	**0.51**	**37**	P		**Pb**		**02 31 37.7**	**0.0**
UPR				S		**Sb**		**02 31 46.4**	**+1.5**
ZKS	**Zakynthos**	**0.52**	**250**	*e*PB		**Pg**		**02 31 36.8**	**-0.6**
ZKS	**Zakynthos**	**0.52**	**250**	P		**Pg**		**02 31 36.8**	**-0.6**
ZKS				S		**Sb**		**02 31 45.6**	**+0.4**
ZKS	**Zakynthos**	**0.52**	**250**	P		**Pg**		**02 31 36.8**	**-0.6**
ZKS				S		**Sb**		**02 31 45.6**	**+0.4**
KFL	**Anninata**	**0.54**	**296**	P		**Pg**		**02 31 37.5**	**-0.2**
KFL				S		**Sb**		**02 31 45.8**	**+0.1**
KFL	**Anninata**	**0.54**	**296**	P		**Pg**		**02 31 37.6**	**-0.2**
KFL				S		**Sb**		**02 31 45.8**	**+0.1**
LAKA	**Lakka**	**0.58**	**51**	*e*PB		**Pg**		**02 31 38.6**	**-0.1**
LAKA				*e*SB		**Sb**		**02 31 46.9**	**-0.2**
LAKA	**Lakka**	**0.58**	**51**	P		**Pg**		**02 31 38.6**	**-0.1**
LAKA				*e*Sb		**Sb**		**02 31 46.9**	**-0.2**
LAKA				S		**Sb**		**02 31 47.5**	**+0.4**
LAKA	**Lakka**	**0.58**	**51**	P		**Pg**		**02 31 38.6**	**-0.1**
LAKA				S		**Sb**		**02 31 47.5**	**+0.4**
KLV	**Kalavryta, Ach**	**0.62**	**74**	*e*PB		**Pg**		**02 31 38.9**	**-0.4**
KLV				*e*SB		**Sb**		**02 31 47.9**	**-0.1**
KLV	**Kalavryta, Ach**	**0.62**	**74**	P		**Pg**		**02 31 38.6**	**-0.7**
KLV	**Kalavryta, Ach**	**0.62**	**74**	*e*Pb		**Pg**		**02 31 38.9**	**-0.4**
KLV				*e*Sb		**Sb**		**02 31 47.9**	**-0.1**
KLV				S		**Sg**		**02 31 48.2**	**+0.7**
KLV	**Kalavryta, Ach**	**0.62**	**74**	P		**Pg**		**02 31 38.6**	**-0.7**
EFP	**Efpalio**	**0.68**	**36**	*e*PB		**Pg**		**02 31 40.2**	**-0.2**
EFP				*e*SB		**Sb**		**02 31 49.5**	**-0.3**
EFP	**Efpalio**	**0.68**	**36**	P		**Pg**		**02 31 40.2**	**-0.2**
EFP				*e*Sb		**Sb**		**02 31 49.5**	**-0.3**
EFP				S		**Sn**		**02 31 51.6**	**-0.8**
EFP	**Efpalio**	**0.68**	**36**	P		**Pg**		**02 31 40.1**	**-0.3**
SFD	**Strofades**	**0.69**	**206**	*e*PB		**Pg**		**02 31 40.7**	**0.0**
SFD				*e*SB		**Sb**		**02 31 51.3**	**+1.1**
SFD	**Strofades**	**0.69**	**206**	P		**Pg**		**02 31 40.7**	**0.0**
SFD				S		**Sb**		**02 31 50.4**	**+0.2**
SFD				*e*Sb		**Sb**		**02 31 51.3**	**+1.1**
SFD	**Strofades**	**0.69**	**206**	P		**Pg**		**02 31 40.7**	**0.0**
SFD				S		**Sb**		**02 31 50.4**	**+0.2**
VLS	**Valsamata**	**0.71**	**295**	*e*PG		**Pg**		**02 31 40.2**	**-0.8**
VLS				*e*SB		**Sb**		**02 31 51.5**	**+0.9**
VLS	**Valsamata**	**0.71**	**295**	P		**Pg**		**02 31 39.9**	**-1.1**
VLS	**Valsamata**	**0.71**	**295**	*e*Pg		**Pg**		**02 31 40.2**	**-0.8**
VLS				S		**Sb**		**02 31 51.2**	**+0.6**
VLS	**Valsamata**	**0.71**	**295**	P		**Pg**		**02 31 39.9**	**-1.1**
VLS				S		**Sb**		**02 31 51.2**	**+0.6**
TRIZ	**Trizonia**	**0.72**	**47**	P		**Pb**		**02 31 41.2**	**-0.1**
TRIZ	**Trizonia**	**0.72**	**47**	P		**Pb**		**02 31 41.2**	**-0.1**
PDO	**Prodromos**	**0.74**	**347**	*e*PB		**Pb**		**02 31 41.7**	**0.0**
PDO				*e*SB		**Sb**		**02 31 51.4**	**-0.2**
PDO	**Prodromos**	**0.74**	**347**	P		**Pb**		**02 31 41.5**	**-0.2**
PDO				*e*Sb		**Sb**		**02 31 51.4**	**-0.2**
PDO				S		**Sn**		**02 31 53.2**	**-0.7**
PDO	**Prodromos**	**0.74**	**347**	P		**Pb**		**02 31 41.5**	**-0.2**
PDO				S		**Sn**		**02 31 53.2**	**-0.7**
PVO	**Paravola**	**0.74**	**8**	P		**Pb**		**02 31 41.9**	**+0.1**
PVO				S		**Sn**		**02 31 53.4**	**-0.6**
PVO	**Paravola**	**0.74**	**8**	P		**Pb**		**02 31 41.9**	**+0.1**
PVO				S		**Sn**		**02 31 53.4**	**-0.6**
SERG	**Sergoula**	**0.74**	**44**	P		**Pg**		**02 31 41.4**	**-0.3**
SERG	**Sergoula**	**0.74**	**44**	P		**Pg**		**02 31 41.4**	**-0.3**
GUR	**Goura**	**0.75**	**85**	P		**Pg**		**02 31 40.8**	**-0.9**
GUR				S		**Sb**		**02 31 52.3**	**+0.4**
GUR	**Goura**	**0.75**	**85**	P		**Pg**		**02 31 40.8**	**-0.9**
GUR				S		**Sb**		**02 31 52.3**	**+0.4**
KALE	**Kalithea**	**0.78**	**48**	*e*PB		**Pg**		**02 31 42.0**	**-0.3**
KALE				*e*SB		**Sb**		**02 31 53.4**	**+0.7**
KALE	**Kalithea**	**0.78**	**48**	P		**Pg**		**02 31 41.8**	**-0.5**
KALE				*e*Sb		**Sb**		**02 31 53.4**	**+0.7**
KALE				S		**Sn**		**02 31 54.1**	**-0.8**
KALE	**Kalithea**	**0.78**	**48**	P		**Pg**		**02 31 41.8**	**-0.5**
ITM	**Ithomi**	**0.81**	**149**	*e*PG		**Pg**		**02 31 42.6**	**-0.3**
ITM				*e*SB		**Sb**		**02 31 54.5**	**+0.9**
ITM	**Ithomi**	**0.81**	**149**	P		**Pg**		**02 31 41.6**	**-1.3**
ITM	**Ithomi**	**0.81**	**149**	*e*Pg		**Pg**		**02 31 42.6**	**-0.3**
ITM				*e*Sb		**Sb**		**02 31 54.5**	**+0.9**
ITM				S		**Sn**		**02 31 55.9**	**+0.2**
ITM	**Ithomi**	**0.81**	**149**	P		**Pg**		**02 31 41.6**	**-1.3**
EXG	**Exogi**	**0.84**	**314**	P		**Pg**		**02 31 42.9**	**-0.6**
EXG				S		**Sn**		**02 31 56.0**	**-0.4**
EXG	**Exogi**	**0.84**	**314**	P		**Pg**		**02 31 42.9**	**-0.6**
EXG				S		**Sn**		**02 31 56.0**	**-0.4**
VLX	**Vlachokerasia**	**0.93**	**123**	*e*PB		**Pg**		**02 31 44.8**	**-0.3**
VLX				*e*SB		**Sb**		**02 31 57.5**	**+0.5**
VLX	**Vlachokerasia**	**0.93**	**123**	P		**Pg**		**02 31 44.5**	**-0.6**
VLX	**Vlachokerasia**	**0.93**	**123**	*e*Pb		**Pg**		**02 31 44.8**	**-0.3**
VLX				*e*Sb		**Sb**		**02 31 57.5**	**+0.5**
VLX	**Vlachokerasia**	**0.93**	**123**	P		**Pg**		**02 31 44.5**	**-0.6**
THAL	**Thalero**	**1.01**	**80**	*e*PG		**Pb**		**02 31 45.8**	**-0.5**
THAL	**Thalero**	**1.01**	**80**	P		**Pb**		**02 31 45.8**	**-0.5**
THAL	**Thalero**	**1.01**	**80**	P		**Pb**		**02 31 45.8**	**-0.5**
PYL	**PYLOS**	**1.02**	**164**	*e*PB		**Pb**		**02 31 46.6**	**+0.2**
PYL	**PYLOS**	**1.02**	**164**	P		**Pb**		**02 31 44.8**	**-1.6**
PYL	**PYLOS**	**1.02**	**164**	*e*Pb		**Pb**		**02 31 46.6**	**+0.2**
PYL	**PYLOS**	**1.02**	**164**	P		**Pb**		**02 31 44.8**	**-1.6**
DSF	**Desfina**	**1.04**	**59**	*e*PG		**Pb**		**02 31 46.1**	**-0.6**
DSF	**Desfina**	**1.04**	**59**	P		**Pb**		**02 31 46.2**	**-0.5**
DSF	**Desfina**	**1.04**	**59**	P		**Pb**		**02 31 46.2**	**-0.5**
LKD2	**Lefkada island**	**1.08**	**328**	*e*PG		**Pb**		**02 31 47.0**	**-0.5**
LKD2	**Lefkada island**	**1.08**	**328**	*e*Pg		**Pb**		**02 31 47.0**	**-0.5**
LKD2	**Lefkada island**	**1.08**	**328**	P		**Pb**		**02 31 46.9**	**-0.5**
EVR	**Evrytania**	**1.09**	**17**	*e*PB		**Pb**		**02 31 47.4**	**-0.2**
EVR	**Evrytania**	**1.09**	**17**	P		**Pb**		**02 31 47.3**	**-0.3**
EVR				S		**Sn**		**02 32 03.1**	**+0.5**
EVR	**Evrytania**	**1.09**	**17**	P		**Pb**		**02 31 47.3**	**-0.3**
EVR				S		**Sn**		**02 32 03.1**	**+0.5**
LTK	**Loutraki**	**1.25**	**83**	*e*PN		**Pn**		**02 31 50.0**	**+0.1**
LTK	**Loutraki**	**1.25**	**83**	*e*Pn		**Pn**		**02 31 50.0**	**+0.1**
LOUT	**Loutraki**	**1.25**	**84**	*e*PB		**Pg**		**02 31 51.3**	**+0.1**
LOUT	**Loutraki**	**1.25**	**84**	*e*Pb		**Pg**		**02 31 51.3**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.27**	**27**	*e*PB		**Pg**		**02 31 51.2**	**-0.5**
MAKR	**Makrakomi, Fth**	**1.27**	**27**	*e*Pb		**Pg**		**02 31 51.2**	**-0.5**
DSL	**Palaion Diasel**	**1.28**	**349**	P		**Pn**		**02 31 50.3**	**-0.1**
DSL	**Palaion Diasel**	**1.28**	**349**	P		**Pn**		**02 31 50.3**	**-0.1**
AXAR	**Agios Charalam**	**1.33**	**48**	*e*PN		**Pn**		**02 31 51.1**	**0.0**
AXAR	**Agios Charalam**	**1.33**	**48**	*e*Pn		**Pn**		**02 31 51.1**	**0.0**
KRND	**KRANIDI**	**1.47**	**109**	*e*PG		**Pb**		**02 31 54.5**	**+0.3**
KRND	**KRANIDI**	**1.47**	**109**	*e*Pg		**Pb**		**02 31 54.5**	**+0.3**
LKR	**Lokris**	**1.48**	**58**	*e*PB		**Pg**		**02 31 55.2**	**-0.3**
LKR	**Lokris**	**1.48**	**58**	*e*Pb		**Pg**		**02 31 55.2**	**-0.3**
DIDY	**Didyma**	**1.49**	**105**	*e*PG		**Pb**		**02 31 55.1**	**+0.6**
DIDY	**Didyma**	**1.49**	**105**	*e*Pg		**Pb**		**02 31 55.1**	**+0.6**
DID	**Didima**	**1.50**	**104**	*e*PG		**Pb**		**02 31 54.6**	**-0.1**
DID	**Didima**	**1.50**	**104**	*e*Pg		**Pb**		**02 31 54.6**	**-0.1**
VIL2	**Platees**	**1.51**	**77**	*e*PG		**Pg**		**02 31 55.7**	**-0.5**
VILL	**Villia**	**1.54**	**79**	*e*Pg		**Pb**		**02 31 55.7**	**+0.4**
VLI	**Veliai**	**1.69**	**133**	*e*PG		**Pg**		**02 31 59.1**	**-0.4**
VLI				*e*SN		**Sg**		**02 32 21.4**	**0.0**
VLI	**Veliai**	**1.69**	**133**	*e*Pg		**Pg**		**02 31 59.1**	**-0.4**
VLI				*e*Sn		**Sg**		**02 32 21.4**	**0.0**
SMIA	**Simia**	**1.74**	**54**	*e*PN		**Pb**		**02 31 58.8**	**+0.1**
SMIA	**Simia**	**1.74**	**54**	*e*Pn		**Pb**		**02 31 58.8**	**+0.1**
THL	**Klokotos Trika**	**1.75**	**16**	*e*PG		**Pb**		**02 31 59.5**	**+0.6**
THL	**Klokotos Trika**	**1.75**	**16**	*e*Pg		**Pb**		**02 31 59.5**	**+0.6**
JAN	**Janina**	**1.83**	**347**	*e*PG		**Pb**		**02 32 00.5**	**+0.3**
JAN	**Janina**	**1.83**	**347**	*e*Pg		**Pb**		**02 32 00.5**	**+0.3**
ATH	**Athens Observa**	**1.83**	**86**	*e*PN		**Pb**		**02 32 00.6**	**+0.3**
ATH	**Athens Observa**	**1.83**	**86**	*e*Pn		**Pb**		**02 32 00.6**	**+0.3**
IGT	**Igoumenitsa**	**1.85**	**334**	*e*PN		**Pb**		**02 32 00.4**	**-0.2**
IGT	**Igoumenitsa**	**1.85**	**334**	*e*Pn		**Pb**		**02 32 00.4**	**-0.2**
MRKA	**Markates**	**1.91**	**64**	*e*PN		**Pb**		**02 32 01.3**	**-0.3**
MRKA	**Markates**	**1.91**	**64**	*e*Pn		**Pb**		**02 32 01.3**	**-0.3**
PTL	**Penteli**	**1.96**	**84**	*e*PN		**Pb**		**02 32 01.8**	**-0.6**
PTL	**Penteli**	**1.96**	**84**	*e*Pn		**Pb**		**02 32 01.8**	**-0.6**
SGD	**Sagiada**	**1.96**	**333**	*e*PN		**Pb**		**02 32 02.0**	**-0.4**
SGD	**Sagiada**	**1.96**	**333**	*e*Pn		**Pb**		**02 32 02.0**	**-0.4**
NEO	**Neokhori**	**2.02**	**44**	*e*PN		**Pb**		**02 32 02.8**	**-0.7**
NEO	**Neokhori**	**2.02**	**44**	*e*Pn		**Pb**		**02 32 02.8**	**-0.7**
XOR	**Xorichti**	**2.04**	**43**	*e*PN		**Pb**		**02 32 03.2**	**-0.7**
XOR	**Xorichti**	**2.04**	**43**	*e*Pn		**Pb**		**02 32 03.2**	**-0.7**
KYTH	**Kithira**	**2.06**	**140**	*e*PN		**Pb**		**02 32 04.5**	**+0.3**
KYTH	**Kithira**	**2.06**	**140**	*e*Pn		**Pb**		**02 32 04.5**	**+0.3**
EREA	**Eretria**	**2.07**	**74**	*e*PN		**Pb**		**02 32 03.5**	**-0.8**
EREA	**Eretria**	**2.07**	**74**	*e*Pn		**Pb**		**02 32 03.5**	**-0.8**
KEK	**Kerkira**	**2.22**	**326**	*e*PB		**Pn**		**02 32 04.9**	**+1.6**
AOS	**Alonnisos**	**2.33**	**56**	*e*PN		**Pb**		**02 32 07.7**	**-1.1**
AOS	**Alonnisos**	**2.33**	**56**	*e*Pn		**Pb**		**02 32 07.7**	**-1.1**
LIT	**Litokhoron**	**2.38**	**21**	*e*PN		**Pb**		**02 32 08.1**	**-1.5**
LIT	**Litokhoron**	**2.38**	**21**	*e*Pn		**Pb**		**02 32 08.1**	**-1.5**
KZN	**Kozani**	**2.44**	**7**	*e*PN		**Pb**		**02 32 09.4**	**-1.4**
KZN	**Kozani**	**2.44**	**7**	*e*Pn		**Pb**		**02 32 09.4**	**-1.4**
ANKY	**Antikythira Is**	**2.52**	**142**	*e*PB		**Pb**		**02 32 10.0**	**-2.0**
PAIG	**Paliouri**	**2.71**	**40**	*e*PN		**Pn**		**02 32 12.4**	**+2.3**
PAIG	**Paliouri**	**2.71**	**40**	*e*Pn		**Pn**		**02 32 12.4**	**+2.3**
FNA	**Florina**	**2.90**	**360**	*e*PN		**Pn**		**02 32 15.0**	**+2.2**
FNA	**Florina**	**2.90**	**360**	*e*Pn		**Pn**		**02 32 15.0**	**+2.2**
PLG	**Polygyros**	**2.96**	**32**	*e*PN		**Pn**		**02 32 15.4**	**+1.9**
PLG	**Polygyros**	**2.96**	**32**	*e*Pn		**Pn**		**02 32 15.4**	**+1.9**
HORT	**Hortiatis**	**3.02**	**25**	*e*PN		**Pn**		**02 32 16.5**	**+2.1**
HORT	**Hortiatis**	**3.02**	**25**	*e*Pn		**Pn**		**02 32 16.5**	**+2.1**
OUR	**Ouranopolis**	**3.17**	**38**	*e*PN		**Pn**		**02 32 19.3**	**+2.9**
OUR	**Ouranopolis**	**3.17**	**38**	*e*Pn		**Pn**		**02 32 19.3**	**+2.9**
GRG	**Griva**	**3.17**	**14**	*e*PN		**Pn**		**02 32 18.6**	**+2.2**
GRG	**Griva**	**3.17**	**14**	*e*Pn		**Pn**		**02 32 18.6**	**+2.2**
SOH	**Sokhos**	**3.31**	**27**	*e*PN		**Pn**		**02 32 20.9**	**+2.6**
SOH	**Sokhos**	**3.31**	**27**	*e*Pn		**Pn**		**02 32 20.9**	**+2.6**
VAM	**Vamos**	**3.34**	**137**	*e*PN		**Pn**		**02 32 21.0**	**+2.3**
VAM	**Vamos**	**3.34**	**137**	*e*Pn		**Pn**		**02 32 21.0**	**+2.3**
APE	**Apeiranthos**	**3.38**	**103**	*e*PN		**Pn**		**02 32 21.6**	**+2.2**
APE	**Apeiranthos**	**3.38**	**103**	*e*Pn		**Pn**		**02 32 21.6**	**+2.2**
KNT	**Kendrikon**	**3.48**	**19**	*e*PN		**Pn**		**02 32 23.5**	**+2.9**
KNT	**Kendrikon**	**3.48**	**19**	*e*Pn		**Pn**		**02 32 23.5**	**+2.9**
SRS	**Serrai**	**3.65**	**27**	*e*PN		**Pn**		**02 32 25.8**	**+2.8**
SRS	**Serrai**	**3.65**	**27**	*e*Pn		**Pn**		**02 32 25.8**	**+2.8**
CHOS	**Chios island**	**3.71**	**81**	*e*PN		**Pn**		**02 32 25.8**	**+2.0**
CHOS	**Chios island**	**3.71**	**81**	*e*Pn		**Pn**		**02 32 25.8**	**+2.0**
BARS	**Barje**	**4.94**	**4**	*e*Pn		**Pn**		**02 32 42.6**	**+1.8**
STON	**Ston**	**5.73**	**332**	*e*PN		**Pn**		**02 32 51.1**	**-0.5**
STON				Sn		**Sn**		**02 33 54.5**	**-2.5**
STON	**Ston**	**5.73**	**332**	*e*Pn		**Pn**		**02 32 51.0**	**-0.5**
DIVS	**Divibare**	**6.31**	**351**	*e*Pn		**Pn**		**02 32 59.5**	**0.0**
UDBI	**Udbina**	**7.88**	**329**	*e*PN		**Pn**		**02 33 21.9**	**+0.8**
UDBI				Sn		**Sn**		**02 34 47.2**	**-2.9**
UDBI	**Udbina**	**7.88**	**329**	*e*Pn		**Pn**		**02 33 21.9**	**+0.8**
NVLJ	**Novalja**	**8.29**	**326**	Sn		Sn		02 34 53.9	-6.1
GNI	**Garni**	**18.27**	**76**	LR		LR		02 42 45.2	
	comp=Z,98nm,18.1s,baz=5.0,slow=37								
FINES	**FINESS Array B**	**23.77**	**6**	P		**P**		**02 36 37.8**	**-0.8**
	1.3nm,0.9s,baz=175,slow=11,SNR=5.6								
TORD	**Torodi Ar. Bea**	**30.24**	**221**	P		**P**		**02 37 37.2**	**-0.1**
	0.1nm,0.6s,baz=37,slow=9.2,SNR=2.8								
ARCES	**ARCESS Array B**	**31.80**	**3**	P		**P**		**02 37 50.1**	**-0.4**
	0.5nm,0.7s,baz=190,slow=10,SNR=4.5								
MKAR	**Makanchi Array**	**44.87**	**58**	P		**P**		**02 39 41.1**	**+0.4**
	0.2nm,0.4s,baz=280,slow=8.6,SNR=4.0								

*ISCJB **06** 02:38:28.2±0.8, 32.°12N±0.°02×115.°06W±0.°03, h10km±6km, Error ellipse: s-maj=3.9km s-min=3.5km az=17.6*

*MEX **06** 02:38:29.5±1.2, 32.°14N×114.°80W, h10km, MD4.0*

*ECX **06** 02:38:30.3±0.4, 32.°11N×115.°12W, h12km, MD3.3, ML3.5*

*NEIC **06** 02:38:30.3, 32.°11N×115.°12W, h12km, ML3.3(PAS), ML3.5(ECX), After ECX.*

ISC 06 02:38:28.9±0.9, 32.°11N±0.°02×115.°12W±0.°02, h17km±8km, n44, σ1§54/72, 4C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
CPBX	**Cerro Prieto**	**0.34**	**332**	*e*P		**Pg**		**02 38 36.7**	**+0.6**
CPBX				*e*S		**Sb**		**02 38 44.2**	**+2.3**
CPBX	**Cerro Prieto**	**0.34**	**332**	*e*P		**Pg**		**02 38 36.7**	**+0.6**
CPBX				*e*S		**Sg**		**02 38 41.7**	**+0.7**
CPBX				IAML				02 38 45.5	
	comp=E,10μm,0.1s								
CPBX				⇑*e*				02 38 45.5	
EMSC	**East Mesa**	**0.63**	**10**	⇓*iP*		**Pb**		**02 38 41.9**	**+0.3**
ECBX	**El Chinero**	**0.64**	**175**	*e*P		**Pg**		**02 38 41.1**	**-0.5**
ECBX				*e*S		**Sg**		**02 38 50.8**	**-0.2**
YMD	**Yuma Desert**	**0.65**	**48**	⇑*iP*		**Pg**		**02 38 41.8**	**0.0**
RDX	**Rancho Dawling**	**0.73**	**255**	*e*P		**Pg**		**02 38 43.4**	**+0.2**
RDX				*e*S		**Sg**		**02 38 53.0**	**+0.1**
RDX				IAML				02 38 55.0	
	comp=N,1μm,0.5s								
RDX				⇑*e*				02 38 55.0	
SGL	**Mount Signal**	**0.74**	**316**	⇓*iP*		**Pg**		**02 38 43.3**	**-0.2**
COA	**Coachella**	**0.75**	**359**	⇓*iP*		**Pg**		**02 38 43.4**	**-0.2**
YUH	**Yuha Desert**	**0.87**	**308**	⇓*iP*		**Pb**		**02 38 45.2**	**-0.4**
RMX	**La Rumorosa**	**0.95**	**301**	*e*P		**Pb**		**02 38 47.0**	**-0.1**
RMX				*e*S		**Sb**		**02 38 59.9**	**+0.4**
GLA	**Glamis**	**0.97**	**14**	P		**Pb**		**02 38 46.4**	**-0.9**
	baz=1.0								
GLA				S		**Sb**		**02 38 59.3**	**-0.6**
	baz=1.0								
GLA	**Glamis**	**0.97**	**14**	*e*Pg		**Pb**		**02 38 46.4**	**-0.9**
GLA				*e*S		**Sb**		**02 38 59.4**	**-0.5**
IBP	**Imperial Bould**	**0.99**	**304**	P		**Pb**		**02 38 47.6**	**-0.2**
	baz=1.0								
IBP				S		**Sb**		**02 39 01.3**	**+0.7**
	baz=1.0								
SWSC	**Sam W. Stewart**	**1.00**	**325**	P		**Pb**		**02 38 47.8**	**-0.2**
	baz=1.0								
SPIG	**San Pedro Mart**	**1.11**	**196**	*e*P		**Pb**		**02 38 49.6**	**-0.3**
SPIG				*e*S		**Sb**		**02 39 03.9**	**-0.2**
SPIG	**San Pedro Mart**	**1.11**	**196**	*e*P		**Pb**		**02 38 49.6**	**-0.3**
SPIG				*e*S		**Sb**		**02 39 03.9**	**-0.2**
SPIG	**San Pedro Mart**	**1.11**	**196**	*e*P		**Pb**		**02 38 49.6**	**-0.3**
SPIG				*e*S		**Sb**		**02 39 04.0**	**-0.2**
SPX	**San Pedro Mart**	**1.11**	**196**	*e*P		**Pb**		**02 38 49.5**	**-0.3**
SPX				*e*S		**Sb**		**02 39 04.6**	**+0.4**
SPX	**San Pedro Mart**	**1.11**	**196**	*e*P		**Pb**		**02 38 49.6**	**-0.3**
SPX				*e*S		**Sb**		**02 39 04.3**	**+0.1**
SPX				⇑*e*				02 39 07.3	
SPX				IAML				02 39 07.3	
	comp=N,637nm,0.5s								
ECNX	**Esteban Cantu**	**1.34**	**251**	*e*P		**Pn**		**02 38 53.7**	**+0.6**
ECNX				*e*S		**Sb**		**02 39 11.5**	**+0.8**
MONP	**Monument Peak**	**1.35**	**305**	P		**Pn**		**02 38 52.9**	**-0.4**
	baz=1.4								
MONP				S		**Sb**		**02 39 11.9**	**+0.9**
	baz=1.4								
PBX	**Punta Banda**	**1.42**	**255**	*e*P		**Pn**		**02 38 54.4**	**+0.3**
PBX				*e*S		**Sb**		**02 39 13.4**	**+0.5**
BAR	**Barrett**	**1.43**	**294**	*e*Pn		**Pn**		**02 38 54.7**	**+0.4**
BAR				*e*S		**Sb**		**02 39 14.1**	**+0.8**
BAR	**Barrett**	**1.43**	**294**	*e*P		**Pn**		**02 38 54.5**	**+0.2**
BC3	**Big Chuckawall**	**1.56**	**350**	P		**Pn**		**02 38 55.2**	**-0.9**
	baz=1.6								
BC3				S		**Sn**		**02 39 14.2**	**-1.9**
	baz=1.6								
109C	**Camp Elliot, M**	**1.85**	**295**	P		**Pn**		**02 39 00.4**	**+0.4**
	baz=1.9								
109C				S		**Sn**		**02 39 24.1**	**+1.1**
	baz=1.9								
PFO	**Pinyon Flat Ob**	**1.87**	**323**	P		**Pn**		**02 38 59.5**	**-0.8**
	baz=1.9								
PFO	**Pinyon Flat Ob**	**1.87**	**323**	*e*Pn		**Pn**		**02 38 59.4**	**-1.0**
PFO				*e*S		**Sn**		**02 39 20.1**	**-3.5**
214A	**Organ Pipe Nat**	**1.96**	**94**	P		**Pn**		**02 39 00.5**	**-1.1**
	baz=2.0								
214A	**Organ Pipe Nat**	**1.96**	**94**	*e*Pn		**Pn**		**02 39 00.3**	**-1.3**
MURC	**Murrieta**	**2.30**	**311**	Sb		**Sb**		**02 39 40.6**	**+2.5**
	baz=2.3								
LDFC	**Landfair**	**2.96**	**0**	Pn		**Pb**		**02 39 21.9**	**+0.6**
MWC	**Mount Wilson**	**3.24**	**311**	*e*

TIWZ				AML	AML	02 41 37.6	
OGWZ	**Otaki Gorge**	**3.37 189**		PN	Pn	02 40 53.0	-2.9
OGWZ	**Otaki Gorge**	**3.37 189**		Pn	Pn	02 40 53.0	-2.9
HOWZ	**Holdsworth Sta**	**3.41 185**		PN	Pn	02 40 53.1	-3.5
HOWZ	**Holdsworth Sta**	**3.41 185**		Pn	Pn	02 40 53.1	-3.5
CPWZ	**Castlepoint**	**3.42 176**		PN	Pn	02 40 53.8	-2.8
KIW	**Kapiti Island**	**3.45 192**		PN	Pn	02 40 53.8	-3.1
KIW				AML	AML	02 41 38.6	
KIW				AML	AML	02 41 39.4	
KIW	**Kapiti Island**	**3.45 192**		Pn	Pn	02 40 53.8	-3.1
TMWZ	**Te Maipa**	**3.61 180**		PN	Pn	02 40 55.3	-3.5
DUWZ	**D'Urville Isla**	**3.64 204**		PN	Pn	02 40 56.4	-2.7
DUWZ	**D'Urville Isla**	**3.64 204**		Pn	Pn	02 40 56.4	-2.7
CAW	**Cannon Point**	**3.66 190**		PN	Pn	02 40 55.8	-3.5
CAW				AML	AML	02 41 42.1	
CAW				AML	AML	02 41 42.7	
CAW	**Cannon Point**	**3.66 190**		Pn	Pn	02 40 55.9	-3.5
MTW	**Mount Morrison**	**3.67 185**		PN	Pn	02 40 55.6	-3.9
MTW				AML	AML	02 41 42.2	
MTW				AML	AML	02 41 42.2	
MTW	**Mount Morrison**	**3.67 185**		Pn	Pn	02 40 55.6	-3.9
WEL	**Wellington**	**3.88 193**		PN	Pn	02 40 58.4	-3.5
WEL				AML	AML	02 41 47.9	
WEL				AML	AML	02 41 47.9	
WEL	**Wellington**	**3.88 193**		Pn	Pn	02 40 58.4	-3.5
PAWZ	**Paruwai Farm**	**3.90 185**		PN	Pn	02 40 58.1	-4.0
PAWZ				AML	AML	02 41 46.4	
PAWZ				AML	AML	02 41 46.7	
PAWZ	**Paruwai Farm**	**3.90 185**		Pn	Pn	02 40 58.1	-4.0
TRWZ	**Traveller**	**3.90 182**		PN	Pn	02 40 58.3	-3.8
TRWZ				AML	AML	02 41 47.3	
TRWZ				AML	AML	02 41 47.4	
TRWZ	**Traveller**	**3.90 182**		Pn	Pn	02 40 58.4	-3.8
TCW	**Tory Channel**	**3.92 198**		PN	Pn	02 40 59.1	-3.2
TCW				AML	AML	02 41 47.4	
TCW				AML	AML	02 41 47.7	
TCW	**Tory Channel**	**3.92 198**		Pn	Pn	02 40 59.1	-3.2
SNZO	**South Karori**	**3.92 193**	*e*	Pn	Pn	02 40 58.2	-4.0
SNZO			*e*	S	S	02 41 45.4	-6.7
MSWZ	**Moikau Station**	**3.95 187**		PN	Pn	02 40 58.5	-4.1
MSWZ				AML	AML	02 41 46.8	
MSWZ				AML	AML	02 41 46.9	
MSWZ	**Moikau Station**	**3.95 187**		Pn	Pn	02 40 58.5	-4.1
BHW	**Baring Head**	**3.99 191**		PN	Pn	02 40 59.3	-3.8
BHW				AML	AML	02 41 46.6	
BHW				AML	AML	02 41 47.1	
BHW	**Baring Head**	**3.99 191**		Pn	Pn	02 40 59.3	-3.8
PLWZ	**Palliser**	**4.10 187**		PN	Pn	02 41 00.2	-4.3
PLWZ	**Palliser**	**4.10 187**		Pn	Pn	02 41 00.2	-4.3
NNZ	**Nelson**	**4.20 207**	⇑	PN	Pn	02 41 01.7	-3.8
NNZ	**Nelson**	**4.20 207**		Pn	Pn	02 41 01.7	-3.8
TUWZ	**Tuamarina**	**4.21 200**		PN	Pn	02 41 02.2	-3.5
TUWZ				AML	AML	02 41 52.6	
TUWZ				AML	AML	02 41 53.0	
TUWZ	**Tuamarina**	**4.21 200**		Pn	Pn	02 41 02.1	-3.6
QRZ	**Quartz Range**	**4.23 217**		PN	Pn	02 41 02.2	-3.7
QRZ	**Quartz Range**	**4.23 217**		Pn	Pn	02 41 02.2	-3.7
BSWZ	**Blackbirch Sta**	**4.49 200**		PN	Pn	02 41 05.6	-3.5
BSWZ				AML	AML	02 42 01.2	
BSWZ				AML	AML	02 42 03.5	
BSWZ	**Blackbirch Sta**	**4.49 200**		Pn	Pn	02 41 05.6	-3.5
THZ	**Tophouse**	**4.84 207**	⇑	PN	Pn	02 41 08.8	-4.7
THZ	**Tophouse**	**4.84 207**		Pn	Pn	02 41 08.8	-4.7
KHZ	**Kahutara**	**5.24 199**		PN	Pn	02 41 13.7	-4.5
KHZ				AML	AML	02 42 13.3	
KHZ				AML	AML	02 42 14.0	
KHZ	**Kahutara** 180nm,0.4s	**5.24 199**	*e*	Pn	Pn	02 41 14.0	-4.2
KHZ			*e*	S	S	02 42 11.6	-9.2
DSZ	**Denniston Nort**	**5.29 215**		PN	Pn	02 41 14.1	-4.8
LTZ	**Lake Taylor**	**5.96 207**		PN	Pn	02 41 22.0	-5.3
LTZ	**Lake Taylor**	**5.96 207**		Pn	Pn	02 41 22.0	-5.3
OXZ	**Oxford**	**6.52 206**		PN	Pn	02 41 28.2	-6.0
CRLZ	**Canterbury Las**	**6.56 201**		PN	Pn	02 41 28.7	-6.0
CRLZ	**Canterbury Las**	**6.56 201**		Pn	Pn	02 41 28.7	-6.0
MQZ	**McQueen's Vall**	**6.67 201**		PN	Pn	02 41 29.8	-6.2
WVZ	**Waitaha Valley**	**6.82 214**		PN	Pn	02 41 32.4	-5.5
WVZ	**Waitaha Valley**	**6.82 214**		Pn	Pn	02 41 32.4	-5.5
RPZ	**Rata Peaks** 16nm,0.5s	**7.22 209**	*e*	Pn	Pn	02 41 36.5	-6.5
RPZ			*e*	S	S	02 42 51.8	-14
FOZ	**Fox Glacier**	**7.68 216**		PN	Pn	02 41 41.5	-7.3
FOZ	**Fox Glacier**	**7.68 216**		Pn	Pn	02 41 41.5	-7.3
LBZ	**Lake Benmore**	**8.12 210**		PN	Pn	02 41 48.1	-6.3
LBZ	**Lake Benmore**	**8.12 210**		Pn	Pn	02 41 48.1	-6.3
WKZ	**Wanaka**	**8.97 213**		PN	Pn	02 41 58.5	-6.7
TUZ	**Tuapeka**	**9.66 207**		PN	Pn	02 42 08.3	-5.5
TUZ	**Tuapeka**	**9.66 207**		Pn	Pn	02 42 08.3	-5.5
WHZ	**Wether Hill Ro**	**10.27 213**		PN	Pn	02 42 14.6	-7.0
WHZ	**Wether Hill Ro**	**10.27 213**		Pn	Pn	02 42 14.6	-7.0

*IDC **06** 02:47:52.0±0.6,8.49S×80.07W,h0km,mb4.1/7, mb1 4.3/12,mb1mx4.2/24,mbtmp4.2/12,ML3.6/5,MS3.6/5, Ms1 3.6/5,ms1mx3.2/27,Error ellipse: s-maj=24.7km s-min=13.6km az=58.0*

*NEIC **06** 02:47:54.3±0.5,8.33S×80.10W,h35km,mb4.8/58,Error ellipse: s-maj=15.3km s-min=7.9km az=49.0*

*ISCJB **06** 02:47:55.3±0.3,8.58S±0.06×79.95W±0.07,h39km, mb4.7/69,MS3.6/2,Error ellipse: s-maj=12.5km s-min=5.6km az=139.0*

*MOS **06** 02:47:56.7±0.9,8.35S×80.11W,h33km,mb5.0/16,Error ellipse: s-maj=33.3km s-min=9.4km az=113.6*

*BJI **06** 02:47:57.0,8.30S×80.10W,h35km,mB5.0/4,Ms4.8/2, Ms7 4.6/2*

ISC 06 02:47:57.5±0.4,8.51S±0.07×79.91W±0.09,h39km,n381, σ0s84/352,mb4.8/69,Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.03**	**48**	Pn	**Pn**	**02 48 31.0**		**+1.4**
	10nm,0.3s,baz=268,slow=5.7,SNR=41							
ATAH				LR	LR	02 49 01.4		
	comp=Z,797nm,18.3s,baz=299,slow=32							
ATAH				Sn	Sn	02 49 06.2		+12
	30nm,0.3s,baz=288,slow=19,SNR=7.1							
NNA	**Nana**	**4.59**	**139**	Pn	**Pn**	**02 49 02.5**		**-1.9**
	4.4nm,0.3s,baz=322,slow=13,SNR=7.4							
NNA				Sn	**Sn**	**02 50 00.6**		**+4.1**
	12nm,0.3s,baz=240,slow=8.1,SNR=11							
OTAV	**Otavalo**	**8.81**	**10**	*e*Pn	Pn	02 49 57.1		-5.7
OTAV				*e*S	Sn	02 51 18.5		-23
LPAZ	**La Paz**	**13.86**	**125**	Pn	**Pn**	**02 51 13.4**		**+1.4**
	0.1nm,0.3s,baz=309,slow=11,SNR=5.2							
LPAZ				LR	LR	02 56 26.0		
	comp=Z,169nm,18.5s,baz=310,slow=37							
LPAZ	**La Paz**	**13.86**	**125**	*e*P	**Pn**	**02 51 15.1**		**+3.1**
ROSC	**El Rosal**	**14.40**	**23**	Pn	**P**	**02 51 22.7**		**-2.8**
	0.3nm,0.3s,baz=270,slow=20,SNR=2.9							
ROSC				LR	LR	02 57 02.7		
	comp=Z,351nm,20.4s,baz=198,slow=38							
SAML	**Samuel**	**16.54**	**93**	*e*Pn	**Pn**	**02 51 45.7**		**-1.0**
	7.9nm,1.1s							
LVC	**Limon Verde**	**17.56**	**144**	P	**Pn**	**02 52 00.1**		**+0.5**
	7.3nm,0.3s,baz=311,slow=13,SNR=8.2							
LVC	**Limon Verde**	**17.56**	**144**	*e*Pn	**Pn**	**02 52 00.0**		**+0.4**
	18nm,1.2s							
JTS	**JuntasAbangare**	**19.34**	**345**	P	**P**	**02 52 18.9**		**-0.9**
	0.2nm,0.3s,baz=182,slow=2.6,SNR=5.0							
JTS	**JuntasAbangare**	**19.34**	**345**	*e*P	**P**	**02 52 19.7**		**-0.1**
JTS				pmax	pmax			
	comp=Z,24nm,1.0s							
SDV	**Santo Domingo**	**19.60**	**28**	*e*P	**P**	**02 52 20.8**		**-2.0**
	comp=Z,17nm,1.2s							
SIV	**San Ignacio**	**19.84**	**114**	P	**P**	**02 52 25.7**		**+0.4**
	comp=Z,0.7nm,0.3s,baz=303,slow=11,SNR=21							
PTGA	**Pitinga**	**21.32**	**70**	P	**P**	**02 52 40.7**		**-0.5**
	comp=Z,16nm,0.7s,baz=256,slow=11,SNR=23							
PTGA	**Pitinga**	**21.32**	**70**	P	**P**	**02 52 37.6**		**-3.6**
	comp=Z,23nm,0.9s							
PCRV	**Puerto La Cruz**	**24.00**	**40**	LR	LR	03 04 25.7		
	comp=Z,192nm,18.0s,baz=168,slow=41							
CFAA	**Coronel Fontan**	**25.42**	**156**	P	**P**	**02 53 20.6**		**-1.0**
	comp=Z,0.1nm,0.3s,baz=31,slow=5.9,SNR=2.2							
CPUP	**Villa Florida**	**27.81**	**132**	LR	LR	03 06 24.4		
	comp=Z,141nm,18.8s,baz=315,slow=40							
035A	**Encino**	**39.41**	**334**	P	**P**	**02 55 24.9**		**+1.1**
	baz=40							
034A	**Hebbronville**	**39.77**	**333**	P	**P**	**02 55 27.7**		**+0.9**
	baz=40							
TIGA	**Tifton**	**39.88**	**355**	P	**P**	**02 55 28.9**		**+1.3**
	baz=40							
934A	**Benavides**	**40.17**	**334**	P	**P**	**02 55 31.3**		**+1.2**
	baz=40							
835A	**Beeville**	**40.47**	**335**	P	**P**	**02 55 34.5**		**+1.9**
	baz=41							
933A	**Laredo**	**40.51**	**333**	P	**P**	**02 55 33.5**		**+0.6**
	baz=41							
736A	**Circle Diamond**	**40.76**	**337**	P	**P**	**02 55 36.6**		**+1.7**
	baz=41							
HKT	**Hockley**	**41.19**	**339**	*e*P	P	02 55 32.0		-6.4
HKT				pmax	pmax			
	comp=Z,45nm,1.8s							
HKT	**Hockley**	**41.19**	**339**	*e*P	P	02 55 32.0		-6.4
	comp=Z,44nm,1.8s							
636A	**Smothers Creek**	**41.23**	**337**	P	**P**	**02 55 39.5**		**+0.8**
	baz=41							
538A	**Harpers Horsep**	**41.32**	**339**	P	**P**	**02 55 39.9**		**+0.4**
	baz=41							
832A	**Faith Ranch, C**	**41.40**	**333**	P	**P**	**02 55 40.3**		**+0.1**
	baz=42							
537A	**Green Hill Far**	**41.48**	**338**	P	**P**	**02 55 41.4**		**+0.6**
	baz=42							
732A	**Laxson Ranch,**	**41.78**	**333**	P	**P**	**02 55 43.7**		**+0.4**
	baz=42							
LRAL	**Lakeview Retre**	**41.86**	**351**	*e*P	P	02 55 36.9		-7.0
	comp=Z,14nm,1.3s							
633A	**Saathoff Ranch**	**42.06**	**335**	P	**P**	**02 55 44.9**		**-0.8**
	baz=42,SNR=6.3							
534A	**Blanco**	**42.27**	**336**	P	**P**	**02 55 47.5**		**+0.1**
	baz=42							
436A	**Wall Ranch, Ga**	**42.28**	**338**	P	**P**	**02 55 48.2**		**+0.8**
	baz=42							
338A	**Crockett**	**42.30**	**340**	P	**P**	**02 55 48.2**		**+0.7**
	baz=42							
632A	**Uvalde**	**42.37**	**334**	P	**P**	**02 55 48.0**		**-0.2**
	baz=42,SNR=6.8							
337A	**Centerville**	**42.45**	**340**	P	**P**	**02 55 49.7**		**+0.9**
	baz=43							
NATX	**Nacogdoches**	**42.46**	**341**	P	**P**	**02 55 50.0**		**+1.2**
	baz=43							
NATX	**Nacogdoches**	**42.46**	**341**	*e*P	P	02 55 45.0		-3.8
	comp=Z,73nm,1.3s							
533A	**Kerrville**	**42.54**	**335**	P	**P**	**02 55 50.0**		**+0.5**
	baz=43							
JSC	**Jenkinsville**	**42.58**	**358**	*e*P	**P**	**02 55 49.3**		**-0.4**
JSC				pmax	pmax			
	comp=Z,18nm,1.4s							
JSC	**Jenkinsville**	**42.58**	**358**	*e*P	**P**	**02 55 49.3**		**-0.4**
	comp=Z,18nm,1.4s							
435B	**Jarrell**	**42.59**	**337**	P	**P**	**02 55 50.7**		**+0.8**
	baz=43							
631A	**Perdido Creek**	**42.64**	**333**	P	**P**	**02 55 49.9**		**-0.4**
	baz=43							
238A	**Jacksonville**	**42.83**	**341**	P	**P**	**02 55 52.5**		**+0.7**
	baz=43							
336A	**Riesel**	**42.86**	**339**	P	**P**	**02 55 52.5**		**+0.4**
	baz=43							
434A	**Burnet**	**42.88**	**337**	P	**P**	**02 55 52.6**		**+0.2**
	baz=43							
532A	**Rocksprings**	**42.96**	**334**	P	**P**	**02 55 52.8**		**-0.2**
	baz=43,SNR=6.5							
335A	**Moody**	**42.98**	**338**	P	**P**	**02 55 53.3**		**+0.3**
	baz=43							
237A	**Waxahatta, Mont**	**43.05**	**340**	P	**P**	**02 55 54.2**		**+0.6**
	baz=43							
433A	**Art**	**43.16**	**336**	P	**P**	**02 55 55.0**		**+0.5**
	baz=43							
JCT	**Junction City**	**43.22**	**335**	*e*P	**P**	**02 55 54.6**		**-0.4**
JCT				pmax	pmax			
	comp=Z,7.0nm,1.0s							
JCT	**Junction City**	**43.22**	**335**	P	**P**	**02 55 55.2**		**+0.2**
	baz=43							
JCT	**Jution City**	**43.22**	**335**	*e*P	**P**	**02 55 54.6**		**-0.4**
	comp=Z,7.0nm,1.0s							
531A	**Rocksprings**	**43.27**	**334**	P	**P**	**02 55 55.3**		**-0.2**
	baz=43,SNR=6.3							
236A	**Katherine and**	**43.30**	**339**	P	**P**	**02 55 56.4**		**+0.8**
	baz=43							
334A	**Lometa**	**43.33**	**337**	P	**P**	**02 55 55.7**		**-0.2**
	baz=44,SNR=5.7							
KMSC	**Kings Mountain**	**43.44**	**358**	P	**P**	**02 55 57.5**		**+0.8**
	baz=44							
432A	**Menard**	**43.56**	**335**	P	**P**	**02 55 58.5**		**+0.7**
	baz=44							
530A	**J-C Ranch, Com**	**43.61**	**333**	P	**P**	**02 55 58.0**		**-0.2**
	baz=44							
333A	**Richland Sprin**	**43.62**	**336**	P	**P**	**02 55 58.5**		**+0.3**
	baz=44							
WHTX	**Lake Whitney**	**43.62**	**338**	P	**P**	**02 55 58.8**		**+0.6**
	baz=44							
OXF	**Oxford**	**43.72**	**349**	*e*P	**P**	**02 55 59.5**		**+0.5**
OXF	**Oxford**	**43.72**	**349**	*e*P	**P**	**02 55 59.5**		**+0.5**
431A	**Sonora**	**43.74**	**334**	P	**P**	**02 55 59.1**		**-0.2**
	baz=44							
234A	**Clairette**	**43.89**	**337**	P	**P**	**02 56 00.6**		**+0.2**
	baz=44							
Z38A	**Mt. Pleasant**	**43.94**	**342**	P	**P**	**02 56 01.3**		**+0.6**
	baz=44							
332A	**Millersview**	**43.98**	**335**	P	**P**	**02 56 01.1**		**0.0**
	baz=44							
529A	**Stev Forest Ra**	**43.99**	**332**	P	**P**	**02 56 00.9**		**-0.5**
	baz=44,SNR=7.7							
TXAR	**Lajitas Array**	**44.04**	**330**	P	**P**	**02 56 00.4**		**-1.4**
	comp=Z,0.6nm,0.9s,baz=155,slow=9.2,SNR=6.3							
TXAR				PcP	**PcP**	**02 57 47.8**		**+1.0**
	comp=Z,0.3nm,0.8s,baz=139,slow=5.6,SNR=4.2							
430A	**Baggett Ranch,**	**44.10**	**333**	P	**P**	**02 56 02.0**		**-0.2**
	baz=44							
233A	**Rising Star**	**44.20**	**337**	P	**P**	**02 56 02.8**		**-0.1**
	baz=44							
331A	**San Angelo**	**44.20**	**335**	P	**P**	**02 56 02.5**		**-0.4**
	baz=44							
Y39A	**Lockesburg**	**44.31**	**343**	P	**P**	**02 56 04.6**		**+0.9**
	baz=44							
134A	**White-Moore Ra**	**44.38**	**338**	P	**P**	**02 56 04.7**		**+0.4**
	baz=44							
232A	**Coleman**	**44.38**	**336**	P	**P**	**02 56 04.0**		**-0.4**
	baz=44,SNR=6.2							
Z36A	**Blue Ridge**	**44.42**	**340**	P	**P**	**02 56 04.7**		**+0.1**
	baz=45							
330A	**Mertzon**	**44.61**	**334**	P	**P**	**02 56 05.9**		**-0.3**
	baz=45							
231A	**Bronte**	**44.70**	**335**	P	**P**	**02 56 06.0**		**-0.9**
	baz=45							
133A	**Hamilton Ranch**	**44.73**	**337**	P	**P**	**02 56 07.4**		**+0.3**
	baz=45							
MIAR	**Mount Ida**	**44.73**	**344**	*e*P	P	02 56 00.1		-7.0
MIAR				pmax	pmax			
	comp=Z,11nm,1.0s							
MIAR	**Mount Ida**	**44.73**	**344**	P	**P**	**02 56 07.3**		**+0.2**
	baz=45,SNR=6.6							
MIAR	**Mount Ida**	**44.73**	**344**	*e*P	P	02 56 00.1		-7.0
	comp=Z,11nm,1.0s							
Y37A	**Hugo**	**44.81**	**341**	P	**P**	**02 56 08.4**		**+0.7**
	baz=45,SNR=6.9							
Y36A	**Durant**	**44.95**	**341**	P	**P**	**02 56 09.9**		**+1.1**
	baz=45							
230A	**Sterling City**	**44.99**	**334**	P	**P**	**02 56 09.2**		**-0.1**
	baz=45							
ABTX	**Abilene, Hawle**	**45.02**	**336**	P	**P**	**02 56 09.4**		**-0.1**
	baz=45,SNR=7.5							
ABTX	**Abilene, Hawle**	**45.02**	**336**	*e*P	P	02 56 04.3		-5.2
	comp=Z,18nm,0.9s							
329A	**Wagon Wheel Ra**	**45.03**	**333**	P	**P**	**02 56 09.3**		**-0.3**
	baz=45,SNR=7.2							
Z34A	**Collier Ranch,**	**45.03**	**339**	P	**P**	**02 56 10.2**		**+0.7**
	baz=45							
X38A	**Whitesboro**	**45.21**	**343**	P	**P**	**02 56 11.3**		**+0.5**
	baz=45,SNR=7.7							
Y35A	**Marietta**	**45.21**	**340**	P	**P**	**02 56 11.5**		**+0.6**
	baz=45							
Z33A	**Whitaker Ranch**	**45.27**	**338**	P	**P**	**02 56 11.4**		**0.0**
	baz=45,SNR=6.0							
X37A	**Clayton**	**45.30**	**342**	P	**P**	**02 56 12.4**		**+0.8**
	baz=45,SNR=11							
229A	**Bryant Ranch,**	**45.37**	**334**	P	**P**	**02 56 12.4**		**+0.2**
	baz=46							
131A	**Roby**	**45.37**	**336**	P	**P**	**02 56 12.5**		**+0.2**
	baz=46							
W38A	**Poteau**	**45.49**	**343**	P	**P**	**02 56 14.2**		**+1.1**
	baz=46							
Y34A	**Reagan Ranch,**	**45.51**	**339**	P	**P**	**02 56 14.3**		**+1.1**
	baz=46							
130A	**Snyder**	**45.54**	**335**	P	**P**	**02 56 14.0**		**+0.3**
	baz=46							
Z32A	**Haskell**	**45.56**	**337**	P	**P**	**02 56 13.6**		**-0.1**
	baz=46,SNR=7.5							
X35A	**Drake**	**45.64**	**340**	P	**P**	**02 56 14.7**		**+0.5**
	baz=46							
W37A	**Quinton**	**45.82**	**342**	P	**P**	**02 56 15.8**		**+0.1**
	baz=46,SNR=8.1							
Z31A	**Sharp Cattle R**	**45.84**	**336**	P	**P**	**02 56 15.8**		**-0.1**
	baz=46							
228A	**UT Block 9, Go**	**45.84**	**333**	P	**P**	**02 56 15.6**		**-0.5**
	baz=46							
129A	**Stewart Farms,**	**45.96**	**334**	P	**P**	**02 56 16.7**		**-0.2**
	baz=46							
W36A	**Wetumka**	**46.07**	**341**	P	**P**	**02 56 18.3**		**+0.6**
	baz=46							
X34A	**Smith Ranch, M**	**46.11**	**339**	P	**P**	**02 56 18.2**		**+0.2**
	baz=46,SNR=8.8							
PBMO	**Poplar Bluff**	**46.12**	**348**	*e*P	**P**	**02 56 18.0**		**0.0**
	comp=Z,25nm,1.4s							
Y32A	**R-V Farms, Ver**	**46.16**	**337**	P	**P**	**02 56 18.6**		**+0.2**
	baz=46,SNR=6.2							
Z30A	**Sanderson Ranc**	**46.21**	**335**	P	**P**	**02 56 19.6**		**+0.7**
	baz=46,SNR=6.1							
128A	**Castleberry Fa**	**46.22**	**333**	P	**P**	**02 56 19.3**		**+0.3**
	baz=46							
W35A	**Tecumseh**	**46.29**	**341**	P	**P**	**02 56 18.9**		**-0.5**
	baz=46,SNR=5.3							
X33A	**Lawton**	**46.30**	**339**	P	**P**	**02 56 19.0**		**-0.4**
	baz=46							
Z29A	**Hungry Hill Ra**	**46.43**	**335**	P	**P**	**02 56 20.2**		**-0.4**
	baz=47,SNR=8.1							
V37A	**Hulbert**	**46.43**	**343**	P	**P**	**02 56 20.3**		**-0.1**
	baz=47,SNR=8.1							
Y31A	**Rekieta Farm,**	**46.45**	**336**	P	**P**	**02 56 20.7**		**0.0**
	baz=47,SNR=11							
X32A	**Elmer**	**46.48**	**338**	P	**P**	**02 56 20.7**		**-0.2**
	baz=47,SNR=5.2							
WMOK	**Wichita Mounta**	**46.57**	**338**	*e*P	P	02 56 16.1		-5.6
WMOK				pmax	pmax			
	comp=Z,13nm,1.1s							
WMOK	**Wichita Mounta**	**46.57**	**338**	*e*P	P	02 56 16.1		-5.6
	comp=Z,13nm,1.1s							
V36A	**Jenks**	**46.58**	**342**	P	**P**	**02 56 21.4**		**-0.3**
	baz=47							
Y30A	**Stafford Cattl**	**46.63**	**336**	P	**P**	**02 56 21.7**		**-0.4**
	baz=47,SNR=7.1							
TUL1	**Tulsa**	**46.65**	**342**	P	**P**	**02 56 22.3**		**+0.1**
	baz=47							
TUL1	**Tulsa**	**46.65**	**342**	*e*P	P	02 56 15.8		-6.4
	comp=Z,16nm,0.9s							
W34A	**Bridge Creek,**	**46.67**	**340**	P	**P**	**02 56 22.6**		**+0.2**
	baz=47							
Z28A	**Tucker Farm, M**	**46.74**	**334**	P	**P**	**02 56 23.4**		**+0.3**
	baz=47							
W33A	**Caddo, Fort Co**	**46.83**	**339**	P	**P**	**02 56 24.4**		**+0.7**
	baz=47							
V35A	**Meyer Ranch, C**	**46.84**	**341**	P	**P**	**02 56 23.3**		**-0.4**
	baz=47							
X31A	**McDonald Ranch**	**46.93**	**337**	P	**P**	**02 56 24.2**		**-0.2**
	baz=47							
Y29A	**Porterfield Fa**	**46.93**	**335**	P	**P**	**02 56 24.0**		**-0.6**
	baz=47,SNR=5.7							
W32A	**Sentinel**	**47.09**	**338**	P	**P**	**02 56 25.2**		**-0.5**
	baz=47,SNR=8.4							
X30A	**Coker Ranch, T**	**47.11**	**336**	P	**P**	**02 56 25.8**		**-0.1**
	baz=47							
V34A	**Guthrie**	**47.13**	**340**	P	**P**	**02 56 26.2**		**+0.2**
	baz=47							
Y28A	**McKinney Farm,**	**47.22**	**334**	P	**P**	**02 56 26.7**		**-0.1**
	baz=47							
V33A	**Lossen Ranch,**	**47.37**	**340**	P	**P**	**02 56 27.7**		**-0.2**
	baz=48,SNR=7.6							
MSTX	**Muleshoe**	**47.49**	**334**	P	**P**	**02 56 28.1**		**-0.9**
	baz=48,SNR=7.3							
MSTX	**Muleshoe**	**47.49**	**334**	*e*P	P	02 56 24.7		-4.2
	comp=Z,23nm,1.1s							
T37A	**Cheneyville 18**	**47.52**	**344**	P	**P**	**02 56 28.8**		**-0.2**
	baz=48,SNR=6.0							
V32A	**Arapaho**	**47.55**	**339**	P	**P**	**02 56 29.6**		**+0.3**
	baz=48							
OLIL	**Olney**	**47.62**	**351**	*e*P	**P**	**02 56 30.5**		**+0.8**
	comp=Z,33nm,1.5s							
U34A	**Anderson Ranch**	**47.68**	**341**	P	**P**	**02 56 30.0**		**-0.3**
	baz=48							
X28A	**Dimmitt**	**47.72**	**335**	P	**P**	**02 56 30.2**		**-0.5**
	baz=48							
T36A	**Boggs Farm, Ca**	**47.74**	**343**	P	**P**	**02 56 31.4**		**+0.7**
	baz=48							
T35A	**Sooner Cattle**	**47.80**	**342**	P	**P**	**02 56 31.0**		**-0.2**
	baz=48,SNR=5.3							
AMTX	**Amarillo**	**47.82**	**336**	P	**P**	**02 56 31.4**		**-0.1**
	baz=48							
V31A	**Spring Creek L**	**47.89**	**338**	P	**P**	**02 56 31.7**		**-0.2**
	baz=48,SNR=7.5							
S37A	**Fort Scott**	**48.10**	**344**	P	**P**	**02 56 33.9**		**+0.5**
	baz=48							
T34A	**McClaskey Farm**	**48.10**	**341**	P	**P**	**02 56 33.7**		**+0.2**
	baz=48							
U32A	**Winter Ranch,**	**48.12**	**339**	P	**P**	**02 56 34.0**		**+0.3**
	baz=48							
S36A	**Lake Cedric, C**	**48.27**	**343**	P	**P**	**02 56 34.4**		**-0.4**
	baz=48,SNR

baz=50
P35A **Duane Minner,** 50.08 344 P P 02 56 49.0 +0.4
baz=50
Q33A **Connelly Farm,** 50.12 342 P P 02 56 48.6 -0.3
baz=50
T27A **Campo** 50.12 336 P P 02 56 48.5 -0.6
baz=50,SNR=7.5
S28A **Manter** 50.26 337 P P 02 56 49.6 -0.5
baz=50,SNR=5.6
R30A **Dighton** 50.28 339 P P 02 56 50.6 +0.4
baz=50
P34A **Walnut Farm, R** 50.32 343 P P 02 56 50.9 +0.5
baz=50
Q32A **Meitler Ranch,** 50.34 341 P P 02 56 50.4 -0.2
baz=50,SNR=5.1
CBKS **Cedar Bluff** 50.57 340 eP P 02 56 52.5 +0.2
CBKS pmax pmax
comp=Z,33nm,1.5s
CBKS **Cedar Bluff** 50.57 340 P P 02 56 52.8 +0.4
baz=51
CBKS **Cedar Bluff** 50.57 340 eP P 02 56 52.5 +0.2
comp=Z,33nm,1.5s
T26A **Comanche Natio** 50.58 335 P P 02 56 52.1 -0.6
baz=51,SNR=5.8
Q31A **Ellis** 50.62 340 P P 02 56 53.1 +0.3
baz=51
R29A **Marienthal** 50.71 338 P P 02 56 53.4 -0.1
baz=51,SNR=6.3
O34A **Beatrice** 50.88 343 P P 02 56 54.1 -0.5
baz=51,SNR=7.0
Q30A **Quinter** 50.88 340 P P 02 56 54.6 -0.1
baz=51
T25A **Trinidad** 50.88 335 P P 02 56 54.7 -0.3
baz=51,SNR=6.9
R28A **Tribune** 50.89 338 P P 02 56 54.7 -0.2
baz=51,SNR=7.5
O33A **Hebron** 51.03 343 P P 02 56 56.4 +0.6
baz=51
214A **Organ Pipe Nat** 51.06 324 P P 02 56 56.4 +0.2
baz=51
Q29A **Oakley** 51.07 339 P P 02 56 56.3 +0.1
baz=51
P31A **Stockton** 51.09 341 P P 02 56 56.7 +0.4
baz=51
R27A **Eads** 51.22 337 P P 02 56 56.9 -0.4
baz=51,SNR=6.5
P30A **Selden** 51.40 340 P P 02 56 58.8 +0.2
baz=52
O32A **Brockman Farm,** 51.41 342 P P 02 56 58.5 -0.2
baz=52
N34A **Lincoln** 51.43 344 P P 02 56 58.8 0.0
baz=52
R26A **Arlington** 51.48 336 P P 02 56 59.0 -0.3
baz=52,SNR=23
Q28A **Sharon Springs** 51.53 338 P P 02 56 59.7 +0.1
baz=52
O31A **Woolen Ranch,** 51.64 341 P P 02 57 00.7 +0.3
baz=52
W18A **Petrified Fore** 51.74 329 P P 02 57 01.7 +0.3
baz=52
KSCO **Kaye Shedlock'** 51.78 337 P P 02 57 02.2 +0.7
baz=52
KSCO **Kaye Shedlock'** 51.78 337 eP P 02 56 59.9 -1.7
comp=Z,28nm,1.4s
SDCO **Great Sand Dun** 51.86 334 P P 02 57 02.2 -0.2
baz=52,SNR=9.5
SDCO **Great Sand Dun** 51.86 334 eP P 02 56 57.2 -5.2
comp=Z,8.8nm,1.0s
Q26A **Hugo** 52.05 337 P P 02 57 03.5 -0.1
baz=52,SNR=5.2
O29A **4D Ranch, Culb** 52.11 340 P P 02 57 04.0 +0.2
baz=52
P27A **Ficken Ranch,** 52.24 338 P P 02 57 05.6 +0.7
baz=52
S22A **4UR Ranch, Cre** 52.45 333 P P 02 57 07.0 +0.3
baz=53
P26A **Davis Ranch, A** 52.53 337 P P 02 57 07.7 +0.5
baz=53
Q24A **Divide** 52.74 335 P P 02 57 08.7 -0.2
baz=53
O27A **Beecher Island** 52.76 338 P P 02 57 09.0 +0.2
baz=53
MVCO **Mesa Verde** 52.78 331 P P 02 57 09.1 0.0
baz=53
WUAZ **Wupatki** 52.90 328 P P 02 57 09.9 0.0
baz=53
WUAZ **Wupatki** 52.90 328 eP P 02 57 09.8 -0.1
comp=Z,9.7nm,1.4s
OGNE **Ogallala** 53.26 339 P P 02 57 13.0 +0.5
baz=53
PV01 **Paradox Valley** 53.56 332 eP P 02 57 09.8 -5.1
comp=Z,2µm,1.6s
ISCO **Idaho Springs** 53.64 335 eP P 02 57 15.8 +0.3
ISCO pmax pmax
comp=Z,16nm,1.5s
ISCO **Idaho Springs** 53.64 335 P P 02 57 15.2 -0.3
baz=54,SNR=5.9
ISCO **Idaho Springs** 53.64 335 eP P 02 57 15.8 +0.3
comp=Z,16nm,1.5s
ECSD **EROS Data Cent** 54.16 345 P P 02 57 18.5 -0.4
baz=54
ECSD **EROS Data Cent** 54.16 345 eP P 02 57 15.7 -3.3
comp=Z,33nm,2.1s
J30A **Dallas** 54.58 343 P P 02 57 22.3 +0.3
baz=55
SPMN **St. Paul** 54.73 349 P P 02 57 23.5 +0.5
baz=55
J29A **Okreek** 54.91 342 P P 02 57 24.9 +0.6
baz=55
O20A **White River Ci** 55.03 334 P P 02 57 26.2 +0.7
baz=55
O20A **White River Ci** 55.03 334 eP P 02 57 25.0 -0.6
comp=Z,24nm,1.5s
SRU **San Rafael** 55.26 331 eP P 02 57 27.5 +0.3
SRU pmax pmax
comp=Z,9.0nm,1.3s
SRU **San Rafael** 55.26 331 eP P 02 57 27.5 +0.3
comp=Z,9.2nm,1.3s
J27A **Elkhorn Farm,** 55.30 340 P P 02 57 27.8 +0.5
baz=55
I29A **Vivian Onida** 55.46 342 P P 02 57 28.5 +0.2
baz=56
MSU **Marysvale** 55.60 329 eP P 02 57 24.1 -5.6
MSU pmax pmax
comp=Z,20nm,2.1s
MSU **Marysvale** 55.60 329 eP P 02 57 24.1 -5.6
comp=Z,20nm,2.1s
P17A **Butcher Ranch,** 55.64 331 eP P 02 57 30.4 +0.5
SHPR **Sheep Range** 55.69 326 eP P 02 57 25.8 -4.4
comp=Z,5.1nm,1.3s
I28A **Midland** 55.70 342 P P 02 57 30.3 +0.2
baz=56
J26A **Sides Ranch, S** 55.72 340 P P 02 57 30.5 +0.3
baz=56,SNR=5.4
I27A **Quinn** 56.05 341 P P 02 57 33.5 +0.9
baz=56
G30A **Faulkton** 56.13 344 P P 02 57 33.6 +0.5
baz=56
K23A **Bowen Ranch, D** 56.16 337 P P 02 57 34.0 +0.5
baz=56
K22A **Casper** 56.41 337 P P 02 57 36.0 +0.6
baz=57
K22A **Casper** 56.41 337 eP P 02 57 34.9 -0.4
comp=Z,10nm,1.0s
I25A **Rochford** 56.57 340 P P 02 57 36.7 +0.2
baz=57,SNR=5.9
TPNV **Topopah Spring** 56.61 325 P P 02 57 37.2 +0.3
baz=57
MPMC **Manual Prospec** 56.70 324 P P 02 57 36.8 -0.8
baz=57
RSSD **Black Hills** 56.76 339 eP P 02 57 38.4 +0.6
RSSD pmax pmax
comp=Z,14nm,1.4s
RSSD **Black Hills** 56.76 339 eP P 02 57 38.4 +0.6
comp=Z,14nm,1.4s
JLU **Jordanelle** 56.87 332 eP P 02 57 38.2 -0.5
comp=Z,16nm,1.4s
ISA **Isabella** 57.01 323 P P 02 57 40.5 +0.9
baz=57
H25A **Fruitdale** 57.05 340 P P 02 57 40.5 +0.8
baz=57
EYMN **Ely** 57.14 351 P P 02 57 40.2 0.0
baz=57
EYMN **Ely** 57.14 351 eP P 02 57 40.0 -0.2
comp=Z,12nm,1.2s
DUG **Dugway** 57.21 330 eP P 02 57 40.3 -0.7
DUG pmax pmax
comp=Z,14nm,1.4s
DUG **Dugway** 57.21 330 P P 02 57 40.7 -0.3
baz=57,SNR=6.4
DUG **Dugway** 57.21 330 eP P 02 57 40.3 -0.7
comp=Z,14nm,1.4s
R11A **Troy Canyon, C** 57.25 327 P P 02 57 41.1 -0.3
baz=57
R11A **Troy Canyon, C** 57.25 327 eP P 02 57 41.6 +0.2
comp=Z,4.6nm,1.5s
G26A **Maurine** 57.32 341 P P 02 57 41.3 -0.2
baz=58
E30A **Jud** 57.34 345 P P 02 57 41.4 -0.2
baz=58
J21A **Lysite** 57.36 336 P P 02 57 41.8 -0.3
baz=58
I22A **9 Mile Ranch,** 57.45 337 P P 02 57 42.6 -0.1
baz=58
H24A **Dirks Ranch, A** 57.49 339 P P 02 57 42.7 -0.1
baz=58
G25A **Newell** 57.49 340 P P 02 57 42.8 0.0
baz=58
VES **Vestal, Richgr** 57.50 323 P P 02 57 42.6 -0.3
baz=58
I21A **Big Trails, Te** 57.70 337 P P 02 57 44.1 -0.3
baz=58
HWUT **Hardware Ranch** 57.71 332 eP P 02 57 39.1 -5.4
comp=Z,11nm,1.0s
PDAR **Pinedale Array** 57.75 334 P P 02 57 43.0 -1.9
comp=Z,3.3nm,1.0s,baz=122,slow=7.6,SNR=15
F26A **Lodgepole** 57.84 341 P P 02 57 45.4 +0.2
baz=58
D30A **Buchanan** 57.86 345 P P 02 57 44.9 -0.4
baz=58,SNR=5.4
E28A **Huff** 57.89 343 P P 02 57 45.9 +0.4
baz=58
J19A **Crowheart** 57.95 335 P P 02 57 46.9 +0.7
baz=58
I20A **Worland** 58.14 336 P P 02 57 47.9 +0.4
baz=58
H21A **Big Horn, Sher** 58.29 337 P P 02 57 48.4 -0.1
baz=58
E26A **Carlson Angus** 58.33 342 P P 02 57 49.0 +0.4
baz=58
F24A **Ekalaka** 58.41 340 P P 02 57 49.4 +0.1
baz=59
D28A **Regan** 58.42 344 P P 02 57 49.8 +0.6
baz=59
H20A **Greybull** 58.54 337 P P 02 57 49.8 -0.4
baz=59
I19A **Meeteetse** 58.56 336 P P 02 57 50.7 +0.2
baz=59
F23A **Volborg** 58.63 339 P P 02 57 50.9 +0.1
baz=59
E25A **Miller Ranch,** 58.65 341 P P 02 57 51.0 +0.2
baz=59
MDND **Maddock** 58.76 345 P P 02 57 51.9 +0.4
baz=59
REDW **Red Top Meadow** 58.79 334 eP P 02 57 47.1 -5.0
comp=Z,18nm,1.4s
NVAR **Mina Array Bea** 58.81 325 P P 02 57 51.9 -0.5
comp=Z,1.5nm,0.8s,baz=143,slow=6.3,SNR=8.6
NVAR PcP PcP 02 58 42.2 +0.5
comp=Z,0.8nm,0.8s,baz=138,slow=4.2,SNR=3.9
G21A **Lodge Grass** 58.86 338 P P 02 57 52.9 +0.4
baz=59
LOHW **Long Hollow** 58.89 334 P P 02 57 47.8 -4.9
comp=Z,7.5nm,1.3s
B30A **Myrvik Farm, E** 59.00 346 P P 02 57 52.9 -0.2
baz=59,SNR=5.9
FXWY **Fox Creek** 59.09 334 eP P 02 57 54.1 -0.1
comp=Z,17nm,2.0s
G20A **Bridger** 59.24 337 P P 02 57 54.4 -0.7
baz=59
IMW **Indian Meadow** 59.26 334 eP P 02 57 56.0 +0.6
comp=Z,11nm,1.4s
B29A **Wagenman Farm,** 59.27 345 P P 02 57 55.7 +0.6
baz=59
D24A **Glendive** 59.49 341 P P 02 57 57.3 +0.7
baz=60
RLMT **Red Lodge** 59.57 336 P P 02 57 57.2 -0.2
baz=60
RLMT **Red Lodge** 59.57 336 eP P 02 57 57.4 -0.1
comp=Z,9.3nm,1.3s
A29A **Manning Farm,** 59.66 345 P P 02 57 57.9 +0.1
baz=60,SNR=9.2
QLMT **Earthquake Lak** 60.22 335 eP P 02 57 59.5 -2.5
comp=Z,0.2nm,0.2s
GCMT **Greycliff** 60.28 336 eP P 02 57 57.5 -4.7
comp=Z,14nm,1.2s
D21A **La Casta Ranch** 60.35 339 P P 02 58 02.8 +0.3
baz=60,SNR=5.5
C23A **Lambert** 60.37 341 P P 02 58 03.2 +0.6
baz=60
C22A **Vida** 60.55 340 P P 02 58 04.2 +0.3
baz=61
HLID **Hailey** 60.55 332 P P 02 58 04.4 +0.1
baz=61,SNR=7.6
HLID **Hailey** 60.55 332 eP P 02 57 59.4 -4.8
comp=Z,8.8nm,1.2s
MCMT **McKenzie Canyo** 60.83 334 eP P 02 58 01.8 -4.4
BOZ **Bozeman (W)** 60.96 335 eP P 02 58 07.0 +0.1
BOZ pmax pmax
comp=Z,12nm,1.3s
BOZ **Bozeman (W)** 60.96 335 P P 02 58 06.6 -0.3
baz=61,SNR=7.0
BOZ **Bozeman (W)** 60.96 335 eP P 02 58 07.0 +0.1
comp=Z,12nm,1.3s
A24A **Westby** 60.98 342 P P 02 58 07.5 +0.7
baz=61
C21A **Desert Coulee** 61.04 339 P P 02 58 07.1 -0.1
baz=61,SNR=5.4
MFID **Camas Ranch** 61.12 331 eP P 02 58 03.1 -4.9
comp=Z,25nm,1.5s
DLMT **Dillon** 61.14 334 eP P 02 58 04.5 -3.7
comp=Z,14nm,1.3s
C20A **Veseth Ranch,** 61.26 339 P P 02 58 09.0 +0.3
baz=61
LRM **Limekiln Ridge** 61.45 335 eP P 02 58 05.6 -4.7
comp=Z,105nm,1.7s
A22A **Carney Farms,** 61.65 341 P P 02 58 11.9 +0.5
baz=62
B20A **Solberg Farm,** 61.88 339 P P 02 58 13.3 +0.4
baz=62
EGMT **Eagleton** 62.16 338 P P 02 58 14.6 -0.3
baz=62,SNR=5.5
EGMT **Eagleton** 62.16 338 eP P 02 58 11.5 -3.4
comp=Z,14nm,1.3s
B19A **Brinkman Farms** 62.23 339 P P 02 58 15.9 +0.6
baz=62
MOD **Modoc** 62.32 327 eP P 02 58 16.0 -0.1
comp=Z,12nm,1.4s
A19A **Klindworth Far** 62.55 339 P P 02 58 17.9 +0.5
baz=63
MSO **Missoula** 62.87 334 P P 02 58 19.8 +0.1
baz=63,SNR=8.4
MSO **Missoula** 62.87 334 eP P 02 58 20.1 +0.4
comp=Z,15nm,1.3s
G08A **Pilot Rock** 64.02 330 eP P 02 58 28.1 +0.9
comp=Z,14nm,1.3s
BSMT **Bassoo Peak** 64.03 335 P P 02 58 22.7 -4.7
comp=Z,9.1nm,1.3s
J04D **Umpqua Nationa** 64.21 327 P P 02 58 28.7 0.0
baz=64
WALA **Waterton Lakes** 64.62 336 P P 02 58 26.4 -4.7
comp=Z,10nm,1.3s
NEW **Newport** 65.36 334 eP P 02 58 36.3 +0.4
NEW pmax pmax
comp=Z,10.0nm,1.3s
NEW **Newport** 65.36 334 P P 02 58 36.2 +0.3
baz=66
NEW **Newport** 65.36 334 eP P 02 58 36.2 +0.4
comp=Z,9.8nm,1.3s
FFC **Flin Flon** 65.67 346 *i* P P 02 58 38.9 +1.2
G03D **McMinnville, O** 66.15 328 P P 02 58 41.7 +0.8
baz=66
EDM **Edmonton** 67.74 339 eP P 02 58 46.6 -4.4
EDM **Edmonton** 67.74 339 eP P 02 58 46.6 -4.4
YKA **Yellowknife Ar** 75.68 344 P P 02 59 38.3 -0.1
comp=Z,1.6nm,0.7s,baz=134,slow=5.8,SNR=8.5
SNAA **Sanae** 77.91 162 P P 02 59 53.2 +2.1
comp=Z,0.9nm,0.9s,baz=237,slow=2.7,SNR=7.0
DLBC **Dease Lake** 77.96 336 eP P 02 59 47.4 -4.1
comp=Z,9.2nm,1.3s
QSPA **South Pole Qui** 81.60 180 P P 03 00 11.8 +0.6
comp=Z,7.5nm,1.1s,baz=154,slow=4.5,SNR=9.7
QSPA **South Pole Qui** 81.60 180 eP P 03 00 08.2 -3.0
TORD **Torodi Ar. Bea** 83.83 76 P P 03 00 21.2 -2.5
comp=Z,2.0nm,0.9s,baz=261,slow=5.0,SNR=8.5
ESDC **Sonseca Array** 84.73 49 P P 03 00 24.6 -3.2
comp=Z,0.8nm,0.8s,baz=262,slow=3.9,SNR=4.2
SUMG **Summit** 85.23 12 eP P 03 00 30.4 +0.4
SUMG pmax pmax
comp=Z,14nm,1.0s
SUMG **Summit** 85.23 12 eP P 03 00 30.4 +0.4
comp=Z,14nm,1.0s
ILAR **Eielson Array** 88.11 337 P P 03 00 36.0 -7.8
comp=Z,0.3nm,0.9s,baz=145,slow=3.0,SNR=3.9
ILAR **Eielson Array** 88.11 337 P P 03 00 36.0 -7.8
MCK **McKinley** 88.52 335 eP P 03 00 44.8 -0.9
MCK pmax pmax
comp=Z,50nm,1.9s
MCK **McKinley** 88.52 335 eP P 03 00 44.8 -0.9
comp=Z,50nm,1.9s
COLA **College** 88.53 337 eP P 03 00 47.5 +1.8
COLA pmax pmax
comp=Z,11nm,1.2s
BPAW **Bear Paw Mtn.** 89.50 335 eP P 03 00 50.3 0.0
comp=Z,27nm,1.8s
CAST **Castle Rocks** 89.72 335 eP P 03 00 51.4 0.0
comp=Z,9.8nm,1.2s
BFO **Black Forest** 95.12 42 *i* P P 03 01 12.9 -3.8
BRVK **Borovoye** 129.44 23 ePKIKP PKPdf 03 07 03.0 +1.0
BVAR **Borovoye Array** 129.51 23 PKP PKPdf 03 07 04.1 +2.0
comp=Z,0.9nm,0.8s,baz=310,slow=3.2,SNR=3.8
ZALV **Zalesovo Beam** 133.05 12 PKP PKPdf 03 07 10.1 +1.3
comp=Z,0.6nm,0.7s,baz=300,slow=3.2,SNR=5.1
ASAR **Alice Springs** 134.01 225 PKP PKPdf 03 07 11.6 0.0
comp=Z,0.6nm,0.7s,baz=120,slow=2.3,SNR=4.5
KURK **Kurchatov** 134.32 19 PKIKP PKPdf 03 07 12.7 +1.4
KURK **Kurchatov** 134.32 19 PKP PKPdf 03 07 12.7 +1.4
KURBB **Kurchatov Arra** 134.37 19 PKP PKPdf 03 07 12.7 +1.3
comp=Z,1.2nm,0.7s,baz=325,slow=2.4,SNR=10
WRA **Warramunga Arr** 136.00 230 PKP PKPdf 03 07 15.2 -0.2
comp=Z,2.1nm,0.9s,baz=117,slow=1.6,SNR=9.1
TLY **Talaya** 136.86 357 ePKIKP PKPdf 03 07 14.8 -1.2
MKAR **Makanchi Array** 138.93 19 PKP PKPdf 03 07 20.5 +0.5
comp=Z,1.0nm,0.8s,baz=288,slow=0.5,SNR=4.0
WMQ **Urumqi** 143.20 15 ePKP PKPdf 03 07 27.4 -0.4
WMQ LN
comp=Z,26nm,16.0s
BJI **Beijing** 145.47 338 PKPbc PKPab 03 07 32.5 +0.5
HHC **Hu-ho-hao-te** 146.22 344 ePKPbc PKPdf 03 07 32.0 -1.2
HHC pPKP pPKPdf 03 07 42.0 -3.7
HHC PP PP 03 10 59.7 +4.3
HHC PKS PKSdf 03 11 08.4 -0.3
HHC SKKS 03 17 43.8
HHC PPMZ
comp=Z,79nm,10.0s
HHC LN
comp=Z,110nm,17.4s
HHC LE
comp=Z,190nm,17.4s
HHC LZ
comp=Z,70nm,17.4s
GTA **Gaotai** 149.23 0 ePKPbc PKPbc 03 07 40.9 -1.6
GTA pPKP pPKPdf 03 07 51.7 +0.9
GTA sPKP 03 07 55.4
NJ2 **Nanjing** 150.80 326 ePKPbc PKPdf 03 07 41.5 +0.8
LZH **Lanzhou** 152.34 353 ePKPbc PKPdf 03 07 42.0 -1.2
LZH pPKP PKiKP 03 07 52.1 +1.8
LZH sPKP 03 07 56.3
CD2 **Chengdu** 157.45 352 PKP PKPdf 03 07 48.4 -1.8
GYA **Guiyang** 161.09 342 ePKP PKPdf 03 07 54.0 -0.7
GYA sPKP 03 08 08.8
GYA PKPab PKPab 03 08 38.9 +1.3
GYA PKS PKSdf 03 11 25.2 -3.0
GYA PP PP 03 12 21.5 +2.2
GYA PPMZ
comp=Z,110nm,7.8s
CMAR **Chiang Mai Arr** 170.05 6 PKPab PKPab 03 09 17.6 +0.6
comp=Z,0.5nm,0.3s,baz=343,slow=5.6,SNR=7.2

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*DSN **06** 02:56:40.6±5.8,21°.86N×63°.73E,h5km,mb5.0/10, Ms4.9/10,Error ellipse: s-maj=68.2km s-min=14.1km az=91.0*
*IDC **06** 02:56:57.5±0.5,21°.68N×62°.08E,h0km,mb4.3/30, mb1 4.4/31,mb1mx4.3/37,mbtmp4.3/31,ML3.6/1,MS3.9/25, Ms1 3.9/25,ms1mx3.8/40,Error ellipse: s-maj=13.1km s-min=11.6km az=36.0*
*BJI **06** 02:56:58.2,21°.80N×62°.00E,h10km,mb4.7/26,mB4.9/21, Ms4.4/18,Ms7 4.1/16*
*CSEM **06** 02:56:59.8±0.2,21°.83N×62°.07E,h10km,mb4.5/23,Ms4.9, Error ellipse: s-maj=5.5km s-min=5.1km az=163.0*
*NEIC **06** 02:56:59.4±0.3,21°.75N×62°.08E,h10km,mb4.6/20,Error ellipse: s-maj=6.5km s-min=6.0km az=124.0*
*TEH **06** 02:57:00.0,21°.84N×61°.95E,h10km,ML4.6*
*MOS **06** 02:57:01.2±1.0,21°.78N×62°.05E,h33km,mb4.7/20,Error ellipse: s-maj=8.6km s-min=5.3km az=109.1*
*THR **06** 02:57:01.7±0.4,22°.15N×61°.83E,h8km,ML4.7*
*OMAN **06** 02:57:06.7±99.0,22°.04N×61°.78E,h29km±6km,Error ellipse: s-maj=28.2km s-min=5.8km az=273.0*

ISC 06 02:57:01.4±0.4,**21°.81N**±0°.05×**62°.03E**±0°.04,**h19**km±1km, **h19**km:**pP-P,n356,**σ1$**27**/369,**mb4.4**/71,**MS3.9**/27, **42C-19D,Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBK	**Wadi Bani Khal** SNR=311	2.94	286	⇑P	Pn	02 57 47.0	-0.2
WBK	**Wadi Bani Khal** SNR=311	2.94	286	P	Pn	02 57 47.0	-0.2
JMDO	**Jabal Madar** SNR=504	3.68	279	⇑P	Pn	02 57 58.1	+0.7
JMDO				⇑S	Sn	02 58 40.4	+0.1
JMDO	**Jabal Madar** SNR=504	3.68	279	P	Pn	02 57 58.1	+0.7
JMDO				S	Sn	02 58 40.4	+0.1
SMDO	**Samad** SNR=871	3.89	289	⇑P	Pn	02 58 00.5	+0.3
SMDO	**Samad** SNR=871	3.89	289	P	Pn	02 58 00.5	+0.3
CHBR	**Chabahar**	4.02	340	*e*Pn	Pn	02 58 00.3	-1.7
CHBR				AML	AML	02 58 47.9	
	comp=E,669nm,0.3s						
CHBR				AML	AML	02 58 48.8	
	comp=N,570nm,0.4s						
CHBR	**Chabahar** comp=N,570nm,0.4s	4.02	340	*e*Pn	Pn	02 58 00.3	-1.7
HOQ	**Hoqain** SNR=273	4.70	293	⇑P	Pn	02 58 11.5	+0.2
HOQ				⇑S	Sn	02 59 02.3	-3.0
HOQ	**Hoqain** SNR=273	4.70	293	P	Pn	02 58 11.5	+0.2
ARQ	**Araqi** SNR=91	5.31	288	⇓P	Pn	02 58 20.4	+0.7
ARQ				⇑S	Sn	02 59 19.0	-1.5
ARQ	**Araqi** SNR=91	5.31	288	P	Pn	02 58 20.4	+0.7
ARQ				S	Sn	02 59 19.0	-1.5
ASHO	**Ashiyiah** SNR=135	6.19	299	⇑P	Pn	02 58 33.1	+1.3
ASHO	**Ashiyiah** SNR=339	6.19	299	⇓*i*P	Pn	02 58 31.1	-0.7
ASHO	**Ashiyiah** SNR=135	6.19	299	P	Pn	02 58 33.1	+1.3
UOSS	**Wadi Hilu**	6.19	301	*e*Pn	Pn	02 58 29.9	-1.9
UOSS				*e*Sn	Sn	02 59 35.0	-7.2
UOSS	**Wadi Hilu**	6.19	301	*e*Pn	Pn	02 58 29.9	-1.9
UOSS				*e*Sn	Sn	02 59 35.0	-7.2
HATD	**Hatta, Dubai** SNR=18	6.19	300	P	Pn	02 58 34.2	+2.4
HATD	**Hatta, Dubai** SNR=78	6.19	300	⇓*i*P	Pn	02 58 30.8	-1.1
HATD	**Hatta, Dubai** SNR=78	6.19	300	P	Pn	02 58 30.8	-1.1
FAQ	**Al Faqa, Dubai** SNR=60	6.60	297	⇑*i*P	Pn	02 58 38.4	+1.0
NAZ	**Nazwa, Dubai** SNR=13	6.65	300	⇑P	Pn	02 58 38.9	+0.8
NAZ	**Nazwa, Dubai** SNR=50	6.65	300	⇓*i*P	Pn	02 58 38.9	+0.8
NAZ	**Nazwa, Dubai** SNR=13	6.65	300	P	Pn	02 58 38.9	+0.8
BANOM	**Banah** SNR=157	6.65	309	⇑P	Pn	02 58 36.7	-1.4
BANOM	**Banah** SNR=27	6.65	309	⇑*i*P	Pn	02 58 36.4	-1.7
BANOM	**Banah** SNR=157	6.65	309	P	Pn	02 58 36.7	-1.4
ASUD	**Al Ashush, Dub** SNR=114	6.77	296	⇓P	Pn	02 58 41.0	+1.3

ASUD Al Ashush, Dub 6.77 296⇑ *i*P Pn 02 58 40.8 +1.1
SNR=114
ASUD Al Ashush, Dub 6.77 296 P Pn 02 58 41.0 +1.3
SNR=114
SHAO Shalim 7.11 239 ⇓P Pn 02 58 44.5 +0.1
SNR=14
SHAO Shalim 7.11 239 P Pn 02 58 44.5 +0.1
SNR=14
ZHSF Zahedan 7.85 352 *e*Pn Pn 02 58 54.0 -0.7
ZHSF Zahedan 7.85 352 *e*Pn Pn 02 58 54.0 -0.7
RBK Rabkut 8.53 241 ⇑P Pn 02 59 04.6 +0.6
SNR=12
RBK Rabkut 8.53 241 P Pn 02 59 04.6 +0.6
SNR=12
ABTO Aybut 9.35 243 ⇑P Pn 02 59 15.4 +0.2
SNR=22
ABTO Aybut 9.35 243 P Pn 02 59 15.4 +0.2
SNR=22
KRBR Kerman 9.41 331 *e*Pn Pn 02 59 15.7 -0.6
KRBR Kerman 9.41 331 *e*Pn Pn 02 59 15.7 -0.6
GHIR Ghir-Karzin 10.42 310 *e*Pn Pn 02 59 29.3 -0.7
GHIR Sn Sn 03 01 17.2 -9.2
GHIR AML AML 03 01 25.5
comp=E,120nm,0.4s
GHIR Ghir-Karzin 10.42 310 *e*Pn Pn 02 59 29.3 -0.7
IKOO Kooshah 10.90 346 *e*P Pn 02 59 35.0 -1.7
IKOO Kooshah 10.90 346 *e*P Pn 02 59 35.0 -1.7
IBAF Bafgh 11.32 331 *e*P Pn 02 59 41.6 -0.7
IBAF Bafgh 11.32 331 *e*P Pn 02 59 41.6 -0.7
ITEG Tejag 11.42 346 *e*P Pn 02 59 42.8 -0.8
ITEG Tejag 11.42 346 *e*P Pn 02 59 42.8 -0.8
POO Poona 11.57 104 *e*P Pn 02 59 41.5 -4.2
POO AMB AMB 02 59 52.7
comp=E,81nm,2.4s
IMEH Mehriz 11.61 327 *e*P Pn 02 59 43.9 -2.5
IMEH Mehriz 11.61 327 *e*P Pn 02 59 43.9 -2.5
SHRT Shahrakht 11.89 353 *e*Pn Pn 02 59 49.5 -0.4
SHRT Shahrakht 11.89 353 *e*Pn Pn 02 59 49.5 -0.4
AHBU AHRAM 11.97 308 *e*Pn Pn 02 59 50.6 -0.5
IKAZ Kazeroun 12.13 313 *e*P Pn 02 59 51.5 -2.0
IKAZ Kazeroun 12.13 313 *e*P Pn 02 59 51.5 -2.0
ISAD Sadrabad 12.51 325 *e*P Pn 02 59 57.3 -1.4
ISAD Sadrabad 12.51 325 *e*P Pn 02 59 57.3 -1.4
IZEF Zefreh 13.99 324 *e*P Pn 03 00 17.4 -1.6
IZEF Zefreh 13.99 324 *e*P Pn 03 00 17.4 -1.6
KBL Kabul 14.10 24 *e*P Pn 03 00 20.2 -0.1
KBL Kabul 14.10 24 *e*P Pn 03 00 20.2 -0.1
KBL Kabul 14.10 24 *e*Pn Pn 03 00 20.2 -0.1
BHPL Bhopal 14.30 81 *e*P Pn 03 00 21.4 -1.6
IPIR Pirpir 14.66 320 *e*P Pn 03 00 25.1 -3.0
IKLH Kolahrood 14.73 323 *e*P Pn 03 00 28.4 -0.5
CEP Cherat 14.80 34 P Pn 03 00 28.2 -1.7
SHRO Shahrood 15.07 341 *e*Pn Pn 03 00 33.2 -0.2
SHRO Shahrood 15.07 341 *e*Pn Pn 03 00 33.2 -0.2
NDI New Delhi 15.34 60 *e*P Pn 03 00 37.0 +0.1
NDI *ex* x 03 03 37.0
RAYN Ar Rayn 15.35 279 *e*Pn Pn 03 00 31.7 -5.4
comp=Z,44nm,1.1s
RAYN *e*S Sn 03 03 11.4 -15
CHCP Chirah Chowk 15.42 38 P Pn 03 00 35.6 -2.3
SHGR Shooshtar-Gavs 15.61 314 *e*P P 03 00 44.8 +0.3
ISHM Shahmirzad 15.89 333 *e*P Pn 03 00 44.8 +0.4
IFIR Firoozkooh 15.99 332 *e*P Pn 03 00 45.1 -0.4
HYB Hyderabad 16.17 103 *e*P Pn 03 00 46.4 -1.3
HYB AMB AMB 03 01 01.7
comp=Z,22nm,1.1s
DHRM DHARAMSHALA 16.40 48 *e*P Pn 03 00 49.8 -1.1
DHRM AMB AMB 03 00 58.2
comp=Z,44nm,1.6s
SMLA Simla 16.41 52 *e*P Pn 03 00 48.2 -2.4
SMLA *ex* x 03 03 36.2
GEYT Alibeck 16.41 349 Pn Pn 03 00 51.5 +0.8
comp=Z,0.2nm,0.3s,baz=212,slow=5.3,SNR=7.6
GEYT LR LR 03 08 19.7
comp=Z,812nm,21.2s,baz=160,slow=41
ASAO Ashtian 16.50 323 *e*Pn Pn 03 00 53.0 +0.9
ASAO Ashtian 16.50 323 *e*Pn Pn 03 00 53.0 +0.9
IRAZ Razeghan 17.19 325 *e*P Pn 03 01 01.4 +0.7
IRAZ Razeghan 17.19 325 *e*P Pn 03 01 01.4 +0.7
DAMY Dhamar 18.23 250 *e*Pn P 03 01 14.3 +0.4
comp=Z,72nm,1.2s
DAMY Dhamar 18.23 250 *e*Pn P 03 01 14.3 +0.4
comp=Z,72nm,1.2s
KOLN Koldanda 20.45 69 *e*P P 03 01 37.3 -0.8
comp=Z,28nm,0.8s
KSH Kashi 21.29 31 P P 03 01 41.8 -5.1
KSH pP pP 03 01 49.2 -3.1
KSH PP **PnPn** **03 02 07.3 +0.5**
KSH S S 03 05 25.0 -18
KSH sS Sn 03 05 38.0 -12
KSH PcP **PcP** **03 05 54.1 +2.8**
KSH SS **SnSn** **03 06 03.1 -2.4**
KSH PcS **PcS** **03 09 31.4 +1.9**
KSH PMZ
comp=Z,31nm,0.9s
KSH PMZ
comp=Z,300nm,5.6s
KSH LN
comp=Z,250nm,6.4s
KSH LE
comp=Z,550nm,7.2s
KSH LZ
comp=Z,250nm,5.6s
GKN Gorkha 21.39 69 *e*P P 03 01 46.2 -2.0
comp=Z,63nm,1.0s
DMN Daman 21.73 70 *e*P P 03 01 50.5 -1.4
comp=Z,87nm,1.0s
KKN Kakani 21.91 70 *e*P P 03 01 52.2 -1.7
comp=Z,29nm,0.6s
PKIN Phulchoki 21.98 70 *e*P P 03 01 52.8 -1.8
comp=Z,59nm,1.0s
PKI Pulchoki 21.99 70 *e*P P 03 01 53.0 -1.8
comp=Z,84nm,1.1s
BOK Bokaro 22.07 80 *e*P P 03 01 54.4 -1.1
BOK AMB AMB 03 02 07.5
comp=Z,27nm,1.4s
KKAR Karatay Array 22.38 16 *e*P P 03 01 58.0 -0.5
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 22.38 16 *e*P P 03 01 58.0 -0.5
comp=Z,2.3nm,0.6s
KKAR Karatay Array 22.38 16 *e*P P 03 01 58.0 -0.5
comp=Z,2.4nm,0.6s
GUN Gumba 22.46 70 *e*P P 03 01 58.6 -1.2
comp=Z,243nm,1.0s
RAMN Ramite 22.94 72 *e*P P 03 02 03.4 -1.5
comp=Z,107nm,1.2s
EKS2 Erkin-Say 22.99 23 *e*P P 03 02 04.5 -0.6
EKS2 Erkin-Say 22.99 23 *e*P P 03 02 04.5 -0.6
EKS2 Erkin-Say 22.99 23 *e*P P 03 02 04.2 -0.9
comp=Z,27nm,1.3s
PALK Pallekele 23.10 126 P P 03 02 05.0 -1.3
comp=Z,4.7nm,0.6s,baz=326,slow=11,SNR=3.7
PALK LR LR 03 10 23.3
comp=Z,393nm,18.3s,baz=305,slow=35
AAK Ala-Archa 23.23 24 P P 03 02 58.2 +51
comp=Z,3.4nm,0.7s,baz=194,slow=10,SNR=9.2
MZRK Al-Mazaregh 23.29 311 *i*P P 03 02 11.0 +2.9
FRU Bishkek 23.45 24 *e*P P 03 02 15.0 +5.4
FRU *i* 03 02 46.0
FRU pmax pmax
comp=Z,20nm,2.0s
GNI Garni 23.46 325 P P 03 02 11.7 +1.8
comp=Z,17nm,0.8s,baz=145,slow=3.1,SNR=14
GNI LR LR 03 13 07.1
comp=Z,396nm,21.4s,baz=128,slow=41
ODAN Odare 23.63 73 *e*P P 03 02 12.1 +0.3
comp=Z,46nm,0.9s
TKM2 Tokmak 2 23.90 25 *e*P P 03 02 14.7 +0.5
TKM2 Tokmak 2 23.90 25 *e*P P 03 02 14.7 +0.5
TKM2 Tokmak 2 23.90 25 *e*P P 03 02 14.8 +0.7
comp=Z,5.7nm,0.8s
SFNV Sufian 23.97 312 *i*P P 03 02 17.9 +3.2
TAPN Taplejung 23.97 72 *e*P P 03 02 13.6 -1.5
comp=Z,89nm,1.2s
KBSD Kabsdagh 23.99 314 *i*P P 03 02 22.3 +7.4
DGRG David-gareji 24.09 328 P P 03 02 15.1 -0.7
DGRG David-gareji 24.09 328 P P 03 02 15.1 -0.7
ZALF Zalf 24.50 302 *i*P P 03 02 21.7 +2.1
ASF Jabal al Asfar 24.60 300 P P 03 02 22.3 +1.7
comp=Z,23nm,1.0s,baz=65,slow=4.2,SNR=25
SALA Sala 24.91 301 *i*P P 03 02 25.2 +1.7
AKH Akhalkalaki 25.02 326 P P 03 02 33.9 +10
TCHB Talchebab 25.50 301 *i*P P 03 02 32.1 +3.4

EIL Elat 25.57 293 P P 03 02 30.6 +1.2
comp=Z,28nm,1.0s,baz=116,slow=2.9,SNR=20
EIL LR LR 03 14 10.4
comp=Z,178nm,18.1s,baz=318,slow=40
BRBR Barbar 25.76 302 *i*P P 03 02 33.7 +2.4
ZEI Tsey 25.82 328 *e*P P 03 02 34.0 +2.3
ZEI pmax pmax
comp=Z,40nm,0.4s
ZEI Tsey 25.82 328 *e*P P 03 02 34.0 +2.3
comp=Z,40nm,0.4s
ONI Oni 25.90 327 P P 03 02 35.7 +3.5
MMAI Mount Meron Ar 26.07 301 P P 03 02 36.4 +2.5
comp=Z,16nm,0.7s,baz=99,slow=11,SNR=24
KBZ Khabaz 27.01 328 P P 03 02 43.1 +0.9
comp=Z,1.9nm,0.7s,baz=114,slow=12,SNR=4.3
KIV Kislovodsk 27.28 329 *e*P P 03 02 45.8 +1.1
KIV *e*S S 03 07 23.5 +0.2
KIV pmax pmax
comp=Z,11nm,0.9s
KIV MLR MLR
comp=Z,44nm,14.0s
KIV Kislovodsk 27.28 329 *e*P P 03 02 45.0 +0.3
comp=Z,22nm,1.0s
KIV Kislovodsk 27.28 329 *e*P P 03 02 45.0 +0.3
comp=Z,22nm,1.0s
ABKAR Akbulak array 27.43 357 *e*P P 03 02 46.1 +0.2
comp=Z,2.0nm,0.6s
ABKAR Akbulak array 27.43 357 *e*P P 03 02 46.1 +0.2
comp=Z,2.0nm,0.6s
SHL Shillong 27.56 76 *e*P P 03 02 47.1 -0.5
SHL AMB AMB 03 02 54.8
comp=Z,6.8nm,1.3s
AKTK Aktyubinsk 28.74 355 P P 03 02 58.1 +0.6
AKTO Aktyubinsk 28.74 355 P P 03 02 58.1 +0.6
comp=Z,1.1nm,0.5s,baz=158,slow=11,SNR=6.1
AKTO LR LR 03 16 42.1
comp=Z,172nm,19.1s,baz=155,slow=41
H08N2 Diego Garcia H 29.32 162 T T 03 33 28.2
baz=342,slow=75,SNR=1985
H08N3 Diego Garcia H 29.33 162 T T 03 33 29.4
baz=342,slow=75,SNR=2625
H08N1 Diego Carcia H 29.34 162 T T 03 33 31.4
baz=342,slow=75,SNR=2763
MKAR Makanchi Array 29.84 29 P P 03 03 07.3 -0.1
comp=Z,3.1nm,0.9s,baz=214,slow=8.8,SNR=15
MKAR LR LR 03 17 15.2
comp=Z,391nm,20.6s,baz=220,slow=41
MKAR Makanchi Array 29.84 29 *e*P P 03 03 07.0 -0.4
BRTR Keskin Array B 30.04 313 P P 03 03 09.4 0.0
comp=Z,4.3nm,0.8s,baz=135,slow=12,SNR=28
BRTR PcP PcP 03 06 10.7 -0.5
comp=Z,1.3nm,0.7s,baz=138,slow=2.5,SNR=4.0
BRTR LR LR 03 18 53.0
comp=Z,215nm,18.6s,baz=110,slow=44
WMQ Urumqi 30.55 38 *e*P P 03 03 16.4 +2.6
WMQ pP pP 03 03 20.7 +1.1
WMQ sP sP 03 03 23.4 +1.5
WMQ PP PnPn 03 04 16.8 +3.8
WMQ *e*S S 03 08 14.6 -0.1
WMQ ScS ScS 03 13 50.5 +0.3
WMQ PMZ
comp=Z,7.0nm,0.7s
WMQ PMZ
comp=Z,52nm,4.0s
WMQ LN
comp=Z,300nm,24.5s
WMQ LE
comp=Z,190nm,26.1s
WMQ LZ
comp=Z,180nm,24.8s
KURBB Kurchatov Arra 31.53 20 P P 03 03 22.3 +0.1
comp=Z,1.7nm,0.9s,baz=215,slow=8.6,SNR=15
KURK Kurchatov 31.64 20 *e*P P 03 03 24.1 +0.9
KURK pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 31.64 20 *e*P P 03 03 24.1 +0.9
comp=Z,9.6nm,1.0s
KURK Kurchatov 31.64 20 *e*P P 03 03 24.1 +0.9
comp=Z,9.6nm,1.0s
BVAR Borovoye Array 31.81 10 P P 03 03 25.1 +0.4
comp=Z,1.5nm,0.8s,baz=180,slow=7.2,SNR=9.4
BRVK Borovoye 31.83 9 *e*P P 03 03 23.5 -1.3
BRVK pmax pmax
comp=Z,5.0nm,1.7s
BRVK Borovoye 31.83 9 *e*P P 03 03 25.6 +0.8
comp=Z,1.0nm,0.6s
BRVK Borovoye 31.83 9 *e*P P 03 03 25.6 +0.8
comp=Z,1.0nm,0.6s
KMBO Kilima Mbogo 33.25 230 LR LR 03 15 39.6
comp=Z,200nm,19.8s,baz=19,slow=34
KMBO Kilima Mbogo 33.25 230 *ce*P P 03 03 39.7 +1.8
KMBO pmax pmax
comp=Z,1.0nm,0.3s
KMBO Kilima Mbogo 33.25 230 *e*P P 03 03 39.7 +1.8
comp=Z,1.0nm,0.3s
VSR Storozhevoye 34.34 334 *e*P P 03 03 46.2 -0.5
VSR pmax pmax
comp=N,5.0nm,0.7s
VSR pmax pmax
comp=E,5.0nm,0.7s
VSR pmax pmax
comp=Z,8.0nm,0.7s
VSR Storozhevoye 34.34 334 *e*P P 03 03 46.2 -0.5
ARU Arti 34.66 357 *e*P P 03 03 50.3 +0.8
ARU pmax pmax
comp=Z,12nm,1.1s
ARU Arti 34.66 357 *e*P P 03 03 50.3 +0.8
comp=Z,12nm,1.1s
ARU Arti 34.66 357 *e*P P 03 03 50.3 +0.8
comp=Z,12nm,1.1s
CMAR Chiang Mai Arr 34.77 89 P P 03 03 50.1 -0.8
comp=Z,0.9nm,0.4s,baz=280,slow=11,SNR=6.8
CMAR PcP PcP 03 06 23.3 -1.1
comp=Z,0.8nm,0.3s,baz=284,slow=5.0,SNR=5.5
CMAR LR LR 03 20 04.4
comp=Z,61nm,18.4s,baz=292,slow=40
ALN Alexandroupoli 35.81 310 *e*P P 03 03 59.9 +0.3
LIA Limnos Island 36.09 308 *e*P P 03 04 02.3 +0.3
CFR Carcaliu 36.22 318 ⇑P P 03 04 01.4 -1.6
CFR Carcaliu 36.22 318 *i*P P 03 04 01.4 -1.6
CFR Carcaliu 36.22 318 P P 03 04 01.4 -1.6
ZALV Zalesovo Beam 36.45 23 P P 03 04 05.1 +0.3
comp=Z,5.7nm,0.6s,baz=225,slow=9.7,SNR=14
ZALV PcP PcP 03 06 27.9 -0.7
comp=Z,0.7nm,0.5s,baz=194,slow=5.5,SNR=2.2
ZALV LR LR 03 21 04.0
comp=Z,329nm,21.5s,baz=250,slow=40
ZALV Zalesovo Beam 36.45 23 *i*P P 03 04 05.4 +0.6
ZALV pmax pmax
comp=Z,6.0nm,0.6s
ANKY Antikythira Is 36.46 301 *e*P P 03 04 06.4 +1.2
GTA Gaotai 36.62 53 *e*P P 03 04 11.8 +5.0
GTA pP pP 03 04 16.3 +3.7
GTA sP sP 03 04 18.8 +3.9
GTA S S 03 09 57.7 +8.7
GTA sS sS 03 10 05.1 +6.5
GTA PMZ
comp=Z,3.0nm,1.3s
GTA PMZ
comp=Z,46nm,5.7s
GTA LN
comp=Z,310nm,19.7s
GTA LE
comp=Z,260nm,20.2s
GTA LZ
comp=Z,340nm,19.5s
NVS Novosibirsk 36.63 21 *e*P P 03 04 06.6 +0.2
NVS Novosibirsk 36.63 21 *e*P P 03 04 06.6 +0.2
KYTH Kithira 36.75 302 *e*P P 03 04 08.1 +0.4
AOS Alonnisos 36.83 307 *e*P P 03 04 09.5 +1.2
DID Didima 36.87 304 *e*P P 03 04 08.3 -0.5
DIDY Didyma 36.88 304 *e*P P 03 04 08.4 -0.6
OUR Ouranopolis 37.10 309 *e*P P 03 04 11.9 +1.3
PAIG Paliouri 37.20 308 *e*P P 03 04 12.5 +1.1
SMIA Simia 37.25 306 *e*P P 03 04 13.6 +1.7
XOR Xorichti 37.39 307 *e*P P 03 04 13.2 0.0
VRI Vrinvoaia 37.42 318 ⇓P P 03 04 15.2 +1.9
VRI Vrincioaia 37.42 318 ⇓*i*P P 03 04 15.1 +1.8
VRI Vrincioaia 37.42 318 P P 03 04 15.2 +1.9
PLOR Plostina 37.46 318 ⇑P P 03 04 12.6 -1.1
PLOR Plostina 37.46 318 ⇑*i*P P 03 04 12.6 -1.1
PLOR Plostina 37.46 318 P P 03 04 12.6 -1.1
NVR Nevrokopi 37.52 310 *e*P P 03 04 14.9 +0.7
SRS Serrai 37.63 310 *e*P P 03 04 15.7 +0.6
GUR Goura 37.66 304 *e*P P 03 04 15.1 -0.5

MMB Musomiste 37.69 310 ⇓P P 03 04 13.3 -2.4
MMB Musomiste 37.69 310 ⇓*i*P P 03 04 13.3 -2.4
MMB Musomiste 37.69 310 P P 03 04 13.3 -2.4
SOH Sokhos 37.71 309 *e*P P 03 04 17.5 +1.7
MLR Muntele Rosu 37.74 317 ⇑P P 03 04 16.8 +0.7
MLR Muntele Rosu 37.74 317 ⇑*i*P P 03 04 16.8 +0.7
MLR Muntele Rosu 37.74 317 P P 03 04 16.8 +0.7
ITM Ithomi 37.81 303 *e*P P 03 04 16.7 0.0
KLV Kalavryta, Ach 37.84 304 *e*P P 03 04 16.6 -0.4
KALE Kalithea 37.93 305 *e*P P 03 04 17.2 -0.6
LAKA Lakka 38.02 305 *e*P P 03 04 17.3 -1.1
EFP Efpalio 38.12 305 *e*P P 03 04 18.7 -0.5
DRO Drossia 38.15 304 *e*P P 03 04 20.7 +1.1
VOIR 38.28 317 ⇓P P 03 04 20.7 +0.1
VOIR 38.28 317 ⇓*i*P P 03 04 20.7 +0.1
VOIR 38.28 317 P P 03 04 20.7 +0.1
CD2 Chengdu 38.29 67 P P 03 04 22.6 +1.7
CD2 pP pP 03 04 25.7 -1.0
CD2 sP sP 03 04 27.0 -2.0
CD2 PP PnPn 03 05 50.6 +0.4
CD2 S ScP 03 10 18.5 -3.3
CD2 sS sS 03 10 23.8 -0.1
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,110nm,5.1s
CD2 LN
comp=Z,320nm,14.7s
CD2 LZ
comp=Z,340nm,10.9s
DOPR Dopca 38.30 318⇑ *i*P P 03 04 20.2 -0.5
EVR Evrytania 38.31 306 *e*P P 03 04 19.8 -1.2
OBN Obninsk 38.33 337⇓ *e*P P 03 04 22.0 +1.2
OBN *e* 03 05 52.7
OBN *e* 03 06 34.4
OBN *e*S S 03 10 15.0 +0.9
OBN *e*SS SS 03 13 30.7 +28
OBN pmax pmax
comp=Z,32nm,1.4s
OBN Obninsk 38.33 337 *e*P P 03 04 22.0 +1.2
comp=Z,32nm,1.4s
VTS Vitosha 38.40 312 ⇑P P 03 04 23.5 +1.8
VTS Vitosha 38.40 312 ⇑*i*P P 03 04 23.5 +1.8
VTS Vitosha 38.40 312 P P 03 04 23.5 +1.8
GRG Griva 38.44 309 *e*P P 03 04 21.9 -0.1
AKASG Malin Array Be 38.57 326 P P 03 04 21.7 -1.2
comp=Z,1.8nm,0.6s,baz=127,slow=7.1,SNR=6.6
KIEV Kiev 38.58 326 *e*P P 03 04 22.3 -0.7
KIEV Kiev 38.58 326 *e*P P 03 04 22.3 -0.7
KIEV Kiev 38.58 326 *e*P P 03 04 22.2 -0.7
comp=Z,5.4nm,0.7s
PDO Prodromos 38.71 305 *e*P P 03 04 24.1 -0.1
LZH Lanzhou 38.95 59 *e*P P 03 04 29.2 +2.7
LZH pP pP 03 04 34.0 +1.6
LZH sP sP 03 04 36.1 +1.4
LZH PMZ
comp=Z,14nm,1.0s
LZH PMZ
comp=Z,85nm,4.3s
LZH LN
comp=Z,250nm,12.0s
LZH LE
comp=Z,310nm,13.7s
LZH LZ
comp=Z,340nm,20.5s
LOT Lotru 39.10 316 ⇓*i*P P 03 04 27.2 -0.4
FNA Florina 39.13 308 *e*P P 03 04 27.5 -0.3
LKD2 Lefkada island 39.15 305 *e*P P 03 04 27.2 -0.8
BURAR Bucovina Array 39.16 320 ⇑P P 03 04 25.9 -2.1
BURAR Bucovina Array 39.16 320 ⇑*i*P P 03 04 25.9 -2.1
GZR Gura Zlata 39.72 316 ⇑P P 03 04 31.0 -1.7
GZR Gura Zlata 39.72 316 ⇑*i*P P 03 04 31.0 -1.7
GZR Gura Zlata 39.72 316 P P 03 04 31.0 -1.7
DRGR 40.33 318 ⇑P P 03 04 37.6 -0.1
DRGR 40.33 318 ⇑*i*P P 03 04 37.6 -0.1
DRGR 40.33 318 P P 03 04 37.6 -0.1
BZS Buzias 40.56 316 ⇑P P 03 04 39.8 +0.3
BZS Buzias 40.56 316 ⇑*i*P P 03 04 39.8 +0.3
BZS Buzias 40.56 316 P P 03 04 39.8 +0.3
DIVS Divibare 41.11 313 ⇑*i*P P 03 04 44.3 +0.1
DIVS Divibare 41.11 313 *e*P P 03 04 44.5 +0.3
PRGR Permogore 41.38 348 *e*P P 03 04 45.0 -1.1
PRGR pmax pmax
comp=Z,3.0nm,0.4s
PRGR Permogore 41.38 348 *e*P P 03 04 45.0 -1.1
comp=Z,3.0nm,0.4s
KOLS Kolonicke sedl 41.51 320 *e*P P 03 04 48.3 +0.9
KOLS pmax pmax
comp=Z,20nm,1.7s
KOLS Kolonicke sedl 41.51 320 *e*P P 03 04 48.3 +0.9
comp=Z,20nm,1.7s
KOLS Kolonicke sedl 41.51 320 *e*P P 03 04 48.3 +0.9
KECS Kecovo 42.39 319 *e*P P 03 04 54.9 +0.3
KECS pmax pmax
comp=Z,2.0nm,0.8s
KECS Kecovo 42.39 319 *e*P P 03 04 54.9 +0.3
comp=Z,2.0nm,0.8s
KECS Kecovo 42.39 319 *e*P P 03 04 54.9 +0.3
IDID Didziasalis 42.55 331 *e*P P 03 04 55.9 +0.2
IDID IAmb IAmb 03 05 09.1
comp=Z,8.9nm,1.1s
IDID Didziasalis 42.55 331 *e*P P 03 04 55.8 +0.2
SNR=26
OPO Ambohidratompo 42.68 201 P P 03 04 55.7 -1.6
comp=Z,11nm,0.9s,baz=338,slow=5.7,SNR=6.1
PKSM Moragy 42.71 315 ⇓P P 03 04 56.6 -0.6
PKSM Moragy 42.71 315 ⇓*i*P P 03 04 56.6 -0.6
PKSM Moragy 42.71 315 P P 03 04 56.6 -0.6
IIGN Ignalina 42.80 331 *e*P P 03 04 58.0 +0.2
IIGN IAmb IAmb 03 05 11.2
comp=Z,5.6nm,0.8s
IIGN Ignalina 42.80 331 *e*P P 03 04 58.0 +0.2
SNR=25
ISAL Salakas 42.98 331 *e*P P 03 04 59.4 +0.2
ISAL IAmb IAmb 03 05 11.8
comp=Z,8.5nm,1.1s
ISAL Salakas 42.98 331 *e*P P 03 04 59.4 +0.2
SNR=25
ZAK Zakamensk 43.02 38 *e*P P 03 05 00.3 +0.5
ZAK pmax pmax
comp=Z,3.0nm,1.4s
ZAK Zakamensk 43.02 38 *e*P P 03 05 00.3 +0.5
comp=Z,3.0nm,1.4s
CUC Castrocucco 43.07 306 *e*P P 03 05 00.3 0.0
comp=Z,8.6nm,0.8s
CUC Castrocucco 43.07 306 *e*P P 03 05 00.3 0.0
comp=Z,8.6nm,0.8s
ABPO Ambohimpanom 43.09 201 *e*P P 03 05 00.7 +0.1
ABPO pmax pmax
comp=Z,11nm,0.7s
ABPO Ambohimpanom 43.09 201 *e*P P 03 05 00.7 +0.1
comp=Z,11nm,0.7s
ABPO Ambohimpanom 43.09 201 *e*P P 03 05 00.7 +0.1
comp=Z,11nm,0.7s
OJC Ojcow 43.52 321 *e*P P 03 05 03.9 +0.3
OJC Ojcow 43.52 321 *e*P P 03 05 04.0 +0.3
OJC pmax pmax
comp=Z,9.0nm,0.7s
OJC Ojcow 43.52 321 *e*P P 03 05 04.0 +0.3
comp=Z,8.8nm,0.7s
OJC Ojcow 43.52 321 *e*P P 03 05 04.0 +0.3
comp=Z,8.8nm,0.7s
TLY Talaya 43.81 37 LR LR 03 26 17.1
comp=Z,184nm,20.7s,baz=185,slow=40
SONM Songino Array 43.90 43 P P 03 05 06.9 0.0
comp=Z,2.3nm,0.8s,baz=244,slow=8.0,SNR=5.3
SONM LR LR 03 26 57.6
comp=Z,182nm,18.1s,baz=346,slow=41
OKC Ostrava-Krasne 44.34 320 *e*P P 03 05 13.2 +3.0
OKC *ep*P pP 03 05 16.5 +0.4
OKC Ostrava-Krasne 44.34 320 *e*P P 03 05 13.2 +3.0
MORC Moravsky Berou 44.68 320 ⇓P P 03 05 12.1 -0.9
MORC Moravsky Berou 44.68 320 ⇓*i*P P 03 05 12.1 -0.9
MORC Moravsky Berou 44.68 320 *e*P P 03 05 12.2 -0.8
comp=Z,20nm,1.0s
MORC Moravsky Berou 44.68 320 *e*P P 03 05 12.2 -0.8
comp=Z,20nm,1.0s
SOKA Soboth 45.23 315⇑ *i*P P 03 05 16.7 -0.8
comp=Z,5.5nm,0.8s
KRLC Kraliky 45.25 320 *ep*P pP 03 05 23.5 0.0
KRLC *ex* x 03 05 31.3
KRLC Kraliky 45.25 320 *e*P pP 03 05 23.5 0.0
KRLC *e* 03 05 31.3
AQU L'Aquila 45.31 309 ⇑P P 03 05 25.9 +7.7

AQU	**L'Aquila**	**45.31 309**	⇑*iP*		**P**		03 05 25.9	+7.7
DPC	**Dobruska-Polom**	**45.62 320**	*e*P		**P**		**03 05 18.6**	**-1.9**
DPC			*ep*P		**pP**		**03 05 25.0**	**-1.4**
DPC			*ex*		x		03 05 31.7	
DPC	**Dobruska-Polom**	**45.62 320**	*e*P		**P**		**03 05 18.6**	**-1.9**
DPC			*e*				03 05 25.0	
DPC			*e*				03 05 31.7	
DPC	**Dobruska-Polom**	**45.62 320**	*e*P		**P**		**03 05 18.6**	**-1.9**
HHC	**Hu-ho-hao-te**	**45.72 54**	*e*P		**P**		**03 05 24.4**	**+2.9**
HHC			pP		**pP**		**03 05 29.5**	**+2.1**
HHC			sP		**sP**		**03 05 31.9**	**+2.2**
HHC			S		**S**		**03 12 07.7**	**+3.8**
HHC			sS		**sS**		**03 12 16.2**	**+2.5**
HHC			SS		**SS**		**03 15 25.2**	**-2.9**
HHC			PMZ					
	comp=Z,20nm,1.5s							
HHC			PMZ					
	comp=Z,67nm,8.7s							
HHC			LN					
	comp=Z,310nm,18.4s							
HHC			LE					
	comp=Z,330nm,21.1s							
HHC			LZ					
	comp=Z,190nm,18.7s							
TREC	**Trest**	**45.76 318**	*e*P		**P**		**03 05 21.6**	**0.0**
TREC			*ep*P		**pP**		**03 05 26.0**	**-1.5**
TREC			*ex*		x		03 05 32.7	
TREC	**Trest**	**45.76 318**	*e*P		**P**		**03 05 21.6**	**0.0**
TREC			*e*				03 05 32.7	
TREC	**Trest**	**45.76 318**	*e*P		**P**		**03 05 21.6**	**0.0**
UPC	**Upice**	**45.86 320**	*e*P		**P**		**03 05 21.8**	**-0.6**
UPC	**Upice**	**45.86 320**	*e*P		**P**		**03 05 21.8**	**-0.6**
UPC	**Upice**	**45.86 320**	*e*P		**P**		**03 05 21.8**	**-0.6**
GOPC	**GO Pecny, Ondr**	**46.39 319**	AMS		AMS		03 29 30.0	
	comp=Z,100nm,16.0s							
PRU	**Pruhonice**	**46.57 319**	*e*P		P		03 05 23.1	-4.8
PRU			*ep*P		pP		03 05 34.2	+0.4
PRU	**Pruhonice**	**46.57 319**	*e*P		P		03 05 23.1	-4.8
PRU			*e*				03 05 34.2	
GEC2	**GERESS Array S**	**46.73 317**	*e*P		**P**		**03 05 28.6**	**-0.7**
GEC2	**GERESS Array S**	**46.73 317**	*e*P		**P**		**03 05 28.6**	**-0.7**
GEC2	**GERESS Array S**	**46.73 317**	*e*P		**P**		**03 05 28.6**	**-0.7**
GERES	**GERESS Array B**	**46.73 317**	P		**P**		**03 05 28.4**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=98,slow=6.2,SNR=6.2							
GERES			PcP		**PcP**		**03 07 02.1**	**-0.5**
	comp=Z,2.0nm,0.9s,baz=134,slow=2.8,SNR=4.6							
FINES	**FINESS Array B**	**46.73 337**	P		**P**		**03 05 28.2**	**-0.7**
	comp=Z,3.8nm,1.0s,baz=120,slow=8.2,SNR=9.1							
FINES			LR		LR		03 29 25.5	
	comp=Z,107nm,18.9s,baz=166,slow=42							
FINES	**FINESS Array B**	**46.73 337**	*i* P		**P**		**03 05 28.7**	**-0.2**
FINES			pmax		pmax			
	comp=Z,4.0nm,1.0s							
FINES	**FINESS Array B**	**46.73 337**	*i* P		**P**		**03 05 28.7**	**-0.2**
	comp=Z,4.0nm,1.0s							
KHC	**Kasperske Hory**	**46.89 318**	*e*P		**P**		**03 05 29.8**	**-0.7**
KHC			*ep*P		**pP**		**03 05 35.9**	**-0.5**
KHC			*ex*		x		03 05 40.7	
KHC	**Kasperske Hory**	**46.89 318**	*e*P		**P**		**03 05 29.8**	**-0.7**
KHC			*e*				03 05 40.7	
KHC	**Kasperske Hory**	**46.89 318**	*e*P		**P**		**03 05 29.8**	**-0.7**
KHC	**Kasperske Hory**	**46.89 318**	*e*P		**P**		**03 05 29.7**	**-0.7**
	comp=Z,2.3nm,0.9s							
ABTA	**Abfaltersbach**	**46.91 314**	⇑*iP*		**P**		**03 05 29.7**	**-1.1**
	comp=Z,9.1nm,0.9s							
BRG	**Berggiesshubel**	**47.23 320**	*e*P		P		03 05 38.2	+5.2
	comp=Z,5.7nm,1.3s							
BRG	**Berggiesshubel**	**47.23 320**	*e*P		P		03 05 38.2	+5.2
BRG			pmax		pmax			
	comp=Z,6.0nm,1.3s							
WTTA	**Wattenberg**	**47.62 315**	⇑*iP*		**P**		**03 05 35.0**	**-1.4**
	comp=Z,16nm,0.9s							
NKC	**Novy Kostel**	**47.92 319**	*e*P		**P**		**03 05 39.6**	**+1.1**
NKC			*ep*P		**pP**		**03 05 44.4**	**-0.1**
NKC	**Novy Kostel**	**47.92 319**	*e*P		**P**		**03 05 39.6**	**+1.1**
NKC	**Novy Kostel**	**47.92 319**	P		**P**		**03 05 39.6**	**+1.1**
CLL	**Collm**	**47.93 320**	*i* P		**P**		**03 05 37.7**	**-0.8**
CLL			pmax		pmax			
	comp=Z,5.0nm,0.8s							
CLL	**Collm**	**47.93 320**	*e*P		**P**		**03 05 38.2**	**-0.2**
	comp=Z,15nm,1.1s							
CLL	**Collm**	**47.93 320**	*e*P		**P**		**03 05 38.2**	**-0.2**
	comp=Z,15nm,1.1s							
CLL	**Collm**	**47.93 320**	*i* P		**P**		**03 05 37.7**	**-0.8**
	comp=Z,5.0nm,0.8s							
CLL			*ep*P		**pP**		**03 05 42.0**	**-2.4**
CLL			*es*P		**sP**		**03 05 45.0**	**-1.7**
	comp=Z,13nm,1.2s							
CLL			LmV				03 28 00.0	
	comp=Z,100nm,19.9s							
FETA	**Feichten**	**48.17 314**	⇑*iP*		**P**		**03 05 39.1**	**-1.5**
	comp=Z,9.4nm,1.0s							
DAVA	**Damuels**	**48.79 314**	⇑*iP*		**P**		**03 05 43.1**	**-2.3**
	comp=Z,11nm,1.0s							
BJI	**Beijing**	**49.11 55**	P		**P**		**03 05 49.6**	**+1.9**
BJI			S		**S**		**03 12 53.2**	**+1.2**
BJI			PMZ					
	comp=Z,10.0nm,0.6s							
BJI			LN					
	comp=Z,210nm,17.6s							
BJI			LE					
	comp=Z,170nm,14.8s							
BJI			LZ					
	comp=Z,92nm,15.1s							
LSZ	**Lusaka**	**49.60 225**	*e*P		**P**		**03 05 52.0**	**+0.1**
LSZ			pmax		pmax			
	comp=Z,7.0nm,1.1s							
LSZ	**Lusaka**	**49.60 225**	*e*P		**P**		**03 05 52.0**	**+0.1**
	comp=Z,6.7nm,1.1s							
LSZ	**Lusaka**	**49.60 225**	*e*P		**P**		**03 05 52.0**	**+0.1**
	comp=Z,6.7nm,1.1s							
TIA	**Tai'an**	**49.66 60**	⇓P		**P**		**03 05 52.3**	**+0.3**
TIA			PMZ					
	comp=Z,10.0nm,1.2s							
NJ2	**Nanjing**	**51.18 66**	*e*P		P		03 06 07.2	+3.7
NJ2			PMZ					
	comp=Z,40nm,0.9s							
ARCES	**ARCESS Array B**	**52.52 345**	P		**P**		**03 06 12.8**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=140,slow=7.8,SNR=12							
ARCES			LR		LR		03 32 44.3	
	comp=Z,86nm,18.3s,baz=144,slow=41							
NB2	**NORSAR Subarra**	**52.52 332**	P		**P**		**03 06 12.2**	**-1.0**
	comp=Z,4.2nm,1.0s,baz=113,slow=7.4							
NB2	**NORSAR Subarra**	**52.52 332**	P		**P**		**03 06 12.2**	**-1.0**
	comp=Z,4.2nm,1.0s,SNR=6.5							
NOA	**NORSAR Array B**	**52.52 332**	P		**P**		**03 06 12.3**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=111,slow=7.4,SNR=5.7							
NOA			LR		LR		03 32 15.6	
	comp=Z,71nm,19.3s,baz=130,slow=40							
CN2	**Changchun**	**56.23 51**	*e*P		**P**		**03 06 41.6**	**+1.2**
TORD	**Torodi Ar. Bea**	**57.89 272**	P		**P**		**03 06 51.6**	**-1.0**
	comp=Z,4.5nm,0.8s,baz=83,slow=6.2,SNR=38							
ESDC	**Sonseca Array**	**58.22 304**	P		**P**		**03 06 53.9**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=79,slow=6.9,SNR=12							
ESDC			LR		LR		03 36 36.0	
	comp=Z,59nm,18.0s,baz=150,slow=41							
KSAR	**Wonju Array Be**	**58.25 59**	P		**P**		**03 06 54.5**	**-0.3**
KSAR	**Wonju Array Be**	**58.25 59**	P		**P**		**03 06 54.5**	**-0.3**
KSAR	**Wonju Array Be**	**58.25 59**	P		**P**		**03 06 54.5**	**-0.3**
KSRS	**Korea Array**	**58.28 59**	P		**P**		**03 06 54.5**	**-0.5**
	comp=Z,1.5nm,0.4s,baz=267,slow=6.8,SNR=8.7							
KSRS			LR		LR		03 35 53.5	
	comp=Z,110nm,18.3s,baz=276,slow=40							
KSRS	**Korea Array**	**58.28 59**	P		**P**		**03 06 54.5**	**-0.5**
KSRS			pmax		pmax			
	comp=Z,2.0nm,0.4s							
KSRS			MLR		MLR			
	comp=Z,110nm,18.3s							
LBTB	**Lobatse**	**58.47 219**	*e*P		**P**		**03 06 56.6**	**+0.1**
LBTB			pmax		pmax			
	comp=Z,48nm,1.3s							
LBTB	**Lobatse**	**58.47 219**	*e*P		**P**		**03 06 56.6**	**+0.1**
	comp=Z,48nm,1.3s							
LBTB	**Lobatse**	**58.47 219**	*e*P		**P**		**03 06 56.6**	**+0.1**
	comp=Z,48nm,1.3s							
USRK	**Ussuriysk Ar.**	**60.94 51**	LR		LR		03 37 08.4	
	comp=Z,95nm,18.5s,baz=228,slow=40							
BOSA	**Boshof**	**61.42 217**	P		**P**		**03 07 15.9**	**-0.7**
	comp=Z,7.9nm,0.9s,baz=34,slow=7.2,SNR=19							
BOSA			LR		LR		03 33 01.6	
	comp=Z,162nm,18.6s,baz=14,slow=35							
BOSA	**Boshof**	**61.42 217**	*e*P		**P**		**03 07 16.0**	**-0.7**
	comp=Z,6.0nm,0.6s							
BOSA	**Boshof**	**61.42 217**	*e*P		**P**		**03 07 16.0**	**-0.7**
	comp=Z,6.0nm,0.6s							
DBIC	**Dimbokro**	**66.11 268**	P		**P**		**03 07 47.2**	**-0.7**
	comp=Z,5.3nm,0.8s,baz=57,slow=8.3,SNR=5.9							
DBIC			LR		LR		03 38 05.9	
	comp=Z,219nm,18.1s,baz=49,slow=37							
MJAR	**Matsushiro Arr**	**66.56 58**	P		**P**		**03 07 50.8**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=274,slow=6.0,SNR=3.2							
MJAR			LR		LR		03 39 49.7	
	comp=Z,40nm,19.6s,baz=280,slow=39							
SEY	**Seymchan**	**70.98 29**	*e*P		**P**		**03 08 19.1**	**+1.6**
H01W3	**Cape Leeuwin H**	**75.00 138**	T		T		04 30 26.9	
	baz=310,slow=75,SNR=50							
H01W2	**Cape Leeuwin H**	**75.00 138**	T		T		04 30 27.6	
	baz=310,slow=75,SNR=44							
H01W1	**Cape Leeuwin H**	**75.01 138**	T		T		04 30 30.0	
	baz=310,slow=75,SNR=64							
BILL	**Bilibino**	**75.15 22**	⇑*iP*		**P**		**03 08 43.2**	**+1.2**
BILL			*e*				03 08 58.6	
BILL			*e*				03 11 29.9	
BILL			pmax		pmax			
	comp=Z,1.0nm,0.4s							
BILL			MLR		MLR			
	comp=Z,215nm,23.0s							
PETK	**Petropavlovsk-**	**76.15 38**	LR		LR		03 45 54.0	
	comp=Z,59nm,20.2s,baz=275,slow=38							
WRA	**Warramunga Arr**	**81.93 115**	P		**P**		**03 09 18.3**	**-2.0**
	comp=Z,3.8nm,0.9s,baz=305,slow=4.6,SNR=21							
WRA	**Warramunga Arr**	**81.93 115**	*i* P		**P**		**03 09 18.2**	**-2.0**
WRA			pmax		pmax			
	comp=Z,4.0nm,0.9s							
WRAB	**Tennant Creek**	**81.93 115**	*e*P		**P**		**03 09 19.0**	**-1.3**
WRAB			pmax		pmax			
	comp=Z,20nm,1.0s							
ASAR	**Alice Springs**	**83.25 119**	P		**P**		**03 09 25.0**	**-2.1**
	comp=Z,2.8nm,0.8s,baz=303,slow=5.0,SNR=21							
ASAR			LR		LR		03 46 55.6	
	comp=Z,37nm,18.6s,baz=266,slow=36							
MAW	**Mawson**	**89.15 180**	P		**P**		**03 09 53.8**	**-1.3**
	comp=Z,0.9nm,0.6s,baz=311,slow=6.7,SNR=4.6							
ILAR	**Eielson Array**	**90.85 12**	P		**P**		**03 10 01.6**	**-1.7**
	comp=Z,0.2nm,0.6s,baz=314,slow=4.7,SNR=4.3							
ILAR			LR		LR		03 58 16.6	
	comp=Z,74nm,18.6s,baz=333,slow=40							
STKA	**Stephens Creek**	**92.92 123**	LR		LR		03 49 58.8	
	comp=Z,120nm,18.5s,baz=231,slow=34							
YKA	**Yellowknife Ar**	**95.94 358**	P		**P**		**03 10 25.8**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=354,slow=5.0,SNR=3.9							
NVAR	**Mina Array Bea**	**120.08 0**	PKP		**PKPdf**		**03 15 50.8**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=347,slow=0.3,SNR=4.1							
TXAR	**Lajitas Array**	**127.31 344**	PKP		**PKPdf**		**03 16 04.3**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=105,slow=2.1,SNR=6.7							

*IDC **06** 03:12:54.6±2.5, 53.59N×167.50W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.5/29, mbtmp3.7/5, ML3.3/1, Error ellipse: s-maj=54.1km s-min=30.6km az=40.0*
*ISCJB **06** 03:13:15.9±0.3, 54.47N±0.08×165.7W±0.1, h150km, mb3.6/4, Error ellipse: s-maj=13.5km s-min=5.1km az=148.3*
*NEIC **06** 03:13:16.7, 54.55N×165.70W, h134km, MG3.4(AEIC), After AEIC.*

ISC 06 03:13:17.3±0.8, 54°53N±0.09×165°73W±0.07, h150km, n32, σ1s60/36, mb3.7/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HSB	**Akutan Spr's B**	**0.36**	**197**	P		**Pn**		**03 13 36.4**	**-1.7**
AKGG	**Akutan Green G**	**0.36**	**205**	P		**Pn**		**03 13 36.4**	**-1.7**
AKSA	**Akutan Strait**	**0.40**	**177**	P		**Pn**		**03 13 36.5**	**-1.7**
AKUT	**Akutan**	**0.40**	**184**	P		**Pn**		**03 13 36.5**	**-1.7**
AKUT				S		**Sn**		**03 13 51.1**	**-2.8**
LVA	**Lava Point**	**0.41**	**206**	P		**Pn**		**03 13 36.6**	**-1.6**
AKRB	**Akutan Reef Bi**	**0.45**	**206**	P		**Pn**		**03 13 36.8**	**-1.7**
ZRO	**Akutan Zero**	**0.46**	**198**	P		**Pn**		**03 13 36.6**	**-1.9**
WESP	**Westdahl Peak**	**0.59**	**93**	P		**Pn**		**03 13 37.6**	**-1.6**
WESP				*S*		**Sn**		**03 13 52.7**	**-3.2**
UNV	**Unalaska Valle**	**0.82**	**214**	*e*Pg		**Pn**		**03 13 39.1**	**-1.5**
UNV				*eS*		**Sn**		**03 13 56.3**	**-2.1**
MSW	**Makushin Switc**	**0.87**	**226**	P		**Pn**		**03 13 39.8**	**-1.3**
MCIR	**Makushin Cirqu**	**0.90**	**230**	P		**Pn**		**03 13 40.3**	**-1.0**
SSBA	**Shishaldin**	**0.96**	**75**	P		**Pn**		**03 13 39.9**	**-1.9**
SSLW	**Shishaldin Wes**	**0.97**	**75**	P		**Pn**		**03 13 40.0**	**-1.8**
SSLN	**Shishaldin Nor**	**1.05**	**74**	P		**Pn**		**03 13 41.4**	**-1.1**
ISNN	**Isanotski Nort**	**1.17**	**74**	P		**Pn**		**03 13 42.6**	**-1.0**
FALS	**False Pass**	**1.38**	**75**	P		**Pn**		**03 13 44.0**	**-1.6**
OKFG	**Magazine Ridge**	**1.71**	**230**	P		**Pn**		**03 13 48.4**	**-0.7**
OKFG				S		**Sn**		**03 14 12.9**	**-0.5**
OKTU	**Okmok Mt. Tuli**	**1.78**	**231**	P		**Pn**		**03 13 50.1**	**+0.2**
OKCE	**Okmok Cone E**	**1.81**	**233**	P		**Pn**		**03 13 50.4**	**+0.1**
OKSP	**Okmok Steeple**	**1.98**	**231**	P		**Pn**		**03 13 52.8**	**+0.6**
DRIA	**Deer Island**	**2.06**	**76**	P		**Pn**		**03 13 51.5**	**-1.5**
DTNA	**Dutton South F**	**2.10**	**71**	P		**Pn**		**03 13 52.8**	**-0.8**
NIKH	**Nikolski High**	**2.42**	**231**	P		**Pn**		**03 13 57.9**	**+0.4**
SDPT	**Sand Point**	**3.14**	**73**	P		**Pn**		**03 14 06.2**	**-0.1**
SPIA	**Saint Paul Isl**	**3.68**	**318**	P		**Pn**		**03 14 12.7**	**-0.5**
VNHG	**Veniaminof 1**	**4.11**	**63**	P		**Pn**		**03 14 19.7**	**+0.7**
KDAK	**Kodiak Island**	**8.03**	**61**	*e*Pn		**Pn**		**03 15 09.1**	**-1.8**
KDAK				*eS*		Sn		03 16 33.2	-7.0
ILAR	**Eielson Array**	**13.93**	**35**	Pn		**P**		**03 16 29.8**	**-1.5**
	0.0nm,0.3s,baz=223,slow=12,SNR=4.7								
PDAR	**Pinedale Array**	**37.94**	**84**	P		**P**		**03 20 22.6**	**+2.4**
	0.4nm,0.6s,baz=324,slow=9.0,SNR=5.1								
TXAR	**Lajitas Array**	**50.62**	**94**	P		**P**		**03 22 03.2**	**+2.4**
	0.5nm,0.5s,baz=296,slow=6.1,SNR=13								
ARCES	**ARCESS Array B**	**55.97**	**355**	P		**P**		**03 22 39.9**	**+0.6**
	3.5nm,1.0s,baz=19,slow=8.6,SNR=3.9								
FINES	**FINESS Array B**	**63.99**	**354**	P		**P**		**03 23 34.6**	**+0.6**
	0.4nm,0.3s,baz=4.6,slow=7.0,SNR=4.4								

IDC 06 03:20:48.7±9.3, 3.97S×146.29E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.2/28, mbtmp3.1/3, ML3.3/1, Error ellipse: s-maj=310.9km s-min=32.2km az=99.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.69**	**215**	P		P	Pn	03 25 20.6	-0.4
	0.1nm,0.3s,baz=38,slow=11,SNR=3.3								
ASAR	**Alice Springs**	**22.94**	**210**	P		P		03 25 54.0	-0.8
	0.2nm,0.3s,baz=40,slow=7.8,SNR=5.7								
MKAR	**Makanchi Array**	**75.49**	**320**	P		P		03 32 35.0	+0.1
	0.1nm,0.5s,baz=112,slow=6.4,SNR=2.4								

IDC 06 03:57:31.9±3.0, 7.75S×155.84E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.7/3, Error ellipse: s-maj=85.5km s-min=39.7km az=107.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.10**	**238**	P		P		04 02 50.0	+0.5
	0.7nm,0.6s,baz=62,slow=9.5,SNR=7.7								
STKA	**Stephens Creek**	**27.43**	**207**	P		P		04 03 18.7	-0.8
	0.6nm,0.5s,baz=31,slow=5.9,SNR=3.1								
MKAR	**Makanchi Array**	**84.52**	**319**	P		P		04 10 07.1	+0.1
	0.3nm,0.5s,baz=97,slow=5.6,SNR=4.6								

GUC 06 04:17:49.7±0.4, 35.77S×73.37W, h21km±7km, ML3.9, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.59**	**128**	⇑*iP*		Pb		04 18 01.0	-0.4
COCH				*i* S		Sb		04 18 09.1	-0.4
CCSP	**San Pedro de C**	**1.09**	**169**	*e*P		Pn		04 18 08.8	-0.9
CCSP				*i* S		Sb		04 18 23.3	-0.4
CCSP				AML		AML		04 18 28.8	
	comp=E,4μm,0.4s								
LNCH	**Linares**	**1.44**	**94**	*e*P		Pn		04 18 14.3	-0.2
LNCH				*i* S		Sb		04 18 33.2	-0.5
TALC	**Talca**	**1.46**	**76**	*e*P		Pn		04 18 14.4	-0.4
TALC				*i* S		Sn		04 18 33.7	+0.4
CLCH	**Cerro Calan**	**3.33**	**45**	*e*P		Pn		04 18 41.8	+1.2
CLCH				AML		AML		04 19 44.9	
	comp=N,429nm,0.6s								
PEL	**Peldehue**	**3.43**	**41**	⇑*iP*		Pn		04 18 43.1	+1.1

*IDC **06** 04:24:42.5±5.7, 36.23N×70.97E, h152km±52km, mb3.5/11, mb1 3.5/15, mb1mx3.3/40, mbtmp3.9/15, MS3.3/3, Ms1 3.3/3, ms1mx2.5/26, Error ellipse: s-maj=27.1km s-min=14.6km az=11.0*
*ISCJB **06** 04:24:46.3±0.5, 36.54N±0.04×70.98E±0.06, h188km, mb3.7/10, Error ellipse: s-maj=7.5km s-min=4.8km az=148.2*
*NNC **06** 04:24:53.0±1.1, 37.01N×70.94E, h197km±7km, mb2.9, mpv3.9, Error ellipse: s-maj=10.1km s-min=4.8km az=167.0*

ISC 06 04:24:47.4±0.7, 36.62N±0.07×70.98E±0.06, h188km, n35, σ1s61/38, mb3.7/10, 5C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.77**	**323**	⇓P		**Pn**		**04 25 36.1**	**+2.3**
	81nm,0.2s								
DZET				⇓Sn		**Sn**		**04 26 10.6**	**+0.5**
	374nm,0.4s								
SFK	**Sufi-Kurgan**	**3.93**	**30**	⇓P		**Pn**		**04 25 49.8**	**+1.8**
	9.8nm,0.4s								
SFK				Sn		**Sn**		**04 26 36.0**	**+0.3**
KK31	**Karatay Array**	**6.49**	**357**	P		**Pn**		**04 26 22.0**	**+1.2**
	3.5nm,0.4s,baz=176,slow=12,SNR=13								
KK31				⇓S		**Sn**		**04 27 31.2**	**-3.5**
	23nm,0.6s,baz=207,slow=32,SNR=4.6								
AAK	**Ala-Archa**	**6.59**	**23**	⇑P		**Pn**		**04 26 24.1**	**+1.8**
	3.5nm,0.6s								
AAK				⇑S		**Sn**		**04 27 35.8**	**-1.5**
	8.6nm,0.5s								
TKM2	**Tokmak 2**	**7.23**	**28**	⇓P		**Pn**		**04 26 31.9**	**+1.3**
	3.3nm,0.7s								
TKM2				⇑S		**Sn**		**04 27 50.9**	**-1.5**
	4.2nm,0.6s								
NDI	**New Delhi**	**9.49**	**145**	*ex*		Sn		04 28 38.0	-8.3
GEYT	**Alibeck**	**10.34**	**261**	LR		LR		04 31 28.0	
	comp=Z,36nm,18.5s,baz=85,slow=39								
MKAR	**Makanchi Array**	**13.21**	**36**	P		**Pn**		**04 27 49.1**	**+1.4**
	0.3nm,0.3s,baz=216,slow=9.4,SNR=11								
KOLN	**Koldanda**	**13.84**	**126**	*e*P		**Pn**		**04 27 54.6**	**-1.4**
	12nm,0.3s								
GKN	**Gorkha**	**14.38**	**123**	*e*P		**Pn**		**04 28 03.0**	**+0.4**
	26nm,0.3s								
DMN	**Daman**	**14.95**	**123**	*e*P		**Pn**		**04 28 09.2**	**-0.6**
	13nm,0.3s								
AB31	**Akbulak array**	**14.97**	**331**	P		**Pn**		**04 28 10.1**	**+0.5**
	1.7nm,0.5s,baz=138,slow=11,SNR=29								
AB31				⇑S		**Sn**		**04 30 51.7**	**-5.1**
	0.9nm,0.4s								
KURBB	**Kurchatov Arra**	**15.02**	**19**	P		**P**		**04 28 11.5**	**+0.5**
	0.1nm,0.3s,baz=207,slow=10,SNR=3.2								
PKIN	**Phulchoki**	**15.17**	**122**	*e*P		**P**		**04 28 12.9**	**-0.3**
	13nm,0.3s								
PKI	**Pulchoki**	**15.18**	**122**	*e*P		**P**		**04 28 13.1**	**-0.3**
	15nm,0.3s								
RAMN	**Ramite**	**16.39**	**122**	*e*P		**P**		**04 28 25.5**	**-1.1**
	8.3nm,0.3s								
BVAR	**Borovoye Array**	**16.41**	**359**	P		**Pn**		**04 28 28.3**	**+1.3**
	0.6nm,0.3s,baz=154,slow=10,SNR=9.1								
AKTO	**Aktyubinsk**	**16.67**	**330**	⇑P		**Pn**		**04 28 31.2**	**+1.1**
	4.6nm,0.5s								
AKTO				⇓S		**S**		**04 31 33.5**	**+0.1**
	1.1nm,0.6s								
AKTO	**Aktyubinsk**	**16.67**	**330**	P		**Pn**		**04 28 31.6**	**+1.5**
	1.5nm,0.3s,baz=142,slow=10,SNR=22								
TAPN	**Taplejung**	**16.91**	**118**	*e*P		**Pn**		**04 28 33.6**	**0.0**
	16nm,0.5s								
ODAN	**Odare**	**16.99**	**120**	*e*P		**P**		**04 28 32.0**	**-1.2**
ZALV	**Zalesovo Beam**	**19.82**	**25**	P		**P**		**04 29 03.8**	**+0.5**
	1.6nm,0.3s,baz=222,slow=10,SNR=5.5								
SONM	**Songino Array**	**28.28**	**55**	P		**P**		**04 30 23.9**	**+0.7**
	0.4nm,0.5s,baz=230,slow=11,SNR=2.2								
BRTR	**Keskin Array B**	**29.38**	**288**	P		**P**		**04 30 33.7**	**+0.6**
	0.2nm,0.5s,baz=118,slow=7.9,SNR=2.3								
AKASG	**Malin Array Be**	**32.86**	**309**	P		**P**		**04 31 01.9**	**-1.3**
	1.2nm,0.5s,baz=79,slow=7.3,SNR=5.8								
FINES	**FINESS Array B**	**37.38**	**326**	P		**P**		**04 31 43.2**	**+1.6**
	1.4nm,0.4s,baz=128,slow=10.0,SNR=15								
ARCES	**ARCESS Array B**	**41.03**	**338**	P		**P**		**04 32 13.3**	**+1.6**
	1.6nm,0.5s,baz=115,slow=8.0,SNR=13								
NB2	**NORSAR Subarra**	**44.28**	**323**	P		**P**		**04 32 38.6**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=95,slow=7.9								
NOA	**NORSAR Array B**	**44.28**	**323**	P		**P**		**04 32 38.9**	**+0.9**
	comp=Z,1.5nm,0.5s,baz=96,slow=7.7,SNR=7.7								
TGY	**Tagaytay City**

TCW				AML	AML	04 47 28.9	
PNHZ	**Pukenui**	**1.67**	**101**	PN	Pn	04 47 04.4	-0.2
CAW	**Cannon Point**	**1.69**	**153**	PN	Pn	04 47 04.7	-0.1
CAW				AML	AML	04 47 28.6	
CAW				AML	AML	04 47 29.3	
NNZ	**Nelson**	**1.70**	**198**	PN	Pn	04 47 04.8	-0.1
NNZ				SN	Sn	04 47 28.5	-0.7
QRZ	**Quartz Range**	**1.70**	**224**	PN	Pn	04 47 04.8	-0.1
HOWZ	**Holdsworth Sta**	**1.70**	**140**	⇓PN	Pn	04 47 04.6	-0.4
PRWZ	**Pori Road**	**1.74**	**124**	PN	Pn	04 47 05.3	-0.1
KRHZ	**Kereru**	**1.77**	**92**	PN	Pn	04 47 05.9	0.0
TUWZ	**Tuamarina**	**1.83**	**183**	PN	Pn	04 47 06.2	-0.1
WPHZ	**Waipukurau**	**1.88**	**105**	PN	Pn	04 47 10.0	+3.0
MTW	**Mount Morrison**	**1.90**	**145**	PN	Pn	04 47 06.6	-0.6
MTW				AML	AML	04 47 32.8	
MTW				AML	AML	04 47 33.0	
BFZ	**Birch Farm**	**1.98**	**124**	PN	Pn	04 47 07.9	-0.3
MSWZ	**Moikau Station**	**2.02**	**154**	PN	Pn	04 47 08.0	-0.6
MSWZ				AML	AML	04 47 35.1	
MSWZ				AML	AML	04 47 35.7	
ANWZ	**Angora Road**	**2.03**	**116**	PN	Pn	04 47 07.6	-1.1
TMWZ	**Te Maipa**	**2.05**	**138**	PN	Pn	04 47 08.2	-0.7
PAWZ	**Paruwai Farm**	**2.06**	**150**	PN	Pn	04 47 08.4	-0.6
PAWZ				AML	AML	04 47 35.7	
PAWZ				AML	AML	04 47 35.7	
BSWZ	**Blackbirch Sta**	**2.11**	**184**	PN	Pn	04 47 10.2	+0.5
PLWZ	**Palliser**	**2.16**	**156**	PN	Pn	04 47 09.4	-0.9
TRWZ	**Traveller**	**2.18**	**146**	PN	Pn	04 47 09.7	-0.8
THZ	**Tophouse**	**2.33**	**202**	PN	Pn	04 47 11.9	-0.5
KHZ	**Kahutara**	**2.84**	**188**	⇓PN	Pn	04 47 17.8	-0.7
LTZ	**Lake Taylor**	**3.46**	**203**	PN	Pn	04 47 25.6	-0.9
OXZ	**Oxford**	**4.02**	**202**	PN	Pn	04 47 31.7	-2.0
MQZ	**McQueen's Vall**	**4.24**	**194**	PN	Pn	04 47 33.6	-2.9
JCZ	**Jackson Bay**	**5.97**	**220**	PN	Pn	04 47 58.4	-1.4

WEL 06 04:59:11.0±0.4, 37.61S×176.67E, h191km±3km, ML4.2/19, 18C-4D, Error ellipse: s-maj=2.8km s-min=2.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPRZ	**Ohinepanea**	**0.25**	**202**	PN	Pn	04 59 36.4	+0.2
URZ	**Urewera**	**0.73**	**152**	PN	Pn	04 59 37.7	-0.4
URZ				SN	Sn	04 59 59.6	+0.4
URZ				AML	AML	05 00 01.2	
HRRZ	**Handcock Road**	**0.83**	**201**	⇑PN	Pn	04 59 39.1	+0.3
HAZ	**Te Kaha**	**0.89**	**99**	PN	Pn	04 59 38.5	-0.5
HAZ				SN	Sn	04 59 59.8	-1.0
PRRZ	**Plateau Road**	**0.91**	**194**	⇓PN	Pn	04 59 39.3	+0.1
ALRZ	**Allen Road**	**0.98**	**195**	⇑PN	Pn	04 59 39.7	0.0
MWZ	**Matawai**	**0.99**	**137**	⇑PN	Pn	04 59 39.5	-0.3
MWZ				SN	Sn	05 00 01.9	-0.3
MWZ				AML	AML	05 00 04.0	
MWZ				AML	AML	05 00 04.0	
MWZ				AML	AML	05 00 04.1	
RAGZ	**Rawiri**	**1.06**	**147**	PN	Pn	04 59 40.5	+0.1
RAGZ				SN	Sn	05 00 03.1	-0.1
TWGZ	**Tauwhareparae**	**1.18**	**119**	⇑PN	Pn	04 59 41.5	+0.3
TKGZ	**Te Karaka**	**1.24**	**132**	PN	Pn	04 59 41.7	+0.1
SNGZ	**Shannon Statio**	**1.28**	**156**	PN	Pn	04 59 42.1	+0.1
MXZ	**Matakaoa Point**	**1.30**	**88**	PN	Pn	04 59 41.9	-0.2
MXZ				SN	Sn	05 00 05.8	-0.4
MXZ				AML	AML	05 00 08.4	
MXZ				AML	AML	05 00 09.4	
PUZ	**Puketiti**	**1.33**	**111**	PN	Pn	04 59 42.3	-0.2
PUZ				AML	AML	05 00 07.7	
PUZ				AML	AML	05 00 08.6	
RAHZ	**Arahi**	**1.34**	**166**	⇑PN	Pn	04 59 42.8	+0.3
RIGZ	**Rimuhau**	**1.39**	**142**	PN	Pn	04 59 43.1	+0.2
WMGZ	**Waiomatatini S**	**1.40**	**99**	⇑PN	Pn	04 59 43.0	+0.1
NMHZ	**Naumai**	**1.49**	**176**	PN	Pn	04 59 44.2	+0.3
CNGZ	**Carnagh Statio**	**1.49**	**126**	⇑PN	Pn	04 59 44.4	+0.6
WHHZ	**Waihua**	**1.53**	**163**	⇑PN	Pn	04 59 44.3	+0.1
BKZ	**Black Stump Fm**	**1.56**	**185**	PN	Pn	04 59 43.8	-0.7
BKZ				AML	AML	05 00 11.2	
BKZ				AML	AML	05 00 11.3	
KNZ	**Kokohu**	**1.61**	**151**	PN	Pn	04 59 44.6	-0.2
PRGZ	**Paritu Road**	**1.62**	**144**	PN	Pn	04 59 45.1	+0.1
ARHZ	**Aropaoanui**	**1.67**	**171**	⇑PN	Pn	04 59 45.5	+0.1
HIZ	**Hauiti**	**1.69**	**237**	PN	Pn	04 59 46.0	+0.3
KWHZ	**Kaweka Forest**	**1.82**	**186**	⇑PN	Pn	04 59 46.6	-0.4
WPVZ	**Whakapapa**	**1.82**	**209**	PN	Pn	04 59 46.5	-0.6
MCHZ	**McNeill Hill**	**1.83**	**179**	⇑PN	Pn	04 59 47.0	0.0
TUVZ	**Tukino**	**1.84**	**206**	⇑PN	Pn	04 59 46.8	-0.5
FWVZ	**Far West T-bar**	**1.86**	**208**	PN	Pn	04 59 47.0	-0.6
WHVZ	**Whangaehu Hut**	**1.87**	**207**	⇑PN	Pn	04 59 47.1	-0.7
DRZ	**Dome Shelter**	**1.87**	**207**	PN	Pn	04 59 47.4	-0.5
TRVZ	**Turoa**	**1.90**	**207**	PN	Pn	04 59 47.4	-0.7
WNVZ	**Wahianoa**	**1.91**	**206**	⇑PN	Pn	04 59 47.3	-0.7
MOVZ	**Moawhango**	**1.93**	**202**	⇑PN	Pn	04 59 47.0	-1.1
BHHZ	**Black Hill Sta**	**1.93**	**194**	⇑PN	Pn	04 59 47.3	-0.9
MTVZ	**Mangateitei**	**2.00**	**208**	PN	Pn	04 59 48.2	-0.8
KRHZ	**Kereru**	**2.04**	**187**	PN	Pn	04 59 48.4	-0.9
CKHZ	**Cape Kidnapper**	**2.07**	**171**	PN	Pn	04 59 49.0	-0.5
VRZ	**Vera Road**	**2.13**	**224**	⇑PN	Pn	04 59 50.0	-0.2
KAHZ	**Kahuranaki**	**2.18**	**176**	PN	Pn	04 59 50.1	-0.7
PNHZ	**Pukenui**	**2.33**	**189**	PN	Pn	04 59 51.1	-1.3
PXZ	**Pawanui**	**2.42**	**177**	PN	Pn	04 59 52.1	-1.3
PXZ				AML	AML	05 00 25.8	
PXZ				AML	AML	05 00 25.8	
PXZ				AML	AML	05 00 27.4	
PXZ				AML	AML	05 00 27.4	
WPHZ	**Waipukurau**	**2.46**	**184**	PN	Pn	04 59 52.4	-1.4
TSZ	**Takapari Road**	**2.50**	**193**	PN	Pn	04 59 52.8	-1.6
TSZ				AML	AML	05 00 27.4	
TSZ				AML	AML	05 00 32.6	
WAZ	**Wanganui**	**2.51**	**211**	PN	Pn	04 59 53.3	-1.2
PRHZ	**Porangahau**	**2.65**	**181**	PN	Pn	04 59 54.3	-1.7
DVHZ	**Dannevirke**	**2.71**	**188**	PN	Pn	04 59 54.6	-2.2
ANWZ	**Angora Road**	**2.85**	**183**	PN	Pn	04 59 56.6	-1.6
POWZ	**Post Office Ro**	**2.86**	**194**	PN	Pn	04 59 56.5	-2.0
PRWZ	**Pori Road**	**2.99**	**198**	PN	Pn	04 59 58.3	-1.7
BFZ	**Birch Farm**	**3.08**	**186**	PN	Pn	04 59 58.8	-2.3
MRZ	**Mangatainoka R**	**3.16**	**195**	⇑PN	Pn	04 59 59.3	-2.7
MRZ				AML	AML	05 00 40.4	
MRZ				AML	AML	05 00 40.9	
TIWZ	**Tintock**	**3.22**	**191**	PN	Pn	05 00 00.5	-2.2
TIWZ				AML	AML	05 00 41.7	
TIWZ				AML	AML	05 00 42.0	
HOWZ	**Holdsworth Sta**	**3.40**	**195**	⇓PN	Pn	05 00 01.9	-3.1
OGWZ	**Otaki Gorge**	**3.41**	**200**	⇓PN	Pn	05 00 02.3	-2.7
KIW	**Kapiti Island**	**3.52**	**202**	PN	Pn	05 00 03.3	-3.1
KIW				AML	AML	05 00 46.8	
KIW				AML	AML	05 00 48.8	
TMWZ	**Te Maipa**	**3.54**	**190**	PN	Pn	05 00 04.1	-2.6
MTW	**Mount Morrison**	**3.66**	**194**	PN	Pn	05 00 04.9	-3.1
MTW				AML	AML	05 00 50.1	
MTW				AML	AML	05 00 50.3	
CAW	**Cannon Point**	**3.71**	**199**	PN	Pn	05 00 05.3	-3.4
CAW				AML	AML	05 00 51.6	
CAW				AML	AML	05 00 52.1	
DUWZ	**D'Urville Isla**	**3.83**	**213**	PN	Pn	05 00 06.9	-3.4
TRWZ	**Traveller**	**3.86**	**191**	PN	Pn	05 00 07.6	-3.0
TRWZ				AML	AML	05 00 54.5	
TRWZ				AML	AML	05 00 56.2	
PAWZ	**Paruwai Farm**	**3.88**	**194**	PN	Pn	05 00 07.8	-3.1
PAWZ				AML	AML	05 00 55.0	
PAWZ				AML	AML	05 00 55.2	
WEL	**Wellington**	**3.95**	**201**	PN	Pn	05 00 08.2	-3.6
MSWZ	**Moikau Station**	**3.95**	**196**	PN	Pn	05 00 08.1	-3.7
MSWZ				AML	AML	05 00 54.0	
MSWZ				AML	AML	05 00 56.0	
BHW	**Baring Head**	**4.04**	**200**	PN	Pn	05 00 09.3	-3.6
BHW				AML	AML	05 00 58.6	
BHW				AML	AML	05 00 59.3	
TCW	**Tory Channel**	**4.04**	**207**	PN	Pn	05 00 09.2	-3.7
TCW				AML	AML	05 00 56.7	
TCW				AML	AML	05 00 57.9	
PLWZ	**Palliser**	**4.10**	**195**	PN	Pn	05 00 09.8	-3.9
TUWZ	**Tuamarina**	**4.36**	**208**	PN	Pn	05 00 13.0	-3.8
TUWZ				AML	AML	05 01 05.3	
TUWZ				AML	AML	05 01 05.5	
NNZ	**Nelson**	**4.41**	**214**	PN	Pn	05 00 13.3	-4.3
QRZ	**Quartz Range**	**4.54**	**224**	PN	Pn	05 00 14.7	-4.6
BSWZ	**Blackbirch Sta**	**4.63**	**207**	PN	Pn	05 00 16.9	-3.5
THZ	**Tophouse**	**5.06**	**214**	PN	Pn	05 00 22.3	-3.6
KHZ	**Kahutara**	**5.37**	**206**	⇓PN	Pn	05 00 25.7	-4.1
KHZ				AML	AML	05 01 27.1	
LTZ	**Lake Taylor**	**6.17**	**212**	PN	Pn	05 00 35.2	-5.1
OXZ	**Oxford**	**6.71**	**210**	PN	Pn	05 00 41.4	-5.8
MQZ	**McQueen's Vall**	**6.81**	**205**	PN	Pn	05 00 42.6	-6.0
LBZ	**Lake Benmore**	**8.36**	**214**	PN	Pn	05 01 03.1	-5.8

*IDC **06** 05:17:12.6±0.9, 37.7°S×73.06°W, h0km, mb3.8/7, mb1 4.0/10, mb1mx3.9/27, mbtmp3.8/10, ML3.5/2, MS3.6/2, Ms1 3.6/2, ms1mx3.0/19, Error ellipse: s-maj=34.4km s-min=18.1km az=99.0*
*ISCJB **06** 05:17:17.9±0.6, 37.75S±0.04°×73.2W±0.1, h51km±7km, mb3.8/7, MS3.9/1, Error ellipse: s-maj=16.9km s-min=5.2km az=13.0*
*GUC **06** 05:17:17.9±0.6, 37.78S×73.22W, h25km±4km, ML4.3*
*NEIC **06** 05:17:17.0, 37.78S×73.22W, h25km, ML4.3(GUC), After GUC.*
NEIC Felt [III] at La Laja.

ISC 06 05:17:18.5±1.1, 37.74S±0.05°×73.2W±0.1, h45km±12km, n22, σ1°s34/27, mb3.8/7, 5C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.90**	**4**	⇑*i*P	**Pn**	**05 17 34.5**	**-0.2**
CCSP				*i* S	**Sn**	**05 17 47.3**	**+0.7**
CCSP				AML	AML	05 17 50.7	
	comp=E,21µm,0.4s						
PSCH	**Puerto Saavedr**	**1.06**	**188**	⇑*i*P	**Pn**	**05 17 36.0**	**-1.0**
PSCH				*i* S	**Sn**	**05 17 49.5**	**-1.1**
VLCH	**Valdivia**	**2.06**	**181**	⇑*i*P	**Pn**	**05 17 51.6**	**+1.0**
VLCH				*e*S	**Sn**	**05 18 17.0**	**+1.9**
LNCH	**Linares**	**2.28**	**34**	⇑*i*P	**Pn**	**05 17 53.8**	**+0.1**
LNCH				*i* S	**Sn**	**05 18 22.1**	**+1.5**
TALC	**Talca**	**2.66**	**29**	⇑*i*P	**Pn**	**05 17 59.1**	**+0.3**
TALC				*i* S	**Sn**	**05 18 32.0**	**+2.2**
OSCH	**Osorno**	**2.83**	**179**	*e*P	**Pn**	**05 18 02.4**	**+1.2**
CFAA	**Coronel Fontan**	**7.36**	**35**	Pn	**Pn**	**05 19 01.7**	**-1.7**
	comp=E,0.3nm,0.3s,baz=208,slow=11,SNR=23						
CFAA				Sn	**Sn**	**05 20 24.1**	**-1.6**
	comp=E,0.2nm,0.3s,baz=282,slow=20,SNR=2.3						
CFAA				LR	LR	05 22 10.5	
	comp=E,12nm,21.8s,baz=210,slow=41						
TRQA	**Tornquist**	**8.87**	**95**	*e*Pn	**Pn**	**05 19 25.9**	**+1.7**
	comp=E,9.4nm,0.7s						
LCO	**Las Campanas**	**8.96**	**14**	Pn	**Pn**	**05 19 25.0**	**-0.5**
LVC	**Limon Verde**	**15.53**	**15**	Pn	**Pn**	**05 20 53.4**	**-1.3**
	comp=E,8.1nm,0.3s,baz=212,slow=7.1,SNR=2.7						
LVC	**Limon Verde**	**15.53**	**15**	*e*P	**P**	**05 20 59.0**	**+0.7**
CPUP	**Villa Florida**	**17.59**	**54**	P	**Pn**	**05 21 18.0**	**-2.3**
	comp=E,0.1nm,0.3s,baz=335,slow=17,SNR=2.1						
CPUP				LR	LR	05 28 49.4	
	comp=E,122nm,19.7s,baz=231,slow=40						
LPAZ	**La Paz**	**21.84**	**13**	P	**P**	**05 22 08.9**	**+1.0**
	comp=E,1.6nm,0.8s,baz=194,slow=13,SNR=6.7						
SIV	**San Ignacio**	**24.17**	**30**	P	**P**	**05 22 29.6**	**-1.1**
	comp=E,2.2nm,0.7s,baz=237,slow=4.5,SNR=6.1						
SNAA	**Sanae**	**48.50**	**157**	P	**P**	**05 25 57.0**	**+0.5**
	comp=E,0.7nm,0.8s,baz=280,slow=6.3,SNR=8.4						
QSPA	**South Pole Qui**	**52.50**	**180**	P	**P**	**05 26 27.6**	**+0.7**
	comp=E,1.7nm,0.7s,baz=310,slow=0.6,SNR=8.8						
MAW	**Mawson**	**69.86**	**164**	LR	LR	05 58 13.0	
	comp=E,62nm,18.1s,baz=239,slow=35						
TXAR	**Lajitas Array**	**72.58**	**332**	P	**P**	**05 28 42.0**	**+0.9**
	comp=E,0.6nm,0.6s,baz=146,slow=9.1,SNR=8.1						
TORD	**Torodi Ar. Bea**	**86.35**	**70**	P	**P**	**05 29 56.2**	**0.0**
	comp=E,1.3nm,0.9s,baz=220,slow=5.4,SNR=8.1						
PDAR	**Pinedale Array**	**86.69**	**334**	P	**P**	**05 29 57.6**	**0.0**
	comp=E,0.9nm,1.0s,baz=134,slow=2.6,SNR=4.7						
BVAR	**Borovoye Array**	**150.59**	**47**	PKPbc	**PKPbc**	**05 37 05.5**	**+0.7**
	comp=E,1.1nm,0.6s,baz=274,slow=3.9,SNR=7.7						
MKAR	**Makanchi Array**	**159.79**	**56**	PKPab	**PKPab**	**05 37 49.1**	**-2.2**
	comp=E,0.3nm,0.7s,baz=278,slow=1.8,SNR=3.1						

GUC 06 05:28:35.6±0.6, 35.67S×72.27W, h37km±3km, ML3.8, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNCH	**Linares**	**0.57**	**109**	⇑*i*P	Pn	05 28 47.0	-0.4
LNCH				*i* S	Sn	05 28 55.5	0.0
TALC	**Talca**	**0.58**	**63**	⇓*i*P	Pn	05 28 47.3	-0.2
TALC				*i* S	Sn	05 28 56.0	+0.3
COCH	**Cobquecura**	**0.63**	**222**	⇑*i*P	Pn	05 28 48.2	+0.1
COCH				*i* S	Sn	05 28 56.9	0.0
NICH	**Los Niches**	**1.07**	**52**	⇓*i*P	Pn	05 28 55.1	+1.0
NICH				*i* S	Sn	05 29 09.5	+1.7
CCSP	**San Pedro de C**	**1.36**	**210**	*i* S	Sn	05 29 16.9	+2.2
LNV	**Longovilo**	**1.84**	**23**	⇑*i*P	Pn	05 29 05.6	+1.0
CLCH	**Cerro Calan**	**2.68**	**33**	*e*P	Pn	05 29 17.7	+1.5
CLCH				AML	AML	05 30 06.8	
	comp=E,459nm,0.4s						
PEL	**Peldehue**	**2.83**	**28**	*e*P	Pn	05 29 19.7	+1.3
PEL				AML	AML	05 30 13.9	
	comp=E,262nm,0.8s						

IDC 06 05:31:19.4±3.8, 5.73S×151.95E, h0km, mb3.4/2, mb1 3.8/2, mb1mx3.4/34, mbtmp3.5/2, Error ellipse: s-maj=175.7km s-min=46.8km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.20**	**229**	P	P	05 36 18.4	+0.8
	1.0nm,0.6s,baz=52,slow=9.7,SNR=8.2						
ASAR	**Alice Springs**	**24.90**	**222**	P	P	05 36 43.5	-0.7
	0.6nm,0.5s,baz=56,slow=8.9,SNR=13						
TORD	**Torodi Ar. Bea**	**149.78**	**286**	PKPbc	PKPbc	05 51 12.1	-0.3
	1.9nm,0.6s,baz=76,slow=2.9,SNR=12						

GUC 06 05:33:16.6±0.5, 35.84S×73.34W, h34km±6km, ML4.0, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.53**	**124**	⇑*i*P	Pn	05 33 27.1	-0.6
COCH				*i* S	Sb	05 33 35.3	-0.1
CCSP	**San Pedro de C**	**1.02**	**170**	*e*P	Pb	05 33 35.7	-0.2
CCSP				*i* S	Sb	05 33 48.6	-0.4
LNCH	**Linares**	**1.41**	**91**	*e*P	Pn	05 33 41.0	+1.2
TALC	**Talca**	**1.46**	**73**	*e*P	Pb	05 33 41.9	-1.2
TALC				*i* S	Sb	05 34 00.6	-0.7
CLCH	**Cerro Calan**	**3.36**	**44**	*e*P	Pn	05 34 08.1	+1.4
CLCH				AML	AML	05 35 06.6	
	comp=N,196nm,0.5s						
PEL	**Peldehue**	**3.47**	**40**	⇑*i*P	Pn	05 34 09.4	+1.2
PEL				AML	AML	05 35 19.2	
	comp=N,228nm,0.6s						

*ATH **06** 05:35:14.7, 37.77N×21.40E, h25km±3km, MD2.7/9*
*CSEM **06** 05:35:15.2±0.2, 37.81N×21.43E, h28km±1km, ML1.9, Error ellipse: s-maj=7.1km s-min=3.2km az=172.0*

THE 06 05:35:16.4, 37.83N×21.43E, h21km±2km, ML1.9/4, Error ellipse: s-maj=2.2km s-min=0.6km az=351.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VTN	**Vitineika**	**0.21**	**295**	P	Pb	05 35 21.5	-0.8
VTN				S	Sb	05 35 26.3	-0.2
VTN	**Vitineika**	**0.21**	**295**	P	Pb	05 35 21.5	-0.8
VTN				S	Sb	05 35 26.3	-0.2
RLS	**Riolos of Patr**	**0.23**	**7**	*e*PB	Pb	05 35 21.4	-1.0
RLS				*e*SB	Sb	05 35 26.0	-0.6
RLS	**Riolos of Patr**	**0.23**	**7**	*e*Pb	Pb	05 35 21.4	-1.0
RLS				*e*Sb	Sb	05 35 26.0	-0.6
RLS	**Riolos of Patr**	**0.23**	**7**	P	Pb	05 35 21.3	-1.1
RLS				S	Sb	05 35 25.8	-0.8
DRO	**Drossia**	**0.26**	**61**	*e*PB	Pb	05 35 22.0	-0.6
DRO				*e*SB	Sb	05 35 27.5	+0.5
DRO	**Drossia**	**0.26**	**61**	*e*Pb	Pb	05 35 22.0	-0.6
DRO	**Drossia**	**0.26**	**61**	P	Pb	05 35 22.3	-0.3
DRO				S	Sb	05 35 26.9	-0.1
DRO				*e*Sb	Sn	05 35 27.5	-2.8
DRO	**Drossia**	**0.26**	**61**	P	Pb	05 35 22.3	-0.3
DRO				S	Sb	05 35 26.9	-0.1
ZKS	**Zakynthos**	**0.53**	**256**	P	Pb	05 35 27.2	+0.2
ZKS				S	Sb	05 35 34.4	+0.1
ZKS	**Zakynthos**	**0.53**	**256**	P	Pb	05 35 27.2	+0.2
ZKS				S	Sb	05 35 34.4	+0.1
KFL	**Anninata**	**0.58**	**299**	*e*PN	Pb	05 35 26.3	-1.7
KFL	**Anninata**	**0.58**	**299**	*e*Pn	Pb	05 35 26.3	-1.7
KFL	**Anninata**	**0.58**	**299**	P	Pb	05 35 26.9	-1.1
KFL				S	Sb	05 35 36.4	+0.6
KFL	**Anninata**	**0.58**	**299**	P	Pb	05 35 26.9	-1.1
KFL				S	Sb	05 35 36.4	+0.6
LAKA	**Lakka**	**0.60**	**46**	*e*PN	Pb	05 35 27.9	-0.4
LAKA				*e*SN	Sb	05 35 37.1	+0.7
LAKA	**Lakka**	**0.60**	**46**	P	Pb	05 35 27.6	-0.7
LAKA	**Lakka**	**0.60**	**46**	*e*Pn	Pb	05 35 27.9	-0.4
LAKA				*e*Sn	Sb	05 35 37.1	+0.7
LAKA	**Lakka**	**0.60**	**46**	P	Pb	05 35 27.6	-0.7
KLV	**Kalavryta, Ach**	**0.61**	**69**	*e*PN	Pb	05 35 27.8	-0.8
KLV				*e*SN	Sb	05 35 37.9	+1.1
KLV	**Kalavryta, Ach**	**0.61**	**69**	P	Pb	05 35 27.7	-0.9
KLV				S	Sb	05 35 37.6	+0.8
KLV	**Kalavryta, Ach**	**0.61**	**69**	P	Pb	05 35 27.7	-0.9
KLV				S	Sb	05 35 37.6	+0.8
EFP	**Efpalio**	**0.71**	**32**	*e*PN	Pb	05 35 29.3	-0.7
EFP				*e*SN	Sb	05 35 40.3	+1.0
EFP	**Efpalio**	**0.71**	**32**	*e*Pn	Pb	05 35 29.3	-0.7
EFP				*e*Sn	Sb	05 35 40.3	+1.0
GUR	**Goura**	**0.73**	**81**	*e*PN	Pb	05 35 30.1	-0.5
GUR				*e*SN	Sb	05 35 40.7	+0.4
GUR	**Goura**	**0.73**	**81**	*e*Pn	Pb	05 35 30.1	-0.5
GUR				*e*Sn	Sb	05 35 40.7	+0.4
GUR	**Goura**	**0.73**	**81**	P	Pb	05 35 30.2	-0.4
GUR				S	Sb	05 35 40.9	+0.6
VLS	**Valsamata**	**0.75**	**298**	*e*PN	Pb	05 35 30.2	-0.6
VLS	**Valsamata**	**0.75**	**298**	*e*Pn	Pb	05 35 30.2	-0.6
PDO	**Prodromos**	**0.79**	**346**	*e*PN	Pb	05 35 30.6	-0.9
PDO				*e*SN	Sn	05 35 43.6	0.0
PDO	**Prodromos**	**0.79**	**346**	*e*Pn	Pb	05 35 30.6	-0.9
PDO				S	Sn	05 35 43.2	-0.4
PDO	**Prodromos**	**0.79**	**346**	P	Pb	05 35 30.7	-0.8
PDO				S	Sn	05 35 43.2	-0.4
KALE	**Kalithea**	**0.79**	**45**	*e*PN	Pb	05 35 30.9	-0.7
KALE	**Kalithea**	**0.79**	**45**	*e*Pn	Pb	05 35 30.9	-0.7

*IDC **06** 05:38:52.3±1.2, 37.47N×77.83E, h0km, mb3.6/6, mb1 3.8/9, mb1mx3.5/41, mbtmp3.7/9, ML3.2/3, Error ellipse: s-maj=26.0km s-min=23.7km az=72.0*
*ISCJB **06** 05:38:53.3±1.0, 37.49N±0.09×77.97E±0.09, h17km, mb3.5/6, Error ellipse: s-maj=14.1km s-min=8.8km az=25.8*
*BJI **06** 05:38:55.8, 37.73N×77.89E, h5km, ML3.5/7*
*NNC **06** 05:38:58.2±5.7, 37.98N×78.09E, h19km±23km, mb3.8, mpv3.5, Error ellipse: s-maj=47.4km s-min=20.2km az=162.0*

ISC 06 05:38:55.3±1.1, 37.56N±0.10×78.03E±0.08, h17km, n18, σ1°s45/22, mb3.5/6, 6C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.54**	**321**	Pn	**Pn**	**05 39 37.6**	**+1.8**
KSH				Sn	**Sn**	**05 40 06.2**	**-0.2**
KSH				SMN			
	250nm,0.4s						
KSH				SME			
	180nm,0.6s						
SFK	**Sufi-Kurgan**	**4.31**	**306**	⇓Pg	**Pb**	**05 40 11.4**	**+0.8**
	2.6nm,0.4s						
SFK				⇓Sn	**Sn**	**05 40 50.8**	**+0.6**
	11nm,0.4s						
SFK				⇑Lg	Lg	05 41 07.0	
	19nm,0.5s						
TKM2	**Tokmak 2**	**5.67**	**342**	⇑Pg	**Pb**	**05 40 34.6**	**+0.7**
	2.5nm,0.4s						
TKM2				⇓Lg	Lg	05 41 51.1	
	5.7nm,0.5s						
AAK	**Ala-Archa**	**5.75**	**333**	⇓Pg	**Pb**	**05 40 37.8**	**+2.6**
	6.6nm,0.5s						
AAK				⇑Lg	Lg	05 41 52.7	
	23nm,1.0s						
PDGK	**Podgornoye**	**5.87**	**10**	⇓Pn	**Pn**	**05 40 23.5**	**+2.1**
	8.3nm,0.6s						
PDGK				⇑Lg	Lg	05 41 52.8	
	36nm,1.2s						
KK31	**Karatay Array**	**7.98**	**316**	⇑Pn	**Pn**	**05 40 49.9**	**-0.6**
	0.3nm,0.4s,baz=128,slow=12,SNR=7.6						
KK31				⇓Lg	Lg	05 43 03.4	
	1.6nm,0.7s						
MK31	**Makanchi Array**	**9.76**	**18**	⇑Pn	**Pn**	**05 41 15.5**	**+0.8**
	0.3nm,0.3s,baz

GELI	**Tayfur-Gelibol**	**0.74**	**250**	*e*Pg	Pb	06 07 01.2	+0.6
ALN	**Alexandroupoli**	**1.04**	**284**	*e*PG	Pg	06 07 05.9	0.0
ALN	**Alexandroupoli**	**1.04**	**284**	*e*Pg	Pg	06 07 05.9	0.0

*IDC **06** 06:14:16.0±0.8,21°.70N×143°.46E, h0km, mb3.9/13, mb1 4.1/14, mb1mx4.0/29, mbtmp4.0/14, ML4.6/1, MS3.5/12, Ms1 3.5/12, ms1mx3.3/43, Error ellipse: s-maj=27.7km s-min=17.2km az=89.0*

*ISCJB **06** 06:14:19.0±0.5,21°.68N±0°.06×143°.4E±0°.2, h33km, mb3.9/13, MS3.5/10, Error ellipse: s-maj=20.9km s-min=8.0km az=170.9*

*NEIC **06** 06:14:21.1±0.4,21°.70N×143°.38E, h35km, mb4.0/1, Error ellipse: s-maj=17.7km s-min=7.0km az=82.0*

ISC 06 06:14:21.1±0.7,21°.69N±0°.09×143°.4E±0°.2, h35km, n33, σ0.985/18, mb3.9/13, MS3.4/10, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.49**	**349**	Pn		**Pn**	**06 15 40.6**	**+0.2**
JCJ	**Chichijima**	**5.49**	**349**	Pn		**Pn**	**06 15 40.6**	**+0.2**
	17nm,0.3s,baz=295,slow=10,SNR=5.0							
GUMO	**Guam**	**8.18**	**170**	LR		LR	06 18 56.3	
	comp=Z,394nm,19.9s,baz=41,slow=34							
GUMO	**Guam**	**8.18**	**170**	Pn		**Pn**	**06 16 17.4**	**0.0**
MJAR	**Matsushiro Arr**	**15.47**	**344**	Pn		**Pn**	**06 17 56.1**	**-0.6**
	baz=165,slow=10							
MJAR				LR		LR	06 23 17.3	
	comp=Z,375nm,20.7s,baz=165,slow=35							
MAJO	**Matsushiro**	**15.47**	**344**	Pn		**Pn**	**06 17 55.8**	**-0.9**
KSRS	**Korea Array**	**20.62**	**323**	P		Pn	06 18 58.5	-1.3
	2.5nm,0.5s,baz=144,slow=9.8,SNR=2.7							
KSRS				LR		LR	06 25 57.1	
	comp=Z,76nm,21.2s,baz=136,slow=34							
KSAR	**Wonju Array Be**	**20.64**	**323**	P		Pn	06 18 58.5	-1.5
H11N1	**WAKE ISLAND Hy**	**22.10**	**91**	T		T	06 41 50.4	
	baz=278,slow=74,SNR=13							
H11N2	**WAKE ISLAND Hy**	**22.10**	**91**	T		T	06 41 50.9	
	baz=278,slow=74,SNR=11							
H11N3	**WAKE ISLAND Hy**	**22.12**	**91**	T		T	06 41 51.5	
	baz=278,slow=74,SNR=16							
H11S3	**WAKE ISLAND Hy**	**22.13**	**94**	T		T	06 41 51.9	
	baz=282,slow=75,SNR=62							
H11S1	**WAKE ISLAND Hy**	**22.14**	**94**	T		T	06 41 50.2	
	baz=282,slow=75,SNR=42							
H11S2	**WAKE ISLAND Hy**	**22.15**	**94**	T		T	06 41 48.6	
	baz=282,slow=75,SNR=31							
USRK	**Ussuriysk Ar.**	**24.35**	**340**	P		**P**	**06 19 37.0**	**+1.3**
	4.6nm,1.0s,baz=170,slow=9.6,SNR=5.4							
USRK				LR		LR	06 28 32.4	
	comp=Z,113nm,18.7s,baz=128,slow=35							
PETK	**Petropavlovsk-**	**33.24**	**16**	LR		LR	06 32 00.6	
	comp=Z,79nm,21.6s,baz=210,slow=32							
SONM	**Songino Array**	**39.45**	**320**	P		**P**	**06 21 48.4**	**+0.3**
	0.8nm,0.7s,baz=124,slow=8.9,SNR=5.3							
SEY	**Seymchan**	**41.68**	**6**	P		**P**	**06 22 07.2**	**+1.1**
	3.5nm,1.0s,baz=206,slow=7.6,SNR=6.4							
CMAR	**Chiang Mai Arr**	**41.74**	**274**	LR		LR	06 38 04.0	
	comp=Z,27nm,21.7s,baz=131,slow=34							
WRAB	**Tennant Creek**	**42.29**	**193**	*e*P		**P**	**06 22 10.6**	**-0.9**
	2.4nm,0.7s							
WRA	**Warramunga Arr**	**42.30**	**193**	P		**P**	**06 22 12.2**	**+0.6**
	2.0nm,0.8s,baz=14,slow=8.6,SNR=6.1							
ASAR	**Alice Springs**	**46.01**	**192**	P		**P**	**06 22 41.9**	**+0.5**
	1.2nm,0.7s,baz=12,slow=9.4,SNR=14							
ASAR				LR		LR	06 40 51.6	
	comp=Z,67nm,19.8s,baz=1.5,slow=35							
PSI	**Prapat**	**47.06**	**253**	LR		LR	06 42 58.8	
	comp=Z,33nm,19.0s,baz=91,slow=36							
STKA	**Stephens Creek**	**53.28**	**182**	LR		LR	06 49 45.9	
	comp=Z,39nm,18.5s,baz=25,slow=40							
ZALV	**Zalesovo Beam**	**54.32**	**322**	P		**P**	**06 23 44.1**	**+0.2**
	0.8nm,0.3s,baz=101,slow=6.2,SNR=5.0							
MKAR	**Makanchi Array**	**54.83**	**313**	P		**P**	**06 23 47.4**	**-0.4**
	0.3nm,0.5s,baz=87,slow=7.9,SNR=5.5							
MKAR				LR		LR	06 49 10.1	
	comp=Z,40nm,18.7s,baz=82,slow=38							
ILAR	**Eielson Array**	**61.98**	**27**	P		**P**	**06 24 36.0**	**-1.3**
	0.9nm,0.8s,baz=254,slow=5.6,SNR=11							
INK	**Inuvik**	**67.52**	**24**	P		**P**	**06 25 13.8**	**+0.5**
	1.6nm,0.9s,baz=237,slow=2.1,SNR=3.6							
RAR	**Rarotonga**	**69.99**	**124**	LR		LR	06 52 47.1	
	comp=Z,116nm,19.6s,baz=64,slow=33							
YKA	**Yellowknife Ar**	**76.39**	**28**	P		**P**	**06 26 05.7**	**-1.0**
	0.8nm,0.6s,baz=293,slow=5.7,SNR=4.4							
NVAR	**Mina Array Bea**	**83.02**	**52**	P		**P**	**06 26 44.2**	**+0.8**
	0.8nm,0.7s,baz=279,slow=4.1,SNR=8.1							
FINES	**FINESS Array B**	**83.26**	**335**	P		**P**	**06 26 42.6**	**-1.2**
	0.4nm,0.3s,baz=4.9,slow=3.6,SNR=5.6							
NOA	**NORSAR Array B**	**89.02**	**339**	LR		LR	07 11 08.0	
	comp=Z,39nm,20.3s,baz=25,slow=38							

IDC 06 06:14:39.8±4.2,30°.45S×138°.35E, h0km, mb1 3.0/3, mb1mx3.0/26, mbtmp2.7/3, ML2.3/3, Error ellipse: s-maj=100.3km s-min=16.9km az=41.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.12**	**118**	Pn		Pn	06 15 30.4	0.0
	0.1nm,0.3s,baz=296,slow=16,SNR=3.4							
STKA				Sn		Sn	06 16 09.7	+1.3
	1.1nm,0.3s,baz=299,slow=14,SNR=5.0							
STKA				Lg		Lg	06 16 18.9	
	1.9nm,0.3s,baz=200,slow=23,SNR=5.3							
ASAR	**Alice Springs**	**7.83**	**329**	Pn		Pn	06 16 35.6	+0.5
	0.0nm,0.3s,baz=145,slow=13,SNR=4.1							
ASAR				Sn		Sn	06 18 05.8	+1.2
	0.1nm,0.3s,baz=154,slow=22,SNR=3.0							
WRA	**Warramunga Arr**	**11.07**	**340**	Pn		Pn	06 17 18.9	-0.7
	0.0nm,0.3s,baz=161,slow=13,SNR=3.3							

IDC 06 06:21:05.5±1.1,39°.71N×121°.11E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.5/44, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=46.8km s-min=17.4km az=34.0, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**5.79**	**111**	Pn		Pn	06 22 32.9	+0.2
	1.5nm,0.3s,baz=295,slow=14,SNR=9.7							
KSRS				Pg		Pb	06 22 51.5	+4.1
	1.7nm,0.3s,baz=294,slow=17,SNR=8.0							
KSRS				Lg		Lg	06 24 06.9	
	1.7nm,0.3s,baz=290,slow=29,SNR=5.5							
USRK	**Ussuriysk Ar.**	**9.26**	**57**	Pn		Pn	06 23 28.3	+8.0
	0.6nm,0.3s,baz=250,slow=13,SNR=6.2							
USRK				Lg		Lg	06 26 08.1	
	0.4nm,0.3s,baz=240,slow=29,SNR=4.4							
FINES	**FINESS Array B**	**58.30**	**326**	P		P	06 31 01.6	-0.1
	0.4nm,0.4s,baz=77,slow=8.7,SNR=5.1							
WRA	**Warramunga Arr**	**60.61**	**166**	P		P	06 31 18.4	+0.3
	0.7nm,1.1s,baz=355,slow=7.3,SNR=5.2							
AKASG	**Malin Array Be**	**61.64**	**314**	P		P	06 31 24.6	-0.2
	0.5nm,0.4s,baz=50,slow=7.1,SNR=4.8							
BRTR	**Keskin Array B**	**64.45**	**301**	P		P	06 31 43.7	-0.2
	0.4nm,0.5s,baz=107,slow=3.6,SNR=3.0							

GUC 06 06:29:28.2±0.6,35°.72S×72°.79W, h15km±2km, ML3.6, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.41**	**180**	↑*i*P		Pg	06 29 36.8	+0.3
COCH				*i* S		Sg	06 29 42.4	+0.2
LNCH	**Linares**	**0.97**	**98**	↑*i*P		Pb	06 29 45.0	-1.7
LNCH				*i* S		Sb	06 29 58.7	-0.7
TALC	**Talca**	**0.99**	**72**	↑*i*P		Pb	06 29 45.6	-1.5
TALC				*i* S		Sb	06 29 58.8	-1.2
CCSP	**San Pedro de C**	**1.15**	**193**	*e*P		Pn	06 29 48.4	-1.5
CCSP				*i* S		Sb	06 30 03.4	-1.2
NICH	**Los Niches**	**1.46**	**61**	↑*i*P		Pn	06 29 53.3	-0.7
NICH				*i* S		Sn	06 30 12.3	-0.6
CLCH	**Cerro Calan**	**2.97**	**39**	AML		AML	06 31 10.0	
	comp=N,174nm,0.5s							
PEL	**Peldehue**	**3.10**	**35**	AML		AML	06 31 06.0	
	comp=N,158nm,0.3s							

*IDC **06** 06:29:52.5±1.1,2°.77N×128°.30E, h0km, mb3.8/5, mb1 4.1/7, mb1mx3.8/38, mbtmp4.0/7, ML4.3/2, Error ellipse: s-maj=43.6km s-min=17.4km az=72.0*

*ISCJB **06** 06:29:55.1±0.9,2°.7N±0°.1×128°.2E±0°.1, h33km, mb3.8/5, Error ellipse: s-maj=20.8km s-min=13.6km az=156.6*

ISC 06 06:29:57.4±1.0,2°.7N±0°.1×128°.3E±0°.1, h35km, n13, σ0.995/8, mb3.9/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.61**	**140**	Pn		**Pn**	**06 31 05.4**	**+0.7**
	12nm,0.3s,baz=122,slow=4.4,SNR=52							
SIJI				Sn		**Sn**	**06 31 55.3**	**-1.6**
	4.6nm,0.3s,baz=15,slow=23,SNR=9.7							
KAPI	**Kappang**	**11.48**	**228**	Pn		**Pn**	**06 32 38.5**	**-0.4**
	2.5nm,0.3s,baz=82,slow=16,SNR=2.2							
KAPI				Sn		Sn	06 34 36.3	-10
	2.3nm,0.3s,baz=273,slow=20,SNR=4.2							
WRA	**Warramunga Arr**	**23.26**	**166**	P		**P**	**06 35 02.1**	**+0.1**
	1.3nm,0.4s,baz=346,slow=10,SNR=24							
ASAR	**Alice Springs**	**26.76**	**169**	P		**P**	**06 35 34.3**	**+0.2**
	0.3nm,0.4s,baz=348,slow=10.0,SNR=8.6							
KSRS	**Korea Array**	**34.60**	**359**	P		**P**	**06 36 42.5**	**-0.5**
	1.3nm,0.6s,baz=175,slow=10,SNR=6.2							
STKA	**Stephens Creek**	**36.62**	**161**	P		**P**	**06 37 01.4**	**+0.9**
	0.9nm,0.5s,baz=334,slow=12,SNR=2.8							
H11S3	**WAKE ISLAND Hy**	**40.72**	**65**	T		T	07 20 49.1	
	baz=252,slow=75,SNR=4.9							
H11S2	**WAKE ISLAND Hy**	**40.74**	**65**	T		T	07 20 50.7	
	baz=252,slow=75,SNR=4.8							
H11S1	**WAKE ISLAND Hy**	**40.74**	**65**	T		T	07 20 48.7	
	baz=252,slow=75,SNR=4.1							
H11N1	**WAKE ISLAND Hy**	**41.30**	**63**	T		T	07 21 28.7	
	baz=250,slow=75,SNR=12							
H11N2	**WAKE ISLAND Hy**	**41.30**	**63**	T		T	07 21 27.5	
	baz=250,slow=75,SNR=5.7							
H11N3	**WAKE ISLAND Hy**	**41.31**	**63**	T		T	07 21 30.4	
	baz=250,slow=75,SNR=10							
MKAR	**Makanchi Array**	**59.30**	**325**	P		**P**	**06 39 55.8**	**0.0**
	1.0nm,0.5s,baz=113,slow=8.2,SNR=16							

*ISCJB **06** 06:30:59.3±0.2,15°.83S±0°.07×174°.91W±0°.05, h278km, mb4.3/54, Error ellipse: s-maj=11.0km s-min=4.6km az=147.0*

*IDC **06** 06:30:59.1±4.9,15°.87S×174°.82W, h268km±45km, mb3.9/14, mb1 4.1/15, mb1mx3.9/22, mbtmp4.5/15, Error ellipse: s-maj=18.6km s-min=15.5km az=135.0*

*BJI **06** 06:31:00.5,15°.80S×174°.80W, h292km, mb4.6/9, mB4.9/4*

*NEIC **06** 06:31:02.3±0.6,15°.81S×174°.91W, h297km±6km, mb4.4/41, Error ellipse: s-maj=11.6km s-min=4.6km az=142.0*

ISC 06 06:31:00.5±0.4,15°.83S±0°.08×174°.89W±0°.08, h278km, n318, σ0.974/315, mb4.3/54, 13C-7D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.56**	**58**	*e*Pn		**Pn**	**06 32 01.8**	**+0.9**
AFI				*e*Sn		**S**	**06 32 50.0**	**+1.0**
NIUE	**Niue**	**5.73**	**125**	P		**Pn**	**06 32 27.3**	**+1.3**
	baz=5.6,SNR=8.8							
MSVF	**Nonsavu**	**7.03**	**253**	*e*Pn		Pn	06 32 46.7	+4.7
	29nm,0.8s							
DZM	**Mont Dzumac**	**18.71**	**248**	P		**P**	**06 34 58.4**	**-0.9**
	0.5nm,0.3s,baz=88,slow=23,SNR=3.3							
URZ	**Urewera**	**23.43**	**196**	P		**P**	**06 35 42.9**	**-2.3**
	5.3nm,0.4s,baz=338,slow=11,SNR=4.2							
URZ	**Urewera**	**23.43**	**196**	*e*P		**P**	**06 35 46.4**	**+1.2**
RPZ	**Rata Peaks**	**30.27**	**200**	P		**P**	**06 36 44.9**	**-1.1**
	5.1nm,0.5s,baz=77,slow=2.1,SNR=4.5							
ARMA	**Armidale**	**33.90**	**239**	P		**P**	**06 37 18.9**	**+1.1**
	baz=34,SNR=5.6							
CTA	**Charters Tower**	**37.15**	**258**	P		**P**	**06 37 47.1**	**+1.6**
	2.0nm,0.4s,baz=100,slow=12,SNR=2.2							
CNB	**Canberra Magne**	**37.36**	**232**	P		**P**	**06 37 47.7**	**+0.6**
	baz=38,SNR=12							
MTSU	**Mount Surprise**	**39.03**	**261**	P		**P**	**06 38 01.4**	**+0.3**
	baz=39,SNR=4.7							
COEN	**Coen**	**40.53**	**267**	P		**P**	**06 38 14.7**	**+1.3**
	baz=41,SNR=12							
TOO	**Toolangi**	**41.09**	**230**	P		**P**	**06 38 18.3**	**+0.6**
	baz=41,SNR=4.6							
STKA	**Stephens Creek**	**42.58**	**240**	P		**P**	**06 38 30.0**	**+0.2**
	2.8nm,0.4s,baz=86,slow=9.4,SNR=11							
STKA	**Stephens Creek**	**42.58**	**240**	P		**P**	**06 38 30.4**	**+0.5**
	baz=43,SNR=11							
HTT	**Hallett**	**45.10**	**238**	P		**P**	**06 38 49.9**	**+0.1**
	baz=45,SNR=4.3							
BBOO	**Buckleboo**	**47.36**	**240**	P		**P**	**06 39 07.0**	**-0.2**
	baz=48,SNR=9.5							
WRAB	**Tennant Creek**	**48.34**	**257**	*e*P		**P**	**06 39 14.3**	**-0.6**
WRA	**Warramunga Arr**	**48.35**	**257**	P		**P**	**06 39 14.6**	**-0.5**
	2.1nm,0.3s,baz=96,slow=7.8,SNR=104							
ASAR	**Alice Springs**	**48.62**	**252**	P		**P**	**06 39 16.8**	**-0.2**
	21nm,0.7s,baz=88,slow=7.8,SNR=211							
WRKA	**Warakurna**	**53.70**	**250**	P		**P**	**06 39 54.3**	**-0.3**
	baz=54,SNR=69							
FORT	**Forrest**	**53.95**	**243**	P		**P**	**06 39 55.7**	**-0.5**
	baz=54,SNR=11							
FORT	**Forrest**	**53.95**	**243**	*e*P		**P**	**06 39 55.5**	**-0.7**
	22nm,0.6s							
VNDA	**Vanda**	**62.81**	**186**	P		**P**	**06 40 56.7**	**+0.3**
	1.9nm,0.9s,baz=28,slow=6.7,SNR=7.5							
PKM	**Peak Mountain**	**72.62**	**45**	P		**P**	**06 41 58.3**	**0.0**
	baz=73							
VES	**Vestal, Richgr**	**73.65**	**44**	P		**P**	**06 42 03.2**	**-0.8**
	baz=74,SNR=5.9							
BFSC	**Mount Baldy Ra**	**73.75**	**47**	P		**P**	**06 42 04.7**	**-0.1**
	baz=74							
EDW2	**Edwards Air Fo**	**73.86**	**46**	P		**P**	**06 42 05.4**	**0.0**
	baz=74							
MONP	**Monument Peak**	**73.91**	**48**	P		**P**	**06 42 06.1**	**+0.2**
	baz=74							
ISA	**Isabella**	**73.96**	**45**	P		**P**	**06 42 06.2**	**+0.3**
	baz=74,SNR=5.0							
ISA	**Isabella**	**73.96**	**45**	*e*P		**P**	**06 42 06.5**	**+0.6**
	5.2nm,0.9s							
CMB	**Columbia Colle**	**74.03**	**42**	*e*P		**P**	**06 42 06.6**	**+0.3**
	6.2nm,1.0s							
QSPA	**South Pole Qui**	**74.22**	**180**	*e*P		**P**	**06 42 07.5**	**+0.5**
	5.4nm,0.8s							
PFO	**Pinyon Flat Ob**	**74.26**	**48**	P		**P**	**06 42 07.9**	**+0.1**
	baz=74							
N02D	**Trinity Center**	**74.34**	**38**	P		**P**	**06 42 08.7**	**+0.7**
	baz=75							
M02C	**Callahan**	**74.51**	**38**	P		**P**	**06 42 09.5**	**+0.5**
	baz=75							
BELC	**Belle Mtn. Jos**	**74.79**	**47**	P		**P**	**06 42 11.3**	**+0.5**
	baz=75							
MPMC	**Manual Prospec**	**74.85**	**45**	P		**P**	**06 42 10.8**	**-0.4**
	baz=75,SNR=8.6							
GSC	**Goldstone**	**74.91**	**46**	P		**P**	**06 42 11.4**	**0.0**
	baz=75,SNR=6.3							
GSC	**Goldstone**	**74.91**	**46**	*e*P		**P**	**06 42 11.8**	**+0.4**
HEC	**Hector,Ludlow**	**74.99**	**47**	P		**P**	**06 42 11.9**	**+0.1**
	baz=75							
BC3	**Big Chuckawall**	**75.00**	**48**	P		**P**	**06 42 12.3**	**+0.4**
	baz=75							
GLA	**Glamis**	**75.15**	**49**	P		**P**	**06 42 13.0**	**+0.3**
	baz=75							
M04C	**Macdoel**	**75.35**	**38**	P		**P**	**06 42 14.4**	**+0.6**
	baz=76							
GMRC	**Granite Mounta**	**75.44**	**47**	P		**P**	**06 42 14.7**	**+0.3**
	baz=76							
GRAC	**Grapevine Rang**	**75.44**	**44**	P		**P**	**06 42 14.4**	**+0.1**
	baz=76,SNR=5.5							
IRM	**Iron Mountain**	**75.48**	**48**	P		**P**	**06 42 14.9**	**+0.3**
	baz=76							
FURC	**Furnace Creek,**	**75.50**	**45**	P		**P**	**06 42 14.7**	**+0.2**
	baz=76							
SHOC	**Shoshone**	**75.59**	**46**	P		**P**	**06 42 15.5**	**+0.3**
	baz=76							
NVAR	**Mina Array Bea**	**75.61**	**43**	P		**P**	**06 42 15.6**	**+0.1**
	5.6nm,0.8s,baz=227,slow=9.6,SNR=41							
Y12C	**Blythe**	**75.72**	**48**	P		**P**	**06 42 16.3**	**+0.4**
	baz=76							
LDFC	**Landfair**	**75.98**	**47**	*e*P		**P**	**06 42 18.2**	**+0.7**
	12nm,0.6s							
J04D	**Umpqua Nationa**	**76.08**	**37**	P		**P**	**06 42 18.7**	**+0.7**
	baz=76							
214A	**Organ Pipe Nat**	**76.09**	**51**	P		**P**	**06 42 18.3**	**+0.2**
	baz=76							
NEE2	**Needles Airpor**	**76.16**	**47**	P		**P**	**06 42 18.8**	**+0.4**
	baz=76							
TPNV	**Topopah Spring**	**76.17**	**45**	P		**P**	**06 42 18.1**	**-0.5**
	baz=76,SNR=6.5							
I04A	**Tendick Farm,**	**76.25**	**36**	P		**P**	**06 42 19.2**	**+0.5**
	baz=76							
PDMCI	**Parker Dam,Lak**	**76.27**	**48**	P		**P**	**06 42 18.9**	**-0.1**
	baz=76							
MOD	**Modoc**	**76.34**	**39**	*e*P		**P**	**06 42 19.7**	**+0.2**
	5.1nm,0.8s							
J05D	**Fort Rock, OR**	**76.62**	**37**	P		**P**	**06 42 21.4**	**+0.5**
	baz=77							
SHPR	**Sheep Range**	**76.68**	**46**	*e*P		**P**	**06 42 21.7**	**+0.3**
I05D	**Terrebonne, OR**	**77.20**	**36**	P		**P**	**06 42 24.6**	**+0.6**
	baz=77							
R11A	**Troy Canyon, C**	**77.36**	**44**	P		**P**	**06 42 25.0**	**-0.2**
	baz=78,SNR=5.3							
R11A	**Troy Canyon, C**	**77.36**	**44**	*e*P		**P**	**06 42 25.3**	**+0.1**
WVOR	**Wild Horse Val**	**77.66**	**39**	*e*P		**P**	**06 42 26.2**	**-0.5**
	6.0nm,0.9s							
TUC	**Tucson**	**77.77**	**51**	*e*P		**P**	**06 42 28.1**	**+0.7**
	6.0nm,0.9s							
WUAZ	**Wupatki**	**78.84**	**48**	P		**P**	**06 42 33.7**	**+0.4**
	baz=79							
WUAZ	**Wupatki**	**78.84**	**48**	*e*P		**P**	**06 42 34.2**	**+0.9**
	7.2nm,1.0s							
ELK	**Elko**	**78.85**	**42**	*e*P		**P**	**06 42 32.8**	**-0.6**
	4.1nm,1.1s							
G08A	**Pilot Rock**	**79.12**	**37**	*e*P		**P**	**06 42 34.9**	**+0.3**
	6.2nm,1.0s							
NJ2	**Nanjing**	**79.29**	**308**	*e*P		**P**	**06 42 36.0**	**+0.4**
NJ2					PMZ			
	40nm,0.7s							
MSU	**Marysvale**	**79.74**	**45**	*e*P		**P**	**06 42 38.5**	**+0.3**
	5.2nm,1.3s							
BMO	**Blue Mountains**	**79.83**	**38**	*e*P		**P**	**06 42 37.7**	**-0.7**
	4.6nm,1.2s							
MFID	**Camas Ranch**	**79.92**	**39**	*e*P		**P**	**06 42 38.5**	**-0.5**
	4.3nm,0.9s							
121A	**Cookes Peak, D**	**80.14**	**52**	P		**P**	**06 42 41.2**	**+0.8**
	baz=80							
121A	**Cookes Peak, D**	**80.14**	**52**	*e*P		**P**	**06 42 41.2**	**+0.8**
	8.0nm,0.9s							
DUG	**Dugway**	**80.15**	**43**	P		**P**	**06 42 40.2**	**-0.1**
	baz=80							
D08A	**Wollman Farm,**	**80.18**	**35**	*e*P		**P**	**06 42 40.4**	**+0.3**
	22nm,1.7s							
B08A	**Colville Reser**	**80.72**	**34**	*e*P		**P**	**06 42 42.5**	**-0.5**
HLID	**Hailey**	**80.87**	**40**	P		**P**	**06 42 44.0**	**0.0**
	baz=81							
HLID	**Hailey**	**80.87**	**40**	*e*P		**P**	**06 42 44.2**	**+0.2**
	5.5nm,0.9s							
SRU	**San Rafael**	**81.16**	**45**	*e*P		**P**	**06 42 46.0**	**+0.4**
	14nm,1.7s							
P17A	**Butcher Ranch,**	**81.18**	**45**	*e*P		P	06 42 38.0	-7.7
JLU	**Jordanelle**	**81.25**	**44**	*e*P		**P**	**06 42 46.5**	**+0.3**
	5.7nm,1.2s							
LAZ	**Ladron**	**81.43**	**51**	*e*P		**P**	**06 42 47.6**	**+0.4**
	2.9nm,1.1s							
TCUT	**Toone Canyon**	**81.54**	**43**	*e*P		**P**	**06 42 47.2**	**-0.4**
	11nm,0.8s							
LPM	**Los Pinos Moun**	**81.77**	**51**	*e*P		**P**	**06 42 48.5**	**-0.5**
	9.0nm,1.2s							
MCK	**McKinley**	**81.82**	**11**	*e*P		**P**	**06 42 48.1**	**-0.2**
	10nm,1.0s							
NEW	**Newport**	**81.87**	**35**	P		**P**	**06 42 48.5**	**-0.4**
	baz=82							
PV04	**Paradox Valley**	**81.94**	**46**	*e*P		**P**	**06 42 50.2**	**+0.4**
TXAR	**Lajitas Array**	**82.04**	**57**	P		**P**	**06 42 50.8**	**+0.4**
	3.2nm,0.9s,baz=220,slow=8.3,SNR=24							
ANMO	**Albuquerque**	**82.17**	**50**	*e*P		**P**	**06 42 50.7**	**-0.4**
	11nm,1.3s							
MCMT	**McKenzie Canyo**	**82.49**	**39**	*e*P		**P**	**06 42 52.6**	**+0.1**
SEY	**Seymchan**	**82.57**	**346**	P		**P**	**06 42 51.5**	**-0.7**
	2.6nm,0.5s,baz=132,slow=6.7,SNR=8.8							
DOT	**Dot Lake**	**82.74**	**13**	*e*P		P	06 42 46.0	-7.1
CCB	**Clear Creek Bu**	**82.86**	**11**	*e*P		**P**	**06 42 52.8**	**-0.8**
	7.1nm,1.2s							
MSO	**Missoula**	**82.88**	**37**	P		**P**	**06 42 54.3**	**0.0**
	baz=83							
DLMT	**Dillon**	**82.92**	**39**	*e*P		**P**	**06 42 54.6**	**+0.1**
BSMT	**Bassoo Peak**	**82.94**	**36**	*e*P		**P**	**06 42 53.9**	**-0.8**
	2.1nm,0.7s							
REDW	**Red Top Meadow**	**83.00**	**41**	*e*P		**P**	**06 42 55.0**	**-0.1**
FXWY	**Fox Creek**	**83.02**	**41**	*e*P		**P**	**06 42 55.3**	**+0.1**
	3.1nm,0.8s							
COLA	**College**	**83.05**	**11**	*e*P		**P**	**06 42 53.9**	**-0.7**
	6.7nm,0.8s							
SNOW	**Snow King Moun**	**83.11**	**41**	*e*P		**P**	**06 42 55.1**	**-0.6**
	10.0nm,0.9s							
S22A	**4UR Ranch, Cre**	**83.11**	**48**	P		**P**	**06 42 55.9**	**0.0**
	baz=83,SNR=16							
ILAR	**Eielson Array**	**83.15**	**12**	P		**P**	**06 42 54.0**	**-1.1**
	0.8nm,0.3s,baz=212,slow=5.2,SNR=30							
O20A	**White River Ci**	**83.19**	**45**	P		**P**	**06 42 56.0**	**-0.2**
	baz=83							
O20A	**White River Ci**	**83.19**	**45**	*e

I20A	**Worland** baz=85	85.02	42	P		P	06 43 05.3 +0.1
230A	**Sterling City** baz=85	85.05	55	P		P	06 43 05.4 -0.1
N23A	**Red Feather La** baz=85	85.10	45	P		P	06 43 05.8 -0.1
Z29A	**Hungry Hill Ra** baz=85	85.10	54	P		P	06 43 05.4 -0.4
833A	**Chaparral WMA,** baz=85	85.14	59	P		P	06 43 06.0 +0.1
X28A	**Dimmitt** baz=85	85.20	52	P		P	06 43 05.5 -0.7
632A	**Uvalde** baz=85,SNR=6.7	85.24	58	P		P	06 43 06.8 +0.3
034A	**Hebbronville** baz=85	85.29	60	P		P	06 43 07.0 +0.3
Y29A	**Porterfield Fa** baz=86	85.35	53	P		P	06 43 07.0 0.0
733A	**Divot King Ran** baz=86	85.36	59	P		P	06 43 07.2 +0.2
532A	**Rocksprings** baz=86,SNR=7.0	85.37	57	P		P	06 43 06.8 -0.3
331A	**San Angelo** baz=86	85.38	56	P		P	06 43 06.6 -0.5
130A	**Snyder** baz=86	85.43	54	P		P	06 43 07.4 0.0
I21A	**Big Trails, Te** baz=86	85.49	42	P		P	06 43 07.3 -0.2
X29A	**Tulia** baz=86	85.55	53	P		P	06 43 07.4 -0.6
Z30A	**Sanderson Ranc** baz=86	85.56	54	P		P	06 43 07.3 -0.7
JCT	**Junction City** baz=86	85.58	57	P		P	06 43 07.7 -0.4
JCT	**Junction City** 5.5nm,0.9s	85.58	57	*e*P		P	06 43 07.4 -0.7
934A	**Benavides** baz=86	85.62	60	P		P	06 43 09.1 +0.8
231A	**Bronte** baz=86,SNR=11	85.69	55	P		P	06 43 08.0 -0.6
432A	**Menard** baz=86,SNR=16	85.73	56	P		P	06 43 08.4 -0.4
R26A	**Arlington** baz=86	85.77	48	P		P	06 43 08.5 -0.5
834A	**Tilden** baz=86,SNR=11	85.77	59	P		P	06 43 09.8 +0.8
W29A	**Amraillo** baz=86	85.85	52	P		P	06 43 09.0 -0.5
131A	**Roby** baz=86	85.91	55	P		P	06 43 09.3 -0.4
332A	**Millersview** baz=86,SNR=9.2	85.95	56	P		P	06 43 09.4 -0.5
Y30A	**Stafford Cattl** baz=86	85.96	53	P		P	06 43 09.3 -0.6
734A	**La Parita Cree** baz=86	86.02	59	P		P	06 43 10.4 +0.2
533A	**Kerrville** baz=86,SNR=14	86.05	57	P		P	06 43 10.1 -0.3
232A	**Coleman** baz=86	86.21	56	P		P	06 43 11.0 -0.1
433A	**Art** baz=86,SNR=14	86.25	57	P		P	06 43 10.8 -0.5
P26A	**Davis Ranch, A** baz=86	86.35	47	P		P	06 43 11.9 +0.1
ABTX	**Abilene, Hawle** baz=87	86.47	55	P		P	06 43 13.0 +0.6
ABTX	**Abilene, Hawle** 7.8nm,1.0s	86.47	55	*e*P		P	06 43 13.0 +0.6
Y31A	**Rekieta Farm,** baz=87	86.48	53	P		P	06 43 11.5 -0.9
534A	**Blanco** baz=87,SNR=13	86.49	58	P		P	06 43 12.1 -0.5
333A	**Richland Sprin** baz=87	86.54	56	P		P	06 43 12.4 -0.3
EDM	**Edmonton** 13nm,1.2s	86.60	32	*e*P		P	06 43 11.7 -0.8
S28A	**Manter** baz=87	86.61	50	P		P	06 43 13.0 0.0
735A	**Kenedy** baz=87	86.64	59	P		P	06 43 13.9 +0.7
V30A	**Spur Ranch, Mi** baz=87	86.82	52	P		P	06 43 14.1 0.0
C20A	**Veseth Ranch,** baz=87	86.83	38	P		P	06 43 14.1 +0.3
635A	**Leesville** baz=87	86.84	58	P		P	06 43 14.4 +0.2
Z32A	**Haskell** baz=87	86.85	54	P		P	06 43 13.5 -0.7
T29A	**Hugoton** baz=87	86.89	50	P		P	06 43 14.3 0.0
MAW	**Mawson** 3.6nm,0.6s,baz=147,slow=8.9,SNR=11	86.93	199	P		P	06 43 13.9 0.0
434A	**Burnet** baz=87	86.93	57	P		P	06 43 14.6 -0.1
X31A	**McDonald Ranch** baz=87	86.94	53	P		P	06 43 14.2 -0.4
R28A	**Tribune** baz=87	86.97	49	P		P	06 43 14.0 -0.8
Y32A	**R-V Farms, Ver** baz=87	87.13	54	P		P	06 43 14.8 -0.7
334A	**Lometa** baz=87,SNR=7.7	87.14	56	P		P	06 43 15.0 -0.5
D21A	**La Casta Ranch** baz=87	87.14	39	P		P	06 43 15.5 +0.2
X32A	**Elmer** baz=88	87.40	53	P		P	06 43 15.7 -1.1
A20A	**Cobblestone Ra** baz=88	87.42	37	P		P	06 43 16.6 0.0
V31A	**Spring Creek L** baz=88	87.46	52	P		P	06 43 16.9 -0.2
636A	**Smothers Creek** baz=88	87.46	59	P		P	06 43 16.7 -0.4
P28A	**Saint Francis** baz=88	87.48	48	P		P	06 43 16.7 -0.5
F23A	**Volborg** baz=88	87.54	41	P		P	06 43 16.8 -0.5
J25A	**Sunshine Ranch** baz=88	87.60	44	P		P	06 43 17.4 -0.2
H24A	**Dirks Ranch, A** baz=88	87.67	42	P		P	06 43 17.1 -0.8
D22A	**Cohagen** baz=88	87.68	40	P		P	06 43 18.2 +0.4
W32A	**Sentinel** baz=88	87.68	53	P		P	06 43 17.7 -0.4
B21A	**Ellsworth Farm** baz=88	87.75	38	P		P	06 43 18.1 +0.1
I25A	**Rochford** baz=88	87.90	43	P		P	06 43 19.1 -0.1
X33A	**Lawton** baz=88	88.05	53	P		P	06 43 19.2 -0.6
A21A	**Bergtoll Ranch** baz=88	88.05	38	P		P	06 43 19.5 -0.1
F24A	**Ekalaka** baz=88	88.20	41	P		P	06 43 20.0 -0.4
H25A	**Fruitdale** baz=88	88.24	43	P		P	06 43 19.1 -1.4
HHC	**Hu-ho-hao-te**	88.27	313	*e*P		P	06 43 21.9 +1.1
HHC				pP		pP	06 44 31.5 +4.1
HHC				sP		sP	06 44 58.9 +2.4
HHC				SKS		SKSac	06 53 17.5 -5.3
HHC				S		S	06 53 39.9 -1.8
HHC	20nm,1.5s			PMZ			
HHC	100nm,7.5s			PMZ			
HHC	120nm,18.7s			LN			
HHC	190nm,17.4s			LE			
HHC	79nm,16.2s			LZ			
D23A	**Lindsay** baz=88	88.29	40	P		P	06 43 20.9 +0.2
W33A	**Caddo, Fort Co** baz=88	88.29	53	P		P	06 43 20.5 -0.4
B22A	**Reddig Ranch S** baz=88	88.30	39	P		P	06 43 20.8 +0.1
I26A	**New Underwood** baz=89	88.48	43	P		P	06 43 22.3 +0.6
C23A	**Lambert** baz=89	88.57	39	P		P	06 43 22.0 0.0
X34A	**Smith Ranch, M** baz=89	88.59	54	P		P	06 43 22.4 0.0
V33A	**Lossen Ranch,** baz=89	88.66	52	P		P	06 43 22.1 -0.5
236A	**Katherine and** baz=89	88.73	56	P		P	06 43 23.0 0.0
J27A	**Elkhorn Farm,** baz=89	88.74	44	P		P	06 43 23.3 +0.4
D24A	**Glendive** baz=89	88.81	40	P		P	06 43 24.1 +0.9
C24A	**Savage** baz=89	88.92	40	P		P	06 43 24.0 +0.3
K28A	**Ten Mile Ranch** baz=89	88.97	45	P		P	06 43 24.0 0.0
B23A	**Brockton** baz=89	88.97	39	P		P	06 43 24.2 +0.4
U33A	**Lingo Farm, Me** baz=89	89.00	52	P		P	06 43 24.7 +0.5
438A	**Sam Houston St** baz=89	89.18	58	P		P	06 43 25.7 +0.6
Z36A	**Blue Ridge** baz=89	89.23	55	P		P	06 43 25.1 -0.2
U34A	**Anderson Ranch** baz=90	89.44	52	P		P	06 43 25.6 -0.7
D25A	**Fairfield** baz=90	89.45	40	P		P	06 43 26.5 +0.4
DGMT	**Dagmar** baz=90	89.45	39	P		P	06 43 26.6 +0.5
338A	**Crockett** baz=90	89.50	57	P		P	06 43 26.9 +0.2
Y36A	**Durant** baz=90	89.56	55	P		P	06 43 26.5 -0.4
Q32A	**Meitler Ranch,** baz=90	89.57	49	P		P	06 43 26.4 -0.5
E26A	**Carlson Angus** baz=90	89.71	41	P		P	06 43 27.6 +0.3
X36A	**Centrahoma** baz=90	89.72	54	P		P	06 43 26.8 -0.8
R33A	**Olander Ranch,** baz=90	89.75	50	P		P	06 43 27.5 -0.2
F27A	**Lemmon** baz=90	89.76	42	P		P	06 43 27.5 -0.1
238A	**Jacksonville** baz=90	89.86	57	P		P	06 43 29.2 +0.8
D26A	**Manning** baz=90	89.95	41	P		P	06 43 28.7 +0.3
Y37A	**Hugo** baz=90	90.10	55	P		P	06 43 29.4 0.0
Q33A	**Connelly Farm,** baz=90	90.11	49	P		P	06 43 29.1 -0.2
I29A	**Vivian Onida** baz=90	90.18	44	P		P	06 43 29.5 -0.1
S34A	**Willow Spring** baz=90	90.19	51	P		P	06 43 29.4 -0.4
E27A	**Carson** baz=90	90.27	41	P		P	06 43 29.8 -0.1
PLCA	**Paso Flores** baz=90,SNR=20	90.28	133	P		P	06 43 39.9 +10
T35A	**Sooner Cattle** baz=90	90.38	52	P		P	06 43 30.2 -0.4
H29A	**Onida** baz=91	90.46	44	P		P	06 43 30.3 -0.5
J30A	**Dallas** baz=91	90.47	45	P		P	06 43 31.1 +0.2
W37A	**Quinton** baz=91	90.63	54	P		P	06 43 31.7 -0.1
O33A	**Hebron** baz=91	90.66	48	P		P	06 43 31.7 -0.2
S35A	**Otter Creek Ra** baz=91	90.78	51	P		P	06 43 32.2 -0.3
CD2	**Chengdu** CD2 10.0nm,0.5s	90.82	302	P	PMZ	P	06 43 32.8 -0.1
T36A	**Boggs Farm, Ca** baz=91	90.91	52	P		P	06 43 32.8 -0.3
A26A	**Wade Farm, Ken** baz=91	90.94	39	P		P	06 43 33.0 +0.1
X38A	**Whitesboro** baz=91	90.94	54	P		P	06 43 32.7 -0.6
KSU1	**Kansas State U** baz=91	91.03	50	P		P	06 43 33.9 +0.3
KSU1	**Kansas State U** 4.6nm,0.7s	91.03	50	*e*P		P	06 43 34.4 +0.7
YKA	**Yellowknife Ar** 0.4nm,0.6s,baz=243,slow=4.1,SNR=3.8	91.06	24	P		P	06 43 32.2 -0.9
S36A	**Lake Cedric, C** baz=92	91.34	51	P		P	06 43 35.0 0.0
R36A	**Gordon, Harris** baz=92	91.60	51	P		P	06 43 35.9 -0.4
T37A	**Cheneyville 18** baz=92	91.65	52	P		P	06 43 36.3 -0.2
S37A	**Fort Scott** baz=92	91.92	51	P		P	06 43 37.3 -0.4
A28A	**Rude Farm, Bot** baz=92	92.02	40	P		P	06 43 38.0 0.0
P36A	**Good Intent, A** baz=92	92.23	50	P		P	06 43 38.7 -0.5
D30A	**Buchanan** baz=92	92.31	42	P		P	06 43 38.5 -0.9
LZH	**Lanzhou** LZH 13nm,1.0s	92.33	307	*e*P pP sP PMZ		P pP sP	06 43 41.8 +1.9 06 44 50.5 +3.8 06 45 19.6 +3.9
ECSD	**EROS Data Cent** baz=93	92.57	45	P		P	06 43 40.0 -0.6
A29A	**Manning Farm,** baz=93	92.66	40	P		P	06 43 40.2 -0.7
A30A	**Hoffart Farm,** baz=93	93.24	40	P		P	06 43 43.0 -0.6
LPAZ	**La Paz** 1.1nm,0.4s,baz=183,slow=4.4,SNR=27	101.01	110	PKiKP		PKiKP	06 48 43.6 -0.4
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=104,slow=0.8,SNR=6.1	110.11	314	PKiKP		PKiKP	06 48 57.8 -1.4
SPITS	**Spitsbergen Ar** 2.7nm,0.7s,baz=64,slow=9.6,SNR=4.4	117.38	357	PKP		PKPdf	06 49 11.0 -1.3
ARCES	**ARCESS Array B** 4.9nm,0.6s,baz=4.9,slow=1.2,SNR=22	124.83	351	PKP		PKPdf	06 49 26.2 -0.6
FINES	**FINESS Array B** 1.5nm,0.7s,baz=29,slow=3.2,SNR=6.7	132.04	347	PKP		PKPdf	06 49 40.3 -0.3
NOA	**NORSAR Array B** 1.3nm,0.8s,baz=12,slow=1.7,SNR=3.4	134.64	356	PKP		PKPdf	06 49 45.5 -0.2
CLL	**Collm** comp=Z,4.0nm,0.8s	144.05	352	*i* PKPdf		PKPab	06 50 00.7 -0.5
KMBO	**Kilima Mbogo** comp=Z,0.8nm,0.3s,baz=52,slow=8.9,SNR=4.7	144.06	245	PKP		PKPab	06 50 01.8 -0.9
BURAR	**Bucovina Array**	144.21	337	i/P		PKPbc	06 50 02.6 +0.2
UPC	**Upice**	144.31	348	*e*PKP		PKPab	06 50 02.1 -0.1
DPC	**Dobruska-Polom**	144.39	348	*e*PKP		PKPbc	06 50 02.8 0.0
DPC				*ex*		x	06 50 07.5
DPC				*ex*		x	06 51 24.5
OKC	**Ostrava-Krasne**	144.47	345	*e*PKP		PKPab	06 50 02.3 -0.5
TESR	**Tescani**	144.53	334	i/P		PKPbc	06 50 03.1 -0.2
KRLC	**Kraliky**	144.56	347	*e*PKP		PKPab	06 50 03.0 -0.2
PVCC	**Panska Ves** PVCC	144.56	350	*e*PKP		PKPbc	06 50 03.2 0.0 06 50 08.2
MORC	**Moravsky Berou**	144.67	346	i/P		PKPab	06 50 03.4 -0.3
VRI	**Vrincioaia**	145.01	333	i/P		PKPbc	06 50 03.8 -1.0
PRA	**Prague**	145.02	350	*e*PKP		PKPab	06 50 04.9 0.0
PLOR	**Plostina**	145.05	333	i/P		PKPab	06 50 05.1 -0.2
PRU	**Pruhonice** GOPC	145.08	349	*e*PKP		PKPbc	06 50 04.7 -0.1 06 50 10.1
GOPC	**GO Pecny, Ondr**	145.11	349	*e*PKP		PKPab	06 50 05.0 -0.3
NKC	**Novy Kostel** NKC	145.17	352	*e*PKP *ex*		PKPdf x	06 50 04.7 -0.3 06 50 09.2
TIRR	**Tirgusor**	145.32	330	i/P		PKPdf	06 50 05.4 +0.1
VRAC	**Vranov** comp=Z,2.4nm,0.7s,baz=27,slow=7.1,SNR=4.2	145.32	347	PKPbc		PKPdf	06 50 05.1 -0.1
VRAC	**Vranov**	145.32	347	i/P		PKPdf	06 50 04.3 -0.9
TREC	**Trest**	145.57	348	*e*PKP		PKPbc	06 50 06.1 -0.3
BRTR	**Keskin Array B** comp=Z,3.4nm,0.8s,baz=97,slow=2.5,SNR=19	145.57	319	PKPbc		PKPbc	06 50 06.5 -0.3
BRTR				pPKPbc		pPKPbc	06 51 20.7 +4.7
MLR	**Muntele Rosu** comp=Z,0.6nm,0.7s,baz=204,slow=5.0,SNR=6.2	145.64	334	PKPbc		PKPdf	06 50 06.3 +0.3
MLR	**Muntele Rosu**	145.64	334	i/P		PKPab	06 50 07.2 -0.4
PSZ	**Piszkesteto**	145.75	342	i/P		PKPbc	06 50 06.8 -0.3
DOU	**Dourbes**	145.82	1	PKPbc		PKPbc	06 50 06.6 -0.5
DRGR		145.83	338	i/P		PKPbc	06 50 06.9 -0.4
VOIR		146.06	335	i/P		PKPab	06 50 08.7 -0.5
KHC	**Kasperske Hory** KHC	146.07	350	*e*PKP *ex*		PKPbc x	06 50 07.8 -0.1 06 50 10.6
KHC				*ex*		x	06 50 15.3
KHC				*ex*		x	06 51 25.3
ARR	**Arges**	146.29	335	i/P		PKPab	06 50 09.7 -0.3
GERES	**GERESS Array B** comp=Z,2.3nm,0.6s,baz=29,slow=3.0,SNR=17	146.33	350	PKPbc		PKPbc	06 50 08.5 -0.3
SIRR	**Siria**	146.65	339	i/P		PKPbc	06 50 09.6 0.0
CONA	**Conrad Observa** comp=Z,6.6nm,0.8s	146.78	347	i/PKPab		PKPbc	06 50 10.4 +0.3
PKSM	**Moragy**	147.66	342	i/P		PKPbc	06 50 12.2 -0.2
WTTA	**Wattenberg**	148.19	352	i/PKPbc		PKPbc	06 50 13.1 -0.8
DAVA	**Damuels** comp=Z,8.3nm,0.8s	148.38	354	i/PKiKP		PKPbc	06 50 14.3 -0.2
FETA	**Feichten** comp=Z,5.0nm,1.1s	148.55	353	i/PKiKP		PKPbc	06 50 14.7 -0.2
ABTA	**Abfaltersbach** comp=Z,7.0nm,0.8s	148.56	350	i/PKPbc		PKPbc	06 50 14.2 -0.6
DAVOX	**Davos/Dischmat** comp=Z,7.5nm,0.7s,baz=332,slow=2.6,SNR=11	148.88	354	PKPbc		PKPbc	06 50 15.2 -0.5
DIVS	**Divibare**	149.12	339	i/P		PKPbc	06 50 16.0 -0.3
TORD	**Torodi Ar. Bea** comp=Z,1.5nm,0.9s,baz=190,slow=2.0,SNR=5.8	175.75	128	PKP		PKPdf	06 50 36.6 -1.6
TORD				PKPab		PKPab	06 52 16.8 -1.3

ISCJB ***06*** *06:31:47.8±0.7,9.92N±0.04×63.19W±0.03, h21km±7km, Error ellipse: s-maj=6.9km s-min=4.1km az=172.0*
TRN ***06*** *06:31:49.9, 11.42N×63.00W, h122km, MD3.9*
FUNV ***06*** *06:31:49.5, 9.94N×63.07W, h17km, MW3.4*
ISC 06 06:31:48.5±1.3, 9.93N±0.04×63.15W±0.03, h19km±3km, n26, σ1§14/40, 1D, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUNV	**Guanoco**	0.31	41	‖*e*P	Pg	06 31 54.8	-0.5
GUNV				*e*S	Sg	06 31 59.4	-0.6
CRUV	**Carupano**	0.75	354	*e*P	Pb	06 32 01.7	-1.3
CRUV				*e*S	Sb	06 32 11.7	-1.1
ORIV	**Oritupano**	0.89	197	*e*P	Pn	06 32 06.7	+0.7
ORIV				*e*S	Sn	06 32 19.9	+1.6
GUIV	**Guiria**	1.16	52	*e*P	Pn	06 32 09.1	-0.6
GUIV				*e*S	Sb	06 32 25.2	+0.5
PCRV	**Puerto La Cruz**	1.48	280	*e*P	Pn	06 32 14.7	+0.5
PCRV				*e*S	Sb	06 32 35.0	+1.0
TCE	**Chacachacare**	1.58	61	*e*P	Pb	06 32 17.2	+0.1
TCE				*e*S	Sn	06 32 35.9	+0.5
TPP	**Pointe-a-Pierr**	1.72	77	*e*P	Pg	06 32 21.6	0.0
TPP				*e*S	Sg	06 32 45.8	+1.8
TRN	**Trinidad (W)**	1.86	67	*e*P	Pn	06 32 20.4	+0.9
TRN				*e*S	Sn	06 32 42.9	+0.4
PRGV	**PARIAGUAN**	1.88	232	*e*P	Pn	06 32 20.9	+1.3
PRGV				*e*S	Sb	06 32 45.6	+0.4
RIOV	**Rio Grande**	2.27	144	*e*P	Pn	06 32 24.7	-0.3
RIOV				*e*S	Sn	06 32 52.6	+0.1
BIRV	**Birongo**	3.12	280	*e*P	Pn	06 32 38.5	+1.9
BIRV				*e*S	Sn	06 33 14.5	+1.1
MERV	**Las Mercedes**	3.17	258	*e*P	Pn	06 32 38.2	+0.8
MERV				*e*S	Sn	06 33 16.0	+1.1
FUNV	**FUNVISIS**	3.64	279	*e*P	Pn	06 32 45.8	+1.8
LUEV	**Luepa**	4.39	157	*e*P	Pn	06 32 53.2	-1.1
LUEV				*e*S	Sn	06 33 41.2	-3.8
TURV	**Turiamo**	4.64	277	*e*P	Pn	06 32 58.2	+0.5
TURV				*e*S	Sn	06 33 50.0	-1.1
BAUV	**El Baul**	4.92	259	*e*P	Pn	06 33 01.9	+0.4
BAUV				*e*S	Sn	06 33 56.2	-1.8
MAPV	**Macapo**	5.23	269	*e*P	Pn	06 33 06.7	+1.0
TEPV	**Terepaima**	5.95	271	*e*P	Pn	06 33 16.0	+0.3
SANV	**Sanarito**	6.31	267	*e*P	Pn	06 33 20.9	+0.2
SIQV	**Siquisique**	6.59	277	*e*P	Pn	06 33 24.6	+0.1
CURV	**Curarigua**	6.71	271	*e*P	Pn	06 33 26.2	+0.1
ELOV	**Elorza**	6.90	246	*e*P	Pn	06 33 28.9	+0.1
MONV	**Montecano**	6.99	287	*e*P	Pn	06 33 30.3	+0.3
SOCV	**Socops**	7.78	259	*e*P	Pn	06 33 40.4	-0.5
VIGV	**El Vigia**	8.18	263	*e*P	Pn	06 33 45.6	-0.7
VIRV	**Villa del Rosa**	9.13	274	*e*P	Pn	06 33 58.0	-1.4

ISCJB ***06*** *06:38:35.2±0.9, 17.4S±0.3×178.4W±0.2, h547km, mb3.8/8, Error ellipse: s-maj=47.5km s-min=12.4km az=148.6*
IDC ***06*** *06:38:40.4±7.6, 17.33S×178.54W, h599km±94km, mb3.3/8, mb1 3.6/8, mb1mx3.2/35, mbtmp4.2/8, Error ellipse: s-maj=76.0km s-min=29.7km az=148.0*
ISC 06 06:38:36.1±1.1, 17.4S±0.4×178.3W±0.3, h547km, n17, σ1§12/18, mb3.8/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower** 4.6nm,0.6s,baz=83,slow=9.5,SNR=4.2	33.60	260	P	P	06 44 31.2	-0.4
MILA	**Mila** baz=37,SNR=7.8	34.68	229	P	P	06 44 43.2	+2.8
CMSA	**Cobar Meteorol** baz=38,SNR=5.3	35.47	240	P	P	06 44 46.7	-0.3
MTSU	**Mount Surprise** baz=38,SNR=4.0	35.53	263	P	P	06 44 48.4	+0.7
QLP	**Quilpie** baz=38,SNR=6.2	35.78	249	P	P	06 44 49.4	-0.3
COEN	**Coen** baz=40,SNR=6.0	37.17	270	P	P	06 45 03.2	+2.0
STKA	**Stephens Creek** 4.9nm,0.7s,baz=94,slow=11,SNR=10	38.94	241	P	P	06 45 15.0	-0.4
STKA	**Stephens Creek** baz=41,SNR=7.8	38.94	241	P	P	06 45 15.3	-0.2
HTT	**Hallett** baz=44,SNR=4.7	41.47	239	P	P	06 45 35.4	-0.3
BBOO	**Buckleboo** baz=46,SNR=18	43.72	241	P	P	06 45 52.2	-1.0
WRA	**Warramunga Arr** 3.4nm,0.5s,baz=95,slow=7.2,SNR=61	44.79	259	P	P	06 46 01.3	-0.5
ASAR	**Alice Springs** 20nm,0.6s,baz=87,slow=8.6,SNR=277	45.00	254	P	P	06 46 02.9	-0.4
ASAR				PcP	PcP	06 47 31.2	-1.5
WRKA	**Warakurna** baz=53,SNR=21	50.07	252	P	P	06 46 40.5	-0.7
NVAR	**Mina Array Bea** 0.7nm,0.6s,baz=224,slow=8.9,SNR=6.8	79.00	44	P	P	06 49 44.5	+0.6
ILAR	**Eielson Array** 0.3nm,0.4s,baz=222,slow=5.5,SNR=4.3	85.36	13	P	P	06 50 14.7	-0.6
TXAR	**Lajitas Array** 0.6nm,0.5s,baz=218,slow=6.7,SNR=6.3	85.66	58	P	P	06 50 18.4	+0.7
PDAR	**Pinedale Array** 0.6nm,0.8s,baz=119,slow=1.9,SNR=5.0	86.92	43	P	P	06 50 22.9	-0.6

IDC ***06*** *06:42:46.6±0.6, 51.56N×174.74W, h0km, mb4.3/31, mb1 4.4/32, mb1mx4.4/37, mbtmp4.3/32, ML4.9/1, MS3.6/24, Ms1 3.7/24, ms1mx3.5/39, Error ellipse: s-maj=18.4km s-min=11.5km az=167.0*
MOS ***06*** *06:42:50.4±1.1, 51.66N×174.69W, h33km, mb4.7/26, Error ellipse: s-maj=10.1km s-min=6.9km az=91.8*
BJI ***06*** *06:42:51.3, 51.80N×174.82W, h47km, mb5.0/29, mB5.0/19, Ms4.7/14, MS7 4.4/9*
ISCJB ***06*** *06:42:53.0±0.4, 51.63N±0.06×174.77W±0.03, h54km±3km, mb4.5/97, MS3.7/23, Error ellipse: s-maj=9.8km s-min=2.9km az=174.9*
NEIC ***06*** *06:42:54.3±0.4, 51.59N×174.84W, h54km±3km, mb4.6/57, ML4.4(AEIC), Error ellipse: s-maj=7.8km s-min=2.7km az=173.0*
ISC 06 06:42:53.1±0.5, 51.40N±0.08×174.81W±0.03, h47km±2km, h46km: pP-P, n268, σ1§33/294, mb4.5/97, MS3.6/23, 9C-13D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSMY	**Great Sitkin M**	1.01	310	P	Pn	06 43 09.7	-1.2
GSCK	**Great Sitkin C**	1.04	307	P	Pn	06 43 10.2	-1.1
GSTR	**Great Sitkin T**	1.04	312	P	Pn	06 43 10.5	-0.9
GSTD	**Great Sitkin T**	1.06	309	P	Pn	06 43 10.5	-1.1
ETKA	**Kagalaska Isla**	1.10	296	P	Pn	06 43 11.2	-0.8
ADAG	**Mount Adagdak**	1.26	298	P	Pn	06 43 14.4	+0.2
KIRH	**Kanaga Island**	1.51	290	P	Pn	06 43 17.5	-0.1
KINC	**Kanaga Island**	1.54	291	P	Pn	06 43 17.9	-0.2
KIKV	**Kanaga Island**	1.55	289	P	Pn	06 43 17.9	-0.2
KICM	**Kanaga Island**	1.58	290	P	Pn	06 43 18.5	0.0
TAFP	**Tanaga Falls P** TAFP	2.04	285	P S	Pn Sn	06 43 25.3 06 43 51.8	+0.4 +2.5
TASE	**Tanaga Southea**	2.06	284	P	Pn	06 43 25.6	+0.4
TANO	**Tanaga North**	2.13	285	P	Pn	06 43 27.0	+0.9
GAEA	**Gareloi East**	2.49	280	P	Pn	06 43 32.2	+1.2
GALAA	**Gareloi Lava P**	2.50	280	P	Pn	06 43 32.2	+1.0
GANE	**Gareloi Northe**	2.51	281	P	Pn	06 43 32.6	+1.3
CERAA	**Semis' Rag'd T**	3.47	281	P	Pn	06 43 45.0	+0.6
CESW	**Semis' Southwe**	3.54	280	P	Pn	06 43 45.6	+0.1
CEAP	**Semis' Anvil P**	3.55	282	P	Pn	06 43 46.4	+0.8
AMKA	**Amchitka** AMKA	3.69	272	P S	Pn Sn	06 43 47.4 06 44 34.0	-0.1 +4.3
NIKH	**Nikolski High** NIKH	3.99	64	P S	Pn Sn	06 43 50.8 06 44 41.4	-0.8 +4.3
LSPA	**Little Sitkin**	4.16	280	P	Pn	06 43 54.7	+0.8

LSPA S **Sn** 06 44 44.1 +2.9
LSNW Little Sitkin 4.20 280 P **Pn** 06 43 54.9 +0.5
LSSA Little Sitkin 4.20 280 P **Pn** 06 43 55.2 +0.7
OKTU Okmok Mt. Tuli 4.60 62 P **Pn** 06 43 59.6 -0.4
OKFG Magazine Ridge 4.68 62 P **Pn** 06 44 02.5 +1.4
OKFG S **Sn** 06 44 57.9 +3.9
MSOM Makushin Julie 5.37 60 P **Pn** 06 44 11.3 +0.8
MSOM Makushin Julie 5.37 60 P **Pn** 06 44 11.3 +0.8
MSW Makushin Switc 5.50 60 P **Pn** 06 44 11.9 -0.3
UNV Unalaska Valle 5.62 61 P **Pn** 06 44 14.3 +0.3
AKGG Akutan Green G 6.04 59 P **Pn** 06 44 19.9 +0.2
AKUT Akutan 6.13 60 *e*Pn Pn 06 44 25.4 +4.4
SPIA Saint Paul Isl 6.38 23 P **Pn** 06 44 25.7 +1.4
SPIA S **Sn** 06 45 38.4 +2.7
WESE West Dahl East 6.90 60 P **Pn** 06 44 33.7 +2.1
SMY Shemya 6.97 285 P **Pn** 06 44 35.0 +2.5
SMY Shemya 6.97 285 P **Pn** 06 44 35.0 +2.5
SSBA Shishaldin 7.27 58 P **Pn** 06 44 37.2 +0.6
FALS False Pass 7.68 59 P **Pn** 06 44 42.5 +0.4
SDPT Sand Point 9.43 60 P **Pn** 06 45 04.6 -1.6
KDAK Kodiak Island 14.34 55 *ce*P Pn 06 46 08.5 -4.5
KDAK Kodiak Island 14.34 55 *e*Pn **P** 06 46 17.5 -1.5
SVW2 Sparrevohn 14.38 40 *e*Pn **P** 06 46 20.5 +1.0
PPLA Purkeypile 16.71 38 *e*P **P** 06 46 47.5 +2.0
36nm,1.3s
PETK Petropavlovsk- 16.88 287 Pn **P** 06 46 47.8 +0.5
0.9nm,0.3s,baz=102,slow=14,SNR=7.3
PETK LR LR 06 53 00.2
comp=Z,98nm,20.6s,baz=78,slow=36
CAST Castle Rocks 17.05 36 *e*Pn **P** 06 46 48.6 -0.4
11nm,0.9s
BPAW Bear Paw Mtn. 17.83 35 *e*Pn **Pn** 06 46 57.0 -0.5
50nm,1.7s
IM04 Indian Mountai 18.09 28 *e*Pn **Pn** 06 47 04.6 +4.0
MCK McKinley 18.41 38 *e*P **P** 06 47 01.9 -2.1
MCK McKinley 18.41 38 *e*P **P** 06 47 01.9 -2.1
DHY Denali Highway 18.72 41 *e*P **P** 06 47 06.8 -0.7
132nm,2.6s
BILL Bilibino 19.07 338 *de*P **P** 06 47 11.2 0.0
BILL pmax pmax
comp=Z,38nm,1.0s
BILL MLR MLR
comp=Z,402nm,24.0s
BILL Bilibino 19.07 338 *e*Pn **P** 06 47 11.6 +0.4
comp=Z,73nm,1.4s
CCB Clear Creek Bu 19.30 36 *e*P **P** 06 47 10.6 -3.1
comp=Z,8.1nm,0.9s
COLA College 19.40 36 *e*P **P** 06 47 12.7 -2.0
COLA College 19.40 36 *e*P **P** 06 47 14.4 -0.3
comp=Z,10nm,0.9s
HDA Harding Lake 19.50 37 *e*P **P** 06 47 14.4 -1.5
comp=Z,16nm,0.7s
ILAR Eielson Array 19.70 37 P **P** 06 47 16.1 -2.0
comp=Z,1.7nm,0.3s,baz=231,slow=9.2,SNR=83
ILAR LR LR 06 55 28.8
comp=Z,206nm,18.6s,baz=250,slow=39
COLD Coldfoot 20.00 28 *e*P **P** 06 47 20.9 -0.5
comp=Z,19nm,1.0s
SEY Seymchan 20.94 316 P **P** 06 47 31.0 -0.5
comp=Z,2.7nm,0.8s,baz=121,slow=7.0,SNR=8.2
SEY PcP **PcP** 06 51 37.9 +0.6
comp=Z,1.3nm,0.6s,baz=162,slow=20,SNR=3.9
SEY LR LR 06 55 56.2
comp=Z,331nm,18.6s,baz=102,slow=38
SEY Seymchan 20.94 316 *ce*P **P** 06 47 32.0 +0.5
EGAK Eagle 21.92 39 *e*P **P** 06 47 39.8 -2.2
comp=Z,27nm,0.7s
DAWY Dawson 22.40 42 *e*P **P** 06 47 46.4 -0.9
WRAK Wrangell Islan 25.20 62 *e*P **P** 06 48 14.9 +1.1
comp=Z,18nm,0.8s
INK Inuvik 26.03 34 P **P** 06 48 19.7 -1.6
comp=Z,1.9nm,0.4s,baz=210,slow=7.8,SNR=15
INK PcP **PcP** 06 51 48.1 +0.1
comp=Z,1.6nm,0.7s,baz=12,slow=3.5,SNR=3.7
DLBC Dease Lake 26.26 57 P **P** 06 48 23.0 -0.6
comp=Z,3.6nm,0.8s,baz=281,slow=6.1,SNR=7.2
DLBC LR LR 06 57 44.8
comp=Z,106nm,20.3s,baz=276,slow=34
BBB Bella Bella 28.51 70 LR LR 06 58 44.2
comp=Z,100nm,19.4s,baz=276,slow=34
ERM Erimo 29.95 268 *i* P **P** 06 48 55.2 -1.3
ERM pmax pmax
comp=Z,8.0nm,1.0s
YAK Yakutsk 31.28 312 *e*P **P** 06 49 06.5 -1.6
YAK pmax pmax
comp=Z,11nm,0.8s
HABR Khabarovsk 31.90 285 *e*P **P** 06 49 12.6 -1.1
HABR *e**PP **pP** 06 49 23.3 -2.7
HABR *e**SP **sP** 06 49 28.3 -3.2
HABR *e* 06 50 17.7
HABR *e* 06 52 01.1
HABR *e*S **S** 06 54 20.8 -0.3
HABR *e**SS **sS** 06 54 39.9 -1.8
HABR SSS SSS 06 56 33.7
HABR pmax pmax
comp=Z,23nm,1.4s
HABR MLR MLR
comp=Z,179nm,20.0s
YKA Yellowknife Ar 33.40 47 P **P** 06 49 24.8 -1.8
comp=Z,0.2nm,0.3s,baz=302,slow=26,SNR=9.3
YKA PcP **PcP** 06 52 07.2 +0.2
comp=Z,1.0nm,0.7s,baz=276,slow=3.7,SNR=4.8
KLR Kul'dur 33.57 288 *e*P P 06 49 24.7 -3.6
H11N2 WAKE ISLAND Hy 34.73 211 T T 07 26 24.4
baz=18,slow=76,SNR=217
H11N3 WAKE ISLAND Hy 34.73 211 T T 07 26 41.6
baz=18,slow=76,SNR=193
H11N1 WAKE ISLAND Hy 34.74 211 T T 07 26 43.9
baz=18,slow=76,SNR=153
B08A Colville Reser 35.16 73 *e*P **P** 06 49 42.2 +0.1
comp=Z,9.4nm,0.9s
USRK Ussuriysk Ar. 35.77 280 P **P** 06 49 47.5 +0.2
comp=Z,16nm,0.7s,baz=54,slow=8.0,SNR=27
USRK LR LR 07 03 31.4
comp=Z,104nm,21.7s,baz=34,slow=35
H11S1 WAKE ISLAND Hy 35.93 211 T T 07 28 55.2
baz=20,slow=76,SNR=59
HAWA Hanford 35.95 76 *e*P **P** 06 49 48.5 -0.3
comp=Z,7.7nm,0.8s
H11S2 WAKE ISLAND Hy 35.95 211 T T 07 28 56.3
baz=20,slow=76,SNR=61
H11S3 WAKE ISLAND Hy 35.95 211 T T 07 28 56.4
baz=20,slow=76,SNR=92
MJAR Matsushiro Arr 36.27 264 LR LR 07 03 50.0
comp=Z,56nm,20.5s,baz=80,slow=35
YBH Yreka Blue Hor 36.39 84 LR LR 07 00 53.9
comp=Z,77nm,20.8s,baz=312,slow=30
NEW Newport 36.52 72 P **P** 06 49 53.7 -0.1
comp=Z,4.0nm,0.7s,baz=296,slow=7.0,SNR=8.6
NEW LR LR 07 02 25.4
comp=Z,54nm,18.1s,baz=288,slow=32
NEW Newport 36.52 72 *e*P **P** 06 49 55.0 +1.2
EDM Edmonton 36.60 62 *e*P **P** 06 49 54.0 -0.4
EDM Edmonton 36.60 62 *e*P **P** 06 49 54.0 -0.4
WALA Waterton Lakes 38.05 69 *e*P **P** 06 50 06.6 -0.2
comp=Z,10nm,1.1s
BSMT Bassoo Peak 38.09 71 *e*P **P** 06 50 07.3 0.0
comp=Z,6.1nm,0.8s
BSMT *ep*P **pP** 06 50 21.0 +1.3
BLMT Blacktail Moun 38.27 71 *e*P **P** 06 50 09.5 +0.7
JTMT Jette 38.44 71 *e*P **P** 06 50 12.5 +2.3
WVOR Wild Horse Val 38.54 81 *e*P **P** 06 50 10.8 -0.2
WVOR pmax pmax
comp=Z,6.0nm,0.9s
WVOR Wild Horse Val 38.54 81 *e*P **P** 06 50 10.8 -0.2
comp=Z,5.9nm,0.9s
RES Resolute Bay 38.69 25 P **P** 06 50 08.7 -3.0
comp=Z,1.4nm,0.8s,baz=293,slow=9.6,SNR=6.0
RES PcP **PcP** 06 52 23.0 +0.5
comp=Z,2.2nm,0.6s,baz=183,slow=2.6,SNR=9.1
MSO Missoula 39.10 72 *e*P **P** 06 50 16.8 +1.2
comp=Z,11nm,1.2s
SLMT Seeley Lake 39.16 71 *e*P **P** 06 50 15.7 -0.4
comp=Z,5.5nm,0.9s
MFID Camas Ranch 39.73 78 *ep*P pP 06 50 36.1 +2.7
HLID Hailey 40.51 77 *e*P **P** 06 50 29.2 +1.7
comp=Z,3.2nm,1.0s
MCMT McKenzie Canyo 40.78 74 *e*P **P** 06 50 29.6 -0.2
EGMT Eagleton 40.97 68 *e*P **P** 06 50 31.2 +0.1
comp=Z,6.5nm,0.8s
NVAR Mina Array Bea 41.06 86 P **P** 06 50 32.6 +0.5
comp=Z,1.0nm,0.7s,baz=292,slow=7.1,SNR=4.3
BOZ Bozeman (W) 41.08 72 *e*P **P** 06 50 31.8 -0.3
BOZ pmax pmax
comp=Z,6.0nm,0.9s
comp=Z,5.7nm,0.9s
ELK Elko 41.59 81 *e*P **P** 06 50 38.2 +1.7
ELK pmax pmax
comp=Z,4.0nm,0.8s
ELK Elko 41.59 81 *e*P **P** 06 50 38.1 +1.7
comp=Z,4.5nm,0.8s
KSRS Korea Array 42.14 274 P **P** 06 50 42.0 +1.4
comp=Z,6.7nm,0.8s,baz=55,slow=7.7,SNR=25
KSRS LR LR 07 08 03.9
comp=Z,42nm,19.1s,baz=70,slow=36
KSRS Korea Array 42.14 274 P **P** 06 50 42.0 +1.4
KSRS pmax pmax
comp=Z,7.0nm,0.8s
KSRS MLR MLR
comp=Z,43nm,19.1s
KSAR Wonju Array Be 42.17 274 P **P** 06 50 42.0 +1.1
KSAR Wonju Array Be 42.17 274 P **P** 06 50 42.0 +1.1
IMW Indian Meadow 42.44 74 *e*P P 06 50 46.9 +3.5
IMW *ep*P pP 06 50 57.8 +1.8
ISA Isabella 42.67 89 *e*P **P** 06 50 45.1 0.0
ISA pmax pmax
comp=Z,3.0nm,0.9s
ISA Isabella 42.67 89 *e*P **P** 06 50 45.1 0.0
comp=Z,3.3nm,0.9s
RLMT Red Lodge 42.77 72 *e*P **P** 06 50 46.4 +0.5
comp=Z,15nm,1.0s
REDW Red Top Meadow 42.79 75 *ep*P pP 06 51 05.0 +6.3
R11A Troy Canyon, C 42.80 84 *e*P P 06 50 49.9 +3.6
comp=Z,3.2nm,0.9s
TJN Taejon 43.16 273 ⇑*i*P **P** 06 50 50.6 +1.7
HWUT Hardware Ranch 43.35 77 *e*P **P** 06 50 51.2 +0.5
comp=Z,3.6nm,1.0s
DUG Dugway 43.41 80 *e*P **P** 06 50 52.6 +1.5
DUG pmax pmax
comp=Z,8.0nm,1.1s
DUG Dugway 43.41 80 *e*P **P** 06 50 52.6 +1.5
comp=Z,8.4nm,1.1s
BW06 Boulder Array 43.91 75 *e*P **P** 06 50 54.5 -0.6
comp=Z,7.8nm,0.8s
PDAR Pinedale Array 43.91 75 P **P** 06 50 54.5 -0.7
comp=Z,5.7nm,0.9s,baz=323,slow=4.3,SNR=19
PDAR LR LR 07 06 29.4
comp=Z,61nm,20.0s,baz=314,slow=32
GSC Goldstone 43.95 88 *e*P P 06 51 00.4 +5.0
GSC pmax pmax
comp=Z,4.0nm,0.8s
GSC Goldstone 43.95 88 *e*P P 06 51 00.4 +5.0
comp=Z,4.0nm,0.8s
JLU Jordanelle 44.01 78 *e*P **P** 06 50 57.8 +1.8
comp=Z,5.5nm,1.1s
JLU *ep*P **pP** 06 51 10.4 +1.7
MPU Maple Canyon 44.25 79 *e*P **P** 06 50 59.5 +1.6
comp=Z,13nm,0.7s
MSU Marysvale 44.82 81 *e*P P 06 51 06.5 +4.0
MSU pmax pmax
comp=Z,3.0nm,0.7s
MSU Marysvale 44.82 81 *e*P P 06 51 06.5 +4.0
comp=Z,2.8nm,0.7s
P17A Butcher Ranch, 45.12 79 *ep*P pP 06 51 18.8 +1.3
SRU San Rafael 45.48 79 *e*P **P** 06 51 08.3 +0.7
SRU pmax pmax
comp=Z,7.0nm,0.7s
SRU San Rafael 45.48 79 *e*P **P** 06 51 08.3 +0.7
comp=Z,6.5nm,0.7s
O20A White River Ci 46.25 77 *e*P **P** 06 51 15.6 +1.8
comp=Z,8.8nm,0.7s
MDND Maddock 46.85 63 *e*P **P** 06 51 18.8 +0.7
comp=Z,87nm,1.0s
PV04 Paradox Valley 46.91 79 *ep*P pP 06 51 28.0 -3.7
WUAZ Wupatki 47.20 84 P **P** 06 51 21.2 0.0
PV01 Paradox Valley 47.28 79 *e*P **P** 06 51 20.9 -0.9
comp=Z,548nm,0.8s
SMCO Snowmass 47.61 77 *e*P **P** 06 51 25.8 +1.2
comp=Z,2.1nm,0.8s
BJI Beijing 47.80 285 P **P** 06 51 26.3 +0.7
BJI S **S** 06 58 16.7 -2.1
BJI PMZ
comp=Z,21nm,0.9s
BJI PMZ
comp=Z,48nm,3.5s
BJI LN
comp=Z,120nm,22.2s
BJI LE
comp=Z,130nm,23.2s
ISCO Idaho Springs 48.06 76 *ep*P pP 06 51 42.5 +1.7
TLY Talaya 48.14 304 *e*P **P** 06 51 28.5 +0.4
TLY pmax pmax
comp=Z,4.0nm,0.7s
TLY Talaya 48.14 304 *e*P **P** 06 51 28.5 +0.4
comp=Z,4.3nm,0.7s
AGMN Agassiz Nation 48.67 61 *e*P **P** 06 51 30.0 -2.1
comp=Z,10nm,0.9s
SONM Songino Array 48.85 299 P **P** 06 51 34.0 +0.2
comp=Z,2.3nm,0.8s,baz=52,slow=9.7,SNR=12
SONM PcP **PcP** 06 52 58.2 +0.5
comp=Z,2.3nm,0.7s,baz=70,slow=2.1,SNR=9.4
SONM ScP **ScP** 06 56 53.5 +4.9
comp=Z,0.5nm,0.7s,baz=34,slow=4.5,SNR=3.0
SONM LR LR 07 13 31.6
comp=Z,127nm,19.3s,baz=70,slow=38
ZAK Zakamensk 49.07 303 ⇑*i*P **P** 06 51 35.4 +0.1
ZAK *e* 06 52 59.4
ZAK pmax pmax
comp=Z,4.0nm,1.2s
TIA Tai'an 49.63 280 ⇑P **P** 06 51 40.3 +0.6
TIA PMZ
comp=Z,20nm,1.1s
HHC Hu-ho-hao-te 50.07 288 *e*P **P** 06 51 43.3 +0.2
HHC pP **pP** 06 51 55.2 -0.8
HHC PP **PP** 06 53 36.0 -2.2
HHC ScP **ScP** 06 56 49.3 -4.5
HHC S **S** 06 58 50.6 -0.3
HHC sS **sS** 06 59 09.2 -3.2
HHC SS SS 07 02 14.5 -9.5
HHC PMZ
comp=Z,26nm,1.1s
HHC PMZ
comp=Z,80nm,10.0s
HHC LN
comp=Z,140nm,17.4s
HHC LE
comp=Z,170nm,16.2s
KSCO Kaye Shedlock' 50.36 74 *e*P **P** 06 51 44.6 -0.8
comp=Z,30nm,1.4s
SPITS Spitsbergen Ar 50.51 357 P **P** 06 51 44.8 -1.0
comp=Z,1.9nm,0.3s,baz=66,slow=4.7,SNR=25
LAZ Ladron 50.56 82 *e*P **P** 06 51 48.1 +1.1
comp=Z,2.4nm,1.0s
ECSD EROS Data Cent 50.96 66 *e*P **P** 06 51 48.0 -1.7
comp=Z,6.2nm,1.0s
EYMN Ely 51.24 59 *e*P **P** 06 51 53.4 +1.7
comp=Z,7.1nm,1.0s
NJ2 Nanjing 51.31 275 *e*P **P** 06 51 52.5 +0.1
NJ2 PMZ
comp=Z,40nm,0.6s
BGNE Belgrade 51.51 69 *e*P **P** 06 51 56.3 +2.5
comp=Z,26nm,0.8s
MSTX Muleshoe 53.55 79 *e*P **P** 06 52 10.1 +1.0
MSTX *ep*P **pP** 06 52 22.4 +0.4
U34A Anderson Ranch 55.09 74 *e*P **P** 06 52 20.0 -0.1
comp=Z,7.4nm,0.7s
WMOK Wichita Mounta 55.48 76 *e*P **P** 06 52 22.2 -0.8
WMOK *e**PP **pP** 06 52 36.2 +0.2
WMOK pmax pmax
comp=Z,4.0nm,0.8s
WMOK Wichita Mounta 55.48 76 *e*P **P** 06 52 22.2 -0.8
comp=Z,4.0nm,0.8s
WMOK *ep*P **pP** 06 52 36.1 +0.2
ZALV Zalesovo Beam 55.80 315 P **P** 06 52 24.0 -1.0
comp=Z,1.0nm,0.4s,baz=48,slow=6.7,SNR=3.8
ZALV PcP **PcP** 06 53 24.0 +0.5
comp=Z,4.4nm,0.8s,baz=54,slow=3.5,SNR=12
ZALV LR LR 07 18 05.4
comp=Z,83nm,18.1s,baz=70,slow=38
ZALV Zalesovo Beam 55.80 315 P **P** 06 52 24.0 -1.0
ZALV 06 53 24.0
TXAR Lajitas Array 56.17 84 P **P** 06 52 26.8 -1.3
comp=Z,0.7nm,0.7s,baz=289,slow=3.8,SNR=6.2
TXAR LR LR 07 13 35.7
comp=Z,40nm,20.3s,baz=0.0,slow=33
LZH Lanzhou 57.76 289 *e*P **P** 06 52 40.2 +0.8
LZH pP **pP** 06 52 53.5 +1.0
LZH sP **sP** 06 52 58.4 +0.6
LZH PMZ
comp=Z,15nm,1.0s
JCT Junction City 57.77 80 *e*P **P** 06 52 39.7 +0.4
JCT Junction City 57.77 80 *e*P **P** 06 52 39.7 +0.4
GTA Gaotai 57.86 294 *e*P **P** 06 52 40.5 +0.5
GTA PMZ
comp=Z,4.0nm,1.5s
SCHQ Schefferville 58.41 40 P **P** 06 52 42.0 -1.4
comp=Z,1.9nm,0.6s,baz=180,slow=3.0,SNR=3.4
SCHQ LR LR 07 20 32.6
comp=Z,114nm,18.5s,baz=296,slow=39
ARCES ARCESS Array B 58.47 352 P **P** 06 52 41.6 -2.0
comp=Z,4.0nm,0.7s,baz=16,slow=8.6,SNR=8.0
ARCES PcP **PcP** 06 53 33.5 -0.1
comp=Z,3.9nm,0.7s,baz=26,slow=3.1,SNR=5.7
ARCES LR LR 07 22 09.8
comp=Z,40nm,18.1s,baz=68,slow=40
SFIN Scholer Farm 58.53 64 *e*P **P** 06 52 43.5 -0.9
comp=Z,7.4nm,0.9s
PBMO Poplar Bluff 59.07 69 *e*P **P** 06 52 50.1 +1.9
comp=Z,5.7nm,0.9s
PBMO *ep*P **pP** 06 53 00.0 -1.3
OLIL Olney 59.08 66 *e*P **P** 06 52 47.2 -1.1
comp=Z,13nm,0.8s
WCI Wyandotte Cave 60.45 65 *e*P **P** 06 52 57.0 -0.8
WCI *e**PP **pP** 06 53 10.6 -0.3
WCI Wyandotte Cave 60.45 65 *e*P **P** 06 52 57.0 -0.8
WCI *ep*P **pP** 06 53 10.6 -0.3
KURK Kurchatov 60.79 316 P **P** 06 52 59.0 -0.8
KURK pmax pmax
comp=Z,5.0nm,0.5s
KURK Kurchatov 60.79 316 *e*P **P** 06 52 59.4 -0.4
comp=Z,31nm,0.5s
OXF Oxford 61.24 70 *e*P **P** 06 53 04.2 +1.1
OXF pmax pmax
comp=Z,29nm,1.0s
OXF Oxford 61.24 70 *e*P **P** 06 53 04.2 +1.1
comp=Z,29nm,1.0s
WMQ Urumqi 61.40 305 P **P** 06 53 05.9 +1.7
WMQ pP **pP** 06 53 18.9 +1.5
WMQ sP **sP** 06 53 23.7 +1.0
WMQ PP PP 06 55 25.2 +5.9
WMQ PMZ
comp=Z,14nm,1.0s
WMQ PMZ
comp=Z,64nm,3.2s
WMQ LN
comp=Z,91nm,20.0s
WMQ LZ
comp=Z,56nm,22.8s
CD2 Chengdu 61.41 285 P **P** 06 53 04.7 +0.3
CD2 pP **pP** 06 53 17.9 +0.3
CD2 sP **sP** 06 53 23.5 +0.6
CD2 PP **PP** 06 55 19.7 +0.1
CD2 S **S** 07 01 21.2 -0.6
CD2 sS **sS** 07 01 43.8 -0.1
CD2 SS **SS** 07 05 22.9 +0.3
CD2 PMZ
comp=Z,40nm,0.8s
CD2 PMZ
comp=Z,100nm,6.4s
CD2 LN
comp=Z,180nm,5.5s
CD2 LZ
comp=Z,150nm,6.0s
MMNY Mt. Morris Dam 61.87 56 *e*P **P** 06 53 07.1 -0.2
comp=Z,30nm,1.0s
MK31 Makanchi Array 61.95 311 *i* P **P** 06 53 07.2 -0.6
MK31 pmax pmax
comp=Z,3.0nm,0.3s
MKAR Makanchi Array 61.95 311 P **P** 06 53 07.2 -0.6
comp=Z,4.2nm,0.4s,baz=47,slow=6.2,SNR=94
MKAR LR LR 07 20 29.3
comp=Z,53nm,20.7s,baz=37,slow=37
MKAR Makanchi Array 61.95 311 P **P** 06 53 07.2 -0.6
MKAR pmax pmax
comp=Z,4.0nm,0.4s
MKAR MLR MLR
comp=Z,53nm,20.7s
MKAR Makanchi Array 61.95 311 *e*P **P** 06 53 07.4 -0.4
PTN Potsdam (NY) 62.05 53 *e*P **P** 06 53 07.5 -0.9
PTN pmax pmax
comp=Z,22nm,0.8s
PTN Potsdam (NY) 62.05 53 *e*P **P** 06 53 07.5 -0.9
comp=Z,22nm,0.8s
BRVK Borovoye 62.47 322 *e*P **P** 06 53 11.0 -0.1
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 62.47 322 *e*P **P** 06 53 11.4 +0.3
comp=Z,10nm,0.6s
SSPA Standing Stone 63.37 58 *e*P **P** 06 53 17.1 -0.2
KSPA Keystone Colle 63.82 56 *e*P **P** 06 53 20.2 0.0
comp=Z,16nm,1.1s
ARU Arti 63.87 330 *d i*P **P** 06 53 19.9 -0.4
ARU 06 55 39.6
ARU S **S** 07 01 54.3 +2.4
ARU SS **SS** 07 06 02.0 +2.4
ARU pmax pmax
comp=Z,3.0nm,0.6s
LUPA Lehigh Univers 64.72 56 *e*P **P** 06 53 26.1 0.0
comp=Z,2.2nm,0.7s
LUPA *ep*P **pP** 06 53 43.9 +4.5
BRNJ Basking Ridge 65.08 56 *e*P **P** 06 53 27.9 -0.5
comp=Z,21nm,0.9s
PAL Palisades 65.18 55 *e*P **P** 06 53 28.7 -0.4
PAL pmax pmax
comp=Z,26nm,1.0s
PAL Palisades 65.18 55 *e*P **P** 06 53 28.7 -0.4
comp=Z,26nm,1.0s
KMSC Kings Mountain 65.45 64 *e*P **P** 06 53 30.6 -0.3
comp=Z,7.9nm,0.8s
KMSC *ep*P **pP** 06 53 42.8 -1.4
FINES FINESS Array B 66.28 349 P **P** 06 53 34.1 -1.7
comp=Z,1.4nm,0.4s,baz=16,slow=6.7,SNR=11
FINES LR LR 07 25 51.7
comp=Z,42nm,19.3s,baz=82,slow=39
NB2 NORSAR Subarra 67.81 357 P **P** 06 53 44.4 -1.2
comp=Z,1.7nm,0.3s,baz=5.7,slow=6.9
NOA NORSAR Array B 67.81 357 P **P** 06 53 44.5 -1.2
comp=Z,2.6nm,0.7s,baz=4.2,slow=9.9,SNR=12
NOA LR LR 07 23 42.2
comp=Z,18nm,20.2s,baz=5.0,slow=36
HFS Hagfors 68.61 355 P **P** 06 53 49.4 -1.2
comp=Z,7.2nm,0.5s,baz=343,slow=1.5,SNR=38
AKTO Aktyubinsk 69.08 327 P **P** 06 53 53.0 -0.7
AKTO pmax pmax
comp=Z,3.0nm,0.6s
VSU Vasula 69.10 348 *d i*P **P** 06 53 52.3 -1.3
VSU pmax pmax
comp=Z,31nm,1.0s
AB31 Akbulak array 69.39 325 P **P** 06 53 55.2 -0.4
AB31 pmax pmax
comp=Z,1.0nm,0.2s
ABKAR Akbulak array 69.39 325 *e*P **P** 06 53 55.6 0.0
PMOR Pomariorio Ree 70.17 152 *e*T T 08 10 47.2
comp=Z,5.3nm,0.2s
KK31 Karatay Array 70.18 315 P **P** 06 54 00.2 -0.4
KK31 pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 70.18 315 *e*P **P** 06 54 00.7 +0.1
KKAR Karatay Array 70.18 315 *e*P **P** 06 54 00.7 +0.1
KSH Kashi 70.46 309 P P 06 54 06.3 +3.8
KSH pP pP 06 54 19.1 +3.2
KSH PcP **PcP** 06 54 27.1 +3.4
KSH PP PP 06 56 44.2 +5.8
KSH S **S** 07 03 15.1 +3.1
KSH sS sS 07 03 37.3 +2.9
KSH SKS **SKSac** 07 03 59.1 -1.3
KSH PMZ
comp=Z,17nm,0.7s
KSH PMZ
comp=Z,220nm,4.0s
KSH LN
comp=Z,75nm,4.3s
KSH LE
comp=Z,84nm,3.7s
KSH LZ
comp=Z,230nm,5.5s
PPT Papeete 72.14 155 LR LR 07 19 08.0
comp=Z,109nm,20.2s,baz=332,slow=30
PPT2 Papeete2 72.16 155 *e*LR LR 07 17 03.0
comp=Z,99nm,21.2s
PPT2 Papeete2 72.16 155 *e*T T 08 13 14.6
comp=Z,6.4nm,0.3s
EKA Eskdalemuir Ar 73.41 5 P **P** 06 54 19.1 -0.7
comp=Z,2.3nm,0.6s,baz=2.3,slow=5.2,SNR=7.0
CMAR Chiang Mai Arr 73.49 279 P **P** 06 54 21.5 +0.7
comp=Z,2.6nm,0.6s,baz=24,slow=7.0,SNR=12

CMAR LR LR 07 29 36.6
comp=Z,22nm,19.2s,baz=166,slow=38
RAR Rarotonga 73.49 165 LR LR 07 18 38.0
comp=Z,354nm,21.4s,baz=242,slow=29
TAPN Taplejung 73.52 293 *eP* **P 06 54 22.2 +0.9**
comp=Z,46nm,0.7s
VSR Storozhevoye 73.79 339 *eP* **P 06 54 21.1 -0.9**
VSR pmax pmax
comp=N,5.0nm,0.7s
VSR pmax pmax
comp=E,4.0nm,0.7s
VSR pmax pmax
comp=Z,7.0nm,0.7s
ODAN Odare 74.08 293 *eP* **P 06 54 25.2 +0.8**
comp=Z,17nm,0.7s
GUN Gumba 74.14 295 *eP* **P 06 54 25.7 +0.7**
comp=Z,89nm,0.5s
RAMN Ramite 74.47 294 *eP* **P 06 54 27.3 +0.6**
comp=Z,99nm,0.6s
KKN Kakani 74.58 295 *eP* **P 06 54 28.0 +0.7**
comp=Z,30nm,0.6s
PKI Pulchoki 74.67 295 *eP* **P 06 54 28.6 +0.6**
comp=Z,25nm,0.6s
GKN Gorkha 74.78 296 *eP* **P 06 54 28.8 +0.4**
comp=Z,60nm,0.7s
DMN Daman 74.81 295 *eP* **P 06 54 29.4 +0.7**
comp=Z,23nm,0.6s
KOLN Koldanda 75.54 296 *eP* **P 06 54 33.2 +0.4**
comp=Z,42nm,0.7s
AKASG Malin Array Be 76.25 345 P **P 06 54 34.8 -1.4**
comp=Z,1.7nm,0.3s,baz=14,slow=5.8,SNR=6.0
AKASG LR LR 07 31 25.1
comp=Z,44nm,19.6s,baz=40,slow=38
KIEV Kiev 76.26 345 *eP* **P 06 54 33.4 -2.9**
CLL Collm 77.46 355 *eP* **P 06 54 42.0 -1.0**
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 77.46 355 *eP* **P 06 54 42.0 -1.0**
comp=Z,5.0nm,0.8s
BRG Berggiesshubel 77.83 354 *eP* **P 06 54 44.5 -0.6**
comp=Z,4.8nm,1.0s
BRG Berggiesshubel 77.83 354 *eP* **P 06 54 44.5 -0.6**
BRG pmax pmax
comp=Z,5.0nm,1.0s
UPC Upice 78.06 353 *eP* **P 06 54 45.9 -0.5**
UPC Upice 78.06 353 *eP* **P 06 54 45.9 -0.5**
PVCC Panska Ves 78.14 354 *eP* **P 06 54 46.5 -0.3**
PVCC Panska Ves 78.14 354 *eP* **P 06 54 46.5 -0.3**
DPC Dobruska-Polom 78.19 353 *eP* **P 06 54 47.0 -0.2**
DPC *ex* x 06 54 53.4
DPC *ex* x 06 54 58.6
DPC *epP* **pP 06 55 03.3 +2.5**
DPC Dobruska-Polom 78.19 353 *eP* **P 06 54 47.0 -0.2**
DPC *e* 06 54 53.4
DPC *e* 06 54 58.6
DPC *e* 06 55 03.3
KRLC Kraliky 78.42 352 *eP* **P 06 54 47.6 -0.9**
KRLC *ePCP* **PcP 06 54 58.2 +0.6**
KRLC *epP* **pP 06 55 04.6 +2.5**
KRLC Kraliky 78.42 352 *eP* **P 06 54 47.6 -0.9**
KRLC *e* 06 54 58.2
KRLC *e* 06 55 04.6
OKC Ostrava-Krasne 78.54 351 *eP* **P 06 54 48.5 -0.5**
OKC Ostrava-Krasne 78.54 351 *eP* **P 06 54 48.5 -0.5**
NKC Novy Kostel 78.56 355 *eP* **P 06 54 48.7 -0.5**
NKC *epP* **pP 06 55 06.5 +3.7**
NKC Novy Kostel 78.56 355 *eP* **P 06 54 48.7 -0.5**
NKC *e* 06 55 06.5
DOU Dourbes 78.88 0 P **P 06 54 50.6 -0.3**
VRAC Vranov 79.20 352 P **P 06 54 52.1 -0.6**
comp=Z,2.7nm,0.3s,baz=9.5,slow=5.5,SNR=4.2
VRAC Vranov 79.20 352 *jiP* **P 06 54 51.8 -0.9**
KHC Kasperske Hory 79.59 354 *eP* **P 06 54 54.3 -0.6**
KHC *ex* x 06 55 05.6
KHC *epP* **pP 06 55 07.8 -0.7**
KHC *ex* x 06 55 11.2
KHC Kasperske Hory 79.59 354 *eP* **P 06 54 54.3 -0.6**
KHC *e* 06 55 05.6
KHC *e* 06 55 07.8
KHC Kasperske Hory 79.59 354 *eP* **P 06 54 54.9 0.0**
comp=Z,1.9nm,0.9s
GEYT Alibeck 79.72 320 P **P 06 54 56.1 +0.3**
comp=Z,1.7nm,0.4s,baz=348,slow=6.7,SNR=4.1
GEYT LR LR 07 34 46.5
comp=Z,62nm,19.2s,baz=10.0,slow=39
GERES GERESS Array B 79.87 354 P **P 06 54 56.0 -0.5**
comp=Z,2.1nm,0.8s,baz=21,slow=4.6,SNR=11
BURAR Bucovina Array 79.88 346 *jiP* **P 06 54 55.9 -0.6**
BFO Black Forest 80.61 358 *ceP* **P 06 55 00.6 +0.2**
DRGR 81.03 348 *jiP* **P 06 55 01.9 -0.8**
KBA Koelnbreinsper 81.65 354 *iP* **P 06 55 06.1 0.0**
comp=Z,9.1nm,0.8s
CFR Carcaliu 81.78 344 *jiP* **P 06 55 06.5 -0.1**
MLR Muntele Rosu 81.84 345 P **P 06 55 07.6 +0.5**
comp=Z,0.4nm,0.4s,baz=267,slow=0.5,SNR=6.2
MLR Muntele Rosu 81.84 345 *jiP* **P 06 55 07.9 +0.8**
FETA Feichten 81.84 356 *iP* **P 06 55 06.9 -0.2**
comp=Z,5.6nm,0.9s
SOKA Soboth 81.94 353 *iP* **P 06 55 07.1 -0.4**
comp=Z,5.1nm,0.8s
VOIR 82.03 346 *jiP* **P 06 55 08.9 +0.9**
GZR Gura Zlata 82.40 348 *jiP* **P 06 55 09.6 -0.3**
TIRR Tirgusor 82.43 343 *jiP* **P 06 55 10.1 +0.1**
MSAB Monastry St. A 82.89 344 *jiP* **P 06 55 13.1 +0.7**
WRA Warramunga Arr 83.81 227 P **P 06 55 16.6 -0.7**
comp=Z,0.9nm,0.8s,baz=32,slow=5.7,SNR=6.0
DIVS Divibare 84.02 349 *jiP* **P 06 55 17.7 -0.6**
BRTR Keskin Array B 85.91 338 P **P 06 55 27.6 -0.4**
comp=Z,0.8nm,0.6s,baz=29,slow=2.8,SNR=5.0
ASAR Alice Springs 87.24 226 P **P 06 55 34.8 +0.4**
comp=Z,1.2nm,0.8s,baz=36,slow=4.6,SNR=10
ESDC Sonseca Array 88.95 7 P **P 06 55 41.6 -0.9**
comp=Z,0.2nm,0.3s,baz=349,slow=3.9,SNR=5.4
TORD Torodi Ar. Bea 115.66 4 PKP **PKPdf 07 01 29.4 -0.8**
comp=Z,0.5nm,0.8s,baz=320,slow=1.1,SNR=4.3
MAW Mawson 148.03 218 PKPbc **PKPbc 07 02 32.2 +0.4**
comp=Z,3.7nm,0.8s,baz=86,slow=2.9,SNR=11
BOSA Boshof 152.71 319 PKPbc **PKPbc 07 02 44.5 0.0**
comp=Z,3.2nm,0.4s,baz=12,slow=2.0,SNR=8.4
BOSA PKPab **PKPab 07 02 55.8 +0.4**
comp=Z,7.8nm,0.6s,baz=354,slow=3.6,SNR=9.2

*CSEM **06** 06:52:56.2, 43.°34N×13.°30E, h6km, MD2.0/6*
ROM 06 06:52:56.2±0.3, 43.°34N×13.°30E, h6km±1km, Md2.0/6, Ml1.1/3, Error ellipse: s-maj=3.4km s-min=1.2km az=68.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CING	**Cingoli**	**0.09**	**296**	Pg	Pg	06 52 58.8	+0.6
CING				Sg	Sg	06 52 59.9	+0.3
	251nm,0.1s						
CING	**Cingoli**	**0.09**	**296**	Pg	Pg	06 52 58.8	+0.6
CING				Sg	Sg	06 52 59.9	+0.3
	251nm,0.1s						
ARVD	**Arcevia**	**0.31**	**302**	Pg	Pg	06 53 03.1	+0.9
ARVD				Sg	Sb	06 53 08.0	-1.5
	14nm,0.1s						
ARVD	**Arcevia**	**0.31**	**302**	Pg	Pg	06 53 03.1	+0.9
ARVD				Sg	Sb	06 53 08.0	-1.5
	14nm,0.1s						
FDMO	**Fiordimonte**	**0.34**	**207**	Pg	Pb	06 53 03.8	-0.9
FDMO				Sg	Sb	06 53 09.5	-0.9
	25nm,0.2s						
FDMO	**Fiordimonte**	**0.34**	**207**	Pg	Pb	06 53 03.8	-0.9
FDMO				Sg	Sb	06 53 09.5	-0.9
	25nm,0.2s						
NRCA	**Norcia**	**0.52**	**195**	Pg	Pb	06 53 07.2	-0.7
	3.0nm,0.3s						
NRCA	**Norcia**	**0.52**	**195**	Pg	Pb	06 53 07.2	-0.7
	3.0nm,0.3s						
PIEI	**Pieia**	**0.59**	**290**	Pg	Pg	06 53 08.1	+0.4
PIEI				Sg	Sb	06 53 17.7	-0.1
	9.0nm,0.1s						
PIEI	**Pieia**	**0.59**	**290**	Pg	Pg	06 53 08.1	+0.4
PIEI				Sg	Sb	06 53 17.7	-0.1
	9.0nm,0.1s						
ATVO	**AVT- Monte Val**	**0.65**	**274**	Pg	Pg	06 53 09.1	+0.2
ATVO				Sg	Sb	06 53 19.1	-0.4
ATVO	**AVT- Monte Val**	**0.65**	**274**	Pg	Pg	06 53 09.1	+0.2
ATVO				Sg	Sb	06 53 19.1	-0.4

NEIC 06 07:10:27.3, 55.°79N×158.°77W, h72km, MG3.5 (AEIC), **After AEIC., Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNHG	**Veniaminof 1**	**0.48**	**333**	P	Pn	07 10 41.0	+0.8
CHGN	**Chignik**	**0.55**	**21**	P	Pn	07 10 41.1	+0.5
ANPB	**Aniakchak Plen**	**1.05**	**15**	P	Pn	07 10 46.8	+0.3
SDPT	**Sand Point**	**1.07**	**246**	P	Pn	07 10 47.2	+0.6
SDPT				S	Sn	07 11 02.1	+1.0
ANPK	**Aniakchak Peak**	**1.11**	**19**	P	Pn	07 10 48.0	+0.6
ANPK				S	Sn	07 11 02.4	0.0
PS1A	**Pavlof South-1**	**1.73**	**259**	P	Pn	07 10 56.0	+0.7
DTNA	**Dutton South F**	**2.09**	**253**	P	Pn	07 11 00.6	+0.5
PLK1	**Peulik 1**	**2.34**	**30**	P	Pn	07 11 04.5	+1.1
PLK3	**Peulik 3**	**2.35**	**35**	P	Pn	07 11 05.3	+1.7
PLK3				S	Sn	07 11 32.6	+1.1
PLK5	**Peulik 5**	**2.44**	**24**	P	Pn	07 11 05.9	+1.1
FALS	**False Pass**	**2.82**	**252**	P	Pn	07 11 10.8	+0.9
ISNN	**Isanotski Nort**	**3.02**	**254**	P	Pn	07 11 14.5	+1.7
ISLZ	**Isanotski Laza**	**3.02**	**251**	P	Pn	07 11 14.2	+1.4
BRPK	**Brown Peak**	**3.07**	**250**	P	Pn	07 11 14.8	+1.4
KABR	**Katmai Barrier**	**3.13**	**40**	P	Pn	07 11 15.7	+1.3
KABR				S	Sn	07 11 51.6	+0.9
SSLN	**Shishaldin Nor**	**3.15**	**254**	P	Pn	07 11 15.8	+1.3
SSLS	**Shishaldin Sou**	**3.18**	**252**	P	Pn	07 11 16.4	+1.3
KAKN	**Katmai Knife C**	**3.23**	**37**	P	Pn	07 11 17.5	+1.8
KAKN				S	Sn	07 11 57.5	+4.5
SSLW	**Shishaldin Wes**	**3.23**	**254**	P	Pn	07 11 16.2	+0.6
SSBA	**Shishaldin**	**3.23**	**254**	P	Pn	07 11 16.1	+0.4
OHAK	**Old Harbor**	**3.36**	**62**	P	Pn	07 11 17.9	+0.6
WESN	**West Dahl Nort**	**3.55**	**252**	P	Pn	07 11 20.7	+0.7
WESP	**Westdahl Peak**	**3.66**	**252**	P	Pn	07 11 22.9	+1.4
KDAK	**Kodiak Island**	**3.94**	**57**	P	Pn	07 11 25.9	+0.7
MCNL	**McNeil River**	**4.16**	**33**	P	Pn	07 11 29.7	+1.5
AKSA	**Akutan Strait**	**4.32**	**250**	P	Pn	07 11 32.5	+2.0
AKGG	**Akutan Green G**	**4.46**	**252**	P	Pn	07 11 33.5	+1.2
UNV	**Unalaska Valle**	**4.88**	**250**	P	Pn	07 11 38.4	+0.4
MTBL	**Makushin Table**	**4.92**	**251**	P	Pn	07 11 39.5	+0.8
MSW	**Makushin Switc**	**5.00**	**251**	P	Pn	07 11 40.8	+1.1
ILW	**Iliamna West**	**5.23**	**33**	P	Pn	07 11 44.8	+1.7
CNPM	**China Poot**	**5.51**	**44**	P	Pn	07 11 48.6	+2.0
RDWB	**Redoubt West**	**5.66**	**31**	P	Pn	07 11 50.9	+2.0
OKTU	**Okmok Mt. Tuli**	**5.91**	**250**	P	Pn	07 11 53.6	+1.4
SPIA	**Saint Paul Isl**	**6.51**	**287**	P	Pn	07 12 01.4	+1.2

GUC 06 07:12:06.7±0.5, 35.°82S×73.°43W, h32km±3km, ML4.1, 4C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.60**	**121**	*eP*	Pb	07 12 18.2	-0.7
COCH				*i* S	Sb	07 12 27.0	-0.3
CCSP	**San Pedro de C**	**1.05**	**166**	*jiP*	Pb	07 12 27.6	+1.2
CCSP				*i* S	Sb	07 12 39.7	-0.2
LNCH	**Linares**	**1.48**	**92**	*jiP*	Pn	07 12 32.0	+0.8
LNCH				*i* S	Sb	07 12 51.5	-0.6
TALC	**Talca**	**1.52**	**74**	*eP*	Pb	07 12 33.1	-1.2
TALC				*i* S	Sb	07 12 52.7	-0.5
NICH	**Los Niches**	**1.97**	**66**	*iP*	Pn	07 12 39.4	+1.4
NICH				*i* S	Sb	07 13 04.0	-2.1
CHCH	**Chadas Angostu**	**2.96**	**51**	*eP*	Pn	07 12 53.0	+1.4
CLCH	**Cerro Calan**	**3.40**	**45**	*iP*	Pn	07 12 58.9	+1.3
CLCH				AML	AML	07 14 07.8	
	comp=N,290nm,0.7s						
PEL	**Peldehue**	**3.50**	**41**	*iP*	Pn	07 13 00.3	+1.3
PEL				AML	AML	07 14 15.5	
	comp=N,248nm,0.6s						

IDC 06 07:15:23.0±2.1, 4.°12S×128.°45E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.4/25, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=167.6km s-min=27.9km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.75**	**160**	Pn	Pn	07 19 19.9	+0.6
	0.1nm,0.3s,baz=342,slow=13,SNR=7.9						
ASAR	**Alice Springs**	**20.14**	**165**	P	P	07 19 58.6	-0.3
	0.7nm,0.3s,baz=350,slow=12,SNR=18						
MKAR	**Makanchi Array**	**64.98**	**327**	P	P	07 26 04.9	0.0
	0.1nm,0.4s,baz=134,slow=6.2,SNR=3.2						

*IDC **06** 07:43:26.3±1.9, 22.°2S±0.°5×174.°8W±0.°3, h27km, mb3.9/6, mb1 4.2/6, mb1mx3.9/32, mbtmp3.9/6, MS3.5/5, Ms1 3.5/5, ms1mx3.2/25, Error ellipse: s-maj=92.2km s-min=25.8km az=153.0*
*ISCJB **06** 07:43:28.7±1.7, 22.°2S±0.°5×174.°8W±0.°3, h27km, mb3.9/6, MS3.5/5, Error ellipse: s-maj=77.9km s-min=21.8km az=154.1*
ISC 06 07:43:30.3±1.8, 22.°2S±0.°5×174.°7W±0.°3, h27km, n11, σ0°80/8, mb3.9/6, MS3.6/5, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**24.07**	**83**	LR	LR	07 56 34.4	
	comp=Z,62nm,18.4s,baz=301,slow=33						
STKA	**Stephens Creek**	**39.87**	**246**	LR	LR	08 05 18.8	
	comp=Z,62nm,18.4s,baz=40,slow=33						
ASAR	**Alice Springs**	**47.14**	**258**	P	**P**	**07 52 00.7**	**+0.1**
	1.0nm,0.8s,baz=96,slow=7.8,SNR=11						
WRA	**Warramunga Arr**	**47.42**	**263**	P	**P**	**07 52 02.5**	**-0.3**
	1.1nm,0.8s,baz=99,slow=8.2,SNR=6.9						
PETK	**Petropavlovsk-**	**78.72**	**343**	P	**P**	**07 55 29.5**	**-0.4**
	5.0nm,0.8s,baz=155,slow=7.4,SNR=4.3						
PETK				LR	LR	08 23 00.5	
	comp=Z,33nm,20.5s,baz=208,slow=30						
NVAR	**Mina Array Bea**	**80.19**	**42**	P	**P**	**07 55 39.5**	**+0.9**
	0.7nm,0.8s,baz=221,slow=9.8,SNR=5.6						
TXAR	**Lajitas Array**	**85.42**	**56**	P	**P**	**07 56 04.8**	**-1.0**
	0.6nm,1.0s,baz=193,slow=3.5,SNR=3.9						
TXAR				LR	LR	08 29 38.4	
	comp=Z,30nm,18.1s,baz=0.0,slow=32						
PDAR	**Pinedale Array**	**88.12**	**42**	LR	LR	08 29 47.0	
	comp=Z,33nm,19.1s,baz=280,slow=32						
ILAR	**Eielson Array**	**89.31**	**12**	P	**P**	**07 56 23.7**	**+0.1**
	0.6nm,0.9s,baz=200,slow=6.6,SNR=4.8						
AKASG	**Malin Array Be**	**145.94**	**333**	PKPbc	**PKPdf**	**08 03 06.1**	**-0.3**
	2.7nm,0.7s,baz=40,slow=4.1,SNR=12						
BRTR	**Keskin Array B**	**150.23**	**312**	PKPbc	**PKPbc**	**08 03 20.2**	**+1.0**
	1.6nm,0.8s,baz=131,slow=3.8,SNR=7.6						

*ISCJB **06** 08:11:59.6±0.3, 50.°54S±0.°06×114.°5E±0.°2, h10km, mb4.6/19, MS4.3/15, Error ellipse: s-maj=16.5km s-min=7.3km az=16.8*
*IDC **06** 08:11:59.5±0.5, 50.°53S×114.°56E, h0km, mb4.5/12, mb1 4.6/12, mb1mx4.5/24, mbtmp4.5/12, MS4.2/15, Ms1 4.3/15, ms1mx4.2/20, Error ellipse: s-maj=27.5km s-min=14.2km az=113.0*
*BJI **06** 08:12:00.1, 50.°50S×114.°30E, h10km, mb5.0/20, mB5.1/12, Ms5.0/11, Ms7 4.5/11*
*NEIC **06** 08:12:01.8±0.2, 50.°45S×114.°27E, h10km, mb4.7/9, Error ellipse: s-maj=14.8km s-min=7.6km az=109.0*
*GCMT **06** 08:12:01.8±0.2, 50.°34S×113.°84E, h15km±1km, MW5.0/83, Moment Tensor Solution. s30,c37; s83,c117; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.08±.13; $M_{\theta\theta}$3.37±.14; $M_{\phi\phi}$-3.29±.15; $M_{r\theta}$-0.36±.36; $M_{\theta\phi}$1.92±.10; $M_{\phi r}$-2.52±.50; Best double couple: M_o4.56000×10^{16} NP1:ϕ_s31.00000°,δ83.00000°,λ-150.00000°. NP2: ϕ_s297.00000°,δ60.00000°,λ-8.00000°. Principal axes: T 4.1660, Plg16.0000°, Azm160.0000°; N 0.7890, Plg59.0000°, Azm43.0000°; P -4.9550, Plg26.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 06 08:12:02.4±0.3, 50.°62S±0.°06×114.°6E±0.°1, h10km, n382, σ1°92/379, mb4.6/19, MS4.2/15, 2C-2D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.72**	**359**	T	T	08 31 29.0	
	baz=179,slow=74,SNR=762						
H01W1	**Cape Leeuwin H**	**15.72**	**359**	T	T	08 31 25.5	
	baz=179,slow=74,SNR=737						
H01W3	**Cape Leeuwin H**	**15.73**	**359**	T	T	08 31 26.3	
	baz=179,slow=74,SNR=754						
CASY	**Casey**	**15.84**	**186**	*eP*	**Pn**	**08 15 44.8**	**-0.4**

83nm,1.1s
NWAO Narrogin (SRO) 17.79 7 LR LR 08 21 07.3
comp=Z,10nm,20.2s,baz=142,slow=31
FORT Forrest 22.24 32 *eP* **P 08 16 58.2 -1.0**
30nm,0.8s
BBOO Buckleboo 23.82 50 *eP* **P 08 17 14.6 -0.9**
5.3nm,1.1s
STKA Stephens Creek 27.40 57 P **P 08 17 46.4 -1.6**
5.3nm,1.0s,baz=222,slow=7.0,SNR=7.2
STKA LR LR 08 26 38.4
comp=Z,795nm,21.6s,baz=214,slow=32
STKA Stephens Creek 27.40 57 *eP* **P 08 17 46.9 -1.1**
3.8nm,1.6s
MAW Mawson 30.30 217 P **P 08 18 11.0 -2.4**
7.1nm,0.9s,baz=87,slow=10.0,SNR=13
ASAR Alice Springs 30.82 36 P **P 08 18 15.9 -2.6**
6.0nm,0.9s,baz=206,slow=7.9,SNR=62
ASAR PcP **PcP 08 21 15.6 +0.2**
1.6nm,0.8s,baz=193,slow=2.6,SNR=7.4
ASAR LR LR 08 28 47.8
comp=Z,530nm,21.6s,baz=200,slow=33
AS01 Alice Springs 30.84 36 *eP* **P 08 18 15.7 -2.9**
VNDA Vanda 32.18 163 P **P 08 18 29.1 -0.7**
4.1nm,0.9s,baz=290,slow=9.0,SNR=18
VNDA LR LR 08 30 59.0
comp=Z,1μm,18.4s,baz=318,slow=35
VNDA Vanda 32.18 163 *eP* **P 08 18 30.4 +0.5**
4.2nm,0.9s
SBA Scott Base 33.27 162 *eP* **P 08 18 40.8 +1.4**
39nm,1.5s
WRA Warramunga Arr 34.39 34 P P 08 18 46.5 -3.1
7.1nm,0.7s,baz=203,slow=8.9,SNR=39
WRA PcP **PcP 08 21 23.4 -1.8**
1.0nm,0.9s,baz=220,slow=2.7,SNR=5.5
WRAB Tennant Creek 34.40 34 *eP* **P 08 18 48.3 -1.5**
17nm,0.9s
RPZ Rata Peaks 38.21 102 LR LR 08 31 48.3
comp=Z,658nm,19.9s,baz=245,slow=31
SYO Syowa Base 38.86 214 *jeP* **P 08 19 27.0 -0.2**
SYO Syowa Base 38.86 214 *jepP* **P 08 19 28.4 +1.2**
QSPA South Pole Qui 39.51 180 P **P 08 19 32.4 -0.5**
18nm,0.9s,baz=321,slow=2.6,SNR=65
QSPA LR LR 08 35 24.2
comp=Z,1μm,18.6s,baz=345,slow=36
QSPA South Pole Qui 39.51 180 *eP* **P 08 19 32.0 -0.9**
43nm,0.8s
LEM Lembang 44.03 350 LR LR 08 34 17.3
comp=Z,868nm,21.6s,baz=211,slow=30
DZM Mont Dzumac 49.26 74 *e*LR LR 08 34 57.5
668nm,28.1s
SNAA Sanae 50.31 201 P **P 08 20 56.9 -1.8**
4.7nm,0.9s,baz=143,slow=9.9,SNR=36
SNAA LR LR 08 41 18.8
comp=Z,76nm,19.1s,baz=146,slow=35
VNA1 Neumayer--Stat 52.28 201 P **P 08 21 11.8 -1.5**
SBUM Sibu 52.90 357 *eP* **P 08 21 16.6 -1.9**
7.3nm,0.9s
H08S2 Diego Garcia H 55.20 306 T T 09 20 29.7
baz=148,slow=76,SNR=4.7
H08S1 Diego Garcia H 55.21 306 T T 09 20 29.7
baz=148,slow=76,SNR=4.8
H08S3 Diego Garcia H 55.22 306 T T 09 20 29.7
baz=148,slow=76,SNR=4.7
OPO Ambohidratompo 61.54 275 LR LR 08 42 46.7
comp=Z,327nm,19.6s,baz=134,slow=30
BOSA Boshof 68.03 251 P **P 08 23 02.0 0.0**
5.4nm,1.0s,baz=164,slow=12,SNR=5.2
BOSA LR LR 08 47 08.9
comp=Z,254nm,18.4s,baz=127,slow=31
QIZ Qiongzhong 69.47 355 P **P 08 23 09.9 -0.8**
QIZ S **S 08 32 18.6 +0.6**
QIZ PMZ
100nm,6.0s
CM01 Chiang Mai Arr 70.10 344 *eP* **P 08 23 11.8 -2.8**
CMAR Chiang Mai Arr 70.14 344 P **P 08 23 12.3 -2.5**
5.7nm,0.6s,baz=192,slow=5.4,SNR=11
CMAR LR LR 08 49 58.5
comp=Z,160nm,20.8s,baz=189,slow=32
TBI Tubuai 75.95 110 *e*LR LR 08 47 21.5
227nm,25.5s
KMI Kunming 76.13 349 P P 08 23 54.7 +4.2
KMI pP **PcP 08 23 59.6 -3.0**
KMI PMZ
19nm,1.0s
GYA Guiyang 77.06 353 *eP* **P 08 23 55.8 +0.3**
GYA S **S 08 33 43.4 -0.7**
GYA SKS **SKSac 08 34 04.6 -3.3**
GYA SS **SS 08 38 43.2 +1.1**
GYA PMZ
10.0nm,1.0s
GYA PMZ
90nm,5.4s
GYA LN
430nm,19.4s
GYA LE
390nm,20.0s
GYA LZ
410nm,19.6s
EFI East Falkland 77.89 185 *eP* **P 08 23 60.0 +0.1**
155nm,1.3s
PPT2 Papeete2 80.25 106 *eS* **S 08 34 18.1 -0.8**
49nm,21.8s
PPT2 Papeete2 80.25 106 *e*LR LR 08 49 28.6
221nm,26.5s
PPT Papeete 80.26 106 LR LR 08 57 23.2
comp=Z,64nm,18.6s,baz=241,slow=34
KMBO Kilima Mbogo 81.08 279 LR LR 08 55 15.8
comp=Z,97nm,18.4s,baz=100,slow=32
CD2 Chengdu 81.73 351 P **P 08 24 20.3 -0.6**
CD2 pP **pP 08 24 23.7 -0.5**
CD2 sP **sP 08 24 25.0 -0.4**
CD2 PP **PP 08 27 27.2 -1.1**
CD2 S **S 08 34 34.3 +0.9**
CD2 sS **SKSac 08 34 40.0 -0.5**
CD2 SS **SS 08 39 53.3 +1.2**
CD2 PMZ
20nm,0.6s
CD2 PMZ
210nm,4.5s
CD2 LN
310nm,16.0s
CD2 LZ
310nm,19.0s
NJ2 Nanjing 82.40 4 *eP* **P 08 24 21.7 -2.5**
NJ2 PMZ
40nm,0.8s
TIA Tai'an 86.49 2 P P 08 24 52.4 +7.5
TIA pmax pmax
comp=Z,10.0nm,0.7s
LZH Lanzhou 86.85 351 *eP* **P 08 24 47.1 +0.2**
LZH pP **pP 08 24 52.0 +1.8**
LZH sP **sP 08 24 53.5 +2.1**
LZH PMZ
comp=Z,13nm,1.0s
KSAR Wonju Array Be 88.47 11 P **P 08 24 52.4 -1.9**
KSRS Korea Array 88.49 11 P **P 08 24 52.4 -2.0**
comp=Z,2.8nm,0.9s,baz=192,slow=5.6,SNR=5.2
KS01 Wonju Array Si 88.51 11 *eP* **P 08 24 53.7 -0.8**
MJAR Matsushiro Arr 89.26 19 LR LR 09 04 19.4
comp=Z,31nm,19.8s,baz=90,slow=35
BJI Beijing 90.30 1 P **P 08 25 02.4 -0.4**
BJI PMZ
comp=Z,6.0nm,1.0s
BJI LZ
comp=Z,82nm,28.7s
GTA Gaotai 90.58 349 *eP* **P 08 25 07.6 +3.2**
GTA pP **pP 08 25 12.6 +4.8**
GTA sP sP 08 25 14.7 +5.8
GTA SKS **SKSac 08 35 37.8 +2.2**
GTA PMZ
comp=Z,5.0nm,1.7s
GTA PMZ
comp=Z,75nm,4.8s
GTA LN
comp=Z,180nm,20.4s
GTA LE
comp=Z,320nm,22.8s
GTA LZ
comp=Z,160nm,20.0s
HHC Hu-ho-hao-te 91.13 358 *eP* **P 08 25 07.8 +0.9**
HHC sP **sP 08 25 15.4 +4.0**
HHC PP **PP 08 28 45.6 +1.3**
HHC SKS **SKSac 08 35 37.2 -1.4**
HHC S **S 08 36 05.8 +1.3**
HHC sS **sS 08 36 13.2 +3.1**
HHC PMZ

comp=Z,22nm,0.8s
HHC PMZ
comp=Z,67nm,3.7s
HHC LN
comp=Z,200nm,16.2s
HHC LE
comp=Z,140nm,17.4s
HHC LZ
comp=Z,130nm,17.4s
USRK Ussuriysk Ar. 95.65 13 P **P** **08 25 26.3 -1.2**
comp=Z,0.9nm,0.6s,baz=157,slow=7.8,SNR=2.8
USRK LR LR 09 12 31.2
comp=Z,46nm,18.6s,baz=194,slow=38
WMQ Urumqi 96.92 341 P **P** **08 25 31.6 -1.8**
SONM Songino Array 98.33 354 P P 08 25 36.0 -3.7
comp=Z,0.2nm,0.4s,baz=180,slow=2.9,SNR=2.9
SONM LR LR 09 10 05.3
comp=Z,99nm,20.4s,baz=178,slow=36
H10S2 ASCENSION HYDR 06.17 233 T T 10 25 38.1
baz=146,slow=75,SNR=7.0
H10S3 ASCENSION HYDR 06.18 233 T T 10 25 38.1
baz=146,slow=75,SNR=6.5
H10S1 ASCENSION HYDR 06.19 233 T T 10 25 38.1
baz=146,slow=75,SNR=6.9
TORD Torodi Ar. Bea 114.54 261 PKP PKPdf 08 30 40.5 -2.3
comp=Z,0.9nm,0.9s,baz=171,slow=2.5,SNR=4.2
AKASG Malin Array Be 124.19 310 PKP **PKPdf** **08 31 00.7 +0.5**
comp=Z,0.6nm,0.5s,baz=88,slow=1.8,SNR=5.4
OTAV Otavalo 128.60 163 *e*PKPdf **PKPdf** **08 31 11.0 +0.5**
GERES GERESS Array B 131.14 301 PKP **PKPdf** **08 31 13.1 -0.6**
comp=Z,0.5nm,0.5s,baz=125,slow=2.1,SNR=4.7
FETA Feichten 131.78 297 *i* PKiKP **PKiKP** **08 31 16.1 0.0**
comp=Z,4.1nm,0.9s
FINES FINESS Array B 131.91 320 PKP **PKPdf** **08 31 14.7 +0.1**
comp=Z,1.5nm,0.6s,baz=100,slow=2.1,SNR=6.3
ESDC Sonseca Array 136.46 280 PKP **PKPdf** **08 31 24.7 +0.8**
comp=Z,0.8nm,0.5s,baz=94,slow=1.0,SNR=6.8
ILAR Eielson Array 137.49 39 PKP **PKPdf** **08 31 25.4 +0.4**
comp=Z,1.0nm,0.8s,baz=282,slow=3.4,SNR=9.4
NOA NORSAR Array B 138.15 315 PKP **PKPdf** **08 31 24.8 -1.5**
comp=Z,0.9nm,0.8s,baz=140,slow=1.2,SNR=2.5
BELC Belle Mtn. Jos 139.94 95 PKiKP **PKPdf** **08 31 31.3 +0.6**
baz=140
HEC Hector,Ludlow 140.25 93 PKiKP **PKPdf** **08 31 31.5 +0.4**
baz=140
YBH Yreka Blue Hor 140.27 80 PKP **PKPdf** **08 31 30.6 -0.3**
comp=Z,2.2nm,0.7s,baz=311,slow=2.7,SNR=16
NVAR Mina Array Bea 141.19 87 PKP **PKPdf** **08 31 31.9 -1.0**
comp=Z,1.7nm,0.9s,baz=223,slow=5.2,SNR=8.8
I04A Tendick Farm, 141.55 77 PKiKP **PKPdf** **08 31 33.8 +0.7**
baz=142
TPNV Topopah Spring 141.62 91 PKiKP **PKPdf** **08 31 34.1 +0.5**
baz=142
TPNV Topopah Spring 141.62 91 *e*PKPdf **PKPdf** **08 31 34.7 +1.1**
R11A Troy Canyon, C 142.88 90 PKiKP **PKPdf** **08 31 36.6 +0.8**
baz=143
WVOR Wild Horse Val 143.21 82 *e*PKPdf **PKPdf** **08 31 36.3 +0.1**
CCUT Cedar City 143.82 92 *e*PKPdf PKPbc 08 31 36.6 +1.3
WUAZ Wupatki 143.83 97 PKiKP **PKPdf** **08 31 37.5 -0.1**
baz=144
WUAZ Wupatki 143.83 97 *e*PKPdf **PKPdf** **08 31 36.9 -0.7**
KNB Kanab 143.84 93 *e*PKPdf **PKPdf** **08 31 37.1 -0.5**
121A Cookes Peak, D 144.13 104 PKiKP **PKPdf** **08 31 38.0 -0.2**
baz=144
121A Cookes Peak, D 144.13 104 *e*PKPdf PKPbc 08 31 36.9 +0.6
TXAR Lajitas Array 144.36 112 PKP **PKPab** **08 31 37.2 +0.5**
comp=Z,1.4nm,0.9s,baz=204,slow=5.5,SNR=22
G08A Pilot Rock 144.43 77 *e*PKPdf PKPbc 08 31 37.5 +0.7
ELK Elko 144.45 86 *e*PKPdf **PKPdf** **08 31 38.5 -0.1**
HAWA Hanford 144.59 75 *e*PKPdf **PKPdf** **08 31 38.3 0.0**
W18A Petrified Fore 144.61 99 PKiKP PKPbc 08 31 38.3 +0.5
baz=145
MSU Marysvale 145.14 92 *e*PKPdf **PKPdf** **08 31 41.2 +1.4**
BMO Blue Mountains 145.25 79 *e*PKPdf **PKPbc** **08 31 38.1 -1.3**
D08A Wollman Farm, 145.26 75 *e*PKPdf **PKPdf** **08 31 39.9 +0.5**
MFID Camas Ranch 145.48 82 *e*PKPdf **PKPbc** **08 31 40.7 +0.5**
034A Hebbronville 145.49 120 PKiKP **PKPab** **08 31 41.2 +0.5**
baz=146
933A Laredo 145.59 119 PKiKP **PKPab** **08 31 41.8 +0.7**
baz=146
DUG Dugway 145.69 89 PKiKP **PKPab** **08 31 41.6 +0.2**
baz=146
DUG Dugway 145.69 89 *e*PKPdf **PKPdf** **08 31 40.7 0.0**
Y22D IRIS PASSCAL I 145.70 103 PKiKP **PKPab** **08 31 41.9 +0.3**
baz=146
832A Faith Ranch, C 145.71 117 PKiKP **PKPab** **08 31 41.9 +0.3**
baz=146
LAZ Ladron 145.78 102 *e*PKPbc **PKPab** **08 31 42.2 +0.3**
529A Stev Forest Ra 145.79 113 PKiKP **PKPbc** **08 31 41.9 +0.4**
baz=146
F10A Beach Ranch, E 145.82 77 *e*PKPdf **PKPbc** **08 31 41.5 +0.3**
934A Benavides 146.00 120 PKiKP **PKPdf** **08 31 41.9 +0.6**
baz=146
NLU North Lily Min 146.03 90 *e*PKPdf **PKPdf** **08 31 41.5 +0.2**
LPM Los Pinos Moun 146.03 103 *e*PKPbc **PKPbc** **08 31 42.8 +0.5**
732A Laxson Ranch, 146.05 117 PKiKP **PKPbc** **08 31 42.6 +0.4**
baz=146
833A Chaparral WMA, 146.07 118 PKiKP **PKPbc** **08 31 42.3 0.0**
baz=146
631A Perdido Creek 146.22 115 PKiKP **PKPbc** **08 31 43.5 +0.8**
baz=146
530A J-C Ranch, Com 146.33 114 PKiKP **PKPbc** **08 31 43.6 +0.5**
baz=147
429A Davenport Ranc 146.35 112 PKiKP **PKPbc** **08 31 43.3 +0.1**
baz=147
834A Tilden 146.38 119 PKiKP **PKPbc** **08 31 43.8 +0.6**
baz=147
733A Divot King Ran 146.43 118 PKiKP **PKPbc** **08 31 44.0 +0.7**
baz=147
HLID Hailey 146.45 83 PKiKP **PKPbc** **08 31 43.0 -0.2**
baz=147
HLID Hailey 146.45 83 *e*PKPdf **PKPdf** **08 31 41.6 -0.2**
SRU San Rafael 146.54 92 *e*PKPbc **PKPbc** **08 31 43.7 0.0**
HVU Hansel Valley 146.58 87 *e*PKPbc **PKPbc** **08 31 43.3 -0.4**
MVCO Mesa Verde 146.70 97 PKiKP **PKPbc** **08 31 44.5 +0.3**
baz=147
MVCO Mesa Verde 146.70 97 *e*PKPdf **PKPdf** **08 31 43.3 +0.7**
632A Uvalde 146.75 116 PKiKP **PKPbc** **08 31 44.4 +0.1**
baz=147
JLU Jordanelle 146.79 89 *e*PKPbc **PKPbc** **08 31 45.4 +1.0**
531A Rocksprings 146.80 115 PKiKP **PKPbc** **08 31 44.8 +0.3**
baz=147
430A Baggett Ranch, 146.85 113 PKiKP **PKPbc** **08 31 44.6 0.0**
baz=147
NEW Newport 146.87 74 PKiKP **PKPbc** **08 31 44.8 +0.6**
baz=147
835A Beeville 146.91 120 PKiKP **PKPbc** **08 31 45.0 +0.2**
baz=147
329A Wagon Wheel Ra 146.92 111 PKiKP **PKPbc** **08 31 45.0 +0.2**
baz=147
228A UT Block 9, Go 147.01 110 PKiKP **PKPbc** **08 31 45.6 +0.6**
baz=147
633A Saathoff Ranch 147.06 117 PKiKP **PKPbc** **08 31 45.6 +0.4**
baz=147
532A Rocksprings 147.14 115 PKiKP **PKPbc** **08 31 45.5 +0.1**
baz=147
431A Sonora 147.15 114 PKiKP **PKPbc** **08 31 45.6 +0.1**
baz=147
PV04 Paradox Valley 147.15 95 *e*PKPbc **PKPbc** **08 31 45.8 +0.4**
PV01 Paradox Valley 147.21 96 *e*PKPbc **PKPbc** **08 31 46.0 +0.3**
HWUT Hardware Ranch 147.25 88 *e*PKPbc **PKPbc** **08 31 46.2 +0.6**
330A Mertzon 147.34 112 PKiKP **PKPbc** **08 31 46.0 0.0**
baz=148
735A Kenedy 147.36 119 PKiKP **PKPbc** **08 31 46.4 +0.4**
baz=148
229A Bryant Ranch, 147.37 111 PKiKP **PKPbc** **08 31 46.2 +0.2**
baz=148
128A Castleberry Fa 147.42 109 PKiKP **PKPbc** **08 31 46.3 +0.1**
baz=148
JCT Junction City 147.46 115 PKiKP **PKPbc** **08 31 46.2 -0.1**
baz=148
JCT Junction City 147.46 115 *e*PKPbc **PKPbc** **08 31 46.1 -0.2**
533A Kerrville 147.60 116 PKiKP **PKPbc** **08 31 46.0 -0.7**
baz=148
331A San Angelo 147.71 113 PKiKP **PKPdf** **08 31 46.0 +1.8**
baz=148
230A Sterling City 147.72 112 PKiKP **PKPbc** **08 31 46.5 -0.5**
baz=148
432A Menard 147.76 115 PKiKP **PKPdf** **08 31 45.6 +1.3**
baz=148
129A Stewart Farms, 147.80 110 PKiKP **PKPbc** **08 31 46.9 -0.3**
baz=148
534A Blanco 147.88 117 PKiKP **PKPbc** **08 31 46.9 -0.6**
baz=148
Z28A Tucker Farm, M 147.95 108 PKiKP **PKPbc** **08 31 47.0 -0.6**
baz=148
MCMT McKenzie Canyo 148.04 82 *e*PKPbc **PKPbc** **08 31 47.5 -0.2**
433A Art 148.08 116 PKiKP **PKPbc** **08 31 47.4 -0.6**
baz=148
S22A 4UR Ranch, Cre 148.08 98 PKiKP **PKPbc** **08 31 47.7 -0.4**
baz=148
S22A 4UR Ranch, Cre 148.08 98 *e*PKPbc **PKPbc** **08 31 49.6 +1.5**
AHID Auburn Hatcher 148.15 86 *e*PKPbc **PKPbc** **08 31 49.4 +1.3**
332A Millersview 148.16 114 PKiKP **PKPbc** **08 31 49.1 +0.9**
baz=148
MSTX Muleshoe 148.18 107 PKiKP **PKPbc** **08 31 48.2 -0.1**
baz=148
MSTX Muleshoe 148.18 107 *e*PKPdf **PKPdf** **08 31 45.4 +0.5**
MSTX *e*PKPbc **PKPbc** **08 31 48.0 -0.3**
231A Bronte 148.23 113 PKiKP **PKPbc** **08 31 48.9 +0.5**
baz=148
MSO Missoula 148.24 78 PKiKP **PKPbc** **08 31 48.6 +0.6**
baz=148
MSO Missoula 148.24 78 *e*PKPbc **PKPbc** **08 31 49.0 +1.0**
636A Smothers Creek 148.26 120 PKiKP **PKPbc** **08 31 49.1 +0.7**
baz=148
DAG Danmarks Havn 148.28 341 *i* P **PKPdf** **08 31 43.6 0.0**
comp=Z,4.9nm,1.1s
130A Snyder 148.31 111 PKiKP **PKPbc** **08 31 49.2 +0.6**
baz=149
Z29A Hungry Hill Ra 148.34 109 PKiKP **PKPbc** **08 31 49.4 +0.7**
baz=149
JTMT Jette 148.41 76 *e*PKPbc **PKPbc** **08 31 50.0 +1.6**
DLMT Dillon 148.44 81 *e*PKPbc **PKPbc** **08 31 48.9 +0.3**
Y28A McKinney Farm, 148.46 108 PKiKP **PKPbc** **08 31 49.6 +0.6**
baz=149
SWMT Swartz Lake 148.49 76 *e*PKPbc **PKPbc** **08 31 48.8 +0.1**
738A Farr-Stevens R 148.53 122 PKiKP **PKPbc** **08 31 49.7 +0.5**
baz=149
333A Richland Sprin 148.56 115 PKiKP **PKPbc** **08 31 49.1 -0.1**
baz=149
O20A White River Ci 148.57 93 PKiKP **PKPbc** **08 31 49.4 +0.3**
baz=149
O20A White River Ci 148.57 93 *e*PKPbc **PKPbc** **08 31 50.5 +1.3**
232A Coleman 148.59 113 PKiKP **PKPbc** **08 31 49.5 +0.2**
baz=149
434A Burnet 148.59 117 PKiKP **PKPbc** **08 31 49.5 +0.2**
baz=149
TPAW Teton Pass 148.60 85 *e*PKPbc **PKPbc** **08 31 49.5 +0.2**
REDW Red Top Meadow 148.60 85 *e*PKPbc **PKPbc** **08 31 49.6 +0.4**
637A Eagle Lake 148.63 121 PKiKP **PKPbc** **08 31 50.1 +0.8**
baz=149
FXWY Fox Creek 148.63 85 *e*PKPbc **PKPbc** **08 31 50.4 +1.1**
SLMT Seeley Lake 148.69 77 *e*PKPbc **PKPbc** **08 31 49.2 0.0**
SLMT *e*PKPab **PKPab** **08 31 53.5 +0.5**
Z30A Sanderson Ranc 148.70 110 PKiKP **PKPbc** **08 31 50.0 +0.4**
baz=149
CHMT Chamberlain Mo 148.71 78 *e*PKPbc **PKPbc** **08 31 49.5 +0.2**
536A Bastrop 148.71 119 PKiKP **PKPbc** **08 31 50.0 +0.4**
baz=149
131A Roby 148.71 112 PKiKP **PKPbc** **08 31 50.4 +0.9**
baz=149
SNOW Snow King Moun 148.71 85 *e*PKPbc **PKPbc** **08 31 48.2 -1.3**
Y29A Porterfield Fa 148.77 108 PKiKP **PKPbc** **08 31 50.5 +0.8**
baz=149
IMW Indian Meadow 148.81 85 *e*PKPbc **PKPbc** **08 31 49.4 -0.4**
SMCO Snowmass 148.84 95 *e*PKPbc **PKPbc** **08 31 50.3 +0.1**
X28A Dimmitt 148.90 107 PKiKP **PKPbc** **08 31 50.8 +0.7**
baz=149
SDCO Great Sand Dun 148.92 99 PKiKP **PKPbc** **08 31 50.8 +0.5**
baz=149
SDCO Great Sand Dun 148.92 99 *e*PKPbc **PKPbc** **08 31 50.4 +0.2**
435B Jarrell 148.96 117 PKiKP **PKPbc** **08 31 50.8 +0.6**
baz=149
334A Lometa 148.99 116 PKiKP **PKPbc** **08 31 50.9 +0.6**
baz=149
233A Rising Star 149.12 114 PKiKP **PKPbc** **08 31 51.2 +0.6**
baz=149
ABTX Abilene, Hawle 149.12 112 PKiKP **PKPbc** **08 31 51.6 +1.0**
baz=149
ABTX Abilene, Hawle 149.12 112 *e*PKPbc **PKPbc** **08 31 49.2 -1.4**
ABTX *e*PKPab **PKPab** **08 31 55.9 +1.0**
BW06 Boulder Array 149.13 87 *e*PKPbc **PKPbc** **08 31 51.3 +0.8**
PDAR Pinedale Array 149.13 87 PKPbc **PKPbc** **08 31 49.9 -0.7**
comp=Z,3.7nm,0.9s,baz=260,slow=1.0,SNR=23
537A Green Hill Far 149.13 120 PKiKP **PKPbc** **08 31 51.2 +0.6**
baz=149
WALA Waterton Lakes 149.14 74 *e*PKPbc **PKPbc** **08 31 50.3 +0.1**
X29A Tulia 149.15 108 PKiKP **PKPbc** **08 31 51.2 +0.4**
baz=149
YMR Madison River 149.16 83 *e*PKPbc **PKPbc** **08 31 50.7 +0.1**
BOZ Bozeman (W) 149.18 81 PKiKP **PKPbc** **08 31 51.3 +0.8**
baz=149
T25A Trinidad 149.23 101 PKiKP **PKPbc** **08 31 51.4 +0.5**
baz=150
Y30A Stafford Cattl 149.25 109 PKiKP **PKPbc** **08 31 51.8 +0.8**
baz=150
H17A Grant Village 149.27 84 PKiKP **PKPbc** **08 31 51.8 +0.9**
baz=150
Z31A Sharp Cattle R 149.31 111 PKiKP **PKPbc** **08 31 52.0 +1.0**
baz=150
V27A Dan Oppiter Fa 149.33 104 PKiKP **PKPbc** **08 31 52.1 +0.9**
baz=150
W28A Vega 149.39 106 PKiKP **PKiKP** **08 31 52.3 -0.1**
baz=150
436A Wall Ranch, Ga 149.39 118 PKiKP **PKPbc** **08 31 52.0 +0.7**
baz=150
335A Moody 149.42 117 PKiKP **PKiKP** **08 31 52.3 -0.1**
baz=150
AMTX Amarillo 149.46 107 PKiKP **PKPbc** **08 31 52.1 +0.7**
baz=150
AMTX Amarillo 149.46 107 *e*PKPbc **PKPbc** **08 31 50.5 -0.9**
133A Hamilton Ranch 149.53 113 PKiKP **PKPbc** **08 31 52.2 +0.6**
baz=150
234A Clairette 149.55 115 PKiKP **PKPbc** **08 31 52.1 +0.4**
baz=150
W29A Amraillo 149.64 107 PKiKP **PKPbc** **08 31 52.4 +0.5**
baz=150
X30A Coker Ranch, T 149.66 109 PKiKP **PKPbc** **08 31 52.1 +0.2**
baz=150
Y31A Rekieta Farm, 149.69 110 PKiKP **PKPbc** **08 31 52.2 +0.2**
baz=150
538A Harpers Horsep 149.69 121 PKiKP **PKPbc** **08 31 52.1 +0.1**
baz=150
J19A Crowheart 149.70 87 PKiKP **PKiKP** **08 31 52.8 -0.1**
baz=150
Z32A Haskell 149.70 112 PKiKP **PKPbc** **08 31 52.5 +0.5**
baz=150
V28A Channing 149.70 105 PKiKP **PKPbc** **08 31 52.6 +0.6**
baz=150
T26A Comanche Natio 149.76 102 PKiKP **PKPbc** **08 31 52.7 +0.5**
baz=150
U27A Thompson Grove 149.76 104 PKiKP **PKPbc** **08 31 52.7 +0.5**
baz=150
437A Phantom Ranch, 149.80 119 PKiKP **PKPbc** **08 31 52.8 +0.5**
baz=150
336A Riesel 149.83 118 PKiKP **PKPbc** **08 31 52.8 +0.5**
baz=150
Q24A Divide 149.87 97 PKiKP **PKPbc** **08 31 53.1 +0.4**
baz=150
WHTX Lake Whitney 149.93 116 PKiKP **PKPbc** **08 31 53.0 +0.4**
baz=150
WHTX Lake Whitney 149.93 116 *e*PKPbc **PKPbc** **08 31 51.9 -0.6**
134A White-Moore Ra 150.00 114 PKiKP **PKPbc** **08 31 53.2 +0.5**
baz=150
ISCO Idaho Springs 150.05 95 PKiKP **PKPbc** **08 31 53.2 +0.2**
baz=150
ISCO Idaho Springs 150.05 95 *e*PKPbc **PKPbc** **08 31 54.6 +1.6**
Z33A Whitaker Ranch 150.11 113 PKiKP **PKPbc** **08 31 53.3 +0.3**
baz=150
I19A Meeteetse 150.11 86 PKiKP **PKPbc** **08 31 53.3 +0.4**
baz=150
U28A Mallet 150.11 104 PKiKP **PKPbc** **08 31 53.7 +0.7**
baz=150
438A Sam Houston St 150.11 120 PKiKP **PKPbc** **08 31 53.4 +0.4**
baz=150
Y32A Farms, Ver 150.21 111 PKiKP **PKiKP** **08 31 54.1 0.0**
baz=150
V29A Stinnett 150.21 106 PKiKP **PKPbc** **08 31 53.9 +0.7**
baz=150
T27A Campo 150.24 103 PKiKP **PKPbc** **08 31 53.9 +0.6**
baz=150
X31A McDonald Ranch 150.32 109 PKiKP **PKPbc** **08 31 54.1 +0.6**
baz=151
W30A Crocket Farms 150.33 108 PKiKP **PKPbc** **08 31 54.1 +0.6**
baz=151
J20A Shoshoni 150.36 87 PKiKP **PKPbc** **08 31 53.5 +0.1**
baz=151
H19A Powell 150.41 84 PKiKP **PKiKP** **08 31 54.4 +0.1**
baz=151
RLMT Red Lodge 150.44 83 PKiKP **PKPbc** **08 31 54.4 +0.7**
baz=151
N23A Red Feather La 150.45 93 PKiKP **PKiKP** **08 31 54.7 +0.1**
baz=151
N23A Red Feather La 150.45 93 *e*PKPbc **PKPbc** **08 31 54.4 +0.5**
236A Katherine and 150.46 117 PKiKP **PKiKP** **08 31 54.7 +0.2**
baz=151
540A Vidor 150.50 123 PKiKP **PKiKP** **08 31 54.8 +0.1**
baz=151
S27A Las Animas 150.51 101 PKiKP **PKPbc** **08 31 54.4 +0.4**
baz=151
439A Center Grove, 150.53 121 PKiKP **PKPbc** **08 31 54.4 +0.4**
baz=151
R26A Arlington 150.54 100 PKiKP **PKiKP** **08 31 54.9 +0.2**
baz=151
X32A Elmer 150.59 110 PKiKP **PKiKP** **08 31 55.0 +0.2**
baz=151
I20A Worland 150.62 86 PKiKP **PKPbc** **08 31 54.7 +0.7**
baz=151
T28A Walsh 150.65 103 PKiKP **PKiKP** **08 31 55.2 +0.3**
baz=151
338A Crockett 150.66 120 PKiKP **PKPbc** **08 31 55.0 +0.7**
baz=151
Z34A Collier Ranch, 150.66 114 PKiKP **PKPbc** **08 31 54.6 +0.3**
baz=151
Y33A Hilltop Ranch, 150.70 112 PKiKP **PKPbc** **08 31 54.8 +0.5**
baz=151
W31A Holland Ranch, 150.72 108 PKiKP **PKiKP** **08 31 55.9 +0.9**
baz=151
J21A Lysite 150.76 88 PKiKP **PKiKP** **08 31 55.4 +0.3**
baz=151
EDM Edmonton 150.78 66 *e*PKPbc **PKPbc** **08 31 52.4 -1.6**
Q26A Hugo 150.87 99 PKiKP **PKiKP** **08 31 55.7 +0.3**
baz=151
440A Kirbyville 150.93 122 PKiKP **PKPbc** **08 31 55.6 +0.7**
baz=151
R27A Eads 150.94 101 PKiKP **PKiKP** **08 31 56.1 +0.6**
baz=151
PHWY Pilot Hill 150.98 93 *e*PKPbc **PKPbc** **08 31 54.0 -1.2**
K22A Casper 151.00 90 PKiKP **PKiKP** **08 31 56.2 +0.6**
baz=151
K22A Casper 151.00 90 *e*PKPbc **PKPbc** **08 31 53.7 -1.3**
Z35A Perchaven, San 151.02 114 PKiKP **PKiKP** **08 31 55.9 +0.2**
baz=151
S28A Manter 151.08 103 PKiKP **PKiKP** **08 31 56.2 +0.4**
baz=151
I21A Big Trails, Te 151.08 87 PKiKP **PKiKP** **08 31 56.2 +0.5**
baz=151
W32A Sentinel 151.10 109 PKiKP **PKiKP** **08 31 56.5 +0.7**
baz=151
WMOK Wichita Mounta 151.11 110 *e*PKPbc **PKPbc** **08 31 54.2 -1.1**
X33A Lawton 151.14 111 PKiKP **PKiKP** **08 31 56.9 +1.0**
baz=151
G20A Bridger 151.15 84 PKiKP **PKiKP** **08 31 56.9 +1.1**
baz=151
V31A Spring Creek L 151.17 108 PKiKP **PKiKP** **08 31 56.8 +0.8**
baz=152
Y34A Reagan Ranch, 151.17 113 PKiKP **PKiKP** **08 31 56.9 +0.9**
baz=152
U30A WK&E Inc. Balk 151.18 106 PKiKP **PKiKP** **08 31 56.9 +0.9**
baz=152
T29A Hugoton 151.18 104 PKiKP **PKiKP** **08 31 56.8 +0.8**
baz=152
YKA Yellowknife Ar 151.18 47 PKPbc **PKPdf** **08 31 51.1 +2.5**
comp=Z,0.9nm,0.7s,baz=287,slow=1.7,SNR=5.7
EGMT Eagleton 151.33 78 PKiKP **PKiKP** **08 31 57.4 +1.5**
baz=152
EGMT Eagleton 151.33 78 *e*PKPbc **PKPbc** **08 31 57.1 +1.7**
NATX Nacogdoches 151.33 120 PKiKP **PKiKP** **08 31 57.9 +1.6**
baz=152
137A Heron Place, G 151.34 117 PKiKP **PKiKP** **08 31 57.5 +1.1**
baz=152
P26A Davis Ranch, A 151.35 98 PKiKP **PKiKP** **08 31 57.5 +1.1**
baz=152
F20A Billings 151.44 83 PKiKP **PKiKP** **08 31 57.5 +1.2**
baz=152
Z36A Blue Ridge 151.45 116 PKiKP **PKiKP** **08 31 57.7 +1.1**
baz=152
KSCO Kaye Shedlock' 151.48 100 PKiKP **PKiKP** **08 31 57.1 +0.4**
baz=152
Y35A Marietta 151.56 114 PKiKP **PKiKP** **08 31 58.0 +1.2**
baz=152
S29A Ulysses 151.58 103 PKiKP **PKiKP** **08 31 57.9 +1.0**
baz=152
X34A Smith Ranch, M 151.58 112 PKiKP **PKiKP** **08 31 57.7 +0.9**
baz=152
W33A Caddo, Fort Co 151.58 110 PKiKP **PKiKP** **08 31 58.3 +1.5**
baz=152
R28A Tribune 151.59 101 PKiKP **PKiKP** **08 31 57.7 +0.9**
baz=152
V32A Arapaho 151.62 109 PKiKP **PKiKP** **08 31 57.9 +1.0**
baz=152
H21A Big Horn, Sher 151.62 86 PKiKP **PKiKP** **08 31 57.8 +1.0**
baz=152
K23A Bowen Ranch, D 151.63 90 PKiKP **PKiKP** **08 31 57.3 +0.4**
baz=152
I22A 9 Mile Ranch, 151.64 88 PKiKP **PKiKP** **08 31 57.6 +0.8**
baz=152
O26A Horse Wrangler 151.76 97 PKiKP **PKiKP** **08 31 58.4 +1.3**
baz=152
G21A Lodge Grass 151.79 85 PKiKP **PKiKP** **08 31 58.6 +1.6**
baz=152
Z37A Pogue Cattle C 151.86 117 PKiKP **PKiKP** **08 31 57.8 +0.4**
baz=152
M25A Palm-Egli Farm 151.94 94 PKiKP **PKiKP** **08 31 58.4 +0.8**
baz=152
X35A Drake 151.94 113 PKiKP **PKiKP** **08 31 58.6 +1.0**
baz=152
B19A Brinkman Farms 151.99 77 PKiKP **PKiKP** **08 31 58.7 +1.5**
baz=152
Y36A Durant 151.99 115 PKiKP **PKiKP** **08 31 58.5 +0.8**
baz=152
Q28A Sharon Springs 152.01 100 PKiKP **PKiKP** **08 31 58.7 +1.0**
baz=152
H22A Clearmont 152.05 86 PKiKP **PKiKP** **08 31 58.2 +0.6**
baz=152
W34A Bridge Creek, 152.05 111 PKiKP **PKiKP** **08 31 58.6 +0.8**
baz=152
R29A Marienthal 152.06 102 PKiKP **PKiKP** **08 31 58.7 +0.9**
baz=152
U32A Winter Ranch, 152.08 108 PKiKP **PKiKP** **08 31 58.3 +0.5**
baz=152
N26A Koester Ranch, 152.14 96 PKiKP **PKiKP** **08 31 58.7 +0.8**
baz=152
V33A Lossen Ranch, 152.14 109 PKiKP **PKiKP** **08 31 58.5 +0.6**
baz=152
139A Bunkhouse Ranc 152.17 119 PKiKP **PKiKP** **08 31 58.7 +0.7**
baz=152
O27A Beecher Island 152.26 98 PKiKP **PKiKP** **08 31 59.3 +1.2**
baz=152
Z38A Mt. Pleasant 152.26 117 PKiKP **PKiKP** **08 31 59.5 +1.3**
baz=153
A19A Klindworth Far 152.28 76 PKiKP **PKiKP** **08 31 59.3 +1.5**
baz=152
C20A Veseth Ranch, 152.30 79 PKiKP **PKiKP** **08 31 59.7 +1.7**
baz=153
P28A Saint Francis 152.36 99 PKiKP **PKiKP** **08 31 59.5 +1.1**
baz=153
G22A Birney 152.37 85 PKiKP **PKiKP** **08 31 59.5 +1.3**
baz=153
X36A Centrahoma 152.43 114 PKiKP **PKiKP** **08 31 59.7 +1.2**
baz=153
Y37A Hugo 152.43 116 PKiKP **PKiKP** **08 31 59.3 +0.7**
baz=153
Q29A Oakley 152.44 101 PKiKP **PKiKP** **08 31 59.8 +1.2**
baz=153
R30A Dighton 152.51 103 PKiKP **PKiKP** **08 31 59.7 +1.0**
baz=153
W35A Tecumseh 152.53 112 PKiKP **PKiKP** **08 31 59.6 +0.8**
baz=153
B20A Solberg Farm, 152.56 78 PKiKP **PKiKP** **08 31 59.6 +1.1**
baz=153
U33A Lingo Farm, Me 152.66 109 PKiKP **PKiKP** **08 31 59.9 +0.9**
baz=153
K25A Mack Ranch, Ha 152.67 92 PKiKP **PKiKP** **08 31 59.5 +0.5**
baz=153
D21A La Casta Ranch 152.69 81 PKiKP **PKiKP** **08 31 59.8 +1.0**
baz=153
Z39A Irene McRaven, 152.71 119 PKiKP **PKiKP** **08 31 60.0 +0.8**
baz=153
L26A Underwood Farm 152.88 94 PKiKP **PKiKP** **08 32 01.2 +1.8**
baz=153
P29A Atwood 152.89 100 PKiKP **PKiKP** **08 31 60.0 +0.5**
baz=153
W36A Wetumka 152.90 113 PKiKP **PKiKP** **08 32 00.6 +1.1**
baz=153
C21A Desert Coulee 152.91 80 PKiKP **PKiKP** **08 32 00.4 +1.2**
baz=153
G23A Biddle 152.93 86 PKiKP **PKiKP** **08 32 00.3 +0.9**
baz=153
OGNE Ogallala 152.96 97 PKiKP **PKiKP** **08 32 00.8 +1.3**
baz=153

Q30A	**Quinter** baz=153	**152.97**	**102**	PKiKP	**PKPbc**	**08 31 59.9**	**+0.5**
S32A	**Newby Ranch, P** baz=153	**152.98**	**106**	PKiKP	**PKiKP**	**08 32 00.5**	**+0.9**
R31A	**Burdett** baz=153	**152.98**	**104**	PKiKP	**PKiKP**	**08 32 00.6**	**+0.9**
X37A	**Clayton** baz=153	**153.01**	**115**	PKiKP	**PKiKP**	**08 32 00.4**	**+0.7**
M27A	**Reverse DX Ran** baz=153	**153.05**	**95**	PKiKP	**PKiKP**	**08 32 00.7**	**+0.9**
E22A	**Miles City** baz=153	**153.10**	**83**	PKiKP	**PKiKP**	**08 32 01.0**	**+1.4**
J25A	**Sunshine Ranch** baz=153	**153.10**	**91**	PKiKP	**PKiKP**	**08 32 01.0**	**+1.2**
F23A	**Volborg** baz=153	**153.15**	**85**	PKiKP	**PKiKP**	**08 32 00.8**	**+1.0**
K26A	**Motz Farm, Whi** baz=153	**153.16**	**92**	PKiKP	**PKiKP**	**08 32 00.8**	**+0.9**
CBKS	**Cedar Bluff** baz=154	**153.17**	**103**	PKiKP	**PKiKP**	**08 32 01.1**	**+1.1**
B21A	**Ellsworth Farm** baz=153	**153.18**	**78**	PKiKP	**PKiKP**	**08 32 00.8**	**+1.1**
D22A	**Cohagen** baz=154	**153.23**	**81**	PKiKP	**PKiKP**	**08 32 01.0**	**+1.2**
H24A	**Dirks Ranch, A** baz=154	**153.26**	**87**	PKiKP	**PKiKP**	**08 32 01.1**	**+1.0**
O29A	**4D Ranch, Culb** baz=154	**153.28**	**99**	PKiKP	**PKiKP**	**08 32 01.1**	**+0.9**
P30A	**Selden** baz=154	**153.29**	**101**	PKiKP	**PKiKP**	**08 32 01.5**	**+1.2**
W37A	**Quinton** baz=154	**153.37**	**114**	PKiKP	**PKPbc**	**08 32 00.0**	**-0.3**
X38A	**Whitesboro** baz=154	**153.38**	**116**	PKiKP	**PKiKP**	**08 32 01.1**	**+0.6**
A21A	**Bergtoll Ranch** baz=154	**153.43**	**77**	PKiKP	**PKiKP**	**08 32 01.2**	**+0.9**
I25A	**Rochford** baz=154	**153.45**	**89**	PKiKP	**PKiKP**	**08 32 01.2**	**+0.6**
V36A	**Jenks** baz=154	**153.52**	**112**	PKiKP	**PKiKP**	**08 32 01.3**	**+0.6**
E23A	**Ismay** baz=154	**153.53**	**83**	PKiKP	**PKiKP**	**08 32 01.5**	**+1.0**
J26A	**Sides Ranch, S** baz=154	**153.53**	**91**	PKiKP	**PKiKP**	**08 32 02.0**	**+1.3**
R32A	**Long Quarter,** baz=154	**153.57**	**105**	PKiKP	**PKiKP**	**08 32 02.0**	**+1.2**
TUL1	**Tulsa** baz=154	**153.69**	**112**	PKiKP	**PKiKP**	**08 32 02.7**	**+1.5**
K27A	**Flueckinger Fa** baz=154	**153.76**	**93**	PKiKP	**PKiKP**	**08 32 02.0**	**+0.8**
W38A	**Poteau** baz=154	**153.84**	**115**	PKiKP	**PKiKP**	**08 32 02.4**	**+1.0**
T35A	**Sooner Cattle** baz=154	**153.94**	**110**	PKiKP	**PKiKP**	**08 32 02.5**	**+0.9**
Q32A	**Meitler Ranch,** baz=154	**154.01**	**104**	PKiKP	**PKiKP**	**08 32 02.6**	**+0.9**
V37A	**Hulbert** baz=154	**154.05**	**113**	PKiKP	**PKiKP**	**08 32 02.5**	**+0.7**
J27A	**Elkhorn Farm,** baz=154	**154.18**	**92**	PKPdf	**PKPdf**	**08 31 54.4**	**+0.6**
K28A	**Ten Mile Ranch** baz=155	**154.32**	**94**	PKPdf	**PKPdf**	**08 31 54.3**	**+0.3**
H26A	**Fairpoint** baz=155	**154.34**	**89**	PKPdf	**PKPdf**	**08 31 53.2**	**-0.7**
R34A	**Isabella, Hill** baz=155	**154.39**	**106**	PKPdf	**PKPdf**	**08 31 54.9**	**+0.7**
T36A	**Boggs Farm, Ca** baz=155	**154.41**	**110**	PKPdf	**PKPdf**	**08 31 55.1**	**+0.9**
B23A	**Brockton** baz=155	**154.46**	**79**	PKPdf	**PKPdf**	**08 31 55.3**	**+1.3**
Q33A	**Connelly Farm,** baz=155	**154.46**	**105**	PKPdf	**PKPdf**	**08 31 54.7**	**+0.5**
C24A	**Savage** baz=155	**154.48**	**82**	PKPdf	**PKPdf**	**08 31 55.6**	**+1.6**
I27A	**Quinn** baz=155	**154.54**	**91**	PKPdf	**PKPdf**	**08 31 55.3**	**+1.0**
G26A	**Maurine** baz=155	**154.75**	**88**	PKPdf	**PKPdf**	**08 31 54.4**	**0.0**
J28A	**Allard Ranch,** baz=155	**154.75**	**93**	PKPdf	**PKPdf**	**08 31 55.7**	**+1.2**
O32A	**Brockman Farm,** baz=155	**154.94**	**102**	PKPdf	**PKPdf**	**08 31 56.0**	**+1.1**
DGMT	**Dagmar** baz=155	**154.96**	**80**	PKPdf	**PKPdf**	**08 31 55.5**	**+0.9**
L30A	**Spencer Herefo** baz=155	**154.97**	**97**	PKPdf	**PKPdf**	**08 31 56.0**	**+1.1**
SUMG	**Summit** comp=Z,5.5nm,1.1s	**154.97**	**341**	*i* P	**PKPab**	**08 32 21.1**	**+2.4**
D25A	**Fairfield** baz=155	**155.04**	**83**	PKPdf	**PKPdf**	**08 31 55.8**	**+1.0**
I28A	**Midland** baz=155	**155.07**	**91**	PKPdf	**PKPdf**	**08 31 55.2**	**+0.3**
KSU1	**Kansas State U** baz=156	**155.28**	**106**	PKPdf	**PKPdf**	**08 31 56.1**	**+0.8**
J29A	**Okreek** baz=156	**155.32**	**93**	PKPdf	**PKPdf**	**08 31 56.3**	**+1.0**
P34A	**Walnut Farm, R** baz=156	**155.41**	**105**	PKPdf	**PKPdf**	**08 31 56.1**	**+0.6**
Q35A	**Mercer Eighty,** baz=156	**155.48**	**107**	PKPdf	**PKPdf**	**08 31 55.9**	**+0.3**
B25A	**Knox Farm, Ray** baz=156	**155.54**	**81**	PKPdf	**PKPdf**	**08 31 56.3**	**+0.9**
I29A	**Vivian Onida** baz=156	**155.63**	**92**	PKPdf	**PKPdf**	**08 31 56.0**	**+0.3**
A25A	**Svangstu Ranch** baz=156	**155.79**	**79**	PKPdf	**PKPdf**	**08 31 56.1**	**+0.4**
J30A	**Dallas** baz=156	**155.81**	**94**	PKPdf	**PKPdf**	**08 31 56.4**	**+0.4**
P35A	**Duane Minner,** baz=156	**155.90**	**106**	PKPdf	**PKPdf**	**08 31 56.3**	**+0.2**

GUC 06 09:01:15.3±0.5, 38°36S×73°45W, h38km±2km, ML3.8, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSCH	**Puerto Saavedr**	**0.44**	**174**	⇓*i*P	Pn	09 01 25.2	+0.2
PSCH				*i* S	Sn	09 01 32.2	+0.2
AGCH	**Angol**	**0.81**	**48**	⇑*i*P	Pn	09 01 30.3	+0.2
AGCH				*i* S	Sn	09 01 41.7	+0.7
VLCH	**Valdivia**	**1.46**	**174**	*e*P	Pn	09 01 40.2	+1.2
CCSP	**San Pedro de C**	**1.53**	**10**	*e*P	Pn	09 01 41.5	+1.4
CCSP				*e*S	Sn	09 02 00.8	+2.0
CCSP	comp=E,2μm,0.5s			AML	AML	09 02 08.8	
LNCH	**Linares**	**2.91**	**31**	*e*P	Pn	09 02 00.4	+1.4
LNCH				*i* S	Sn	09 02 34.6	+1.9

NNC 06 09:02:25.0±3.4, 38°40N×71°74E, h0km, mb3.6, mpv3.0, 5C-1D, Error ellipse: s-maj=33.7km s-min=20.0km az=154.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan** 6.1nm,0.4s	**2.12**	**40**	⇓Pn	Pn	09 03 01.9	-0.1
SFK	25nm,0.2s			⇑Lg	Lg	09 03 36.4	
DZET	**Dzherino** 0.8nm,0.1s	**2.31**	**281**	⇑Pn	Pn	09 03 05.3	+0.7
DZET	52nm,0.5s			⇑Lg	Lg	09 03 40.4	
KK31	**Karatay Array** 1.6nm,0.5s,baz=159,slow=11,SNR=14	**4.79**	**349**	⇑Pn	Pn	09 03 39.4	+0.9
KK31	1.4nm,0.5s,baz=158,slow=22,SNR=6.5			⇑Sn	Sn	09 04 41.3	+6.6

*NIED **06** 09:03:00, 36°.10N×139°.80E, h35km, Mw3.8 Best double couple: M₀5.50000×10¹⁴ NP1:φs268.00000°, δ42.00000°, λ117.00000°. NP2:φs53.00000°, δ54.00000°, λ68.00000°.*

*ISCJB **06** 09:03:30.4±0.6, 36°.14N±0°.06×139°.79E±0°.06, h65km±4km, mb3.5/6, Error ellipse: s-maj=10.8km s-min=7.7km az=27.2*

*JMA **06** 09:03:31.9±0.1, 36°.09N×139°.78E, h46km±2km, M3.6 Broadband fault plane solution: P waves. NP1: φs55.00000°, δ76.00000°, λ89.00000°. NP2:φs239.00000°, δ14.00000°, λ94.00000°. Principal axes: T Plg59.0000°, Azm324.0000°; N Plg1.0000°, Azm55.0000°; P Plg31.0000°, Azm146.0000°;*

JMA Felt II J1.

*IDC **06** 09:03:34.0±2.7, 36°.09N×139°.64E, h82km±22km, mb3.2/6, mb1 3.4/6, mb1mx3.2/25, mbtmp3.5/6 Error ellipse: s-maj=35.8km s-min=20.9km az=80.0*

ISC 06 09:03:31.6±0.9, 36°.18N±0°.05×139°.75E±0°.05, h56km±7km, n15, σ1°42/22, mb3.5/6, 1C-3D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAG	**Ashikaga**	**0.34**	**316**	⇓P	Pn	09 03 42.1	+0.4
JAG				S	Sn	09 03 49.5	+0.6
JYT	**Yasato**	**0.36**	**82**	⇑P	Pn	09 03 41.2	-0.6
JYT				S	Sn	09 03 48.0	-1.2
TOK	**Tokyo**	**0.49**	**179**	P	Pn	09 03 43.0	-0.1
JRY	**Ryogami san**	**0.71**	**257**	⇓P	Pn	09 03 45.6	-0.1
JRY				S	Sn	09 03 55.5	-0.5
JKT	**Katashina**	**0.71**	**326**	⇓P	Pn	09 03 46.6	+0.7
JKT				*e*S	Sn	09 03 57.6	+1.3
I30JP	**ISUMI INFRASON**	**0.98**	**152**	P	Pn	09 03 50.2	+1.0
I30JP				S	Sn	09 04 06.2	+3.9
JOD2	**Odawara 2**	**1.06**	**211**	P	Pn	09 03 49.6	-0.7
MJAR	**Matsushiro Arr**	**1.30**	**287**	P	Pn	09 03 54.3	+0.9
MJAR				S	Sn	09 04 12.3	+2.5
MAT	**Matsushiro**	**1.30**	**287**	P	Pn	09 03 54.2	+0.7
MAT				S	Sn	09 04 09.3	-0.5
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=81,slow=10,SNR=2.5	**41.51**	**313**	P	P	09 11 13.0	-0.1
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=96,slow=9.1,SNR=5.6	**43.45**	**303**	P	P	09 11 28.8	-0.2
ILAR	**Eielson Array** 0.2nm,0.7s,baz=273,slow=6.6,SNR=4.8	**50.93**	**32**	P	P	09 12 28.4	+1.5
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=1.0,slow=7.6,SNR=13	**56.05**	**186**	P	P	09 13 03.7	-1.1
ASAR	**Alice Springs** 0.3nm,1.0s,baz=2.8,slow=6.5,SNR=3.4	**59.78**	**186**	P	P	09 13 30.1	-0.8
NOA	**NORSAR Array B** 0.7nm,0.8s,baz=38,slow=6.2,SNR=3.3	**74.45**	**337**	P	P	09 15 01.9	-1.6

*ISCJB **06** 09:25:17.1±0.5, 50°.37S±0°.08×114°.1E±0°.3, h10km, mb4.5/12, MS3.5/8, Error ellipse: s-maj=26.4km s-min=8.7km az=19.0*

*IDC **06** 09:25:17.1±0.7, 50°.32S×114°.07E, h0km, mb4.4/9, mb1 4.6/9, mb1mx4.4/15, mbtmp4.4/9, MS3.5/8, Ms1 3.5/8, ms1mx3.2/22, Error ellipse: s-maj=34.6km s-min=14.9km az=111.0*

*NEIC **06** 09:25:19.2±0.5, 50°.42S×114°.23E, h10km, mb4.9/4, Error ellipse: s-maj=25.7km s-min=8.6km az=107.0*

ISC 06 09:25:19.1±0.6, 50°.36S±0°.09×114°.1E±0°.2, h10km, n50, σ1°02/65, mb4.4/12, MS3.5/8, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H** baz=179,slow=74,SNR=536	**15.46**	**0**	T	T	09 44 46.4	
H01W1	**Cape Leeuwin H** baz=179,slow=74,SNR=561	**15.46**	**0**	T	T	09 44 45.9	
H01W3	**Cape Leeuwin H** baz=179,slow=74,SNR=482	**15.47**	**0**	T	T	09 44 45.7	
CASY	**Casey** 30nm,1.4s	**16.07**	**185**	*e*Pn	**Pn**	**09 29 03.6**	**-1.2**
NWAO	**Narrogin (SRO)** 0.5nm,0.3s,baz=148,slow=12,SNR=4.4	**17.58**	**9**	P	**P**	**09 29 27.1**	**+2.0**
FORT	**Forrest** 38nm,0.8s	**22.19**	**33**	*e*P	**P**	**09 30 14.8**	**-0.5**
STKA	**Stephens Creek** 5.5nm,1.0s,baz=204,slow=6.5,SNR=14	**27.52**	**58**	P	**P**	**09 31 05.7**	**+0.1**
STKA	comp=Z,97nm,20.9s,baz=207,slow=32			LR	LR	09 40 10.2	
MBWA	**Marble Bar** 21nm,1.3s	**29.48**	**11**	*e*P	**P**	**09 31 23.0**	**-0.2**
MAW	**Mawson** 5.2nm,0.9s,baz=88,slow=13,SNR=7.5	**30.33**	**216**	P	**P**	**09 31 31.0**	**+0.7**
MAW	comp=Z,54nm,18.4s,baz=60,slow=32			LR	LR	09 41 43.5	
ASAR	**Alice Springs** 12nm,0.8s,baz=207,slow=7.8,SNR=127	**30.80**	**37**	P	**P**	**09 31 34.3**	**-0.6**
ASAR	0.5nm,0.7s,baz=206,slow=1.7,SNR=4.9			PcP	**PcP**	**09 34 30.8**	**-1.2**
ASAR	comp=Z,105nm,21.6s,baz=209,slow=33			LR	LR	09 42 18.7	
VNDA	**Vanda** 1.7nm,0.8s,baz=283,slow=8.6,SNR=6.8	**32.52**	**163**	P	**P**	**09 31 50.5**	**+1.1**
VNDA	comp=Z,183nm,18.2s,baz=314,slow=35			LR	LR	09 44 18.4	
WRA	**Warramunga Arr** 17nm,0.8s,baz=203,slow=9.2,SNR=67	**34.35**	**35**	P	**P**	**09 32 05.2**	**-0.8**
WRA	1.4nm,1.2s,baz=216,slow=3.8,SNR=3.3			PcP	**PcP**	**09 34 40.5**	**-1.3**
WRAB	**Tennant Creek** 15nm,0.8s	**34.36**	**35**	*e*P	**P**	**09 32 05.5**	**-0.6**
QSPA	**South Pole Qui** 8.6nm,0.9s,baz=320,slow=6.2,SNR=17	**39.76**	**180**	P	**P**	**09 32 51.3**	**-0.4**
QSPA	**South Pole Qui**	**39.76**	**180**	*e*P	**P**	**09 32 51.5**	**-0.2**
SNAA	**Sanae** 2.1nm,0.7s,baz=143,slow=12,SNR=28	**50.45**	**201**	P	**P**	**09 34 15.7**	**-0.7**
VNA1	**Neumayer--Stat**	**52.42**	**201**	P	**P**	**09 34 31.3**	**+0.3**
H08S2	**Diego Garcia H** baz=148	**54.81**	**306**	T	T	10 33 46.3	
H08S1	**Diego Carcia H** baz=148	**54.82**	**306**	T	T	10 33 45.6	
H08S3	**Diego Garcia H** baz=148	**54.83**	**306**	T	T	10 33 49.5	
BOSA	**Boshof** comp=Z,31nm,19.5s,baz=120,slow=31	**67.82**	**252**	LR	LR	09 59 56.1	
GUMO	**Guam** comp=Z,23nm,21.8s,baz=164,slow=34	**69.17**	**32**	LR	LR	10 04 21.6	
CMAR	**Chiang Mai Arr** 2.3nm,0.6s,baz=196,slow=5.6,SNR=13	**69.81**	**345**	P	**P**	**09 36 29.3**	**-0.2**
CMAR	comp=Z,27nm,20.0s,baz=182,slow=33			LR	LR	10 03 26.2	
KSAR	**Wonju Array Be**	**88.28**	**11**	P	**P**	**09 38 10.4**	**+0.3**
KSRS	**Korea Array** 1.9nm,1.0s,baz=198,slow=4.3,SNR=8.0	**88.29**	**11**	P	**P**	**09 38 10.4**	**+0.3**
SONM	**Songino Array** comp=Z,16nm,21.8s,baz=58,slow=35	**98.04**	**355**	LR	LR	10 21 59.3	
H10S2	**ASCENSION HYDR** baz=145	**106.08**	**233**	T	T	11 38 54.1	
H10S3	**ASCENSION HYDR** baz=145	**106.10**	**233**	T	T	11 39 00.1	
H10S1	**ASCENSION HYDR** baz=145	**106.10**	**233**	T	T	11 39 00.5	
TXAR	**Lajitas Array** 2.8nm,0.9s,baz=203,slow=5.0,SNR=24	**144.74**	**112**	PKP	**PKPab**	**09 44 54.6**	**-0.1**
ELK	**Elko**	**144.74**	**86**	*e*PKPdf	PKPbc	09 44 55.1	+0.4
MSU	**Marysvale**	**145.45**	**92**	*e*PKPdf	**PKPab**	**09 44 58.3**	**+1.0**
MFID	**Camas Ranch**	**145.74**	**82**	*e*PKPdf	**PKPdf**	**09 44 57.3**	**+0.1**
ANMO	**Albuquerque**	**146.91**	**102**	*e*PKPdf	**PKPbc**	**09 45 00.9**	**-0.6**
ANMO				*e*PKPbc	**PKPab**	**09 45 03.1**	**+0.2**
MVCO	**Mesa Verde**	**147.03**	**97**	*e*PKPdf	**PKPdf**	**09 45 00.5**	**+0.7**
MVCO				*e*PKPbc	**PKPab**	**09 45 03.0**	**-0.4**
MVCO				*e*PKPab	**PKiKP**	**09 45 04.9**	**+0.6**
PV04	**Paradox Valley**	**147.47**	**95**	*e*PKPdf	**PKPdf**	**09 45 01.3**	**+0.9**
PV04				*e*PKPab	**PKPab**	**09 45 06.1**	**+1.1**
PV01	**Paradox Valley**	**147.54**	**96**	*e*PKPdf	**PKPbc**	**09 45 03.0**	**-0.2**
PV01				*e*PKPbc	**PKiKP**	**09 45 05.0**	**-0.3**
PV01				*e*PKPab	**PKPab**	**09 45 07.6**	**+2.3**
HWUT	**Hardware Ranch**	**147.55**	**88**	*e*PKPbc	**PKPbc**	**09 45 03.3**	**+0.2**
HWUT				*e*PKPab	**PKPab**	**09 45 06.6**	**+1.4**
SWMT	**Swartz Lake**	**148.72**	**76**	*e*PKPbc	**PKPbc**	**09 45 05.2**	**-0.6**
SWMT				*e*PKPab	**PKPab**	**09 45 12.0**	**+2.4**
REDW	**Red Top Meadow**	**148.88**	**85**	*e*PKPdf	**PKPdf**	**09 45 03.5**	**+0.9**
REDW				*e*PKPbc	**PKPbc**	**09 45 06.6**	**0.0**
REDW				*e*PKPab	**PKPab**	**09 45 11.6**	**+1.0**
CHMT	**Chamberlain Mo**	**148.95**	**78**	*e*PKPdf	**PKPdf**	**09 45 03.5**	**+0.9**
CHMT				*e*PKPbc	**PKiKP**	**09 45 07.2**	**-0.7**
CHMT				*e*PKPab	**PKPab**	**09 45 12.7**	**+1.9**
LRM	**Limekiln Ridge**	**148.99**	**80**	*e*PKPdf	**PKPdf**	**09 45 03.3**	**+0.6**
LRM				*e*PKPbc	**PKiKP**	**09 45 07.4**	**-0.7**
LRM				*e*PKPab	**PKPab**	**09 45 11.8**	**+0.7**
SNOW	**Snow King Moun**	**148.99**	**85**	*e*PKPdf	**PKPdf**	**09 45 04.3**	**+1.4**
SNOW				*e*PKPbc	**PKPbc**	**09 45 07.1**	**+0.2**
SNOW				*e*PKPab	**PKPab**	**09 45 12.1**	**+1.0**
IMW	**Indian Meadow**	**149.08**	**84**	*e*PKPdf	**PKPdf**	**09 45 02.7**	**-0.3**
IMW				*e*PKPbc	**PKiKP**	**09 45 08.0**	**-0.4**
IMW				*e*PKPab	**PKPab**	**09 45 12.6**	**+1.1**
LOHW	**Long Hollow**	**149.16**	**85**	*e*PKPdf	**PKPdf**	**09 45 04.7**	**+1.7**
LOHW				*e*PKPbc	**PKPbc**	**09 45 07.3**	**0.0**
LOHW				*e*PKPab	**PKPab**	**09 45 12.2**	**+0.5**
SDCO	**Great Sand Dun**	**149.26**	**99**	*e*PKPdf	**PKPdf**	**09 45 04.6**	**+1.1**
SDCO				*e*PKPbc	**PKPbc**	**09 45 08.0**	**+0.2**
SDCO				*e*PKPab	**PKPab**	**09 45 14.8**	**+2.4**
PDAR	**Pinedale Array** 1.2nm,0.9s,baz=191,slow=2.4,SNR=8.9	**149.42**	**87**	PKPbc	**PKPbc**	**09 45 07.5**	**-0.4**
ISCO	**Idaho Springs**	**150.38**	**95**	*e*PKPdf	**PKPdf**	**09 45 06.9**	**+1.7**
ISCO				*e*PKPbc	**PKiKP**	**09 45 10.9**	**-0.3**
ISCO				*e*PKPab	**PKPab**	**09 45 17.5**	**+0.6**
YKA	**Yellowknife Ar** 2.5nm,0.7s,baz=281,slow=2.1,SNR=11	**151.22**	**46**	PKPbc	**PKPbc**	**09 45 10.6**	**-0.7**
YKA	1.9nm,0.7s,baz=284,slow=2.2,SNR=8.8			PKPab	**PKPab**	**09 45 16.8**	**-2.5**
WMOK	**Wichita Mounta**	**151.49**	**111**	*e*PKPdf	**PKPdf**	**09 45 06.6**	**-0.1**
WMOK				*e*PKPbc	**PKPbc**	**09 45 12.1**	**-0.7**

*IDC **06** 09:31:35.4±1.0, 27°.61N×92°.61E, h0km, mb3.8/9, mb1 4.1/9, mb1mx3.8/29, mbtmp3.9/9, Error ellipse: s-maj=41.9km s-min=16.7km az=60.0*

*NEIC **06** 09:31:44.1±1.7, 27°.68N×92°.67E, h70km±16km, mb4.3/2, Error ellipse: s-maj=23.2km s-min=11.6km az=55.0*

ISC 06 09:31:38.5±0.7, 27°.65N±0°.05×92°.58E±0°.10, h18km, n17, σ0°81/18, mb3.9/10, MS4.7/3, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.17**	**197**	*i* PN	**Pb**	**09 32 18.0**	**+0.7**
SHL				*e*SN	**Sg**	**09 32 48.0**	**-0.4**
LSA	**Lhasa**	**2.39**	**329**	*e*Pn	**Pb**	**09 32 22.1**	**+0.8**
LSA				*e*Sn	**Sb**	**09 32 51.2**	**+0.5**
IMP	**Imphal**	**3.11**	**157**	*e*PN	**Pb**	**09 32 35.0**	**+1.7**
IMP				*e*SN	**Sg**	**09 33 18.0**	**-0.4**
MKAR	**Makanchi Array** 2.0nm,0.6s,baz=149,slow=13,SNR=31	**20.75**	**340**	P	**P**	**09 36 18.4**	**+0.1**
SONM	**Songino Array** 0.6nm,0.4s,baz=203,slow=9.4,SNR=8.0	**22.85**	**24**	P	**P**	**09 36 40.4**	**-0.4**
KURBB	**Kurchatov Arra** 1.1nm,0.7s,baz=156,slow=9.4,SNR=10	**25.31**	**339**	P	**P**	**09 37 04.3**	**+0.5**
KURK	**Kurchatov**	**25.36**	**339**	P	**P**	**09 37 04.3**	**0.0**
ZALV	**Zalesovo Beam** 1.6nm,0.5s,baz=185,slow=9.9,SNR=6.7	**26.88**	**350**	P	**P**	**09 37 18.6**	**+0.5**
ABKAR	**Akbulak array** 1.1nm,0.3s	**33.05**	**320**	*e*P	**P**	**09 38 13.0**	**+0.2**
AKTO	**Aktyubinsk** 0.5nm,0.3s,baz=133,slow=9.3,SNR=4.2	**34.70**	**320**	P	**P**	**09 38 27.1**	**-0.1**
WRA	**Warramunga Arr** 1.3nm,0.7s,baz=317,slow=7.9,SNR=17	**62.23**	**135**	P	**P**	**09 41 58.8**	**-0.6**
WRAB	**Tennant Creek** 3.1nm,0.9s	**62.23**	**135**	*e*P	**P**	**09 41 57.4**	**-2.0**
WRAB	comp=Z,600nm,21.4s			LR	LR		
GERES	**GERESS Array B** comp=Z,1.0nm,0.5s,baz=94,slow=8.0,SNR=5.4	**62.63**	**313**	P	**P**	**09 42 01.8**	**-0.1**
ASAR	**Alice Springs** comp=Z,0.4nm,0.5s,baz=323,slow=6.8,SNR=15	**64.76**	**138**	P	**P**	**09 42 15.7**	**-0.4**
WAKE	**Wake Island**	**67.58**	**79**	PFAKE		09 42 50.0	+16
WAKE	comp=Z,300nm,21.8s			LR	LR		
ILAR	**Eielson Array** comp=Z,0.6nm,0.6s,baz=303,slow=5.1,SNR=11	**77.06**	**22**	P	**P**	**09 43 30.1**	**-0.1**
XMAS	**Kiritimati**	**106.65**	**79**	PFAKE		09 50 10.0	
XMAS	comp=Z,1μm,20.4s			LR	LR		

*CSEM **06** 09:59:43.2±0.5, 51°.33N×19°.05E, h10km, ML2.4/5, Error ellipse: s-maj=7.9km s-min=3.3km az=12.0*

PRU 06 09:59:44.9, 51°.28N×19°.05E, h0km, Belchatow, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**1.16**	**156**	*e*Pg	Pg	10 00 06.9	-0.3
OJC				*e*Sg	Sg	10 00 22.5	+0.2
OJC	**Ojcow**	**1.16**	**156**	*e*Pg	Pg	10 00 06.9	-0.3
OJC				*e*Sg	Sg	10 00 22.5	+0.2
OKC	**Ostrava-Krasne**	**1.56**	**202**	*e*PG	Pn	10 00 13.6	-0.2
OKC	comp=Z,5.2nm,0.4s			*e*SG	Sn	10 00 34.2	-0.5
OKC	**Ostrava-Krasne**	**1.56**	**202**	Pg	Pn	10 00 13.6	-0.2
OKC	5.2nm,0.4s			Sg	Sn	10 00 34.2	-0.5
MORC	**Moravsky Berou**	**1.79**	**213**	*e*Pn	Pb	10 00 17.9	-0.7
MORC				*e*Sg	Sb	10 00 42.0	+0.4
KRLC	**Kraliky**	**1.88**	**231**	*e*PG	Pb	10 00 19.7	-0.5
KRLC				*e*SG	Sb	10 00 44.8	+0.5
KRLC	**Kraliky**	**1.88**	**231**	Pg	Pb	10 00 19.7	-0.5
KRLC				Sg	Sb	10 00 44.8	+0.5
DPC	**Dobruska-Polom**	**1.96**	**243**	*e*PG	Pb	10 00 21.3	-0.3
DPC	comp=Z,2.7nm,0.5s			*e*SG	Sg	10 00 47.9	-0.3
DPC	**Dobruska-Polom**	**1.96**	**243**	Pg	Pb	10 00 21.3	-0.3
DPC	2.7nm,0.5s			Sg	Sg	10 00 47.9	-0.3
UPC	**Upice** comp=Z,2.6nm,0.3s	**2.07**	**249**	*e*SG	Sg	10 00 51.4	-0.2
UPC	**Upice** 2.6nm,0.3s	**2.07**	**249**	Sg	Sg	10 00 51.4	-0.2
GOPC	**GO Pecny, Ondr** comp=Z,2.2nm,0.4s	**3.04**	**245**	*e*SG	Sg	10 01 22.3	-0.4
GOPC	**GO Pecny, Ondr** 2.2nm,0.4s	**3.04**	**245**	Sg	Sg	10 01 22.3	-0.4
KHC	**Kasperske Hory** comp=Z,1.3nm,0.4s	**4.12**	**241**	*e*SG	Sg	10 01 56.7	-0.7
KHC	**Kasperske Hory** 1.3nm,0.4s	**4.12**	**241**	Sg	Sg	10 01 56.7	-0.7

BUC 06 10:01:44.7±0.4, 46°.01N×25°.78E, h25km, MD2.2/3, 2C-8D, Error ellipse: s-maj=5.2km s-min=2.5km az=323.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOPR	**Dopca**	**0.27**	**261**	⇑*i*P	Pb	10 01 51.7	+0.3
DOPR				S	Sb	10 01 56.0	0.0
DOPR	**Dopca**	**0.27**	**261**	⇑*i*P	Pb	10 01 51.7	+0.3
DOPR				*i* S	Sb	10 01 56.0	0.0
MLR	**Muntele Rosu**	**0.54**	**167**	⇓*i*P	Pb	10 01 56.0	+0.3
MLR	**Muntele Rosu**	**0.54**	**167**	⇓*i*P	Pb	10 01 56.0	+0.3
MLR				*i* S	Sb	10 02 03.3	+0.1
PLOR	**Plostina**	**0.63**	**105**	⇓*i*P	Pb	10 01 56.9	-0.3
PLOR	**Plostina**	**0.63**	**105**	⇓*i*P	Pb	10 01 56.9	-0.3
PLOR				*i* S	Sb	10 02 06.5	+0.8
VRI	**Vrincioaia**	**0.68**	**102**	⇓*i*P	Pb	10 01 57.9	-0.1
VRI	**Vrincioaia**	**0.68**	**102**	⇓*i*P	Pb	10 01 57.9	-0.1
VRI				*i* S	Sn	10 02 07.9	-0.7
VOIR		**0.77**	**222**	⇓*i*P	Pb	10 01 59.6	0.0
VOIR		**0.77**	**222**	⇓*i*P	Pb	10 01 59.6	0.0
VOIR				*i* S	Sb	10 02 09.9	+0.2
TESR	**Tescani**	**0.79**	**50**	S	Sb	10 02 10.4	+0.4
TESR	**Tescani**	**0.79**	**50**	*i* S	Sb

comp=Z,32nm,21.3s,baz=124,slow=29
CMAR Chiang Mai Arr 69.71 345 P P 10 26 15.2 +1.4
0.8nm,0.4s,baz=184,slow=6.6,SNR=4.7
TXAR Lajitas Array 144.93 112 PKP **PKPab 10 34 41.0 +0.6**
0.6nm,0.8s,baz=197,slow=3.9,SNR=7.6
PDAR Pinedale Array 149.60 87 PKPbc **PKPbc 10 34 53.8 +0.4**
0.4nm,0.9s,baz=216,slow=2.9,SNR=3.5
YKA Yellowknife Ar 151.32 46 PKPbc **PKPbc 10 34 56.5 +0.1**
0.8nm,0.6s,baz=282,slow=1.9,SNR=4.9

DJA 06 10:20:55.9±1.0, 8°S×70°6E±°, h42km±37km, M3.9/9, MLv3.9/9, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**1.43**	**42**	P	Pn	10 21 21.5	+2.1
CGJI	**Cibinong**	**1.46**	**4**	P	Pn	10 21 19.5	-0.3
CGJI				S	Sn	10 21 37.7	0.0
CNJI	**Cibinong**	**1.70**	**63**	P	Pn	10 21 22.0	-1.1
CNJI				S	Sn	10 21 35.3	-8.3
CBJI	**Citeko**	**2.06**	**37**	P	Pn	10 21 25.5	-2.6
CBJI				S	Sn	10 21 36.7	-16
CISI	**Cisompet, Garu**	**2.26**	**77**	P	Pn	10 21 28.9	-1.9
CISI				S	Sn	10 21 58.6	+1.1
LEM	**Lembang**	**2.36**	**58**	P	Pn	10 21 32.2	-0.1
CMJI	**Cimerak**	**2.84**	**84**	P	Pn	10 21 39.1	+0.4
KPJI	**Karang Pucung**	**3.38**	**78**	P	Pn	10 21 41.0	-5.2
KLSI		**3.48**	**346**	P	Pn	10 21 49.5	+2.0
MDSI	**Maura Dua**	**3.84**	**338**	P	Pn	10 21 50.6	-1.9

IDC 06 10:40:18.3±1.1, 50°27S×114°37E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.9/33, mbtmp3.9/5, Error ellipse: s-maj=56.0km s-min=21.0km az=107.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.36**	**359**	T	T	10 59 43.9	
	baz=179,slow=74,SNR=130						
H01W1	**Cape Leeuwin H**	**15.37**	**359**	T	T	10 59 44.1	
	baz=179,slow=74,SNR=118						
H01W3	**Cape Leeuwin H**	**15.38**	**359**	T	T	10 59 39.5	
	baz=179,slow=74,SNR=145						
ASAR	**Alice Springs**	**30.61**	**37**	P	P	10 46 33.4	-0.5
	1.2nm,0.8s,baz=208,slow=8.3,SNR=9.9						
WRA	**Warramunga Arr**	**34.16**	**35**	P	P	10 47 05.8	+0.7
	1.7nm,0.8s,baz=203,slow=8.3,SNR=7.2						
QSPA	**South Pole Qui**	**39.86**	**180**	P	P	10 47 53.9	+0.6
	1.6nm,0.9s,baz=322,slow=2.8,SNR=5.6						
SNAA	**Sanae**	**50.60**	**201**	P	P	10 49 17.9	-0.4
	0.9nm,1.0s,baz=141,slow=11,SNR=5.4						
H08S2	**Diego Garcia H**	**54.90**	**306**	T	T	11 48 43.0	
	baz=148,slow=76,SNR=5.1						
H08S1	**Diego Carcia H**	**54.91**	**306**	T	T	11 48 44.8	
	baz=148,slow=76,SNR=7.2						
H08S3	**Diego Garcia H**	**54.92**	**306**	T	T	11 48 46.2	
	baz=148,slow=76,SNR=6.1						
CMAR	**Chiang Mai Arr**	**69.77**	**344**	P	P	10 51 30.2	+0.2
	1.1nm,0.4s,baz=156,slow=6.5,SNR=2.9						
H10S2	**ASCENSION HYDR**	**106.29**	**233**	T	T	12 54 05.2	
	baz=146,slow=75,SNR=5.1						
H10S3	**ASCENSION HYDR**	**106.31**	**233**	T	T	12 54 00.1	
	baz=146,slow=75,SNR=3.8						
H10S1	**ASCENSION HYDR**	**106.31**	**233**	T	T	12 54 08.0	
	baz=146,slow=75,SNR=5.4						
TXAR	**Lajitas Array**	**144.60**	**112**	PKP	PKPab	10 59 54.3	-0.8
	0.4nm,0.9s,baz=217,slow=4.3,SNR=3.0						

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*IDC **06** 10:44:45.6±0.8, 8°.93S×157°.58E, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.1/35, mbtmp4.1/11, MS3.3/8, Ms1 3.3/8, ms1mx3.1/26, Error ellipse: s-maj=29.4km s-min=19.5km az=105.0*
*ISCJB **06** 10:44:47.4±0.6, 8°.9S±0°.1×157°.35E±0°.10, h17km, mb4.0/12, MS3.3/8, Error ellipse: s-maj=16.1km s-min=13.9km az=172.6*
ISC 06 10:44:48.6±0.7, 8°.9S±0°.1×157°.47E±0°.08, h17km, n19, σ1°33/14, mb4.1/12, MS3.2/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.50**	**102**	*e*P	**Pb**	**10 45 31.0**	**-2.1**
HNR				*i* S	**Sg**	**10 46 12.0**	**+2.8**
WRA	**Warramunga Arr**	**24.91**	**241**	P	**P**	**10 50 10.7**	**-0.3**
	3.4nm,0.7s,baz=67,slow=9.6,SNR=22						
WRA				PcP	**PcP**	**10 53 46.7**	**0.0**
	0.6nm,0.7s,baz=73,slow=2.7,SNR=5.2						
GUMO	**Guam**	**25.61**	**331**	LR	LR	10 59 04.9	
	comp=Z,52nm,21.5s,baz=132,slow=34						
ASAR	**Alice Springs**	**26.90**	**234**	P	**P**	**10 50 28.4**	**-0.6**
	0.9nm,1.0s,baz=64,slow=9.7,SNR=7.4						
STKA	**Stephens Creek**	**27.20**	**211**	P	**P**	**10 50 33.0**	**+1.4**
	4.4nm,0.8s,baz=47,slow=9.5,SNR=5.8						
URZ	**Urewera**	**34.17**	**152**	LR	LR	11 04 53.2	
	comp=Z,139nm,18.5s,baz=323,slow=35						
MJAR	**Matsushiro Arr**	**48.63**	**339**	LR	LR	11 11 44.3	
	comp=Z,22nm,21.9s,baz=225,slow=33						
PPT	**Papeete**	**52.12**	**105**	LR	LR	11 13 33.1	
	comp=Z,78nm,18.1s,baz=310,slow=33						
KSRS	**Korea Array**	**53.77**	**331**	P	**P**	**10 54 10.8**	**+0.7**
	0.4nm,0.3s,baz=146,slow=7.6,SNR=4.8						
KSRS				LR	LR	11 15 49.8	
	comp=Z,20nm,20.9s,baz=168,slow=35						
PETK	**Petropavlovsk-**	**61.77**	**0**	LR	LR	11 20 47.4	
	comp=Z,11nm,19.4s,baz=159,slow=35						
CMAR	**Chiang Mai Arr**	**63.81**	**296**	P	**P**	**10 55 21.8**	**+1.3**
	1.3nm,0.3s,baz=114,slow=5.8,SNR=5.5						
VNDA	**Vanda**	**68.63**	**179**	P	**P**	**10 55 50.6**	**+0.3**
	1.0nm,0.8s,baz=6.6,slow=1.5,SNR=4.0						
GTA	**Gaotai**	**71.80**	**316**	*e*P	P	10 56 14.4	+3.9
GTA				pP	pP	10 56 19.0	+2.9
GTA				sP	sP	10 56 21.4	+3.2
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
SONM	**Songino Array**	**72.26**	**327**	P	**P**	**10 56 13.8**	**+0.7**
	comp=Z,1.1nm,0.9s,baz=140,slow=5.8,SNR=7.0						
SONM				LR	LR	11 26 25.2	
	comp=Z,24nm,21.2s,baz=78,slow=35						
YAK	**Yakutsk**	**73.94**	**347**	LR	LR	11 26 40.8	
	comp=Z,19nm,21.3s,baz=158,slow=34						
QSPA	**South Pole Qui**	**81.09**	**180**	P	**P**	**10 57 01.7**	**-1.0**
	comp=Z,2.5nm,1.1s,baz=150,slow=1.7,SNR=7.4						
ILAR	**Eielson Array**	**84.25**	**21**	P	**P**	**10 57 18.1**	**-0.9**
	comp=Z,1.5nm,1.1s,baz=256,slow=5.3,SNR=7.7						
MKAR	**Makanchi Array**	**86.44**	**318**	P	**P**	**10 57 30.0**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=95,slow=6.2,SNR=6.7						
NVAR	**Mina Array Bea**	**90.98**	**51**	P	**P**	**10 57 52.2**	**-0.2**
	comp=Z,1.9nm,1.0s,baz=243,slow=7.1,SNR=9.2						

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*ISCJB **06** 10:45:24.3±0.4, 32°.28N±0°.02×115°.35W±0°.03, h9km±3km, Error ellipse: s-maj=3.7km s-min=3.5km az=18.5*
*ECX **06** 10:45:26.0±0.4, 32°.26N×115°.36W, h9km, MD3.0, ML3.2*
*NEIC **06** 10:45:26.0, 32°.26N×115°.36W, h9km, ML2.9(PAS), ML3.1(ECX), After ECX.*
*MEX **06** 10:45:26.2±1.0, 32°.31N×115°.23W, h10km, MD3.8*
ISC 06 10:45:24.3±0.9, 32°.24N±0°.02×115°.37W±0°.02, h10km±8km, n30, σ0°84/55, 1C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.19**	**17**	*e*P	**Pg**	**10 45 27.7**	**-0.6**
CPBX				*e*S	**Sg**	**10 45 30.7**	**-0.3**
CPBX	**Cerro Prieto**	**0.19**	**17**	*e*P	**Pg**	**10 45 28.5**	**+0.2**
CPBX				*e*S	**Sg**	**10 45 31.3**	**+0.3**
CPBX				*e*		10 45 38.1	
CPBX				IAML		10 45 38.1	
	comp=N,19μm,0.4s						
SGL	**Mount Signal**	**0.51**	**324**	*e*P	**Pg**	**10 45 34.9**	**+0.6**
DREC	**Desert Rsrch C**	**0.57**	**353**	*e*P	**Pb**	**10 45 36.1**	**-0.3**
RDX	**Rancho Dawling**	**0.58**	**238**	*e*P	**Pb**	**10 45 36.7**	**+0.1**
RDX				*e*S	**Sb**	**10 45 45.1**	**+0.2**
RDX				IAML		10 45 46.8	
	comp=N,814nm,0.3s						
EMSC	**East Mesa**	**0.60**	**33**	↓*i*P	**Pg**	**10 45 36.2**	**+0.3**
WESC	**Westside Schoo**	**0.61**	**330**	*e*P	**Pb**	**10 45 36.7**	**-0.3**
YUH	**Yuha Desert**	**0.62**	**311**	↑*i*P	**Pg**	**10 45 36.6**	**+0.2**
COA	**Coachella**	**0.66**	**18**	↓*i*P	**Pg**	**10 45 37.0**	**-0.1**
RMX	**La Rumorosa**	**0.70**	**301**	*e*P	**Pg**	**10 45 38.2**	**+0.3**
RMX				*e*S	**Sg**	**10 45 47.7**	**+0.5**
RMX				*e*		10 45 49.5	
RMX				IAML		10 45 49.5	
	comp=N,1μm,0.3s						
ECBX	**El Chinero**	**0.81**	**160**	*e*P	**Pg**	**10 45 40.1**	**+0.3**
ECBX				*e*S	**Sb**	**10 45 51.4**	**0.0**
GLA	**Glamis**	**0.93**	**29**	*e*Pg	**Pg**	**10 45 40.7**	**-1.5**
GLA				*e*Sg	**Sg**	**10 45 54.3**	**-0.1**
CBX	**Cerro Bola**	**1.10**	**274**	*e*P	**Pg**	**10 45 44.9**	**-0.5**
CBX				*e*S	**Sb**	**10 46 00.8**	**+0.8**
CBX	**Cerro Bola**	**1.10**	**274**	*e*P	**Pg**	**10 45 44.9**	**-0.5**
CBX				*e*S	**Sb**	**10 46 00.8**	**+0.8**
CBX	**Cerro Bola**	**1.10**	**274**	*e*P	**Pg**	**10 45 45.4**	**0.0**
CBX				*e*S	**Sb**	**10 46 00.1**	**+0.1**
BAR	**Barrett**	**1.19**	**292**	*e*Pg	**Pg**	**10 45 46.2**	**-0.9**
BAR				*e*Sg	**Sg**	**10 46 02.4**	**-0.2**
BAR	**Barrett**	**1.19**	**292**	*e*P	**Pg**	**10 45 46.5**	**-0.6**
BAR				*e*S	**Sg**	**10 46 02.4**	**-0.2**
SPIG	**San Pedro Mart**	**1.19**	**184**	*e*P	**Pg**	**10 45 46.8**	**-0.4**
SPIG				*e*S	**Sg**	**10 46 02.7**	**+0.1**
SPIG	**San Pedro Mart**	**1.19**	**184**	*e*P	**Pg**	**10 45 46.8**	**-0.4**
SPIG				*e*S	**Sg**	**10 46 02.7**	**+0.1**
SPX	**San Pedro Mart**	**1.19**	**184**	*e*P	**Pg**	**10 45 46.0**	**-1.2**
SPX				*e*S	**Sb**	**10 46 03.5**	**+0.8**
SPX	**San Pedro Mart**	**1.19**	**184**	*e*P	**Pg**	**10 45 46.8**	**-0.4**
SPX				*e*S	**Sb**	**10 46 03.7**	**+1.0**
ECNX	**Esteban Cantu**	**1.19**	**241**	*e*P	**Pg**	**10 45 47.1**	**-0.2**
ECNX				*e*S	**Sb**	**10 46 03.4**	**+0.8**
PBX	**Punta Banda**	**1.25**	**247**	*e*P	**Pn**	**10 45 47.9**	**0.0**
PBX				*e*S	**Sg**	**10 46 05.0**	**+0.3**
SDRC	**San Diego Road**	**1.42**	**291**	*e*P	**Pn**	**10 45 50.0**	**-0.1**
PFO	**Pinyon Flat Ob**	**1.65**	**327**	*e*Pn	**Pn**	**10 45 51.8**	**-1.6**
PFO				*e*Sn	**Sn**	**10 46 11.5**	**-3.2**
214A	**Organ Pipe Nat**	**2.19**	**97**	*e*Pn	**Pn**	**10 46 00.4**	**-0.4**
214A				*e*Pg	**Pg**	**10 46 07.2**	**+1.0**
214A				*e*Sn	**Sb**	**10 46 30.9**	**-0.3**
LDFC	**Landfair**	**2.84**	**4**	*e*Pn	**Pn**	**10 46 10.2**	**+0.4**
LDFC				*e*Pg	**Pg**	**10 46 20.2**	**+1.4**
LDFC				*e*Sg	**Sg**	**10 46 55.9**	**+0.3**
MWC	**Mount Wilson**	**3.00**	**312**	*e*Pn	**Pn**	**10 46 14.2**	**+2.1**
MWC				*e*Sg	**Sg**	**10 47 00.2**	**-0.6**
GSC	**Goldstone**	**3.28**	**339**	*e*Pn	**Pn**	**10 46 16.4**	**+0.5**
GSC				*e*Sn	**Sn**	**10 46 56.3**	**+1.2**
WUAZ	**Wupatki**	**4.66**	**44**	*e*Pn	**Pn**	**10 46 35.7**	**+0.8**
WUAZ				*e*Sg	**Sg**	**10 47 53.1**	**-0.9**

IDC 06 10:47:14.5±2.4, 49°.96S×113°.29E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/29, mbtmp3.8/4, MS3.4/1, Ms1 3.3/1, ms1mx2.7/23, Error ellipse: s-maj=137.7km s-min=21.0km az=114.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.06**	**3**	T	T	11 06 31.3	
	baz=179,slow=74,SNR=140						
H01W1	**Cape Leeuwin H**	**15.07**	**3**	T	T	11 06 36.7	
	baz=179,slow=74,SNR=145						
H01W3	**Cape Leeuwin H**	**15.08**	**3**	T	T	11 06 32.2	
	baz=179,slow=74,SNR=139						
STKA	**Stephens Creek**	**27.75**	**60**	LR	LR	11 02 32.3	
	comp=Z,81nm,19.3s,baz=220,slow=33						
ASAR	**Alice Springs**	**30.79**	**39**	P	P	10 53 31.6	-0.2
	1.3nm,0.7s,baz=208,slow=7.6,SNR=21						
WRA	**Warramunga Arr**	**34.32**	**37**	P	P	10 54 02.1	-0.6
	1.9nm,0.8s,baz=202,slow=9.7,SNR=7.7						
QSPA	**South Pole Qui**	**40.17**	**180**	P	P	10 54 51.2	-0.9
	1.3nm,0.7s,baz=284,slow=1.3,SNR=13						
SNAA	**Sanae**	**50.64**	**202**	P	P	10 56 14.9	0.0
	0.7nm,0.7s,baz=135,slow=14,SNR=6.2						
H08S2	**Diego Garcia H**	**54.15**	**307**	T	T	11 55 39.5	
	baz=148,slow=76,SNR=5.5						
H08S1	**Diego Carcia H**	**54.16**	**307**	T	T	11 55 44.5	
	baz=148,slow=76,SNR=5.8						
H08S3	**Diego Garcia H**	**54.17**	**307**	T	T	11 55 47.8	
	baz=148,slow=76,SNR=5.6						
H10S2	**ASCENSION HYDR**	**105.91**	**234**	T	T	13 00 59.7	
	baz=146,slow=75,SNR=11						
H10S3	**ASCENSION HYDR**	**105.93**	**234**	T	T	13 01 02.2	
	baz=146,slow=75,SNR=8.7						
H10S1	**ASCENSION HYDR**	**105.93**	**234**	T	T	13 01 02.1	
	baz=146,slow=75,SNR=8.5						
TXAR	**Lajitas Array**	**145.37**	**113**	PKPbc	PKPab	11 06 54.8	+0.6
	0.3nm,0.9s,baz=216,slow=4.5,SNR=2.6						

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*IDC **06** 10:49:35.5±1.0, 0°.02N×96°.81E, h0km, mb3.9/10, mb1 4.0/12, mb1mx3.8/48, mbtmp3.9/12, ML3.9/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/41, Error ellipse: s-maj=29.8km s-min=18.6km az=54.0*
*ISCJB **06** 10:49:36.9±0.6, 0°.02S±0°.06×96°.97E±0°.05, h22km, mb4.0/11, MS3.5/2, Error ellipse: s-maj=9.4km s-min=5.7km az=40.1*
*DJA **06** 10:49:36.6±3.5, 0°N±10°×9°7E±2°7, h27km±18km, M4.1/7, mb4.3/2, MLv4.1/7*
ISC 06 10:49:39.2±0.9, 0°.05N±0°.06×97°.00E±0°.09, h22km, n28, σ1°71/26, mb4.1/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**1.28**	**95**	P	**Pn**	**10 50 01.3**	**-0.5**
PBSI				S	**Sn**	**10 50 17.5**	**-0.8**
GSI	**Gunungsitoli**	**1.37**	**25**	P	**Pn**	**10 50 01.1**	**-1.9**
SISI	**Saibi**	**2.50**	**123**	P	**Pn**	**10 50 17.7**	**-0.8**
SISI				S	**Sn**	**10 50 45.5**	**-2.8**
MNSI	**Mandailing Nat**	**2.68**	**74**	P	**Pn**	**10 50 20.2**	**-0.8**
PSI	**Prapat**	**3.34**	**35**	Pn	**Pn**	**10 50 28.0**	**-2.2**
	1.7nm,0.3s,baz=176,slow=16,SNR=3.5						
PSI				Sn	**Sn**	**10 51 11.8**	**+2.5**
	2.3nm,0.3s,baz=359,slow=14,SNR=3.8						
PPI	**Padang Panjang**	**3.43**	**98**	P	**Pn**	**10 50 31.4**	**0.0**
PPI				S	**Sn**	**10 51 09.7**	**-1.7**
MNAI	**Manna**	**7.39**	**126**	P	**Pn**	**10 51 25.1**	**-0.7**
MDSI	**Maura Dua**	**8.47**	**122**	P	**Pn**	**10 51 40.9**	**+0.3**
PALK	**Pallekele**	**17.77**	**294**	LR	LR	10 58 59.3	
	comp=Z,54nm,19.4s,baz=116,slow=32						
CMAR	**Chiang Mai Arr**	**18.39**	**6**	P	**P**	**10 53 51.5**	**-1.3**
	0.6nm,0.3s,baz=195,slow=12,SNR=8.4						
H08S2	**Diego Garcia H**	**25.60**	**252**	T	T	11 22 14.9	
	baz=72,slow=75,SNR=54						
H08S3	**Diego Garcia H**	**25.61**	**252**	T	T	11 22 15.2	
	baz=72,slow=75,SNR=55						
H08S1	**Diego Carcia H**	**25.62**	**252**	T	T	11 22 19.0	
	baz=72,slow=75,SNR=54						
H01W3	**Cape Leeuwin H**	**38.27**	**157**	T	T	11 37 37.6	
	baz=331						
H01W2	**Cape Leeuwin H**	**38.28**	**157**	T	T	11 37 38.2	
	baz=331						
H01W1	**Cape Leeuwin H**	**38.28**	**157**	T	T	11 37 38.6	
	baz=331						
WRA	**Warramunga Arr**	**41.61**	**121**	P	**P**	**10 57 26.6**	**+0.6**
	1.0nm,0.4s,baz=302,slow=8.9,SNR=13						
HHC	**Hu-ho-hao-te**	**42.71**	**16**	*e*P	**P**	**10 57 37.4**	**+2.7**
HHC				PP	PP	10 59 19.3	+5.2
HHC				S	**S**	**11 04 00.2**	**+3.0**
HHC				SS	**SS**	**11 07 04.5**	**-3.8**
HHC				pmax	pmax		
	comp=Z,13nm,1.1s						
HHC				pmax	pmax		
	comp=Z,74nm,5.5s						
HHC				LR	LR		
	comp=N,92nm,14.3s						
HHC				LR	LR		
	comp=E,120nm,15.7s						
HHC				LR	LR		
	comp=Z,54nm,15.9s						
ASAR	**Alice Springs**	**42.88**	**126**	P	**P**	**10 57 37.0**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=302,slow=7.7,SNR=8.0						
KSRS	**Korea Array**	**46.90**	**34**	P	**P**	**10 58 10.1**	**+2.1**
	comp=Z,1.5nm,0.8s,baz=219,slow=8.2,SNR=7.0						
SONM	**Songino Array**	**48.29**	**8**	P	**P**	**10 58 19.1**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=189,slow=9.8,SNR=2.8						
MKAR	**Makanchi Array**	**48.30**	**346**	P	**P**	**10 58 18.9**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=157,slow=7.7,SNR=9.8						
ZALV	**Zalesovo Beam**	**54.65**	**351**	P	**P**	**10 59 06.1**	**-0.1**
	comp=Z,3.0nm,0.3s,baz=194,slow=6.4,SNR=10						
BVAR	**Borovoye Array**	**57.26**	**341**	P	**P**	**10 59 24.0**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=144,slow=5.4,SNR=2.3						
BVAR				LR	LR	11 26 00.3	
	comp=Z,23nm,21.4s,baz=80,slow=38						
BRTR	**Keskin Array B**	**69.74**	**313**	P	**P**	**11 00 47.0**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=127,slow=7.9,SNR=5.4						
FINES	**FINESS Array B**	**80.92**	**333**	P	**P**	**11 01 51.1**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=123,slow=7.0,SNR=3.9						
ARCES	**ARCESS Array B**	**83.54**	**340**	P	**P**	**11 02 05.2**	**0.0**
	comp=Z,1.5nm,0.6s,baz=108,slow=5.4,SNR=14						
TXAR	**Lajitas Array**	**144.74**	**32**	PKP	PKPbc	11 09 14.3	+0.2
	comp=Z,0.5nm,0.7s,baz=221,slow=1.3,SNR=6.9						

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*ISCJB **06** 11:02:06.0±1.0, 50°.1S±0°.2×113°.7E±0°.4, h10km, mb4.0/8, MS3.8/12, Error ellipse: s-maj=43.3km s-min=12.3km az=28.1*
*IDC **06** 11:02:06.9±1.2, 50°.11S×113°.68E, h0km, mb4.0/7, mb1 4.1/7, mb1mx4.0/21, mbtmp4.0/7, MS3.8/12, Ms1 3.7/12, ms1mx3.5/30, Error ellipse: s-maj=55.9km s-min=16.4km az=119.0*
*NEIC **06** 11:02:08.4±0.7, 50°.11S×113°.71E, h10km, mb4.7/1, Error ellipse: s-maj=35.5km s-min=10.3km az=118.0*
ISC 06 11:02:08.5±1.2, 50°.1S±0°.2×113°.7E±0°.3, h10km, n27, σ0°74/11, mb4.0/8, MS3.7/12, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.23**	**1**	T	T	11 21 22.4	
	baz=179,slow=74,SNR=468						
H01W1	**Cape Leeuwin H**	**15.23**	**1**	T	T	11 21 28.5	
	baz=179,slow=74,SNR=473						
H01W3	**Cape Leeuwin H**	**15.24**	**1**	T	T	11 21 22.9	
	baz=179,slow=74,SNR=409						
STKA	**Stephens Creek**	**27.59**	**59**	P	**P**	**11 07 55.5**	**-0.2**
	4.7nm,1.1s,baz=143,slow=10,SNR=2.9						
STKA				LR	LR	11 16 44.0	
	comp=Z,227nm,22.0s,baz=210,slow=32						
MAW	**Mawson**	**30.39**	**216**	P	**P**	**11 08 19.6**	**-0.6**
	0.7nm,0.3s,baz=70,slow=11,SNR=4.9						
MAW				LR	LR	11 18 31.7	
	comp=Z,104nm,20.4s,baz=62,slow=32						
ASAR	**Alice Springs**	**30.75**	**38**	P	**P**	**11 08 23.4**	**-0.5**
	2.2nm,0.8s,baz=210,slow=7.6,SNR=22						
ASAR				LR	LR	11 19 02.9	
	comp=Z,192nm,20.8s,baz=201,slow=33						
VNDA	**Vanda**	**32.80**	**163**	P	**P**	**11 08 41.3**	**-0.1**
	0.4nm,0.7s,baz=292,slow=18,SNR=2.0						
WRA	**Warramunga Arr**	**34.29**	**36**	P	**P**	**11 08 54.3**	**-0.5**
	4.2nm,0.9s,baz=202,slow=10,SNR=18						
WRAB	**Tennant Creek**	**34.30**	**36**	*e*P	**P**	**11 08 54.3**	**-0.6**
	7.7nm,0.8s						
RPZ	**Rata Peaks**	**38.82**	**103**	LR	LR	11 21 59.1	
	comp=Z,706nm,21.9s,baz=265,slow=31						
QSPA	**South Pole Qui**	**39.99**	**180**	P	**P**	**11 09 42.5**	**-0.6**
	2.9nm,1.0s,baz=184,slow=0.7,SNR=8.7						
QSPA				LR	LR	11 25 37.1	
	comp=Z,262nm,18.4s,baz=351,slow=35						
LEM	**Lembang**	**43.47**	**351**	LR	LR	11 24 22.1	
	comp=Z,190nm,21.2s,slow=31						
KAPI	**Kappang**	**45.25**	**8**	LR	LR	11 30 04.0	
	comp=Z,60nm,18.1s,baz=210,slow=37						
SNAA	**Sanae**	**50.58**	**201**	P	**P**	**11 11 07.2**	**+0.5**
	1.1nm,0.9s,baz=161,slow=15,SNR=8.8						
SNAA				LR	LR	11 32 49.9	
	comp=Z,31nm,18.1s,baz=154,slow=36						
H08S2	**Diego Garcia H**	**54.49**	**307**	T	T	12 10 36.3	
	baz=148,slow=76,SNR=10						
H08S1	**Diego Carcia H**	**54.50**	**307**	T	T	12 10 32.0	
	baz=148,slow=76,SNR=13						
H08S3	**Diego Garcia H**	**54.51**	**307**	T	T	12 10 35.0	
	baz=148,slow=76,SNR=10						
BOSA	**Boshof**	**67.69**	**252**	LR	LR	11 36 30.4	
	comp=Z,57nm,18.9s,baz=124,slow=30						
GUMO	**Guam**	**69.09**	**33**	LR	LR	11 43 20.1	
	comp=Z,24nm,18.4s,baz=178,slow=36						
CMAR	**Chiang Mai Arr**	**69.53**	**345**	LR	LR	11 40 23.8	
	comp=Z,40nm,20.3s,baz=181,slow=33						
SONM	**Songino Array**	**97.79**	**355**	LR	LR	11 59 39.4	
	comp=Z,31nm,20.9s,baz=154,slow=35						
H10S2	**ASCENSION HYDR**	**106.04**	**234**	T	T	13 15 50.5	
	baz=146,slow=75,SNR=10						
H10S3	**ASCENSION HYDR**	**106.06**	**234**	T	T	13 15 52.3	
	baz=146,slow=75,SNR=11						
H10S1	**ASCENSION HYDR**	**106.06**	**234**	T	T	13 15 55.9	
	baz=146,slow=75,SNR=12						
TXAR	**Lajitas Array**	**145.03**	**112**	PKPbc	**PKPdf**	**11 21 46.1**	**+0.3**
	0.4nm,0.7s,baz=205,slow=5.5,SNR=4.6						
MSU	**Marysvale**	**145.68**	**92**	*e*PKPdf	**PKPdf**	**11 21 48.1**	**+1.2**
PDAR	**Pinedale Array**	**149.63**	**87**	PKPbc	**PKPbc**	**11 21 58.9**	**+1.0**
	0.3nm,0.8s,baz=221,slow=3.6,SNR=3.2						

NNC 06 11:04:14.7±3.0, 38°.56N×71°.19E, h0km, mb3.6, mpv3.3, 8C-4D, Error ellipse: s-maj=29.9km s-min=16.1km az=156.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**1.87**	**278**	↑Pn	Pn	11 04 48.4	+0.2
	60nm,0.6s						
DZET				↑Lg	Lg	11 05 17.2	
	68nm,0.4s						
SFK	**Sufi-Kurgan**	**2.31**	**50**	↑Pn	Pn	11 04 53.8	-0.5
	17nm,0.3s						
SFK				↓Lg	Lg	11 05 28.3	

baz=179,slow=74
STKA **Stephens Creek** 27.74 59 LR LR 11 34 11.2
comp=Z,75nm,20.8s,baz=203,slow=32
MAW **Mawson** 30.19 216 LR LR 11 35 49.7
comp=Z,93nm,19.7s,baz=61,slow=32
ASAR **Alice Springs** 30.95 38 P P 11 25 47.5 +0.2
1.2nm,0.8s,baz=206,slow=7.8,SNR=14
ASAR LR LR 11 37 11.1
comp=Z,66nm,18.9s,baz=186,slow=34
WRA **Warramunga Arr** 34.49 36 P P 11 26 18.0 -0.3
2.1nm,0.9s,baz=204,slow=8.7,SNR=7.1
QSPA **South Pole Qui** 39.79 180 P P 11 27 02.7 -0.3
1.0nm,0.8s,baz=347,slow=0.8,SNR=8.4
SNAA **Sanae** 50.37 202 P P 11 28 26.8 -0.1
0.3nm,0.9s,baz=158,slow=19,SNR=3.8
CMAR **Chiang Mai Arr** 69.72 345 P P 11 30 41.6 +1.5
1.9nm,0.3s,baz=187,slow=6.4,SNR=4.9
LBTB **Lobatse** 69.97 255 LR LR 11 54 54.3
comp=Z,70nm,21.5s,baz=143,slow=30
TXAR **Lajitas Array** 145.00 113 PKPbc PKPbc 11 39 06.3 -0.7
0.3nm,0.7s,baz=202,slow=6.2,SNR=3.4

JMA 06 11:27:25.8±0.5, 32.84N×142.44E, h0km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	2.18	326	P	Pn	11 28 04.0	+1.4
BSO1				S	Sb	11 28 32.3	-0.2
BSO2	**Boso 2**	2.37	324	S	Sb	11 28 37.9	-0.6
BSO3	**Boso 3**	2.53	321	S	Sb	11 28 41.9	-1.4
BSO4	**Boso 4**	2.77	321	S	Sb	11 28 48.1	-2.3
JOD2	**Odawara 2**	3.69	312	S	Sn	11 29 10.9	+2.6
JYT	**Yasato**	3.85	332	S	Sn	11 29 13.0	+0.7
JHU	**Hanno**	3.98	320	P	Pn	11 28 30.4	+2.3
JHU				S	Sn	11 29 16.9	+1.4
JHO	**Hitachi**	4.07	338	P	Pn	11 28 30.3	+1.0

IDC 06 11:28:00.6±19.0, 31.15S×179.33W, h386km±180km, mb3.6/4, mb1 3.7/4, mb1mx3.2/29, mbtmp4.3/4, Error ellipse: s-maj=112.9km s-min=24.0km az=55.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	32.81	281	P	P	11 34 00.6	+0.8
	6.2nm,0.9s,baz=118,slow=9.6,SNR=4.1						
ASAR	**Alice Springs**	41.94	268	P	P	11 35 14.9	-0.5
	3.2nm,0.9s,baz=106,slow=6.9,SNR=23						
WRA	**Warramunga Arr**	42.99	274	P	P	11 35 23.6	-0.2
	2.0nm,0.6s,baz=112,slow=7.9,SNR=23						
QSPA	**South Pole Qui**	58.96	180	P	P	11 37 20.6	-0.1
	4.3nm,1.0s,baz=359,slow=0.4,SNR=9.1						
FINES	**FINESS Array B**	145.44	339	PKPbc	PKPdf	11 46 52.4	0.0
	2.8nm,0.9s,baz=20,slow=4.4,SNR=6.2						
BRTR	**Keskin Array B**	151.93	297	PKPbc	PKPbc	11 47 10.6	0.0
	0.3nm,0.3s,baz=63,slow=4.1,SNR=3.1						

IDC 06 11:36:56.5±1.1, 50.40S×114.09E, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/25, mbtmp3.8/5, MS3.9/2, Ms1 3.9/2, ms1mx3.1/28, Error ellipse: s-maj=58.3km s-min=20.1km az=108.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	15.49	0	T	T	11 56 28.1	
	baz=180,slow=74,SNR=237						
H01W1	**Cape Leeuwin H**	15.50	0	T	T	11 56 28.5	
	baz=180,slow=74,SNR=183						
H01W3	**Cape Leeuwin H**	15.51	0	T	T	11 56 29.4	
	baz=180,slow=74,SNR=173						
ASAR	**Alice Springs**	30.83	37	P	P	11 43 14.4	+0.3
	1.2nm,0.8s,baz=203,slow=8.0,SNR=15						
WRA	**Warramunga Arr**	34.38	35	P	P	11 43 44.9	-0.3
	2.0nm,0.8s,baz=203,slow=8.7,SNR=10.0						
QSPA	**South Pole Qui**	39.73	180	P	P	11 44 30.3	-0.1
	2.0nm,0.7s,baz=310,slow=2.0,SNR=21						
QSPA				LR	LR	11 59 29.3	
	comp=Z,215nm,21.4s,baz=29,slow=34						
SNAA	**Sanae**	50.41	201	P	P	11 45 55.0	-0.1
	0.3nm,0.7s,baz=141,slow=11,SNR=5.5						
OPO	**Ambohidratompo**	61.22	275	LR	LR	12 05 52.4	
	comp=Z,95nm,22.0s,baz=24,slow=28						
CMAR	**Chiang Mai Arr**	69.85	345	P	P	11 48 08.6	-0.2
	0.5nm,0.4s,baz=197,slow=7.0,SNR=4.1						
TXAR	**Lajitas Array**	144.72	112	PKP	PKPbc	11 56 34.3	+0.4
	0.3nm,0.8s,baz=218,slow=4.2,SNR=3.4						

MAN 06 11:37:35, 9.80N×126.65E, h30km, mb4.4, ML3.2, MS3.0, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	1.14	269	*e*P	Pn	11 37 54.7	-0.3
BUTP	**Butuan**	1.30	231	*e*P	Pn	11 37 57.1	-0.1
BUTP				*e*S	Sn	11 38 13.9	+0.2
MSLP	**Maasin**	1.79	281	*e*P	Pn	11 38 04.5	+0.6
MSLP				*e*S	Sn	11 38 27.2	+1.5
PLP	**Palo**	2.13	310	*e*P	Pn	11 38 10.0	+1.4
PLP				*e*S	Sn	11 38 34.9	+0.9
BUKP	**Musuan**	2.47	220	*e*P	Pb	11 38 16.6	-2.2
BUKP				*e*S	Sb	11 38 46.2	-2.6
TBP	**Tagbilaran**	2.75	268	*e*P	Pn	11 38 18.5	+1.5
TBP				*e*S	Sn	11 38 50.7	+1.4
CNP	**Catarman**	3.33	324	*e*P	Pn	11 38 26.5	+1.5
CNP				*e*S	Sn	11 39 04.7	+1.1
PAGZ	**Pagadian**	3.76	239	*e*P	Pn	11 38 33.6	+2.5
GUIM	**Jordan**	4.08	282	*e*P	Pn	11 38 36.7	+1.4

*ISCJB **06** 11:46:55.0±0.6, 50.39S±0.08×113.8E±0.3, h10km, mb4.4/10, MS3.5/4, Error ellipse: s-maj=25.8km s-min=8.7km az=17.3*
*IDC **06** 11:46:55.3±0.8, 50.31S×113.67E, h0km, mb4.3/8, mb1 4.4/8, mb1mx4.2/32, mbtmp4.3/8, MS3.6/4, Ms1 3.5/4, ms1mx3.1/26, Error ellipse: s-maj=36.2km s-min=15.6km az=113.0*
*NEIC **06** 11:46:56.8±0.4, 50.38S×113.81E, h10km, mb4.7/3, Error ellipse: s-maj=20.1km s-min=6.4km az=112.0*
ISC 06 11:46:57.0±0.7, 50.40S±0.10×113.8E±0.2, h10km, n33, σ0961/22, mb4.4/10, MS3.5/4, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	15.49	1	T	T	12 06 30.8	
	baz=179,slow=74,SNR=520						
H01W1	**Cape Leeuwin H**	15.50	1	T	T	12 06 29.1	
	baz=179,slow=74,SNR=537						
H01W3	**Cape Leeuwin H**	15.51	1	T	T	12 06 29.3	
	baz=179,slow=74,SNR=539						
CASY	**Casey**	16.02	185	*e*Pn	Pn	11 50 41.8	-0.2
	17nm,0.9s						
BLDU	**Ballidu**	19.88	7	P	Pn	11 51 29.4	-0.5
	baz=4.1,SNR=9.3						
MORW	**Morawa**	21.37	5	P	P	11 51 45.3	+0.9
	baz=5.5,SNR=8.9						
FORT	**Forrest**	22.31	34	P	P	11 51 55.8	+1.2
	baz=6.2,SNR=8.8						
FORT	**Forrest**	22.31	34	*e*P	P	11 51 55.4	+0.9
	35nm,1.0s						
STKA	**Stephens Creek**	27.68	59	P	P	11 52 44.9	-0.1
	2.5nm,0.8s,baz=198,slow=6.1,SNR=12						
STKA				LR	LR	12 01 13.8	
	comp=Z,65nm,21.7s,baz=208,slow=31						
STKA	**Stephens Creek**	27.68	59	*e*P	P	11 52 45.0	0.0
WRKA	**Warakurna**	27.69	29	P	P	11 52 45.4	+0.3
	baz=9.7,SNR=8.5						
MAW	**Mawson**	30.20	216	P	P	11 53 07.5	+0.4
	3.6nm,0.9s,baz=90,slow=12,SNR=4.6						
MAW				LR	LR	12 02 27.4	
	comp=Z,76nm,21.7s,baz=62,slow=31						
ASAR	**Alice Springs**	30.93	38	P	P	11 53 13.4	-0.5
	6.3nm,0.8s,baz=207,slow=7.7,SNR=57						
AS31	**Alice Springs**	30.93	38	*e*P	P	11 53 13.3	-0.7
VNDA	**Vanda**	32.53	162	P	P	11 53 27.3	-0.2
	1.0nm,0.7s,baz=296,slow=6.3,SNR=6.5						
WRA	**Warramunga Arr**	34.49	36	P	P	11 53 44.3	-0.7
	8.9nm,0.8s,baz=204,slow=8.7,SNR=30						
WRAB	**Tennant Creek**	34.49	36	*e*P	P	11 53 44.6	-0.4
	35nm,1.6s						
QSPA	**South Pole Qui**	39.73	180	P	P	11 54 29.5	+0.2
	6.8nm,0.7s,baz=315,slow=1.4,SNR=78						
SNAA	**Sanae**	50.35	202	P	P	11 55 53.8	+0.3
	1.4nm,0.7s,baz=145,slow=13,SNR=26						
PSI	**Prapat**	54.52	342	LR	LR	12 16 21.3	
	comp=Z,67nm,19.0s,baz=91,slow=32						
H08S2	**Diego Garcia H**	54.69	307	T	T	12 55 22.6	
	baz=149,slow=76,SNR=4.0						
H08S1	**Diego Carcia H**	54.70	307	T	T	12 55 23.4	
	baz=149,slow=76,SNR=3.2						
H08S3	**Diego Garcia H**	54.71	307	T	T	12 55 24.1	
	baz=149,slow=76,SNR=4.4						
PALK	**Pallekele**	64.20	323	LR	LR	12 18 20.8	
	comp=Z,76nm,19.9s,baz=166,slow=29						
CMAR	**Chiang Mai Arr**	69.80	345	P	P	11 58 06.3	-1.0
	1.2nm,0.5s,baz=190,slow=4.6,SNR=2.5						
H10S2	**ASCENSION HYDR**	105.92	234	T	T	14 00 32.4	
	baz=146,slow=75,SNR=6.8						
H10S3	**ASCENSION HYDR**	105.94	234	T	T	14 00 29.5	
	baz=146,slow=75,SNR=6.1						
H10S1	**ASCENSION HYDR**	105.94	234	T	T	14 00 28.8	
	baz=146,slow=75,SNR=5.7						
TXAR	**Lajitas Array**	144.88	113	PKPbc	PKPdf	12 06 34.0	-0.1
	0.4nm,0.7s,baz=183,slow=4.9,SNR=5.4						
ELK	**Elko**	144.91	87	PKPbc	PKPdf	12 06 34.3	+0.4
	1.6nm,0.7s,baz=259,slow=5.3,SNR=9.5						
ANMO	**Albuquerque**	147.07	102	PKPbc	PKPbc	12 06 39.0	-0.8
	0.9nm,0.8s,baz=249,slow=14,SNR=2.6						
PDAR	**Pinedale Array**	149.59	88	PKPbc	PKPbc	12 06 46.3	0.0
	0.5nm,0.8s,baz=64,slow=8.4,SNR=4.2						
YKA	**Yellowknife Ar**	151.37	46	PKPbc	PKPbc	12 06 49.7	+0.2
	1.2nm,0.8s,baz=284,slow=2.3,SNR=4.4						

IDC 06 11:49:12.4±4.7, 30.21S×178.54W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.5/32, mbtmp3.6/2, Error ellipse: s-maj=243.3km s-min=72.6km az=166.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	42.66	267	P	P	11 57 10.4	-0.7
	0.3nm,0.6s,baz=107,slow=7.1,SNR=6.3						
WRA	**Warramunga Arr**	43.63	272	P	P	11 57 19.3	+0.4
	1.0nm,1.0s,baz=112,slow=7.9,SNR=5.8						
FINES	**FINESS Array B**	144.81	340	PKP	PKPbc	12 08 50.0	+0.3
	1.2nm,0.8s,baz=56,slow=2.5,SNR=4.4						

MAN 06 11:52:35, 9.82N×126.64E, h24km, mb4.6, ML3.5, MS3.4, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	1.14	268	*e*P	Pn	11 52 55.2	-0.2
BUTP	**Butuan**	1.31	230	*e*P	Pn	11 52 57.8	-0.1
MSLP	**Maasin**	1.78	280	*e*P	Pn	11 53 04.6	+0.3
MSLP				*e*S	Sn	11 53 27.4	+1.2
PLP	**Palo**	2.11	309	*e*P	Pn	11 53 10.5	+1.7
PLP				*e*S	Sn	11 53 33.4	-1.0
CGP	**Cagayan de Oro**	2.35	235	*e*P	Pn	11 53 12.7	+0.5
CGP				*i* S	Sn	11 53 38.9	-1.4
BUKP	**Musuan**	2.48	219	*e*P	Pb	11 53 17.6	-1.4
TBP	**Tagbilaran**	2.74	268	*e*P	Pn	11 53 18.8	+1.3
TBP				*e*S	Sn	11 53 51.4	+1.4
CNP	**Catarman**	3.30	324	*e*P	Pn	11 53 26.0	+0.8
PAGZ	**Pagadian**	3.77	239	*e*P	Pn	11 53 33.7	+2.0
GUIM	**Jordan**	4.07	282	*e*P	Pn	11 53 37.0	+1.3

*ISCJB **06** 11:53:01.4±0.3, 2.35N±0.03×99.05E±0.04, h150km±3km, mb4.2/20, Error ellipse: s-maj=7.0km s-min=4.4km az=166.2*
*NEIC **06** 11:53:02.8±0.4, 2.31N×99.10E, h151km±3km, mb4.3/7, Error ellipse: s-maj=8.4km s-min=5.4km az=56.0*
*IDC **06** 11:53:02.3±0.7, 2.36N×99.19E, h142km±4km, mb3.9/12, mb1 4.0/13, mb1mx3.7/39, mbtmp4.4/13, Error ellipse: s-maj=35.3km s-min=11.0km az=48.0*
*DJA **06** 11:53:03.4±0.2, 2.1N±2.9×9.9E±., h128km±3km, M4.4/19, mb4.6/19, mB5.0/9, MLv4.4/17, Mw(mB)4.4/9*
ISC 06 11:53:02.3±0.7, 2.34N±0.04×99.09E±0.05, h144km±7km, n65, σ1920/68, mb4.3/20, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	0.49	340	P	Pn	11 53 23.9	+0.9
	48nm,0.3s,baz=331,slow=14,SNR=140						
PSI				S	Sn	11 53 39.0	+0.2
	78nm,0.3s,baz=17,slow=20,SNR=91						
TSI	**Tuntungan**	1.27	336	P	Pn	11 53 27.8	-1.2
MNSI	**Mandailing Nat**	1.61	162	P	Pn	11 53 34.2	+1.6
GSI	**Gunungsitoli**	1.83	236	P	Pn	11 53 36.0	+0.9
GSI				S	Sn	11 53 58.9	-1.3
GSI	**Gunungsitoli**	1.83	236	*e*Pn	Pn	11 53 35.8	+0.8
GSI				*e*Sn	Sn	11 54 00.5	+0.3
PBSI	**Pulau Batu**	2.51	199	P	Pn	11 53 44.0	+0.7
PBSI				S	Sn	11 54 14.6	-0.3
BKNI	**Bangkinang**	2.79	136	P	Pn	11 53 48.1	+1.3
BKNI	**Bangkinang**	2.79	136	P	Pn	11 53 48.3	+1.5
	baz=2.8,SNR=15						
BKNI	**Bangkinang**	2.79	136	*e*Pn	Pn	11 53 48.3	+1.5
IPM	**Ipoh**	2.87	42	*e*Pn	Pn	11 53 49.4	+1.5
IPM				*e*Sn	Sn	11 54 22.4	-0.6
PPI	**Padang Panjang**	3.07	155	P	Pn	11 53 51.8	+1.5
PPI	**Padang Panjang**	3.07	155	P	Pn	11 53 51.8	+1.5
	baz=3.0,SNR=12						
KULM	**Kulim**	3.32	28	*e*Pn	Pn	11 53 53.9	+0.4
KULM				*e*Sn	Sn	11 54 30.5	-2.6
LHMI	**Lhok Sumawe**	3.58	323	P	Pn	11 53 57.8	+0.9
LHMI	**Lhok Sumawe**	3.58	323	P	Pn	11 53 57.9	+1.1
	baz=3.6,SNR=9.5						
LHMI	**Lhok Sumawe**	3.58	323	*e*Pn	Pn	11 53 58.0	+1.1
LHMI				*e*Sn	Sn	11 54 38.0	-1.2
SISI	**Saibi**	3.64	180	P	Pn	11 53 56.3	-1.4
SKLT	**Songkhla**	5.03	18	P	Pn	11 54 16.1	0.0
	85nm,0.8s,888nm0.3nm						
TRTT	**Trang**	5.49	6	P	Pn	11 54 21.7	-0.5
	212nm,1.0s,2μm0.7nm						
PKDT	**Phuket**	5.57	352	P	Pn	11 54 22.8	-0.4
	163nm,0.6s,1.3nm						
SRIT	**Nakonsritamara**	6.24	5	P	Pn	11 54 32.0	-0.1
	132nm,1.0s,20μm0.6nm						
MASI	**Maura Aman, Be**	6.29	150	P	Pn	11 54 33.5	+0.6
	163nm,0.9s,2μm0.7nm						
SURT	**Suratani**	6.58	357	P	Pn	11 54 36.1	-0.6
	26nm,1.0s,358nm0.1nm						
LHSI	**Lahat**	7.56	144	P	Pn	11 54 49.7	-0.2
	158nm,0.5s,2μm0.8nm						
MNAI	**Manna**	7.70	150	P	Pn	11 54 50.1	-1.6
	baz=7.7,SNR=9.2						
MDSI	**Maura Dua**	8.47	143	P	Pn	11 55 00.8	-1.3
	40nm,1.2s,484nm						
LWLI	**Liwa**	8.84	146	P	Pn	11 55 12.2	+5.2
KLSI		8.97	141	P	Pn	11 55 08.1	-0.7
	76nm,0.7s						
KSM	**Kuching**	11.24	94	P	Pn	11 55 41.5	+2.6
	baz=11,SNR=3.3						
STKI	**Sintang**	12.59	100	P	P	11 56 00.3	-1.9
	37nm,0.5s,25μm						
CISI	**Cisompet, Garu**	13.13	139	P	Pn	11 55 58.6	-5.0
	baz=13,SNR=4.5						
SKNT	**Sakolnakorn**	15.32	18	P	P	11 56 33.8	+1.3
	15nm,1.1s,2μm						
CM31	**Chiang Mai Arr**	16.02	359	*e*Pn	P	11 56 41.1	+0.8
CMAR	**Chiang Mai Arr**	16.02	359	P	P	11 56 40.9	+0.6
	1.4nm,0.3s,baz=191,slow=11,SNR=68						
CHTO	**Chiang Mai**	16.37	360	*e*Pn	P	11 56 44.1	-0.1
	10nm,0.6s						
KKM	**Kota Kinabalu**	17.47	77	P	Pn	11 56 58.2	+0.8
	baz=18,SNR=9.0						
KKM	**Kota Kinabalu**	17.47	77	*e*P	Pn	11 56 57.0	-0.4
	10nm,0.5s						
TTSI	**Tana Toraja**	21.40	104	P	P	11 57 43.2	+4.3
	12nm,1.0s,1μm						
SPSI	**Sidrap Palu**	21.59	107	P	P	11 57 47.8	+6.8
KAPI	**Kappang**	21.90	110	P	P	11 57 44.3	+0.2
	8.6nm,0.2s,baz=293,slow=10.0,SNR=12						
BKSI	**Bukukumba**	22.35	110	P	P	11 57 50.6	+2.0
	25nm,0.8s,441nm						
MRSI	**Marisa**	22.92	94	P	P	11 57 54.7	+0.6
	26nm,0.9s						
BSSI	**Bau Bau, Buton**	22.97	112	P	P	11 57 55.9	+1.4
SIJI	**Sorong**	32.33	95	P	P	11 59 17.8	-0.4
	9.5nm,0.7s,baz=346,slow=12,SNR=3.9						
KNRA	**Kununurra**	34.37	122	P	P	11 59 35.5	-0.3
	baz=34,SNR=3.2						
WRKA	**Warakurna**	39.28	136	P	P	12 00 17.6	+0.3
	baz=39,SNR=7.4						
WRA	**Warramunga Arr**	41.07	124	P	P	12 00 31.2	-0.9
	3.9nm,0.5s,baz=301,slow=9.1,SNR=56						
WRAB	**Tennant Creek**	41.08	124	*e*P	P	12 00 31.3	-0.8
	4.6nm,0.6s						
ASAR	**Alice Springs**	42.61	129	P	P	12 00 44.4	-0.3
	3.1nm,0.7s,baz=302,slow=8.2,SNR=41						
FORT	**Forrest**	42.97	142	P	P	12 00 48.8	+1.5
	baz=43,SNR=11						
SONM	**Songino Array**	45.76	7	P	P	12 01 08.8	-0.5
	1.1nm,0.4s,baz=191,slow=9.5,SNR=8.4						
EKS2	**Erkin-Say**	46.08	334	*e*P	P	12 01 13.0	+1.0
	3.8nm,0.8s						
MK31	**Makanchi Array**	46.63	344	*e*P	P	12 01 15.9	-0.2
MKAR	**Makanchi Array**	46.63	344	P	P	12 01 15.8	-0.4
	4.4nm,0.6s,baz=154,slow=8.4,SNR=52						
KKAR	**Karatay Array**	47.91	332	*e*P	P	12 01 26.3	+0.2
	1.0nm,0.5s						
KURK	**Kurchatov**	51.22	343	*e*P	P	12 01 50.0	-0.9
	6.5nm,0.9s						
GEYT	**Alibeck**	51.58	319	P	P	12 01 55.2	+1.3
	1.7nm,0.5s,baz=140,slow=7.2,SNR=3.4						
STKA	**Stephens Creek**	52.74	134	P	P	12 02 00.7	-1.9
	1.6nm,0.8s,baz=291,slow=9.3,SNR=4.1						
ZAA0	**Zalesovo Array**	52.76	349	P	P	12 02 02.2	-0.1
	baz=53,SNR=4.3						
ZALV	**Zalesovo Beam**	52.76	349	P	P	12 02 02.1	-0.2
	3.4nm,0.4s,baz=172,slow=7.1,SNR=20						
ABKAR	**Akbulak array**	57.43	331	*e*P	P	12 02 35.1	-0.8
	3.4nm,0.6s						
BRTR	**Keskin Array B**	69.76	312	P	P	12 03 57.9	+0.7
	0.7nm,0.9s,baz=134,slow=8.0,SNR=3.8						
FINES	**FINESS Array B**	79.87	332	P	P	12 04 55.0	+0.3
	0.8nm,0.4s,baz=113,slow=6.3,SNR=9.4						
ARCES	**ARCESS Array B**	82.11	340	P	P	12 05 06.9	+0.4
	0.8nm,0.6s,baz=107,slow=6.0,SNR=3.6						
TXAR	**Lajitas Array**	141.70	33	PKhKP	PKPpre	12 12 12.5	
	0.1nm,0.6s,baz=282,slow=0.8,SNR=2.5						

IDC 06 11:53:39.7±3.0, 18.92S×169.29E, h226km±24km, mb3.2/6, mb1 3.4/7, mb1mx3.2/40, mbtmp3.8/7, Error ellipse: s-maj=29.2km s-min=27.7km az=172.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	4.12	220	P	Pn	11 54 44.7	+0.8
	2.2nm,0.3s,baz=90,slow=24,SNR=20						
DZM				S	S	11 55 34.6	0.0
	2.6nm,0.3s,baz=270,slow=24,SNR=3.8						
STKA	**Stephens Creek**	28.06	237	P	P	11 59 10.8	+0.5
	1.0nm,0.6s,baz=67,slow=10,SNR=5.0						
WRA	**Warramunga Arr**	32.94	262	P	P	11 59 52.5	-0.8
	0.2nm,0.4s,baz=82,slow=6.8,SNR=7.8						
ASAR	**Alice Springs**	33.25	256	P	P	11 59 56.0	0.0
	2.0nm,0.5s,baz=83,slow=8.8,SNR=52						
QSPA	**South Pole Qui**	71.13	180	P	P	12 04 33.7	+0.2
	0.5nm,0.8s,baz=121,slow=5.9,SNR=3.3						
SONM	**Songino Array**	86.99	323	P	P	12 06 00.7	+1.2
	0.7nm,0.8s,baz=132,slow=4.3,SNR=4.1						
ILAR	**Eielson Array**	89.91	17	P	P	12 06 11.9	-0.7
	0.8nm,0.6s,baz=250,slow=5.0,SNR=5.2						
ARCES	**ARCESS Array B**	124.77	345	PKP	PKPdf	12 12 11.0	-0.8
	1.4nm,0.8s,baz=52,slow=2.2,SNR=4.9						
GERES	**GERESS Array B**	144.23	332	PKP	PKPbc	12 12 47.4	-0.1
	0.3nm,0.2s,baz=45,slow=4.0,SNR=4.3						

*ATH **06** 12:00:24.8, 37.85N×21.38E, h19km±1km, MD3.2/24, ML2.9*
*ISCJB **06** 12:00:25.3±0.3, 37.85N±0.02×21.38E±0.02, h19km±3km, Error ellipse: s-maj=3.4km s-min=3.2km az=159.8*
*CSEM **06** 12:00:25.0±0.2, 37.84N×21.40E, h10km, ML3.5, Error ellipse: s-maj=3.5km s-min=3.3km az=3.0*
*THE **06** 12:00:25.2, 37.84N×21.40E, h15km±1km, ML3.5/7, Error ellipse: s-maj=1.2km s-min=0.6km az=326.0*
ISC 06 12:00:24.9±0.9, 37.86N±0.02×21.40E±0.02, h15km±7km, n91, σ0876/137, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VTN	**Vitineika**	0.18	290	P	Pb	12 00 30.4	+0.5
VTN				S	Sb	12 00 33.2	-0.1
VTN	**Vitineika**	0.18	290	P	Pb	12 00 30.4	+0.5
VTN				S	Sb	12 00 33.2	-0.1
RLS	**Riolos of Patr**	0.21	15	*e*PB	Pb	12 00 30.5	+0.1
RLS				*e*SB	Sb	12 00 35.0	+0.9
RLS	**Riolos of Patr**	0.21	15	P	Pb	12 00 30.2	-0.2
RLS	**Riolos of Patr**	0.21	15	*e*Pb	Pb	12 00 30.5	+0.1
RLS				S	Sb	12 00 33.7	-0.4
RLS				*e*Sb	Sb	12 00 35.0	+0.9
RLS	**Riolos of Patr**	0.21	15	P	Pb	12 00 30.2	-0.2
RLS				S	Sb	12 00 33.7	-0.4
DRO	**Drossia**	0.26	68	P	Pb	12 00 31.0	-0.4
DRO				S	Sg	12 00 34.7	+0.2
DRO	**Drossia**	0.26	68	P	Pg	12 00 31.0	-0.4
DRO				S	Sg	12 00 34.7	+0.2
ZKS	**Zakynthos**	0.51	252	P	Pg	12 00 34.6	-0.4
ZKS				S	Sb	12 00 42.9	+0.1
ZKS	**Zakynthos**	0.51	252	P	Pg	12 00 34.6	-0.4
ZKS				S	Sb	12 00 42.9	+0.1
UPR	**University Cam**	0.53	35	P	Pb	12 00 35.7	-0.1
UPR				S	Sb	12 00 44.4	+1.2
UPR	**University Cam**	0.53	35	P	Pb	12 00 36.1	+0.3
UPR				S	Sb	12 00 44.4	+1.2
KFL	**Anninata**	0.55	298	P	Pg	12 00 35.3	-0.4
KFL	**Anninata**	0.55	298	P	Pg	12 00 35.4	-0.3
LAKA	**Lakka**	0.60	50	*e*

VLX	**Vlachokerasia**	**0.92**	**122**	P	**Pg**	**12 00 42.7**	**+0.1**
VLX				S	**Sg**	**12 00 55.3**	**+0.6**
VLX	**Vlachokerasia**	**0.92**	**122**	P	**Pg**	**12 00 42.7**	**+0.1**
VLX				S	**Sg**	**12 00 55.3**	**+0.6**
PYL	**PYLOS**	**1.00**	**164**	P	**Pb**	**12 00 42.7**	**-1.1**
PYL				S	**Sn**	**12 01 00.3**	**+2.2**
PYL	**PYLOS**	**1.00**	**164**	P	**Pb**	**12 00 42.7**	**-1.1**
THAL	**Thalero**	**1.02**	**79**	*e*PB	**Pb**	**12 00 43.7**	**-0.5**
THAL				*e*SN	**Sn**	**12 00 59.7**	**+1.1**
THAL	**Thalero**	**1.02**	**79**	*e*Pb	**Pb**	**12 00 43.7**	**-0.5**
THAL				*e*Sn	**Sn**	**12 00 59.7**	**+1.1**
THAL	**Thalero**	**1.02**	**79**	P	**Pb**	**12 00 43.5**	**-0.7**
LKD2	**Lefkada island**	**1.10**	**328**	*e*PB	**Pb**	**12 00 44.9**	**-0.7**
LKD2	**Lefkada island**	**1.10**	**328**	P	**Pb**	**12 00 45.1**	**-0.5**
LKD2	**Lefkada island**	**1.10**	**328**	P	**Pb**	**12 00 45.1**	**-0.5**
EVR	**Evrytania**	**1.11**	**17**	*e*PB	**Pb**	**12 00 45.4**	**-0.4**
EVR	**Evrytania**	**1.11**	**17**	P	**Pb**	**12 00 45.5**	**-0.4**
EVR	**Evrytania**	**1.11**	**17**	P	**Pb**	**12 00 45.5**	**-0.4**
LOUT	**Loutraki**	**1.25**	**83**	*e*PN	**Pg**	**12 00 48.7**	**-0.3**
LOUT	**Loutraki**	**1.25**	**83**	*e*Pn	**Pg**	**12 00 48.7**	**-0.3**
MAKR	**Makrakomi, Fth**	**1.29**	**26**	*e*PN	**Pb**	**12 00 49.1**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.29**	**26**	*e*Pn	**Pb**	**12 00 49.1**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.29**	**26**	P	**Pb**	**12 00 48.9**	**0.0**
AXAR	**Agios Charalam**	**1.34**	**47**	*e*PB	**Pb**	**12 00 49.7**	**-0.1**
AXAR	**Agios Charalam**	**1.34**	**47**	P	**Pn**	**12 00 49.4**	**+0.2**
AXAR	**Agios Charalam**	**1.34**	**47**	*e*Pb	**Pb**	**12 00 49.7**	**-0.1**
AXAR	**Agios Charalam**	**1.34**	**47**	P	**Pn**	**12 00 49.4**	**+0.2**
KRND	**KRANIDI**	**1.47**	**108**	*e*PN	**Pg**	**12 00 53.0**	**-0.1**
KRND	**KRANIDI**	**1.47**	**108**	*e*Pn	**Pg**	**12 00 53.0**	**-0.1**
DIDY	**Didyma**	**1.49**	**104**	*e*PN	**Pg**	**12 00 53.2**	**-0.3**
DIDY	**Didyma**	**1.49**	**104**	*e*Pn	**Pg**	**12 00 53.2**	**-0.3**
LKR	**Lokris**	**1.49**	**57**	*e*PN	**Pb**	**12 00 52.8**	**+0.6**
LKR	**Lokris**	**1.49**	**57**	*e*Pn	**Pb**	**12 00 52.8**	**+0.6**
SMIA	**Simia**	**1.75**	**54**	*e*PN	**Pb**	**12 00 56.2**	**-0.5**
SMIA	**Simia**	**1.75**	**54**	*e*Pn	**Pb**	**12 00 56.2**	**-0.5**
THL	**Klokotos Trika**	**1.77**	**16**	*e*PN	**Pb**	**12 00 57.2**	**+0.1**
THL	**Klokotos Trika**	**1.77**	**16**	*e*Pn	**Pb**	**12 00 57.2**	**+0.1**
ATH	**Athens Observa**	**1.84**	**86**	*e*PN	**Pb**	**12 00 58.2**	**0.0**
ATH				*e*SN	**Sb**	**12 01 20.9**	**-0.1**
ATH	**Athens Observa**	**1.84**	**86**	*e*Pn	**Pb**	**12 00 58.2**	**0.0**
ATH				*e*Sn	**Sb**	**12 01 20.9**	**-0.1**
MRKA	**Markates**	**1.92**	**63**	*e*PN	**Pb**	**12 00 59.2**	**-0.4**
MRKA	**Markates**	**1.92**	**63**	*e*Pn	**Pb**	**12 00 59.2**	**-0.4**
NEO	**Neokhori**	**2.04**	**44**	*e*PN	**Pb**	**12 01 01.1**	**-0.5**
NEO	**Neokhori**	**2.04**	**44**	*e*Pn	**Pb**	**12 01 01.1**	**-0.5**
KEK	**Kerkira**	**2.24**	**327**	*e*PN	**Pn**	**12 01 03.1**	**+1.7**
KEK	**Kerkira**	**2.24**	**327**	*e*Pn	**Pn**	**12 01 03.1**	**+1.7**
AOS	**Alonnisos**	**2.35**	**55**	*e*PB	**Pb**	**12 01 05.2**	**-1.7**
AOS	**Alonnisos**	**2.35**	**55**	*e*Pb	**Pb**	**12 01 05.2**	**-1.7**
ANKY	**Antikythira Is**	**2.50**	**142**	*e*PB	**Pb**	**12 01 08.1**	**-1.4**
ANKY	**Antikythira Is**	**2.50**	**142**	*e*Pb	**Pb**	**12 01 08.1**	**-1.4**
STON	**Ston**	**5.75**	**332**	*e*Pn	**Pn**	**12 01 49.1**	**-0.6**
STON				Sn	**Sn**	**12 02 51.7**	**-3.7**
STON	**Ston**	**5.75**	**332**	*e*Pn	**Pn**	**12 01 49.1**	**-0.6**
UDBI	**Udbina**	**7.90**	**329**	*e*Pn	**Pn**	**12 02 20.9**	**+1.5**
UDBI				Sn	**Sn**	**12 03 47.0**	**-1.4**
UDBI	**Udbina**	**7.90**	**329**	*e*Pn	**Pn**	**12 02 20.8**	**+1.5**

IDC 06 12:11:39.6±1.4, 3°39N×126°20E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/37, mbtmp3.7/5, ML3.8/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/33, Error ellipse: s-maj=90.9km s-min=21.8km az=61.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.60**	**130**	Pn	Pn	12 13 16.8	-1.1
	2.0nm,0.3s,baz=326,slow=21,SNR=5.8						
SIJI				Sn	Sn	12 14 29.4	-4.6
	0.4nm,0.3s,baz=253,slow=19,SNR=3.1						
WRA	**Warramunga Arr**	**24.53**	**161**	P	P	12 17 00.7	-0.4
	0.8nm,0.4s,baz=339,slow=10,SNR=15						
ASAR	**Alice Springs**	**27.92**	**165**	P	P	12 17 32.3	+0.6
	0.3nm,0.5s,baz=343,slow=9.7,SNR=5.6						
STKA	**Stephens Creek**	**38.01**	**158**	P	P	12 18 59.8	+0.2
	1.4nm,0.6s,baz=326,slow=8.7,SNR=6.3						
SONM	**Songino Array**	**47.45**	**342**	LR	LR	12 40 29.0	
	comp=Z,28nm,18.9s,baz=216,slow=36						
MKAR	**Makanchi Array**	**57.53**	**326**	P	P	12 21 30.7	-0.2
	0.6nm,0.4s,baz=127,slow=7.2,SNR=12						

IDC 06 12:16:58.5±1.0, 50°52S×113°91E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.8/25, mbtmp3.8/5, Error ellipse: s-maj=56.7km s-min=20.5km az=108.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.61**	**1**	T	T	12 36 26.6	
	baz=184						
H01W1	**Cape Leeuwin H**	**15.62**	**1**	T	T	12 36 27.1	
	baz=184						
H01W3	**Cape Leeuwin H**	**15.63**	**1**	T	T	12 36 28.1	
	baz=184						
ASAR	**Alice Springs**	**30.99**	**38**	P	P	12 23 17.1	-0.5
	1.3nm,0.8s,baz=208,slow=8.5,SNR=13						
WRA	**Warramunga Arr**	**34.54**	**35**	P	P	12 23 48.2	-0.4
	1.9nm,0.8s,baz=201,slow=8.6,SNR=6.9						
QSPA	**South Pole Qui**	**39.61**	**180**	P	P	12 24 33.3	+1.8
	0.9nm,0.8s,baz=297,slow=12,SNR=6.1						
SNAA	**Sanae**	**50.26**	**202**	P	P	12 25 53.9	-2.1
	0.5nm,1.0s,baz=28,slow=12,SNR=3.7						
CMAR	**Chiang Mai Arr**	**69.93**	**345**	P	P	12 28 12.2	+0.8
	0.5nm,0.4s,baz=188,slow=5.5,SNR=3.0						
TXAR	**Lajitas Array**	**144.78**	**113**	PKP	PKPbc	12 36 36.3	+0.1
	0.2nm,0.6s,baz=210,slow=2.9,SNR=2.4						

IDC 06 12:17:39.8±2.2, 50°12S×114°38E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/24, mbtmp3.8/4, Error ellipse: s-maj=151.6km s-min=22.0km az=114.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**30.49**	**37**	P	P	12 23 54.9	+0.4
	0.9nm,0.7s,baz=206,slow=8.1,SNR=7.9						
WRA	**Warramunga Arr**	**34.04**	**35**	P	P	12 24 25.6	+0.1
	1.4nm,0.8s,baz=202,slow=9.5,SNR=6.1						
QSPA	**South Pole Qui**	**40.01**	**180**	P	P	12 25 16.2	+0.1
	0.9nm,0.7s,baz=305,slow=3.3,SNR=5.0						
SNAA	**Sanae**	**50.74**	**201**	P	P	12 26 41.1	+0.2
	0.8nm,1.1s,baz=164,slow=18,SNR=2.8						
TXAR	**Lajitas Array**	**144.65**	**112**	PKP	PKPab	12 37 15.4	-1.5
	0.2nm,0.7s,baz=222,slow=2.4,SNR=2.4						

IDC 06 12:17:54.2±2.2, 50°00S×114°45E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/25, mbtmp4.0/4, Error ellipse: s-maj=147.1km s-min=21.3km az=114.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**30.36**	**37**	P	P	12 24 08.0	+0.2
	1.2nm,0.8s,baz=210,slow=7.7,SNR=6.1						
WRA	**Warramunga Arr**	**33.91**	**35**	P	P	12 24 38.8	-0.1
	0.9nm,0.7s,baz=202,slow=11,SNR=7.1						
QSPA	**South Pole Qui**	**40.13**	**180**	P	P	12 25 31.5	0.0
	2.4nm,0.6s,baz=322,slow=1.5,SNR=10						
SNAA	**Sanae**	**50.87**	**201**	P	P	12 26 56.3	-0.1
	1.1nm,0.7s,baz=140,slow=12,SNR=11						
TXAR	**Lajitas Array**	**144.65**	**111**	PKP	PKPab	12 37 31.3	0.0
	0.2nm,0.7s,baz=215,slow=3.0,SNR=2.8						

*ISCJB **06** 12:21:41.3±0.6, 50°45S±0°.07×114°.2E±0°.3, h10km, mb4.2/10, MS4.0/11, Error ellipse: s-maj=26.9km s-min=7.3km az=14.6*

*IDC **06** 12:21:41.8±0.8, 50°.49S×114°.27E, h0km, mb4.2/8, mb1 4.3/9, mb1mx4.2/25, mbtmp4.2/9, ML1.7/1, MS4.0/11, Ms1 4.0/11, ms1mx3.8/20, Error ellipse: s-maj=37.4km s-min=15.1km az=111.0*

*NEIC **06** 12:21:43.5±0.6, 50°.48S×114°.18E, h10km, mb4.4/3, Error ellipse: s-maj=29.5km s-min=9.8km az=108.0*

*GCMT **06** 12:21:43.5±0.3, 50°.30S×113°.61E, h12km, MW5.0/79, Moment Tensor Solution. s17,c19; s79,c109; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.17±.10; $M_{\theta\theta}$1.99±.09; $M_{\phi\phi}$-1.82±.09; $M_{r\theta}$0.98±.27; $M_{\theta\phi}$1.95±.07; $M_{\phi r}$-2.94±.27; Best double couple: $M_0$3.79600×10^{16}*

NP1:$\phi_{\pm\delta}$24.00000°,δ74.00000°,λ-147.00000°. NP2: $\phi_{\pm\delta}$284.00000°,δ58.00000°,λ-18.00000°. Principal axes: T 2.8550, Plg10.0000°, Azm151.0000°; N 1.8790, Plg54.0000°, Azm47.0000°; P -4.7370, Plg34.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 06 12:21:43.6±0.7, 50°47S±0°.09×114°2E±0°.2, h10km, n40, σ1°39/24, mb4.3/11, MS4.1/11, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.56**	**360**	T	T	12 41 08.6	
	baz=180,slow=74,SNR=191						
H01W1	**Cape Leeuwin H**	**15.57**	**360**	T	T	12 41 13.4	
	baz=180,slow=74,SNR=118						
H01W3	**Cape Leeuwin H**	**15.58**	**360**	T	T	12 41 07.5	
	baz=180,slow=74,SNR=146						
CASY	**Casey**	**15.97**	**185**	*e*Pn	**Pn**	**12 25 27.2**	**-0.8**
	15nm,0.9s						
CASY				*e*Sn	**Sn**	**12 28 26.1**	**+1.3**
NWAO	**Narrogin (SRO)**	**17.67**	**8**	P	**Pn**	**12 25 49.1**	**-0.6**
	0.1nm,0.3s,baz=150,slow=20,SNR=2.0						
FORT	**Fort**	**22.24**	**33**	*e*P	**P**	**12 26 41.3**	**+1.0**
	12nm,0.7s						
STKA	**Stephens Creek**	**27.51**	**58**	P	**P**	**12 27 30.0**	**-0.1**
	2.9nm,0.8s,baz=197,slow=5.0,SNR=5.5						
STKA				LR	LR	12 36 21.5	
	comp=Z,611nm,21.8s,baz=214,slow=32						
MAW	**Mawson**	**30.29**	**216**	P	**P**	**12 27 53.5**	**-0.9**
	2.4nm,0.8s,baz=91,slow=10,SNR=6.2						
MAW				LR	LR	12 38 45.4	
	comp=Z,139nm,18.5s,baz=64,slow=34						
ASAR	**Alice Springs**	**30.84**	**37**	P	**P**	**12 27 58.6**	**-1.2**
	3.1nm,0.7s,baz=207,slow=7.4,SNR=36						
ASAR				LR	LR	12 38 41.8	
	comp=Z,450nm,21.3s,baz=201,slow=33						
VNDA	**Vanda**	**32.39**	**163**	P	**P**	**12 28 11.9**	**-1.0**
	2.0nm,0.9s,baz=288,slow=7.6,SNR=7.6						
VNDA				LR	LR	12 40 42.2	
	comp=Z,761nm,18.5s,baz=320,slow=35						
WRA	**Warramunga Arr**	**34.39**	**35**	P	**P**	**12 28 29.9**	**-1.0**
	5.2nm,0.8s,baz=202,slow=11,SNR=25						
WRAB	**Tennant Creek**	**34.40**	**35**	*e*P	**P**	**12 28 29.6**	**-1.3**
	3.4nm,0.6s						
QSPA	**South Pole Qui**	**39.66**	**180**	P	**P**	**12 29 15.5**	**+0.2**
	5.9nm,0.7s,baz=316,slow=1.8,SNR=24						
QSPA	**South Pole Qui**	**39.66**	**180**	*e*P	**P**	**12 29 15.7**	**+0.3**
DZM	**Mont Dzumac**	**49.44**	**75**	*e*LR	LR	12 45 02.9	
	503nm,25.9s						
SNAA	**Sanae**	**50.37**	**201**	P	**P**	**12 30 39.3**	**-1.0**
	1.8nm,0.8s,baz=150,slow=13,SNR=18						
H08S2	**Diego Garcia H**	**54.93**	**306**	T	T	13 30 16.4	
	baz=148						
H08S1	**Diego Carcia H**	**54.94**	**306**	T	T	13 30 12.3	
	baz=148						
H08S3	**Diego Garcia H**	**54.95**	**306**	T	T	13 30 19.0	
	baz=148						
PMSA	**Palmer Station**	**65.09**	**181**	LR	LR	13 01 19.3	
	comp=Z,267nm,21.7s,baz=188,slow=36						
BOSA	**Boshof**	**67.86**	**252**	LR	LR	12 56 32.9	
	comp=Z,194nm,18.3s,baz=125,slow=31						
GUMO	**Guam**	**69.22**	**32**	LR	LR	13 02 49.7	
	comp=Z,38nm,18.9s,baz=181,slow=36						
CMAR	**Chiang Mai Arr**	**69.93**	**345**	P	**P**	**12 32 55.9**	**+1.1**
	1.2nm,0.8s,baz=196,slow=6.3,SNR=5.9						
CMAR				LR	LR	12 59 51.9	
	comp=Z,115nm,20.6s,baz=190,slow=33						
TBI	**Tubuai**	**76.22**	**110**	*e*LR	LR	12 57 51.3	
	282nm,29.2s						
PPT2	**Papeete2**	**80.51**	**106**	*e*LR	LR	12 59 52.5	
	179nm,26.2s						
KMBO	**Kilima Mbogo**	**80.83**	**279**	LR	LR	13 03 15.7	
	comp=Z,64nm,20.2s,baz=134,slow=31						
KSRS	**Korea Array**	**88.38**	**11**	LR	LR	13 17 34.7	
	comp=Z,19nm,18.7s,baz=197,slow=38						
SONM	**Songino Array**	**98.15**	**355**	LR	LR	13 18 57.2	
	comp=Z,80nm,21.0s,baz=163,slow=35						
H10S2	**ASCENSION HYDR**	**106.08**	**233**	T	T	14 35 23.5	
	baz=144,slow=74						
H10S3	**ASCENSION HYDR**	**106.09**	**233**	T	T	14 35 29.4	
	baz=144						
H10S1	**ASCENSION HYDR**	**106.10**	**233**	T	T	14 35 22.7	
	baz=144,slow=74						
NVAR	**Mina Array Bea**	**141.41**	**87**	PKP	**PKPdf**	**12 41 15.6**	**+1.1**
	0.1nm,0.4s,baz=225,slow=3.7,SNR=3.2						
TXAR	**Lajitas Array**	**144.63**	**112**	PKP	**PKPdf**	**12 41 21.3**	**+1.1**
	2.6nm,0.9s,baz=197,slow=3.9,SNR=11						
ELK	**Elko**	**144.67**	**86**	*e*PKPdf	**PKPdf**	**12 41 23.1**	**+3.0**
MFID	**Camas Ranch**	**145.68**	**82**	*e*PKPbc	**PKPab**	**12 41 25.2**	**+2.9**
ANMO	**Albuquerque**	**146.81**	**102**	*e*PKPbc	**PKPab**	**12 41 27.6**	**+0.6**
ANMO				*e*PKPab	**PKiKP**	**12 41 30.1**	**+1.7**
CHMT	**Chamberlain Mo**	**148.90**	**78**	*e*PKPbc	**PKPab**	**12 41 33.3**	**-1.7**
CHMT				*e*PKPab	PKiKP	12 41 38.0	+5.7
SMCO	**Snowmass**	**149.07**	**95**	*e*PKPbc	**PKPab**	**12 41 35.5**	**-0.7**
SMCO				*e*PKPab	PKiKP	12 41 40.4	+7.2
PDAR	**Pinedale Array**	**149.35**	**87**	PKPbc	**PKPbc**	**12 41 32.9**	**+0.6**
	0.2nm,0.4s,baz=238,slow=1.7,SNR=2.6						
YKA	**Yellowknife Ar**	**151.24**	**47**	PKPbc	**PKPbc**	**12 41 34.3**	**-1.5**
	0.9nm,0.8s,baz=301,slow=1.7,SNR=3.7						

*NIED **06** 12:22:00, 38°.70N×142°.10E, h50km, Mw3.9 Best double couple: $M_0$6.76000×10^{14} NP1:$\phi_{\pm\delta}$183.00000°,δ12.00000°, λ60.00000°. NP2:$\phi_{\pm\delta}$33.00000°,δ80.00000°,λ96.00000°.*

*ISCJB **06** 12:22:45.2±1.1, 38°.70N±0°.05×142°.1E±0°.1, h50km±6km, mb3.8/14, Error ellipse: s-maj=14.1km s-min=6.4km az=23.4*

*JMA **06** 12:22:45.4±0.1, 38°.67N×142°.13E, h41km±1km, M3.8 JMA Felt I J1.*

*IDC **06** 12:22:46.8±1.0, 39°.51N×141°.43E, h0km, mb3.8/11, mb1 3.8/13, mb1mx3.7/39, mbtmp3.7/13, ML2.1/2, MS2.7/1, Ms1 2.7/1, ms1mx2.3/32, Error ellipse: s-maj=25.6km s-min=19.7km az=77.0*

*NEIC **06** 12:22:48.2±0.7, 39°.35N×141°.23E, h10km, mb4.3/3, Error ellipse: s-maj=18.2km s-min=9.9km az=117.0*

ISC 06 12:22:46.4±1.8, 38°.70N±0°.06×142°.1E±0°.1, h41km±13km, n37, σ1°35/33, mb3.8/14, 7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.50**	**320**	||P	**Pn**	**12 22 56.8**	**-0.3**
OFUJ				S	**Sn**	**12 23 04.6**	**-0.1**
JIO	**Ouri**	**0.62**	**247**	||P	**Pn**	**12 22 58.0**	**-0.7**
JIO				S	**Sn**	**12 23 06.6**	**-1.0**
JMK	**Ichinoseki**	**0.72**	**291**	||P	**Pn**	**12 22 59.9**	**-0.1**
JMK				S	**Sn**	**12 23 10.0**	**+0.1**
JOM	**Ohasama**	**0.99**	**322**	||P	**Pn**	**12 23 03.8**	**+0.1**
JOM				S	**Sn**	**12 23 17.0**	**+0.5**
JOU	**Okura**	**1.16**	**254**	||P	**Pn**	**12 23 05.8**	**-0.3**
JOU				S	**Sn**	**12 23 21.4**	**+0.7**
JMM	**Marumori**	**1.31**	**231**	||P	**Pn**	**12 23 07.1**	**-1.0**
JMM				S	**Sn**	**12 23 23.4**	**-1.0**
JRG	**Rokugo**	**1.32**	**302**	P	**Pn**	**12 23 08.4**	**+0.1**
JYK	**Kaneyama**	**1.36**	**280**	||P	**Pn**	**12 23 09.0**	**+0.1**
JYK				S	**Sn**	**12 23 26.7**	**+1.0**
ERM	**Erimo**	**3.41**	**14**	*e*Pn	**Pn**	**12 23 37.8**	**+0.8**
ERM				*e*Sn	Sn	12 24 08.4	-7.9
MJAR	**Matsushiro Arr**	**3.75**	**236**	Pn	**Pn**	**12 23 43.3**	**+1.6**
	baz=37,slow=13						
MJAR				Sn	**Sn**	**12 24 29.2**	**+4.5**
	baz=40,slow=25						
MAJO	**Matsushiro**	**3.75**	**236**	*e*Pn	**Pn**	**12 23 43.2**	**+1.4**
MAJO				*e*Sn	Sn	12 24 32.0	+7.3
MAT	**Matsushiro**	**3.75**	**236**	P	**Pn**	**12 23 43.3**	**+1.6**
MAT				*e*S	**Sn**	**12 24 26.9**	**+2.2**
YSS	**Yuzh-Sakhalins**	**8.27**	**3**	Pn	Pn	12 24 38.3	-5.3
YSS				*e*Sn	Sn	12 26 04.3	-11
USRK	**Ussuriysk Ar.**	**9.36**	**309**	Pn	Pn	12 24 50.1	-8.4
	0.0nm,0.3s,baz=119,slow=15,SNR=1.9						
USRK				LR	LR	12 28 20.0	
	comp=Z,47nm,20.1s,baz=116,slow=39						
KSRS	**Korea Array**	**11.23**	**268**	Pn	**Pn**	**12 25 21.1**	**-3.2**
	0.1nm,0.3s,baz=78,slow=14,SNR=2.8						
KSAR	**Wonju Array Be**	**11.26**	**268**	Pn	Pn	12 25 21.1	-3.6
SEY	**Seymchan**	**25.06**	**11**	P	**P**	**12 28 06.8**	**+0.3**
	2.5nm,0.8s,baz=200,slow=11,SNR=7.2						
SONM	**Songino Array**	**27.33**	**301**	P	**P**	**12 28 27.0**	**-0.4**
	0.3nm,0.4s,baz=96,slow=9.6,SNR=2.2						
ENH	**Enshi**	**28.04**	**262**	*e*P	**P**	**12 28 34.9**	**+1.2**
	4.5nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.60**	**124**	T	T	12 58 54.4	
	baz=317,slow=75,SNR=249						
H11N1	**WAKE ISLAND Hy**	**28.61**	**124**	T	T	12 58 59.7	
	baz=317,slow=75,SNR=86						
H11N3	**WAKE ISLAND Hy**	**28.62**	**124**	T	T	12 58 55.7	
	baz=317,slow=75,SNR=65						
H11S1	**WAKE ISLAND Hy**	**29.37**	**126**	T	T	12 59 56.3	
	baz=319,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**29.37**	**126**	T	T	13 00 04.5	
	baz=319,slow=76,SNR=28						
H11S2	**WAKE ISLAND Hy**	**29.39**	**126**	T	T	13 00 04.2	
	baz=319,slow=76,SNR=22						
ZALV	**Zalesovo Beam**	**41.20**	**311**	P	**P**	**12 30 26.4**	**-0.4**
	1.0nm,0.5s,baz=85,slow=6.9,SNR=5.0						
MKAR	**Makanchi Array**	**43.70**	**301**	P	**P**	**12 30 46.7**	**-0.5**
	1.0nm,0.8s,baz=82,slow=9.2,SNR=8.2						
KURK	**Kurchatov**	**45.34**	**307**	P	**P**	**12 31 00.1**	**-0.1**
KURBB	**Kurchatov Arra**	**45.41**	**307**	P	**P**	**12 31 00.1**	**-0.7**
	3.0nm,0.5s,baz=82,slow=8.2,SNR=34						
ILAR	**Eielson Array**	**47.81**	**33**	P	P	12 31 23.1	+3.7
	0.3nm,0.6s,baz=273,slow=4.6,SNR=4.4						
BVAR	**Borovoye Array**	**49.85**	**311**	P	**P**	**12 31 34.7**	**-0.6**
	0.6nm,0.4s,baz=81,slow=8.9,SNR=3.5						
ABKAR	**Akbulak array**	**57.28**	**310**	*e*P	**P**	**12 32 28.9**	**-0.8**
	0.7nm,0.4s						
WRAB	**Tennant Creek**	**58.77**	**189**	*e*P	P	12 32 51.1	+11
	3.1nm,0.9s						
WRA	**Warramunga Arr**	**58.78**	**189**	P	P	12 32 51.6	+11
	0.6nm,0.7s,baz=5.8,slow=7.0,SNR=6.4						
ASAR	**Alice Springs**	**62.51**	**188**	P	P	12 33 17.4	+12
	0.4nm,0.8s,baz=15,slow=6.2,SNR=5.2						
FINES	**FINESS Array B**	**67.59**	**332**	P	**P**	**12 33 37.3**	**-1.0**
	1.7nm,0.8s,baz=53,slow=9.8,SNR=4.4						
NOA	**NORSAR Array B**	**72.86**	**337**	P	**P**	**12 34 10.1**	**-0.5**
	0.6nm,0.7s,baz=39,slow=5.8,SNR=2.7						

*CSEM **06** 12:23:29.3±0.1, 41°.81N×22°.17E, h5km, ML2.0, Error ellipse: s-maj=2.7km s-min=1.8km az=74.0*

*ATH **06** 12:23:29.5, 41°.77N×22°.17E, h3km±3km, MD2.9/6*

*SKO **06** 12:23:29.3, 41°.81N×22°.17E, h15km, M1.8, ML2.2*

*BEO **06** 12:23:30.2±0.5, 41°.79N×22°.14E, h0km, ML1.9/5*

*THE **06** 12:23:30.3, 41°.81N×22°.27E, h2km±39km, ML2.0/4, Error ellipse: s-maj=39.1km s-min=0.9km az=0.0*

ISC 06 12:23:29.5±1.1, 41°80N±0°.02×22°18E±0°.02, h3km±11km, n36, σ0°52/69, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.56**	**148**	*i* Pg	**Pg**	**12 23 40.9**	**+0.6**
VAY				*i* Sg	**Sg**	**12 23 48.7**	**+1.2**
VAY				*e*Lg	Lg	12 23 49.0	
	comp=E,153nm,0.3s						
VAY				*e*Lg	Lg	12 23 49.1	
	comp=N,176nm,0.4s						
VAY	**Valandovo**	**0.56**	**148**	*i* Pg	**Pg**	**12 23 40.9**	**+0.6**
VAY				*e*Sg	**Sg**	**12 23 48.8**	**+1.2**
VAY				*e*Lg	Lg	12 23 48.8	
	comp=E,150nm,0.3s						
VAY				*e*Lg	Lg	12 23 48.8	
	comp=N,176nm,0.4s						
VAY	**Valandovo**	**0.56**	**148**	*e*Pg	**Pg**	**12 23 40.1**	**-0.2**
VAY				*e*Sg	**Sg**	**12 23 48.1**	**+0.5**
VAY	**Valandovo**	**0.56**	**148**	*e*Pg	**Pg**	**12 23 40.1**	**-0.2**
VAY				S	**Sg**	**12 23 48.0**	**+0.5**
VAY				*e*Lg	Lg	12 23 49.1	
	comp=N,176nm,0.4s						
VAY	**Valandovo**	**0.56**	**148**	P	**Pg**	**12 23 40.0**	**-0.2**
VAY				S	**Sg**	**12 23 48.0**	**+0.5**
KNT	**Kendrikon**	**0.84**	**139**	*e*PB	**Pg**	**12 23 45.4**	**-0.1**
KNT				*e*SG	**Sg**	**12 23 56.5**	**+0.1**
KNT	**Kendrikon**	**0.84**	**139**	P	**Pg**	**12 23 45.4**	**-0.1**
KNT				*e*Sg	**Sg**	**12 23 56.5**	**+0.1**
KNT				S	**Sg**	**12 23 57.2**	**+0.8**
KNT	**Kendrikon**	**0.84**	**139**	P	**Pg**	**12 23 45.4**	**-0.1**
KNT				S	**Sg**	**12 23 57.2**	**+0.8**
GRG	**Griva**	**0.86**	**169**	*e*PG	**Pg**	**12 23 45.4**	**-0.6**
GRG	**Griva**	**0.86**	**169**	P	**Pg**	**12 23 45.6**	**-0.4**
GRG				S	**Sb**	**12 23 59.4**	**+0.4**
GRG	**Griva**	**0.86**	**169**	P	**Pg**	**12 23 45.6

mb1mx3.0/29,**mbtmp3.3**/2,**ML2.9**/2,**Error ellipse: s-maj=21.9km s-min=13.9km az=48.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.09**	**240**	*i*		12 42 00.0	
	baz=59,slow=314,SNR=2.0						
ZALV	**Zalesovo Beam**	**1.09**	**240**	Pg	Pg	12 34 25.1	-1.9
	1.3nm,0.3s,baz=61,slow=16,SNR=19						
ZALV				Lg	Lg	12 34 42.4	
	3.1nm,0.3s,baz=56,slow=28,SNR=19						
KURBB	**Kurchatov Arra**	**6.18**	**234**	Pn	Pn	12 35 39.7	+1.2
	0.2nm,0.3s,baz=52,slow=14,SNR=20						
KURBB				Sn	Sn	12 36 49.3	-0.4
	0.0nm,0.3s,baz=52,slow=25,SNR=2.4						
KURBB				Lg	Lg	12 37 27.4	
	0.0nm,0.3s,baz=50,slow=33,SNR=5.8						
MKAR	**Makanchi Array**	**8.14**	**200**	Pn	Pn	12 36 06.2	+0.6
	0.3nm,0.3s,baz=17,slow=14,SNR=17						
MKAR				Sn	Sn	12 37 37.5	-0.8
	0.1nm,0.3s,baz=21,slow=25,SNR=3.9						
MKAR				Lg	Lg	12 38 23.6	
	baz=22,slow=31,SNR=2.5						

*IDC **06** 12:37:39.1±1.3,3°.27N×126°.33E,h0km,mb3.9/5, mb1 4.1/5,mb1mx3.7/30,mbtmp3.9/5,Error ellipse: s-maj=162.1km s-min=18.8km az=66.0*
*ISCJB **06** 12:37:44.2±0.9,3°.4N±0°.1×126°.4E±0°.2,h53km,mb3.8/5, Error ellipse: s-maj=37.0km s-min=13.5km az=151.2*

ISC 06 12:37:46.4±1.1,3°.3N±0°.2×126°.5E±0°.3,h53km,n12, σ1§25/12,mb3.9/5,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**6.37**	**131**	P	**Pn**	**12 39 19.7**	**+2.0**
	baz=8.3,SNR=3.3						
AAI	**Ambon**	**7.19**	**166**	P	Pn	12 39 36.1	+7.0
	baz=9.4,SNR=3.4						
FAKI	**Fak Fak**	**8.50**	**137**	P	**Pn**	**12 39 44.6**	**-2.3**
	baz=10,SNR=7.7						
KNRA	**Kununurra**	**19.03**	**173**	P	**Pn**	**12 42 05.2**	**-0.2**
	baz=21,SNR=4.1						
WRA	**Warramunga Arr**	**24.40**	**162**	P	**P**	**12 42 59.5**	**-0.6**
	3.2nm,0.7s,baz=341,slow=11,SNR=28						
ASAR	**Alice Springs**	**27.81**	**165**	P	**P**	**12 43 29.9**	**-0.9**
	0.3nm,0.3s,baz=344,slow=10,SNR=25						
ASAR				PcP	**PcP**	**12 46 46.7**	**+0.5**
	0.3nm,0.9s,baz=352,slow=3.7,SNR=3.1						
WRKA	**Warakurna**	**28.26**	**176**	P	**P**	**12 43 36.0**	**+1.2**
	baz=30,SNR=7.2						
BBOO	**Buckleboo**	**37.09**	**167**	P	**P**	**12 44 52.6**	**+0.8**
	baz=39,SNR=7.3						
STKA	**Stephens Creek**	**37.87**	**159**	P	**P**	**12 44 57.5**	**-0.8**
	3.2nm,0.6s,baz=339,slow=7.5,SNR=9.0						
STKA	**Stephens Creek**	**37.87**	**159**	P	**P**	**12 44 58.5**	**+0.2**
	baz=40,SNR=6.7						
MKAR	**Makanchi Array**	**57.72**	**326**	P	**P**	**12 47 31.5**	**-0.3**
	0.5nm,0.5s,baz=119,slow=7.2,SNR=6.8						
ZALV	**Zalesovo Beam**	**60.81**	**333**	P	**P**	**12 47 52.7**	**-0.3**
	0.2nm,0.3s,baz=128,slow=5.6,SNR=3.3						

IDC 06 12:47:12.0±3.0,31°.98S×177°.82W,h0km,mb3.8/3, mb1 4.0/4,mb1mx3.7/25,mbtmp3.8/4,ML3.2/1,MS3.2/2, Ms1 3.2/2,ms1mx2.7/27,Error ellipse: s-maj=67.4km s-min=35.2km az=119.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.51**	**212**	Pn	Pn	12 49 02.4	-0.4
	0.3nm,0.3s,baz=282,slow=20,SNR=5.4						
URZ				Sn	Sn	12 50 28.7	0.0
	1.1nm,0.3s,baz=264,slow=18,SNR=4.5						
RAR	**Rarotonga**	**19.35**	**61**	LR	LR	12 57 27.3	
	comp=Z,91nm,21.3s,baz=294,slow=32						
PPT	**Papeete**	**29.28**	**67**	LR	LR	13 02 41.8	
	comp=Z,36nm,20.5s,baz=263,slow=32						
STKA	**Stephens Creek**	**34.30**	**259**	P	P	12 53 59.6	-0.6
	0.4nm,0.4s,baz=114,slow=17,SNR=2.2						
ASAR	**Alice Springs**	**43.20**	**269**	P	P	12 55 15.2	+0.2
	1.0nm,0.6s,baz=107,slow=7.1,SNR=25						
WRA	**Warramunga Arr**	**44.33**	**274**	P	P	12 55 24.2	+0.1
	0.7nm,0.4s,baz=113,slow=7.9,SNR=25						
FINES	**FINESS Array B**	**146.68**	**339**	PKPbc	PKPdf	13 06 54.1	+0.7
	0.6nm,0.4s,baz=36,slow=3.4,SNR=8.4						

GUC 06 13:02:07.5±0.5,34°.74S×72°.48W,h22km±3km,ML3.6,4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.95**	**134**	*i*P	Pb	13 02 24.4	-0.9
TALC				*i* S	Sb	13 02 37.2	-0.2
NICH	**Los Niches**	**1.06**	**105**	*i*P	Pn	13 02 26.5	-0.6
NICH				*i* S	Sb	13 02 40.2	-0.3
LNV	**Longovilo**	**1.18**	**49**	*i*P	Pn	13 02 27.7	-1.0
LNV				*e*S	Sb	13 02 43.6	-0.4
LNCH	**Linares**	**1.31**	**147**	*e*P	Pn	13 02 30.3	-0.2
LNCH				*i* S	Sn	13 02 47.4	-0.1
COCH	**Cobquecura**	**1.41**	**190**	*e*P	Pn	13 02 31.3	-0.6
COCH				*i* S	Sn	13 02 48.2	-1.5
CHCH	**Chadas Angostu**	**1.71**	**62**	*i*P	Pn	13 02 36.7	+0.6
CHCH				*i* S	Sb	13 02 58.6	-0.9
CLCH	**Cerro Calan**	**2.10**	**51**	*e*P	Pn	13 02 42.8	+1.3
CLCH				*i* S	Sb	13 03 09.3	-1.3
CLCH				AML	AML	13 03 16.3	
	comp=N,549nm,0.5s						
PEL	**Peldehue**	**2.18**	**44**	*e*P	Pn	13 02 43.9	+1.3
PEL				AML	AML	13 03 18.6	
	comp=E,522nm,0.3s						

*IDC **06** 13:03:39.0±0.8,30°.70N×103°.24E,h0km,mb3.6/8, mb1 3.7/10,mb1mx3.5/47,mbtmp3.6/10,ML3.8/2,Error ellipse: s-maj=33.4km s-min=15.9km az=60.0*
*BJI **06** 13:03:41.7,30°.87N×103°.27E,h19km,ML3.4/14,Ms3.2/1, Ms7 3.1/1*

ISC 06 13:03:42.4±0.9,31°.00N±0°.05×103°.48E±0°.07,h16km,n14, σ1§87/18,mb3.7/8,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.25**	**110**	Pg	**Pg**	**13 03 48.8**	**+0.7**
CD2				Sg	**Sb**	**13 03 55.5**	**+2.6**
CD2				SMN			
	9μm,0.6s						
CD2				SME			
	8μm,0.6s						
LZH	**Lanzhou**	**5.08**	**3**	*e*P	Pg	13 05 28.7	+8.9
LZH				pP	pP	13 05 33.5	
LZH				sP	sP	13 05 35.1	
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
GYA	**Guiyang**	**5.32**	**148**	Pn	**Pn**	**13 05 02.9**	**+1.6**
GYA				Sn	**Sn**	**13 05 59.9**	**-2.4**
GYA				Sg	**Sb**	**13 06 20.1**	**+1.4**
GYA				SMN			
	comp=Z,80nm,0.7s						
GYA				SME			
	comp=Z,50nm,0.6s						
XAN	**Xi'an**	**5.50**	**55**	Pn	**Pn**	**13 05 05.0**	**+1.2**
XAN				Pg	**Pg**	**13 05 28.1**	**+0.3**
XAN				Sn	**Sn**	**13 06 06.2**	**-0.6**
XAN				Sg	**Sg**	**13 06 35.6**	**-3.5**
XAN				SMN			
	comp=Z,86nm,0.7s						
XAN				SME			
	comp=Z,32nm,0.8s						
CMAR	**Chiang Mai Arr**	**13.15**	**199**	Pn	Pn	13 06 42.5	-6.0
	comp=Z,0.3nm,0.3s,baz=20,slow=12,SNR=3.7						
SONM	**Songino Array**	**16.96**	**7**	P	**P**	**13 07 43.5**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=186,slow=10,SNR=3.1						
KSRS	**Korea Array**	**21.18**	**66**	P	**P**	**13 08 28.6**	**+1.6**
	comp=Z,1.8nm,0.6s,baz=247,slow=9.6,SNR=12						
MKAR	**Makanchi Array**	**22.71**	**320**	P	**P**	**13 08 44.7**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=119,slow=12,SNR=3.5						
ZALV	**Zalesovo Beam**	**26.59**	**335**	P	**P**	**13 09 20.6**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=156,slow=11,SNR=3.3						
KURBB	**Kurchatov Arra**	**27.00**	**324**	P	**P**	**13 09 22.8**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=131,slow=9.2,SNR=4.8						
FINES	**FINESS Array B**	**57.36**	**326**	P	**P**	**13 13 28.9**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=112,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**58.69**	**146**	P	**P**	**13 13 37.8**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=338,slow=7.5,SNR=14						
ASAR	**Alice Springs**	**61.68**	**148**	P	**P**	**13 13 58.4**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=336,slow=6.7,SNR=7.2						
STKA	**Stephens Creek**	**72.21**	**147**	P	**P**	**13 15 04.8**	**-1.9**
	comp=Z,2.2nm,1.1s,baz=309,slow=13,SNR=4.0						

*CSEM **06** 13:39:11.8±0.2,41°.32N×28°.27E,h2km,MD2.6,Error ellipse: s-maj=4.3km s-min=3.7km az=177.0,Mining explosion.*

ISK 06 13:39:11.2,41°.33N×28°.27E,h6km,MD2.6,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLVT	**Silivri**	**0.11**	**205**	*e*Pg	Pg	13 39 14.1	+0.5
SLVT	**Silivri**	**0.11**	**205**	*e*Pg	Pg	13 39 14.1	+0.6
CTYL	**Yal??k??y-??at**	**0.15**	**5**	*e*Pg	Pg	13 39 14.7	+0.4
CTYL				*e*Sg	Sg	13 39 17.6	+1.3
CTYL	**Yal??k??y-??at**	**0.15**	**5**	*e*Pg	Pg	13 39 14.7	+0.5
CTYL				*e*Sg	Sg	13 39 17.6	+1.3
CTKS	**Kestanelik-??a**	**0.20**	**117**	*e*PG	Pg	13 39 15.7	+0.5
CTKS				*e*SG	Sg	13 39 18.8	+0.9
CTKS	**Kestanelik-??a**	**0.20**	**117**	*e*Pg	Pg	13 39 15.7	+0.5
CTKS				*e*Sg	Sg	13 39 18.8	+1.0
KLYT	**Kilyos**	**0.59**	**97**	*e*PG	Pb	13 39 23.2	-0.6
KLYT				*e*SG	Sb	13 39 31.5	-0.9
KLYT	**Kilyos**	**0.59**	**97**	*e*Pg	Pb	13 39 23.2	-0.6
KLYT				*e*Sg	Sb	13 39 31.5	-0.9
ISK	**Istanbul-Kandi**	**0.65**	**114**	*e*PG	Pb	13 39 24.7	-0.2
ISK	**Istanbul-Kandi**	**0.65**	**114**	*e*Pg	Pb	13 39 24.7	-0.3
ARMT	**Armutlu**	**0.88**	**149**	*e*PG	Pb	13 39 28.6	-0.4
ARMT	**Armutlu**	**0.88**	**149**	*e*Pg	Pb	13 39 28.6	-0.4
MRMT	**Marmara Adasi**	**0.89**	**215**	*e*PG	Pg	13 39 28.6	+0.2
MRMT	**Marmara Adasi**	**0.89**	**215**	*e*Pg	Pg	13 39 28.6	+0.3
EDC	**Edincik**	**1.03**	**198**	*e*PG	Pb	13 39 31.5	+0.1
EDC	**Edincik**	**1.03**	**198**	*e*Pg	Pb	13 39 31.5	+0.1
RKY	**Sarkoy-Tekirda**	**1.05**	**233**	*e*PG	Pg	13 39 31.5	+0.1
RKY	**Sarkoy-Tekirda**	**1.05**	**233**	*e*Pg	Pg	13 39 31.5	+0.1
KCTX	**Karacabey (Bur**	**1.06**	**176**	*e*PG	Pb	13 39 32.3	+0.2
KCTX	**Karacabey (Bur**	**1.06**	**176**	*e*Pg	Pb	13 39 32.3	+0.2
MDNY	**Mudanya-Bursa**	**1.06**	**154**	*e*PG	Pn	13 39 32.5	-0.1
MDNY	**Mudanya-Bursa**	**1.06**	**154**	*e*Pg	Pn	13 39 32.5	-0.1
HRT	**Hereke**	**1.17**	**115**	*e*PN	Pn	13 39 34.5	+0.3
HRT	**Hereke**	**1.17**	**115**	*e*Pn	Pn	13 39 34.5	+0.3
EDRB	**Edirne**	**1.26**	**295**	*e*PN	Pg	13 39 35.5	+0.1
EDRB	**Edirne**	**1.26**	**295**	*e*Pn	Pg	13 39 35.5	+0.2
IZI	**Iznik**	**1.35**	**137**	*e*PN	Pb	13 39 37.0	+0.1
IZI	**Iznik**	**1.35**	**137**	*e*Pn	Pb	13 39 37.0	0.0

*CSEM **06** 13:39:25.7±0.2,41°.80N×22°.16E,h8km,ML2.2,Error ellipse: s-maj=3.5km s-min=2.6km az=81.0*
*THE **06** 13:39:26.3,41°.79N×22°.20E,h5km,ML2.2/4,Error ellipse: s-maj=1.1km s-min=0.5km az=284.0*
*ATH **06** 13:39:26.4,41°.75N×22°.20E,h14km±1km,MD3.0/9*
*SKO **06** 13:39:26.1,41°.80N×22°.18E,h21km,M2.3,ML2.6*
*BEO **06** 13:39:27.0±0.5,41°.80N×22°.18E,h0km,ML2.1/5*

ISC 06 13:39:26.2±1.1,41°.79N±0°.02×22°.18E±0°.03,h7km±9km, n41,σ0§58/74,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.55**	**148**	*i* Pg	**Pg**	**13 39 37.5**	**+0.6**
VAY				*e*Sg	**Sg**	**13 39 45.4**	**+1.3**
VAY				*e*Lg	Lg	13 39 45.5	
	comp=E,363nm,0.7s						
VAY				*e*Lg	Lg	13 39 46.8	
	comp=N,283nm,0.4s						
VAY	**Valandovo**	**0.55**	**148**	*e*Pg	**Pg**	**13 39 36.6**	**-0.3**
VAY	**Valandovo**	**0.55**	**148**	P	**Pg**	**13 39 36.6**	**-0.3**
VAY				S	**Sg**	**13 39 44.4**	**+0.3**
VAY				*e*Sg	**Sg**	**13 39 45.4**	**+1.3**
VAY				*e*Lg	Lg	13 39 46.7	
	comp=N,283nm,0.4s						
VAY	**Valandovo**	**0.55**	**148**	P	**Pg**	**13 39 36.6**	**-0.3**
VAY				S	**Sg**	**13 39 44.4**	**+0.3**
KNT	**Kendrikon**	**0.83**	**139**	*e*PB	**Pg**	**13 39 41.9**	**-0.2**
KNT				*e*SB	**Sg**	**13 39 52.1**	**-0.8**
KNT	**Kendrikon**	**0.83**	**139**	P	**Pg**	**13 39 41.9**	**-0.2**
KNT				*e*Sb	**Sg**	**13 39 52.1**	**-0.8**
KNT				S	**Sg**	**13 39 53.8**	**+0.9**
KNT	**Kendrikon**	**0.83**	**139**	P	**Pg**	**13 39 41.9**	**-0.2**
KNT				S	**Sg**	**13 39 53.8**	**+0.9**
GRG	**Griva**	**0.85**	**169**	*e*PB	**Pg**	**13 39 42.1**	**-0.4**
GRG	**Griva**	**0.85**	**169**	P	**Pg**	**13 39 42.1**	**-0.4**
GRG				S	**Sg**	**13 39 54.5**	**+1.0**
GRG	**Griva**	**0.85**	**169**	P	**Pg**	**13 39 42.1**	**-0.4**
GRG				S	**Sg**	**13 39 54.5**	**+1.0**
BARS	**Barje**	**1.06**	**345**	*e*Pg	**Pb**	**13 39 48.8**	**0.0**
BARS				*e*Sg	**Sg**	**13 39 59.2**	**-1.1**
VTS	**Vitosha**	**1.11**	**43**	*e*Pg	**Pg**	**13 39 47.2**	**-0.2**
VTS				*e*Sg	**Sg**	**13 40 02.1**	**+0.3**
VTS	**Vitosha**	**1.11**	**43**	P	**Pg**	**13 39 47.1**	**-0.3**
VTS				*e*Sg	**Sg**	**13 40 02.1**	**+0.3**
VTS	**Vitosha**	**1.11**	**43**	P	**Pg**	**13 39 47.1**	**-0.3**
VTS				S	**Sb**	**13 40 02.5**	**+0.1**
FNA	**Florina**	**1.17**	**211**	*e*PG	**Pb**	**13 39 47.8**	**-1.0**
FNA	**Florina**	**1.17**	**211**	*e*Pg	**Pb**	**13 39 47.8**	**-1.0**
FNA	**Florina**	**1.17**	**211**	P	**Pb**	**13 39 48.5**	**-0.3**
FNA				S	**Sn**	**13 40 05.2**	**-0.1**
FNA	**Florina**	**1.17**	**211**	P	**Pb**	**13 39 48.5**	**-0.3**
FNA				S	**Sn**	**13 40 05.2**	**-0.1**
SRS	**Serrai**	**1.26**	**122**	*e*PB	**Pg**	**13 39 50.5**	**+0.2**
SRS				*e*SB	**Sb**	**13 40 06.3**	**-0.3**
SRS	**Serrai**	**1.26**	**122**	P	**Pn**	**13 39 49.7**	**-0.5**
SRS	**Serrai**	**1.26**	**122**	*e*Pb	**Pg**	**13 39 50.5**	**+0.2**
SRS				*e*Sb	**Sb**	**13 40 06.3**	**-0.3**
SRS				S	**Sn**	**13 40 07.7**	**+0.4**
SRS	**Serrai**	**1.26**	**122**	P	**Pn**	**13 39 49.7**	**-0.5**
SRS				S	**Sn**	**13 40 07.7**	**+0.4**
SOH	**Sokhos**	**1.31**	**137**	*e*PB	**Pn**	**13 39 50.7**	**-0.2**
SOH				*e*SB	**Sb**	**13 40 07.8**	**-0.4**
SOH	**Sokhos**	**1.31**	**137**	P	**Pn**	**13 39 50.6**	**-0.3**
SOH				*e*Sb	**Sb**	**13 40 07.8**	**-0.4**
SOH				S	**Sb**	**13 40 08.6**	**+0.4**
SOH	**Sokhos**	**1.31**	**137**	P	**Pn**	**13 39 50.6**	**-0.3**
SOH				S	**Sb**	**13 40 08.6**	**+0.4**
NVR	**Nevrokopi**	**1.34**	**109**	*e*PB	**Pn**	**13 39 51.3**	**0.0**
NVR				*e*SB	**Sb**	**13 40 09.1**	**+0.2**
NVR	**Nevrokopi**	**1.34**	**109**	P	**Pn**	**13 39 50.5**	**-0.8**
NVR	**Nevrokopi**	**1.34**	**109**	*e*Pb	**Pn**	**13 39 51.3**	**0.0**
NVR				*e*Sb	**Sb**	**13 40 09.1**	**+0.2**
NVR	**Nevrokopi**	**1.34**	**109**	P	**Pn**	**13 39 50.5**	**-0.8**
NVR				S	**Sn**	**13 40 09.4**	**+0.1**
HORT	**Hortiatis**	**1.38**	**149**	*e*PB	**Pn**	**13 39 52.3**	**+0.4**
HORT	**Hortiatis**	**1.38**	**149**	*e*Pb	**Pn**	**13 39 52.3**	**+0.4**
ZAPS	**Zavoj**	**1.52**	**13**	*e*Pg	**Pb**	**13 39 55.0**	**+0.3**
ZAPS				*e*Sg	**Sb**	**13 40 14.3**	**+0.1**
NEST	**Nestorio**	**1.62**	**212**	*e*PG	**Pn**	**13 39 56.0**	**+0.8**
NEST				*e*SB	**Sg**	**13 40 18.2**	**0.0**
NEST	**Nestorio**	**1.62**	**212**	*e*Pg	**Pn**	**13 39 56.0**	**+0.8**
NEST				*e*Sb	**Sg**	**13 40 18.2**	**0.0**
SELS	**Selova**	**1.63**	**332**	*e*Pg	**Pb**	**13 39 56.7**	**+0.2**
SELS				*e*Sg	**Sg**	**13 40 18.4**	**-0.1**
PLG	**Polygyros**	**1.71**	**146**	*e*PB	**Pn**	**13 39 56.5**	**+0.1**
PLG				*e*SB	**Sn**	**13 40 19.1**	**+0.6**
PLG	**Polygyros**	**1.71**	**146**	*e*Pb	**Pn**	**13 39 56.5**	**+0.1**
PLG				*e*Sb	**Sn**	**13 40 19.1**	**+0.6**
KAVA	**Kavala**	**1.93**	**114**	*e*PN	**Pn**	**13 40 00.1**	**+0.8**
KAVA	**Kavala**	**1.93**	**114**	*e*Pn	**Pn**	**13 40 00.1**	**+0.8**
PAIG	**Paliouri**	**2.18**	**148**	*e*PN	**Pb**	**13 40 04.6**	**-1.3**
PAIG	**Paliouri**	**2.18**	**148**	*e*Pn	**Pb**	**13 40 04.6**	**-1.3**

*FUNV **06** 13:47:46.3,10°.36N×62°.32W,h5km,MW4.3*
*ISCJB **06** 13:47:46.9±0.2,10°.36N±0°.02×62°.41W±0°.02,h44km±2km, mb4.8/113,MS3.9/7,Error ellipse: s-maj=3.4km s-min=2.6km az=157.4*
*TRN **06** 13:47:47.8,10°.52N×62°.23W,h3km,MD4.7*
TRN Felt Port of Spain, Trinidad, MMI III.
*MOS **06** 13:47:48.0±1.1,10°.49N×62°.54W,h41km,mb5.0/21,Error ellipse: s-maj=11.0km s-min=6.6km az=114.9*
*NEIC **06** 13:47:49.6±0.5,10°.36N×62°.45W,h50km±4km,mb4.9/74, MW5.0(CAR),Error ellipse: s-maj=5.2km s-min=4.3km az=81.0*
NEIC Felt at Cumana. Also felt at Mucurapo, Tacarigua and in the Port-of-Spain area, Trinidad.
*IDC **06** 13:47:50.1±1.5,10°.38N×62°.57W,h50km±13km,mb4.2/34, mb1 4.3/35,mb1mx4.2/51,mbtmp4.4/35,ML3.4/1,MS4.0/7, Ms1 4.0/7,ms1mx3.4/36,Error ellipse: s-maj=11.5km s-min=10.0km az=95.0*

ISC 06 13:47:48.4±0.3,10°.36N±0°.03×62°.37W±0°.03,h39km±2km, n613,σ1§00/639,mb4.7/113,MS3.9/7,7C-11D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.32**	**26**	*i*eP	Pn	13 47 51.9	-5.0
GUIV				*e*S	Sn	13 47 57.0	-6.2
GUNV	**Guanoco**	**0.60**	**251**	*i*eP	**Pn**	**13 47 57.7**	**-2.8**
GUNV				*e*S	**Sn**	**13 48 07.2**	**-1.9**
ALNG	**Atlantic LNG**	**0.69**	**105**	*e*P	**Pn**	**13 48 00.2**	**-1.5**
ALNG				*e*S	**Sn**	**13 48 08.9**	**-2.4**
TCE	**Chacachacare**	**0.69**	**61**	*e*P	Pn	13 47 57.9	-3.9
TCE				*e*S	Sn	13 48 04.0	-7.3
SIPA	**Siparia**	**0.87**	**104**	*e*P	**Pn**	**13 48 03.8**	**-0.5**
SIPA				*e*S	**Sn**	**13 48 14.3**	**-1.5**
TPP	**Pointe-a-Pierr**	**0.90**	**92**	*i*P	**Pn**	**13 48 03.1**	**-1.6**
TPP				*e*S	**Sn**	**13 48 15.1**	**-1.4**
CRUV	**Carupano**	**0.91**	**290**	*i*P	**Pn**	**13 48 02.2**	**-2.5**
CRUV				*e*S	**Sn**	**13 48 15.5**	**-1.2**
TRN	**Trinidad (W)**	**0.99**	**73**	*e*P	**Pn**	**13 48 03.1**	**-2.8**
TRN	**Trinidad (W)**	**0.99**	**73**	*e*	**Pn**	**13 48 07.2**	**+1.4**
TRN				*e*S	**Sn**	**13 48 15.4**	**-3.2**
TBH	**Brigand Hill**	**1.28**	**84**	*e*P	**Pn**	**13 48 09.5**	**-0.4**
TBH				*e*S	**Sn**	**13 48 26.6**	**+0.7**
ORIV	**Oritupano**	**1.64**	**219**	*e*P	**Pn**	**13 48 15.7**	**+0.9**
ORIV				*e*S	**Sn**	**13 48 38.2**	**+3.6**
TPR	**Prospect**	**1.77**	**62**	*e*P	**Pn**	**13 48 17.0**	**+0.5**
BOT	**Bacolet**	**1.81**	**63**	*i*eP	**Pn**	**13 48 17.6**	**+0.5**
GRGR	**Grenville**	**1.90**	**22**	*e*P	**Pn**	**13 48 18.0**	**-0.4**
GRGR				*e*S	**Sn**	**13 48 41.9**	**+0.9**
GRGR	**Grenville**	**1.90**	**22**	*e*Pn	**Pn**	**13 48 17.6**	**-0.7**
GRW	**Mount Saint Ca**	**1.92**	**21**	*e*P	**Pn**	**13 48 18.8**	**+0.1**
PCRV	**Puerto La Cruz**	**2.24**	**266**	P	**Pn**	**13 48 22.2**	**-0.8**
	174nm,0.3s,baz=86,slow=5.4,SNR=342						
PCRV				S	**Sn**	**13 48 51.3**	**+1.8**
	197nm,0.3s,baz=199,slow=18,SNR=4.9						
PCRV	**Puerto La Cruz**	**2.24**	**266**	*e*P	**Pn**	**13 48 23.6**	**+0.5**
PCRV				*e*S	**Sn**	**13 48 51.4**	**+1.8**
RIOV	**Rio Grande**	**2.34**	**166**	*e*P	**Pn**	**13 48 24.6**	**+0.2**
RIOV				*e*S	**Sn**	**13 48 52.9**	**+1.0**
PRGV	**PARIAGUAN**	**2.75**	**235**	*i*eP	**Pn**	**13 48 30.7**	**+0.6**
PRGV				*e*S	**Sn**	**13 49 03.4**	**+1.3**
FCV	**Fort Charlotte**	**2.99**	**21**	*e*P	**Pn**	**13 48 34.1**	**+0.7**
FCV				*e*S	**Sn**	**13 49 08.7**	**+0.7**
SVB	**Belmont**	**3.10**	**21**	*e*P	**Pn**	**13 48 35.4**	**+0.6**
SVB				*e*S	**Sn**	**13 49 10.6**	**-0.1**
SVB				*e*T	T	13 50 57.6	
SVV	**Soufriere Volc**	**3.15**	**21**	*e*P	**Pn**	**13 48 37.0**	**+1.4**
SVV				*e*S	**Sn**	**13 49 12.0**	**0.0**
MCLT	**Moule a Chique**	**3.61**	**23**	*e*P	**Pn**	**13 48 42.0**	**+0.1**
MCLT				*e*S	**Sn**	**13 49 21.9**	**-1.5**
BIRV	**Birongo**	**3.84**	**272**	*e*P	**Pn**	**13 48 45.5**	**+0.4**
BIRV				*e*S	**Sn**	**13 49 29.1**	**+0.1**
BBGH	**Gun Hill**	**3.90**	**45**	*e*Pn	**Pn**	**13 48 48.0**	**+2.1**
MERV	**Las Mercedes**	**4.03**	**255**	*i*P	**Pn**	**13 48 47.9**	**+0.3**
MERV				*e*S	**Sn**	**13 49 33.5**	**0.0**
FUNV	**FUNVISIS**	**4.37**	**272**	*i*P	**Pn**	**13 48 53.6**	**+1.2**
FUNV				*e*S	**Sn**	**13 49 41.6**	**-0.6**
FDF	**Fort de France**	**4.51**	**15**	*e*P	**Pn**	**13 48 55.2**	**+0.9**
FDF	**Fort de France**	**4.51**	**15**	*e*P	**Pn**	**13 48 54.5**	**+0.2**
FDF	**Fort de France**	**4.51**	**15**	*e*Pn	**Pn**	**13 48 54.5**	**+0.2**
LUEV	**Luepa**	**4.57**	**169**	*e*P	**Pn**	**13 48 54.1**	**-1.2**
LUEV				*e*S	**Sn**	**13 49 45.9**	**-1.4**
DSHT	**Scott's Head**	**4.92**	**11**	*e*P	**Pn**	**13 49 01.7**	**+1.8**
TURV	**Turiamo**	**5.38**	**271**	*e*P	**Pn**	**13 49 06.3**	**0.0**
MGG	**Marie-Galante**	**5.62**	**10**	*e*P	**Pn**	**13 49 11.1**	**+1.6**
PHG	**Guadaloupe-2**	**5.67**	**7**	*e*P	**Pn**	**13 49 11.6**	**+1.3**
MLG	**Mont-d'or**	**5.71**	**6**	*e*P	**Pn**	**13 49 11.9**	**+1.1**
BAUV	**El Baul**	**5.77**	**256**	*i*P	**Pn**	**13 49 10.9**	**-0.6**
BAUV				*e*S	**Sn**	**13 50 14.6**	**-1.9**
MAPV	**Macapo**	**6.02**	**266**	*i*eP	**Pn**	**13 49 14.8**	**-0.3**
SEG	**Port Louis**	**6.07**	**8**	*e*P	**Pn**	**13 49 17.0**	**+1.3**
JACV	**Jacura**	**6.39**	**277**	*e*P	**Pn**	**13 49

CMIG LR LR 14 07 59.5
comp=Z,116nm,19.5s,baz=86,slow=38
LVC Limon Verde 33.39 191 P **P** 13 54 22.6 -1.0
comp=Z,9.3nm,0.7s,baz=114,slow=19,SNR=3.5
VBMS Vicksburg 33.89 314 P **P** 13 54 28.2 +0.6
baz=34,SNR=5.1
OXF Oxford 34.47 318 *e*P **P** 13 54 33.1 +0.4
OXF pmax pmax
comp=Z,109nm,1.0s
OXF Oxford 34.47 318 *e*P **P** 13 54 33.0 +0.4
comp=Z,109nm,1.0s
ACSO Alum Creek Sta 34.92 332 *e*P **P** 13 54 38.0 +1.5
comp=Z,23nm,0.9s
WCI Wyandotte Cave 35.08 326 *e*P **P** 13 54 39.2 +1.3
WCI pmax pmax
comp=Z,19nm,0.9s
WCI Wyandotte Cave 35.08 326 *e*P **P** 13 54 39.1 +1.3
comp=Z,19nm,0.9s
440A Kirbyville 35.67 309 P **P** 13 54 43.3 +0.3
baz=36
340A Bronson 35.93 310 P **P** 13 54 45.2 -0.1
baz=36,SNR=6.5
539A Cross D Ranch, 35.97 308 P **P** 13 54 45.7 +0.1
baz=36
SIUC Southern Illin 36.39 323 *e*P **P** 13 54 49.7 +0.6
comp=Z,86nm,1.1s
OLIL Olney 36.44 325 *e*P **P** 13 54 50.4 +0.9
comp=Z,66nm,0.7s
239A Gary 36.66 311 P **P** 13 54 51.9 +0.4
baz=37
NATX Nacogdoches 36.67 310 P **P** 13 54 52.4 +0.7
baz=37
NATX Nacogdoches 36.67 310 *e*P **P** 13 54 52.3 +0.7
comp=Z,44nm,0.7s
HKT Hockley 36.77 307 *e*P **P** 13 54 52.8 +0.4
HKT pmax pmax
comp=Z,9.0nm,0.8s
HKT Hockley 36.77 307 *e*P **P** 13 54 52.8 +0.4
comp=Z,8.8nm,0.8s
737A Port Lavaca 36.77 305 P **P** 13 54 52.9 +0.4
baz=37
CPUP Villa Florida 36.79 172 P **P** 13 54 54.3 +1.7
comp=Z,2.5nm,0.9s,baz=351,slow=10,SNR=4.1
438A Sam Houston St 36.83 308 P **P** 13 54 53.1 +0.1
baz=37
139A Bunkhouse Ranc 36.92 312 P **P** 13 54 53.8 +0.1
baz=37,SNR=5.6
637A Eagle Lake 36.95 306 P **P** 13 54 54.7 +0.7
baz=37
338A Crockett 36.98 309 P **P** 13 54 54.7 +0.5
baz=37,SNR=7.8
Z39A Irene McRaven, 37.05 313 P **P** 13 54 55.2 +0.4
baz=37
SFIN Scholer Farm 37.06 328 P **P** 13 54 55.5 +0.7
baz=37,SNR=5.7
SFIN Scholer Farm 37.06 328 *e*P **P** 13 54 55.9 +1.0
comp=Z,9.6nm,0.7s
238A Jacksonville 37.13 310 P **P** 13 54 55.9 +0.4
baz=37
537A Green Hill Far 37.20 307 P **P** 13 54 56.2 +0.1
baz=37
MIAR Mount Ida 37.30 315 *e*P **P** 13 54 56.6 -0.3
MIAR pmax pmax
comp=Z,21nm,1.2s
MIAR Mount Ida 37.30 315 P **P** 13 54 56.4 -0.5
baz=37,SNR=7.5
MIAR Mount Ida 37.30 315 *e*P **P** 13 54 56.5 -0.3
comp=Z,21nm,1.2s
035Z Hargill 37.31 300 P **P** 13 54 57.4 +0.3
baz=37
Y39A Lockesburg 37.34 314 P **P** 13 54 57.1 -0.2
baz=37,SNR=5.4
736A Circle Diamond 37.35 305 P **P** 13 54 57.7 +0.3
baz=37
437A Phantom Ranch, 37.38 308 P **P** 13 54 57.1 -0.5
baz=37
138A Matatall Enter 37.42 311 P **P** 13 54 58.4 +0.4
baz=37,SNR=6.4
035A Encino 37.49 301 P **P** 13 54 59.2 +0.6
baz=37
636A Smothers Creek 37.55 305 P **P** 13 54 59.6 +0.5
baz=38,SNR=15
Z38A Mt. Pleasant 37.63 312 P **P** 13 55 00.0 +0.3
baz=38
237A Washetta, Mont 37.65 310 P **P** 13 55 00.1 +0.2
baz=38,SNR=5.1
835A Beeville 37.73 303 P **P** 13 55 01.1 +0.5
baz=38
536A Bastrop 37.79 306 P **P** 13 55 01.8 +0.7
baz=38
Y38A Idabel 37.79 313 P **P** 13 55 01.0 -0.1
baz=38
436A Wall Ranch, Ga 37.87 308 P **P** 13 55 01.9 +0.2
baz=38
137A Heron Place, G 37.89 311 P **P** 13 55 02.3 +0.4
baz=38
735A Kenedy 37.91 304 P **P** 13 55 02.8 +0.6
baz=38
034A Hebbronville 38.02 301 P **P** 13 55 04.0 +0.9
baz=38,SNR=16
934A Benavides 38.06 302 P **P** 13 55 03.9 +0.4
baz=38
Z37A Pogue Cattle C 38.08 312 P **P** 13 55 03.7 +0.2
baz=38
635A Leesville 38.09 305 P **P** 13 55 03.4 -0.3
baz=38
236A Katherine and 38.20 310 P **P** 13 55 04.3 -0.2
baz=38
W38A Poteau 38.24 315 P **P** 13 55 04.4 -0.4
baz=38,SNR=6.1
X38A Whitesboro 38.24 314 P **P** 13 55 04.7 -0.2
baz=38,SNR=28
HDIL Hopedale 38.37 326 P **P** 13 55 05.5 -0.3
baz=38,SNR=7.1
HDIL Hopedale 38.37 326 *e*P **P** 13 55 05.8 -0.1
comp=Z,27nm,0.7s
Y37A Hugo 38.46 313 P **P** 13 55 06.3 -0.4
baz=38
435B Jarrell 38.49 307 P **P** 13 55 06.6 -0.4
baz=38,SNR=5.3
734A La Parita Cree 38.52 304 P **P** 13 55 07.2 -0.2
baz=38
335A Moody 38.57 308 P **P** 13 55 07.5 -0.2
baz=38
X37A Clayton 38.59 314 P **P** 13 55 06.9 -0.9
baz=39,SNR=6.9
933A Laredo 38.70 302 P **P** 13 55 08.3 -0.5
baz=39
Z36A Blue Ridge 38.71 311 P **P** 13 55 08.4 -0.4
baz=39
534A Blanco 38.90 306 P **P** 13 55 09.4 -1.1
baz=39,SNR=6.3
WHTX Lake Whitney 38.90 309 P **P** 13 55 10.0 -0.5
baz=39,SNR=17
WHTX Lake Whitney 38.90 309 *e*P **P** 13 55 10.1 -0.3
comp=Z,75nm,0.9s
Y36A Durant 38.90 312 P **P** 13 55 10.3 -0.1
baz=39
W37A Quinton 38.91 315 P **P** 13 55 10.0 -0.5
baz=39,SNR=22
833A Chaparral WMA, 39.03 303 P **P** 13 55 11.4 -0.2
baz=39,SNR=21
434A Burnet 39.04 307 P **P** 13 55 10.6 -1.1
baz=39,SNR=12
733A Divot King Ran 39.08 303 P **P** 13 55 11.7 -0.3
baz=39
V37A Hulbert 39.10 316 P **P** 13 55 11.2 -0.8
baz=39,SNR=26
135A Vickery Place, 39.11 310 P **P** 13 55 12.2 0.0
baz=39
334A Lometa 39.22 308 P **P** 13 55 12.4 -0.8
baz=39,SNR=10
633A Saathoff Ranch 39.25 304 P **P** 13 55 12.8 -0.6
baz=39,SNR=9.1
X36A Centrahoma 39.27 313 P **P** 13 55 12.5 -1.0
baz=39,SNR=14
Z35A Perchaven, San 39.34 311 P **P** 13 55 13.9 -0.2
baz=39
533A Kerrville 39.36 305 P **P** 13 55 14.3 -0.1
baz=39
234A Clairette 39.42 309 P **P** 13 55 14.2 -0.6
baz=39,SNR=6.9
Y35A Marietta 39.45 312 P **P** 13 55 14.8 -0.2
baz=39,SNR=24
W36A Wetumka 39.47 314 P **P** 13 55 14.2 -1.0
baz=40
832A Faith Ranch, C 39.50 302 P **P** 13 55 15.0 -0.5
baz=39,SNR=11

TUL1 Tulsa 39.56 315 P **P** 13 55 15.2 -0.7
baz=40,SNR=12
TUL1 Tulsa 39.56 315 *e*P **P** 13 55 15.2 -0.7
comp=Z,57nm,0.8s
V36A Jenks 39.60 315 P **P** 13 55 15.3 -1.0
baz=40,SNR=8.7
134A White-Moore Ra 39.62 309 P **P** 13 55 15.9 -0.6
baz=40,SNR=12
T37A Cheneyville 18 39.63 318 P **P** 13 55 15.6 -0.8
baz=40,SNR=19
X35A Drake 39.64 313 P **P** 13 55 15.0 -1.6
baz=40,SNR=12
732A Laxson Ranch, 39.65 303 P **P** 13 55 16.2 -0.5
baz=40
433A Art 39.66 306 P **P** 13 55 16.2 -0.7
baz=40,SNR=37
632A Uvalde 39.76 304 P **P** 13 55 17.6 -0.1
baz=40
U36A Oologah 39.78 316 P **P** 13 55 17.3 -0.4
baz=40
333A Richland Sprin 39.80 307 P **P** 13 55 17.5 -0.6
baz=40,SNR=29
S37A Fort Scott 39.92 318 P **P** 13 55 18.2 -0.7
baz=40,SNR=28
W35A Tecumseh 39.94 314 P **P** 13 55 17.4 -1.7
baz=40,SNR=17
Y34A Reagan Ranch, 40.00 312 P **P** 13 55 18.9 -0.7
baz=40,SNR=8.9
233A Rising Star 40.02 308 P **P** 13 55 19.1 -0.7
baz=40,SNR=13
532A Rocksprings 40.08 305 P **P** 13 55 20.0 -0.4
baz=40,SNR=37
JCT Junction City 40.13 305 *e*P **P** 13 55 20.6 -0.2
JCT pmax pmax
comp=Z,34nm,0.6s
JCT Junction City 40.13 305 P **P** 13 55 20.1 -0.6
baz=40,SNR=18
JCT Junction City 40.13 305 *e*P **P** 13 55 20.6 -0.2
comp=Z,34nm,0.6s
V35A Meyer Ranch, C 40.22 315 P **P** 13 55 19.8 -1.5
baz=40,SNR=8.1
T36A Boggs Farm, Ca 40.23 317 P **P** 13 55 20.6 -0.9
baz=40,SNR=32
R37A Teagarden Farm 40.24 319 P **P** 13 55 20.8 -0.7
baz=40,SNR=11
432A Menard 40.27 306 P **P** 13 55 21.3 -0.6
baz=40,SNR=8.3
133A Hamilton Ranch 40.28 309 P **P** 13 55 21.4 -0.5
baz=40,SNR=6.7
Q37A Longview Farm, 40.33 320 P **P** 13 55 21.4 -0.8
baz=40
X34A Smith Ranch, M 40.36 312 P **P** 13 55 22.0 -0.6
baz=40,SNR=50
631A Perdido Creek 40.38 304 P **P** 13 55 22.4 -0.4
baz=40
S36A Lake Cedric, C 40.41 318 P **P** 13 55 22.5 -0.4
baz=40
332A Millersview 40.42 307 P **P** 13 55 22.7 -0.5
baz=40,SNR=20
U35A Pawnee 40.45 315 P **P** 13 55 22.3 -1.0
baz=40,SNR=6.2
Z33A Whitaker Ranch 40.45 310 P **P** 13 55 22.5 -0.9
baz=40,SNR=13
JFWS Jewell Farm 40.53 328 *e*P **P** 13 55 23.8 0.0
JFWS pmax pmax
comp=Z,40nm,0.9s
JFWS Jewell Farm 40.53 328 *e*P **P** 13 55 23.8 0.0
comp=Z,40nm,0.9s
232A Coleman 40.55 308 P **P** 13 55 23.2 -1.0
baz=40,SNR=25
T35A Sooner Cattle 40.59 316 P **P** 13 55 23.1 -1.3
baz=41,SNR=18
531A Rocksprings 40.61 305 P **P** 13 55 24.2 -0.6
baz=41,SNR=16
W34A Bridge Creek, 40.62 313 P **P** 13 55 24.0 -0.7
baz=41,SNR=9.1
W34A Bridge Creek, 40.62 313 *e*P **P** 13 55 23.7 -1.0
comp=Z,73nm,0.7s
Y33A Hilltop Ranch, 40.67 311 P **P** 13 55 24.5 -0.6
baz=41,SNR=7.0
R36A Gordon, Harris 40.68 319 P **P** 13 55 24.0 -1.2
baz=41,SNR=8.4
X33A Lawton 40.82 312 P **P** 13 55 25.6 -0.7
baz=41,SNR=8.0
ABTX Abilene, Hawle 40.84 309 P **P** 13 55 25.8 -0.8
baz=41,SNR=11
ABTX Abilene, Hawle 40.84 309 *e*P **P** 13 55 26.4 -0.2
comp=Z,35nm,0.9s
431A Sonora 40.85 305 P **P** 13 55 26.2 -0.6
baz=41,SNR=22
S35A Otter Creek Ra 40.87 317 P **P** 13 55 25.7 -1.0
baz=41,SNR=7.2
331A San Angelo 40.94 306 P **P** 13 55 27.2 -0.3
baz=41,SNR=6.1
Z32A Haskell 41.00 310 P **P** 13 55 27.2 -0.7
baz=41,SNR=14
Q36A Arnold C. Orve 41.02 320 P **P** 13 55 27.7 -0.2
baz=41
W33A Caddo, Fort Co 41.08 313 P **P** 13 55 27.6 -0.9
baz=41,SNR=6.7
231A Bronte 41.09 307 P **P** 13 55 27.7 -1.0
baz=41
T34A McClaskey Farm 41.10 316 P **P** 13 55 27.6 -1.0
baz=41,SNR=17
WMOK Wichita Mounta 41.11 312 *e*P **P** 13 55 27.5 -1.3
WMOK pmax pmax
comp=Z,13nm,0.7s
WMOK Wichita Mounta 41.11 312 *e*P **P** 13 55 27.5 -1.3
comp=Z,13nm,0.7s
R35A Emporia Munici 41.14 318 P **P** 13 55 27.9 -1.0
baz=41,SNR=6.3
P36A Good Intent, A 41.24 321 P **P** 13 55 28.9 -0.8
baz=41
530A J-C Ranch, Com 41.25 304 P **P** 13 55 29.5 -0.6
baz=41,SNR=12
V33A Lossen Ranch, 41.27 314 P **P** 13 55 29.2 -0.9
baz=41,SNR=26
Y32A R-V Farms, Ver 41.27 311 P **P** 13 55 29.0 -1.2
baz=41,SNR=7.6
Q35A Mercer Eighty, 41.33 319 P **P** 13 55 30.0 -0.5
baz=41
X32A Elmer 41.34 311 P **P** 13 55 29.9 -0.8
baz=41,SNR=8.0
430A Baggett Ranch, 41.39 305 P **P** 13 55 30.4 -0.8
baz=41,SNR=12
O36A Bolckow 41.39 321 P **P** 13 55 30.3 -0.7
baz=41
S34A Willow Spring 41.41 317 P **P** 13 55 30.6 -0.5
baz=41
131A Roby 41.44 308 P **P** 13 55 31.2 -0.4
baz=41,SNR=6.6
U33A Lingo Farm, Me 41.44 315 P **P** 13 55 30.5 -1.0
baz=41
Z31A Sharp Cattle R 41.51 309 P **P** 13 55 31.3 -0.9
baz=42,SNR=28
330A Mertzon 41.57 306 P **P** 13 55 32.2 -0.5
baz=42,SNR=8.6
W32A Sentinel 41.63 312 P **P** 13 55 31.5 -1.5
baz=42,SNR=15
230A Sterling City 41.70 307 P **P** 13 55 32.8 -0.9
baz=42,SNR=11
P35A Duane Minner, 41.70 320 P **P** 13 55 32.5 -1.0
baz=42
V32A Arapaho 41.76 313 P **P** 13 55 33.5 -0.7
baz=42,SNR=5.1
R34A Isabella, Hill 41.81 318 P **P** 13 55 33.6 -0.9
baz=42,SNR=16
KSU1 Kansas State U 41.84 319 P **P** 13 55 33.4 -1.3
baz=42,SNR=6.2
KSU1 Kansas State U 41.84 319 *e*P **P** 13 55 33.0 -1.6
comp=Z,44nm,0.8s
130A Snyder 41.85 308 P **P** 13 55 33.9 -1.0
baz=42,SNR=11
Y31A Rekieta Farm, 41.87 310 P **P** 13 55 34.2 -0.8
baz=42,SNR=13
X31A McDonald Ranch 41.95 311 P **P** 13 55 34.2 -1.4
baz=42,SNR=24
Q34A Chapman 41.95 319 P **P** 13 55 34.3 -1.3
baz=42,SNR=11
S33A Kaszmaul Farm, 41.95 316 P **P** 13 55 34.9 -0.7
baz=42,SNR=13
U32A Winter Ranch, 42.04 314 P **P** 13 55 35.5 -0.9
baz=42,SNR=8.9
O35A Humboldt 42.06 321 P **P** 13 55 35.2 -1.2
baz=42
P34A Walnut Farm, R 42.22 319 P **P** 13 55 36.3 -1.5
baz=42,SNR=8.9
329A Wagon Wheel Ra 42.24 306 P **P** 13 55 37.4 -0.7
baz=42,SNR=9.1
N35A Tabor 42.24 322 P **P** 13 55 37.2 -0.7
baz=42
Z30A Sanderson Ranc 42.25 309 P **P** 13 55 37.5 -0.7
baz=42,SNR=25
229A Bryant Ranch, 42.28 307 P **P** 13 55 38.1 -0.4
baz=42
R33A Olander Ranch, 42.31 317 P **P** 13 55 37.9 -0.7
baz=42,SNR=7.6
Y30A Stafford Cattl 42.31 310 P **P** 13 55 38.2 -0.5
baz=42,SNR=12
V31A Spring Creek L 42.36 313 P **P** 13 55 38.5 -0.6
baz=42,SNR=8.7
T32A Huddler Ranch, 42.38 315 P **P** 13 55 38.8 -0.4
baz=42,SNR=10
O34A Beatrice 42.50 320 P **P** 13 55 38.6 -1.4
baz=42
X30A Coker Ranch, T 42.53 310 P **P** 13 55 39.4 -1.1
baz=42
129A Stewart Farms, 42.57 307 P **P** 13 55 40.0 -0.9
baz=42,SNR=11
Q33A Connelly Farm, 42.58 318 P **P** 13 55 39.6 -1.1
baz=43,SNR=41
W30A Crocket Farms 42.63 312 P **P** 13 55 40.6 -0.6
baz=43
M35A Neola 42.64 322 P **P** 13 55 40.4 -0.7
baz=43
U31A Nine Bar Ranch 42.64 314 P **P** 13 55 40.5 -0.8
baz=43
S32A Newby Ranch, P 42.65 316 P **P** 13 55 40.3 -1.0
baz=43,SNR=12
Z29A Hungry Hill Ra 42.69 308 P **P** 13 55 41.0 -0.7
baz=43,SNR=12
P33A Williams Farm, 42.72 319 P **P** 13 55 40.4 -1.4
baz=43,SNR=5.9
N34A Lincoln 42.76 321 P **P** 13 55 40.9 -1.3
baz=43
R32A Long Quarter, 42.86 317 P **P** 13 55 42.3 -0.8
baz=43
Y29A Porterfield Fa 42.90 309 P **P** 13 55 43.0 -0.5
baz=43,SNR=35
TXAR Lajitas Array 42.91 302 P **P** 13 55 43.5 -0.1
comp=Z,4.3nm,0.6s,baz=121,slow=8.2,SNR=75
TXAR PcP PcP 13 57 34.0 -0.1
comp=Z,3.7nm,0.5s,baz=116,slow=5.5,SNR=17
TXAR ScP ScP 14 01 21.2 -1.0
comp=Z,0.8nm,0.8s,baz=127,slow=5.6,SNR=6.8
228A UT Block 9, Go 42.95 306 P **P** 13 55 43.0 -0.9
baz=43
V30A Spur Ranch, Mi 42.97 312 P **P** 13 55 43.4 -0.7
baz=43,SNR=6.4
S31A Mullinville 42.98 315 P **P** 13 55 43.6 -0.4
baz=43,SNR=6.9
O33A Hebron 43.00 320 P **P** 13 55 42.8 -1.3
baz=43,SNR=5.3
128A Castleberry Fa 43.05 307 P **P** 13 55 44.1 -0.6
baz=43
Q32A Meitler Ranch, 43.05 318 P **P** 13 55 43.5 -1.1
baz=43,SNR=8.8
X29A Tulia 43.16 310 P **P** 13 55 44.6 -1.0
baz=43,SNR=9.7
M34A Aspy Farms, Fr 43.19 322 P **P** 13 55 45.0 -0.6
baz=43
Z28A Tucker Farm, M 43.22 308 P **P** 13 55 45.2 -0.9
baz=43,SNR=7.0
N33A J Bar K, Exete 43.29 320 P **P** 13 55 45.6 -0.8
baz=43
U30A WK&E Inc. Balk 43.29 313 P **P** 13 55 46.4 -0.1
baz=43
AMTX Amarillo 43.32 311 P **P** 13 55 45.9 -1.0
baz=43
AMTX Amarillo 43.32 311 *e*P **P** 13 55 45.6 -1.3
comp=Z,11nm,0.6s
R31A Burdett 43.34 316 P **P** 13 55 45.5 -1.4
baz=43,SNR=9.6
L34A Svendsen Farm, 43.34 323 P **P** 13 55 46.4 -0.5
baz=43
Y28A McKinney Farm, 43.36 309 P **P** 13 55 46.4 -0.8
baz=43,SNR=30
W29A Amraillo 43.40 311 P **P** 13 55 46.9 -0.6
baz=43
P32A Huiting Farm, 43.41 318 P **P** 13 55 46.0 -1.5
baz=43,SNR=7.7
T30A Plains 43.44 314 P **P** 13 55 47.1 -0.7
baz=43,SNR=11
SPMN St. Paul 43.46 329 P **P** 13 55 46.7 -1.0
baz=44,SNR=5.2
SPMN St. Paul 43.46 329 *e*P **P** 13 55 47.7 0.0
comp=Z,14nm,0.6s
O32A Brockman Farm, 43.55 319 P **P** 13 55 47.2 -1.3
baz=44
X28A Dimmitt 43.56 310 P **P** 13 55 48.1 -0.8
baz=44
M33A Taylor Creek F 43.61 322 P **P** 13 55 48.2 -0.8
baz=44
Q31A Ellis 43.62 317 P **P** 13 55 48.2 -0.9
baz=44
V29A Stinnett 43.62 312 P **P** 13 55 49.3 -0.1
baz=44
S30A Montezuma 43.67 315 P **P** 13 55 49.1 -0.6
baz=44
U29A Oasis Ranch, S 43.70 313 P **P** 13 55 49.1 -0.8
baz=44,SNR=9.4
CBKS Cedar Bluff 43.75 317 *e*P **P** 13 55 49.4 -0.8
CBKS pmax pmax
comp=Z,29nm,0.8s
CBKS Cedar Bluff 43.75 317 P **P** 13 55 49.4 -0.8
baz=44
CBKS Cedar Bluff 43.75 317 *e*P **P** 13 55 49.4 -0.8
comp=Z,29nm,0.8s
MSTX Muleshoe 43.78 309 P **P** 13 55 50.1 -0.5
baz=44,SNR=13
MSTX Muleshoe 43.78 309 *e*P **P** 13 55 49.8 -0.8
comp=Z,37nm,0.8s
R30A Dighton 43.85 316 P **P** 13 55 50.1 -1.0
baz=44,SNR=12
W28A Vega 43.87 311 P **P** 13 55 49.5 -1.9
baz=44
P31A Stockton 43.87 318 P **P** 13 55 50.5 -0.7
baz=44
L33A Hoskins 44.00 322 P **P** 13 55 51.5 -0.7
baz=44
T29A Hugoton 44.03 314 P **P** 13 55 52.2 -0.4
baz=44
BGNE Belgrade 44.10 321 P **P** 13 55 52.3 -0.7
baz=44
BGNE Belgrade 44.10 321 *e*P **P** 13 55 52.0 -1.0
S29A Ulysses 44.12 314 P **P** 13 55 52.4 -0.9
baz=44
Q30A Quinter 44.16 317 P **P** 13 55 51.9 -1.6
baz=44,SNR=11
O31A Woolen Ranch, 44.17 319 P **P** 13 55 51.9 -1.6
baz=44
N31A Bailey Ranch, 44.29 320 P **P** 13 55 53.4 -1.1
baz=44
P30A Selden 44.46 317 P **P** 13 55 54.4 -1.6
baz=44,SNR=9.7
SCHQ Schefferville 44.50 356 P **P** 13 55 56.4 +0.5
comp=Z,3.7nm,0.5s,baz=188,slow=7.1,SNR=11
R29A Marienthal 44.51 315 P **P** 13 55 55.0 -1.4
baz=44,SNR=5.1
ECSD EROS Data Cent 44.55 324 P **P** 13 55 55.5 -1.0
baz=45,SNR=6.5
ECSD EROS Data Cent 44.55 324 *e*P **P** 13 55 55.6 -1.0
comp=Z,5.0nm,0.7s
M31A Lambtecht Ranc 44.58 320 P **P** 13 55 56.4 -0.5
baz=45
T28A Walsh 44.60 313 P **P** 13 55 56.3 -0.8
baz=45,SNR=24
Q29A Oakley 44.63 316 P **P** 13 55 55.9 -1.4
baz=45,SNR=11
O30A MW Ranch, Wils 44.66 318 P **P** 13 55 55.9 -1.6
baz=45,SNR=6.6
S28A Manter 44.66 314 P **P** 13 55 56.8 -0.8
baz=45,SNR=15
EYMN Ely 44.76 332 P **P** 13 55 57.2 -0.9
baz=45
EYMN Ely 44.76 332 *e*P **P** 13 55 57.5 -0.6
comp=Z,7.3nm,0.8s
U27A Thompson Grove 44.81 312 P **P** 13 55 57.7 -1.2
baz=45,SNR=57
R28A Tribune 44.94 315 P **P** 13 55 58.7 -1.2
baz=45,SNR=17
P29A Atwood 44.95 317 P **P** 13 55 58.5 -1.4
baz=45
L31A Butterfield Fa 44.96 321 P **P** 13 55 58.8 -1.0
baz=45
T27A Campo 45.01 313 P **P** 13 55 59.1 -1.4

baz=45,SNR=16
O29A **4D Ranch, Culb** 45.12 318 P P 13 55 59.7 -1.5
baz=45
Q28A **Sharon Springs** 45.29 316 P P 13 56 01.2 -1.4
baz=45,SNR=6.6
N29A **Votaw Ranch, W** 45.36 319 P P 13 56 02.5 -0.6
baz=45
L30A **Spencer Herefo** 45.38 321 P P 13 56 01.9 -1.3
baz=45
P28A **Saint Francis** 45.49 317 P P 13 56 02.8 -1.3
baz=46,SNR=8.9
R27A **Eads** 45.61 314 P P 13 56 03.9 -1.2
baz=46,SNR=8.4
T26A **Comanche Natio** 45.69 313 P P 13 56 04.8 -1.1
baz=46,SNR=7.9
K30A **Basset** 45.71 321 P P 13 56 05.2 -0.7
baz=46
KSCO **Kaye Shedlock'** 45.82 315 P P 13 56 05.8 -1.0
baz=46
J30A **Dallas** 46.00 322 P P 13 56 07.1 -1.0
baz=46
P27A **Ficken Ranch,** 46.04 316 P P 13 56 07.3 -1.2
baz=46
R26A **Arlington** 46.07 314 P P 13 56 07.4 -1.4
baz=46,SNR=10
K29A **Lazy Trails An** 46.20 321 P P 13 56 08.2 -1.4
baz=46
T25A **Trinidad** 46.27 312 P P 13 56 10.2 -0.3
baz=46,SNR=8.7
I30A **Oacoma** 46.30 323 P P 13 56 09.3 -1.1
baz=46,SNR=6.7
Q26A **Hugo** 46.40 315 P P 13 56 10.6 -0.8
baz=46,SNR=11
J29A **Okreek** 46.55 322 P P 13 56 11.1 -1.3
baz=47,SNR=9.4
P26A **Davis Ranch, A** 46.57 316 P P 13 56 11.6 -1.2
baz=46,SNR=7.8
N27A **Anderson Farm,** 46.61 318 P P 13 56 11.5 -1.5
baz=47
K28A **Ten Mile Ranch** 46.82 321 P P 13 56 13.8 -0.8
baz=47
G30A **Faulkton** 46.84 324 P P 13 56 14.1 -0.5
baz=47
O26A **Horse Wrangler** 46.86 317 P P 13 56 14.5 -0.5
baz=47
M27A **Reverse DX Ran** 46.87 319 P P 13 56 14.8 -0.2
baz=47
ANMO **Albuquerque** 46.97 309 P P 13 56 15.8 -0.2
comp=Z,10.0nm,0.7s,baz=119,slow=8.6,SNR=31
ANMO **Albuquerque** 46.97 309 *i* P P 13 56 16.8 +0.8
ANMO **Albuquerque** 46.97 309 *eP* P 13 56 16.1 +0.1
L27A **T5 Ranch, Ells** 47.10 319 P P 13 56 15.7 -1.1
baz=47
J28A **Allard Ranch,** 47.12 321 P P 13 56 15.5 -1.3
baz=47,SNR=6.0
H29A **Onida** 47.17 323 P P 13 56 15.8 -1.4
baz=47,SNR=5.3
F30A **Leola** 47.19 325 P P 13 56 16.6 -0.7
baz=47,SNR=7.8
121A **Cookes Peak, D** 47.24 305 P P 13 56 17.9 -0.2
baz=47,SNR=15
121A **Cookes Peak, D** 47.24 305 *eP* P 13 56 18.6 +0.5
comp=Z,15nm,0.8s
SDCO **Great Sand Dun** 47.31 312 P P 13 56 17.7 -1.0
baz=47,SNR=19
SDCO **Great Sand Dun** 47.31 312 *eP* P 13 56 17.9 -0.8
comp=Z,5.6nm,0.7s
I28A **Midland** 47.39 322 P P 13 56 18.1 -0.8
baz=47
J27A **Elkhorn Farm,** 47.50 321 P P 13 56 18.8 -1.2
baz=48
E30A **Jud** 47.53 326 P P 13 56 19.2 -0.7
baz=48,SNR=27
Q24A **Divide** 47.56 314 P P 13 56 19.9 -0.8
baz=48
F29A **Eureka** 47.64 325 P P 13 56 19.7 -1.1
baz=48,SNR=5.1
H28A **Mission Ridge** 47.67 323 P P 13 56 20.4 -0.7
baz=48
D30A **Buchanan** 47.82 327 P P 13 56 21.3 -0.8
baz=48,SNR=29
G28A **Parade** 47.84 323 P P 13 56 21.6 -0.8
baz=48,SNR=6.7
M25A **Palm-Egli Farm** 47.92 318 P P 13 56 22.4 -0.8
baz=48
K26A **Motz Farm, Whi** 47.96 320 P P 13 56 22.6 -0.8
baz=48
I27A **Quinn** 47.96 322 P P 13 56 23.2 -0.2
baz=48
E29A **Napoleon** 47.98 326 P P 13 56 22.7 -0.8
baz=48,SNR=8.1
C30A **Mose, Pekin** 48.04 328 P P 13 56 23.4 -0.5
baz=48,SNR=13
L25A **Engebretsen Ra** 48.20 319 P P 13 56 24.8 -0.5
baz=48
J26A **Sides Ranch, S** 48.20 320 P P 13 56 24.8 -0.5
baz=48
F28A **McLaughlin** 48.21 324 P P 13 56 24.8 -0.4
baz=48
ISCO **Idaho Springs** 48.24 315 *eP* P 13 56 24.4 -1.5
ISCO pmax pmax
comp=Z,15nm,1.2s
ISCO **Idaho Springs** 48.24 315 P P 13 56 25.0 -0.9
baz=48,SNR=12
ISCO **Idaho Springs** 48.24 315 *eP* P 13 56 24.4 -1.5
comp=Z,15nm,1.2s
S22A **4UR Ranch, Cre** 48.28 312 P P 13 56 25.2 -1.0
baz=48,SNR=8.2
H27A **Howes** 48.28 322 P P 13 56 24.9 -1.0
baz=48,SNR=6.4
K25A **Mack Ranch, Ha** 48.36 319 P P 13 56 25.3 -1.3
baz=48,SNR=7.1
B30A **Myrvik Farm, E** 48.44 328 P P 13 56 26.7 -0.2
baz=48
E28A **Huff** 48.56 325 P P 13 56 27.7 -0.3
baz=49
G27A **Dupree** 48.60 323 P P 13 56 27.7 -0.6
baz=49,SNR=10.0
H26A **Fairpoint** 48.69 322 P P 13 56 27.8 -1.3
baz=49,SNR=10.0
J25A **Sunshine Ranch** 48.70 320 P P 13 56 28.4 -0.7
baz=49
MDND **Maddock** 48.73 327 P P 13 56 28.9 -0.2
baz=49
MDND **Maddock** 48.73 327 *eP* P 13 56 28.0 -1.2
comp=Z,57nm,0.8s
A30A **Hoffart Farm,** 48.73 329 P P 13 56 28.7 -0.5
baz=49
PHWY **Pilot Hill** 48.79 317 *eP* P 13 56 29.1 -1.0
comp=Z,2.5nm,0.3s
D28A **Regan** 48.86 326 P P 13 56 29.2 -1.0
baz=49,SNR=7.0
F27A **Lemmon** 48.92 324 P P 13 56 30.1 -0.7
baz=49,SNR=6.9
SMCO **Snowmass** 48.94 314 *eP* P 13 56 30.4 -1.1
comp=Z,4.4nm,0.8s
G26A **Maurine** 48.95 323 P P 13 56 30.0 -1.0
baz=49,SNR=16
I25A **Rochford** 48.97 321 P P 13 56 30.4 -0.9
baz=49,SNR=9.8
E27A **Carson** 48.97 325 P P 13 56 31.3 +0.2
baz=49
B29A **Wagenman Farm,** 48.98 328 P P 13 56 30.2 -0.9
baz=49,SNR=5.5
C28A **Hausauer Farms** 49.07 327 P P 13 56 31.2 -0.6
baz=49,SNR=8.2
A29A **Manning Farm,** 49.20 328 P P 13 56 31.8 -1.0
baz=49,SNR=8.5
H25A **Fruitdale** 49.20 322 P P 13 56 31.9 -1.0
baz=49
J24A **Dixon Ranch, L** 49.22 320 P P 13 56 32.9 -0.3
baz=49
F26A **Lodgepole** 49.29 323 P P 13 56 32.7 -0.9
baz=49,SNR=8.2
MVCO **Mesa Verde** 49.31 311 P P 13 56 33.5 -0.6
baz=49
MVCO **Mesa Verde** 49.31 311 *eP* P 13 56 34.2 +0.1
comp=Z,5.0nm,0.8s
D27A **Center** 49.34 325 P P 13 56 33.6 -0.3
baz=49
G25A **Newell** 49.39 322 P P 13 56 33.2 -1.2
baz=49,SNR=5.1
B28A **Dugan Ranch, T** 49.50 327 P P 13 56 34.5 -0.5
baz=50,SNR=7.2
E26A **Carlson Angus** 49.51 324 P P 13 56 34.8 -0.5
baz=50,SNR=8.3
K23A **Bowen Ranch, D** 49.56 318 P P 13 56 35.1 -0.7
baz=50
TUC **Tucson** 49.61 304 *eP* P 13 56 36.2 -0.1
TUC pmax pmax
comp=Z,2.0nm,0.6s
TUC **Tucson** 49.61 304 *eP* P 13 56 36.1 -0.1
comp=Z,1.9nm,0.6s
C27A **Sayler Ranch,** 49.68 326 P P 13 56 36.8 +0.3
baz=50
PV01 **Paradox Valley** 49.70 312 *eP* P 13 56 37.3 +0.2
comp=Z,2um,1.2s
A28A **Rude Farm, Bot** 49.73 328 P P 13 56 35.9 -0.9
baz=50,SNR=6.3
F25A **Bowman** 49.80 323 P P 13 56 36.8 -0.7
baz=50
D26A **Manning** 49.81 325 P P 13 56 36.8 -0.7
baz=50,SNR=8.3
H24A **Dirks Ranch, A** 49.85 321 P P 13 56 36.1 -1.9
baz=50,SNR=6.0
B27A **Peters Farms,** 49.95 327 P P 13 56 38.0 -0.5
baz=50,SNR=5.6
E25A **Miller Ranch,** 50.07 324 P P 13 56 39.4 -0.2
baz=50
K22A **Casper** 50.11 318 P P 13 56 39.5 -0.5
baz=50
K22A **Casper** 50.11 318 *eP* P 13 56 39.2 -0.8
comp=Z,17nm,1.1s
O20A **White River Ci** 50.22 314 P P 13 56 40.4 -0.5
baz=50
A27A **Ledoux Ranch,** 50.26 327 P P 13 56 40.5 -0.4
baz=50,SNR=16
F24A **Ekalaka** 50.34 323 P P 13 56 41.4 -0.2
baz=50
D25A **Fairfield** 50.38 324 P P 13 56 42.2 +0.3
baz=50
B26A **Jensen Ranch,** 50.46 326 P P 13 56 42.2 -0.2
baz=50
G23A **Biddle** 50.59 321 P P 13 56 42.6 -0.9
baz=51,SNR=9.6
I22A **9 Mile Ranch,** 50.65 319 P P 13 56 43.4 -0.6
baz=51
C25A **Freed Ranch, W** 50.65 325 P P 13 56 44.1 +0.2
baz=51,SNR=11
A26A **Wade Farm, Ken** 50.66 327 P P 13 56 43.6 -0.2
baz=51
F23A **Volborg** 50.86 322 P P 13 56 44.8 -0.7
baz=51,SNR=8.1
H22A **Cleanont** 50.89 320 P P 13 56 44.2 -1.7
baz=51
B25A **Knox Farm, Ray** 50.91 326 P P 13 56 45.8 0.0
baz=51
WUAZ **Wupatki** 50.96 308 P P 13 56 46.3 -0.2
baz=51,SNR=5.6
WUAZ **Wupatki** 50.96 308 *eP* P 13 56 46.5 -0.1
comp=Z,8.1nm,1.0s
J21A **Lysite** 51.02 318 P P 13 56 45.9 -1.1
baz=51,SNR=5.6
I21A **Big Trails, Te** 51.13 319 P P 13 56 45.9 -1.8
baz=51,SNR=14
G22A **Birney** 51.16 321 P P 13 56 46.2 -1.5
baz=51,SNR=9.3
E23A **Ismay** 51.19 323 P P 13 56 47.3 -0.7
baz=51
214A **Organ Pipe Nat** 51.19 303 P P 13 56 47.4 -0.8
baz=51
A25A **Svanstu Ranch** 51.26 327 P P 13 56 48.3 -0.1
baz=51
H21A **Big Horn, Sher** 51.34 320 P P 13 56 47.8 -1.5
baz=51,SNR=5.3
F22A **Rosebud** 51.41 322 P P 13 56 48.9 -0.7
baz=51,SNR=9.5
J20A **Shoshoni** 51.44 318 P P 13 56 49.8 -0.3
baz=51
SRU **San Rafael** 51.48 312 *eP* P 13 56 50.1 -0.3
SRU pmax pmax
comp=Z,6.0nm,0.7s
SRU **San Rafael** 51.48 312 *eP* P 13 56 50.1 -0.3
comp=Z,6.0nm,0.7s
D23A **Lindsay** 51.48 324 P P 13 56 49.9 -0.2
baz=52
E22A **Miles City** 51.54 322 P P 13 56 49.9 -0.7
baz=52,SNR=5.1
DGMT **Dagmar** 51.59 326 P P 13 56 50.8 -0.1
baz=52,SNR=23
DGMT **Dagmar** 51.59 326 *eP* P 13 56 51.2 +0.2
comp=Z,102nm,0.7s
G21A **Lodge Grass** 51.73 321 P P 13 56 51.1 -0.9
baz=52
I20A **Worland** 51.73 319 P P 13 56 51.5 -0.6
baz=52,SNR=8.3
A24A **Westby** 51.74 326 P P 13 56 52.0 0.0
baz=52,SNR=11
C23A **Lambert** 51.80 324 P P 13 56 52.6 +0.2
baz=52,SNR=5.1
H20A **Greybull** 51.89 319 P P 13 56 51.6 -1.7
baz=52,SNR=6.1
B23A **Brockton** 52.04 325 P P 13 56 54.5 +0.3
baz=52,SNR=18
D22A **Cohagen** 52.04 323 P P 13 56 54.1 -0.2
baz=52
J19A **Crowheart** 52.05 318 P P 13 56 53.5 -1.1
baz=52,SNR=17
C22A **Vida** 52.17 324 P P 13 56 55.0 -0.2
baz=52
BW06 **Boulder Array** 52.18 317 *eP* P 13 56 54.3 -1.3
comp=Z,25nm,1.4s
PDAR **Pinedale Array** 52.18 317 P P 13 56 54.8 -0.8
comp=Z,5.2nm,0.6s,baz=99,slow=9.2,SNR=38
PDAR ScP ScP 14 02 00.0 -1.1
comp=Z,1.5nm,0.8s,baz=99,slow=9.2,SNR=7.2
PDAR LR LR 14 19 06.0
comp=Z,87nm,22.0s,baz=105,slow=36
A23A **Redstone** 52.24 326 P P 13 56 55.3 -0.4
baz=52
E21A **Keefer Ranch,** 52.27 322 P P 13 56 55.5 -0.5
baz=52
I19A **Meeteetse** 52.34 319 P P 13 56 55.7 -1.0
baz=52,SNR=7.3
G20A **Bridger** 52.36 320 P P 13 56 55.7 -1.1
baz=52,SNR=6.8
D21A **La Casta Ranch** 52.48 323 P P 13 56 56.9 -0.6
baz=52,SNR=15
MSU **Marysvale** 52.49 311 *eP* P 13 56 58.3 +0.3
MSU pmax pmax
comp=Z,2.0nm,0.6s
MSU **Marysvale** 52.49 311 *eP* P 13 56 58.3 +0.3
comp=Z,1.7nm,0.6s
B22A **Reddig Ranch S** 52.52 325 P P 13 56 57.9 0.0
baz=52,SNR=9.4
F20A **Billings** 52.58 321 P P 13 56 57.1 -1.3
baz=53,SNR=5.1
H19A **Powell** 52.60 319 P P 13 56 57.8 -0.8
baz=53
TCUT **Toone Canyon** 52.82 314 *eP* P 13 57 00.4 -0.1
comp=Z,8.7nm,0.6s
PDMCI **Parker Dam,Lak** 52.83 305 P P 13 56 59.4 -0.8
baz=53
A22A **Carney Farms,** 52.84 325 P P 13 57 00.3 +0.2
baz=53,SNR=12
C21A **Desert Coulee** 52.91 324 P P 13 57 00.5 -0.2
baz=53
RLMT **Red Lodge** 52.98 320 P P 13 57 01.0 -0.5
baz=53,SNR=12
RLMT **Red Lodge** 52.98 320 *eP* P 13 57 00.9 -0.5
comp=Z,17nm,1.1s
GLA **Glamis** 53.10 304 P P 13 57 02.4 0.0
baz=53
HWUT **Hardware Ranch** 53.11 315 *eP* P 13 57 01.1 -1.3
comp=Z,8.3nm,0.8s
B21A **Ellsworth Farm** 53.17 324 P P 13 57 02.8 +0.2
baz=53,SNR=8.7
LOHW **Long Hollow** 53.22 317 *eP* P 13 57 02.1 -1.2
comp=Z,7.8nm,1.1s
REDW **Red Top Meadow** 53.29 317 *eP* P 13 57 03.2 -0.6
comp=Z,26nm,1.3s
C20A **Veseth Ranch,** 53.39 323 P P 13 57 04.0 -0.3
baz=53,SNR=9.3
TPAW **Teton Pass** 53.40 317 *eP* P 13 57 04.0 -0.7
comp=Z,4.3nm,0.6s
A21A **Bergtoll Ranch** 53.40 325 P P 13 57 04.6 +0.3
baz=53,SNR=14
DUG **Dugway** 53.51 313 *eP* P 13 57 05.0 -0.4
DUG pmax pmax
comp=Z,4.0nm,0.7s
DUG **Dugway** 53.51 313 P P 13 57 04.8 -0.6
baz=54,SNR=8.1
DUG **Dugway** 53.51 313 *eP* P 13 57 05.0 -0.4
comp=Z,4.5nm,0.7s
GCMT **Greycliff** 53.53 320 *eP* P 13 57 04.8 -0.6
comp=Z,10nm,0.9s
IRM **Iron Mountain** 53.61 305 P P 13 57 06.3 +0.3
baz=54,SNR=6.4
BC3 **Big Chuckawall** 53.74 304 P P 13 57 06.7 -0.4
baz=54
B20A **Solberg Farm,** 53.76 324 P P 13 57 06.7 -0.3
baz=54,SNR=15
LDFC **Landfair** 53.79 306 *eP* P 13 57 07.9 +0.4
comp=Z,5.9nm,0.8s
BGU **Big Grassy Mou** 53.90 314 *eP* P 13 57 07.6 -0.7
comp=Z,8.3nm,0.9s
A20A **Cobblestone Ra** 53.92 324 P P 13 57 07.5 -0.6
baz=54,SNR=7.0
GMRC **Granite Mounta** 54.16 306 P P 13 57 09.9 -0.3
baz=54
QLMT **Earthquake Lak** 54.25 319 *eP* P 13 57 11.1 +0.3
comp=Z,1.9nm,0.9s
BELC **Belle Mtn. Jos** 54.26 304 P P 13 57 10.1 -0.9
baz=54
B19A **Brinkman Farms** 54.30 323 P P 13 57 10.9 0.0
baz=54,SNR=6.2
MONP **Monument Peak** 54.37 303 P P 13 57 12.1 +0.2
baz=54,SNR=5.3
A19A **Klindworth Far** 54.41 324 P P 13 57 11.8 +0.1
baz=54,SNR=10.0
TUQ **Turquoise Moun** 54.52 306 P P 13 57 12.2 -0.7
baz=54,SNR=5.5
PFO **Pinyon Flat Ob** 54.55 304 P P 13 57 12.3 -0.7
baz=54
EGMT **Eagleton** 54.58 323 P P 13 57 12.4 -0.6
baz=55,SNR=7.1
EGMT **Eagleton** 54.58 323 *eP* P 13 57 12.0 -1.0
comp=Z,5.7nm,0.7s
HEC **Hector,Ludlow** 54.71 305 P P 13 57 13.3 -0.9
baz=55
BOZ **Bozeman (W)** 54.71 319 P P 13 57 13.4 -0.6
baz=55,SNR=9.6
R11A **Troy Canyon, C** 55.00 310 P P 13 57 16.5 +0.2
baz=55,SNR=8.7
TPNV **Topopah Spring** 55.14 308 P P 13 57 17.4 0.0
baz=55,SNR=13
MURC **Murrieta** 55.16 304 P P 13 57 16.5 -0.8
baz=55
MCMT **McKenzie Canyo** 55.18 318 *eP* P 13 57 17.2 -0.4
comp=Z,2.5nm,1.0s
GSC **Goldstone** 55.20 306 P P 13 57 17.2 -0.4
baz=55
DLMT **Dillon** 55.22 319 *eP* P 13 57 17.0 -0.7
comp=Z,12nm,1.3s
LRM **Limekiln Ridge** 55.31 319 *eP* P 13 57 18.0 -0.5
comp=Z,26nm,1.0s
ELK **Elko** 55.43 313 P P 13 57 19.0 -0.5
comp=Z,1.2nm,0.6s,baz=99,slow=4.3,SNR=7.9
ELK ScP ScP 14 02 13.6 -1.8
comp=Z,0.7nm,0.7s,baz=86,slow=3.7,SNR=4.3
FURC **Furnace Creek,** 55.51 307 P P 13 57 20.2 +0.5
baz=55,SNR=5.2
BFSC **Mount Baldy Ra** 55.66 304 P P 13 57 20.3 -0.8
baz=56
HLID **Hailey** 55.77 316 P P 13 57 21.8 0.0
baz=56
HLID **Hailey** 55.77 316 *eP* P 13 57 21.3 -0.5
comp=Z,8.7nm,1.2s
MPMC **Manual Prospec** 55.91 307 P P 13 57 22.6 -0.3
baz=56
LRMC **Laurel Mountai** 55.94 306 P P 13 57 22.6 -0.4
baz=56
GRAC **Grapevine Rang** 56.03 308 P P 13 57 23.0 -0.5
baz=56
EDW2 **Edwards Air Fo** 56.05 305 P P 13 57 23.1 -0.7
baz=56
CIS **Catalina Islan** 56.10 303 P P 13 57 24.0 -0.1
baz=56
CWC **Cottonwood Cre** 56.46 307 P P 13 57 26.5 -0.3
baz=56
SLMT **Seeley Lake** 56.53 321 *eP* P 13 57 26.6 -0.5
comp=Z,9.9nm,1.2s
ISA **Isabella** 56.60 306 P P 13 57 27.0 -0.7
baz=56
MFID **Camas Ranch** 56.69 316 *eP* P 13 57 27.1 -1.1
comp=Z,1.6nm,0.5s
ARVC **Arvin** 56.78 305 P P 13 57 28.4 -0.5
baz=57
SWMT **Swartz Lake** 56.95 321 *eP* P 13 57 29.9 -0.1
NVAR **Mina Array Bea** 57.09 309 P P 13 57 31.1 -0.1
comp=Z,1.7nm,0.5s,baz=104,slow=6.8,SNR=16
NVAR PcP PcP 13 58 25.7 -0.2
comp=Z,1.6nm,0.7s,baz=127,slow=4.6,SNR=5.2
NVAR ScP ScP 14 02 21.1 -1.6
comp=Z,0.9nm,0.8s,baz=143,slow=5.2,SNR=6.6
VES **Vestal, Richgr** 57.12 306 P P 13 57 31.0 -0.3
baz=57
BMO **Blue Mountains** 58.16 317 *eP* P 13 57 37.0 -1.6
BMO pmax pmax
comp=Z,7.0nm,1.1s
BMO **Blue Mountains** 58.16 317 *eP* P 13 57 37.0 -1.6
comp=Z,7.3nm,1.1s
EDM **Edmonton** 58.99 327 *eP* P 13 57 43.0 -1.1
EDM pmax pmax
comp=Z,60nm,0.7s
EDM **Edmonton** 58.99 327 *eP* P 13 57 43.0 -1.1
comp=Z,60nm,0.7s
NEW **Newport** 59.19 321 P P 13 57 43.8 -1.8
comp=Z,3.1nm,0.6s,baz=45,slow=3.6,SNR=6.6
NEW **Newport** 59.19 321 P P 13 57 43.8 -1.8
NEW pmax pmax
comp=Z,3.0nm,0.6s
NEW **Newport** 59.19 321 P P 13 57 44.3 -1.2
baz=59
NEW **Newport** 59.19 321 *eP* P 13 57 44.1 -1.5
ESDC **Sonseca Array** 59.24 50 P P 13 57 49.1 +3.0
comp=Z,2.3nm,0.7s,baz=257,slow=7.4,SNR=7.1
J05D **Fort Rock, OR** 60.43 314 P P 13 57 53.5 -0.9
baz=60
M04C **Macdoel** 60.51 312 P P 13 57 54.1 -0.8
baz=60
YBH **Yreka Blue Hor** 61.13 312 P P 13 57 58.5 -0.6
comp=Z,3.8nm,1.0s,baz=76,slow=6.8,SNR=5.2
TORD **Torodi Ar. Bea** 62.64 81 P P 13 58 10.4 +0.8
comp=Z,1.1nm,0.5s,baz=285,slow=6.4,SNR=13
SUMG **Summit** 63.81 8 *i* P P 13 58 17.5 +0.7
comp=Z,19nm,0.9s
SUMG **Summit** 63.81 8 *i* P P 13 58 17.5 +0.7
SUMG pmax pmax
comp=Z,19nm,0.9s
SUMG **Summit** 63.81 8 *eP* P 13 58 16.4 -0.4
comp=Z,17nm,0.8s
YKA **Yellowknife Ar** 64.03 336 P P 13 58 16.3 -1.6
comp=Z,3.1nm,0.5s,baz=110,slow=7.3,SNR=14
EKA **Eskdalemuir Ar** 64.25 33 P P 13 58 19.9 +0.4
comp=Z,0.5nm,0.5s,baz=305,slow=4.6,SNR=3.6
RES **Resolute Bay** 66.88 351 P P 13 58 34.8 -1.4
comp=Z,1.5nm,0.7s,baz=171,slow=8.9,SNR=5.7
BBB **Bella Bella** 67.07 322 P P 13 58 36.3 -1.4
comp=Z,4.8nm,0.6s,baz=135,slow=13,SNR=2.6
DLBC **Dease Lake** 69.60 329 *eP* P 13 58 53.2 -0.3
comp=Z,17nm,0.9s
DAG **Danmarks Havn** 70.27 10 *i* P P 13 58 57.1 -0.1
comp=Z,2.4nm,0.7s
DAG **Danmarks Havn** 70.27 10 *eP* P 13 58 57.1 -0.1
DAG pmax pmax
comp=Z,2.0nm,0.7s
FETA **Feichten** 70.97 44⇑ *i* P P 13 59 02.1 -0.2
comp=Z,3.8nm,0.7s
NB2 **NORSAR Subarra** 73.06 29 P P 13 59 16.5 +2.1
comp=Z,4.1nm,0.7s,baz=264,slow=6.2
NOA **NORSAR Array B** 73.06 29 P P 13 59 16.4 +2.1
comp=Z,2.9nm,0.7s,baz=263,slow=6.0,SNR=12
GERES **GERESS Array B** 73.11 42 P P 13 59 15.6 +0.6
comp=Z,1.9nm,0.8s,baz=256,slow=6.6,SNR=5.7
INK **Inuvik** 73.50 338 *eP* P 13 59 14.7 -2.0
INK pmax pmax
comp=Z,6.0nm,1.0s
INK **Inuvik** 73.50 338 *eP* P 13 59 14.7 -2.0
comp=Z,5.5nm,1.0s
HFS **Hagfors** 74.14 30 P P 13 59 22.5 +1.9
comp=Z,5.7nm,0.7s,baz=205,slow=3.1,SNR=14
UPC **Upice** 74.69 40 *eP* P 13 59 28.6 +4.5
UPC *ex* x 13 59 32.2
UPC *es*P sP 13 59 43.4 +3.0
UPC **Upice** 74.69 40 *eP* P 13 59 28.6 +4.5
UPC *e* 13 59 43.4
DPC **Dobruska-Polom** 74.88 41 *eP* P 13 59 29.1 +3.8
DPC *ex* x 13 59 33.4
DPC *es*P sP 13 59 44.5 +2.9
DPC **Dobruska-Polom** 74.88 41 *eP* P 13 59 29.1 +3.8
DPC *e* 13 59 44.5
DAWY **Dawson** 75.08 334 *eP* P 13 59 24.4 -1.7

comp=Z,18nm,1.2s
EGAK Eagle 75.92 334 *e*P P **13 59 30.1 -0.7**
comp=Z,19nm,0.9s
BMRM Bremner River 77.25 330 *e*P P **13 59 38.4 -0.1**
comp=Z,11nm,0.7s
SPITS Spitsbergen Ar 77.62 12 P P **13 59 41.2 +1.0**
comp=Z,3.2nm,0.5s,baz=167,slow=3.9,SNR=14
ILAR Eielson Array 78.37 334 P P **13 59 43.5 -1.1**
comp=Z,4.0nm,0.6s,baz=114,slow=4.5,SNR=62
ILAR LR LR 14 37 08.1
comp=Z,71nm,18.4s,baz=110,slow=38
COLA College 78.78 334 *i* P P **13 59 46.2 -0.6**
COLA pmax pmax
comp=Z,17nm,0.7s
COLA College 78.78 334 *e*P P **13 59 45.5 -1.3**
comp=Z,3.5nm,0.7s
ARCES ARCESS Array B 79.63 21 P P **13 59 52.3 +0.9**
comp=Z,5.1nm,0.7s,baz=270,slow=4.9,SNR=14
TRF Thorofare Moun 79.89 333 *e*P P **13 59 52.2 -0.9**
comp=Z,21nm,0.7s
BPAW Bear Paw Mtn. 80.16 334 *e*P P **13 59 53.4 -1.0**
comp=Z,2.5nm,1.0s
FINES FINESS Array B 80.24 29 P P **13 59 56.0 +1.2**
comp=Z,4.3nm,0.4s,baz=250,slow=3.8,SNR=65
RSO Redoubt South 81.27 330 *e*P P **14 00 00.6 0.0**
comp=Z,63nm,0.8s
KDAK Kodiak Island 81.44 327 *i* P P **14 00 02.0 +0.7**
AKASG Malin Array Be 83.08 40 P P **14 00 10.8 +0.8**
comp=Z,0.5nm,0.4s,baz=290,slow=3.8,SNR=4.4
LVZ Lovozero 83.12 22 *e*P P **14 00 11.0 +1.0**
LVZ pmax pmax
comp=Z,8.0nm,0.9s
OBN Obninsk 86.65 35 *e*P P **14 00 26.6 -1.3**
OBN *e*S SKSac 14 10 44.2 -7.3
OBN pmax pmax
comp=Z,4.0nm,0.7s
OBN MLR MLR
comp=Z,46nm,18.0s
BRTR Keskin Array B 88.03 50 P P **14 00 37.0 +1.8**
comp=Z,1.5nm,0.8s,baz=265,slow=4.3,SNR=8.4
VSR Storozhevoye 89.13 38 *e*P P **14 00 41.3 +1.4**
VSR pmax pmax
comp=E,5.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=N,1.0nm,0.6s
PRGR Permogore 89.33 27 *e*P P **14 00 39.6 -0.9**
PRGR pmax pmax
comp=Z,9.0nm,0.9s
SNAA Sanae 90.66 164 P P **14 00 47.9 +1.4**
comp=Z,0.6nm,0.7s,baz=296,slow=6.3,SNR=8.5
BOSA Boshof 92.82 118 P P **14 00 59.1 +1.5**
comp=Z,5.2nm,1.0s,baz=285,slow=8.3,SNR=4.4
BILL Bilibino 94.54 344 *e*P P **14 01 03.8 -0.7**
BILL *e* 14 04 58.9
BILL *e*S **SKSac 14 11 36.7 +0.1**
BILL pmax pmax
comp=Z,4.0nm,1.7s
KSH Kashi 117.09 35 SKKS **SKKSdf 14 24 33.3 +1.8**
KSH AMB AMB
comp=Z,190nm,4.5s
KSH LR LR
comp=N,140nm,4.1s
KSH LR LR
comp=E,110nm,4.9s
KSH LR LR
comp=Z,380nm,5.5s
WMQ Urumqi 119.60 25 *e*PKP **PKPdf 14 06 32.1 -2.4**
SONM Songino Array 121.21 9 PKP **PKPdf 14 06 36.9 -0.7**
comp=Z,0.7nm,0.6s,baz=310,slow=1.6,SNR=5.0
GTA Gaotai 127.79 17 *e*PKP **PKPdf 14 06 51.7 +1.3**
HHC Hu-ho-hao-te 128.75 6 *e*PKP **PKPdf 14 06 51.1 -1.1**
HHC PP **PP 14 09 02.0 +4.8**
HHC SS SS 14 26 13.4 +1.9
HHC PPMZ
comp=Z,40nm,8.7s
KSRS Korea Array 131.47 349 SKPbc **SKPbc 14 10 19.1 -0.5**
comp=Z,3.5nm,0.9s,baz=352,slow=4.4,SNR=14
KSAR Wonju Array Be 131.49 349 SKPbc **SKPbc 14 10 19.1 -0.6**
LZH Lanzhou 132.01 15 *e*PKP **PKPdf 14 06 58.5 -0.1**
LZH sPKP 14 07 15.4
CD2 Chengdu 136.86 18 PKP **PKPdf 14 07 03.9 -3.8**
NJ2 Nanjing 137.82 358 *e*PKP **PKPdf 14 07 06.6 -2.7**
GYA Guiyang 141.88 16 *e*PKP **PKPdf 14 07 14.2 -2.8**
GYA sPKP 14 07 36.0
GYA PP **PP 14 10 21.5 +1.2**
GYA PPMZ
comp=Z,110nm,7.8s
CHTO Chiang Mai 145.65 33 *e*PKP2 **PKPdf 14 07 23.4 -0.2**
CHTO Chiang Mai 145.65 33 *e*PKP **PKPdf 14 07 23.4 -0.2**
CMAR Chiang Mai Arr 145.94 33 PKPbc **PKPbc 14 07 24.8 0.0**
comp=Z,4.6nm,0.8s,baz=311,slow=5.3,SNR=23
STKA Stephens Creek 149.18 222 PKPbc **PKPbc 14 07 32.9 -0.4**
comp=Z,3.9nm,0.9s,baz=34,slow=2.7,SNR=8.6
CTA Charters Tower 150.78 247 PKPbc **PKPbc 14 07 37.4 -0.2**
comp=Z,3.7nm,0.5s,baz=78,slow=1.8,SNR=9.8
ASAR Alice Springs 159.60 227 PKP **PKPdf 14 07 42.6 -1.3**
comp=Z,0.5nm,0.8s,baz=123,slow=1.0,SNR=8.5
ASAR PKPab **PKPab 14 08 21.4 -0.8**
comp=Z,0.9nm,0.6s,baz=125,slow=4.0,SNR=11
WRA Warramunga Arr 161.28 237 PKP **PKPdf 14 07 45.1 -0.6**
comp=Z,1.1nm,0.7s,baz=114,slow=0.4,SNR=9.7
WRA PKPab **PKPab 14 08 29.0 -0.7**
comp=Z,2.2nm,0.6s,baz=105,slow=4.2,SNR=21

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*MOS **06** 13:54:00.0±0.9,35.69S×72.00W,h38km,mb5.1/18,Error ellipse: s-maj=20.2km s-min=9.3km az=101.2*
*ISCJB **06** 13:54:02.1±0.5,35.67S±0.03×71.90W±0.05,h61km±3km, mb4.9/78,Error ellipse: s-maj=7.3km s-min=5.0km az=15.5*
*GUC **06** 13:54:02.1±0.5,35.66S×72.11W,h46km±1km,ML5.4*
*IDC **06** 13:54:02.5±0.5,35.62S×71.99W,h50km±4km,mb4.6/21, mb1 4.7/26,mb1mx4.5/37,mbtmp4.8/26,MS4.0/14, Ms1 4.0/14,ms1mx3.9/25,Error ellipse: s-maj=14.9km s-min=9.6km az=95.0*
*NEIC **06** 13:54:02.1±0.1,35.62S×71.95W,mb5.0/53,Error ellipse: s-maj=5.9km s-min=4.1km az=73.0*
NEIC Felt [V] at Longavi, Parral, San Javier, Talca and Yerbas Buenas; [IV] at Cauquenes, Linares, Pelluhue and Villa Alegre; [III] at Concepcion; [II] at Curico, Rancagua, San Fernando, Talagante and Tome. Also felt at Chillan, Rengo and Santiago.

ISC 06 13:54:01.8±0.4,35.66S±0.04×72.03W±0.06,h46km±3km, h46km:pP-P,n574,σ0.91/671,mb4.9/78,MS4.1/12,10C-9D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.41**	**51**	↑	*i*	P	**Pn**	**13 54 13.0**	**+1.2**
TALC					*i*	S	**Sn**	**13 54 21.0**	**+2.1**
NICH	**Los Niches**	**0.93**	**45**	↑	*i*	P	**Pn**	**13 54 19.9**	**+1.5**
NICH					*i*	S	**Sn**	**13 54 33.6**	**+3.0**
CCSP	**San Pedro de C**	**1.47**	**216**		*e*	P	**Pn**	**13 54 26.0**	**+0.2**
CCSP					*i*	S	**Sn**	**13 54 44.2**	**+0.3**
LNV	**Longovilo**	**1.78**	**17**	↑	*i*	P	**Pn**	**13 54 31.1**	**+1.0**
CHCH	**Chadas Angostu**	**2.06**	**34**	↓	*i*	P	**Pn**	**13 54 35.6**	**+1.6**
TACH	**Talagante**	**2.20**	**24**	↓	*i*	P	**Pn**	**13 54 36.9**	**+1.1**
PCH	**Pirque**	**2.39**	**32**	↓	*i*	P	**Pn**	**13 54 40.0**	**+1.5**
SAN	**Santiago**	**2.48**	**27**		*e*	P	**Pn**	**13 54 41.3**	**+1.6**
SAN					*i*	S	**Sn**	**13 55 10.7**	**+2.0**
LACH	**Col Las Americ**	**2.53**	**30**		*e*	P	**Pn**	**13 54 41.9**	**+1.5**
YECH	**El Yeso**	**2.56**	**39**	↑	*i*	P	**Pn**	**13 54 38.1**	**-2.9**
YECH					*i*	S	**Sn**	**13 55 08.8**	**-2.2**
YECH						AML	AML	13 55 19.1	
comp=E,14μm,0.7s									
CLCH	**Cerro Calan**	**2.57**	**29**	↑	*i*	P	**Pn**	**13 54 42.6**	**+1.5**
CLCH					*e*	S	**Sn**	**13 55 13.8**	**+2.6**
CLCH						AML	AML	13 55 31.3	
comp=N,21μm,0.7s									
PEL	**Peldehue**	**2.75**	**24**	↓	*i*	P	**Pn**	**13 54 44.7**	**+1.3**
PEL						AML	AML	13 55 28.8	
comp=N,17μm,0.5s									
CFAA	**Coronel Fontan**	**5.13**	**39**		P		**Pn**	**13 55 17.4**	**+1.2**
comp=N,2.5nm,0.3s,baz=217,slow=12,SNR=47									
CFAA					S		**Sn**	**13 56 14.9**	**+0.7**
comp=N,1.4nm,0.3s,baz=243,slow=13,SNR=3.4									
CFAA					LR		LR	13 57 25.8	
comp=N,200nm,20.8s,baz=240,slow=40									
LCO	**Las Campanas**	**6.73**	**10**		*e*	Pn	**Pn**	**13 55 37.1**	**-1.2**
comp=N,136nm,0.6s									
TRQA	**Tornquist**	**8.40**	**109**		*e*	Pn	**Pn**	**13 56 03.5**	**+2.6**
comp=N,95nm,0.8s									
LVC	**Limon Verde**	**13.28**	**13**		P		**Pn**	**13 57 07.5**	**-0.5**
comp=N,50nm,0.3s,baz=197,slow=8.0,SNR=19									
LVC					S		**Sn**	**13 59 32.5**	**-1.9**
comp=N,12nm,0.3s,baz=193,slow=6.7,SNR=3.7									
LVC					LR		LR	14 02 09.5	
comp=N,3μm,20.8s,baz=190,slow=37									
CPUP	**Villa Florida**	**15.65**	**58**		P		**Pn**	**13 57 39.1**	**-0.1**
comp=N,1.0nm,0.3s,baz=209,slow=9.7,SNR=14									
CPUP					LR		LR	14 04 24.6	
comp=N,1μm,19.2s,baz=208,slow=40									
EFI	**East Falkland**	**18.87**	**152**		P		**P**	**13 58 17.0**	**-1.0**
comp=N,402nm,1.3s,SNR=8.3									
EFI	**East Falkland**	**18.87**	**152**		*e*P		**P**	**13 58 17.4**	**-0.5**
USHA	**Ushuaia**	**19.33**	**174**		P		**Pn**	**13 58 24.1**	**-0.3**
comp=N,1.3nm,0.3s,baz=2.8,slow=8.1,SNR=8.2									
LPAZ	**La Paz**	**19.61**	**11**		P		**Pn**	**13 58 28.3**	**-0.3**
comp=N,1.7nm,0.3s,baz=183,slow=6.1,SNR=44									
LPAZ					S		**S**	**14 02 00.8**	**-5.4**
comp=N,0.1nm,0.3s,baz=222,slow=14,SNR=4.0									
SIV	**San Ignacio**	**21.90**	**29**		P		**P**	**13 58 50.5**	**-0.6**
comp=N,46nm,0.9s,baz=211,slow=9.7,SNR=36									
NNA	**Nana**	**23.97**	**348**		P		**P**	**13 59 11.6**	**-0.4**
comp=N,32nm,0.7s,baz=190,slow=11,SNR=13									
NNA	**Nana**	**23.97**	**348**		*e*P		**P**	**13 59 12.2**	**+0.2**
NNA	**Nana**	**23.97**	**348**		*e*P		**P**	**13 59 12.2**	**+0.2**
BB16B	**Bebedouro**	**25.17**	**61**		*e*P		**P**	**13 59 21.6**	**-1.3**
BB16B					*i*			13 59 23.1	
BB16B					*i*			13 59 24.2	
BB16B					*i*			13 59 26.2	
BDFB	**Brasilia**	**29.29**	**53**		P		**P**	**13 59 57.6**	**-2.4**
comp=N,12nm,0.6s,baz=213,slow=8.4,SNR=13									
BDFB					LR		LR	14 12 47.2	
comp=N,649nm,21.4s,baz=272,slow=38									
PMSA	**Palmer Station**	**29.54**	**173**		LR		LR	14 11 22.1	
comp=N,457nm,18.7s,baz=334,slow=35									
PTGA	**Pitinga**	**36.52**	**21**		P		**P**	**14 01 02.0**	**-0.9**
comp=N,26nm,1.0s,baz=187,slow=7.9,SNR=4.3									
ROSC	**El Tosal**	**40.36**	**356**		P		**P**	**14 01 35.9**	**+0.3**
comp=N,24nm,0.5s,baz=84,slow=2.3,SNR=9.6									
ROSC					LR		LR	14 18 13.3	
comp=N,111nm,20.3s,baz=202,slow=36									
SDV	**Santo Domingo**	**44.33**	**2**		*e*P		**P**	**14 02 07.0**	**-0.6**
RCBR	**Riachuelo**	**44.52**	**57**		P		**P**	**14 02 08.8**	**-0.4**
comp=N,11nm,0.6s,baz=219,slow=12,SNR=6.4									
PCRV	**Puerto La Cruz**	**46.12**	**10**		P		**P**	**14 02 20.7**	**-1.0**
comp=N,11nm,0.8s,baz=202,slow=10,SNR=3.6									
JTS	**JuntasAbangare**	**47.31**	**343**		*i* P		**P**	**14 02 32.4**	**+1.5**
JTS						pmax	pmax		
comp=Z,52nm,2.0s									
VNA1	**Neumayer--Stat**	**48.15**	**156**		P		**P**	**14 02 38.0**	**+1.2**
SNAA	**Sanae**	**50.05**	**157**		P		**P**	**14 02 52.0**	**+0.6**
comp=Z,4.4nm,0.8s,baz=279,slow=7.9,SNR=29									
SNAA	**Sanae**	**50.05**	**157**		P		**P**	**14 02 52.0**	**+0.6**
CRPR	**Cabo Rojo, PR**	**53.58**	**6**		*e*P		**P**	**14 03 16.7**	**-1.4**
OBIP	**Obispado Ponce**	**53.66**	**6**		*e*P		**P**	**14 03 17.7**	**-1.0**
comp=Z,19nm,0.8s									
CELP	**Cerrillos**	**53.69**	**6**		*e*P		**P**	**14 03 17.8**	**-1.2**
SDDR	**Presa de Saban**	**54.35**	**1**		P		**P**	**14 03 22.7**	**-1.1**
QSPA	**South Pole Qui**	**54.58**	**180**		P		**P**	**14 03 25.7**	**+0.5**
comp=Z,27nm,0.8s,baz=138,slow=3.3,SNR=186									
QSPA	**South Pole Qui**	**54.58**	**180**		*e*P		**P**	**14 03 26.3**	**+1.2**
NVL	**N'lazarevskaya**	**54.80**	**156**		*e*P		**P**	**14 03 26.0**	**-0.5**
NVL						pmax	pmax		
comp=Z,15nm,0.9s									
CMIG	**Matias Romero**	**56.76**	**334**		P		**P**	**14 03 41.2**	**0.0**
comp=Z,2.2nm,0.7s,baz=103,slow=4.7,SNR=4.6									
VNDA	**Vanda**	**62.48**	**191**		P		**P**	**14 04 21.4**	**+1.6**
comp=Z,1.4nm,0.7s,baz=124,slow=4.0,SNR=8.3									
SYO	**Syowa Base**	**64.32**	**158**		*e*P		**P**	**14 04 30.5**	**-1.6**
SYO	**Syowa Base**	**64.32**	**158**		*e*pP		pP	14 04 44.6	-0.7
TBI	**Tubuai**	**66.95**	**257**		*e*LR		LR	14 25 24.3	
comp=Z,368nm,27.0s									
035A	**Encino**	**66.96**	**335**		P		**P**	**14 04 51.4**	**+1.9**
baz=67									
034A	**Hebbronville**	**67.28**	**334**		P		**P**	**14 04 53.1**	**+1.5**
baz=68									
934A	**Benavides**	**67.71**	**335**		P		**P**	**14 04 56.3**	**+2.0**
baz=68									
933A	**Laredo**	**67.99**	**334**		P		**P**	**14 04 57.4**	**+1.4**
baz=68									
736A	**Circle Diamond**	**68.47**	**336**		P		**P**	**14 05 00.8**	**+1.8**
baz=69									
MEH	**Mehetia**	**68.64**	**263**		*e*T		T	15 20 33.9	
comp=Z,21nm,0.2s									
833A	**Chaparral WMA,**	**68.68**	**334**		P		**P**	**14 05 01.8**	**+1.4**
baz=69									
832A	**Faith Ranch, C**	**68.85**	**334**		P		**P**	**14 05 02.3**	**+0.9**
baz=69									
734A	**La Parita Cree**	**68.87**	**335**		P		**P**	**14 05 02.6**	**+1.1**
baz=69									
636A	**Smothers Creek**	**68.95**	**337**		P		**P**	**14 05 03.2**	**+1.2**
baz=69									
732A	**Laxson Ranch,**	**69.25**	**334**		P		**P**	**14 05 04.8**	**+0.9**
baz=70									
633A	**Saathoff Ranch**	**69.64**	**335**		P		**P**	**14 05 07.1**	**+0.8**
baz=70									
438A	**Sam Houston St**	**69.64**	**339**		P		**P**	**14 05 07.1**	**+0.9**
baz=70									
TVO	**Taravao**	**69.65**	**262**		*e*T		T	15 21 49.5	
comp=Z,1.0nm,0.2s									
VBMS	**Vicksburg**	**69.72**	**343**		P		**P**	**14 05 07.7**	**+1.0**
baz=70									
340A	**Bronson**	**69.81**	**340**		P		**P**	**14 05 08.5**	**+1.2**
baz=70									
TIAR	**Tiarei**	**69.85**	**262**		*e*T		T	15 22 04.6	
comp=Z,4.5nm,0.2s									
632A	**Uvalde**	**69.90**	**334**		P		**P**	**14 05 09.1**	**+1.2**
baz=70									
534A	**Blanco**	**69.92**	**336**		P		**P**	**14 05 08.5**	**+0.4**
baz=70									
PPT2	**Papeete2**	**70.02**	**262**		*e*LR		LR	14 26 27.8	
comp=Z,401nm,27.0s									
PPT	**Papeete**	**70.03**	**262**		LR		LR	14 28 25.5	
comp=Z,171nm,18.4s,baz=129,slow=30									
436A	**Wall Ranch, Ga**	**70.07**	**337**		P		**P**	**14 05 09.6**	**+0.7**
baz=70									
631A	**Perdido Creek**	**70.09**	**334**		P		**P**	**14 05 09.9**	**+0.8**
baz=70									
533A	**Kerrville**	**70.15**	**335**		P		**P**	**14 05 09.8**	**+0.3**
baz=70									
NATX	**Nacogdoches**	**70.35**	**340**		P		**P**	**14 05 12.1**	**+1.5**
baz=71									
532A	**Rocksprings**	**70.50**	**335**		P		**P**	**14 05 12.8**	**+1.1**
baz=71									
239A	**Gary**	**70.54**	**340**		P		**P**	**14 05 13.0**	**+1.3**
baz=71									
434A	**Burnet**	**70.58**	**336**		P		**P**	**14 05 12.7**	**+0.7**
baz=71									
336A	**Riesel**	**70.65**	**338**		P		**P**	**14 05 13.4**	**+1.0**
baz=71									
335A	**Moody**	**70.74**	**337**		P		**P**	**14 05 13.9**	**+1.0**
baz=71									
531A	**Rocksprings**	**70.76**	**334**		P		**P**	**14 05 13.9**	**+0.6**
baz=71									
JCT	**Junction City**	**70.79**	**335**		*e*P		**P**	**14 05 13.8**	**+0.5**
JCT					*e*PP		**pP**	**14 05 27.3**	**+0.5**
JCT						pmax	pmax		
comp=Z,36nm,1.1s									
JCT	**Junction City**	**70.79**	**335**		P		**P**	**14 05 13.9**	**+0.5**
baz=71									
JCT	**Junction City**	**70.79**	**335**		*e*P		**P**	**14 05 13.8**	**+0.5**
comp=Z,36nm,1.1s									
JCT					*e*pP		**pP**	**14 05 27.2**	**+0.5**
433A	**Art**	**70.80**	**335**		P		**P**	**14 05 13.7**	**+0.3**
baz=71									
237A	**Washetta, Mont**	**70.91**	**339**		P		**P**	**14 05 14.5**	**+0.5**
baz=71									
KMSC	**Kings Mountain**	**70.97**	**352**		P		**P**	**14 05 14.3**	**0.0**
baz=71									
KMSC	**Kings Mountain**	**70.97**	**352**		*e*P		**P**	**14 05 13.8**	**-0.5**
comp=Z,3.4nm,0.6s									
530A	**J-C Ranch, Com**	**71.04**	**333**		P		**P**	**14 05 15.5**	**+0.7**
baz=71									
334A	**Lometa**	**71.05**	**336**		P		**P**	**14 05 15.2**	**+0.3**
baz=71									
236A	**Katherine and**	**71.13**	**338**		P		**P**	**14 05 15.8**	**+0.5**
baz=71									
139A	**Bunkhouse Ranc**	**71.14**	**340**		P		**P**	**14 05 15.7**	**+0.3**
baz=72									
432A	**Menard**	**71.15**	**335**		P		**P**	**14 05 15.7**	**+0.2**
baz=72									
TXAR	**Lajitas Array**	**71.19**	**331**		P		**P**	**14 05 16.5**	**+0.7**
comp=Z,4.9nm,0.6s,baz=152,slow=8.5,SNR=68									
TXAR					pP		**pP**	**14 05 29.9**	**+0.7**
comp=Z,5.9nm,0.7s,baz=152,slow=7.8,SNR=17									
TXAR					LR		LR	14 31 11.9	
comp=Z,90nm,19.9s,baz=0.0,slow=31									
431A	**Sonora**	**71.26**	**334**		P		**P**	**14 05 16.5**	**+0.3**
baz=72									
333A	**Richland Sprin**	**71.28**	**336**		P		**P**	**14 05 16.4**	**+0.1**
baz=72									
WHTX	**Lake Whitney**	**71.41**	**337**		P		**P**	**14 05 17.6**	**+0.6**
baz=72									
137A	**Heron Place, G**	**71.45**	**339**		P		**P**	**14 05 17.8**	**+0.5**
baz=72									
430A	**Baggett Ranch,**	**71.58**	**334**		P		**P**	**14 05 18.8**	**+0.6**
baz=72									
MAW	**Mawson**	**71.59**	**163**		P		**P**	**14 05 18.2**	**+0.5**
comp=Z,17nm,0.8s,baz=208,slow=6.4,SNR=29									
MAW					LR		LR	14 36 29.2	
comp=Z,132nm,20.9s,baz=242,slow=36									
332A	**Millersview**	**71.59**	**335**		P		**P**	**14 05 18.6**	**+0.5**
baz=72									
234A	**Clairette**	**71.63**	**337**		P		**P**	**14 05 18.7**	**+0.4**
baz=72									
331A	**San Angelo**	**71.76**	**335**		P		**P**	**14 05 19.5**	**+0.3**
baz=72									
TKL	**Tuckaleechee C**	**71.80**	**350**		P		**P**	**14 05 18.8**	**-0.5**
comp=Z,6.9nm,0.8s,baz=171,slow=8.0,SNR=9.5									
Z38A	**Mt. Pleasant**	**71.85**	**340**		P		**P**	**14 05 20.4**	**+0.8**
baz=72									
233A	**Rising Star**	**71.89**	**336**		P		**P**	**14 05 19.8**	**-0.2**
baz=72									
232A	**Coleman**	**72.02**	**336**		P		**P**	**14 05 21.0**	**+0.2**
baz=72									
330A	**Mertzon**	**72.11**	**334**		P		**P**	**14 05 21.3**	**-0.1**
baz=72									
134A	**White-Moore Ra**	**72.14**	**337**		P		**P**	**14 05 21.7**	**+0.3**
baz=72									
Z36A	**Blue Ridge**	**72.28**	**339**		P		**P**	**14 05 22.3**	**0.0**
baz=73									
231A	**Bronte**	**72.30**	**335**		P		**P**	**14 05 22.6**	**+0.2**
baz=73									
133A	**Hamilton Ranch**	**72.44**	**336**		P		**P**	**14 05 23.6**	**+0.4**
baz=73									
329A	**Wagon Wheel Ra**	**72.48**	**333**		P		**P**	**14 05 23.7**	**+0.2**
baz=73									
230A	**Sterling City**	**72.53**	**334**		P		**P**	**14 05 23.9**	**+0.1**
baz=73									
Z35A	**Perchaven, San**	**72.58**	**338**		P		**P**	**14 05 24.1**	**0.0**
baz=73									
MIAR	**Mount Ida**	**72.69**	**341**		*e*P		**P**	**14 05 24.3**	**-0.3**
MIAR					*e**PP		**pP**	**14 05 38.0**	**0.0**
MIAR					pmax		pmax		
comp=Z,6.0nm,0.9s									
MIAR	**Mount Ida**	**72.69**	**341**		P		**P**	**14 05 24.7**	**+0.1**
baz=73									
MIAR	**Mount Ida**	**72.69**	**341**		*e*P		**P**	**14 05 24.3**	**-0.3**
comp=Z,6.1nm,0.9s									
MIAR					*e*pP		**pP**	**14 05 38.0**	**0.0**
ABTX	**Abilene, Hawle**	**72.70**	**336**		P		**P**	**14 05 24.9**	**+0.2**
baz=73,SNR=5.8									
ABTX	**Abilene, Hawle**	**72.70**	**336**		*e*P		**P**	**14 05 24.8**	**0.0**
comp=Z,12nm,0.7s									
ABTX					*e*pP		**pP**	**14 05 38.4**	**+0.2**
Y36A	**Durant**	**72.83**	**339**		P		**P**	**14 05 26.0**	**+0.6**
baz=73									
Z34A	**Collier Ranch,**	**72.83**	**338**		P		**P**	**14 05 25.4**	**-0.1**
baz=73									
229A	**Bryant Ranch,**	**72.85**	**334**		P		**P**	**14 05 26.2**	**+0.4**
baz=73									
131A	**Roby**	**72.99**	**335**		P		**P**	**14 05 26.6**	**+0.1**
baz=73,SNR=6.5									
Z33A	**Whitaker Ranch**	**73.02**	**337**		P		**P**	**14 05 26.7**	**+0.1**
baz=73,SNR=7.4									
Y35A	**Marietta**	**73.06**	**338**		P		**P**	**14 05 26.7**	**-0.1**
baz=73									
130A	**Snyder**	**73.12**	**335**		P		**P**	**14 05 27.6**	**+0.3**
baz=73,SNR=7.0									
X38A	**Whitesboro**	**73.14**	**341**		P		**P**	**14 05 27.3**	**+0.1**
baz=74									
JSRW	**J. Sargeant Re**	**73.19**	**355**		*e*P		**P**	**14 05 27.7**	**+0.2**
X37A	**Clayton**	**73.21**	**340**		P		**P**	**14 05 27.6**	**-0.1**
baz=74									
Z32A	**Haskell**	**73.27**	**336**		P		**P**	**14 05 28.3**	**+0.2**
baz=74,SNR=10									
228A	**UT Block 9, Go**	**73.27**	**333**		P		**P**	**14 05 28.1**	**-0.1**
baz=74,SNR=6.6									
Y34A	**Reagan Ranch,**	**73.32**	**338**		P		**P**	**14 05 28.2**	**-0.2**
baz=74									
W38A	**Poteau**	**73.43**	**341**		P		**P**	**14 05 29.1**	**+0.1**
baz=74									
129A	**Stewart Farms,**	**73.47**	**334**		P		**P**	**14 05 29.2**	**-0.2**
baz=74									
X36A	**Centrahoma**	**73.47**	**339**		P		**P**	**14 05 28.9**	**-0.4**
baz=74,SNR=8.2									
X35A	**Drake**	**73.50**	**339**		P		**P**	**14 05 29.1**	**-0.3**
baz=74									
Z31A	**Sharp Cattle R**	**73.50**	**336**		P		**P**	**14 05 29.5**	**0.0**
baz=74,SNR=8.3									
Y33A	**Hilltop Ranch,**	**73.64**	**337**		P		**P**	**14 05 30.2**	**-0.1**
baz=74									
128A	**Castleberry Fa**	**73.68**	**334**		P		**P**	**14 05 30.7**	**0.0**
baz=74,SNR=9.8									
W37A	**Quinton**	**73.74**	**340**		P		**P**	**14 05 30.4**	**-0.4**
baz=74									
Z30A	**Sanderson Ranc**	**73.80**	**335**		P		**P**	**14 05 31.2**	**-0.1**
baz=74,SNR=6.5									
Y32A	**R-V Farms, Ver**	**73.89**	**337**		P		**P**	**14 05 31.9**	**+0.1**
baz=74,SNR=7.0									
X34A	**Smith Ranch, M**	**73.94**	**338**		P		**P**	**14 05 32.5**	**+0.5**
baz=74,SNR=6.3									
W36A	**Wetumka**	**73.97**	**340**		P		**P**	**14 05 31.2**	**-0.9**
baz=74									
Z29A	**Hungry Hill Ra**	**73.98**	**334**		P		**P**	**14 05 32.1**	**-0.3**
baz=74,SNR=10									
X33A	**Lawton**	**74.09**	**338**		P		**P**	**14 05 32.1**	**-0.8**
baz=74									
Y31A	**Rekieta Farm,**	**74.13**	**336**		P		**P**	**14 05 33.0**	**-0.1**
baz=74									
W35A	**Tecumseh**	**74.17**	**339**		P		**P**	**14 05 32.8**	**-0.6**
baz=74

baz=76
W29A Amraillo 75.65 335 P P 14 05 42.1 +0.1
baz=76
121A Cookes Peak, D 75.67 329 P P 14 05 43.2 +0.9
baz=76
121A Cookes Peak, D 75.67 329 *e*P P 14 05 43.2 +0.9
comp=Z,21nm,0.9s
121A epP pP 14 05 56.8 +1.0
T36A Boggs Farm, Ca 75.67 340 P P 14 05 41.7 -0.2
baz=76,SNR=6.3
DBIC Dimbokro 75.71 71 P P 14 05 43.0 +0.3
comp=Z,34nm,0.7s,baz=204,slow=5.6,SNR=40
DBIC LR LR 14 35 29.1
comp=Z,79nm,20.9s,baz=210,slow=33
T35A Sooner Cattle 75.71 340 P P 14 05 42.2 0.0
baz=76,SNR=6.4
U33A Lingo Farm, Me 75.72 339 P P 14 05 42.5 +0.2
baz=76
V30A Spur Ranch, Mi 75.91 336 P P 14 05 44.6 +1.1
baz=76
U32A Winter Ranch, 75.94 338 P P 14 05 43.4 -0.2
baz=76
T34A McClaskey Farm 76.00 339 P P 14 05 44.0 +0.2
baz=76,SNR=6.1
S37A Fort Scott 76.05 342 P P 14 05 43.7 -0.4
baz=76
ACSO Alum Creek Sta 76.19 351 *e*P P 14 05 44.4 -0.4
comp=Z,21nm,0.6s
S36A Lake Cedric, C 76.22 341 P P 14 05 44.8 -0.3
baz=76
T33A Patterson Ranc 76.36 339 P P 14 05 46.4 +0.5
baz=77
S35A Otter Creek Ra 76.38 340 P P 14 05 46.1 +0.1
baz=77
V28A Channing 76.42 335 P P 14 05 47.1 +0.7
baz=77
R37A Teagarden Farm 76.58 342 P P 14 05 47.1 0.0
baz=77
U30A WK&E Inc. Balk 76.60 337 P P 14 05 48.2 +0.9
baz=77
V27A Dan Oppiter Fa 76.63 335 P P 14 05 48.4 +0.8
baz=77
T32A Huddler Ranch, 76.66 338 P P 14 05 48.4 +0.8
baz=77
LPM Los Pinos Moun 76.76 331 *e*P P 14 05 49.6 +1.2
comp=Z,3.4nm,0.7s
LPM epP pP 14 06 02.9 +1.0
R36A Gordon, Harris 76.76 341 P P 14 05 48.2 +0.1
baz=77
TUC Tucson 76.77 327 *e*P P 14 05 49.1 +0.7
TUC *e**PP pP 14 06 02.8 +0.9
TUC pmax pmax
comp=Z,16nm,1.3s
TUC Tucson 76.77 327 *e*P P 14 05 49.1 +0.7
comp=Z,16nm,1.3s
TUC epP pP 14 06 02.8 +0.9
S33A Kaszmaul Farm, 76.77 339 P P 14 05 48.3 +0.1
baz=77
R35A Emporia Munici 76.94 341 P P 14 05 49.5 +0.4
baz=77
U28A Mallet 76.98 335 P P 14 05 50.3 +0.7
baz=77
Q37A Longview Farm, 77.01 342 P P 14 05 49.5 0.0
baz=77
T30A Plains 77.04 337 P P 14 05 50.4 +0.7
baz=77
S32A Newby Ranch, P 77.14 338 P P 14 05 50.9 +0.6
baz=78
R34A Isabella, Hill 77.21 340 P P 14 05 50.8 +0.1
baz=78,SNR=6.5
U27A Thompson Grove 77.23 335 P P 14 05 51.0 0.0
baz=78,SNR=5.1
S31A Mullinville 77.23 338 P P 14 05 50.9 +0.1
baz=78
ANMO Albuquerque 77.25 332 P P 14 05 51.4 +0.3
comp=Z,5.1nm,1.0s,baz=158,slow=7.3,SNR=9.6
ANMO pP pP 14 06 06.1 +1.5
comp=Z,11nm,1.0s,baz=154,slow=7.6,SNR=12
ANMO Albuquerque 77.25 332 *c i*P P 14 05 52.2 +1.0
ANMO *i* *PP pP 14 06 06.2 +1.5
ANMO pmax pmax
comp=Z,35nm,1.1s
ANMO Albuquerque 77.25 332 *e*P P 14 05 51.5 +0.3
comp=Z,16nm,1.1s
ANMO epP pP 14 06 05.7 +1.0
ANMO pP pP 14 06 06.1 +1.5
T29A Hugoton 77.38 336 P P 14 05 52.5 +0.8
baz=78
214A Organ Pipe Nat 77.39 325 P P 14 05 52.7 +0.8
baz=78
214A Organ Pipe Nat 77.39 325 *e*P P 14 05 52.9 +1.1
comp=Z,6.0nm,1.0s
214A epP pP 14 06 06.5 +1.2
Q35A Mercer Eighty, 77.40 341 P P 14 05 51.3 -0.4
baz=78
R33A Olander Ranch, 77.43 339 P P 14 05 52.5 +0.6
baz=78
HDIL Hopedale 77.49 347 P P 14 05 52.0 -0.1
baz=78
HDIL Hopedale 77.49 347 *e*P P 14 05 51.4 -0.7
S30A Montezuma 77.56 337 P P 14 05 53.3 +0.7
baz=78
T28A Walsh 77.62 336 P P 14 05 52.8 -0.2
baz=78,SNR=13
Q34A Chapman 77.71 340 P P 14 05 53.0 -0.4
baz=78,SNR=6.2
R32A Long Quarter, 77.74 339 P P 14 05 54.2 +0.6
baz=78
S29A Ulysses 77.75 337 P P 14 05 54.8 +1.0
baz=78
T27A Campo 77.77 335 P P 14 05 54.2 +0.2
baz=78,SNR=8.1
KSU1 Kansas State U 77.78 341 P P 14 05 54.0 +0.1
baz=78
R31A Burdett 77.86 338 P P 14 05 54.9 +0.6
baz=78
P36A Good Intent, A 77.91 342 P P 14 05 53.9 -0.6
baz=78
S28A Manter 77.97 336 P P 14 05 55.9 +0.9
baz=78
Q33A Connelly Farm, 78.03 340 P P 14 05 55.4 +0.2
baz=78
P35A Duane Minner, 78.03 341 P P 14 05 55.1 -0.1
baz=78
R30A Dighton 78.09 338 P P 14 05 55.9 +0.3
baz=78
T26A Comanche Natio 78.17 335 P P 14 05 56.4 +0.2
baz=78,SNR=6.7
Q32A Meitler Ranch, 78.23 339 P P 14 05 56.3 0.0
baz=79,SNR=5.3
P34A Walnut Farm, R 78.26 341 P P 14 05 56.6 +0.1
baz=79,SNR=5.1
O36A Bolckow 78.33 342 P P 14 05 56.3 -0.5
baz=79
P33A Williams Farm, 78.39 340 P P 14 05 57.3 +0.1
baz=79
CBKS Cedar Bluff 78.41 338 P P 14 05 57.9 +0.6
baz=79
T25A Trinidad 78.43 334 P P 14 05 58.7 +1.0
baz=79,SNR=12
Q31A Ellis 78.48 339 P P 14 05 58.8 +1.1
baz=79
R28A Tribune 78.63 337 P P 14 05 59.8 +1.1
baz=79
W18A Petrified Fore 78.71 329 P P 14 06 00.3 +1.0
baz=79
W18A Petrified Fore 78.71 329 *e*P P 14 06 00.0 +0.7
comp=Z,15nm,1.2s
W18A epP pP 14 06 14.2 +1.3
TSUM Tsumeb 78.75 106 LR LR 14 35 31.5
comp=Z,85nm,21.6s,baz=320,slow=32
O34A Beatrice 78.82 341 P P 14 05 59.1 -0.4
baz=79,SNR=5.3
P32A Huiting Farm, 78.82 339 P P 14 06 00.2 +0.6
baz=79
Q29A Oakley 78.86 337 P P 14 05 59.7 -0.2
baz=79
R27A Eads 78.90 336 P P 14 06 00.6 +0.4
baz=79,SNR=6.9
P31A Stockton 78.96 339 P P 14 06 01.3 +1.0
baz=79
O33A Hebron 78.96 340 P P 14 06 00.8 +0.5
baz=79
R26A Arlington 79.14 335 P P 14 06 01.9 +0.5
baz=80,SNR=9.5
N35A Tabor 79.19 342 P P 14 06 01.4 -0.1
baz=80
P30A Selden 79.24 338 P P 14 06 02.8 +0.9
baz=80
GLA Glamis 79.24 324 P P 14 06 03.1 +1.1
baz=80
Q28A Sharon Springs 79.29 337 P P 14 06 03.4 +1.1
baz=80
BOSA Boshof 79.29 117 P P 14 06 03.1 +0.3
comp=Z,58nm,0.7s,baz=233,slow=4.0,SNR=77
O32A Brockman Farm, 79.33 340 P P 14 06 03.5 +1.2
baz=80
SDCO Great Sand Dun 79.36 334 P P 14 06 03.4 +0.5
baz=80,SNR=8.5
SDCO Great Sand Dun 79.36 334 *e*P P 14 06 03.4 +0.5
comp=Z,7.9nm,1.0s
SDCO epP pP 14 06 17.0 +0.5
N34A Lincoln 79.38 341 P P 14 06 02.7 +0.1
baz=80
P29A Atwood 79.50 338 P P 14 06 04.3 +0.9
baz=80
KSCO Kaye Shedlock' 79.50 336 P P 14 06 04.4 +1.0
baz=80
O31A Woolen Ranch, 79.52 339 P P 14 06 04.8 +1.3
baz=80
Y12C Blythe 79.67 325 P P 14 06 06.1 +1.8
baz=80
Q26A Hugo 79.72 336 P P 14 06 05.8 +1.2
baz=80
P28A Saint Francis 79.73 337 P P 14 06 05.5 +0.9
baz=80
WUAZ Wupatki 79.75 328 P P 14 06 05.9 +1.0
baz=80,SNR=6.0
WUAZ Wupatki 79.75 328 *e*P P 14 06 06.0 +1.0
comp=Z,11nm,1.3s
WUAZ epP pP 14 06 19.9 +1.4
O30A MW Ranch, Wils 79.76 339 P P 14 06 05.7 +0.9
baz=80
S22A 4UR Ranch, Cre 79.85 333 P P 14 06 06.4 +0.8
baz=80,SNR=6.1
LONY Lake Ozonia 79.94 358 *e*P P 14 06 05.4 -0.1
comp=Z,20nm,1.4s
JFWS Jewell Farm 79.95 347 *e*P P 14 06 05.6 0.0
JFWS *e**PP pP 14 06 19.0 -0.2
JFWS pmax pmax
comp=Z,5.0nm,0.5s
JFWS Jewell Farm 79.95 347 *e*P P 14 06 05.6 0.0
comp=Z,4.9nm,0.5s
JFWS epP pP 14 06 19.0 -0.2
MVCO Mesa Verde 80.02 331 P P 14 06 07.6 +1.2
baz=80
MVCO Mesa Verde 80.02 331 *e*P P 14 06 07.2 +0.7
comp=Z,6.5nm,0.9s
MVCO epP pP 14 06 20.9 +0.9
O28A Krutsinger Ran 80.24 337 P P 14 06 08.4 +1.0
baz=81
M33A Taylor Creek F 80.25 341 P P 14 06 07.6 +0.3
baz=81
IRM Iron Mountain 80.30 325 P P 14 06 08.7 +1.0
baz=81
Q24A Divide 80.32 334 P P 14 06 08.8 +0.7
baz=81
L35A Bielow Farm, R 80.34 342 P P 14 06 08.3 +0.5
baz=81
BGNE Belgrade 80.36 340 P P 14 06 08.5 +0.6
baz=81
L34A Svendsen Farm, 80.41 342 P P 14 06 08.7 +0.5
baz=81
PFO Pinyon Flat Ob 80.47 324 P P 14 06 10.8 +2.0
baz=81
N29A Votaw Ranch, W 80.52 338 P P 14 06 09.3 +0.4
baz=81
O27A Beecher Island 80.52 337 P P 14 06 10.6 +1.7
baz=81
BELC Belle Mtn. Jos 80.57 324 P P 14 06 11.6 +2.2
baz=81
MURC Murrieta 80.83 323 P P 14 06 12.8 +2.2
baz=81
PV01 Paradox Valley 80.85 332 *e*P P 14 06 12.0 +1.1
comp=Z,377nm,1.0s
PV01 epP pP 14 06 25.2 +0.7
GMRC Granite Mounta 81.05 325 P P 14 06 13.9 +2.0
baz=81
N27A Anderson Farm, 81.10 337 P P 14 06 13.3 +1.4
baz=81
SMCO Snowmass 81.16 333 *e*P P 14 06 13.8 +1.1
comp=Z,20nm,1.1s
SMCO epP pP 14 06 27.7 +1.4
ISCO Idaho Springs 81.23 334 *e*P P 14 06 13.7 +0.8
ISCO *e**PP pP 14 06 27.3 +0.7
ISCO pmax pmax
comp=Z,4.0nm,1.0s
ISCO Idaho Springs 81.23 334 P P 14 06 13.9 +1.0
baz=82
ISCO Idaho Springs 81.23 334 *e*P P 14 06 13.7 +0.8
comp=Z,3.7nm,1.0s
ISCO epP pP 14 06 27.2 +0.7
L31A Butterfield Fa 81.26 340 P P 14 06 13.8 +1.1
baz=82
CIS Catalina Islan 81.27 322 P P 14 06 14.5 +1.6
baz=82
L30A Spencer Herefo 81.30 339 P P 14 06 14.5 +1.6
baz=82
N26A Koester Ranch, 81.34 337 P P 14 06 15.2 +2.0
baz=82
HEC Hector,Ludlow 81.41 324 P P 14 06 15.4 +1.7
baz=82
BFSC Mount Baldy Ra 81.57 323 P P 14 06 16.1 +1.5
baz=82
LBTB Lobatse 81.60 115 LR LR 14 37 34.7
comp=Z,106nm,21.7s,baz=252,slow=32
LBTB Lobatse 81.60 115 *e*P P 14 06 15.0 -0.2
LBTB *e* 14 06 22.8
LBTB pmax pmax
comp=Z,28nm,0.7s
LBTB Lobatse 81.60 115 *e*P P 14 06 15.0 -0.2
comp=Z,28nm,0.7s
LBTB ePcP PcP 14 06 22.8 +1.8
L29A Maesberg Ranch 81.62 339 P P 14 06 15.6 +0.9
baz=82
M27A Reverse DX Ran 81.71 337 P P 14 06 16.2 +1.0
baz=82
TUQ Turquoise Moun 81.71 325 P P 14 06 17.0 +1.6
baz=82
M26A McRoberts Ranc 81.89 337 P P 14 06 16.8 +0.6
baz=82
K30A Basset 81.94 340 P P 14 06 17.6 +1.3
baz=82
GSC Goldstone 82.02 324 *e*P P 14 06 18.3 +1.3
GSC *e**PP pP 14 06 32.0 +1.4
GSC pmax pmax
comp=Z,1.0nm,0.4s
GSC Goldstone 82.02 324 P P 14 06 18.0 +1.0
baz=82
GSC Goldstone 82.02 324 *e*P P 14 06 18.3 +1.3
comp=Z,1.0nm,0.4s
GSC epP pP 14 06 32.0 +1.4
ECSD EROS Data Cent 82.13 342 P P 14 06 17.6 +0.4
baz=82
ECSD EROS Data Cent 82.13 342 *e*P P 14 06 17.0 -0.2
comp=Z,32nm,1.0s
ECSD epP pP 14 06 30.4 -0.5
K29A Lazy Trails An 82.22 339 P P 14 06 18.8 +1.1
baz=82
SHPR Sheep Range 82.24 326 *e*P P 14 06 19.6 +1.5
comp=Z,8.9nm,1.4s
SHPR epP pP 14 06 33.3 +1.5
EDW2 Edwards Air Fo 82.25 323 P P 14 06 19.5 +1.4
baz=82
N23A Red Feather La 82.31 335 P P 14 06 19.7 +1.2
baz=83
BSC Santa Cruz Isl 82.35 322 P P 14 06 20.0 +1.3
baz=83
SRU San Rafael 82.46 331 *e*P P 14 06 19.4 +0.1
SRU *e**PP pP 14 06 33.6 +0.7
SRU pmax pmax
comp=Z,4.0nm,0.8s
SRU San Rafael 82.46 331 *e*P P 14 06 19.4 +0.1
comp=Z,4.2nm,0.8s
SRU epP pP 14 06 33.6 +0.7
O20A White River Ci 82.47 333 P P 14 06 20.6 +1.2
baz=83
K28A Ten Mile Ranch 82.48 339 P P 14 06 20.6 +1.4
baz=83
J30A Dallas 82.50 340 P P 14 06 19.8 +0.6
baz=83
PHWY Pilot Hill 82.51 335 *e*P P 14 06 19.8 +0.2
comp=Z,17nm,1.4s
PHWY epP pP 14 06 33.5 +0.3
LRMC Laurel Mountai 82.58 324 P P 14 06 21.1 +1.2
baz=83
MSU Marysvale 82.62 329 *e*P P 14 06 21.2 +1.0
MSU *e**PP pP 14 06 35.2 +1.3
MSU pmax pmax
comp=Z,10.0nm,1.2s
MSU Marysvale 82.62 329 *e*P P 14 06 21.2 +1.0
comp=Z,10.0nm,1.2s
MSU epP pP 14 06 35.2 +1.3
SPMN St. Paul 82.68 345 P P 14 06 19.7 -0.3
baz=83
L25A Engebretsen Ra 82.78 337 P P 14 06 21.8 +1.0
baz=83
J29A Okreek 82.81 340 P P 14 06 21.7 +0.9
baz=83
MPMC Manual Prospec 82.96 324 P P 14 06 23.2 +1.3
baz=83
FURC Furnace Creek, 82.99 325 P P 14 06 23.7 +1.8
baz=83
K26A Motz Farm, Whi 83.02 337 P P 14 06 23.1 +1.1
baz=83
I30A Oacoma 83.03 340 P P 14 06 22.0 +0.1
baz=83
J28A Allard Ranch, 83.09 339 P P 14 06 23.6 +1.3
baz=83
TPNV Topopah Spring 83.10 326 P P 14 06 23.7 +1.1
baz=83,SNR=5.0
ISA Isabella 83.11 324 P P 14 06 24.0 +1.4
baz=83,SNR=6.3
PKM Peak Mountain 83.16 322 P P 14 06 24.1 +1.1
baz=83,SNR=6.3
K25A Mack Ranch, Ha 83.16 337 P P 14 06 23.7 +1.0
baz=84
J27A Elkhorn Farm, 83.16 338 P P 14 06 23.6 +0.9
baz=84
I29A Vivian Onida 83.37 340 P P 14 06 24.5 +0.9
baz=84
J26A Sides Ranch, S 83.54 338 P P 14 06 25.5 +0.9
baz=84
CWC Cottonwood Cre 83.54 324 P P 14 06 25.5 +0.6
baz=84
VES Vestal, Richgr 83.55 323 P P 14 06 25.8 +1.0
baz=84
I28A Midland 83.60 339 P P 14 06 25.7 +0.9
baz=84
GRAC Grapevine Rang 83.66 325 P P 14 06 26.6 +1.2
baz=84
J25A Sunshine Ranch 83.84 337 P P 14 06 26.9 +0.8
baz=84
K23A Bowen Ranch, D 83.86 336 P P 14 06 27.2 +0.8
baz=84
H29A Onida 83.91 340 P P 14 06 27.0 +0.6
baz=84
I27A Quinn 83.92 339 P P 14 06 27.2 +0.7
baz=84
R11A Troy Canyon, C 83.95 327 P P 14 06 28.0 +1.0
baz=84,SNR=10
R11A Troy Canyon, C 83.95 327 *e*P P 14 06 28.2 +1.2
comp=Z,9.3nm,1.0s
R11A epP pP 14 06 41.8 +1.1
J24A Dixon Ranch, L 84.06 337 P P 14 06 28.3 +1.0
baz=84
K22A Casper 84.07 335 P P 14 06 28.1 +0.7
baz=84
K22A Casper 84.07 335 *e*P P 14 06 27.4 0.0
comp=Z,12nm,0.9s
K22A epP pP 14 06 41.9 +0.7
G30A Faulkton 84.08 341 P P 14 06 28.0 +0.8
baz=84
JLU Jordanelle 84.11 331 *e*P P 14 06 28.4 +0.6
comp=Z,5.6nm,0.8s
JLU epP pP 14 06 42.3 +0.8
I26A New Underwood 84.13 338 P P 14 06 28.8 +1.2
baz=84
H28A Mission Ridge 84.18 340 P P 14 06 28.6 +0.9
baz=84
DUG Dugway 84.31 330 *e*P P 14 06 29.6 +0.9
DUG *e**PP pP 14 06 43.3 +0.9
DUG pmax pmax
comp=Z,25nm,1.3s
DUG Dugway 84.31 330 P P 14 06 29.4 +0.7
baz=85,SNR=7.6
DUG Dugway 84.31 330 *e*P P 14 06 29.6 +0.9
comp=Z,25nm,1.3s
DUG epP pP 14 06 43.2 +0.9
I25A Rochford 84.38 338 P P 14 06 29.5 +0.4
baz=85,SNR=8.1
H27A Howes 84.44 339 P P 14 06 29.2 +0.1
baz=85
G28A Parade 84.51 340 P P 14 06 29.6 +0.1
baz=85,SNR=8.0
I24A Kuemmerle Ranc 84.52 337 P P 14 06 29.8 +0.1
baz=85
RSSD Black Hills 84.57 337 *e*P P 14 06 30.2 +0.2
RSSD *e**PP pP 14 06 43.9 +0.2
RSSD pmax pmax
comp=Z,7.0nm,0.9s
RSSD Black Hills 84.57 337 *e*P P 14 06 30.2 +0.2
comp=Z,7.1nm,0.9s
RSSD epP pP 14 06 43.9 +0.2
H26A Fairpoint 84.63 338 P P 14 06 30.9 +0.8
baz=85
F30A Leola 84.71 341 P P 14 06 30.8 +0.4
baz=85
TOA0 Torodi Ar. Sit 84.77 70 *e*P P 14 06 29.9 -1.5
TORD Torodi Ar. Bea 84.77 70 P P 14 06 31.3 -0.1
comp=Z,9.5nm,0.8s,baz=247,slow=4.3,SNR=57
TORD LR LR 14 40 55.8
comp=Z,83nm,21.5s,baz=270,slow=33
MLAC Mammoth Lakes 84.86 324 P P 14 06 33.1 +1.5
baz=85
I23A Meade Ranch, G 84.88 336 P P 14 06 31.4 0.0
baz=85
H25A Fruitdale 84.89 338 P P 14 06 32.3 +0.9
baz=85
F29A Eureka 84.92 341 P P 14 06 31.3 -0.1
baz=85
J21A Lysite 85.00 335 P P 14 06 32.8 +0.6
baz=85
HWUT Hardware Ranch 85.01 331 *e*P P 14 06 32.4 +0.1
comp=Z,22nm,1.1s
HWUT epP pP 14 06 46.3 +0.4
EYMN Ely 85.04 347 P P 14 06 30.9 -1.1
baz=85,SNR=5.1
EYMN Ely 85.04 347 *e*P P 14 06 31.2 -0.8
comp=Z,11nm,1.1s
EYMN epP pP 14 06 45.5 -0.3
G27A Dupree 85.08 339 P P 14 06 32.3 0.0
baz=85
I22A 9 Mile Ranch, 85.16 336 P P 14 06 32.9 +0.1
baz=86,SNR=9.4
F28A McLaughlin 85.19 340 P P 14 06 33.0 +0.1
baz=86
G26A Maurine 85.20 339 P P 14 06 32.8 -0.1
baz=86,SNR=7.0
J20A Shoshoni 85.23 334 P P 14 06 33.2 -0.1
baz=86,SNR=6.6
PDAR Pinedale Array 85.25 333 P P 14 06 33.4 -0.1
comp=Z,1.9nm,0.8s,baz=117,slow=5.2,SNR=14
PDAR pP pP 14 06 46.7 -0.5
comp=Z,3.4nm,0.9s,baz=109,slow=3.6,SNR=8.7
PDAR PKKPbc PKKPbc 14 24 39.8 -0.5
comp=Z,0.2nm,0.3s,baz=288,slow=0.9,SNR=4.2
NVAR Mina Array Bea 85.25 325 P P 14 06 34.7 +1.1
comp=Z,2.7nm,0.8s,baz=155,slow=6.3,SNR=19
NVAR pP pP 14 06 48.8 +1.5
comp=Z,4.8nm,0.9s,baz=148,slow=6.1,SNR=16
H24A Dirks Ranch, A 85.30 337 P P 14 06 33.2 -0.3
baz=86,SNR=6.9
E30A Jud 85.30 342 P P 14 06 33.6 +0.3
baz=86
G25A Newell 85.35 338 P P 14 06 33.5 -0.2
baz=86,SNR=11
I21A Big Trails, Te 85.36 335 P P 14 06 33.7 -0.2
baz=86,SNR=15
H23A Clabaugh Cattl 85.40 337 P P 14 06 34.4 +0.4
baz=86
J19A Crowheart 85.50 334 P P 14 06 34.4 -0.2
baz=86,SNR=8.2
E29A Napoleon 85.55 341 P P 14 06 35.2 +0.6
baz=86
F27A Lemmon 85.56 339 P P 14 06 35.3 +0.6
baz=86
HVU Hansel Valley 85.63 331 *e*P P 14 06 35.5 +0.1
HVU *e**PP pP 14 06 49.6 +0.5
HVU pmax pmax
comp=Z,15nm,0.9s
HVU Hansel Valley 85.63 331 *e*P P 14 06 35.5 +0.1
comp=Z,15nm,0.9s

HVU epP pP 14 06 49.6 +0.5
F26A Lodgepole 85.72 339 P P 14 06 35.9 +0.3
baz=86
H22A Clearmont 85.74 336 P P 14 06 36.1 +0.4
baz=86
I20A Worland 85.77 335 P P 14 06 36.1 +0.2
baz=86
ELK Elko 85.78 329 P P 14 06 36.4 +0.2
comp=Z,3.5nm,0.9s,baz=145,slow=2.6,SNR=13
ELK pP pP 14 06 50.9 +1.0
comp=Z,5.6nm,0.9s,baz=142,slow=4.9,SNR=11
ELK Elko 85.78 329 P P 14 06 36.4 +0.2
ELK *PP pP 14 06 50.9 +1.0
ELK pmax pmax
comp=Z,4.0nm,0.9s
ELK pmax pmax
comp=Z,6.0nm,0.9s
ELK Elko 85.78 329 *e*P P 14 06 36.2 0.0
comp=Z,7.5nm,1.0s
ELK epP pP 14 06 50.8 +0.9
ELK pP pP 14 06 50.9 +1.0
D30A Buchanan 85.82 342 P P 14 06 36.0 0.0
baz=86
E27A Carson 85.94 340 P P 14 06 36.3 -0.2
baz=86,SNR=5.0
G23A Biddle 85.97 337 P P 14 06 36.4 -0.4
baz=86,SNR=5.6
H21A Big Horn, Sher 86.00 336 P P 14 06 36.3 -0.7
baz=86,SNR=6.6
F25A Bowman 86.02 339 P P 14 06 37.2 +0.2
baz=86
I19A Meeteetse 86.15 334 P P 14 06 38.0 +0.1
baz=86
H20A Greybull 86.19 335 P P 14 06 37.7 -0.2
baz=86,SNR=7.5
E26A Carlson Angus 86.23 339 P P 14 06 38.1 +0.1
baz=87
REDW Red Top Meadow 86.24 333 *e*P P 14 06 38.2 -0.2
comp=Z,10nm,1.0s
F24A Ekalaka 86.25 338 P P 14 06 37.9 -0.3
baz=87,SNR=8.6
G22A Birney 86.27 336 P P 14 06 38.6 +0.2
baz=87
C30A Mose, Pekin 86.31 342 P P 14 06 38.3 0.0
baz=87,SNR=10
LOHW Long Hollow 86.36 333 *e*P P 14 06 39.0 0.0
comp=Z,8.5nm,1.0s
LOHW epP pP 14 06 52.9 +0.2
D28A Regan 86.37 341 P P 14 06 38.6 0.0
baz=87
TPAW Teton Pass 86.39 333 *e*P P 14 06 39.3 +0.1
comp=Z,12nm,0.9s
TPAW epP pP 14 06 53.1 +0.2
F23A Volborg 86.44 337 P P 14 06 39.2 +0.1
baz=87,SNR=13
E25A Miller Ranch, 86.53 339 P P 14 06 39.9 +0.4
baz=87,SNR=7.1
G21A Lodge Grass 86.58 336 P P 14 06 40.1 +0.2
baz=87
H19A Powell 86.70 335 P P 14 06 40.8 +0.3
baz=87
D26A Manning 86.73 340 P P 14 06 40.6 +0.2
baz=87,SNR=9.2
IMW Indian Meadow 86.73 333 *e*P P 14 06 40.8 0.0
comp=Z,18nm,1.1s
IMW epP pP 14 06 54.9 +0.3
F22A Rosebud 86.76 337 P P 14 06 40.3 -0.4
baz=87,SNR=6.6
C28A Hausauer Farms 86.80 341 P P 14 06 40.9 +0.1
baz=87
FLWY Flagg Ranch 86.80 333 *e*P P 14 06 41.8 +0.6
comp=Z,23nm,1.4s
FLWY epP pP 14 06 55.2 +0.3
E24A Baker 86.85 338 P P 14 06 41.2 +0.2
baz=87,SNR=5.7
G20A Bridger 86.91 335 P P 14 06 41.1 -0.4
baz=87,SNR=5.4
B30A Myrvik Farm, E 86.97 343 P P 14 06 41.3 -0.2
baz=87,SNR=8.6
D25A Fairfield 87.09 339 P P 14 06 42.8 +0.6
baz=87
C27A Sayler Ranch, 87.10 341 P P 14 06 42.9 +0.7
baz=87
E23A Ismay 87.10 338 P P 14 06 41.8 -0.5
baz=87,SNR=6.6
RLMT Red Lodge 87.19 335 P P 14 06 42.8 -0.2
baz=88,SNR=5.6
RLMT Red Lodge 87.19 335 *e*P P 14 06 43.1 +0.1
comp=Z,4.3nm,0.7s
RLMT epP pP 14 06 57.1 +0.4
B29A Wagenman Farm, 87.23 342 P P 14 06 43.2 +0.4
baz=88
E22A Miles City 87.25 337 P P 14 06 42.9 -0.1
baz=88
D24A Glendive 87.36 339 P P 14 06 43.9 +0.4
baz=88,SNR=6.6
B28A Dugan Ranch, T 87.47 342 P P 14 06 44.8 +0.9
baz=88
C25A Freed Ranch, W 87.58 339 P P 14 06 45.1 +0.6
baz=88
A29A Manning Farm, 87.63 342 P P 14 06 44.2 -0.5
baz=88,SNR=9.9
B27A Peters Farms, 87.67 341 P P 14 06 45.8 +0.9
baz=88
D23A Lindsay 87.67 338 P P 14 06 45.2 +0.1
baz=88,SNR=7.6
E21A Keefer Ranch, 87.70 337 P P 14 06 46.1 +0.9
baz=88
QLMT Earthquake Lak 87.71 333 *e*P P 14 06 46.6 +1.1
comp=Z,0.2nm,0.2s
QLMT epP pP 14 07 00.4 +1.2
C24A Savage 87.76 339 P P 14 06 46.0 +0.6
baz=88
HLID Hailey 87.79 331 P P 14 06 46.8 +1.0
baz=88
HLID Hailey 87.79 331 *e*P P 14 06 46.5 +0.7
comp=Z,10nm,1.0s
HLID epP pP 14 07 00.2 +0.6
A28A Rude Farm, Bot 87.87 342 P P 14 06 46.2 +0.3
baz=88
B26A Jensen Ranch, 87.90 340 P P 14 07 47.1 +1.1
baz=88
D22A Cohagen 87.95 337 P P 14 06 47.4 +1.0
baz=88
B25A Knox Farm, Ray 88.06 340 P P 14 06 47.8 +0.9
baz=88
D21A La Casta Ranch 88.14 337 P P 14 06 47.5 +0.3
baz=88
A27A Ledoux Ranch, 88.17 341 P P 14 06 47.6 +0.3
baz=88,SNR=5.4
C23A Lambert 88.23 338 P P 14 06 47.9 +0.3
baz=89,SNR=5.3
MFID Camas Ranch 88.24 330 *e*P P 14 06 48.2 +0.3
comp=Z,0.7nm,0.4s
MFID epP pP 14 07 02.1 +0.4
MCMT McKenzie Canyo 88.24 332 *e*P P 14 06 48.6 +0.6
comp=Z,9.8nm,1.2s
MCMT epP pP 14 07 02.6 +0.8
C22A Vida 88.39 338 P P 14 06 48.6 +0.2
baz=89
BOZ Bozeman (W) 88.48 333 P P 14 06 48.9 -0.1
baz=89
DGMT Dagmar 88.54 339 P P 14 06 49.8 +0.7
baz=89
DGMT Dagmar 88.54 339 *e*P P 14 06 49.1 +0.1
comp=Z,16nm,0.8s
DGMT epP pP 14 07 03.3 +0.5
DLMT Dillon 88.60 333 *e*P P 14 06 49.4 -0.2
comp=Z,6.0nm,1.3s
DLMT epP pP 14 07 04.0 +0.6
A25A Svangstu Ranch 88.66 340 P P 14 06 50.8 +1.2
baz=89
B23A Brockton 88.77 339 P P 14 06 51.1 +0.9
baz=89
C21A Desert Coulee 88.84 337 P P 14 06 50.8 +0.3
baz=89
B22A Reddig Ranch S 88.92 338 P P 14 06 51.2 +0.3
baz=89
LRM Limekiln Ridge 88.94 333 *e*P P 14 06 51.5 +0.2
comp=Z,51nm,1.3s
LRM epP pP 14 07 05.6 +0.6
MOD Modoc 88.95 326 *e*P P 14 06 52.0 +0.7
comp=Z,4.5nm,0.7s
MOD epP pP 14 07 05.2 +0.1
C20A Veseth Ranch, 89.03 337 P P 14 06 51.8 +0.4
baz=89,SNR=5.4
B21A Ellsworth Farm 89.35 338 P P 14 06 53.2 +0.3
baz=90
A22A Carney Farms, 89.51 338 P P 14 06 53.8 +0.2
baz=90
M04C Macdoel 89.56 325 P P 14 06 55.2 +1.1
baz=90
B20A Solberg Farm, 89.67 337 P P 14 06 54.5 0.0
baz=90
A21A Bergtoll Ranch 89.82 338 P P 14 06 54.8 -0.3
baz=90
EGMT Eagleton 89.88 336 P P 14 06 55.2 -0.2
baz=90
EGMT Eagleton 89.88 336 P P 14 06 54.7 -0.7
comp=Z,6.7nm,1.1s
EGMT epP pP 14 07 08.9 -0.3
B19A Brinkman Farms 89.98 336 P P 14 06 55.9 0.0
baz=90
BMO Blue Mountains 90.02 330 *e*P P 14 06 56.2 0.0
comp=Z,2.7nm,1.2s
BMO epP pP 14 07 10.2 +0.2
A20A Cobblestone Ra 90.03 337 P P 14 06 56.1 0.0
baz=90
SCHQ Schefferville 90.24 3 LR LR 14 50 13.2
comp=Z,27nm,18.8s,baz=108,slow=37
WALA Waterton Lakes 92.20 334 *e*P P 14 07 06.0 -0.3
comp=Z,2.3nm,0.8s
WALA epP pP 14 07 20.1 +0.1
ESDC Sonseca Array 97.72 46 P P 14 07 31.4 -0.3
comp=Z,0.5nm,0.4s,baz=256,slow=4.1,SNR=5.1
GERES GERESS Array B 113.31 46 PKiKP **PKiKP** 14 12 33.3 -0.7
comp=Z,1.3nm,0.7s,baz=197,slow=1.4,SNR=8.3
KHC Kasperske Hory 113.37 46 AMS AMS 14 57 10.0
CLL Collm 114.05 43 *i* PKIKP PKPdf 14 12 35.2 0.0
CLL pmax pmax
comp=Z,4.0nm,0.8s
GOPC GO Pecny, Ondr 114.43 45 AMS AMS 14 57 50.0
comp=Z,100nm,14.6s
ILAR Eielson Array 115.67 333 PKP **PKPdf** 14 12 37.2 -0.8
comp=Z,0.3nm,0.7s,baz=114,slow=0.5,SNR=5.3
ASAR Alice Springs 116.09 207 PKP **PKPdf** 14 12 39.2 -1.0
comp=Z,0.7nm,0.8s,baz=152,slow=2.0,SNR=5.2
ASAR PKKPbc **PKKPbc** 14 23 09.3 -0.3
comp=Z,1.5nm,0.6s,baz=339,slow=2.8,SNR=38
NB2 NORSAR Subarra 117.41 33 PKPdf **PKPdf** 14 12 41.1 -0.4
comp=Z,1.4nm,1.1s,baz=248,slow=1.9
NB2 NORSAR Subarra 117.41 33 PKPdf **PKPdf** 14 12 41.2 -0.3
comp=Z,1.7nm,1.1s,baz=248,slow=1.9
NOA NORSAR Array B 117.41 33 PKP **PKPdf** 14 12 41.6 +0.1
comp=Z,1.1nm,0.7s,baz=252,slow=2.0,SNR=3.9
WRA Warramunga Arr 119.31 209 PKP **PKPdf** 14 12 45.6 -0.9
comp=Z,1.5nm,0.8s,baz=168,slow=1.6,SNR=9.7
WRA PKKPbc **PKKPbc** 14 22 58.2 +0.1
comp=Z,0.8nm,0.6s,baz=344,slow=3.8,SNR=12
BRTR Keskin Array B 122.62 62 PKP **PKPdf** 14 12 52.1 -0.2
comp=Z,1.4nm,0.6s,baz=188,slow=3.4,SNR=7.7
BRTR Keskin Array B 122.62 62*c* *i* PKIKP **PKPdf** 14 12 52.4 +0.1
BRTR pmax pmax
comp=Z,1.0nm,0.6s
KIEV Kiev 123.28 48*d* *i* PKIKP **PKPdf** 14 12 52.1 -0.9
AK01 Malin Array Si 123.29 48 *e*PKPdf **PKPdf** 14 12 52.2 -0.8
AKASG Malin Array Be 123.30 48 PKP **PKPdf** 14 12 52.2 -0.8
comp=Z,4.1nm,0.8s,baz=260,slow=2.6,SNR=14
VSU Vasula 123.98 39*d* *i* PKIKP **PKPdf** 14 12 53.8 -0.3
FINES FINESS Array B 124.34 35 PKP **PKPdf** 14 12 54.7 0.0
comp=Z,3.8nm,0.8s,baz=190,slow=3.3,SNR=9.7
ARCES ARCESS Array B 125.51 25 PKP **PKPdf** 14 12 56.6 -0.1
comp=Z,3.1nm,0.6s,baz=249,slow=3.2,SNR=23
OBN Obninsk 128.63 44 *i* PKIKP **PKPdf** 14 13 03.8 +0.8
OBN pmax pmax
comp=Z,18nm,1.4s
KIV Kislovodsk 130.34 59 *i* PKIKP **PKPdf** 14 13 07.4 +0.6
KIV pmax pmax
comp=Z,9.0nm,1.0s
KBZ Khabaz 130.43 60 PKP **PKPdf** 14 13 06.8 -0.1
comp=Z,0.8nm,0.4s,baz=214,slow=7.6,SNR=4.1
PRGR Permogore 133.67 36 *e*PKIKP **PKPdf** 14 13 11.3 -1.1
PRGR pmax pmax
comp=Z,19nm,0.9s
GEYT Alibeck 140.39 71 PKP **PKPdf** 14 13 25.7 0.0
comp=Z,2.5nm,0.4s,baz=279,slow=4.6,SNR=3.3
ARU Arti 140.98 42 *e*PKIKP **PKPdf** 14 13 26.8 +0.7
ARU Arti 140.98 42 *e*PKPdf **PKPdf** 14 13 26.8 +0.7
SEY Seymchan 141.47 329 *i* PKIKP **PKPdf** 14 13 28.5 +1.8
AB31 Akbulak array 142.68 53 *i* PKHKP PKPpre 14 13 24.6
AB31 pmax pmax
comp=Z,7.0nm,0.5s
ABKAR Akbulak array 142.68 53 *e*PKPpre PKPpre 14 13 24.8
GSI Gunungsitoli 144.47 162 *e*PKPdf **PKPdf** 14 13 33.0 -0.7
GSI *e*pPKPdf **pPKPdf** 14 13 47.6 -0.3
KSM Kuching 145.91 184 *e*PKPdf **PKPdf** 14 13 36.0 -0.1
PSI Prapat 146.24 164 PKPbc **PKPbc** 14 13 37.4 -0.5
comp=Z,27nm,0.8s,baz=180,slow=24,SNR=16
SKHT Srikalahasti 146.51 124 *e*PKPab **PKPbc** 14 13 38.1 -0.4
KLRI Killari 147.17 114 *e*PKPdf **PKPdf** 14 13 37.5 -0.6
KLRI *e*PKPbc **PKPbc** 14 13 39.5 -0.9
RCLA Racherla 147.18 120 *e*PKPbc **PKPbc** 14 13 40.0 -0.3
SRLM Srisailam 147.57 119 *e*PKPbc **PKPbc** 14 13 40.8 -0.7
ADKI Addanki 148.16 121 *e*PKPbc **PKPbc** 14 13 42.1 -0.9
NJS Nagarjunasagar 148.17 119 *e*PKPbc **PKPbc** 14 13 42.7 -0.4
HYB Hyderabad 148.20 117 *i* PKP **PKPbc** 14 13 42.0 -1.1
HYBB Hyderabad (bro 148.20 117 *e*PKPbc **PKPbc** 14 13 41.8 -1.3
BRVK Borovoye 148.40 45 *e*PKIKP **PKPdf** 14 13 38.1 -0.9
BRVK *i* 14 13 43.3
BRVK Borovoye 148.40 45 *e*PKPbc **PKPbc** 14 13 42.6 0.0
BVA0 Borovoye Array 148.47 45 *i* PKIKP **PKPdf** 14 13 40.0 +0.9
BVA0 pmax pmax
comp=Z,25nm,0.9s
SRSP Sriramsagar 149.00 115 *e*PKPbc **PKPbc** 14 13 44.5 -0.7
SRSP *e*PKPab **PKPab** 14 13 48.8 -0.6
RPR Rampur 149.66 116 *e*PKPbc **PKPbc** 14 13 46.2 -0.6
RPR *e*PKPab **PKPab** 14 13 51.7 -0.3
PVM Polavaram 150.27 121 *e*PKPab **PKPab** 14 13 54.4 -0.1
YAK Yakutsk 150.29 339 PKPbc **PKPbc** 14 13 46.6 -0.3
comp=Z,2.0nm,0.4s,baz=230,slow=11,SNR=5.6
YAK Yakutsk 150.29 339 *e*PKIKP **PKPbc** 14 13 46.0 -0.9
YAK pmax pmax
comp=Z,53nm,1.0s
YAK Yakutsk 150.29 339 *e*PKPbc **PKPbc** 14 13 46.5 -0.5
KK31 Karatay Array 150.29 64 *i* PKIKP **PKPbc** 14 13 47.2 -0.4
KK31 pmax pmax
comp=Z,6.0nm,0.4s
KKAR Karatay Array 150.29 64 *e*PKIKP **PKPbc** 14 13 47.5 -0.2
KKAR Karatay Array 150.29 64 *e*PKPbc **PKPbc** 14 13 47.5 -0.2
YSS Yuzh-Sakhalins 151.76 304 *e*PKIKP **PKPbc** 14 13 50.9 0.0
AML Almayashu 152.68 66 P **PKPbc** 14 13 54.0 +0.3
SNR=5.3
EKS2 Erkin-Say 152.71 65 P **PKPbc** 14 13 54.2 +0.8
SNR=6.0
EKS2 Erkin-Say 152.71 65 *e*PKIKP **PKPbc** 14 13 53.8 +0.5
EKS2 Erkin-Say 152.71 65 *e*PKPbc **PKPbc** 14 13 53.8 +0.5
USP Ospenovka 153.20 63 P **PKPbc** 14 13 54.8 +0.5
SNR=7.9
AAK Ala-Archa 153.24 65 P **PKPbc** 14 13 55.2 +0.6
SNR=7.4
UCH Uchtor 153.28 66 P **PKPbc** 14 13 55.8 +0.7
SNR=8.5
TKM2 Tokmak 2 154.03 64 *e*PKIKP **PKPbc** 14 13 56.5 +0.1
TKM2 Tokmak 2 154.03 64 *e*PKPbc **PKPbc** 14 13 56.5 +0.1
NVS Novosibirsk 154.32 34 *i* PKIKP **PKPbc** 14 13 56.7 +0.5
NVS *i* 14 14 11.0
NVS pmax pmax
comp=Z,14nm,0.8s
NVS pmax pmax
comp=N,2.0nm,0.9s
NVS pmax pmax
comp=E,5.0nm,0.9s
KSH Kashi 154.43 72 PKP **PKPbc** 14 13 57.1 -0.1
KSH pPKP **pPKPdf** 14 14 01.0 -2.1
KSH sPKP 14 14 04.1
KSH PKS **PKSdf** 14 17 23.3 +0.2
KSH PP PP 14 17 54.6 +7.0
KSH SKS **SKSdf** 14 20 51.1 -0.7
ZALV Zalesovo Beam 155.61 34 PKP **PKPdf** 14 13 49.4 -0.4
comp=E,2.1nm,0.7s,baz=280,slow=3.9,SNR=9.8
ZALV PKPbc PKPbc 14 13 59.2
comp=E,11nm,0.7s,baz=299,slow=3.1,SNR=11
ZALV PKPab **PKPab** 14 14 16.2 +0.2
comp=E,9.6nm,0.5s,baz=298,slow=2.6,SNR=10
MKAR Makanchi Array 157.81 52 PKP **PKPdf** 14 13 52.3 -0.6
comp=E,0.9nm,0.7s,baz=70,slow=1.4,SNR=4.2
MKAR PKPab **PKPab** 14 14 25.4 -0.5
comp=E,3.4nm,0.7s,baz=293,slow=3.6,SNR=6.9
KOLN Koldanda 157.86 104 *e*P **PKPab** 14 14 25.9 -1.0
KOLN Koldanda 157.86 104 *e*P **PKPab** 14 14 26.4 -0.5
comp=E,18nm,0.8s
DANN Dangsing 158.24 103 *e*P **PKPab** 14 14 28.1 -0.5
comp=E,3.9nm,0.7s
DANN Dangsing 158.24 103 *e*P **PKPab** 14 14 28.2 -0.4
comp=E,3.9nm,0.7s
GKN Gorkha 158.78 105 *e*P **PKPab** 14 14 30.6 -0.2
comp=E,13nm,0.6s
GKN Gorkha 158.78 105 *e*P **PKPab** 14 14 30.7 -0.1
DMN Daman 158.97 106 *e*P **PKPab** 14 14 31.9 +0.2
comp=E,65nm,0.8s
DMN Daman 158.97 106 *e*P **PKPab** 14 14 32.0 +0.2
PKIN Phulchoki 159.18 106 *e*P **PKPab** 14 14 32.6 -0.1
comp=E,28nm,0.7s
PKIN Phulchoki 159.18 106 *e*P **PKPab** 14 14 32.7 0.0
comp=E,11nm,0.5s
PKI Pulchoki 159.19 106 *e*P **PKPab** 14 14 32.6 -0.2
comp=E,58nm,0.7s
PKI Pulchoki 159.19 106 *e*P **PKPab** 14 14 32.7 -0.1
KKN Kakani 159.19 106 *e*P **PKPab** 14 14 32.7 +0.1
comp=E,59nm,0.8s
KKN Kakani 159.19 106 *e*P **PKPab** 14 14 32.8 +0.1
comp=E,59nm,0.8s
GUN Gumba 159.72 106 *e*P **PKPab** 14 14 35.1 0.0
comp=E,42nm,0.9s
GUN Gumba 159.72 106 *e*P **PKPab** 14 14 35.2 +0.1
RAMN Ramite 159.81 110 *e*P **PKPab** 14 14 35.6 +0.2
comp=E,43nm,0.6s
RAMN Ramite 159.81 110 *e*P **PKPab** 14 14 35.7 +0.3
comp=E,42nm,0.6s
ODAN Odare 160.37 111 *e*P **PKPab** 14 14 37.8 0.0
comp=E,47nm,0.8s
ODAN Odare 160.37 111 *e*P **PKPab** 14 14 37.8 0.0
comp=E,47nm,0.8s
CMAR Chiang Mai Arr 161.09 153 PKP **PKPdf** 14 13 57.7 +0.2
comp=E,1.1nm,0.8s,baz=242,slow=3.3,SNR=8.5
CMAR PKPab **PKPab** 14 14 39.9 -0.7
comp=E,2.3nm,1.0s,baz=221,slow=5.7,SNR=7.0
WMQ Urumqi 162.43 56 *e*PKP **PKPdf** 14 13 57.9 -0.3
WMQ LN
comp=E,42nm,22.0s
WMQ LE
comp=E,57nm,22.5s
WMQ LZ
comp=E,38nm,20.0s
SONM Songino Array 167.78 5 PKP **PKPdf** 14 14 01.8 -0.9
comp=E,0.2nm,0.3s,baz=280,slow=0.9,SNR=3.5
SONM PKPab **PKPab** 14 15 09.4 -0.1
comp=E,1.2nm,0.8s,baz=347,slow=5.0,SNR=6.1
SONM PP **PP** 14 18 59.4 +1.8
comp=E,0.3nm,0.4s,baz=332,slow=5.0,SNR=4.3
NJ2 Nanjing 170.26 251 *e*PKP **PKPdf** 14 14 05.6 +1.1
GYA Guiyang 170.76 173 PKP **PKPdf** 14 14 04.0 -1.2
GYA sPKP 14 14 24.2
GYA PKPab **PKPab** 14 15 24.4 +1.3
GYA PKS **PKSdf** 14 17 35.8 -2.0
GYA PP **PP** 14 19 15.6 +3.0
GYA PPMZ
comp=E,120nm,8.0s
GTA Gaotai 172.52 58 ⇓PKP **PKPdf** 14 14 06.3 +0.7
GTA pPKP **pPKPdf** 14 14 16.6 -3.4
GTA sPKP 14 14 20.5
GTA PKPab **PKPab** 14 15 32.1 +1.2
GTA PP **PP** 14 19 25.1 +2.5
GTA SKS **SKSdf** 14 21 04.4 -0.7
GTA SKKS **SKKSac** 14 26 07.3 +2.1
GTA SS **SS** 14 40 29.4 -1.7
GTA PPMZ
comp=E,59nm,6.2s
GTA LN
comp=E,120nm,15.7s
GTA LE
comp=E,270nm,15.2s
GTA LZ
comp=E,150nm,16.4s
CD2 Chengdu 174.09 142 PKP **PKPdf** 14 14 05.8 -0.6
CD2 pPKP **pPKPdf** 14 14 20.4 -0.3
CD2 sPKP 14 14 25.8
CD2 PP **PP** 14 19 29.8 +0.2
CD2 SKS **SKSdf** 14 21 04.9 -0.9
CD2 SKKS **SKKSac** 14 26 11.7 -0.9
CD2 SS **SS** 14 40 46.0 +1.0
CD2 PPMZ
comp=E,140nm,6.3s
CD2 LN
comp=E,220nm,7.1s
CD2 LZ
comp=E,130nm,6.7s
HHC Hu-ho-hao-te 174.10 332 *e*PKP **PKPdf** 14 14 08.8 +2.6
HHC PKS **PKSdf** 14 17 36.9 -1.5
HHC PP PP 14 19 35.7 +6.2
HHC SKS **SKSdf** 14 21 07.0 +1.5
HHC SKKS **SKKSac** 14 26 15.4 +3.0
HHC SS **SS** 14 40 48.2 +3.5
HHC LN
comp=E,94nm,18.7s
HHC LE
comp=E,110nm,19.9s
LZH Lanzhou 176.62 82 *e*PKP **PKPdf** 14 14 07.2 +0.1
LZH pPKP **pPKPdf** 14 14 17.0 -4.4
LZH sPKP 14 14 21.5
LZH LN
comp=E,120nm,18.9s
LZH LE
comp=E,120nm,17.7s
LZH LZ
comp=E,150nm,20.5s

IDC ***06*** *13:58:00.7±5.6, 33°.73S×179°.69E, h469km±75km, mb3.0/3, mb1 3.2/4, mb1mx3.0/35, mbtmp4.0/4, Error ellipse: s-maj=113.5km s-min=37.8km az=2.0*

ISC 06 13:57:56.4±2.2, 33°.3S±0°.1×179°.7W±0°.3, h450km, n17, σ1§40/21, mb3.3/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**4.87**	**205**	PN	**P**	**13 59 18.2**	**-1.1**
HAZ				SN	**S**	**14 00 25.8**	**-1.3**
URZ	**Urewera**	**5.56**	**207**	P	**P**	**13 59 24.7**	**-1.4**
	6.9nm,0.3s,baz=268,slow=3.5,SNR=61						
URZ				S	**S**	**14 00 36.3**	**-3.1**
	0.7nm,0.3s,baz=232,slow=19,SNR=4.0						
URZ	**Urewera**	**5.56**	**207**	PN	**P**	**13 59 25.2**	**-0.9**
BKZ	**Black Stump Fm**	**6.59**	**207**	PN	**P**	**13 59 36.5**	**-0.2**
BHHZ	**Black Hill Sta**	**7.03**	**208**	PN	**P**	**13 59 41.3**	**0.0**
MRZ	**Mangatainoka R**	**8.23**	**206**	PN	**P**	**13 59 54.7**	**+0.6**
MRZ				*e*SN	**S**	**14 01 30.6**	**-0.3**
HOWZ	**Holdsworth Sta**	**8.46**	**206**	PN	**P**	**13 59 57.8**	**+1.1**
CAW	**Cannon Point**	**8.81**	**207**	PN	**P**	**14 00 01.9**	**+1.5**
TCW	**Tory Channel**	**9.22**	**210**	PN	**P**	**14 00 06.0**	**+1.2**
TUWZ	**Tuamarina**	**9.54**	**210**	PN	**P**	**14 00 09.9**	**+1.6**
NNZ	**Nelson**	**9.61**	**213**	PN	**P**	**14 00 09.1**	**0.0**
NNZ				SN	**S**	**14 01 59.4**	**+1.0**
QRZ	**Quartz Range**	**9.73**	**218**	PN	**P**	**14 00 10.1**	**-0.2**
THZ	**Tophouse**	**10.26**	**213**	PN	**P**	**14 00 17.9**	**+1.7**
THZ				SN	**S**	**14 02 13.2**	**+1.7**
STKA	**Stephens Creek**	**32.54**	**262**	P	P	14 03 45.0	-3.7
	0.4nm,0.4s,baz=114,slow=10.0,SNR=3.1						
ASAR	**Alice Springs**	**41.64**	**271**	P	**P**	**14 05 03.6**	**-0.4**
	0.6nm,0.4s,baz=107,slow=7.7,SNR=25						
WRA	**Warramunga Arr**	**42.90**	**276**	P	**P**	**14 05 12.8**	**-1.1**
	1.3nm,0.3s,baz=120,slow=8.3,SNR=47						
FINES	**FINESS Array B**	**147.36**	**337**	PKPbc	**PKPbc**	**14 16 49.6**	**+1.9**
	0.9nm,0.8s,baz=55,slow=4.8,SNR=4.1						

ISCJB ***06*** *13:58:17.8±0.6, 48°.49N±0°.07×155°.5E±0°.1, h36km, mb3.5/6, Error ellipse: s-maj=15.3km s-min=3.0km az=40.1*

KRSC ***06*** *13:58:19.9±2.1, 48°.60N×156°.52E, h30km±28km, ML4.6*

SKHL ***06*** *13:58:19.7±0.8, 48°.47N×155°.71E, h75km±4km, mb4.8/7*

MOS ***06*** *13:58:20.7±1.4, 48°.83N×154°.90E, h71km, mb4.1/2, Error ellipse: s-maj=13.6km s-min=5.3km az=65.5*

IDC ***06*** *13:58:25.6±2.6, 49°.01N×154°.60E, h113km±24km, mb3.2/6, mb1 3.4/10, mb1mx3.2/48, mbtmp3.7/10, Error ellipse: s-maj=31.1km s-min=15.2km az=135.0*

ISC 06 13:58:18.7±0.9, 48°.49N±0°.09×155°.6E±0°.1, h36km, n92, σ2§05/89, mb3.5/6, 4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.22**	**8**	*e*P	**Pn**	**13 58 53.3**	**+0.3**
SKR				*e*S	**Sn**	**13 59 18.5**	**-0.7**
SKR	**Severo-Kuril's**	**2.22**	**8**	*e*PN	Pn	13 58 43.0	-10
SKR				pmax	pmax		

	comp=Z,2µm,0.8s							
SKR					pmax	pmax		
	comp=N,90nm,0.4s							
SKR	**Severo-Kuril's**	**2.22**	**8**	*e*P		**Pn**	**13 58 53.4**	**+0.4**
SKR				AMB		AMB	13 58 55.8	
	comp=N,220nm,0.8s							
SKR				*e*S		**Sn**	**13 59 19.4**	**+0.2**
SKR				A		A	13 59 24.8	
	comp=N,410nm,0.4s							
SKR				A		A	13 59 24.8	
	comp=N,720nm,0.4s							
PAU	**Pauzhetka**	**3.08**	**14**	*e*P		**Pn**	**13 59 06.4**	**+1.6**
PAU				*e*S		**Sn**	**13 59 41.9**	**+1.6**
PAU	**Pauzhetka**	**3.08**	**14**	PN		**Pn**	**13 59 06.4**	**+1.6**
PAU				S		**Sn**	**13 59 41.9**	**+1.6**
MIPR	**Malaya Ipel'ka**	**3.86**	**10**	*e*P		**Pn**	**13 59 17.2**	**+1.6**
ASAK	**Asacha**	**4.16**	**19**	*e*P		**Pn**	**13 59 22.4**	**+2.7**
MTVR	**Mutnovka**	**4.32**	**21**	*e*P		**Pn**	**13 59 24.4**	**+2.5**
MTVR				*e*S		**Sn**	**14 00 12.5**	**+1.4**
RUS	**Russkaya**	**4.36**	**24**	*e*P		**Pn**	**13 59 23.9**	**+1.6**
RUS				*e*S		**Sn**	**14 00 11.6**	**-0.2**
RUS	**Russkaya**	**4.36**	**24**	PN		**Pn**	**13 59 23.9**	**+1.6**
RUS				S		**Sn**	**14 00 11.6**	**-0.2**
RUS	**Russkaya**	**4.36**	**24**	*e*P		**Pn**	**13 59 23.9**	**+1.6**
RUS				*e*S		**Sn**	**14 00 11.6**	**-0.2**
APC	**Apacha**	**4.55**	**12**	*e*P		**Pn**	**13 59 27.6**	**+2.7**
APC	**Apacha**	**4.55**	**12**	PN		**Pn**	**13 59 27.6**	**+2.7**
PETK	**Petropavlovsk-**	**4.81**	**15**	P		**Pn**	**13 59 31.1**	**+2.5**
	comp=N,7.2nm,0.3s,baz=179,slow=13,SNR=63							
PETK	**Petropavlovsk-**	**4.81**	**15**	PN		**Pn**	**13 59 31.1**	**+2.5**
PETK				pmax	pmax			
	comp=Z,7.0nm,0.3s							
PET	**Petropavlovsk**	**4.93**	**22**	*e*P		**Pn**	**13 59 32.3**	**+2.1**
PET				*e*S		**Sn**	**14 00 26.7**	**+0.8**
PET	**Petropavlovsk**	**4.93**	**22**	*e*PN		**Pn**	**13 59 32.7**	**+2.5**
PET				*e*S		**Sn**	**14 00 26.7**	**+0.8**
PET				pmax	pmax			
	comp=Z,22nm,0.5s							
PET				smax	smax			
	comp=E,88nm,0.6s							
PET				smax	smax			
	comp=N,104nm,0.6s							
PET	**Petropavlovsk**	**4.93**	**22**	*e*P		**Pn**	**13 59 32.2**	**+2.1**
PET				AMB	AMB		13 59 34.0	
	comp=N,20nm,0.5s							
PET				*e*S		**Sn**	**14 00 26.7**	**+0.8**
PET				A	A		14 00 43.1	
	comp=N,90nm,0.6s							
PET				A	A		14 00 44.6	
	comp=N,100nm,0.6s							
UGLR	**Uglovaya**	**5.14**	**22**	*e*P		**Pn**	**13 59 36.2**	**+3.0**
AVH	**Avacha**	**5.17**	**21**	*e*P		**Pn**	**13 59 36.6**	**+3.0**
AVH	**Avacha**	**5.17**	**21**	PN		**Pn**	**13 59 36.6**	**+3.0**
AVH	**Avacha**	**5.17**	**21**	*e*P		**Pn**	**13 59 36.6**	**+3.0**
KOK	**Koryaka**	**5.17**	**20**	*e*P		**Pn**	**13 59 36.7**	**+3.1**
KOK	**Koryaka**	**5.17**	**20**	PN		**Pn**	**13 59 36.7**	**+3.1**
KOK	**Koryaka**	**5.17**	**20**	*e*P		**Pn**	**13 59 36.7**	**+3.1**
SMAR	**Somma**	**5.19**	**22**	*e*P		**Pn**	**13 59 36.4**	**+2.5**
SMAR	**Somma**	**5.19**	**22**	PN		**Pn**	**13 59 36.4**	**+2.5**
KRER	**Koryakskii**	**5.21**	**21**	*e*P		**Pn**	**13 59 37.0**	**+2.8**
SDLR	**Sedlovina**	**5.22**	**22**	*e*P		**Pn**	**13 59 36.4**	**+2.1**
SDLR	**Sedlovina**	**5.22**	**22**	PN		**Pn**	**13 59 36.4**	**+2.1**
KRX	**Arik**	**5.24**	**20**	*e*P		**Pn**	**13 59 37.6**	**+3.0**
NLC	**Nalytchevo**	**5.25**	**25**	*e*P		**Pn**	**13 59 35.1**	**+0.6**
NLC	**Nalytchevo**	**5.25**	**25**	PN		**Pn**	**13 59 35.1**	**+0.6**
NLC	**Nalytchevo**	**5.25**	**25**	*e*P		**Pn**	**13 59 35.1**	**+0.6**
SPN	**Mys Shipunski**	**5.39**	**29**	*e*P		**Pn**	**13 59 38.7**	**+2.2**
SPN	**Mys Shipunski**	**5.39**	**29**	PN		**Pn**	**13 59 38.7**	**+2.2**
SPN	**Mys Shipunski**	**5.39**	**29**	*e*P		**Pn**	**13 59 38.7**	**+2.2**
GNL	**Ganaly**	**5.42**	**15**	*e*P		**Pn**	**13 59 39.6**	**+2.6**
GNL	**Ganaly**	**5.42**	**15**	PN		**Pn**	**13 59 39.6**	**+2.6**
KUR	**Kuril'sk**	**6.24**	**241**	*d i*PN		**Pn**	**13 59 50.7**	**+2.5**
KUR				*i* S		**Sn**	**14 01 01.7**	**+3.5**
KUR				pmax	pmax			
	comp=N,5.0nm,0.3s							
KUR				pmax	pmax			
	comp=E,3.0nm,0.3s							
KUR				pmax	pmax			
	comp=Z,4.0nm,0.3s							
KUR				smax	smax			
	comp=N,24nm,0.3s							
KUR				smax	smax			
	comp=E,8.0nm,0.3s							
KUR	**Kuril'sk**	**6.24**	**241**	⇓*i*P		**Pn**	**13 59 50.7**	**+2.5**
KUR				AMB	AMB		13 59 51.0	
	comp=E,10.0nm,0.3s							
KUR				*e*S		**Sn**	**14 00 59.9**	**+1.7**
KUR				A	A		14 01 13.0	
	comp=E,80nm,0.6s							
MKZ	**Mys Kozlova**	**7.17**	**30**	*e*P		**Pn**	**14 00 01.8**	**+1.0**
MKZ	**Mys Kozlova**	**7.17**	**30**	PN		**Pn**	**14 00 01.8**	**+1.0**
MKZ	**Mys Kozlova**	**7.17**	**30**	*e*P		**Pn**	**14 00 01.8**	**+1.0**
TUMR	**Tumrok**	**7.36**	**21**	*e*P		Pn	14 00 07.9	+4.3
TUMR	**Tumrok**	**7.36**	**21**	PN		Pn	14 00 07.9	+4.3
SHO	**Shikotan**	**7.66**	**236**	*e*P		**Pn**	**14 00 09.8**	**+2.2**
SHO				AMB	AMB		14 00 17.4	
	comp=E,120nm,0.8s							
SHO				*e*S		**Sn**	**14 01 33.2**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**8.10**	**240**	*d i*PN		**Pn**	**14 00 16.4**	**+2.6**
YUK				*i* S		**Sn**	**14 01 46.8**	**+2.8**
YUK				pmax	pmax			
	comp=N,5.0nm,0.1s							
YUK				pmax	pmax			
	comp=E,14nm,0.1s							
YUK				pmax	pmax			
	comp=Z,25nm,0.1s							
YUK	**Yuzh-Kuril'sk**	**8.10**	**240**	⇓*i*P		**Pn**	**14 00 16.4**	**+2.6**
YUK				AMB	AMB		14 00 16.5	
	comp=Z,10.0nm,0.1s							
YUK				AMB	AMB		14 00 16.5	
	comp=Z,30nm,0.1s							
YUK				*e*S		**Sn**	**14 01 46.8**	**+2.8**
BDR	**Baidarnaya**	**8.78**	**21**	*e*P		**Pn**	**14 00 25.6**	**+2.6**
YSS	**Yuzh-Sakhalins**	**8.82**	**265**	*i* PN		Pn	14 00 19.6	-4.0
YSS	**Yuzh-Sakhalins**	**8.82**	**265**	*e*P		Pn	14 00 28.0	+4.4
YSS				AMB	AMB		14 00 29.4	
	comp=Z,40nm,1.0s							
KBTR	**Krutoberegovo**	**8.89**	**27**	*e*P		**Pn**	**14 00 25.8**	**+1.3**
KBTR	**Krutoberegovo**	**8.89**	**27**	PN		**Pn**	**14 00 25.8**	**+1.3**
UGL	**Uglegorsk**	**8.99**	**279**	*e*PN		Pn	14 00 19.7	-6.1
UGL	**Uglegorsk**	**8.99**	**279**	*e*P		Pn	14 00 31.2	+5.4
BKI	**Bering**	**9.28**	**40**	*e*S		Sn	14 02 06.8	-5.9
JKA	**Kamikawa-asahi**	**10.02**	**249**	*e*P		**Pn**	**14 00 40.8**	**+0.7**
ASAJ	**Asahikawa**	**10.03**	**249**	P		**Pn**	**14 00 40.8**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=72,slow=17,SNR=12							
ASAJ	**Asahikawa**	**10.03**	**249**	PN		**Pn**	**14 00 40.8**	**+0.7**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ERM	**Erimo**	**10.91**	**238**	*e*PN		**Pn**	**14 00 53.1**	**+0.9**
ERM	**Erimo**	**10.91**	**238**	*e*P		**Pn**	**14 00 53.1**	**+0.9**
HABR	**Khabarovsk**	**13.66**	**278**	PN		Pn	14 01 24.3	-5.4
HABR				pmax	pmax			
	comp=Z,30nm,2.0s							
HABR				MLR	MLR			
	comp=Z,29nm,14.0s							
HABR	**Khabarovsk**	**13.66**	**278**	*e*P		Pn	14 01 24.3	-5.4
HABR				AMB	AMB		14 01 38.7	
	comp=Z,30nm,2.0s							
HABR				AMS	AMS		14 06 25.0	
	comp=Z,100nm,14.0s							
SEY	**Seymchan**	**14.60**	**354**	P		**Pn**	**14 01 40.0**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=172,slow=14,SNR=4.6							
SEY	**Seymchan**	**14.60**	**354**	*i* P		**Pn**	**14 01 41.6**	**-0.7**
SEY	**Seymchan**	**14.60**	**354**	*i* P		**Pn**	**14 01 41.6**	**-0.7**
USRK	**Uesuriysk Ar.**	**16.86**	**264**	P		**Pn**	**14 02 08.7**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=63,slow=15,SNR=4.2							
VLA	**Vladivostok**	**17.38**	**261**	*e*P		**Pn**	**14 02 15.0**	**-3.2**
VLA				pmax	pmax			
	comp=Z,19nm,1.3s							
VLA	**Vladivostok**	**17.38**	**261**	*e*P		**Pn**	**14 02 15.0**	**-3.2**
VLA				AMB	AMB		14 02 16.2	
	comp=Z,20nm,1.3s							
MAJO	**Matsushiro**	**17.49**	**233**	*i* P		**Pn**	**14 02 18.6**	**-1.1**
MAJO	**Matsushiro**	**17.49**	**233**	*i* P		**Pn**	**14 02 18.6**	**-1.1**
KSRS	**Korea Array**	**22.96**	**252**	P		**P**	**14 03 16.2**	**-3.5**
	comp=Z,1.1nm,0.6s,baz=44,slow=10,SNR=6.6							
KSRS	**Korea Array**	**22.96**	**252**	*e*P		**P**	**14 03 17.9**	**-1.9**
KSRS	**Korea Array**	**22.96**	**252**	*e*P		**P**	**14 03 17.9**	**-1.9**
H11N2	**WAKE ISLAND Hy**	**30.09**	**158**	T		T	14 36 38.0	
	baz=341,slow=76,SNR=32							
H11N1	**WAKE ISLAND Hy**	**30.11**	**159**	T		T	14 37 05.0	
	baz=341,slow=76,SNR=32							
H11N3	**WAKE ISLAND Hy**	**30.11**	**158**	T		T	14 36 38.6	
	baz=341,slow=76,SNR=13							
H11S1	**WAKE ISLAND Hy**	**31.22**	**159**	T		T	14 37 57.1	
	baz=345,slow=76,SNR=375							
H11S3	**WAKE ISLAND Hy**	**31.23**	**159**	T		T	14 38 07.3	
	baz=345,slow=76,SNR=452							
H11S2	**WAKE ISLAND Hy**	**31.24**	**159**	T		T	14 37 57.3	
	baz=345,slow=76,SNR=205							
TLY	**Talaya**	**32.94**	**296**	*i* P		**P**	**14 04 47.2**	**-2.3**
TLY	**Talaya**	**32.94**	**296**	*i* P		**P**	**14 04 47.2**	**-2.3**
ILAR	**Eielson Array**	**34.12**	**40**	P		**P**	**14 04 59.7**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=279,slow=8.1,SNR=3.6							
INK	**Inuvik**	**39.27**	**34**	P		**P**	**14 05 42.9**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=284,slow=7.2,SNR=5.4							
INK	**Inuvik**	**39.27**	**34**	P		**P**	**14 05 42.9**	**-0.4**
INK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**47.67**	**297**	P		P	14 06 43.3	-8.0
	comp=Z,0.3nm,0.5s,baz=71,slow=7.1,SNR=3.7							
KURK	**Kurchatov**	**47.83**	**303**	*i* P		**P**	**14 06 52.4**	**-0.1**
KURK	**Kurchatov**	**47.83**	**303**	*i* P		**P**	**14 06 52.4**	**-0.1**
FINES	**FINESS Array B**	**63.19**	**335**	P		P	14 08 35.6	-6.9
	comp=Z,1.0nm,0.7s,baz=15,slow=5.8,SNR=2.8							
FINES	**FINESS Array B**	**63.19**	**335**	P		P	14 08 35.6	-6.9
FINES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
WRA	**Warramunga Arr**	**70.73**	**201**	P		**P**	**14 09 30.5**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=21,slow=6.4,SNR=2.7							

IDC 06 14:01:23.5±2.7, 24°.05S×175°.42W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/28, mbtmp3.7/4, Error ellipse: s-maj=153.5km s-min=31.2km az=157.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.14**	**260**	P	P	14 09 50.0	-0.1
	0.6nm,0.9s,baz=110,slow=8.0,SNR=6.2						
WRA	**Warramunga Arr**	**46.57**	**265**	P	P	14 09 53.1	-0.4
	0.5nm,0.4s,baz=102,slow=8.0,SNR=8.0						
TXAR	**Lajitas Array**	**86.99**	**56**	P	P	14 14 10.6	-0.5
	0.5nm,1.0s,baz=232,slow=4.4,SNR=3.8						
ILAR	**Eielson Array**	**91.26**	**12**	P	P	14 14 30.8	+0.6
	0.3nm,0.6s,baz=211,slow=5.1,SNR=4.5						

GUC 06 14:07:32.5±0.7, 35°.13S×72°.41W, h21km±5km, ML4.4, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.69**	**113**	⇓*i*P	Pb	14 07 45.2	-0.7
TALC				*i* S	Sb	14 07 54.6	-0.3
NICH	**Los Niches**	**0.98**	**83**	*e*P	Pb	14 07 50.1	-0.6
NICH				*i* S	Sb	14 08 03.5	+0.4
CCSP	**San Pedro de C**	**1.80**	**198**	AML	AML	14 08 30.2	
	comp=E,4µm,0.4s						
TACH	**Talagante**	**1.91**	**40**	⇓*i*P	Pn	14 08 04.3	+0.4
PCH	**Pirque**	**2.17**	**47**	*e*P	Pn	14 08 08.6	+1.0
PCH				*i* S	Sb	14 08 36.8	-1.1
CLCH	**Cerro Calan**	**2.32**	**42**	*e*P	Pn	14 08 11.5	+1.8
CLCH				*e*S	Sb	14 08 39.9	-2.2
CLCH				AML	AML	14 08 48.6	
	comp=E,3µm,0.5s						
YECH	**El Yeso**	**2.42**	**53**	AML	AML	14 08 34.0	
	comp=N,3µm,0.4s						
PEL	**Peldehue**	**2.44**	**36**	*e*P	Pn	14 08 11.8	+0.6
PEL				*i* S	Sn	14 08 41.6	+1.0
PEL				AML	AML	14 08 51.1	
	comp=E,3µm,0.6s						

*KRNET **06** 14:37:55.4±0.1, 40°.40N×77°.62E, mb3.4*
*NNC **06** 14:38:02.5±2.0, 40°.68N×77°.06E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=20.6km s-min=13.1km az=139.0*

ISC 06 14:37:57.2±2.1, 40°.51N±0°.09×77°.31E±0°.06, h10km, n27, σ1§50/38, 24C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**1.91**	**335**	P	**Pn**	**14 38 30.3**	**+0.2**
	SNR=9.9						
ULHL	**Ulahol**	**1.91**	**335**	⇑*i*P	**Pn**	**14 38 30.0**	**-0.1**
	baz=331						
ULHL				⇑*i*S	**Sb**	**14 38 55.9**	**-0.4**
	baz=331						
KZA	**Kyzart**	**2.21**	**316**	P	**Pb**	**14 38 35.4**	**-2.0**
	SNR=58						
KZA	**Kyzart**	**2.21**	**316**	⇑*i*P	**Pb**	**14 38 35.3**	**-2.1**
	baz=314						
KZA				⇑*i*S	**Sb**	**14 39 05.3**	**+0.3**
	baz=314						
ANVS	**Anan'yevo**	**2.28**	**7**	⇓*i*P	**Pb**	**14 38 37.7**	**-1.0**
	baz=1.0						
ANVS				⇓*e*S	**Sb**	**14 39 08.4**	**+1.4**
	baz=1.0						
KNDC	**Almaty**	**2.71**	**355**	⇑Pn	**Pb**	**14 38 45.4**	**-0.5**
KNDC				⇑Lg	Lg	14 39 22.6	
UCH	**Uchtor**	**2.71**	**310**	P	**Pn**	**14 38 42.9**	**+1.5**
	SNR=7.5						
UCH	**Uchtor**	**2.71**	**310**	⇑*i*P	**Pn**	**14 38 42.6**	**+1.3**
	baz=309						
UCH				⇑*i*S	**Sb**	**14 39 20.4**	**+0.7**
	baz=309						
TKM2	**Tokmak 2**	**2.73**	**332**	P	**Pb**	**14 38 45.0**	**-1.2**
	SNR=8.0						
TKM2	**Tokmak 2**	**2.73**	**332**	⇑Pn	**Pb**	**14 38 44.9**	**-1.3**
	13nm,0.7s						
TKM2				⇑Lg	Lg	14 39 22.5	
	9.3nm,0.2s						
TKM2	**Tokmak 2**	**2.73**	**332**	⇓*i*P	**Pb**	**14 38 44.7**	**-1.5**
	baz=330						
TKM2				⇓*i*S	**Sg**	**14 39 22.9**	**-2.0**
	baz=330						
KBK	**Karagaybulak**	**2.78**	**321**	P	**Pb**	**14 38 46.0**	**-1.1**
	SNR=20						
KBK	**Karagaybulak**	**2.78**	**321**	⇑*i*P	**Pb**	**14 38 45.8**	**-1.3**
	baz=319						
KBK				⇑*i*S	**Sb**	**14 39 23.9**	**+2.6**
	baz=319						
SFK	**Sufi-Kurgan**	**2.96**	**262**	⇑Pn	**Pb**	**14 38 48.6**	**-1.5**
	5.4nm,0.4s						
SFK				⇓Lg	Lg	14 39 27.8	
	13nm,0.4s						
AAK	**Ala-Archa**	**2.99**	**316**	P	**Pb**	**14 38 49.3**	**-1.5**
	SNR=9.6						
AAK	**Ala-Archa**	**2.99**	**316**	⇓Pn	**Pb**	**14 38 49.2**	**-1.5**
	39nm,0.9s						
AAK				⇓Lg	Lg	14 39 29.3	
	24nm,0.5s						
AAK	**Ala-Archa**	**2.99**	**316**	⇑*i*P	**Pb**	**14 38 49.2**	**-1.5**
	baz=315						
AAK				⇑*i*S	**Sb**	**14 39 29.3**	**+1.9**
	baz=315						
FRU	**Bishkek**	**3.08**	**320**	*e*P	**Pb**	**14 38 51.0**	**-1.0**
	baz=318						
FRU				*e*S	**Sb**	**14 39 32.0**	**+2.4**
	baz=318						
CHMS	**Chumysh**	**3.14**	**323**	P	**Pb**	**14 38 52.1**	**-1.0**
	SNR=9.1						
CHMS	**Chumysh**	**3.14**	**323**	⇑*i*P	**Pb**	**14 38 50.7**	**-2.4**
	baz=321						
CHMS				⇑*i*S	**Sb**	**14 39 33.1**	**+1.7**
	baz=321						
AML	**Almayashu**	**3.17**	**302**	⇑*i*P	**Pb**	**14 38 52.6**	**-1.3**
	baz=301						
AML				⇑*i*S	**Sb**	**14 39 34.4**	**+1.7**
	baz=301						
PDGK	**Podgornoye**	**3.25**	**29**	⇓Pn	**Pb**	**14 38 54.2**	**-0.7**
	10nm,0.8s						
PDGK				⇑Lg	Lg	14 39 38.2	
	50nm,0.9s						
EKS2	**Erkin-Say**	**3.41**	**310**	P	**Pb**	**14 38 57.8**	**-0.1**
	SNR=5.9						
EKS2	**Erkin-Say**	**3.41**	**310**	⇑*i*P	**Pb**	**14 38 57.7**	**-0.1**
	baz=309						
EKS2				⇑*i*S	**Sb**	**14 39 41.7**	**+2.3**
	baz=309						
USP	**Ospenovka**	**3.46**	**324**	P	**Pb**	**14 38 57.6**	**-1.0**
	SNR=6.5						
USP	**Ospenovka**	**3.46**	**324**	⇑*i*P	**Pb**	**14 38 57.4**	**-1.2**
	baz=322						
USP				⇑*i*S	**Sb**	**14 39 41.8**	**+1.0**
	baz=322						
KK31	**Karatay Array**	**5.70**	**299**	Pg	Pb	14 39 40.0	+3.2
	1.8nm,0.8s,baz=121,slow=17,SNR=7.4						
KK31				Lg	Lg	14 40 52.5	
	4.4nm,0.7s,baz=115,slow=27,SNR=7.9						

*ISCJB **06** 14:45:21.2±0.3, 36°.69N±0°.01×2°.50W±0°.02, h5km±2km, mb3.4/1, Error ellipse: s-maj=2.4km s-min=2.2km az=11.8*
*LDG **06** 14:45:21.6±0.2, 36°.58N×2°.21W, h2km, Ml4.0/7, Error ellipse: s-maj=4.3km s-min=3.0km az=140.0*
*CRAAG **06** 14:45:21.8, 36°.61N×2°.26W, Mw3.9*
*CSEM **06** 14:45:22.0±0.1, 36°.58N×2°.35W, h2km, ML4.2/4, Mw3.9, Error ellipse: s-maj=2.9km s-min=2.5km az=117.0*
*NEIC **06** 14:45:22.5, 36°.54N×2°.32W, h0km, MN3.7(MDD), After MDD.*
NEIC Felt at Almeria and Roquetas de Mar, Spain.
*MDD **06** 14:45:23.4±0.3, 36°.58N×2°.34W, h10km, mbLg3.4/32, Error ellipse: s-maj=3.4km s-min=2.3km az=163.0, PRXIMO*
MDD EMS: IV ALMERIA III ROQUETAS DE MAR CABO DE GATA.
*SFS **06** 14:45:23.0, 36°.57N×2°.35W, h0km, ML3.9*
*INMG **06** 14:45:23.3±1.6, 36°.57N×2°.34W, h7km±3km, MD3.9, ML3.7, Error ellipse: s-maj=2.7km s-min=2.4km az=104.0*
*IGIL **06** 14:45:24.0, 36°.57N×2°.35W, h8km, ML2.6*
*IDC **06** 14:45:25.1±1.5, 36°.65N×2°.51W, h0km, mb3.4/1, mb1 3.5/5, mb1mx3.3/43, mbtmp3.3/5, ML3.4/4, MS3.0/4, Ms1 3.0/4, ms1mx2.6/31, Error ellipse: s-maj=24.3km s-min=14.1km az=88.0*
*CNRM **06** 14:45:26.3, 36°.61N×2°.60W, h15km, MD3.7*

ISC 06 14:45:22.1±0.6, 36°.63N±0°.02×2°.29W±0°.02, h15km±4km, n189, σ1§87/267, 3C-5D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENIJ	**Nijar**	**0.34**	**12**	⇑Pg	**Pb**	**14 45 30.6**	**+0.6**
	106nm,0.2s,SNR=18						
ENIJ				Lg	Lg	14 45 36.1	
	132nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**0.34**	**12**	Pg	**Pb**	**14 45 30.6**	**+0.6**
	106nm,0.2s,SNR=18						
ENIJ				Lg	Lg	14 45 36.1	
	132nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**0.34**	**12**	Pg	**Pb**	**14 45 30.6**	**+0.6**
ENIJ				Lg	Lg	14 45 38.2	
EBER	**Berja**	**0.55**	**299**	⇓Pg	**Pb**	**14 45 33.5**	**-0.1**
	158nm,0.1s,SNR=18						
EBER				Lg	Lg	14 45 40.2	
	3µm,0.2s,SNR=12						
EBER	**Berja**	**0.55**	**299**	Pg	**Pb**	**14 45 33.5**	**-0.1**
	158nm,0.1s,SNR=18						
EBER				Lg	Lg	14 45 40.1	
EBER	**Berja**	**0.55**	**299**	Pg	**Pb**	**14 45 33.5**	**-0.1**
EBER				Lg	Lg	14 45 40.1	
GORA	**Gorafe**	**1.03**	**325**	⇓Pg	**Pn**	**14 45 42.8**	**+0.6**
	130nm,0.2s,SNR=18						
GORA				Lg	Lg	14 45 57.2	
	1µm,0.3s,SNR=7.9						
GORA	**Gorafe**	**1.03**	**325**	Pg	**Pn**	**14 45 42.8**	**+0.6**
	130nm,0.2s,SNR=18						
GORA				Lg	Lg	14 45 57.2	
	1µm,0.3s,SNR=7.9						
EQUE	**Quentar**	**1.08**	**302**	⇓Pg	**Pn**	**14 45 43.3**	**+0.4**
	142nm,0.2s,SNR=18						
EQUE				Lg	Lg	14 45 55.5	
	1µm,0.4s						
EQUE	**Quentar**	**1.08**	**302**	Pg	**Pn**	**14 45 43.3**	**+0.4**
	142nm,0.2s,SNR=18						
EQUE				Lg	Lg	14 45 55.5	
	1µm,0.4s						
ECOG	**Cogollos-Vega**	**1.21**	**303**	⇑Pg	**Pg**	**14 45 45.6**	**+0.2**
	215nm,0.4s,SNR=18						
ECOG				Lg	Lg	14 46 01.4	
	409nm,0.4s,SNR=4.0						
ECOG	**Cogollos-Vega**	**1.21**	**303**	Pg	**Pg**	**14 45 45.6**	**+0.2**
	215nm,0.4s,SNR=18						
ECOG				Lg	Lg	14 46 01.4	
	409nm,0.4s,SNR=4.0						
ECOG	**Cogollos-Vega**	**1.21**	**303**	Pg	**Pg**	**14 45 45.6**	**+0.2**
ECOG				Lg	Lg	14 46 01.4	
SELV	**Sierra Elvira**	**1.30**	**298**	⇓Pg	**Pg**	**14 45 47.3**	**+0.1**
	42nm,0.2s,SNR=18						
SELV				Lg	Lg	14 46 03.7	
	52nm,0.2s,SNR=7.9						
SELV	**Sierra Elvira**	**1.30**	**298**	Pg	**Pg**	**14 45 47.3**	**+0.1**
	42nm,0.2s,SNR=18						
SELV				Lg	Lg	14 46 03.7	
	52nm,0.2s,SNR=7.9						
EQES	**Quesada**	**1.32**	**332**	Pg	**Pg**	**14 45 48.5**	**+0.9**
	29nm,0.2s,SNR=114						
EQES				Lg	Lg	14 46 07.1	
	110nm,0.1s						
EQES	**Quesada**	**1.32**	**332**	Pg	**Pg**	**14 45 48.5**	**+0.9**
	29nm,0.2s,SNR=114						
EQES				Lg	Lg	14 46 07.1	
	110nm,0.1s						
CART	**Cartagena**	**1.40**	**47**	*e*P	**Pn**	**14 45 47.4**	**+0.2**
CART				*e*S	**Sb**	**14 46 06.6**	**+0.8**
EMLI	**Melilla**	**1.43**	**202**	Pg	**Pn**	**14 45 47.8**	**+0.2**
	49nm,0.1s,SNR=7.9						
EMLI				Sn	**Sn**	**14 46 04.2**	**-1.9**
	80nm,0.1s,SNR=7.9						
MELI	**Melilla**	**1.44**	**201**	Pg	**Pn**	**14 45 47.6**	**0.0**
	100nm,0.2s,SNR=7.9						
MELI				Lg	Lg	14 46 04.9	
	56nm,0.2s,SNR=7.

PVLZ	**Peæn de**	**2.19**	**229**	*e*S	**Sn**	**14 46 23.4**	**-1.3**
EADA	**Adamuz**	**2.38**	**311**	Pn	**Pn**	**14 46 02.6**	**+2.0**
	0.4nm,0.1s,SNR=42						
EADA				Pg	**Pg**	**14 46 06.3**	**-1.4**
	2.8nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**14 46 30.1**	**+0.5**
	40nm,0.3s,SNR=7.9						
EADA				Lg	Lg	14 46 38.5	
	36nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.38**	**311**	Pn	**Pn**	**14 46 02.6**	**+2.0**
	0.4nm,0.1s,SNR=42						
LIJA	**Lijar**	**2.51**	**277**	*e*P	**Pb**	**14 46 06.0**	**-1.0**
CEU	**Ceuta**	**2.59**	**254**	*e*S	**Sn**	**14 46 31.4**	**-3.4**
EBEN	**Beniarda**	**2.64**	**38**	Pn	**Pn**	**14 46 05.4**	**+1.1**
	4.9nm,0.4s,SNR=12						
EBEN				Pg	**Pg**	**14 46 13.4**	**+0.6**
	2.4nm,0.2s,SNR=7.9						
EBEN				Sn	**Sn**	**14 46 35.7**	**-0.3**
	8.6nm,0.2s,SNR=7.7						
EBEN	**Beniarda**	**2.64**	**38**	Pn	**Pn**	**14 46 05.4**	**+1.1**
	4.9nm,0.4s,SNR=12						
EANR	**'Ain N'Sour**	**2.83**	**103**	P	Pn	14 46 10.0	+3.2
EANR	**'Ain N'Sour**	**2.83**	**103**	Pn	Pn	14 46 10.0	+3.2
EANR	**'Ain N'Sour**	**2.83**	**103**	Pn	Pn	14 46 10.0	+3.2
ESPR	**Espera**	**2.87**	**276**	Pg	**Pb**	**14 46 13.3**	**+0.3**
	0.8nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**2.88**	**301**	Pn	**Pn**	**14 46 08.4**	**+0.9**
	2.5nm,0.1s,SNR=23						
ECAB				Pg	**Pb**	**14 46 15.0**	**+1.8**
	5.7nm,0.1s,SNR=7.9						
ECAB				Sn	**Sn**	**14 46 41.6**	**-0.2**
	14nm,0.2s,SNR=7.9						
ECAB				Lg	Lg	14 46 54.6	
	12nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**2.88**	**301**	Pn	**Pn**	**14 46 08.4**	**+0.9**
	2.5nm,0.1s,SNR=23						
ECAB				Lg	Lg	14 46 54.6	
	12nm,0.2s,SNR=7.9						
ECHF	**Ech Chlef**	**2.97**	**98**	Pg	**Pg**	**14 46 20.0**	**+0.9**
ECHF	**Ech Chlef**	**2.97**	**98**	Pg	**Pg**	**14 46 20.0**	**+0.9**
TZK	**Tazeka**	**2.97**	**212**	*i* P	**Pn**	**14 46 10.0**	**+1.0**
TZK				*i* S	**Sn**	**14 46 42.0**	**-2.5**
ECHA	**Ech Chlef**	**2.99**	**98**	P	**Pg**	**14 46 20.0**	**+0.5**
EBNR	**Beni Rached**	**3.10**	**95**	P	**Sn**	**14 46 45.0**	**-2.4**
ETRT	**Tiaret**	**3.17**	**112**	P	**Pn**	**14 46 14.0**	**+2.4**
ETRT	**Tiaret**	**3.17**	**112**	Pn	**Pn**	**14 46 14.0**	**+2.4**
ETRT	**Tiaret**	**3.17**	**112**	P	**Pn**	**14 46 14.0**	**+2.4**
TSY	**Tnine Yamani**	**3.24**	**248**	*e*P	**Pn**	**14 46 12.0**	**-0.4**
ESDC	**Sonseca Array**	**3.31**	**337**	Pn	**Pn**	**14 46 15.8**	**+2.3**
	4.1nm,0.3s,baz=155,slow=14,SNR=24						
ESDC				Pg	**Pg**	**14 46 25.4**	**-0.1**
	29nm,0.3s,baz=160,slow=17,SNR=85						
ESDC				LR	LR	14 47 04.5	
	comp=Z,60nm,20.6s,baz=150,slow=31						
ESDC				Lg	Lg	14 47 07.2	
	195nm,0.3s,baz=157,slow=30,SNR=18						
ESDC	**Sonseca Array**	**3.31**	**337**	Pn	**Pn**	**14 46 15.6**	**+2.1**
	16nm,0.8s,baz=152,slow=12,SNR=14						
ESDC				Pg	**Pg**	**14 46 23.4**	**-2.2**
	98nm,0.7s,baz=162,slow=18,SNR=64						
ESDC				Sn	**Sn**	**14 46 51.8**	**-0.8**
	7.8nm,0.3s,baz=159,slow=17,SNR=8.2						
ESDC				Lg	Lg	14 47 09.3	
	132nm,0.3s,baz=154,slow=28,SNR=19						
ESDC	**Sonseca Array**	**3.31**	**337**	Pn	**Pn**	**14 46 15.6**	**+2.1**
	16nm,0.8s,SNR=14						
ESDC				Lg	Lg	14 47 09.3	
	132nm,0.3s,SNR=19						
PAB	**San Pablo**	**3.33**	**331**	*e*Pn	**Pn**	**14 46 16.2**	**+2.5**
PAB	**San Pablo**	**3.33**	**331**	*e*Pg	**Pg**	**14 46 25.8**	**-0.1**
PAB	**San Pablo**	**3.33**	**331**	*e*Pn	**Pn**	**14 46 16.2**	**+2.5**
PAB				*e*Pg	**Pg**	**14 46 25.8**	**-0.1**
PAB				*e*Sg	**Sg**	**14 47 07.8**	**-1.2**
TGT	**Taghat**	**3.41**	**222**	*e*P	**Pn**	**14 46 15.0**	**+0.1**
TGT				*e*S	**Sn**	**14 46 51.0**	**-4.1**
EMIN	**Mina Concepcio**	**3.67**	**289**	Pn	**Pn**	**14 46 18.7**	**+0.3**
	1.9nm,0.1s,SNR=7.9						
EMIN				Pg	**Pb**	**14 46 28.9**	**+2.1**
	3.0nm,0.2s,SNR=7.9						
EMIN				Sn	**Sn**	**14 47 00.4**	**-1.1**
	1.8nm,0.1s,SNR=7.9						
EMIN				Lg	Lg	14 47 20.8	
	5.2nm,0.3s,SNR=5.0						
EMIN	**Mina Concepcio**	**3.67**	**289**	Pn	**Pn**	**14 46 18.7**	**+0.3**
	1.9nm,0.1s,SNR=7.9						
EMIN				Lg	Lg	14 47 20.8	
	5.2nm,0.3s,SNR=5.0						
EIBI	**Ibiza**	**3.74**	**49**	Pn	**Pn**	**14 46 21.0**	**+1.7**
	11nm,0.2s,SNR=27						
EIBI				Sn	**Sn**	**14 47 02.5**	**-0.7**
	5.3nm,0.2s,SNR=5.0						
EIBI	**Ibiza**	**3.74**	**49**	Pn	**Pn**	**14 46 21.0**	**+1.7**
	11nm,0.2s,SNR=27						
EMOS	**Mosqueruela**	**3.99**	**20**	Pn	Pn	14 46 26.3	+3.4
	3.3nm,0.4s,SNR=34						
EMOS				Pg	**Pg**	**14 46 38.1**	**-0.5**
	2.8nm,0.2s,SNR=17						
EMOS				Lg	Lg	14 47 32.2	
	10nm,0.4s,SNR=5.0						
EMOS	**Mosqueruela**	**3.99**	**20**	Pn	Pn	14 46 26.3	+3.4
	3.3nm,0.4s,SNR=34						
MIF	**Mishlifen**	**4.02**	**218**	*e*P	**Pn**	**14 46 23.0**	**-0.4**
MIF				*e*S	**Sn**	**14 47 07.0**	**-3.3**
PBAR	**Barrancos**	**4.08**	**294**	*e*Pn	**Pn**	**14 46 25.0**	**+1.0**
PBAR	**Barrancos**	**4.08**	**294**	*e*Pg	**Pg**	**14 46 39.2**	**-1.1**
PBAR				*e*Sg	**Sg**	**14 47 32.1**	**-1.0**
PBAR				A	A	14 47 48.4	
	101nm,0.6s						
ETOR	**Torete**	**4.18**	**2**	Pn	**Pn**	**14 46 28.0**	**+2.5**
	18nm,0.2s,SNR=24						
ETOR				Pg	**Pg**	**14 46 42.0**	**-0.3**
	36nm,0.3s,SNR=15						
ETOR				Sn	**Sn**	**14 47 12.4**	**-1.8**
	25nm,0.2s,SNR=5.0						
ETOR				Lg	Lg	14 47 35.7	
	148nm,0.3s,SNR=6.4						
ETOR	**Torete**	**4.18**	**2**	Pn	**Pn**	**14 46 28.0**	**+2.5**
	18nm,0.2s,SNR=24						
ETOR	**Torete**	**4.18**	**2**	Pg	**Pg**	**14 46 42.0**	**-0.3**
	36nm,0.3s,SNR=15						
ETOR				Lg	Lg	14 47 35.7	
	148nm,0.3s,SNR=6.4						
CZD	**Col de Zad**	**4.24**	**213**	Pn	**Pn**	**14 46 27.0**	**+0.5**
CZD				Sn	Sn	14 47 10.0	-6.0
CZD	**Col de Zad**	**4.24**	**213**	*i* P	**Pn**	**14 46 27.0**	**+0.5**
EGRO	**El Granado**	**4.25**	**284**	Pn	**Pn**	**14 46 27.2**	**+0.9**
	2.6nm,0.2s,SNR=5.1						
EGRO				Pg	**Pg**	**14 46 41.0**	**-2.5**
	5.5nm,0.2s,SNR=6.1						
EGRO				Sn	**Sn**	**14 47 14.2**	**-1.4**
	3.2nm,0.2s,SNR=4.0						
EGRO	**El Granado**	**4.25**	**284**	Pn	**Pn**	**14 46 27.2**	**+0.9**
	2.6nm,0.2s,SNR=5.1						
EGRO	**El Granado**	**4.25**	**284**	Pg	**Pg**	**14 46 41.0**	**-2.5**
	5.5nm,0.2s,SNR=6.1						
GUD	**Guadarrama**	**4.26**	**341**	Pn	**Pn**	**14 46 28.8**	**+2.2**
	2.0nm,0.3s,SNR=15						
GUD				Pg	**Pg**	**14 46 42.4**	**-1.4**
	5.9nm,0.3s,SNR=15						
GUD				Sn	**Sn**	**14 47 14.2**	**-2.0**
	11nm,0.3s,SNR=6.0						
GUD				Lg	Lg	14 47 35.8	
	39nm,0.3s,SNR=6.7						
GUD	**Guadarrama**	**4.26**	**341**	Pn	**Pn**	**14 46 28.8**	**+2.2**
	2.0nm,0.3s,SNR=15						
GUD				Lg	Lg	14 47 35.8	
	39nm,0.3s,SNR=6.7						
MDT	**Midelt**	**4.26**	**207**	Pn	**Pn**	**14 46 28.5**	**+1.9**
	0.3nm,0.3s,baz=42,slow=13,SNR=14						
MDT				Sn	**Sn**	**14 47 16.8**	**+0.7**
	1.0nm,0.3s,baz=105,slow=19,SNR=3.0						
MDT				Lg	Lg	14 47 39.0	
	0.8nm,0.3s,baz=95,slow=19,SNR=2.8						
MDT				LR	LR	14 48 11.1	
	comp=Z,230nm,19.7s,baz=258,slow=40						
EBAD	**Badajoz**	**4.30**	**301**	Pn	**Pn**	**14 46 28.1**	**+1.0**
	1.9nm,0.1s,SNR=8.0						
EBAD				Pg	**Pg**	**14 46 41.5**	**-3.0**
	3.9nm,0.2s,SNR=7.8						
EBAD				Sn	**Sn**	**14 47 14.4**	**-2.5**
	7.6nm,0.2s,SNR=4.6						
EBAD				Lg	Lg	14 47 40.6	
	25nm,0.2s,SNR=6.0						
EBAD	**Badajoz**	**4.30**	**301**	Pn	**Pn**	**14 46 28.1**	**+1.0**
	1.9nm,0.1s,SNR=8.0						
EBAD				Lg	Lg	14 47 40.6	
	25nm,0.2s,SNR=6.0						
PVAQ	**Vaqueiros**	**4.41**	**282**	*e*Pn	**Pn**	**14 46 29.3**	**+0.8**
PVAQ				*e*Sn	**Sn**	**14 47 18.9**	**-0.7**
PVAQ				A	A	14 48 02.5	
	36nm,0.4s						
EPLA	**Plasencia**	**4.54**	**320**	Pn	**Pn**	**14 46 32.2**	**+1.9**
	3.9nm,0.2s,SNR=7.9						
EPLA				Pg	**Pg**	**14 46 47.2**	**-1.8**
	12nm,0.3s,SNR=7.9						
EPLA				Sn	**Sn**	**14 47 20.5**	**-2.3**
	4.8nm,0.2s,SNR=7.9						
EPLA				Lg	Lg	14 47 48.5	
	124nm,0.4s,SNR=7.9						
EPLA	**Plasencia**	**4.54**	**320**	Pn	**Pn**	**14 46 32.2**	**+1.9**
	3.9nm,0.2s,SNR=7.9						
EPLA				Lg	Lg	14 47 48.5	
	124nm,0.4s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**4.56**	**279**	*e*Pn	**Pn**	**14 46 29.7**	**-0.9**
PBDV				*e*Sg	Sg	14 47 55.8	+7.4
PBDV				A	A	14 48 10.9	
	42nm,0.6s						
PCVE	**Castro Verde**	**4.70**	**284**	*e*Pn	**Pn**	**14 46 33.2**	**+0.7**
PCVE				*e*Sg	**Sg**	**14 47 52.7**	**-0.2**
PCVE				A	A	14 47 57.9	
	3.6nm,0.7s						
PESTR	**Estremoz**	**4.75**	**300**	*e*Pn	**Pn**	**14 46 34.4**	**+1.1**
PESTR	**Estremoz**	**4.75**	**300**	*e*Pg	**Pg**	**14 46 50.7**	**-2.5**
PESTR				*e*Sg	**Sg**	**14 47 51.7**	**-3.0**
PESTR				A	A	14 48 09.6	
	89nm,0.5s						
MESJ	**Messejana**	**4.88**	**286**	*e*P	**Pn**	**14 46 35.1**	**+0.1**
MESJ				*e*S	**Sn**	**14 47 27.5**	**-3.7**
MESJ				AML	AML	14 47 28.8	
	comp=E,9.2nm,0.4s						
MESJ	**Messejana**	**4.88**	**286**	*e*Pn	**Pn**	**14 46 35.6**	**+0.6**
MESJ				*e*Sn	**Sn**	**14 47 31.3**	**+0.1**
MESJ				*e*Sg	**Sg**	**14 47 57.9**	**-0.9**
MESJ				A	A	14 48 03.2	
	comp=E,46nm,0.6s						
ZFT	**Errachidia**	**4.89**	**201**	Pn	**Pn**	**14 46 38.0**	**+2.6**
ZFT				Sn	**Sn**	**14 47 29.0**	**-2.9**
ZFT	**Errachidia**	**4.89**	**201**	*e*P	**Pn**	**14 46 38.0**	**+2.6**
ZFT				*i* S	**Sn**	**14 47 29.0**	**-2.9**
PMRV	**Marv??o**	**4.90**	**306**	*e*Pn	**Pn**	**14 46 37.1**	**+1.9**
PMRV				*e*Sn	**Sn**	**14 47 29.3**	**-2.4**
PMRV				*e*Sg	**Sg**	**14 47 55.0**	**-4.3**
PMRV				A	A	14 48 09.7	
	comp=E,110nm,0.6s						
EVO	**Evora**	**4.92**	**294**	*e*Pn	**Pn**	**14 46 37.1**	**+1.5**
EVO				*e*Sn	**Sn**	**14 47 32.7**	**+0.4**
	comp=E,227nm,0.8s						
EVO	**Evora**	**4.92**	**294**	*e*Sg	**Sg**	**14 47 59.4**	**-0.7**
EVOP	**Sao Brissos**	**5.00**	**294**	*e*Pn	**Pn**	**14 46 37.1**	**+0.4**
EVOP				*e*Sn	**Sn**	**14 47 32.7**	**-1.5**
	comp=E,113nm,0.8s						
EVOP	**Sao Brissos**	**5.00**	**294**	*e*Pn	**Pn**	**14 46 37.1**	**+0.4**
EVOP				*e*Sn	**Sn**	**14 47 32.7**	**-1.5**
ETOS	**Mallorca**	**5.10**	**51**	Pn	**Pn**	**14 46 39.8**	**+1.8**
	comp=E,9.5nm,0.4s,SNR=22						
ETOS				Sn	**Sn**	**14 47 35.2**	**-1.3**
	comp=E,2.0nm,0.2s,SNR=4.8						
ETOS	**Mallorca**	**5.10**	**51**	Pn	**Pn**	**14 46 39.8**	**+1.8**
	comp=E,9.5nm,0.4s,SNR=22						
MORF	**Marmelete**	**5.13**	**279**	*e*Pn	**Pn**	**14 46 39.7**	**+1.2**
MORF				*e*Sn	**Sn**	**14 47 38.4**	**+0.8**
MORF				A	A	14 48 18.7	
	comp=E,18nm,0.7s						
PNCL	**Nicolau / Gran**	**5.18**	**288**	*e*Pn	**Pn**	**14 46 39.8**	**+0.7**
PNCL				*e*Sg	**Sg**	**14 48 06.2**	**-2.2**
PNCL				A	A	14 48 25.4	
	comp=E,31nm,0.6s						
PCBR	**Castelo Branco**	**5.19**	**310**	*e*Pn	**Pn**	**14 46 41.0**	**+1.8**
PCBR				*e*Sn	**Sn**	**14 47 37.3**	**-1.5**
PCBR				*e*Sg	**Sg**	**14 48 09.5**	**+0.9**
PCBR				A	A	14 48 23.5	
	comp=E,97nm,0.8s						
PTEO	**Sao Teotonio**	**5.22**	**282**	*e*Pn	**Pn**	**14 46 40.5**	**+0.8**
PTEO				*e*Sn	**Sn**	**14 47 37.4**	**-2.2**
PTEO				*e*Sg	**Sg**	**14 48 09.7**	**0.0**
PTEO				A	A	14 48 17.1	
	comp=E,45nm,0.6s						
PFVI	**Vila Bisbo**	**5.26**	**277**	*e*Pn	**Pn**	**14 46 41.1**	**+0.9**
PFVI				*e*Sn	**Sn**	**14 47 38.9**	**-1.7**
PFVI	**Vila Bisbo**	**5.26**	**277**	Pn	**Pn**	**14 46 40.8**	**+0.6**
	comp=E,1.7nm,0.2s,SNR=9.3						
PFVI				Sn	**Sn**	**14 47 36.7**	**-3.9**
	comp=E,2.1nm,0.2s,SNR=5.6						
PFVI	**Vila Bisbo**	**5.26**	**277**	Pn	**Pn**	**14 46 40.8**	**+0.6**
	comp=E,1.7nm,0.2s,SNR=9.3						
ESAC	**San Caprasio**	**5.28**	**15**	Pn	**Pn**	**14 46 43.1**	**+2.6**
	comp=E,16nm,0.4s,SNR=4.0						
ESAC				Pg	**Pg**	**14 47 00.4**	**-2.8**
	comp=E,22nm,0.3s,SNR=9.1						
ESAC				Lg	Lg	14 48 12.7	
	comp=E,67nm,0.4s,SNR=5.0						
ESAC	**San Caprasio**	**5.28**	**15**	Pn	**Pn**	**14 46 43.1**	**+2.6**
	comp=E,16nm,0.4s,SNR=4.0						
ESAC				Lg	Lg	14 48 12.7	
	comp=E,67nm,0.4s,SNR=5.0						
PMTG	**Montargil**	**5.29**	**299**	*e*Pn	**Pn**	**14 46 42.0**	**+1.4**
PMTG				*e*Sn	**Sn**	**14 47 41.8**	**+0.6**
PMTG				*e*Sg	**Sg**	**14 48 10.9**	**-0.9**
PMTG				A	A	14 48 26.6	
	comp=E,66nm,0.6s						
EPOB	**Poblet**	**5.39**	**28**	Pn	Pn	14 46 45.2	+3.1
	comp=E,2.6nm,0.3s,SNR=5.8						
EPOB				Sn	**Sn**	**14 47 42.7**	**-1.3**
	comp=E,2.2nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**5.39**	**28**	Pn	Pn	14 46 45.2	+3.1
	comp=E,2.6nm,0.3s,SNR=5.8						
MTE	**Manteigas**	**5.58**	**314**	*e*Pn	**Pn**	**14 46 46.6**	**+2.0**
MTE				*e*Sg	**Sg**	**14 48 19.0**	**-2.1**
MTE				A	A	14 48 24.4	
	comp=E,141nm,0.7s						
MTE	**Manteigas**	**5.58**	**314**	*e*Pn	**Pn**	**14 46 46.1**	**+1.5**
	comp=E,42nm,0.7s						
MTE	**Manteigas**	**5.58**	**314**	*e*Pg	**Pg**	**14 47 10.7**	**+1.8**
MTE	**Manteigas**	**5.58**	**314**	*e*Pn	**Pn**	**14 46 46.1**	**+1.5**
	comp=E,42nm,0.7s						
MTE				*e*Pg	**Pg**	**14 47 10.7**	**+1.8**
MTE				*e*Sn	**Sn**	**14 47 46.6**	**-1.8**
MTE				*e*Sg	**Sg**	**14 48 18.6**	**-2.5**
PACT	**Alcochete**	**5.61**	**294**	*e*Pn	**Pn**	**14 46 45.5**	**+0.6**
PACT				*e*Sg	**Sg**	**14 48 22.5**	**+0.4**
PACT				A	A	14 48 28.7	
	comp=E,100nm,0.6s						
PTOM	**Tomar**	**5.67**	**304**	*e*Pn	**Pn**	**14 46 47.3**	**+1.5**
PTOM				*e*Sn	**Sn**	**14 47 50.0**	**-0.6**
PTOM				*e*Sg	**Sg**	**14 48 25.5**	**+1.5**
PTOM				A	A	14 48 39.5	
	comp=E,80nm,0.5s						
PTOM	**Tomar**	**5.67**	**304**	Pn	**Pn**	**14 46 47.3**	**+1.5**
PTOM				Sn	**Sn**	**14 47 50.0**	**-0.6**
PTOM				Lg	Lg	14 48 25.5	
	comp=E,40nm,0.5s						
PTOM	**Tomar**	**5.67**	**304**	Pn	**Pn**	**14 46 47.3**	**+1.5**
PTOM				Lg	Lg	14 48 25.5	
	comp=E,40nm,0.5s						
MVO	**Moncorvo**	**5.84**	**322**	*e*Pn	**Pn**	**14 46 50.7**	**+2.5**
MVO				*e*Sn	**Sn**	**14 47 54.7**	**-0.3**
MVO				*e*Sg	**Sg**	**14 48 29.3**	**-0.2**
MVO				A	A	14 48 37.1	
	comp=E,86nm,0.6s						
MVO	**Moncorvo**	**5.84**	**322**	Pn	**Pn**	**14 46 50.3**	**+2.1**
	comp=E,7.7nm,0.4s,SNR=9.9						
MVO				Sn	**Sn**	**14 47 53.2**	**-1.7**
	comp=E,3.8nm,0.2s,SNR=7.9						
MVO				Lg	Lg	14 48 28.9	
	comp=E,14nm,0.4s,SNR=7.0						
MVO	**Moncorvo**	**5.84**	**322**	Pn	**Pn**	**14 46 50.3**	**+2.1**
	comp=E,7.7nm,0.4s,SNR=9.9						
MVO				Lg	Lg	14 48 28.9	
	comp=E,14nm,0.4s,SNR=7.0						
PCAS	**Casmilo, Conde**	**5.95**	**307**	*e*Pn	Pn	14 46 54.3	+4.6
PCAS				*e*Sn	**Sn**	**14 47 54.8**	**-2.9**
PCAS				*e*Sg	**Sg**	**14 48 30.3**	**-2.8**
PCAS				A	A	14 48 40.9	
	comp=E,120nm,0.6s						
PVIS	**Viseu**	**5.98**	**315**	*e*Pn	**Pn**	**14 46 52.2**	**+2.0**
PVIS				*e*Sn	**Sn**	**14 47 56.2**	**-2.3**
PVIS				*e*Sg	**Sg**	**14 48 33.5**	**-0.7**
PVIS				A	A	14 48 46.1	
	comp=E,43nm,0.5s						
PVIS	**Viseu**	**5.98**	**315**	Pn	**Pn**	**14 46 52.2**	**+2.0**
PVIS				Sn	**Sn**	**14 47 56.2**	**-2.3**
PVIS				Lg	Lg	14 48 33.5	
	comp=E,22nm,0.5s						
PVIS	**Viseu**	**5.98**	**315**	Pn	**Pn**	**14 46 52.2**	**+2.0**
PVIS				Lg	Lg	14 48 33.5	
	comp=E,22nm,0.5s						
PMAFR	**Mafra**	**6.00**	**295**	*e*Sn	**Sn**	**14 47 56.8**	**-2.0**
PMAFR				A	A	14 49 00.6	
	comp=E,54nm,0.7s						
PMAFR	**Mafra**	**6.00**	**295**	Pn	**Pn**	**14 46 51.1**	**+0.7**
	comp=E,5.6nm,0.2s,SNR=7.9						
PMAFR				Sn	**Sn**	**14 47 54.4**	**-4.5**
	comp=E,4.8nm,0.1s,SNR=7.9						
PMAFR				Lg	Lg	14 48 32.8	
	comp=E,8.8nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**6.00**	**295**	Pn	**Pn**	**14 46 51.1**	**+0.7**
	comp=E,5.6nm,0.2s,SNR=7.9						
PMAFR				Lg	Lg	14 48 32.8	
	comp=E,8.8nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**6.05**	**28**	Sn	**Sn**	**14 47 55.7**	**-4.4**
	comp=E,1.5nm,0.4s,SNR=7.9						
EMIR				Lg	Lg	14 48 37.2	
	comp=E,0.8nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**6.16**	**5**	Pg	**Pg**	**14 47 17.6**	**-2.4**
	comp=E,0.9nm,0.1s,SNR=5.9						
EARA				Sn	**Sn**	**14 47 59.1**	**-3.6**
	comp=E,1.0nm,0.0s,SNR=7.9						
EARA				Lg	Lg	14 48 40.4	
	comp=E,2.6nm,0.1s,SNR=5.3						
IPRE	**Itoiz**	**6.21**	**6**	Lg	Lg	14 48 42.2	
	comp=E,2.0nm,0.1s,SNR=7.8						
IPRE	**Itoiz**	**6.21**	**6**	Lg	Lg	14 48 42.2	
	comp=E,2.0nm,0.1s,SNR=7.8						
PBRG	**Braganca**	**6.21**	**328**	*e*Pn	**Pn**	**14 46 55.2**	**+1.9**
PBRG				*e*Sg	**Sg**	**14 48 40.8**	**-0.6**
PBRG				A	A	14 48 46.1	
	comp=E,48nm,0.6s						
PBRG	**Braganca**	**6.21**	**328**	Pn	**Pn**	**14 46 55.2**	**+1.9**
PBRG				Lg	Lg	14 48 40.8	
	comp=E,24nm,0.6s						
PBRG	**Braganca**	**6.21**	**328**	Pn	**Pn**	**14 46 55.2**	**+1.9**
PBRG				Lg	Lg	14 48 40.8	
	comp=E,24nm,0.6s						
IELO	**Elcoad**	**6.25**	**7**	Pn	**Pn**	**14 46 56.2**	**+2.3**
	comp=E,3.3nm,0.3s,SNR=7.9						
IELO				Pg	**Pg**	**14 47 19.1**	**-2.8**
	comp=E,1.1nm,0.2s,SNR=7.9						
IELO				Sn	**Sn**	**14 48 00.2**	**-5.0**
	comp=E,4.9nm,0.4s,SNR=7.9						
IELO				Lg	Lg	14 48 42.2	
	comp=E,3.6nm,0.3s,SNR=7.9						
IELO	**Elcoad**	**6.25**	**7**	Pn	**Pn**	**14 46 56.2**	**+2.3**
	comp=E,3.3nm,0.3s,SNR=7.9						
IELO				Lg	Lg	14 48 42.2	
	comp=E,3.6nm,0.3s,SNR=7.9						
CFON	**Fontmartina**	**6.30**	**34**	Pn	Pn	14 46 57.7	+3.1
	comp=E,1.9nm,0.2s,SNR=7.9						
CFON				Sn	**Sn**	**14 48 05.7**	**-0.6**
	comp=E,2.0nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**6.30**	**34**	Pn	Pn	14 46 57.7	+3.1
	comp=E,1.9nm,0.2s,SNR=7.9						
CSOR	**Sort**	**6.32**	**24**	Pn	**Pn**	**14 46 57.6**	**+2.8**
	comp=E,2.0nm,0.3s,SNR=11						
CSOR				Sn	**Sn**	**14 48 06.7**	**-0.1**
	comp=E,0.6nm,0.2s,SNR=5.0						
CSOR	**Sort**	**6.32**	**24**	Pn	**Pn**	**14 46 57.6**	**+2.8**
	comp=E,2.0nm,0.3s,SNR=11						
ECAL	**Calabor**	**6.32**	**328**	Pn	**Pn**	**14 46 56.9**	**+2.0**
	comp=E,7.4nm,0.3s,SNR=8.9						
ECAL				Sn	**Sn**	**14 48 02.5**	**-4.3**
	comp=E,1.1nm,0.2s,SNR=5.9						
ECAL				Lg	Lg	14 48 45.0	
	comp=E,48nm,0.5s,SNR=7.6						
ECAL	**Calabor**	**6.32**	**328**	Pn	**Pn**	**14 46 56.9**	**+2.0**
	comp=E,7.4nm,0.3s,SNR=8.9						
ECAL				Lg	Lg	14 48 45.0	
	comp=E,48nm,0.5s,SNR=7.6						
POLO	**Lamas de Olo**	**6.38**	**320**	*e*Pn	**Pn**	**14 46 57.7**	**+2.0**
POLO				*e*Sn	**Sn**	**14 48 07.3**	**-1.1**
POLO				*e*Sg	**Sg**	**14 48 45.4**	**-1.5**
POLO				A	A	14 48 52.0	
	comp=E,26nm,0.6s						
ETSF	**Etsaut**	**6.40**	**12**	*e*P	Pn	14 47 00.0	+4.1
ETSF				*e*Sg	**Sg**	**14 48 43.4**	**-4.0**
	comp=E,119nm,1.1s						
ETSF	**Etsaut**	**6.40**	**12**	*e*P	Pn	14 47 00.0	+4.1
ETSF	**Etsaut**	**6.40**	**12**	*e*P	Pn	14 47 00.0	+4.1
ETSF				*e*Sg	**Sg**	**14 48 43.4**	**-4.0**
SJPF	**Ste Jean**	**6.52**	**7**

comp=E,1.3nm,0.1s,SNR=4.0

LFF	**La Frestale**	**8.61**	**15**	*e*Pn	**Pn**	**14 47 25.1**	**-1.1**
LFF				*e*Sg	Sg	14 49 52.0	-6.2

comp=E,7.0nm,0.4s

LFF	**La Frestale**	**8.61**	**15**	*e*Pn	**Pn**	**14 47 25.1**	**-1.1**
LFF				*e*Sg	Sg	14 49 52.0	-6.2
KEST	**Kesra**	**9.45**	**92**	Pn	Pn	14 47 44.7	+6.8

comp=E,0.1nm,0.3s,baz=304,slow=3.6,SNR=2.6

GERES	**GERESS Array B**	**16.90**	**39**	Pn	P	14 49 25.5	+5.4

comp=E,0.2nm,0.3s,baz=226,slow=15,SNR=2.8

GERES				LR	LR	14 55 57.8	

comp=E,116nm,21.8s,baz=254,slow=37

VRAC	**Vranov**	**18.68**	**41**	LR	LR	14 57 30.4	

comp=E,88nm,20.9s,baz=241,slow=39

TORD	**Torodi Ar. Bea**	**23.66**	**170**	P	P	14 50 39.2	+6.2

comp=E,1.2nm,0.8s,baz=348,slow=11,SNR=6.5

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*ISK **06** 14:54:19.8, 39˚.34N×36˚.65E, h16km, MD2.8*
*CSEM **06** 14:54:19.8±0.3, 39˚.33N×36˚.65E, h2km, MD2.9, Error ellipse: s-maj=6.5km s-min=4.9km az=99.0*
*DDA **06** 14:54:19.4, 39˚.31N×36˚.75E, h15km, MD2.9*

ISC 06 14:54:19.6±1.1, 39˚.34N±0˚.03×36˚.67E±0˚.03, h11km±9km, n19, σ0s68/35, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCER	**sogukcermik**	**0.64**	**34**	*i* P	**Pg**	**14 54 31.6**	**-0.4**
SCER				*i* S	**Sg**	**14 54 40.5**	**+0.1**
SCER	**sogukcermik**	**0.64**	**34**	*i* P	**Pg**	**14 54 31.6**	**-0.4**
SCER				*i* S	**Sg**	**14 54 40.5**	**+0.1**
SVSK	**Karacayir**	**0.64**	**24**	*e*PG	**Pg**	**14 54 31.8**	**-0.2**
SVSK				*e*SG	**Sb**	**14 54 42.4**	**+0.7**
SVSK	**Karacayir**	**0.64**	**24**	*e*Pg	**Pg**	**14 54 31.8**	**-0.2**
SVSK				*e*Sg	**Sb**	**14 54 42.4**	**+0.7**
PINB	**Pinarbasi**	**0.69**	**197**	*i* P	**Pg**	**14 54 33.0**	**-0.1**
PINB				*i* S	**Sg**	**14 54 42.3**	**+0.2**
PINB	**Pinarbasi**	**0.69**	**197**	*i* P	**Pg**	**14 54 33.0**	**-0.1**
PINB				*i* S	**Sg**	**14 54 42.3**	**+0.2**
TOKT	**Tokat**	**0.99**	**355**	*e*PG	**Pn**	**14 54 39.2**	**-0.4**
TOKT				*e*SG	**Sn**	**14 54 53.4**	**-0.2**
TOKT	**Tokat**	**0.99**	**355**	*e*Pg	**Pn**	**14 54 39.2**	**-0.4**
TOKT				*e*Sg	**Sn**	**14 54 53.4**	**-0.2**
DARE	**Darende-Malaty**	**0.99**	**140**	*e*PG	**Pn**	**14 54 39.8**	**+0.1**
DARE				*e*SG	**Sn**	**14 54 54.3**	**+0.5**
DARE	**Darende-Malaty**	**0.99**	**140**	*e*Pg	**Pn**	**14 54 39.8**	**+0.2**
DARE				*e*Sg	**Sn**	**14 54 54.3**	**+0.6**
YOZ	**Yozgat**	**1.09**	**287**	*e*PG	**Pg**	**14 54 40.8**	**+0.2**
YOZ	**Yozgat**	**1.09**	**287**	*e*Pg	**Pg**	**14 54 40.8**	**+0.2**
KEMA	**Kemaliye**	**1.42**	**92**	*i* P	**Pn**	**14 54 45.0**	**-0.5**
KEMA				*i* S	**Sg**	**14 55 05.5**	**+0.2**
KEMA	**Kemaliye**	**1.42**	**92**	*i* P	**Pn**	**14 54 45.0**	**-0.5**
KEMA				*i* S	**Sg**	**14 55 05.5**	**+0.2**
SUSE	**Susehri**	**1.47**	**53**	*i* P	**Pn**	**14 54 46.5**	**+0.2**
SUSE				*i* S	**Sg**	**14 55 09.1**	**+2.1**
SUSE	**Susehri**	**1.47**	**53**	*i* P	**Pn**	**14 54 46.5**	**+0.2**
SUSE				*i* S	**Sg**	**14 55 09.1**	**+2.1**
CTKT	**Corum**	**1.93**	**312**	*i* P	**Pg**	**14 54 56.7**	**0.0**
KELT	**Kelkit**	**2.15**	**67**	*i* P	**Pb**	**14 54 57.8**	**-1.0**
KELT				*i* S	**Sb**	**14 55 25.7**	**+0.1**
KELT	**Kelkit**	**2.15**	**67**	*i* P	**Pb**	**14 54 57.8**	**-1.0**
KELT				*i* S	**Sb**	**14 55 25.7**	**+0.1**

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*CSEM **06** 15:01:58.7, 40˚.77N×26˚.35E, h4km, MD2.5*

ISK 06 15:01:58.7, 40˚.77N×26˚.35E, h4km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENEZ	**Enez**	**0.15**	**257**	*e*PG	Pg	15 02 02.7	+0.9
ENEZ	**Enez**	**0.15**	**257**	*e*Pg	Pg	15 02 02.7	+0.9
ERIK	**Erikli-Kesan**	**0.16**	**129**	*e*PG	Pg	15 02 02.8	+1.0
ERIK	**Erikli-Kesan**	**0.16**	**129**	*e*Pg	Pg	15 02 02.8	+1.0
ALN	**Alexandroupoli**	**0.26**	**299**	*e*PG	Pg	15 02 04.6	+0.7
ALN	**Alexandroupoli**	**0.26**	**299**	*e*Pg	Pg	15 02 04.6	+0.8
GELI	**Tayfur-Gelibol**	**0.38**	**166**	*e*PG	Pg	15 02 06.6	+0.5
GELI				*e*SG	Sb	15 02 13.1	-1.3
GELI	**Tayfur-Gelibol**	**0.38**	**166**	*e*Pg	Pg	15 02 06.6	+0.5
GELI				*e*Sg	Sb	15 02 13.1	-1.3

IDC 06 15:14:42.8±1.9, 2˚.98N×124˚.94E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/29, mbtmp3.2/3, Error ellipse: s-maj=198.4km s-min=25.3km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.58**	**158**	P	P	15 20 05.2	+0.4

0.2nm,0.5s,baz=338,slow=9.6,SNR=9.5

ASAR	**Alice Springs**	**27.89**	**162**	P	P	15 20 34.1	-0.5

0.2nm,0.7s,baz=338,slow=7.2,SNR=4.9

MKAR	**Makanchi Array**	**57.16**	**326**	P	P	15 24 31.5	0.0

0.3nm,0.3s,baz=123,slow=7.5,SNR=8.5

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*ISCJB **06** 15:23:33.3±0.6, 20˚.28N±0˚.06×99˚.83E±0˚.05, h10km, mb3.5/4, MS3.1/2, Error ellipse: s-maj=10.4km s-min=3.9km az=150.3*
*BKK **06** 15:23:33.4±3.2, 20˚N±23˚×10˚0E±1˚1, h11km±13km, MLv4.5/8*
*IDC **06** 15:23:33.6±1.2, 20˚.22N×99˚.76E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/41, mbtmp3.5/4, MS3.2/2, Ms1 3.2/2, ms1mx2.6/37, Error ellipse: s-maj=19.6km s-min=14.9km az=90.0*
*PLV **06** 15:23:37.8±1.6, 20˚.47N×99˚.83E, h17km±15km, MD3.7, ML3.7*

ISC 06 15:23:34.7±0.9, 20˚.20N±0˚.08×99˚.73E±0˚.05, h10km, n19, σ1s11/21, mb3.5/4, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAI	**Chiengmai2**	**0.69**	**248**	P	**Pg**	**15 23 47.8**	**-0.3**
CMMT	**Chiang Mai**	**1.56**	**208**	P	**Pb**	**15 24 02.8**	**-0.9**
CHTO	**Chiang Mai**	**1.56**	**208**	P	**Pb**	**15 24 02.8**	**-0.9**
LAMP	**Lampang**	**1.67**	**183**	P	**Pb**	**15 24 04.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**1.88**	**203**	Pn	**Pn**	**15 24 07.2**	**+0.3**

54nm,0.3s,baz=14,slow=14,SNR=99

CMAR				Lg	Lg	15 24 35.6	

121nm,0.3s,baz=18,slow=28,SNR=18

CMAR				LR	LR	15 24 51.0	

comp=Z,90nm,19.2s,baz=40,slow=40

UTTA	**Uttaradit**	**2.56**	**162**	P	**Pn**	**15 24 17.2**	**+0.9**
MHMT	**Maesarieng**	**2.63**	**220**	P	**Pn**	**15 24 17.7**	**+0.5**
SUKH	**Sukhothai**	**2.70**	**182**	P	**Pn**	**15 24 19.1**	**+0.9**
MLVB	**Muong La stati**	**3.69**	**60**	*e*Pg	Pg	15 24 55.5	+10
MLVB				*e*Sg	Sg	15 25 50.3	+17
TGV	**Tuan Giao**	**3.72**	**68**	*e*Pg	**Pg**	**15 24 46.0**	**0.0**
TGV				*e*Sg	**Sg**	**15 25 32.8**	**-1.5**
TGV				AML	AML	15 25 38.5	

comp=N,177nm,0.5s

TTVN	**Tram Tau**	**4.51**	**73**	*e*Pg	**Pg**	**15 25 02.1**	**+0.9**
TTVN				*e*Sg	**Sg**	**15 25 58.7**	**-1.0**
MCVV	**Moc Chau**	**4.66**	**82**	*e*Pn	**Pn**	**15 24 45.7**	**+0.6**
MCVV				*e*Pg	**Pg**	**15 25 03.8**	**-0.1**
MCVV				*e*Sg	**Sg**	**15 26 05.0**	**+0.7**
HGVB	**Ha Giang**	**5.56**	**61**	*e*Pg	**Pg**	**15 25 21.2**	**-0.1**
HGVB				*e*Sg	**Sg**	**15 26 30.8**	**-2.6**
HGVB				AML	AML	15 26 39.3	

comp=N,39nm,0.6s

KMI	**Kunming**	**5.64**	**29**	P	Pg	15 25 24.8	+2.1
KMI				S	Sg	15 26 48.2	+12
KMI				LR	LR		

comp=N,310nm,5.3s

KMI				LR	LR		

comp=E,320nm,5.7s

KMI				LR	LR		

comp=Z,300nm,6.8s

TGY	**Tagaytay City**	**21.15**	**103**	LR	LR	15 34 46.3	

comp=Z,50nm,21.8s,baz=282,slow=32

MKAR	**Makanchi Array**	**30.11**	**336**	P	**P**	**15 29 46.0**	**+1.6**

comp=Z,0.3nm,0.5s,baz=146,slow=10,SNR=3.6

ZALV	**Zalesovo Beam**	**35.57**	**345**	P	**P**	**15 30 32.6**	**+0.6**

comp=Z,0.4nm,0.4s,baz=147,slow=8.5,SNR=3.6

WRA	**Warramunga Arr**	**52.35**	**138**	P	**P**	**15 32 45.7**	**-1.4**

comp=Z,0.8nm,1.1s,baz=321,slow=7.9,SNR=2.9

ASAR	**Alice Springs**	**54.87**	**141**	P	**P**	**15 33 06.8**	**+1.2**

comp=Z,0.4nm,0.8s,baz=323,slow=6.9,SNR=7.6

ASAR				LR	LR	16 00 59.6	

comp=Z,30nm,18.6s,baz=324,slow=41

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*KRNET **06** 15:52:43.4±0.1, 40˚.36N×77˚.07E, mb3.3*

*NNC **06** 15:52:50.7±2.5, 40˚.60N×77˚.04E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=25.5km s-min=16.0km az=139.0*

ISC 06 15:52:44.1±2.2, 40˚.30N±0˚.09×77˚.40E±0˚.07, h21km, n28, σ1s40/41, 24C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**1.55**	**317**	*e*P	**Pn**	**15 53 09.0**	**-1.7**

baz=322

NRN				*e*S	**Sn**	**15 53 28.8**	**-1.5**

baz=322

ULHL	**Ulahol**	**2.13**	**336**	P	**Pb**	**15 53 20.0**	**-2.0**

SNR=32

ULHL	**Ulahol**	**2.13**	**336**	⇑*i*P	**Pb**	**15 53 20.0**	**-2.0**

baz=341

ULHL				⇑*i*S	**Sn**	**15 53 45.6**	**+1.1**

baz=341

KZA	**Kyzart**	**2.40**	**318**	P	**Pb**	**15 53 25.1**	**-1.8**

SNR=54

KZA	**Kyzart**	**2.40**	**318**	⇑*i*P	**Pb**	**15 53 25.0**	**-1.8**

baz=322

KZA				⇑*i*S	**Sb**	**15 53 54.9**	**-1.3**

baz=322

ANVS	**Anan'yevo**	**2.49**	**5**	*i* P	**Pb**	**15 53 27.6**	**-0.6**

baz=10.0

ANVS				*e*S	**Sb**	**15 53 58.4**	**0.0**

baz=10.0

UCH	**Uchtor**	**2.90**	**312**	P	**Pn**	**15 53 31.5**	**+2.0**

SNR=7.5

KNDC	**Almaty**	**2.93**	**354**	⇓Pn	**Pb**	**15 53 34.8**	**-0.8**

33nm,0.7s

KNDC				⇓Lg	Lg	15 54 12.0	

64nm,0.5s

TKM2	**Tokmak 2**	**2.94**	**333**	P	**Pb**	**15 53 34.9**	**-1.1**

SNR=8.4

TKM2	**Tokmak 2**	**2.94**	**333**	⇑Pn	**Pb**	**15 53 33.9**	**-2.1**

14nm,0.8s

TKM2				⇓Lg	Lg	15 54 12.0	

11nm,0.2s

TKM2	**Tokmak 2**	**2.94**	**333**	⇑*i*P	**Pb**	**15 53 34.4**	**-1.5**

baz=337

TKM2				⇑*i*S	**Sb**	**15 54 12.3**	**+0.8**

baz=337

KBK	**Karagaybulak**	**2.98**	**323**	P	**Pb**	**15 53 35.5**	**-1.1**

SNR=23

KBK	**Karagaybulak**	**2.98**	**323**	⇑*i*P	**Pb**	**15 53 35.5**	**-1.1**

baz=326

KBK				⇑*i*S	**Sb**	**15 54 13.2**	**+0.5**

baz=326

SFK	**Sufi-Kurgan**	**3.00**	**266**	⇑Pn	**Pb**	**15 53 34.9**	**-1.9**

1.5nm,0.2s

SFK				⇑Lg	Lg	15 54 17.8	

22nm,0.7s

AAK	**Ala-Archa**	**3.19**	**318**	P	**Pb**	**15 53 39.2**	**-0.9**

SNR=5.4

AAK	**Ala-Archa**	**3.19**	**318**	⇑Pn	**Pb**	**15 53 39.1**	**-1.0**

18nm,0.5s

AAK				⇑Lg	Lg	15 54 19.1	

21nm,0.4s

AAK	**Ala-Archa**	**3.19**	**318**	⇑*i*P	**Pb**	**15 53 38.7**	**-1.4**

baz=320

AAK				⇑*i*S	**Sb**	**15 54 19.2**	**+0.6**

baz=320

FRU	**Bishkek**	**3.28**	**321**	*e*P	**Pb**	**15 53 42.0**	**+0.5**

baz=324

FRU				*e*S	**Sb**	**15 54 22.0**	**+1.0**

baz=324

AML	**Almayashu**	**3.34**	**304**	⇑*i*P	**Pb**	**15 53 42.0**	**-0.7**

baz=306

AML				⇑*i*S	**Sb**	**15 54 24.3**	**+1.3**

baz=306

CHMS	**Chumysh**	**3.34**	**325**	P	**Pb**	**15 53 41.9**	**-0.8**

SNR=11

CHMS	**Chumysh**	**3.34**	**325**	⇑*i*P	**Pb**	**15 53 40.9**	**-1.8**

baz=327

CHMS				⇑*i*S	**Sb**	**15 54 22.7**	**-0.2**

baz=327

PDGK	**Podgornoye**	**3.40**	**27**	⇑Pn	**Pb**	**15 53 44.1**	**+0.5**

9.4nm,0.7s

PDGK				⇑Lg	Lg	15 54 27.8	

47nm,0.9s

EKS	**Erkin-Say**	**3.60**	**312**	*i* P	**Pb**	**15 53 47.5**	**+0.5**

baz=314

EKS				*e*S	**Sb**	**15 54 32.6**	**+2.4**

baz=314

EKS2	**Erkin-Say**	**3.60**	**312**	P	**Pb**	**15 53 49.5**	**+2.5**

SNR=6.4

EKS2	**Erkin-Say**	**3.60**	**312**	⇓*e*P	**Pb**	**15 53 46.8**	**-0.2**

baz=314

EKS2				⇓*i*S	**Sb**	**15 54 31.4**	**+1.1**

baz=314

USP	**Ospenovka**	**3.67**	**325**	P	**Pb**	**15 53 47.4**	**-0.8**

SNR=10

USP	**Ospenovka**	**3.67**	**325**	⇑*e*P	**Pb**	**15 53 47.4**	**-0.8**

baz=327

USP				⇑*i*S	**Sb**	**15 54 33.6**	**+1.4**

baz=327

KK31	**Karatay Array**	**5.86**	**301**	⇑Pg	**Pb**	**15 54 27.3**	**+1.8**

0.5nm,0.5s,baz=130,slow=17,SNR=4.9

KK31				⇓Lg	Lg	15 55 41.5	

2.1nm,0.5s,baz=115,slow=26,SNR=7.1

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*IDC **06** 16:04:01.3±2.8, 13˚.74N×91˚.83W, h0km, mb4.0/8, mb1 4.4/9, mb1mx3.9/46, mbtmp4.0/9, ML3.8/1, MS3.5/3, Ms1 3.5/3, ms1mx2.9/24, Error ellipse: s-maj=62.5km s-min=38.9km az=17.0*
*ISCJB **06** 16:04:03.0±0.6, 13˚.81N±0˚.06×92˚.39W±0˚.05, h10km, mb4.2/16, MS3.4/3, Error ellipse: s-maj=10.1km s-min=5.0km az=30.6*
*NEIC **06** 16:04:04.0±1.5, 13˚.85N×91˚.99W, h10km, mb4.4/9, MD4.0(MEX), Error ellipse: s-maj=26.2km s-min=20.9km az=220.0*
*MEX **06** 16:04:05.2±0.4, 13˚.71N×92˚.39W, h10km, MD4.0*
*CASC **06** 16:04:12.8±1.5, 13˚.76N×91˚.74W, h15km±17km, MD4.0*

ISC 06 16:04:04.9±1.1, 13˚.81N±0˚.10×92˚.36W±0˚.08, h10km, n140, σ0s97/139, mb4.3/16, MS3.3/3, 2C, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.86**	**54**	⇑*e*P	**Pb**	**16 04 23.6**	**+1.6**
FUG	**Fuego 3**	**1.60**	**66**	⇑*e*P	**Pn**	**16 04 32.4**	**-1.0**
PCG	**Pacaya**	**1.79**	**71**	*e*P	**Pn**	**16 04 35.9**	**-0.3**
PCIG		**2.06**	**336**	*i* P	Pn	16 04 38.0	-1.7
PCIG				*e*S	**Sn**	**16 04 03.0**	**-2.4**
PCIG		**2.06**	**336**	*i* P	Pn	16 04 38.0	-1.7
PCIG				*e*S	**Sn**	**16 05 03.0**	**-2.4**
NBG	**Las Nubes**	**2.10**	**68**	*e*P	**Pn**	**16 04 41.0**	**+0.6**
CCIG	**Comitan**	**2.47**	**5**	*e*P	**Pn**	**16 04 44.6**	**-0.8**
CCIG				*i* S	**Sn**	**16 05 14.9**	**-0.8**
CCIG	**Comitan**	**2.47**	**5**	*e*P	**Pn**	**16 04 44.6**	**-0.8**
CCIG				*i* S	**Sn**	**16 05 14.9**	**-0.8**
RBDL	**Robledal**	**2.61**	**83**	*e*P	**Pn**	**16 04 46.0**	**-1.3**
RBDL				*e*S	Sn	16 05 11.0	-8.2
SBLS	**San Blas**	**2.66**	**89**	*e*P	**Pn**	**16 04 46.8**	**-1.2**
SBLS				*e*S	Sn	16 05 14.2	-6.2
SNJE	**San Jose**	**2.67**	**88**	*e*P	**Pn**	**16 04 47.1**	**-1.1**
SNJE				*e*S	Sn	16 05 14.6	-6.2
MRL	**Marmol**	**2.87**	**64**	*e*P	**Pn**	**16 04 51.5**	**+0.6**
TGIG		**3.05**	**346**	*e*P	**Pn**	**16 04 52.7**	**-0.5**
TGIG				*e*S	**Sn**	**16 05 28.4**	**-1.3**
TGIG		**3.05**	**346**	*e*P	**Pn**	**16 04 52.7**	**-0.5**
TGIG				*e*S	**Sn**	**16 05 28.4**	**-1.3**
LFRS	**El Faro**	**3.21**	**93**	*e*P	**Pn**	**16 04 53.8**	**-1.7**
936A	**North Padre Is**	**14.31**	**342**	P	**P**	**16 07 35.1**	**+0.3**

baz=14

034A	**Hebbronville**	**14.46**	**337**	P	**P**	**16 07 37.4**	**+0.9**

baz=15

934A	**Benavides**	**14.88**	**338**	P	**P**	**16 07 42.7**	**+1.5**

baz=15

933A	**Laredo**	**15.18**	**336**	P	**P**	**16 07 46.6**	**+2.1**

baz=15

835A	**Beeville**	**15.28**	**341**	P	**P**	**16 07 45.7**	**0.0**

baz=15

832A	**Faith Ranch, C**	**16.06**	**335**	P	**P**	**16 07 55.0**	**+0.8**

baz=16

632A	**Uvalde**	**17.07**	**337**	P	**Pn**	**16 08 06.4**	**+2.6**

baz=17

534A	**Blanco**	**17.11**	**342**	P	**Pn**	**16 08 05.1**	**+0.9**

baz=17

532A	**Rocksprings**	**17.68**	**338**	P	**Pn**	**16 08 12.6**	**+1.3**

baz=18

433A	**Art**	**17.97**	**341**	P	**Pn**	**16 08 15.7**	**+0.8**

baz=18

335A	**Moody**	**18.01**	**346**	P	**Pn**	**16 08 15.2**	**-0.1**

baz=18

530A	**J-C Ranch, Com**	**18.26**	**334**	P	**Pn**	**16 08 19.2**	**+0.7**

baz=18

334A	**Lometa**	**18.26**	**344**	P	**Pn**	**16 08 18.5**	**0.0**

baz=18

431A	**Sonora**	**18.44**	**337**	P	**P**	**16 08 21.3**	**+0.7**

baz=19

333A	**Richland Sprin**	**18.47**	**342**	P	**P**	**16 08 20.7**	**-0.3**

baz=19

TXAR	**Lajitas Array**	**18.67**	**328**	P	**P**	**16 08 24.6**	**+1.3**

0.1nm,0.3s,baz=153,slow=11,SNR=19

430A	**Baggett Ranch,**	**18.77**	**336**	P	**P**	**16 08 24.8**	**+0.5**

baz=19

331A	**San Angelo**	**18.93**	**338**	P	**P**	**16 08 26.8**	**+0.7**

baz=19

233A	**Rising Star**	**19.09**	**343**	P	**P**	**16 08 27.3**	**-0.5**

baz=19

232A	**Coleman**	**19.20**	**341**	P	**P**	**16 08 28.9**	**-0.1**

baz=19

330A	**Mertzon**	**19.30**	**337**	P	**P**	**16 08 30.9**	**+0.8**

baz=20,SNR=6.1

134A	**White-Moore Ra**	**19.40**	**345**	P	**P**	**16 08 30.6**	**-0.6**

baz=20

Z38A	**Mt. Pleasant**	**19.50**	**353**	P	**P**	**16 08 32.5**	**+0.3**

baz=20

133A	**Hamilton Ranch**	**19.65**	**343**	P	**P**	**16 08 33.7**	**-0.2**

baz=20

329A	**Wagon Wheel Ra**	**19.69**	**335**	P	**P**	**16 08 36.0**	**+1.5**

baz=20

230A	**Sterling City**	**19.71**	**337**	P	**P**	**16 08 35.3**	**+0.7**

baz=20

Z36A	**Blue Ridge**	**19.73**	**350**	P	**P**	**16 08 34.2**	**-0.5**

baz=20

ABTX	**Abilene, Hawle**	**19.88**	**342**	P	**P**	**16 08 36.7**	**+0.3**

baz=20

229A	**Bryant Ranch,**	**20.05**	**336**	P	**P**	**16 08 39.4**	**+1.2**

baz=20

131A	**Roby**	**20.16**	**340**	P	**P**	**16 08 39.5**	**0.0**

baz=20

Z33A	**Whitaker Ranch**	**20.25**	**344**	P	**P**	**16 08 40.6**	**+0.2**

baz=20

Y37A	**Hugo**	**20.30**	**352**	P	**P**	**16 08 41.7**	**+0.8**

baz=20

Y35A	**Marietta**	**20.46**	**349**	P	**P**	**16 08 42.8**	**+0.2**

baz=21,SNR=7.0

Z32A	**Haskell**	**20.47**	**343**	P	**P**	**16 08 43.1**	**+0.3**

baz=21

228A	**UT Block 9, Go**	**20.50**	**334**	P	**P**	**16 08 43.8**	**+0.6**

baz=21

129A	**Stewart Farms,**	**20.65**	**337**	P	**P**	**16 08 45.2**	**+0.3**

baz=21,SNR=7.5

MIAR	**Mount Ida**	**20.68**	**357**	P	**P**	**16 08 47.5**	**+2.5**

baz=21

MIAR	**M

SDCO	**Great Sand Dun**	**26.56**	**336**	P		**P**	**16 09 43.3**	**-0.1**
	baz=27							
S22A	**4UR Ranch, Cre**	**27.10**	**334**	P		**P**	**16 09 48.6**	**+0.3**
	baz=27,SNR=5.4							
MVCO	**Mesa Verde**	**27.40**	**331**	P		**P**	**16 09 52.2**	**+1.3**
	baz=28							
MVCO	**Mesa Verde**	**27.40**	**331**	*e*P		**P**	**16 09 52.8**	**+1.8**
	10nm,1.1s							
ISA	**Isabella**	**32.01**	**317**	P		P	16 10 37.2	+5.6
	baz=32							
PDAR	**Pinedale Array**	**32.45**	**336**	P		**P**	**16 10 34.8**	**-0.8**
	0.4nm,0.4s,baz=134,slow=6.4,SNR=3.6							
PDAR				LR		LR	16 27 40.1	
	comp=Z,33nm,19.1s,baz=172,slow=43							
H24A	**Dirks Ranch, A**	**32.54**	**344**	P		**P**	**16 10 35.6**	**-0.6**
	baz=33							
REDW	**Red Top Meadow**	**33.47**	**335**	*e*P		**P**	**16 10 44.5**	**0.0**
	12nm,1.2s							
NVAR	**Mina Array Bea**	**33.60**	**322**	P		**P**	**16 10 47.8**	**+2.0**
	1.9nm,0.7s,baz=131,slow=8.8,SNR=12							
E26A	**Carlson Angus**	**33.65**	**347**	P		**P**	**16 10 44.9**	**-0.9**
	baz=34							
F23A	**Volborg**	**33.67**	**343**	P		**P**	**16 10 45.1**	**-0.9**
	baz=34							
G21A	**Lodge Grass**	**33.76**	**341**	P		**P**	**16 10 46.2**	**-0.6**
	baz=34							
E25A	**Miller Ranch,**	**33.89**	**346**	P		**P**	**16 10 47.4**	**-0.5**
	baz=34							
G20A	**Bridger**	**34.08**	**340**	P		**P**	**16 10 49.5**	**-0.2**
	baz=34							
C30A	**Mose, Pekin**	**34.18**	**353**	P		**P**	**16 10 50.5**	**+0.2**
	baz=34							
D26A	**Manning**	**34.18**	**348**	P		**P**	**16 10 50.1**	**-0.3**
	baz=34							
HLID	**Hailey**	**35.18**	**332**	P		**P**	**16 11 00.4**	**+1.1**
	baz=35							
HLID	**Hailey**	**35.18**	**332**	*e*P		**P**	**16 10 59.8**	**+0.6**
MCMT	**McKenzie Canyo**	**35.50**	**335**	*e*P		**P**	**16 11 03.1**	**+1.1**
	7.6nm,1.2s							
C22A	**Vida**	**35.66**	**344**	P		**P**	**16 11 02.4**	**-0.8**
	baz=36							
BOZ	**Bozeman (W)**	**35.68**	**337**	P		**P**	**16 11 04.2**	**+0.7**
	baz=36							
C20A	**Veseth Ranch,**	**36.23**	**342**	P		**P**	**16 11 08.3**	**+0.2**
	baz=36							
EGMT	**Eagleton**	**37.05**	**341**	P		**P**	**16 11 14.7**	**-0.4**
	baz=37							
MSO	**Missoula**	**37.56**	**336**	P		**P**	**16 11 19.6**	**+0.1**
	baz=38							
SCHQ	**Schefferville**	**45.52**	**20**	LR		LR	16 32 23.9	
	comp=Z,140nm,19.7s,baz=279,slow=38							
YKA	**Yellowknife Ar**	**51.13**	**347**	P		P	16 13 06.0	-1.6
	3.3nm,0.7s,baz=150,slow=7.7,SNR=14							
INK	**Inuvik**	**60.52**	**344**	P		**P**	**16 14 14.4**	**-0.5**
	1.7nm,0.4s,baz=105,slow=6.7,SNR=4.3							
ILAR	**Eielson Array**	**62.88**	**337**	P		**P**	**16 14 30.6**	**-0.3**
	0.8nm,0.7s,baz=129,slow=5.0,SNR=10							
EKA	**Eskdalemuir Ar**	**78.32**	**36**	P		P	16 16 00.9	-4.4
	1.8nm,0.7s,baz=269,slow=5.8,SNR=4.1							
CMAR	**Chiang Mai Arr**	**146.06**	**341**	PKPbc		**PKPdf**	**16 23 45.1**	**-0.1**
	3.9nm,0.7s,baz=333,slow=3.3,SNR=25							

IDC 06 16:04:47.5±2.2,34°.31S×72°.39W,h0km,mb3.8/2, mb1 4.0/2,mb1mx3.7/25,mbtmp3.8/2,ML2.0/1,MS3.5/3, Ms1 3.4/3,ms1mx3.0/26,Error ellipse: s-maj=73.3km s-min=37.4km az=168.0,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.41**	**53**	Pn	Pn	16 05 56.6	+0.8
	0.1nm,0.3s,baz=234,slow=12,SNR=6.7						
CFAA				Sn	Sn	16 06 47.6	-0.3
	0.2nm,0.3s,baz=219,slow=19,SNR=3.7						
CFAA				LR	LR	16 07 37.0	
	comp=Z,23nm,18.4s,baz=260,slow=38						
LVC	**Limon Verde**	**12.04**	**16**	LR	LR	16 13 04.7	
	comp=Z,462nm,18.3s,baz=208,slow=41						
CPUP	**Villa Florida**	**15.23**	**63**	LR	LR	16 14 43.3	
	comp=Z,105nm,19.9s,baz=235,slow=39						
SIV	**San Ignacio**	**20.89**	**32**	LR	LR	16 18 50.5	
	comp=Z,71nm,19.5s,baz=244,slow=40						
TXAR	**Lajitas Array**	**69.86**	**331**	P	P	16 16 00.2	0.0
	0.4nm,0.8s,baz=152,slow=8.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**84.59**	**70**	P	P	16 17 22.9	-0.2
	0.7nm,1.0s,baz=225,slow=3.3,SNR=5.1						
ZALV	**Zalesovo Beam**	**154.64**	**32**	PKPbc	PKPbc	16 24 49.9	+0.1
	0.9nm,0.5s,baz=313,slow=2.9,SNR=5.3						

IDC 06 16:34:04.1±8.5,22°.15S×171°.23E,h138km±49km,mb3.3/3, mb1 3.5/4,mb1mx3.2/37,mbtmp3.7/4,Error ellipse: s-maj=80.5km s-min=69.4km az=12.0,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.44**	**270**	P	Pn	16 35 10.2	+0.2
	1.5nm,0.3s,baz=90,slow=20,SNR=69						
DZM				S	Sn	16 36 01.4	+0.2
	7.0nm,0.3s,baz=90,slow=20,SNR=8.0						
STKA	**Stephens Creek**	**28.05**	**243**	P	P	16 39 41.0	-1.6
	1.5nm,0.8s,baz=84,slow=3.2,SNR=3.7						
ASAR	**Alice Springs**	**34.36**	**260**	P	P	16 40 38.6	+0.6
	1.0nm,0.7s,baz=87,slow=9.5,SNR=14						
WRA	**Warramunga Arr**	**34.45**	**267**	P	P	16 40 38.9	+0.1
	0.2nm,0.3s,baz=98,slow=8.5,SNR=6.0						

*IDC **06** 16:38:00.9±1.7,31°.94N×115°.78W,h0km,mb3.1/1, mb1 3.8/7,mb1mx3.6/39,mbtmp3.4/7,ML4.3/3,MS3.2/9, Ms1 3.2/9,ms1mx3.2/15,Error ellipse: s-maj=25.0km s-min=10.0km az=47.0*

*ISCJB **06** 16:38:05.1±0.5,32°.27N±0°.02×115°.30W±0°.02,h12km±3km, mb2.7/1,MS3.2/3,Error ellipse: s-maj=3.2km s-min=3.0km az=143.3*

*ECX **06** 16:38:06.8±0.5,32°.27N×115°.35W,h6km,ML4.3*

*NEIC **06** 16:38:06.8,32°.27N×115°.33W,h6km,ML4.3(ECX), ML4.3(PAS),After ECX.*

NEIC Felt at Mexicali. Also felt at Calexico and El Centro, California.

*MEX **06** 16:38:07.8±1.1,32°.30N×115°.27W,h10km,MD4.1*

ISC 06 16:38:05.3±0.9,32°.24N±0°.02×115°.36W±0°.02,h12km±6km, n86,σ1§14/103,MS3.2/3,5C-12D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.19**	**14**	*i* P	**Pg**	**16 38 09.4**	**-0.1**
CPBX				*i* S	**Sg**	**16 38 13.3**	**+0.9**
CPBX	**Cerro Prieto**	**0.19**	**14**	⇓*e*P	**Pg**	**16 38 09.2**	**-0.3**
CPBX				*e*S	**Sg**	**16 38 11.8**	**-0.6**
CPBX				IAML		16 38 17.1	
	comp=E,213μm,0.2s						
CPBX				⇓*e*		16 38 17.1	
MBIG	**Mexicali**	**0.22**	**38**	*i* P	**Pg**	**16 38 10.2**	**+0.2**
MBIG				*e*S	**Sg**	**16 38 12.7**	**-0.5**
SGL	**Mount Signal**	**0.52**	**323**	⇓*i*P	**Pg**	**16 38 15.3**	**-0.1**
ERPC	**Ernies Place**	**0.57**	**333**	⇓*i*P	**Pg**	**16 38 16.8**	**+0.4**
DREC	**Desert Rsrch C**	**0.57**	**352**	*e*P	**Pg**	**16 38 16.8**	**+0.3**
RDX	**Rancho Dawling**	**0.58**	**238**	*e*P	**Pb**	**16 38 17.6**	**0.0**
RDX				*e*S	**Sb**	**16 38 26.2**	**+0.3**
EMSC	**East Mesa**	**0.59**	**32**	⇑*i*P	**Pg**	**16 38 16.9**	**0.0**
WESC	**Westside Schoo**	**0.61**	**329**	⇓*e*P	**Pg**	**16 38 17.4**	**+0.2**
YUH	**Yuha Desert**	**0.63**	**311**	⇓*i*P	**Pg**	**16 38 17.2**	**-0.4**
COA	**Coachella**	**0.66**	**18**	⇓*i*P	**Pg**	**16 38 17.7**	**-0.4**
COK	**Cook Ranch**	**0.69**	**333**	⇑*i*P	**Pg**	**16 38 18.6**	**-0.1**
RMX	**La Rumorosa**	**0.71**	**301**	*e*P	**Pg**	**16 38 19.1**	**-0.1**
RMX				*e*S	**Sg**	**16 38 28.9**	**+0.4**
RMX				*e*		16 38 32.1	
RMX				IAML		16 38 32.1	
	comp=N,14μm,0.4s						
IBP	**Imperial Bould**	**0.75**	**305**	P	**Pg**	**16 38 19.7**	**-0.2**
	baz=0.8						
IBP				S	**Sg**	**16 38 30.1**	**+0.3**
	baz=0.8						
SWSC	**Sam W. Stewart**	**0.79**	**332**	P	**Pg**	**16 38 19.9**	**-0.9**
	baz=0.8						
SWSC				S	**Sg**	**16 38 31.0**	**-0.2**
	baz=0.8						
SWSC	**Sam W. Stewart**	**0.79**	**332**	*e*P	**Pg**	**16 38 20.1**	**-0.6**
ECBX	**El Chinero**	**0.81**	**161**	*e*P	**Pg**	**16 38 20.8**	**-0.1**
ECBX				*e*S	**Sb**	**16 38 32.4**	**+0.4**
ECBX				⇓*e*		16 38 33.7	
CRR	**Carrizo Plain**	**0.83**	**322**	⇑*i*P	**Pg**	**16 38 20.9**	**-0.5**
GLA	**Glamis**	**0.93**	**29**	P	**Pg**	**16 38 21.5**	**-1.8**
	baz=0.9						
GLA				S	**Sg**	**16 38 33.3**	**-2.1**
	baz=0.9						
GLA	**Glamis**	**0.93**	**29**	*e*Pg	**Pg**	**16 38 21.9**	**-1.4**
GLA				*e*Sg	**Sg**	**16 38 33.9**	**-1.5**
ERRC	**Elmore Ranch**	**0.96**	**336**	⇓*i*P	**Pg**	**16 38 22.9**	**-1.0**
CBX	**Cerro Bola**	**1.11**	**274**	*e*P	**Pb**	**16 38 26.6**	**+0.1**
CBX				*i* S	**Sb**	**16 38 41.7**	**+0.7**
CBX	**Cerro Bola**	**1.11**	**274**	*e*P	**Pb**	**16 38 26.6**	**+0.1**
CBX				*e*S	**Sb**	**16 38 41.5**	**+0.6**
CBX	**Cerro Bola**	**1.11**	**274**	⇑*e*P	**Pb**	**16 38 26.6**	**+0.1**
CBX				*e*S	**Sb**	**16 38 41.5**	**+0.6**
CBX				IAML		16 38 44.5	
	comp=N,8μm,0.5s						
CBX				⇓*e*		16 38 44.5	
MONP	**Monument Peak**	**1.11**	**306**	P	**Pb**	**16 38 25.9**	**-0.7**
	baz=1.1						
MONP				S	**Sg**	**16 38 40.6**	**-0.6**
	baz=1.1						
SPIG	**San Pedro Mart**	**1.19**	**184**	*e*P	**Pb**	**16 38 27.7**	**-0.3**
SPIG				*i* S	**Sn**	**16 38 44.8**	**+0.5**
SPIG	**San Pedro Mart**	**1.19**	**184**	*e*P	**Pb**	**16 38 27.7**	**-0.3**
SPIG				*i* S	**Sn**	**16 38 45.1**	**+0.8**
SPIG	**San Pedro Mart**	**1.19**	**184**	⇓*e*P	**Pb**	**16 38 27.8**	**-0.2**
SPX	**San Pedro Mart**	**1.19**	**184**	*i* P	**Pb**	**16 38 27.8**	**-0.2**
SPX				*i* S	**Sg**	**16 38 44.4**	**+0.6**
SPX	**San Pedro Mart**	**1.19**	**184**	⇓*e*P	**Pb**	**16 38 27.8**	**-0.2**
SPX				*e*S	**Sn**	**16 38 45.0**	**+0.7**
BAR	**Barrett**	**1.20**	**292**	*e*Pn	**Pb**	**16 38 27.6**	**-0.4**
BAR				*e*S	**Sb**	**16 38 43.2**	**-0.2**
BAR	**Barrett**	**1.20**	**292**	⇑*e*P	**Pb**	**16 38 27.5**	**-0.4**
ECNX	**Esteban Cantu**	**1.20**	**242**	*e*P	**Pn**	**16 38 28.3**	**+0.3**
ECNX				*e*S	**Sn**	**16 38 44.5**	**+0.3**
PBX	**Punta Banda**	**1.26**	**247**	*e*P	**Pb**	**16 38 29.4**	**+0.4**
PBX				*e*S	**Sn**	**16 38 46.4**	**+0.7**
BC3	**Big Chuckawall**	**1.42**	**357**	P	**Pn**	**16 38 28.8**	**-2.2**
	baz=1.4						
SDRC	**San Diego Road**	**1.43**	**291**	*e*P	**Pn**	**16 38 31.2**	**+0.2**
109C	**Camp Elliot, M**	**1.61**	**294**	P	**Pn**	**16 38 33.5**	**-0.1**
	baz=1.6						
109C				S	**Sn**	**16 38 54.3**	**+0.1**
	baz=1.6						
PFO	**Pinyon Flat Ob**	**1.65**	**326**	Pn	**Pn**	**16 38 32.6**	**-1.7**
	comp=N,66nm,0.3s,baz=146,slow=13,SNR=56						
PFO				Lg	Lg	16 38 56.5	
	comp=N,110nm,0.3s,baz=221,slow=20,SNR=16						
PFO	**Pinyon Flat Ob**	**1.65**	**326**	P	**Pn**	**16 38 32.5**	**-1.7**
	baz=1.6						
BELC	**Belle Mtn. Jos**	**1.84**	**343**	P	**Pn**	**16 38 35.3**	**-1.6**
	baz=1.8						
IRM	**Iron Mountain**	**1.93**	**5**	P	**Pn**	**16 38 36.5**	**-1.4**
	baz=1.9						
MURC	**Murrieta**	**2.06**	**312**	P	**Pn**	**16 38 39.0**	**-0.8**
	baz=2.1						
MURC				Sb	**Sb**	**16 39 09.5**	**+1.2**
	baz=2.1						
214A	**Organ Pipe Nat**	**2.18**	**97**	P	**Pn**	**16 38 39.7**	**-1.7**
	baz=2.2						
214A	**Organ Pipe Nat**	**2.18**	**97**	*e*Pn	**Pn**	**16 38 38.9**	**-2.5**
214A				*e*Pg	**Pb**	**16 38 45.6**	**+0.9**
GMRC	**Granite Mounta**	**2.55**	**354**	P	**Pn**	**16 38 45.6**	**-1.0**
	baz=2.5						
BFSC	**Mount Baldy Ra**	**2.78**	**317**	Sb	**Sb**	**16 39 30.3**	**+1.3**
	baz=2.8						
SCI	**San Clemente I**	**2.79**	**286**	P	**Pn**	**16 38 49.6**	**-0.2**
	baz=2.8						
CIS	**Catalina Islan**	**2.82**	**295**	P	**Pn**	**16 38 50.2**	**0.0**
	baz=2.8						
CIS				Sb	**Sb**	**16 39 32.4**	**+2.4**
	baz=2.8						
MWC	**Mount Wilson**	**3.01**	**312**	*e*Pn	**Pb**	**16 38 58.6**	**-0.3**
MWC				*e*Sg	**Sb**	**16 39 37.9**	**+2.2**
PASC	**Pasadena Art C**	**3.06**	**310**	*e*Pn	**Pb**	**16 38 58.6**	**-1.0**
PASC				*e*Sg	**Sb**	**16 39 38.1**	**+1.1**
DECC	**Green Verdugo**	**3.20**	**310**	Sb	**Sb**	**16 39 43.8**	**+2.8**
	baz=3.2						
EDW2	**Edwards Air Fo**	**3.43**	**321**	Sb	**Sb**	**16 39 50.6**	**+2.9**
	baz=3.4						
OSI	**Osito Adit**	**3.68**	**311**	Sb	**Sb**	**16 39 57.0**	**+2.0**
	baz=3.7						
OSI	**Osito Adit**	**3.68**	**311**	P	Pn	16 39 05.6	+3.5
OSI				*e*Pg	**Pb**	**16 39 10.6**	**+0.3**
TUC	**Tucson**	**3.87**	**88**	*e*Pn	Pn	16 38 58.3	-6.4
SHPR	**Sheep Range**	**4.26**	**2**	*e*Pn	**Pn**	**16 39 10.0**	**-0.2**
ISA	**Isabella**	**4.29**	**324**	P	**Pn**	**16 39 10.3**	**-0.1**
	baz=4.3						
DAC	**Darwin (Calif)**	**4.44**	**336**	*e*Pn	**Pn**	**16 39 12.9**	**+0.4**
DAC				*e*Pg	**Pg**	**16 39 30.4**	**+0.1**
WUAZ	**Wupatki**	**4.66**	**44**	P	**Pn**	**16 39 17.0**	**+1.4**
	baz=4.6						
WUAZ	**Wupatki**	**4.66**	**44**	*e*Pn	**Pn**	**16 39 16.6**	**+1.1**
W18A	**Petrified Fore**	**5.50**	**57**	P	**Pn**	**16 39 27.8**	**+0.6**
	baz=5.5						
W18A	**Petrified Fore**	**5.50**	**57**	*e*Pn	**Pn**	**16 39 28.4**	**+1.2**
	comp=N,31nm,0.7s						
CCUT	**Cedar City**	**5.55**	**17**	*e*Pn	**Pn**	**16 39 29.2**	**+1.2**
	comp=N,33nm,0.7s						
R11A	**Troy Canyon, C**	**6.10**	**358**	P	**Pn**	**16 39 35.8**	**+0.3**
	baz=6.1						
R11A	**Troy Canyon, C**	**6.10**	**358**	*e*Pn	**Pn**	**16 39 36.0**	**+0.5**
	comp=N,15nm,0.6s						
121A	**Cookes Peak, D**	**6.41**	**85**	P	**Pn**	**16 39 39.2**	**-0.5**
	baz=6.4						
121A	**Cookes Peak, D**	**6.41**	**85**	*e*Pn	**Pn**	**16 39 39.2**	**-0.5**
	comp=N,17nm,0.5s						
NVAR	**Mina Array Bea**	**6.63**	**340**	Pn	**Pn**	**16 39 42.6**	**-0.2**
	baz=162,slow=15,SNR=2.2						
NVAR				Lg	Lg	16 41 36.5	
	baz=163,slow=22,SNR=1.7						
MSU	**Marysvale**	**6.78**	**22**	*e*Pn	**Pn**	**16 39 46.6**	**+1.8**
	comp=N,30nm,0.7s						
MVCO	**Mesa Verde**	**7.52**	**47**	*e*Pn	**Pn**	**16 39 57.7**	**+2.8**
	comp=N,30nm,0.8s						
ANMO	**Albuquerque**	**7.90**	**68**	Pn	**Pn**	**16 40 03.0**	**+2.8**
	comp=N,0.2nm,0.3s,baz=255,slow=16,SNR=2.6						
ANMO				Lg	Lg	16 42 18.9	
	comp=N,0.1nm,0.3s,baz=143,slow=20,SNR=3.5						
ANMO				LR	LR	16 43 28.7	
	comp=N,176nm,20.5s,baz=252,slow=39						
PV01	**Paradox Valley**	**8.09**	**41**	*e*Pn	Pn	16 40 06.8	+3.9
	comp=N,2μm,1.1s						
PV04	**Paradox Valley**	**8.09**	**39**	*e*P	Pn	16 40 06.8	+4.0
ELK	**Elko**	**8.49**	**1**	Pn	**Pn**	**16 40 09.8**	**+1.5**
	comp=N,0.1nm,0.3s,baz=180,slow=11,SNR=3.6						
ELK				Lg	Lg	16 42 34.8	
	comp=N,0.1nm,0.3s,baz=239,slow=2.3,SNR=3.0						
S22A	**4UR Ranch, Cre**	**8.90**	**49**	P	**Pn**	**16 40 15.9**	**+2.0**
	baz=8.9						
LPIG	**La Paz**	**9.24**	**150**	LR	LR	16 43 47.3	
	comp=N,138nm,21.6s,baz=354,slow=38						
TXAR	**Lajitas Array**	**10.46**	**103**	Pn	**Pn**	**16 40 37.6**	**+2.4**
	comp=N,0.6nm,0.3s,baz=282,slow=13,SNR=30						
TXAR				Lg	Lg	16 43 41.1	
	comp=N,0.0nm,0.3s,baz=289,slow=28,SNR=4.8						
TXAR				LR	LR	16 44 40.3	
	comp=N,129nm,20.5s,baz=0.0,slow=37						
MSTX	**Muleshoe**	**10.70**	**77**	P	Pn	16 40 43.4	+5.0
	baz=11						
YBH	**Yreka Blue Hor**	**11.15**	**330**	LR	LR	16 45 23.2	
	comp=N,91nm,19.9s,baz=290,slow=39						
BW06	**Boulder Array**	**11.47**	**22**	*e*P	Pn	16 40 58.1	+9.0
	comp=N,2.6nm,0.6s						
PDAR	**Pinedale Array**	**11.47**	**22**	Pn	Pn	16 40 56.3	+7.2
	comp=N,0.3nm,0.3s,baz=206,slow=12,SNR=3.5						
PDAR				Lg	Lg	16 44 16.4	
	comp=N,0.1nm,0.3s,baz=190,slow=20,SNR=3.0						
PDAR				LR	LR	16 45 01.0	
	comp=N,88nm,19.6s,baz=214,slow=35						
NEW	**Newport**	**16.07**	**356**	Pn	**P**	**16 41 54.0**	**-0.3**
	comp=N,0.2nm,0.3s,baz=172,slow=14,SNR=2.9						
NEW				LR	LR	16 48 44.4	
	comp=N,118nm,19.1s,baz=162,slow=39						
BBB	**Bella Bella**	**22.00**	**339**	LR	LR	16 52 15.4	
	comp=N,96nm,19.6s,baz=173,slow=39						
TKL	**Tuckaleechee C**	**26.36**	**74**	LR	LR	16 54 30.6	
	comp=N,90nm,21.5s,baz=325,slow=37						
DLBC	**Dease Lake**	**28.03**	**344**	LR	LR	16 54 38.2	
	comp=N,49nm,21.7s,baz=242,slow=35						
ILAR	**Eielson Array**	**37.89**	**339**	P	**P**	**16 45 19.8**	**-2.1**
	comp=N,0.1nm,0.6s,baz=149,slow=8.0,SNR=2.7						

*IDC **06** 16:38:02.6±2.1,22°.34S×171°.67E,h100km±17km, mb4.8/19,mb1 4.9/21,mb1mx4.7/32,mbtmp5.2/21, MS3.8/20,Ms1 3.8/20,ms1mx3.8/22,Error ellipse: s-maj=15.0km s-min=11.9km az=70.0*

*ISCJB **06** 16:38:03.7±0.8,22°.36S±0°.04×171°.60E±0°.04,h119km±7km, mb5.2/99,Error ellipse: s-maj=6.3km s-min=5.4km az=168.2*

*MOS **06** 16:38:04.0±1.6,22°.25S×171°.51E,h115km,mb5.3/16, Error ellipse: s-maj=10.6km s-min=9.6km az=40.2*

*GCMT **06** 16:38:05.8±0.2,22°.44S×171°.65E,h122km±1km, MW5.3/98,Moment Tensor Solution. s82,c124; s98,c185; Duration: 1§1 Moment tensor: Scale 10^17Nm; Mrr0.51±.02; Mθθ-0.83±.02; Mφφ0.32±.02; Mrθ0.69±.02; Mrφ0.26±.02; Mθφ0.50±.01; Best double couple: M0 1.15100×10^17 NP1:φ§67.00000°,δ74.00000°, λ57.00000°. NP2:φ§315.00000°,δ36.00000°,λ153.00000°. Principal axes: T 1.1720, Plg50.0000°, Azm301.0000°; N -0.0430, Plg31.0000°, Azm77.0000°; P -1.1290, Plg22.0000°, Azm182.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **06** 16:38:05.8±0.8,22°.35S×171°.65E,h129km±7km,mb5.1/39 Error ellipse: s-maj=6.1km s-min=5.7km az=160.0*

*BJI **06** 16:38:07.9,21°.72S×171°.67E,h141km,mb5.0/49, mB5.1/30*

ISC 06 16:38:07.1±0.4,22°.39S±0°.05×171°.60E±0°.05,h140km±3km, h139km:pP-P,n560,σ1§21/565,mb5.1/99,56C-34D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**4.38**	**272**	*e*P	**Pn**	**16 39 09.9**	**-2.1**
BAYA				*e*S	**Sn**	**16 39 59.3**	**-3.3**
DZM	**Mont Dzumac**	**4.79**	**273**	*e*Pn	**Pn**	**16 39 15.2**	**-2.5**
	234nm,0.2s						
DZM				*e*Sn	**Sn**	**16 40 08.4**	**-4.2**
	860nm,0.2s						
DZM	**Mont Dzumac**	**4.79**	**273**	P	**Pn**	**16 39 15.1**	**-2.6**
	121nm,0.3s,baz=90,slow=24,SNR=512						
DZM				S	**Sn**	**16 40 09.1**	**-3.5**
	145nm,0.3s,baz=83,slow=20,SNR=5.4						
DZM				LR	LR	16 40 24.7	
	comp=Z,818nm,21.6s,baz=181,slow=29						
NFK	**Norfolk Island**	**7.41**	**206**	⇓P	**Pn**	**16 39 50.0**	**-2.5**
	baz=7.6,SNR=51						
MSVF	**Nonsavu**	**7.62**	**54**	Pn	**Pn**	**16 39 53.0**	**-2.7**
	332nm,0.9s,SNR=8.2						
MSVF	**Nonsavu**	**7.62**	**54**	*e*P	**Pn**	**16 39 54.1**	**-1.6**
MSVF				pmax	pmax		
	comp=Z,59nm,0.9s						
MSVF	**Nonsavu**	**7.62**	**54**	*e*P	**Pn**	**16 39 54.1**	**-1.6**
	comp=Z,59nm,0.9s						
RAO	**Raoul Island**	**11.65**	**128**	LR	LR	16 43 20.9	
	comp=Z,444nm,18.1s,baz=309,slow=27						
OUZ	**Omahuta**	**12.91**	**173**	*e*P	**Pn**	**16 41 04.4**	**-1.0**
	comp=Z,83nm,0.8s						
URZ	**Urewera**	**16.51**	**165**	P	**Pn**	**16 41 49.2**	**-1.4**
	comp=Z,2.1nm,0.3s,baz=327,slow=3.3,SNR=26						
URZ				LR	LR	16 47 28.6	
	comp=Z,784nm,18.3s,baz=344,slow=34						
URZ	**Urewera**	**16.51**	**165**	*e*P	**Pn**	**16 41 50.6**	**0.0**
HNR	**Honiara**	**17.06**	**317**	*e*P	**Pn**	**16 41 58.5**	**+1.2**
HNR				pmax	pmax		
	comp=Z,455nm,1.0s						
HNR	**Honiara**	**17.06**	**317**	*e*P	**Pn**	**16 41 58.5**	**+1.2**
	comp=Z,454nm,1.0s						
EIDS	**Eidsvold**	**19.00**	**257**	⇓P	**Pn**	**16 42 19.4**	**-0.9**
	baz=19,SNR=36						
EIDS	**Eidsvold**	**19.00**	**257**	*e*P	**Pn**	**16 42 20.2**	**-0.1**
	comp=Z,79nm,0.7s						
ARMA	**Armidale**	**19.58**	**242**	⇓P	**Pn**	**16 42 26.7**	**-0.5**
	baz=20,SNR=35						
ARMA	**Armidale**	**19.58**	**242**	*e*P	**Pn**	**16 42 27.2**	**0.0**
	comp=Z,24nm,0.7s						
KHZ	**Kahutara**	**20.04**	**176**	*e*P	**P**	**16 42 27.8**	**-1.3**
	comp=Z,68nm,0.7s						
MGCD	**Mangrove Creek**	**21.05**	**235**	⇓P	**P**	**16 42 41.9**	**+1.8**
	baz=21,SNR=10						
RMQ	**Roma**	**21.19**	**254**	⇓P	**P**	**16 42 43.2**	**+1.6**
	baz=21,SNR=65						
RPZ	**Rata Peaks**	**21.28**	**181**	P	**P**	**16 42 41.9**	**-0.5**
	comp=Z,61nm,1.1s,baz=62,slow=1.6,SNR=14						
RPZ				LR	LR	16 50 02.5	
	comp=Z,483nm,18.3s,baz=360,slow=34						
CNB	**Canberra Magne**	**23.29**	**232**	⇓P	**P**	**16 43 04.4**	**+1.9**
	baz=24,SNR=14						
YNG	**Young**	**23.56**	**235**	P	**P**	**16 43 06.5**	**+1.6**
	baz=24,SNR=12						
CTA	**Charters Tower**	**23.73**	**271**	P	**P**	**16 43 07.1**	**+0.5**
	comp=Z,21nm,0.5s,baz=94,slow=10,SNR=51						
CTA	**Charters Tower**	**23.73**	**271**	⇓P	**P**	**16 43 07.5**	**+0.9**
	baz=24						
CTAO	**Charters Tower**	**23.73**	**271**	*e*P	**P**	**16 43 07.6**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,77nm,1.1s						
CTAO	**Charters Tower**	**23.73**	**271**	*e*P	**P**	**16 43 07.6**	**+1.0**
	comp=

comp=Z,109nm,0.8s
JAY Jayapura 35.91 299 P **P 16 44 53.5 -0.7**
comp=Z,83nm,0.8s,baz=204,slow=1.5,SNR=16
JAY LR LR 16 59 07.5
comp=Z,95nm,19.6s,baz=158,slow=35
JAY Jayapura 35.91 299 P **P 16 44 54.5 +0.3**
baz=36,SNR=12
GENI Genyem 36.30 298 P **P 16 44 58.0 +0.5**
comp=Z,135nm,1.4s,comp=Z,2µm
PPT2 Papeete2 36.72 90 *e*LQ LQ 16 53 27.9
comp=Z,604nm,24.5s
PPT2 *e*LR LR 16 55 00.8
comp=Z,818nm,29.8s
PPT Papeete 36.73 90 LR LR 16 56 41.9
comp=Z,212nm,20.0s,baz=279,slow=30
SMPI Sarmi 37.84 298 P **P 16 45 10.1 -0.3**
comp=Z,54nm,0.8s,comp=Z,5µm
KDU Kakadu 38.44 278 P **P 16 45 14.7 -0.8**
baz=39,SNR=22
WRKA Warakurna 39.62 257 P **P 16 45 25.0 -0.3**
baz=40,SNR=280
FORT Forrest 39.63 248 P **P 16 45 25.1 -0.2**
baz=40,SNR=142
FORT Forrest 39.63 248 *e*P **P 16 45 24.8 -0.5**
comp=Z,180nm,0.6s
SRPI Serui, Papua 39.95 296 P **P 16 45 27.7 -0.3**
comp=Z,101nm,0.8s
BAKI Biak 40.43 296 P **P 16 45 32.7 +0.7**
comp=Z,125nm,1.2s,comp=Z,1µm
H11S2 WAKE ISLAND Hy 40.91 353 T T 17 29 41.4
baz=170,slow=76
H11S3 WAKE ISLAND Hy 40.91 353 T T 17 29 46.8
baz=170
H11S1 WAKE ISLAND Hy 40.93 353 T T 17 29 42.9
baz=170,slow=76
KNRA Kununurra 40.94 272 P **P 16 45 35.4 -0.7**
baz=41,SNR=36
H11N1 WAKE ISLAND Hy 42.09 353 T T 17 31 20.5
baz=173,slow=76,SNR=8.0
H11N3 WAKE ISLAND Hy 42.10 353 T T 17 31 09.1
baz=173,slow=76,SNR=9.4
H11N2 WAKE ISLAND Hy 42.11 353 T T 17 31 12.9
baz=173,slow=76,SNR=9.7
FAKI Fak Fak 42.78 291 P **P 16 45 50.7 -0.5**
baz=43,SNR=21
BNDI Bandanaira 44.06 288 P **P 16 46 01.1 -0.3**
comp=Z,127nm,1.1s,comp=Z,2µm
SIJI Sorong 44.67 293 P **P 16 46 05.9 -0.4**
comp=Z,48nm,0.6s,baz=125,slow=6.6,SNR=35
SWI Sorong 44.68 293 P **P 16 46 06.5 +0.1**
comp=Z,110nm,0.8s,comp=Z,954nm
SWI Sorong 44.68 293 P **P 16 46 06.3 0.0**
baz=45,SNR=8.4
KMBL Kambalda 44.93 248 P **P 16 46 08.0 -0.2**
baz=45,SNR=24
SOEI Soe 47.00 278 P **P 16 46 25.7 +1.0**
comp=Z,59nm,0.9s
SOEI Soe 47.00 278 P **P 16 46 25.8 +1.1**
baz=47,SNR=7.1
SOEI Soe 47.00 278 *e*P **P 16 46 25.0 +0.3**
comp=Z,40nm,0.8s
NLAI Namlea 47.13 287 P **P 16 46 26.2 +0.6**
comp=Z,70nm,1.2s,comp=Z,956nm
MBWA Marble Bar 47.99 261 *e*P **P 16 46 31.8 -0.4**
comp=Z,60nm,0.7s
LBMI Labuha 48.03 291 P P 16 46 35.7 +3.2
comp=Z,38nm,1.3s,comp=Z,822nm
MEEK Meekatharra 48.12 254 P **P 16 46 32.4 -0.7**
baz=48,SNR=69
KLBR Kellerberrin 48.44 247 P **P 16 46 35.2 -0.3**
baz=49,SNR=68
SANI Sanana 48.67 288 P **P 16 46 38.0 +0.6**
comp=Z,151nm,0.7s,comp=Z,2µm
NWAO Narrogin (SRO) 48.83 245 P **P 16 46 38.0 -0.4**
comp=Z,50nm,0.6s,baz=150,slow=4.5,SNR=59
NWAO Narrogin (SRO) 48.83 245 P **P 16 46 38.0 -0.4**
TNTI Ternate 48.85 292 *e*P **P 16 46 39.2 +0.4**
RKGY Rocky Gully 49.00 243 P **P 16 46 39.8 +0.1**
baz=49,SNR=20
MMRI Maumere 49.27 278 P **P 16 46 42.2 +0.2**
comp=Z,113nm,0.8s,comp=Z,1µm
MMRI Maumere 49.27 278 *e*P **P 16 46 42.0 -0.1**
comp=Z,71nm,0.8s
BLDU Ballidu 49.40 248 P **P 16 46 42.3 -0.6**
baz=50,SNR=92
MORW Morawa 50.12 250 P **P 16 46 47.9 -0.3**
baz=50,SNR=52
WSI Waingapu 50.68 276 P **P 16 46 53.5 +0.9**
comp=Z,224nm,1.1s,comp=Z,3µm
KDI Kendari 50.81 284 P **P 16 46 55.6 +2.0**
comp=Z,44nm,1.1s,comp=Z,878nm
H01W1 Cape Leeuwin H 51.32 243 P **P 16 46 58.5 +1.6**
baz=108,slow=11,SNR=3.5
H01W3 Cape Leeuwin H 51.33 243 P **P 16 46 58.9 +1.9**
baz=108,slow=11,SNR=3.6
H01W2 Cape Leeuwin H 51.33 243 P **P 16 46 58.7 +1.7**
baz=108,slow=11,SNR=3.0
WBSI Waikabubak, Su 51.52 275 P **P 16 46 59.9 +0.9**
comp=Z,56nm,1.0s
KMSI Cibinong 51.68 290 P **P 16 47 00.7 +0.6**
comp=Z,112nm,1.1s
BSSI Bau Bau, Buton 51.83 280 P **P 16 47 02.0 +0.8**
comp=Z,36nm,1.5s,comp=Z,502nm
LUWI Luwuk 51.97 287 P **P 16 47 03.6 +1.3**
comp=Z,112nm,1.0s,comp=Z,9µm
LUWI Luwuk 51.97 287 *e*P **P 16 47 03.1 +0.8**
comp=Z,92nm,0.4s
BKSI Bulukumba 52.49 281 P **P 16 47 05.7 -0.4**
comp=Z,39nm,0.9s,comp=Z,507nm
GIRL Giralia 52.70 258 P **P 16 47 08.9 +1.4**
baz=53,SNR=5.6
KAPI Kappang 52.95 281 P **P 16 47 10.8 +1.3**
comp=Z,144nm,0.7s,SNR=8.0
KAPI Kappang 52.95 281 P **P 16 47 09.8 +0.3**
comp=Z,10nm,0.5s,baz=141,slow=5.2,SNR=21
KAPI Kappang 52.95 281 *e*P **P 16 47 09.3 -0.2**
comp=Z,64nm,1.4s
SPSI Sidrap Palu 53.37 282 P **P 16 47 12.1 -0.5**
comp=Z,33nm,0.8s,comp=Z,400nm
TTSI Tana Toraja 53.72 283 P **P 16 47 16.5 +1.4**
comp=Z,19nm,1.7s
PCI Palu 54.64 286 P **P 16 47 23.7 +1.9**
comp=Z,90nm,1.3s,comp=Z,1µm
MPSI Mapaga 55.16 287 P **P 16 47 25.7 +0.2**
comp=Z,39nm,0.9s,comp=Z,472nm
VNDA Vanda 55.39 183 P **P 16 47 26.2 0.0**
comp=Z,2.3nm,0.6s,baz=359,slow=7.1,SNR=17
VNDA LR LR 17 07 10.3
comp=Z,138nm,21.9s,baz=18,slow=32
SBA Scott Base 55.57 181 *e*P **P 16 47 28.4 +0.9**
SBA pmax pmax
comp=Z,41nm,1.1s
SBA Scott Base 55.57 181 *e*P **P 16 47 28.4 +0.9**
comp=Z,41nm,1.1s
SRBI Singaraja 55.93 275 P **P 16 47 31.5 +0.5**
comp=Z,59nm,1.0s
CBIJ Chichi jima 56.83 328 P **P 16 47 36.5 -0.5**
JCJ Chichijima 56.83 328 P **P 16 47 36.5 -0.5**
comp=Z,98nm,0.5s,baz=273,slow=19,SNR=6.1
GMJI Gumukmas 57.49 274 P P 16 47 47.2 +5.1
comp=Z,36nm,1.3s
CASY Casey 58.17 205 *e*P **P 16 47 45.4 -0.6**
comp=Z,23nm,0.9s
PWJI Pagerwojo 59.10 274 P **P 16 47 54.0 +0.8**
comp=Z,51nm,0.8s
UGM Wanagama 60.32 274 P **P 16 48 02.2 +0.6**
comp=Z,122nm,1.0s
UGM Wanagama 60.32 274 P **P 16 48 02.2 +0.6**
baz=60,SNR=4.5
KKM Kota Kinabalu 61.10 291 P **P 16 48 07.6 +0.6**
baz=61,SNR=15
KKM Kota Kinabalu 61.10 291 *e*P **P 16 48 07.3 +0.4**
comp=Z,68nm,1.1s
CISI Cisompet, Garu 62.95 273 P **P 16 48 19.3 0.0**
baz=63,SNR=6.0
LEM Lembang 63.40 274 P **P 16 48 23.4 +1.0**
comp=Z,111nm,0.9s
LEM Lembang 63.40 274 P **P 16 48 23.6 +1.3**
baz=64,SNR=5.1
KSM Kuching 64.23 283 P **P 16 48 28.1 +0.4**
baz=64,SNR=16
KSM Kuching 64.23 283 *e*P **P 16 48 27.3 -0.4**
comp=Z,37nm,0.8s
CGJI Cibinong 65.25 273 P **P 16 48 33.5 -0.8**
comp=Z,106nm,0.9s,comp=Z,1µm
MJAR Matsushiro Arr 66.56 331 P **P 16 48 41.3 -0.8**
baz=166,slow=7.7
MJAR LR LR 17 18 02.3
comp=Z,9,1nm,18.7s,baz=145,slow=36
MAJO Matsushiro 66.56 331 ⇑ *i*P **P 16 48 42.1 0.0**
MAJO Matsushiro 66.56 331 *e*P **P 16 48 41.4 -0.7**
comp=Z,10.0nm,0.6s
MAT Matsushiro 66.56 331 P P **16 48 41.3 -0.8**
TPUB Ta-pu 67.24 309 *e*P **P 16 48 45.2 -1.5**
MDSI Maura Dua 67.44 275 P **P 16 48 47.1 -1.1**
comp=Z,43nm,0.9s,comp=Z,557nm
YHNB Yeheng 67.57 311 *e*P **P 16 48 48.7 -0.2**
comp=Z,19nm,0.8s
QSPA South Pole Qui 67.68 180 P **P 16 48 48.6 -0.4**
comp=Z,29nm,0.9s,baz=13,slow=0.7,SNR=130
KSJJU Jeju 70.18 321 P **P 16 49 04.9 +0.2**
SNR=9.0
KSJJU Jeju 70.18 321 P **P 16 49 04.9 +0.2**
SNR=9.0
YUK Yuzh-Kuril'sk 70.18 341 ⇑ *i*P **P 16 49 04.4 0.0**
KSPHA Pohang 70.63 325 P **P 16 49 07.9 +0.5**
SNR=13
KSPHA Pohang 70.63 325 P **P 16 49 07.9 +0.5**
SNR=13
RPN Rapa Nui 70.84 112 LR LR 17 13 39.2
comp=Z,82nm,20.7s,baz=260,slow=30
KSJEU Jeongeup 71.44 323 P **P 16 49 12.3 -0.1**
SNR=7.0
KSJEU Jeongeup 71.44 323 P **P 16 49 12.3 -0.1**
SNR=7.0
KSTBA Taebaek 71.55 325 P **P 16 49 13.6 +0.7**
SNR=12
KSTBA Taebaek 71.55 325 P **P 16 49 13.6 +0.7**
SNR=12
KSBON Boeun 71.70 324 P **P 16 49 13.9 +0.1**
SNR=6.8
KSBON Boeun 71.70 324 P **P 16 49 13.9 +0.1**
SNR=6.8
TJN Taejon 71.85 324 *c i*P **P 16 49 15.1 +0.4**
KSCHJ Chungju 71.88 324 P **P 16 49 14.9 0.0**
SNR=9.4
KSCHJ Chungju 71.88 324 P **P 16 49 14.9 0.0**
SNR=9.4
KSDGY Daegwallycong 72.12 325 P **P 16 49 16.8 +0.4**
SNR=17
KSDGY Daegwallycong 72.12 325 P **P 16 49 16.8 +0.4**
SNR=17
KSJMJ Jumunjin 72.22 326 P **P 16 49 17.2 +0.4**
SNR=11
KSJMJ Jumunjin 72.22 326 P **P 16 49 17.2 +0.4**
SNR=11
KSCEA Cheonan 72.23 324 P **P 16 49 17.3 +0.4**
SNR=18
KSCEA Cheonan 72.23 324 P **P 16 49 17.3 +0.4**
SNR=18
KSRS Korea Array 72.34 325 P **P 16 49 17.8 +0.2**
comp=Z,20nm,0.8s,baz=144,slow=6.0,SNR=86
KSRS Korea Array 72.34 325 P **P 16 49 17.8 +0.2**
KSRS pmax pmax
comp=Z,20nm,0.8s
KSAR Wonju Array Be 72.35 325 P **P 16 49 17.8 +0.1**
KSAR Wonju Array Be 72.35 325 P **P 16 49 17.8 +0.1**
KSICN Icheon 72.49 324 P **P 16 49 19.1 +0.6**
SNR=8.6
KSICN Icheon 72.49 324 P **P 16 49 19.1 +0.6**
SNR=8.6
KSIJA INJE 72.63 325 P **P 16 49 19.9 +0.6**
SNR=19
KSIJA INJE 72.63 325 P **P 16 49 19.9 +0.6**
SNR=19
KSCHC Chuncheon 72.64 325 P **P 16 49 19.9 +0.6**
SNR=10.0
KSSWO Suwon 72.72 324 P **P 16 49 20.3 +0.4**
SNR=8.4
SEHB SEOHWA 72.77 326 P **P 16 49 21.0 +0.9**
SNR=7.3
KSSEO Seoul 72.90 324 P **P 16 49 21.6 +0.7**
SNR=10
KSSEO Seoul 72.90 324 P **P 16 49 21.6 +0.7**
SNR=10
KSCWO Cheorwon 73.02 325 P **P 16 49 22.8 +1.2**
SNR=11
KSCWO Cheorwon 73.02 325 P **P 16 49 22.8 +1.2**
SNR=11
INCN Inchon 73.06 324 *e*P **P 16 49 22.5 +0.7**
comp=Z,17nm,0.7s
KSMUS Musan 73.28 324 P **P 16 49 24.8 +1.6**
SNR=14
YNCB YEONCHEON 73.30 325 P **P 16 49 24.0 +0.7**
SNR=10
KSGAH Ganghwa 73.32 324 P **P 16 49 23.8 +0.5**
SNR=9.7
AMKA Amchitka 73.75 5 *e*P **P 16 49 24.5 -1.1**
comp=Z,25nm,0.8s
YSS Yuzh-Sakhalins 73.77 340 ⇑ *e*P **P 16 49 26.9 +1.1**
YSS pmax pmax
comp=Z,60nm,1.0s
IPM Ipoh 73.89 282 *e*P **P 16 49 27.6 +0.3**
comp=Z,18nm,0.4s
NJ2 Nanjing 73.99 315 *e*P **P 16 49 28.2 +0.8**
NJ2 PMZ
comp=Z,50nm,0.6s
KULM Kulim 74.57 282 *e*P **P 16 49 31.3 +0.1**
comp=Z,21nm,0.7s
VLA Vladivostok 74.73 331 ⇑ *i*P **P 16 49 32.5 +1.1**
VLA pmax pmax
comp=Z,50nm,1.5s
SKLT Songkhla 75.39 284 P **P 16 49 37.5 +1.6**
comp=Z,56nm,0.9s
USRK Ussuriysk Ar. 75.54 332 P **P 16 49 36.3 +0.2**
comp=Z,4.8nm,0.8s,baz=79,slow=6.5,SNR=7.4
USRK LR LR 17 21 13.1
comp=Z,30nm,20.2s,baz=138,slow=34
GSI Gunungsitoli 75.75 277 ⇑ P **P 16 49 39.4 +1.4**
baz=76
PET Petropavlovsk 75.93 352 *i*P **P 16 49 37.8 -0.2**
PET pmax pmax
comp=Z,45nm,1.4s
WHN Wuhan 76.09 312 P **P 16 49 39.9 +0.4**
PETK Petropavlovsk- 76.14 351 P **P 16 49 39.5 +0.2**
comp=Z,20nm,0.8s,baz=153,slow=6.8,SNR=20
PETK LR LR 17 21 21.7
comp=Z,33nm,18.8s,baz=158,slow=34
MAW Mawson 76.36 202 LR LR 17 20 49.7
comp=Z,67nm,18.4s,baz=66,slow=34
TRTT Trang 76.50 284 P **P 16 49 43.4 +1.2**
comp=Z,36nm,1.0s
SKNT Sakolnakorn 76.86 295 P **P 16 49 44.7 +0.6**
comp=Z,44nm,0.9s
SRIT Nakonsritamara 76.90 285 P **P 16 49 46.1 +1.7**
comp=Z,29nm,1.1s
KHON Khomkaen 77.54 294 P **P 16 49 49.8 +1.9**
comp=Z,12nm,0.8s
TIA Tai'an 77.75 318 ⇑ P **P 16 49 48.7 0.0**
TIA PMZ
comp=Z,130nm,0.7s
HABR Khabarovsk 77.75 336 *e*P **P 16 49 47.0 -1.4**
HABR *e* 16 49 56.5
HABR *e**PP pP 16 50 12.5 -11
HABR *e* 16 52 42.7
HABR *e*PPP PPP 16 54 30.3
HABR *e*S **S 16 59 30.6 +1.6**
HABR *e* 16 59 56.1
HABR *e**SS sS 17 00 15.2 -14
HABR *e*SS **SS 17 04 31.6 -1.3**
HABR *e*SSS SSS 17 07 56.7
HABR pmax pmax
comp=Z,5.0nm,1.1s
HABR MLR MLR
comp=Z,153nm,18.0s
SURT Suratani 77.78 285 P **P 16 49 51.5 +2.2**
comp=Z,18nm,1.3s
UNV Unalaska Valle 78.24 13 *e*P **P 16 49 49.8 -1.1**
comp=Z,10nm,0.7s
PBKT Sadao Pong 79.22 293 P **P 16 49 58.9 +1.8**
comp=Z,18nm,1.1s
ENH Enshi 79.36 309 *e*P **P 16 49 57.6 -0.2**
comp=Z,22nm,0.8s
GYA Guiyang 79.42 304 P **P 16 49 59.0 +0.8**
GYA pP **pP 16 50 36.2 +3.0**
GYA sP **sP 16 50 51.0 +3.0**
GYA PP **PP 16 53 04.6 +4.0**
GYA S **S 16 59 48.4 +0.4**
GYA SKS **SKSac 16 59 57.8 -4.1**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,130nm,5.4s
KLR Kul'dur 79.64 335 *e*P P 16 49 55.2 -3.5
UTHA Uthaitani 80.07 291 P **P 16 50 03.6 +1.8**
comp=Z,14nm,0.9s
UTTA Uttaradit 80.11 294 P **P 16 50 03.7 +1.8**
comp=Z,3.1nm,0.8s
BJI Beijing 80.76 320 P **P 16 50 05.3 +0.4**
BJI PP **PP 16 53 12.7 +1.4**
BJI PMZ
comp=Z,34nm,1.0s
BJI PMZ
comp=Z,250nm,5.4s
BJI LN
comp=Z,130nm,30.8s
BJI LE
comp=Z,190nm,28.6s
BJI LZ
comp=Z,290nm,30.1s
SUKH Sukhothai 80.77 293 P **P 16 50 07.3 +1.8**
comp=Z,5.7nm,0.8s
LAMP Lampang 81.24 294 P **P 16 50 10.7 +2.7**
comp=Z,5.7nm,0.9s
CM10 Chiang Mai Arr 81.73 294 ⇓ P **P 16 50 12.5 +1.9**
baz=82
CMAR Chiang Mai Arr 81.80 294 P **P 16 50 12.0 +1.1**
comp=Z,6.6nm,0.8s,baz=136,slow=4.1,SNR=31
CMAR LR LR 17 27 16.5
comp=Z,23nm,20.2s,baz=153,slow=36
CMAR Chiang Mai Arr 81.80 294 *c e*P **P 16 50 12.6 +1.7**
CMAR pmax pmax
comp=Z,7.0nm,0.8s
KMI Kunming 81.80 301 P **P 16 50 13.3 +2.2**
KMI PMZ
comp=Z,20nm,0.7s
XAN Xi'an 81.85 312 P **P 16 50 10.5 -0.4**
XAN PMZ
comp=Z,10.0nm,1.2s
XAN PMZ
comp=Z,41nm,10.9s
CMMT Chiang Mai 81.95 294 P **P 16 50 13.2 +1.5**
comp=Z,29nm,1.4s
CHTO Chiang Mai 81.96 294 P **P 16 50 13.2 +1.5**
comp=Z,70nm,1.1s
CHTO Chiang Mai 81.96 294 *e*P **P 16 50 12.4 +0.7**
CHTO pmax pmax
comp=Z,36nm,1.6s
CHTO Chiang Mai 81.96 294 *e*P **P 16 50 12.4 +0.7**
comp=Z,36nm,1.6s
CMAI Chiengmai2 82.37 295 P **P 16 50 16.2 +2.1**
comp=Z,24nm,1.4s
SYO Syowa Base 82.53 196 ⇓ *e*P **P 16 50 11.4 -2.4**
SYO Syowa Base 82.53 196 ⇓ *e*PcP **P 16 50 14.8 +1.0**
MHMT Maesarieng 82.53 293 P **P 16 50 17.0 +2.3**
comp=Z,11nm,1.1s
MA2 Magadan 83.44 350 *i*P **P 16 50 19.4 +1.0**
CD2 Chengdu 83.89 307 P **P 16 50 21.8 +0.3**
CD2 pP **pP 16 50 58.6 +1.8**
CD2 sP **sP 16 51 14.4 +2.8**
CD2 PP **PP 16 53 37.9 +0.7**
CD2 SKS **SKSac 17 00 30.3 -1.4**
CD2 S **S 17 00 34.8 +1.2**
CD2 PMZ
comp=Z,10.0nm,1.0s
CD2 PMZ
comp=Z,170nm,4.5s
HHC Hu-ho-hao-te 84.03 319 *e*P **P 16 50 22.8 +0.7**
HHC pP **pP 16 51 00.8 +3.4**
HHC SKS **S 17 00 30.3 -4.5**
HHC S **SKKSac 17 00 35.8 -1.9**
HHC sS **sS 17 01 35.0 -0.8**
HHC PMZ
comp=Z,31nm,0.9s
HHC PMZ
comp=Z,170nm,6.2s
HHC LN
comp=Z,60nm,5.5s
HHC LE
comp=Z,120nm,5.5s
OHAK Old Harbor 84.60 18 *e*P **P 16 50 24.3 0.0**
comp=Z,27nm,0.8s
NVL N'lazarevskaya 86.02 187 *e*P **P 16 50 29.6 -1.8**
NVL pmax pmax
comp=Z,10.0nm,0.9s
SEY Seymchan 86.38 351 *c i*P **P 16 50 31.8 -1.3**
LZH Lanzhou 86.46 311 ⇓ P **P 16 50 35.8 +1.5**
LZH pP **pP 16 51 12.0 +2.2**
LZH PMZ
comp=Z,44nm,1.0s
LZH PMZ
comp=Z,140nm,4.0s
VNA1 Neumayer--Stat 87.22 180 P **P 16 50 37.0 -0.2**
N02D Trinity Center 87.64 44 P **P 16 50 41.1 +1.3**
baz=88
BFSC Mount Baldy Ra 87.66 52 P **P 16 50 40.5 +0.4**
baz=88
EDW2 Edwards Air Fo 87.73 51 P **P 16 50 40.9 +0.6**
baz=88
ISA Isabella 87.77 50 P **P 16 50 40.6 +0.1**
baz=88
M02C Callahan 87.77 43 P **P 16 50 40.8 +0.4**
baz=88
LRMC Laurel Mountai 88.24 50 P **P 16 50 43.5 +0.7**
baz=88
WAKR Walker 88.52 47 *e*P **P 16 50 44.6 +0.4**
comp=Z,29nm,1.4s
M04C Macdoel 88.62 43 P **P 16 50 44.4 -0.1**
baz=89
MPMC Manual Prospec 88.66 50 P **P 16 50 45.6 +0.7**
baz=89
BELC Belle Mtn. Jos 88.76 52 P **P 16 50 45.8 +0.5**
baz=89
GSC Goldstone 88.78 51 P **P 16 50 46.0 +0.6**
baz=89
BC3 Big Chuckawall 89.00 53 P **P 16 50 47.4 +1.0**
baz=89
NVAR Mina Array Bea 89.25 48 P **P 16 50 47.9 +0.3**
comp=Z,5.9nm,0.8s,baz=225,slow=8.5,SNR=31
FURC Furnace Creek, 89.30 50 P **P 16 50 48.5 +0.9**
baz=89
I04A Tendick Farm, 89.33 41 P **P 16 50 47.5 -0.2**
baz=90
GMRC Granite Mounta 89.37 52 P **P 16 50 48.9 +0.8**
baz=90
TUQ Turquoise Moun 89.48 51 P **P 16 50 49.4 +0.7**
baz=90
MOD Modoc 89.67 44 *e*P **P 16 50 49.4 0.0**
comp=Z,18nm,1.3s
J05D Fort Rock, OR 89.79 42 P **P 16 50 50.4 +0.5**
baz=90
TPH Tonopah 89.82 48 *e*P **P 16 50 50.5 +0.2**
TPH pmax pmax
comp=Z,5.0nm,0.4s
TPH Tonopah 89.82 48 *e*P **P 16 50 50.5 +0.2**
comp=Z,5.4nm,0.4s
TPNV Topopah Spring 89.96 50 P **P 16 50 51.1 +0.2**
baz=90
BILL Bilibino 90.24 358 ⇓ *e*P **P 16 50 50.8 -0.4**
BILL *e**PP pP 16 51 17.6 -9.4
BILL *e* 16 54 24.1
BILL *e*S S 17 01 41.1 +8.2
BILL pmax pmax
comp=Z,13nm,0.8s
BILL Bilibino 90.24 358 *e*P **P 16 50 50.5 -0.7**
comp=Z,11nm,0.8s
SHPR Sheep Range 90.53 50 *e*P **P 16 50 53.9 +0.3**
comp=Z,19nm,1.7s
YAK Yakutsk 90.53 342 *e*P **P 16 50 51.2 -1.5**
YAK pmax pmax
comp=Z,11nm,0.7s
GTA Gaotai 90.88 313 P **P 16 50 55.8 +0.7**
GTA pP **pP 16 51 31.9 +1.1**
GTA sP **sP 16 51 47.1 +1.6**
GTA SKS **SKSac 17 01 13.4 -0.5**
GTA S **S 17 01 38.8 -1.4**
GTA sS **sS 17 02 42.0 -0.2**
GTA PMZ
comp=Z,20nm,1.3s
GTA PMZ
comp=Z,120nm,6.2s
GTA LN
comp=Z,58nm,14.3s
GTA LE
comp=Z,54nm,14.7s
GTA LZ
comp=Z,63nm,16.9s
BBB Bella Bella 90.91 32 P **P 16 50 54.7 +0.1**
comp=Z,2.6nm,0.7s,baz=236,slow=7.4,SNR=3.0
BMN Battle Mountai 90.95 46 *e*P **P 16 50 54.8 -0.6**
BMN pmax pmax

comp=Z,20nm,1.3s
BMN Battle Mountai 90.95 46 *e*P P 16 50 54.8 -0.6
comp=Z,20nm,1.3s
WVOR Wild Horse Val 91.00 44 *e*P P 16 50 55.3 -0.3
WVOR pmax pmax
comp=Z,18nm,1.4s
WVOR Wild Horse Val 91.00 44 *e*P P 16 50 55.3 -0.3
comp=Z,18nm,1.4s
SONM Songino Array 91.05 322 P P 16 50 56.0 +0.3
comp=Z,8.2nm,0.8s,baz=137,slow=3.7,SNR=40
SONM Songino Array 91.05 322 P P 16 50 56.0 +0.3
R11A Troy Canyon, C 91.08 49 P P 16 50 55.8 -0.3
baz=91
COLA College 92.42 16 *i* P P 16 51 00.2 -1.1
COLA *i* *PP pP 16 51 27.1 -10
COLA pmax pmax
comp=Z,49nm,0.9s
ILAR Eielson Array 92.58 17 P P 16 51 00.4 -1.8
comp=Z,2.9nm,0.7s,baz=236,slow=5.6,SNR=37
ILAR PKKPbc **PKKPdf 17 08 15.5 +0.3**
comp=Z,0.5nm,0.9s,baz=6.8,slow=2.4,SNR=4.1
ILAR LR LR 17 26 12.9
comp=Z,111nm,20.9s,baz=205,slow=31
COLD Coldfoot 93.76 14 *e*P P 16 51 07.0 -0.6
comp=Z,6.6nm,1.1s
EGAK Eagle 94.18 18 *e*P P 16 51 08.3 -1.2
comp=Z,5.2nm,0.9s
HLID Hailey 94.27 44 P P 16 51 10.7 0.0
baz=94
TLY Talaya 94.59 325 *i* P P 16 51 11.2 -0.5
ANMO Albuquerque 96.28 55 *i* P P 16 51 19.2 -0.9
ANMO pmax pmax
comp=Z,47nm,5.1s
TXAR Lajitas Array 96.34 61 P P 16 51 20.9 +0.6
comp=Z,0.3nm,0.8s,baz=222,slow=5.0,SNR=4.1
TXAR PKKPbc **PKKPbc 17 08 04.8 -0.9**
comp=Z,0.4nm,0.6s,baz=96,slow=2.8,SNR=5.1
TXAR LR LR 17 25 42.7
comp=Z,68nm,21.8s,baz=0.0,slow=30
PDAR Pinedale Array 97.14 47 LR LR 17 32 05.8
comp=Z,40nm,18.2s,baz=250,slow=33
WMQ Urumqi 100.96 313 *e*P **Pdif 16 51 42.3 +1.6**
WMQ PMZ
comp=Z,8.0nm,0.8s
WMQ PMZ
comp=Z,75nm,3.6s
MKAR Makanchi Array 105.52 315 Pdiff **Pdif 16 52 01.2 +0.4**
comp=Z,1.4nm,0.7s,baz=87,slow=6.2,SNR=13
ZALV Zalesovo Beam 105.95 322 Pdiff **Pdif 16 52 02.0 -0.5**
comp=Z,1.2nm,0.7s,baz=107,slow=5.0,SNR=6.7
ZALV Zalesovo Beam 105.95 322 P **Pdif 16 52 02.0 -0.5**
BOSA Boshof 119.80 214 PKP **PKPdf 16 56 41.9 +0.4**
comp=Z,6.2nm,0.9s,baz=182,slow=1.4,SNR=7.9
GEYT Alibeck 121.56 302 PKP **PKPdf 16 56 43.1 -1.3**
comp=Z,2.3nm,0.8s,baz=147,slow=6.5,SNR=4.9
KMBO Kilima Mbogo 129.75 248 PKP **PKPdf 16 57 02.1 +1.1**
comp=Z,3.7nm,0.9s,baz=47,slow=1.2,SNR=7.0
KMBO Kilima Mbogo 129.75 248*c i* PKIKP **PKPdf 16 57 03.5 +2.5**
KMBO pmax pmax
comp=Z,4.0nm,0.9s
KIV Kislovodsk 132.99 310 *i* PKIKP **PKPdf 16 57 08.5 +2.5**
KIV pmax pmax
comp=Z,5.0nm,0.8s
FINES FINESS Array B 134.32 338 PKP **PKPdf 16 57 06.5 -1.3**
comp=Z,1.4nm,0.8s,baz=25,slow=5.0,SNR=4.1
FINES FINESS Array B 134.32 338*c i* PKIKP **PKPdf 16 57 10.5 +2.7**
FINES pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 140.46 306 PKhKP PKPpre 16 57 08.8
comp=Z,0.7nm,0.6s,baz=99,slow=3.0,SNR=3.1
BRTR PKP **PKPdf 16 57 17.5 -2.5**
comp=Z,1.1nm,0.6s,baz=87,slow=1.9,SNR=7.3
BRTR PP **PP 17 00 20.8 +0.3**
comp=Z,1.0nm,0.8s,baz=90,slow=6.2,SNR=4.1
TESR Tescani 142.86 319 *i* P **PKPdf 16 57 20.9 -3.0**
PSN Preselentsi 143.11 314 *i* P PKPab 16 57 21.0 +0.8
VRI Vrincioaia 143.11 318 PKIKP PKPbc 16 57 21.4 -0.3
VRI Vrincioaia 143.11 318 *i* P PKPbc 16 57 21.4 -0.3
BURAR Bucovina Array 143.16 321 PKIKP **PKPdf 16 57 23.9 -0.7**
BURAR Bucovina Array 143.16 321 *i* P **PKPdf 16 57 23.9 -0.7**
PLOR Plostina 143.17 318 PKIKP PKPbc 16 57 21.6 -0.3
PLOR Plostina 143.17 318 *i* P PKPbc 16 57 21.6 -0.3
ISR Istrita 143.57 317 PKIKP PKPbc 16 57 23.1 0.0
ISR Istrita 143.57 317 *i* P PKPbc 16 57 23.1 0.0
MLR Muntele Rosu 143.77 318 PKIKP PKPbc 16 57 23.7 -0.1
MLR Muntele Rosu 143.77 318 *i* P PKPbc 16 57 23.7 -0.1
PRD Provadia 143.83 314 PKIKP PKPbc 16 57 24.6 +0.8
PRD Provadia 143.83 314 *i* P PKPbc 16 57 24.6 +0.8
PRD Provadia 143.83 314 *i* P PKPbc 16 57 24.3 +0.5
DOPR Dopca 143.89 319 *i* P PKPbc 16 57 24.5 +0.6
SECR 143.91 317 *i* P PKPbc 16 57 24.4 +0.4
ARCR ARCALIA 143.94 321 *i* P PKPbc 16 57 24.8 +0.8
BMR Baia Mare 144.11 322 PKIKP PKPbc 16 57 25.0 +0.5
BMR Baia Mare 144.11 322 *i* P PKPbc 16 57 25.0 +0.5
UZH Uzhgorod 144.23 325 *e*PKIKP **PKPab 16 57 23.4 -1.0**
VOIR 144.35 318 PKIKP PKPbc 16 57 25.5 0.0
VOIR 144.35 318 *i* P PKPbc 16 57 25.5 0.0
OJC Ojcow 144.51 328 *e*PKP **PKPab 16 57 25.2 -0.3**
OJC Ojcow 144.51 328 *e*PKIKP **PKPab 16 57 25.2 -0.3**
CJR Cluj-Napoca 144.57 321 PKIKP **PKPdf 16 57 26.7 -0.3**
CJR Cluj-Napoca 144.57 321 *i* P **PKPdf 16 57 26.7 -0.3**
ARR Arges 144.64 318 *i* P **PKPdf 16 57 27.1 -0.1**
JMB Yambol 144.67 313 PKIKP PKPbc 16 57 26.5 +0.1
JMB Yambol 144.67 313 *i* P PKPbc 16 57 26.5 +0.1
JMB Yambol 144.67 313 *i* P **PKPdf 16 57 26.9 -0.3**
JMB Yambol 144.67 313 P **PKPab 16 57 26.2 -0.1**
JMB Yambol 144.67 313 P **PKPab 16 57 26.2 -0.1**
NIE Niedzica 144.77 327 *e*PKP PKPbc 16 57 26.9 +0.3
NIE Niedzica 144.77 327 *e*PKIKP PKPbc 16 57 26.9 +0.3
SZH Strazhica 144.78 314 *i* P **PKPab 16 57 26.1 -0.6**
EDRB Edirne 144.80 312 P **PKPab 16 57 26.3 -0.5**
EDRB Edirne 144.80 312 P **PKPab 16 57 26.3 -0.5**
HUMR Humele 144.83 317 *i* P **PKPdf 16 57 27.4 0.0**
DRGR 145.04 322 PKIKP **PKPbc 16 57 27.6 0.0**
DRGR 145.04 322 *i* P **PKPbc 16 57 27.6 0.0**
LOT Lotru 145.13 319 *i* P **PKPbc 16 57 28.0 +0.1**
DEV Deva 145.42 320 PKPK2 **PKPdf 16 57 28.0 -0.4**
DEV Deva 145.42 320 *i* P **PKPdf 16 57 28.0 -0.4**
ARG Arkhangelos 145.51 302 PKIKP **PKPdf 16 57 28.6 -0.3**
ARG Arkhangelos 145.51 302 *e*P **PKPab 16 57 30.0 +0.3**
ARG Arkhangelos 145.51 302 P **PKPdf 16 57 28.6 -0.3**
ARG Arkhangelos 145.51 302 P **PKPdf 16 57 28.6 -0.3**
DIM Dimitrovgrad 145.55 313 *i* P **PKPab 16 57 29.5 -0.1**
OKC Ostrava-Krasne 145.56 329 *e*PKP **PKPdf 16 57 28.2 -0.3**
OKC *ex* x 16 57 31.5
OKC Ostrava-Krasne 145.56 329 *e*PKIKP **PKPdf 16 57 28.2 -0.3**
OKC *e* 16 57 31.5
ALN Alexandroupoli 145.65 311 PKIKP **PKPdf 16 57 28.2 -0.7**
ALN Alexandroupoli 145.65 311 *e*P **PKPdf 16 57 27.5 -1.4**
ALN Alexandroupoli 145.65 311 P **PKPdf 16 57 28.2 -0.7**
ALN Alexandroupoli 145.65 311 P **PKPdf 16 57 28.2 -0.7**
KSP Ksiaz 145.69 332 *e*PKP **PKPbc 16 57 29.4 +0.1**
KSP Ksiaz 145.69 332 *e*PKP2 **PKPbc 16 57 29.4 +0.1**
GZR Gura Zlata 145.76 320 *i* P **PKPdf 16 57 29.4 +0.3**
KDZ Kurdzhali 145.79 312 PKPK2 **PKPbc 16 57 30.0 0.0**
KDZ Kurdzhali 145.79 312 *i* P **PKPbc 16 57 30.0 0.0**
MORC Moravsky Berou 145.88 330 PKPK2 **PKPbc 16 57 30.1 +0.1**
MORC Moravsky Berou 145.88 330 *i* P **PKPbc 16 57 30.1 +0.1**
MORC Moravsky Berou 145.88 330 *e*PKPdf **PKPdf 16 57 29.3 +0.1**
RDO Rodhopi 145.91 311 *e*P **PKPdf 16 57 29.5 +0.1**
PSZ Piszkesteto 145.93 325 PKPK2 **PKPab 16 57 30.7 -0.3**
PSZ Piszkesteto 145.93 325 *i* P **PKPab 16 57 30.7 -0.3**
PSZ Piszkesteto 145.93 325 *e*PKPbc **PKPbc 16 57 30.1 -0.1**
SIRR Siria 145.94 322 *i* P **PKPdf 16 57 29.5 +0.2**
KRLC Kraliky 146.02 331 *e*PKP **PKPbc 16 57 30.2 -0.2**
KRLC *ex* x 16 57 58.7
KRLC Kraliky 146.02 331 *e*PKP2 **PKPbc 16 57 30.2 -0.2**
DPC Dobruska-Polom 146.03 331 *e*PKP **PKPbc 16 57 30.2 -0.3**
DPC *ex* x 16 57 35.4
DPC *ex* x 16 57 59.0
DPC *ep*PKP **pPKPdf 16 58 01.4 -5.4**
DPC *ex* x 16 58 08.1
DPC Dobruska-Polom 146.03 331 *e*PKP2 **PKPbc 16 57 30.2 -0.3**
UPC Upice 146.05 332 *e*PKP **PKPdf 16 57 29.9 +0.5**
UPC *ex* x 16 57 35.1
UPC *ex* x 16 58 00.0
UPC Upice 146.05 332 *e*PKP2 **PKPdf 16 57 29.9 +0.5**
PRK Paraskevi 146.07 308 PKP2 **PKPbc 16 57 30.5 -0.3**
PRK Paraskevi 146.07 308 *e*P **PKPbc 16 57 30.5 -0.3**
PRK Paraskevi 146.07 308 P **PKPbc 16 57 30.5 -0.3**
PRK Paraskevi 146.07 308 P **PKPbc 16 57 30.5 -0.3**
MPEP Malo Peshtene 146.17 316 *i* P **PKPbc 16 57 30.5 -0.5**
SMTH Samothraki Isl 146.17 310 *e*P **PKPdf 16 57 30.5 +0.6**
SMTH Samothraki Isl 146.17 310 P **PKPdf 16 57 27.9 -2.0**
SMTH Samothraki Isl 146.17 310 P **PKPdf 16 57 27.9 -2.0**
NISR Nisiros 146.19 303 *e*P **PKPab 16 57 37.0 +4.8**
RZN Rozhen 146.25 313 *i* P **PKPab 16 57 32.3 -0.3**
PGB Panagyurishte 146.26 314 *i* P **PKPab 16 57 33.0 +0.6**
BZS Buzias 146.33 321 PKPK2 **PKPab 16 57 33.2 +0.7**
BZS Buzias 146.33 321 *i* P **PKPab 16 57 33.2 +0.7**
SIGR SIGRI 146.38 308 *e*P **PKPdf 16 57 28.0 -2.2**
SIGR SIGRI 146.38 308 P **PKPdf 16 57 29.7 -0.5**
SIGR SIGRI 146.38 308 P **PKPdf 16 57 29.7 -0.5**
KARP Karpathos 146.43 301 *e*P **PKPbc 16 57 32.5 +0.4**
CHOS Chios island 146.50 306 *e*P **PKPbc 16 57 31.5 -0.8**
LIA Limnos Island 146.63 309 *e*P **PKPdf 16 57 31.5 +0.9**
LIA Limnos Island 146.63 309 P **PKPbc 16 57 31.9 -0.5**
LIA Limnos Island 146.63 309 P **PKPbc 16 57 31.9 -0.5**
VRAC Vranov 146.65 330 PKPK2 **PKPbc 16 57 32.1 -0.1**
VRAC Vranov 146.65 330 *i* P **PKPbc 16 57 32.1 -0.1**
BRG Berggiesshubel 146.65 334 *e*PKP **PKPbc 16 57 31.3 -0.9**
comp=Z,12nm,0.8s
BRG Berggiesshubel 146.65 334 *e*PKPbc **PKPbc 16 57 31.6 -0.6**
BRG Berggiesshubel 146.65 334 *e*PKIKP **PKPbc 16 57 31.3 -0.9**
BRG pmax pmax
comp=Z,12nm,0.8s
PVCC Panska Ves 146.66 333 *e*PKP **PKPbc 16 57 31.9 -0.3**
PVCC *ex* x 16 57 40.2
PVCC *ep*PKP **pPKPdf 16 58 04.1 -3.7**
PVCC Panska Ves 146.66 333 *e*PKP2 **PKPbc 16 57 31.9 -0.3**
KAVA Kavala 146.68 312 *e*P **PKPdf 16 57 31.5 +0.8**
KAVA Kavala 146.68 312 P **PKPdf 16 57 30.5 -0.2**
KAVA Kavala 146.68 312 P **PKPdf 16 57 30.5 -0.2**
CLL Collm 146.69 335 *e*PKPbc **PKPbc 16 57 31.5 -0.7**
CLL Collm 146.69 335 *i* PKP2 **PKPbc 16 57 31.7 -0.5**
CLL pmax pmax
comp=Z,15nm,0.8s
CLL Collm 146.69 335 *e*PKPdf **PKPdf 16 57 31.0 +0.6**
comp=Z,4.0nm,0.8s
CLL *i* PKPbc **PKPbc 16 57 31.7 -0.5**
comp=Z,15nm,0.8s
CLL *i* PKPab **PKPab 16 57 33.2 -0.5**
comp=Z,20nm,0.7s
CLL *i* 16 57 36.9
CLL *e*PP **PP 17 00 58.0 +1.4**
FBE Freiberg 146.85 335 *e*PKPbc **PKPbc 16 57 32.4 -0.3**
VTS Vitosha 146.87 315 PKPK2 **PKPbc 16 57 33.2 -0.1**
VTS Vitosha 146.87 315 *i* P **PKPbc 16 57 33.2 -0.1**
VTS Vitosha 146.87 315 *i* P **PKPdf 16 57 31.7 +0.5**
VTS Vitosha 146.87 315 P **PKPdf 16 57 31.5 +0.3**
VTS Vitosha 146.87 315 P **PKPdf 16 57 31.5 +0.3**
MMB Musomiste 146.97 313 PKPK2 **PKPbc 16 57 33.2 -0.2**
MMB Musomiste 146.97 313 *i* P **PKPbc 16 57 33.2 -0.2**
MMB Musomiste 146.97 313 *i* P **PKPbc 16 57 32.5 -0.9**
NVR Nevrokopi 146.98 312 *e*P **PKPbc 16 57 32.5 -1.0**
NVR Nevrokopi 146.98 312 P **PKPdf 16 57 32.2 +0.9**
NVR Nevrokopi 146.98 312 P **PKPdf 16 57 32.2 +0.9**
GOPC GO Pecny, Ondr 147.03 332 *e*PKP **PKPbc 16 57 33.0 -0.3**
GOPC *ex* x 16 57 35.1
GOPC AMS AMS 17 57 40.0
comp=Z,100nm,20.6s
PRA Prague 147.06 333 *e*PKP **PKPbc 16 57 33.0 -0.3**
PRA Prague 147.06 333 *e*PKP2 **PKPbc 16 57 33.0 -0.3**
PRU Pruhonice 147.07 332 *e*PKP **PKPbc 16 57 32.8 -0.6**
PRU *ex* x 16 57 35.4
PRU *ep*PKP **pPKPdf 16 58 04.5 -4.0**
PRU Pruhonice 147.07 332 *e*PKP2 **PKPbc 16 57 32.8 -0.6**
TREC Trest 147.17 331 *e*PKP **PKPbc 16 57 33.2 -0.5**
TREC *ex* x 16 57 35.9
TREC *ep*PKP **pPKPdf 16 58 05.0 -3.7**
TREC AMS AMS 18 00 10.0
comp=Z,100nm,18.4s
TREC Trest 147.17 331 *e*PKP2 **PKPbc 16 57 33.2 -0.5**
TREC MLR MLR
comp=Z,100nm,18.4s
CLZ Clausthal 147.21 338 *e*PKPbc **PKPbc 16 57 33.3 -0.5**
NEUB Neuenburg 147.23 336 *e*PKPbc **PKPbc 16 57 33.2 -0.6**
SRS Serrai 147.26 312 PKIKP **PKPdf 16 57 32.6 +0.9**
SRS Serrai 147.26 312 *e*P **PKPbc 16 57 33.5 -0.7**
SRS Serrai 147.26 312 P **PKPdf 16 57 32.6 +0.9**
SRS Serrai 147.26 312 P **PKPdf 16 57 32.6 +0.9**
ZKR Zakros 147.28 301 *e*P **PKPbc 16 57 35.0 +0.6**
KKB Krupnik 147.28 314 *i* P **PKPdf 16 57 32.8 +1.1**
APE Apeiranthos 147.30 304 *e*P PKPab 16 57 43.5 +6.8
OUR Ouranopolis 147.31 311 PKIKP **PKPdf 16 57 32.8 +1.0**
OUR Ouranopolis 147.31 311 *e*P **PKPdf 16 57 32.5 +0.7**
OUR Ouranopolis 147.31 311 P **PKPdf 16 57 32.8 +1.0**
OUR Ouranopolis 147.31 311 P **PKPdf 16 57 32.8 +1.0**
SOH Sokhos 147.55 312 *e*P **PKPab 16 57 37.0 -0.5**
TANN Tannenbergstha 147.60 335 *e*PKPbc **PKPbc 16 57 34.4 -0.5**
WERD Werda 147.64 335 *e*PKPbc **PKPbc 16 57 34.4 -0.5**
IBBN Ibbenburen 147.64 341 *e*PKPbc **PKPbc 16 57 34.1 -0.7**
PLN Plauen 147.66 335 *e*PKPbc **PKPbc 16 57 34.4 -0.6**
PLG Polygyros 147.67 311 *e*P **PKPbc 16 57 34.5 -0.9**
PAIG Paliouri 147.69 310 *e*P **PKPbc 16 57 34.0 -1.4**
GUNZ Gunzen 147.69 335 *e*PKPbc **PKPbc 16 57 34.8 -0.3**
KNT Kendrikon 147.72 313 PKIKP **PKPdf 16 57 33.5 +1.0**
KNT Kendrikon 147.72 313 *e*P **PKPab 16 57 37.5 -0.6**
KNT Kendrikon 147.72 313 P **PKPdf 16 57 33.5 +1.0**
KNT Kendrikon 147.72 313 P **PKPdf 16 57 33.5 +1.0**
NPS Neapolis 147.72 301 *e*P **PKPbc 16 57 36.0 +0.3**
WERN Wernitzgruen 147.74 335 *e*PKPbc **PKPbc 16 57 35.0 -0.2**
MOX Moxa 147.75 336 *e*PKPbc **PKPbc 16 57 34.6 -0.6**
NKC Novy Kostel 147.75 335 *e*PKP **PKPbc 16 57 34.7 -0.6**
NKC *ex* x 16 57 37.6
NKC Novy Kostel 147.75 335 *e*PKP2 **PKPbc 16 57 34.7 -0.6**
HORT Hortiatis 147.82 312 *e*P **PKPdf 16 57 33.0 +0.3**
AOS Alonnisos 147.83 309 *e*P **PKPdf 16 57 34.0 +1.3**
AOS Alonnisos 147.83 309 P **PKPdf 16 57 33.4 +0.7**
AOS Alonnisos 147.83 309 P **PKPdf 16 57 33.4 +0.7**
LAST Lasithi 147.85 301 *e*P **PKPbc 16 57 36.0 -0.1**
THE Thessaloniki 147.90 312 *e*P **PKPbc 16 57 35.0 -0.9**
CONA Conrad Observa 147.97 329 *i* PKPbc **PKPbc 16 57 35.7 -0.3**
comp=Z,19nm,1.8s
EREA Eretria 148.06 307 *e*P **PKPbc 16 57 36.0 -0.5**
MANZ Manzenberg 148.08 335 *e*PKPbc **PKPbc 16 57 35.6 -0.5**
DIVS Divibare 148.13 320 *i* P **PKPbc 16 57 36.3 -0.2**
DIVS Divibare 148.13 320 P **PKPdf 16 57 30.6 -2.5**
KHC Kasperske Hory 148.13 332 *e*PKP **PKPbc 16 57 35.4 -0.9**
KHC *ex* x 16 57 39.4
KHC *ep*PKP **pPKPdf 16 58 06.2 -4.2**
KHC *ex* x 16 58 15.2
KHC Kasperske Hory 148.13 332 *e*PKIKP **PKPbc 16 57 35.4 -0.9**
KHC *e* 16 57 39.4
KHC *e* 16 58 06.2
KHC *e* 16 58 15.2
KHC Kasperske Hory 148.13 332 *e*PKPbc **PKPbc 16 57 35.3 -1.1**
KHC *e*PKPab **PKPab 16 57 39.4 -0.2**
GRG Griva 148.14 313 *e*P **PKPbc 16 57 35.0 -1.6**
ROTZ Rotzenmuhle 148.21 334 *e*PKPbc **PKPbc 16 57 36.2 -0.3**
XOR Xorichti 148.25 309 *e*P **PKPbc 16 57 35.5 -1.5**
XOR Xorichti 148.25 309 P **PKPbc 16 57 35.4 -1.5**
XOR Xorichti 148.25 309 P **PKPbc 16 57 35.4 -1.5**
NEO Neokhori 148.25 309 *e*P **PKPbc 16 57 35.5 -1.4**
MHLO Agia Marina, M 148.28 304 *e*P **PKPdf 16 57 34.5 +1.0**
GEC2 GERESS Array S 148.29 332 *e*PKPbc **PKPbc 16 57 36.2 -0.6**
GERES GERESS Array B 148.29 332 PKPbc **PKPbc 16 57 36.1 -0.8**
comp=Z,7.4nm,0.8s,baz=45,slow=2.6,SNR=31
ATHU Athens Univers 148.33 307 P **PKPbc 16 57 36.0 -1.2**
ATHU Athens Univers 148.33 307 P **PKPbc 16 57 36.0 -1.2**
ATH Athens Observa 148.38 307 *e*P **PKPdf 16 57 35.0 +1.4**
SIVA Sivas 148.42 301 *e*P **PKPbc 16 57 38.0 +0.6**
WET Wettzell 148.42 333 *e*PKPbc **PKPbc 16 57 36.6 -0.5**
SMIA Simia 148.43 309 *e*P **PKPbc 16 57 36.5 -0.9**
LIT Litokhoron 148.45 311 PKIKP **PKPbc 16 57 36.5 -0.9**
LIT Litokhoron 148.45 311 *e*P **PKPab 16 57 40.5 -0.6**
LIT Litokhoron 148.45 311 P **PKPbc 16 57 36.5 -0.9**
LIT Litokhoron 148.45 311 P **PKPbc 16 57 36.5 -0.9**
VIL2 Platees 148.63 307 *e*P **PKPdf 16 57 34.5 +0.4**
ATAL Atalanti 148.63 308 P **PKPbc 16 57 36.4 -1.5**
ATAL Atalanti 148.63 308 P **PKPbc 16 57 36.4 -1.5**
LKR Lokris 148.66 308 *e*P **PKPbc 16 57 37.0 -1.0**
MOA Molln 148.78 330 *i* PKPbc **PKPbc 16 57 37.5 -0.5**
comp=Z,6.3nm,0.9s
VAM Vamos 148.80 302 *e*P **PKPbc 16 57 39.0 +0.6**
KZN Kozani 148.86 312 *e*P **PKPbc 16 57 39.0 +0.5**
DID Didima 148.90 306 *e*P **PKPbc 16 57 37.0 -1.6**
DID Didima 148.90 306 P **PKPbc 16 57 36.7 -1.9**
DID Didima 148.90 306 P **PKPbc 16 57 36.7 -1.9**
FNA Florina 148.92 313 PKIKP **PKPbc 16 57 37.7 -0.9**
FNA Florina 148.92 313 *e*P **PKPbc 16 57 37.5 -1.1**
FNA Florina 148.92 313 P **PKPdf 16 57 37.7 -0.9**
FNA Florina 148.92 313 P **PKPbc 16 57 37.7 -0.9**
LTK Loutraki 148.92 307 *e*P **PKPbc 16 57 37.0 -1.7**
DIDY Didyma 148.93 306 *e*P **PKPdf 16 57 36.5 +1.8**
DIDY Didyma 148.93 306 P **PKPdf 16 57 36.7 +2.0**
KRND KRANIDI 149.00 306 *e*P **PKPbc 16 57 38.0 -0.9**
GVD Gavdhos 149.04 301 *e*P **PKPbc 16 57 39.0 0.0**
DESF Desfina 149.09 308 *e*P PKPpre 16 57 29.5
DSF Desfina 149.10 308 *e*P **PKPbc 16 57 37.5 -1.6**
DSF Desfina 149.10 308 P **PKPbc 16 57 37.9 -1.2**
DSF Desfina 149.10 308 P **PKPbc 16 57 37.9 -1.2**
MAKR Makrakomi, Fth 149.15 309 *e*P **PKPbc 16 57 38.5 -0.7**
MAKR Makrakomi, Fth 149.15 309 P **PKPbc 16 57 39.1 -0.1**
MAKR Makrakomi, Fth 149.15 309 P **PKPbc 16 57 39.1 -0.1**
PERS Pernice 149.23 327 *i* PKPbc **PKPbc 16 57 37.6 -1.6**
SOKA Soboth 149.24 326 *i* PKPbc **PKPbc 16 57 37.9 -1.3**
comp=Z,15nm,1.8s
NEST Nestorio 149.31 313 *e*P **PKPbc 16 57 39.0 -0.6**
NEST Nestorio 149.31 313 P **PKPbc 16 57 39.1 -0.6**
ANKY Antikythira Is 149.37 303 *e*P **PKPbc 16 57 40.0 +0.2**
KALE Kalithea 149.38 308 *e*P **PKPbc 16 57 39.5 -0.4**
VLI Veliai 149.39 305 *e*P **PKPbc 16 57 38.0 -1.8**
GUR Goura 149.41 307 *e*P **PKPbc 16 57 39.0 -1.0**
GUR Goura 149.41 307 P **PKPbc 16 57 38.6 -1.4**
GUR Goura 149.41 307 P **PKPbc 16 57 38.6 -1.4**
EVR Evrytania 149.42 310 *e*P **PKPbc 16 57 39.5 -0.5**
EVR Evrytania 149.42 310 P **PKPbc 16 57 39.7 -0.3**
EVR Evrytania 149.42 310 P **PKPbc 16 57 39.7 -0.3**
KLV Kalavryta, Ach 149.51 308 *e*P **PKPbc 16 57 39.5 -0.7**
KLV Kalavryta, Ach 149.51 308 P **PKPbc 16 57 38.8 -1.4**
KLV Kalavryta, Ach 149.51 308 P **PKPbc 16 57 38.8 -1.4**
EFP Efpalio 149.54 309 *e*P **PKPbc 16 57 40.5 +0.4**
EFP Efpalio 149.54 309 P **PKPbc 16 57 39.6 -0.5**
LAKA Lakka 149.56 308 *e*P **PKPbc 16 57 41.0 +0.7**
LAKA Lakka 149.56 308 P **PKPbc 16 57 39.8 -0.5**
LAKA Lakka 149.56 308 P **PKPbc 16 57 39.8 -0.5**
VLX Vlachokerasia 149.58 306 *e*P **PKPbc 16 57 38.5 -1.9**
JAN Janina 149.78 311 *e*P **PKPbc 16 57 40.5 -0.3**
DSL Palaion Diasel 149.83 310 *e*P **PKPbc 16 57 40.5 -0.4**
DRO Drossia 149.87 308 *e*P **PKPab 16 57 48.5 +1.5**
BOJS Bojanci 149.93 326 *i* PKPbc **PKPbc 16 57 40.7 -0.2**
VISS Visnje 149.94 327 *e*PKPbc **PKPbc 16 57 40.1 -0.8**
MYKA Terra Mystica 149.95 329 *i* PKPbc **PKPbc 16 57 39.5 -1.5**
comp=Z,6.0nm,0.8s
ITM Ithomi 149.99 306 *e*P **PKPbc 16 57 40.5 -0.8**
PDO Prodromos 149.99 309 *e*P **PKPbc 16 57 41.5 +0.2**
PDO Prodromos 149.99 309 P **PKPbc 16 57 40.7 -0.6**
AMT Artemida-Makis 150.02 307 *e*P **PKPbc 16 57 44.5 +3.1**
IGT Igoumenitsa 150.19 312 *e*P **PKPbc 16 57 41.5 -0.2**
SGD Sagiada 150.23 312 *e*P **PKPbc 16 57 41.5 -0.3**
PYL PYLOS 150.23 306 *e*P **PKPbc 16 57 40.5 -1.4**
JAVS Javornik 150.27 327 *i* PKPbc **PKPbc 16 57 41.0 -0.8**
LKD2 Lefkada island 150.29 310 *e*P **PKPbc 16 57 41.5 -0.5**
ABTA Abfaltersbach 150.40 330 PKPbc **PKPbc 16 57 39.5 -2.5**
comp=Z,12nm,1.3s
WTTA Wattenberg 150.40 332 *i* PKPbc **PKPbc 16 57 41.0 -1.2**
comp=Z,12nm,1.1s
EXG Exogi 150.44 309 *e*P **PKPbc 16 57 41.5 -0.8**
WLF Walferdange 150.45 341 PKPbc **PKPbc 16 57 42.8 +0.8**
WLF PKPab **PKPab 16 57 48.5 -0.4**
KEK Kerkira 150.48 312 *e*P **PKPab 16 57 50.5 +1.1**
DOU Dourbes 150.52 343 PKPbc **PKPbc 16 57 41.2 -0.9**
MOTA Moosalm 150.57 332 PKPbc **PKPbc 16 57 41.4 -1.1**
comp=Z,7.7nm,1.0s
MOTA PKPab **PKPab 16 57 48.2 -1.5**
comp=Z,7.8nm,0.6s
VLS Valsamata 150.59 309 *e*P **PKPab 16 57 48.0 -2.0**
SFD Strofades 150.64 307 *e*P **PKPbc 16 57 44.0 +1.2**
ZKS Zakynthos 150.64 308 *e*P **PKPab 16 57 42.5 -0.3**
BFO Black Forest 150.87 337 *c i* PKIKP **PKPbc 16 57 44.2 +1.1**
BFO Black Forest 150.87 337 PKPab **PKPab 16 57 50.0 -0.7**
FETA Feichten 150.98 332 PKPbc **PKPbc 16 57 43.1 -0.4**
comp=Z,7.4nm,0.9s
FETA PKPab **PKPab 16 57 50.9 -0.6**
comp=Z,14nm,0.9s
DAVA Damuels 151.12 334 *i* PKPab **PKPab 16 57 51.6 -0.4**
comp=Z,12nm,0.8s,SNR=5.8
TIP Timpagrande 152.80 314 *e*PKPab **PKPab 16 57 59.8 +0.6**
CUC Castrocucco 152.99 316 *e*PKPab **PKPab 16 57 59.5 -0.5**
CEL Celeste 153.84 313 *e*PKPab **PKPab 16 58 03.8 +0.1**
KEST Kesra 159.61 315 PKPab **PKPab 16 58 28.1 -0.5**
comp=Z,4.9nm,0.9s,baz=348,slow=3.4,SNR=9.3
ESDC Sonseca Array 162.36 349 PKPab **PKPab 16 58 39.4 -0.9**
comp=Z,2.0nm,0.7s,baz=13,slow=3.3,SNR=11
TORD Torodi Ar. Bea 166.71 228 PKP **PKPdf 16 57 56.7 -0.1**
comp=Z,1.3nm,1.1s,baz=124,slow=0.9,SNR=3.7
TORD PKPab **PKPab 16 59 00.3 +0.2**
comp=Z,6.1nm,0.9s,baz=116,slow=3.9,SNR=20

IDC 06 16:47:08.1±1.9, 30.78°S×178.24°W, h135km±13km, mb3.7/4, mb1 3.8/5, mb1mx3.4/39, mbtmp4.1/5, Error ellipse: s-maj=47.6km s-min=15.7km az=109.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.54**	**10**	P	Pn	16 47 37.1	0.0
	200nm,0.3s,baz=102,slow=19,SNR=4.8						
RAO				S	Sn	16 47 59.1	0.0
	281nm,0.3s,baz=142,slow=20,SNR=4.0						
URZ	**Urewera**	**8.39**	**206**	P	Pn	16 49 06.3	-0.4
	0.1nm,0.3s,baz=60,slow=8.1,SNR=4.8						
URZ				S	Sn	16 50 40.4	+0.5
	1.3nm,0.3s,baz=53,slow=19,SNR=10						
CTA	**Charters Tower**	**33.66**	**280**	P	P	16 53 36.8	+0.6
	2.2nm,0.5s,baz=97,slow=13,SNR=3.8						
STKA	**Stephens Creek**	**34.20**	**258**	P	P	16 53 41.4	+0.7
	1.3nm,0.5s,baz=96,slow=7.2,SNR=6.4						
ASAR	**Alice Springs**	**42.89**	**267**	P	P	16 54 53.0	-0.4
	0.6nm,0.5s,baz=104,slow=7.5,SNR=22						
WRA	**Warramunga Arr**	**43.91**	**273**	P	P	16 55 00.8	-0.8
	1.3nm,0.3s,baz=110,slow=8.1,SNR=16						
FINES	**FINESS Array B**	**145.43**	**340**	PKPbc	PKPdf	17 06 28.7	-0.6
	0.8nm,0.3s,baz=54,slow=3.3,SNR=8.3						

JMA 06 16:51:03.3±0.1, 29.76°N×141.71°E, h51km, M3.8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.69**	**171**	P	Pn	16 51 45.1	+1.0
BSO1	**Boso 1**	**4.92**	**353**	P	Pn	16 52 16.9	+3.0
BSO1				*e*

BSWZ				AML	AML	16 54 33.6			
OGWZ	**Otaki Gorge**	**0.81**	**83**	⇑PN	Pn	16 54 20.4	+0.5		
CMWZ	**Cape Campbell**	**0.83**	**174**	PN	Pn	16 54 21.0	+0.9		
CMWZ				AML	AML	16 54 40.0			
CMWZ				AML	AML	16 54 42.0			
MSWZ	**Moikau Station**	**0.99**	**120**	PN	Pn	16 54 21.7	-0.5		
MSWZ				AML	AML	16 54 41.1			
MSWZ				AML	AML	16 54 41.6			
HOWZ	**Holdsworth Sta**	**1.07**	**89**	⇑PN	Pn	16 54 23.0	-0.2		
PLWZ	**Palliser**	**1.08**	**127**	PN	Pn	16 54 22.7	-0.6		
MTW	**Mount Morrison**	**1.08**	**103**	PN	Pn	16 54 23.0	-0.4		
MTW				AML	AML	16 54 43.2			
MTW				AML	AML	16 54 43.3			
PAWZ	**Paruwai Farm**	**1.10**	**115**	PN	Pn	16 54 23.2	-0.3		
PAWZ				AML	AML	16 54 43.8			
PAWZ				AML	AML	16 54 45.7			
MRZ	**Mangatainoka R**	**1.15**	**77**	⇑PN	Pn	16 54 24.0	-0.2		
MRZ				AML	AML	16 54 46.0			
MRZ				AML	AML	16 54 46.6			
QRZ	**Quartz Range**	**1.20**	**274**	⇑PN	Pn	16 54 24.7	-0.2		
THZ	**Tophouse**	**1.23**	**227**	⇓PN	Pn	16 54 25.3	-0.1		
TRWZ	**Traveller**	**1.29**	**112**	PN	Pn	16 54 27.4	+1.4		
TRWZ				AML	AML	16 54 50.7			
TRWZ				AML	AML	16 54 53.0			
WAZ	**Wanganui**	**1.35**	**30**	⇓PN	Pn	16 54 28.3	+1.4		
TIWZ	**Tintock**	**1.36**	**84**	PN	Pn	16 54 26.5	-0.6		
TIWZ				AML	AML	16 54 49.9			
TIWZ				AML	AML	16 54 51.9			
POWZ	**Post Office Ro**	**1.37**	**68**	PN	Pn	16 54 26.8	-0.4		
PRWZ	**Pori Road**	**1.47**	**76**	PN	Pn	16 54 28.1	-0.3		
LREZ	**Lake Rotokare**	**1.48**	**9**	PN	Pn	16 54 30.7	+2.0		
KHZ	**Kahutara**	**1.55**	**196**	⇑PN	Pn	16 54 29.3	-0.3		
KHEZ	**Kahui Hut**	**1.63**	**358**	PN	Pn	16 54 33.3	+2.6		
BFZ	**Birch Farm**	**1.64**	**82**	PN	Pn	16 54 30.0	-0.8		
NEZ	**North Egmont**	**1.65**	**360**	PN	Pn	16 54 33.9	+2.8		
TSZ	**Takapari Road**	**1.66**	**59**	PN	Pn	16 54 32.2	+1.2		
TSZ				AML	AML	16 55 01.2			
DVHZ	**Dannevirke**	**1.69**	**69**	PN	Pn	16 54 30.4	-1.0		
PKE	**Pukeiti**	**1.73**	**357**	PN	Pn	16 54 33.7	+1.7		
ANWZ	**Angora Road**	**1.86**	**76**	PN	Pn	16 54 32.9	-0.8		
VRZ	**Vera Road**	**1.87**	**16**	PN	Pn	16 54 35.0	+1.2		
PNHZ	**Pukenui**	**1.89**	**58**	PN	Pn	16 54 33.3	-0.9		
DSZ	**Denniston Nort**	**1.92**	**244**	PN	Pn	16 54 34.4	-0.2		
WNVZ	**Wahianoa**	**1.96**	**36**	PN	Pn	16 54 36.6	+1.2		
TRVZ	**Turoa**	**1.96**	**35**	PN	Pn	16 54 36.8	+1.3		
MOVZ	**Moawhango**	**1.97**	**40**	PN	Pn	16 54 35.9	+0.5		
WHVZ	**Whangaehu Hut**	**2.00**	**35**	PN	Pn	16 54 36.6	+0.7		
FWVZ	**Far West T-bar**	**2.00**	**34**	PN	Pn	16 54 37.2	+1.2		
TUVZ	**Tukino**	**2.04**	**36**	PN	Pn	16 54 37.8	+1.4		
WPVZ	**Whakapapa**	**2.04**	**33**	PN	Pn	16 54 38.0	+1.6		
COVZ	**Chateau Observ**	**2.05**	**33**	PN	Pn	16 54 38.2	+1.7		
BHHZ	**Black Hill Sta**	**2.08**	**47**	PN	Pn	16 54 36.8	0.0		
OTVZ	**Oturere**	**2.13**	**35**	PN	Pn	16 54 39.8	+2.2		
LTZ	**Lake Taylor**	**2.31**	**216**	PN	Pn	16 54 39.0	-0.9		
HIZ	**Hauiti**	**2.48**	**14**	PN	Pn	16 54 43.3	+1.2		
OXZ	**Oxford**	**2.85**	**212**	PN	Pn	16 54 45.2	-2.0		
CRLZ	**Canterbury Las**	**2.87**	**202**	PN	Pn	16 54 46.1	-1.4		
MQZ	**McQueen's Vall**	**2.98**	**201**	PN	Pn	16 54 47.0	-2.0		
WVZ	**Waitaha Valley**	**3.31**	**228**	PN	Pn	16 54 52.5	-0.9		
MKAZ	**Moumakai**	**3.90**	**13**	PN	Pn	16 55 02.7	+1.1		
FOZ	**Fox Glacier**	**4.21**	**230**	PN	Pn	16 55 03.4	-2.3		
JCZ	**Jackson Bay**	**5.05**	**230**	PN	Pn	16 55 15.0	-2.4		

*CSEM **06** 16:55:20.1,44.°08N×11.°36E,h15km,MD1.2/3*
ROM 06 16:55:20.1±0.1,44.°08N×11.°36E,h15km±1km,Md1.2/3,
MI1.7/1,Error ellipse: s-maj=1.0km s-min=0.7km az=44.0,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEI	**Scarperia**	**0.03**	**182**	Pg	Pg	16 55 23.1	+0.3
SEI				Sg	Sg	16 55 25.0	+0.4
	323nm,0.1s						
SEI	**Scarperia**	**0.03**	**182**	Pg	Pg	16 55 23.1	+0.3
SEI				Sg	Sg	16 55 25.0	+0.4
	323nm,0.1s						
VMG	**Vicchio**	**0.18**	**132**	Pg	Pg	16 55 24.7	+0.2
VMG				Sg	Sb	16 55 28.2	-0.4
	18nm,0.3s						
VMG	**Vicchio**	**0.18**	**132**	Pg	Pg	16 55 24.7	+0.2
VMG				Sg	Sb	16 55 28.2	-0.4
	18nm,0.3s						
FNVD	**Fontana Vidola**	**0.19**	**297**	Pg	Pg	16 55 24.9	+0.2
FNVD				Sg	Sb	16 55 28.5	-0.5
	117nm,0.1s						
FNVD	**Fontana Vidola**	**0.19**	**297**	Pg	Pg	16 55 24.9	+0.2
FNVD				Sg	Sb	16 55 28.5	-0.5
	117nm,0.1s						
MTRZ	**Monterenzio**	**0.30**	**15**	Pg	Pg	16 55 25.5	-1.1
MTRZ				Sg	Sg	16 55 29.9	-1.1
MTRZ	**Monterenzio**	**0.30**	**15**	Pg	Pg	16 55 25.5	-1.1
MTRZ				Sg	Sg	16 55 29.9	-1.1

*CSEM **06** 16:55:30.3,44.°07N×11.°35E,h15km,MD1.6/4*
ROM 06 16:55:30.3±0.1,44.°07N×11.°35E,h15km±1km,Md1.6/4,
MI1.7/1,Error ellipse: s-maj=1.5km s-min=1.3km az=21.0,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEI	**Scarperia**	**0.02**	**161**	Pg	Pg	16 55 33.2	+0.2
SEI				Sg	Sg	16 55 35.3	+0.5
SEI	**Scarperia**	**0.02**	**161**	Pg	Pg	16 55 33.2	+0.2
SEI				Sg	Sg	16 55 35.3	+0.5
VMG	**Vicchio**	**0.18**	**128**	Pg	Pg	16 55 34.9	+0.2
VMG				Sg	Sb	16 55 38.4	-0.3
	18nm,0.3s						
VMG	**Vicchio**	**0.18**	**128**	Pg	Pg	16 55 34.9	+0.2
VMG				Sg	Sb	16 55 38.4	-0.3
	18nm,0.3s						
FNVD	**Fontana Vidola**	**0.19**	**301**	Pg	Pg	16 55 35.0	+0.1
FNVD				Sg	Sb	16 55 38.6	-0.6
	125nm,0.2s						
FNVD	**Fontana Vidola**	**0.19**	**301**	Pg	Pg	16 55 35.0	+0.1
FNVD				Sg	Sb	16 55 38.6	-0.6
	125nm,0.2s						
MTRZ	**Monterenzio**	**0.32**	**16**	Pg	Pg	16 55 36.4	-0.6
MTRZ				Sg	Sg	16 55 39.9	-1.7
MTRZ	**Monterenzio**	**0.32**	**16**	Pg	Pg	16 55 36.4	-0.6
MTRZ				Sg	Sg	16 55 39.9	-1.7

*CSEM **06** 16:55:44.4,38.°72N×23.°71E,h5km,MD2.8*
ATH 06 16:55:44.4,38.°72N×23.°71E,h5km±3km,MD2.8/7,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKA	**Markates**	**0.10**	**262**	*e*Pg	Pg	16 55 45.9	-0.6
MRKA				*e*Sg	Sg	16 55 48.4	+0.5
MRKA	**Markates**	**0.10**	**262**	*e*Pg	Pg	16 55 45.9	-0.6
MRKA				*e*Sg	Sg	16 55 48.4	+0.5
EREA	**Eretria**	**0.35**	**150**	*e*PG	Pg	16 55 50.9	-0.3
EREA				*e*SB	Sg	16 55 57.0	+1.2
EREA	**Eretria**	**0.35**	**150**	*e*Pg	Pg	16 55 50.9	-0.3
EREA				*e*Sb	Sg	16 55 57.0	+1.2
SMIA	**Simia**	**0.42**	**292**	*e*PG	Pg	16 55 52.4	-0.2
SMIA				*e*SB	Sb	16 55 59.8	-1.4
SMIA	**Simia**	**0.42**	**292**	*e*Pg	Pg	16 55 52.4	-0.2
SMIA				*e*Sb	Sb	16 55 59.8	-1.4
AOS	**Alonnisos**	**0.47**	**16**	*e*PG	Pg	16 55 53.3	-0.2
AOS				*e*SB	Sg	16 56 00.6	+1.0
AOS	**Alonnisos**	**0.47**	**16**	*e*Pg	Pg	16 55 53.3	-0.2
AOS				*e*Sb	Sg	16 56 00.6	+1.0
VIL2	**Platees**	**0.61**	**215**	*e*PG	Pg	16 56 56.5	+0.2
VIL2				*e*SB	Sb	16 56 06.0	-0.7
VILL	**Villia**	**0.64**	**209**	*e*Pg	Pg	16 56 56.5	-0.2
VILL				*e*Sb	Sg	16 56 06.0	+0.9
XOR	**Xorichti**	**0.76**	**328**	*e*PB	Pg	16 55 59.6	+0.5
XOR	**Xorichti**	**0.76**	**328**	*e*Pb	Pg	16 55 59.6	+0.5

*ISCJB **06** 16:59:24.7±0.6,23.°86S±0.°08×180.°0W±0.°1,h518km,*
mb4.0/11,Error ellipse: s-maj=13.3km s-min=10.2km az=7.4
*IDC **06** 16:59:24.8±1.7,23.°81S×179.°83W,h510km±16km,*
mb3.6/11,mb1 3.8/13,mb1mx3.5/26,mbtmp4.4/13,Error ellipse: s-maj=20.4km s-min=15.9km az=146.0
ISC 06 16:59:25.3±0.7,24.°0S±0.°1×179.°9W±0.°1,h518km,n23,
σ1§28/31,mb4.1/11,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.73**	**276**	P	**P**	**17 02 13.3**	**+1.6**
	0.4nm,0.3s,baz=138,slow=14,SNR=4.0						
URZ	**Urewera**	**14.48**	**190**	P	**P**	**17 02 30.5**	**+0.9**
	0.8nm,0.3s,baz=24,slow=3.7,SNR=5.5						
URZ				S	**S**	**17 04 59.7**	**-1.9**
	0.4nm,0.3s,baz=15,slow=20,SNR=3.4						
RPZ	**Rata Peaks**	**21.06**	**199**	P	**P**	**17 03 34.2**	**+1.8**
	2.8nm,0.4s,baz=27,slow=4.5,SNR=3.8						
STKA	**Stephens Creek**	**34.80**	**248**	P	**P**	**17 05 33.3**	**+0.9**
	3.0nm,0.6s,baz=94,slow=9.6,SNR=16						
STKA				PcP	**PcP**	**17 07 52.0**	**+0.7**
	1.6nm,0.7s,baz=45,slow=1.4,SNR=3.0						
ASAR	**Alice Springs**	**42.13**	**261**	P	**P**	**17 06 32.4**	**+0.2**
	11nm,0.8s,baz=96,slow=7.0,SNR=109						
ASAR				ScP	**ScP**	**17 11 17.4**	**+1.4**
	1.5nm,0.8s,baz=112,slow=4.0,SNR=9.8						
ASAR				S	**S**	**17 12 12.7**	**-1.8**
	0.6nm,0.9s,baz=97,slow=15,SNR=4.2						
WRA	**Warramunga Arr**	**42.51**	**266**	P	**P**	**17 06 34.8**	**-0.4**
	14nm,0.3s,baz=96,slow=8.4,SNR=172						
WRA				ScP	**ScP**	**17 11 19.5**	**+2.0**
	1.7nm,0.8s,baz=98,slow=3.7,SNR=7.3						
WRA				S	**S**	**17 12 16.0**	**-3.9**
	0.5nm,0.7s,baz=100,slow=13,SNR=3.1						
JAY	**Jayapura**	**43.64**	**293**	P	**P**	**17 06 43.9**	**-0.3**
	14nm,0.5s,baz=153,slow=9.0,SNR=19						
FORT	**Forrest**	**46.39**	**250**	P	**P**	**17 07 04.5**	**-0.4**
	baz=47,SNR=45						
KDU	**Kakadu**	**46.40**	**275**	P	**P**	**17 07 04.7**	**-0.6**
	baz=47,SNR=13						
WRKA	**Warakurna**	**46.93**	**257**	P	**P**	**17 07 09.0**	**-0.2**
	baz=47,SNR=34						
KNRA	**Kununurra**	**48.80**	**270**	P	**P**	**17 07 23.1**	**-0.1**
	baz=49,SNR=8.1						
FAKI	**Fak Fak**	**50.71**	**287**	P	**P**	**17 07 36.9**	**-0.5**
	baz=51,SNR=4.5						
SWI	**Sorong**	**52.57**	**289**	P	**P**	**17 07 50.5**	**-0.2**
	baz=53,SNR=8.1						
SOEI	**Soe**	**54.96**	**275**	P	**P**	**17 08 09.1**	**+1.3**
	baz=55,SNR=6.7						
KSRS	**Korea Array**	**78.37**	**320**	P	**P**	**17 10 31.9**	**0.0**
	1.6nm,0.7s,baz=131,slow=5.2,SNR=9.0						
PETK	**Petropavlovsk-**	**79.19**	**346**	P	**P**	**17 10 35.8**	**-0.2**
	2.9nm,0.8s,baz=128,slow=5.8,SNR=2.7						
NVAR	**Mina Array Bea**	**84.73**	**44**	P	**P**	**17 11 03.4**	**-1.5**
	0.5nm,0.6s,baz=224,slow=6.9,SNR=3.5						
CMAR	**Chiang Mai Arr**	**89.65**	**290**	P	**P**	**17 11 29.8**	**+1.6**
	2.2nm,0.9s,baz=144,slow=3.8,SNR=12						
TXAR	**Lajitas Array**	**90.38**	**58**	P	**P**	**17 11 31.5**	**0.0**
	1.1nm,0.7s,baz=212,slow=6.1,SNR=16						
PDAR	**Pinedale Array**	**92.66**	**44**	P	**P**	**17 11 41.6**	**-0.3**
	0.3nm,0.6s,baz=207,slow=1.7,SNR=3.7						
FINES	**FINESS Array B**	**138.55**	**341**	SKPbc	**SKPbc**	**17 20 36.2**	**-0.9**
	2.6nm,0.8s,baz=35,slow=5.1,SNR=7.4						
AKASG	**Malin Array Be**	**145.09**	**327**	PKP	**PKPdf**	**17 18 02.3**	**-1.0**
	1.2nm,0.3s,baz=45,slow=4.6,SNR=9.5						
AKASG				SKPbc	**SKPbc**	**17 20 53.3**	**-0.5**
	0.1nm,0.3s,baz=43,slow=3.4,SNR=6.5						
BRTR	**Keskin Array B**	**147.71**	**307**	PKPbc	**PKPbc**	**17 18 10.9**	**-1.0**
	1.2nm,0.7s,baz=139,slow=5.1,SNR=5.2						
BRTR				PKPab	**PKPab**	**17 18 15.7**	**-0.3**
	2.1nm,0.7s,baz=81,slow=3.7,SNR=9.5						

*IDC **06** 17:19:16.5±3.0,30.°45S×177.°44W,h0km,mb3.7/3,*
mb1 3.9/4,mb1mx3.7/21,mbtmp3.8/4,ML3.4/1,Error ellipse: s-maj=61.6km s-min=22.3km az=97.0
*ISCJB **06** 17:19:18.4±3.8,30.°64S±0.°07×177.°4W±0.°5,h33km,*
mb3.7/3,Error ellipse: s-maj=67.6km s-min=8.0km az=5.2
ISC 06 17:19:20.4±2.6,30.°50S±0.°08×177.°4W±0.°3,h33km,n6,
σ1§38/8,mb3.9/3,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.32**	**341**	Pn	**Pn**	**17 19 41.6**	**-0.9**
	184nm,0.3s,baz=252,slow=20,SNR=5.5						
RAO				Sn	**Sb**	**17 20 00.4**	**-0.7**
	306nm,0.3s,baz=151,slow=19,SNR=4.0						
URZ	**Urewera**	**8.96**	**209**	Pn	**Pn**	**17 21 26.8**	**-0.7**
	0.4nm,0.3s,baz=22,slow=19,SNR=3.4						
URZ				Sn	**Sn**	**17 23 05.7**	**-1.6**
	0.6nm,0.3s,baz=112,slow=19,SNR=4.6						
STKA	**Stephens Creek**	**34.94**	**257**	P	**P**	**17 26 11.6**	**+2.2**
	1.7nm,0.8s,baz=112,slow=10,SNR=4.5						
ASAR	**Alice Springs**	**43.60**	**267**	P	**P**	**17 27 22.3**	**+0.6**
	0.5nm,0.9s,baz=104,slow=7.1,SNR=7.4						
WRA	**Warramunga Arr**	**44.60**	**272**	P	**P**	**17 27 29.8**	**0.0**
	1.1nm,0.6s,baz=110,slow=7.9,SNR=9.1						
FINES	**FINESS Array B**	**145.41**	**340**	PKPbc	**PKPab**	**17 38 54.7**	**+0.3**
	0.9nm,0.7s,baz=56,slow=2.5,SNR=4.5						

*ISCJB **06** 17:36:43.8±0.7,76.°30N±0.°05×8.°2E±0.°3,h10km,mb3.3/7,*
MS3.5/12,Error ellipse: s-maj=9.6km s-min=6.4km az=32.7
*BER **06** 17:36:43.7±2.3,76.°24N×7.°24E,h10km,MD2.2,ML2.2,*
ML3.0(NAO)
*CSEM **06** 17:36:44.4±0.9,76.°33N×8.°17E,h10km,ML3.0,Error ellipse: s-maj=18.3km s-min=13.6km az=66.0*
*IDC **06** 17:36:44.7±0.9,76.°28N×7.°31E,h0km,mb3.4/7,*
mb1 3.6/12,mb1mx3.4/38,mbtmp3.5/12,ML3.0/5,MS3.4/15,
Ms1 3.4/15,ms1mx3.2/36,Error ellipse: s-maj=19.9km s-min=13.7km az=71.0
*NAO **06** 17:36:46.8±3.5,76.°27N×9.°05E,h0km±18km,ML3.0*
ISC 06 17:36:45.5±0.8,76.°38N±0.°06×8.°16E±0.°07,h10km,n40,
σ1§13/37,mb3.2/7,MS3.5/12,Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**1.82**	**66**	*e*P	**Pn**	**17 37 16.3**	**-0.5**
HSPB				*e*S	**Sb**	**17 37 40.5**	**-1.1**
HSPB	**Hornsund (broa**	**1.82**	**66**	*e*P	**Pn**	**17 37 16.3**	**-0.5**
	SNR=50						
HSPB				*e*S	**Sb**	**17 37 40.5**	**-1.1**
	SNR=50						
HSP	**Hornsund**	**1.82**	**66**	Pg	**Pn**	**17 37 17.4**	**+0.5**
HSP				Lg	Lg	17 37 39.3	
HSP	**Hornsund**	**1.82**	**66**	Pg	**Pn**	**17 37 17.4**	**+0.5**
HSP				Lg	Lg	17 37 39.3	
SPA0	**Spitsbergen Ar**	**2.56**	**41**	Pn	**Pn**	**17 37 27.9**	**+0.9**
	baz=228,slow=14						
SPA0				Sn	**Sn**	**17 37 58.5**	**+0.3**
	baz=244,slow=28						
SPA0	**Spitsbergen Ar**	**2.56**	**41**	Pn	**Pn**	**17 37 27.9**	**+0.9**
	baz=228,slow=14						
SPA0				Sn	**Sn**	**17 37 58.5**	**+0.3**
	baz=244,slow=28						
SPA0	**Spitsbergen Ar**	**2.56**	**41**	Pn	**Pn**	**17 37 27.9**	**+0.9**
	baz=228,slow=13,SNR=235						
SPA0				Sn	**Sn**	**17 37 58.5**	**+0.3**
	baz=244,slow=24,SNR=7.7						
SPITS	**Spitsbergen Ar**	**2.56**	**41**	Pn	**Pn**	**17 37 28.1**	**+1.1**
	baz=221,slow=15,SNR=175						
SPITS				Sn	**Sn**	**17 37 58.3**	**+0.1**
	baz=231,slow=22,SNR=14						
SPITS				LR	LR	17 38 40.0	
	comp=Z,269nm,21.1s,baz=10.0,slow=42						
KBS	**Kingsbay**	**2.69**	**16**	Pn	**Pn**	**17 37 28.4**	**-0.3**
KBS	**Kingsbay**	**2.69**	**16**	*e*P	**Pn**	**17 37 27.2**	**-1.5**
KBS	**Kingsbay**	**2.69**	**16**	*e*P	**Pn**	**17 37 27.2**	**-1.5**
	SNR=50						
KBS	**Kingsbay**	**2.69**	**16**	Pn	**Pn**	**17 37 28.4**	**-0.3**
HOPEN	**Hopen**	**3.96**	**80**	Pn	**Pn**	**17 37 47.1**	**+0.9**
HOPEN				Sn	**Sn**	**17 38 31.4**	**-1.2**
HOPEN	**Hopen**	**3.96**	**80**	*e*P	**Pn**	**17 37 47.1**	**+0.9**
HOPEN				*e*S	**Sn**	**17 38 32.5**	**-0.1**
HOPEN				IAML		17 38 34.6	
	comp=Z,12nm,0.1s						
HOPEN	**Hopen**	**3.96**	**80**	*e*P	**Pn**	**17 37 47.1**	**+0.9**
	SNR=49						
HOPEN				Sn	**Sn**	**17 38 31.4**	**-1.2**
HOPEN				*e*S	**Sn**	**17 38 32.5**	**-0.1**
	SNR=49						
JMIC	**Jan Mayen**	**7.13**	**229**	LR	LR	17 40 11.8	
	comp=Z,85nm,19.5s,baz=87,slow=30						
ARA0	**ARCESS Array S**	**8.50**	**135**	Pn	**Pn**	**17 38 46.5**	**-2.1**
	baz=324,slow=12						
ARA0				Sn	Sn	17 40 16.0	-8.4
	baz=332,slow=22						
ARA0	**ARCESS Array S**	**8.50**	**135**	Pn	**Pn**	**17 38 46.5**	**-2.1**
	baz=324,slow=12						
ARA0				Sn	Sn	17 40 16.0	-8.4
	baz=332,slow=22						
ARA0	**ARCESS Array S**	**8.50**	**135**	Pn	**Pn**	**17 38 46.5**	**-2.1**
	baz=324,slow=12,SNR=5.1						
ARCES	**ARCESS Array B**	**8.50**	**135**	Pn	**Pn**	**17 38 47.3**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=324,slow=12,SNR=16						
ARCES				Sn	Sn	17 40 15.5	-8.9
	comp=Z,0.5nm,0.3s,baz=327,slow=18,SNR=6.3						
BORG	**Borgarnes**	**14.96**	**235**	LR	LR	17 44 24.2	
	comp=Z,88nm,20.9s,baz=325,slow=31						
NOA	**NORSAR Array B**	**15.45**	**174**	Pn	**Pn**	**17 40 22.7**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=338,slow=18,SNR=2.8						
FINES	**FINESS Array B**	**16.18**	**148**	Pn	**Pn**	**17 40 31.3**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=343,slow=12,SNR=3.9						
HFS	**Hagfors**	**16.44**	**170**	Pn	**P**	**17 40 37.9**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=309,slow=9.1,SNR=2.7						
RES	**Resolute Bay**	**22.73**	**318**	LR	LR	17 50 21.6	
	comp=Z,47nm,19.1s,baz=48,slow=36						
FRB	**Frobisher Bay**	**26.57**	**285**	LR	LR	17 52 43.5	
	comp=Z,100nm,19.6s,baz=5.0,slow=36						
AKASG	**Malin Array Be**	**27.07**	**150**	P	**P**	**17 42 29.5**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=350,slow=9.9,SNR=3.3						
SCHQ	**Schefferville**	**34.12**	**275**	LR	LR	17 55 37.4	
	comp=Z,81nm,18.6s,baz=282,slow=33						
ZALV	**Zalesovo Beam**	**35.32**	**84**	LR	LR	18 01 19.0	
	comp=Z,30nm,19.1s,baz=67,slow=42						
ILAR	**Eielson Array**	**38.22**	**343**	P	**P**	**17 44 05.2**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=17,slow=9.8,SNR=2.6						
MKAR	**Makanchi Array**	**41.37**	**91**	P	P	17 44 34.6	+3.3
	comp=Z,0.4nm,0.9s,baz=325,slow=7.2,SNR=3.2						
MKAR				LR	LR	18 04 56.7	
	comp=Z,61nm,20.7s,baz=332,slow=41						
GEYT	**Alibeck**	**44.34**	**120**	P	**P**	**17 44 57.8**	**+2.4**
	comp=Z,0.6nm,0.4s,baz=4.8,slow=1.7,SNR=2.7						
GEYT				LR	LR	18 05 44.3	
	comp=Z,94nm,18.4s,baz=5.0,slow=39						
SONM	**Songino Array**	**45.97**	**68**	LR	LR	18 08 29.9	
	comp=Z,39nm,18.5s,baz=116,slow=41						
SADO	**Sadowa**	**46.38**	**281**	LR	LR	18 03 34.3	
	comp=Z,50nm,20.1s,baz=58,slow=35						
PDAR	**Pinedale Array**	**54.82**	**307**	LR	LR	18 08 47.2	
	comp=Z,54nm,20.4s,baz=47,slow=35						
TKL	**Tuckaleechee C**	**56.13**	**281**	LR	LR	18 09 50.8	
	comp=Z,65nm,19.7s,baz=92,slow=36						
ANMO	**Albuquerque**	**61.78**	**302**	LR	LR	18 14 37.7	
	comp=Z,99nm,18.5s,baz=33,slow=37						
TORD	**Torodi Ar. Bea**	**63.32**	**187**	P	**P**	**17 47 14.1**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=354,slow=5.4,SNR=6.2						
TXAR	**Lajitas Array**	**66.64**	**298**	P	**P**	**17 47 35.4**	**-0.5**
	comp=Z,0.1nm,0.6s,baz=350,slow=4.6,SNR=2.8						
TXAR				LR	LR	18 17 41.5	
	comp=Z,40nm,18.3s,baz=0.0,slow=37						
CMAR	**Chiang Mai Arr**	**72.38**	**85**	P	P	17 48 14.4	+3.0
	comp=Z,0.1nm,0.4s,baz=337,slow=8.8,SNR=3.0						

*IDC **06** 18:00:21.9±3.1,15.°56N×91.°03W,h0km,mb3.9/5,*
mb1 4.1/6,mb1mx3.8/31,mbtmp3.9/6,ML3.8/1,MS3.0/1,
Ms1 3.0/1,ms1mx2.5/31,Error ellipse: s-maj=64.6km s-min=43.1km az=3.0
*ISCJB **06** 18:00:24.9±1.9,16.°07N±0.°06×91.°42W±0.°05,h6km±13km,*
mb4.1/4,MS2.9/1,Error ellipse: s-maj=11.4km s-min=5.4km az=31.3
*CASC **06** 18:00:24.4±1.4,16.°09N×91.°34W,h0km±21km,MD3.8*
*MEX **06** 18:00:26.0±0.8,15.°91N×91.°22W,h16km±34km,MD3.8*
ISC 06 18:00:26.4±2.0,16.°05N±0.°08×91.°42W±0.°05,h8km±13km,
n18,σ1§60/21,mb4.1/4,Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.73**	**288**	*e*P	**Pg**	**18 00 40.4**	**-0.1**
CCIG				*i* S	**Sb**	**18 00 52.9**	**+1.2**
FUG	**Fuego 3**	**1.69**	**161**	*e*P	**Pn**	**18 00 55.0**	**-1.4**
JAT	**Jato**	**1.74**	**187**	*e*P	**Pn**	**18 00 57.1**	**+0.2**
PCIG		**1.77**	**259**	*e*P	**Pn**	**18 00 55.5**	**-1.8**
PCIG				*e*S	**Sn**	**18 01 18.1**	**-1.9**
NBG	**Las Nubes**	**1.79**	**145**	*e*P	**Pn**	**18 00 56.9**	**-0.9**
TGIG		**1.79**	**294**	*e*P	**Pn**	**18 00 56.8**	**-0.8**
TGIG				*i* S	**Sn**	**18 01 20.0**	**-0.6**
PCG	**Pacaya**	**1.82**	**155**	*e*P	**Pn**	**18 00 57.5**	**-0.9**
MRL	**Marmol**	**1.93**	**120**	*e*P	**Pn**	**18 00 58.1**	**-1.6**

baz=25,SNR=7.9
ARMA Armidale 24.66 23 *e*P **P** 18 07 31.2 **-0.3**
23nm,1.0s
FORT Forrest 24.77 333 ⇓P **P** **18 07 31.1 -1.3**
baz=24,SNR=15
FORT Forrest 24.77 333 *e*P **P** **18 07 30.8 -1.6**
55nm,0.8s
VNDA Vanda 25.02 169 P **P** **18 07 33.8 -0.5**
15nm,0.9s,baz=330,slow=9.5,SNR=41
VNDA LR LR 18 15 32.7
comp=Z,1μm,18.7s,baz=335,slow=32
VNDA Vanda 25.02 169 *e*P **P** **18 07 33.5 -0.7**
30nm,1.0s
SBA Scott Base 25.88 168 *e*P **P** **18 07 44.6 +2.6**
38nm,1.1s
KMBL Kambalda 26.22 321 ⇑P **P** **18 07 44.5 -1.0**
baz=26
H01W1 Cape Leeuwin H 26.57 305 T T 18 35 29.1
baz=143,slow=76,SNR=454
H01W2 Cape Leeuwin H 26.57 305 T T 18 35 29.0
baz=143,slow=76,SNR=531
H01W3 Cape Leeuwin H 26.58 305 T T 18 35 30.3
baz=143,slow=76,SNR=437
NWAO Narrogin (SRO) 26.75 312 P P 18 07 55.4 +5.0
7.3nm,0.9s,baz=319,slow=1.8,SNR=3.8
NWAO LR LR 18 16 13.0
comp=Z,17nm,18.1s,baz=150,slow=32
QLP Quilpie 27.31 7 ⇑P **P** **18 07 55.3 -0.1**
baz=27,SNR=9.0
RMQ Roma 27.92 15 ⇓P **P** **18 08 01.2 +0.3**
baz=28,SNR=25
URZ Urewera 29.24 73 P **P** **18 08 13.1 +0.6**
24nm,0.8s,baz=284,slow=3.9,SNR=7.7
URZ LR LR 18 18 10.9
comp=Z,2μm,21.8s,baz=227,slow=33
EIDS Eidsvold 29.42 19 *e*P **P** **18 08 12.9 -1.3**
48nm,1.4s
WRKA Warakurna 30.20 337 ⇓P **P** **18 08 19.3 -1.8**
baz=30,SNR=16
ASAR Alice Springs 30.53 348 P **P** **18 08 22.8 -1.3**
9.3nm,0.6s,baz=166,slow=9.8,SNR=144
ASAR PcP **PcP** **18 11 22.2 -0.5**
1.2nm,0.7s,baz=159,slow=2.7,SNR=4.5
ASAR LR LR 18 19 49.9
comp=Z,1μm,18.9s,baz=166,slow=35
QIS Mount Isa 33.20 358 ⇑P **P** **18 08 46.7 -0.7**
baz=33,SNR=5.1
CTAO Charters Tower 33.91 9 *e*P **P** **18 08 54.9 +1.2**
46nm,1.6s
WRA Warramunga Arr 34.16 349 P **P** **18 08 53.5 -2.3**
15nm,0.7s,baz=173,slow=7.6,SNR=113
WRA LR LR 18 22 05.0
comp=Z,831nm,19.9s,baz=205,slow=35
WRAB Tennant Creek 34.16 349 P **P** **18 08 54.0 -1.9**
208nm,0.7s,SNR=15
WRAB Tennant Creek 34.16 349 *e*P **P** **18 08 53.9 -1.9**
32nm,0.9s
MTSU Mount Surprise 35.70 6 ⇓P **P** **18 09 09.3 +0.2**
baz=36,SNR=4.2
QSPA South Pole Qui 36.31 180 P **P** **18 09 13.7 -0.4**
31nm,1.0s,baz=330,slow=1.5,SNR=42
QSPA LR LR 18 23 46.2
comp=Z,2μm,20.4s,baz=8.5,slow=36
MBWA Marble Bar 36.32 326 P **P** **18 09 13.0 -1.5**
DZM Mont Dzumac 37.19 42 *e*P P 18 09 34.5 +13
58nm,1.4s
DZM *e*LR LR 18 19 26.5
5μm,25.9s
MAW Mawson 37.70 218 P **P** **18 09 26.0 +0.4**
5.5nm,1.0s,baz=90,slow=8.4,SNR=5.9
MAW LR LR 18 23 39.5
comp=Z,3μm,19.6s,baz=86,slow=34
MAW Mawson 37.70 218 ⇓P **P** **18 09 26.1 +0.4**
baz=38
MAW Mawson 37.70 218 *e*P **P** **18 09 25.3 -0.3**
4.1nm,1.3s
KNRA Kununurra 39.18 342 P **P** **18 09 37.9 -0.8**
baz=39,SNR=5.0
KDU Kakadu 41.54 348 ⇓P **P** **18 09 57.8 -0.3**
baz=41,SNR=5.4
PAF Port-aux-Franc 42.42 246 S S 18 16 09.0 -17
PAF L L 18 19 00.0
PAF R 18 21 00.0
PMG Port Moresby 44.57 9 P **P** **18 10 23.1 +0.4**
SYO Syowa Base 44.80 210⇑ *e*P **P** **18 10 22.7 -1.3**
MMRI Maumere 47.45 335 P **P** **18 10 44.7 -0.7**
59nm,1.0s
KAPI Kappang 51.57 333 P **P** **18 11 17.5 +0.7**
111nm,1.2s,SNR=6.9
KAPI Kappang 51.57 333 *e*P **P** **18 11 17.1 +0.2**
24nm,1.1s
VNA1 Neumayer--Stat 53.88 192 P **P** **18 11 34.3 +1.1**
LEM Lembang 53.97 318 P **P** **18 11 36.2 +1.4**
52nm,1.3s
MDSI Maura Dua 57.49 315 P **P** **18 12 00.3 +0.4**
13nm,1.3s
TBI Tubuai 59.62 89 *e*LQ LQ 18 27 22.4
650nm,25.2s
TBI *e*LR LR 18 29 44.6
733nm,25.0s
KSM Kuching 60.62 324 ⇑P **P** **18 12 22.1 +0.6**
baz=60,SNR=6.1
KSM Kuching 60.62 324 *e*P **P** **18 12 19.7 -1.9**
18nm,1.0s
PPT2 Papeete2 63.99 84 *e*LQ LQ 18 28 55.7
2μm,30.2s
PPT2 *e*LR LR 18 31 50.6
575nm,23.2s,baz=209
PPT Papeete 64.01 84 LR LR 18 34 37.3
comp=Z,315nm,20.2s,baz=220,slow=30
MNSI Mandailing Nat 64.19 313 P P 18 12 50.1 +4.6
GSI Gunungsitoli 65.53 311 P **P** **18 12 52.2 -2.0**
46nm,1.3s
IPM Ipoh 66.90 316 P **P** **18 13 00.7 -2.3**
13nm,0.9s
KULM Kulim 67.79 316 *e*P **P** **18 13 07.9 -0.7**
25nm,1.0s
RKT Rikitea 68.35 100 *e*LQ LQ 18 30 42.9
862nm,31.0s
RKT *e*LR LR 18 33 44.3
635nm,30.8s
H08S2 Diego Garcia H 71.09 283 T T 19 31 05.0
baz=144,slow=76,SNR=165
H08S1 Diego Garcia H 71.10 283 T T 19 31 05.8
baz=144,slow=76,SNR=120
H08S3 Diego Garcia H 71.11 283 T T 19 31 04.7
baz=144,slow=76,SNR=111
H08N1 Diego Garcia H 73.00 283 T T 19 33 32.5
baz=150,slow=77
H08N3 Diego Garcia H 73.01 283 T T 19 33 34.2
baz=150,slow=77
H08N2 Diego Garcia H 73.02 283 T T 19 33 32.5
baz=150,slow=77
EFI East Falkland 73.72 168 *e*P **P** **18 13 44.4 +0.1**
62nm,1.0s
QIZ Qiongzhong 77.26 330 P **P** **18 14 05.5 +0.7**
QIZ S **S** **18 23 56.1 +2.1**
QIZ PMZ
15nm,2.0s
QIZ LZ
320nm,36.1s
CMAR Chiang Mai Arr 80.43 320 P **P** **18 14 22.1 -0.2**
1.2nm,0.7s,baz=186,slow=5.2,SNR=10.0
CMAR LR LR 18 48 01.0
comp=Z,472nm,20.4s,baz=166,slow=34
JCJ Chichijima 80.56 1 LR LR 18 47 59.9
comp=Z,177nm,22.0s,baz=118,slow=34
CHTO Chiang Mai 80.75 320 *e*P **P** **18 14 23.2 -0.7**
5.8nm,0.8s
BOSA Boshof 80.85 233 LR LR 18 42 54.7
comp=Z,768nm,21.6s,baz=144,slow=30
GYA Guiyang 85.20 330 P **P** **18 14 48.8 +1.8**
GYA PP **PP** **18 18 08.4 +3.4**
GYA SKS S 18 25 10.2 -6.3
GYA S **SKKSac** **18 25 18.0 +0.4**
GYA SS **SS** **18 30 56.8 +5.4**
GYA PMZ
20nm,1.0s
GYA PMZ
120nm,5.0s
GYA LN
460nm,20.4s
GYA LE
380nm,21.5s
GYA LZ
440nm,20.2s
MATP Matopo 86.07 240 LR LR 18 47 52.4
comp=Z,512nm,18.2s,slow=32

SSE Sheshan 86.23 343 P P 18 14 56.1 +4.3
SSE S **S** **18 25 21.1 -5.0**
SSE PMZ
21nm,0.7s
SSE LN
40nm,26.2s
SSE LE
130nm,26.1s
SSE LZ
160nm,24.2s
TRQA Tornquist 86.43 162 P **P** **18 14 54.2 +1.1**
14nm,1.3s
WHN Wuhan 87.06 337 P P 18 14 50.7 -5.2
WHN Wuhan 87.06 337 S **S** **18 25 32.2 -1.9**
NJ2 Nanjing 87.58 342 *e*P **P** **18 14 56.8 -1.6**
NJ2 S **S** **18 25 39.0 -0.1**
NJ2 PMZ
20nm,0.8s
NJ2 LN
180nm,22.6s
NJ2 LE
490nm,25.0s
NJ2 LZ
2μm,24.7s
SHL Shillong 89.61 317 *e*P **P** **18 15 10.5 +2.1**
MJAR Matsushiro Arr 90.00 358 LR LR 18 54 54.1
comp=Z,106nm,19.1s,baz=175,slow=35
MAJO Matsushiro 90.00 358 P **P** **18 15 08.8 -1.0**
7.8nm,1.0s
CD2 Chengdu 90.25 329 P **P** **18 15 11.5 +0.4**
CD2 pP **pP** **18 15 14.8 -1.0**
CD2 PP **PP** **18 18 45.4 -0.1**
CD2 S **S** **18 26 06.4 +2.0**
CD2 sS **sS** **18 26 12.1 -0.1**
CD2 SS **SS** **18 32 07.7 +2.8**
CD2 PMZ
10.0nm,0.5s
CD2 PMZ
200nm,6.3s
CD2 LN
360nm,20.0s
CD2 LZ
300nm,16.0s
KSAR Wonju Array Be 91.55 350 P **P** **18 15 18.6 +1.8**
KSRS Korea Array 91.56 350 P **P** **18 15 18.6 +1.8**
0.6nm,0.7s,baz=184,slow=3.5,SNR=5.3
KSRS LR LR 18 55 52.5
comp=Z,167nm,21.4s,baz=163,slow=35
LZH Lanzhou 95.05 331 *e*P **P** **18 15 34.2 +0.9**
LZH pP **pP** **18 15 37.7 -0.3**
LZH sP **sP** **18 15 40.5 +0.9**
LZH PMZ
15nm,1.0s
LZH PMZ
82nm,5.0s
LZH LN
280nm,17.6s
LZH LE
220nm,15.0s
LZH LZ
360nm,20.0s
BJI Beijing 95.84 341 P **P** **18 15 36.7 +0.2**
BJI S **S** **18 26 54.3 +0.8**
BJI SS **SS** **18 33 20.8 -3.8**
BJI PMZ
8.0nm,0.6s
BJI PMZ
90nm,4.3s
BJI LN
190nm,22.5s
BJI LE
160nm,26.0s
BJI LZ
100nm,24.0s
KMBO Kilima Mbogo 97.06 258 LR LR 18 51 09.6
comp=Z,416nm,20.8s,baz=100,slow=30
ASAJ Asahikawa 97.55 1 LR LR 19 06 31.0
comp=Z,82nm,18.0s,slow=40
HHC Hu-ho-hao-te 97.57 338 *e*P Pdif 18 15 45.6 +1.0
HHC sP sP 18 15 53.5 +2.6
HHC SKS **SKSac** **18 26 20.3 -0.7**
HHC S **ScS** **18 27 11.3 +2.4**
HHC sS sS 18 27 17.5 +1.0
HHC SS **SS** **18 33 50.3 +1.0**
HHC PMZ
55nm,8.7s
HHC LN
180nm,14.9s
HHC LE
170nm,16.2s
USRK Ussuriysk Ar. 97.91 354 LR LR 18 57 59.8
comp=Z,121nm,21.9s,baz=157,slow=34
CPUP Villa Florida 98.68 164 LR LR 18 58 23.4
comp=Z,94nm,18.3s,baz=182,slow=34
NVAR Mina Array Bea 125.92 72 PKP **PKPdf** **18 21 12.6 +0.2**
0.9nm,0.7s,baz=215,slow=4.4,SNR=5.5
TXAR Lajitas Array 128.02 91 PKP **PKPdf** **18 21 15.0 -1.5**
0.2nm,0.9s,baz=316,slow=2.5,SNR=2.5
TORD Torodi Ar. Bea 128.21 234 PKP **PKPdf** **18 21 16.8 -0.3**
1.1nm,1.0s,baz=140,slow=2.1,SNR=3.3
MSU Marysvale 129.48 76 PKPdf **PKPdf** **18 21 22.0 +2.9**
BRTR Keskin Array B 130.33 285 PKP **PKPdf** **18 21 20.2 -0.3**
0.5nm,0.6s,baz=132,slow=2.1,SNR=2.3
O20A White River Ci 132.83 77 *e*PKPdf **PKPdf** **18 21 26.4 +1.0**
YKA Yellowknife Ar 141.50 46 PKP **PKPdf** **18 21 39.5 -0.9**
0.4nm,0.6s,baz=239,slow=3.4,SNR=3.4
KECS Kecovo 143.13 287 *e*PKP **PKPdf** **18 21 42.7 -1.0**
OLIL Olney 143.79 94 *e*PKPpre PKPab 18 21 42.1 -0.1
WCI Wyandotte Cave 144.53 97 *e*PKPdf **PKPab** **18 21 44.1 -1.0**
SPMN St. Paul 144.94 82 *e*PKPbc **PKPdf** **18 21 50.2 +3.2**
JFWS Jewell Farm 145.12 87 *e*PKPdf **PKPbc** **18 21 45.5 -1.4**
OKC Ostrava-Krasne 145.14 287 *e*PKP **PKPab** **18 21 47.0 +0.1**
OKC *ep*PKP **PKiKP** **18 21 50.7 -0.4**
OKC *ex* x 18 21 54.6
KMSC Kings Mountain 145.29 105 *e*PKPdf **PKPbc** **18 21 47.2 -0.6**
SOKA Soboth 145.32 281 *i* PKPdf **PKPab** **18 21 47.9 +0.1**
39nm,1.3s,SNR=14
ARSA Arzberg 145.34 282 *i* PKPab **PKPbc** **18 21 47.5 -0.1**
48nm,0.8s,SNR=38
SFIN Scholer Farm 145.44 93 *e*PKPbc **PKPab** **18 21 49.9 +1.6**
MORC Moravsky Berou 145.45 287 *e*PKPdf **PKPdf** **18 21 47.7 -0.1**
CONA Conrad Observa 145.49 283⇑ *i*PKPdf **PKPdf** **18 21 48.0 0.0**
38nm,1.7s
FINES FINESS Array B 145.59 309 PKPbc **PKPdf** **18 21 46.5 -1.1**
11nm,0.9s,baz=134,slow=4.0,SNR=18
KRLC Kraliky 146.03 287 *e*PKP **PKPbc** **18 21 49.9 +0.2**
KRLC *ep*PKP **pPKPdf** **18 21 54.1 +0.5**
KRLC *ex* x 18 21 58.7
MYKA Terra Mystica 146.11 280⇓ *i*PKPdf **PKPdf** **18 21 48.8 -0.3**
62nm,1.4s,SNR=8.3
MOA Molln 146.38 282⇑ *i*PKPbc **PKPbc** **18 21 50.5 -0.3**
18nm,1.7s
TREC Trest 146.39 285 *e*PKP **PKPab** **18 21 51.4 -0.3**
TREC *ep*PKP **pPKPdf** **18 21 55.6 +1.4**
TREC *ex* x 18 21 59.1
TREC AMS AMS 19 32 30.0
comp=Z,200nm,18.3s
DPC Dobruska-Polom 146.42 287 *e*PKP **PKPbc** **18 21 50.7 -0.1**
DPC *ep*PKP **pPKPdf** **18 21 54.2 -0.1**
UPC Upice 146.66 287 *e*PKP **PKPdf** **18 21 50.2 +0.4**
UPC *ep*PKP **PKPab** **18 21 52.8 +0.1**
UPC *ex* x 18 21 56.0
ABTA Abfaltersbach 146.83 279⇑ *i*PKPbc **PKPbc** **18 21 52.1 -0.1**
25nm,0.9s,SNR=6.6
GOPC GO Pecny, Ondr 147.09 286 *e*PKP **PKPbc** **18 21 52.1 -0.6**
GOPC *ep*PKP **PKPab** **18 21 54.5 +0.1**
GOPC *ex* x 18 22 00.4
EYMN Ely 147.15 79 *e*PKPdf **PKPdf** **18 21 50.4 -0.3**
GERES GERESS Array B 147.20 283 PKPbc **PKPdf** **18 21 51.9 +1.0**
5.5nm,1.0s,baz=132,slow=2.0,SNR=17
PRU Pruhonice 147.26 286 *e*PKP **PKPbc** **18 21 52.0 -1.2**
PRU *ep*PKP **pPKPdf** **18 21 57.1 +1.5**
PRU *ex* x 18 22 02.3
PRA Prague 147.36 286 *e*PKP **PKPbc** **18 21 53.5 +0.1**
PRA *ep*PKP **pPKPdf** **18 21 57.5 +1.7**
PRA *ex* x 18 22 01.6
KHC Kasperske Hory 147.41 284 *e*PKP **PKPbc** **18 21 52.7 -1.0**
KHC *ep*PKP **PKPab** **18 21 54.8 -0.9**
KHC *ex* x 18 21 57.1
KHC *ex* x 18 21 59.3
KHC AMS AMS 19 35 00.0
comp=Z,200nm,21.0s
KHC Kasperske Hory 147.41 284 *e*PKPdf **PKPdf** **18 21 48.0 -3.1**
ARCES ARCESS Array B 147.42 324 PKPbc **PKPbc** **18 21 51.9 -1.1**
1.5nm,0.6s,baz=62,slow=4.3,SNR=6.8

PVCC Panska Ves 147.49 287 *e*PKP **PKPbc** **18 21 53.8 0.0**
PVCC *ep*PKP **PKPab** **18 21 57.7 +1.8**
PVCC *ex* x 18 22 03.1
WTTA Wattenberg 147.61 279⇑ *i*PKPbc **PKPbc** **18 21 54.3 -0.1**
35nm,1.2s,SNR=7.0
MOTA Moosalm 147.96 279⇓ *i*PKPbc **PKPbc** **18 21 54.8 -0.6**
15nm,1.0s
BRG Berggiesshubel 148.00 287 *e*PKP **PKPab** **18 21 57.0 -1.0**
3.2nm,0.9s
BRG *e* 18 21 59.4
8.8nm,0.9s
BRG *e* 18 22 02.7
16nm,1.1s
FETA Feichten 148.02 279⇑ *i*PKPbc **PKPbc** **18 21 54.8 -0.8**
29nm,1.3s
RETA Reutte 148.23 279⇓ *i*PKPbc **PKPbc** **18 21 55.6 -0.4**
37nm,1.4s
NKC Novy Kostel 148.57 285 *e*PKP **PKPdf** **18 21 52.4 -0.6**
NKC *ep*PKP **PKPbc** **18 21 56.0 -0.7**
NKC *ex* x 18 21 59.6
DAVA Damuels 148.65 278⇑ *i*PKiKP **PKiKP** **18 21 58.8 +0.2**
25nm,1.1s
CLL Collm 148.73 287 *i* PKPbc **PKPbc** **18 21 56.4 -0.6**
comp=Z,12nm,1.3s
CLL *i* PKPab **PKPab** **18 22 00.0 -0.8**
comp=Z,11nm,1.3s
CLL *i* pPKPab **pPKPab** **18 22 04.7 -0.9**
comp=Z,22nm,1.5s
CLL LmV 19 34 00.0
comp=Z,200nm,20.3s
GRF Grafenberg Arr 149.03 283 *e*PKPbc **PKPbc** **18 21 57.7 -0.2**
GRFO Grafenberg 149.03 283 *e*PKPbc **PKPbc** **18 21 57.8 0.0**
RES Resolute Bay 149.89 26 *e*PKPbc **PKPbc** **18 21 57.1 -2.0**
BFO Black Forest 150.07 279 *e*PKPbc **PKPbc** **18 21 59.4 -1.1**
ECH Echery 150.71 278 *e*PKPbc **PKPbc** **18 22 00.7 -1.3**
SSB Saint Sauveur 150.75 271 PKPdf **PKPdf** **18 21 57.1 +0.5**
ESDC Sonseca Array 152.34 254 PKPbc **PKPbc** **18 22 05.3 -0.8**
comp=Z,1.4nm,0.6s,baz=72,slow=0.9,SNR=9.4
NB2 NORSAR Subarra152.51 306 PKP **PKPab** **18 22 16.3 0.0**
comp=Z,6.4nm,1.0s,baz=98,slow=4.3
NOA NORSAR Array B 152.51 306 PKPab **PKPab** **18 22 15.0 -1.3**
comp=Z,3.4nm,0.8s,baz=98,slow=4.5,SNR=5.3

GUC 06 18:12:54.0±0.6, 34.78S×72.23W, h22km±4km, ML3.5, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.78**	**142**⇑	*i*P	Pb	18 13 08.3	-0.7
TALC				*i* S	Sb	18 13 19.0	-0.2
NICH	**Los Niches**	**0.85**	**105**⇓	*i*P	Pb	18 13 09.8	-0.4
NICH				*i* S	Sb	18 13 21.2	0.0
LNV	**Longovilo**	**1.07**	**40**⇓	*i*P	Pn	18 13 12.5	-1.1
LNV				*i* S	Sb	18 13 26.7	-0.6
LNCH	**Linares**	**1.18**	**154**	*e*P	Pn	18 13 14.6	-0.6
LNCH				*i* S	Sn	18 13 30.0	-0.5
COCH	**Cobquecura**	**1.42**	**199**	*e*P	Pn	18 13 18.1	-0.3
CHCH	**Chadas Angostu**	**1.56**	**57**	*e*P	Pn	18 13 20.9	+0.5
SAN	**Santiago**	**1.86**	**45**	*e*P	Pn	18 13 25.7	+1.2
SAN				*i* S	Sb	18 13 49.3	-0.9
CLCH	**Cerro Calan**	**1.97**	**46**⇑	*i*P	Pn	18 13 27.6	+1.4
CLCH				*i* S	Sb	18 13 52.3	-1.3
CLCH				AML	AML	18 13 55.5	
	comp=N,575nm,0.5s						
PEL	**Peldehue**	**2.08**	**39**	*e*P	Pn	18 13 28.9	+1.3
PEL				*e*S	Sb	18 13 55.2	-1.4
PEL				AML	AML	18 14 07.0	
	comp=N,621nm,0.7s						

*ISCJB **06** 18:16:48.5±0.6, 50.38S±0.09×114.0E±0.2, h10km, mb4.1/11, Error ellipse: s-maj=23.5km s-min=10.6km az=22.0*
*IDC **06** 18:16:48.9±0.8, 50.31S×113.95E, h0km, mb4.2/7, mb1 4.3/7, mb1mx4.1/21, mbtmp4.2/7, Error ellipse: s-maj=39.6km s-min=17.0km az=108.0*
*NEIC **06** 18:16:50.1±0.4, 50.38S×113.97E, h10km, mb4.1/7, Error ellipse: s-maj=17.2km s-min=7.5km az=111.0*

ISC 06 18:16:50.3±0.6, 50.4S±0.1×114.0E±0.2, h10km, n27, σ0s74/20, mb4.2/11, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CASY	**Casey**	**16.06**	**185**	*e*Pn	**Pn**	**18 20 34.1**	**-1.8**
STKA	**Stephens Creek**	**27.59**	**58**	P	**P**	**18 22 37.4**	**-0.2**
	3.2nm,1.0s,baz=203,slow=5.1,SNR=5.2						
STKA	**Stephens Creek**	**27.59**	**58**	*e*P	**P**	**18 22 37.3**	**-0.2**
	0.7nm,0.9s						
MAW	**Mawson**	**30.29**	**216**	P	**P**	**18 23 01.7**	**+0.6**
	0.8nm,0.9s						
ASAR	**Alice Springs**	**30.85**	**38**	P	**P**	**18 23 06.3**	**-0.3**
	3.8nm,0.8s,baz=208,slow=7.5,SNR=38						
VNDA	**Vanda**	**32.54**	**163**	P	**P**	**18 23 22.0**	**+1.1**
	1.2nm,0.9s,baz=303,slow=10.5,SNR=4.7						
VNDA	**Vanda**	**32.54**	**163**	*e*P	**P**	**18 23 22.0**	**+1.1**
	1.4nm,0.8s						
WRA	**Warramunga Arr**	**34.39**	**35**	P	**P**	**18 23 37.2**	**-0.3**
	5.9nm,0.8s,baz=204,slow=8.7,SNR=18						
WRAB	**Tennant Creek**	**34.40**	**35**	*e*P	**P**	**18 23 37.5**	**-0.2**
	8.3nm,0.8s						
QSPA	**South Pole Qui**	**39.77**	**180**	P	**P**	**18 24 23.5**	**+0.5**
	3.6nm,0.7s,baz=300,slow=1.5,SNR=21						
QSPA	**South Pole Qui**	**39.77**	**180**	*e*P	**P**	**18 24 23.5**	**+0.5**
	4.8nm,0.8s						
SNAA	**Sanae**	**50.42**	**201**	P	**P**	**18 25 47.6**	**+0.3**
	1.5nm,0.7s,baz=151,slow=14,SNR=22						
SNAA	**Sanae**	**50.42**	**201**	P	**P**	**18 25 46.4**	**-0.9**
H08S2	**Diego Garcia H**	**54.74**	**307**	T	T	19 25 16.2	
	baz=148,slow=76,SNR=4.0						
H08S1	**Diego Garcia H**	**54.75**	**306**	T	T	19 25 14.0	
	baz=148,slow=76,SNR=4.8						
H08S3	**Diego Garcia H**	**54.76**	**307**	T	T	19 25 17.9	
	baz=148,slow=76,SNR=5.2						
BOSA	**Boshof**	**67.75**	**252**	P	**P**	**18 27 47.9**	**-0.3**
	11nm,1.8s						
CMAR	**Chiang Mai Arr**	**69.79**	**345**	P	**P**	**18 28 01.1**	**+0.5**
	1.1nm,0.8s,baz=193,slow=5.0,SNR=7.7						
LSA	**Lhasa**	**82.23**	**340**	*e*P	**P**	**18 29 12.4**	**+0.5**
	1.8nm,0.7s						
H10S2	**ASCENSION HYDR**	**106.02**	**233**	T	T	20 30 40.3	
	baz=146,slow=75,SNR=5.8						
H10S3	**ASCENSION HYDR**	**106.03**	**233**	T	T	20 30 37.3	
	baz=146,slow=75,SNR=4.4						
H10S1	**ASCENSION HYDR**	**106.03**	**233**	T	T	20 30 34.4	
	baz=146,slow=75,SNR=5.3						
FINES	**FINESS Array B**	**131.46**	**320**	PKP	**PKPdf**	**18 36 00.7**	**-0.9**
	0.6nm,0.7s,baz=44,slow=4.2,SNR=2.6						
TXAR	**Lajitas Array**	**144.81**	**112**	PKP	PKPbc	18 36 26.6	+0.2
	1.8nm,0.9s,baz=198,slow=5.3,SNR=15						
ELK	**Elko**	**144.82**	**87**	*e*PKPdf	**PKPdf**	**18 36 27.2**	**0.0**
PDAR	**Pinedale Array**	**149.50**	**87**	PKPbc	**PKPbc**	**18 36 39.3**	**-0.2**
	0.8nm,1.0s,baz=278,slow=2.6,SNR=3.8						
YKA	**Yellowknife Ar**	**151.28**	**46**	PKPbc	**PKPbc**	**18 36 42.2**	**-0.5**
	1.0nm,0.6s,baz=271,slow=1.7,SNR=6.3						

*ISCJB **06** 18:17:41.4±0.5, 67.07N±0.03×21.15E±0.10, h0km, Error ellipse: s-maj=5.6km s-min=3.6km az=13.8*
*CSEM **06** 18:17:42.6±0.4, 67.09N×21.20E, h1km, ML2.1, Error ellipse: s-maj=12.3km s-min=7.3km az=113.0, Mining explosion.*
*HEL **06** 18:17:42.8±0.3, 67.07N×20.92E, h0km, ML2.1, Explosion*
*IDC **06** 18:17:42.9±1.1, 67.06N×21.14E, h0km, mb1 2.8/3, mb1mx2.7/31, mbtmp2.7/3, ML2.2/3, Error ellipse: s-maj=18.5km s-min=8.9km az=101.0*
*UPP **06** 18:17:56.0, 66.13N×20.41E, h0km, ML1.6, Mining explosion.*

ISC 06 18:17:42.7±1.0, 67.05N±0.03×21.04E±0.06, h0km, n37, σ1s01/47, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERTU	**Ertsjaerv**	**0.68**	**137**	PG	**Pg**	**18 17 55.7**	**0.0**
	baz=313						
HEF	**Hetta**	**1.69**	**35**	PG	**Pn**	**18 18 13.0**	**-0.5**
	baz=221						
HEF				MSG		18 18 33.6	
	comp=Z,12nm,0.2s						
HEF				SN	**Sn**	**18 18 35.8**	**0.0**
HEF	**Hetta**	**1.69**	**35**	Pg	**Pn**	**18 18 12.9**	**-0.5**
HEF				Sn	**Sn**	**18 18 35.7**	**0.0**
KIF	**Kilpisjarvi**	**1.96**	**358**	PG	**Pn**	**18 18 18.1**	**+0.8**
KIF				MSG		18 18 41.6	

	comp=Z,19nm,0.2s							
KIF				SG	**Sb**	**18 18 45.0**	**+0.8**	
KIF	**Kilpisjarvi**	**1.96**	**358**	Pg	**Pn**	**18 18 18.0**	**+0.8**	
RNF	**Rovaniemi**	**2.02**	**100**	PG	**Pb**	**18 18 19.1**	**-1.2**	
RNF				SG	**Sg**	**18 18 46.6**	**-0.8**	
RNF	**Rovaniemi**	**2.02**	**100**	Pg	**Pb**	**18 18 19.0**	**-1.2**	
RNF				Sg	**Sg**	**18 18 46.6**	**-0.8**	
SGF	**Sodankyl**	**2.17**	**77**	PG	**Pn**	**18 18 20.9**	**+0.9**	
SGF				SG	**Sg**	**18 18 51.5**	**-0.8**	
SGF	**Sodankyl**	**2.17**	**77**	Pg	**Pn**	**18 18 20.9**	**+0.9**	
BURU	**Burvik**	**2.48**	**177**	P	**Pn**	**18 18 25.4**	**+1.1**	
BURU	**Burvik**	**2.48**	**177**	P	**Pn**	**18 18 25.4**	**+1.1**	
SVAU	**Svanoeiden**	**2.64**	**194**	P	**Pn**	**18 18 27.1**	**+0.6**	
SVAU	**Svanoeiden**	**2.64**	**194**	P	**Pn**	**18 18 27.1**	**+0.6**	
OUL	**Oulu**	**2.80**	**133**	PB	**Pb**	**18 18 31.2**	**-2.2**	
OUL	**Oulu**	**2.80**	**133**	Pb	**Pb**	**18 18 31.2**	**-2.2**	
ARE0	**ARCESS Array S**	**3.00**	**32**	PN	**Pn**	**18 18 31.3**	**-0.1**	
ARE0				SN	**Sn**	**18 19 08.5**	**+0.5**	
ARE0	**ARCESS Array S**	**3.00**	**32**	Pn	**Pn**	**18 18 31.3**	**-0.1**	
ARE0				Sn	**Sn**	**18 19 08.5**	**+0.5**	
ARCES	**ARCESS Array B**	**3.00**	**32**	Pn	**Pn**	**18 18 31.6**	**+0.2**	
	comp=Z,0.4nm,0.3s,baz=214,slow=13,SNR=63							
ARCES				Sn	**Sn**	**18 19 07.2**	**-0.7**	
	comp=Z,0.3nm,0.3s,baz=217,slow=26,SNR=5.0							
UMAU	**Umeaa**	**3.19**	**183**	P	**Pn**	**18 18 34.6**	**+0.6**	
UMAU	**Umeaa**	**3.19**	**183**	P	**Pn**	**18 18 34.6**	**+0.6**	
BREU	**Bredtraesk**	**3.34**	**199**	P	**Pn**	**18 18 35.4**	**-0.7**	
BREU	**Bredtraesk**	**3.34**	**199**	P	**Pn**	**18 18 35.4**	**-0.7**	
MSF	**Maaselka**	**3.41**	**106**	PN	**Pn**	**18 18 37.9**	**+0.9**	
MSF	**Maaselka**	**3.41**	**106**	Pn	**Pn**	**18 18 37.9**	**+0.9**	
KEV	**Kevo**	**3.50**	**36**	PN	**Pn**	**18 18 38.5**	**+0.2**	
KEV	**Kevo**	**3.50**	**36**	Pn	**Pn**	**18 18 38.4**	**+0.2**	
KU6	**Riekki**	**3.69**	**102**	PN	**Pn**	**18 18 41.8**	**+0.9**	
KU6	**Riekki**	**3.69**	**102**	Pn	**Pn**	**18 18 41.8**	**+0.9**	
HUSU	**Husum**	**3.81**	**192**	P	**Pn**	**18 18 43.2**	**+0.7**	
HUSU	**Husum**	**3.81**	**192**	P	**Pn**	**18 18 43.2**	**+0.7**	
VAF	**Ylistaro**	**4.09**	**170**	PN	**Pn**	**18 18 47.9**	**+1.6**	
VAF	**Ylistaro**	**4.09**	**170**	Pn	**Pn**	**18 18 47.9**	**+1.6**	
HEMU	**Hemsoen**	**4.58**	**198**	P	**Pn**	**18 18 53.5**	**+0.4**	
HEMU	**Hemsoen**	**4.58**	**198**	P	**Pn**	**18 18 53.5**	**+0.4**	
FINES	**FINESS Array B**	**6.04**	**156**	Pn	**Pn**	**18 19 14.1**	**+0.9**	
	comp=Z,0.1nm,0.3s,baz=341,slow=11,SNR=13							
FINES				Sn	**Sn**	**18 20 22.3**	**-0.6**	
	comp=Z,0.2nm,0.3s,baz=344,slow=22,SNR=5.7							
FINES				Lg	Lg	18 20 51.9		
	comp=Z,0.1nm,0.3s,baz=348,slow=30,SNR=3.0							
NOA	**NORSAR Array B**	**7.41**	**220**	Pn	**Pn**	**18 19 30.9**	**-1.1**	
	comp=Z,0.1nm,0.3s,baz=35,slow=11,SNR=2.5							
NOA				Sn	Sn	18 20 49.3	-7.4	
	comp=Z,0.1nm,0.3s,baz=44,slow=27,SNR=2.5							
OJC	**Ojcow**	**16.90**	**183**	*e*PKP	**P**	**18 21 45.3**	**+2.9**	

*IDC **06** 18:28:21.0±0.6, 53.75S×140.72E, h0km, mb4.5/9, mb1 4.7/9, mb1mx4.4/24, mbtmp4.5/9, MS3.8/3, Ms1 3.8/3, ms1mx3.4/20, Error ellipse: s-maj=30.8km s-min=14.7km az=89.0*

*ISCJB **06** 18:28:21.0±0.4, 53.75S±0.06×140.7E±0.2, h10km, mb4.7/20, MS3.7/3, Error ellipse: s-maj=15.0km s-min=8.4km az=1.7*

*NEIC **06** 18:28:22.4±0.3, 53.75S×140.73E, h10km, mb5.0/11, Error ellipse: s-maj=11.6km s-min=6.9km az=93.0*

ISC 06 18:28:22.8±0.5, 53.82S±0.07×140.9E±0.1, h10km, n59, σ1§72/66, mb4.9/20, MS3.8/3, 4C, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CASY	**Casey**	**19.38**	**218**	*e*P	**P**	**18 32 48.3**	**-0.1**
	38nm,1.1s						
BBOO	**Buckleboo**	**21.29**	**349**	*e*P	**P**	**18 33 08.5**	**-0.8**
	58nm,1.1s						
STKA	**Stephens Creek**	**21.94**	**2**	P	**P**	**18 33 15.9**	**-0.4**
	20nm,0.7s,baz=163,slow=11,SNR=40						
RPZ	**Rata Peaks**	**22.12**	**75**	P	**P**	**18 33 20.2**	**+1.9**
	12nm,0.9s,baz=167,slow=3.6,SNR=4.8						
FORT	**Forrest**	**24.84**	**333**	*e*P	**P**	**18 33 43.4**	**-1.7**
	88nm,1.0s						
VNDA	**Vanda**	**24.98**	**169**	P	**P**	**18 33 46.2**	**+0.2**
	10.0nm,0.7s,baz=330,slow=9.2,SNR=40						
VNDA				LR	LR	18 42 13.1	
	comp=Z,102nm,19.9s,baz=351,slow=33						
H01W1	**Cape Leeuwin H**	**26.66**	**304**	T	T	19 01 44.4	
	baz=143,slow=76,SNR=24						
H01W2	**Cape Leeuwin H**	**26.66**	**304**	T	T	19 01 46.6	
	baz=143,slow=76,SNR=21						
H01W3	**Cape Leeuwin H**	**26.67**	**304**	T	T	19 01 49.5	
	baz=143,slow=76,SNR=24						
EIDS	**Eidsvold**	**29.41**	**19**	*e*P	**P**	**18 34 25.6**	**-0.7**
	27nm,1.4s						
ASAR	**Alice Springs**	**30.57**	**347**	P	**P**	**18 34 35.1**	**-1.4**
	6.2nm,0.7s,baz=166,slow=9.7,SNR=74						
ASAR				PcP	**PcP**	**18 37 33.5**	**-1.6**
	0.4nm,0.7s,baz=158,slow=2.7,SNR=5.3						
ASAR				LR	LR	18 46 02.4	
	comp=Z,227nm,20.8s,baz=48,slow=35						
WRA	**Warramunga Arr**	**34.19**	**349**	P	**P**	**18 35 06.2**	**-2.1**
	18nm,0.9s,baz=168,slow=7.7,SNR=43						
WRAB	**Tennant Creek**	**34.20**	**349**	P	**P**	**18 35 07.0**	**-1.4**
	147nm,0.7s,SNR=11						
WRAB	**Tennant Creek**	**34.20**	**349**	*e*P	**P**	**18 35 06.7**	**-1.7**
	23nm,0.9s						
QSPA	**South Pole Qui**	**36.29**	**180**	P	**P**	**18 35 26.5**	**+0.4**
	23nm,1.0s,baz=338,slow=1.6,SNR=44						
MBWA	**Marble Bar**	**36.39**	**325**	P	**P**	**18 35 24.1**	**-3.1**
	33nm,1.3s						
MAW	**Mawson**	**37.74**	**218**	P	**P**	**18 35 37.8**	**-0.3**
	3.7nm,1.0s,baz=93,slow=12,SNR=5.0						
KAPI	**Kappang**	**51.63**	**333**	*e*P	**P**	**18 37 29.3**	**-0.1**
	2.7nm,0.5s						
SNAA	**Sanae**	**52.22**	**194**	P	**P**	**18 37 33.2**	**-0.1**
	1.6nm,0.7s,baz=160,slow=10						
SNAA				LR	LR	18 59 13.3	
	comp=Z,114nm,19.6s,baz=119,slow=35						
VNA1	**Neumayer--Stat**	**53.88**	**192**	P	**P**	**18 37 45.8**	**+0.3**
LEM	**Lembang**	**54.05**	**318**	P	**P**	**18 37 48.3**	**+0.8**
	41nm,1.3s						
AFI	**Afiamalu**	**54.35**	**61**	P	**P**	**18 37 49.5**	**-0.1**
	72nm,1.4s						
PMSA	**Palmer Station**	**60.18**	**168**	P	P	18 38 26.0	-4.1
KSM	**Kuching**	**60.69**	**324**	*e*P	**P**	**18 38 33.5**	**-0.7**
	14nm,1.1s						
KULM	**Kulim**	**67.87**	**316**	*e*P	**P**	**18 39 20.6**	**-0.7**
	18nm,1.0s						
H08S2	**Diego Garcia H**	**71.19**	**283**	T	T	19 57 16.5	
	baz=144,slow=76,SNR=17						
H08S1	**Diego Garcia H**	**71.20**	**283**	T	T	19 57 17.4	
	baz=144,slow=76,SNR=11						
H08S3	**Diego Garcia H**	**71.21**	**283**	T	T	19 57 18.0	
	baz=144,slow=76,SNR=18						
H08N1	**Diego Garcia H**	**73.10**	**283**	T	T	19 59 44.8	
	baz=137,slow=2.7,SNR=10						
H08N3	**Diego Garcia H**	**73.11**	**283**	T	T	19 59 44.8	
	baz=137,slow=2.7,SNR=6.1						
H08N2	**Diego Garcia H**	**73.12**	**283**	T	T	19 59 44.8	
	baz=137,slow=2.7,SNR=11						
CMAR	**Chiang Mai Arr**	**80.51**	**320**	P	**P**	**18 40 34.4**	**-0.5**
	0.6nm,0.4s,baz=185,slow=4.9,SNR=12						
CHTO	**Chiang Mai**	**80.83**	**320**	*e*P	**P**	**18 40 36.5**	**-0.1**
	4.2nm,1.1s						
GYA	**Guiyang**	**85.27**	**330**	P	**P**	**18 41 02.0**	**+2.4**
GYA				PP	**PP**	**18 44 22.6**	**+4.9**
GYA				SKS	**S**	**18 51 24.2**	**-5.6**
GYA				S	**SKKSac**	**18 51 33.0**	**+2.2**
GYA				SS	SS	18 57 12.0	+7.0
	20nm,1.0s						
GYA				PMZ			
	120nm,5.2s						
GYA				LN			
	490nm,20.8s						
GYA				LE			
	420nm,21.2s						
GYA				LZ			
	460nm,20.4s						
NJ2	**Nanjing**	**87.63**	**341**	*e*P	**P**	**18 41 11.9**	**+1.1**
NJ2				PMZ			
	20nm,0.7s						
CD2	**Chengdu**	**90.32**	**329**	P	**P**	**18 41 24.0**	**+0.4**
CD2				pP	**pP**	**18 41 27.3**	**+0.4**
CD2				SKS	**SKSac**	**18 51 55.2**	**+0.7**
CD2				S	**ScS**	**18 52 20.4**	**-1.0**
CD2				sS	**sS**	**18 52 26.1**	**+2.9**
CD2				SS	**SS**	**18 58 23.4**	**+5.0**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	180nm,5.5s						
CD2				LN			
	250nm,12.6s						
CD2				LZ			
	200nm,15.1s						
LZH	**Lanzhou**	**95.11**	**331**	*e*P	**P**	**18 41 46.5**	**+0.7**
LZH				pP	**pP**	**18 41 50.2**	**+1.1**
LZH				sP	**sP**	**18 41 53.0**	**+2.7**
LZH				PMZ			
	15nm,1.0s						
HHC	**Hu-ho-hao-te**	**97.62**	**338**	*e*P	**P**	**18 41 56.4**	**-0.6**
HHC				sP	**sP**	**18 42 04.2**	**+2.7**
HHC				SKS	**SKSac**	**18 52 32.1**	**-1.9**
HHC				S	**ScS**	**18 53 21.9**	**-0.1**
HHC				SS	**SS**	**19 00 03.6**	**+0.9**
HHC				PMZ			
	21nm,1.5s						
HHC				PMZ			
	89nm,8.7s						
HHC				LN			
	160nm,17.4s						
HHC				LE			
	170nm,19.9s						
HHC				LZ			
	140nm,18.7s						
TORD	**Torodi Ar. Bea**	**128.27**	**234**	PKP	**PKPdf**	**18 47 28.1**	**-1.4**
	0.6nm,1.0s,baz=209,slow=2.1,SNR=2.6						
PDAR	**Pinedale Array**	**133.68**	**74**	PKP	**PKPdf**	**18 47 36.5**	**-2.7**
	0.3nm,0.4s,baz=337,slow=2.1,SNR=3.4						
OKC	**Ostrava-Krasne**	**145.24**	**287**	*e*PKP	**PKPdf**	**18 47 59.9**	**+0.3**
OKC				*ep*PKP	**PKiKP**	**18 48 05.4**	**+1.9**
SOKA	**Soboth**	**145.42**	**281**	⇑*i*PKPab	**PKPab**	**18 48 01.4**	**+1.1**
	8.8nm,1.1s						
ARSA	**Arzberg**	**145.44**	**282**	⇑*i*PKPbc	**PKPbc**	**18 47 58.9**	**-1.2**
	13nm,0.8s						
MORC	**Moravsky Berou**	**145.55**	**287**	*e*PKPdf	**PKPdf**	**18 47 59.8**	**-0.4**
FINES	**FINESS Array B**	**145.68**	**309**	PKPbc	**PKPdf**	**18 47 59.6**	**-0.4**
	1.8nm,0.9s,baz=116,slow=4.4,SNR=3.8						
MYKA	**Terra Mystica**	**146.21**	**280**	⇑*i*pPKPdf	pPKPdf	18 48 04.2	-0.6
	19nm,1.6s						
TREC	**Trest**	**146.49**	**285**	*e*PKP	**PKPab**	**18 48 03.7**	**-0.5**
TREC				*ex*	x	18 48 13.3	
DPC	**Dobruska-Polom**	**146.52**	**287**	*e*PKP	**PKPbc**	**18 48 03.0**	**-0.3**
DPC				*ep*PKP	**PKiKP**	**18 48 08.7**	**+2.5**
DPC				*ex*	x	18 48 13.9	
DPC				*ex*	x	18 48 17.2	
UPC	**Upice**	**146.76**	**287**	*e*PKP	**PKPdf**	**18 48 02.3**	**+0.1**
UPC				*ep*PKP	**PKiKP**	**18 48 07.1**	**+0.5**
UPC				*ex*	x	18 48 17.7	
GERES	**GERESS Array B**	**147.30**	**283**	PKPbc	**PKPbc**	**18 48 04.7**	**-1.0**
	1.2nm,0.7s,baz=150,slow=4.2,SNR=6.8						
PRU	**Pruhonice**	**147.36**	**286**	*e*PKP	**PKPbc**	**18 48 06.1**	**+0.5**
ARCES	**ARCESS Array B**	**147.49**	**324**	PKPbc	**PKPbc**	**18 48 04.6**	**-0.9**
	4.5nm,0.9s,baz=102,slow=4.1,SNR=6.5						
KHC	**Kasperske Hory**	**147.51**	**284**	*e*PKP	**PKPab**	**18 48 07.6**	**-0.7**
KHC				*ex*	x	18 48 14.4	
KHC				*ex*	x	18 48 21.7	
KHC				*ex*	x	18 48 32.1	
BRG	**Berggiesshubel**	**148.10**	**287**	*e*P	**PKPab**	**18 48 09.3**	**-1.3**
	5.3nm,1.2s						
BRG				*e*		18 48 18.6	
	3.6nm,0.8s						
DAVOX	**Davos/Dischmat**	**148.49**	**277**	PKPbc	**PKPbc**	**18 48 08.7**	**-0.3**
	3.0nm,0.8s,baz=180,slow=9.1,SNR=3.4						
NKC	**Novy Kostel**	**148.67**	**285**	*e*PKP	**PKPab**	**18 48 13.1**	**+0.2**
NKC				*ex*	x	18 48 20.6	
NKC				*ex*	x	18 48 27.1	
DAVA	**Damuels**	**148.75**	**278**	⇑*i*pPKiKP	**PKPab**	**18 48 14.9**	**+1.4**
	6.3nm,0.7s						
SPITS	**Spitsbergen Ar**	**149.02**	**341**	PKPbc	**PKPbc**	**18 48 08.4**	**-0.8**
	3.8nm,0.7s,baz=79,slow=7.8,SNR=3.3						
ESDC	**Sonseca Array**	**152.42**	**254**	PKPbc	**PKPbc**	**18 48 18.3**	**-0.2**
	0.7nm,0.6s,baz=67,slow=1.3,SNR=4.6						

*ISCJB **06** 18:33:41.2±0.8, 53.62S±0.08×140.6E±0.4, h10km, mb4.0/8, MS4.0/5, Error ellipse: s-maj=37.5km s-min=10.9km az=0.2*

*IDC **06** 18:33:41.9±1.0, 53.65S×140.80E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.7/26, mbtmp3.7/6, MS4.0/5, Ms1 4.0/5, ms1mx3.5/25, Error ellipse: s-maj=91.8km s-min=16.7km az=86.0*

*NEIC **06** 18:33:43.1±0.7, 53.60S×140.68E, h10km, mb4.6/3, Error ellipse: s-maj=35.0km s-min=10.6km az=90.0*

ISC 06 18:33:43.2±0.9, 53.6S±0.1×140.5E±0.3, h10km, n25, σ1§11/11, mb3.8/8, MS4.0/5, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CASY	**Casey**	**19.38**	**217**	P	**Pn**	**18 38 09.9**	**+0.1**
	6.1nm,1.0s						
STKA	**Stephens Creek**	**21.75**	**3**	P	**P**	**18 38 35.2**	**+0.6**
	2.7nm,0.8s,baz=151,slow=10,SNR=5.1						
RPZ	**Rata Peaks**	**22.33**	**76**	LR	LR	18 45 26.0	
	comp=Z,663nm,19.8s,baz=241,slow=32						
FORT	**Forrest**	**24.54**	**334**	P	**P**	**18 39 02.9**	**+0.1**
VNDA	**Vanda**	**25.23**	**169**	P	**P**	**18 39 07.8**	**-0.8**
	0.9nm,0.8s,baz=326,slow=15,SNR=2.7						
H01W1	**Cape Leeuwin H**	**26.32**	**305**	T	T	19 06 58.4	
	baz=143,slow=76,SNR=23						
H01W2	**Cape Leeuwin H**	**26.33**	**305**	T	T	19 06 58.8	
	baz=143,slow=76,SNR=22						
H01W3	**Cape Leeuwin H**	**26.34**	**305**	T	T	19 07 00.3	
	baz=143,slow=76,SNR=24						
URZ	**Urewera**	**29.35**	**73**	LR	LR	18 50 48.4	
	comp=Z,282nm,19.1s,baz=224,slow=35						
ASAR	**Alice Springs**	**30.32**	**348**	P	**P**	**18 39 55.5**	**+0.8**
	0.7nm,0.5s,baz=165,slow=10,SNR=17						
WRA	**Warramunga Arr**	**33.95**	**350**	P	**P**	**18 40 26.6**	**+0.1**
	0.9nm,0.6s,baz=171,slow=7.5,SNR=11						
WRAB	**Tennant Creek**	**33.95**	**350**	P	**P**	**18 40 24.1**	**-2.5**
	11nm,1.1s						
MBWA	**Marble Bar**	**36.08**	**326**	P	P	18 40 38.9	-6.0
	39nm,1.4s						
QSPA	**South Pole Qui**	**36.49**	**180**	P	**P**	**18 40 47.8**	**-0.4**
	2.1nm,1.1s,baz=318,slow=12,SNR=3.2						
QSPA				LR	LR	18 55 11.9	
	comp=Z,251nm,18.6s,baz=37,slow=35						
MAW	**Mawson**	**37.73**	**218**	LR	LR	18 55 13.8	
	comp=Z,305nm,18.7s,baz=68,slow=34						
SNAA	**Sanae**	**52.35**	**194**	P	**P**	**18 42 55.2**	**+0.5**
	0.3nm,0.8s,baz=168,slow=19,SNR=3.2						
PPT	**Papeete**	**64.16**	**85**	LR	LR	19 06 20.7	
	comp=Z,48nm,19.4s,baz=323,slow=31						
H08S2	**Diego Garcia H**	**70.88**	**283**	T	T	20 02 34.5	
	baz=144,slow=75,SNR=15						
H08S1	**Diego Garcia H**	**70.89**	**283**	T	T	20 02 36.1	
	baz=144,slow=75,SNR=9.9						
H08S3	**Diego Garcia H**	**70.90**	**283**	T	T	20 02 38.1	
	baz=144,slow=75,SNR=15						
H08N1	**Diego Garcia H**	**72.79**	**283**	T	T	20 05 03.4	
	baz=142,slow=76						
H08N3	**Diego Garcia H**	**72.80**	**283**	T	T	20 05 04.5	
	baz=142,slow=76						
H08N2	**Diego Garcia H**	**72.81**	**283**	T	T	20 05 05.0	
	baz=142,slow=76						
PDAR	**Pinedale Array**	**133.88**	**74**	PKP	**PKPdf**	**18 53 00.7**	**+0.8**
	0.2nm,0.3s,baz=316,slow=5.0,SNR=2.0						
ESDC	**Sonseca Array**	**152.22**	**254**	PKPbc	**PKPbc**	**18 53 39.5**	**+1.1**
	0.2nm,0.4s,baz=137,slow=1.7,SNR=3.5						

MAN 06 18:44:48, 7.14N×125.63E, h33km, mb4.7, ML3.6, MS3.6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.65**	**107**	*e*P	Pb	18 45 01.8	+0.7
MATI				*e*S	Sn	18 45 11.8	+1.7
BUKP	**Musuan**	**0.93**	**323**	*e*P	Pb	18 45 06.0	+0.3
BUKP				*e*S	Sn	18 45 17.2	+0.3
GSPH	**General Santos**	**1.24**	**213**	*e*P	Pn	18 45 09.5	+0.2
GSPH				*e*S	Sn	18 45 25.4	+0.4
CTBH	**Cotabato--PC H**	**1.38**	**273**	⇑*i*P	Pn	18 45 11.5	+0.6
CTBH				*i* S	Sn	18 45 28.3	+0.3
CGP	**Cagayan de Oro**	**1.60**	**325**	*e*P	Pn	18 45 15.1	+1.1
CGP				*e*S	Sb	18 45 35.5	-1.4
BUTP	**Butuan**	**1.82**	**360**	*e*P	Pb	18 45 19.6	-1.1
PAGZ	**Pagadian**	**2.34**	**288**	*e*P	Pn	18 45 25.2	+1.1
PAGZ				*e*S	Sn	18 45 50.9	-0.8
MSLP	**Maasin**	**3.07**	**346**	*e*P	Pn	18 45 34.6	+0.4
GUIM	**Jordan**	**4.58**	**319**	*e*P	Pn	18 45 55.4	+0.4

IDC 06 18:46:42.9±15.0, 54.54S×141.08E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/25, mbtmp3.7/4, Error ellipse: s-maj=253.2km s-min=130.0km az=168.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**22.66**	**1**	P	P	18 51 45.5	0.0
	2.0nm,0.8s,baz=177,slow=9.6,SNR=3.8						
H01W1	**Cape Leeuwin H**	**27.14**	**305**	T	T	19 20 12.0	
	baz=142,slow=75,SNR=14						
H01W2	**Cape Leeuwin H**	**27.15**	**305**	T	T	19 20 12.1	
	baz=142,slow=75,SNR=12						
H01W3	**Cape Leeuwin H**	**27.16**	**305**	T	T	19 20 12.8	
	baz=142,slow=75,SNR=10						
ASAR	**Alice Springs**	**31.30**	**347**	P	P	18 53 04.7	0.0
	0.5nm,0.7s,baz=174,slow=8.8,SNR=11						
CTA	**Charters Tower**	**34.62**	**9**	P	P	18 53 33.6	-0.1
	2.3nm,0.8s,baz=165,slow=9.2,SNR=2.0						
WRA	**Warramunga Arr**	**34.92**	**349**	P	P	18 53 36.1	-0.1
	1.0nm,0.8s,baz=174,slow=8.4,SNR=7.3						
H08S2	**Diego Garcia H**	**71.44**	**283**	T	T	20 15 42.8	
	baz=148						
H08S1	**Diego Garcia H**	**71.45**	**283**	T	T	20 15 43.4	
	baz=148						
H08S3	**Diego Garcia H**	**71.46**	**283**	T	T	20 15 44.3	
	baz=148						

*ISCJB **06** 18:49:06.2±0.9, 50.4S±0.2×114.0E±0.4, h10km, mb3.8/6, MS3.6/5, Error ellipse: s-maj=41.7km s-min=16.3km az=24.8*

*IDC **06** 18:49:06.7±1.0, 50.42S×114.07E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/24, mbtmp3.9/6, MS3.7/5, Ms1 3.7/5, ms1mx3.3/22, Error ellipse: s-maj=47.5km s-min=19.6km az=110.0*

ISC 06 18:49:08.1±1.0, 50.4S±0.2×114.1E±0.3, h10km, n13, σ0§33/7, mb3.9/6, MS3.7/5, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.53**	**0**	T	T	19 08 37.5	
	baz=180,slow=74,SNR=39						
H01W1	**Cape Leeuwin H**	**15.53**	**0**	T	T	19 08 34.5	
	baz=180,slow=74,SNR=46						
H01W3	**Cape Leeuwin H**	**15.54**	**0**	T	T	19 08 39.9	
	baz=180,slow=74,SNR=44						
STKA	**Stephens Creek**	**27.55**	**58**	P	**P**	**18 54 54.8**	**-0.2**
	1.3nm,0.8s,baz=197,slow=11,SNR=3.0						
STKA				LR	LR	19 04 16.9	
	comp=Z,114nm,19.3s,baz=213,slow=33						
ASAR	**Alice Springs**	**30.85**	**37**	P	**P**	**18 55 24.6**	**+0.1**
	1.4nm,0.8s,baz=206,slow=7.4,SNR=14						
ASAR				LR	LR	19 07 13.0	
	comp=Z,78nm,18.3s,baz=158,slow=35						
VNDA	**Vanda**	**32.45**	**163**	LR	LR	19 07 50.2	
	comp=Z,130nm,18.4s,baz=322,slow=35						
WRA	**Warramunga Arr**	**34.40**	**35**	P	**P**	**18 55 55.5**	**0.0**
	1.8nm,0.8s,baz=201,slow=10,SNR=7.3						
QSPA	**South Pole Qui**	**39.69**	**180**	P	**P**	**18 56 40.6**	**+0.4**
	2.3nm,0.6s,baz=343,slow=1.2,SNR=21						
LEM	**Lembang**	**43.80**	**351**	LR	LR	19 11 15.1	
	comp=Z,98nm,20.4s,baz=184,slow=30						
URZ	**Urewera**	**45.38**	**100**	LR	LR	19 12 00.8	
	comp=Z,112nm,21.1s,baz=299,slow=30						
SNAA	**Sanae**	**50.38**	**201**	P	**P**	**18 58 04.6**	**-0.3**
	0.4nm,0.7s,baz=150,slow=14,SNR=4.4						
CMAR	**Chiang Mai Arr**	**69.88**	**345**	P	**P**	**19 00 19.1**	**+0.1**
	0.7nm,0.8s,baz=194,slow=5.2,SNR=8.0						
TXAR	**Lajitas Array**	**144.71**	**112**	PKP	**PKPdf**	**19 08 44.7**	**-0.3**
	0.2nm,0.8s,baz=195,slow=2.8,SNR=3.2						

MEX 06 18:50:59.1±0.6, 14.04N×94.07W, h20km, MD4.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.85**	**26**	*e*P	Pn	18 51 27.4	-2.3
PCIG				*i* S	Sn	18 51 48.5	-4.0
HUIG	**Huatulco**	**2.62**	**311**	*e*P	Pn	18 51 37.9	-2.4
HUIG				*i* S	Sn	18 52 07.8	-3.8
TGIG		**2.88**	**18**	*e*P	Pn	18 51 40.8	-3.1
TGIG				*i* S	Sn	18 52 15.2	-2.8
CCIG	**Comitan**	**2.91**	**40**	*e*P	Pn	18 51 42.5	-2.0
CCIG				*e*S	Sn	18 52 16.1	-3.0

*IDC **06** 19:08:20.6±0.4, 29.77N×80.42E, h0km, mb4.8/33, mb1 5.0/34, mb1mx4.9/43, mbtmp4.8/34, ML4.6/1, MS4.2/30, Ms1 4.2/30, ms1mx4.0/51, Error ellipse: s-maj=13.3km s-min=9.4km az=35.0*

*ISCJB **06** 19:08:22.0±0.6, 29.80N±0.01×80.41E±0.01, h17km±4km, mb5.1/205, MS4.3/47, Error ellipse: s-maj=2.6km s-min=1.9km az=38.4*

*SZGRF **06** 19:08:22.1, 29.37N×81.13E, h33km, mb5.2, MS4.0, Nepal*

*BJI **06** 19:08:22.9, 29.90N×80.40E, h25km, mb4.9/65, mB4.8/39, Ms4.7/68, Ms7 4.6/63*

*NDI **06** 19:08:23.4±2.1, 29.80N×80.53E, h10km, ML4.7, mb5.0(NEIC)*

*DMN **06** 19:08:24.0±0.5, 30.19N×80.42E, h10km, Ml5.7/7, Error ellipse: s-maj=29.3km

AGRA eS **Sn** **19 09 57.0 +2.3**
SDNR Sundarnagar 3.41 301 eP Pn 19 09 19.0 +3.2
SDNR ex **Sb** **19 10 01.0 -3.6**
KOLN Koldanda 3.46 125 ePn **Pn** **19 09 19.1 +2.5**
KOLN eSn **Sb** **19 10 01.6 -4.5**
comp=E,2µm,0.5s
BHK Bhakra 3.80 296 ex Pn 19 09 28.8 +7.7
BHK ex x 19 10 27.0
KUDL Kundal 3.81 245 eP **Pn** **19 09 22.3 +1.0**
KUDL eS **Sn** **19 10 07.5 +1.6**
GKN Gorkha 4.12 115 ePn **Pn** **19 09 27.7 +2.1**
GKN eSn **Sn** **19 10 14.7 +1.0**
comp=E,10µm,1.0s
DHRM DHARAMSHALA 4.29 306 eP **Pn** **19 09 29.0 +1.0**
DHRM eS **Sn** **19 10 19.5 +1.5**
DHRM AML AML 19 10 45.6
comp=N,2µm,1.0s
DHRM AML AML 19 10 49.3
comp=E,3µm,0.4s
KHET Khetri 4.39 248 eP **Pn** **19 09 30.5 +1.3**
KHET eS **Sn** **19 10 20.9 +0.8**
PONG Pong 4.39 300 ex Pn 19 09 23.0 -6.2
PONG ex x 19 10 30.0
DMN Daman 4.67 117 ePn **Pn** **19 09 34.9 +1.6**
DMN eSn **Sn** **19 10 28.2 +0.8**
comp=E,5µm,1.3s
DLH Dalhousie 4.69 307 eP **Pn** **19 09 36.0 +2.5**
DLH ex x 19 10 47.0
KKN Kakani 4.72 114 ePn **Pn** **19 09 35.7 +1.7**
KKN eSn **Sn** **19 10 29.1 +0.4**
comp=E,3µm,0.7s
PKIN Phulchoki 4.91 116 ePn **Pn** **19 09 38.1 +1.5**
PKI Pulchoki 4.92 116 ePn **Pn** **19 09 38.2 +1.3**
GUN Gumba 5.15 110 ePn **Pn** **19 09 41.8 +1.7**
RAMN Ramite 6.15 116 ePn **Pn** **19 09 54.7 +1.0**
RAMN eSn **Sn** **19 11 01.6 -2.3**
comp=E,2µm,0.7s
ODAN Odare 6.81 114 ePn **Pn** **19 10 04.0 +1.2**
ODAN eSn **Sn** **19 11 18.4 -1.9**
comp=E,2µm,0.9s
TAPN Taplejung 6.87 109 ePn **Pn** **19 10 04.7 +1.1**
SARP Sargodha 6.98 290 P **Pn** **19 10 05.2 +0.4**
BHPL Bhopal 7.06 203 eP **Pn** **19 10 06.4 +0.3**
BHPL eS **Sn** **19 11 22.1 -4.1**
CHCP Chirah Chowk 7.20 304 P **Pn** **19 10 08.3 +0.5**
BOK Bokaro 7.73 139 eP **Pn** **19 10 15.2 +0.1**
BOK ex x 19 11 39.0
THW Thamme Wali 7.99 294 P **Pn** **19 10 18.5 -0.3**
CEP Cherat 8.27 301 P **Pn** **19 10 22.8 +0.2**
NGP Nagpur 8.71 188 eP **Pn** **19 10 29.5 +1.0**
NGP eS **Sn** **19 12 03.1 -3.4**
LSA Lhasa 9.34 88 eP **Pn** **19 10 38.9 +1.3**
LSA e 19 12 20.9
LSA pmax pmax
comp=Z,78nm,0.8s
LSA Lhasa 9.34 88 ePn **Pn** **19 10 38.9 +1.3**
comp=Z,78nm,0.8s
LSA eSn **Sn** **19 12 20.9 -1.7**
KSH Kashi 10.35 341 P Pn 19 10 54.4 +3.2
KSH pP 19 11 00.6
KSH PP **PnPn** **19 11 02.3 +3.3**
KSH S **Sn** **19 12 48.8 +1.7**
KSH SS **SnSn** **19 13 01.1 +1.9**
KSH sS 19 13 08.4
KSH pmax pmax
comp=Z,90nm,1.0s
KSH pmax pmax
comp=Z,290nm,1.7s
KSH LR LR
comp=N,4µm,4.5s
KSH LR LR
comp=E,2µm,3.8s
KSH LR LR
comp=Z,3µm,8.8s
RPR Rampur 10.95 186 ePn **Pn** **19 10 58.4 -0.8**
RPR IAmb IAmb 19 11 00.4
comp=Z,76nm,0.9s
RPR e 19 12 53.1
RPR eSn **Sn** **19 13 01.3 -0.3**
RPR IVMs_BB IVMs_BB 19 15 27.8
comp=Z,5µm,10.2s
SRSP Sriramsagar 10.99 190 ePn **Pn** **19 10 57.4 -2.5**
SRSP IAmb IAmb 19 11 04.3
comp=Z,76nm,0.9s
SRSP e 19 12 53.5
SRSP eSn **Sn** **19 13 02.6 0.0**
SRSP IVMs_BB IVMs_BB 19 15 27.4
comp=Z,7µm,10.1s
SHL Shillong 11.01 110 eP **Pn** **19 10 59.0 -1.3**
SHL ex x 19 13 00.0
CHLP Challavanipeta 11.73 163 ePn Pn 19 11 06.8 -3.2
CHLP IAmb IAmb 19 11 15.5
comp=Z,58nm,1.0s
CHLP e 19 13 12.0
CHLP eSn **Sn** **19 13 20.4 -0.3**
CHLP IVMs_BB IVMs_BB 19 14 46.5
comp=Z,3µm,3.8s
LATR Latur 11.87 198 eP **Pn** **19 11 11.0 -0.9**
LATR ex x 19 13 15.0
KLRI Killari 12.19 197 ePn **Pn** **19 11 13.9 -2.4**
KLRI IAmb IAmb 19 11 18.4
comp=Z,126nm,1.2s
KLRI e 19 13 24.1
KLRI eSn **Sn** **19 13 34.2 +2.1**
KLRI IVMs_BB IVMs_BB 19 16 04.6
comp=Z,6µm,10.1s
HYBB Hyderabad (bro 12.45 188 ePn **Pn** **19 11 17.3 -2.5**
HYBB IAmb IAmb 19 11 19.8
comp=Z,85nm,0.8s
HYBB e 19 13 28.4
HYBB eSn **Sn** **19 13 40.4 +2.0**
HYBB IVMs_BB IVMs_BB 19 16 21.5
comp=Z,5µm,10.0s
HYB Hyderabad 12.45 188 *i* P Pn 19 11 16.5 -3.4
HYB e 19 11 24.0
HYB eS Sn 19 13 28.0 -10
HYB e 19 13 42.0
HYB LR LR 19 16 16.0
comp=Z,17nm,10.0s
PVM Polavaram 12.55 175 ePn **Pn** **19 11 19.4 -1.8**
PVM IAmb IAmb 19 11 27.1
comp=Z,20nm,0.9s
PVM e 19 13 29.2
PVM eSn **Sn** **19 13 42.7 +1.9**
PVM IVMs_BB IVMs_BB 19 17 14.3
comp=Z,3µm,6.6s
POO Poona 12.72 210 eP **Pn** **19 11 22.1 -1.4**
NJS Nagarjunasagar 13.23 185 ePn Pn 19 11 26.9 -3.6
NJS IAmb IAmb 19 11 30.7
comp=Z,71nm,0.8s
NJS e 19 13 45.2
NJS eSn **Sn** **19 13 59.5 +2.0**
NJS IVMs_BB IVMs_BB 19 16 46.9
comp=Z,5µm,9.6s
TKM2 Tokmak 2 13.65 345 eP **Pn** **19 11 35.2 -1.1**
TKM2 Tokmak 2 13.65 345 ePn **Pn** **19 11 35.1 -1.1**
SRLM Srisailam 13.71 186 ePn Pn 19 11 33.5 -3.6
SRLM IAmb IAmb 19 11 36.8
comp=Z,143nm,0.9s
SRLM e 19 13 56.6
SRLM eSn **Sn** **19 14 10.0 +0.7**
SRLM IVMs_BB IVMs_BB 19 17 08.3
comp=Z,6µm,9.0s
FRU Bishkek 13.81 342 eP **Pn** **19 11 38.0 -0.3**
FRU pmax pmax
comp=Z,120nm,1.6s
FRU pmax pmax
comp=E,100nm,1.8s
FRU MLR MLR
comp=E,2µm,9.0s
EKS2 Erkin-Say 13.89 339 eP **Pn** **19 11 40.5 +0.9**
EKS2 pmax pmax
comp=Z,24nm,1.1s
EKS2 Erkin-Say 13.89 339 ePn **Pn** **19 11 40.5 +0.9**
comp=Z,24nm,1.1s
ADKI Addanki 13.90 182 ePn **Pn** **19 11 37.0 -2.6**
ADKI IAmb IAmb 19 11 43.6
comp=Z,64nm,1.1s
ADKI e 19 14 03.9
ADKI eSn **Sn** **19 14 15.7 +1.8**
ADKI IVMs_BB IVMs_BB 19 17 26.2
comp=Z,4µm,9.0s
RCLA Racherla 14.34 186 ePn Pn 19 11 42.0 -3.7
RCLA IAmb IAmb 19 11 52.0
comp=Z,24nm,0.6s
RCLA e 19 14 12.7
RCLA eSn **Sn** **19 14 26.6 +1.9**
RCLA IVMs_BB IVMs_BB 19 17 29.0
comp=Z,6µm,9.7s
URV Uravakonda 15.07 192 ePn **Pn** **19 11 51.5 -4.1**
URV IAmb IAmb 19 11 54.4
comp=Z,47nm,0.9s
URV e 19 14 27.3
URV eSn **Sn** **19 14 42.9 +0.5**
URV IVMs_BB IVMs_BB 19 17 50.3
comp=Z,5µm,11.2s
WMQ Urumqi 15.15 21 P **Pn** **19 11 57.2 +0.7**
WMQ pP **pP** **19 12 04.7 -0.9**
WMQ PP **PnPn** **19 12 09.7 +5.0**
WMQ S **Sn** **19 14 44.0 -0.1**
WMQ sS S 19 14 54.8 -6.4
WMQ SS **SnSn** **19 14 59.8 +2.8**
WMQ PcP **PcP** **19 17 07.4 +4.2**
WMQ PMZ
comp=Z,310nm,0.8s
WMQ PMZ
comp=Z,430nm,4.0s
WMQ LN
comp=Z,3µm,8.1s
WMQ LE
comp=Z,960nm,7.5s
WMQ LZ
comp=Z,2µm,13.2s
SKHT Srikalahasti 16.00 182 ePn **Pn** **19 12 05.5 -2.2**
SKHT IAmb IAmb 19 12 14.4
comp=Z,39nm,1.1s
SKHT e 19 14 52.2
SKHT eSn **Sn** **19 15 07.5 +2.6**
SKHT IVMs_BB IVMs_BB 19 19 16.7
comp=Z,3µm,6.2s
MK31 Makanchi Array 17.03 4 eP **P** **19 12 22.4 0.0**
MK31 Makanchi Array 17.03 4 ePn **P** **19 12 22.4 0.0**
MKAR Makanchi Array 17.03 4 Pn **Pn** **19 12 17.2 -3.4**
comp=Z,2.0nm,0.3s,baz=190,slow=12,SNR=30
MKAR Sn Sn 19 15 15.3 -14
baz=162,slow=20,SNR=3.0
MKAR LR LR 19 19 44.8
comp=Z,1µm,19.2s,baz=186,slow=40
MKAR ScP **ScP** **19 20 40.9 +0.6**
comp=Z,0.0nm,0.3s,baz=196,slow=2.3,SNR=4.8
GTA Gaotai 18.59 54 ⇑P **P** **19 12 37.1 -2.8**
GTA pP **pP** **19 12 45.1 +1.2**
GTA sP sP 19 12 49.7 +3.9
GTA S Sn 19 15 59.3 -8.6
GTA sS **S** **19 16 11.4 -0.2**
GTA SS **SnSn** **19 16 23.8 +2.1**
GTA PMZ
comp=Z,16nm,2.0s
GTA PMZ
comp=Z,160nm,5.9s
GTA LN
comp=Z,2µm,13.5s
GTA LE
comp=Z,1µm,12.8s
GTA LZ
comp=Z,1µm,13.1s
IMOG Moghan 18.75 295 eP **Pn** **19 12 42.3 0.0**
ITEG Tejag 18.75 285 eP **Pn** **19 12 43.8 +1.6**
CMAI Chiengmai2 19.53 116 P **P** **19 12 50.6 +0.2**
comp=Z,80nm,1.4s,comp=Z,6µm
MHMT Maesarieng 19.73 122 P **Pn** **19 12 53.4 -0.4**
comp=Z,42nm,1.1s,comp=Z,383nm
ISFR Sfrayin 20.03 297 eP Pn 19 12 57.4 -0.2
CHTO Chiang Mai 20.09 119 P **P** **19 12 56.6 +0.3**
comp=Z,406nm,1.3s,comp=Z,4µm
CHTO Chiang Mai 20.09 119 eP **P** **19 12 56.0 -0.4**
CHTO pmax pmax
comp=Z,126nm,1.2s
CHTO Chiang Mai 20.09 119 P Pn 19 12 57.0 -1.2
SNR=52
CHTO Chiang Mai 20.09 119 eP **P** **19 12 56.0 -0.4**
comp=Z,126nm,1.2s
CMMT Chiang Mai 20.10 119 P **P** **19 12 56.6 +0.2**
comp=Z,114nm,1.2s,comp=Z,1µm
CD2 Chengdu 20.18 81 P **P** **19 12 57.2 0.0**
CD2 pP pP 19 13 06.1 +4.9
CD2 sP sP 19 13 10.8 +7.8
CD2 S **S** **19 16 42.2 -1.2**
CD2 PcP **PcP** **19 17 10.7 -0.9**
CD2 PcS **PcS** **19 20 48.3 -1.0**
CD2 PMZ
comp=Z,90nm,1.5s
CD2 PMZ
comp=Z,140nm,5.1s
CD2 LN
comp=Z,2µm,13.0s
CD2 LZ
comp=Z,740nm,10.1s
GEYT Alibeck 20.18 300 P **P** **19 12 57.8 +0.7**
comp=Z,27nm,1.0s,baz=127,slow=9.6,SNR=30
GEYT LR LR 19 22 03.3
comp=Z,558nm,20.0s,baz=150,slow=41
CMAR Chiang Mai Arr 20.31 120 P **P** **19 12 59.0 +0.3**
comp=Z,124nm,1.1s,baz=328,slow=8.2,SNR=179
CMAR PcP **PcP** **19 17 12.6 +0.6**
comp=Z,6.1nm,1.0s,baz=286,slow=3.4,SNR=8.9
CMAR ScP **ScP** **19 20 48.3 +0.3**
comp=Z,0.9nm,0.8s,baz=289,slow=3.9,SNR=5.4
CMAR LR LR 19 22 09.7
comp=Z,142nm,20.6s,baz=259,slow=41
CMAR Chiang Mai Arr 20.31 120 *i* P **P** **19 12 59.2 +0.6**
CMAR pmax pmax
comp=Z,97nm,1.1s
KMI Kunming 20.35 98 P **P** **19 12 59.7 +0.4**
KMI pP pP 19 13 08.6 +5.3
KMI sP sP 19 13 12.8 +7.7
KMI S **S** **19 16 43.6 -3.5**
KMI sS **sS** **19 16 56.4 +2.8**
KMI PMZ
comp=Z,58nm,1.0s
KMI PMZ
comp=Z,170nm,3.1s
KMI LN
comp=Z,230nm,9.1s
KMI LE
comp=Z,300nm,9.1s
KMI LZ
comp=Z,310nm,11.5s
LZH Lanzhou 20.62 66 eP **P** **19 13 02.3 +0.2**
LZH pP pP 19 13 11.5 +5.4
LZH sP sP 19 13 15.5 +7.6
LZH S **S** **19 16 47.1 -5.2**
LZH sS **sS** **19 16 55.4 -3.3**
LZH SS **SnSn** **19 17 16.0 +4.6**
LZH PMZ
comp=Z,130nm,1.6s
LZH PMZ
comp=Z,270nm,5.5s
LZH LN
comp=Z,2µm,12.2s
LZH LE
comp=Z,2µm,11.5s
LZH LZ
comp=Z,3µm,13.3s
LAMP Lampang 20.79 118 P **P** **19 13 04.7 +0.8**
comp=Z,26nm,1.0s,comp=Z,198nm
KURBB Kurchatov Arra 20.84 357 P **P** **19 13 02.9 -1.3**
comp=Z,63nm,1.0s,baz=180,slow=9.5,SNR=84
KURBB S **S** **19 16 51.8 -4.3**
comp=Z,3.5nm,1.1s,baz=181,slow=18,SNR=3.3
KURBB ScP **ScP** **19 20 49.1 +0.4**
comp=Z,1.0nm,0.9s,baz=185,slow=2.4,SNR=5.2
KURK Kurchatov 20.93 357 P **P** **19 13 04.6 -0.5**
comp=Z,716nm,1.0s
KURK Kurchatov 20.93 357 P **P** **19 13 02.9 -2.2**
KURK S **S** **19 16 51.8 -6.1**
KURK Kurchatov 20.93 357 P **P** **19 13 04.5 -0.5**
SNR=94
KURK Kurchatov 20.93 357 P **P** **19 13 02.9 -2.2**
KURK S **S** **19 16 51.8 -6.1**
KURK ScP **ScP** **19 20 49.0 +0.2**
IBND Bandar-abas 21.08 269 eP **P** **19 13 04.0 -2.9**
UTTA Uttaradit 21.96 119 P **P** **19 13 16.8 +0.4**
comp=Z,66nm,1.3s,comp=Z,625nm
IMEH Mehriz 22.25 281 eP **P** **19 13 21.6 +1.8**
ARQ Araqi 22.29 259 P P 19 13 24.5 +4.5
SNR=7.3
PALK Pallekele 22.42 179 P **P** **19 13 23.5 +2.1**
comp=Z,23nm,0.9s,baz=3.5,slow=16,SNR=3.6
PALK S **S** **19 17 22.8 -4.6**
comp=Z,6.2nm,0.7s,baz=184,slow=16,SNR=2.9
PALK Pallekele 22.42 179 P **P** **19 13 23.5 +2.1**
PALK eS **S** **19 17 22.3 -5.0**
PALK S Sn 19 17 22.8 -17
PALK Pallekele 22.42 179 P **P** **19 13 23.5 +2.1**
PALK eS **S** **19 17 22.3 -5.0**
PALK S Sn 19 17 22.8 -17
KHLT Khaolaem Dam 22.45 128 P **P** **19 13 23.7 +2.0**
comp=Z,27nm,1.1s,comp=Z,270nm
UTHA Uthaitani 22.52 125 P **P** **19 13 23.7 +1.2**
comp=Z,25nm,1.0s,comp=Z,243nm
SLVN Son La 22.78 106⇑ *e*P **P** **19 13 26.1 +0.9**
comp=Z,87nm,1.2s
IANJ Anjilo 22.98 291 eP **P** **19 13 29.6 +2.2**
PBKT Sadao Pong 22.99 120 P **P** **19 13 28.1 +0.7**
comp=Z,168nm,1.1s,comp=Z,2µm
IGLO Ghaloghah 23.19 294 eP **P** **19 13 30.8 +1.2**
GYA Guiyang 23.37 92⇑ *i*P **P** **19 13 30.1 -1.3**
GYA pP pP 19 13 41.0 +5.4
GYA sP sP 19 13 46.2 +8.8
GYA PP **PnPn** **19 14 03.8 +6.3**
GYA PcP **PcP** **19 17 20.0 +1.9**
GYA S **S** **19 17 41.3 -2.9**
GYA sS sS 19 17 55.0 +3.7
GYA SS **SnSn** **19 18 25.4 +6.3**
GYA ScP **ScP** **19 20 52.9 -2.9**
GYA PMZ
comp=Z,50nm,1.1s
GYA PMZ
comp=Z,70nm,5.6s
GYA LN
comp=Z,360nm,10.3s
GYA LE
comp=Z,360nm,10.0s
GYA LZ
comp=Z,380nm,11.6s
HVS Khovu-Aksy 23.51 21*d* *i*P **P** **19 13 35.3 +2.8**
IPAR Pars 23.72 277 eP **P** **19 13 36.9 +1.9**
ILAS Lasjerd 23.75 291 eP **P** **19 13 36.4 +1.2**
IFIR Firoozkooh 23.94 291 eP **P** **19 13 38.7 +1.7**
IALA Alasht 23.95 292 eP **P** **19 13 39.8 +2.7**
ZAA0 Zalesovo Array 24.34 6⇑ *e*P **P** **19 13 39.3 -0.8**
ZALV Zalesovo Beam 24.34 6 P **P** **19 13 39.7 -0.5**
comp=Z,78nm,1.1s,baz=194,slow=9.1,SNR=110
ZALV LR LR 19 24 27.7
comp=Z,967nm,19.8s,baz=240,slow=40
ZALV Zalesovo Beam 24.34 6 *i* P **P** **19 13 39.9 -0.3**
ZALV pmax pmax
comp=Z,78nm,1.1s
BVAR Borovoye Array 24.34 345 P **P** **19 13 39.8 -0.5**
comp=Z,2.7nm,0.4s,baz=157,slow=8.0,SNR=50
BVAR PcP **PcP** **19 17 20.6 +1.1**
comp=Z,1.4nm,0.8s,baz=163,slow=5.4,SNR=4.1
BVAR ScP **ScP** **19 20 58.4 +0.6**
comp=Z,1.3nm,0.8s,baz=64,slow=3.4,SNR=5.3
BVAR LR LR 19 24 10.2
comp=Z,838nm,19.1s,baz=160,slow=39
BRVK Borovoye 24.39 345 P **P** **19 13 40.7 0.0**
comp=Z,194nm,1.4s,SNR=18
BRVK Borovoye 24.39 345*c* *i*P **P** **19 13 40.5 -0.2**
BRVK pmax pmax
comp=Z,65nm,1.3s
BRVK MLR MLR
comp=Z,1µm,16.0s
BRVK Borovoye 24.39 345 P **P** **19 13 40.5 -0.2**
SNR=33
BRVK Borovoye 24.39 345⇑ *e*P **P** **19 13 40.0 -0.7**
comp=Z,83nm,1.4s
IDMV Damavand 24.52 291 eP **P** **19 13 43.2 +0.8**
XAN Xi'an 24.53 73 P **P** **19 13 41.2 -1.0**
XAN sP sP 19 13 54.3 +6.0
XAN PP **PnPn** **19 14 16.2 +3.0**
XAN S S 19 17 54.1 -8.3
XAN PMZ
comp=Z,11nm,1.3s
XAN LN
comp=Z,530nm,22.6s
XAN LE
comp=Z,62nm,20.1s
XAN LZ
comp=Z,220nm,11.9s
KHON Khomkaen 24.53 118 P **P** **19 13 43.4 +1.1**
comp=Z,58nm,1.2s,comp=Z,630nm
IKLH Kolahrood 24.78 286 eP **P** **19 13 47.0 +2.3**
SKNT Sakolnakorn 25.06 115 P **P** **19 13 47.5 +0.4**
comp=Z,84nm,1.2s
NVS Novosibirsk 25.10 4⇑ *i*P **P** **19 13 46.8 -0.3**
NVS *i* S **S** **19 18 16.2 +5.1**
NVS pmax pmax
comp=Z,103nm,1.8s
NVS pmax pmax
comp=N,72nm,1.6s
NVS pmax pmax
comp=E,27nm,1.4s
NVS smax smax
comp=N,60nm,2.0s
NVS smax smax
comp=E,25nm,2.4s
ENH Enshi 25.15 82 eP **P** **19 13 47.7 -0.1**
comp=E,28nm,1.0s
PATY Pattaya 25.33 127 P **P** **19 13 52.1 +2.7**
comp=E,66nm,1.1s,comp=E,550nm
IPIR Pirpir 25.36 284 eP **P** **19 13 50.8 +0.7**
IGZV Ghazvin 26.06 293 eP **P** **19 13 57.5 +1.2**
IRAZ Razeghan 26.22 290 eP **P** **19 13 59.6 +2.0**
BTO Baotou 26.37 58 eP **P** **19 13 59.5 +0.6**
BTO PMZ
comp=E,22nm,1.1s
AKTO Aktyubinsk 26.61 327 P **P** **19 14 01.5 +0.7**
comp=E,8.3nm,0.9s,baz=127,slow=13,SNR=17
MOY Mondy 26.66 29 eP **P** **19 14 03.0 +1.6**
MOY pmax pmax
comp=Z,58nm,1.9s
ZAK Zakamensk 26.80 33⇓ *i*P **P** **19 14 03.4 +0.8**
ZAK pmax pmax
comp=Z,31nm,1.0s
SONM Songino Array 26.89 41 P **P** **19 14 05.3 +1.8**
comp=Z,31nm,0.9s,baz=231,slow=9.1,SNR=108
SONM PcP **PcP** **19 17 25.9 +0.3**
comp=Z,2.4nm,0.8s,baz=220,slow=3.4,SNR=3.7
SONM LR LR 19 25 43.9
comp=Z,1µm,21.4s,baz=268,slow=39
SURT Suratani 26.95 137 P **P** **19 14 06.4 +2.2**
comp=Z,32nm,1.3s,comp=Z,374nm
PKDT Phuket 27.54 139 P **P** **19 14 11.7 +2.3**
comp=Z,72nm,1.2s,comp=Z,6µm
HHC Hu-ho-hao-te 27.57 58 eP **P** **19 14 10.8 +1.1**
HHC pP pP 19 14 22.3 +8.3
HHC PP **PnPn** **19 14 53.4 -1.3**
HHC S **S** **19 18 49.7 -0.9**
HHC sS sS 19 19 03.4 +5.6
HHC SS **SnSn** **19 20 03.0 +1.6**
HHC PMZ
comp=Z,34nm,1.4s
HHC PMZ
comp=Z,200nm,7.5s
HHC LN
comp=Z,870nm,14.9s
HHC LE
comp=Z,1µm,18.7s
HHC LZ
comp=Z,1µm,18.7s
KRAR Krasnoyarsk 27.65 15 eP **P** **19 14 10.6 +0.5**
KRAR pmax pmax
comp=Z,195nm,1.7s
KRAR MLR MLR
comp=Z,1µm,18.0s
TIY Taiyuan 27.67 65 eP P 19 14 15.9 +5.3
TIY S **S** **19 18 53.4 +1.2**
TIY PMZ
comp=Z,140nm,6.4s
TIY LN
comp=Z,540nm,11.7s
TIY LE
comp=Z,680nm,9.4s
TIY LZ
comp=Z,1µm,12.2s
SRIT Nakonsritamara 27.73 136 P **P** **19 14 13.1 +2.0**
comp=Z,127nm,0.8s,comp=Z,9µm
TLY Talaya 27.84 32 P **P** **19 14 13.6 +1.7**
comp=Z,7.1nm,0.8s,baz=228,slow=9.7,SNR=21
TLY LR LR 19 26 36.5
comp=Z,494nm,21.9s,baz=182,slow=39
TLY Talaya 27.84 32 P **P** **19 14 13.6 +1.7**

TLY pmax pmax
comp=Z,7.0nm,0.9s
TLY MLR MLR
comp=Z,494nm,21.9s
TLY Talaya 27.84 32 P **P 19 14 13.3 +1.4**
comp=Z,95nm,1.2s,SNR=8.0
TLY Talaya 27.84 32 *eP* **P 19 14 13.1 +1.2**
comp=Z,26nm,1.2s
ISRB Sarab 28.25 295 *eP* **P 19 14 17.5 +1.5**
IRK Irkutsk 28.51 31 *eP* **P 19 14 19.2 +1.4**
IRK *e* 19 17 30.3
IRK pmax pmax
comp=Z,55nm,1.7s
WHN Wuhan 29.29 80 P **P 19 14 25.7 +0.7**
WHN LN
comp=Z,2μm,11.9s
WHN LE
comp=Z,1μm,11.9s
WHN LZ
comp=Z,1μm,12.5s
IMRD Marand 29.89 297 *eP* **P 19 14 32.2 +1.8**
SVE Sverdlovsk 30.37 338⇑ *eP* **P 19 14 35.3 +1.0**
SVE pmax pmax
comp=Z,21nm,1.5s
SVE MLR MLR
comp=Z,566nm,14.0s
ARU Arti 30.75 336 P **P 19 14 38.1 +0.5**
comp=Z,70nm,1.1s,SNR=7.8
ARU Arti 30.75 336*c iP* **P 19 14 37.8 +0.2**
ARU 19 15 36.1
ARU S **S 19 19 41.7 +1.6**
ARU SS **SnSn 19 21 22.0 +3.5**
ARU pmax pmax
comp=Z,29nm,1.7s
ARU Arti 30.75 336⇑ *eP* **P 19 14 37.5 -0.1**
comp=Z,32nm,1.4s
GNI Garni 30.81 299 LR LR 19 28 12.8
comp=Z,111nm,18.9s,baz=85,slow=39
GNI Garni 30.81 299*c iP* **P 19 14 40.4 +1.8**
GNI pmax pmax
comp=Z,69nm,1.6s
GNI Garni 30.81 299 P P 19 14 42.0 +3.4
SNR=7.1
GNI Garni 30.81 299 *eP* **P 19 14 40.0 +1.4**
comp=Z,70nm,1.4s
BJT Baijiatuau 30.86 61 *eP* **P 19 14 39.6 +0.8**
BJT pmax pmax
comp=Z,15nm,0.4s
BJT Baijiatuau 30.86 61 *eP* **P 19 14 39.6 +0.8**
comp=Z,15nm,0.4s
BJI Beijing 30.87 61 P **P 19 14 40.4 +1.6**
BJI S **S 19 19 42.8 +0.5**
BJI PMZ
comp=Z,53nm,1.3s
BJI LN
comp=Z,570nm,16.7s
BJI LE
comp=Z,900nm,17.2s
BJI LZ
comp=Z,630nm,18.8s
KULM Kulim 30.98 138⇑ P **P 19 14 39.7 -0.3**
KULM Kulim 30.98 138 *eP* **P 19 14 40.9 +0.8**
comp=Z,75nm,1.2s
TIA Tai'an 31.31 68⇓ P **P 19 14 43.8 +1.0**
TIA PMZ
comp=Z,20nm,1.1s
TIA LN
comp=Z,630nm,13.1s
TIA LE
comp=Z,800nm,11.9s
TIA LZ
comp=Z,1μm,11.9s
RAYN Ar Rayn 31.73 267 P **P 19 14 48.6 +1.9**
comp=Z,75nm,1.2s,SNR=7.2
RAYN Ar Rayn 31.73 267 *eP* **P 19 14 48.4 +1.7**
comp=Z,22nm,1.3s
IPM Ipoh 31.85 138⇑ P **P 19 14 46.1 -1.6**
IPM Ipoh 31.85 138⇑ *iP* **P 19 14 48.2 +0.5**
comp=Z,70nm,1.2s
ZEI Tsey 31.90 304 *eP* **P 19 14 47.2 -1.0**
ZEI pmax pmax
comp=Z,246nm,1.3s
KTGM Kuala Trenggan 32.45 134⇑ P **P 19 14 52.0 -0.9**
GSI Gunungsitoli 32.71 147 P **P 19 14 57.4 +2.2**
comp=Z,198nm,1.2s
GSI Gunungsitoli 32.71 147⇑ *eP* **P 19 14 57.1 +1.9**
comp=Z,253nm,1.2s
KBZ Khabaz 32.81 305 P **P 19 14 56.2 +0.3**
comp=Z,9.9nm,1.0s,baz=118,slow=5.9,SNR=12
KBZ LR LR 19 31 14.1
comp=Z,102nm,19.1s,baz=93,slow=42
NJ2 Nanjing 32.94 76 *eP* **P 19 14 57.5 +0.4**
NJ2 S **S 19 20 13.5 -1.3**
NJ2 PMZ
comp=Z,30nm,0.6s
NJ2 LN
comp=Z,900nm,21.7s
NJ2 LE
comp=Z,550nm,21.4s
NJ2 LZ
comp=Z,5μm,17.0s
KIV Kislovodsk 33.01 306 *eP* **P 19 14 58.3 +0.5**
KIV pmax pmax
comp=Z,16nm,0.9s
KIV Kislovodsk 33.01 306 P **P 19 14 59.2 +1.4**
SNR=5.6
KIV Kislovodsk 33.01 306 *eP* **P 19 14 58.2 +0.5**
comp=Z,16nm,0.9s
SOKR Solikamsk 33.82 339*c iP* **P 19 15 04.8 +0.4**
SOKR pmax pmax
comp=Z,50nm,1.6s
SOKR MLR MLR
comp=Z,280nm,14.0s
MNSI Mandailing Nat 34.14 144 P **P 19 15 09.2 +1.6**
comp=Z,49nm,1.1s
PBSI Pulau Batu 34.23 147 P P 19 15 11.6 +3.1
comp=Z,282nm,1.2s
DL2 Dalian 34.97 64 P **P 19 15 15.8 +1.1**
DL2 S **S 19 20 45.6 -0.5**
DL2 PMZ
comp=Z,55nm,1.1s
DL2 LE
comp=Z,610nm,14.0s
DL2 LZ
comp=Z,840nm,12.9s
SSE Sheshan 35.04 77 P **P 19 15 17.3 +1.9**
SSE S **S 19 20 44.9 -2.4**
SSE PMZ
comp=Z,47nm,0.8s
SSE PMZ
comp=Z,45nm,5.6s
SSE LN
comp=Z,430nm,23.5s
SSE LE
comp=Z,89nm,23.6s
SSE LZ
comp=Z,310nm,22.9s
BKNI Bangkinang 35.29 142 P **P 19 15 18.9 +1.2**
comp=Z,275nm,1.2s,comp=Z,2μm
BKNI Bangkinang 35.29 142 *eP* **P 19 15 17.7 +0.1**
comp=Z,489nm,1.3s
HIA Hailar 35.51 46*c iP* **P 19 15 20.4 +1.1**
HIA pmax pmax
comp=Z,27nm,1.1s
HIA Hailar 35.51 46 *eP* **P 19 15 20.2 +1.0**
comp=Z,30nm,1.1s
MALT Malatya 35.55 295⇑ *iP* **P 19 15 21.1 +1.2**
PPI Padang Panjang 35.62 144 P **P 19 15 21.7 +1.2**
comp=Z,54nm,1.2s,comp=Z,596nm
SISI Saibi 35.73 147 P P 19 15 24.2 +2.8
comp=Z,121nm,1.2s,comp=Z,1μm
BOD Bodaibo 36.37 30 *eP* **P 19 15 26.9 +0.4**
BOD pmax pmax
comp=Z,23nm,1.7s
YHNB Yeheng 36.64 88 P **P 19 15 29.4 +0.1**
TPRI Tanjung Pinang 36.77 137 P **P 19 15 32.6 +2.3**
comp=Z,42nm,1.2s,comp=Z,3μm
ANN Anapa 36.87 306 *eP* **P 19 15 33.9 +3.0**
ANN MLR MLR
comp=Z,275nm,17.0s
TWG Pinlang 36.96 91 *eP* **P 19 15 34.5 +2.6**
comp=Z,663nm,1.4s
YULB Yu-li 36.97 90 *eP* **P 19 15 34.3 +2.3**
comp=Z,110nm,1.2s
NACB Ninganchiao 36.98 89 *eP* **P 19 15 33.7 +1.6**
comp=Z,85nm,1.2s
VSR Storozhevoye 37.30 317 *eP* **P 19 15 34.4 0.0**

VSR pmax pmax
comp=N,30nm,1.6s
VSR pmax pmax
comp=E,120nm,1.6s
VSR pmax pmax
comp=Z,90nm,1.6s
VOR Voronezh 37.45 318 P **P 19 15 35.0 -0.7**
VOR pmax pmax
comp=Z,300nm,1.2s
CN2 Changchun 38.20 56 P **P 19 15 42.2 0.0**
CN2 PMZ
comp=Z,20nm,1.0s
CN2 PMZ
comp=Z,70nm,4.0s
CN2 LN
comp=Z,410nm,14.0s
CN2 LE
comp=Z,760nm,14.0s
CN2 LZ
comp=Z,860nm,13.0s
MMAI Mount Meron Ar 38.33 287 LR LR 19 35 56.6
comp=Z,223nm,18.5s,baz=145,slow=43
JMBI JAMBI 38.34 141 P **P 19 15 45.6 +2.0**
comp=Z,129nm,1.3s
KSGAH Ganghwa 38.76 66 P **P 19 15 47.2 +0.2**
SNR=9.3
KSSES Seosan 38.81 67 P **P 19 15 47.6 +0.2**
SNR=5.8
MASI Maura Aman, Be 38.86 144 P **P 19 15 49.9 +1.9**
comp=Z,116nm,0.8s
INCN Inchon 38.92 66 *eP* **P 19 15 47.9 -0.5**
comp=Z,79nm,1.2s
KSMUS Musan 39.00 65 P **P 19 15 49.6 +0.6**
SNR=5.4
YNCB YEONCHEON 39.13 65 P **P 19 15 50.7 +0.6**
SNR=10
PRGR Permogore 39.16 334 *eP* **P 19 15 48.2 -1.8**
PRGR pmax pmax
comp=Z,63nm,1.4s
SIM Simferopol' 39.23 306 *eP* **P 19 15 50.8 0.0**
SIM pmax pmax
comp=Z,39nm,1.4s
EIL Elat 39.27 281 LR LR 19 34 31.4
comp=Z,284nm,18.8s,baz=84,slow=40
BR131 Keskin Array S 39.29 297 *eP* **P 19 15 51.8 +0.2**
comp=Z,14nm,1.2s
BRTR Keskin Array B 39.29 297 P **P 19 15 51.0 -0.6**
comp=Z,12nm,1.1s,baz=109,slow=6.7,SNR=45
BRTR Keskin Array B 39.29 297 *iP* **P 19 15 52.0 +0.4**
BRTR pmax pmax
comp=Z,12nm,1.1s
KSICN Icheon 39.55 66 P **P 19 15 54.2 +0.6**
SNR=6.3
TJN Taejon 39.57 68*c iP* **P 19 15 52.9 -0.9**
MOS Moscow 39.77 323 *eP* **P 19 15 54.7 -0.5**
MOS *e* 19 17 30.0
MOS *eS* **S 19 21 59.6 +1.0**
MOS pmax pmax
comp=Z,200nm,1.5s
MOS pmax pmax
comp=Z,136nm,1.4s
KSAR Wonju Array Be 39.92 66 P **P 19 15 56.2 -0.5**
KSAR 19 18 02.3
KSAR 19 21 50.8
KSAR Wonju Array Be 39.92 66 P **P 19 15 56.1 -0.5**
KSAR PcP **PcP 19 18 02.3 +0.2**
KSAR ScP **ScP 19 21 50.8 +0.1**
ANTO Ankara 39.94 298 *eP* **P 19 15 56.8 -0.1**
ANTO pmax pmax
comp=Z,21nm,1.3s
ANTO Ankara 39.94 298 P **P 19 15 57.7 +0.8**
SNR=5.9
ANTO Ankara 39.94 298 *eP* **P 19 15 56.8 -0.1**
comp=Z,21nm,1.3s
KSRS Korea Array 39.95 66 P **P 19 15 56.1 -0.7**
comp=Z,14nm,0.9s,baz=268,slow=8.0,SNR=53
KSRS PcP **PcP 19 18 02.3 +0.2**
comp=Z,6.3nm,1.2s,baz=272,slow=3.1,SNR=7.1
KSRS ScP **ScP 19 21 50.8 0.0**
comp=Z,1.6nm,0.9s,baz=291,slow=3.4,SNR=2.8
KSRS LR LR 19 33 56.2
comp=Z,671nm,19.5s,baz=275,slow=38
KSRS Korea Array 39.95 66 P **P 19 15 56.2 -0.7**
KSRS 19 18 02.3
KSRS 19 21 50.8
KSRS pmax pmax
comp=Z,14nm,0.9s
KSRS pmax pmax
comp=Z,6.0nm,1.2s
KSRS pmax pmax
comp=N,2.0nm,0.9s
KSRS MLR MLR
comp=Z,671nm,19.5s
KSM Kuching 40.02 129⇑ P **P 19 15 57.4 -0.2**
KSM Kuching 40.02 129 *eP* **P 19 15 58.4 +0.7**
comp=Z,31nm,1.3s
PMBI Palembang 40.03 140 P **P 19 15 59.6 +1.8**
comp=Z,262nm,1.2s,comp=Z,3μm
KSIJA INJE 40.07 65 P **P 19 15 58.2 +0.4**
SNR=13
OBN Obninsk 40.10 322 LR LR 19 35 19.0
comp=Z,172nm,18.8s,baz=91,slow=40
OBN Obninsk 40.10 322*c iP* **P 19 15 58.2 +0.3**
OBN *e* 19 17 28.1
OBN *e*PPP PPP 19 17 54.1
OBN pmax pmax
comp=Z,128nm,1.3s
OBN MLR MLR
comp=Z,233nm,14.0s
OBN Obninsk 40.10 322 P **P 19 15 58.1 +0.3**
comp=Z,402nm,1.5s,SNR=8.6
OBN Obninsk 40.10 322 *eP* **P 19 15 58.2 +0.3**
comp=Z,162nm,1.4s
LHSI Lahat 40.11 143 P **P 19 15 57.5 -0.9**
comp=Z,24nm,1.3s
SEHB SEOHWA 40.16 65 P **P 19 15 59.4 +0.7**
SNR=7.1
PPBI Pangkal Pinang 40.19 138 P **P 19 16 00.8 +1.7**
comp=Z,16nm,1.4s,comp=Z,400nm
KSDGY Daegwallycong 40.53 66 P **P 19 16 02.4 +0.6**
SNR=10
KSJMJ Jumunjin 40.58 65 P **P 19 16 02.8 +0.7**
SNR=11
SBUM Sibu 40.63 126⇑ P **P 19 16 02.2 -0.6**
BTM Bintulu 40.72 124⇑ P **P 19 16 04.2 +0.6**
KSTBA Taebaek 40.79 66 P **P 19 16 04.4 +0.5**
SNR=21
MDSI Maura Dua 41.01 142 P **P 19 16 04.3 -1.5**
comp=Z,15nm,1.2s
KKM Kota Kinabalu 41.17 118⇑ P **P 19 16 05.3 -2.0**
KKM Kota Kinabalu 41.17 118 *eP* **P 19 16 08.2 +0.9**
comp=Z,48nm,1.2s
MDJ Mudanjiang 41.24 55 P **P 19 16 06.1 -1.4**
MDJ S S 19 22 12.7 -8.2
MDJ PMZ
comp=Z,16nm,1.3s
MDJ PMZ
comp=Z,91nm,6.0s
MDJ LN
comp=Z,140nm,19.7s
MDJ LE
comp=Z,88nm,20.0s
MDJ LZ
comp=Z,240nm,19.0s
MDJ Mudanjiang 41.24 55 *eP* **P 19 16 06.5 -1.0**
comp=Z,15nm,1.0s
LWLI Liwa 41.39 143 P P 19 16 15.3 +6.2
TPI Tanjungpandan 41.56 136 P **P 19 16 12.1 +1.7**
comp=Z,22nm,1.4s
STKI Sintang 41.84 129 P **P 19 16 14.9 +2.2**
comp=Z,44nm,1.2s,comp=Z,5μm
KASI Kota Agung 42.05 143 P **P 19 16 13.4 -1.0**
comp=Z,32nm,1.2s
USRK Ussuriysk Ar. 42.94 56 P **P 19 16 21.6 +0.2**
comp=Z,16nm,1.1s,baz=259,slow=7.2,SNR=15
USRK LR LR 19 36 28.7
comp=Z,248nm,21.6s,baz=267,slow=39
KIS Kishinev 43.10 308 *eP* **P 19 16 22.0 -0.6**
KIS Kishinev 43.10 308 *eP* **P 19 16 22.0 -0.6**
KLR Kul'dur 43.16 48 *eP* P 19 16 19.9 -3.2
KLR *e* 19 18 09.8
KULA Kula-Manisa 43.21 296 P **P 19 16 23.5 -0.3**
KULA Kula-Manisa 43.21 296 P **P 19 16 23.5 -0.3**
TIRR Tirgusor 43.25 305 *eP* **P 19 16 24.7 +0.8**
TIRR pmax pmax
comp=Z,29nm,1.4s
TIRR Tirgusor 43.25 305 *eP* **P 19 16 24.7 +0.8**
comp=Z,29nm,1.4s
AKASG Malin Array Be 43.27 314 P **P 19 16 23.7 -0.2**
comp=Z,17nm,1.1s,baz=86,slow=6.0,SNR=48
AKASG Malin Array Be 43.27 314 *iP* **P 19 16 24.0 0.0**
AKASG pmax pmax
comp=Z,20nm,1.0s
KIEV Kiev 43.28 314*c iP* **P 19 16 23.8 -0.2**
KIEV Kiev 43.28 314 *eP* **P 19 16 23.3 -0.7**
comp=Z,50nm,1.4s
PSN Preselentsi 43.40 303⇓ *iP* **P 19 16 26.4 +1.3**
PSN Preselentsi 43.40 303 *iP* **P 19 16 25.8 +0.7**
TMCR Tamitsa 43.46 335 *eP* **P 19 16 25.7 +0.5**
TMCR pmax pmax
comp=Z,122nm,1.5s
CFR Carcaliu 43.47 306⇓ *iP* **P 19 16 26.4 +0.8**
MSAB Monastry St. A 43.66 304⇓ *iP* **P 19 16 28.4 +1.2**
PRD Provadia 43.97 303⇓ *iP* **P 19 16 30.9 +1.2**
PRD Provadia 43.97 303 *iP* **P 19 16 30.0 +0.3**
VRI Vrincioaia 44.48 307⇓ *iP* **P 19 16 35.3 +1.5**
PLOR Plostina 44.54 307⇓ *iP* **P 19 16 36.1 +1.8**
TESR Tescani 44.56 307⇓ *iP* **P 19 16 35.4 +1.0**
JMB Yambol 44.58 302⇓ *iP* **P 19 16 35.8 +1.1**
JMB Yambol 44.58 302 *iP* **P 19 16 35.7 +1.1**
ISR Istrita 44.59 305⇑ *iP* **P 19 16 35.6 +0.9**
MICGM Minsk 44.76 319 *e* **P 19 16 35.0 -0.8**
MNK Minsk 44.78 319 *eP* **P 19 16 35.0 -1.0**
MLR Muntele Rosu 45.02 306⇑ *iP* **P 19 16 39.8 +1.6**
ALN Alexandroupoli 45.06 299 P **P 19 16 38.5 +0.1**
ALN Alexandroupoli 45.06 299 *eP* **P 19 16 39.0 +0.6**
ALN Alexandroupoli 45.06 299 P **P 19 16 38.5 +0.1**
ALN Alexandroupoli 45.06 299 P **P 19 16 38.5 +0.1**
YAK Yakutsk 45.29 30 P **P 19 16 39.9 0.0**
YAK pmax pmax
comp=Z,29nm,0.9s
YAK Yakutsk 45.29 30 P **P 19 16 39.9 0.0**
comp=Z,30nm,0.9s
DOPR Dopca 45.42 307⇓ *iP* **P 19 16 42.7 +1.4**
RDO Rodhopi 45.42 300 *eP* **P 19 16 42.5 +1.2**
NACGM Naroch 45.46 319 *eP* **P 19 16 40.0 -1.4**
SMTH Samothraki Isl 45.48 299 *eP* **P 19 16 42.5 +0.7**
SMTH Samothraki Isl 45.48 299 P **P 19 16 42.1 +0.3**
SMTH Samothraki Isl 45.48 299 P **P 19 16 42.1 +0.3**
IDID Didziasalis 45.56 320 *eP* **P 19 16 43.0 +0.8**
IDID IAmb IAmb 19 16 44.4
comp=Z,20nm,1.1s
BURAR Bucovina Array 45.59 309⇑ *iP* **P 19 16 43.6 +0.9**
VOIR 45.65 306⇑ *iP* **P 19 16 44.1 +0.9**
LIA Limnos Island 45.79 298 *eP* **P 19 16 44.0 -0.2**
LIA Limnos Island 45.79 298 P **P 19 16 43.3 -0.9**
LIA Limnos Island 45.79 298 P **P 19 16 43.3 -0.9**
IIGN Ignalina 45.86 320 *eP* **P 19 16 45.4 +0.8**
IIGN IAmb IAmb 19 16 46.9
comp=Z,40nm,1.1s
IZAR Zarasai 45.92 320 *eP* **P 19 16 45.9 +0.8**
IZAR IAmb IAmb 19 16 47.4
comp=Z,55nm,1.1s
ISAL Salakas 45.96 320 *eP* **P 19 16 46.1 +0.8**
ISAL IAmb IAmb 19 16 47.7
comp=Z,29nm,1.0s
SANT Santorini 45.99 293 *eP* P 19 16 53.0 +7.1
KPJI Karang Pucung 45.99 139 P **P 19 16 44.2 -1.8**
comp=Z,20nm,1.4s
RZN Rozhen 46.01 301 *iP* **P 19 16 46.5 +0.3**
NPS Neapolis 46.03 292 *eP* P 19 16 55.0 +8.7
LAST Lasithi 46.16 292 *eP* **P 19 16 48.0 +0.7**
VSU Vasula 46.27 324*d iP* **P 19 16 48.0 +0.3**
VSU pmax pmax
comp=Z,210nm,1.4s
VSU MLR MLR
comp=Z,662nm,18.0s
PGB Panagyurishte 46.36 302 *iP* **P 19 16 49.7 +0.9**
LVV L'vov 46.49 312 *eP* **P 19 16 50.0 +0.4**
BKB Balikpapan 46.54 125 P **P 19 16 52.7 +2.3**
comp=Z,109nm,0.9s,comp=Z,1μm
LVZ Lovozero 46.59 338*c eP* **P 19 16 50.1 -0.1**
LVZ pmax pmax
comp=Z,88nm,1.6s
LVZ MLR MLR
comp=Z,365nm,16.0s
LVZ Lovozero 46.59 338 P **P 19 16 50.7 +0.5**
comp=Z,263nm,1.1s,SNR=5.7
LVZ Lovozero 46.59 338 *eP* **P 19 16 50.4 +0.3**
comp=Z,90nm,1.4s
MPEP Malo Peshtene 46.63 303 *iP* **P 19 16 51.8 +0.9**
SMRI Semarang 46.64 137 P **P 19 16 52.1 +0.9**
comp=Z,54nm,1.2s
NVR Nevrokopi 46.67 300 *eP* **P 19 16 51.5 +0.3**
NVR Nevrokopi 46.67 300 P **P 19 16 51.1 -0.1**
NVR Nevrokopi 46.67 300 P **P 19 16 51.1 -0.1**
MMB Musomiste 46.75 301⇑ *iP* **P 19 16 52.8 +0.9**
MMB Musomiste 46.75 301 *iP* **P 19 16 51.5 -0.4**
MHLO Agia Marina, M 46.78 294 *eP* **P 19 16 54.5 +2.4**
APA Apatity 46.83 337⇓ *iP* **P 19 16 53.2 +1.2**
APA *e*S **S 19 23 38.0 -3.7**
APA pmax pmax
comp=Z,77nm,1.5s
APA MLR MLR
comp=Z,500nm,11.0s
AOS Alonnisos 46.87 297 *eP* **P 19 16 53.0 +0.3**
SRS Serrai 46.89 300 P **P 19 16 53.2 +0.3**
SRS Serrai 46.89 300 *eP* **P 19 16 53.0 +0.1**
SRS Serrai 46.89 300 P **P 19 16 53.2 +0.3**
SRS Serrai 46.89 300 P **P 19 16 53.2 +0.3**
EREA Eretria 46.91 296 *eP* P 19 16 48.5 -4.7
PAIG Paliouri 46.94 298 P **P 19 16 53.9 +0.7**
PAIG Paliouri 46.94 298 *eP* **P 19 16 54.0 +0.7**
PAIG Paliouri 46.94 298 P **P 19 16 53.9 +0.7**
PAIG Paliouri 46.94 298 P **P 19 16 53.9 +0.7**
VTS Vitosha 47.07 302 P **P 19 16 54.8 +0.4**
VTS Vitosha 47.07 302⇑ *iP* **P 19 16 55.5 +1.1**
VTS Vitosha 47.07 302 *iP* **P 19 16 54.4 0.0**
VTS Vitosha 47.07 302 P **P 19 16 54.8 +0.4**
VTS Vitosha 47.07 302 P **P 19 16 54.8 +0.4**
PLG Polygyros 47.07 299 P **P 19 16 54.9 +0.6**
PLG Polygyros 47.07 299 *eP* **P 19 16 55.0 +0.6**
PLG Polygyros 47.07 299 P **P 19 16 54.9 +0.6**
PLG Polygyros 47.07 299 P **P 19 16 54.9 +0.6**
SOH Sokhos 47.10 300 P **P 19 16 55.0 +0.4**
SOH Sokhos 47.10 300 P **P 19 16 55.0 +0.4**
SOH Sokhos 47.10 300 P **P 19 16 55.0 +0.4**
MRKA Markates 47.15 297 *eP* **P 19 16 55.0 0.0**
VAM Vamos 47.15 292 *eP* **P 19 16 55.5 +0.5**
DEV Deva 47.15 307⇑ *iP* **P 19 16 56.6 +1.7**
KKB Krupnik 47.21 301 *iP* **P 19 16 55.4 0.0**
GZR Gura Zlata 47.25 306⇑ *iP* **P 19 16 56.7 +1.0**
DRGR 47.28 308⇓ *iP* **P 19 16 57.1 +1.2**
KWP Kalwaria Pacla 47.34 312 *eP* **P 19 16 57.6 +1.3**
KWP Kalwaria Pacla 47.34 312 *eP* **P 19 16 57.6 +1.3**
GVD Gavdhos 47.34 291 *eP* **P 19 16 56.0 -0.5**
GVD Gavdhos 47.34 291 P **P 19 16 55.0 -1.5**
NEO Neokhori 47.36 298 *eP* **P 19 16 55.0 -1.6**
FINES FINESS Array B 47.37 328 P **P 19 16 56.7 +0.4**
comp=Z,8.4nm,0.6s,baz=123,slow=8.5,SNR=52
XOR Xorichti 47.37 298 *eP* **P 19 16 56.5 -0.2**
XOR Xorichti 47.37 298 P **P 19 16 56.6 -0.2**
XOR Xorichti 47.37 298 P **P 19 16 56.6 -0.2**
SUW Suwalki 47.40 318 *eP* **P 19 16 57.0 +0.4**
SUW Suwalki 47.40 318 *eP* **P 19 16 57.0 +0.4**
KNT Kendrikon 47.41 300 P **P 19 16 56.8 -0.2**
KNT Kendrikon 47.41 300 P **P 19 16 56.8 -0.2**
KNT Kendrikon 47.41 300 P **P 19 16 56.8 -0.2**
SMIA Simia 47.42 297 *eP* **P 19 16 57.5 +0.4**
SMIA Simia 47.42 297 P **P 19 16 57.3 +0.2**
VIL2 Platees 47.46 296 *eP* **P 19 16 54.5 -2.9**
KBKI Kotabaru 47.48 128 P **P 19 16 59.6 +1.9**
comp=Z,63nm,1.2s,comp=Z,522nm
UZH Uzhgorod 47.58 310 *eP* **P 19 16 58.2 +0.1**
UZH *e* 19 17 11.0
UZH *e*S **S 19 23 50.0 -2.8**
KOLS Kolonicke sedl 47.60 311 *eP* **P 19 16 59.1 +0.8**
KOLS pmax pmax
comp=Z,11nm,1.3s
KOLS Kolonicke sedl 47.60 311 *eP* **P 19 16 59.1 +0.8**
VAY Valandovo 47.64 300 P **P 19 16 59.1 +0.4**
VAY Valandovo 47.64 300 P **P 19 16 59.1 +0.4**
VAY Valandovo 47.64 300 P **P 19 16 59.1 +0.4**
MPSI Mapaga 47.65 121 P **P 19 17 00.5 +1.4**
comp=Z,33nm,1.1s
LOUT Loutraki 47.72 296 *eP* P 19 17 06.5 +7.1
AXAR Agios Charalam 47.86 297 *eP* P 19 16 55.0 -5.5
VLI Veliai 47.94 294 *eP* **P 19 17 00.0 -1.1**

VLI	Veliai	47.94	294	P		P		19 16 59.2	-1.9
VLI	Veliai	47.94	294	P		P		19 16 59.2	-1.9
THAL	Thalero	47.96	296	*e*P		P		19 17 09.0	+7.8
SIRR	Siria	48.01	307	⇓*i*P		P		19 17 03.4	+1.8
GUR	Goura	48.22	296	*e*P		P		19 17 02.5	-0.9
MAJO	Matsushiro	48.23	66	*d*iP		P		19 17 03.3	-0.1
MAJO					pmax	pmax			
	comp=Z,78nm,1.0s								
MAJO					MLR	MLR			
	comp=Z,3μm,21.0s								
MAJO	Matsushiro	48.23	66	*e*P		P		19 17 03.0	-0.3
	comp=Z,23nm,1.2s								
MAT	Matsushiro	48.23	66	P		P		19 17 02.6	-0.8
MAT				*e*S		S		19 23 59.9	-2.5
MAKR	Makrakomi, Fth	48.23	297	*e*P		P		19 17 03.5	+0.1
THL	Klokotos Trika	48.26	298	*e*P		P		19 17 02.0	-1.5
VLX	Vlachokerasia	48.28	295	*e*P		P		19 17 03.0	-0.9
VLX	Vlachokerasia	48.28	295	P		P		19 17 02.5	-1.4
VLX	Vlachokerasia	48.28	295	P		P		19 17 02.5	-1.4
STHS	Stebnicka Huta	48.28	311	*e*P		P		19 17 03.9	+0.3
STHS					pmax	pmax			
	comp=Z,4.0nm,1.1s								
STHS	Stebnicka Huta	48.28	311	*e*P		P		19 17 03.9	+0.3
LAKA	Lakka	48.46	296	*e*P		P		19 17 04.5	-0.7
EVR	Evrytania	48.50	297	*e*P		P		19 17 05.0	-0.5
ITM	Ithomi	48.66	295	*e*P		P		19 17 05.0	-1.7
DRO	Drossia	48.71	296	*e*P		P		19 17 06.0	-1.1
KECS	Kecovo	48.78	310	*e*P		P		19 17 08.6	+1.2
KECS					pmax	pmax			
	comp=Z,4.0nm,1.3s								
KECS	Kecovo	48.78	310	*e*P		P		19 17 08.6	+1.2
KMMI	Kalianget	48.81	133	P		P		19 17 09.2	+1.3
	comp=Z,25nm,1.3s,comp=Z,4μm								
PYL	PYLOS	48.86	295	*e*P		P		19 17 05.5	-2.7
PYL	PYLOS	48.86	295	P		P		19 17 06.7	-1.5
PYL	PYLOS	48.86	295	P		P		19 17 06.7	-1.5
NEST	Nestorio	48.89	299	*e*P		P		19 17 08.5	0.0
NEST	Nestorio	48.89	299	P		P		19 17 06.7	-1.8
NIE	Niedzica	48.89	311	*e*P		P		19 17 09.8	+1.5
NIE	Niedzica	48.89	311	*e*P		P		19 17 09.9	+1.6
DSL	Palaion Diasel	49.02	298	*e*P		P		19 17 09.5	+0.1
MRSI	Marisa	49.10	119	P		P		19 17 11.4	+1.1
	comp=Z,50nm,1.2s,comp=Z,1μm								
BLJI	Banyuglugur	49.11	134	P		P		19 17 10.6	+0.4
	comp=Z,59nm,1.1s								
JAN	Janina	49.13	298	P		P		19 17 10.5	+0.2
JAN	Janina	49.13	298	P		P		19 17 10.5	+0.2
JAN	Janina	49.13	298	P		P		19 17 10.5	+0.2
PSZ	Piszkesteto	49.18	309	*e*P		P		19 17 11.2	+0.6
PSZ					pmax	pmax			
	comp=Z,10.0nm,0.9s								
PSZ	Piszkesteto	49.18	309	⇑*i*P		P		19 17 12.2	+1.6
PSZ	Piszkesteto	49.18	309	*e*P		P		19 17 11.2	+0.6
	comp=Z,10nm,0.9s								
PSZ	Piszkesteto	49.18	309	⇓*e*P		P		19 17 11.8	+1.2
OJC	Ojcow	49.23	312	*e*P		P		19 17 09.6	-1.3
OJC	Ojcow	49.23	312	*e*P		P		19 17 09.7	-1.2
DIVS	Divibare	49.30	304	⇓*i*P		P		19 17 12.5	+0.9
DIVS	Divibare	49.30	304	P		P		19 17 11.6	0.0
ABJI	Asem Bagus	49.55	134	P		P		19 17 13.5	-0.1
	comp=Z,57nm,1.2s								
TTSI	Tana Toraja	49.87	124	P		P		19 17 16.8	+0.7
	comp=Z,33nm,1.1s,comp=Z,305nm								
KEV	Kevo	49.91	339	*e*P		P		19 17 16.0	+0.3
KEV					pmax	pmax			
	comp=Z,83nm,1.4s								
KEV	Kevo	49.91	339	*e*P		P		19 17 16.0	+0.3
	comp=Z,83nm,1.4s								
PKSM	Moragy	50.11	307	⇓*i*P		P		19 17 18.5	+0.9
PKSM	Moragy	50.11	307	⇓*e*P		P		19 17 18.3	+0.7
OKC	Ostrava-Krasne	50.30	312	*e*P		P		19 17 19.5	+0.5
OKC	Ostrava-Krasne	50.30	312	*e*P		P		19 17 19.5	+0.5
ARCES	ARCESS Array B	50.31	338	P		P		19 17 19.4	+0.6
	comp=Z,51nm,0.8s,baz=108,slow=7.8,SNR=51								
ARCES					LR	LR		19 39 04.8	
	comp=Z,160nm,20.8s,baz=106,slow=37								
ARE0	ARCESS Array S	50.31	338	*e*P		P		19 17 19.4	+0.6
ARE0					IAmb	IAmb		19 17 21.6	
	comp=Z,165nm,1.4s								
ARE0	ARCESS Array S	50.31	338	*e*P		P		19 17 19.2	+0.4
SRBI	Singaraja	50.39	133	P		P		19 17 19.8	-0.2
	comp=Z,59nm,1.3s								
YSS	Yuzh-Sakhalins	50.46	52	P		P		19 17 20.8	+0.6
YSS	Yuzh-Sakhalins	50.46	52	P		P		19 17 20.8	+0.6
SPSI	Sidrap Palu	50.47	125	P		P		19 17 21.0	+0.3
	comp=Z,10.0nm,1.1s								
ASAJ	Asahikawa	50.57	56	LR		LR		19 40 30.3	
	comp=Z,425nm,19.6s,slow=38								
KMSI	Cibinong	50.61	117	P		P		19 17 26.0	+4.3
	comp=Z,119nm,1.2s								
MORC	Moravsky Berou	50.69	312	*e*P		P		19 17 22.3	+0.3
MORC					pmax	pmax			
	comp=Z,88nm,1.3s								
MORC	Moravsky Berou	50.69	312	⇓*i*P		P		19 17 23.1	+1.1
MORC	Moravsky Berou	50.69	312	*e*P		P		19 17 22.3	+0.3
	comp=Z,88nm,1.3s								
KTK1	Kautokeino	50.87	337	*e*P		P		19 17 23.3	+0.3
KTK1					IAmb	IAmb		19 17 24.2	
	comp=Z,30nm,0.9s								
GKP	Gorka Klasztor	50.88	316	*e*P		P		19 17 23.8	+0.5
GKP	Gorka Klasztor	50.88	316	*e*P		P		19 17 23.9	+0.6
KRLC	Kraliky	51.17	312	*e*P		P		19 17 26.2	+0.5
KRLC				*es*P		sP		19 17 41.4	+10
KRLC	Kraliky	51.17	312	*e*P		P		19 17 26.2	+0.5
KRLC				*e*				19 17 41.4	
KAPI	Kappang	51.19	126	P		P		19 17 25.9	-0.2
	comp=Z,172nm,1.1s,SNR=14								
KAPI	Kappang	51.19	126	P		P		19 17 25.1	-1.0
	comp=Z,36nm,1.1s,baz=306,slow=7.0,SNR=20								
KAPI	Kappang	51.19	126	P		P		19 17 25.8	-0.3
	SNR=12								
KAPI	Kappang	51.19	126	*e*P		P		19 17 25.0	-1.1
	comp=Z,41nm,1.1s								
KAPI				*e*PP		PP		19 19 22.3	-0.8
ERM	Erimo	51.22	58	*e*P		P		19 17 27.1	+1.1
ERM					pmax	pmax			
	comp=Z,47nm,2.4s								
ERM					MLR	MLR			
	comp=Z,315nm,17.0s								
HAMF	Hammerfest	51.30	339	*e*P		P		19 17 27.4	+1.2
HAMF					IAmb	IAmb		19 17 31.0	
	comp=Z,424nm,1.7s								
VRAC	Vranov	51.33	311	⇑*i*P		P		19 17 28.4	+1.6
KMBO	Kilima Mbogo	51.37	241	P		P		19 17 28.7	+0.9
	comp=Z,12nm,1.1s,baz=34,slow=11,SNR=10								
KMBO					LR	LR		19 40 03.6	
	comp=Z,256nm,18.2s,baz=98,slow=37								
KMBO	Kilima Mbogo	51.37	241	*i* P		P		19 17 28.2	+0.4
KMBO					pmax	pmax			
	comp=Z,12nm,1.1s								
KMBO	Kilima Mbogo	51.37	241	*e*P		P		19 17 28.7	+0.9
	comp=Z,15nm,1.2s								
DPC	Dobruska-Polom	51.46	313	*e*P		P		19 17 28.6	+0.8
DPC				*ep*P		pP		19 17 37.3	+5.0
DPC				*es*P		sP		19 17 43.6	+10
DPC				AMS		AMS		19 42 30.0	
	comp=Z,200nm,16.1s								
DPC	Dobruska-Polom	51.46	313	*e*P		P		19 17 28.6	+0.8
DPC				*e*				19 17 37.3	
DPC				*e*				19 17 43.6	
DPC				MLR		MLR			
	comp=Z,200nm,16.1s								
KSP	Ksiaz	51.47	313	*e*P		P		19 17 29.0	+1.2
KSP	Ksiaz	51.47	313	*e*P		P		19 17 29.0	+1.2
UPC	Upice	51.65	313	*e*P		P		19 17 30.3	+1.1
UPC				*es*P		sP		19 17 45.7	+10
UPC				AMS		AMS		19 42 30.0	
	comp=Z,200nm,13.6s								
UPC	Upice	51.65	313	*e*P		P		19 17 30.3	+1.1
UPC				*e*				19 17 45.7	
UPC				MLR		MLR			
	comp=Z,200nm,13.6s								
BKSI	Bulukumba	51.67	126	P		P		19 17 28.6	-1.1
	comp=Z,12nm,0.9s								
CONA	Conrad Observa	51.89	309	⇓*i*P		P		19 17 31.6	+0.5
	comp=Z,38nm,1.3s,SNR=18								
TREC	Trest	52.05	311	*e*P		P		19 17 32.8	+0.6
TREC	Trest	52.05	311	*e*P		P		19 17 32.8	+0.6
ARSA	Arzberg	52.17	309	⇓*i*P		P		19 17 33.8	+0.7
	comp=Z,18nm,1.4s,SNR=8.6								
TIP	Timpagrande	52.34	298	*e*P		P		19 17 33.9	-0.7
	comp=Z,13nm,1.3s								
GOPC	GO Pecny, Ondr	52.47	312	*e*P		P		19 17 35.7	+0.4
GOPC				*ep*P		pP		19 17 43.7	+3.9
GOPC				*es*P		sP		19 17 51.6	+10
GOPC				AMS		AMS		19 43 00.0	
	comp=Z,200nm,13.9s								
PERS	Pernice	52.50	308	*i* P		P		19 17 36.2	+0.6
BSSI	Bau Bau, Buton	52.51	126	P		P		19 17 34.4	-1.5
	comp=Z,20nm,1.3s								
TRO	Tromso	52.52	337	*e*P		P		19 17 34.8	-0.5
TRO				IAmb		IAmb		19 17 35.3	
	comp=Z,114nm,1.3s								
BOJS	Bojanci	52.53	306	*i* P		P		19 17 36.8	+1.1
SOKA	Soboth	52.56	308	⇑*i*P		P		19 17 36.7	+0.6
	comp=Z,39nm,1.4s,SNR=20								
PVCC	Panska Ves	52.57	313	*e*P		P		19 17 37.8	+1.8
PVCC				*es*P		sP		19 17 52.9	+11
PVCC	Panska Ves	52.57	313	*e*P		P		19 17 37.8	+1.8
PVCC				*e*				19 17 52.9	
PRU	Pruhonice	52.62	312	*e*P		P		19 17 37.1	+0.7
PRU				*ep*P		pP		19 17 45.6	+4.7
PRU				*es*P		sP		19 17 52.2	+10
PRU				AMS		AMS		19 42 30.0	
	comp=Z,200nm,16.3s								
PRU	Pruhonice	52.62	312	*e*P		P		19 17 37.1	+0.7
PRU				*e*				19 17 45.6	
PRU				*e*				19 17 52.2	
PRU				MLR		MLR			
	comp=Z,200nm,16.3s								
PRA	Prague	52.69	312	*e*P		P		19 17 37.7	+0.9
PRA				*es*P		sP		19 17 53.1	+10
PRA	Prague	52.69	312	*e*P		P		19 17 37.7	+0.9
PRA				*e*				19 17 53.1	
VISS	Visnje	52.78	307	*i* P		P		19 17 38.6	+0.9
OBKA	Obir	52.91	308	⇑*i*P		P		19 17 39.5	+0.9
	comp=Z,26nm,1.3s,SNR=6.6								
CUC	Castrocucco	52.91	300	*e*P		P		19 17 38.5	-0.3
	comp=Z,12nm,1.0s								
YUK	Yuzh-Kuril'sk	52.91	55	⇓*i*P		P		19 17 39.0	+0.4
BRG	Berggiesshubel	52.95	313	*e*P		P		19 17 39.5	+0.7
	comp=Z,33nm,1.2s								
	comp=N,152nm,22.7s								
	comp=E,152nm,26.5s								
	comp=Z,164nm,23.5s								
BRG	Berggiesshubel	52.95	313	*e*P		P		19 17 39.4	+0.7
	comp=Z,33nm,1.2s								
BRG	Berggiesshubel	52.95	313	*e*P		P		19 17 39.5	+0.7
BRG					pmax	pmax			
	comp=Z,33nm,1.3s								
BRG					MLR	MLR			
	comp=N,152nm,22.7s								
BRG					MLR	MLR			
	comp=E,152nm,26.5s								
BRG					MLR	MLR			
	comp=Z,164nm,23.5s								
MOA	Molln	52.97	309	⇑*i*P		P		19 17 39.3	+0.3
	comp=Z,27nm,1.3s,SNR=10								
LJU	Ljubljana	52.97	307	*e*P		P		19 17 39.5	+0.5
RUE	Ruedersdorf	52.98	315	*e*P		P		19 17 39.2	+0.3
	comp=Z,46nm,1.2s								
CEL	Celeste	53.18	297	*e*P		P		19 17 40.4	-0.3
	comp=Z,50nm,1.2s								
GEC2	GERESS Array S	53.25	311	*e*P		P		19 17 41.7	+0.5
	comp=Z,10.0nm,1.3s								
GERES	GERESS Array B	53.25	311	P		P		19 17 41.4	+0.2
	comp=Z,2.0nm,0.9s,baz=93,slow=6.7,SNR=16								
KHC	Kasperske Hory	53.31	311	*e*P		P		19 17 41.6	+0.1
KHC				*ep*P		pP		19 17 48.9	+2.9
KHC				*es*P		sP		19 17 54.3	+6.5
KHC				AMS		AMS		19 45 40.0	
	comp=Z,200nm,10.8s								
KHC	Kasperske Hory	53.31	311	*e*P		P		19 17 41.6	+0.1
KHC					pmax	pmax			
	comp=Z,4.0nm,1.3s								
KHC	Kasperske Hory	53.31	311	*e*P		P		19 17 41.5	+0.1
	comp=Z,4.3nm,1.3s								
JAVS	Javornik	53.31	307	*i* P		P		19 17 42.5	+0.9
FBE	Freiberg	53.32	313	*e*P		P		19 17 42.4	+0.9
	comp=Z,49nm,1.3s								
MYKA	Terra Mystica	53.52	308	⇑*i*P		P		19 17 43.7	+0.6
	comp=Z,22nm,1.6s								
CLL	Collm	53.52	314	*e*P		P		19 17 43.1	+0.1
	comp=Z,20nm,1.3s								
CLL	Collm	53.52	314	⇑*i*P		P		19 17 43.2	+0.2
CLL					pmax	pmax			
	comp=Z,20nm,1.3s								
CLL	Collm	53.52	314	⇑*i*P		P		19 17 43.2	+0.2
	comp=Z,20nm,1.3s								
CLL				*e*PcP		PcP		19 18 51.0	+1.3
CLL				*e*PP		PP		19 19 43.0	-0.3
CLL				LmV				19 43 00.0	
	comp=Z,200nm,20.5s								
KBA	Koelnbreinsper	53.67	309	⇑*i*P		P		19 17 44.5	+0.1
	comp=Z,15nm,1.2s								
WET	Wettzell	53.77	311	*e*P		P		19 17 45.6	+0.7
	comp=Z,15nm,1.4s								
SANI	Sanana	53.81	118	P		P		19 17 45.1	-0.5
TANN	Tannersgstha	53.92	313	*e*P		P		19 17 46.7	+0.7
	comp=Z,18nm,1.4s								
NKC	Novy Kostel	53.95	313	*e*P		P		19 17 46.6	+0.4
NKC				*es*P		sP		19 18 02.7	+10
NKC	Novy Kostel	53.95	313	*e*P		P		19 17 46.6	+0.4
NKC				*e*				19 18 02.7	
RJOB	Jochberg	53.96	309	*e*P		P		19 17 46.6	+0.2
	comp=Z,10.0nm,1.1s								
WERN	Wernitzgruen	53.99	313	*e*P		P		19 17 47.3	+0.8
	comp=Z,26nm,1.6s								
GUNZ	Gunzen	54.01	313	*e*P		P		19 17 47.3	+0.6
	comp=Z,28nm,1.4s								
KONS	Konsvik	54.01	333	*e*P		P		19 17 47.5	+1.1
KONS				IAmb		IAmb		19 17 48.4	
	comp=Z,64nm,1.1s								
WERD	Werda	54.02	313	*e*P		P		19 17 47.3	+0.6
	comp=Z,25nm,1.3s								
PLN	Plauen	54.11	313	*e*P		P		19 17 48.1	+0.8
	comp=Z,21nm,1.3s								
ROTZ	Rotzenmuhle	54.14	312	*e*P		P		19 17 48.9	+1.3
	comp=Z,41nm,1.5s								
MANZ	Manzenberg	54.19	312	*e*P		P		19 17 49.0	+1.1
	comp=Z,34nm,1.4s								
WBSI	Waikabubak, Su	54.27	130	P		P		19 17 45.9	-3.0
NEUB	Neuenburg	54.30	314	*e*P		P		19 17 49.0	+0.4
	comp=Z,49nm,1.3s								
AQU	L'Aquila	54.30	303	*e*P		P		19 17 49.9	+1.0
AQU					pmax	pmax			
	comp=Z,56nm,1.3s								
AQU	L'Aquila	54.30	303	*e*P		P		19 17 49.9	+1.0
	comp=Z,56nm,1.3s								
NB2	NORSAR Subarra	54.39	326	P		P		19 17 48.8	-0.4
	comp=Z,51nm,1.2s,baz=90,slow=7.4								
NB2	NORSAR Subarra	54.39	326	P		P		19 17 48.8	-0.4
	baz=90,slow=7.4								
NOA	NORSAR Array B	54.39	326	P		P		19 17 48.6	-0.6
	comp=Z,17nm,1.0s,baz=91,slow=7.3,SNR=19								
NOA					LR	LR		19 42 13.6	
	comp=Z,252nm,19.2s,baz=35,slow=37								
MOX	Moxa	54.44	313	*e*P		P		19 17 50.4	+0.6
	comp=Z,28nm,1.4s								
MOX				*e*L		L		19 28 51.5	
	comp=N,109nm,21.5s								
NAO01	NORSAR Array S	54.55	326	*e*P		P		19 17 49.3	-1.0
	comp=N,42nm,1.4s								
GRF	Grafenberg Arr	54.79	312	*e*P		P		19 17 53.5	+1.2
	comp=Z,81nm,1.6s								
GRF				*e*L		L		19 31 18.0	
	comp=Z,163nm,21.5s								
GRFO	Grafenberg	54.79	312	*e*P		P		19 17 53.4	+1.1
GRFO					pmax	pmax			
	comp=Z,54nm,1.4s								
GRFO	Grafenberg	54.79	312	*e*P		P		19 17 53.4	+1.1
	comp=Z,54nm,1.4s								
WTTA	Wattenberg	54.80	309	⇑*i*P		P		19 17 52.4	-0.2
	comp=Z,28nm,1.1s,SNR=11								
WATA	Walderalm	54.83	309	⇑*i*P		P		19 17 52.6	-0.2
	comp=Z,28nm,1.4s,SNR=5.9								
FUR	Furstenfeldbru	54.93	310	*e*P		P		19 17 54.0	+0.7
	comp=Z,35nm,1.2s								
BSEG	Bad Segeberg	54.98	317	*e*P		P		19 17 54.3	+0.7
	comp=Z,47nm,1.2s								
CLZ	Clausthal	55.11	315	*e*P		P		19 17 55.1	+0.5
	comp=Z,64nm,1.2s								
MOTA	Moosalm	55.15	309	⇑*i*P		P		19 17 54.4	-0.8
	comp=Z,20nm,1.0s,SNR=10								
RETA	Reutte	55.36	309	⇑*i*P		P		19 17 56.2	-0.3
	comp=Z,22nm,1.2s,SNR=9.1								
UBBA	Unterbreizbach	55.45	313	*e*P		P		19 17 57.3	+0.4
	comp=Z,30nm,1.8s								
FETA	Feichten	55.45	309	⇓*i*P		P		19 17 56.7	-0.5
	comp=Z,24nm,1.1s,SNR=9.7								
SEY	Seymchan	55.75	32	⇑*i*P		P		19 17 59.4	+0.4
DAVA	Damuels	55.98	309	⇑*i*P		P		19 18 00.9	-0.2
	comp=Z,44nm,1.1s,SNR=18								
VLC	Villacollemand	56.15	305	*e*P		P		19 18 02.8	+0.6
	comp=Z,36nm,1.4s								
STU	Stuttgart	56.22	311	*e*P		P		19 18 03.0	+0.4
	comp=Z,40nm,1.5s								
STU	Stuttgart	56.22	311	P		P		19 18 02.6	0.0
STU	Stuttgart	56.22	311	P		P		19 18 02.6	0.0
TUE	Stuetta	56.47	308	*e*P		P		19 18 04.3	-0.4
	comp=Z,26nm,1.3s								
TNS	Taunus Mts	56.50	313	*e*P		P		19 18 05.0	+0.4
	comp=Z,20nm,1.3s								
IBBN	Ibbenburen	56.67	315	*e*P		P		19 18 06.2	+0.5
	comp=Z,86nm,1.5s								
BFO	Black Forest	56.85	311	*i* P		P		19 18 07.7	+0.6
BFO	Black Forest	56.85	311	*e*P		P		19 18 06.2	-0.9
	comp=Z,8.6nm,1.2s								
BUG	Bochum-Univer	57.08	314	*e*P		P		19 18 09.0	+0.4
	comp=Z,45nm,1.1s								
SWI	Sorong	57.23	113	P		P		19 18 09.6	-0.6
SIJI	Sorong	57.24	113	P		P		19 18 09.4	-0.8
	comp=Z,6.0nm,0.7s,baz=321,slow=10,SNR=4.8								
SOEI	Soe	57.69	126	P		P		19 18 12.8	-0.7
SOEI	Soe	57.69	126	*e*P		P		19 18 11.0	-2.5
	comp=Z,120nm,1.2s								
VSL	Villasalto	57.87	300	P		P		19 18 10.3	-4.1
	comp=Z,52nm,1.5s								
MEM	Membach	57.99	314	P		P		19 18 15.1	+0.1
WLF	Walferdange	58.05	313	P		P		19 18 16.1	+0.6
	comp=Z,20nm,1.6s								
BCLA	Clavier	58.47	314	P		P		19 18 19.2	+0.9
	comp=Z,21nm,2.4s								
BNI	Bardonecchia	58.57	307	*e*P		P		19 18 19.2	-0.2
BNI					pmax	pmax			
	comp=Z,32nm,1.1s								
BNI	Bardonecchia	58.57	307	*e*P		P		19 18 19.2	-0.2
	comp=Z,32nm,1.1s								
KEST	Kesra	58.87	296	P		P		19 18 21.2	-0.3
	comp=Z,12nm,1.1s,baz=349,slow=3.2,SNR=16								
DOU	Dourbes	58.97	313	P		P		19 18 22.4	+0.5
	comp=Z,12nm,1.4s								
SNF	Seneffe	59.09	314	P		P		19 18 23.4	+0.7
PETK	Petropavlovsk-	59.35	43	P		P		19 18 23.1	-1.3
	comp=Z,2.9nm,0.8s,baz=301,slow=3.0,SNR=2.8								
PETK					LR	LR		19 45 59.0	
	comp=Z,273nm,20.1s,baz=271,slow=38								
SSB	Saint Sauveur	60.00	308	*e*P		P		19 18 28.6	-0.6
SSB				*e*				19 20 40.8	
SSB					pmax	pmax			
	comp=Z,22nm,1.1s								
SSB	Saint Sauveur	60.00	308	*e*P		P		19 18 28.6	-0.6
	comp=Z,22nm,1.1s								
SSB				*e*PP		PP		19 20 40.8	-0.5
BILL	Bilibino	61.20	25	*c i*P		P		19 18 37.5	+0.6
BILL				*i*				19 19 21.0	
BILL				*e*				19 20 49.2	
BILL					pmax	pmax			
	comp=Z,56nm,1.9s								
JMIC	Jan Mayen	61.80	338	LR		LR		19 45 37.8	
	comp=Z,192nm,21.5s,baz=72,slow=36								
ESK	Eskdalemuir	62.55	320	*i* P		P		19 18 47.5	+1.3
DAG	Danmarks Havn	63.27	345	⇑*i*P		P		19 18 50.3	-0.4
	comp=Z,16nm,1.1s								
DAG	Danmarks Havn	63.27	345	⇑*i*P		P		19 18 50.3	-0.4
DAG					pmax	pmax			
	comp=Z,21nm,1.1s								
TAM	Tamanrasset	66.45	284	*e*P		P		19 19 12.1	-0.3
TAM					pmax	pmax			
	comp=Z,14nm,1.1s								
TAM	Tamanrasset	66.45	284	*e*P		P		19 19 12.1	-0.3
	comp=Z,14nm,1.1s								
ALE	Alert	66.46	355	P		P		19 19 11.0	-0.4
	comp=Z,57nm,1.7s,SNR=6.3								
ESDC	Sonseca Array	67.65	304	P		P		19 19 19.9	+0.2
	comp=Z,6.9nm,1.0s,baz=62,slow=6.9,SNR=25								
ESLA	Sonseca Array	67.65	304	*e*P		P		19 19 19.2	-0.5
	comp=Z,9.3nm,1.4s								
PAB	San Pablo	67.98	304	*e*P		P		19 19 22.0	+0.2
PAB					pmax	pmax			
	comp=Z,30nm,1.4s								
PAB	San Pablo	67.98	304	*e*P		P		19 19 22.0	+0.2
	comp=Z,30nm,1.4s								
BORG	Borgarnes	68.23	333	LR		LR		19 50 44.3	
	comp=Z,6μm,18.6s,baz=143,slow=37								
SUMG	Summit	69.81	344	*i* P		P		19 19 33.0	0.0
SUMG					pmax	pmax			
	comp=Z,31nm,1.5s								
SUMG	Summit	69.81	344	*i* P		P		19 19 33.0	0.0
	comp=Z,31nm,1.5s								
SUMG	Summit	69.81	344

INK					pmax	pmax		
	comp=Z,61nm,1.4s							
INK	**Inuvik**	**78.99**	**12**	*eP*	**P**	**P**	**19 20 25.8**	**-0.2**
	comp=Z,61nm,1.4s							
MCK	**McKinley**	**78.99**	**20**	*eP*	**P**	**P**	**19 20 26.7**	**+0.6**
MCK					pmax	pmax		
	comp=Z,44nm,1.4s							
MCK	**McKinley**	**78.99**	**20**	*eP*	**P**	**P**	**19 20 26.7**	**+0.6**
	comp=Z,44nm,1.4s							
PAF	**Port-aux-Franc**	**79.32**	**187**	PP	PP		19 23 35.0	+6.8
PAF				R			19 46 00.0	
RSO	**Redoubt South**	**80.13**	**24**	*eP*	**P**	**P**	**19 20 33.1**	**+0.5**
	comp=Z,43nm,0.9s							
EGAK	**Eagle**	**80.32**	**17**	*eP*	**P**	**P**	**19 20 32.9**	**-0.4**
	comp=Z,46nm,1.3s							
CTA	**Charters Tower**	**80.48**	**120**	P	**P**	**P**	**19 20 35.4**	**+0.6**
	comp=Z,24nm,1.0s,baz=310,slow=7.1,SNR=13							
CTAO	**Charters Tower**	**80.48**	**120**	*eP*	**P**	**P**	**19 20 35.2**	**+0.4**
CTAO					pmax	pmax		
	comp=Z,62nm,1.3s							
CTAO	**Charters Tower**	**80.48**	**120**	*eP*	**P**	**P**	**19 20 35.1**	**+0.4**
	comp=Z,62nm,1.3s							
PAX	**Paxson**	**80.59**	**19**	*eP*	**P**	**P**	**19 20 34.8**	**-0.1**
PAX	**Paxson**	**80.59**	**19**	*eP*	**P**	**P**	**19 20 34.8**	**-0.1**
SML	**Sawmill**	**80.62**	**21**	*eP*	**P**	**P**	**19 20 35.1**	**+0.1**
SML				*e*			19 23 35.9	
SML					pmax	pmax		
	comp=Z,26nm,1.1s							
SML	**Sawmill**	**80.62**	**21**	*eP*	**P**	**P**	**19 20 35.1**	**+0.1**
	comp=Z,26nm,1.1s							
SML				*e*	PP	**PP**	**19 23 35.9**	**-2.0**
RC01	**Rabbit Creek A**	**80.70**	**22**	*eP*	**P**	**P**	**19 20 35.4**	**0.0**
	comp=Z,84nm,1.3s							
DIV	**Divide**	**81.93**	**21**	*eP*	**P**	**P**	**19 20 42.2**	**+0.2**
	comp=Z,74nm,1.3s							
KDAK	**Kodiak Island**	**82.11**	**26**	P	**P**	**P**	**19 20 43.6**	**+0.8**
	comp=Z,394nm,1.1s,SNR=6.5							
KDAK	**Kodiak Island**	**82.11**	**26**	*i* P	**P**	**P**	**19 20 43.7**	**+0.9**
KDAK	**Kodiak Island**	**82.11**	**26**	*eP*	**P**	**P**	**19 20 43.2**	**+0.3**
	comp=Z,128nm,1.3s							
BMRM	**Bremner River**	**82.42**	**20**	*eP*	**P**	**P**	**19 20 44.4**	**-0.1**
	comp=Z,70nm,1.1s							
DBIC	**Dimbokro**	**82.63**	**273**	P	**P**	**P**	**19 20 47.0**	**+0.6**
	comp=Z,323nm,19.4s,baz=22,slow=38							
DBIC					LR	LR	20 01 19.4	
	comp=Z,323nm,19.4s,baz=22,slow=38							
KIC	**Kosan Boka**	**82.68**	**273**	*eP*	**P**	**P**	**19 20 47.3**	**+0.6**
	comp=Z,80nm,1.1s							
TIC	**Toumodi**	**82.78**	**274**	*eP*	**P**	**P**	**19 20 47.9**	**+0.7**
LIC	**Lamto**	**82.99**	**273**	*eP*	**P**	**P**	**19 20 48.8**	**+0.5**
	comp=Z,103nm,1.5s							
STKA	**Stephens Creek**	**84.46**	**132**	P	**P**	**P**	**19 20 54.6**	**-0.7**
	comp=Z,6.7nm,1.1s,baz=331,slow=5.6,SNR=12							
STKA					LR	LR	20 05 27.0	
	comp=Z,49nm,18.2s,baz=223,slow=41							
STKA	**Stephens Creek**	**84.46**	**132**	P	**P**	**P**	**19 20 54.6**	**-0.7**
STKA					pmax	pmax		
	comp=Z,7.0nm,1.1s							
STKA					MLR	MLR		
	comp=Z,49nm,18.2s							
STKA	**Stephens Creek**	**84.46**	**132**	*eP*	**P**	**P**	**19 20 54.2**	**-1.2**
	comp=Z,3.1nm,1.3s							
EIDS	**Eidsvold**	**87.16**	**121**	*eP*	**P**	**P**	**19 21 08.1**	**-0.8**
	comp=Z,35nm,1.2s							
YKA	**Yellowknife Ar**	**87.24**	**7**	P	**P**	**P**	**19 21 07.9**	**-0.8**
	comp=Z,6.9nm,1.0s,baz=341,slow=4.9,SNR=24							
YKA	**Yellowknife Ar**	**87.24**	**7**	P	**P**	**P**	**19 21 07.9**	**-0.8**
YKA					pmax	pmax		
	comp=Z,7.0nm,1.0s							
DLBC	**Dease Lake**	**88.48**	**15**	*eP*	**P**	**P**	**19 21 15.5**	**+0.7**
	comp=Z,48nm,1.2s							
BBB	**Bella Bella**	**94.62**	**17**	LR	LR	LR	20 07 48.8	
	comp=Z,108nm,21.8s,baz=12,slow=38							
MAW	**Mawson**	**98.00**	**187**	LR	LR	LR	20 01 27.6	
	comp=Z,230nm,18.2s,baz=58,slow=32							
PDAR	**Pinedale Array**	**107.21**	**8**	PKiKP	**PKiKP**		**19 26 49.0**	**-0.2**
	comp=Z,1.0nm,1.0s,baz=318,slow=2.0,SNR=5.2							
Z32A	**Haskell**	**117.23**	**360**	P	**PKPdf**		**19 27 08.1**	**-0.1**
	baz=117							
VNA1	**Neumayer--Stat**	**117.36**	**202**	P	**PKPdf**		**19 27 08.6**	**+1.5**
334A	**Lometa**	**119.19**	**359**	P	**PKPdf**		**19 27 11.5**	**-0.5**
	baz=119							
333A	**Richland Sprin**	**119.20**	**359**	P	**PKPdf**		**19 27 11.6**	**-0.5**
	baz=119							
QSPA	**South Pole Qui**	**119.61**	**180**	PKP	**PKPdf**		**19 27 11.0**	**-0.7**
	comp=Z,5.0nm,1.1s,baz=252,slow=1.6,SNR=5.3							
433A	**Art**	**119.77**	**360**	P	**PKPdf**		**19 27 13.1**	**-0.1**
	baz=119							
JCT	**Junction City**	**120.05**	**0**	P	**PKPdf**		**19 27 13.5**	**-0.2**
	baz=120							
530A	**J-C Ranch, Com**	**120.36**	**2**	P	**PKPdf**		**19 27 14.7**	**+0.3**
	baz=120							
531A	**Rocksprings**	**120.36**	**1**	P	**PKPdf**		**19 27 14.6**	**+0.2**
	baz=120							
532A	**Rocksprings**	**120.40**	**0**	P	**PKPdf**		**19 27 14.7**	**+0.2**
	baz=120							
632A	**Uvalde**	**121.02**	**0**	P	**PKPdf**		**19 27 15.6**	**0.0**
	baz=121							
TXAR	**Lajitas Array**	**121.06**	**4**	PKP	**PKPdf**		**19 27 15.8**	**0.0**
	comp=Z,2.6nm,1.1s,baz=254,slow=0.9,SNR=15							
TXAR				PKKPbc	**PKKPbc**		**19 37 18.9**	**+0.6**
	comp=Z,0.4nm,0.9s,baz=157,slow=4.1,SNR=3.7							
BDFB	**Brasilia**	**130.76**	**275**	PKP	**PKPdf**		**19 27 35.3**	**+0.8**
	comp=Z,2.2nm,0.4s,baz=22,slow=8.6,SNR=5.5							
ROSC	**El Rosal**	**137.88**	**321**	PKP	**PKPdf**		**19 27 50.1**	**+1.7**
	comp=Z,5.5nm,0.4s,baz=294,slow=10,SNR=4.9							
CPUP	**Villa Florida**	**142.70**	**265**	PKP	**PKPdf**		**19 27 56.9**	**+0.7**
	comp=Z,3.4nm,1.0s,baz=28,slow=3.9,SNR=3.9							
LPAZ	**La Paz**	**148.20**	**288**	PKPbc	**PKPdf**		**19 28 08.0**	**+1.3**
	comp=Z,20nm,1.2s,baz=23,slow=5.9,SNR=20							
LPAZ	**La Paz**	**148.20**	**288**	PKP2	**PKPdf**		**19 28 08.0**	**+1.3**

*NNC **06** 19:09:48.8±1.8,37.55N×71.48E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=15.5km s-min=10.9km az=165.0*

ISC 06 19:09:41.1±6.9,36.8N±0.6×71.7E±0.1,h10km,n12, σ0°70/12,4C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.08**	**313**	⇓Pn		**Pn**	**19 10 30.0**	**+0.1**
	58nm,0.4s							
DZET				⇑Lg		Lg	19 11 06.5	
	84nm,0.5s							
SFK	**Sufi-Kurgan**	**3.54**	**23**	⇑Pn		**Pn**	**19 10 38.0**	**+1.6**
	3.8nm,0.3s							
SFK				⇓Lg		Lg	19 11 20.2	
	24nm,0.3s							
AML	**Almayashu**	**5.58**	**15**	P		**Pn**	**19 11 04.6**	**0.0**
	SNR=17							
UCH	**Uchtor**	**5.88**	**21**	P		**Pn**	**19 11 08.3**	**-0.4**
	SNR=17							
KZA	**Kyzart**	**5.98**	**26**	P		**Pn**	**19 11 08.8**	**-1.1**
	SNR=6.3							
EKS2	**Erkin-Say**	**6.11**	**14**	P		**Pn**	**19 11 11.7**	**+0.2**
	SNR=7.5							
AAK	**Ala-Archa**	**6.25**	**19**	P		**Pn**	**19 11 13.6**	**+0.1**
	SNR=8.5							
AAK	**Ala-Archa**	**6.25**	**19**	⇑Pn		**Pn**	**19 11 13.2**	**-0.3**
KK31	**Karatay Array**	**6.41**	**352**	Pn		**Pn**	**19 11 15.2**	**-0.3**
	0.9nm,0.2s,baz=179,slow=12,SNR=101							
KK31				⇓Sn		Sn	19 12 25.2	-3.6
	3.5nm,0.5s,baz=172,slow=23,SNR=6.8							
ULHL	**Ulahol**	**6.50**	**31**	P		**Pn**	**19 11 16.8**	**-0.2**
	SNR=8.0							
CHMS	**Chumysh**	**6.66**	**20**	P		**Pn**	**19 11 18.6**	**-0.4**
	SNR=9.3							
TKM2	**Tokmak 2**	**6.84**	**25**	⇑Pn		**Pn**	**19 11 21.5**	**-0.2**
	2.8nm,0.7s							

IDC 06 19:29:51.0±358.0,57.03N×29.26E,h0km,Error ellipse: s-maj=151.0km s-min=104.7km az=102.0,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.38**	**91**	*i*			19 56 40.0	
	baz=276,slow=320,SNR=1.4							
I26DE	**FREYUNG INFRAS**	**12.42**	**235**	*i*			20 43 30.0	
	baz=41,slow=322,SNR=0.6							
I48TN	**KESRA INFRASON**	**25.11**	**221**	*i*			22 05 30.0	
	baz=26,slow=310,SNR=0.2							

*IDC **06** 19:35:37.1±8.7,35.79N×70.31E,h74km±46km,mb3.3/2, mb1 3.2/7,mb1mx2.9/50,mbtmp3.4/7,ML3.3/5, Error ellipse: s-maj=121.9km s-min=30.6km az=160.0*

*NNC **06** 19:35:49.7±2.3,36.72N×69.79E,h157km±17km,mb2.6, mpv3.5, Error ellipse: s-maj=21.9km s-min=12.4km az=176.0*

ISC 06 19:35:47.0±2.0,36.6N±0.1×69.74E±0.08,h100km,n14, σ2°31/19,7C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.36**	**342**	⇓Pn		**Pn**	**19 36 27.5**	**+3.1**
	3.1nm,0.2s							
DZET				⇑Sn		Sn	19 36 58.0	+4.9
	140nm,0.5s							
SFK	**Sufi-Kurgan**	**4.55**	**39**	⇑Pn		**Pn**	**19 36 55.9**	**+2.0**
	3.0nm,0.4s							
SFK				⇑Sn		Sn	19 37 46.7	+1.0
	9.4nm,0.3s							
KK31	**Karatay Array**	**6.57**	**5**	⇓P		**Pn**	**19 37 22.3**	**+1.3**
	2.4nm,0.4s,baz=319,slow=22,SNR=36							
KK31				⇑S		Sn	19 38 35.5	+1.0
	3.2nm,0.5s,baz=132,slow=27,SNR=3.8							
AAK	**Ala-Archa**	**7.10**	**30**	⇑P		**Pn**	**19 37 29.7**	**+1.4**
	1.2nm,0.3s							
AAK				⇑S		Sn	19 38 48.2	+0.7
	2.3nm,0.6s							
TKM2	**Tokmak 2**	**7.80**	**34**	⇑P		**Pn**	**19 37 37.7**	**-0.1**
	2.1nm,0.6s							
GEYT	**Alibeck**	**9.37**	**282**	P		Pn	19 37 58.9	-0.2
	0.2nm,0.3s,baz=114,slow=7.1,SNR=2.8							
GEYT				S		Sn	19 39 43.3	+0.6
	0.6nm,0.3s,baz=91,slow=16,SNR=5.8							
MKAR	**Makanchi Array**	**13.86**	**39**	P		Pn	19 38 52.8	-6.3
	0.1nm,0.3s,baz=213,slow=11,SNR=3.1							
AB31	**Akbulak array**	**14.57**	**334**	P		**Pn**	**19 39 08.0**	**0.0**
	0.3nm,0.3s,baz=144,slow=12,SNR=13							
AB31				S		**Sn**	**19 41 44.6**	**-3.9**
	1.0nm,0.6s,baz=159,slow=22,SNR=5.2							
KURBB	**Kurchatov Arra**	**15.42**	**21**	P		**Pn**	**19 39 18.5**	**-0.4**
	0.1nm,0.3s,baz=212,slow=12,SNR=7.6							
AKTO	**Aktyubinsk**	**16.25**	**332**	⇓P		**Pn**	**19 39 29.4**	**+0.3**
	1.8nm,0.8s							
AKTO				⇓S		Sn	19 42 21.9	-7.1
	4.8nm,1.6s							
AKTO	**Aktyubinsk**	**16.25**	**332**	P		**Pn**	**19 39 29.8**	**+0.7**
	0.2nm,0.3s,baz=168,slow=9.5,SNR=6.3							
AKTO				S		**Sn**	**19 42 24.4**	**-4.6**
	0.1nm,0.3s,baz=115,slow=19,SNR=3.4							
BVAR	**Borovoye Array**	**16.48**	**1**	P		**Pn**	**19 39 31.6**	**-0.4**
	0.4nm,0.3s,baz=184,slow=13,SNR=7.1							
ZALV	**Zalesovo Beam**	**20.30**	**26**	P		**P**	**19 40 12.8**	**-1.9**
	1.0nm,0.3s,baz=218,slow=10.0,SNR=11							
FINES	**FINESS Array B**	**36.88**	**326**	P		**P**	**19 42 45.5**	**+0.1**
	0.4nm,0.6s,baz=117,slow=11,SNR=2.7							

IDC 06 19:45:26.5±51.0,16.59S×178.94W,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.5/29,mbtmp3.7/3,Error ellipse: s-maj=929.9km s-min=155.6km az=77.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.84**	**240**	P		P	19 52 53.6	+0.1
	0.8nm,0.9s,baz=87,slow=11,SNR=5.3							
WRA	**Warramunga Arr**	**44.38**	**258**	P		P	19 53 39.0	-0.2
	0.2nm,0.4s,baz=93,slow=7.8,SNR=3.2							
ASAR	**Alice Springs**	**44.67**	**253**	P		P	19 53 41.2	-0.3
	2.0nm,0.6s,baz=89,slow=8.3,SNR=45							

*ISCJB **06** 20:11:08.7±0.4,25.99S±0.08×84.22E±0.10,h10km, mb4.1/25,MS3.6/6, Error ellipse: s-maj=13.1km s-min=11.5km az=147.2*

*IDC **06** 20:11:08.8±0.6,25.96S×84.22E,h0km,mb4.1/14, mb1 4.2/14,mb1mx4.1/21,mbtmp4.1/14,MS3.5/7, Ms1 3.5/7,ms1mx3.1/28,Error ellipse: s-maj=20.9km s-min=16.3km az=76.0*

*NEIC **06** 20:11:10.5±0.4,26.03S×84.16E,h10km,mb4.4/11,Error ellipse: s-maj=12.1km s-min=11.7km az=78.0*

ISC 06 20:11:10.6±0.5,26.01S±0.10×84.2E±0.1,h10km,n35, σ1°10/28,mb4.2/27,MS3.6/7,South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
COCO	**West Island**	**18.20**	**43**	*eP*		**P**	**20 15 26.7**	**+3.0**
	175nm,1.0s							
H08S2	**Diego Garcia H**	**21.39**	**327**	T		T	20 37 56.7	
	baz=151,slow=74,SNR=29							
H08S1	**Diego Garcia H**	**21.40**	**327**	T		T	20 37 57.8	
	baz=151,slow=74,SNR=9.3							
H08S3	**Diego Garcia H**	**21.41**	**327**	T		T	20 38 05.2	
	baz=151,slow=74,SNR=37							
KSM	**Kuching**	**37.20**	**47**	P		**P**	**20 18 22.4**	**+0.1**
MAW	**Mawson**	**43.60**	**192**	P		**P**	**20 19 15.3**	**+0.6**
	2.7nm,0.6s,baz=27,slow=9.0,SNR=9.0							
MAW						LR	20 33 12.1	
	comp=Z,47nm,20.3s,baz=234,slow=30							
MAW	**Mawson**	**43.60**	**192**	*eP*		**P**	**20 19 15.2**	**+0.5**
	0.6nm,0.6s							
ASAR	**Alice Springs**	**44.97**	**98**	P		**P**	**20 19 25.8**	**-0.5**
	0.8nm,0.6s,baz=264,slow=7.2,SNR=19							
WRA	**Warramunga Arr**	**46.35**	**93**	P		**P**	**20 19 37.0**	**-0.2**
	1.7nm,0.7s,baz=258,slow=8.7,SNR=14							
WRAB	**Tennant Creek**	**46.36**	**93**	P		**P**	**20 19 37.0**	**-0.4**
	18nm,1.4s							
CMAR	**Chiang Mai Arr**	**46.47**	**19**	P		**P**	**20 19 38.8**	**+0.7**
	0.7nm,0.8s,baz=204,slow=7.9,SNR=5.6							
CHTO	**Chiang Mai**	**46.81**	**19**	P		**P**	**20 19 40.9**	**+0.2**
	3.1nm,1.1s							
STKA	**Stephens Creek**	**50.09**	**111**	P		**P**	**20 20 05.7**	**-0.4**
	1.4nm,0.5s,baz=296,slow=6.3,SNR=4.4							
KMBO	**Kilima Mbogo**	**51.47**	**291**	P		**P**	**20 20 17.9**	**+1.0**
	2.3nm,0.8s							
BOSA	**Boshof**	**51.96**	**253**	P		**P**	**20 20 21.0**	**+0.7**
	4.5nm,1.0s,baz=96,slow=10,SNR=3.6							
LSA	**Lhasa**	**55.80**	**7**	*eP*		**P**	**20 20 49.8**	**+1.3**
	3.7nm,0.8s							
RAYN	**Ar Rayn**	**61.86**	**319**	*eP*		**P**	**20 21 30.5**	**+0.1**
	4.3nm,0.8s							
VNDA	**Vanda**	**62.13**	**166**	P		**P**	**20 21 31.8**	**+0.4**
	0.8nm,0.9s,baz=301,slow=7.6,SNR=3.2							
QSPA	**South Pole Qui**	**64.11**	**180**	P		**P**	**20 21 44.2**	**-0.6**
	6.2nm,0.8s,baz=113,slow=1.3,SNR=23							
GEYT	**Alibeck**	**68.15**	**338**	P		**P**	**20 22 10.4**	**-0.6**
	1.6nm,0.6s,baz=148,slow=14,SNR=5.5							
KKAR	**Karatay Array**	**69.92**	**349**	*eP*		**P**	**20 22 21.2**	**-0.5**
	2.9nm,0.8s							
MKAR	**Makanchi Array**	**72.48**	**359**	P		**P**	**20 22 36.4**	**-0.8**
	0.8nm,0.6s,baz=192,slow=6.5,SNR=10							
MKAR						LR	20 54 29.0	
	comp=Z,42nm,18.4s,baz=166,slow=36							
KSAR	**Wonju Array Be**	**75.30**	**35**	P		P	20 23 00.9	+7.0
KSRS	**Korea Array**	**75.33**	**35**	P		P	20 23 00.9	+6.8
	0.8nm,0.8s,baz=212,slow=4.3,SNR=4.4							
SONM	**Songino Array**	**76.17**	**15**	P		**P**	**20 22 57.5**	**-1.4**
	0.5nm,0.7s,baz=190,slow=7.3,SNR=4.8							
SONM						LR	20 57 46.7	
	comp=Z,35nm,18.9s,baz=196,slow=37							
KURK	**Kurchatov**	**76.55**	**356**	*eP*		**P**	**20 22 59.5**	**-1.2**
	2.3nm,0.8s							
ABKAR	**Akbulak array**	**77.99**	**344**	*eP*		**P**	**20 23 08.5**	**-0.4**
	0.6nm,0.5s							
KBZ	**Khabaz**	**79.06**	**331**	P		**P**	**20 23 15.7**	**+0.8**
	2.0nm,0.8s,baz=109,slow=4.8,SNR=2.5							
KIV	**Kislovodsk**	**79.33**	**331**	P		**P**	**20 23 13.6**	**-3.0**
ZALV	**Zalesovo Beam**	**79.63**	**0**	P		**P**	**20 23 16.9**	**-0.8**
	3.6nm,0.5s,baz=191,slow=4.7,SNR=22							
ZALV						LR	20 58 24.0	
	comp=Z,30nm,19.3s,baz=250,slow=36							
BRVK	**Borovoye**	**79.66**	**352**	*eP*		**P**	**20 23 17.1**	**-0.9**
	2.6nm,0.7s							
BRTR	**Keskin Array B**	**80.60**	**323**	P		**P**	**20 23 23.6**	**0.0**
	1.9nm,0.7s,baz=154,slow=6.8,SNR=12							
BRTR						LR	20 57 36.6	
	comp=Z,18nm,18.7s,baz=120,slow=35							
USRK	**Ussuriysk Ar.**	**82.43**	**33**	LR		LR	20 58 04.2	
	comp=Z,42nm,21.9s,baz=239,slow=34							
RAO	**Raoul Island**	**84.03**	**120**	P		P	20 23 45.8	+4.0
TORD	**Torodi Ar. Bea**	**89.08**	**285**	P		**P**	**20 24 06.9**	**+0.3**
	0.4nm,0.8s,baz=112,slow=4.3,SNR=4.3							

JMA 06 20:15:41.3±0.1,38.67N×142.13E,h41km±1km,M3.5,3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.55**	**319**	⇓P		Pn	20 15 52.8	+0.1
OFUJ				*e*S		Sn	20 16 00.7	-0.1
JIO	**Ouri**	**0.65**	**251**	P		Pn	20 15 53.9	-0.2
JIO				S		Sn	20 16 02.5	-0.7
JMK	**Ichinoseki**	**0.77**	**292**	⇓P		Pn	20 15 55.8	+0.2
JMK				S		Sn	20 16 06.1	+0.1
JOM	**Ohasama**	**1.03**	**321**	⇓P		Pn	20 15 59.7	+0.4
JOM				*e*S		Sn	20 16 13.2	+0.6
JOU	**Okura**	**1.19**	**256**	P		Pn	20 16 01.8	+0.3
JOU				*e*S		Sn	20 16 17.1	+0.6
JMM	**Marumori**	**1.32**	**233**	P		Pn	20 16 03.1	-0.2
JRG	**Rokugo**	**1.37**	**302**	P		Pn	20 16 04.4	+0.4
JYK	**Kaneyama**	**1.41**	**281**	P		Pn	20 16 04.9	+0.5

*IDC **06** 20:32:24.5±1.5,3.73S×141.69E,h0km,mb3.4/3, mb1 3.7/4,mb1mx3.4/20,mbtmp3.4/4,ML3.6/1,Error ellipse: s-maj=37.6km s-min=15.3km az=62.0*

*ISCJB **06** 20:32:28.1±1.1,3.83S±0.09×141.66E±0.09,h33km, mb3.4/3,Error ellipse: s-maj=13.5km s-min=12.3km az=44.0*

*DJA **06** 20:32:34.5±2.6,3°S±16°×14°2E±1°7,h51km±35km,M3.9/4, MLv3.9/4*

ISC 06 20:32:29.3±1.4,3.8S±0.1×141.7E±0.1,h33km,n9, σ0°74/10,mb3.7/3,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.56**	**322**	P		**Pn**	**20 32 54.9**	**+0.1**
JAY	**Jayapura**	**1.56**	**322**	Pg		**Pn**	**20 32 54.4**	**-0.3**
	15nm,0.3s,baz=126,slow=14,SNR=122							
JAY				Lg		Lg	20 33 12.8	
	70nm,0.3s,baz=317,slow=18,SNR=19							
JAY				LR		LR	20 33 45.4	
	comp=Z,142nm,21.4s,baz=92,slow=52							
GENI	**Genyem**	**1.89**	**307**	P		**Pn**	**20 32 59.2**	**-0.1**
WAMI	**Wamena**	**2.96**	**267**	P		**Pn**	**20 33 14.8**	**+0.8**
WAMI				S		**Sn**	**20 33 47.4**	**-0.9**
SMPI	**Sarmi**	**3.43**	**300**	P		**Pn**	**20 33 21.3**	**+0.8**
WRA	**Warramunga Arr**	**17.61**	**203**	P		**P**	**20 36 32.9**	**-0.2**
	0.2nm,0.3s,baz=24,slow=12,SNR=8.5							
ASAR	**Alice Springs**	**21.18**	**200**	P		**P**	**20 37 11.0**	**-1.1**
	0.3nm,0.6s,baz=30,slow=9.7,SNR=7.5							
MKAR	**Makanchi Array**	**72.42**	**322**	P		**P**	**20 43 53.0**	**+0.6**
	0.2nm,0.2s,baz=115,slow=6.8,SNR=4.4							
ILAR	**Eielson Array**	**85.56**	**24**	P		**P**	**20 45 04.0**	**+0.1**
	0.7nm,0.8s,baz=247,slow=4.5,SNR=6.3							

*ISCJB **06** 20:38:16.0±0.4,36.63N±0.01×2.47W±0.02,h10km±2km, Error ellipse: s-maj=2.6km s-min=2.4km az=8.3*

*CSEM **06** 20:38:16.7±0.1,36.56N×2.37W,h10km,ML3.5/21,Error ellipse: s-maj=3.2km s-min=2.4km az=120.0*

*CRAAG **06** 20:38:16.8,36.59N×2.35W,Ml3.3*

*CNRM **06** 20:38:17.6,36.78N×2.37W,h30km,MD3.5*

*INMG **06** 20:38:17.7±1.5,36.56N×2.33W,h5km±3km,ML3.1,Error ellipse: s-maj=4.9km s-min=2.7km az=117.0*

*SFS **06** 20:38:17.0,36.58N×2.34W,h0km,ML3.6*

*MDD **06** 20:38:17.7±0.3,36.57N×2.34W,h5km±2km,mbLg3.1/28, Error ellipse: s-maj=3.1km s-min=2.4km az=154.0, PRXIMO*

MDD EMS III ALMERIA.

*IGIL **06** 20:38:18.2,36.58N×2.34W,h5km*

*LDG **06** 20:38:19.3±0.3,36.61N×2.34W,h10km,Ml3.6/4,Error ellipse: s-maj=5.7km s-min=3.0km az=156.0*

ISC 06 20:38:16.6±1.1,36.57N±0.02×2.32W±0.02,h17km±9km, n176,σ1°46/276,2C-3D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ENIJ	**Nijar**	**0.41**	**12**	⇑Pg		**Pg**	**20 38 24.8**	**-0.2**
	94nm,0.2s,SNR=18							
ENIJ	**Nijar**	**0.41**	**12**	Pg		**Pg**	**20 38 24.8**	**-0.2**
	94nm,0.2s,SNR=18							
EBER	**Berja**	**0.57**	**306**	⇓Pg		**Pb**	**20 38 27.8**	**-0.4**
	105nm,0.1s,SNR=18							
EBER				Lg		Lg	20 38 34.4	
	796nm,0.2s,SNR=9.0							
EBER	**Berja**	**0.57**	**306**	Pg		**Pb**	**20 38 27.8**	**-0.4**
	105nm,0.1s,SNR=18							
EBER				Lg		Lg	20 38 34.4	
	796nm,0.2s,SNR=9.0							
GORA	**Gorafe**	**1.08**	**328**	Pg		**Pg**	**20 38 38.0**	**+0.5**
	96nm,0.2s,SNR=7.9							
GORA				Lg		Lg	20 38 49.7	
	343nm,0.2s,SNR=7.9							
GORA	**Gorafe**	**1.08**	**328**	Pg		**Pg**	**20 38 38.0**	**+0.5**
	96nm,0.2s,SNR=7.9							
GORA				Lg		Lg	20 38 49.7	
	343nm,0.2s,SNR=7.9							
EQUE	**Quentar**	**1.10**	**305**	⇓Pg		**Pb**	**20 38 37.6**	**+0.3**
	90nm,0.1s,SNR=18							
EQUE				Lg		Lg	20 38 50.1	
	92nm,0.2s,SNR=9.5							
EQUE	**Quentar**	**1.10**	**305**	Pg		**P

	365nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**1.56**	**353**	Pn	**Pn**	**20 38 45.3**	**+1.6**
	6.4nm,0.2s,SNR=7.9						
SESP				Sn	**Sn**	**20 39 04.8**	**+1.2**
	222nm,0.5s,SNR=7.9						
SESP				Lg	Lg	20 39 07.3	
	365nm,0.3s,SNR=7.9						
ZAI	**Zaio**	**1.64**	**192**	Pn	**Pn**	**20 38 46.0**	**+1.4**
ZAI				Sn	**Sn**	**20 39 06.0**	**+0.7**
ZAI	**Zaio**	**1.64**	**192**	*i* P	**Pn**	**20 38 46.0**	**+1.4**
ZAI				*i* S	**Sn**	**20 39 06.0**	**+0.7**
EMAL	**Malaga-Limoner**	**1.71**	**277**	Pn	**Pn**	**20 38 45.7**	**+0.1**
EMAL				Sn	Sn	20 39 00.9	-6.2
EMAL	**Malaga-Limoner**	**1.71**	**277**	*e*P	**Pn**	**20 38 45.7**	**+0.1**
EMIJ	**Mijas**	**1.98**	**271**	Pn	**Pn**	**20 38 47.9**	**-1.5**
	0.2nm,0.1s,SNR=44						
EMIJ				Sn	**Sn**	**20 39 10.2**	**-3.6**
	63nm,0.3s,SNR=6.8						
EMIJ	**Mijas**	**1.98**	**271**	Pn	**Pn**	**20 38 47.8**	**-1.5**
	0.2nm,0.1s,SNR=44						
TOU	**Touzarine**	**1.99**	**217**	Pn	**Pn**	**20 38 50.0**	**+0.5**
TOU				Sn	**Sn**	**20 39 15.0**	**+0.9**
TOU	**Touzarine**	**1.99**	**217**	*e*P	**Pn**	**20 38 50.0**	**+0.5**
TOU				*i* S	**Sn**	**20 39 15.0**	**+0.9**
EVIA	**Vianos**	**2.07**	**356**	Pn	**Pn**	**20 38 53.0**	**+2.3**
	SNR=7.9						
EVIA				Pg	**Pb**	**20 38 56.2**	**+2.4**
	9.4nm,0.1s,SNR=52						
EVIA				Sn	**Sn**	**20 39 17.8**	**+1.7**
	74nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**2.07**	**356**	Pn	**Pn**	**20 38 53.0**	**+2.3**
	SNR=7.9						
ODJA	**Bouhanifia**	**2.15**	**125**	P	**Pn**	**20 38 54.0**	**+2.3**
ODJA	**Bouhanifia**	**2.15**	**125**	Pn	**Pn**	**20 38 54.0**	**+2.3**
ODJA	**Bouhanifia**	**2.15**	**125**	Pn	**Pn**	**20 38 54.0**	**+2.3**
ETOB	**Tobarra**	**2.16**	**16**	Pn	**Pn**	**20 38 53.1**	**+1.2**
	5.8nm,0.1s,SNR=44						
ETOB				Pg	**Pg**	**20 38 58.8**	**+0.8**
	50nm,0.4s,SNR=5.2						
ETOB				Sn	**Sn**	**20 39 18.6**	**+0.4**
	83nm,0.4s,SNR=4.7						
ETOB				Lg	Lg	20 39 28.2	
	62nm,0.3s						
ETOB	**Tobarra**	**2.16**	**16**	Pn	**Pn**	**20 38 53.1**	**+1.2**
	5.8nm,0.1s,SNR=44						
EADA	**Adamuz**	**2.41**	**312**	Pn	**Pn**	**20 38 57.2**	**+2.0**
	0.1nm,0.0s,SNR=4.0						
EADA				Pg	**Pb**	**20 39 01.2**	**+1.8**
	0.5nm,0.1s,SNR=42						
EADA				Sn	**Sn**	**20 39 25.0**	**+0.7**
	15nm,0.2s,SNR=4.8						
EADA				Lg	Lg	20 39 33.9	
	42nm,0.3s,SNR=7.2						
EADA	**Adamuz**	**2.41**	**312**	Pn	**Pn**	**20 38 57.2**	**+2.0**
	0.1nm,0.0s,SNR=4.0						
LIJA	**Lijar**	**2.50**	**279**	Pg	**Pb**	**20 39 02.0**	**+0.9**
LIJA	**Lijar**	**2.50**	**279**	Pg	**Pb**	**20 39 02.0**	**+0.9**
CEU	**Ceuta**	**2.56**	**256**	*e*P	**Pn**	**20 38 56.3**	**-1.0**
CEU				*e*S	**Sn**	**20 39 26.4**	**-1.6**
EBEN	**Beniarda**	**2.70**	**37**	Pn	**Pn**	**20 38 59.2**	**-0.1**
	0.0nm,0.0s,SNR=8.9						
EBEN				Sn	**Sn**	**20 39 30.2**	**-1.4**
	25nm,0.5s						
EBEN	**Beniarda**	**2.70**	**37**	Pn	**Pn**	**20 38 59.2**	**-0.1**
	SNR=8.9						
ESPR	**Espera**	**2.86**	**277**	Pg	**Pb**	**20 39 09.6**	**+2.4**
	1.3nm,0.1s,SNR=4.6						
ESPR				Sn	**Sb**	**20 39 39.2**	**-2.7**
	27nm,0.4s,SNR=4.0						
ESPR	**Espera**	**2.86**	**277**	Pg	**Pb**	**20 39 09.6**	**+2.4**
	1.3nm,0.1s,SNR=4.6						
ECAB	**El Cabril**	**2.89**	**302**	Pn	**Pn**	**20 39 02.9**	**+1.0**
	0.6nm,0.1s,SNR=19						
ECAB				Pg	**Pb**	**20 39 10.3**	**+2.5**
	4.3nm,0.2s,SNR=20						
ECAB				Sn	**Sn**	**20 39 37.7**	**+1.4**
	10nm,0.3s,SNR=7.9						
ECAB				Lg	Lg	20 39 45.2	
	62nm,0.6s,SNR=7.4						
ECAB	**El Cabril**	**2.89**	**302**	Pn	**Pn**	**20 39 02.9**	**+1.0**
	0.6nm,0.1s,SNR=19						
ECAB	**El Cabril**	**2.89**	**302**	Pg	**Pb**	**20 39 10.3**	**+2.5**
	4.3nm,0.2s,SNR=20						
ECAB				Sn	**Sn**	**20 39 37.7**	**+1.4**
	10nm,0.3s,SNR=7.9						
ECAB				Lg	Lg	20 39 45.2	
	62nm,0.6s,SNR=7.4						
TZK	**Tazeka**	**2.91**	**212**	Pn	**Pn**	**20 39 04.0**	**+1.7**
TZK				Sn	**Sn**	**20 39 38.0**	**+1.0**
TZK	**Tazeka**	**2.91**	**212**	*e*P	**Pn**	**20 39 04.0**	**+1.7**
TZK				*i* S	**Sn**	**20 39 38.0**	**+1.0**
TGT	**Taghat**	**3.35**	**223**	Pn	**Pn**	**20 39 08.0**	**-0.3**
TGT				Sn	**Sn**	**20 39 45.0**	**-2.7**
TGT	**Taghat**	**3.35**	**223**	*e*P	**Pn**	**20 39 08.0**	**-0.3**
TGT				*e*S	**Sn**	**20 39 45.0**	**-2.7**
ESDC	**Sonseca Array**	**3.36**	**338**	Pn	**Pn**	**20 39 10.1**	**+1.7**
	0.6nm,0.1s,baz=153,slow=12,SNR=13						
ESDC				Pg	**Pg**	**20 39 19.6**	**-1.3**
	0.1nm,0.1s,baz=163,slow=18,SNR=17						
ESDC				Lg	Lg	20 40 03.1	
	67nm,0.3s,baz=154,slow=28,SNR=24						
ESDC	**Sonseca Array**	**3.36**	**338**	Pn	**Pn**	**20 39 10.1**	**+1.7**
	0.6nm,0.1s,SNR=13						
ESDC	**Sonseca Array**	**3.36**	**338**	Pg	**Pg**	**20 39 19.6**	**-1.3**
	0.1nm,0.1s,SNR=17						
ESDC				Lg	Lg	20 40 03.1	
	67nm,0.3s,SNR=24						
EMIN	**Mina Concepcio**	**3.68**	**290**	Pn	**Pn**	**20 39 13.2**	**+0.5**
	0.9nm,0.2s,SNR=12						
EMIN				Sn	**Sn**	**20 39 55.6**	**-0.1**
	6.8nm,0.3s,SNR=6.3						
EMIN				Lg	Lg	20 40 16.0	
	23nm,0.5s						
EMIN	**Mina Concepcio**	**3.68**	**290**	Pn	**Pn**	**20 39 13.2**	**+0.5**
	0.9nm,0.2s,SNR=12						
EMIN				Sn	**Sn**	**20 39 55.6**	**-0.1**
	6.8nm,0.3s,SNR=6.3						
EMIN				Lg	Lg	20 40 16.0	
	23nm,0.5s						
EIBI	**Ibiza**	**3.80**	**49**	Pn	**Pn**	**20 39 15.1**	**+0.8**
	1.7nm,0.1s,SNR=22						
EIBI				Sn	**Sn**	**20 39 56.5**	**-2.0**
	9.5nm,0.2s,SNR=8.3						
EIBI	**Ibiza**	**3.80**	**49**	Pn	**Pn**	**20 39 15.1**	**+0.8**
	1.7nm,0.1s,SNR=22						
MIF	**Mishlifen**	**3.96**	**218**	Pn	**Pn**	**20 39 17.0**	**+0.3**
MIF				Sn	**Sn**	**20 40 01.0**	**-1.9**
MIF	**Mishlifen**	**3.96**	**218**	*e*P	**Pn**	**20 39 17.0**	**+0.3**
MIF				Sn	**Sn**	**20 40 01.0**	**-1.9**
EMOS	**Mosqueruela**	**4.05**	**20**	Pn	**Pn**	**20 39 19.9**	**+1.9**
	0.0nm,0.0s,SNR=7.0						
EMOS				Sn	**Sn**	**20 40 04.6**	**-0.6**
	4.0nm,0.4s,SNR=7.9						
EMOS				Lg	Lg	20 40 29.0	
	12nm,0.4s						
EMOS	**Mosqueruela**	**4.05**	**20**	Pn	**Pn**	**20 39 19.9**	**+1.9**
	SNR=7.0						
EMOS				Sn	**Sn**	**20 40 04.6**	**-0.6**
	4.0nm,0.4s,SNR=7.9						
EMOS				Lg	Lg	20 40 29.0	
	12nm,0.4s						
PBAR	**Barrancos**	**4.09**	**294**	*e*Pn	**Pn**	**20 39 19.8**	**+1.5**
PBAR				*e*Sn	**Sn**	**20 40 04.0**	**-1.8**
PBAR				*e*Sg	**Sg**	**20 40 28.6**	**+0.7**
PBAR				A	A	20 40 40.6	
	38nm,0.5s						
PBAR	**Barrancos**	**4.09**	**294**	Pn	**Pn**	**20 39 19.8**	**+1.5**
PBAR				Sn	**Sn**	**20 40 04.0**	**-1.8**
PBAR				Lg	Lg	20 40 28.6	
	38nm,0.5s						
PBAR	**Barrancos**	**4.09**	**294**	Pn	**Pn**	**20 39 19.8**	**+1.5**
PBAR				Sn	**Sn**	**20 40 04.0**	**-1.8**
PBAR				Lg	Lg	20 40 28.6	
	38nm,0.5s						
CZD	**Col de Zad**	**4.18**	**213**	Pn	**Pn**	**20 39 21.0**	**+1.1**
CZD				Sn	**Sn**	**20 40 07.0**	**-1.5**
CZD	**Col de Zad**	**4.18**	**213**	*e*P	**Pn**	**20 39 21.0**	**+1.1**
CZD				*i* S	**Sn**	**20 40 07.0**	**-1.5**
EGRO	**El Granado**	**4.24**	**285**	Pn	**Pn**	**20 39 21.5**	**+1.0**
	0.1nm,0.1s,SNR=6.8						
EGRO				Sn	**Sn**	**20 40 08.6**	**-1.0**
	6.5nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**4.24**	**285**	Pn	**Pn**	**20 39 21.5**	**+1.0**
	0.1nm,0.1s,SNR=6.8						
EGRO				Sn	**Sn**	**20 40 08.6**	**-1.0**
	6.5nm,0.3s,SNR=7.9						

ETOR	**Torete**	**4.25**	**3**	Pn	**Pn**	**20 39 22.0**	**+1.4**
	3.5nm,0.1s,SNR=18						
ETOR				Pg	**Pg**	**20 39 38.7**	**+0.8**
	5.1nm,0.2s,SNR=13						
ETOR				Lg	Lg	20 40 31.9	
	117nm,0.5s						
ETOR	**Torete**	**4.25**	**3**	Pn	**Pn**	**20 39 22.0**	**+1.4**
	3.5nm,0.1s,SNR=18						
GUD	**Guadarrama**	**4.31**	**341**	Pn	**Pn**	**20 39 22.9**	**+1.4**
	0.0nm,0.1s,SNR=6.9						
GUD				Pg	**Pg**	**20 39 38.0**	**-1.2**
	1.3nm,0.2s,SNR=11						
GUD				Lg	Lg	20 40 32.1	
	71nm,0.6s,SNR=7.9						
GUD	**Guadarrama**	**4.31**	**341**	Pn	**Pn**	**20 39 22.9**	**+1.4**
	SNR=6.9						
GUD	**Guadarrama**	**4.31**	**341**	Pg	**Pg**	**20 39 38.0**	**-1.2**
	1.3nm,0.2s,SNR=11						
GUD				Lg	Lg	20 40 32.1	
	71nm,0.6s,SNR=7.9						
EBAD	**Badajoz**	**4.32**	**302**	Pn	**Pn**	**20 39 23.0**	**+1.5**
	0.4nm,0.1s,SNR=11						
EBAD				Sn	**Sn**	**20 40 10.5**	**-0.9**
	10nm,0.2s,SNR=4.9						
EBAD	**Badajoz**	**4.32**	**302**	Pn	**Pn**	**20 39 23.0**	**+1.5**
	0.4nm,0.1s,SNR=11						
EBAD				Sn	**Sn**	**20 40 10.5**	**-0.9**
	10nm,0.2s,SNR=4.9						
PVAQ	**Vaqueiros**	**4.40**	**282**	*e*Pn	**Pn**	**20 39 23.7**	**+1.1**
PVAQ				*e*Sn	**Sn**	**20 40 11.7**	**-1.8**
PVAQ				A	A	20 40 14.0	
	13nm,0.9s						
PVAQ	**Vaqueiros**	**4.40**	**282**	Pn	**Pn**	**20 39 23.7**	**+1.1**
PVAQ				Sn	**Sn**	**20 40 11.7**	**-1.8**
	13nm,0.9s						
PVAQ	**Vaqueiros**	**4.40**	**282**	Pn	**Pn**	**20 39 23.7**	**+1.1**
PVAQ				Sn	**Sn**	**20 40 11.7**	**-1.8**
	13nm,0.9s						
PBDV	**Barranco-do-Ve**	**4.55**	**280**	*e*Pn	**Pn**	**20 39 26.8**	**+2.1**
PBDV				*e*Sn	**Sn**	**20 40 17.4**	**+0.2**
PBDV				A	A	20 40 57.4	
	16nm,0.6s						
PBDV	**Barranco-do-Ve**	**4.55**	**280**	Pn	**Pn**	**20 39 26.8**	**+2.1**
PBDV				Sn	**Sn**	**20 40 17.4**	**+0.2**
	16nm,0.6s						
PBDV	**Barranco-do-Ve**	**4.55**	**280**	Pn	**Pn**	**20 39 26.8**	**+2.1**
PBDV				Sn	**Sn**	**20 40 17.4**	**+0.2**
	16nm,0.6s						
EPLA	**Plasencia**	**4.58**	**321**	Pn	**Pn**	**20 39 26.7**	**+1.7**
	0.1nm,0.1s,SNR=16						
EPLA				Sn	**Sn**	**20 40 16.4**	**-1.4**
	4.2nm,0.3s,SNR=6.3						
EPLA				Lg	Lg	20 40 40.3	
	42nm,0.7s						
EPLA	**Plasencia**	**4.58**	**321**	Pn	**Pn**	**20 39 26.7**	**+1.7**
	0.1nm,0.1s,SNR=16						
EPLA				Sn	**Sn**	**20 40 16.4**	**-1.4**
	4.2nm,0.3s,SNR=6.3						
EPLA				Lg	Lg	20 40 40.3	
	42nm,0.7s						
PCVE	**Castro Verde**	**4.70**	**285**	*e*Pn	**Pn**	**20 39 27.9**	**+1.2**
PCVE				*e*Sg	**Sg**	**20 40 46.2**	**-1.1**
PCVE	**Castro Verde**	**4.70**	**285**	Pn	**Pn**	**20 39 27.9**	**+1.2**
PCVE				Lg	Lg	20 40 46.2	
PCVE	**Castro Verde**	**4.70**	**285**	Pn	**Pn**	**20 39 27.9**	**+1.2**
PCVE				Lg	Lg	20 40 46.2	
PESTR	**Estremoz**	**4.77**	**300**	*e*Pn	**Pn**	**20 39 29.8**	**+2.1**
PESTR				*e*Sg	**Sg**	**20 40 46.2**	**-3.5**
PESTR				A	A	20 40 58.5	
	21nm,1.2s						
MESJ	**Messejana**	**4.88**	**287**	*e*P	**Pn**	**20 39 29.7**	**+0.5**
MESJ	**Messejana**	**4.88**	**287**	*e*Pn	**Pn**	**20 39 29.7**	**+0.5**
MESJ				*e*Sn	**Sn**	**20 40 25.8**	**+0.5**
MESJ				A	A	20 41 11.7	
	12nm,0.9s						
MESJ	**Messejana**	**4.88**	**287**	Pn	**Pn**	**20 39 29.7**	**+0.5**
MESJ				Sn	**Sn**	**20 40 25.8**	**+0.5**
	12nm,0.9s						
MESJ	**Messejana**	**4.88**	**287**	Pn	**Pn**	**20 39 29.7**	**+0.5**
MESJ				Sn	**Sn**	**20 40 25.8**	**+0.5**
	12nm,0.9s						
PMRV	**Marv??o**	**4.92**	**307**	*e*Pn	**Pn**	**20 39 31.4**	**+1.6**
PMRV				*e*Sn	**Sn**	**20 40 26.8**	**+0.5**
PMRV				*e*Sg	**Sg**	**20 40 54.5**	**0.0**
PMRV				A	A	20 41 10.4	
	26nm,0.7s						
PMRV	**Marv??o**	**4.92**	**307**	Pn	**Pn**	**20 39 31.4**	**+1.6**
PMRV				Sn	**Sn**	**20 40 26.8**	**+0.5**
PMRV				Lg	Lg	20 40 54.5	
	26nm,0.7s						
PMRV	**Marv??o**	**4.92**	**307**	Pn	**Pn**	**20 39 31.4**	**+1.6**
PMRV				Sn	**Sn**	**20 40 26.8**	**+0.5**
PMRV				Lg	Lg	20 40 54.5	
	26nm,0.7s						
EVO	**Evora**	**4.93**	**295**	*e*Pn	**Pn**	**20 39 31.4**	**+1.6**
EVO				*e*Sn	**Sn**	**20 40 27.0**	**+0.4**
	36nm,0.5s						
EVO	**Evora**	**4.93**	**295**	*e*Pn	**Pn**	**20 39 31.5**	**+1.6**
EVO				*e*Sg	**Sg**	**20 40 53.6**	**-1.3**
EVO	**Evora**	**4.93**	**295**	Pn	**Pn**	**20 39 31.5**	**+1.6**
EVO				Lg	Lg	20 40 53.6	
EVO	**Evora**	**4.93**	**295**	Pn	**Pn**	**20 39 31.5**	**+1.6**
EVO				Lg	Lg	20 40 53.6	
EVOP	**Sao Brissos**	**5.01**	**295**	*e*Pn	**Pn**	**20 39 31.4**	**+0.4**
EVOP				*e*Sn	**Sn**	**20 40 27.0**	**-1.5**
	18nm,0.5s						
MORF	**Marmelete**	**5.13**	**280**	*e*P	**Pn**	**20 39 33.4**	**+0.8**
MORF	**Marmelete**	**5.13**	**280**	*e*Pn	**Pn**	**20 39 34.7**	**+2.1**
MORF				*e*Sn	**Sn**	**20 40 30.3**	**-1.2**
MORF				A	A	20 40 42.3	
	8.7nm,0.6s						
MORF	**Marmelete**	**5.13**	**280**	Pn	**Pn**	**20 39 34.7**	**+2.1**
MORF				Sn	**Sn**	**20 40 30.3**	**-1.2**
	8.7nm,0.6s						
MORF	**Marmelete**	**5.13**	**280**	Pn	**Pn**	**20 39 34.7**	**+2.1**
MORF				Sn	**Sn**	**20 40 30.3**	**-1.2**
	8.7nm,0.6s						
ETOS	**Mallorca**	**5.15**	**50**	Pn	**Pn**	**20 39 33.7**	**+0.8**
	0.0nm,0.0s,SNR=14						
ETOS				Sn	**Sn**	**20 40 30.7**	**-1.3**
	2.7nm,0.2s,SNR=5.0						
ETOS	**Mallorca**	**5.15**	**50**	Pn	**Pn**	**20 39 33.7**	**+0.8**
	SNR=14						
PNCL	**Nicolau / Gran**	**5.18**	**289**	*e*Pn	**Pn**	**20 39 33.9**	**+0.5**
PCBR	**Castelo Branco**	**5.21**	**310**	*e*Pn	**Pn**	**20 39 35.4**	**+1.6**
PCBR				*e*Sn	**Sn**	**20 40 32.4**	**-1.1**
PCBR				*e*Sg	**Sg**	**20 41 03.2**	**-0.7**
PCBR				A	A	20 41 17.6	
	24nm,0.6s						
PCBR	**Castelo Branco**	**5.21**	**310**	Pn	**Pn**	**20 39 35.4**	**+1.6**
PCBR				Sn	**Sn**	**20 40 32.4**	**-1.1**
PCBR				Lg	Lg	20 41 03.2	
	12nm,0.6s						
PCBR	**Castelo Branco**	**5.21**	**310**	Pn	**Pn**	**20 39 35.4**	**+1.6**
PCBR				Sn	**Sn**	**20 40 32.4**	**-1.1**
PCBR				Lg	Lg	20 41 03.2	
	12nm,0.6s						
PTEO	**Sao Teotonio**	**5.22**	**283**	*e*Pn	**Pn**	**20 39 34.7**	**+0.9**
PTEO				*e*Sn	**Sn**	**20 40 32.7**	**-0.9**
PTEO				A	A	20 41 18.6	
	13nm,0.6s						
PTEO	**Sao Teotonio**	**5.22**	**283**	Pn	**Pn**	**20 39 34.7**	**+0.9**
PTEO				Sn	**Sn**	**20 40 32.7**	**-0.9**
	6.7nm,0.6s						
PTEO	**Sao Teotonio**	**5.22**	**283**	Pn	**Pn**	**20 39 34.7**	**+0.9**
PTEO				Sn	**Sn**	**20 40 32.7**	**-0.9**
	6.7nm,0.6s						
PFVI	**Vila Bisbo**	**5.25**	**278**	*e*Pn	**Pn**	**20 39 35.5**	**+1.1**
PFVI				*e*Sn	**Sn**	**20 40 34.4**	**0.0**
PFVI				A	A	20 40 51.8	
	12nm,0.7s						
PFVI	**Vila Bisbo**	**5.25**	**278**	Pn	**Pn**	**20 39 35.4**	**+1.1**
	0.7nm,0.1s,SNR=7.9						
PFVI				Sn	**Sn**	**20 40 32.9**	**-1.5**
	13nm,0.3s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.25**	**278**	Pn	**Pn**	**20 39 35.4**	**+1.1**
	0.7nm,0.1s,SNR=7.9						
PFVI				Sn	**Sn**	**20 40 32.9**	**-1.5**
	13nm,0.3s,SNR=7.9						
PMTG	**Montargil**	**5.30**	**300**	*e*Pn	**Pn**	**20 39 36.3**	**+1.3**
PMTG				*e*Sg	**Sg**	**20 41 05.7**	**-1.0**
PMTG				A	A	20 41 13.2	
	18nm,0.5s						
ESAC	**San Caprasio**	**5.34**	**15**	Pn	**Pn**	**20 39 37.2**	**+1.6**
	0.1nm,0.1s,SNR=7.9						

ESAC	**San Caprasio**	**5.34**	**15**	Pn	**Pn**	**20 39 37.2**	**+1.6**
	0.1nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**5.46**	**28**	Pn	**Pn**	**20 39 38.5**	**+1.3**
	0.1nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**5.46**	**28**	Pn	**Pn**	**20 39 38.5**	**+1.3**
	0.1nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**5.61**	**315**	*e*Pn	**Pn**	**20 39 41.1**	**+1.9**
MTE				*e*Sg	**Sg**	**20 41 16.2**	**-0.3**
MTE				A	A	20 41 18.4	
	36nm,0.6s						
MTE	**Manteigas**	**5.61**	**315**	Pn	**Pn**	**20 39 41.1**	**+1.9**
MTE				Lg	Lg	20 41 16.2	
	18nm,0.6s						
MTE	**Manteigas**	**5.61**	**315**	Pn	**Pn**	**20 39 41.1**	**+1.9**
MTE				Lg	Lg	20 41 16.2	
	18nm,0.6s						
PTOM	**Tomar**	**5.69**	**304**	*e*Pn	**Pn**	**20 39 41.0**	**+0.7**
PTOM				*e*Sg	**Sg**	**20 41 19.8**	**+0.7**
PTOM				A	A	20 41 20.8	
	21nm,0.6s						
PTOM	**Tomar**	**5.69**	**304**	Pn	**Pn**	**20 39 41.0**	**+0.7**
PTOM				Lg	Lg	20 41 19.8	
	11nm,0.6s						
PTOM	**Tomar**	**5.69**	**304**	Pn	**Pn**	**20 39 41.0**	**+0.7**
PTOM				Lg	Lg	20 41 19.8	
	11nm,0.6s						
MVO	**Moncorvo**	**5.88**	**323**	*e*Pn	**Pn**	**20 39 45.0**	**+2.0**
MVO				*e*Sg	**Sg**	**20 41 25.2**	**0.0**
MVO				A	A	20 41 37.1	
	16nm,0.6s						
MVO	**Moncorvo**	**5.88**	**323**	Pn	**Pn**	**20 39 44.5**	**+1.5**
	0.0nm,0.0s,SNR=9.6						
MVO				Sn	**Sn**	**20 40 49.2**	**-0.8**
	4.6nm,0.3s,SNR=7.9						
MVO	**Moncorvo**	**5.88**	**323**	Pn	**Pn**	**20 39 44.5**	**+1.5**
	SNR=9.6						
MVO				Sn	**Sn**	**20 40 49.2**	**-0.8**
	4.6nm,0.3s,SNR=7.9						
PCAS	**Casmilo, Conde**	**5.98**	**307**	*e*Pn	**Pn**	**20 39 46.3**	**+2.0**
PVIS	**Viseu**	**6.02**	**315**	*e*Pn	**Pn**	**20 39 46.6**	**+1.8**
PVIS				*e*Sg	**Sg**	**20 41 28.6**	**-1.0**
PVIS				A	A	20 41 40.2	
	12nm,0.6s						
PVIS	**Viseu**	**6.02**	**315**	Pn	**Pn**	**20 39 46.6**	**+1.8**
PVIS				Lg	Lg	20 41 28.6	
	6.2nm,0.6s						
PVIS	**Viseu**	**6.02**	**315**	Pn	**Pn**	**20 39 46.6**	**+1.8**
PVIS				Lg	Lg	20 41 28.6	
	6.2nm,0.6s						
PBRG	**Braganca**	**6.25**	**328**	*e*Sg	**Sg**	**20 41 35.8**	**-1.5**
PBRG				A	A	20 41 50.3	
	18nm,0.6s						
PBRG	**Braganca**	**6.25**	**328**	Lg	Lg	20 41 35.8	
	8.9nm,0.6s						
PBRG	**Braganca**	**6.25**	**328**	Lg	Lg	20 41 35.8	
	8.9nm,0.6s						
PVRL	**Vila Real**	**6.31**	**320**	*e*Pn	**Pn**	**20 39 50.2**	**+1.4**
PVRL				*e*Sn	**Sn**	**20 40 59.7**	**-0.8**
PVRL				A	A	20 41 41.6	
	12nm,0.7s						
PVRL	**Vila Real**	**6.31**	**320**	Pn	**Pn**	**20 39 50.2**	**+1.4**
PVRL				Sn	**Sn**	**20 40 59.7**	**-0.8**
	5.8nm,0.7s						
PVRL	**Vila Real**	**6.31**	**320**	Pn	**Pn**	**20 39 50.2**	**+1.4**
PVRL				Sn	**Sn**	**20 40 59.7**	**-0.8**
	5.8nm,0.7s						
IELO	**Elcoad**	**6.32**	**7**	Pn	**Pn**	**20 39 51.8**	**+2.8**
	0.1nm,0.0s,SNR=7.9						
IELO	**Elcoad**	**6.32**	**7**	Pn	**Pn**	**20 39 51.8**	**+2.8**
	0.1nm,0.0s,SNR=7.9						
CFON	**Fontmartina**	**6.36**	**34**	Pn	**Pn**	**20 39 52.4**	**+2.8**
	0.0nm,0.0s,SNR=7.9						
CFON	**Fontmartina**	**6.36**	**34**	Pn	**Pn**	**20 39 52.4**	**+2.8**
	SNR=7.9						
ECAL	**Calabor**	**6.37**	**329**	Pn	Pn	20 39 52.7	+3.0
	0.1nm,0.1s,SNR=5.9						
ECAL	**Calabor**	**6.37**	**329**	Pn	Pn	20 39 52.7	+3.0
	0.1nm,0.1s,SNR=5.9						
CSOR	**Sort**	**6.38**	**24**	Pn	**Pn**	**20 39 52.0**	**+2.1**
	0.2nm,0.2s,SNR=7.3						
CSOR	**Sort**	**6.38**	**24**	Pn	**Pn**	**20 39 52.0**	**+2.1**
	0.2nm,0.2s,SNR=7.3						
POLO	**Lamas de Olo**	**6.42**	**320**	*e*Pn	**Pn**	**20 39 52.0**	**+1.6**
POLO				*e*Sn	**Sn**	**20 41 01.6**	**-1.7**
POLO				A	A	20 41 44.2	
	6.2nm,0.5s						
ETSF	**Etsaut**	**6.46**	**12**	*e*Pn	**Pn**	**20 39 51.9**	**+0.9**
ETSF				*e*Sg	**Sg**	**20 41 41.2**	**-2.7**
	29nm,1.1s						
ETSF	**Etsaut**	**6.46**	**12**	Pn	**Pn**	**20 39 51.9**	**+0.9**
ETSF				Lg	Lg	20 41 41.2	
	14nm,1.1s						
ETSF	**Etsaut**	**6.46**	**12**	Pn	**Pn**	**20 39 51.9**	**+0.9**
ETSF				Lg	Lg	20 41 41.2	
	14nm,1.1s						
SJPF	**Ste Jean**	**6.59**	**7**	*e*Pn	**Pn**	**20 39 53.6**	**

JIE			eS	S	20 59 13.3	+0.2
JKN2	**Miekihoku**	**0.74 303**	P	Pn	20 58 37.2	+0.4
JWZ	**Kozaga**	**1.13 255**	P	Pn	20 58 38.1	-0.2
JWY	**Kouya**	**1.25 288**	P	Pn	20 58 39.3	+0.5
JWY			S	S	20 59 16.8	-0.6
JWT	**Wachi**	**1.97 318**	P	Pn	20 58 43.1	+0.3
JWT			S	S	20 59 23.5	-1.2
JYN	**Shimob**	**2.08 37**	P	Pn	20 58 45.1	+1.4
JAI	**Aioi**	**2.14 270**	P	Pn	20 58 44.0	-0.1
JOD2	**Odawara 2**	**2.23 49**	P	Pn	20 58 45.3	+0.6
JOD2			S	S	20 59 28.0	0.0
JMN	**Monobe**	**2.62 269**	P	Pn	20 58 48.0	+0.2
JRY	**Ryogami san**	**2.67 35**	P	Pn	20 58 48.9	+0.8
JRY			S	S	20 59 35.3	+1.0
MAT	**Matsushiro**	**2.87 19**	P	Pn	20 58 50.0	+0.2
MAT			S	S	20 59 36.6	-0.8
MAT	**Matsushiro**	**2.87 19**	P	Pn	20 58 50.1	+0.2
MAT			S	S	20 59 36.6	-0.8
MJAR	**Matsushiro Arr**	**2.87 19**	P	Pn	20 58 50.0	+0.1
	baz=196,slow=9.9					
MJAR			S	S	20 59 36.1	-1.3
	baz=195,slow=16					
BSO1	**Boso 1**	**3.38 75**	P	Pn	20 58 52.5	-1.3
BSO1			eS	S	20 59 42.9	-1.7
JHS	**Saijyo**	**3.43 291**	P	Pn	20 58 55.4	+0.5
KSRS	**Korea Array**	**8.24 299**	P	Pn	20 59 48.6	+0.7
	0.4nm,0.3s,baz=109,slow=13,SNR=9.2					
USRK	**Ussuriysk Ar.**	**11.06 341**	P	P	21 00 21.4	-0.1
	0.1nm,0.3s,baz=180,slow=13,SNR=5.1					
ASAJ	**Asahikawa**	**11.14 21**	P	Pn	21 00 21.5	-0.7
	baz=180,slow=20					
CMAR	**Chiang Mai Arr**	**37.22 255**	P	P	21 04 29.1	-0.2
	0.3nm,0.5s,baz=45,slow=7.2,SNR=4.0					
WRA	**Warramunga Arr**	**53.53 183**	P	P	21 06 35.4	-0.3
	0.4nm,0.3s,baz=358,slow=7.6,SNR=3.5					
ARCES	**ARCESS Array B**	**65.71 339**	P	P	21 07 57.4	0.0
	2.3nm,0.3s,baz=40,slow=7.1,SNR=3.5					
FINES	**FINESS Array B**	**69.94 331**	P	P	21 08 23.1	-0.5
	0.8nm,0.4s,baz=68,slow=5.7,SNR=23					
NOA	**NORSAR Array B**	**75.69 336**	P	P	21 08 57.0	-0.1
	0.9nm,0.8s,baz=39,slow=4.7,SNR=3.3					
BRTR	**Keskin Array B**	**78.22 310**	P	P	21 09 12.8	+1.2
	0.2nm,0.3s,baz=357,slow=5.8,SNR=5.1					

HEL ***06*** *20:59:18.0±0.6, 67.64N×34.13E, h0km, ML1.6, Explosion*
NAO ***06*** *20:59:19.4±1.8, 67.63N×33.77E, ML2.0*
CSEM ***06*** *20:59:20.7±0.7, 67.66N×33.57E, h2km, ML2.0, Error ellipse: s-maj=12.7km s-min=5.6km az=108.0, Mining explosion.*

ISC 06 20:59:22.1±2.4, 67.74N±0.05×33.4E±0.1, h0km, n24, σ0s71/35, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
APA0	**Apatity Array**	**0.22**	**233**	Pg		**Pg**	**20 59 25.4**	**-0.8**
	baz=85,slow=18							
APA0				Lg		Lg	20 59 29.5	
	baz=82,slow=37							
APA0				Rg		Rg	20 59 30.8	
	baz=82,slow=37							
APA0	**Apatity Array**	**0.22**	**233**	Pg		**Pg**	**20 59 25.4**	**-0.8**
	baz=85,slow=18							
APA0				Lg		Lg	20 59 29.5	
	baz=82,slow=37							
APA0				Rg		Rg	20 59 30.8	
	baz=82,slow=37							
APA0	**Apatity Array**	**0.22**	**233**	Pg		**Pg**	**20 59 25.4**	**-0.8**
	SNR=91							
APA0				Lg		Lg	20 59 29.5	
	SNR=8.4							
KU6	**Riekki**	**2.22**	**221**	PG		**Pn**	**20 59 59.9**	**-0.2**
KU6				MSG			21 00 26.9	
	comp=Z,2.2nm,0.2s							
KU6				SG		**Sb**	**21 00 30.4**	**-0.6**
KU6	**Riekki**	**2.22**	**221**	Pg		**Pn**	**20 59 59.8**	**-0.2**
KU6				Sg		**Sb**	**21 00 30.4**	**-0.6**
MSF	**Maaselka**	**2.53**	**226**	PG		**Pn**	**21 00 04.8**	**+0.5**
MSF				SG		**Sb**	**21 00 40.4**	**+0.5**
MSF	**Maaselka**	**2.53**	**226**	Pg		**Pn**	**21 00 04.8**	**+0.5**
MSF				Sg		**Sb**	**21 00 40.4**	**+0.5**
SGF	**Sodankyl**	**2.67**	**267**	SB		**Sb**	**21 00 44.2**	**+0.4**
SGF	**Sodankyl**	**2.67**	**267**	Sb		**Sb**	**21 00 44.2**	**+0.4**
KEV	**Kevo**	**3.10**	**314**	PN		**Pn**	**21 00 12.3**	**+0.2**
KEV				SN		**Sn**	**21 00 50.2**	**+0.4**
KEV	**Kevo**	**3.10**	**314**	Pn		**Pn**	**21 00 12.3**	**+0.2**
KEV				Sn		**Sn**	**21 00 50.2**	**+0.4**
RNF	**Rovaniemi**	**3.11**	**252**	PN		**Pn**	**21 00 11.4**	**-0.9**
	baz=72							
RNF				SN		**Sn**	**21 00 51.2**	**+1.1**
RNF	**Rovaniemi**	**3.11**	**252**	Pn		**Pn**	**21 00 11.4**	**-0.9**
RNF				Sn		**Sn**	**21 00 51.2**	**+1.1**
ARA0	**ARCESS Array S**	**3.42**	**306**	Pn		**Pn**	**21 00 16.1**	**-0.5**
	baz=123,slow=16							
ARA0				Sn		**Sn**	**21 00 57.3**	**-0.5**
	baz=121,slow=28							
ARA0				Lg		Lg	21 01 07.7	
	baz=122,slow=37							
ARA0	**ARCESS Array S**	**3.42**	**306**	Pn		**Pn**	**21 00 16.1**	**-0.5**
	baz=123,slow=16							
ARA0				Sn		**Sn**	**21 00 57.3**	**-0.5**
	baz=121,slow=28							
ARA0				Lg		Lg	21 01 07.7	
	baz=122,slow=37							
ARA0	**ARCESS Array S**	**3.42**	**306**	Pn		**Pn**	**21 00 16.1**	**-0.5**
	SNR=50							
ARA0				Sn		**Sn**	**21 00 57.3**	**-0.5**
	SNR=50							
ARA0				Lg		Lg	21 01 07.7	
	SNR=25							
ARE0	**ARCESS Array S**	**3.42**	**306**	PN		**Pn**	**21 00 15.8**	**-0.8**
	baz=119							
ARE0				SN		**Sn**	**21 00 58.8**	**+1.0**
ARE0	**ARCESS Array S**	**3.42**	**306**	Pn		**Pn**	**21 00 15.8**	**-0.8**
ARE0				Sn		**Sn**	**21 00 58.8**	**+1.0**
HEF	**Hetta**	**3.73**	**285**	PG		**Pb**	**21 00 29.7**	**+0.9**
	baz=94							
HEF				SN		**Sn**	**21 01 04.7**	**-0.8**
HEF	**Hetta**	**3.73**	**285**	Pg		**Pb**	**21 00 29.7**	**+0.9**
HEF				Sn		**Sn**	**21 01 04.6**	**-0.8**
OUL	**Oulu**	**4.04**	**232**	PB		Pn	21 00 29.0	+4.0
OUL	**Oulu**	**4.04**	**232**	Pb		Pn	21 00 29.0	+4.0
FIA0	**FINESS Array S**	**7.06**	**210**	Lg		Lg	21 02 57.2	
	baz=33,slow=28							
FIA0	**FINESS Array S**	**7.06**	**210**	Lg		Lg	21 02 57.2	
	baz=33,slow=28							

ISCJB ***06*** *20:59:26.9±0.7, 4.61S±0.08×153.1E±0.1, h55km, mb4.0/14, Error ellipse: s-maj=15.6km s-min=11.4km az=179.2*
IDC ***06*** *20:59:29.7±5.5, 4.63S×153.01E, h62km±49km, mb3.7/14, mb1 3.9/14, mb1mx3.8/29, mbtmp4.0/14, MS2.4/1, Ms1 2.4/1, ms1mx2.3/21, Error ellipse: s-maj=25.5km s-min=14.9km az=72.0*

ISC 06 20:59:28.8±0.7, 4.65S±0.1×153.1E±0.1, h55km, n30, σ1s18/25, mb4.0/14, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
RABL	**Rabaul**	**0.99**	**294**	P		**Pn**	**20 59 47.5**	**+0.9**
	baz=1.9,SNR=224							
GUMO	**Guam**	**19.82**	**336**	LR		LR	21 10 27.8	
	comp=Z,11nm,18.6s,baz=117,slow=33							
DZM	**Mont Dzumac**	**21.57**	**144**	P		**P**	**21 04 16.6**	**+1.4**
	3.3nm,0.8s,baz=270,slow=20,SNR=73							
KDU	**Kakadu**	**21.88**	**247**	P		**P**	**21 04 17.6**	**+0.3**
	baz=23,SNR=7.5							
SIJI	**Sorong**	**22.09**	**279**	P		**P**	**21 04 20.5**	**+0.8**
	8.0nm,0.6s,baz=89,slow=11,SNR=5.9							
WRA	**Warramunga Arr**	**23.78**	**229**	P		**P**	**21 04 35.7**	**-1.0**
	7.4nm,0.6s,baz=52,slow=9.9,SNR=97							
KNRA	**Kununurra**	**26.31**	**243**	P		**P**	**21 04 59.3**	**-0.3**
	baz=27,SNR=24							
ASAR	**Alice Springs**	**26.48**	**222**	P		**P**	**21 04 59.7**	**-1.5**
	1.2nm,0.5s,baz=55,slow=8.9,SNR=16							
H11S3	**WAKE ISLAND Hy**	**26.58**	**30**	T		T	21 32 50.9	
	baz=209,slow=74							
H11S2	**WAKE ISLAND Hy**	**26.59**	**30**	T		T	21 32 48.1	
	baz=209,slow=74,SNR=8.1							
H11S1	**WAKE ISLAND Hy**	**26.60**	**30**	T		T	21 32 52.3	
	baz=209							
LHI	**Lord Howe Isla**	**27.37**	**169**	P		P	21 05 02.5	-6.5
	baz=28,SNR=3.8							
STKA	**Stephens Creek**	**29.20**	**200**	P		**P**	**21 05 24.8**	**-0.5**
	1.2nm,0.8s,baz=18,slow=13,SNR=2.7							
WRKA	**Warakurna**	**31.30**	**227**	P		**P**	**21 05 43.0**	**-1.0**
	baz=32,SNR=4.6							
MEEK	**Meekatharra**	**39.54**	**233**	P		**P**	**21 06 54.0**	**-0.8**
	baz=41,SNR=24							
MORW	**Morawa**	**42.68**	**231**	P		**P**	**21 07 22.7**	**+2.1**
	baz=44,SNR=5.7							
BLDU	**Ballidu**	**42.92**	**229**	P		**P**	**21 07 25.0**	**+2.6**
	baz=44,SNR=7.2							
CISI	**Cisompet, Garu**	**45.08**	**264**	P		**P**	**21 07 38.0**	**-2.1**
	baz=46,SNR=3.5							
KSRS	**Korea Array**	**47.94**	**333**	P		**P**	**21 08 02.2**	**+0.2**
	1.5nm,0.7s,baz=153,slow=8.1,SNR=8.0							
USRK	**Ussuriysk Ar.**	**52.15**	**341**	P		**P**	**21 08 33.7**	**0.0**
	1.8nm,0.6s,baz=140,slow=9.2,SNR=5.5							
CMAR	**Chiang Mai Arr**	**58.04**	**295**	P		**P**	**21 09 17.2**	**+0.5**
	1.5nm,0.7s,baz=117,slow=5.1,SNR=13							
SONM	**Songino Array**	**66.30**	**328**	P		**P**	**21 10 12.8**	**+1.1**
	0.4nm,0.5s,baz=145,slow=7.2,SNR=5.1							
VNDA	**Vanda**	**73.02**	**178**	P		**P**	**21 10 52.9**	**+0.5**
	0.7nm,0.6s,baz=343,slow=6.2,SNR=5.0							
MKAR	**Makanchi Array**	**80.35**	**319**	P		**P**	**21 11 34.3**	**0.0**
	0.7nm,0.4s,baz=98,slow=6.7,SNR=23							
ZALV	**Zalesovo Beam**	**81.14**	**326**	P		**P**	**21 11 37.1**	**-1.2**
	1.0nm,0.5s,baz=116,slow=5.1,SNR=5.8							
ILAR	**Eielson Array**	**81.87**	**22**	P		**P**	**21 11 40.7**	**-1.3**
	0.7nm,0.7s,baz=241,slow=6.4,SNR=7.2							
MAW	**Mawson**	**85.86**	**203**	P		**P**	**21 12 01.6**	**-0.7**
	1.5nm,0.8s,baz=90,slow=1.0,SNR=4.6							
GERES	**GERESS Array B**	**124.02**	**329**	PKP		**PKPdf**	**21 18 21.5**	**+0.2**
	0.4nm,0.5s,baz=50,slow=2.0,SNR=6.1							
TORD	**Torodi Ar. Bea**	**150.50**	**289**	PKPbc		**PKPbc**	**21 19 15.0**	**-0.5**
	4.0nm,0.5s,baz=90,slow=2.2,SNR=69							
BDFB	**Brasilia**	**151.01**	**134**	PKPbc		**PKPbc**	**21 19 17.6**	**+0.7**
	1.5nm,0.5s,baz=219,slow=6.5,SNR=6.3							

CSEM 06 21:21:12.9±0.5, 47.46N×18.21E, h5km, ML0.2, 6C, Error ellipse: s-maj=13.1km s-min=6.8km az=84.0, Hungary

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CSKK	**Cs˘‡kako**	**0.10**	**159**	⇑eP	g	Pg	21 21 14.8	-0.2
CSKK				⇑eS	g	Sg	21 21 15.4	-1.1
CSKK	**Cs˘‡kako**	**0.10**	**159**	⇑eP	g	Pg	21 21 14.8	-0.2
CSKK				eP	g	Pg	21 21 15.4	+0.4
PKSG		**0.14**	**117**	⇑eP	g	Pg	21 21 16.4	+0.7
PKSG				⇑eS	g	Sg	21 21 18.1	+0.5
PKSG		**0.14**	**117**	eP	g	Pg	21 21 16.4	+0.7
PKSG				eS	g	Sg	21 21 18.1	+0.5
PKST	**T˘'s**	**0.23**	**211**	eS	g	Sg	21 21 20.9	+0.4
PKST	**T˘'s**	**0.23**	**211**	eS	g	Sg	21 21 20.9	+0.4

CSEM ***06*** *21:21:54.7±0.7, 50.42N×18.87E, h1km, ML2.2/4, Error ellipse: s-maj=13.6km s-min=7.5km az=10.0*

PRU 06 21:21:56.6, 50.36N×18.86E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CHZP	**Chorzow**	**0.11**	**129**	eP	g	Pg	21 21 59.3	+0.6
OJC	**Ojcow**	**0.62**	**103**	eP	g	Pg	21 22 08.9	+0.4
OJC				eS	g	Sg	21 22 16.6	+0.1
OJC	**Ojcow**	**0.62**	**103**	eS	g	Sg	21 22 16.6	+0.1
OJC	**Ojcow**	**0.62**	**103**	eP	g	Pg	21 22 08.9	+0.4
OKC	**Ostrava-Krasne**	**0.70**	**222**	eP	G	Pg	21 22 09.6	-0.4
OKC				eS	G	Sg	21 22 18.9	-0.1
	comp=Z,3.6nm,0.3s							
OKC	**Ostrava-Krasne**	**0.70**	**222**	Pg		Pg	21 22 09.6	-0.4
OKC				Sg		Sg	21 22 18.9	-0.1
	3.6nm,0.3s							
MORC	**Moravsky Berou**	**1.03**	**236**	eP	g	Pg	21 22 16.7	+0.2
MORC	**Moravsky Berou**	**1.03**	**236**	eS	g	Sg	21 22 30.5	+0.6
KRLC	**Kraliky**	**1.36**	**259**	eP	G	Pg	21 22 21.9	-1.0
KRLC				eS	G	Sg	21 22 40.7	+0.1
KRLC	**Kraliky**	**1.36**	**259**	Pg		Pg	21 22 21.9	-1.0
KRLC				Sg		Sg	21 22 40.7	+0.1
DPC	**Dobruska-Polom**	**1.63**	**271**	eP	G	Pn	21 22 26.5	-0.1
DPC				eS	G	Sg	21 22 49.0	0.0
	comp=Z,3.0nm,0.5s							
DPC	**Dobruska-Polom**	**1.63**	**271**	Pg		Pn	21 22 26.5	-0.1
DPC				Sg		Sg	21 22 49.0	0.0
	3.0nm,0.5s							
VRAC	**Vranov**	**1.81**	**235**	ePn		Pn	21 22 26.2	-2.8
VRAC				eSg		Sb	21 22 53.6	-0.2
TREC	**Trest**	**2.43**	**245**	eP	G	Pb	21 22 41.1	-0.1
TREC				eS	G	Sg	21 23 13.5	-1.3
	comp=Z,2.0nm,0.4s							
TREC	**Trest**	**2.43**	**245**	Pg		Pb	21 22 41.1	-0.1
TREC				Sg		Sg	21 23 13.5	-1.3
	2.0nm,0.4s							
GOPC	**GO Pecny, Ondr**	**2.66**	**262**	eP	G	Pb	21 22 45.3	+0.2
GOPC				eS	G	Sg	21 23 21.5	-0.6
GOPC	**GO Pecny, Ondr**	**2.66**	**262**	Pg		Pb	21 22 45.3	+0.2
GOPC				Sg		Sg	21 23 21.5	-0.6
PVCC	**Panska Ves**	**2.75**	**275**	eS	G	Sg	21 23 24.6	-0.3
PVCC	**Panska Ves**	**2.75**	**275**	Sg		Sg	21 23 24.6	-0.3
PRU	**Pruhonice**	**2.80**	**264**	eP	G	Pb	21 22 48.8	+1.3
PRU				eS	G	Sg	21 23 26.2	-0.4
PRU	**Pruhonice**	**2.80**	**264**	Pg		Pb	21 22 48.8	+1.3
PRU				Sg		Sg	21 23 26.2	-0.4
KHC	**Kasperske Hory**	**3.64**	**252**	eP	G	Pb	21 23 03.7	+1.8
KHC				eS	G	Sg	21 23 52.1	-1.6
	comp=Z,1.3nm,0.5s							
KHC	**Kasperske Hory**	**3.64**	**252**	Pg		Pb	21 23 03.7	+1.8
KHC				Sg		Sg	21 23 52.1	-1.6
	1.3nm,0.5s							

IDC ***06*** *21:29:32.4±1.1, 0.35N×128.32E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.7/32, mbtmp3.9/6, ML3.3/1, Error ellipse: s-maj=53.0km s-min=18.3km az=64.0*
ISCJB ***06*** *21:29:35.3±0.6, 0.27N±0.06×128.36E±0.04, h33km, mb3.9/4, Error ellipse: s-maj=9.4km s-min=5.2km az=17.9*
DJA ***06*** *21:29:36.3±0.4, 0.7N±4.1×12.8E±, h10km, M4.0/9, mb4.5/3, mB4.9/1, MLv3.8/9, Mw(mB)4.1/1*

ISC 06 21:29:37.2±0.9, 0.30N±0.07×128.36E±0.06, h35km, n15, σ1s48/18, mb3.9/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
TNTI	**Ternate**	**1.10**	**295**	P		**Pn**	**21 29 54.1**	**-2.0**
TNTI				S		**Sn**	**21 30 10.4**	**+0.4**
LBMI	**Labuha**	**1.26**	**223**	P		**Pn**	**21 29 55.4**	**-3.0**
LBMI				S		**Sn**	**21 30 11.4**	**-2.8**
SWI	**Sorong**	**3.12**	**112**	P		Pn	21 30 27.9	+3.9
SIJI	**Sorong**	**3.13**	**112**	Pn		**Pn**	**21 30 23.0**	**-1.1**
	3.8nm,0.3s,baz=335,slow=22,SNR=9.1							
SIJI				Sn		**Sn**	**21 31 00.1**	**-0.2**
	1.5nm,0.3s,baz=262,slow=14,SNR=3.6							
SANI	**Sanana**	**3.32**	**225**	P		**Pn**	**21 30 26.6**	**-0.1**
NLAI	**Namlea**	**3.73**	**200**	P		**Pn**	**21 30 32.8**	**+0.5**
KMSI	**Cibinong**	**4.38**	**274**	P		**Pn**	**21 30 39.7**	**-1.6**
KMSI				S		**Sn**	**21 31 33.6**	**+2.4**
FAKI	**Fak Fak**	**5.03**	**129**	P		**Pn**	**21 30 50.1**	**-0.2**
	33nm,1.1s,0.1nm							
APSI	**Ampana**	**6.81**	**260**	P		**Pn**	**21 31 14.6**	**-0.1**
	46nm,0.8s,751nm0.2nm							
SPSI	**Sidrap Palu**	**9.57**	**244**	P		**Pn**	**21 31 53.6**	**+1.0**
WRA	**Warramunga Arr**	**20.95**	**164**	P		**P**	**21 34 17.4**	**+0.1**
	4.3nm,0.6s,baz=342,slow=11,SNR=11							
ASAR	**Alice Springs**	**24.42**	**168**	P		**P**	**21 34 53.5**	**+0.8**
	4.0nm,0.8s,baz=345,slow=8.3,SNR=32							
STKA	**Stephens Creek**	**34.37**	**160**	P		**P**	**21 36 21.9**	**+1.0**
	4.9nm,0.8s,baz=333,slow=8.0,SNR=14							
SONM	**Songino Array**	**51.05**	**341**	P		**P**	**21 38 36.0**	**-0.1**
	0.2nm,0.3s,baz=165,slow=6.0,SNR=2.8							
MKAR	**Makanchi Array**	**61.28**	**326**	P		**P**	**21 39 49.3**	**+0.1**
	0.3nm,0.4s,baz=120,slow=7.2,SNR=7.6							

IDC ***06*** *21:38:41.9±1.1, 3.11S×129.69E, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.6/27, mbtmp3.6/7, ML3.3/2, MS3.3/2, Ms1 3.3/2, ms1mx2.5/22, Error ellipse: s-maj=40.0km s-min=19.3km az=71.0*
ISCJB ***06*** *21:38:44.4±0.5, 3.07S±0.06×129.71E±0.06, h28km, mb3.4/4, MS3.3/2, Error ellipse: s-maj=8.8km s-min=7.3km az=42.6*
DJA ***06*** *21:38:46.2±1.1, 3°S±8°×13°0E±°, h74km±36km, M3.6/7, MLv3.6/7*

ISC 06 21:38:45.7±0.8, 3.08S±0.07×129.69E±0.06, h28km, n15, σ0s93/14, mb3.4/4, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
BNDI	**Bandanaira**	**1.45**	**172**	P		**Pb**	**21 39 11.4**	**-0.7**
FAKI	**Fak Fak**	**2.56**	**87**	P		**Pn**	**21 39 25.9**	**+0.6**
NLAI	**Namlea**	**2.59**	**266**	P		**Pn**	**21 39 27.1**	**+1.3**
SIJI	**Sorong**	**2.70**	**36**	Pn		**Pn**	**21 39 26.9**	**-0.4**
	8.9nm,0.3s,baz=238,slow=13,SNR=21							
SIJI				Sn		**Sn**	**21 39 59.0**	**-0.1**
	3.7nm,0.3s,baz=233,slow=20,SNR=5.8							
SWI	**Sorong**	**2.70**	**35**	P		**Pn**	**21 39 27.2**	**-0.1**
LBMI	**Labuha**	**3.27**	**318**	P		**Pn**	**21 39 34.3**	**-0.8**
SANI	**Sanana**	**3.84**	**285**	P		**Pn**	**21 39 42.0**	**-1.0**
KAPI	**Kappang**	**10.10**	**259**	Pn		Pn	21 41 13.5	+4.5
	1.6nm,0.3s,baz=115,slow=14,SNR=3.7							
WRA	**Warramunga Arr**	**17.37**	**165**	P		**Pn**	**21 42 44.9**	**-1.4**
	0.1nm,0.3s,baz=346,slow=12,SNR=3.2							
ASAR	**Alice Springs**	**20.87**	**169**	P		**P**	**21 43 24.9**	**-0.8**
	6.6nm,0.6s,baz=348,slow=10,SNR=29							
STKA	**Stephens Creek**	**30.76**	**160**	P		**P**	**21 44 59.5**	**+0.7**
	0.3nm,0.4s,baz=326,slow=11,SNR=3.2							
STKA				LR		LR	21 59 25.8	
	comp=Z,113nm,21.5s,baz=202,slow=40							
CMAR	**Chiang Mai Arr**	**37.08**	**306**	P		**P**	**21 45 54.5**	**+0.6**
	0.2nm,0.6s,baz=140,slow=7.1,SNR=3.3							
USRK	**Ussuriysk Ar.**	**47.11**	**2**	LR		LR	22 06 21.6	
	comp=Z,20nm,21.9s,baz=201,slow=35							
MKAR	**Makanchi Array**	**64.81**	**326**	P		**P**	**21 49 22.1**	**+0.1**
	0.1nm,0.4s,baz=128,slow=9.3,SNR=3.4							
ZALV	**Zalesovo Beam**	**67.96**	**333**	P		**P**	**21 49 43.3**	**+1.4**
	0.4nm,0.6s,baz=113,slow=3.7,SNR=3.1							

ISCJB ***06*** *21:48:31.6±0.5, 37.14N±0.02×36.02E±0.03, h2km±4km, Error ellipse: s-maj=3.9km s-min=3.5km az=144.4*
DDA ***06*** *21:48:31.6, 37.18N×36.07E, h18km, MD3.6*
CSEM ***06*** *21:48:32.2±0.2, 37.16N×35.99E, h2km, MD3.1, Error ellipse: s-maj=4.5km s-min=3.8km az=135.0*
ISK ***06*** *21:48:32.0, 37.15N×35.97E, h8km, MD3.1*

ISC 06 21:48:31.8±1.0, 37.16N±0.02×36.01E±0.02, h12km±9km, n52, σ1s32/72, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CEYT	**Ceyhan**	**0.25**	**234**	PG		**Pb**	**21 48 37.9**	**-0.5**
CEYT	**Ceyhan**	**0.25**	**234**	*i* Pg		**Pb**	**21 48 37.9**	**-0.5**
KOZT	**Kozan**	**0.35**	**336**	*e*PG		**Pg**	**21 48 39.2**	**+0.3**
KOZT				*e*SG		**Sb**	**21 48 45.2**	**-0.3**
KOZT	**Kozan**	**0.35**	**336**	*e*Pg		**Pg**	**21 48 39.2**	**+0.3**
KOZT				*e*Sg		**Sb**	**21 48 45.3**	**-0.3**
YURE	**YUREGIR**	**0.45**	**222**	*i* P		**Pb**	**21 48 41.9**	**+0.2**
YURE	**YUREGIR**	**0.45**	**222**	*i* P		**Pb**	**21 48 41.9**	**+0.2**
ANDN	**Andirin**	**0.50**	**33**	*i* P		**Pg**	**21 48 40.7**	**-0.9**
ANDN				*i* S		**Sg**	**21 48 48.7**	**+0.4**
ANDN	**Andirin**	**0.50**	**33**	*i* P		**Pg**	**21 48 40.7**	**-0.9**
ANDN				*i* S		**Sg**	**21 48 48.7**	**+0.4**
HCB	**Kahramanmara˘**	**0.74**	**75**	*i* P		**Pg**	**21 48 45.0**	**-1.2**
HCB				*i* S		**Sg**	**21 48 54.8**	**-1.1**
KARA	**Karaisali**	**0.77**	**278**	*e*PG		**Pg**	**21 48 46.2**	**-0.4**
KARA	**Karaisali**	**0.77**	**278**	*e*Pg		**Pg**	**21 48 46.2**	**-0.4**
KRTS	**Karatas**	**0.77**	**221**	*e*PG		**Pg**	**21 48 46.6**	**-0.1**
KRTS	**Karatas**	**0.77**	**221**	*e*Pg		**Pg**	**21 48 46.7**	**-0.1**
TAHT	**Tahtakopru-Hat**	**0.80**	**169**	*e*PG		**Pg**	**21 48 47.2**	**0.0**
TAHT				*e*SG		**Sn**	**21 48 59.3**	**-1.4**
TAHT	**Tahtakopru-Hat**	**0.80**	**169**	*e*Pg		**Pg**	**21 48 47.2**	**0.0**
TAHT				*e*Sg		**Sn**	**21 48 59.3**	**-1.4**
KUZU	**Kuzuini**	**0.94**	**114**	*i* P		**Pb**	**21 48 49.8**	**-0.3**
KUZU				*i* S		**Sg**	**21 49 02.8**	**+0.6**
KUZU	**Kuzuini**	**0.94**	**114**	*i* P		**Pb**	**21 48 49.8**	**-0.3**
KUZU				*i* S		**Sg**	**21 49 02.8**	**+0.6**
YAYL	**Yayladag**	**1.13**	**176**	*i* P		**Pb**	**21 48 50.8**	**-2.5**
YAYL				*i* S		**Sb**	**21 49 07.6**	**-0.4**
YAYL	**Yayladag**	**1.13**	**176**	*i* P		**Pb**	**21 48 50.8**	**-2.5**
YAYL				*i* S		**Sb**	**21 49 07.6**	**-0.4**
MERS	**Mersin**	**1.22**	**257**	*e*PN		**Pn**	**21 48 54.4**	**-0.5**
MERS				*e*SN		**Sg**	**21 49 11.9**	**+0.7**
MERS	**Mersin**	**1.22**	**257**	*e*Pn		**Pn**	**21 48 54.4**	**-0.5**
MERS				*e*Sn		**Sg**	**21 49 11.9**	**+0.7**
GZT

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.14**	**29**	*i* P	Pn	22 24 17.8	-3.2
PCIG				*i* S	Sb	22 24 31.4	-4.2
TGIG		**2.17**	**17**	*e*P	Pn	22 24 33.1	-2.1
TGIG				*e*S	Sn	22 24 58.0	-3.6
CCIG	**Comitan**	**2.24**	**45**	*e*P	Pn	22 24 36.2	-0.1
CCIG				*i* S	Sn	22 24 58.9	-4.7

*IDC **06** 22:40:10.8±10.0, 36.96N×71.99E, h113km±70km, mb3.1/1, mb1 2.9/4, mb1mx2.8/39, mbtmp3.3/4, Error ellipse: s-maj=161.8km s-min=26.6km az=149.0*
*NNC **06** 22:40:28.2±3.6, 38.27N×71.72E, h0km, mb3.8, mpv3.3, Error ellipse: s-maj=35.0km s-min=19.9km az=155.0*

ISC 06 22:40:18.2±2.1, 37.5N±0.2×71.9E±0.1, h250km, n9, σ2§18/10, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino** 21nm,0.3s	**2.71**	**299**	⇑Pn	**Pn**	**22 41 08.8**	**+1.2**
DZET	126nm,0.4s			⇓Lg	Lg	22 41 44.2	
SFK	**Sufi-Kurgan** 13nm,0.4s	**2.81**	**27**	⇑Pn	**Pn**	**22 41 07.4**	**-1.3**
SFK	15nm,0.2s			⇑Lg	Lg	22 41 42.4	
AAK	**Ala-Archa** 4.1nm,0.5s	**5.50**	**21**	⇑Pn	**Pn**	**22 41 41.1**	**+0.9**
AAK	4.9nm,0.7s			⇓Sn	**S**	**22 42 42.6**	**-3.0**
KK31	**Karatay Array** 0.5nm,0.3s,baz=148,slow=10.0,SNR=28	**5.67**	**350**	Pn	**Pn**	**22 41 44.5**	**+2.4**
KK31	1.5nm,0.2s,baz=188,slow=27,SNR=20			Sn	**S**	**22 42 47.1**	**-2.1**
TKM2	**Tokmak 2** 1.2nm,0.6s	**6.11**	**27**	⇓Pn	**Pn**	**22 41 48.2**	**+0.4**
GEYT	**Alibeck** 0.2nm,0.3s,baz=96,slow=15,SNR=2.6	**10.89**	**276**	P	**Pn**	**22 42 45.6**	**-2.2**
MKAR	**Makanchi Array** 0.0nm,0.3s,baz=230,slow=11,SNR=2.5	**12.07**	**37**	P	**P**	**22 43 05.8**	**+0.4**
ZALV	**Zalesovo Beam** 0.2nm,0.3s,baz=218,slow=11,SNR=6.1	**18.71**	**24**	P	**Pn**	**22 44 24.0**	**+2.2**
TORD	**Torodi Ar. Bea** 0.2nm,0.4s,baz=45,slow=5.6,SNR=11	**66.42**	**269**	P	P	22 50 49.0	+8.1

JMA 06 22:42:39.0±0.3, 32.78N×142.24E, h62km, M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.06**	**280**	P	Pn	22 43 11.9	+0.6
JHJ2				*e*S	Sn	22 43 36.6	+0.6
JHCJ	**Hachijojimakas**	**2.08**	**279**	*e*S	Sn	22 43 37.8	+1.5
BSO1	**Boso 1**	**2.14**	**331**	P	Pn	22 43 13.1	+1.4
BSO1				*e*S	Sn	22 43 38.8	+2.0
BSO3	**Boso 3**	**2.48**	**325**	P	Pn	22 43 18.2	+1.6
BSO4	**Boso 4**	**2.71**	**325**	P	Pn	22 43 21.9	+1.8
JOD2	**Odawara 2**	**3.60**	**314**	P	Pn	22 43 33.2	+0.8
JOD2				*e*S	Sn	22 44 14.8	+1.1
JYN	**Shimob**	**4.09**	**313**	P	Pn	22 43 41.1	+2.0
JAG	**Ashikaga**	**4.30**	**328**	P	Pn	22 43 43.3	+1.4
JAG				*e*S	Sn	22 44 31.9	+1.1
JFT	**Otama**	**4.98**	**342**	P	Pn	22 43 51.6	+0.4
JFT				*e*S	Sn	22 44 45.8	-1.6
JMK	**Ichinoseki**	**6.21**	**353**	*e*S	Sn	22 45 13.8	-3.9

MEX 06 22:45:36.7±0.5, 14.72N×93.76W, h20km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.11**	**28**	*i* P	Pn	22 45 54.1	-3.0
PCIG				*i* S	Sb	22 46 07.0	-4.2
TGIG		**2.13**	**17**	*e*P	Pn	22 46 09.5	-1.8
TGIG				*e*S	Sn	22 46 33.7	-3.6
CCIG	**Comitan**	**2.20**	**45**	*e*P	Pn	22 46 09.9	-2.6
CCIG				*i* S	Sn	22 46 35.5	-3.8

*ISCJB **06** 22:52:51.6±0.6, 50.17N±0.05×19.03E±0.03, h0km, Error ellipse: s-maj=7.8km s-min=3.1km az=3.0*
*CSEM **06** 22:52:52.7±0.4, 50.18N×19.10E, h1km, ML2.6/9, Error ellipse: s-maj=12.3km s-min=4.9km az=2.0*
*PRU **06** 22:52:56.0, 50.10N×18.96E, h0km*

ISC 06 22:52:53.9±0.8, 50.07N±0.04×19.10E±0.02, h0km, n29, σ1§21/52, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.24**	**343**	*e*Pg	**Pg**	**22 52 59.6**	**+1.1**
CHZP				*e*Sg	**Sg**	**22 53 05.2**	**+3.7**
OJC	**Ojcow**	**0.47**	**71**	*e*Pg	**Pg**	**22 53 02.1**	**-0.9**
OJC				*e*Sg	**Sg**	**22 53 07.9**	**-1.2**
OJC	**Ojcow**	**0.47**	**71**	*e*Pg	**Pg**	**22 53 02.1**	**-0.9**
OJC				*e*Sg	**Sg**	**22 53 07.9**	**-1.2**
OKC	**Ostrava-Krasne**	**0.66**	**250**	*e*PG	**Pg**	**22 53 06.6**	**+0.1**
OKC	comp=Z,17nm,0.5s			*e*SG	**Sg**	**22 53 16.1**	**+1.1**
OKC	**Ostrava-Krasne**	**0.66**	**250**	Pg	**Pg**	**22 53 06.6**	**+0.1**
OKC	17nm,0.5s			Sg	**Sg**	**22 53 16.1**	**+1.1**
MORC	**Moravsky Berou**	**1.05**	**255**	*e*Pg	**Pb**	**22 53 14.9**	**0.0**
MORC				*e*Sg	**Sb**	**22 53 29.8**	**+0.6**
KRLC	**Kraliky**	**1.50**	**271**	*e*PG	**Pn**	**22 53 21.3**	**-0.7**
KRLC				*e*SG	**Sn**	**22 53 42.1**	**-0.2**
KRLC	**Kraliky**	**1.50**	**271**	Pg	**Pn**	**22 53 21.3**	**-0.7**
KRLC				Sg	**Sn**	**22 53 42.1**	**-0.2**
VRAC	**Vranov**	**1.80**	**246**	*e*Pn	**Pb**	**22 53 28.1**	**+0.4**
VRAC				*e*Sg	**Sg**	**22 53 51.8**	**+0.2**
DPC	**Dobruska-Polom**	**1.81**	**280**	*e*PG	**Pn**	**22 53 26.5**	**+0.1**
DPC	comp=Z,15nm,0.7s			*e*SG	**Sg**	**22 53 51.3**	**-0.7**
DPC	**Dobruska-Polom**	**1.81**	**280**	Pg	**Pn**	**22 53 26.5**	**+0.1**
DPC	15nm,0.7s			Sg	**Sg**	**22 53 51.3**	**-0.7**
KECS	**Kecovo**	**1.82**	**150**	*e*Pn	**Pn**	**22 53 25.2**	**-1.3**
KECS				*e*Sn	**Sn**	**22 53 51.6**	**+1.3**
KECS	**Kecovo**	**1.82**	**150**	*e*PN	**Pn**	**22 53 25.2**	**-1.3**
KECS				*e*SN	**Sn**	**22 53 51.6**	**+1.3**
UPC	**Upice**	**2.03**	**284**	*e*PG	**Pb**	**22 53 30.5**	**-1.2**
UPC	comp=Z,5.2nm,0.6s			*e*SG	**Sg**	**22 53 58.5**	**-0.6**
UPC	**Upice**	**2.03**	**284**	Pg	**Pb**	**22 53 30.5**	**-1.2**
UPC	5.2nm,0.6s			Sg	**Sg**	**22 53 58.5**	**-0.6**
KOLS	**Kolonicke sedl**	**2.36**	**118**	*e*PN	**Pg**	**22 53 40.1**	**+1.0**
KOLS				*e*SN	**Sb**	**22 54 08.5**	**+1.6**
TREC	**Trest**	**2.47**	**253**	*e*PG	**Pb**	**22 53 40.1**	**+0.9**
TREC	comp=Z,5.4nm,0.5s			*e*SG	**Sg**	**22 54 12.1**	**-1.1**
TREC	**Trest**	**2.47**	**253**	Pg	**Pb**	**22 53 40.1**	**+0.9**
TREC	5.4nm,0.5s			Sg	**Sg**	**22 54 12.1**	**-1.1**
GOPC	**GO Pecny, Ondr** comp=Z,6.2nm,0.6s	**2.79**	**269**	*e*SG	**Sg**	**22 54 22.7**	**-0.7**
GOPC	**GO Pecny, Ondr** 6.2nm,0.6s	**2.79**	**269**	Sg	**Sg**	**22 54 22.7**	**-0.7**
PRU	**Pruhonice**	**2.94**	**270**	*e*PG	**Pb**	**22 53 48.1**	**+0.9**
PRU	comp=Z,3.0nm,0.4s			*e*SG	**Sg**	**22 54 26.7**	**-1.7**
PRU	**Pruhonice**	**2.94**	**270**	Pg	**Pb**	**22 53 48.1**	**+0.9**
PRU	3.0nm,0.4s			Sg	**Sg**	**22 54 26.7**	**-1.7**
PVCC	**Panska Ves** comp=Z,9.1nm,0.4s	**2.94**	**281**	*e*SG	**Sg**	**22 54 27.2**	**-1.2**
PVCC	**Panska Ves** 9.1nm,0.4s	**2.94**	**281**	Sg	**Sg**	**22 54 27.2**	**-1.2**
KHC	**Kasperske Hory**	**3.71**	**258**	*e*PG	**Pb**	**22 54 02.3**	**+2.0**
KHC				*e*SN	**Sn**	**22 54 35.3**	**-1.7**
KHC	comp=Z,3.9nm,0.6s			*e*SG	**Sg**	**22 54 52.6**	**-0.5**
KHC	**Kasperske Hory**	**3.71**	**258**	Pg	**Pb**	**22 54 02.3**	**+2.0**
KHC				Sn	**Sn**	**22 54 35.3**	**-1.7**
KHC	3.9nm,0.6s			Sg	**Sg**	**22 54 52.6**	**-0.5**
CLL	**Collm**	**4.07**	**290**	*e*Sg	Sg	22 55 11.0	+6.3
NKC	**Novy Kostel** comp=Z,2.9nm,0.5s	**4.28**	**275**	*e*SG	**Sg**	**22 55 09.9**	**-1.5**
NKC	**Novy Kostel** 2.9nm,0.5s	**4.28**	**275**	Sg	**Sg**	**22 55 09.9**	**-1.5**

DJA 06 22:55:40.2±1.1, 9.3S±6.3×111.3E±°, h18km±11km, M3.7/13, MLv3.7/13, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**0.99**	**22**	P	Pb	22 55 57.4	-1.5
GMJI				S	Sb	22 56 11.0	-0.6
BLJI	**Banyuglugur**	**1.54**	**20**	P	Pn	22 56 07.2	+0.5
PWJI	**Pagerwojo**	**1.71**	**313**	P	Pn	22 56 06.9	-2.3
PWJI				S	Sn	22 56 27.2	-3.4
ABJI	**Asem Bagus**	**1.81**	**40**	P	Pb	22 56 11.8	-1.0
IGBI	**Denpasar**	**2.08**	**80**	P	Pn	22 56 13.7	-0.6
DNP	**Denpasar**	**2.18**	**76**	P	Pg	22 56 26.5	+4.5
SRBI	**Singaraja**	**2.39**	**63**	P	Pn	22 56 18.2	-0.3
NGJI	**Ngawi**	**2.42**	**319**	P	Pn	22 56 20.2	+1.3
UGM	**Wanagama**	**2.83**	**297**	P	Pn	22 56 22.9	-1.6
SMRI	**Semarang**	**3.37**	**309**	P	Pn	22 56 32.6	+0.6

IDC 06 23:03:06.1±0.8, 26.66N×140.71E, h380km±16km, mb3.1/7, mb1 3.3/7, mb1mx2.9/36, mbtmp3.9/7, Error ellipse: s-maj=53.3km s-min=20.6km az=78.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima** 17nm,0.3s,baz=270,slow=20,SNR=6.8	**1.39**	**71**	P	Pn	23 03 58.4	+1.7
JCJ	baz=270,slow=20			S	S	23 04 37.3	-0.1
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=5.8,slow=7.8,SNR=6.4	**46.73**	**188**	P	P	23 10 58.7	-0.3
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=108,slow=9.3,SNR=4.2	**49.74**	**310**	P	P	23 11 21.6	+0.1
KURBB	**Kurchatov Arra** 1.0nm,0.4s,baz=91,slow=8.3,SNR=11	**52.41**	**315**	P	P	23 11 40.8	-0.2
BVAR	**Borovoye Array** 0.6nm,0.4s,baz=88,slow=8.1,SNR=6.8	**57.48**	**318**	P	P	23 12 16.6	-0.1
ARCES	**ARCESS Array B** 3.2nm,0.5s,baz=72,slow=9.2,SNR=5.1	**73.52**	**341**	P	P	23 13 58.6	+0.6
FINES	**FINESS Array B** 0.7nm,0.3s,baz=72,slow=5.4,SNR=16	**77.75**	**333**	P	P	23 14 21.9	0.0
NOA	**NORSAR Array B** 0.4nm,0.7s,baz=51,slow=4.2,SNR=3.5	**83.52**	**338**	P	P	23 14 51.5	-0.7

*ISCJB **06** 23:22:26.0±0.3, 67.83N±0.02×20.20E±0.06, h0km, Error ellipse: s-maj=3.4km s-min=2.6km az=9.5*
*UPP **06** 23:22:26.6, 67.83N×20.20E, h0km, ML1.6, Mining explosion.*
*NAO **06** 23:22:26.2±1.9, 67.79N×20.45E, ML2.3*
*CSEM **06** 23:22:26.9±0.1, 67.86N×20.19E, h2km, ML2.0, Error ellipse: s-maj=3.4km s-min=2.8km az=117.0, Mining explosion.*
*IDC **06** 23:22:27.4±1.0, 67.80N×20.46E, h0km, mb1 2.9/4, mb1mx2.8/37, mbtmp2.9/4, ML2.4/4, Error ellipse: s-maj=16.3km s-min=7.5km az=121.0*
*HEL **06** 23:22:27.2, 67.84N×20.26E, h0km, ML2.0, Explosion*
*HEL **06** 23:22:27.4±0.1, 67.85N×20.19E, h0km, ML2.0, ML1.6(UPP), Explosion*
*BER **06** 23:22:28.1±4.1, 67.77N×20.28E, h0km, ML1.9, ML2.3(NAO), Suspected explosion*

ISC 06 23:22:26.5±0.8, 67.81N±0.02×20.26E±0.02, h0km, n71, σ1§25/115, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**12**	*i* P	**Pg**	**23 22 29.3**	**0.0**
KUA				*i* S	**Sg**	**23 22 31.2**	**-0.1**
KUA	**Kurravaara**	**0.15**	**12**	P	**Pg**	**23 22 29.3**	**0.0**
KUA				S	**Sg**	**23 22 31.2**	**-0.1**
KUA	**Kurravaara**	**0.15**	**12**	P	**Pg**	**23 22 29.3**	**0.0**
KUA				S	**Sg**	**23 22 31.2**	**-0.1**
NIKU	**Nikkaluokta**	**0.47**	**278**	*i* P	**Pg**	**23 22 35.1**	**-0.3**
NIKU				*i* S	**Sg**	**23 22 41.3**	**-0.1**
NIKU	**Nikkaluokta**	**0.47**	**278**	P	**Pg**	**23 22 35.1**	**-0.3**
NIKU				S	**Sg**	**23 22 41.3**	**-0.1**
NIKU	**Nikkaluokta**	**0.47**	**278**	P	**Pg**	**23 22 35.1**	**-0.3**
NIKU				S	**Sg**	**23 22 41.3**	**-0.1**
LANU	**Lannavaara**	**0.70**	**69**	*i* P	**Pg**	**23 22 40.0**	**+0.2**
LANU				*i* S	**Sg**	**23 22 49.7**	**+0.9**
LANU	**Lannavaara**	**0.70**	**69**	P	**Pg**	**23 22 40.0**	**+0.2**
LANU				S	**Sg**	**23 22 49.7**	**+0.9**
LANU	**Lannavaara**	**0.70**	**69**	P	**Pg**	**23 22 40.0**	**+0.2**
LANU				S	**Sg**	**23 22 49.7**	**+0.9**
SALU	**Saltoluokta**	**0.80**	**238**	*i* P	**Pg**	**23 22 41.5**	**-0.2**
SALU	**Saltoluokta**	**0.80**	**238**	P	**Pg**	**23 22 41.5**	**-0.2**
SALU	**Saltoluokta**	**0.80**	**238**	P	**Pg**	**23 22 41.5**	**-0.2**
KIF	**Kilpisjarvi**	**1.22**	**9**	Pg	**Pg**	**23 22 49.6**	**-0.2**
KIF				Lg	Lg	23 23 05.3	
KIF	**Kilpisjarvi**	**1.22**	**9**	Pg	**Pg**	**23 22 49.6**	**-0.2**
KIF				Lg	Lg	23 23 05.3	
KIF	**Kilpisjarvi**	**1.22**	**9**	*e*P	**Pg**	**23 22 49.1**	**-0.8**
KIF				*e*SB	**Sg**	**23 23 05.4**	**-0.2**
KIF	**Kilpisjarvi**	**1.22**	**9**	P	**Pg**	**23 22 49.0**	**-0.8**
KIF	**Kilpisjarvi** SNR=90	**1.22**	**9**	Pg	**Pg**	**23 22 49.6**	**-0.2**
KIF	SNR=50			Lg	Lg	23 23 05.3	
PAJU	**Pajala**	**1.35**	**124**	*e*P	**Pg**	**23 22 52.0**	**-0.4**
PAJU				*e*S	**Sb**	**23 23 10.8**	**+0.3**
PAJU	**Pajala**	**1.35**	**124**	P	**Pg**	**23 22 52.0**	**-0.4**
PAJU				S	**Sb**	**23 23 10.8**	**+0.3**
PAJU	**Pajala**	**1.35**	**124**	P	**Pg**	**23 22 52.0**	**-0.4**
PAJU				S	**Sb**	**23 23 10.8**	**+0.3**
HEF	**Hetta** baz=246	**1.41**	**63**	*e*P	**Pn**	**23 22 52.4**	**-1.0**
HEF	comp=Z,13nm,0.2s			MSG		23 23 09.2	
HEF				*e*SB	**Sg**	**23 23 11.1**	**-0.6**
HEF	**Hetta**	**1.41**	**63**	P	**Pn**	**23 22 52.3**	**-1.0**
HEF				Sb	**Sg**	**23 23 11.1**	**-0.6**
ERTU	**Ertsjaerv** baz=329	**1.47**	**148**	*e*P	**Pn**	**23 22 53.8**	**-0.3**
ERTU				*e*SB	**Sb**	**23 23 14.2**	**+0.5**
ERTU	**Ertsjaerv**	**1.47**	**148**	P	**Pn**	**23 22 54.0**	**-0.1**
ERTU				S	**Sb**	**23 23 14.3**	**+0.5**
ERTU	**Ertsjaerv**	**1.47**	**148**	P	**Pn**	**23 22 54.0**	**-0.1**
ERTU				S	**Sb**	**23 23 14.3**	**+0.5**
KTK1	**Kautokeino**	**1.64**	**41**	*e*P	**Pn**	**23 22 56.3**	**-0.2**
KTK1				*e*Sg	**Sb**	**23 23 18.6**	**0.0**
KTK1	comp=Z,17nm,0.2s			IAML		23 23 21.0	
KTK1	**Kautokeino** SNR=50	**1.64**	**41**	*e*P	**Pn**	**23 22 56.3**	**-0.2**
KTK1	SNR=90			*e*Sg	**Sb**	**23 23 18.6**	**0.0**
HARU	**Harads**	**1.68**	**170**	*e*S	**Sg**	**23 23 20.6**	**+0.4**
HARU	**Harads**	**1.68**	**170**	S	**Sg**	**23 23 20.6**	**+0.4**
HARU	**Harads**	**1.68**	**170**	S	**Sg**	**23 23 20.6**	**+0.4**
TRO	**Tromso**	**1.90**	**346**	*e*P	**Pn**	**23 22 59.5**	**-0.5**
TRO				*e*S	**Sn**	**23 23 24.4**	**-0.2**
TRO	comp=Z,15nm,0.4s			IAML		23 23 25.8	
TRO	**Tromso** SNR=50	**1.90**	**346**	*e*P	**Pn**	**23 22 59.5**	**-0.5**
TRO	SNR=50			*e*S	**Sn**	**23 23 24.4**	**-0.2**
KALU	**Kalix** baz=332	**2.31**	**146**	*e*P	**Pn**	**23 23 07.3**	**+1.6**
KALU				*e*SB	**Sb**	**23 23 38.3**	**+0.4**
KALU	**Kalix**	**2.31**	**146**	P	**Pn**	**23 23 07.2**	**+1.6**
SGF	**Sodankyl**	**2.43**	**96**	*e*P	**Pn**	**23 23 08.6**	**+1.3**
SGF				*e*S	**Sn**	**23 23 39.5**	**+1.8**
SGF	**Sodankyl**	**2.43**	**96**	P	**Pn**	**23 23 08.6**	**+1.3**
SGF				S	**Sn**	**23 23 39.5**	**+1.8**
RNF	**Rovaniemi**	**2.54**	**116**	*e*P	**Pn**	**23 23 11.0**	**+2.1**
RNF				*e*SB	**Sb**	**23 23 44.8**	**+0.1**
RNF	**Rovaniemi**	**2.54**	**116**	P	**Pn**	**23 23 11.0**	**+2.1**
ARA0	**ARCESS Array S** baz=221,slow=14	**2.59**	**45**	Pn	**Pn**	**23 23 10.0**	**+0.5**
ARA0	baz=235,slow=28			Sn	**Sn**	**23 23 42.6**	**+1.0**
ARA0	**ARCESS Array S** baz=221,slow=14	**2.59**	**45**	Pn	**Pn**	**23 23 10.0**	**+0.5**
ARA0	baz=235,slow=28			Sn	**Sn**	**23 23 42.6**	**+1.0**
ARA0	**ARCESS Array S** SNR=50	**2.59**	**45**	Pn	**Pn**	**23 23 10.0**	**+0.5**
ARA0	SNR=50			Sn	**Sn**	**23 23 42.6**	**+1.0**
ARCES	**ARCESS Array B** comp=Z,1.0nm,0.3s,baz=226,slow=15,SNR=57	**2.59**	**45**	Pn	**Pn**	**23 23 09.7**	**+0.2**
ARCES	comp=Z,3.3nm,0.3s,baz=227,slow=25,SNR=14			Sn	**Sn**	**23 23 42.3**	**+0.7**
ARE0	**ARCESS Array S**	**2.59**	**45**	*e*P	**Pn**	**23 23 10.3**	**+0.8**
ARE0				*e*S	**Sb**	**23 23 44.1**	**-1.8**
ARE0	**ARCESS Array S** baz=231	**2.59**	**45**	*e*P	**Pn**	**23 23 09.8**	**+0.3**
ARE0				*e*S	**Sn**	**23 23 42.6**	**+1.0**
ARE0	**ARCESS Array S**	**2.59**	**45**	P	**Pn**	**23 23 09.8**	**+0.3**
ARE0				S	**Sn**	**23 23 42.6**	**+1.0**
MOR8	**Moi Rana**	**2.81**	**237**	*e*Sg	**Sn**	**23 23 49.9**	**+2.6**
MOR8	comp=Z,14nm,0.4s			IAML		23 23 51.0	
KEV	**Kevo**	**3.14**	**48**	Pn	**Pn**	**23 23 16.9**	**-0.1**
KEV				Sn	**Sn**	**23 23 56.3**	**+1.1**
KEV	**Kevo**	**3.14**	**48**	Pn	**Pn**	**23 23 16.9**	**-0.1**
KEV				Sn	**Sn**	**23 23 56.3**	**+1.1**
KEV	**Kevo**	**3.14**	**48**	*e*P	**Pn**	**23 23 18.2**	**+1.2**
KEV				*e*S	**Sn**	**23 23 56.4**	**+1.2**
KEV	comp=Z,4.4nm,0.2s			MSG		23 23 58.7	
KEV	**Kevo** SNR=50	**3.14**	**48**	Pn	**Pn**	**23 23 17.0**	**-0.1**
KEV	**Kevo**	**3.14**	**48**	P	**Pn**	**23 23 18.2**	**+1.2**
KEV	SNR=50			Sn	**Sn**	**23 23 56.3**	**+1.1**
BURU	**Burvik**	**3.27**	**171**	*e*P	**Pn**	**23 23 20.9**	**+2.0**
BURU	**Burvik**	**3.27**	**171**	P	**Pn**	**23 23 20.9**	**+2.0**
OUL	**Oulu**	**3.55**	**138**	*e*P	Pn	23 23 26.0	+3.3
OUL				*e*SG	**Sg**	**23 24 18.1**	**-2.2**
UMAU	**Umeaa** baz=356	**3.95**	**177**	*e*P	**Pn**	**23 23 30.3**	**+2.2**
UMAU				*e*S	**Sn**	**23 24 16.6**	**+1.6**
UMAU	**Umeaa**	**3.95**	**177**	P	**Pn**	**23 23 30.3**	**+2.2**
UMAU				S	**Sn**	**23 24 16.6**	**+1.6**
MSF	**Maaselka**	**3.96**	**115**	*e*P	**Pn**	**23 23 30.0**	**+1.7**
MSF				*e*SG	**Sg**	**23 24 31.1**	**-2.3**
MSF	**Maaselka**	**3.96**	**115**	P	**Pn**	**23 23 30.0**	**+1.7**
KU6	**Riekki** baz=299	**4.19**	**111**	*e*P	**Pn**	**23 23 32.8**	**+1.2**
KU6	**Riekki**	**4.19**	**111**	P	**Pn**	**23 23 32.7**	**+1.2**
APA0	**Apatity Array** baz=280,slow=12	**4.85**	**86**	Pn	**Pn**	**23 23 40.1**	**-0.5**
APA0	baz=276,slow=22			Sn	**Sn**	**23 24 34.0**	**-3.5**
APA0	baz=270,slow=28			Lg	Lg	23 24 53.2	
APA0	**Apatity Array** baz=280,slow=12	**4.85**	**86**	Pn	**Pn**	**23 23 40.1**	**-0.5**
APA0	baz=276,slow=22			Sn	**Sn**	**23 24 34.0**	**-3.5**
APA0	baz=270,slow=28			Lg	Lg	23 24 53.2	
APA0	**Apatity Array** SNR=50	**4.85**	**86**	Pn	**Pn**	**23 23 40.2**	**-0.5**
APA0	SNR=50			Sn	**Sn**	**23 24 34.0**	**-3.5**
APA0	SNR=8.0			Lg	Lg	23 24 53.2	
FIA0	**FINESS Array S** baz=344,slow=28	**6.86**	**156**	Lg	Lg	23 25 58.8	
FIA0	**FINESS Array S** baz=344,slow=28	**6.86**	**156**	Lg	Lg	23 25 58.8	
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=347,slow=11,SNR=3.7	**6.86**	**156**	Pn	**Pn**	**23 24 09.4**	**+1.3**
FINES	comp=Z,0.1nm,0.3s,baz=343,slow=26,SNR=3.8			Sn	**Sn**	**23 25 25.6**	**-1.1**
FINES	comp=Z,0.7nm,0.3s,baz=343,slow=25,SNR=9.9			Lg	Lg	23 26 01.0	
NB2	**NORSAR Subarra**	**7.83**	**214**	Pn	**Pn**	**23 24 22.1**	**+0.6**
NB2	**NORSAR Subarra**	**7.83**	**214**	Pn	**Pn**	**23 24 22.1**	**+0.6**
NB2	**NORSAR Subarra** SNR=50	**7.83**	**214**	Pn	**Pn**	**23 24 22.1**	**+0.6**
NOA	**NORSAR Array B** comp=Z,0.1nm,0.3s,baz=25,slow=12,SNR=2.8	**7.83**	**214**	Pn	**Pn**	**23 24 22.1**	**+0.6**
NOA	comp=Z,0.1nm,0.3s,baz=60,slow=17,SNR=2.5			Sn	**Sn**	**23 25 46.6**	**-4.1**
NOA	comp=Z,0.3nm,0.3s,baz=40,slow=23,SNR=3.5			Lg	Lg	23 26 29.4	
HFS	**Hagfors** comp=Z,0.1nm,0.3s,baz=23,slow=11,SNR=3.8	**8.22**	**204**	Pn	**Pn**	**23 24 26.2**	**-0.6**
HFS	comp=Z,0.1nm,0.3s,baz=19,slow=26,SNR=3.4			Sn	**Sn**	**23 25 56.4**	**-3.9**
HFS	comp=Z,0.1nm,0.3s,baz=14,slow=32,SNR=3.0			Lg	Lg	23 26 43.1	

NEIC 06 23:33:31.1, 59.33N×153.08W, h93km, MG3.6(AEIC), After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUP	**Augustine Pinn**	**0.18**	**281**	P	Pn	23 33 44.2	-0.3
AUI	**Augustine Isla**	**0.18**	**272**	P	Pn	23 33 43.8	-0.5
AUI				S	Sn	23 33 53.7	-0.5
AUH	**Augustine H**	**0.19**	**281**	P	Pn	23 33 44.1	-0.3
AUL	**Augustine Lava**	**0.19**	**286**	P	Pn	23 33 44.1	-0.3
AUW	**Augustine West**	**0.21**	**282**	P	Pn	23 33 44.1	-0.3
OPT	**Oil Point**	**0.33**	**347**	P	Pn	23 33 44.5	-0.6
ILS	**Iliamna Low So**	**0.63**	**0**	P	Pn	23 33 46.3	-1.0
MCNL	**McNeil River**	**0.66**	**258**	P	Pn	23 33 46.8	-0.7
PDB	**Pedro Bay**	**0.73**	**310**	P	Pn	23 33 47.2	-0.9
ILW	**Iliamna West**	**0.73**	**358**	P	Pn	23 33 47.5	-0.9
ILIM	**Iliamna**	**0.76**	**4**	P	Pn	23 33 47.4	-1.1
CNPM	**China Poot**	**0.96**	**77**	P	Pn	23 33 50.1	-0.4
CNPM				S	Sn	23 34 05.1	-0.1
RSO	**Redoubt South**	**1.15**	**8**	P	Pn	23 33 52.0	-0.9
RDWB	**Redoubt West**	**1.17**	**6**	P	Pn	23 33 52.0	-1.1
BRLK	**Bradley Lake**	**1.20**	**68**	P	Pn	23 33 52.4	-0.9
BRLK				S	Sn	23 34 09.8	-0.2
RDN	**Redoubt North**	**1.20**	**7**	P	Pn	23 33 52.5	-0.9
NCT	**North Crescent**	**1.24**	**3**	P	Pn	23 33 52.9	-1.0
DFR	**Drift River**	**1.28**	**9**	P	Pn	23 33 53.4	-0.9
KAKN	**Katmai Knife C**	**1.46**	**226**	P	Pn	23 33 55.7	-0.9
KAKN				S	Sn	23 34 14.8	-1.1
KVTA	**Katmai Vly 10**	**1.49**	**231**	P	Pn	23 33 56.2	-0.7
KBM	**Katmai Bkd Mtn**	**1.53**	**227**	P	Pn	23 33 56.9	-0.5
KCE	**Katmai Mt Cerb**	**1.55**	**226**	P	Pn	23 33 57.3	-0.3
KABR	**Katmai Barrier**	**1.56**	**220**	P	Pn	23 33 56.9	-0.8
KDAK	**Kodiak Island

BWN	**Browne**	**5.15**	**18**	P	Pn	23 34 45.0	-0.6
VRDI	**Verde Repeater**	**5.16**	**64**	P	Pn	23 34 44.6	-1.4
CRQM	**Cirque**	**5.18**	**70**	P	Pn	23 34 45.6	-0.7
PAX	**Paxson**	**5.19**	**42**	P	Pn	23 34 44.7	-1.6
KULT	**Kultieth River**	**5.31**	**76**	P	Pn	23 34 47.4	-0.6
PS10	**TAPS Pump St10**	**5.40**	**37**	P	Pn	23 34 49.2	+0.1
BARK	**Barkley Ridge**	**5.44**	**74**	P	Pn	23 34 49.0	-0.7
PTPK	**Patty Peak**	**5.60**	**66**	P	Pn	23 34 51.8	-0.2
BAGL	**Bagley Icefiel**	**5.65**	**73**	P	Pn	23 34 52.4	0.0
WRH	**Wood River Hil**	**5.67**	**22**	P	Pn	23 34 51.2	-1.4
YAH	**Yahtse**	**5.81**	**75**	P	Pn	23 34 54.6	-0.3
MLY	**Manley**	**5.83**	**10**	P	Pn	23 34 53.9	-1.0
GRNC	**Granite Creek**	**5.85**	**71**	P	Pn	23 34 54.9	-0.5
CCB	**Clear Creek Bu**	**5.88**	**29**	P	Pn	23 34 53.9	-1.6
RIDG	**Independ'e Rid**	**5.92**	**38**	P	Pn	23 34 55.4	-0.8
BARN	**Barnard Glacie**	**5.95**	**68**	P	Pn	23 34 56.4	-0.5
RKAV	**Rock Avalanche**	**6.00**	**76**	P	Pn	23 34 57.1	-0.3
PS08	**TAPS Pump Stn8**	**6.00**	**27**	P	Pn	23 34 55.8	-1.4
COLA	**College**	**6.08**	**22**	P	Pn	23 34 56.7	-1.5
MDM	**Murphy Dome**	**6.09**	**20**	P	Pn	23 34 56.7	-1.7
CTGM	**Chitina Glacie**	**6.09**	**69**	P	Pn	23 34 58.1	-0.5
IL1	**Eielson Array**	**6.19**	**25**	P	Pn	23 34 58.0	-1.7
ILB	**Eielson Array**	**6.19**	**25**	P	Pn	23 34 58.0	-1.7
LOGN	**Logan Glacier**	**6.23**	**71**	P	Pn	23 35 00.5	0.0
PS06	**TAPS Pump Stn6**	**6.73**	**12**	P	Pn	23 35 06.1	-1.0

KMA 07 00:00:28.8, 38.24N×128.89E, h0km, 4C, North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSSKC	**Sokcho**	**0.29**	**280**	P	Pg	00 00 34.6	+0.1
	SNR=24						
KSSKC	**Sokcho**	**0.29**	**280**	P	Pg	00 00 34.6	+0.1
	SNR=24						
KSJMJ	**Jumunjin**	**0.37**	**197**	P	Pg	00 00 36.1	+0.3
	SNR=103						
KSJMJ	**Jumunjin**	**0.37**	**197**	P	Pg	00 00 36.1	+0.3
	SNR=103						
SEHB	**SEOHWA**	**0.50**	**274**	P	Pg	00 00 38.3	-0.2
	SNR=84						
SEHB	**SEOHWA**	**0.50**	**274**	P	Pg	00 00 38.3	-0.2
	SNR=84						
KSDGY	**Daegwallycong**	**0.57**	**198**	P	Pg	00 00 39.9	0.0
	SNR=9.6						
KSDGY	**Daegwallycong**	**0.57**	**198**	P	Pg	00 00 39.9	0.0
	SNR=9.6						
KSCHC	**Chuncheon**	**0.97**	**242**	⇑P	Pg	00 00 46.7	-0.7
	SNR=47						
KSCHC	**Chuncheon**	**0.97**	**242**	⇑P	Pg	00 00 46.7	-0.7
	SNR=47						
KSCWO	**Cheorwon**	**1.09**	**262**	⇑P	Pg	00 00 49.2	-0.6
	SNR=35						
KSCWO	**Cheorwon**	**1.09**	**262**	⇑P	Pg	00 00 49.2	-0.6
	SNR=35						
KSCHJ	**Chungju**	**1.54**	**208**	P	Pn	00 00 57.5	-0.1
	SNR=18						
KSCHJ	**Chungju**	**1.54**	**208**	P	Pn	00 00 57.5	-0.1
	SNR=5.9						
YNCB	**YEONCHEON**	**1.56**	**263**	P	Pn	00 00 57.7	-0.1
	SNR=15						
KSULJ	**Uljin**	**1.59**	**165**	P	Pn	00 00 58.4	+0.2
	SNR=11						
KSCEA	**Cheonan**	**1.92**	**223**	P	Pg	00 01 05.2	-0.4
	SNR=12						
KSBON	**Boeun**	**1.94**	**207**	P	Pn	00 01 04.0	+1.0
	SNR=13						

NIED ***07*** *00:02:00, 36.10N×140.10E, h65km, Mw4.0 Best double couple: M0 1.04000×10^15 NP1:ϕs203.00000°, δ25.00000°, λ106.00000°. NP2:ϕs6.00000°, δ66.00000°, λ83.00000°.*

ISCJB ***07*** *00:02:47.2±0.5, 35.97N±0.03×140.14E±0.05, h75km±3km, mb3.9/17, Error ellipse: s-maj=7.4km s-min=5.5km az=20.9*

JMA ***07*** *00:02:48.9±0.1, 36.02N×140.09E, h62km±1km, M3.8 Broadband fault plane solution: P waves. NP1: ϕs2.00000°, δ62.00000°, λ82.00000°. NP2:ϕs198.00000°, δ29.00000°, λ104.00000°. Principal axes: T Plg72.0000°, Azm255.0000°; N Plg7.0000°, Azm6.0000°; P Plg17.0000°, Azm98.0000°;*

JMA Felt II J1.

IDC ***07*** *00:02:50.9±1.7, 35.94N×139.94E, h92km±13km, mb3.7/17, mb1 3.9/19, mb1mx3.8/34, mbtmp4.0/19, MS3.1/2, Ms1 3.1/2, ms1mx2.6/31 Error ellipse: s-maj=19.0km s-min=14.2km az=76.0*

ISC 07 00:02:48.3±0.8, 35.98N±0.04×140.13E±0.05, h69km±6km, n36, σ0 73/43, mb4.0/17, 1C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.25**	**13**	⇑P	**Pn**	**00 02 58.9**	**-0.2**
JYT				S	**Sn**	**00 03 06.2**	**-0.7**
JAG	**Ashikaga**	**0.70**	**309**	⇓P	**Pn**	**00 03 03.0**	**-0.1**
JAG				S	**Sn**	**00 03 13.3**	**-0.8**
JRY	**Ryogami san**	**0.99**	**272**	⇓P	**Pn**	**00 03 06.8**	**+0.1**
JRY				eS	**Sn**	**00 03 20.3**	**0.0**
JKT	**Katashina**	**1.06**	**318**	⇓P	**Pn**	**00 03 07.2**	**-0.3**
JKT				eS	**Sn**	**00 03 21.0**	**-0.8**
JOD2	**Odawara 2**	**1.11**	**230**	⇓P	**Pn**	**00 03 08.3**	**+0.2**
JOD2				S	**Sn**	**00 03 22.1**	**-0.8**
BSO3	**Boso 3**	**1.22**	**165**	P	**Pn**	**00 03 09.7**	**+0.4**
JYN	**Shimob**	**1.37**	**250**	⇓P	**Pn**	**00 03 12.3**	**+0.7**
JYN				S	**Sn**	**00 03 29.6**	**+0.5**
JIM2	**Oshima 3**	**1.38**	**204**	P	**Pn**	**00 03 11.6**	**-0.1**
JIM2				S	**Sn**	**00 03 28.5**	**-0.8**
JFY	**Yanaizu**	**1.46**	**347**	⇓P	**Pn**	**00 03 13.0**	**+0.2**
JFY				S	**Sn**	**00 03 31.3**	**+0.1**
JFK	**Kawauchi**	**1.51**	**23**	P	**Pn**	**00 03 13.2**	**-0.2**
JFK				S	**Sn**	**00 03 31.9**	**-0.4**
MJAR	**Matsushiro Arr**	**1.65**	**290**	P	**Pn**	**00 03 15.6**	**+0.4**
MJAR				S	**Sn**	**00 03 36.0**	**+0.5**
MJAR				LR	LR	00 04 04.2	
	comp=Z,163nm,18.6s,baz=125,slow=50						
MAT	**Matsushiro**	**1.65**	**290**	P	**Pn**	**00 03 15.8**	**+0.6**
MAT				S	**Sn**	**00 03 35.9**	**+0.3**
KSRS	**Korea Array**	**9.91**	**282**	P	**Pn**	**00 05 09.4**	**+1.6**
	0.3nm,0.3s,baz=95,slow=14,SNR=6.6						
KSRS				LR	LR	00 08 50.1	
	comp=Z,48nm,19.4s,baz=120,slow=37						
USRK	**Ussuriysk Ar.**	**10.30**	**325**	P	**Pn**	**00 05 15.6**	**+2.4**
	0.2nm,0.3s,baz=167,slow=20,SNR=4.3						
SONM	**Songino Array**	**27.54**	**306**	P	**P**	**00 08 27.7**	**-0.9**
	2.2nm,0.6s,baz=100,slow=8.3,SNR=13						
H11N2	**WAKE ISLAND Hy**	**28.55**	**117**	T	T	00 38 40.7	
	baz=317,slow=74,SNR=12						
H11N1	**WAKE ISLAND Hy**	**28.55**	**117**	T	T	00 38 40.0	
	baz=317,slow=74,SNR=3.0						
H11N3	**WAKE ISLAND Hy**	**28.56**	**117**	T	T	00 38 41.3	
	baz=317						
ZALV	**Zalesovo Beam**	**41.87**	**313**	P	**P**	**00 10 30.7**	**-0.7**
	4.4nm,0.8s,baz=97,slow=7.0,SNR=16						
MKAR	**Makanchi Array**	**43.81**	**303**	P	**P**	**00 10 46.8**	**-0.5**
	4.0nm,0.7s,baz=87,slow=8.5,SNR=19						
ILAR	**Eielson Array**	**50.44**	**32**	P	**P**	**00 11 43.0**	**+0.7**
	1.4nm,0.7s,baz=268,slow=6.3,SNR=20						
LEM	**Lembang**	**52.40**	**222**	LR	LR	00 34 42.2	
	comp=Z,32nm,19.0s,baz=190,slow=37						
WRA	**Warramunga Arr**	**55.89**	**187**	P	**P**	**00 12 18.3**	**-0.7**
	1.2nm,0.7s,baz=1.4,slow=7.6,SNR=12						
ASAR	**Alice Springs**	**59.62**	**187**	P	**P**	**00 12 44.9**	**-0.2**
	0.7nm,0.8s,baz=0.8,slow=6.5,SNR=5.4						
GEYT	**Allbeck**	**62.43**	**299**	P	**P**	**00 13 10.5**	**-0.4**
	1.3nm,0.8s,baz=90,slow=5.8,SNR=3.5						
ARCES	**ARCESS Array B**	**64.61**	**339**	P	**P**	**00 13 17.9**	**-0.1**
	2.5nm,0.3s,baz=54,slow=6.2,SNR=3.7						
YKA	**Yellowknife Ar**	**65.24**	**30**	P	**P**	**00 13 22.7**	**+0.5**
	0.4nm,0.7s,baz=300,slow=7.1,SNR=2.7						
STKA	**Stephens Creek**	**67.52**	**179**	P	**P**	**00 13 36.8**	**-0.3**
	0.7nm,0.5s,baz=349,slow=10,SNR=2.7						
FINES	**FINESS Array B**	**69.26**	**332**	P	**P**	**00 13 47.1**	**-0.5**
	1.7nm,0.7s,baz=49,slow=6.3,SNR=5.7						
KBZ	**Khabaz**	**70.80**	**310**	P	**P**	**00 13 56.9**	**-0.5**
	0.4nm,0.3s,baz=57,slow=6.7,SNR=3.7						
AKASG	**Malin Array Be**	**74.49**	**322**	P	**P**	**00 14 18.3**	**-0.9**
	1.5nm,0.6s,baz=48,slow=6.1,SNR=5.8						
NB2	**NORSAR Subarra**	**74.75**	**337**	P	**P**	**00 14 20.1**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=43,slow=6.2						
NOA	**NORSAR Array B**	**74.75**	**337**	P	**P**	**00 14 20.0**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=41,slow=5.8,SNR=9.2						
NVAR	**Mina Array Bea**	**76.45**	**52**	P	**P**	**00 14 32.2**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=297,slow=6.0,SNR=4.4						
BRTR	**Keskin Array B**	**78.77**	**311**	P	**P**	**00 14 43.1**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=87,slow=4.9,SNR=4.8						
TXAR	**Lajitas Array**	**91.59**	**52**	P	**P**	**00 15 48.8**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=304,slow=2.4,SNR=6.6						

SJA 07 00:19:13.1±1.1, 30.94S×66.32W, h139km±14km, ML3.5, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACAN	**Cantantal**	**1.53**	**209**	*e*P	Pn	00 19 43.4	+1.2
ACAN				*i* S	Sn	00 20 05.2	+0.8
TCA	**Tanti**	**1.54**	**106**	*e*P	Pn	00 19 43.5	+1.1
TCA				*i* S	Sn	00 20 04.9	+0.2
TCA				AML	AML	00 20 08.8	
	comp=Z,336nm,0.3s						
CFAA	**Coronel Fontan**	**1.77**	**247**	*e*P	Pn	00 19 44.7	-0.2
CFAA				*i* S	Sn	00 20 10.0	+0.7
AMOG	**MOGNA**	**1.86**	**269**	*e*P	Pn	00 19 46.6	+0.5
AMOG				*e*P	Pn	00 19 46.6	+0.5
AMOG				*i* S	Sn	00 20 11.8	+0.5
RTLL	**Cerro Villicun**	**1.89**	**257**	*e*P	Pn	00 19 47.2	+0.9
RTLL				*i* S	Sn	00 20 12.4	+0.7

CSEM ***07*** *00:24:52.7, 36.85N×23.94W, h5km, ML2.7*

PDA 07 00:24:52.7±0.4, 36.85N×23.94W, h5km, MD3.8, ML2.7, Error ellipse: s-maj=3.4km s-min=2.7km az=78.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.91**	**280**	*e*P	Pg	00 25 07.2	-3.0
PSMN				*e*S	Sg	00 25 18.0	-4.1
PSMN				A	A	00 25 21.9	
	38nm,0.1s						
PSMN	**Pico do Norte,**	**0.91**	**280**	*e*P	Pg	00 25 07.2	-3.0
PSMN				*e*S	Sg	00 25 18.0	-4.1
PSMA	**Santa Maria**	**0.96**	**279**	*e*P	Pg	00 25 07.9	-3.3
PSMA				*e*S	Sg	00 25 19.5	-4.1
PSMA				A	A	00 25 22.3	
	58nm,0.1s						
BART	**Pico Bartolome**	**1.35**	**314**	*e*P	Pn	00 25 13.3	-5.0
BART				*e*S	Sb	00 25 28.8	-7.4
BART				A	A	00 25 32.2	
	74nm,0.2s						
BART	**Pico Bartolome**	**1.35**	**314**	*e*P	Pn	00 25 13.3	-5.0
BART				*e*S	Sb	00 25 28.8	-7.4
GRON	**Grota Negra**	**1.56**	**306**	*e*P	Pn	00 25 15.0	-6.2
GRON				*e*S	Sn	00 25 31.8	-10
GRON				A	A	00 25 35.6	
	23nm,0.2s						
PDA	**Ponta Delgada**	**1.64**	**304**	*e*P	Pn	00 25 17.3	-4.9
PDA				*e*S	Sn	00 25 35.8	-7.8
PDA				A	A	00 25 37.7	
	29nm,0.2s						
PDA	**Ponta Delgada**	**1.64**	**304**	*e*P	Pn	00 25 17.3	-4.9
PDA				*e*S	Sn	00 25 35.8	-7.8
PSET	**Sete Cidades**	**1.72**	**305**	*e*P	Pn	00 25 18.6	-4.7
PSET				*e*S	Sn	00 25 37.8	-7.9
PSET				A	A	00 25 44.2	
	55nm,0.3s						
PSET	**Sete Cidades**	**1.72**	**305**	*e*P	Pn	00 25 18.6	-4.7
PSET				*e*S	Sn	00 25 37.8	-7.9

IDC ***07*** *00:36:02.4±0.5, 58.98S×25.70W, h0km, mb4.4/12, mb1 4.4/13, mb1mx4.3/21, mbtmp4.4/13, ML4.5/1, MS3.6/3, Ms1 3.6/3, ms1mx3.2/19, Error ellipse: s-maj=19.8km s-min=15.9km az=64.0*

ISCJB ***07*** *00:36:06.4±0.5, 59.06S±0.08×25.5W±0.2, h35km, mb4.4/16, MS3.7/3, Error ellipse: s-maj=13.6km s-min=8.9km az=142.8*

NEIC ***07*** *00:36:10.9±1.2, 59.14S×25.73W, h64km±10km, mb4.6/4, Error ellipse: s-maj=11.3km s-min=7.3km az=48.0*

ISC 07 00:36:07.7±0.5, 59.04S±0.09×25.7W±0.1, h35km, n52, σ0 68/47, mb4.4/15, MS3.6/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.60**	**304**	*e*Pn	Pn	00 38 00.6	+4.8
VNA1	**Neumayer--Stat**	**13.73**	**155**	P	**Pn**	**00 39 19.3**	**-0.3**
SNAA	**Sanae**	**15.70**	**153**	Pn	**Pn**	**00 39 45.2**	**-0.7**
	1.8nm,0.3s,baz=313,slow=14,SNR=187						
SNAA				Sn	Sn	00 42 24.5	-14
	0.2nm,0.3s,baz=329,slow=19,SNR=5.3						
USHA	**Ushuaia**	**23.37**	**262**	P	**P**	**00 41 13.0**	**+0.3**
	6.5nm,0.8s,baz=119,slow=10,SNR=4.7						
QSPA	**South Pole Qui**	**31.21**	**180**	P	**P**	**00 42 24.4**	**+1.1**
	7.4nm,0.6s,baz=212,slow=3.4,SNR=118						
TRQA	**Tornquist**	**31.29**	**296**	*e*P	**P**	**00 42 25.1**	**+0.9**
	3.9nm,0.7s						
PLCA	**Paso Flores**	**33.38**	**283**	*e*P	P	00 42 47.6	+5.1
	9.9nm,0.8s						
MAW	**Mawson**	**37.30**	**141**	P	**P**	**00 43 15.5**	**-0.2**
	0.8nm,0.6s,baz=252,slow=9.6,SNR=2.6						
MAW				PcP	**PcP**	**00 45 34.3**	**0.0**
	0.7nm,0.4s,baz=270,slow=3.0,SNR=6.1						
MAW				LR	LR	00 58 08.5	
	comp=Z,86nm,18.1s,baz=240,slow=36						
CFAA	**Coronel Fontan**	**39.51**	**295**	P	**P**	**00 43 34.4**	**-0.3**
	1.0nm,0.7s,baz=154,slow=7.8,SNR=23						
VNDA	**Vanda**	**43.62**	**182**	P	**P**	**00 44 09.2**	**+1.4**
	4.8nm,0.6s,baz=184,slow=7.8,SNR=41						
LBTB	**Lobatse**	**49.22**	**69**	P	**P**	**00 44 52.6**	**+0.1**
	1.7nm,0.7s,baz=225,slow=5.7,SNR=3.1						
LBTB	**Lobatse**	**49.22**	**69**	*e*P	**P**	**00 44 53.1**	**+0.6**
TSUM	**Tsumeb**	**50.55**	**57**	*e*P	**P**	**00 45 03.0**	**+0.3**
	314nm,1.8s						
H10S2	**ASCENSION HYDR**	**50.67**	**14**	T	T	01 39 36.0	
	baz=187,slow=75,SNR=10.0						
H10S3	**ASCENSION HYDR**	**50.68**	**14**	T	T	01 39 36.4	
	baz=187,slow=75,SNR=10						
H10S1	**ASCENSION HYDR**	**50.69**	**14**	T	T	01 39 38.2	
	baz=187,slow=75,SNR=12						
CASY	**Casey**	**50.83**	**159**	*e*P	**P**	**00 45 03.3**	**-0.7**
	2.1nm,0.5s						
H10N1	**ASCENSION HYDR**	**51.79**	**14**	T	T	01 41 02.7	
	baz=195						
H10N3	**ASCENSION HYDR**	**51.79**	**14**	T	T	01 41 00.1	
	baz=195,slow=74,SNR=7.1						
H10N2	**ASCENSION HYDR**	**51.81**	**14**	T	T	01 41 04.1	
	baz=195,slow=74,SNR=5.4						
LPAZ	**La Paz**	**52.76**	**306**	P	**P**	**00 45 19.4**	**-0.4**
	0.8nm,0.4s,baz=135,slow=3.0,SNR=11						
LPAZ				PcP	**PcP**	**00 46 28.7**	**-0.3**
	0.4nm,0.4s,baz=108,slow=3.2,SNR=2.2						
LPAZ	**La Paz**	**52.76**	**306**	*e*P	**P**	**00 45 18.3**	**-1.4**
DBIC	**Dimbokro**	**67.59**	**22**	P	**P**	**00 47 00.7**	**+0.2**
	4.6nm,0.8s,baz=174,slow=5.9,SNR=5.8						
DBIC				LR	LR	01 08 33.7	
	comp=Z,36nm,20.1s,baz=134,slow=29						
DBIC	**Dimbokro**	**67.59**	**22**	*e*P	**P**	**00 47 00.7**	**+0.2**
	42nm,1.4s						
TOA0	**Torodi Ar. Sit**	**75.31**	**28**	*e*P	**P**	**00 47 47.8**	**+0.9**
TORD	**Torodi Ar. Bea**	**75.31**	**28**	P	**P**	**00 47 47.6**	**+0.7**
	7.9nm,0.6s,baz=198,slow=6.3,SNR=124						
STKA	**Stephens Creek**	**88.82**	**169**	P	**P**	**00 48 57.9**	**+0.1**
	1.3nm,0.7s,baz=175,slow=3.7,SNR=5.5						
AS12	**Alice Springs**	**95.90**	**161**	*e*P	**P**	**00 49 30.2**	**-0.5**
ASAR	**Alice Springs**	**95.90**	**161**	P	**P**	**00 49 30.2**	**-0.5**
	1.3nm,0.6s,baz=182,slow=4.0,SNR=16						
ASAR				PKKPbc	**PKKPbc**	**01 06 16.8**	**+0.6**
	0.3nm,0.4s,baz=14,slow=2.1,SNR=6.2						
WRA	**Warramunga Arr**	**99.62**	**161**	P	**Pdif**	**00 49 46.4**	**-1.0**
	0.5nm,1.1s,baz=193,slow=4.2,SNR=2.8						
WRA				PKKPbc	**PKKPbc**	**01 06 07.3**	**+1.3**
	0.2nm,0.4s,baz=353,slow=2.8,SNR=4.1						
ESDC	**Sonseca Array**	**100.00**	**17**	LR	LR	01 28 17.1	
	comp=Z,38nm,21.5s,baz=310,slow=31						
SCHQ	**Schefferville**	**118.21**	**334**	PKP	**PKPdf**	**00 54 49.2**	**-0.4**
	1.2nm,0.4s,baz=27,slow=2.3,SNR=3.5						
NB200	**NORSAR Array S**	**123.13**	**20**	*e*PKPdf	**PKPdf**	**00 54 58.7**	**-0.2**
NOA	**NORSAR Array B**	**123.13**	**20**	PKP	**PKPdf**	**00 54 58.7**	**-0.2**
	0.5nm,0.6s,baz=195,slow=1.7,SNR=3.4						
CM31	**Chiang Mai Arr**	**123.27**	**111**	*e*PKPdf	**PKPdf**	**00 54 59.7**	**-0.8**
CMAR	**Chiang Mai Arr**	**123.27**	**111**	PKP	**PKPdf**	**00 54 59.7**	**-0.8**
	0.4nm,0.3s,baz=214,slow=2.9,SNR=5.3						
FIA0	**FINESS Array S**	**126.66**	**28**	*e*PKPdf	**PKPdf**	**00 55 05.3**	**-0.3**
FINES	**FINESS Array B**	**126.66**	**28**	PKP	**PKPdf**	**00 55 05.3**	**-0.3**
	1.3nm,0.5s,baz=180,slow=2.6,SNR=14						
ARA0	**ARCESS Array S**	**133.42**	**22**	*e*PKPdf	**PKPdf**	**00 55 18.4**	**+0.2**
ARCES	**ARCESS Array B**	**133.42**	**22**	PKP	**PKPdf**	**00 55 18.5**	**+0.2**
	2.4nm,0.8s,baz=215,slow=1.5,SNR=9.3						
MK32	**Makanchi Array**	**137.03**	**73**	*e*PKPdf	**PKPdf**	**00 55 26.4**	**+0.6**
MKAR	**Makanchi Array**	**137.03**	**73**	PKP	**PKPdf**	**00 55 26.4**	**+0.6**
	0.1nm,0.4s,baz=276,slow=3.5,SNR=3.5						
YKA	**Yellowknife Ar**	**138.89**	**315**	PKP	**PKPdf**	**00 55 28.4**	**-0.1**
	3.5nm,0.6s,baz=124,slow=2.5,SNR=33						
YKB5	**Yellowknife Ar**	**138.89**	**315**	*e*PKPdf	**PKPdf**	**00 55 27.8**	**-0.7**
ZALV	**Zalesovo Beam**	**142.91**	**67**	PKP	**PKPdf**	**00 55 34.7**	**-1.4**
	0.8nm,0.4s,baz=240,slow=3.3,SNR=5.4						
ZAA1	**Zalesovo Array**	**142.91**	**67**	*e*PKPdf	**PKPdf**	**00 55 34.7**	**-1.4**
SONA0	**Songino Array**	**150.01**	**91**	*e*PKPbc	**PKPbc**	**00 55 53.3**	**-0.1**
SONM	**Songino Array**	**150.01**	**91**	PKPbc	**PKPbc**	**00 55 53.3**	**-0.1**
	2.2nm,0.5s,baz=224,slow=3.3,SNR=16						
SONA1	**Songino Array**	**150.03**	**91**	*e*PKPbc	**PKPbc**	**00 55 53.2**	**-0.2**
IL1	**Eielson Array**	**152.63**	**307**	*e*PKPbc	**PKPbc**	**00 55 58.2**	**-0.6**
ILAR	**Eielson Array**	**152.63**	**307**	PKPbc	**PKPbc**	**00 55 58.5**	**-0.3**
	2.2nm,0.9s,baz=149,slow=2.1,SNR=15						
ILB	**Eielson Array**	**152.63**	**307**	*e*PKPbc	**PKPbc**	**00 55 58.5**	**-0.3**

TRN 07 00:53:11.7, 13.72N×59.98W, h5km, MD3.5, 1C-2D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**0.71**	**145**	*e*P	Pn	00 53 28.8	+0.4
BBGH				*e*S	Sn	00 53 41.4	+1.8
MCLT	**Moule a Chique**	**0.94**	**269**	*e*P	Pn	00 53 31.6	+0.1
MCLT				*e*S	Sn	00 53 46.3	+1.0
SVV	**Soufriere Volc**	**1.27**	**252**	⇓*e*P	Pb	00 53 38.3	+2.1
SVV				*e*S	Sn	00 53 56.6	+3.1
SVB	**Belmont**	**1.32**	**250**	⇓*i*P	Pg	00 53 38.0	+0.9
SVB				*e*S	Sn	00 53 57.7	+2.9
FCV	**Fort Charlotte**	**1.35**	**246**	⇑*i*P	Pg	00 53 39.6	+1.8
FCV				*e*S	Sn	00 53 58.7	+3.1
FDF	**Fort de France**	**1.52**	**312**	*e*P	Pg	00 53 40.9	-0.1
FDF				*e*S	Sg	00 54 00.5	-0.2
GRGR	**Grenville**	**2.27**	**226**	*e*P	Pb	00 53 51.9	-1.4
GRGR				*e*S	Sb	00 54 21.3	-0.4
MGG	**Marie-Galante**	**2.54**	**329**	*e*P	Pb	00 53 55.8	-1.9

IDC 07 00:57:25.3±2.1, 1.67N×126.87E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/27, mbtmp3.7/3, MS2.6/1, Ms1 2.6/1, ms1mx2.3/23, Error ellipse: s-maj=181.4km s-min=24.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**9.73**	**227**	LR	LR	01 03 27.5	
	comp=Z,36nm,19.7s,baz=230,slow=37						
WRA	**Warramunga Arr**	**22.70**	**162**	P	P	01 02 28.1	-0.6
	1.6nm,0.5s,baz=340,slow=11,SNR=30						
ASAR	**Alice Springs**	**26.10**	**165**	P	P	01 03 01.5	+0.5
	0.4nm,0.4s,baz=345,slow=11,SNR=8.1						
MKAR	**Makanchi Array**	**59.32**	**326**	P	P	01 07 29.1	-0.1
	0.4nm,0.4s,baz=124,slow=7.8,SNR=9.4						

ISCJB ***07*** *01:14:53.2±0.7, 55.2N±0.2×35.2W±0.1, h10km, mb3.6/13, MS3.3/10, Error ellipse: s-maj=22.7km s-min=10.1km az=6.8*

IDC ***07*** *01:14:53.4±0.8, 55.21N×35.27W, h0km, mb3.7/13, mb1 3.9/14, mb1mx3.7/38, mbtmp3.7/14, ML2.6/1, MS3.3/14, Ms1 3.3/14, ms1mx3.1/41, Error ellipse: s-maj=28.3km s-min=13.8km az=8.0*

ISC 07 01:14:54.9±0.8, 55.2N±0.2×35.28W±0.09, h10km, n24, σ0 69/15, mb3.7/13, MS3.4/10, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**11.81**	**30**	LR	LR	01 21 01.5	
	comp=Z,127nm,19.8s,baz=328,slow=31						
SFJD	**Kangerlussuaq**	**13.89**	**334**	LR	LR	01 22 33.4	
	comp=Z,106nm,20.1s,baz=140,slow=33						
SCHQ	**Schefferville**	**18.02**	**282**	P	**P**	**01 19 05.8**	**+0.1**
	0.2nm,0.3s,baz=76,slow=7.7,SNR=6.2						
SCHQ				LR	LR	01 24 30.1	
	comp=Z,107nm,20.0s,baz=84,slow=32						
FRB	**Frobisher Bay**	**18.72**	**311**	LR	LR	01 24 45.7	
	comp=Z,76nm,21.3s,baz=178,slow=32						
JMIC	**Jan Mayen**	**19.63**	**26**	LR	LR	01 24 04.9	
	comp=Z,7.4nm,19.6s,baz=80,slow=28						
NOA	**NORSAR Array B**	**24.79**	**57**	LR	LR	01 28 17.4	
	comp=Z,23nm,19.0s,baz=265,slow=32

baz=318
TWF1 **Yuli** **2.44** **339** *e*P Pn 01 35 03.6 +0.1
baz=344
TWF1 *e*S Sn 01 35 32.0 -0.5
baz=344
EHY **Hungye** **2.58** **340** *e*P Pn 01 35 05.8 +0.5
baz=344
EHY *e*S Sn 01 35 36.0 +0.3
baz=344
CHN1 **Nanshi** **2.65** **323** *e*P Pn 01 35 08.2 +1.9
baz=323
CHN1 *e*S Sn 01 35 41.4 +3.9
baz=323
WTP **Ta-pu** **2.65** **325** *e*P Pn 01 35 08.4 +2.1
baz=313
WTP *e*S Sn 01 35 41.4 +3.8
baz=313
YUS **Yu-Shan** **2.70** **333** *e*P Pn 01 35 08.4 +0.9
baz=341
TWK **Hsinying** **2.74** **323** *e*P Pn 01 35 09.0 +1.4
baz=323
CHN4 **Tsaushan** **2.75** **326** *e*P Pn 01 35 09.7 +2.1
baz=314
CHN4 *e*S Sn 01 35 43.3 +3.4
baz=314
ALS **Alishan** **2.78** **331** *e*P Pn 01 35 09.4 +1.0
baz=331
WDT **Danda** **2.87** **339** *e*P Pn 01 35 09.8 +0.1
baz=339
CHN5 **Tsauling** **2.91** **330** *e*P Pn 01 35 11.5 +1.6
baz=318
SMLT **Sun Moon Lake** **3.07** **336** *e*P Pn 01 35 13.8 +1.7
baz=322
TYC **Yuchr** **3.11** **335** *e*P Pn 01 35 14.4 +2.0
baz=322
WHF **Hehuan Shan** **3.20** **343** *e*P Pn 01 35 15.0 +0.8
baz=351

IDC 07 01:51:43.3±3.9, 50.07S×113.10E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/22, mbtmp3.9/3, MS3.5/2, Ms1 3.5/2, ms1mx2.9/19, Error ellipse: s-maj=212.3km s-min=26.2km az=109.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.18**	**3**	T	T	02 11 14.4	
	baz=179,slow=74,SNR=139						
H01W1	**Cape Leeuwin H**	**15.19**	**3**	T	T	02 11 16.9	
	baz=179,slow=74,SNR=155						
H01W3	**Cape Leeuwin H**	**15.20**	**3**	T	T	02 11 16.8	
	baz=179,slow=74,SNR=151						
ASAR	**Alice Springs**	**30.96**	**39**	P	P	01 58 01.9	-0.2
	1.5nm,0.9s,baz=207,slow=7.9,SNR=8.2						
WRA	**Warramunga Arr**	**34.48**	**37**	P	P	01 58 32.8	-0.1
	1.1nm,0.7s,baz=202,slow=10,SNR=5.4						
QSPA	**South Pole Qui**	**40.05**	**180**	P	P	01 59 19.5	-0.4
	1.7nm,0.8s,baz=312,slow=1.8,SNR=7.5						
LEM	**Lembang**	**43.35**	**352**	LR	LR	02 14 12.2	
	comp=Z,42nm,20.0s,baz=186,slow=31						
PSI	**Prapat**	**54.06**	**342**	LR	LR	02 19 21.0	
	comp=Z,57nm,20.1s,slow=31						
TXAR	**Lajitas Array**	**145.43**	**113**	PKPbc	PKPbc	02 11 22.9	-0.2
	0.4nm,0.9s,baz=216,slow=4.5,SNR=4.1						
YKA	**Yellowknife Ar**	**151.48**	**46**	PKPbc	PKPbc	02 11 37.6	-0.2
	0.6nm,0.8s,baz=285,slow=2.0,SNR=4.0						

IDC 07 02:02:41.2±1.1, 55.84S×28.17W, h0km, mb3.9/3, mb1 3.9/3, mb1mx3.7/18, mbtmp3.9/3, Error ellipse: s-maj=59.8km s-min=27.7km az=88.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAW	**Mawson**	**40.65**	**144**	P	P	02 10 22.1	-0.3
	1.1nm,0.8s,baz=246,slow=10.0,SNR=3.5						
VNDA	**Vanda**	**46.76**	**183**	P	P	02 11 12.3	+0.8
	1.3nm,0.7s,baz=202,slow=6.2,SNR=6.4						
TORD	**Torodi Ar. Bea**	**73.14**	**30**	P	P	02 14 14.3	+0.9
	0.5nm,0.3s,baz=201,slow=6.5,SNR=15						
ARCES	**ARCESS Array B**	**130.95**	**22**	PKP	PKPdf	02 21 51.9	-1.1
	1.9nm,0.3s,baz=225,slow=3.6,SNR=3.5						
ILAR	**Eielson Array**	**149.56**	**312**	PKPbc	PKPbc	02 22 30.2	-0.7
	0.7nm,0.8s,baz=99,slow=1.8,SNR=7.9						
SONM	**Songino Array**	**151.26**	**87**	PKPbc	PKPbc	02 22 34.2	-1.6
	0.8nm,0.4s,baz=230,slow=3.8,SNR=5.5						

*JMA **07** 02:10:05.4±0.1, 24.57N×121.48E, h65km±1km, M3.3*
*ISCJB **07** 02:10:06.0±0.4, 24.63N±0.02×121.56E±0.02, h67km±3km, Error ellipse: s-maj=4.4km s-min=2.3km az=146.9*
*TAP **07** 02:10:06.3, 24.59N×121.53E, h63km, ML4.0, B*

ISC 07 02:10:06.7±1.2, 24.62N±0.03×121.55E±0.03, h64km±5km, n61, σ0.82/112, 7C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENTT	**Nioudou**	**0.02**	**27**	⇑P	Pn	**02 10 16.3**	**+0.2**
	baz=42						
TWE	**Neicheng**	**0.14**	**45**	*e*P	Pn	**02 10 16.7**	**+0.4**
	baz=41						
TWE				S	Sn	**02 10 23.9**	**+0.6**
	baz=41						
NSK	**Sanguang**	**0.19**	**288**	⇑*i*P	Pn	**02 10 16.1**	**-0.5**
	baz=306						
NSK				S	Sn	**02 10 23.1**	**-0.7**
	baz=306						
ILA	**Ilan**	**0.23**	**50**	*e*P	Pn	**02 10 17.3**	**+0.6**
	baz=50						
ILA				*e*S	Sn	**02 10 24.5**	**+0.5**
	baz=50						
NNS	**Nan Shan**	**0.24**	**223**	*e*P	Pn	**02 10 17.0**	**+0.1**
	baz=221						
NNS				*e*S	Sn	**02 10 24.4**	**0.0**
	baz=221						
ENA	**Nanau**	**0.26**	**138**	⇓P	Pn	**02 10 16.7**	**-0.2**
	baz=130						
ENA				*e*S	Sn	**02 10 24.1**	**-0.2**
	baz=130						
TWC	**Suao**	**0.27**	**92**	P	Pn	**02 10 17.0**	**+0.1**
	baz=92						
TWC				S	Sn	**02 10 24.6**	**+0.2**
	baz=92						
EGS		**0.41**	**57**	*e*P	Pn	**02 10 18.8**	**+0.7**
	baz=57						
EGS				*e*S	Sn	**02 10 26.0**	**-0.4**
	baz=57						
TAP1	**Taipei**	**0.42**	**356**	⇑P	Pn	**02 10 17.9**	**-0.2**
	baz=4.0						
TAP1				*i* S	Sn	**02 10 26.3**	**-0.2**
	baz=4.0						
TAP	**Taipei**	**0.42**	**354**	*e*P	Pn	**02 10 17.9**	**-0.3**
	baz=4.0						
TAP				S	Sn	**02 10 26.2**	**-0.3**
	baz=4.0						
NCU	**National Centr**	**0.48**	**316**	*e*P	Pn	**02 10 18.7**	**-0.1**
	baz=321						
NCU				*e*S	Sn	**02 10 27.7**	**+0.1**
	baz=321						
NWF	**Wu-fen Shan**	**0.49**	**25**	⇓P	Pn	**02 10 19.0**	**0.0**
	baz=26						
NWF				S	Sn	**02 10 27.8**	**-0.2**
	baz=26						
TWT	**Tachien**	**0.50**	**224**	⇑*i*P	Pn	**02 10 19.8**	**+0.6**
	baz=232						
TWT				*e*S	Sn	**02 10 28.7**	**+0.4**
	baz=232						
NSTT	**Nanjuang**	**0.50**	**271**	⇑P	Pn	**02 10 18.7**	**-0.3**
	baz=282						
NSTT				S	Sn	**02 10 27.8**	**-0.2**
	baz=282						
TWD	**Chiawan**	**0.54**	**176**	⇓P	Pn	**02 10 18.4**	**-0.9**
	baz=163						
TWD				*e*S	Sn	**02 10 27.4**	**-1.2**
	baz=163						
TWB1	**Santiao Chiao**	**0.55**	**45**	*e*P	Pn	**02 10 19.6**	**+0.1**
	baz=39						
TWB1				S	Sn	**02 10 28.8**	**-0.1**
	baz=39						
HWA	**Hwalien**	**0.64**	**176**	*e*P	Pn	**02 10 19.5**	**-1.0**
	baz=173						
HWA				*e*S	Sn	**02 10 31.3**	**+0.8**
	baz=173						
TWY	**Chenhua**	**0.66**	**4**	*e*P	Pn	**02 10 20.6**	**0.0**
	baz=6.0						
TWY				*e*S	Sn	**02 10 30.8**	**0.0**
	baz=6.0						
ESF	**Shoufeng Towns**	**0.75**	**183**	*e*P	Pn	**02 10 20.5**	**-1.2**
	baz=171						
NSY	**Sanyi**	**0.75**	**255**	P	Pn	**02 10 22.0**	**+0.2**
	baz=255						
NSY				S	Sn	**02 10 33.3**	**+0.4**
	baz=255						
TWQ1	**Liyutan**	**0.76**	**249**	⇑*i*P	Pn	**02 10 21.8**	**-0.1**
	baz=250						
TWQ1				*e*S	Sn	**02 10 32.8**	**-0.3**
	baz=250						
ESL	**Shilin**	**0.81**	**188**	*e*P	Pn	**02 10 21.0**	**-1.5**
	baz=177						
ESL				*e*S	Sn	**02 10 34.9**	**+0.7**
	baz=177						
TCU	**Taichung**	**0.93**	**240**	*e*P	Pn	**02 10 24.0**	**+0.1**
	baz=248						
TCU				*e*S	Sn	**02 10 36.5**	**-0.2**
	baz=248						
WDT	**Danda**	**0.94**	**204**	⇓*i*P	Pn	**02 10 24.8**	**+0.3**
	baz=210						
WDT				S	Sn	**02 10 38.5**	**+1.0**
	baz=210						
SMLT	**Sun Moon Lake**	**0.94**	**219**	*e*P	Pn	**02 10 24.7**	**+0.3**
	baz=224						
SMLT				S	Sn	**02 10 38.0**	**+0.7**
	baz=224						
TYC	**Yuchr**	**0.95**	**222**	*e*P	Pn	**02 10 24.6**	**+0.3**
	baz=227						
TYC				*e*S	Sn	**02 10 37.8**	**+0.4**
	baz=227						
WNT	**Mingjian**	**1.08**	**227**	*e*P	Pn	**02 10 26.2**	**+0.2**
	baz=236						
WNT				*e*S	Sn	**02 10 40.7**	**+0.4**
	baz=236						
PCYT	**Pengchaiyu**	**1.11**	**25**	P	Pn	**02 10 26.6**	**+0.3**
	baz=26						
PCYT				*e*S	Sn	**02 10 40.6**	**-0.3**
	baz=26						
EHY	**Hungye**	**1.13**	**191**	*e*P	Pn	**02 10 24.7**	**-1.9**
	baz=179						
YUS	**Yu-Shan**	**1.25**	**206**	⇓P	Pn	**02 10 29.5**	**+0.9**
	baz=216						
YUS				*e*S	Sn	**02 10 46.9**	**+1.9**
	baz=216						
JYNG	**Yonagunijimaku**	**1.28**	**97**	P	Pn	**02 10 28.3**	**-0.2**
JYNG				S	Sn	**02 10 44.8**	**0.0**
TWF1	**Yuli**	**1.28**	**191**	*e*P	Pn	**02 10 26.7**	**-1.9**
	baz=181						
TWF1				*e*S	Sn	**02 10 45.8**	**+0.8**
	baz=181						
CHN5	**Tsauling**	**1.29**	**218**	*e*P	Pn	**02 10 29.0**	**+0.2**
	baz=217						
CHN5				*e*S	Sn	**02 10 46.2**	**+0.9**
	baz=217						
WGK	**Gukeng**	**1.30**	**225**	P	Pn	**02 10 29.1**	**+0.4**
	baz=234						
WGK				*e*S	Sn	**02 10 46.1**	**+0.8**
	baz=234						
ALS	**Alishan**	**1.30**	**212**	*e*P	Pn	**02 10 29.5**	**+0.4**
	baz=220						
ALS				S	Sn	**02 10 46.7**	**+0.9**
	baz=220						
YOJ	**Yonaguni jima**	**1.34**	**96**	P	Pn	**02 10 29.2**	**-0.1**
YOJ				S	Sn	**02 10 45.8**	**-0.4**
YOJ	**Yonaguni jima**	**1.34**	**96**	*e*P	Pn	**02 10 29.1**	**-0.1**
	baz=88						
YOJ				S	Sn	**02 10 46.1**	**0.0**
	baz=88						
CHN2	**Minshiung**	**1.46**	**223**	*e*P	Pn	**02 10 31.7**	**+0.7**
	baz=232						
CHN2				*e*S	Sn	**02 10 50.0**	**+0.8**
	baz=232						
ELDTW	**Lidau**	**1.51**	**199**	*e*P	Pn	**02 10 31.1**	**-0.6**
	baz=187						
CHY	**Chiayi**	**1.52**	**223**	*e*P	Pn	**02 10 32.2**	**+0.4**
	baz=232						
CHY				*e*S	Sn	**02 10 50.7**	**0.0**
	baz=232						
CHKT	**Chengkung**	**1.52**	**187**	*e*P	Pn	**02 10 30.7**	**-1.1**
	baz=174						
CHN4	**Tsaushan**	**1.54**	**215**	*e*P	Pn	**02 10 32.3**	**+0.3**
	baz=213						
CHN4				*e*S	Sn	**02 10 52.3**	**+1.2**
	baz=213						
WTP	**Ta-pu**	**1.61**	**212**	*e*P	Pn	**02 10 33.3**	**+0.3**
	baz=210						
WTP				S	Sn	**02 10 53.8**	**+0.8**
	baz=210						
STYT	**Tauyuan**	**1.62**	**207**	*e*P	Pn	**02 10 33.8**	**+0.6**
	baz=215						
STYT				*e*S	Sn	**02 10 54.6**	**+1.4**
	baz=215						
TWK	**Hsinying**	**1.66**	**216**	⇑P	Pn	**02 10 33.9**	**+0.2**
	baz=214						
TWK				*e*S	Sn	**02 10 54.6**	**+0.5**
	baz=214						
CHN1	**Nanshi**	**1.71**	**214**	*e*P	Pn	**02 10 34.3**	**-0.1**
	baz=212						
CHN1				S	Sn	**02 10 55.6**	**+0.4**
	baz=212						
CHN8	**Yiju**	**1.77**	**224**	*e*P	Pn	**02 10 36.2**	**+1.2**
	baz=232						
CHN8				*e*S	Sn	**02 10 57.2**	**+0.7**
	baz=232						
SGST	**Jiashian**	**1.77**	**210**	*e*P	Pn	**02 10 35.2**	**+0.1**
	baz=208						
SGST				*e*S	Sn	**02 10 57.5**	**+0.8**
	baz=208						
TWG	**Pinlang**	**1.84**	**194**	*e*P	Pn	**02 10 34.0**	**-2.2**
	baz=180						
IRIF	**Iriomote-Funau**	**2.00**	**98**	P	Pn	**02 10 37.7**	**-0.5**
IRIF				*e*S	Sn	**02 11 01.5**	**-0.8**
SSD	**Sandimen**	**2.05**	**205**	*e*P	Pn	**02 10 39.4**	**+0.5**
	baz=212						
PNG	**Penghu**	**2.11**	**241**	*e*P	Pn	**02 10 38.3**	**-1.4**
	baz=239						
PNG				*e*S	Sn	**02 11 01.7**	**-3.0**
	baz=239						
HATJ	**Hateruma jima**	**2.13**	**105**	P	Pn	**02 10 41.0**	**+1.1**
HATJ				*e*S	Sn	**02 11 06.4**	**+1.1**
WDGT	**Dungji**	**2.20**	**232**	*e*P	Pn	**02 10 40.0**	**-0.9**
	baz=231						
WDGT				*e*S	Sn	**02 11 04.2**	**-2.9**
	baz=231						
JKRS	**Kuro-shima**	**2.27**	**99**	P	Pn	**02 10 42.1**	**+0.2**
JKRS				S	Sn	**02 11 08.9**	**+0.1**
EAST	**Anshuo**	**2.32**	**196**	*e*P	Pn	**02 10 42.0**	**-0.6**
	baz=183						
JIJ	**Ishigaki jima**	**2.37**	**96**	P	Pn	**02 10 43.2**	**-0.1**
JIJ				S	Sn	**02 11 09.8**	**-1.5**
SCZT	**Fangliau**	**2.40**	**201**	*e*P	Pn	**02 10 44.0**	**+0.4**
	baz=210						
JISG	**Ishigakijimahi**	**2.51**	**90**	P	Pn	**02 10 45.1**	**0.0**
JISG				*e*S	Sn	**02 11 15.1**	**+0.5**
KNM	**Kinmen**	**2.85**	**267**	*e*P	Pn	**02 10 50.2**	**+0.4**
	baz=266						
JTJ	**Tarama**	**2.87**	**89**	P	Pn	**02 10 50.6**	**+0.6**
JTJ				*e*S	Sn	**02 11 23.9**	**+0.6**

JMA 07 02:21:25.2±0.3, 33.04N×142.28E, h0km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.94**	**326**	P	Pb	02 21 59.9	-0.8
BSO1				*e*S	Sb	02 22 25.4	+0.4
JHJ2	**Mitsune**	**2.07**	**273**	P	Pn	02 22 02.0	+0.8
BSO3	**Boso 3**	**2.29**	**321**	P	Pn	02 22 04.8	+0.9
BSO3				*e*S	Sb	02 22 34.8	-1.0
BSO4	**Boso 4**	**2.53**	**321**	P	Pn	02 22 08.9	+1.5
BSO4				S	Sb	02 22 40.9	-2.0
JOD2	**Odawara 2**	**3.45**	**311**	*e*S	Sn	02 23 03.6	+1.7
JYN	**Shimob**	**3.95**	**309**	P	Pn	02 22 29.1	+2.0
JRY	**Ryogami san**	**4.07**	**318**	P	Pn	02 22 30.6	+1.8
JRY				*e*S	Sn	02 23 18.2	+0.9
JFT	**Otama**	**4.74**	**341**	P	Pn	02 22 40.0	+2.0
JIE	**Ise**	**4.84**	**288**	P	Pn	02 22 40.1	+0.8

*ISCJB **07** 02:27:01.1±0.7, 7.82N±0.06×82.93W±0.03, h10km, mb3.3/3, Error ellipse: s-maj=8.3km s-min=4.1km az=19.7*
*CASC **07** 02:27:03.2±2.1, 7.91N×82.92W, h10km±8km, MD4.2*
*IDC **07** 02:27:31.6±21.0, 13.88N×81.66W, h0km, mb3.4/3, mb1 3.9/4, mb1mx3.6/22, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=497.9km s-min=70.8km az=172.0*

ISC 07 02:27:03.0±1.1, 7.89N±0.08×82.93W±0.04, h10km, n23, σ1.26/33, mb3.4/3, 5C, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.80**	**343**	*e*P	**Pg**	**02 27 17.7**	**-0.7**
ACR				*e*S	**Sg**	**02 27 28.9**	**+0.1**
BRU2	**Volcan**	**0.93**	**15**	*i* P	**Pg**	**02 27 20.6**	**-0.4**
BRU2				*e*S	**Sg**	**02 27 32.5**	**-0.7**
BRU	**Baru**	**0.99**	**22**	*e*P	**Pg**	**02 27 20.1**	**-2.0**
CTCR	**Cotoan**	**1.02**	**10**	*e*P	**Pg**	**02 27 22.0**	**-0.7**
BUS	**Buena Vista**	**1.85**	**334**	⇑*e*P	**Pn**	**02 27 34.9**	**-0.3**
BUS				*e*S	**Sn**	**02 27 59.3**	**+0.4**
QCR	**Quepos**	**1.95**	**322**	⇑*i*P	**Pn**	**02 27 35.3**	**-1.0**
URSC	**Urasca**	**2.11**	**337**	⇑*e*P	**Pn**	**02 27 38.4**	**-0.2**
URSC				*e*S	**Sn**	**02 28 05.8**	**+0.8**
CGA2	**Cerro Gallo 2**	**2.60**	**325**	⇑*e*P	**Pn**	**02 27 44.8**	**-0.5**
AZU	**Azuero**	**2.64**	**92**	*e*P	**Pn**	**02 27 44.5**	**-1.1**
AZU				*e*S	**Sn**	**02 28 19.1**	**+1.4**
CAO	**Cobano**	**2.80**	**310**	*e*P	**Pn**	**02 27 46.6**	**-1.4**
JCR	**Jicaral**	**2.91**	**312**	*e*P	**Pn**	**02 27 48.1**	**-1.3**
FORC	**Fortuna**	**3.08**	**326**	*i* P	**Pn**	**02 27 52.2**	**+0.4**
FORC				*i* S	**Sb**	**02 28 38.2**	**+2.4**
JTS	**JuntasAbangare**	**3.11**	**320**	*e*P	**Pn**	**02 27 51.4**	**-0.8**
JTS				*e*S	**Sn**	**02 28 25.1**	**-4.4**
CEDE	**Laguna Cede˜–o**	**3.12**	**326**	*i* P	**Pn**	**02 27 53.1**	**+0.7**
ZANG	**Zanguenga, Cho**	**3.21**	**70**	*e*P	**Pn**	**02 27 53.2**	**-0.5**
ZANG				*e*S	**Sn**	**02 28 32.5**	**+0.4**
VCR	**Vista de Mar**	**3.47**	**310**	⇑*e*P	**Pn**	**02 27 56.7**	**-0.5**
CUI	**Cuipilapa**	**3.52**	**322**	*i* P	**Pn**	**02 27 57.5**	**-0.5**
UPIG		**3.54**	**72**	*e*P	**Pn**	**02 27 58.5**	**+0.4**
UPIG				*e*S	**Sn**	**02 28 38.6**	**-1.4**
UPD2	**Meteti**	**4.91**	**82**	*e*P	**Pn**	**02 28 16.0**	**-1.0**
UPD2				*e*S	**Sn**	**02 29 13.3**	**-0.7**
CMIG	**Matias Romero**	**14.82**	**309**	Pn	**P**	**02 30 39.3**	**+0.6**
	0.4nm,0.3s,baz=98,slow=11,SNR=6.0						
TXAR	**Lajitas Array**	**28.90**	**320**	P	**P**	**02 33 02.8**	**+0.4**
	0.2nm,0.8s,baz=131,slow=11,SNR=3.1						
NVAR	**Mina Array Bea**	**44.04**	**319**	P	**P**	**02 35 12.6**	**+1.2**
	0.9nm,0.7s,baz=116,slow=8.1,SNR=5.3						
ILAR	**Eielson Array**	**71.97**	**336**	P	**P**	**02 38 26.5**	**-0.1**
	0.2nm,0.5s,baz=106,slow=5.2,SNR=6.4						

IDC 07 02:32:31.9±54.0, 16.90S×175.56W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/30, mbtmp4.1/3, Error ellipse: s-maj=1023.0km s-min=170.3km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.50**	**241**	P	P	02 40 21.3	+0.3
	1.4nm,0.5s,baz=92,slow=8.3,SNR=4.9						
WRA	**Warramunga Arr**	**47.50**	**258**	P	P	02 41 08.8	-0.4
	0.8nm,0.5s,baz=96,slow=7.3,SNR=8.4						
ASAR	**Alice Springs**	**47.69**	**253**	P	P	02 41 10.4	-0.3
	3.8nm,0.7s,baz=91,slow=7.5,SNR=40						

CASC 07 02:40:19.9±1.4, 12.66N×90.61W, h2km±9km, MD3.7, 4C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**1.51**	**6**	*e*P	Pn	02 40 46.5	-1.7
SBLS	**San Blas**	**1.51**	**39**	⇑*e*P	Pn	02 40 47.7	-0.6
SBLS				*e*S	Sn	02 41 08.8	0.0
RTR	**El Retiro**	**1.54**	**37**	*e*P	Pn	02 40 48.3	-0.4
SNJE	**San Jose**	**1.54**	**39**	⇑*e*P	Pn	02 40 48.2	-0.5
BOQS	**Boqueron**	**1.68**	**50**	*e*P	Pn	02 40 50.2	-0.4
RBDL	**Robledal**	**1.70**	**32**	⇑*e*P	Pn	02 40 50.5	-0.3
LFRS	**El Faro**	**1.78**	**57**	*e*P	Pn	02 40 51.1	-0.8
FUG	**Fuego 3**	**1.79**	**353**	*e*P	Pn	02 40 51.5	-0.6
LFU	**La Fuente**	**1.81**	**53**	⇑*e*P	Pn	02 40 51.9	-0.3
LBRS	**Las Brisas**	**1.86**	**55**	*e*P	Pn	02 40 52.6	-0.3
JAT	**Jato**	**1.93**	**329**	*e*P	Pn	02 40 52.9	-0.8
NBG	**Las Nubes**	**1.93**	**8**	*e*P	Pn	02 40 54.6	+0.5
MTO2	**Montecristo 2**	**2.11**	**35**	*e*P	Pn	02 40 56.2	-0.3
VSM	**San Miguel**	**2.40**	**71**	*e*P	Pn	02 41 00.5	0.0
MRL	**Marmol**	**2.55**	**20**	*e*P	Pn	02 41 04.0	+1.4
CNCH	**Conchagua**	**2.77**	**77**	*e*P	Pn	02 41 04.8	-0.7
CNCH				*e*S	Sn	02 41 40.1	+0.4

*CSEM **07** 03:18:00.9, 36.07N×8.67E, h1km, MD3.5*

TUN 07 03:18:00.9, 36.07N×8.67E, h1km, MD3.5, Tunisia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRIT	**Krib**	**0.42**	**51**	*i* P	Pg	03 18 09.0	-0.1
THTN	**Thala**	**0.51**	**178**	*i* P	Pg	03 18 11.0	+0.2
GHAT	**Ghardimaou**	**0.52**	**325**	*i* P	Pg	03 18 10.0	-0.9
ABSA	**Djebel Ababsia**	**0.99**	**282**	P	Pn	03 18 22.7	+0.7
TAMR	**Tamra**	**1.04**	**20**	*i* P	Pb	03 18 21.4	-0.3
CMAH	**Djebel Manchou**	**1.15**	**299**	P	Pb	03 18 23.6	-0.1
BERT	**Berda**	**1.85**	**171**	*i* P	Pb	03 18 35.0	-0.5
TATN	**Tataouine**	**3.81**	**156**	*i* P	Sn	03 19 38.8	-7.4

*ISCJB **07** 03:18:54.6±0.8, 85.01N±0.07×1.5E±˚, h10km, mb3.5/6, MS3.0/12, Error ellipse: s-maj=28.5km s-min=8.7km az=170.8*
*IDC **07** 03:18:54.2±1.7, 85.30N×20.70E, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.5/40, mbtmp3.7/8, ML4.3/2, MS3.0/15, Ms1 3.0/15, ms1mx2.9/37, Error ellipse: s-maj=82.7km s-min=18.1km az=78.0*
*CSEM **07** 03:18:55.9±1.2, 85.10N×15.55E, h10km, ML4.3, Error ellipse: s-maj=43.1km s-min=22.5km az=115.0*

ISC 07 03:18:56.5±1.1, 85.07N±0.08×15.9E±0.3, h10km, n34, σ1.31/31, mb3.6/6, MS3.1/12, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**6.21**	**187**	Pn	**Pn**	**03 20 28.0**	**0.0**
KBS				Sn	**Sn**	**03 21 37.5**	**-1.3**
KBS	**Kingsbay**	**6.21**	**187**	*e*P	**Pn**	**03 20 27.7**	**-0.3**
KBS				*e*S	**Sn**	**03 21 37.7**	**-1.2**
KBS				IAML		03 21 41.2	
	comp=Z,8.5nm,0.4s						
KBS	**Kingsbay**	**6.21**	**187**	*e*P	**Pn**	**03 20 27.7**	**-0.3**
	SNR=47						
KBS	**Kingsbay**	**6.21**	**187**	Pn	**Pn**	**03 20 28.0**	**0.0**
KBS				Sn	**Sn**	**03 21 37.5**	**-1.3**
SPA0	**Spitsbergen Ar**	**6.94**	**179**	Pn	**Pn**	**03 20 37.9**	**-0.1**
	baz=18,slow=12						
SPA0	**Spitsbergen Ar**	**6.94**	**179**	*e*P	**Pn**	**03 20 38.1**	**0.0**
SPA0				*e*S	**Sn**	**03 21 57.8**	**+0.9**
SPA0	**Spitsbergen Ar**	**6.94**	**179**	Pn	**Pn**	**03 20 37.9**	**-0.1**
	SNR=328						
SPA0				*e*S	**Sn**	**03 21 57.8**	**+0.9**
	SNR=47						
SPITS	**Spitsbergen Ar**	**6.94**	**179**	Pn	**Pn**	**03 20 38.0**	**-0.1**
	baz=21,slow=13,SNR=136						
SPITS				Sn	**Sn**	**03 21 52.7**	**-4.2**
	baz=80,slow=25,SNR=1.5						
SPITS				LR	LR	03 23 21.1	
	comp=Z,60nm,20.7s,baz=45,slow=37						
HOPEN	**Hopen**	**8.72**	**166**	Pn	**Pn**	**03 21 02.8**	**+0.5**
HOPEN	**Hopen**	**8.72**	**166**	*e*P	**Pn**	**03 21 02.8**	**+0.5**
HOPEN	**Hopen**	**8.72**	**166**	*e*P	**Pn**	**03 21 02.8**	**+0.5**
	SNR=47						
BJO	**Bjornoya**	**10.65**	**175**	Pn	**Pn**	**03 21 29.3**	**+0.6**
BJO	**Bjornoya**	**10.65**	**175**	Pn	**Pn**	**03 21 29.3**	**+0.6**
ARA0	**ARCESS Array S**	**15.72**	**167**	Pn	**Pn**	**03 22 35.7**

comp=Z,1.6nm,0.9s,baz=27,slow=6.7,SNR=5.1
FINES LR LR 03 32 43.5
comp=Z,25nm,20.3s,baz=296,slow=34
NOA NORSAR Array B 24.18 186 LR LR 03 33 58.5
comp=Z,12nm,19.1s,baz=355,slow=37
HFS Hagfors 25.08 183 P **P** **03 24 23.7 +3.1**
comp=Z,1.1nm,0.7s,baz=10,slow=9.0,SNR=4.3
INK Inuvik 26.21 335 LR LR 03 35 00.6
comp=Z,39nm,20.1s,baz=248,slow=37
ILAR Eielson Array 30.15 345 P **P** **03 25 04.4 -1.5**
comp=Z,0.2nm,0.7s,baz=10,slow=7.7,SNR=4.1
ILAR LR LR 03 38 52.2
comp=Z,40nm,18.0s,baz=210,slow=40
AKASG Malin Array Be 34.68 165 P **P** **03 25 45.9 +0.3**
comp=Z,0.4nm,0.4s,baz=353,slow=8.6,SNR=4.1
AKASG LR LR 03 39 48.8
comp=Z,32nm,20.7s,baz=240,slow=36
ZALV Zalesovo Beam 34.72 104 LR LR 03 41 48.9
comp=Z,31nm,19.2s,baz=70,slow=40
GERES GERESS Array B 36.39 182 LR LR 03 40 39.7
comp=Z,19nm,20.2s,baz=358,slow=36
MKAR Makanchi Array 41.61 109 LR LR 03 46 34.4
comp=Z,28nm,18.9s,baz=344,slow=40
KBZ Khabaz 42.09 151 LR LR 03 45 46.6
comp=Z,32nm,19.4s,baz=24,slow=38
BRTR Keskin Array B 45.76 161 LR LR 03 47 43.1
comp=Z,11nm,18.3s,baz=311,slow=38
USRK Ussuriysk Ar. 48.34 60 LR LR 03 50 02.6
comp=Z,30nm,18.2s,baz=285,slow=39
PDAR Pinedale Array 50.42 309 P **P** **03 27 54.1 +0.3**
comp=Z,0.6nm,1.0s,baz=346,slow=5.9,SNR=3.6
PDAR LR LR 03 47 42.4
comp=Z,30nm,21.6s,baz=43,slow=34
TORD Torodi Ar. Bea 72.13 195 P **P** **03 30 21.4 +0.6**
comp=Z,0.7nm,0.8s,baz=355,slow=5.9,SNR=9.9

IDC 07 03:29:15.2±1.9, 4°.80S×151°.98E, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.5/25, mbtmpg3.7/3, Error ellipse: s-maj=128.9km s-min=26.4km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.84**	**227**	P	P	03 34 20.2	0.0
	0.4nm,0.3s,baz=54,slow=10,SNR=9.6						
ASAR	**Alice Springs**	**25.61**	**221**	P	P	03 34 46.2	-0.2
	0.3nm,0.6s,baz=53,slow=8.7,SNR=5.3						
ILAR	**Eielson Array**	**82.46**	**22**	P	P	03 41 39.1	-0.1
	1.3nm,0.7s,baz=245,slow=5.5,SNR=13						
TORD	**Torodi Ar. Bea**	**149.53**	**288**	PKPbc	PKPbc	03 49 07.4	-0.2
	1.1nm,0.5s,baz=75,slow=2.3,SNR=26						

CASC 07 03:44:36.9±3.5, 10°.70N×85°.11W, h3km±21km, MD4.0, 3C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VCR	**Vista de Mar**	**0.76**	**222**	↓*e*P	Pg	03 44 52.0	+0.3
JCR	**Jicaral**	**0.84**	**180**	↓*e*P	Pg	03 44 53.1	-0.1
JCR				*e*S	Sb	03 45 06.4	+0.4
CGA2	**Cerro Gallo 2**	**0.93**	**137**	↑*e*P	Pg	03 44 54.0	-1.0
CGA2				*e*S	Sg	03 45 07.8	+0.7
CAO	**Cobano**	**0.99**	**180**	*i*P	Pg	03 44 55.6	-0.4
URSC	**Urasca**	**1.57**	**123**	↑*e*P	Pn	03 45 04.3	-1.6
URSC				*e*S	Sn	03 45 25.7	-1.2
QCR	**Quepos**	**1.57**	**144**	↓*e*P	Pn	03 45 05.0	-0.7
QCR				*e*S	Sn	03 45 26.3	-0.3
BUS	**Buena Vista**	**1.75**	**130**	↓*e*P	Pn	03 45 07.4	-1.3
BUS				*e*S	Sn	03 45 32.1	+0.1
CTCR	**Cotoan**	**2.93**	**127**	*e*P	Pn	03 45 26.9	+2.2
BRU2	**Volcan**	**3.04**	**128**	*e*P	Pn	03 45 28.7	+2.5
BRU	**Baru**	**3.14**	**127**	*e*P	Pn	03 45 29.0	+1.1

NIED ***07*** *03:52:00.44°.30N×142°.80E, h260km, Mw3.9 Best double couple: M0 8.96000×10^14 NP1:φs 138.00000°, δ 26.00000°, λ -17.00000°. NP2:φs 243.00000°, δ 83.00000°, λ -115.00000°.*

ISCJB ***07*** *03:52:14.4±0.2, 44°.31N±0°.03×142°.71E±0°.04, h226km±2km, mb3.7/22, Error ellipse: s-maj=5.0km s-min=4.7km az=4.2*

MOS ***07*** *03:52:14.1±1.0, 44°.36N×142°.65E, h220km, mb4.0/11, Error ellipse: s-maj=11.5km s-min=7.1km az=93.6*

JMA ***07*** *03:52:15.7±0.2, 44°.27N×142°.78E, h223km±2km, M3.5*

IDC ***07*** *03:52:15.6±0.4, 44°.35N×142°.77E, h220km±3km, mb3.5/16, mb1 3.6/18, mb1mx3.5/28, mbtmp4.0/18, Error ellipse: s-maj=13.1km s-min=11.5km az=122.0*

ISC 07 03:52:15.5±0.6, 44°.28N±0°.04×142°.70E±0°.04, h225km±5km, n72, σ1°35/97, mb3.7/22, 3C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**0.18**	**204**	P	**Pn**	**03 52 45.1**	**+0.3**
ASAJ				*e*S	**S**	**03 53 07.4**	**-0.3**
ASAJ	**Asahikawa**	**0.18**	**204**	P	**Pn**	**03 52 46.1**	**+1.3**
ASAJ				S	**S**	**03 53 07.4**	**-0.3**
	baz=55,slow=19						
JKK2	**Kamakawa 2**	**0.41**	**175**	P	**Pn**	**03 52 45.6**	**+0.3**
JKK2				*e*S	**S**	**03 53 08.2**	**-0.3**
JMP	**Maruseppu**	**0.55**	**120**	P	**Pn**	**03 52 45.7**	**0.0**
JMP				*e*S	**S**	**03 53 08.3**	**-0.9**
JSS	**Shosan**	**0.62**	**281**	P	**Pn**	**03 52 46.3**	**+0.5**
JSS				*e*S	**S**	**03 53 09.9**	**+0.3**
JSE	**Soyaes**	**0.68**	**353**	P	**Pn**	**03 52 46.1**	**0.0**
JSE				*e*S	**S**	**03 53 09.3**	**-0.9**
JHR	**Hokuryu**	**0.89**	**233**	P	**Pn**	**03 52 47.9**	**+0.7**
JHR				*e*S	**S**	**03 53 12.5**	**+0.7**
JYG	**Yagishiri**	**0.92**	**280**	P	**Pn**	**03 52 47.5**	**+0.2**
JYG				*e*S	**S**	**03 53 11.9**	**-0.3**
JTKR	**Abashiri--Toko**	**0.93**	**109**	P	**Pn**	**03 52 47.6**	**+0.2**
JTKR				*e*S	**S**	**03 53 11.4**	**-0.8**
JFR	**Furan**	**1.12**	**184**	P	**Pn**	**03 52 48.8**	**+0.1**
JFR				*e*S	**S**	**03 53 14.4**	**-0.1**
JWK2	**Keihoku**	**1.18**	**331**	P	**Pn**	**03 52 49.3**	**+0.4**
JWK2				*e*S	**S**	**03 53 15.2**	**+0.1**
JAR	**Ashorobuto**	**1.25**	**141**	P	**Pn**	**03 52 49.7**	**+0.1**
JAR				*e*S	**S**	**03 53 15.7**	**-0.3**
JEW	**Eniwo**	**1.70**	**213**	P	**Pn**	**03 52 53.9**	**+0.7**
JEW				*e*S	**S**	**03 53 22.4**	**-0.1**
JCH	**Churui**	**1.73**	**164**	P	**Pn**	**03 52 52.3**	**-1.2**
JCH				*e*S	**S**	**03 53 19.6**	**-3.4**
JRA	**Rausu**	**1.78**	**100**	P	**Pn**	**03 52 54.1**	**+0.3**
JSK	**Shakotan**	**1.86**	**241**	P	**Pn**	**03 52 55.3**	**+0.8**
JSK				*e*S	**S**	**03 53 24.8**	**-0.1**
JAK	**Akkeshi**	**1.94**	**131**	P	**Pn**	**03 52 53.9**	**-1.4**
JAK				*e*S	**S**	**03 53 23.3**	**-2.9**
JNBK	**Urakawa-nobuka**	**2.00**	**179**	P	**Pn**	**03 52 55.4**	**-0.5**
ERM	**Erimo**	**2.29**	**171**	*d*iPN	**Pn**	**03 52 58.4**	**-0.4**
ERM				*i*S	**S**	**03 53 31.4**	**-1.1**
YUK	**Yuzh-Kuril'sk**	**2.29**	**95**	*e*PN	**Pn**	**03 52 57.6**	**-1.1**
YUK				*e*S	**S**	**03 53 32.7**	**+0.3**
YUK				pmax	pmax		
	comp=N,10.0nm,0.1s						
YUK				pmax	pmax		
	comp=E,21nm,0.1s						
YUK				pmax	pmax		
	comp=Z,35nm,0.1s						
YUK				smax	smax		
	comp=N,35nm,0.1s						
YUK				smax	smax		
	comp=E,62nm,0.1s						
NEM2	**Nemuro 2**	**2.39**	**112**	P	**Pn**	**03 52 58.0**	**-1.7**
NEM2				*e*S	**S**	**03 53 30.3**	**-3.9**
YSS	**Yuzh-Sakhalins**	**2.67**	**1**	↓*e*PN	**Pn**	**03 53 02.0**	**-0.7**
YSS				*e*S	**S**	**03 53 38.0**	**-1.8**
YSS				smax	smax		
	comp=E,160nm,1.0s						
JKB	**Kayabe**	**2.69**	**208**	P	**Pn**	**03 53 02.7**	**-0.3**
JKB				*e*S	**S**	**03 53 37.3**	**-2.7**
KUR	**Kuril'sk**	**3.80**	**74**	*e*PN	**Pn**	**03 53 14.1**	**-1.6**
KUR				S	**S**	**03 54 02.9**	**-0.2**
KUR				pmax	pmax		
	comp=N,17nm,0.1s						
KUR				pmax	pmax		
	comp=E,19nm,0.1s						
KUR				pmax	pmax		
	comp=Z,28nm,0.1s						
KUR				smax	smax		
	comp=N,10.0nm,0.2s						
KUR				smax	smax		
	comp=E,28nm,0.2s						
UGL	**Uglegorsk**	**4.82**	**355**	*e*PN	**Pn**	**03 53 25.9**	**-2.2**
UGL				*e*S	**S**	**03 54 23.3**	**-2.3**
HABR	**Khabarovsk**	**6.75**	**311**	*e*PN	**Pn**	**03 53 49.9**	**-2.6**
HABR				*e*S	**S**	**03 55 06.6**	**-3.3**
HABR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
HABR				MLR	MLR		
	comp=Z,67nm,16.0s						
USRK	**Ussuriysk Ar.**	**7.69**	**273**	P	**Pn**	**03 54 05.6**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=83,slow=18,SNR=3.6						
VLA	**Vladivostok**	**7.92**	**265**	*c iP*N	**Pn**	**03 54 06.9**	**-0.7**
MAJO	**Matsushiro**	**8.45**	**205**	*c iP*N	**Pn**	**03 54 14.1**	**-0.5**
MAT	**Matsushiro**	**8.45**	**205**	P	**Pn**	**03 54 14.1**	**-0.5**
MJAR	**Matsushiro Arr**	**8.45**	**205**	P	**Pn**	**03 54 14.5**	**-0.1**
KLR	**Kul'dur**	**9.00**	**307**	*e*PN	**Pn**	**03 54 18.2**	**-3.2**
TJN	**Taejon**	**14.10**	**241**	*e*P	**Pn**	**03 55 24.6**	**-1.0**
MA2	**Magadan**	**16.09**	**15**	*e*P	**P**	**03 55 48.0**	**-0.4**
HIA	**Hailar**	**16.47**	**296**	*e*P	**P**	**03 55 52.5**	**-0.4**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SEY	**Seymchan**	**19.51**	**13**	P	**P**	**03 56 24.9**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=199,slow=8.9,SNR=10						
SEY	**Seymchan**	**19.51**	**13**	*i*P	**P**	**03 56 24.8**	**-0.7**
HHC	**Hu-ho-hao-te**	**23.11**	**272**	*e*P	**P**	**03 57 00.0**	**-1.7**
HHC				PP	**pP**	**03 57 42.3**	**+0.5**
HHC				S	**S**	**04 00 50.6**	**-5.2**
HHC				SS	sS	04 01 59.4	-9.2
HHC	**Hu-ho-hao-te**	**23.11**	**272**	ScS	ScS	04 07 43.8	-2.0
HHC				pmax	pmax		
	comp=Z,15nm,1.1s						
HHC				pmax	pmax		
	comp=Z,96nm,5.5s						
SONM	**Songino Array**	**25.29**	**291**	P	**P**	**03 57 22.1**	**+0.7**
	comp=Z,4.0nm,0.6s,baz=86,slow=8.5,SNR=28						
SONM	**Songino Array**	**25.29**	**291**	*e*P	**P**	**03 57 22.9**	**+1.5**
SONM				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BILL	**Bilibino**	**26.84**	**19**	*e*P	**P**	**03 57 35.8**	**+1.0**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
TLY	**Talaya**	**26.91**	**300**	*e*P	**P**	**03 57 36.2**	**+0.5**
TLY				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZALV	**Zalesovo Beam**	**38.10**	**306**	P	**P**	**03 59 13.4**	**+1.0**
	comp=Z,1.2nm,0.4s,baz=94,slow=7.3,SNR=5.7						
ZALV	**Zalesovo Beam**	**38.10**	**306**	*e*P	**P**	**03 59 13.7**	**+1.3**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**41.48**	**296**	P	**P**	**03 59 41.4**	**+1.1**
	comp=Z,1.3nm,0.6s,baz=81,slow=8.2,SNR=15						
COLA	**College**	**42.54**	**36**	*i* P	**P**	**03 59 49.8**	**+1.3**
COLA				pmax	pmax		
	comp=Z,15nm,1.2s						
KURK	**Kurchatov**	**42.55**	**302**	P	**P**	**03 59 50.3**	**+1.4**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KURBB	**Kurchatov Arra**	**42.63**	**302**	P	**P**	**03 59 50.3**	**+0.8**
	comp=Z,4.1nm,0.6s,baz=70,slow=8.8,SNR=18						
ILAR	**Eielson Array**	**42.96**	**36**	P	**P**	**03 59 52.1**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=280,slow=7.8,SNR=14						
ILAR	**Eielson Array**	**42.96**	**36**	*e*P	**P**	**03 59 53.6**	**+1.6**
BRVK	**Borovoye**	**46.71**	**308**	*e*P	**P**	**04 00 21.6**	**0.0**
INK	**Inuvik**	**47.56**	**30**	P	**P**	**04 00 26.8**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=287,slow=3.2,SNR=4.5						
YKA	**Yellowknife Ar**	**57.12**	**33**	P	**P**	**04 01 38.2**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=308,slow=7.3,SNR=7.1						
ARCES	**ARCESS Array B**	**57.60**	**338**	P	**P**	**04 01 40.5**	**-0.8**
	comp=Z,1.7nm,0.3s,baz=50,slow=8.4,SNR=7.3						
ARCES	**ARCESS Array B**	**57.60**	**338**	*e*P	**P**	**04 01 41.4**	**+0.1**
FINES	**FINESS Array B**	**62.90**	**331**	P	**P**	**04 02 17.5**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=54,slow=7.4,SNR=8.8						
FINES	**FINESS Array B**	**62.90**	**331**	*e*P	**P**	**04 02 17.7**	**+0.4**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WRA	**Warramunga Arr**	**64.36**	**189**	P	**P**	**04 02 28.0**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=7.9,slow=6.8,SNR=7.7						
WRA	**Warramunga Arr**	**64.36**	**189**	*e*P	**P**	**04 02 28.3**	**+1.0**
NB2	**NORSAR Subarra**	**67.90**	**337**	P	**P**	**04 02 49.3**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=38,slow=6.5						
NOA	**NORSAR Array B**	**67.90**	**337**	P	**P**	**04 02 49.6**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=36,slow=6.4,SNR=5.9						
NOA	**NORSAR Array B**	**67.90**	**337**	P	**P**	**04 02 49.6**	**+0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**68.09**	**189**	P	**P**	**04 02 52.1**	**+1.2**
	comp=Z,0.7nm,0.9s,baz=7.4,slow=5.5,SNR=6.0						
AKASG	**Malin Array Be**	**69.20**	**321**	P	**P**	**04 02 57.5**	**0.0**
	comp=Z,0.9nm,0.5s,baz=39,slow=6.3,SNR=6.0						
AKASG	**Malin Array Be**	**69.20**	**321**	*e*P	**P**	**04 02 58.6**	**+1.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**71.97**	**48**	P	**P**	**04 03 15.4**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=324,slow=2.8,SNR=5.1						
CLL	**Collm**	**75.31**	**330**	*i* P	**P**	**04 03 35.1**	**+1.5**
CLL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CLL	**Collm**	**75.31**	**330**	*i* P	**P**	**04 03 35.1**	**+1.5**
STKA	**Stephens Creek**	**75.80**	**181**	P	**P**	**04 03 38.0**	**+1.6**
	comp=Z,0.8nm,0.5s,baz=270,slow=2.0,SNR=3.4						
STKA	**Stephens Creek**	**75.80**	**181**	P	**P**	**04 03 38.0**	**+1.6**
STKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**84.97**	**53**	P	**P**	**04 04 25.6**	**0.0**
	comp=Z,0.5nm,0.8s,baz=295,slow=3.7,SNR=7.4						

IDC ***07*** *04:03:56.6±0.7, 38°.60N×70°.31E, h0km, mb4.1/18, mb1 4.3/24, mb1mx4.1/48, mbtmp4.1/24, ML3.7/6, MS3.0/11, Ms1 3.1/11, ms1mx2.8/44, Error ellipse: s-maj=13.3km s-min=10.9km az=151.0*

ISCJB ***07*** *04:03:57.4±0.2, 38°.74N±0°.03×70°.32E±0°.03, h13km, mb4.2/32, MS3.2/8, Error ellipse: s-maj=3.9km s-min=3.1km az=19.5*

NNC ***07*** *04:04:00.5±0.8, 38°.92N×70°.09E, h0km, mb4.8, mpv4.6, Error ellipse: s-maj=12.3km s-min=2.6km az=158.0*

NEIC ***07*** *04:04:01.1±2.7, 38°.79N×70°.20E, h23km±20km, mb4.3/5, Error ellipse: s-maj=11.4km s-min=9.2km az=165.0*

MOS ***07*** *04:04:02.5±1.5, 38°.84N×70°.23E, h47km, mb4.6/14, Error ellipse: s-maj=7.4km s-min=5.3km az=89.6*

BJI ***07*** *04:04:05.9, 39°.21N×70°.46E, h60km, mb4.4/10, mB4.6/2, ML4.3/3, Ms4.0/3, Ms7 3.6/3*

ISC 07 04:03:58.9±0.4, 38°.79N±0°.03×70°.29E±0°.03, h13km, n158, σ2°14/141, mb4.3/32, MS3.2/8, 36C-19D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**1.14**	**271**	↑P	**Pb**	**04 04 19.1**	**-1.4**
DZET	1μm,0.7s			↓S	**Sb**	**04 04 34.1**	**-1.2**
	4μm,0.5s						
DZET	**Dzherino**	**1.14**	**271**	P	**Pb**	**04 04 19.1**	**-1.4**
DZET				S	**Sb**	**04 04 34.0**	**-1.2**
DZET				pmax	pmax		
	comp=Z,503nm,0.3s						
DZET				smax	smax		
	comp=N,888nm,0.3s						
SFK	**Sufi-Kurgan**	**2.78**	**63**	↑Pn	**Pb**	**04 04 48.1**	**-0.4**
	comp=N,192nm,0.8s						
SFK				↑Lg	Lg	04 05 31.5	
	comp=N,1μm,0.8s						
SFK	**Sufi-Kurgan**	**2.78**	**63**	PN	**Pb**	**04 04 48.1**	**-0.4**
SFK						04 05 29.4	
SFK				pmax	pmax		
	comp=Z,192nm,0.8s						
SFK				pmax	pmax		
	comp=N,1μm,0.8s						
AML	**Almayashu**	**4.23**	**37**	P	Pn	04 05 07.3	+3.9
	SNR=89						
KK31	**Karatay Array**	**4.31**	**2**	↑Pn	**Pn**	**04 05 07.2**	**+3.0**
	comp=N,47nm,0.5s						
KK31				↓Lg	Lg	04 06 13.7	
	comp=N,169nm,0.8s,baz=191,slow=30,SNR=5.8						
KK31	**Karatay Array**	**4.31**	**2**	PN	Pn	04 05 07.8	+3.6
KK31				pmax	pmax		
	comp=Z,42nm,0.3s						
KK31				pmax	pmax		
	comp=N,97nm,0.4s						
KKAR	**Karatay Array**	**4.31**	**2**	*e*PN	Pn	04 05 07.9	+3.7
KKAR	**Karatay Array**	**4.31**	**2**	*e*Pn	Pn	04 05 07.9	+3.7
KKAR				*e*S	**Sg**	**04 06 12.8**	**-4.5**
KBL	**Kabul**	**4.36**	**194**	*e*PN	**Pn**	**04 05 06.1**	**+1.1**
KBL	**Kabul**	**4.36**	**194**	*e*Pn	**Pn**	**04 05 06.1**	**+1.1**
KSH	**Kashi**	**4.48**	**79**	P	**Pn**	**04 05 05.8**	**-0.8**
KSH				S	**Sn**	**04 05 57.7**	**-0.9**
KSH				SMN			
	comp=N,770nm,1.1s						
KSH				SME			
	comp=N,490nm,1.0s						
EKS2	**Erkin-Say**	**4.69**	**33**	P	Pn	04 05 13.9	+4.4
	SNR=41						
EKS2	**Erkin-Say**	**4.69**	**33**	*e*PN	Pn	04 05 13.8	+4.4
EKS2	**Erkin-Say**	**4.69**	**33**	*e*Pn	Pn	04 05 13.8	+4.4
EKS2				*e*S	**Sn**	**04 06 04.8**	**+1.0**
UCH	**Uchtor**	**4.71**	**42**	P	Pn	04 05 14.2	+4.2
	SNR=72						
AAK	**Ala-Archa**	**5.00**	**38**	P	Pn	04 05 17.9	+4.2
	SNR=50						
AAK	**Ala-Archa**	**5.00**	**38**	↓Pn	Pn	04 05 18.8	+5.0
	comp=N,64nm,0.7s						
AAK				↑Sn	Sn	04 06 17.6	+6.2
	comp=N,232nm,1.1s						
AAK	**Ala-Archa**	**5.00**	**38**	PN	Pn	04 05 18.7	+5.0
AAK						04 06 20.8	
AAK				pmax	pmax		
	comp=Z,64nm,0.7s						
AAK				smax	smax		
	comp=N,232nm,1.1s						
KZA	**Kyzart**	**5.01**	**48**	P	Pn	04 05 18.7	+4.5
	SNR=20						
CEP	**Cherat**	**5.13**	**165**	P	Pn	04 05 21.6	+6.1
CEP				S	**Sg**	**04 06 42.0**	**-1.5**
FRU	**Bishkek**	**5.21**	**38**	*e*PN	Pn	04 05 21.0	+4.5
FRU				*i* S	**Sb**	**04 06 28.0**	**-4.2**
FRU				pmax	pmax		
	comp=Z,270nm,1.8s						
FRU				pmax	pmax		
	comp=E,850nm,1.6s						
KBK	**Karagaybulak**	**5.24**	**41**	P	Pn	04 05 21.8	+4.8
	SNR=96						
CHMS	**Chumysh**	**5.40**	**37**	P	Pn	04 05 23.1	+4.0
	SNR=39						
USP	**Ospenovka**	**5.49**	**34**	P	Pn	04 05 24.0	+3.6
	SNR=47						
CHCP	**Chirah Chowk**	**5.66**	**154**	P	Pb	04 05 31.0	-6.5
ULHL	**Ulahol**	**5.70**	**51**	P	Pn	04 05 30.0	+6.5
	SNR=13						
TKM2	**Tokmak 2**	**5.76**	**43**	P	Pn	04 05 28.2	+3.9
	SNR=118						
TKM2	**Tokmak 2**	**5.76**	**43**	↑Pn	Pn	04 05 28.2	+3.9
	comp=E,69nm,0.6s						
TKM2				↑Sn	**Sn**	**04 06 35.5**	**+5.1**
	comp=E,123nm,0.9s						
TKM2	**Tokmak 2**	**5.76**	**43**	PN	Pn	04 05 28.1	+3.8
TKM2						04 06 39.3	
TKM2				pmax	pmax		
	comp=Z,64nm,0.6s						
TKM2				smax	smax		
	comp=N,143nm,1.1s						
TKM2	**Tokmak 2**	**5.76**	**43**	*e*Pn	Pn	04 05 28.2	+3.9
	comp=N,93nm,0.5s						
TKM2				*e*S	**Sn**	**04 06 29.2**	**-1.2**
THW	**Thamme Wali**	**6.10**	**168**	↑P	Pn	04 05 36.2	+7.4
KNDC	**Almaty**	**6.71**	**47**	↑Pg	Pg	04 06 02.5	-4.9
KNDC				↓Lg	Lg	04 07 35.9	
	comp=N,160nm,0.8s						
DHRM	**DHARAMSHALA**	**8.16**	**141**	*e*P	Pn	04 06 01.5	+4.3
DHRM				*e*S	**Sn**	**04 07 23.5**	**-6.0**
DHRM				AML	AML	04 08 33.6	
	comp=E,110nm,0.0s						
DHRM				AML	AML	04 08 39.6	
	comp=N,79nm,0.8s						
PDGK	**Podgornoye**	**8.30**	**54**	↑Pn	Pn	04 06 02.8	+4.0
	comp=N,22nm,0.9s						
PDGK				↓Lg	Lg	04 08 29.2	
	comp=N,52nm,1.2s						
PDGK	**Podgornoye**	**8.30**	**54**	P	Pn	04 06 04.5	+5.7
PDGK				pmax	pmax		
	comp=Z,11nm,0.9s						
PDGK				pmax	pmax		
	comp=N,53nm,1.2s						
IMYA	**Miami**	**8.45**	**256**	*e*P	**Pn**	**04 06 00.5**	**-0.7**
IMOG	**Moghan**	**9.11**	**256**	*e*P	**Pn**	**04 06 09.3**	**-0.9**
IAKL	**Akhelmad**	**9.39**	**260**	*e*P	**Pn**	**04 06 13.0**	**-1.2**
SMLA	**Simla**	**9.50**	**142**	*e*P	**Pn**	**04 06 17.7**	**+2.3**
SMLA				*e*S	**Sn**	**04 07 56.1**	**-5.9**
GEYT	**Alibeck**	**9.60**	**269**	Pn	**Pn**	**04 06 17.4**	**+0.7**
	comp=N,1.3nm,0.3s,baz=90,slow=7.4,SNR=4.7						
GEYT				Sn	**Sn**	**04 08 02.9**	**-1.6**
	comp=N,4.3nm,0.3s,baz=104,slow=16,SNR=4.3						
GEYT				LR	LR	04 09 56.9	
	comp=N,39nm,21.4s,baz=190,slow=38						
ISFR	**Sfrayin**	**9.86**	**264**	*e*P	Pn	04 06 14.2	-6.4
DDI	**Dehra Dun**	**10.60**	**141**	*e*S	**Sn**	**04 08 31.3**	**+2.2**
DDI				AML	AML	04 08 59.0	
	comp=N,112nm,0.1s						
DDI				AML	AML	04 09 00.2	
	comp=E,110nm,0.2s						
MK31	**Makanchi Array**	**11.89**	**44**	Pn	**Pn**	**04 06 51.3**	**+3.2**
	comp=E,5.3nm,0.8s,baz=233,slow=14,SNR=21						
MK31				↑Lg	Lg	04 10 10.8	
	comp=E,7.6nm,0.9s,baz=265,slow=42,SNR=3.4						
MKAR	**Makanchi Array**	**11.89**	**44**	Pn	**Pn**	**04 06 49.5**	**+1.3**
	comp=E,0.2nm,0.3s,baz=255,slow=4.6,SNR=17						
MKAR				Lg	Lg	04 10 21.9	
	comp=E,0.1nm,0.3s,baz=246,slow=27,SNR=3.2						
MKAR				LR	LR	04 11 06.3	
	comp=E,41nm,20.3s,baz=320,slow=36						
AB31	**Akbulak array**	**12.82**	**328**	↓Pn	**Pn**	**04 06 59.6**	**-1.2**
	comp=E,8.3nm,0.5s,baz=132,slow=11,SNR=163						
AB31				↑Sn	**Sn**	**04 09 19.3**	**-4.0**
	comp=E,31nm,0.6s,baz=145,slow=23,SNR=18						
AB31	**Akbulak array**	**12.82**	**328**	*e*P	**Pn**	**04 06 59.7**	**-1.1**
AB31				*e*		04 09 15.1	
AB31				pmax	pmax		
	comp=Z,8.0nm,0.5s						
AB31				smax	smax		
	comp=N,31nm,0.6s						
ABKAR	**Akbulak array**	**12.82**	**328**	*e*Pn	**Pn**	**04 06 59.5**	**-1.3**
KURBB	**Kurchatov Arra**	**13.19**	**24**	↑Pn	**Pn**	**04 07 05.6**	**-0.1**
	comp=N,6

BRVK	**Borovoye**	**14.27**	**360**	*e*Pn		**Pn**	**04 07 19.7**	**-0.8**
	comp=Z,12nm,0.8s							
AKTO	**Aktyubinsk**	**14.53**	**327**	⇓Pn		**Pn**	**04 07 23.2**	**-0.9**
	comp=Z,66nm,0.8s							
AKTO				⇓Sn		**Sn**	**04 10 04.4**	**-0.6**
	comp=Z,70nm,1.1s							
AKTO	**Aktyubinsk**	**14.53**	**327**	Pn		**Pn**	**04 07 23.1**	**-1.0**
	comp=Z,1.2nm,0.3s,baz=133,slow=11,SNR=13							
AKTO				Sn		**Sn**	**04 09 59.8**	**-5.2**
	comp=Z,1.0nm,0.3s,baz=195,slow=23,SNR=4.3							
AKTO				LR		LR	04 12 49.7	
	comp=Z,60nm,21.5s,baz=146,slow=36							
DANN	**Dangsing**	**15.30**	**129**	*e*P		**Pn**	**04 07 33.8**	**-1.0**
KOLN	**Koldanda**	**15.62**	**131**	*e*P		**Pn**	**04 07 37.6**	**-1.4**
	comp=Z,16nm,0.6s							
GKN	**Gorkha**	**16.08**	**128**	*e*P		**Pn**	**04 07 43.3**	**-1.6**
	comp=Z,54nm,0.6s							
KKN	**Kakani**	**16.64**	**127**	*e*P		**Pn**	**04 07 50.7**	**-1.3**
	comp=Z,19nm,0.5s							
BHPL	**Bhopal**	**16.65**	**156**	*e*P		**P**	**04 07 56.5**	**+2.0**
DMN	**Daman**	**16.66**	**128**	*e*P		**Pn**	**04 07 51.0**	**-1.3**
	comp=Z,33nm,0.7s							
PKIN	**Phulchoki**	**16.86**	**127**	*e*P		**Pn**	**04 07 53.0**	**-1.9**
	comp=Z,18nm,0.8s							
PKI	**Pulchoki**	**16.87**	**127**	*e*P		**Pn**	**04 07 53.1**	**-2.0**
	comp=Z,11nm,0.5s							
GUN	**Gumba**	**16.93**	**125**	*e*P		**Pn**	**04 07 54.8**	**-1.0**
	comp=Z,39nm,0.8s							
RAMN	**Ramite**	**18.06**	**126**	*e*P		**Pn**	**04 08 07.7**	**-2.0**
	comp=Z,46nm,0.7s							
ZALV	**Zalesovo Beam**	**18.12**	**28**	P		**Pn**	**04 08 10.0**	**0.0**
	comp=Z,0.8nm,0.3s,baz=227,slow=12,SNR=35							
NVS	**Novosibirsk**	**18.29**	**24**	⇓*i*P		**Pn**	**04 08 12.3**	**+0.2**
NVS				pmax	pmax			
	comp=Z,12nm,0.9s							
NVS				pmax	pmax			
	comp=N,9.0nm,0.8s							
NVS				pmax	pmax			
	comp=E,4.0nm,0.8s							
TAPN	**Taplejung**	**18.50**	**123**	*e*P		**P**	**04 08 12.5**	**-2.6**
	comp=E,18nm,0.7s							
ODAN	**Odare**	**18.62**	**125**	*e*P		**P**	**04 08 13.8**	**-2.6**
	comp=E,26nm,0.6s							
SVE	**Sverdlovsk**	**19.14**	**344**	⇓*e*P		**Pn**	**04 08 22.3**	**-0.1**
SVE				pmax	pmax			
	comp=Z,21nm,1.0s							
DGRG	**David-gareji**	**19.22**	**286**	P		**Pn**	**04 08 24.0**	**+0.4**
ARU	**Arti**	**19.29**	**340**	*d*P		**P**	**04 08 23.6**	**+0.4**
ARU				S		**Sn**	**04 11 56.4**	**-3.7**
ARU				pmax	pmax			
	comp=Z,18nm,1.7s							
ARU	**Arti**	**19.29**	**340**	*e*P		**P**	**04 08 23.7**	**+0.5**
	comp=Z,8.8nm,0.6s							
GNI	**Garni**	**19.75**	**282**	LR		LR	04 17 43.6	
	comp=Z,45nm,19.7s,baz=94,slow=42							
GNI	**Garni**	**19.75**	**282**	*e*P		Pn	04 08 35.1	+5.0
GNI				pmax	pmax			
	comp=Z,10.0nm,1.2s							
GNI	**Garni**	**19.75**	**282**	*e*P		**P**	**04 08 28.4**	**-0.2**
	comp=Z,4.6nm,0.8s							
BOK	**Bokaro**	**19.98**	**134**	*e*P		**Pn**	**04 08 32.8**	**0.0**
ONI	**Oni**	**20.66**	**289**	P		Pn	04 08 40.8	0.0
KBZ	**Khabaz**	**21.13**	**292**	P		**P**	**04 08 43.5**	**+0.3**
	comp=Z,4.9nm,0.8s,baz=109,slow=9.1,SNR=9.1							
GOF	**Gofitskoye**	**21.16**	**296**	*e*P		**P**	**04 08 48.3**	**+4.7**
GOF				pmax	pmax			
	comp=Z,35nm,1.0s							
KIV	**Kislovodsk**	**21.30**	**293**	*e*P		**P**	**04 08 45.5**	**+0.3**
KIV				pmax	pmax			
	comp=Z,4.0nm,0.7s							
KIV	**Kislovodsk**	**21.30**	**293**	*e*P		**P**	**04 08 45.5**	**+0.3**
	comp=Z,4.2nm,0.7s							
SOKR	**Solikamsk**	**22.53**	**342**	*d*P		**P**	**04 08 59.6**	**+1.5**
SOKR				pmax	pmax			
	comp=Z,10.0nm,1.0s							
KRAR	**Krasnoyarsk**	**22.86**	**34**	*e*P		**P**	**04 08 58.5**	**-3.2**
KRAR				pmax	pmax			
	comp=Z,22nm,0.5s							
GTA	**Gaotai**	**22.88**	**79**	*e*P		**P**	**04 09 04.9**	**+2.6**
GTA				pP	pP		04 09 16.9	+11
GTA				sP	sP		04 09 23.0	+15
GTA				PMZ				
	comp=Z,4.0nm,1.2s							
VSR	**Storozhevoye**	**25.06**	**310**	*e*P		**P**	**04 09 23.1**	**+0.3**
VSR				pmax	pmax			
	comp=N,10.0nm,0.9s							
VSR				pmax	pmax			
	comp=E,10.0nm,0.9s							
VSR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
ANN	**Anapa**	**25.11**	**294**	*e*P		**P**	**04 09 26.5**	**+3.3**
ANN				pmax	pmax			
	comp=Z,44nm,1.4s							
ZAK	**Zakamensk**	**25.98**	**53**	*e*P		**P**	**04 09 32.9**	**+1.6**
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.0s							
TLY	**Talaya**	**26.54**	**50**	*i* P		**P**	**04 09 32.8**	**-3.4**
TLY				pmax	pmax			
	comp=Z,3.0nm,0.6s							
PRGR	**Permogore**	**27.46**	**334**	*e*P		**P**	**04 09 43.7**	**-0.6**
PRGR				pmax	pmax			
	comp=Z,7.0nm,0.7s							
SONM	**Songino Array**	**27.57**	**59**	P		**P**	**04 09 46.6**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=255,slow=10,SNR=6.0							
OBN	**Obninsk**	**27.86**	**317**	*c* iP		**P**	**04 09 48.7**	**+0.8**
OBN				*i*			04 10 09.1	
OBN				*e*S		S	04 14 21.0	-10
OBN				pmax	pmax			
	comp=Z,17nm,0.7s							
BRTR	**Keskin Array B**	**28.27**	**284**	P		**P**	**04 09 53.3**	**+1.3**
	comp=Z,1.8nm,0.8s,baz=90,slow=5.0,SNR=9.3							
BRTR				LR		LR	04 22 25.2	
	comp=Z,15nm,18.4s,baz=100,slow=39							
AKASG	**Malin Array Be**	**31.11**	**306**	P		**P**	**04 10 17.1**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=78,slow=8.9,SNR=8.7							
KIEV	**Kiev**	**31.11**	**306**	*c* iP		**P**	**04 10 19.2**	**+2.4**
HHC	**Hu-ho-hao-te**	**31.57**	**73**	*e*P		**P**	**04 10 20.9**	**-0.2**
HHC				PP		**PnPn**	**04 11 26.3**	**+2.0**
HHC				S		S	04 15 20.3	-9.2
HHC				sS		sS	04 15 51.2	+15
HHC				SS		**SnSn**	**04 17 10.8**	**-3.9**
HHC				ScS		ScS	04 20 45.0	-9.2
HHC				PMZ				
	comp=Z,13nm,1.1s							
HHC				PMZ				
	comp=Z,51nm,5.5s							
HHC				LN				
	comp=Z,120nm,13.7s							
HHC				LE				
	comp=Z,120nm,14.7s							
HHC				LZ				
	comp=Z,83nm,14.5s							
CFR	**Carcaliu**	**31.69**	**295**	⇑P		**P**	**04 10 24.1**	**+2.1**
CFR	**Carcaliu**	**31.69**	**295**	⇑*i*P		**P**	**04 10 24.1**	**+2.1**
CMAR	**Chiang Mai Arr**	**32.09**	**121**	LR		LR	04 25 40.3	
	comp=Z,48nm,18.8s,baz=340,slow=41							
VRI	**Vrincioaia**	**32.64**	**297**	⇑P		**P**	**04 10 33.3**	**+2.9**
VRI	**Vrincioaia**	**32.64**	**297**	⇑*i*P		**P**	**04 10 33.3**	**+2.9**
TESR	**Tescani**	**32.67**	**298**	⇓*i*P		**P**	**04 10 32.1**	**+1.5**
PLOR	**Plostina**	**32.70**	**297**	⇑P		**P**	**04 10 34.1**	**+3.2**
PLOR	**Plostina**	**32.70**	**297**	⇑*i*P		**P**	**04 10 34.1**	**+3.2**
MLR	**Muntele Rosu**	**33.22**	**296**	P		**P**	**04 10 37.0**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=91,slow=9.5,SNR=6.8							
MLR	**Muntele Rosu**	**33.22**	**296**	⇓*i*P		**P**	**04 10 38.7**	**+3.2**
BURAR	**Bucovina Array**	**33.61**	**300**	⇑P		**P**	**04 10 40.8**	**+1.9**
BURAR	**Bucovina Array**	**33.61**	**300**	⇑*i*P		**P**	**04 10 40.8**	**+1.9**
BOD	**Bodaibo**	**33.97**	**41**	*e*P		**P**	**04 10 42.7**	**+0.9**
BOD				pmax	pmax			
	comp=Z,5.0nm,1.0s							
FINES	**FINESS Array B**	**35.28**	**325**	P		**P**	**04 10 54.0**	**+0.9**
	comp=Z,3.5nm,0.7s,baz=119,slow=11,SNR=12							
FINES				LR		LR	04 26 08.5	
	comp=Z,47nm,19.2s,baz=269,slow=38							
FINES	**FINESS Array B**	**35.28**	**325**	*ce*P		**P**	**04 10 53.7**	**+0.7**
FINES				pmax	pmax			
	comp=Z,4.0nm,0.7s							
DRGR		**35.36**	**299**	⇑P		**P**	**04 10 56.1**	**+2.1**
DRGR		**35.36**	**299**	⇑*i*P		**P**	**04 10 56.1**	**+2.1**
GZR	**Gura Zlata**	**35.45**	**296**	⇑*i*P		P	04 10 51.3	-3.5
KOLS	**Kolonicke sedl**	**35.53**	**302**	*e*P		**P**	**04 10 56.4**	**+1.0**
KOLS	**Kolonicke sedl**	**35.53**	**302**	*e*P		**P**	**04 10 56.4**	**+1.0**
VTS	**Vitosha**	**35.54**	**292**	⇑P		**P**	**04 10 57.7**	**+2.0**
VTS	**Vitosha**	**35.54**	**292**	⇑*i*P		**P**	**04 10 57.7**	**+2.0**
IDI	**Anoyia**	**36.12**	**279**	LR		LR	04 27 28.4	
	comp=Z,9.3nm,22.0s,baz=85,slow=39							

BZS	**Buzias**	**36.23**	**297**	⇑P		**P**	**04 11 04.5**	**+3.1**
BZS	**Buzias**	**36.23**	**297**	⇑*i*P		**P**	**04 11 04.5**	**+3.1**
DIVS	**Divibare**	**37.59**	**295**	⇑*i*P		**P**	**04 11 14.6**	**+1.5**
ARCES	**ARCESS Array B**	**38.82**	**337**	P		**P**	**04 11 23.6**	**+0.6**
	comp=Z,3.3nm,0.3s,baz=104,slow=7.6,SNR=17							
ARCES				LR		LR	04 28 25.9	
	comp=Z,84nm,20.4s,baz=156,slow=38							
GERES	**GERESS Array B**	**41.17**	**303**	P		**P**	**04 11 45.2**	**+2.2**
	comp=Z,0.5nm,0.6s,baz=64,slow=6.8,SNR=5.7							
GERES				LR		LR	04 31 25.8	
	comp=Z,37nm,19.7s,baz=62,slow=40							
CLL	**Collm**	**41.34**	**307**	*e*P		**P**	**04 11 43.0**	**-1.2**
NB2	**NORSAR Subarra**	**42.22**	**322**	P		**P**	**04 11 51.4**	**+0.1**
	comp=Z,4.1nm,0.7s,baz=94,slow=8.6							
NOA	**NORSAR Array B**	**42.22**	**322**	P		**P**	**04 11 50.4**	**-0.9**
	comp=Z,4.8nm,0.9s,baz=94,slow=8.2,SNR=13							
NOA				LR		LR	04 31 49.1	
	comp=Z,14nm,18.3s,baz=80,slow=40							
YAK	**Yakutsk**	**42.46**	**37**	*i* P		P	04 11 50.1	-3.0
YAK				pmax	pmax			
	comp=Z,17nm,0.6s							
KSAR	**Wonju Array Be**	**44.68**	**73**	P		**P**	**04 12 11.3**	**-0.1**
KSAR	**Wonju Array Be**	**44.68**	**73**	P		**P**	**04 12 11.3**	**-0.1**
KSRS	**Korea Array**	**44.71**	**73**	P		**P**	**04 12 11.3**	**-0.3**
	comp=Z,3.1nm,1.0s,baz=282,slow=6.6,SNR=5.7							
KSRS	**Korea Array**	**44.71**	**73**	P		**P**	**04 12 11.3**	**-0.3**
KSRS				pmax	pmax			
	comp=Z,3.0nm,1.0s							
KMBO	**Kilima Mbogo**	**49.99**	**225**	*ce*P		**P**	**04 12 56.0**	**+2.7**
KMBO				pmax	pmax			
	comp=Z,1.0nm,0.5s							
DAG	**Danmarks Havn**	**52.38**	**343**	*i* P		**P**	**04 13 10.2**	**+0.1**
	comp=Z,4.4nm,0.6s							
DAG	**Danmarks Havn**	**52.38**	**343**	*i* P		**P**	**04 13 10.2**	**+0.1**
DAG				pmax	pmax			
	comp=Z,3.0nm,0.6s							
SEY	**Seymchan**	**52.85**	**35**	*e*P		P	04 13 10.5	-3.3
MA2	**Magadan**	**52.93**	**39**	*e*P		P	04 13 10.1	-4.3
ESDC	**Sonseca Array**	**55.91**	**296**	P		**P**	**04 13 37.0**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=60,slow=7.3,SNR=14							
SUMG	**Summit**	**58.72**	**340**	*i* P		**P**	**04 13 57.6**	**+1.4**
	comp=Z,5.9nm,0.9s							
SUMG	**Summit**	**58.72**	**340**	*e*P		**P**	**04 13 58.2**	**+2.0**
SUMG				pmax	pmax			
	comp=Z,8.0nm,1.0s							
SUMG	**Summit**	**58.72**	**340**	*e*P		**P**	**04 13 58.2**	**+2.0**
	comp=Z,8.4nm,1.0s							
JCJ	**Chichijima**	**60.06**	**78**	LR		LR	04 42 26.4	
	comp=Z,176nm,18.9s,baz=120,slow=38							
TORD	**Torodi Ar. Bea**	**65.23**	**267**	P		**P**	**04 14 40.3**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=50,slow=5.0,SNR=25							
INK	**Inuvik**	**71.74**	**9**	P		**P**	**04 15 20.7**	**+0.5**
	comp=Z,5.0nm,0.8s,baz=350,slow=4.4,SNR=6.3							
INK	**Inuvik**	**71.74**	**9**	*e*P		**P**	**04 15 21.4**	**+1.2**
INK				pmax	pmax			
	comp=Z,5.0nm,0.8s							
INK	**Inuvik**	**71.74**	**9**	*e*P		**P**	**04 15 21.4**	**+1.2**
	comp=Z,4.8nm,0.8s							
ILAR	**Eielson Array**	**72.73**	**16**	P		**P**	**04 15 26.4**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=325,slow=4.6,SNR=15							
YKA	**Yellowknife Ar**	**78.98**	**2**	P		**P**	**04 16 02.8**	**+0.8**
	comp=Z,2.2nm,0.7s,baz=351,slow=5.7,SNR=21							
SCHQ	**Schefferville**	**79.77**	**336**	P		**P**	**04 16 07.1**	**+0.7**
	comp=Z,2.9nm,0.8s,baz=40,slow=6.0,SNR=5.0							
WRA	**Warramunga Arr**	**83.68**	**122**	P		**P**	**04 16 27.1**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=323,slow=4.7,SNR=7.0							
ASAR	**Alice Springs**	**86.02**	**125**	P		**P**	**04 16 38.9**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=327,slow=6.1,SNR=4.3							
JTS	**JuntasAbangare**	**125.99**	**329**	*i* PKIKP		**PKPdf**	**04 23 00.1**	**-1.2**

CASC ***07*** *04:15:11.8±1.8, 6.°72N×81.°98W, h34km±999km, MD4.3*
IDC ***07*** *04:15:18.4±6.3, 7.°64N×81.°89W, h0km, mb3.5/5, mb1 4.0/6, mb1mx3.7/20, mbtmp3.6/6, ML4.3/1, MS3.3/13, Ms1 3.3/13, ms1mx3.2/21, Error ellipse: s-maj=195.4km s-min=50.2km az=25.0*

ISC 07 04:15:17.7±1.6, 7.°1N±0.°2×82.°3W±0.°3, h10km, n22, σ1°62/16, mb3.5/5, MS3.1/9, 3C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**1.78**	**331**	⇑*e*P		**Pn**	**04 15 46.1**	**-2.6**
BUS	**Buena Vista**	**2.85**	**329**	⇑*i*P		**Pn**	**04 16 02.3**	**-1.3**
BUS				*e*S		**Sb**	**04 16 43.0**	**-1.1**
QCR	**Quepos**	**2.97**	**322**	⇑*e*P		**Pn**	**04 16 02.9**	**-2.0**
URSC	**Urasca**	**3.10**	**332**	*e*P		**Pn**	**04 16 06.6**	**-0.3**
URSC				*e*S		**Sn**	**04 16 46.4**	**+2.2**
CGA2	**Cerro Gallo 2**	**3.62**	**324**	*e*P		**Pn**	**04 16 12.4**	**-1.6**
JCR	**Jicaral**	**3.92**	**315**	⇓*e*P		**Pn**	**04 16 16.7**	**-1.2**
JTS	**JuntasAbangare**	**4.13**	**321**	Pn		**Pn**	**04 16 19.7**	**-1.2**
	21nm,0.3s,baz=159,slow=2.9,SNR=35							
JTS				Sn		**Sn**	**04 17 10.9**	**+1.5**
	4.4nm,0.3s,baz=253,slow=19,SNR=2.8							
JTS				LR		LR	04 17 59.8	
	comp=Z,670nm,20.8s,baz=94,slow=40							
VCR	**Vista de Mar**	**4.48**	**313**	*e*P		**Pn**	**04 16 24.0**	**-1.8**
ROSC	**El Rosal**	**8.22**	**105**	LR		LR	04 20 01.9	
	comp=Z,130nm,20.6s,baz=233,slow=35							
ATAH	**Atahualpa**	**14.65**	**165**	LR		LR	04 23 42.6	
	comp=Z,153nm,19.0s,baz=351,slow=33							
CMIG	**Matias Romero**	**15.82**	**310**	LR		LR	04 24 50.0	
	comp=Z,85nm,21.8s,baz=150,slow=36							
PTGA	**Pitinga**	**23.59**	**108**	LR		LR	04 29 45.9	
	comp=Z,59nm,19.4s,baz=264,slow=37							
LPAZ	**La Paz**	**27.12**	**149**	LR		LR	04 31 44.1	
	comp=Z,102nm,19.4s,baz=326,slow=36							
TKL	**Tuckaleechee C**	**28.47**	**357**	LR		LR	04 32 49.3	
	comp=Z,45nm,20.6s,baz=255,slow=38							
TXAR	**Lajitas Array**	**29.92**	**320**	P		**P**	**04 21 27.0**	**+0.9**
	0.3nm,0.8s,baz=148,slow=8.6,SNR=3.7							
TXAR				LR		LR	04 34 50.6	
	comp=Z,40nm,19.9s,baz=0.0,slow=39							
BDFB	**Brasilia**	**40.77**	**124**	LR		LR	04 39 31.6	
	comp=Z,84nm,19.3s,baz=247,slow=36							
CPUP	**Villa Florida**	**41.11**	**145**	LR		LR	04 42 29.9	
	comp=Z,58nm,18.1s,baz=241,slow=40							
PDAR	**Pinedale Array**	**42.90**	**330**	P		**P**	**04 23 17.2**	**+0.4**
	0.4nm,0.8s,baz=129,slow=7.1,SNR=4.6							
PDAR				LR		LR	04 42 31.0	
	comp=Z,24nm,20.5s,baz=124,slow=38							
NVAR	**Mina Array Bea**	**45.06**	**319**	P		**P**	**04 23 35.9**	**+1.7**
	0.3nm,0.3s,baz=124,slow=8.0,SNR=3.2							
YKA	**Yellowknife Ar**	**60.13**	**343**	P		**P**	**04 25 24.3**	**-0.8**
	0.7nm,0.7s,baz=140,slow=6.6,SNR=9.6							
ILAR	**Eielson Array**	**72.95**	**336**	P		**P**	**04 26 47.2**	**+0.1**
	0.4nm,0.8s,baz=103,slow=4.1,SNR=3.9							
ILAR				LR		LR	05 04 52.8	
	comp=Z,27nm,18.2s,baz=160,slow=41							
NOA	**NORSAR Array B**	**85.56**	**29**	LR		LR	05 04 54.0	
	comp=Z,7.0nm,18.8s,baz=215,slow=35							

CSEM ***07*** *04:23:04.5±0.3, 40.°99N×20.°71E, h10km, ML2.0, Error ellipse: s-maj=6.1km s-min=3.4km az=87.0*
ATH ***07*** *04:23:04.3, 41.°03N×20.°70E, h10km±7km, MD2.9/4*
ISCJB ***07*** *04:23:05.1±1.1, 40.°97N±0.°04×20.°74E±0.°09, h4km±8km, Error ellipse: s-maj=11.7km s-min=6.1km az=0.8*
SKO ***07*** *04:23:05.1, 41.°02N×20.°80E, h15km, M1.2, ML1.6*
THE ***07*** *04:23:07.1, 40.°90N×20.°81E, h2km±20km, ML2.0/3, Error ellipse: s-maj=20.8km s-min=0.9km az=0.0*

ISC 07 04:23:04.4±2.2, 41.°01N±0.°06×20.°73E±0.°08, h15km±13km, n15, σ0°44/27, Albania

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.11**	**27**	*i* Pg		**Pg**	**04 23 07.8**	**-0.2**
OHR				*i* Sg		**Sg**	**04 23 10.6**	**+0.3**
OHR				*e*Lg		Lg	04 23 10.7	
	comp=E,316nm,0.3s							
OHR				*e*Lg		Lg	04 23 10.8	
	comp=N,533nm,0.3s							
OHR	**Ohrid**	**0.11**	**27**	*i* Pg		**Pg**	**04 23 07.7**	**-0.2**
OHR				*i* Sg		**Sg**	**04 23 10.5**	**+0.3**
OHR				*e*Lg		Lg	04 23 10.7	
	comp=N,533nm,0.3s							
KBN	**Korca**	**0.39**	**174**	P		**Pg**	**04 23 12.7**	**+0.4**
KBN	**Korca**	**0.39**	**174**	P		**Pg**	**04 23 12.7**	**+0.4**
FNA	**Florina**	**0.54**	**115**	*e*PG		**Pg**	**04 23 15.2**	**+0.2**
FNA				*e*SB		**Sb**	**04 23 23.4**	**+0.2**
FNA	**Florina**	**0.54**	**115**	P		**Pg**	**04 23 15.3**	**+0.2**
FNA				S		**Sg**	**04 23 22.4**	**+0.1**
FNA				*e*Sb		**Sb**	**04 23 23.4**	**+0.2**
FNA	**Florina**	**0.54**	**115**	P		**Pg**	**04 23 15.3**	**+0.2**
FNA				S		**Sg**	**04 23 22.4**	**+0.1**

NEST	**Nestorio**	**0.64**	**158**	*e*PB		**Pg**	**04 23 17.1**	**0.0**
NEST				*e*SB		**Sb**	**04 23 26.6**	**+0.4**
NEST	**Nestorio**	**0.64**	**158**	*e*Pb		**Pg**	**04 23 17.1**	**0.0**
NEST				S		**Sg**	**04 23 24.3**	**-1.3**
NEST				*e*Sb		**Sb**	**04 23 26.6**	**+0.4**
NEST	**Nestorio**	**0.64**	**158**	P		**Pg**	**04 23 17.0**	**0.0**
NEST				S		**Sg**	**04 23 24.3**	**-1.3**
KZN	**Kozani**	**1.06**	**131**	P		**Pg**	**04 23 24.8**	**-0.1**
KZN				S		**Sg**	**04 23 38.9**	**+0.2**
KZN	**Kozani**	**1.06**	**131**	P		**Pg**	**04 23 24.8**	**-0.1**
KZN				S		**Sg**	**04 23 38.9**	**+0.2**
GRG	**Griva**	**1.27**	**92**	*e*PB		**Pg**	**04 23 28.8**	**0.0**
GRG	**Griva**	**1.27**	**92**	*e*Pb		**Pg**	**04 23 28.8**	**0.0**
KNT	**Kendrikon**	**1.65**	**84**	*e*PB		**Pg**	**04 23 35.7**	**-0.4**

MAN 07 04:34:11, 13.°74N×120.°72E, h38km, mb4.0, ML2.8, MS2.4, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.32**	**136**	⇓*e*P		**Pn**	**04 34 22.8**	**+3.4**
LUBP	**Lubang**	**0.46**	**270**	*e*P		**Pn**	**04 34 22.9**	**+1.9**
LUBP				*e*S		Sn	04 34 31.1	+3.0
SJMP	**San Jose**	**1.32**	**163**	*e*P		Pn	04 34 33.6	+0.7
SJMP				*e*S		Sn	04 34 49.4	0.0
AUQP	**San Andres**	**1.94**	**102**	*e*P		Pn	04 34 39.8	-1.7

NIED ***07*** *04:41:00, 26.°70N×142.°60E, h23km, Mw3.9 Best double couple: M0 6.75000×10^14 NP1:φ=180.00000°, δ=11.00000°, λ=95.00000°. NP2:φ=354.00000°, δ=79.00000°, λ=89.00000°.*
IDC ***07*** *04:41:30.0±0.9, 26.°72N×142.°60E, h0km, mb4.0/10, mb1 4.2/10, mb1mx3.9/24, mbtmp4.0/10, MS3.1/3, Ms1 3.1/3, ms1mx2.7/29, Error ellipse: s-maj=33.8km s-min=16.8km az=69.0*
ISCJB ***07*** *04:41:33.1±0.7, 26.°7N±0.°1×142.°6E±0.°2, h31km, mb4.0/10, MS4.0/1, Error ellipse: s-maj=27.0km s-min=10.4km az=148.8*

ISC 07 04:41:35.0±0.9, 26.°7N±0.°1×142.°5E±0.°2, h31km, n21, σ0°61/13, mb4.1/10, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.43**	**324**	Pn		**Pn**	**04 41 44.9**	**-0.2**
	606nm,0.3s,baz=122,slow=5.6,SNR=210							
JCJ				Sn		**Sn**	**04 41 51.6**	**-0.4**
	1µm,0.3s,baz=288,slow=19,SNR=166							
MJAR	**Matsushiro Arr**	**10.42**	**341**	LR		LR	04 47 55.9	
	comp=Z,15nm,18.5s,baz=95,slow=37							
KSRS	**Korea Array**	**16.29**	**315**	LR		LR	04 51 18.8	
	comp=Z,50nm,18.6s,baz=132,slow=36							
H11N2	**WAKE ISLAND Hy**	**23.48**	**102**	T		T	05 11 03.3	
	baz=292,slow=75,SNR=4.0							
H11N1	**WAKE ISLAND Hy**	**23.48**	**102**	T		T	05 11 02.7	
	baz=292,slow=75,SNR=5.1							
H11N3	**WAKE ISLAND Hy**	**23.50**	**102**	T		T	05 11 03.1	
	baz=292,slow=75,SNR=4.4							
H11S3	**WAKE ISLAND Hy**	**23.78**	**105**	T		T	05 11 26.2	
	baz=296,SNR=3.4							
H11S1	**WAKE ISLAND Hy**	**23.79**	**105**	T		T	05 11 25.6	
	baz=296							
H11S2	**WAKE ISLAND Hy**	**23.80**	**105**	T		T	05 11 25.6	
	baz=296							
WRA	**Warramunga Arr**	**47.07**	**190**	P		**P**	**04 50 03.8**	**-0.2**
	4.8nm,0.4s,baz=12,slow=8.8,SNR=48							
ASAR	**Alice Springs**	**50.79**	**190**	P		**P**	**04 50 32.1**	**-0.4**
	0.2nm,0.4s,baz=20,slow=11,SNR=6.4							
KURBB	**Kurchatov Arra**	**53.47**	**315**	P		**P**	**04 50 52.0**	**-0.2**
	0.9nm,0.4s,baz=90,slow=8.0,SNR=8.6							
ILAR	**Eielson Array**	**57.90**	**29**	P		**P**	**04 51 23.0**	**-0.8**
	0.5nm,1.0s,baz=275,slow=5.6,SNR=4.5							
ARCES	**ARCESS Array B**	**73.96**	**341**	P		**P**	**04 53 07.4**	**+0.4**
	1.3nm,0.5s,baz=74,slow=8.9,SNR=11							

IRIF eS Sn 05 42 13.5 -0.3
HATJ Hateruma jima 1.06 86 P Pg 05 42 00.3 +0.7
HATJ eS Sn 05 42 14.7 +0.6
EGS 1.08 323 ⇑iP Pn 05 41 59.4 -0.3
baz=314
EGS eS Sn 05 42 14.8 +0.4
baz=314
ESL Shilin 1.12 262 eP Pb 05 42 00.0 -0.2
baz=261
ESL eS Sb 05 42 13.8 -0.9
baz=261
ILA Ilan 1.13 314 eP Pg 05 42 00.6 -0.3
baz=305
TWE Neicheng 1.16 310 P Pg 05 42 01.5 0.0
baz=302
TWE eS Sg 05 42 16.8 +0.3
baz=302
ENTT Nioudou 1.18 304 P Pg 05 42 01.9 0.0
baz=296
TWB1 Santiao Chiao 1.18 330 ⇑P Pb 05 42 00.7 -0.5
baz=321
TWB1 i S Sn 05 42 16.8 -0.2
baz=321
NNS Nan Shan 1.25 292 P Pb 05 42 02.7 +0.2
baz=286
JKRS Kuro-shima 1.27 78 P Pg 05 42 03.2 -0.4
JKRS eS Sn 05 42 19.1 -0.1
EHY Hungye 1.30 249 eP Pn 05 42 03.1 +0.3
baz=250
EHY eS Sn 05 42 19.5 -0.6
baz=250
NWF Wu-fen Shan 1.34 324 ⇑iP Pn 05 42 03.5 0.0
baz=316
NWF S Sb 05 42 21.0 -0.1
baz=316
NSK Sanguang 1.36 301 ⇓iP Pb 05 42 04.4 0.0
baz=294
NSK eS Sg 05 42 22.9 -0.3
baz=294
TWT Tachien 1.37 282 eP Pb 05 42 04.8 +0.2
baz=278
TWF1 Yuli 1.39 243 eP Pn 05 42 04.5 +0.5
baz=236
TWF1 eS Sn 05 42 22.1 -0.1
baz=236
WDT Danda 1.40 261 ⇓iP Pb 05 42 05.1 -0.2
baz=261
WDT eS Sn 05 42 22.5 -0.5
baz=261
JIJ Ishigaki jima 1.42 74 P Pb 05 42 04.5 -0.8
JIJ eS Sn 05 42 22.0 -0.9
TAP1 Taipei 1.47 316 eP Pb 05 42 06.5 +0.4
baz=308
CHKT Chengkung 1.47 233 eP Pn 05 42 05.2 0.0
baz=227
CHKT eS Sn 05 42 22.5 -1.6
baz=227
SMLT Sun Moon Lake 1.60 267 ⇓P Pb 05 42 08.2 -0.3
baz=267
SMLT eS Sn 05 42 27.3 -0.3
baz=267
TWY Chenhua 1.60 324 eP Pn 05 42 07.2 +0.2
baz=316
TWY eS Sb 05 42 27.9 -0.6
baz=316
YUS Yu-Shan 1.63 253 eP Pb 05 42 08.9 -0.3
baz=254
YUS eS Sn 05 42 28.5 -0.2
baz=254
JISG Ishigakijimahi 1.63 68 P Pn 05 42 07.6 +0.2
JISG eS Sn 05 42 27.4 -0.8
NSTT Nanjuang 1.63 294 eP Pb 05 42 08.8 -0.2
baz=287
TYC Yuchr 1.64 268 P Pb 05 42 08.7 -0.3
baz=268
TYC eS Sb 05 42 29.4 -0.1
baz=268
ELDTW Lidau 1.69 242 eP Pn 05 42 08.5 +0.2
baz=245
PCYT Pengchaiyu 1.72 342 eP Pn 05 42 08.1 -0.5
baz=322
PCYT eS Sn 05 42 28.2 -2.2
baz=322
TWQ1 Liyutan 1.75 282 eP Pb 05 42 10.6 -0.3
baz=280
TWQ1 eS Sb 05 42 32.9 +0.1
baz=280
ALS Alishan 1.75 255 ⇑P Pb 05 42 11.0 -0.2
baz=256
ALS eS Sn 05 42 32.0 +0.5
baz=256
NSY Sanyi 1.77 284 eP Pb 05 42 10.9 -0.5
baz=281
NSY eS Sb 05 42 34.2 +0.7
baz=281
WNT Mingjian 1.80 267 eP Pb 05 42 11.9 +0.1
baz=267
WNT eS Sb 05 42 34.8 +0.6
baz=267
TCU Taichung 1.81 276 eP Pb 05 42 11.4 -0.6
baz=274
TCU eS Sb 05 42 35.1 +0.7
baz=274
CHN5 Tsauling 1.84 258 eP Pb 05 42 12.4 -0.2
baz=250
CHN5 eS Sb 05 42 36.4 +0.8
baz=250
TWG Pinlang 1.85 232 eP Pn 05 42 10.7 +0.3
baz=226
TWG eS Sn 05 42 32.5 -1.1
baz=226
STYT Tauyuan 1.92 245 eP Pn 05 42 12.5 +1.2
baz=239
STYT eS Sn 05 42 35.9 +0.7
baz=239
WGK Gukeng 1.93 262 eP Pb 05 42 14.1 +0.1
baz=262
WGK eS Sb 05 42 39.2 +1.2
baz=262
CHN4 Tsaushan 1.98 252 eP Pb 05 42 15.1 +0.1
baz=244
CHN4 eS Sb 05 42 39.5 -0.1
baz=244
JTJ Tarama 1.99 70 P Pn 05 42 13.1 +0.9
JTJ eS Sn 05 42 36.5 -0.4
WTP Ta-pu 2.00 249 eP Pb 05 42 14.6 -0.7
baz=243
WTP eS Sb 05 42 39.9 -0.2
baz=243
CHY Chiayi 2.09 257 eP Pb 05 42 16.8 0.0
baz=258
CHY eS Sb 05 42 42.0 -0.7
baz=258
SGST Jiashian 2.10 245 eP Pb 05 42 16.3 -0.6
baz=238
SGST eS Sb 05 42 42.2 -0.6
baz=238
CHN1 Nanshi 2.10 248 eP Pb 05 42 16.6 -0.4
baz=242
CHN1 eS Sb 05 42 42.6 -0.2
baz=242
TWK Hsinying 2.10 251 eP Pb 05 42 16.6 -0.5
baz=252
TWK eS Sb 05 42 42.0 -1.0
baz=252
SSD Sandimen 2.22 237 eP Pb 05 42 17.6 -1.5
baz=233
EAST Anshuo 2.30 226 eP Pn 05 42 16.8 +0.2
baz=237
EAST eS Sn 05 42 44.2 -0.4
baz=237
CHN8 Yiju 2.32 255 eP Pn 05 42 18.8 +2.0
baz=256
CHN8 eS Sb 05 42 47.8 -1.4
baz=256
TWM1 Shoushan 2.35 241 eP Pb 05 42 22.5 +1.3
baz=232
TWM1 eS Sb 05 42 51.0 +1.0
baz=232
SCZT Fangliau 2.46 230 eP Pb 05 42 21.2 -1.9
baz=226
JIKM Ikemajima 2.55 68 P Pn 05 42 21.4 +1.4
TSEB Hengchuen, Pin 2.62 218 eP Pb 05 42 24.1 -1.8
baz=229
TSEB eS Sn 05 42 54.3 +1.6
baz=229
TWK1 Hengchun 2.65 220 eP Pn 05 42 22.2 +0.9
baz=222
TWK1 eS Sn 05 42 53.6 +0.5
baz=222
WDGT Dungji 2.83 256 eP Pn 05 42 25.1 +1.2
baz=257
PNG Penghu 2.86 262 eP Pn 05 42 25.4 +1.1
baz=278
PNG eS Sn 05 42 59.3 +0.8
baz=278

KRSC 07 05:44:54.5±1.1, 51°.12N×158°.10E, h41km±18km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	Pauzhetka	0.89	294	eP	Pn	05 45 12.0	+1.5
PAU				eS	Sn	05 45 24.2	+2.1
ASAK	Asacha	1.28	354	eP	Pn	05 45 17.4	+1.4
ASAK				eS	Sn	05 45 33.6	+1.6
SKR	Severo-Kuril's	1.33	252	eP	Pn	05 45 17.5	+0.9
SKR				eS	Sn	05 45 33.8	+0.8
RUS	Russkaya	1.34	11	eP	Pn	05 45 17.9	+1.1
RUS				eS	Sn	05 45 34.5	+1.1
MTVR	Mutnovka	1.37	2	eP	Pn	05 45 18.9	+1.5
MTVR				eS	Sn	05 45 36.0	+1.6
MIPR	Malaya Ipel'ka	1.43	325	eP	Pn	05 45 20.2	+2.2
MIPR				eS	Sn	05 45 38.4	+2.7
APC	Apacha	1.91	343	eP	Pn	05 45 26.5	+2.0
PET	Petropavlovsk	1.94	10	eS	Sn	05 45 50.0	+1.9
UGLR	Uglovaya	2.14	12	eP	Pn	05 45 30.7	+2.8
AVH	Avacha	2.19	10	eP	Pn	05 45 31.2	+2.7
SMAR	Somma	2.19	11	eP	Pn	05 45 31.6	+2.8
NLC	Nalychevo	2.20	20	eS	Sn	05 45 54.7	+0.3
KOK	Koryaka	2.21	8	eP	Pn	05 45 31.7	+3.0
SDLR	Sedlovina	2.22	12	eP	Pn	05 45 31.2	+2.2
KRER	Koryakskii	2.23	10	eP	Pn	05 45 31.8	+2.6
KRX	Arik	2.27	8	eP	Pn	05 45 32.6	+2.9
SPN	Mys Shipunski	2.31	30	eP	Pn	05 45 33.5	+3.4
GNL	Ganaly	2.59	358	eP	Pn	05 45 36.6	+2.6
TUMR	Tumrok	4.35	16	eP	Pn	05 46 02.8	+4.6

IDC 07 05:53:43.1±1.4, 18°.41N×147°.02E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.6/36, mbtmp3.7/5, Error ellipse: s-maj=147.0km s-min=21.8km az=114.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	40.10	199	P	P	06 01 20.5	-0.1
	1.0nm,0.4s,baz=22,slow=8.5,SNR=27						
ASAR	Alice Springs	43.74	198	P	P	06 01 50.2	-0.2
	0.2nm,0.4s,baz=12,slow=7.4,SNR=4.8						
ILAR	Eielson Array	63.35	26	P	P	06 04 13.6	-0.3
	0.3nm,0.6s,baz=260,slow=5.6,SNR=4.6						
YKA	Yellowknife Ar	77.65	28	P	P	06 05 40.9	-0.3
	0.2nm,0.4s,baz=284,slow=5.2,SNR=5.7						
NVAR	Mina Array Bea	82.32	52	P	P	06 06 08.0	+0.7
	0.6nm,0.5s,baz=273,slow=6.2,SNR=7.5						

*ISCJB **07** 05:59:04.9±0.7, 8°.80S±0°.06×125°.46E±0°.06, h10km, mb3.8/2, MS2.8/1, Error ellipse: s-maj=9.0km s-min=8.7km az=148.0*
*IDC **07** 05:59:05.9±1.6, 8°.81S×125°.35E, h0km, mb3.9/2, mb1 4.1/6, mb1mx3.8/21, mbtmp4.0/6, ML3.9/4, MS2.8/1, Ms1 2.8/1, ms1mx2.4/27, Error ellipse: s-maj=50.7km s-min=28.1km az=53.0*
*DJA **07** 05:59:12.7±1.0, 10°S±8°×12°3E±°, h10km, M3.9/3, MLv3.9/3*
ISC 07 05:59:07.3±1.0, 8°.84S±0°.09×125°.36E±0°.09, h10km, n8, σ1§26/8, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	Soe	1.41	230	P	Pn	05 59 33.5	+0.3
SOEI				S	Sn	05 59 51.4	-0.6
KAPI	Kappang	6.74	304	Pn	Pn	06 00 46.0	-0.4
	0.7nm,0.3s,baz=187,slow=15,SNR=5.2						
SIJI	Sorong	9.86	37	Pn	Pn	06 01 28.7	-0.5
	1.7nm,0.3s,baz=259,slow=24,SNR=3.8						
WRA	Warramunga Arr	14.04	143	Pn	Pn	06 02 28.5	+2.0
	0.9nm,0.3s,baz=305,slow=14,SNR=14						
WRA				Sn	Sn	06 05 01.2	-1.3
	1.6nm,0.3s,baz=300,slow=24,SNR=6.4						
ASAR	Alice Springs	16.86	152	Pn	Pn	06 03 02.4	-1.2
	0.6nm,0.3s,baz=317,slow=12,SNR=18						
ASAR				Sn	Sn	06 05 58.6	-13
	0.4nm,0.3s,baz=320,slow=23,SNR=4.7						
MJAR	Matsushiro Arr	46.73	14	LR	LR	06 26 38.3	
	comp=Z,10nm,20.6s,baz=30,slow=35						
MKAR	Makanchi Array	67.35	329	P	P	06 10 02.9	+0.2
	0.4nm,0.5s,baz=136,slow=7.2,SNR=6.4						
ZALV	Zalesovo Beam	71.29	336	P	P	06 10 26.9	+0.1
	0.8nm,0.5s,baz=153,slow=7.8,SNR=4.5						

MEX 07 06:10:48.5±0.7, 17°.23N×100°.26W, h47km±7km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	El Cayaco	0.18	183	i P	Pn	06 10 54.8	-1.6
CAIG				i S	Sn	06 11 00.1	-1.7
ACX	Acapulco	0.53	133	eP	Pn	06 10 54.3	-5.6
ACX				i S	Sn	06 11 02.3	-5.7
MEIG	Mezcala	0.92	41	i P	Pn	06 11 03.3	-2.0
MEIG				i S	Sn	06 11 15.0	-2.5
ARIG	Puente Sto Nin	1.05	355	eP	Pn	06 11 05.4	-1.5
ARIG				i S	Sn	06 11 18.9	-1.5
ZIIG	Zihuatanejo	1.21	288	eP	Pn	06 11 08.1	-0.9
ZIIG				eS	Sn	06 11 22.8	-1.5
PLIG	Platanillo	1.36	32	eP	Pn	06 11 09.7	-1.6
PLIG				eS	Sn	06 11 26.3	-2.0
TLIG	Tlapa	1.65	78	eP	Pn	06 11 13.8	-1.4
TLIG				eS	Sn	06 11 33.5	-1.8

*ISCJB **07** 06:13:34.9±1.2, 22°.7S±0°.1×66°.2W±0°.2, h251km, mb3.1/5, Error ellipse: s-maj=27.4km s-min=13.7km az=144.5*
*IDC **07** 06:13:35.7±7.0, 22°.60S×66°.24W, h239km±49km, mb3.0/5, mb1 3.4/7, mb1mx3.3/16, mbtmp3.7/7, Error ellipse: s-maj=79.4km s-min=20.5km az=20.0*
ISC 07 06:13:37.1±1.1, 22°.5S±0°.2×66°.2W±0°.2, h251km, n10, σ0§74/12, mb3.2/5, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	6.44	343	P	Pn	06 15 11.8	+0.2
	4.6nm,0.3s,baz=159,slow=3.5,SNR=161						
LPAZ				S	S	06 16 26.7	-0.4
	baz=278,slow=17,SNR=1.9						
BDFB	Brasilia	18.49	72	P	P	06 17 35.5	+0.2
	0.2nm,0.3s,baz=236,slow=13,SNR=6.2						
TXAR	Lajitas Array	62.91	323	P	P	06 23 36.9	-0.2
	0.2nm,0.6s,baz=152,slow=7.9,SNR=5.4						
TORD	Torodi Ar. Bea	75.35	69	P	P	06 24 52.8	-0.8
	0.4nm,0.5s,baz=256,slow=5.7,SNR=6.4						
PDAR	Pinedale Array	76.25	329	P	P	06 24 58.6	+0.2
	0.2nm,0.5s,baz=102,slow=8.4,SNR=3.2						
NVAR	Mina Array Bea	77.84	321	P	P	06 25 07.2	-0.1
	0.4nm,0.8s,baz=142,slow=6.3,SNR=3.6						
YKA	Yellowknife Ar	92.98	340	P	P	06 26 21.4	0.0
	0.2nm,0.6s,baz=130,slow=4.5,SNR=4.2						
WRA	Warramunga Arr	133.29	207	PKP	PKPdf	06 32 22.9	-1.1
	0.6nm,1.1s,baz=153,slow=1.9,SNR=4.7						
MKAR	Makanchi Array	144.91	39	PKPbc	PKPab	06 32 44.6	+0.4
	1.5nm,0.7s,baz=320,slow=2.5,SNR=8.8						
HHC	Hu-ho-hao-te	161.61	5	ePKP	PKPdf	06 33 09.3	+1.1
HHC				PP	PP	06 37 44.1	+6.4
HHC				SKS	SKSdf	06 39 50.4	+1.2

IDC 07 06:45:36.0±2.4, 6°.95S×154°.83E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/37, mbtmp3.9/3, Error ellipse: s-maj=79.8km s-min=37.9km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.71	235	P	P	06 50 48.9	-0.9
	2.4nm,1.0s,baz=61,slow=9.4,SNR=6.0						
ASAR	Alice Springs	26.08	228	P	P	06 51 11.3	-0.2
	0.7nm,0.7s,baz=58,slow=8.5,SNR=6.0						
STKA	Stephens Creek	27.70	205	P	P	06 51 26.3	+0.3
	3.3nm,0.8s,baz=32,slow=13,SNR=7.1						
TORD	Torodi Ar. Bea	152.85	285	PKPbc	PKPbc	07 05 36.9	+0.6
	0.7nm,0.8s,baz=87,slow=3.2,SNR=3.4						
TORD				PKPab	PKPab	07 05 46.5	-0.7
	0.6nm,0.8s,baz=93,slow=2.8,SNR=2.9						

*IDC **07** 06:47:09.9±0.6, 7°.21S×154°.94E, h0km, mb4.3/15, mb1 4.5/15, mb1mx4.3/36, mbtmp4.2/15, Error ellipse: s-maj=25.2km s-min=16.4km az=112.0*
*NEIC **07** 06:47:11.2±0.4, 7°.33S×154°.94E, h10km, mb4.7/8, Error ellipse: s-maj=17.5km s-min=8.1km az=122.0*
*ISCJB **07** 06:47:13.3±0.5, 7°.21S±0°.10×154°.8E±0°.1, h31km, mb4.3/23, Error ellipse: s-maj=19.3km s-min=10.4km az=36.5*
ISC 07 06:47:14.4±0.7, 7°.3S±0°.1×154°.9E±0°.2, h31km, n37, σ1§22/32, mb4.4/23, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	15.22	213	Pn	Pn	06 50 44.1	-3.2
	0.1nm,0.3s,baz=340,slow=14,SNR=3.0						
CTAO	Charters Tower	15.22	213	ePn	Pn	06 50 45.5	-1.8
WRAB	Tennant Creek	23.56	236	eP	P	06 52 22.4	0.0
	21nm,1.1s						
WRA	Warramunga Arr	23.57	236	P	P	06 52 22.8	+0.3
	1.1nm,1.0s,baz=61,slow=9.5,SNR=17						
ASAR	Alice Springs	25.90	229	P	P	06 52 44.7	+0.8
	3.0nm,0.8s,baz=62,slow=8.1,SNR=17						
STKA	Stephens Creek	27.41	205	P	P	06 52 58.2	+0.9
	13nm,0.9s,baz=23,slow=12,SNR=13						
H11S3	WAKE ISLAND Hy	28.16	24	T	T	07 21 55.2	
	baz=196						
H11S2	WAKE ISLAND Hy	28.16	24	T	T	07 21 54.6	
	baz=196						
H11S1	WAKE ISLAND Hy	28.18	24	T	T	07 21 56.0	
	baz=196						
H11N1	WAKE ISLAND Hy	29.34	24	T	T	07 23 36.9	
	baz=202						
H11N3	WAKE ISLAND Hy	29.35	24	T	T	07 23 32.9	
	baz=202						
H11N2	WAKE ISLAND Hy	29.36	23	T	T	07 23 35.9	
	baz=202						
KAPI	Kappang	35.03	272	eP	P	06 54 05.7	+1.0
	1.9nm,0.4s						
KSRS	Korea Array	51.19	332	P	P	06 56 14.2	-0.7
	0.5nm,0.3s,baz=147,slow=7.3,SNR=3.9						
KSAR	Wonju Array Be	51.20	332	P	P	06 56 14.2	-0.8
CMAR	Chiang Mai Arr	60.86	296	P	P	06 57 25.9	+1.5
	3.0nm,0.8s,baz=124,slow=4.6,SNR=12						
SONM	Songino Array	69.57	327	P	P	06 58 20.9	+0.3
	2.0nm,0.8s,baz=133,slow=6.8,SNR=9.8						
SEY	Seymchan	70.08	359	P	P	06 58 22.4	-0.8
	1.1nm,0.7s,baz=122,slow=5.7,SNR=4.3						
VNDA	Vanda	70.26	178	P	P	06 58 25.7	+1.5
	1.3nm,0.9s,baz=334,slow=5.1,SNR=8.0						
SML	Sawmill	81.56	24	eP	P	06 59 28.8	-0.1
	3.0nm,0.8s						
TRF	Thorofare Moun	81.73	22	eP	P	06 59 28.3	-1.6
	8.2nm,0.9s						
COLA	College	83.41	21	eP	P	06 59 37.4	-0.9
	4.5nm,0.8s						
MKAR	Makanchi Array	83.60	319	P	P	06 59 39.9	+0.1
	2.0nm,0.8s,baz=101,slow=6.3,SNR=9.9						
ILAR	Eielson Array	83.70	21	P	P	06 59 38.8	-1.1
	2.2nm,0.9s,baz=252,slow=5.5,SNR=19						
ZALV	Zalesovo Beam	84.41	326	P	P	06 59 42.5	-1.2
	0.5nm,0.5s,baz=93,slow=6.3,SNR=2.8						
HYT	Haines Junctio	85.70	27	eP	P	06 59 51.4	+1.1
	12nm,0.8s						
EGAK	Eagle	85.85	23	eP	P	06 59 51.0	+0.2
	6.1nm,0.8s						
DAWY	Dawson	86.22	24	eP	P	06 59 53.0	+0.3
	3.5nm,0.8s						
DLBC	Dease Lake	88.46	31	P	P	07 00 04.7	+1.0
	1.7nm,0.9s,baz=242,slow=14,SNR=3.3						
NVAR	Mina Array Bea	91.98	52	P	P	07 00 21.8	+1.1
	0.8nm,0.8s,baz=253,slow=4.7,SNR=7.8						
YKA	Yellowknife Ar	96.66	28	P	P	07 00 41.7	+0.4
	1.7nm,0.9s,baz=269,slow=4.5,SNR=12						
PDAR	Pinedale Array	98.97	48	P	P	07 00 52.1	-0.4
	0.5nm,0.9s,baz=332,slow=2.5,SNR=4.2						
TXAR	Lajitas Array	103.48	62	Pdiff	Pdif	07 01 09.9	-2.8
	0.8nm,1.1s,baz=179,slow=3.6,SNR=3.6						
BRTR	Keskin Array B	118.55	311	PKP	PKPdf	07 05 59.3	-0.4
	0.5nm,0.6s,baz=91,slow=2.7,SNR=2.8						
GERES	GERESS Array B	127.29	329	PKP	PKPdf	07 06 17.5	+1.3
	0.4nm,0.3s,baz=55,slow=3.7,SNR=3.9						
BDFB	Brasilia	147.80	135	PKPbc	PKPbc	07 06 56.7	-0.7
	2.4nm,0.7s,baz=292,slow=3.6,SNR=4.2						
TORD	Torodi Ar. Bea	153.04	285	PKPbc	PKPbc	07 07 10.3	+0.3
	2.3nm,0.7s,baz=69,slow=2.4,SNR=10						
TORD				PKPab	PKPab	07 07 20.4	-0.9
	3.1nm,0.7s,baz=69,slow=2.2,SNR=11						

*IDC **07** 06:50:34.9±0.3, 6°.22S×154°.51E, h0km, mb4.9/34, mb1 5.0/37, mb1mx5.0/42, mbtmp4.9/37, ML4.7/3, MS5.2/23, Ms1 5.3/23, ms1mx5.2/28, Error ellipse: s-maj=12.4km s-min=9.7km az=73.0*
*BJI **07** 06:50:38.8, 6°.16S×155°.12E, h59km, mb5.2/69, mB5.6/66, Ms5.5/81, Ms7 5.3/73*
*MOS **07** 06:50:40.4±1.0, 6°.12S×154°.31E, h43km, mb5.4/45, MS5.3/25, Error ellipse: s-maj=7.5km s-min=6.3km az=88.5*
*NEIC **07** 06:50:41.0±0.1, 6°.17S×154°.42E, h35km, mb5.3/106, MS5.6/155, MW5.7, Error ellipse: s-maj=4.7km s-min=4.0km az=145.0, Moment Tensor Solution. s48 Moment tensor: Scale 10^{17}Nm; M_{rr}3.94; $M_{\theta\theta}$-2.49; $M_{\phi\phi}$-1.45; $M_{r\theta}$0.90; $M_{\theta\phi}$3.58; $M_{\phi r}$-0.93; Best double couple: $M_0$5.10000×10^{17} NP1:ϕ_s133.00000°, δ53.00000°, λ93.00000°. NP2:ϕ_s308.00000°, δ37.00000°, λ86.00000°. Principal axes: T 4.1200, Plg82.0000°; Azm259.0000°; N 1.6400, Plg2.0000°, Azm311.0000°; P -5.7600, Plg7.0000°, Azm220.0000°;*
*ISCJB **07** 06:50:41.1±0.7, 6°.22S±0°.03×154°.39E±0°.02, h47km±6km, mb5.2/158, MS5.5/199 Error ellipse: s-maj=4.7km s-min=3.8km az=3.8*
*GCMT **07** 06:50:41.0±0.1, 6°.53S×154°.42E, h32km, MW5.9/121, Moment Tensor Solution. s121,c250; s118,c354; Duration: 2s1 Moment tensor: Scale 10^{18}Nm; M_{rr}0.70±.01; $M_{\theta\theta}$-0.42±.01; $M_{\phi\phi}$-0.28±.01; $M_{r\theta}$0.23±.01; $M_{\theta\phi}$0.41±.01; $M_{\phi r}$-0.23±.01; Best double couple: $M_0$0.80100×10^{18} NP1:ϕ_s132.00000°, δ57.00000°, λ92.00000°. NP2:ϕ_s308.00000°, δ33.00000°, λ87.00000°. Principal axes: T 0.7700, Plg78.0000°, Azm48.0000°; N 0.0620, Plg2.0000°, Azm311.0000°; P -0.8330, Plg12.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*DJA **07** 06:50:44.2±0.8, 6°.5±4°×15°.5E±°, h64km±8km, M5.7/25, mb5.5/25, mB5.9/20, MLv6.8/1, Mw(mB)5.4/20, Mwp6.0/2*
ISC 07 06:50:42.6±0.4, 6°.16S±0°.04×154°.44E±0°.04, h49km±3km, h49km:pP-P, n648, σ1§67/568, mb5.2/167, MS5.5/201, 24C-16D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	Rabaul	3.00	311	⇑P	Pn	06 51 29.6	+1.9
	baz=3.1,SNR=11						
HNR	Honiara	6.35	121	eP	Pn	06 52 15.2	+1.6
HNR				e		06 53 28.5	
HNR	Honiara	6.35	121	i P	Pn	06 52 19.0	+5.4
HNR				i S	Px	06 52 36.0	
HNR	Honiara	6.35	121	ePn	Pn	06 52 15.2	+1.6
HNR				eSn	Sn	06 53 28.5	+3.6
PMG	Port Moresby	7.90	245	⇓iP	Pn	06 52 36.5	+1.5
PMG				pmax	pmax		
	comp=Z,5μm,0.8s						
PMG	Port Moresby	7.90	245	ePn	Pn	06 52 37.0	+2.0
MANU	Manus Island	8.16	300	⇑P	Pn	06 52 41.3	+2.8
	baz=8.3,SNR=3.6						
PATS	Pohnpei	13.48	17	⇓P	Pn	06 53 51.8	+0.5
	baz=14,SNR=3.4						
COEN	Coen	13.52	234	P	Pn	06 53 51.6	-0.3
	baz=14,SNR=3.8						
COEN	Coen	13.52	234	ePn	Pn	06 53 51.6	-0.3
JAY	Jayapura	14.17	284	Pn	Pn	06 53 58.8	-1.9

comp=Z,0.8nm,0.3s,baz=291,slow=1.2,SNR=6.8
JAY LR LR 06 59 56.8
comp=Z,26µm,19.5s,baz=102,slow=39
JAY Jayapura 14.17 284 P **Pn 06 54 01.3 +0.6**
baz=14,SNR=7.0
GENI Genyem 14.67 283 P **Pn 06 54 08.1 +0.8**
comp=Z,173nm,1.4s,comp=Z,4µm
MTSU Mount Surprise 15.47 219 ⇑P **Pn 06 54 17.8 +0.1**
baz=16,SNR=23
CTA Charters Tower 15.96 209 Pn **Pn 06 54 21.8 -2.3**
comp=Z,2.8nm,0.3s,baz=30,slow=12,SNR=30
CTA LR LR 07 00 04.8
comp=Z,13µm,19.8s,baz=28,slow=36
CTAO Charters Tower 15.96 209 *e*P **Pn 06 54 22.5 -1.5**
CTAO pmax pmax
comp=Z,116nm,0.8s
CTAO Charters Tower 15.96 209 *e*Pn **Pn 06 54 22.5 -1.5**
comp=Z,116nm,0.8s
SMPI Sarmi 16.23 284 P **P 06 54 31.7 +1.9**
comp=Z,221nm,1.5s,comp=Z,6µm
EIDS Eidsvold 19.37 189 ⇓P **P 06 55 04.0 -0.3**
baz=19,SNR=8.7
EIDS Eidsvold 19.37 189 *e*P **P 06 55 04.1 -0.2**
comp=Z,141nm,1.3s
NOUC Port Laguerre 19.55 145 *e*P **P 06 55 03.8 -2.6**
DZM Mont Dzumac 19.61 145 *e*P **P 06 55 07.1 0.0**
comp=Z,353nm,1.0s
DZM *e*S **Sn 06 58 48.3 -0.1**
comp=Z,8µm,25.8s
DZM *e*LQ LQ 06 59 02.6
comp=Z,26µm,32.2s
DZM *e*LR LR 06 59 51.8
comp=Z,26µm,26.2s
DZM Mont Dzumac 19.61 145 P **P 06 55 05.4 -1.7**
comp=Z,6.7nm,0.3s,baz=90,slow=24,SNR=65
DZM LR LR 07 01 32.8
comp=Z,13µm,22.0s,baz=0.0,slow=34
DZM ScP **ScP 07 03 00.5 +2.8**
comp=Z,0.1nm,0.3s,baz=90,slow=24,SNR=4.8
DZM Mont Dzumac 19.61 145 *e*P **P 06 55 05.4 -1.7**
DZM Mont Dzumac 19.61 145 *e*P **P 06 55 07.1 0.0**
comp=Z,147nm,0.9s
DZM ScP **ScP 07 03 00.5 +2.8**
KWAJ Kwajalein Atol 19.84 42 *e*P **Pn 06 55 11.2 -0.2**
KWAJ pmax pmax
comp=Z,691nm,1.0s
KWAJ Kwajalein Atol 19.84 42 *e*P **Pn 06 55 11.2 -0.2**
comp=Z,691nm,1.0s
KWAJ *e*pP **pP 06 55 23.0 +2.1**
KWAJ *e*sP sP 06 55 30.7 +3.6
TARA Tarawa 19.91 69 *e*P **Pn 06 55 12.7 +0.4**
QIS Mount Isa 20.30 224 P **P 06 55 14.1 -0.4**
baz=20,SNR=30
RKPI Ransiki, Papua 20.74 282 P Pn 06 55 22.3 +0.2
comp=Z,277nm,1.0s
RMQ Roma 20.92 194 P **P 06 55 21.3 +0.1**
baz=21,SNR=28
GUMO Guam 21.81 334 P **P 06 55 30.8 +0.1**
comp=Z,55nm,0.5s,baz=60,slow=8.5,SNR=5.6
GUMO LR LR 07 05 02.6
comp=Z,2µm,18.4s,baz=150,slow=40
GUMO Guam 21.81 334 P **P 06 55 30.8 +0.1**
GUMO pmax pmax
comp=Z,55nm,0.5s
GUMO MLR MLR
comp=Z,2µm,18.4s
FAKI Fak Fak 22.36 277 P P 06 55 44.3 +7.6
FAKI Fak Fak 22.36 277 ⇑P **P 06 55 38.6 +1.8**
baz=22,SNR=6.8
FAKI Fak Fak 22.36 277 *e*pP pP 06 55 44.1 -4.1
QLP Quilpie 22.52 204 P **P 06 55 37.1 -1.2**
baz=22,SNR=38
KDU Kakadu 22.61 252 P **P 06 55 38.5 -1.0**
baz=23,SNR=17
SAUI Saumlaki 23.04 264 P sP 06 56 05.3 +3.7
SIJI Sorong 23.72 282 P **P 06 55 50.3 -0.1**
comp=Z,22nm,0.6s,baz=31,slow=5.1,SNR=8.2
SIJI ScP **ScP 07 03 09.3 +1.2**
comp=Z,6.5nm,0.6s,baz=104,slow=3.9,SNR=4.2
SWI Sorong 23.72 282 P **P 06 55 51.0 +0.6**
comp=Z,139nm,0.8s,comp=Z,2µm
WRAB Tennant Creek 23.84 233 P **P 06 55 50.0 -1.5**
comp=Z,490nm,0.8s,SNR=23
WRAB Tennant Creek 23.84 233 ⇓*i*P **P 06 55 50.5 -1.0**
WRAB pmax pmax
comp=Z,153nm,0.7s
WRAB Tennant Creek 23.84 233 *e*P **P 06 55 50.2 -1.3**
comp=Z,512nm,1.8s
WRAB LR LR
comp=Z,14µm,20.0s
WRA Warramunga Arr 23.86 233 P **P 06 55 50.3 -1.3**
comp=Z,49nm,0.8s,baz=56,slow=9.6,SNR=65
WRA PcP **PcP 06 59 34.1 +0.2**
comp=Z,12nm,0.7s,baz=29,slow=2.2,SNR=11
WRA ScP **ScP 07 03 10.5 +2.1**
comp=Z,7.1nm,0.9s,baz=55,slow=2.5,SNR=6.7
WRA LR LR 07 05 18.9
comp=Z,13µm,19.4s,baz=65,slow=37
PALU Palau 24.02 304 ⇓P **P 06 55 54.4 +1.3**
baz=24,SNR=8.5
ARMA Armidale 24.27 186 ⇓P **P 06 55 55.8 +0.4**
baz=24,SNR=8.7
ARMA Armidale 24.27 186 *e*P **P 06 55 55.1 -0.3**
comp=Z,90nm,1.0s
BNDI Bandanaira 24.48 273 P P 06 56 04.6 +7.2
MSAI Masohi 25.58 275 P pP 06 56 20.0 0.0
MSVF Nonsavu 25.76 119 *e*P **P 06 56 09.5 +0.4**
MSVF MLR MLR
comp=Z,15µm,19.0s
MSVF Nonsavu 25.76 119 *e*P **P 06 56 09.5 +0.4**
MSVF LR LR
comp=Z,15µm,19.0s
AS06 Alice Springs 26.27 226 ⇓P **P 06 56 12.3 -1.3**
baz=26
AS31 Alice Springs 26.32 226 P **P 06 56 12.9 -1.2**
ASAR Alice Springs 26.33 226 P **P 06 56 13.0 -1.1**
comp=Z,18nm,0.8s,baz=60,slow=8.5,SNR=59
ASAR PcP **PcP 06 59 39.8 +0.4**
comp=Z,16nm,1.0s,baz=47,slow=2.6,SNR=5.8
ASAR LR LR 07 06 32.1
comp=Z,11µm,19.3s,baz=107,slow=36
ASPA Alice Springs 26.33 227 ⇑P **P 06 56 13.1 -1.0**
baz=26
CMSA Cobar Meteorol 26.54 197 P **P 06 56 16.0 +0.2**
baz=27,SNR=18
KNRA Kununurra 26.90 247 P **P 06 56 20.3 +1.1**
baz=27,SNR=7.9
H11S3 WAKE ISLAND Hy 27.32 26 T T 07 24 59.1
baz=203,slow=75,SNR=58
H11S2 WAKE ISLAND Hy 27.32 26 T T 07 24 49.5
baz=203,slow=75,SNR=58
H11S1 WAKE ISLAND Hy 27.34 26 T T 07 25 03.9
baz=203,slow=75,SNR=57
NLAI Namlea 27.40 275 P pP 06 56 36.0 -0.5
LBMI Labuha 27.44 281 P **P 06 56 26.4 +2.2**
comp=Z,202nm,1.2s,comp=Z,4µm
WAKE Wake Island 28.00 25 PFAKE 06 56 40.0 +11
WAKE LR LR
comp=Z,16µm,21.0s
STKA Stephens Creek 28.26 204 P **P 06 56 29.7 -1.6**
comp=Z,8.0nm,0.7s,baz=18,slow=9.9,SNR=15
STKA PcP **PcP 06 59 42.8 -0.9**
comp=Z,14nm,0.9s,baz=138,slow=2.9,SNR=3.0
STKA ScP **ScP 07 03 23.8 +2.8**
comp=Z,28nm,1.1s,baz=24,slow=3.7,SNR=13
STKA LR LR 07 07 52.6
comp=Z,11µm,19.6s,baz=2.2,slow=37
STKA Stephens Creek 28.26 204 P **P 06 56 29.7 -1.6**
STKA 06 59 42.8
STKA pmax pmax
comp=Z,8.0nm,0.7s
STKA pmax pmax
comp=Z,14nm,0.9s
STKA pmax pmax
comp=N,28nm,1.1s
STKA MLR MLR
comp=Z,11µm,19.6s
STKA Stephens Creek 28.26 204 *e*P **P 06 56 29.6 -1.6**
comp=Z,9.2nm,1.0s
STKA PcP **PcP 06 59 42.8 -0.9**
STKA ScP **ScP 07 03 23.8 +2.8**
H11N1 WAKE ISLAND Hy 28.48 25 T T 07 26 26.9
baz=217,slow=76
H11N3 WAKE ISLAND Hy 28.50 25 T T 07 26 22.3
baz=217,slow=76
H11N2 WAKE ISLAND Hy 28.50 25 T T 07 26 27.5
baz=217,slow=76

SANI Sanana 28.67 277 P **P 06 56 35.5 +0.4**
comp=Z,112nm,1.0s,comp=Z,2µm
SOEI Soe 30.09 261 P P 06 56 54.7 +6.8
SOEI Soe 30.09 261 *e*P **P 06 56 48.6 +0.7**
HTT Hallett 30.72 206 P **P 06 56 52.2 -1.0**
baz=31,SNR=9.3
KMSI Cibinong 31.14 281 P P 06 57 06.1 +9.1
WRKA Warakurna 31.29 230 P **P 06 56 56.8 -1.4**
baz=31,SNR=18
BBOO Buckleboo 31.56 210 ⇑P **P 06 56 58.6 -1.8**
baz=32,SNR=5.6
BBOO Buckleboo 31.56 210 *e*P **P 06 56 59.1 -1.4**
comp=Z,3.0nm,1.0s
DAV Davao City (W) 31.66 294 PFAKE 06 57 10.0 +8.4
DAV LR LR
comp=Z,4µm,22.0s
LUWI Luwuk 32.00 278 P **P 06 57 05.2 +0.6**
comp=Z,277nm,1.3s,comp=Z,3µm
LUWI Luwuk 32.00 278 ⇓P **P 06 57 05.5 +0.9**
baz=32,SNR=7.9
LUWI Luwuk 32.00 278 *e*P **P 06 57 05.4 +0.8**
MMRI Maumere 32.02 264 P **P 06 57 04.1 -0.7**
comp=Z,237nm,0.9s
MMRI Maumere 32.02 264 *e*P **P 06 57 04.2 -0.7**
comp=Z,158nm,0.7s
TOO Toolangi 32.31 193 ⇑P **P 06 57 07.0 0.0**
baz=32
ARPS Mount Arapiles 32.57 199 ⇓P **P 06 57 09.2 -0.1**
baz=33,SNR=8.0
MRSI Marisa 33.11 280 P **P 06 57 16.5 +2.2**
comp=Z,63nm,1.1s,comp=Z,2µm
APSI Ampana 33.13 278 P **P 06 57 15.2 +0.7**
comp=Z,222nm,1.6s,comp=Z,2µm
BSSI Bau Bau, Buton 33.75 268 P **P 06 57 20.9 +1.0**
comp=Z,153nm,1.3s,comp=Z,2µm
AFI Afiamalu 34.11 106 *e*P **P 06 57 21.3 -1.7**
AFI pmax pmax
comp=Z,56nm,1.0s
AFI MLR MLR
comp=Z,7µm,19.0s
AFI Afiamalu 34.11 106 *e*P **P 06 57 21.3 -1.7**
comp=Z,56nm,1.0s
AFI LR LR
comp=Z,7µm,19.0s
KAPI Kappang 34.54 270 P **P 06 57 27.8 +1.1**
comp=Z,190nm,1.1s,SNR=5.9
KAPI Kappang 34.54 270 P **P 06 57 26.7 -0.1**
comp=Z,16nm,0.9s,baz=93,slow=5.7
KAPI ScP **ScP 07 03 44.5 +2.1**
comp=Z,15nm,0.9s,baz=211,slow=2.6,SNR=8.7
KAPI Kappang 34.54 270 *e*P **P 06 57 27.2 +0.5**
KAPI ScP **ScP 07 03 44.5 +2.1**
KAPI LR LR
comp=Z,2µm,21.0s
RAO Raoul Island 34.76 135 PFAKE 06 57 40.0 +12
RAO LR LR
comp=Z,9µm,21.0s
FORT Forrest 34.82 222 ⇑P **P 06 57 28.3 -0.7**
baz=35,SNR=8.1
FORT Forrest 34.82 222 *e*P **P 06 57 31.1 +2.1**
MPSI Mapaga 35.08 279 P **P 06 57 30.9 -0.5**
JCJ Chichijima 35.13 341 LR LR 07 09 04.2
comp=Z,755nm,19.8s,baz=142,slow=32
RCP Roxas 36.12 299 ⇓*e*P **P 06 57 41.6 +1.4**
MOO Moorlands 36.70 189 ⇓P **P 06 57 46.0 +1.2**
baz=37,SNR=3.2
MBWA Marble Bar 36.76 243 *e*P **P 06 57 45.4 -0.3**
comp=Z,26nm,0.9s
MBWA LR LR
comp=Z,12µm,20.0s
TAU Tasmania Unive 37.13 189 *e*P **P 06 57 48.9 +0.4**
TAU Tasmania Unive 37.13 189 *e*P **P 06 57 48.9 +0.4**
MYLDM Lahad Datu 37.61 287 *e*pP pP 06 58 04.1 -1.9
URZ Urewera 38.00 150 P **P 06 57 55.3 -0.6**
comp=Z,14nm,0.4s,baz=262,slow=2.6,SNR=10
URZ Urewera 38.00 150 *e*P **P 06 57 57.9 +2.0**
comp=Z,70nm,0.8s
BKZ Black Stump Fm 38.42 152 *e*P P 06 58 03.4 +3.9
comp=Z,304nm,1.7s
TGY Tagaytay City 38.87 301 P **P 06 58 01.7 -1.9**
comp=Z,113nm,0.3s,baz=90,slow=6.1
TGY LR LR 07 12 14.2
comp=Z,203nm,21.6s,baz=96,slow=33
SNZO South Karori 39.39 156 PFAKE 06 58 20.0 +12
SNZO LR LR
comp=Z,8µm,22.0s
KMBL Kambalda 39.46 226 ⇑P **P 06 58 07.5 -0.8**
baz=40,SNR=7.0
MEEK Meekatharra 39.73 235 P **P 06 58 10.3 -0.4**
baz=40,SNR=9.0
KHZ Kahutara 39.88 158 *e*P P 06 58 15.5 +3.9
comp=Z,485nm,2.3s
JAGI Jajag, Banyuwa 40.02 264 ⇓P **P 06 58 11.9 -1.2**
baz=40,SNR=3.9
JAGI Jajag, Banyuwa 40.02 264 *e*P **P 06 58 11.3 -1.8**
comp=Z,77nm,0.9s
KKM Kota Kinabalu 40.04 287 *e*P **P 06 58 14.6 +1.1**
comp=Z,29nm,0.8s
KKM LR LR
comp=Z,2µm,22.0s
RPZ Rata Peaks 40.15 161 P **P 06 58 12.7 -1.2**
comp=Z,45nm,0.8s,baz=162,slow=6.3,SNR=13
BCPH Baguio City Da 40.30 304 ⇓*i*P **P 06 58 16.0 +0.3**
SZP Santa 41.01 306 P P 06 58 12.8 -8.5
comp=Z,97nm,0.9s
KLBR Kellerberrin 42.61 229 P **P 06 58 33.3 -0.9**
baz=43,SNR=8.9
MORW Morawa 42.80 233 P **P 06 58 35.4 -0.5**
baz=43,SNR=8.4
YOJ Yonaguni jima 43.18 316 *e*P **P 06 58 39.8 +0.9**
YOJ pmax pmax
comp=Z,83nm,1.1s
YOJ Yonaguni jima 43.18 316 *e*P **P 06 58 39.8 +0.9**
comp=Z,83nm,1.1s
NWAO Narrogin (SRO) 43.64 227 LR LR 07 17 12.9
comp=Z,50nm,18.0s,baz=332,slow=37
MIDW Midway 43.68 37 PFAKE 06 58 50.0 +7.2
MIDW LR LR
comp=Z,9µm,20.0s
YULB Yu-li 43.72 313 *e*P **P 06 58 43.5 +0.2**
comp=Z,102nm,0.9s
NACB Ninganchiao 43.99 314 *e*P **P 06 58 46.1 +0.7**
comp=Z,174nm,0.9s
TPUB Ta-pu 44.15 313 *e*P **P 06 58 46.4 -0.3**
comp=Z,77nm,0.6s
SSLB Suanglung 44.21 314 *e*P **P 06 58 47.7 +0.5**
YHNB Yeheng 44.45 315 *e*P **P 06 58 49.4 +0.2**
comp=Z,110nm,0.8s
YHNB LR LR
comp=Z,6µm,22.0s
TATO Taipei 44.57 315 *e*P **P 06 58 51.5 +1.5**
comp=Z,318nm,1.4s
TATO LR LR
comp=Z,5µm,20.0s
RKGY Rocky Gully 44.66 226 ⇓P **P 06 58 51.4 +0.7**
baz=45
KSM Kuching 44.71 278 ⇓P **P 06 58 52.4 +1.0**
KSM Kuching 44.71 278 *e*P **P 06 58 51.2 -0.1**
comp=Z,29nm,0.6s
KSM LR LR
comp=Z,1µm,22.0s
JNU Nakatsue 45.02 332 P **P 06 58 53.1 -0.4**
comp=Z,43nm,0.8s,baz=160,slow=1.6,SNR=23
JNU Nakatsue 45.02 332 *e*P **P 06 58 52.5 -1.1**
comp=Z,22nm,0.7s
MJAR Matsushiro Arr 45.12 341 P **P 06 58 53.0 -1.2**
baz=169,slow=6.9
MJAR LR LR 07 17 40.0
comp=Z,241nm,19.2s,baz=185,slow=36
MAJO Matsushiro 45.13 341 *i* P **P 06 58 53.6 -0.7**
MAJO Matsushiro 45.13 341 *e*P **P 06 58 53.2 -1.0**
comp=Z,14nm,1.0s
MAJO LR LR
comp=Z,1µm,19.0s
MAT Matsushiro 45.13 341 P **P 06 58 52.8 -1.5**
MAT S S 07 05 23.6 -6.7
CISI Cisompet, Garu 46.30 265 *e*P **P 06 59 02.5 -1.5**
comp=Z,150nm,0.7s
LEM Lembang 46.52 266 P **P 06 59 04.6 -1.2**
comp=Z,28nm,0.7s,baz=311,slow=19,SNR=4.5
LEM LR LR 07 21 20.6
comp=Z,1µm,20.0s,baz=102,slow=40
QZH Quanzhou 46.62 313 ⇑*i*P **P 06 59 07.3 +1.1**
QZH S **S 07 05 52.1 +0.1**
QZH PMZ
comp=Z,2µm,3.2s
QZH LN
comp=Z,2µm,16.0s
QZH LE
comp=Z,4µm,18.4s
QZH LZ
comp=Z,7µm,24.2s
XMAS Kiritimati 48.73 82 PFAKE 06 59 30.0 +7.2
XMAS LR LR
comp=Z,9µm,20.0s
SSE Sheshan 48.82 321 P **P 06 59 23.6 +0.4**
SSE sP sP 06 59 43.3 +1.1
SSE S **S 07 06 24.3 +1.2**
SSE sS sS 07 06 50.5 +5.0
SSE PMZ
comp=Z,25nm,0.7s
SSE PMZ
comp=Z,660nm,10.1s
SSE LN
comp=Z,1µm,24.1s
SSE LE
comp=Z,1µm,24.1s
SSE LZ
comp=Z,3µm,19.9s
ERM Erimo 49.04 349 PFAKE 06 59 40.0 +15
ERM LR LR
comp=Z,4µm,21.0s
DLV T Lat 49.12 291 *e*P **P 06 59 26.8 +0.8**
comp=Z,62nm,0.9s
TJN Taejon 49.35 331 *c i*P **P 06 59 27.0 -0.1**
GZH Guangzhou 49.58 307 P **P 06 59 31.3 +2.2**
GZH PcP **PcP 07 00 50.4 +0.1**
GZH PP **PP 07 01 26.2 +2.3**
GZH S **S 07 06 37.9 +3.9**
GZH LN
comp=Z,2µm,18.5s
GZH LE
comp=Z,5µm,18.2s
KSRS Korea Array 49.95 332 P **P 06 59 31.7 0.0**
comp=Z,16nm,0.9s,baz=147,slow=7.8,SNR=36
KSRS LR LR 07 20 09.2
comp=Z,829nm,19.0s,baz=146,slow=36
KSRS Korea Array 49.95 332 P **P 06 59 31.7 0.0**
KSRS pmax pmax
comp=Z,16nm,0.9s
KSRS MLR MLR
comp=Z,829nm,19.0s
KSAR Wonju Array Be 49.96 332 P **P 06 59 31.7 -0.1**
KSAR Wonju Array Be 49.96 332 P **P 06 59 31.7 -0.1**
YUK Yuzh-Kuril'sk 50.56 352 ⇑*i*P **P 06 59 34.1 -2.1**
YUK *i* *PP **pP 06 59 46.2 -3.4**
YUK *i* 07 00 47.8
YUK *e*S **S 07 06 48.5 +1.5**
YUK *i* *SS **sS 07 07 10.5 +1.0**
YUK *i* 07 09 17.8
YUK SS SS 07 10 13.7 -8.2
YUK pmax pmax
comp=E,27nm,1.8s
YUK pmax pmax
comp=Z,40nm,1.8s
YUK pmax pmax
comp=Z,334nm,8.0s
QIZ Qiongzhong 50.57 301 P **P 06 59 38.4 +1.7**
QIZ pP **pP 06 59 51.5 +1.4**
QIZ sP sP 06 59 57.5 +1.7
QIZ S **S 07 06 49.4 +1.5**
QIZ PMZ
comp=Z,820nm,10.7s
QIZ LE
comp=Z,2µm,22.0s
QIZ LZ
comp=Z,5µm,22.9s
QIZ Qiongzhong 50.57 301 PFAKE 06 59 50.0 +13
QIZ LR LR
comp=Z,6µm,22.0s
INCN Inchon 50.58 331 *e*P **P 06 59 36.3 -0.2**
comp=Z,90nm,0.9s
INCN LR LR
comp=Z,2µm,19.0s
ASAJ Asahikawa 51.18 349 P **P 06 59 40.4 -0.4**
comp=Z,12nm,0.8s,baz=218,slow=8.4
ASAJ Asahikawa 51.18 349 P **P 06 59 40.4 -0.4**
ASAJ pmax pmax
comp=Z,13nm,0.8s
ASAJ Asahikawa 51.18 349 *e*P **P 06 59 41.5 +0.7**
comp=Z,10nm,0.8s
KUR Kuril'sk 51.50 354 *e*P P 06 59 31.9 -11
KUR *i* SS **SS 07 10 31.9 -4.8**
KUR pmax pmax
comp=Z,54nm,0.1s
KUR pmax pmax
comp=N,34nm,1.3s
KUR pmax pmax
comp=E,56nm,1.3s
KUR pmax pmax
comp=Z,28nm,1.3s
KUR MLR MLR
comp=N,1µm,17.0s
KUR MLR MLR
comp=E,2µm,17.0s
KUR MLR MLR
comp=Z,170nm,17.0s
WHN Wuhan 52.97 316 ⇑P **P 06 59 55.5 +1.1**
WHN S S 07 07 27.5 +7.0
WHN PMZ
comp=Z,2µm,4.9s
WHN LN
comp=Z,3µm,18.3s
WHN LE
comp=Z,5µm,18.5s
WHN LZ
comp=Z,9µm,22.2s
YSS Yuzh-Sakhalins 53.89 350 *e*P **P 06 59 58.0 -2.9**
YSS *e*S S 07 07 22.0 -11
YSS *e*PS **PnS 07 07 46.0 -2.1**
YSS MLR MLR
comp=N,2µm,18.0s
YSS MLR MLR
comp=E,2µm,18.0s
YSS MLR MLR
comp=Z,2µm,18.0s
YSS Yuzh-Sakhalins 53.89 350 PFAKE 07 00 10.0 +9.1
YSS LR LR
comp=Z,2µm,22.0s
USRK Ussuriysk Ar. 54.07 340 P **P 07 00 02.5 +0.3**
comp=Z,4.6nm,0.4s,baz=153,slow=4.2,SNR=15
USRK LR LR 07 19 24.8
comp=Z,1µm,21.8s,baz=148,slow=32
KIP Kipapa 54.08 58 PFAKE 07 00 10.0 +7.3
KIP LR LR
comp=Z,4µm,20.0s
TIA Tai'an 54.78 323 ⇑P **P 07 00 07.3 -0.3**
TIA pP pP 07 00 23.3 +2.2
TIA sP sP 07 00 29.6 +2.8
TIA S **S 07 07 43.8 -1.1**
TIA sS sS 07 08 11.9 +4.3
TIA PMZ
comp=Z,20nm,0.9s
TIA PMZ
comp=Z,710nm,9.5s
TIA LN
comp=Z,1µm,23.2s
TIA LE
comp=Z,2µm,20.1s
TIA LZ
comp=Z,2µm,24.2s
KULM Kulim 54.89 281 PFAKE 07 00 20.0 +11
KULM LR LR
comp=Z,1µm,20.0s
SKNT Sakolnakorn 54.91 296 P **P 07 00 11.0 +2.1**
comp=Z,37nm,1.2s
MDJ Mudanjiang 55.27 339 P **P 07 00 10.5 -0.4**
MDJ pP **pP 07 00 23.8 -0.7**
MDJ sP **sP 07 00 29.7 -0.5**
MDJ S **S 07 07 55.9 +4.7**
MDJ SS **SS 07 11 30.3 -6.0**
MDJ PMZ
comp=Z,14nm,1.5s
MDJ PMZ
comp=Z,580nm,10.6s
MDJ LN
comp=Z,960nm,24.6s
MDJ LE
comp=Z,740nm,19.5s
MDJ LZ
comp=Z,1µm,25.5s
MDJ Mudanjiang 55.27 339 *e*P **P 07 00 11.1 +0.2**
comp=Z,6.3nm,0.6s

MDJ LR LR
comp=Z,1µm,21.0s
SNY Shenyang 55.46 332 ⇑P P 07 00 08.6 -3.7
SNY PP **PP** **07 02 15.1 -1.7**
SNY S **S** **07 07 49.9 -3.9**
SNY PMZ
comp=Z,650nm,12.0s
SNY LN
comp=Z,2µm,17.3s
SNY LE
comp=Z,1µm,19.8s
SNY LZ
comp=Z,2µm,18.3s
POHA Pohakuloa 55.54 61 PFAKE 07 00 30.0 +16
POHA LR LR
comp=Z,6µm,19.0s
PPT Papeete 55.76 107 LR LR 07 21 14.3
comp=Z,1µm,19.4s,baz=280,slow=33
PPT2 Papeete2 55.76 107 *e*S **S** **07 08 03.5 +4.7**
comp=Z,2µm,25.0s
PPT2 *e*LQ LQ 07 14 13.9
comp=Z,5µm,29.8s
PPT2 *e*LR LR 07 16 44.1
comp=Z,3µm,26.5s,baz=283
PSI Prapat 56.15 278 P **P** **07 00 16.6 -1.4**
comp=Z,9.7nm,0.9s,baz=41,slow=9.3,SNR=3.2
CN2 Changchun 56.21 335 *e*P **P** **07 00 20.6 +2.9**
CN2 *e*sP sP 07 00 41.0 +4.1
CN2 *e*S **S** **07 08 05.0 +1.2**
CN2 PMZ
comp=Z,20nm,0.8s
CN2 PMZ
comp=Z,300nm,5.0s
CN2 LN
comp=Z,2µm,19.0s
CN2 LE
comp=Z,1µm,19.0s
CN2 LZ
comp=Z,2µm,18.0s
ENH Enshi 56.27 313 *e*P **P** **07 00 18.9 +0.4**
comp=Z,46nm,0.9s
ENH LR LR
comp=Z,123nm,22.0s
TRTT Trang 56.35 284 P P 07 00 29.1 +10
PATY Pattaya 56.50 290 P P 07 00 30.8 +11
TBI Tubuai 56.51 114 *e*S S 07 08 14.9 +6.4
comp=Z,1µm,28.2s
TBI *e*LQ LQ 07 14 36.9
comp=Z,7µm,33.0s
TBI *e*LR LR 07 17 00.6
comp=Z,7µm,25.5s,baz=287
GYA Guiyang 56.52 307 ⇑*i*P **P** **07 00 21.5 +1.1**
GYA pP pP 07 00 38.4 +4.4
GYA sP sP 07 00 43.2 +3.6
GYA PcP **PcP** **07 01 19.0 +2.3**
GYA PP PP 07 02 31.6 +4.9
GYA ScP **ScP** **07 05 11.8 -0.4**
GYA S **S** **07 08 13.4 +4.7**
GYA sS sS 07 08 35.0 +3.5
GYA SS **SS** **07 11 58.7 +1.9**
GYA PMZ
comp=Z,30nm,1.0s
GYA PMZ
comp=Z,770nm,10.2s
GYA LN
comp=Z,1µm,18.8s
GYA LE
comp=Z,3µm,18.2s
GYA LZ
comp=Z,5µm,19.2s
SLVN Son La 56.59 300 *e*P **P** **07 00 20.3 -0.6**
comp=Z,20nm,1.2s
SRIT Nakonsritamara 56.61 284 P P 07 00 30.9 +10
HABR Khabarovsk 57.01 345 *e*P **P** **07 00 21.3 -1.9**
HABR *e**PP pP 07 00 41.5 +4.6
HABR *e* 07 02 28.7
HABR *e*PPP PPP 07 03 45.7
HABR *e*S **S** **07 08 10.2 -3.9**
HABR *e* 07 10 02.5
HABR SS **SS** **07 12 01.7 -1.8**
HABR pmax pmax
comp=Z,41nm,1.6s
HABR MLR MLR
comp=Z,1µm,19.0s
COCO West Island 57.10 260 PFAKE 07 00 40.0 +15
COCO LR LR
comp=Z,2µm,20.0s
SURT Suratani 57.47 285 P **P** **07 00 29.4 +2.3**
comp=Z,9.6nm,1.3s,comp=Z,308nm
PBKT Sadao Pong 57.50 294 P **P** **07 00 29.7 +2.4**
comp=Z,75nm,0.7s,comp=Z,1µm
TYV Tymovskoe 57.70 351 *e*P P 07 00 19.0 -9.1
BJT Baijiatuan 57.92 326 PFAKE 07 00 40.0 +10
BJT LR LR
comp=Z,2µm,20.0s
BJI Beijing 57.93 326 P **P** **07 00 30.3 +0.4**
BJI pP **pP** **07 00 44.9 +1.3**
BJI sP sP 07 00 51.3 +2.1
BJI PP **PP** **07 02 38.0 -0.8**
BJI S **S** **07 08 26.4 -0.1**
BJI SS **SS** **07 12 21.1 +2.8**
BJI PMZ
comp=Z,13nm,0.7s
BJI PMZ
comp=Z,660nm,10.9s
BJI LN
comp=Z,980nm,21.6s
BJI LE
comp=Z,2µm,24.4s
BJI LZ
comp=Z,2µm,32.0s
UTTA Uttaradit 58.25 295 P P 07 00 37.5 +4.9
comp=Z,9.9nm,0.9s
SRDT SRDT 58.53 291 P P 07 00 39.9 +5.3
comp=Z,120nm,1.1s,comp=Z,11µm
TIY Taiyuan 58.60 322 *e*P **P** **07 00 37.4 +2.6**
TIY S **S** **07 08 34.3 -1.3**
TIY PMZ
comp=Z,610nm,9.0s
TIY LN
comp=Z,630nm,14.4s
TIY LE
comp=Z,390nm,13.9s
TIY LZ
comp=Z,880nm,18.4s
KLR Kul'dur 58.62 343 *e*P P 07 00 30.7 -3.8
KLR *e*S S 07 08 51.5 +16
KLR *e* 07 12 32.0
KLR pmax pmax
comp=Z,57nm,1.6s
KLR pmax pmax
comp=Z,1µm,11.0s
KLR MLR MLR
comp=E,900nm,14.0s
KLR MLR MLR
comp=Z,2µm,14.0s
XAN Xi'an 58.73 316 P **P** **07 00 35.9 +0.2**
XAN pP pP 07 00 51.6 +2.2
XAN sP sP 07 00 58.2 +3.2
XAN PcP **PcP** **07 01 24.6 -0.5**
XAN PP **PP** **07 02 47.6 +1.5**
XAN ScP **ScP** **07 05 19.7 -2.0**
XAN S **S** **07 08 33.5 -3.8**
XAN ScS **ScS** **07 10 16.2 -5.5**
XAN SS **SS** **07 12 28.6 -2.7**
XAN PMZ
comp=Z,9.0nm,1.2s
XAN PMZ
comp=Z,200nm,10.7s
XAN LN
comp=Z,2µm,22.4s
XAN LE
comp=Z,650nm,24.1s
XAN LZ
comp=Z,1µm,21.0s
PET Petropavlovsk 59.07 3 *e*P P 07 00 34.2 -3.4
PET *e*S **S** **07 08 39.0 -1.8**
PET pmax pmax
comp=Z,800nm,17.9s
PET MLR MLR
comp=Z,2µm,23.0s
PET Petropavlovsk 59.07 3 PFAKE 07 00 50.0 +12
PET LR LR
comp=Z,3µm,20.0s
KMI Kunming 59.10 304 P **P** **07 00 40.7 +2.0**
KMI S S 07 08 49.1 +6.3
KMI PMZ
comp=Z,71nm,0.9s
KMI PMZ
comp=Z,770nm,9.1s
KMI LN
comp=Z,1µm,20.1s
KMI LE
comp=Z,2µm,22.7s
KMI LZ
comp=Z,3µm,22.7s
PETK Petropavlovsk- 59.11 2 P **P** **07 00 38.8 +0.9**
comp=Z,8.0nm,0.8s,baz=160,slow=8.6,SNR=8.4
PETK LR LR 07 22 23.5
comp=Z,3µm,21.9s,baz=185,slow=32
KHLT Khaolaem Dam 59.15 291 P **P** **07 00 41.7 +2.8**
comp=Z,15nm,1.3s,comp=Z,476nm
CRAI Chiangrai 59.25 298 P **P** **07 00 38.3 -1.2**
comp=Z,23nm,1.6s,comp=Z,1µm
LAMP Lampang 59.34 296 P **P** **07 00 42.5 +2.4**
comp=Z,11nm,0.8s,comp=Z,122nm
CMAR Chiang Mai Arr 59.93 295 P **P** **07 00 45.7 +1.5**
comp=Z,13nm,0.9s,baz=112,slow=5.1,SNR=23
CMAR LR LR 07 25 22.1
comp=Z,2µm,21.2s,baz=113,slow=35
CMAR PKPPKP **P'P'df** **07 30 06.7 -4.6**
comp=Z,0.4nm,0.3s,baz=266,slow=2.4,SNR=4.1
CMAR PKP2bc 07 30 21.2
comp=Z,1.7nm,0.8s,baz=280,slow=4.1,SNR=7.4
CMMT Chiang Mai 60.04 296 P **P** **07 00 47.0 +2.0**
comp=Z,58nm,1.6s,comp=Z,1µm
CHTO Chiang Mai 60.05 296 P **P** **07 00 47.0 +2.0**
comp=Z,142nm,1.4s,comp=Z,5µm
CHTO Chiang Mai 60.05 296 *e*P **P** **07 00 46.4 +1.4**
CHTO pmax pmax
comp=Z,47nm,1.3s
CHTO MLR MLR
comp=Z,2µm,21.0s
CHTO Chiang Mai 60.05 296 *e*P **P** **07 00 46.4 +1.4**
comp=Z,47nm,1.3s
CHTO LR LR
comp=Z,2µm,21.0s
CMAI Chiengmai2 60.33 297 P **P** **07 00 49.4 +2.3**
comp=Z,22nm,1.1s,comp=Z,2µm
MHMT Maesarieng 60.76 295 P P 07 00 54.5 +4.6
comp=Z,17nm,1.1s,comp=Z,468nm
CD2 Chengdu 60.86 310 P **P** **07 00 51.1 +0.7**
CD2 pP **pP** **07 01 06.0 +1.8**
CD2 sP sP 07 01 12.4 +2.6
CD2 PP **PP** **07 03 05.9 +0.8**
CD2 S **S** **07 09 06.0 +1.1**
CD2 sS sS 07 09 31.5 +3.6
CD2 SS **SS** **07 13 07.4 +2.5**
CD2 PMZ
comp=Z,140nm,0.6s
CD2 PMZ
comp=Z,1µm,10.4s
CD2 LN
comp=Z,3µm,21.9s
CD2 LZ
comp=Z,4µm,23.6s
HHC Hu-ho-hao-te 61.10 324 *e*P **P** **07 00 51.1 -0.8**
HHC pP pP 07 01 08.7 +3.0
HHC sP sP 07 01 15.0 +3.7
HHC PP **PP** **07 03 08.1 +1.0**
HHC S **S** **07 09 10.3 +2.6**
HHC SS **SS** **07 13 12.8 +4.4**
HHC PMZ
comp=Z,23nm,1.1s
HHC PMZ
comp=Z,640nm,7.1s
HHC LN
comp=Z,2µm,16.3s
HHC LE
comp=Z,1µm,16.2s
HHC LZ
comp=Z,2µm,16.2s
DRV Dumont d'Urvil 61.22 187 P P 07 00 36.0 -16
DRV PP PP 07 02 56.0 -11
DRV S S 07 08 47.0 -21
DRV SS **SS** **07 13 15.0 +6.1**
DRV L L 07 15 00.0
DRV R R 07 19 00.0
HIA Hailar 62.94 335 *e*P **P** **07 01 04.3 +0.3**
HIA pmax pmax
comp=Z,51nm,0.8s
HIA MLR MLR
comp=Z,2µm,21.0s
HIA Hailar 62.94 335 *e*P **P** **07 01 04.3 +0.3**
comp=Z,51nm,0.8s
HIA LR LR
comp=Z,2µm,21.0s
LZH Lanzhou 63.34 316 ⇑P **P** **07 01 08.4 +1.3**
LZH PP **PP** **07 03 29.5 +2.5**
LZH S **S** **07 09 39.6 +3.4**
LZH SS **SS** **07 13 48.0 +4.2**
LZH PMZ
comp=Z,160nm,1.6s
LZH PMZ
comp=Z,790nm,5.8s
LZH LN
comp=Z,1µm,14.3s
LZH LE
comp=Z,2µm,15.0s
LZH LZ
comp=Z,3µm,19.2s
MA2 Magadan 65.60 358 *i*P **P** **07 01 20.6 -0.5**
CASY Casey 67.21 198 *e*P **P** **07 01 30.3 -1.1**
comp=Z,17nm,1.0s
CASY LR LR
comp=Z,6µm,19.0s
CLNS Chul'man 67.28 343 *e*P **P** **07 01 31.5 -0.5**
CLNS pmax pmax
comp=Z,13nm,0.6s
CLNS pmax pmax
comp=E,10.0nm,0.7s
CLNS pmax pmax
comp=N,9.0nm,0.9s
CLNS MLR MLR
comp=N,673nm,16.0s
CLNS MLR MLR
comp=Z,676nm,15.0s
CLNS MLR MLR
comp=E,415nm,16.0s
GTA Gaotai 67.76 317 ⇑P **P** **07 01 36.9 +1.4**
GTA pP pP 07 01 52.6 +3.1
GTA sP sP 07 01 59.6 +4.5
GTA S **S** **07 10 30.2 +0.2**
GTA sS sS 07 10 58.2 +4.8
GTA SS **SS** **07 14 54.1 +1.8**
GTA PMZ
comp=E,26nm,1.8s
GTA PMZ
comp=E,780nm,10.0s
GTA LN
comp=E,1µm,19.5s
GTA LE
comp=E,2µm,20.9s
GTA LZ
comp=E,2µm,19.9s
ULN Ulaanbaatar 68.01 328 PFAKE 07 01 50.0 +13
ULN LR LR
comp=Z,1µm,21.0s
UNV Unalaska Valle 68.19 24 *e*P **P** **07 01 36.8 -0.9**
comp=Z,78nm,1.3s
SONM Songino Array 68.34 327 P **P** **07 01 39.6 +0.6**
comp=Z,15nm,0.9s,baz=136,slow=6.1,SNR=23
SONM PKPPKP **P'P'df** **07 29 56.7 +1.5**
comp=Z,0.6nm,0.8s,baz=0.0,slow=0.6,SNR=4.3
SONM LR LR 07 32 09.9
comp=Z,780nm,18.4s,baz=120,slow=36
SHL Shillong 68.40 300 *i*P **P** **07 01 42.0 +2.1**
SHL *e*S **S** **07 10 40.0 +1.7**
SEY Seymchan 68.92 359 P **P** **07 01 41.5 -0.6**
comp=Z,3.9nm,1.0s,baz=177,slow=5.4,SNR=8.2
RKT Rikitea 69.76 112 *e*SS SS 07 15 28.5 +5.1
comp=Z,895nm,33.2s
RKT *e*LQ LQ 07 20 10.8
comp=Z,3µm,31.8s
RKT *e*LR LR 07 23 02.0
comp=Z,5µm,27.5s,baz=278
LSA Lhasa 70.35 304 *e*P **P** **07 01 53.2 +1.0**
LSA pmax pmax
comp=Z,39nm,0.6s
LSA MLR MLR
comp=Z,3µm,22.0s
LSA Lhasa 70.35 304 *e*P **P** **07 01 53.2 +1.0**
comp=Z,39nm,0.6s
LSA LR LR
comp=Z,3µm,22.0s
YAK Yakutsk 70.63 348 P **P** **07 01 52.3 -0.3**
comp=Z,3.3nm,0.3s,baz=14,slow=20,SNR=5.6
YAK Yakutsk 70.63 348 *e*P **P** **07 01 53.8 +1.2**
YAK *e* 07 02 12.8
YAK *e* 07 04 31.0
YAK *e*S **S** **07 11 01.7 -1.0**
YAK *e**SS **SKSac** **07 11 47.3 -3.0**
YAK *e* 07 11 55.0
YAK pmax pmax
comp=Z,51nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK pmax pmax
comp=N,18nm,1.2s
YAK pmax pmax
comp=Z,11nm,0.5s
YAK pmax pmax
comp=N,7.0nm,0.8s
YAK pmax pmax
comp=E,7.0nm,0.9s
YAK smax smax
comp=N,50nm,2.2s
YAK smax smax
comp=E,134nm,2.0s
YAK Yakutsk 70.63 348 P **P** **07 01 52.4 -0.3**
YAK LR LR
comp=Z,1µm,19.0s
VNDA Vanda 71.42 178 P **P** **07 01 57.1 -0.1**
comp=Z,7.8nm,1.1s,baz=325,slow=6.2,SNR=18
ZAK Zakamensk 71.50 328 *e*P **P** **07 01 57.3 -1.0**
ZAK pmax pmax
comp=Z,17nm,1.0s
BOD Bodaibo 71.65 339 *e*P **P** **07 01 58.2 -0.7**
BOD *e* 07 11 16.7
BOD pmax pmax
comp=Z,11nm,1.2s
SBA Scott Base 71.94 177 *e*P **P** **07 02 00.1 -0.3**
SBA pmax pmax
comp=Z,25nm,1.1s
SBA MLR MLR
comp=Z,2µm,20.0s
SBA Scott Base 71.94 177 *e*P **P** **07 02 00.1 -0.3**
comp=Z,25nm,1.1s
SBA LR LR
comp=Z,2µm,20.0s
TLY Talaya 72.07 330 P **P** **07 02 02.7 +1.1**
comp=Z,6.5nm,0.9s,baz=139,slow=8.6,SNR=11
TLY Talaya 72.07 330*c i*P **P** **07 02 01.3 -0.3**
TLY *e* 07 02 17.6
TLY *e*S **S** **07 11 24.2 +4.3**
TLY pmax pmax
comp=Z,16nm,1.1s
TLY MLR MLR
comp=Z,1µm,18.0s
TLY Talaya 72.07 330 *e*P **P** **07 02 01.7 +0.1**
comp=Z,14nm,1.0s
TLY LR LR
comp=Z,2µm,20.0s
IRK Irkutsk 72.09 330 *e*P **P** **07 02 04.5 +2.8**
IRK pmax pmax
comp=Z,39nm,1.6s
TAPN Taplejung 72.51 301 *e*P **P** **07 02 05.9 +0.8**
comp=Z,302nm,1.0s
ODAN Odare 72.64 300 *e*P **P** **07 02 06.7 +0.9**
comp=Z,264nm,0.8s
RAMN Ramite 73.34 300 *e*P **P** **07 02 10.7 +0.7**
comp=Z,70nm,0.6s
MOY Mondy 73.42 329 *e*P **P** **07 02 09.5 -0.2**
MOY pmax pmax
comp=Z,48nm,3.9s
CHLP Challavanipeta 73.56 291 *e*P **P** **07 02 12.6 +1.5**
CHLP IAmb IAmb 07 02 21.8
comp=Z,132nm,1.3s
CHLP *e*S **SKiKP** **07 11 31.3 -6.3**
CHLP IVMs_BB IVMs_BB 07 29 12.7
comp=Z,437nm,17.2s
GUN Gumba 74.22 301 *e*P **P** **07 02 16.0 +0.8**
comp=Z,258nm,0.9s
PTCN Pitcairn Islan 74.26 114 PFAKE 07 02 30.0 +15
PTCN LR LR
comp=Z,2µm,20.0s
BILL Bilibino 74.50 5⇑*e*P **P** **07 02 15.9 +0.4**
BILL *i* 07 02 24.7
BILL pmax pmax
comp=Z,20nm,1.2s
BILL Bilibino 74.50 5 PFAKE 07 02 30.0 +14
BILL LR LR
comp=Z,2µm,22.0s
PKI Pulchoki 74.53 301 *e*P **P** **07 02 17.0 0.0**
comp=Z,181nm,0.9s
PKIN Phulchoki 74.54 301 *e*P **P** **07 02 17.4 +0.4**
comp=Z,90nm,0.7s
KKN Kakani 74.70 301 *e*P **P** **07 02 18.1 +0.3**
comp=Z,144nm,0.9s
PALK Pallekele 74.77 279 P **P** **07 02 18.0 -0.3**
baz=116,slow=9.4
PALK Pallekele 74.77 279 P **P** **07 02 18.0 -0.3**
DMN Daman 74.80 301 *e*P **P** **07 02 18.9 +0.4**
comp=Z,407nm,1.0s
GKN Gorkha 75.31 301 *e*P **P** **07 02 21.3 0.0**
comp=Z,253nm,0.9s
PVM Polavaram 75.57 289 *e*P **P** **07 02 22.6 -0.1**
PVM IAmb IAmb 07 02 31.3
comp=Z,32nm,1.0s
PVM *e*S **S** **07 11 57.8 -2.6**
PVM IVMsBB 07 29 17.0
comp=Z,500nm,21.8s
AIS Amsterdam Isla 75.88 233 P P 07 02 07.0 -17
AIS PP PP 07 05 02.0 -13
AIS S **SKiKP** **07 11 41.0 +0.3**
AIS R 07 27 00.0
KOLN Koldanda 76.13 300 *e*P **P** **07 02 25.9 -0.1**
comp=Z,132nm,0.6s
DANN Dangsing 76.14 301 *e*P **P** **07 02 26.1 -0.1**
KDAK Kodiak Island 76.66 26 *e*P **P** **07 02 27.4 -0.7**
KDAK pmax pmax
comp=Z,23nm,0.8s
KDAK MLR MLR
comp=Z,4µm,22.0s
KDAK Kodiak Island 76.66 26 *e*P **P** **07 02 27.4 -0.7**
comp=Z,23nm,0.8s
KDAK LR LR
comp=Z,4µm,22.0s
SKHT Srikalahasti 76.75 286 *e*P **P** **07 02 28.3 -1.2**
SKHT IAmb IAmb 07 02 39.4
comp=Z,77nm,1.5s
SKHT *e*S **S** **07 12 15.4 +2.0**
SKHT IVMs_BB IVMs_BB 07 30 26.0
comp=Z,856nm,5.4s
ADKI Addanki 76.87 288 *e*P **P** **07 02 30.1 0.0**
ADKI IAmb IAmb 07 02 40.0
comp=Z,57nm,1.3s
ADKI *e*S **S** **07 12 12.8 -1.9**
NJS Nagarjunasagar 77.62 288 *e*P **P** **07 02 34.1 -0.2**
NJS IAmb IAmb 07 02 34.7
comp=Z,218nm,2.2s
NJS *e*S **S** **07 12 19.4 -3.5**
RCLA Racherla 77.76 287 *e*P **P** **07 02 34.6 -0.5**
RCLA IAmb IAmb 07 02 49.1
comp=Z,11nm,0.8s
RCLA *e*S **S** **07 12 20.9 -3.6**
RCLA IVMs_BB IVMs_BB 07 33 03.3
comp=Z,769nm,5.9s
WMQ Urumqi 77.85 317 P **P** **07 02 35.4 +0.2**
WMQ PcP **PcP** **07 02 45.2 +0.3**
WMQ pP pP 07 02 52.6 +3.2
WMQ sP sP 07 02 58.9 +4.0
WMQ PP **PP** **07 05 30.0 -1.5**
WMQ S **S** **07 12 21.9 -2.7**
WMQ SKS SKSac 07 12 38.6 -6.6
WMQ sS **ScS** **07 12 50.5 -0.1**
WMQ PMZ
comp=Z,17nm,2.2s
WMQ PMZ
comp=Z,730nm,5.6s
WMQ LN
comp=Z,1µm,13.5s
WMQ LE
comp=Z,1µm,15.0s
WMQ LZ
comp=Z,2µm,16.4s
SRLM Srisailam 77.93 288 *e*P **P** **07 02 35.6 -0.6**

SRLM IAmb IAmb 07 02 42.7
comp=Z,47nm,0.9s
SRLM eS S 07 12 20.6 -5.7
RPR Rampur 78.05 291 eP **P 07 02 36.3 -0.4**
RPR IAmb IAmb 07 02 37.9
comp=Z,145nm,1.7s
RPR eS **S 07 12 23.1 -4.3**
RPR IVMs_BB IVMs_BB 07 35 20.3
comp=Z,795nm,5.2s
RSO Redoubt South 78.16 24 eP **P 07 02 38.2 +1.5**
comp=Z,62nm,1.0s
HYB Hyderabad 78.48 289 *i* P **P 07 02 38.0 -1.2**
HYB eS **S 07 12 32.0 -0.2**
HYBB Hyderabad (bro 78.48 289 eP **P 07 02 38.8 -0.4**
HYBB IAmb IAmb 07 02 45.4
comp=Z,27nm,0.8s
HYBB eS **S 07 12 33.8 +1.5**
HYBB IVMs_BB IVMs_BB 07 34 09.3
comp=Z,686nm,4.1s
SRSP Sriramsagar 78.95 291 eP **P 07 02 41.4 -0.2**
SRSP IAmb IAmb 07 02 44.8
comp=Z,45nm,0.8s
SRSP eS S 07 12 32.2 -4.9
SRSP IVMs_BB IVMs_BB 07 36 26.3
comp=Z,595nm,4.6s
URV Uravakonda 79.29 286 eP **P 07 02 43.5 -0.2**
URV IAmb IAmb 07 02 45.1
comp=Z,83nm,1.4s
URV eS **S 07 12 37.2 -3.7**
URV IVMs_BB IVMs_BB 07 41 10.3
comp=Z,858nm,4.3s
RC01 Rabbit Creek A 79.73 24 eP **P 07 02 44.2 -0.8**
comp=Z,51nm,1.0s
PPLA Purkeypile 79.81 22 eP **P 07 02 47.4 +1.8**
comp=Z,32nm,1.2s
KLRI Killari 80.43 289 eP **P 07 02 49.2 -0.6**
KLRI IAmb IAmb 07 02 50.0
comp=Z,74nm,1.5s
KLRI eS **S 07 12 52.6 -0.3**
KLRI IVMs_BB IVMs_BB 07 28 47.3
comp=Z,986nm,4.7s
SML Sawmill 80.69 24 eP **P 07 02 49.8 -0.5**
SML pmax pmax
comp=Z,18nm,1.0s
SML Sawmill 80.69 24 eP **P 07 02 49.8 -0.5**
comp=Z,18nm,1.0s
TRF Thorofare Moun 80.84 22 eP **P 07 02 49.4 -1.7**
comp=Z,21nm,0.8s
BPAW Bear Paw Mtn. 80.95 21 eP **P 07 02 50.4 -1.1**
comp=Z,4.0nm,1.2s
DIV Divide 81.40 25 eP **P 07 02 54.6 +0.5**
comp=Z,24nm,0.9s
MCK McKinley 81.50 22 eP **P 07 02 53.4 -1.1**
MCK pmax pmax
comp=Z,62nm,1.0s
MCK McKinley 81.50 22 eP **P 07 02 53.4 -1.1**
comp=Z,62nm,1.0s
PAF Port-aux-Franc 81.60 221 P P 07 02 41.0 -14
PAF PP PP 07 05 55.0 -7.2
PAF S S 07 12 43.0 -21
PAF SS SS 07 18 08.0 -14
PAF L L 07 24 00.0
PAF R 07 29 00.0
PAF Port-aux-Franc 81.60 221 PFAKE 07 03 10.0 +15
PAF LR LR
comp=Z,2µm,21.0s
BMRM Bremner River 81.82 26 eP **P 07 02 56.6 +0.4**
comp=Z,87nm,1.3s
NDI New Delhi 81.82 300 eP **P 07 02 58.2 +1.3**
MKAR Makanchi Array 82.42 319 P **P 07 02 59.5 -0.2**
comp=Z,2.6nm,0.6s,baz=98,slow=7.8,SNR=17
MKAR LR LR 07 39 34.9
comp=Z,1µm,20.1s,baz=102,slow=36
MKAR Makanchi Array 82.42 319 P **P 07 03 00.2 +0.4**
baz=83
COLA College 82.51 21⇑ eP **P 07 02 58.0 -1.7**
COLA College 82.51 21 eP **P 07 02 58.3 -1.4**
comp=Z,19nm,0.8s
COLA LR LR
comp=Z,3µm,21.0s
ILAR Eielson Array 82.81 22 P **P 07 02 59.5 -1.8**
comp=Z,7.8nm,0.8s,baz=248,slow=4.3,SNR=28
ILAR PKKPbc **PKKPbc 07 21 25.0 -3.1**
comp=Z,0.3nm,0.5s,baz=355,slow=1.1,SNR=9.6
ILAR LR LR 07 35 41.2
comp=Z,5µm,21.8s,baz=249,slow=33
COLD Coldfoot 83.00 19 eP **P 07 03 01.7 -0.5**
comp=Z,25nm,1.2s
MENT Mentasta 83.12 24 P **P 07 03 03.1 +0.1**
ZALV Zalesovo Beam 83.19 326 P **P 07 03 02.2 -1.3**
comp=Z,4.7nm,0.6s,baz=118,slow=5.3,SNR=21
ZALV LR LR 07 41 13.4
comp=Z,805nm,19.8s,baz=70,slow=36
QSPA South Pole Qui 83.81 180 eP **P 07 03 06.1 -0.6**
comp=Z,104nm,1.0s
QSPA LR LR
comp=Z,2µm,19.0s
NVS Novosibirsk 84.36 327⇑ *i* P **P 07 03 08.3 -1.1**
NVS *i* 07 03 26.1
NVS eS S 07 13 25.6 -6.0
NVS pmax pmax
comp=Z,63nm,2.3s
NVS pmax pmax
comp=N,14nm,1.8s
NVS pmax pmax
comp=E,32nm,2.0s
NVS smax smax
comp=N,15nm,2.0s
NVS smax smax
comp=E,34nm,1.8s
HYT Haines Junctio 84.89 27 eP **P 07 03 12.7 +0.5**
comp=E,53nm,1.1s
MAW Mawson 84.95 203 P **P 07 03 12.1 -0.1**
comp=E,12nm,0.7s,baz=114,slow=6.3,SNR=12
MAW LR LR 07 37 53.5
comp=E,2µm,20.4s,baz=78,slow=33
EGAK Eagle 84.97 23 eP **P 07 03 11.9 -0.4**
comp=E,16nm,0.6s
EGAK LR LR
comp=Z,8µm,22.0s
KSH Kashi 85.06 310 P **P 07 03 15.6 +2.1**
KSH pP pP 07 03 33.2 +5.3
KSH PP PP 07 06 36.2 +5.0
KSH SKS S 07 13 33.0 -6.5
KSH S **SKKSac 07 13 38.6 -2.2**
KSH sS sS 07 14 10.1 +6.5
KSH SS **SS 07 19 20.1 +6.2**
KSH PMZ
comp=Z,59nm,1.3s
KSH PMZ
comp=Z,1µm,4.2s
KSH LN
comp=Z,200nm,4.6s
KSH LE
comp=Z,260nm,4.3s
DAWY Dawson 85.36 24 eP **P 07 03 14.2 -0.2**
comp=Z,32nm,1.2s
KURK Kurchatov 85.84 322 P **P 07 03 15.9 -1.1**
comp=Z,63nm,0.8s,SNR=5.3
KURK Kurchatov 85.84 322 eP **P 07 03 16.3 -0.7**
KURK pmax pmax
comp=Z,19nm,1.0s
KURK MLR MLR
comp=Z,2µm,22.0s
KURK Kurchatov 85.84 322 eP **P 07 03 16.3 -0.7**
comp=Z,19nm,1.0s
KURK LR LR
comp=Z,2µm,22.0s
KURBB Kurchatov Arra 85.88 322 P **P 07 03 16.6 -0.5**
comp=Z,1.8nm,0.6s,baz=98,slow=5.2,SNR=16
WRAK Wrangell Islan 85.93 32 eP **P 07 03 17.9 +0.7**
comp=Z,21nm,1.1s
WRAK LR LR
comp=Z,3µm,20.0s
TKM2 Tokmak 2 86.05 314 eP **P 07 03 16.9 -1.6**
TKM2 pmax pmax
comp=Z,13nm,1.0s
TKM2 MLR MLR
comp=Z,1µm,20.0s
TKM2 Tokmak 2 86.05 314 eP **P 07 03 16.9 -1.6**
comp=Z,13nm,1.0s
TKM2 LR LR
comp=Z,1µm,20.0s
FRU Bishkek 86.74 314 eP **P 07 03 20.0 -1.6**
FRU *e* 07 13 58.0
FRU pmax pmax
comp=Z,260nm,3.4s
FRU MLR MLR
comp=E,2µm,20.0s
AAK Ala-Archa 86.78 313 PFAKE 07 03 30.0 +8.0
AAK LR LR
comp=Z,2µm,21.0s
EKS2 Erkin-Say 87.31 313 eP **P 07 03 25.2 +0.7**
EKS2 pmax pmax
comp=Z,3.0nm,0.8s
EKS2 MLR MLR
comp=Z,2µm,20.0s
EKS2 Erkin-Say 87.31 313 eP **P 07 03 25.2 +0.7**
comp=Z,3.2nm,0.8s
EKS2 LR LR
comp=Z,2µm,20.0s
DLBC Dease Lake 87.71 31 P **P 07 03 26.1 0.0**
comp=Z,7.0nm,1.1s,baz=231,slow=9.6,SNR=5.9
DLBC Dease Lake 87.71 31 eP **P 07 03 26.2 +0.2**
comp=Z,21nm,1.2s
KHMM Horse Mountain 87.84 49 eP **P 07 03 27.9 +0.7**
M02C Callahan 88.58 48 P **P 07 03 31.9 +1.4**
baz=89
N02D Trinity Center 88.62 49 P **P 07 03 32.3 +1.6**
baz=89
HUMO Hull Mountain 88.71 47 eP **P 07 03 31.9 +0.9**
comp=Z,33nm,1.3s
NLWA Neilton Lookou 88.89 42 PFAKE 07 03 40.0 +8.2
NLWA LR LR
comp=Z,7µm,22.0s
INK Inuvik 89.14 21 P **P 07 03 31.5 -0.9**
comp=Z,8.6nm,1.1s,baz=346,slow=14,SNR=4.4
INK Inuvik 89.14 21 P **P 07 03 31.5 -0.9**
INK pmax pmax
comp=Z,9.0nm,1.1s
INK Inuvik 89.14 21 eP **P 07 03 32.6 +0.2**
comp=Z,19nm,1.1s
SMMC Simmler 89.91 55 P **P 07 03 38.5 +1.6**
baz=90
CMB Columbia Colle 89.96 52 eP **P 07 03 36.7 -0.4**
CMB pmax pmax
comp=Z,5.0nm,0.9s
CMB Columbia Colle 89.96 52 eP **P 07 03 36.7 -0.4**
comp=Z,5.1nm,0.9s
PKM Peak Mountain 90.00 55 P **P 07 03 39.5 +2.0**
baz=90
SBC Santa Barbara 90.03 56 P **P 07 03 38.9 +1.6**
baz=90
BSC Santa Cruz Isl 90.04 56 P **P 07 03 38.1 +0.6**
baz=90
J05D Fort Rock, OR 90.06 47 P **P 07 03 37.9 +0.3**
baz=90
I05D Terrebonne, OR 90.14 46 P **P 07 03 37.5 -0.2**
baz=90
MOD Modoc 90.55 48 eP **P 07 03 39.7 -0.2**
comp=Z,10nm,1.1s
VES Vestal, Richgr 90.72 54 P **P 07 03 39.5 -1.0**
baz=91
WAKR Walker 90.77 52 eP **P 07 03 40.4 -0.6**
comp=Z,20nm,1.3s
SCI San Clemente I 90.81 57 P **P 07 03 41.2 +0.1**
baz=91
ARVC Arvin 90.83 55 P **P 07 03 42.1 +1.0**
baz=91
CIS Catalina Islan 90.98 57 P **P 07 03 42.7 +0.8**
baz=91
ISA Isabella 91.19 54 P **P 07 03 43.2 +0.4**
baz=91
PASC Pasadena Art C 91.25 56 eP **P 07 03 43.7 +0.6**
comp=Z,41nm,1.0s
BVAR Borovoye Array 91.31 323 P **P 07 03 41.4 -1.5**
comp=Z,2.2nm,0.7s,baz=106,slow=5.3,SNR=13
MWC Mount Wilson 91.36 56 eP **P 07 03 44.6 +0.8**
MWC pmax pmax
comp=Z,120nm,1.3s
MWC Mount Wilson 91.36 56 eP **P 07 03 44.6 +0.8**
comp=Z,120nm,1.3s
BRVK Borovoye 91.37 323 *ce*P **P 07 03 41.4 -1.8**
BRVK pmax pmax
comp=Z,9.0nm,1.5s
BRVK Borovoye 91.37 323 eP **P 07 03 42.2 -1.0**
comp=Z,8.5nm,0.8s
BRVK LR LR
comp=Z,2µm,22.0s
EDW2 Edwards Air Fo 91.49 55 P **P 07 03 45.9 +1.6**
baz=92
CWC Cottonwood Cre 91.59 54 P **P 07 03 45.4 +0.5**
baz=92
NVAR Mina Array Bea 91.64 52 P **P 07 03 45.8 +0.7**
comp=Z,21nm,1.0s,baz=252,slow=5.4,SNR=59
HAWA Hanford 91.68 44 eP **P 07 03 43.8 -0.9**
comp=Z,12nm,1.0s
HAWA LR LR
comp=Z,6µm,22.0s
BFSC Mount Baldy Ra 91.69 56 P **P 07 03 46.3 +1.0**
baz=92
LRMC Laurel Mountai 91.80 55 P **P 07 03 47.0 +1.2**
baz=92
WVOR Wild Horse Val 91.84 48 eP **P 07 03 45.7 -0.1**
WVOR pmax pmax
comp=Z,7.0nm,0.9s
WVOR MLR MLR
comp=Z,5µm,19.0s
WVOR Wild Horse Val 91.84 48 eP **P 07 03 45.7 -0.1**
comp=Z,6.9nm,0.9s
WVOR LR LR
comp=Z,5µm,19.0s
DAC Darwin (Calif) 91.97 54 eP **P 07 03 47.1 +0.5**
DAC pmax pmax
comp=Z,25nm,1.2s
DAC Darwin (Calif) 91.97 54 eP **P 07 03 47.1 +0.5**
comp=Z,25nm,1.2s
MURC Murrieta 92.00 57 P **P 07 03 48.1 +1.4**
baz=92
109C Camp Elliot, M 92.01 57 P **P 07 03 48.0 +1.4**
baz=92
MPMC Manual Prospec 92.03 54 P **P 07 03 48.0 +1.1**
baz=92
GRAC Grapevine Rang 92.22 53 P **P 07 03 48.6 +1.1**
baz=92
RRX Edison Barstow 92.30 55 P **P 07 03 49.0 +1.0**
baz=92
BBRC Big Bear Solar 92.30 56 P **P 07 03 49.0 +0.7**
baz=92
TPH Tonopah 92.45 52 eP **P 07 03 49.0 +0.2**
TPH pmax pmax
comp=Z,14nm,0.9s
TPH Tonopah 92.45 52 eP **P 07 03 49.0 +0.2**
comp=Z,14nm,0.9s
GSC Goldstone 92.50 55 P **P 07 03 49.8 +0.8**
baz=93
FURC Furnace Creek, 92.57 54 P **P 07 03 50.1 +1.0**
baz=93
MONP Monument Peak 92.58 57 P **P 07 03 50.6 +1.1**
baz=93
PFO Pinyon Flat Ob 92.62 57 P **P 07 03 50.0 +0.4**
comp=Z,127nm,0.9s,SNR=16
PFO Pinyon Flat Ob 92.62 57 P **P 07 03 50.6 +1.0**
comp=Z,16nm,0.8s,baz=259,slow=4.2,SNR=20
PFO LR LR 07 38 47.9
comp=Z,3µm,19.7s,baz=269,slow=31
PFO Pinyon Flat Ob 92.62 57 eP **P 07 03 50.2 +0.6**
PFO pmax pmax
comp=Z,22nm,0.9s
PFO Pinyon Flat Ob 92.62 57 P **P 07 03 50.8 +1.2**
baz=93
PFO Pinyon Flat Ob 92.62 57 eP **P 07 03 50.2 +0.6**
comp=Z,22nm,0.9s
BMN Battle Mountai 92.69 50 eP **P 07 03 49.8 0.0**
BMN pmax pmax
comp=Z,20nm,1.3s
BMN Battle Mountai 92.69 50 eP **P 07 03 49.8 0.0**
comp=Z,20nm,1.3s
RPN Rapa Nui 92.73 118 PFAKE 07 04 00.0 +10
RPN LR LR
comp=Z,3µm,22.0s
HEC Hector,Ludlow 92.84 55 P **P 07 03 51.3 +0.7**
baz=93
SHOC Shoshone 92.99 54 P **P 07 03 51.6 +0.5**
baz=93
BELC Belle Mtn. Jos 93.04 56 P **P 07 03 52.5 +0.9**
baz=93
BMO Blue Mountains 93.06 45 eP **P 07 03 50.5 -0.9**
comp=Z,9.0nm,1.1s
BMO LR LR
comp=Z,5µm,20.0s
TPNV Topopah Spring 93.11 53 P **P 07 03 52.4 +0.6**
baz=93
SWSC Sam W. Stewart 93.11 57 P **P 07 03 52.9 +1.2**
baz=93
TUQ Turquoise Moun 93.23 55 P **P 07 03 53.4 +1.0**
baz=93
GMRC Granite Mounta 93.39 56 P **P 07 03 54.1 +0.9**
baz=93
BC3 Big Chuckawall 93.46 57 P **P 07 03 54.7 +1.3**
baz=94
NEW Newport 93.51 42 P **P 07 03 52.9 -0.4**
comp=Z,4.7nm,0.8s,baz=257,slow=4.2,SNR=7.9
NEW Newport 93.51 42 eP **P 07 03 52.2 -1.0**
NEW pmax pmax
comp=Z,9.0nm,1.0s
NEW MLR MLR
comp=Z,9µm,20.0s
NEW Newport 93.51 42 P **P 07 03 52.5 -0.8**
baz=94
NEW Newport 93.51 42 eP **P 07 03 52.2 -1.0**
comp=Z,9.4nm,1.0s
NEW LR LR
comp=Z,9µm,20.0s
IRM Iron Mountain 93.75 56 P **P 07 03 55.9 +1.2**
baz=94
R11A Troy Canyon, C 93.76 52 P **P 07 03 55.6 +0.8**
baz=94
R11A Troy Canyon, C 93.76 52 eP **P 07 03 55.3 +0.5**
comp=Z,24nm,1.3s
LDFC Landfair 93.86 55 eP **P 07 03 56.1 +0.8**
comp=Z,47nm,1.2s
GLA Glamis 93.93 57 eP **P 07 03 57.2 +1.6**
GLA pmax pmax
comp=Z,43nm,1.3s
GLA Glamis 93.93 57 P **P 07 03 57.1 +1.5**
baz=94
GLA Glamis 93.93 57 eP **P 07 03 57.2 +1.6**
comp=Z,43nm,1.3s
SHPR Sheep Range 93.94 54 eP **P 07 03 56.5 +0.8**
comp=Z,30nm,1.3s
ELK Elko 94.22 50 LR LR 07 40 58.5
comp=Z,3µm,19.7s,baz=276,slow=32
ELK Elko 94.22 50 eP **P 07 03 57.4 +0.5**
ELK pmax pmax
comp=Z,5.0nm,1.0s
ELK Elko 94.22 50 eP **P 07 03 57.4 +0.5**
comp=Z,5.4nm,1.0s
Y12C Blythe 94.24 57 P **P 07 03 58.1 +1.2**
baz=94
NEE2 Needles Airpor 94.24 56 P **P 07 03 57.8 +0.9**
baz=94
PDMCI Parker Dam,Lak 94.60 56 P **P 07 03 59.8 +1.2**
baz=95
HLID Hailey 95.03 47 P **P 07 04 00.6 0.0**
baz=95
HLID Hailey 95.03 47 eP **P 07 04 00.7 +0.2**
comp=Z,5.2nm,1.1s
HLID LR LR
comp=Z,8µm,21.0s
BSMT Bassoo Peak 95.04 43 eP **P 07 03 59.9 -0.6**
comp=Z,3.5nm,1.0s
CCUT Cedar City 95.45 53 eP **P 07 04 03.5 +0.8**
comp=Z,12nm,1.3s
214A Organ Pipe Nat 95.55 59 P **P 07 04 04.7 +1.7**
baz=96
214A Organ Pipe Nat 95.55 59 eP **P 07 04 04.5 +1.5**
comp=Z,4.0nm,0.8s
WALA Waterton Lakes 95.69 41 eP **P 07 04 02.9 -0.5**
comp=Z,13nm,1.1s
YKA Yellowknife Ar 95.86 28 P **P 07 04 03.1 -0.5**
comp=Z,2.0nm,0.7s,baz=270,slow=4.8,SNR=14
YKA PKKP **PKKPbc 07 20 51.4 -3.8**
comp=Z,0.7nm,0.7s,baz=86,slow=2.7,SNR=7.4
SLMT Seeley Lake 95.88 43 eP **P 07 04 07.1 +2.8**
comp=Z,6.8nm,1.4s
DUG Dugway 96.03 50 eP **P 07 04 05.5 +0.4**
DUG pmax pmax
comp=Z,7.0nm,1.1s
DUG MLR MLR
comp=Z,2µm,21.0s
DUG Dugway 96.03 50 P **P 07 04 05.1 0.0**
baz=96
DUG Dugway 96.03 50 eP **P 07 04 05.5 +0.4**
comp=Z,6.7nm,1.1s
DUG LR LR
comp=Z,2µm,21.0s
HVU Hansel Valley 96.14 49 eP **P 07 04 05.5 -0.1**
HVU pmax pmax
comp=Z,6.0nm,0.9s
HVU Hansel Valley 96.14 49 eP **P 07 04 05.5 -0.1**
comp=Z,6.0nm,0.9s
EDM Edmonton 96.22 37 eP **P 07 04 05.1 -0.4**
EDM pmax pmax
comp=Z,7.0nm,0.8s
EDM Edmonton 96.22 37 eP **P 07 04 05.1 -0.4**
comp=Z,7.4nm,0.8s
MCMT McKenzie Canyo 96.22 46 eP **P 07 04 05.3 -0.7**
comp=Z,2.3nm,1.0s
MVU Marysvale 96.41 52 eP **P 07 04 08.1 +1.1**
comp=Z,4.5nm,1.1s
DLMT Dillon 96.42 45 eP **P 07 04 08.3 +1.5**
comp=Z,3.3nm,0.8s
MSU Marysvale 96.44 52 eP **P 07 04 07.8 +0.7**
MSU pmax pmax
comp=Z,9.0nm,1.4s
MSU Marysvale 96.44 52 eP **P 07 04 07.8 +0.7**
comp=Z,9.5nm,1.4s
NLU North Lily Min 96.58 51 eP **P 07 04 07.6 -0.1**
comp=Z,4.9nm,0.9s
WUAZ Wupatki 96.94 55 P **P 07 04 10.7 +1.3**
baz=97
WUAZ Wupatki 96.94 55 eP **P 07 04 10.5 +1.1**
comp=Z,10nm,1.0s
WUAZ LR LR
comp=Z,3µm,20.0s
HWUT Hardware Ranch 97.03 49 eP **P 07 04 08.9 -0.8**
comp=Z,3.2nm,0.8s
HWUT LR LR
comp=Z,3µm,19.0s
BOZ Bozeman (W) 97.11 45 P **P 07 04 09.8 -0.1**
baz=97
TMUT Trail Mountain 97.23 51 eP Pdif 07 04 11.1 +0.2
comp=Z,10nm,0.9s
TUC Tucson 97.28 58 eP Pdif 07 04 12.8 +1.8
TUC pmax pmax
comp=Z,5.0nm,1.3s
TUC MLR MLR
comp=Z,4µm,20.0s
TUC Tucson 97.28 58 eP Pdif 07 04 12.8 +1.8
comp=Z,5.2nm,1.3s
TUC LR LR
comp=Z,4µm,20.0s
AHID Auburn Hatcher 97.42 48 PFAKE 07 04 20.0 +8.5
AHID LR LR
comp=Z,4µm,19.0s
ABKAR Akbulak array 97.57 319 eP **P 07 04 11.6 0.0**
comp=Z,1.2nm,0.6s
REDW Red Top Meadow 97.61 47 eP Pdif 07 04 12.6 +0.2
comp=Z,8.1nm,1.3s
MOOW Moose Ponds 97.70 47 eP **P 07 04 12.4 -0.3**
comp=Z,3.0nm,0.9s
SRU San Rafael 97.75 51 eP Pdif 07 04 13.3 +0.2
SRU pmax pmax
comp=Z,4.0nm,0.8s
SRU San Rafael 97.75 51 eP Pdif 07 04 13.3 +0.3
comp=Z,4.3nm,0.8s
LKWY Lake 97.96 46 PFAKE 07 04 30.0 +16
LKWY LR LR
comp=Z,6µm,19.0s
ARU Arti 98.35 326 P **P 07 04 12.2 -2.8**
ARU 07 08 12.6
ARU S SKSac 07 14 42.5 -6.2
ARU PS **PS 07 17 01.9 -8.2**
ARU MLR MLR
comp=Z,1µm,20.0s
ARU Arti 98.35 326 PFAKE 07 04 30.0 +15
ARU LR LR
comp=Z,1µm,20.0s
MSEY Mahe Island 98.38 264 PFAKE 07 04 30.0 +14
MSEY LR LR
comp=Z,828nm,19.0s
EGMT Eagleton 98.43 42 P **P 07 04 15.2 -0.5**
baz=98
EGMT Eagleton 98.43 42 eP **P 07 04 15.2 -0.5**
comp=Z,7.8nm,1.0s
EGMT LR LR
comp=Z,7µm,21.0s
GCMT Greycliff 98.49 45 eP **P 07 04 16.0 -0.1**
comp=Z,3.2nm,0.9s
BW06 Boulder Array 98.55 48 eP **P 07 04 15.4 -1.2**
comp=Z,3.2nm,0.8s

BW06 LR LR
comp=Z,4µm,22.0s
PDAR Pinedale Array 98.55 48 P **P 07 04 15.8 -0.8**
comp=Z,2.8nm,0.7s,baz=99,slow=0.4,SNR=22
PDAR LR LR 07 41 57.7
comp=Z,3µm,22.0s,baz=278,slow=31
GEYT Alibeck 98.74 307 PP PP 07 08 15.7 -3.3
comp=Z,1.4nm,0.4s,baz=139,slow=7.0,SNR=4.2
GEYT LR LR 07 50 02.8
comp=Z,1µm,21.1s,baz=85,slow=36
RLMT Red Lodge 98.77 45 PFAKE 07 04 30.0 +13
RLMT LR LR
comp=Z,3µm,19.0s
J19A Crowheart 98.92 47 P Pdif 07 04 18.4 +0.3
baz=99
B19A Brinkman Farms 98.96 42 P **P 07 04 17.6 -0.4**
baz=99
PV01 Paradox Valley 99.26 52 *e*P **Pdif 07 04 20.0 +0.1**
comp=Z,643nm,1.2s
MVCO Mesa Verde 99.31 53 P **Pdif 07 04 20.1 0.0**
baz=99
MVCO Mesa Verde 99.31 53 PFAKE 07 04 30.0 +10
MVCO LR LR
comp=Z,4µm,19.0s
O20A White River Ci 99.53 50 P **Pdif 07 04 21.1 +0.2**
baz=100
C20A Veseth Ranch, 99.61 43 P **Pdif 07 04 20.6 -0.3**
baz=100
A20A Cobblestone Ra 99.63 42 P **Pdif 07 04 20.7 -0.3**
baz=100
I21A Big Trails, Te 100.20 47 P **Pdif 07 04 22.6 -1.2**
baz=100
E21A Keefer Ranch, 100.28 44 P **Pdif 07 04 24.0 0.0**
baz=100
A21A Bergtoll Ranch 100.28 41 P **Pdif 07 04 23.6 -0.3**
baz=100
D21A La Casta Ranch 100.31 43 P **Pdif 07 04 24.0 -0.1**
baz=100
I22A 9 Mile Ranch, 100.78 47 P **Pdif 07 04 26.5 +0.1**
baz=101
G22A Birney 100.87 45 P **Pdif 07 04 27.8 +1.2**
baz=101
ANMO Albuquerque 100.95 56 P **Pdif 07 04 28.3 +0.9**
comp=Z,1.1nm,0.9s,baz=320,slow=6.9,SNR=3.9
ANMO Albuquerque 100.95 56 P **Pdif 07 04 28.3 +0.9**
ANMO MLR MLR
comp=Z,2µm,20.0s
ANMO Albuquerque 100.95 56 P **Pdif 07 04 28.3 +0.9**
ANMO LR LR
comp=Z,2µm,20.0s
N23A Red Feather La 101.27 50 P **Pdif 07 04 29.2 +0.4**
baz=101
F23A Volborg 101.47 45 P **Pdif 07 04 29.0 -0.3**
baz=102
G23A Biddle 101.51 45 P **Pdif 07 04 29.8 +0.3**
baz=102
D23A Lindsay 101.53 43 P **Pdif 07 04 30.0 +0.5**
baz=102
ISCO Idaho Springs 101.55 51 PFAKE 07 04 40.0 +10
ISCO LR LR
comp=Z,3µm,20.0s
B23A Brockton 101.59 42 P **Pdif 07 04 29.3 -0.4**
baz=102
SDCO Great Sand Dun 101.69 53 P **Pdif 07 04 30.6 -0.1**
baz=102
SDCO Great Sand Dun 101.69 53 PFAKE 07 04 40.0 +9.2
SDCO LR LR
comp=Z,4µm,20.0s
C24A Savage 102.04 43 P **Pdif 07 04 31.9 +0.2**
baz=102
DGMT Dagmar 102.12 42 PFAKE 07 04 40.0 +7.9
DGMT LR LR
comp=Z,7µm,21.0s
H25A Fruitdale 102.81 46 P **Pdif 07 04 35.2 -0.1**
baz=103
FFC Flin Flon 102.84 35 PFAKE 07 04 50.0 +15
FFC LR LR
comp=Z,2µm,19.0s
J26A Sides Ranch, S 103.28 47 P **Pdif 07 04 37.0 -0.4**
baz=103
TXAR Lajitas Array 103.35 61 Pdiff **Pdif 07 04 45.3 +7.3**
comp=Z,0.4nm,0.8s,baz=244,slow=4.7,SNR=6.5
TXAR PP **PKiKP 07 08 56.3 -0.8**
comp=Z,1.0nm,1.0s,baz=277,slow=7.0,SNR=4.8
TXAR PKKPbc **PKKPbc 07 20 30.0 -2.9**
comp=Z,0.1nm,0.4s,baz=95,slow=4.5,SNR=3.5
G26A Maurine 103.47 45 P **Pdif 07 04 38.0 -0.2**
baz=104
PMSA Palmer Station 103.72 164 PFAKE 07 04 50.0 +11
PMSA LR LR
comp=Z,3µm,20.0s
H27A Howes 103.90 46 P **Pdif 07 04 39.9 -0.2**
baz=104
G27A Dupree 103.93 45 P **Pdif 07 04 40.0 -0.3**
baz=104
ABPO Ambohimpanom 104.11 249 PFAKE 07 04 50.0 +8.2
ABPO LR LR
comp=Z,2µm,20.0s
OGNE Ogallala 104.23 49 PFAKE 07 04 50.0 +8.3
OGNE LR LR
comp=Z,2µm,19.0s
B28A Dugan Ranch, T 104.66 42 P **Pdif 07 04 43.8 +0.5**
baz=105
KBS Kingsbay 104.90 353 PFAKE 07 05 00.0 +16
KBS LR LR
comp=Z,979nm,20.0s
CBKS Cedar Bluff 106.16 51 PFAKE 07 09 10.0
CBKS LR LR
comp=Z,3µm,21.0s
JCT Junction City 106.67 60 PFAKE 07 09 10.0
JCT LR LR
comp=Z,6µm,22.0s
APA Apatity 107.17 340 *i* P **Pdif 07 04 45.0 -9.0**
APA MLR MLR
comp=Z,2µm,24.0s
WMOK Wichita Mounta 107.27 56 PFAKE 07 09 20.0
WMOK LR LR
comp=Z,3µm,19.0s
AGMN Agassiz Nation 107.65 41 PFAKE 07 09 20.0
AGMN LR LR
comp=Z,6µm,21.0s
ECSD EROS Data Cent 107.91 46 PFAKE 07 09 20.0
ECSD LR LR
comp=Z,4µm,22.0s
KEV Kevo 108.08 343 PFAKE 07 09 20.0
KEV LR LR
comp=Z,1µm,22.0s
DGRG David-gareji 108.33 312 P **PP 07 09 28.7 -1.7**
KSU1 Kansas State U 108.56 51 PFAKE 07 09 20.0
KSU1 LR LR
comp=Z,3µm,20.0s
ARCES ARCESS Array B 108.64 343 PKiKP **PKiKP 07 09 04.8 -0.8**
comp=Z,1.0nm,0.8s,baz=26,slow=2.3,SNR=5.7
ARCES PKKPbc PKKPbc 07 20 11.7 -6.1
comp=Z,0.5nm,0.6s,baz=304,slow=2.1,SNR=4.5
GNI Garni 108.99 310 PFAKE 07 09 20.0
GNI LR LR
comp=Z,676nm,21.0s
KULLO Kullorsuaq 109.22 9 *i* P **PP 07 09 35.6 0.0**
KULLO *i* S **PS 07 19 00.2 -3.0**
comp=Z,2µm,16.0s
DAG Danmarks Havn 109.34 358 *i* P **PP 07 09 38.5 +2.1**
comp=Z,1µm,20.0s
ONI Oni 109.57 313 P **PP 07 09 34.9 -4.5**
RAYN Ar Rayn 109.79 293 PFAKE 07 09 20.0
RAYN LR LR
comp=Z,724nm,21.0s
KIV Kislovodsk 109.87 315 *i* P **Pdif 07 05 02.9 -3.8**
KIV *e* 07 09 38.5
KIV *e*PS **PS 07 19 07.9 -3.3**
KIV *e*SS SS 07 24 57.5 -5.3
KIV pmax pmax
comp=Z,4.0nm,0.7s
KIV Kislovodsk 109.87 315 PFAKE 07 09 20.0
KIV LR LR
comp=Z,746nm,20.0s
EYMN Ely 110.58 41 PFAKE 07 09 20.0
EYMN LR LR
comp=Z,7µm,22.0s
SCIA State Center 110.68 48 PFAKE 07 09 20.0
SCIA LR LR
comp=Z,4µm,20.0s
OBN Obninsk 110.76 327 PFAKE 07 09 20.0
OBN LR LR
comp=Z,1µm,20.0s
MIAR Mount Ida 111.56 55 PFAKE 07 09 20.0
MIAR LR LR
comp=Z,3µm,20.0s
SOC Sochi 112.06 315 *i* PKiKP **PKiKP 07 09 15.3 +2.5**
SOC *e* 07 09 57.4
SOC MLR MLR
comp=Z,804nm,19.0s
JFWS Jewell Farm 112.62 46 PFAKE 07 09 30.0
JFWS LR LR
comp=Z,3µm,22.0s
FINES FINESS Array B 112.96 336 PKKPbc PKKPbc 07 19 59.9 -3.5
comp=Z,1.0nm,0.7s,baz=166,slow=3.9,SNR=5.4
SUMG Summit 113.19 4 *i* P **PP 07 10 06.0 +1.4**
SUMG *i* S **PS 07 19 45.5 +4.3**
comp=Z,2µm,24.0s
HDIL Hopedale 113.85 48 PFAKE 07 09 30.0
HDIL LR LR
comp=Z,4µm,19.0s
ILULI Ilulissat 114.83 10 *i* P PP 07 10 26.3 +11
ILULI *i* S **PS 07 19 55.8 +0.4**
comp=Z,1µm,22.0s
PAYG Puerto Ayora 115.04 94 PFAKE 07 09 30.0 +11
PAYG LR LR
comp=Z,1µm,21.0s
SCO Scoresbysund 115.72 359 *i* P PP 07 10 29.3 +7.4
SCO *i* S **PS 07 20 02.4 -1.1**
comp=Z,2µm,24.0s
GLMI Grayling 116.02 43 PFAKE 07 09 30.0 +10
GLMI LR LR
comp=Z,6µm,21.0s
AKASG Malin Array Be 116.55 324 PKP **PKPdf 07 09 20.9 -0.3**
comp=Z,0.6nm,0.4s,baz=61,slow=2.9,SNR=3.3
KIEV Kiev 116.56 324 PFAKE 07 09 30.0 +8.8
KIEV LR LR
comp=Z,996nm,21.0s
SFJD Kangerlussuaq 116.88 11 *i* P PP 07 10 36.5 +6.4
comp=Z,1µm,21.0s
SFJD Kangerlussuaq 116.88 11 PFAKE 07 09 30.0 +8.7
SFJD LR LR
comp=Z,1µm,20.0s
KMBO Kilima Mbogo 116.88 266 PFAKE 07 09 40.0 +17
KMBO LR LR
comp=Z,756nm,20.0s
BRTR Keskin Array B 117.42 312 PKP **PKPdf 07 09 22.9 -0.5**
comp=Z,1.0nm,0.7s,baz=123,slow=1.6,SNR=4.3
BRTR PP **PP 07 10 36.2 +0.9**
comp=Z,2.6nm,1.0s,baz=79,slow=6.4,SNR=5.1
AAM Ann Arbor 117.47 45 PFAKE 07 09 40.0 +17
AAM LR LR
comp=Z,4µm,22.0s
BRAL Brewton 117.52 58 PFAKE 07 09 40.0 +16
BRAL LR LR
comp=Z,3µm,20.0s
ANTO Ankara 118.01 312 PFAKE 07 09 40.0 +16
ANTO LR LR
comp=Z,388nm,22.0s
KIS Kishinev 118.31 321 *e*PP PP 07 10 44.0 +3.1
KIS LRM MLR 07 58 20.0
comp=Z,1µm,24.0s
ACSO Alum Creek Sta 118.58 47 PFAKE 07 09 40.0 +15
ACSO LR LR
comp=Z,3µm,22.0s
NOA NORSAR Array B 118.74 341 PKP **PKPdf 07 09 25.0 -0.2**
comp=Z,0.7nm,0.7s,baz=0,slow=2.1,SNR=2.5
NOA NORSAR Array B 118.74 341 PKiKP **PKPdf 07 09 25.0 -0.2**
CSS Prodhromos 118.87 307 PFAKE 07 09 40.0 +14
CSS LR LR
comp=Z,252nm,21.0s
GOGA Godfrey 120.02 55 PFAKE 07 09 40.0 +12
GOGA LR LR
comp=Z,3µm,19.0s
BOSA Boshof 120.10 232 PKP **PKPdf 07 09 29.0 +0.1**
comp=Z,6.3nm,0.5s,baz=138,slow=1.3,SNR=23
BOSA Boshof 120.10 232 PKiKP **PKPdf 07 09 29.0 +0.1**
ISP Isparta 120.30 310 PFAKE 07 09 40.0 +11
ISP LR LR
comp=Z,765nm,22.0s
KONO Kongsberg 120.31 340 PFAKE 07 09 40.0 +12
KONO LR LR
comp=Z,2µm,20.0s
JTS JuntasAbangare 121.14 82 PFAKE 07 09 40.0 +8.9
JTS LR LR
comp=Z,2µm,20.0s
BLA Blacksburg 121.41 50 PFAKE 07 09 40.0 +9.0
BLA LR LR
comp=Z,5µm,22.0s
BSD Bornholm Skovb 121.46 334 *i* P **PP 07 11 06.0 +4.0**
comp=Z,910nm,19.0s
SUR Sutherland 121.58 226 PFAKE 07 09 40.0 +8.3
SUR LR LR
comp=Z,4µm,19.0s
STHS Stebnicka Huta 121.69 326 *e*PKiKP **PKPdf 07 09 29.7 -1.5**
STHS Stebnicka Huta 121.69 326 *e*PKP **PKPdf 07 09 29.7 -1.5**
COP Copenhagen 122.12 336 *i* P **PP 07 11 08.3 +1.9**
comp=Z,700nm,22.0s
LSZ Lusaka 122.65 248 *e*PKiKP **PKPdf 07 09 34.4 +0.3**
LSZ MLR MLR
comp=Z,2µm,20.0s
LSZ Lusaka 122.65 248 *e*PKPdf **PKPdf 07 09 34.4 +0.3**
LSZ LR LR
comp=Z,2µm,20.0s
LONY Lake Ozonia 122.70 40 PFAKE 07 09 40.0 +6.7
LONY LR LR
comp=Z,4µm,20.0s
NHSC New Hope 122.76 54 PFAKE 07 09 50.0 +16
NHSC LR LR
comp=Z,2µm,20.0s
MUD Monsted U'grnd 122.85 338 *i* P **PP 07 11 13.9 +2.6**
comp=Z,2µm,19.0s
OKC Ostrava-Krasne 123.14 328 *e*PP PP 07 11 19.6 +6.0
OKC AMS AMS 08 07 00.0
comp=Z,1µm,20.0s
NRS Narsarsuaq 123.14 11 *i* P **PP 07 11 11.6 -1.4**
comp=Z,1µm,20.0s
NCB Newcomb 123.22 40 PFAKE 07 09 50.0 +16
NCB LR LR
comp=Z,5µm,20.0s
PSZ Piszkesteto 123.24 325 PFAKE 07 09 50.0 +16
PSZ LR LR
comp=Z,1µm,21.0s
CBN Corbin 123.36 48 PFAKE 07 09 50.0 +15
CBN LR LR
comp=Z,3µm,22.0s
MBAR Mbarara 123.41 265 PFAKE 07 09 50.0 +14
MBAR LR LR
comp=Z,617nm,21.0s
DPC Dobruska-Polom 123.79 329 *e*PP PP 07 11 21.4 +3.3
DPC *e*SP SP 07 21 12.9 +3.1
DPC AMS AMS 08 05 40.0
comp=Z,1µm,20.3s
UPC Upice 123.85 329 *e*PP PP 07 11 18.9 +0.5
UPC *e*PS **PS 07 21 18.8 +1.6**
UPC AMS AMS 08 06 00.0
comp=Z,2µm,20.9s
CNNC Cliffs of the 123.96 51 PFAKE 07 09 50.0 +14
CNNC LR LR
comp=Z,4µm,19.0s
PVCC Panska Ves 124.57 330 AMS AMS 08 08 00.0
comp=Z,1µm,17.5s
SANT Santorini 124.60 310 PFAKE 07 09 50.0 +13
SANT LR LR
comp=Z,423nm,21.0s
CFAA Coronel Fontan 124.61 135 PKP **PKPdf 07 09 36.5 -0.8**
comp=Z,0.3nm,0.4s,baz=234,slow=4.2
BRG Berggiesshubel 124.66 331 *e*(P) **PKPdf 07 09 36.6 -0.2**
comp=Z,3.3nm,0.8s
BRG *e* 07 10 01.7
comp=Z,7.1nm,1.1s
comp=Z,1µm,20.1s
comp=N,1µm,26.2s
comp=E,530nm,26.2s
BRG Berggiesshubel 124.66 331 *e*PKiKP **PKPdf 07 09 36.6 -0.2**
BRG pmax pmax
comp=Z,3.0nm,0.8s
BRG MLR MLR
comp=Z,1µm,20.1s
BRG MLR MLR
comp=N,1µm,26.2s
BRG MLR MLR
comp=E,530nm,26.2s
CLL Collm 124.83 332 *e*PKiKP **PKPdf 07 09 40.0 +2.9**
CLL *e* 07 11 25.0
CLL *e*PS **PS 07 21 25.0 -0.6**
CLL pmax pmax
comp=Z,3.0nm,0.6s
CLL MLR MLR
comp=Z,2µm,20.6s
CLL Collm 124.83 332 *e*(PKPdf) **PKPdf 07 09 40.0 +2.9**
CLL *e* 07 10 00.0
comp=Z,8.0nm,1.0s
CLL *e* 07 10 21.0
CLL *e*PP **PP 07 11 25.0 +0.2**
CLL *e*PPP PPP 07 14 06.0
CLL *e*SP SP 07 21 16.0 -2.6
CLL *e*PS **PS 07 21 25.0 -0.6**
CLL *e*PPS PPS 07 22 54.0
CLL *e*SS **SS 07 28 12.0 -3.7**
CLL *e*SSS SSS 07 33 24.0
CLL Lm MLR 08 06 00.0
comp=Z,2µm,20.6s
GOPC GO Pecny, Ondr 124.84 329 *e*PP PP 07 11 27.9 +2.9
GOPC AMS AMS 08 07 40.0
comp=Z,1µm,20.1s
TREC Trest 124.86 328 AMS AMS 08 04 30.0
comp=Z,1µm,21.1s
PRU Pruhonice 124.92 330 *e*PP PP 07 11 28.1 +2.6
PRU *e*PS **PS 07 21 28.9 +2.4**
PRU *ex* x 07 28 32.8
PRU AMS AMS 08 08 00.0
comp=Z,1µm,18.9s
PRA Prague 124.92 330 AMS AMS 08 08 00.0
comp=Z,1µm,21.3s
PKME Peaks-Kenny Pk 125.65 37 PFAKE 07 09 50.0 +11
PKME LR LR
comp=Z,1µm,22.0s
NKC Novy Kostel 125.80 331 AMS AMS 08 11 20.0
comp=Z,900nm,21.1s
NNA Nana 125.91 110 PFAKE 07 09 50.0 +10
NNA LR LR
comp=Z,981nm,20.0s
KHC Kasperske Hory 125.94 329 *e*PP PP 07 11 35.3 +2.9
KHC *ex* x 07 12 52.8
KHC *ex* x 07 28 48.9
KHC AMS AMS 08 07 40.0
comp=Z,1µm,19.6s
GERES GERESS Array B 126.06 329 PKP **PKPdf 07 09 40.0 +0.3**
comp=Z,1.0nm,0.6s,baz=48,slow=2.0,SNR=7.0
BCIP Isla Barro Col 126.16 83 PFAKE 07 09 50.0 +9.3
BCIP LR LR
comp=Z,1µm,19.0s
TIR Tirane 126.56 318 PFAKE 07 09 50.0 +9.3
TIR LR LR
comp=Z,918nm,21.0s
OTAV Otavalo 126.89 94 PFAKE 07 09 50.0 +7.3
OTAV LR LR
comp=Z,1µm,20.0s
MYKA Terra Mystica 127.47 327 ‖ *i* PKiKP **PKiKP 07 09 44.0 +1.0**
comp=Z,23nm,1.9s
ESK Eskdalemuir 127.82 344 PFAKE 07 09 50.0 +7.3
ESK LR LR
comp=Z,1µm,19.0s
MTDJ Mount Denham 127.97 72 PFAKE 07 10 00.0 +16
MTDJ LR LR
comp=Z,1µm,20.0s
LVC Limon Verde 128.85 125 PKP **PKPdf 07 09 46.0 0.0**
comp=Z,8.7nm,0.7s,baz=324,slow=14,SNR=3.2
LVC Limon Verde 128.85 125 PKP **PKPdf 07 09 46.0 0.0**
LVC LR LR
comp=Z,2µm,21.0s
BFO Black Forest 129.07 331 PFAKE 07 10 00.0 +15
BFO LR LR
comp=Z,1µm,20.0s
WLF Walferdange 129.10 334 PFAKE 07 10 00.0 +15
WLF LR LR
comp=Z,1µm,20.0s
TIP Timpagrande 129.69 317 PFAKE 07 10 00.0 +13
TIP LR LR
comp=Z,340nm,22.0s
ECH Echery 129.70 332 PFAKE 07 10 00.0 +13
ECH LR LR
comp=Z,1µm,20.0s
TUE Stuetta 129.84 329 PFAKE 07 10 00.0 +13
TUE LR LR
comp=Z,1µm,22.0s
CUC Castrocucco 129.90 319 PFAKE 07 10 00.0 +13
CUC LR LR
comp=Z,421nm,20.0s
GTBY Guantanamo Bay 130.02 69 PFAKE 07 10 00.0 +12
GTBY LR LR
comp=Z,1µm,22.0s
AQU L'Aquila 130.14 322 PFAKE 07 10 00.0 +12
AQU LR LR
comp=Z,1µm,22.0s
TSUM Tsumeb 130.60 238 PFAKE 07 10 00.0 +11
TSUM LR LR
comp=Z,2µm,19.0s
CEL Celeste 130.73 317 PFAKE 07 10 00.0 +11
CEL LR LR
comp=Z,538nm,21.0s
VLC Villacollemand 130.80 326 PFAKE 07 10 00.0 +11
VLC LR LR
comp=Z,1µm,21.0s
ROSC El Rosal 131.45 89 PKP **PKPdf 07 09 51.2 -0.1**
comp=Z,5.4nm,0.4s,baz=278,slow=5.6,SNR=9.6
ROSC SKPbc **SKPab 07 13 15.5 +2.3**
comp=Z,7.3nm,0.9s,baz=289,slow=3.0,SNR=15
BNI Bardonecchia 132.18 329 PFAKE 07 10 00.0 +8.5
BNI LR LR
comp=Z,2µm,20.0s
LPAZ La Paz 132.33 118 PKP **PKPdf 07 09 53.0 -0.2**
comp=Z,3.3nm,0.6s,baz=290,slow=5.3,SNR=12
LPAZ SKPbc **SKPab 07 13 17.5 +0.3**
comp=Z,6.6nm,0.9s,baz=327,slow=1.0,SNR=12
LPAZ La Paz 132.33 118 PKiKP **PKPdf 07 09 53.0 -0.2**
WDD Wield Dalam 132.86 314 PFAKE 07 10 00.0 +7.2
WDD LR LR
comp=Z,458nm,22.0s
CLTB Caltabellotta 132.90 317 PFAKE 07 10 00.0 +7.0
CLTB LR LR
comp=Z,411nm,20.0s
SSB Saint Sauveur 133.07 331 PFAKE 07 10 00.0 +7.0
SSB LR LR
comp=Z,1µm,22.0s
GRTK Grand Turk 133.39 66 PFAKE 07 10 10.0 +16
GRTK LR LR
comp=Z,2µm,22.0s
SDDR Presa de Saban 133.73 70 PFAKE 07 10 10.0 +15
SDDR LR LR
comp=Z,3µm,21.0s
VSL Villasalto 134.29 322 PFAKE 07 10 10.0 +15
VSL LR LR
comp=Z,495nm,21.0s
BBSR BB Station 135.19 49 PFAKE 07 10 10.0 +13
BBSR LR LR
comp=Z,3µm,20.0s
SDV Santo Domingo 135.25 84 PFAKE 07 10 10.0 +12
SDV LR LR
comp=Z,988nm,22.0s
CPUP Villa Florida 135.36 138 PKP **PKPdf 07 09 57.2 -0.6**
comp=Z,1.7nm,0.8s,baz=297,slow=6.5,SNR=3.5
CPUP SKPbc **SKPbc 07 13 26.4 +1.4**
comp=Z,4.5nm,0.9s,baz=247,slow=3.8,SNR=6.4
SIV San Ignacio 138.52 122 PKP **PKPdf 07 10 04.0 +0.1**
comp=Z,1.6nm,0.5s,baz=238,slow=2.3,SNR=5.0
SIV SKPbc **SKPbc 07 13 36.3 +1.6**
comp=Z,6.4nm,0.9s,baz=234,slow=4.6,SNR=7.1
SJG San Juan 138.68 70 PFAKE 07 10 20.0 +16
SJG LR LR
comp=Z,2µm,22.0s
SAML Samuel 139.60 111 *e*PKPdf **PKPdf 07 10 04.9 -1.1**
SAML LR LR
comp=Z,787nm,20.0s
PGAV Gavieira, Arco 141.18 339 *e*LR LR 08 07 49.6
comp=Z,927nm,22.0s
MVO Moncorvo 141.42 337 *e*PKP PKPdf 07 10 02.3 -6.3
MVO Moncorvo 141.42 337 *e*LR LR 08 04 32.8
comp=Z,1µm,20.0s
PAB San Pablo 141.66 333 PFAKE 07 10 20.0 +11
PAB LR LR
comp=Z,1µm,20.0s
MTE Manteigas 142.28 337 *e*PKP **PKPdf 07 10 07.3 -2.9**
MTE Manteigas 142.28 337 *e*LR LR 08 05 18.0
comp=Z,928nm,22.0s
MTE Manteigas 142.28 337 PFAKE 07 10 20.0 +10
MTE LR LR
comp=Z,959nm,20.0s
ANWB Willy Bob 142.83 69 PFAKE 07 10 20.0 +8.4
ANWB LR LR
comp=Z,2µm,22.0s
PMRV Marv??o 143.05 336 *e*PKP PKPab 07 10 00.9 -5.9
PMRV Marv??o 143.05 336 *e*LR LR 08 03 55.5
comp=Z,908nm,22.0s

PMTG	**Montargil**	**143.69**	**337**	*e*PKP	PKPdf	07 10 19.1	+6.5	
GRGR	**Grenville**	**143.90**	**78**	PFAKE		07 10 30.0	+16	
GRGR				LR	LR			
	comp=Z,1μm,20.0s							
FDF	**Fort de France**	**144.02**	**73**	PFAKE		07 10 30.0	+16	
FDF				LR	LR			
	comp=Z,1μm,22.0s							
LIS	**Lisbon**	**144.35**	**338**	*e*P	**PKPdf**	**07 10 13.6**	**-0.1**	
LIS				AMS	AMS	08 26 23.8		
	comp=E,2μm,28.1s							
LIS	**Lisbon**	**144.35**	**338**	*e*PKIKP	**PKPdf**	**07 10 13.6**	**-0.1**	
PNCL	**Nicolau / Gran**	**144.64**	**336**	*e*PKP	**PKPab**	**07 10 12.8**	**-0.1**	
MESJ	**Messejana**	**144.75**	**336**	*e*P	**PKPab**	**07 10 13.4**	**0.0**	
MESJ				AMS	AMS	08 24 45.1		
	comp=Z,808nm,16.6s							
MESJ	**Messejana**	**144.75**	**336**	*e*PKIKP	**PKPab**	**07 10 13.3**	**0.0**	
BB16B	**Bebedouro**	**144.76**	**141**⇑	*e*P	**PKPab**	**07 10 11.7**	**-2.2**	
BB16B				*i*		07 10 13.2		
BB16B				*i*		07 10 15.1		
BB16B				*i*		07 10 16.8		
PCVE	**Castro Verde**	**144.85**	**335**	*e*PKP	PKPbc	07 10 14.0	+0.2	
PVAQ	**Vaqueiros**	**144.91**	**335**	*e*PKP	**PKPab**	**07 10 13.8**	**-0.1**	
PVAQ	**Vaqueiros**	**144.91**	**335**	*e*LR	LR	08 06 33.4		
	comp=Z,1μm,18.0s							
PTGA	**Pitinga**	**144.97**	**100**	PKP	PKPbc	07 10 13.7	-1.2	
	comp=Z,45nm,0.9s,baz=249,slow=3.4,SNR=42							
PTGA	**Pitinga**	**144.97**	**100**	PKP	PKPbc	07 10 13.7	-1.2	
PTGA				LR	LR			
	comp=Z,3μm,20.0s							
PTEO	**Sao Teotonio**	**145.20**	**336**	*e*PKP	**PKPdf**	**07 10 15.3**	**0.0**	
MORF	**Marmelete**	**145.38**	**336**	*e*P	**PKPbc**	**07 10 15.3**	**-0.2**	
MORF				AMS	AMS	08 17 52.1		
	comp=Z,1μm,20.7s							
MORF	**Marmelete**	**145.38**	**336**	*e*PKIKP	**PKPbc**	**07 10 15.3**	**-0.2**	
TAM	**Tamanrasset**	**145.79**	**302**	*e*PKP2	**PKPab**	**07 10 18.3**	**+0.5**	
TAM				MLR	MLR			
	comp=Z,784nm,20.0s							
TAM	**Tamanrasset**	**145.79**	**302**	*e*PKPdf	**PKPab**	**07 10 18.3**	**+0.5**	
TAM				LR	LR			
	comp=Z,784nm,20.0s							
BBGH	**Gun Hill**	**145.80**	**76**	PFAKE		07 10 30.0	+12	
BBGH				LR	LR			
	comp=Z,3μm,21.0s							
BDFB	**Brasilia**	**148.95**	**134**	PKPbc	**PKPbc**	**07 10 25.3**	**-1.0**	
	comp=Z,6.3nm,0.5s,baz=262,slow=0.9,SNR=19							
TORD	**Torodi Ar. Bea**	**152.27**	**287**	PKPbc	**PKPbc**	**07 10 32.1**	**-1.9**	
	comp=Z,9.4nm,0.4s,baz=36,slow=2.3,SNR=106							
TOB4	**Torodi Ar. Sit**	**152.28**	**287**	*e*P	**PKPbc**	**07 10 33.6**	**-0.5**	
KIC	**Kosan Boka**	**159.31**	**272**	*e*P	**PKPab**	**07 11 14.8**	**+0.5**	
	comp=Z,108nm,1.3s							
DBIC	**Dimbokro**	**159.42**	**273**	PKPab	**PKPab**	**07 11 15.6**	**+0.9**	
	comp=Z,9.8nm,0.7s,baz=79,slow=7.0,SNR=7.3							
DBIC	**Dimbokro**	**159.42**	**273**	PKP2	**PKPab**	**07 11 15.6**	**+0.9**	
DBIC				pmax	pmax			
	comp=Z,10.0nm,0.7s							
TIC	**Toumodi**	**159.59**	**272**	*e*P	**PKPab**	**07 11 15.6**	**+0.1**	
LIC	**Lamto**	**159.59**	**271**	*e*P	**PKPab**	**07 11 16.8**	**+1.3**	
	comp=Z,99nm,1.3s							
ASCN	**Ascension**	**162.09**	**219**	PFAKE		07 10 50.0	+10	
ASCN				LR	LR			
	comp=Z,2μm,22.0s							
RCBR	**Riachuelo**	**164.24**	**139**	PFAKE		07 10 50.0	+8.2	
RCBR				LR	LR			
	comp=Z,2μm,20.0s							
SACV	**Santiago Islan**	**171.04**	**348**	PFAKE		07 11 00.0	+13	
SACV				LR	LR			
	comp=Z,1μm,20.0s							

*ISCJB **07** 07:15:46.1±0.5,9°.59S±0°.06×74°.73W±0°.05,h130km, mb3.7/12,Error ellipse: s-maj=8.6km s-min=7.1km az=34.9*

*IDC **07** 07:15:47.8±0.8,9°.71S×74°.70W,h133km±8km,mb3.6/10, mb1 3.8/15,mb1mx3.7/40,mbtmp4.1/15,Error ellipse: s-maj=12.5km s-min=12.2km az=51.0*

ISC 07 07:15:47.5±0.5,9°.65S±0°.07×74°.73W±0°.08,h130km,n23, σ0°92/28,mb3.8/12,Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**3.12**	**222**	P	**Pn**	**07 16 35.8**	**+0.1**
	20nm,0.3s,baz=36,slow=9.9,SNR=61						
NNA				S	**Sn**	**07 17 13.0**	**+0.1**
	62nm,0.3s,baz=149,slow=23,SNR=14						
ATAH	**Atahualpa**	**4.41**	**304**	P	**Pn**	**07 16 54.3**	**+1.3**
	3.9nm,0.3s,baz=97,slow=1.1,SNR=35						
ATAH				S	**Sn**	**07 17 40.6**	**-3.2**
	5.2nm,0.3s,baz=127,slow=12,SNR=6.9						
LPAZ	**La Paz**	**9.21**	**136**	P	**Pn**	**07 17 58.6**	**+0.8**
	0.4nm,0.3s,baz=326,slow=10,SNR=16						
SIV	**San Ignacio**	**14.73**	**117**	P	**Pn**	**07 19 08.9**	**-0.6**
	2.1nm,0.3s,baz=316,slow=12,SNR=32						
PTGA	**Pitinga**	**17.15**	**60**	P	**P**	**07 19 39.1**	**+0.2**
	4.0nm,0.3s,baz=245,slow=18,SNR=34						
CFAA	**Coronel Fontan**	**22.66**	**166**	P	**P**	**07 20 38.0**	**0.0**
	0.1nm,0.7s,baz=328,slow=13,SNR=2.3						
CPUP	**Villa Florida**	**23.38**	**137**	P	**P**	**07 20 43.0**	**-1.6**
	2.0nm,0.9s,baz=322,slow=11,SNR=3.1						
BDFB	**Brasilia**	**26.72**	**106**	P	**P**	**07 21 14.4**	**-0.6**
	2.1nm,0.6s,baz=298,slow=14,SNR=3.7						
LPIG	**La Paz**	**48.30**	**315**	P	**P**	**07 24 16.2**	**+0.4**
	60nm,1.2s,baz=9.5,slow=6.1,SNR=3.2						
PFO	**Pinyon Flat Ob**	**58.51**	**319**	P	**P**	**07 25 31.4**	**+1.0**
	1.6nm,0.7s,baz=180,slow=4.9,SNR=3.3						
PDAR	**Pinedale Array**	**61.09**	**331**	P	**P**	**07 25 48.5**	**+0.4**
	0.7nm,0.7s,baz=126,slow=9.9,SNR=4.9						
NVAR	**Mina Array Bea**	**62.74**	**322**	P	**P**	**07 26 00.1**	**+0.9**
	1.1nm,0.8s,baz=130,slow=8.4,SNR=7.4						
SCHQ	**Schefferville**	**64.58**	**5**	P	**P**	**07 26 10.9**	**+0.3**
	2.0nm,0.8s,baz=225,slow=17,SNR=3.1						
YBH	**Yreka Blue Hor**	**67.44**	**323**	P	**P**	**07 26 29.0**	**-0.4**
	1.6nm,0.7s,baz=100,slow=6.1,SNR=3.5						
YKA	**Yellowknife Ar**	**78.24**	**342**	P	**P**	**07 27 32.5**	**+0.1**
	0.5nm,0.5s,baz=138,slow=5.9,SNR=7.8						
TORD	**Torodi Ar. Bea**	**79.17**	**75**	P	**P**	**07 27 38.6**	**0.0**
	1.0nm,0.8s,baz=270,slow=5.9,SNR=7.3						
ILAR	**Eielson Array**	**91.20**	**336**	P	**P**	**07 28 37.8**	**+0.2**
	0.3nm,0.6s,baz=136,slow=2.4,SNR=6.2						
STKA	**Stephens Creek**	**126.05**	**219**	PKP	**PKPdf**	**07 34 34.1**	**-0.9**
	1.1nm,0.6s,baz=46,slow=3.6,SNR=3.9						
ZALV	**Zalesovo Beam**	**132.87**	**16**	PKP	**PKPdf**	**07 34 47.9**	**+0.7**
	1.0nm,0.7s,baz=222,slow=2.0,SNR=4.3						
ZALV				pPKP	**pPKPdf**	**07 35 22.4**	**+0.3**
	0.4nm,0.4s,baz=260,slow=4.1,SNR=2.3						
ASAR	**Alice Springs**	**136.65**	**220**	PKP	**PKPdf**	**07 34 55.0**	**-0.2**
	1.3nm,0.8s,baz=133,slow=2.1,SNR=9.3						
ASAR				pPKP	**pPKPdf**	**07 35 30.6**	**+0.4**
	0.7nm,0.9s,baz=162,slow=3.0,SNR=3.4						
MKAR	**Makanchi Array**	**138.13**	**24**	PKP	**PKPdf**	**07 34 56.3**	**-0.9**
	0.3nm,0.7s,baz=336,slow=1.0,SNR=2.6						
WRA	**Warramunga Arr**	**138.97**	**224**	PKP	**PKPdf**	**07 34 59.6**	**0.0**
	1.2nm,0.5s,baz=121,slow=2.1,SNR=23						
WRA				pPKP	**pPKPdf**	**07 35 34.7**	**+0.2**
	0.4nm,0.5s,baz=126,slow=2.1,SNR=2.2						
KSRS	**Korea Array**	**145.59**	**327**	PKPbc	**PKPbc**	**07 35 11.3**	**+0.1**
	1.8nm,0.6s,baz=31,slow=4.2,SNR=8.2						

*BJI **07** 07:19:42.8,14°.20N×90°.90W,h94km,mB5.1/1*

*CASC **07** 07:19:43.7±1.2,13°.89N×91°.09W,h70km±14km,MD4.7, ML4.9*

*ISCJB **07** 07:19:43.9±0.3,14°.15N±0°.03×90°.89W±0°.03,h116km±2km, mb4.6/107,Error ellipse: s-maj=6.9km s-min=2.6km az=44.4*

*MEX **07** 07:19:43.6±0.8,13°.76N×91°.35W,h71km±20km,MD4.7*

*IDC **07** 07:19:43.7±0.4,14°.32N×90°.62W,h91km±3km,mb4.1/27, mb1 4.3/28,mb1mx4.3/37,mbtmp4.5/28,MS3.8/1, Ms1 3.8/1,ms1mx3.3/23,Error ellipse: s-maj=16.7km s-min=7.3km az=55.0*

*NEIC **07** 07:19:43.9±0.7,14°.13N×90°.89W,h98km±6km,mb4.7/86, MD4.7(MEX),Error ellipse: s-maj=6.8km s-min=4.0km az=223.0*

NEIC Felt [II] at Antigua Guatemala and Guatemala. Also felt at Amatitlan, Escuintla, Mixco, Panajachel, San Antonio Aguas Calientes, San Lucas Sacatepequez and San Lucas Toliman.

ISC 07 07:19:42.5±0.4,14°.03N±0°.05×91°.09W±0°.04,h92km±3km, h92km:pP-P,n473,σ1♀28/523,mb4.7/107,6C-15D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.48**	**30**⇓	*i*P	**Pn**	**07 19 58.2**	**+0.6**
PCG	**Pacaya**	**0.59**	**52**⇓	*i*P	**Pn**	**07 19 59.5**	**+1.0**
JAT	**Jato**	**0.61**	**298**⇑	*e*P	**Pn**	**07 19 58.6**	**+0.3**
NBG	**Las Nubes**	**0.91**	**52**⇓	*e*P	**Pn**	**07 20 03.6**	**+2.0**
RBDL	**Robledal**	**1.36**	**86**⇓	*i*P	**Pn**	**07 20 07.4**	**+0.6**
RTR	**El Retiro**	**1.41**	**95**⇓	*i*P	**Pn**	**07 20 07.9**	**+0.6**
SBLS	**San Blas**	**1.43**	**97**⇓	*i*P	**Pn**	**07 20 08.2**	**+0.4**
SNJE	**San Jose**	**1.45**	**96**⇓	*i*P	**Pn**	**07 20 08.3**	**+0.5**
MRL	**Marmol**	**1.70**	**52**⇓	*i*P	**Pn**	**07 20 12.7**	**+1.6**
MRL				⇓*e*P	**Pn**	**07 20 13.5**	**+2.4**
MTO2	**Montecristo 2**	**1.71**	**77**⇓	*i*P	**Pn**	**07 20 11.7**	**+0.5**
BOQS	**Boqueron**	**1.78**	**99**	*e*P	**Pn**	**07 20 12.6**	**+0.6**
BOQS				*e*S	**Sn**	**07 20 35.7**	**+1.1**
SNET	**Serv Nac Est T**	**1.83**	**100**	*e*P	**Pn**	**07 20 12.9**	**+0.2**
SNET				*e*S	**Sn**	**07 20 36.8**	**+1.1**
SNET				AML	AML	07 20 41.2	
	comp=Z,15μm,0.3s						
LFU	**La Fuente**	**1.94**	**98**⇓	*i*P	**Pn**	**07 20 14.6**	**+0.7**
LBRS	**Las Brisas**	**2.00**	**98**⇓	*i*P	**Pn**	**07 20 15.6**	**+0.7**
LFRS	**El Faro**	**2.01**	**101**⇓	*i*P	**Pn**	**07 20 15.3**	**+0.4**
SNVI	**San Vicente**	**2.22**	**100**	*e*P	**Pn**	**07 20 18.8**	**+1.0**
CCIG	**Comitan**	**2.46**	**336**	*i*P	**Pn**	**07 20 23.1**	**+2.1**
CCIG				*i*S	**Sn**	**07 20 53.0**	**+2.5**
CCIG	**Comitan**	**2.46**	**336**	*i*P	**Pn**	**07 20 23.1**	**+2.1**
CCIG				*i*S	**Sn**	**07 20 53.0**	**+2.5**
PCIG		**2.65**	**309**	*i*P	**Pn**	**07 20 23.6**	**+0.2**
PCIG				*i*S	**Sn**	**07 20 53.5**	**-1.3**
PCIG		**2.65**	**309**	*i*P	**Pn**	**07 20 23.6**	**+0.2**
PCIG				*i*S	**Sn**	**07 20 53.5**	**-1.3**
VSM	**San Miguel**	**2.80**	**102**⇑	*e*P	**Pn**	**07 20 26.7**	**+1.2**
CAHU	**Cacacuatique**	**2.80**	**95**	*e*P	**Pn**	**07 20 26.3**	**+0.7**
CNCH	**Conchagua**	**3.25**	**103**	*e*P	**Pn**	**07 20 32.4**	**+0.9**
TGIG		**3.37**	**325**	*e*P	**Pn**	**07 20 33.2**	**+0.2**
TGIG				*e*S	**Sn**	**07 21 13.6**	**+1.5**
TGIG		**3.37**	**325**	*e*P	**Pn**	**07 20 33.2**	**+0.2**
TGIG				*e*S	**Sn**	**07 21 13.6**	**+1.5**
CMIG	**Matias Romero**	**4.76**	**310**	*e*P	**Pn**	**07 20 51.4**	**-0.5**
CMIG				*e*S	**Sn**	**07 21 45.8**	**-0.1**
CMIG	**Matias Romero**	**4.76**	**310**	P	**Pn**	**07 20 51.3**	**-0.5**
	comp=Z,29nm,0.3s,baz=130,slow=10,SNR=172						
CMIG				S	**Sn**	**07 21 44.8**	**-1.1**
	comp=Z,108nm,0.3s,baz=49,slow=18,SNR=9.2						
HUIG	**Huatulco**	**5.15**	**290**	*e*P	**Pn**	**07 20 55.2**	**-2.0**
HUIG				*i*S	Sn	07 21 45.3	-10
HUIG	**Huatulco**	**5.15**	**290**	*e*P	**Pn**	**07 20 55.2**	**-2.0**
HUIG				*i*S	Sn	07 21 45.3	-10
VHO	**Vista Hermosa**	**6.23**	**300**	*e*P	**Pn**	**07 21 12.6**	**+0.6**
VHO				*i*S	**Sn**	**07 22 20.4**	**-1.4**
VHO	**Vista Hermosa**	**6.23**	**300**	*e*P	**Pn**	**07 21 12.6**	**+0.6**
VHO				*i*S	**Sn**	**07 22 20.4**	**-1.4**
GBS2	**Las Lilas**	**6.35**	**119**	*i*P	**Pn**	**07 21 14.9**	**+1.3**
LAPC	**Finca la Perla**	**6.40**	**120**	*i*P	**Pn**	**07 21 15.0**	**+0.7**
GB1A	**Borinquen Arri**	**6.41**	**119**	*i*P	**Pn**	**07 21 15.3**	**+0.9**
LIM1	**Limonal**	**6.59**	**119**	*i*P	**Pn**	**07 21 18.2**	**+1.3**
VCR	**Vista de Mar**	**6.59**	**125**⇓	*i*P	**Pn**	**07 21 18.7**	**+1.7**
VCR				*e*S	**Sn**	**07 22 31.0**	**+0.2**
MESS	**Mesas**	**6.62**	**119**	*i*P	**Pn**	**07 21 18.0**	**+0.8**
CUI	**Cuipilapa**	**6.69**	**119**	*i*P	**Pn**	**07 21 19.6**	**+1.5**
CUI				*i*S	**Sn**	**07 22 27.8**	**-5.2**
AMAS	**Alto Masis**	**6.85**	**119**	*i*P	**Pn**	**07 21 21.6**	**+1.1**
JTS	**JuntasAbangare**	**7.05**	**121**	P	**Pn**	**07 21 24.6**	**+1.4**
	comp=Z,46nm,0.3s,baz=325,slow=9.0,SNR=90						
JTS				S	**Sn**	**07 22 37.6**	**-4.3**
	comp=Z,7.2nm,0.3s,baz=258,slow=20,SNR=2.1						
CEDE	**Laguna Cede¯–o**	**7.16**	**119**	*i*P	**Pn**	**07 21 25.9**	**+1.2**
JCR	**Jicaral**	**7.17**	**125**⇓	*e*P	**Pn**	**07 21 26.7**	**+1.9**
JCR				*e*S	Sn	07 22 37.3	-7.5
CGA2	**Cerro Gallo 2**	**7.61**	**121**⇑	*e*P	**Pn**	**07 21 32.3**	**+1.6**
CGA2				*e*S	Sn	07 22 49.5	-6.0
QCR	**Quepos**	**8.18**	**123**⇑	*i*P	**Pn**	**07 21 40.4**	**+1.9**
QCR				*e*S	Sn	07 23 02.0	-7.3
URSC	**Urasca**	**8.28**	**119**⇑	*i*P	**Pn**	**07 21 42.0**	**+2.0**
BUS	**Buena Vista**	**8.44**	**121**⇑	*i*P	**Pn**	**07 21 45.0**	**+2.6**
BUS				*e*S	**Sn**	**07 23 11.2**	**-5.1**
BCIP	**Isla Barro Col**	**12.03**	**112**	*e*Pn	**Pn**	**07 22 30.3**	**-0.5**
MCJ	**Malvern**	**13.45**	**72**	*i*P	**P**	**07 22 57.3**	**+1.5**
CVJ	**Coleyville**	**13.67**	**70**	*i*P	**P**	**07 22 59.6**	**+1.4**
MTDJ	**Mount Denham**	**13.67**	**70**	P	**P**	**07 22 58.5**	**+0.4**
	comp=Z,286nm,0.8s						
PCJ	**Portland Cotta**	**13.90**	**73**	*i*P	**P**	**07 23 01.6**	**+1.0**
STH	**Stony Hill**	**14.30**	**72**	*i*P	**Pn**	**07 23 01.3**	**+0.6**
HOJ	**Hope**	**14.34**	**72**	*i*P	**P**	**07 23 06.3**	**+0.9**
GWJ	**Greenwich**	**14.37**	**72**	*i*P	**P**	**07 23 07.4**	**+1.4**
YHJ	**Yallahs**	**14.55**	**73**	*i*P	**P**	**07 23 09.2**	**+1.4**
034A	**Hebbronville**	**14.79**	**332**	P	**P**	**07 23 08.7**	**-1.7**
	baz=15						
934A	**Benavides**	**15.18**	**334**	P	**P**	**07 23 14.1**	**-0.7**
	baz=15						
835A	**Beeville**	**15.51**	**337**	P	**Pn**	**07 23 16.9**	**+0.9**
	baz=16						
933A	**Laredo**	**15.52**	**332**	P	**P**	**07 23 18.5**	**-0.1**
	baz=16,SNR=7.2						
834A	**Tilden**	**15.65**	**335**	P	**P**	**07 23 20.2**	**+0.2**
	baz=16,SNR=7.7						
736A	**Circle Diamond**	**15.86**	**340**	P	**P**	**07 23 21.5**	**-0.7**
	baz=16						
735A	**Kenedy**	**16.02**	**338**	P	**P**	**07 23 24.3**	**+0.3**
	baz=16						
637A	**Eagle Lake**	**16.09**	**343**	P	**P**	**07 23 25.0**	**+0.3**
	baz=16						
833A	**Chaparral WMA,**	**16.19**	**333**	P	**P**	**07 23 27.1**	**+1.2**
	baz=16,SNR=12						
734A	**La Parita Cree**	**16.30**	**336**	P	**P**	**07 23 27.6**	**+0.5**
	baz=16						
636A	**Smothers Creek**	**16.34**	**341**	P	**P**	**07 23 28.1**	**+0.5**
	baz=16						
832A	**Faith Ranch, C**	**16.42**	**331**	P	**P**	**07 23 30.3**	**+1.8**
	baz=16,SNR=13						
HKT	**Hockley**	**16.44**	**345**	*e*P	**P**	**07 23 29.2**	**+0.6**
	comp=Z,48nm,1.7s						
733A	**Divot King Ran**	**16.48**	**334**	P	**P**	**07 23 30.3**	**+1.1**
	baz=16,SNR=11						
537A	**Green Hill Far**	**16.69**	**344**	P	**P**	**07 23 32.5**	**+1.0**
	baz=17						
732A	**Laxson Ranch,**	**16.79**	**332**	P	**P**	**07 23 34.3**	**+1.7**
	baz=17,SNR=10						
633A	**Sasthoff Ranch**	**17.09**	**335**	P	**P**	**07 23 37.2**	**+1.4**
	baz=17						
633A				S	Sn	07 26 33.0	-12
	baz=17						
438A	**Sam Houston St**	**17.13**	**347**	P	**P**	**07 23 37.0**	**+0.7**
	baz=17						
534A	**Blanco**	**17.32**	**338**	P	**P**	**07 23 39.9**	**+1.4**
	baz=17,SNR=9.2						
534A				S	Sn	07 26 38.7	-12
	baz=17						
437A	**Phantom Ranch,**	**17.36**	**345**	P	**P**	**07 23 39.9**	**+1.1**
	baz=17						
632A	**Uvalde**	**17.38**	**334**	P	**Pn**	**07 23 40.8**	**+1.6**
	baz=17,SNR=8.6						
436A	**Wall Ranch, Ga**	**17.47**	**343**	P	**Pn**	**07 23 41.8**	**+1.6**
	baz=18						
340A	**Bronson**	**17.50**	**352**	P	**Pn**	**07 23 41.6**	**+1.1**
	baz=18						
339A	**Huntington**	**17.52**	**350**	P	**Pn**	**07 23 41.7**	**+0.9**
	baz=18						
339A				S	Sn	07 26 42.8	-13
	baz=18						
533A	**Kerrville**	**17.57**	**337**	P	**Pn**	**07 23 42.9**	**+1.4**
	baz=18,SNR=13						
631A	**Perdido Creek**	**17.65**	**332**	P	**Pn**	**07 23 43.7**	**+1.3**
	baz=18,SNR=6.2						
631A				S	Sn	07 26 46.7	-12
	baz=18						
338A	**Crockett**	**17.68**	**348**	P	**Pn**	**07 23 44.0**	**+1.3**
	baz=18						
435B	**Jarrell**	**17.72**	**341**	P	**Pn**	**07 23 43.8**	**+0.6**
	baz=18						
NATX	**Nacogdoches**	**17.95**	**350**	P	**Pn**	**07 23 46.2**	**+0.2**
	baz=18						
NATX	**Nacogdoches**	**17.95**	**350**	*e*P	**Pn**	**07 23 45.7**	**-0.3**
434A	**Burnet**	**17.97**	**340**	P	**Pn**	**07 23 46.8**	**+0.5**
	baz=18,SNR=6.4						
532A	**Rocksprings**	**17.97**	**335**	P	**Pn**	**07 23 47.7**	**+1.3**
	baz=18,SNR=10						
336A	**Riesel**	**18.07**	**344**	P	**Pn**	**07 23 48.1**	**+0.7**
	baz=18						
VBMS	**Vicksburg**	**18.11**	**2**	P	**Pn**	**07 23 48.3**	**+0.4**
	baz=18						
335A	**Moody**	**18.13**	**342**	P	**Pn**	**07 23 48.8**	**+0.5**
	baz=18						
433A	**Art**	**18.20**	**337**	P	**Pn**	**07 23 49.9**	**+0.7**
	baz=18						
JCT	**Junction City**	**18.24**	**335**	P	**Pn**	**07 23 50.2**	**+0.6**
	baz=18						
JCT	**Junction City**	**18.24**	**335**	*e*Pn	**P**	**07 23 49.0**	**+0.4**
	comp=Z,12nm,0.9s						
238A	**Jacksonville**	**18.27**	**349**	P	**Pn**	**07 23 50.0**	**+0.2**
	baz=18						
531A	**Rocksprings**	**18.28**	**333**	P	**Pn**	**07 23 52.0**	**+1.9**
	baz=18,SNR=13						
334A	**Lometa**	**18.43**	**340**	P	**Pn**	**07 23 51.9**	**+0.1**
	baz=18,SNR=10						
OTAV	**Otavalo**	**18.55**	**137**	*e*Pn	**Pn**	**07 23 57.8**	**+3.9**
	comp=Z,8.0nm,0.9s						
236A	**Katherine and**	**18.57**	**345**	P	**Pn**	**07 23 53.5**	**0.0**
	baz=19						
432A	**Menard**	**18.58**	**336**	P	**Pn**	**07 23 53.7**	**0.0**
	baz=19,SNR=5.3						
530A	**J-C Ranch, Com**	**18.62**	**331**	P	**Pn**	**07 23 55.7**	**+1.5**
	baz=19,SNR=12						
TIGA	**Tifton**	**18.65**	**20**	P	**Pn**	**07 23 53.5**	**-0.9**
	baz=19						
TIGA	**Tifton**	**18.65**	**20**	*e*P	**P**	**07 23 53.0**	**0.0**
	comp=Z,77nm,0.6s						
333A	**Richland Sprin**	**18.68**	**338**	P	**Pn**	**07 23 54.7**	**-0.1**
	baz=19,SNR=17						
431A	**Sonora**	**18.75**	**334**	P	**Pn**	**07 23 55.9**	**+0.2**
	baz=19,SNR=21						
WHTX	**Lake Whitney**	**18.81**	**343**	P	**Pn**	**07 23 55.5**	**-0.8**
	baz=19,SNR=6.6						
WHTX	**Lake Whitney**	**18.81**	**343**	*e*P	**Pn**	**07 23 55.5**	**-0.8**
	comp=Z,52nm,1.0s						
139A	**Bunkhouse Ranc**	**18.81**	**351**	P	**Pn**	**07 23 55.6**	**-0.7**
	baz=19						
ROSC	**El Rosal**	**18.86**	**117**	P	**Pn**	**07 23 58.8**	**+1.3**
	comp=Z,2.3nm,0.3s,baz=107,slow=3.6,SNR=17						
138A	**Matatall Enter**	**18.90**	**350**	P	**Pn**	**07 23 56.8**	**-0.6**
	baz=19,SNR=5.7						
137A	**Heron Place, G**	**18.97**	**348**	P	**P**	**07 23 57.1**	**+0.6**
	baz=19						
332A	**Millersview**	**19.01**	**337**	P	**Pn**	**07 23 58.1**	**-0.6**
	baz=19,SNR=13						
234A	**Clairette**	**19.02**	**341**	P	**Pn**	**07 23 58.1**	**-0.8**
	baz=19,SNR=17						
136A	**Ennis**	**19.02**	**346**	P	**P**	**07 23 57.5**	**+0.4**
	baz=19						
430A	**Baggett Ranch,**	**19.12**	**332**	P	**Pn**	**07 24 00.3**	**+0.3**
	baz=19,SNR=14						
TXAR	**Lajitas Array**	**19.17**	**325**	P	**Pn**	**07 24 01.9**	**+1.1**
	comp=Z,1.5nm,0.3s,baz=150,slow=12,SNR=154						
TXAR				PcP	**PcP**	**07 28 21.2**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=163,slow=3.9,SNR=11						
TXAR				ScP	**ScP**	**07 31 50.7**	**+3.9**
	comp=Z,0.0nm,0.3s,baz=161,slow=5.7,SNR=6.3						
331A	**San Angelo**	**19.22**	**335**	P	**Pn**	**07 24 00.7**	**-0.5**
	baz=19,SNR=30						
233A	**Rising Star**	**19.28**	**340**	P	**P**	**07 24 00.8**	**+0.9**
	baz=19,SNR=36						
429A	**Davenport Ranc**	**19.29**	**331**	P	**Pn**	**07 24 02.3**	**+0.3**
	baz=19,SNR=15						
LRAL	**Lakeview Retre**	**19.29**	**10**	*e*P	**Pn**	**07 24 01.6**	**-0.3**
	comp=Z,48nm,0.9s						
135A	**Vickery Place,**	**19.33**	**344**	P	**P**	**07 24 00.8**	**+0.4**
	baz=19						
Z39A	**Irene McRaven,**	**19.33**	**352**	P	**P**	**07 24 00.9**	**+0.5**
	baz=19						
232A	**Coleman**	**19.43**	**338**	P	**P**	**07 24 02.4**	**+0.8**
	baz=20						
Z38A	**Mt. Pleasant**	**19.46**	**350**	P	**P**	**07 24 02.3**	**+0.4**
	baz=20						
Z37A	**Pogue Cattle C**	**19.53**	**349**	P	**P**	**07 24 03.4**	**+0.9**
	baz=20,SNR=8.7						
134A	**White-Moore Ra**	**19.53**	**342**	P	**P**	**07 24 03.0**	**+0.3**
	baz=20,SNR=6.3						
SDDR	**Presa de Saban**	**19.61**	**73**	*e*Pn	**Pn**	**07 24 04.7**	**-1.2**
	comp=Z,48nm,1.0s						
330A	**Mertzon**	**19.62**	**334**	P	**Pn**	**07 24 05.0**	**-0.9**
	baz=20,SNR=14						
231A	**Bronte**	**19.73**	**336**	P	**P**	**07 24 05.9**	**+1.1**
	baz=20,SNR=18						
**Z

baz=22,SNR=8.4
Y30A Stafford Cattl 21.67 337 P P 07 24 25.1 -0.6
baz=22,SNR=8.7
Z28A Tucker Farm, M 21.76 334 P P
baz=22
WMOK Wichita Mounta 21.76 343 *e*P P 07 24 25.8 -0.8
comp=Z,21nm,1.2s
Y29A Porterfield Fa 21.96 336 P P 07 24 28.0 -0.7
baz=22
W34A Bridge Creek, 21.96 345 P P 07 24 27.6 -1.1
baz=22,SNR=7.8
W34A Bridge Creek, 21.96 345 *e*P P 07 24 27.9 -0.8
comp=Z,16nm,0.6s
W34A *e*pP **pP** 07 24 46.8 -0.2
X31A McDonald Ranch 22.03 340 P P 07 24 28.9 -0.6
baz=22,SNR=14
JSC Jenkinsville 22.04 22 *e*P P 07 24 30.4 +0.8
comp=Z,87nm,1.5s
W33A Caddo, Fort Co 22.06 344 P P 07 24 29.5 -0.3
baz=22,SNR=6.6
V37A Hulbert 22.07 351 P P 07 24 29.0 -0.8
baz=22,SNR=24
V36A Jenks 22.10 349 P P 07 24 29.7 -0.5
baz=22,SNR=5.8
X30A Coker Ranch, T 22.17 338 P P 07 24 31.1 +0.1
baz=22,SNR=13
TUL1 Tulsa 22.20 350 P P 07 24 30.3 -0.9
baz=22,SNR=6.7
TUL1 Tulsa 22.20 350 *e*P P 07 24 30.1 -1.1
comp=Z,23nm,0.7s
Y28A McKinney Farm, 22.23 335 P P 07 24 31.5 -0.2
baz=22,SNR=7.2
V35A Meyer Ranch, C 22.25 348 P P 07 24 30.4 -1.4
baz=22
W32A Sentinel 22.26 342 P P 07 24 31.0 -0.9
baz=22,SNR=9.0
V34A Guthrie 22.47 346 P P 07 24 32.0 -2.1
baz=22
V34A Guthrie 22.47 346 *e*P P 07 24 30.5 -3.6
comp=Z,29nm,0.7s
X29A Tulia 22.48 337 P P 07 24 33.0 -1.4
baz=22
MSTX Muleshoe 22.50 334 P P 07 24 33.2 -1.5
baz=23
MSTX Muleshoe 22.50 334 *e*P P 07 24 34.6 0.0
comp=Z,128nm,2.4s
TKL Tuckaleechee C 22.52 16 P P 07 24 34.6 -0.1
comp=Z,53nm,0.6s,baz=186,slow=10,SNR=118
TKL LR LR 07 35 49.1
comp=Z,207nm,18.4s,baz=188,slow=44
W31A Holland Ranch, 22.53 341 P P 07 24 33.4 -1.3
baz=23
PARMO Parma 22.57 3 *e*P P 07 24 35.4 +0.2
V33A Lossen Ranch, 22.64 345 P P 07 24 34.1 -1.8
baz=23
PBMO Poplar Bluff 22.66 1 *e*P P 07 24 35.3 -0.8
comp=Z,42nm,0.9s
W30A Crocket Farms 22.73 340 P P 07 24 36.0 -0.9
baz=23
X28A Dimmitt 22.74 336 P P 07 24 35.7 -1.3
baz=23
KMSC Kings Mountain 22.79 21 P P 07 24 37.8 +0.5
baz=23,SNR=34
KMSC Kings Mountain 22.79 21 *e*P P 07 24 38.0 +0.6
comp=Z,66nm,0.8s
U35A Pawnee 22.82 348 P P 07 24 37.3 -0.3
baz=23,SNR=9.0
AMTX Amarillo 22.86 337 P P 07 24 37.7 -0.5
baz=23
AMTX Amarillo 22.86 337 *e*P P 07 24 37.6 -0.7
comp=Z,15nm,0.6s
V31A Spring Creek L 23.04 342 P P 07 24 38.3 -1.6
baz=23
U34A Anderson Ranch 23.05 347 P P 07 24 40.4 +0.4
baz=23,SNR=5.3
U34A Anderson Ranch 23.05 347 *e*P P 07 24 40.2 +0.2
comp=Z,11nm,0.7s
W29A Amraillo 23.06 337 P P 07 24 38.6 -1.5
baz=23
U33A Lingo Farm, Me 23.18 345 P P 07 24 39.4 -1.8
baz=23
T37A Cheneyville 18 23.25 352 P P 07 24 42.6 +0.7
baz=23,SNR=20
T35A Sooner Cattle 23.30 349 P P 07 24 41.3 -1.1
baz=23,SNR=9.0
T36A Boggs Farm, Ca 23.33 350 P P 07 24 41.2 -1.3
baz=23,SNR=21
W28A Vega 23.39 337 P P 07 24 41.7 -1.6
baz=24
TZTN Tazewell 23.42 15 *e*P P 07 24 43.7 +0.3
comp=Z,79nm,0.7s
T34A McClaskey Farm 23.54 348 P P 07 24 43.5 -1.0
baz=24,SNR=6.2
T33A Patterson Ranc 23.83 346 P P 07 24 45.7 -1.4
baz=24
S37A Fort Scott 23.87 353 P P 07 24 47.4 +0.1
baz=24,SNR=21
CELP Cerrillos 23.89 77 P P 07 24 46.9 -0.9
121A Cookes Peak, D 23.91 323 P P 07 24 49.3 +1.3
baz=24,SNR=14
121A Cookes Peak, D 23.91 323 *e*P P 07 24 49.7 +1.7
comp=Z,21nm,0.9s
S36A Lake Cedric, C 23.94 351 P P 07 24 48.0 0.0
baz=24,SNR=56
U30A WK&E Inc. Balk 23.99 341 P P 07 24 48.9 +0.3
baz=24
S35A Otter Creek Ra 24.01 350 P P 07 24 48.4 -0.3
baz=24,SNR=16
T32A Huddler Ranch, 24.09 345 P P 07 24 49.7 +0.3
baz=24
S34A Willow Spring 24.18 348 P P 07 24 50.2 0.0
baz=24,SNR=6.9
R37A Teagarden Farm 24.41 353 P P 07 24 52.8 +0.5
baz=24,SNR=6.7
WCI Wyandotte Cave 24.48 9 *e*P P 07 24 52.8 -0.1
comp=Z,72nm,0.9s
ATAH Atahualpa 24.51 148 P P 07 24 56.2 +2.3
comp=Z,7.5nm,0.9s,baz=0.0,slow=7.1,SNR=2.8
R36A Gordon, Harris 24.51 352 P P 07 24 53.5 +0.3
baz=24,SNR=9.8
SLM Saint Louis 24.52 2 *e*P P 07 24 53.7 +0.4
comp=Z,36nm,0.6s
R35A Emporia Munici 24.62 350 P P 07 24 54.1 -0.1
baz=25
U27A Thompson Grove 24.65 337 P P 07 24 54.5 -0.2
baz=25
OLIL Olney 24.75 6 *e*P P 07 24 55.3 0.0
comp=Z,32nm,0.8s
R34A Isabella, Hill 24.79 348 P P 07 24 56.1 +0.3
baz=25,SNR=7.7
Q37A Longview Farm, 24.93 354 P P 07 24 57.1 +0.1
baz=25,SNR=7.5
R33A Olander Ranch, 24.95 347 P P 07 24 56.9 -0.3
baz=25
LAZ Ladron 24.95 327 *e*P P 07 24 56.5 -0.9
comp=Z,1.4nm,0.7s
BLA Blacksburg 24.97 20 *e*P P 07 24 58.0 +0.5
comp=Z,29nm,0.8s
T28A Walsh 25.02 339 P P 07 24 57.4 -0.5
baz=25
ANMO Albuquerque 25.02 329 P P 07 25 00.1 +2.0
comp=Z,1.8nm,0.6s,baz=148,slow=14,SNR=9.6
ANMO PcP **PcP** 07 28 32.5 +1.6
comp=Z,2.7nm,1.1s,baz=168,slow=8.8,SNR=4.2
ANMO ScP **ScP** 07 32 04.5 +2.8
comp=Z,1.5nm,0.8s,baz=198,slow=1.6,SNR=5.2
ANMO Albuquerque 25.02 329 *e*P P 07 24 56.5 -1.6
comp=Z,3.7nm,0.8s
ANMO PcP **PcP** 07 28 32.5 +1.6
ANMO ScP **ScP** 07 32 04.5 +2.8
Q35A Mercer Eighty, 25.12 351 P P 07 24 57.4 -1.4
baz=25
Q36A Arnold C. Orve 25.13 352 P P 07 24 59.4 +0.5
baz=25,SNR=5.7
S29A Ulysses 25.14 341 P P 07 24 58.0 -1.0
baz=25
R32A Long Quarter, 25.22 346 P P 07 24 59.4 -0.2
baz=25
R31A Burdett 25.30 344 P P 07 25 00.8 +0.4
baz=25,SNR=6.9
Q34A Chapman 25.33 349 P P 07 25 01.2 +0.6
baz=25,SNR=8.1
BLO Bloomington 25.37 8 *e*P P 07 25 00.7 -0.3
comp=Z,33nm,0.8s
KSU1 Kansas State U 25.45 350 P P 07 25 02.4 +0.7
baz=26,SNR=8.9
KSU1 Kansas State U 25.45 350 *e*P P 07 25 02.2 +0.6
comp=Z,32nm,0.6s
STVI Saint Thomas 25.45 77 *e*P P 07 24 57.6 -4.3
R30A Dighton 25.50 343 P P 07 25 02.1 -0.2
baz=26
Q33A Connelly Farm, 25.58 348 P P
baz=26
TUC Tucson 25.59 319 *e*P P 07 25 04.7 +1.5
comp=Z,7.1nm,1.0s
TUC *e*PcP **PcP** 07 28 33.8 +1.7
Q32A Meitler Ranch, 25.73 346 P P 07 25 05.0 +0.8
baz=26,SNR=5.7
P36A Good Intent, A 25.75 353 P P 07 25 05.0 +0.6
baz=26,SNR=11
P35A Duane Minner, 25.77 351 P P 07 25 05.9 +1.3
baz=26,SNR=14
P34A Walnut Farm, R 25.92 350 P P 07 25 07.0 +1.1
baz=26,SNR=6.6
Q31A Ellis 25.94 345 P P 07 25 06.5 +0.3
baz=26
P33A Williams Farm, 25.97 348 P P 07 25 07.1 +0.6
baz=26
R28A Tribune 26.02 341 P P 07 25 07.1 +0.1
baz=26
Q30A Quinter 26.13 344 P P 07 25 08.0 +0.1
baz=26
PCRV Puerto La Cruz 26.14 95 P P 07 25 07.6 -0.7
comp=Z,8.1nm,0.8s,baz=304,slow=3.6,SNR=3.4
O36A Bolckow 26.23 353 P P 07 25 09.5 +0.7
baz=26,SNR=7.6
JSRW J. Sargeant Re 26.34 24 *e*P P 07 25 10.0 +0.2
HDIL Hopedale 26.48 3 P P 07 25 10.0 -0.9
baz=26
HDIL Hopedale 26.48 3 *e*P P 07 25 10.7 -0.3
comp=Z,235nm,0.8s
HDIL *e*PcP **PcP** 07 28 34.2 +0.4
SFIN Scholer Farm 26.48 7 P P 07 25 10.7 -0.3
baz=26,SNR=5.7
SFIN Scholer Farm 26.48 7 *e*P P 07 25 10.5 -0.5
comp=Z,49nm,1.0s
O34A Beatrice 26.52 350 P P 07 25 10.7 -0.7
baz=26,SNR=10
O33A Hebron 26.57 349 P P 07 25 11.9 +0.1
baz=27
214A Organ Pipe Nat 26.71 316 P P 07 25 14.0 +0.8
baz=27,SNR=8.0
214A Organ Pipe Nat 26.71 316 P P 07 25 15.1 +1.9
comp=Z,13nm,0.8s
SDCO Great Sand Dun 26.88 334 *e*P P 07 25 09.0 -5.9
comp=Z,2.1nm,0.8s
N35A Tabor 27.03 352 P P 07 25 16.8 +0.9
baz=27
MVCO Mesa Verde 27.82 329 P P 07 25 24.8 +1.5
baz=28
MVCO Mesa Verde 27.82 329 *e*P P 07 25 26.0 +2.7
comp=Z,7.3nm,0.8s
SCIA State Center 27.84 357 *e*P P 07 25 23.0 -0.1
comp=Z,9.4nm,0.6s
WUAZ Wupatki 28.12 323 P P 07 25 27.5 +1.6
baz=28
WUAZ Wupatki 28.12 323 *e*P P 07 25 29.5 +3.5
comp=Z,8.6nm,1.0s
SDMD Soldier's Deli 28.23 24 *e*P P 07 25 26.0 -0.7
comp=Z,43nm,0.8s
PV01 Paradox Valley 28.58 330 P P 07 25 31.5 +1.4
comp=Z,302nm,1.1s
ISCO Idaho Springs 28.67 336 *e*PcP **PcP** 07 28 41.4 +1.8
GLA Glamis 28.73 315 P P 07 25 33.0 +1.7
baz=29
JFWS Jewell Farm 28.79 1 *e*P P 07 25 31.6 0.0
comp=Z,16nm,0.9s
SSPA Standing Stone 28.91 21 *e*P P 07 25 32.7 0.0
comp=Z,11nm,0.8s
Y12C Blythe 28.94 317 P P 07 25 34.7 +1.7
baz=29
PDMCI Parker Dam,Lak 29.02 318 P P 07 25 36.3 +2.5
baz=29,SNR=8.0
BC3 Big Chuckawall 29.51 316 P P 07 25 40.6 +2.4
baz=30,SNR=9.8
IRM Iron Mountain 29.60 317 P P 07 25 40.5 +1.6
baz=30
MONP Monument Peak 29.74 313 P P 07 25 41.4 +1.0
baz=30
LUPA Lehigh Univers 29.83 24 *e*P P 07 25 41.1 +0.3
comp=Z,5.5nm,1.0s
ECSD EROS Data Cent 29.98 352 P P 07 25 42.1 -0.1
baz=30
ECSD EROS Data Cent 29.98 352 *e*P P 07 25 41.9 -0.3
comp=Z,4.2nm,0.8s
BELC Belle Mtn. Jos 30.08 316 P P 07 25 44.8 +1.5
baz=30
LDFC Landfair 30.13 318 *e*P P 07 25 47.6 +3.9
comp=Z,20nm,0.8s
PFO Pinyon Flat Ob 30.17 315 P P 07 25 46.9 +2.8
comp=Z,2.3nm,0.9s,baz=82,slow=6.6,SNR=4.6
BBSR BB Station 30.23 48 *e*P P 07 25 44.2 -0.2
comp=Z,33nm,1.1s
BRNJ Basking Ridge 30.23 25 *e*P P 07 25 44.4 +0.1
comp=Z,27nm,1.1s
GMRC Granite Mounta 30.31 317 P P 07 25 47.9 +2.6
baz=30,SNR=10
KSPA Keystone Colle 30.49 23 *e*P P 07 25 46.7 0.0
comp=Z,6.0nm,0.6s
ODNJ Ogdensburg 30.55 25 *e*P P 07 25 47.1 0.0
comp=Z,23nm,1.4s
MURC Murrieta 30.68 314 P P 07 25 50.2 +1.7
baz=31
MSU Marysvale 30.71 326 *e*P P 07 25 51.5 +2.5
comp=Z,3.2nm,0.7s
MMNY Mt. Morris Dam 30.78 19 *e*P P 07 25 49.2 0.0
comp=Z,60nm,1.0s
TUQ Turquoise Moun 30.88 318 P P 07 25 52.6 +2.3
baz=31
I29A Vivian Onida 30.91 347 P P 07 25 50.3 -0.1
baz=31
SPMN St. Paul 31.13 358 P P 07 25 52.3 0.0
baz=31,SNR=9.3
SPMN St. Paul 31.13 358 *e*P P 07 25 51.3 -1.0
comp=Z,18nm,0.6s
SPMN *e*pP **pP** 07 26 13.0 -0.3
GLMI Grayling 31.18 9 *e*P P 07 25 51.8 -0.9
comp=Z,38nm,0.8s
K23A Bowen Ranch, D 31.25 339 P P 07 25 54.1 +0.6
baz=31
BFSC Mount Baldy Ra 31.35 315 P P 07 25 57.0 +2.5
baz=31,SNR=5.9
GSC Goldstone 31.37 317 P P 07 25 56.4 +1.7
baz=32
GSC Goldstone 31.37 317 *e*P P 07 25 57.6 +2.9
comp=Z,3.3nm,0.9s
GSC *e*PcP **PcP** 07 28 48.6 +2.2
CIS Catalina Islan 31.43 313 P P 07 25 56.5 +1.5
baz=32
K22A Casper 31.48 338 P P 07 25 55.7 +0.1
baz=32
K22A Casper 31.48 338 *e*P P 07 25 56.4 +0.8
comp=Z,3.3nm,0.8s
EDW2 Edwards Air Fo 31.93 315 P P 07 26 01.2 +1.7
baz=32
COWI Conover 32.01 3 *e*P P 07 25 58.8 -1.2
comp=Z,11nm,0.5s
LRMC Laurel Mountai 32.06 316 P P 07 26 02.9 +2.2
baz=32
FURC Furnace Creek, 32.11 319 P P 07 26 02.9 +2.0
baz=32
MPMC Manual Prospec 32.27 318 P P 07 26 04.8 +2.2
baz=32,SNR=10
SADO Sadowa 32.28 16 P P 07 26 01.1 -1.3
comp=Z,9.8nm,0.4s,baz=219,slow=9.7,SNR=17
TRY Troy 32.31 24 *e*P P 07 26 02.5 -0.1
comp=Z,25nm,1.0s
J21A Lysite 32.42 337 P P 07 26 04.8 +0.9
baz=32
QUA2 Belchertown 32.48 26 *e*P P 07 26 03.2 -0.9
comp=Z,24nm,1.2s
R11A Troy Canyon, C 32.52 323 P P 07 26 07.5 +2.7
baz=33
R11A Troy Canyon, C 32.52 323 *e*P P 07 26 08.1 +3.4
comp=Z,9.1nm,1.4s
I22A 9 Mile Ranch, 32.55 339 P P 07 26 05.4 +0.5
baz=33
G27A Dupree 32.57 346 P P 07 26 06.0 +1.0
baz=33
H24A Dirks Ranch, A 32.69 342 P P 07 26 06.5 +0.4
baz=33
ISA Isabella 32.70 316 P P 07 26 08.3 +2.1
baz=33
ISA Isabella 32.70 316 *e*P P 07 26 09.3 +3.1
comp=Z,78nm,2.8s
ISA *e*PcP **PcP** 07 28 52.1 +2.2
HWUT Hardware Ranch 32.73 331 *e*P P 07 26 08.6 +2.0
comp=Z,4.3nm,0.8s
HWUT *e*PcP **PcP** 07 28 51.4 +1.3
GRAC Grapevine Rang 32.75 319 P P 07 26 09.7 +3.0
baz=33
F28A McLaughlin 32.76 347 P P 07 26 05.9 -0.7
baz=33
PDAR Pinedale Array 32.77 334 P P 07 26 07.2 +0.3
comp=Z,0.7nm,0.6s,baz=113,slow=9.3,SNR=3.9
PDAR PcP **PcP** 07 28 50.3 0.0
comp=Z,1.0nm,0.6s,baz=101,slow=7.7,SNR=5.5
PDAR ScP **ScP** 07 32 27.4 +1.3
comp=Z,1.5nm,0.8s,baz=119,slow=5.7,SNR=9.9
HRV Adam Dziewonsk 33.01 27 *e*P P 07 26 07.7 -1.0
comp=Z,24nm,1.2s
NCB Newcomb 33.15 23 *e*P P 07 26 08.9 -1.0
comp=Z,27nm,1.1s
I20A Worland 33.20 337 P P 07 26 11.3 +0.8
baz=33,SNR=6.2
PKM Peak Mountain 33.20 314 P P 07 26 12.9 +2.1
baz=33,SNR=5.0
VES Vestal, Richgr 33.21 316 P P 07 26 12.9 +2.3
baz=33,SNR=9.0
TPH Tonopah 33.32 321 *e*P P 07 26 14.3 +2.5
comp=Z,4.6nm,1.0s
G23A Biddle 33.36 341 P P 07 26 12.4 +0.6
baz=33
H21A Big Horn, Sher 33.39 339 P P 07 26 12.3 +0.1
baz=33
PTN Potsdam (NY) 33.39 21 *e*P P 07 26 11.5 -0.5
comp=Z,71nm,1.0s
PTN *e*pP **pP** 07 26 35.0 +1.9
E28A Huff 33.43 348 P P 07 26 12.6 +0.1
baz=34
SMMC Simmler 33.55 314 P P 07 26 15.9 +2.3
baz=34
RCTC Rector, Farmer 33.57 316 P P 07 26 15.9 +2.2
baz=34,SNR=5.4
LONY Lake Ozonia 33.57 22 *e*P P 07 26 13.0 -0.6
comp=Z,45nm,1.0s
D30A Buchanan 33.60 351 P P 07 26 13.3 -0.5
baz=34
I19A Meeteetse 33.60 336 P P 07 26 14.5 +0.4
baz=34
H20A Greybull 33.61 338 P P 07 26 14.6 +0.5
baz=34
F24A Ekalaka 33.66 343 P P 07 26 14.7 +0.2
baz=34
E26A Carlson Angus 33.73 346 P P 07 26 14.9 -0.1
baz=34
REDW Red Top Meadow 33.80 334 *e*P P 07 26 16.8 +0.9
comp=Z,9.1nm,1.0s
EYMN Ely 33.82 360 P P 07 26 14.4 -1.3
baz=34,SNR=12
EYMN Ely 33.82 360 *e*P P 07 26 14.6 -1.1
comp=Z,11nm,0.7s
F23A Volborg 33.83 342 P P 07 26 15.0 -0.9
baz=34
SNOW Snow King Moun 33.84 334 *e*P P 07 26 17.0 +0.7
comp=Z,8.3nm,0.6s
TPAW Teton Pass 33.95 334 *e*P P 07 26 17.2 0.0
comp=Z,4.8nm,1.0s
ELK Elko 33.96 326 P P 07 26 19.4 +2.1
comp=Z,2.1nm,0.6s,baz=132,slow=8.2,SNR=13
ELK PcP **PcP** 07 28 55.4 +1.8
comp=Z,2.8nm,0.8s,baz=119,slow=1.7,SNR=8.8
ELK ScP **ScP** 07 32 32.4 +2.1
comp=Z,1.7nm,0.8s,baz=183,slow=6.9,SNR=6.9
E25A Miller Ranch, 33.99 345 P P 07 26 16.7 -0.6
baz=34
D28A Regan 34.00 348 P P 07 26 17.0 -0.4
baz=34
FXWY Fox Creek 34.10 334 *e*PcP **PcP** 07 28 55.4 +1.4
PTGA Pitinga 34.13 113 P P 07 26 17.5 -1.3
comp=Z,35nm,0.7s,baz=306,slow=7.7,SNR=13
C30A Mose, Pekin 34.13 351 P P 07 26 17.4 -1.1
baz=34
NVAR Mina Array Bea 34.21 320 P P 07 26 22.6 +3.0
comp=Z,14nm,0.6s,baz=130,slow=8.4,SNR=82
NVAR pP **pP** 07 26 43.2 +2.5
comp=Z,4.0nm,0.6s,baz=134,slow=7.9,SNR=3.9
NVAR PcP **PcP** 07 28 56.7 +2.3
comp=Z,4.0nm,0.7s,baz=130,slow=3.4,SNR=12
NVAR ScP **ScP** 07 32 33.5 +2.2
comp=Z,1.7nm,0.8s,baz=137,slow=4.3,SNR=8.1
IMW Indian Meadow 34.27 334 *e*PcP **PcP** 07 28 56.6 +2.0
E24A Baker 34.28 344 P P 07 26 20.0 +0.2
baz=34
AGMN Agassiz Nation 34.40 354 P P 07 26 19.6 -1.2
baz=34,SNR=11
AGMN Agassiz Nation 34.40 354 *e*P P 07 26 19.5 -1.2
MDND Maddock 34.46 350 P P 07 26 21.1 -0.1
baz=34
MDND Maddock 34.46 350 *e*P P 07 26 21.1 -0.1
comp=Z,75nm,0.9s
MDND *e*pP **pP** 07 26 42.7 +0.2
C28A Hausauer Farms 34.47 349 P P 07 26 21.3 0.0
baz=34
E23A Ismay 34.50 343 P P 07 26 21.6 -0.1
baz=35
RLMT Red Lodge 34.62 337 P P 07 26 23.1 +0.1
baz=35
B30A Myrvik Farm, E 34.84 352 P P 07 26 24.2 -0.3
baz=35,SNR=8.5
BMN Battle Mountai 34.84 324 *e*P P 07 26 28.0 +3.1
comp=Z,21nm,1.6s
WAKR Walker 34.97 319 P P 07 26 26.9 +0.9
comp=Z,6.7nm,1.1s
B29A Wagenman Farm, 35.01 350 P P 07 26 25.8 -0.2
baz=35
C25A Freed Ranch, W 35.08 346 P P 07 26 26.4 -0.2
baz=35
E21A Keefer Ranch, 35.08 341 P P 07 26 27.1 +0.4
baz=35
D23A Lindsay 35.09 343 P P 07 26 27.2 +0.4
baz=35
B28A Dugan Ranch, T 35.17 349 P P 07 26 27.8 +0.5
baz=35
C24A Savage 35.20 344 P P 07 26 27.8 +0.1
baz=35
B27A Peters Farms, 35.30 348 P P 07 26 28.3 -0.1
baz=35
CMB Columbia Colle 35.30 318 *e*P P 07 26 31.1 +2.4
comp=Z,6.8nm,1.0s
A30A Hoffart Farm, 35.32 352 P P 07 26 28.0 -0.6
baz=35,SNR=11
D22A Cohagen 35.35 342 P P 07 26 29.2 +0.2
baz=35
A29A Manning Farm, 35.44 351 P P 07 26 29.6 -0.1
baz=36
HLID Hailey 35.58 330 P P 07 26 30.9 -0.3
baz=36
HLID Hailey 35.58 330 *e*P P 07 26 32.4 +1.2
comp=Z,7.3nm,1.1s
A28A Rude Farm, Bot 35.60 350 P P 07 26 30.6 -0.4
baz=36
C23A Lambert 35.66 344 P P 07 26 31.2 -0.4
baz=36
MCMT McKenzie Canyo 35.84 333 *e*P P 07 26 35.4 +1.9
SAML Samuel 35.88 128 *e*P P 07 26 33.0 -0.9
comp=Z,7.8nm,0.6s
A26A Wade Farm, Ken 35.92 348 P P 07 26 34.1 +0.2
baz=36
BOZ Bozeman (W) 35.98 335 P P 07 26 35.2 +0.6
baz=36
DGMT Dagmar 36.02 345 P P 07 26 35.1 +0.5
baz=36
DGMT Dagmar 36.02 345 *e*P P 07 26 35.1 +0.5
comp=Z,7.3nm,0.7s
MFID Camas Ranch 36.17 329 *e*P P 07 26 40.5 +4.4
comp=Z,15nm,1.5s
A25A Svangstu Ranch 36.20 347 P P 07 26 36.8 +0.6
baz=36
C20A Veseth Ranch, 36.42 341 P P 07 26 40.2 +2.1
baz=36
A22A Carney Farms, 36.94 344 P P 07 26 43.9 +1.3
baz=37
WVOR Wild Horse Val 36.97 325 *e*P P 07 26 45.6 +2.7
comp=Z,3.5nm,0.6s
B19A Brinkman Farms 37.37 340 P P 07 26 47.5 +1.4
baz=37
LPAZ La Paz 37.71 142 P P 07 26 50.8 +0.8
comp=Z,2.7nm,0.8s,baz=327,slow=6.8,SNR=4.4
LPAZ pP **pP** 07 27 12.7 +1.2
comp=Z,3.6nm,0.7s,baz=326,slow=7.9,SNR=4.6
LPAZ PcP **PcP** 07 29 07.6 +2.0
comp=Z,1.3nm,0.4s,baz=22,slow=4.9,SNR=5.9
M04C Macdoel 38.40 322 P P 07 26 57.0 +1.9

baz=38
JTMT Jette 38.76 335 *e*PcP **PcP 07 29 09.4 +1.7**
YBH Yreka Blue Hor 38.89 321 P **P 07 26 59.8 +0.7**
comp=Z,2.1nm,0.6s,baz=76,slow=6.7,SNR=7.8
G08A Pilot Rock 39.08 328 *e*PcP **PcP 07 29 10.9 +2.1**
I05D Terrebonne, OR 39.70 326 P **P 07 27 07.8 +2.0**
baz=40
I04A Tendick Farm, 39.96 324 P **P 07 27 09.8 +1.9**
baz=40
G05D Wamic, OR 40.28 327 P **P 07 27 12.0 +1.5**
baz=40
NEW Newport 40.37 333 P **P 07 27 11.3 +0.1**
comp=Z,1.6nm,0.7s,baz=135,slow=8.9,SNR=4.2
NEW Newport 40.37 333 P **P 07 27 11.5 +0.3**
baz=40
I03D Drain, OR 40.44 323 P **P 07 27 12.9 +1.1**
baz=40
G03D McMinnville, O 41.32 325 P **P 07 27 20.9 +1.9**
baz=41
FFC Flin Flon 41.49 350 *e*P **P 07 27 19.8 -0.4**
comp=Z,5.5nm,0.7s
LON Longmire 41.53 328 *e*P **P 07 27 22.5 +1.7**
comp=Z,86nm,2.5s
SIV San Ignacio 42.07 134 P **P 07 27 25.9 +0.4**
comp=Z,20nm,0.8s,baz=312,slow=9.0,SNR=15
SIV pP **pP 07 27 47.5 +0.2**
comp=Z,9.3nm,0.8s,baz=333,slow=10,SNR=4.1
SIV PcP **PcP 07 29 20.8 +1.9**
comp=Z,4.1nm,0.6s,baz=254,slow=3.7,SNR=5.1
LVC Limon Verde 42.40 149 P **P 07 27 30.0 +1.6**
comp=Z,14nm,0.9s,baz=4.1,slow=14,SNR=2.9
LVC pP **pP 07 27 51.3 +1.1**
comp=Z,15nm,0.8s,baz=311,slow=7.6,SNR=3.0
EDM Edmonton 42.90 340 *e*P **P 07 27 31.5 -0.3**
SCHQ Schefferville 44.89 20 P **P 07 27 46.4 -1.3**
comp=Z,40nm,0.8s,baz=214,slow=6.1,SNR=55
SCHQ Schefferville 44.89 20 *e*P **P 07 27 46.6 -1.0**
CFAA Coronel Fontan 50.39 155 P **P 07 28 31.6 +1.1**
comp=Z,0.3nm,0.5s,baz=329,slow=7.0,SNR=8.5
CFAA pP **pP 07 28 54.4 +1.5**
comp=Z,0.7nm,0.7s,baz=358,slow=5.7,SNR=4.4
YKA Yellowknife Ar 51.21 346 P **P 07 28 35.9 -0.3**
comp=Z,3.5nm,0.6s,baz=148,slow=7.7,SNR=41
YKA pP **pP 07 28 58.0 -0.6**
comp=Z,3.2nm,0.8s,baz=146,slow=7.2,SNR=4.2
YKA PcP **PcP 07 29 49.5 -0.7**
comp=Z,1.8nm,0.6s,baz=148,slow=3.8,SNR=9.0
YKA ScP **ScP 07 33 38.5 +0.1**
comp=Z,0.4nm,0.6s,baz=146,slow=4.7,SNR=3.3
BDFB Brasilia 51.79 123 P **P 07 28 40.4 -0.9**
comp=Z,3.3nm,0.5s,baz=288,slow=10,SNR=6.8
BDFB pP **pP 07 29 03.9 0.0**
comp=Z,5.4nm,1.1s,baz=288,slow=9.8,SNR=3.7
BDFB PcP **PcP 07 29 54.4 +1.0**
comp=Z,3.1nm,0.6s,baz=242,slow=4.7,SNR=4.2
CPUP Villa Florida 51.84 141 P **P 07 28 40.8 -0.6**
comp=Z,3.7nm,1.0s,baz=323,slow=7.3,SNR=4.8
CPUP PcP **PcP 07 29 54.0 +0.8**
comp=Z,1.6nm,0.7s,baz=318,slow=4.1,SNR=3.2
RCBR Riachuelo 58.20 106 P **P 07 29 26.0 -1.5**
comp=Z,11nm,0.7s,baz=294,slow=5.2,SNR=7.1
RES Resolute Bay 60.69 359 P **P 07 29 41.8 -1.8**
comp=Z,7.7nm,0.7s
DOT Dot Lake 61.55 336 *e*P **P 07 29 50.0 +0.3**
ILAR Eielson Array 63.16 337 P **P 07 30 00.2 -0.2**
comp=Z,2.3nm,1.0s,baz=167,slow=5.0,SNR=24
TRF Thorofare Moun 63.99 335 *e*P **P 07 30 06.0 0.0**
comp=Z,7.3nm,0.8s
RSO Redoubt South 64.06 331 *e*P **P 07 30 07.2 +0.7**
comp=Z,27nm,0.8s
SUMG Summit 65.97 15 *i* P **P 07 30 17.2 -1.8**
comp=Z,6.1nm,0.6s
DAG Danmarks Havn 72.43 13 *i* P **P 07 30 56.5 -1.8**
comp=Z,5.3nm,0.6s
ESDC Sonseca Array 79.00 52 P **P 07 31 34.8 -1.8**
comp=Z,0.7nm,0.4s,baz=283,slow=4.5,SNR=5.1
ESDC pP **pP 07 31 58.9 -1.8**
comp=Z,1.9nm,0.7s,baz=289,slow=5.3,SNR=3.8
NB2 NORSAR Subarra 83.70 29 P **P 07 31 58.6 -2.3**
comp=Z,7.5nm,1.2s,baz=288,slow=5.3
NOA NORSAR Array B 83.70 29 P **P 07 31 59.7 -1.2**
comp=Z,2.0nm,0.9s,baz=290,slow=5.1,SNR=4.0
NOA pP **pP 07 32 24.5 -0.8**
comp=Z,1.6nm,0.8s,baz=289,slow=5.2,SNR=3.6
DBIC Dimbokro 84.77 84 P **P 07 32 05.5 -1.7**
comp=Z,4.6nm,0.7s,baz=310,slow=3.6,SNR=4.9
ARCES ARCESS Array B 85.83 18 P **P 07 32 10.1 -1.3**
comp=Z,1.8nm,0.6s,baz=276,slow=3.5,SNR=21
ARCES pP **pP 07 32 34.7 -1.2**
comp=Z,2.9nm,1.0s,baz=304,slow=6.4,SNR=3.7
CLL Collm 87.75 38 *e*P **P 07 32 20.0 -1.1**
CLL Lm MLR 10 29 00.0
comp=Z,300nm,20.4s
GERES GERESS Array B 89.02 40 P **P 07 32 25.4 -1.9**
comp=Z,0.3nm,0.2s,baz=236,slow=6.9,SNR=4.7
TORD Torodi Ar. Bea 89.51 77 P P 07 32 26.6 -3.5
comp=Z,0.5nm,0.4s,baz=294,slow=3.7,SNR=7.3
FINES FINESS Array B 90.09 25 P **P 07 32 30.2 -1.6**
comp=Z,1.4nm,0.9s,baz=348,slow=6.0,SNR=2.9
FINES pP **pP 07 32 55.7 -0.8**
comp=Z,2.1nm,0.9s,baz=289,slow=5.8,SNR=2.4
KEST Kesra 90.17 53 P **P 07 32 32.1 -0.9**
comp=Z,1.1nm,0.5s,baz=276,slow=10.0,SNR=2.2
KEST pP **pP 07 32 57.3 -0.2**
comp=Z,1.5nm,0.6s,baz=126,slow=1.5,SNR=4.0
PETK Petropavlovsk- 91.12 326 P **P 07 32 35.9 -1.0**
comp=Z,3.7nm,0.8s,baz=108,slow=3.6,SNR=3.6
ZALV Zalesovo Beam 112.21 3 PKiKP **PKiKP 07 38 06.5 -0.8**
comp=Z,1.5nm,0.5s,baz=302,slow=2.6,SNR=7.5
SONM Songino Array 116.47 347 PKP **PKPdf 07 38 15.3 -0.6**
comp=Z,0.6nm,0.7s,baz=350,slow=3.5,SNR=4.6
KSRS Korea Array 117.02 326 PKP **PKPdf 07 38 18.1 +1.1**
comp=Z,2.8nm,0.8s,baz=351,slow=1.4,SNR=10
KSAR Wonju Array Be 117.05 326 PKP **PKPdf 07 38 18.1 +1.0**
MKAR Makanchi Array 119.17 5 PKP **PKPdf 07 38 19.9 -1.0**
comp=Z,1.3nm,0.6s,baz=298,slow=2.8,SNR=14
BOSA Boshof 119.56 115 PKP **PKPdf 07 38 22.7 +0.4**
comp=Z,6.7nm,0.8s,baz=274,slow=1.6,SNR=8.1
GEYT Alibeck 120.78 28 PKP **PKPdf 07 38 24.3 0.0**
comp=Z,2.7nm,0.4s,baz=287,slow=6.0,SNR=5.2
HHC Hu-ho-hao-te 121.50 340 *e*PKP **PKPdf 07 38 23.4 -2.3**
HHC PP **PP 07 39 56.8 -0.5**
HHC PPMZ
comp=Z,160nm,9.1s
WMQ Urumqi 122.42 1 *e*PKP **PKPdf 07 38 27.6 +0.3**
MAW Mawson 123.82 168 PKP **PKPdf 07 38 30.7 +1.7**
comp=Z,1.2nm,0.5s,baz=292,slow=5.4,SNR=2.8
KMBO Kilima Mbogo 127.35 81 PKP **PKPdf 07 38 38.4 +0.6**
comp=Z,0.9nm,0.4s,baz=252,slow=20,SNR=2.7
LZH Lanzhou 128.20 345 *e*PKP **PKPdf 07 38 36.4 -2.3**
LZH sPKP 07 39 14.0
LZH LN
comp=Z,130nm,18.0s
LZH LE
comp=Z,120nm,17.9s
LZH LZ
comp=Z,150nm,20.0s
CD2 Chengdu 133.10 342 PKP **PKPdf 07 38 47.4 -0.6**
WRA Warramunga Arr 136.26 256 PKhKP PKPpre 07 38 48.1
comp=Z,0.5nm,0.8s,baz=91,slow=2.7,SNR=4.7
WRA PKP **PKiKP 07 38 56.5 +0.7**
comp=Z,4.0nm,0.8s,baz=88,slow=2.7,SNR=32
WRA pPKP pPKPdf 07 39 20.1 +0.3
comp=Z,1.8nm,0.9s,baz=86,slow=1.2,SNR=3.7
WRA SKP 07 42 23.1
comp=Z,0.6nm,0.8s,baz=90,slow=2.2,SNR=2.8
ASAR Alice Springs 136.51 250 PKhKP PKPpre 07 38 48.6
comp=Z,0.6nm,0.8s,baz=105,slow=3.9,SNR=5.8
ASAR PKP **PKiKP 07 38 57.6 +1.3**
comp=Z,2.2nm,0.9s,baz=108,slow=2.9,SNR=4.7
ASAR pPKP pPKPdf 07 39 20.0 -0.2
comp=Z,1.5nm,0.8s,baz=96,slow=2.1,SNR=4.3
ASAR SKP 07 42 24.4
comp=Z,0.6nm,0.8s,baz=96,slow=2.8,SNR=3.6
CHTO Chiang Mai 145.90 343 *e*PKPdf **PKPdf 07 39 11.7 +0.2**
CMAR Chiang Mai Arr 146.24 343 PKPbc **PKPbc 07 39 13.2 0.0**
comp=Z,14nm,0.6s,baz=340,slow=3.2,SNR=62
CMAR pPKPbc pPKPbc 07 39 38.2 -0.3
comp=Z,3.3nm,0.5s,baz=334,slow=3.7,SNR=2.7
KAPI Kappang 148.33 283 PKPbc **PKPbc 07 39 19.9 +0.8**
comp=Z,9.0nm,0.8s,baz=168,slow=1.3,SNR=8.1
KAPI Kappang 148.33 283 *e*PKPbc **PKPbc 07 39 20.8 +1.6**

*ISCJB **07** 08:13:19.5±1.8,31°.9N×50°.3E±0°.2,h16km,mb3.7/8, Error ellipse: s-maj=34.6km s-min=16.0km az=155.7*
*IDC **07** 08:13:19.1±2.2,31°.95N×50°.3OE,h0km,mb3.8/8, mb1 3.9/10,mb1mx3.7/38,mbtmp3.8/10,ML3.4/2,Error ellipse: s-maj=44.3km s-min=22.2km az=156.0*
ISC 07 08:13:21.7±2.0,32°.0N±0°.3×50°.3E±0°.2,h16km,n12, σ0§87/11,mb3.7/8,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEYT	**Alibeck**	**8.75**	**45**	Pn	Pn	08 15 32.6	+5.0
	0.8nm,0.3s,baz=251,slow=13,SNR=3.2						
BRTR	**Keskin Array B**	**15.52**	**304**	Pn	**P**	**08 17 03.7**	**-0.6**
	0.1nm,0.3s,baz=123,slow=12,SNR=6.2						
AKTO	**Aktyubinsk**	**19.30**	**15**	P	**Pn**	**08 17 46.9**	**0.0**
	0.2nm,0.3s,baz=226,slow=14,SNR=5.8						
IDI	**Anoyia**	**21.36**	**286**	P	**P**	**08 18 09.1**	**+0.7**
	6.0nm,0.7s,baz=92,slow=15,SNR=5.3						
AKASG	**Malin Array Be**	**24.32**	**326**	P	**P**	**08 18 37.9**	**-0.6**
	0.3nm,0.4s,baz=130,slow=8.6,SNR=4.7						
BVAR	**Borovoye Array**	**25.56**	**29**	P	**P**	**08 18 50.5**	**+0.8**
	0.4nm,0.3s,baz=228,slow=7.8,SNR=4.1						
MKAR	**Makanchi Array**	**28.59**	**50**	P	**P**	**08 19 16.4**	**-0.7**
	0.7nm,0.8s,baz=239,slow=10,SNR=3.7						
FINES	**FINESS Array B**	**33.40**	**339**	P	**P**	**08 19 59.7**	**+0.5**
	1.0nm,0.5s,baz=145,slow=12,SNR=7.3						
NB2	**NORSAR Subarra**	**38.58**	**331**	P	**P**	**08 20 43.2**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=120,slow=8.6						
NOA	**NORSAR Array B**	**38.58**	**331**	P	**P**	**08 20 42.0**	**-1.6**
	comp=Z,1.3nm,0.8s,baz=122,slow=8.3,SNR=3.9						
ARCES	**ARCESS Array B**	**40.10**	**347**	P	**P**	**08 20 57.0**	**+0.9**
	comp=Z,3.4nm,0.3s,baz=151,slow=8.2,SNR=7.9						
TORD	**Torodi Ar. Bea**	**48.18**	**259**	P	**P**	**08 22 01.7**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=52,slow=9.1,SNR=3.3						

MEX 07 08:16:31.1±0.5,17°.34N×100°.79W,h8km±3km,MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.58**	**120**	*i* P	Pg	08 16 41.4	-1.0
CAIG				*i* S	Sg	08 16 49.8	-0.2
ZIIG	**Zihuatanejo**	**0.69**	**292**	*e*P	Pg	08 16 43.0	-1.4
ZIIG				*e*S	Sg	08 16 52.6	-0.9
ACX	**Acapulco**	**1.01**	**118**	*e*P	Pg	08 16 44.1	-6.5
ACX				*e*S	Sg	08 16 56.8	-7.0
ARIG	**Puente Sto Nin**	**1.02**	**24**	*i* P	Pg	08 16 47.7	-3.2
ARIG				*i* S	Sg	08 17 00.8	-3.4
MEIG	**Mezcala**	**1.26**	**62**	*e*P	Pn	08 16 51.7	-3.5
MEIG				*e*S	Sb	08 17 07.3	-4.5
PLIG	**Platanillo**	**1.61**	**49**	*e*P	Pn	08 16 56.8	-3.2
PLIG				*e*S	Sn	08 17 16.6	-4.6
TLIG	**Tlapa**	**2.14**	**84**	*e*P	Pn	08 17 04.5	-2.8
TLIG				*e*S	Sn	08 17 29.5	-4.7
PNIG	**Pinotepa**	**2.72**	**110**	*e*P	Pn	08 17 12.1	-3.1
PNIG				*e*S	Sn	08 17 44.6	-3.8

IDC 07 08:16:54.5±3.4,6°.02S×154°.44E,h0km,mb3.4/2, mb1 3.7/2,mb1mx3.4/27,mbtmp3.4/2,Error ellipse: s-maj=168.3km s-min=47.3km az=127.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.94**	**233**	P	P	08 22 11.5	+0.9
	1.3nm,0.8s,baz=58,slow=9.6,SNR=9.6						
ASAR	**Alice Springs**	**26.42**	**226**	P	P	08 22 32.3	-0.9
	0.2nm,0.5s,baz=58,slow=9.1,SNR=5.9						
TORD	**Torodi Ar. Bea**	**152.23**	**287**	PKPbc	PKPbc	08 36 53.2	-0.1
	0.4nm,0.8s,baz=79,slow=1.9,SNR=2.7						

*IDC **07** 08:44:03.5±1.1,37°.43N×35°.27E,h0km,mb3.5/4, mb1 3.5/7,mb1mx3.4/36,mbtmp3.5/7,ML2.8/2,Error ellipse: s-maj=22.4km s-min=12.6km az=74.0*
*DDA **07** 08:44:03.7,37°.52N×35°.56E,h19km,MD3.5*
*ISCJB **07** 08:44:04.8±0.4,37°.47N±0°.02×35°.56E±0°.02,h13km±3km, mb3.5/3,Error ellipse: s-maj=2.9km s-min=2.9km az=8.3*
*ISK **07** 08:44:04.2,37°.50N×35°.57E,h8km,ML3.7*
*CSEM **07** 08:44:04.8±0.1,37°.50N×35°.57E,h5km,ML3.7,Error ellipse: s-maj=3.0km s-min=2.8km az=153.0*
*NSSC **07** 08:44:06.6±1.6,37°.57N×35°.72E,h33km±91km,MD2.0, ML3.0*
*NIC **07** 08:44:07.0,37°.74N×34°.94E,h12km,mb4.2,ML3.9*
ISC 07 08:44:04.9±0.9,37°.48N±0°.02×35°.57E±0°.02,h14km±6km, n107,σ1§15/137,mb3.5/3,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.20**	**91**	PG	**Pg**	**08 44 09.3**	**-0.1**
KOZT				*e*SG	**Sg**	**08 44 12.7**	**+0.1**
KOZT	**Kozan**	**0.20**	**91**	*i* Pg	**Pg**	**08 44 09.4**	**-0.1**
KOZT				*e*Sg	**Sg**	**08 44 12.7**	**+0.1**
KARA	**Karaisali**	**0.47**	**242**	PG	**Pg**	**08 44 13.9**	**-0.2**
KARA				*e*SG	**Sb**	**08 44 21.2**	**-0.4**
KARA	**Karaisali**	**0.47**	**242**	*i* Pg	**Pg**	**08 44 13.9**	**-0.2**
KARA				*e*Sg	**Sb**	**08 44 21.2**	**-0.4**
CEYT	**Ceyhan**	**0.49**	**163**	*e*PG	**Pg**	**08 44 14.9**	**+0.3**
CEYT	**Ceyhan**	**0.49**	**163**	*e*Pg	**Pg**	**08 44 14.9**	**+0.3**
ANDN	**Andirin**	**0.62**	**81**	*i* P	**Pg**	**08 44 16.5**	**-0.6**
ANDN				*i* S	**Sb**	**08 44 26.4**	**+0.2**
ANDN	**Andirin**	**0.62**	**81**	*i* P	**Pg**	**08 44 16.5**	**-0.6**
ANDN				*i* S	**Sb**	**08 44 26.4**	**+0.2**
YURE	**YUREGIR**	**0.66**	**176**	*i* P	**Pb**	**08 44 18.3**	**+0.2**
YURE				*i* S	**Sn**	**08 44 30.6**	**+0.7**
YURE	**YUREGIR**	**0.66**	**176**	*i* P	**Pb**	**08 44 18.3**	**+0.2**
YURE				*i* S	**Sn**	**08 44 30.6**	**+0.7**
KRTS	**Karatas**	**0.92**	**190**	*e*PG	**Pg**	**08 44 22.7**	**0.0**
KRTS				*e*SG	**Sn**	**08 44 35.9**	**-0.4**
KRTS	**Karatas**	**0.92**	**190**	*e*Pg	**Pg**	**08 44 22.7**	**0.0**
KRTS				*e*Sg	**Sn**	**08 44 35.9**	**-0.4**
KAMA	**Osmaniye**	**0.92**	**108**	*i* P	**Pb**	**08 44 21.2**	**-1.5**
KAMA				*i* S	**Sg**	**08 44 35.5**	**+0.6**
NIG	**Nigde**	**0.99**	**310**	*e*PG	**Pb**	**08 44 22.5**	**-1.4**
NIG	**Nigde**	**0.99**	**310**	*e*Pg	**Pb**	**08 44 22.5**	**-1.4**
MERS	**Mersin**	**1.04**	**234**	*e*PG	**Pb**	**08 44 24.7**	**+0.1**
MERS	**Mersin**	**1.04**	**234**	*e*Pg	**Pb**	**08 44 24.7**	**+0.1**
HCB	**Kahramanmara¯**	**1.07**	**97**	*i* P	**Pb**	**08 44 24.0**	**-1.2**
HCB				*i* S	**Sb**	**08 44 39.3**	**+0.2**
TAHT	**Tahtakopru-Hat**	**1.21**	**156**	*e*PN	**Pn**	**08 44 27.4**	**+0.1**
TAHT				*e*SN	**Sg**	**08 44 45.1**	**+1.2**
TAHT	**Tahtakopru-Hat**	**1.21**	**156**	*e*Pn	**Pn**	**08 44 27.4**	**+0.1**
TAHT				*e*Sn	**Sg**	**08 44 45.1**	**+1.2**
PINB	**Pinarbasi**	**1.36**	**29**	*i* P	**Pn**	**08 44 28.7**	**-0.9**
PINB				*i* S	**Sg**	**08 44 49.4**	**+0.6**
PINB	**Pinarbasi**	**1.36**	**29**	*i* P	**Pn**	**08 44 28.7**	**-0.9**
GULA	**Gulagac**	**1.36**	**310**	*e*PN	**Pn**	**08 44 29.4**	**-0.1**
GULA	**Gulagac**	**1.36**	**310**	*e*Pn	**Pn**	**08 44 29.4**	**-0.1**
KUZU	**Kuzuini**	**1.40**	**120**	*i* P	**Pn**	**08 44 29.9**	**0.0**
KUZU	**Kuzuini**	**1.40**	**120**	*i* P	**Pn**	**08 44 29.9**	**0.0**
AVNT	**Avonos**	**1.41**	**337**	*i* P	**Pn**	**08 44 30.3**	**0.0**
AVNT				*i* S	**Sn**	**08 44 48.5**	**-0.3**
AVNT	**Avonos**	**1.41**	**337**	*i* P	**Pn**	**08 44 30.3**	**0.0**
AVNT				*i* S	**Sn**	**08 44 48.5**	**-0.3**
YESY	**Yesilyurt**	**1.48**	**282**	*e*PN	**Pb**	**08 44 32.0**	**-0.2**
YESY	**Yesilyurt**	**1.48**	**282**	*e*Pn	**Pb**	**08 44 32.0**	**-0.2**
KIZK	**Mersin**	**1.52**	**229**	*i* P	**Pn**	**08 44 32.1**	**+0.6**
KIZK				*i* S	**Sg**	**08 44 54.3**	**+0.5**
KIZK	**Mersin**	**1.52**	**229**	*i* P	**Pn**	**08 44 32.1**	**+0.6**
KIZK				*i* S	**Sg**	**08 44 54.3**	**+0.5**
ARNB	**Al Arnab**	**1.65**	**169**	*e*P	**Pn**	**08 44 34.0**	**+0.5**
ARNB				*e*S	**Sb**	**08 44 55.3**	**-0.4**
ARNB				AML	AML	08 44 59.8	
	comp=N,2μm,0.4s						
ARNB				AML	AML	08 45 00.5	
	comp=E,1μm,0.5s						
SULT	**Sultanhani-AKS**	**1.78**	**294**	*e*PN	**Pb**	**08 44 36.3**	**-0.9**
SULT	**Sultanhani-AKS**	**1.78**	**294**	*e*Pn	**Pb**	**08 44 36.3**	**-0.9**
DARE	**Darende-Malaty**	**1.86**	**54**	*e*PN	**Pn**	**08 44 36.8**	**+0.4**
DARE	**Darende-Malaty**	**1.86**	**54**	*e*Pn	**Pn**	**08 44 36.8**	**+0.4**
AKCD	**Akcadag**	**2.03**	**66**	*i* P	**Pn**	**08 44 39.1**	**+0.4**
AKCD	**Akcadag**	**2.03**	**66**	*i* P	**Pn**	**08 44 39.1**	**+0.4**
WRDH	**Warideh**	**2.08**	**161**	*e*P	**Pn**	**08 44 40.3**	**+0.9**
WRDH				*e*S	**Sn**	**08 45 04.9**	**-0.3**
WRDH				AML	AML	08 45 11.8	
	comp=N,677nm,0.4s						
WRDH				AML	AML	08 45 12.0	
	comp=E,324nm,0.4s						
SERE	**Sereflikochisa**	**2.15**	**313**	*e*PN	**Pn**	**08 44 41.1**	**+0.7**
SERE	**Sereflikochisa**	**2.15**	**313**	*e*Pn	**Pn**	**08 44 41.1**	**+0.7**
KAMT	**Kaman**	**2.38**	**323**	*e*PN	**Pn**	**08 44 45.0**	**+1.4**
KAMT	**Kaman**	**2.38**	**323**	*e*Pn	**Pn**	**08 44 45.0**	**+1.4**
CHBY	**Cihanbeyli**	**2.38**	**298**	*e*PN	**Pn**	**08 44 44.5**	**+0.9**
CHBY	**Cihanbeyli**	**2.38**	**298**	*e*Pn	**Pn**	**08 44 44.5**	**+0.9**
MALT	**Malatya**	**2.41**	**69**	*e*PN	**Pn**	**08 44 44.3**	**+0.4**
MALT				*e*SN	**Sn**	**08 45 14.4**	**+1.2**
MALT	**Malatya**	**2.41**	**69**	*e*Pn	**Pn**	**08 44 44.3**	**+0.4**
MALT				*e*Sn	**Sn**	**08 45 14.4**	**+1.2**
KFRA	**Kufra**	**2.47**	**156**	*e*P	**Pn**	**08 44 45.2**	**+0.4**
KFRA				*e*S	**Sn**	**08 45 13.3**	**-1.5**
KFRA				AML	AML	08 45 30.2	
	comp=E,836nm,0.4s						
KFRA				AML	AML	08 45 32.9	
	comp=N,664nm,0.3s						
HDMB	**Hadim**	**2.52**	**259**	*e*PN	**Pn**	**08 44 46.8**	**+1.3**
HDMB	**Hadim**	**2.52**	**259**	*e*Pn	**Pn**	**08 44 46.8**	**+1.3**
KULU	**Kulu**	**2.55**	**308**	*e*PN	**Pn**	**08 44 46.7**	**+0.8**
KULU	**Kulu**	**2.55**	**308**	*e*Pn	**Pn**	**08 44 46.7**	**+0.8**
KONT	**Konya--Tatoy**	**2.59**	**281**	*e*PN	**Pn**	**08 44 47.9**	**+1.6**
KONT	**Konya--Tatoy**	**2.59**	**281**	*e*Pn	**Pn**	**08 44 47.9**	**+1.6**
URFA	**Urfa**	**2.59**	**90**	*e*PN	**Pn**	**08 44 46.8**	**+0.5**
URFA	**Urfa**	**2.59**	**90**	*e*Pn	**Pn**	**08 44 46.8**	**+0.5**
SVSK	**Karacayir**	**2.67**	**24**	*e*PN	**Pn**	**08 44 48.1**	**+0.7**
SVSK	**Karacayir**	**2.67**	**24**	*e*Pn	**Pn**	**08 44 48.1**	**+0.7**
BRTR	**Keskin Array B**	**2.70**	**327**	Pn	**Pn**	**08 44 49.2**	**+1.2**
	comp=N,1.9nm,0.3s,baz=153,slow=13,SNR=26						
BRTR				Lg	Lg	08 45 29.5	
	comp=N,7.3nm,0.3s,baz=154,slow=34,SNR=8.5						
PHNC	**Paralimni**	**2.77**	**207**	P	**Pb**	**08 44 51.8**	**-2.3**
	baz=14						
PHNC				S	**Sb**	**08 45 26.5**	**-1.4**
PHNC	**Paralimni**	**2.77**	**207**	P	**Pb**	**08 44 51.8**	**-2.3**
PHNC				S	**Sb**	**08 45 26.5**	**-1.4**
AFSR	**Afˇar-Bala (A**	**2.77**	**316**	*e*PN	**Pn**	**08 44 50.5**	**+1.5**
AFSR	**Afˇar-Bala (A**	**2.77**	**316**	*e*Pn	**Pn**	**08 44 50.5**	**+1.5**
TOKT	**Tokat**	**2.93**	**15**	*e*PN	**Pn**	**08 44 51.7**	**+0.6**
TOKT	**Tokat**	**2.93**	**15**	*e*Pn	**Pn**	**08 44 51.7**	**+0.6**
HAWK	**Haweek**	**3.03**	**167**	*e*P	**Pn**	**08 44 53.8**	**+1.3**
HAWK				*e*S	**Sn**	**08 45 29.1**	**+0.5**
HAWK				AML	AML	08 45 48.6	
	comp=N,95nm,0.4s						
HAWK				AML	AML	08 45 51.0	
	comp=E,64nm,0.7s						
CSS	**Prodhromos**	**3.10**	**216**	P	**Pn**	**08 44 55.1**	**+1.8**
	baz=24						
CSS	**Prodhromos**	**3.10**	**216**	*e*PN	**Pn**	**08 44 54.9**	**+1.6**
CSS	**Prodhromos**	**3.10**	**216**	*e*Pn	**Pn**	**08 44 54.9**	**+1.6**
ANTO	**Ankara**	**3.23**	**318**	*e*PN	**Pn**	**08 44 56.9**	**+1.8**
ANTO	**Ankara**	**3.23**	**318**	*e*Pn	**Pn**	**08 44 56.9**	**+1.8**
KIZT	**Kizilcal**	**3.23**	**297**	*e*PN	**Pn**	**08 44 56.1**	**+0.9**
KIZT	**Kizilcal**	**3.23**	**297**	*e*Pn	**Pn**	**08 44 56.1**	**+0.9**
ALFC	**Alevga**	**3.34**	**227**	P	**Pn**	**08 44 56.8**	**+0.2**
	baz=35						
ALFC				S	**Sn**	**08 45 35.8**	**-0.3**
ALFC	**Alevga**	**3.34**	**227**	P	**Pn**	**08 44 56.8**	**+0.2**
ALFC				S	**Sn**	**08 45 35.8**	**-0.3**
CANT	**Cankiri**	**3.47**	**335**	*e*PN	**Pn**	**08 44 59.6**	**+1.2**
AKMC	**Akamas**	**3.59**	**228**	P	**Pn**	**08 45 00.4**	**+0.4**
	baz=37						
AKMC	**Akamas**	**3.59**	**228**	P	**Pn**	**08 45 00.4**	**+0.4**
KVT	**Kavak**	**3.61**	**6**	*e*PN	**Pn**	**08 45 02.4**	**+2.0**
KVT	**Kavak**	**3.61**	**6**	*e*Pn	**Pn**	**08 45 02.4**	**+2.0**
SUTC	**Sutluce-Ispart**	**3.64**	**271**	*e*PN	**Pn**	**08 45 02.9**	**+2.1**
SUTC	**Sutluce-Ispart**	**3.64**	**271**	*e*Pn	**Pn**	**08 45 02.9**	**+2.1**
DYBB	**Diyarbakir**	**3.65**	**81**	*e*PN	**Pn**	**08 45 03.3**	**+2.3**
PPCY	**Paphos**	**3.68**	**226**	P	**Pn**	**08 45 01.8**	**+0.6**
	baz=35						
PPCY	**Paphos**	**3.68**	**226**	P	**Pn**	**08 45 01.8**	**+0.6**
DIY	**Diyarbakir**	**3.72**	**82**	*e*Pn	**Pn**	**08 45 03.3**	**+1.4**
TOS	**Tosya**	**3.75**	**342**	*e*PN	**Pn**	**08 45 04.2**	**+1.9**
TOS	**Tosya**	**3.75**	**342**	*e*Pn	**Pn**	**08 45 04.2**	**+1.9**
SFNV	**Sufian**	**3.79**	**105**	*e*P	**Pn**	**08 45 02.5**	**-0.4**
SFNV				AML	AML	08 46 17.4	
	comp=Z,75nm,0.7s						
ERZN	**Erzincan**	**3.87**	**56**	*e*PN	**Pn**	**08 45 06.0**	**+1.9**
MAZI	**Mazidag**	**3.88**	**89**	*e*PN	**Pn**	**08 45 06.0**	**+1.9**
MAZI	**Mazidag**	**3.88**	**89**	*e*Pn	**Pn**	**08 45 06.0**	**+1.9**
BRBR	**Barbar**	**4.07**	**176**	*e*P	**Pn**	**08 45 08.8**	**+1.9**
BRBR				*e*S	**Sn**	**08 45 52.5**	**-2.0**
BRBR				AML	AML	08 46 26.0	
	comp=N,26nm,0.6s						
BRBR				AML	AML	08 46 30.1	
	comp=E,48nm,0.6s						
DIKM	**Dikmen**	**4.17**	**357**	*e*PN	**Pn**	**08 45 09.7**	**+1.7**
DIKM	**Dikmen**	**4.17**	**357**	*e*Pn	**Pn**	**08 45 09.7**	**+1.7**
GUMT	**Gumushane**	**4.26**	**44**	*e*PN	**Pn**	**08 45 11.5**	**+2.2**
GUMT	**Gumushane**	**4.26**	**44**	*e*Pn	**Pn**	**08 45 11.5**	**+2.2**
MMAI	**Mount Meron Ar**	**4.46**	**182**	Pn	**Pn**	**08 45 12.8**	**+0.7**
	comp=E,18nm,0.3s,baz=353,slow=13,SNR=28						
MMAI				S

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KU6	**Riekki**	**1.39**	**346**	PG	**Pn**	**09 01 09.4**	**-0.3**
	baz=166						
KU6				MSG		09 01 26.6	
	comp=Z,3.2nm,0.2s						
KU6				SG	**Sn**	**09 01 28.9**	**+0.2**
KU6	**Riekki**	**1.39**	**346**	Pg	**Pn**	**09 01 09.3**	**-0.3**
KU6				Sg	**Sn**	**09 01 28.8**	**+0.2**
MSF	**Maaselka**	**1.42**	**331**	PG	**Pn**	**09 01 09.9**	**-0.1**
MSF				SG	**Sn**	**09 01 30.4**	**+1.0**
MSF	**Maaselka**	**1.42**	**331**	Pg	**Pn**	**09 01 09.9**	**-0.1**
MSF				Sg	**Sn**	**09 01 30.4**	**+1.0**
JOF	**Joensuu**	**1.80**	**171**	PG	**Pb**	**09 01 16.2**	**-0.6**
JOF				SN	**Sg**	**09 01 40.7**	**0.0**
JOF	**Joensuu**	**1.80**	**171**	Pg	**Pb**	**09 01 16.2**	**-0.6**
JOF				Sn	**Sg**	**09 01 40.7**	**0.0**
OUL	**Oulu**	**2.10**	**283**	PG	**Pb**	**09 01 21.4**	**-0.5**
OUL				SG	**Sb**	**09 01 48.4**	**-0.1**
OUL	**Oulu**	**2.10**	**283**	Pg	**Pb**	**09 01 21.4**	**-0.5**
OUL				Sg	**Sb**	**09 01 48.4**	**-0.1**
RNF	**Rovaniemi**	**2.74**	**317**	PG	**Pb**	**09 01 32.2**	**-0.7**
RNF				SG	**Sb**	**09 02 09.1**	**+2.0**
RNF	**Rovaniemi**	**2.74**	**317**	Pg	**Pb**	**09 01 32.2**	**-0.7**
RNF				Sg	**Sb**	**09 02 09.0**	**+2.0**
SUF	**Sumiainen**	**2.84**	**228**	PB	**Pb**	**09 01 33.0**	**-1.5**
	baz=30						
SUF				MSG		09 02 07.1	
	comp=Z,1.8nm,0.2s						
SUF				SG	**Sb**	**09 02 11.7**	**+1.9**
SUF	**Sumiainen**	**2.84**	**228**	Pb	**Pb**	**09 01 33.0**	**-1.5**
SUF				Sg	**Sb**	**09 02 11.7**	**+1.9**
SGF	**Sodankyl**	**3.25**	**330**	SN	**Sn**	**09 02 09.6**	**-5.0**
SGF	**Sodankyl**	**3.25**	**330**	Sn	**Sn**	**09 02 09.6**	**-5.0**
KAF	**Kangasniemi**	**3.26**	**220**	PB	**Pb**	**09 01 39.5**	**-2.3**
	baz=41						
KAF				MSG		09 02 19.2	
	comp=Z,1.1nm,0.2s						
KAF	**Kangasniemi**	**3.26**	**220**	Pb	**Pb**	**09 01 39.4**	**-2.3**
KEF	**Keuruu**	**3.65**	**229**	PB	Pn	09 01 44.1	+3.4
	baz=36						
KEF	**Keuruu**	**3.65**	**229**	Pb	Pn	09 01 44.1	+3.4
FIA0	**FINESS Array S**	**3.88**	**215**	PB	**Pb**	**09 01 50.4**	**-1.9**
	baz=35						
FIA0	**FINESS Array S**	**3.88**	**215**	Pb	**Pb**	**09 01 50.4**	**-1.9**
FINES	**FINESS Array B**	**3.88**	**215**	Pn	**Pn**	**09 01 44.8**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=37,slow=13,SNR=4.3						
FINES				Lg	Lg	09 02 45.7	
	comp=Z,0.4nm,0.3s,baz=40,slow=28,SNR=5.9						
VAF	**Ylistaro**	**3.93**	**249**	PN	**Pn**	**09 01 47.0**	**+2.5**
	baz=74						
VAF	**Ylistaro**	**3.93**	**249**	Pn	**Pn**	**09 01 47.0**	**+2.5**
PVF	**Pernaja**	**4.72**	**211**	PN	**Pn**	**09 01 58.2**	**+2.7**
PVF	**Pernaja**	**4.72**	**211**	Pn	**Pn**	**09 01 58.1**	**+2.7**
ARCES	**ARCESS Array B**	**5.28**	**340**	Pn	**Pn**	**09 02 03.8**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=155,slow=14,SNR=9.5						
ARCES				Sn	**Sn**	**09 03 02.5**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=164,slow=20,SNR=2.7						
HFS	**Hagfors**	**9.11**	**248**	Pn	**Pn**	**09 02 56.5**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=49,slow=14,SNR=4.4						
NOA	**NORSAR Array B**	**9.62**	**257**	Pn	**Pn**	**09 03 03.1**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=86,slow=12,SNR=2.5						

MOS ***07*** *09:13:30.5±1.5,5.°93S×154.°30E,h40km,mb5.3/19, MS4.3/5,Error ellipse: s-maj=9.6km s-min=7.9km az=70.3*

GCMT ***07*** *09:13:31.6±0.1,6.°44S×154.°38E,h33km,MW5.3/99, Moment Tensor Solution. s99,c148; s93,c149; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr1.10±.02; Mθθ-0.50±.02; Mφφ-0.60±.02; Mrθ0.22±.02; Mθφ0.61±.01; Mφr-0.34±.02; Best double couple: Ms1.20500×10^17 NP1:φs141.00000°,δ55.00000°, λ94.00000°. NP2:φs314.00000°,δ35.00000°,λ84.00000°. Principal axes: T 1.1720, Plg80.0000°, Azm67.0000°; N 0.0620, Plg3.0000°, Azm318.0000°; P -1.2370, Plg10.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***07*** *09:13:31.6±0.2,6.°08S×154.°51E,h35km,mb5.2/44 Error ellipse: s-maj=6.8km s-min=5.6km az=135.0*

ISCJB ***07*** *09:13:32.5±0.9,6.°14S±0.°04×154.°42E±0.°03,h54km±8km, mb4.9/75,MS4.3/23,Error ellipse: s-maj=6.0km s-min=5.2km az=8.1*

IDC ***07*** *09:13:32.3±1.9,6.°12S×154.°34E,h44km±17km,mb4.4/22, mb1 4.5/24,mb1mx4.5/31,mbtmp4.6/24,ML4.0/2,MS4.4/23, Ms1 4.4/23,ms1mx4.2/36,Error ellipse: s-maj=14.7km s-min=10.5km az=90.0*

BJI ***07*** *09:13:34.1,5.°75S×154.°76E,h70km,mb5.0/52,mB5.2/41, Ms4.8/45,Ms7 4.6/46*

DJA ***07*** *09:13:42.9±0.9,6.°S±4.°×15.°4E±.°,h102km±11km,M5.7/12, mb5.1/12,mB5.6/6,ML6.4/1,Mw(mB)5.2/6*

ISC 07 09:13:36.2±0.4,6.09S±0.05×154.46E±0.06,h78km±2km, h77km:pP-P,n262,σ1s62/296,mb4.9/85,10C-9D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.97**	**309**	⇓P	**Pn**	**09 14 20.6**	**-0.6**
	baz=3.0,SNR=23						
HNR	**Honiara**	**6.37**	**122**	*e*P	**Pn**	**09 15 07.1**	**-0.4**
HNR	**Honiara**	**6.37**	**122**	*e*P	Pn	09 15 12.0	+4.5
HNR				*i* S	Sn	09 16 34.0	+15
HNR	**Honiara**	**6.37**	**122**	*e*Pn	**Pn**	**09 15 07.1**	**-0.4**
PMG	**Port Moresby**	**7.95**	**245**	*c i*P	**Pn**	**09 15 28.4**	**-0.7**
PMG	**Port Moresby**	**7.95**	**245**	*e*Pn	**Pn**	**09 15 27.0**	**-2.2**
COEN	**Coen**	**13.58**	**234**	⇓P	**Pn**	**09 16 44.3**	**-1.4**
	baz=13,SNR=6.9						
COEN	**Coen**	**13.58**	**234**	*e*Pn	**Pn**	**09 16 44.6**	**-1.0**
JAY	**Jayapura**	**14.17**	**284**	P	Pn	09 16 48.9	-4.5
	0.4nm,0.3s,baz=162,slow=21,SNR=7.2						
JAY				LR	LR	09 22 37.1	
	comp=Z,3μm,19.1s,baz=102,slow=39						
JAY	**Jayapura**	**14.17**	**284**	⇑P	**Pn**	**09 16 52.3**	**-1.1**
	baz=14,SNR=3.7						
MTSU	**Mount Surprise**	**15.54**	**219**	⇑P	**Pn**	**09 17 09.3**	**-1.6**
	baz=15,SNR=13						
CTA	**Charters Tower**	**16.04**	**209**	P	**Pn**	**09 17 14.7**	**-2.5**
	0.6nm,0.3s,baz=33,slow=14,SNR=8.8						
CTA				LR	LR	09 22 47.1	
	comp=Z,2μm,21.9s,baz=20,slow=35						
CTA	**Charters Tower**	**16.04**	**209**	⇓P	**Pn**	**09 17 14.5**	**-2.7**
	baz=16						
CTAO	**Charters Tower**	**16.04**	**209**	*e*P	**Pn**	**09 17 14.5**	**-2.7**
CTAO				pmax	pmax		
	comp=Z,57nm,1.0s						
CTAO	**Charters Tower**	**16.04**	**209**	*e*Pn	**Pn**	**09 17 14.5**	**-2.7**
	comp=Z,57nm,1.0s						
SMPI	**Sarmi**	**16.23**	**284**	P	**Pn**	**09 17 19.2**	**-0.4**
	comp=Z,117nm,0.5s,comp=Z,3μm						
EIDS	**Eidsvold**	**19.44**	**189**	⇑P	**P**	**09 17 55.2**	**-1.4**
	baz=19						
EIDS	**Eidsvold**	**19.44**	**189**	*e*P	**P**	**09 17 55.9**	**-0.7**
	comp=Z,137nm,2.0s						
DZM	**Mont Dzumac**	**19.66**	**145**	*e*P	**P**	**09 17 57.7**	**-1.4**
	comp=Z,122nm,1.1s						
DZM				*e*pP	**pP**	**09 18 17.0**	**+2.3**
	comp=Z,173nm,1.2s						
DZM				*e*S	S	09 21 28.5	-8.5
	comp=Z,1μm,23.7s						
DZM				*e*LQ	LQ	09 21 52.9	
	comp=Z,3μm,32.1s						
DZM				*e*LR	LR	09 22 42.8	
	comp=Z,4μm,26.0s						
DZM	**Mont Dzumac**	**19.66**	**145**	P	**P**	**09 17 58.5**	**-0.6**
DZM				LR	LR	09 24 34.9	
	comp=Z,2μm,21.4s,slow=34						
QIS	**Mount Isa**	**20.36**	**224**	P	**P**	**09 18 05.7**	**-1.0**
	baz=20,SNR=14						
RKPI	**Ransiki, Papua**	**20.74**	**282**	P	Pn	09 18 12.8	-1.1
	comp=Z,99nm,0.8s,comp=Z,8μm						
RMQ	**Roma**	**21.00**	**194**	⇓P	**P**	**09 18 13.1**	**-0.3**
	baz=21,SNR=11						
GUMO	**Guam**	**21.75**	**334**	LR	LR	09 28 11.5	
	comp=Z,502nm,18.2s,baz=150,slow=40						
QLP	**Quilpie**	**22.59**	**204**	P	**P**	**09 18 28.8**	**-1.7**
	baz=22,SNR=6.2						
KDU	**Kakadu**	**22.65**	**252**	P	**P**	**09 18 29.8**	**-1.4**
	baz=22,SNR=11						
SIJI	**Sorong**	**23.72**	**282**	P	**P**	**09 18 40.1**	**-1.4**
	comp=Z,10nm,0.5s,baz=3.9,slow=6.5,SNR=3.6						
SWI	**Sorong**	**23.73**	**282**	P	pP	09 18 55.7	-3.1
WRAB	**Tennant Creek**	**23.90**	**233**	*e*P	**P**	**09 18 42.4**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,265nm,1.6s						
WRAB	**Tennant Creek**	**23.90**	**233**	*e*P	**P**	**09 18 42.4**	**-0.7**
	comp=Z,265nm,1.6s						
WRA	**Warramunga Arr**	**23.91**	**233**	P	**P**	**09 18 41.3**	**-1.9**
	comp=Z,7.2nm,0.9s,baz=57,slow=9.7,SNR=32						
WRA				PcP	**PcP**	**09 22 24.6**	**+0.5**
	comp=Z,8.1nm,0.7s,baz=58,slow=2.3,SNR=10						
WRA				S	**S**	**09 22 52.8**	**-1.4**
	comp=Z,2.4nm,1.1s,baz=50,slow=14,SNR=2.1						
WRA	**Warramunga Arr**	**23.91**	**233**	*i* P	**P**	**09 18 42.2**	**-1.0**
WRA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ARMA	**Armidale**	**24.35**	**186**	⇓P	**P**	**09 18 46.9**	**-0.2**
	baz=24,SNR=5.1						
AS17	**Alice Springs**	**26.33**	**226**	⇑P	**P**	**09 19 04.2**	**-0.8**
	baz=26						
AS01	**Alice Springs**	**26.36**	**226**	*e*P	**P**	**09 19 04.2**	**-1.1**
AS01				*e*PcP	**PcP**	**09 22 29.6**	**+0.1**
ASAR	**Alice Springs**	**26.39**	**226**	P	**P**	**09 19 03.7**	**-1.9**
	comp=Z,2.3nm,0.4s,baz=58,slow=8.9,SNR=70						
ASAR				PcP	**PcP**	**09 22 30.2**	**+0.6**
	comp=Z,7.1nm,0.7s,baz=56,slow=2.4,SNR=12						
ASAR				ScP	**ScP**	**09 26 07.0**	**+4.2**
	comp=Z,1.0nm,0.7s,baz=55,slow=3.1,SNR=6.0						
AS11	**Alice Springs**	**26.40**	**226**	⇓P	**P**	**09 19 04.9**	**-0.8**
	baz=26						
CMSA	**Cobar Meteorol**	**26.61**	**197**	P	**P**	**09 19 08.2**	**+0.8**
	baz=26,SNR=5.6						
KNRA	**Kununurra**	**26.94**	**247**	⇑P	**P**	**09 19 10.9**	**+0.3**
	baz=27,SNR=5.5						
H11S3	**WAKE ISLAND Hy**	**27.24**	**26**	T	T	09 47 48.8	
	baz=202,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy**	**27.25**	**26**	T	T	09 47 48.2	
	baz=202,slow=76,SNR=23						
H11S1	**WAKE ISLAND Hy**	**27.26**	**26**	T	T	09 47 47.2	
	baz=202,slow=76,SNR=31						
LBMI	**Labuha**	**27.45**	**280**	P	pP	09 19 27.8	-5.4
STKA	**Stephens Creek**	**28.34**	**204**	P	**P**	**09 19 20.4**	**-2.4**
	comp=Z,1.9nm,0.5s,baz=32,slow=11,SNR=9.5						
STKA				PcP	**PcP**	**09 22 34.1**	**+0.1**
	comp=Z,6.6nm,0.8s,baz=59,slow=3.9,SNR=5.4						
STKA				ScP	**ScP**	**09 26 12.7**	**+4.2**
	comp=Z,4.2nm,1.1s,baz=20,slow=13,SNR=3.9						
STKA				LR	LR	09 30 34.5	
	comp=Z,2μm,19.8s,baz=9.7,slow=36						
STKA	**Stephens Creek**	**28.34**	**204**	P	**P**	**09 19 20.5**	**-2.4**
STKA						09 22 34.2	
STKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
STKA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
STKA				pmax	pmax		
	comp=N,4.0nm,1.1s						
STKA				MLR	MLR		
	comp=Z,2μm,19.8s						
STKA	**Stephens Creek**	**28.34**	**204**	*e*P	**P**	**09 19 22.3**	**-0.5**
	comp=Z,2.3nm,0.8s						
STKA				PcP	**PcP**	**09 22 34.1**	**+0.1**
STKA				ScP	**ScP**	**09 26 12.7**	**+4.2**
SANI	**Sanana**	**28.68**	**277**	P	P	09 19 33.5	+7.4
HTT	**Hallett**	**30.80**	**206**	P	**P**	**09 19 44.4**	**-0.3**
	baz=31,SNR=5.1						
WRKA	**Warakurna**	**31.35**	**230**	⇑P	**P**	**09 19 48.3**	**-1.4**
	baz=31,SNR=17						
LUWI	**Luwuk**	**32.01**	**278**	*e*P	**P**	**09 19 56.4**	**+0.8**
	comp=Z,117nm,1.1s						
KAPI	**Kappang**	**34.56**	**270**	LR	LR	09 36 48.1	
	comp=Z,253nm,21.2s,baz=46,slow=40						
KAPI	**Kappang**	**34.56**	**270**	*e*P	**P**	**09 20 18.0**	**+0.2**
	comp=Z,5.5nm,1.0s						
SPSI	**Sidrap Palu**	**34.62**	**272**	P	P	09 20 26.2	+7.9
PCI	**Palu**	**34.93**	**277**	P	**P**	**09 20 22.7**	**+1.7**
	comp=Z,108nm,1.0s						
JCJ	**Chichijima**	**35.07**	**341**	LR	LR	09 32 51.5	
	comp=Z,181nm,20.6s,baz=125,slow=33						
MPSI	**Mapaga**	**35.09**	**279**	P	**P**	**09 20 22.0**	**-0.3**
URZ	**Urewera**	**38.05**	**151**	P	**P**	**09 20 46.7**	**-0.4**
	comp=Z,5.6nm,0.4s,baz=230,slow=0.7,SNR=6.0						
MEEK	**Meekatharra**	**39.78**	**235**	⇓P	**P**	**09 21 02.6**	**+0.7**
	baz=40,SNR=4.4						
RPZ	**Rata Peaks**	**40.22**	**161**	P	**P**	**09 21 04.8**	**-0.4**
	comp=Z,22nm,0.9s,baz=333,slow=16,SNR=5.0						
SBUM	**Sibu**	**43.03**	**280**	*e*P	**P**	**09 21 29.7**	**+1.1**
	comp=Z,89nm,1.7s						
YULB	**Yu-li**	**43.68**	**313**	*e*P	**P**	**09 21 34.4**	**+0.7**
	comp=Z,42nm,0.7s						
NACB	**Ninganchiao**	**43.95**	**314**	*e*P	**P**	**09 21 37.1**	**+1.3**
	comp=Z,71nm,0.8s						
TPUB	**Ta-pu**	**44.11**	**313**	*e*P	**P**	**09 21 37.5**	**+0.4**
	comp=Z,47nm,0.8s						
SSLB	**Suanglung**	**44.17**	**313**	*e*P	**P**	**09 21 38.5**	**+0.9**
	comp=Z,51nm,1.1s						
YHNB	**Yeheng**	**44.42**	**315**	*e*P	**P**	**09 21 41.1**	**+1.5**
	comp=Z,64nm,0.9s						
KSM	**Kuching**	**44.72**	**278**	*e*P	**P**	**09 21 42.9**	**+0.7**
	comp=Z,178nm,2.0s						
JNU	**Nakatsue**	**44.97**	**332**	P	**P**	**09 21 43.5**	**-0.4**
	comp=Z,22nm,0.7s,baz=126,slow=2.4,SNR=17						
JNU				LR	LR	09 38 04.9	
	comp=Z,184nm,20.5s,baz=140,slow=33						
MJAR	**Matsushiro Arr**	**45.06**	**341**	LR	LR	09 41 22.7	
	comp=Z,148nm,18.1s,baz=190,slow=37						
MAJO	**Matsushiro**	**45.06**	**341**	*e*P	**P**	**09 21 43.2**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,35nm,1.2s						
MAT	**Matsushiro**	**45.06**	**341**	P	**P**	**09 21 43.4**	**-1.1**
MAT				*e*S	**S**	**09 28 15.2**	**-2.7**
CISI	**Cisompet, Garu**	**46.32**	**265**	*e*P	**P**	**09 21 54.0**	**-0.9**
	comp=Z,125nm,1.1s						
QZH	**Quanzhou**	**46.58**	**313**	⇑*i*P	**P**	**09 21 57.7**	**+1.1**
QZH				S	**S**	**09 28 45.0**	**+5.0**
QZH				PMZ			
	comp=Z,200nm,0.9s						
QZH				PMZ			
	comp=Z,830nm,2.8s						
QZH				LZ			
	comp=Z,1μm,20.4s						
DLV	**T Lat**	**49.11**	**291**	*e*P	**P**	**09 22 17.3**	**+0.7**
TJN	**Taejon**	**49.29**	**331**	*e*P	**P**	**09 22 16.1**	**-1.3**
KSRS	**Korea Array**	**49.90**	**332**	P	**P**	**09 22 20.7**	**-1.2**
	comp=Z,9.0nm,0.9s,baz=148,slow=8.3,SNR=31						
KSRS				LR	LR	09 39 02.9	
	comp=Z,253nm,21.9s,baz=122,slow=31						
KSAR	**Wonju Array Be**	**49.91**	**332**	P	**P**	**09 22 20.7**	**-1.3**
KSAR	**Wonju Array Be**	**49.91**	**332**	P	**P**	**09 22 20.7**	**-1.3**
KS01	**Wonju Array Si**	**49.93**	**332**	*e*P	**P**	**09 22 21.7**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**50.49**	**352**	*e*P	P	09 22 22.3	-4.0
YUK				*i* PPP	PPP	09 25 16.6	
YUK				*e*S	S	09 29 27.4	-7.0
YUK				*i*		09 32 07.0	
YUK				*e*SS	**SS**	**09 33 04.9**	**-4.7**
YUK				*i* SSS	SSS	09 34 39.0	
INCN	**Inchon**	**50.53**	**331**	*e*P	**P**	**09 22 27.3**	**+0.5**
	comp=Z,30nm,0.8s						
QIZ	**Qiongzhong**	**50.55**	**301**	P	**P**	**09 22 28.5**	**+1.3**
QIZ				pP	**pP**	**09 22 46.5**	**-0.1**
QIZ				sP	**sP**	**09 22 54.2**	**-1.2**
QIZ				S	**S**	**09 29 38.4**	**+2.4**
QIZ				PMZ			
	comp=Z,7.0nm,1.1s						
QIZ				LN			
	comp=Z,300nm,22.7s						
QIZ				LE			
	comp=Z,200nm,23.8s						
QIZ				LZ			
	comp=Z,800nm,22.8s						
NJ2	**Nanjing**	**50.89**	**320**	*e*P	**P**	**09 22 31.2**	**+1.7**
NJ2				pP	**pP**	**09 22 48.9**	**0.0**
NJ2				sP	**sP**	**09 22 57.3**	**-0.4**
NJ2				S	**S**	**09 29 42.0**	**+1.7**
NJ2				PMZ			
	comp=Z,60nm,1.1s						
NJ2				PMZ			
	comp=Z,410nm,6.1s						
NJ2				LN			
	comp=Z,650nm,22.0s						
NJ2				LE			
	comp=Z,1μm,25.6s						
NJ2				LZ			
	comp=Z,970nm,27.7s						
WHN	**Wuhan**	**52.93**	**316**	⇓P	**P**	**09 22 46.2**	**+1.5**
WHN				LZ			
	comp=Z,1μm,18.8s						
USRK	**Ussuriysk Ar.**	**54.01**	**340**	P	**P**	**09 22 52.1**	**-0.3**
	comp=Z,2.9nm,0.7s,baz=173,slow=8.3,SNR=9.0						
USRK				LR	LR	09 42 12.4	
	comp=Z,210nm,21.9s,baz=132,slow=32						
TIA	**Tai'an**	**54.73**	**323**	⇓P	**P**	**09 22 57.8**	**0.0**
TIA				PMZ			
	comp=Z,10.0nm,0.7s						
SKNT	**Sakolnakorn**	**54.90**	**296**	P	**P**	**09 23 01.3**	**+1.9**
	comp=Z,18nm,2.0s						
MDJ	**Mudanjiang**	**55.21**	**339**	P	**P**	**09 23 04.0**	**+2.9**
MDJ				pP	**pP**	**09 23 22.0**	**+1.3**
MDJ				sP	**sP**	**09 23 30.1**	**+0.7**
MDJ				PcP	**PcP**	**09 24 02.8**	**+1.6**
MDJ				PP	**PP**	**09 25 02.9**	**-2.5**
MDJ				S	**S**	**09 30 35.4**	**-3.3**
MDJ				sS	**sS**	**09 31 09.3**	**-2.8**
MDJ				ScS	**ScS**	**09 32 38.1**	**-4.9**
MDJ				SS	**SS**	**09 34 21.4**	**-2.7**
MDJ				PMZ			
	comp=Z,5.0nm,0.5s						
MDJ				PMZ			
	comp=Z,88nm,4.4s						
MDJ				LN			
	comp=Z,140nm,15.9s						
MDJ				LE			
	comp=Z,150nm,19.4s						
MDJ				LZ			
	comp=Z,280nm,18.8s						
PPT	**Papeete**	**55.76**	**107**	LR	LR	09 44 15.2	
	comp=Z,144nm,19.4s,baz=299,slow=33						
PPT2	**Papeete2**	**55.76**	**107**	*e*LQ	LQ	09 37 09.2	
	comp=Z,562nm,26.5s						
PPT2				*e*LR	LR	09 39 33.6	
	comp=Z,598nm,26.8s						
CN2	**Changchun**	**56.15**	**335**	*e*P	P	09 23 14.1	+6.2
CN2				*es*P	sP	09 23 47.0	+11
CN2				*e*S	S	09 30 58.5	+7.3
TBI	**Tubuai**	**56.52**	**114**	*e*LQ	LQ	09 37 23.7	
	comp=Z,930nm,38.5s						
TBI				*e*LR	LR	09 39 51.2	
	comp=Z,1μm,25.5s,baz=285						
HABR	**Khabarovsk**	**56.94**	**345**	P	P	09 23 09.7	-3.6
HABR				*e*PP	pP	09 23 27.6	-5.5
HABR				*e*PPP	PPP	09 26 32.7	
HABR				*e*S	**S**	**09 30 57.0**	**-4.5**
HABR				*e*		09 32 51.8	
HABR				*e*SS	**SS**	**09 34 48.0**	**-3.2**
HABR				pmax	pmax		
	comp=Z,23nm,1.7s						
HABR				pmax	pmax		
	comp=N,4.0nm,0.7s						
HABR				MLR	MLR		
	comp=Z,129nm,17.0s						
PBKT	**Sadao Pong**	**57.49**	**294**	P	**P**	**09 23 20.1**	**+2.3**
	comp=Z,14nm,1.9s						
BJI	**Beijing**	**57.88**	**326**	P	**P**	**09 23 22.4**	**+2.3**
BJI				S	**S**	**09 31 16.3**	**+2.2**
BJI				PMZ			
	comp=Z,9.0nm,0.5s						
BJI				LN			
	comp=Z,340nm,19.8s						
BJI				LE			
	comp=Z,130nm,6.9s						
BJI				LZ			
	comp=Z,330nm,31.1s						
UTTA	**Uttaradit**	**58.24**	**295**	P	**P**	**09 23 24.6**	**+1.6**
	comp=Z,4.7nm,0.8s						
KLR	**Kul'dur**	**58.55**	**343**	*e*P	P	09 23 21.0	-3.6
XAN	**Xi'an**	**58.69**	**316**	P	**P**	**09 23 26.2**	**+0.2**
XAN				pP	**pP**	**09 23 43.7**	**-2.1**
XAN				sP	**sP**	**09 23 50.0**	**-4.5**
XAN				PP	**PP**	**09 25 33.8**	**-2.9**
XAN				S	**S**	**09 31 19.6**	**-5.4**
XAN				PMZ			
	comp=Z,4.0nm,1.1s						
XAN				LN			
	comp=Z,210nm,20.9s						
XAN				LE			
	comp=Z,140nm,19.9s						
XAN				LZ			
	comp=Z,180nm,20.5s						
PET	**Petropavlovsk**	**59.00**	**3**	*e*P	P	09 23 32.5	+4.9
PET				*e*S	S	09 31 40.4	+12
PET				pmax	pmax		
	comp=Z,300nm,22.0s						
PET				MLR	MLR		
	comp=Z,300nm,18.0s						
PETK	**Petropavlovsk-**	**59.04**	**2**	P	**P**	**09 23 27.6**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=166,slow=8.0,SNR=3.1						
PETK				LR	LR	09 45 12.5	
	comp=Z,459nm,21.8s,baz=186,slow=32						
KMI	**Kunming**	**59.08**	**304**	P	**P**	**09 23 30.8**	**+1.8**
KMI				pP	**pP**	**09 23 47.4**	**-1.5**
KMI				PMZ			
	comp=Z,49nm,0.9s						
KMI				PMZ			
	comp=Z,180nm,6.0s						
KMI				LN			
	comp=Z,210nm,18.4s						
KMI				LE			
	comp=Z,320nm,20.1s						
KMI				LZ			
	comp=Z,460nm,22.2s						
KHLT	**Khaolaem Dam**	**59.14**	**291**	P	**P**	**09 23 31.9**	**+2.5**
	comp=Z,9.7nm,1.5s						
CRAI	**Chiangrai**	**59.24**	**298**	P	**P**	**09 23 28.4**	**-1.6**
	comp=Z,15nm,0.8s						
LAMP	**Lampang**	**59.32**	**296**	P	**P**	**09 23 33.0**	**+2.4**
	comp=Z,5.3nm,0.7s						
CM01	**Chiang Mai Arr**	**59.90**	**295**	*e*P	**P**	**09 23 35.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**59.92**	**295**	P	**P**	**09 23 34.6**	**-0.1**
	comp=Z,4.9nm,0.7s,baz=115,slow=5.2,SNR=19						
CMAR				LR	LR	09 47 59.6	
	comp=Z,235nm,21.8s,baz=121,slow=35						
CMMT	**Chiang Mai**	**60.03**	**296**	P	**P**	**09 23 37.2**	**+1.7**
	comp=Z,18nm,1.9s						
CHTO	**Chiang Mai**	**60.03**	**296**	P	**P**	**09 23 37.2**	**+1.7**
	comp=Z,62nm,1.9s						
CHTO	**Chiang Mai**	**60.03**	**296**	*e*P	**P**	**09 23 37.0**	**+1.5**
CHTO				pmax	pmax		
	comp=Z,57nm,1.9s						
CHTO	**Chiang Mai**	**60.03**	**296**	*e*P	**P**	**09 23 37.0**	**+1.5**
	comp=Z,57nm,1.9s						
CMAI	**Chiengmai2**	**60.31**	**297**	P	**P**

comp=Z,480nm,14.2s
LZH LZ
comp=Z,620nm,19.0s
GTA Gaotai 67.72 317 ⇑P **P 09 24 26.6 +0.8**
GTA pP **pP 09 24 43.0 -3.0**
GTA sP **sP 09 24 50.2 -4.4**
GTA S **S 09 33 18.8 +1.2**
GTA sS sS 09 33 46.6 -5.5
GTA SS **SS 09 37 42.2 +1.8**
GTA PMZ
comp=Z,12nm,1.6s
GTA PMZ
comp=Z,160nm,6.2s
GTA LN
comp=Z,240nm,21.4s
GTA LE
comp=Z,300nm,20.4s
GTA LZ
comp=Z,330nm,20.9s
SONM Songino Array 68.30 327 P **P 09 24 29.5 +0.4**
comp=Z,2.2nm,0.4s,baz=130,slow=6.0,SNR=18
SONM LR LR 09 56 48.4
comp=Z,157nm,18.1s,baz=100,slow=38
SONA1 Songino Array 68.30 327 *e*P **P 09 24 29.6 +0.4**
SHL Shillong 68.38 300 *e*P **P 09 24 31.5 +1.3**
RKT Rikitea 69.77 112 *e*LQ LQ 09 42 58.0
comp=Z,461nm,31.8s
RKT *e*LR LR 09 46 00.8
comp=Z,729nm,27.5s,baz=280
ZAK Zakamensk 71.45 328 *e*P **P 09 24 48.4 0.0**
ZAK *e* 09 25 13.6
ZAK pmax pmax
comp=Z,5.0nm,1.7s
VNDA Vanda 71.49 178 P **P 09 24 47.8 -0.3**
comp=Z,4.1nm,1.0s,baz=338,slow=6.5,SNR=13
VNDA LR LR 09 52 08.7
comp=Z,203nm,19.2s,baz=345,slow=32
VNDA Vanda 71.49 178 *e*P **P 09 24 47.9 -0.3**
comp=Z,12nm,1.3s
BOD Bodaibo 71.59 339 *e*P **P 09 24 48.4 -0.5**
BOD pmax pmax
comp=Z,4.0nm,1.6s
SBA Scott Base 72.01 177 *e*P **P 09 24 52.7 +1.5**
SBA pmax pmax
comp=Z,60nm,1.9s
SBA Scott Base 72.01 177 *e*P **P 09 24 52.7 +1.5**
comp=Z,60nm,1.9s
TLY Talaya 72.02 330 *e*P P 09 25 00.3 +8.6
TLY pmax pmax
comp=Z,7.0nm,0.8s
TLY MLR MLR
comp=Z,131nm,17.0s
TAPN Taplejung 72.48 301 *e*P **P 09 24 56.3 +0.9**
comp=Z,77nm,0.8s
ODAN Odare 72.62 300 *e*P **P 09 24 57.0 +0.9**
comp=Z,188nm,0.8s
RAMN Ramite 73.32 300 *e*P **P 09 25 01.0 +0.7**
comp=Z,35nm,0.6s
CHLP Challavanipeta 73.55 291 *e*P **P 09 25 02.3 +0.9**
CHLP IAmb IAmb 09 25 03.8
comp=Z,36nm,0.9s
CHLP *e*pP **PcP 09 25 12.2 -4.8**
GUN Gumba 74.20 301 *e*P **P 09 25 06.5 +1.0**
comp=Z,154nm,0.8s
PKI Pulchoki 74.51 301 *e*P **P 09 25 07.7 +0.4**
comp=Z,134nm,1.1s
PKIN Phulchoki 74.52 301 *e*P **P 09 25 07.7 +0.4**
comp=Z,109nm,1.2s
KKN Kakani 74.68 301 *e*P **P 09 25 08.8 +0.7**
comp=Z,67nm,0.8s
DMN Daman 74.78 301 *e*P **P 09 25 09.7 +0.9**
comp=Z,216nm,0.9s
GKN Gorkha 75.28 301 *e*P **P 09 25 12.1 +0.6**
comp=Z,204nm,1.0s
PVM Polavaram 75.56 289 *e*P **P 09 25 13.0 -0.1**
PVM IAmb IAmb 09 25 14.5
comp=Z,13nm,0.9s
KOLN Koldanda 76.11 300 *e*P **P 09 25 16.7 +0.4**
comp=Z,109nm,0.7s
DANN Dangsing 76.12 301 *e*P **P 09 25 16.5 0.0**
SKHT Srikalahasti 76.75 286 *e*P **P 09 25 20.3 +0.5**
SKHT IAmb IAmb 09 25 21.0
comp=Z,11nm,1.0s
ADKI Addanki 76.86 288 *e*P **P 09 25 20.7 +0.3**
ADKI IAmb IAmb 09 25 22.0
comp=Z,16nm,1.0s
ADKI *e*PcP **PcP 09 25 30.9 -0.5**
ADKI *es*P sP 09 25 35.9 -14
NJS Nagarjunasagar 77.61 288 *e*P **P 09 25 25.0 +0.3**
NJS IAmb IAmb 09 25 25.7
comp=Z,18nm,1.0s
RCLA Racherla 77.76 287 *e*P **P 09 25 25.5 0.0**
RCLA IAmb IAmb 09 25 29.4
comp=Z,92nm,2.3s
WMQ Urumqi 77.81 317 P **P 09 25 26.7 +1.4**
WMQ pP **pP 09 25 46.7 +0.7**
WMQ sP **sP 09 25 55.7 +1.2**
WMQ PMZ
comp=Z,19nm,0.8s
WMQ PMZ
comp=Z,130nm,3.8s
WMQ LN
comp=Z,170nm,22.0s
WMQ LE
comp=Z,270nm,20.7s
WMQ LZ
comp=Z,240nm,22.3s
SRLM Srisailam 77.93 288 *e*P **P 09 25 26.5 0.0**
SRLM IAmb IAmb 09 25 28.9
comp=Z,26nm,1.1s
SRLM *es*P sP 09 25 41.7 -14
HYB Hyderabad 78.48 289 *i* P **P 09 25 28.0 -1.5**
HYBB Hyderabad (bro 78.48 289 *e*P **P 09 25 29.6 +0.1**
HYBB IAmb IAmb 09 25 30.2
comp=Z,17nm,1.0s
HYBB *e*PcP **PcP 09 25 38.0 -0.4**
HYBB *e*pP pP 09 25 39.8 -10
SRSP Sriramsagar 78.94 291 *e*P **P 09 25 31.6 -0.4**
SRSP IAmb IAmb 09 25 32.7
comp=Z,34nm,0.9s
SRSP *es*P sP 09 25 47.3 -14
URV Uravakonda 79.29 286 *e*P **P 09 25 34.0 0.0**
URV IAmb IAmb 09 25 37.8
comp=Z,20nm,1.2s
CAST Castle Rocks 80.08 22 *e*P **P 09 25 37.0 -0.3**
comp=Z,7.1nm,0.9s
KLRI Killari 80.42 289 *e*P **P 09 25 39.9 -0.2**
KLRI IAmb IAmb 09 25 51.4
comp=Z,1μm,4.4s
SML Sawmill 80.62 24 *e*P **P 09 25 38.4 -1.8**
SML pmax pmax
comp=Z,4.0nm,1.0s
SML Sawmill 80.62 24 *e*P **P 09 25 38.4 -1.8**
comp=Z,3.8nm,1.0s
TRF Thorofare Moun 80.76 22 *e*P **P 09 25 41.1 0.0**
comp=Z,1.1nm,1.0s
IM04 Indian Mountai 81.03 19 *e*P **P 09 25 42.3 0.0**
RND Reindeer 81.28 22 *e*P **P 09 25 43.1 -0.6**
RND pmax pmax
comp=Z,13nm,1.0s
RND Reindeer 81.28 22 *e*P **P 09 25 43.1 -0.6**
comp=Z,13nm,1.0s
MCK McKinley 81.42 22 *e*P **P 09 25 43.8 -0.6**
MCK pmax pmax
comp=Z,21nm,0.9s
MCK McKinley 81.42 22 *e*P **P 09 25 43.8 -0.6**
comp=Z,22nm,0.9s
MLY Manley 81.50 21 *e*P **P 09 25 44.8 0.0**
comp=Z,20nm,1.4s
CCB Clear Creek Bu 82.33 22 *e*P **P 09 25 48.2 -1.0**
comp=Z,16nm,1.5s
MK01 Makanchi Array 82.37 319 *e*P **P 09 25 49.5 -0.3**
MKAR Makanchi Array 82.38 319 P **P 09 25 49.4 -0.4**
comp=Z,2.3nm,0.7s,baz=107,slow=5.2,SNR=14
MKAR LR LR 10 02 34.4
comp=Z,214nm,20.3s,baz=94,slow=36
MKAR Makanchi Array 82.38 319 P **P 09 25 49.4 -0.4**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR MLR MLR
comp=Z,214nm,20.3s
MKAR Makanchi Array 82.38 319 ⇑P **P 09 25 50.6 +0.8**
baz=82
MKAR Makanchi Array 82.38 319 *e*P **P 09 25 50.6 +0.8**
COLA College 82.44 21 *e*P **P 09 25 47.7 -1.9**
COLA pmax pmax
comp=Z,21nm,0.9s
COLA College 82.44 21 *e*P **P 09 25 48.9 -0.8**
comp=Z,193nm,3.0s
ILAR Eielson Array 82.73 22 P **P 09 25 49.9 -1.3**
comp=Z,2.2nm,0.8s,baz=258,slow=5.0,SNR=24
ILAR LR LR 10 01 38.0
comp=Z,803nm,19.2s,baz=245,slow=35
IL1 Eielson Array 82.73 22 *e*P **P 09 25 49.3 -1.9**
ZALV Zalesovo Beam 83.14 326 P **P 09 25 52.0 -1.5**
comp=Z,1.8nm,0.5s,baz=92,slow=10,SNR=1.8
ZALV LR LR 10 03 22.6
comp=Z,116nm,21.9s,baz=70,slow=36
ZALV Zalesovo Beam 83.14 326 P **P 09 25 52.0 -1.5**
ZALV Zalesovo Beam 83.14 326 P **P 09 25 52.0 -1.5**
QSPA South Pole Qui 83.88 180 P **P 09 25 57.0 -0.3**
comp=Z,10nm,0.7s,baz=335,slow=0.7,SNR=98
QSPA South Pole Qui 83.88 180 *e*P **P 09 25 57.0 -0.3**
EGAK Eagle 84.89 23 *e*P **P 09 26 02.7 +0.5**
MAW Mawson 85.02 203 P **P 09 26 02.6 -0.2**
comp=Z,9.4nm,0.9s,baz=88,slow=6.4,SNR=6.8
MAW LR LR 10 00 34.9
comp=Z,255nm,20.7s,baz=64,slow=33
MAW Mawson 85.02 203 *e*P **P 09 26 03.1 +0.3**
comp=Z,7.7nm,1.5s
KSH Kashi 85.03 310 P **P 09 26 06.0 +2.3**
KSH pP **pP 09 26 28.0 +3.4**
KSH sP **sP 09 26 36.1 +3.0**
KSH PP PP 09 29 28.2 +6.5
KSH SKS **SKSac 09 36 22.0 +0.3**
KSH S **S 09 36 26.6 -0.4**
KSH sS **sS 09 37 06.2 +3.4**
KSH PMZ
comp=Z,16nm,0.6s
KSH PMZ
comp=Z,250nm,3.1s
KSH LN
comp=Z,130nm,5.2s
KSH LE
comp=Z,140nm,5.0s
KSH LZ
comp=Z,410nm,10.1s
KURK Kurchatov 85.80 322 *e*P **P 09 26 09.6 +2.5**
KURK pmax pmax
comp=Z,8.0nm,0.7s
KURK Kurchatov 85.80 322 *e*P **P 09 26 09.6 +2.5**
comp=Z,7.5nm,0.7s
DLBC Dease Lake 87.64 31 *e*P **P 09 26 17.0 +1.1**
comp=Z,14nm,1.3s
INK Inuvik 89.07 21 LR LR 10 03 19.2
comp=Z,627nm,20.8s,baz=190,slow=34
PKM Peak Mountain 89.94 55 P **P 09 26 28.9 +1.4**
baz=90
BSC Santa Cruz Isl 89.98 56 P **P 09 26 28.9 +1.4**
baz=90
J05D Fort Rock, OR 90.00 47 P **P 09 26 28.0 +0.5**
baz=90
SCI San Clemente I 90.76 57 P **P 09 26 32.1 +1.0**
baz=91
CIS Catalina Islan 90.93 57 P **P 09 26 32.9 +1.0**
baz=91
PASC Pasadena Art C 91.19 56 *e*P **P 09 26 34.6 +1.5**
comp=Z,22nm,1.2s
MTUM Tungsten Hills 91.25 53 *e*P **P 09 26 35.0 +1.4**
BVAR Borovoye Array 91.26 323 P **P 09 26 31.4 -1.6**
comp=Z,1.2nm,0.6s,baz=101,slow=7.5,SNR=6.8
MWC Mount Wilson 91.31 56 *e*P **P 09 26 35.4 +1.5**
MWC pmax pmax
comp=Z,32nm,1.0s
MWC Mount Wilson 91.31 56 *e*P **P 09 26 35.4 +1.5**
comp=Z,32nm,1.0s
BRVK Borovoye 91.33 323 *e*P **P 09 26 30.9 -2.4**
BRVK pmax pmax
comp=Z,2.0nm,1.3s
EDW2 Edwards Air Fo 91.43 55 P **P 09 26 35.9 +1.6**
baz=92
CWC Cottonwood Cre 91.53 54 P **P 09 26 35.8 +1.0**
baz=92
NV01 Mina Array Sit 91.58 52 *e*P **P 09 26 35.0 -0.1**
NVAR Mina Array Bea 91.58 52 P **P 09 26 35.0 -0.1**
comp=Z,8.8nm,0.9s,baz=254,slow=6.4,SNR=52
BFSC Mount Baldy Ra 91.64 56 P **P 09 26 36.2 +0.9**
baz=92
LRMC Laurel Mountai 91.74 55 P **P 09 26 37.2 +1.4**
baz=92
G08A Pilot Rock 91.88 45 *e*P **P 09 26 36.5 +0.3**
comp=Z,4.9nm,1.1s
DAC Darwin (Calif) 91.91 54 *e*P **P 09 26 37.9 +1.3**
DAC pmax pmax
comp=Z,10.0nm,1.0s
DAC Darwin (Calif) 91.91 54 *e*P **P 09 26 37.9 +1.3**
comp=Z,10nm,1.0s
MURC Murrieta 91.95 57 P **P 09 26 37.7 +1.1**
baz=92
109C Camp Elliot, M 91.95 57 P **P 09 26 38.3 +1.7**
baz=92
MPMC Manual Prospec 91.97 54 P **P 09 26 37.7 +0.8**
baz=92
BBRC Big Bear Solar 92.25 56 P **P 09 26 39.4 +1.1**
baz=92
BAR Barrett 92.30 58 *e*P **P 09 26 40.0 +1.7**
comp=Z,9.8nm,1.2s
TPH Tonopah 92.39 52 *e*P **P 09 26 40.0 +1.2**
TPH pmax pmax
comp=Z,7.0nm,0.9s
TPH Tonopah 92.39 52 *e*P **P 09 26 40.0 +1.2**
comp=Z,7.3nm,0.9s
GSC Goldstone 92.44 55 *e*P **P 09 26 40.3 +1.3**
GSC Goldstone 92.44 55 P **P 09 26 40.0 +1.0**
baz=92
GSC Goldstone 92.44 55 *e*P **P 09 26 40.3 +1.3**
FURC Furnace Creek, 92.52 54 P **P 09 26 40.5 +1.4**
baz=93
MONP Monument Peak 92.53 57 P **P 09 26 41.3 +1.7**
baz=93
PFO Pinyon Flat Ob 92.57 57 P **P 09 26 41.0 +1.4**
comp=Z,61nm,0.9s,SNR=5.5
PFO Pinyon Flat Ob 92.57 57 *e*P **P 09 26 41.2 +1.5**
PFO pmax pmax
comp=Z,10.0nm,0.9s
PFO Pinyon Flat Ob 92.57 57 P **P 09 26 40.8 +1.2**
baz=93
PFO Pinyon Flat Ob 92.57 57 *e*P **P 09 26 41.2 +1.5**
comp=Z,10.0nm,0.9s
BELC Belle Mtn. Jos 92.98 56 P **P 09 26 42.8 +1.3**
baz=93
TPNV Topopah Spring 93.05 53 *e*P **P 09 26 43.1 +1.3**
TPNV pmax pmax
comp=Z,11nm,1.2s
TPNV Topopah Spring 93.05 53 P **P 09 26 42.7 +0.9**
baz=93
TPNV Topopah Spring 93.05 53 *e*P **P 09 26 43.1 +1.3**
comp=Z,11nm,1.2s
SWSC Sam W. Stewart 93.05 57 P **P 09 26 42.8 +1.1**
baz=93
F10A Beach Ranch, E 93.16 44 *e*P **P 09 26 42.0 -0.1**
comp=Z,74nm,3.0s
TUQ Turquoise Moun 93.17 55 P **P 09 26 43.3 +0.9**
baz=93
GMRC Granite Mounta 93.33 56 P **P 09 26 44.4 +1.2**
baz=93
BC3 Big Chuckawall 93.40 57 P **P 09 26 45.0 +1.5**
baz=94
NEW Newport 93.44 42 *e*P **P 09 26 43.2 0.0**
NEW pmax pmax
comp=Z,3.0nm,1.0s
NEW Newport 93.44 42 P **P 09 26 43.0 -0.2**
baz=94
NEW Newport 93.44 42 *e*P **P 09 26 43.2 0.0**
comp=Z,3.4nm,1.0s
R11A Troy Canyon, C 93.70 52 P **P 09 26 45.6 +0.8**
baz=94
R11A Troy Canyon, C 93.70 52 *e*P **P 09 26 46.0 +1.1**
comp=Z,5.0nm,1.0s
IRM Iron Mountain 93.70 56 P **P 09 26 46.0 +1.3**
baz=94
GLA Glamis 93.88 57 *e*P **P 09 26 47.9 +2.4**
GLA pmax pmax
comp=Z,18nm,1.3s
GLA Glamis 93.88 57 P **P 09 26 47.1 +1.5**
baz=94
GLA Glamis 93.88 57 *e*P **P 09 26 47.9 +2.4**
comp=Z,18nm,1.3s
SHPR Sheep Range 93.88 54 *e*P **P 09 26 46.9 +1.2**
NEE2 Needles Airpor 94.18 56 P **P 09 26 48.8 +1.9**
baz=94
PDMCI Parker Dam,Lak 94.54 56 P **P 09 26 49.9 +1.4**
baz=95
HLID Hailey 94.97 47 *e*P **P 09 26 50.8 +0.3**
comp=Z,25nm,2.6s
CCUT Cedar City 95.39 53 *e*P **P 09 26 54.4 +1.7**
comp=Z,22nm,2.0s
YKA Yellowknife Ar 95.79 28 P **P 09 26 53.2 -0.3**
comp=Z,1.7nm,1.0s,baz=270,slow=4.8,SNR=5.3
KNB Kanab 95.79 53 *e*P **P 09 26 56.2 +1.8**
KNB pmax pmax
comp=Z,18nm,1.5s
KNB Kanab 95.79 53 *e*P **P 09 26 56.2 +1.8**
comp=Z,18nm,1.5s
CWU Camp Williams 96.52 50 *e*P **P 09 26 56.7 -1.0**
BOZ Bozeman (W) 97.05 45 P Pdif 09 27 00.2 +0.2
baz=97
W18A Petrified Fore 98.21 55 *e*P Pdif 09 27 05.6 +0.1
comp=Z,28nm,0.8s
BW06 Boulder Array 98.49 48 *e*P **P 09 27 04.8 -1.7**
PDAR Pinedale Array 98.49 48 P **P 09 27 05.4 -1.1**
comp=Z,1.2nm,0.8s,baz=289,slow=0.9,SNR=12
PDAR LR LR 10 04 57.3
comp=Z,457nm,21.6s,baz=280,slow=31
GEYT Alibeck 98.71 307 LR LR 10 12 11.0
comp=Z,187nm,21.9s,baz=40,slow=36
VNA1 Neumayer--Stat 102.54 186 P PP 09 31 43.7 +6.9
TXAR Lajitas Array 103.30 61 PKKPbc PKKPbc 09 43 23.0 -0.2
comp=Z,0.3nm,0.7s,baz=96,slow=3.8,SNR=5.3
BRTR Keskin Array B 117.39 312 PP PP 09 33 25.6 -0.1
comp=Z,0.5nm,0.5s,baz=115,slow=5.6,SNR=4.0
BOSA Boshof 120.16 232 PKP **PKPdf 09 32 19.4 +0.2**
comp=Z,4.6nm,0.7s,baz=95,slow=2.1,SNR=9.0
GERES GERESS Array B 126.01 329 PKP **PKPdf 09 32 30.1 +0.4**
comp=Z,0.4nm,0.2s,baz=93,slow=2.7,SNR=3.7
LPAZ La Paz 132.35 118 PKP **PKPdf 09 32 42.9 -0.4**
comp=Z,4.3nm,1.1s,baz=307,slow=2.3,SNR=5.5
LPAZ La Paz 132.35 118 PKIKP **PKPdf 09 32 42.9 -0.4**
LPAZ pmax pmax
comp=Z,4.0nm,1.1s
CPUP Villa Florida 135.40 138 PKP **PKPdf 09 32 47.0 -0.9**
comp=Z,2.1nm,0.8s,baz=287,slow=2.3,SNR=3.9
PTGA Pitinga 144.97 100 *e*PKPbc PKPbc 09 33 04.1 -1.0
BDFB Brasilia 148.99 134 PKPbc **PKPbc 09 33 18.6 +2.1**
comp=Z,4.5nm,0.8s,baz=287,slow=3.7,SNR=3.9
TOA0 Torodi Ar. Sit 152.27 287 *e*PKPdf **PKPdf 09 33 16.9 -0.5**
TOA0 *e*PKPbc **PKPbc 09 33 23.8 -0.4**
TORD Torodi Ar. Bea 152.27 287 PKP **PKPdf 09 33 16.8 -0.6**
comp=Z,0.8nm,0.9s,baz=359,slow=1.3,SNR=3.8
TORD PKPbc **PKPbc 09 33 23.3 -0.9**
comp=Z,6.3nm,0.7s,baz=27,slow=2.6,SNR=34
TORD PKPab **PKPab 09 33 34.3 0.0**
comp=Z,11nm,0.7s,baz=77,slow=3.9,SNR=21

IDC 07 09:21:17.6±50.0, 15°.60S×174°.92W, h0km, mb4.5/3, mb 1 4.6/3, mb1mx3.8/36, mbtmp4.5/3, Error ellipse: s-maj=946.1km s-min=161.8km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**42.67**	**240**	P	P	09 29 16.4	+0.1
	1.6nm,0.7s,baz=86,slow=9.1,SNR=7.6						
WRA	**Warramunga Arr**	**48.38**	**257**	P	P	09 30 01.3	-0.4
	1.7nm,0.5s,baz=93,slow=7.2,SNR=33						
ASAR	**Alice Springs**	**48.66**	**252**	P	P	09 30 03.9	0.0
	17nm,0.5s,baz=89,slow=7.9,SNR=348						

*ISCJB **07** 09:22:36.2±0.5, 56°.03S±0°.09×27°.6W±0°.2, h112km, mb4.5/12, Error ellipse: s-maj=16.2km s-min=10.9km az=153.4*

*IDC **07** 09:22:39.6±4.7, 56°.06S×27°.57W, h126km±42km, mb4.2/10, mb1 4.3/12, mb1mx4.1/25, mbtmp4.7/12, Error ellipse: s-maj=19.2km s-min=14.7km az=68.0*

*NEIC **07** 09:22:40.2±2.5, 56°.07S×27°.59W, h135km±22km, mb4.7/2, Error ellipse: s-maj=13.1km s-min=9.0km az=51.0*

ISC 07 09:22:37.8±0.5, 56°.06S±0°.10×27°.7W±0°.1, h112km, n33, σ0°59/31, mb4.5/11, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**16.89**	**158**	P	**P**	**09 26 27.5**	**+0.4**
SNAA	**Sanae**	**18.84**	**156**	P	**P**	**09 26 48.3**	**-0.3**
	12nm,0.3s,baz=308,slow=9.9,SNR=885						
PMSA	**Palmer Station**	**19.68**	**229**	P	**Pn**	**09 27 00.3**	**+0.2**
	1.4nm,0.3s,baz=63,slow=4.9,SNR=5.5						
TRQA	**Tornquist**	**29.07**	**294**	*e*P	**P**	**09 28 26.8**	**-0.6**
	90nm,2.3s						
QSPA	**South Pole Qui**	**34.19**	**180**	P	**P**	**09 29 12.4**	**+0.3**
	26nm,0.6s,baz=181,slow=1.9,SNR=110						
CPUP	**Villa Florida**	**36.61**	**312**	P	**P**	**09 29 33.1**	**+0.1**
	0.8nm,0.4s,baz=147,slow=9.4,SNR=5.0						
MAW	**Mawson**	**40.30**	**144**	P	**P**	**09 30 03.5**	**+0.1**
	5.0nm,0.6s,baz=206,slow=7.4,SNR=10						
BOSA	**Boshof**	**46.24**	**76**	P	**P**	**09 30 51.5**	**-0.3**
	1.1nm,0.4s,baz=211,slow=9.0,SNR=5.3						
VNDA	**Vanda**	**46.55**	**183**	P	**P**	**09 30 54.5**	**+1.1**
	12nm,0.7s,baz=187,slow=6.5,SNR=89						
H10S2	**ASCENSION HYDR**	**48.09**	**17**	T	T	10 22 55.3	
	baz=190,slow=75,SNR=6.3						
H10S3	**ASCENSION HYDR**	**48.09**	**17**	T	T	10 22 55.3	
	baz=190,slow=75,SNR=7.4						
H10S1	**ASCENSION HYDR**	**48.11**	**17**	T	T	10 22 55.3	
	baz=190,slow=75,SNR=7.9						
H10N1	**ASCENSION HYDR**	**49.21**	**17**	T	T	10 24 19.1	
H10N3	**ASCENSION HYDR**	**49.21**	**17**	T	T	10 24 13.3	
	baz=264,slow=74,SNR=7.1						
H10N2	**ASCENSION HYDR**	**49.23**	**17**	T	T	10 24 09.3	
	baz=191,slow=74,SNR=5.6						
LPAZ	**La Paz**	**50.16**	**306**	P	**P**	**09 31 22.6**	**+0.1**
	2.7nm,0.5s,baz=102,slow=6.0,SNR=10.0						
CASY	**Casey**	**53.99**	**161**	*e*P	**P**	**09 31 49.2**	**-0.3**
	5.1nm,1.0s						
DBIC	**Dimbokro**	**65.29**	**25**	P	**P**	**09 33 08.2**	**+0.6**
	6.3nm,0.6s,baz=179,slow=6.8,SNR=6.8						
TORD	**Torodi Ar. Bea**	**73.20**	**30**	P	**P**	**09 33 56.8**	**+0.5**
	18nm,0.5s,baz=199,slow=6.5,SNR=50						
STKA	**Stephens Creek**	**91.94**	**171**	P	**P**	**09 35 32.3**	**-1.2**
	0.6nm,0.5s,baz=143,slow=9.8,SNR=3.7						
ASAR	**Alice Springs**	**99.06**	**163**	P	**Pdif**	**09 36 04.2**	**-1.8**
	0.5nm,0.7s,baz=188,slow=4.3,SNR=7.4						
NVAR	**Mina Array Bea**	**121.15**	**293**	PKP	**PKPdf**	**09 41 17.8**	**+1.0**
	0.2nm,0.5s,baz=140,slow=2.0,SNR=2.6						
FINES	**FINESS Array B**	**124.52**	**28**	PKP	**PKPdf**	**09 41 22.1**	**-0.1**
	1.1nm,0.8s,baz=212,slow=4.9,SNR=3.5						
ARCES	**ARCESS Array B**	**131.06**	**22**	PKP	**PKPdf**	**09 41 33.9**	**-0.7**
	2.0nm,0.3s,baz=222,slow=1.6,SNR=4.6						
YKA	**Yellowknife Ar**	**135.99**	**318**	PKP	**PKPdf**	**09 41 44.3**	**+0.4**
	0.2nm,0.3s,baz=136,slow=2.0,SNR=9.3						
ZALV	**Zalesovo Beam**	**142.62**	**64**	PKP	**PKPdf**	**09 41 56.1**	**-0.2**
	0.7nm,0.6s,baz=235,slow=5.1,SNR=2.8						
INK	**Inuvik**	**145.63**	**321**	PKPbc	**PKPdf**	**09 42 01.1**	**0.0**
	3.3nm,0.7s,baz=130,slow=4.0,SNR=11						
DOT	**Dot Lake**	**148.44**	**310**	*e*PKPdf	**PKPdf**	**09 42 05.5**	**-0.5**
DOT				*e*PKPbc	**PKPbc**	**09 42 09.9**	**+0.2**
ILAR	**Eielson Array**	**149.92**	**312**	PKPbc	**PKPbc**	**09 42 13.0**	**-0.3**
	3.7nm,0.9s,baz=119,slow=1.2,SNR=29						
SONM	**Songino Array**	**151.00**	**87**	PKPbc	**PKPbc**	**09 42 16.3**	**-0.3**
	1.4nm,0.4s,baz=214,slow=3.8,SNR=9.5						
TRF	**Thorofare Moun**	**151.09**	**308**	*e*PKPbc	**PKPbc**	**09 42 16.2**	**-0.2**
TRF				*e*PKPab	**PKPab**	**09 42 24.6**	**0.0**
BPAW	**Bear Paw Mtn.**	**151.53**	**310**	*e*PKPbc	**PKPbc**	**09 42 16.8**	**-0.4**
BPAW				*e*PKPab	**PKPab**	**09 42 26.1**	**-0.1**
PPLA	**Purkeypile**	**151.82**	**307**	*e*PKPbc	**PKPbc**	**09 42 17.7**	**-0.3**
PPLA				*e*PKPab	**PKPab**	**09 42 27.7**	**+0.1**

*NNC **07** 09:31:17.3±1.3, 38°.61N×69°.70E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=15.0km s-min=4.0km az=173.0*

ISC 07 09:31:17.9±2.0, 38°.5N±0°.1×69°.51E±0°.05, h12km, n12, σ1°39/20, 6C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**0.60**	**297**	⇑P	**Pb**	**09 31 30.9**	**+0.5**
	312nm,0.4s						
DZET				⇑S	**Sn**	**09 31 41.4**	**-0.6**
	312nm,0.4s						
SFK	**Sufi-Kurgan**	**3.43**	**63**	⇑Pn	**Pn**	**09 32 10.8**	**-0.5**
	2.6nm,0.4s						
SFK				⇓Pg	Pb	09 32 16.3	-2.4
	11nm,0.5s						
SFK				⇑Lg	Lg	09 32 59.4	
	66nm,0.5s						
KK31	**Karatay Array**	**4.62**	**9**	⇓Pn	**Pn**	**09 32 28.2**	**+0.7**
	2.0nm,0.3s,baz=67,slow=15,SNR=30						
KK31				Pg	**Pb**	**09 32 39.5**	**+0.5**
	3.4nm,0.3s,baz=193,slow=18,SNR=13						

KK31 ⇓Sn **Sn** 09 33 21.7 +0.6
2.9nm,0.3s,baz=193,slow=30,SNR=4.4
KK31 ⇑Lg Lg 09 33 40.8
7.1nm,0.4s,baz=199,slow=29,SNR=3.7
AML Almayashu 4.80 40 P **Pn** 09 32 31.1 +0.7
SNR=6.7
EKS2 Erkin-Say 5.24 37 P **Pn** 09 32 36.8 +0.6
SNR=7.8
AAK Ala-Archa 5.58 41 P **Pn** 09 32 43.2 +2.4
SNR=5.3
AAK Ala-Archa 5.58 41 Pn **Pn** 09 32 42.1 +1.3
3.5nm,0.3s
AAK Pg **Pb** 09 32 53.8 -1.5
5.9nm,0.5s
AAK Sn **Sn** 09 33 43.1 -1.8
5.5nm,0.5s
KZA Kyzart 5.63 49 P **Pn** 09 32 43.9 +2.0
SNR=21
TKM2 Tokmak 2 6.37 45 P **Pn** 09 32 53.6 +2.0
SNR=9.7
TKM2 Tokmak 2 6.37 45 ⇓Pn **Pn** 09 32 52.6 +0.9
4.6nm,0.6s
TKM2 ⇓Sn **Sn** 09 34 06.5 +2.1
18nm,0.8s
AB31 Akbulak array 12.73 330 ⇑Pn **Pn** 09 34 18.1 -0.6
0.4nm,0.3s
AB31 ⇓Sn **Sn** 09 36 39.9 -0.3
2.9nm,0.6s,baz=152,slow=22,SNR=4.8
AKTO Aktyubinsk 14.43 329 ⇓Pn **Pn** 09 34 41.3 -0.5
6.8nm,1.5s
AKTO ⇓Sn **Sn** 09 37 19.8 -1.8
1.7nm,0.7s

MEX 07 09:32:16.7±0.6, 15°42'N×94°77'W, h16km±6km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.34**	**285**	*eP*	Pn	09 32 37.4	-3.3
HUIG				*i* S	Sn	09 32 52.6	-5.6
PCIG		**1.52**	**79**	*i* P	Pn	09 32 39.9	-3.3
PCIG				*i* S	Sn	09 32 57.4	-5.2
CMIG	**Matias Romero**	**1.67**	**356**	*eP*	Pn	09 32 41.9	-3.4
CMIG				*i* S	Sn	09 33 01.2	-5.3
TGIG		**2.08**	**49**	*i* P	Pn	09 32 47.5	-3.5
TGIG				*i* S	Sn	09 33 12.9	-3.8

*IDC **07** 09:37:58.4±1.1, 11°73N×92°57E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.6/40, mbtmp3.7/8, ML4.2/1, Error ellipse: s-maj=47.8km s-min=18.6km az=64.0*
*ISCJB **07** 09:38:01.2±0.9, 11°7N±0°1×92°8E±0°1, h26km, mb3.6/7, Error ellipse: s-maj=24.2km s-min=9.7km az=144.6*
ISC 07 09:38:02.8±1.0, 11°7N±0°1×92°7E±0°2, h26km, n21, σ1§70/19, mb3.6/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.01**	**41**	Pn	**Pn**	**09 40 11.8**	**+0.6**
	0.7nm,0.3s,baz=234,slow=15,SNR=8.9						
RAMN	**Ramite**	**16.17**	**340**	*eP*	**Pn**	**09 41 48.9**	**+0.3**
	12nm,0.4s						
TAPN	**Taplejung**	**16.21**	**344**	*eP*	**Pn**	**09 41 48.3**	**-0.8**
	8.6nm,0.3s						
PKI	**Pulchoki**	**17.16**	**338**	*eP*	**P**	**09 42 02.8**	**+0.2**
	10nm,0.4s						
PKIN	**Phulchoki**	**17.17**	**338**	*eP*	**P**	**09 42 02.9**	**+0.2**
	12nm,0.4s						
DMN	**Daman**	**17.31**	**337**	*eP*	**P**	**09 42 04.3**	**+0.1**
	21nm,0.8s						
GKN	**Gorkha**	**17.84**	**336**	*eP*	**P**	**09 42 11.0**	**+1.0**
	13nm,0.4s						
KOLN	**Koldanda**	**18.07**	**333**	*eP*	**P**	**09 42 14.2**	**+1.6**
	15nm,0.5s						
DANN	**Dangsing**	**18.51**	**335**	*eP*	**Pn**	**09 42 18.5**	**+0.8**
H08S3	**Diego Garcia H**	**27.82**	**227**	T	T	10 12 36.9	
	baz=46,slow=76,SNR=5.4						
H08S2	**Diego Garcia H**	**27.82**	**227**	T	T	10 12 37.4	
	baz=46,slow=76,SNR=7.3						
H08S1	**Diego Garcia H**	**27.84**	**227**	T	T	10 12 38.8	
	baz=46,slow=76,SNR=6.6						
MKAR	**Makanchi Array**	**36.02**	**348**	P	**P**	**09 45 01.9**	**+0.1**
	0.5nm,0.8s,baz=164,slow=7.4,SNR=2.4						
SONM	**Songino Array**	**37.77**	**15**	P	**P**	**09 45 16.2**	**-0.6**
	0.4nm,0.5s,baz=208,slow=8.1,SNR=3.0						
WRA	**Warramunga Arr**	**51.70**	**127**	P	**P**	**09 47 07.9**	**-0.2**
	0.8nm,0.5s,baz=301,slow=10,SNR=28						
WRA				PcP	**PcP**	**09 48 21.6**	**+0.2**
	0.3nm,0.5s,baz=322,slow=2.9,SNR=7.1						
ASAR	**Alice Springs**	**53.51**	**131**	P	**P**	**09 47 21.4**	**-0.1**
	0.4nm,0.6s,baz=305,slow=6.6,SNR=8.5						
STKA	**Stephens Creek**	**63.82**	**134**	P	**P**	**09 48 33.7**	**+0.7**
	0.8nm,0.7s,baz=349,slow=5.2,SNR=4.3						
FINES	**FINESS Array B**	**68.64**	**332**	P	**P**	**09 49 02.8**	**-0.7**
	1.6nm,0.9s,baz=123,slow=10,SNR=2.7						
ILAR	**Eielson Array**	**91.71**	**22**	P	**P**	**09 51 06.8**	**-1.0**
	0.1nm,0.5s,baz=300,slow=4.7,SNR=5.0						
NVAR	**Mina Array Bea**	**122.29**	**29**	PKP	**PKPdf**	**09 56 56.5**	**+0.2**
	0.2nm,0.6s,baz=329,slow=7,SNR=3.5						
TXAR	**Lajitas Array**	**136.22**	**21**	PKP	**PKPdf**	**09 57 22.5**	**-0.3**
	0.1nm,0.5s,baz=72,slow=1.3,SNR=5.4						

*ISCJB **07** 09:52:20.0±1.2, 18°8S±0°1×168°8E±0°2, h100km, mb3.7/5, Error ellipse: s-maj=34.7km s-min=8.1km az=26.4*
*NOU **07** 09:52:21.7±0.9, 18°47S×168°09E, h30km±38km, MD3.7, ML3.5, MS6.5*
*IDC **07** 09:52:23.2±4.5, 19°22S×169°10E, h135km±45km, mb3.5/5, mb1 3.8/6, mb1mx3.4/34, mbtmp4.0/6, Error ellipse: s-maj=73.9km s-min=28.8km az=156.0*
ISC 07 09:52:19.6±1.2, 18°7S±0°3×168°7E±0°5, h100km, n14, σ1§37/15, mb3.6/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**2.53**	**213**	*eP*	**Pn**	**09 53 01.1**	**+2.0**
LIFNC				AMP		09 53 28.4	
	comp=Z,5009μm,14.7s						
LIFNC				*eS*	**Sn**	**09 53 29.6**	**+0.1**
DZM	**Mont Dzumac**	**4.02**	**212**	*eLR*	LR	10 23 08.2	
	comp=Z,539nm,26.6s						
DZM	**Mont Dzumac**	**4.02**	**212**	P	**Pn**	**09 53 20.7**	**+1.6**
	comp=Z,23nm,0.3s,baz=270,slow=24,SNR=342						
DZM				S	**Sn**	**09 54 04.4**	**-0.8**
	comp=Z,35nm,0.3s,baz=90,slow=24,SNR=27						
DZM	**Mont Dzumac**	**4.02**	**212**	*eP*	**Pn**	**09 53 20.1**	**+1.0**
DZM				*eS*	**Sn**	**09 54 02.9**	**-2.3**
DZM				AMP		09 54 08.4	
	comp=Z,1μm,0.6s						
NOUC	**Port Laguerre**	**4.11**	**213**	*eP*	**Pn**	**09 53 20.9**	**+0.6**
NOUC				*eS*	**Sn**	**09 54 05.7**	**-1.7**
NOUC				AMP		09 54 14.9	
	comp=Z,31nm,3.3s						
NORM	**Noumea**	**4.13**	**210**	*eP*	**Pn**	**09 53 21.7**	**+1.2**
NORM				*eS*	**Sn**	**09 54 06.5**	**-1.3**
STKA	**Stephens Creek**	**27.75**	**236**	P	**P**	**09 57 59.9**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=83,slow=11,SNR=8.4						
WRA	**Warramunga Arr**	**32.45**	**262**	P	P	09 58 42.4	+1.8
	comp=Z,0.8nm,0.8s,baz=90,slow=8.6,SNR=9.3						
ASAR	**Alice Springs**	**32.80**	**255**	P	P	09 58 46.0	+2.4
	comp=Z,2.8nm,0.6s,baz=84,slow=9.0,SNR=73						
SONM	**Songino Array**	**86.46**	**323**	P	P	10 04 54.5	+3.3
	comp=Z,0.2nm,0.3s,baz=112,slow=4.0,SNR=3.8						
NVAR	**Mina Array Bea**	**88.78**	**49**	P	**P**	**10 05 02.7**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=227,slow=14,SNR=3.9						
ARCES	**ARCESS Array B**	**124.38**	**345**	PKP	**PKPdf**	**10 11 05.4**	**-0.8**
	comp=Z,1.8nm,0.3s,baz=85,slow=2.9,SNR=5.3						
GERES	**GERESS Array B**	**143.75**	**332**	PKP	**PKPdf**	**10 11 42.4**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=14,slow=5.9,SNR=5.0						
DAVOX	**Davos/Dischmat**	**146.99**	**333**	PKPbc	**PKPab**	**10 11 51.9**	**-0.7**
	comp=Z,2.1nm,0.4s,baz=207,slow=6.8,SNR=4.7						

NNC 07 09:53:41.6±6.5, 37°64N×71°69E, h187km±60km, mb2.4, mpv3.5, 6C-3D, Error ellipse: s-maj=67.3km s-min=23.6km az=159.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.54**	**298**	⇓P	Pn	09 54 25.6	+0.3
	10nm,0.4s						
DZET				⇓S	Sn	09 54 59.9	+0.6
	59nm,0.5s						
SFK	**Sufi-Kurgan**	**2.76**	**30**	⇑P	Pn	09 54 27.5	-0.6
	17nm,0.4s						
SFK				⇑S	Sn	09 55 04.2	-0.2
	122nm,0.6s						
AAK	**Ala-Archa**	**5.43**	**22**	⇑P	Pn	09 55 01.2	-0.3
	6.7nm,0.5s						
AAK				⇑S	Sn	09 56 05.0	+0.5
	10.0nm,0.6s						
KK31	**Karatay Array**	**5.53**	**351**	⇑P	Pn	09 55 03.6	+1.0
	1.0nm,0.3s,baz=180,slow=14,SNR=22						
KK31				⇓S	Sn	09 56 07.2	+0.7
	4.4nm,0.6s,baz=181,slow=25,SNR=6.6						
TKM2	**Tokmak 2**	**6.07**	**28**	⇑P	Pn	09 55 08.9	-0.8
	2.6nm,0.7s						

WEL 07 09:56:14.2±0.3, 37°41S×175°91E, h192km±3km, ML3.8/11, 1C, Error ellipse: s-maj=5.4km s-min=3.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.27**	**132**	PN	Pn	09 56 45.4	+0.2
URZ				SN	Sn	09 57 08.9	-0.3
URZ				AML	AML	09 57 10.9	
HAZ	**Te Kaha**	**1.53**	**104**	⇑PN	Pn	09 56 47.5	+0.1
HAZ				SN	Sn	09 57 13.2	+0.1
MWZ	**Matawai**	**1.58**	**126**	PN	Pn	09 56 48.2	+0.3
MWZ				AML	AML	09 57 20.8	
MWZ				AML	AML	09 57 20.8	
MWZ				AML	AML	09 57 24.0	
MWZ				AML	AML	09 57 24.0	
RAHZ	**Arahi**	**1.77**	**149**	*e*PN	Pn	09 56 49.3	-0.5
RAHZ				SN	Sn	09 57 16.4	-1.1
SNGZ	**Shannon Statio**	**1.77**	**141**	PN	Pn	09 56 50.0	+0.2
TWGZ	**Tauwhareparae**	**1.81**	**116**	*e*PN	Pn	09 56 50.4	+0.2
TWGZ				SN	Sn	09 57 17.5	-0.7
BKZ	**Black Stump Fm**	**1.81**	**165**	PN	Pn	09 56 49.7	-0.5
BKZ				AML	AML	09 57 54.3	
BKZ				AML	AML	09 58 14.1	
TKGZ	**Te Karaka**	**1.84**	**124**	PN	Pn	09 56 50.2	-0.3
MXZ	**Matakaoa Point**	**1.91**	**95**	PN	Pn	09 56 51.9	+0.7
MXZ				AML	AML	09 57 25.7	
MXZ				AML	AML	09 57 29.6	
WNVZ	**Wahianoa**	**1.93**	**187**	PN	Pn	09 56 51.4	-0.2
WMGZ	**Waiomatatini S**	**2.03**	**102**	PN	Pn	09 56 52.5	+0.1
KWHZ	**Kaweka Forest**	**2.05**	**169**	PN	Pn	09 56 52.2	-0.5
BHHZ	**Black Hill Sta**	**2.08**	**177**	PN	Pn	09 56 51.9	-1.1
CNGZ	**Carnagh Statio**	**2.11**	**121**	PN	Pn	09 56 53.0	-0.2
KNZ	**Kokohu**	**2.12**	**140**	*e*PN	Pn	09 56 52.9	-0.5
KRHZ	**Kereru**	**2.26**	**171**	*e*PN	Pn	09 56 53.7	-1.3
KAHZ	**Kahuranaki**	**2.50**	**163**	PN	Pn	09 56 56.1	-1.5
PNHZ	**Pukenui**	**2.51**	**175**	PN	Pn	09 56 55.9	-1.8
TSZ	**Takapari Road**	**2.64**	**179**	PN	Pn	09 56 57.2	-2.0
PXZ	**Pawanui**	**2.72**	**164**	AML	AML	09 57 34.6	
DVHZ	**Dannevirke**	**2.89**	**176**	PN	Pn	09 56 59.3	-2.8
ANWZ	**Angora Road**	**3.08**	**172**	PN	Pn	09 57 01.7	-2.6
PRWZ	**Pori Road**	**3.14**	**179**	*e*PN	Pn	09 57 02.5	-2.5
MRZ	**Mangatainoka R**	**3.25**	**184**	PN	Pn	09 57 03.2	-3.3
MRZ				AML	AML	09 57 44.1	
MRZ				AML	AML	09 57 44.1	
TIWZ	**Tintock**	**3.36**	**180**	*e*PN	Pn	09 57 04.8	-3.0
TIWZ				AML	AML	09 57 47.8	
OGWZ	**Otaki Gorge**	**3.45**	**189**	PN	Pn	09 57 05.7	-3.2
HOWZ	**Holdsworth Sta**	**3.50**	**185**	PN	Pn	09 57 05.7	-3.8
KIW	**Kapiti Island**	**3.53**	**192**	PN	Pn	09 57 06.4	-3.5
DUWZ	**D'Urville Isla**	**3.72**	**204**	PN	Pn	09 57 09.4	-2.8
CAW	**Cannon Point**	**3.75**	**190**	PN	Pn	09 57 08.7	-3.8
CAW				AML	AML	09 57 53.9	
MTW	**Mount Morrison**	**3.75**	**185**	PN	Pn	09 57 08.4	-4.2
PAWZ	**Paruwai Farm**	**3.98**	**185**	*e*PN	Pn	09 57 10.9	-4.5
TRWZ	**Traveller**	**3.98**	**182**	PN	Pn	09 57 11.2	-4.3
TCW	**Tory Channel**	**4.00**	**198**	PN	Pn	09 57 12.0	-3.6
TCW				AML	AML	09 57 58.5	
TCW				AML	AML	09 57 59.6	
MSWZ	**Moikau Station**	**4.03**	**187**	PN	Pn	09 57 11.5	-4.6
MSWZ				AML	AML	09 57 58.6	
MSWZ				AML	AML	09 57 59.2	
NNZ	**Nelson**	**4.28**	**207**	PN	Pn	09 57 15.6	-3.5
TUWZ	**Tuamarina**	**4.29**	**200**	PN	Pn	09 57 15.7	-3.6
TUWZ				AML	AML	09 58 06.0	
TUWZ				AML	AML	09 58 06.5	
ORZ	**Quartz Range**	**4.30**	**217**	*e*PN	Pn	09 57 16.3	-3.2
BSWZ	**Blackbirch Sta**	**4.57**	**199**	PN	Pn	09 57 18.8	-4.2
THZ	**Tophouse**	**4.93**	**207**	PN	Pn	09 57 23.4	-4.1
KHZ	**Kahutara**	**5.32**	**199**	PN	Pn	09 57 27.9	-4.5
DSZ	**Denniston Nort**	**5.37**	**215**	*e*PN	Pn	09 57 28.1	-5.0
LTZ	**Lake Taylor**	**6.04**	**206**	PN	Pn	09 57 36.4	-5.6
OXZ	**Oxford**	**6.60**	**205**	PN	Pn	09 57 42.8	-6.3
MQZ	**McQueen's Vall**	**6.76**	**200**	PN	Pn	09 57 44.7	-6.5

WEL 07 10:11:42.9±0.2, 36°79S×179°38E, h33km, ML3.8/7, 1D, Error ellipse: s-maj=2.3km s-min=1.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.16**	**228**	PN	Pn	10 11 58.1	-4.6
MXZ				AML	AML	10 12 10.1	
MXZ				AML	AML	10 12 10.1	
MXZ				AML	AML	10 12 10.6	
MXZ				AML	AML	10 12 28.9	
WMGZ	**Waiomatatini S**	**1.28**	**217**	PN	Pn	10 12 02.7	-1.8
WMGZ				*e*SN	Sn	10 12 19.6	-1.0
PUZ	**Puketiti**	**1.56**	**215**	PN	Pn	10 12 07.5	-0.9
PUZ				AML	AML	10 12 29.2	
PUZ				AML	AML	10 12 34.4	
HAZ	**Te Kaha**	**1.60**	**232**	⇓PN	Pn	10 12 08.3	-0.5
HAZ				SN	Sn	10 12 27.8	-0.5
TWGZ	**Tauwhareparae**	**1.78**	**218**	PN	Pn	10 12 30.4	-1.0
TWGZ				SN	Sn	10 12 31.9	-1.0
CNGZ	**Carnagh Statio**	**1.93**	**208**	PN	Pn	10 12 12.9	-0.5
TKGZ	**Te Karaka**	**2.05**	**216**	PN	Pn	10 12 13.8	-1.2
MWZ	**Matawai**	**2.13**	**223**	PN	Pn	10 12 15.4	-0.8
MWZ				SN	Sn	10 12 39.6	-2.1
MWZ				AML	AML	10 12 44.0	
MWZ				AML	AML	10 12 51.1	
URZ	**Urewera**	**2.33**	**230**	PN	Pn	10 12 17.7	-1.1
URZ				SN	Sn	10 12 44.4	-1.8
URZ				AML	AML	10 12 44.8	
OPRZ	**Ohinepanea**	**2.49**	**244**	PN	Pn	10 12 20.3	-0.7
PRRZ	**Plateau Road**	**2.92**	**233**	PN	Pn	10 12 26.0	-1.0
KUZ	**Kuaotunu**	**2.94**	**270**	*e*PN	Pn	10 12 27.1	-0.1
KUZ				AML	AML	10 12 55.8	
ALRZ	**Allen Road**	**2.99**	**233**	PN	Pn	10 12 27.3	-0.7
TOZ	**Tahuroa Road**	**3.23**	**252**	*e*PN	Pn	10 12 30.8	-0.4
BKZ	**Black Stump Fm**	**3.29**	**223**	PN	Pn	10 12 30.7	-1.5
BKZ				AML	AML	10 13 22.8	
MKAZ	**Moumakai**	**3.39**	**263**	*e*PN	Pn	10 12 31.9	-1.6
MCHZ	**McNeill Hill**	**3.39**	**218**	*e*PN	Pn	10 12 31.9	-1.6
KWHZ	**Kaweka Forest**	**3.52**	**221**	PN	Pn	10 12 33.2	-2.1
BHHZ	**Black Hill Sta**	**3.76**	**223**	PN	Pn	10 12 36.7	-1.8
RVAZ	**Riverhead Bore**	**3.86**	**269**	PN	Pn	10 12 38.2	-1.7
WNVZ	**Wahianoa**	**3.92**	**229**	PN	Pn	10 12 39.1	-1.8
PNHZ	**Pukenui**	**4.00**	**218**	*e*PN	Pn	10 12 39.4	-2.5
WCZ	**Waipu Caves**	**4.15**	**280**	*e*PN	Pn	10 12 43.2	-0.7
BFZ	**Birch Farm**	**4.59**	**211**	*e*PN	Pn	10 12 46.0	-4.0
MRZ	**Mangatainoka R**	**4.88**	**216**	PN	Pn	10 12 50.1	-3.8
MRZ				AML	AML	10 13 43.5	
MTW	**Mount Morrison**	**5.31**	**214**	*e*PN	Pn	10 12 55.5	-4.3
CAW	**Cannon Point**	**5.47**	**217**	PN	Pn	10 12 57.1	-4.9
TUWZ	**Tuamarina**	**6.27**	**221**	*e*PN	Pn	10 13 08.9	-4.2
NNZ	**Nelson**	**6.43**	**225**	*e*PN	Pn	10 13 10.0	-5.2
QRZ	**Quartz Range**	**6.70**	**231**	PN	Pn	10 13 15.5	-3.4

IDC 07 10:13:15.0±2.0, 8°10S×156°94E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/29, mbtmp3.6/4, Error ellipse: s-maj=72.0km s-min=29.0km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.85**	**239**	P	P	10 18 38.2	-1.3
	0.9nm,0.6s,baz=66,slow=9.4,SNR=10						
STKA	**Stephens Creek**	**27.64**	**209**	P	P	10 19 05.9	+1.4
	2.3nm,1.0s,baz=55,slow=12,SNR=3.1						
SONM	**Songino Array**	**71.30**	**327**	P	P	10 24 37.4	+0.8
	0.4nm,0.6s,baz=127,slow=6.7,SNR=3.1						
ILAR	**Eielson Array**	**83.69**	**21**	P	P	10 25 44.6	-0.8
	0.1nm,0.6s,baz=226,slow=4.9,SNR=4.1						

*IDC **07** 10:15:53.2±0.8, 9°04S×158°59E, h0km, mb3.9/11, mb1 4.1/13, mb1mx4.0/33, mbtmp4.0/13, ML3.8/2, MS3.4/11, Ms1 3.5/11, ms1mx3.3/28, Error ellipse: s-maj=24.3km s-min=18.6km az=103.0*
*ISCJB **07** 10:15:56.3±0.6, 9°01S±0°09×158°51E±0°08, h29km, mb3.8/12, MS3.4/10, Error ellipse: s-maj=13.2km s-min=11.1km az=160.0*
*NEIC **07** 10:15:58.4±0.4, 9°07S×158°63E, h35km, mb4.0/2, Error ellipse: s-maj=11.8km s-min=8.9km az=166.0*
ISC 07 10:15:57.6±0.6, 9°1S±0°1×158°55E±0°06, h29km, n26, σ1§43/21, mb3.9/12, MS3.4/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.42**	**104**	*i* P	**Pb**	**10 16 25.0**	**+1.6**
HNR				*i* S	**Sn**	**10 16 35.0**	**-4.2**
HNR	**Honiara**	**1.42**	**104**	*e*Pn	**Pn**	**10 16 20.6**	**-0.8**
HNR				*e*S	**Sb**	**10 16 42.8**	**+1.7**
COEN	**Coen**	**15.82**	**251**	*e*Pn	**P**	**10 19 40.1**	**-1.9**
	15nm,1.1s						
CTA	**Charters Tower**	**16.14**	**226**	Pn	**P**	**10 19 43.8**	**-1.8**
	0.1nm,0.3s,baz=60,slow=16,SNR=2.5						
JAY	**Jayapura**	**18.91**	**289**	P	**Pn**	**10 20 17.5**	**+0.5**
	0.7nm,0.3s,baz=70,slow=13,SNR=5.3						
JAY				LR	LR	10 27 32.3	
	comp=Z,132nm,21.0s,baz=131,slow=37						
WRAB	**Tennant Creek**	**25.75**	**243**	*e*P	**P**	**10 21 26.9**	**+0.9**
	4.3nm,1.0s						
WRA	**Warramunga Arr**	**25.76**	**243**	P	**P**	**10 21 26.8**	**+0.7**
	1.7nm,0.5s,baz=66,slow=9.4,SNR=25						
WRA				LR	LR	10 30 52.9	
	comp=Z,142nm,21.3s,baz=80,slow=35						
GUMO	**Guam**	**26.32**	**329**	LR	LR	10 31 41.3	
	comp=Z,33nm,18.1s,baz=102,slow=36						
STKA	**Stephens Creek**	**27.59**	**212**	P	**P**	**10 21 42.0**	**-0.5**
	1.2nm,0.5s,baz=37,slow=15,SNR=4.2						
STKA				LR	LR	10 33 03.2	
	comp=Z,164nm,18.2s,baz=31,slow=37						
ASAR	**Alice Springs**	**27.66**	**235**	P	**P**	**10 21 42.8**	**-0.4**
	0.4nm,0.6s,baz=62,slow=9.9,SNR=7.2						
ASAR				LR	LR	10 32 26.0	
	comp=Z,102nm,18.4s,baz=65,slow=36						
JNU	**Nakatsue**	**49.57**	**329**	LR	LR	10 45 14.2	
	comp=Z,22nm,19.2s,baz=102,slow=36						
PPT	**Papeete**	**51.04**	**105**	LR	LR	10 42 18.8	
	comp=Z,76nm,20.8s,baz=311,slow=31						
PPT2	**Papeete2**	**51.04**	**105**	*e*LR	LR	10 40 20.7	
	149nm,23.0s						
TBI	**Tubuai**	**51.62**	**113**	*e*LR	LR	10 40 31.9	
	138nm,27.5s						
KSRS	**Korea Array**	**54.47**	**330**	P	**P**	**10 25 22.4**	**-0.1**
	0.5nm,0.4s,baz=140,slow=7.7,SNR=4.0						
KSRS				LR	LR	10 47 05.5	
	comp=Z,18nm,20.9s,baz=101,slow=34						
KSAR	**Wonju Array Be**	**54.48**	**330**	P	**P**	**10 25 22.4**	**-0.2**
PETK	**Petropavlovsk-**	**61.97**	**359**	LR	LR	10 49 35.4	
	comp=Z,30nm,20.9s,baz=137,slow=33						
CMAR	**Chiang Mai Arr**	**64.86**	**295**	P	**P**	**10 26 34.7**	**+0.1**
	0.6nm,0.3s,baz=111,slow=4.9,SNR=2.7						
CMAR				LR	LR	10 53 50.0	
	comp=Z,26nm,20.3s,baz=140,slow=35						
VNDA	**Vanda**	**68.42**	**179**	P	**P**	**10 26 57.4**	**+1.1**
	1.1nm,0.9s,baz=336,slow=6.7,SNR=6.3						
VNDA				LR	LR	10 51 24.7	
	comp=Z,48nm,19.5s,baz=23,slow=31						
SONM	**Songino Array**	**73.01**	**326**	P	**P**	**10 27 25.5**	**+0.6**
	2.3nm,0.8s,baz=131,slow=5.9,SNR=13						
QSPA	**South Pole Qui**	**80.89**	**180**	P	**P**	**10 28 10.4**	**+1.4**
	2.6nm,1.0s,baz=336,slow=2.2,SNR=5.5						
ILAR	**Eielson Array**	**84.06**	**21**	P	**P**	**10 28 24.5**	**-0.7**
	0.6nm,0.8s,baz=284,slow=3.7,SNR=8.8						
MKAR	**Makanchi Array**	**87.31**	**318**	P	**P**	**10 28 41.2**	**-0.6**
	0.6nm,0.6s,baz=104,slow=5.8,SNR=4.1						
NVAR	**Mina Array Bea**	**90.27**	**51**	P	**P**	**10 28 56.7**	**+0.5**
	0.3nm,0.8s,baz=218,slow=5.7,SNR=3.4						
LPAZ	**La Paz**	**127.37**	**118**	PKP	**PKPdf**	**10 35 01.3**	**-0.1**
	1.0nm,0.8s,baz=248,slow=5.4,SNR=3.6						
BDFB	**Brasilia**	**143.99**	**133**	PKP	PKPbc	10 35 29.5	+0.1
	3.2nm,0.7s,baz=227,slow=6.9,SNR=4.1						

*IDC **07** 10:44:59.1±1.0, 2°96N×128°64E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.7/33, mbtmp3.7/7, ML4.0/1, MS2.5/1, Ms1 2.5/1, ms1mx2.1/37, Error ellipse: s-maj=72.2km s-min=17.6km az=70.0*
*ISCJB **07** 10:45:02.3±0.8, 2°9N±0°2×128°8E±0°3, h33km, mb3.5/6, Error ellipse: s-maj=46.2km s-min=9.9km az=152.8*
ISC 07 10:45:04.2±1.0, 2°9N±0°2×128°8E±0°4, h35km, n10, σ1§01/8, mb3.6/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.53**	**146**	Pn	**Pn**	**10 46 11.6**	**+1.2**
	6.6nm,0.3s,baz=173,slow=23,SNR=35						
SIJI				Sn	**Sn**	**10 47 00.6**	**-1.4**
	1.2nm,0.3s,baz=343,slow=19,SNR=2.7						
SIJI				LR	LR	10 47 05.1	
	comp=Z,55nm,21.8s,baz=127,slow=27						
WRA	**Warramunga Arr**	**23.39**	**167**	P	**P**	**10 50 10.3**	**+0.3**
	0.9nm,0.6s,baz=343,slow=10,SNR=9.6						
ASAR	**Alice Springs**	**26.91**	**170**	P	**P**	**10 50 42.5**	**+0.3**
	0

comp=Z,49nm,0.6s,SNR=5.7
WRAB Tennant Creek 23.82 233 *i* P **P** **10 55 26.9 -0.4**
WRAB pmax pmax
comp=Z,57nm,1.9s
WRAB Tennant Creek 23.82 233 *eP* **P** **10 55 27.1 -0.4**
comp=Z,12nm,0.8s
WRA Warramunga Arr 23.83 233 P **P** **10 55 26.2 -1.3**
comp=Z,2.1nm,0.6s,baz=58,slow=9.9,SNR=26
WRA PcP **PcP** **10 59 09.5 0.0**
comp=Z,3.7nm,0.6s,baz=59,slow=2.3,SNR=19
MSVF Nonsavu 25.70 118 *eP* **P** **10 55 44.8 +0.2**
MSVF pmax pmax
comp=Z,227nm,2.6s
MSVF Nonsavu 25.70 118 *eP* **P** **10 55 44.8 +0.2**
comp=Z,227nm,2.6s
AS01 Alice Springs 26.26 227 *eP* **P** **10 55 49.6 +0.1**
ASAR Alice Springs 26.30 227 P **P** **10 55 48.9 -0.9**
comp=Z,1.0nm,0.4s,baz=57,slow=9.6,SNR=36
ASAR PcP **PcP** **10 59 15.0 0.0**
comp=Z,2.6nm,0.6s,baz=60,slow=2.2,SNR=14
ASAR ScP **ScP** **11 02 52.8 +3.0**
comp=Z,0.5nm,0.7s,baz=49,slow=2.8,SNR=7.6
STKA Stephens Creek 28.20 204 P **P** **10 56 05.0 -1.8**
comp=Z,1.5nm,0.9s,baz=3.6,slow=9.3,SNR=5.3
STKA PcP **PcP** **10 59 19.1 -0.3**
comp=Z,2.9nm,0.7s,baz=1.5,slow=1.6,SNR=6.0
STKA Stephens Creek 28.20 204 *eP* **P** **10 56 06.4 -0.4**
STKA Stephens Creek 28.20 204 *eP* **P** **10 56 06.5 -0.4**
comp=Z,18nm,2.6s
STKA PcP **PcP** **10 59 19.1 -0.3**
LUWI Luwuk 32.04 278 *eP* **P** **10 56 42.0 +1.0**
comp=Z,28nm,1.1s
TOLI Toli-Toli 34.40 281 *eP* **P** **10 57 00.7 -0.8**
comp=Z,60nm,0.7s
URZ Urewera 37.92 150 P **P** **10 57 31.3 0.0**
comp=Z,5.3nm,0.6s,baz=16,slow=14,SNR=5.1
URZ Urewera 37.92 150 *eP* P 10 57 34.4 +3.2
comp=Z,413nm,2.3s
BKZ Black Stump Fm 38.34 152 *eP* **P** **10 57 37.8 +2.9**
comp=Z,362nm,2.4s
SBUM Sibu 43.06 280 *eP* **P** **10 58 14.2 +0.1**
comp=Z,7.9nm,1.3s
YULB Yu-li 43.79 313 *eP* **P** **10 58 19.1 -0.7**
comp=Z,16nm,0.7s
NACB Ninganchiao 44.06 315 *eP* **P** **10 58 22.1 +0.2**
comp=Z,24nm,0.8s
TPUB Ta-pu 44.21 313 *eP* **P** **10 58 22.3 -0.9**
comp=Z,25nm,0.6s
SSLB Suanglung 44.28 314 *eP* **P** **10 58 23.5 -0.2**
comp=Z,18nm,0.6s
JNU Nakatsue 45.10 332 P **P** **10 58 28.6 -1.5**
comp=Z,11nm,0.7s,baz=133,slow=3.2,SNR=7.5
JNU Nakatsue 45.10 332 *eP* **P** **10 58 28.6 -1.5**
comp=Z,18nm,0.9s
MJAR Matsushiro Arr 45.20 341 LR LR 11 15 12.3
comp=Z,22nm,21.7s,baz=155,slow=33
KSRS Korea Array 50.03 332 P **P** **10 59 07.0 -1.2**
comp=Z,2.4nm,0.7s,baz=146,slow=7.4,SNR=12
KSRS Korea Array 50.03 332 P **P** **10 59 07.0 -1.2**
KSRS pmax pmax
comp=Z,2.0nm,0.7s
KSAR Wonju Array Be 50.04 332 P **P** **10 59 07.0 -1.3**
KSAR Wonju Array Be 50.04 332 P **P** **10 59 07.0 -1.3**
KS01 Wonju Array Si 50.06 332 *eP* **P** **10 59 07.0 -1.5**
NJ2 Nanjing 51.00 320 *eP* **P** **10 59 16.1 +0.4**
NJ2 PMZ
comp=Z,20nm,0.6s
USRK Ussuriysk Ar. 54.15 340 P **P** **10 59 36.5 -2.2**
comp=Z,1.1nm,0.4s,baz=163,slow=5.6,SNR=4.0
KMI Kunming 59.16 304 P **P** **11 00 15.7 +0.7**
KMI PMZ
comp=Z,17nm,0.8s
PETK Petropavlovsk- 59.18 2 LR LR 11 21 56.0
comp=Z,25nm,21.4s,baz=146,slow=32
CM01 Chiang Mai Arr 59.96 295 *eP* **P** **11 00 21.2 +0.9**
CMAR Chiang Mai Arr 59.99 295 P **P** **11 00 19.3 -1.2**
comp=Z,1.5nm,0.4s,baz=118,slow=5.2,SNR=11
CMAR LR LR 11 27 17.7
comp=Z,11nm,18.7s,baz=310,slow=37
CMAR Chiang Mai Arr 59.99 295 *i* P **P** **11 00 20.8 +0.3**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CD2 Chengdu 60.93 310 ⇓P **P** **11 00 26.8 +0.1**
CD2 pP **pP** **11 00 44.4 +1.3**
CD2 sP **sP** **11 00 52.3 +2.4**
CD2 PP **PP** **11 02 41.6 -0.1**
CD2 S **S** **11 08 40.3 -0.3**
CD2 sS **sS** **11 09 11.0 +2.8**
CD2 SS **SS** **11 12 42.2 +1.2**
CD2 PMZ
comp=Z,40nm,0.6s
CD2 PMZ
comp=Z,180nm,7.6s
CD2 LN
comp=Z,200nm,5.9s
CD2 LZ
comp=Z,160nm,5.5s
HHC Hu-ho-hao-te 61.18 324 *eP* **P** **11 00 30.9 +2.6**
HHC sP sP 11 00 59.3 +7.8
HHC S **S** **11 08 44.7 +1.2**
HHC sS **sS** **11 09 15.4 +4.3**
HHC SS **SS** **11 12 46.0 +1.3**
HHC PMZ
comp=Z,35nm,1.1s
HHC PMZ
comp=Z,120nm,7.3s
HHC LN
comp=Z,87nm,17.0s
HHC LE
comp=Z,120nm,16.5s
HHC LZ
comp=Z,65nm,16.8s
LZH Lanzhou 63.41 316 *eP* **P** **11 00 43.0 -0.4**
LZH pP **pP** **11 01 01.1 +1.3**
LZH sP **sP** **11 01 08.7 +2.0**
LZH *e*PP **PP** **11 03 04.3 +0.7**
LZH *e*S **S** **11 09 10.0 -2.0**
LZH sS **sS** **11 09 38.5 -1.2**
LZH *e*SS **SS** **11 13 19.0 -1.0**
LZH PMZ
comp=Z,31nm,1.5s
LZH PMZ
comp=Z,140nm,6.8s
LZH LN
comp=Z,240nm,13.6s
LZH LE
comp=Z,310nm,14.0s
LZH LZ
comp=Z,500nm,19.1s
GTA Gaotai 67.83 317 *eP* **P** **11 01 11.8 0.0**
GTA pP **pP** **11 01 28.2 -0.2**
GTA sP **sP** **11 01 35.1 -0.1**
GTA S **S** **11 10 04.1 -1.6**
GTA SS **SS** **11 14 27.5 -1.1**
GTA PMZ
comp=Z,4.0nm,1.3s
GTA PMZ
comp=Z,67nm,5.7s
GTA LN
comp=Z,92nm,16.6s
GTA LE
comp=Z,71nm,16.2s
GTA LZ
comp=Z,64nm,16.1s
SONM Songino Array 68.42 327 P **P** **11 01 14.1 -1.2**
comp=Z,1.1nm,0.6s,baz=152,slow=4.3,SNR=7.6
SONA1 Songino Array 68.42 327 *eP* **P** **11 01 15.5 +0.2**
LSA Lhasa 70.42 304 *eP* **P** **11 01 29.2 +0.8**
LSA pmax pmax
comp=Z,14nm,0.8s
LSA Lhasa 70.42 304 *eP* **P** **11 01 29.2 +0.8**
comp=Z,14nm,0.8s
YAK Yakutsk 70.71 348 LR LR 11 29 02.3
comp=Z,22nm,20.9s,baz=83,slow=33
VNDA Vanda 71.35 178 P **P** **11 01 31.4 -1.3**
comp=Z,0.9nm,0.7s,baz=325,slow=5.6,SNR=3.6
ZAK Zakamensk 71.58 328 *eP* **P** **11 01 33.0 -1.6**
ZAK pmax pmax
comp=Z,2.0nm,1.0s
TAPN Taplejung 72.57 301 *eP* **P** **11 01 41.2 0.0**
comp=Z,24nm,0.6s
ODAN Odare 72.70 300 *eP* **P** **11 01 41.9 -0.1**
comp=Z,74nm,0.7s
RAMN Ramite 73.40 300 *eP* **P** **11 01 45.7 -0.4**
comp=Z,43nm,0.8s
GUN Gumba 74.28 301 *eP* **P** **11 01 51.1 -0.3**
comp=Z,70nm,0.8s
PKI Pulchoki 74.59 301 *eP* **P** **11 01 52.6 -0.6**
comp=Z,25nm,0.8s
PKIN Phulchoki 74.60 301 *eP* **P** **11 01 53.4 +0.2**
comp=Z,16nm,0.6s
KKN Kakani 74.76 301 *eP* **P** **11 01 53.7 -0.3**
comp=Z,21nm,0.6s
DMN Daman 74.86 301 *eP* **P** **11 01 54.5 -0.1**
comp=Z,103nm,0.9s
GKN Gorkha 75.36 301 *eP* **P** **11 01 57.0 -0.4**
comp=Z,58nm,0.8s
KOLN Koldanda 76.19 300 *eP* **P** **11 02 01.6 -0.6**
comp=Z,49nm,0.7s
DANN Dangsing 76.20 301 *eP* **P** **11 02 01.5 -0.9**
WMQ Urumqi 77.92 317 P **P** **11 02 12.4 +1.0**
WMQ pP **pP** **11 02 29.4 +1.1**
WMQ sP **sP** **11 02 37.4 +2.4**
WMQ PMZ
comp=Z,11nm,1.0s
WMQ PMZ
comp=Z,75nm,4.0s
WMQ LN
comp=Z,52nm,18.2s
WMQ LZ
comp=Z,46nm,18.3s
MK01 Makanchi Array 82.48 319 *eP* **P** **11 02 35.4 -0.4**
MKAR Makanchi Array 82.50 319 P **P** **11 02 34.2 -1.7**
comp=Z,1.4nm,0.7s,baz=107,slow=4.7,SNR=8.0
MKAR Makanchi Array 82.50 319 *eP* **P** **11 02 36.8 +0.9**
MKAR Makanchi Array 82.50 319 *eP* **P** **11 02 36.8 +0.9**
COLA College 82.57 21 *eP* **P** **11 02 33.5 -2.3**
COLA pmax pmax
comp=Z,23nm,2.0s
ILAR Eielson Array 82.87 22 P **P** **11 02 35.0 -2.4**
comp=Z,0.8nm,0.8s,baz=246,slow=5.5,SNR=10
ILAR Eielson Array 82.87 22 P **P** **11 02 35.0 -2.4**
ZALV Zalesovo Beam 83.27 326 P **P** **11 02 36.6 -3.0**
comp=Z,0.9nm,0.3s,baz=135,slow=3.9,SNR=3.8
MAW Mawson 84.89 200 P **P** **11 02 47.3 -0.4**
comp=Z,2.5nm,0.6s,baz=102,slow=15,SNR=3.3
TKM2 Tokmak 2 86.12 314 *eP* **P** **11 02 54.9 +0.3**
TKM2 pmax pmax
comp=Z,13nm,1.3s
TKM2 Tokmak 2 86.12 314 *eP* **P** **11 02 54.9 +0.3**
comp=Z,13nm,1.3s
CIS Catalina Islan 91.00 57 P **P** **11 03 18.2 +0.4**
baz=91
MWC Mount Wilson 91.38 56 *eP* **P** **11 03 20.5 +0.8**
MWC Mount Wilson 91.38 56 *eP* **P** **11 03 20.5 +0.8**
EDW2 Edwards Air Fo 91.51 55 P **P** **11 03 20.4 +0.2**
baz=92
NV01 Mina Array Sit 91.67 52 *eP* **P** **11 03 20.7 -0.2**
NVAR Mina Array Bea 91.67 52 P **P** **11 03 21.1 +0.1**
comp=Z,2.5nm,0.8s,baz=256,slow=6.9,SNR=25
LRMC Laurel Mountai 91.82 55 P **P** **11 03 21.8 +0.1**
baz=92
DAC Darwin (Calif) 91.99 54 *eP* **P** **11 03 22.9 +0.4**
DAC pmax pmax
comp=Z,2.0nm,0.7s
DAC Darwin (Calif) 91.99 54 *eP* **P** **11 03 22.9 +0.4**
comp=Z,2.4nm,0.7s
MPMC Manual Prospec 92.05 54 P **P** **11 03 23.3 +0.5**
baz=92
FURC Furnace Creek, 92.60 54 P **P** **11 03 25.5 +0.5**
baz=93
MONP Monument Peak 92.60 57 P **P** **11 03 26.1 +0.7**
baz=93
PFO Pinyon Flat Ob 92.64 57 *i* P **P** **11 03 27.3 +1.8**
PFO Pinyon Flat Ob 92.64 57 P **P** **11 03 25.7 +0.2**
baz=93
BELC Belle Mtn. Jos 93.06 56 P **P** **11 03 27.9 +0.5**
baz=93
TPNV Topopah Spring 93.13 53 P **P** **11 03 27.9 +0.2**
baz=93
BC3 Big Chuckawall 93.48 57 P **P** **11 03 30.2 +0.9**
baz=93
IRM Iron Mountain 93.77 56 P **P** **11 03 30.9 +0.4**
baz=94
R11A Troy Canyon, C 93.78 52 P **P** **11 03 30.8 +0.2**
baz=94
R11A Troy Canyon, C 93.78 52 *eP* **P** **11 03 30.9 +0.2**
comp=Z,37nm,3.0s
YKA Yellowknife Ar 95.92 28 P **P** **11 03 38.7 -0.9**
comp=Z,0.5nm,0.8s,baz=272,slow=4.6,SNR=3.5
PDAR Pinedale Array 98.58 48 P **P** **11 03 50.6 -1.8**
comp=Z,0.7nm,0.6s,baz=253,slow=1.4,SNR=6.4
BOSA Boshof 120.08 232 PKP **PKPdf** **11 09 03.7 -0.9**
comp=Z,1.9nm,0.5s,baz=41,slow=0.7,SNR=8.5
BDFB Brasília 148.88 135 PKPbc **PKPbc** **11 10 00.5 -1.3**
comp=Z,3.5nm,0.6s,baz=326,slow=11,SNR=4.4
TOA0 Torodi Ar. Sit 152.32 286 *e*PKPbc **PKPbc** **11 10 08.2 -1.7**
TORD Torodi Ar. Bea 152.32 286 PKPbc **PKPbc** **11 10 08.2 -1.7**
comp=Z,3.9nm,0.6s,baz=49,slow=1.6,SNR=38
TORD PKPab **PKPab** **11 10 19.3 -0.7**
comp=Z,4.7nm,0.7s,baz=77,slow=3.7,SNR=16

CSEM ***07*** *11:08:18.9±1.1, 51.41N×16.16E, h1km, ML2.7/4, Error ellipse: s-maj=17.9km s-min=10.3km az=15.0*

PRU 07 11:08:20.7, 51.37N×16.17E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.53**	**172**	*e*Pg	Pg	11 08 30.9	-0.1
KSP				*e*Sg	Sg	11 08 39.5	+1.6
UPC	**Upice**	**0.87**	**187**	*e*PG	Pg	11 08 37.7	+0.3
UPC				*e*SG	Sg	11 08 48.3	-0.4
	comp=Z,7.1nm,0.2s						
UPC	**Upice**	**0.87**	**187**	Pg	Pg	11 08 37.7	+0.3
UPC				Sg	Sg	11 08 48.3	-0.4
	7.1nm,0.2s						
DPC	**Dobruska-Polom**	**1.03**	**175**	*e*PG	Pg	11 08 40.0	-0.5
DPC				*e*SG	Sg	11 08 53.0	-0.8
	comp=Z,4.3nm,0.2s						
DPC	**Dobruska-Polom**	**1.03**	**175**	Pg	Pg	11 08 40.0	-0.5
DPC				Sg	Sg	11 08 53.0	-0.8
	4.3nm,0.2s						
PRU	**Pruhonice**	**1.73**	**217**	*e*SG	Sb	11 09 15.7	+0.1
	comp=Z,3.5nm,0.2s						
PRU	**Pruhonice**	**1.73**	**217**	Sg	Sb	11 09 15.7	+0.1
	3.5nm,0.2s						
MORC	**Moravsky Berou**	**1.82**	**151**	*e*Pn	Pn	11 08 51.7	-1.6
MORC				*e*Sg	Sb	11 09 18.2	-0.1
NKC	**Novy Kostel**	**2.62**	**246**	*e*PG	Pg	11 09 09.8	-1.2
NKC				*e*SG	Sg	11 09 45.0	0.0
	comp=Z,4.3nm,0.3s						
NKC	**Novy Kostel**	**2.62**	**246**	Pg	Pg	11 09 09.8	-1.2
NKC				Sg	Sg	11 09 45.0	0.0
	4.3nm,0.3s						
KHC	**Kasperske Hory**	**2.79**	**218**	*e*PG	Pb	11 09 11.1	-0.4
KHC				*e*SG	Sg	11 09 48.9	-1.6
KHC	**Kasperske Hory**	**2.79**	**218**	Pg	Pb	11 09 11.1	-0.4
KHC				Sg	Sg	11 09 48.9	-1.6

ARO 07 11:18:01.9, 11°N±190°×4°1E±7°0, h15km±99km, ML4.5, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GBR	**Grand-Bara**	**1.36**	**77**	*e*P	Pn	11 18 23.9	-2.6
LDLD	**Lac de Lave**	**1.54**	**62**	*e*P	Pn	11 18 27.2	-1.7
SGH	**Sud-Ghoubbet**	**1.60**	**68**	*e*P	Pn	11 18 28.1	-1.7
ATD	**Arta Tunnel**	**1.83**	**68**	*e*P	Pn	11 18 30.9	-2.0
ATD	**Arta Tunnel**	**1.83**	**68**	*e*P	Pn	11 18 31.1	-1.8
ATD				*e*S	Sn	11 18 55.0	-0.9
TDD	**Tadjoura Ara**	**2.00**	**62**	*e*P	Pn	11 18 33.3	-1.9
ATA	**Atar**	**2.14**	**74**	*e*P	Pn	11 18 35.7	-1.4
MCAD	**Moucha**	**2.24**	**67**	*e*P	Pn	11 18 37.8	-0.6
OBO	**Obock**	**2.42**	**62**	*e*P	Pn	11 18 39.3	-1.6
FURI	**Furi**	**3.09**	**231**	*e*P	Pb	11 18 58.9	+1.9
FURI				*e*S	Sb	11 19 34.8	0.0

IDC ***07*** *11:31:18.3±1.0, 4.06S×104.00W, h0km, mb3.8/11, mb1 4.1/11, mb1mx4.0/34, mbtmp3.8/11, MS4.2/17, Ms1 4.2/17, ms1mx4.2/22, Error ellipse: s-maj=41.4km s-min=14.9km az=55.0*

ISCJB ***07*** *11:31:19.7±0.5, 4.07S±0.07×103.76W±0.09, h10km, mb4.4/46, MS4.2/17, Error ellipse: s-maj=15.0km s-min=7.7km az=144.7*

NEIC ***07*** *11:31:21.3±0.5, 4.07S×103.73W, h10km, mb4.7/34, Error ellipse: s-maj=15.9km s-min=6.3km az=55.0*

GCMT ***07*** *11:31:21.3±0.3, 4.01S×103.95W, h22km±1km, MW5.0/87, Moment Tensor Solution. s41,c51; s87,c127; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.01±.15; Mθθ1.51±.14; Mϕϕ-1.52±.16; Mrθ1.29±.25; Mrϕ4.02±.12; Mθϕ-0.14±.23; Best double couple: M=4.48800×10^16 NP1:ϕs100.00000°, δ89.00000°, λ17.00000°. NP2: ϕs10.00000°, δ73.00000°, λ179.00000°. Principal axes: T 4.5080, Plg12.0000°, Azm327.0000°; N -0.0430, Plg73.0000°, Azm104.0000°; P -4.4680, Plg11.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***07*** *11:31:28.5, 3.00S×103.50W, h10km, mB5.0/1, Ms5.0/3, Ms7 4.6/3*

ISC 07 11:31:20.3±0.6, 4.14S±0.10×103.9W±0.1, h10km, n89, σ1°56/62, mb4.5/46, MS4.2/17, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**22.91**	**23**	P	**P**	**11 36 24.8**	**+0.2**
	0.8nm,0.3s,baz=259,slow=3.6,SNR=4.0						
CMIG				LR	LR	11 43 15.1	
	comp=Z,1μm,19.8s,baz=197,slow=31						
RPN	**Rapa Nui**	**23.44**	**192**	LR	LR	11 43 18.8	
	comp=Z,238nm,18.0s,baz=5.0,slow=31						
JTS	**JuntasAbangare**	**23.73**	**53**	LR	LR	11 43 17.2	
	comp=Z,2μm,20.6s,baz=282,slow=30						
ATAH	**Atahualpa**	**25.59**	**98**	LR	LR	11 44 59.0	
	comp=Z,352nm,19.4s,baz=268,slow=32						
OTAV	**Otavalo**	**25.83**	**81**	*e*P	**P**	**11 36 52.4**	**-0.4**
	51nm,1.6s						
NNA	**Nana**	**27.92**	**108**	LR	LR	11 45 43.6	
	comp=Z,621nm,18.4s,baz=290,slow=31						
LPIG	**La Paz**	**28.75**	**348**	LR	LR	11 45 45.5	
	comp=Z,686nm,21.0s,baz=186,slow=30						
ROSC	**El Rosal**	**30.90**	**73**	LR	LR	11 47 44.7	
	comp=Z,327nm,21.7s,baz=223,slow=32						
TXAR	**Lajitas Array**	**33.28**	**0**	P	**P**	**11 37 56.6**	**-1.6**
	0.4nm,1.1s,baz=188,slow=5.5,SNR=2.5						
TXAR				LR	LR	11 49 25.1	
	comp=Z,413nm,22.0s,baz=0.0,slow=33						
JCT	**Junction City**	**34.65**	**6**	*e*P	**P**	**11 38 09.6**	**-0.5**
	6.7nm,0.9s						
RKT	**Rikitea**	**35.43**	**235**	*e*LR	LR	11 47 55.7	
	1μm,26.2s,baz=60						
RKT	**Rikitea**	**35.43**	**235**	*e*T	T	12 15 25.1	
	2.2nm,0.3s						
SDV	**Santo Domingo**	**35.63**	**69**	*e*P	**P**	**11 38 19.4**	**+0.4**
	6.1nm,1.0s						
121A	**Cookes Peak, D**	**36.65**	**355**	*e*P	**P**	**11 38 28.5**	**+1.0**
	11nm,1.4s						
ABTX	**Abilene, Hawle**	**36.78**	**6**	*e*P	**P**	**11 38 27.7**	**-0.7**
	3.0nm,0.8s						
LPAZ	**La Paz**	**37.17**	**112**	P	**P**	**11 38 33.0**	**+0.4**
	1.6nm,0.8s,baz=319,slow=7.6,SNR=2.7						
LPAZ				LR	LR	11 51 07.3	
	comp=Z,353nm,19.3s,baz=282,slow=32						
MSTX	**Muleshoe**	**37.92**	**2**	*e*P	**P**	**11 38 38.5**	**+0.4**
	11nm,1.1s						
LAZ	**Ladron**	**38.45**	**356**	*e*P	**P**	**11 38 43.9**	**+1.2**
	8.5nm,1.6s						
LVC	**Limon Verde**	**38.54**	**122**	P	**P**	**11 38 44.5**	**+0.7**
	19nm,0.9s,baz=272,slow=8.7,SNR=4.6						
MIAR	**Mount Ida**	**39.70**	**13**	*e*P	**P**	**11 38 52.0**	**-0.9**
	11nm,1.0s						
WUAZ	**Wupatki**	**40.06**	**351**	*e*P	**P**	**11 38 58.9**	**+2.8**
	60nm,2.8s						
SAML	**Samuel**	**40.75**	**99**	*e*P	**P**	**11 39 00.8**	**-1.2**
	15nm,1.6s						
GSC	**Goldstone**	**41.05**	**344**	*e*P	**P**	**11 39 05.5**	**+1.3**
	47nm,2.5s						
MVCO	**Mesa Verde**	**41.35**	**354**	*e*P	**P**	**11 39 07.2**	**+0.3**
SDCO	**Great Sand Dun**	**41.69**	**358**	*e*P	**P**	**11 39 09.6**	**-0.1**
	19nm,1.8s						
SHPR	**Sheep Range**	**41.77**	**346**	*e*P	**P**	**11 39 11.6**	**+1.4**
ISA	**Isabella**	**41.87**	**342**	*e*P	**P**	**11 39 13.8**	**+2.8**
	28nm,2.3s						
PBMO	**Poplar Bluff**	**42.61**	**16**	*e*P	**P**	**11 39 15.9**	**-0.9**
CFAA	**Coronel Fontan**	**43.24**	**133**	P	**P**	**11 39 21.9**	**-0.3**
	0.4nm,0.7s,baz=289,slow=5.5,SNR=6.2						
R11A	**Troy Canyon, C**	**43.63**	**347**	*e*P	**P**	**11 39 26.3**	**+1.0**
	3.6nm,1.1s						
SIV	**San Ignacio**	**43.72**	**109**	P	**P**	**11 39 24.6**	**-1.6**
	1.4nm,0.8s,baz=270,slow=12,SNR=2.9						
ISCO	**Idaho Springs**	**43.75**	**358**	*e*P	**P**	**11 39 27.7**	**+1.3**
	4.0nm,1.0s						
P17A	**Butcher Ranch,**	**43.84**	**352**	*e*P	**P**	**11 39 28.3**	**+1.3**
O20A	**White River Ci**	**44.23**	**355**	*e*P	**P**	**11 39 31.8**	**+1.6**
	66nm,2.2s						
NVAR	**Mina Array Bea**	**44.40**	**344**	P	**P**	**11 39 29.9**	**-1.6**
	0.8nm,1.0s,baz=149,slow=7.2,SNR=3.7						
WAKR	**Walker**	**44.79**	**343**	*e*P	**P**	**11 39 36.3**	**+1.6**
DUG	**Dugway**	**44.86**	**350**	*e*P	**P**	**11 39 38.2**	**+3.1**
	11nm,1.4s						
HWUT	**Hardware Ranch**	**46.05**	**352**	*e*P	**P**	**11 39 45.2**	**+0.6**
	10nm,1.2s						
TVO	**Taravao**	**46.37**	**249**	*e*T	T	12 28 43.5	
	1.5nm,0.3s						
PPT	**Papeete**	**46.63**	**250**	LR	LR	11 53 50.2	
	comp=Z,404nm,22.0s,baz=101,slow=29						
PPT2	**Papeete2**	**46.63**	**250**	*e*S	**S**	**11 46 35.1**	**-3.9**
	91nm,25.2s						
PPT2				*e*LQ	LQ	11 51 02.2	
	433nm,26.8s						
PPT2				*e*LR	LR	11 52 54.6	
	918nm,26.5s,baz=68						
PDAR	**Pinedale Array**	**46.96**	**354**	P	**P**	**11 39 50.7**	**-1.0**
	1.8nm,1.0s,baz=151,slow=3.4,SNR=9.6						
PDAR				LR	LR	11 57 01.3	
	comp=Z,166nm,19.4s,baz=184,slow=33						
TBI	**Tubuai**	**47.89**	**242**	*e*S	**S**	**11 46 57.6**	**+0.9**
	134nm,24.5s						
TBI				*e*LR	LR	11 53 32.1	
	740nm,27.5s,baz=73						
LOHW	**Long Hollow**	**47.91**	**353**	*e*P	**P**	**11 39 58.6**	**-0.5**
	17nm,1.7s						
FXWY	**Fox Creek**	**47.98**	**353**	*e*P	**P**	**11 40 00.6**	**+0.9**
	39nm,2.6s						
MOOW	**Moose Ponds**	**48.06**	**353**	*e*P	**P**	**11 40 01.1**	**+0.8**
	7.6nm,1.3s						
MOD	**Modoc**	**48.18**	**344**	*e*P	**P**	**11 40 03.6**	**+2.4**
	22nm,1.7s						
IMW	**Indian Meadow**	**48.23**	**353**	*e*P	**P**	**11 40 01.7**	**+0.1**
	13nm,1.4s						
FLWY	**Flagg Ranch**	**48.38**	**353**	*e*P	**P**	**11 40 04.9**	**+2.1**
	16nm,1.1s						
HLID	**Hailey**	**48.41**	**350**	*e*P	**P**	**11 40 03.9**	**+1.0**
	59nm,2.9s						
MFID	**Camas Ranch**	**48.53**	**348**	*e*P	**P**	**11 40 03.8**	**0.0**
	12nm,1.6s						
LKWY	**Lake**	**48.83**	**354**	*e*P	**P**	**11 40 07.6**	**+1.4**
YMR	**Madison River**	**48.99**	**353**	P	P	11 40 10.9	+3.5
QLMT	**Earthquake Lak**	**49.21**	**353**	*e*P	**P**	**11 40 10.2**	**+1.1**
	1.2nm,1.0s						
RLMT	**Red Lodge**	**49.27**	**355**	*e*P	**P**	**11 40 09.2**	**-0.3**
	5.5nm,0.9s						
MCMT	**McKenzie Canyo**	**49.39**	**352**	*e*P	**P**	**11 40 11.2**	**+0.7**
CPUP	**Villa Florida**	**49.72**	**121**	P	**P**	**11 40 13.5**	**+0.4**
	4.1nm,1.1s,baz=287,slow=6.3,SNR=5.4						
CPUP				LR	LR	11 57 58.2	
	comp=Z,288nm,20.3s,baz=287,slow=32						
EYMN	**Ely**	**53.00**	**10**	*e*P	**P**	**11 40 35.8**	**-1.4**
	46nm,2.3s						
NEW	**Newport**	**53.45**	**349**	*e*P	**P**	**11 40 41.0**	**+0.4**
	4.7nm,1.0s						
BDFB	**Brasília**	**56.11**	**106**	LR	LR	12 03 24.6	
	comp=Z,215nm,19.2s,baz=248,slow=34						
EDM	**Edmonton**	**57.69**	**353**	*e*P	**P**	**11 41 11.0**	**0.0**
SCHQ	**Schefferville**	**66.31**	**22**	LR	LR	12 10 20.4	
	comp=Z,368nm,19.1s,baz=249,slow=35						
YKA	**Yellowknife Ar**	**66.94**	**355**	P	**P**	**11 42 11.2**	**-1.5**
	2.2nm,1.0s,baz=160,slow=6.2,SNR=6.4						
DAWY	**Dawson**	**72.97**	**345**	*e*P	**P**	**11 42 52.7**	**+2.8**
EGAK	**Eagle**	**74.00**	**344**	*e*P	**P**	**11 42 56.1**	**+0.2**
	9.2nm,1.3s						
ILAR	**Eielson Array**	**75.63**	**342**	P	**P**	**11 43 03.7**	**-1.6**
	1.7nm,0.9s,baz=159,slow=5.6,SNR=14						
TRF	**Thorofare Moun**	**75.80**	**340**	*e*P	P	11 43 10.5	+4.0
	134nm,2.8s						
SVW2	**Sparrevohn**	**76.23**	**337**	*e*P	P	11 43 12.8	+4.0
	43nm,2.0s						
COLD	**Coldfoot**	**78.32**	**343**	*e*P	**P**	**11 43 22.4**	**+2.0**
RES	**Resolute Bay**	**78.89**	**2**	P	**P**	**11 43 22.8**	**-0.6**
	2.1nm,0.8s,baz=206,slow=12,SNR=2.3						
QSPA	**South Pole Qui**	**85.92**	**180**	*e*P	**P**	**11 44 01.4**	**+0.9**
	8.0nm,1.1s						
H11N3	**WAKE ISLAND Hy**	**90.58**	**290**	T	T	13 24 37.5	
	baz=95,slow=74,SNR=14						

H11N2	**WAKE ISLAND Hy 90.59 290**			T	T	13 24 48.3	
	baz=95,slow=74,SNR=16						
H11N1	**WAKE ISLAND Hy 90.60 290**			T	T	13 24 39.7	
	baz=95,slow=74,SNR=10						
H11S2	**WAKE ISLAND Hy 90.69 288**			T	T	13 24 37.8	
	baz=94,slow=75,SNR=32						
H11S1	**WAKE ISLAND Hy 90.69 288**			T	T	13 24 42.5	
	baz=94,slow=75,SNR=25						
H11S3	**WAKE ISLAND Hy 90.70 288**			T	T	13 24 36.9	
	baz=94,slow=75,SNR=25						
PETK	**Petropavlovsk-**	**98.32**	**323**	LR	LR	12 21 11.3	
	comp=Z,125nm,20.3s,baz=89,slow=30						
DBIC	**Dimbokro**	**99.48**	**84**	LR	LR	12 29 25.3	
	comp=Z,64nm,19.2s,baz=232,slow=35						
SEY	**Seymchan**	**99.88**	**333**	LR	LR	12 25 16.7	
	comp=Z,118nm,18.5s,baz=98,slow=32						
SONM	**Songino Array**	**129.27**	**334**	PKP	**PKPdf**	**11 50 29.9**	**+0.5**
	0.2nm,0.3s,baz=86,slow=2.0,SNR=2.1						
HHC	**Hu-ho-hao-te**	**131.50**	**324**	*e*PKP	PKPdf	11 50 40.4	+6.6
HHC				PP	PP	11 52 58.9	+6.8
HHC				SKS	**SKSdf**	**11 57 51.4**	**+5.7**
HHC				PPMZ			
	52nm,9.3s						
HHC				LN			
	140nm,21.0s						
HHC				LE			
	100nm,21.1s						
HHC				LZ			
	97nm,20.9s						
KURK	**Kurchatov**	**133.53**	**358**	PKP	**PKPdf**	**11 50 37.7**	**+0.5**
KURBB	**Kurchatov Arra**	**133.63**	**358**	PKP	**PKPdf**	**11 50 37.7**	**+0.3**
	0.1nm,0.2s,baz=318,slow=1.2,SNR=2.8						
WMQ	**Urumqi**	**139.16**	**347**	*e*PKP	PKPdf	11 50 54.7	+6.7
WMQ				LN			
	89nm,20.3s						
WMQ				LE			
	86nm,22.0s						
WMQ				LZ			
	120nm,20.3s						
LZH	**Lanzhou**	**139.18**	**325**	*e*PKP	PKPdf	11 50 54.6	+6.2
LZH				sPKP		11 50 59.3	
LZH				LN			
	130nm,18.0s						
LZH				LE			
	110nm,18.2s						
LZH				LZ			
	160nm,20.1s						
CD2	**Chengdu**	**142.72**	**319**	PKP	PKPdf	11 51 00.8	+6.1
KSH	**Kashi**	**144.78**	**0**	PKP	PKPdf	11 51 07.1	+8.9
CMAR	**Chiang Mai Arr**	**153.48**	**304**	PKP	**PKPdf**	**11 51 11.2**	**-1.4**
	0.8nm,0.3s,baz=82,slow=1.9,SNR=4.6						
CMAR				PKPbc	**PKPbc**	**11 51 19.7**	**-0.5**
	0.7nm,0.3s,baz=330,slow=2.5,SNR=4.8						

MOS ***07*** *11:38:30.0±1.4, 49°.23N×156°.26E, h259km, mb4.4/1, Error ellipse: s-maj=87.5km s-min=16.1km az=71.4*

KRSC 07 11:38:30.1±1.4, 49°.24N×156°.26E, h259km±14km, ML4.3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.45**	**357**	*e*P	Pn	11 39 08.5	-0.2
SKR				*e*S	S	11 39 39.5	+0.1
SKR	**Severo-Kuril's**	**1.45**	**357**	*e*PN	Pn	11 38 58.6	-10
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
ASAK	**Asacha**	**3.32**	**18**	*e*P	Pn	11 39 27.6	+1.1
MTVR	**Mutnovka**	**3.47**	**20**	S	S	11 40 15.2	+0.5
RUS	**Russkaya**	**3.51**	**23**	*e*P	Pn	11 39 30.3	+1.8
RUS				*e*S	S	11 40 14.9	-0.1
RUS	**Russkaya**	**3.51**	**23**	PN	Pn	11 39 30.3	+1.8
RUS				S	S	11 40 14.9	-0.1
KOK	**Koryaka**	**4.33**	**19**	P	Pn	11 39 41.3	+3.2
KOK				S	S	11 40 32.5	+0.1
KOK	**Koryaka**	**4.33**	**19**	PN	Pn	11 39 41.3	+3.2
KOK				S	S	11 40 32.5	+0.1
KRER	**Koryakskii**	**4.37**	**20**	*e*P	Pn	11 39 40.3	+1.6
KRER				*e*S	S	11 40 32.7	-0.7
SDLR	**Sedlovina**	**4.37**	**21**	*e*P	Pn	11 39 40.4	+1.8
SDLR				*e*S	S	11 40 31.6	-1.7
SDLR	**Sedlovina**	**4.37**	**21**	PN	Pn	11 39 40.4	+1.8
SDLR				S	S	11 40 31.6	-1.7
NLC	**Nalytchevo**	**4.39**	**25**	S	S	11 40 31.8	-1.6
SPN	**Mys Shipunski**	**4.54**	**30**	P	Pn	11 39 42.4	+2.0
SPN				*e*S	S	11 40 36.2	-0.4
SPN	**Mys Shipunski**	**4.54**	**30**	PN	Pn	11 39 42.4	+2.0
SPN				S	S	11 40 36.2	-0.4
MKZ	**Mys Kozlova**	**6.31**	**30**	*e*P	Pn	11 40 03.9	+1.9
MKZ				S	S	11 41 13.6	-2.3
MKZ	**Mys Kozlova**	**6.31**	**30**	PN	Pn	11 40 03.9	+1.9
MKZ				S	S	11 41 13.6	-2.3
KZV	**Kizimen**	**6.39**	**21**	*e*P	Pn	11 40 04.9	+1.7
KUR	**Kuril'sk**	**6.97**	**238**	*e*PN	Pn	11 40 05.0	-5.4
KUR				pmax	pmax		
	comp=N,2.0nm,0.1s						
KUR				pmax	pmax		
	comp=E,6.0nm,0.1s						
KUR				pmax	pmax		
	comp=Z,4.0nm,0.1s						
KBTR	**Krutoberegovo**	**8.04**	**27**	*e*P	Pn	11 40 25.3	+1.7
KBTR	**Krutoberegovo**	**8.04**	**27**	PN	Pn	11 40 25.3	+1.7

CRAAG ***07*** *11:51:06.5, 36°.11N×4°.41E, Ml4.4*
CSEM ***07*** *11:51:07.8±0.3, 36°.15N×4°.40E, h2km, ML4.4, Error ellipse: s-maj=10.4km s-min=4.6km az=5.0*
MDD ***07*** *11:51:08.1±0.6, 36°.09N×4°.44E, h0km, mb4.1/9, Error ellipse: s-maj=11.0km s-min=4.4km az=0.0, PRXIMO*
ISCJB ***07*** *11:51:09.3±0.5, 36°.18N±0°.05×4°.32E±0°.04, h22km, Error ellipse: s-maj=7.9km s-min=4.8km az=6.8*

ISC 07 11:51:08.8±1.1, 36°.09N±0°.06×4°.42E±0°.02, h22km, n63, σ1§22/65, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKET	**Djebel Ketaf**	**0.43**	**265**	P	**Pb**	**11 51 15.9**	**-1.9**
AKET	**Djebel Ketaf**	**0.43**	**265**	P	**Pb**	**11 51 15.9**	**-1.9**
AKET	**Djebel Ketaf**	**0.43**	**265**	P	**Pb**	**11 51 15.9**	**-1.9**
ADJB	**Djebel Djouab**	**0.79**	**276**	P	**Pb**	**11 51 23.2**	**-0.8**
ADJB	**Djebel Djouab**	**0.79**	**276**	P	**Pb**	**11 51 23.2**	**-0.8**
ADJB	**Djebel Djouab**	**0.79**	**276**	P	**Pb**	**11 51 23.2**	**-0.8**
SET	**Setif**	**0.81**	**82**	P	**Pb**	**11 51 23.0**	**-1.1**
SET	**Setif**	**0.81**	**82**	P	**Pb**	**11 51 23.0**	**-1.1**
SET	**Setif**	**0.81**	**82**	P	**Pb**	**11 51 23.0**	**-1.1**
CKHR	**Kef el Ahmar**	**0.89**	**94**	P	**Pb**	**11 51 23.4**	**-2.2**
CKHR	**Kef el Ahmar**	**0.89**	**94**	P	**Pb**	**11 51 23.4**	**-2.2**
CKHR	**Kef el Ahmar**	**0.89**	**94**	P	**Pb**	**11 51 23.4**	**-2.2**
ABMS	**Boumerdes**	**1.00**	**312**	P	**Pb**	**11 51 26.3**	**-1.2**
ABMS	**Boumerdes**	**1.00**	**312**	P	**Pb**	**11 51 26.3**	**-1.2**
ABMS	**Boumerdes**	**1.00**	**312**	P	**Pb**	**11 51 26.3**	**-1.2**
EMHD	**Djebel Mahouad**	**1.19**	**276**	P	**Pb**	**11 51 30.5**	**-0.2**
EMHD	**Djebel Mahouad**	**1.19**	**276**	P	**Pb**	**11 51 30.5**	**-0.2**
EMHD	**Djebel Mahouad**	**1.19**	**276**	P	**Pb**	**11 51 30.5**	**-0.2**
DFRA	**Djebel Bou Aff**	**1.27**	**68**	P	**Pn**	**11 51 30.6**	**-0.7**
DFRA	**Djebel Bou Aff**	**1.27**	**68**	P	**Pn**	**11 51 30.6**	**-0.7**
DFRA	**Djebel Bou Aff**	**1.27**	**68**	P	**Pn**	**11 51 30.6**	**-0.7**
ABA	**Alger-Bouzaraa**	**1.32**	**303**	P	**Pn**	**11 51 31.7**	**-0.2**
ABA	**Alger-Bouzaraa**	**1.32**	**303**	P	**Pn**	**11 51 31.7**	**-0.2**
ABA	**Alger-Bouzaraa**	**1.32**	**303**	P	**Pn**	**11 51 31.7**	**-0.2**
CTEI	**Djebel Teioual**	**1.61**	**90**	P	**Pb**	**11 51 39.3**	**+1.4**
CTEI	**Djebel Teioual**	**1.61**	**90**	P	**Pb**	**11 51 39.3**	**+1.4**
CTEI	**Djebel Teioual**	**1.61**	**90**	P	**Pb**	**11 51 39.3**	**+1.4**
CASM	**Ain Smara**	**1.69**	**83**	P	**Pb**	**11 51 39.6**	**+0.4**
CASM	**Ain Smara**	**1.69**	**83**	P	**Pb**	**11 51 39.6**	**+0.4**
CASM	**Ain Smara**	**1.69**	**83**	P	**Pb**	**11 51 39.6**	**+0.4**
CKFL	**Kef-Lekhel**	**1.89**	**80**	P	**Pb**	**11 51 42.7**	**+0.1**
CKFL	**Kef-Lekhel**	**1.89**	**80**	P	**Pb**	**11 51 42.7**	**+0.1**
CKFL	**Kef-Lekhel**	**1.89**	**80**	P	**Pb**	**11 51 42.7**	**+0.1**
EBNR	**Beni Rached**	**2.34**	**276**	P	Pb	11 51 55.5	+5.2
ABSA	**Djebel Ababsia**	**2.48**	**85**	P	Pb	11 51 56.4	+3.6
CABS	**Djebel Ababsia**	**2.48**	**85**	P	Pb	11 51 56.4	+3.6
CMAH	**Djebel Manchou**	**2.48**	**77**	P	**Pb**	**11 51 53.2**	**+0.5**
CMAH	**Djebel Manchou**	**2.48**	**77**	P	**Pb**	**11 51 53.2**	**+0.5**
CMAH	**Djebel Manchou**	**2.48**	**77**	P	**Pb**	**11 51 53.2**	**+0.5**
ETRT	**Tiaret**	**2.63**	**256**	P	**Pn**	**11 51 50.5**	**+0.5**
ETRT	**Tiaret**	**2.63**	**256**	P	**Pn**	**11 51 50.5**	**+0.5**
ETRT	**Tiaret**	**2.63**	**256**	P	**Pn**	**11 51 50.5**	**+0.5**
EANR	**'Ain N'Sour**	**2.69**	**268**	P	**Pn**	**11 51 53.0**	**+2.2**
EANR	**'Ain N'Sour**	**2.69**	**268**	P	**Pn**	**11 51 53.0**	**+2.2**
EANR	**'Ain N'Sour**	**2.69**	**268**	P	**Pn**	**11 51 53.0**	**+2.2**
EIBI	**Ibiza**	**3.82**	**321**	P	**Pn**	**11 52 07.0**	**+0.8**
	6.1nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**11 52 50.9**	**+0.4**
	5.2nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**3.82**	**321**	P	**Pn**	**11 52 07.0**	**+0.8**
	6.1nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**11 52 50.9**	**+0.4**
	5.2nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**3.89**	**341**	P	**Pn**	**11 52 07.5**	**+0.3**
	1.9nm,0.2s,SNR=7.9						
ETOS				S	**Sn**	**11 52 51.3**	**-0.9**
	2.1nm,0.5s,SNR=7.9						
ETOS	**Mallorca**	**3.89**	**341**	P	**Pn**	**11 52 07.5**	**+0.3**
	1.9nm,0.2s,SNR=7.9						
ETOS				S	**Sn**	**11 52 51.3**	**-0.9**
	2.1nm,0.5s,SNR=7.9						
EBEN	**Beniarda**	**4.53**	**307**	P	**Pn**	**11 52 17.3**	**+1.3**
	0.5nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**4.53**	**307**	P	**Pn**	**11 52 17.3**	**+1.3**
	0.5nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**4.86**	**293**	P	**Pn**	**11 52 20.9**	**+0.4**
	2.7nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**4.86**	**293**	P	**Pn**	**11 52 20.9**	**+0.4**
	2.7nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**5.39**	**300**	P	**Pn**	**11 52 30.2**	**+2.3**
	0.9nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.39**	**300**	P	**Pn**	**11 52 30.2**	**+2.3**
	0.9nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**5.88**	**345**	P	**Pn**	**11 52 35.0**	**+0.4**
	2.8nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**5.88**	**345**	P	**Pn**	**11 52 35.0**	**+0.4**
	2.8nm,0.2s,SNR=7.9						
EBER	**Berja**	**5.94**	**280**	P	**Pn**	**11 52 35.8**	**+0.2**
	7.5nm,0.4s,SNR=7.9						
EBER				S	**Sn**	**11 53 42.0**	**-1.1**
	0.4nm,0.3s,SNR=7.9						
EBER	**Berja**	**5.94**	**280**	P	**Pn**	**11 52 35.8**	**+0.2**
	7.5nm,0.4s,SNR=7.9						
EQES	**Quesada**	**6.24**	**288**	P	**Pn**	**11 52 41.5**	**+1.9**
	3.4nm,0.3s,SNR=7.9						
EQES	**Quesada**	**6.24**	**288**	P	**Pn**	**11 52 41.5**	**+1.9**
	3.4nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**6.24**	**340**	P	**Pn**	**11 52 41.2**	**+1.6**
	4.9nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**6.24**	**340**	P	**Pn**	**11 52 41.2**	**+1.6**
	4.9nm,0.2s,SNR=7.9						

MAN 07 12:18:01, 18°.25N×121°.29E, h37km, mb4.0, ML2.7, MS2.4, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.65**	**277**	⇑*i*P	Pn	12 18 14.2	+0.4
PIP				*e*S	Sn	12 18 27.4	+4.6
SGCP	**Mt. Cagua**	**0.71**	**90**	*e*P	Pn	12 18 15.6	+1.0
SGCP				*e*S	Sn	12 18 26.8	+2.4
CVP	**Callao Caves**	**0.74**	**137**	*i* P	Pn	12 18 16.7	+1.8
CVP				*i* S	Sn	12 18 30.2	+5.4
ABRA	**Dolores**	**0.81**	**223**	*e*P	Pn	12 18 16.4	+0.5
ABRA				*e*S	Sn	12 18 31.4	+4.6
SIPP	**Brgy, Tapao**	**0.86**	**248**	⇓*i*P	Pn	12 18 17.6	+1.1
SIPP				*e*S	Sn	12 18 32.5	+4.6
CAUP	**Cauayan**	**1.39**	**159**	*e*P	Pn	12 18 25.5	+1.6
CAUP				*e*S	Sn	12 18 43.1	+2.2

MEX 07 12:22:01.4±0.5, 16°.14N×98°.02W, h4km±4km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.27**	**338**	*i* P	Pg	12 22 06.7	-0.1
PNIG				*i* S	Sg	12 22 10.4	0.0
TLIG	**Tlapa**	**1.51**	**340**	*e*P	Pn	12 22 25.6	-3.8
TLIG				*i* S	Sn	12 22 45.3	-4.4
VHO	**Vista Hermosa**	**1.55**	**53**	*e*P	Pn	12 22 26.2	-3.8
VHO				*e*S	Sn	12 22 45.3	-5.4
HUIG	**Huatulco**	**1.88**	**101**	*e*P	Pn	12 22 31.7	-2.6
HUIG				*i* S	Sn	12 22 54.5	-3.9
CAIG	**El Cayaco**	**2.34**	**293**	*e*P	Pn	12 22 37.8	-2.8
CAIG				*e*S	Sn	12 23 05.3	-4.5
MEIG	**Mezcala**	**2.34**	**320**	*e*P	Pb	12 22 42.7	-1.7
PLIG	**Platanillo**	**2.65**	**328**	*e*P	Pb	12 22 47.9	-1.7
CMIG	**Matias Romero**	**3.15**	**72**	*e*P	Pn	12 22 48.3	-3.5
CMIG				*i* S	Sn	12 23 25.8	-4.2

CASC 07 12:30:00.3±0.9, 13°.42N×90°.22W, h34km±3km, MD3.6, ML3.6, 4C-4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**0.72**	**54**	⇓*i*P	Pn	12 30 14.2	-0.1
SBLS				*e*S	Sb	12 30 25.1	+0.4
RTR	**El Retiro**	**0.73**	**49**	⇓*i*P	Pn	12 30 14.5	0.0
RTR				*e*S	Sb	12 30 25.8	+0.8
SNJE	**San Jose**	**0.75**	**53**	⇓*i*P	Pn	12 30 14.6	-0.1
RBDL	**Robledal**	**0.87**	**37**	⇓*i*P	Pn	12 30 15.9	-0.4
RBDL				*e*S	Sb	12 30 29.0	+0.3
BOQS	**Boqueron**	**0.97**	**71**	⇑*e*P	Pn	12 30 17.8	0.0
BOQS				*e*S	Sb	12 30 31.6	-0.1
SNET	**Serv Nac Est T**	**1.00**	**74**	*e*P	Pn	12 30 18.1	+0.1
SNET				AML	AML	12 30 18.5	
	comp=Z,1μm,0.3s						
PCG	**Pacaya**	**1.04**	**339**	*e*P	Pn	12 30 19.2	+0.3
PCG				*e*S	Sb	12 30 33.7	-0.2
LFRS	**El Faro**	**1.15**	**79**	⇑*e*P	Pn	12 30 20.2	+0.1
LFRS				*e*S	Sn	12 30 35.4	+0.6
NBG	**Las Nubes**	**1.17**	**354**	*e*P	Pn	12 30 21.5	+0.8
LBRS	**Las Brisas**	**1.19**	**74**	*e*P	Pn	12 30 20.7	0.0
FUG	**Fuego 3**	**1.19**	**330**	*e*P	Pn	12 30 21.1	+0.3
MTO2	**Montecristo 2**	**1.28**	**40**	*e*P	Pn	12 30 21.5	-0.7
JAT	**Jato**	**1.64**	**303**	*e*P	Pb	12 30 28.7	-1.3
MRL	**Marmol**	**1.72**	**17**	⇑*i*P	Pn	12 30 27.6	-0.5
MRL				⇑*e*P	Pb	12 30 28.4	-3.1

ISCJB ***07*** *12:30:15.0±0.8, 23°.43S±0°.09×180°.0W±0°.1, h532km, mb3.8/8, Error ellipse: s-maj=15.1km s-min=11.9km az=172.8*
IDC ***07*** *12:30:17.9±2.3, 23°.34S×179°.92E, h555km±25km, mb3.3/8, mb1 3.6/8, mb1mx3.3/23, mbtmp4.2/8, Error ellipse: s-maj=21.6km s-min=15.1km az=169.0*

ISC 07 12:30:15.4±0.7, 23°.6S±0°.1×179°.9W±0°.1, h532km, n26, σ1§27/29, mb3.9/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.88**	**189**	P	**P**	**12 33 22.0**	**-1.7**
	2.2nm,0.3s,baz=300,slow=3.7,SNR=11						
URZ				S	**S**	**12 35 57.6**	**-1.5**
	0.6nm,0.3s,baz=150,slow=23,SNR=6.6						
RPZ	**Rata Peaks**	**21.45**	**198**	P	**P**	**12 34 28.4**	**+3.1**
	9.5nm,0.5s,baz=242,slow=2.2,SNR=7.8						
EIDS	**Eidsvold**	**26.43**	**260**	P	**P**	**12 35 11.5**	**+1.7**
	baz=27,SNR=3.3						
CMSA	**Cobar Meteorol**	**31.41**	**248**	P	**P**	**12 35 54.3**	**+1.3**
	baz=32,SNR=8.5						
QLP	**Quilpie**	**32.54**	**257**	P	**P**	**12 36 03.6**	**+0.9**
	baz=33,SNR=9.1						
MTSU	**Mount Surprise**	**33.79**	**272**	P	**P**	**12 36 14.5**	**+1.1**
	baz=34,SNR=4.1						
STKA	**Stephens Creek**	**34.92**	**248**	P	**P**	**12 36 22.7**	**+0.1**
	2.0nm,0.5s,baz=94,slow=9.6,SNR=11						
ASAR	**Alice Springs**	**42.16**	**260**	P	**P**	**12 37 21.9**	**+0.4**
	2.1nm,0.5s,baz=93,slow=7.3,SNR=42						
ASAR				PcP	**PcP**	**12 39 03.5**	**-0.1**
	0.5nm,0.8s,baz=126,slow=1.3,SNR=4.7						
ASAR				ScP	**ScP**	**12 42 03.1**	**-0.5**
	0.6nm,0.9s,baz=117,slow=3.5,SNR=4.5						
ASAR				S	**S**	**12 43 00.6**	**-2.6**
	0.4nm,0.7s,baz=94,slow=15,SNR=5.6						
WRA	**Warramunga Arr**	**42.50**	**266**	P	**P**	**12 37 24.0**	**-0.2**
	3.4nm,0.6s,baz=94,slow=8.3,SNR=151						
WRKA	**Warakurna**	**46.98**	**257**	P	**P**	**12 37 58.7**	**0.0**
	baz=48,SNR=6.8						
KNRA	**Kununurra**	**48.76**	**269**	P	**P**	**12 38 12.2**	**+0.3**
	baz=50,SNR=5.8						
VNDA	**Vanda**	**54.73**	**185**	P	**P**	**12 38 56.4**	**+2.3**
	0.9nm,0.8s,baz=1.9,slow=6.4,SNR=6.6						
VNDA				PcP	**PcP**	**12 39 48.9**	**+0.3**
	1.2nm,0.8s,baz=350,slow=4.2,SNR=5.1						
MORW	**Morawa**	**57.06**	**250**	P	**P**	**12 39 11.3**	**+0.3**
	baz=58,SNR=3.5						
LUWI	**Luwuk**	**59.81**	**283**	P	**P**	**12 39 29.3**	**-0.5**
	baz=60,SNR=5.8						
NVAR	**Mina Array Bea**	**84.45**	**44**	P	**P**	**12 41 52.0**	**-0.2**
	1.1nm,1.0s,baz=216,slow=6.3,SNR=5.5						
CMAR	**Chiang Mai Arr**	**89.47**	**290**	P	**P**	**12 42 17.1**	**+0.9**
	0.5nm,0.3s,baz=130,slow=2.3,SNR=7.0						
TXAR	**Lajitas Array**	**90.19**	**58**	P	**P**	**12 42 19.9**	**+0.5**
	1.2nm,0.7s,baz=212,slow=6.3,SNR=20						
ARCES	**ARCESS Array B**	**131.56**	**348**	PKP	**PKPdf**	**12 48 25.3**	**-1.5**
	1.1nm,0.6s,baz=5.7,slow=2.4,SNR=6.1						
NB2	**NORSAR Subarra**	**141.75**	**351**	PKP	PKPpre	12 48 40.3	
	comp=Z,0.8nm,0.6s,baz=20,slow=3.8						
NOA	**NORSAR Array B**	**141.75**	**351**	PKhKP	PKPpre	12 48 40.6	
	comp=Z,1.3nm,0.8s,baz=11,slow=2.3,SNR=3.9						
AKASG	**Malin Array Be**	**144.71**	**328**	PKP	**PKPdf**	**12 48 50.0**	**-1.3**
	comp=Z,2.1nm,0.5s,baz=45,slow=4.3,SNR=12						
BRTR	**Keskin Array B**	**147.42**	**308**	PKPbc	**PKPbc**	**12 48 59.0**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=144,slow=4.6,SNR=5.6						
CLL	**Collm**	**150.54**	**343**	*i* PKP	**PKPbc**	**12 49 06.2**	**-0.6**
	comp=Z,11nm,0.9s						
BRG	**Berggiesshubel**	**150.68**	**342**	*i* P	**PKPbc**	**12 49 06.6**	**-0.5**
	comp=Z,7.0nm,0.7s						
GERES	**GERESS Array B**	**152.55**	**340**	PKPbc	**PKPbc**	**12 49 10.5**	**-1.0**
	comp=Z,0.4nm,0.2s,baz=101,slow=1.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**169.54**	**189**	PKPab	**PKPab**	**12 50 39.2**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=177,slow=5.8,SNR=4.5						

GUC 07 12:32:25.2±0.5, 35°.82S×73°.32W, h18km±4km, ML4.2, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.53**	**126**	⇑*i*P	Pb	12 32 36.5	+0.5
COCH				*i* S	Sb	12 32 44.6	+1.2
U14B	**Concepcin**	**1.05**	**169**	*e*P	Pb	12 32 44.7	-0.2
U14B				*e*S	Sg	12 32 59.6	+0.2
U14B				AML	AML	12 33 11.3	
	comp=N,15μm,0.5s						
LNCH	**Linares**	**1.40**	**92**	⇑*i*P	Pn	12 32 50.1	+0.3
LNCH				*i* S	Sg	12 33 09.6	-0.9
TALC	**Talca**	**1.44**	**73**	*e*P	Pn	12 32 50.6	+0.2
TALC				*i* S	Sb	12 33 10.6	+1.1
NICH	**Los Niches**	**1.90**	**65**	*e*P	Pb	12 32 58.3	-1.0
NICH				*e*S	Sb	12 33 23.7	+1.0
LNV	**Longovilo**	**2.44**	**41**	*e*S	Sb	12 33 38.0	-0.3
U73B	**San Pedro**	**2.46**	**40**	*e*P	Pb	12 33 07.2	-1.8
U73B				AML	AML	12 33 51.0	
	comp=E,990nm,0.5s						
CHCH	**Chadas Angostu**	**2.89**	**50**	*e*P	Pn	12 33 13.2	+2.7
CLCH	**Cerro Calan**	**3.34**	**44**	AML	AML	12 34 26.7	
	comp=E,710nm,0.6s						
PEL	**Peldehue**	**3.45**	**40**	AML	AML	12 34 33.5	
	comp=N,732nm,0.6s						

NNC 07 12:50:32.1±2.4, 37°.73N×71°.66E, h0km, mb3.6, mpv3.2, 5C-1D, Error ellipse: s-maj=23.1km s-min=6.9km az=162.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.48**	**297**	⇑Pn	Pn	12 51 13.5	-0.3
	1.2nm,0.2s						
DZET				⇑Sn	Sn	12 51 46.1	+1.2
	14nm,0.5s						
SFK	**Sufi-Kurgan**	**2.70**	**32**	⇓Pn	Pn	12 51 17.1	0.0
	10nm,0.2s						
SFK				⇑Sn	Sn	12 51 52.5	+1.8
	24nm,0.4s						
AAK	**Ala-Archa**	**5.36**	**23**	⇑Pn	Pn	12 51 52.1	-1.5
	1.5nm,0.4s						
AAK				⇑Sn	Sn	12 52 55.5	-0.7
	4.4nm,0.4s						
KK31	**Karatay Array**	**5.44**	**351**	Pn	Pn	12 51 54.1	-0.4
	0.8nm,0.3s,baz=172,slow=12,SNR=32						
KK31				Sn	Sn	12 52 57.9	+0.1
	10nm,0.5s,baz=164,slow=22,SNR=25						

IDC ***07*** *13:08:04.7±2.3, 7°.31N×92°.59E, h0km, mb3.4/5, mb1 3.7/7, mb1mx3.5/43, mbtmp3.5/7, ML3.1/1, Error ellipse: s-maj=76.6km s-min=19.9km az=63.0*
ISCJB ***07*** *13:08:09.1±1.6, 7°.5N±0°.1×93°.0E±0°.3, h33km, mb3.4/5, Error ellipse: s-maj=40.2km s-min=13.6km az=155.9*

ISC 07 13:08:10.9±1.9, 7°.5N±0°.2×92°.8E±0°.3, h35km, n10, σ1§29/7, mb3.5/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**7.64**	**127**

Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul** baz=4.3,SNR=21	**3.31**	**312**	P	Pn	14 35 51.2	+10
HNR	**Honiara**	**6.06**	**120**	*e*Pn	**Pn**	**14 36 20.6**	**+1.3**
PMG	**Port Moresby** 29nm,0.9s	**7.95**	**248**	P	**Pn**	**14 36 45.0**	**-0.2**
MANU	**Manus Island** baz=9.4,SNR=5.8	**8.44**	**301**	P	**Pn**	**14 36 49.6**	**-2.4**
JAY	**Jayapura** comp=Z,129nm,18.0s,baz=182,slow=42	**14.40**	**285**	LR	LR	14 44 56.6	
CTA	**Charters Tower** 0.2nm,0.3s,baz=47,slow=12,SNR=5.0	**15.81**	**210**	Pn	**Pn**	**14 38 31.6**	**-0.1**
DZM	**Mont Dzumac** 0.3nm,0.3s,baz=90,slow=20,SNR=3.8	**19.29**	**145**	P	**P**	**14 39 11.9**	**-1.3**
QIS	**Mount Isa** baz=20,SNR=6.2	**20.22**	**225**	P	**P**	**14 39 23.5**	**+0.2**
RMQ	**Roma** baz=21,SNR=4.7	**20.70**	**195**	P	**P**	**14 39 28.7**	**+0.2**
QLP	**Quilpie** baz=22,SNR=5.7	**22.34**	**205**	P	**P**	**14 39 45.0**	**-1.1**
KDU	**Kakadu** baz=23,SNR=3.1	**22.69**	**252**	P	**P**	**14 39 52.6**	**+2.7**
WRAB	**Tennant Creek** 9.2nm,1.0s	**23.81**	**234**	*e*P	**P**	**14 40 00.4**	**-0.5**
WRA	**Warramunga Arr** 5.6nm,0.8s,baz=58,slow=9.9,SNR=20	**23.83**	**234**	P	**P**	**14 40 01.4**	**+0.4**
WRA	1.5nm,0.8s,baz=63,slow=2.4,SNR=9.5			PcP	**PcP**	**14 43 43.4**	**-0.1**
AS31	**Alice Springs**	**26.26**	**227**	*e*P	**P**	**14 40 22.5**	**-0.7**
ASAR	**Alice Springs** 1.3nm,0.8s,baz=61,slow=8.5,SNR=8.9	**26.26**	**227**	P	**P**	**14 40 22.4**	**-0.8**
ASAR	0.4nm,0.7s,baz=48,slow=3.0,SNR=4.5			ScP	**ScP**	**14 47 27.9**	**+2.9**
ASAR	comp=Z,85nm,18.2s,baz=82,slow=37			LR	LR	14 50 53.6	
STKA	**Stephens Creek** 0.9nm,0.5s,baz=30,slow=16,SNR=4.1	**28.08**	**204**	P	**P**	**14 40 38.6**	**-0.7**
STKA	comp=Z,141nm,19.3s,baz=24,slow=36			LR	LR	14 51 22.8	
MILA	**Mila** baz=31,SNR=4.9	**30.88**	**189**	P	**P**	**14 41 01.9**	**-2.3**
WRKA	**Warakurna** baz=32,SNR=3.5	**31.25**	**231**	P	**P**	**14 41 07.0**	**-0.6**
KSRS	**Korea Array** 1.3nm,0.9s,baz=148,slow=7.4,SNR=5.0	**50.28**	**332**	P	**P**	**14 43 43.3**	**-0.5**
KSAR	**Wonju Array Be**	**50.28**	**332**	P	**P**	**14 43 43.3**	**-0.6**
PETK	**Petropavlovsk-** 4.3nm,0.7s,baz=167,slow=7.6,SNR=3.2	**59.38**	**2**	P	**P**	**14 44 50.6**	**+1.2**
PETK	comp=Z,14nm,20.0s,baz=187,slow=35			LR	LR	15 08 58.1	
CMAR	**Chiang Mai Arr** 1.3nm,0.7s,baz=113,slow=5.2,SNR=9.5	**60.20**	**295**	P	**P**	**14 44 57.8**	**+2.0**
SONM	**Songino Array** 0.6nm,0.5s,baz=116,slow=5.1,SNR=4.0	**68.67**	**327**	P	**P**	**14 45 50.9**	**+0.1**
SEY	**Seymchan** 0.4nm,0.4s,baz=186,slow=9.9,SNR=3.6	**69.20**	**359**	P	**P**	**14 45 53.2**	**-0.3**
VNDA	**Vanda** 0.7nm,0.9s,baz=326,slow=6.9,SNR=4.0	**71.14**	**178**	P	**P**	**14 46 04.2**	**-1.1**
TAPN	**Taplejung** 14nm,0.7s	**72.79**	**301**	*e*P	**P**	**14 46 18.3**	**+1.8**
ODAN	**Odare** 29nm,0.7s	**72.93**	**300**	*e*P	**P**	**14 46 18.6**	**+1.4**
RAMN	**Ramite** 8.9nm,0.6s	**73.63**	**300**	*e*P	**P**	**14 46 22.8**	**+1.4**
GUN	**Gumba** 43nm,0.7s	**74.51**	**301**	*e*P	**P**	**14 46 28.4**	**+1.8**
PKI	**Pulchoki**	**74.82**	**301**	*e*P	**P**	**14 46 29.6**	**+1.2**
PKIN	**Phulchoki** 23nm,1.2s	**74.83**	**301**	*e*P	**P**	**14 46 29.7**	**+1.3**
KKN	**Kakani** 10.0nm,0.5s	**74.99**	**301**	*e*P	**P**	**14 46 30.7**	**+1.5**
DMN	**Daman** 33nm,0.8s	**75.09**	**301**	*e*P	**P**	**14 46 31.6**	**+1.8**
GKN	**Gorkha** 21nm,0.7s	**75.59**	**301**	*e*P	**P**	**14 46 34.0**	**+1.4**
KOLN	**Koldanda** 15nm,0.8s	**76.42**	**300**	*e*P	**P**	**14 46 38.6**	**+1.2**
DANN	**Dangsing** 2.0nm,0.7s	**76.43**	**301**	*e*P	**P**	**14 46 38.8**	**+1.3**
MKAR	**Makanchi Array** 1.8nm,0.8s,baz=101,slow=6.4,SNR=14	**82.74**	**319**	P	**P**	**14 47 11.7**	**+0.6**
ILAR	**Eielson Array** 0.4nm,0.4s,baz=248,slow=5.6,SNR=7.8	**83.00**	**22**	P	**P**	**14 47 11.3**	**-0.7**
ZALV	**Zalesovo Beam** 1.5nm,0.5s,baz=90,slow=4.4,SNR=3.8	**83.51**	**326**	P	**P**	**14 47 14.2**	**-0.7**
KURK	**Kurchatov** 1.6nm,0.4s	**86.17**	**322**	P	**P**	**14 47 26.7**	**-1.6**
NVAR	**Mina Array Bea** 1.8nm,0.9s,baz=252,slow=7.3,SNR=8.9	**91.68**	**52**	P	**P**	**14 47 54.3**	**-0.6**
YKA	**Yellowknife Ar** 0.5nm,0.6s,baz=266,slow=4.6,SNR=4.6	**96.03**	**28**	P	**P**	**14 48 13.9**	**-0.2**
BDFB	**Brasilia** 2.7nm,0.5s,baz=185,slow=6.7,SNR=4.2	**148.63**	**135**	PKPbc	**PKPbc**	**14 54 36.3**	**+1.1**
TORD	**Torodi Ar. Bea** 2.9nm,0.7s,baz=72,slow=2.4,SNR=14	**152.51**	**286**	PKPbc	**PKPbc**	**14 54 43.9**	**-0.5**

JMA 07 14:37:50.5±0.2, 30.90N×142.37E, h53km, M3.8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**3.92**	**343**	P	Pn	14 38 50.0	+2.5
BSO1				S	Sn	14 39 33.9	+2.1
BSO3	**Boso 3**	**4.19**	**339**	P	Pn	14 38 54.4	+2.8
JOD2	**Odawara 2**	**5.15**	**329**	P	Pn	14 39 06.8	+1.7
JOD2				S	Sn	14 40 06.0	+2.8
JHU	**Hanno**	**5.57**	**333**	P	Pn	14 39 12.6	+1.8
JHU				S	Sn	14 40 16.4	+2.8
JHO	**Hitachi**	**5.89**	**346**	P	Pn	14 39 16.7	+1.5
JFK	**Kawauchi**	**6.57**	**350**	S	Sn	14 40 36.4	-1.7

*BJI **07** 15:05:37.0, 19.10N×64.80W, h5km, mB5.1/1, Ms4.8/2, Ms7 4.3/2*
*TRN **07** 15:05:38.9, 18.98N×64.79W, h19km*
*NEIC **07** 15:05:38.0, 19.12N×64.83W, h2km, mb4.7/44, MW4.5, MD4.6(RSPR), Moment Tensor Solution. s19 Moment tensor: Scale 10^{15}Nm; M_{rr}4.22; $M_{\theta\theta}$-0.69; $M_{\phi\phi}$-3.54; $M_{r\theta}$-6.55; $M_{\theta\phi}$2.29; $M_{\phi r}$2.09; Best double couple: M_o8.20000×10^{15} NP1:ϕ_s172.00000°, δ24.00000°, λ141.00000°. NP2:ϕ_s298.00000°, δ75.00000°, λ71.00000°. Principal axes: T 8.7800, Plg55.0000°, Azm183.0000°; N -1.2100, Plg18.0000°, Azm303.0000°; P -7.5700, Plg27.0000°, Azm43.0000°; After RSPR.*
NEIC Felt [IV] at San Juan, Puerto Rico. Also felt in eastern Puerto Rico. Felt [III] on Saint Thomas, U.S. Virgin Islands and on Tortola, British Virgin Islands.
*IDC **07** 15:05:40.5±3.6, 18.89N×64.68W, h30km±26km, mb4.1/24, mb1 4.3/26, mb1mx4.2/34, mbtmp4.3/26, ML4.0/2, MS3.8/26, Ms1 3.8/26, ms1mx3.7/31 Error ellipse: s-maj=13.9km s-min=10.8km az=75.0*
*RSPR **07** 15:05:41.2, 19.00N×64.76W, h3km, MD4.6/19*
*ISCJB **07** 15:05:41.0±0.4, 19.02N±0.04×64.75W±0.02, h39km±5km, mb4.5/70, MS3.8/24, Error ellipse: s-maj=5.9km s-min=3.0km az=6.0*
ISC 07 15:05:41.1±1.0, 19.02N±0.04×64.75W±0.02, h32km±7km, n369, σ1°15/390, mb4.6/70, MS3.8/24, 38C-25D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.49**	**126**	*e*P	**Pb**	**15 05 51.0**	**-0.5**
ABV	**Anegada**	**0.49**	**126**	*e*P	**Pb**	**15 05 51.0**	**-0.5**
ABV				*e*S	**Sb**	**15 05 58.9**	**+0.4**
ABVI	**Anegada Island**	**0.49**	**126**	*e*P	**Pb**	**15 05 51.0**	**-0.5**
ABVI				*e*S	**Sb**	**15 05 58.9**	**+0.4**
TBVI	**Tortola**	**0.61**	**168**	*i*P	**Pb**	**15 05 52.6**	**-0.8**
TBVI	**Tortola**	**0.61**	**168**	*i*P	**Pb**	**15 05 52.6**	**-0.8**
TBVI	**Tortola**	**0.61**	**168**	*i* Pu	**Pb**	**15 05 52.6**	**-0.8**
STVI	**Saint Thomas**	**0.69**	**196**	*e*P	**Pb**	**15 05 53.9**	**-0.9**
STVI	**Saint Thomas**	**0.69**	**196**	*e*P	**Pb**	**15 05 54.1**	**-0.7**
STVI				*e*S	**Sb**	**15 06 04.2**	**+0.2**
STVI	**Saint Thomas**	**0.69**	**196**	*e*P	**Pb**	**15 05 53.9**	**-0.9**
STVI	**Saint Thomas**	**0.69**	**196**	*e*P	**Pb**	**15 05 54.1**	**-0.7**
STVI				*e*S	**Sb**	**15 06 04.2**	**+0.2**
CDVI	**St. Croix**	**1.26**	**181**	*e*P	**Pn**	**15 06 03.3**	**+0.9**
CDVI	**St. Croix**	**1.26**	**181**	*e*S	**Sb**	**15 06 20.7**	**+0.6**
CDVI	**St. Croix**	**1.26**	**181**	*e*P	**Pb**	**15 06 03.5**	**-0.7**
CDVI				*e*S	**Sb**	**15 06 20.7**	**+0.6**
CDVI				*e*S	**Sb**	**15 06 21.5**	**+1.4**
CDVI	**St. Croix**	**1.26**	**181**	*e*P	**Pn**	**15 06 03.3**	**+0.9**
CDVI				*e*S	**Sb**	**15 06 20.7**	**+0.6**
SJG	**San Juan**	**1.60**	**236**	*i*P	**Pn**	**15 06 07.3**	**+0.1**
SJG				*e*S	**Sn**	**15 06 27.9**	**+1.1**
SJG	**San Juan**	**1.60**	**236**	*i*P	**Pn**	**15 06 06.9**	**-0.3**
SJG				*e*S	**Sn**	**15 06 27.6**	**+0.9**
SJG	**San Juan**	**1.60**	**236**	*i*P	**Pn**	**15 06 06.9**	**-0.3**
SJG	**San Juan**	**1.60**	**236**	*i*P	**Pn**	**15 06 07.3**	**+0.1**
SJG				*e*S	**Sn**	**15 06 27.9**	**+1.1**
SJG	**San Juan**	**1.60**	**236**	*i*P	**Pn**	**15 06 06.9**	**-0.3**
SMRT	**St. Maarten**	**1.86**	**121**	*e*P	**Pn**	**15 06 11.0**	**+0.3**
SMRT	**St. Maarten**	**1.86**	**121**	*e*P	**Pn**	**15 06 11.0**	**+0.3**
SMRT	**St. Maarten**	**1.86**	**121**	*e*P	**Pn**	**15 06 11.6**	**+0.9**
SMRT	**St. Maarten**	**1.86**	**121**	*e*P	**Pn**	**15 06 11.7**	**+1.0**
SMRT				*e*S	**Sn**	**15 06 33.6**	**+0.6**
SMRT				*e*S	**Sb**	**15 06 36.3**	**-1.0**
SMRT	**St. Maarten**	**1.86**	**121**	*e*P	**Pn**	**15 06 11.0**	**+0.3**
SMRT				*e*S	**Sn**	**15 06 33.6**	**+0.6**
CELP	**Cerrillos**	**1.97**	**242**	*i*P	**Pn**	**15 06 12.5**	**+0.2**
CELP	**Cerrillos**	**1.97**	**242**	*i*P	**Pn**	**15 06 12.5**	**+0.2**
CELP	**Cerrillos**	**1.97**	**242**	*i* Pu	**Pn**	**15 06 12.5**	**+0.2**
SABA	**Saba**	**1.99**	**134**	*e*P	**Pn**	**15 06 13.5**	**+0.9**
SABA	**Saba**	**1.99**	**134**	*e*P	**Pn**	**15 06 13.5**	**+0.9**
SABA	**Saba**	**1.99**	**134**	*e*P	**Pn**	**15 06 14.2**	**+1.6**
SABA	**Saba**	**1.99**	**134**	*e*P	**Pn**	**15 06 13.5**	**+0.9**
OBIP	**Obispado Ponce**	**2.01**	**242**	*e*P	**Pn**	**15 06 12.8**	**+0.1**
OBIP	**Obispado Ponce**	**2.01**	**242**	*e*S	**Sn**	**15 06 37.4**	**+0.6**
OBIP	**Obispado Ponce**	**2.01**	**242**	*e*P	**Pn**	**15 06 12.8**	**+0.1**
OBIP				*e*S	**Sn**	**15 06 37.4**	**+0.6**
OBIP	**Obispado Ponce**	**2.01**	**242**	*e*P	**Pn**	**15 06 12.8**	**+0.1**
OBIP				*e*S	**Sn**	**15 06 37.4**	**+0.6**
AOPR	**Arecibo Observ**	**2.01**	**251**	*e*P	**Pn**	**15 06 12.6**	**-0.3**
AOPR	**Arecibo Observ**	**2.01**	**251**	*e*P	**Pn**	**15 06 13.0**	**+0.1**
AOPR	**Arecibo Observ**	**2.01**	**251**	*e*S	**Sn**	**15 06 38.0**	**+1.1**
AOPR	**Arecibo Observ**	**2.01**	**251**	*e*P	**Pn**	**15 06 12.6**	**-0.3**
AOPR	**Arecibo Observ**	**2.01**	**251**	*e*P	**Pn**	**15 06 13.0**	**+0.1**
AOPR				*e*S	**Sn**	**15 06 38.0**	**+1.1**
AOPR	**Arecibo Observ**	**2.01**	**251**	*e*P	**Pn**	**15 06 12.6**	**-0.3**
AOPR				*e*S	**Sn**	**15 06 38.0**	**+1.1**
ICMP	**Isla Caja de M**	**2.03**	**237**	*e*Pn	**Pn**	**15 06 13.8**	**+0.8**
SEUS	**St. Eustatius**	**2.26**	**132**	*e*P	**Pn**	**15 06 17.4**	**+1.2**
SEUS				*e*S	**Sn**	**15 06 44.7**	**+1.7**
SEUS	**St. Eustatius**	**2.26**	**132**	*e*P	**Pn**	**15 06 17.4**	**+1.2**
SEUS	**St. Eustatius**	**2.26**	**132**	*e*P	**Pn**	**15 06 17.4**	**+1.2**
GBPR	**Guanica, Bosqu**	**2.27**	**243**	*e*P	**Pn**	**15 06 17.6**	**+1.2**
GBPR	**Guanica, Bosqu**	**2.27**	**243**	*e*S	**Sn**	**15 06 44.6**	**+1.4**
GBPR	**Guanica, Bosqu**	**2.27**	**243**	*e*P	**Pn**	**15 06 17.6**	**+1.2**
GBPR				*e*S	**Sn**	**15 06 44.6**	**+1.4**
GBPR	**Guanica, Bosqu**	**2.27**	**243**	*e*P	**Pn**	**15 06 17.6**	**+1.2**
GBPR				*e*S	**Sn**	**15 06 44.6**	**+1.4**
AGPR	**Aguadilla, PR**	**2.30**	**257**	*e*P	**Pn**	**15 06 16.9**	**+0.1**
AGPR	**Aguadilla, PR**	**2.30**	**257**	*e*S	**Sn**	**15 06 44.5**	**+0.5**
AGPR	**Aguadilla, PR**	**2.30**	**257**	*e*P	**Pn**	**15 06 16.9**	**+0.1**
AGPR				*e*S	**Sn**	**15 06 44.5**	**+0.5**
AGPR	**Aguadilla, PR**	**2.30**	**257**	*e*P	**Pn**	**15 06 16.9**	**+0.1**
AGPR				*e*S	**Sn**	**15 06 44.5**	**+0.5**
LSP	**Las Mesas**	**2.37**	**250**	*i*P	**Pn**	**15 06 18.1**	**+0.4**
LSP	**Las Mesas**	**2.37**	**250**	*i*P	**Pn**	**15 06 18.1**	**+0.4**
LSP	**Las Mesas**	**2.37**	**250**	*i*P	**Pn**	**15 06 18.1**	**+0.4**
MPR	**Mayaguez**	**2.40**	**251**	*e*P	**Pn**	**15 06 19.3**	**+1.2**
MPR	**Mayaguez**	**2.40**	**251**	*e*S	**Sn**	**15 06 47.6**	**+1.1**
MPR	**Mayaguez**	**2.40**	**251**	*e*P	**Pn**	**15 06 19.3**	**+1.2**
MPR				*e*S	**Sn**	**15 06 47.6**	**+1.1**
MPR	**Mayaguez**	**2.40**	**251**	*e*P	**Pn**	**15 06 19.3**	**+1.2**
MPR				*e*S	**Sn**	**15 06 47.6**	**+1.1**
CRPR	**Cabo Rojo, PR**	**2.45**	**246**	*e*P	**Pn**	**15 06 19.2**	**+0.4**
CRPR	**Cabo Rojo, PR**	**2.45**	**246**	*e*S	**Sn**	**15 06 48.0**	**+0.2**
CRPR	**Cabo Rojo, PR**	**2.45**	**246**	*e*P	**Pn**	**15 06 19.2**	**+0.4**
CRPR				*e*S	**Sn**	**15 06 48.0**	**+0.2**
CRPR	**Cabo Rojo, PR**	**2.45**	**246**	*e*P	**Pn**	**15 06 19.2**	**+0.4**
CRPR				*e*S	**Sn**	**15 06 48.0**	**+0.2**
IDE	**Isla Desecheo**	**2.66**	**257**	*e*P	**Pn**	**15 06 21.5**	**-0.2**
IDE	**Isla Desecheo**	**2.66**	**257**	*e*P	**Pn**	**15 06 21.5**	**-0.2**
IDE	**Isla Desecheo**	**2.66**	**257**	*e*P	**Pn**	**15 06 21.5**	**-0.2**
ANWB	**Willy Bob**	**3.12**	**115**	*e*P	**Pn**	**15 06 27.2**	**-0.7**
ANWB	**Willy Bob**	**3.12**	**115**	*e*P	**Pn**	**15 06 27.4**	**-0.6**
ANWB	**Willy Bob**	**3.12**	**115**	P	**Pn**	**15 06 28.9**	**+0.9**
IMO	**Isla Mona**	**3.13**	**254**	*e*P	**Pn**	**15 06 30.5**	**+2.4**
IMO	**Isla Mona**	**3.13**	**254**	*e*P	**Pn**	**15 06 30.5**	**+2.4**
IMO	**Isla Mona**	**3.13**	**254**	*e*P	**Pn**	**15 06 30.5**	**+2.4**
LZG	**Guadaloupe-1**	**4.03**	**135**	*e*P	**Pn**	**15 06 41.6**	**+1.1**
SEG	**Port Louis**	**4.04**	**130**	*e*P	**Pn**	**15 06 41.5**	**+0.9**
SEG	**Port Louis**	**4.04**	**130**	*e*P	**Pn**	**15 06 42.3**	**+1.6**
MLG	**Mont-d'or**	**4.13**	**135**	*e*P	**Pn**	**15 06 43.2**	**+1.2**
MLG	**Mont-d'or**	**4.13**	**135**	*e*P	**Pn**	**15 06 43.2**	**+1.2**
ECG	**Echelle**	**4.18**	**135**	*e*P	**Pn**	**15 06 45.2**	**+2.5**
PHG	**Guadaloupe-2**	**4.21**	**135**	*e*P	**Pn**	**15 06 45.3**	**+2.2**
PHG	**Guadaloupe-2**	**4.21**	**135**	*e*P	**Pn**	**15 06 45.5**	**+2.4**
SMN1	**Samana, DR**	**4.28**	**273**	*e*P	**Pn**	**15 06 45.3**	**+1.2**
SMN1	**Samana, DR**	**4.28**	**273**	*e*S	**Sn**	**15 07 32.9**	**-0.1**
SMN1	**Samana, DR**	**4.28**	**273**	*e*P	**Pn**	**15 06 45.3**	**+1.2**
SMN1				*e*S	**Sn**	**15 07 32.9**	**-0.1**
MGG	**Marie-Galante**	**4.50**	**133**	*e*P	**Pn**	**15 06 49.4**	**+2.4**
MGG	**Marie-Galante**	**4.50**	**133**	*e*P	**Pn**	**15 06 49.7**	**+2.7**
BBL	**Barber's Block**	**4.67**	**137**	*e*P	**Pn**	**15 06 50.5**	**+1.0**
FDF	**Fort de France** 162nm,0.6s	**5.48**	**140**	*e*Pn	**Pn**	**15 07 03.4**	**+2.9**
SDDR	**Presa de Saban**	**6.19**	**271**	*e*P	**Pn**	**15 07 11.9**	**+1.7**
SDDR	**Presa de Saban**	**6.19**	**271**	*e*P	**Pn**	**15 07 11.9**	**+1.7**
SDDR	**Presa de Saban**	**6.19**	**271**	*e*P	**Pn**	**15 07 11.9**	**+1.7**
GRTK	**Grand Turk**	**6.49**	**294**	*e*P	**Pn**	**15 07 12.6**	**-1.8**
GRTK	**Grand Turk** 133nm,0.4s	**6.49**	**294**	*e*Pn	**Pn**	**15 07 12.4**	**-1.9**
GRTK				*e*Sn	Sn	15 08 18.8	-8.4
GRGR	**Grenville**	**7.46**	**156**	P	Pn	15 07 31.8	+4.0
PCRV	**Puerto La Cruz** 14nm,0.3s,baz=303,slow=4.0,SNR=16	**8.79**	**179**	Pn	**Pn**	**15 07 45.2**	**-0.8**
PCRV	5.6nm,0.3s,baz=308,slow=12,SNR=3.8			Sn	Sn	15 09 18.0	-6.1
PCRV	comp=Z,861nm,20.9s,baz=310,slow=37			LR	LR	15 11 02.6	
SDV	**Santo Domingo** 87nm,0.9s	**11.57**	**210**	*e*Pn	**Pn**	**15 08 24.8**	**+0.5**
MTDJ	**Mount Denham**	**12.15**	**268**	*e*Pn	**Pn**	**15 08 31.6**	**-0.5**
BBSR	**BB Station** 42nm,0.4s	**13.30**	**0**	*e*Pn	Pn	15 08 43.2	-4.4
ROSC	**El Rosal** 2.5nm,0.3s,baz=15,slow=6.4,SNR=12	**16.89**	**215**	Pn	**Pn**	**15 09 36.2**	**+0.6**
ROSC	1.3nm,0.3s,baz=66,slow=20,SNR=1.7			Sn	**Sn**	**15 12 41.2**	**-1.5**
ROSC	comp=Z,858nm,21.0s,baz=22,slow=39			LR	LR	15 16 36.1	
CNNC	**Cliffs of the** 145nm,0.5s	**19.91**	**327**	P	**P**	**15 10 09.2**	**-0.9**
PTGA	**Pitinga** 9.3nm,0.7s,baz=335,slow=15,SNR=13	**20.18**	**166**	P	**P**	**15 10 12.3**	**-0.8**
PTGA	comp=Z,276nm,21.4s,baz=12,slow=38			LR	LR	15 18 14.3	
TIGA	**Tifton** 115nm,0.8s	**21.02**	**310**	*e*P	**P**	**15 10 22.5**	**+0.4**
JTS	**Juntas Abangare** 8.7nm,0.8s,baz=84,slow=23,SNR=5.7	**21.36**	**249**	P	**P**	**15 10 26.2**	**+0.2**
JTS	comp=Z,147nm,21.3s,baz=72,slow=33			LR	LR	15 17 25.5	
KMSC	**Kings Mountain** 1.9nm,1.1s	**21.77**	**321**	*e*P	**P**	**15 10 30.5**	**+0.4**
JSRW	**J. Sargeant Re**	**21.86**	**331**	*e*P	**P**	**15 10 31.0**	**0.0**
GOGA	**Godfrey** 20nm,0.3s	**22.03**	**314**	*e*P	**P**	**15 10 33.2**	**+0.4**
BLA	**Blacksburg** 210nm,0.6s	**22.74**	**326**	*e*P	**P**	**15 10 41.4**	**+0.9**
SDMD	**Soldier's Deli**	**22.86**	**335**	P	**P**	**15 10 41.9**	**+0.2**
OTAV	**Otavalo** 27nm,0.8s	**23.00**	**217**	*e*P	**P**	**15 10 43.8**	**0.0**
BRYW	**Bryant College** 19nm,0.4s	**23.55**	**347**	P	**P**	**15 10 46.5**	**-2.0**
TKL	**Tuckaleechee C** 9.4nm,0.9s,baz=143,slow=7.5,SNR=9.2	**23.60**	**318**	P	**P**	**15 10 50.0**	**+0.9**
TKL	comp=Z,218nm,18.9s,baz=120,slow=39			LR	LR	15 21 05.6	
HRV	**Adam Dziewonsk** 34nm,0.4s	**24.12**	**348**	*e*P	**P**	**15 10 54.2**	**+0.4**
LRAL	**Lakeview Retre** 19nm,0.8s	**24.32**	**309**	*e*P	**P**	**15 10 57.3**	**+1.4**
SSPA	**Standing Stone** 21nm,0.6s	**24.32**	**335**	*e*P	**P**	**15 10 56.5**	**+0.7**
ACCN	**Adirondack Com**	**25.43**	**345**	P	**P**	**15 11 05.9**	**+0.1**
SAML	**Samuel** 11nm,0.8s 49nm,1.2s	**27.83**	**177**	*e*P	**P**	**15 11 26.0**	**-1.7**
SADO	**Sadowa** comp=Z,394nm,21.6s,baz=174,slow=34	**28.35**	**338**	LR	LR	15 21 40.0	
CMIG	**Matias Romero** comp=Z,102nm,21.0s,baz=54,slow=36	**28.70**	**271**	LR	LR	15 23 02.5	
ATAH	**Atahualpa** comp=Z,453nm,20.2s,baz=3.1,slow=41	**29.26**	**209**	LR	LR	15 25 26.7	
V37A	**Hulbert** baz=32	**31.60**	**308**	P	**P**	**15 12 02.7**	**+1.7**
TUL1	**Tulsa** baz=32	**32.10**	**308**	P	**P**	**15 12 07.2**	**+1.8**
V36A	**Jenks** baz=32	**32.16**	**308**	P	**P**	**15 12 07.5**	**+1.6**
534A	**Blanco** baz=32	**32.47**	**296**	P	**P**	**15 12 10.1**	**+1.3**
334A	**Lometa** baz=32	**32.56**	**299**	P	**P**	**15 12 10.5**	**+1.0**
T36A	**Boggs Farm, Ca** baz=32	**32.63**	**310**	P	**P**	**15 12 11.3**	**+1.4**
S36A	**Lake Cedric, C** baz=33	**32.71**	**311**	P	**P**	**15 12 12.0**	**+1.4**
933A	**Laredo** baz=33	**32.75**	**292**	P	**P**	**15 12 12.8**	**+1.6**
833A	**Chaparral WMA,** baz=33	**32.96**	**293**	P	**P**	**15 12 14.5**	**+1.5**
633A	**Saathoff Ranch** baz=33	**32.96**	**295**	P	**P**	**15 12 14.5**	**+1.5**
T35A	**Sooner Cattle** baz=33	**33.03**	**309**	P	**P**	**15 12 14.8**	**+1.3**
433A	**Art** baz=33	**33.15**	**297**	P	**P**	**15 12 15.7**	**+1.1**
X34A	**Smith Ranch, M** baz=33	**33.18**	**305**	P	**P**	**15 12 16.0**	**+1.1**
333A	**Richland Sprin** baz=33	**33.18**	**298**	P	**P**	**15 12 16.2**	**+1.2**
233A	**Rising Star** baz=33	**33.28**	**300**	P	**P**	**15 12 15.9**	**+0.1**
V34A	**Guthrie** baz=33	**33.36**	**307**	P	**P**	**15 12 18.3**	**+1.9**
O36A	**Bolckow** baz=33	**33.41**	**316**	P	**P**	**15 12 18.1**	**+1.3**
832A	**Faith Ranch, C** baz=33	**33.46**	**293**	P	**P**	**15 12 18.6**	**+1.2**
Q35A	**Mercer Eighty,** baz=33	**33.53**	**313**	P	**P**	**15 12 18.1**	**+0.2**
JCT	**Junction City** baz=34	**33.69**	**297**	P	**P**	**15 12 19.4**	**0.0**
532A	**Rocksprings** baz=34	**33.71**	**296**	P	**P**	**15 12 20.1**	**+0.6**
432A	**Menard** baz=34	**33.76**	**297**	P	**P**	**15 12 20.7**	**+0.7**
332A	**Millersview** baz=34	**33.83**	**298**	P	**P**	**15 12 22.2**	**+1.7**
232A	**Coleman** baz=34	**33.87**	**299**	P	**P**	**15 12 22.3**	**+1.4**
V33A	**Lossen Ranch,** baz=34	**33.94**	**306**	P	**P**	**15 12 23.0**	**+1.5**
U33A	**Lingo Farm, Me** baz=34	**34.03**	**308**	P	**P**	**15 12 23.8**	**+1.5**
KSU1	**Kansas State U** baz=34	**34.04**	**313**	P	**P**	**15 12 24.1**	**+1.8**
ABTX	**Abilene, Hawle** baz=34	**34.04**	**300**	P	**P**	**15 12 24.0**	**+1.6**
ABTX	**Abilene, Hawle** 10nm,0.8s	**34.04**	**300**	*e*P	**P**	**15 12 24.0**	**+1.6**
Z32A	**Haskell** baz=34	**34.09**	**302**	P	**P**	**15 12 24.3**	**+1.5**
631A	**Perdido Creek** baz=34	**34.15**	**295**	P	**P**	**15 12 23.8**	**+0.4**
Y32A	**R-V Farms, Ver** baz=34	**34.26**	**303**	P	**P**	**15 12 25.5**	**+1.2**
X32A	**Elmer** baz=34	**34.26**	**304**	P	**P**	**15 12 25.8**	**+1.6**
531A	**Rocksprings** baz=34	**34.26**	**296**	P	**P**	**15 12 26.0**	**+1.6**
P34A	**Walnut Farm, R** baz=34	**34.39**	**313**	P	**P**	**15 12 26.5**	**+1.2**
431A	**Sonora** baz=34	**34.41**	**297**	P	**P**	**15 12 26.6**	**+1.0**
W32A	**Sentinel** baz=34	**34.45**	**305**	P	**P**	**15 12 27.3**	**+1.5**
131A	**Roby** baz=34	**34.66**	**300**	P	**P**	**15 12 28.6**	**+0.8**
R33A	**Olander Ranch,** baz=34	**34.66**	**311**	P	**P**	**15 12 28.6**	**+0.9**
Q33A	**Connelly Farm,** baz=35	**34.85**	**312**	P	**P**	**15 12 29.8**	**+0.6**
X31A	**McDonald Ranch** baz=35,SNR=5.8	**34.87**	**304**	P	**P**	**15 12 30.5**	**+0.9**
Y31A	**Rekieta Farm,** baz=35	**34.90**	**302**	P	**P**	**15 12 31.4**	**+1.6**
T32A	**Huddler Ranch,** baz=35	**34.91**	**308**	P	**P**	**15 12 31.1**	**+1.2**
530A	**J-C Ranch, Com** baz=35	**34.93**	**296**	P	**P**	**15 12 31.0**	**+0.9**
P33A	**Williams Farm,** baz=35	**34.94**	**313**	P	**P**	**15 12 30.2**	**+0.2**
430A	**Baggett Ranch,** baz=35	**34.96**	**297**	P	**P**	**15 12 31.6**	**+1.2**
SIV	**San Ignacio** 9.7nm,0.6s,baz=17,sl

L31A	**Butterfield Fa**	36.96 316	P	P	15 12 48.7	+1.3
	baz=37					
R29A	**Marienthal**	37.00 309	P	P	15 12 48.9	+1.1
	baz=37					
Q29A	**Oakley**	37.05 310	P	P	15 12 48.9	+0.7
	baz=37,SNR=7.6					
U28A	**Mallet**	37.14 306	P	P	15 12 50.0	+0.9
	baz=37					
S28A	**Manter**	37.27 308	P	P	15 12 51.3	+1.1
	baz=37					
T28A	**Walsh**	37.28 307	P	P	15 12 51.5	+1.2
	baz=37					
P29A	**Atwood**	37.29 311	P	P	15 12 50.8	+0.5
	baz=37					
O29A	**4D Ranch, Culb**	37.40 312	P	P	15 12 51.6	+0.4
	baz=37					
R28A	**Tribune**	37.46 309	P	P	15 12 52.6	+0.9
	baz=37					
N29A	**Votaw Ranch, W**	37.56 313	P	P	15 12 52.6	+0.1
	baz=37					
U27A	**Thompson Grove**	37.61 305	P	P	15 12 53.8	+0.7
	baz=38					
T27A	**Campo**	37.73 306	P	P	15 12 54.8	+0.8
	baz=38					
J30A	**Dallas**	37.93 317	P	P	15 12 56.4	+0.8
	baz=38					
I30A	**Oaccoma**	38.17 318	P	P	15 12 58.7	+1.1
	baz=38					
R27A	**Eads**	38.17 308	P	P	15 12 59.1	+1.3
	baz=38					
BDFB	**Brasilia**	38.17 153	P	P	15 12 58.3	+0.4
	2.9nm,0.5s,baz=38,slow=9.0,SNR=3.9					
BDFB			LR	LR	15 29 38.7	
	comp=Z,334nm,18.1s,baz=330,slow=38					
M28A	**Bar X Bar Ranc**	38.31 314	P	P	15 12 59.4	+0.5
	baz=38					
T26A	**Comanche Natio**	38.42 306	P	P	15 13 00.7	+0.7
	baz=38					
P27A	**Ficken Ranch,**	38.45 310	P	P	15 13 00.9	+0.8
	baz=38					
J29A	**Okreek**	38.50 317	P	P	15 13 01.2	+0.8
	baz=38					
AGMN	**Agassiz Nation**	38.56 326	P	P	15 13 01.8	+1.1
	baz=38					
AGMN	**Agassiz Nation**	38.56 326	*e*P	P	15 13 00.2	-0.6
	5.4nm,0.5s					
OGNE	**Ogallala**	38.59 313	P	P	15 13 02.2	+1.0
	baz=38					
G30A	**Faulkton**	38.61 320	P	P	15 13 02.2	+1.0
	baz=38					
R26A	**Arlington**	38.66 308	P	P	15 13 03.1	+1.2
	baz=38					
N27A	**Anderson Farm,**	38.89 312	P	P	15 13 04.3	+0.6
	baz=39					
Q26A	**Hugo**	38.92 309	P	P	15 13 04.9	+0.8
	baz=39					
P26A	**Davis Ranch, A**	39.01 310	P	P	15 13 05.5	+0.7
	baz=39					
M27A	**Reverse DX Ran**	39.06 313	P	P	15 13 06.2	+1.0
	baz=39					
J28A	**Allard Ranch,**	39.10 317	P	P	15 13 05.9	+0.5
	baz=39					
O26A	**Horse Wrangler**	39.23 311	P	P	15 13 07.4	+0.8
	baz=39					
I28A	**Midland**	39.32 317	P	P	15 13 08.3	+1.0
	baz=39					
D30A	**Buchanan**	39.44 323	P	P	15 13 09.4	+1.3
	baz=39					
J27A	**Elkhorn Farm,**	39.53 316	P	P	15 13 10.2	+1.2
	baz=39					
H28A	**Mission Ridge**	39.54 318	P	P	15 13 10.4	+1.3
	baz=39					
D29A	**Pettibone, Tap**	39.90 322	P	P	15 13 14.4	+2.4
	baz=40					
SDCO	**Great Sand Dun**	40.04 306	P	P	15 13 14.9	+1.3
	baz=40,SNR=11					
SDCO	**Great Sand Dun**	40.04 306	*e*P	P	15 13 12.1	-1.5
	7.4nm,0.9s					
ANMO	**Albuquerque**	40.10 302	P	P	15 13 15.4	+1.4
	2.0nm,0.8s,baz=136,slow=7.6,SNR=4.4					
ANMO	**Albuquerque**	40.10 302	*e*P	P	15 13 15.4	+1.4
	3.8nm,1.0s					
Q24A	**Divide**	40.13 308	P	P	15 13 15.6	+1.2
	baz=40					
G27A	**Dupree**	40.45 319	P	P	15 13 18.0	+1.4
	baz=40					
K25A	**Mack Ranch, Ha**	40.51 314	P	P	15 13 18.6	+1.3
	baz=40					
C28A	**Hausauer Farms**	40.70 323	P	P	15 13 19.5	+0.9
	baz=41					
A29A	**Manning Farm,**	40.73 325	P	P	15 13 20.2	+1.4
	baz=41					
ISCO	**Idaho Springs**	40.74 309	P	P	15 13 20.2	+0.8
	baz=41					
ISCO	**Idaho Springs**	40.74 309	*e*P	P	15 13 20.5	+1.1
	6.1nm,0.9s					
121A	**Cookes Peak, D**	40.76 298	P	P	15 13 20.2	+0.7
	baz=41					
J25A	**Sunshine Ranch**	40.77 315	P	P	15 13 20.3	+0.9
	baz=41					
G26A	**Maurine**	40.82 319	P	P	15 13 20.7	+1.0
	baz=41					
I25A	**Rochford**	40.99 316	P	P	15 13 21.7	+0.4
	baz=41					
B28A	**Dugan Ranch, T**	41.09 324	P	P	15 13 23.1	+1.4
	baz=41					
F26A	**Lodgepole**	41.13 319	P	P	15 13 23.2	+1.0
	baz=41					
H25A	**Fruitdale**	41.16 317	P	P	15 13 23.7	+1.2
	baz=41					
RSSD	**Black Hills**	41.23 316	P	P	15 13 23.2	-0.1
G25A	**Newell**	41.29 318	P	P	15 13 24.2	+0.6
	baz=41					
LVC	**Limon Verde**	41.57 186	P	P	15 13 23.5	-2.7
	32nm,0.5s,baz=7.5,slow=6.7,SNR=14					
LVC	**Limon Verde**	41.57 186	*e*P	P	15 13 23.8	-2.4
K22A	**Casper**	42.34 313	P	P	15 13 32.9	+0.6
	baz=42					
PV01	**Paradox Valley**	42.48 306	*e*P	P	15 13 34.6	+1.0
	203nm,0.5s					
G23A	**Biddle**	42.56 317	P	P	15 13 35.0	+1.0
	baz=42					
I22A	**9 Mile Ranch,**	42.76 315	P	P	15 13 36.2	+0.5
	baz=43					
O20A	**White River Ci**	42.77 309	P	P	15 13 36.6	+0.8
	baz=43					
F23A	**Volborg**	42.78 318	P	P	15 13 36.8	+1.1
	baz=43					
A25A	**Svangstu Ranch**	42.89 323	P	P	15 13 37.6	+1.1
	baz=43					
H22A	**Clearmont**	42.94 316	P	P	15 13 38.7	+1.6
	baz=43					
E23A	**Ismay**	43.05 319	P	P	15 13 38.9	+1.0
	baz=43					
G22A	**Birney**	43.15 317	P	P	15 13 39.1	+0.4
	baz=43,SNR=8.2					
J21A	**Lysite**	43.22 314	P	P	15 13 40.0	+0.6
	baz=43					
I21A	**Big Trails, Te**	43.28 314	P	P	15 13 40.7	+0.8
	baz=43					
D23A	**Lindsay**	43.29 320	P	P	15 13 41.1	+1.3
	baz=43					
F22A	**Rosebud**	43.35 317	P	P	15 13 41.6	+1.3
	baz=43					
A24A	**Westby**	43.39 323	P	P	15 13 41.3	+0.7
	baz=43					
H21A	**Big Horn, Sher**	43.41 316	P	P	15 13 42.0	+1.1
	baz=43					
C23A	**Lambert**	43.56 321	P	P	15 13 43.2	+1.3
	baz=43					
J20A	**Shoshoni**	43.66 314	P	P	15 13 43.9	+1.0
	baz=44,SNR=7.4					
G21A	**Lodge Grass**	43.74 316	P	P	15 13 44.4	+0.9
	baz=44					
B23A	**Brockton**	43.75 322	P	P	15 13 44.6	+1.2
	baz=44					
D22A	**Cohagen**	43.88 319	P	P	15 13 45.6	+1.1
	baz=44,SNR=5.8					
I20A	**Worland**	43.89 314	P	P	15 13 45.6	+0.8
	baz=44					
WUAZ	**Wupatki**	44.16 302	P	P	15 13 48.2	+1.1
	baz=44					
WUAZ	**Wupatki**	44.16 302	*e*P	P	15 13 49.7	+2.5
	6.7nm,0.9s					
B22A	**Reddig Ranch S**	44.27 321	P	P	15 13 48.2	+0.5
	baz=44					
J19A	**Crowheart**	44.29 313	P	P	15 13 48.8	+0.7
	baz=44,SNR=20					
D21A	**La Casta Ranch**	44.34 319	P	P	15 13 49.0	+0.7
	baz=44,SNR=12					
G20A	**Bridger**	44.40 316	P	P	15 13 49.1	+0.2
	baz=44					
BW06	**Boulder Array**	44.49 312	*e*P	P	15 13 50.4	+0.7
	8.2nm,0.8s					
PDAR	**Pinedale Array**	44.49 312	P	P	15 13 50.6	+0.9
	5.8nm,0.9s,baz=104,slow=9.3,SNR=30					
PDAR			LR	LR	15 34 04.4	
	comp=Z,109nm,18.6s,baz=118,slow=38					
I19A	**Meeteetse**	44.51 314	P	P	15 13 50.1	+0.3
	baz=44					
A22A	**Carney Farms,**	44.54 322	P	P	15 13 51.0	+1.2
	baz=44					
F20A	**Billings**	44.58 317	P	P	15 13 51.1	+0.9
	baz=44					
H19A	**Powell**	44.72 315	P	P	15 13 52.3	+0.9
	baz=45					
RLMT	**Red Lodge**	45.06 315	P	P	15 13 55.2	+1.0
	baz=45,SNR=5.3					
RLMT	**Red Lodge**	45.06 315	*e*P	P	15 13 55.3	+1.0
	7.1nm,0.8s					
C20A	**Veseth Ranch,**	45.24 319	P	P	15 13 56.6	+1.2
	baz=45					
MSU	**Marysvale**	45.34 306	*e*P	P	15 13 56.4	-0.1
	3.3nm,1.0s					
LOHW	**Long Hollow**	45.48 313	*e*P	P	15 13 58.5	+1.0
	10.0nm,1.0s					
B20A	**Solberg Farm,**	45.55 320	P	P	15 13 59.3	+1.5
	baz=45					
GCMT	**Greycliff**	45.56 316	*e*P	P	15 13 57.4	-0.7
	3.1nm,0.8s					
REDW	**Red Top Meadow**	45.57 313	*e*P	P	15 13 59.4	+1.1
	24nm,1.4s					
MOOW	**Moose Ponds**	45.61 313	*e*P	P	15 13 58.7	0.0
	6.0nm,0.8s					
CPUP	**Villa Florida**	45.65 171	P	P	15 13 56.2	-2.5
	9.3nm,0.9s,baz=349,slow=8.0,SNR=14					
CPUP			LR	LR	15 35 33.4	
	comp=Z,70nm,18.8s,baz=1.0,slow=39					
A20A	**Cobblestone Ra**	45.67 321	P	P	15 14 00.2	+1.3
	baz=46					
TPAW	**Teton Pass**	45.68 313	*e*P	P	15 13 58.5	-0.7
	5.9nm,0.7s					
H17A	**Gram Village**	45.70 314	*e*P	P	15 13 59.7	+0.4
IMW	**Indian Meadow**	45.79 313	*e*P	P	15 14 00.8	+0.7
	6.2nm,0.8s					
B19A	**Brinkman Farms**	46.11 320	P	P	15 14 03.6	+1.3
	baz=46					
QLMT	**Earthquake Lak**	46.42 314	*e*P	P	15 14 07.0	+2.1
	2.2nm,0.7s					
EGMT	**Eagleton**	46.44 319	*e*P	P	15 14 06.4	+1.5
	11nm,1.2s					
BGU	**Big Grassy Mou**	46.49 309	*e*P	P	15 14 07.0	+1.5
HVU	**Hansel Valley**	46.51 310	*e*P	P	15 14 07.3	+1.7
BOZ	**Bozeman (W)**	46.81 315	P	P	15 14 09.3	+1.4
	baz=47					
IRM	**Iron Mountain**	47.07 299	P	P	15 14 11.8	+1.8
	baz=47					
LDFC	**Landfair**	47.13 300	*e*P	P	15 14 13.4	+2.9
	13nm,0.8s					
DLMT	**Dillon**	47.37 315	*e*P	P	15 14 14.0	+1.8
	7.9nm,1.0s					
MCMT	**McKenzie Canyo**	47.38 314	P	P	15 14 13.5	+1.0
	2.0nm,0.8s					
GMRC	**Granite Mounta**	47.55 300	P	P	15 14 15.1	+1.2
	baz=47					
TUQ	**Turquoise Moun**	47.83 301	P	P	15 14 17.5	+1.5
	baz=48					
R11A	**Troy Canyon, C**	47.94 305	P	P	15 14 18.1	+1.2
	baz=48					
MONP	**Monument Peak**	48.03 297	P	P	15 14 20.0	+2.3
	baz=48,SNR=6.6					
HLID	**Hailey**	48.12 312	P	P	15 14 19.6	+1.4
	baz=48					
HLID	**Hailey**	48.12 312	*e*P	P	15 14 19.9	+1.7
	2.6nm,0.4s					
TPNV	**Topopah Spring**	48.27 303	P	P	15 14 20.9	+1.5
	baz=48					
MURC	**Murrieta**	48.73 298	P	P	15 14 24.3	+1.4
	baz=49					
MFID	**Camas Ranch**	49.09 311	*e*P	P	15 14 26.8	+1.3
	6.6nm,1.1s					
MPMC	**Maual Prospec**	49.16 302	P	P	15 14 27.9	+1.5
	baz=49					
GRAC	**Grapevine Rang**	49.16 303	P	P	15 14 27.9	+1.7
	baz=49					
DAC	**Darwin (Calif)**	49.27 302	*e*P	P	15 14 28.5	+1.4
	2.8nm,0.8s					
LRMC	**Laurel Mountai**	49.27 301	P	P	15 14 28.8	+1.7
	baz=49					
EDW2	**Edwards Air Fo**	49.47 300	P	P	15 14 29.6	+1.1
	baz=49					
BMN	**Battle Mountai**	49.52 307	*e*P	P	15 14 30.1	+1.1
	7.3nm,1.0s					
BSMT	**Bassoo Peak**	49.56 317	*e*P	P	15 14 28.7	-0.5
	1.1nm,0.6s					
NVAR	**Mina Array Bea**	50.07 305	P	P	15 14 35.3	+2.1
	1.8nm,0.8s,baz=102,slow=6.9,SNR=12					
BMO	**Blue Mountains**	50.45 313	*e*P	P	15 14 36.2	+0.3
	3.1nm,0.8s					
NEW	**Newport**	51.18 317	P	P	15 14 40.5	-0.7
	baz=51,SNR=5.8					
NEW	**Newport**	51.18 317	*e*P	P	15 14 40.1	-1.1
	8.3nm,0.8s					
YBH	**Yreka Blue Hor**	53.81 308	P	P	15 15 00.7	-0.3
	1.4nm,0.6s,baz=52,slow=2.8,SNR=3.9					
MDT	**Midelt**	55.15 63	P	P	15 15 11.2	+0.3
	2.8nm,1.0s,baz=274,slow=10.0,SNR=3.3					
YKA	**Yellowknife Ar**	55.25 334	P	P	15 15 10.1	-0.7
	1.3nm,0.6s,baz=110,slow=7.5,SNR=8.4					
SUMG	**Summit**	55.64 9	*i* P	P	15 15 14.5	+0.5
	6.9nm,0.8s					
SUMG	**Summit**	55.64 9	*e*P	P	15 15 14.6	+0.5
	15nm,1.0s					
ESDC	**Sonseca Array**	55.78 55	P	P	15 15 16.1	+0.9
	1.0nm,0.5s,baz=269,slow=7.7,SNR=9.8					
DBIC	**Dimbokro**	59.42 93	LR	LR	15 39 55.3	
	comp=Z,63nm,18.7s,baz=238,slow=35					
DAG	**Damnarks Havn**	62.21 11	*i* P	P	15 15 59.2	+0.2
	3.2nm,0.9s					
TORD	**Torodi Ar. Bea**	63.80 84	P	P	15 16 10.1	-0.6
	1.4nm,0.8s,baz=290,slow=7.0,SNR=6.1					
TORD			LR	LR	15 41 20.9	
	comp=Z,136nm,19.6s,baz=230,slow=34					
INK	**Inuvik**	64.66 337	*e*P	P	15 16 15.6	+0.3
	6.3nm,0.8s					
DAWY	**Dawson**	66.36 332	P	P	15 16 27.0	+0.5
	2.2nm,0.7s					
KEST	**Kesra**	66.47 59	LR	LR	15 42 15.1	
	comp=Z,23nm,19.9s,baz=286,slow=33					
NOA	**NORSAR Array B**	66.76 31	LR	LR	15 41 57.5	
	comp=Z,54nm,20.3s,baz=275,slow=33					
EGAK	**Eagle**	67.18 333	*e*P	P	15 16 32.0	+0.3
	8.9nm,1.1s					
MENT	**Mentasta**	68.23 331	*e*P	P	15 16 39.8	+1.4
GERES	**GERESS Array B**	68.39 44	LR	LR	15 42 36.8	
	comp=Z,47nm,20.2s,baz=297,slow=32					
BMRM	**Brnmer River**	68.65 329	*e*P	P	15 16 42.1	+1.1
ILAR	**Eielson Array**	69.63 333	P	P	15 16 46.7	-0.3
	1.4nm,0.7s,baz=92,slow=4.1,SNR=16					
ILAR			LR	LR	15 47 25.4	
	comp=Z,128nm,20.7s,baz=107,slow=36					
TRF	**Thorofare Moun**	71.19 332	*e*P	P	15 16 56.9	+0.1
	7.6nm,0.9s					
BPAW	**Bear Paw Mtn.**	71.44 332	*e*P	P	15 16 57.7	-0.4
	1.3nm,0.9s					
ARCES	**ARCESS Array B**	72.44 22	P	P	15 17 03.4	-0.5
	1.0nm,0.6s,baz=282,slow=4.5,SNR=10					
ARCES			LR	LR	15 42 50.7	
	comp=Z,43nm,21.5s,baz=264,slow=31					
FINES	**FINESS Array B**	73.89 30	P	P	15 17 12.3	-0.3
	1.1nm,0.7s,baz=294,slow=4.4,SNR=3.5					
FINES			LR	LR	15 44 39.6	
	comp=Z,86nm,22.0s,baz=276,slow=32					
MLR	**Muntele Rosu**	77.17 46	P	P	15 17 32.3	+0.4
	0.4nm,0.4s,baz=237,slow=7.0,SNR=4.4					
AKASG	**Malin Array Be**	77.98 40	P	P	15 17 36.1	0.0
	0.2nm,0.3s,baz=283,slow=4.7,SNR=3.6					
AKASG			LR	LR	15 48 07.6	
	comp=Z,69nm,21.7s,baz=290,slow=33					
BRTR	**Keskin Array B**	84.28 50	P	P	15 18 10.2	+0.1
	1.2nm,0.7s,baz=277,slow=4.5,SNR=7.0					
BRTR			LR	LR	15 51 51.2	
	comp=Z,16nm,21.9s,baz=309,slow=33					
SEY	**Seymchan**	93.27 344	P	P	15 18 53.2	+0.9
	1.6nm,0.7s,baz=31,slow=2.0,SNR=18					
AKTO	**Aktyubinsk**	94.50 33	LR	LR	15 57 04.7	
	comp=Z,42nm,20.7s,slow=33					
PETK	**Petropavlovsk-**	99.35 336	LR	LR	16 06 33.7	
	comp=Z,40nm,21.2s,baz=63,slow=37					
WMQ	**Urumqi**	112.56 21	*e*PKP	PKiKP	15 24 10.4	-4.0
WMQ			LN			
	66nm,18.0s					
WMQ			LE			
	97nm,18.0s					
WMQ			LZ			
	51nm,17.0s					
HHC	**Hu-ho-hao-te**	120.34 3	*e*PKP	PKPdf	15 24 29.7	+0.2
HHC			PP	PP	15 26 00.4	+6.1
HHC			PKS	PKSdf	15 28 04.7	-1.6
HHC			SS	SS	15 42 22.0	+2.5
HHC			PPMZ			
	42nm,9.0s					
HHC			LN			
	110nm,20.4s					
HHC			LE			
	110nm,20.3s					
HHC			LZ			
	94nm,20.0s					
CD2	**Chengdu**	129.15 13	PKP	PKPdf	15 24 46.7	+0.1
CMAR	**Chiang Mai Arr**	139.46 24	PKP	PKPdf	15 25 05.2	-0.9
	0.2nm,0.4s,baz=318,slow=3.1,SNR=2.5					
STKA	**Stephens Creek**	153.06 236	PKPbc	PKPbc	15 25 35.6	-0.2
	1.7nm,0.7s,baz=76,slow=4.0,SNR=4.6					
WRA	**Warramunga Arr**	161.98 264	PKP	PKPdf	15 25 38.4	-1.6
	1.2nm,0.9s,baz=60,slow=1.1,SNR=5.6					
WRA			PKPab	PKPab	15 26 24.4	-1.8
	0.6nm,0.7s,baz=98,slow=4.3,SNR=5.1					
ASAR	**Alice Springs**	162.02 252	PKP	PKPdf	15 25 39.2	-0.7
	0.8nm,1.0s,baz=139,slow=2.0,SNR=4.3					
ASAR			PKPab	PKPab	15 26 25.1	-1.2
	1.1nm,0.8s,baz=113,slow=4.4,SNR=8.3					

NIED **07** *15:15:00,22.˚50N×121.˚90E,h41km,Mw4.2 Best double couple: M₀1.99000×10¹⁵ NP1:φs318.00000°,δ43.00000°, λ23.00000°. NP2:φs210.00000°,δ74.00000°,λ131.00000°.*
IDC **07** *15:15:39.4±0.9,22.˚22N×122.˚10E,h0km,mb3.5/9, mb1 3.7/10,mb1mx3.5/34,mbtmp3.6/10,ML3.7/1,MS3.2/3, Ms1 3.4/3,ms1mx2.7/31,Error ellipse: s-maj=32.4km s-min=16.0km az=70.0*
BJI **07** *15:15:41.7,22.˚51N×121.˚83E,h4km,mb3.6/1,ML3.6/4*
JMA **07** *15:15:42.8±0.1,22.˚50N×121.˚90E,h13km,M4.4*
ISCJB **07** *15:15:42.4±0.7,22.˚33N±0.˚02×121.˚99E±0.˚02,h15km±5km, mb3.5/9,MS3.4/2,Error ellipse: s-maj=3.8km s-min=2.4km az=168.8*
TAP **07** *15:15:43.1,22.˚35N×121.˚88E,h37km,ML4.5,C*
MAN **07** *15:16:17,19.˚69N×121.˚59E,h14km,mb4.6,ML3.5,MS3.4*

ISC 07 15:15:41.6±1.2,22.˚40N±0.˚02×121.˚91E±0.˚03,h12km±8km, n101,σ1°12/142,mb3.5/9,10C-22D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
LAY	**Lan-yu**	0.49	223	⇓*i*	P	**Pb** 15 15 52.1	-0.2
	baz=230						
TTN	**Taitung**	0.79	297	⇑	P	**Pb** 15 15 57.6	+0.3
	baz=309						
TTN				*e*	S	**Sg** 15 16 07.4	+0.1
	baz=309						
CHKT	**Chengkung**	0.86	324	⇓*i*	P	**Pb** 15 15 58.4	-0.2
	baz=335						
CHKT				*i*	S	**Sg** 15 16 08.9	-0.6
	baz=335						
TWG	**Pinlang**	0.88	299	*e*P		**Pb** 15 15 58.8	-0.2
	baz=308						
TWG				*e*	S	**Sg** 15 16 10.2	0.0
	baz=308						
ECL	**Taimali**	0.91	283	⇑*i*	P	**Pg** 15 15 59.1	-0.1
	baz=278						
TAW	**Tawu**	0.94	268	P		**Pg** 15 15 59.3	-0.5
	baz=271						
EAST	**Anshuo**	0.98	269	⇑*i*	P	**Pb** 15 16 00.0	-0.7
	baz=272						
TSEB	**Hengchuen, Pin**	1.06	242	⇑*i*	P	**Pb** 15 16 02.0	0.0
	baz=255						
TSEB				*e*	S	**Sb** 15 16 14.3	-1.6
	baz=255						
TWF1	**Yuli**	1.10	329	⇓*i*	P	**Pb** 15 16 02.4	-0.4
	baz=339						
TWF1					S	**Sb** 15 16 16.3	-0.8
	baz=339						
TWK1	**Hengchun**	1.12	246	⇑*i*	P	**Pb** 15 16 02.0	-1.0
	baz=256						
TWK1					S	**Sb** 15 16 14.8	-2.8
	baz=256						
HEN	**Hengchun**	1.16	250	⇑*i*	P	**Pb** 15 16 02.9	-0.7
	baz=257						
HEN					S	**Sb** 15 16 15.8	-2.8
	baz=257						
SCZT	**Fangliau**	1.20	269	⇑*e*	P	**Pn** 15 16 03.5	-0.8
	baz=261						
SCZT				*e*	S	**Sn** 15 16 20.8	+0.4
	baz=261						
EHY	**Hungye**	1.23	334	⇓*i*	P	**Pn** 15 16 04.3	-0.4
	baz=341						
EHY				*i*	S	**Sb** 15 16 20.5	-0.2
	baz=341						
SSD	**Sandimen**	1.23	287	*e*P		**Pn** 15 16 04.2	-0.5
	baz=294						
STYT	**Tauyuan**	1.31	306	*e*P		**Pn** 15 16 05.8	-0.1
	baz=308						
TEGC	**Jichi Village**	1.35	345	*e*P		**Pb** 15 16 06.4	-0.4
	baz=347						
SGLT	**Jiouru**	1.35	284	*e*P		**Pg** 15 16 07.8	+0.2
	baz=290						
YUS	**Yu-Shan**	1.40	321	⇓*i*	P	**Pn** 15 16 07.4	-0.1
	baz=323						
YUS				*e*	S	**Sn** 15 16 25.5	-0.7
	baz=323						
SGST	**Jiashian**	1.40	299	*e*P		**Pg** 15 16 08.1	-0.5
	baz=306						
TWP	**Hsiaoliuchiu**	1.43	268	⇑*e*	P	**Pg** 15 16 10.3	+1.1
	baz=259						
TWP				*e*	S	**Sg** 15 16 28.3	+0.4
	baz=259						
TWM1	**Shoushan**	1.44	287	⇓*e*	P	**Pg** 15 16 09.9	+0.6
	baz=290						
WTP	**Ta-pu**	1.46	305	⇓	P	**Pb** 15 16 09.2	+0.3
	baz=314						
WTP				*e*	S	**Sg** 15 16 28.3	-0.6
	baz=314						
ESL	**Shilin**	1.48	343	P		**Pn** 15 16 07.7	-0.4
	baz=351						
ESL					S	**Sn** 15 16 25.8	-1.6
	baz=351						
KAU	**Kaohsiung**	1.49	277	*e*P		**Pg** 15 16 10.8	+0.5
	baz=279						
CHN1	**Nanshi**	1.50	302	⇑P		**Pg** 15 16 10.2	-0.2
	baz=304						
CHN1				*e*	S	**Sg** 15 16 30.2	+0.3
	baz=304						
ALS	**Alishan**	1.50	318	⇓P		**Pb** 15 16 09.5	-0.2
	baz=320						
WDT	**Danda**	1.53	332	⇓*i*	P	**Pn** 15 16 09.2	+0.1
	baz=334						
WDT				*e*	S	**Sn** 15 16 28.1	-1.1
	baz=334						
CHN4	**Tsaushan**	1.54	308	⇓*i*	P	**Pb** 15 16 10.6	+0.4
	baz=318						
CHN4					S	**Sg** 15 16 30.3	-1.0
	baz=318						
TWK	**Hsinying**	1.57	304	⇓P		**Pb** 15 16 11.1	+0.4
	baz=306						
TWK				*e*	S	**Sg** 15 16 32.6	+0.4
	baz=306						
CHN3	**Shinhua**	1.58	296	*e*P		**Pg** 15 16 12.8	+0.8
	baz=298						
CHN3				*e*	S	**Sg** 15 16 34.4	+1.9
	baz=298						
HWA	**Hwalien**	1.59	350	*e*P		**Pn** 15 16 09.8	0.0
	baz=1.0						
CHN5	**Tsauling**	1.65	317	⇓*i*	P	**Pb** 15 16 12.4	+0.3
	baz=303						
CHN5					S	**Sb** 15 16 33.5	+0.7
	baz=303						
TAI1	**Yung-k'ang**	1.68	293	*e*P		**Pb** 15 16 12.7	+0.2
	baz=295						
TWD	**Chiawan**	1.70	350	⇓*i*	P	**Pn** 15 16 11.0	-0.1
	baz=359						
CHN2	**Minshiung**	1.74	311	*e*P		**Pb** 15

SMLT	**Sun Moon Lake**	**1.75**	**328**	⇓	*eP*		**Pb**	**15 16 13.1 -0.6**
	baz=337							
SMLT					*eS*		**Sb**	**15 16 35.5 -0.2**
	baz=337							
CHY	**Chiayi**	**1.75**	**309**		*eP*		**Pb**	**15 16 13.5 -0.3**
	baz=295							
CHY					*eS*		**Sb**	**15 16 36.6 +0.8**
	baz=295							
SCLT	**Jiali**	**1.76**	**296**		*eP*		**Pb**	**15 16 14.4 +0.4**
	baz=298							
SCLT					*eS*		**Sb**	**15 16 36.3 +0.2**
	baz=298							
TYC	**Yuchr**	**1.79**	**327**	⇓	P		**Pb**	**15 16 13.8 -0.5**
	baz=337							
TYC					S		**Sb**	**15 16 36.8 +0.1**
	baz=337							
WGK	**Gukeng**	**1.79**	**316**		*eP*		**Pg**	**15 16 15.0 -0.9**
	baz=304							
WGK					*eS*		**Sb**	**15 16 37.4 +0.7**
	baz=304							
WNT	**Mingjian**	**1.85**	**323**	⇓	P		**Pb**	**15 16 15.7 +0.2**
	baz=324							
WNT					*eS*		**Sb**	**15 16 39.0 +0.3**
	baz=324							
TWT	**Tachien**	**1.96**	**340**	⇓	P		**Pn**	**15 16 16.1 +1.1**
	baz=332							
WSF	**Szhu**	**1.98**	**309**		*eP*		**Pb**	**15 16 17.2 -0.5**
	baz=297							
WSF					*eS*		**Sb**	**15 16 41.0 -1.4**
	baz=297							
ENA	**Nanau**	**2.02**	**356**		*eP*		**Pn**	**15 16 15.8 +0.1**
	baz=4.0							
TCU	**Taichung**	**2.08**	**327**		*eP*		**Pb**	**15 16 19.0 -0.3**
	baz=328							
TCU					*eS*		**Sb**	**15 16 45.2 0.0**
	baz=328							
NNS	**Nan Shan**	**2.09**	**346**		*eP*		**Pn**	**15 16 17.3 +0.6**
	baz=357							
WTCT	**Ta-ch'eng**	**2.09**	**314**		*eP*		**Pb**	**15 16 18.4 -1.2**
	baz=303							
WTCT					*eS*		**Sb**	**15 16 44.1 -1.5**
	baz=303							
TWC	**Suao**	**2.20**	**359**	⇓	P		**Pn**	**15 16 19.1 +1.1**
	baz=359							
TWQ1	**Liyutan**	**2.20**	**332**		*eP*		**Pb**	**15 16 21.0 -0.5**
	baz=333							
TWQ1					*eS*		**Sb**	**15 16 48.8 0.0**
	baz=333							
WDGT	**Dungji**	**2.25**	**293**		*eP*		**Pn**	**15 16 19.2 +0.5**
	baz=294							
WDGT					*eS*		**Sn**	**15 16 44.7 -1.7**
	baz=294							
ENTT	**Nioudou**	**2.25**	**352**		*eP*		**Pn**	**15 16 19.8 +1.0**
	baz=353							
JYNG	**Yonagunijimaku**	**2.25**	**25**		P		**Pn**	**15 16 19.9 +1.1**
JYNG					S		**Sn**	**15 16 45.6 -0.9**
NSY	**Sanyi**	**2.27**	**332**		P		**Pb**	**15 16 22.1 -0.6**
	baz=320							
NSY					S		**Sb**	**15 16 51.0 +0.4**
	baz=320							
YOJ	**Yonaguni jima**	**2.29**	**26**		P		**Pn**	**15 16 20.6 +1.3**
YOJ					S		**Sn**	**15 16 47.5 +0.1**
YOJ	**Yonaguni jima**	**2.29**	**26**	⇑	*iP*		**Pn**	**15 16 20.4 +1.1**
	baz=26							
YOJ					*i* S		**Sn**	**15 16 46.7 -0.7**
	baz=26							
NSK	**Sanguang**	**2.32**	**347**	⇓	*iP*		**Pn**	**15 16 21.1 +1.3**
	baz=359							
NSK					*eS*		**Sn**	**15 16 48.6 +0.3**
	baz=359							
TWE	**Neicheng**	**2.32**	**355**		*eP*		**Pn**	**15 16 20.4 +0.6**
	baz=356							
NSTT	**Nanjuang**	**2.37**	**340**		*eP*		**Pb**	**15 16 22.9 -1.5**
	baz=351							
NSTT					*eS*		**Sb**	**15 16 52.4 -1.3**
	baz=351							
HATJ	**Hateruma jima**	**2.40**	**46**		P		**Pn**	**15 16 22.1 +1.3**
HATJ					S		**Sn**	**15 16 49.6 -0.5**
EGS		**2.44**	**0**	⇓	P		**Pb**	**15 16 23.2 -2.3**
	baz=10.0							
PNG	**Penghu**	**2.46**	**299**		*eP*		**Pn**	**15 16 22.4 +0.8**
	baz=300							
PNG					*eS*		**Sn**	**15 16 51.1 -0.7**
	baz=300							
IRIF	**Iriomote-Funau**	**2.55**	**41**		P		**Pn**	**15 16 24.4 +1.5**
IRIF					S		**Sn**	**15 16 53.1 -0.8**
TWB1	**Santiao Chiao**	**2.60**	**2**		*eP*		**Pn**	**15 16 23.9 +0.4**
	baz=12							
NCU	**National Centr**	**2.64**	**346**		*eP*		**Pb**	**15 16 26.6 -2.4**
	baz=358							
JKRS	**Kuro-shima**	**2.66**	**46**		P		**Pn**	**15 16 26.0 +1.6**
JKRS					S		**Sn**	**15 16 55.9 -0.6**
NWF	**Wu-fen Shan**	**2.66**	**357**		*eP*		**Pn**	**15 16 26.8 +2.2**
	baz=358							
NWF					*eS*		**Sn**	**15 16 58.8 +2.0**
	baz=358							
JIJ	**Ishigaki jima**	**2.83**	**46**		P		**Pn**	**15 16 27.8 +1.0**
JIJ					S		**Sn**	**15 16 59.5 -1.4**
TWY	**Chenhua**	**2.88**	**354**		*eP*		**Pb**	**15 16 30.0 -3.0**
	baz=355							
JISG	**Ishigakijimahi**	**3.10**	**45**		P		**Pn**	**15 16 31.3 +0.9**
JISG					S		**Sn**	**15 17 06.0 -1.4**
JTJ	**Tarama**	**3.40**	**48**		P		**Pn**	**15 16 36.1 +1.6**
JTJ					S		**Sn**	**15 17 14.2 -0.6**
KNM	**Kinmen**	**3.77**	**303**		*eP*		**Pn**	**15 16 41.6 +1.9**
	baz=303							
JIRB	**Irabujima**	**3.85**	**50**		P		**Pn**	**15 16 41.8 +1.1**
JIRB					S		**Sn**	**15 17 24.9 -1.0**
JMJ	**Miyako jima 2**	**3.92**	**52**		S		**Sn**	**15 17 27.6 -0.2**
JIKM	**Ikemajima**	**3.96**	**50**		P		**Pn**	**15 16 43.8 +1.6**
JIKM					S		**Sn**	**15 17 28.2 -0.4**
QZH	**Quanzhou**	**3.96**	**310**	⇓	*i*Pn		**Pn**	**15 16 43.2 +1.0**
QZH					Sn		**Sn**	**15 17 25.9 -2.7**
QZH					SMN			
	240nm,0.3s							
QZH					SME			
	270nm,0.9s							
JOGS	**Gusukube**	**3.98**	**53**		P		**Pn**	**15 16 44.3 +1.8**
JOGS					S		**Sn**	**15 17 29.0 -0.1**
SGCP	**Mt. Cagua**	**4.14**	**178**		*eP*		**Pn**	**15 16 43.8 -0.9**
SGCP					eS		Pb	15 16 49.3 -5.2
PIP	**Pasuquin**	**4.23**	**197**	⇓	P		**Pn**	**15 16 45.6 -0.4**
ABRA	**Dolores**	**4.86**	**194**		*eP*		**Pn**	**15 16 55.6 +1.0**
CAUP	**Cauayan**	**5.43**	**181**		*eP*		**Pn**	**15 17 04.3 +1.8**
CAUP					eS		**Pb**	**15 17 17.4 +1.0**
JKE	**Kume jima 2**	**5.92**	**48**		S		**Sn**	**15 18 13.7 -3.3**
BOLP	**Bolinao**	**6.28**	**198**		*eP*		**Pn**	**15 17 15.1 +0.9**
GZH	**Guangzhou**	**7.94**	**277**		P		**Pn**	**15 17 35.6 -1.3**
GZH					SMN			
	43nm,0.7s							
GZH					SME			
	50nm,0.7s							
KSRS	**Korea Array**	**15.88**	**18**		Pn		**P**	**15 19 27.2 -1.4**
	0.3nm,0.3s,baz=197,slow=11,SNR=13							
MJAR	**Matsushiro Arr**	**19.96**	**41**		LR		LR	15 28 10.3
	comp=Z,26nm,21.9s,baz=305,slow=38							
CMAR	**Chiang Mai Arr**	**21.87**	**264**		P		**P**	**15 20 35.7 +1.1**
	0.4nm,0.8s,baz=64,slow=8.4,SNR=4.0							
CMAR					LR		LR	15 30 48.6
	comp=Z,42nm,19.5s,baz=162,slow=41							
USRK	**Ussuriysk Ar.**	**23.28**	**19**		P		**P**	**15 20 49.1 -0.1**
	1.7nm,0.7s,baz=224,slow=4.0,SNR=4.9							
SONM	**Songino Array**	**28.27**	**338**		P		**P**	**15 21 36.7 +1.8**
	0.2nm,0.3s,baz=150,slow=9.5,SNR=2.3							
MKAR	**Makanchi Array**	**40.09**	**317**		P		**P**	**15 23 19.8 +2.7**
	0.6nm,0.6s,baz=114,slow=9.8,SNR=6.1							
H11N1	**WAKE ISLAND Hy**	**41.95**	**85**		T		T	16 08 50.5
	baz=282,slow=75,SNR=27							
H11N2	**WAKE ISLAND Hy**	**41.95**	**85**		T		T	16 08 58.2
	baz=282,slow=75,SNR=49							
H11N3	**WAKE ISLAND Hy**	**41.96**	**85**		T		T	16 08 54.9
	baz=282,slow=75,SNR=38							
H11S3	**WAKE ISLAND Hy**	**42.02**	**87**		T		T	16 08 56.6
	baz=283,slow=74,SNR=44							
H11S1	**WAKE ISLAND Hy**	**42.03**	**87**		T		T	16 08 57.1
	baz=283,slow=74,SNR=54							
H11S2	**WAKE ISLAND Hy**	**42.04**	**87**		T		T	16 08 58.0
	baz=283,slow=74,SNR=37							
ZALV	**Zalesovo Beam**	**42.10**	**328**		P		**P**	**15 23 35.3 +1.8**
	0.7nm,0.3s,baz=130,slow=8.1,SNR=4.5							
WRA	**Warramunga Arr**	**43.80**	**163**		P		P	15 23 43.6 -4.0
	0.4nm,0.8s,baz=344,slow=9.0,SNR=4.5							
KURBB	**Kurchatov Arra**	**43.90**	**321**		P		**P**	**15 23 48.3 +0.1**
	0.3nm,0.3s,baz=114,slow=8.3,SNR=2.9							
ASAR	**Alice Springs**	**47.25**	**165**		P		**P**	**15 24 13.1 -1.8**
	0.2nm,0.3s,baz=342,slow=6.9,SNR=11							
STKA	**Stephens Creek**	**57.16**	**160**		P		**P**	**15 25 28.0 -0.5**
	1.9nm,0.9s,baz=310,slow=7.9,SNR=3.7							
NOA	**NORSAR Array B**	**80.11**	**332**		LR		LR	16 06 27.3
	comp=Z,73nm,20.2s,baz=55,slow=38							

MAN 07 15:34:26,7˚.24N×121˚.98E,h1km,mb3.7,ML2.5,MS2.0,
Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPIL	**Ipil**	**0.80**	**47**	*eP*		Pg 15 34 41.6	+0.1
IPIL				*eS*		Sg 15 34 48.8	-3.1
PAGZ	**Pagadian**	**1.52**	**66**	*eP*		Pb 15 34 55.0	0.0
PAGZ				*eS*		Sn 15 35 13.3	-1.4
MATI	**Mati**	**4.26**	**94**	*eP*		Pn 15 35 34.2	+2.2

TAP ***07*** *15:42:56.9,24˚.71N×122˚.05E,h66km,ML3.7,D*
JMA ***07*** *15:42:56.5±0.2,24˚.64N×122˚.01E,h68km±3km,M3.0*
ISCJB ***07*** *15:42:57.3±0.4,24˚.67N±0˚.03×122˚.07E±0˚.02,h64km±4km,*
Error ellipse: s-maj=4.7km s-min=2.4km az=160.6

ISC 07 15:42:58.0±1.3,24˚.66N±0˚.04×122˚.06E±0˚.02,h60km±7km,
n58,σ0°.92/114,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.20**	**257**	P		**Pn**	**15 43 07.2**	**-0.2**
	baz=239							
TWC				S		**Sn**	**15 43 14.8**	**+0.5**
	baz=239							
EGS		**0.22**	**328**	*i* P		**Pn**	**15 43 07.3**	**-0.3**
	baz=324							
EGS				S		**Sn**	**15 43 15.1**	**+0.6**
	baz=324							
ILA	**Ilan**	**0.30**	**291**	*eP*		**Pn**	**15 43 07.9**	**-0.2**
	baz=281							
ILA				S		**Sn**	**15 43 16.2**	**+0.7**
	baz=281							
TWB1	**Santiao Chiao**	**0.36**	**349**	*i* P		**Pn**	**15 43 08.0**	**-0.6**
	baz=351							
TWB1				*i* S		**Sn**	**15 43 15.8**	**-0.5**
	baz=351							
TWE	**Neicheng**	**0.36**	**281**	*i* P		**Pn**	**15 43 08.6**	**0.0**
	baz=271							
TWE				*eS*		**Sn**	**15 43 17.1**	**+0.8**
	baz=271							
ENA	**Nanau**	**0.37**	**232**	*i* P		**Pn**	**15 43 08.8**	**+0.1**
	baz=223							
ENA				S		**Sn**	**15 43 17.7**	**+1.3**
	baz=223							
ENTT	**Nioudou**	**0.45**	**268**	P		**Pn**	**15 43 09.6**	**+0.2**
	baz=260							
ENTT				*eS*		**Sn**	**15 43 18.7**	**+1.0**
	baz=260							
NWF	**Wu-fen Shan**	**0.49**	**329**	P		**Pn**	**15 43 09.2**	**-0.7**
	baz=326							
NWF				S		**Sn**	**15 43 17.8**	**-0.8**
	baz=326							
TAP1	**Taipei**	**0.62**	**308**	*eP*		**Pn**	**15 43 11.0**	**-0.2**
	baz=304							
TAP1				*eS*		**Sn**	**15 43 20.2**	**-0.8**
	baz=304							
TAP	**Taipei**	**0.63**	**307**	*eP*		**Pn**	**15 43 10.5**	**-0.9**
	baz=304							
TAP				*eS*		**Sn**	**15 43 20.3**	**-0.9**
	baz=304							
NSK	**Sanguang**	**0.64**	**272**	*i* P		**Pn**	**15 43 11.1**	**-0.4**
	baz=266							
NSK				S		**Sn**	**15 43 21.2**	**-0.3**
	baz=266							
NNS	**Nan Shan**	**0.66**	**251**	*i* P		**Pn**	**15 43 11.7**	**-0.2**
	baz=246							
NNS				S		**Sn**	**15 43 22.1**	**+0.1**
	baz=246							
TWD	**Chiawan**	**0.71**	**217**	P		**Pn**	**15 43 11.9**	**-0.5**
	baz=212							
TWD				*eS*		**Sn**	**15 43 22.9**	**+0.1**
	baz=212							
TWY	**Chenhua**	**0.75**	**326**	*eP*		**Pn**	**15 43 12.5**	**-0.2**
	baz=324							
TWY				*eS*		**Sn**	**15 43 23.2**	**-0.5**
	baz=324							
HWA	**Hwalien**	**0.79**	**212**	*eP*		**Pn**	**15 43 13.0**	**-0.4**
	baz=208							
HWA				*eS*		**Sn**	**15 43 25.7**	**+1.0**
	baz=208							
JYNG	**Yonagunijimaku**	**0.83**	**104**	P		**Pn**	**15 43 13.6**	**-0.2**
JYNG				S		**Sn**	**15 43 25.5**	**0.0**
NCU	**National Centr**	**0.85**	**292**	*eP*		**Pn**	**15 43 13.6**	**-0.5**
	baz=288							
NCU				S		**Sn**	**15 43 26.0**	**-0.1**
	baz=288							
YOJ	**Yonaguni jima**	**0.89**	**102**	P		**Pn**	**15 43 14.3**	**-0.2**
YOJ				S		**Sn**	**15 43 26.6**	**-0.1**
TWT	**Tachien**	**0.90**	**244**	P		**Pn**	**15 43 15.0**	**+0.1**
	baz=240							
TWT				S		**Sn**	**15 43 27.4**	**+0.1**
	baz=240							
NSTT	**Nanjuang**	**0.96**	**269**	P		**Pn**	**15 43 15.1**	**-0.4**
	baz=265							
NSTT				S		**Sn**	**15 43 28.1**	**-0.4**
	baz=265							
ESL	**Shilin**	**1.01**	**215**	*eP*		**Pn**	**15 43 14.6**	**-1.6**
	baz=211							
ESL				*eS*		**Sn**	**15 43 27.8**	**-1.9**
	baz=211							
NSY	**Sanyi**	**1.21**	**259**	P		**Pn**	**15 43 18.6**	**-0.1**
	baz=255							
NSY				S		**Sn**	**15 43 34.5**	**+0.2**
	baz=255							
TWQ1	**Liyutan**	**1.21**	**256**	*eP*		**Pn**	**15 43 18.5**	**-0.3**
	baz=252							
TWQ1				*eS*		**Sn**	**15 43 34.5**	**+0.2**
	baz=252							
WDT	**Danda**	**1.23**	**224**	P		**Pn**	**15 43 18.9**	**-0.4**
	baz=221							
WDT				*eS*		**Sn**	**15 43 34.6**	**-0.7**
	baz=221							
SMLT	**Sun Moon Lake**	**1.31**	**234**	*eP*		**Pn**	**15 43 20.4**	**+0.2**
	baz=231							
SMLT				*eS*		**Sn**	**15 43 38.5**	**+1.7**
	baz=231							
EHY	**Hungye**	**1.33**	**211**	*eP*		**Pn**	**15 43 18.6**	**-1.8**
	baz=208							
EHY				*eS*		**Sn**	**15 43 38.5**	**+1.4**
	baz=208							
TYC	**Yuchr**	**1.33**	**236**	P		**Pn**	**15 43 20.9**	**+0.5**
	baz=233							
TYC				*eS*		**Sn**	**15 43 38.1**	**+1.0**
	baz=233							
TCU	**Taichung**	**1.36**	**248**	*eP*		**Pn**	**15 43 21.1**	**+0.3**
	baz=245							
TCU				*eS*		**Sn**	**15 43 38.1**	**+0.2**
	baz=245							
TWF1	**Yuli**	**1.47**	**208**	*eP*		**Pn**	**15 43 20.5**	**-1.8**
	baz=206							
TWF1				*eS*		**Sn**	**15 43 39.4**	**-1.2**
	baz=206							
WNT	**Mingjian**	**1.48**	**239**	*eP*		**Pn**	**15 43 23.5**	**+1.2**
	baz=236							
WNT				*eS*		**Sn**	**15 43 40.8**	**+0.1**
	baz=236							
YUS	**Yu-Shan**	**1.54**	**221**	P		**Pn**	**15 43 23.3**	**-0.3**
	baz=219							
YUS				*eS*		**Sn**	**15 43 42.7**	**-0.3**
	baz=219							
IRIF	**Iriomote-Funau**	**1.55**	**101**	P		**Pn**	**15 43 22.9**	**-0.5**
IRIF				S		**Sn**	**15 43 42.5**	**0.0**
ALS	**Alishan**	**1.62**	**225**	*eP*		**Pn**	**15 43 25.1**	**+0.6**
	baz=223							
ALS				*eS*		**Sn**	**15 43 45.8**	**+1.3**
	baz=223							
CHN5	**Tsauling**	**1.65**	**230**	*eP*		**Pn**	**15 43 25.2**	**+0.5**
	baz=228							
CHN5				*eS*		**Sn**	**15 43 46.2**	**+1.3**
	baz=228							
CHKT	**Chengkung**	**1.67**	**202**	*eP*		**Pn**	**15 43 23.4**	**-1.6**
	baz=201							
CHKT				*eS*		**Sn**	**15 43 42.4**	**-3.1**
	baz=201							
WGK	**Gukeng**	**1.67**	**235**	*eP*		**Pn**	**15 43 25.0**	**0.0**
	baz=232							
WGK				*eS*		**Sn**	**15 43 45.9**	**+0.5**
	baz=232							
HATJ	**Hateruma jima**	**1.70**	**110**	P		**Pn**	**15 43 25.5**	**+0.2**
ELDTW	**Lidau**	**1.74**	**213**	*eP*		**Pn**	**15 43 25.5**	**-0.6**
	baz=211							
ELDTW				*eS*		**Sn**	**15 43 47.2**	**-0.1**
	baz=211							
WTCT	**Ta-ch'eng**	**1.81**	**245**	*eP*		**Pn**	**15 43 27.4**	**+0.6**
	baz=242							
WTCT				*eS*		**Sn**	**15 43 47.6**	**-1.0**
	baz=242							
JKRS	**Kuro-shima**	**1.82**	**103**	P		**Pn**	**15 43 27.0**	**0.0**
JKRS				S		**Sn**	**15 43 49.2**	**+0.1**
CHN2	**Minshiung**	**1.83**	**233**	*eP*		**Pn**	**15 43 27.9**	**+0.8**
	baz=230							
CHN2				*eS*		**Sn**	**15 43 50.4**	**+1.2**
	baz=230							
CHN4	**Tsaushan**	**1.87**	**226**	*eP*		**Pn**	**15 43 28.7**	**+1.0**
	baz=224							
CHN4				*eS*		**Sn**	**15 43 51.5**	**+1.3**
	baz=224							
CHY	**Chiayi**	**1.89**	**233**	*eP*		**Pn**	**15 43 28.9**	**+1.0**
	baz=230							
CHY				*eS*		**Sn**	**15 43 50.4**	**-0.2**
	baz=230							
STYT	**Tauyuan**	**1.91**	**219**	*eP*		**Pn**	**15 43 29.2**	**+1.0**
	baz=217							
STYT				*eS*		**Sn**	**15 43 52.5**	**+1.3**
	baz=217							
JIJ	**Ishigaki jima**	**1.92**	**98**	P		**Pn**	**15 43 27.9**	**-0.4**
JIJ				S		**Sn**	**15 43 50.9**	**-0.5**
WTP	**Ta-pu**	**1.93**	**224**	*eP*		**Pn**	**15 43 29.0**	**+0.5**
	baz=221							
WTP				*eS*		**Sn**	**15 43 52.6**	**+0.9**
	baz=221							
WSF	**Szhu**	**1.96**	**239**	*eP*		**Pn**	**15 43 28.7**	**-0.2**
	baz=237							
WSF				*eS*		**Sn**	**15 43 52.2**	**-0.2**
	baz=237							
TWK	**Hsinying**	**2.00**	**226**	*eP*		**Pn**	**15 43 29.6**	**+0.2**
	baz=224							
TWK				*eS*		**Sn**	**15 43 54.4**	**+1.1**
	baz=224							
CHN1	**Nanshi**	**2.03**	**224**	*eP*		**Pn**	**15 43 30.2**	**+0.3**
	baz=222							
CHN1				*eS*		**Sn**	**15 43 54.8**	**+0.7**
	baz=222							
TWG	**Pinlang**	**2.04**	**207**	*eP*		**Pn**	**15 43 30.0**	**0.0**
	baz=205							
TWG				*eS*		**Sn**	**15 43 52.1**	**-2.2**
	baz=205							
JISG	**Ishigakijimahi**	**2.05**	**91**	P		**Pn**	**15 43 29.8**	**-0.3**
JISG				S		**Sn**	**15 43 55.1**	**+0.6**
SGST	**Jiashian**	**2.07**	**221**	*eP*		**Pn**	**15 43 30.9**	**+0.5**
	baz=219							
SGST				*eS*		**Sn**	**15 43 55.8**	**+0.7**
	baz=219							
ECL	**Taimali**	**2.29**	**207**	*eP*		**Pn**	**15 43 32.0**	**-1.4**
	baz=205							
ECL				*eS*		**Sn**	**15 43 59.1**	**-1.3**
	baz=205							
SSD	**Sandimen**	**2.31**	**215**	*eP*		**Pn**	**15 43 34.9**	**+1.2**
	baz=213							
SSD				*eS*		**Sn**	**15 44 03.2**	**+2.3**
	baz=213							
JTJ	**Tarama**	**2.40**	**90**	P		**Pn**	**15 43 35.5**	**+0.6**
JTJ				*eS*		**Sn**	**15 44 04.3**	**+1.1**
EAST	**Anshuo**	**2.52**	**206**	*eP*		**Pn**	**15 43 36.7**	**+0.2**
	baz=205							
EAST				*eS*		**Sn**	**15 44 05.6**	**-0.5**
	baz=205							
PNG	**Penghu**	**2.53**	**245**	*eP*		**Pn**	**15 43 37.2**	**+0.5**
	baz=243							
PNG				*eS*		**Sn**	**15 44 03.5**	**-2.8**
	baz=243							
JIRB	**Irabujima**	**2.83**	**86**	*eS*		**Sn**	**15 44 15.1**	**+1.3**

IDC ***07*** *15:46:43.6±1.1,46˚.44N×80˚.13E,h0km,mb3.6/3,*
mb1 3.7/6,mb1mx3.4/28,mbtmp3.6/6,ML2.8/3,Error
ellipse: s-maj=16.7km s-min=9.6km az=20.0
NNC ***07*** *15:46:48.0±0.5,46˚.72N×80˚.15E,h32km±6km,mb4.1,*
mpv3.7,Error ellipse: s-maj=2.8km s-min=2.1km az=7.0

ISC 07 15:46:44.1±0.7,46˚49N±0˚.05×80˚.20E±0˚.05,h10km,n20,
σ2°.43/26,mb3.7/3,15C-13D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**1.47**	**77**	P		**Pg**	**15 47 12.1**	**-0.3**
	14nm,0.3s,baz=266,slow=16,SNR=1242							
MK31				⇓S		**Sb**	**15 47 30.5**	**+0.1**
	451nm,0.6s							
MKAR	**Makanchi Array**	**1.47**	**77**	Pg		**Pg**	**15 47 12.1**	**-0.2**
	28nm,0.3s,baz=262,slow=16,SNR=1198							
MKAR				Lg		Lg	15 47 30.5	
	172nm,0.3s,baz=260,slow=26,SNR=118							
PDGK	**Podgornoye**	**3.20**	**189**	⇓Pn		**Pb**	**15 47 40.1**	**-0.9**
	3.5nm,0.6s							
PDGK				⇑Pg		Pg	15 47 50.4	+5.0
	9.6nm,0.4s							
PDGK				⇑Lg		Lg	15 48 35.4	
	106nm,0.5s							
KNDC	**Almaty**	**4.00**	**216**	⇑Lg		Lg	15 48 59.4	
	59nm,0.7s							
KURBB	**Kurchatov Arra**	**4.29**	**346**	⇑Pn		**Pn**	**15 47 47.3**	**-2.0**
	15nm,0.5s							
KURBB				⇓Pg		**Pb**	**15 48 01.9**	**+2.4**
	15nm,0.5s							
KURBB				⇓Lg		Lg	15 48 57.7	
	132nm,0.6s							
KURBB	**Kurchatov Arra**	**4.29**	**346**	Pn		**Pn**	**15 47 50.7**	**+1.3**
	0.5nm,0.3s,baz=162,slow=13,SNR=16							
KURBB				Lg		Lg	15 48 52.5	
	2.0nm,0.3s,baz=162,slow=30,SNR=8.7							
KURK	**Kurchatov**	**4.36**	**347**	⇓Pn		**Pn**	**15 47 49.3**	**-1.1**
	14nm,0.8s							
KURK				⇑Pg		**Pb**	**15 48 03.8**	**+3.0**
	14nm,0.8s							
KURK				⇑Lg		Lg	15 48 57.4	
	39nm,0.6s							
TKM2	**Tokmak 2**	**4.85**	**224**	⇓Pn		Pn	15 48 01.3	+4.0
	6.1nm,0.6s							
TKM2				⇑Lg		Lg	15 49 26.7	
	11nm,0.5s							
AAK	**Ala-Archa**	**5.61**	**229**	⇑Pn		Pn	15 48 10.7	+3.0
	4.4nm,0.5s							
AAK				⇓Lg		Lg	15 49 50.3	
	14nm,0.6s							
OTUK	**Ortayu**	**5.63**	**291**	⇓Pn		**Pn**	**15 48 07.9**	**+0.1**
	7.7nm,0.8s							
OTUK				⇓Sn		**Sn**	**15 49 10.9**	**-1.6**
	3.1nm,0.2s							
OTUK				⇑Lg		Lg	15 49 42.7	
	13nm,0.4s							
KK31	**Karatay Array**	**7.68**	**247**	⇑Pn		**Pn**	**15 48 38.6**	**+2.6**
	0.4nm,0.2s,baz=62,slow=14,SNR=28							
KK31					Sn	**Sn**	**15 50 04

	0.4nm,0.5s,baz=40,slow=4.7,SNR=5.8								
WRA	**Warramunga Arr**	**82.20**	**130**	P		**P**	**15 59 06.1**	**+0.7**
	0.7nm,1.1s,baz=335,slow=4.9,SNR=2.9								
ASAR	**Alice Springs**	**85.04**	**132**	P		**P**	**15 59 20.7**	**+0.8**
	0.4nm,1.0s,baz=322,slow=5.6,SNR=4.8								

IDC ***07*** *15:50:59.6±0.7, 35°.82S×73°.30W, h0km, mb4.4/9, mb1 4.5/12, mb1mx4.3/27, mbtmp4.4/12, ML4.6/3, MS3.8/10, Ms1 3.8/10, ms1mx3.6/25, Error ellipse: s-maj=25.5km s-min=15.9km az=112.0*

ISCJB ***07*** *15:51:03.0±0.7, 35°.70S±0°.06×73°.14W±0°.1, h33km, mb4.3/10, MS3.8/8, Error ellipse: s-maj=12.5km s-min=8.7km az=19.2*

GUC ***07*** *15:51:02.2±0.6, 35°.78S×73°.55W, h15km±14km, ML4.5*

NEIC ***07*** *15:51:03.8±5.5, 35°.70S×73°.31W, h28km±36km, mb4.3/3, ML4.5(GUC), Error ellipse: s-maj=26.4km s-min=13.4km az=72.0*

NEIC Felt [II] at Concepcion.

ISC 07 15:51:04.2±0.6, 35°.81S±0°.06×73°.43W±0°.08, h35km, n34, σ1ᵖ49/33, mb4.4/10, MS3.9/8, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**1.06**	**166**	*eP*	**Pn**	**15 51 20.6**	**-2.0**
CCSP				*eS*	**Sn**	**15 51 33.7**	**-2.5**
CCSP				AML	AML	15 51 40.8	
	comp=E,24μm,0.5s						
LNCH	**Linares**	**1.48**	**92**	⇓*iP*	**Pn**	**15 51 28.1**	**-0.3**
LNCH				*i* S	**Sn**	**15 51 47.5**	**+0.9**
TALC	**Talca**	**1.52**	**75**	*eP*	**Pn**	**15 51 27.7**	**-1.2**
TALC				*i* S	**Sn**	**15 51 47.3**	**-0.1**
NICH	**Los Niches**	**1.97**	**66**	*eP*	**Pn**	**15 51 35.0**	**-0.1**
CFAA	**Coronel Fontan**	**6.03**	**47**	Pn	**Pn**	**15 52 30.6**	**-0.3**
	comp=E,5.5nm,0.3s,baz=220,slow=12,SNR=179						
CFAA				Sn	**Sn**	**15 53 38.3**	**-0.4**
	comp=E,0.7nm,0.3s,baz=31,slow=18,SNR=2.4						
CFAA				Lg	Lg	15 54 07.4	
	comp=E,0.7nm,0.3s,baz=34,slow=18,SNR=3.7						
CFAA				LR	LR	15 55 13.3	
	comp=E,221nm,18.3s,baz=234,slow=43						
LCO	**Las Campanas**	**7.16**	**20**	*eP*	**Pn**	**15 52 44.2**	**-2.6**
	comp=E,34nm,0.6s						
TRQA	**Tornquist**	**9.44**	**107**	*eP*	**Pn**	**15 53 18.9**	**+1.2**
	comp=E,56nm,1.1s						
LVC	**Limon Verde**	**13.73**	**18**	Pn	**Pn**	**15 54 16.8**	**+0.2**
	comp=E,19nm,0.3s,baz=190,slow=17,SNR=4.1						
LVC				LR	LR	15 59 54.4	
	comp=E,1μm,19.3s,baz=118,slow=39						
LVC	**Limon Verde**	**13.73**	**18**	*eP*	**Pn**	**15 54 13.5**	**-3.1**
CPUP	**Villa Florida**	**16.70**	**60**	*eP*	Pn	15 54 49.5	-5.9
	comp=E,0.3nm,0.3s,baz=226,slow=12,SNR=6.3						
CPUP	**Villa Florida**	**16.70**	**60**	*eP*	**Pn**	**15 54 51.1**	**-4.3**
	comp=E,0.2nm,0.8s						
LPAZ	**La Paz**	**20.01**	**15**	P	Pn	15 55 36.0	-0.6
	comp=E,0.4nm,0.3s,baz=180,slow=5.9,SNR=33						
LPAZ	**La Paz**	**20.01**	**15**	*eP**	Pn	15 55 36.3	-0.4
	comp=E,11nm,0.8s						
SIV	**San Ignacio**	**22.61**	**32**	P	**P**	**15 56 00.8**	**-1.2**
	comp=E,8.4nm,0.6s,baz=228,slow=13,SNR=33						
NNA	**Nana**	**23.92**	**352**	LR	LR	16 03 18.5	
	comp=E,91nm,20.9s,baz=137,slow=31						
SAML	**Samuel**	**28.33**	**22**	P	**P**	**15 56 53.8**	**-1.0**
	comp=E,3.7nm,1.0s						
ATAH	**Atahualpa**	**28.90**	**350**	LR	LR	16 07 31.8	
	comp=E,52nm,19.2s,slow=34						
BDFB	**Brasilia**	**30.30**	**55**	P	**P**	**15 57 11.7**	**-0.8**
	comp=E,7.2nm,0.8s,baz=220,slow=10,SNR=7.8						
BDFB				LR	LR	16 11 23.8	
	comp=E,312nm,18.2s,baz=225,slow=40						
VNA1	**Neumayer--Stat**	**48.47**	**156**	P	**P**	**15 59 44.6**	**+1.8**
SNAA	**Sanae**	**50.35**	**157**	P	**P**	**15 59 58.2**	**+0.9**
	comp=E,4.8nm,0.8s						
QSPA	**South Pole Qui**	**54.43**	**180**	P	**P**	**16 00 29.0**	**+1.3**
	comp=E,6.5nm,0.9s,baz=156,slow=4.7						
QSPA	**South Pole Qui**	**54.43**	**180**	*eP*	**P**	**16 00 28.9**	**+1.2**
	comp=E,15nm,1.1s						
PPT	**Papeete**	**68.88**	**263**	LR	LR	16 25 57.2	
	comp=E,101nm,20.5s,baz=89,slow=30						
TXAR	**Lajitas Array**	**70.78**	**332**	P	**P**	**16 02 18.2**	**+1.1**
	comp=E,0.4nm,0.5s,baz=150,slow=7.6,SNR=6.7						
TXAR				LR	LR	16 28 23.5	
	comp=E,66nm,19.3s,baz=0.0,slow=32						
DBIC	**Dimbokro**	**76.83**	**72**	P	**P**	**16 02 53.3**	**+0.5**
	comp=E,8.3nm,0.7s,baz=191,slow=4.4,SNR=9.8						
DBIC				LR	LR	16 33 34.9	
	comp=E,69nm,20.5s,baz=174,slow=33						
BOSA	**Boshof**	**80.23**	**118**	P	**P**	**16 03 11.9**	**+0.3**
	comp=E,3.7nm,0.8s,baz=237,slow=7.8,SNR=4.7						
BOSA				LR	LR	16 35 32.4	
	comp=E,52nm,19.1s,baz=182,slow=33						
URZ	**Urewera**	**81.60**	**229**	LR	LR	16 34 32.6	
	comp=E,84nm,18.6s,baz=162,slow=32						
NVAR	**Mina Array Bea**	**84.73**	**326**	P	**P**	**16 03 35.8**	**+1.1**
	comp=E,0.5nm,0.8s,baz=140,slow=5.9,SNR=3.5						
TORD	**Torodi Ar. Bea**	**85.89**	**71**	P	**P**	**16 03 40.9**	**+0.2**
	comp=E,2.2nm,0.9s,baz=240,slow=4.6,SNR=7.7						
WRA	**Warramunga Arr**	**118.63**	**210**	PKP	**PKPdf**	**16 09 48.0**	**-1.0**
	comp=E,0.3nm,0.8s,baz=148,slow=1.5,SNR=3.0						
BRTR	**Keskin Array B**	**123.70**	**62**	PKP	**PKPdf**	**16 09 58.2**	**0.0**
	comp=E,0.5nm,0.7s,baz=251,slow=4.4,SNR=2.6						
ZALV	**Zalesovo Beam**	**156.36**	**33**	PKP	**PKPdf**	**16 10 54.7**	**+0.1**
	comp=E,1.0nm,0.7s,baz=270,slow=1.4,SNR=5.0						
ZALV				PKPab	**PKPab**	**16 11 24.1**	**+1.1**
	comp=E,4.0nm,0.7s,baz=300,slow=5.0,SNR=9.8						
MKAR	**Makanchi Array**	**158.80**	**51**	PKP	**PKPdf**	**16 10 58.1**	**+0.2**
	comp=E,0.7nm,0.8s,baz=322,slow=1.4,SNR=7.4						
MKAR				PKPab	**PKPab**	**16 11 34.2**	**+0.3**
	comp=E,0.9nm,0.9s,baz=298,slow=3.1,SNR=4.8						
SONM	**Songino Array**	**167.99**	**1**	PKPab	**PKPab**	**16 12 15.6**	**+1.5**
	comp=E,0.3nm,0.4s,baz=0.0,slow=4.8,SNR=2.8						

GUC 07 15:52:21.0±0.5, 34°.44S×71°.97W, h19km±4km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.67**	**44**	*eP*	Pb	15 52 33.3	-0.7
NICH	**Los Niches**	**0.83**	**133**	*i* P	Pb	15 52 36.2	-0.5
NICH				*i* S	Sb	15 52 47.3	-0.3
NICH				AML	AML	15 52 50.0	
	comp=E,4μm,0.7s						
TALC	**Talca**	**0.99**	**164**	*eP*	Pb	15 52 38.5	-1.1
TALC				*i* S	Sb	15 52 51.7	-0.6
TALC				AML	AML	15 52 55.6	
	comp=E,3μm,0.1s						
LNCH	**Linares**	**1.43**	**168**	*i* S	Sn	15 53 04.4	+0.1

MEX 07 15:59:21.0±0.7, 18°.42N×102°.71W, h65km±14km, MD3.9, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.62**	**258**	*i* P	Pn	15 59 33.0	-1.6
MMIG				*i* S	Sn	15 59 43.1	-1.5
URUA	**Uruapan**	**1.16**	**31**	*eP*	Pn	15 59 40.0	-1.6
URUA				*i* S	Sn	15 59 54.6	-2.4
ZIIG	**Zihuatanejo**	**1.44**	**124**	*eP*	Pn	15 59 44.2	-0.7
ZIIG				*eS*	Sn	16 00 00.4	-2.6
MOIG	**Morelia**	**1.91**	**49**	*eP*	Pn	15 59 50.0	-1.6
MOIG				*eS*	Sn	16 00 12.8	-2.0
ARIG	**Puente Sto Nin**	**2.25**	**93**	*eP*	Pn	15 59 54.2	-1.8
ARIG				*i* S	Sn	16 00 20.9	-1.8

KMA 07 16:15:27.9±1.0, 37°.73N×129°.55E, h13km±4km, 4C-16D, Error ellipse: s-maj=6.6km s-min=3.0km az=57.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSJMJ	**Jumunjin**	**0.65**	**284**	⇓P	Pg	16 15 40.5	-0.1
KSJMJ				⇓S	Sb	16 15 49.7	-0.3
KSJMJ	**Jumunjin**	**0.65**	**284**	⇓P	Pg	16 15 40.5	-0.1
KSJMJ				⇓S	Sb	16 15 49.7	-0.3
KSDGY	**Daegwallycong**	**0.70**	**267**	⇓P	Pg	16 15 41.7	0.0
KSDGY				⇓S	Sb	16 15 51.4	-0.3
KSDGY	**Daegwallycong**	**0.70**	**267**	⇓P	Pg	16 15 41.7	0.0
KSDGY				⇓S	Sb	16 15 51.4	-0.3
KSTBA	**Taebaek**	**0.77**	**218**	⇓P	Pb	16 15 43.3	0.0
KSTBA				⇓S	Sb	16 15 54.1	+0.2
KSULJ	**Uljin**	**1.03**	**186**	⇓P	Pb	16 15 47.3	-0.3
KSULJ				⇓S	Sn	16 16 01.9	-0.5
SEHB	**SEOHWA**	**1.16**	**298**	⇓P	Pg	16 15 50.2	-0.1
SEHB				⇓S	Sb	16 16 04.6	-0.3
SEHB	**SEOHWA**	**1.16**	**298**	⇓P	Pg	16 15 50.2	-0.1
SEHB				⇓S	Sb	16 16 04.6	-0.3
KSCHC	**Chuncheon**	**1.38**	**272**	⇓P	Pn	16 15 52.2	-0.7
KSCHC				⇑S	Sg	16 16 12.2	-0.2
KSCHC	**Chuncheon**	**1.38**	**272**	⇓P	Pn	16 15 52.2	-0.7
KSCHC				⇑S	Sg	16 16 12.2	-0.2

IDC 07 16:28:29.0±8.2, 18°.40S×179°.80E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/29, mbtmp3.6/3, Error ellipse: s-maj=364.2km s-min=35.9km az=144.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.87**	**260**	P	P	16 36 28.8	-0.7
	0.6nm,1.0s,baz=95,slow=6.7,SNR=2.5						
ASAR	**Alice Springs**	**43.02**	**255**	P	P	16 36 31.0	+0.3
	0.6nm,0.6s,baz=89,slow=8.0,SNR=9.9						
ILAR	**Eielson Array**	**86.76**	**14**	P	P	16 41 14.6	+0.1
	0.3nm,0.5s,baz=215,slow=4.2,SNR=3.6						

NNC 07 16:44:30.4±3.6, 38°.06N×71°.42E, h0km, mb3.8, mpv3.4, 7C-1D, Error ellipse: s-maj=39.5km s-min=10.8km az=165.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.17**	**291**	⇑Pn	Pn	16 45 06.7	-1.2
	78nm,0.4s						
DZET				⇑Sn	Sb	16 45 37.5	-0.7
	75nm,0.4s						
SFK	**Sufi-Kurgan**	**2.53**	**39**	⇓Pn	Pn	16 45 12.5	-0.6
	8.2nm,0.3s						
SFK				⇑Sn	Sb	16 45 47.0	-2.0
	26nm,0.4s						
KK31	**Karatay Array**	**5.08**	**352**	⇑Pn	Pn	16 45 45.2	-2.7
	0.5nm,0.3s,baz=176,slow=13,SNR=4.6						
KK31				⇑Sn	Sn	16 46 45.8	-1.5
	2.5nm,0.6s,baz=178,slow=22,SNR=3.6						
AAK	**Ala-Archa**	**5.13**	**26**	⇑Pn	Pn	16 45 48.8	0.0
	3.4nm,0.6s						
TKM2	**Tokmak 2**	**5.80**	**32**	⇑Pn	Pn	16 45 58.6	+0.6
	1.0nm,0.6s						

IDC ***07*** *17:02:57.0±0.9, 40°.40N×72°.51E, h0km, mb3.8/9, mb1 3.8/15, mb1mx3.7/31, mbtmp3.7/15, ML3.1/6, MS2.7/2, Ms1 2.7/2, ms1mx2.4/43, Error ellipse: s-maj=16.9km s-min=14.8km az=146.0*

NNC ***07*** *17:03:01.7±0.6, 40°.58N×72°.43E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=6.4km s-min=3.6km az=48.0*

KRNET ***07*** *17:03:03.4±0.1, 40°.56N×72°.44E, h30km, mb3.8*

BJI ***07*** *17:03:06.2, 40°.33N×72°.97E, h5km, mb3.8/1, ML3.7/5*

ISC 07 17:03:01.4±1.4, 40°.59N±0°.03×72°.42E±0°.03, h11km±9km, n55, σ2ˢ03/66, mb3.8/10, 29C-14D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FRG	**Fergana**	**0.53**	**247**	*eP*	**Pb**	**17 03 13.8**	**+1.1**
	baz=251						
FRG				*eS*	**Sb**	**17 03 22.1**	**+1.7**
	baz=251						
SFK	**Sufi-Kurgan**	**1.01**	**125**	⇓P	**Pg**	**17 03 20.7**	**-0.2**
	159nm,0.3s						
SFK				⇑S	**Sb**	**17 03 34.7**	**+0.2**
	2μm,0.4s						
SFK	**Sufi-Kurgan**	**1.01**	**125**	*eP*	**Pg**	**17 03 20.7**	**-0.2**
	baz=124						
SFK				*eS*	**Sb**	**17 03 34.6**	**+0.2**
	baz=124						
BTK	**Batken**	**1.34**	**247**	⇓*iP*	**Pn**	**17 03 26.6**	**+0.5**
	baz=248						
BTK				⇓*eS*	**Sn**	**17 03 44.7**	**+0.8**
	baz=248						
AML	**Almayashu**	**1.81**	**32**	P	**Pn**	**17 03 34.0**	**+1.1**
	SNR=150						
AML	**Almayashu**	**1.81**	**32**	⇑*iP*	**Pn**	**17 03 33.9**	**+0.9**
	baz=30						
AML				⇑*iS*	**Sn**	**17 03 57.7**	**+1.6**
	baz=30						
UCH	**Uchtor**	**2.27**	**43**	P	**Pn**	**17 03 40.7**	**+1.4**
	SNR=40						
UCH	**Uchtor**	**2.27**	**43**	⇑*iP*	**Pn**	**17 03 40.7**	**+1.4**
	baz=42						
UCH				⇑*iS*	**Sn**	**17 04 09.2**	**+1.7**
	baz=42						
EKS2	**Erkin-Say**	**2.31**	**26**	P	**Pn**	**17 03 41.2**	**+1.7**
	SNR=30						
EKS2	**Erkin-Say**	**2.31**	**26**	⇑*iP*	**Pn**	**17 03 41.1**	**+1.7**
	baz=25						
EKS2				⇑*iS*	**Sb**	**17 04 10.7**	**-0.9**
	baz=25						
AAK	**Ala-Archa**	**2.56**	**37**	P	**Pn**	**17 03 44.9**	**+1.8**
	SNR=20						
AAK	**Ala-Archa**	**2.56**	**37**	⇑Pn	**Pn**	**17 03 44.9**	**+1.8**
	16nm,0.5s						
AAK				⇑Pg	**Pg**	**17 03 49.7**	**-0.9**
	188nm,0.7s						
AAK				⇑Sn	**Sb**	**17 04 20.0**	**+0.8**
	241nm,0.7s						
AAK	**Ala-Archa**	**2.56**	**37**	⇑*iP*	**Pn**	**17 03 44.8**	**+1.7**
	baz=36						
AAK				⇑*iS*	**Sn**	**17 04 16.9**	**+2.5**
	baz=36						
KZA	**Kyzart**	**2.60**	**54**	P	**Pn**	**17 03 45.5**	**+1.8**
	SNR=56						
KZA	**Kyzart**	**2.60**	**54**	⇑*iP*	**Pn**	**17 03 45.4**	**+1.7**
	baz=53						
KZA				⇑*iS*	**Sn**	**17 04 18.6**	**+3.1**
	baz=53						
KBK	**Karagaybulak**	**2.80**	**42**	P	**Pn**	**17 03 48.8**	**+2.4**
	SNR=29						
KBK	**Karagaybulak**	**2.80**	**42**	⇓*iP*	**Pn**	**17 03 48.6**	**+2.3**
	baz=41						
KBK				⇓*iS*	**Sb**	**17 04 24.5**	**-1.5**
	baz=41						
KK31	**Karatay Array**	**2.89**	**331**	Pn	**Pn**	**17 03 48.4**	**+1.1**
	11nm,0.6s,baz=136,slow=13,SNR=897						
KK31				⇑Pg	**Pb**	**17 03 54.4**	**+1.5**
	65nm,0.6s,baz=135,slow=15,SNR=37						
KK31				⇑Lg	Lg	17 04 30.9	
	55nm,0.3s,baz=159,slow=31,SNR=6.5						
KSH	**Kashi**	**2.93**	**110**	Pg	**Pn**	**17 03 48.9**	**+0.8**
KSH				Sn	**Sn**	**17 04 18.5**	**-4.8**
KSH				SMN			
	540nm,0.4s						
KSH				SME			
	350nm,0.3s						
CHMS	**Chumysh**	**2.97**	**35**	P	**Pn**	**17 03 50.3**	**+1.8**
	SNR=14						
CHMS	**Chumysh**	**2.97**	**35**	⇑*iP*	**Pn**	**17 03 50.3**	**+1.8**
	baz=35						
CHMS				⇑*iS*	**Sn**	**17 04 26.1**	**+1.9**
	baz=35						
USP	**Ospenovka**	**3.09**	**29**	P	**Pn**	**17 03 51.6**	**+1.4**
	SNR=12						
DZET	**Dzherino**	**3.30**	**238**	⇑Pn	**Pn**	**17 03 56.0**	**+2.9**
	60nm,0.4s						
DZET				⇑Sn	**Sn**	**17 04 36.2**	**+3.9**
	405nm,0.5s						
ULHL	**Ulahol**	**3.31**	**59**	P	**Pn**	**17 03 54.9**	**+1.5**
	SNR=17						
TKM2	**Tokmak 2**	**3.33**	**45**	P	**Pn**	**17 03 55.2**	**+1.6**
	SNR=26						
TKM2	**Tokmak 2**	**3.33**	**45**	⇑Pn	**Pn**	**17 03 55.2**	**+1.6**
	6.1nm,0.3s						
TKM2				⇑Pg	**Pb**	**17 04 02.6**	**+2.1**
	34nm,0.4s						
TKM2				⇑Lg	Lg	17 04 43.9	
	99nm,0.5s						
KNDC	**Almaty**	**4.29**	**51**	⇑Pg	**Pb**	**17 04 19.2**	**+2.4**
	81nm,0.7s						
KNDC				⇓Lg	Lg	17 05 14.9	
	162nm,0.6s						
PDGK	**Podgornoye**	**5.93**	**60**	⇑Pn	**Pn**	**17 04 29.9**	**+0.8**
	2.8nm,0.7s						
PDGK				⇓Pg	Pg	17 04 51.2	-3.8
	17nm,0.6s						
PDGK				⇓Lg	Lg	17 06 08.9	
	48nm,0.6s						
CEP	**Cherat**	**6.77**	**184**	P	Pn	17 04 44.7	+3.9
CEP				S	**Sn**	**17 06 01.0**	**+3.0**
CHCP	**Chirak Chowk**	**6.95**	**174**	P	**Pn**	**17 04 45.9**	**+2.6**
OTUK	**Ortayu**	**7.65**	**360**	⇑Lg	Lg	17 07 02.8	
	22nm,0.7s						
THW	**Thamme Wali**	**7.80**	**184**	P	Pn	17 04 58.8	+3.9
MK31	**Makanchi Array**	**9.46**	**46**	⇑Pn	**Pn**	**17 05 19.3**	**+1.7**
	3.3nm,0.7s,baz=234,slow=14,SNR=4.6						
MK31				⇑Lg	Lg	17 08 00.7	
	8.5nm,1.0s,baz=232,slow=22,SNR=3.5						
MKAR	**Makanchi Array**	**9.46**	**46**	Pn	**Pn**	**17 05 16.9**	**-0.7**
	0.1nm,0.3s,baz=234,slow=14,SNR=5.3						
MKAR				Lg	Lg	17 08 03.0	
	0.4nm,0.3s,baz=238,slow=29,SNR=5.3						
KURBB	**Kurchatov Arra**	**10.90**	**21**	⇓Pn	**Pn**	**17 05 35.6**	**-1.7**
	1.9nm,0.6s						
KURBB				⇓Lg	Lg	17 08 45.0	
	26nm,0.7s						
KURBB	**Kurchatov Arra**	**10.90**	**21**	Pn	**Pn**	**17 05 36.1**	**-1.2**
	0.1nm,0.3s,baz=218,slow=12,SNR=13						
KURBB				Lg	Lg	17 08 45.1	
	0.2nm,0.3s,baz=211,slow=28,SNR=8.2						
GEYT	**Alibeck**	**11.40**	**261**	Pn	Pn	17 05 41.5	-2.7
	0.3nm,0.3s,baz=76,slow=12,SNR=2.8						
GEYT				Sn	Sn	17 07 44.7	-7.0
	1.2nm,0.3s,baz=105,slow=17,SNR=4.0						
AB31	**Akbulak array**	**12.37**	**319**	Pn	Pn	17 05 54.3	-3.0
	1.8nm,0.6s,baz=124,slow=14,SNR=24						
BVA0	**Borovoye Array**	**12.52**	**354**	⇓Pn	Pn	17 06 03.3	+4.0
	1.6nm,0.6s,baz=152,slow=12,SNR=5.0						
BVA0				⇓Lg	Lg	17 09 40.5	
	18nm,1.2s,baz=239,slow=6.7,SNR=4.4						
BVAR	**Borovoye Array**	**12.52**	**354**	Pn	Pn	17 05 56.4	-2.9
	0.1nm,0.3s,baz=181,slow=13,SNR=2.8						
BVAR				Sn	**Sn**	**17 08 21.0**	**+2.3**
	0.2nm,0.3s,baz=158,slow=24,SNR=2.9						
BVAR				Lg	Lg	17 09 39.3	
	0.5nm,0.3s,baz=176,slow=25,SNR=5.1						
BRVK	**Borovoye**	**12.56**	**354**	⇓Lg	Lg	17 09 37.2	
	27nm,1.2s						
AKTO	**Aktyubinsk**	**14.08**	**319**	⇑Pn	Pn	17 06 18.1	-2.6
	3.2nm,0.7s						
AKTO				⇓Sn	**Sn**	**17 08 58.8**	**+2.0**
	4.3nm,1.1s						
AKTO	**Aktyubinsk**	**14.08**	**319**	Pn	**Pn**	**17 06 18.3**	**-2.4**
	0.5nm,0.3s,baz=114,slow=15,SNR=8.3						
AKTO				Sn	Sn	17 08 44.9	-12
	0.1nm,0.3s,baz=345,slow=20,SNR=2.0						
ZALV	**Zalesovo Beam**	**15.76**	**28**	Pn	**Pn**	**17 06 42.1**	**-1.0**
	0.1nm,0.3s,baz=216,slow=12,SNR=4.7						
ZALV				LR	LR	17 12 15.7	
	comp=Z,26nm,18.6s,baz=252,slow=35						
SONM	**Songino Array**	**25.25**	**62**	P	**P**	**17 08 23.4**	**-4.1**
	0.4nm,0.4s,baz=279,slow=12,SNR=2.9						
BRTR	**Keskin Array B**	**29.49**	**281**	P	**P**	**17 09 05.4**	**-0.3**
	0.4nm,0.6s,baz=91,slow=9.4,SNR=3.1						
HHC	**Hu-ho-hao-te**	**29.50**	**77**	*eP*	**P**	**17 09 08.1**	**+2.4**
HHC				PP	**PnPn**	**17 10 02.8**	**+3.0**
HHC				S	**S**	**17 14 01.0**	**+0.9**
HHC				SS	**SnSn**	**17 15 31.1**	**+3.8**
HHC				pmax	pmax		
	comp=Z,20nm,1.1s						
HHC				pmax	pmax		
	comp=Z,37nm,5.5s						
HHC				LR	LR		
	comp=N,77nm,14.5s						
HHC				LR	LR		
	comp=E,130nm,14.9s						
HHC				LR	LR		
	comp=Z,79nm,15.1s						
FINES	**FINESS Array B**	**34.81**	**322**	P	**P**	**17 09 51.0**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=120,slow=11,SNR=6.1						
ARCES	**ARCESS Array B**	**37.84**	**335**	P	**P**	**17 10 16.0**	**-1.7**
	comp=Z,1.9nm,0.3s,baz=102,slow=8.4,SNR=3.1						
TGY	**Tagaytay City**	**49.73**	**108**	LR	LR	17 35 36.7	
	comp=Z,7.6nm,19.7s,baz=206,slow=40						
TORD	**Torodi Ar. Bea**	**66.96**	**268**	P	**P**	**17 13 51.7**	**-2.6**
	comp=Z,0.9nm,0.6s,baz=53,slow=4.9,SNR=8.0						
ILAR	**Eielson Array**	**70.55**	**17**	P	**P**	**17 14 13.4**	**-2.5**
	comp=Z,0.6nm,0.8s,baz=318,slow=5.1,SNR=7.3						
YKA	**Yellowknife Ar**	**77.11**	**3**	P	**P**	**17 14 53.0**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=353,slow=5.6,SNR=9.9						
WRA	**Warramunga Arr**	**83.25**	**123**	P	P	17 15 25.0	-3.2
	comp=Z,0.5nm,0.9s,baz=314,slow=7.2,SNR=5.0						
ASAR	**Alice Springs**	**85.72**	**126**	P	P	17 15 37.5	-3.1
	comp=Z,0.6nm,0.7s,baz=315,slow=5.0,SNR=12						

IDC 07 17:19:19.4±3.4, 6°.30S×150°.90E, h0km, mb3.3/2, mb1 3.7/2, mb1mx3.2/40, mbtmp3.4/2, Error ellipse: s-maj=137.1km s-min=45.3km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.04**	**228**	P	P	17 24 05.7	+0.6
	0.6nm,0.4s,baz=52,slow=9.9,SNR=8.1						
ASAR	**Alice Springs**	**23.78**	**222**	P	P	17 24 33.2	-0.7
	0.6nm,0.6s,baz=56,slow=9.2,SNR=20						
TORD	**Torodi Ar. Bea**	**148.92**	**285**	PKPbc	PKPbc	17 39 10.0	-0.3
	0.3nm,0.6s,baz=82,slow=3.3,SNR=2.7						

KMA 07 17:23:57.0±0.5, 38°.20N×127°.66E, h2km±25km, 12C-15D, Error ellipse: s-maj=3.4km s-min=1.6km az=144.0, North Korea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSCWO	**Cheorwon**	**0.16**	**223**	⇓P	Pg	17 24 00.2	0.0
KSCWO				⇓S	Sg	17 24 02.5	+0.1
KSCWO	**Cheorwon**	**0.16**	**223**	⇓P	Pg	17 24 00.2	0.0
KSCWO				⇓S	Sg	17 24 02.5	+0.1
**

TNTI	**Ternate**	**1.97**	**74**	P	**Pn**	**17 25 53.4**	**+0.5**
LBMI	**Labuha**	**2.19**	**113**	P	**Pn**	**17 25 56.5**	**+0.5**
LBMI				S	**Sn**	**17 26 22.6**	**+0.7**
SANI	**Sanana**	**2.31**	**167**	P	**Pn**	**17 25 57.7**	**+0.2**
SANI				S	**Sn**	**17 26 23.2**	**-1.5**
LUWI	**Luwuk**	**2.98**	**245**	P	Pn	17 26 10.6	+3.8
LUWI				S	Sn	17 26 19.3	-22
MRSI	**Marisa**	**3.55**	**274**	P	**Pn**	**17 26 16.1**	**+1.5**
NLAI	**Namlea**	**3.79**	**155**	P	**Pn**	**17 26 18.5**	**+0.5**
APSI	**Ampana**	**3.99**	**254**	P	Pn	17 26 25.2	+4.6
MSAI	**Masohi**	**4.94**	**136**	P	**Pn**	**17 26 34.6**	**+0.9**
MSAI				S	**Sn**	**17 27 30.9**	**+1.3**
MPSI	**Mapaga** 16nm,1.0s	**5.58**	**271**	P	**Pn**	**17 26 45.4**	**+2.9**
PCI	**Palu** 39nm,1.1s,534nm0.1nm	**5.75**	**259**	P	**Pn**	**17 26 47.8**	**+2.9**
SWI	**Sorong**	**5.88**	**101**	P	**Pn**	**17 26 47.1**	**+0.5**
SIJI	**Sorong** 0.7nm,0.3s,baz=306,slow=19,SNR=3.7	**5.88**	**101**	P	**Pn**	**17 26 48.8**	**+2.1**
TTSI	**Tana Toraja**	**6.52**	**240**	P	Pn	17 26 59.8	+4.4
SPSI	**Sidrap Palu**	**7.06**	**234**	P	**Pn**	**17 27 05.4**	**+2.6**
KAPI	**Kappang** 2.0nm,0.3s,baz=48,slow=16,SNR=12	**7.73**	**228**	P	**Pn**	**17 27 14.4**	**+2.4**
KAPI				LR	LR	17 30 47.4	
	comp=Z,43nm,19.3s,baz=134,slow=42						
WRA	**Warramunga Arr** 4.0nm,0.5s,baz=339,slow=9.8,SNR=18	**21.83**	**157**	P	**P**	**17 30 09.2**	**-1.3**
ASAR	**Alice Springs** 1.5nm,0.6s,baz=339,slow=7.8,SNR=4.6	**25.11**	**162**	P	**P**	**17 30 42.4**	**0.0**
ASAR				PcP	**PcP**	**17 34 15.4**	**-0.6**
	0.3nm,1.0s,baz=3.1,slow=2.4,SNR=2.8						
STKA	**Stephens Creek** 1.4nm,0.7s,baz=342,slow=9.4,SNR=4.9	**35.38**	**156**	P	**P**	**17 32 12.4**	**-0.7**
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=131,slow=7.1,SNR=2.0	**59.76**	**327**	P	**P**	**17 35 21.6**	**-0.4**
KURBB	**Kurchatov Arra** 0.4nm,0.5s,baz=130,slow=6.5,SNR=5.6	**64.04**	**329**	P	**P**	**17 35 49.1**	**-1.5**

*ISCJB **07** 17:44:14.5±0.4,23.0°S±0.06°×174.7°W±0.08,h45km, mb4.5/26,MS3.6/5,Error ellipse: s-maj=11.1km s-min=6.8km az=29.2*

*IDC **07** 17:44:16.9±0.6,22.7°S×174.7°W,h48km±4km,mb4.2/17, mb1 4.4/17,mb1mx4.3/26,mbtmp4.5/17,MS3.6/5, Ms1 3.6/5,ms1mx3.2/26,Error ellipse: s-maj=19.7km s-min=14.6km az=154.0*

*NEIC **07** 17:44:16.7±1.5,23.08S×174.67W,h56km±13km,mb4.7/8, Error ellipse: s-maj=13.0km s-min=10.7km az=122.0*

ISC 07 17:44:16.2±0.6,22.99S±0.07°×174.68W±0.10,h47km±4km, h47km:pP-P,n54,σ1s33/60,mb4.6/26,MS3.5/5,2D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue** baz=5.3,SNR=21	**5.91**	**50**	P	Pn	17 45 30.6	-11
RAO	**Raoul Island** 79nm,0.3s,baz=99,slow=19,SNR=3.7	**6.88**	**204**	P	**Pn**	**17 45 54.1**	**-0.5**
RAO				S	**Sn**	**17 47 12.0**	**+0.5**
	48nm,0.3s,baz=180,slow=20,SNR=3.1						
MSVF	**Nonsavu** 26nm,0.6s	**8.59**	**306**	*eP*	**Pn**	**17 46 19.9**	**+1.7**
RAR	**Rarotonga** 9.4nm,0.3s,baz=254,slow=9.6,SNR=14	**13.93**	**86**	P	Pn	17 47 20.6	-10
URZ	**Urewera** 0.3nm,0.3s,baz=126,slow=19,SNR=2.4	**16.77**	**203**	P	**Pn**	**17 48 03.7**	**-4.0**
URZ				S	Sn	17 50 58.0	-15
	0.4nm,0.3s,baz=302,slow=19,SNR=3.4						
RPZ	**Rata Peaks** 8.5nm,0.7s,baz=304,slow=3.6,SNR=3.5	**23.79**	**206**	P	**P**	**17 49 21.6**	**-3.0**
PPT	**Papeete** comp=Z,100nm,18.2s,baz=308,slow=34	**24.14**	**82**	LR	LR	17 57 59.4	
RMQ	**Roma** baz=34,SNR=5.4	**33.32**	**256**	P	**P**	**17 50 51.4**	**+1.7**
CTAO	**Charters Tower** 10nm,0.6s	**36.38**	**267**	*eP*	**P**	**17 51 15.6**	**-0.7**
QLP	**Quilpie** baz=38,SNR=7.0	**37.36**	**256**	P	**P**	**17 51 26.3**	**+1.8**
STKA	**Stephens Creek** 1.9nm,0.7s,baz=93,slow=11,SNR=7.7	**39.59**	**247**	P	**P**	**17 51 42.5**	**-0.6**
STKA				LR	LR	18 06 40.2	
	comp=Z,163nm,18.0s,baz=31,slow=34						
HTT	**Hallett** baz=42,SNR=4.8	**41.89**	**245**	P	**P**	**17 52 01.7**	**-0.5**
ASAR	**Alice Springs** 4.1nm,0.8s,baz=99,slow=7.0,SNR=56	**47.00**	**259**	P	**P**	**17 52 42.5**	**-0.7**
ASAR				LR	LR	18 12 10.7	
	comp=Z,150nm,18.6s,baz=88,slow=36						
WRA	**Warramunga Arr** 6.2nm,0.7s,baz=96,slow=8.4,SNR=37	**47.35**	**264**	P	**P**	**17 52 44.4**	**-1.5**
JAY	**Jayapura** 4.8nm,0.7s,baz=120,slow=8.1	**47.76**	**289**	P	**P**	**17 52 47.5**	**-1.6**
KDU	**Kakadu** baz=52,SNR=3.2	**51.10**	**272**	P	**P**	**17 53 13.2**	**-1.3**
WRKA	**Warakurna** baz=52,SNR=32	**51.80**	**256**	P	**P**	**17 53 19.1**	**-0.6**
KNRA	**Kununurra** baz=54,SNR=8.8	**53.59**	**267**	P	**P**	**17 53 32.7**	**-0.4**
GUMO	**Guam** comp=Z,20nm,18.2s,baz=95,slow=36	**53.76**	**309**	LR	LR	18 16 37.0	
VNDA	**Vanda** 1.1nm,1.0s,baz=357,slow=7.0,SNR=8.1	**55.74**	**186**	P	**P**	**17 53 49.9**	**+2.2**
SIJI	**Sorong** 17nm,0.7s,baz=108,slow=9.6,SNR=12	**56.85**	**285**	P	**P**	**17 53 55.3**	**-1.3**
SIJI				pP	**pP**	**17 54 08.5**	**-1.2**
	15nm,0.7s,baz=72,slow=5.0,SNR=5.8						
MEEK	**Meekatharra** baz=61,SNR=6.5	**60.04**	**252**	P	**P**	**17 54 18.9**	**+0.2**
MBWA	**Marble Bar**	**60.34**	**258**	*eP*	**P**	**17 54 21.0**	**+0.2**
MORW	**Morawa** baz=62,SNR=8.9	**61.76**	**248**	P	**P**	**17 54 31.0**	**+0.7**
QSPA	**South Pole Qui** 18nm,1.3s	**67.09**	**180**	*eP*	**P**	**17 55 05.9**	**+1.2**
JNU	**Nakatsue** 6.7nm,0.9s,baz=151,slow=7.8,SNR=2.3	**76.20**	**315**	P	**P**	**17 55 59.4**	**-0.3**
JNU				pP	**PcP**	**17 56 12.4**	**+0.8**
	7.0nm,0.9s,baz=100,slow=3.9,SNR=3.1						
PETK	**Petropavlovsk-** 9.0nm,0.8s,baz=131,slow=9.8,SNR=9.8	**79.49**	**343**	P	**P**	**17 56 17.6**	**+0.1**
PETK				pP	**pP**	**17 56 31.1**	**-0.2**
	7.5nm,0.8s,baz=132,slow=8.5,SNR=5.6						
YSS	**Yuzh-Sakhalins** 11nm,0.8s	**79.51**	**332**	*eP*	**P**	**17 56 18.2**	**+0.5**
WAKR	**Walker** 9.1nm,1.1s	**80.13**	**41**	*eP*	**P**	**17 56 21.7**	**+0.1**
MAW	**Mawson** 8.3nm,0.9s,baz=150,slow=5.7,SNR=5.7	**80.26**	**199**	P	**P**	**17 56 23.8**	**+2.2**
NVAR	**Mina Array Bea** 3.4nm,0.7s,baz=223,slow=9.0,SNR=24	**80.77**	**41**	P	**P**	**17 56 24.9**	**-0.2**
NVAR				pP	**pP**	**17 56 38.2**	**-0.6**
	1.2nm,0.7s,baz=226,slow=7.4,SNR=3.5						
KSRS	**Korea Array** 3.8nm,1.0s,baz=134,slow=6.0,SNR=9.8	**80.79**	**317**	P	**P**	**17 56 26.2**	**+1.4**
KSRS				LR	LR	18 27 46.9	
	comp=Z,18nm,18.9s,baz=114,slow=32						
KSAR	**Wonju Array Be**	**80.81**	**317**	P	**P**	**17 56 26.2**	**+1.3**
TPH	**Tonopah**	**81.22**	**42**	*eP*	**P**	**17 56 26.1**	**-1.4**
USRK	**Ussuriysk Ar.** 1.7nm,0.6s,baz=179,slow=7.6,SNR=6.9	**82.76**	**324**	P	**P**	**17 56 35.7**	**+0.6**
USRK				pP	**pP**	**17 56 50.0**	**+1.1**
	3.9nm,0.9s,baz=132,slow=5.4,SNR=5.3						
MSU	**Marysvale** 6.6nm,1.1s	**84.67**	**44**	*eP*	**P**	**17 56 45.7**	**+0.4**
SYO	**Syowa Base**	**84.96**	**192**	*eP*	P	17 56 39.8	-6.2
MFID	**Camas Ranch** 3.6nm,0.8s	**85.33**	**39**	*eP*	**P**	**17 56 48.3**	**-0.1**
BMO	**Blue Mountains** 6.3nm,1.4s	**85.39**	**37**	*eP*	**P**	**17 56 48.3**	**-0.3**
TXAR	**Lajitas Array** 3.9nm,0.9s,baz=207,slow=7.8,SNR=34	**85.84**	**56**	P	**P**	**17 56 51.4**	**+0.1**
TXAR				pP	**pP**	**17 57 03.9**	**-1.2**
	1.6nm,0.9s,baz=206,slow=8.2,SNR=4.9						
VNA1	**Neumayer--Stat**	**86.13**	**176**	P	**P**	**17 56 52.6**	**+0.8**
TRF	**Thorofare Moun** 6.5nm,1.0s	**88.27**	**11**	*eP*	**P**	**17 57 01.2**	**-1.1**
PDAR	**Pinedale Array** 1.3nm,0.8s,baz=228,slow=2.3,SNR=7.1	**88.70**	**42**	P	**P**	**17 57 03.7**	**-1.2**
ILAR	**Eielson Array** 1.9nm,0.8s,baz=214,slow=5.9,SNR=16	**90.09**	**12**	P	**P**	**17 57 10.3**	**-0.2**
CMAR	**Chiang Mai Arr** 0.9nm,0.9s,baz=122,slow=2.9,SNR=5.8	**93.84**	**288**	P	**P**	**17 57 30.8**	**+1.7**
CMAR				pP	**pP**	**17 57 44.5**	**+1.5**
	1.8nm,0.9s,baz=135,slow=3.2,SNR=8.1						
YKA	**Yellowknife Ar** 0.4nm,0.7s,baz=240,slow=3.5,SNR=3.3	**97.50**	**24**	P	**P**	**17 57 42.6**	**-2.0**
MKAR	**Makanchi Array**	**115.14**	**312**	PKP	**PKPdf**	**18 02 51.6**	**-0.7**
	0.4nm,0.7s,baz=106,slow=3.1,SNR=4.1						
MKAR				pPKP	PKiKP	18 03 07.5	+15
	0.2nm,0.5s,baz=71,slow=1.9,SNR=2.3						
ARCES	**ARCESS Array B**	**131.89**	**351**	PKP	**PKPdf**	**18 03 23.6**	**-0.1**
	1.8nm,0.3s,baz=75,slow=1.4,SNR=9.9						
FINES	**FINESS Array B**	**138.99**	**345**	PKP	**PKPdf**	**18 03 35.3**	**-1.7**
	1.5nm,0.7s,baz=64,slow=3.2,SNR=4.5						
AKASG	**Malin Array Be**	**146.66**	**332**	PKPbc	**PKPbc**	**18 03 51.8**	**-0.8**
	3.5nm,0.6s,baz=38,slow=4.1,SNR=20						
AKASG				pPKPbc	pPKPbc	18 04 05.7	-1.2
	2.0nm,0.5s,baz=41,slow=3.8,SNR=4.1						
BRTR	**Keskin Array B**	**150.79**	**311**	PKPbc	**PKPbc**	**18 04 03.9**	**0.0**
	2.3nm,0.8s,baz=144,slow=3.6,SNR=13						
BRTR				pPKPbc	**pPKPbc**	**18 04 19.9**	**+1.7**
	1.2nm,0.8s,baz=132,slow=4.5,SNR=3.9						
CLL	**Collm** comp=Z,14nm,1.0s	**151.11**	**350**	*i* PKPbc	**PKPbc**	**18 04 04.2**	**+0.2**
CLL				*i* (PKiKP)		18 04 06.9	
	comp=Z,13nm,1.0s						
CLL				*e*PKPbc	**pPKPbc**	**18 04 18.0**	**-0.3**
GERES	**GERESS Array B**	**153.35**	**348**	PKPbc	**PKPbc**	**18 04 09.0**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=37,slow=2.5,SNR=6.6						
TORD	**Torodi Ar. Bea** comp=Z,1.0nm,0.9s,baz=191,slow=1.5,SNR=3.7	**169.62**	**160**	PKP	**PKPdf**	**18 04 18.8**	**-0.6**
TORD				PKPab	**PKPab**	**18 05 36.1**	**+3.2**
	comp=Z,0.7nm,0.8s,baz=194,slow=5.5,SNR=2.5						

GUC 07 17:47:41.2±0.4,36.59S×73.28W,h11km±6km,ML3.6,2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.29**	**151**	*eP*	Pg	17 47 47.6	+0.4
CCSP				*i* S	Sg	17 47 52.1	+1.0
CCSP				AML	AML	17 47 53.4	
	comp=E,20µm,0.6s						
U14B	**Concepcin**	**0.32**	**149**	↑*i*P	Pg	17 47 48.0	+0.4
U14B				*i* S	Sg	17 47 52.8	+1.0
LNCH	**Linares**	**1.55**	**62**	↑*i*P	Pn	17 48 05.7	-3.0
LNCH				*e*S	Sn	17 48 26.1	-2.7
TALC	**Talca**	**1.79**	**49**	*eP*	Pn	17 48 11.6	-0.4
TALC				*i* S	Sn	17 48 35.0	+0.3

*ISCJB **07** 17:55:53.7±1.2,6.45S±0.06°×129.3E±0.2,h10km,mb3.3/1, Error ellipse: s-maj=33.0km s-min=8.6km az=179.8*

*IDC **07** 17:55:54.4±1.7,6.39S×129.00E,h0km,mb3.3/1, mb1 3.6/4,mb1mx3.4/28,mbtmp3.5/4,ML3.4/3,Error ellipse: s-maj=59.8km s-min=28.3km az=79.0*

ISC 07 17:55:55.4±1.4,6.51S±0.09×129.1E±0.3,h10km,n7, σ2s26/6,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak** baz=3.7,SNR=11	**4.76**	**42**	P	Pn	17 57 02.6	-4.6
SIJI	**Sorong** 3.7nm,0.3s,baz=253,slow=22,SNR=24	**6.01**	**21**	Pn	**Pn**	**17 57 24.3**	**-0.2**
SIJI				Sn	Sn	17 58 21.9	-12
	2.0nm,0.3s,baz=119,slow=23,SNR=8.0						
SWI	**Sorong** baz=5.4,SNR=8.0	**6.01**	**21**	P	**Pn**	**17 57 24.3**	**-0.2**
KDU	**Kakadu** baz=6.7,SNR=12	**6.98**	**152**	P	Pn	17 57 43.3	+5.5
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=339,slow=12,SNR=3.6	**14.29**	**160**	Pn	**Pn**	**17 59 18.9**	**+0.9**
WRA				Sn	Sn	18 01 46.5	-10
	0.2nm,0.3s,baz=332,slow=23,SNR=6.7						
ASAR	**Alice Springs** 0.1nm,0.3s,baz=351,slow=10,SNR=21	**17.67**	**165**	P	**P**	**18 00 04.7**	**+1.9**
ASAR				S	**Sn**	**18 03 15.7**	**-3.3**
	0.1nm,0.3s,baz=358,slow=28,SNR=4.2						
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=111,slow=8.2,SNR=2.9	**67.33**	**327**	P	**P**	**18 06 50.1**	**-0.5**

*IDC **07** 18:02:15.5±0.8,35.07S×72.84W,h0km,mb3.9/7, mb1 4.1/11,mb1mx4.0/28,mbtmp4.0/11,ML4.3/4,MS3.8/4, Ms1 3.8/4,ms1mx3.2/28,Error ellipse: s-maj=33.6km s-min=16.7km az=104.0*

*ISCJB **07** 18:02:18.3±0.6,34.95S±0.05°×72.97W±0.07,h33km, mb3.9/9,MS3.7/2,Error ellipse: s-maj=9.0km s-min=6.3km az=142.8*

*GUC **07** 18:02:18.1±0.6,34.97S×72.93W,h38km±3km,ML4.6*

*NEIC **07** 18:02:19.8±4.1,34.99S×72.87W,h28km±27km,mb4.1/3, Error ellipse: s-maj=20.4km s-min=9.5km az=78.0*

ISC 07 18:02:20.7±0.7,34.97S±0.06×72.88W±0.09,h35km,n31, σ0s84/32,mb3.9/9,3C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.11**	**113**	↑*i*P	**Pn**	**18 02 38.4**	**-1.3**
TALC				*i* S	**Sn**	**18 02 53.7**	**0.0**
NICH	**Los Niches**	**1.36**	**92**	↓*i*P	Pn	18 02 42.4	-0.7
NICH				*i* S	**Sn**	**18 03 01.0**	**+1.1**
LNCH	**Linares**	**1.36**	**130**	↑*i*P	Pn	18 02 42.6	-0.6
LNCH				*i* S	**Sn**	**18 03 00.6**	**+0.6**
LNV	**Longovilo**	**1.58**	**51**	↑*i*P	Pn	18 02 44.8	-1.4
TACH	**Talagante**	**2.08**	**51**	↓*i*P	Pn	18 02 51.9	-1.2
CLCH	**Cerro Calan**	**2.50**	**52**	*eP*	Pn	18 02 58.2	-0.7
CLCH				AML	AML	18 03 43.9	
	comp=E,3µm,0.6s						
PEL	**Peldehue**	**2.58**	**46**	↓*i*P	**Pn**	**18 02 59.4**	**-0.6**
PEL				AML	AML	18 03 46.6	
	comp=N,5µm,0.6s						
CFAA	**Coronel Fontan** comp=N,1.4nm,0.3s,baz=223,slow=5.6,SNR=51	**5.14**	**50**	Pn	**Pn**	**18 03 35.5**	**+0.4**
CFAA				Lg	Lg	18 04 53.9	
	comp=N,0.8nm,0.3s,baz=23,slow=1.8,SNR=4.1						
CFAA				LR	LR	18 05 04.5	
	comp=N,13nm,20.9s,baz=223,slow=33						
LCO	**Las Campanas** comp=N,18nm,0.4s	**6.22**	**18**	*eP*	**Pn**	**18 03 48.4**	**-1.9**
TRQA	**Tornquist**	**9.30**	**113**	*eP*	**Pn**	**18 04 31.7**	**-0.5**
LVC	**Limon Verde** comp=N,13nm,0.3s,baz=197,slow=12,SNR=4.0	**12.79**	**17**	Pn	**Pn**	**18 05 19.9**	**-0.5**
LVC				LR	LR	18 10 25.5	
	comp=N,605nm,18.1s,baz=212,slow=38						
CPUP	**Villa Florida** comp=N,0.2nm,0.3s,baz=252,slow=14,SNR=3.2	**15.90**	**61**	Pn	**Pn**	**18 06 02.5**	**+0.8**
CPUP				LR	LR	18 12 41.2	
	comp=N,260nm,19.5s,baz=232,slow=39						
LPAZ	**La Paz** comp=N,0.7nm,0.3s,baz=186,slow=8.3,SNR=26	**19.09**	**14**	P	**Pn**	**18 06 43.3**	**+1.4**
USHA	**Ushuaia** comp=N,286nm,21.4s,baz=143,slow=38	**20.10**	**172**	LR	LR	18 14 54.5	
SIV	**San Ignacio** comp=N,12nm,0.7s,baz=219,slow=10,SNR=31	**21.66**	**32**	P	**P**	**18 07 07.4**	**-0.9**
SAML	**Samuel** comp=N,1.6nm,0.7s	**27.38**	**21**	*eP*	**P**	**18 08 02.3**	**-0.5**
BDFB	**Brasilia** comp=N,221nm,18.5s,baz=231,slow=39	**29.45**	**55**	LR	LR	18 21 28.3	
SNAA	**Sanae** comp=N,0.4nm,0.8s,baz=282,slow=8.7,SNR=3.7	**50.95**	**157**	P	**P**	**18 11 17.5**	**-0.8**
QSPA	**South Pole Qui** comp=N,0.8nm,1.0s,baz=129,slow=6.5,SNR=2.6	**55.27**	**180**	P	**P**	**18 11 49.4**	**-0.8**
QSPA	**South Pole Qui** comp=N,1.7nm,1.0s	**55.27**	**180**	*eP*	**P**	**18 11 50.2**	**0.0**
VNDA	**Vanda** comp=N,0.5nm,1.0s,baz=173,slow=7.0,SNR=2.4	**63.02**	**191**	P	**P**	**18 12 44.2**	**+0.7**
TXAR	**Lajitas Array** comp=N,0.5nm,0.8s,baz=161,slow=5.7,SNR=4.9	**70.25**	**332**	P	**P**	**18 13 30.8**	**+0.5**
BOSA	**Boshof** comp=N,4.0nm,0.9s,baz=252,slow=3.2,SNR=4.0	**80.23**	**118**	P	**P**	**18 14 27.9**	**-0.2**
ECSD	**EROS Data Cent** comp=N,4.6nm,0.9s	**81.26**	**343**	*eP*	**P**	**18 14 33.3**	**+0.5**
TORD	**Torodi Ar. Bea** comp=N,1.9nm,0.8s,baz=249,slow=3.6,SNR=9.7	**85.19**	**70**	P	**P**	**18 14 53.5**	**-0.2**
WRA	**Warramunga Arr** comp=N,0.4nm,0.8s,baz=159,slow=1.8,SNR=3.0	**119.58**	**210**	PKP	**PKPdf**	**18 21 06.9**	**-0.4**
BRTR	**Keskin Array B** comp=N,0.5nm,0.7s,baz=222,slow=1.9,SNR=3.0	**122.91**	**62**	PKP	**PKPdf**	**18 21 12.7**	**-0.5**
ABKAR	**Akbulak array**	**142.82**	**53**	*e*PKPpre	PKPpre	18 21 46.1	
ZALV	**Zalesovo Beam** comp=N,0.4nm,0.5s,baz=304,slow=0.5,SNR=3.0	**155.42**	**33**	PKP	**PKPdf**	**18 22 09.7**	**-0.1**
ZALV				PKPab	**PKPab**	**18 22 36.2**	**+0.7**
	comp=N,1.1nm,0.6s,baz=295,slow=6.0,SNR=6.1						
MKAR	**Makanchi Array** comp=N,0.2nm,0.4s,baz=304,slow=2.9,SNR=4.6	**157.92**	**50**	PKPab	**PKPab**	**18 22 46.4**	**-0.2**
SONM	**Songino Array** comp=N,0.5nm,0.7s,baz=307,slow=2.9,SNR=3.0	**167.14**	**2**	PKPab	**PKPab**	**18 23 27.8**	**+0.9**

*ISCJB **07** 18:45:29.6±0.6,18.44N±0.06°×145.6E±0.2,h200km, mb3.3/14,Error ellipse: s-maj=22.0km s-min=8.0km az=1.8*

*IDC **07** 18:45:29.8±2.0,18.46N×145.69E,h187km±19km, mb3.3/13,mb1 3.5/14,mb1mx3.4/37,mbtmp3.8/14,Error ellipse: s-maj=20.2km s-min=11.4km az=87.0*

ISC 07 18:45:30.9±0.7,18.42N±0.07°×145.6E±0.2,h200km,n21, σ1s24/18,mb3.4/14,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam** 4.6nm,0.3s,baz=18,slow=20,SNR=4.2	**4.86**	**189**	P	**Pn**	**18 46 44.2**	**+0.6**
GUMO				S	**Sn**	**18 47 38.8**	**-2.0**
	8.2nm,0.3s,baz=117,slow=23,SNR=5.8						
H11S3	**WAKE ISLAND Hy** baz=275,slow=74,SNR=3.5	**19.99**	**86**	T	T	19 11 00.2	
H11S1	**WAKE ISLAND Hy** baz=275,slow=74,SNR=4.2	**20.00**	**86**	T	T	19 11 24.4	
H11S2	**WAKE ISLAND Hy** baz=275,slow=74,SNR=3.8	**20.00**	**86**	T	T	19 10 59.4	
H11N1	**WAKE ISLAND Hy** baz=266,slow=74	**20.15**	**83**	T	T	19 11 18.2	
H11N2	**WAKE ISLAND Hy** baz=266	**20.15**	**83**	T	T	19 11 30.0	
H11N3	**WAKE ISLAND Hy** baz=266,slow=74	**20.16**	**83**	T	T	19 11 09.2	
KSRS	**Korea Array** 0.5nm,0.5s,baz=149,slow=9.3,SNR=3.8	**24.50**	**324**	P	**P**	**18 50 33.3**	**+1.5**
WRA	**Warramunga Arr** 1.3nm,0.3s,baz=12,slow=8.5,SNR=50	**39.70**	**197**	P	**P**	**18 52 45.2**	**+1.3**
WRA				PcP	**PcP**	**18 54 46.4**	**-0.2**
	0.5nm,0.5s,baz=14,slow=3.3,SNR=6.8						
SONM	**Songino Array** 0.5nm,0.5s,baz=137,slow=6.8,SNR=4.0	**43.31**	**322**	P	**P**	**18 53 12.9**	**-0.2**
ASAR	**Alice Springs** 0.4nm,0.3s,baz=16,slow=6.3,SNR=27	**43.36**	**196**	P	**P**	**18 53 14.7**	**+1.1**
ASAR				PcP	**PcP**	**18 54 57.9**	**-0.7**
	0.2nm,0.6s,baz=22,slow=5.3,SNR=2.8						
CMAR	**Chiang Mai Arr** 0.4nm,0.8s,baz=69,slow=7.9,SNR=3.1	**44.18**	**278**	P	**P**	**18 53 20.0**	**-0.3**
SEY	**Seymchan** 0.5nm,0.4s,baz=127,slow=10,SNR=5.2	**44.72**	**4**	P	**P**	**18 53 24.9**	**+1.0**
STKA	**Stephens Creek** 0.7nm,0.4s,baz=356,slow=9.9,SNR=3.0	**50.16**	**184**	P	**P**	**18 54 06.5**	**+0.4**
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=115,slow=7.3,SNR=4.3	**58.19**	**323**	P	**P**	**18 55 02.8**	**-1.1**
MKAR	**Makanchi Array** 0.5nm,0.4s,baz=93,slow=8.0,SNR=12	**58.60**	**314**	P	**P**	**18 55 07.7**	**+0.8**
ILAR	**Eielson Array** 0.5nm,0.8s,baz=243,slow=4.0,SNR=4.3	**63.93**	**26**	P	**P**	**18 55 40.9**	**-1.3**
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=284,slow=5.3,SNR=3.1	**78.27**	**28**	P	**P**	**18 57 07.6**	**-0.7**
ARCES	**ARCESS Array B** 0.4nm,0.5s,baz=81,slow=7.7,SNR=5.0	**82.73**	**342**	P	**P**	**18 57 32.1**	**+0.1**
NVAR	**Mina Array Bea** 0.5nm,0.5s,baz=258,slow=7.5,SNR=5.6	**83.37**	**52**	P	**P**	**18 57 37.3**	**+1.1**
FINES	**FINESS Array B** 0.6nm,0.5s,baz=46,slow=4.2,SNR=10	**87.11**	**335**	P	**P**	**18 57 51.4**	**-2.5**

MAN 07 18:45:41,9.24N×126.69E,h22km,mb5.1,ML4.0,MS4.2, 4D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.09**	**256**	*eP*	Pn	18 46 00.2	-0.8
BUTP				*e*S	Sn	18 46 16.1	+0.7
SCPH	**Surigao**	**1.30**	**294**	↓*e*P	Pn	18 46 04.2	+0.3
MSLP	**Maasin**	**2.02**	**296**	*eP*	Pn	18 46 14.8	+1.2
BUKP	**Musuan**	**2.10**	**230**	*eP*	Pb	18 46 17.0	-1.6
CGP	**Cagayan de Oro**	**2.12**	**249**	↓*i*P	Pn	18 46 15.9	+0.7
CGP				*i* S	Sn	18 46 42.5	+1.6
MATI	**Mati**	**2.32**	**191**	*eP*	Pn	18 46 18.4	+0.4
PLP	**Palo**	**2.55**	**319**	↓*e*P	Pn	18 46 21.3	+0.2
PLP				*e*S	Sn	18 46 47.2	-4.3
OCLP	**Ormoc**	**2.73**	**311**	*eP*	Pn	18 46 25.1	+1.5
TBP	**Tagbilaran**	**2.83**	**279**	*eP*	Pn	18 46 25.2	+0.3
TBP				*e*S	Sn	18 47 00.5	+2.2
CTBH	**Cotabato--PC H**	**3.15**	**231**	↓*i*P	Pn	18 46 31.3	+2.0
PAGZ	**Pagadian**	**3.56**	**247**	*eP*	Pn	18 46 37.2	+2.4
GUIM	**Jordan**	**4.27**	**289**	*eP*	Pn	18 46 46.6	+1.9

*MAN **07** 18:57:09,9.14N×127.15E,h37km,mb5.0,ML3.9,MS4.0*

*IDC **07** 18:57:09.2±1.9,9.37N×126.88E,h0km,mb3.6/5, mb1 3.7/5,mb1mx3.4/23,mbtmp3.6/5,Error ellipse: s-maj=214.0km s-min=22.1km az=69.0*

*ISCJB **07** 18:57:14.5±1.3,9.27N±0.04°×126.84E±0.09,h51km±13km, mb3.8/6,Error ellipse: s-maj=14.8km s-min=7.0km az=173.6*

ISC 07 18:57:15.6±2.2,9.27N±0.05×126.9E±0.1,h45km±21km, n22,σ1s36/28,mb3.8/6,3C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.25**	**256**	*eP*	**Pn**	**18 57 34.4**	**-2.2**
SCPH	**Surigao**	**1.43**	**291**	↓*e*P	**Pn**	**18 57 38.3**	**-0.8**
SCPH				*e*S	**Sn**	**18 57 55.3**	**-1.5**
MSLP	**Maasin**	**2.14**	**294**	*eP*	**Pn**	**18 57 48.8**	**-0.1**
MSLP				*e*S	**Sn**	**18

SANV eS Sn 19 18 12.2 -1.1
CURV Curarigua 4.17 43 eP Pn 19 17 26.2 +1.4
CURV eS Sn 19 18 12.2 -1.8
DABV Dabajuro 4.52 28 eP Pn 19 17 29.3 +0.1
DABV eS Sn 19 18 19.0 -3.0
TEPV Terepaima 4.69 50 eP Pn 19 17 33.4 +1.8
SIQV Siquisique 4.75 39 eP Pn 19 17 33.4 +1.1
SIQV eS Sn 19 18 24.5 -2.8
MAPV Macapo 5.19 56 eP Pn 19 17 39.5 +1.4
MONV Montecano 5.73 29 eP Pn 19 17 45.3 +0.1
MONV eS Sn 19 18 46.3 -4.3
TURV Turiamo 6.04 54 eP Pn 19 17 49.8 +0.5
TURV eS Sn 19 18 54.7 -3.2
MERV Las Mercedes 6.86 70 eP Pn 19 18 00.9 +0.8
BCIP Isla Barro Col 7.29 288 ePn Pn 19 17 59.2 -6.7
52nm,0.6s
BIRV Birongo 7.37 61 eP Pn 19 18 07.4 +0.5
PRGV PARIAGUAN 8.30 77 eP Pn 19 18 19.6 +0.3
OTAV Otavalo 8.70 220 ePn Pn 19 18 19.1 -5.8
21nm,0.5s
PCRV Puerto La Cruz 8.71 68 P Pn 19 18 25.5 +0.8
6.1nm,0.3s,baz=271,slow=2.8,SNR=18
PCRV S Sn 19 20 06.7 +4.8
4.6nm,0.3s,baz=225,slow=20,SNR=2.2
PCRV Puerto La Cruz 8.71 68 eP Pn 19 18 25.7 +0.9
GUNV Guanoco 10.28 71 eP Pn 19 18 45.5 +0.1
YHJ Yallahs 11.47 342 i P Pn 19 19 02.3 +1.4
PCJ Portland Cotta 11.55 339 i P Pn 19 19 03.4 +1.5
PCJ i S Sn 19 20 54.2 -16
HOJ Hope 11.65 341 i P Pn 19 19 06.3 +3.0
GWJ Greenwich 11.71 341 i P Pn 19 19 06.1 +2.0
GWJ i S Sn 19 21 00.2 -14
STH Stony Hill 11.74 341 i P Pn 19 19 06.3 +1.9
STH i S Sn 19 21 02.3 -12
MCJ Malvern 11.91 337 i P Pn 19 19 07.6 +0.9
SDDR Presa de Saban 12.07 7 eP Pn 19 19 09.7 +1.0
46nm,0.8s
MTDJ Mount Denham 12.13 338 eP Pn 19 19 10.3 +0.8
140nm,0.5s
CVJ Coleyville 12.13 338 i P Pn 19 19 11.5 +1.9
GRGR Grenville 12.16 64 eP P 19 19 15.6 +0.1
JTS JuntasAbangare 12.45 286 P Pn 19 19 14.1 +0.5
3.2nm,0.3s,baz=87,slow=3.4,SNR=12
JTS S Sn 19 21 31.2 -0.5
0.2nm,0.3s,baz=169,slow=19,SNR=2.2
CELP Cerrillos 12.64 28 ePn Pn 19 19 16.3 +0.3
SJG San Juan 12.88 30 eP Pn 19 19 19.6 +0.6
24nm,0.4s
GTBY Guantanamo Bay 13.11 350 eP P 19 19 25.4 -0.6
42nm,0.6s
PTGA Pitinga 14.91 120 P Pn 19 19 44.4 -0.2
0.5nm,0.3s,baz=303,slow=17,SNR=4.1
PTGA S Sn 19 22 26.1 -4.7
1.9nm,0.3s,baz=317,slow=19,SNR=5.6
ATAH Atahualpa 15.04 202 P Pn 19 19 45.3 -1.2
0.5nm,0.3s,baz=27,slow=9.0,SNR=2.8
ATAH LR LR 19 26 48.5
comp=Z,58nm,20.2s,baz=33,slow=42
SAML Samuel 18.47 149 eP P 19 20 24.7 -0.5
1.5nm,0.3s
LPAZ La Paz 23.53 169 P P 19 21 16.0 -1.8
0.5nm,0.3s,baz=0.0,slow=11,SNR=3.7
CMIG Matias Romero 23.80 297 LR LR 19 32 11.6
comp=Z,28nm,18.1s,baz=200,slow=40
KMSC Kings Mountain 29.15 346 P P 19 22 08.9 +1.5
baz=29
035A Encino 31.20 313 P P 19 22 25.6 +0.1
baz=31
736A Circle Diamond 31.68 317 P P 19 22 30.0 +0.3
baz=32
438A Sam Houston St 31.82 321 P P 19 22 30.9 0.0
baz=32
934A Benavides 31.88 313 P P 19 22 31.6 +0.1
baz=32
636A Smothers Creek 32.00 318 P P 19 22 32.7 +0.2
baz=32
NATX Nacogdoches 32.03 323 P P 19 22 32.7 -0.1
baz=32
338A Crockett 32.13 322 P P 19 22 34.1 +0.4
baz=32
834A Tilden 32.21 314 P P 19 22 33.6 -0.8
baz=32
635A Leesville 32.43 317 P P 19 22 37.3 +1.0
baz=33
933A Laredo 32.44 313 P P 19 22 35.3 -1.1
baz=32,SNR=5.4
238A Jacksonville 32.48 323 P P 19 22 37.2 +0.5
baz=33
436A Wall Ranch, Ga 32.67 320 P P 19 22 38.5 +0.1
baz=33
833A Chaparral WMA, 32.93 313 P P 19 22 39.2 -1.4
baz=33
336A Riesel 33.11 320 P P 19 22 42.2 +0.1
baz=33
435B Jarrell 33.19 319 P P 19 22 42.6 -0.3
baz=33
137A Heron Place, G 33.27 323 P P 19 22 43.1 -0.5
baz=33
Z38A Mt. Pleasant 33.29 325 P P 19 22 43.1 -0.6
baz=34
534A Blanco 33.30 317 P P 19 22 43.0 -0.9
baz=33
Y39A Lockesburg 33.31 327 P P 19 22 43.7 -0.1
baz=34
832A Faith Ranch, C 33.33 313 P P 19 22 43.2 -1.0
baz=33
236A Katherine and 33.33 322 P P 19 22 44.3 +0.2
baz=34
335A Moody 33.41 320 P P 19 22 44.8 0.0
baz=34
MIAR Mount Ida 33.49 328 P P 19 22 45.1 -0.3
baz=34
MIAR Mount Ida 33.49 328 eP P 19 22 44.9 -0.5
4.0nm,0.7s
Z37A Pogue Cattle C 33.62 324 P P 19 22 45.4 -1.2
baz=34
434A Burnet 33.66 318 P P 19 22 46.1 -0.9
baz=34
USIN University of 33.70 339 eP P 19 22 48.1 +0.9
22nm,0.6s
632A Uvalde 33.89 315 P P 19 22 48.9 -0.1
baz=34
WHTX Lake Whitney 33.90 321 P P 19 22 48.6 -0.5
baz=34
334A Lometa 33.97 319 P P 19 22 48.8 -0.8
baz=34,SNR=5.6
SIUC Southern Illin 34.07 336 eP P 19 22 51.2 +0.8
39nm,0.6s
433A Art 34.17 317 P P 19 22 50.6 -0.8
baz=34,SNR=23
Y37A Hugo 34.19 325 P P 19 22 51.2 -0.3
baz=34
135A Vickery Place, 34.25 321 P P 19 22 51.9 -0.2
baz=34
X38A Whitesboro 34.26 327 P P 19 22 51.1 -1.0
baz=34,SNR=6.3
234A Clairette 34.34 320 P P 19 22 52.5 -0.3
baz=34
532A Rocksprings 34.34 316 P P 19 22 51.8 -1.2
baz=34,SNR=14
W38A Poteau 34.39 328 P P 19 22 53.0 -0.2
baz=35
631A Perdido Creek 34.40 314 P P 19 22 53.7 +0.3
baz=34
333A Richland Sprin 34.45 318 P P 19 22 52.8 -1.0
baz=35,SNR=12
JCT Junction City 34.48 316 P P 19 22 53.5 -0.6
baz=35
X37A Clayton 34.49 326 P P 19 22 53.8 -0.3
baz=35
Y36A Durant 34.51 324 P P 19 22 52.7 -1.6
baz=35
OLIL Olney 34.54 339 eP P 19 22 55.2 +0.8
27nm,0.6s
134A White-Moore Ra 34.68 321 P P 19 22 55.4 -0.4
baz=35
Z35A Perchaven, San 34.69 323 P P 19 22 55.8 0.0
baz=35
432A Menard 34.72 317 P P 19 22 56.1 -0.1
baz=35,SNR=5.4
531A Rocksprings 34.81 315 P P 19 22 56.0 -1.0
baz=35,SNR=7.9
233A Rising Star 34.84 319 P P 19 22 57.3 +0.1
baz=35
W37A Quinton 34.93 327 P P 19 22 57.6 -0.3
baz=35
Y35A Marietta 34.96 323 P P 19 22 57.8 -0.3
baz=35
332A Millersview 35.00 318 P P 19 22 57.7 -0.8
baz=35,SNR=9.5
X36A Centrahoma 35.03 325 P P 19 22 57.9 -0.8
baz=35
Z34A Collier Ranch, 35.12 322 P P 19 22 59.1 -0.3
baz=35
431A Sonora 35.16 316 P P 19 22 58.9 -1.1
baz=35,SNR=5.7
133A Hamilton Ranch 35.23 320 P P 19 23 00.4 -0.1
baz=35
232A Coleman 35.25 318 P P 19 23 00.1 -0.6
baz=35,SNR=13
X35A Drake 35.27 324 P P 19 22 60.0 -0.8
baz=35
V37A Hulbert 35.34 328 P P 19 23 00.7 -0.6
baz=36
530A J-C Ranch, Com 35.36 314 P P 19 23 01.0 -0.6
baz=36,SNR=17
W36A Wetumka 35.37 326 P P 19 23 01.2 -0.4
baz=36
331A San Angelo 35.41 317 P P 19 23 01.4 -0.7
baz=36,SNR=5.0
Y34A Reagan Ranch, 35.42 323 P P 19 23 01.7 -0.4
baz=36,SNR=5.9
Z33A Whitaker Ranch 35.59 321 P P 19 23 03.2 -0.3
baz=36,SNR=6.1
430A Baggett Ranch, 35.66 315 P P 19 23 03.7 -0.6
baz=36
SFIN Scholer Farm 35.67 341 P P 19 23 05.1 +1.0
baz=36,SNR=22
SFIN Scholer Farm 35.67 341 eP P 19 23 05.1 +1.0
51nm,0.5s
V36A Jenks 35.70 327 P P 19 23 03.7 -0.6
baz=36
TUL1 Tulsa 35.71 327 P P 19 23 04.1 -0.4
baz=36
ABTX Abilene, Hawle 35.71 319 P P 19 23 04.4 -0.2
baz=36
ABTX Abilene, Hawle 35.71 319 eP P 19 23 04.0 -0.6
34nm,1.2s
231A Bronte 35.72 318 P P 19 23 04.0 -0.7
baz=36
W35A Tecumseh 35.75 325 P P 19 23 04.2 -0.7
baz=36
X34A Smith Ranch, M 35.91 324 P P 19 23 06.1 -0.2
baz=36
Y33A Hilltop Ranch, 35.98 322 P P 19 23 06.5 -0.3
baz=36
330A Mertzon 35.98 316 P P 19 23 06.4 -0.6
baz=36
U36A Oologah 36.03 328 P P 19 23 06.8 -0.5
baz=36
Z32A Haskell 36.05 320 P P 19 23 07.1 -0.3
baz=36,SNR=19
T37A Cheneyville 18 36.17 329 P P 19 23 07.5 -0.8
baz=36,SNR=17
V35A Meyer Ranch, C 36.17 326 P P 19 23 07.9 -0.5
baz=36
131A Roby 36.23 319 P P 19 23 08.8 -0.2
baz=36
X33A Lawton 36.27 323 P P 19 23 08.7 -0.6
baz=36
W34A Bridge Creek, 36.32 324 P P 19 23 09.3 -0.4
baz=36
W34A Bridge Creek, 36.32 324 eP P 19 23 09.2 -0.6
46nm,0.9s
Z31A Sharp Cattle R 36.48 320 P P 19 23 11.0 -0.1
baz=37
Y32A R-V Farms, Ver 36.48 321 P P 19 23 10.9 -0.2
baz=37
U35A Pawnee 36.56 327 P P 19 23 11.4 -0.3
baz=37
130A Snyder 36.56 318 P P 19 23 11.3 -0.6
baz=37
WMOK Wichita Mounta 36.57 323 eP P 19 23 10.6 -1.3
15nm,1.0s
HDIL Hopedale 36.58 339 P P 19 23 12.0 +0.2
baz=37
V34A Guthrie 36.60 325 P P 19 23 11.6 -0.5
baz=37
TXAR Lajitas Array 36.61 311 P P 19 23 11.8 -0.6
5.4nm,0.6s,baz=127,slow=9.2,SNR=95
TXAR PcP PcP 19 25 33.1 +1.1
2.0nm,0.8s,baz=134,slow=5.7,SNR=8.4
T36A Boggs Farm, Ca 36.62 328 P P 19 23 12.0 -0.2
baz=37
S37A Fort Scott 36.62 330 P P 19 23 11.6 -0.6
baz=37
X32A Elmer 36.66 322 P P 19 23 12.3 -0.3
baz=37
W33A Caddo, Fort Co 36.67 324 P P 19 23 12.3 -0.4
baz=37
229A Bryant Ranch, 36.75 316 P P 19 23 12.7 -0.8
baz=37,SNR=7.0
T35A Sooner Cattle 36.84 328 P P 19 23 13.0 -1.1
baz=37,SNR=6.0
Y31A Rekieta Farm, 36.97 320 P P 19 23 15.3 +0.1
baz=37,SNR=22
S36A Lake Cedric, C 36.98 329 P P 19 23 14.6 -0.6
baz=37
V33A Lossen Ranch, 37.03 325 P P 19 23 14.7 -1.1
baz=37,SNR=8.6
U34A Anderson Ranch 37.05 326 eP P 19 23 15.2 -0.6
20nm,0.7s
R37A Teagarden Farm 37.05 331 P P 19 23 14.8 -1.0
baz=37,SNR=6.4
Z30A Sanderson Ranc 37.10 319 P P 19 23 15.8 -0.6
baz=37,SNR=11
W32A Sentinel 37.11 323 P P 19 23 15.5 -0.9
baz=37,SNR=12
X31A McDonald Ranch 37.23 322 P P 19 23 16.7 -0.7
baz=37,SNR=7.3
T34A McClaskey Farm 37.28 327 P P 19 23 17.0 -0.8
baz=38,SNR=7.2
S35A Otter Creek Ra 37.31 329 P P 19 23 17.3 -0.8
baz=38
Q37A Longview Farm, 37.32 332 P P 19 23 17.6 -0.5
baz=38,SNR=6.4
Y30A Stafford Cattl 37.32 320 P P 19 23 17.7 -0.5
baz=38,SNR=8.8
U33A Lingo Farm, Me 37.37 325 P P 19 23 17.5 -1.0
baz=38
228A UT Block 9, Go 37.38 316 P P 19 23 18.2 -0.6
baz=38
R36A Gordon, Harris 37.39 330 P P 19 23 18.2 -0.6
baz=38
Z29A Hungry Hill Ra 37.46 318 P P 19 23 18.9 -0.6
baz=38,SNR=17
W31A Holland Ranch, 37.58 322 P P 19 23 19.4 -1.0
baz=38,SNR=9.1
128A Castleberry Fa 37.60 317 P P 19 23 20.2 -0.4
baz=38,SNR=24
X30A Coker Ranch, T 37.67 321 P P 19 23 21.1 0.0
baz=38,SNR=16
R35A Emporia Munici 37.74 329 P P 19 23 21.3 -0.4
baz=38
S34A Willow Spring 37.74 328 P P 19 23 21.3 -0.3
baz=38
Y29A Porterfield Fa 37.81 319 P P 19 23 22.0 -0.4
baz=38,SNR=10
Q36A Arnold C. Orve 37.87 331 P P 19 23 21.8 -0.9
baz=38
V31A Spring Creek L 37.91 323 P P 19 23 22.8 -0.4
baz=38
Z28A Tucker Farm, M 37.93 318 P P 19 23 23.1 -0.3
baz=38
S33A Kaszmaul Farm, 38.14 327 P P 19 23 24.7 -0.4
baz=38
X29A Tulia 38.19 320 P P 19 23 25.1 -0.5
baz=38,SNR=6.7
Y28A McKinney Farm, 38.22 319 P P 19 23 25.3 -0.5
baz=38,SNR=8.1
R34A Isabella, Hill 38.26 328 P P 19 23 25.6 -0.4
baz=38
P36A Good Intent, A 38.26 332 P P 19 23 25.1 -0.9
baz=38,SNR=5.7
U31A Nine Bar Ranch 38.32 324 P P 19 23 25.8 -0.8
baz=38
T32A Huddler Ranch, 38.35 326 P P 19 23 26.1 -0.8
baz=38
AMTX Amarillo 38.46 320 P P 19 23 27.9 +0.1
baz=39
AMTX Amarillo 38.46 320 eP P 19 23 27.1 -0.7
28nm,0.9s
KSU1 Kansas State U 38.54 330 P P 19 23 27.8 -0.6
baz=39
KSU1 Kansas State U 38.54 330 eP P 19 23 27.4 -0.9
27nm,0.7s
O36A Bolckow 38.56 332 P P 19 23 27.4 -1.0
baz=39,SNR=5.5
X28A Dimmitt 38.56 319 P P 19 23 28.3 -0.4
baz=39
Q34A Chapman 38.57 329 P P 19 23 28.0 -0.6
baz=39
P35A Duane Minner, 38.58 331 P P 19 23 28.0 -0.7
baz=39
W29A Amraillo 38.59 321 P P 19 23 28.8 -0.1
baz=39
MSTX Muleshoe 38.60 318 P P 19 23 27.8 -1.2
baz=39,SNR=11
MSTX Muleshoe 38.60 318 eP P 19 23 28.1 -1.0
18nm,0.9s
R33A Olander Ranch, 38.66 328 P P 19 23 29.1 -0.2
baz=39
S32A Newby Ranch, P 38.73 326 P P 19 23 29.9 0.0
baz=39
U30A WK&E Inc. Balk 38.91 323 P P 19 23 31.6 +0.1
baz=39
S31A Mullinville 38.98 325 P P 19 23 31.5 -0.6
baz=39
P34A Walnut Farm, R 38.99 330 P P 19 23 31.2 -0.9
baz=39,SNR=5.8
JFWS Jewell Farm 39.00 340 eP P 19 23 31.5 -0.5
41nm,0.6s
V29A Stinnett 39.00 322 P P 19 23 32.4 +0.1
baz=39,SNR=5.9
W28A Vega 39.03 320 P P 19 23 32.2 -0.4
baz=39
Q33A Connelly Farm, 39.09 328 P P 19 23 32.3 -0.6
baz=39,SNR=8.1
O35A Humboldt 39.11 332 P P 19 23 32.4 -0.6
baz=39
R32A Long Quarter, 39.13 327 P P 19 23 32.3 -1.0
baz=39
U29A Oasis Ranch, S 39.22 323 P P 19 23 34.3 +0.2
baz=39
SCIA State Center 39.25 336 eP P 19 23 34.1 -0.1
18nm,0.5s
P33A Williams Farm, 39.34 329 P P 19 23 35.3 +0.2
baz=40
O34A Beatrice 39.42 331 P P 19 23 35.6 0.0
baz=40
Q32A Meitler Ranch, 39.46 328 P P 19 23 35.7 -0.3
baz=40
R31A Burdett 39.48 326 P P 19 23 36.5 +0.3
baz=40
S30A Montezuma 39.55 325 P P 19 23 36.3 -0.6
baz=40
O33A Hebron 39.77 330 P P 19 23 38.1 -0.4
baz=40
R30A Dighton 39.89 326 P P 19 23 39.6 0.0
baz=40
S29A Ulysses 39.92 324 P P 19 23 40.3 +0.4
baz=40
P32A Huiting Farm, 39.95 328 P P 19 23 39.4 -0.6
baz=40
M35A Neola 39.96 333 P P 19 23 40.2 +0.2
baz=40,SNR=6.4
U27A Thompson Grove 40.16 321 P P 19 23 41.6 -0.3
baz=40
T28A Walsh 40.17 323 P P 19 23 42.0 -0.1
baz=40
O32A Brockman Farm, 40.26 329 P P 19 23 42.0 -0.6
baz=40
P31A Stockton 40.28 328 P P 19 23 42.1 -0.7
baz=40
Q30A Quinter 40.35 326 P P 19 23 43.0 -0.4
baz=40
S28A Manter 40.35 323 P P 19 23 43.7 +0.2
baz=40
M34A Aspy Farms, Fr 40.39 332 P P 19 23 43.5 -0.2
baz=41
L35A Bielow Farm, R 40.41 334 P P 19 23 43.9 +0.1
baz=41
T27A Campo 40.50 322 P P 19 23 44.2 -0.5
baz=41,SNR=7.3
L34A Svendsen Farm, 40.66 333 P P 19 23 45.3 -0.6
baz=41,SNR=5.7
Q29A Oakley 40.71 326 P P 19 23 45.6 -0.8
baz=41
O31A Woolen Ranch, 40.72 328 P P 19 23 45.8 -0.5
baz=41
M33A Taylor Creek F 40.73 332 P P 19 23 45.8 -0.6
baz=41
P30A Selden 40.77 327 P P 19 23 46.6 -0.2
baz=41
R28A Tribune 40.81 324 P P 19 23 47.0 -0.2
baz=41
S27A Las Animas 41.01 323 P P 19 23 48.7 -0.2
baz=41
BGNE Belgrade 41.06 331 P P 19 23 49.2 0.0
baz=41
T26A Comanche Natio 41.11 322 P P 19 23 49.7 -0.1
baz=41,SNR=14
121A Cookes Peak, D 41.29 313 P P 19 23 51.6 +0.3
baz=41,SNR=6.9
121A Cookes Peak, D 41.29 313 eP P 19 23 51.8 +0.5
12nm,1.1s
Q28A Sharon Springs 41.31 325 P P 19 23 50.6 -0.7
baz=42
R27A Eads 41.35 323 P P 19 23 51.1 -0.5
baz=42,SNR=17
COWI Conover 41.49 343 eP P 19 23 53.1 +0.6
18nm,0.9s
N30A Hueftle Ranch, 41.59 328 P P 19 23 53.3 -0.1
baz=42
T25A Trinidad 41.59 321 P P 19 23 54.1 +0.3
baz=42
P28A Saint Francis 41.62 326 P P 19 23 53.9 +0.1
baz=42
ANMO Albuquerque 41.64 317 eP P 19 23 54.1 0.0
4.2nm,0.9s
KSCO Kaye Shedlock' 41.73 324 P P 19 23 54.9 +0.2
baz=42
R26A Arlington 41.74 323 P P 19 23 54.9 +0.1
baz=42,SNR=14
SPMN St. Paul 41.91 339 P P 19 23 57.4 +1.5
baz=42
L31A Butterfield Fa 41.98 331 P P 19 23 56.2 -0.4
baz=42
O28A Krutsinger Ran 42.01 326 P P 19 23 56.5 -0.5
baz=42
ECSD EROS Data Cent 42.18 334 P P 19 23 57.9 -0.3
baz=42,SNR=13
ECSD EROS Data Cent 42.18 334 eP P 19 23 57.1 -1.0
8.7nm,0.5s
Q26A Hugo 42.19 324 P P 19 23 58.8 +0.3
baz=42
M29A Burnside Ranch 42.37 329 P P 19 23 59.6 -0.2
baz=43
O27A Beecher Island 42.45 326 P P 19 24 00.2 -0.2
baz=43
P26A Davis Ranch, A 42.51 324 P P 19 24 01.3 +0.2
baz=43
SDCO Great Sand Dun 42.65 321 P P 19 24 02.7 +0.3
baz=43,SNR=12
SDCO Great Sand Dun 42.65 321 eP P 19 24 03.0 +0.6
11nm,0.9s
OGNE Ogallala 42.72 327 P P 19 24 02.5 -0.2
baz=43
K30A Basset 42.73 331 P P 19 24 02.2 -0.5
baz=43,SNR=8.5
N27A Anderson Farm, 42.90 326 P P 19 24 03.9 -0.2
baz=43
O26A Horse Wrangler 42.95 325 P P 19 24 04.4 -0.2
baz=43,SNR=5.8
K29A Lazy Trails An 43.14 330 P P 19 24 05.5 -0.6
baz=43
J30A Dallas 43.17 331 P P 19 24 06.1 0.0
baz=43
Q24A Divide 43.19 322 P P 19 24 06.1 -0.7
baz=43
N26A Koester Ranch, 43.29 326 P P 19 24 07.0 -0.3
baz=44
TUC Tucson 43.40 311 eP P 19 24 08.0 -0.3
6.2nm,0.8s
S22A 4UR Ranch, Cre 43.49 320 P P 19 24 09.7 +0.6
baz=44,SNR=9.0
I30A Oacoma 43.58 332 P P 19 24 09.2 -0.3
baz=44
J29A Okreek 43.63 331 P P 19 24 08.9 -0.9
baz=44,SNR=8.5
K28A Ten Mile Ranch 43.63 329 P P 19 24 09.1 -0.9
baz=44
M26A McRoberts Ranc 43.69 327 P P 19 24 09.9 -0.6
baz=44

EYMN	**Ely** baz=44,SNR=32	43.86	342	P	P	19 24 12.1	+0.5
EYMN	**Ely** 30nm,0.6s	43.86	342	*e*P	P	19 24 11.6	0.0
ISCO	**Idaho Springs** baz=44,SNR=7.7	44.00	323	P	P	19 24 13.8	+0.6
ISCO	**Idaho Springs** 12nm,0.9s	44.00	323	*e*P	P	19 24 13.6	+0.4
W18A	**Petrified Fore** baz=44,SNR=6.3	44.00	315	P	P	19 24 13.3	+0.1
W18A	**Petrified Fore** 39nm,1.4s	44.00	315	*e*P	P	19 24 13.5	+0.4
I29A	**Vivian Onida** baz=44	44.08	331	P	P	19 24 12.9	-0.5
J28A	**Allard Ranch,** baz=44,SNR=7.5	44.09	330	P	P	19 24 13.0	-0.5
MVCO	**Mesa Verde** baz=44	44.27	318	P	P	19 24 15.6	+0.3
MVCO	**Mesa Verde** 28nm,1.5s	44.27	318	*e*P	P	19 24 15.4	+0.1
J27A	**Elkhorn Farm,** baz=44	44.35	329	P	P	19 24 15.3	-0.3
G30A	**Faulkton** baz=45	44.39	333	P	P	19 24 16.0	+0.1
I28A	**Midland** baz=45,SNR=5.3	44.48	331	P	P	19 24 15.7	-0.9
H29A	**Onida** baz=45,SNR=8.6	44.49	332	P	P	19 24 16.0	-0.7
K26A	**Motz Farm, Whi** baz=45	44.56	328	P	P	19 24 17.5	+0.1
L25A	**Engebretsen Ra** baz=45	44.61	327	P	P	19 24 18.7	+1.0
214A	**Organ Pipe Nat** baz=45,SNR=5.8	44.79	309	P	P	19 24 19.0	-0.3
214A	**Organ Pipe Nat** 10nm,1.2s	44.79	309	*e*P	P	19 24 19.2	0.0
G29A	**Hoven** baz=45	44.79	333	P	P	19 24 18.9	-0.2
PV01	**Paradox Valley** 275nm,0.3s	44.84	319	*e*P	P	19 24 20.4	+0.6
N23A	**Red Feather La** baz=45,SNR=12	44.89	324	P	P	19 24 20.7	+0.5
F30A	**Leola** baz=45,SNR=5.8	44.89	334	P	P	19 24 19.9	+0.1
J26A	**Sides Ranch, S** baz=45	44.94	329	P	P	19 24 20.7	+0.4
I27A	**Quinn** baz=45	44.96	330	P	P	19 24 19.8	-0.7
WUAZ	**Wupatki** baz=46,SNR=20	45.36	314	P	P	19 24 24.5	+0.7
WUAZ	**Wupatki** 26nm,0.9s	45.36	314	*e*P	P	19 24 24.1	+0.3
H27A	**Howes** baz=46	45.38	331	P	P	19 24 23.4	-0.4
AGMN	**Agassiz Nation** baz=46	45.63	339	P	P	19 24 26.1	+0.6
E29A	**Napoleon** baz=46	45.73	334	P	P	19 24 26.3	-0.1
I25A	**Rochford** baz=46	45.77	329	P	P	19 24 27.3	+0.3
D30A	**Buchanan** baz=46,SNR=6.8	45.78	335	P	P	19 24 26.8	0.0
O20A	**White River Ci** baz=46	45.80	322	P	P	19 24 26.7	-0.6
G27A	**Dupree** baz=46,SNR=8.0	45.86	331	P	P	19 24 27.0	-0.5
D29A	**Pettibone, Tap** baz=46	46.10	335	P	P	19 24 29.4	+0.2
C30A	**Mose, Pekin** baz=46,SNR=6.0	46.14	336	P	P	19 24 30.1	+0.5
E28A	**Huff** baz=46,SNR=5.1	46.20	333	P	P	19 24 30.4	+0.3
F27A	**Lemmon** baz=46	46.27	332	P	P	19 24 30.9	+0.2
J23A	**Dilts Ranch, B** baz=46	46.31	327	P	P	19 24 31.1	0.0
G25A	**Newell** baz=47	46.45	330	P	P	19 24 32.0	-0.1
D28A	**Regan** baz=47	46.62	334	P	P	19 24 33.1	-0.2
I23A	**Meade Ranch, G** baz=47	46.64	328	P	P	19 24 32.8	-0.9
B30A	**Myrvik Farm, E** baz=47,SNR=5.0	46.69	337	P	P	19 24 34.0	+0.2
MDND	**Maddock** baz=47	46.72	335	P	P	19 24 34.6	+0.5
GLA	**Glamis** baz=47	46.79	310	P	P	19 24 35.3	+0.4
PDMCI	**Parker Dam,Lak** baz=47	46.80	311	P	P	19 24 35.0	0.0
Y12C	**Blythe** baz=47	46.85	311	P	P	19 24 35.8	+0.4
E26A	**Carlson Angus** baz=47,SNR=7.8	46.92	332	P	P	19 24 35.7	0.0
C28A	**Hausauer Farms** baz=47	46.94	335	P	P	19 24 36.5	+0.6
D27A	**Center** baz=47	46.97	333	P	P	19 24 36.5	+0.4
A30A	**Hoffart Farm,** baz=47	47.08	337	P	P	19 24 37.0	+0.2
D26A	**Manning** baz=48,SNR=7.5	47.33	333	P	P	19 24 38.9	+0.1
E25A	**Miller Ranch,** baz=48	47.38	331	P	P	19 24 39.5	+0.2
A29A	**Manning Farm,** baz=48,SNR=5.7	47.42	337	P	P	19 24 39.6	+0.1
C27A	**Sayler Ranch,** baz=48	47.42	334	P	P	19 24 40.0	+0.4
MSU	**Marysvale** 16nm,1.0s	47.42	318	*e*P	P	19 24 40.3	+0.3
SWSC	**Sam W. Stewart** baz=48	47.49	309	P	P	19 24 41.3	+0.9
IRM	**Iron Mountain** baz=48,SNR=5.6	47.50	311	P	P	19 24 40.7	+0.3
B28A	**Dugan Ranch, T** baz=48	47.51	335	P	P	19 24 40.6	+0.4
BC3	**Big Chuckawall** baz=48	47.52	310	P	P	19 24 41.0	+0.3
CCUT	**Cedar City** 4.1nm,1.0s	47.75	316	*e*P	P	19 24 42.4	-0.2
C26A	**Wahner Farm, P** baz=48	47.77	334	P	P	19 24 42.7	+0.5
F23A	**Volborg** baz=48	47.81	329	P	P	19 24 42.6	-0.1
D25A	**Fairfield** baz=48	47.82	332	P	P	19 24 42.7	0.0
A28A	**Rude Farm, Bot** baz=48	47.83	336	P	P	19 24 43.3	+0.6
E24A	**Baker** baz=48	47.86	331	P	P	19 24 44.1	+1.0
MPU	**Maple Canyon** 55nm,1.0s	47.87	320	*e*P	P	19 24 43.4	+0.1
MONP	**Monument Peak** baz=48	47.96	309	P	P	19 24 44.3	+0.2
SCHQ	**Schefferville** 8.9nm,0.5s,baz=196,slow=7.2,SNR=36	48.01	5	P	P	19 24 45.2	+1.3
BELC	**Belle Mtn. Jos** baz=48	48.07	310	P	P	19 24 45.0	0.0
I20A	**Worland** baz=48	48.08	326	P	P	19 24 44.9	+0.1
NLU	**North Lily Min** 2.7nm,0.4s	48.12	319	*e*P	P	19 24 45.4	+0.1
GMRC	**Granite Mounta** baz=48	48.14	311	P	P	19 24 45.4	-0.1
BW06	**Boulder Array** 6.2nm,0.7s	48.17	324	*e*P	P	19 24 45.1	-0.5
PDAR	**Pinedale Array** 6.1nm,0.8s,baz=120,slow=8.8,SNR=28	48.17	324	P	P	19 24 45.2	-0.4
J19A	**Crowheart** baz=48	48.18	325	P	P	19 24 45.5	-0.1
B26A	**Jensen Ranch,** baz=48	48.25	334	P	P	19 24 46.3	+0.4
PFO	**Pinyon Flat Ob** baz=48	48.27	309	P	P	19 24 47.5	+1.1
D24A	**Glendive** baz=48,SNR=7.3	48.27	331	P	P	19 24 46.6	+0.5
E23A	**Ismay** baz=48	48.30	330	P	P	19 24 46.2	-0.2
TCUT	**Toone Canyon** 24nm,0.6s	48.33	321	*e*P	P	19 24 47.1	+0.2
G21A	**Lodge Grass** baz=49	48.41	328	P	P	19 24 47.1	-0.2
A26A	**Wade Farm, Ken** baz=49	48.56	335	P	P	19 24 49.0	+0.8
B25A	**Knox Farm, Ray** baz=49,SNR=7.0	48.58	333	P	P	19 24 49.4	+1.0
E22A	**Miles City** baz=49	48.58	330	P	P	19 24 48.1	-0.5
TUQ	**Turquoise Moun** baz=49,SNR=8.3	48.62	312	P	P	19 24 49.1	+0.1
I19A	**Meeteetse** baz=49	48.62	325	P	P	19 24 49.2	+0.2
HEC	**Hector,Ludlow** baz=49	48.66	311	P	P	19 24 49.9	+0.5
HWUT	**Hardware Ranch** 7.9nm,0.7s	48.70	321	*e*P	P	19 24 49.3	-0.4
DUG	**Dugway** baz=49,SNR=7.7	48.73	319	P	P	19 24 50.0	+0.1
DUG	**Dugway** 5.8nm,0.7s	48.73	319	*e*P	P	19 24 49.9	+0.1
D23A	**Lindsay** baz=49	48.73	331	P	P	19 24 49.9	+0.3
H19A	**Powell** baz=49	49.02	326	P	P	19 24 51.5	-0.5
A25A	**Svangstu Ranch** baz=49,SNR=6.1	49.05	334	P	P	19 24 52.4	+0.4
SHOC	**Shoshone** baz=49	49.08	312	P	P	19 24 53.2	+0.8
C23A	**Lambert** baz=49	49.17	332	P	P	19 24 53.1	+0.1
D22A	**Cohagen** baz=49	49.19	330	P	P	19 24 53.9	+0.8
DGMT	**Dagmar** baz=49,SNR=15	49.19	333	P	P	19 24 53.6	+0.5
GSC	**Goldstone** baz=49	49.21	311	P	P	19 24 54.0	+0.4
E21A	**Keefer Ranch,** baz=49,SNR=7.4	49.22	329	P	P	19 24 53.4	0.0
BGU	**Big Grassy Mou** 22nm,1.0s	49.25	320	*e*P	P	19 24 53.8	-0.1
REDW	**Red Top Meadow** 26nm,1.0s	49.28	324	*e*P	P	19 24 54.0	-0.1
LOHW	**Long Hollow** 9.1nm,0.7s	49.28	324	*e*P	P	19 24 54.1	-0.1
F20A	**Billings** baz=50	49.29	328	P	P	19 24 54.2	+0.3
TPAW	**Teton Pass** 12nm,0.9s	49.42	324	*e*P	P	19 24 55.1	-0.1
A24A	**Westby** baz=50,SNR=6.9	49.44	333	P	P	19 24 56.1	+1.1
MOOW	**Moose Ponds** 6.6nm,0.8s	49.45	324	*e*P	P	19 24 55.1	-0.2
RLMT	**Red Lodge** baz=50	49.45	326	P	P	19 24 55.4	0.0
C22A	**Vida** baz=50,SNR=6.6	49.46	331	P	P	19 24 55.4	+0.2
TPNV	**Topopah Spring** baz=50,SNR=9.4	49.51	314	P	P	19 24 57.2	+1.3
D21A	**La Casta Ranch** baz=50,SNR=6.0	49.53	330	P	P	19 24 56.2	+0.4
B23A	**Brockton** baz=50,SNR=13	49.55	332	P	P	19 24 56.5	+0.7
HVU	**Hansel Valley** 4.4nm,0.6s	49.55	321	*e*P	P	19 24 55.2	-0.9
IMW	**Indian Meadow** 7.0nm,0.6s	49.65	324	*e*P	P	19 24 56.6	-0.3
R11A	**Troy Canyon, C** baz=50,SNR=18	49.67	316	P	P	19 24 57.3	+0.2
R11A	**Troy Canyon, C** 5.1nm,1.0s	49.67	316	*e*P	P	19 24 57.1	0.0
FURC	**Furnace Creek,** baz=50	49.74	313	P	P	19 24 58.0	+0.6
A23A	**Redstone** baz=50,SNR=5.9	49.86	333	P	P	19 24 59.0	+0.9
B22A	**Reddig Ranch S** baz=50,SNR=11	49.90	331	P	P	19 24 59.4	+0.9
LRMC	**Laurel Mountai** baz=50	49.94	311	P	P	19 24 59.3	+0.2
MPMC	**Manual Prospec** baz=50	50.03	312	P	P	19 24 59.8	0.0
GCMT	**Greycliff** 9.0nm,0.7s	50.09	327	*e*P	P	19 25 00.4	+0.2
C21A	**Desert Coulee** baz=50	50.10	330	P	P	19 25 00.6	+0.6
GRAC	**Grapevine Rang** baz=50	50.34	313	P	P	19 25 02.3	+0.3
A22A	**Carney Farms,** baz=51,SNR=28	50.36	332	P	P	19 25 03.1	+1.2
C20A	**Veseth Ranch,** baz=51	50.48	330	P	P	19 25 03.2	+0.3
B21A	**Ellsworth Farm** baz=51	50.48	331	P	P	19 25 03.4	+0.6
QLMT	**Earthquake Lak** 0.8nm,0.7s	50.49	325	*e*P	P	19 25 04.1	+0.9
ISA	**Isabella** baz=51	50.60	311	P	P	19 25 04.1	+0.1
TPH	**Tonopah** 7.7nm,1.1s	50.70	314	*e*P	P	19 25 04.9	+0.1
A21A	**Bergtoll Ranch** baz=51,SNR=5.9	50.83	332	P	P	19 25 06.2	+0.8
B20A	**Solberg Farm,** baz=51,SNR=11	50.98	330	P	P	19 25 07.1	+0.6
BOZ	**Bozeman (W)** baz=51,SNR=11	51.09	326	P	P	19 25 07.7	+0.1
VES	**Vestal, Richgr** baz=51	51.13	311	P	P	19 25 08.3	+0.5
A20A	**Cobblestone Ra** baz=51,SNR=6.0	51.23	331	P	P	19 25 09.4	+1.0
MCMT	**McKenzie Canyo** 4.5nm,0.7s	51.30	324	*e*P	P	19 25 10.1	+0.7
PKM	**Peak Mountain** baz=51	51.33	310	P	P	19 25 10.0	+0.4
DLMT	**Dillon** 13nm,1.3s	51.47	325	*e*P	P	19 25 10.6	+0.2
HLID	**Hailey** baz=52,SNR=6.5	51.53	322	P	P	19 25 11.1	+0.1
HLID	**Hailey** 5.9nm,0.2s	51.53	322	*e*P	P	19 25 10.9	0.0
EGMT	**Eagleton** baz=52	51.57	329	P	P	19 25 10.5	-0.5
NVAR	**Mina Array Bea** 3.4nm,0.7s,baz=125,slow=7.1,SNR=29	51.62	314	P	P	19 25 11.8	+0.1
NVAR	0.9nm,0.5s,baz=144,slow=4.2,SNR=4.8			PcP	PcP	19 26 23.3	+0.1
SMMC	**Simmler** baz=52	51.62	310	P	P	19 25 12.3	+0.8
LRM	**Limekiln Ridge** 87nm,1.0s	51.66	325	*e*P	P	19 25 12.0	+0.1
A19A	**Klindworth Far** baz=52	51.66	330	P	P	19 25 12.4	+0.7
BMN	**Battle Mountai** 8.3nm,1.0s	51.77	317	*e*P	P	19 25 12.2	-0.5
MFID	**Camas Ranch** 12nm,0.8s	52.33	321	*e*P	P	19 25 16.6	-0.1
MSO	**Missoula** baz=53	53.08	326	P	P	19 25 22.1	-0.2
WVOR	**Wild Horse Val** 11nm,0.9s	53.64	319	*e*P	P	19 25 26.1	-0.3
YBMT	**Yellow Bay** 6.2nm,0.8s	53.72	327	*e*P	P	19 25 27.8	+0.9
JTMT	**Jette** 7.7nm,0.9s	53.80	326	*e*P	P	19 25 27.8	+0.3
BMO	**Blue Mountains** 1.8nm,0.6s	53.98	322	*e*P	P	19 25 27.4	-1.4
BSMT	**Bismarck Peak** 12nm,1.2s	54.14	326	*e*P	P	19 25 30.3	+0.3
MOD	**Modoc** 3.4nm,0.6s	54.51	317	*e*P	P	19 25 32.0	-0.7
M04C	**Macdoel** baz=56	55.49	317	P	P	19 25 39.6	-0.1
NEW	**Newport** baz=56	55.67	326	P	P	19 25 40.6	-0.3
J05D	**Fort Rock, OR** baz=56,SNR=7.2	55.73	319	P	P	19 25 41.5	0.0
J04D	**Umpqua Nationa** baz=56	56.29	318	P	P	19 25 45.5	0.0
KHMM	**Horse Mountain**	56.44	315	*e*P	P	19 25 46.7	+0.1
G05D	**Wamic, OR** baz=57	56.66	321	P	P	19 25 48.7	+0.8
EDM	**Edmonton** 19nm,0.7s	56.67	332	*e*P	P	19 25 47.2	-0.6
I04A	**Tendick Farm,** baz=57	56.72	319	P	P	19 25 47.9	-0.4
I03D	**Drain, OR** baz=57	57.30	318	P	P	19 25 52.7	+0.4
YKA	**Yellowknife Ar** 12nm,0.6s,baz=133,slow=6.6,SNR=121	63.27	340	P	P	19 26 32.4	0.0
DLBC	**Dease Lake** 2.7nm,0.7s	67.37	331	*e*P	P	19 26 59.9	+0.9
DBIC	**Dimbokro** 7.8nm,1.1s,baz=234,slow=8.7,SNR=4.0	67.43	86	P	P	19 27 00.4	+0.2
INK	**Inuvik** 4.2nm,0.5s	73.03	340	*e*P	P	19 27 33.5	+0.4
TORD	**Torodi Ar. Bea** 0.3nm,0.6s,baz=286,slow=6.5,SNR=4.7	73.42	78	P	P	19 27 35.8	-0.7
EGAK	**Eagle**	74.61	336	*e*P	P	19 27 41.8	-0.7
	8.3nm,1.1s						
ILAR	**Eielson Array** 1.9nm,0.7s,baz=113,slow=4.6,SNR=16	76.99	335	P	P	19 27 56.0	+0.1
ILAR	0.4nm,0.8s,baz=102,slow=6.0,SNR=4.2			PP	PP	19 30 52.6	+1.2
TRF	**Thorofare Moun** 5.0nm,0.9s	78.23	333	*e*P	P	19 28 03.4	+0.3
PPLA	**Purkeypile** 6.6nm,0.4s	79.02	333	*e*P	P	19 28 07.3	-0.1
NOA	**NORSAR Array B** 0.8nm,0.8s,baz=269,slow=5.3,SNR=2.7	81.09	29	P	P	19 28 17.5	-0.9
GERES	**GERESS Array B** 0.5nm,0.7s,baz=250,slow=35,SNR=4.0	82.54	42	P	P	19 28 25.7	-0.6
FINES	**FINESS Array B** 1.6nm,1.0s,baz=267,slow=7.0,SNR=3.5	88.20	28	P	P	19 28 54.6	+0.7
MLR	**Muntele Rosu** comp=Z,5.7nm,19.8s,baz=183,slow=33	91.22	44	LR	LR	20 06 40.0	
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=339,slow=1.6,SNR=3.5	116.49	15	PKP	PKPdf	19 34 45.7	-0.2
KURK	**Kurchatov**	117.50	20	PKP	PKPdf	19 34 48.6	+0.7
KURBB	**Kurchatov Arra** 0.3nm,0.6s,baz=321,slow=2.0,SNR=5.1	117.55	20	PKP	PKPdf	19 34 48.6	+0.6
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=326,slow=2.7,SNR=7.2	122.12	20	PKP	PKPdf	19 34 56.6	-0.4
SONM	**Songino Array** 0.4nm,0.4s,baz=354,slow=1.4,SNR=5.3	125.47	1	PKP	PKPdf	19 35 03.5	-0.1
KSRS	**Korea Array** 0.5nm,0.5s,baz=320,slow=0.5,SNR=3.8	131.78	338	PKP	PKPdf	19 35 16.4	+0.8
KSAR	**Wonju Array Be**	131.81	338	PKP	PKPdf	19 35 16.4	+0.7
STKA	**Stephens Creek** 1.6nm,0.9s,baz=104,slow=4.2,SNR=3.4	139.44	228	PKP	PKPdf	19 35 28.8	-1.3
ASAR	**Alice Springs** 2.6nm,0.7s,baz=118,slow=2.5,SNR=11	149.41	234	PKP	PKPdf	19 35 47.0	-0.6
ASAR	2.8nm,0.6s,baz=112,slow=3.9,SNR=36			PKPbc	PKPbc	19 35 50.7	-1.5
WRAB	**Tennant Creek**	150.64	241	*e*PKPbc	PKPbc	19 35 53.7	-1.4
WRA	**Warrenga Arr** 2.7nm,0.5s,baz=108,slow=2.6,SNR=68	150.65	241	PKPbc	PKPbc	19 35 53.9	-1.3
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=27,slow=0.4,SNR=3.3	153.50	18	PKP	PKPdf	19 35 54.7	+0.9
CMAR	0.8nm,0.6s,baz=320,slow=3.6,SNR=9.5			PKPbc	PKiKP	19 36 02.3	+0.6

*IDC **07** 19:30:57.1±2.5,51.37N×177.35E,h0km,mb3.5/5, mb1 4.0/6,mb1mx3.5/28,mbtmp3.6/6,ML3.2/1,Error ellipse: s-maj=65.8km s-min=37.2km az=5.0*

*ISCJB **07** 19:31:20.8±0.6,51.9N±0.1×179.52E±0.06,h127km±5km, mb3.5/5,Error ellipse: s-maj=21.9km s-min=6.2km az=5.8*

*NEIC **07** 19:31:21.4,51.86N×179.55E,h120km,MG3.2(AEIC), After AEIC.*

ISC 07 19:31:21.8±0.9,51.9N±0.1×179.52E±0.05,h122km±7km, n27,σ0°32/32,mb3.7/5,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CESW	**Semis' Southwe**	0.04	45	P	Pn	19 31 38.0	-0.4
CERAA	**Semis' Rag'd T**	0.11	71	P	Pn	19 31 38.2	-0.3
CEAP	**Semis' Anvil P**	0.14	16	P	Pn	19 31 38.7	+0.1
CEAP				S	Sn	19 31 50.8	-0.4
AMKA	**Amchitka**	0.51	195	P	Pn	19 31 40.0	-0.1
AMKA				S	Sn	19 31 53.5	-0.3
LSPA	**Little Sitkin**	0.59	279	P	Pn	19 31 40.7	+0.1
LSPA				S	Sn	19 31 55.4	+0.7
LSSE	**Little Sitkin**	0.59	276	P	Pn	19 31 40.7	+0.1
LSNW	**Little Sitkin**	0.63	279	P	Pn	19 31 40.7	-0.1
LSSA	**Little Sitkin**	0.63	277	P	Pn	19 31 40.9	0.0
GALAA	**Gareloi Lava P**	1.07	95	P	Pn	19 31 44.8	+0.2
GAEA	**Gareloi East**	1.08	94	P	Pn	19 31 44.9	+0.1
TANO	**Tanaga North**	1.46	87	P	Pn	19 31 49.1	+0.2
TASE	**Tanaga Southea**	1.52	90	P	Pn	19 31 49.6	0.0
TAFP	**Tanaga Falls P**	1.55	88	P	Pn	19 31 49.7	-0.2
TAFP				S	Sn	19 32 11.1	-0.3
KICM	**Kanaga Island**	2.04	87	P	Pn	19 31 55.8	0.0
KIKV	**Kanaga Island**	2.05	89	P	Pn	19 31 56.1	+0.1
KIRH	**Kanaga Island**	2.10	88	P	Pn	19 31 56.5	-0.1
ADAG	**Mount Adagdak**	2.41	86	P	Pn	19 32 00.2	-0.2
GSCK	**Great Sitkin C**	2.68	85	P	Pn	19 32 03.7	-0.3
GSMY	**Great Sitkin M**	2.74	85	P	Pn	19 32 04.5	-0.3
GSTR	**Great Sitkin T**	2.74	84	*e*Pn	Pn	19 32 04.5	-0.3
SMY	**Shemya**	3.44	287	P	Pn	19 32 13.0	-0.8
SMY				S	Sn	19 32 54.5	+0.5
ATKA	**Atka Island**	3.90	83	P	Pn	19 32 19.9	0.0
ILAR	**Eielson Array** 0.3nm,0.6s,baz=258,slow=8.2,SNR=3.9	21.53	40	P	P	19 36 00.8	0.0
YKA	**Yellowknife Ar** 0.5nm,0.4s,baz=280,slow=7.8,SNR=5.3	35.65	47	P	P	19 38 07.8	+0.3
NVAR	**Mina Array Bea** 1.0nm,0.7s,baz=304,slow=8.1,SNR=7.1	44.53	82	P	P	19 39 21.4	+0.1
PDAR	**Pinedale Array** 0.7nm,0.5s,baz=353,slow=4.8,SNR=4.4	47.15	72	P	P	19 39 41.4	-0.5
TXAR	**Lajitas Array** 0.2nm,0.5s,baz=308,slow=4.5,SNR=6.0	59.61	80	P	P	19 41 13.1	+0.2

IDC 07 19:46:10.6±1.7,6.00S×150.17E,h0km,mb3.7/3, mb1 4.1/3,mb1mx3.5/17,mbtmp3.7/3,Error ellipse: s-maj=98.1km s-min=31.8km az=132.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 3.6nm,0.8s,baz=52,slow=11,SNR=23	20.71	227	P	P	19 50 53.0	+0.2
ASAR	**Alice Springs** 0.5nm,0.6s,baz=53,slow=9.1,SNR=8.4	23.53	220	P	P	19 51 22.1	-0.6
NVAR	**Mina Array Bea** 0.4nm,0.6s,baz=246,slow=5.4,SNR=3.8	94.88	52	P	P	19 59 35.1	-0.2
TORD	**Torodi Ar. Bea** 0.6nm,0.6s,baz=66,slow=2.7,SNR=5.8	148.14	285	PKPbc	PKPbc	20 05 59.2	-0.4

*IDC **07** 19:50:46.5±1.1,6.21S×150.42E,h0km,mb3.8/5, mb1 4.1/5,mb1mx3.6/30,mbtmp3.8/5,MS2.9/2,Ms1 2.9/2, ms1mx2.5/27,Error ellipse: s-maj=80.5km s-min=23.1km az=124.0*

*ISCJB **07** 19:50:52.2±1.0,6.3S±0.3×150.4E±0.3,h48km,mb3.6/4, MS2.8/2,Error ellipse: s-maj=59.7km s-min=11.2km az=44.4*

*NEIC **07** 19:50:53.9±3.0,6.26S×150.39E,h52km±25km,mb4.2/1, Error ellipse: s-maj=50.9km s-min=19.7km az=125.0*

ISC 07 19:50:53.4±1.0,6.2S±0.3×150.4E±0.4,h48km,n12, σ0°88/11,mb3.5/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	4.48	225	*e*P	Pn	19 51 59.2	+0.4
PMG				*e*S	Sn	19 52 49.6	-0.1
GUMO	**Guam** comp=Z,12nm,18.7s,baz=90,slow=39	20.44	345	LR	LR	20 03 55.3	
WRAB	**Tennant Creek** 10.0nm,0.9s	20.68	227	*e*P	P	19 55 29.5	-0.1
WRA	**Warramunga Arr** 2.8nm,0.5s,baz=52,slow=11,SNR=32	20.70	227	P	P	19 55 29.8	0.0
AS31	**Alice Springs**	23.48	221	*e*P	P	19 56 00.7	+1.7
ASAR	**Alice Springs** 0.6nm,0.4s,baz=56,slow=8.4,SNR=15	23.48	221	P	P	19 55 58.4	-0.7
STKA	**Stephens Creek** 1.2nm,0.7s,baz=23,slow=15,SNR=3.3	26.80	197	P	P	19 56 28.2	-0.9
USRK	**Ussuriysk Ar.** comp=Z,28nm,19.2s,baz=99,slow=34	52.87	343	LR	LR	20 20 57.6	
ILAR	**Eielson Array** 0.4nm,0.9s,baz=251,slow=5.6,SNR=3.3	84.39	23	P	P	20 03 19.7	-0.7
NVAR	**Mina Array Bea** 0.6nm,0.8s,baz=254,slow=4.8,SNR=4.7	94.86	52	P	P	20 04 11.9	+1.0
GERES	**GERESS Array B** 0.2nm,0.4s,baz=46,slow=2.8,SNR=3.0	123.96	327	PKP	PKPdf	20 09 45.9	-0.7
TORD	**Torodi Ar. Bea** 0.6nm,0.5s,baz=85,slow=2.3,SNR=8.0	148.39	285	PKPbc	PKPbc	20 10 36.1	+0.3

CSEM 07 19:53:39.3±0.3,47.30N×18.15E,h2km,ML1.3,9D,Error ellipse: s-maj=8.9km s-min=4.4km az=132.0,Hungary

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PKST	**T˝'s**	0.09	241	⇓*e*Pg	Pg	19 53 41.1	0.0
PKST				⇓*e*Sg	Sg	19 53 42.9	+0.6
PKST	**T˝'s**	0.09	241	⇓*e*Pg	Pg	19 53 41.1	0.0
PKST				*e*Sg	Sg	19 53 42.9	+0.6
CSKK	**Cs˘ŧkako**	0.10	51	⇓*e*Pg	Pg	19 53 40.6	-0.6
CSKK				⇓*e*Sg	Sg	19 53 42.5	-0.1
CSKK	**Cs˘ŧkako**	0.10	51	⇓*e*Pg	Pg	19 53 40.6	-0.6
CSKK				*e*Sg	Sg	19 53 42.5	-0.1

PKSG		**0.19**	**61**	⇓*e*Pg		Pg	19 53 42.3	-0.6
PKSG				⇓*e*Sg		Sg	19 53 45.1	-0.3
PKSG		**0.19**	**61**	⇓*e*Pg		Pg	19 53 42.3	-0.6
PKSG				*e*Sg		Sg	19 53 45.1	-0.3
PKSM	**Moragy**	**1.14**	**163**	*e*Pg		Pg	19 54 00.9	-0.3
PKSM				*e*Sg		Sb	19 54 17.7	+0.7
PKSM	**Moragy**	**1.14**	**163**	*e*Pg		Pg	19 54 00.9	-0.3
PKSM				*e*Sg		Sb	19 54 17.7	+0.7
PSZ	**Piszkesteto**	**1.33**	**62**	*e*Pg		Pb	19 54 05.3	+0.2
PSZ				*e*Sg		Sn	19 54 23.9	+0.5
PSZ	**Piszkesteto**	**1.33**	**62**	*e*Pn		Pb	19 54 05.3	+0.2
PSZ				*e*Sn		Sn	19 54 23.9	+0.5

CSEM ***07*** *19:55:00.4±0.3, 50.˚40N×18.˚86E, h2km, Error ellipse: s-maj=9.6km s-min=4.2km az=174.0*

PRU 07 19:55:00.7, 50.˚37N×18.˚88E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.11**	**138**	*e*Pg	Pg	19 55 03.3	+0.5
CHZP				*e*Sg	Sg	19 55 05.0	+0.8
OJC	**Ojcow**	**0.61**	**104**	*e*Pg	Pg	19 55 12.3	-0.1
OJC				*e*Sg	Sg	19 55 21.3	+1.0
OJC	**Ojcow**	**0.61**	**104**	*e*Pg	Pg	19 55 12.3	-0.1
OJC	**Ojcow**	**0.61**	**104**	*e*Sg	Sg	19 55 21.3	+1.0
OKC	**Ostrava-Krasne**	**0.71**	**222**	*e*PG	Pg	19 55 14.2	-0.2
OKC				*e*SG	Sg	19 55 23.5	-0.1
OKC	**Ostrava-Krasne**	**0.71**	**222**	Pg	Pg	19 55 14.2	-0.2
	5.2nm,0.4s						
OKC				Sg	Sg	19 55 23.5	-0.1
MORC	**Moravsky Berou**	**1.05**	**236**	*e*Pg	Pg	19 55 21.3	+0.4
MORC				*e*Sg	Sg	19 55 34.6	+0.1
KRLC	**Kraliky**	**1.38**	**258**	*e*SG	Sg	19 55 44.7	-0.5
KRLC	**Kraliky**	**1.38**	**258**	Sg	Sg	19 55 44.7	-0.5
DPC	**Dobruska-Polom**	**1.64**	**270**	*e*PG	Pn	19 55 31.2	+0.3
DPC				*e*SG	Sn	19 55 52.8	+0.1
DPC	**Dobruska-Polom**	**1.64**	**270**	Pg	Pn	19 55 31.2	+0.3
DPC				Sg	Sn	19 55 52.8	+0.1
VRAC	**Vranov**	**1.82**	**235**	*e*Pn	Pn	19 55 33.7	+0.4
VRAC				*e*Sg	Sb	19 55 58.2	-0.1

IDC 07 20:00:03.5±3.2, 50.˚14N×149.˚73E, h440km±52km, mb2.7/5, mb1 3.0/6, mb1mx2.6/45, mbtmp3.5/6, Error ellipse: s-maj=52.9km s-min=19.0km az=178.0, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**7.74**	**222**	P	P	20 01 56.1	+0.1
	baz=65,slow=12						
ILAR	**Eielson Array**	**35.39**	**41**	P	P	20 06 19.9	-0.2
	0.4nm,0.6s,baz=272,slow=10.0,SNR=6.9						
MKAR	**Makanchi Array**	**43.46**	**293**	P	P	20 07 25.7	-0.2
	0.4nm,0.6s,baz=60,slow=6.6,SNR=4.9						
KURBB	**Kurchatov Arra**	**43.76**	**299**	P	P	20 07 27.9	-0.1
	0.8nm,0.6s,baz=67,slow=8.7,SNR=7.9						
NVAR	**Mina Array Bea**	**62.84**	**62**	P	P	20 09 45.2	+0.2
	0.3nm,0.6s,baz=286,slow=6.5,SNR=3.3						
TXAR	**Lajitas Array**	**77.73**	**59**	P	P	20 11 13.6	-0.3
	0.3nm,0.7s,baz=303,slow=5.3,SNR=3.7						

ISCJB ***07*** *20:20:52.0±1.8, 16.˚5N±0.˚1×91.˚23W±0.˚06, h24km±12km, Error ellipse: s-maj=19.5km s-min=6.3km az=25.9*
MEX ***07*** *20:20:51.9±0.5, 16.˚37N×91.˚07W, h15km±40km, MD4.1*
CASC ***07*** *20:20:54.0±2.8, 16.˚18N×91.˚09W, h0km±49km, MD3.6*

ISC 07 20:20:51.2±1.8, 16.˚36N±0.˚09×91.˚24W±0.˚05, h13km±12km, n9, σ0§96/17, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**0.87**	**265**	*e*P	**Pg**	**20 21 08.0**	**-0.1**
CCIG				*e*S	**Sb**	**20 21 20.8**	**+1.0**
TGIG		**1.85**	**283**	*e*P	**Pn**	**20 21 22.1**	**-0.6**
TGIG				*e*S	**Sn**	**20 21 46.6**	**+0.4**
FUG	**Fuego 3**	**1.94**	**169**	*e*P	**Pb**	**20 21 25.9**	**-0.6**
NBG	**Las Nubes**	**1.96**	**154**	*e*S	**Sb**	**20 21 51.7**	**+0.3**
MRL	**Marmol**	**1.97**	**131**	*e*P	**Pn**	**20 21 24.7**	**+0.3**
MRL				*e*P	**Pb**	**20 21 26.1**	**-0.9**
MRL				*e*S	**Sb**	**20 21 50.9**	**-0.6**
MRL				*e*S	**Sg**	**20 21 57.0**	**+2.5**
PCIG		**2.02**	**251**	*e*P	**Pn**	**20 21 24.9**	**0.0**
PCIG				*i* S	**Sn**	**20 21 50.1**	**+0.1**
PCG	**Pacaya**	**2.05**	**163**	*e*P	**Pb**	**20 21 27.6**	**-0.8**
PCG				*e*S	**Sg**	**20 21 55.9**	**-1.3**
JAT	**Jato**	**2.07**	**191**	*e*P	**Pb**	**20 21 28.7**	**+0.1**
IXG	**Ixpaco**	**2.30**	**161**	*e*P	**Pn**	**20 21 29.1**	**+0.1**
IXG				*e*S	**Sn**	**20 21 57.6**	**+0.3**

IDC 07 20:34:01.3±2.1, 6.˚62S×129.˚57E, h0km, mb3.3/1, mb1 3.4/3, mb1mx3.2/30, mbtmp3.2/3, ML3.0/2, MS2.6/1, Ms1 2.6/1, ms1mx2.3/14, Error ellipse: s-maj=124.0km s-min=31.6km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.03**	**161**	Pn	Pn	20 37 21.4	-0.2
	0.1nm,0.3s,baz=340,slow=12,SNR=4.8						
WRA				Sn	Sn	20 39 44.8	-14
	0.1nm,0.3s,baz=335,slow=21,SNR=3.6						
ASAR	**Alice Springs**	**17.46**	**167**	P	Pn	20 38 06.7	+0.2
	0.1nm,0.3s,baz=348,slow=13,SNR=6.0						
MJAR	**Matsushiro Arr**	**43.69**	**10**	LR	LR	20 57 20.1	
	comp=Z,8.5nm,21.6s,baz=265,slow=32						
MKAR	**Makanchi Array**	**67.67**	**327**	P	P	20 45 00.4	0.0
	0.1nm,0.4s,baz=119,slow=7.5,SNR=3.4						

MEX 07 20:38:17.8±0.4, 17.˚08N×101.˚16W, h17km±174km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.60**	**331**	*e*P	Pg	20 38 27.6	-2.1
ZIIG				*e*S	Sg	20 38 35.3	-2.5
CAIG	**El Cayaco**	**0.85**	**92**	*e*P	Pb	20 38 31.3	-2.8
CAIG				*e*S	Sb	20 38 41.3	-4.0
ARIG	**Puente Sto Nin**	**1.42**	**33**	*i* P	Pn	20 38 39.3	-3.5
ARIG				*e*S	Sn	20 38 56.1	-5.1
MEIG	**Mezcala**	**1.69**	**60**	*e*P	Pn	20 38 43.6	-3.1
MEIG				*i* S	Sn	20 39 04.1	-3.8

IDC ***07*** *20:38:49.2±0.7, 8.˚95N×75.˚61W, h0km, mb4.1/8, mb1 4.3/10, mb1mx3.8/40, mbtmp4.2/10, ML4.5/3, MS3.2/4, Ms1 3.2/4, ms1mx2.8/35, Error ellipse: s-maj=24.8km s-min=14.8km az=51.0*
ISCJB ***07*** *20:38:51.9±0.5, 9.˚06N±0.˚05×75.˚64W±0.˚05, h33km, mb4.2/10, Error ellipse: s-maj=8.0km s-min=6.5km az=26.4*
NEIC ***07*** *20:38:54.5±0.8, 8.˚96N×75.˚65W, h39km±9km, mb5.0/2, Error ellipse: s-maj=10.2km s-min=8.0km az=47.0*
NEIC Felt at Monteria.

ISC 07 20:38:54.1±0.5, 9.˚08N±0.˚06×75.˚67W±0.˚06, h35km, n24, σ1§83/29, mb4.1/10, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BCIP	**Isla Barro Col**	**4.12**	**272**	*e*Pn	**Pn**	**20 39 54.5**	**-0.2**
ROSC	**El Rosal**	**4.40**	**162**	Pn	**Pn**	**20 39 59.8**	**+1.0**
	3.7nm,0.3s,baz=72,slow=20,SNR=4.2						
ROSC				Pg		20 40 07.1	
	9.9nm,0.3s,baz=104,slow=17,SNR=10						
ROSC				Sn	**Sn**	**20 40 51.7**	**+2.6**
	17nm,0.3s,baz=73,slow=19,SNR=3.9						
ROSC				Lg	Lg	20 41 00.7	
	57nm,0.3s,baz=220,slow=23,SNR=9.3						
SDV	**Santo Domingo**	**4.98**	**92**	*e*Pn	**Pn**	**20 40 08.4**	**+1.8**
OTAV	**Otavalo**	**9.21**	**198**	*e*Pn	**Pn**	**20 41 03.7**	**-1.2**
	2.5nm,0.6s						
JTS	**JuntasAbangare**	**9.23**	**278**	Pn	**Pn**	**20 41 06.1**	**+1.1**
	33nm,0.3s,baz=72,slow=8.9,SNR=10						
JTS				Sn	**Sn**	**20 42 46.6**	**-1.1**
	1.3nm,0.3s,baz=131,slow=19,SNR=2.6						
JTS				LR	LR	20 46 03.8	
	comp=Z,60nm,20.7s,baz=149,slow=47						
JTS	**JuntasAbangare**	**9.23**	**278**	*e*Pn	**Pn**	**20 41 05.5**	**+0.5**
	97nm,0.5s						
JTS				Sn	**Sn**	**20 42 46.6**	**-1.1**
MTDJ	**Mount Denham**	**9.28**	**349**	*e*Pn	**Pn**	**20 41 08.1**	**+2.5**
	24nm,0.4s						
MTDJ				*e*Sn	**Sn**	**20 42 43.6**	**-5.1**
SDDR	**Presa de Saban**	**10.72**	**23**	*e*Pn	**Pn**	**20 41 25.6**	**+0.2**
	8.1nm,0.5s						
PCRV	**Puerto La Cruz**	**10.93**	**83**	Pn	**Pn**	**20 41 28.1**	**-0.1**
	1.1nm,0.3s,baz=305,slow=5.4,SNR=3.3						
PCRV				Sn	**Sn**	**20 43 29.9**	**+0.5**
	1.5nm,0.3s,baz=90,slow=20,SNR=3.1						
PCRV				LR	LR	20 47 12.8	
	comp=Z,260nm,18.7s,baz=260,slow=46						
ATAH	**Atahualpa**	**16.33**	**190**	LR	LR	20 50 29.7	
	comp=Z,82nm,20.4s,baz=25,slow=43						
PTGA	**Pitinga**	**18.43**	**121**	P	**P**	**20 43 05.7**	**-1.0**
	0.8nm,0.3s,baz=309,slow=13,SNR=10.0						
PTGA				LR	LR	20 50 51.1	
	comp=Z,137nm,19.5s,baz=13,slow=39						
SAML	**Samuel**	**21.80**	**145**	*e*P	**P**	**20 43 39.5**	**-3.9**
	8.9nm,0.8s						
LPAZ	**La Paz**	**26.28**	**163**	P	**P**	**20 44 26.7**	**-0.5**
	1.6nm,0.7s,baz=326,slow=13,SNR=5.5						
SIV	**San Ignacio**	**28.80**	**150**	P	**P**	**20 44 47.0**	**-2.1**
	2.2nm,0.5s,baz=330,slow=7.7,SNR=8.5						
TXAR	**Lajitas Array**	**33.09**	**311**	P	**P**	**20 45 28.1**	**+1.2**
	0.7nm,0.8s,baz=116,slow=8.1,SNR=5.5						
KSU1	**Kansas State U**	**35.30**	**331**	*e*P	**P**	**20 45 46.5**	**+0.6**
	53nm,0.6s						
BDFB	**Brasilia**	**36.79**	**132**	P	**P**	**20 45 57.5**	**-1.5**
	3.0nm,0.5s,baz=294,slow=12,SNR=5.5						
RCBR	**Riachuelo**	**42.31**	**109**	P	**P**	**20 46 43.9**	**-1.1**
	24nm,1.2s,baz=326,slow=7.3,SNR=3.2						
SCHQ	**Schefferville**	**46.17**	**7**	P	**P**	**20 47 18.0**	**+2.6**
	1.8nm,0.8s,baz=190,slow=6.1,SNR=2.9						
YKA	**Yellowknife Ar**	**60.30**	**340**	P	**P**	**20 48 58.7**	**-0.3**
	0.7nm,0.6s,baz=131,slow=7.1,SNR=6.1						
TORD	**Torodi Ar. Bea**	**75.76**	**79**	P	**P**	**20 50 37.8**	**+0.7**
	0.8nm,0.5s,baz=287,slow=6.0,SNR=9.5						
ASAR	**Alice Springs**	**148.23**	**239**	PKPbc	**PKPbc**	**20 58 37.1**	**-0.3**
	0.2nm,0.8s,baz=109,slow=3.4,SNR=3.2						
WRA	**Warramunga Arr**	**149.06**	**246**	PKPbc	**PKPbc**	**20 58 40.9**	**+1.3**
	0.2nm,0.3s,baz=106,slow=2.2,SNR=3.1						
CMAR	**Chiang Mai Arr**	**152.13**	**11**	PKPbc	**PKPbc**	**20 58 48.0**	**+1.1**
	0.6nm,0.9s,baz=305,slow=3.2,SNR=3.9						
CMAR				PKPab	**PKPab**	**20 58 55.4**	**-1.0**
	0.5nm,0.8s,baz=308,slow=2.8,SNR=4.3						

ISCJB ***07*** *20:39:30.1±2.6, 17.˚5S±0.˚4×174.˚3W±0.˚5, h150km, mb3.9/6, Error ellipse: s-maj=81.0km s-min=24.7km az=43.9*
IDC ***07*** *20:39:33.7±16.0, 17.˚56S×174.˚32W, h170km±137km, mb3.7/6, mb1 3.8/6, mb1mx3.5/33, mbtmp4.2/6, Error ellipse: s-maj=84.9km s-min=27.8km az=119.0*

ISC 07 20:39:30.9±1.9, 17.˚6S±0.˚4×174.˚2W±0.˚4, h150km, n9, σ1§15/11, mb4.0/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**42.33**	**242**	P	**P**	**20 47 11.3**	**+1.2**
	1.8nm,0.6s,baz=92,slow=10,SNR=6.3						
JAY	**Jayapura**	**46.69**	**283**	P	**P**	**20 47 45.7**	**+0.7**
	5.4nm,1.0s,baz=90,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**48.64**	**259**	P	**P**	**20 47 58.6**	**-1.4**
	1.2nm,0.9s,baz=96,slow=7.3,SNR=10						
WRA				PcP	**PcP**	**20 49 21.7**	**-1.5**
	0.1nm,0.4s,baz=92,slow=3.4,SNR=3.0						
ASAR	**Alice Springs**	**48.75**	**254**	P	**P**	**20 48 00.3**	**-0.4**
	5.2nm,0.8s,baz=88,slow=8.3,SNR=62						
ASAR				PcP	**PcP**	**20 49 23.8**	**+0.3**
	0.3nm,0.5s,baz=104,slow=3.7,SNR=3.6						
PETK	**Petropavlovsk-**	**74.44**	**343**	P	**P**	**20 50 52.8**	**+0.5**
	2.7nm,0.7s,baz=156,slow=7.4,SNR=2.4						
ILAR	**Eielson Array**	**84.69**	**11**	P	**P**	**20 51 47.7**	**+0.3**
	0.4nm,0.5s,baz=230,slow=5.8,SNR=7.3						
MKAR	**Makanchi Array**	**111.77**	**314**	PKiKP	**PKiKP**	**20 57 47.8**	**-0.1**
	0.2nm,0.6s,baz=98,slow=1.7,SNR=3.1						
BRTR	**Keskin Array B**	**147.29**	**318**	PKPbc	**PKPab**	**20 58 57.4**	**-1.9**
	0.9nm,0.7s,baz=122,slow=1.9,SNR=5.2						
GERES	**GERESS Array B**	**148.13**	**350**	PKPbc	**PKPbc**	**20 58 59.5**	**+0.5**
	0.2nm,0.5s,baz=29,slow=3.0,SNR=6.7						

JMA ***07*** *21:27:57.5±0.2, 24.˚81N×122.˚01E, h100km±2km, M2.8*
ISCJB ***07*** *21:27:58.1±0.5, 24.˚84N±0.˚03×122.˚06E±0.˚02, h98km±4km, Error ellipse: s-maj=4.9km s-min=2.8km az=160.5*
TAP ***07*** *21:27:58.0, 24.˚85N×122.˚06E, h98km, ML3.8, D*

ISC 07 21:27:58.4±1.5, 24.˚84N±0.˚05×122.˚06E±0.˚03, h97km±8km, n56, σ0§43/104, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EGS		**0.12**	**270**	P	**Pn**	**21 28 12.1**	**+0.1**
	baz=263						
TWB1	**Santiao Chiao**	**0.17**	**339**	*i* P	**Pn**	**21 28 12.1**	**-0.1**
	baz=340						
TWB1				S	**Sn**	**21 28 22.1**	**-0.3**
	baz=340						
ILA	**Ilan**	**0.29**	**255**	P	**Pn**	**21 28 12.2**	**-0.4**
	baz=251						
ILA				*e*S	**Sn**	**21 28 23.4**	**+0.2**
	baz=251						
TWC	**Suao**	**0.30**	**219**	*i* P	**Pn**	**21 28 12.6**	**-0.1**
	baz=216						
TWC				S	**Sn**	**21 28 22.8**	**-0.4**
	baz=216						
NWF	**Wu-fen Shan**	**0.34**	**312**	*i* P	**Pn**	**21 28 12.7**	**-0.2**
	baz=311						
NWF				S	**Sn**	**21 28 23.2**	**-0.6**
	baz=311						
TWE	**Neicheng**	**0.38**	**251**	P	**Pn**	**21 28 12.9**	**-0.1**
	baz=248						
TWE				*e*S	**Sn**	**21 28 24.0**	**0.0**
	baz=248						
ENTT	**Nioudou**	**0.49**	**246**	P	**Pn**	**21 28 14.1**	**+0.2**
	baz=243						
ENTT				*e*S	**Sn**	**21 28 25.6**	**+0.2**
	baz=243						
ENA	**Nanau**	**0.51**	**215**	P	**Pn**	**21 28 14.3**	**+0.3**
	baz=213						
ENA				S	**Sn**	**21 28 26.3**	**+0.8**
	baz=213						
TAP1	**Taipei**	**0.52**	**292**	*e*P	**Pn**	**21 28 13.4**	**-0.6**
	baz=290						
TAP1				*e*S	**Sn**	**21 28 26.8**	**+1.2**
	baz=290						
TAP	**Taipei**	**0.54**	**291**	*e*P	**Pn**	**21 28 14.3**	**+0.2**
	baz=290						
TAP				*e*S	**Sn**	**21 28 26.3**	**+0.4**
	baz=290						
TWY	**Chenhua**	**0.60**	**316**	P	**Pn**	**21 28 14.3**	**-0.4**
	baz=315						
TWY				*e*S	**Sn**	**21 28 26.4**	**-0.4**
	baz=315						
NSK	**Sanguang**	**0.66**	**255**	⇓*i* P	**Pn**	**21 28 15.2**	**-0.1**
	baz=254						
NSK				*e*S	**Sn**	**21 28 27.5**	**-0.3**
	baz=254						
NNS	**Nan Shan**	**0.74**	**237**	P	**Pn**	**21 28 16.2**	**+0.1**
	baz=236						
NNS				*e*S	**Sn**	**21 28 29.3**	**-0.1**
	baz=236						
PCYT	**Pengchaiyu**	**0.78**	**1**	*e*P	**Pn**	**21 28 16.5**	**+0.1**
	baz=1.0						
NCU	**National Centr**	**0.80**	**279**	P	**Pn**	**21 28 16.8**	**+0.3**
	baz=278						
NCU				*e*S	**Sn**	**21 28 30.4**	**+0.3**
	baz=278						
TWD	**Chiawan**	**0.87**	**209**	*e*P	**Pn**	**21 28 16.8**	**-0.4**
	baz=208						
TWD				*e*S	**Sn**	**21 28 31.3**	**0.0**
	baz=208						
JYNG	**Yonagunijimaku**	**0.90**	**116**	P	**Pn**	**21 28 17.3**	**-0.2**
JYNG				S	**Sn**	**21 28 31.9**	**+0.1**
YOJ	**Yonaguni jima**	**0.95**	**114**	P	**Pn**	**21 28 17.9**	**-0.1**
YOJ				S	**Sn**	**21 28 33.1**	**+0.4**
HWA	**Hwalien**	**0.96**	**206**	*e*P	**Pn**	**21 28 18.0**	**-0.2**
	baz=204						
HWA				*e*S	**Sn**	**21 28 33.8**	**+0.9**
	baz=204						
NSTT	**Nanjuang**	**0.98**	**258**	P	**Pn**	**21 28 18.3**	**-0.1**
	baz=256						
NSTT				*e*S	**Sn**	**21 28 33.2**	**-0.3**
	baz=256						
TWT	**Tachien**	**1.00**	**234**	*e*P	**Pn**	**21 28 19.1**	**+0.3**
	baz=233						
TWT				*e*S	**Sn**	**21 28 34.2**	**+0.2**
	baz=233						
ESL	**Shilin**	**1.17**	**209**	*e*P	**Pn**	**21 28 19.7**	**-0.9**
	baz=208						
ESL				*e*S	**Sn**	**21 28 37.3**	**0.0**
	baz=208						
NSY	**Sanyi**	**1.26**	**250**	P	**Pn**	**21 28 21.8**	**+0.2**
	baz=249						
NSY				*e*S	**Sn**	**21 28 39.3**	**+0.3**
	baz=249						
TWQ1	**Liyutan**	**1.27**	**247**	P	**Pn**	**21 28 21.8**	**+0.1**
	baz=246						
TWQ1				S	**Sn**	**21 28 39.1**	**-0.3**
	baz=246						
WDT	**Danda**	**1.37**	**218**	P	**Pn**	**21 28 23.4**	**+0.1**
	baz=217						
WDT				*e*S	**Sn**	**21 28 41.6**	**-0.4**
	baz=217						
SMLT	**Sun Moon Lake**	**1.43**	**228**	*e*P	**Pn**	**21 28 24.0**	**+0.2**
	baz=227						
SMLT				*e*S	**Sn**	**21 28 42.8**	**-0.1**
	baz=227						
TCU	**Taichung**	**1.44**	**241**	*e*P	**Pn**	**21 28 24.1**	**+0.3**
	baz=240						
TCU				*e*S	**Sn**	**21 28 42.7**	**-0.3**
	baz=240						
TYC	**Yuchr**	**1.44**	**230**	P	**Pn**	**21 28 23.9**	**+0.1**
	baz=228						
TYC				*e*S	**Sn**	**21 28 43.0**	**0.0**
	baz=228						
EHY	**Hungye**	**1.49**	**207**	*e*P	**Pn**	**21 28 24.2**	**-0.3**
	baz=206						
EHY				*e*S	**Sn**	**21 28 44.0**	**-0.1**
	baz=206						
WNT	**Mingjian**	**1.58**	**233**	*e*P	**Pn**	**21 28 26.0**	**+0.4**
	baz=231						
IRIF	**Iriomote-Funau**	**1.60**	**108**	P	**Pn**	**21 28 25.8**	**0.0**
IRIF				S	**Sn**	**21 28 46.0**	**-0.6**
TWF1	**Yuli**	**1.64**	**205**	*e*P	**Pn**	**21 28 26.4**	**0.0**
	baz=204						
TWF1				*e*S	**Sn**	**21 28 47.3**	**-0.1**
	baz=204						
YUS	**Yu-Shan**	**1.69**	**217**	*e*P	**Pn**	**21 28 27.2**	**-0.2**
	baz=216						
YUS				*e*S	**Sn**	**21 28 48.8**	**-0.5**
	baz=216						
ALS	**Alishan**	**1.75**	**221**	P	**Pn**	**21 28 28.6**	**+0.6**
	baz=220						
ALS				*e*S	**Sn**	**21 28 50.3**	**-0.2**
	baz=220						
CHN5	**Tsauling**	**1.77**	**226**	P	**Pn**	**21 28 28.3**	**+0.3**
	baz=225						
CHN5				*e*S	**Sn**	**21 28 50.4**	**-0.1**
	baz=225						
HATJ	**Hateruma jima**	**1.77**	**116**	P	**Pn**	**21 28 28.5**	**+0.5**
HATJ				*e*S	**Sn**	**21 28 50.9**	**+0.5**
WGK	**Gukeng**	**1.79**	**230**	*e*P	**Pn**	**21 28 28.7**	**+0.6**
	baz=229						
WGK				*e*S	**Sn**	**21 28 51.1**	**+0.3**
	baz=229						
CHKT	**Chengkung**	**1.85**	**200**	*e*P	**Pn**	**21 28 28.7**	**-0.3**
	baz=199						
CHKT				*e*S	**Sn**	**21 28 51.9**	**-0.3**
	baz=199						
JKRS	**Kuro-shima**	**1.88**	**108**	P	**Pn**	**21 28 29.6**	**+0.3**
JKRS				S	**Sn**	**21 28 52.7**	**-0.1**
CHN2	**Minshiung**	**1.95**	**228**	*e*P	**Pn**	**21 28 30.7**	**+0.5**
	baz=227						
CHN2				*e*S	**Sn**	**21 28 54.8**	**+0.3**
	baz=227						
JIJ	**Ishigaki jima**	**1.96**	**104**	P	**Pn**	**21 28 30.1**	**-0.2**
JIJ				S	**Sn**	**21 28 53.7**	**-0.9**
CHN4	**Tsaushan**	**2.00**	**222**	*e*P	**Pn**	**21 28 31.3**	**+0.4**
	baz=221						
CHN4				*e*S	**Sn**	**21 28 55.6**	**-0.1**
	baz=221						
CHY	**Chiayi**	**2.01**	**228**	*e*P	**Pn**	**21 28 30.3**	**-0.6**
	baz=227						
CHY				*e*S	**Sn**	**21 28 55.5**	**-0.3**
	baz=227						
STYT	**Tauyuan**	**2.05**	**216**	*e*P	**Pn**	**21 28 31.8**	**+0.1**
	baz=215						
STYT				*e*S	**Sn**	**21 28 56.5**	**-0.5**
	baz=215						
WSF	**Szhu**	**2.06**	**235**	*e*S	**Sn**	**21 28 56.8**	**-0.3**
	baz=233						
JISG	**Ishigakijimahi**	**2.06**	**97**	P	**Pn**	**21 28 31.7**	**0.0**
JISG				S	**Sn**	**21 28 56.6**	**-0.5**
WTP	**Ta-pu**	**2.07**	**220**	*e*P	**Pn**	**21 28 32.3**	**+0.5**
	baz=219						
WTP				*e*S	**Sn**	**21 28 57.0**	**-0.3**
	baz=219						
TWK	**Hsinying**	**2.13**	**223**	*e*P	**Pn**	**21 28 32.8**	**+0.2**
	baz=221						
TWK				*e*S	**Sn**	**21 28 58.4**	**-0.4**
	baz=221						
CHN1	**Nanshi**	**2.17**	**221**	*e*P	**Pn**	**21 28 33.4**	**+0.3**
	baz=220						
CHN1				*e*S	**Sn**	**21 28 59.4**	**-0.2**
	baz=220						
TWG	**Pinlang**	**2.21**	**204**	*e*S	**Sn**	**21 28 59.5**	**-1.0**
	baz=203						
SGST	**Jiashian**	**2.21**	**218**	*e*P	**Pn**	**21 28 34.0**	**+0.2**
	baz=217						
SGST				*e*S	**Sn**	**21 29 00.3**	**-0.4**
	baz=217						
CHN3	**Shinhua**	**2.34**	**222**	*e*P	**Pn**	**21 28 35.8**	**+0.4**
	baz=221						
CHN3				*e*S	**Sn**	**21 29 03.2**	**-0.5**
	baz=221						
JTJ	**Tarama**	**2.41**	**94**	S	**Sn**	**21 29 06.1**	**+0.8**
PNG	**Penghu**	**2.62**	**241**	*e*S	**Sn**	**21 29 09.5**	**-0.6**
	baz=240						
EAST	**Anshuo**	**2.69**	**205**	*e*P	**Pn**	**21 28 41.4**	**+1.4**
	baz=204						
EAST				*e*S	**Sn**	**21 29 12.0**	**0.0**
	baz=204						
WDGT	**Dungji**	**2.70**	**235**	*e*S	**Sn**	**21 29 11.0**	**-1.1**
	baz=233						

NNC ***07*** *21:30:01.3±3.0, 36.˚94N×70.˚85E, h191km±45km, mb2.6, mpv3.8, Error ellipse: s-maj=48.3km s-min=14.6km az=53.0*

**ISC 07 21:29:59.1±3.5, 36.˚7N±0.˚2×70.˚74E±0.˚09, h150km, n10

PLP	**Palo**	**2.45**	**321**	⇓	*e*P	Pn	21 35 57.0	-0.7
PLP					*e*S	Sb	21 36 30.4	-1.7
TBP	**Tagbilaran**	**2.67**	**280**		*e*P	Pn	21 36 02.4	+1.7
TBP					*e*S	Sn	21 36 34.2	+1.8
CTBH	**Cotabato--PC H**	**3.03**	**229**	⇑	*i*P	Pn	21 36 07.8	+2.3
GUIM	**Jordan**	**4.12**	**290**		*e*P	Pn	21 36 22.6	+1.9

MEX 07 21:35:27.9±1.5, 15°04'N×94°31'W, h16km±18km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.24**	**58**		*e*P	Pn	21 35 46.2	-4.4
PCIG					*e*S	Sb	21 36 01.0	-5.8
HUIG	**Huatulco**	**1.88**	**293**		*e*P	Pn	21 35 56.6	-2.8
HUIG					*e*S	Sn	21 36 17.0	-5.7
CMIG	**Matias Romero**	**2.11**	**345**		*e*P	Pn	21 35 59.8	-2.8
CMIG					*e*S	Sn	21 36 24.2	-4.4
CCIG	**Comitan**	**2.43**	**59**		*e*P	Pn	21 36 04.7	-2.5
CCIG					*e*S	Sn	21 36 32.9	-3.9

NNC 07 21:40:11.8±2.0, 37°95'N×71°84'E, h0km, mb3.5, mpv3.1, 4C-1D, Error ellipse: s-maj=20.4km s-min=10.1km az=158.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.44**	**32**	⇑	Pn	Pn	21 40 53.3	+0.1
	6.3nm,0.4s							
SFK				⇓	Lg	Lg	21 41 29.7	
	18nm,0.4s							
DZET	**Dzherino**	**2.52**	**291**	⇑	Pn	Pn	21 40 54.3	+0.2
	6.8nm,0.3s							
DZET				⇑	Lg	Lg	21 41 31.6	
	122nm,0.4s							
KK31	**Karatay Array**	**5.25**	**349**	⇑	Pn	Pn	21 41 29.7	-1.8
	0.2nm,0.2s,baz=163,slow=12,SNR=4.4							
KK31					Sn	Sn	21 42 34.4	+1.6
	2.1nm,0.3s,baz=177,slow=16,SNR=17							

NIED ***07*** *22:14:00,30°.80N×142°.30E, h5km, Mw3.9 Best double couple: M₀9.23000×10¹⁴ NP1:φs188.00000°, δ32.00000°, λ128.00000°. NP2:φs325.00000°, δ65.00000°, λ69.00000°.*
IDC ***07*** *22:14:05.7±0.8, 30°.74N×142°.09E, h0km, mb3.8/13, mb1 3.9/16, mb1mx3.7/48, mbtmp3.8/16, ML3.7/2, MS2.9/2, Ms1 3.0/2, ms1mx2.5/36, Error ellipse: s-maj=28.5km s-min=16.2km az=75.0*
ISCJB ***07*** *22:14:07.4±0.5, 30°.81N±0°.04×142°.10E±0°.09, h24km, mb3.9/16, MS3.1/1, Error ellipse: s-maj=12.2km s-min=4.0km az=162.5*
JMA ***07*** *22:14:07.6±0.1, 30°.80N×142°.34E, h54km, M4.2*
NEIC ***07*** *22:14:08.8±2.0, 30°.76N×142°.07E, h20km±14km, mb4.3/3, Error ellipse: s-maj=13.9km s-min=7.0km az=76.0*
ISC 07 22:14:08.9±0.7, 30°.75N±0°.05×142°.1E±0°.1, h24km, n42, σ1⁹48/58, mb4.0/16, Southeast of Honshu

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.07**	**321**		P	Pn	22 14 55.8	-0.2
JHJ2					S	Sn	22 15 30.3	-1.7
CBIJ	**Chichi jima**	**3.64**	**179**		P	Pn	22 15 04.1	+0.3
CBIJ					S	Sn	22 15 42.3	-3.7
CBIJ	**Chichi jima**	**3.64**	**179**		Pn	Pn	22 15 04.7	+0.9
CBIJ					Sn	Sn	22 15 42.9	-3.1
JCJ	**Chichijima**	**3.64**	**179**		Pn	Pn	22 15 04.7	+0.9
	9.2nm,0.3s,baz=285,slow=20,SNR=5.4							
JCJ					Sn	Sn	22 15 42.9	-3.1
	19nm,0.3s,baz=287,slow=19,SNR=5.0							
BSO1	**Boso 1**	**4.01**	**346**		P	Pn	22 15 07.9	-0.5
BSO1					S	Sn	22 15 54.3	-0.1
BSO2	**Boso 2**	**4.16**	**344**		S	Sn	22 15 57.1	-1.2
JKO	**Kozu shima**	**4.26**	**324**		S	Sn	22 16 02.0	+0.7
BSO3	**Boso 3**	**4.27**	**342**		P	Pn	22 15 11.7	-0.4
BSO3					S	Sn	22 16 04.6	+3.6
BSO4	**Boso 4**	**4.49**	**341**		P	Pn	22 15 17.3	+1.9
BSO4					S	Sn	22 16 06.3	-0.5
JOD2	**Odawara 2**	**5.18**	**331**		P	Pn	22 15 24.8	-0.1
JOD2					S	Sn	22 16 24.1	+0.2
JHU	**Hanno**	**5.62**	**336**		P	Pn	22 15 30.9	-0.1
JHU					S	Sn	22 16 34.6	-0.2
JYT	**Yasato**	**5.70**	**344**		P	Pn	22 15 31.9	-0.2
JYT					S	Sn	22 16 37.5	+0.8
JNY	**Yasuok**	**5.83**	**323**		P	Pn	22 15 34.7	+0.7
JIE	**Ise**	**5.85**	**310**		P	Pn	22 15 34.7	+0.6
JRY	**Ryogami san**	**5.91**	**334**		P	Pn	22 15 35.6	+0.6
JRY					S	Sn	22 16 40.9	-1.0
JHO	**Hitachi**	**5.99**	**348**		P	Pn	22 15 35.6	-0.5
JHO					S	Sn	22 16 40.0	-3.9
JAG	**Ashikaga**	**6.09**	**339**		P	Pn	22 15 37.1	-0.3
JAG					S	Sn	22 16 44.3	-2.0
MJAR	**Matsushiro Arr**	**6.64**	**331**		Pn	Pn	22 15 45.5	+0.4
	baz=160,slow=11							
MJAR					Sn	Sn	22 16 58.2	-1.7
	baz=161,slow=20							
MAJO	**Matsushiro**	**6.64**	**331**		*e*Pn	Pn	22 15 45.2	+0.2
	17nm,0.6s							
MAJO					*e*Sn	Sn	22 16 58.4	-1.6
MAT	**Matsushiro**	**6.64**	**331**		P	Pn	22 15 46.1	+1.1
MAT					S	Sn	22 17 00.6	+0.6
JFK	**Kawauchi**	**6.68**	**351**		P	Pn	22 15 44.4	-1.2
JFK					S	Sn	22 16 56.4	-4.6
ASAJ	**Asahikawa**	**13.35**	**1**		Pn	Pn	22 17 15.0	-1.8
	baz=207,slow=11							
ASAJ	**Asahikawa**	**13.35**	**1**		*e*Pn	Pn	22 17 15.7	-1.1
KSRS	**Korea Array**	**13.54**	**303**		Pn	Pn	22 17 19.2	-0.2
	0.2nm,0.3s,baz=116,slow=13,SNR=2.8							
KSRS					LR	LR	22 22 25.4	
	comp=Z,25nm,18.8s,baz=134,slow=37							
KSAR	**Wonju Array Be**	**13.56**	**303**		Pn	Pn	22 17 19.2	-0.5
SONM	**Songino Array**	**32.14**	**312**		P	P	22 20 34.4	-0.2
	0.6nm,0.5s,baz=110,slow=7.5,SNR=5.3							
CMAR	**Chiang Mai Arr**	**40.90**	**263**		LR	LR	22 38 38.2	
	comp=Z,23nm,18.3s,baz=174,slow=36							
ZALV	**Zalesovo Beam**	**46.75**	**317**		P	P	22 22 36.4	+0.4
	0.5nm,0.6s,baz=103,slow=6.2,SNR=2.7							
MKAR	**Makanchi Array**	**48.18**	**307**		P	P	22 22 47.4	0.0
	1.1nm,0.7s,baz=90,slow=9.6,SNR=13							
KURK	**Kurchatov**	**50.45**	**312**		*e*P	P	22 23 03.3	-1.2
	2.6nm,0.8s							
KURBB	**Kurchatov Arra**	**50.51**	**312**		P	P	22 23 05.0	0.0
	1.6nm,0.7s,baz=87,slow=7.6,SNR=13							
WRA	**Warramunga Arr**	**50.96**	**189**		P	P	22 23 08.4	-0.2
	1.0nm,0.3s,baz=5.1,slow=7.6,SNR=10.0							
ILAR	**Eielson Array**	**54.55**	**30**		P	P	22 23 35.2	+0.5
	0.2nm,0.6s,baz=262,slow=6.3,SNR=3.9							
ASAR	**Alice Springs**	**54.68**	**189**		P	P	22 23 36.0	-0.1
	0.4nm,0.5s,baz=354,slow=4.5,SNR=7.3							
BVAR	**Borovoye Array**	**55.37**	**316**		P	P	22 23 41.4	+0.6
	0.9nm,0.5s,baz=94,slow=8.9,SNR=5.8							
KKAR	**Karatay Array**	**56.97**	**304**		*e*P	P	22 23 51.9	-0.6
	0.9nm,0.5s							
ARU	**Arti**	**61.54**	**321**		*e*P	P	22 24 24.0	+0.2
	2.7nm,0.6s							
AKTO	**Aktyubinsk**	**63.42**	**315**		P	P	22 24 37.0	+0.5
	1.3nm,1.0s,baz=65,slow=6.3,SNR=3.6							
FINES	**FINESS Array B**	**74.67**	**333**		P	P	22 25 46.6	+0.5
	1.1nm,0.7s,baz=90,slow=6.3,SNR=6.2							
NOA	**NORSAR Array B**	**80.21**	**338**		P	P	22 26 17.0	-0.2
	0.4nm,0.8s,baz=52,slow=7.4,SNR=2.9							
BRTR	**Keskin Array B**	**83.50**	**313**		P	P	22 26 36.0	+1.0
	0.3nm,0.4s,baz=86,slow=3.2,SNR=2.8							
TXAR	**Lajitas Array**	**93.45**	**53**		P	P	22 27 24.6	+1.7
	0.2nm,0.7s,baz=286,slow=7.4,SNR=3.2							

BKK 07 22:16:16.8±1.3, 21°N±7°×98°E±°, h29km±12km, M3.5/6, MLv3.5/6, Myanmar

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
CMAI	**Chiengmai2**	**1.21**	**146**		P	Pn	22 16 38.2	+0.2
CMAI					S	Sn	22 16 52.1	-1.6
CRAI	**Chiangrai**	**2.05**	**110**		P	Pn	22 16 48.3	-1.1
CRAI					S	Sb	22 17 16.8	-1.7
CHTO	**Chiang Mai**	**2.19**	**164**		P	Pn	22 16 51.0	-0.4
CHTO					S	Sb	22 17 20.5	-2.2
LAMP	**Lampang**	**2.70**	**153**		P	Pn	22 16 58.2	-0.2
MHMT	**Maesarieng**	**2.77**	**188**		P	Pn	22 16 59.8	+0.5
UTTA	**Uttaradit**	**3.81**	**146**		P	Pn	22 17 05.5	-8.1

IDC ***07*** *22:32:37.0±1.7, 21°.67S×169°.90E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.9/30, mbtmp3.9/7, ML3.6/1, MS3.2/1, Ms1 3.1/1, ms1mx2.6/18, Error ellipse: s-maj=81.0km s-min=22.9km az=154.0*
SZGRF ***07*** *22:32:40.1, 21°.58S×171°.96E, h33km, Southeast of Loyalty Islands*
ISCJB ***07*** *22:32:41.4±1.1, 21°.7S±0°.3×169°.8E±0°.1, h36km, mb3.8/6, MS3.1/1, Error ellipse: s-maj=50.3km s-min=9.7km az=166.8*
ISC 07 22:32:42.8±1.3, 21°.6S±0°.4×169°.8E±0°.2, h36km, n38, σ0⁹60/41, mb3.8/6, 2C-5D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.12**	**261**		Pn	**Pn**	**22 33 30.2**	**+0.6**
	6.0nm,0.3s,baz=270,slow=24,SNR=45							
DZM					Sn	**Sn**	**22 34 06.1**	**+0.4**
	14nm,0.3s,baz=274,slow=23,SNR=4.4							
DZM	**Mont Dzumac**	**3.12**	**261**		*e*P	**Pn**	**22 33 29.9**	**+0.3**
DZM					*e*S	**Sn**	**22 34 05.9**	**+0.2**
NOUC	**Port Laguerre**	**3.26**	**261**		*e*P	**Pn**	**22 33 30.4**	**-0.9**
NOUC					*e*S	**Sn**	**22 34 07.9**	**-0.9**
STKA	**Stephens Creek**	**27.08**	**242**		P	**P**	**22 38 22.8**	**+0.7**
	1.2nm,0.6s,baz=87,slow=12,SNR=6.3							
STKA					LR	LR	22 47 53.6	
	comp=Z,50nm,19.3s,baz=25,slow=34							
ASAR	**Alice Springs**	**33.11**	**260**		P	**P**	**22 39 15.6**	**-0.1**
	0.0nm,0.7s,baz=86,slow=9.8,SNR=10							
WRA	**Warramunga Arr**	**33.13**	**266**		P	**P**	**22 39 14.6**	**-1.2**
	0.6nm,0.5s,baz=99,slow=8.0,SNR=6.7							
CMAR	**Chiang Mai Arr**	**79.94**	**294**		P	**P**	**22 44 50.5**	**+2.0**
	0.7nm,0.6s,baz=125,slow=4.3,SNR=6.2							
SONM	**Songino Array**	**89.42**	**323**		P	**P**	**22 45 35.7**	**-0.1**
	0.9nm,0.8s,baz=150,slow=6.8,SNR=5.2							
NVAR	**Mina Array Bea**	**90.00**	**48**		P	**P**	**22 45 38.9**	**0.0**
	0.3nm,0.6s,baz=209,slow=8.9,SNR=3.4							
ARCES	**ARCESS Array B**	**127.49**	**345**		PKP	**PKPdf**	**22 51 42.3**	**-0.8**
	1.2nm,0.8s,baz=48,slow=1.8,SNR=6.1							
CLL	**Collm**	**145.28**	**334**	*e*	PKPbc	**PKPdf**	**22 52 16.4**	**0.0**
CLL	**Collm**	**145.28**	**334**	⇓	*i*P	**PKPab**	**22 52 16.1**	**-0.2**
	comp=Z,9.0nm,0.8s							
FBE	**Freiberg**	**145.43**	**333**	*e*	PKPbc	**PKPab**	**22 52 17.4**	**+0.5**
NEUB	**Neuenburg**	**145.84**	**335**	*e*	PKPbc	**PKPab**	**22 52 18.5**	**+0.1**
CLZ	**Clausthal**	**145.86**	**337**	*e*	PKPbc	**PKPab**	**22 52 18.7**	**+0.1**
EKA	**Eskdalemuir Ar**	**145.93**	**353**		PKPbc	**PKPdf**	**22 52 17.3**	**-0.2**
	comp=Z,3.2nm,0.5s,baz=1.3,slow=2.9,SNR=11							
TANN	**Tannenbergstha**	**146.18**	**334**	*e*	PKPbc	**PKPab**	**22 52 19.6**	**-0.3**
WERD	**Werda**	**146.22**	**334**	*e*	PKPbc	**PKPab**	**22 52 19.7**	**-0.3**
PLN	**Plauen**	**146.25**	**334**	*e*	PKPbc	**PKPab**	**22 52 19.7**	**-0.4**
GUNZ	**Gunzen**	**146.27**	**334**	*e*	PKPbc	**PKPab**	**22 52 20.0**	**-0.2**
WERN	**Wernitzgruen**	**146.31**	**334**	*e*	PKPbc	**PKPab**	**22 52 20.1**	**-0.2**
MOX	**Moxa**	**146.35**	**335**	*e*	PKPbc	**PKPab**	**22 52 19.8**	**-0.6**
IBBN	**Ibbenburen**	**146.37**	**340**	*e*	PKPbc	**PKPbc**	**22 52 19.7**	**+0.2**
CONA	**Conrad Observa**	**146.43**	**328**	⇑	*i*PKPbc	**PKPbc**	**22 52 20.5**	**-0.4**
	comp=Z,5.0nm,0.9s							
IDI	**Anoyia**	**146.44**	**302**		PKPbc	**PKPbc**	**22 52 20.1**	**-0.3**
	comp=Z,5.3nm,0.8s,baz=34,slow=15,SNR=2.6							
MANZ	**Manzenberg**	**146.66**	**333**	*e*	PKPbc	**PKPab**	**22 52 21.0**	**-0.7**
ROTZ	**Rotzenmuhle**	**146.78**	**333**	*e*	PKPbc	**PKPab**	**22 52 21.5**	**-0.6**
GEC2	**GERESS Array S**	**146.81**	**331**	*e*	PKPbc	**PKPbc**	**22 52 21.5**	**+0.4**
GERES	**GERESS Array B**	**146.81**	**331**		PKPbc	**PKPbc**	**22 52 21.0**	**-0.1**
	comp=Z,5.5nm,0.6s,baz=33,slow=2.9,SNR=60							
WET	**Wettzell**	**146.96**	**332**	*e*	PKPbc	**PKPbc**	**22 52 21.9**	**+0.5**
MOA	**Molln**	**147.26**	**329**	⇓	*i*PKPbc	**PKPbc**	**22 52 22.3**	**0.0**
	comp=Z,2.5nm,0.5s							
ABTA	**Abfaltersbach**	**148.88**	**329**	⇓	*i*PKPbc	**PKPbc**	**22 52 25.8**	**-0.9**
	comp=Z,5.1nm,0.6s							
WTTA	**Wattenberg**	**148.92**	**331**	⇓	*i*PKPbc	**PKPbc**	**22 52 26.6**	**-0.4**
	comp=Z,6.5nm,0.8s							
MOTA	**Moosalm**	**149.10**	**331**	⇓	*i*PKPbc	**PKPbc**	**22 52 26.7**	**-0.7**
	comp=Z,7.9nm,0.9s							
WLF	**Walferdange**	**149.16**	**339**	*e*	PKPbc	**PKPbc**	**22 52 27.9**	**+0.7**
BFO	**Black Forest**	**149.49**	**335**	*e*	PKPbc	**PKPbc**	**22 52 27.9**	**-0.2**
FETA	**Feichten**	**149.51**	**331**	⇑	*i*PKPbc	**PKPbc**	**22 52 28.1**	**-0.3**
	comp=Z,6.1nm,0.9s							
DAVOX	**Davos/Dischmat**	**150.07**	**332**		PKPbc	**PKPbc**	**22 52 29.5**	**-0.3**
	comp=Z,5.9nm,0.4s,baz=90,slow=2.0,SNR=13							

IDC ***07*** *22:37:21.5±1.3, 4°.19S×101°.47E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.6/39, mbtmp3.8/8, ML4.0/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/29, Error ellipse: s-maj=56.4km s-min=17.8km az=48.0*
ISCJB ***07*** *22:37:25.4±0.8, 4°.10S±0°.06×101°.48E±0°.06, h34km, mb3.7/7, MS3.1/1, Error ellipse: s-maj=10.6km s-min=6.1km az=37.7*
DJA ***07*** *22:37:30.3±0.9, 4°S±3°×10°2E±°, h28km±5km, M4.2/7, MLv4.2/7*
ISC 07 22:37:26.9±0.8, 4°.07S±0°.07×101°.54E±0°.07, h34km, n24, σ0⁹94/22, mb3.8/7, Southern Sumatera

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**1.16**	**37**		P	Pb	**22 37 47.8**	**-0.7**
MASI					S	Sn	**22 38 00.4**	**-1.1**
MNAI	**Manna**	**1.44**	**102**		P	Pn	**22 37 50.5**	**-0.1**
MNAI					S	Sn	**22 38 07.2**	**-1.1**
LHSI	**Lahat**	**1.99**	**83**		P	Pn	**22 37 59.4**	**+1.2**
PPSI	**Pulau Pagai**	**2.01**	**310**		P	Pb	**22 38 02.3**	**-0.6**
MDSI	**Maura Dua**	**2.66**	**99**		P	Pn	**22 38 08.5**	**+1.1**
MDSI					S	Sn	**22 38 38.5**	**0.0**
LWLI	**Liwa**	**2.68**	**111**		P	Pn	**22 38 08.8**	**+1.0**
LWLI					S	Sn	**22 38 38.9**	**-0.2**
JMBI	**JAMBI**	**3.20**	**41**		P	Pn	**22 38 16.8**	**+1.9**
KASI	**Kota Agung**	**3.28**	**116**		P	Pn	**22 38 17.6**	**+1.7**
KASI					S	Sn	**22 38 54.2**	**+0.5**
LEM	**Lembang**	**6.64**	**115**		Pn	Pn	22 39 05.9	+3.6
	3.0nm,0.3s,baz=311,slow=19,SNR=2.7							
LEM					Sn	Sn	22 40 22.2	+5.4
	3.5nm,0.3s,baz=282,slow=20,SNR=2.5							
LEM					LR	LR	22 41 47.6	
	comp=Z,65nm,21.7s,baz=188,slow=40							
KAPI	**Kappang**	**18.18**	**94**		P	**P**	**22 41 37.4**	**+0.6**
	0.5nm,0.3s,baz=250,slow=15,SNR=2.6							
H08S2	**Diego Garcia H**	**29.11**	**262**		T	T	23 13 27.1	
	baz=84,slow=76,SNR=71							
H08S3	**Diego Garcia H**	**29.12**	**262**		T	T	23 13 27.1	
	baz=84,slow=76,SNR=60							
H08S1	**Diego Garcia H**	**29.13**	**262**		T	T	23 13 27.1	
	baz=84,slow=76,SNR=60							
H01W3	**Cape Leeuwin H**	**32.81**	**161**		T	T	23 18 15.4	
	baz=337,slow=75,SNR=8.8							
H01W2	**Cape Leeuwin H**	**32.82**	**161**		T	T	23 18 15.4	
	baz=337,slow=75,SNR=10.0							
H01W1	**Cape Leeuwin H**	**32.82**	**161**		T	T	23 18 15.4	
	baz=337,slow=75,SNR=8.6							
WRA	**Warramunga Arr**	**35.63**	**119**		P	**P**	**22 44 20.6**	**-1.3**
	0.8nm,0.6s,baz=303,slow=9.0,SNR=10.0							
ASAR	**Alice Springs**	**36.80**	**125**		P	**P**	**22 44 31.2**	**-0.7**
	0.7nm,0.5s,baz=300,slow=7.9,SNR=8.8							
STKA	**Stephens Creek**	**46.63**	**131**		P	**P**	**22 45 52.1**	**-0.1**
	1.1nm,0.6s,baz=309,slow=13,SNR=4.5							
SONM	**Songino Array**	**51.87**	**4**		P	**P**	**22 46 32.0**	**-0.1**
	0.3nm,0.6s,baz=201,slow=7.7,SNR=2.9							
MKAR	**Makanchi Array**	**53.43**	**344**		P	**P**	**22 46 43.3**	**-0.2**
	0.5nm,0.7s,baz=134,slow=7.5,SNR=5.4							
ZALV	**Zalesovo Beam**	**59.48**	**349**		P	**P**	**22 47 27.2**	**+0.8**
	0.7nm,0.4s,baz=173,slow=3.9,SNR=6.0							
BRTR	**Keskin Array B**	**75.85**	**313**		P	**P**	**22 49 10.3**	**+0.1**
	0.2nm,0.4s,baz=119,slow=6.0,SNR=2.8							
BRTR					LR	LR	23 23 08.7	
	comp=Z,10nm,19.2s,baz=267,slow=36							
TXAR	**Lajitas Array**	**145.33**	**41**		PKPbc	**PKPbc**	**22 57 02.0**	**+0.1**
	0.2nm,0.4s,baz=233,slow=0.9,SNR=4.9							

GUC 07 22:47:54.7±0.6, 35°.84S×73°.32W, h34km±8km, ML4.0, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.52**	**124**	⇑	*i*P	Pb	22 48 05.2	-0.4
COCH					*i*S	Sb	22 48 13.1	0.0
CCSP	**San Pedro de C**	**1.01**	**170**		*e*P	Pn	22 48 13.0	+0.5
CCSP					*i*S	Sn	22 48 26.2	+0.5
LNCH	**Linares**	**1.40**	**91**		*e*P	Pn	22 48 18.8	+1.0
LNCH					*i*S	Sb	22 48 38.3	+0.5
TALC	**Talca**	**1.44**	**73**		*e*P	Pn	22 48 19.7	+1.2
TALC					*i*S	Sb	22 48 38.3	-0.8
CLCH	**Cerro Calan**	**3.35**	**44**	AML	AML		22 49 55.8	
	comp=E,204nm,0.7s							
PEL	**Peldehue**	**3.46**	**40**		*e*P	Pn	22 48 47.4	+1.1
PEL				AML	AML		22 50 01.9	
	comp=N,285nm,0.6s							

IDC 07 23:07:31.4±3.8, 20°.03S×70°.18W, h0km, mb3.9/1, mb1 3.5/2, mb1mx3.3/16, mbtmp3.5/2, ML2.6/1, MS2.8/1, Ms1 2.9/1, ms1mx2.6/19, Error ellipse: s-maj=137.8km s-min=65.3km az=106.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.20**	**28**		Pn	Pn	23 08 37.2	-0.3
	0.2nm,0.3s,baz=202,slow=1.7,SNR=11							
LPAZ					Lg	Lg	23 09 48.7	
	0.5nm,0.3s,baz=3.5,slow=20,SNR=1.9							
LPAZ					LR	LR	23 10 24.3	
	comp=Z,115nm,18.5s,baz=252,slow=41							
TORD	**Torodi Ar. Bea**	**77.99**	**71**		P	P	23 19 32.2	+0.1
	0.9nm,0.8s,baz=244,slow=6.2,SNR=4.5							
H11S2	**WAKE ISLAND Hyl**	**26.50**	**279**		T	T	01 45 39.1	
	baz=99							
H11S1	**WAKE ISLAND Hyl**	**26.51**	**279**		T	T	01 45 38.8	
	baz=99							
H11S3	**WAKE ISLAND Hyl**	**26.52**	**279**		T	T	01 45 44.2	
	baz=99							
H11N3	**WAKE ISLAND Hyl**	**26.55**	**280**		T	T	01 45 45.0	
	baz=100							
H11N2	**WAKE ISLAND Hyl**	**26.56**	**280**		T	T	01 45 46.8	
	baz=100							
H11N1	**WAKE ISLAND Hyl**	**26.56**	**280**		T	T	01 45 42.3	
	baz=100							
MKAR	**Makanchi Array**	**145.11**	**34**		PKPbc	PKPbc	23 27 09.5	-0.9
	0.7nm,0.7s,baz=310,slow=3.7,SNR=6.6							

MEX 07 23:18:16.6±0.5, 17°44'N×94°72'W, h144km±5km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.38**	**205**		*i*P	Pn	23 18 35.3	-1.4
CMIG					*i*S	Sn	23 18 49.8	-2.1
TGIG		**1.66**	**113**		*e*P	Pn	23 18 46.4	-1.1
TGIG					*i*S	Sn	23 19 09.1	-2.1
VHO	**Vista Hermosa**	**1.96**	**260**		*i*P	Pn	23 18 49.6	-1.5
VHO					*e*S	Sn	23 19 15.9	-1.7
HUIG	**Huatulco**	**2.13**	**219**		*e*P	Pn	23 18 49.5	-3.4
HUIG					*e*S	Sn	23 19 17.1	-3.7
PCIG		**2.24**	**140**		*e*P	Pn	23 18 52.7	-1.5
PCIG					*e*S	Sn	23 19 21.0	-2.2
PNIG	**Pinotepa**	**3.43**	**253**		*e*P	Pn	23 19 05.3	-3.9
PNIG					*e*S	Sn	23 19 45.9	-4.1

ISCJB ***07*** *23:44:08.8±0.6, 31°.08N±0°.05×80°.75E±0°.05, h10km, mb3.6/8, Error ellipse: s-maj=7.7km s-min=5.4km az=138.3*
IDC ***07*** *23:44:08.9±0.9, 30°.92N×80°.58E, h0km, mb3.7/9, mb1 3.7/11, mb1mx3.5/47, mbtmp3.6/11, ML2.9/2, Error ellipse: s-maj=27.3km s-min=16.9km az=47.0*
NDI ***07*** *23:44:11.9±3.9, 31°.23N×80°.66E, h10km, ML3.4*
ISC 07 23:44:11.2±0.7, 31°.16N±0°.05×80°.67E±0°.07, h10km, n21, σ1⁹28/25, mb3.7/8, Xizang

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**1.66**	**194**		*e*P	Pn	23 44 35.7	-4.8
PTH					*e*S	Sn	23 44 52.2	-10
LGTI	**Lohaghat**	**1.75**	**192**		*e*P	**Pg**	**23 44 45.2**	**+0.5**
LGTI					*e*S	**Sg**	**23 45 08.9**	**+1.5**
DDI	**Dehra Dun**	**2.40**	**250**		*e*P	**Pn**	**23 44 50.8**	**+0.2**
DDI					*e*S	**Sn**	**23 45 21.9**	**+1.7**
DDI					AML	AML	23 45 25.8	
	comp=N,905nm,0.7s							
DDI					AML	AML	23 45 28.0	
	comp=E,963nm,0.7s							
SMLA	**Simla**	**3.00**	**270**		*e*P	**Pn**	**23 44 58.6**	**-0.2**
SMLA					*i*S	**Sn**	**23 45 36.1**	**+1.2**
SMLA					AML	AML	23 45 42.6	
	comp=N,140nm,0.3s							
SMLA					AML	AML	23 45 47.3	
	comp=E,260nm,0.6s							
SDNR	**Sundarnagar**	**3.18**	**277**		*ex*	Pn	23 45 05.0	+3.6
SDNR					*ex*	x	23 45 56.0	
DHRM	**DHARAMSHALA**	**3.88

KUR				A	A	23 51 54.0		
	comp=E,300nm,0.5s							
KUR				A	A	23 51 54.0		
	comp=E,230nm,0.5s							
NEM2	**Nemuro 2**	**4.94**	**235**	P	Pn	23 51 39.0	-2.2	
NEM2				*e*S	**Sn**	**23 52 33.8**	**-3.3**	
SKR	**Severo-Kuril's**	**5.41**	**34**	*e*P	Pn	23 51 44.0	-3.5	
SKR				AMB	AMB	23 51 46.0		
	comp=E,60nm,0.5s							
SKR				*e*S	**Sn**	**23 52 45.0**	**-3.4**	
SKR				A	A	23 53 04.4		
	comp=E,40nm,0.4s							
JNK	**Nakash**	**5.42**	**242**	P	**Pn**	**23 51 48.0**	**+0.3**	
JTKR	**Abashiri--Toko**	**5.74**	**249**	P	**Pn**	**23 51 53.4**	**+1.3**	
JAK	**Akkeshi**	**5.77**	**237**	P	Pn	23 51 50.3	-2.2	
JAK				*e*S	**Sn**	**23 52 52.9**	**-4.4**	
YSS	**Yuzh-Sakhalins**	**5.94**	**279⇑**	*e*PN	**Pn**	**23 51 56.8**	**+2.1**	
YSS				pmax	pmax			
	comp=Z,20nm,0.8s							
YSS	**Yuzh-Sakhalins**	**5.94**	**279⇑**	*e*P	**Pn**	**23 51 56.3**	**+1.6**	
YSS				AMB	AMB	23 51 57.2		
	comp=Z,20nm,0.8s							
YSS				*e*S	**Sn**	**23 53 01.1**	**-0.2**	
YSS				A	A	23 53 03.1		
	comp=Z,40nm,0.4s							
JAR	**Ashorobuto**	**6.16**	**243**	P	**Pn**	**23 51 58.4**	**+0.6**	
JOB	**Onbets**	**6.34**	**240**	P	**Pn**	**23 52 00.2**	**0.0**	
JOB				*e*S	**Sn**	**23 53 08.8**	**-2.3**	
JKK2	**Kamakawa 2**	**6.54**	**251**	P	**Pn**	**23 52 04.9**	**+2.0**	
JCH	**Churui**	**6.79**	**240**	P	**Pn**	**23 52 04.7**	**-1.6**	
JCH				*e*S	**Sn**	**23 53 18.3**	**-3.7**	
UGL	**Uglegorsk**	**6.84**	**297**	*e*P	**Pn**	**23 52 04.2**	**-2.7**	
UGL				AMB	AMB	23 52 05.0		
	comp=Z,50nm,0.5s							
JBT2	**Biratori 2**	**7.31**	**244**	P	**Pn**	**23 52 14.3**	**+0.9**	
JNBK	**Urakawa-nobuka**	**7.35**	**240**	P	**Pn**	**23 52 12.5**	**-1.4**	
PETK	**Petropavlovsk-**	**7.96**	**29**	P	**Pn**	**23 52 22.6**	**+0.5**	
	comp=Z,0.2nm,0.3s,baz=205,slow=12,SNR=3.1							
JNB	**Noboribetsu**	**8.31**	**246**	P	**Pn**	**23 52 26.8**	**-0.1**	
JKB	**Kayabe**	**8.62**	**243**	*e*S	Sn	23 53 59.1	-7.6	
JTM	**Tenmabayashi**	**9.27**	**237**	P	Pn	23 52 37.7	-2.3	
JTM				*e*S	Sn	23 54 13.9	-8.5	
JANG	**Nango**	**9.29**	**234**	*e*S	Sn	23 54 12.0	-11	
JTH	**Tanohata**	**9.40**	**231**	*e*S	Sn	23 54 13.9	-12	
EKMR	**Ekimchan**	**13.66**	**306**	*e*P	**Pn**	**23 53 38.5**	**-0.2**	
KSRS	**Korea Array**	**19.49**	**251**	P	**Pn**	**23 54 51.5**	**+1.0**	
	comp=Z,0.3nm,0.3s,baz=55,slow=12,SNR=4.9							
H11N2	**WAKE ISLAND Hy**	**29.43**	**149**	T	T	00 27 55.5		
	baz=337							
H11N1	**WAKE ISLAND Hy**	**29.45**	**149**	T	T	00 27 57.4		
	baz=337							
H11N3	**WAKE ISLAND Hy**	**29.45**	**149**	T	T	00 28 00.1		
	baz=337							
H11S1	**WAKE ISLAND Hy**	**30.50**	**150**	T	T	00 29 17.5		
	baz=341							
H11S3	**WAKE ISLAND Hy**	**30.50**	**150**	T	T	00 29 17.6		
	baz=341							
H11S2	**WAKE ISLAND Hy**	**30.52**	**150**	T	T	00 29 17.5		
	baz=341							
MKAR	**Makanchi Array**	**46.05**	**297**	P	**P**	**23 58 43.5**	**+0.7**	
	comp=Z,0.4nm,0.5s,baz=68,slow=7.8,SNR=10.0							
KURK	**Kurchatov**	**46.58**	**303**	P	**P**	**23 58 47.2**	**+0.4**	
KURK	**Kurchatov**	**46.58**	**303**	*e*P	**P**	**23 58 47.2**	**+0.4**	
KURBB	**Kurchatov Arra**	**46.67**	**303**	P	**P**	**23 58 47.2**	**-0.3**	
	comp=Z,0.3nm,0.4s,baz=70,slow=8.8,SNR=4.6							
FINES	**FINESS Array B**	**63.91**	**334**	P	**P**	**00 00 50.9**	**-0.1**	
	comp=Z,1.1nm,1.0s,baz=60,slow=5.0,SNR=4.5							
FINES	**FINESS Array B**	**63.91**	**334**	P	**P**	**00 00 50.9**	**-0.1**	
FINES				pmax	pmax			
	comp=Z,1.0nm,1.0s							
WRA	**Warramunga Arr**	**67.71**	**197**	P	**P**	**00 01 16.9**	**+1.0**	
	comp=Z,0.4nm,0.8s,baz=15,slow=6.1,SNR=2.3							
TXAR	**Lajitas Array**	**78.78**	**59**	P	**P**	**00 02 23.5**	**+2.3**	
	comp=Z,7.5nm,1.0s,baz=318,slow=5.2,SNR=2.1							
TXAR	**Lajitas Array**	**78.78**	**59**	P	**P**	**00 02 23.5**	**+2.3**	
TXAR				pmax	pmax			
	comp=Z,8.0nm,1.0s							

BJI ***07*** *23:53:32.6,33˚.40N×116˚.50W,h14km,mb5.2/20, mB5.4/18,Ms5.4/25,Ms7 5.0/25*

ECX ***07*** *23:53:33.7±0.6,33˚.42N×116˚.48W,h13km,ML5.4*

GCMT ***07*** *23:53:33.5±0.2,33˚.41N×116˚.51W,h24km,MW5.5/113, Moment Tensor Solution. s83,c130; s113,c223; Duration: 1⁄4 Moment tensor: Scale 10¹⁷Nm; Mrr-0.39±.04; Mθθ-2.33±.04; Mϕϕ2.72±.04; Mrθ0.22±.06; Mθϕ0.30±.03; Mϕr0.21±.06; Best double couple: Mo2.56200×10¹⁷ NP1:ϕs228.00000°,δ89.00000°, λ-7.00000°. NP2:ϕs318.00000°,δ83.00000°, λ-179.00000°. Principal axes: T 2.7540, Plg4.0000°, Azm274.0000°; N -0.3860, Plg83.0000°, Azm37.0000°; P -2.3690, Plg6.0000°, Azm183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***07*** *23:53:33.1±0.1,33˚.39N×0˚.01×116˚.50W×0˚.01,h12km, mb5.1/174,MS5.1/150 Error ellipse: s-maj=1.7km s-min=1.3km az=40.0*

IDC ***07*** *23:53:33.5±0.5,33˚.48N×116˚.31W,h0km,mb4.7/29, mb1 4.8/37,mb1mx4.7/46,mbtmp4.7/37,ML4.6/8,MS4.9/31, Ms1 4.9/31,ms1mx4.8/35,Error ellipse: s-maj=12.2km s-min=4.7km az=41.0*

NEIC ***07*** *23:53:33.5,33˚.42N×116˚.49W,h14km,mb5.4/113, MS5.1/106,MW5.5,MW5.4(PAS),Moment Tensor Solution. s12 Moment tensor: Scale 10¹⁷Nm; Mrr0.52; Mθθ-2.75; Mϕϕ2.23; Mrθ-0.40; Mθϕ0.00; Mϕr-0.54; Best double couple: Mo2.60000×10¹⁷ NP1:ϕs134.00000°, δ74.00000°,λ173.00000°. NP2:ϕs226.00000°,δ84.00000°, λ17.00000°. Principal axes: T 2.3900, Plg16.0000°, Azm91.0000°; N 0.4200, Plg72.0000°, Azm247.0000°; P -2.8000, Plg6.0000°, Azm359.0000°; After PAS.*

NEIC Felt [VI] at Mountain Center and Ranchita; [V] at Aguanga, Anza, Borrego Springs, Cabazon, Coachella, Indio, Julian, La Quinta, Mecca, Palm Springs, Rancho Mirage, San Jacinto, Thermal and Warner Springs; [IV] in much of Imperial, Riverside and San Diego Counties and in parts of Los Angeles, Orange and San Bernardino Counties. Felt as far as Sacramento. Felt [III] at Las Vegas, Nevada and [II] in the Bullhead City-Yuma area, Arizona. Felt as far as Tucson. Felt [IV] at Tijuana, [III] at Mexicali and [II] at Rosarito, Baja California. Felt as far as Ensenada.

MOS ***07*** *23:53:34.5±1.6,33˚.54N×116˚.36W,h10km,mb5.5/43, MS5.1/19 Error ellipse: s-maj=4.9km s-min=3.5km az=97.9*

MEX ***07*** *23:53:34.4±0.3,33˚.51N×116˚.54W,h22km,MD5.3*

SZGRF ***07*** *23:53:37.4,33˚.05N×118˚.04W,h13km,mb5.1,MS5.6, Southern California, United States*

ISC 07 23:53:34.3±0.3,33˚38N±0˚.01×116˚51W±0˚.01,h7km±1km, n826,σ1⁄985/648,mb5.3/177,MS5.1/152,19C-10D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORC	**Borrego Spring**	**0.13**	**147**	*e*Pg	**Pg**	**23 53 37.3**	**+0.2**
BORC	**Borrego Spring**	**0.13**	**147**	⇓*i*P	**Pg**	**23 53 37.2**	**0.0**
BORC				*e*S	**Sg**	**23 53 39.7**	**+0.7**
FRD	**Ford Ranch**	**0.14**	**325**	*e*Pg	**Pg**	**23 53 36.6**	**-0.7**
FRD	**Ford Ranch**	**0.14**	**325**	*e*Pn	**Pg**	**23 53 36.8**	**-0.5**
SNDA	**J Saunders Pla**	**0.19**	**332**	*e*Pg	**Pg**	**23 53 37.3**	**-0.9**
DNR	**Dunn Ranch,Anz**	**0.21**	**331**	*e*Pg	**Pg**	**23 53 37.6**	**-1.0**
PFO	**Pinyon Flat Ob**	**0.23**	**10**	Pg	**Pg**	**23 53 37.2**	**-1.7**
	27µm,0.3s,baz=132,slow=16						
PFO				Lg	Lg	23 53 38.9	
	73µm,0.3s,baz=36,slow=17,SNR=1648						
PFO				LR	LR	23 53 55.2	
	comp=Z,2153µm,19.6s,baz=56,slow=124						
PFO	**Pinyon Flat Ob**	**0.23**	**10**	P	**Pg**	**23 53 37.3**	**-1.7**
PFO				MLR	MLR		
	comp=Z,153nm,19.6s						
PFO	**Pinyon Flat Ob**	**0.23**	**10**	P	**Pg**	**23 53 37.0**	**-2.0**
	baz=0.2						
PFO				S	**Sg**	**23 53 40.3**	**-1.8**
	baz=0.2						
CRY	**Cary Ranch**	**0.27**	**314**	*e*Pg	**Pg**	**23 53 38.7**	**-0.9**
PLM	**Palomar**	**0.30**	**265**	*e*P	**Pg**	**23 53 40.2**	**-0.1**
PLM	**Palomar**	**0.30**	**265**	*e*Pg	**Pg**	**23 53 40.2**	**-0.1**
PLM	**Palomar**	**0.30**	**265**	⇑*i*P	**Pg**	**23 53 40.2**	**-0.1**
MONP	**Monument Peak**	**0.49**	**172**	P	**Pg**	**23 53 43.2**	**-0.7**
	baz=0.5						
MONP				S	**Sg**	**23 53 50.6**	**+0.2**
	baz=0.5						
DGR	**Domenigoni Val**	**0.50**	**303**	*e*Pg	**Pg**	**23 53 42.9**	**-1.1**
BACC	**Bachelor Mtn.**	**0.50**	**297**	*e*Pg	**Pg**	**23 53 43.0**	**-1.0**
CTCC	**Cactus City**	**0.51**	**57**	*e*Pg	**Pg**	**23 53 42.5**	**-1.6**
HWB	**Hans Werner Br**	**0.52**	**227**	*e*Pg	**Pg**	**23 53 44.0**	**-0.3**
CBKC	**Canebrake**	**0.53**	**156**	*e*Pg	**Pg**	**23 53 43.7**	**-0.7**
DPP	**Dos Picos Cty**	**0.53**	**224**	*e*Pg	**Pg**	**23 53 44.2**	**-0.3**
HMTC	**Hemet**	**0.53**	**308**	*e*Pg	**Pg**	**23 53 43.3**	**-1.2**
DEVC	**Devers**	**0.56**	**354**	*e*Pg	**Pg**	**23 53 43.3**	**-1.8**
BATC	**Bat Cave Butte**	**0.56**	**82**	*e*Pg	**Pg**	**23 53 43.9**	**-1.2**
EML	**El Monte Cty P**	**0.57**	**210**	*e*Pg	**Pg**	**23 53 44.9**	**-0.3**
CTW	**Cottonwood Mou**	**0.61**	**61**	*e*Pg	**Pg**	**23 53 44.5**	**-1.5**
MURC	**Murrieta**	**0.62**	**291**	P	**Pg**	**23 53 44.8**	**-1.4**
	baz=0.6						
MURC				S	**Sg**	**23 53 53.8**	**-0.6**
	baz=0.6						
ERRC	**Elmore Ranch**	**0.63**	**115**	*e*Pg	**Pg**	**23 53 45.3**	**-1.1**
CRR	**Carrizo Plain**	**0.67**	**137**	*e*Pg	**Pg**	**23 53 46.3**	**-0.9**
109C	**Camp Elliot, M**	**0.70**	**226**	P	**Pg**	**23 53 47.1**	**-0.7**
	baz=0.8						
CPE	**Camp Elliot**	**0.70**	**226**	*e*Pg	**Pg**	**23 53 47.1**	**-0.7**
BAR	**Barrett**	**0.71**	**191**	*e*Pg	**Pg**	**23 53 47.0**	**-1.0**
BAR	**Barrett**	**0.71**	**191**	⇓*e*P	**Pg**	**23 53 47.2**	**-0.8**
BAR				*e*S	**Sg**	**23 53 57.3**	**0.0**
FRK	**Frink**	**0.73**	**88**	*e*Pg	**Pg**	**23 53 46.2**	**-2.1**
SWSC	**Sam W. Stewart**	**0.74**	**126**	P	**Pg**	**23 53 46.9**	**-1.6**
	baz=0.7						
SWSC				S	**Sg**	**23 53 57.0**	**-1.1**
	baz=0.7						
SWSC	**Sam W. Stewart**	**0.74**	**126**	*e*Pg	**Pg**	**23 53 47.4**	**-1.1**
SDRC	**San Diego Road**	**0.74**	**210**	⇓*i*P	**Pg**	**23 53 47.5**	**-1.0**
SDRC				*e*S	**Sg**	**23 53 58.2**	**+0.1**
BELC	**Belle Mtn. Jos**	**0.75**	**34**	P	**Pg**	**23 53 46.5**	**-2.2**
	baz=0.7						
BELC	**Belle Mtn. Jos**	**0.75**	**34**	*e*Pg	**Pg**	**23 53 46.5**	**-2.2**
HAY	**Hayfield**	**0.76**	**64**	*e*P	**Pg**	**23 53 47.7**	**-1.2**
HAY	**Hayfield**	**0.76**	**64**	*e*Pg	**Pg**	**23 53 47.7**	**-1.2**
IBP	**Imperial Bould**	**0.80**	**154**	P	**Pg**	**23 53 48.7**	**-0.9**
	baz=0.8						
IBP				S	**Sg**	**23 53 59.7**	**-0.3**
	baz=0.8						
TPC	**Twentynine Pal**	**0.82**	**28**	*e*Pg	**Pg**	**23 53 47.7**	**-2.3**
CLIC	**Calipatria**	**0.85**	**106**	*e*Pg	**Pg**	**23 53 49.7**	**-1.0**
RMX	**La Rumorosa**	**0.85**	**155**	⇓*e*P	**Pg**	**23 53 49.6**	**-1.1**
RMX				*e*S	**Sg**	**23 54 01.1**	**-0.7**
SVD	**Seven Oaks Dam**	**0.88**	**326**	*e*Pg	**Pg**	**23 53 49.0**	**-2.1**
YUH	**Yuha Desert**	**0.88**	**146**	*e*Pg	**Pg**	**23 53 49.9**	**-1.2**
WESC	**Westside Schoo**	**0.90**	**133**	*e*Pg	**Pg**	**23 53 50.2**	**-1.4**
WESC	**Westside Schoo**	**0.90**	**133**	⇓*i*P	**Pg**	**23 53 49.6**	**-1.9**
BC3	**Big Chuckawall**	**0.92**	**72**	P	**Pg**	**23 53 49.5**	**-2.5**
	baz=0.9						
BC3				S	**Sg**	**23 54 01.6**	**-2.3**
	baz=0.9						
BBRC	**Big Bear Solar**	**0.94**	**339**	P	**Pg**	**23 53 50.5**	**-2.0**
	baz=0.9						
BBRC	**Big Bear Solar**	**0.94**	**339**	*e*Pg	**Pg**	**23 53 50.1**	**-2.4**
RVR	**Riverside**	**0.95**	**310**	*e*P	**Pg**	**23 53 50.3**	**-2.2**
RVR	**Riverside**	**0.95**	**310**	*e*Pg	**Pg**	**23 53 50.3**	**-2.2**
ERPC	**Erwins Place**	**0.95**	**132**	*e*Pg	**Pg**	**23 53 51.3**	**-1.2**
HDB	**Hidalgo Marine**	**1.03**	**10**	*e*Pg	**Pg**	**23 53 51.4**	**-2.8**
CBX	**Cerro Bola**	**1.07**	**187**	*e*	**Sn**	**23 54 12.3**	**+1.3**
CBX				IAML		23 54 12.3	
	comp=N,116µm,0.8s						
BTCC	**Brunts Corner**	**1.14**	**108**	*e*Pg	**Pg**	**23 53 53.9**	**-2.2**
CHNC	**Chino**	**1.16**	**302**	*e*Pg	**Pg**	**23 53 54.1**	**-2.4**
COA	**Coachella**	**1.27**	**114**	*e*Pg	**Pn**	**23 53 56.2**	**-2.3**
BFSC	**Mount Baldy Ra**	**1.29**	**312**	P	**Pn**	**23 53 55.9**	**-2.9**
	baz=1.3						
BFSC	**Mount Baldy Ra**	**1.29**	**312**	*e*Pg	**Pn**	**23 53 56.1**	**-2.7**
SSK	**Sunset Peak**	**1.29**	**310**	*e*Pg	**Pn**	**23 53 56.2**	**-2.7**
BREC	**Barre Substati**	**1.30**	**289**	*e*Pg	**Pn**	**23 53 56.7**	**-2.2**
VTV	**Victorville**	**1.36**	**330**	*e*P	**Pn**	**23 53 57.1**	**-2.7**
VTV	**Victorville**	**1.36**	**330**	*e*Pg	**Pn**	**23 53 57.1**	**-2.7**
IRM	**Iron Mountain**	**1.37**	**55**	P	Pn	23 53 56.1	-3.8
	baz=1.3						
IRM	**Iron Mountain**	**1.37**	**55**	*e*Pg	**Pn**	**23 53 57.1**	**-2.7**
CPBX	**Cerro Prieto**	**1.39**	**133**	IAML		23 54 21.4	
	comp=N,170µm,0.6s						
CPBX				*e*		23 54 21.4	
EMSC	**East Mesa**	**1.43**	**116**	*e*Pn	**Pn**	**23 53 58.5**	**-2.1**
EL2	**El Mirage 2**	**1.43**	**323**	*e*Pn	**Pn**	**23 53 59.0**	**-1.9**
GLA	**Glamis**	**1.45**	**103**	*e*P	**Pn**	**23 53 58.6**	**-2.3**
GLA	**Glamis**	**1.45**	**103**	P	Pn	23 53 57.0	-3.9
	baz=1.4						
GLA	**Glamis**	**1.45**	**103**	*e*Pn	**Pn**	**23 53 58.6**	**-2.3**
HEC	**Hector,Ludlow**	**1.45**	**6**	P	Pn	23 53 57.7	-3.3
	baz=1.4						
HEC	**Hector,Ludlow**	**1.45**	**6**	*e*Pn	**Pn**	**23 53 58.2**	**-2.9**
GVRC	**Garvey Reservo**	**1.50**	**297**	*e*Pn	**Pn**	**23 53 59.6**	**-2.1**
RDX	**Rancho Dawling**	**1.52**	**162**	⇓*e*P	**Pn**	**23 53 59.7**	**-2.5**
FMP	**Fort Macarthur**	**1.53**	**283**	P	Pn	23 53 59.2	-2.8
	baz=1.6						
FMP	**Fort Macarthur**	**1.53**	**283**	*e*Pn	**Pn**	**23 54 00.0**	**-2.0**
MWC	**Mount Wilson**	**1.54**	**303**	*e*P	**Pn**	**23 53 59.5**	**-2.9**
MWC	**Mount Wilson**	**1.54**	**303**	*e*Pn	**Pn**	**23 53 59.5**	**-2.9**
HOLC	**Holcomb Ridge**	**1.55**	**314**	*e*Pn	**Pn**	**23 53 59.9**	**-2.5**
RRX	**Edison Barstow**	**1.55**	**345**	P	Pn	23 53 59.2	-3.1
	baz=1.5						
GMRC	**Granite Mounta**	**1.56**	**26**	P	Pn	23 53 59.1	-3.5
	baz=1.5						
GMRC	**Granite Mounta**	**1.56**	**26**	*e*Pn	**Pn**	**23 53 59.8**	**-2.8**
DANC	**Danby, Needles**	**1.56**	**36**	*e*Pn	**Pn**	**23 53 59.8**	**-2.8**
CIS	**Catalina Islan**	**1.59**	**271**	P	Pn	23 53 59.9	-3.0
	baz=1.6						
CIAC	**Catalina I. Ai**	**1.60**	**271**	*e*Pn	**Pn**	**23 54 01.1**	**-1.9**
PASC	**Pasadena Art C**	**1.61**	**300**	*e*Pn	**Pn**	**23 54 01.6**	**-1.5**
RPV	**Rancho Palos V**	**1.63**	**283**	*e*Pn	**Pn**	**23 54 01.4**	**-1.9**
FLSC	**Flash Two Peak**	**1.65**	**345**	*e*Pn	**Pn**	**23 54 01.3**	**-2.5**
BLYC	**Blythe**	**1.69**	**77**	*e*Pn	**Pn**	**23 54 01.9**	**-2.4**
Y12C	**Blythe**	**1.69**	**77**	P	Pn	23 54 00.5	-3.8
	baz=1.7						
LRRC	**Littlerock Res**	**1.71**	**312**	*e*Pn	**Pn**	**23 54 02.2**	**-2.2**
LRRC				*e*Pg	**Pb**	**23 54 03.8**	**-2.1**
DECC	**Green Verdugo**	**1.75**	**300**	P	Pn	23 54 02.2	-2.9
	baz=1.8						
DECC	**Green Verdugo**	**1.75**	**300**	*e*Pn	**Pn**	**23 54 03.0**	**-2.1**
SCI	**San Clemente I**	**1.76**	**257**	P	**Pn**	**23 54 03.0**	**-2.2**
	baz=1.8						
SCI				S	**Sn**	**23 54 26.4**	**-1.4**
	baz=1.8						
DJJ	**Donna J Jenkin**	**1.78**	**295**	*e*Pn	**Pn**	**23 54 04.8**	**-0.7**
DSCC	**Desert Studies**	**1.79**	**11**	*e*Pn	**Pn**	**23 54 03.0**	**-2.6**
BLKC	**Black Mountain**	**1.80**	**341**	*e*Pn	**Pn**	**23 54 03.3**	**-2.5**
GSC	**Goldstone**	**1.93**	**353**	*e*P	**Pn**	**23 54 04.7**	**-2.9**
GSC				*e*		23 54 35.6	
GSC	**Goldstone**	**1.93**	**353**	P	**Pn**	**23 54 04.8**	**-2.9**
	baz=1.9						
GSC	**Goldstone**	**1.93**	**353**	*e*Pn	**Pn**	**23 54 04.7**	**-2.9**
GSC				*e*Sn	**Sg**	**23 54 35.6**	**-0.8**
EDW2	**Edwards Air Fo**	**1.94**	**321**	P	**Pn**	**23 54 05.1**	**-2.6**
	baz=1.9						
EDW2				Sb	**Sn**	**23 54 33.3**	**+1.0**
	baz=1.9						
EDW2	**Edwards Air Fo**	**1.94**	**321**	*e*Pn	**Pn**	**23 54 05.5**	**-2.2**
LEOC	**Leona Valley**	**1.95**	**310**	*e*Pn	**Pn**	**23 54 05.7**	**-2.2**
FOXC	**Fox Airport**	**1.98**	**314**	*e*Pn	Pn	23 54 03.5	-4.7
LDFC	**Landfair**	**2.05**	**34**	*e*Pn	**Pn**	**23 54 06.5**	**-2.8**
NEE2	**Needles Airpor**	**2.09**	**48**	P	**Pn**	**23 54 06.8**	**-2.9**
	baz=2.0						
NEE2				Sb	**Sb**	**23 54 37.6**	**-1.1**
	baz=2.0						
TUQ	**Turquoise Moun**	**2.11**	**13**	P	Pn	23 54 06.8	-3.3
	baz=2.1						
TUQ	**Turquoise Moun**	**2.11**	**13**	*e*Pn	**Pn**	**23 54 07.5**	**-2.6**
STTC	**Scott Ranch**	**2.15**	**311**	*e*Pn	**Pn**	**23 54 08.5**	**-2.1**
BTPC	**Burnt Peak**	**2.15**	**308**	*e*Pn	**Pn**	**23 54 08.6**	**-2.1**
CCAC	**Calif City Air**	**2.17**	**325**	*e*Pn	**Pn**	**23 54 08.6**	**-2.2**
PDMCI	**Parker Dam,Lak**	**2.17**	**64**	P	Pn	23 54 07.4	-3.5
	baz=2.1						
OSI	**Osito Adit**	**2.22**	**304**	P	Pn	23 54 08.2	-3.3
	baz=2.2						
OSI				Sb	**Sb**	**23 54 42.0**	**-0.4**
	baz=2.2						
OSI	**Osito Adit**	**2.22**	**304**	*e*Pn	**Pn**	**23 54 09.3**	**-2.3**
BLG	**Laguna Peak**	**2.25**	**290**	P	Pn	23 54 09.0	-3.0
	baz=2.3						
CCCA	**Chr Cany lake**	**2.25**	**342**	*e*Pn	**Pn**	**23 54 09.7**	**-2.3**
LRMC	**Laurel Mountai**	**2.31**	**335**	P	**Pn**	**23 54 10.2**	**-2.7**
	baz=2.3						
LRMC				Sb	**Sb**	**23 54 44.6**	**-0.6**
	baz=2.3						
WSHM	**Spangler Hills**	**2.36**	**340**	*e*Pn	**Pn**	**23 54 11.2**	**-2.3**
TJR	**Tejon Ranch**	**2.48**	**312**	*e*Pn	**Pn**	**23 54 13.1**	**-2.0**
SPIG	**San Pedro Mart**	**2.49**	**159**	*e*P	**Pn**	**23 54 13.3**	**-2.2**
SPIG				*e*S	**Sn**	**23 54 43.8**	**-2.5**
SPIG	**San Pedro Mart**	**2.49**	**159**	*e*P	**Pn**	**23 54 13.3**	**-2.2**
SPIG				*e*S	**Sn**	**23 54 43.8**	**-2.5**
SHOC	**Shoshone**	**2.52**	**4**	P	**Pn**	**23 54 12.8**	**-2.9**
	baz=2.5						
SRTC	**Snort**	**2.52**	**336**	*e*Pn	**Pn**	**23 54 13.9**	**-1.8**
CLC	**China Lake**	**2.59**	**340**	*e*P	**Pn**	**23 54 14.6**	**-2.1**
CLC	**China Lake**	**2.59**	**340**	*e*Pn	**Pn**	**23 54 14.6**	**-2.1**
ARVC	**Arvin**	**2.60**	**313**	P	**Pn**	**23 54 14.4**	**-2.3**
	baz=2.6						
ARVC	**Arvin**	**2.60**	**313**	*e*Pn	**Pn**	**23 54 14.8**	**-1.9**
PLEC	**Pleito Hills**	**2.65**	**307**	*e*Pn	**Pn**	**23 54 16.1**	**-1.5**
BSC	**Santa Cruz Isl**	**2.68**	**284**	P	Pn	23 54 14.9	-2.9
	baz=2.7						
WWPM	**Walker Pass**	**2.69**	**331**	*e*Pn	**Pn**	**23 54 15.8**	**-2.3**
ABL	**Mount Abel**	**2.69**	**304**	*e*Pn	**Pn**	**23 54 16.4**	**-1.8**
RCWM	**Renegade Canyo**	**2.73**	**340**	*e*Pn	**Pn**	**23 54 16.3**	**-2.3**
MPMC	**Manual Prospec**	**2.79**	**343**	P	**Pn**	**23 54 16.8**	**-2.8**
	baz=2.8						
ISA	**Isabella**	**2.80**	**325**	*e*P	**Pn**	**23 54 17.6**	**-1.9**
ISA				*e*		23 55 00.2	
ISA	**Isabella**	**2.80**	**325**	P	**Pn**	**23 54 16.9**	**-2.7**
	baz=2.8						
ISA				Sb	**Sb**	**23 54 59.1**	**0.0**
	baz=2.8						
ISA	**Isabella**	**2.80**	**325**	*e*Pn	**Pn**	**23 54 17.6**	**-1.9**
ISA				*e*Sn	**Sb**	**23 55 00.2**	**+1.1**
WCHM	**Chimney Peak**	**2.81**	**333**	*e*Pn	**Pn**	**23 54 17.6**	**-2.3**
WOFM	**Oak Flat**	**2.82**	**320**	*e*Pn	**Pn**	**23 54 18.0**	**-1.9**
MARC	**Maricopa**	**2.85**	**305**	*e*Pn	**Pn**	**23 54 18.7**	**-1.5**
SBC	**Santa Barbara**	**2.87**	**292**	P	**Pn**	**23 54 18.3**	**-2.2**
	baz=2.9						
WASM	**Alta Sierra Ca**	**2.90**	**325**	*e*Pn	**Pn**	**23 54 19.1**	**-1.9**
DAC	**Darwin (Calif)**	**3.02**	**343**	*e*P	**Pn**	**23 54 20.2**	**-2.6**
DAC	**Darwin (Calif)**	**3.02**	**343**	*e*Pn	**Pn**	**23 54 20.2**	**-2.6**
FURC	**Furnace Creek,**	**3.10**	**355**	P	**Pn**	**23 54 20.7**	**-2.9**
	baz=3.1						
PKM	**Peak Mountain**	**3.14**	**300**	P	**Pn**	**23 54 22.0**	**-2.3**
	baz=3.1						
WLHM	**Little Horse**	**3.14**	**332**	*e*Pn	**Pn**	**23 54 22.5**	**-1.9**
FIGC	**Figueroa Mtn.**	**3.19**	**296**	*e*Pn	**Pn**	**23 54 23.5**	**-1.4**
CRGC	**Crocker Grade**	**3.25**	**306**	*e*Pn	**Pn**	**23 54 24.1**	**-1.7**
VES	**Vestal, Richgr**	**3.25**	**320**	P	**Pn**	**23 54 23.5**	**-2.1**
	baz=3.2						
SHPR	**Sheep Range**	**3.31**	**19**	*e*Pn	**Pn**	**23 54 24.1**	**-2.5**
CWC	**Cottonwood Cre**	**3.31**	**337**	P	**Pn**	**23 54 24.5**	**-2.2**
	baz=3.3						
CARC	**Carrizo Plain**	**3.37**	**306**	*e*Pn	**Pn**	**23 54 26.0**	**-1.4**
214A	**Organ Pipe Nat**	**3.42**	**114**	P	Pn	23 54 24.4	-3.7
	baz=3.4						
SMMC	**Simmler**	**3.47**	**305**	P	**Pn**	**23 54 26.8**	**-2.0**
	baz=3.5						
GATR	**Gnd/Air Tx Cnt**	**3.52**	**290**	*e*Pn	**Pn**	**23 54 28.4**	**-1.1**
TPNV	**Topopah Spring**	**3.57**	**3**	*e*P	**Pn**	**23 54 28.1**	**-2.1**
TPNV	**Topopah Spring**	**3.57**	**3**	P	**Pn**	**23 54 27.9**	**

CTU Camp Tracy 8.23 26 ePn Pn 23 55 35.6 +1.4
JLU Jordanelle 8.26 28 ePn Pn 23 55 36.1 +1.3
LPM Los Pinos Moun 8.27 81 ePn Pn 23 55 33.4 -1.4
RBU Red Butte Cany 8.28 26 ePn Pn 23 55 35.4 +0.4
HLJ Hailstone 8.29 28 ePn Pn 23 55 35.4 +0.3
KLJ Keetly 8.30 28 ePn Pn 23 55 35.7 +0.3
HTU Hoyt Peak 8.42 29 ePn Pn 23 55 37.2 +0.3
ANMO Albuquerque 8.47 77 Pn Pn 23 55 36.5 -1.2
comp=N,3.7nm,0.3s,baz=265,slow=12,SNR=148
ANMO Lg Lg 23 57 55.6
comp=N,2.8nm,0.3s,baz=192,slow=21,SNR=5.1
ANMO LR LR 23 58 53.7
comp=N,8µm,18.4s,baz=264,slow=39
ANMO Albuquerque 8.47 77c iP Pn 23 55 36.4 -1.2
ANMO pmax pmax
comp=Z,159nm,0.7s
ANMO Albuquerque 8.47 77 ePn Pn 23 55 36.2 -1.4
ANMO Lg Lg 23 57 55.6
KCPM Cahto Peak 8.48 320 ePn Pn 23 55 40.2 +2.5
FPU Francis Peak 8.49 25 ePn Pn 23 55 38.3 +0.4
KIPM Iron Peak 8.52 321 ePn Pn 23 55 39.5 +1.4
SPUT South Promonto 8.55 21 ePn Pn 23 55 39.3 +0.7
EPU East Promontor 8.63 21 ePn Pn 23 55 40.4 +0.6
WDC Whiskeytown Da 8.65 328 eP Pn 23 55 44.2 +4.3
WDC Whiskeytown Da 8.65 328 ePn Pn 23 55 44.2 +4.3
GZU Grizzly Peak 8.80 23 ePn Pn 23 55 42.7 +0.5
GZU eScS ScS 00 09 19.7 +4.2
HVU Hansel Valley 8.89 18 eP Pn 23 55 43.0 -0.3
HVU Hansel Valley 8.89 18 ePn Pn 23 55 43.0 -0.3
MTUT Morton Thiokol 8.91 20 ePn Pn 23 55 44.3 +0.8
KMRM Mail Ridge 8.94 322 ePn Pn 23 55 45.4 +1.5
WVUT Wellsville 8.97 22 ePn Pn 23 55 45.1 +0.7
HONU Honeyville 8.98 23 ePn Pn 23 55 44.8 +0.2
MCU Monte Cristo P 8.99 25 ePn Pn 23 55 45.4 +0.6
S22A 4UR Ranch, Cre 9.01 58 ePn Pn 23 55 42.5 -2.5
HWUT Hardware Ranch 9.10 24 ePn Pn 23 55 46.9 +0.7
PTU Portage 9.15 20 ePn Pn 23 55 47.7 +0.8
RSUT Red Spur Mount 9.18 25 ePn Pn 23 55 48.0 +0.6
WVOR Wild Horse Val 9.19 350 eP Pn 23 55 49.6 +2.2
WVOR Wild Horse Val 9.19 350 ePn Pn 23 55 49.6 +2.2
HDU Hyde Park 9.21 23 ePn Pn 23 55 48.5 +0.8
MLI Malad Range 9.30 21 ePn Pn 23 55 49.8 +0.8
KHMM Horse Mountain 9.44 324 ePn Pn 23 55 56.6 +5.8
O20A White River Ci 9.45 42 ePn Pn 23 55 51.6 +0.6
BMUT Black Mountain 9.53 24 ePn Pn 23 55 52.9 +0.8
SMCO Snowmass 9.62 50 ePn Pn 23 55 53.3 -0.2
YBH Yreka Blue Hor 9.68 331 Pn Pn 23 55 56.8 +2.8
comp=Z,1.0nm,0.3s,baz=142,slow=10.0,SNR=54
YBH Lg Lg 23 58 27.8
comp=Z,0.3nm,0.3s,baz=17,slow=17,SNR=3.8
YBH LR LR 23 59 27.5
comp=Z,5µm,19.6s,baz=306,slow=37
YBH Yreka Blue Hor 9.68 331 ePn Pn 23 55 59.2 +5.1
YBH Lg Lg 23 59 27.8
K05A Summer Lake 9.95 341 ePn Pn 23 56 01.4 +3.6
SDCO Great Sand Dun 9.96 61 ePn Pn 23 55 58.0 -0.2
MFID Camas Ranch 10.03 3 ePn Pn 23 56 00.6 +1.7
HLID Hailey 10.30 9 ePn Pn 23 56 03.2 +0.7
HUMO Hull Mountain 10.52 333 ePn Pn 23 56 10.2 +4.7
T25A Trinidad 10.57 66 ePn Pn 23 56 07.0 +0.6
KBO Bosley Butte 10.72 328 ePn Pn 23 56 16.9 +8.7
LPIG La Paz 10.72 148 Pn Pn 23 56 10.2 +1.9
comp=Z,9.8nm,0.3s,baz=153,slow=2.5,SNR=8.3
LPIG Lg Lg 23 59 11.7
baz=267,slow=17,SNR=3.6
LPIG LR LR 00 00 01.1
comp=Z,5µm,19.8s,baz=340,slow=36
Q24A Divide 10.73 56 ePn Pn 23 56 10.3 +1.6
ISCO Idaho Springs 10.84 51 eP Pn 23 56 11.2 +1.0
ISCO Idaho Springs 10.84 51 ePn Pn 23 56 11.2 +1.0
BW06 Boulder Array 10.85 28 ePn Pn 23 56 11.2 +1.0
PD31 Pinedale Array 10.85 28 ePn Pn 23 56 11.7 +1.5
PDAR Pinedale Array 10.85 28 Pn Pn 23 56 11.7 +1.5
comp=Z,0.6nm,0.3s,baz=219,slow=8.6,SNR=121
PDAR Lg Lg 23 59 21.1
comp=Z,0.7nm,0.3s,baz=194,slow=31,SNR=4.4
PDAR LR LR 00 00 21.8
comp=Z,5µm,18.3s,baz=227,slow=38
REDW Red Top Meadow 10.90 22 ePn Pn 23 56 12.8 +1.9
TPAW Teton Pass 10.99 22 ePn Pn 23 56 14.1 +1.9
SNOW Snow King Moun 11.03 22 ePn Pn 23 56 15.1 +2.4
FXWY Fox Creek 11.10 21 ePn Pn 23 56 15.8 +2.2
LOHW Long Hollow 11.21 23 ePn Pn 23 56 16.6 +1.5
SLBS Sierra La Lagu 11.25 148 i P Pn 23 56 15.6 +0.1
SLBS Sierra La Lagu 11.25 148 ePn Pn 23 56 18.2 +2.7
N23A Red Feather La 11.28 45 ePn Pn 23 56 17.6 +1.5
MOOW Moose Ponds 11.29 22 ePn Pn 23 56 18.0 +1.9
IMW Indian Meadow 11.36 21 ePn Pn 23 56 19.7 +2.5
HBO Huckleberry Mo 11.39 338 P Pn 23 56 22.9 +5.4
MSTX Muleshoe 11.46 83 ePn Pn 23 56 17.6 -0.9
FLWY Flagg Ranch 11.60 21 ePn Pn 23 56 23.4 +3.0
LTX Lajitas 11.69 107 eP Pn 23 56 21.1 -0.6
LTX Lajitas 11.69 107 ePn Pn 23 56 21.1 -0.6
TX31 Lajitas Ar. Si 11.69 107 ePn Pn 23 56 20.1 -1.5
TXAR Lajitas Array 11.69 107 Pn Pn 23 56 21.1 -0.6
comp=Z,1.7nm,0.3s,baz=268,slow=9.9,SNR=55
TXAR Sn Sn 23 58 29.4 -3.1
baz=275,slow=22,SNR=2.2
TXAR Lg Lg 23 59 40.1
comp=Z,0.4nm,0.3s,baz=297,slow=29,SNR=3.3
TXAR LR LR 00 00 54.0
comp=Z,5µm,19.0s,baz=0.0,slow=38
MCMT McKenzie Canyo 11.78 13 ePn Pn 23 56 26.5 +3.6
PHWY Pilot Hill 11.82 45 ePn Pn 23 56 26.1 +2.7
PHWY eSn Sn 23 58 14.1 -22
H17A Grant Village 11.92 21 ePn Pn 23 56 28.0 +3.0
BPO Bald Peter 11.95 342 P Pn 23 56 30.2 +5.0
G08A Pilot Rock 12.04 352 P Pn 23 56 29.4 +3.0
YMR Madison River 12.06 19 ePn Pn 23 56 29.0 +2.2
QLMT Earthquake Lak 12.09 17 ePn Pn 23 56 31.0 +3.9
CROR Criterion Ridg 12.09 345 P Pn 23 56 32.1 +5.1
H04A Detroit Lake 12.12 340 ePn Pn 23 56 31.6 +4.3
K22A Casper 12.14 37 ePn Pn 23 56 28.2 +0.5
G06A Carlson Farm, 12.26 346 ePn Pn 23 56 34.3 +5.0
DLMT Dillon 12.34 13 ePn Pn 23 56 34.7 +4.2
COR Corvallis 12.37 337 eP Pn 23 56 40.4 +10
COR Corvallis 12.37 337 ePn Pn 23 56 40.4 +10
AMTX Amarillo 12.38 79 ePn Pn 23 56 31.6 +0.6
KSCO Kaye Shedlock' 12.53 59 ePn Pn 23 56 35.9 +2.7
LNOR Lincton Mounta 12.55 354 P Pn 23 56 38.2 +4.9
LNOR Lincton Mounta 12.55 354 P Pn 23 56 38.2 +4.9
F10A Beach Ranch, E 12.59 358 ePn Pn 23 56 37.7 +3.8
VLL Laurance Lake 12.71 343 P Pn 23 56 40.2 +4.8
LRM Limekiln Ridge 12.81 13 ePn Pn 23 56 40.0 +3.0
BOZ Bozeman (W) 12.81 16 eP Pn 23 56 39.8 +2.9
BOZ Bozeman (W) 12.81 16 ePn Pn 23 56 39.8 +2.9
E09A Wood Farm, Sta 13.18 355 ePn Pn 23 56 45.4 +3.6
HAWA Hanford 13.20 351 ePn Pn 23 56 46.0 +3.9
RSW Rattlesnake Hi 13.21 351 P Pn 23 56 46.5 +4.2
E08A Dider Farm, El 13.24 352 P Pn 23 56 45.4 +2.7
TRW Toppenish Ridg 13.26 348 P Pn 23 56 46.6 +3.6
GCMT Greycliff 13.46 21 ePn Pn 23 56 48.8 +3.0
MSO Missoula 13.57 8 ePn Pn 23 56 49.5 +2.3
CHMT Chamberlain Mo 13.74 9 ePn Pn 23 56 51.8 +2.1
HRY Holter Researc 13.78 14 ePn Pn 23 56 53.7 +3.6
D08A Wollman Farm, 13.78 353 ePn Pn 23 56 52.5 +2.4
LON Longmire 13.95 345 eP Pn 23 56 55.0 +2.6
LON Longmire 13.95 345 ePn Pn 23 56 55.0 +2.6
SLMT Seeley Lake 14.03 8 ePn Pn 23 56 56.4 +2.8
ABTX Abilene, Hawle 14.17 88 ePn Pn 23 56 54.7 -0.8
E03A Lebam 14.21 340 ePn Pn 23 56 58.2 +2.4
LTY Liberty 14.22 348 ePn Pn 23 56 58.5 +2.5
SWMT Swartz Lake 14.24 7 ePn Pn 23 56 58.8 +2.4
D05A Enumclaw 14.41 345 ePn Pn 23 57 01.9 +3.3
JTMT Jette 14.45 6 ePn Pn 23 57 00.6 +1.3
RSSD Black Hills 14.46 39 eP Pn 23 56 58.7 -0.9
RSSD Black Hills 14.46 39 ePn Pn 23 56 58.7 -0.9
C09A Chrisman Ranch 14.47 355 ePn Pn 23 57 01.3 +1.9
JCT Junction City 14.48 97 eP Pn 23 57 00.9 +1.2
JCT Junction City 14.48 97 ePn Pn 23 57 00.9 +1.2
BSMT Bassoo Peak 14.51 5 ePn Pn 23 57 02.6 +2.3
YBMT Yellow Bay 14.59 7 ePn Pn 23 57 04.2 +3.0
BLMT Blacktail Moun 14.70 6 ePn Pn 23 57 04.9 +2.1
WMOK Wichita Mounta 14.76 80 eP Pn 23 57 01.9 -1.6
WMOK Wichita Mounta 14.76 80 ePn Pn 23 57 01.9 -1.6
NEW Newport 14.88 358 Pn Pn 23 57 06.0 +1.0
comp=Z,0.6nm,0.3s,baz=178,slow=13,SNR=124
NEW Lg Lg 00 01 25.0
comp=Z,0.2nm,0.3s,baz=96,slow=18,SNR=3.1
NEW Newport 14.88 358 ePn Pn 23 57 06.5 +1.4
NEW Lg Lg 00 01 25.1

NLWA Neilton Lookou 15.07 340 ePn Pn 23 57 09.3 +1.7
comp=Z,323nm,1.5s
B08A Colville Reser 15.11 353 ePn Pn 23 57 09.4 +1.3
comp=Z,96nm,0.9s
EGMT Eagleton 15.49 17 ePn Pn 23 57 15.2 +2.1
comp=Z,607nm,1.5s
W34A Bridge Creek, 15.59 78 ePn Pn 23 57 14.7 +0.1
comp=Z,838nm,2.1s
WALA Waterton Lakes 15.78 6 ePn Pn 23 57 18.4 +1.3
comp=Z,565nm,0.9s
V34A Guthrie 15.83 76 ePn Pn 23 57 18.4 +0.8
comp=Z,208nm,1.0s
U34A Anderson Ranch 15.86 74 ePn Pn 23 57 17.6 -0.4
comp=Z,772nm,1.5s
WHTX Lake Whitney 16.10 90 ePn Pn 23 57 21.0 -0.2
comp=Z,245nm,1.0s
PGC Sidney 16.12 343 ePn P 23 57 23.2 -1.3
comp=Z,3µm,1.0s
BGNE Belgrade 16.62 56 ePn P 23 57 31.9 +1.7
comp=Z,349nm,1.1s
KSU1 Kansas State U 17.02 65 ePn Pn 23 57 32.5 -0.3
comp=Z,195nm,1.3s
TUL1 Tulsa 17.23 76 ePn Pn 23 57 35.3 -0.1
comp=Z,272nm,1.0s
DGMT Dagmar 17.68 28 ePn P 23 57 41.7 -0.2
comp=Z,2µm,2.3s
HKT Hockley 17.92 95 eP Pn 23 57 44.3 +0.3
HKT pmax pmax
comp=Z,600nm,1.6s
HKT Hockley 17.92 95 ePn Pn 23 57 44.3 +0.3
comp=Z,600nm,1.6s
ECSD EROS Data Cent 18.63 51 eP P 23 57 52.1 -0.4
comp=Z,47nm,0.9s
MIAR Mount Ida 19.05 80 eP P 23 57 56.5 -0.6
MIAR pmax pmax
comp=Z,225nm,1.2s
MIAR Mount Ida 19.05 80 eP P 23 57 56.5 -0.6
comp=Z,225nm,1.2s
MDND Maddock 19.26 36 ePn Pn 23 58 00.8 +0.5
comp=Z,806nm,1.1s
EDM Edmonton 19.96 6 eP P 23 58 05.9 -1.1
EDM Edmonton 19.96 6 eP P 23 58 05.8 -1.1
UALR University of 20.06 79 eP Pn 23 58 09.4 -0.5
comp=Z,141nm,1.3s
SCIA State Center 20.27 58 eP Pn 23 58 11.6 -0.7
comp=Z,79nm,0.8s
BBB Bella Bella 20.59 339 P P 23 58 14.2 +0.6
comp=Z,29nm,1.0s,baz=126,slow=5.6,SNR=4.5
BBB LR LR 00 05 35.9
comp=Z,5µm,20.6s,baz=164,slow=35
AGMN Agassiz Nation 21.49 40 eP P 23 58 23.0 -0.4
comp=Z,824nm,2.1s
AGMN LR LR
comp=Z,5µm,21.0s
PBMO Poplar Bluff 21.59 74 eP P 23 58 24.4 -0.2
comp=Z,213nm,1.2s
SPMN St. Paul 21.74 50 eP P 23 58 27.0 +0.9
comp=Z,94nm,0.9s
SLM Saint Louis 21.85 69 eP P 23 58 27.4 0.0
SLM pmax pmax
comp=Z,164nm,1.0s
SLM Saint Louis 21.85 69 eP P 23 58 27.4 0.0
comp=Z,164nm,1.0s
VBMS Vicksburg 21.86 86 eP P 23 58 28.9 +1.3
comp=Z,347nm,1.1s
GNAR Gosnell 21.91 76 eP P 23 58 28.8 +0.7
PARMO Parma 22.13 74 eP P 23 58 33.6 +3.2
OXF Oxford 22.49 80 eP P 23 58 34.5 +0.2
OXF pmax pmax
comp=Z,431nm,1.2s
OXF Oxford 22.49 80 eP P 23 58 34.5 +0.2
comp=Z,431nm,1.2s
SIUC Southern Illin 22.59 71 eP P 23 58 35.6 +0.3
comp=Z,196nm,1.1s
JFWS Jewell Farm 22.66 58 eP P 23 58 36.4 +0.3
JFWS pmax pmax
comp=Z,204nm,1.6s
JFWS MLR MLR
comp=Z,7µm,19.0s
JFWS Jewell Farm 22.66 58 eP P 23 58 36.4 +0.3
comp=Z,204nm,1.6s
JFWS LR LR
comp=Z,7µm,19.0s
HDIL Hopedale 22.83 64 eP P 23 58 37.6 -0.3
comp=Z,285nm,1.4s
HDIL LR LR
comp=Z,8µm,20.0s
OLIL Olney 23.53 69 eP P 23 58 44.9 -0.1
comp=Z,94nm,1.0s
FFC Flin Flon 23.66 21 P P 23 58 45.0 -1.1
comp=Z,517nm,1.0s,SNR=20
FFC Flin Flon 23.66 21 eP P 23 58 45.1 -1.1
FFC pmax pmax
comp=Z,114nm,1.0s
FFC MLR MLR
comp=Z,4µm,19.0s
FFC Flin Flon 23.66 21 eP P 23 58 45.1 -1.1
comp=Z,114nm,1.0s
FFC LR LR
comp=Z,4µm,19.0s
EYMN Ely 23.77 45 eP P 23 58 47.0 -0.3
comp=Z,29nm,0.9s
EYMN LR LR
comp=Z,3µm,19.0s
USIN University of 23.82 71 eP P 23 58 48.5 +0.6
comp=Z,86nm,1.1s
COWI Conover 24.45 51 eP P 23 58 52.4 -1.2
comp=Z,91nm,0.9s
COWI LR LR
comp=Z,579nm,21.0s
SFIN Scholer Farm 24.46 65 eP P 23 58 53.6 -0.2
LRAL Lakeview Retre 24.66 83 eP P 23 58 55.8 +0.2
comp=Z,86nm,1.1s
BLO Bloomington 24.79 68 eP P 23 58 57.2 +0.4
BLO pmax pmax
comp=Z,123nm,1.1s
BLO Bloomington 24.79 68 eP P 23 58 57.2 +0.4
comp=Z,123nm,1.1s
CRAG Craig 24.94 337 eP P 23 58 57.8 -0.2
comp=Z,103nm,1.3s
BRAL Brewton 25.00 87 eP P 23 59 00.5 +1.8
comp=Z,247nm,1.0s
BRAL LR LR
comp=Z,2µm,20.0s
SWET Sewanee 25.28 77 eP P 23 59 01.0 -0.3
CMIG Matias Romero 25.33 125 P P 23 59 02.0 +0.3
comp=Z,7.7nm,0.8s,baz=324,slow=12,SNR=12
CMIG LR LR 00 10 05.4
comp=Z,8µm,18.9s,baz=277,slow=39
WRAK Wrangell Islan 25.50 339 eP P 23 59 03.8 +0.9
comp=Z,395nm,1.7s
CPCT Cooper Cave 26.41 76 eP P 23 59 11.2 -0.3
DLBC Dease Lake 26.66 344 P P 23 59 13.9 +0.2
comp=Z,22nm,0.9s,baz=167,slow=6.9,SNR=27
DLBC LR LR 00 09 55.8
comp=Z,8µm,18.2s,baz=160,slow=37
DLBC Dease Lake 26.66 344 eP P 23 59 14.3 +0.6
TKL Tuckaleechee C 27.00 76 P P 23 59 16.1 -0.8
comp=Z,14nm,0.9s,baz=262,slow=5.2,SNR=9.4
TKL LR LR 00 10 06.6
comp=Z,2µm,20.8s,baz=276,slow=37
TKL Tuckaleechee C 27.00 76 P P 23 59 16.1 -0.8
TKL pmax pmax
comp=Z,14nm,0.9s
TKL MLR MLR
comp=Z,2µm,20.8s
TKL Tuckaleechee C 27.00 76 eP P 23 59 16.4 -0.5
GLMI Grayling 27.09 56 eP P 23 59 21.2 +3.6
comp=Z,94nm,0.9s
GLMI LR LR
comp=Z,4µm,19.0s
TZTN Tazewell 27.12 74 eP P 23 59 17.6 -0.3
comp=Z,85nm,1.4s
AAM Ann Arbor 27.29 61 PFAKE 23 59 30.0 +11
AAM LR LR
comp=Z,1µm,19.0s
GOGA Godfrey 27.52 81 eP P 23 59 21.1 -0.4
GOGA pmax pmax
comp=Z,52nm,1.1s
GOGA MLR MLR
comp=Z,4µm,19.0s
GOGA Godfrey 27.52 81 eP P 23 59 21.1 -0.4
comp=Z,52nm,1.1s
GOGA LR LR
comp=Z,4µm,19.0s
ACSO Alum Creek Sta 27.58 66 eP P 23 59 21.9 -0.1
comp=Z,128nm,0.9s

ACSO LR LR
comp=Z,2µm,19.0s
TIGA Tifton 27.80 85 eP P 23 59 28.2 +4.2
comp=Z,206nm,1.8s
BESE Bessie Mountai 28.05 339 eP P 23 59 27.8 +1.7
comp=Z,57nm,1.5s
KMSC Kings Mountain 29.03 77 eP P 23 59 34.5 -0.5
comp=Z,89nm,1.0s
YKA Yellowknife Ar 29.16 2 P P 23 59 34.5 -1.3
comp=Z,7.1nm,0.9s,baz=183,slow=8.2,SNR=15
YKB5 Yellowknife Ar 29.16 2 eP P 23 59 34.7 -1.0
JSC Jenkinsville 29.21 78 eP P 23 59 36.2 -0.3
JSC Jenkinsville 29.21 78 eP P 23 59 36.2 -0.3
BLA Blacksburg 29.59 72 eP P 23 59 40.0 0.0
BLA pmax pmax
comp=Z,70nm,1.0s
BLA MLR MLR
comp=Z,3µm,21.0s
BLA Blacksburg 29.59 72 eP P 23 59 40.0 0.0
comp=Z,70nm,1.0s
BLA LR LR
comp=Z,3µm,21.0s
VWCC Virginia Weste 29.94 72 eP P 23 59 46.5 +3.5
NHSC New Hope 30.29 80 PFAKE 00 00 00.0 +14
NHSC LR LR
comp=Z,3µm,22.0s
HYT Haines Junctio 30.67 340 eP P 23 59 51.4 +2.0
SADO Sadowa 30.90 57 P P 23 59 49.4 -2.0
comp=Z,3.2nm,0.6s,baz=267,slow=9.0,SNR=5.3
SADO LR LR 00 11 40.4
comp=Z,4µm,18.9s,baz=275,slow=35
MMNY Mt. Morris Dam 31.56 61 eP P 23 59 57.9 +0.6
comp=Z,244nm,1.3s
JSRW J. Sargeant Re 31.57 71 eP P 23 59 58.7 +1.3
CNNC Cliffs of the 31.82 76 eP P 23 59 59.1 -0.5
comp=Z,67nm,1.0s
CNNC LR LR
comp=Z,3µm,19.0s
URVA University of 31.85 71 eP P 23 59 56.2 -3.7
CBN Corbin 31.94 70 PFAKE 00 00 10.0 +9.4
CBN LR LR
comp=Z,499nm,19.0s
SDMD Soldier's Deli 32.30 68 eP P 00 00 07.1 +3.3
BMRM Bremner River 33.06 335 eP P 00 00 15.1 +4.8
comp=Z,49nm,1.1s
KSPA Keystone Colle 33.10 64 eP P 00 00 11.6 +0.8
comp=Z,48nm,1.0s
LUPA Lehigh Univers 33.40 65 eP P 00 00 14.1 +0.7
comp=Z,14nm,1.1s
DAWY Dawson 33.82 342 eP P 00 00 17.1 +0.3
comp=Z,126nm,1.4s
PTN Potsdam (NY) 33.82 58 eP P 00 00 17.1 +0.1
PTN Potsdam (NY) 33.82 58 eP P 00 00 17.1 +0.1
ODNJ Ogdensburg 33.97 65 eP P 00 00 19.0 +0.6
comp=Z,96nm,1.1s
BRNJ Basking Ridge 34.01 65 eP P 00 00 20.5 +1.8
comp=Z,12nm,0.9s
LONY Lake Ozonia 34.11 58 eP P 00 00 19.5 -0.1
comp=Z,51nm,1.1s
LONY LR LR
comp=Z,5µm,19.0s
NCB Newcomb 34.33 59 eP P 00 00 20.0 -1.5
comp=Z,52nm,1.0s
NCB LR LR
comp=Z,5µm,19.0s
KDAK Kodiak Island 34.44 326 PFAKE 00 00 30.0 +7.8
KDAK LR LR
comp=Z,3µm,20.0s
CPNY Central Park 34.47 65 eP P 00 00 23.3 +0.6
comp=Z,107nm,1.2s
PAL Palisades 34.50 65 eP P 00 00 22.2 -0.8
PAL pmax pmax
comp=Z,62nm,1.2s
PAL Palisades 34.50 65 eP P 00 00 22.1 -0.8
comp=Z,62nm,1.2s
OHAK Old Harbor 34.51 325 eP P 00 00 23.7 +0.9
comp=Z,77nm,1.0s
SCM Sheep Creek Mo 34.61 335 eP P 00 00 25.5 +1.7
SCM pmax pmax
comp=Z,146nm,1.4s
SCM Sheep Creek Mo 34.61 335 eP P 00 00 25.5 +1.7
comp=Z,146nm,1.4s
TRY Troy 34.68 62 eP P 00 00 24.9 +0.4
comp=Z,66nm,0.9s
ACCN Adirondack Com 34.70 61 eP P 00 00 24.8 +0.1
comp=Z,74nm,1.0s
PAX Paxson 34.76 337 eP P 00 00 26.2 +1.2
PAX pmax pmax
comp=Z,56nm,1.5s
PAX Paxson 34.76 337 eP P 00 00 26.2 +1.2
comp=Z,56nm,1.5s
EGAK Eagle 34.85 342 eP P 00 00 25.5 -0.2
comp=Z,76nm,1.2s
EGAK LR LR
comp=Z,3µm,19.0s
SML Sawmill 34.96 334 eP P 00 00 28.4 +1.6
SML pmax pmax
comp=Z,16nm,1.0s
SML Sawmill 34.96 334 eP P 00 00 28.4 +1.6
comp=Z,16nm,1.0s
MDV Middlebury 35.08 59 eP P 00 00 28.6 +0.7
PMR Palmer 35.12 333 eP P 00 00 29.0 +1.0
PMR Palmer 35.12 333 eP P 00 00 29.0 +1.0
YLE Yale 35.23 64 eP P 00 00 30.3 +1.1
comp=Z,101nm,1.1s
SSN San Juan del S 35.64 121 eP P 00 00 33.7 +0.7
comp=Z,105nm,1.0s
QUA2 Belchertown 35.65 62 eP P 00 00 33.8 +0.9
comp=Z,50nm,1.1s
SUA Susitna One 35.66 332 eP P 00 00 33.7 +0.9
comp=Z,105nm,1.0s
RSO Redoubt South 35.90 330 eP P 00 00 35.7 +0.7
RND Reindeer 36.18 336 eP P 00 00 37.9 +0.6
RND pmax pmax
comp=Z,33nm,1.0s
RND Reindeer 36.18 336 eP P 00 00 37.9 +0.6
comp=Z,33nm,1.0s
HDA Harding Lake 36.24 338 eP P 00 00 38.1 +0.5
comp=Z,31nm,1.0s
HRV Adam Dziewonsk 36.24 62 eP P 00 00 39.4 +1.5
HRV pmax pmax
comp=Z,93nm,1.1s
HRV Adam Dziewonsk 36.24 62 eP P 00 00 39.4 +1.5
comp=Z,93nm,1.1s
BRYW Bryant College 36.26 63 eP P 00 00 42.3 +4.1
comp=Z,46nm,1.0s
INK Inuvik 36.31 349 P P 00 00 37.7 -0.5
comp=Z,14nm,1.0s,baz=147,slow=8.0,SNR=9.8
INK Inuvik 36.31 349 eP P 00 00 38.3 +0.1
INK pmax pmax
comp=Z,81nm,1.3s
INK Inuvik 36.31 349 eP P 00 00 38.3 +0.1
comp=Z,81nm,1.3s
MCK McKinley 36.42 336 eP P 00 00 39.7 +0.5
MCK pmax pmax
comp=Z,75nm,1.1s
MCK McKinley 36.42 336 eP P 00 00 39.7 +0.5
comp=Z,75nm,1.1s
IL1 Eielson Array 36.47 339 eP P 00 00 39.4 -0.3
ILAR Eielson Array 36.47 339 P P 00 00 39.5 -0.1
comp=Z,13nm,0.7s,baz=153,slow=7.8,SNR=68
ILAR LR LR 00 15 31.8
comp=Z,3µm,18.7s,baz=150,slow=36
ILB Eielson Array 36.47 339 eP P 00 00 39.5 -0.1
WRH Wood River Hil 36.64 338 eP P 00 00 41.5 +0.4
comp=Z,57nm,1.1s
CCB Clear Creek Bu 36.67 338 eP P 00 00 41.5 +0.2
comp=Z,18nm,0.9s
TRF Thorofare Moun 36.70 335 eP P 00 00 42.4 +0.6
comp=Z,142nm,1.3s
COLA College 36.84 338 eP P 00 00 46.5 +3.8
COLA pmax pmax
comp=Z,111nm,0.9s
COLA College 36.84 338 PFAKE 00 00 50.0 +7.3
COLA LR LR
comp=Z,3µm,20.0s
JTS JuntasAbangare 36.98 121 P P 00 00 48.3 +3.8
comp=Z,12nm,0.8s,baz=286,slow=3.3,SNR=5.2
JTS JuntasAbangare 36.98 121 eP P 00 00 45.7 +1.2
JTS pmax pmax
comp=Z,29nm,1.0s
JTS JuntasAbangare 36.98 121 P P 00 00 48.3 +3.8
JTS LR LR
comp=Z,5µm,22.0s
MDM Murphy Dome 37.02 338 eP P 00 00 44.4 +0.1
comp=Z,221nm,2.3s
CAST Castle Rocks 37.32 334 eP P 00 00 46.7 -0.2

comp=Z,53nm,1.3s
BPAW Bear Paw Mtn. 37.35 336 *e*P **P 00 00 46.8 -0.4**
comp=Z,22nm,1.1s
SDPT Sand Point 37.49 319 *e*P P 00 00 52.5 +4.1
comp=Z,116nm,1.3s
WVL Waterville 37.62 59 *e*P **P 00 00 51.6 +1.9**
comp=Z,110nm,1.1s
MLY Manley 37.86 337 *e*P **P 00 00 51.5 -0.1**
comp=Z,68nm,1.2s
PKME Peaks-Kenny Pk 37.90 58 *e*P **P 00 00 53.0 +1.0**
comp=Z,39nm,1.2s
PKME LR LR
comp=Z,8µm,22.0s
MTDJ Mount Denham 37.95 104 PFAKE 00 01 00.0 +7.2
MTDJ LR LR
comp=Z,959nm,20.0s
PQI Presque Isle 38.83 55 *e*PP PP 00 02 30.8 +2.2
GTBY Guantanamo Bay 39.09 99 *e*P **P 00 01 04.5 +2.2**
comp=Z,49nm,1.1s
GTBY LR LR
comp=Z,1µm,20.0s
COLD Coldfoot 39.16 340 *e*P **P 00 01 03.3 +1.0**
comp=Z,38nm,1.3s
EMMW East Machias 39.20 58 *e*P **P 00 01 04.1 +1.2**
comp=Z,100nm,1.0s
IM04 Indian Mountai 39.45 337 *e*P **P 00 01 04.2 -0.6**
SCHQ Schefferville 40.54 43 P **P 00 01 12.2 -1.7**
comp=Z,8.1nm,0.9s,baz=298,slow=7.7,SNR=9.9
SCHQ LR LR 00 17 49.3
comp=Z,4µm,19.9s,baz=266,slow=36
SCHQ Schefferville 40.54 43 *e*P **P 00 01 12.9 -1.1**
comp=Z,19nm,0.9s
BCIP Isla Barro Col 41.47 117 PFAKE 00 01 30.0 +8.0
BCIP LR LR
comp=Z,2µm,21.0s
GRTK Grand Turk 41.67 95 PFAKE 00 01 30.0 +6.4
GRTK LR LR
comp=Z,885nm,21.0s
PAYG Puerto Ayora 41.91 139 PFAKE 00 01 40.0 +14
PAYG LR LR
comp=Z,1µm,21.0s
FRB Frobisher Bay 42.30 29 P **P 00 01 27.0 -1.2**
comp=Z,9.2nm,0.7s,baz=239,slow=7.1,SNR=8.3
SDDR Presa de Saban 42.71 98 *e*P P 00 01 35.8 +3.6
comp=Z,26nm,1.1s
RES Resolute Bay 42.72 8 P **P 00 01 30.6 -0.8**
comp=Z,16nm,1.1s,baz=204,slow=10,SNR=11
RES Resolute Bay 42.72 8 *e*P **P 00 01 30.7 -0.8**
RES pmax pmax
comp=Z,29nm,1.1s
RES Resolute Bay 42.72 8 *e*P **P 00 01 30.7 -0.8**
comp=Z,29nm,1.1s
BBSR BB Station 43.15 77 PFAKE 00 01 50.0 +14
BBSR LR LR
comp=Z,1µm,20.0s
TNA Tin City 44.35 332 *e*P **P 00 01 44.7 -0.1**
comp=Z,48nm,1.2s
DRLN Deer Lake 45.89 51 *e*P **P 00 01 57.2 -0.1**
comp=Z,53nm,1.1s
OBIP Obispado Ponce 47.05 96 *e*P P 00 02 10.8 +4.1
comp=Z,79nm,1.3s
ROSC El Rosal 48.40 117 P **P 00 02 18.3 +0.6**
comp=Z,3.2nm,0.4s,baz=261,slow=15,SNR=6.4
ROSC LR LR 00 25 28.4
comp=Z,622nm,18.1s,baz=348,slow=40
OTAV Otavalo 48.62 125 *e*P **P 00 02 21.4 +2.0**
comp=Z,188nm,2.2s
OTAV LR LR
comp=Z,1µm,22.0s
SDV Santo Domingo 48.72 109 *e*P **P 00 02 20.1 +0.1**
comp=Z,36nm,1.5s
AMKA Amchitka 49.08 312 *e*P **P 00 02 20.4 -1.6**
KULLO Kullorsuaq 50.06 17 *i* P **P 00 02 29.2 0.0**
comp=Z,65nm,1.1s
comp=Z,3µm,16.0s
SFJD Kangerlussuaq 50.36 28 *i* P **P 00 02 30.6 -0.9**
SFJD Kangerlussuaq 50.36 28 P **P 00 02 31.3 -0.3**
comp=Z,13nm,0.8s,baz=265,slow=9.1,SNR=5.8
SFJD Kangerlussuaq 50.36 28 *i* P **P 00 02 30.6 -0.9**
ANWB Willy Bob 51.25 94 PFAKE 00 02 50.0 +11
ANWB LR LR
comp=Z,525nm,20.0s
MIDW Midway 51.90 282 PFAKE 00 02 50.0 +6.4
MIDW LR LR
comp=Z,745nm,20.0s
ALE Alert 52.61 8 P **P 00 02 47.6 -0.6**
comp=Z,176nm,1.3s,SNR=5.8
FDF Fort de France 53.23 96 PFAKE 00 03 00.0 +6.3
FDF LR LR
comp=Z,656nm,19.0s
ATAH Atahualpa 54.14 131 P P 00 03 05.3 +4.5
comp=Z,7.1nm,0.9s,baz=319,slow=9.3,SNR=2.9
GRGR Grenville 54.17 99 PFAKE 00 03 10.0 +9.4
GRGR LR LR
comp=Z,1µm,20.0s
BILL Bilibino 54.76 333 *e*P P 00 03 07.8 +3.7
BILL *i* 00 04 04.4
BILL *i* 00 05 12.5
BILL pmax pmax
comp=Z,26nm,1.6s
BILL MLR MLR
comp=Z,2µm,21.0s
SUMG Summit 54.94 21 *i* P **P 00 03 05.5 -0.4**
comp=Z,50nm,1.0s
SUMG Summit 54.94 21 *i* P **P 00 03 05.5 -0.4**
SUMG pmax pmax
comp=Z,50nm,1.0s
SUMG Summit 54.94 21 *e*P **P 00 03 05.3 -0.6**
comp=Z,56nm,1.1s
BBGH Gun Hill 55.37 97 PFAKE 00 03 20.0 +11
BBGH LR LR
comp=Z,2µm,20.0s
NNA Nana 58.85 133 PFAKE 00 03 40.0 +6.1
NNA LR LR
comp=Z,2µm,19.0s
RKT Rikitea 58.88 200 *e*S **S 00 11 35.0 -5.0**
comp=Z,1µm,28.2s
RKT *e*LQ LQ 00 18 20.3
comp=Z,1µm,32.5s
RKT *e*LR LR 00 20 48.5
comp=Z,864nm,36.5s,baz=25
PTCN Pitcairn Islan 59.55 194 PFAKE 00 03 50.0 +12
PTCN LR LR
comp=Z,3µm,21.0s
DAG Danmarks Havn 59.56 15 *i* P **P 00 03 36.1 -1.9**
comp=Z,15nm,0.9s
comp=Z,3µm,12.0s
PPT Papeete 59.70 217 LR LR 00 23 15.4
comp=Z,807nm,18.7s,baz=20,slow=30
PPT2 Papeete2 59.71 217 *e*S S 00 11 44.1 -7.0
comp=Z,617nm,24.0s
PPT2 *e*LQ LQ 00 18 44.3
comp=Z,2µm,24.8s
PPT2 *e*LR LR 00 21 10.4
comp=Z,876nm,21.8s,baz=24
PET Petropavlovsk 61.19 317 *e*P P 00 03 56.8 +7.3
PET *e*S **S 00 12 12.0 +2.8**
PET pmax pmax
comp=Z,63nm,1.0s
PET Petropavlovsk 61.19 317 PFAKE 00 04 00.0 +11
PET LR LR
comp=Z,468nm,20.0s
SEY Seymchan 61.34 329 P **P 00 03 51.1 +0.8**
comp=Z,6.1nm,0.9s,baz=112,slow=5.9,SNR=11
SEY Seymchan 61.34 329 *i* P P 00 03 54.0 +3.7
PEA2 Petropavlovsk- 61.71 317 *e*P **P 00 03 52.8 -0.2**
PEA0 Petropavlovsk- 61.71 317 *e*P P 00 03 56.8 +3.7
PETK Petropavlovsk- 61.71 317 P **P 00 03 52.8 -0.3**
comp=Z,9.1nm,0.9s,baz=79,slow=7.7,SNR=4.7
PETK LR LR 00 29 13.8
comp=Z,201nm,20.1s,baz=71,slow=35
PTGA Pitinga 62.98 111 P **P 00 04 01.7 -0.3**
comp=Z,8.9nm,1.0s,baz=326,slow=7.0,SNR=9.9
PTGA Pitinga 62.98 111 *e*P P 00 04 05.4 +3.4
comp=Z,36nm,1.1s
MA2 Magadan 63.18 325 *e*P P 00 04 07.2 +4.5
KBS Kingsbay 64.11 10 *e*P **P 00 04 10.5 +2.0**
KBS pmax pmax
comp=Z,260nm,1.2s
KBS MLR MLR
comp=Z,2µm,20.0s
KBS Kingsbay 64.11 10 *e*P **P 00 04 10.5 +2.0**
comp=Z,260nm,1.2s
KBS LR LR
comp=Z,2µm,20.0s
TBI Tubuai 64.57 214 *e*S **S 00 12 47.3 -4.8**
comp=Z,738nm,29.5s
TBI *e*LQ LQ 00 20 37.8
comp=Z,3µm,33.8s
TBI *e*LR LR 00 23 31.3
comp=Z,696nm,22.2s,baz=38
SAML Samuel 65.85 120 *e*P **P 00 04 22.5 +1.8**
comp=Z,13nm,1.3s
SAML LR LR
comp=Z,721nm,20.0s
LPAZ La Paz 67.60 129 P **P 00 04 31.4 -1.2**
comp=Z,3.5nm,0.8s,baz=343,slow=5.3,SNR=6.2
LPAZ LR LR 00 31 30.2
comp=Z,982nm,21.1s,baz=332,slow=34
YAK Yakutsk 71.11 333 *e*P P 00 04 57.7 +4.7
YAK *e**PP PcP 00 05 06.3 -6.8
YAK *e* 00 05 16.7
YAK *e*PPP PPP 00 09 08.6
YAK *e*S **S 00 14 11.3 +1.7**
YAK pmax pmax
comp=Z,28nm,1.0s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,16nm,1.1s
YAK pmax pmax
comp=Z,108nm,3.8s
YAK pmax pmax
comp=N,92nm,4.8s
YAK pmax pmax
comp=E,94nm,4.3s
YAK smax smax
comp=E,59nm,2.5s
YAK smax smax
comp=N,55nm,3.5s
YAK MLR MLR
comp=Z,1µm,20.0s
YAK MLR MLR
comp=N,635nm,20.0s
YAK MLR MLR
comp=E,403nm,22.0s
LVC Limon Verde 71.82 134 P **P 00 04 58.9 +0.9**
comp=E,17nm,0.8s,baz=312,slow=8.6,SNR=3.0
LVC Limon Verde 71.82 134 P **P 00 04 58.9 +0.9**
LVC LR LR
comp=Z,461nm,19.0s
SIV San Ignacio 72.14 124 P **P 00 05 00.2 +0.4**
comp=Z,6.7nm,0.8s,baz=316,slow=6.3,SNR=8.3
YSS Yuzh-Sakhalins 73.01 315‖ *e*P **P 00 05 03.4 -1.3**
YSS *e**SP **sP 00 05 07.4 -0.4**
YSS *e* 00 05 22.0
YSS *e*S **S 00 14 28.0 -4.0**
YSS *e*PS **PnS 00 15 05.0 +2.6**
YSS MLR MLR
comp=E,400nm,17.0s
YSS MLR MLR
comp=Z,500nm,17.0s
YSS Yuzh-Sakhalins 73.01 315 *e*P P 00 05 09.1 +4.4
comp=Z,52nm,1.1s
ARA0 ARCESS Array S 73.70 13 *e*P **P 00 05 07.3 -1.0**
ARCES ARCESS Array B 73.70 13 P **P 00 05 07.3 -1.0**
comp=Z,7.5nm,0.7s,baz=335,slow=5.4,SNR=11
ARCES LR LR 00 40 31.5
comp=Z,1µm,18.7s,baz=337,slow=38
KEV Kevo 73.79 12 *e*P P 00 05 12.5 +3.7
KEV pmax pmax
comp=Z,45nm,1.3s
KEV MLR MLR
comp=Z,1µm,19.0s
KEV Kevo 73.79 12 *e*P P 00 05 12.5 +3.7
comp=Z,45nm,1.3s
KEV LR LR
comp=Z,1µm,19.0s
ASAJ Asahikawa 74.58 313 P **P 00 05 16.3 +2.4**
comp=Z,16nm,1.0s,baz=135,slow=2.9
ASAJ Asahikawa 74.58 313 *e*P P 00 05 18.6 +4.7
comp=Z,66nm,1.7s
ESK Eskdalemuir 74.92 33 PFAKE 00 05 30.0 +14
ESK LR LR
comp=Z,2µm,22.0s
ERM Erimo 75.33 311 *c i*P P 00 05 23.0 +4.7
ERM pmax pmax
comp=Z,36nm,1.2s
ERM Erimo 75.33 311 PFAKE 00 05 30.0 +12
ERM LR LR
comp=Z,298nm,21.0s
CLNS Chul'man 76.27 330 *e*P **P 00 05 26.3 +2.8**
CLNS pmax pmax
comp=N,6.0nm,0.9s
CLNS pmax pmax
comp=Z,20nm,1.0s
HABR Khabarovsk 76.55 320 *e*P **P 00 05 27.8 +2.7**
HABR *e**PP **pP 00 05 31.1 +3.7**
HABR *e**SP **sP 00 05 32.5 +4.2**
HABR *e* 00 05 38.8
HABR *e*PPP PPP 00 10 07.2
HABR *e*S **S 00 15 15.6 +4.2**
HABR *e* 00 15 44.1
HABR *e*SS SS 00 20 12.4 +7.0
HABR pmax pmax
comp=Z,22nm,0.9s
HABR MLR MLR
comp=Z,719nm,21.0s
LVZ Lovozero 76.73 11 *i* P P 00 05 30.0 +4.1
LVZ pmax pmax
comp=Z,83nm,1.0s
LVZ Lovozero 76.73 11 *e*P **P 00 05 25.5 -0.3**
comp=Z,88nm,1.1s
LVZ LR LR
comp=Z,2µm,21.0s
NB2 NORSAR Subarra 76.75 23 P **P 00 05 25.5 -0.6**
comp=Z,1.9nm,0.8s,baz=316,slow=5.6
NB200 NORSAR Array S 76.75 23 *e*P **P 00 05 25.8 -0.4**
NOA NORSAR Array B 76.75 23 P **P 00 05 25.8 -0.4**
comp=Z,3.7nm,0.8s,baz=319,slow=5.6,SNR=5.3
NOA LR LR 00 40 42.9
comp=Z,736nm,19.5s,baz=315,slow=37
KONO Kongsberg 77.21 25 *e*P **P 00 05 31.6 +3.0**
KONO pmax pmax
comp=Z,89nm,1.1s
KONO Kongsberg 77.21 25 PFAKE 00 05 40.0 +11
KONO LR LR
comp=Z,2µm,19.0s
CFAA Coronel Fontan 79.07 140 P **P 00 05 40.9 +1.6**
comp=Z,0.7nm,0.9s,baz=319,slow=7.0,SNR=6.3
MUD Monsted U'grnd 79.36 27 *i* P P 00 05 47.5 +6.9
comp=Z,41nm,1.3s
comp=Z,2µm,20.0s
PMOZ Porto Moniz, M 79.54 58 *e*LR LR 00 31 36.6
comp=Z,949nm,20.0s
BOD Bodaibo 79.76 335 *e*P **P 00 05 40.4 -2.3**
BOD pmax pmax
comp=Z,21nm,1.7s
PGAV Gavieira, Arco 80.24 46 *e*LR LR 00 32 23.4
comp=Z,1µm,18.0s
PCAB Cabril 80.53 46 *e*P P 00 05 50.8 +3.5
comp=Z,39nm,1.1s
FIA0 FINESS Array S 80.74 17 *e*P **P 00 05 47.1 -0.8**
FIA0 FINESS Array S 80.74 17 *e*P **P 00 05 47.1 -0.8**
FINES FINESS Array B 80.74 17 P **P 00 05 47.1 -0.8**
comp=Z,7.9nm,0.8s,baz=323,slow=3.9,SNR=18
FINES LR LR 00 40 03.2
comp=Z,885nm,18.2s,baz=271,slow=35
USRK Ussuriysk Ar. 80.80 317 P **P 00 05 47.4 -1.3**
comp=Z,6.0nm,0.8s,baz=50,slow=5.5,SNR=12
POLO Lamas de Olo 80.88 46 *e*P **P 00 05 49.1 -0.1**
comp=Z,19nm,1.5s
PVRL Vila Real 80.98 46 *e*P P 00 05 54.8 +5.1
comp=Z,37nm,1.3s
PVIS Viseu 81.21 47 *e*P **P 00 05 53.9 +2.9**
comp=Z,39nm,1.3s
BDFB Brasilia 81.44 115 P **P 00 05 55.7 +3.2**
comp=Z,1.5nm,0.6s,baz=354,slow=3.8,SNR=4.0
BDFB LR LR 00 44 18.4
comp=Z,474nm,21.5s,baz=296,slow=37
MVO Moncorvo 81.46 46 *e*P **P 00 05 52.0 -0.3**
comp=Z,36nm,1.3s
MVO Moncorvo 81.46 46 *e*LR LR 00 32 15.3
comp=Z,771nm,18.0s
MJAR Matsushiro Arr 81.55 308 P **P 00 05 51.2 -1.6**
baz=49,slow=4.0
MJAR LR LR 00 36 05.4
comp=Z,150nm,20.2s,baz=60,slow=31
MAJO Matsushiro 81.55 308 *e*P P 00 05 56.1 +3.3
MAJO pmax pmax
comp=Z,104nm,0.9s
MAJO Matsushiro 81.55 308 *e*P **P 00 05 52.2 -0.6**
comp=Z,18nm,0.9s
MAJO LR LR
comp=Z,418nm,22.0s
MAT Matsushiro 81.55 308 P **P 00 05 51.4 -1.4**
MAT S **S 00 16 04.8 -0.4**
WTSB Winterswijk 81.61 32 *e*P P 00 05 57.5 +4.7
comp=Z,16nm,1.1s
MTE Manteigas 81.61 47 *e*P **P 00 05 55.8 +2.7**
comp=Z,48nm,1.1s
MTE Manteigas 81.61 47 *e*LR LR 00 32 29.5
comp=Z,788nm,20.0s
MTE Manteigas 81.61 47 *e*PcP **PcP 00 06 00.6 +1.5**
MTE LR LR
comp=Z,930nm,19.0s
CPUP Villa Florida 81.77 129 P **P 00 05 54.0 +0.1**
comp=Z,3.5nm,1.0s,baz=329,slow=10,SNR=3.1
CPUP LR LR 00 41 12.5
comp=Z,271nm,18.6s,baz=332,slow=35
CPUP Villa Florida 81.77 129 P **P 00 05 54.0 +0.1**
CPUP *e* 00 06 00.2
CPUP Villa Florida 81.77 129 P **P 00 05 54.0 +0.1**
CPUP *e*PcP **PcP 00 06 00.2 +0.6**
MDJ Mudanjiang 81.88 319 P **P 00 05 52.1 -2.3**
MDJ pP **pP 00 05 55.4 -1.3**
MDJ S S 00 16 02.4 -5.9
MDJ PMZ
comp=Z,3.0nm,0.5s
MDJ PMZ
comp=Z,40nm,4.9s
MDJ LN
comp=Z,360nm,22.6s
MDJ LE
comp=Z,410nm,28.7s
MDJ LZ
comp=Z,330nm,27.0s
MDJ Mudanjiang 81.88 319 PFAKE 00 06 00.0 +5.6
MDJ LR LR
comp=Z,438nm,19.0s
HGN Heimansgroeve 82.07 33 *e*P **P 00 05 57.6 +2.4**
comp=Z,33nm,1.9s
HGN Heimansgroeve 82.07 33 *e*S S 00 16 24.1 +14
MEM Membach 82.21 33 *e*P P 00 05 59.9 +3.9
MEM pmax pmax
comp=Z,26nm,1.3s
MEM Membach 82.21 33 *e*P P 00 05 59.9 +3.9
comp=Z,26nm,1.3s
PMRV Marv??o 82.29 48 *e*P P 00 06 00.5 +3.9
comp=Z,38nm,1.2s
PMRV Marv??o 82.29 48 *e*LR LR 00 32 43.5
comp=Z,947nm,18.0s
PNCL Nicolau / Gran 82.36 49 *e*P **P 00 05 58.5 +1.5**
comp=Z,50nm,2.1s
EVO Evora 82.44 49 *e*P **P 00 05 56.0 -1.4**
comp=Z,35nm,1.9s
PESTR Estremoz 82.50 48 *e*P P 00 06 04.2 +6.4
comp=Z,28nm,1.7s
MESJ Messejana 82.72 49 *e*P **P 00 05 56.9 -2.0**
WLF Walferdange 82.94 33 *e*P P 00 06 05.5 +5.7
comp=Z,24nm,1.1s
WLF *e*pP **PcP 00 06 09.3 +4.7**
WLF Walferdange 82.94 33 *e*P P 00 06 04.1 +4.3
WLF pmax pmax
comp=Z,33nm,1.0s
WLF MLR MLR
comp=Z,2µm,19.0s
WLF Walferdange 82.94 33 *e*P P 00 06 04.1 +4.3
comp=Z,32nm,1.0s
WLF LR LR
comp=Z,2µm,19.0s
CLZ Clausthal 83.22 30 *e*P P 00 06 07.1 +5.8
comp=Z,26nm,1.2s
CLZ *e*pP **PcP 00 06 10.9 +5.1**
PVAQ Vaqueiros 83.30 49 *e*LR LR 00 32 39.1
comp=Z,1µm,20.0s
VSU Vasula 83.48 18 *e*P P 00 06 06.7 +4.3
VSU pmax pmax
comp=Z,50nm,1.1s
HIA Hailar 83.73 327 PFAKE 00 06 10.0 +6.1
HIA LR LR
comp=Z,1µm,19.0s
UBBA Unterbreizbach 83.82 31 *e*P P 00 06 09.5 +5.3
comp=Z,40nm,1.7s
UBBA *e*pP PcP 00 06 13.6 +5.3
PAB San Pablo 84.07 46 *e*P **P 00 06 06.6 +0.6**
PAB pmax pmax
comp=Z,39nm,1.7s
PAB MLR MLR
comp=Z,979nm,20.0s
PAB San Pablo 84.07 46 *e*P **P 00 06 06.6 +0.6**
comp=Z,39nm,1.7s
PAB LR LR
comp=Z,979nm,20.0s
RUE Ruedersdorf 84.12 28 *e*P P 00 06 11.1 +5.3
comp=Z,40nm,1.4s
RUE *e*pP PcP 00 06 14.8 +5.1
JCJ Chichijima 84.16 299 LR LR 00 44 41.6
comp=Z,218nm,18.2s,baz=62,slow=36
ESDC Sonseca Array 84.22 46 P **P 00 06 05.7 -1.0**
comp=Z,0.2nm,0.4s,baz=302,slow=3.2,SNR=3.3
ESDC LR LR 00 41 00.2
comp=Z,828nm,18.5s,baz=300,slow=34
SACV Santiago Islan 84.28 76 PFAKE 00 06 20.0 +13
SACV LR LR
comp=Z,592nm,20.0s
NEUB Neuenburg 84.28 30 *e*P P 00 06 11.9 +5.2
comp=Z,28nm,1.3s
NEUB *e*pP PcP 00 06 15.7 +5.3
ECH Echery 84.44 34 PFAKE 00 06 20.0 +12
ECH LR LR
comp=Z,1µm,20.0s
MOX Moxa 84.64 30 *e*P P 00 06 13.7 +5.2
comp=Z,10.0nm,1.2s
MOX *e*pP PcP 00 06 17.4 +5.4
MOX *e*L L 00 42 22.7
comp=Z,2µm,19.0s
CN2 Changchun 84.67 320 *e*P P 00 06 12.2 +3.4
CN2 *e*S **S 00 16 36.6 0.0**
CN2 LN
comp=Z,400nm,18.0s
CN2 LE
comp=Z,400nm,18.0s
CN2 LZ
comp=Z,400nm,20.0s
CLL Collm 84.71 29 *e*P P 00 06 13.6 +4.8
comp=Z,13nm,1.1s
CLL *e*pP **PcP 00 06 17.3 +5.0**
CLL Collm 84.71 29‖ *e*P P 00 06 13.6 +4.8
CLL Collm 84.71 29 *e*PcP **P 00 06 13.6 +4.8**
CLL Collm 84.71 29 *i* sP **sP 00 06 13.1 +1.1**
CLL comp=Z,13nm,1.1s
CLL *i* sPcP 00 06 16.2
CLL comp=Z,17nm,1.1s *i* 00 06 24.4
CLL comp=Z,22nm,1.5s *e*S **SKKSac 00 16 39.0 -0.2**
CLL comp=N,200nm,25.1s *e*S **SKKSac 00 16 39.0 -0.2**
CLL comp=E,100nm,23.7s *e*S **SKKSac 00 16 39.0 -0.2**
CLL comp=Z,100nm,16.1s
CLL *e*PS **PnS 00 17 36.0 +6.1**
CLL *e*SS SS 00 22 18.0 +11
CLL LmH 00 41 00.0
CLL comp=N,2µm,21.1s LmH 00 41 00.0
CLL comp=E,2µm,19.5s
GKP Gorka Klasztor 84.81 26 *e*P **P 00 06 12.3 +3.0**
BFO Black Forest 84.90 33 *i* P P 00 06 15.2 +5.3
BFO Black Forest 84.90 33 *e*P **P 00 06 09.6 -0.3**
comp=E,16nm,1.2s
BFO LR LR
comp=Z,2µm,21.0s
STU Stuttgart 84.97 33 *e*P P 00 06 15.6 +5.4
comp=Z,12nm,0.9s
STU *e*pP PcP 00 06 19.1 +5.6
PLN Plauen 84.99 30 *e*P P 00 06 15.3 +5.0
comp=Z,10.0nm,1.5s
PLN *e*pP PcP 00 06 19.1 +5.5
WERD Werda 85.08 30 *e*P P 00 06 15.5 +4.8
comp=Z,12nm,1.6s
WERD *e*pP PcP 00 06 19.4 +5.4
FBE Freiberg 85.15 29 *e*P P 00 06 16.3 +5.3
comp=Z,14nm,1.3s
FBE *e*pP PcP 00 06 19.9 +5.7
GUNZ Gunzen 85.15 30 *e*P P 00 06 16.1 +5.0
comp=Z,12nm,1.4s
GUNZ *e*pP PcP 00 06 20.0 +5.7
TANN Tannenbergstha 85.17 30 *e*P P 00 06 16.1 +4.9

comp=Z,16nm,1.7s
TANN ep P PcP 00 06 20.1 +5.7
GRF Grafenberg Arr 85.19 31 eP P 00 06 17.0 +5.7
comp=Z,13nm,1.1s
GRF ep P PcP 00 06 20.7 +6.2
GRF eL L 00 43 48.4
comp=Z,3µm,18.7s
GRFO Grafenberg 85.19 31⇑ eP P 00 06 16.9 +5.6
GRFO Grafenberg 85.19 31 ePcP P 00 06 16.9 +5.6
WERN Wernitzgrüen 85.23 30 eP P 00 06 16.6 +5.1
comp=Z,20nm,1.8s
WERN ep P PcP 00 06 20.4 +5.7
SSB Saint Sauveur 85.23 37 PFAKE 00 06 20.0 +8.3
SSB LR LR
comp=Z,1µm,21.0s
NKC Novy Kostel 85.30 30 eP **P** **00 06 13.6 +1.7**
NKC AMS AMS 00 45 30.0
comp=Z,2µm,17.3s
MANZ Manzenberg 85.34 30 eP P 00 06 17.0 +4.9
comp=Z,10.0nm,1.4s
MANZ ep P PcP 00 06 21.0 +5.8
RCBR Riachuelo 85.37 100 PFAKE 00 06 20.0 +7.2
RCBR LR LR
comp=Z,881nm,20.0s
IZAR Zarasai 85.69 20 eP P 00 06 18.6 +4.9
IZAR IAmb IAmb 00 06 22.8
comp=Z,20nm,1.1s
ISAL Salakas 85.81 20 eP P 00 06 19.0 +4.8
ISAL IAmb IAmb 00 06 23.3
comp=Z,19nm,1.1s
SENIN Lac Senin/Sane 85.83 35 ePcP **PcP** **00 06 21.8 +4.2**
PVCC Panska Ves 85.95 29 eP P 00 06 19.2 +4.2
PVCC eS **S** **00 16 54.4 +5.5**
PVCC AMS AMS 00 45 00.0
comp=Z,1µm,16.3s
IIGN Ignalina 86.03 20 eP P 00 06 20.0 +4.6
IIGN IAmb IAmb 00 06 24.3
comp=Z,21nm,1.2s
SUW Suwalki 86.24 22 eP P 00 06 20.9 +4.5
PRA Prague 86.25 29 epP **pP** **00 06 20.8 +2.0**
PRA AMS AMS 00 46 30.0
comp=Z,2µm,19.5s
WET Wettzell 86.31 31 eP P 00 06 22.0 +5.1
comp=Z,19nm,2.1s
WET epP PcP 00 06 26.0 +6.6
PRU Pruhonice 86.35 29 eP P 00 06 21.4 +4.3
PRU ex x 00 06 32.4
PRU AMS AMS 00 44 20.0
comp=Z,2µm,18.8s
KSP Ksiaz 86.38 28 eP **P** **00 06 19.4 +2.2**
BNI Bardonecchia 86.47 36⇑ eP P 00 06 24.4 +6.5
BNI MLR MLR
comp=Z,2µm,20.0s
BNI Bardonecchia 86.47 36 ePcP P 00 06 24.4 +6.5
BNI LR LR
comp=Z,2µm,20.0s
GOPC GO Pecny, Ondr 86.51 29 eP P 00 06 22.2 +4.3
GOPC ex x 00 17 09.1
GOPC AMS AMS 00 44 20.0
comp=Z,1µm,18.0s
UPC Upice 86.54 28 eP **P** **00 06 18.5 +0.5**
UPC AMS AMS 00 42 30.0
comp=Z,1µm,18.0s
KHC Kasperske Hory 86.61 30 eP P 00 06 22.2 +3.8
KHC ex x 00 06 46.8
KHC eS **S** **00 17 00.8 +5.2**
KHC AMS AMS 00 46 10.0
comp=Z,2µm,18.0s
KHC Kasperske Hory 86.61 30⇑ eP P 00 06 25.1 +6.7
KHC Kasperske Hory 86.61 30 ePcP P 00 06 25.1 +6.7
TUE Stuetta 86.73 34 PFAKE 00 06 30.0 +11
TUE LR LR
comp=Z,3µm,20.0s
DPC Dobruska-Polom 86.78 28 ex x 00 06 33.0
DPC AMS AMS 00 42 40.0
comp=Z,1µm,18.6s
GEC2 GERESS Array S 86.89 30 eP P 00 06 24.4 +4.6
GEC2 GERESS Array S 86.89 30 eP P 00 06 24.4 +4.6
GERES GERESS Array B 86.89 30 P **P** **00 06 20.2 +0.4**
comp=Z,1.6nm,0.9s,baz=328,slow=3.5,SNR=5.6
GERES LR LR 00 45 22.6
comp=Z,2µm,19.5s,baz=322,slow=36
SNY Shenyang 87.02 320⇑ P P 00 06 28.5 +8.0
SNY Shenyang 87.02 320 S **S** **00 16 58.6 -1.1**
SNY pmax pmax
comp=Z,110nm,12.0s
SNY LR LR
comp=N,570nm,21.2s
SNY LR LR
comp=E,550nm,14.9s
SNY LR LR
comp=Z,600nm,18.5s
FUORN Ofenpass-Fuorn 87.05 34 eP P 00 06 25.6 +4.7
comp=Z,21nm,0.9s
TREC Trest 87.28 29 epP **pP** **00 06 25.9 +1.9**
TREC AMS AMS 00 43 40.0
comp=Z,1µm,20.2s
KSRS Korea Array 87.47 314 P P 00 06 26.9 +4.2
comp=Z,5.1nm,0.3s,baz=48,slow=5.4,SNR=9.6
KSAR Wonju Array Be 87.50 314 P P 00 06 26.9 +4.0
KSAR Wonju Array Be 87.50 314 P P 00 06 26.9 +4.0
VRAC Vranov 87.72 29⇑ *i*P P 00 06 27.9 +4.2
OKC Ostrava-Krasne 87.90 27 AMS AMS 00 45 20.0
comp=Z,2µm,18.8s
INCN Inchon 88.22 315 PFAKE 00 06 40.0 +14
INCN LR LR
comp=Z,380nm,19.0s
OJC Ojcow 88.22 26 eP P 00 06 31.0 +4.9
TLY Talaya 88.26 336 eP **P** **00 06 28.8 +2.5**
TLY pmax pmax
comp=Z,35nm,1.5s
TLY Talaya 88.26 336 eP P 00 06 31.1 +4.8
comp=Z,44nm,1.4s
TLY LR LR
comp=Z,495nm,19.0s
JNU Nakatsue 88.41 309 LR LR 00 42 02.7
comp=Z,242nm,19.9s,baz=58,slow=33
TJN Taejon 88.51 314 *i* P **P** **00 06 30.4 +2.7**
OBN Obninsk 88.88 15 *i* P **P** **00 06 31.1 +2.1**
OBN pmax pmax
comp=Z,17nm,1.0s
OBN Obninsk 88.88 15 PFAKE 00 06 40.0 +11
OBN LR LR
comp=Z,2µm,20.0s
VLC Villacollemand 88.93 35 PFAKE 00 06 40.0 +10
VLC LR LR
comp=Z,1µm,20.0s
NIE Niedzica 89.07 27 eP P 00 06 35.0 +4.9
MOY Mondy 89.14 338 eP P 00 06 36.0 +5.5
MOY pmax pmax
comp=Z,47nm,2.4s
ZAK Zakamensk 89.48 336 eP **P** **00 06 33.8 +1.6**
ZAK pmax pmax
comp=Z,11nm,1.7s
KWP Kalwaria Pacla 89.76 25 eP P 00 06 38.0 +4.6
HNR Honiara 89.79 259 PFAKE 00 06 40.0 +6.0
HNR LR LR
comp=Z,691nm,21.0s
LVV L'vov 90.07 24 eP P 00 06 39.4 +4.6
SVE Sverdlovsk 90.11 2⇑ eP P 00 06 39.5 +4.7
SVE pmax pmax
comp=Z,37nm,1.6s
SVE MLR MLR
comp=Z,821nm,21.0s
PSZ Piszkesteto 90.14 28⇑ eP P 00 06 43.5 +8.3
PSZ MLR MLR
comp=Z,928nm,19.0s
PSZ Piszkesteto 90.14 28 ePcP P 00 06 43.5 +8.3
PSZ LR LR
comp=Z,928nm,19.0s
ARU Arti 90.44 3 P P 00 06 41.1 +4.7
comp=Z,92nm,1.6s,SNR=6.9
ARU Arti 90.44 3*c i*P P 00 06 40.6 +4.2
ARU 00 10 14.7
ARU S **SKSac** **00 17 11.4 +3.4**
ARU SP **SP** **00 18 39.1 +2.2**
ARU SS **SS** **00 23 31.3 +1.3**
ARU pmax pmax
comp=Z,41nm,1.7s
ARU Arti 90.44 3 eP **P** **00 06 37.0 +0.6**
ARU LR LR
comp=Z,847nm,21.0s
UZH Uzhgorod 90.45 26 eP **P** **00 06 38.7 +2.2**
UZH *e* 00 06 40.7
UZH *e* 00 06 45.9

SONA1 Songino Array 90.46 333 eP **P** **00 06 39.0 +2.1**
SONA0 Songino Array 90.47 333 eP **P** **00 06 36.5 -0.4**
SONM Songino Array 90.47 333 P **P** **00 06 36.5 -0.4**
comp=Z,0.2nm,0.3s,baz=33,slow=3.4,SNR=3.4
SONM LR LR 00 47 55.2
comp=Z,601nm,21.4s,baz=24,slow=36
NVS Novosibirsk 90.51 349 eP **P** **00 06 37.6 +0.9**
NVS *i* 00 10 07.2
NVS pmax pmax
comp=N,12nm,1.6s
NVS pmax pmax
comp=E,12nm,1.6s
NVS pmax pmax
comp=Z,35nm,1.6s
AKASG Malin Array Be 90.98 21 P **P** **00 06 38.3 -0.6**
comp=Z,4.6nm,0.8s,baz=323,slow=3.7,SNR=5.5
AKASG LR LR 00 48 06.5
comp=Z,1µm,18.3s,baz=350,slow=36
AKASG Malin Array Be 90.98 21 *i* P P 00 06 42.7 +3.7
AKASG pmax pmax
comp=Z,8.0nm,0.9s
AKBB Malin Array Si 90.98 21 eP **P** **00 06 38.3 -0.6**
AKBB Malin Array Si 90.98 21 eP **P** **00 06 38.3 -0.6**
KIEV Kiev 90.98 21 eP **P** **00 06 42.0 +3.0**
KIEV Kiev 90.98 21 PFAKE 00 06 50.0 +11
KIEV LR LR
comp=Z,2µm,19.0s
AK11 Malin Array Si 90.98 21 eP P 00 06 42.2 +3.2
PKSM Moragy 91.02 29⇓ P **P** **00 06 41.5 +2.2**
PKSM Moragy 91.02 29⇓ *i*P **P** **00 06 41.5 +2.2**
ZAA1 Zalesovo Array 91.08 348 eP **P** **00 06 38.6 -0.7**
ZAA0 Zalesovo Array 91.09 348 eP **P** **00 06 39.4 -0.1**
ZALV Zalesovo Beam 91.09 348 P **P** **00 06 38.6 -0.8**
comp=Z,3.6nm,0.9s,baz=20,slow=4.6,SNR=4.4
ZALV PP PP 00 10 25.7 +11
comp=Z,1.7nm,0.9s,baz=5.7,slow=7.4,SNR=4.0
ZALV LR LR 00 54 40.6
comp=Z,366nm,18.1s,baz=68,slow=40
ZALV Zalesovo Beam 91.09 348 *i* P P 00 06 43.0 +3.6
ZALV pmax pmax
comp=Z,4.0nm,0.7s
AQU L'Aquila 91.74 35⇓ *i*P P 00 06 48.4 +5.7
AQU L'Aquila 91.74 35 PFAKE 00 06 50.0 +7.2
AQU LR LR
comp=Z,1µm,21.0s
DZM Mont Dzumac 91.76 245 eLR LR 00 36 03.8
comp=Z,676nm,27.4s
VSL Villasalto 91.87 39 PFAKE 00 06 50.0 +6.7
VSL LR LR
comp=Z,642nm,19.0s
BJI Beijing 92.21 322 P P 00 06 39.9 -5.0
BJI S S 00 17 34.1 -14
BJI SS **SS** **00 23 51.1 -5.3**
BJI PMZ
comp=Z,10.0nm,0.8s
BJI PMZ
comp=Z,28nm,3.3s
BJI LN
comp=Z,450nm,22.4s
BJI LE
comp=Z,630nm,25.0s
BJI LZ
comp=Z,520nm,30.7s
BJT Baijiatuau 92.23 322 PFAKE 00 06 50.0 +5.0
BJT LR LR
comp=Z,545nm,20.0s
BUR04 Bucovina Ar. S 92.35 25 eP P 00 06 50.0 +4.4
BURAR Bucovina Array 92.36 25⇑ P P 00 06 49.9 +4.3
BURAR Bucovina Array 92.36 25⇑ *i*P P 00 06 49.9 +4.3
BZS Buzias 92.70 28⇑ P P 00 06 50.8 +3.7
BZS Buzias 92.70 28⇑ *i*P P 00 06 50.8 +3.7
VSR Storozhevoye 93.08 15 eP **P** **00 06 50.1 +1.4**
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR pmax pmax
comp=N,9.0nm,0.9s
VSR MLR MLR
comp=N,940nm,19.0s
VSR MLR MLR
comp=E,710nm,19.0s
VSR MLR MLR
comp=Z,2µm,19.0s
DIVS Divibare 93.30 30⇑ *i*P P 00 06 53.8 +3.8
BRVK Borovoye 93.72 356 eP P 00 06 56.0 +4.4
BRVK pmax pmax
comp=Z,10.0nm,1.1s
BRVK Borovoye 93.72 356 eP **P** **00 06 52.7 +1.1**
comp=Z,18nm,0.8s
BRVK LR LR
comp=Z,1µm,20.0s
DOPR Dopca 93.83 26⇓ *i*P P 00 06 56.1 +3.8
HHC Hu-ho-hao-te 93.86 326 eP **P** **00 06 51.6 -1.1**
HHC PP **PP** **00 10 39.3 +2.0**
HHC SKS **SKSac** **00 17 24.0 -4.1**
HHC S S 00 17 56.9 -6.1
HHC SS **SS** **00 24 18.5 -1.8**
HHC PMZ
comp=Z,6.0nm,1.1s
HHC PMZ
comp=Z,60nm,5.3s
HHC LN
comp=Z,560nm,19.2s
HHC LE
comp=Z,560nm,18.0s
HHC LZ
comp=Z,220nm,20.4s
JOW Kunigami 94.17 306 ePKKPdf PKKPdf 00 23 52.5 -0.1
KEST Kesra 94.61 41 P P 00 07 00.0 +3.9
comp=Z,2.2nm,1.0s,baz=0.0,slow=7.1,SNR=5.4
KEST LR LR 00 47 42.3
comp=Z,344nm,19.7s,baz=282,slow=34
CUC Castrocucco 94.72 35 PFAKE 00 07 10.0 +13
CUC LR LR
comp=Z,1µm,19.0s
KURK Kurchatov 95.21 350 P **P** **00 07 01.1 +2.7**
comp=Z,57nm,1.1s,SNR=6.8
KURK Kurchatov 95.21 350 eP P 00 07 01.7 +3.3
KURK pmax pmax
comp=Z,11nm,1.1s
KURK MLR MLR
comp=Z,1µm,19.0s
KURK Kurchatov 95.21 350 eP P 00 07 01.7 +3.3
comp=Z,11nm,1.1s
KURK LR LR
comp=Z,1µm,19.0s
CLTB Caltabellotta 95.29 38 PFAKE 00 07 10.0 +11
CLTB LR LR
comp=Z,576nm,19.0s
CFR Carcaliu 95.48 24⇑ *i*P P 00 07 04.1 +4.3
TIR Tirane 95.48 31 PFAKE 00 07 10.0 +10
TIR LR LR
comp=Z,1µm,19.0s
TIP Timpagrande 95.81 35 PFAKE 00 07 10.0 +8.5
TIP LR LR
comp=Z,738nm,21.0s
CEL Celeste 96.11 36 PFAKE 00 07 10.0 +7.1
CEL LR LR
comp=Z,794nm,19.0s
NJ2 Nanjing 96.58 315 eP **P** **00 07 04.8 -0.3**
NJ2 S **S** **00 18 23.3 -3.4**
NJ2 PMZ
comp=Z,50nm,1.2s
NJ2 LN
comp=Z,640nm,16.3s
NJ2 LE
comp=Z,960nm,24.1s
NJ2 LZ
comp=Z,950nm,24.4s
WDD Wield Dalam 97.28 38 PFAKE 00 07 20.0 +12
WDD LR LR
comp=Z,966nm,19.0s
MK32 Makanchi Array 98.41 347 eP **P** **00 07 12.5 -0.6**
MKAR Makanchi Array 98.41 347 P **P** **00 07 12.5 -0.6**
comp=Z,1.3nm,0.9s,baz=329,slow=4.5,SNR=9.0
MKAR LR LR 00 57 33.6
comp=Z,370nm,19.4s,baz=359,slow=39
MKAR Makanchi Array 98.41 347 eP Pdif 00 07 17.1 +4.0
MKAR Makanchi Array 98.41 347 eP Pdif 00 07 17.1 +3.9
MK01 Makanchi Array 98.44 347 eP Pdif 00 07 16.3 +3.1
WMQ Urumqi 100.05 342 P **Pdif** **00 07 19.0 -1.5**
WMQ pP pP 00 07 24.0 +1.1
WMQ SKS **SKSac** **00 17 56.0 -3.9**
WMQ S SKKSac 00 18 49.4 +16

WMQ SS **SS** **00 25 46.4 -0.6**
WMQ PMZ
comp=Z,34nm,1.4s
WMQ PMZ
comp=Z,68nm,3.8s
WMQ LN
comp=Z,550nm,26.2s
WMQ LE
comp=Z,790nm,24.6s
WMQ LZ
comp=Z,710nm,27.2s
YHNB Yeheng 100.22 308 PFAKE 00 07 30.0 +8.3
YHNB LR LR
comp=Z,296nm,19.0s
PMG Port Moresby 100.37 266 PFAKE 00 07 30.0 +7.7
PMG LR LR
comp=Z,477nm,19.0s
KBZ Khabaz 100.99 15 P **Pdif** **00 07 30.6 +6.1**
comp=Z,1.8nm,0.7s,baz=333,slow=3.2,SNR=4.4
LZH Lanzhou 101.27 328 eP **Pdif** **00 07 23.0 -3.2**
LZH pP pP 00 07 27.8 -0.9
LZH sP 00 07 30.1
LZH ePP **PP** **00 11 34.2 -0.1**
LZH SKS **SKSac** **00 18 00.2 -6.1**
LZH eS SKKSac 00 18 57.2 +15
LZH eSS **SS** **00 26 00.5 -4.2**
LZH PMZ
comp=Z,47nm,1.6s
LZH PMZ
comp=Z,130nm,7.5s
LZH LN
comp=Z,840nm,18.0s
LZH LE
comp=Z,740nm,17.3s
LZH LZ
comp=Z,980nm,19.7s
TAM Tamanrasset 101.45 53 PFAKE 00 07 40.0 +13
TAM LR LR
comp=Z,1µm,20.0s
ANTO Ankara 101.77 24 PFAKE 00 07 40.0 +12
ANTO LR LR
comp=Z,991nm,20.0s
SANT Santorini 102.04 31 PFAKE 00 07 40.0 +11
SANT LR LR
comp=Z,1µm,21.0s
BRTR Keskin Array B 102.19 23 PP PP 00 11 45.7 +4.7
comp=Z,0.9nm,1.0s,baz=339,slow=6.6,SNR=4.2
ISP Isparta 102.80 26 PFAKE 00 07 40.0 +7.1
ISP LR LR
comp=Z,1µm,22.0s
TKM2 Tokmak 2 103.26 351 PFAKE 00 07 40.0 +5.0
TKM2 LR LR
comp=Z,609nm,19.0s
AAK Ala-Archa 103.68 352 PFAKE 00 07 50.0 +13
AAK LR LR
comp=Z,689nm,20.0s
EKS2 Erkin-Say 103.74 352 PFAKE 00 07 50.0 +13
EKS2 LR LR
comp=Z,794nm,20.0s
ASCN Ascension 104.44 90 PFAKE 00 07 50.0 +10
ASCN LR LR
comp=Z,1µm,20.0s
GNI Garni 104.81 15 PFAKE 00 07 50.0 +8.1
GNI LR LR
comp=Z,879nm,20.0s
TORD Torodi Ar. Bea 105.15 63 PP PP 00 12 09.2 +5.1
comp=Z,0.7nm,1.0s,baz=311,slow=7.6,SNR=4.8
CD2 Chengdu 105.60 325 Pdif **Pdif** **00 07 40.9 -4.5**
CD2 S **Sdif** **00 19 35.5 -7.1**
CD2 SS **SKKPbc** **00 26 59.3 -2.8**
CD2 LN
comp=Z,750nm,17.7s
CD2 LZ
comp=Z,500nm,17.7s
CSS Prodhromos 106.37 25 PFAKE 00 12 10.0
CSS LR LR
comp=Z,159nm,20.0s
CTAO Charters Tower 106.62 257 PFAKE 00 12 10.0
CTAO LR LR
comp=Z,423nm,20.0s
GYA Guiyang 107.72 320 ePdif **Pdif** **00 07 52.0 -3.0**
GYA PKP **PKiKP** **00 11 58.9 -3.9**
GYA PP **PP** **00 12 22.5 0.0**
GYA SS SS 00 27 29.0 -4.6
GYA PPMZ
comp=Z,140nm,7.5s
GYA LN
comp=Z,180nm,22.0s
GYA LE
comp=Z,190nm,23.2s
GYA LZ
comp=Z,210nm,21.0s
DAV Davao City (W) 108.77 292 PFAKE 00 12 10.0
DAV LR LR
comp=Z,388nm,19.0s
KMI Kunming 110.86 322 PKP **PKiKP** **00 12 05.9 -3.0**
KMI sPKP 00 12 12.4
KMI PP **PP** **00 12 46.7 +1.3**
KMI S **Sdif** **00 20 19.5 -7.6**
KMI SS **SS** **00 28 11.6 -4.4**
KMI LN
comp=Z,340nm,15.4s
KMI LE
comp=Z,380nm,17.0s
KMI LZ
comp=Z,290nm,26.0s
QIZ Qiongzhong 111.65 313 Pdif **Pdif** **00 08 09.1 -3.4**
QIZ SS SS 00 28 23.7 -2.9
QIZ LN
comp=Z,330nm,17.7s
QIZ LZ
comp=Z,350nm,25.0s
QIZ Qiongzhong 111.65 313 PFAKE 00 12 20.0
QIZ LR LR
comp=Z,302nm,19.0s
LSA Lhasa 112.02 334 PFAKE 00 12 20.0
LSA LR LR
comp=Z,491nm,21.0s
WRAB Tennant Creek 116.34 263 PFAKE 00 12 30.0 +11
WRAB LR LR
comp=Z,387nm,19.0s
WRA Warramunga Arr 116.36 263 PKP **PKPdf** **00 12 18.1 -1.1**
comp=Z,1.9nm,1.0s,baz=58,slow=1.7,SNR=4.2
CHTO Chiang Mai 118.04 322 PFAKE 00 12 30.0 +7.5
CHTO LR LR
comp=Z,287nm,19.0s
CMAR Chiang Mai Arr 118.34 321 PKP **PKPdf** **00 12 27.3 +4.2**
comp=Z,1.3nm,0.3s,baz=337,slow=2.5,SNR=7.3
AS12 Alice Springs 118.41 259 ePKPdf **PKPdf** **00 12 21.7 -1.3**
ASAR Alice Springs 118.41 259 PKP **PKPdf** **00 12 21.7 -1.3**
comp=Z,0.9nm,0.7s,baz=73,slow=2.1,SNR=9.7
SBA Scott Base 119.64 194 PFAKE 00 12 30.0 +6.3
SBA LR LR
comp=Z,371nm,19.0s
KAPI Kappang 120.70 286 PFAKE 00 12 40.0 +12
KAPI LR LR
comp=Z,170nm,21.0s
RAYN Ar Rayn 120.87 19 PFAKE 00 12 40.0 +12
RAYN LR LR
comp=Z,564nm,19.0s
KSM Kuching 123.95 299 PFAKE 00 12 40.0 +6.1
KSM LR LR
comp=Z,106nm,19.0s
KULM Kulim 127.87 310 PFAKE 00 12 50.0 +8.5
KULM LR LR
comp=Z,359nm,20.0s
MBWA Marble Bar 129.09 269 ePKPpre PKPpre 00 12 28.9
MBWA LR LR
comp=Z,419nm,21.0s
MBAR Mbarara 135.18 50 PFAKE 00 13 10.0 +14
MBAR LR LR
comp=Z,351nm,21.0s
CASY Casey 137.01 206 PFAKE 00 13 10.0 +13
CASY LR LR
comp=Z,686nm,19.0s
KMBO Kilima Mbogo 139.56 43 PFAKE 00 13 10.0 +6.3
KMBO LR LR
comp=Z,520nm,21.0s
LSZ Lusaka 143.36 69 PKIKP PKPbc 00 13 08.6 +1.3
LSZ MLR MLR
comp=Z,795nm,20.0s
LSZ Lusaka 143.36 69 P PKPbc 00 13 08.6 +1.3
LSZ LR LR
comp=Z,795nm,20.0s
MAW Mawson 145.73 180 PKPbc **PKPdf** **00 13 12.5 0.0**

	comp=Z,12nm,0.8s,baz=193,slow=4.7,SNR=5.1							
MAW	**Mawson**	**145.73**	**180**	PKIKP	**PKPdf**	**00 13 12.5**	**0.0**
MAW				*e*		00 13 15.5	
MAW	**Mawson**	**145.73**	**180**	PKPbc	**PKPdf**	**00 13 12.5**	**0.0**
MAW				*e*PKPdf	**PKiKP**	**00 13 15.5**	**-1.1**
LBTB	**Lobatse**	**146.03**	**86**	PKP2	**PKPbc**	**00 13 15.4**	**0.0**
LBTB	**Lobatse**	**146.03**	**86**	P	**PKPbc**	**00 13 15.4**	**0.0**
LBTB				*e*PKPdf	**PKPab**	**00 13 16.8**	**+0.8**
BOSA	**Boshof**	**147.00**	**92**	PKPbc	**PKPdf**	**00 13 16.8**	**+0.6**
	comp=Z,5.2nm,0.9s,baz=307,slow=1.9,SNR=8.3						
PRYS	**Parys**	**148.21**	**88**	P	**PKPab**	**00 13 24.2**	**-0.4**
SLR	**Silverton**	**148.55**	**85**	PKP2	**PKPab**	**00 13 26.3**	**+0.4**
SLR	**Silverton**	**148.55**	**85**	P	**PKPab**	**00 13 26.3**	**+0.4**
MSNA	**Messina**	**148.56**	**78**	P	**PKPbc**	**00 13 23.0**	**+0.6**
SEK	**Senekal**	**148.90**	**90**	P	**PKPbc**	**00 13 22.4**	**-0.9**
MSEY	**Mahe Island**	**150.48**	**16**	PFAKE		00 13 30.0	+2.6
MSEY				LR	LR		
	comp=Z,427nm,21.0s						
ABPO	**Ambohimpanom**	**159.60**	**50**	PFAKE		00 13 40.0	+5.5
ABPO				LR	LR		
	comp=Z,838nm,20.0s						

*IDC **08** 00:02:33.9±2.7, 10.04N×84.47W, h118km±12km, mb3.6/4, mb1 3.9/5, mb1mx3.3/40, mbtmp4.1/5, MS3.2/1, Ms1 3.2/1, ms1mx2.9/19, Error ellipse: s-maj=66.7km s-min=39.7km az=176.0*

*ISCJB **08** 00:02:37.1±0.5, 10.43N±0.06×84.80W±0.05, h113km±3km, mb3.8/4, Error ellipse: s-maj=11.3km s-min=4.4km az=37.7*

*CASC **08** 00:02:38.3±1.1, 10.40N×84.78W, h102km±4km, MD3.8*

ISC 08 00:02:36.8±0.8, 10.43N±0.07×84.79W±0.06, h115km±5km, n37, σ0.98/56, mb3.8/4, 8C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CASO	**Castillo**	**0.06**	**84**	*i* P	**Pn**	**00 02 52.8**	**+0.1**
CASO				*i* S	**Sn**	**00 03 04.5**	**-0.1**
BANL	**Banca Lucia**	**0.10**	**337**	*i* P	**Pn**	**00 02 53.0**	**+0.2**
CEDE	**Laguna Cede˜–o**	**0.10**	**56**	*i* P	**Pn**	**00 02 52.9**	**+0.1**
FORC	**Fortuna**	**0.13**	**72**	*i* P	**Pn**	**00 02 52.8**	**+0.1**
JTS	**JuntasAbangare**	**0.21**	**229**	LR	LR	00 02 43.9	
	comp=Z,122nm,20.7s,baz=136,slow=19						
JTS				P	**Pn**	**00 02 52.7**	**-0.3**
	854nm,0.3s,baz=154,slow=4.1,SNR=1648						
JTS				S	**Sn**	**00 03 03.5**	**-1.5**
	936nm,0.3s,baz=313,slow=19,SNR=66						
AMAS	**Alto Masis**	**0.27**	**313**	*i* P	**Pn**	**00 02 53.2**	**0.0**
AMAS				*i* S	**Sn**	**00 03 04.8**	**-0.8**
PTEN	**Parque Tenorio**	**0.34**	**326**	*i* P	**Pn**	**00 02 53.9**	**+0.4**
PTEN				*i* S	**Sn**	**00 03 05.8**	**-0.2**
CUI	**Cuipilapa**	**0.43**	**302**	*i* P	**Pn**	**00 02 54.3**	**+0.4**
CUI				*i* S	**Sn**	**00 03 06.2**	**-0.6**
COLC	**Colonia**	**0.47**	**300**	*i* P	**Pn**	**00 02 54.4**	**+0.3**
HORNC	**Hornillas**	**0.47**	**307**	*i* P	**Pn**	**00 02 54.5**	**+0.3**
HORNC				*i* S	**Sn**	**00 03 06.5**	**-0.8**
MESS	**Mesas**	**0.50**	**308**	*i* P	**Pn**	**00 02 54.9**	**+0.6**
GUAB	**Guayabo de Bag**	**0.51**	**303**	⇑*i* P	**Pn**	**00 02 54.8**	**+0.4**
GUAB				*i* S	**Sn**	**00 03 07.5**	**-0.2**
CGA2	**Cerro Gallo 2**	**0.52**	**142**	⇑*e*P	**Pn**	**00 02 54.6**	**0.0**
CGA2				*e*S	**Sn**	**00 03 07.3**	**-0.6**
LIM1	**Limonal**	**0.53**	**301**	*i* P	**Pn**	**00 02 54.9**	**+0.4**
A494	**Palo Verde**	**0.56**	**262**	*i* P	**Pn**	**00 02 55.2**	**+0.6**
GPS2	**Hotel Rinc˜‡n**	**0.64**	**300**	*i* P	**Pn**	**00 02 55.8**	**+0.5**
GPS2				*i* S	**Sn**	**00 03 08.9**	**-0.3**
GPS3	**Bodega del ICE**	**0.65**	**300**	*i* P	**Pn**	**00 02 55.9**	**+0.5**
GPS3				*i* S	**Sn**	**00 03 09.2**	**-0.1**
JCR	**Jicaral**	**0.66**	**209**	⇑*i* P	**Pn**	**00 02 55.4**	**-0.1**
JCR				*e*S	**Sn**	**00 03 09.5**	**+0.1**
GB1A	**Borinquen Arri**	**0.71**	**303**	*i* P	**Pn**	**00 02 56.6**	**+0.7**
LAPC	**Finca la Perla**	**0.71**	**298**	⇑*i* P	**Pn**	**00 02 56.2**	**+0.3**
LAPC				*i* S	**Sn**	**00 03 09.7**	**-0.5**
GBS3	**Finca Las Im˜¡**	**0.74**	**298**	*i* P	**Pn**	**00 02 56.5**	**+0.5**
NY14	**Universidad de**	**0.76**	**287**	*i* P	**Pn**	**00 02 57.2**	**+1.0**
NY14				*i* S	**Sn**	**00 03 11.4**	**+0.6**
GBS2	**Las Lilas**	**0.77**	**302**	*i* P	**Pn**	**00 02 57.0**	**+0.7**
A492	**Arado**	**0.82**	**255**	*i* P	**Pn**	**00 02 57.0**	**+0.3**
A492				*i* S	**Sn**	**00 03 11.5**	**-0.2**
VCR	**Vista de Mar**	**0.88**	**250**	⇑*i* P	**Pn**	**00 02 57.6**	**+0.2**
VCR				*e*S	**Sn**	**00 03 12.8**	**-0.1**
URSC	**Urasca**	**1.16**	**120**	⇑*i* P	**Pn**	**00 03 01.1**	**+0.8**
URSC				*e*S	**Sn**	**00 03 18.5**	**+0.5**
QCR	**Quepos**	**1.17**	**148**	⇑*e*P	**Pn**	**00 03 01.0**	**+0.8**
QCR				*e*S	**Sn**	**00 03 18.7**	**+0.7**
BUS	**Buena Vista**	**1.34**	**130**	⇑*e*P	**Pn**	**00 03 02.9**	**+0.3**
BUS				*e*S	**Sn**	**00 03 22.8**	**+0.8**
ACR	**Cerro Adams**	**2.38**	**138**	*e*P	**Pn**	**00 03 16.1**	**+1.2**
ACR				*e*S	**Sn**	**00 03 43.8**	**-0.4**
CMIG	**Matias Romero**	**11.83**	**305**	P	**Pn**	**00 05 23.6**	**+1.7**
	1.7nm,0.3s,baz=119,slow=10.0,SNR=15						
CMIG				S	**Sn**	**00 07 32.3**	**+0.2**
	0.3nm,0.3s,baz=175,slow=14,SNR=2.8						
ATAH	**Atahualpa**	**18.57**	**160**	LR	LR	00 12 59.6	
	comp=Z,82nm,20.5s,baz=1.6,slow=35						
TXAR	**Lajitas Array**	**25.79**	**320**	P	**P**	**00 07 59.2**	**+1.9**
	0.3nm,0.4s,baz=149,slow=6.8,SNR=6.9						
SADO	**Sadowa**	**34.56**	**7**	P	**P**	**00 09 15.1**	**+0.7**
	3.0nm,0.5s,baz=226,slow=7.2,SNR=5.1						
NVAR	**Mina Array Bea**	**40.93**	**319**	P	**P**	**00 10 09.3**	**+1.0**
	0.3nm,0.5s,baz=141,slow=5.8,SNR=3.3						
FRB	**Frobisher Bay**	**54.47**	**9**	P	**P**	**00 11 50.0**	**-2.1**
	1.1nm,0.3s,baz=182,slow=7.2,SNR=4.7						
ASAR	**Alice Springs**	**140.87**	**245**	PKP	**PKPdf**	**00 21 51.0**	**-3.1**
	0.5nm,0.5s,baz=126,slow=3.6,SNR=6.3						
WRA	**Warramunga Arr**	**141.15**	**251**	PKP	**PKPdf**	**00 21 51.0**	**-3.7**
	0.2nm,0.4s,baz=94,slow=2.9,SNR=4.9						

*KRSC **08** 01:16:24.3±1.2, 50.00N×159.00E, h48km±25km, ML4.0*

MOS 08 01:16:24.3±2.0, 50.00N×159.00E, h48km, mb4.1/1, Error ellipse: s-maj=37.3km s-min=10.6km az=93.1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.97**	**291**	*e*P	Pn	01 16 56.8	+1.7
SKR				*e*S	Sn	01 17 19.9	+1.3
SKR	**Severo-Kuril's**	**1.97**	**291**	*e*PN	Pn	01 16 46.0	-9.1
PAU	**Pauzhetka**	**2.02**	**317**	*e*P	Pn	01 16 58.7	+2.8
PAU				*e*S	Sn	01 17 23.2	+3.3
PAU	**Pauzhetka**	**2.02**	**317**	PN	Pn	01 16 58.7	+2.8
PAU				S	Sn	01 17 23.2	+3.3
RUS	**Russkaya**	**2.46**	**353**	*e*P	Pn	01 17 04.5	+2.7
RUS				*e*S	Sn	01 17 33.3	+2.7
RUS	**Russkaya**	**2.46**	**353**	PN	Pn	01 17 04.5	+2.7
RUS				S	Sn	01 17 33.3	+2.7
ASAK	**Asacha**	**2.48**	**344**	*e*P	Pn	01 17 05.5	+3.1
MTVR	**Mutnovka**	**2.54**	**349**	*e*S	Sn	01 17 36.3	+3.3
MIPR	**Malaya Ipel'ka**	**2.68**	**329**	*e*P	Pn	01 17 08.5	+3.5
SPN	**Mys Shipunski**	**3.17**	**11**	*e*P	Pn	01 17 14.6	+3.0
SPN	**Mys Shipunski**	**3.17**	**11**	PN	Pn	01 17 14.6	+3.0
UGLR	**Uglovaya**	**3.22**	**358**	*e*P	Pn	01 17 16.2	+3.8
SDLR	**Sedlovina**	**3.28**	**359**	*e*P	Pn	01 17 16.3	+2.9
SDLR	**Sedlovina**	**3.28**	**359**	PN	Pn	01 17 16.3	+2.9
KOK	**Koryaka**	**3.31**	**356**	*e*P	Pn	01 17 17.4	+3.8
KOK	**Koryaka**	**3.31**	**356**	PN	Pn	01 17 17.4	+3.8
KRER	**Koryakskii**	**3.31**	**357**	*e*P	Pn	01 17 17.8	+3.9
KRX	**Arik**	**3.37**	**356**	*e*P	Pn	01 17 18.6	+4.0
GNL	**Ganaly**	**3.76**	**350**	*e*P	Pn	01 17 23.9	+4.0
GNL	**Ganaly**	**3.76**	**350**	PN	Pn	01 17 23.9	+4.0
MKZ	**Mys Kozlova**	**4.86**	**19**	*e*P	Pn	01 17 38.1	+3.3
MKZ	**Mys Kozlova**	**4.86**	**19**	PN	Pn	01 17 38.1	+3.3
TUMR	**Tumrok**	**5.34**	**7**	*e*P	Pn	01 17 45.9	+4.4
TUMR	**Tumrok**	**5.34**	**7**	PN	Pn	01 17 45.9	+4.4

MEX 08 02:05:51.5±0.7, 16.47N×98.52W, h17km±298km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.38**	**101**	*e*P	Pg	02 05 58.0	-1.4
PNIG				*e*S	Sg	02 06 03.2	-1.6
TLIG	**Tlapa**	**1.09**	**357**	*e*P	Pb	02 06 08.4	-3.8
TLIG				*e*S	Sb	02 06 21.1	-5.1
VHO	**Vista Hermosa**	**1.81**	**70**	*e*P	Pn	02 06 19.2	-3.0
VHO				*i* S	Sn	02 06 40.9	-4.1

*IDC **08** 02:19:07.7±0.8, 11.24N×86.13W, h0km, mb4.1/13, mb1 4.3/14, mb1mx4.1/31, mbtmp4.1/14, ML3.5/1, MS3.5/4,*

Ms1 3.5/4, ms1mx3.1/33, Error ellipse: s-maj=31.5km s-min=12.3km az=45.0

*ISCJB **08** 02:19:10.5±0.5, 11.01N±0.07×86.30W±0.06, h31km, mb4.3/50, MS3.4/3, Error ellipse: s-maj=12.4km s-min=5.6km az=35.3*

*BJI **08** 02:19:11.1, 11.00N×86.40W, h35km, mB4.9/1, Ms5.1/2, Ms7 4.7/2*

*NEIC **08** 02:19:12.4±0.6, 10.97N×86.34W, h35km, mb4.5/40, Error ellipse: s-maj=14.0km s-min=6.8km az=222.0*

ISC 08 02:19:11.7±0.7, 11.10N±0.1×86.44W±0.1, h31km, n222, σ0.88/223, mb4.4/50, MS3.4/3, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**1.55**	**115**	Pn	**Pn**	**02 19 36.4**	**-0.8**
	34nm,0.3s,baz=305,slow=22,SNR=82						
JTS				Lg	Lg	02 19 56.4	
	125nm,0.3s,baz=326,slow=15,SNR=9.6						
BCIP	**Isla Barro Col**	**6.69**	**105**	*e*Pn	**Pn**	**02 20 49.5**	**+1.6**
CMIG	**Matias Romero**	**10.26**	**307**	Pn	**Pn**	**02 21 35.5**	**-1.3**
	0.4nm,0.3s,baz=127,slow=12,SNR=5.9						
SDV	**Santo Domingo**	**15.65**	**96**	*e*Pn	**P**	**02 22 54.0**	**-0.2**
	8.0nm,0.8s						
035Z	**Hargill**	**18.97**	**326**	P	**P**	**02 23 31.1**	**+0.6**
	baz=19						
ATAH	**Atahualpa**	**19.64**	**156**	LR	LR	02 30 13.9	
	comp=Z,178nm,18.8s,baz=355,slow=34						
034A	**Hebbronville**	**19.78**	**326**	P	**P**	**02 23 40.5**	**+1.1**
	baz=20,SNR=5.7						
934A	**Benavides**	**20.11**	**327**	P	**P**	**02 23 43.6**	**+0.5**
	baz=20						
933A	**Laredo**	**20.53**	**326**	P	**P**	**02 23 48.3**	**+0.7**
	baz=21						
834A	**Tilden**	**20.55**	**328**	P	**P**	**02 23 47.9**	**+0.1**
	baz=21						
TIGA	**Tifton**	**20.56**	**7**	P	Pn	02 23 49.9	-0.3
	baz=21						
TIGA	**Tifton**	**20.56**	**7**	P	**P**	**02 23 48.7**	**+0.8**
	29nm,1.0s						
HKT	**Hockley**	**20.86**	**336**	*e*P	**P**	**02 23 51.7**	**+0.7**
	17nm,1.1s						
636A	**Smothers Creek**	**20.96**	**333**	P	**P**	**02 23 53.6**	**+1.4**
	baz=21						
833A	**Chaparral WMA,**	**21.16**	**327**	P	**P**	**02 23 55.0**	**+0.6**
	baz=21						
537A	**Green Hill Far**	**21.16**	**336**	P	**P**	**02 23 55.8**	**+1.4**
	baz=21						
PCRV	**Puerto La Cruz**	**21.40**	**90**	P	**P**	**02 23 54.8**	**-2.3**
	24nm,1.0s,baz=162,slow=20,SNR=2.3						
832A	**Faith Ranch, C**	**21.44**	**325**	P	**P**	**02 23 58.0**	**+0.6**
	baz=22						
535A	**Dale**	**21.66**	**333**	P	**P**	**02 24 00.8**	**+1.1**
	baz=22						
732A	**Laxson Ranch,**	**21.79**	**326**	P	**P**	**02 24 01.7**	**+0.6**
	baz=22,SNR=6.0						
338A	**Crockett**	**21.93**	**339**	P	**P**	**02 24 03.4**	**+0.7**
	baz=22						
633A	**Saathoff Ranch**	**21.95**	**329**	P	**P**	**02 24 02.9**	**0.0**
	baz=22						
436A	**Wall Ranch, Ga**	**21.97**	**335**	P	**P**	**02 24 04.2**	**+1.2**
	baz=22						
LRAL	**Lakeview Retre**	**21.99**	**359**	*e*P	**P**	**02 24 04.5**	**+1.2**
	8.7nm,0.8s						
534A	**Blanco**	**22.07**	**331**	P	**P**	**02 24 05.1**	**+0.9**
	baz=22						
239A	**Gary**	**22.26**	**342**	P	**P**	**02 24 07.5**	**+1.4**
	baz=22						
435B	**Jarrell**	**22.31**	**334**	P	**P**	**02 24 07.6**	**+0.8**
	baz=22						
GOGA	**Godfrey**	**22.52**	**6**	*e*P	**P**	**02 24 09.6**	**+0.6**
	19nm,1.0s						
434A	**Burnet**	**22.64**	**333**	P	**P**	**02 24 11.2**	**+0.9**
	baz=23						
631A	**Perdido Creek**	**22.65**	**326**	P	**P**	**02 24 11.1**	**+0.7**
	baz=23						
335A	**Moody**	**22.68**	**335**	P	**P**	**02 24 11.4**	**+0.7**
	baz=23						
532A	**Rocksprings**	**22.86**	**329**	P	**P**	**02 24 13.6**	**+0.9**
	baz=23						
236A	**Katherine and**	**22.95**	**337**	P	**P**	**02 24 14.6**	**+1.1**
	baz=23						
433A	**Art**	**22.97**	**331**	P	**P**	**02 24 14.3**	**+0.5**
	baz=23,SNR=6.7						
138A	**Matatall Enter**	**23.05**	**341**	P	**P**	**02 24 15.4**	**+0.9**
	baz=23						
334A	**Lometa**	**23.07**	**333**	P	**P**	**02 24 15.2**	**+0.5**
	baz=23,SNR=7.6						
JCT	**Junction City**	**23.09**	**329**	P	**P**	**02 24 15.3**	**+0.3**
	baz=23						
531A	**Rocksprings**	**23.22**	**328**	P	**P**	**02 24 16.6**	**+0.3**
	baz=23						
WHTX	**Lake Whitney**	**23.31**	**336**	P	**P**	**02 24 17.5**	**+0.5**
	baz=23						
WHTX	**Lake Whitney**	**23.31**	**336**	*e*P	**P**	**02 24 15.7**	**-1.4**
	18nm,0.9s						
333A	**Richland Sprin**	**23.40**	**332**	P	**P**	**02 24 18.3**	**+0.2**
	baz=24,SNR=8.1						
432A	**Menard**	**23.41**	**330**	P	**P**	**02 24 18.7**	**+0.5**
	baz=24						
Z38A	**Mt. Pleasant**	**23.56**	**342**	P	**P**	**02 24 20.3**	**+0.7**
	baz=24						
234A	**Clairette**	**23.60**	**334**	P	**P**	**02 24 20.0**	**+0.1**
	baz=24,SNR=7.1						
OXF	**Oxford**	**23.62**	**354**	*e*P	**P**	**02 24 20.0**	**-0.1**
	24nm,0.9s						
530A	**J-C Ranch, Com**	**23.64**	**326**	P	**P**	**02 24 20.7**	**+0.3**
	baz=24						
431A	**Sonora**	**23.67**	**328**	P	**P**	**02 24 20.9**	**+0.2**
	baz=24						
JSC	**Jenkinsville**	**23.70**	**11**	*e*P	**P**	**02 24 22.4**	**+1.6**
	18nm,0.7s						
135A	**Vickery Place,**	**23.79**	**336**	P	**P**	**02 24 22.1**	**+0.4**
	baz=24						
332A	**Millersview**	**23.80**	**331**	P	**P**	**02 24 22.3**	**+0.4**
	baz=24,SNR=11						
233A	**Rising Star**	**23.94**	**333**	P	**P**	**02 24 23.4**	**+0.2**
	baz=24,SNR=6.8						
Y39A	**Lockesburg**	**23.95**	**344**	P	**P**	**02 24 23.6**	**+0.4**
	baz=24						
Z36A	**Blue Ridge**	**24.06**	**339**	P	**P**	**02 24 24.9**	**+0.7**
	baz=24						
134A	**White-Moore Ra**	**24.07**	**335**	P	**P**	**02 24 24.5**	**+0.1**
	baz=24						
331A	**San Angelo**	**24.08**	**329**	P	**P**	**02 24 24.9**	**+0.4**
	baz=24,SNR=13						
430A	**Baggett Ranch,**	**24.08**	**327**	P	**P**	**02 24 24.9**	**+0.4**
	baz=24						
232A	**Coleman**	**24.18**	**332**	P	**P**	**02 24 25.0**	**-0.4**
	baz=24,SNR=10						
UALR	**University of**	**24.34**	**348**	*e*P	**P**	**02 24 26.2**	**-0.6**
	8.7nm,0.8s						
MIAR	**Mount Ida**	**24.39**	**346**	P	**P**	**02 24 27.2**	**-0.1**
	baz=24						
MIAR	**Mount Ida**	**24.39**	**346**	*e*P	**P**	**02 24 26.6**	**-0.7**
	5.5nm,0.6s						
TXAR	**Lajitas Array**	**24.39**	**321**	P	**P**	**02 24 27.4**	**-0.1**
	5.0nm,0.8s,baz=136,slow=10,SNR=60						
TXAR				PcP	**PcP**	**02 28 07.1**	**+0.7**
	1.2nm,0.8s,baz=137,slow=5.3,SNR=9.7						
Z35A	**Perchaven, San**	**24.41**	**338**	P	**P**	**02 24 27.5**	**0.0**
	baz=24						
Y37A	**Hugo**	**24.43**	**341**	P	**P**	**02 24 28.1**	**+0.4**
	baz=24						
133A	**Hamilton Ranch**	**24.45**	**334**	P	**P**	**02 24 28.6**	**+0.6**
	baz=24,SNR=6.7						
CPCT	**Copper Cave**	**24.45**	**4**	*e*P	**P**	**02 24 28.7**	**+0.9**
KMSC	**Kings Mountain**	**24.52**	**10**	P	**P**	**02 24 29.6**	**+1.1**
	baz=25,SNR=9.1						
KMSC	**Kings Mountain**	**24.52**	**10**	*e*P	**P**	**02 24 29.8**	**+1.3**
	15nm,0.8s						
231A	**Bronte**	**24.53**	**330**	P	**P**	**02 24 29.1**	**+0.4**
	baz=25						
330A	**Mertzon**	**24.54**	**328**	P	**P**	**02 24 28.4**	**-0.4**
	baz=25,SNR=6.7						
Y36A	**Durant**	**24.58**	**340**	P	**P**	**02 24 29.6**	**+0.5**
	baz=25						
Z34A	**Collier Ranch,**	**24.70**	**336**	P	**P**	**02 24 30.8**	**+0.6**
	baz=25						
TKL	**Tuckaleechee C**	**24.72**	**5**	P	**P**	**02 24 28.4**	**-1.8**
	4.3nm,0.8s,baz=180,slow=14,SNR=9.4						
ABTX	**Abilene, Hawle**	**24.79**	**333**	P	**P**	**02 24 30.9**	**-0.1**
	baz=25						
ABTX	**Abilene, Hawle**	**24.79**	**333**	*e*P	**P**	**02 24 30.2**	**-0.8**
	9.0nm,1.0s						
X38A	**Whitesboro**	**24.84**	**343**	P	**P**	**02 24 31.7**	**+0.4**
	baz=25,SNR=8.5						
Y35A	**Marietta**	**24.85**	**339**	P	**P**	**02 24 32.2**	**+0.8**
	baz=25						
X37A	**Clayton**	**24.92**	**342**	P	**P**	**02 24 32.2**	**+0.1**
	baz=25,SNR=6.6						
Z33A	**Whitaker Ranch**	**24.97**	**335**	P	**P**	**02 24 33.4**	**+0.8**
	baz=25						
329A	**Wagon Wheel Ra**	**25.02**	**327**	P	**P**	**02 24 33.0**	**-0.1**
	baz=25						
W38A	**Poteau**	**25.13**	**344**	P	**P**	**02 24 34.8**	**+0.8**
	baz=25,SNR=7.4						
Y34A	**Reagan Ranch,**	**25.16**	**337**	P	**P**	**02 24 34.6**	**+0.3**
	baz=25						
131A	**Roby**	**25.18**	**331**	P	**P**	**02 24 34.6**	**+0.1**
	baz=25						
X36A	**Centrahoma**	**25.21**	**340**	P	**P**	**02 24 35.2**	**+0.5**
	baz=25,SNR=5.6						
X35A	**Drake**	**25.27**	**339**	P	**P**	**02 24 36.5**	**+1.2**
	baz=25						
Z32A	**Haskell**	**25.29**	**334**	P	**P**	**02 24 36.3**	**+0.8**
	baz=25,SNR=19						
229A	**Bryant Ranch,**	**25.31**	**328**	P	**P**	**02 24 36.3**	**+0.5**
	baz=25						
130A	**Snyder**	**25.39**	**330**	P	**P**	**02 24 37.0**	**+0.6**
	baz=26						
W37A	**Quinton**	**25.45**	**343**	P	**P**	**02 24 37.6**	**+0.7**
	baz=26						
Y33A	**Hilltop Ranch,**	**25.54**	**336**	P	**P**	**02 24 38.1**	**+0.4**
	baz=26						
Z31A	**Sharp Cattle R**	**25.60**	**333**	P	**P**	**02 24 39.4**	**+1.0**
	baz=26,SNR=12						
W36A	**Wetumka**	**25.70**	**341**	P	**P**	**02 24 39.0**	**-0.1**
	baz=26						
X34A	**Smith Ranch, M**	**25.76**	**338**	P	**P**	**02 24 40.1**	**+0.4**
	baz=26						
228A	**UT Block 9, Go**	**25.84**	**327**	P	**P**	**02 24 40.8**	**+0.2**
	baz=26						
Y32A	**R-V Farms, Ver**	**25.87**	**335**	P	**P**	**02 24 41.1**	**+0.3**
	baz=26						
W35A	**Tecumseh**	**25.92**	**340**	P	**P**	**02 24 41.2**	**+0.1**
	baz=26						
X33A	**Lawton**	**25.96**	**337**	P	**P**	**02 24 42.3**	**+0.8**
	baz=26,SNR=9.0						
Z30A	**Sanderson Ranc**	**26.03**	**331**	P	**P**	**02 24 42.0**	**-0.3**
	baz=26						
V37A	**Hulbert**	**26.07**	**344**	P	**P**	**02 24 42.1**	**-0.3**
	baz=26,SNR=6.2						
X32A	**Elmer**	**26.17**	**335**	P	**P**	**02 24 44.1**	**+0.6**
	baz=26						
128A	**Castleberry Fa**	**26.17**	**328**	P	**P**	**02 24 43.7**	**+0.1**
	baz=26,SNR=7.2						
Y31A	**Rekieta Farm,**	**26.19**	**333**	P	**P**	**02 24 44.0**	**+0.3**
	baz=26,SNR=7.8						
V36A	**Jenks**	**26.21**	**342**	P	**P**	**02 24 44.2**	**+0.5**
	baz=26						
LPIG	**La Paz**	**26.24**	**303**	LR	LR	02 36 14.6	
	comp=Z,65nm,18.4s,baz=112,slow=39						
WMOK	**Wichita Mounta**	**26.24**	**336**	P	**P**	**02 24 46.2**	**+2.1**
	19nm,0.9s						
TUL1	**Tulsa**	**26.28**	**343**	P	**P**	**02 24 44.4**	**0.0**
	baz=26						
TUL1	**Tulsa**	**26.28**	**343**	*e*P	**P**	**02 24 43.9**	**-0.5**
	8.5nm,0.8s						
Z29A	**Hungry Hill Ra**	**26.29**	**330**	P	**P**	**02 24 44.4**	**-0.2**
	baz=26,SNR=8.0						
W34A	**Bridge Creek,**	**26.31**	**339**	P	**P**	**02 24 45.1**	**+0.4**
	baz=26						
W34A	**Bridge Creek,**	**26.31**	**339**	*e*P	**P**	**02 24 45.2**	**+0.5**
	16nm,0.8s						
Y30A	**Stafford Cattl**	**26.41**	**332**	P	**P**	**02 24 46.2**	**+0.5**
	baz=26						
V35A	**Meyer Ranch, C**	**26.46**	**341**	P	**P**	**02 24 45.9**	**-0.1**
	baz=27						
X31A	**McDonald Ranch**	**26.64**	**334**	P	**P**	**02 24 47.7**	**0.0**
	baz=27						
Z28A	**Tucker Farm, M**	**26.65**	**329**	P	**P**	**02 24 47.9**	**0.0**
	baz=27,SNR=8.2						
BLA	**Blacksburg**	**26.70**	**11**	*e*P	**P**	**02 24 47.9**	**-0.4**
	8.3nm,0.8s						
V34A	**Guthrie**	**26.76**	**340**	P	**P**	**02 24 48.9**	**+0.2**
	baz=27						
Y29A	**Porterfield Fa**	**26.76**	**331**	P	**P**	**02 24 49.8**	**+0.9**
	baz=27						
W32A	**Sentinel**	**26.76**	**336**	P	**P**	**02 24 49.6**	**+0.7**
	baz=27,SNR=9.3						
X30A	**Coker Ranch, T**	**26.87**	**333**	P	**P**	**02 24 50.4**	**+0.5**
	baz=27						
U35A	**Pawnee**	**26.99**	**341**	P	**P**	**02 24 51.3**	**+0.5**
	baz=27						
V33A	**Lossen Ranch,**	**27.02**	**338**	P	**P**	**02 24 51.6**	**+0.5**
	baz=27						
T37A	**Cheneyville 18**	**27.17**	**345**	P	**P**	**02 24 52.0**	**-0.4**
	baz=27,SNR=7.3						
V32A	**Arapaho**	**27.21**	**337**	P	**P**	**02 24 53.0**	**+0.1**
	baz=27						
X29A	**Tulia**	**27.25**	**332**	P	**P**	**02 24 52.7**	**-0.7**
	baz=27						
T36A	**Boggs Farm, Ca**	**27.37**	**343**	P	**P**	**02 24 53

214A	**Organ Pipe Nat**	**32.12**	**315**	P		**P**	**02 25 35.8**	**-0.6**
	baz=32							
S22A	**4UR Ranch, Cre**	**32.39**	**329**	P		**P**	**02 25 39.8**	**+0.8**
	baz=32							
MMNY	**Mt. Morris Dam**	**32.52**	**12**	*e*P		**P**	**02 25 40.7**	**+1.0**
MVCO	**Mesa Verde**	**32.86**	**326**	P		**P**	**02 25 43.8**	**+0.7**
	baz=33							
N26A	**Koester Ranch,**	**33.27**	**336**	P		**P**	**02 25 46.8**	**+0.4**
	baz=33							
K30A	**Basset**	**33.65**	**342**	P		**P**	**02 25 49.9**	**+0.2**
	baz=34							
ECSD	**EROS Data Cent**	**33.85**	**347**	P		**P**	**02 25 50.1**	**-1.3**
	baz=34,SNR=7.2							
ECSD	**EROS Data Cent**	**33.85**	**347**	*e*P		**P**	**02 25 49.8**	**-1.6**
	5.0nm,0.9s							
K28A	**Ten Mile Ranch**	**34.24**	**340**	P		**P**	**02 25 55.0**	**+0.1**
	baz=34							
SADO	**Sadowa**	**34.28**	**9**	P		**P**	**02 25 53.6**	**-1.4**
	5.9nm,0.7s,baz=203,slow=7.9,SNR=16							
PDMCI	**Parker Dam,Lak**	**34.38**	**317**	P		**P**	**02 25 55.4**	**-0.6**
	baz=34							
J29A	**Okreek**	**34.53**	**342**	P		**P**	**02 25 56.9**	**-0.4**
	baz=35							
SPMN	**St. Paul**	**34.60**	**352**	P		**P**	**02 25 57.1**	**-0.7**
	baz=35							
SPMN	**St. Paul**	**34.60**	**352**	*e*P		**P**	**02 25 56.7**	**-1.1**
	14nm,0.8s							
PTN	**Potsdam (NY)**	**34.92**	**14**	*e*P		**P**	**02 26 00.6**	**0.0**
	14nm,0.8s							
COWI	**Conover**	**35.11**	**357**	*e*P		**P**	**02 26 01.0**	**-1.3**
	4.1nm,0.9s							
I25A	**Rochford**	**36.21**	**339**	P		**P**	**02 26 12.7**	**+0.8**
	baz=36							
I24A	**Kuemmerle Ranc**	**36.40**	**338**	P		**P**	**02 26 13.9**	**+0.5**
	baz=36							
SIV	**San Ignacio**	**36.66**	**136**	P		**P**	**02 26 17.6**	**+1.7**
	1.4nm,0.7s,baz=327,slow=10,SNR=3.6							
J21A	**Lysite**	**37.10**	**334**	P		**P**	**02 26 19.7**	**+0.2**
	baz=37							
H24A	**Dirks Ranch, A**	**37.13**	**338**	P		**P**	**02 26 20.1**	**+0.4**
	baz=37							
DUG	**Dugway**	**37.35**	**326**	P		**P**	**02 26 22.6**	**+0.9**
	baz=37							
FURC	**Furnace Creek,**	**37.45**	**318**	P		**P**	**02 26 23.6**	**+1.3**
	baz=38							
PDAR	**Pinedale Array**	**37.58**	**332**	P		**P**	**02 26 23.1**	**-0.5**
	1.2nm,0.6s,baz=120,slow=9.8,SNR=16							
PDAR				PcP		**PcP**	**02 28 41.3**	**+0.1**
	0.3nm,0.6s,baz=101,slow=4.8,SNR=3.5							
HWUT	**Hardware Ranch**	**37.69**	**329**	*e*P		**P**	**02 26 25.1**	**+0.5**
	4.5nm,0.8s							
I20A	**Worland**	**37.88**	**334**	P		**P**	**02 26 26.4**	**+0.4**
	baz=38							
H21A	**Big Horn, Sher**	**37.98**	**336**	P		**P**	**02 26 27.3**	**+0.4**
	baz=38							
AGMN	**Agassiz Nation**	**38.07**	**350**	P		**P**	**02 26 27.1**	**-0.3**
	baz=38							
AGMN	**Agassiz Nation**	**38.07**	**350**	*e*P		**P**	**02 26 26.9**	**-0.5**
	11nm,1.3s							
B30A	**Myrvik Farm, E**	**38.70**	**347**	P		**P**	**02 26 32.6**	**-0.1**
	baz=39							
LOHW	**Long Hollow**	**38.72**	**332**	*e*P		**P**	**02 26 33.9**	**+0.6**
	1.5nm,0.6s							
TPAW	**Teton Pass**	**38.79**	**331**	*e*P		**P**	**02 26 35.1**	**+1.2**
	3.2nm,0.8s							
MOOW	**Moose Ponds**	**38.89**	**332**	*e*P		**P**	**02 26 35.7**	**+1.0**
	32nm,2.8s							
IMW	**Indian Meadow**	**39.10**	**332**	*e*P		**P**	**02 26 39.0**	**+2.6**
	1.9nm,0.8s							
RLMT	**Red Lodge**	**39.30**	**334**	P		**P**	**02 26 38.0**	**-0.1**
	baz=39							
A29A	**Manning Farm,**	**39.35**	**347**	P		**P**	**02 26 37.9**	**-0.2**
	baz=39							
MLAC	**Mammoth Lakes**	**39.41**	**318**	P		**P**	**02 26 38.1**	**-1.0**
	baz=40							
NVAR	**Mina Array Bea**	**39.51**	**319**	P		**P**	**02 26 41.7**	**+1.7**
	1.7nm,0.8s,baz=139,slow=8.0,SNR=10							
NVAR				PcP		**PcP**	**02 28 48.2**	**+1.0**
	1.9nm,0.7s,baz=144,slow=4.8,SNR=12							
D21A	**La Casta Ranch**	**40.00**	**338**	P		**P**	**02 26 44.8**	**+1.1**
	baz=40							
BMN	**Battle Mountai**	**40.05**	**323**	*e*P		**P**	**02 26 46.1**	**+1.9**
	3.9nm,0.9s							
C22A	**Vida**	**40.18**	**340**	P		**P**	**02 26 45.6**	**+0.5**
	baz=40							
DGMT	**Dagmar**	**40.27**	**342**	*e*P		**P**	**02 26 45.5**	**-0.3**
	12nm,0.4s							
B23A	**Brockton**	**40.51**	**341**	P		**P**	**02 26 48.7**	**+0.9**
	baz=41							
HLID	**Hailey**	**40.56**	**328**	P		**P**	**02 26 49.1**	**+0.5**
	baz=41,SNR=5.6							
HLID	**Hailey**	**40.56**	**328**	*e*P		**P**	**02 26 49.9**	**+1.4**
	22nm,2.5s							
MCMT	**McKenzie Canyo**	**40.70**	**331**	*e*P		**P**	**02 26 50.2**	**+0.5**
BOZ	**Bozeman (W)**	**40.75**	**333**	P		**P**	**02 26 50.1**	**0.0**
	baz=41							
BOZ	**Bozeman (W)**	**40.75**	**333**	*e*P		**P**	**02 26 50.7**	**+0.6**
	1.9nm,0.6s							
C20A	**Veseth Ranch,**	**40.91**	**338**	P		**P**	**02 26 51.8**	**+0.5**
	baz=41							
EGMT	**Eagleton**	**41.84**	**336**	P		**P**	**02 26 58.7**	**-0.2**
	baz=42							
WVOR	**Wild Horse Val**	**42.12**	**324**	*e*P		**P**	**02 27 02.9**	**+1.5**
	2.0nm,0.7s							
BDFB	**Brasilia**	**46.27**	**124**	P		**P**	**02 27 35.0**	**+0.1**
	3.4nm,0.8s,baz=253,slow=12,SNR=5.3							
SCHQ	**Schefferville**	**46.43**	**16**	P		**P**	**02 27 33.2**	**-2.2**
	3.4nm,0.8s,baz=209,slow=6.7,SNR=6.6							
SCHQ				LR		LR	02 47 24.7	
	comp=Z,86nm,18.1s,baz=72,slow=37							
ILAR	**Eielson Array**	**67.81**	**336**	P		**P**	**02 30 05.0**	**-1.5**
	0.4nm,0.6s,baz=137,slow=4.0,SNR=6.6							
TORD	**Torodi Ar. Bea**	**85.72**	**78**	P		**P**	**02 31 46.0**	**-2.5**
	0.3nm,0.6s,baz=276,slow=4.8,SNR=3.3							
BJI	**Beijing**	**125.12**	**339**	PKP		**PKPdf**	**02 38 09.3**	**-0.2**
HHC	**Hu-ho-hao-te**	**125.86**	**343**	*e*PKP		**PKPdf**	**02 38 11.1**	**+0.1**
HHC				sPKP			02 38 25.1	
HHC				PP		**PP**	**02 40 07.5**	**+4.9**
HHC				SKKS			02 46 55.7	
HHC				SS		**SS**	**02 57 01.0**	**+0.2**
HHC				PPMZ				
	48nm,6.9s							
HHC				LN				
	130nm,17.6s							
HHC				LE				
	110nm,17.3s							
HHC				LZ				
	120nm,17.3s							
LZH	**Lanzhou**	**132.24**	**349**	*e*PKP		**PKPdf**	**02 38 23.6**	**+0.2**
LZH				sPKP			02 38 38.7	
LZH				LN				
	130nm,18.5s							
LZH				LE				
	110nm,18.2s							
LZH				LZ				
	160nm,20.3s							
CD2	**Chengdu**	**137.26**	**347**	PKP		**PKPdf**	**02 38 31.6**	**-1.2**
ASAR	**Alice Springs**	**139.65**	**246**	PKP		**PKPdf**	**02 38 37.5**	**+0.2**
	0.6nm,0.7s,baz=102,slow=1.9,SNR=7.2							
WRA	**Warramunga Arr**	**139.83**	**252**	PKP		**PKPdf**	**02 38 38.0**	**+0.4**
	1.1nm,0.9s,baz=91,slow=2.1,SNR=8.3							
KMI	**Kunming**	**143.06**	**346**	PKP		PKPbc	02 38 41.2	+0.8
CMAR	**Chiang Mai Arr**	**150.31**	**350**	PKPbc		**PKPbc**	**02 38 59.6**	**-1.2**
	3.0nm,0.9s,baz=332,slow=3.1,SNR=11							

IDC 08 02:50:58.5±1.1, 31°.99S×179°.97W, h344km±13km, mb3.1/3, mb1 3.4/5, mb1mx3.2/23, mbtmp4.0/5, Error ellipse: s-maj=30.5km s-min=19.4km az=126.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.25**	**33**	P	Pn	02 52 01.3	+1.5
	76nm,0.3s,baz=74,slow=21,SNR=7.1						
RAO				S	S	02 52 48.8	-0.2
	93nm,0.3s,baz=72,slow=20,SNR=3.0						
URZ	**Urewera**	**6.70**	**200**	P	Pn	02 52 37.2	+0.2
	2.6nm,0.3s,baz=272,slow=5.4,SNR=23						
URZ				S	S	02 53 51.9	-5.2
	3.4nm,0.3s,baz=229,slow=22,SNR=15						
STKA	**Stephens Creek**	**32.51**	**260**	P	P	02 56 59.1	+0.8
	1.1nm,0.4s,baz=113,slow=13,SNR=3.0						
ASAR	**Alice Springs**	**41.38**	**270**	P	P	02 58 11.9	-0.4
	0.5nm,0.5s,baz=108,slow=7.5,SNR=8.7						
WRA	**Warramunga Arr**	**42.51**	**275**	P	P	02 58 21.0	-0.5
	0.8nm,0.4s,baz=113,slow=8.0,SNR=34						
FINES	**FINESS Array B**	**146.02**	**338**	PKPbc	PKPbc	03 09 57.3	-0.2
	0.8nm,0.5s,baz=70,slow=4.6,SNR=8.7						
TORD	**Torodi Ar. Bea**	**161.18**	**185**	PKPab	PKPab	03 11 02.6	-1.4
	0.7nm,1.1s,baz=170,slow=5.2,SNR=5.9						

IDC 08 03:09:27.0±5.4, 5°.24S×132°.87E, h0km, mb3.7/1, mb1 3.5/3, mb1mx3.4/32, mbtmp3.4/3, ML3.0/2, Error ellipse: s-maj=333.4km s-min=32.3km az=76.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.69**	**175**	Pn	Pn	03 12 55.6	-0.6
	0.1nm,0.3s,baz=352,slow=13,SNR=3.3						
ASAR	**Alice Springs**	**18.35**	**177**	P	Pn	03 13 43.2	+0.1
	0.1nm,0.3s,baz=2.0,slow=11,SNR=9.1						
MKAR	**Makanchi Array**	**68.37**	**325**	P	P	03 20 30.5	0.0
	0.4nm,0.4s,baz=119,slow=6.0,SNR=4.5						

NIED ***08*** *03:13:00, 47°.60N×149°.80E, h420km, Mw4.8 Best double couple: M0 1.85000×10^16 NP1:φ=271.00000°, δ=24.00000°, λ=-18.00000°. NP2:φ=18.00000°, δ=83.00000°, λ=-113.00000°.*

ISCJB ***08*** *03:13:59.7±0.2, 48°.32N±0°.02×148°.83E±0°.02, h377km±2km, mb4.6/122, Error ellipse: s-maj=4.0km s-min=2.0km az=157.1*

MOS ***08*** *03:14:00.0±0.9, 48°.32N×148°.77E, h386km, mb4.6/42, Error ellipse: s-maj=7.6km s-min=5.8km az=98.2*

SKHL ***08*** *03:14:00.2±1.1, 48°.16N×148°.92E, h381km±8km, mb5.7/6, mbh5.9/1, Ms3.7/3, msh5.1/8*

BJI ***08*** *03:14:01.7, 48°.32N×148°.48E, h388km, mb4.9/60, mB4.5/33*

IDC ***08*** *03:14:01.6±0.6, 48°.36N×148°.76E, h387km±6km, mb4.2/30, mb1 4.3/36, mb1mx4.3/45, mbtmp5.0/36, Error ellipse: s-maj=8.8km s-min=6.8km az=153.0*

NEIC ***08*** *03:14:01.7±1.3, 48°.31N×148°.87E, h390km±2km, mb4.8/71, Error ellipse: s-maj=14.8km s-min=10.9km az=146.0*

ISC 08 03:14:00.6±0.3, 48°.22N±0°.04×148°.96E±0°.04, h381km±2km, h380km; pP-P, n854, σ1=10/926, mb4.6/123, 34C-26D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.08**	**195**	*d* iPN	**Pn**	**03 15 03.4**	**+0.3**
KUR				*i* S	**S**	**03 15 53.2**	**-0.3**
KUR				pmax	pmax		
	comp=Z,82nm,0.7s						
KUR				pmax	pmax		
	comp=N,27nm,0.6s						
KUR				pmax	pmax		
	comp=E,30nm,0.6s						
KUR				smax	smax		
	comp=N,80nm,1.4s						
KUR				smax	smax		
	comp=E,91nm,1.4s						
KUR				smax	smax		
	comp=N,809nm,2.4s						
KUR				smax	smax		
	comp=E,2μm,2.4s						
KUR	**Kuril'sk**	**3.08**	**195**	↑ *i* P	**Pn**	**03 15 03.1**	**+0.1**
KUR				AMB	AMB	03 15 04.0	
	comp=E,850nm,0.9s						
KUR				*i* S	**S**	**03 15 52.4**	**-1.1**
KUR				A	A	03 15 54.0	
	comp=E,5μm,2.5s						
KUR				A	A	03 15 55.9	
	comp=E,1μm,1.3s						
KUR				A	A	03 15 55.9	
	comp=E,1μm,1.3s						
YSS	**Yuzh-Sakhalins**	**4.39**	**256**	↑ *i* PN	**Pn**	**03 15 16.1**	**+0.8**
YSS				*i* S	**S**	**03 16 15.8**	**0.0**
YSS				pmax	pmax		
	comp=N,370nm,0.8s						
YSS				pmax	pmax		
	comp=E,510nm,0.8s						
YSS				pmax	pmax		
	comp=Z,740nm,0.8s						
YSS				pmax	pmax		
	comp=E,900nm,2.0s						
YSS				smax	smax		
	comp=N,540nm,1.2s						
YSS				smax	smax		
	comp=E,990nm,1.2s						
YSS				smax	smax		
	comp=N,1μm,2.0s						
YSS				smax	smax		
	comp=E,2μm,2.0s						
YSS	**Yuzh-Sakhalins**	**4.39**	**256**	↑ *i* P	**Pn**	**03 15 16.1**	**+0.8**
YSS				AMB	AMB	03 15 16.9	
	comp=E,370nm,0.8s						
YSS				AMB	AMB	03 15 16.9	
	comp=E,510nm,0.8s						
YSS				AMB	AMB	03 15 16.9	
	comp=E,740nm,0.8s						
YSS				AMB	AMB	03 15 18.0	
	comp=E,900nm,2.0s						
YSS				*i* S	**S**	**03 16 15.6**	**-0.2**
YSS				A	A	03 16 20.0	
	comp=E,1μm,2.0s						
YSS				A	A	03 16 20.0	
	comp=E,2μm,2.0s						
YSS				AMS	AMS	03 16 45.5	
	comp=E,600nm,20.0s						
YSS				AMS	AMS	03 16 45.5	
	comp=E,200nm,20.0s						
YSS	**Yuzh-Sakhalins**	**4.39**	**256**	*e*Pn	**Pn**	**03 15 16.5**	**+1.3**
YSS				*e*S	**S**	**03 16 17.1**	**+1.3**
SHO	**Shikotan**	**4.60**	**200**	*e*P	**Pn**	**03 15 15.7**	**-1.8**
SHO				AMB	AMB	03 15 16.2	
	comp=E,900nm,0.2s						
SHO				*e*S	**S**	**03 16 15.4**	**-4.4**
SHO				A	A	03 16 15.7	
	comp=E,150nm,0.2s						
UGL	**Uglegorsk**	**4.65**	**283**	*ce*PN	**Pn**	**03 15 17.7**	**-0.2**
UGL				*e*S	**S**	**03 16 19.5**	**-1.1**
UGL	**Uglegorsk**	**4.65**	**283**	*i* P	**Pn**	**03 15 18.4**	**+0.5**
UGL				AMB	AMB	03 15 19.2	
	comp=E,1μm,0.8s						
UGL				AMB	AMB	03 15 19.5	
	comp=E,1μm,1.0s						
UGL				*e*S	**S**	**03 16 21.0**	**+0.4**
UGL				A	A	03 16 24.0	
	comp=E,1μm,7.0s						
YUK	**Yuzh-Kuril'sk**	**4.71**	**208**	*c* iPN	**Pn**	**03 15 18.4**	**-0.2**
YUK				*i* S	**S**	**03 16 18.2**	**-3.7**
YUK				pmax	pmax		
	comp=N,84nm,0.3s						
YUK				pmax	pmax		
	comp=E,81nm,0.3s						
YUK				pmax	pmax		
	comp=Z,277nm,0.3s						
YUK				smax	smax		
	comp=N,1μm,2.8s						
YUK				smax	smax		
	comp=E,2μm,2.8s						
YUK				smax	smax		
	comp=N,387nm,0.6s						
YUK				smax	smax		
	comp=E,649nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.71**	**208**	↑ *i* P	**Pn**	**03 15 18.4**	**-0.2**
YUK				AMB	AMB	03 15 19.7	
	comp=E,80nm,0.3s						
YUK				AMB	AMB	03 15 19.7	
	comp=E,280nm,0.3s						
YUK				*i* S	**S**	**03 16 18.2**	**-3.7**
YUK				A	A	03 16 21.5	
	comp=E,2μm,3.0s						
YUK				A	A	03 16 27.3	
	comp=E,390nm,0.6s						
YUK				A	A	03 16 27.3	
	comp=E,650nm,0.6s						
TYV	**Tymovskoe**	**4.88**	**305**	*e*PN	**Pn**	**03 15 20.0**	**-0.2**
TYV				pmax	pmax		
	comp=Z,1μm,2.0s						
TYV	**Tymovskoe**	**4.88**	**305**	*e*P	**Pn**	**03 15 20.0**	**-0.2**
TYV				AMB	AMB	03 15 23.0	
	comp=Z,1μm,2.0s						
TYV				*e*S	**S**	**03 16 26.0**	**+1.0**
TYV				A	A	03 16 30.0	
	comp=Z,2μm,5.0s						
TYV				AMS	AMS	03 21 22.0	
	comp=Z,500nm,16.0s						
TYV				AMS	AMS	03 21 22.0	
	comp=Z,1μm,16.0s						
JRA	**Rausu**	**5.05**	**213**	P	**Pn**	**03 15 21.5**	**-0.7**
SKR	**Severo-Kuril's**	**5.28**	**60**	↓ *i* PN	Pn	03 15 13.5	-11
SKR				pmax	pmax		
	comp=N,180nm,1.0s						
SKR				pmax	pmax		
	comp=E,270nm,1.0s						
SKR				pmax	pmax		
	comp=Z,810nm,1.0s						
SKR				pmax	pmax		
	comp=Z,2μm,2.0s						
SKR	**Severo-Kuril's**	**5.28**	**60**	*e*P	**Pn**	**03 15 23.7**	**-0.7**
SKR				AMB	AMB	03 15 25.0	
	comp=Z,2μm,2.0s						
SKR				AMB	AMB	03 15 25.0	
	comp=Z,180nm,1.0s						
SKR				AMB	AMB	03 15 25.0	
	comp=Z,270nm,1.0s						
SKR				AMB	AMB	03 15 25.0	
	comp=Z,810nm,1.0s						
SKR				*e*S	**S**	**03 16 29.8**	**-2.8**
SKR				A	A	03 16 47.2	
	comp=Z,290nm,0.5s						
SKR				AMS	AMS	03 17 23.0	
	comp=Z,500nm,22.0s						
SKR				AMS	AMS	03 17 23.0	
	comp=Z,300nm,22.0s						
SKR				AMS	AMS	03 17 23.0	
	comp=Z,200nm,22.0s						
NEM2	**Nemuro 2**	**5.35**	**206**	P	Pn	03 15 21.9	-3.5
NEM2				*e*S	S	03 16 26.9	-7.5
JSE	**Soyaes**	**5.48**	**236**	P	**Pn**	**03 15 27.6**	**+0.9**
JNK	**Nakash**	**5.50**	**214**	P	**Pn**	**03 15 25.7**	**-1.4**
JTKR	**Abashiri--Toko**	**5.52**	**221**	P	**Pn**	**03 15 27.3**	**+0.1**
JTKR				*e*S	**S**	**03 16 36.1**	**-1.5**
JWK2	**Keihoku**	**5.66**	**242**	P	**Pn**	**03 15 30.3**	**+1.6**
JMP	**Maruseppu**	**5.74**	**225**	P	**Pn**	**03 15 30.1**	**+0.4**
JAK	**Akkeshi**	**6.02**	**211**	*e*S	S	03 16 40.6	-7.1
JKA	**Kamikawa-asahi**	**6.03**	**229**	*e*P	**Pn**	**03 15 33.8**	**+1.0**
ASAJ	**Asahikawa**	**6.03**	**229**	P	**Pn**	**03 15 33.8**	**+0.9**
ASAJ				*e*S	**S**	**03 16 47.8**	**-0.2**
ASAJ	**Asahikawa**	**6.03**	**229**	P	**Pn**	**03 15 33.8**	**+0.9**
	baz=31,slow=3.2						
ASAJ	**Asahikawa**	**6.03**	**229**	*e*Pn	**Pn**	**03 15 34.2**	**+1.3**
ASAJ				*e*S	**S**	**03 16 49.3**	**+1.4**
JAR	**Ashorobuto**	**6.12**	**218**	P	**Pn**	**03 15 32.7**	**-1.1**
JSS	**Shosan**	**6.23**	**235**	P	**Pn**	**03 15 36.9**	**+1.8**
HRK	**Horoka**	**6.26**	**223**	*e*P	**Pn**	**03 15 35.5**	**0.0**
HRK				*e*S	**S**	**03 16 50.9**	**-1.8**
JOB	**Onbets**	**6.42**	**216**	P	**Pn**	**03 15 34.9**	**-2.3**
JOB				*e*S	S	03 16 49.3	-6.6
JAB	**Ashibetsu**	**6.66**	**227**	P	**P**	**03 15 40.8**	**0.0**
JFR	**Furan**	**6.74**	**224**	P	**Pn**	**03 15 40.7**	**-0.1**
JCH	**Churui**	**6.85**	**217**	P	**Pn**	**03 15 39.3**	**-2.8**
JCH				*e*S	S	03 16 56.6	-8.2
JBT2	**Biratori 2**	**7.15**	**223**	P	**Pn**	**03 15 44.3**	**-1.1**
JBT2				*e*S	**S**	**03 17 06.7**	**-4.3**
NKL	**Nikolayevsk**	**7.21**	**316**	*i* P	**Pn**	**03 15 45.0**	**-0.9**
NKL				AMB	AMB	03 15 46.0	
	comp=Z,50nm,1.1s						
NKL				AMB	AMB	03 15 46.0	
	comp=Z,40nm,1.1s						
NKL				AMB	AMB	03 15 46.0	
	comp=Z,120nm,1.1s						
NKL				*e*S	**S**	**03 17 10.0**	**-2.0**
NKL				A	A	03 17 12.0	
	comp=Z,900nm,3.0s						
NKL				A	A	03 17 12.0	
	comp=Z,200nm,3.0s						
NKL				A	A	03 17 13.0	
	comp=Z,50nm,1.0s						
JNBK	**Urakawa-nobuka**	**7.38**	**219**	P	Pn	03 15 44.8	-3.3
JNBK				*e*S	S	03 17 08.3	-7.6
PEA0	**Petropavlovsk-**	**7.40**	**45**	*e*Pn	**Pn**	**03 15 48.2**	**+0.2**
PETK	**Petropavlovsk-**	**7.40**	**45**	P	**Pn**	**03 15 48.2**	**+0.1**
	comp=Z,8.3nm,0.3s,baz=216,slow=8.9,SNR=33						
PETK	**Petropavlovsk-**	**7.40**	**45**	PN	**Pn**	**03 15 48.2**	**+0.1**
PETK				pmax	pmax		
	comp=Z,8.0nm,0.3s						
PEA2	**Petropavlovsk-**	**7.40**	**45**	*e*Pn	**Pn**	**03 15 48.2**	**+0.1**
JEM	**Erimo**	**7.44**	**216**	P	**Pn**	**03 15 46.7**	**-2.0**
JEM				*e*S	S	03 17 07.5	-10
ERM	**Erimo**	**7.44**	**216**	*e*PN	**Pn**	**03 15 47.0**	**-1.8**
ERM	**Erimo**	**7.44**	**216**	*e*Pn	**Pn**	**03 15 47.6**	**-1.2**
JEW	**Eniwo**	**7.53**	**227**	P	**Pn**	**03 15 49.2**	**-0.6**
JSK	**Shakotan**	**7.67**	**234**	P	**Pn**	**03 15 51.4**	**0.0**
PET	**Petropavlovsk**	**7.81**	**48**	*e*PN	**Pn**	**03 15 52.7**	**-0.1**
PET	**Petropavlovsk**	**7.81**	**48**	↑ *i* P	**Pn**	**03 15 52.7**	**-0.1**
PET				AMB	AMB	03 15 53.0	
	comp=Z,300nm,2.5s						
PET				AMB	AMB	03 15 54.4	
	comp=Z,170nm,0.9s						
PET				*e*S	**S**	**03 17 20.6**	**-4.1**
PET				A	A	03 17 22.7	
	comp=Z,700nm,3.0s						
PET				AMS	AMS	03 17 54.0	
	comp=Z,500nm,14.0s						
PET	**Petropavlovsk**	**7.81**	**48**	*e*Pn	**Pn**	**03 15 52.7**	**-0.1**
JNB	**Noboribetsu**	**8.01**	**227**	P	**Pn**	**03 15 53.9**	**-1.5**
JNB				*e*S	S	03 17 22.7	-6.6
JSH	**Shimam**	**8.39**	**232**	P	**Pn**	**03 15 58.7**	**-1.0**
JSH				*e*S	**S**	**03 17 31.8**	**-5.5**
JKB	**Kayabe**	**8.46**	**224**	P	**Pn**	**03 15 57.5**	**-3.0**
JKB				*e*S	S	03 17 29.3	-10
JYM2	**Yakumo 2**	**8.61**	**228**	P	**Pn**	**03 16 00.3**	**-1.9**
JYM2				*e*S	S	03 17 35.1	-6.9
JSR	**Shiriuchi**	**9.03**	**225**	P	Pn	03 16 04.0	-3.1
JSR				*e*S	S	03 17 43.0	-8.1
TEY	**Ternei**	**9.08**	**254**	↑ *i* P	**Pn**	**03 16 08.0**	**+0.3**
TEY				AMB	AMB	03 16 09.6	
	comp=Z,10.0nm,0.8s						
TEY				AMB	AMB	03 16 09.6	
	comp=Z,40nm,0.8s						
TEY				AMB	AMB	03 16 09.6	
	comp=Z,150nm,0.8s						
TEY				AMB	AMB	03 16 10.0	
	comp=Z,500nm,1.5s						
TEY				AMB	AMB	03 16 10.0	
	comp=Z,1μm,1.5s						
TEY				*i* S	**S**	**03 17 50.0**	**-2.1**
TEY				A	A	03 17 54.0	
	comp=Z,2μm,4.0s						
TEY				A	A	03 17 54.0	
	comp=Z,1μm,4.0s						
TEY				A	A	03 17 54.2	
	comp=Z,100nm,1.0s						
JOSM	**Okushiri--Mats**	**9.09**	**231**	P	**Pn**	**03 16 06.4**	**-1.4**
HABR	**Khabarovsk**	**9.27**	**277**	*de*PN	**Pn**	**03 16 09.1**	**-0.8**
HABR				*e*S	**S**	**03 17 54.6**	**-1.5**
HABR				pmax	pmax		
	comp=E,50nm,0.9s						
HABR				pmax	pmax		
	comp=Z,62nm,0.9s						
HABR				pmax	pmax		
	comp=N,9.0nm,0.9s						
HABR				MLR	MLR		
	comp=Z,124nm,17.0s						
HABR	**Khabarovsk**	**9.27**	**277**	↓ *i* P	**Pn**	**03 16 09.1**	**-0.8**
HABR				AMB	AMB	03 16 11.7	
	comp=Z,10.0nm,0.9s						
HABR				AMB	AMB	03 16 11.7	
	comp=Z,50nm,0.9s						
HABR				AMB	AMB	03 16 11.7	
	comp=Z,60nm,0.9s						

MA2 Magadan 11.43 5 *i* PN **Pn 03 16 35.2 +0.3**
MA2 Magadan 11.43 5 *e*P **Pn 03 16 35.2 +0.3**
USRK Ussuriysk Ar. 12.43 257 P **P 03 16 44.2 -1.3**
comp=Z,3.8nm,0.3s,baz=69,slow=11,SNR=36
VLA Vladivostok 12.98 253⇑ *e*PN **P 03 16 51.2 -0.4**
VLA Vladivostok 12.98 253⇓ *e*P **P 03 16 51.2 -0.4**
MDJ Mudanjiang 13.84 262 P **P 03 17 02.0 +1.0**
MDJ S **S 03 19 26.4 -3.9**
MDJ ScS **ScS 03 28 31.6 +3.9**
MDJ PMZ
comp=Z,210nm,0.8s
MDJ PMZ
comp=Z,58nm,7.1s
MDJ LN
comp=Z,180nm,7.6s
MDJ LE
comp=Z,130nm,8.0s
MDJ LZ
comp=Z,160nm,10.3s
MDJ Mudanjiang 13.84 262 *e*P **P 03 17 01.6 +0.6**
BMKR Bomnak 14.10 305 *i* P **P 03 17 03.9 +0.2**
BMKR AMB AMB 03 17 04.4
comp=Z,10.0nm,0.5s
BMKR AMB AMB 03 17 04.4
comp=Z,20nm,0.5s
MAJO Matsushiro 14.10 218 *d i* P **P 03 17 04.5 +0.5**
MAJO pmax pmax
comp=Z,524nm,1.0s
MAJO Matsushiro 14.10 218⇓ *i* P **P 03 17 04.5 +0.5**
MAJO Matsushiro 14.10 218 *e*P **P 03 17 04.6 +0.5**
MAT Matsushiro 14.10 218 P **P 03 17 04.5 +0.5**
MAT S **S 03 19 34.8 -1.1**
MJAR Matsushiro Arr 14.10 218 P **P 03 17 04.2 +0.2**
comp=Z,9.4nm,0.3s,baz=16,slow=11,SNR=75
MJAR Matsushiro Arr 14.10 218 P **P 03 17 04.2 +0.2**
MJAR pmax pmax
comp=Z,9.0nm,0.3s
YASR Yasnyy 14.20 299⇓ *i* P P 03 17 01.7 -3.1
YASR AMB AMB 03 17 04.4
comp=Z,10.0nm,0.7s
YASR AMB AMB 03 17 04.4
comp=Z,20nm,0.7s
ZEA Zeya 14.72 300 *e*P **P 03 17 10.8 +0.3**
SEY Seymchan 14.87 6 P **P 03 17 11.4 -0.5**
comp=Z,3.5nm,0.3s,baz=189,slow=8.7,SNR=56
SEY Seymchan 14.87 6 *d i* P **P 03 17 12.5 +0.6**
SEY Seymchan 14.87 6⇓ *i* P **P 03 17 12.5 +0.6**
KROS Kirovskiy 15.05 303 *i* P **P 03 17 14.8 +0.7**
KROS AMB AMB 03 17 16.8
comp=Z,20nm,0.5s
KROS AMB AMB 03 17 16.8
comp=Z,10.0nm,0.5s
CN2 Changchun 16.90 264 *e*P **P 03 17 31.4 -2.7**
CN2 *e*S S 03 20 23.1 -7.9
CN2 PMZ
comp=Z,10.0nm,0.7s
CN2 PMZ
comp=Z,200nm,4.0s
YAK Yakutsk 17.58 329 P **P 03 17 40.4 -0.7**
comp=Z,0.0nm,0.3s,baz=314,slow=23,SNR=4.4
YAK Yakutsk 17.58 329 *e*P **P 03 17 40.2 -0.9**
YAK *e*S **S 03 20 41.1 -2.7**
YAK pmax pmax
comp=N,4.0nm,0.8s
YAK pmax pmax
comp=Z,24nm,0.8s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK smax smax
comp=N,320nm,2.6s
YAK smax smax
comp=E,132nm,1.6s
YAK Yakutsk 17.58 329 *e*P **P 03 17 40.2 -0.9**
YAK Yakutsk 17.58 329 *e*P **P 03 17 40.4 -0.7**
comp=E,56nm,0.7s
KSSKC Sokcho 17.85 244 P **P 03 17 44.8 +0.6**
SNR=7.9
KSSKC Sokcho 17.85 244 P **P 03 17 44.8 +0.6**
SNR=5.8
KSJMJ Jumunjin 17.97 242 P **P 03 17 46.0 +0.5**
SNR=23
KSJMJ Jumunjin 17.97 242 P **P 03 17 46.0 +0.5**
SNR=23
SEHB SEOHWA 18.02 244 P **P 03 17 46.8 +0.7**
SNR=15
SEHB SEOHWA 18.02 244 P **P 03 17 46.8 +0.7**
SNR=15
KSDGY Daegwallycong 18.15 242 P **P 03 17 48.2 +0.7**
SNR=7.9
KSDGY Daegwallycong 18.15 242 P **P 03 17 48.2 +0.7**
SNR=26
KSIJA INJE 18.29 244 P **P 03 17 49.4 +0.5**
SNR=13
KSIJA INJE 18.29 244 P **P 03 17 49.4 +0.5**
SNR=13
KSJES JEONGSEON 18.33 241 P **P 03 17 50.6 +1.2**
SNR=5.8
KSJES JEONGSEON 18.33 241 P **P 03 17 50.6 +1.2**
SNR=5.8
KSTBA Taebaek 18.37 240 P **P 03 17 50.8 +0.9**
SNR=18
KSTBA Taebaek 18.37 240 P **P 03 17 50.8 +0.9**
SNR=18
KSULJ Uljin 18.40 238 P **P 03 17 51.5 +1.3**
SNR=13
KSULJ Uljin 18.40 238 P **P 03 17 51.5 +1.3**
SNR=13
KSCWO Cheorwon 18.58 245 P **P 03 17 52.9 +0.8**
SNR=9.6
KSCWO Cheorwon 18.58 245 P **P 03 17 52.8 +0.8**
SNR=8.8
KSCHC Chuncheon 18.60 244 P **P 03 17 52.7 +0.4**
SNR=19
KSCHC Chuncheon 18.60 244 P **P 03 17 52.7 +0.4**
SNR=19
KSRS Korea Array 18.75 243 P **P 03 17 54.4 +0.6**
comp=E,2.5nm,0.3s,baz=45,slow=9.8,SNR=90
KSRS Korea Array 18.75 243 P **P 03 17 54.4 +0.6**
KSRS pmax pmax
comp=Z,3.0nm,0.3s
KS01 Wonju Array Si 18.75 243 *e*P **P 03 17 53.9 0.0**
KS15 Wonju Array Si 18.78 243 *e*P **P 03 17 54.4 +0.2**
KSPHA Pohang 18.78 237 P **P 03 17 55.6 +1.4**
SNR=6.0
YNCB YEONCHEON 18.97 246 P **P 03 17 56.5 +0.4**
SNR=8.3
SNY Shenyang 19.00 260⇓ P **P 03 17 56.8 +0.4**
SNY PMZ
comp=Z,44nm,1.1s
KSEUS ULSEONG 19.06 239 P **P 03 17 57.9 +0.9**
SNR=7.5
KSEUS ULSEONG 19.06 239 P **P 03 17 57.9 +0.9**
SNR=7.5
KSCHJ Chungju 19.11 241 P **P 03 17 57.9 +0.4**
SNR=13
KSICN Icheon 19.16 243 P **P 03 17 58.7 +0.6**
SNR=12
KSICN Icheon 19.16 243 P **P 03 17 58.7 +0.6**
SNR=12
KSMUS Musan 19.17 246 P **P 03 17 59.2 +1.1**
SNR=7.0
HIA Hailar 19.25 284 *e*P **P 03 17 56.8 -2.1**
HIA pmax pmax
comp=Z,26nm,0.5s
HIA Hailar 19.25 284 *e*P **P 03 17 56.8 -2.1**
HIA Hailar 19.25 284 *e*P **P 03 17 56.8 -2.1**
comp=Z,26nm,0.5s
KSSAJ Sangju 19.32 240 P **P 03 18 00.3 +0.6**
SNR=7.1
KSSAJ Sangju 19.32 240 P **P 03 18 00.3 +0.6**
SNR=7.1
KSSWO Suwon 19.45 244 P **P 03 18 01.7 +0.8**
SNR=8.3
KSBON Boeun 19.47 241 P **P 03 18 01.7 +0.5**
SNR=7.4
KSGAH Ganghwa 19.48 246 P **P 03 18 01.5 +0.3**
SNR=11
INCN Inchon 19.51 245 *e*P **P 03 18 01.8 +0.3**
comp=Z,82nm,1.3s
KSCPR CHUPUNGNYEONG 19.56 240 P **P 03 18 03.0 +0.9**
SNR=8.5
KSCEA Cheonan 19.57 242 P **P 03 18 02.9 +0.8**
SNR=14
AMKA Amchitka 19.77 69 *e*P **P 03 18 03.8 0.0**
TJN Taejon 19.81 241 *i* P **P 03 18 04.7 +0.3**
KSSES Seosan 20.07 244 P **P 03 18 07.7 +0.8**
SNR=12

KSJEO Jeonju 20.15 240 P **P 03 18 08.6 +0.9**
SNR=13
JNU Nakatsue 20.31 229 P **P 03 18 09.4 +0.2**
comp=Z,46nm,0.4s,baz=302,slow=0.5,SNR=78
JNU Nakatsue 20.31 229 *e*P **P 03 18 10.0 +0.8**
comp=Z,80nm,0.8s
KSBAR Backryungdo 20.37 249 P **P 03 18 10.5 +0.9**
SNR=8.1
KSJEU Jeongeup 20.67 240 P **P 03 18 13.1 +0.7**
SNR=29
KSKOH Goheung 21.11 238 P **P 03 18 17.3 +1.0**
SNR=6.1
BILL Bilibino 21.71 18 *d i* P **P 03 18 21.1 -0.3**
BILL pmax pmax
comp=Z,21nm,1.2s
BILL Bilibino 21.71 18⇓ *i* P **P 03 18 21.1 -0.3**
BILL Bilibino 21.71 18 *e*P **P 03 18 20.8 -0.6**
comp=Z,49nm,1.5s
JCJ Chichijima 21.75 197 P **P 03 18 23.1 +0.9**
comp=Z,37nm,0.6s,baz=101,slow=24,SNR=5.2
CBI Chichi jima 21.75 196 *e*P **P 03 18 23.1 +0.8**
BOD Bodaibo 22.87 308 *e*P **P 03 18 30.4 -1.6**
BOD pmax pmax
comp=Z,19nm,0.7s
BOD Bodaibo 22.87 308 *e*P **P 03 18 30.4 -1.6**
BJI Beijing 24.77 263 P **P 03 18 49.3 0.0**
BJI PMZ
comp=Z,47nm,0.8s
BJT Baijiatuan 24.78 263 *e*P **P 03 18 50.8 +1.4**
BJT pmax pmax
comp=Z,38nm,0.5s
BJT Baijiatuan 24.78 263 *e*P **P 03 18 50.8 +1.4**
comp=Z,38nm,0.5s
TIA Tai'an 26.27 255⇓ P **P 03 19 02.8 +0.1**
TIA PMZ
comp=Z,50nm,0.8s
TIA PMZ
comp=Z,160nm,4.6s
HHC Hu-ho-hao-te 27.45 268 *e*P **P 03 19 14.2 +1.0**
HHC sP **sP 03 21 08.0 +0.9**
HHC S **S 03 23 24.7 -0.6**
HHC PMZ
comp=Z,59nm,0.6s
NJ2 Nanjing 27.88 246 *e*P **P 03 19 18.8 +1.8**
NJ2 PMZ
comp=Z,60nm,1.0s
SONA1 Songino Array 28.20 285 *e*P **P 03 19 18.7 -1.1**
SONA0 Songino Array 28.21 285 *e*P **P 03 19 18.3 -1.5**
SONA0 *e*PcP **PcP 03 22 22.1 0.0**
SONM Songino Array 28.21 285 P **P 03 19 18.3 -1.5**
comp=Z,5.5nm,0.8s,baz=74,slow=8.1,SNR=18
SONM PcP **PcP 03 22 22.1 0.0**
comp=Z,3.2nm,0.6s,baz=140,slow=2.4,SNR=6.8
SONM Songino Array 28.21 285 P **P 03 19 18.3 -1.5**
SONM 03 22 22.1
SONM pmax pmax
comp=Z,6.0nm,0.8s
SONM pmax pmax
comp=Z,3.0nm,0.6s
TLY Talaya 29.00 294 P **P 03 19 26.4 -0.3**
comp=Z,11nm,0.6s,baz=18,slow=12,SNR=8.8
TLY Talaya 29.00 294 *e*P **P 03 19 25.9 -0.8**
TLY pmax pmax
comp=Z,13nm,0.8s
TLY Talaya 29.00 294 *e*P **P 03 19 25.9 -0.8**
TLY Talaya 29.00 294 *e*P **P 03 19 25.9 -0.8**
comp=Z,13nm,0.8s
ZAK Zakamensk 29.51 292 *e*P **P 03 19 30.5 -0.7**
ZAK *e* 03 20 44.0
ZAK *e* 03 22 24.8
ZAK pmax pmax
comp=Z,5.0nm,1.0s
ZAK Zakamensk 29.51 292 *e*P **P 03 19 30.5 -0.7**
ZAK *e*rx rx 03 20 44.0
WHN Wuhan 31.70 249⇑ P **P 03 19 50.6 +0.2**
XAN Xi'an 32.92 259 P **P 03 20 00.5 -0.4**
XAN pP **pP 03 21 11.3 -0.5**
XAN sP **sP 03 21 54.2 -1.6**
XAN PMZ
comp=Z,12nm,1.1s
YULB Yu-li 33.10 231 *e*P **P 03 20 02.4 -0.1**
comp=Z,18nm,1.2s
TPUB Ta-pu 33.53 232 *e*P **P 03 20 05.9 -0.3**
comp=Z,30nm,0.9s
ENH Enshi 34.97 254 *e*P **P 03 20 17.8 -0.5**
comp=Z,28nm,0.6s
LZH Lanzhou 35.09 267⇑ P **P 03 20 20.2 +0.7**
LZH pP **pP 03 21 35.0 +4.0**
LZH PP **PnPn 03 21 52.3 -1.2**
LZH sP **sP 03 22 18.2 +3.2**
LZH S **S 03 25 24.0 +0.5**
LZH sS **sS 03 27 34.0 -0.1**
LZH PMZ
comp=Z,71nm,1.4s
LZH PMZ
comp=Z,250nm,5.0s
GTA Gaotai 36.00 274 P **P 03 20 27.6 +0.6**
GTA PcP **PcP 03 22 44.9 +1.1**
GTA S **S 03 25 38.2 +1.1**
GTA ScP **ScP 03 25 53.0 +0.1**
GTA sS **sS 03 27 48.4 +0.3**
GTA ScS **ScS 03 30 00.6 +0.9**
GTA PMZ
comp=Z,15nm,1.5s
GTA PMZ
comp=Z,87nm,4.8s
GTA LN
comp=Z,110nm,15.9s
GTA LE
comp=Z,100nm,15.7s
GTA LZ
comp=Z,120nm,16.2s
CD2 Chengdu 38.28 260 P **P 03 20 45.9 -0.1**
CD2 pP **pP 03 21 59.8 +1.1**
CD2 PP **PP 03 22 23.2 0.0**
CD2 sP **sP 03 22 43.5 +1.2**
CD2 S **S 03 26 10.1 -1.1**
CD2 sS **sS 03 28 25.1 +1.7**
CD2 PMZ
comp=Z,130nm,0.8s
CD2 PMZ
comp=Z,80nm,4.3s
CD2 LN
comp=Z,200nm,6.3s
CD2 LZ
comp=Z,160nm,8.4s
GYA Guiyang 39.39 252⇓ *i* P **P 03 20 54.7 -0.5**
GYA pP **pP 03 22 11.0 +2.6**
GYA PP **PP 03 22 37.2 +2.0**
GYA PcP **PcP 03 22 55.2 +0.6**
GYA ScP **ScP 03 26 06.0 +0.1**
GYA S **S 03 26 27.8 0.0**
GYA sS **sS 03 28 41.0 +0.4**
GYA PMZ
comp=Z,80nm,0.7s
GYA PMZ
comp=Z,120nm,4.9s
ZAA1 Zalesovo Array 39.46 303 *e*P **P 03 20 53.8 -1.4**
ZAA1 *es*P **sP 03 22 54.0 +2.0**
ZAA0 Zalesovo Array 39.46 303 *e*P **P 03 20 53.5 -1.8**
ZALV Zalesovo Beam 39.46 303 P **P 03 20 53.8 -1.4**
comp=Z,2.7nm,0.4s,baz=64,slow=6.7,SNR=16
ZALV PcP **PcP 03 22 54.0 -0.2**
comp=Z,7.7nm,0.6s,baz=65,slow=3.0,SNR=21
NVS Novosibirsk 40.05 305 *e*P **P 03 20 58.5 -1.5**
NVS Novosibirsk 40.05 305 *e*P **P 03 20 58.5 -1.5**
WMQ Urumqi 41.78 288 *e*P **P 03 21 15.6 +1.4**
WMQ PMZ
comp=Z,8.0nm,1.0s
WMQ PMZ
comp=Z,65nm,4.0s
INK Inuvik 41.93 33 P **P 03 21 14.5 -0.4**
comp=Z,161nm,1.0s,baz=308,slow=9.7,SNR=7.0
INK Inuvik 41.93 33 P **P 03 21 14.5 -0.4**
INK pmax pmax
comp=Z,161nm,1.0s
KMI Kunming 42.83 254 P **P 03 21 23.1 +0.1**
KMI pP **pP 03 22 39.8 +2.2**
KMI S **S 03 27 16.6 -1.8**
KMI sS **sS 03 29 32.1 -0.9**
KMI PMZ
comp=Z,30nm,0.8s
KMI LZ
comp=Z,17nm,29.1s
QIZ Qiongzhong 42.97 241 *e*P **P 03 21 24.1 +0.3**

comp=Z,39nm,1.1s
MK32 Makanchi Array 43.77 294 *e*P **P 03 21 29.0 -0.9**
MK32 *ep*P **pP 03 22 45.5 +0.8**
MK32 *e*PcP **PcP 03 23 08.6 -0.1**
MKAR Makanchi Array 43.77 294 P **P 03 21 29.0 -0.9**
comp=Z,4.5nm,0.5s,baz=68,slow=7.5,SNR=60
MKAR pP **pP 03 22 45.5 +0.8**
comp=Z,3.2nm,0.8s,baz=67,slow=9.5,SNR=3.6
MKAR PcP **PcP 03 23 08.6 -0.1**
comp=Z,2.4nm,0.6s,baz=70,slow=5.4,SNR=6.8
MKAR Makanchi Array 43.77 294 P **P 03 21 29.0 -0.9**
MKAR *PP **pP 03 22 45.5 +0.8**
MKAR 03 23 08.6
MKAR pmax pmax
comp=Z,5.0nm,0.5s
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MK01 Makanchi Array 43.77 294 *e*P **P 03 21 28.9 -1.0**
KURK Kurchatov 44.20 301 P **P 03 21 31.7 -1.4**
KURK *PP **pP 03 22 49.8 +1.6**
KURK 03 23 10.0
KURK pmax pmax
comp=Z,6.0nm,0.2s
KURK pmax pmax
comp=Z,5.0nm,0.9s
KURK pmax pmax
comp=Z,4.0nm,0.7s
KURK Kurchatov 44.20 301 *e*P **P 03 21 31.7 -1.4**
KURK pP **pP 03 22 49.8 +1.6**
KURK Kurchatov 44.20 301 *e*P **P 03 21 31.8 -1.3**
comp=Z,5.5nm,0.8s
KURK *ep*P **pP 03 22 49.8 +1.6**
KURK *e*PcP **PcP 03 23 10.0 0.0**
KURBB Kurchatov Arra 44.29 301 P **P 03 21 31.7 -2.1**
comp=Z,5.5nm,0.2s,baz=70,slow=8.8,SNR=37
KURBB pP **pP 03 22 49.8 +0.8**
comp=Z,4.9nm,0.9s,baz=67,slow=8.8,SNR=4.8
KURBB PcP **PcP 03 23 10.0 -0.3**
comp=Z,4.2nm,0.7s,baz=67,slow=3.6,SNR=11
SLVN Son La 44.82 249 *e*P **P 03 21 38.9 +0.5**
comp=Z,15nm,0.8s
LSA Lhasa 47.43 269 *e*P **P 03 22 00.3 +1.3**
LSA pmax pmax
comp=Z,38nm,0.6s
LSA Lhasa 47.43 269 *e*P **P 03 22 00.3 +1.3**
comp=Z,38nm,0.6s
BVAR Borovoye Array 47.74 307 P **P 03 21 59.8 -0.6**
comp=Z,9.3nm,0.5s,baz=57,slow=8.2,SNR=50
BVAR PcP **PcP 03 23 21.0 -1.6**
comp=Z,4.6nm,0.4s,baz=79,slow=3.0,SNR=8.2
BVAR Borovoye Array 47.74 307 P **P 03 21 59.8 -0.6**
BVAR 03 23 21.0
BVAR pmax pmax
comp=Z,9.0nm,0.5s
BVAR pmax pmax
comp=Z,5.0nm,0.4s
BRVK Borovoye 47.78 307 *c e*P **P 03 21 59.9 -0.8**
BRVK pmax pmax
comp=Z,16nm,0.6s
BRVK Borovoye 47.78 307 *e*P **P 03 21 59.9 -0.8**
BRVK Borovoye 47.78 307 *e*P **P 03 21 59.6 -1.0**
comp=Z,17nm,0.6s
CRAI Chiangrai 47.86 252 P **P 03 21 59.0 -2.8**
comp=Z,21nm,0.8s
UBPT Khong Chiam 48.48 243 P **P 03 22 07.7 +1.3**
comp=Z,24nm,1.6s
CMAI Chiengmai2 48.92 253 P **P 03 22 10.9 +0.9**
comp=Z,22nm,1.0s
LOEI Loei 49.32 249 P **P 03 22 10.9 -1.9**
comp=Z,50nm,0.8s
LAMP Lampang 49.59 251 P **P 03 22 15.8 +1.1**
comp=Z,14nm,0.8s,comp=Z,102nm
UTTA Uttaradit 49.59 249 P **P 03 22 15.5 +0.8**
comp=Z,13nm,0.8s
SHL Shillong 49.66 264 *i* P **P 03 22 15.5 +0.1**
CHTO Chiang Mai 49.81 252 P **P 03 22 16.7 +0.3**
comp=Z,241nm,0.8s,comp=Z,2μm
CHTO Chiang Mai 49.81 252 *e*P **P 03 22 16.5 +0.1**
CHTO pmax pmax
comp=Z,36nm,0.7s
CHTO Chiang Mai 49.81 252 *e*P **P 03 22 16.5 +0.1**
comp=Z,36nm,0.7s
TKM2 Tokmak 2 49.83 293 *e*P **P 03 22 16.3 -0.2**
TKM2 pmax pmax
comp=Z,8.0nm,1.0s
TKM2 Tokmak 2 49.83 293 *e*P **P 03 22 16.3 -0.2**
comp=Z,7.7nm,1.0s
CM31 Chiang Mai Arr 50.07 252 *e*P **P 03 22 19.1 +0.7**
CM31 *e*PcP **PcP 03 23 31.5 -0.1**
CMAR Chiang Mai Arr 50.07 252 P **P 03 22 19.1 +0.7**
comp=Z,8.0nm,0.5s,baz=33,slow=7.4,SNR=49
CMAR PcP **PcP 03 23 31.5 -0.1**
comp=Z,2.6nm,0.7s,baz=14,slow=2.0,SNR=7.2
CMAR ScP **ScP 03 26 49.6 -0.3**
comp=Z,0.7nm,0.3s,baz=22,slow=4.6,SNR=6.1
CMAR Chiang Mai Arr 50.07 252 P **P 03 22 19.1 +0.7**
CMAR 03 23 31.5
CMAR pmax pmax
comp=Z,8.0nm,0.5s
CMAR pmax pmax
comp=Z,3.0nm,0.7s
CMAR pmax pmax
comp=N,1.0nm,0.3s
CM01 Chiang Mai Arr 50.09 251 *e*P **P 03 22 18.3 -0.2**
PBKT Sadao Pong 50.22 248 P **P 03 22 19.8 +0.4**
comp=N,26nm,0.9s
AAK Ala-Archa 50.66 293 *e*P **P 03 22 22.2 -0.4**
AAK pmax pmax
comp=Z,8.0nm,0.8s
AAK Ala-Archa 50.66 293 *e*P **P 03 22 22.2 -0.4**
AAK Ala-Archa 50.66 293 *e*P **P 03 22 22.2 -0.4**
comp=Z,8.0nm,0.8s
SVE Sverdlovsk 50.82 315⇓ *i* P **P 03 22 23.2 -0.1**
SVE pmax pmax
comp=Z,31nm,0.8s
SVE Sverdlovsk 50.82 315⇓ *i* P **P 03 22 23.2 -0.1**
MHMT Maesarieng 50.92 252 P **P 03 22 25.8 +1.2**
comp=Z,17nm,1.1s
EKS2 Erkin-Say 51.09 294 *e*P **P 03 22 25.1 -0.6**
EKS2 pmax pmax
comp=Z,11nm,0.7s
EKS2 Erkin-Say 51.09 294 *e*P **P 03 22 25.1 -0.6**
comp=Z,11nm,0.7s
TAPN Taplejung 51.26 269 *e*P **P 03 22 27.6 +0.3**
comp=Z,59nm,0.7s
YKA Yellowknife Ar 51.41 36 P **P 03 22 27.9 +0.3**
comp=Z,17nm,0.4s,baz=302,slow=6.8,SNR=24
YKA Yellowknife Ar 51.41 36 P **P 03 22 27.9 +0.3**
YKA pmax pmax
comp=Z,17nm,0.4s
YKB5 Yellowknife Ar 51.41 36 *e*P **P 03 22 26.8 -0.7**
KSH Kashi 51.50 289 P **P 03 22 32.9 +4.1**
KSH PcP **PcP 03 23 41.3 +4.4**
KSH pP pP 03 23 51.1 +4.5
KSH PP PP 03 24 36.4 +6.1
KSH S **S 03 29 21.9 +2.8**
KSH sS sS 03 31 42.1 +3.7
KSH SS **SS 03 33 06.1 +5.7**
KSH PMZ
comp=Z,35nm,0.7s
KSH LN
comp=Z,300nm,7.5s
KSH LE
comp=Z,250nm,5.4s
KSH LZ
comp=Z,520nm,6.3s
NAYO Nakonayok 51.73 246 P **P 03 22 32.0 +1.5**
comp=Z,12nm,1.3s
ODAN Odare 51.79 269 *e*P **P 03 22 31.2 0.0**
comp=Z,26nm,0.6s
UTHA Uthaitani 51.93 249 P **P 03 22 33.3 +1.3**
comp=Z,9.2nm,0.9s
ARU Arti 52.00 315 *d i* P **P 03 22 31.2 -0.8**
ARU 03 23 36.4
ARU 03 24 27.6
ARU SS SKiKP 03 33 04.3 -7.8
ARU pmax pmax
comp=Z,77nm,1.2s
ARU Arti 52.00 315⇓ *i* P **P 03 22 31.2 -0.8**
ARU sP **sP 03 24 27.6 -4.6**
ARU Arti 52.00 315 *e*P **P 03 22 31.1 -0.8**
comp=Z,46nm,0.6s
GUN Gumba 52.11 271 *e*P **P 03 22 33.6 -0.1**
comp=Z,94nm,0.7s

RAMN **Ramite** 52.26 270 *e*P P 03 22 34.6 0.0
comp=Z,54nm,0.3s
KKN **Kakani** 52.59 271 *e*P P 03 22 37.2 +0.2
comp=Z,42nm,0.6s
PKI **Pulchoki** 52.65 271 *e*P P 03 22 37.3 -0.2
comp=Z,33nm,0.5s
PKIN **Phulchoki** 52.65 271 *e*P P 03 22 37.4 -0.1
comp=Z,25nm,0.6s
KKAR **Karatay Array** 52.82 296 *e*P P 03 22 37.3 -0.9
KKAR **Karatay Array** 52.82 296 *e*P P 03 22 37.3 -0.9
DMN **Daman** 52.83 271 *e*P P 03 22 39.2 +0.5
comp=Z,166nm,0.9s
GKN **Gorkha** 52.88 272 *e*P P 03 22 39.2 +0.2
comp=Z,143nm,0.7s
FAKI **Fak Fak** 52.98 201 *e*P P 03 22 39.7 +0.1
comp=Z,24nm,1.1s
SRDT **SRDT** 53.05 248 P P 03 22 41.6 +1.5
comp=Z,43nm,0.9s,comp=Z,13µm
DANN **Dangsing** 53.24 273 *e*P P 03 22 42.1 +0.3
comp=Z,21nm,0.6s
KOLN **Koldanda** 53.73 273 *e*P P 03 22 45.4 +0.3
comp=Z,106nm,0.8s
PRGR **Permogore** 54.58 325 *e*P P 03 22 48.7 -1.7
PRGR pmax pmax
comp=Z,25nm,0.8s
NLWA **Neilton Lookou** 55.39 56 *e*P P 03 22 57.7 +1.2
comp=Z,24nm,1.0s
SBUM **Sibu** 55.46 227 *e*P P 03 22 57.5 +0.2
comp=Z,80nm,2.1s
ARA0 **ARCESS Array S** 55.51 339 *e*P P 03 22 55.6 -1.3
ARA0 *e*PcP PcP 03 23 50.2 -1.3
ARCES **ARCESS Array B** 55.51 339 P P 03 22 55.6 -1.3
comp=Z,3.1nm,0.8s,baz=29,slow=8.6,SNR=9.0
ARCES PcP PcP 03 23 50.2 -1.3
comp=Z,2.5nm,0.9s,baz=60,slow=7.2,SNR=4.9
ARCES **ARCESS Array B** 55.51 339 P P 03 22 55.6 -1.3
ARCES 03 23 50.2
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARE0 **ARCESS Array S** 55.51 339 *e*P P 03 22 56.4 -0.4
KTK1 **Kautokeino** 56.43 339 *e*P P 03 23 03.0 -0.4
KTK1 IAmb IAmb 03 23 03.5
comp=Z,6.6nm,0.6s
TRO **Tromso** 56.92 341 *e*P P 03 23 05.0 -1.7
G03D **McMinnville, O** 57.02 57 P P 03 23 09.7 +1.8
baz=57
SRIT **Nakonsritamara** 57.24 243 P P 03 23 10.9 +1.2
comp=Z,28nm,0.8s
COR **Corvallis** 57.38 58 *e*P P 03 23 10.6 +0.3
COR pmax pmax
comp=Z,44nm,0.8s
COR **Corvallis** 57.38 58 *e*P P 03 23 10.6 +0.3
comp=Z,44nm,0.8s
NDI **New Delhi** 57.38 278 *e*P P 03 23 12.0 +1.4
SKLT **Songkhla** 57.78 241 P P 03 23 14.9 +1.5
comp=Z,37nm,0.9s
KRAB **Krabi** 57.78 243 P P 03 23 14.5 +1.1
comp=Z,54nm,0.7s,comp=Z,4µm
TRTT **Trang** 57.79 243 P P 03 23 14.4 +0.9
comp=Z,22nm,1.0s
I03D **Drain, OR** 57.90 59 P P 03 23 16.0 +2.1
baz=58
H04A **Detroit Lake** 57.95 57 *e*P P 03 23 15.8 +1.6
G05D **Wamic, OR** 58.09 56 P P 03 23 17.2 +2.0
baz=58
I04A **Tendick Farm,** 58.37 58 P P 03 23 19.1 +1.9
baz=58,SNR=5.8
NEW **Newport** 58.49 51 P P 03 23 18.9 +1.0
comp=Z,12nm,0.8s,baz=343,slow=9.2,SNR=4.1
NEW **Newport** 58.49 51 *e*P P 03 23 19.0 +1.1
NEW pmax pmax
comp=Z,19nm,1.0s
NEW **Newport** 58.49 51 *e*P P 03 23 19.0 +1.1
NEW **Newport** 58.49 51 P P 03 23 18.9 +1.0
baz=58
NEW **Newport** 58.49 51 *e*P P 03 23 19.0 +1.1
comp=Z,19nm,1.0s
I05D **Terrebonne, OR** 58.64 57 P P 03 23 20.9 +1.8
baz=58,SNR=8.7
L02D **Cave Junction,** 58.70 60 P P 03 23 21.4 +2.0
baz=58
KAPI **Kappang** 58.87 215 *e*P P 03 23 21.4 +0.6
comp=Z,21nm,1.0s
J04D **Umpqua Nationa** 58.89 59 P P 03 23 22.9 +2.0
baz=59,SNR=8.0
KBL **Kabul** 58.92 288 *e*P P 03 23 20.0 -1.3
KBL pmax pmax
comp=Z,45nm,0.6s
KBL **Kabul** 58.92 288 *e*P P 03 23 20.0 -1.3
comp=Z,45nm,0.6s
KULM **Kulim** 59.27 240 *e*P P 03 23 24.0 +0.4
comp=Z,22nm,0.8s
J05D **Fort Rock, OR** 59.36 58 P P 03 23 26.2 +2.1
baz=59,SNR=12
KHMM **Horse Mountain** 59.43 62 *e*P P 03 23 25.4 +0.9
comp=Z,22nm,0.9s
K04D **Chiloquin, OR** 59.48 59 P P 03 23 26.5 +1.7
baz=59
YBH **Yreka Blue Hor** 59.49 60 P P 03 23 26.2 +1.3
comp=Z,11nm,0.6s,baz=356,slow=5.2,SNR=11
YBH **Yreka Blue Hor** 59.49 60 P P 03 23 26.2 +1.3
YBH pmax pmax
comp=Z,11nm,0.6s
YBH **Yreka Blue Hor** 59.49 60 *e*P P 03 23 26.6 +1.8
comp=Z,12nm,0.8s
M02C **Callahan** 59.62 61 P P 03 23 27.7 +1.9
baz=59
K05A **Summer Lake** 59.91 58 *e*P P 03 23 29.9 +2.1
comp=Z,47nm,1.0s
M04C **Macdoel** 59.96 60 P P 03 23 29.6 +1.5
baz=60,SNR=6.2
N02D **Trinity Center** 59.97 61 P P 03 23 30.1 +1.9
baz=60
BLMT **Blacktail Moun** 60.08 50 *e*P P 03 23 30.2 +1.3
KCPM **Cahto Peak** 60.28 63 *e*P P 03 23 31.6 +1.4
comp=Z,8.3nm,0.7s
YBMT **Yellow Bay** 60.36 50 *e*P P 03 23 31.7 +1.0
SWMT **Swartz Lake** 60.59 51 *e*P P 03 23 32.9 +0.7
MSO **Missoula** 61.06 51 P P 03 23 36.1 +0.7
baz=61,SNR=5.6
FIA0 **FINESS Array S** 61.47 333 *e*P P 03 23 36.5 -1.1
FIA0 **FINESS Array S** 61.47 333 *e*P P 03 23 36.5 -1.1
FINES **FINESS Array B** 61.47 333 P P 03 23 36.5 -1.1
comp=Z,6.5nm,0.5s,baz=33,slow=7.4,SNR=90
FINES **FINESS Array B** 61.47 333 P P 03 23 36.5 -1.1
FINES pmax pmax
comp=Z,7.0nm,0.5s
NSHM **Saint Helena R** 61.61 63 *e*P P 03 23 40.1 +1.2
OHCM **Honcut** 61.74 62 *e*P P 03 23 40.7 +0.9
PSI **Prapat** 62.28 240 *e*P P 03 23 44.1 +0.3
PSI pmax pmax
comp=Z,22nm,1.1s
PSI **Prapat** 62.28 240 *e*P P 03 23 44.0 +0.3
comp=Z,22nm,1.1s
A19A **Klindworth Far** 62.29 47 P P 03 23 44.4 +1.0
baz=62
MFID **Camas Ranch** 62.29 55 *e*P P 03 23 44.4 +0.8
comp=Z,50nm,1.8s
EGMT **Eagleton** 62.40 48 P P 03 23 44.9 +0.8
baz=62
OBN **Obninsk** 62.47 323 *i* P P 03 23 42.7 -1.6
OBN pmax pmax
comp=Z,38nm,1.2s
OBN **Obninsk** 62.47 323 *i* P P 03 23 42.7 -1.6
B19A **Brinkman Farms** 62.51 47 P P 03 23 45.5 +0.7
baz=62,SNR=8.1
A20A **Cobblestone Ra** 62.72 46 P P 03 23 47.1 +0.9
baz=62
HLID **Hailey** 62.97 54 P P 03 23 49.5 +1.5
baz=63,SNR=5.4
BOZ **Bozeman (W)** 63.05 51 P P 03 23 50.1 +1.7
baz=63,SNR=14
A21A **Bergtoll Ranch** 63.12 46 P P 03 23 50.0 +1.2
baz=63,SNR=6.8
CMB **Columbia Colle** 63.24 62 *e*P P 03 23 50.7 +1.0
CMB pmax pmax
comp=Z,10.0nm,0.9s
CMB **Columbia Colle** 63.24 62 *e*P P 03 23 50.7 +1.0
comp=Z,10nm,0.9s
IMYA **Miami** 63.30 295 *e*P P 03 23 50.5 +0.3
GEYT **Alibeck** 63.43 298 P P 03 23 50.9 0.0
comp=Z,18nm,0.7s,baz=20,slow=4.7,SNR=31
C20A **Veseth Ranch,** 63.48 47 P P 03 23 52.3 +1.2
baz=63,SNR=8.1
BMN **Battle Mountai** 63.49 58 *e*P P 03 23 52.7 +1.3
BMN pmax pmax
comp=Z,17nm,0.8s
BMN **Battle Mountai** 63.49 58 *e*P P 03 23 52.7 +1.3
comp=Z,17nm,0.8s
WAKR **Walker** 63.49 61 *e*P P 03 23 52.7 +1.2
A22A **Carney Farms,** 63.61 45 P P 03 23 53.0 +1.1
baz=63,SNR=8.8
C21A **Desert Coulee** 63.84 47 P P 03 23 54.9 +1.4
baz=64
B22A **Reddig Ranch S** 64.05 46 P P 03 23 55.8 +1.0
baz=64
ISFR **Sfrayin** 64.08 297 *e*P P 03 23 55.6 +0.2
VSR **Storozhevoye** 64.18 319 *e*P P 03 23 54.6 -0.8
VSR pmax pmax
comp=N,10.0nm,0.6s
VSR pmax pmax
comp=E,9.0nm,0.6s
VSR pmax pmax
comp=Z,30nm,0.6s
NV01 **Mina Array Sit** 64.20 61 *e*P P 03 23 57.5 +1.4
NVAR **Mina Array Bea** 64.20 61 P P 03 23 57.8 +1.7
comp=Z,4.6nm,0.6s,baz=234,slow=28,SNR=16
NVAR pP pP 03 25 20.3 +2.3
comp=Z,7.4nm,0.8s,baz=286,slow=7.6,SNR=6.9
YFT **Old Faithful** 64.27 51 *e*P P 03 23 59.5 +3.0
comp=Z,22nm,0.8s
ELK **Elko** 64.40 57 P P 03 23 58.2 +0.8
comp=Z,7.3nm,0.7s,baz=299,slow=4.4,SNR=9.0
ELK **Elko** 64.40 57 *e*P P 03 23 58.8 +1.4
ELK pmax pmax
comp=Z,8.0nm,0.8s
ELK **Elko** 64.40 57 *e*P P 03 23 58.8 +1.4
comp=Z,8.0nm,0.8s
B23A **Brockton** 64.41 45 P P 03 23 58.0 +0.9
baz=64
D21A **La Casta Ranch** 64.42 47 P P 03 23 58.4 +1.2
baz=64
H17A **Grant Village** 64.45 51 P P 03 23 59.4 +1.8
baz=64
H17A **Grant Village** 64.45 51 *e*P P 03 24 00.1 +2.4
comp=Z,21nm,0.8s
A24A **Westby** 64.56 44 P P 03 23 58.8 +0.8
baz=64
RLMT **Red Lodge** 64.63 50 P P 03 24 00.3 +1.6
baz=64
F20A **Billings** 64.73 49 P P 03 24 00.4 +1.2
baz=64
E21A **Keefer Ranch,** 64.75 48 P P 03 24 00.9 +1.6
baz=64
DGMT **Dagmar** 64.78 45 P P 03 24 00.6 +1.2
baz=64,SNR=5.9
DGMT **Dagmar** 64.78 45 *e*P P 03 23 59.6 +0.2
comp=Z,44nm,0.6s
C23A **Lambert** 64.79 46 P P 03 24 00.8 +1.3
baz=64
MOOW **Moose Ponds** 64.80 52 *e*P P 03 24 01.8 +1.9
comp=Z,30nm,1.4s
A25A **Svangstu Ranch** 64.96 44 P P 03 24 01.3 +0.8
baz=65
SNOW **Snow King Moun** 64.99 52 *e*P P 03 24 03.2 +2.1
comp=Z,28nm,1.3s
REDW **Red Top Meadow** 65.01 52 *e*P P 03 24 03.2 +1.9
comp=Z,42nm,1.4s
HVU **Hansel Valley** 65.06 55 *e*P P 03 24 03.2 +1.7
HVU pmax pmax
comp=Z,13nm,0.9s
HVU **Hansel Valley** 65.06 55 *e*P P 03 24 03.2 +1.7
comp=Z,13nm,0.9s
TPH **Tonopah** 65.07 60 *e*P P 03 24 03.2 +1.5
TPH pmax pmax
comp=Z,16nm,0.6s
TPH **Tonopah** 65.07 60 *e*P P 03 24 03.2 +1.5
comp=Z,16nm,0.6s
RCTC **Rector, Farmer** 65.08 63 P P 03 24 02.9 +1.5
baz=65
H19A **Powell** 65.08 50 P P 03 24 02.3 +0.8
baz=65
G20A **Bridger** 65.10 49 P P 03 24 02.3 +0.7
baz=65
TIN **Tinemaha** 65.17 62 P P 03 24 03.7 +1.5
baz=65
D23A **Lindsay** 65.22 46 P P 03 24 03.4 +1.2
baz=65
F21A **Absaloka Mine,** 65.22 48 P P 03 24 03.4 +1.1
baz=65
SMMC **Simmler** 65.30 64 P P 03 24 04.6 +1.7
baz=65
E22A **Miles City** 65.38 47 P P 03 24 04.1 +0.8
baz=65
A26A **Wade Farm, Ken** 65.48 43 P P 03 24 04.8 +0.9
baz=65
VES **Vestal, Richgr** 65.48 63 P P 03 24 04.2 +0.1
baz=65
I19A **Meeteetse** 65.52 51 P P 03 24 05.1 +0.7
baz=65
SPUT **South Promonto** 65.56 55 *e*P P 03 24 06.5 +1.8
comp=Z,20nm,0.8s
G21A **Lodge Grass** 65.60 49 P P 03 24 05.5 +0.7
baz=65
E23A **Ismay** 65.65 47 P P 03 24 06.1 +1.1
baz=65
CWC **Cottonwood Cre** 65.68 62 P P 03 24 06.5 +1.0
baz=66
D24A **Glendive** 65.68 46 P P 03 24 06.5 +1.3
baz=65,SNR=5.7
PKM **Peak Mountain** 65.69 64 P P 03 24 07.0 +1.5
baz=66
F22A **Rosebud** 65.69 48 P P 03 24 05.8 +0.6
baz=65
GRAC **Grapevine Rang** 65.71 61 P P 03 24 07.2 +1.6
baz=66,SNR=7.6
H20A **Greybull** 65.72 50 P P 03 24 06.1 +0.6
baz=65
LEM **Lembang** 65.75 226 P P 03 24 05.9 -0.2
comp=Z,16nm,0.3s,baz=72,slow=10,SNR=4.2
C25A **Freed Ranch, W** 65.77 45 P P 03 24 06.6 +0.9
baz=66
B26A **Jensen Ranch,** 65.77 44 P P 03 24 06.5 +0.8
baz=66
A27A **Ledoux Ranch,** 65.81 43 P P 03 24 06.7 +0.8
baz=66
R11A **Troy Canyon, C** 65.83 59 P P 03 24 07.6 +1.1
baz=66,SNR=7.3
HWUT **Hardware Ranch** 65.84 54 *e*P P 03 24 08.2 +1.8
comp=Z,29nm,1.0s
NB2 **NORSAR Subarra** 65.88 339 P P 03 24 05.2 -1.0
comp=Z,5.4nm,0.7s,baz=28,slow=6.5
NB2 **NORSAR Subarra** 65.88 339 P P 03 24 05.2 -1.0
baz=28,slow=6.5
NB200 **NORSAR Array S** 65.88 339 *e*P P 03 24 05.1 -1.1
NOA **NORSAR Array B** 65.88 339 P P 03 24 05.1 -1.1
comp=Z,3.1nm,0.5s,baz=29,slow=6.7,SNR=23
NOA **NORSAR Array B** 65.88 339 P P 03 24 05.1 -1.1
NOA pmax pmax
comp=Z,3.0nm,0.5s
ISA **Isabella** 65.97 63 P P 03 24 07.5 +0.3
baz=66
J19A **Crowheart** 66.03 51 P P 03 24 08.7 +1.1
baz=66,SNR=5.9
I20A **Worland** 66.03 50 P P 03 24 08.7 +1.2
baz=66
SBC **Santa Barbara** 66.06 65 P P 03 24 09.4 +1.7
baz=66
G22A **Birney** 66.06 48 P P 03 24 08.6 +0.9
baz=66
NC602 **NORSAR Array S** 66.07 339 *e*P P 03 24 06.0 -1.3
E24A **Baker** 66.09 46 P P 03 24 08.2 +0.4
baz=66
H21A **Big Horn, Sher** 66.11 49 P P 03 24 08.9 +0.9
baz=66,SNR=6.0
PD31 **Pinedale Array** 66.11 52 *e*P P 03 24 08.1 -0.1
PD31 *e*pP pP 03 25 31.4 +0.7
PDAR **Pinedale Array** 66.11 52 P P 03 24 08.1 -0.1
comp=Z,17nm,0.8s,baz=0.1,slow=2.7,SNR=21
PDAR pP pP 03 25 31.4 +0.7
comp=Z,4.2nm,0.9s,baz=353,slow=3.9,SNR=4.5
DUG **Dugway** 66.13 56 *e*P P 03 24 09.9 +1.7
DUG pmax pmax
comp=Z,25nm,0.8s
DUG **Dugway** 66.13 56 P P 03 24 09.7 +1.4
baz=66,SNR=11
DUG **Dugway** 66.13 56 *e*P P 03 24 09.9 +1.7
comp=Z,26nm,0.8s
D25A **Fairfield** 66.14 45 P P 03 24 09.0 +0.9
baz=66
F23A **Volborg** 66.15 48 P P 03 24 08.9 +0.7
baz=66,SNR=5.5
B27A **Peters Farms,** 66.20 43 P P 03 24 09.4 +1.0
baz=66
C26A **Wahner Farm, P** 66.23 44 P P 03 24 10.0 +1.4
baz=66,SNR=8.2
A28A **Rude Farm, Bot** 66.28 42 P P 03 24 09.7 +0.8
baz=66
MPMC **Manual Prospec** 66.28 62 P P 03 24 10.6 +1.2
baz=66,SNR=6.1
FURC **Furnace Creek,** 66.37 61 P P 03 24 11.1 +1.5
baz=66,SNR=8.4
TPNV **Topopah Spring** 66.40 61 P P 03 24 11.4 +1.3
baz=66,SNR=6.8
J20A **Shoshoni** 66.47 51 P P 03 24 11.4 +1.1
baz=66
H22A **Clearmont** 66.48 49 P P 03 24 11.1 +0.8
baz=66
G23A **Biddle** 66.53 48 P P 03 24 11.4 +0.8
baz=66
F24A **Ekalaka** 66.53 47 P P 03 24 11.4 +0.8
baz=66
OSI **Osito Adit** 66.54 64 P P 03 24 11.7 +0.9
baz=66
I21A **Big Trails, Te** 66.55 50 P P 03 24 12.1 +1.3
baz=66,SNR=11
LRMC **Laurel Mountai** 66.56 63 P P 03 24 12.0 +1.0
baz=66
E25A **Miller Ranch,** 66.57 46 P P 03 24 10.9 +0.2
baz=66
B28A **Dugan Ranch, T** 66.57 43 P P 03 24 11.7 +1.0
baz=66
C27A **Sayler Ranch,** 66.59 44 P P 03 24 11.9 +1.0
baz=66
D26A **Manning** 66.64 45 P P 03 24 11.6 +0.4
baz=66
NLU **North Lily Min** 66.70 56 *e*P P 03 24 13.5 +1.6
comp=Z,28nm,0.8s
A29A **Manning Farm,** 66.73 42 P P 03 24 12.8 +1.1
baz=66
GOF **Gofitskoye** 66.77 312 *e*P P 03 24 10.0 -2.0
EDW2 **Edwards Air Fo** 66.79 63 P P 03 24 13.7 +1.3
baz=67,SNR=14
J21A **Lysite** 66.80 50 P P 03 24 13.3 +0.8
baz=66
MPU **Maple Canyon** 66.90 55 *e*P P 03 24 14.6 +1.4
comp=Z,77nm,0.7s
I22A **9 Mile Ranch,** 66.91 50 P P 03 24 12.6 -0.5
baz=67
IGLO **Ghaloghah** 66.91 299 *e*P P 03 24 13.4 +0.1
F25A **Bowman** 66.95 46 P P 03 24 13.9 +0.7
baz=67
H23A **Clabaugh Cattl** 66.98 48 P P 03 24 14.1 +0.7
baz=67
B29A **Wagenman Farm,** 67.02 42 P P 03 24 14.1 +0.6
baz=67
DECC **Green Verdugo** 67.02 64 P P 03 24 14.7 +0.9
baz=67
E26A **Carlson Angus** 67.04 45 P P 03 24 14.5 +0.8
baz=67
C28A **Hausauer Farms** 67.10 43 P P 03 24 14.7 +0.6
baz=67
A30A **Hoffart Farm,** 67.13 41 P P 03 24 14.4 +0.2
baz=67
GSC **Goldstone** 67.21 62 P P 03 24 15.8 +0.8
baz=67,SNR=5.8
H24A **Dirks Ranch, A** 67.27 48 P P 03 24 15.5 +0.3
baz=67
SHPR **Sheep Range** 67.34 60 *e*P P 03 24 17.5 +1.6
SHPR *e*pP pP 03 25 44.2 +5.5
MDND **Maddock** 67.36 43 P P 03 24 16.4 +0.8
baz=67,SNR=5.4
MDND **Maddock** 67.36 43 *e*P P 03 24 16.5 +0.9
comp=Z,70nm,1.2s
RRX **Edison Barstow** 67.38 63 P P 03 24 17.6 +1.6
baz=67
F26A **Lodgepole** 67.39 46 P P 03 24 16.9 +1.0
baz=67
D28A **Regan** 67.40 44 P P 03 24 16.8 +0.9
baz=67
BFSC **Mount Baldy Ra** 67.43 64 P P 03 24 17.2 +0.7
baz=67,SNR=5.2
B30A **Myrvik Farm, E** 67.48 42 P P 03 24 16.9 +0.5
baz=67,SNR=7.4
E27A **Carson** 67.49 45 P P 03 24 17.2 +0.6
baz=67
G25A **Newell** 67.50 47 P P 03 24 17.2 +0.5
baz=67
IANJ **Anjilo** 67.58 298 *e*P P 03 24 17.9 +0.5
TUQ **Turquoise Moun** 67.64 62 P P 03 24 19.0 +1.3
baz=67,SNR=6.0
TMUT **Trail Mountain** 67.64 56 *e*P P 03 24 19.5 +1.6
comp=Z,27nm,0.7s
F27A **Lemmon** 67.68 46 P P 03 24 18.4 +0.7
baz=67
K22A **Casper** 67.77 50 P P 03 24 19.0 +0.5
baz=68
KBZ **Khabaz** 67.79 311 P P 03 24 18.6 +0.3
comp=Z,37nm,0.8s,baz=64,slow=4.4,SNR=67
E28A **Huff** 67.80 44 P P 03 24 18.6 +0.3
baz=68
HEC **Hector,Ludlow** 67.81 62 P P 03 24 20.0 +1.2
baz=68,SNR=6.2
G26A **Maurine** 67.83 46 P P 03 24 19.3 +0.7
baz=68,SNR=5.1
H25A **Fruitdale** 67.83 47 P P 03 24 19.0 +0.3
baz=68
BBRC **Big Bear Solar** 67.86 63 P P 03 24 20.4 +1.2
baz=68
I24A **Kuemmerle Ranc** 67.87 49 P P 03 24 19.0 0.0
baz=68
ZEI **Tsey** 67.96 310 *e*P P 03 24 19.4 -0.2
ZEI pmax pmax
comp=Z,71nm,0.6s
DUS **Dusheti** 68.04 309 P P 03 24 20.0 -0.1
IFIR **Firoozkooh** 68.14 299 *e*P P 03 24 21.4 +0.5
DGRG **David-gareji** 68.15 308 P P 03 24 20.9 +0.3
MURC **Murrieta** 68.15 64 P P 03 24 21.6 +0.9
baz=68
K23A **Bowen Ranch, D** 68.16 50 P P 03 24 21.7 +0.9
baz=68
ILAS **Lasjerd** 68.20 299 *e*P P 03 24 21.8 +0.5
I25A **Rochford** 68.20 48 P P 03 24 21.6 +0.5
baz=68
SEAG **Tbilisi Sea** 68.22 309 P P 03 24 20.6 -0.4
GMRC **Granite Mounta** 68.25 62 P P 03 24 22.1 +0.6
baz=68
F28A **McLaughlin** 68.28 45 P P 03 24 22.2 +0.8
baz=68
TBLG **Delisi** 68.28 309 P P 03 24 21.7 +0.2
TBLG **Delisi** 68.28 309 *e*P P 03 24 21.6 +0.2
E29A **Napoleon** 68.29 44 P P 03 24 21.4 0.0
baz=68
D30A **Buchanan** 68.29 43 P P 03 24 21.8 +0.4
baz=68
ONI **Oni** 68.33 310 P P 03 24 22.6 +0.8
H27A **Howes** 68.56 47 P P 03 24 23.7 +0.6
baz=68
BELC **Belle Mtn. Jos** 68.59 63 P P 03 24 24.3 +0.7
baz=68
PFO **Pinyon Flat Ob** 68.59 63 *i* P P 03 24 25.6 +2.0
PFO **Pinyon Flat Ob** 68.59 63 P P 03 24 24.3 +0.7
baz=68
IDMV **Damavand** 68.60 300 *e*P P 03 24 24.2 +0.3
J25A **Sunshine Ranch** 68.62 48 P P 03 24 23.5 -0.1
baz=68
I26A **New Underwood** 68.62 47 P P 03 24 24.5 +0.9
baz=68
O20A **White River Ci** 68.66 53 P P 03 24 24.7 +0.7
baz=68
E30A **Jud** 68.68 43 P P 03 24 24.0 +0.3
baz=68
AGMN **Agassiz Nation** 68.68 40 P P 03 24 23.5 -0.3
baz=68
109C **Camp Elliot, M** 68.70 64 P P 03 24 25.1 +1.1
baz=68
AKASG **Malin Array Be** 68.72 324 P P 03 24 22.7 -1.2
comp=Z,11nm,0.5s,baz=35,slow=6.3,SNR=32
AKASG **Malin Array Be** 68.72 324 P P 03 24 22.7 -1.2
AKASG pmax pmax
comp=Z,11nm,0.5s
AKBB **Malin Array Si** 68.72 324 *e*P P 03 24 22.7 -1.2
AKBB **Malin Array Si** 68.72 324 *e*P P 03 24 22.7 -1.2
KIEV **Kiev** 68.74 324 ||*i*P P 03 24 22.7 -1.3
KIEV **Kiev** 68.74 324 *e*P P 03 24 22.5 -1.5
comp=Z,36nm,1.0s
AK11 **Malin Array Si** 68.76 324 *e*P P 03 24 22.5 -1.6
G28A **Parade** 68.80 46 P P 03 24 25.3 +0.8
baz=68
IRM **Iron Mountain** 68.98 62 P P 03 24 27.3 +1.4

baz=69,SNR=6.3
I27A Quinn 68.99 47 P P 03 24 26.3 +0.6
baz=69
J26A Sides Ranch, S 69.04 48 P P 03 24 26.4 +0.3
baz=69
H28A Mission Ridge 69.04 46 P P 03 24 26.6 +0.6
baz=69,SNR=5.8
IGZV Ghazvin 69.08 301 eP P 03 24 27.4 +0.7
WRAB Tennant Creek 69.09 195⇑iP P 03 24 26.5 0.0
WRAB pmax pmax
comp=Z,41nm,0.7s
WRAB Tennant Creek 69.09 195 eP P 03 24 26.2 -0.2
comp=Z,18nm,0.8s
WRA Warramunga Arr 69.11 195 P P 03 24 26.9 +0.4
comp=Z,18nm,0.7s,baz=10.0,slow=6.6,SNR=120
WRA Warramunga Arr 69.11 195 eP P 03 24 27.0 +0.4
WRA Warramunga Arr 69.11 195 eP P 03 24 27.0 +0.4
BC3 Big Chuckawall 69.15 63 P P 03 24 28.0 +1.0
baz=69,SNR=5.8
AKH Akhalkalaki 69.16 309 P P 03 24 28.0 +1.0
G29A Hoven 69.18 45 P P 03 24 27.3 +0.4
baz=69
N23A Red Feather La 69.34 51 P P 03 24 28.9 +0.7
baz=69
PV09 Paradox Valley 69.35 55 eP P 03 24 29.6 +1.2
GNI Garni 69.42 307d iP P 03 24 29.4 +0.9
GNI pmax pmax
comp=Z,27nm,1.3s
GNI Garni 69.42 307 eP P 03 24 29.1 +0.6
comp=Z,16nm,0.8s
K26A Motz Farm, Whi 69.44 49 P P 03 24 29.2 +0.7
baz=69
H29A Onida 69.47 45 P P 03 24 29.2 +0.6
baz=69
I28A Midland 69.47 46 P P 03 24 29.2 +0.6
baz=69
PDMCI Parker Dam,Lak 69.48 61 P P 03 24 29.5 +0.7
baz=69,SNR=6.5
PV10 Paradox Valley 69.49 55 eP P 03 24 30.8 +1.7
IHRS Heris 69.49 305 eP P 03 24 29.3 +0.2
G30A Faulkton 69.59 44 P P 03 24 29.7 +0.3
baz=69
J27A Elkhorn Farm, 69.61 47 P P 03 24 30.3 +0.7
baz=69
Y12C Blythe 69.64 62 P P 03 24 31.1 +1.3
baz=69,SNR=6.8
PV05 Paradox Valley 69.67 55 eP P 03 24 31.7 +1.5
J28A Allard Ranch, 69.87 47 P P 03 24 32.0 +0.9
baz=70,SNR=7.6
I29A Vivian Onida 69.87 46 P P 03 24 31.6 +0.6
baz=70
K27A Flueckinger Fa 69.91 48 P P 03 24 32.4 +1.0
baz=70
M25A Palm-Egli Farm 69.92 50 P P 03 24 32.6 +1.0
baz=70
IMRD Marand 69.93 306 eP P 03 24 31.7 0.0
GLA Glamis 69.95 63 P P 03 24 33.5 +1.8
baz=70
PALK Pallekele 70.17 258 iP P 03 24 34.0 +0.7
WUAZ Wupatki 70.22 59 P P 03 24 35.2 +1.8
baz=70
ISCO Idaho Springs 70.30 52 P P 03 24 35.3 +1.3
baz=70,SNR=6.9
IZEF Zefreh 70.31 297 eP P 03 24 34.3 +0.1
J29A Okreek 70.32 46 P P 03 24 34.7 +0.9
baz=70
L27A T5 Ranch, Ells 70.32 48 P P 03 24 34.6 +0.7
baz=70
K28A Ten Mile Ranch 70.33 47 P P 03 24 34.9 +1.0
baz=70
M26A McRoberts Ranc 70.36 49 P P 03 24 35.0 +0.8
baz=70
I30A Oacoma 70.37 46 P P 03 24 34.4 +0.3
baz=70,SNR=5.8
IKLH Kolahrood 70.46 298 eP P 03 24 35.2 +0.1
IAZR Azarshahr 70.53 305 eP P 03 24 35.9 +0.5
MVCO Mesa Verde 70.62 56 P P 03 24 36.8 +0.8
baz=70,SNR=6.7
MVCO Mesa Verde 70.62 56 eP P 03 24 37.1 +1.2
comp=Z,31nm,0.8s
L28A Connealy Angus 70.78 48 P P 03 24 37.3 +0.7
baz=70
J30A Dallas 70.78 46 P P 03 24 36.9 +0.3
baz=70
N26A Koester Ranch, 70.79 50 P P 03 24 37.2 +0.4
baz=70
EYMN Ely 70.81 38 P P 03 24 36.2 -0.3
baz=70,SNR=5.0
S22A 4UR Ranch, Cre 71.15 54 P P 03 24 40.2 +1.1
baz=71,SNR=7.1
N27A Anderson Farm, 71.16 50 P P 03 24 39.7 +0.8
baz=71,SNR=5.1
Q24A Divide 71.16 52 P P 03 24 40.0 +0.8
baz=71
O26A Horse Wrangler 71.18 50 P P 03 24 39.5 +0.4
baz=71
K30A Basset 71.22 46 P P 03 24 40.1 +0.9
baz=71
L29A Maesberg Ranch 71.25 47 P P 03 24 40.3 +0.9
baz=71
M28A Bar X Bar Ranc 71.31 48 P P 03 24 40.7 +0.9
baz=71
OGNE Ogallala 71.31 49 P P 03 24 40.5 +0.7
baz=71,SNR=7.5
LVV L'vov 71.43 326 eP P 03 24 40.0 -0.2
W18A Petrified Fore 71.44 58 P P 03 24 41.8 +1.1
baz=71
O27A Beecher Island 71.65 50 P P 03 24 42.6 +0.8
baz=71
L30A Spencer Herefo 71.71 47 P P 03 24 42.8 +0.7
baz=71
N28A Pribbeno Ranch 71.75 49 P P 03 24 42.6 +0.2
baz=72
ECSD EROS Data Cent 71.83 44 P P 03 24 42.8 0.0
baz=72,SNR=6.6
SDCO Great Sand Dun 71.86 53 P P 03 24 44.3 +0.9
baz=72
SDCO Great Sand Dun 71.86 53 eP P 03 24 43.7 +0.3
comp=Z,13nm,1.1s
214A Organ Pipe Nat 71.92 62 P P 03 24 44.4 +0.9
baz=72
L31A Butterfield Fa 71.97 46 P P 03 24 44.0 +0.4
baz=72,SNR=5.2
Q26A Hugo 72.05 51 P P 03 24 44.7 +0.4
baz=72
O28A Krutsinger Ran 72.05 50 P P 03 24 44.6 +0.5
baz=72
KWP Kalwaria Pacla 72.08 327 eP P 03 24 43.7 -0.3
KWP Kalwaria Pacla 72.08 327 eP P 03 24 43.8 -0.3
SPMN St. Paul 72.39 41 P P 03 24 45.9 0.0
baz=72
KSCO Kaye Shedlock' 72.45 51 P P 03 24 46.8 +0.2
baz=72
IDHR Dehrash 72.46 303 eP P 03 24 46.0 -0.8
P28A Saint Francis 72.48 50 P P 03 24 47.0 +0.3
baz=72
M31A Lambtecht Ranc 72.53 47 P P 03 24 47.4 +0.5
baz=72
R26A Arlington 72.55 52 P P 03 24 47.5 +0.4
baz=72,SNR=9.2
O29A 4D Ranch, Culb 72.55 49 P P 03 24 47.5 +0.5
baz=72
OJC Ojcow 72.63 329 eP P 03 24 46.6 -0.7
OJC Ojcow 72.63 329 eP P 03 24 46.6 -0.7
OJC Ojcow 72.63 329 eP P 03 24 46.6 -0.7
BUR04 Bucovina Ar. S 72.77 324 eP P 03 24 47.4 -0.8
BURAR Bucovina Array 72.77 324⇑iP P 03 24 48.0 -0.3
STHS Stebnicka Huta 72.79 327 eP P 03 24 48.4 +0.2
STHS pmax pmax
comp=Z,5.0nm,0.8s
STHS Stebnicka Huta 72.79 327 eP P 03 24 48.4 +0.2
AS01 Alice Springs 72.81 194 eP P 03 24 49.8 +1.2
KOLS Kolonicke sedl 72.82 326 eP P 03 24 48.0 -0.4
KOLS pmax pmax
comp=Z,5.0nm,0.9s
KOLS Kolonicke sedl 72.82 326 eP P 03 24 48.0 -0.4
Q28A Sharon Springs 72.82 50 P P 03 24 49.3 +0.6
baz=72
AS12 Alice Springs 72.82 194 eP P 03 24 50.0 +1.4
ASAR Alice Springs 72.82 194 P P 03 24 50.0 +1.4
comp=Z,6.6nm,0.5s,baz=7.8,slow=5.8,SNR=81
ASAR Alice Springs 72.82 194 P P 03 24 50.1 +1.4
ASAR pmax pmax
comp=Z,7.0nm,0.5s
O30A MW Ranch, Wils 72.88 48 P P 03 24 48.8 -0.1
baz=73
BGNE Belgrade 72.89 46 P P 03 24 49.5 +0.6
baz=73
T25A Trinidad 72.90 53 P P 03 24 50.1 +0.8
baz=73,SNR=5.8
R27A Eads 72.90 51 P P 03 24 49.7 +0.5
baz=73
N31A Bailey Ranch, 72.94 47 P P 03 24 49.6 +0.3
baz=73
NIE Niedzica 73.13 328 eP P 03 24 50.1 -0.1
NIE Niedzica 73.13 328 eP P 03 24 50.2 0.0
M33A Taylor Creek F 73.22 46 P P 03 24 51.4 +0.6
baz=73
O31A Woolen Ranch, 73.27 48 P P 03 24 51.5 +0.4
baz=73
P30A Selden 73.27 49 P P 03 24 51.7 +0.5
baz=73
L34A Svendsen Farm, 73.31 45 P P 03 24 51.4 +0.1
baz=73
N32A Stulken Farm, 73.31 47 P P 03 24 51.2 -0.1
baz=73
T26A Comanche Natio 73.31 53 P P 03 24 51.7 +0.1
baz=73,SNR=7.5
R28A Tribune 73.37 51 P P 03 24 51.9 0.0
baz=73
Q29A Oakley 73.39 50 P P 03 24 52.2 +0.3
baz=73
ANMO Albuquerque 73.40 56⇓eP P 03 24 53.3 +1.1
ANMO pmax pmax
comp=Z,46nm,1.0s
LAZ Ladron 73.42 57 eP P 03 24 54.1 +1.7
CFR Carcaliu 73.55 321⇑iP P 03 24 52.0 -0.6
M34A Aspy Farms, Fr 73.57 45 P P 03 24 53.4 +0.6
baz=73
L35A Bielow Farm, R 73.58 44 P P 03 24 52.8 -0.2
baz=73
PLOR Plostina 73.63 322⇓iP P 03 24 58.6 +5.5
R29A Marienthal 73.66 50 P P 03 24 53.8 +0.3
baz=73
UPC Upice 73.67 331 eP P 03 24 53.0 -0.2
UPC Upice 73.67 331 eP P 03 24 53.0 -0.2
DPC Dobruska-Polom 73.70 331 iP P 03 24 53.4 -0.1
DPC Dobruska-Polom 73.70 331 iP P 03 24 53.4 -0.1
O32A Brockman Farm, 73.70 47 P P 03 24 53.7 0.0
baz=73
Q30A Quinter 73.71 49 P P 03 24 54.3 +0.5
baz=73
P31A Stockton 73.72 48 P P 03 24 54.1 +0.3
baz=73
MORC Moravsky Berou 73.78 330 eP P 03 24 53.7 -0.3
MORC pmax pmax
comp=Z,29nm,0.7s
MORC Moravsky Berou 73.78 330 eP P 03 24 53.7 -0.3
comp=Z,30nm,0.7s
KECS Kecovo 73.85 327 eP P 03 24 53.8 -0.5
KECS pmax pmax
comp=Z,3.0nm,0.9s
KECS Kecovo 73.85 327 eP P 03 24 53.8 -0.5
T27A Campo 73.85 52 P P 03 24 55.0 +0.2
baz=74
S28A Manter 73.89 51 P P 03 24 55.0 +0.1
baz=74,SNR=5.8
CLL Collm 73.92 333 iP P 03 24 53.4 -1.2
CLL pmax pmax
comp=Z,6.0nm,0.6s
CLL Collm 73.92 333 iP P 03 24 53.4 -1.2
CLL Collm 73.92 333 eP P 03 24 53.3 -1.2
comp=Z,12nm,1.0s
CLL Collm 73.92 333 iP P 03 24 53.4 -1.2
comp=Z,6.0nm,0.6s
M35A Neola 74.02 45 P P 03 24 55.9 +0.5
baz=74,SNR=5.3
P32A Huiting Farm, 74.03 48 P P 03 24 55.3 -0.2
baz=74
DOPR Dopca 74.05 323⇓iP P 03 24 56.0 +0.5
CBKS Cedar Bluff 74.08 49 P P 03 24 55.8 -0.1
baz=74
Q31A Ellis 74.10 49 P P 03 24 56.3 +0.3
baz=74
N34A Lincoln 74.12 46 P P 03 24 56.0 0.0
baz=74
T28A Walsh 74.13 52 P P 03 24 56.5 +0.3
baz=74
R30A Dighton 74.20 50 P P 03 24 56.6 0.0
baz=74
MLR Muntele Rosu 74.21 322⇑iP P 03 24 56.7 +0.1
S29A Ulysses 74.27 51 P P 03 24 57.1 0.0
baz=74
U27A Thompson Grove 74.28 53 P P 03 24 57.2 0.0
baz=74
DRGR 74.42 325⇑iP P 03 24 57.6 -0.1
121A Cookes Peak, D 74.43 59 P P 03 25 00.0 +1.9
baz=74
VRAC Vranov 74.50 330⇑iP P 03 24 58.5 +0.4
N35A Tabor 74.51 45 P P 03 24 58.8 +0.6
baz=74
O34A Beatrice 74.53 46 P P 03 24 58.5 +0.1
baz=74
Q32A Meitler Ranch, 74.53 48 P P 03 24 57.3 -1.1
baz=74
PSZ Piszkesteto 74.53 327 eP P 03 24 58.3 -0.1
PSZ pmax pmax
comp=Z,13nm,0.9s
PSZ Piszkesteto 74.53 327⇑iP P 03 24 58.6 +0.3
PSZ Piszkesteto 74.53 327 eP P 03 24 58.3 -0.1
comp=Z,13nm,0.9s
MSAB Monastry St. A 74.55 320⇑iP P 03 24 58.8 +0.4
PRU Pruhonice 74.59 331 iP P 03 24 58.2 -0.3
PRU Pruhonice 74.59 331 iP P 03 24 58.2 -0.3
PRU Pruhonice 74.59 331 iP P 03 24 58.2 -0.3
S30A Montezuma 74.60 50 P P 03 24 59.2 +0.3
baz=74
VOIR 74.62 323⇑iP P 03 24 59.2 +0.3
U28A Mallet 74.63 52 P P 03 24 59.5 +0.4
baz=74
PSN Preselentsi 74.73 320⇑iP P 03 25 00.0 +0.6
V27A Dan Oppiter Fa 74.77 53 P P 03 25 00.4 +0.4
baz=74
SCIA State Center 74.82 43 eP P 03 24 59.9 -0.1
comp=Z,35nm,0.8s
O35A Humboldt 74.85 46 P P 03 25 00.0 -0.1
baz=74
TREC Trest 74.88 331 iP P 03 25 00.0 -0.2
TREC Trest 74.88 331 iP P 03 25 00.0 -0.2
Q33A Connelly Farm, 74.89 48 P P 03 24 60.0 -0.5
baz=75,SNR=6.3
S32A Newby Ranch, P 75.33 49 P P 03 25 03.0 +0.1
baz=75
U30A WK&E Inc. Balk 75.34 51 P P 03 25 03.3 +0.2
baz=75
R33A Olander Ranch, 75.35 48 P P 03 25 02.8 -0.2
baz=75
BR101 Keskin Array S 75.36 314 eP P 03 25 03.0 -0.3
BRTR Keskin Array B 75.36 314 P P 03 25 03.0 -0.3
comp=Z,9.0nm,0.8s,baz=74,slow=4.7,SNR=57
BRTR Keskin Array B 75.36 314 P P 03 25 03.0 -0.3
BRTR pmax pmax
comp=Z,9.0nm,0.8s
V29A Stinnett 75.38 52 P P 03 25 03.8 +0.4
baz=75
Q34A Chapman 75.39 47 P P 03 25 03.0 -0.2
baz=75
O36A Bolckow 75.40 45 P P 03 25 03.5 +0.2
baz=75
KSU1 Kansas State U 75.41 47 P P 03 25 03.7 +0.3
baz=75
GZR Gura Zlata 75.56 324⇓iP P 03 25 03.8 -0.4
KHC Kasperske Hory 75.64 332 eP P 03 25 04.1 -0.4
KHC Kasperske Hory 75.64 332 eP P 03 25 03.3 -1.3
KHC pmax pmax
comp=Z,6.0nm,1.0s
KHC Kasperske Hory 75.64 332 eP P 03 25 03.3 -1.3
KHC Kasperske Hory 75.64 332 eP P 03 25 03.2 -1.3
comp=Z,6.1nm,1.0s
ANTO Ankara 75.66 315 eP P 03 25 05.0 +0.2
ANTO pmax pmax
comp=Z,23nm,0.7s
ANTO Ankara 75.66 315⇑iP P 03 25 05.4 +0.6
ANTO Ankara 75.66 315 eP P 03 25 05.0 +0.2
comp=Z,23nm,0.7s
BR231 Keskin MP Arra 75.69 315 eP P 03 25 03.7 -1.3
P36A Good Intent, A 75.69 46 P P 03 25 05.2 +0.2
baz=75
T32A Huddler Ranch, 75.74 50 P P 03 25 05.7 +0.4
baz=76
BZS Buzias 75.83 325⇑iP P 03 25 05.0 -0.5
GEC2 GERESS Array S 75.86 331 eP P 03 25 05.3 -0.5
GEC2 GERESS Array S 75.86 331 eP P 03 25 05.2 -0.5
GERES GERESS Array B 75.86 331 P P 03 25 05.2 -0.5
comp=Z,1.0nm,0.5s,baz=39,slow=5.4,SNR=12
GERES GERESS Array B 75.86 331 P P 03 25 05.3 -0.5
GERES pmax pmax
comp=Z,1.0nm,0.5s
U31A Nine Bar Ranch 75.88 51 P P 03 25 06.8 +0.7
baz=76
W29A Amraillo 75.89 53 P P 03 25 07.7 +1.4
baz=76
S33A Kaszmaul Farm, 75.89 49 P P 03 25 06.1 +0.1
baz=76
CONA Conrad Observa 75.94 330⇑iP P 03 25 06.7 +0.4
comp=Z,6.7nm,0.8s
X28A Dimmitt 76.05 54 P P 03 25 07.6 +0.5
baz=76
AMTX Amarillo 76.05 53 P P 03 25 07.7 +0.6
baz=76
AMTX Amarillo 76.05 53 eP P 03 25 07.7 +0.6
comp=Z,58nm,1.4s
GLMI Grayling 76.12 36 eP P 03 25 06.9 -0.3
comp=Z,62nm,0.9s
MSTX Muleshoe 76.15 54 P P 03 25 08.5 +0.7
baz=76
T33A Patterson Ranc 76.16 49 P P 03 25 07.9 +0.3
baz=76
R35A Emporia Munici 76.22 47 P P 03 25 08.4 +0.5
baz=76
V31A Spring Creek L 76.34 51 P P 03 25 09.4 +0.7
baz=76
X29A Tulia 76.37 53 P P 03 25 09.6 +0.7
baz=76
W30A Crocket Farms 76.41 52 P P 03 25 09.8 +0.7
baz=76
PKSM Moragy 76.44 327⇓iP P 03 25 08.0 -0.9
Y28A McKinney Farm, 76.48 54 P P 03 25 10.3 +0.7
baz=76
MOA Mollin 76.54 331⇑iP P 03 25 09.6 0.0
comp=Z,4.0nm,0.9s
R36A Gordon, Harris 76.56 47 P P 03 25 09.9 +0.1
baz=76
Q37A Longview Farm, 76.63 46 P P 03 25 10.2 0.0
baz=76
ARSA Arzberg 76.64 329⇓iP P 03 25 09.9 -0.2
comp=Z,3.7nm,1.0s
U33A Lingo Farm, Me 76.73 50 P P 03 25 11.2 +0.5
baz=76,SNR=8.3
W31A Holland Ranch, 76.74 52 P P 03 25 11.7 +0.9
baz=76
T34A McClaskey Farm 76.74 49 P P 03 25 11.0 +0.2
baz=76
V32A Arapaho 76.80 51 P P 03 25 12.2 +1.0
baz=76
X30A Coker Ranch, T 76.81 53 P P 03 25 12.3 +1.0
baz=77
Z28A Tucker Farm, M 76.88 55 P P 03 25 12.5 +0.7
baz=77
BCLA Clavier 76.89 337 P P 03 25 10.9 -0.5
R37A Teagarden Farm 76.90 46 P P 03 25 11.8 +0.1
baz=77
S36A Lake Cedric, C 76.99 47 P P 03 25 12.3 +0.2
baz=77,SNR=6.1
U34A Anderson Ranch 77.02 49 P P 03 25 12.8 +0.5
baz=77
V33A Lossen Ranch, 77.11 50 P P 03 25 13.4 +0.5
baz=77,SNR=5.5
X31A McDonald Ranch 77.14 52 P P 03 25 13.4 +0.3
baz=77
W32A Sentinel 77.15 51 P P 03 25 14.1 +1.0
baz=77,SNR=5.6
T35A Sooner Cattle 77.16 48 P P 03 25 13.2 +0.1
baz=77
Y30A Stafford Cattl 77.23 53 P P 03 25 14.2 +0.5
baz=77
Z29A Hungry Hill Ra 77.27 54 P P 03 25 15.0 +1.1
baz=77,SNR=5.6
SOKA Soboth 77.31 329⇑iP P 03 25 13.4 -0.5
comp=Z,5.9nm,0.9s
128A Castleberry Fa 77.33 55 P P 03 25 15.1 +0.9
baz=77,SNR=9.2
S37A Fort Scott 77.33 47 P P 03 25 14.0 -0.1
baz=77
T36A Boggs Farm, Ca 77.36 48 P P 03 25 14.7 +0.4
baz=77,SNR=5.1
V34A Guthrie 77.50 50 P P 03 25 15.6 +0.6
baz=77,SNR=7.0
Y31A Rekieta Farm, 77.51 53 P P 03 25 15.4 +0.3
baz=77
KBA Koelnbreinsper 77.52 331⇑iP P 03 25 15.4 +0.3
comp=Z,7.1nm,0.8s
W33A Caddo, Fort Co 77.53 51 P P 03 25 16.0 +0.7
baz=77
Z30A Sanderson Ranc 77.56 54 P P 03 25 16.0 +0.5
baz=77,SNR=6.8
228A UT Block 9, Go 77.65 55 P P 03 25 16.7 +0.7
baz=77,SNR=5.8
129A Stewart Farms, 77.66 55 P P 03 25 16.6 +0.5
baz=77
RABH Abou Rabah 77.67 308 eP PcP 03 25 30.3 +5.8
X32A Elmer 77.67 52 P P 03 25 16.6 +0.6
baz=77,SNR=5.6
HDIL Hopedale 77.67 42 P P 03 25 16.3 +0.4
baz=77
VTS Vitosha 77.71 322⇑iP P 03 25 16.2 -0.1
DIVS Divibare 77.73 325⇑iP P 03 25 15.6 -0.6
T37A Cheneyville 18 77.79 47 P P 03 25 16.9 +0.3
baz=78
ROOS tl_alroos 77.83 308 eP P 03 25 15.5 -1.4
W34A Bridge Creek, 77.83 50 P P 03 25 17.8 +1.0
baz=78
V35A Meyer Ranch, C 77.90 49 P P 03 25 18.0 +0.8
baz=78
WTTA Wattenberg 77.91 332⇑iP P 03 25 16.9 -0.4
comp=Z,6.8nm,0.7s
Y32A R-V Farms, Ver 77.91 52 P P 03 25 17.7 +0.4
baz=78,SNR=5.4
U36A Oologah 77.96 48 P P 03 25 18.0 +0.5
baz=78
X33A Lawton 77.99 51 P P 03 25 18.5 +0.8
baz=78
MOTA Moosalm 78.00 332⇑iP P 03 25 17.5 -0.2
comp=Z,4.2nm,0.9s
Z31A Sharp Cattle R 78.06 53 P P 03 25 18.7 +0.5
baz=78,SNR=6.8
130A Snyder 78.18 54 P P 03 25 19.2 +0.4
baz=78
229A Bryant Ranch, 78.19 55 P P 03 25 19.3 +0.3
baz=78,SNR=5.7
X34A Smith Ranch, M 78.29 51 P P 03 25 20.1 +0.7
baz=78
TUL1 Tulsa 78.31 49 P P 03 25 19.7 +0.3
baz=78
TUL1 Tulsa 78.31 49 eP P 03 25 19.5 +0.1
comp=Z,18nm,0.6s
V36A Jenks 78.33 49 P P 03 25 20.0 +0.5
baz=78
Y33A Hilltop Ranch, 78.34 52 P P 03 25 20.0 +0.4
baz=78,SNR=5.1
W35A Tecumseh 78.35 50 P P 03 25 20.2 +0.5
baz=78
131A Roby 78.43 54 P P 03 25 20.6 +0.4
baz=78,SNR=5.9
Z32A Haskell 78.43 53 P P 03 25 20.6 +0.4
baz=78
329A Wagon Wheel Ra 78.47 56 P P 03 25 21.0 +0.6
baz=78
230A Sterling City 78.64 55 P P 03 25 21.9 +0.5
baz=78
V37A Hulbert 78.66 48 P P 03 25 21.6 +0.3
baz=78
ZALF Zalf 78.76 307 eP P 03 25 22.3 +0.4
Z33A Whitaker Ranch 78.82 52 P P 03 25 22.9 +0.7
baz=79
Y34A Reagan Ranch, 78.83 51 P P 03 25 22.9 +0.6
baz=79
QASN Qassioun 78.85 308 eP P 03 25 29.0 +6.5
ABTX Abilene, Hawle 78.87 53 P P 03 25 23.1 +0.5
baz=79
X35A Drake 78.89 50 P P 03 25 23.2 +0.6
baz=79
TOTH TOTAH 78.90 308 eP P 03 25 19.3 -3.5
330A Mertzon 78.97 55 P P 03 25 23.8 +0.7
baz=79,SNR=5.3
231A Bronte 79.03 54 P P 03 25 24.0 +0.6
baz=79
X36A Centrahoma 79.08 50 P P 03 25 23.8 +0.2
baz=79
W37A Quinton 79.10 49 P P 03 25 24.1 +0.5
baz=79

BRBR **Barbar** 79.12 308 *e*P P 03 25 23.5 -0.5
LTX **Lajitas** 79.16 58 *e*P P 03 25 25.5 +1.2
LTX *e*pP pP 03 26 52.2 +2.0
TXAR **Lajitas Array** 79.16 58 P P 03 25 25.5 +1.3
comp=Z,14nm,0.5s,baz=287,slow=4.0,SNR=30
TXAR pP pP 03 26 52.2 +2.1
comp=Z,3.7nm,0.8s,baz=302,slow=3.9,SNR=4.5
TXAR **Lajitas Array** 79.16 58 P P 03 25 25.5 +1.3
TXAR *PP pP 03 26 52.2 +2.1
TXAR pmax pmax
comp=Z,14nm,0.5s
TXAR pmax pmax
comp=Z,4.0nm,0.8s
429A **Davenport Ranc** 79.17 56 P P 03 25 25.0 +0.7
baz=79
Z34A **Collier Ranch,** 79.20 52 P P 03 25 24.8 +0.5
baz=79
SALA **Sala** 79.25 307 *e*P P 03 25 19.6 -5.1
CSS **Prodhromos** 79.25 311 *e*P P 03 25 23.5 -1.0
comp=Z,4.0nm,0.7s
133A **Hamilton Ranch** 79.27 53 P P 03 25 25.1 +0.4
baz=79
529A **Stev Forest Ra** 79.37 57 P P 03 25 26.0 +0.7
baz=79
430A **Baggett Ranch,** 79.41 55 P P 03 25 26.2 +0.7
baz=79,SNR=6.2
232A **Coleman** 79.43 54 P P 03 25 26.0 +0.4
baz=79
331A **San Angelo** 79.46 55 P P 03 25 26.2 +0.4
baz=79,SNR=5.8
X37A **Clayton** 79.56 49 P P 03 25 27.0 +0.8
baz=79
Z35A **Perchaven, San** 79.58 51 P P 03 25 26.6 +0.3
baz=79
W38A **Poteau** 79.61 48 P P 03 25 26.7 +0.3
baz=79
Y36A **Durant** 79.64 50 P P 03 25 27.2 +0.6
baz=79
TCHB **Talchehab** 79.68 308 *e*P P 03 25 30.3 +3.4
233A **Rising Star** 79.73 53 P P 03 25 27.6 +0.4
baz=80
134A **White-Moore Ra** 79.74 52 P P 03 25 27.9 +0.8
baz=80
332A **Millersview** 79.77 54 P P 03 25 27.4 +0.1
baz=80
X38A **Whitesboro** 79.77 49 P P 03 25 27.6 +0.3
baz=80
431A **Sonora** 79.84 55 P P 03 25 28.6 +0.8
baz=80
530A **J-C Ranch, Com** 79.84 56 P P 03 25 28.5 +0.7
baz=80
Y37A **Hugo** 79.91 50 P P 03 25 28.5 +0.5
baz=80
STKA **Stephens Creek** 80.01 186 P P 03 25 29.6 +1.4
comp=Z,1.4nm,0.5s,baz=2.9,slow=7.1,SNR=5.6
STKA **Stephens Creek** 80.01 186 *e*P P 03 25 29.0 +0.7
STKA pmax pmax
comp=Z,21nm,2.8s
STKA **Stephens Creek** 80.01 186 *e*P P 03 25 29.0 +0.7
comp=Z,21nm,2.8s
Z36A **Blue Ridge** 80.05 51 P P 03 25 29.1 +0.3
baz=80
135A **Vickery Place,** 80.10 52 P P 03 25 30.0 +0.9
baz=80
432A **Menard** 80.13 54 P P 03 25 30.1 +0.8
baz=80
234A **Clairette** 80.15 53 P P 03 25 30.1 +0.8
baz=80
333A **Richland Sprin** 80.22 54 P P 03 25 30.6 +0.8
baz=80
531A **Rocksprings** 80.27 55 P P 03 25 31.0 +1.0
baz=80
JCT **Junction City** 80.44 55 P P 03 25 31.4 +0.5
baz=80
MIAR **Mount Ida** 80.50 48 P P 03 25 31.7 +0.6
baz=80
WHTX **Lake Whitney** 80.52 52 P P 03 25 32.1 +0.8
baz=80,SNR=5.2
WHTX **Lake Whitney** 80.52 52 *e*P P 03 25 30.8 -0.4
comp=Z,32nm,0.8s
Z37A **Pogue Cattle C** 80.53 50 P P 03 25 31.9 +0.6
baz=80,SNR=5.6
433A **Art** 80.61 54 P P 03 25 32.4 +0.6
baz=80
334A **Lometa** 80.62 53 P P 03 25 32.1 +0.3
baz=80,SNR=6.2
532A **Rocksprings** 80.65 55 P P 03 25 33.0 +0.9
baz=80
Y39A **Lockesburg** 80.72 49 P P 03 25 32.9 +0.6
baz=80
Z38A **Mt. Pleasant** 80.81 50 P P 03 25 33.4 +0.6
baz=80
631A **Perdido Creek** 80.83 56 P P 03 25 33.6 +0.7
baz=81,SNR=7.8
236A **Katherine and** 81.00 52 P P 03 25 34.6 +0.8
baz=81
533A **Kerrville** 81.17 54 P P 03 25 35.3 +0.6
baz=81
632A **Uvalde** 81.19 55 P P 03 25 35.8 +0.9
baz=81
138A **Matatall Enter** 81.23 50 P P 03 25 35.5 +0.5
baz=81
Z39A **Irene McRaven,** 81.23 49 P P 03 25 35.4 +0.5
baz=81
RAYN **Ar Rayn** 81.25 295 *e*P P 03 25 34.0 -1.2
comp=Z,15nm,1.0s
336A **Riesel** 81.32 52 P P 03 25 35.9 +0.4
baz=81
534A **Blanco** 81.51 54 P P 03 25 36.9 +0.5
baz=81
633A **Saathoff Ranch** 81.57 55 P P 03 25 38.2 +1.4
baz=81
732A **Laxson Ranch,** 81.69 56 P P 03 25 38.5 +1.1
baz=82,SNR=6.0
832A **Faith Ranch, C** 82.04 56 P P 03 25 40.6 +1.4
baz=82
239A **Gary** 82.05 50 P P 03 25 40.5 +1.3
baz=82
733A **Divot King Ran** 82.08 55 P P 03 25 40.2 +0.8
baz=82
338A **Crockett** 82.14 51 P P 03 25 41.1 +1.4
baz=82
NATX **Nacogdoches** 82.16 50 P P 03 25 40.9 +1.1
baz=82,SNR=6.2
833A **Chaparral WMA,** 82.33 56 P P 03 25 41.9 +1.2
baz=82
734A **La Parita Cree** 82.38 55 P P 03 25 42.4 +1.4
baz=82
735A **Kenedy** 82.78 54 P P 03 25 43.9 +0.9
baz=82
340A **Bronson** 82.83 50 P P 03 25 44.3 +1.1
baz=83
933A **Laredo** 82.95 56 P P 03 25 45.5 +1.7
baz=83,SNR=7.7
834A **Tilden** 82.95 55 P P 03 25 45.5 +1.7
baz=83
736A **Circle Diamond** 83.11 54 P P 03 25 45.9 +1.3
baz=83
637A **Eagle Lake** 83.12 53 P P 03 25 46.3 +1.6
baz=83
835A **Beeville** 83.22 55 P P 03 25 47.0 +1.8
baz=83
934A **Benavides** 83.37 56 P P 03 25 47.9 +1.9
baz=83
034A **Hebbronville** 83.70 56 P P 03 25 49.0 +1.3
baz=84,SNR=5.1
KEST **Kesra** 88.98 328 P P 03 26 12.0 -1.0
comp=Z,1.3nm,0.7s,baz=98,slow=1.5,SNR=5.4
KEST **Kesra** 88.98 328 *e*P P 03 26 12.1 -0.9
TOA0 **Torodi Ar. Sit** 112.33 325 *e*PKiKP PKiKP 03 31 50.3 -1.6
TORD **Torodi Ar. Bea** 112.33 325 PKiKP PKiKP 03 31 50.3 -1.6
comp=Z,0.4nm,0.4s,baz=19,slow=1.7,SNR=12
LBTB **Lobatse** 130.27 277 SKPbc SKPbc 03 35 12.0 -0.7
comp=Z,12nm,0.9s,baz=69,slow=3.2,SNR=5.4
TSUM **Tsumeb** 131.37 289 SKPbc SKPbc 03 35 15.8 -1.1
comp=Z,10.0nm,0.9s,baz=48,slow=4.7,SNR=6.1
LPAZ **La Paz** 136.01 57 SKPbc SKPbc 03 35 32.6 -0.2
comp=Z,4.6nm,1.2s,baz=167,slow=1.2,SNR=4.9
SIV **San Ignacio** 139.50 48 SKPbc SKPbc 03 35 42.5 +0.5
comp=Z,3.9nm,0.7s,baz=310,slow=1.5,SNR=9.5
LCO **Las Campanas** 144.06 72 *e*PKPbc PKPab 03 32 50.0 -0.4
BDFB **Brasilia** 144.63 29 PKP PKPbc 03 32 52.1 -0.3
comp=Z,11nm,0.8s,baz=296,slow=1.6,SNR=17
BDFB **Brasilia** 144.63 29 PKIKP PKPbc 03 32 52.1 -0.3
BDFB pmax pmax
comp=Z,11nm,0.8s
BDFB **Brasilia** 144.63 29 *e*PKPbc PKPdf 03 32 52.8 +0.2
CFAA **Coronel Fontan** 147.38 73 PKPbc PKPbc 03 32 59.9 +0.1
comp=Z,1.7nm,0.6s,baz=274,slow=1.9,SNR=29
CPUP **Villa Florida** 150.00 53 PKPbc PKPbc 03 33 06.4 0.0
comp=Z,4.4nm,0.9s,baz=314,slow=2.2,SNR=8.0
CPUP **Villa Florida** 150.00 53 PKIKP PKPbc 03 33 06.4 0.0
CPUP pmax pmax
comp=Z,4.0nm,0.9s
CPUP **Villa Florida** 150.00 53 *e*PKPbc PKPbc 03 33 07.0 +0.6

BJI ***08*** *03:15:45.9, 62°.20N×150°.58W, h10km, mb5.1/43, mB5.0/35, Ms5.0/33, Ms7 4.7/34*
MOS ***08*** *03:15:46.8±0.9, 61°.92N×150°.71W, h10km, mb5.2/74, MS4.1/5, Error ellipse: s-maj=8.7km s-min=4.1km az=96.5*
ISCJB ***08*** *03:15:49.9±0.3, 61°.88N±0°.01×150°.60W±0°.02, h30km±2km, mb5.0/242, MS4.1/33, Error ellipse: s-maj=2.3km s-min=1.7km az=30.4*
NEIC ***08*** *03:15:49.6, 61°.81N×150°.51W, h15km, mb5.1/164, MW4.7, ML5.0(AEIC) Best double couple: NP1:φ=62.00000°, δ25.00000°, λ125.00000°. NP2:φ=204.00000°, δ70.00000°, λ75.00000°. Principal axes: T 1.0900, Plg62.0000°, Azm90.0000°; N 0.2900, Plg14.0000°, Azm209.0000°; P -1.3900, Plg23.0000°, Azm305.0000°; After AEIC.*
NEIC Felt [IV] at Anchorage and Willow; [III] at Chugiak, Eagle River, Elmendorf AFB, Fort Richardson, Girdwood, Palmer, Skwentna, Sterling, Talkeetna, Trapper Creek and Wasilla; [II] at Seward and Soldotna. Also felt at Cantwell, Cooper Landing, Kenai and Valdez.
IDC ***08*** *03:15:50.4±0.6, 62°.02N×150°.58W, h22km±3km, mb4.6/34, mb1 4.7/37, mb1mx4.7/44, mbtmp4.7/37, ML4.6/3, MS4.1/31, Ms1 4.1/31, ms1mx3.9/50 Error ellipse: s-maj=14.4km s-min=7.9km az=28.0*
ISC 08 03:15:49.3±0.3, 61°.86N±0°.02×150°.53W±0°.02, h16km±1km, h15km: pP-P, n1059, σ1.19/1120, mb5.0/246, MS4.0/33, 20C-14D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUA	**Susitna One**	**0.41**	**195**	P	**Pg**	**03 15 57.0**	**-0.5**
SUA				S	**Sg**	**03 16 02.9**	**-0.3**
SKT	**Skwentna**	**0.49**	**285**	P	**Pb**	**03 15 59.6**	**+0.1**
SKT				S	**Sb**	**03 16 07.5**	**+1.1**
TRAP	**Trapper Creek**	**0.50**	**15**	P	**Pb**	**03 16 00.4**	**+0.8**
CUT	**Chulitna**	**0.56**	**12**	P	**Pn**	**03 16 01.7**	**-0.9**
FIB	**Fire Island**	**0.71**	**166**	P	**Pg**	**03 16 03.1**	**-0.1**
FIB	**Fire Island**	**0.71**	**166**	P	**Pg**	**03 16 03.1**	**-0.1**
PMR	**Palmer**	**0.72**	**111**	P	**Pg**	**03 16 02.4**	**-0.8**
PMR	**Palmer**	**0.72**	**111**	P	**Pg**	**03 16 02.4**	**-0.8**
STLK	**Strandline Lak**	**0.72**	**241**	P	**Pg**	**03 16 02.8**	**-0.5**
RC01	**Rabbit Creek A**	**0.86**	**153**	*e*Pg	**Pb**	**03 16 04.3**	**-1.5**
RC01				*e*S	**Sb**	**03 16 14.9**	**-2.1**
VOGL	**Vogel Lake**	**0.86**	**177**	P	**Pg**	**03 16 06.0**	**0.0**
CGLM	**Capps Glacier**	**0.90**	**233**	P	**Pb**	**03 16 05.8**	**-0.6**
CKN	**Chakachatna No**	**1.01**	**232**	P	**Pb**	**03 16 08.2**	**-0.2**
SPBG	**Spurr Blockage**	**1.07**	**237**	P	**Pb**	**03 16 08.7**	**-0.7**
BGL	**Barrier Glacie**	**1.07**	**237**	P	**Pb**	**03 16 08.9**	**-0.6**
CKL	**Chakachamna La**	**1.09**	**233**	P	**Pb**	**03 16 09.1**	**-0.7**
HUR	**Hurricane**	**1.20**	**20**	P	**Pg**	**03 16 12.2**	**-0.2**
PTE	**Portage**	**1.23**	**143**	P	**Pn**	**03 16 10.5**	**-1.3**
PTE				S	**Sb**	**03 16 26.5**	**-1.2**
SLKM	**Skilak Lake**	**1.36**	**174**	P	**Pn**	**03 16 12.0**	**-1.6**
SLKM	**Skilak Lake**	**1.36**	**174**	P	**Pn**	**03 16 12.0**	**-1.6**
SCM	**Sheep Creek Mo**	**1.52**	**89**	P	**Pn**	**03 16 15.2**	**-0.6**
SCM				S	**Sn**	**03 16 35.2**	**-0.1**
SCM	**Sheep Creek Mo**	**1.52**	**89**	P	**Pn**	**03 16 15.2**	**-0.6**
SCM				S	**Sn**	**03 16 35.2**	**-0.1**
TRF	**Thorofare Moun**	**1.60**	**4**	P	**Pb**	**03 16 18.1**	**-0.5**
DFR	**Drift River**	**1.64**	**220**	P	**Pn**	**03 16 17.3**	**-0.3**
RDN	**Redoubt North**	**1.73**	**220**	P	**Pn**	**03 16 18.6**	**-0.1**
RND	**Reindeer**	**1.74**	**26**	P	**Pn**	**03 16 19.7**	**+0.9**
RND	**Reindeer**	**1.74**	**26**	P	**Pn**	**03 16 19.7**	**+0.9**
NCT	**North Crescent**	**1.74**	**223**	P	**Pn**	**03 16 19.0**	**+0.1**
RSO	**Redoubt South**	**1.77**	**219**	P	**Pn**	**03 16 19.6**	**+0.2**
RDWB	**Redoubt West**	**1.77**	**220**	P	**Pn**	**03 16 19.3**	**-0.1**
DHY	**Denali Highway**	**1.91**	**49**	P	**Pn**	**03 16 22.2**	**+0.9**
GLI	**Glacier Island**	**1.92**	**119**	P	**Pn**	**03 16 21.8**	**+0.5**
MCK	**McKinley**	**2.02**	**21**	P	**Pb**	**03 16 24.2**	**-1.4**
MCK				S	**Sb**	**03 16 51.6**	**+1.2**
MCK	**McKinley**	**2.02**	**21**	P	**Pb**	**03 16 24.2**	**-1.4**
MCK				S	**Sb**	**03 16 51.6**	**+1.2**
JPK	**Jack Peak**	**2.05**	**111**	P	**Pn**	**03 16 24.2**	**+1.1**
BRLK	**Bradley Lake**	**2.11**	**185**	P	**Pn**	**03 16 23.7**	**-0.1**
BRLK				S	**Sn**	**03 16 50.8**	**+1.1**
VLZ	**Valdez**	**2.14**	**108**	P	**Pn**	**03 16 24.9**	**+0.7**
ILIM	**Iliamna**	**2.14**	**215**	P	**Pn**	**03 16 25.2**	**+0.9**
VMT	**TAPS TI Valdez**	**2.14**	**109**	P	**Pn**	**03 16 25.3**	**+1.0**
CHUM	**Lake Minchumin**	**2.19**	**339**	P	**Pn**	**03 16 26.5**	**+1.5**
IVE	**Iliamna Volcan**	**2.21**	**214**	P	**Pn**	**03 16 26.2**	**+0.9**
KLU	**Klutina**	**2.23**	**97**	P	**Pn**	**03 16 26.4**	**+0.8**
IVS	**Iliamna South**	**2.23**	**215**	P	**Pn**	**03 16 26.7**	**+0.9**
IVS	**Iliamna South**	**2.23**	**215**	P	**Pn**	**03 16 26.7**	**+0.9**
BPAW	**Bear Paw Mtn.**	**2.26**	**355**	P	**Pb**	**03 16 27.9**	**-1.7**
HOM	**Homer**	**2.27**	**194**	P	**Pn**	**03 16 27.4**	**+1.4**
HOM				S	**Sn**	**03 16 55.4**	**+1.7**
ILS	**Iliamna Low So**	**2.27**	**214**	P	**Pn**	**03 16 27.4**	**+1.2**
CNPM	**China Poot**	**2.37**	**189**	P	**Pn**	**03 16 28.3**	**+0.9**
BWN	**Browne**	**2.37**	**11**	P	**Pb**	**03 16 29.9**	**-1.7**
DIV	**Divide**	**2.40**	**106**	*e*Pn	**Pn**	**03 16 28.7**	**+0.8**
DIV				*e*S	**Sn**	**03 16 59.0**	**+2.2**
HIN	**Hinchinbrook I**	**2.44**	**125**	P	**Pn**	**03 16 29.3**	**+0.8**
SVW2	**Sparrevohn**	**2.54**	**255**	P	**Pn**	**03 16 30.0**	**+0.2**
HARP	**HAARP**	**2.58**	**75**	P	**Pb**	**03 16 33.1**	**-2.0**
PAX	**Paxson**	**2.61**	**62**	*e*P	**Pn**	**03 16 32.9**	**+2.1**
PAX				*e*S	**Sb**	**03 17 08.8**	**+1.4**
PAX	**Paxson**	**2.61**	**62**	*e*Pn	**Pn**	**03 16 32.9**	**+2.1**
PAX				*e*S	**Sb**	**03 17 08.8**	**+1.4**
EYAK	**Cordova Ski Ar**	**2.66**	**117**	P	**Pn**	**03 16 31.9**	**+0.5**
PDB	**Pedro Bay**	**2.74**	**222**	P	**Pn**	**03 16 33.9**	**+1.3**
PDB	**Pedro Bay**	**2.74**	**222**	P	**Pn**	**03 16 33.9**	**+1.3**
NEA	**Nenana**	**2.81**	**13**	P	**Pn**	**03 16 34.4**	**+0.9**
WRH	**Wood River Hil**	**2.85**	**22**	P	**Pn**	**03 16 34.9**	**+0.9**
AUL	**Augustine Lava**	**2.87**	**211**	P	**Pn**	**03 16 36.7**	**+2.5**
AUI	**Augustine Isla**	**2.91**	**211**	P	**Pn**	**03 16 37.0**	**+2.2**
SGAM	**Sherman Glacie**	**2.91**	**115**	P	**Pn**	**03 16 35.9**	**+0.9**
BMRM	**Bremner River**	**2.98**	**105**	*e*Pn	**Pn**	**03 16 36.2**	**+0.2**
BMRM				*e*S	**Sb**	**03 17 16.8**	**-1.4**
WASW	**Wrangell South**	**3.01**	**86**	P	**Pn**	**03 16 38.6**	**+2.2**
HDA	**Harding Lake**	**3.03**	**31**	P	**Pn**	**03 16 37.9**	**+1.4**
CCB	**Clear Creek Bu**	**3.06**	**23**	P	**Pn**	**03 16 37.7**	**+0.8**
GOAT	**Goat Mountain**	**3.08**	**112**	P	**Pn**	**03 16 37.6**	**+0.3**
PS08	**TAPS Pump Stn8**	**3.18**	**30**	P	**Pn**	**03 16 39.8**	**+1.3**
MLY	**Manley**	**3.19**	**358**	P	**Pn**	**03 16 39.7**	**+1.0**
MID	**Middleton Isla**	**3.19**	**138**	P	**Pn**	**03 16 39.9**	**+1.2**
MID	**Middleton Isla**	**3.19**	**138**	P	**Pn**	**03 16 39.9**	**+1.2**
RAGM	**Ragged Mountai**	**3.20**	**115**	P	**Pn**	**03 16 39.4**	**+0.5**
GLB	**Gilahina Butte**	**3.23**	**94**	P	**Pn**	**03 16 40.8**	**+1.4**
I53US	**FAIRBANKS INFR**	**3.26**	**20**	Pn	**Pn**	**03 16 40.2**	**+0.6**
	baz=199,slow=22,SNR=0.6						
I53US				Sn	**Sg**	**03 17 31.1**	**-2.8**
	baz=203,slow=32						
I53US				*i*		03 35 00.0	
	baz=204,slow=314,SNR=0.9						
COLA	**College**	**3.26**	**21**	*e*P	**Pn**	**03 16 40.6**	**+1.0**
COLA				*e*S	**Sn**	**03 17 18.8**	**+0.8**
COLA	**College**	**3.26**	**21**	*e*Pn	**Pn**	**03 16 40.6**	**+1.0**
COLA				*e*S	**Sn**	**03 17 18.8**	**+0.8**
MCNL	**McNeil River**	**3.28**	**217**	P	**Pn**	**03 16 41.3**	**+1.4**
MDM	**Murphy Dome**	**3.28**	**17**	P	**Pn**	**03 16 40.9**	**+0.9**
MENT	**Mentasta**	**3.35**	**68**	*e*Pn	**Pn**	**03 16 42.8**	**+1.9**
MENT				*e*S	**Sb**	**03 17 31.6**	**+2.9**
IL1	**Eielson Array**	**3.35**	**28**	P	**Pn**	**03 16 41.9**	**+0.9**
ILAR	**Eielson Array**	**3.35**	**28**	Pn	**Pn**	**03 16 41.9**	**+0.9**
	40nm,0.3s,baz=210,slow=14,SNR=472						
ILAR				Sn	**Sg**	**03 17 34.0**	**-2.9**
	281nm,0.3s,baz=214,slow=28,SNR=14						
ILAR				ScP	**ScP**	**03 27 46.6**	**-1.1**
	baz=263,slow=1.6,SNR=4.5						
ILB	**Eielson Array**	**3.35**	**28**	P	**Pn**	**03 16 41.8**	**+0.9**
VRDI	**Verde Repeater**	**3.44**	**97**	P	**Pn**	**03 16 43.0**	**+0.6**
NICHA	**Nichawak Mount**	**3.58**	**114**	P	**Pn**	**03 16 44.2**	**+0.1**
MCARA	**McCarthy VSAT**	**3.62**	**94**	P	**Pn**	**03 16 47.0**	**+2.4**
BERG	**Berg Lake**	**3.62**	**111**	P	**Pn**	**03 16 44.8**	**+0.1**
CRQM	**Cirque**	**3.73**	**104**	P	**Pn**	**03 16 46.0**	**-0.3**
SUCK	**Suckling Hills**	**3.75**	**116**	P	**Pn**	**03 16 46.3**	**-0.1**
KHIT	**Khitrov Hills**	**3.80**	**109**	P	**Pn**	**03 16 47.5**	**+0.3**
GRIN	**Grindle Hills**	**3.84**	**111**	P	**Pn**	**03 16 48.3**	**+0.6**
TGL	**Tana Glacier**	**3.87**	**103**	P	**Pn**	**03 16 49.2**	**+1.0**
PTPK	**Patty Peak**	**3.92**	**96**	P	**Pn**	**03 16 50.0**	**+1.1**
BALM	**Baldy**	**4.01**	**98**	P	**Pn**	**03 16 50.8**	**+0.7**
BALM	**Baldy**	**4.01**	**98**	P	**Pn**	**03 16 50.8**	**+0.7**
PS06	**TAPS Pump Stn6**	**4.03**	**5**	P	**Pn**	**03 16 51.7**	**+1.5**
KULT	**Kultieth River**	**4.12**	**110**	P	**Pn**	**03 16 52.4**	**+0.8**
ISLE	**Juniper Island**	**4.15**	**104**	P	**Pn**	**03 16 53.1**	**+1.0**
BARK	**Barkley Ridge**	**4.16**	**107**	P	**Pn**	**03 16 53.8**	**+1.6**
KDAK	**Kodiak Island**	**4.22**	**195**	P	**Pn**	**03 16 52.9**	**+0.1**
KDAK	**Kodiak Island**	**4.22**	**195**	P	**Pn**	**03 16 52.9**	**+0.1**
KVTA	**Katmai Vly 10**	**4.22**	**216**	P	**Pn**	**03 16 54.4**	**+1.5**
KAKN	**Katmai Knife C**	**4.23**	**214**	P	**Pn**	**03 16 55.3**	**+2.2**
KBM	**Katmai Bkd Mtn**	**4.29**	**215**	P	**Pn**	**03 16 56.5**	**+2.7**
KELA	**Mount Kelaz**	**4.30**	**220**	P	**Pn**	**03 16 55.7**	**+1.6**
BAGL	**Bagley Icefiel**	**4.31**	**105**	P	**Pn**	**03 16 55.6**	**+1.5**
KCE	**Katmai Mt Cerb**	**4.31**	**215**	P	**Pn**	**03 16 55.7**	**+1.6**
BARN	**Barnard Glacie**	**4.33**	**97**	P	**Pn**	**03 16 55.9**	**+1.4**
KABR	**Katmai Barrier**	**4.35**	**213**	P	**Pn**	**03 16 57.0**	**+2.3**
IM04	**Indian Mountai**	**4.38**	**342**	*e*Pn	**Pn**	**03 16 56.0**	**+1.0**
GRNC	**Granite Creek**	**4.38**	**101**	P	**Pn**	**03 16 55.5**	**+0.3**
MESA	**MESA**	**4.50**	**108**	P	**Pn**	**03 16 57.8**	**+0.9**
CTGM	**Chitina Glacie**	**4.51**	**97**	P	**Pn**	**03 16 59.1**	**+2.2**
YAH	**Yahtse**	**4.52**	**105**	P	**Pn**	**03 16 58.6**	**+1.4**
LOGN	**Logan Glacier**	**4.70**	**99**	P	**Pn**	**03 17 00.6**	**+0.9**
RKAV	**Rock Avalanche**	**4.72**	**105**	P	**Pn**	**03 17 01.6**	**+1.7**
TABL	**Table Mountain**	**4.76**	**103**	P	**Pn**	**03 17 03.6**	**+3.1**
OHAK	**Old Harbor**	**4.86**	**198**	P	**Pn**	**03 17 01.6**	**+0.1**
PS05	**TAPS Pump Stn5**	**4.98**	**359**	P	**Pn**	03 17 07.1	+3.9
PLK1	**Peulik 1**	**5.09**	**220**	P	**Pn**	**03 17 06.5**	**+1.7**
FYU	**Fort Yukon**	**5.26**	**24**	P	**Pn**	**03 17 09.8**	**+2.7**
DAWY	**Dawson**	**5.54**	**62**	P	**Pn**	**03 17 13.3**	**+2.3**
HYT	**Haines Junctio**	**6.35**	**94**	*e*Pn	**Pn**	**03 17 23.5**	**+1.3**
HYT				*e*S	**Sn**	**03 18 31.5**	**-2.9**
ANPB	**Aniakchak Plen**	**6.43**	**221**	P	**Pn**	**03 17 25.5**	**+2.2**
CHGN	**Chignik**	**6.89**	**220**	*e*Pn	**Pn**	**03 17 31.4**	**+1.9**
TNA	**Tin City**	**8.56**	**303**	*e*Pn	**Pn**	**03 17 54.2**	**+2.0**
TNA				*e*S	**Sn**	**03 19 27.4**	**-0.9**
DTNA	**Dutton South F**	**9.09**	**228**	P	**Pn**	**03 18 00.6**	**+0.9**
INK	**Inuvik**	**9.63**	**41**	Pn	**Pn**	**03 18 08.1**	**+1.1**
	2.2nm,0.3s,baz=236,slow=15,SNR=59						
INK				ScP	**ScP**	**03 27 52.0**	**-0.6**
	0.1nm,0.3s,baz=189,slow=3.0,SNR=4.2						
INK	**Inuvik**	**9.63**	**41**	*e*Pn	**Pn**	**03 18 08.8**	**+1.9**
	121nm,1.2s						
FALS	**False Pass**	**9.74**	**230**	*e*Pn	Pn	03 18 13.2	+4.8
GAMB	**Gambell**	**9.87**	**291**	*e*Pn	**Pn**	**03 18 11.1**	**+1.0**
DLBC	**Dease Lake**	**10.76**	**99**	Pn	**Pn**	**03 18 23.5**	**+1.0**
	1.9nm,0.3s,baz=288,slow=12,SNR=44						
DLBC				LR	LR	03 22 31.9	
	comp=Z,2μm,19.4s,baz=295,slow=37						
DLBC	**Dease Lake**	**10.76**	**99**	*e*Pn	**Pn**	**03 18 22.9**	**+0.4**
	47nm,0.8s						
WRAK	**Wrangell Islan**	**10.79**	**112**	*e*Pn	**Pn**	**03 18 22.2**	**-0.6**
	43nm,0.4s						
UNV	**Unalaska Valle**	**11.67**	**234**	*e*Pn	**Pn**	**03 18 36.0**	**+1.2**
	102nm,1.1s						
BBB	**Bella Bella**	**15.49**	**119**	Pn	**Pn**	**03 19 26.7**	**-0.1**
	0.5nm,0.3s,baz=308,slow=14,SNR=4.0						
BBB				LR	LR	03 25 01.8	
	comp=Z,538nm,18.3s,baz=315,slow=35						
YKA	**Yellowknife Ar**	**16.65**	**72**	Pn	**Pn**	**03 19 41.0**	**-0.6**
	3.6nm,0.3s,baz=284,slow=10,SNR=51						
YKA				ScP	**ScP**	**03 28 03.2**	**-0.7**
	0.2nm,0.3s,baz=295,slow=2.1,SNR=12						
YKA	**Yellowknife Ar**	**16.65**	**72**	P	**Pn**	**03 19 41.0**	**-0.6**
YKA	**Yellowknife Ar**	**16.65**	**72**	Pn	**Pn**	**03 19 41.0**	**-0.6**
BILL	**Bilibino**	**18.95**	**308**	*e*P	**P**	**03 20 09.3**	**0.0**
BILL				pmax	pmax		
	comp=Z,20nm,1.2s						
AMKA	**Amchitka**	**19.44**	**251**	*e*P	**P**	**03 20 14.5**	**-0.2**
	comp=Z,105nm,0.8s						
PGC	**Sidney**	**20.12**	**119**	*e*P	Pn	03 20 23.6	-0.4
	comp=Z,81nm,1.2s						
MCW	**Mount Constitu**	**20.36**	**118**	P	Pn	03 20 26.9	0.0
MCW	**Mount Constitu**	**20.36**	**118**	P	Pn	03 20 26.9	0.0
A05A	**Maple Falls**	**20.43**	**116**	P	Pn	03 20 27.3	-0.3
OSD	**Olympics--Snow**	**20.67**	**121**	P	Pn	03 20 30.7	-0.1
NLWA	**Neilton Lookou**	**20.95**	**121**	*e*P	Pn	03 20 33.2	-0.6
	comp=Z,90nm,1.0s						
RPW	**Rockport**	**21.09**	**116**	P	**P**	**03 20 34.3**	**+1.6**
JCW	**Jim Creek**	**21.11**	**117**	P	**P**	**03 20 34.8**	**+1.9**
GNW	**Green Mountain**	**21.23**	**120**	P	**P**	**03 20 36.4**	**+2.2**
EDM	**Edmonton**	**21.46**	**97**	*e*P	**P**	**03 20 37.0**	**+0.3**
EDM				pmax	pmax		
	comp=Z,369nm,1.4s						
EDM	**Edmonton**	**21.46**	**97**	*e*P	**P**	**03 20 37.0**	**+0.3**
	comp=Z,369nm,1.4s						
D05A	**Enumclaw**	**21.88**	**119**	P	**P**	**03 20 43.5**	**+2.4**
BMW	**Boistfort Moun**	**21.95**	**122**	P	**P**	**03 20 43.8**	**+1.9**
BMW	**Boistfort Moun**	**21.95**	**122**	P	**P**	**03 20 43.8**	**+1.9**
LON	**Longmire**	**22.30**	**119**	*e*P	**P**	**03 20 47.0**	**+1.2**
LON				pmax	pmax		
	comp=Z,47nm,1.1s						
LON	**Longmire**	**22.30**	**119**	*e*P	**P**	**03 20 47.0**	**+1.2**
	comp=Z,47nm,1.1s						
WTV	**Waterville**	**22.34**	**115**	P	**P**	**03 20 47.7**	**+1.6**
F04D	**Rainier, OR**	**22.35**	**122**	P	**P**	**03 20 49.4**	**+3.2**
	baz=22						
G03D	**McMinnville, O**	**22.97**	**124**	P	**P**	**03 20 55.6**	**+2.9**
	baz=23						
RES	**Resolute Bay**	**23.09**	**34**	P	**P**	**03 20 52.5**	**-1.1**
	comp=Z,11nm,0.6s,baz=253,slow=11,SNR=26						
RES				LR	LR	03 30 17.8	
	comp=Z,153nm,18.3s,baz=240,slow=38						
NEW	**Newport**	**23.14**	**111**	P	**P**	**03 20 55.9**	**+1.4**
	comp=Z,27nm,0.8s,baz=320,slow=8.2,SNR=48						
NEW				LR	LR	03 29 55.0	
	comp=Z,757nm,20.4s,baz=317,slow=36						
NEW	**Newport**	**23.14**	**111**	P	**P**	**03 20 55.9**	**+1.4**
NEW				pmax	pmax		
	comp=Z,27nm,0.9s						
NEW				MLR	MLR		
	comp=Z,757nm,20.4s						
NEW	**Newport**	**23.14**	**111**	P	**P**	**03 20 55.7**	**+1.2**
	baz=23						
NEW	**Newport**	**23.14**	**111**	*e*P	**P**	**03 20 55.8**	**+1.2**
	comp=Z,84nm,0.

comp=Z,475nm,20.2s,baz=359,slow=32
YBH Yreka Blue Hor 26.14 128 P P 03 21 24.0 +1.6
YBH pmax pmax
comp=Z,18nm,0.9s
YBH MLR MLR
comp=Z,475nm,20.2s
YBH Yreka Blue Hor 26.14 128 eP P 03 21 24.7 +2.3
comp=Z,40nm,1.1s
M02C Callahan 26.38 128 P P 03 21 26.8 +2.2
baz=26,SNR=10.0
M04C Macdoel 26.42 126 P P 03 21 26.6 +1.5
baz=26,SNR=9.6
A19A Klindworth Far 26.49 100 P P 03 21 26.3 +0.7
baz=26,SNR=13
KHMM Horse Mountain 26.50 130 eP P 03 21 27.2 +1.4
comp=Z,31nm,1.0s
EGMT Eagleton 26.67 102 P P 03 21 27.8 +0.6
baz=26,SNR=60
EGMT Eagleton 26.67 102 eP P 03 21 27.9 +0.7
comp=Z,68nm,0.8s
B19A Brinkman Farms 26.73 101 P P 03 21 28.7 +0.9
baz=27,SNR=44
N02D Trinity Center 26.80 128 P P 03 21 30.9 +2.6
baz=27,SNR=29
A20A Cobblestone Ra 26.91 99 P P 03 21 30.2 +0.9
baz=27,SNR=11
LRM Limekiln Ridge 27.08 109 eP P 03 21 32.1 +1.0
comp=Z,381nm,1.4s
WVOR Wild Horse Val 27.14 121 eP P 03 21 32.9 +1.4
WVOR pmax pmax
comp=Z,34nm,1.0s
WVOR Wild Horse Val 27.14 121 eP P 03 21 32.9 +1.4
comp=Z,34nm,1.0s
B20A Solberg Farm, 27.18 100 P P 03 21 32.6 +0.9
baz=27
WDC Whiskeytown Da 27.20 129 eP P 03 21 33.4 +1.5
WDC pmax pmax
comp=Z,35nm,1.1s
WDC Whiskeytown Da 27.20 129 eP P 03 21 33.4 +1.5
comp=Z,35nm,1.1s
A21A Bergtoll Ranch 27.30 98 P P 03 21 33.9 +1.1
baz=27,SNR=10
DLMT Dillon 27.37 109 eP P 03 21 34.6 +1.0
comp=Z,41nm,1.4s
FCC Fort Churchill 27.37 71 eP P 03 21 34.2 +0.9
FCC pmax pmax
comp=Z,25nm,0.5s
FCC Fort Churchill 27.37 71 eP P 03 21 34.2 +0.9
comp=Z,25nm,0.5s
MFID Camas Ranch 27.50 116 eP P 03 21 35.8 +1.1
comp=Z,43nm,1.0s
KIPM Iron Peak 27.53 131 eP P 03 21 36.4 +1.3
BOZ Bozeman (W) 27.58 108 P P 03 21 36.7 +1.2
baz=28,SNR=14
KCPM Cahto Peak 27.61 131 eP P 03 21 37.1 +1.4
comp=Z,14nm,0.7s
B21A Ellsworth Farm 27.65 99 P P 03 21 36.8 +0.9
baz=28
MCMT McKenzie Canyo 27.67 111 eP P 03 21 37.1 +0.7
comp=Z,3.6nm,0.8s
C20A Veseth Ranch, 27.71 101 P P 03 21 37.0 +0.6
baz=28,SNR=19
A22A Carney Farms, 27.77 97 P P 03 21 38.5 +1.5
baz=28,SNR=21
HLID Hailey 27.99 114 P P 03 21 40.2 +1.0
baz=28,SNR=36
HLID Hailey 27.99 114 eP P 03 21 39.7 +0.6
comp=Z,13nm,0.8s
C21A Desert Coulee 28.05 100 P P 03 21 40.2 +0.7
baz=28,SNR=6.0
B22A Reddig Ranch S 28.22 98 P P 03 21 42.0 +0.9
baz=28,SNR=7.9
A23A Redstone 28.29 96 P P 03 21 42.9 +1.3
baz=28,SNR=8.9
QLMT Earthquake Lak 28.30 109 eP P 03 21 43.8 +1.8
comp=Z,2.7nm,1.0s
GCMT Greycliff 28.36 106 eP P 03 21 44.1 +1.6
comp=Z,18nm,1.2s
PETK Petropavlovsk- 28.44 276 P P 03 21 42.8 -0.1
comp=Z,4.9nm,0.7s,baz=88,slow=9.5,SNR=4.1
PETK LR LR 03 33 54.0
comp=Z,315nm,18.9s,baz=65,slow=38
B23A Brockton 28.58 97 P P 03 21 45.2 +0.9
baz=28,SNR=10.0
YMR Madison River 28.64 109 eP P 03 21 45.9 +0.9
comp=Z,29nm,0.9s
D21A La Casta Ranch 28.65 101 P P 03 21 45.6 +0.7
baz=28,SNR=15
C22A Vida 28.67 99 P P 03 21 45.7 +0.6
baz=28,SNR=16
A24A Westby 28.72 95 P P 03 21 46.6 +1.1
baz=29,SNR=9.2
YFT Old Faithful 28.86 109 eP P 03 21 47.1 0.0
comp=Z,20nm,1.0s
DGMT Dagmar 28.95 96 P P 03 21 48.6 +1.1
baz=29,SNR=7.3
DGMT Dagmar 28.95 96 eP P 03 21 48.2 +0.7
comp=Z,38nm,0.9s
C23A Lambert 28.96 98 P P 03 21 48.8 +1.1
baz=29,SNR=17
D22A Cohagen 28.97 100 P P 03 21 48.6 +0.9
baz=29
LKWY Lake 28.97 108 eP P 03 21 50.8 +2.8
LKWY pmax pmax
comp=Z,26nm,1.1s
LKWY Lake 28.97 108 eP P 03 21 50.8 +2.8
comp=Z,26nm,1.1s
E21A Keefer Ranch, 29.00 102 P P 03 21 49.2 +1.3
baz=29
H17A Grant Village 29.02 108 P P 03 21 50.8 +2.3
baz=29,SNR=6.0
H17A Grant Village 29.02 108 eP P 03 21 51.0 +2.5
comp=Z,20nm,1.2s
F20A Billings 29.05 104 P P 03 21 49.5 +1.0
baz=29
RLMT Red Lodge 29.06 106 P P 03 21 50.3 +1.6
baz=29,SNR=47
RLMT Red Lodge 29.06 106 eP P 03 21 50.3 +1.6
comp=Z,83nm,1.1s
A25A Svangstu Ranch 29.13 94 P P 03 21 50.3 +1.2
baz=29,SNR=9.7
FLWY Flagg Ranch 29.21 109 eP P 03 21 52.1 +2.0
comp=Z,26nm,1.1s
IMW Indian Meadow 29.25 109 eP P 03 21 52.4 +1.9
comp=Z,36nm,0.9s
BMN Battle Mountai 29.39 121 eP P 03 21 52.8 +1.1
BMN pmax pmax
comp=Z,20nm,1.1s
BMN Battle Mountai 29.39 121 eP P 03 21 52.8 +1.1
comp=Z,20nm,1.1s
D23A Lindsay 29.41 99 P P 03 21 53.0 +1.4
baz=29,SNR=19
MOOW Moose Ponds 29.45 109 eP P 03 21 53.2 +0.9
comp=Z,7.2nm,0.9s
G20A Bridger 29.46 105 P P 03 21 53.3 +1.1
baz=29,SNR=14
F21A Absaloka Mine, 29.51 103 P P 03 21 53.6 +1.1
baz=29
C24A Savage 29.51 98 P P 03 21 54.3 +1.8
baz=29,SNR=8.1
H19A Powell 29.53 106 P P 03 21 54.5 +1.6
baz=29,SNR=9.9
TPAW Teton Pass 29.57 110 eP P 03 21 55.1 +1.8
comp=Z,76nm,1.1s
B25A Knox Farm, Ray 29.58 95 P P 03 21 54.2 +1.2
baz=29
E22A Miles City 29.60 101 P P 03 21 54.7 +1.5
baz=30,SNR=31
LOHW Long Hollow 29.62 109 eP P 03 21 55.2 +1.5
comp=Z,22nm,1.0s
A26A Wade Farm, Ken 29.67 93 P P 03 21 54.9 +1.0
baz=30,SNR=8.6
SNOW Snow King Moun 29.68 110 eP P 03 21 56.4 +2.2
comp=Z,52nm,1.1s
REDW Red Top Meadow 29.71 110 eP P 03 21 56.2 +1.7
comp=Z,18nm,0.8s
E23A Ismay 29.85 100 P P 03 21 57.0 +1.4
baz=30,SNR=8.8
D24A Glendive 29.86 98 P P 03 21 57.9 +2.3
baz=30,SNR=20
G21A Lodge Grass 29.92 104 P P 03 21 57.2 +1.0
baz=30,SNR=6.9
C25A Freed Ranch, W 29.93 96 P P 03 21 57.7 +1.5
baz=30
B26A Jensen Ranch, 29.94 94 P P 03 21 57.6 +1.3
baz=30,SNR=6.6
F22A Rosebud 29.94 102 P P 03 21 57.1 +0.7
baz=30

ELK Elko 29.95 118 P P 03 21 58.5 +1.8
comp=Z,15nm,0.9s,baz=320,slow=8.2,SNR=60
ELK pP pP 03 22 04.9 +3.4
comp=Z,23nm,1.0s,baz=321,slow=8.4,SNR=20
ELK LR LR 03 34 26.0
comp=Z,347nm,18.1s,baz=344,slow=37
ELK Elko 29.95 118 eP P 03 21 58.5 +1.8
ELK *PP pP 03 22 04.9 +3.4
ELK pmax pmax
comp=Z,22nm,0.9s
ELK Elko 29.95 118 eP P 03 21 58.5 +1.8
comp=Z,22nm,0.9s
ELK pP pP 03 22 04.9 +3.4
A27A Ledoux Ranch, 30.01 93 P P 03 21 57.6 +0.7
baz=30
I19A Meeteetse 30.02 107 P P 03 21 58.6 +1.4
baz=30,SNR=7.2
H20A Greybull 30.12 105 P P 03 21 59.1 +1.1
baz=30,SNR=11
HVU Hansel Valley 30.14 114 eP P 03 21 59.6 +1.4
HVU pmax pmax
comp=Z,28nm,0.8s
HVU Hansel Valley 30.14 114 eP P 03 21 59.6 +1.4
comp=Z,28nm,0.8s
WAKR Walker 30.18 126 eP P 03 22 00.3 +1.6
comp=Z,31nm,1.2s
E24A Baker 30.27 99 P P 03 22 00.9 +1.6
baz=30,SNR=13
D25A Fairfield 30.31 97 P P 03 22 01.5 +2.0
baz=30,SNR=9.0
G22A Birney 30.35 103 P P 03 22 00.9 +0.9
baz=30,SNR=5.2
F23A Volborg 30.38 101 P P 03 22 01.3 +1.1
baz=30,SNR=13
B27A Peters Farms, 30.38 93 P P 03 22 01.3 +1.1
baz=30,SNR=7.7
C26A Wahner Farm, P 30.40 95 P P 03 22 01.7 +1.4
baz=30,SNR=12
H21A Big Horn, Sher 30.45 104 P P 03 22 02.3 +1.4
baz=30,SNR=9.7
I20A Worland 30.48 106 P P 03 22 02.7 +1.5
baz=30,SNR=6.9
A28A Rude Farm, Bot 30.50 92 P P 03 22 02.0 +0.8
baz=30,SNR=6.0
J19A Crowheart 30.59 108 P P 03 22 04.0 +1.7
baz=30,SNR=9.4
SPUT South Promonto 30.66 114 eP P 03 22 04.0 +1.1
comp=Z,20nm,0.8s
NVAR Mina Array Bea 30.68 125 P P 03 22 05.0 +1.8
comp=Z,16nm,0.7s,baz=315,slow=9.4,SNR=121
NVAR pP pP 03 22 11.3 +3.3
comp=Z,36nm,1.0s,baz=316,slow=7.6,SNR=18
NVAR PcP PcP 03 25 01.1 +0.3
comp=Z,2.1nm,0.5s,baz=271,slow=3.3,SNR=5.2
BGU Big Grassy Mou 30.73 115 eP P 03 22 04.6 +1.1
comp=Z,6.3nm,0.9s
F24A Ekalaka 30.74 100 P P 03 22 04.6 +1.2
baz=31,SNR=30
E25A Miller Ranch, 30.74 98 P P 03 22 05.0 +1.6
baz=31,SNR=24
C27A Sayler Ranch, 30.76 95 P P 03 22 04.8 +1.3
baz=31,SNR=5.7
BW06 Boulder Array 30.76 109 eP P 03 22 04.7 +0.9
comp=Z,5.2nm,0.7s
PDAR Pinedale Array 30.76 109 P P 03 22 05.0 +1.2
comp=Z,5.6nm,0.9s,baz=326,slow=7.7,SNR=44
PDAR LR LR 03 35 47.8
comp=Z,384nm,18.5s,baz=338,slow=39
B28A Dugan Ranch, T 30.78 92 P P 03 22 04.7 +1.1
baz=31
G23A Biddle 30.78 102 P P 03 22 04.8 +1.0
baz=31
H22A Clearmont 30.80 103 P P 03 22 05.2 +1.2
baz=31
HWUT Hardware Ranch 30.80 113 eP P 03 22 05.3 +1.1
comp=Z,18nm,0.9s
D26A Manning 30.81 96 P P 03 22 05.5 +1.5
baz=31,SNR=19
J20A Shoshoni 30.96 107 P P 03 22 07.0 +1.5
baz=31
I21A Big Trails, Te 30.97 105 P P 03 22 06.3 +0.8
baz=31,SNR=18
A29A Manning Farm, 30.98 91 P P 03 22 06.3 +0.8
baz=31,SNR=23
F25A Bowman 31.14 99 P P 03 22 08.6 +1.6
baz=31,SNR=8.0
MLAC Mammoth Lakes 31.17 126 P P 03 22 09.8 +2.3
baz=31
D27A Center 31.18 95 P P 03 22 08.6 +1.3
baz=31
E26A Carlson Angus 31.21 97 P P 03 22 09.0 +1.5
baz=31,SNR=17
B29A Wagman Farm, 31.25 91 P P 03 22 08.6 +0.8
baz=31,SNR=16
J21A Lysite 31.26 106 P P 03 22 09.4 +1.2
baz=31,SNR=31
H23A Clabaugh Cattl 31.26 103 P P 03 22 08.8 +0.7
baz=31
TCUT Toone Canyon 31.27 113 eP P 03 22 09.7 +1.4
comp=Z,23nm,0.7s
I22A 9 Mile Ranch, 31.27 104 P P 03 22 09.7 +1.5
baz=31,SNR=32
C28A Hausauer Farms 31.29 93 P P 03 22 09.5 +1.4
baz=31
A30A Hoffart Farm, 31.41 90 P P 03 22 10.3 +1.1
baz=31,SNR=8.4
TPH Tonopah 31.41 124 eP P 03 22 11.3 +1.7
TPH pmax pmax
comp=Z,61nm,1.2s
TPH Tonopah 31.41 124 eP P 03 22 11.3 +1.7
comp=Z,60nm,1.2s
DUG Dugway 31.43 116 P P 03 22 10.9 +1.3
baz=31,SNR=15
CTU Camp Tracy 31.47 114 eP P 03 22 10.9 +0.9
comp=Z,33nm,0.9s
H24A Dirks Ranch, A 31.51 101 P P 03 22 11.1 +0.9
baz=31,SNR=20
MDND Maddock 31.56 93 P P 03 22 12.0 +1.4
baz=31,SNR=11
MDND Maddock 31.56 93 eP P 03 22 11.7 +1.1
comp=Z,118nm,1.0s
F26A Lodgepole 31.57 98 P P 03 22 11.6 +1.0
baz=31,SNR=6.3
D28A Regan 31.57 94 P P 03 22 12.3 +1.6
baz=31,SNR=5.1
E27A Carson 31.66 96 P P 03 22 12.7 +1.3
baz=32,SNR=6.8
JLU Jordanelle 31.68 114 eP P 03 22 12.5 +0.6
comp=Z,9.5nm,0.9s
I23A Meade Ranch, G 31.69 103 P P 03 22 13.2 +1.3
baz=32
G25A Newell 31.71 100 P P 03 22 12.7 +0.8
baz=32,SNR=5.9
B30A Myrvik Farm, E 31.74 91 P P 03 22 13.3 +1.1
baz=32,SNR=46
R11A Troy Canyon, C 31.83 121 P P 03 22 14.7 +1.5
baz=32,SNR=39
R11A Troy Canyon, C 31.83 121 eP P 03 22 14.5 +1.3
comp=Z,28nm,1.0s
F27A Lemmon 31.85 97 P P 03 22 14.2 +1.0
baz=32,SNR=6.2
TIN Tinemaha 31.91 126 P P 03 22 16.4 +2.5
baz=32
NLU North Lily Min 31.94 115 eP P 03 22 15.2 +1.0
comp=Z,19nm,1.0s
E28A Huff 31.96 95 P P 03 22 16.0 +1.9
baz=32,SNR=12
G26A Maurine 32.01 99 P P 03 22 15.6 +0.9
baz=32,SNR=9.1
H25A Fruitdale 32.05 101 P P 03 22 16.1 +1.1
baz=32,SNR=8.5
MPU Maple Canyon 32.08 115 eP P 03 22 15.8 +0.4
comp=Z,26nm,0.7s
J23A Dilts Ranch, B 32.08 104 P P 03 22 16.2 +0.9
baz=32
D29A Pettibone, Tap 32.13 94 P P 03 22 16.7 +1.2
baz=32,SNR=13
I24A Kuemmerle Ranc 32.16 103 P P 03 22 17.1 +1.1
baz=32,SNR=8.9
RCTC Rector, Farmer 32.18 128 P P 03 22 17.8 +1.7
baz=32
C30A Mose, Pekin 32.20 92 P P 03 22 17.0 +0.8
baz=32,SNR=5.2
K22A Casper 32.22 106 P P 03 22 17.3 +0.7
baz=32,SNR=14
K22A Casper 32.22 106 eP P 03 22 17.6 +1.0
comp=Z,21nm,0.8s
RSSD Black Hills 32.23 102 eP P 03 22 18.1 +1.4

RSSD pmax pmax
comp=Z,27nm,0.9s
RSSD Black Hills 32.23 102 eP P 03 22 18.1 +1.4
comp=Z,27nm,0.9s
G27A Dupree 32.26 98 P P 03 22 17.6 +0.8
baz=32,SNR=5.9
GRAC Grapevine Rang 32.29 125 P P 03 22 19.6 +2.6
baz=32,SNR=23
H26A Fairpoint 32.44 100 P P 03 22 19.5 +1.1
baz=32,SNR=20
F28A McLaughlin 32.45 96 P P 03 22 20.2 +1.8
baz=32,SNR=25
I25A Rochford 32.45 101 P P 03 22 19.6 +1.1
baz=32,SNR=9.0
E29A Napoleon 32.47 94 P P 03 22 19.3 +0.8
baz=32,SNR=5.2
D30A Buchanan 32.49 93 P P 03 22 19.5 +0.8
baz=32,SNR=18
CWC Cottonwood Cre 32.51 126 P P 03 22 21.4 +2.3
baz=32,SNR=13
J24A Dixon Ranch, L 32.55 103 P P 03 22 20.4 +1.0
baz=32,SNR=6.8
K23A Bowen Ranch, D 32.55 105 P P 03 22 20.3 +0.8
baz=32
VES Vestal, Richgr 32.66 128 P P 03 22 21.0 +0.8
baz=33,SNR=5.4
H27A Howes 32.75 99 P P 03 22 22.0 +1.0
baz=33,SNR=9.5
TPNV Topopah Spring 32.77 124 P P 03 22 22.5 +1.1
baz=33,SNR=26
SMMC Simmler 32.79 130 P P 03 22 23.6 +2.1
baz=33,SNR=8.2
DAC Darwin (Calif) 32.83 126 eP P 03 22 23.9 +1.8
DAC pmax pmax
comp=Z,25nm,1.1s
DAC Darwin (Calif) 32.83 126 eP P 03 22 23.9 +1.8
comp=Z,25nm,1.1s
I26A New Underwood 32.85 101 P P 03 22 22.7 +0.8
baz=33
E30A Jud 32.86 94 P P 03 22 22.5 +0.5
baz=33
TMUT Trail Mountain 32.86 115 eP P 03 22 22.9 +0.5
comp=Z,40nm,0.4s
J25A Sunshine Ranch 32.90 102 P P 03 22 23.2 +0.7
baz=33
F29A Eureka 32.92 95 P P 03 22 23.2 +0.7
baz=33
FURC Furnace Creek, 32.95 125 P P 03 22 24.7 +1.9
baz=33,SNR=28
G28A Parade 32.97 97 P P 03 22 23.8 +0.9
baz=33,SNR=6.7
AGMN Agassiz Nation 33.02 89 P P 03 22 24.5 +1.2
baz=33,SNR=37
AGMN Agassiz Nation 33.02 89 eP P 03 22 24.1 +0.8
comp=Z,78nm,0.8s
ISA Isabella 33.04 128 eP P 03 22 24.8 +1.1
ISA pmax pmax
comp=Z,16nm,0.9s
ISA Isabella 33.04 128 P P 03 22 24.7 +1.1
baz=33,SNR=12
ISA Isabella 33.04 128 eP P 03 22 24.8 +1.1
comp=Z,16nm,0.9s
MPMC Manual Prospec 33.06 126 P P 03 22 26.0 +2.0
baz=33,SNR=19
MVU Marysvale 33.09 117 eP P 03 22 26.3 +2.0
comp=Z,39nm,1.0s
MSU Marysvale 33.10 117 eP P 03 22 26.3 +1.9
MSU pmax pmax
comp=Z,46nm,1.0s
MSU Marysvale 33.10 117 eP P 03 22 26.3 +1.9
comp=Z,46nm,1.0s
I27A Quinn 33.19 100 P P 03 22 25.8 +0.9
baz=33
H28A Mission Ridge 33.22 98 P P 03 22 26.5 +1.4
baz=33,SNR=13
PKM Peak Mountain 33.23 130 P P 03 22 27.9 +2.4
baz=33,SNR=19
F30A Leola 33.29 95 P P 03 22 26.6 +0.8
baz=33
J26A Sides Ranch, S 33.30 102 P P 03 22 27.2 +1.3
baz=33,SNR=13
SRU San Rafael 33.31 114 eP P 03 22 27.8 +1.6
SRU pmax pmax
comp=Z,56nm,0.8s
SRU San Rafael 33.31 114 eP P 03 22 27.8 +1.6
comp=Z,56nm,0.8s
G29A Hoven 33.35 96 P P 03 22 27.3 +1.1
baz=33,SNR=16
CCUT Cedar City 33.42 119 eP P 03 22 28.8 +1.6
comp=Z,23nm,0.8s
O20A White River Ci 33.47 111 P P 03 22 28.4 +0.9
baz=33,SNR=14
O20A White River Ci 33.47 111 eP P 03 22 28.6 +1.0
comp=Z,36nm,1.0s
K25A Mack Ranch, Ha 33.47 103 P P 03 22 28.3 +0.8
baz=33
SHPR Sheep Range 33.59 123 eP P 03 22 29.5 +0.9
comp=Z,24nm,0.9s
H29A Onida 33.63 97 P P 03 22 29.9 +1.1
baz=34,SNR=16
I28A Midland 33.66 99 P P 03 22 29.9 +0.9
baz=34,SNR=12
SBC Santa Barbara 33.67 130 P P 03 22 31.2 +2.1
baz=34
SHOC Shoshone 33.67 125 P P 03 22 30.8 +1.7
baz=34,SNR=5.7
K26A Motz Farm, Whi 33.72 102 P P 03 22 30.3 +0.7
baz=34,SNR=5.4
G30A Faulkton 33.76 96 P P 03 22 30.9 +1.1
baz=34,SNR=28
PHWY Pilot Hill 33.78 106 eP P 03 22 30.7 +0.4
comp=Z,7.5nm,0.9s
L25A Engebretsen Ra 33.78 104 P P 03 22 31.0 +0.8
baz=34
J27A Elkhorn Farm, 33.84 101 P P 03 22 31.8 +1.2
baz=34,SNR=6.0
OSI Osito Adit 33.88 129 P P 03 22 32.3 +1.3
baz=34
OSI Osito Adit 33.88 129 eP P 03 22 32.6 +1.6
N23A Red Feather La 33.88 107 P P 03 22 32.2 +1.0
baz=34,SNR=8.2
EDW2 Edwards Air Fo 33.92 128 P P 03 22 32.2 +0.9
baz=34,SNR=6.1
GSC Goldstone 33.99 126 P P 03 22 33.7 +1.7
baz=34,SNR=22
I29A Vivian Onida 34.05 98 P P 03 22 33.3 +0.9
baz=34,SNR=23
J28A Allard Ranch, 34.07 100 P P 03 22 33.5 +1.0
baz=34,SNR=19
K27A Flueckinger Fa 34.16 101 P P 03 22 34.4 +1.0
baz=34
TUQ Turquoise Moun 34.22 124 P P 03 22 36.1 +2.1
baz=34,SNR=14
L26A Underwood Farm 34.29 103 P P 03 22 35.2 +0.6
baz=34
RRX Edison Barstow 34.29 126 P P 03 22 36.2 +1.7
baz=34
M25A Palm-Egli Farm 34.31 105 P P 03 22 35.9 +1.1
baz=34
DECC Green Verdugo 34.35 129 P P 03 22 36.4 +1.4
baz=34
J29A Okreek 34.51 99 P P 03 22 36.9 +0.6
baz=34,SNR=6.6
I30A Oacoma 34.54 97 P P 03 22 37.4 +0.8
baz=34,SNR=8.4
K28A Ten Mile Ranch 34.55 101 P P 03 22 38.1 +1.2
baz=34,SNR=8.3
L27A T5 Ranch, Ells 34.60 102 P P 03 22 38.1 +0.9
baz=34
PV04 Paradox Valley 34.61 113 eP P 03 22 38.4 +1.0
BFSC Mount Baldy Ra 34.61 128 P P 03 22 38.9 +1.4
baz=34,SNR=11
SMCO Snowmass 34.81 110 eP P 03 22 40.2 +0.8
comp=Z,11nm,1.1s
LDFC Landfair 34.85 124 eP P 03 22 40.9 +1.4
comp=Z,55nm,0.8s
BBRC Big Bear Solar 34.87 127 P P 03 22 41.3 +1.5
baz=35
GMRC Granite Mounta 34.90 125 P P 03 22 41.6 +1.7
baz=35,SNR=21
ISCO Idaho Springs 34.91 108 eP P 03 22 41.4 +1.2
ISCO pmax pmax
comp=Z,6.0nm,0.9s
ISCO Idaho Springs 34.91 108 P P 03 22 41.1 +0.9
baz=35
ISCO Idaho Springs 34.91 108 eP P 03 22 41.4 +1.2
comp=Z,6.1nm,0.9s
J30A Dallas 34.96 98 P P 03 22 40.7 +0.5

baz=35,SNR=7.1
PV01 Paradox Valley 34.97 113 *e*P P 03 22 41.6 +1.0
comp=Z,3μm,0.9s
L28A Connealy Angus 35.03 101 P P 03 22 42.0 +1.1
baz=35
CIS Catalina Islan 35.08 129 P P 03 22 42.6 +1.3
baz=35
N26A Koester Ranch, 35.17 104 P P 03 22 43.4 +1.2
baz=35,SNR=5.2
YAK Yakutsk 35.31 307 P P 03 22 42.9 0.0
comp=Z,5.0nm,0.4s,baz=237,slow=20,SNR=7.0
YAK Yakutsk 35.31 307 *e*P P 03 22 41.7 -1.2
YAK *e* 03 24 01.6
YAK *e*PPP PPP 03 24 15.0
YAK *e*S **S** **03 28 14.9 -1.0**
YAK *e*SS **SnSn** **03 30 35.0 +1.2**
YAK *e*SSS SSS 03 31 05.5
YAK *e* 03 32 55.0
YAK pmax pmax
comp=Z,81nm,0.9s
YAK pmax pmax
comp=N,12nm,0.9s
YAK pmax pmax
comp=E,32nm,1.1s
YAK pmax pmax
comp=Z,42nm,2.4s
YAK smax smax
comp=E,64nm,2.7s
YAK smax smax
comp=N,37nm,2.7s
YAK MLR MLR
comp=Z,1μm,14.0s
YAK MLR MLR
comp=E,879nm,16.0s
YAK MLR MLR
comp=N,511nm,15.0s
YAK Yakutsk 35.31 307 *e*P P 03 22 42.5 -0.4
comp=N,77nm,0.8s
EYMN Ely 35.33 85 P P 03 22 44.3 +0.9
baz=35,SNR=30
EYMN Ely 35.33 85 *e*P P 03 22 43.8 +0.4
comp=N,37nm,0.8s
MURC Murrieta 35.35 128 P P 03 22 45.4 +1.7
baz=35
K30A Basset 35.40 99 P P 03 22 45.3 +1.2
baz=35,SNR=7.7
SCI San Clemente I 35.41 130 P P 03 22 46.0 +1.8
baz=35
BELC Belle Mtn. Jos 35.45 126 P P 03 22 46.1 +1.4
baz=35,SNR=11
L29A Maesberg Ranch 35.47 100 P P 03 22 45.7 +1.0
baz=35
N27A Anderson Farm, 35.51 104 P P 03 22 46.0 +0.9
baz=35
M28A Bar X Bar Ranc 35.58 102 P P 03 22 46.4 +0.7
baz=35
O26A Horse Wrangler 35.60 105 P P 03 22 47.0 +1.0
baz=36
PFO Pinyon Flat Ob 35.62 127 *e*P P 03 22 47.0 +0.8
PFO pmax pmax
comp=Z,13nm,0.6s
PFO Pinyon Flat Ob 35.62 127 P P 03 22 47.2 +1.1
baz=36
PFO Pinyon Flat Ob 35.62 127 *e*P P 03 22 47.0 +0.8
comp=Z,13nm,0.6s
OGNE Ogallala 35.63 103 P P 03 22 46.9 +0.8
baz=36,SNR=7.4
OGNE Ogallala 35.63 103 *e*P P 03 22 46.2 +0.1
comp=Z,31nm,1.0s
IRM Iron Mountain 35.64 125 P P 03 22 48.1 +1.9
baz=36,SNR=22
MVCO Mesa Verde 35.77 114 P P 03 22 48.2 +0.6
baz=36,SNR=7.1
MVCO Mesa Verde 35.77 114 *e*P P 03 22 48.0 +0.5
comp=Z,18nm,0.8s
Q24A Divide 35.80 108 P P 03 22 49.0 +1.1
baz=36
M29A Burnside Ranch 35.86 101 P P 03 22 49.1 +1.1
baz=36
L30A Spencer Herefo 35.92 100 P P 03 22 49.6 +1.1
baz=36
PDMCI Parker Dam,Lak 35.92 123 P P 03 22 49.9 +1.4
baz=36,SNR=9.8
BC3 Big Chuckawall 35.97 125 P P 03 22 50.4 +1.4
baz=36,SNR=9.8
WUAZ Wupatki 35.99 119 P P 03 22 51.0 +1.8
baz=36,SNR=31
WUAZ Wupatki 35.99 119 *e*P P 03 22 50.6 +1.4
comp=Z,58nm,1.0s
ECSD EROS Data Cent 36.01 95 P P 03 22 49.4 +0.2
baz=36,SNR=39
ECSD EROS Data Cent 36.01 95 *e*P P 03 22 49.3 +0.2
comp=Z,48nm,0.9s
109C Camp Elliot, M 36.02 128 P P 03 22 51.1 +1.7
baz=36
O27A Beecher Island 36.02 104 P P 03 22 50.7 +1.2
baz=36,SNR=9.8
S22A 4UR Ranch, Cre 36.05 111 P P 03 22 51.1 +1.1
baz=36,SNR=19
N28A Pribbeno Ranch 36.06 103 P P 03 22 50.6 +0.8
baz=36,SNR=7.0
P26A Davis Ranch, A 36.13 106 P P 03 22 51.4 +0.9
baz=36
L31A Butterfield Fa 36.15 99 P P 03 22 51.3 +0.8
baz=36
M30A Dale-Ortello V 36.17 100 P P 03 22 51.5 +0.8
baz=36
Y12C Blythe 36.25 124 P P 03 22 53.0 +1.6
baz=36,SNR=16
MONP Monument Peak 36.28 127 P P 03 22 53.7 +1.9
baz=36,SNR=12
BAR Barrett 36.37 128 *e*P P 03 22 53.7 +1.3
comp=Z,27nm,1.1s
N29A Votaw Ranch, W 36.38 102 P P 03 22 53.3 +0.8
baz=36
O28A Krutsinger Ran 36.40 104 P P 03 22 53.6 +0.9
baz=36
SWSC Sam W. Stewart 36.47 126 P P 03 22 54.6 +1.4
baz=36,SNR=7.1
P27A Ficken Ranch, 36.49 105 P P 03 22 53.7 +0.3
baz=36
Q26A Hugo 36.57 107 P P 03 22 55.5 +1.2
baz=36,SNR=12
IBP Imperial Bould 36.61 127 P P 03 22 56.0 +1.5
baz=36
N30A Hueftle Ranch, 36.64 101 P P 03 22 55.6 +0.9
baz=36
SDCO Great Sand Dun 36.64 110 P P 03 22 56.6 +1.5
baz=36,SNR=11
SDCO Great Sand Dun 36.64 110 *e*P P 03 22 56.1 +1.1
comp=Z,16nm,1.2s
SPMN St. Paul 36.69 90 P P 03 22 56.1 +1.1
baz=36,SNR=14
SPMN St. Paul 36.69 90 *e*P P 03 22 55.8 +0.8
comp=Z,92nm,1.1s
M31A Lambtecht Ranc 36.74 100 P P 03 22 56.3 +0.8
baz=37,SNR=5.5
GLA Glamis 36.74 125 *e*P P 03 22 56.4 +0.8
GLA pmax pmax
comp=Z,59nm,1.5s
GLA Glamis 36.74 125 P P 03 22 57.1 +1.4
baz=37,SNR=6.5
GLA Glamis 36.74 125 *e*P P 03 22 56.4 +0.8
comp=Z,59nm,1.5s
O29A 4D Ranch, Culb 36.85 103 P P 03 22 57.2 +0.6
baz=37
P28A Saint Francis 36.85 104 P P 03 22 57.1 +0.5
baz=37,SNR=9.8
L33A Hoskins 36.90 97 P P 03 22 56.7 -0.1
baz=37
KSCO Kaye Shedlock' 36.91 106 P P 03 22 58.3 +1.2
baz=37
KSCO Kaye Shedlock' 36.91 106 *e*P P 03 22 57.6 +0.5
comp=Z,23nm,0.6s
W18A Petrified Fore 37.01 117 P P 03 22 59.3 +1.2
baz=37
W18A Petrified Fore 37.01 117 *e*P P 03 22 58.5 +0.4
comp=Z,42nm,1.1s
BGNE Belgrade 37.07 99 P P 03 22 58.9 +0.5
baz=37,SNR=7.5
BGNE Belgrade 37.07 99 *e*P P 03 22 59.1 +0.8
comp=Z,101nm,1.0s
R26A Arlington 37.11 107 P P 03 22 59.4 +0.6
baz=37,SNR=11
O30A MW Ranch, Wils 37.15 102 P P 03 22 59.7 +0.6
baz=37
N31A Bailey Ranch, 37.16 100 P P 03 22 59.3 +0.3
baz=37
P29A Atwood 37.21 103 P P 03 23 00.3 +0.7
baz=37,SNR=5.0
Q28A Sharon Springs 37.23 105 P P 03 23 00.7 +1.0
baz=37
M33A Taylor Creek F 37.39 98 P P 03 23 00.9 -0.1
baz=37
R27A Eads 37.42 107 P P 03 23 02.4 +1.0
baz=37,SNR=9.8
L34A Svendsen Farm, 37.47 96 P P 03 23 01.8 +0.1
baz=37,SNR=9.7
N32A Stulken Farm, 37.51 100 P P 03 23 02.8 +0.8
baz=37,SNR=6.2
O31A Woolen Ranch, 37.51 101 P P 03 23 02.6 +0.5
baz=37,SNR=6.0
P30A Selden 37.57 103 P P 03 23 03.5 +0.9
baz=37,SNR=8.1
T25A Trinidad 37.63 109 P P 03 23 04.2 +0.8
baz=38,SNR=5.5
L35A Bielow Farm, R 37.75 96 P P 03 23 03.8 -0.2
baz=38
Q29A Oakley 37.76 104 P P 03 23 04.9 +0.7
baz=38,SNR=17
COWI Conover 37.78 86 *e*P P 03 23 04.8 +0.5
comp=Z,17nm,1.0s
R28A Tribune 37.82 105 P P 03 23 05.8 +1.0
baz=38,SNR=6.5
O32A Brockman Farm, 37.92 100 P P 03 23 05.5 0.0
baz=38,SNR=7.3
N33A J Bar K, Exete 37.93 99 P P 03 23 05.8 +0.2
baz=38
T26A Comanche Natio 37.97 108 P P 03 23 06.9 +0.7
baz=38,SNR=13
P31A Stockton 37.99 102 P P 03 23 06.8 +0.7
baz=38,SNR=5.6
Q30A Quinter 38.04 103 P P 03 23 07.5 +1.0
baz=38,SNR=7.1
R29A Marienthal 38.06 105 P P 03 23 08.0 +1.2
baz=38,SNR=9.5
M35A Neola 38.18 96 P P 03 23 07.9 +0.2
baz=38
SUMG Summit 38.20 27⇑ *i*P P 03 23 08.8 +0.8
comp=Z,12nm,0.6s
SUMG Summit 38.20 27⇑ *i*P P 03 23 08.8 +0.8
SUMG pmax pmax
comp=Z,12nm,0.6s
SUMG Summit 38.20 27 *e*P P 03 23 08.7 +0.8
comp=Z,21nm,0.6s
P32A Huiting Farm, 38.27 101 P P 03 23 08.8 +0.3
baz=38,SNR=24
N34A Lincoln 38.29 98 P P 03 23 08.7 0.0
baz=38,SNR=6.0
DAG Danmarks Havn 38.38 16 *i* P P 03 23 09.1 +0.2
comp=Z,18nm,0.7s
DAG Danmarks Havn 38.38 16 *i* P P 03 23 09.1 +0.2
DAG pmax pmax
comp=Z,12nm,0.7s
O33A Hebron 38.39 100 P P 03 23 09.5 +0.1
baz=38,SNR=8.5
CBKS Cedar Bluff 38.39 103 *e*P P 03 23 10.1 +0.6
CBKS pmax pmax
comp=Z,36nm,0.7s
CBKS Cedar Bluff 38.39 103 P P 03 23 10.6 +1.0
baz=38,SNR=10.0
CBKS Cedar Bluff 38.39 103 *e*P P 03 23 10.1 +0.6
comp=Z,36nm,0.7s
S28A Manter 38.40 106 P P 03 23 10.6 +1.0
baz=38,SNR=13
Q31A Ellis 38.40 102 P P 03 23 10.4 +0.8
baz=38,SNR=7.2
T27A Campo 38.45 108 P P 03 23 11.1 +0.9
baz=38
214A Organ Pipe Nat 38.50 123 P P 03 23 12.3 +1.8
baz=38,SNR=12
214A Organ Pipe Nat 38.50 123 *e*P P 03 23 12.1 +1.6
comp=Z,22nm,1.0s
ANMO Albuquerque 38.56 114 *c i*P P 03 23 12.4 +1.2
ANMO pmax pmax
comp=Z,34nm,1.4s
ANMO Albuquerque 38.56 114 *e*P P 03 23 12.1 +0.9
comp=Z,15nm,1.2s
R30A Dighton 38.57 104 P P 03 23 12.1 +1.0
baz=38,SNR=18
N35A Tabor 38.68 97 P P 03 23 12.7 +0.8
baz=38,SNR=7.7
T28A Walsh 38.68 107 P P 03 23 12.9 +0.8
baz=39,SNR=11
O34A Beatrice 38.72 99 P P 03 23 12.2 0.0
baz=39,SNR=8.6
S29A Ulysses 38.73 105 P P 03 23 13.4 +1.0
baz=39,SNR=7.0
Q32A Meitler Ranch, 38.80 102 P P 03 23 13.3 +0.4
baz=39,SNR=8.5
P33A Williams Farm, 38.84 100 P P 03 23 13.6 +0.3
baz=39,SNR=7.6
R31A Burdett 38.91 103 P P 03 23 14.8 +0.8
baz=39,SNR=12
U27A Thompson Grove 38.94 108 P P 03 23 15.3 +1.0
baz=39
SFJD Kangerlussuaq 38.96 38 *i* P P 03 23 15.3 +1.4
comp=Z,17nm,0.8s
SFJD Kangerlussuaq 38.96 38 *i* P P 03 23 15.3 +1.4
SFJD pmax pmax
comp=Z,17nm,0.8s
LENM Lemitar 39.00 115 *e*P P 03 23 16.9 +2.0
comp=Z,89nm,1.2s
TUC Tucson 39.01 121 *e*P P 03 23 16.0 +1.2
TUC pmax pmax
comp=Z,12nm,1.0s
TUC Tucson 39.01 121 *e*P P 03 23 16.0 +1.2
comp=Z,12nm,1.0s
S30A Montezuma 39.01 105 P P 03 23 15.7 +0.9
baz=39
SCIA State Center 39.01 94 *e*P P 03 23 15.4 +0.8
comp=Z,55nm,1.1s
O35A Humboldt 39.02 98 P P 03 23 14.4 -0.3
baz=39
T29A Hugoton 39.02 106 P P 03 23 15.6 +0.7
baz=39
LPM Los Pinos Moun 39.03 114 *e*P P 03 23 15.9 +0.8
comp=Z,5.2nm,0.9s
KBS Kingsbay 39.06 5 *e* P 03 23 17.6 +2.9
Y22D IRIS PASSCAL I 39.10 115 P P 03 23 15.5 -0.2
baz=39
Q33A Connelly Farm, 39.13 101 P P 03 23 16.3 +0.6
baz=39,SNR=24
P34A Walnut Farm, R 39.16 99 P P 03 23 15.9 0.0
baz=39,SNR=9.8
R32A Long Quarter, 39.18 102 P P 03 23 16.8 +0.7
baz=39,SNR=15
U28A Mallet 39.24 108 P P 03 23 17.5 +0.8
baz=39
T30A Plains 39.46 105 P P 03 23 18.7 +0.2
baz=39
S31A Mullinville 39.48 104 P P 03 23 19.0 +0.4
baz=39
V27A Dan Oppiter Fa 39.48 109 P P 03 23 19.5 +0.7
baz=39
P35A Duane Minner, 39.55 99 P P 03 23 19.4 +0.2
baz=39,SNR=11
O36A Bolckow 39.57 97 P P 03 23 19.9 +0.5
baz=39
Q34A Chapman 39.61 100 P P 03 23 20.2 +0.6
baz=40,SNR=7.6
R33A Olander Ranch, 39.61 102 P P 03 23 20.0 +0.3
baz=40,SNR=11
U29A Oasis Ranch, S 39.62 107 P P 03 23 20.6 +0.8
baz=40
KSU1 Kansas State U 39.62 100 P P 03 23 20.2 +0.4
baz=40,SNR=21
KSU1 Kansas State U 39.62 100 *e*P P 03 23 20.1 +0.4
comp=Z,65nm,0.6s
JFWS Jewell Farm 39.64 90 *e*P P 03 23 20.1 +0.2
JFWS pmax pmax
comp=Z,53nm,0.7s
JFWS Jewell Farm 39.64 90 *e*P P 03 23 20.1 +0.2
comp=Z,53nm,0.7s
S32A Newby Ranch, P 39.66 103 P P 03 23 20.8 +0.6
baz=40,SNR=14
YSS Yuzh-Sakhalins 39.66 280 *e*P P 03 23 16.1 -3.9
YSS *e* 03 23 20.5
YSS MLR MLR
comp=Z,500nm,19.0s
V28A Channing 39.76 108 P P 03 23 21.7 +0.6
baz=40,SNR=6.4
U30A WK&E Inc. Balk 39.83 106 P P 03 23 22.2 +0.6
baz=40,SNR=11
P36A Good Intent, A 39.86 98 P P 03 23 21.7 0.0
baz=40,SNR=9.4
R34A Isabella, Hill 39.96 101 P P 03 23 23.0 +0.3
baz=40,SNR=9.0
V29A Stinnett 39.98 107 P P 03 23 23.5 +0.7
baz=40
121A Cookes Peak, D 40.06 117 P P 03 23 25.7 +2.0
baz=40,SNR=7.2
121A Cookes Peak, D 40.06 117 *e*P P 03 23 25.4 +1.7
comp=Z,19nm,0.9s
Q35A Mercer Eighty, 40.08 99 P P 03 23 23.9 +0.3
baz=40,SNR=22
T32A Huddler Ranch, 40.09 104 P P 03 23 24.6 +0.9
baz=40
S33A Kaszmaul Farm, 40.18 102 P P 03 23 24.8 +0.4
baz=40
W28A Vega 40.18 109 P P 03 23 25.5 +0.9
baz=40
Q36A Arnold C. Orve 40.27 99 P P 03 23 25.3 +0.2
baz=40,SNR=19
U31A Nine Bar Ranch 40.33 105 P P 03 23 26.8 +1.0
baz=40,SNR=5.9
R35A Emporia Munici 40.43 100 P P 03 23 26.4 -0.1
baz=40
V30A Spur Ranch, Mi 40.45 107 P P 03 23 27.0 +0.2
baz=40
T33A Patterson Ranc 40.48 103 P P 03 23 27.5 +0.5
baz=40
S34A Willow Spring 40.51 101 P P 03 23 27.3 +0.1
baz=40
CLNS Chul'man 40.52 303 *e*P P 03 23 26.8 -0.3
CLNS pmax pmax
comp=Z,17nm,0.5s
CLNS pmax pmax
comp=N,7.0nm,0.4s
W29A Amraillo 40.55 108 P P 03 23 28.5 +0.9
baz=40
U32A Winter Ranch, 40.71 104 P P 03 23 29.5 +0.6
baz=41
AMTX Amarillo 40.73 108 P P 03 23 29.9 +0.8
baz=41
AMTX Amarillo 40.73 108 *e*P P 03 23 30.3 +1.2
comp=N,24nm,0.8s
KIP Kipapa 40.73 191 *e*P P 03 23 31.1 +2.0
KIP pmax pmax
comp=Z,49nm,1.4s
R36A Gordon, Harris 40.76 99 P P 03 23 29.4 +0.2
baz=41,SNR=24
X28A Dimmitt 40.80 109 P P 03 23 30.5 +0.7
baz=41,SNR=12
Q37A Longview Farm, 40.81 98 P P 03 23 29.5 0.0
baz=41,SNR=9.3
V31A Spring Creek L 40.83 106 P P 03 23 31.2 +1.4
baz=41,SNR=19
GLMI Grayling 40.86 83 *e*P P 03 23 30.7 +0.7
comp=Z,73nm,1.0s
S35A Otter Creek Ra 40.89 101 P P 03 23 30.3 0.0
baz=41,SNR=19
W30A Crocket Farms 40.98 107 P P 03 23 31.6 +0.5
baz=41
MSTX Muleshoe 41.01 110 P P 03 23 32.2 +0.8
baz=41,SNR=30
MSTX Muleshoe 41.01 110 *e*P P 03 23 32.3 +0.8
comp=Z,52nm,1.0s
T34A McClaskey Farm 41.02 102 P P 03 23 31.6 +0.2
baz=41,SNR=18
U33A Lingo Farm, Me 41.08 103 P P 03 23 31.5 -0.3
baz=41,SNR=6.1
R37A Teagarden Farm 41.08 99 P P 03 23 31.3 -0.6
baz=41,SNR=7.2
X29A Tulia 41.09 109 P P 03 23 32.8 +0.8
baz=41,SNR=8.3
S36A Lake Cedric, C 41.20 100 P P 03 23 32.7 -0.1
baz=41,SNR=20
V32A Arapaho 41.23 105 P P 03 23 34.0 +0.9
baz=41
W31A Holland Ranch, 41.27 106 P P 03 23 34.0 +0.6
baz=41,SNR=6.7
Y28A McKinney Farm, 41.30 110 P P 03 23 34.3 +0.5
baz=41
U34A Anderson Ranch 41.34 103 P P 03 23 34.2 +0.3
baz=41
U34A Anderson Ranch 41.34 103 *e*P P 03 23 34.3 +0.3
comp=Z,54nm,0.7s
T35A Sooner Cattle 41.42 101 P P 03 23 34.6 -0.1
baz=41,SNR=20
X30A Coker Ranch, T 41.46 108 P P 03 23 35.6 +0.6
baz=41,SNR=23
V33A Lossen Ranch, 41.50 104 P P 03 23 35.4 +0.1
baz=41,SNR=10
S37A Fort Scott 41.53 99 P P 03 23 35.0 -0.5
baz=41,SNR=11
SCHQ Schefferville 41.56 60 P P 03 23 35.8 +0.2
comp=Z,15nm,0.8s,baz=322,slow=8.8,SNR=22
SCHQ LR LR 03 41 57.3
comp=Z,143nm,19.5s,baz=291,slow=38
Y29A Porterfield Fa 41.59 109 P P 03 23 36.7 +0.5
baz=42,SNR=13
T36A Boggs Farm, Ca 41.60 101 P P 03 23 36.1 0.0
baz=42,SNR=12
W32A Sentinel 41.63 106 P P 03 23 37.0 +0.5
baz=42,SNR=14
X31A McDonald Ranch 41.71 107 P P 03 23 37.8 +0.7
baz=42,SNR=17
Z28A Tucker Farm, M 41.76 110 P P 03 23 37.8 +0.3
baz=42
U35A Pawnee 41.77 102 P P 03 23 37.1 -0.4
baz=42
V34A Guthrie 41.84 103 P P 03 23 38.2 0.0
baz=42,SNR=16
V34A Guthrie 41.84 103 *e*P P 03 23 38.1 0.0
comp=Z,40nm,0.7s
ASAJ Asahikawa 41.85 277 LR LR 03 41 18.9
comp=Z,230nm,20.4s,baz=344,slow=37
HDIL Hopedale 41.92 91 P P 03 23 38.8 +0.1
baz=42,SNR=13
HDIL Hopedale 41.92 91 *e*P P 03 23 38.5 -0.1
comp=Z,98nm,0.9s
Y30A Stafford Cattl 41.93 108 P P 03 23 39.4 +0.5
baz=42,SNR=11
W33A Caddo, Fort Co 41.97 105 P P 03 23 39.4 +0.2
baz=42
T37A Cheneyville 18 42.00 100 P P 03 23 39.0 -0.4
baz=42,SNR=16
Z29A Hungry Hill Ra 42.08 110 P P 03 23 40.9 +0.7
baz=42,SNR=39
HABR Khabarovsk 42.10 287 *e*P P 03 23 38.5 -1.6
HABR *e*PP **pP** **03 23 41.6 -3.5**
HABR *e*SP **sP** **03 23 42.9 -4.1**
HABR *e* 03 25 15.8
HABR *e* 03 25 33.5
HABR PPP PPP 03 25 44.9
HABR *e*S **S** **03 29 58.1 -0.5**
HABR *e*SS **sS** **03 30 03.4 -3.4**
HABR *e*SS **SS** **03 33 05.4 -0.3**
HABR *e* 03 33 40.6
HABR pmax pmax
comp=Z,11nm,1.0s
HABR MLR MLR
comp=Z,160nm,19.0s
Y31A Rekieta Farm, 42.14 108 P P 03 23 40.7 +0.1
baz=42
WMOK Wichita Mounta 42.17 106 *e*P P 03 23 41.3 +0.5
WMOK pmax pmax
comp=Z,26nm,0.8s
WMOK Wichita Mounta 42.17 106 *e*P P 03 23 41.3 +0.5
comp=Z,26nm,0.8s
X32A Elmer 42.20 106 P P 03 23 41.6 +0.5
baz=42,SNR=6.4
U36A Oologah 42.21 101 P P 03 23 41.2 +0.1
baz=42
V35A Meyer Ranch, C 42.22 103 P P 03 23 41.1 0.0
baz=42,SNR=10
W34A Bridge Creek, 42.22 104 P P 03 23 41.4 +0.2
baz=42,SNR=7.0
W34A Bridge Creek, 42.22 104 *e*P P 03 23 41.6 +0.4
comp=Z,40nm,1.0s
128A Castleberry Fa 42.28 111 P P 03 23 42.5 +0.7
baz=42,SNR=9.3
Z30A Sanderson Ranc 42.32 109 P P 03 23 42.4 +0.3
baz=42,SNR=12
X33A Lawton 42.46 105 P P 03 23 43.7 +0.5
baz=42,SNR=14
Y32A R-V Farms, Ver 42.48 107 P P 03 23 43.6 +0.2
baz=42,SNR=12
129A Stewart Farms, 42.54 110 P P 03 23 44.5 +0.5
baz=42
TUL1 Tulsa 42.58 102 P P 03 23 44.2 +0.1
baz=42,SNR=9.7
TUL1 Tulsa 42.58 102 *e*P P 03 23 44.0 -0.1

V36A Jenks 42.61 102 P P 03 23 44.4 +0.1
baz=42,SNR=11
228A UT Block 9, Go 42.66 112 P P 03 23 45.9 +1.0
baz=42
W35A Tecumseh 42.70 103 P P 03 23 45.2 +0.1
baz=43,SNR=17
X34A Smith Ranch, M 42.72 105 P P 03 23 45.9 +0.7
baz=43,SNR=5.5
Z31A Sharp Cattle R 42.73 108 P P 03 23 45.3 -0.2
baz=43,SNR=9.5
Y33A Hilltop Ranch, 42.84 106 P P 03 23 46.8 +0.5
baz=43
V37A Hulbert 42.90 101 P P 03 23 46.3 -0.4
baz=43,SNR=14
130A Snyder 42.98 110 P P 03 23 48.0 +0.6
baz=43,SNR=6.8
W36A Wetumka 43.01 103 P P 03 23 47.8 +0.2
baz=43
KLR Kul'dur 43.03 290 eP P 03 23 43.2 -4.4
Z32A Haskell 43.05 107 P P 03 23 48.0 +0.1
baz=43,SNR=20
SFIN Scholer Farm 43.10 90 P P 03 23 48.6 +0.3
baz=43,SNR=14
SFIN Scholer Farm 43.10 90 eP P 03 23 48.2 -0.1
comp=Z,31nm,0.8s
229A Bryant Ranch, 43.13 111 P P 03 23 49.4 +0.6
baz=43
131A Roby 43.17 109 P P 03 23 49.4 +0.4
baz=43,SNR=11
ERM Erimo 43.19 274 eP P 03 23 49.4 +0.4
ERM pmax pmax
comp=Z,19nm,1.1s
ERM Erimo 43.19 274 eP P 03 23 49.8 +0.8
X35A Drake 43.28 104 P P 03 23 49.8 0.0
baz=43,SNR=9.4
Y34A Reagan Ranch, 43.28 105 P P 03 23 50.3 +0.4
baz=43,SNR=11
W37A Quinton 43.38 102 P P 03 23 50.8 +0.2
baz=43,SNR=16
Z33A Whitaker Ranch 43.38 107 P P 03 23 50.6 -0.1
baz=43,SNR=7.0
X36A Centrahoma 43.42 103 P P 03 23 51.3 +0.3
baz=43,SNR=12
329A Wagon Wheel Ra 43.47 111 P P 03 23 52.2 +0.8
baz=43
230A Sterling City 43.51 110 P P 03 23 52.1 +0.3
baz=43,SNR=6.5
ABTX Abilene, Hawle 43.55 108 P P 03 23 52.2 +0.2
baz=43
ABTX Abilene, Hawle 43.55 108 eP P 03 23 52.2 +0.2
comp=Z,16nm,0.8s
Y35A Marietta 43.66 104 P P 03 23 53.4 +0.6
baz=44
Z34A Collier Ranch, 43.70 106 P P 03 23 53.6 +0.4
baz=44
231A Bronte 43.83 109 P P 03 23 54.3 +0.1
baz=44,SNR=8.6
W38A Poteau 43.86 101 P P 03 23 54.5 0.0
baz=44
X37A Clayton 43.86 102 P P 03 23 54.8 +0.3
baz=44,SNR=18
133A Hamilton Ranch 43.89 107 P P 03 23 54.8 +0.1
baz=44,SNR=9.8
330A Mertzon 43.89 111 P P 03 23 55.1 +0.2
baz=44,SNR=12
BOD Bodaibo 43.98 310 eP P 03 23 54.2 -1.0
BOD pmax pmax
comp=Z,25nm,0.9s
Y36A Durant 44.01 104 P P 03 23 55.8 +0.2
baz=44,SNR=6.5
Z35A Perchaven, San 44.04 105 P P 03 23 56.2 +0.3
baz=44
X38A Whitesboro 44.05 102 P P 03 23 56.4 +0.5
baz=44,SNR=15
232A Coleman 44.16 109 P P 03 23 57.4 +0.4
baz=44,SNR=46
SIUC Southern Illin 44.20 94 eP P 03 23 57.2 0.0
comp=Z,46nm,1.0s
Y37A Hugo 44.25 103 P P 03 23 58.2 +0.6
baz=44,SNR=14
134A White-Moore Ra 44.30 107 P P 03 23 58.0 0.0
baz=44,SNR=8.7
331A San Angelo 44.31 110 P P 03 23 58.6 +0.5
baz=44
BLO Bloomington 44.32 90 eP P 03 23 58.0 -0.1
BLO pmax pmax
comp=Z,33nm,0.8s
BLO Bloomington 44.32 90 eP P 03 23 58.0 -0.1
comp=Z,33nm,0.8s
233A Rising Star 44.39 108 P P 03 23 59.2 +0.4
baz=44
430A Baggett Ranch, 44.39 111 P P 03 23 59.1 +0.2
baz=44,SNR=10
Z36A Blue Ridge 44.46 104 P P 03 23 59.1 -0.2
baz=44,SNR=10.0
332A Millersview 44.55 109 P P 03 24 00.5 +0.5
baz=44,SNR=10
TXAR Lajitas Array 44.58 115 P P 03 24 01.5 +1.0
comp=Z,5.9nm,0.8s,baz=331,slow=6.2,SNR=66
TXAR LR LR 03 44 41.5
comp=Z,298nm,18.2s,baz=0.0,slow=39
135A Vickery Place, 44.61 106 P P 03 24 00.8 +0.3
baz=44
Y38A Idabel 44.70 102 P P 03 24 01.4 +0.2
baz=45
MIAR Mount Ida 44.73 101 eP P 03 24 01.1 -0.3
MIAR pmax pmax
comp=Z,22nm,1.0s
MIAR Mount Ida 44.73 101 P P 03 24 01.3 -0.1
baz=45,SNR=21
MIAR Mount Ida 44.73 101 eP P 03 24 01.1 -0.3
comp=Z,22nm,1.0s
USIN University of 44.74 92 eP P 03 24 01.5 +0.1
comp=Z,80nm,0.7s
234A Clairette 44.75 107 P P 03 24 01.8 +0.1
baz=45,SNR=18
431A Sonora 44.76 111 P P 03 24 01.9 +0.1
baz=45,SNR=19
530A J-C Ranch, Com 44.90 112 P P 03 24 03.4 +0.6
baz=45,SNR=6.0
Z37A Pogue Cattle C 44.90 104 P P 03 24 02.9 +0.1
baz=45
333A Richland Sprin 44.94 108 P P 03 24 03.3 +0.1
baz=45,SNR=22
432A Menard 44.96 110 P P 03 24 03.5 +0.2
baz=45
Y39A Lockesburg 44.99 102 P P 03 24 03.6 +0.1
baz=45,SNR=5.1
WHTX Lake Whitney 45.07 106 P P 03 24 04.6 +0.4
baz=45
UALR University of 45.12 99 eP P 03 24 03.8 -0.7
comp=Z,9.3nm,0.7s
Z38A Mt. Pleasant 45.15 103 P P 03 24 05.0 +0.2
baz=45
ACSO Alum Creek Sta 45.16 86 eP P 03 24 05.0 +0.1
comp=Z,36nm,0.8s
531A Rocksprings 45.23 111 P P 03 24 06.3 +0.8
baz=45,SNR=13
334A Lometa 45.27 108 P P 03 24 05.9 +0.1
baz=45,SNR=17
JCT Junction City 45.29 110 eP P 03 24 06.6 +0.6
JCT pmax pmax
comp=Z,37nm,0.7s
JCT Junction City 45.29 110 P P 03 24 06.4 +0.4
baz=45,SNR=25
JCT Junction City 45.29 110 eP P 03 24 06.6 +0.6
comp=Z,37nm,0.7s
137A Heron Place, G 45.34 104 P P 03 24 06.9 +0.6
baz=45
433A Art 45.38 109 P P 03 24 06.4 -0.2
baz=45,SNR=8.0
236A Katherine and 45.48 105 P P 03 24 07.9 +0.5
baz=45
Z39A Irene McRaven, 45.53 102 P P 03 24 08.2 +0.5
baz=45
532A Rocksprings 45.55 110 P P 03 24 08.7 +0.6
baz=45,SNR=22
138A Matatall Enter 45.59 103 P P 03 24 08.6 +0.4
baz=46
335A Moody 45.68 107 P P 03 24 09.4 +0.4
baz=46
LONY Lake Ozonia 45.69 75 eP P 03 24 08.5 -0.5
comp=Z,7.5nm,0.6s
434A Burnet 45.70 108 P P 03 24 09.4 +0.3
baz=46,SNR=16
237A Washetta, Mont 45.81 105 P P 03 24 10.4 +0.4
baz=46

336A Riesel 45.86 106 P P 03 24 10.5 +0.1
baz=46
631A Perdido Creek 45.86 111 P P 03 24 10.5 0.0
baz=46,SNR=9.1
139A Bunkhouse Ranc 45.90 103 P P 03 24 11.0 +0.3
baz=46
533A Kerrville 45.98 109 P P 03 24 11.8 +0.4
baz=46,SNR=10
435B Jarrell 46.03 107 P P 03 24 12.2 +0.4
baz=46
238A Jacksonville 46.13 104 P P 03 24 12.8 +0.3
baz=46
632A Uvalde 46.13 111 P P 03 24 12.6 -0.1
baz=46,SNR=13
534A Blanco 46.27 109 P P 03 24 13.7 0.0
baz=46,SNR=10
239A Gary 46.41 103 P P 03 24 15.1 +0.3
baz=46
633A Saathoff Ranch 46.44 110 P P 03 24 15.6 +0.6
baz=46,SNR=7.7
NATX Nacogdoches 46.54 104 P P 03 24 16.7 +0.9
baz=46
NATX Nacogdoches 46.54 104 eP P 03 24 16.3 +0.6
comp=Z,20nm,0.8s
535A Dale 46.68 108 P P 03 24 17.8 +0.9
baz=47
OXF Oxford 46.71 97 eP P 03 24 17.5 +0.4
OXF pmax pmax
comp=Z,58nm,0.7s
OXF Oxford 46.71 97 eP P 03 24 17.4 +0.4
comp=Z,58nm,0.7s
USRK Ussuriysk Ar. 46.72 285 P P 03 24 15.9 -1.1
comp=Z,1.0nm,0.5s,baz=319,slow=29,SNR=3.9
USRK LR LR 03 46 14.0
comp=Z,437nm,18.5s,baz=37,slow=39
732A Laxson Ranch, 46.72 111 P P 03 24 17.7 +0.5
baz=47,SNR=10
536A Bastrop 46.87 107 P P 03 24 19.5 +1.1
baz=47
634A China Grove, S 46.88 109 P P 03 24 19.5 +1.1
baz=47
339A Huntington 46.95 104 P P 03 24 19.4 +0.5
baz=47
733A Divot King Ran 47.03 111 P P 03 24 20.2 +0.6
baz=47,SNR=5.3
ACCN Adirondack Com 47.06 76 eP P 03 24 19.4 -0.3
comp=Z,3.9nm,0.6s
832A Faith Ranch, C 47.10 112 P P 03 24 20.9 +0.7
baz=47,SNR=17
635A Leesville 47.13 109 P P 03 24 21.1 +0.7
baz=47,SNR=5.3
340A Bronson 47.19 103 P P 03 24 21.2 +0.4
baz=47
537A Green Hill Far 47.20 107 P P 03 24 21.8 +0.9
baz=47
734A La Parita Cree 47.24 110 P P 03 24 22.6 +1.3
baz=47
SSPA Standing Stone 47.25 82 eP P 03 24 21.6 +0.4
comp=Z,30nm,1.3s
833A Chaparral WMA, 47.32 111 P P 03 24 22.9 +1.0
baz=47
636A Smothers Creek 47.38 108 P P 03 24 24.3 +2.0
baz=47,SNR=15
538A Harpers Horsep 47.46 106 P P 03 24 24.4 +1.5
baz=47
HKT Hockley 47.53 106 eP P 03 24 24.1 +0.7
HKT pmax pmax
comp=Z,28nm,1.3s
HKT Hockley 47.53 106 eP P 03 24 24.1 +0.7
comp=Z,28nm,1.3s
735A Kenedy 47.57 109 P P 03 24 25.4 +1.5
baz=48
PKME Peks-Kenny Pk 47.59 71 eP P 03 24 23.7 -0.1
comp=Z,16nm,0.8s
440A Kirbyville 47.72 104 P P 03 24 26.4 +1.4
baz=48
HAMF Hammerfest 47.72 3 eP P 03 24 24.8 +0.4
637A Eagle Lake 47.74 107 P P 03 24 26.9 +1.7
baz=48
736A Circle Diamond 47.82 108 P P 03 24 27.6 +1.9
baz=48
834A Tilden 47.87 110 P P 03 24 27.9 +1.8
baz=48,SNR=9.2
WVL Waterville 47.97 72 eP P 03 24 26.5 -0.2
comp=Z,8.5nm,1.0s
933A Laredo 47.99 111 P P 03 24 28.5 +1.5
baz=48,SNR=9.7
835A Beeville 48.05 109 P P 03 24 29.0 +1.4
baz=48
VBMS Vicksburg 48.08 99 P P 03 24 28.6 +0.9
baz=48,SNR=7.9
BORG Borgarnes 48.18 26 LR LR 03 45 49.1
comp=Z,112nm,19.7s,baz=340,slow=37
HIA Hailar 48.19 298 c iP P 03 24 27.9 -0.5
HIA pmax pmax
comp=Z,22nm,1.0s
HIA Hailar 48.19 298 eP P 03 24 28.3 -0.2
comp=Z,12nm,0.8s
TRO Tromso 48.58 5 eP P 03 24 31.9 +0.8
KEV Kevo 48.66 1 eP P 03 24 31.2 -0.5
KEV Kevo 48.66 1 eP P 03 24 31.2 -0.5
SDMD Soldier's Deli 48.71 82 eP P 03 24 32.4 -0.1
comp=Z,49nm,1.0s
BLA Blacksburg 48.78 86 eP P 03 24 33.3 +0.2
BLA pmax pmax
comp=Z,24nm,0.6s
BLA Blacksburg 48.78 86 eP P 03 24 33.3 +0.2
comp=Z,24nm,0.6s
EMMW East Machias 48.84 70 eP P 03 24 33.5 0.0
comp=Z,43nm,1.1s
ARCES ARCESS Array B 48.87 2 P P 03 24 31.8 -1.6
comp=Z,5.4nm,0.6s,baz=10,slow=7.4,SNR=14
ARCES PcP PcP 03 25 56.5 -1.0
comp=Z,3.6nm,0.6s,baz=1.1,slow=4.7,SNR=3.2
ARE0 ARCESS Array S 48.87 2 eP P 03 24 35.1 +1.8
ARE0 ARCESS Array S 48.87 2 eP P 03 24 33.7 +0.3
LRAL Lakeview Retre 49.06 96 eP P 03 24 34.9 -0.4
comp=Z,17nm,0.9s
035A Encino 49.09 111 P P 03 24 37.3 +1.7
baz=49
KTK1 Kautokeino 49.34 3 eP P 03 24 39.1 +2.1
KTK1 IAmb IAmb 03 24 43.9
comp=Z,27nm,1.2s
CBN Corbin 49.42 83 eP P 03 24 37.4 -0.5
comp=Z,34nm,0.4s
MAJO Matsushiro 49.86 274 eP P 03 24 40.4 -1.0
MAJO pmax pmax
comp=Z,21nm,1.0s
MJAR Matsushiro Arr 49.86 274 P P 03 24 41.0 -0.4
comp=Z,1.4nm,0.6s,baz=9.7,slow=6.7,SNR=4.5
MJAR ScP ScP 03 29 55.0 -1.3
comp=Z,0.6nm,0.5s,baz=125,slow=11,SNR=4.5
MJAR LR LR 03 46 55.1
comp=Z,168nm,20.3s,baz=40,slow=37
MJAR Matsushiro Arr 49.86 274 P P 03 24 41.0 -0.4
CN2 Changchun 49.98 290 eP P 03 24 41.4 -0.8
CN2 esP sP 03 24 50.5 +1.3
CN2 PcP PcP 03 26 00.9 -1.1
CN2 eS S 03 31 48.2 -3.6
CN2 PMZ
comp=Z,50nm,0.8s
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,300nm,11.0s
CN2 LE
comp=Z,200nm,11.0s
CN2 LZ
comp=Z,200nm,12.0s
KMSC Kings Mountain 50.02 89 P P 03 24 42.6 +0.1
baz=50,SNR=9.0
KMSC Kings Mountain 50.02 89 eP P 03 24 42.5 -0.1
comp=Z,11nm,0.6s
GOGA Godfrey 50.42 92 eP P 03 24 45.5 -0.2
GOGA pmax pmax
comp=Z,9.0nm,0.7s
GOGA Godfrey 50.42 92 eP P 03 24 45.5 -0.2
comp=Z,8.6nm,0.7s
BRAL Brewton 50.71 97 eP P 03 24 47.5 -0.4
comp=Z,91nm,0.9s
STOK Stokkvaagen 51.54 8 eP P 03 24 59.6 +6.0
TIGA Tifton 51.99 94 P P 03 24 57.1 -0.4
baz=52
TIGA Tifton 51.99 94 eP P 03 24 56.9 -0.5
comp=Z,28nm,0.3s
NHSC New Hope 52.23 89 eP P 03 24 59.8 +0.6
comp=Z,377nm,1.9s

SNY Shenyang 52.39 290 ⇓P P 03 25 00.1 -0.1
SNY PMZ
comp=Z,14nm,0.7s
SNY PMZ
comp=Z,140nm,5.4s
SNY LN
comp=Z,310nm,16.8s
SNY LE
comp=Z,230nm,14.9s
SNY LZ
comp=Z,360nm,16.3s
KRAR Krasnoyarsk 52.46 321 eP P 03 25 00.4 -0.2
KRAR pmax pmax
comp=Z,40nm,0.9s
TLY Talaya 52.52 311 P P 03 25 01.2 0.0
comp=Z,4.8nm,0.4s,baz=325,slow=4.4,SNR=4.5
TLY Talaya 52.52 311 ceP P 03 25 02.3 +1.1
TLY e 03 26 13.3
TLY pmax pmax
comp=Z,16nm,1.1s
TLY MLR MLR
comp=Z,420nm,19.0s
TLY Talaya 52.52 311 eP P 03 25 02.0 +0.8
comp=Z,12nm,0.9s
MOY Mondy 53.47 313 eP P 03 25 09.9 +1.6
ZAK Zakamensk 53.72 310 ⇓iP P 03 25 10.5 +0.4
ZAK pmax pmax
comp=Z,7.0nm,0.8s
KSRS Korea Array 53.94 283 P P 03 25 11.7 0.0
comp=Z,9.3nm,0.6s,baz=28,slow=6.8,SNR=17
KSRS ScP ScP 03 30 12.6 -1.3
comp=Z,2.6nm,1.0s,baz=37,slow=4.1,SNR=9.1
KSRS LR LR 03 47 26.7
comp=Z,238nm,21.7s,baz=63,slow=35
KSAR Wonju Array Be 53.97 283 P P 03 25 11.7 -0.2
KSAR Wonju Array Be 53.97 283 P P 03 25 11.7 -0.2
SONM Songino Array 54.67 306 P P 03 25 17.1 +0.1
comp=Z,37nm,0.8s,baz=33,slow=7.4,SNR=83
SONM ScP ScP 03 30 16.4 -0.7
comp=Z,4.6nm,1.2s,baz=157,slow=8.0,SNR=4.8
SONM LR LR 03 51 28.1
comp=Z,439nm,19.1s,baz=79,slow=39
TJN Taejon 55.08 283 eP P 03 25 20.7 +0.7
AKN Aaknes 55.11 13 eP P 03 25 20.6 +0.7
AKN epP pP 03 25 26.2 +1.1
PRGR Permogore 56.21 351 eP P 03 25 27.7 -0.1
PRGR pmax pmax
comp=Z,58nm,0.8s
NVS Novosibirsk 56.22 326 ⇓iP P 03 25 26.0 -1.9
NVS e 03 26 23.0
NVS e 03 33 12.6
NVS pmax pmax
comp=N,3.0nm,0.8s
NVS pmax pmax
comp=E,5.0nm,0.8s
NVS pmax pmax
comp=Z,9.0nm,0.8s
ZALV Zalesovo Beam 56.58 324 P P 03 25 29.3 -1.2
comp=Z,12nm,0.6s,baz=27,slow=6.4,SNR=34
ZALV LR LR 03 53 27.8
comp=Z,351nm,18.6s,baz=68,slow=40
NB2 NORSAR Subarra 56.63 11 P P 03 25 30.2 -0.7
comp=Z,7.1nm,0.8s,baz=350,slow=7.4
NB2 NORSAR Subarra 56.63 11 P P 03 25 30.2 -0.7
baz=350,slow=7.4
NOA NORSAR Array B 56.63 11 P P 03 25 29.8 -1.1
comp=Z,3.0nm,0.6s,baz=350,slow=7.2,SNR=15
NOA LR LR 03 51 53.0
comp=Z,35nm,18.3s,baz=350,slow=38
FIA1 FINESS Array S 56.99 2 eP P 03 25 32.2 -1.2
FINES FINESS Array B 56.99 2 P P 03 25 32.2 -1.2
comp=Z,13nm,0.7s,baz=7.1,slow=7.7,SNR=20
FINES ScP ScP 03 30 25.6 -1.3
comp=Z,1.6nm,0.7s,baz=110,slow=2.2,SNR=4.1
SOKR Solikamsk 57.06 344 ⇑iP P 03 25 33.9 +0.1
SOKR pmax pmax
comp=Z,10.0nm,0.9s
BJI Beijing 57.09 294 P P 03 25 34.2 -0.2
BJI S S 03 33 24.4 -3.9
BJI PMZ
comp=Z,28nm,1.0s
BJI PMZ
comp=Z,70nm,4.0s
BJI LN
comp=Z,240nm,13.3s
BJI LE
comp=Z,180nm,24.6s
KONO Kongsberg 57.86 12 eP P 03 25 39.3 -0.1
HHC Hu-ho-hao-te 58.39 298 eP P 03 25 45.0 +1.4
HHC sP sP 03 25 50.8 +0.1
HHC PP PP 03 27 55.0 +2.6
HHC S S 03 33 44.5 -1.1
HHC ScS ScS 03 35 30.0 -2.4
HHC PMZ
comp=Z,23nm,0.8s
HHC PMZ
comp=Z,170nm,8.1s
HHC LN
comp=Z,660nm,14.8s
HHC LE
comp=Z,390nm,16.0s
HHC LZ
comp=Z,650nm,14.8s
SVE Sverdlovsk 59.17 341 ⇓eP P 03 25 49.0 +0.3
SVE pmax pmax
comp=Z,33nm,1.0s
ARU Arti 59.87 342 diP P 03 25 53.1 -0.4
ARU S S 03 34 05.6 +1.5
ARU SS SS 03 37 56.1 -3.2
ARU pmax pmax
comp=Z,20nm,0.8s
ARU Arti 59.87 342 eP P 03 25 52.9 -0.6
comp=Z,26nm,0.7s
VSU Vasula 59.99 2 eP P 03 25 53.2 -1.1
VSU pmax pmax
comp=Z,66nm,0.9s
BRVK Borovoye 60.96 333 eP P 03 25 59.4 -1.6
BRVK pmax pmax
comp=Z,8.0nm,0.8s
BRVK Borovoye 60.96 333 eP P 03 26 00.1 -0.9
comp=Z,13nm,0.9s
BVA0 Borovoye Array 60.97 333 iP P 03 26 00.3 -0.8
BVA0 pmax pmax
comp=Z,15nm,1.2s
BVAR Borovoye Array 60.97 333 P P 03 25 59.8 -1.3
comp=Z,7.7nm,0.7s,baz=43,slow=6.7,SNR=17
BVAR LR LR 03 55 48.2
comp=Z,268nm,19.9s,baz=56,slow=39
KURK Kurchatov 61.15 327 P P 03 26 01.7 -0.6
KURK 03 26 45.3
KURK pmax pmax
comp=Z,6.0nm,0.7s
KURK pmax pmax
comp=Z,8.0nm,0.6s
KURK Kurchatov 61.15 327 eP P 03 26 01.4 -0.9
comp=Z,11nm,0.6s
KURK PcP PcP 03 26 45.3 +0.3
KURBB Kurchatov Arra 61.26 327 P P 03 26 01.7 -1.4
comp=Z,6.3nm,0.7s,baz=27,slow=6.8,SNR=21
KURBB PcP PcP 03 26 45.3 -0.2
comp=Z,7.6nm,0.6s,baz=27,slow=4.3,SNR=7.8
MOS Moscow 62.57 355 eP P 03 26 16.6 +4.8
MOS pmax pmax
comp=Z,45nm,1.0s
NJ2 Nanjing 62.57 287 eP P 03 26 11.6 -0.5
NJ2 PMZ
comp=Z,40nm,0.5s
BSD Bornholm Skovb 62.81 9 iP P 03 26 17.3 +3.9
comp=Z,19nm,0.9s
BSD Bornholm Skovb 62.81 9 iP P 03 26 17.3 +3.9
BSD pmax pmax
comp=Z,19nm,0.9s
ISAL Salakas 62.88 2 eP P 03 26 14.1 +0.2
ISAL IAmb IAmb 03 26 24.0
comp=Z,10nm,1.0s
IIGN Ignalina 63.11 2 eP P 03 26 15.5 +0.1
IIGN IAmb IAmb 03 26 25.4
comp=Z,7.5nm,0.8s
IDID Didziasalis 63.15 2 eP P 03 26 15.8 +0.1
IDID IAmb IAmb 03 26 20.4
comp=Z,6.7nm,0.9s
OBN Obninsk 63.24 355 LR LR 03 56 42.6
comp=Z,63nm,19.9s,baz=318,slow=39
OBN Obninsk 63.24 355 iP P 03 26 15.7 -0.5
OBN i 03 26 22.7
OBN i 03 26 54.7

OBN pmax pmax
comp=Z,37nm,1.0s
MK31 Makanchi Array 63.71 322 P **P** **03 26 18.5 -1.1**
MK31 pmax pmax
comp=Z,11nm,0.8s
MKAR Makanchi Array 63.71 322 P **P** **03 26 18.1 -1.5**
comp=Z,5.8nm,0.6s,baz=46,slow=6.9,SNR=31
MKAR LR LR 03 56 40.6
comp=Z,166nm,20.3s,baz=26,slow=38
GTA Gaotai 64.33 306 ⇓P **P** **03 26 23.7 -0.2**
GTA pP **pP** **03 26 28.6 -0.5**
GTA sP **sP** **03 26 30.8 -0.2**
GTA S **S** **03 35 01.8 +0.7**
GTA sS **sS** **03 35 09.9 +0.3**
GTA PMZ
comp=Z,23nm,1.7s
GTA PMZ
comp=Z,90nm,6.4s
GTA LN
comp=Z,490nm,18.0s
GTA LE
comp=Z,300nm,17.8s
GTA LZ
comp=Z,610nm,18.8s
WMQ Urumqi 64.74 317 P **P** **03 26 28.7 +2.3**
WMQ pP **pP** **03 26 33.7 +2.1**
WMQ sP **sP** **03 26 35.7 +2.2**
WMQ LN
comp=Z,68nm,20.5s
WMQ LE
comp=Z,100nm,28.4s
WMQ LZ
comp=Z,77nm,26.4s
LZH Lanzhou 65.62 301 *e*P **P** **03 26 32.0 -0.3**
LZH pP **pP** **03 26 35.5 -2.0**
LZH sP **sP** **03 26 37.1 -2.3**
LZH PMZ
comp=Z,23nm,1.3s
LZH PMZ
comp=Z,75nm,7.2s
CLZ Clausthal 65.64 13 *e*P **P** **03 26 32.7 +0.7**
comp=Z,13nm,1.5s
BUG Bochum--Univer 65.67 15 *e*P **P** **03 26 33.3 +1.1**
comp=Z,7.0nm,0.5s
AKTO Aktyubinsk 65.76 340 LR LR 03 57 50.6
comp=Z,73nm,18.4s,baz=16,slow=38
AKTO Aktyubinsk 65.76 340 P **P** **03 26 31.9 -0.9**
AKTO pmax pmax
comp=Z,23nm,0.9s
WHN Wuhan 65.88 290 ⇑P **P** **03 26 33.2 -0.6**
WHN LZ
comp=Z,510nm,10.3s
MTDJ Mount Denham 66.08 96 *e*P **P** **03 26 35.3 0.0**
comp=Z,53nm,1.1s
GUMO Guam 66.22 254 LR LR 03 53 33.6
comp=Z,90nm,20.4s,baz=84,slow=34
CLL Collm 66.42 11 *e*P **P** **03 26 36.2 -0.8**
comp=Z,5.0nm,1.3s
CLL Collm 66.42 11 *i* P **P** **03 26 36.9 -0.1**
CLL pmax pmax
comp=Z,8.0nm,1.0s
CLL Collm 66.42 11 *i* P **P** **03 26 36.9 -0.1**
comp=Z,8.0nm,1.0s
CLL *i* pP **pP** **03 26 43.4 +1.2**
comp=Z,10.0nm,1.0s
CLL *e*PP **PP** **03 29 02.0 -0.6**
MOX Moxa 66.94 12 *e*P **P** **03 26 39.6 -0.8**
comp=Z,7.0nm,1.1s
VSR Storozhevoye 67.01 353 *e*P **P** **03 26 40.0 -0.8**
VSR pmax pmax
comp=N,7.0nm,0.6s
VSR pmax pmax
comp=E,6.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
PLN Plauen 67.16 12 *e*P **P** **03 26 40.8 -1.0**
comp=Z,5.0nm,0.9s
KSP Ksiaz 67.16 9 *e*P **P** **03 26 42.6 +0.9**
KSP Ksiaz 67.16 9 *e*P **P** **03 26 42.7 +1.0**
WERD Werda 67.21 12 *e*P **P** **03 26 43.0 +0.9**
comp=Z,3.0nm,0.9s
PVCC Panska Ves 67.33 10 *e*P P 03 26 46.2 +3.3
PVCC *e*pP pP 03 26 49.6 +1.5
PVCC Panska Ves 67.33 10 *e*P P 03 26 46.2 +3.3
PVCC *e* 03 26 49.6
NKC Novy Kostel 67.43 12 *e*P **P** **03 26 43.9 +0.4**
NKC *e*pP **pP** **03 26 47.6 -1.1**
NKC Novy Kostel 67.43 12 *e*P **P** **03 26 43.9 +0.4**
NKC *e* 03 26 47.6
UPC Upice 67.47 9 *e*P **P** **03 26 43.9 +0.2**
UPC *e*pP **pP** **03 26 47.3 -1.6**
UPC Upice 67.47 9 *e*P **P** **03 26 43.9 +0.2**
UPC *e* 03 26 47.3
DPC Dobruska-Polom 67.65 9 *e*P **P** **03 26 45.7 +0.8**
DPC *e*pP **pP** **03 26 48.7 -1.4**
DPC Dobruska-Polom 67.65 9 *e*P **P** **03 26 45.7 +0.8**
DPC *e* 03 26 48.7
PDGK Podgornoye 67.69 323 P **P** **03 26 45.2 0.0**
PDGK pmax pmax
comp=Z,13nm,0.9s
PRA Prague 67.78 10 *e*pP pP 03 26 53.1 +2.3
PRA Prague 67.78 10 *e*P pP 03 26 53.1 +2.3
AKASG Malin Array Be 67.79 0 P **P** **03 26 44.4 -1.4**
comp=Z,7.1nm,0.6s,baz=359,slow=6.1,SNR=38
AKASG pP **pP** **03 26 51.8 +0.9**
comp=Z,22nm,0.5s,baz=0.6,slow=6.2,SNR=21
KIEV Kiev 67.80 0 *e*P **P** **03 26 45.2 -0.6**
KIEV pmax pmax
comp=Z,36nm,0.8s
KIEV Kiev 67.80 0 *e*P **P** **03 26 45.2 -0.6**
comp=Z,36nm,0.8s
PRU Pruhonice 67.87 10 *e*P **P** **03 26 47.1 +0.9**
PRU *e*pP **pP** **03 26 50.5 -0.9**
PRU *e*sP **sP** **03 26 53.6 +0.2**
PRU Pruhonice 67.87 10 *e*P **P** **03 26 47.1 +0.9**
PRU *e* 03 26 50.5
PRU *e* 03 26 53.6
ROTZ Rotzenmuhle 67.87 12 *e*P **P** **03 26 47.0 +0.7**
comp=Z,3.0nm,0.8s
KRLC Kraliky 67.96 9 *e*P **P** **03 26 47.2 +0.3**
KRLC *e*pP **pP** **03 26 50.5 -1.6**
KRLC Kraliky 67.96 9 *e*P **P** **03 26 47.2 +0.3**
KRLC *e* 03 26 50.5
GOPC GO Pecny, Ondr 67.96 10 *e*P P 03 26 50.2 +3.3
GOPC *e*pP pP 03 26 53.9 +1.8
MORC Moravsky Berou 68.31 8 *e*P **P** **03 26 48.4 -0.7**
MORC pmax pmax
comp=Z,33nm,0.8s
MORC Moravsky Berou 68.31 8 *e*P **P** **03 26 48.4 -0.7**
comp=Z,33nm,0.8s
LVV L'vov 68.59 4 *e*P P 03 26 59.2 +8.4
KHC Kasperske Hory 68.63 11 *e*P **P** **03 26 52.3 +1.2**
KHC *e*pP **pP** **03 26 55.3 -1.0**
KHC *e*sP **sP** **03 26 59.3 +1.1**
KHC Kasperske Hory 68.63 11 *e*P **P** **03 26 52.3 +1.2**
KHC *e* 03 26 55.3
KHC *e* 03 26 59.3
KHC Kasperske Hory 68.63 11 *e*P **P** **03 26 51.8 +0.7**
comp=Z,5.9nm,1.0s
TREC Trest 68.63 10 *e*P **P** **03 26 49.4 -1.7**
TREC *ex* x 03 26 51.9
TREC *e*pP **pP** **03 26 58.4 +2.1**
TREC Trest 68.63 10 *e*P **P** **03 26 49.4 -1.7**
TREC *e* 03 26 51.9
TREC *e* 03 26 58.4
VRAC Vranov 68.71 9 LR LR 03 58 04.7
comp=Z,69nm,18.1s,baz=350,slow=37
VRAC Vranov 68.71 9 ⇓*i*P **P** **03 26 52.8 +1.3**
KWP Kalwaria Pacla 68.73 5 *e*P **P** **03 26 52.2 +0.5**
KWP Kalwaria Pacla 68.73 5 *e*P **P** **03 26 52.2 +0.5**
ECH Echery 68.83 16 *e*P **P** **03 26 53.5 +1.2**
ECH pmax pmax
comp=Z,15nm,1.1s
ECH Echery 68.83 16 *e*P **P** **03 26 53.5 +1.2**
comp=Z,15nm,1.1s
NIE Niedzica 68.83 6 *e*P **P** **03 26 53.8 +1.5**
NIE Niedzica 68.83 6 *e*P **P** **03 26 53.9 +1.6**
STHS Stebnicka Huta 68.88 6 *e*P **P** **03 26 53.8 +1.2**
STHS pmax pmax
comp=Z,5.0nm,0.8s
STHS Stebnicka Huta 68.88 6 *e*P **P** **03 26 53.8 +1.2**
GEC2 GERESS Array S 68.93 11 *e*P **P** **03 26 52.6 -0.5**
comp=Z,4.0nm,0.8s
GERES GERESS Array B 68.93 11 P **P** **03 26 52.5 -0.5**
comp=Z,2.3nm,0.7s,baz=353,slow=5.4,SNR=13
KOLS Kolonicke sedl 69.41 5 *e*P **P** **03 26 55.6 -0.3**
KOLS Kolonicke sedl 69.41 5 *e*P **P** **03 26 55.6 -0.3**
FRU Bishkek 69.49 326 *e*P **P** **03 26 54.0 -2.5**
FRU *e* 03 27 15.0
UZH Uzhgorod 69.71 5 *e*P **P** **03 26 54.7 -3.0**
UZH *e* 03 27 00.5
KECS Kecovo 69.78 6 *e*P **P** **03 26 58.4 +0.3**
KECS pmax pmax
comp=Z,2.0nm,0.7s
KECS Kecovo 69.78 6 *e*P **P** **03 26 58.3 +0.2**
EKS2 Erkin-Say 69.87 327 *e*P **P** **03 26 58.3 -0.7**
EKS2 pmax pmax
comp=Z,14nm,0.8s
EKS2 Erkin-Say 69.87 327 *e*P **P** **03 26 58.3 -0.7**
comp=Z,14nm,0.8s
RJOB Jochberg 69.94 12 *e*P **P** **03 26 59.7 +0.5**
comp=Z,7.0nm,0.9s
CONA Conrad Observa 70.02 10 ⇑*i*P **P** **03 27 00.4 +0.6**
comp=Z,22nm,1.3s
CD2 Chengdu 70.14 298 P **P** **03 27 00.2 -0.5**
CD2 pP **pP** **03 27 03.5 -2.4**
CD2 sP **sP** **03 27 04.8 -3.1**
CD2 PP **PP** **03 29 34.6 -0.9**
CD2 S **S** **03 36 10.9 -0.2**
CD2 sS **sS** **03 36 16.5 -3.2**
CD2 SS **SS** **03 40 40.8 +0.6**
CD2 PMZ
comp=Z,30nm,0.8s
CD2 PMZ
comp=Z,90nm,6.5s
CD2 LN
comp=Z,340nm,16.8s
CD2 LZ
comp=Z,410nm,13.5s
KK31 Karatay Array 70.27 329 *i* P **P** **03 27 00.3 -1.0**
KK31 pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 70.27 329 *e*P **P** **03 27 00.2 -1.1**
KKAR pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 70.27 329 *e*P **P** **03 27 00.2 -1.1**
comp=Z,2.4nm,0.5s
WTTA Wattenberg 70.29 13 ⇑*i*P **P** **03 27 02.5 +1.0**
comp=Z,22nm,1.2s
PSZ Piszkesteto 70.31 7 *e*P **P** **03 27 02.0 +0.5**
PSZ pmax pmax
comp=Z,14nm,0.9s
PSZ Piszkesteto 70.31 7 ⇓*i*P **P** **03 27 02.2 +0.7**
PSZ Piszkesteto 70.31 7 *e*P **P** **03 27 01.9 +0.5**
comp=Z,14nm,0.9s
DAVOX Davos/Dischmat 70.57 14 LR LR 04 02 56.6
comp=Z,55nm,18.2s,baz=292,slow=40
KBA Koelnbreinsper 70.64 12 ⇑*i*P **P** **03 27 04.1 +0.4**
comp=Z,26nm,0.8s
ARSA Arzberg 70.67 10 ⇑*i*P **P** **03 27 04.8 +1.1**
comp=Z,10nm,1.2s
TUE Stuetta 70.81 15 *e*P **P** **03 27 05.7 +1.0**
comp=Z,13nm,0.7s
BURAR Bucovina Array 70.83 3 ⇓*i*P **P** **03 27 05.2 +0.5**
PERS Pernice 71.24 10 *i* P P 03 27 10.7 +3.5
PERS Pernice 71.24 10 *i* P P 03 27 10.7 +3.5
OBKA Obir 71.32 11 ⇓*i*P **P** **03 27 07.9 +0.2**
comp=Z,32nm,0.8s
SSB Saint Sauveur 71.34 18 *e*P **P** **03 27 08.4 +0.6**
SSB pmax pmax
comp=Z,9.0nm,1.1s
SSB Saint Sauveur 71.34 18 *e*P **P** **03 27 08.4 +0.6**
comp=Z,9.0nm,1.1s
DRGR 71.57 5 ⇓*i*P **P** **03 27 09.1 -0.1**
BNI Bardonecchia 71.87 17 *e*P **P** **03 27 12.2 +1.1**
BNI pmax pmax
comp=Z,12nm,0.9s
BNI Bardonecchia 71.87 17 *e*P **P** **03 27 12.2 +1.1**
comp=Z,12nm,0.9s
JAVS Javornik 71.89 11 *i* P P **03 27 13.4 +2.3**
JAVS Javornik 71.89 11 *i* P P **03 27 13.4 +2.3**
PKSM Moragy 71.93 8 ⇑*i*P **P** **03 27 11.3 +0.1**
VISS Visnje 72.05 11 *i* P P **03 27 14.4 +2.4**
VISS Visnje 72.05 11 *i* P P **03 27 14.4 +2.4**
KSH Kashi 72.21 324 P **P** **03 27 16.1 +2.9**
KSH PcP **PcP** **03 27 34.3 +2.9**
KSH PP PP 03 29 59.3 +6.3
KSH S **S** **03 36 37.2 +2.2**
KSH sS **SKiKP** **03 36 48.1 -0.1**
KSH SKS **SKSac** **03 37 15.2 -1.6**
KSH PMZ
comp=Z,18nm,0.5s
KSH PMZ
comp=Z,280nm,5.2s
KSH LN
comp=Z,200nm,4.3s
KSH LE
comp=Z,180nm,5.8s
KSH LZ
comp=Z,210nm,5.8s
BOJS Bojanci 72.38 10 *i* P P **03 27 16.1 +2.1**
BOJS Bojanci 72.38 10 *i* P P **03 27 16.1 +2.1**
SFK Sufi-Kurgan 72.42 326 P **P** **03 27 13.7 -0.9**
SFK pmax pmax
comp=Z,10.0nm,0.8s
PCAB Cabril 72.42 29 *e*P **P** **03 27 13.7 -0.6**
comp=Z,35nm,1.9s
DOPR Dopca 72.48 3 ⇑*i*P **P** **03 27 15.2 +0.6**
VRI Vrincioaia 72.61 2 ⇑*i*P **P** **03 27 14.9 -0.4**
PBRG Braganca 72.62 28 *e*P **P** **03 27 17.1 +1.6**
comp=Z,21nm,1.8s
PLOR Plostina 72.62 2 ⇑*i*P **P** **03 27 16.1 +0.7**
BZS Buzias 72.69 6 ⇑*i*P **P** **03 27 15.7 -0.1**
GYA Guiyang 72.79 294 *e*P **P** **03 27 17.0 +0.2**
GYA PP **PP** **03 30 01.6 +3.3**
GYA S **S** **03 36 41.8 -0.1**
GYA SKS **SKSac** **03 37 17.0 -4.4**
GYA SS **SS** **03 41 22.2 +1.2**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.2s
GYA LN
comp=Z,480nm,18.8s
GYA LE
comp=Z,390nm,19.4s
GYA LZ
comp=Z,440nm,18.6s
GZR Gura Zlata 72.97 5 ⇑*i*P **P** **03 27 17.9 +0.4**
MLR Muntele Rosu 72.97 3 ⇑*i*P **P** **03 27 19.3 +1.7**
VOIR 73.00 3 ⇓*i*P **P** **03 27 19.4 +1.6**
MVO Moncorvo 73.17 28 *e*P **P** **03 27 19.6 +0.8**
comp=Z,29nm,1.9s
CFR Carcaliu 73.31 1 ⇓*i*P **P** **03 27 18.8 -0.7**
MTE Manteigas 73.78 29 *e*P **P** **03 27 23.4 +1.0**
comp=Z,32nm,1.2s
DIVS Divibare 74.12 7 ⇑*i*P **P** **03 27 24.3 -0.1**
KBZ Knabaz 74.21 350 P **P** **03 27 25.2 +0.5**
comp=Z,5.4nm,0.8s,baz=303,slow=5.4,SNR=5.4
PTOM Tomar 74.33 30 *e*P **P** **03 27 28.1 +2.6**
comp=Z,42nm,1.9s
PMAFR Mafra 74.75 30 *e*P **P** **03 27 28.7 +0.7**
comp=Z,144nm,1.4s
ESDC Sonseca Array 75.26 26 P **P** **03 27 31.1 +0.1**
comp=Z,6.3nm,0.8s,baz=342,slow=5.6,SNR=23
PAB San Pablo 75.30 26 *e*P **P** **03 27 31.9 +0.6**
PAB pmax pmax
comp=Z,9.0nm,0.9s
PAB San Pablo 75.30 26 *e*P **P** **03 27 31.9 +0.6**
comp=Z,8.5nm,0.9s
KMI Kunming 75.64 296 P **P** **03 27 33.6 0.0**
KMI pP **pP** **03 27 39.9 +1.0**
KMI sP **sP** **03 27 42.3 +1.5**
KMI PP **PP** **03 30 26.5 +3.8**
KMI S **S** **03 37 11.1 -3.1**
KMI SS **SS** **03 42 01.1 -3.5**
KMI PMZ
comp=Z,6.0nm,0.5s
KMI LN
comp=Z,140nm,13.1s
KMI LE
comp=Z,170nm,19.7s
KMI LZ
comp=Z,110nm,17.7s
PNCL Nicolau / Gran 75.73 30 *e*P **P** **03 27 34.6 +0.9**
comp=Z,44nm,1.3s
VTS Vitosha 75.78 5 ⇑*i*P **P** **03 27 33.5 -0.6**
JMB Yambol 76.00 2 ⇓*i*P **P** **03 27 33.2 -1.9**
PBAR Barrancos 76.02 29 *e*P P 03 27 39.3 +4.0
comp=Z,70nm,1.9s
LSA Lhasa 76.21 308 *e*P **P** **03 27 38.2 +1.1**
LSA pmax pmax
comp=Z,14nm,0.7s
LSA Lhasa 76.21 308 *e*P **P** **03 27 38.2 +1.1**
comp=Z,14nm,0.7s
PVAQ Vaqueiros 76.60 30 *e*P **P** **03 27 39.6 +1.0**
comp=Z,69nm,1.7s
PBDV Barranco-do-Ve 76.70 30 *e*P **P** **03 27 40.1 +0.9**
comp=Z,110nm,1.8s
NVR Nevrokopi 77.04 4 *e*P **P** **03 27 41.5 +0.4**
KNT Kendrikon 77.19 5 *e*P **P** **03 27 42.6 +0.7**
SRS Serrai 77.27 5 *e*P **P** **03 27 40.8 -1.5**
GRG Griva 77.38 5 *e*P **P** **03 27 43.7 +0.7**
SDV Santo Domingo 77.45 95 *e*P **P** **03 27 42.5 -1.4**
comp=Z,12nm,0.6s
SOH Sokhos 77.55 5 *e*P **P** **03 27 44.3 +0.3**
GNI Garni 77.59 348 LR LR 04 05 41.5
comp=Z,53nm,19.1s,baz=20,slow=39
GNI Garni 77.59 348 *e*P **P** **03 27 44.8 +0.4**
GNI pmax pmax
comp=Z,8.0nm,1.4s
VSL Villasalto 77.69 16 *e*P **P** **03 27 46.4 +1.7**
comp=Z,11nm,0.7s
QIZ Qiongzhong 77.86 287 P **P** **03 27 44.6 -1.3**
QIZ S **S** **03 37 36.7 -1.4**
QIZ PMZ
comp=Z,10.0nm,1.6s
QIZ LZ
comp=Z,200nm,20.0s
GEYT Alibeck 77.88 337 P **P** **03 27 45.8 -0.1**
comp=Z,6.3nm,0.7s,baz=333,slow=5.0,SNR=8.8
GEYT LR LR 04 08 15.1
comp=Z,258nm,18.7s,baz=15,slow=40
SLVN Son La 78.47 294 *e*P **P** **03 27 49.8 +0.4**
comp=Z,9.3nm,0.7s
MEV Metsovon 78.49 6 *e*P **P** **03 27 49.7 +0.4**
ANTO Ankara 78.59 357 *e*P **P** **03 27 49.3 -0.5**
ANTO pmax pmax
comp=Z,12nm,0.6s
ANTO Ankara 78.59 357 *e*P **P** **03 27 49.3 -0.5**
comp=Z,12nm,0.6s
BRTR Keskin Array B 78.71 357 P **P** **03 27 50.0 -0.5**
comp=Z,4.1nm,0.7s,baz=358,slow=4.0,SNR=13
THL Klokotos Trika 78.75 6 *e*P **P** **03 27 49.9 -0.6**
DSL Palaion Diasel 79.13 7 *e*P **P** **03 27 52.1 -0.6**
PPT Papeete 79.16 179 LR LR 03 58 13.7
comp=Z,231nm,18.2s,baz=334,slow=32
ROSC El Rosal 79.24 100 P **P** **03 27 54.0 0.0**
comp=Z,3.6nm,0.6s,baz=126,slow=3.6,SNR=4.0
ROSC LR LR 04 06 27.1
comp=Z,119nm,19.4s,baz=18,slow=38
MAKR Makrakomi, Fth 79.30 6 *e*P **P** **03 27 53.6 0.0**
EVR Evrytania 79.38 6 *e*P **P** **03 27 54.0 -0.2**
TAPN Taplejung 79.61 310 *e*P **P** **03 27 55.8 0.0**
comp=Z,64nm,0.6s
CEL Celeste 79.62 11 *e*P **P** **03 27 54.1 -1.4**
comp=Z,7.3nm,0.6s
PDO Prodromos 79.67 7 *e*P **P** **03 27 58.2 +2.6**
GUN Gumba 79.76 311 *e*P **P** **03 27 57.4 +0.7**
comp=Z,29nm,0.6s
EFP Efpalio 79.88 6 *e*P **P** **03 27 57.3 +0.6**
DSF Desfina 79.92 6 *e*P **P** **03 27 56.0 -1.0**
KALE Kalithea 79.92 6 *e*P **P** **03 27 56.5 -0.6**
TRIZ Trizonia 79.94 6 *e*P **P** **03 27 55.9 -1.2**
LAKA Lakka 80.06 6 *e*P P 03 28 01.8 +4.0
KKN Kakani 80.08 312 *e*P **P** **03 27 58.3 0.0**
comp=Z,27nm,0.6s
DANN Dangsing 80.10 313 *e*P **P** **03 27 58.8 +0.3**
comp=Z,6.9nm,0.5s
GKN Gorkha 80.11 313 *e*P **P** **03 27 58.2 -0.2**
comp=Z,32nm,0.5s
VIL2 Platees 80.15 5 *e*P **P** **03 27 56.9 -1.4**
ODAN Odare 80.17 310 *e*P **P** **03 27 58.5 -0.3**
comp=Z,28nm,0.7s
RLS Riolos of Patr 80.22 6 *e*P **P** **03 27 59.0 +0.4**
PKIN Phulchoki 80.23 312 *e*P **P** **03 27 59.5 +0.3**
PKI Pulchoki 80.23 312 *e*P **P** **03 27 59.7 +0.4**
comp=Z,16nm,0.6s
KLV Kalavryta, Ach 80.27 6 *e*P **P** **03 27 59.1 +0.2**
THAL Thalero 80.30 5 *e*P **P** **03 27 58.6 -0.4**
DMN Daman 80.31 312 *e*P **P** **03 27 59.4 -0.2**
comp=Z,26nm,0.6s
LTK Loutraki 80.33 5 *e*P **P** **03 27 57.1 -2.1**
DRO Drossia 80.34 6 *e*P **P** **03 28 02.0 +2.7**
LOUT Loutraki 80.36 5 *e*P **P** **03 27 58.6 -0.8**
RAMN Ramite 80.38 311 *e*P **P** **03 27 59.6 -0.3**
comp=Z,73nm,1.0s
GUR Goura 80.39 6 *e*P **P** **03 27 59.5 -0.1**
KOLN Koldanda 80.69 313 *e*P **P** **03 28 01.1 -0.4**
comp=Z,31nm,0.7s
AMT Artemida-Makis 80.76 6 *e*P **P** **03 28 04.0 +2.5**
DID Didima 80.85 5 *e*P **P** **03 28 00.6 -1.4**
DIDY Didyma 80.88 5 *e*P **P** **03 28 00.9 -1.4**
VLX Vlachokerasia 80.95 6 *e*P **P** **03 28 02.8 +0.1**
KRND KRANIDI 80.97 5 *e*P **P** **03 28 01.3 -1.3**
ITM Ithomi 81.12 6 *e*P **P** **03 28 01.1 -2.4**
KEST Kesra 81.39 16 P **P** **03 28 04.6 -0.4**
comp=Z,8.8nm,0.8s,baz=174,slow=1.1,SNR=20
PYL PYLOS 81.39 6 *e*P **P** **03 28 04.2 -0.7**
OTAV Otavalo 81.40 106 *e*P **P** **03 28 05.9 +0.2**
comp=Z,4.9nm,0.9s
VLI Veliai 81.63 5 *e*P **P** **03 28 04.9 -1.2**
MHLO Agia Marina, M 81.71 4 *e*P P 03 28 15.4 +8.8
NISR Nisiros 81.86 2 *e*P **P** **03 28 06.2 -1.1**
ARG Arkhangelos 82.27 1 *e*P **P** **03 28 08.4 -1.1**
ANKY Antikythira Is 82.49 5 *e*P **P** **03 28 10.5 -0.2**
VAM Vamos 82.98 4 *e*P **P** **03 28 12.6 -0.6**
IDI Anoyia 83.12 4 LR LR 04 04 52.3
comp=Z,18nm,21.1s,baz=305,slow=36
CMAR Chiang Mai Arr 83.15 296 P **P** **03 28 13.2 -1.1**
comp=Z,5.3nm,0.9s,baz=8.2,slow=5.8,SNR=18
CMAR LR LR 04 09 27.7
comp=Z,177nm,18.7s,baz=10.0,slow=39
NPS Neapolis 83.17 3 *e*P **P** **03 28 12.1 -2.1**
ATAH Atahualpa 87.95 109 P **P** **03 28 38.2 -0.4**
comp=Z,10nm,0.8s,baz=78,slow=4.5,SNR=4.4
PTGA Pitinga 90.91 90 P **P** **03 28 51.4 -0.7**
comp=Z,6.8nm,0.5s,baz=326,slow=6.7,SNR=20
PTGA pP **pP** **03 28 59.1 +1.6**
comp=Z,11nm,0.5s,baz=325,slow=7.3,SNR=16
RAYN Ar Rayn 93.95 345 *e*P **P** **03 29 06.2 +0.1**
comp=Z,9.6nm,1.0s
SAML Samuel 96.57 97 *e*P **P** **03 29 17.4 -0.6**
comp=Z,2.3nm,0.5s
TORD Torodi Ar. Bea 102.10 28 P **Pdif** **03 29 41.1 -1.8**
comp=Z,0.5nm,0.6s,baz=341,slow=4.9,SNR=8.6
TORD PKKPbc **PKKPbc** **03 45 43.4 +0.2**
comp=Z,0.7nm,0.7s,baz=170,slow=2.6,SNR=12
VNDA Vanda 142.17 195 PKhKP PKPpre 03 35 13.8
comp=Z,0.9nm,0.6s,baz=11,slow=5.0,SNR=6.9
LBTB Lobatse 143.08 6 PKP **PKPdf** **03 35 22.6 +0.7**
comp=Z,4.1nm,0.5s,baz=325,slow=1.7,SNR=7.2
BOSA Boshof 146.64 7 PKPbc **PKPbc** **03 35 29.7 +0.1**
comp=Z,8.3nm,0.6s,baz=355,slow=2.9,SNR=22
QSPA South Pole Qui 151.66 180 *e*PKPdf **PKPdf** **03 35 34.8 0.0**
QSPA *e*PKPbc **PKPbc** **03 35 40.7 -0.4**

ISCJB ***08*** *03:23:47.1±0.6, 4.˚45S±0.˚08×35.˚9E±0.˚1, h10km, mb4.0/14, MS3.5/5, Error ellipse: s-maj=22.1km s-min=7.9km az=24.5*

IDC ***08*** *03:23:47.6±0.8, 4.˚49S×35.˚97E, h0km, mb4.0/14, mb1 4.2/16, mb1mx4.0/44, mbtmp4.1/16, ML4.7/2, MS3.5/7, Ms1 3.5/7, ms1mx3.2/41, Error ellipse: s-maj=27.0km s-min=16.2km az=110.0*

ISC 08 03:23:48.9±0.8, 4.˚50S±0.˚10×36.˚0E±0.˚2, h10km, n20, σ1§32/20, mb4.2/14, MS3.6/5, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I32KE	**NAIROBI INFRAS**	**3.33**	**14**	Pn	**Pn**	**03 24 40.2**	**-1.1**
	baz=294,slow=36						
I32KE				Lg	Lg	03 25 29.8	
	baz=212,slow=35						
KMBO	**Kilima Mbogo**	**3.57**	**20**	Pn	**Pn**	**03 24 43.2**	**-1.4**
	66nm,0.3s,baz=192,slow=16,SNR=115						
KMBO				Sn	**Sn**	**03 25 24.9**	**-2.1**
	123nm,0.3s,baz=223,slow=15,SNR=9.4						
KMBO				Lg	Lg	03 25 33.6	
	137nm,0.3s,baz=86,slow=20,SNR=6.1						
KMBO				LR	LR	03 25 60.0	
	comp=Z,274nm,21.1s,baz=176,slow=37						
LSZ	**Lusaka**	**13.19**	**215**	Pn	**Pn**	**03 26 54.5**	**-2.1**
	0.7nm,0.3s,baz=53,slow=8.9,SNR=8.3						

LSZ			Sn	Sn	03 29 18.1	-5.4	
	0.5nm,0.3s,baz=85,slow=20,SNR=2.3						
LSZ			Lg	Lg	03 30 39.2		
	2.1nm,0.3s,baz=308,slow=19,SNR=7.1						
LSZ			LR	LR	03 32 08.4		
	comp=Z,173nm,21.1s,baz=114,slow=38						
LBTB	**Lobatse**	**22.73 205**	P	**P**	**03 28 50.3**	**-1.0**	
	9.1nm,0.7s,baz=30,slow=11,SNR=14						
LBTB			LR	LR	03 36 57.3		
	comp=Z,112nm,18.3s,baz=36,slow=35						
TSUM	**Tsumeb**	**23.17 229**	LR	LR	03 38 36.6		
	comp=Z,187nm,21.4s,baz=38,slow=38						
BOSA	**Boshof**	**26.07 202**	P	**P**	**03 29 23.9**	**+1.0**	
	4.2nm,0.8s,baz=17,slow=13,SNR=6.4						
BOSA			LR	LR	03 40 03.7		
	comp=Z,149nm,18.4s,baz=286,slow=38						
TORD	**Torodi Ar. Bea**	**38.33 298**	P	**P**	**03 31 09.3**	**-1.0**	
	1.0nm,1.0s,baz=116,slow=10,SNR=3.6						
TORD			PP	**PnPn**	**03 32 42.5**	**+2.8**	
	0.7nm,0.9s,baz=107,slow=9.1,SNR=3.5						
TORD			LR	LR	03 46 28.4		
	comp=Z,122nm,20.8s,baz=145,slow=36						
DBIC	**Dimbokro**	**42.28 285**	LR	LR	03 49 26.7		
	comp=Z,81nm,20.2s,baz=104,slow=36						
BRTR	**Keskin Array B**	**44.06 357**	P	**P**	**03 31 57.9**	**+0.6**	
	0.6nm,0.7s,baz=168,slow=7.4,SNR=3.0						
AKASG	**Malin Array Be**	**55.29 355**	P	**P**	**03 33 22.1**	**-0.3**	
	2.8nm,0.8s,baz=174,slow=6.2,SNR=14						
GERES	**GERESS Array B**	**56.58 343**	P	**P**	**03 33 32.3**	**+0.4**	
	2.7nm,0.9s,baz=142,slow=6.8,SNR=18						
ESDC	**Sonseca Array**	**57.31 324**	P	**P**	**03 33 38.3**	**+1.1**	
	2.7nm,0.9s,baz=134,slow=7.0,SNR=14						
MKAR	**Makanchi Array**	**65.36 33**	P	**P**	**03 34 31.7**	**+0.1**	
	0.4nm,0.5s,baz=224,slow=8.5,SNR=6.3						
KURBB	**Kurchatov Arra**	**65.92 28**	P	**P**	**03 34 34.7**	**-0.3**	
	0.6nm,0.6s,baz=232,slow=6.7,SNR=4.4						
CMAR	**Chiang Mai Arr**	**66.04 68**	P	**P**	**03 34 37.5**	**+1.0**	
	0.6nm,0.3s,baz=261,slow=7.0,SNR=4.8						
FINES	**FINESS Array B**	**66.20 355**	P	**P**	**03 34 36.4**	**-0.2**	
	1.5nm,0.6s,baz=150,slow=8.8,SNR=7.7						
HFS	**Hagfors**	**66.79 348**	P	**P**	**03 34 39.8**	**-0.7**	
	3.8nm,0.9s,baz=199,slow=8.5,SNR=4.8						
NOA	**NORSAR Array B**	**68.14 347**	P	**P**	**03 34 49.5**	**+0.5**	
	1.5nm,0.9s,baz=154,slow=5.9,SNR=4.0						
SONM	**Songino Array**	**80.33 40**	P	**P**	**03 36 01.9**	**+1.4**	
	2.2nm,1.0s,baz=212,slow=5.3,SNR=3.7						
TXAR	**Lajitas Array**	**134.56 308**	PKP	**PKPdf**	**03 43 09.6**	**+1.1**	
	0.3nm,0.8s,baz=101,slow=1.9,SNR=4.5						

GUC 08 03:24:16.3±0.4, 36°56S×72°01W, h85km±3km, ML3.7, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNCH	**Linares**	**0.79**	**25**	↑*i* P	Pn	03 24 33.3	0.0
LNCH				*i* S	Sn	03 24 46.5	+0.5
U14B	**Concepcin**	**0.91**	**251**	↑*i* P	Pn	03 24 34.6	0.0
U14B				*i* S	Sn	03 24 48.7	+0.4
U14B				AML	AML	03 24 50.2	
	comp=N,3μm,0.3s						
CCSP	**San Pedro de C**	**0.93**	**252**	↑*i* P	Pn	03 24 35.1	+0.4
CCSP				*i* S	Sn	03 24 49.0	+0.3

IDC 08 03:36:49.8±4.7, 4°86S×145°51E, h181km±38km, mb3.3/5, mb1 3.5/7, mb1mx3.3/36, mbtmp3.8/7, Error ellipse: s-maj=48.5km s-min=21.0km az=93.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**5.33**	**296**	P	Pn	03 38 07.9	-0.2
	1.1nm,0.3s,baz=142,slow=8.1,SNR=5.9						
WRA	**Warramunga Arr**	**18.53**	**215**	P	P	03 40 52.8	+0.1
	0.7nm,0.3s,baz=33,slow=11,SNR=57						
ASAR	**Alice Springs**	**21.80**	**210**	P	P	03 41 27.7	+0.1
	1.6nm,0.5s,baz=38,slow=7.1,SNR=16						
CMAR	**Chiang Mai Arr**	**51.41**	**298**	P	P	03 45 36.6	+0.1
	0.5nm,0.4s,baz=130,slow=6.0,SNR=4.0						
MKAR	**Makanchi Array**	**75.68**	**321**	P	P	03 48 15.6	+0.5
	0.5nm,0.7s,baz=94,slow=8.4,SNR=3.5						
KURBB	**Kurchatov Arra**	**79.43**	**323**	P	P	03 48 35.7	-0.2
	0.3nm,0.4s,baz=100,slow=4.2,SNR=3.4						
ILAR	**Eielson Array**	**85.02**	**23**	P	P	03 49 04.7	+0.1
	0.6nm,0.7s,baz=255,slow=4.7,SNR=8.5						
TORD	**Torodi Ar. Bea**	**143.37**	**285**	PKP	PKPbc	03 56 00.7	-0.6
	0.7nm,1.1s,baz=63,slow=3.6,SNR=3.4						

*IDC **08** 03:39:34.4±0.6, 1°77S×136°37E, h0km, mb4.0/10, mb1 4.2/13, mb1mx4.1/40, mbtmp4.1/13, ML3.9/3, MS3.7/10, Ms1 3.8/10, ms1mx3.4/27, Error ellipse: s-maj=25.6km s-min=14.2km az=65.0*

*ISCJB **08** 03:39:35.6±0.7, 1°79S±0°04×136°35E±0°03, h18km±6km, mb4.1/10, MS3.7/9, Error ellipse: s-maj=6.4km s-min=4.7km az=19.9*

*NEIC **08** 03:39:36.0±0.3, 1°78S×136°36E, h10km, mb4.3/3, Error ellipse: s-maj=10.5km s-min=7.2km az=66.0*

NEIC Felt [II] at Serui, Yapen.

*DJA **08** 03:39:36.3±0.4, 2°S±3°×13°6E±°, h11km±3km, M4.5/11, mb4.5/3, mB4.9/1, MLv4.5/11, Mw(mB)4.2/1*

ISC 08 03:39:36.5±1.1, 1.78S±0°04×136°35E±0°04, h13km±7km, n54, σ1§11/53, mb4.2/10, MS3.7/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.14**	**230**	P	**Pg**	**03 39 40.0**	**-0.1**
BAKI	**Biak**	**0.63**	**337**	P	**Pg**	**03 39 47.7**	**-1.1**
BAKI				S	**Sg**	**03 39 56.3**	**-0.9**
RKPI	**Ransiki, Papua**	**2.19**	**277**	P	**Pn**	**03 40 13.4**	**+0.8**
RKPI				S	**Sn**	**03 40 40.4**	**+0.8**
SMPI	**Sarmi**	**2.37**	**95**	P	**Pn**	**03 40 13.9**	**-1.2**
SMPI				S	**Sn**	**03 40 45.5**	**+1.5**
GENI	**Genyem**	**3.90**	**102**	P	**Pn**	**03 40 37.1**	**+0.9**
FAKI	**Fak Fak**	**4.25**	**254**	P	**Pn**	**03 40 40.3**	**-0.7**
FAKI				S	**Sn**	**03 41 29.5**	**-1.0**
FAKI	**Fak Fak**	**4.25**	**254**	P	**Pn**	**03 40 41.5**	**+0.5**
	baz=4.5,SNR=21						
FAKI	**Fak Fak**	**4.25**	**254**	*e*Pn	**Pn**	**03 40 40.5**	**-0.5**
FAKI				*e*S	**Sn**	**03 41 30.6**	**0.0**
JAY	**Jayapura**	**4.41**	**100**	P	**Pn**	**03 40 44.7**	**+1.4**
JAY	**Jayapura**	**4.41**	**100**	Pn	**Pn**	**03 40 41.6**	**-1.7**
	4.2nm,0.3s,baz=250,slow=6.8,SNR=21						
JAY				Sn	**Sn**	**03 41 34.0**	**-0.6**
	4.7nm,0.3s,baz=135,slow=17,SNR=4.3						
JAY	**Jayapura**	**4.41**	**100**	P	Pn	03 40 40.1	-3.2
	baz=4.2,SNR=15						
SIJI	**Sorong**	**5.16**	**280**	Pn	**Pn**	**03 40 54.2**	**+0.7**
	3.6nm,0.3s,baz=179,slow=15,SNR=5.9						
SWI	**Sorong**	**5.17**	**280**	P	**Pn**	**03 40 54.1**	**+0.5**
	64nm,0.7s,0.3nm						
SWI				S	**Sn**	**03 41 53.2**	**0.0**
	64nm,0.7s,0.3nm						
BNDI	**Bandanaira**	**6.99**	**247**	P	**Pn**	**03 41 20.5**	**+1.9**
MSAI	**Masohi**	**7.58**	**258**	P	**Pn**	**03 41 27.1**	**+0.4**
	18nm,0.9s,680nm0.1nm						
PALU	**Palau**	**9.25**	**348**	P	**Pn**	**03 41 49.9**	**+0.2**
	baz=9.4,SNR=5.8						
KDU	**Kakadu**	**11.50**	**199**	P	**Pn**	**03 42 19.6**	**-0.9**
	baz=12,SNR=25						
COEN	**Coen**	**13.86**	**151**	P	**Pn**	**03 42 53.2**	**+0.4**
	baz=14,SNR=4.9						
COEN	**Coen**	**13.86**	**151**	*e*Pn	**Pn**	**03 42 52.5**	**-0.3**
COEN				*e*S	Sn	03 45 17.4	-9.2
MTSU	**Mount Surprise**	**18.04**	**155**	P	**P**	**03 43 48.6**	**+1.0**
	baz=18,SNR=4.2						
WRAB	**Tennant Creek**	**18.15**	**186**	*e*Pn	**Pn**	**03 43 48.0**	**-0.5**
	20nm,1.0s						
WRAB				*e*S	Sn	03 46 57.0	-14
WRA	**Warramunga Arr**	**18.16**	**186**	P	**Pn**	**03 43 47.1**	**-1.5**
	0.4nm,0.3s,baz=6.5,slow=12,SNR=16						
WRA				S	Sn	03 47 01.9	-9.3
	0.4nm,0.3s,baz=6.7,slow=22,SNR=7.5						
WRA				LR	LR	03 51 45.0	
	comp=Z,442nm,20.0s,baz=350,slow=40						
QIS	**Mount Isa**	**18.93**	**171**	P	**Pn**	**03 43 58.8**	**+0.8**
	baz=19,SNR=3.0						
CTA	**Charters Tower**	**20.61**	**153**	P	**P**	**03 44 16.1**	**+0.5**
	3.5nm,0.7s,baz=297,slow=18,SNR=3.7						
CTAO	**Charters Tower**	**20.61**	**153**	*e*P	Pn	03 44 17.2	-0.8
	7.8nm,1.0s						
KKM	**Kota Kinabalu**	**21.55**	**291**	P	P	03 44 31.0	+5.0
	baz=22,SNR=3.4						
ASAR	**Alice Springs**	**21.89**	**186**	P	**P**	**03 44 30.1**	**+0.7**
	13nm,0.8s,baz=17,slow=11,SNR=40						
ASAR				S	**S**	**03 48 26.5**	**-4.7**
	5.2nm,1.2s,baz=8.9,slow=20,SNR=6.7						
ASAR				LR	LR	03 54 01.6	
	comp=Z,517nm,20.1s,baz=6.0,slow=40						
WRKA	**Warakurna**	**24.40**	**198**	P	**P**	**03 44 55.9**	**+1.1**
	baz=25,SNR=7.2						
STKA	**Stephens Creek**	**30.35**	**171**	P	**P**	**03 45 48.2**	**+0.1**
	2.8nm,0.8s,baz=349,slow=7.8,SNR=6.3						
STKA				LR	LR	03 59 11.4	
	comp=Z,122nm,21.1s,baz=11,slow=39						
XMI	**Christmas Isla**	**31.65**	**253**	P	P	03 46 04.8	+5.0
	baz=32,SNR=4.1						
KLBR	**Kellerberrin**	**34.46**	**209**	P	**P**	**03 46 25.1**	**+1.0**
	baz=35,SNR=4.7						
KSAR	**Wonju Array Be**	**39.80**	**349**	P	**P**	**03 47 11.0**	**+1.6**
KSRS	**Korea Array**	**39.81**	**350**	P	**P**	**03 47 11.0**	**+1.6**
	0.3nm,0.3s,baz=177,slow=8.4,SNR=2.8						
NFK	**Norfolk Island**	**40.50**	**135**	P	P	03 47 08.9	-6.5
	baz=40,SNR=3.6						
CMAR	**Chiang Mai Arr**	**41.93**	**300**	P	**P**	**03 47 27.4**	**+0.1**
	0.8nm,0.3s,baz=124,slow=6.2,SNR=12						
ASAJ	**Asahikawa**	**46.03**	**6**	LR	LR	04 05 15.9	
	comp=Z,110nm,18.8s,baz=172,slow=34						
URZ	**Urewera**	**52.05**	**139**	LR	LR	04 10 29.0	
	comp=Z,84nm,21.9s,baz=298,slow=36						
PETK	**Petropavlovsk-**	**57.54**	**15**	LR	LR	04 12 23.9	
	comp=Z,15nm,19.8s,baz=206,slow=34						
MKAR	**Makanchi Array**	**67.62**	**323**	P	**P**	**03 50 33.5**	**+0.4**
	1.3nm,0.7s,baz=124,slow=7.1,SNR=9.6						
MKAR				LR	LR	04 21 13.6	
	comp=Z,31nm,19.3s,baz=82,slow=37						
KURK	**Kurchatov**	**71.61**	**325**	P	**P**	**03 50 57.0**	**-0.6**
KURBB	**Kurchatov Arra**	**71.62**	**325**	P	**P**	**03 50 57.0**	**-0.6**
	1.5nm,0.8s,baz=117,slow=5.8,SNR=11						
PPT2	**Papeete2**	**74.28**	**108**	*e*LR	LR	03 52 03.3	
	176nm,20.8s,baz=346						
VNDA	**Vanda**	**76.92**	**174**	P	**P**	**03 51 27.1**	**-1.1**
	2.2nm,1.0s,baz=329,slow=3.6,SNR=9.4						
VNDA				LR	LR	04 25 05.3	
	comp=Z,154nm,18.9s,baz=354,slow=36						
BVAR	**Borovoye Array**	**77.21**	**326**	P	**P**	**03 51 29.7**	**-0.5**
	1.0nm,0.6s,baz=194,slow=5.3,SNR=4.2						
ILAR	**Eielson Array**	**85.97**	**25**	P	**P**	**03 52 15.3**	**-0.9**
	1.4nm,0.9s,baz=270,slow=4.9,SNR=14						
ILAR				LR	LR	04 24 34.8	
	comp=Z,32nm,21.3s,baz=324,slow=31						
QSPA	**South Pole Qui**	**88.16**	**180**	*e*P	**P**	**03 52 27.1**	**+0.1**
	9.0nm,1.0s						
ARCES	**ARCESS Array B**	**98.85**	**341**	LR	LR	04 45 50.4	
	comp=Z,33nm,18.0s,baz=122,slow=40						
TXAR	**Lajitas Array**	**116.82**	**58**	PKP	**PKPdf**	**03 58 21.7**	**0.0**
	0.2nm,0.8s,baz=67,slow=2.3,SNR=2.8						
TORD	**Torodi Ar. Bea**	**133.73**	**286**	PKP	**PKPdf**	**03 58 53.6**	**-0.6**
	0.6nm,0.8s,baz=85,slow=1.6,SNR=3.8						
OTAV	**Otavalo**	**145.17**	**92**	*e*PKPdf	**PKPbc**	**03 59 15.0**	**-0.2**
PMAR	**Villa Florida**	**149.09**	**156**	PKPbc	**PKPbc**	**03 59 25.7**	**+0.4**
	2.8nm,0.9s,baz=84,slow=4.5,SNR=5.3						
ROSC	**El Rosal**	**149.22**	**84**	PKPbc	**PKPbc**	**03 59 26.3**	**-0.3**
	8.1nm,0.7s,baz=87,slow=7.5,SNR=9.8						
LPAZ	**La Paz**	**149.89**	**128**	PKPbc	**PKPbc**	**03 59 29.9**	**+1.5**
	1.5nm,0.8s,baz=138,slow=4.1,SNR=5.9						
SDV	**Santo Domingo**	**152.24**	**74**	*e*PKPdf	**PKPdf**	**03 59 27.2**	**+0.5**
SDV				*e*PKPbc	**PKiKP**	**03 59 33.9**	**+0.1**

DJA 08 03:44:53.0±0.9, 8°S±5°×107°E±°, h10km, M3.7/6, MLv3.7/6, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.68**	**41**	P	Pg	03 45 05.8	-0.5
CISI				S	Sb	03 45 16.0	-0.6
CNJI	**Cibinong**	**0.79**	**343**	P	Pg	03 45 06.9	-1.4
CNJI				S	Sg	03 45 17.4	-1.2
CMJI	**Cimerak**	**1.11**	**75**	P	Pb	03 45 12.1	-2.3
CMJI				S	Sg	03 45 26.5	-2.5
LEM	**Lembang**	**1.26**	**12**	P	Pn	03 45 16.9	0.0
LEM				S	Sb	03 45 33.4	-0.2
KPJI	**Karang Pucung**	**1.72**	**65**	P	Pn	03 45 23.3	+0.3
KPJI				S	Sb	03 45 46.1	-0.3
TNG	**Tangerang**	**2.02**	**339**	P	Pn	03 45 27.4	+0.3

DJA 08 04:02:24.1±0.6, 8°S±3°×107°E±°, h17km±6km, M3.7/13, MLv3.7/13, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.79**	**41**	P	Pb	04 02 39.2	-0.2
CISI				S	Sb	04 02 48.7	-1.2
CNJI	**Cibinong**	**0.85**	**349**	P	Pb	04 02 40.2	-0.2
CNJI				S	Sb	04 02 50.4	-1.2
CMJI	**Cimerak**	**1.20**	**72**	P	Pn	04 02 45.4	-0.8
CMJI				S	Sb	04 02 59.9	-1.8
SKJI	**Sukabumi**	**1.35**	**327**	P	Pn	04 02 47.7	-0.5
LEM	**Lembang**	**1.35**	**14**	P	Pn	04 02 48.0	-0.5
LEM				S	Sb	04 03 07.0	+0.5
KPJI	**Karang Pucung**	**1.82**	**64**	P	Pn	04 02 55.0	+0.4
KPJI				S	Sn	04 03 17.9	+0.6
CGJI	**Cibinong**	**2.20**	**314**	P	Pn	04 02 58.5	-1.4
CGJI				S	Sn	04 03 23.7	-3.0
UGM	**Wanagama**	**3.21**	**86**	P	Pn	04 03 13.9	0.0
PWJI	**Pagerwojo**	**4.47**	**89**	P	Pn	04 03 30.9	-0.2

*IDC **08** 04:06:49.7±0.7, 1°73S×136°36E, h0km, mb3.9/7, mb1 4.1/10, mb1mx3.9/33, mbtmp3.9/10, ML3.6/3, MS3.2/7, Ms1 3.2/7, ms1mx3.0/23, Error ellipse: s-maj=25.3km s-min=17.0km az=58.0*

*ISCJB **08** 04:06:51.4±0.8, 1°78S±0°05×136°31E±0°03, h20km±6km, mb3.8/7, MS3.2/6, Error ellipse: s-maj=8.6km s-min=5.4km az=6.2*

*DJA **08** 04:06:52.0±0.3, 2°S±3°×13°6E±°, h10km, M4.5/9, mb4.5/4, mB5.0/1, mB5.0/1, MLv4.5/9, Mw(mB)4.3/1, Mw(mB)4.3/1*

ISC 08 04:06:51.6±1.4, 1.73S±0°05×136°33E±0°05, h12km±8km, n30, σ1§03/29, mb3.9/7, MS3.2/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.17**	**212**	P	**Pg**	**04 06 55.6**	**+0.1**
BAKI	**Biak**	**0.58**	**337**	P	**Pg**	**04 07 02.6**	**-0.3**
BAKI				S	**Sb**	**04 07 11.4**	**-0.5**
RKPI	**Ransiki, Papua**	**2.16**	**276**	P	**Pn**	**04 07 29.0**	**+1.5**
RKPI				S	**Pn**	**04 07 55.7**	**+1.4**
SMPI	**Sarmi**	**2.39**	**96**	P	**Pn**	**04 07 31.5**	**+0.8**
SMPI				S	**Sn**	**04 08 01.1**	**+1.1**
FAKI	**Fak Fak**	**4.25**	**254**	P	**Pn**	**04 07 56.4**	**+0.2**
FAKI				S	**Sn**	**04 08 45.3**	**-0.5**
JAY	**Jayapura**	**4.44**	**100**	P	**Pn**	**04 07 59.4**	**+0.5**
JAY	**Jayapura**	**4.44**	**100**	Pn	**Pn**	**04 07 57.8**	**-1.1**
	1.0nm,0.3s,baz=236,slow=12,SNR=5.4						
JAY				Sn	**Sn**	**04 08 52.4**	**+1.8**
	1.6nm,0.3s,baz=288,slow=22,SNR=4.6						
SIJI	**Sorong**	**5.13**	**279**	Pn	**Pn**	**04 08 09.8**	**+1.4**
	2.6nm,0.3s,baz=237,slow=22,SNR=7.5						
SWI	**Sorong**	**5.14**	**280**	P	**Pn**	**04 08 08.5**	**0.0**
	34nm,0.9s,0.3nm						
BNDI	**Bandanaira**	**6.99**	**246**	P	**Pn**	**04 08 34.7**	**+0.8**
	105nm,0.7s,0.7nm						
MSAI	**Masohi**	**7.57**	**258**	P	**Pn**	**04 08 44.5**	**+2.6**
SANI	**Sanana**	**10.34**	**268**	P	**Pn**	**04 09 20.5**	**+0.6**
GUMO	**Guam**	**17.41**	**29**	LR	LR	04 16 43.8	
	comp=Z,34nm,19.9s,baz=73,slow=34						
WRA	**Warramunga Arr**	**18.21**	**186**	P	**Pn**	**04 11 03.0**	**-1.4**
	0.3nm,0.3s,baz=9.5,slow=12,SNR=20						
WRA				S	Sn	04 14 10.5	-17
	0.2nm,0.3s,baz=14,slow=23,SNR=8.3						
ASAR	**Alice Springs**	**21.94**	**186**	P	**P**	**04 11 45.0**	**-0.2**
	4.3nm,0.9s,baz=12,slow=12,SNR=23						
ASAR				LR	LR	04 21 17.2	
	comp=Z,242nm,19.3s,baz=12,slow=40						
JCJ	**Chichijima**	**29.20**	**11**	LR	LR	04 21 53.4	
	comp=Z,36nm,19.4s,baz=166,slow=31						
STKA	**Stephens Creek**	**30.40**	**171**	P	**P**	**04 13 03.2**	**-0.6**
	3.2nm,0.8s,baz=330,slow=8.4,SNR=7.7						
JNU	**Nakatsue**	**35.04**	**352**	LR	LR	04 26 42.2	
	comp=Z,58nm,19.0s,baz=158,slow=34						
MJAR	**Matsushiro Arr**	**38.11**	**2**	LR	LR	04 27 30.3	
	comp=Z,19nm,19.2s,baz=45,slow=33						
KSRS	**Korea Array**	**39.76**	**350**	LR	LR	04 27 48.5	
	comp=Z,22nm,21.6s,baz=191,slow=32						
CMAR	**Chiang Mai Arr**	**41.89**	**300**	P	**P**	**04 14 42.6**	**+0.4**
	0.8nm,0.4s,baz=117,slow=6.6,SNR=6.4						
SONM	**Songino Array**	**55.84**	**336**	LR	LR	04 41 05.0	
	comp=Z,27nm,18.5s,baz=89,slow=37						
MKAR	**Makanchi Array**	**67.57**	**323**	P	**P**	**04 17 47.7**	**-0.5**
	0.6nm,0.6s,baz=125,slow=7.6,SNR=7.5						
VNDA	**Vanda**	**76.97**	**174**	P	**P**	**04 18 43.7**	**-0.1**
	0.7nm,0.6s,baz=305,slow=5.2,SNR=7.9						
BVAR	**Borovoye Array**	**77.16**	**326**	P	**P**	**04 18 45.6**	**+0.3**
	0.3nm,0.4s,baz=134,slow=8.4,SNR=3.3						
ILAR	**Eielson Array**	**85.93**	**25**	P	**P**	**04 19 30.4**	**-1.1**
	0.8nm,0.8s,baz=270,slow=4.2,SNR=7.8						
TORD	**Torodi Ar. Bea**	**133.70**	**287**	PKP	**PKPdf**	**04 26 09.0**	**-0.5**
	0.4nm,0.7s,baz=70,slow=1.2,SNR=3.7						
CPUP	**Villa Florida**	**149.14**	**156**	PKPbc	**PKPbc**	**04 26 40.6**	**-0.2**
	2.1nm,1.0s,baz=242,slow=3.8,SNR=3.8						
ROSC	**El Rosal**	**149.24**	**83**	PKPbc	**PKPbc**	**04 26 42.5**	**+0.5**
	5.8nm,0.6s,baz=86,slow=21,SNR=8.2						
LPAZ	**La Paz**	**149.93**	**127**	PKPbc	**PKPbc**	**04 26 44.8**	**+1.0**
	1.3nm,0.9s,baz=183,slow=5.0,SNR=4.5						

*IDC **08** 04:55:11.8±3.0, 5°58S×153°93E, h27km±19km, mb4.5/19, mb1 4.6/21, mb1mx4.5/37, mbtmp4.7/21, ML4.0/2, MS4.2/16, Ms1 4.3/16, ms1mx4.1/21, Error ellipse: s-maj=17.9km s-min=12.0km az=74.0*

*MOS **08** 04:55:11.5±1.3, 5°44S×153°75E, h33km, mb5.0/18, Error ellipse: s-maj=9.7km s-min=8.5km az=93.9*

*DJA **08** 04:55:15.2±1.5, 6°S±4°×15°4E±°, h35km±13km, M5.7/20, mb5.2/20, mB5.9/8, MLv6.1/1, Mw(mB)5.5/8, Mwp6.0/1*

*NEIC **08** 04:55:17.1±1.3, 5°62S×153°82E, h71km±12km, mb4.9/27, Error ellipse: s-maj=10.3km s-min=7.9km az=52.0*

*GCMT **08** 04:55:17.1±0.2, 5°85S×153°72E, h42km, MW5.2/85, Moment Tensor Solution. s85,c116; s81,c114; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}6.06±.18; $M_{\theta\theta}$-3.00±.14; $M_{\phi\phi}$-3.06±.14; $M_{r\theta}$0.82±.15; $M_{\theta\phi}$4.05±.11; $M_{\phi r}$-2.94±.14; Best double couple: $M_0$7.27500×10^{16} NP1:ϕs148.00000°, δ58.00000°, λ106.00000°. NP2: ϕs301.00000°, δ36.00000°, λ67.00000°. Principal axes: T 6.9410, Plg73.0000°, Azm98.0000°; N 0.6700, Plg13.0000°, Azm320.0000°; P -7.6100, Plg11.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **08** 04:55:17.8, 5°35S×153°71E, h75km, mb5.0/46, mB5.1/28, Ms4.7/32, Ms7 4.5/33*

*ISCJB **08** 04:55:18.4±0.3, 5°69S±0°03×153°85E±0°05, h100km, mb4.8/58, Error ellipse: s-maj=7.5km s-min=4.8km az=169.4*

ISC 08 04:55:18.4±0.4, 5°69S±0°05×153°79E±0°05, h82km±2km, n184, σ1§52/217, mb4.8/58, 3C-3D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.20**	**312**	P	**Pn**	**04 55 55.5**	**+2.4**
	baz=2.4,SNR=9.1						
HNR	**Honiara**	**7.15**	**122**	*e*P	**Pn**	**04 57 01.9**	**+1.5**
HNR				*e*S	**Sn**	**04 58 16.5**	**-3.6**
HNR	**Honiara**	**7.15**	**122**	*e*P	Pn	04 57 07.0	+6.6
HNR				*e*S	Sn	04 58 30.0	+10
HNR	**Honiara**	**7.15**	**122**	*e*Pn	**Pn**	**04 57 01.9**	**+1.5**
HNR				*e*S	**Sn**	**04 58 16.5**	**-3.6**
PMG	**Port Moresby**	**7.54**	**240**	*d* iP	**Pn**	**04 57 02.8**	**-2.9**
PMG	**Port Moresby**	**7.54**	**240**	*e*Pn	**Pn**	**04 57 03.0**	**-2.7**
PMG				*e*S	**Sn**	**04 58 28.2**	**-1.5**
COEN	**Coen**	**13.29**	**231**	*e*Pn	**Pn**	**04 58 26.2**	**+2.2**
JAY	**Jayapura**	**13.43**	**283**	P	**Pn**	**04 58 25.3**	**-0.4**
	30nm,1.0s						
JAY	**Jayapura**	**13.43**	**283**	Pn	**Pn**	**04 58 22.9**	**-2.8**
	0.3nm,0.3s,baz=141,slow=6.4,SNR=10.0						
JAY	**Jayapura**	**13.43**	**283**	P	**Pn**	**04 58 23.7**	**-2.0**
	baz=13,SNR=6.9						
GENI	**Genyem**	**13.93**	**282**	P	**Pn**	**04 58 31.0**	**-1.2**
	76nm,1.0s						
MTSU	**Mount Surprise**	**15.45**	**216**	P	**Pn**	**04 58 52.1**	**+0.4**
	baz=15,SNR=24						
SMPI	**Sarmi**	**15.48**	**283**	P	**Pn**	**04 58 51.1**	**-1.2**
	72nm,1.3s,4μm						
CTA	**Charters Tower**	**16.08**	**206**	Pn	**Pn**	**04 58 58.8**	**-1.0**
	0.8nm,0.3s,baz=23,slow=14,SNR=13						
CTA				LR	LR	05 04 36.1	
	comp=Z,2μm,21.2s,baz=22,slow=35						
CTAO	**Charters Tower**	**16.08**	**206**	*e*P	**Pn**	**04 58 58.7**	**-1.0**
CTAO

baz=31,SNR=4.6
WRKA Warakurna 31.10 229 P **P** **05 01 28.8 -0.5**
baz=31,SNR=13
ARPS Mount Arapiles 32.81 198 P **P** **05 01 44.8 +0.8**
baz=32,SNR=6.1
WSI Waingapu 33.41 261 P P 05 01 54.1 +4.5
comp=Z,2µm,0.5s,comp=Z,49µm
KAPI Kappang 33.89 269 P **P** **05 01 53.9 +0.1**
comp=Z,4.8nm,0.4s,baz=135,slow=5.1,SNR=7.7
KAPI PcP **PcP** **05 04 31.6 +0.7**
comp=Z,1.1nm,0.3s,baz=56,slow=17,SNR=3.8
KAPI Kappang 33.89 269 *eP* **P** **05 01 54.0 +0.3**
comp=Z,3.3nm,1.0s
KAPI PcP **PcP** **05 04 31.6 +0.7**
FORT Forrest 34.75 221 P **P** **05 02 01.6 +0.6**
baz=34,SNR=17
FORT Forrest 34.75 221 *eP* **P** **05 02 00.1 -0.8**
comp=Z,35nm,0.5s
URZ Urewera 38.73 150 P **P** **05 02 34.0 -0.7**
comp=Z,22nm,0.6s,baz=233,slow=3.2,SNR=9.9
URZ Urewera 38.73 150 *eP* **P** **05 02 34.4 -0.2**
comp=Z,55nm,1.1s
MEEK Meekatharra 39.47 234 P **P** **05 02 40.9 -0.2**
baz=39,SNR=6.8
RPZ Rata Peaks 40.81 161 P **P** **05 02 51.3 -0.6**
comp=Z,12nm,0.8s,baz=282,slow=3.4,SNR=5.4
TBJI Tambak Boyo 41.70 266 P **P** **05 03 02.6 +3.0**
comp=Z,289nm,0.9s,comp=Z,3µm
SBUM Sibu 42.30 280 *eP* **P** **05 03 05.9 +1.4**
comp=Z,15nm,1.1s
KLBR Kellerberrin 42.43 228 P **P** **05 03 05.5 +0.2**
baz=42,SNR=6.2
JNU Nakatsue 44.30 332 P **P** **05 03 19.1 -1.2**
comp=Z,9.2nm,0.8s,baz=124,slow=7.4,SNR=8.5
JNU Nakatsue 44.30 332 *eP* **P** **05 03 18.9 -1.4**
comp=Z,5.8nm,0.9s
MAJO Matsushiro 44.47 342 *eP* P 05 03 17.9 -3.7
MAJO pmax pmax
comp=Z,21nm,1.4s
TPI Tanjungpandan 46.09 272 P **P** **05 03 33.6 -1.2**
TJN Taejon 48.62 331 *eP* **P** **05 03 51.5 -2.5**
KSRS Korea Array 49.23 333 P **P** **05 03 57.8 -0.9**
comp=Z,3.5nm,0.7s,baz=150,slow=8.3,SNR=15
KSRS Korea Array 49.23 333 P **P** **05 03 57.8 -0.9**
KSRS pmax pmax
comp=Z,4.0nm,0.7s
KSAR Wonju Array Be 49.24 333 P **P** **05 03 57.8 -1.0**
KSAR Wonju Array Be 49.24 333 P **P** **05 03 57.8 -1.0**
QIZ Qiongzhong 49.77 301 P **P** **05 04 03.0 -0.1**
QIZ pP **pP** **05 04 22.8 -0.5**
QIZ S **S** **05 11 07.1 +0.5**
QIZ LZ
comp=Z,300nm,18.8s
NJ2 Nanjing 50.15 321 *eP* **P** **05 04 05.6 -0.1**
NJ2 S **S** **05 11 10.7 -0.8**
NJ2 PMZ
comp=Z,20nm,0.5s
NJ2 LN
comp=Z,430nm,22.0s
NJ2 LE
comp=Z,550nm,18.7s
NJ2 LZ
comp=Z,590nm,18.7s
ASAJ Asahikawa 50.59 350 LR LR 05 21 28.2
comp=Z,189nm,21.4s,baz=183,slow=31
USRK Ussuriysk Ar. 53.41 341 P **P** **05 04 28.5 -1.2**
comp=Z,3.1nm,0.7s,baz=177,slow=9.1,SNR=6.7
TIA Tai'an 54.01 323 ↓P **P** **05 04 33.9 -0.5**
TIA PMZ
comp=Z,20nm,0.7s
SKNT Sakolnakorn 54.12 296 P **P** **05 04 36.5 +1.0**
comp=Z,30nm,0.8s
KULM Kulim 54.17 281 *eP* **P** **05 04 35.6 -0.3**
comp=Z,6.2nm,0.8s
PSI Prapat 55.44 277 P **P** **05 04 43.8 -1.5**
baz=55,SNR=3.6
ENH Enshi 55.48 313 *eP* **P** **05 04 45.0 -0.1**
comp=Z,19nm,0.9s
CN2 Changchun 55.51 335 *eP* **P** **05 04 47.5 +2.5**
CN2 *eS* **S** **05 12 26.2 +2.1**
CN2 PMZ
comp=Z,10.0nm,0.5s
CN2 PMZ
comp=Z,200nm,4.0s
CN2 LN
comp=Z,200nm,16.0s
CN2 LE
comp=Z,200nm,16.0s
CN2 LZ
comp=Z,200nm,17.0s
NAYO Nakonayok 55.70 291 P **P** **05 04 49.1 +2.2**
comp=Z,10nm,1.0s
GYA Guiyang 55.71 307 *eP* **P** **05 04 48.0 +1.0**
GYA pP **pP** **05 05 08.9 +1.3**
GYA sP **sP** **05 05 19.4 +2.7**
GYA PP **PP** **05 06 55.2 +3.0**
GYA S **S** **05 12 27.0 -0.7**
GYA sS **sS** **05 13 02.6 -0.2**
GYA PMZ
comp=Z,10.0nm,1.0s
GYA PMZ
comp=Z,90nm,5.0s
PPT Papeete 56.52 107 LR LR 05 27 14.4
comp=Z,153nm,18.1s,baz=300,slow=34
PPT2 Papeete2 56.52 107 *eS* **S** **05 12 41.9 +3.3**
comp=Z,166nm,26.2s
PPT2 *eSS* **SS** **05 16 30.1 +2.9**
comp=Z,137nm,26.0s
PPT2 *eLR* LR 05 21 15.4
comp=Z,326nm,27.0s
PBKT Sadao Pong 56.71 294 P **P** **05 04 55.5 +1.4**
comp=Z,13nm,1.3s
BJI Beijing 57.17 326 P **P** **05 04 56.5 -0.4**
BJI pP **pP** **05 05 16.6 -1.0**
BJI PP **PP** **05 07 05.9 +1.1**
BJI S **S** **05 12 50.5 +4.3**
BJI SS **SS** **05 16 32.3 -4.3**
BJI PMZ
comp=Z,7.0nm,0.7s
BJI PMZ
comp=Z,69nm,3.7s
BJI LN
comp=Z,160nm,23.1s
BJI LE
comp=Z,180nm,25.3s
BJI LZ
comp=Z,190nm,27.5s
TBI Tubuai 57.30 114 *eLQ* LQ 05 19 16.2
comp=Z,797nm,30.8s
TBI *eLR* LR 05 21 45.5
comp=Z,845nm,28.5s
UTTA Uttaradit 57.47 295 P **P** **05 05 00.4 +1.0**
comp=Z,14nm,0.8s
XAN Xi'an 57.94 316 P **P** **05 05 02.2 -0.3**
XAN PMZ
comp=Z,5.0nm,1.0s
XAN PMZ
comp=Z,19nm,5.9s
KLR Kul'dur 57.97 343 *eP* P 05 04 57.8 -4.6
KMI Kunming 58.30 304 P **P** **05 05 06.4 +1.0**
KMI pP **pP** **05 05 28.1 +2.0**
KMI sP **sP** **05 05 37.4 +2.1**
KMI S **S** **05 13 00.9 -1.0**
KMI SS **SS** **05 16 55.0 -0.3**
KMI PMZ
comp=Z,15nm,0.9s
KMI LN
comp=Z,130nm,11.8s
KMI LE
comp=Z,230nm,15.9s
KMI LZ
comp=Z,300nm,18.2s
CRAI Chiangrai 58.46 298 P **P** **05 05 04.3 -2.0**
comp=Z,18nm,0.9s
LAMP Lampang 58.55 296 P **P** **05 05 08.3 +1.4**
comp=Z,19nm,0.8s
PETK Petropavlovsk- 58.67 3 LR LR 05 26 35.8
comp=Z,87nm,21.4s,baz=173,slow=32
CM31 Chiang Mai Arr 59.15 295 *eP* **P** **05 05 12.4 +1.3**
comp=Z,22nm,0.8s
CMAR Chiang Mai Arr 59.15 295 P **P** **05 05 12.3 +1.2**
comp=Z,21nm,0.8s,baz=111,slow=5.0,SNR=86
CMAR LR LR 05 29 02.8
comp=Z,117nm,20.7s,baz=112,slow=34
CHTO Chiang Mai 59.26 296 P **P** **05 05 12.7 +0.8**
comp=Z,92nm,1.1s
CHTO Chiang Mai 59.26 296 *eP* **P** **05 05 12.6 +0.7**
CHTO pmax pmax
comp=Z,17nm,1.0s
CHTO Chiang Mai 59.26 296 *eP* **P** **05 05 12.6 +0.7**
comp=Z,17nm,1.0s
MHMT Maesarieng 59.97 295 P **P** **05 05 18.1 +1.3**
comp=Z,9.0nm,0.9s
CD2 Chengdu 60.06 311 P **P** **05 05 17.6 +0.4**
CD2 pP **pP** **05 05 38.4 +0.3**
CD2 sP **sP** **05 05 47.8 +0.6**
CD2 PP **PP** **05 07 31.0 +0.3**
CD2 S **S** **05 13 25.2 +1.0**
CD2 sS **sS** **05 14 01.3 +1.6**
CD2 PMZ
comp=Z,30nm,0.6s
CD2 PMZ
comp=Z,100nm,5.1s
CD2 LN
comp=Z,340nm,20.2s
CD2 LZ
comp=Z,360nm,21.5s
CMBY CAMPBELL BAY 61.05 281 *eP* **P** **05 05 23.2 -1.0**
CMBY AML AML 05 07 11.5
comp=Z,99nm,0.4s
LZH Lanzhou 62.55 316 *eP* **P** **05 05 34.8 +0.7**
LZH pP **pP** **05 05 56.7 +1.6**
LZH PP **PP** **05 07 55.0 +2.3**
LZH S **S** **05 13 55.0 -0.8**
LZH sS **sS** **05 14 33.0 +1.4**
LZH *e*SS **SS** **05 18 01.3 -0.3**
LZH PMZ
comp=Z,48nm,1.3s
LZH PMZ
comp=Z,220nm,6.0s
LZH LN
comp=Z,340nm,16.0s
LZH LE
comp=Z,320nm,15.3s
LZH LZ
comp=Z,460nm,18.5s
DGPR DIGLIPUR 63.28 288 *eP* **P** **05 05 38.8 -0.3**
GTA Gaotai 66.97 317 ↑P **P** **05 06 03.8 +1.0**
GTA pP **pP** **05 06 23.6 -0.4**
GTA sP **sP** **05 06 32.5 -0.5**
GTA S **S** **05 14 52.5 +2.5**
GTA sS **sS** **05 15 25.7 -0.5**
GTA SS **SS** **05 19 11.4 +1.1**
GTA PMZ
comp=Z,37nm,1.4s
GTA PMZ
comp=Z,190nm,5.2s
GTA LN
comp=Z,140nm,19.5s
GTA LE
comp=Z,230nm,19.5s
GTA LZ
comp=Z,280nm,19.2s
CASY Casey 67.46 197 *eP* **P** **05 06 05.2 0.0**
comp=Z,9.3nm,0.9s
SONM Songino Array 67.60 328 P **P** **05 06 06.4 -0.1**
comp=Z,2.6nm,0.7s,baz=141,slow=5.7,SNR=5.5
SONM LR LR 05 35 37.1
comp=Z,134nm,18.9s,baz=92,slow=36
SHL Shillong 67.60 300 *eP* **P** **05 06 06.5 -0.6**
SHL AMB AMB 05 06 07.9
comp=Z,19nm,0.6s
SEY Seymchan 68.44 359 P **P** **05 06 09.8 -1.5**
comp=Z,0.8nm,0.4s,baz=136,slow=5.6,SNR=4.3
SEY Seymchan 68.44 359 *eP* **P** **05 06 09.5 -1.8**
LSA Lhasa 69.55 304 *eP* **P** **05 06 20.3 +0.8**
LSA pmax pmax
comp=Z,11nm,0.9s
LSA Lhasa 69.55 304 *eP* **P** **05 06 20.3 +0.8**
comp=Z,11nm,0.9s
YAK Yakutsk 70.04 348 *eP* **P** **05 06 19.0 -2.2**
YAK pmax pmax
comp=Z,8.0nm,0.8s
RKT Rikitea 70.54 112 *e*LR LR 05 27 47.4
comp=Z,473nm,32.0s
ZAK Zakamensk 70.76 328 ↓*i*P **P** **05 06 25.2 -0.8**
ZAK pmax pmax
comp=Z,4.0nm,0.8s
TLY Talaya 71.34 330 *eP* **P** **05 06 29.9 +0.5**
TLY pmax pmax
comp=Z,2.0nm,0.7s
TAPN Taplejung 71.70 301 *eP* **P** **05 06 32.9 +0.5**
comp=Z,27nm,0.8s
ODAN Odare 71.84 301 *eP* **P** **05 06 33.7 +0.5**
comp=Z,62nm,0.6s
VNDA Vanda 71.91 178 P **P** **05 06 33.1 +0.7**
comp=Z,5.5nm,0.8s,baz=333,slow=6.8,SNR=32
VNDA Vanda 71.91 178 *eP* **P** **05 06 33.1 +0.7**
VNDA pmax pmax
comp=Z,10.0nm,0.6s
VNDA Vanda 71.91 178 *eP* **P** **05 06 33.1 +0.7**
comp=Z,10nm,0.6s
BOK Bokaro 72.34 297 *eP* **P** **05 06 36.0 +0.1**
SBA Scott Base 72.44 177 *eP* **P** **05 06 37.1 +1.6**
SBA Scott Base 72.44 177 *eP* **P** **05 06 37.1 +1.6**
RAMN Ramite 72.54 300 *eP* **P** **05 06 37.6 +0.2**
comp=Z,12nm,0.5s
VIS Vishakhapatnam 73.30 290 *eP* **P** **05 06 40.8 -0.8**
GUN Gumba 73.42 301 *eP* **P** **05 06 43.3 +0.6**
comp=Z,42nm,0.6s
PKI Pulchoki 73.73 301 *eP* **P** **05 06 44.6 +0.1**
KKN Kakani 73.90 301 *eP* **P** **05 06 45.7 +0.4**
comp=Z,21nm,0.8s
DMN Daman 74.00 301 *eP* **P** **05 06 46.4 +0.4**
comp=Z,52nm,0.9s
BILL Bilibino 74.08 5 *i*P **P** **05 06 42.5 -2.8**
BILL *i* 05 07 00.1
BILL pmax pmax
comp=Z,5.0nm,1.1s
GKN Gorkha 74.50 301 *eP* **P** **05 06 49.0 +0.2**
comp=Z,34nm,1.0s
KOLN Koldanda 75.33 300 *eP* **P** **05 06 53.7 +0.1**
comp=Z,19nm,0.8s
DANN Dangsing 75.34 301 *eP* **P** **05 06 53.5 -0.3**
comp=Z,2.6nm,0.6s
WMQ Urumqi 77.06 317 P **P** **05 07 04.3 +1.4**
WMQ PcP **PcP** **05 07 15.3 +1.8**
WMQ pP **pP** **05 07 23.5 -1.0**
WMQ sP **sP** **05 07 33.3 -0.2**
WMQ *e*S **S** **05 16 45.2 -0.1**
WMQ SKS **SKSac** **05 17 04.7 -3.6**
WMQ sS **sS** **05 17 20.0 -2.2**
WMQ PMZ
comp=Z,19nm,0.8s
WMQ PMZ
comp=Z,100nm,4.5s
WMQ LN
comp=Z,110nm,26.1s
WMQ LE
comp=Z,220nm,27.8s
WMQ LZ
comp=Z,140nm,26.8s
TRD Trivandrum 77.89 280 *ex* P 05 07 01.8 -6.3
TRD AMB AMB 05 07 11.1
comp=Z,37nm,2.3s
BHPL Bhopal 79.80 295 *eP* **P** **05 07 18.1 -0.2**
BHPL AMB AMB 05 07 29.2
comp=Z,23nm,1.5s
DDI Dehra Dun 80.64 302 *eP* **P** **05 07 22.2 -0.6**
DDI AMB AMB 05 07 26.0
comp=Z,22nm,1.5s
MCK McKinley 81.30 22 *eP* **P** **05 07 22.8 -2.7**
MCK pmax pmax
comp=Z,16nm,0.9s
MCK McKinley 81.30 22 *eP* **P** **05 07 22.8 -2.7**
comp=Z,16nm,0.9s
SMLA Simla 81.56 302 *eP* **P** **05 07 27.5 0.0**
SMLA AMB AMB 05 07 30.2
comp=Z,23nm,0.4s
MK31 Makanchi Array 81.64 319 *eP* **P** **05 07 27.7 0.0**
MK31 Makanchi Array 81.64 319 *eP* **P** **05 07 27.7 0.0**
MKAR Makanchi Array 81.64 319 P **P** **05 07 27.7 0.0**
comp=Z,8.5nm,0.8s,baz=103,slow=5.8,SNR=70
MKAR LR LR 05 44 55.2
comp=Z,113nm,19.4s,baz=89,slow=36
MKAR Makanchi Array 81.64 319 P **P** **05 07 27.7 0.0**
MKAR pmax pmax
comp=Z,9.0nm,0.8s
MKAR MLR MLR
comp=Z,113nm,19.4s
MKAR Makanchi Array 81.64 319 *eP* **P** **05 07 27.9 +0.2**
COLA College 82.31 22 *eP* **P** **05 07 28.1 -2.6**
COLA pmax pmax
comp=Z,18nm,1.0s
COLA College 82.31 22 *eP* **P** **05 07 27.6 -3.1**
comp=Z,9.8nm,1.0s
POO Poona 82.31 289 *eP* **P** **05 07 30.5 -1.3**
ZALV Zalesovo Beam 82.43 326 LR LR 05 44 19.0
comp=Z,100nm,21.7s,baz=68,slow=36
DHRM DHARAMSHALA 82.51 303 *eP* **P** **05 07 31.9 -0.9**
DHRM AML AML 05 07 33.0
comp=Z,33nm,0.8s
ILAR Eielson Array 82.61 22 P **P** **05 07 29.5 -2.8**
comp=Z,1.8nm,0.6s,baz=245,slow=5.4,SNR=26
ILAR PKKPbc **PKKPbc** **05 25 56.8 -3.7**
comp=Z,0.3nm,0.7s,baz=353,slow=1.1,SNR=5.0
ILAR LR LR 05 41 34.4
comp=Z,399nm,19.8s,baz=244,slow=34
NVS Novosibirsk 83.61 327 ↑*i*P P 05 07 41.6 +4.0
KSH Kashi 84.26 311 P **P** **05 07 43.7 +2.2**
KSH pP **pP** **05 08 05.1 +1.6**
KSH PP PP 05 11 03.1 +5.9
KSH SKS **S** **05 17 58.3 -2.4**
KSH S **SKKSac** **05 18 01.7 -1.9**
KSH sS **sS** **05 18 39.2 +1.0**
KSH PMZ
comp=Z,46nm,1.0s
KSH LN
comp=Z,160nm,5.9s
KSH LE
comp=Z,140nm,5.8s
KSH LZ
comp=Z,290nm,6.5s
QSPA South Pole Qui 84.28 180 *eP* **P** **05 07 41.8 +0.7**
comp=Z,34nm,0.8s
ULHL Ulahol 84.64 313 P **P** **05 07 44.3 +0.8**
SNR=14
EGAK Eagle 84.78 23 *eP* **P** **05 07 42.1 -1.3**
comp=Z,9.3nm,1.0s
KURK Kurchatov 85.07 322 *eP* **P** **05 07 44.3 -0.8**
KURK pmax pmax
comp=Z,29nm,1.1s
KURK Kurchatov 85.07 322 *eP* **P** **05 07 44.3 -0.8**
comp=Z,29nm,1.1s
MAW Mawson 85.13 203 P **P** **05 07 45.2 0.0**
comp=Z,5.2nm,0.6s,baz=95,slow=7.5,SNR=5.4
MAW LR LR 05 42 01.2
comp=Z,205nm,21.9s,baz=66,slow=33
TKM2 Tokmak 2 85.25 314 P **P** **05 07 46.9 +0.4**
SNR=13
TKM2 Tokmak 2 85.25 314 *eP* **P** **05 07 46.7 +0.1**
TKM2 pmax pmax
comp=Z,7.0nm,0.5s
TKM2 Tokmak 2 85.25 314 *eP* **P** **05 07 46.7 +0.1**
comp=Z,6.9nm,0.5s
KZA Kyzart 85.33 313 P **P** **05 07 48.5 +1.3**
SNR=16
UCH Uchtor 85.89 313 P **P** **05 07 50.8 +0.7**
SNR=8.2
FRU Bishkek 85.94 314 *eP* P 05 07 46.0 -3.7
EKS2 Erkin-Say 86.51 313 P **P** **05 07 53.3 +0.6**
SNR=6.4
EKS2 Erkin-Say 86.51 313 *eP* **P** **05 07 53.1 +0.4**
EKS2 pmax pmax
comp=Z,8.0nm,0.9s
EKS2 Erkin-Say 86.51 313 *eP* **P** **05 07 53.1 +0.4**
comp=Z,7.9nm,0.9s
KKAR Karatay Array 88.95 313 *eP* **P** **05 08 04.0 -0.2**
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 88.95 313 *eP* **P** **05 08 04.0 -0.2**
comp=Z,2.1nm,0.6s
BRVK Borovoye 90.61 323 *eP* **P** **05 08 10.1 -1.5**
BRVK pmax pmax
comp=Z,5.0nm,1.1s
BRVK Borovoye 90.61 323 *eP* **P** **05 08 11.2 -0.4**
comp=Z,4.0nm,0.8s
NVAR Mina Array Bea 91.86 52 P **P** **05 08 18.9 +0.8**
comp=Z,1.3nm,0.9s,baz=250,slow=6.7,SNR=7.0
YKA Yellowknife Ar 95.75 28 PKKPbc PKKPbc 05 25 24.0 -3.4
comp=Z,0.9nm,0.7s,baz=80,slow=3.1,SNR=5.4
GEYT Alibeck 97.94 307 LR LR 05 55 22.9
comp=Z,75nm,19.9s,baz=300,slow=37
PDAR Pinedale Array 98.71 48 LR LR 05 49 30.3
comp=Z,398nm,19.1s,baz=264,slow=33
TXAR Lajitas Array 103.69 61 PKKPbc PKKPbc 05 25 03.5 -0.3
comp=Z,0.3nm,0.8s,baz=117,slow=4.4,SNR=4.0
BOSA Boshof 119.88 232 PKP **PKPdf** **05 14 00.7 +0.5**
comp=Z,5.3nm,0.7s,baz=125,slow=2.1,SNR=12
GERES GERESS Array B 125.32 329 PKP **PKPdf** **05 14 09.3 -0.7**
comp=Z,0.5nm,0.6s,baz=306,slow=2.5,SNR=3.6
LPAZ La Paz 133.13 118 PKP **PKPdf** **05 14 28.3 +1.9**
comp=Z,0.9nm,0.6s,baz=270,slow=5.5,SNR=6.0
CPUP Villa Florida 136.15 138 PKP **PKPdf** **05 14 31.4 +0.3**
comp=Z,2.1nm,1.0s,baz=14,slow=6.3,SNR=3.6
TAM Tamanrasset 144.98 302 *e*PKIKP **PKPab** **05 14 46.9 +0.1**
TAM Tamanrasset 144.98 302 *e*PKPdf **PKPab** **05 14 46.9 +0.1**
BDFB Brasilia 149.74 135 PKPbc **PKPbc** **05 14 59.2 -0.8**
comp=Z,2.6nm,0.6s,baz=206,slow=11,SNR=3.5
TORD Torodi Ar. Bea 151.51 287 PKP **PKPdf** **05 14 58.4 +0.4**
comp=Z,11nm,0.7s,baz=36,slow=0.2,SNR=77
TORD PKPbc **PKPbc** **05 15 03.6 -0.6**
comp=Z,12nm,0.7s,baz=60,slow=2.3,SNR=79

IDC 08 04:55:35.2±2.4, 6°33S×130°58E, h0km, mb3.7/1, mb1 3.5/3, mb1mx3.4/35, mbtmp3.3/3, ML3.4/2, MS3.9/1, Ms1 3.9/1, ms1mx2.9/24, Error ellipse: s-maj=139.5km s-min=32.5km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.02**	**165**	Pn	Pn	04 58 56.0	+0.7
	0.2nm,0.3s,baz=349,slow=14,SNR=15						
ASAR	**Alice Springs**	**17.53**	**170**	P	Pn	04 59 40.7	-0.6
	0.1nm,0.3s,baz=340,slow=8.5,SNR=4.6						
JCJ	**Chichijima**	**35.08**	**18**	LR	LR	05 15 08.7	
	comp=Z,200nm,20.8s,baz=181,slow=34						
MKAR	**Makanchi Array**	**67.99**	**326**	P	P	05 06 36.3	0.0
	0.3nm,0.4s,baz=136,slow=8.1,SNR=4.8						

*ISCJB **08** 04:59:42.2±0.7, 14°.84N±0°.09×145°.6E±0°.2, h109km, mb4.0/10, Error ellipse: s-maj=25.1km s-min=10.1km az=23.0*

*IDC **08** 04:59:44.3±1.3, 14°.73N×145°.59E, h116km±13km, mb3.7/10, mb1 3.9/10, mb1mx3.6/36, mbtmp4.0/10, Error ellipse: s-maj=23.1km s-min=18.5km az=104.0*

ISC 08 04:59:43.6±0.8, 14°.8N±0°.1×145°.6E±0°.2, h109km, n18, σ1§17/13, mb4.0/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.42**	**211**	P	**Pn**	**05 00 10.7**	**+1.3**
	335nm,0.3s,baz=306,slow=4.2,SNR=118						
GUMO				LR	LR	05 00 20.0	
	comp=Z,132nm,18.3s,baz=26,slow=27						
GUMO				S	**Sn**	**05 00 28.5**	**-0.4**
	2µm,0.3s,baz=149,slow=19,SNR=108						
H11S3	**WAKE ISLAND Hy 20.51**	**77**		T	T	05 25 50.1	
	baz=263,slow=75,SNR=85						
H11S1	**WAKE ISLAND Hy 20.53**	**77**		T	T	05 25 50.2	
	baz=263,slow=75,SNR=71						
H11S2	**WAKE ISLAND Hy 20.53**	**77**		T	T	05 25 51.2	
	baz=263,slow=75,SNR=45						
H11N1	**WAKE ISLAND Hy 20.89**	**73**		T	T	05 26 17.7	
	baz=260,slow=75,SNR=6.2						
H11N2	**WAKE ISLAND Hy 20.89**	**73**		T	T	05 26 16.3	
	baz=260,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy 20.90**	**73**		T	T	05 26 18.6	
	baz=260,slow=75,SNR=3.3						
WRA	**Warramunga Arr**	**36.27**	**198**	P	**P**	**05 06 35.1**	**-1.5**
	0.8nm,0.7s,baz=19,slow=9.7,SNR=6.6						
ASAR	**Alice Springs**	**39.92**	**197**	P	**P**	**05 07 06.6**	**-0.7**
	0.3nm,0.4s,baz=17,slow=14,SNR=2.9						
CMAR	**Chiang Mai Arr**	**44.78**	**281**	P	**P**	**05 07 46.7**	**0.0**
	0.7nm,0.5s,baz=80,slow=6.8,SNR=3.5						
ZALV	**Zalesovo Beam**	**61.06**	**324**	P	**P**	**05 09 46.3**	**+0.5**
	1.8nm,0.4s,baz=115,slow=7.9,SNR=3.6						
MKAR	**Makanchi Array**	**61.13**	**315**	P	**P**	**05 09 47.8**	**+1.3**
	2.4nm,0.3s,baz=91,slow=8.7,SNR=16						
ILAR	**Eielson Array**	**67.16**	**25**	P	**P**	**05 10 24.8**	**-0.7**
	0.7nm,0.3s,baz=252,slow=5.8,SNR=13						
YKA	**Yellowknife Ar**	**81.45**	**28**	P	**P**	**05 11 48.5**	**+0.2**
	0.4nm,0.4s,baz=284,slow=5.1,SNR=9.6						
NVAR	**Mina Array Bea**	**85.59**	**52**	P	**P**	**05 12 12.1**	**+1.7**
	1.7nm,0.7s,baz=264,slow=6.0,SNR=13						
FINES	**FINESS Array B**	**90.36**	**335**	P	**P**	**05 12 30.6**	**-1.8**

0.5nm,0.3s,baz=97,slow=4.4,SNR=5.6
PDAR Pinedale Array 90.59 45 P **P** **05 12 33.9 -0.3**
0.5nm,0.5s,baz=291,slow=1.3,SNR=6.8
LPAZ La Paz 147.47 97 PKPbc **PKPbc** **05 19 17.3 +0.7**
1.1nm,0.5s,baz=308,slow=5.0,SNR=7.7

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*ISCJB **08** 05:23:47.2±0.3, 17°0.5′±0.2″×174°55.5′W±0.08, h172km, mb4.2/15, Error ellipse: s-maj=23.4km s-min=5.9km az=154.7*
*NEIC **08** 05:23:47.9±1.3, 16°19.1′S×174°58.8′W, h164km±9km, mb4.4/4, Error ellipse: s-maj=34.9km s-min=7.8km az=151.0*
*IDC **08** 05:23:47.2±7.2, 17°08.5′S×174°44.4′W, h160km±65km, mb3.9/10, mb1 4.1/11, mb1mx3.9/26, mbtmp4.3/11, Error ellipse: s-maj=38.7km s-min=17.2km az=151.0*

ISC 08 05:23:48.6±0.9, 16°19.5′S±0.2″×174°5.5′W±0.2″, h172km, n65, σ0§89/67, mb4.2/15, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.99**	**42**	*e*Pn		**Pn**	**05 24 49.5**	**+0.1**
AFI				*e*Sn		**Sn**	**05 25 33.9**	**-2.9**
MSVF	**Nonsavu**	**7.14**	**262**	Pn		**Pn**	**05 25 28.1**	**-2.6**
DZM	**Mont Dzumac**	**18.66**	**251**	P		**P**	**05 27 54.0**	**+0.3**
	baz=270,slow=20							
EIDS	**Eidsvold**	**33.09**	**249**	*e*P		**P**	**05 30 09.2**	**+0.9**
	33nm,1.9s							
ARMA	**Armidale**	**33.65**	**240**	P		**P**	**05 30 13.5**	**+0.3**
	baz=33,SNR=8.6							
CMSA	**Cobar Meteorol**	**38.87**	**241**	P		**P**	**05 30 57.1**	**-0.2**
	baz=38,SNR=15							
QLP	**Quilpie**	**39.35**	**249**	P		**P**	**05 31 00.9**	**-0.5**
	baz=39,SNR=5.1							
STKA	**Stephens Creek**	**42.36**	**241**	P		**P**	**05 31 26.2**	**+0.3**
	9.0nm,0.6s,baz=93,slow=9.9,SNR=20							
HTT	**Hallett**	**44.85**	**239**	P		**P**	**05 31 45.7**	**-0.1**
	baz=44,SNR=3.6							
JAY	**Jayapura**	**46.24**	**283**	P		**P**	**05 31 58.0**	**+0.9**
	12nm,0.8s,baz=113,slow=20,SNR=4.5							
BBOO	**Buckleboo**	**47.13**	**241**	P		**P**	**05 32 03.0**	**-0.6**
	baz=47,SNR=5.0							
WRAB	**Tennant Creek**	**48.45**	**258**	*e*P		**P**	**05 32 13.0**	**-1.0**
	3.5nm,0.5s							
WRA	**Warramunga Arr**	**48.46**	**258**	P		**P**	**05 32 13.2**	**-0.9**
	3.6nm,0.4s,baz=96,slow=7.0,SNR=156							
WRA				PcP		**PcP**	**05 33 37.6**	**0.0**
	0.9nm,0.6s,baz=95,slow=3.3,SNR=3.9							
ASAR	**Alice Springs**	**48.63**	**253**	P		**P**	**05 32 14.9**	**-0.4**
	54nm,0.5s,baz=88,slow=8.5,SNR=711							
ASAR				PcP		**PcP**	**05 33 37.8**	**-0.5**
	1.8nm,0.9s,baz=95,slow=7.3,SNR=3.4							
WRKA	**Warakurna**	**53.68**	**251**	P		**P**	**05 32 52.5**	**-0.4**
	baz=53,SNR=60							
MEEK	**Meekatharra**	**62.25**	**248**	P		**P**	**05 33 51.8**	**-0.8**
	baz=62,SNR=5.2							
PETK	**Petropavlovsk-**	**73.74**	**343**	P		**P**	**05 35 03.9**	**+0.4**
	3.4nm,0.5s,baz=117,slow=7.3,SNR=4.6							
NVAR	**Mina Array Bea**	**76.16**	**42**	P		**P**	**05 35 18.9**	**+0.8**
	1.7nm,0.7s,baz=222,slow=9.8,SNR=17							
KSRS	**Korea Array**	**76.48**	**316**	P		**P**	**05 35 22.1**	**+2.5**
	1.7nm,0.8s,baz=140,slow=6.9,SNR=6.5							
KSAR	**Wonju Array Be**	**76.50**	**316**	P		**P**	**05 35 22.1**	**+2.4**
TXAR	**Lajitas Array**	**82.34**	**56**	P		**P**	**05 35 52.6**	**+1.0**
	1.6nm,0.9s,baz=224,slow=7.0,SNR=16							
PDAR	**Pinedale Array**	**84.10**	**42**	P		**P**	**05 35 59.0**	**-1.4**
	1.3nm,0.9s,baz=204,slow=1.8,SNR=9.2							
ILAR	**Eielson Array**	**84.13**	**12**	P		**P**	**05 36 00.0**	**+0.2**
	0.5nm,0.6s,baz=233,slow=5.9,SNR=7.2							
329A	**Wagon Wheel Ra**	**84.54**	**55**	P		**P**	**05 36 03.5**	**+0.8**
	baz=85							
128A	**Castleberry Fa**	**84.60**	**54**	P		**P**	**05 36 03.0**	**0.0**
	baz=85,SNR=5.7							
631A	**Perdido Creek**	**84.85**	**57**	P		**P**	**05 36 04.1**	**-0.1**
	baz=85							
229A	**Bryant Ranch,**	**84.86**	**55**	P		**P**	**05 36 04.9**	**+0.6**
	baz=85							
832A	**Faith Ranch, C**	**84.91**	**59**	P		**P**	**05 36 04.8**	**+0.3**
	baz=85							
MSTX	**Muleshoe**	**84.93**	**52**	P		**P**	**05 36 05.4**	**+0.8**
	baz=85							
MSTX	**Muleshoe**	**84.93**	**52**	*e*P		**P**	**05 36 05.1**	**+0.4**
	3.6nm,0.9s							
Z28A	**Tucker Farm, M**	**84.95**	**53**	P		**P**	**05 36 04.5**	**-0.3**
	baz=85							
129A	**Stewart Farms,**	**85.08**	**54**	P		**P**	**05 36 06.0**	**+0.6**
	baz=85							
330A	**Mertzon**	**85.14**	**55**	P		**P**	**05 36 05.5**	**-0.2**
	baz=85							
531A	**Rocksprings**	**85.16**	**57**	P		**P**	**05 36 05.8**	**0.0**
	baz=85							
933A	**Laredo**	**85.24**	**59**	P		**P**	**05 36 07.4**	**+1.3**
	baz=85							
Y28A	**McKinney Farm,**	**85.30**	**53**	P		**P**	**05 36 06.5**	**0.0**
	baz=86							
Z29A	**Hungry Hill Ra**	**85.46**	**53**	P		**P**	**05 36 07.4**	**+0.1**
	baz=86							
632A	**Uvalde**	**85.52**	**58**	P		**P**	**05 36 08.0**	**+0.4**
	baz=86							
Y29A	**Porterfield Fa**	**85.72**	**53**	P		**P**	**05 36 09.4**	**+0.8**
	baz=86							
130A	**Snyder**	**85.77**	**54**	P		**P**	**05 36 09.5**	**+0.7**
	baz=86							
Z30A	**Sanderson Ranc**	**85.91**	**54**	P		**P**	**05 36 09.7**	**+0.2**
	baz=86							
633A	**Saathoff Ranch**	**86.00**	**58**	P		**P**	**05 36 10.6**	**+0.7**
	baz=86							
834A	**Tilden**	**86.02**	**59**	P		**P**	**05 36 11.0**	**+1.0**
	baz=86							
231A	**Bronte**	**86.02**	**55**	P		**P**	**05 36 09.7**	**-0.3**
	baz=86,SNR=7.4							
432A	**Menard**	**86.03**	**56**	P		**P**	**05 36 09.9**	**-0.2**
	baz=86							
131A	**Roby**	**86.25**	**54**	P		**P**	**05 36 11.3**	**+0.2**
	baz=86							
332A	**Millersview**	**86.27**	**56**	P		**P**	**05 36 10.5**	**-0.7**
	baz=86,SNR=8.3							
533A	**Kerrville**	**86.34**	**57**	P		**P**	**05 36 11.7**	**+0.1**
	baz=86							
232A	**Coleman**	**86.53**	**55**	P		**P**	**05 36 11.7**	**-0.8**
	baz=87,SNR=5.5							
433A	**Art**	**86.55**	**57**	P		**P**	**05 36 11.4**	**-1.2**
	baz=87,SNR=6.4							
Z31A	**Sharp Cattle R**	**86.69**	**54**	P		**P**	**05 36 13.7**	**+0.5**
	baz=87							
534A	**Blanco**	**86.78**	**57**	P		**P**	**05 36 13.4**	**-0.3**
	baz=87,SNR=5.7							
ABTX	**Abilene, Hawle**	**86.81**	**55**	P		**P**	**05 36 14.0**	**+0.1**
	baz=87							
ABTX	**Abilene, Hawle**	**86.81**	**55**	*e*P		**P**	**05 36 14.2**	**+0.4**
	10nm,1.3s							
333A	**Richland Sprin**	**86.84**	**56**	P		**P**	**05 36 13.7**	**-0.3**
	baz=87							
233A	**Rising Star**	**87.17**	**55**	P		**P**	**05 36 15.1**	**-0.5**
	baz=87							
Z32A	**Haskell**	**87.20**	**54**	P		**P**	**05 36 16.8**	**+1.2**
	baz=87							
434A	**Burnet**	**87.23**	**57**	P		**P**	**05 36 15.9**	**+0.1**
	baz=87							
133A	**Hamilton Ranch**	**87.37**	**55**	P		**P**	**05 36 17.4**	**+0.9**
	baz=88							
334A	**Lometa**	**87.44**	**56**	P		**P**	**05 36 17.2**	**+0.3**
	baz=88							
234A	**Clairette**	**87.77**	**56**	P		**P**	**05 36 19.2**	**+0.8**
	baz=88							
CMAR	**Chiang Mai Arr**	**92.06**	**289**	P		**P**	**05 36 39.2**	**+0.5**
	0.4nm,0.3s,baz=107,slow=2.7,SNR=4.3							
CLL	**Collm**	**145.16**	**352**	*i*PKPbc		PKPab	05 43 12.3	+6.7
	comp=Z,5.0nm,0.9s							
BRTR	**Keskin Array B**	**146.60**	**319**	PKPbc		**PKPbc**	**05 43 10.2**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=146,slow=2.4,SNR=7.6							
GERES	**GERESS Array B**	**147.45**	**350**	PKPbc		**PKPbc**	**05 43 12.6**	**+0.3**
	comp=Z,0.2nm,0.2s,baz=20,slow=4.3,SNR=3.8							

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*NNC **08** 05:42:13.3±2.1, 36°.74′N×70°.91′E, h140km±27km, mb2.9, mpv3.8, Error ellipse: s-maj=20.4km s-min=9.5km az=162.0*

ISC 08 05:42:10.3±3.8, 36°.7′N±0.2″×70°.82′E±0.09, h188km, n13, σ1§13/17, 5C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.67**	**324**	⇓P		**Pn**	**05 42 56.1**	**+0.6**
	12nm,0.3s							
DZET				⇑S		**Sn**	**05 43 28.8**	**-2.0**
	12nm,0.2s							
SFK	**Sufi-Kurgan**	**3.96**	**31**	⇓P		**Pn**	**05 43 11.4**	**0.0**
	5.2nm,0.3s							
SFK				⇓S		**Sn**	**05 43 57.8**	**-1.6**
	3.6nm,0.2s							
AML	**Almayashu**	**5.91**	**21**	P		**Pn**	**05 43 36.8**	**+0.3**
	SNR=17							
UCH	**Uchtor**	**6.26**	**26**	P		**Pn**	**05 43 41.4**	**+0.2**
	SNR=6.3							
EKS2	**Erkin-Say**	**6.42**	**20**	P		**Pn**	**05 43 43.9**	**+1.0**
	SNR=5.3							
KK31	**Karatay Array**	**6.45**	**358**	⇑P		**Pn**	**05 43 45.1**	**+1.9**
	4.2nm,0.2s,baz=177,slow=13,SNR=98							
KK31				⇓S		**Sn**	**05 44 56.0**	**-0.6**
	0.9nm,0.4s,baz=175,slow=20,SNR=4.3							
AAK	**Ala-Archa**	**6.61**	**24**	P		**Pn**	**05 43 45.8**	**+0.3**
	SNR=5.5							
AAK	**Ala-Archa**	**6.61**	**24**	⇓P		**Pn**	**05 43 45.7**	**+0.2**
	3.2nm,0.3s							
AAK				⇑S		**Sn**	**05 44 59.3**	**-1.4**
	1.1nm,0.5s							
CHMS	**Chumysh**	**7.02**	**24**	P		**Pn**	**05 43 51.0**	**+0.3**
	SNR=6.0							
USP	**Ospenovka**	**7.18**	**22**	P		**Pn**	**05 43 53.8**	**+0.9**
	SNR=6.1							
TKM2	**Tokmak 2**	**7.26**	**29**	P		**Pn**	**05 43 54.4**	**+0.4**
	SNR=5.5							
TKM2	**Tokmak 2**	**7.26**	**29**	⇑P		**Pn**	**05 43 54.0**	**0.0**
	1.4nm,0.3s							
TKM2				⇓S		**Sn**	**05 45 17.7**	**+1.6**
	1.0nm,0.5s							
AB31	**Akbulak array**	**14.88**	**331**	⇑P		P	05 45 37.6	+5.2
	0.5nm,0.5s,baz=150,slow=11,SNR=10.0							

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*IDC **08** 05:49:38.1±0.5, 34°.59S×71°.91W, h0km, mb4.5/17, mb1 4.6/20, mb1mx4.5/27, mbtmp4.5/20, ML4.1/3, MS4.2/15, Ms1 4.1/15, ms1mx4.0/23, Error ellipse: s-maj=17.2km s-min=11.8km az=98.0*
*GUC **08** 05:49:38.9±0.4, 34°.50S×72°.05W, h8km±1km, ML5.0*
*ISCJB **08** 05:49:41.9±0.2, 34°.54S±0°.03×71°.95W±0°.03, h33km, mb4.7/98, MS4.1/14, Error ellipse: s-maj=4.1km s-min=3.5km az=152.7*
*MOS **08** 05:49:42.4±1.0, 34°.51S×71°.73W, h36km, mb4.8/15, Error ellipse: s-maj=19.0km s-min=9.3km az=99.4*
*NEIC **08** 05:49:43.9±0.2, 34°.49S×71°.84W, h35km, mb4.7/78, ML5.0(GUC), Error ellipse: s-maj=6.4km s-min=5.1km az=69.0*
NEIC Felt [IV] at Pichilemu; [III] at Curico, Linares, Paredones, Peralillo, San Fernando, Santa Cruz, Santiago and Talca; [II] at Lolol, Parral, Pencahue and Rancagua. Also felt at Valparaiso and Vina del Mar.
*BJI **08** 05:49:45.0, 34°.40S×71°.90W, h25km, mB5.4/2, Ms5.1/4, Ms7 4.4/3*

ISC 08 05:49:43.2±0.7, 34°.52S±0°.03×71°.82W±0°.06, h31km±4km, h30km:pP-P, n524, σ0§75/521, mb4.7/98, MS4.2/14, 4C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.66**	**31**	⇓*i*P		**Pb**	**05 49 53.7**	**-2.6**
NICH	**Los Niches**	**0.69**	**135**	*e*P		**Pb**	**05 49 55.0**	**-1.7**
NICH				*i* S		**Sn**	**05 50 07.0**	**+0.6**
TALC	**Talca**	**0.89**	**170**	⇓*i*P		**Pn**	**05 49 56.9**	**-2.7**
CHCH	**Chadas Angostu**	**1.13**	**59**	⇓*i*P		**Pn**	**05 50 02.4**	**-0.6**
TACH	**Talagante**	**1.14**	**41**	⇑*i*P		**Pn**	**05 50 01.3**	**-1.8**
TACH				*i* S		**Sb**	**05 50 18.4**	**-0.3**
LNCH	**Linares**	**1.33**	**172**	⇓*i*P		**Pn**	**05 50 05.3**	**-0.4**
LNCH				*i* S		**Sb**	**05 50 24.0**	**-0.3**
PCH	**Pirque**	**1.41**	**51**	⇓*i*P		**Pn**	**05 50 06.4**	**-0.4**
PCH				*i* S		**Sb**	**05 50 27.1**	**+0.5**
SAN	**Santiago**	**1.44**	**42**	⇓*i*P		**Pn**	**05 50 06.6**	**-0.6**
SAN				*i* S		**Sb**	**05 50 26.9**	**-0.4**
FSR	**Penalolen**	**1.50**	**46**	*i* P		**Pn**	**05 50 08.6**	**+0.6**
FSR				*i* S		**Sb**	**05 50 30.2**	**+1.1**
LACH	**Col Las Americ**	**1.52**	**46**	*e*P		**Pn**	**05 50 07.5**	**-0.8**
LACH				*i* S		**Sb**	**05 50 29.4**	**-0.1**
LACH				AML		AML	05 50 35.0	
	comp=E,15μm,0.7s							
CLCH	**Cerro Calan**	**1.55**	**44**	⇓*i*P		**Pn**	**05 50 08.3**	**-0.5**
CLCH				*i* S		**Sb**	**05 50 30.5**	**-0.1**
CLCH				AML		AML	05 50 39.4	
	comp=N,42μm,0.7s							
PEL	**Peldehue**	**1.67**	**35**	⇑*i*P		**Pn**	**05 50 09.6**	**-0.8**
PEL				*i* S		**Sb**	**05 50 32.7**	**-1.3**
PEL				AML		AML	05 50 37.6	
	comp=E,34μm,0.7s							
YECH	**El Yeso**	**1.68**	**60**	AML		AML	05 51 07.0	
	comp=N,18μm,0.3s							
CFAA	**Coronel Fontan**	**4.19**	**47**	Pn		**Pn**	**05 50 46.1**	**+1.1**
	comp=N,2.6nm,0.3s,baz=216,slow=9.3,SNR=74							
CFAA				Lg		Lg	05 51 54.1	
	comp=N,7.6nm,0.3s,baz=125,slow=23,SNR=18							
CFAA				LR		LR	05 52 15.0	
	comp=N,72nm,20.6s,baz=235,slow=37							
LCO	**Las Campanas**	**5.58**	**10**	*e*Pn		**Pn**	**05 51 02.0**	**-2.3**
TRQA	**Tornquist**	**8.69**	**117**	*e*Pn		**Pn**	**05 51 49.9**	**+3.0**
LVC	**Limon Verde**	**12.14**	**13**	Pn		Pn	05 52 26.6	-7.7
	comp=N,21nm,0.3s,baz=222,slow=9.7,SNR=8.1							
LVC				Sn		Sn	05 55 05.7	+17
	comp=N,3.7nm,0.3s,baz=30,slow=20,SNR=2.3							
LVC				LR		LR	05 57 40.6	
	comp=N,7μm,18.5s,baz=210,slow=40							
LVC	**Limon Verde**	**12.14**	**13**	*e*Pn		Pn	05 52 27.2	-7.0
LVC				Sn		Sn	05 55 05.7	+17
CPUP	**Villa Florida**	**14.92**	**61**	Pn		**Pn**	**05 53 10.2**	**-1.7**
	comp=N,0.2nm,0.3s,baz=232,slow=10,SNR=5.7							
CPUP				Lg		Lg	05 57 37.0	
	comp=N,0.2nm,0.3s,baz=327,slow=19,SNR=2.8							
LPAZ	**La Paz**	**18.46**	**11**	P		**P**	**05 53 56.5**	**-0.6**
	comp=N,0.7nm,0.3s,baz=181,slow=8.2,SNR=28							
USHA	**Ushuaia**	**20.45**	**174**	P		**P**	**05 54 17.0**	**-0.9**
	comp=N,14nm,0.8s,baz=350,slow=12,SNR=7.7							
USHA				LR		LR	06 02 47.1	
	comp=N,2μm,18.1s,baz=330,slow=39							
SIV	**San Ignacio**	**20.83**	**30**	P		**P**	**05 54 21.4**	**-0.9**
	comp=N,9.7nm,0.7s,baz=221,slow=11,SNR=30							
SIV				LR		LR	06 03 45.0	
	comp=N,971nm,19.6s,baz=212,slow=40							
NNA	**Nana**	**22.89**	**347**	P		**P**	**05 54 44.4**	**-0.1**
	comp=N,21nm,0.8s,baz=197,slow=13,SNR=6.7							
NNA				LR		LR	06 02 02.7	
	comp=N,193nm,18.0s,baz=185,slow=32							
NNA	**Nana**	**22.89**	**347**	*e*P		**P**	**05 54 43.8**	**-0.7**
NNA	**Nana**	**22.89**	**347**	P		**P**	**05 54 44.4**	**-0.1**
	comp=N,4.2nm,0.8s							
BB16B	**Bebedouro**	**24.49**	**63**	⇑*e*P		**P**	**05 54 57.4**	**-2.4**
BB16B				*i*			05 55 02.7	
BB16B				*i*			05 55 07.3	
BB16B				*i*			05 55 11.3	
SAML	**Samuel**	**26.66**	**19**	*e*P		**P**	**05 55 18.4**	**-1.0**
	comp=N,22nm,1.8s							
ATAH	**Atahualpa**	**27.92**	**346**	P		**P**	**05 55 31.9**	**+0.7**
	comp=N,2.3nm,0.6s,baz=225,slow=14,SNR=1.7							
ATAH				LR		LR	06 05 32.7	
	comp=N,137nm,18.5s,baz=203,slow=34							
BDFB	**Brasilia**	**28.48**	**55**	P		**P**	**05 55 36.1**	**+0.2**
	comp=N,4.7nm,0.7s,baz=205,slow=9.2,SNR=8.1							
BDFB				LR		LR	06 09 30.8	
	comp=N,698nm,18.3s,baz=224,slow=42							
PMSA	**Palmer Station**	**30.65**	**173**	LR		LR	06 08 03.6	
	comp=N,630nm,18.1s,baz=337,slow=36							
OTAV	**Otavalo**	**35.13**	**348**	*e*P		**P**	**05 56 35.2**	**+0.6**
	comp=N,37nm,1.5s							
ROSC	**El Rosal**	**39.24**	**356**	P		**P**	**05 57 10.5**	**+1.1**
	comp=N,4.4nm,0.5s,baz=73,slow=3.6,SNR=9.7							
SDV	**Santo Domingo**	**43.19**	**2**	*e*P		**P**	**05 57 40.5**	**-1.0**
	comp=N,10nm,1.0s							
RCBR	**Riachuelo**	**43.77**	**58**	P		**P**	**05 57 47.3**	**+1.1**
	comp=N,2.5nm,0.5s,baz=208,slow=9.1,SNR=4.3							
JTS	**JuntasAbangare**	**46.27**	**342**	P		**P**	**05 58 08.0**	**+2.0**
JTS				pmax		pmax		
	comp=Z,56nm,1.5s							
GRGR	**Grenville**	**47.39**	**14**	*e*P		**P**	**05 58 14.3**	**-0.4**
	comp=Z,95nm,1.0s							
VNA1	**Neumayer--Stat**	**49.12**	**157**	P		P	05 58 31.6	+4.1
SNAA	**Sanae**	**51.03**	**158**	P		**P**	**05 58 40.8**	**-1.2**
	comp=Z,3.9nm,0.8s,baz=284,slow=6.6,SNR=24							
CELP	**Cerrillos**	**52.54**	**6**	*e*P		**P**	**05 58 53.2**	**-0.5**
RKT	**Rikitea**	**55.70**	**264**	*e*LR		LR	06 15 27.6	
	comp=Z,250nm,33.5s							
RKT	**Rikitea**	**55.70**	**264**	*e*T		T	06 59 00.4	
	comp=Z,4.1nm,0.3s							
QSPA	**South Pole Qui**	**55.72**	**180**	P		**P**	**05 59 17.1**	**+0.5**
	comp=Z,20nm,0.8s,baz=145,slow=2.5,SNR=57							
QSPA	**South Pole Qui**	**55.72**	**180**	*e*P		**P**	**05 59 17.1**	**+0.5**
	comp=Z,18nm,0.9s							
NVL	**N'lazarevskaya**	**55.77**	**157**	*e*P		**P**	**05 59 15.7**	**-1.0**
NVL				pmax		pmax		
	comp=Z,8.0nm,0.8s							
VNDA	**Vanda**	**63.62**	**191**	P		**P**	**06 00 10.6**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=129,slow=5.9,SNR=12							
VNDA				LR		LR	06 25 03.7	
	comp=Z,48nm,18.8s,baz=122,slow=33							
SYO	**Syowa Base**	**65.32**	**158**	⇑*e*P		**P**	**06 00 20.0**	**-1.8**
034A	**Hebbronville**	**66.33**	**334**	P		**P**	**06 00 30.2**	**+1.5**
	baz=67							
933A	**Laredo**	**67.04**	**334**	P		**P**	**06 00 34.4**	**+1.1**
	baz=67							
834A	**Tilden**	**67.25**	**334**	P		**P**	**06 00 35.9**	**+1.3**
	baz=68							
TBI	**Tubuai**	**67.37**	**257**	*e*LR		LR	06 20 55.8	
	comp=Z,349nm,27.0s,baz=106							
TBI	**Tubuai**	**67.37**	**257**	*e*T		T	07 13 35.9	
	comp=Z,7.8nm,0.2s							
736A	**Circle Diamond**	**67.49**	**336**	P		**P**	**06 00 37.7**	**+1.6**
	baz=68							
735A	**Kenedy**	**67.65**	**335**	P		**P**	**06 00 38.5**	**+1.3**
	baz=68							
833A	**Chaparral WMA,**	**67.73**	**334**	P		**P**	**06 00 38.0**	**+0.4**
	baz=68,SNR=5.2							
734A	**La Parita Cree**	**67.91**	**335**	P		**P**	**06 00 39.3**	**+0.6**
	baz=68							
832A	**Faith Ranch, C**	**67.91**	**333**	P		**P**	**06 00 39.2**	**+0.4**
	baz=68							
636A	**Smothers Creek**	**67.97**	**336**	P		**P**	**06 00 40.4**	**+1.2**
	baz=68							
732A	**Laxson Ranch,**	**68.31**	**334**	P		**P**	**06 00 40.9**	**-0.3**
	baz=69,SNR=9.3							
GOGA	**Godfrey**	**68.45**	**350**	*e*P		**P**	**06 00 42.9**	**+0.8**
GOGA				pmax		pmax		
	comp=Z,5.0nm,0.6s							
GOGA	**Godfrey**	**68.45**	**350**	*e*P		**P**	**06 00 42.9**	**+0.8**
	comp=Z,5.3nm,0.6s							
536A	**Bastrop**	**68.53**	**337**	P		**P**	**06 00 43.4**	**+0.8**
	baz=69							
535A	**Dale**	**68.65**	**336**	P		**P**	**06 00 44.5**	**+1.1**
	baz=69							
LRAL	**Lakeview Retre**	**68.70**	**346**	*e*P		**P**	**06 00 43.3**	**-0.3**
	comp=Z,7.5nm,1.1s							
340A	**Bronson**	**68.80**	**340**	P		**P**	**06 00 45.9**	**+1.6**
	baz=69							
632A	**Uvalde**	**68.94**	**334**	P		**P**	**06 00 45.5**	**+0.3**
	baz=69,SNR=7.2							
MEH	**Mehetia**	**68.95**	**262**	*e*T		T	07 15 34.8	
	comp=Z,130nm,0.2s							
631A	**Perdido Creek**	**69.15**	**333**	P		**P**	**06 00 47.5**	**+1.0**
	baz=69							
338A	**Crockett**	**69.16**	**339**	P		**P**	**06 00 47.6**	**+1.1**
	baz=70							
533A	**Kerrville**	**69.19**	**335**	P		**P**	**06 00 46.7**	**-0.1**
	baz=70							
532A	**Rocksprings**	**69.55**	**334**	P		**P**	**06 00 48.9**	**-0.1**
	baz=70,SNR=7.8							
434A	**Burnet**	**69.61**	**336**	P		**P**	**06 00 49.3**	**0.0**
	baz=70							
335A	**Moody**	**69.76**	**337**	P		**P**	**06 00 50.4**	**+0.1**
	baz=70							
531A	**Rocksprings**	**69.82**	**334**	P		**P**	**06 00 50.9**	**+0.2**
	baz=70							
433A	**Art**	**69.83**	**335**	P		**P**	**06 00 50.1**	**-0.7**
	baz=70,SNR=9.6							
JCT	**Junction City**	**69.83**	**334**	P		**P**	**06 00 50.3**	**-0.5**
	baz=70							
KMSC	**Kings Mountain**	**69.87**	**352**	P		**P**	**06 00 50.7**	**-0.2**
	baz=70							
237A	**Washetta, Mont**	**69.91**	**338**	P		**P**	**06 00 51.4**	**+0.2**
	baz=70							
TVO	**Taravao**	**69.97**	**262**	*e*T		T	07 16 47.9	
	comp=Z,7.3nm,0.2s							
334A	**Lometa**	**70.07**	**336**	P		**P**	**06 00 51.7**	**-0.5**
	baz=70							
530A	**J-C Ranch, Com**	**70.09**	**333**	P		**P**	**06 00 52.1**	**-0.3**
	baz=70							
TIAR	**Tiarei**	**70.16**	**262**	*e*T		T	07 17 05.4	
	comp=Z,26nm,0.2s							
432A	**Menard**	**70.19**	**335**	P		**P**	**06 00 52.1**	**-0.8**
	baz=70							
TXAR	**Lajitas Array**	**70.28**	**331**	P		**P**	**06 00 53.1**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=153,slow=8.5,SNR=51							
TXAR				LR		LR	06 26 36.0	
	comp=Z,158nm,18.5s,baz=0.0,slow=32							
PAE	**Paea**	**70.30**	**262**	*e*T		T	07 17 15.0	
	comp=Z,3.9nm,0.3s							
431A	**Sonora**	**70.31**	**334**	P		**P**	**06 00 53.3**	**-0.4**
	baz=71							
333A	**Richland Sprin**	**70.32**	**335**	P		**P**	**06 00 53.0**	**-0.7**
	baz=71,SNR=6.8							
PPT2	**Papeete2**	**70.34**	**262**	*e*S		**S**	**06 10 05.7**	**+0.8**
	comp=Z,71nm,23.8s							
PPT2	**Papeete2**	**70.34**	**262**	*e*LR		LR	06 22 13.5	
	comp=Z,298nm,27.0s,baz=100							
PPT	**Papeete**	**70.35**	**262**	LR		LR	06 24 03.4	
	comp=Z,67nm,21.8s,baz=132,slow=29							
OXF	**O

baz=73
Z31A **Sharp Cattle R** 72.53 335 P P 06 01 06.4 -0.6
baz=73,SNR=9.8
MAW **Mawson** 72.63 163 LR LR 06 32 41.3
comp=Z,276nm,20.2s,baz=231,slow=36
Y33A **Hilltop Ranch,** 72.66 337 P P 06 01 07.2 -0.5
baz=73
W37A **Quinton** 72.73 340 P P 06 01 07.7 -0.5
baz=73
128A **Castleberry Fa** 72.74 333 P P 06 01 07.6 -0.8
baz=73
Z30A **Sanderson Ranc** 72.85 335 P P 06 01 08.4 -0.5
baz=73
Y32A **R-V Farms, Ver** 72.92 336 P P 06 01 08.7 -0.6
baz=73,SNR=8.4
X34A **Smith Ranch, M** 72.95 338 P P 06 01 08.9 -0.5
baz=73
W36A **Wetumka** 72.96 339 P P 06 01 09.0 -0.5
baz=73
PBMO **Poplar Bluff** 73.03 344 eP P 06 01 08.7 -1.1
comp=Z,9.2nm,0.6s
Z29A **Hungry Hill Ra** 73.03 334 P P 06 01 09.2 -0.8
baz=73
X33A **Lawton** 73.10 337 P P 06 01 09.7 -0.7
baz=73
Y31A **Rekieta Farm,** 73.16 336 P P 06 01 10.5 -0.2
baz=73
W35A **Tecumseh** 73.17 339 P P 06 01 10.0 -0.7
baz=74
X32A **Elmer** 73.25 337 P P 06 01 10.6 -0.7
baz=74
Y30A **Stafford Cattl** 73.30 335 P P 06 01 11.5 -0.2
baz=74
Z28A **Tucker Farm, M** 73.30 334 P P 06 01 11.4 -0.2
baz=74
V37A **Hulbert** 73.35 340 P P 06 01 11.6 -0.2
baz=74
WMOK **Wichita Mounta** 73.38 337 eP P 06 01 11.4 -0.6
WMOK pmax pmax
comp=Z,2.0nm,0.6s
WMOK **Wichita Mounta** 73.38 337 eP P 06 01 11.4 -0.6
comp=Z,1.8nm,0.6s
V36A **Jenks** 73.48 340 P P 06 01 12.5 -0.1
baz=74
W34A **Bridge Creek,** 73.52 338 P P 06 01 12.5 -0.3
baz=74
W34A **Bridge Creek,** 73.52 338 eP P 06 01 13.3 +0.5
comp=Z,8.1nm,0.5s
TUL1 **Tulsa** 73.56 340 P P 06 01 12.8 -0.2
baz=74
TUL1 **Tulsa** 73.56 340 eP P 06 01 12.3 -0.7
comp=Z,8.0nm,0.6s
Y29A **Porterfield Fa** 73.56 334 P P 06 01 12.3 -0.8
baz=74,SNR=12
W33A **Caddo, Fort Co** 73.66 337 P P 06 01 13.2 -0.4
baz=74,SNR=11
X31A **McDonald Ranch** 73.67 336 P P 06 01 13.3 -0.5
baz=74
V35A **Meyer Ranch, C** 73.72 339 P P 06 01 13.6 -0.3
baz=74
X30A **Coker Ranch, T** 73.81 335 P P 06 01 14.2 -0.4
baz=74
Y28A **McKinney Farm,** 73.81 334 P P 06 01 14.3 -0.4
baz=74
W32A **Sentinel** 73.88 337 P P 06 01 14.5 -0.4
baz=74,SNR=14
V34A **Guthrie** 73.99 338 P P 06 01 15.1 -0.5
baz=74
V34A **Guthrie** 73.99 338 eP P 06 01 14.5 -1.1
comp=Z,9.4nm,0.8s
MSTX **Muleshoe** 74.05 334 P P 06 01 15.7 -0.4
baz=74
MSTX **Muleshoe** 74.05 334 eP P 06 01 15.5 -0.6
comp=Z,7.5nm,0.8s
W31A **Holland Ranch,** 74.17 336 P P 06 01 16.3 -0.3
baz=74
V33A **Lossen Ranch,** 74.22 338 P P 06 01 16.1 -0.8
baz=74,SNR=6.9
U35A **Pawnee** 74.26 339 P P 06 01 16.3 -0.8
baz=75,SNR=7.7
X28A **Dimmitt** 74.34 334 P P 06 01 17.3 -0.5
baz=75
V32A **Arapaho** 74.36 337 P P 06 01 17.7 0.0
baz=75
T37A **Cheneyville 18** 74.45 341 P P 06 01 17.0 -1.2
baz=75,SNR=6.3
AMTX **Amarillo** 74.48 335 P P 06 01 18.1 -0.4
baz=75
U34A **Anderson Ranch** 74.56 339 P P 06 01 18.5 -0.3
baz=75
T36A **Boggs Farm, Ca** 74.66 340 P P 06 01 18.5 -0.9
baz=75,SNR=6.3
V31A **Spring Creek L** 74.67 337 P P 06 01 19.6 0.0
baz=75
W29A **Amraillo** 74.69 335 P P 06 01 19.3 -0.4
baz=75
T35A **Sooner Cattle** 74.70 340 P P 06 01 19.3 -0.3
baz=75
U33A **Lingo Farm, Me** 74.73 338 P P 06 01 19.3 -0.5
baz=75
SLM **Saint Louis** 74.77 345 eP P 06 01 19.5 -0.5
SLM pmax pmax
comp=Z,13nm,0.9s
SLM **Saint Louis** 74.77 345 eP P 06 01 19.5 -0.5
comp=Z,13nm,0.9s
LIC **Lamto** 74.77 71 eP P 06 01 21.7 +1.1
comp=Z,62nm,1.0s
121A **Cookes Peak, D** 74.78 329 P P 06 01 20.3 -0.1
baz=75
121A **Cookes Peak, D** 74.78 329 eP P 06 01 20.6 +0.2
comp=Z,10nm,0.8s
U32A **Winter Ranch,** 74.95 338 P P 06 01 20.9 -0.3
baz=75,SNR=12
T34A **McClaskey Farm** 75.00 339 P P 06 01 20.8 -0.6
baz=75
SSPA **Standing Stone** 75.00 355 eP P 06 01 21.7 +0.4
comp=Z,10nm,1.4s
S37A **Fort Scott** 75.03 341 P P 06 01 20.8 -0.8
baz=75
TIC **Toumodi** 75.04 71 eP P 06 01 23.0 +0.8
KIC **Kosan Boka** 75.08 71 eP P 06 01 22.4 0.0
comp=Z,13nm,0.4s
ACSO **Alum Creek Sta** 75.09 351 eP P 06 01 21.6 -0.3
comp=Z,16nm,0.6s
DBIC **Dimbokro** 75.18 71 P P 06 01 23.6 +0.6
comp=Z,6.3nm,0.6s,baz=218,slow=4.9,SNR=15
S36A **Lake Cedric, C** 75.20 341 P P 06 01 21.9 -0.7
baz=76,SNR=12
ODNJ **Ogdensburg** 75.28 358 eP P 06 01 23.9 +1.0
comp=Z,21nm,1.5s
S35A **Otter Creek Ra** 75.36 340 P P 06 01 22.7 -0.8
baz=76,SNR=7.4
V28A **Channing** 75.45 335 P P 06 01 24.6 +0.4
baz=76
U30A **WK&E Inc. Balk** 75.62 336 P P 06 01 24.9 -0.2
baz=76
T32A **Huddler Ranch,** 75.67 338 P P 06 01 26.2 +1.0
baz=76
R36A **Gordon, Harris** 75.74 341 P P 06 01 26.3 +0.7
baz=76
SFIN **Scholer Farm** 75.85 348 P P 06 01 26.4 +0.3
baz=76
SFIN **Scholer Farm** 75.85 348 eP P 06 01 26.6 +0.4
TUC **Tucson** 75.90 327 eP P 06 01 27.2 +0.4
TUC pmax pmax
comp=Z,3.0nm,1.0s
TUC **Tucson** 75.90 327 eP P 06 01 27.1 +0.4
comp=Z,2.7nm,1.0s
S32A **Newby Ranch, P** 76.15 338 P P 06 01 28.5 +0.5
baz=76
R34A **Isabella, Hill** 76.20 340 P P 06 01 27.4 -0.8
baz=76,SNR=7.3
ANMO **Albuquerque** 76.33 331 eP P 06 01 29.6 +0.3
ANMO pmax pmax
comp=Z,5.0nm,1.0s
ANMO **Albuquerque** 76.33 331 eP P 06 01 29.6 +0.3
comp=Z,4.5nm,1.0s
T29A **Hugoton** 76.41 336 P P 06 01 29.1 -0.5
baz=77
R33A **Olander Ranch,** 76.42 339 P P 06 01 29.4 -0.1
baz=77
HDIL **Hopedale** 76.43 346 P P 06 01 29.2 -0.3
baz=77
HDIL **Hopedale** 76.43 346 eP P 06 01 29.0 -0.4
comp=Z,213nm,0.6s
214A **Organ Pipe Nat** 76.55 325 P P 06 01 29.7 -0.7
baz=77,SNR=5.1
214A **Organ Pipe Nat** 76.55 325 eP P 06 01 30.7 +0.3
comp=Z,4.0nm,0.9s
S30A **Montezuma** 76.57 337 P P 06 01 30.3 -0.2
baz=77
RAR **Rarotonga** 76.67 253 LR LR 06 28 27.8
comp=Z,25nm,18.8s,baz=119,slow=30
Q34A **Chapman** 76.69 340 P P 06 01 31.0 0.0
baz=77
R32A **Long Quarter,** 76.74 339 P P 06 01 31.4 0.0
baz=77
KSU1 **Kansas State U** 76.77 340 P P 06 01 31.6 +0.2
baz=77
KSU1 **Kansas State U** 76.77 340 eP P 06 01 31.1 -0.4
comp=Z,8.4nm,0.6s
S29A **Ulysses** 76.77 336 P P 06 01 31.7 +0.2
baz=77
T27A **Campo** 76.81 335 P P 06 01 31.8 -0.1
baz=77
R31A **Burdett** 76.87 338 P P 06 01 31.5 -0.6
baz=77
P36A **Good Intent, A** 76.88 342 P P 06 01 31.4 -0.6
baz=77
S28A **Manter** 77.00 336 P P 06 01 32.5 -0.4
baz=77,SNR=14
P35A **Duane Minner,** 77.00 341 P P 06 01 32.1 -0.6
baz=77
Q33A **Connolly Farm,** 77.02 339 P P 06 01 32.2 -0.7
baz=77
MMNY **Mt. Morris Dam** 77.08 355 eP P 06 01 33.6 +0.5
comp=Z,62nm,1.5s
T26A **Comanche Natio** 77.22 334 P P 06 01 34.1 -0.2
baz=78
Q32A **Meitler Ranch,** 77.22 339 P P 06 01 33.8 -0.2
baz=78
P34A **Walnut Farm, R** 77.24 340 P P 06 01 33.9 -0.2
baz=78
O36A **Bolckow** 77.30 342 P P 06 01 33.8 -0.6
baz=78
CBKS **Cedar Bluff** 77.42 338 eP P 06 01 35.3 +0.2
CBKS pmax pmax
comp=Z,15nm,0.6s
CBKS **Cedar Bluff** 77.42 338 P P 06 01 35.5 +0.4
baz=78
CBKS **Cedar Bluff** 77.42 338 eP P 06 01 35.3 +0.2
comp=Z,15nm,0.6s
S27A **Las Animas** 77.43 335 P P 06 01 35.7 +0.3
baz=78
T25A **Trinidad** 77.48 334 P P 06 01 35.4 -0.3
baz=78,SNR=10
Q31A **Ellis** 77.49 338 P P 06 01 36.2 +0.6
baz=78
R29A **Marienthal** 77.51 337 P P 06 01 35.9 +0.2
baz=78
R28A **Tribune** 77.65 336 P P 06 01 36.4 -0.1
baz=78,SNR=11
Q30A **Quinter** 77.72 338 P P 06 01 36.9 +0.1
baz=78
O34A **Beatrice** 77.80 341 P P 06 01 37.3 +0.1
baz=78
P32A **Huiting Farm,** 77.82 339 P P 06 01 37.3 -0.1
baz=78
Q29A **Oakley** 77.88 337 P P 06 01 37.6 -0.2
baz=78,SNR=7.6
R27A **Eads** 77.94 336 P P 06 01 37.7 -0.4
baz=78,SNR=12
O33A **Hebron** 77.95 340 P P 06 01 37.9 -0.2
baz=78
P31A **Stockton** 77.96 339 P P 06 01 38.0 -0.1
baz=78
N35A **Tabor** 78.16 342 P P 06 01 39.0 -0.1
baz=78
MDV **Middlebury** 78.16 359 eP P 06 01 38.7 -0.4
comp=Z,19µm,0.5s
R26A **Arlington** 78.17 335 P P 06 01 38.9 -0.6
baz=78,SNR=6.6
P30A **Selden** 78.24 338 P P 06 01 39.6 -0.1
baz=78
O32A **Brockman Farm,** 78.31 340 P P 06 01 40.3 +0.2
baz=79
N34A **Lincoln** 78.36 341 P P 06 01 40.3 0.0
baz=79
SDCO **Great Sand Dun** 78.42 333 P P 06 01 40.5 -0.6
baz=79,SNR=9.6
SDCO **Great Sand Dun** 78.42 333 eP P 06 01 40.9 -0.1
comp=Z,3.0nm,0.8s
P29A **Atwood** 78.51 337 P P 06 01 41.2 -0.1
baz=79,SNR=14
N33A **J Bar K, Exete** 78.53 340 P P 06 01 41.7 +0.5
baz=79
KSCO **Kaye Shedlock'** 78.53 336 P P 06 01 41.8 +0.3
baz=79
KSCO **Kaye Shedlock'** 78.53 336 eP P 06 01 42.3 +0.9
SCIA **State Center** 78.55 344 eP P 06 01 41.1 -0.2
comp=Z,15nm,1.0s
M35A **Neola** 78.74 342 P P 06 01 42.7 +0.4
baz=79
WVL **Waterville** 78.74 2 eP P 06 01 42.9 +0.7
comp=Z,42nm,1.5s
P28A **Saint Francis** 78.75 337 P P 06 01 42.2 -0.3
baz=79,SNR=7.2
Q26A **Hugo** 78.75 335 P P 06 01 42.7 0.0
baz=79
O30A **MW Ranch, Wils** 78.77 338 P P 06 01 42.7 +0.1
baz=79
N32A **Stulken Farm,** 78.79 340 P P 06 01 42.9 +0.2
baz=79
LONY **Lake Ozonia** 78.81 358 eP P 06 01 42.7 +0.1
comp=Z,2.8nm,0.8s
Y12C **Blythe** 78.84 325 P P 06 01 43.0 0.0
baz=79
WUAZ **Wupatki** 78.87 328 P P 06 01 43.2 -0.2
baz=79,SNR=6.9
WUAZ **Wupatki** 78.87 328 eP P 06 01 44.1 +0.6
comp=Z,7.6nm,1.0s
JFWS **Jewell Farm** 78.89 346 eP P 06 01 42.6 -0.5
JFWS pmax pmax
comp=Z,13nm,0.6s
JFWS **Jewell Farm** 78.89 346 eP P 06 01 42.6 -0.5
comp=Z,13nm,0.6s
TSUM **Tsumeb** 78.90 106 LR LR 06 32 38.6
comp=Z,122nm,18.5s,baz=202,slow=33
TSUM **Tsumeb** 78.90 106 eP P 06 01 48.5 +4.4
comp=Z,7.3nm,0.8s
S22A **4UR Ranch, Cre** 78.92 332 P P 06 01 43.6 -0.2
baz=79,SNR=5.7
MVCO **Mesa Verde** 79.11 331 P P 06 01 44.7 -0.1
baz=79
MVCO **Mesa Verde** 79.11 331 eP P 06 01 45.2 +0.4
comp=Z,46nm,2.3s
BC3 **Big Chuckawall** 79.20 324 P P 06 01 45.4 +0.1
baz=80
O28A **Krutsinger Ran** 79.26 337 P P 06 01 45.6 +0.3
baz=80
P26A **Davis Ranch, A** 79.27 336 P P 06 01 45.4 -0.1
baz=80
L35A **Bielow Farm, R** 79.31 342 P P 06 01 45.7 +0.3
baz=80
BGNE **Belgrade** 79.34 340 P P 06 01 45.9 +0.2
baz=80
BGNE **Belgrade** 79.34 340 eP P 06 01 45.9 +0.2
Q24A **Divide** 79.37 334 P P 06 01 46.3 +0.1
baz=80,SNR=7.2
L34A **Svendsen Farm,** 79.38 342 P P 06 01 46.0 +0.1
baz=80
IRM **Iron Mountain** 79.47 325 P P 06 01 46.7 +0.1
baz=80
CASY **Casey** 79.50 181 eP P 06 01 46.9 +0.5
comp=Z,6.6nm,0.8s
M31A **Lambtecht Ranc** 79.52 340 P P 06 01 47.3 +0.7
baz=80
N29A **Votaw Ranch, W** 79.53 338 P P 06 01 46.9 +0.1
baz=80
O27A **Beecher Island** 79.54 337 P P 06 01 47.3 +0.4
baz=80
BOSA **Boshof** 79.67 118 P P 06 01 48.5 +0.3
comp=Z,23nm,0.9s,baz=237,slow=4.0,SNR=27
O26A **Horse Wrangler** 79.87 336 P P 06 01 49.1 +0.3
baz=80,SNR=7.7
PV01 **Paradox Valley** 79.93 331 eP P 06 01 49.7 +0.4
comp=Z,156nm,0.7s
OGNE **Ogallala** 80.08 337 P P 06 01 50.5 +0.7
baz=80
OGNE **Ogallala** 80.08 337 eP P 06 01 49.9 +0.1
comp=Z,8.7nm,0.8s
N27A **Anderson Farm,** 80.12 337 P P 06 01 50.4 +0.4
baz=80
SCI **San Clemente I** 80.20 322 P P 06 01 50.6 +0.1
baz=80
GMRC **Granite Mounta** 80.22 325 P P 06 01 51.0 +0.3
baz=80,SNR=6.3
SMCO **Snowmass** 80.22 333 eP P 06 01 51.5 +0.5
comp=Z,5.9nm,0.9s
L31A **Butterfield Fa** 80.25 340 P P 06 01 51.3 +0.7
baz=81
ISCO **Idaho Springs** 80.27 334 eP P 06 01 51.5 +0.3
ISCO **Idaho Springs** 80.27 334 P P 06 01 51.5 +0.3
baz=81
ISCO **Idaho Springs** 80.27 334 eP P 06 01 51.5 +0.3
L30A **Spencer Herefo** 80.29 339 P P 06 01 51.5 +0.6
baz=81
HEC **Hector,Ludlow** 80.58 324 P P 06 01 53.3 +0.7
baz=81
M27A **Reverse DX Ran** 80.72 337 P P 06 01 53.4 +0.2
baz=81
BFSC **Mount Baldy Ra** 80.76 323 P P 06 01 53.5 -0.2
baz=81,SNR=5.8
TUQ **Turquoise Moun** 80.88 325 P P 06 01 54.3 0.0
baz=81,SNR=8.3
K30A **Basset** 80.93 340 P P 06 01 54.6 +0.4
baz=81
ECSD **EROS Data Cent** 81.10 342 P P 06 01 55.0 -0.1
baz=81
M25A **Palm-Egli Farm** 81.19 336 P P 06 01 56.0 +0.2
baz=82
GSC **Goldstone** 81.19 324 eP P 06 01 56.7 +0.8
GSC pmax pmax
comp=Z,3.0nm,0.9s
GSC **Goldstone** 81.19 324 P P 06 01 55.8 -0.1
baz=81
GSC **Goldstone** 81.19 324 eP P 06 01 56.7 +0.8
comp=Z,2.8nm,0.9s
K29A **Lazy Trails An** 81.21 339 P P 06 01 56.1 +0.4
baz=82
N23A **Red Feather La** 81.36 335 P P 06 01 57.2 +0.4
baz=82
SHPR **Sheep Range** 81.39 326 eP P 06 01 57.8 +0.8
EDW2 **Edwards Air Fo** 81.43 323 P P 06 01 56.8 -0.3
baz=82,SNR=5.4
CCUT **Cedar City** 81.44 328 eP P 06 01 58.2 +0.8
comp=Z,5.6nm,0.9s
K28A **Ten Mile Ranch** 81.48 338 P P 06 01 57.4 +0.2
baz=82,SNR=12
J30A **Dallas** 81.49 340 P P 06 01 57.0 -0.2
baz=82
O20A **White River Ci** 81.54 333 P P 06 01 57.5 -0.2
baz=82
PHWY **Pilot Hill** 81.55 335 eP P 06 01 57.9 0.0
comp=Z,4.6nm,0.6s
SRU **San Rafael** 81.55 331 eP P 06 01 57.4 -0.4
SRU pmax pmax
comp=Z,3.0nm,0.6s
SRU **San Rafael** 81.55 331 eP P 06 01 57.4 -0.4
comp=Z,2.5nm,0.6s
SPMN **St. Paul** 81.62 345 P P 06 01 57.3 -0.5
baz=82
SPMN **St. Paul** 81.62 345 eP P 06 01 56.6 -1.2
comp=Z,5.5nm,0.6s
MSU **Marysvale** 81.73 329 eP P 06 01 59.0 +0.2
MSU pmax pmax
comp=Z,3.0nm,0.7s
MSU **Marysvale** 81.73 329 eP P 06 01 59.0 +0.2
comp=Z,2.6nm,0.7s
MVU **Marysvale** 81.74 329 eP P 06 01 59.3 +0.4
comp=Z,2.0nm,0.7s
COWI **Conover** 81.76 348 eP P 06 01 58.4 -0.1
comp=Z,4.1nm,0.9s
J29A **Okreek** 81.81 339 P P 06 01 58.9 0.0
baz=82,SNR=6.6
TMUT **Trail Mountain** 81.99 330 eP P 06 02 00.7 +0.4
comp=Z,2.9nm,0.6s
I30A **Oacoma** 82.02 340 P P 06 01 59.9 -0.1
baz=82,SNR=7.2
J28A **Allard Ranch,** 82.09 339 P P 06 02 00.5 +0.1
baz=82,SNR=6.8
MPMC **Manual Prospec** 82.13 324 P P 06 02 01.2 +0.3
baz=82
FURC **Furnace Creek,** 82.16 325 P P 06 02 00.9 +0.1
baz=82
J27A **Elkhorn Farm,** 82.17 338 P P 06 02 01.4 +0.6
baz=82,SNR=6.3
TPNV **Topopah Spring** 82.26 326 P P 06 02 01.8 +0.2
baz=82,SNR=7.2
ISA **Isabella** 82.29 323 eP P 06 02 02.6 +0.9
ISA pmax pmax
comp=Z,4.0nm,0.8s
ISA **Isabella** 82.29 323 P P 06 02 01.7 0.0
baz=82
ISA **Isabella** 82.29 323 eP P 06 02 02.6 +0.9
comp=Z,4.3nm,0.8s
I29A **Vivian Onida** 82.36 340 P P 06 02 02.2 +0.4
baz=83
PKM **Peak Mountain** 82.36 322 P P 06 02 02.3 +0.1
baz=83
J26A **Sides Ranch, S** 82.55 338 P P 06 02 03.2 +0.3
baz=83
K24A **Anderson Ranch** 82.59 336 P P 06 02 03.2 +0.1
baz=83
I28A **Midland** 82.59 339 P P 06 02 03.0 0.0
baz=83,SNR=7.7
VES **Vestal, Richgr** 82.74 323 P P 06 02 03.4 -0.5
baz=83
MPU **Maple Canyon** 82.77 330 eP P 06 02 03.6 -0.7
comp=Z,13nm,0.9s
J25A **Sunshine Ranch** 82.85 337 P P 06 02 04.7 +0.3
baz=83
K23A **Bowen Ranch, D** 82.89 336 P P 06 02 05.0 +0.3
baz=83
H29A **Onida** 82.89 340 P P 06 02 03.9 -0.6
baz=83,SNR=14
NLU **North Lily Min** 82.90 330 eP P 06 02 04.8 -0.1
comp=Z,2.0nm,0.6s
I27A **Quinn** 82.92 339 P P 06 02 04.7 0.0
baz=83
G30A **Faulkton** 83.06 341 P P 06 02 05.4 +0.1
baz=83
J24A **Dixon Ranch, L** 83.08 337 P P 06 02 05.5 -0.1
baz=83
R11A **Troy Canyon, C** 83.09 327 P P 06 02 06.0 +0.1
baz=83,SNR=11
R11A **Troy Canyon, C** 83.09 327 eP P 06 02 05.6 -0.3
comp=Z,3.9nm,0.8s
K22A **Casper** 83.11 335 P P 06 02 05.6 -0.2
baz=83
K22A **Casper** 83.11 335 eP P 06 02 05.5 -0.4
comp=Z,12nm,1.1s
I26A **New Underwood** 83.13 338 P P 06 02 05.7 -0.2
baz=83
H28A **Mission Ridge** 83.17 339 P P 06 02 05.6 -0.3
baz=84,SNR=7.6
RCTC **Rector, Farmer** 83.18 323 P P 06 02 06.4 +0.3
baz=83
JLU **Jordanelle** 83.19 331 eP P 06 02 06.5 0.0
comp=Z,3.7nm,0.7s
JLU epP pP 06 02 15.8 -0.5
G29A **Hoven** 83.33 340 P P 06 02 06.3 -0.4
baz=84,SNR=8.1
I25A **Rochford** 83.40 337 P P 06 02 07.0 -0.3
baz=84,SNR=6.8
DUG **Dugway** 83.41 330 eP P 06 02 07.5 0.0
DUG pmax pmax
comp=Z,7.0nm,1.1s
DUG **Dugway** 83.41 330 P P 06 02 07.1 -0.4
baz=84
DUG **Dugway** 83.41 330 eP P 06 02 07.5 0.0
comp=Z,7.0nm,1.1s
H27A **Howes** 83.44 339 P P 06 02 06.9 -0.5
baz=84,SNR=5.9
J23A **Diltz Ranch, B** 83.44 336 P P 06 02 07.5 -0.1
baz=84
G28A **Parade** 83.50 340 P P 06 02 07.2 -0.5
baz=84,SNR=13
I24A **Kuemmerle Ranc** 83.54 337 P P 06 02 07.5 -0.5
baz=84
RSSD **Black Hills** 83.58 337 eP P 06 02 07.7 -0.7
RSSD pmax pmax
comp=Z,4.0nm,0.8s
RSSD **Black Hills** 83.58 337 eP P 06 02 07.7 -0.7
comp=Z,4.3nm,0.8s
TPH **Tonopah** 83.62 326 eP P 06 02 08.7 0.0
TPH pmax pmax
comp=Z,4.0nm,0.9s
TPH **Tonopah** 83.62 326 eP P 06 02 08.7 0.0
comp=Z,4.3nm,0.9s
F30A **Leola** 83.68 341 P P 06 02 08.4 -0.2
baz=84
F29A **Eureka** 83.90 341 P P 06 02 09.1 -0.6
baz=84,SNR=7.2

EYMN	**Ely**	**83.97**	**347**	P		**P**	06 02 09.8	**-0.2**
	baz=84							
EYMN	**Ely**	**83.97**	**347**	*eP*		**P**	06 02 09.5	**-0.4**
	comp=Z,7.0nm,1.0s							
G27A	**Dupree**	**84.08**	**339**	P		**P**	06 02 09.9	**-0.7**
	baz=84,SNR=6.7							
HWUT	**Hardware Ranch**	**84.09**	**331**	*eP*		**P**	06 02 10.7	**-0.3**
	comp=Z,6.8nm,0.7s							
F28A	**McLaughlin**	**84.18**	**340**	P		**P**	06 02 11.3	**+0.2**
	baz=84							
I22A	**9 Mile Ranch,**	**84.19**	**336**	P		**P**	06 02 10.6	**-0.7**
	baz=84							
G26A	**Maurine**	**84.20**	**339**	P		**P**	06 02 10.6	**-0.6**
	baz=84,SNR=7.0							
TOB4	**Torodi Ar. Sit**	**84.21**	**70**	*eP*		**P**	06 02 12.0	**+0.1**
TORD	**Torodi Ar. Bea**	**84.22**	**70**	P		**P**	06 02 12.9	**+0.9**
	comp=Z,7.2nm,0.8s,baz=292,slow=6.3,SNR=70							
TORD				LR		LR	06 38 11.8	
	comp=Z,199nm,19.9s,baz=210,slow=35							
J20A	**Shoshoni**	**84.28**	**334**	P		**P**	06 02 11.3	**-0.5**
	baz=85							
PDAR	**Pinedale Array**	**84.31**	**333**	P		**P**	06 02 11.2	**-0.8**
	comp=Z,1.7nm,0.7s,baz=148,slow=2.8,SNR=19							
PDAR				LR		LR	06 35 35.1	
	comp=Z,64nm,20.5s,baz=143,slow=33							
BW06	**Boulder Array**	**84.31**	**333**	*eP*		**P**	06 02 11.5	**-0.6**
	comp=Z,1.3nm,0.6s							
H24A	**Dirks Ranch, A**	**84.31**	**337**	P		**P**	06 02 11.3	**-0.6**
	baz=85							
G25A	**Newell**	**84.35**	**338**	P		**P**	06 02 11.4	**-0.7**
	baz=85,SNR=11							
I21A	**Big Trails, Te**	**84.40**	**335**	P		**P**	06 02 11.9	**-0.5**
	baz=85							
NVAR	**Mina Array Bea**	**84.41**	**325**	P		**P**	06 02 13.2	**+0.4**
	comp=Z,2.6nm,0.8s,baz=160,slow=6.5,SNR=23							
E29A	**Napoleon**	**84.52**	**341**	P		**P**	06 02 12.6	**-0.2**
	baz=85							
F27A	**Lemmon**	**84.55**	**339**	P		**P**	06 02 12.6	**-0.4**
	baz=85							
J19A	**Crowheart**	**84.55**	**334**	P		**P**	06 02 12.8	**-0.4**
	baz=85,SNR=9.6							
F26A	**Lodgepole**	**84.72**	**339**	P		**P**	06 02 13.5	**-0.4**
	baz=85							
HVU	**Hansel Valley**	**84.72**	**331**	*eP*		**P**	06 02 13.7	**-0.4**
HVU				pmax		pmax		
	comp=Z,5.0nm,0.6s							
HVU	**Hansel Valley**	**84.72**	**331**	*eP*		**P**	06 02 13.7	**-0.4**
	comp=Z,4.7nm,0.6s							
H22A	**Clearmont**	**84.76**	**336**	P		**P**	06 02 13.8	**-0.4**
	baz=85							
D30A	**Buchanan**	**84.79**	**342**	P		**P**	06 02 14.1	**0.0**
	baz=85							
I20A	**Worland**	**84.81**	**335**	P		**P**	06 02 13.9	**-0.6**
	baz=85							
E28A	**Huff**	**84.81**	**340**	P		**P**	06 02 14.2	**-0.1**
	baz=85,SNR=8.3							
ELK	**Elko**	**84.90**	**328**	*eP*		**P**	06 02 15.1	**0.0**
ELK				pmax		pmax		
	comp=Z,2.0nm,0.8s							
ELK	**Elko**	**84.90**	**328**	*eP*		**P**	06 02 15.1	**0.0**
	comp=Z,2.5nm,0.8s							
E27A	**Carson**	**84.93**	**340**	P		**P**	06 02 14.4	**-0.5**
	baz=85							
D29A	**Pettibone, Tap**	**84.97**	**341**	P		**P**	06 02 14.6	**-0.4**
	baz=85							
G23A	**Biddle**	**84.98**	**337**	P		**P**	06 02 14.8	**-0.5**
	baz=85							
WAKR	**Walker**	**85.01**	**324**	*eP*		**P**	06 02 16.1	**+0.4**
	comp=Z,3.4nm,0.9s							
F25A	**Bowman**	**85.03**	**338**	P		**P**	06 02 15.0	**-0.4**
	baz=85							
H21A	**Big Horn, Sher**	**85.03**	**336**	P		**P**	06 02 15.2	**-0.3**
	baz=85							
I19A	**Meeteetse**	**85.20**	**334**	P		**P**	06 02 15.7	**-0.8**
	baz=86							
AGMN	**Agassiz Nation**	**85.20**	**344**	P		**P**	06 02 15.7	**-0.5**
	baz=86,SNR=8.1							
AGMN	**Agassiz Nation**	**85.20**	**344**	*eP*		**P**	06 02 15.2	**-0.9**
	comp=Z,5.8nm,0.6s							
E26A	**Carlson Angus**	**85.22**	**339**	P		**P**	06 02 15.9	**-0.5**
	baz=86							
H20A	**Greybull**	**85.23**	**335**	P		**P**	06 02 15.9	**-0.7**
	baz=86,SNR=14							
F24A	**Ekalaka**	**85.26**	**338**	P		**P**	06 02 15.9	**-0.7**
	baz=86							
C30A	**Mose, Pekin**	**85.27**	**342**	P		**P**	06 02 16.5	**0.0**
	baz=86,SNR=21							
REDW	**Red Top Meadow**	**85.31**	**333**	*eP*		**P**	06 02 16.1	**-0.9**
	comp=Z,2.4nm,0.6s							
D28A	**Regan**	**85.35**	**341**	P		**P**	06 02 17.0	**0.0**
	baz=86							
LOHW	**Long Hollow**	**85.43**	**333**	*eP*		**P**	06 02 16.9	**-0.8**
	comp=Z,3.0nm,0.6s							
TPAW	**Teton Pass**	**85.45**	**333**	*eP*		**P**	06 02 17.7	**-0.2**
	comp=Z,2.2nm,0.5s							
E25A	**Miller Ranch,**	**85.53**	**339**	P		**P**	06 02 17.9	**0.0**
	baz=86							
D27A	**Center**	**85.53**	**340**	P		**P**	06 02 17.7	**-0.2**
	baz=86							
MOOW	**Moose Ponds**	**85.59**	**333**	*eP*		**P**	06 02 17.8	**-0.7**
	comp=Z,1.8nm,0.6s							
G21A	**Lodge Grass**	**85.61**	**336**	P		**P**	06 02 18.0	**-0.4**
	baz=86							
MDND	**Maddock**	**85.69**	**342**	P		**P**	06 02 18.5	**-0.2**
	baz=86							
D26A	**Manning**	**85.72**	**340**	P		**P**	06 02 18.6	**-0.2**
	baz=86							
H19A	**Powell**	**85.74**	**334**	P		**P**	06 02 18.9	**-0.2**
	baz=86							
C28A	**Hausauer Farms**	**85.78**	**341**	P		**P**	06 02 19.0	**-0.1**
	baz=86							
IMW	**Indian Meadow**	**85.80**	**333**	*eP*		**P**	06 02 19.3	**-0.3**
	comp=Z,3.7nm,0.6s							
E24A	**Baker**	**85.86**	**338**	P		**P**	06 02 19.6	**+0.1**
	baz=86							
FLWY	**Flagg Ranch**	**85.86**	**333**	*eP*		**P**	06 02 19.7	**-0.2**
	comp=Z,8.7nm,0.5s							
B30A	**Myrvik Farm, E**	**85.93**	**343**	P		**P**	06 02 19.8	**0.0**
	baz=86,SNR=16							
G20A	**Bridger**	**85.95**	**335**	P		**P**	06 02 19.3	**-0.8**
	baz=86,SNR=14							
C27A	**Sayler Ranch,**	**86.08**	**340**	P		**P**	06 02 20.6	**0.0**
	baz=86							
D25A	**Fairfield**	**86.09**	**339**	P		**P**	06 02 20.5	**-0.2**
	baz=86							
F21A	**Absaloka Mine,**	**86.10**	**336**	P		**P**	06 02 20.4	**-0.4**
	baz=86							
B29A	**Wagenman Farm,**	**86.20**	**342**	P		**P**	06 02 21.1	**0.0**
	baz=86							
RLMT	**Red Lodge**	**86.23**	**334**	P		**P**	06 02 21.2	**-0.5**
	baz=86,SNR=15							
RLMT	**Red Lodge**	**86.23**	**334**	*eP*		**P**	06 02 21.3	**-0.3**
	comp=Z,7.1nm,0.6s							
D24A	**Glendive**	**86.36**	**338**	P		**P**	06 02 21.4	**-0.5**
	baz=87,SNR=7.6							
A30A	**Hoffart Farm,**	**86.38**	**343**	P		**P**	06 02 21.3	**-0.6**
	baz=87,SNR=7.0							
F20A	**Billings**	**86.43**	**335**	P		**P**	06 02 22.3	**-0.2**
	baz=87							
B28A	**Dugan Ranch, T**	**86.45**	**341**	P		**P**	06 02 22.6	**+0.3**
	baz=87							
YMR	**Madison River**	**86.46**	**333**	*eP*		**P**	06 02 23.0	**+0.2**
	comp=Z,11nm,0.8s							
C25A	**Freed Ranch, W**	**86.58**	**339**	P		**P**	06 02 23.3	**+0.2**
	baz=87							
A29A	**Manning Farm,**	**86.59**	**342**	P		**P**	06 02 22.3	**-0.8**
	baz=87,SNR=5.2							
D23A	**Lindsay**	**86.68**	**338**	P		**P**	06 02 23.5	**-0.1**
	baz=87,SNR=25							
E21A	**Keefer Ranch,**	**86.72**	**336**	P		**P**	06 02 23.7	**-0.1**
	baz=87							
C24A	**Savage**	**86.76**	**339**	P		**P**	06 02 24.1	**+0.2**
	baz=87,SNR=19							
A28A	**Rude Farm, Bot**	**86.84**	**342**	P		**P**	06 02 24.3	**0.0**
	baz=87							
HLID	**Hailey**	**86.88**	**330**	P		**P**	06 02 24.9	**+0.1**
	baz=87,SNR=9.5							
HLID	**Hailey**	**86.88**	**330**	*eP*		**P**	06 02 25.0	**+0.3**
	comp=Z,3.8nm,0.9s							
GCMT	**Greycliff**	**86.95**	**335**	*eP*		**P**	06 02 24.4	**-0.7**
	comp=Z,1.6nm,0.6s							
D22A	**Cohagen**	**86.97**	**337**	P		**P**	06 02 24.8	**-0.2**
	baz=87,SNR=9.4							
D21A	**La Casta Ranch**	**87.15**	**337**	P		**P**	06 02 25.7	**-0.2**
	baz=87,SNR=9.1							
C23A	**Lambert**	**87.23**	**338**	P		**P**	06 02 25.7	**-0.5**
	baz=88,SNR=9.4							
A26A	**Wade Farm, Ken**	**87.31**	**341**	P		**P**	06 02 26.3	**-0.2**
	baz=88							
MCMT	**McKenzie Canyo**	**87.31**	**332**	*eP*		**P**	06 02 27.4	**+0.4**
	comp=Z,2.7nm,0.9s							
MFID	**Camas Ranch**	**87.34**	**330**	*eP*		**P**	06 02 26.7	**-0.3**
	comp=Z,1.9nm,0.6s							
C22A	**Vida**	**87.40**	**338**	P		**P**	06 02 26.5	**-0.6**
	baz=88							
DGMT	**Dagmar**	**87.53**	**339**	P		**P**	06 02 27.2	**-0.4**
	baz=88,SNR=12							
DGMT	**Dagmar**	**87.53**	**339**	*eP*		**P**	06 02 27.4	**-0.3**
	comp=Z,25nm,0.6s							
BOZ	**Bozeman (W)**	**87.54**	**333**	P		**P**	06 02 27.3	**-0.6**
	baz=88							
A25A	**Svangstu Ranch**	**87.64**	**340**	P		**P**	06 02 28.0	**-0.1**
	baz=88							
DLMT	**Dillon**	**87.67**	**333**	*eP*		**P**	06 02 28.1	**-0.4**
	comp=Z,0.9nm,0.5s							
B23A	**Brockton**	**87.77**	**339**	P		**P**	06 02 28.3	**-0.4**
	baz=88							
C21A	**Desert Coulee**	**87.86**	**337**	P		**P**	06 02 28.3	**-1.0**
	baz=88,SNR=11							
A24A	**Westby**	**87.89**	**339**	P		**P**	06 02 28.8	**-0.5**
	baz=88							
B22A	**Reddig Ranch S**	**87.93**	**338**	P		**P**	06 02 28.8	**-0.7**
	baz=88,SNR=10							
LRM	**Limekiln Ridge**	**88.00**	**333**	*eP*		**P**	06 02 30.3	**+0.1**
	comp=Z,26nm,0.9s							
C20A	**Veseth Ranch,**	**88.05**	**336**	P		**P**	06 02 29.3	**-0.9**
	baz=88,SNR=5.3							
MOD	**Modoc**	**88.10**	**326**	*eP*		**P**	06 02 30.6	**0.0**
	comp=Z,5.9nm,0.8s							
B21A	**Ellsworth Farm**	**88.36**	**337**	P		**P**	06 02 31.1	**-0.4**
	baz=89,SNR=7.3							
A22A	**Carney Farms,**	**88.52**	**338**	P		**P**	06 02 31.7	**-0.6**
	baz=89,SNR=9.7							
B20A	**Solberg Farm,**	**88.69**	**337**	P		**P**	06 02 32.4	**-0.7**
	baz=89,SNR=5.9							
M04C	**Macdoel**	**88.72**	**325**	P		**P**	06 02 32.8	**-0.8**
	baz=89							
A21A	**Bergtoll Ranch**	**88.83**	**338**	P		**P**	06 02 33.6	**-0.2**
	baz=89							
EGMT	**Eagleton**	**88.91**	**336**	P		**P**	06 02 33.7	**-0.6**
	baz=89							
B19A	**Brinkman Farms**	**89.01**	**336**	P		**P**	06 02 34.3	**-0.4**
	baz=89							
A20A	**Cobblestone Ra**	**89.05**	**337**	P		**P**	06 02 34.5	**-0.4**
	baz=89							
SCHQ	**Schefferville**	**89.10**	**3**	P		**P**	06 02 34.4	**-0.4**
	comp=Z,1.7nm,0.8s,baz=158,slow=7.7,SNR=3.7							
A19A	**Klindworth Far**	**89.35**	**337**	P		**P**	06 02 36.4	**+0.1**
	baz=90							
J05D	**Fort Rock, OR**	**89.61**	**326**	P		**P**	06 02 38.2	**+0.5**
	baz=90							
EDM	**Edmonton**	**94.53**	**336**	*eP*		**P**	06 02 57.9	**-2.3**
EDM				pmax		pmax		
	comp=Z,7.0nm,1.0s							
EDM	**Edmonton**	**94.53**	**336**	*eP*		**P**	06 02 57.9	**-2.3**
	comp=Z,7.5nm,1.0s							
YKA	**Yellowknife Ar**	**102.61**	**341**	P		**Pdif**	06 03 35.9	**-0.2**
	comp=Z,0.3nm,0.6s,baz=142,slow=4.5,SNR=5.8							
ILAR	**Eielson Array**	**114.74**	**333**	PKP		PKPdf	06 08 18.1	-1.5
	comp=Z,0.3nm,0.8s,baz=129,slow=1.3,SNR=4.3							
ASAR	**Alice Springs**	**117.18**	**207**	PKP		**PKPdf**	**06 08 24.3**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=133,slow=1.7,SNR=4.5							
WRA	**Warramunga Arr**	**120.39**	**209**	PKP		**PKPdf**	**06 08 31.1**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=143,slow=1.7,SNR=16							
BRTR	**Keskin Array B**	**121.93**	**61**	PKP		**PKPdf**	**06 08 33.1**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=224,slow=0.9,SNR=4.9							
AKASG	**Malin Array Be**	**122.41**	**48**	PKP		**PKPdf**	**06 08 32.7**	**-2.0**
	comp=Z,0.6nm,0.5s,baz=260,slow=2.6,SNR=3.6							
ARCES	**ARCESS Array B**	**124.41**	**25**	PKP		**PKPdf**	**06 08 38.5**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=270,slow=2.4,SNR=6.1							
H11S2	**WAKE ISLAND Hyl**	**25.94**	**269**	T		T	08 26 56.4	
	baz=118,slow=74,SNR=170							
H11S1	**WAKE ISLAND Hyl**	**25.95**	**269**	T		T	08 26 57.6	
	baz=118,slow=74,SNR=118							
H11S3	**WAKE ISLAND Hyl**	**25.96**	**269**	T		T	08 26 58.4	
	baz=118,slow=74,SNR=138							
H11N3	**WAKE ISLAND Hyl**	**26.36**	**270**	T		T	08 27 23.8	
	baz=115,slow=78,SNR=82							
H11N1	**WAKE ISLAND Hyl**	**26.38**	**270**	T		T	08 27 25.0	
	baz=115,slow=78,SNR=144							
H11N2	**WAKE ISLAND Hyl**	**26.38**	**270**	T		T	08 27 27.5	
	baz=115,slow=78,SNR=153							
CISI	**Cisompet, Garu**	**138.15**	**179**	*e*PKPdf		**PKPdf**	**06 09 07.4**	**+1.5**
SEY	**Seymchan**	**140.57**	**330**	*i* PKIKP		**PKPdf**	**06 09 09.8**	**+1.2**
PSI	**Prapat**	**147.28**	**163**	PKPbc		**PKPdf**	**06 09 21.3**	**-0.8**
	comp=Z,4.9nm,0.5s,baz=186,slow=5.3,SNR=6.0							
BRVK	**Borovoye**	**147.47**	**44**	*i* PKIKP		**PKPdf**	**06 09 21.0**	**+0.1**
BRVK	**Borovoye**	**147.47**	**44**	PKPbc		**PKPab**	**06 09 24.8**	**-0.8**
YAK	**Yakutsk**	**149.28**	**340**	*e*PKHKP		PKPpre	06 09 25.6	
YAK				*e*			06 09 31.4	
YAK					pmax	pmax		
	comp=Z,13nm,0.9s							
YAK					pmax	pmax		
	comp=N,3.0nm,1.2s							
YAK					pmax	pmax		
	comp=E,2.0nm,0.9s							
KKAR	**Karatay Array**	**149.63**	**62**	*e*PKP2		**PKPbc**	**06 09 29.9**	**+0.4**
KKAR	**Karatay Array**	**149.63**	**62**	*e*PKPbc		**PKPbc**	**06 09 29.9**	**+0.4**
YSS	**Yuzh-Sakhalins**	**151.25**	**306**	*e*PKIKP		**PKPbc**	**06 09 32.3**	**-0.8**
EKS2	**Erkin-Say**	**152.06**	**63**	*e*PKIKP		**PKPbc**	**06 09 36.5**	**+1.2**
EKS2	**Erkin-Say**	**152.06**	**63**	*e*PKPbc		**PKPbc**	**06 09 36.5**	**+1.2**
KURK	**Kurchatov**	**153.13**	**44**	*e*PKIKP		**PKPbc**	**06 09 37.7**	**+0.4**
KSH	**Kashi**	**153.89**	**70**	PKPbc		**PKPbc**	**06 09 38.4**	**-1.1**
KSH				pPKP		**pPKPdf**	**06 09 43.2**	**+1.5**
KSH				PKS		**PKSdf**	**06 13 05.3**	**-0.6**
KSH				PP		**PP**	**06 13 31.1**	**+3.2**
KSH				SKS		**SKSdf**	**06 16 34.2**	**-2.0**
KSH				SKKS		**SKKSac**	**06 20 14.0**	**-1.4**
KSH				SS		**SS**	**06 33 01.3**	**-2.5**
KSH				PPMZ				
	comp=E,230nm,4.7s							
ZALV	**Zalesovo Beam**	**154.57**	**33**	PKPbc		**PKPbc**	**06 09 41.5**	**+1.3**
	comp=E,2.1nm,0.4s,baz=312,slow=2.6,SNR=9.0							
ZALV				PKPab		**PKPab**	**06 09 53.6**	**-1.3**
	comp=E,1.7nm,0.3s,baz=267,slow=5.2,SNR=5.4							
MKAR	**Makanchi Array**	**156.97**	**50**	PKP		**PKPdf**	**06 09 35.4**	**+0.1**
	comp=E,0.4nm,0.9s,baz=102,slow=2.1,SNR=2.9							
MKAR				PKPbc		PKPbc	06 09 47.4	
	comp=E,0.8nm,0.9s,baz=267,slow=2.4,SNR=4.4							
MKAR				PKPab		**PKPab**	**06 10 05.0**	**-0.6**
	comp=E,1.8nm,0.8s,baz=295,slow=3.5,SNR=8.7							
WMQ	**Urumqi**	**161.64**	**54**	*e*PKP		**PKPdf**	**06 09 41.0**	**+0.1**
WMQ				LN				
	comp=E,96nm,20.6s							
WMQ				LZ				
	comp=E,55nm,28.1s							
KSRS	**Korea Array**	**163.75**	**286**	PKPab		**PKPab**	**06 10 35.5**	**+0.1**
	comp=E,1.0nm,0.6s,baz=74,slow=3.7,SNR=4.8							
KSRS	**Korea Array**	**163.75**	**286**	PKP2		**PKPab**	**06 10 35.5**	**+0.1**
KSRS				pmax		pmax		
	comp=Z,1.0nm,0.6s							
KSAR	**Wonju Array Be**	**163.78**	**286**	PKP2		**PKPab**	**06 10 35.5**	**-0.1**
KSAR	**Wonju Array Be**	**163.78**	**286**	PKPab		**PKPab**	**06 10 35.5**	**-0.1**
SONM	**Songino Array**	**166.63**	**5**	PKPab		**PKPab**	**06 10 49.0**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=14,slow=0.6,SNR=3.0							
SONM	**Songino Array**	**166.63**	**5**	PKP2		**PKPab**	**06 10 49.0**	**+1.2**
KMI	**Kunming**	**169.51**	**152**	PKP		**PKPdf**	**06 09 51.6**	**+3.5**
NJ2	**Nanjing**	**170.73**	**258**	*e*PKP		**PKPdf**	**06 09 49.6**	**+1.3**
BJI	**Beijing**	**171.58**	**313**	PKP		**PKPdf**	**06 09 49.4**	**+1.0**
GTA	**Gaotai**	**171.72**	**51**	*e*PKP		**PKPdf**	**06 09 51.0**	**+2.2**
GTA				pPKP		**pPKPdf**	**06 10 01.8**	**+2.8**
GTA				sPKP			06 10 05.4	
GTA				PKPab		**PKPab**	**06 11 13.9**	**+3.2**
HHC	**Hu-ho-hao-te**	**173.14**	**338**	*e*PKP		**PKPdf**	**06 09 49.3**	**0.0**
HHC				pPKP		**pPKPdf**	**06 09 59.9**	**+0.4**
HHC				sPKP			06 10 03.8	
HHC				PP		**PP**	**06 15 10.4**	**+2.5**
HHC				SKKS			06 21 52.0	
HHC				SS		**SS**	**06 36 18.6**	**-1.3**
HHC				LN				
	comp=Z,100nm,21.0s							
HHC				LE				
	comp=Z,200nm,19.7s							
HHC				LZ				
	comp=Z,60nm,19.7s							
CD2	**Chengdu**	**174.82**	**133**	PKP		**PKPdf**	**06 09 49.6**	**-0.5**
LZH	**Lanzhou**	**176.13**	**65**	*e*PKP		**PKPdf**	**06 09 48.8**	**-1.7**
LZH				pPKP		**pPKPdf**	**06 10 00.3**	**-0.4**
LZH				sPKP			06 10 04.0	
LZH				LN				
	comp=Z,270nm,18.0s							
LZH				LE				
	comp=Z,170nm,18.3s							
LZH				LZ				
	comp=Z,160nm,20.2s							

DJA ***08*** *06:02:56.7±0.3,1°N±2°×12°1E±°, h10km, M4.1/15, mb4.2/4, MLv4.1/15*

IDC ***08*** *06:02:58.3±1.5, 0°66N×121°46E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/34, mbtmp3.5/4, ML3.8/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/22, Error ellipse: s-maj=68.7km s-min=23.6km az=66.0*

ISC 08 06:02:54.2±2.3, 1°2N±0°.1×120°35E±0°.08, h32km, n14, σ1°86/20, mb3.3/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**1.00**	**207**	P	**Pn**	**06 03 10.4**	**-1.6**
MPSI				S	**Sn**	**06 03 21.2**	**-3.8**
MRSI	**Marisa**	**1.76**	**115**	P	**Pn**	**06 03 22.4**	**-0.1**
MRSI				S	**Sn**	**06 03 41.0**	**-2.8**
PCI	**Palu**	**2.19**	**194**	P	**Pn**	**06 03 30.0**	**+1.6**
PCI				S	**Sn**	**06 03 56.6**	**+2.2**
APSI	**Ampana**	**2.50**	**149**	P	**Pn**	**06 03 32.1**	**-0.5**
APSI				S	**Sn**	**06 04 02.9**	**+0.9**
LUWI	**Luwuk**	**3.31**	**133**	P	**Pn**	**06 03 44.7**	**+0.8**
LUWI				S	**Sn**	**06 04 21.1**	**-1.1**
KMSI	**Cibinong**	**3.69**	**100**	P	**Pn**	**06 03 50.9**	**+1.9**
KMSI				S	**Sn**	**06 04 32.0**	**+0.5**
TTSI	**Tana Toraja**	**4.29**	**187**	P	**Pn**	**06 04 00.0**	**+2.8**
SPSI	**Sidrap Palu**	**5.20**	**186**	P	**Pn**	**06 04 10.8**	**+1.0**
SPSI				S	**Sn**	**06 05 08.6**	**-0.1**
KDI	**Kendari**	**5.64**	**156**	P	**Pn**	**06 04 15.1**	**-0.7**
	18nm,0.8s,0.1nm						
KAPI	**Kappang**	**6.24**	**185**	Pn	**Pn**	**06 04 26.2**	**+2.1**
	2.3nm,0.3s,baz=355,slow=6.8,SNR=16						
KAPI				LR	LR	06 06 59.9	
	comp=Z,80nm,18.1s,baz=90,slow=41						
BKSI	**Bulukumba**	**6.52**	**182**	P	**Pn**	**06 04 29.0**	**+1.1**
	16nm,0.8s,0.1nm						
WRA	**Warramunga Arr**	**25.12**	**148**	P	**P**	**06 08 14.6**	**-1.9**
	0.9nm,0.6s,baz=331,slow=10.0,SNR=11						
ASAR	**Alice Springs**	**28.04**	**151**	P	**P**	**06 08 43.6**	**+0.8**
	0.4nm,0.7s,baz=337,slow=9.1,SNR=4.6						
MKAR	**Makanchi Array**	**56.19**	**329**	P	P	06 12 47.7	+17
	0.1nm,0.3s,baz=126,slow=4.4,SNR=2.8						

MEX 08 06:10:43.6±0.6, 16°13N×92°88W, h216km±5km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.53**	**218**	*i* P	Pn	06 11 11.0	-1.7
PCIG				*e*S	S	06 11 33.0	-2.4
TGIG		**0.69**	**340**	*i* P	Pn	06 11 12.3	-1.1
TGIG				*i* S	S	06 11 34.0	-2.8
CCIG	**Comitan**	**0.73**	**78**	*i* P	Pn	06 11 12.1	-1.7
CCIG				*i* S	S	06 11 33.9	-3.3
CMIG	**Matias Romero**	**2.15**	**297**	*i* P	Pn	06 11 23.9	-1.0
CMIG				*i* S	S	06 11 54.3	-2.5
HUIG	**Huatulco**	**3.13**	**264**	*i* P	Pn	06 11 34.3	-1.3
HUIG				*i* S	S	06 12 14.2	-1.9

IDC ***08*** *06:13:19.9±1.2, 15°.53S×168°.08E, h0km, mb3.9/7, mb1 4.2/8, mb1mx3.9/33, mbtmp3.9/8, ML4.0/1, Error ellipse: s-maj=45.7km s-min=24.1km az=140.0*

ISCJB ***08*** *06:13:23.1±0.8, 15°.74S±0°.08×168°.1E±0°.2, h33km, mb3.8/7, Error ellipse: s-maj=26.5km s-min=10.3km az=12.8*

ISC 08 06:13:24.9±0.9, 15°.7S±0°.1×168°.1E±0°.2, h35km, n8, σ0°76/9, mb3.8/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.55**	**194**	Pn	**Pn**	**06 14 59.7**	**+0.8**
	2.8nm,0.3s,baz=270,slow=24,SNR=23						
DZM				Sn	**Sn**	**06 16 11.6**	**-0.9**
	baz=90,slow=20,SNR=2.0						
WRA	**Warramunga Arr**	**32.40**	**257**	P	**P**	**06 19 51.6**	**0.0**
	0.5nm,0.7s,baz=85,slow=8.9,SNR=4.6						
ASAR	**Alice Springs**	**33.11**	**251**	P	**P**	**06 19 57.6**	**-0.2**
	0.4nm,0.5s,baz=76,slow=9.2,SNR=6.7						
CMAR	**Chiang Mai Arr**	**76.07**	**294**	P	**P**	**06 25 10.1**	**+0.7**
	0.3nm,0.3s,baz=157,slow=8.0,SNR=3.5						
SONM	**Songino Array**	**83.73**	**323**	P	**P**	**06 25 50.1**	**-0.3**
	0.3nm,0.3s,baz=114,slow=4.2,SNR=3.0						
ILAR	**Eielson Array**	**87.17**	**18**	P	**P**	**06 26 06.2**	**-0.8**
	1.0nm,0.8s,baz=239,slow=4.9,SNR=11						
NVAR	**Mina Array Bea**	**87.27**	**49**	P	**P**	**06 26 09.1**	**+0.7**
	0.3nm,0.5s,baz=222,slow=6.0,SNR=4.6						
YKA	**Yellowknife Ar**	**98.01**	**27**	P	**P**	**06 26 56.7**	**-0.4**
	0.7nm,0.8s,baz=244,slow=2.7,SNR=3.2						

NIED ***08*** *06:25:00,40°.90N×142°.50E, h50km, Mw3.8 Best double couple: M0=5.64000×10^14 NP1:φs=75.00000°, δ54.00000°, λ-137.00000°. NP2

0.4nm,0.7s,baz=333,slow=2.3,SNR=5.1

*ISCJB **08** 06:32:50.4±0.7,47.°9S±0.°1×102.°7E±0.°2,h10km,mb4.3/9, MS3.6/8, Error ellipse: s-maj=22.1km s-min=14.5km az=35.6*

*IDC **08** 06:32:50.9±0.7,47.°90S×102.°62E,h0km,mb4.3/8, mb1 4.5/8,mb1mx4.2/26,mbtmp4.3/8,MS3.7/8,Ms1 3.7/8, ms1mx3.4/26, Error ellipse: s-maj=24.0km s-min=17.4km az=118.0*

*NEIC **08** 06:32:52.2±0.5,47.°88S×102.°68E,h10km,mb4.7/1, Error ellipse: s-maj=17.1km s-min=11.8km az=127.0*

ISC 08 06:32:52.2±0.7,47.°9S±0.°1×102.°7E±0.°2,h10km,n21, σ0s85/14,mb4.3/9,MS3.7/8,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.55**	**38**	T	T	06 52 34.4	
	baz=209,slow=74,SNR=34						
H01W1	**Cape Leeuwin H**	**15.56**	**38**	T	T	06 52 32.8	
	baz=209,slow=74,SNR=37						
H01W3	**Cape Leeuwin H**	**15.56**	**38**	T	T	06 52 36.4	
	baz=209,slow=74,SNR=53						
MAW	**Mawson**	**28.20**	**211**	LR	LR	06 47 00.0	
	comp=Z,188nm,21.9s,baz=40,slow=30						
STKA	**Stephens Creek**	**33.47**	**76**	P	**P**	**06 39 31.6**	**+0.1**
	5.5nm,1.0s,baz=244,slow=5.5,SNR=6.4						
STKA				LR	LR	06 51 32.0	
	comp=Z,81nm,19.8s,baz=205,slow=34						
ASAR	**Alice Springs**	**34.63**	**57**	P	**P**	**06 39 41.1**	**-0.5**
	2.3nm,0.8s,baz=212,slow=8.2,SNR=19						
ASAR				LR	LR	06 52 29.9	
	comp=Z,103nm,18.1s,baz=243,slow=34						
VNDA	**Vanda**	**37.16**	**162**	P	**P**	**06 40 03.0**	**+0.3**
	3.9nm,0.8s,baz=290,slow=8.7,SNR=20						
VNDA				LR	LR	06 53 51.1	
	comp=Z,219nm,19.4s,baz=288,slow=34						
WRA	**Warramunga Arr**	**37.85**	**54**	P	**P**	**06 40 10.1**	**+0.9**
	5.1nm,0.9s,baz=216,slow=9.2,SNR=25						
WRAB	**Tennant Creek**	**37.86**	**54**	*e*P	**P**	**06 40 07.5**	**-1.8**
	26nm,1.7s						
LEM	**Lembang**	**41.14**	**7**	LR	LR	06 53 49.7	
	comp=Z,107nm,19.3s,slow=31						
QSPA	**South Pole Qui**	**42.24**	**180**	P	**P**	**06 40 45.7**	**+0.3**
	6.2nm,0.9s,baz=310,slow=2.1,SNR=31						
KAPI	**Kappang**	**45.16**	**24**	LR	LR	06 58 50.9	
	comp=Z,48nm,19.8s,baz=195,slow=34						
SNAA	**Sanae**	**49.86**	**204**	P	**P**	**06 41 44.3**	**-0.7**
	1.9nm,0.9s,baz=134,slow=9.0,SNR=10.0						
PSI	**Prapat**	**50.59**	**355**	LR	LR	06 58 00.8	
	comp=Z,77nm,20.7s,baz=193,slow=30						
OPO	**Ambohidratompo**	**53.42**	**283**	P	**P**	**06 42 12.8**	**+0.2**
	6.3nm,0.9s,baz=112,slow=11,SNR=3.2						
CMAR	**Chiang Mai Arr**	**66.13**	**356**	P	**P**	**06 43 40.2**	**+0.7**
	0.8nm,0.3s,baz=191,slow=5.9,SNR=8.1						
CMAR				LR	LR	07 10 51.1	
	comp=Z,44nm,18.6s,baz=235,slow=34						
GERES	**GERESS Array B**	**123.18**	**308**	PKP	**PKPdf**	**06 51 47.8**	**-0.7**
	0.3nm,0.4s,baz=116,slow=4.6,SNR=3.8						
FINES	**FINESS Array B**	**125.01**	**325**	PKP	**PKPdf**	**06 51 50.6**	**-0.7**
	0.8nm,0.6s,baz=133,slow=7.8,SNR=3.0						
NVAR	**Mina Array Bea**	**148.97**	**92**	PKPbc	**PKPbc**	**06 52 41.4**	**+1.2**
	2.5nm,0.6s,baz=223,slow=4.3,SNR=28						
TXAR	**Lajitas Array**	**152.52**	**123**	PKPbc	**PKPbc**	**06 52 48.6**	**-0.1**
	0.7nm,0.9s,baz=180,slow=6.1,SNR=7.1						
YKA	**Yellowknife Ar**	**154.65**	**41**	PKPab	**PKPab**	**06 53 06.9**	**-0.1**
	0.6nm,0.7s,baz=294,slow=3.7,SNR=5.0						

*IDC **08** 06:47:40.9±0.9,0.°57S×131.°73E,h0km,mb3.9/7, mb1 4.2/9,mb1mx3.9/34,mbtmp4.0/9,ML4.1/1,MS3.0/2, Ms1 3.0/2,ms1mx2.6/32, Error ellipse: s-maj=18.5km s-min=9.7km az=146.0*

*ISCJB **08** 06:47:43.8±0.6,0.°58S±0.°06×131.°58E±0.°05,h33km, mb3.9/7,MS2.9/1, Error ellipse: s-maj=8.3km s-min=6.5km az=27.2*

*DJA **08** 06:47:45.7±0.5,1.°3S±3.°×13.°1E±.°,h12km±3km,M4.5/13, mb4.5/8,mB5.0/4,MLv4.5/13,Mw(mB)4.4/4*

*NEIC **08** 06:47:46.1±1.3,0.°58S×131.°70E,h37km±12km,mb4.1/2, Error ellipse: s-maj=16.4km s-min=7.4km az=224.0*

ISC 08 06:47:46.0±0.8,0.°61S±0.°08×131.°53E±0.°07,h35km,n35, σ1s63/33,mb4.0/7,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**0.37**	**226**	Pg	**Pn**	**06 47 52.2**	**-2.6**
	497nm,0.3s,baz=42,slow=17,SNR=153						
SIJI				Lg	Lg	06 47 58.2	
	3μm,0.3s,baz=204,slow=20,SNR=273						
SWI	**Sorong**	**0.37**	**227**	P	**Pn**	**06 47 52.6**	**-2.2**
SWI				S	**Sn**	**06 47 58.2**	**-2.7**
SWI	**Sorong**	**0.37**	**227**	P	**Pn**	**06 47 52.3**	**-2.5**
	baz=4.0,SNR=1000						
FAKI	**Fak Fak**	**2.40**	**163**	P	**Pn**	**06 48 23.2**	**+0.3**
FAKI				S	Sn	06 48 58.2	+7.1
FAKI	**Fak Fak**	**2.40**	**163**	P	**Pn**	**06 48 22.3**	**-0.6**
	baz=5.6,SNR=217						
FAKI	**Fak Fak**	**2.40**	**163**	*e*Pn	**Pn**	**06 48 23.2**	**+0.3**
RKPI	**Ransiki, Papua**	**2.79**	**109**	P	Pn	06 48 31.7	+3.5
RKPI				S	Sn	06 49 07.6	+6.9
MSAI	**Masohi**	**3.76**	**224**	P	**Pn**	**06 48 43.3**	**+1.7**
MSAI				S	**Sn**	**06 49 28.6**	**+3.9**
LBMI	**Labuha**	**4.03**	**270**	P	**Pn**	**06 48 45.5**	**+0.3**
BNDI	**Bandanaira**	**4.21**	**203**	P	**Pn**	**06 48 49.3**	**+1.6**
TNTI	**Ternate**	**4.38**	**288**	P	**Pn**	**06 48 49.6**	**-0.5**
TNTI	**Ternate**	**4.38**	**288**	*e*Pn	**Pn**	**06 48 51.4**	**+1.3**
AAI	**Ambon**	**4.52**	**227**	P	**Pn**	**06 48 55.0**	**+3.0**
	baz=8.1,SNR=5.7						
NLAI	**Namlea**	**5.14**	**239**	P	**Pn**	**06 49 01.4**	**+0.9**
	62nm,0.5s,1μm0.4nm						
SANI	**Sanana**	**5.72**	**255**	P	**Pn**	**06 49 09.0**	**+0.5**
	20nm,0.6s,0.1nm						
JAY	**Jayapura**	**9.36**	**102**	LR	LR	06 53 36.5	
	comp=Z,107nm,18.9s,baz=180,slow=39						
APSI	**Ampana**	**9.89**	**268**	P	**Pn**	**06 50 06.3**	**+0.6**
	66nm,1.0s,751nm						
MPSI	**Mapaga**	**11.67**	**275**	P	**Pn**	**06 50 30.4**	**+0.2**
	9.0nm,1.4s,554nm						
TTSI	**Tana Toraja**	**11.95**	**258**	P	**Pn**	**06 50 34.7**	**+0.7**
	10nm,1.1s						
KDU	**Kakadu**	**12.04**	**176**	P	Pn	06 50 31.9	-3.2
	baz=15,SNR=26						
SPSI	**Sidrap Palu**	**12.21**	**254**	P	**Pn**	**06 50 38.4**	**+0.8**
	11nm,0.7s						
BKSI	**Bulukumba**	**12.31**	**247**	P	**Pn**	**06 50 40.3**	**+1.3**
	16nm,0.6s						
KAPI	**Kappang**	**12.55**	**249**	Pn	Pn	06 50 45.4	+3.2
	baz=196,slow=6.4,SNR=6.7						
KNRA	**Kununurra**	**15.22**	**190**	P	**Pn**	**06 51 15.5**	**-2.9**
	baz=19,SNR=4.7						
PMG	**Port Moresby**	**17.84**	**120**	*e*Pn	**Pn**	**06 51 50.0**	**-1.6**
	23nm,1.1s						
WRAB	**Tennant Creek**	**19.40**	**172**	*e*P	**P**	**06 52 09.2**	**0.0**
	3.3nm,0.5s						
WRA	**Warramunga Arr**	**19.41**	**172**	P	**P**	**06 52 09.1**	**-0.2**
	0.6nm,0.3s,baz=354,slow=11,SNR=40						
WRA				S	S	06 55 34.5	-13
	0.4nm,0.3s,baz=0.2,slow=23,SNR=5.6						
ASAR	**Alice Springs**	**23.04**	**174**	P	**P**	**06 52 49.0**	**+0.7**
	3.9nm,0.6s,baz=359,slow=11,SNR=22						
ASAR				S	**S**	**06 56 57.4**	**+0.7**
	0.4nm,0.7s,baz=0.6,slow=29,SNR=2.9						
STKA	**Stephens Creek**	**32.52**	**164**	P	**P**	**06 54 12.2**	**-1.5**
	1.3nm,0.7s,baz=325,slow=10,SNR=3.4						
PSI	**Prapat**	**32.77**	**276**	P	**P**	**06 54 16.9**	**+0.7**
	2.6nm,0.5s,baz=142,slow=1.8,SNR=3.9						
CMAR	**Chiang Mai Arr**	**37.21**	**302**	P	**P**	**06 54 55.6**	**+1.2**
	0.7nm,0.3s,baz=131,slow=6.5,SNR=4.8						
KSRS	**Korea Array**	**38.02**	**355**	LR	LR	07 10 24.0	
	comp=Z,17nm,19.5s,baz=96,slow=36						
MKAR	**Makanchi Array**	**63.84**	**325**	P	**P**	**06 58 16.1**	**+1.1**
	1.1nm,0.7s,baz=115,slow=8.3,SNR=12						
VNDA	**Vanda**	**78.58**	**174**	P	**P**	**06 59 43.9**	**+0.4**
	0.6nm,0.9s,baz=214,slow=7.3,SNR=1.7						
ILAR	**Eielson Array**	**86.95**	**25**	P	**P**	**07 00 26.6**	**-0.6**
	0.2nm,0.7s,baz=251,slow=5.5,SNR=2.7						

GUC 08 07:20:18.1±0.6,35.°35S×72.°67W,h15km±7km,ML4.1,2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.84**	**93**	⇓*i*P	Pb	07 20 33.2	-1.3
TALC				*i* S	Sb	07 20 44.5	-1.1
LNCH	**Linares**	**1.00**	**120**	⇓*i*P	Pb	07 20 37.0	-0.1
NICH	**Los Niches**	**1.23**	**74**	*e*P	Pn	07 20 39.6	-1.1
NICH				*i* S	Sb	07 20 55.9	-0.8
CCSP	**San Pedro de C**	**1.53**	**193**	*e*S	Sn	07 21 04.1	-0.5
LNV	**Longovilo**	**1.73**	**37**	*e*P	Pn	07 20 47.0	-0.6
TACH	**Talagante**	**2.21**	**41**	*e*P	Pn	07 20 55.5	+1.1
CLCH	**Cerro Calan**	**2.63**	**43**	*e*P	Pn	07 21 01.1	+1.0
CLCH				AML	AML	07 21 48.1	
	comp=E,836nm,0.3s						
PEL	**Peldehue**	**2.75**	**37**	*e*P	Pn	07 21 02.4	+0.7
PEL				AML	AML	07 21 55.6	
	comp=N,921nm,0.7s						

MAN 08 07:25:29,9.°22N×125.°50E,h3km,mb4.5,ML3.3,MS3.2, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**1.10**	**226**	*e*P	Pb	07 25 50.5	-0.2
CGP				*i* S	Sn	07 26 07.4	+0.3

NSSP 08 07:43:00.6,38.°87N×45.°08E,h10km,Ms3.1,2C-2D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRS	**Goris**	**1.16**	**57**	⇑*i*P	Pg	07 43 24.0	+1.0
GRS				⇑*i*S	Sn	07 43 41.0	+2.0
GNI	**Garni**	**1.31**	**348**	⇓*i*P	Pg	07 43 27.4	+1.5
GNI				⇓*i*S	Sg	07 43 45.6	+2.6
DGRG	**David-gareji**	**2.59**	**5**	P	Pg	07 43 51.5	+1.2
DGRG				S	Sg	07 44 24.7	+0.9

IDC 08 07:55:28.5±2.7,53.°73N×87.°03E,h0km,mb1 2.8/2, mb1mx2.7/41,mbtmp2.8/2,ML2.4/2, Error ellipse: s-maj=24.5km s-min=15.7km az=73.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.33**	**281**	*i*		08 03 30.0	
	baz=100,slow=318,SNR=1.0						
ZALV	**Zalesovo Beam**	**1.33**	**280**	Pg	Pg	07 55 52.4	-1.6
	1.3nm,0.3s,baz=100,slow=15,SNR=9.1						
ZALV				Lg	Lg	07 56 11.0	
	0.9nm,0.3s,baz=99,slow=28,SNR=7.2						
KURBB	**Kurchatov Arra**	**6.08**	**243**	Pn	Pn	07 57 00.7	+1.1
	0.1nm,0.3s,baz=59,slow=14,SNR=3.6						
KURBB				Lg	Lg	07 58 43.7	
	0.1nm,0.3s,baz=64,slow=29,SNR=4.6						
MKAR	**Makanchi Array**	**7.58**	**206**	Pn	Pn	07 57 21.3	+1.1
	0.1nm,0.3s,baz=27,slow=14,SNR=4.3						
MKAR				Lg	Lg	07 59 26.8	
	0.1nm,0.3s,baz=20,slow=26,SNR=2.3						

*IDC **08** 08:11:36.6±1.1,1.°70S×136.°44E,h0km,mb4.1/5, mb1 4.3/8,mb1mx3.9/37,mbtmp4.0/8,ML3.5/3,MS3.1/7, Ms1 3.1/7,ms1mx2.9/37, Error ellipse: s-maj=27.6km s-min=21.3km az=47.0*

*NEIC **08** 08:11:38.0±0.5,1.°74S×136.°39E,h10km,mb4.0/3, Error ellipse: s-maj=10.5km s-min=9.7km az=46.0*

NEIC Felt [II] at Serui, Yapen.

*ISCJB **08** 08:11:39.6±1.0,2.°01S±0.°07×136.°36E±0.°03,h17km±10km, mb4.0/6,MS3.1/6, Error ellipse: s-maj=11.7km s-min=5.8km az=6.4*

*DJA **08** 08:11:40.7±0.3,2.°3S±3.°×13.°6E±.°,h10km,M4.3/8,mb4.2/1, MLv4.3/8*

ISC 08 08:11:38.5±1.2,1.°79S±0.°05×136.°37E±0.°03,h11km±8km, n24,σ1s54/28,mb4.0/6,MS3.0/6,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.16**	**239**	P	**Pg**	**08 11 42.9**	**+0.9**
BAKI	**Biak**	**0.65**	**336**	P	**Pg**	**08 11 50.3**	**-0.8**
BAKI				S	**Sn**	**08 12 07.8**	**+3.7**
RKPI	**Ransiki, Papua**	**2.21**	**277**	P	**Pb**	**08 12 18.3**	**-0.3**
RKPI				S	**Sb**	**08 12 45.8**	**-0.3**
SMPI	**Sarmi**	**2.34**	**95**	P	**Pn**	**08 12 18.4**	**+1.3**
SMPI				S	**Sg**	**08 12 51.6**	**-2.3**
GENI	**Genyem**	**3.88**	**102**	P	**Pn**	**08 12 40.5**	**+2.4**
GENI				S	**Sn**	**08 13 26.8**	**+3.1**
FAKI	**Fak Fak**	**4.27**	**255**	P	**Pn**	**08 12 44.9**	**+1.3**
FAKI				S	**Sn**	**08 13 33.2**	**-0.3**
FAKI	**Fak Fak**	**4.27**	**255**	*e*Pn	**Pn**	**08 12 43.8**	**+0.2**
FAKI				*e*Sn	**Sn**	**08 13 33.8**	**+0.3**
JAY	**Jayapura**	**4.39**	**100**	P	**Pn**	**08 12 47.6**	**+2.4**
JAY	**Jayapura**	**4.39**	**100**	Pn	**Pn**	**08 12 44.9**	**-0.3**
	0.7nm,0.3s,baz=270,slow=6.1,SNR=4.4						
JAY				Sn	**Sn**	**08 13 35.5**	**-1.0**
	1.2nm,0.3s,baz=270,slow=20,SNR=2.1						
SIJI	**Sorong**	**5.19**	**280**	Pn	**Pn**	**08 12 58.0**	**+1.8**
	0.5nm,0.3s,baz=99,slow=19,SNR=2.9						
SIJI				LR	LR	08 15 41.4	
	comp=Z,83nm,18.4s,baz=76,slow=47						
WRAB	**Tennant Creek**	**18.14**	**186**	*e*P	**Pn**	**08 15 50.5**	**-0.3**
	4.8nm,0.6s						
WRAB				*e*S	Sn	08 19 00.1	-13
WRA	**Warramunga Arr**	**18.15**	**186**	P	**Pn**	**08 15 50.5**	**-0.4**
	0.5nm,0.3s,baz=7.8,slow=13,SNR=18						
WRA				S	Sn	08 19 00.6	-13
	0.3nm,0.3s,baz=5.9,slow=22,SNR=7.8						
ASAR	**Alice Springs**	**21.88**	**186**	P	**P**	**08 16 32.9**	**+1.1**
	5.6nm,0.3s,baz=14,slow=11,SNR=56						
ASAR				S	**S**	**08 20 32.1**	**-1.5**
	1.4nm,0.8s,baz=11,slow=26,SNR=7.1						
ASAR				LR	LR	08 26 02.7	
	comp=Z,185nm,18.8s,baz=26,slow=39						
JCJ	**Chichijima**	**29.26**	**11**	LR	LR	08 27 49.9	
	comp=Z,24nm,20.1s,baz=160,slow=33						
STKA	**Stephens Creek**	**30.33**	**171**	P	**P**	**08 17 49.7**	**-0.7**
	1.5nm,0.6s,baz=336,slow=8.3,SNR=6.7						
STKA				LR	LR	08 32 13.9	
	comp=Z,84nm,18.8s,baz=21,slow=41						
JNU	**Nakatsue**	**35.11**	**352**	LR	LR	08 30 22.5	
	comp=Z,41nm,21.0s,baz=174,slow=32						
MJAR	**Matsushiro Arr**	**38.17**	**2**	LR	LR	08 33 07.1	
	comp=Z,15nm,19.9s,baz=110,slow=34						
KSRS	**Korea Array**	**39.82**	**349**	LR	LR	08 32 08.9	
	comp=Z,19nm,20.9s,baz=184,slow=31						
CMAR	**Chiang Mai Arr**	**41.96**	**300**	P	**P**	**08 19 29.0**	**-0.9**
	1.0nm,0.3s,baz=125,slow=6.3,SNR=5.5						
KURK	**Kurchatov**	**71.63**	**325**	*e*P	**P**	**08 22 59.8**	**-0.4**
VNDA	**Vanda**	**76.91**	**174**	P	**P**	**08 23 31.6**	**+1.1**
	0.9nm,0.9s,baz=324,slow=7.7,SNR=4.0						
VNDA	**Vanda**	**76.91**	**174**	*e*P	**P**	**08 23 30.6**	**+0.1**
	0.8nm,0.7s						
ILAR	**Eielson Array**	**85.97**	**25**	P	**P**	**08 24 17.8**	**-0.9**
	0.6nm,0.8s,baz=265,slow=4.7,SNR=4.8						
QSPA	**South Pole Qui**	**88.15**	**180**	*e*P	**P**	**08 24 29.5**	**+0.1**
	1.6nm,0.7s						

IDC 08 08:17:55.7±6.0,20.°44S×169.°64E,h118km±63km,mb3.8/2, mb1 3.9/3,mb1mx3.4/28,mbtmp4.0/3, Error ellipse: s-maj=247.7km s-min=48.7km az=154.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.40**	**241**	P	Pn	08 18 47.7	+0.4
	3.2nm,0.3s,baz=90,slow=24,SNR=122						
DZM				S	Sn	08 19 27.3	+0.1
	12nm,0.3s,baz=215,slow=22,SNR=12						
NOUC	**Port Laguerre**	**3.53**	**241**	*e*P	Pn	08 18 48.8	-0.1
NOUC				*e*S	Sn	08 19 31.8	+1.7
WRA	**Warramunga Arr**	**33.10**	**265**	P	P	08 24 20.5	-0.2
	0.2nm,0.3s,baz=100,slow=8.5,SNR=16						
ASAR	**Alice Springs**	**33.23**	**258**	P	P	08 24 22.1	+0.4
	0.3nm,0.4s,baz=75,slow=8.3,SNR=6.1						
GERES	**GERESS Array B**	**145.72**	**331**	PKPbc	PKPdf	08 37 19.7	-0.6
	0.5nm,0.4s,baz=45,slow=2.8,SNR=7.2						

NEIC 08 08:22:43.0±0.7,19.°72N×73.°09W,h10km,mb3.7/1, Error ellipse: s-maj=14.0km s-min=7.6km az=175.0, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDDR	**Presa de Saban**	**1.85**	**113**	*e*P	Pn	08 23 14.5	-0.4
SDDR				*e*S	Sn	08 23 36.2	-2.3
GTBY	**Guantanamo Bay**	**1.92**	**276**	*e*Pn	Pn	08 23 15.4	-0.4
GTBY				*e*Sg	Sn	08 23 38.2	-1.7
GRTK	**Grand Turk**	**2.55**	**45**	*e*Pn	Pn	08 23 25.6	+1.1
SMN1	**Samana, DR**	**3.64**	**98**	*e*Pn	Pn	08 23 39.5	0.0
SMN1				*e*Sn	Sn	08 24 23.3	+0.7
MTDJ	**Mount Denham**	**4.46**	**251**	*e*Pn	Pn	08 23 50.0	-0.9
MTDJ				*e*Sn	Sn	08 24 36.3	-6.8
PCDR	**Punta Cana, DR**	**4.61**	**104**	*e*Pn	Pn	08 23 53.3	+0.5
PCDR				*e*Sn	Sn	08 24 48.5	+2.1
AGPR	**Aguadilla, PR**	**5.79**	**101**	*e*Pn	Pn	08 24 08.5	-0.5
CRPR	**Cabo Rojo, PR**	**5.91**	**106**	*e*Pn	Pn	08 24 10.8	+0.1
STVI	**Saint Thomas**	**7.81**	**99**	*e*Pn	Pn	08 24 35.5	-1.4
STVI				*e*Sn	Sn	08 25 58.1	-7.2
SDV	**Santo Domingo**	**11.03**	**167**	*e*P	Pn	08 25 20.9	-0.3
OTAV	**Otavalo**	**20.07**	**196**	*e*P	Pn	08 27 19.1	+0.1
	3.7nm,0.9s						

DJA 08 08:39:33.8±0.4,8.°3S±5.°×11.°9E±.°,h27km±6km,M3.5/7, MLv3.5/7,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSSI	**Bau Bau, Buton**	**2.70**	**44**	P	Pn	08 40 16.1	+0.6
BSSI				S	Sn	08 40 48.7	+1.3
IGBI	**Denpasar**	**3.49**	**258**	P	Pn	08 40 26.9	+0.5
IGBI				S	Sn	08 41 08.4	+1.6

*IDC **08** 08:40:27.6±3.1,40.°44S×176.°02E,h0km,mb4.4/2, mb1 4.5/3,mb1mx3.9/22,mbtmp4.3/3,ML3.1/2,MS2.8/1, Ms1 2.8/1,ms1mx2.5/22, Error ellipse: s-maj=72.8km s-min=23.4km az=132.0*

*ISCJB **08** 08:40:33.0±0.3,40.°46S±0.°02×176.°07E±0.°04,h51km±4km, mb3.8/2, Error ellipse: s-maj=5.4km s-min=2.9km az=30.2*

*NEIC **08** 08:40:34.0,40.°40S×175.°91E,h31km,ML4.3(WEL), After WEL.*

NEIC Felt [IV] in the Palmerston North-Dannevirke area.

*WEL **08** 08:40:34.1±0.1,40.°43S×175.°96E,h29km±1km,ML4.3/46, Error ellipse: s-maj=1.4km s-min=0.8km az=90.0*

WEL Felt from Hawke''s Bay to Wellington, maximum reported intensity MM 5.

ISC 08 08:40:33.1±0.9,40.°41S±0.°02×175.°95E±0.°02,h33km±5km, n154,σ0s94/166,11C-15D,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POWZ	**Post Office Ro**	**0.14**	**277**	⇓P*	**Pb**	**08 40 39.2**	**+0.1**
POWZ	**Post Office Ro**	**0.14**	**277**	P*	**Pb**	**08 40 39.2**	**+0.1**
PRWZ	**Pori Road**	**0.15**	**173**	⇓P*	**Pn**	**08 40 39.9**	**+1.3**
PRWZ				S*	**Sn**	**08 40 44.7**	**+3.5**
DVHZ	**Dannevirke**	**0.20**	**57**	⇓P*	**Pb**	**08 40 39.7**	**0.0**
DVHZ				S*	**Sn**	**08 40 44.3**	**+1.2**
DVHZ	**Dannevirke**	**0.20**	**57**	P*	**Pb**	**08 40 39.8**	**0.0**
DVHZ				S*	**Sn**	**08 40 44.3**	**+1.2**
TSZ	**Takapari Road**	**0.35**	**2**	⇓P*	**Pb**	**08 40 41.4**	**-0.1**
TSZ				S*	**Sb**	**08 40 47.0**	**-0.2**
TSZ				AML	AML	08 40 47.4	
TSZ				AML	AML	08 40 47.4	
TSZ				AML	AML	08 40 47.4	
TSZ	**Takapari Road**	**0.35**	**2**	P*	**Pb**	**08 40 40.7**	**-0.8**
TSZ				S*	**Sb**	**08 40 47.0**	**-0.2**
BFZ	**Birch Farm**	**0.35**	**140**	⇓P*	**Pn**	**08 40 42.5**	**+0.5**
BFZ				S*	**Sn**	**08 40 49.6**	**+1.7**
BFZ	**Birch Farm**	**0.35**	**140**	P*	**Pn**	**08 40 41.9**	**-0.1**
BFZ				S*	**Sn**	**08 40 49.6**	**+1.7**
TIWZ	**Tintock**	**0.37**	**187**	P*	**Pn**	**08 40 42.9**	**+0.7**
TIWZ				S*	**Sn**	**08 40 50.0**	**+1.7**
TIWZ				AML	AML	08 40 50.9	
TIWZ	**Tintock**	**0.37**	**187**	P*	**Pn**	**08 40 43.6**	**+0.7**
TIWZ				S*	**Sn**	**08 40 50.0**	**+1.7**
MRZ	**Mangatainoka R**	**0.38**	**228**	⇑P*	**Pn**	**08 40 42.4**	**+0.1**
MRZ				S*	**Sn**	**08 40 48.8**	**+0.4**
MRZ				AML	AML	08 40 49.7	
MRZ				AML	AML	08 40 49.7	
MRZ				AML	AML	08 40 49.9	
MRZ	**Mangatainoka R**	**0.38**	**228**	P*	**Pb**	**08 40 42.1**	**+0.3**
ANWZ	**Angora Road**	**0.41**	**97**	⇑P*	**Pn**	**08 40 43.4**	**+0.7**
ANWZ				S*	**Sn**	**08 40 51.0**	**+1.9**
WPHZ	**Waipukurau**	**0.51**	**48**	P*	**Pn**	**08 40 44.6**	**+0.5**
WPHZ				S*	**Sn**	**08 40 53.1**	**+1.3**
WPHZ	**Waipukurau**	**0.51**	**48**	P*	**Pn**	**08 40 44.6**	**+0.5**
PNHZ	**Pukenui**	**0.53**	**22**	⇑P*	**Pb**	**08 40 44.5**	**+0.2**
PNHZ				S*	**Sn**	**08 40 52.8**	**+0.5**
CPWZ	**Castlepoint**	**0.54**	**159**	P*	**Pn**	**08 40 45.9**	**+1.5**
PRHZ	**Porangahau**	**0.55**	**75**	P*	**Pn**	**08 40 45.4**	**+0.8**
PRHZ	**Porangahau**	**0.55**	**75**	P*	**Pn**	**08 40 45.5**	**+0.9**
HOWZ	**Holdsworth Sta**	**0.59**	**214**	⇑P*	**Pn**	**08 40 45.9**	**+0.7**
HOWZ	**Holdsworth Sta**	**0.59**	**214**	P*	**Pn**	**08 40 45.9**	**+0.7**
TMWZ	**Te Maipa**	**0.70**	**183**	P*	**Pn**	**08 40 47.7**	**+1.0**
TMWZ	**Te Maipa**	**0.70**	**183**	P*	**Pn**	**08 40 47.7**	**+1.0**
OGWZ	**Otaki Gorge**	**0.72**	**235**	⇓P*	**Pn**	**08 40 47.9**	**+1.0**
OGWZ	**Otaki Gorge**	**0.72**	**235**	P*	**Pn**	**08 40 47.9**	**+1.0**
PXZ	**Pawanui**	**0.80**	**62**	⇓P*	**Pb**	**08 40 48.7**	**+0.1**
PXZ				AML	AML	08 41 03.2	

PKVZ					AML	AML	08 41 16.4	
WPVZ	**Whakapapa**	**1.24**	**346**		PN	**Pb**	**08 40 56.1**	**0.0**
WPVZ					AML	AML	08 41 13.4	
WPVZ					AML	AML	08 41 14.0	
WPVZ	**Whakapapa**	**1.24**	**346**		Pn	**Pb**	**08 40 56.1**	**0.0**
COVZ	**Chateau Observ**	**1.25**	**345**		PN	**Pb**	**08 40 56.1**	**-0.1**
WEL	**Wellington**	**1.25**	**225**		P*	**Pn**	**08 40 54.8**	**+0.6**
WEL					AML	AML	08 41 16.9	
WEL	**Wellington**	**1.25**	**225**		P*	**Pn**	**08 40 55.0**	**+0.7**
NGZ	**Ngauruhoe**	**1.26**	**348**		PN	**Pb**	**08 40 56.3**	**-0.1**
NGZ					AML	AML	08 41 15.1	
NGZ					AML	AML	08 41 17.0	
NGZ	**Ngauruhoe**	**1.26**	**348**		Pn	**Pb**	**08 40 56.3**	**-0.1**
OTVZ	**Oturere**	**1.26**	**350**	⇑	PN	**Pb**	**08 40 56.4**	**0.0**
OTVZ					AML	AML	08 41 15.6	
OTVZ					AML	AML	08 41 16.7	
PLWZ	**Palliser**	**1.27**	**204**		P*	**Pn**	**08 40 54.7**	**+0.1**
PLWZ	**Palliser**	**1.27**	**204**		P*	**Pn**	**08 40 54.7**	**+0.1**
BHW	**Baring Head**	**1.29**	**219**		P*	**Pn**	**08 40 55.1**	**+0.3**
BHW					AML	AML	08 41 16.5	
BHW					AML	AML	08 41 17.2	
BHW	**Baring Head**	**1.29**	**219**		P*	**Pn**	**08 40 55.1**	**+0.3**
SNZO	**South Karori**	**1.30**	**226**	*e*	Pn	**Pn**	**08 40 55.5**	**+0.6**
SNZO				*e*	Sn	**Sn**	**08 41 12.5**	**+1.3**
BKZ	**Black Stump Fm**	**1.31**	**19**		PN	**Pn**	**08 40 55.5**	**+0.4**
BKZ					AML	AML	08 41 16.2	
BKZ					AML	AML	08 41 17.3	
BKZ	**Black Stump Fm**	**1.31**	**19**		Pn	**Pn**	**08 40 55.5**	**+0.4**
WTVZ	**West Tongariro**	**1.32**	**348**		PN	**Pb**	**08 40 57.1**	**-0.3**
WTVZ					AML	AML	08 41 16.7	
WTVZ					AML	AML	08 41 22.1	
WTVZ	**West Tongariro**	**1.32**	**348**		Pn	**Pb**	**08 40 57.1**	**-0.3**
KRVZ	**Karewarewa**	**1.33**	**350**		PN	**Pb**	**08 40 57.3**	**-0.3**
KRVZ					AML	AML	08 41 19.1	
KRVZ					AML	AML	08 41 19.6	
TWVZ	**Taurewa**	**1.39**	**343**		PN	**Pb**	**08 40 58.3**	**-0.3**
TWVZ					AML	AML	08 41 17.8	
TWVZ					AML	AML	08 41 19.6	
TWVZ	**Taurewa**	**1.39**	**343**		Pn	**Pb**	**08 40 58.3**	**-0.3**
ARHZ	**Aropaoanui**	**1.40**	**36**		PN	**Pn**	**08 40 56.9**	**+0.5**
RITZ	**Rihia Road**	**1.43**	**357**		AML	AML	08 41 24.8	
RITZ					AML	AML	08 41 30.6	
KATZ	**Kakaramea**	**1.45**	**352**		PN	**Pn**	**08 40 58.8**	**+1.7**
KATZ					AML	AML	08 41 23.8	
KATZ					AML	AML	08 41 24.1	
KATZ	**Kakaramea**	**1.45**	**352**		Pn	**Pn**	**08 40 58.8**	**+1.7**
NMHZ	**Naumai**	**1.47**	**27**	⇑	PN	**Pn**	**08 40 58.2**	**+0.8**
NMHZ	**Naumai**	**1.47**	**27**		Pn	**Pn**	**08 40 58.2**	**+0.8**
TCW	**Tory Channel**	**1.50**	**237**		PN	**Pn**	**08 40 58.2**	**+0.5**
TCW					AML	AML	08 41 24.0	
TCW					AML	AML	08 41 25.0	
TCW	**Tory Channel**	**1.50**	**237**		Pn	**Pn**	**08 40 58.2**	**+0.5**
LREZ	**Lake Rotokare**	**1.52**	**308**		PN	**Pb**	**08 41 00.9**	**+0.2**
RATZ	**Rangitukua**	**1.55**	**355**		PN	**Pn**	**08 40 59.9**	**+1.5**
RATZ					AML	AML	08 41 26.9	
RATZ					AML	AML	08 41 27.4	
RATZ	**Rangitukua**	**1.55**	**355**		Pn	**Pn**	**08 40 59.9**	**+1.5**
VRZ	**Vera Road**	**1.58**	**324**		PN	**Pn**	**08 41 00.6**	**+1.8**
VRZ					AML	AML	08 41 28.7	
VRZ					AML	AML	08 41 32.9	
VRZ	**Vera Road**	**1.58**	**324**		Pn	**Pn**	**08 41 00.6**	**+1.8**
DUWZ	**D'Urville Isla**	**1.59**	**255**		PN	**Pn**	**08 41 00.1**	**+1.1**
DUWZ					AML	AML	08 41 29.3	
DUWZ					AML	AML	08 41 29.3	
DUWZ	**D'Urville Isla**	**1.59**	**255**		Pn	**Pn**	**08 41 00.1**	**+1.1**
WHHZ	**Waihua**	**1.66**	**37**		PN	**Pn**	**08 41 00.1**	**+0.1**
WATZ	**Wairara**	**1.71**	**354**		PN	**Pn**	**08 41 01.7**	**+1.1**
WATZ					AML	AML	08 41 32.9	
WATZ					AML	AML	08 41 54.7	
WATZ	**Wairara**	**1.71**	**354**		Pn	**Pn**	**08 41 01.7**	**+1.1**
RAHZ	**Arahi**	**1.73**	**31**		PN	**Pn**	**08 41 01.1**	**+0.2**
RAHZ	**Arahi**	**1.73**	**31**		Pn	**Pn**	**08 41 01.1**	**+0.2**
PREZ	**Palmer Road**	**1.74**	**307**		PN	**Pb**	**08 41 04.0**	**-0.5**
DREZ	**Durham Road**	**1.81**	**312**		PN	**Pb**	**08 41 04.6**	**-1.0**
DREZ	**Durham Road**	**1.81**	**312**		Pn	**Pb**	**08 41 04.7**	**-1.0**
NEZ	**North Egmont**	**1.82**	**308**		PN	**Pb**	**08 41 04.9**	**-1.0**
NEZ	**North Egmont**	**1.82**	**308**		Pn	**Pb**	**08 41 04.9**	**-1.0**
MHEZ	**Mangahewa**	**1.83**	**316**		PN	**Pb**	**08 41 05.4**	**-0.5**
MHEZ	**Mangahewa**	**1.83**	**316**		Pn	**Pb**	**08 41 05.4**	**-0.5**
TUWZ	**Tuamarina**	**1.83**	**235**		PN	**Pn**	**08 41 02.2**	**0.0**
TUWZ					AML	AML	08 41 31.4	
TUWZ					AML	AML	08 41 38.9	
TUWZ	**Tuamarina**	**1.83**	**235**		Pn	**Pn**	**08 41 02.2**	**0.0**
KHEZ	**Kahui Hut**	**1.86**	**306**		PN	**Pb**	**08 41 06.1**	**-0.4**
ALRZ	**Allen Road**	**1.87**	**10**		PN	**Pb**	**08 41 03.0**	**+0.2**
ALRZ	**Allen Road**	**1.87**	**10**		Pn	**Pb**	**08 41 03.0**	**+0.2**
NMEZ	**Namu Road**	**1.88**	**301**		PN	**Pb**	**08 41 05.7**	**-1.0**
WPRZ	**Whakapapataprin**	**1.90**	**5**		PN	**Pn**	**08 41 03.7**	**+0.5**
KNZ	**Kokohu**	**1.92**	**44**		PN	**Pn**	**08 41 02.9**	**-0.6**
PKE	**Pukeiti**	**1.94**	**308**		PN	**Pb**	**08 41 06.8**	**-1.0**
PKE					AML	AML	08 41 42.5	
PKE					AML	AML	08 41 46.0	
PKE	**Pukeiti**	**1.94**	**308**		Pn	**Pb**	**08 41 06.8**	**-1.0**
PRRZ	**Plateau Road**	**1.94**	**10**	⇓	PN	**Pn**	**08 41 04.0**	**+0.2**
PRRZ	**Plateau Road**	**1.94**	**10**		Pn	**Pn**	**08 41 04.0**	**+0.2**
NWEZ	**Newall Road**	**1.96**	**305**		PN	**Pb**	**08 41 07.7**	**-0.5**
NWEZ	**Newall Road**	**1.96**	**305**		Pn	**Pb**	**08 41 07.8**	**-0.4**
BSWZ	**Blackbirch Sta**	**2.04**	**230**		PN	**Pn**	**08 41 05.0**	**-0.1**
BSWZ					AML	AML	08 41 46.6	
BSWZ					AML	AML	08 41 53.2	
BSWZ	**Blackbirch Sta**	**2.04**	**230**		Pn	**Pn**	**08 41 05.0**	**-0.1**
HIZ	**Hauiti**	**2.07**	**336**		PN	**Pn**	**08 41 07.3**	**+1.7**
HIZ					AML	AML	08 41 39.0	
HIZ					AML	AML	08 41 45.7	
HIZ	**Hauiti**	**2.07**	**336**		Pn	**Pn**	**08 41 07.3**	**+1.7**
NNZ	**Nelson**	**2.11**	**247**		PN	**Pn**	**08 41 06.8**	**+0.7**
NNZ	**Nelson**	**2.11**	**247**		Pn	**Pn**	**08 41 06.8**	**+0.7**
URZ	**Urewera**	**2.33**	**23**	⇓	PN	**Pn**	**08 41 08.2**	**-0.9**
URZ					AML	AML	08 41 55.6	
URZ					AML	AML	08 42 09.6	
URZ	**Urewera**	**2.33**	**23**		Pn	**Pn**	**08 41 08.2**	**-0.9**
	7.3nm,0.3s,baz=236,slow=6.6,SNR=55							
URZ					Sn	**Sn**	**08 41 35.9**	**-0.7**
	16nm,0.3s,baz=279,slow=23,SNR=8.7							
URZ					LR	LR	08 42 07.3	
	comp=Z,185nm,19.7s,baz=228,slow=43							
MWZ	**Matawai**	**2.41**	**31**	⇓	PN	**Pn**	**08 41 09.3**	**-0.9**
MWZ					AML	AML	08 42 03.6	
MWZ					AML	AML	08 42 03.6	
MWZ					AML	AML	08 42 05.9	
MWZ	**Matawai**	**2.41**	**31**		Pn	**Pn**	**08 41 09.3**	**-0.9**
TKGZ	**Te Karaka**	**2.46**	**37**		PN	**Pn**	**08 41 09.9**	**-1.0**
QRZ	**Quartz Range**	**2.63**	**260**	⇓	PN	**Pn**	**08 41 14.1**	**+0.8**
QRZ	**Quartz Range**	**2.63**	**260**		Pn	**Pn**	**08 41 14.1**	**+0.8**
THZ	**Tophouse**	**2.67**	**239**	⇑	PN	**Pn**	**08 41 13.6**	**-0.2**
THZ					AML	AML	08 42 11.2	
THZ					AML	AML	08 42 15.6	
THZ	**Tophouse**	**2.67**	**239**		Pn	**Pn**	**08 41 13.6**	**-0.2**
TOZ	**Tahuroa Road**	**2.70**	**353**	⇓	PN	**Pn**	**08 41 15.4**	**+1.3**
TOZ	**Tahuroa Road**	**2.70**	**353**		Pn	**Pn**	**08 41 15.4**	**+1.3**
KHZ	**Kahutara**	**2.70**	**221**	⇑	PN	**Pn**	**08 41 13.2**	**-1.0**
KHZ					AML	AML	08 42 17.7	
KHZ					AML	AML	08 42 24.2	
KHZ	**Kahutara**	**2.70**	**221**		Pn	**Pn**	**08 41 13.2**	**-1.0**
HAZ	**Te Kaha**	**3.01**	**29**		PN	**Pn**	**08 41 18.0**	**-0.5**
WMGZ	**Waiomatatini S**	**3.22**	**37**		PN	**Pn**	**08 41 20.0**	**-1.4**
MXZ	**Matakaoa Point**	**3.39**	**34**		PN	**Pn**	**08 41 22.8**	**-0.9**
MXZ					AML	AML	08 42 04.8	
MXZ					AML	AML	08 42 44.4	
MXZ	**Matakaoa Point**	**3.39**	**34**		Pn	**Pn**	**08 41 22.8**	**-0.9**
LTZ	**Lake Taylor**	**3.64**	**228**		AML	AML	08 43 54.2	
LTZ					AML	AML	08 43 54.3	
MQZ	**McQueen's Vall**	**4.11**	**216**		PN	**Pn**	**08 41 31.2**	**-2.3**
MQZ	**McQueen's Vall**	**4.11**	**216**		Pn	**Pn**	**08 41 31.2**	**-2.3**
RPZ	**Rata Peaks**	**4.92**	**226**		AML	AML	08 42 29.5	
RPZ					AML	AML	08 43 17.6	
RPZ	**Rata Peaks**	**4.92**	**226**		Pn	**Pn**	**08 41 43.2**	**-1.5**
	0.6nm,0.3s,baz=229,slow=19,SNR=5.8							
RPZ					Sn	**Sn**	**08 42 36.1**	**-4.4**
	2.9nm,0.3s,baz=339,slow=17,SNR=11							
CTZ	**Chatham Island**	**6.45**	**123**		PN	**Pn**	**08 42 05.8**	**0.0**
JCZ	**Jackson Bay**	**6.47**	**233**		AML	AML	08 43 51.7	
ASAR	**Alice Springs**	**38.95**	**282**		P	**P**	**08 47 56.0**	**-0.1**
	0.9nm,0.6s,baz=135,slow=9.8,SNR=24							
WRA	**Warramunga Arr**	**40.88**	**287**		P	**P**	**08 48 11.8**	**-0.4**
	1.4nm,0.5s,baz=126,slow=8.2,SNR=29							
ARCES	**ARCESS Array B**	**146.94**	**341**		PKPbc	**PKPdf**	**09 00 09.8**	**+0.8**
	1.6nm,0.8s,baz=48,slow=1.8,SNR=4.3							

*LJU **08** 08:45:44.2, 46.39N×15.07E, h0km Rockburst*
CSEM 08 08:45:44.2±99.0, 46.39N×15.07E, h0km, Suspected Mining induced., Northwestern Balkan Peninsula

IDC 08 08:55:35.8±3.3, 7.98S×154.20E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/29, mbtmp4.0/4, Error ellipse: s-maj=85.6km s-min=38.1km az=103.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.61**	**236**	P	P	09 00 38.0	-0.5
	1.4nm,1.0s,baz=61,slow=9.7,SNR=9.2						
ASAR	**Alice Springs**	**24.93**	**229**	P	P	09 00 60.0	-1.1
	4.5nm,0.3s,baz=65,slow=7.9,SNR=6.9						
STKA	**Stephens Creek**	**26.51**	**205**	P	P	09 01 16.0	+0.8
	2.5nm,0.7s,baz=7.4,slow=11,SNR=4.4						
MKAR	**Makanchi Array**	**83.63**	**319**	P	P	09 08 07.1	+0.8
	0.4nm,0.6s,baz=122,slow=4.4,SNR=3.7						

KRSC 08 09:03:34.7±0.7, 52.05N×158.20E, h93km±4km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAK	**Asacha**	**0.38**	**331**	*e*P	Pn	09 03 49.9	+0.9
RUS	**Russkaya**	**0.42**	**27**	*e*P	Pn	09 03 49.9	+0.8
RUS				*e*S	Sn	09 04 01.1	+1.2
MTVR	**Mutnovka**	**0.43**	**358**	*e*P	Pn	09 03 50.2	+0.8
MTVR				*e*S	Sn	09 04 01.7	+1.4
PET	**Petropavlovsk**	**1.01**	**16**	*e*S	Sn	09 04 11.6	+2.0
APC	**Apacha**	**1.08**	**324**	*e*P	Pn	09 03 56.2	+0.7
UGLR	**Uglovaya**	**1.22**	**18**	*e*P	Pn	09 03 58.8	+1.6
AVH	**Avacha**	**1.26**	**15**	*e*P	Pn	09 03 59.4	+1.7
SMAR	**Somma**	**1.27**	**17**	*e*P	Pn	09 03 59.0	+1.1
KOK	**Koryaka**	**1.27**	**12**	*e*P	Pn	09 03 59.6	+1.8
SDLR	**Sedlovina**	**1.29**	**18**	*e*P	Pn	09 03 58.9	+0.7
SDLR				*e*S	Sn	09 04 16.6	+0.7
KRER	**Koryakskii**	**1.30**	**15**	*e*P	Pn	09 03 59.7	+1.4
KRX	**Arik**	**1.33**	**12**	*e*P	Pn	09 04 00.1	+1.4
KRX				*e*S	Sn	09 04 18.7	+1.9
SPN	**Mys Shipunski**	**1.53**	**46**	*e*P	Pn	09 04 02.0	+1.1
GNL	**Ganaly**	**1.65**	**355**	*e*P	Pn	09 04 03.9	+1.3

IDC 08 09:42:33.7±3.1, 5.45S×153.55E, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.6/25, mbtmp3.9/3, Error ellipse: s-maj=107.2km s-min=33.2km az=113.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.60**	**231**	P	P	09 47 46.7	+0.2
	0.7nm,0.4s,baz=56,slow=10,SNR=12						
ASAR	**Alice Springs**	**26.20**	**224**	P	P	09 48 10.6	+0.2
	1.2nm,0.8s,baz=58,slow=9.1,SNR=8.9						
MKAR	**Makanchi Array**	**81.30**	**319**	P	P	09 54 52.7	+0.6
	0.2nm,0.5s,baz=102,slow=6.1,SNR=2.7						
TORD	**Torodi Ar. Bea**	**151.22**	**287**	PKPbc	PKPbc	10 02 29.0	-1.3
	0.5nm,0.7s,baz=67,slow=3.8,SNR=2.6						

IDC 08 09:59:12.2±2.8, 3.25S×135.95E, h0km, mb4.0/2, mb1 4.0/3, mb1mx3.5/33, mbtmp3.8/3, ML3.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/23, Error ellipse: s-maj=104.7km s-min=31.5km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.66**	**185**	Pn	Pn	10 03 05.7	-1.7
	0.1nm,0.3s,baz=7.9,slow=13,SNR=5.5						
WRA				Sn	Sn	10 06 08.9	-4.3
	0.1nm,0.3s,baz=5.2,slow=23,SNR=5.8						
ASAR	**Alice Springs**	**20.39**	**185**	P	P	10 03 51.5	+0.6
	7.1nm,0.4s,baz=11,slow=12,SNR=21						
SONM	**Songino Array**	**57.08**	**337**	LR	LR	10 35 06.0	
	comp=Z,2nm,19.0s,baz=262,slow=38						
MKAR	**Makanchi Array**	**68.56**	**324**	P	P	10 10 16.9	0.0
	0.5nm,0.8s,baz=112,slow=7.4,SNR=3.9						

IDC 08 10:13:49.2±1.3, 13.95S×67.77W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/17, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=43.2km s-min=30.0km az=79.0, Northern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.35**	**189**	Pn	Pn	10 14 29.8	-0.2
	9.0nm,0.3s,baz=342,slow=19,SNR=636						
TXAR	**Lajitas Array**	**55.26**	**321**	P	P	10 23 22.9	-1.7
	0.3nm,0.8s,baz=138,slow=8.6,SNR=2.7						
TORD	**Torodi Ar. Bea**	**73.88**	**72**	P	P	10 25 26.1	-0.5
	0.2nm,0.4s,baz=248,slow=5.2,SNR=5.7						
YKA	**Yellowknife Ar**	**84.48**	**340**	P	P	10 26 25.5	+1.9
	0.4nm,0.5s,baz=132,slow=4.7,SNR=13						

*OMAN **08** 10:29:19.3±99.0, 29.04N×57.74E, h8km, Error ellipse: s-maj=113.6km s-min=6.5km az=9.0*
*CSEM **08** 10:29:34.3±10.0, 27.93N×57.51E, h10km, ML3.7, Error ellipse: s-maj=242.9km s-min=22.4km az=10.0*
*DSN **08** 10:29:41.6±1.1, 27.56N×57.11E, h15km, mb3.4/8, ML3.7/1, Error ellipse: s-maj=37.4km s-min=8.7km az=106.0*

ISC 08 10:29:23.4±21.0, 29.7N±2.2×57.6E±0.3, h10km, n27, σ0.45/24, 8C-3D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BANOM	**Banah**	**3.08**	**203**	P	Pn	10 30 10.8	-1.2
	SNR=320						
BANOM	**Banah**	**3.08**	**203**	⇑*e*P	**Pn**	**10 30 11.2**	**-0.8**
	SNR=23						
BANOM	**Banah**	**3.08**	**203**	P	**Pn**	**10 30 11.2**	**-0.8**
	SNR=23						
HATD	**Hatta, Dubai**	**4.15**	**199**	⇑P	**Pn**	**10 30 27.1**	**+0.3**
HATD	**Hatta, Dubai**	**4.15**	**199**	⇑*e*P	**Pn**	**10 30 27.4**	**+0.5**
	SNR=7.2						
HATD	**Hatta, Dubai**	**4.15**	**199**	P	**Pn**	**10 30 27.1**	**+0.3**
NAZ	**Nazwa, Dubai**	**4.16**	**205**	⇑P	**Pn**	**10 30 27.1**	**+0.2**
NAZ	**Nazwa, Dubai**	**4.16**	**205**	⇑P	**Pn**	**10 30 27.5**	**+0.6**
NAZ	**Nazwa, Dubai**	**4.16**	**205**	P	**Pn**	**10 30 27.1**	**+0.2**
ASHO	**Ashiyiah**	**4.31**	**199**	P	**Pn**	**10 30 29.5**	**+0.5**
	SNR=9.4						
ASHO	**Ashiyiah**	**4.31**	**199**	⇑*i*P	**Pn**	**10 30 29.0**	**0.0**
	SNR=9.4						
ASHO	**Ashiyiah**	**4.31**	**199**	P	**Pn**	**10 30 29.0**	**0.0**
	SNR=9.4						
FAQ	**Al Faqa, Dubai**	**4.41**	**205**	*i* P	**Pn**	**10 30 29.7**	**-0.6**
	SNR=18						
FAQ	**Al Faqa, Dubai**	**4.41**	**205**	P	**Pn**	**10 30 29.7**	**-0.6**
	SNR=18						
ASUD	**Al Ashush, Dub**	**4.62**	**207**	P	**Pn**	**10 30 33.6**	**+0.4**
	SNR=54						
ASUD	**Al Ashush, Dub**	**4.62**	**207**	*i* P	**Pn**	**10 30 33.6**	**+0.4**
	SNR=54						
ASUD	**Al Ashush, Dub**	**4.62**	**207**	P	**Pn**	**10 30 33.6**	**+0.4**
	SNR=54						
HOQ	**Hoqain**	**5.18**	**183**	⇓P	Pn	10 30 38.4	-2.5
HOQ	**Hoqain**	**5.18**	**183**	P	Pn	10 30 38.4	-2.5
ARQ	**Araqi**	**5.50**	**191**	⇑P	**Pn**	**10 30 45.8**	**+0.4**
ARQ	**Araqi**	**5.50**	**191**	P	**Pn**	**10 30 45.8**	**+0.4**
SMDO	**Samad**	**5.70**	**176**	⇓P	**Pn**	**10 30 47.9**	**-0.4**
SMDO	**Samad**	**5.70**	**176**	P	**Pn**	**10 30 47.9**	**-0.4**
WBK	**Wadi Bani Khal**	**6.25**	**169**	⇓P	**Pn**	**10 30 55.9**	**+0.1**
	SNR=5.7						
WBK	**Wadi Bani Khal**	**6.25**	**169**	P	**Pn**	**10 30 55.9**	**+0.1**
	SNR=5.7						
JMDO	**Jabal Madar**	**6.39**	**176**	⇑P	**Pn**	**10 30 57.7**	**+0.1**
JMDO	**Jabal Madar**	**6.39**	**176**	P	**Pn**	**10 30 57.7**	**+0.1**

*NIED **08** 10:43:00, 44.20N×141.90E, h230km, Mw3.6 Best double couple: M0 3.1300×10^14 NP1:φs336.00000°, δ48.00000°, λ-119.00000°. NP2:φs196.00000°, δ49.00000°, λ-61.00000°.*
*ISCJB **08** 10:43:49.9±0.3, 44.14N±0.04×141.85E±0.06, h229km±2km, mb3.2/10, Error ellipse: s-maj=7.4km s-min=6.1km az=30.6*
*IDC **08** 10:43:50.8±0.8, 44.18N×141.64E, h220km±8km, mb3.0/9, mb1 3.2/14, mb1mx3.1/29, mbtmp3.6/14, Error ellipse: s-maj=16.4km s-min=12.5km az=119.0*
*JMA **08** 10:43:51.2±0.2, 44.19N×141.93E, h224km±2km, M3.6*
ISC 08 10:43:50.9±0.6, 44.14N±0.05×141.87E±0.05, h225km±5km, n43, σ1.15/56, mb3.4/10, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSS	**Shosan**	**0.26**	**358**	P	**Pn**	**10 44 20.7**	**+0.5**
JSS				*e*S	**S**	**10 44 42.9**	**-0.5**
JHR	**Hokuryu**	**0.41**	**195**	P	**Pn**	**10 44 21.5**	**+0.8**
JHR				*e*S	**S**	**10 44 44.9**	**+1.0**
JYG	**Yagishiri**	**0.43**	**312**	P	**Pn**	**10 44 20.9**	**+0.3**
ASAJ	**Asahikawa**	**0.53**	**93**	P	**Pn**	**10 44 21.2**	**+0.2**
ASAJ				*e*S	**S**	**10 44 43.3**	**-1.1**
ASAJ	**Asahikawa**	**0.53**	**93**	P	**Pn**	**10 44 21.2**	**+0.2**
	baz=260,slow=6.1						
ASAJ				S	**S**	**10 44 42.0**	**-2.5**
	0.9nm,0.3s,baz=233,slow=19,SNR=5.5						
JAB	**Ashibetsu**	**0.69**	**158**	P	**Pn**	**10 44 22.3**	**+0.6**
JAB				*e*S	**S**	**10 44 45.9**	**+0.3**
JKK2	**Kamakawa 2**	**0.69**	**113**	P	**Pn**	**10 44 22.0**	**+0.3**
JKK2				*e*S	**S**	**10 44 45.3**	**-0.3**
JSE	**Soyaes**	**0.96**	**32**	P	**Pn**	**10 44 22.8**	**-0.2**
JSE				*e*S	**S**	**10 44 47.2**	**-0.9**
JFR	**Furan**	**1.11**	**151**	P	**Pn**	**10 44 24.2**	**+0.2**
JFR				*e*S	**S**	**10 44 49.8**	**0.0**
JWK2	**Keihoku**	**1.17**	**1**	P	**Pn**	**10 44 24.3**	**0.0**
JWK2				*e*S	**S**	**10 44 49.5**	**-1.0**
JSK	**Shakotan**	**1.28**	**232**	P	**Pn**	**10 44 25.9**	**+0.8**
JSK				*e*S	**S**	**10 44 52.1**	**+0.3**
JEW	**Eniwo**	**1.34**	**193**	P	**Pn**	**10 44 26.8**	**+1.2**
JEW				*e*S	**S**	**10 44 53.4**	**+0.8**
JTKR	**Abashiri--Toko**	**1.48**	**96**	P	**Pn**	**10 44 27.5**	**+0.9**
JTKR				*e*S	**S**	**10 44 54.9**	**+0.4**
JAR	**Ashorobuto**	**1.62**	**121**	P	**Pn**	**10 44 28.7**	**+0.9**
JAR				*e*S	**S**	**10 44 57.4**	**+0.9**
JCH	**Churui**	**1.88**	**144**	P	**Pn**	**10 44 29.5**	**-0.7**
JCH				*e*S	**S**	**10 44 58.1**	**-2.6**
JNBK	**Urakawa-nobuka**	**1.97**	**161**	P	**Pn**	**10 44 31.8**	**+0.7**
JNBK				*e*S	**S**	**10 45 02.2**	**-0.1**
JKB	**Kayabe**	**2.33**	**195**	P	**Pn**	**10 44 35.1**	**+0.4**
JKB				*e*S	**S**	**10 45 07.2**	**-1.6**
JAK	**Akkeshi**	**2.35**	**118**	P	**Pn**	**10 44 34.0**	**-0.8**
JAK				*e*S	**S**	**10 45 07.5**	**-1.5**
JRA	**Rausu**	**2.36**	**94**	P	**Pn**	**10 44 35.9**	**+1.1**
JOSM	**Okushiri--Mats**	**2.70**	**221**	P	**Pn**	**10 44 39.2**	**+0.6**
JOT	**Ohata**	**2.82**	**193**	P	**Pn**	**10 44 39.9**	**0.0**
JOT				*e*S	**S**	**10 45 16.7**	**-1.5**
NEM2	**Nemuro 2**	**2.91**	**104**	P	**Pn**	**10 44 39.7**	**-1.1**
NEM2				*e*S	**S**	**10 45 16.8**	**-3.1**
USRK	**Ussuriysk Ar.**	**7.11**	**274**	P	**Pn**	**10 45 30.8**	**-1.8**
	1.5nm,0.3s,baz=85,slow=13,SNR=23						
MJAR	**Matsushiro Arr**	**8.09**	**201**	P	**Pn**	**10 45 44.3**	**-1.0**
	0.3nm,0.3s,baz=10,slow=13,SNR=4.8						
KSRS	**Korea Array**	**12.49**	**242**	P	**Pn**	**10 46 40.8**	**-0.4**
	0.1nm,0.3s,baz=59,slow=12,SNR=3.4						
PETK	**Petropavlovsk-**	**13.76**	**44**	P	**Pn**	**10 46 57.4**	**+0.7**
	0.3nm,0.3s,baz=224,slow=12,SNR=3.7						
SEY	**Seymchan**	**19.79**	**14**	P	**P**	**10 48 03.4**	**-0.4**
	0.2nm,0.3s,baz=195,slow=11,SNR=5.1						
SONM	**Songino Array**	**24.79**	**291**	P	**P**	**10 48 52.0**	**-0.2**
	0.6nm,0.4s,baz=78,slow=7.7,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**32.07**	**131**	T	T	11 22 11.2	
	baz=320						
H11N1	**WAKE ISLAND Hy**	**32.08**	**131**	T	T	11 22 09.6	
	baz=320						
H11N3	**WAKE ISLAND Hy**	**32.09**	**131**	T	T	11 22 09.1	
	baz=320						
H11S1	**WAKE ISLAND Hy**	**32.97**	**133**	T	T	11 23 15.9	
	baz=339						
H11S3	**WAKE ISLAND Hy**	**32.97**	**133**	T	T	11 23 15.5	
	baz=339						

mb4.5/6,mB5.3/3,MLv4.3/27,Mw(mB)4.7/3

ISC 08 11:34:47.6±0.8,3°25'S×0°05'×101°96'E±0°04,h89km±6km, n61,σ1928/57,mb4.3/16,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**0.30**	**68**	P	**Pn**	**11 35 01.1**	**+0.1**
MASI				S	**Sn**	**11 35 11.7**	**+0.8**
KSI	**Kapahiang**	**0.75**	**122**	P	**Pn**	**11 35 04.6**	**0.0**
KSI				S	**Sn**	**11 35 17.7**	**+0.5**
MNAI	**Manna**	**1.48**	**138**	P	**Pn**	**11 35 13.4**	**+0.3**
MNAI				S	**Sn**	**11 35 33.1**	**+0.7**
MNAI	**Manna**	**1.48**	**138**	*e*Pn	**Pn**	**11 35 13.4**	**+0.3**
MNAI				*e*Sn	**Sn**	**11 35 32.7**	**+0.3**
LHSI	**Lahat**	**1.66**	**110**	P	**Pn**	**11 35 16.8**	**+1.4**
LHSI				S	**Sn**	**11 35 37.0**	**+0.5**
PPSI	**Pulau Pagai**	**2.01**	**284**	P	**Pn**	**11 35 20.4**	**+0.5**
PPSI				S	**Sn**	**11 35 47.4**	**+2.9**
JMBI	**JAMBI**	**2.33**	**46**	P	**Pn**	**11 35 26.0**	**+1.9**
JMBI				S	**Sn**	**11 35 51.6**	**-0.5**
SDSI	**Sungai Dareh**	**2.37**	**347**	P	**Pn**	**11 35 24.9**	**+0.2**
MDSI	**Maura Dua**	**2.53**	**119**	P	**Pn**	**11 35 28.0**	**+1.2**
MDSI				S	**Sn**	**11 35 59.6**	**+2.7**
LWLI	**Liwa**	**2.73**	**130**	P	**Pn**	**11 35 31.8**	**+2.2**
PDSI	**Padang**	**2.77**	**327**	P	**Pn**	**11 35 31.0**	**+1.0**
PDSI				S	**Sn**	**11 36 04.3**	**+1.7**
PMBI	**Palembang**	**2.83**	**83**	P	**Pn**	**11 35 31.2**	**+0.4**
PMBI				S	**Sn**	**11 36 03.6**	**-0.5**
RGRI	**Rengat**	**2.91**	**7**	P	**Pn**	**11 35 32.5**	**+0.5**
KLSI		**3.11**	**117**	P	**Pn**	**11 35 35.9**	**+1.3**
PPI	**Padang Panjang**	**3.19**	**331**	P	**Pn**	**11 35 37.0**	**+1.3**
KLI	**Kotabumi**	**3.30**	**119**	P	Pn	11 35 45.6	+8.4
KASI	**Kota Agung**	**3.39**	**132**	P	**Pn**	**11 35 39.2**	**+0.8**
SISI	**Saibi**	**3.45**	**304**	P	**Pn**	**11 35 39.6**	**+0.4**
BKNI	**Bangkinang**	**3.67**	**346**	Pn	Pn	11 35 35.5	-6.7
DSRI	**Dabo**	**3.80**	**44**	P	**Pn**	**11 35 45.9**	**+1.9**
PPBI	**Pangkal Pinang**	**4.31**	**76**	P	**Pn**	**11 35 52.1**	**+1.2**
MNSI	**Mandailing Nat**	**4.67**	**329**	P	**Pn**	**11 35 56.2**	**+0.4**
PBSI	**Pulau Batu**	**4.86**	**311**	P	**Pn**	**11 35 58.7**	**+0.3**
TPRI	**Tanjung Pinang**	**4.88**	**32**	P	**Pn**	**11 36 00.6**	**+2.0**
CGJI	**Cibinong**	**5.00**	**132**	P	**Pn**	**11 35 58.8**	**-1.4**
GSI	**Gunungsitoli** 175nm,0.4s,9µm1.3nm	**6.30**	**316**	P	**Pn**	**11 36 17.4**	**-0.6**
GSI	**Gunungsitoli** 205nm,0.3s	**6.30**	**316**	*e*Pn	**Pn**	**11 36 17.0**	**-1.0**
LEM	**Lembang** comp=Z,82nm,21.9s,baz=292,slow=40	**6.66**	**122**	LR	LR	11 39 07.3	
PSI	**Prapat** 0.5nm,0.3s,baz=162,slow=20,SNR=1.8	**6.74**	**333**	Pn	Pn	11 36 16.2	-7.9
KPJI	**Karang Pucung**	**8.04**	**121**	P	**Pn**	**11 36 44.1**	**+2.4**
KAPI	**Kappang** comp=Z,23nm,18.8s,baz=266,slow=37	**17.83**	**96**	LR	LR	11 45 32.5	
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=185,slow=8.4,SNR=2.5	**21.78**	**352**	P	**P**	**11 39 28.3**	**-4.1**
H08S2	**Diego Garcia H** baz=82,slow=75,SNR=32	**29.65**	**260**	T	T	12 10 40.7	
H08S3	**Diego Garcia H** baz=82	**29.65**	**260**	T	T	12 10 36.8	
H08S1	**Diego Carcia H** baz=82,slow=75,SNR=2.8	**29.66**	**260**	T	T	12 10 43.0	
H08N1	**Diego Carcia H** baz=161,SNR=6.2	**30.98**	**263**	T	T	12 13 08.6	
H08N2	**Diego Garcia H** baz=161,SNR=7.4	**31.00**	**263**	T	T	12 13 06.0	
H08N3	**Diego Garcia H** baz=161,SNR=6.5	**31.01**	**263**	T	T	12 13 06.2	
H01W3	**Cape Leeuwin H** baz=339,slow=76,SNR=3.7	**33.44**	**162**	T	T	12 15 35.9	
H01W2	**Cape Leeuwin H** baz=339,slow=76,SNR=5.3	**33.46**	**162**	T	T	12 15 33.6	
H01W1	**Cape Leeuwin H** baz=339,slow=76,SNR=3.2	**33.46**	**162**	T	T	12 15 33.7	
WRA	**Warramunga Arr** 1.1nm,0.3s,baz=304,slow=9.2,SNR=42	**35.67**	**120**	P	**P**	**11 41 37.2**	**-0.4**
WRA	0.2nm,0.5s,baz=316,slow=2.3,SNR=3.3			PcP	**PcP**	**11 44 03.8**	**-0.6**
WRAB	**Tennant Creek** 1.7nm,0.3s	**35.68**	**120**	*e*P	**P**	**11 41 37.4**	**-0.3**
ASAR	**Alice Springs** 0.7nm,0.3s,baz=298,slow=7.8,SNR=23	**36.94**	**126**	P	**P**	**11 41 48.4**	**-0.1**
ASAR	0.6nm,0.6s,baz=310,slow=2.2,SNR=6.6			PcP	**PcP**	**11 44 08.7**	**+0.5**
LZH	**Lanzhou**	**39.18**	**2**	*e*P	P	11 42 29.7	+23
LZH				pP	pP	11 42 33.0	+5.0
LZH				sP	sP	11 42 34.5	-3.7
LZH	comp=Z,17nm,1.3s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**44.76**	**10**	*e*P	P	11 42 57.5	+5.0
HHC				PP	PP	11 44 44.6	+5.9
HHC				S	S	11 49 29.8	+6.8
HHC				SS	**ScS**	**11 52 44.2**	**+2.8**
HHC	comp=Z,27nm,1.0s			pmax	pmax		
HHC	comp=Z,43nm,5.3s			pmax	pmax		
HHC	comp=N,110nm,14.1s			LR	LR		
HHC	comp=E,84nm,15.1s			LR	LR		
HHC	comp=Z,38nm,14.7s			LR	LR		
STKA	**Stephens Creek** comp=Z,2.8nm,0.6s,baz=313,slow=7.5,SNR=11	**46.86**	**132**	P	**P**	**11 43 09.6**	**+0.5**
STKA	comp=Z,0.8nm,0.4s,baz=299,slow=13,SNR=2.5			PcP	**PcP**	**11 44 40.2**	**-0.5**
KSAR	**Wonju Array Be**	**47.11**	**28**	P	**P**	**11 43 10.0**	**-0.9**
KSRS	**Korea Array** comp=Z,0.3nm,0.3s,baz=210,slow=9.6,SNR=3.8	**47.14**	**28**	P	**P**	**11 43 10.0**	**-1.1**
SONM	**Songino Array** comp=Z,2.2nm,0.6s,baz=185,slow=10,SNR=10	**51.02**	**4**	P	**P**	**11 43 40.8**	**+0.1**
MJAR	**Matsushiro Arr** comp=Z,0.4nm,0.5s,baz=220,slow=9.2,SNR=4.5	**52.05**	**37**	P	**P**	**11 43 48.0**	**-0.5**
MKAR	**Makanchi Array** comp=Z,1.9nm,0.6s,baz=147,slow=8.2,SNR=21	**52.77**	**343**	P	**P**	**11 43 53.6**	**0.0**
USRK	**Ussuriysk Ar.** comp=Z,3.7nm,0.5s,baz=220,slow=3.8,SNR=7.5	**54.37**	**26**	P	**P**	**11 44 04.9**	**-0.4**
ZALV	**Zalesovo Beam** comp=Z,3.4nm,0.4s,baz=173,slow=6.0,SNR=15	**58.77**	**348**	P	**P**	**11 44 36.1**	**-0.2**
SEY	**Seymchan** comp=Z,1.2nm,0.7s,baz=229,slow=19,SNR=5.0	**76.06**	**21**	P	**P**	**11 46 25.4**	**+0.2**
FINES	**FINESS Array B** comp=Z,0.7nm,0.6s,baz=139,slow=13,SNR=2.6	**86.12**	**332**	P	**P**	**11 47 19.1**	**+0.6**
ARCES	**ARCESS Array B** comp=Z,0.8nm,0.7s,baz=98,slow=5.0,SNR=4.2	**88.31**	**340**	P	**P**	**11 47 29.3**	**+0.3**
KBS	**Kingsbay**	**93.17**	**349**	*e*P	P	11 47 56.7	+5.2
NVAR	**Mina Array Bea** comp=Z,0.2nm,0.4s,baz=259,slow=1.8,SNR=2.9	**129.29**	**41**	PKP	**PKPdf**	**11 53 46.1**	**-0.4**
PDAR	**Pinedale Array** comp=Z,0.2nm,0.5s,baz=49,slow=4.1,SNR=2.7	**131.68**	**31**	PKP	**PKPdf**	**11 53 49.9**	**-1.1**
TXAR	**Lajitas Array** comp=Z,0.9nm,0.4s,baz=255,slow=0.8,SNR=27	**144.44**	**40**	PKP	PKPbc	11 54 13.8	+0.6

MEX 08 11:37:06.9±0.8,15°70N×92°49W,h192km±8km,MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.67**	**30**	*i* P	Pn	11 37 32.9	-1.2
CCIG				*i* S	Sn	11 37 52.4	-2.9
PCIG		**0.70**	**271**	*i* P	Pn	11 37 32.8	-1.2
PCIG				*e*S	Sn	11 37 52.9	-2.0
TGIG		**1.24**	**331**	*i* P	Pn	11 37 37.2	-0.6
TGIG				*e*S	Sn	11 38 00.0	-1.8
CMIG	**Matias Romero**	**2.69**	**301**	*e*P	Pn	11 37 52.0	-0.5
CMIG				*e*S	Sn	11 38 25.3	-2.8

*KRSC **08** 11:48:35.9±1.5,51°37N×160°09E,h61km±19km,ML4.3*
*ISCJB **08** 11:48:38.5±0.9,51°42N±0°06×160°05E±0°07,h45km±8km, mb3.8/15,MS3.2/3,Error ellipse: s-maj=10.5km s-min=6.3km az=154.7*
*MOS **08** 11:48:40.6±0.9,51°57N×159°86E,h55km,mb4.1/8,Error ellipse: s-maj=15.8km s-min=6.1km az=101.2*
*IDC **08** 11:48:43.8±3.4,51°69N×159°70E,h62km±28km,mb3.5/12, mb1 3.6/12,mb1mx3.4/27,mbtmp3.8/12,MS3.1/4, Ms1 3.1/4,ms1mx2.7/42,Error ellipse: s-maj=29.3km s-min=18.0km az=107.0*

ISC 08 11:48:38.4±3.0,51°42N±0°06×160°05E±0°05,h27km±21km, n70,σ1904/74,mb3.9/15,MS3.2/3,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.39**	**317**	*e*P	**Pn**	**11 49 01.0**	**-1.0**
RUS				*e*S	**Sn**	**11 49 18.8**	**-0.7**
RUS	**Russkaya**	**1.39**	**317**	PN	**Pn**	**11 49 01.0**	**-1.0**
RUS				S	**Sn**	**11 49 18.8**	**-0.7**
MTVR	**Mutnovka**	**1.57**	**313**	*i* P	**Pn**	**11 49 04.0**	**-0.7**
MTVR				*e*S	**Sn**	**11 49 23.9**	**-0.3**
ASAK	**Asacha**	**1.64**	**307**	*e*P	**Pn**	**11 49 05.2**	**-0.4**
ASAK				*e*S	**Sn**	**11 49 26.6**	**+0.7**
GRL	**Gorelyy**	**1.67**	**314**	*e*P	**Pn**	**11 49 05.6**	**-0.4**
GRL	**Gorelyy**	**1.67**	**314**	PN	**Pn**	**11 49 05.6**	**-0.4**
SPN	**Mys Shipunski**	**1.68**	**359**	*e*P	**Pn**	**11 49 05.8**	**-0.2**
SPN	**Mys Shipunski**	**1.68**	**359**	PN	**Pn**	**11 49 05.8**	**-0.2**
PET	**Petropavlovsk**	**1.82**	**332**	*e*P	**Pn**	**11 49 07.4**	**-0.5**
PET				*e*S	**Sn**	**11 49 29.8**	**-0.3**
PET	**Petropavlovsk**	**1.82**	**332**	PN	**Pn**	**11 49 07.4**	**-0.5**
PET				S	**Sn**	**11 49 29.8**	**-0.3**
UGLR	**Uglovaya**	**1.94**	**338**	*e*P	**Pn**	**11 49 10.4**	**+0.7**
SDLR	**Sedlovina**	**1.99**	**339**	*e*P	**Pn**	**11 49 10.3**	**-0.1**
SDLR	**Sedlovina**	**1.99**	**339**	PN	**Pn**	**11 49 10.3**	**-0.1**
SMAR	**Somma**	**2.00**	**338**	*e*P	**Pn**	**11 49 10.9**	**+0.3**
SMAR	**Somma**	**2.00**	**338**	PN	**Pn**	**11 49 10.9**	**+0.3**
AVH	**Avacha**	**2.01**	**337**	*e*P	**Pn**	**11 49 11.4**	**+0.7**
AVH	**Avacha**	**2.01**	**337**	PN	**Pn**	**11 49 11.4**	**+0.7**
PAU	**Pauzhetka**	**2.03**	**273**	*e*P	**Pn**	**11 49 10.5**	**-0.3**
PAU				*e*S	**Sn**	**11 49 35.2**	**0.0**
PAU	**Pauzhetka**	**2.03**	**273**	PN	**Pn**	**11 49 10.5**	**-0.3**
PAU				S	**Sn**	**11 49 35.2**	**0.0**
KRER	**Koryakskii**	**2.05**	**338**	*e*P	**Pn**	**11 49 11.4**	**+0.1**
KOK	**Koryaka**	**2.06**	**336**	*e*P	**Pn**	**11 49 12.1**	**+0.7**
KOK	**Koryaka**	**2.06**	**336**	PN	**Pn**	**11 49 12.1**	**+0.7**
KRX	**Arik**	**2.12**	**337**	*e*P	**Pn**	**11 49 12.8**	**+0.6**
MIPR	**Malaya Ipel'ka**	**2.21**	**294**	*e*P	**Pn**	**11 49 13.5**	**+0.1**
MIPR				*e*S	**Sn**	**11 49 40.4**	**+0.5**
PETK	**Petropavlovsk-** 35nm,0.3s,baz=132,slow=16,SNR=130	**2.22**	**320**	P	**Pn**	**11 49 14.1**	**+0.6**
PETK	28nm,0.3s,baz=136,slow=21,SNR=6.8			S	**Sb**	**11 49 44.7**	**-0.2**
PETK	comp=Z,38nm,20.1s,baz=104,slow=33			LR	LR	11 49 45.5	
APC	**Apacha**	**2.33**	**311**	*e*P	**Pn**	**11 49 15.2**	**+0.2**
APC				*e*S	**Sn**	**11 49 43.1**	**+0.4**
APC	**Apacha**	**2.33**	**311**	PN	**Pn**	**11 49 15.2**	**+0.2**
APC				S	**Sn**	**11 49 43.1**	**+0.4**
SKR	**Severo-Kuril's**	**2.59**	**255**	*e*P	**Pn**	**11 49 17.9**	**-0.6**
SKR				*e*S	**Sn**	**11 49 47.7**	**-1.4**
SKR	**Severo-Kuril's**	**2.59**	**255**	*e*PN	Pn	11 49 07.0	-12
SKR	comp=Z,80nm,0.5s			pmax	pmax		
SKR	comp=N,120nm,0.2s			pmax	pmax		
SKR	comp=E,90nm,0.2s			pmax	pmax		
GNL	**Ganaly**	**2.62**	**331**	*e*P	**Pn**	**11 49 19.7**	**+0.7**
GNL	**Ganaly**	**2.62**	**331**	PN	**Pn**	**11 49 19.7**	**+0.7**
MKZ	**Mys Kozlova**	**3.30**	**17**	*e*P	**Pn**	**11 49 28.9**	**+0.7**
MKZ	**Mys Kozlova**	**3.30**	**17**	PN	**Pn**	**11 49 28.9**	**+0.7**
KZV	**Kizimen**	**3.70**	**2**	*e*P	**Pn**	**11 49 35.3**	**+1.4**
TUMR	**Tumrok**	**3.87**	**1**	*e*P	**Pn**	**11 49 38.3**	**+2.1**
TUMR	**Tumrok**	**3.87**	**1**	PN	**Pn**	**11 49 38.3**	**+2.1**
KBTR	**Krutoberegovo**	**5.07**	**18**	*e*P	**Pn**	**11 49 53.4**	**+0.9**
KBTR	**Krutoberegovo**	**5.07**	**18**	PN	**Pn**	**11 49 53.4**	**+0.9**
BKI	**Bering**	**5.19**	**41**	*e*P	**Pn**	**11 49 53.9**	**-0.3**
BKI				*e*S	**Sn**	**11 50 50.2**	**-2.9**
BKI	**Bering**	**5.19**	**41**	PN	**Pn**	**11 49 53.9**	**-0.3**
YAK	**Yakutsk** comp=E,35nm,18.1s,baz=295,slow=36	**19.56**	**315**	LR	LR	12 00 07.9	
MJAR	**Matsushiro Arr** comp=E,2.0nm,0.8s,baz=33,slow=7.9,SNR=5.0	**21.52**	**235**	P	**P**	**11 53 26.4**	**+1.2**
MJAR	comp=E,29nm,19.8s,baz=50,slow=37			LR	LR	12 02 07.2	
MJAR	**Matsushiro Arr**	**21.52**	**235**	P	**P**	**11 53 26.4**	**+1.2**
MJAR	comp=Z,2.0nm,0.8s			pmax	pmax		
MJAR	comp=Z,29nm,19.8s			MLR	MLR		
TIXI	**Tiksi**	**24.60**	**337**	P	**P**	**11 53 55.0**	**-0.9**
TIXI	comp=Z,10.0nm,1.1s			pmax	pmax		
KSRS	**Korea Array** comp=Z,0.3nm,0.3s,baz=35,slow=11,SNR=3.0	**26.60**	**251**	P	**P**	**11 54 15.5**	**+1.2**
ILAR	**Eielson Array** comp=Z,0.3nm,0.9s,baz=273,slow=6.2,SNR=4.4	**30.03**	**43**	P	**P**	**11 54 45.2**	**+0.6**
H11N2	**WAKE ISLAND Hy** baz=350,slow=74,SNR=31	**32.08**	**168**	T	T	12 29 19.0	
H11N3	**WAKE ISLAND Hy** baz=350,slow=74,SNR=15	**32.10**	**168**	T	T	12 29 19.0	
H11N1	**WAKE ISLAND Hy** baz=350,SNR=15	**32.10**	**168**	T	T	12 29 17.8	
H11S1	**WAKE ISLAND Hy** baz=352	**33.26**	**168**	T	T	12 30 57.0	
H11S3	**WAKE ISLAND Hy** baz=352,slow=74,SNR=7.3	**33.27**	**168**	T	T	12 30 49.9	
H11S2	**WAKE ISLAND Hy** baz=352,slow=74,SNR=3.6	**33.28**	**168**	T	T	12 30 53.9	
ZALV	**Zalesovo Beam** comp=Z,31nm,18.3s,baz=68,slow=37	**43.68**	**304**	LR	LR	12 15 20.6	
KURK	**Kurchatov** comp=Z,1.0nm,0.7s	**48.61**	**303**	P	**P**	**11 57 18.1**	**-1.3**
KURK				pmax	pmax		
KURBB	**Kurchatov Arra** comp=Z,1.3nm,0.7s,baz=62,slow=7.8,SNR=12	**48.71**	**303**	P	**P**	**11 57 18.1**	**-2.1**
MKAR	**Makanchi Array** comp=Z,0.2nm,0.4s,baz=54,slow=6.5,SNR=3.1	**48.87**	**297**	P	**P**	**11 57 19.9**	**-1.6**
BVAR	**Borovoye Array** comp=Z,0.8nm,0.5s,baz=56,slow=4.8,SNR=3.0	**51.42**	**309**	P	**P**	**11 57 38.2**	**-2.5**
BVAR	**Borovoye Array** comp=Z,1.0nm,0.5s	**51.42**	**309**	P	**P**	**11 57 38.2**	**-2.5**
BVAR				pmax	pmax		
ARCES	**ARCESS Array B** comp=Z,2.9nm,0.9s,baz=8.9,slow=8.6,SNR=4.6	**54.87**	**342**	P	**P**	**11 58 04.4**	**-1.4**
ARCES	**ARCESS Array B** comp=Z,3.0nm,0.9s	**54.87**	**342**	*e*P	**P**	**11 58 06.9**	**+1.1**
ARCES				pmax	pmax		
CMAR	**Chiang Mai Arr** comp=Z,0.5nm,0.4s,baz=44,slow=7.9,SNR=5.0	**57.82**	**259**	P	**P**	**11 58 28.2**	**+0.7**
CMAR	**Chiang Mai Arr** comp=Z,1.0nm,0.4s	**57.82**	**259**	P	**P**	**11 58 28.2**	**+0.7**
CMAR				pmax	pmax		
FINES	**FINESS Array B** comp=Z,0.7nm,0.6s,baz=36,slow=10,SNR=4.2	**61.65**	**337**	P	**P**	**11 58 53.3**	**+0.1**
FINES	**FINESS Array B** comp=Z,1.0nm,0.6s	**61.65**	**337**	P	**P**	**11 58 53.3**	**+0.1**
FINES				pmax	pmax		
AKASG	**Malin Array Be** comp=Z,0.4nm,0.2s,baz=30,slow=5.9,SNR=4.4	**70.03**	**329**	P	**P**	**11 59 47.1**	**-0.3**
GNI	**Garni** comp=Z,28nm,18.1s,baz=198,slow=42	**72.81**	**314**	LR	LR	12 39 49.1	
WRA	**Warramunga Arr** comp=Z,0.3nm,0.5s,baz=21,slow=6.2,SNR=9.0	**74.55**	**205**	P	**P**	**12 00 16.2**	**+1.6**
WRA	**Warramunga Arr**	**74.55**	**205**	*i* P	**P**	**12 00 15.6**	**+1.0**
BRTR	**Keskin Array B** comp=Z,0.4nm,0.4s,baz=41,slow=7.3,SNR=3.1	**77.89**	**321**	P	**P**	**12 00 33.3**	**-0.5**
ASAR	**Alice Springs** comp=Z,0.3nm,0.5s,baz=15,slow=5.2,SNR=9.3	**78.22**	**204**	P	**P**	**12 00 38.0**	**+2.6**

KRSC 08 12:00:46.1±1.6,51°54N×160°06E,h15km±36km,ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.31**	**314**	P	Pn	12 01 09.6	-0.2
RUS				S	Sb	12 01 26.6	-0.3
MTVR	**Mutnovka**	**1.49**	**310**	P	Pn	12 01 12.8	+0.2
MTVR				*e*S	Sb	12 01 32.5	-0.2
SPN	**Mys Shipunski**	**1.56**	**359**	*e*P	Pb	12 01 14.9	+0.3
ASAK	**Asacha**	**1.58**	**303**	*e*P	Pn	12 01 13.7	0.0
ASAK				S	Sn	12 01 33.9	0.0
NLC	**Nalytchevo**	**1.69**	**345**	*e*P	Pn	12 01 14.8	-0.2
PET	**Petropavlovsk**	**1.72**	**330**	P	Pb	12 01 16.6	-0.7
PET				S	Sb	12 01 38.9	+0.2
UGLR	**Uglovaya**	**1.83**	**336**	*e*P	Pb	12 01 19.1	-0.4
SDLR	**Sedlovina**	**1.88**	**338**	*e*P	Pb	12 01 19.3	-1.0
AVH	**Avacha**	**1.91**	**335**	*e*P	Pb	12 01 19.9	-0.8
KRER	**Koryakskii**	**1.94**	**336**	*e*P	Pn	12 01 19.9	+1.1
KOK	**Koryaka**	**1.96**	**334**	*e*P	Pb	12 01 21.0	-0.6
KRX	**Arik**	**2.01**	**335**	*e*P	Pb	12 01 21.5	-1.1
PAU	**Pauzhetka**	**2.03**	**269**	P	Pb	12 01 22.0	-0.7
MIPR	**Malaya Ipel'ka**	**2.17**	**291**	*e*P	Pn	12 01 22.1	+0.3
APC	**Apacha**	**2.26**	**309**	*e*P	Pn	12 01 24.4	+1.5
GNL	**Ganaly**	**2.51**	**330**	*e*P	Pn	12 01 28.7	+2.1
MKZ	**Mys Kozlova**	**3.18**	**18**	*e*P	Pn	12 01 37.4	+1.9
KZV	**Kizimen**	**3.58**	**2**	*e*P	Pn	12 01 43.9	+2.6
TUMR	**Tumrok**	**3.75**	**1**	*e*P	Pn	12 01 46.9	+3.4

*NIED **08** 12:23:00,42°60N×144°60E,h50km,Mw4.6 Best double couple: M₀7.59000×10¹⁵ NP1:φ₀159.00000°,δ33.00000°, λ23.00000°. NP2:φ₀50.00000°,δ78.00000°,λ121.00000°.*
*IDC **08** 12:23:20.6±0.5,42°65N×144°53E,h0km,mb4.7/42, mb1 4.7/48,mb1mx4.6/83,mbtmp4.6/48,ML3.7/4,MS3.6/16, Ms1 3.6/16,ms1mx3.4/45,Error ellipse: s-maj=13.1km s-min=10.5km az=152.0*
*BJI **08** 12:23:21.0,42°76N×144°97E,h32km,mb4.8/48,mB4.8/31, Ms4.1/32,Ms7 3.8/31*
*MOS **08** 12:23:26.4±0.9,42°60N×144°40E,h54km,mb5.0/34,Error ellipse: s-maj=7.1km s-min=4.8km az=97.0*
MOS Felt (II) at Yuzhno-Kuril'sk.
*ISCJB **08** 12:23:26.8±0.3,42°56N±0°03×144°49E±0°03,h57km±2km, mb4.7/135,MS3.7/14,Error ellipse: s-maj=4.8km s-min=2.7km az=152.1*
*SKHL **08** 12:23:27.8±0.8,42°53N×144°58E,h73km±5km,mb5.0/16, Ms4.0/5*
SKHL Felt (II) at Yushno-Kurilsk.
*JMA **08** 12:23:27.2±0.1,42°57N×144°53E,h59km±1km,M4.7 Broadband fault plane solution: P waves. NP1: φ₀250.00000°,δ80.00000°,λ-113.00000°. NP2: φ₀137.00000°,δ25.00000°,λ-25.00000°. Principal axes: T Plg31.0000°, Azm359.0000°; N Plg23.0000°, Azm254.0000°; P Plg50.0000°, Azm134.0000°;*
JMA Felt III J1.
*NEIC **08** 12:23:28.6±0.6,42°59N×144°36E,h58km±5km,mb4.7/55, MW4.5(NIED) Error ellipse: s-maj=6.1km s-min=4.0km az=155.0*
NEIC Felt at Obihiro. Recorded [3 JMA] in eastern Hokkaido and [2 JMA] in central and southern Hokkaido.
*SZGRF **08** 12:23:29.6,43°52N×145°62E,h33km,mb4.7,Hokkaido, Japan, region*

ISC 08 12:23:26.3±0.4,42°54N±0°04×144°51E±0°03,h40km±2km, h40km:pP-P,n357,σ1935/392,mb4.7/139,MS3.6/14, 50C-26D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.48**	**17**	⇓P	**Pn**	**12 23 38.4**	**+1.6**
JAK				*e*S	**Sn**	**12 23 46.5**	**+2.4**
JOB	**Onbets**	**0.62**	**307**	⇓P	**Pn**	**12 23 40.6**	**+1.9**
JOB				*e*S	**Sn**	**12 23 50.1**	**+2.7**
JCH	**Churui**	**0.85**	**276**	⇓P	**Pn**	**12 23 43.6**	**+1.8**
JCH				*e*S	**Sn**	**12 23 55.2**	**+2.1**
JAR	**Ashorobuto**	**0.94**	**325**	⇓P	**Pn**	**12 23 44.3**	**+1.3**
JAR				*e*S	**Sn**	**12 23 56.5**	**+1.3**
JNK	**Nakash**	**1.06**	**8**	⇓P	**Pn**	**12 23 45.4**	**+0.7**
JNK				*e*S	**Sn**	**12 23 58.6**	**+0.4**
ERM	**Erimo**	**1.13**	**243**	*c i*PN	**Pn**	**12 23 47.9**	**+2.2**
ERM	**Erimo**	**1.13**	**243**	⇑*i*P	**Pn**	**12 23 47.9**	**+2.2**
ERM	**Erimo**	**1.13**	**243**	*e*Pn	**Pn**	**12 23 48.1**	**+2.5**
ERM				*e*Sn	**Sn**	**12 24 00.5**	**+0.5**
JEM	**Erimo**	**1.13**	**243**	P	**Pn**	**12 23 47.5**	**+1.8**
NEM2	**Nemuro 2**	**1.23**	**47**	⇑P	**Pn**	**12 23 47.5**	**+0.5**
NEM2				*e*S	**Sn**	**12 24 02.1**	**-0.2**
JNBK	**Urakawa-nobuka**	**1.33**	**259**	P	**Pn**	**12 23 49.5**	**+1.1**
HRK	**Horoka**	**1.38**	**313**	*e*P	**Pn**	**12 23 50.6**	**+1.5**
HRK				*e*S	**Sn**	**12 24 06.8**	**+0.7**
JRA	**Rausu**	**1.47**	**17**	⇑P	**Pn**	**12 23 51.5**	**+1.2**
JRA				*e*S	**Sn**	**12 24 09.5**	**+1.2**
JTKR	**Abashiri--Toko**	**1.50**	**343**	⇓P	**Pn**	**12 23 52.7**	**+2.0**
JTKR				*e*S	**Sn**	**12 24 11.6**	**+2.6**
JFR	**Furan**	**1.54**	**295**	⇓P	**Pn**	**12 23 52.7**	**+1.4**
JFR				*e*S	**Sn**	**12 24 11.6**	**+1.4**
JBT2	**Biratori 2**	**1.60**	**279**	⇓P	**Pn**	**12 23 52.8**	**+0.7**
JMP	**Maruseppu**	**1.69**	**331**	⇑P	**Pn**	**12 23 55.1**	**+1.7**
JMP				*e*S	**Sn**	**12 24 16.1**	**+2.2**
YUK	**Yuzh-Kuril'sk**	**1.79**	**33**	*c i*PN	**Pn**	**12 23 55.8**	**+1.1**
YUK	**Yuzh-Kuril'sk**	**1.79**	**33**	⇑*i*P	**Pn**	**12 23 55.8**	**+1.1**
YUK	330nm,0.4s			AMB	AMB	12 23 56.5	
YUK	450nm,0.4s			AMB	AMB	12 23 56.5	
YUK	4µm,0.4s			AMB	AMB	12 23 56.5	
YUK				*i* S	**Sn**	**12 24 17.2**	**+0.9**
YUK	9µm,0.6s			A	A	12 24 18.5	
YUK	6µm,0.6s			A	A	12 24 18.5	
YUK	9µm,2.0s			A	A	12 24 19.2	
YUK	11µm,2.0s			A	A	12 24 19.2	
ASAJ	**Asahikawa** comp=Z,2µm,20.4s,baz=96,slow=44	**2.11**	**319**	LR	LR	12 24 50.1	
ASAJ	**Asahikawa**	**2.11**	**319**	*e*Pn	**Pn**	**12 24 01.1**	**+2.0**
SHO	**Shikotan**	**2.16**	**51**	*e*P	**Pn**	**12 24 00.7**	**+1.0**
SHO	110nm,0.3s			AMB	AMB	12 24 01.2	
SHO	900nm,0.5s			*e*S	**Sn**	**12 24 24.8**	**-0.4**
SHO	8µm,0.6s			A	A	12 24 26.3	
KUR	**Kuril'sk**	**3.63**	**41**	*c i*PN	**Pn**	**12 24 22.5**	**+2.6**
KUR				*i* S	**Sn**	**12 25 04.4**	**+3.0**
KUR	comp=Z,205nm,0.6s			pmax	pm

TEY AMB AMB 12 25 00.0
comp=N,30nm,0.8s
UGL Uglegorsk 6.76 346 *c iP*N **Pn 12 25 04.2 +1.3**
UGL Uglegorsk 6.76 346 ⇓ *i*P **Pn 12 25 05.0 +2.1**
UGL AMB AMB 12 25 07.0
comp=N,80nm,0.6s
UGL *e*S **Sn 12 26 19.8 +1.2**
UGL A A 12 26 24.0
comp=N,50nm,0.6s
UGL A A 12 26 24.0
comp=N,80nm,0.6s
UGL AMS AMS 12 28 11.0
comp=N,800nm,16.0s
UGL AMS AMS 12 28 11.0
comp=N,200nm,16.0s
UGL AMS AMS 12 28 11.0
comp=N,700nm,16.0s
MAJO Matsushiro 7.71 221 *c i*PN **Pn 12 25 17.2 +1.1**
MAJO Matsushiro 7.71 221 *e*P **Pn 12 25 17.2 +1.1**
MAJO AMB AMB 12 25 33.9
comp=N,710nm,0.6s
MAJO *e*S **Sn 12 26 39.3 -2.9**
MAJO A A 12 27 02.4
comp=N,370nm,0.5s
MAJO Matsushiro 7.71 221 *e*Pn **Pn 12 25 17.4 +1.3**
MAT Matsushiro 7.71 221 P **Pn 12 25 17.1 +1.0**
MAT S Sn 12 26 50.3 +8.1
MJAR Matsushiro Arr 7.71 221 Pn **Pn 12 25 17.3 +1.2**
comp=N,4.9nm,0.3s,baz=26,slow=12,SNR=62
MJAR LR LR 12 28 48.3
comp=N,276nm,21.6s,baz=35,slow=42
TYV Tymovskoe 8.43 352 *e*P Pn 12 25 30.0 +4.3
TYV AMS AMS 12 29 29.0
comp=N,600nm,18.0s
HABR Khabarovsk 8.90 315 *de*PN **Pn 12 25 33.8 +1.5**
HABR pmax pmax
comp=N,11nm,1.0s
HABR pmax pmax
comp=E,26nm,1.0s
HABR pmax pmax
comp=Z,34nm,1.0s
HABR MLR MLR
comp=Z,473nm,18.0s
HABR Khabarovsk 8.90 315 ⇓ *e*P **Pn 12 25 33.8 +1.5**
HABR AMB AMB 12 25 37.9
comp=Z,10.0nm,1.0s
HABR AMB AMB 12 25 37.9
comp=Z,30nm,1.0s
HABR AMB AMB 12 25 38.4
comp=Z,30nm,1.0s
HABR AMS AMS 12 29 21.5
comp=Z,500nm,18.0s
USRK Ussuriysk Ar. 9.27 285 Pn **Pn 12 25 36.4 -1.0**
comp=Z,0.2nm,0.3s,baz=93,slow=15,SNR=3.9
USRK LR LR 12 29 11.8
comp=Z,278nm,20.1s,baz=63,slow=38
VLA Vladivostok 9.30 278 *c i*PN Pn 12 25 42.5 +4.8
VLA Vladivostok 9.30 278 ⇑ *i*P Pn 12 25 42.5 +4.8
GRNR Gornyy 9.93 329 *e*P Pn 12 25 49.8 +3.4
GRNR AMB AMB 12 25 50.2
comp=Z,10.0nm,0.6s
NKL Nikolayevsk 10.93 348 *e*P **Pn 12 26 02.1 +2.2**
NKL AMB AMB 12 26 03.8
comp=Z,90nm,1.0s
NKL AMS AMS 12 29 48.0
comp=Z,500nm,16.0s
MDJ Mudanjiang 11.02 286 P Pn 12 26 05.1 +3.7
MDJ PMZ
comp=Z,8.0nm,1.0s
MDJ PMZ
comp=Z,110nm,9.4s
KLR Kul'dur 11.12 311 *e*PN **Pn 12 26 02.8 +0.1**
KLR Kul'dur 11.12 311 *e*P **Pn 12 26 02.8 +0.1**
SKR Severo-Kuril's 11.39 40 *e*PN Pn 12 25 57.3 -9.1
SKR Severo-Kuril's 11.39 40 *e*P **Pn 12 26 07.3 +0.9**
SKR AMB AMB 12 26 10.1
comp=Z,120nm,1.0s
SKR *e*S Sn 12 28 02.5 -10
EKMR Ekimchan 13.07 328 ⇑ *e*P **Pn 12 26 32.0 +2.7**
EKMR AMB AMB 12 26 36.4
comp=Z,10.0nm,0.6s
KSRS Korea Array 13.69 254 Pn **Pn 12 26 38.6 +0.8**
comp=Z,0.3nm,0.3s,baz=57,slow=13,SNR=6.7
KSRS LR LR 12 31 34.3
comp=Z,171nm,20.7s,baz=70,slow=36
KSAR Wonju Array Be 13.72 254 P **Pn 12 26 38.6 +0.4**
KSAR Wonju Array Be 13.72 254 Pn **Pn 12 26 38.6 +0.4**
PETK Petropavlovsk- 13.77 35 Pn **Pn 12 26 36.9 -2.0**
comp=Z,0.8nm,0.3s,baz=191,slow=12,SNR=11
PETK LR LR 12 31 24.3
comp=Z,100nm,21.8s,baz=211,slow=35
CN2 Changchun 13.97 282 *e*P Pn 12 26 44.9 +3.3
CN2 *e*SP 12 26 57.0
CN2 *e*S **Sn 12 29 17.6 +2.3**
CN2 PMZ
comp=Z,10.0nm,0.6s
CN2 PMZ
comp=Z,200nm,4.0s
CN2 LN
comp=Z,200nm,15.0s
CN2 LE
comp=Z,200nm,15.0s
CN2 LZ
comp=Z,200nm,19.0s
PET Petropavlovsk 14.13 37 *e*P **Pn 12 26 44.1 +0.4**
PET *e*S **Sn 12 29 21.7 +2.8**
PET pmax pmax
comp=Z,14nm,0.6s
PET MLR MLR
comp=Z,200nm,19.0s
PET Petropavlovsk 14.13 37 *e*P **Pn 12 26 44.1 +0.4**
PET AMB AMB 12 26 53.5
comp=Z,400nm,4.5s
PET AMB AMB 12 26 57.4
comp=Z,10.0nm,0.6s
PET *e*S **Sn 12 29 21.7 +2.8**
PET AMS AMS 12 31 51.0
comp=Z,200nm,19.0s
JNU Nakatsue 14.28 233 Pn **Pn 12 26 44.3 -1.6**
comp=Z,0.2nm,0.3s,baz=80,slow=16,SNR=3.3
TJN Taejon 14.60 251 P **Pn 12 26 52.0 +1.9**
CBIJ Chichi jima 15.52 188 Pn **Pn 12 27 00.3 -2.0**
CBIJ Sn Sn 12 29 37.5 -16
JCJ Chichijima 15.52 188 Pn **Pn 12 27 00.3 -2.0**
comp=Z,9.1nm,0.3s,baz=73,slow=20,SNR=4.1
JCJ Sn Sn 12 29 37.5 -16
comp=Z,6.4nm,0.3s,baz=72,slow=19,SNR=2.7
JCJ LR LR 12 32 05.3
comp=Z,58nm,21.9s,baz=348,slow=34
BMKR Bomnak 15.94 325 *e*P **P 12 27 10.1 -0.6**
BMKR AMB AMB 12 27 14.5
comp=Z,10.0nm,0.6s
ZEA Zeya 16.02 320 AMS AMS 12 33 40.0
comp=Z,300nm,17.0s
ZEA AMS AMS 12 33 40.0
comp=Z,200nm,17.0s
MA2 Magadan 17.49 11 *i* P **Pn 12 27 25.9 -1.1**
MA2 Magadan 17.49 11 *i* P **Pn 12 27 25.9 -1.1**
HIA Hailar 18.46 300 *e*P **P 12 27 37.1 -1.4**
HIA pmax pmax
comp=Z,13nm,0.7s
HIA Hailar 18.46 300 *i* P **P 12 27 37.1 -1.4**
HIA Hailar 18.46 300 *e*P **P 12 27 37.1 -1.4**
comp=Z,13nm,0.7s
CLNS Chul'man 19.03 326 *e*P **Pn 12 27 47.3 +1.6**
CLNS pmax pmax
comp=E,10.0nm,0.9s
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=Z,12nm,1.1s
CLNS MLR MLR
comp=E,156nm,13.0s
CLNS MLR MLR
comp=N,106nm,16.0s
CLNS MLR MLR
comp=Z,164nm,15.0s
CLNS Chul'man 19.03 326 *i* P **Pn 12 27 47.3 +1.6**
SEY Seymchan 20.95 10 P **P 12 28 02.3 -3.2**
comp=Z,8.4nm,0.3s,baz=197,slow=10.0,SNR=48
SEY LR LR 12 36 42.6
comp=Z,66nm,18.5s,baz=195,slow=38
SEY Seymchan 20.95 10 *c i*P **P 12 28 02.7 -2.7**
SEY Seymchan 20.95 10 ⇑ *i*P **P 12 28 02.7 -2.7**
BJI Beijing 21.40 273 P **P 12 28 09.2 -1.3**
BJI S **S 12 32 05.5 -0.2**
BJI PMZ
comp=Z,17nm,0.7s
BJI LN
comp=Z,140nm,13.4s
BJI LE
comp=Z,140nm,23.9s
YAK Yakutsk 21.43 341 P **P 12 28 06.8 -3.8**
comp=Z,4.7nm,0.3s,baz=133,slow=18,SNR=7.4
YAK Yakutsk 21.43 341 *e*P **P 12 28 06.3 -4.3**
YAK *e**PP **pP 12 28 23.3 +2.7**
YAK *e*S S 12 31 56.0 -10
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,18nm,0.8s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK smax smax
comp=E,19nm,1.6s
YAK smax smax
comp=N,23nm,1.5s
YAK MLR MLR
comp=Z,139nm,14.0s
YAK MLR MLR
comp=N,100nm,14.0s
YAK MLR MLR
comp=E,89nm,16.0s
YAK Yakutsk 21.43 341 *e*P **P 12 28 06.3 -4.3**
TIA Tai'an 22.04 262 ⇑ P **P 12 28 17.7 +0.3**
TIA PMZ
comp=E,20nm,0.7s
NJ2 Nanjing 22.86 251 *e*P **P 12 28 26.8 +0.7**
NJ2 PMZ
comp=E,60nm,0.8s
BOD Bodaibo 24.52 319 *e*P **P 12 28 39.2 -2.5**
BOD pmax pmax
comp=Z,4.0nm,0.9s
HHC Hu-ho-hao-te 24.58 277 *e*P **P 12 28 43.2 +0.6**
HHC pP **pP 12 28 52.6 -0.9**
HHC sP **sP 12 28 56.6 -1.7**
HHC PP **PnPn 12 29 19.1 +4.2**
HHC S **S 12 32 58.0 -2.9**
HHC PMZ
comp=Z,21nm,0.7s
HHC PMZ
comp=Z,110nm,8.3s
HHC LN
comp=Z,97nm,13.6s
HHC LE
comp=Z,100nm,14.4s
HHC LZ
comp=Z,62nm,14.8s
WHN Wuhan 26.88 253 ⇓ P **P 12 29 07.3 +3.9**
WHN S **S 12 33 42.0 +4.7**
WHN LZ
comp=Z,290nm,16.8s
SONM Songino Array 27.18 294 P **P 12 29 06.5 +0.4**
comp=Z,21nm,0.8s,baz=78,slow=8.5,SNR=56
SONM LR LR 12 40 54.3
comp=Z,100nm,19.2s,baz=78,slow=39
BILL Bilibino 28.08 17 *d i*P P 12 29 09.7 -4.0
BILL *i* 12 29 25.9
BILL pmax pmax
comp=Z,4.0nm,0.6s
BILL Bilibino 28.08 17 ⇓ *i*P P 12 29 09.7 -4.0
BILL Bilibino 28.08 17 *e*P P 12 29 10.3 -3.4
comp=Z,7.1nm,0.4s
GUMO Guam 28.85 179 LR LR 12 39 12.4
comp=Z,63nm,22.0s,baz=25,slow=33
TLY Talaya 28.94 303 *e*P **P 12 29 22.0 +0.4**
TLY pmax pmax
comp=Z,15nm,0.9s
TLY MLR MLR
comp=Z,103nm,17.0s
TLY Talaya 28.94 303 *e*P **P 12 29 22.0 +0.4**
ZAK Zakamensk 29.15 300 ⇓ *i*P **P 12 29 23.2 -0.4**
ZAK pmax pmax
comp=Z,9.0nm,1.2s
H11N2 WAKE ISLAND Hy 29.56 133 T T 13 00 43.1
baz=327,slow=76,SNR=1906
H11N1 WAKE ISLAND Hy 29.57 133 T T 13 00 44.7
baz=327,slow=76,SNR=2112
H11N3 WAKE ISLAND Hy 29.58 133 T T 13 00 44.8
baz=327,slow=76,SNR=1838
TIXI Tiksi 30.19 350 *e*P **P 12 29 32.5 +0.1**
TIXI pmax pmax
comp=Z,7.0nm,1.2s
TIXI Tiksi 30.19 350 *e*P **P 12 29 32.5 +0.1**
H11S1 WAKE ISLAND Hy 30.46 135 T T 13 01 50.9
baz=328,slow=76,SNR=2744
H11S3 WAKE ISLAND Hy 30.47 135 T T 13 01 52.6
baz=328,slow=76,SNR=2104
H11S2 WAKE ISLAND Hy 30.48 135 T T 13 01 52.6
baz=328,slow=76,SNR=3038
MOY Mondy 30.59 303 *e*P **P 12 29 36.7 +0.4**
MOY pmax pmax
comp=Z,23nm,2.3s
LZH Lanzhou 31.89 272 *e*P **P 12 29 48.5 +0.6**
LZH pP **pP 12 29 58.0 -0.9**
LZH sP **sP 12 30 02.1 -1.6**
LZH *e*PP **PnPn 12 30 53.5 +0.1**
LZH *e*S **S 12 34 54.6 -1.5**
LZH sS sS 12 35 10.2 -4.3
LZH PMZ
comp=Z,32nm,1.3s
LZH PMZ
comp=Z,110nm,5.2s
LZH LN
comp=Z,270nm,13.2s
LZH LE
comp=Z,280nm,13.0s
LZH LZ
comp=Z,360nm,16.5s
GTA Gaotai 33.60 280 ⇑ P **P 12 30 03.4 +0.6**
GTA pP **pP 12 30 13.1 -0.8**
GTA sP **sP 12 30 17.1 -1.6**
GTA PcP **PcP 12 32 44.3 +1.9**
GTA S **S 12 35 23.3 +0.7**
GTA sS **sS 12 35 39.2 -1.8**
GTA SS **SnSn 12 37 27.7 -0.1**
GTA PMZ
comp=Z,8.0nm,1.3s
GTA PMZ
comp=Z,52nm,5.2s
GTA LN
comp=Z,71nm,16.2s
GTA LE
comp=Z,70nm,16.6s
GTA LZ
comp=Z,110nm,15.7s
CD2 Chengdu 34.36 264 P **P 12 30 10.2 +0.8**
CD2 pP **pP 12 30 19.5 -1.0**
CD2 sP **sP 12 30 23.6 -1.6**
CD2 PP **PP 12 31 28.0 +0.4**
CD2 S **S 12 35 35.5 +1.2**
CD2 sS **sS 12 35 51.4 -1.4**
CD2 PMZ
comp=Z,20nm,0.6s
CD2 PMZ
comp=Z,150nm,6.5s
CD2 LN
comp=Z,170nm,6.7s
CD2 LZ
comp=Z,170nm,5.9s
GYA Guiyang 34.74 255 *e*P **P 12 30 15.0 +2.1**
GYA PMZ
comp=Z,10.0nm,0.8s
TNA Tin City 34.91 32 *e*P **P 12 30 13.1 -0.6**
comp=Z,16nm,0.9s
KRAR Krasnoyarsk 35.42 311 ⇓ *i*P P 12 30 09.1 -9.1
KRAR pmax pmax
comp=Z,56nm,0.7s
KMI Kunming 38.36 257 P **P 12 30 45.2 +1.4**
KMI pP **pP 12 30 55.2 +0.2**
KMI sP **sP 12 30 58.7 -1.1**
KMI S **S 12 36 37.2 +1.3**
KMI PMZ
comp=Z,19nm,0.7s
KMI LN
comp=Z,73nm,7.0s
KMI LE
comp=Z,100nm,9.3s
KMI LZ
comp=Z,69nm,8.2s
ZALV Zalesovo Beam 40.20 308 P **P 12 30 58.3 -0.3**
comp=Z,9.5nm,0.7s,baz=91,slow=7.6,SNR=31
ZALV PcP **PcP 12 33 02.1 +0.1**
comp=Z,5.1nm,0.5s,baz=100,slow=2.5,SNR=10.0
ZALV LR LR 12 48 48.8
comp=Z,92nm,18.4s,baz=69,slow=38
IM04 Indian Mountai 40.71 34 *e*P **P 12 31 02.1 -0.6**
WMQ Urumqi 40.75 292 P **P 12 31 04.2 +0.9**
WMQ pP **pP 12 31 14.2 -0.4**
WMQ sP **sP 12 31 18.2 -1.1**
WMQ PMZ
comp=Z,14nm,0.8s
WMQ PMZ
comp=Z,11nm,4.0s
WMQ LN
comp=Z,38nm,16.0s
WMQ LE
comp=Z,55nm,19.0s
WMQ LZ
comp=Z,61nm,19.0s
NVS Novosibirsk 40.98 309 *e*P **P 12 31 03.6 -1.4**
NVS Novosibirsk 40.98 309 *e*P **P 12 31 03.6 -1.4**
PPLA Purkeypile 41.33 38 *e*P **P 12 31 09.7 +1.7**
comp=Z,17nm,0.9s
CAST Castle Rocks 41.37 37 *e*P **P 12 31 09.2 +1.0**
comp=Z,15nm,0.5s
KDAK Kodiak Island 41.48 46 *i* P **P 12 31 10.1 +1.0**
KDAK Kodiak Island 41.48 46 *e*P **P 12 31 10.1 +1.0**
BPAW Bear Paw Mtn. 41.85 36 *e*P **P 12 31 12.9 +0.9**
comp=Z,6.9nm,0.8s
TRF Thorofare Moun 42.18 37 *e*P **P 12 31 15.4 +0.5**
comp=Z,17nm,1.3s
COLD Coldfoot 42.20 32 *e*P **P 12 31 15.2 +0.3**
comp=Z,8.7nm,0.6s
BWN Browne 42.52 36 *e*P **P 12 31 19.2 +1.8**
comp=Z,81nm,1.2s
MCK McKinley 42.77 37 *e*P **P 12 31 20.0 +0.5**
MCK pmax pmax
comp=Z,11nm,0.6s
MCK McKinley 42.77 37 *e*P **P 12 31 20.0 +0.5**
MCK McKinley 42.77 37 *e*P **P 12 31 20.0 +0.5**
comp=Z,11nm,0.6s
COLA College 43.18 35 *c iP* **P 12 31 23.2 +0.4**
COLA College 43.18 35 ⇑ *i*P **P 12 31 23.2 +0.4**
COLA College 43.18 35 *e*P **P 12 31 23.0 +0.2**
comp=Z,47nm,0.6s
CCB Clear Creek Bu 43.21 36 *e*P **P 12 31 23.4 +0.3**
comp=Z,11nm,1.0s
MK31 Makanchi Array 43.44 298 *i* P **P 12 31 24.9 -0.3**
MK31 pmax pmax
comp=Z,9.0nm,0.4s
MKAR Makanchi Array 43.44 298 P **P 12 31 25.1 -0.1**
comp=Z,14nm,0.7s,baz=83,slow=9.7,SNR=114
MKAR PcP **PcP 12 33 13.0 +0.2**
comp=Z,1.8nm,0.6s,baz=69,slow=3.0,SNR=4.2
MKAR LR LR 12 51 01.5
comp=Z,48nm,18.2s,baz=56,slow=38
DHY Denali Highway 43.52 38 *e*P **P 12 31 26.3 +0.5**
comp=Z,14nm,0.5s
HDA Harding Lake 43.60 36 *e*P **P 12 31 25.9 -0.2**
comp=Z,22nm,0.5s
ILAR Eielson Array 43.60 35 P **P 12 31 25.8 -0.4**
comp=Z,20nm,0.6s,baz=255,slow=5.9,SNR=170
PAX Paxson 44.39 38 *e*P **P 12 31 34.7 +2.0**
PAX pmax pmax
comp=Z,8.0nm,0.6s
PAX Paxson 44.39 38 *e*P **P 12 31 34.7 +2.0**
comp=Z,7.8nm,0.6s
DIV Divide 44.50 41 *e*P **P 12 31 35.0 +1.5**
comp=Z,22nm,0.7s
HARP HAARP 44.61 39 *e*P **P 12 31 35.9 +1.6**
comp=Z,462nm,2.5s
KURK Kurchatov 44.61 304 P **P 12 31 34.9 +0.5**
KURK 12 33 17.0
KURK pmax pmax
comp=Z,32nm,0.7s
KURK pmax pmax
comp=Z,3.0nm,0.6s
KURK Kurchatov 44.61 304 *e*P **P 12 31 34.9 +0.5**
KURK Kurchatov 44.61 304 *e*P **P 12 31 34.0 -0.4**
KURK PcP **PcP 12 33 17.0 +0.3**
KURBB Kurchatov Arra 44.69 304 P **P 12 31 34.9 -0.2**
comp=Z,32nm,0.7s,baz=74,slow=8.9,SNR=197
KURBB PcP **PcP 12 33 17.0 0.0**
comp=Z,2.7nm,0.6s,baz=85,slow=3.5,SNR=4.1
BMRM Bremner River 45.08 41 *e*P **P 12 31 39.6 +1.4**
comp=Z,13nm,0.9s
CHTO Chiang Mai 45.09 253 *e*P **P 12 31 40.1 +1.5**
CHTO pmax pmax
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 45.09 253 *e*P **P 12 31 40.1 +1.5**
comp=Z,5.5nm,0.8s
CMAR Chiang Mai Arr 45.32 252 P **P 12 31 42.0 +1.5**
comp=Z,2.0nm,0.8s,baz=45,slow=7.1,SNR=12
CMAR LR LR 12 52 31.2
comp=Z,51nm,18.3s,baz=48,slow=39
CMAR Chiang Mai Arr 45.32 252 P **P 12 31 42.0 +1.5**
CMAR Chiang Mai Arr 45.32 252 *e*P **P 12 31 42.0 +1.5**
EGAK Eagle 46.04 35 *e*P **P 12 31 45.7 +0.1**
comp=Z,22nm,0.9s
DAWY Dawson 46.92 36 *e*P **P 12 31 52.9 +0.3**
TAPN Taplejung 48.10 271 *e*P **P 12 32 03.1 +0.6**
comp=Z,28nm,0.9s
INK Inuvik 48.42 29 P **P 12 32 04.0 +0.1**
comp=Z,21nm,0.5s,baz=300,slow=8.2,SNR=60
ODAN Odare 48.61 270 *e*P **P 12 32 06.6 +0.2**
comp=Z,8.8nm,0.4s
BVAR Borovoye Array 48.78 309 P **P 12 32 06.9 -0.1**
comp=Z,14nm,0.4s,baz=80,slow=8.4,SNR=87
BVAR LR LR 12 53 29.8
comp=Z,94nm,20.0s,slow=37
BRVK Borovoye 48.83 309 *c iP* **P 12 32 07.3 -0.1**
BRVK pmax pmax
comp=Z,28nm,1.2s
BRVK Borovoye 48.83 309 *e*P **P 12 32 07.3 -0.1**
BRVK Borovoye 48.83 309 *e*P **P 12 32 07.4 0.0**
comp=Z,24nm,1.0s
GUN Gumba 49.15 273 *e*P **P 12 32 10.9 +0.3**
RAMN Ramite 49.15 271 *e*P **P 12 32 09.8 -0.7**
comp=Z,23nm,0.6s
TKM2 Tokmak 2 49.28 295 P **P 12 32 11.5 +0.2**
TKM2 pmax pmax
comp=Z,10.0nm,0.6s
TKM2 Tokmak 2 49.28 295 *e*P **P 12 32 11.1 -0.2**
comp=Z,5.5nm,0.4s
KKN Kakani 49.66 273 *e*P **P 12 32 14.5 +0.2**
PKI Pulchoki 49.68 272 *e*P **P 12 32 14.6 -0.1**
DMN Daman 49.88 273 *e*P **P 12 32 16.1 0.0**
GKN Gorkha 50.01 273 *e*P **P 12 32 17.9 +0.9**
AAK Ala-Archa 50.14 295 P P 12 33 06.7 +49
comp=Z,4.0nm,0.4s,baz=83,slow=5.2,SNR=5.4
DANN Dangsing 50.47 274 *e*P **P 12 32 21.5 +0.9**
KSH Kashi 50.50 291 P P 12 32 24.2 +3.7
KSH pP pP 12 32 35.0 +3.0
KSH PcP **PcP 12 33 42.0 +3.9**
KSH PP **PP 12 34 21.1 +4.9**
KSH PcS **PcS 12 37 38.1 +2.6**
KSH S **S 12 39 35.6 +3.9**
KSH sS sS 12 39 52.5 +1.8
KSH ScS **ScS 12 42 10.4 +2.2**
KSH PMZ
comp=Z,16nm,0.9s
KSH PMZ
comp=Z,170nm,4.5s
KSH LN
comp=Z,120nm,4.5s
KSH LE
comp=Z,120nm,6.0s
EKS2 Erkin-Say 50.60 296 *e*P **P 12 32 21.2 0.0**
EKS2 pmax pmax
comp=Z,5.0nm,0.5s
EKS2 Erkin-Say 50.60 296 *e*P **P 12 32 21.2 0.0**
comp=Z,4.8nm,0.5s
KOLN Koldanda 50.91 274 *e*P **P 12 32 24.1 +0.3**
SFK Sufi-Kurgan 51.97 293 P **P 12 32 31.4 -0.2**
SFK pmax pmax
comp=Z,12nm,0.8s
KK31 Karatay Array 52.57 298 *i* P **P 12 32 35.1 -0.7**
KK31 pmax pmax
comp=Z,11nm,0.7s
KKAR Karatay Array 52.57 298 *e*P **P 12 32 35.4 -0.3**
KKAR Karatay Array 52.57 298 *e*P **P 12 32 35.4 -0.3**
SVE Sverdlovsk 52.70 317 ⇓ *e*P **P 12 32 36.2 -0.3**
SVE pmax pmax
comp=Z,35nm,0.6s
SVE Sverdlovsk 52.70 317 ⇓ *e*P **P 12 32 36.2 -0.3**
DLBC Dease Lake 52.87 41 P **P 12 32 37.0 -0.8**
comp=Z,2.5nm,0.5s,baz=256,slow=3.4,SNR=8.3

DLBC	Dease Lake	52.87	41	eP		P	12 32 39.1	+1.3
ARU	Arti	53.91	317	c iP		P	12 32 44.6	-0.8
ARU				*PP		pP	12 33 00.4	+3.5
ARU							12 34 43.2	
ARU				S		S	12 40 15.7	-1.9
ARU				SS		SKiKP	12 43 50.2	-4.5
ARU				pmax	pmax			
	comp=Z,48nm,1.2s							
ARU	Arti	53.91	317⇑	iP		P	12 32 44.6	-0.8
ARU	Arti	53.91	317	eP		P	12 32 44.7	-0.6
	comp=Z,30nm,0.6s							
SPA0	Spitsbergen Ar	55.60	349	eP		P	12 32 55.5	-1.8
SPITS	Spitsbergen Ar	55.60	349	P		P	12 32 56.3	-1.0
	comp=Z,7.0nm,0.5s,baz=41,slow=9.6,SNR=15							
KBS	Kingsbay	55.65	350	eP		P	12 32 57.2	-0.5
KBS				IAmb		IAmb	12 32 57.7	
	comp=Z,74nm,0.7s							
KBS	Kingsbay	55.65	350	eP		P	12 32 56.9	-0.8
AB31	Akbulak array	56.31	308	i P		P	12 33 02.6	-0.2
AB31				pmax	pmax			
	comp=Z,9.0nm,0.3s							
HSPB	Hornsund (broa	56.57	348	eP		P	12 33 05.7	+1.4
RES	Resolute Bay	56.67	16	P		P	12 33 04.5	-0.5
	comp=Z,11nm,0.3s,baz=336,slow=4.9,SNR=24							
RES	Resolute Bay	56.67	16	P		P	12 33 04.5	-0.5
RES				pmax	pmax			
	comp=Z,11nm,0.3s							
RES	Resolute Bay	56.67	16	eP		P	12 33 04.0	-1.0
	comp=Z,12nm,0.4s							
AKTO	Aktyubinsk	56.85	310	P		P	12 33 06.3	-0.4
	comp=Z,7.4nm,0.6s,baz=68,slow=7.2,SNR=27							
AKTO	Aktyubinsk	56.85	310	P		P	12 33 05.9	-0.8
AKTO				pmax	pmax			
	comp=Z,15nm,1.1s							
PRGR	Permogore	57.50	326	eP		P	12 33 09.1	-1.9
PRGR				pmax	pmax			
	comp=Z,18nm,0.6s							
YKA	Yellowknife Ar	57.87	33	P		P	12 33 13.4	-0.2
	comp=Z,6.1nm,0.6s,baz=303,slow=6.9,SNR=38							
HAMF	Hammerfest	59.42	341	eP		P	12 33 23.4	-0.9
ARCES	ARCESS Array B	59.70	339	P		P	12 33 25.0	-1.2
	comp=Z,2.8nm,0.5s,baz=37,slow=7.0,SNR=26							
ARE0	ARCESS Array S	59.70	339	eP		P	12 33 25.6	-0.7
DAG	Danmarks Havn	60.49	356	⇑iP		P	12 33 30.3	-1.2
	comp=Z,22nm,1.1s							
DAG	Danmarks Havn	60.49	356	⇑iP		P	12 33 30.3	-1.2
DAG				pmax	pmax			
	comp=Z,28nm,1.1s							
DAG	Danmarks Havn	60.49	356	⇑iP		P	12 33 30.3	-1.2
KTK1	Kautokeino	60.65	339	eP		P	12 33 32.2	-0.5
TRO	Tromso	61.29	341	eP		P	12 33 35.3	-1.7
TRO				IAmb		IAmb	12 33 35.8	
	comp=Z,17nm,0.8s							
WRAB	Tennant Creek	62.86	191	P		P	12 33 48.0	-0.1
WRA	Warramunga Arr	62.87	191	P		P	12 33 47.7	-0.5
	comp=Z,2.5nm,0.9s,baz=9.5,slow=6.5,SNR=17							
GEYT	Alibeck	63.31	298	P		P	12 33 51.0	-0.1
	comp=Z,6.9nm,0.6s,baz=29,slow=3.4,SNR=11							
B08A	Colville Reser	63.32	48	eP		P	12 33 51.4	+0.4
EDM	Edmonton	63.59	41	eP		P	12 33 53.0	+0.3
EDM	Edmonton	63.59	41	eP		P	12 33 53.0	+0.3
LOF	Lofoten	63.70	342	eP		P	12 33 51.6	-1.6
NEW	Newport	64.58	47	P		P	12 33 58.1	-1.2
	comp=Z,2.8nm,0.9s,baz=304,slow=8.9,SNR=5.7							
NEW	Newport	64.58	47	eP		P	12 34 00.6	+1.3
NEW	Newport	64.58	47	eP		P	12 34 00.6	+1.3
MOR8	Moi Rana	65.03	340	eP		P	12 33 59.8	-2.1
MOR8				IAmb		IAmb	12 34 01.1	
	comp=Z,28nm,0.7s							
FINES	FINESS Array B	65.06	332	P		P	12 34 01.3	-0.9
	comp=Z,36nm,0.5s,baz=54,slow=6.9,SNR=273							
FINES	FINESS Array B	65.06	332	i P		P	12 34 01.2	-0.9
FINES				pmax	pmax			
	comp=Z,36nm,0.5s							
OBN	Obninsk	65.13	323	P		P	12 34 01.6	-1.0
	comp=Z,17nm,0.4s,baz=346,slow=4.9,SNR=7.3							
OBN	Obninsk	65.13	323	i P		P	12 34 00.8	-1.9
OBN				i			12 34 34.5	
OBN				i			12 36 29.7	
OBN				pmax	pmax			
	comp=Z,17nm,0.5s							
OBN				MLR		MLR		
	comp=Z,141nm,18.0s							
OBN	Obninsk	65.13	323	i P		P	12 34 00.8	-1.9
SUMG	Summit	65.17	1	i P		P	12 34 03.4	+0.2
	comp=Z,27nm,0.6s							
SUMG	Summit	65.17	1	i P		P	12 34 03.4	+0.2
SUMG				pmax	pmax			
	comp=Z,27nm,0.6s							
SUMG	Summit	65.17	1	eP		P	12 34 03.0	-0.2
	comp=Z,34nm,0.8s							
VSR	Storozhevoye	66.38	319	c iP		P	12 34 10.3	-0.5
VSR				pmax	pmax			
	comp=Z,41nm,0.6s							
BMO	Blue Mountains	66.51	50	eP		P	12 34 11.9	0.0
	comp=Z,1.9nm,0.8s							
ASAR	Alice Springs	66.60	191	P		P	12 34 13.2	+0.8
	comp=Z,2.3nm,0.8s,baz=12,slow=6.1,SNR=21							
VSU	Vasula	66.92	330	c iP		P	12 34 13.4	-0.7
VSU				pmax	pmax			
	comp=Z,102nm,0.8s							
NSS	Namsos	66.97	340	eP		P	12 34 13.8	-0.5
MSO	Missoula	67.16	47	eP		P	12 34 16.9	+0.8
	comp=Z,7.0nm,1.1s							
WVOR	Wild Horse Val	67.20	53	eP		P	12 34 16.4	0.0
WVOR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
WVOR	Wild Horse Val	67.20	53	eP		P	12 34 16.4	0.0
	comp=Z,2.8nm,0.8s							
FFC	Flin Flon	67.81	35	eP		P	12 34 19.8	-0.1
FFC				pmax	pmax			
	comp=Z,5.0nm,0.8s							
FFC	Flin Flon	67.81	35	i P		P	12 34 19.8	-0.1
FFC	Flin Flon	67.81	35	eP		P	12 34 19.8	-0.1
	comp=Z,4.9nm,0.8s							
MFID	Camas Ranch	68.23	51	eP		P	12 34 23.9	+1.1
	comp=Z,2.6nm,0.6s							
LRM	Limekiln Ridge	68.60	47	eP		P	12 34 25.6	+0.4
	comp=Z,114nm,1.1s							
EGMT	Eagleton	68.61	44	eP		P	12 34 25.0	-0.1
	comp=Z,13nm,1.0s							
DLMT	Dillon	68.81	47	eP		P	12 34 27.7	+1.2
	comp=Z,6.8nm,0.6s							
CMB	Columbia Colle	68.81	58	eP		P	12 34 27.7	+1.2
CMB	Columbia Colle	68.81	58	eP		P	12 34 27.7	+1.2
HLID	Hailey	68.94	50	eP		P	12 34 28.5	+1.1
	comp=Z,2.2nm,0.9s							
MCMT	McKenzie Canyo	69.01	48	eP		P	12 34 29.3	+1.4
KIV	Kislovodsk	69.11	311	eP		P	12 34 29.4	+1.1
KIV				pmax	pmax			
	comp=Z,27nm,1.1s							
KIV				MLR		MLR		
	comp=Z,122nm,17.0s							
KIV	Kislovodsk	69.11	311	eP		P	12 34 29.4	+1.1
KIV	Kislovodsk	69.11	311	P		P	12 34 28.1	-0.2
	comp=Z,19nm,0.6s							
KBZ	Khabaz	69.14	311	P		P	12 34 28.9	+0.6
	comp=Z,9.3nm,0.8s,baz=63,slow=4.3,SNR=24							
KBZ				LR		LR	13 07 57.8	
	comp=Z,71nm,18.2s,baz=48,slow=39							
BOZ	Bozeman (W)	69.15	47	eP		P	12 34 29.3	+0.7
BOZ				pmax	pmax			
	comp=Z,14nm,0.6s							
BOZ	Bozeman (W)	69.15	47	eP		P	12 34 29.3	+0.7
BOZ	Bozeman (W)	69.15	47	eP		P	12 34 29.3	+0.7
	comp=Z,14nm,0.6s							
BMN	Battle Mountai	69.27	54	eP		P	12 34 30.3	+0.9
BMN				pmax	pmax			
	comp=Z,2.0nm,0.6s							
BMN	Battle Mountai	69.27	54	eP		P	12 34 30.3	+0.9
	comp=Z,2.2nm,0.6s							
MOL	Molde	69.71	340	eP		P	12 34 31.4	-0.1
NVAR	Mina Array Bea	69.86	56	P		P	12 34 34.0	+0.9
	comp=Z,4.1nm,0.7s,baz=292,slow=6.4,SNR=38							
NB2	NORSAR Subarra	70.02	338	P		P	12 34 32.8	-0.7
	comp=Z,11nm,0.4s,baz=33,slow=6.5							
NB2	NORSAR Subarra	70.02	338	P		P	12 34 32.8	-0.7
	baz=33,slow=6.5							
NOA	NORSAR Array B	70.02	338	P		P	12 34 32.8	-0.7
	comp=Z,22nm,0.8s,baz=35,slow=6.2,SNR=63							
NOA				LR		LR	13 08 32.4	
	comp=Z,59nm,20.3s,baz=10.0,slow=39							
NC602	NORSAR Array S	70.17	338	eP		P	12 34 33.5	-0.9
AKN	Aaknes	70.18	340	eP		P	12 34 34.1	-0.4
ELK	Elko	70.24	53	P		P	12 34 35.0	-0.5
	comp=Z,1.3nm,0.7s,baz=314,slow=6.3,SNR=4.9							
GNI	Garni	70.34	307	P		P	12 34 37.2	+1.2
	comp=Z,4.0nm,0.4s,baz=153,slow=20,SNR=3.3							
GNI	Garni	70.34	307	P		P	12 34 38.0	+2.0
GNI				pmax	pmax			
	comp=Z,20nm,1.3s							
H17A	Grant Village	70.53	47	eP		P	12 34 40.0	+2.7
	comp=Z,7.6nm,1.0s							
IMW	Indian Meadow	70.66	48	eP		P	12 34 39.5	+1.4
	comp=Z,5.6nm,0.8s							
FXWY	Fox Creek	70.78	48	eP		P	12 34 40.4	+1.6
	comp=Z,3.7nm,0.8s							
MOOW	Moose Ponds	70.86	48	eP		P	12 34 40.8	+1.6
	comp=Z,3.9nm,0.9s							
FRB	Frobisher Bay	70.86	15	P		P	12 34 36.8	-1.7
	comp=Z,9.6nm,0.8s,baz=344,slow=7.4,SNR=5.7							
TPAW	Teton Pass	70.92	48	eP		P	12 34 40.5	+0.8
	comp=Z,4.7nm,0.9s							
REDW	Red Top Meadow	71.06	48	eP		P	12 34 41.9	+1.4
	comp=Z,3.9nm,0.9s							
HYA	Hoyanger	71.24	340	eP		P	12 34 40.8	-0.1
AKASG	Malin Array Be	71.39	323	P		P	12 34 41.2	-0.8
	comp=Z,3.3nm,0.3s,baz=41,slow=6.3,SNR=23							
KIEV	Kiev	71.40	323	c iP		P	12 34 41.0	-1.0
KIEV	Kiev	71.40	323	eP		P	12 34 40.6	-1.4
	comp=Z,12nm,0.9s							
R11A	Troy Canyon, C	71.56	55	eP		P	12 34 44.1	+0.6
HWUT	Hardware Ranch	71.81	50	eP		P	12 34 46.2	+1.3
	comp=Z,55nm,2.7s							
DUG	Dugway	72.01	52	eP		P	12 34 47.4	+1.3
DUG				pmax	pmax			
	comp=Z,2.0nm,0.6s							
DUG	Dugway	72.01	52	eP		P	12 34 47.4	+1.3
	comp=Z,2.5nm,0.6s							
BW06	Boulder Array	72.16	48	eP		P	12 34 47.0	-0.1
	comp=Z,1.7nm,0.4s							
PDAR	Pinedale Array	72.16	48	P		P	12 34 47.4	+0.3
	comp=Z,7.7nm,0.5s,baz=28,slow=3.2,SNR=17							
BSD	Bornholm Skovb	73.70	333	i P		P	12 34 54.6	-1.0
	comp=Z,18nm,0.8s							
BSD	Bornholm Skovb	73.70	333	i P		P	12 34 54.6	-1.0
BSD				pmax	pmax			
	comp=Z,18nm,0.8s							
SRU	San Rafael	74.06	51	eP		P	12 34 59.2	+0.9
SRU				pmax	pmax			
	comp=Z,6.0nm,1.0s							
SRU	San Rafael	74.06	51	eP		P	12 34 59.2	+0.9
	comp=Z,6.3nm,1.0s							
STKA	Stephens Creek	74.10	183	LR		LR	13 06 35.5	
	comp=Z,341nm,20.9s,baz=138,slow=35							
RSSD	Black Hills	74.18	44	eP		P	12 34 59.1	+0.2
RSSD				pmax	pmax			
	comp=Z,3.0nm,0.8s							
RSSD	Black Hills	74.18	44	eP		P	12 34 59.1	+0.2
	comp=Z,3.0nm,0.8s							
AGMN	Agassiz Nation	75.08	37	eP		P	12 35 03.1	-0.7
	comp=Z,11nm,1.4s							
MALT	Malatya	75.24	309	⇓iP		P	12 34 52.5	-13
BURAR	Bucovina Array	75.44	322	⇑iP		P	12 35 05.9	-0.1
BURAR	Bucovina Array	75.44	322	⇑iP		P	12 35 05.9	-0.1
KOLS	Kolonicke sedl	75.74	325	eP		P	12 35 07.5	-0.1
KOLS				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KOLS	Kolonicke sedl	75.74	325	eP		P	12 35 07.5	-0.1
OJC	Ojcow	75.77	327	eP		P	12 35 07.9	+0.2
OJC				pmax	pmax			
	comp=Z,21nm,1.0s							
OJC	Ojcow	75.77	327	eP		P	12 35 07.9	+0.2
OJC	Ojcow	75.77	327	eP		P	12 35 07.9	+0.2
	comp=Z,21nm,1.0s							
PV01	Paradox Valley	75.84	51	eP		P	12 35 09.5	+0.9
CFR	Carcaliu	75.88	319	⇓iP		P	12 35 08.1	-0.3
CFR	Carcaliu	75.88	319	⇓iP		P	12 35 08.1	-0.3
WUAZ	Wupatki	75.96	55	eP		P	12 35 11.3	+2.0
	comp=Z,4.1nm,0.9s							
VRI	Vrincioaia	76.05	320	⇑iP		P	12 35 08.1	-1.3
VRI	Vrincioaia	76.05	320	⇑iP		P	12 35 08.1	-1.3
BSEG	Bad Segeberg	76.20	334	eP		P	12 35 10.4	+0.4
	comp=Z,9.0nm,0.9s							
MVCO	Mesa Verde	76.52	52	eP		P	12 35 12.9	+0.4
	comp=Z,3.5nm,0.6s							
DOPR	Dopca	76.60	321	⇑iP		P	12 35 12.7	+0.2
MLR	Muntele Rosu	76.69	321	P		P	12 35 13.0	-0.2
	comp=Z,0.4nm,0.4s,baz=81,slow=19,SNR=2.9							
MLR	Muntele Rosu	76.69	321	P		P	12 35 13.0	-0.2
BRTR	Keskin Array B	76.96	312	P		P	12 35 13.7	-1.2
	comp=Z,1.5nm,0.7s,baz=48,slow=4.0,SNR=5.1							
BRTR	Keskin Array B	76.96	312	i P		P	12 35 14.8	0.0
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
MORC	Moravsky Berou	77.01	328	⇑P		P	12 35 13.6	-1.2
MORC	Moravsky Berou	77.01	328	⇑iP		P	12 35 13.6	-1.2
MORC	Moravsky Berou	77.01	328	eP		P	12 35 14.6	-0.3
	comp=Z,35nm,0.9s							
VOIR		77.15	321	⇑P		P	12 35 16.2	+0.5
VOIR		77.15	321	⇑iP		P	12 35 16.2	+0.5
EYMN	Ely	77.24	35	eP		P	12 35 15.8	-0.3
	comp=Z,5.1nm,0.8s							
MTUR	Matau	77.30	321	⇑P		P	12 35 06.4	-10
MTUR	Matau	77.30	321	⇑iP		P	12 35 06.4	-10
CLL	Collm	77.47	331	eP		P	12 35 17.2	-0.1
	comp=Z,14nm,0.9s							
CLL	Collm	77.47	331	⇑iP		P	12 35 16.6	-0.7
CLL				pmax	pmax			
	comp=Z,14nm,0.9s							
CLL	Collm	77.47	331	⇑iP		P	12 35 16.6	-0.7
CLL	Collm	77.47	331	⇑iP		P	12 35 16.6	-0.7
	comp=Z,14nm,0.9s							
CLL				i PcP		PcP	12 35 27.9	+0.3
CLL				LmV			13 10 00.0	
	comp=Z,100nm,20.1s							
VYHS	Vyhne	77.51	326	eP		P	12 35 17.6	0.0
VYHS				pmax	pmax			
	comp=Z,4.0nm,1.0s							
VYHS	Vyhne	77.51	326	eP		P	12 35 17.6	0.0
FBE	Freiberg	77.67	331	eP		P	12 35 18.7	+0.3
	comp=Z,7.0nm,0.9s							
VRAC	Vranov	77.76	328	P		P	12 35 18.9	0.0
	comp=Z,5.0nm,0.7s,baz=45,slow=5.7,SNR=7.4							
CLZ	Clausthal	77.94	333	eP		P	12 35 20.3	+0.4
	comp=Z,11nm,1.3s							
TANN	Tannenbergstha	78.40	331	eP		P	12 35 22.7	+0.1
	comp=Z,4.0nm,1.0s							
WERD	Werda	78.43	331	eP		P	12 35 22.9	+0.2
	comp=Z,5.0nm,1.0s							
GUNZ	Gunzen	78.49	331	eP		P	12 35 23.3	+0.3
	comp=Z,6.0nm,1.0s							
MOX	Moxa	78.51	332	eP		P	12 35 23.2	+0.1
	comp=Z,6.0nm,1.1s							
WERN	Wernitzgruen	78.54	331	eP		P	12 35 23.5	+0.2
	comp=Z,7.0nm,1.0s							
EKA	Eskdalemuir Ar	78.70	342	P		P	12 35 23.6	-0.5
	comp=Z,3.8nm,0.5s,baz=27,slow=5.0,SNR=11							
ROTZ	Rotzenmuhle	79.03	331	eP		P	12 35 26.6	+0.6
	comp=Z,24nm,1.8s							
KHC	Kasperske Hory	79.06	330	eP		P	12 35 25.6	-0.6
KHC				pmax	pmax			
	comp=Z,3.0nm,0.9s							
KHC	Kasperske Hory	79.06	330	eP		P	12 35 25.6	-0.6
KHC	Kasperske Hory	79.06	330	eP		P	12 35 25.6	-0.6
	comp=Z,3.3nm,0.9s							
GEC2	GERESS Array S	79.25	329	eP		P	12 35 27.4	+0.1
	comp=Z,6.0nm,1.1s							
GERES	GERESS Array B	79.25	329	P		P	12 35 26.6	-0.7
	comp=Z,1.7nm,0.4s,baz=38,slow=6.0,SNR=11							
ANMO	Albuquerque	79.27	52	⇓eP		P	12 35 29.2	+1.4
ANMO				pmax	pmax			
	comp=Z,14nm,1.7s							
BUG	Bochum--Univer	79.30	334	eP		P	12 35 27.3	0.0
	comp=Z,17nm,1.2s							
WET	Wettzell	79.31	330	eP		P	12 35 28.1	+0.6
	comp=Z,9.0nm,1.0s							
SCHQ	Schefferville	79.39	18	P		P	12 35 27.5	-0.3
	comp=Z,6.6nm,0.8s,baz=356,slow=5.3,SNR=8.4							
VTS	Vitosha	80.17	320	⇓P		P	12 35 32.4	-0.1
VTS	Vitosha	80.17	320	⇓iP		P	12 35 32.4	-0.1
DIVS	Divibare	80.48	323	⇑iP		P	12 35 33.7	-0.3
RJOB	Jochberg	80.50	329	eP		P	12 35 34.8	+0.7
	comp=Z,7.0nm,0.9s							
SOKA	Soboth	80.51	327	⇑iP		P	12 35 33.9	-0.2
	comp=Z,7.6nm,0.7s							
MMAI	Mount Meron Ar	80.68	306	P		P	12 35 35.7	+0.5
	comp=Z,1.8nm,0.4s,baz=49,slow=10,SNR=5.8							
WATA	Walderalm	81.29	330	⇑iP		P	12 35 37.9	-0.5
	comp=Z,5.4nm,0.5s							
WTTA	Wattenberg	81.33	330	⇑iP		P	12 35 38.7	0.0
	comp=Z,4.2nm,0.6s							
MOTA	Moosalm	81.46	330	⇑iP		P	12 35 39.1	-0.2
	comp=Z,3.9nm,0.5s							
BFO	Black Forest	81.62	332	eP		P	12 35 39.9	0.0
	comp=Z,6.0nm,1.1s							
FETA	Feichten	81.87	330	⇑iP		P	12 35 41.4	-0.1
	comp=Z,6.1nm,0.9s							
DAVA	Damuels	81.96	331	⇑iP		P	12 35 41.7	-0.2
	comp=Z,5.8nm,0.7s							
DAVOX	Davos/Dischmat	82.39	330	P		P	12 35 44.4	+0.2
	comp=Z,2.5nm,0.4s,baz=15,slow=19,SNR=3.3							
IDI	Anoyia	84.92	314	P		P	12 35 55.9	-1.3
	comp=Z,7.3nm,0.6s,baz=66,slow=4.3,SNR=9.4							
TXAR	Lajitas Array	84.93	54	P		P	12 35 58.1	+0.7
	comp=Z,1.8nm,0.6s,baz=302,slow=3.5,SNR=23							
KEST	Kesra	91.99	325	P		P	12 36 30.0	-1.0
	comp=Z,1.4nm,0.8s,baz=315,slow=10.0,SNR=3.6							
ESDC	Sonseca Array	93.32	336	P		P	12 36 35.9	-1.1
	comp=Z,0.5nm,0.5s,baz=10,slow=4.1,SNR=4.1							
TORD	Torodi Ar. Bea	114.92	320	PKP		PKPdf	12 42 01.4	-1.8
	comp=Z,0.5nm,0.6s,baz=10,slow=3.8,SNR=4.7							
QSPA	South Pole Qui	132.27	180	PKP		PKPdf	12 42 35.3	+0.5
	comp=Z,1.2nm,1.1s,baz=40,slow=11,SNR=3.0							
SIV	San Ignacio	145.65	47	PKPbc		PKPab	12 43 01.0	-0.3
	comp=Z,6.4nm,0.8s,baz=307,slow=4.5,SNR=9.1							
SNAA	Sanae	146.71	198	PKPbc		PKPab	12 43 03.1	-0.8
	comp=Z,0.3nm,0.4s,baz=217,slow=6.1,SNR=5.5							
BDFB	Brasilia	151.12	26	PKPbc		PKPbc	12 43 15.3	-0.2
	comp=Z,2.6nm,0.5s,baz=270,slow=8.1,SNR=3.9							

*IDC **08** 12:26:15.8±1.8, 52.29N×172.86W, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.6/30, mbtmp3.6/6, ML4.1/1, MS3.7/1, Ms1 3.7/1, ms1mx2.5/55, Error ellipse: s-maj=48.1km s-min=33.8km az=156.0*

*ISCJB **08** 12:26:26.7±0.5, 52.5N±0.1×172.67W±0.08, h118km, mb3.6/5, Error ellipse: s-maj=21.4km s-min=4.0km az=163.6*

*NEIC **08** 12:26:27.4, 52.46N×172.62W, h50km, ML3.7(AEIC), After AEIC.*

ISC 08 12:26:28.9±0.8, **52.5N**±0.1×**172.68W**±0.05, **h118**km, **n31**, σ**2.503**/**28**, **mb3.7**/**5**, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GSTR	Great Sitkin T	2.12	261	P		P	Pn	12 27 01.9	-1.9
GSMY	Great Sitkin M	2.12	259	P		P	Pn	12 27 01.6	-2.2
GSTD	Great Sitkin T	2.18	260	P		P	Pn	12 27 01.8	-2.7
GSTD				S		S	Sn	12 27 29.3	-2.5
GSCK	Great Sitkin C	2.20	259	P		P	Pn	12 27 02.6	-2.2
NIKH	Nikolski High	2.37	77	P		P	Pn	12 27 05.2	-1.7
NIKH				S		S	Sn	12 27 31.7	-4.4
ADAG	Mount Adagdak	2.47	260	P		P	Pn	12 27 07.0	-1.2
OKSP	Okmok Steeple	2.77	72	P		P	Pn	12 27 10.0	-2.0
KINC	Kanaga Island	2.80	260	P		P	Pn	12 27 11.9	-0.5
OKTU	Okmok Mt. Tuli	2.94	70	P		P	Pn	12 27 12.8	-1.6
OKFG	Magazine Ridge	3.03	70	P		P	Pn	12 27 13.3	-2.1
OKFG				S		S	Sn	12 27 51.3	0.0
MSOM	Makushin Julie	3.69	67	P		P	Pn	12 27 21.9	-2.4
UNV	Unalaska Valle	3.96	67	P		P	Pn	12 27 26.0	-1.7
UNV				S		S	Sn	12 28 12.1	-1.2
AKRB	Akutan Reef Bi	4.29	65	P		P	Pn	12 27 30.9	-1.3
AKGG	Akutan Green G	4.36	64	P		P	Pn	12 27 31.9	-1.2
SPIA	Saint Paul Isl	4.90	16	P		P	Pn	12 27 38.9	-1.5
AMKA	Amchitka	5.09	261	P		P	Pn	12 27 43.0	+0.1
ILAR	Eielson Array	18.03	37	Pn		Pn	Pn	12 30 30.5	-1.1
	0.3nm,0.3s,baz=215,slow=8.5,SNR=15								
INK	Inuvik	24.38	35	P		P		12 31 37.2	+1.6
	1.7nm,0.5s,baz=257,slow=7.2,SNR=8.1								
DLBC	Dease Lake	24.56	59	P		P		12 31 39.6	+2.1
	0.8nm,0.5s,baz=210,slow=8.3,SNR=4.4								
YKA	Yellowknife Ar	31.68	49	P		P		12 32 41.3	+0.5
	0.2nm,0.4s,baz=277,slow=7.0,SNR=8.3								
H11N2	WAKE ISLAND Hy	36.36	214	T		T		13 11 36.5	
	baz=21,slow=75,SNR=4.4								
H11N3	WAKE ISLAND Hy	36.36	214	T		T		13 11 37.6	
	baz=21,slow=75,SNR=3.4								
H11N1	WAKE ISLAND Hy	36.38	214	T		T		13 11 34.8	
	baz=21,slow=75,SNR=3.3								
H11S1	WAKE ISLAND Hy	37.56	213	T		T		13 13 19.6	
	baz=23								
H11S2	WAKE ISLAND Hy	37.57	213	T		T		13 13 21.2	
	baz=23								
H11S3	WAKE ISLAND Hy	37.58	213	T		T		13 13 20.7	
	baz=23								
PDAR	Pinedale Array	42.36	77	P		P		12 34 13.1	+1.

baz=47,SNR=5.5
VNDA Vanda 60.60 182 P **P** **12 46 49.4 -0.8**
0.4nm,0.4s,baz=355,slow=6.8,SNR=3.7
CMAR Chiang Mai Arr 77.09 294 P **P** **12 48 34.0 +1.2**
1.3nm,0.6s,baz=124,slow=4.7,SNR=10.0
SONM Songino Array 85.12 323 P **P** **12 49 15.9 +1.2**
0.3nm,0.5s,baz=164,slow=7.5,SNR=1.8
ILAR Eielson Array 88.31 17 P **P** **12 49 28.2 -1.3**
0.2nm,0.6s,baz=243,slow=4.5,SNR=4.1
TXAR Lajitas Array 96.22 61 P **P** **12 50 08.1 +1.1**
0.1nm,0.6s,baz=235,slow=4.3,SNR=2.1
MKAR Makanchi Array 99.77 316 P **Pdif** **12 50 23.3 +0.9**
0.2nm,0.4s,baz=91,slow=5.8,SNR=4.0
ARCES ARCESS Array B 122.81 345 PKP **PKPdf** **12 55 32.2 -0.4**
1.5nm,0.8s,baz=38,slow=2.2,SNR=4.7

KRSC 08 12:38:52.0±1.3, 51.46N×159.81E, h6km±32km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.26**	**321**	*eP*		Pn		12 39 15.4	-0.7
RUS				*eS*		Sg		12 39 32.3	-0.2
MTVR	**Mutnovka**	**1.43**	**316**	*eP*		Pn		12 39 18.3	-0.4
MTVR				*eS*		Sb		12 39 37.5	-0.4
ASAK	**Asacha**	**1.50**	**309**	*eP*		Pn		12 39 19.8	+0.3
ASAK				*eS*		Sg		12 39 40.1	-0.3
SPN	**Mys Shipunski**	**1.64**	**4**	*eP*		Pb		12 39 22.1	-0.6
SPN				*eS*		Sb		12 39 44.2	+0.6
PET	**Petropavlovsk**	**1.72**	**336**	*eP*		Pn		12 39 22.7	+0.3
PET				*eS*		Sb		12 39 45.3	-0.4
UGLR	**Uglovaya**	**1.85**	**341**	P		Pb		12 39 25.9	-0.5
PAU	**Pauzhetka**	**1.88**	**271**	*eP*		Pb		12 39 25.9	-0.7
SDLR	**Sedlovina**	**1.91**	**343**	P		Pn		12 39 24.9	-0.2
SMAR	**Somma**	**1.91**	**341**	P		Pb		12 39 26.6	-0.8
AVH	**Avacha**	**1.92**	**340**	*eP*		Pn		12 39 26.3	+1.0
KRER	**Koryakskii**	**1.96**	**341**	*eP*		Pn		12 39 26.5	+0.6
KOK	**Koryaka**	**1.97**	**339**	*eP*		Pn		12 39 26.8	+0.8
KRX	**Arik**	**2.03**	**340**	P		Pb		12 39 28.4	-1.0
MIPR	**Malaya Ipel'ka**	**2.06**	**294**	*eP*		Pn		12 39 27.8	+0.7
APC	**Apacha**	**2.19**	**313**	P		Pb		12 39 31.2	-0.8
GNL	**Ganaly**	**2.51**	**334**	P		Pn		12 39 34.3	+0.9

DJA 08 12:47:10.5±0.6, 2°S±4°×133°6E±°, h10km, M3.5/5, MLv3.5/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.45**	**21**	P		Pb		12 47 21.5	+1.0
SRPI				S		Sg		12 47 24.3	-0.9
BAKI	**Biak**	**1.09**	**1**	P		Pb		12 47 30.4	-1.1
RKPI	**Ransiki, Papua**	**2.05**	**292**	P		Pn		12 47 44.5	-0.6
SMPI	**Sarmi**	**2.65**	**84**	P		Pb		12 47 55.7	-2.3
GENI	**Genyem**	**4.09**	**94**	P		Pb		12 48 18.4	-4.4

*BJI **08** 12:48:17.6, 24.02S×179.29W, h490km, mb5.3/60, mB5.2/41*
*NEIC **08** 12:48:22.0±0.4, 24.01S×179.79W, h511km±4km, mb5.4/173, Error ellipse: s-maj=4.5km s-min=3.0km az=152.0*
*MOS **08** 12:48:21.4±0.9, 23.88S×179.81W, h507km, mb5.3/33, Error ellipse: s-maj=8.1km s-min=7.4km az=74.1*
*ISCJB **08** 12:48:21.4±0.4, 24.08S±0.03×179.76W±0.02, h517km±5km, mb5.3/252, Error ellipse: s-maj=4.0km s-min=2.7km az=169.9*
*GCMT **08** 12:48:22.0±0.2, 24.03S×179.70W, h536km±1km, MW5.8/104, Moment Tensor Solution. s104,c194; Duration: 1ᵖ8 Moment tensor: Scale 10¹⁷Nm; M_{rr}0.20±.05; $M_{\theta\theta}$1.64±.09; $M_{\phi\phi}$-1.84±.09; $M_{r\theta}$1.33±.09; $M_{\theta\phi}$-3.77±.07; $M_{\phi r}$-3.17±.08; Best double couple: M_o5.37400×10¹⁷ NP1:ϕ_s168.00000°, δ86.00000°, λ39.00000°. NP2:ϕ_s75.00000°, δ51.00000°, λ175.00000°. Principal axes: T 5.6370, Plg29.0000°, Azm39.0000°; N -0.5230, Plg51.0000°, Azm172.0000°; P -5.1110, Plg24.0000°, Azm295.0000°; nsta1 refers to body waves, cutoff=40s.*
*IDC **08** 12:48:23.0±0.5, 23.92S×179.82W, h517km±4km, mb4.9/26, mb1 5.0/29, mb1mx5.0/29, mbtmp5.8/29 Error ellipse: s-maj=8.7km s-min=6.6km az=175.0*
*SZGRF **08** 12:48:25.0, 24.06S×178.68W, h544km, South of Fiji Islands*

ISC 08 12:48:21.1±0.3, 24°01S±0°03×179°75W±0°03, h506km±2km, h507km; pP-P, n1448, σ1ˢ18/1633, mb5.4/251, 115C-51D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.47**	**163**	P		P	**P**	**12 49 54.3**	**+1.7**
	590nm,0.3s,baz=63,slow=10,SNR=14								
RAO				S			**S**	**12 51 08.3**	**+0.9**
	354nm,0.3s,baz=75,slow=20,SNR=8.2								
RAO	**Raoul Island**	**5.47**	**163**	P		P	**P**	**12 49 54.3**	**+1.7**
RAO				S		S	**S**	**12 51 08.3**	**+0.9**
RAO					pmax		pmax		
	comp=Z,590nm,0.3s								
RAO					smax		smax		
	comp=N,354nm,0.3s								
RAO	**Raoul Island**	**5.47**	**163**	*eP*			**P**	**12 49 52.8**	**+0.2**
	comp=N,1μm,0.3s								
RAO				S			**S**	**12 51 08.3**	**+0.9**
MSVF	**Nonsavu**	**6.58**	**341**	P		P	**P**	**12 50 05.0**	**+1.4**
	comp=N,2μm,0.7s								
MSVF	**Nonsavu**	**6.58**	**341**	*eP*			**P**	**12 50 04.9**	**+1.4**
MSVF	**Nonsavu**	**6.58**	**341**	*eP*			**P**	**12 50 04.9**	**+1.4**
NFK	**Norfolk Island**	**12.11**	**243**	↑P		P		12 51 07.0	+6.2
	baz=12,SNR=3.6								
LIFNC	**LIFOU**	**12.46**	**282**	*eP*			**P**	**12 51 05.6**	**+1.0**
AFI	**Afiamalu**	**12.55**	**38**	*eP*		P	**P**	12 51 02.3	-3.5
AFI	**Afiamalu**	**12.55**	**38**	*eP*		P		12 51 02.3	-3.5
OUZ	**Omahuta**	**12.58**	**206**	PN		P	**P**	**12 51 08.8**	**+3.2**
OUZ	**Omahuta**	**12.58**	**206**	*eP*		P	**P**	**12 51 08.3**	**+2.7**
NORM	**Noumea**	**12.79**	**275**	*eP*		P	**P**	**12 51 10.6**	**+2.4**
DZM	**Mont Dzumac**	**12.86**	**276**	*eP*		P	**P**	**12 51 12.0**	**+3.1**
	comp=N,1μm,1.2s								
DZM	**Mont Dzumac**	**12.86**	**276**	P		P	**P**	**12 51 10.7**	**+1.8**
	comp=N,14nm,0.3s,baz=90,slow=20,SNR=75								
DZM				S		S		12 53 34.7	+7.5
	comp=N,0.2nm,0.3s,baz=90,slow=20,SNR=4.1								
DZM	**Mont Dzumac**	**12.86**	**276**	*eP*			**P**	**12 51 11.1**	**+2.1**
DZM	**Mont Dzumac**	**12.86**	**276**	*eP*			**P**	**12 51 11.1**	**+2.1**
DZM				*eS*			**S**	**12 53 30.4**	**+3.1**
DZM				S			S	12 53 34.7	+7.4
WCZ	**Waipu Caves**	**12.94**	**202**	PN		P	**P**	**12 51 12.4**	**+2.9**
NOUC	**Port Laguerre**	**12.98**	**276**	*eP*		P	**P**	**12 51 11.2**	**+1.1**
MXZ	**Matakaoa Point**	**13.61**	**187**	*ePN*		P	**P**	**12 51 14.3**	**-2.2**
MXZ				*eSN*		S	**S**	**12 53 35.2**	**-5.9**
MKAZ	**Moumakai**	**13.77**	**197**	PN		P	**P**	**12 51 19.8**	**+1.6**
WTAZ	**Waiatarua**	**13.78**	**199**	*ePN*		P	**P**	**12 51 20.3**	**+2.0**
KBAZ	**Karaka Road Bo**	**13.83**	**198**	PN		P	**P**	**12 51 20.8**	**+2.0**
HAZ	**Te Kaha**	**13.86**	**188**	*ePN*		P	**P**	**12 51 20.9**	**+1.8**
URZ	**Urewera**	**14.46**	**190**	P		P	**P**	**12 51 23.0**	**-2.4**
	comp=N,29nm,0.3s,baz=274,slow=3.2,SNR=79								
URZ				S			**S**	**12 53 54.6**	**-2.7**
	comp=N,17nm,0.3s,baz=39,slow=23,SNR=16								
URZ				ScP			**ScP**	**12 58 46.2**	**-2.4**
	comp=N,1.6nm,0.3s,baz=246,slow=1.7,SNR=3.5								
URZ	**Urewera**	**14.46**	**190**	*eP*			**P**	**12 51 22.9**	**-2.4**
URZ				SN			**S**	**12 53 54.3**	**-3.0**
URZ	**Urewera**	**14.46**	**190**	*eP*			**P**	**12 51 23.9**	**-1.5**
URZ				S			**S**	**12 53 54.6**	**-2.7**
URZ				ScP			**ScP**	**12 58 46.2**	**-2.4**
MWZ	**Matawai**	**14.47**	**189**	PN		P	**P**	**12 51 25.4**	**-0.2**
MWZ				SN			**S**	**12 53 57.9**	**+0.2**
CNGZ	**Carnagh Statio**	**14.54**	**186**	PN		P	**P**	**12 51 28.2**	**+2.0**
HIZ	**Hauiti**	**15.17**	**196**	PN		P	**P**	**12 51 34.0**	**+1.1**
NMHZ	**Naumai**	**15.32**	**190**	PN		P	**P**	**12 51 35.0**	**+0.5**
BKZ	**Black Stump Fm**	**15.44**	**191**	PN		P	**P**	**12 51 33.3**	**-2.5**
BKZ				*eSN*		S	**S**	**12 54 11.1**	**-5.1**
BKZ	**Black Stump Fm**	**15.44**	**191**	*eP*		P	**P**	**12 51 35.8**	**0.0**
	comp=N,196nm,1.2s								
OTVZ	**Oturere**	**15.60**	**193**	PN		P	**P**	**12 51 38.3**	**+0.8**
KWHZ	**Kaweka Forest**	**15.71**	**191**	PN		P	**P**	**12 51 37.5**	**-1.0**
KWHZ				*eSN*		S	**S**	**12 54 16.5**	**-4.7**
VRZ	**Vera Road**	**15.77**	**196**	PN		P	**P**	**12 51 38.8**	**-0.3**
MOVZ	**Moawhango**	**15.82**	**193**	PN		P	**P**	**12 51 38.9**	**-0.7**
BHHZ	**Black Hill Sta**	**15.84**	**192**	PN		P	**P**	**12 51 38.1**	**-1.7**
PNHZ	**Pukenui**	**16.22**	**191**	PN		P	**P**	**12 51 41.4**	**-2.5**
TSZ	**Takapari Road**	**16.41**	**192**	PN		P	**P**	**12 51 43.9**	**-1.9**
DVHZ	**Dannevirke**	**16.60**	**191**	PN		P	**P**	**12 51 44.8**	**-3.0**
POWZ	**Post Office Ro**	**16.77**	**192**	PN		P	**P**	**12 51 48.6**	**-0.8**
BFZ	**Birch Farm**	**16.96**	**190**	PN		P	**P**	**12 51 50.5**	**-0.8**
BFZ	**Birch Farm**	**16.96**	**190**	*eP*			**P**	**12 51 50.8**	**-0.5**
	comp=N,139nm,0.7s								
MRZ	**Mangatainoka R**	**17.06**	**192**	PN		P	**P**	**12 51 48.6**	**-3.7**
MRZ				*eSN*		S		12 54 37.5	-7.7
OGWZ	**Otaki Gorge**	**17.29**	**193**	PN		P	**P**	**12 51 51.3**	**-3.2**
HOWZ	**Holdsworth Sta**	**17.30**	**192**	PN		P	**P**	**12 51 51.0**	**-3.7**
DUWZ	**D'Urville Isla**	**17.57**	**196**	PN		P	**P**	**12 51 56.0**	**-1.1**
CAW	**Cannon Point**	**17.59**	**193**	PN		P	**P**	**12 51 55.1**	**-2.2**
SNZO	**South Karori**	**17.86**	**194**	*eP*			**P**	**12 51 58.5**	**-1.2**
	comp=N,220nm,0.8s								
TCW	**Tory Channel**	**17.87**	**195**	PN		P	**P**	**12 51 58.2**	**-1.6**
QRZ	**Quartz Range**	**17.98**	**199**	PN		P	**P**	**12 52 00.9**	**0.0**
QRZ				*eSN*		S	**S**	**12 54 59.6**	**-0.5**
NNZ	**Nelson**	**18.10**	**197**	PN		P	**P**	**12 52 00.7**	**-1.2**
TUWZ	**Tuamarina**	**18.16**	**195**	PN		P	**P**	**12 52 00.6**	**-1.8**
BSWZ	**Blackbirch Sta**	**18.44**	**195**	PN		P	**P**	**12 52 05.0**	**0.0**
RAR	**Rarotonga**	**18.65**	**85**	P		P	**P**	**12 52 07.8**	**+0.5**
	comp=N,4.7nm,0.3s,baz=250,slow=6.7,SNR=16								
RAR					ScP		**ScP**	**12 58 55.9**	**-1.4**
	comp=N,1.2nm,0.3s,baz=207,slow=6.8,SNR=3.8								
THZ	**Tophouse**	**18.73**	**197**	PN		P	**P**	**12 52 07.0**	**-0.8**
THZ				*eSN*		S	**S**	**12 55 06.2**	**-6.3**
DSZ	**Denniston Nort**	**19.04**	**200**	PN		P	**P**	**12 52 10.4**	**-0.2**
KHZ	**Kahutara**	**19.18**	**195**	PN		P	**P**	**12 52 11.5**	**-0.3**
KHZ	**Kahutara**	**19.18**	**195**	*eP*			**P**	**12 52 11.4**	**-0.4**
	comp=N,152nm,0.5s								
LTZ	**Lake Taylor**	**19.86**	**198**	PN		P	**P**	**12 52 16.6**	**-1.4**
LHI	**Lord Howe Isla**	**20.17**	**244**	↑P		P	**P**	**12 52 24.2**	**+3.2**
	baz=20,SNR=4.4								
OXZ	**Oxford**	**20.42**	**197**	PN		P	**P**	**12 52 21.7**	**-1.4**
WVZ	**Waitaha Valley**	**20.58**	**200**	PN		P	**P**	**12 52 23.8**	**-0.7**
MQZ	**McQueen's Vall**	**20.62**	**196**	PN		P	**P**	**12 52 23.9**	**-0.9**
MQZ				*eSN*		S	**S**	**12 55 37.3**	**-5.3**
RPZ	**Rata Peaks**	**21.06**	**199**	P		P	**P**	**12 52 27.8**	**-1.1**
	comp=N,173nm,0.5s,baz=20,slow=1.4,SNR=56								
RPZ				S			**S**	**12 55 47.3**	**-2.5**
	comp=N,23nm,0.6s,baz=189,slow=19,SNR=5.9								
RPZ					ScP		**ScP**	**12 59 01.5**	**-1.2**
	comp=N,34nm,0.7s,baz=350,slow=2.7,SNR=5.6								
RPZ	**Rata Peaks**	**21.06**	**199**	PN		P	**P**	**12 52 27.8**	**-1.1**
RPZ	**Rata Peaks**	**21.06**	**199**	*eP*			**P**	**12 52 28.3**	**-0.6**
RPZ				S			**S**	**12 55 47.3**	**-2.5**
RPZ				ScP			**ScP**	**12 59 01.5**	**-1.2**
FOZ	**Fox Glacier**	**21.36**	**201**	PN		P	**P**	**12 52 29.9**	**-1.6**
LBZ	**Lake Benmore**	**21.93**	**200**	PN		P	**P**	**12 52 34.8**	**-2.0**
JCZ	**Jackson Bay**	**22.12**	**202**	PN		P	**P**	**12 52 37.9**	**-0.7**
MLZ	**Mavora Lakes**	**23.44**	**202**	PN		P	**P**	**12 52 50.2**	**0.0**
DCZ	**Deep Cove**	**23.91**	**203**	PN		P	**P**	**12 52 54.6**	**+0.2**
DCZ	**Deep Cove**	**23.91**	**203**	*eP*			**P**	**12 52 55.2**	**+0.8**
	comp=N,111nm,1.4s								
WHZ	**Wether Hill Ro**	**23.99**	**201**	PN		P	**P**	**12 52 54.4**	**-0.7**
WHZ	**Wether Hill Ro**	**23.99**	**201**	*eP*			**P**	**12 52 55.5**	**+0.3**
	comp=N,271nm,1.6s								
HNR	**Honiara**	**24.21**	**303**	*eP*			**P**	**12 52 57.4**	**-0.1**
HNR					pmax		pmax		
	comp=Z,19nm,0.8s								
HNR	**Honiara**	**24.21**	**303**	*eP*		P	**P**	**12 53 02.0**	**+4.6**
HNR	**Honiara**	**24.21**	**303**	*eP*			**P**	**12 52 57.4**	**-0.1**
	comp=Z,19nm,0.8s								
ARMA	**Armidale**	**26.20**	**250**	↑P		P	**P**	**12 53 17.3**	**+2.2**
	baz=26,SNR=46								
ARMA	**Armidale**	**26.20**	**250**	*eScP*			**ScP**	**12 59 19.4**	**+2.2**
TARA	**Tarawa**	**26.20**	**343**	*eP*			**P**	**12 53 15.8**	**+0.7**
EIDS	**Eidsvold**	**26.52**	**261**	↑P		P	**P**	**12 53 19.1**	**+1.3**
	baz=27,SNR=128								
EIDS	**Eidsvold**	**26.52**	**261**	*eP*			**P**	**12 53 19.0**	**+1.2**
	comp=Z,382nm,1.1s								
TBI	**Tubuai**	**27.72**	**95**	*eP*			**P**	**12 53 29.4**	**+1.0**
	comp=Z,272nm,0.9s								
RMQ	**Roma**	**28.56**	**258**	P		P	**P**	**12 53 37.8**	**+2.1**
	baz=29,SNR=94								
PAE	**Paea**	**28.86**	**83**	*eP*		P	**P**	**12 53 38.7**	**+0.4**
	comp=Z,68nm,1.2s								
PPT2	**Papeete2**	**28.88**	**83**	*eP*		P	**P**	**12 53 39.2**	**+0.5**
	comp=Z,331nm,1.2s								
PPT	**Papeete**	**28.89**	**83**	P		P	**P**	**12 53 39.2**	**+0.6**
	comp=Z,235nm,1.0s,baz=359,slow=1.2,SNR=14								
PPT					ScP		**ScP**	**12 59 25.4**	**-0.2**
	comp=Z,86nm,1.1s,baz=314,slow=0.1,SNR=3.1								
CNB	**Canberra Magne**	**29.00**	**240**	P		P	**P**	**12 53 41.6**	**+2.1**
	baz=29,SNR=78								
TIAR	**Tiarei**	**29.10**	**83**	*eP*		P	**P**	**12 53 41.2**	**+0.7**
	comp=Z,180nm,1.1s								
TVO	**Taravao**	**29.12**	**84**	*eP*		P	**P**	**12 53 41.0**	**+0.3**
	comp=Z,116nm,1.2s								
CAN	**Canberra**	**29.29**	**240**	*eP*		P	**P**	**12 53 43.5**	**+1.5**
CAN					pmax		pmax		
	comp=Z,152nm,0.9s								
CAN	**Canberra**	**29.29**	**240**	*eP*		P	**P**	**12 53 43.5**	**+1.5**
	comp=Z,152nm,0.9s								
YNG	**Young**	**29.54**	**242**	↑P		P	**P**	**12 53 45.9**	**+1.7**
	baz=30,SNR=18								
MILA	**Mila**	**29.63**	**237**	↓P		P	**P**	**12 53 46.8**	**+1.8**
	baz=30,SNR=67								
MEH	**Mehetia**	**30.17**	**84**	*eP*		P	**P**	**12 53 50.0**	**+0.2**
	comp=Z,149nm,1.3s								
PMOR	**Poriorio Ree**	**31.27**	**79**	*eP*		P	**P**	**12 53 59.5**	**+0.2**
	comp=Z,411nm,1.1s								
CMSA	**Cobar Meteorol**	**31.39**	**248**	P		P	**P**	**12 54 01.2**	**+1.1**
	baz=32,SNR=187								
VAH	**Vaihoa**	**31.43**	**80**	*eP*		P	**P**	**12 54 00.6**	**0.0**
	comp=Z,343nm,1.2s								
CTA	**Charters Tower**	**31.71**	**270**	P		P	**P**	**12 54 04.3**	**+1.3**
	comp=Z,684nm,0.7s,baz=92,slow=10.0								
CTA				S			**S**	**12 58 36.5**	**-0.2**
	comp=Z,9.0nm,0.8s,baz=195,slow=19,SNR=12								
CTA					ScP		**ScP**	**12 59 35.5**	**+0.6**
	comp=Z,35nm,1.0s,baz=86,slow=2.0,SNR=7.5								
CTA	**Charters Tower**	**31.71**	**270**	↑P		P	**P**	**12 54 04.4**	**+1.3**
	baz=32								
CTAO	**Charters Tower**	**31.71**	**270**	*eP*		P	**P**	**12 54 03.8**	**+0.8**
CTAO	**Charters Tower**	**31.71**	**270**	*eP*		P	**P**	**12 54 03.8**	**+0.8**
	comp=Z,858nm,0.9s								
TOO	**Toolangi**	**32.58**	**237**	P		P	**P**	**12 54 11.6**	**+1.3**
	baz=33,SNR=132								
QLP	**Quilpie**	**32.60**	**258**	↓P		P	**P**	**12 54 11.4**	**+0.8**
	baz=33,SNR=193								
MOO	**Moorlands**	**32.93**	**228**	↑P		P	**P**	**12 54 15.3**	**+2.2**
	baz=33,SNR=16								
TAU	**Tasmania Unive**	**33.03**	**227**	P		P	**P**	**12 54 15.4**	**+1.5**
	comp=Z,524nm,0.5s,SNR=16								
TAU	**Tasmania Unive**	**33.03**	**227**	*eP*		P	**P**	**12 54 15.1**	**+1.2**
TAU					pmax		pmax		
	comp=Z,84nm,0.9s								
TAU	**Tasmania Unive**	**33.03**	**227**	*eP*			**P**	**12 54 15.1**	**+1.2**
	comp=Z,84nm,0.9s								
RABL	**Rabaul**	**33.49**	**302**	↑P		P	**P**	**12 54 18.2**	**0.0**
	baz=34,SNR=7.7								
XMAS	**Kiritimati**	**33.78**	**43**	*eP*		P	**P**	**12 54 20.8**	**+0.1**
	comp=Z,541nm,1.0s								
MTSU	**Mount Surprise**	**33.98**	**273**	↓P		P	**P**	**12 54 23.6**	**+1.2**
	baz=34,SNR=602								
PMG	**Port Moresby**	**34.75**	**289**	*dirP*			**P**	**12 54 29.2**	**+0.4**
PMG	**Port Moresby**	**34.75**	**289**	*eP*			**P**	**12 54 29.4**	**+0.6**
	comp=Z,232nm,1.0s								
PMG					*eScP*		**ScP**	**12 59 47.9**	**+2.2**
STKA	**Stephens Creek**	**34.90**	**248**	P		P	**P**	**12 54 30.8**	**+1.0**
	comp=Z,48nm,0.4s,baz=100,slow=11,SNR=146								
STKA					PcP		**PcP**	**12 56 50.0**	**+1.3**
	comp=Z,17nm,0.6s,baz=104,slow=7.5,SNR=3.1								
STKA				S			**S**	**12 59 24.4**	**-0.5**
	comp=Z,14nm,1.0s,baz=93,slow=19,SNR=3.5								
STKA					ScP		**ScP**	**12 59 46.4**	**+0.4**
	comp=Z,26nm,1.1s,baz=50,slow=4.6,SNR=5.2								
STKA	**Stephens Creek**	**34.90**	**248**	P		P	**P**	**12 54 30.8**	**+1.0**
STKA								12 56 50.0	
STKA				S			**S**	**12 59 24.4**	**-0.5**
STKA					pmax		pmax		
	comp=Z,48nm,0.4s								
STKA					pmax		pmax		
	comp=Z,17nm,0.6s								
STKA					smax		smax		
	comp=N,14nm,1.0s								
STKA					pmax		pmax		
	comp=N,26nm,1.1s								
STKA	**Stephens Creek**	**34.90**	**248**	*eP*		P	**P**	**12 54 30.9**	**+1.0**
	comp=N,20nm,0.9s								
STKA					PcP		**PcP**	**12 56 50.0**	**+1.3**
STKA					S		**S**	**12 59 24.4**	**-0.5**
STKA					ScP		**ScP**	**12 59 46.4**	**+0.4**
ARPS	**Mount Arapiles**	**35.26**	**240**	P		P	**P**	**12 54 33.9**	**+1.1**
	baz=36,SNR=54								
COEN	**Coen**	**36.36**	**279**	⇑P		P	**P**	**12 54 43.2**	**+0.9**
	baz=37,SNR=68								
COEN	**Coen**	**36.36**	**279**	*eP*		P	**P**	**12 54 43.2**	**+0.9**
	comp=N,51nm,1.0s								
COEN					*eScP*		**ScP**	**12 59 53.9**	**+2.2**
HTT	**Hallett**	**37.24**	**246**	⇓P		P	**P**	**12 54 49.9**	**+0.5**
	baz=38,SNR=99								
PATS	**Pohnpei**	**37.40**	**322**	⇓P		P	**P**	**12 54 50.8**	**0.0**
	baz=38,SNR=6.3								
QIS	**Mount Isa**	**37.68**	**267**	⇓P		P	**P**	**12 54 53.3**	**+0.2**
	baz=38,SNR=61								
MANU	**Manus Island**	**38.58**	**300**	P		P	**P**	**12 55 00.6**	**+0.2**
	baz=39,SNR=15								
BBOO	**Buckleboo**	**39.61**	**247**	⇓P		P	**P**	**12 55 08.6**	**-0.1**
	baz=40,SNR=237								
BBOO	**Buckleboo**	**39.61**	**247**	*eP*		P	**P**	**12 55 08.5**	**-0.1**
	comp=N,8.5nm,0.8s								
TAOE	**Nuku Hiva Isla**	**40.69**	**75**	*eP*		P	**P**	**12 55 18.2**	**+0.6**
	comp=N,1μm,1.1s								
TAOE	**Nuku Hiva Isla**	**40.69**	**75**	*eP*		P	**P**	**12 55 18.0**	**+0.4**
	comp=N,397nm,1.0s								
RKT	**Rikitea**	**40.92**	**98**	*eP*		P	**P**	**12 55 20.1**	**+1.0**
	comp=N,129nm,1.1s								
ASAR	**Alice Springs**	**42.25**	**261**	P		P	**P**	**12 55 30.0**	**+0.2**
	comp=N,338nm,0.9s,baz=96,slow=7.0,SNR=688								
ASAR					PcP		**PcP**	**12 57 12.3**	**+0.1**
	comp=N,29nm,0.7s,baz=91,slow=6.3,SNR=4.3								
ASAR					ScP		**ScP**	**13 00 15.1**	**+0.6**
	comp=N,52nm,0.9s,baz=107,slow=4.0,SNR=26								
ASAR					S		**S**	**13 01 10.8**	**-2.6**
	comp=N,28nm,0.9s,baz=99,slow=15,SNR=12								
ASAR					PKiKP		**PKiKP**	**13 04 14.9**	**-1.0**
	comp=N,0.8nm,0.5s,baz=84,slow=1.2,SNR=4.4								
ASAR	**Alice Springs**	**42.25**	**261**	P		P	**P**	**12 55 30.0**	**+0.2**
ASAR								12 57 12.3	
ASAR				S		S	**S**	**13 01 10.9**	**-2.6**
ASAR					pmax		pmax		
	comp=Z,338nm,0.9s								
ASAR					pmax		pmax		
	comp=Z,29nm,0.7s								
ASAR					pmax		pmax		
	comp=N,52nm,0.9s								
ASAR					smax		smax		
	comp=N,29nm,0.9s								
WRAB	**Tennant Creek**	**42.62**	**266**	P		P	**P**	**12 55 32.0**	**-0.7**
	comp=N,3μm,1.2s								
WRAB	**Tennant Creek**	**42.62**	**266**	*dirP*		P	**P**	**12 55 32.4**	**-0.3**
WRAB	**Tennant Creek**	**42.62**	**266**	*eP*		P	**P**	**12 55 32.5**	**-0.2**
	comp=N,368nm,0.7s								
WRA	**Warramunga Arr**	**42.63**	**266**	P		P	**P**	**12 55 32.5**	**-0.2**
	comp=N,375nm,0.7s,baz=96,slow=8.4,SNR=1573								
WRA					PcP		**PcP**	**12 57 13.2**	**-0.4**
	comp=N,28nm,0.8s,baz=93,slow=5.0,SNR=5.5								
WRA					ScP		**ScP**	**13 00 17.7**	**+1.6**
	comp=N,70nm,1.0s,baz=100,slow=4.2,SNR=29								
WRA					S		**S**	**13 01 13.7**	**-5.3**
	comp=N,19nm,0.7s,baz=103,slow=14,SNR=14								
WRA					PKiKP		**PKiKP**	**13 04 15.2**	**-1.1**
	comp=N,1.3nm,0.7s,baz=48,slow=1.2,SNR=6.5								
JAY	**Jayapura**	**43.77**	**293**	P		P	**P**	**12 55 42.0**	**+0.2**
	comp=N,409nm,1.2s,comp=N,5μm								
JAY	**Jayapura**	**43.77**	**293**	P		P	**P**	**12 55 41.6**	**-0.1**
	comp=N,308nm,0.7s,baz=134,slow=3.5								
JAY					ScP		**ScP**	**13 00 21.1**	**+0.3**
	comp=N,26nm,1.0s,baz=157,slow=4.5,

comp=Z,2µm,0.9s,comp=Z,19µm
KDI Kendari 58.93 280 P **P** **12 57 31.1 -0.6**
comp=Z,200nm,1.1s,comp=Z,2µm
KMSI Cibinong 59.76 286 P **P** **12 57 37.4 +0.1**
comp=Z,622nm,0.9s
SGSI Sangihe 59.92 290 P **P** **12 57 38.3 -0.1**
comp=Z,429nm,1.0s
BSSI Bau Bau, Buton 59.94 277 P **P** **12 57 37.7 -0.8**
comp=Z,215nm,1.1s,comp=Z,2µm
LUWI Luwuk 60.08 283 P **P** **12 57 39.5 +0.1**
comp=Z,542nm,1.0s,comp=Z,6µm
LUWI Luwuk 60.08 283 ⇑P **P** **12 57 39.6 +0.2**
baz=60,SNR=35
LUWI Luwuk 60.08 283 *e*P **P** **12 57 39.6 +0.2**
comp=Z,524nm,1.0s
CASY Casey 60.11 206 *e*P **P** **12 57 39.0 +0.2**
comp=Z,33nm,0.7s
GIRL Giralia 60.12 257 P **P** **12 57 40.8 +1.2**
baz=60,SNR=35
BKSI Bulukumba 60.61 278 P **P** **12 57 42.2 -0.8**
comp=Z,406nm,0.8s,comp=Z,3µm
KAPI Kappang 61.07 278 P **P** **12 57 46.1 +0.1**
comp=Z,405nm,0.5s,SNR=20
KAPI Kappang 61.07 278 *e*P **P** **12 57 45.9 -0.2**
comp=Z,23nm,1.0s
APSI Ampana 61.14 283 P **P** **12 57 46.7 +0.3**
comp=Z,433nm,1.1s,comp=Z,4µm
SPSI Sidrap Palu 61.49 279 P **P** **12 57 47.2 -1.6**
comp=Z,164nm,0.9s,comp=Z,2µm
MRSI Marisa 61.51 285 P **P** **12 57 47.8 -1.1**
comp=Z,186nm,0.8s,comp=Z,2µm
TTSI Tana Toraja 61.84 280 P **P** **12 57 50.0 -1.0**
comp=Z,118nm,0.9s,comp=Z,1µm
CBIJ Chichi jima 62.71 322 *e*P **P** **12 57 56.1 -0.2**
JCJ Chichijima 62.71 322 P **P** **12 57 56.3 -0.1**
comp=Z,60nm,0.5s,baz=81,slow=18,SNR=6.5
RPN Rapa Nui 62.82 109 P **P** **12 57 59.5 +2.2**
comp=Z,100nm,0.9s,baz=232,slow=2.6,SNR=5.4
CTBH Cotabato--PC H 62.82 292 ⇑*i*P **P** **12 57 57.6 +0.2**
TOLI Toli-Toli 62.82 285 *e*P **P** **12 57 56.9 -0.5**
comp=Z,371nm,0.6s
MPSI Mapaga 63.26 283 P **P** **12 57 59.6 -0.6**
comp=Z,426nm,0.8s,comp=Z,3µm
JAGI Jajag, Banyuwa 64.81 272 ⇑P **P** **12 58 09.0 -1.1**
baz=65,SNR=28
JAGI Jajag, Banyuwa 64.81 272 *e*P **P** **12 58 08.8 -1.3**
comp=Z,295nm,1.0s
QSPA South Pole Qui 66.07 180 S **S** **13 06 26.3 +1.0**
comp=Z,2.8nm,1.2s,baz=119,slow=12,SNR=2.9
QSPA PKP2bc 13 26 46.6
comp=Z,7.3nm,1.0s,baz=249,slow=2.7,SNR=7.2
QSPA South Pole Qui 66.07 180 *e*P **P** **12 58 19.0 +1.7**
comp=Z,46nm,0.9s
QSPA S **S** **13 06 26.3 +1.0**
QSPA ⇑*e* 13 26 46.6
MYLDM Lahad Datu 66.75 287 *e*P **P** **12 58 23.9 +1.7**
UGM Wanagama 68.34 271 ⇑P **P** **12 58 31.7 -0.4**
baz=69,SNR=27
SMRI Semarang 68.74 272 ⇑P **P** **12 58 35.3 +0.8**
baz=69,SNR=5.8
SMRI Semarang 68.74 272 *e*P **P** **12 58 34.8 +0.2**
comp=Z,113nm,0.8s
KKM Kota Kinabalu 69.16 287 *e*P **P** **12 58 36.9 -0.2**
comp=Z,131nm,0.7s
TGY Tagaytay City 69.22 297 P **P** **12 58 37.8 +0.5**
comp=Z,102nm,0.4s
CISI Cisompet, Garu 70.95 270 ⇓P **P** **12 58 47.1 -0.6**
baz=71,SNR=7.3
CISI Cisompet, Garu 70.95 270 *e*P **P** **12 58 46.6 -1.2**
comp=Z,245nm,1.0s
SBUM Sibu 71.06 282 *e*P **P** **12 58 48.6 +0.3**
comp=Z,104nm,1.3s
LEM Lembang 71.41 271 P **P** **12 58 51.5 +0.9**
baz=72,SNR=12
XMI Christmas Isla 71.80 266 ⇑P **P** **12 58 53.1 +0.4**
baz=72,SNR=11
MJAR Matsushiro Arr 72.12 325 P **P** **12 58 53.6 -0.4**
comp=Z,35nm,0.8s,baz=166,slow=6.2,SNR=94
MAJO Matsushiro 72.12 325 *de*P **P** **12 58 53.9 -0.1**
MAJO pmax pmax
comp=Z,291nm,0.7s
MAJO Matsushiro 72.12 325 *e*P **P** **12 58 53.6 -0.4**
comp=Z,50nm,0.8s
MAT Matsushiro 72.12 325 P **P** **12 58 54.2 +0.2**
MAT S **SKiKP** **13 07 36.4 0.0**
KSM Kuching 72.35 280 ⇓P **P** **12 58 56.1 +0.3**
baz=73,SNR=39
KSM Kuching 72.35 280 *e*P **P** **12 58 55.8 -0.1**
comp=Z,248nm,0.9s
YOJ Yonaguni jima 73.48 307 *e*P **P** **12 59 02.1 0.0**
YOJ pmax pmax
comp=Z,164nm,1.3s
YOJ Yonaguni jima 73.48 307 *e*P **P** **12 59 02.1 0.0**
comp=Z,164nm,1.3s
JNU Nakatsue 73.76 318 P **P** **12 59 03.4 -0.2**
comp=Z,50nm,1.0s,baz=103,slow=3.5,SNR=22
JNU S **S** **13 07 50.4 -3.4**
comp=Z,4.5nm,0.8s,baz=60,slow=8.1,SNR=2.2
JNU Nakatsue 73.76 318 *e*P **P** **12 59 04.0 +0.5**
JNU S **S** **13 07 50.4 -3.4**
ERM Erimo 74.11 332 P **P** **12 59 06.6 +1.4**
comp=Z,207nm,0.8s,SNR=6.6
ERM Erimo 74.11 332 *ce*P **P** **12 59 07.4 +2.2**
ERM pmax pmax
comp=Z,34nm,0.9s
ERM Erimo 74.11 332 *e*P **P** **12 59 06.8 +1.6**
comp=Z,26nm,0.8s
SSLB Suanglung 74.61 305 *e*P **P** **12 59 07.8 -0.7**
comp=Z,92nm,0.9s
YUK Yuzh-Kuril'sk 74.69 335 *c*⇓P P 12 59 13.0 +4.5
YUK *i* 13 02 09.7
YUK *i* PPP PPP 13 03 57.5
YUK *i* S **S** **13 08 06.2 +2.9**
YUK pmax pmax
comp=Z,253nm,4.8s
TATO Taipei 74.90 307 *e*P **P** **12 59 10.0 -0.1**
comp=Z,251nm,0.9s
KUR Kuril'sk 74.97 337 *d*⇓P **P** **12 59 07.5 -2.5**
KUR *i* 13 02 05.8
KUR *i* S **S** **13 08 08.3 +2.0**
KUR *i* SS **SS** **13 13 09.3 0.0**
ATKA Atka Island 76.04 4 *e*P **P** **12 59 15.7 -0.1**
comp=Z,182nm,1.0s
ASAJ Asahikawa 76.07 333 P **P** **12 59 18.1 +1.9**
ASAJ Asahikawa 76.07 333 *e*P **P** **12 59 18.4 +2.2**
MNAI Manna 76.64 271 ⇓P **P** **12 59 19.1 -1.0**
baz=77,SNR=4.5
KSJJU Jeju 76.66 316 P **P** **12 59 20.8 +1.0**
SNR=8.1
KSJJU Jeju 76.66 316 P **P** **12 59 20.8 +1.0**
SNR=8.1
KSNAH Namhae 76.71 318 P **P** **12 59 21.0 +1.1**
SNR=7.3
KSNAH Namhae 76.71 318 P **P** **12 59 21.0 +1.1**
SNR=7.3
QZH Quanzhou 77.03 305 ⇓*i*P **P** **12 59 21.5 -0.4**
QZH S **S** **13 08 25.4 -3.9**
QZH ScS **SKKSac** **13 08 48.4 +1.1**
QZH PMZ
comp=Z,230nm,1.2s
KSULJ Uljin 77.10 320 P **P** **12 59 23.2 +1.2**
SNR=6.9
KSULJ Uljin 77.10 320 P **P** **12 59 23.2 +1.2**
SNR=6.9
KSEUS ULSEONG 77.28 320 P **P** **12 59 24.1 +1.1**
SNR=6.3
KSEUS ULSEONG 77.28 320 P **P** **12 59 24.1 +1.1**
SNR=6.3
KSKWJ Gwangju 77.51 318 P **P** **12 59 26.0 +1.6**
SNR=9.2
KSKWJ Gwangju 77.51 318 P **P** **12 59 26.0 +1.6**
SNR=9.2
KSCPR CHUPUNGNYEONG 77.62 319 P **P** **12 59 25.8 +0.9**
SNR=7.1
KSCPR CHUPUNGNYEONG 77.62 319 P **P** **12 59 25.8 +0.9**
SNR=7.1
KSTBA Taebaek 77.65 320 P **P** **12 59 26.5 +1.4**
SNR=10
KSTBA Taebaek 77.65 320 P **P** **12 59 26.5 +1.4**
SNR=10
MAW Mawson 77.73 200 P **P** **12 59 26.4 +1.5**
comp=Z,34nm,0.6s,baz=131,slow=6.7,SNR=42
MAW S **S** **13 08 36.0 +0.7**
comp=Z,4.1nm,1.0s,baz=50,slow=20,SNR=3.1
KSJEU Jeongeup 77.77 318 P **P** **12 59 26.3 +0.6**
SNR=30
KSJEU Jeongeup 77.77 318 P **P** **12 59 26.3 +0.6**
SNR=30
KSJEO Jeonju 77.84 318 P **P** **12 59 27.3 +1.3**
SNR=9.8
KSJEO Jeonju 77.84 318 P **P** **12 59 27.3 +1.3**
SNR=9.8
KSBON Boeun 77.91 319 P **P** **12 59 27.5 +1.0**
SNR=14
KSCHJ Chungju 78.06 320 P **P** **12 59 28.0 +0.8**
SNR=20
KSCHJ Chungju 78.06 320 P **P** **12 59 28.0 +0.8**
SNR=20
TJN Taejon 78.09 319 *ce*P **P** **12 59 27.7 +0.3**
KSHUK Heuksando 78.16 317 P **P** **12 59 28.9 +1.1**
SNR=14
KSDGY Daegwallycong 78.20 321 P **P** **12 59 29.7 +1.6**
SNR=18
BTDF Bukit Timah Da 78.22 277 P **P** **12 59 29.4 +0.8**
baz=79,SNR=3.6
BTDF P **P** **12 59 29.4 +0.8**
baz=79,SNR=3.6
KSGUS GUNSAN 78.22 318 P **P** **12 59 30.0 +1.9**
SNR=10
KSGUS GUNSAN 78.22 318 P **P** **12 59 29.9 +1.9**
SNR=5.3
KSJMJ Jumunjin 78.28 321 P **P** **12 59 30.0 +1.6**
SNR=8.7
KSKOJ Gongju 78.29 319 P **P** **12 59 30.0 +1.6**
SNR=7.7
MYKOM Kota Tinggi 78.33 277 *e*P **P** **12 59 29.4 +0.1**
YSS Yuzh-Sakhalins 78.33 335 ⇑*i*P **P** **12 59 30.0 +1.6**
YSS *i* S **S** **13 08 45.0 +3.0**
YSS *e* 13 08 54.0
YSS *e*SS **SS** **13 14 02.0 +2.5**
YSS pmax pmax
comp=N,30nm,1.0s
YSS pmax pmax
comp=Z,90nm,1.0s
YSS smax smax
comp=N,1µm,8.0s
YSS smax smax
comp=E,1µm,8.0s
YSS Yuzh-Sakhalins 78.33 335 *e*P **P** **12 59 29.8 +1.4**
comp=E,81nm,0.8s
UNV Unalaska Valle 78.38 8 *e*P **P** **12 59 27.8 -0.6**
comp=E,83nm,0.9s
KSCEA Cheonan 78.45 319 P **P** **12 59 30.2 +0.8**
SNR=11
KSCEA Cheonan 78.45 319 P **P** **12 59 30.2 +0.8**
SNR=11
KSRS Korea Array 78.48 320 P **P** **12 59 30.2 +0.8**
comp=E,28nm,0.7s,baz=135,slow=5.6,SNR=142
KSRS PP **PP** **13 02 36.0 -0.3**
comp=E,5.2nm,1.0s,baz=140,slow=8.8,SNR=4.9
KSRS Korea Array 78.48 320 P **P** **12 59 30.3 +0.8**
KSRS 13 02 36.0
KSRS pmax pmax
comp=Z,28nm,0.7s
KSRS pmax pmax
comp=Z,5.0nm,1.0s
KSAR Wonju Array Be 78.50 320 P **P** **12 59 30.3 +0.7**
KSAR 13 02 36.0
KSAR Wonju Array Be 78.50 320 P **P** **12 59 30.2 +0.7**
KSAR PP **PP** **13 02 36.0 -0.4**
DLV T Lat 78.65 289 *e*P **P** **12 59 32.1 +1.0**
KSICN Icheon 78.67 320 P **P** **12 59 31.9 +1.4**
SNR=7.1
KSSKC Sokcho 78.70 321 P **P** **12 59 32.0 +1.4**
SNR=7.0
KSSKC Sokcho 78.70 321 P **P** **12 59 32.0 +1.4**
SNR=7.0
KSIJA INJE 78.73 320 P **P** **12 59 32.2 +1.4**
SNR=23
KSCHC Chuncheon 78.76 320 P **P** **12 59 32.6 +1.6**
SNR=22
SEHB SEOHWA 78.84 321 P **P** **12 59 33.0 +1.6**
SNR=15
KSSES Seosan 78.91 319 P **P** **12 59 32.4 +0.6**
SNR=6.9
KSSWO Suwon 78.92 319 P **P** **12 59 33.4 +1.6**
SNR=13
PET Petropavlovsk 78.98 347 *e*P **P** **12 59 30.6 -1.1**
PET *e**SP **sP** **13 02 11.8 -1.1**
PET *i* S **S** **13 08 46.9 -1.6**
PET *e*SS **SS** **13 14 10.7 +1.8**
PET *e*SSS SSS 13 17 30.6
PET pmax pmax
comp=Z,36nm,0.7s
PET Petropavlovsk 78.98 347 *e*P **P** **12 59 31.2 -0.5**
comp=Z,23nm,0.6s
KSSEO Seoul 79.10 319 P **P** **12 59 34.5 +1.8**
SNR=8.0
KSCWO Cheorwon 79.14 320 P **P** **12 59 34.6 +1.6**
SNR=38
PETK Petropavlovsk- 79.26 346 P **P** **12 59 33.7 +0.4**
comp=Z,57nm,0.9s,baz=124,slow=7.8,SNR=49
INCN Inchon 79.26 319 *e*P **P** **12 59 35.1 +1.4**
comp=Z,77nm,1.1s
YNCB YEONCHEON 79.46 320 P **P** **12 59 35.7 +1.1**
SNR=30
KSGAH Ganghwa 79.52 319 P **P** **12 59 36.0 +1.1**
SNR=26
FALS False Pass 79.79 10 *e*P **P** **12 59 35.9 -0.1**
VLA Vladivostok 80.26 326 ⇓*e*P **P** **12 59 40.3 +1.6**
VLA pmax pmax
comp=Z,52nm,1.0s
SDPT Sand Point 80.74 11 *e*P **P** **12 59 39.6 -1.3**
comp=Z,256nm,1.5s
QIZ Qiongzhong 80.86 295 P **P** **12 59 42.5 +0.1**
QIZ pP **pP** **13 01 29.5 -2.6**
QIZ S **S** **13 09 11.3 +2.1**
QIZ sS **sS** **13 12 22.0 -2.8**
QIZ PMZ
comp=Z,8.0nm,0.7s
QIZ PMZ
comp=Z,210nm,11.4s
NJ2 Nanjing 80.91 311 *e*P **P** **12 59 41.6 -0.8**
USRK Ussuriysk Ar. 80.98 327 P **P** **12 59 43.2 +0.8**
comp=Z,34nm,0.8s,baz=128,slow=3.3,SNR=74
BSC Santa Cruz Isl 81.18 47 P **P** **12 59 44.5 +0.8**
baz=81
SCI San Clemente I 81.31 48 P **P** **12 59 45.6 +1.1**
baz=82,SNR=18
SBC Santa Barbara 81.39 46 P **P** **12 59 45.3 +0.5**
baz=82
PKM Peak Mountain 81.59 46 P **P** **12 59 47.2 +1.1**
baz=82
BLG Laguna Peak 81.62 47 P **P** **12 59 45.8 -0.3**
baz=82
MCCM Marconi Confer 81.65 42 *e*P **P** **12 59 47.1 +1.1**
comp=Z,85nm,1.0s
CIS Catalina Islan 81.66 48 P **P** **12 59 46.7 +0.4**
baz=82,SNR=11
SMMC Simmler 81.72 46 P **P** **12 59 47.5 +0.9**
baz=82
FMP Fort Macarthur 81.91 48 P **P** **12 59 48.1 +0.7**
baz=82
IPM Ipoh 82.01 278 *e*P **P** **12 59 47.6 -0.9**
comp=Z,77nm,0.7s
OSI Osito Adit 82.15 47 P **P** **12 59 49.4 +0.6**
baz=82
OSI Osito Adit 82.15 47 *e*P **P** **12 59 50.3 +1.5**
comp=Z,23nm,0.7s
DECC Green Verdugo 82.20 47 P **P** **12 59 49.6 +0.6**
baz=82
KCPM Cahto Peak 82.21 40 *e*P **P** **12 59 50.1 +1.1**
comp=Z,55nm,1.0s
109C Camp Elliot, M 82.25 49 P **P** **12 59 49.8 +0.6**
baz=82,SNR=6.4
PASC Pasadena Art C 82.25 47 *e*P **P** **12 59 50.0 +0.8**
comp=Z,50nm,1.0s
KIPM Iron Peak 82.35 40 *e*P **P** **12 59 50.6 +0.8**
comp=Z,183nm,1.3s
MWC Mount Wilson 82.37 47 *e*P **P** **12 59 50.3 +0.2**
MWC pmax pmax
comp=Z,25nm,0.6s
MWC Mount Wilson 82.37 47 *e*P **P** **12 59 50.3 +0.2**
comp=Z,25nm,0.6s
ARVC Arvin 82.38 46 P **P** **12 59 50.2 +0.3**
baz=83,SNR=7.0
BAR Barrett 82.43 49 *e*P **P** **12 59 50.9 +0.7**
comp=Z,130nm,1.6s
KMRM Mail Ridge 82.48 40 *e*P **P** **12 59 52.1 +1.7**
comp=Z,394nm,1.5s
MDJ Mudanjiang 82.49 326 P **P** **12 59 51.5 +1.3**
MDJ PP **PP** **13 03 06.3 -2.6**
MDJ S **S** **13 09 28.3 +3.7**
MDJ PMZ
comp=Z,64nm,0.9s
MDJ PMZ
comp=Z,130nm,6.6s
MDJ Mudanjiang 82.49 326 *e*P **P** **12 59 50.5 +0.4**
MURC Murrieta 82.59 48 P **P** **12 59 51.6 +0.6**
baz=83,SNR=20
VES Vestal, Richgr 82.64 46 P **P** **12 59 51.1 0.0**
baz=83,SNR=8.6
BFSC Mount Baldy Ra 82.64 48 P **P** **12 59 51.6 +0.2**
baz=83,SNR=32
SLBS Sierra La Lagu 82.66 60 *e*P **P** **12 59 52.6 +0.9**
comp=Z,81nm,0.8s
KULM Kulim 82.69 279 *e*P **P** **12 59 52.0 0.0**
comp=Z,101nm,1.2s
HABR Khabarovsk 82.72 332 *ce*P **P** **12 59 50.9 -0.3**
HABR *e**SP **sP** **13 02 31.9 -1.4**
HABR *e* 13 03 09.4
HABR *e* 13 05 06.1
HABR S **SKSac** **13 09 23.1 -0.7**
HABR eSS **SS** **13 15 04.5 +0.3**
HABR SSS SSS 13 18 38.5
HABR pmax pmax
comp=Z,20nm,0.8s
HABR MLR MLR
comp=Z,45nm,17.0s
MONP Monument Peak 82.72 49 P **P** **12 59 52.6 +0.7**
baz=83,SNR=70
UBPT Khong Chiam 82.78 290 P **P** **12 59 53.5 +1.2**
comp=Z,54nm,1.4s
EDW2 Edwards Air Fo 82.79 47 P **P** **12 59 52.5 +0.4**
baz=83,SNR=75
RCTC Rector, Farmer 82.81 45 P **P** **12 59 52.3 +0.3**
baz=83
IBP Imperial Bould 82.82 50 P **P** **12 59 52.9 +0.7**
baz=83,SNR=39
KHMM Horse Mountain 82.89 39 *e*P **P** **12 59 54.2 +1.8**
comp=Z,176nm,1.3s
ISA Isabella 82.93 46 *e*P **P** **12 59 53.5 +0.7**
ISA pmax pmax
comp=Z,98nm,0.9s
ISA Isabella 82.93 46 P **P** **12 59 53.2 +0.4**
baz=83,SNR=129
ISA Isabella 82.93 46 *e*P **P** **12 59 53.5 +0.7**
comp=Z,98nm,0.9s
SYO Syowa Base 82.96 193 ⇓*e*P **P** **12 59 50.6 -1.6**
SYO Syowa Base 82.96 193 ⇓*i*PcP **PcP** **12 59 54.6 -1.0**
PFO Pinyon Flat Ob 83.10 49 P **P** **12 59 54.9 +1.2**
comp=Z,256nm,1.1s,SNR=7.5
PFO Pinyon Flat Ob 83.10 49 S **S** **13 09 28.5 -3.0**
comp=Z,0.5s,baz=273,slow=18,SNR=6.4
PFO Pinyon Flat Ob 83.10 49 *e*P **P** **12 59 54.1 +0.4**
PFO S **S** **13 09 28.5 -3.0**
PFO pmax pmax
comp=Z,95nm,1.3s
PFO Pinyon Flat Ob 83.10 49 P **P** **12 59 54.4 +0.6**
baz=83,SNR=34
PFO Pinyon Flat Ob 83.10 49 *e*P **P** **12 59 54.1 +0.4**
comp=Z,95nm,1.3s
PFO S **S** **13 09 28.5 -3.0**
CMB Columbia Colle 83.12 43 *e*P **P** **12 59 53.9 +0.3**
CMB pmax pmax
comp=Z,109nm,1.0s
CMB Columbia Colle 83.12 43 *e*P **P** **12 59 53.9 +0.3**
comp=Z,109nm,1.0s
BBRC Big Bear Solar 83.16 48 P **P** **12 59 54.3 +0.2**
baz=83,SNR=7.1
SWSC Sam W. Stewart 83.18 50 P **P** **12 59 54.1 +0.2**
baz=83,SNR=12
DL2 Dalian 83.20 318 P **P** **12 59 54.8 +0.9**
PSI Prapat 83.22 276 PP PP 13 03 10.7 -4.7
comp=Z,19nm,1.1s,baz=152,slow=4.0,SNR=6.0
PSI S **SKSac** **13 09 24.8 -4.2**
comp=Z,1.0nm,0.3s,baz=349,slow=23,SNR=12
PSI Prapat 83.22 276 *e*P **P** **12 59 53.8 -1.0**
PSI 13 03 10.7
PSI S **SKSac** **13 09 24.8 -4.2**
PSI pmax pmax
comp=Z,92nm,1.1s
PSI Prapat 83.22 276 ⇓P **P** **12 59 53.7 -1.0**
baz=84,SNR=26
PSI Prapat 83.22 276 *e*P **P** **12 59 53.8 -1.0**
comp=Z,92nm,1.1s
PSI PP **PP** **13 03 10.7 -4.7**
PSI S **SKSac** **13 09 24.8 -4.2**
LRMC Laurel Mountai 83.34 47 P **P** **12 59 55.4 +0.5**
baz=84,SNR=48
WDC Whiskeytown Da 83.39 40 *e*P **P** **12 59 56.1 +1.3**
WDC pmax pmax
comp=Z,125nm,1.1s
WDC Whiskeytown Da 83.39 40 *e*P **P** **12 59 56.1 +1.3**
comp=Z,125nm,1.1s
RRX Edison Barstow 83.46 47 P **P** **12 59 56.0 +0.7**
baz=84
KBO Bosley Butte 83.47 38 *e*P **P** **12 59 56.7 +1.4**
comp=Z,220nm,1.5s
SKLT Songkhla 83.50 281 P **P** **12 59 58.0 +2.0**
comp=Z,85nm,1.0s,comp=Z,1µm
N02D Trinity Center 83.55 40 P **P** **12 59 56.6 +0.9**
baz=84,SNR=10
BELC Belle Mtn. Jos 83.64 49 P **P** **12 59 57.2 +0.8**
baz=84,SNR=84
CWC Cottonwood Cre 83.64 46 P **P** **12 59 56.4 0.0**
baz=84,SNR=10
M02C Callahan 83.72 39 P **P** **12 59 57.6 +1.0**
baz=84,SNR=13
L02D Cave Junction, 83.79 38 P **P** **12 59 57.8 +1.0**
baz=84,SNR=16
MPMC Manual Prospec 83.81 46 P **P** **12 59 57.7 +0.4**
baz=84,SNR=55
BC3 Big Chuckawall 83.82 49 P **P** **12 59 58.4 +1.2**
baz=84,SNR=42
GSC Goldstone 83.83 47 *e*P **P** **12 59 57.8 +0.5**
GSC pmax pmax
comp=Z,83nm,1.0s
GSC Goldstone 83.83 47 P **P** **12 59 57.8 +0.5**
baz=84,SNR=67
GSC Goldstone 83.83 47 *e*P **P** **12 59 57.8 +0.5**
comp=Z,83nm,1.0s
GSI Gunungsitoli 83.84 274 *e*P **P** **12 59 58.2 +0.6**
KEBM Edson Butte 83.84 37 *e*P **P** **12 59 57.8 +0.7**
comp=Z,187nm,1.3s
MLAC Mammoth Lakes 83.86 44 P **P** **12 59 57.9 +0.4**
baz=84
DAC Darwin (Calif) 83.87 46 *e*P **P** **12 59 57.7 +0.1**
DAC pmax pmax
comp=Z,33nm,1.0s
DAC Darwin (Calif) 83.87 46 *e*P **P** **12 59 57.6 +0.1**
comp=Z,33nm,1.0s
SNY Shenyang 83.88 321 ⇓P **P** **12 59 58.2 +1.0**
SNY PMZ
comp=Z,43nm,0.8s
SNY PMZ
comp=Z,130nm,5.9s
HEC Hector,Ludlow 83.88 48 P **P** **12 59 57.9 +0.4**
baz=84,SNR=101
TIN Tinemaha 83.91 45 P **P** **12 59 58.2 +0.5**
baz=84,SNR=6.3
GLA Glamis 83.92 50 *e*P **P** **12 59 58.9 +1.2**
GLA pmax pmax
comp=Z,144nm,1.0s
GLA Glamis 83.92 50 P **P** **12 59 58.8 +1.1**
baz=84,SNR=75
GLA Glamis 83.92 50 *e*P **P** **12 59 58.9 +1.2**
comp=Z,144nm,1.0s
OHAK Old Harbor 83.93 14 *e*P **P** **12 59 57.2 +0.2**
comp=Z,120nm,1.2s
WAKR Walker 84.00 43 *e*P **P** **12 59 58.9 +0.7**
YBH Yreka Blue Hor 84.03 39 P **P** **12 59 59.2 +1.1**
comp=Z,43nm,0.9s,baz=204,slow=1.6,SNR=25
YBH Yreka Blue Hor 84.03 39 *e*P **P** **12 59 59.2 +1.1**
YBH pmax pmax
comp=Z,69nm,1.1s
YBH Yreka Blue Hor 84.03 39 *e*P **P** **12 59 59.2 +1.1**
comp=Z,69nm,1.1s
CN2 Changchun 84.11 323 *e*P **P** **12 59 59.0 +0.7**
CN2 *e*S **S** **13 09 42.7 +2.1**
CN2 PMZ
comp=Z,60nm,1.1s
GMRC Granite Mounta 84.31 48 P **P** **13 00 00.5 +0.8**
baz=84,SNR=46
IRM Iron Mountain 84.31 49 P **P** **13 00 00.5 +0.9**
baz=84,SNR=94
GRAC Grapevine Rang 84.43 45 P **P** **13 00 00.6 +0.5**
baz=85,SNR=33
HUMO Hull Mountain 84.44 38 *e*P **P** **13 00 01.3 +1.3**
comp=Z,134nm,1.2s
FURC Furnace Creek, 84.46 46 P **P** **13 00 01.0 +0.8**

baz=85,SNR=14
TIA Tai'an 84.48 314 ⇑P **P** **13 00 01.6 +1.3**
TIA PP **PP** **13 03 25.6 +0.5**
TIA SKS **SKSac** **13 09 35.1 -0.6**
TIA S **S** **13 09 46.7 +2.2**
TIA PMZ
comp=Z,160nm,0.9s
TIA PMZ
comp=Z,780nm,4.5s
TUQ Turquoise Moun 84.50 47 P **P** **13 00 01.2 +0.6**
baz=85,SNR=50
Y12C Blythe 84.52 49 P **P** **13 00 01.5 +0.9**
baz=85,SNR=21
SHOC Shoshone 84.52 47 P **P** **13 00 00.7 +0.1**
baz=85,SNR=21
M04C Macdoel 84.56 40 P **P** **13 00 01.1 +0.3**
baz=85,SNR=15
KDAK Kodiak Island 84.60 14 P **P** **13 00 01.0 +0.7**
comp=Z,229nm,1.0s,SNR=6.6
KDAK Kodiak Island 84.60 14 *i*P **P** **13 00 01.7 +1.4**
KDAK Kodiak Island 84.60 14 *e*P **P** **13 00 02.0 +1.7**
comp=Z,196nm,1.7s
TRTT Trang 84.62 281 P **P** **13 00 02.9 +1.4**
comp=Z,102nm,1.0s,comp=Z,1µm
NVAR Mina Array Bea 84.67 44 P **P** **13 00 01.8 +0.3**
comp=Z,24nm,0.8s,baz=225,slow=7.8,SNR=168
NVAR pP **pP** **13 01 56.1 +3.6**
comp=Z,2.1nm,0.9s,baz=246,slow=8.6,SNR=1.3
NVAR PKPPKP **P'P'df** **13 26 13.2 +0.5**
comp=Z,0.5nm,0.7s,baz=103,slow=3.3,SNR=4.9
KLR Kul'dur 84.74 330 *e*P **P** **12 59 59.2 -2.1**
214A Organ Pipe Nat 84.75 52 P **P** **13 00 03.0 +1.1**
baz=85
214A Organ Pipe Nat 84.75 52 *e*P **P** **13 00 02.7 +0.9**
comp=Z,85nm,1.1s
SKNT Sakolnakorn 84.82 291 P **P** **13 00 03.1 +0.7**
comp=Z,365nm,0.8s,comp=Z,3µm
LDFC Landfair 84.85 48 *e*P **P** **13 00 03.5 +1.2**
comp=Z,201nm,1.0s
I03D Drain, OR 84.92 37 P **P** **13 00 03.2 +1.0**
baz=85,SNR=20
NEE2 Needles Airpor 85.01 49 P **P** **13 00 03.6 +0.7**
baz=85,SNR=8.2
SRIT Nakonsritamara 85.02 282 P **P** **13 00 05.5 +2.0**
comp=Z,73nm,1.4s,comp=Z,2µm
PDMCI Parker Dam,Lak 85.08 49 P **P** **13 00 04.4 +1.1**
baz=85,SNR=30
NVL N'lazarevskaya 85.13 184 *e*P **P** **13 00 03.0 0.0**
NVL pmax pmax
comp=Z,20nm,0.8s
TPNV Topopah Spring 85.14 46 P **P** **13 00 03.8 +0.1**
baz=85,SNR=63
K04D Chiloquin, OR 85.14 39 P **P** **13 00 03.8 +0.2**
baz=85
TPH Tonopah 85.15 45 *e*P **P** **13 00 04.0 +0.1**
TPH pmax pmax
comp=Z,83nm,1.1s
TPH Tonopah 85.15 45 *e*P **P** **13 00 04.0 +0.1**
comp=Z,83nm,1.1s
J04D Umpqua Nationa 85.32 38 P **P** **13 00 05.2 +0.6**
baz=86,SNR=37
VNA1 Neumayer--Stat 85.41 177 P **P** **13 00 04.8 +0.5**
I04A Tendick Farm, 85.50 38 P **P** **13 00 05.8 +0.6**
baz=86,SNR=17
COR Corvallis 85.52 37 *e*P **P** **13 00 07.0 +1.8**
COR Corvallis 85.52 37 *e*P **P** **13 00 07.0 +1.8**
MOD Modoc 85.54 40 *e*P **P** **13 00 06.0 +0.5**
comp=Z,74nm,1.0s
K05A Summer Lake 85.70 39 *e*P **P** **13 00 07.4 +1.0**
comp=Z,155nm,1.1s
PATY Pattaya 85.74 286 P **P** **13 00 09.2 +2.3**
comp=Z,29nm,0.8s,comp=Z,2µm
J05D Fort Rock, OR 85.85 39 P **P** **13 00 07.9 +0.9**
baz=86,SNR=34
SURT Suratani 85.89 282 P **P** **13 00 09.7 +2.0**
comp=Z,40nm,1.1s,comp=Z,541nm
G03D McMinnville, O 85.94 36 P **P** **13 00 07.8 +0.6**
baz=86
NAYO Nakonayok 85.94 288 P **P** **13 00 09.6 +1.7**
comp=Z,44nm,1.2s
LHMI Lhok Sumawe 86.01 277 ⇑P **P** **13 00 09.1 +0.9**
baz=86,SNR=7.5
LHMI Lhok Sumawe 86.01 277 *e*P **P** **13 00 07.7 -0.5**
comp=Z,161nm,0.9s
H04A Detroit Lake 86.19 37 P **P** **13 00 08.7 +0.3**
R11A Troy Canyon, C 86.37 45 P **P** **13 00 09.7 0.0**
baz=87,SNR=34
R11A Troy Canyon, C 86.37 45 *e*P **P** **13 00 09.6 0.0**
comp=Z,14nm,1.0s
TUC Tucson 86.40 52 *e*P **P** **13 00 11.3 +1.5**
TUC pmax pmax
comp=Z,139nm,1.0s
TUC Tucson 86.40 52 *e*P **P** **13 00 11.2 +1.5**
comp=Z,139nm,1.0s
I05D Terrebonne, OR 86.45 38 P **P** **13 00 10.6 +0.9**
baz=87,SNR=30
F04D Rainier, OR 86.64 36 P **P** **13 00 11.5 +1.1**
baz=87
E03A Lebam 86.65 35 *e*P **P** **13 00 11.8 +1.3**
comp=Z,188nm,1.3s
ENH Enshi 86.69 305 *e*P **P** **13 00 11.5 +0.3**
comp=Z,81nm,0.8s
MA2 Magadan 86.74 345 *i*P **P** **13 00 10.4 -0.2**
BRLK Bradley Lake 86.77 14 *e*P **P** **13 00 10.5 -0.3**
comp=Z,259nm,1.6s
WVOR Wild Horse Val 86.84 40 *e*P **P** **13 00 12.2 +0.5**
WVOR pmax pmax
comp=Z,76nm,1.1s
WVOR Wild Horse Val 86.84 40 *e*P **P** **13 00 12.2 +0.5**
comp=Z,76nm,1.1s
SLVN Son La 86.86 295 *e*P **P** **13 00 13.3 +1.2**
comp=Z,70nm,1.6s
RSO Redoubt South 87.00 13 *e*P **P** **13 00 11.8 -0.3**
comp=Z,143nm,1.2s
GYA Guiyang 87.00 301 ⇓*i*P **P** **13 00 13.6 +0.8**
GYA pP **pP** **13 02 03.0 -1.6**
GYA sP **sP** **13 02 52.5 -3.5**
GYA PP **PP** **13 03 47.4 +1.9**
GYA SKS **SKSac** **13 09 50.9 -1.0**
GYA S **S** **13 10 09.8 +0.5**
GYA sS **sS** **13 13 24.0 -4.5**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,200nm,5.6s
G05D Wamic, OR 87.03 37 P **P** **13 00 13.3 +1.0**
baz=87,SNR=9.0
SVW2 Sparrevohn 87.04 11 *e*P **P** **13 00 12.0 0.0**
NLWA Neitlon Lookou 87.04 34 *e*P **P** **13 00 12.4 0.0**
comp=Z,108nm,1.3s
PBKT Sadao Pong 87.23 289 P **P** **13 00 15.3 +1.4**
comp=Z,77nm,1.2s,comp=Z,1µm
TDL Tradedollar La 87.24 36 P **P** **13 00 14.4 +0.9**
BJT Baijiatuan 87.26 316 *e*P **P** **13 00 14.4 +0.8**
BJT pmax pmax
comp=Z,33nm,0.8s
BJT Baijiatuan 87.26 316 *e*P **P** **13 00 14.4 +0.8**
comp=Z,33nm,0.8s
BJI Beijing 87.27 316 P **P** **13 00 14.7 +1.1**
BJI pP **pP** **13 02 01.5 -3.9**
BJI SKS **SKSac** **13 09 49.4 -3.1**
BJI S **ScS** **13 10 13.7 -2.1**
BJI SS SS 13 16 19.1 +8.4
BJI PMZ
comp=Z,49nm,1.3s
BJI PMZ
comp=Z,270nm,4.4s
LOEI Loei 87.38 290 P **P** **13 00 14.4 -0.2**
comp=Z,33nm,1.4s,comp=Z,568nm
CCUT Cedar City 87.39 47 *e*P **P** **13 00 15.1 +0.6**
comp=Z,52nm,1.0s
WUAZ Wupatki 87.65 49 P **P** **13 00 16.0 +0.3**
baz=88
WUAZ Wupatki 87.65 49 *e*P **P** **13 00 16.7 +1.0**
LON Longmire 87.71 36 *e*P **P** **13 00 16.2 +0.6**
LON pmax pmax
comp=Z,40nm,0.8s
LON Longmire 87.71 36 *e*P **P** **13 00 16.1 +0.6**
comp=Z,40nm,0.8s
GAMB Gambell 87.72 4 *e*P **P** **13 00 16.1 +1.1**
comp=Z,84nm,1.6s
WPW White Pass 87.81 36 P **P** **13 00 16.7 +0.6**
SRDT SRDT 87.88 287 P **P** **13 00 19.1 +2.1**
comp=Z,295nm,0.9s
D05A Enumclaw 87.89 35 *e*P **P** **13 00 17.8 +1.5**
comp=Z,349nm,1.2s
BLN Blyn Mountain 87.90 34 P **P** **13 00 17.4 +1.0**

ELK Elko 87.94 43 *e*P **P** **13 00 17.3 +0.3**
ELK pmax pmax
comp=Z,34nm,1.1s
ELK Elko 87.94 43 *e*P **P** **13 00 17.3 +0.3**
comp=Z,34nm,1.1s
UTTA Uttaradit 88.09 290 P **P** **13 00 19.9 +2.0**
comp=Z,14nm,1.2s,comp=Z,147nm
UTHA Uthaitani 88.11 288 P **P** **13 00 19.7 +1.6**
comp=Z,29nm,1.1s,comp=Z,243nm
RC01 Rabbit Creek A 88.21 14 *e*P **P** **13 00 16.9 -0.6**
comp=Z,166nm,1.2s
NAC Naches 88.22 36 P **P** **13 00 18.6 +0.7**
G08A Pilot Rock 88.37 38 P **P** **13 00 19.3 +0.5**
TIY Taiyuan 88.44 313 *e*P **P** **13 00 21.1 +1.9**
TIY pP **pP** **13 02 11.0 -0.4**
TIY SKS **SKSac** **13 09 58.9 -0.9**
TIY S **S** **13 10 23.1 +1.0**
TIY PMZ
comp=Z,140nm,4.3s
TWW Teanaway 88.45 36 P **P** **13 00 20.1 +1.0**
KHLT Khaolaem Dam 88.54 287 P **P** **13 00 22.1 +2.0**
comp=Z,28nm,1.2s,comp=Z,392nm
CRAG Craig 88.57 24 *e*P **P** **13 00 21.0 +1.8**
comp=Z,76nm,1.2s
W18A Petrified Fore 88.59 50 P **P** **13 00 20.5 +0.3**
baz=89
W18A Petrified Fore 88.59 50 *e*P **P** **13 00 20.9 +0.8**
comp=Z,79nm,1.3s
MVU Marysvale 88.66 46 *e*P **P** **13 00 21.4 +0.9**
comp=Z,73nm,1.4s
EYAK Cordova Ski Ar 88.69 16 *e*P **P** **13 00 20.2 +0.6**
comp=Z,129nm,1.5s
MSU Marysvale 88.69 46 *e*P **P** **13 00 21.5 +0.9**
MSU pmax pmax
comp=Z,44nm,1.2s
MSU Marysvale 88.69 46 *e*P **P** **13 00 21.5 +0.9**
comp=Z,44nm,1.2s
121A Cookes Peak, D 88.70 53 P **P** **13 00 21.9 +1.2**
baz=89
121A Cookes Peak, D 88.70 53 *e*P **P** **13 00 21.7 +1.0**
comp=Z,59nm,1.1s
HAWA Hanford 88.72 37 *e*P **P** **13 00 20.6 +0.4**
comp=Z,92nm,1.0s
B06A Marblemount 88.99 34 *e*P **P** **13 00 21.9 +0.6**
comp=Z,68nm,1.0s
XAN Xi'an 88.99 308 P **P** **13 00 23.3 +1.4**
XAN pP **pP** **13 02 13.2 -1.0**
XAN sP sP 13 02 58.3 -7.1
XAN PP **PP** **13 03 58.3 -2.7**
XAN SKS **SKSac** **13 10 00.5 -2.6**
XAN S **S** **13 10 28.6 +1.3**
XAN SS **SS** **13 16 40.7 +4.8**
XAN PMZ
comp=Z,29nm,0.8s
XAN PMZ
comp=Z,51nm,9.2s
BMO Blue Mountains 89.05 39 *e*P **P** **13 00 21.9 0.0**
comp=Z,100nm,1.5s
MFID Camas Ranch 89.09 41 *e*P **P** **13 00 22.7 +0.5**
comp=Z,113nm,1.0s
DUG Dugway 89.18 45 *e*P **P** **13 00 23.3 +0.6**
DUG pmax pmax
comp=Z,33nm,1.1s
DUG Dugway 89.18 45 P **P** **13 00 22.6 -0.1**
baz=89
DUG Dugway 89.18 45 *e*P **P** **13 00 23.3 +0.6**
comp=Z,33nm,1.1s
DIV Divide 89.18 16 *e*P **P** **13 00 22.8 +0.7**
comp=Z,83nm,1.1s
LAMP Lampang 89.22 291 P **P** **13 00 25.0 +1.8**
comp=Z,54nm,0.9s,comp=Z,386nm
WTV Waterville 89.29 36 P **P** **13 00 23.1 +0.1**
CRAI Chiangrai 89.32 292 P **P** **13 00 22.2 -1.5**
comp=Z,162nm,0.7s,comp=Z,7µm
PPLA Purkeypile 89.33 12 *e*P **P** **13 00 22.2 -0.7**
comp=Z,19nm,1.1s
BMRM Bremner River 89.34 16 *e*P **P** **13 00 23.8 +0.9**
SEY Seymchan 89.43 348 P **P** **13 00 23.4 +0.3**
comp=Z,18nm,0.6s,baz=158,slow=4.7,SNR=82
SEY Seymchan 89.43 348 *c i*P **P** **13 00 23.6 +0.5**
BGU Big Grassy Mou 89.44 44 *e*P **P** **13 00 24.3 +0.4**
comp=Z,78nm,1.6s
D08A Wollman Farm, 89.45 37 *e*P **P** **13 00 24.4 +0.7**
comp=Z,71nm,0.9s
KMI Kunming 89.52 298 P **P** **13 00 26.6 +1.9**
KMI pP **pP** **13 02 16.4 -0.8**
KMI sP sP 13 02 59.1 -9.3
KMI PP **PP** **13 04 05.1 -0.4**
KMI SKS **SKSac** **13 10 06.1 -0.8**
KMI S **S** **13 10 32.9 +0.1**
KMI sS **sS** **13 13 48.3 -5.1**
KMI SS **SS** **13 16 45.4 +1.3**
KMI PMZ
comp=Z,67nm,1.0s
NLU North Lily Min 89.53 45 *e*P **P** **13 00 25.5 +1.0**
comp=Z,39nm,1.1s
WRAK Wrangell Islan 89.57 24 *e*P **P** **13 00 24.3 +0.4**
comp=Z,56nm,0.8s
TNA Tin City 89.75 5 *e*P **P** **13 00 24.8 +0.3**
comp=Z,61nm,1.3s
TMUT Trail Mountain 89.75 46 *e*P **P** **13 00 26.5 +0.9**
comp=Z,138nm,0.9s
CMAR Chiang Mai Arr 89.78 290 P **P** **13 00 27.2 +1.4**
comp=Z,50nm,0.8s,baz=137,slow=3.2,SNR=204
CMAR pP **pP** **13 02 22.0 +3.8**
comp=Z,4.6nm,1.0s,baz=106,slow=2.9,SNR=3.1
CMAR PP **PP** **13 04 06.2 -1.2**
comp=Z,11nm,1.0s,baz=128,slow=5.9,SNR=12
CMAR S **SKSac** **13 10 09.2 +1.0**
comp=Z,0.5nm,0.4s,baz=67,slow=22,SNR=3.1
CMAR PKKPbc **PKKPbc** **13 17 55.4 +0.1**
comp=Z,2.6nm,0.5s,baz=281,slow=4.3,SNR=13
CAST Castle Rocks 89.83 12 *e*P **P** **13 00 23.6 -1.4**
comp=Z,55nm,1.0s
MPU Maple Canyon 89.85 45 *e*P **P** **13 00 26.7 +0.8**
comp=Z,173nm,0.9s
CMMT Chiang Mai 89.93 291 P **P** **13 00 27.8 +1.3**
comp=Z,133nm,0.9s,comp=Z,1µm
CHTO Chiang Mai 89.93 291 P **P** **13 00 27.8 +1.3**
comp=Z,464nm,1.0s,comp=Z,4µm
CHTO Chiang Mai 89.93 291 *e*P **P** **13 00 28.0 +1.5**
CHTO Chiang Mai 89.93 291 *e*P **P** **13 00 27.9 +1.5**
B08A Colville Reser 90.02 35 *e*P **P** **13 00 26.0 -0.3**
comp=Z,87nm,1.6s
HLID Hailey 90.02 41 P **P** **13 00 26.8 +0.2**
baz=90,SNR=81
HLID Hailey 90.02 41 *e*P **P** **13 00 27.3 +0.7**
comp=Z,73nm,1.1s
HVU Hansel Valley 90.06 43 *e*P **P** **13 00 27.3 +0.5**
HVU Hansel Valley 90.06 43 *e*P **P** **13 00 27.2 +0.5**
Y22D IRIS PASSCAL I 90.09 52 P **P** **13 00 28.1 +1.0**
baz=90
LAZ Ladron 90.09 52 *e*P **P** **13 00 27.8 +0.7**
comp=Z,27nm,1.1s
SRU San Rafael 90.11 47 *e*P **P** **13 00 27.6 +0.5**
SRU pmax pmax
comp=Z,115nm,1.0s
SRU San Rafael 90.11 47 *e*P **P** **13 00 27.6 +0.5**
comp=Z,115nm,1.0s
CTU Camp Tracy 90.13 45 *e*P **P** **13 00 27.9 +0.7**
comp=Z,84nm,1.0s
P17A Butcher Ranch, 90.15 46 *e*P **P** **13 00 28.4 +1.1**
TRF Thorofare Moun 90.21 13 *e*P **P** **13 00 26.1 -0.8**
JLU Jordanelle 90.28 45 *e*P **P** **13 00 28.8 +0.8**
comp=Z,226nm,1.9s
TXAR Lajitas Array 90.29 58 P **P** **13 00 28.6 +0.5**
comp=Z,43nm,0.8s,baz=214,slow=5.9,SNR=344
TXAR PP **PP** **13 04 09.9 -1.4**
comp=Z,2.3nm,0.9s,baz=218,slow=7.9,SNR=4.2
TXAR S **SKSac** **13 10 09.8 -1.1**
comp=Z,0.4nm,0.7s,baz=234,slow=4.2,SNR=5.4
TXAR PKKPbc **PKKPbc** **13 17 55.0 +0.5**
comp=Z,1.0nm,0.6s,baz=87,slow=3.3,SNR=11
TXAR SKKPbc **SKKPbc** **13 20 44.1 -2.1**
comp=Z,0.3nm,0.8s,baz=95,slow=3.1,SNR=4.0
BESE Bessie Mountai 90.30 22 *e*P **P** **13 00 28.6 +1.3**
comp=Z,18nm,1.0s
CMAI Chiengmai2 90.32 292 P **P** **13 00 30.1 +1.6**
comp=Z,108nm,0.9s,comp=Z,14µm
HARP HAARP 90.43 15 *e*P **P** **13 00 28.7 +0.9**
comp=Z,284nm,2.1s
MVCO Mesa Verde 90.51 49 P **P** **13 00 29.4 +0.3**
baz=91
MHMT Maesarieng 90.53 290 P **P** **13 00 31.4 +2.1**
comp=Z,23nm,1.1s,comp=Z,291nm
TCUT Toone Canyon 90.57 45 *e*P **P** **13 00 29.9 +0.6**

comp=Z,106nm,0.9s
BPAW Bear Paw Mtn. 90.66 12 *e*P **P** **13 00 28.0 -0.8**
comp=Z,41nm,1.7s
HHC Hu-ho-hao-te 90.66 315 *e*P **P** **13 00 31.8 +2.3**
HHC pP **pP** **13 02 21.6 -0.5**
HHC sP **sP** **13 03 09.1 -4.1**
HHC PP **PP** **13 04 18.2 +4.2**
HHC SKS **SKSac** **13 10 11.2 -1.3**
HHC S **ScS** **13 10 45.9 +1.6**
HHC PMZ
comp=Z,48nm,1.0s
HHC PMZ
comp=Z,120nm,7.8s
HWUT Hardware Ranch 90.73 44 *e*P **P** **13 00 29.9 0.0**
comp=Z,37nm,0.6s
MCK McKinley 90.74 13 *e*P **P** **13 00 28.9 -0.3**
MCK McKinley 90.74 13 *e*P **P** **13 00 28.9 -0.3**
PV04 Paradox Valley 90.83 48 *e*P **P** **13 00 31.0 +0.5**
PAX Paxson 90.84 15 *e*P **P** **13 00 29.8 0.0**
PAX pmax pmax
comp=Z,24nm,1.3s
PAX Paxson 90.84 15 *e*P **P** **13 00 29.8 0.0**
comp=Z,24nm,1.3s
ANMO Albuquerque 90.84 52 *c i*P **P** **13 00 31.5 +0.9**
ANMO pmax pmax
comp=Z,191nm,1.3s
ANMO Albuquerque 90.84 52 *e*P **P** **13 00 31.1 +0.5**
PV01 Paradox Valley 90.92 48 *e*P **P** **13 00 31.1 +0.1**
comp=Z,2µm,0.9s
BWN Browne 91.02 13 *e*P **P** **13 00 30.4 -0.1**
comp=Z,47nm,1.0s
GDL2 Guadalupe Moun 91.08 55 *e*P **P** **13 00 32.7 +1.0**
comp=Z,32nm,1.1s
NEW Newport 91.15 36 *e*P **P** **13 00 31.4 -0.1**
NEW pmax pmax
comp=Z,156nm,2.8s
NEW Newport 91.15 36 P **P** **13 00 31.4 -0.1**
baz=91
NEW Newport 91.15 36 *e*P **P** **13 00 31.4 -0.1**
comp=Z,156nm,2.8s
HYT Haines Junctio 91.20 19 *e*P **P** **13 00 33.4 +1.8**
CD2 Chengdu 91.33 303 P **P** **13 00 34.9 +2.1**
CD2 pP **pP** **13 02 24.6 -0.8**
CD2 sP **sP** **13 03 14.7 -1.8**
CD2 PP **PP** **13 04 20.8 +1.4**
CD2 SKS **SKSac** **13 10 19.3 +2.7**
CD2 S **ScS** **13 10 51.8 +1.6**
CD2 sS **sS** **13 14 08.9 -1.2**
CD2 SS **SS** **13 17 13.2 +3.7**
CD2 PMZ
comp=Z,130nm,0.9s
CD2 PMZ
comp=Z,250nm,5.8s
AHID Auburn Hatcher 91.64 43 *e*P **P** **13 00 35.7 +1.7**
comp=Z,43nm,1.0s
MCMT McKenzie Canyo 91.66 41 *e*P **P** **13 00 35.0 +0.8**
HDA Harding Lake 91.75 14 *e*P **P** **13 00 33.3 -0.6**
comp=Z,18nm,0.7s
CCB Clear Creek Bu 91.78 13 *e*P **P** **13 00 33.0 -0.9**
comp=Z,22nm,1.0s
IM04 Indian Mountai 91.86 10 *e*P **P** **13 00 34.5 +0.1**
DLBC Dease Lake 91.90 24 *e*P **P** **13 00 35.5 +0.8**
comp=Z,46nm,1.5s
S22A 4UR Ranch, Cre 91.93 49 P **P** **13 00 36.0 +0.3**
baz=92
COLA College 91.97 13 *i*P **P** **13 00 33.4 -1.4**
COLA pmax pmax
comp=Z,224nm,1.8s
COLA College 91.97 13 *e*P **P** **13 00 33.9 -0.9**
comp=Z,25nm,0.9s
ILAR Eielson Array 92.08 13 P **P** **13 00 34.1 -1.2**
comp=Z,5.2nm,0.7s,baz=222,slow=5.1,SNR=66
ILAR PP **PP** **13 04 21.6 -2.9**
comp=Z,2.9nm,1.0s,baz=224,slow=8.5,SNR=3.7
ILAR PKiKP **PKiKP** **13 05 20.9 -0.8**
comp=Z,0.5nm,0.3s,baz=235,slow=3.2,SNR=6.3
ILAR S **SKSac** **13 10 17.1 -2.1**
comp=Z,1.5nm,1.0s,baz=216,slow=8.8,SNR=9.5
ILAR PKKPbc **PKKPdf** **13 17 48.5 -0.4**
comp=Z,0.3nm,0.5s,baz=347,slow=2.2,SNR=8.7
DLMT Dillon 92.10 41 *e*P **P** **13 00 36.6 +0.5**
REDW Red Top Meadow 92.10 43 *e*P **P** **13 00 36.9 +0.6**
comp=Z,81nm,1.4s
TPAW Teton Pass 92.11 43 *e*P **P** **13 00 36.6 +0.3**
comp=Z,44nm,1.3s
MSO Missoula 92.11 39 P **P** **13 00 35.7 -0.4**
baz=92
MSO Missoula 92.11 39 *e*P **P** **13 00 36.0 0.0**
comp=Z,12nm,1.3s
FXWY Fox Creek 92.14 43 *e*P **P** **13 00 37.1 +0.7**
comp=Z,21nm,1.1s
O20A White River Ci 92.14 47 P **P** **13 00 36.9 +0.4**
baz=92
O20A White River Ci 92.14 47 *e*P **P** **13 00 36.5 0.0**
comp=Z,53nm,1.3s
BSMT Bassoo Peak 92.20 38 *e*P **P** **13 00 36.2 -0.4**
comp=Z,7.6nm,0.8s
SNOW Snow King Moun 92.21 43 *e*P **P** **13 00 37.4 +0.6**
comp=Z,46nm,1.0s
IMW Indian Meadow 92.33 42 *e*P **P** **13 00 38.1 +0.8**
comp=Z,62nm,1.5s
BILL Bilibino 92.36 355 *c i*P **P** **13 00 36.6 +0.1**
BILL *i* 13 04 28.2
BILL pmax pmax
comp=Z,32nm,1.2s
BILL Bilibino 92.36 355 *e*P **P** **13 00 37.0 +0.5**
MOOW Moose Ponds 92.37 43 *e*P **P** **13 00 38.0 +0.5**
comp=Z,14nm,1.0s
228A UT Block 9, Go 92.38 56 P **P** **13 00 37.6 0.0**
baz=93
LOHW Long Hollow 92.39 43 *e*P **P** **13 00 37.9 +0.4**
comp=Z,8.1nm,0.6s
LRM Limekiln Ridge 92.43 40 *e*P **P** **13 00 38.1 +0.3**
comp=Z,96nm,1.1s
SWMT Swartz Lake 92.45 38 *e*P **P** **13 00 37.1 -0.6**
comp=Z,4.5nm,0.9s
530A J-C Ranch, Com 92.47 58 P **P** **13 00 38.1 +0.1**
baz=93,SNR=19
QLMT Earthquake Lak 92.52 41 *e*P **P** **13 00 39.1 +1.0**
comp=Z,2.9nm,0.9s
SMCO Snowmass 92.53 48 *e*P **P** **13 00 38.1 -0.4**
comp=Z,15nm,0.7s
CHMT Chamberlain Mo 92.55 39 *e*P **P** **13 00 37.8 -0.4**
comp=Z,10nm,1.0s
329A Wagon Wheel Ra 92.56 57 P **P** **13 00 38.7 +0.2**
baz=93,SNR=16
FLWY Flagg Ranch 92.57 42 *e*P **P** **13 00 39.0 +0.7**
comp=Z,31nm,1.1s
SLMT Seeley Lake 92.59 39 *e*P **P** **13 00 37.8 -0.5**
comp=Z,11nm,1.0s
BW06 Boulder Array 92.61 44 *e*P **P** **13 00 38.3 -0.3**
comp=Z,24nm,0.9s
PDAR Pinedale Array 92.61 44 P **P** **13 00 38.4 -0.2**
comp=Z,16nm,0.7s,baz=211,slow=2.6,SNR=85
PDAR PP **PP** **13 04 27.5 -1.8**
comp=Z,4.5nm,1.1s,baz=251,slow=4.5,SNR=7.6
PDAR S **SKSac** **13 10 23.1 -0.4**
comp=Z,0.8nm,0.9s,baz=186,slow=1.8,SNR=4.1
PDAR PKKPbc **PKKPdf** **13 17 46.4 -1.0**
comp=Z,0.5nm,0.7s,baz=46,slow=4.3,SNR=3.8
PDAR SKKPbc **SKKPbc** **13 20 37.8 -4.5**
comp=Z,0.6nm,0.7s,baz=72,slow=6.6,SNR=4.4
YFT Old Faithful 92.68 42 *e*P **P** **13 00 41.2 +2.3**
comp=Z,23nm,1.2s
128A Castleberry Fa 92.69 55 P **P** **13 00 39.3 +0.2**
baz=93,SNR=10
YMR Madison River 92.71 42 *e*P **P** **13 00 40.3 +1.3**
comp=Z,21nm,0.9s
832A Faith Ranch, C 92.72 60 P **P** **13 00 39.1 -0.1**
baz=93,SNR=14
631A Perdido Creek 92.74 59 P **P** **13 00 39.4 +0.2**
baz=93,SNR=51
H17A Grant Village 92.81 42 P **P** **13 00 40.6 +1.1**
baz=93,SNR=10.0
H17A Grant Village 92.81 42 *e*P **P** **13 00 41.4 +1.9**
comp=Z,11nm,0.8s
BOZ Bozeman (W) 92.83 41 *e*P **P** **13 00 39.8 +0.4**
BOZ pmax pmax
comp=Z,24nm,1.0s
BOZ Bozeman (W) 92.83 41 P **P** **13 00 39.5 +0.1**
baz=93,SNR=30
BOZ Bozeman (W) 92.83 41 *e*P **P** **13 00 39.8 +0.4**
comp=Z,24nm,1.0s
430A Baggett Ranch, 92.83 58 P **P** **13 00 39.4 -0.3**
baz=93,SNR=10.0
SDCO Great Sand Dun 92.86 50 P **P** **13 00 40.5 +0.5**
baz=93

SDCO	**Great Sand Dun**	**92.86**	**50**	*e*P		**P**	**13 00 40.3**	**+0.4**
	comp=Z,34nm,1.2s							
229A	**Bryant Ranch,**	**92.91**	**56**	P		**P**	**13 00 40.1**	**+0.1**
	baz=93							
732A	**Laxson Ranch,**	**92.92**	**60**	P		**P**	**13 00 40.2**	**+0.2**
	baz=93,SNR=6.8							
933A	**Laredo**	**92.99**	**61**	P		**P**	**13 00 40.7**	**+0.3**
	baz=93,SNR=6.7							
LKWY	**Lake**	**93.00**	**42**	*e*P		**P**	**13 00 43.1**	**+2.7**
LKWY				pmax		pmax		
	comp=Z,20nm,1.1s							
LKWY	**Lake**	**93.00**	**42**	*e*P		**P**	**13 00 43.1**	**+2.7**
	comp=Z,20nm,1.1s							
Z28A	**Tucker Farm, M**	**93.06**	**55**	P		**P**	**13 00 40.3**	**-0.4**
	baz=93,SNR=6.5							
MSTX	**Muleshoe**	**93.08**	**54**	P		**P**	**13 00 40.6**	**-0.3**
	baz=93							
MSTX	**Muleshoe**	**93.08**	**54**	*e*P		**P**	**13 00 41.1**	**+0.3**
	comp=Z,24nm,0.8s							
531A	**Rocksprings**	**93.09**	**58**	P		**P**	**13 00 40.5**	**-0.3**
	baz=93,SNR=61							
330A	**Mertzon**	**93.15**	**57**	P		**P**	**13 00 40.7**	**-0.4**
	baz=93,SNR=9.0							
129A	**Stewart Farms,**	**93.16**	**56**	P		**P**	**13 00 41.0**	**-0.1**
	baz=93,SNR=6.5							
J19A	**Crowheart**	**93.18**	**44**	P		**P**	**13 00 40.7**	**-0.4**
	baz=93,SNR=24							
833A	**Chaparral WMA,**	**93.20**	**61**	P		**P**	**13 00 41.5**	**+0.2**
	baz=93,SNR=8.0							
034A	**Hebbronville**	**93.24**	**62**	P		**P**	**13 00 42.5**	**+1.0**
	baz=93							
DAWY	**Dawson**	**93.27**	**17**	*e*P		**P**	**13 00 40.7**	**-0.2**
431A	**Sonora**	**93.27**	**58**	P		**P**	**13 00 41.1**	**-0.6**
	baz=93,SNR=6.3							
T25A	**Trinidad**	**93.34**	**51**	P		**P**	**13 00 42.1**	**+0.1**
	baz=94							
WALA	**Waterton Lakes**	**93.35**	**37**	*e*P		**P**	**13 00 41.7**	**0.0**
	comp=Z,16nm,1.0s							
632A	**Uvalde**	**93.40**	**59**	P		**P**	**13 00 42.1**	**-0.2**
	baz=94,SNR=24							
EGAK	**Eagle**	**93.40**	**16**	*e*P		**P**	**13 00 41.4**	**0.0**
	comp=Z,24nm,0.8s							
230A	**Sterling City**	**93.41**	**57**	P		**P**	**13 00 41.5**	**-0.8**
	baz=94,SNR=8.2							
Y28A	**McKinney Farm,**	**93.44**	**54**	P		**P**	**13 00 42.3**	**-0.1**
	baz=94							
733A	**Divot King Ran**	**93.45**	**60**	P		**P**	**13 00 42.2**	**-0.3**
	baz=94							
035Z	**Hargill**	**93.48**	**63**	P		**P**	**13 00 42.9**	**+0.2**
	baz=94							
Z29A	**Hungry Hill Ra**	**93.56**	**55**	P		**P**	**13 00 42.7**	**-0.3**
	baz=94,SNR=7.2							
532A	**Rocksprings**	**93.57**	**59**	P		**P**	**13 00 43.2**	**+0.1**
	baz=94,SNR=38							
I19A	**Meeteetse**	**93.60**	**43**	P		**P**	**13 00 43.4**	**+0.3**
	baz=94,SNR=10							
COLD	**Coldfoot**	**93.61**	**11**	*e*P		**P**	**13 00 43.2**	**+0.9**
	comp=Z,21nm,1.6s							
LZH	**Lanzhou**	**93.62**	**308**	⇓P		**P**	**13 00 45.1**	**+1.8**
LZH				pP		**pP**	**13 02 36.0**	**-0.1**
LZH				sP		**sP**	**13 03 24.6**	**-2.6**
LZH				PP		**PP**	**13 04 41.2**	**+4.0**
LZH				SKS		**SKSac**	**13 10 28.5**	**-0.7**
LZH				S		**ScS**	**13 11 09.8**	**+0.5**
LZH				sS		**sS**	**13 14 27.3**	**-3.9**
LZH				SS		**SS**	**13 17 47.0**	**+5.0**
LZH				PMZ				
	comp=Z,56nm,1.3s							
LZH				PMZ				
	comp=Z,240nm,5.4s							
Q24A	**Divide**	**93.67**	**49**	P		**P**	**13 00 43.9**	**+0.2**
	baz=94,SNR=16							
331A	**San Angelo**	**93.68**	**57**	P		**P**	**13 00 43.4**	**-0.2**
	baz=94,SNR=7.0							
ISCO	**Idaho Springs**	**93.75**	**48**	*e*P		**P**	**13 00 44.5**	**+0.5**
ISCO				pmax		pmax		
	comp=Z,8.0nm,0.8s							
ISCO	**Idaho Springs**	**93.75**	**48**	P		**P**	**13 00 43.9**	**-0.1**
	baz=94,SNR=13							
ISCO	**Idaho Springs**	**93.75**	**48**	*e*P		**P**	**13 00 44.5**	**+0.5**
	comp=Z,8.2nm,0.8s							
X28A	**Dimmitt**	**93.75**	**54**	P		**P**	**13 00 43.6**	**-0.3**
	baz=94							
834A	**Tilden**	**93.79**	**61**	P		**P**	**13 00 44.8**	**+0.8**
	baz=94							
JCT	**Junction City**	**93.81**	**58**	P		**P**	**13 00 43.9**	**-0.2**
	baz=94,SNR=10.0							
130A	**Snyder**	**93.83**	**56**	P		**P**	**13 00 44.4**	**+0.2**
	baz=94,SNR=6.7							
J20A	**Shoshoni**	**93.84**	**44**	P		**P**	**13 00 44.3**	**+0.2**
	baz=94,SNR=10							
V27A	**Dan Oppiter Fa**	**93.84**	**53**	P		**P**	**13 00 44.5**	**+0.3**
	baz=94							
Y29A	**Porterfield Fa**	**93.85**	**55**	P		**P**	**13 00 44.7**	**+0.3**
	baz=94,SNR=11							
633A	**Seathoff Ranch**	**93.86**	**60**	P		**P**	**13 00 44.8**	**+0.4**
	baz=94,SNR=7.3							
H19A	**Powell**	**93.93**	**42**	P		**P**	**13 00 44.8**	**+0.3**
	baz=94,SNR=7.7							
T26A	**Comanche Natio**	**93.94**	**51**	P		**P**	**13 00 44.8**	**+0.1**
	baz=94,SNR=9.2							
RLMT	**Red Lodge**	**93.98**	**42**	P		**P**	**13 00 44.6**	**-0.2**
	baz=94,SNR=15							
RLMT	**Red Lodge**	**93.98**	**42**	*e*P		**P**	**13 00 45.5**	**+0.6**
	comp=Z,17nm,1.1s							
432A	**Menard**	**93.98**	**58**	P		**P**	**13 00 44.3**	**-0.6**
	baz=94,SNR=26							
Z30A	**Sanderson Ranc**	**94.01**	**55**	P		**P**	**13 00 44.2**	**-0.8**
	baz=94,SNR=8.3							
231A	**Bronte**	**94.03**	**57**	P		**P**	**13 00 44.6**	**-0.5**
	baz=94,SNR=14							
N23A	**Red Feather La**	**94.04**	**47**	P		**P**	**13 00 45.1**	**-0.1**
	baz=94,SNR=12							
W28A	**Vega**	**94.07**	**53**	P		**P**	**13 00 45.3**	**0.0**
	baz=94							
GCMT	**Greycliff**	**94.08**	**41**	*e*P		**P**	**13 00 45.9**	**+0.8**
	comp=Z,6.8nm,1.1s							
X29A	**Tulia**	**94.09**	**54**	P		**P**	**13 00 45.4**	**0.0**
	baz=94							
734A	**La Parita Cree**	**94.09**	**60**	P		**P**	**13 00 46.2**	**+0.8**
	baz=94							
I20A	**Worland**	**94.10**	**43**	P		**P**	**13 00 45.2**	**-0.1**
	baz=94,SNR=14							
U27A	**Thompson Grove**	**94.14**	**52**	P		**P**	**13 00 45.5**	**-0.1**
	baz=94,SNR=5.9							
533A	**Kerrville**	**94.23**	**59**	P		**P**	**13 00 45.7**	**-0.4**
	baz=94,SNR=17							
332A	**Millersview**	**94.24**	**58**	P		**P**	**13 00 45.8**	**-0.3**
	baz=94,SNR=34							
J21A	**Lysite**	**94.24**	**44**	P		**P**	**13 00 46.0**	**0.0**
	baz=94,SNR=11							
V28A	**Channing**	**94.28**	**53**	P		**P**	**13 00 45.9**	**-0.4**
	baz=94							
131A	**Roby**	**94.30**	**56**	P		**P**	**13 00 46.3**	**0.0**
	baz=94,SNR=8.2							
W29A	**Amraillo**	**94.42**	**54**	P		**P**	**13 00 46.5**	**-0.4**
	baz=95							
Y30A	**Stafford Cattl**	**94.44**	**55**	P		**P**	**13 00 46.6**	**-0.4**
	baz=95							
H20A	**Greybull**	**94.45**	**43**	P		**P**	**13 00 46.1**	**-0.7**
	baz=95,SNR=8.5							
433A	**Art**	**94.48**	**58**	P		**P**	**13 00 46.9**	**-0.2**
	baz=95,SNR=57							
634A	**China Grove, S**	**94.48**	**60**	P		**P**	**13 00 47.1**	**-0.1**
	baz=95							
K22A	**Casper**	**94.50**	**45**	P		**P**	**13 00 47.1**	**-0.1**
	baz=95							
K22A	**Casper**	**94.50**	**45**	*e*P		**P**	**13 00 47.8**	**+0.6**
	comp=Z,24nm,1.3s							
T27A	**Campo**	**94.51**	**51**	P		**P**	**13 00 46.5**	**-0.7**
	baz=95,SNR=6.8							
232A	**Coleman**	**94.53**	**57**	P		**P**	**13 00 46.9**	**-0.4**
	baz=95,SNR=29							
R26A	**Arlington**	**94.55**	**50**	P		**P**	**13 00 47.0**	**-0.4**
	baz=95,SNR=30							
PHWY	**Pilot Hill**	**94.56**	**47**	*e*P		**P**	**13 00 47.8**	**+0.2**
	comp=Z,6.3nm,0.8s							
U28A	**Mallet**	**94.56**	**52**	P		**P**	**13 00 46.8**	**-0.7**
	baz=95							
I21A	**Big Trails, Te**	**94.56**	**44**	P		**P**	**13 00 47.1**	**-0.3**
	baz=95,SNR=19							
534A	**Blanco**	**94.65**	**59**	P		**P**	**13 00 47.5**	**-0.5**
	baz=95,SNR=16							
S27A	**Las Animas**	**94.66**	**51**	P		**P**	**13 00 47.5**	**-0.5**
	baz=95,SNR=7.6							
G20A	**Bridger**	**94.68**	**42**	P		**P**	**13 00 47.8**	**-0.1**
	baz=95,SNR=5.5							
735A	**Kenedy**	**94.69**	**61**	P		**P**	**13 00 47.5**	**-0.6**
	baz=95							
X30A	**Coker Ranch, T**	**94.70**	**54**	P		**P**	**13 00 47.6**	**-0.5**
	baz=95							
Z31A	**Sharp Cattle R**	**94.76**	**56**	P		**P**	**13 00 47.9**	**-0.5**
	baz=95,SNR=8.8							
YAK	**Yakutsk**	**94.76**	**339**	S		**SKSac**	**13 10 30.3**	**-3.3**
	comp=Z,0.6nm,0.3s,baz=163,slow=19,SNR=5.7							
YAK	**Yakutsk**	**94.76**	**339**	*e*P		**P**	**13 00 45.7**	**-1.9**
YAK				*e*			13 10 29.0	
YAK				*e*			13 11 13.2	
YAK				pmax		pmax		
	comp=Z,11nm,1.1s							
YAK				pmax		pmax		
	comp=N,3.0nm,1.3s							
YAK				pmax		pmax		
	comp=E,3.0nm,1.3s							
Q26A	**Hugo**	**94.78**	**49**	P		**P**	**13 00 48.4**	**-0.1**
	baz=95,SNR=9.7							
333A	**Richland Sprin**	**94.80**	**58**	P		**P**	**13 00 48.3**	**-0.3**
	baz=95							
ABTX	**Abilene, Hawle**	**94.84**	**57**	P		**P**	**13 00 48.6**	**-0.2**
	baz=95,SNR=8.1							
ABTX	**Abilene, Hawle**	**94.84**	**57**	*e*P		**P**	**13 00 49.0**	**+0.2**
V29A	**Stinnett**	**94.85**	**53**	P		**P**	**13 00 48.9**	**+0.1**
	baz=95							
635A	**Leesville**	**94.94**	**60**	P		**P**	**13 00 49.4**	**+0.1**
	baz=95							
Y31A	**Rekieta Farm,**	**94.95**	**55**	P		**P**	**13 00 49.0**	**-0.2**
	baz=95							
R27A	**Eads**	**95.00**	**50**	P		**P**	**13 00 49.3**	**-0.2**
	baz=95,SNR=15							
F20A	**Billings**	**95.00**	**42**	P		**P**	**13 00 49.6**	**+0.3**
	baz=95							
H21A	**Big Horn, Sher**	**95.11**	**43**	P		**P**	**13 00 50.2**	**+0.4**
	baz=95,SNR=5.2							
I22A	**9 Mile Ranch,**	**95.11**	**44**	P		**P**	**13 00 49.7**	**-0.2**
	baz=95,SNR=5.9							
K23A	**Bowen Ranch, D**	**95.13**	**45**	P		**P**	**13 00 49.9**	**-0.1**
	baz=95							
434A	**Burnet**	**95.14**	**59**	P		**P**	**13 00 49.6**	**-0.6**
	baz=95,SNR=13							
EGMT	**Eagleton**	**95.16**	**39**	P		**P**	**13 00 50.1**	**+0.2**
	baz=95							
EGMT	**Eagleton**	**95.16**	**39**	*e*P		**P**	**13 00 50.1**	**+0.2**
	comp=E,5.1nm,0.6s							
233A	**Rising Star**	**95.16**	**57**	P		**P**	**13 00 50.0**	**-0.2**
	baz=95							
P26A	**Davis Ranch, A**	**95.19**	**49**	P		**P**	**13 00 50.4**	**0.0**
	baz=95,SNR=6.6							
W30A	**Crocket Farms**	**95.24**	**54**	P		**P**	**13 00 50.4**	**-0.2**
	baz=95							
Z32A	**Haskell**	**95.26**	**56**	P		**P**	**13 00 50.4**	**-0.3**
	baz=95,SNR=12							
U29A	**Oasis Ranch, S**	**95.28**	**53**	P		**P**	**13 00 50.6**	**-0.1**
	baz=96							
G21A	**Lodge Grass**	**95.30**	**43**	P		**P**	**13 00 50.9**	**+0.3**
	baz=96							
S28A	**Manter**	**95.33**	**51**	P		**P**	**13 00 51.0**	**0.0**
	baz=96,SNR=6.6							
334A	**Lometa**	**95.38**	**58**	P		**P**	**13 00 51.1**	**-0.1**
	baz=96,SNR=20							
133A	**Hamilton Ranch**	**95.39**	**57**	P		**P**	**13 00 51.2**	**-0.1**
	baz=96							
V30A	**Spur Ranch, Mi**	**95.41**	**53**	P		**P**	**13 00 51.9**	**+0.6**
	baz=96							
KSCO	**Kaye Shedlock'**	**95.44**	**50**	P		**P**	**13 00 51.5**	**0.0**
	baz=96,SNR=8.4							
KSCO	**Kaye Shedlock'**	**95.44**	**50**	*e*P		**P**	**13 00 52.0**	**+0.6**
	comp=E,80nm,1.4s							
X31A	**McDonald Ranch**	**95.45**	**55**	P		**P**	**13 00 51.5**	**0.0**
	baz=96							
J23A	**Dilts Ranch, B**	**95.48**	**45**	P		**P**	**13 00 51.3**	**-0.2**
	baz=96							
O26A	**Horse Wrangler**	**95.52**	**48**	P		**P**	**13 00 52.2**	**+0.4**
	baz=96							
H22A	**Clearmont**	**95.53**	**43**	P		**P**	**13 00 52.1**	**+0.4**
	baz=96							
M25A	**Palm-Egli Farm**	**95.56**	**47**	P		**P**	**13 00 52.2**	**+0.2**
	baz=96							
T29A	**Hugoton**	**95.57**	**52**	P		**P**	**13 00 51.6**	**-0.5**
	baz=96							
Y32A	**R-V Farms, Ver**	**95.58**	**55**	P		**P**	**13 00 52.4**	**+0.4**
	baz=96,SNR=6.2							
F21A	**Absaloka Mine,**	**95.64**	**42**	P		**P**	**13 00 52.6**	**+0.4**
	baz=96							
435B	**Jarrell**	**95.67**	**59**	P		**P**	**13 00 52.5**	**0.0**
	baz=96							
W31A	**Holland Ranch,**	**95.71**	**54**	P		**P**	**13 00 52.4**	**-0.3**
	baz=96,SNR=6.1							
P27A	**Ficken Ranch,**	**95.72**	**49**	P		**P**	**13 00 53.1**	**+0.4**
	baz=96							
R28A	**Tribune**	**95.72**	**51**	P		**P**	**13 00 52.6**	**-0.1**
	baz=96,SNR=20							
737A	**Port Lavaca**	**95.75**	**61**	P		**P**	**13 00 52.9**	**0.0**
	baz=96							
U30A	**WK&E Inc. Balk**	**95.77**	**53**	P		**P**	**13 00 52.8**	**-0.1**
	baz=96							
Z33A	**Whitaker Ranch**	**95.79**	**56**	P		**P**	**13 00 53.1**	**+0.1**
	baz=96							
B19A	**Brinkman Farms**	**95.84**	**39**	P		**P**	**13 00 53.0**	**+0.1**
	baz=96							
N26A	**Koester Ranch,**	**95.84**	**48**	P		**P**	**13 00 53.4**	**+0.2**
	baz=96							
G22A	**Birney**	**95.86**	**43**	P		**P**	**13 00 53.3**	**+0.1**
	baz=96							
X32A	**Elmer**	**95.88**	**55**	P		**P**	**13 00 52.8**	**-0.6**
	baz=96,SNR=5.7							
S29A	**Ulysses**	**95.90**	**52**	P		**P**	**13 00 53.4**	**-0.1**
	baz=96							
EDM	**Edmonton**	**95.92**	**34**	*e*P		**P**	**13 00 53.0**	**-0.1**
EDM	**Edmonton**	**95.92**	**34**	*e*P		**P**	**13 00 53.0**	**-0.1**
L25A	**Engebretsen Ra**	**95.94**	**46**	P		**P**	**13 00 54.0**	**+0.3**
	baz=96							
335A	**Moody**	**95.99**	**59**	P		**P**	**13 00 53.9**	**-0.1**
	baz=96							
E21A	**Keefer Ranch,**	**96.01**	**41**	P		**P**	**13 00 54.5**	**+0.7**
	baz=96							
134A	**White-Moore Ra**	**96.02**	**57**	P		**P**	**13 00 54.2**	**+0.2**
	baz=96							
Q28A	**Sharon Springs**	**96.02**	**50**	P		**P**	**13 00 53.7**	**-0.3**
	baz=96,SNR=8.1							
J24A	**Dixon Ranch, L**	**96.02**	**45**	P		**P**	**13 00 54.2**	**+0.3**
	baz=96							
C20A	**Veseth Ranch,**	**96.02**	**40**	P		**P**	**13 00 54.3**	**+0.5**
	baz=96							
V31A	**Spring Creek L**	**96.03**	**54**	P		**P**	**13 00 54.7**	**+0.6**
	baz=96							
O27A	**Beecher Island**	**96.07**	**49**	P		**P**	**13 00 53.4**	**-0.8**
	baz=96,SNR=8.7							
637A	**Eagle Lake**	**96.11**	**61**	P		**P**	**13 00 55.7**	**+1.2**
	baz=96							
F22A	**Rosebud**	**96.15**	**42**	P		**P**	**13 00 54.7**	**+0.3**
	baz=96							
M26A	**McRoberts Ranc**	**96.18**	**47**	P		**P**	**13 00 54.6**	**-0.2**
	baz=96							
A19A	**Klindworth Far**	**96.19**	**39**	P		**P**	**13 00 54.8**	**+0.3**
	baz=96							
Y33A	**Hilltop Ranch,**	**96.20**	**56**	P		**P**	**13 00 54.7**	**-0.2**
	baz=96							
W32A	**Sentinel**	**96.20**	**54**	P		**P**	**13 00 54.7**	**-0.1**
	baz=96,SNR=5.1							
K25A	**Mack Ranch, Ha**	**96.21**	**46**	P		**P**	**13 00 55.3**	**+0.5**
	baz=96							
R29A	**Marienthal**	**96.23**	**51**	P		**P**	**13 00 55.0**	**0.0**
	baz=96							
WHTX	**Lake Whitney**	**96.26**	**58**	P		**P**	**13 00 55.2**	**0.0**
	baz=96							
436A	**Wall Ranch, Ga**	**96.28**	**59**	P		**P**	**13 00 56.0**	**+0.7**
	baz=96							
U31A	**Nine Bar Ranch**	**96.28**	**53**	P		**P**	**13 00 55.1**	**-0.1**
	baz=96							
I24A	**Kuemmerle Ranc**	**96.29**	**45**	P		**P**	**13 00 54.9**	**-0.2**
	baz=96							
P28A	**Saint Francis**	**96.30**	**50**	P		**P**	**13 00 55.1**	**-0.2**
	baz=96,SNR=12							
N27A	**Anderson Farm,**	**96.30**	**48**	P		**P**	**13 00 55.0**	**-0.3**
	baz=96,SNR=5.3							
D21A	**La Casta Ranch**	**96.31**	**41**	P		**P**	**13 00 55.7**	**+0.6**
	baz=96							
B20A	**Solberg Farm,**	**96.37**	**40**	P		**P**	**13 00 55.3**	**0.0**
	baz=97							
S30A	**Montezuma**	**96.38**	**52**	P		**P**	**13 00 55.4**	**-0.2**
	baz=97							
537A	**Green Hill Far**	**96.38**	**60**	P		**P**	**13 00 55.7**	**0.0**
	baz=96							
G23A	**Biddle**	**96.42**	**43**	P		**P**	**13 00 55.3**	**-0.4**
	baz=97							
Z34A	**Collier Ranch,**	**96.48**	**56**	P		**P**	**13 00 55.7**	**-0.5**
	baz=97							
L26A	**Underwood Farm**	**96.48**	**47**	P		**P**	**13 00 56.5**	**+0.5**
	baz=97							
336A	**Riesel**	**96.49**	**59**	P		**P**	**13 00 56.0**	**-0.2**
	baz=97							
X33A	**Lawton**	**96.52**	**55**	Pdiff		**P**	**13 00 56.1**	**-0.2**
	baz=97							
O28A	**Krutsinger Ran**	**96.53**	**49**	Pdiff		**P**	**13 00 56.3**	**+0.1**
	baz=97							
135A	**Vickery Place,**	**96.53**	**57**	Pdiff		**P**	**13 00 56.6**	**+0.3**
	baz=97							
Q29A	**Oakley**	**96.55**	**50**	Pdiff		**P**	**13 00 56.5**	**+0.2**
	baz=97							
J25A	**Sunshine Ranch**	**96.61**	**45**	Pdiff		**P**	**13 00 56.6**	**0.0**
	baz=97							
C21A	**Desert Coulee**	**96.61**	**40**	Pdiff		**P**	**13 00 56.8**	**+0.4**
	baz=97							
A20A	**Cobblestone Ra**	**96.64**	**39**	Pdiff		**P**	**13 00 56.4**	**-0.1**
	baz=97							
E22A	**Miles City**	**96.65**	**42**	Pdiff		**P**	**13 00 56.7**	**+0.1**
	baz=97							
F23A	**Volborg**	**96.65**	**43**	Pdiff		**P**	**13 00 56.8**	**+0.1**
	baz=97							
OGNE	**Ogallala**	**96.70**	**48**	Pdiff		**P**	**13 00 57.6**	**+0.6**
	baz=97							
K26A	**Motz Farm, Whi**	**96.71**	**46**	Pdiff		**P**	**13 00 57.2**	**+0.1**
	baz=97							
M27A	**Reverse DX Ran**	**96.72**	**48**	Pdiff		**P**	**13 00 56.9**	**-0.2**
	baz=97							
H24A	**Dirks Ranch, A**	**96.74**	**44**	Pdiff		**P**	**13 00 56.7**	**-0.4**
	baz=97							
R30A	**Dighton**	**96.78**	**51**	Pdiff		**P**	**13 00 57.0**	**-0.5**
	baz=97							
RSSD	**Black Hills**	**96.79**	**45**	*e*P		**P**	**13 00 57.4**	**-0.1**
RSSD				pmax		pmax		
	comp=Z,12nm,1.1s							
RSSD	**Black Hills**	**96.79**	**45**	*e*P		**P**	**13 00 57.4**	**-0.1**
	comp=Z,12nm,1.1s							
W33A	**Caddo, Fort Co**	**96.79**	**55**	Pdiff		**P**	**13 00 56.5**	**-1.0**
	baz=97							
437A	**Phantom Ranch,**	**96.82**	**59**	Pdiff		**P**	**13 00 57.6**	**0.0**
	baz=97							
Y34A	**Reagan Ranch,**	**96.84**	**56**	Pdiff		**P**	**13 00 57.3**	**-0.4**
	baz=97							
D22A	**Cohagen**	**96.84**	**41**	Pdiff		**P**	**13 00 58.0**	**+0.6**
	baz=97							
P29A	**Atwood**	**96.88**	**50**	Pdiff		**P**	**13 00 58.1**	**+0.3**
	baz=97							
U32A	**Winter Ranch,**	**96.91**	**53**	Pdiff		**P**	**13 00 58.0**	**0.0**
	baz=97							
N28A	**Pribbeno Ranch**	**96.93**	**49**	Pdiff		**P**	**13 00 57.9**	**-0.2**
	baz=97							
I25A	**Rochford**	**96.94**	**45**	Pdiff		**P**	**13 00 57.8**	**-0.3**
	baz=97							
B21A	**Ellsworth Farm**	**96.95**	**40**	Pdiff		**P**	**13 00 57.8**	**-0.1**
	baz=97							
Z35A	**Perchaven, San**	**96.97**	**57**	Pdiff		**P**	**13 00 57.8**	**-0.5**
	baz=97							
236A	**Katherine and**	**96.98**	**58**	Pdiff		**P**	**13 00 58.3**	**-0.1**
	baz=97							
L27A	**T5 Ranch, Ells**	**97.01**	**47**	Pdiff		Pdif	13 00 58.9	+0.4
	baz=97							
X34A	**Smith Ranch, M**	**97.04**	**55**	Pdiff		Pdif	13 00 58.7	0.0
	baz=97							
J26A	**Sides Ranch, S**	**97.05**	**46**	Pdiff		Pdif	13 00 58.5	0.0
	baz=97							
E23A	**Ismay**	**97.07**	**42**	Pdiff		Pdif	13 00 58.5	0.0
	baz=97							
S31A	**Mullinville**	**97.07**	**52**	Pdiff		**P**	**13 00 58.5**	**-0.3**
	baz=97							
538A	**Harpers Horsep**	**97.09**	**60**	Pdiff		**P**	**13 00 58.2**	**-0.7**
	baz=97							
Q30A	**Quinter**	**97.12**	**51**	Pdiff		Pdif	13 00 59.1	+0.1
	baz=97							
O29A	**4D Ranch, Culb**	**97.20**	**49**	Pdiff		Pdif	13 00 59.7	+0.4
	baz=97							
V33A	**Lossen Ranch,**	**97.20**	**54**	Pdiff		**P**	**13 00 59.0**	**-0.3**
	baz=97							
A21A	**Bergtoll Ranch**	**97.27**	**39**	Pdiff		**P**	**13 00 59.6**	**+0.2**
	baz=98							
H25A	**Fruitdale**	**97.29**	**44**	Pdiff		Pdif	13 00 59.5	-0.1
	baz=98							
T32A	**Huddler Ranch,**	**97.30**	**53**	Pdiff		Pdif	13 00 59.7	0.0
	baz=98							
C22A	**Vida**	**97.30**	**41**	Pdiff		Pdif	13 00 59.4	-0.1
	baz=98							
F24A	**Ekalaka**	**97.31**	**43**	Pdiff		**P**	**13 00 59.7**	**+0.1**
	baz=98							
438A	**Sam Houston St**	**97.31**	**60**	Pdiff		Pdif	13 00 59.8	-0.1
	baz=98							
R31A	**Burdett**	**97.32**	**51**	Pdiff		**P**	**13 01 00.1**	**+0.2**
	baz=98							
K27A	**Flueckinger Fa**	**97.33**	**47**	Pdiff		**P**	**13 01 00.0**	**+0.2**
	baz=98							
P30A	**Selden**	**97.34**	**50**	Pdiff		**P**	**13 00 59.9**	**0.0**
	baz=98							
SONM	**Songino Array**	**97.34**	**319**	P		Pdif	13 00 59.6	-0.2
	comp=Z,2.0nm,0.8s,baz=119,slow=4.0,SNR=9.1							
SONM				PP		PP	13 04 58.3	-6.9
	comp=Z,3.4nm,1.0s,baz=133,slow=6.7,SNR=5.9							
SONM				S		**SKSac**	**13 10 45.4**	**-2.5**
	comp=Z,0.5nm,0.4s,baz=90,slow=2.0,SNR=3.3							
SONM				PKKPbc		**PKKPbc**	**13 17 36.2**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=272,slow=4.2,SNR=3.7							
W34A	**Bridge Creek,**	**97.35**	**55**	Pdiff		**P**	**13 01 00.2**	**+0.2**
	baz=98							
M28A	**Bar X Bar Ranc**	**97.35**	**48**	Pdiff		**P**	**13 01 00.1**	**+0.2**
	baz=98							
Y35A	**Marietta**	**97.36**	**56**	Pdiff		**P**	**13 01 00.2**	**+0.2**
	baz=98							
CBKS	**Cedar Bluff**	**97.39**	**51**	Pdiff		**P**	**13 01 00.1**	**0.0**
	baz=98							
D23A	**Lindsay**	**97.44**	**42**	Pdiff		**P**	**13 01 01.1**	**+0.9**
	baz=98							
B22A	**Reddig Ranch S**	**97.49**	**40**	Pdiff		**P**	**13 01 00.8**	**+0.4**
	baz=98							
I26A	**New Underwood**	**97.50**	**45**	Pdiff		Pdif	13 01 00.4	-0.1
	baz=98							
L28A	**Connealy Angus**	**97.51**	**47**	Pdiff		**P**	**13 01

GTA PMZ
comp=Z,120nm,6.7s
D24A Glendive 97.95 42 Pdiff P 13 01 02.6 +0.1
baz=98
F25A Bowman 97.96 43 Pdiff Pdif 13 01 02.2 -0.3
baz=98
R32A Long Quarter, 97.96 52 Pdiff P 13 01 02.8 +0.1
baz=98
W35A Tecumseh 97.99 55 Pdiff Pdif 13 01 02.6 -0.2
baz=98
I27A Quinn 98.05 45 Pdiff Pdif 13 01 02.8 -0.1
baz=98
INK Inuvik 98.07 16 P Pdif 13 01 01.8 -0.5
comp=Z,7.8nm,0.9s,baz=269,slow=1.7,SNR=6.5
INK PP PP 13 05 13.4 +3.3
comp=Z,7.4nm,1.1s,baz=236,slow=8.1,SNR=4.3
C24A Savage 98.08 41 Pdiff P 13 01 03.6 +0.6
baz=98
S33A Kaszmaul Farm, 98.14 53 Pdiff P 13 01 03.9 +0.4
baz=98
X36A Centrahoma 98.15 56 Pdiff Pdif 13 01 03.2 -0.3
baz=98
B23A Brockton 98.16 40 Pdiff P 13 01 03.6 +0.3
baz=98
Z37A Pogue Cattle C 98.16 57 Pdiff P 13 01 03.7 +0.1
baz=98
G26A Maurine 98.22 44 Pdiff P 13 01 03.9 +0.2
baz=98
O31A Woolen Ranch, 98.23 50 Pdiff P 13 01 04.3 +0.4
baz=98
L29A Maesberg Ranch 98.24 48 Pdiff P 13 01 04.2 +0.3
baz=98
E25A Miller Ranch, 98.25 43 Pdiff Pdif 13 01 03.7 0.0
baz=98
V35A Meyer Ranch, C 98.26 55 Pdiff P 13 01 04.1 0.0
baz=98
339A Huntington 98.27 60 Pdiff P 13 01 04.3 +0.1
baz=98
H27A Howes 98.27 45 Pdiff Pdif 13 01 03.3 -0.6
baz=98
540A Vidor 98.29 61 Pdiff Pdif 13 01 03.8 -0.5
baz=98
Q32A Meitler Ranch, 98.30 51 Pdiff Pdif 13 01 04.0 -0.1
baz=98
J28A Allard Ranch, 98.30 46 Pdiff Pdif 13 01 04.0 -0.1
baz=98
138A Matatall Enter 98.37 58 Pdiff Pdif 13 01 04.3 -0.3
baz=98
F26A Lodgepole 98.42 44 Pdiff Pdif 13 01 04.0 -0.5
baz=99
M30A Dale-Ortello V 98.43 48 Pdiff Pdif 13 01 04.6 -0.1
baz=99
R33A Olander Ranch, 98.44 52 Pdiff Pdif 13 01 04.4 -0.4
baz=98
A23A Redstone 98.45 40 Pdiff Pdif 13 01 03.8 -0.8
baz=99
JTS JuntasAbangare 98.45 83 P P 13 01 06.4 +1.0
JTS pmax pmax
comp=Z,60nm,2.0s
W36A Wetumka 98.47 55 Pdiff Pdif 13 01 04.5 -0.4
baz=99
Y37A Hugo 98.47 57 Pdiff Pdif 13 01 04.5 -0.5
baz=99
T34A McClaskey Farm 98.50 53 Pdiff Pdif 13 01 04.4 -0.6
baz=99
440A Kirbyville 98.51 60 Pdiff Pdif 13 01 04.4 -0.8
baz=99
P32A Huiting Farm, 98.53 51 Pdiff P 13 01 05.2 0.0
baz=99
U35A Pawnee 98.58 54 Pdiff Pdif 13 01 05.4 0.0
baz=99
I28A Midland 98.59 46 Pdiff P 13 01 05.6 +0.2
baz=99
239A Gary 98.60 59 Pdiff P 13 01 05.9 +0.3
baz=101
DGMT Dagmar 98.64 41 Pdiff P 13 01 06.0 +0.5
baz=99
DGMT Dagmar 98.64 41 *e*Pdif P 13 01 06.6 +1.1
comp=Z,16nm,0.9s
K29A Lazy Trails An 98.64 47 Pdiff P 13 01 06.1 +0.4
baz=99
Z38A Mt. Pleasant 98.68 58 Pdiff P 13 01 06.4 +0.4
baz=99
G27A Dupree 98.69 44 Pdiff P 13 01 06.0 +0.2
baz=99
L30A Spencer Herefo 98.70 48 Pdiff P 13 01 06.7 +0.7
baz=99
N31A Bailey Ranch, 98.77 49 Pdiff P 13 01 06.9 +0.6
baz=99
E26A Carlson Angus 98.82 43 Pdiff P 13 01 07.0 +0.6
baz=99
Q33A Connelly Farm, 98.82 51 Pdiff P 13 01 07.1 +0.6
baz=99
340A Bronson 98.82 60 Pdiff P 13 01 06.9 +0.2
baz=99
S34A Willow Spring 98.83 53 Pdiff P 13 01 06.8 +0.3
baz=99
F27A Lemmon 98.84 44 Pdiff P 13 01 07.0 +0.5
baz=99
C25A Freed Ranch, W 98.87 42 Pdiff P 13 01 07.4 +0.8
baz=99
J29A Okreek 98.90 46 Pdiff Pdif 13 01 06.6 -0.1
baz=99
X37A Clayton 98.90 56 Pdiff P 13 01 07.0 +0.1
baz=99
139A Bunkhouse Ranc 98.91 58 Pdiff Pdif 13 01 06.9 0.0
baz=99
V36A Jenks 98.94 55 Pdiff Pdif 13 01 06.7 -0.3
baz=99
A24A Westby 98.95 40 Pdiff P 13 01 07.4 +0.5
baz=99
T35A Sooner Cattle 98.95 54 Pdiff P 13 01 07.3 +0.1
baz=99
R34A Isabella, Hill 98.96 52 Pdiff P 13 01 07.3 +0.1
baz=99
M31A Lambtecht Ranc 98.97 49 Pdiff P 13 01 07.7 +0.6
baz=99
H28A Mission Ridge 98.97 45 Pdiff P 13 01 07.6 +0.5
baz=99
O32A Brockman Farm, 99.01 50 Pdiff Pdif 13 01 07.5 +0.2
baz=99
K30A Basset 99.07 47 Pdiff Pdif 13 01 08.2 +0.7
baz=99
D26A Manning 99.08 43 Pdiff Pdif 13 01 07.9 +0.5
baz=99
P33A Williams Farm, 99.09 51 Pdiff Pdif 13 01 08.2 +0.5
baz=99
TUL1 Tulsa 99.10 55 Pdiff Pdif 13 01 07.7 -0.1
baz=99
Y38A Idabel 99.13 57 Pdiff Pdif 13 01 07.9 0.0
baz=99
B25A Knox Farm, Ray 99.17 41 Pdiff Pdif 13 01 08.6 +0.8
baz=99
I29A Vivian Onida 99.17 46 Pdiff Pdif 13 01 08.2 +0.3
baz=99
N32A Stulken Farm, 99.20 50 Pdiff Pdif 13 01 08.7 +0.6
baz=99
G28A Parade 99.21 45 Pdiff Pdif 13 01 08.4 +0.3
baz=99
Z39A Irene McRaven, 99.29 58 Pdiff Pdif 13 01 08.9 +0.2
baz=100
U36A Oologah 99.33 54 Pdiff Pdif 13 01 09.1 +0.3
baz=100
X38A Whitesboro 99.34 56 Pdiff Pdif 13 01 09.1 +0.3
baz=100
E27A Carson 99.36 43 Pdiff Pdif 13 01 09.3 +0.6
baz=100
L31A Butterfield Fa 99.39 48 Pdiff Pdif 13 01 09.5 +0.6
baz=100
S35A Otter Creek Ra 99.40 53 Pdiff Pdif 13 01 09.9 +0.9
baz=100
J30A Dallas 99.42 47 Pdiff Pdif 13 01 09.8 +0.8
baz=100
O33A Hebron 99.43 50 Pdiff Pdif 13 01 10.2 +1.0
baz=100
Q34A Chapman 99.43 52 Pdiff Pdif 13 01 09.9 +0.8
baz=100
H29A Onida 99.48 45 Pdiff Pdif 13 01 09.2 -0.1
baz=100
T36A Boggs Farm, Ca 99.48 54 Pdiff Pdif 13 01 09.9 +0.5
baz=100
A25A Svangstu Ranch 99.49 41 Pdiff Pdif 13 01 10.0 +0.8
baz=100
BGNE Belgrade 99.56 49 Pdiff Pdif 13 01 10.4 +0.7
baz=100
V37A Hulbert 99.57 55 Pdiff Pdif 13 01 10.0 +0.2
baz=100
F28A McLaughlin 99.60 44 Pdiff Pdif 13 01 10.2 +0.5
baz=100
C26A Wahner Farm, P 99.62 42 Pdiff Pdif 13 01 10.5 +0.6
baz=100
D27A Center 99.67 43 Pdiff Pdif 13 01 10.7 +0.6
baz=100
W38A Poteau 99.73 56 Pdiff Pdif 13 01 11.0 +0.4
baz=100
P34A Walnut Farm, R 99.75 51 Pdiff Pdif 13 01 10.9 +0.3
baz=100
C27A Sayler Ranch, 99.94 42 Pdiff Pdif 13 01 11.9 +0.6
baz=100
Q35A Mercer Eighty, 100.06 52 Pdiff Pdif 13 01 11.9 0.0
baz=100
A26A Wade Farm, Ken 100.11 41 Pdiff Pdif 13 01 12.5 +0.6
baz=100
T37A Cheneyville 18 100.21 54 Pdiff Pdif 13 01 12.9 +0.2
baz=100
F29A Eureka 100.22 44 Pdiff Pdif 13 01 12.7 +0.2
baz=100
R36A Gordon, Harris 100.24 53 Pdiff Pdif 13 01 12.9 +0.1
baz=100
MIAR Mount Ida 100.25 57 Pdiff Pdif 13 01 13.5 +0.6
baz=100
M33A Taylor Creek F 100.28 49 Pdiff Pdif 13 01 13.3 +0.5
baz=100
P35A Duane Minner, 100.33 51 Pdiff Pdif 13 01 13.3 +0.1
baz=100
YKA Yellowknife Ar 100.36 25 P Pdif 13 01 12.5 -0.1
comp=Z,1.0nm,0.5s,baz=238,slow=4.6,SNR=18
YKA PP PP 13 05 24.4 -3.0
comp=Z,3.1nm,1.0s,baz=240,slow=7.0,SNR=10
YKA S SKSac 13 10 59.5 -2.3
comp=Z,0.4nm,0.8s,baz=232,slow=5.6,SNR=4.2
YKA PKKPbc PKKPbc 13 17 26.2 -2.5
comp=Z,0.7nm,0.5s,baz=40,slow=2.5,SNR=11
YKA PKKP PKKPdf 13 17 35.0 +1.5
comp=Z,0.4nm,0.6s,baz=44,slow=1.8,SNR=4.4
YKA PKKPab 13 17 52.5
comp=Z,1.3nm,0.9s,baz=54,slow=5.1,SNR=9.5
B27A Peters Farms, 100.37 42 Pdiff Pdif 13 01 14.3 +1.2
baz=101
G30A Faulkton 100.38 45 Pdiff Pdif 13 01 12.8 -0.4
baz=101
L33A Hoskins 100.46 49 Pdiff Pdif 13 01 14.1 +0.5
baz=101
N34A Lincoln 100.48 50 Pdiff Pdif 13 01 14.2 +0.4
baz=101
Q36A Arnold C. Orve 100.51 52 Pdiff Pdif 13 01 14.3 +0.4
baz=101
S37A Fort Scott 100.52 53 Pdiff Pdif 13 01 14.7 +0.7
baz=101
C28A Hausauer Farms 100.63 42 Pdiff Pdif 13 01 14.9 +0.6
baz=101
M34A Aspy Farms, Fr 100.68 49 Pdiff Pdif 13 01 15.3 +0.7
baz=101
O35A Humboldt 100.68 51 Pdiff Pdif 13 01 15.3 +0.7
baz=101
R37A Teagarden Farm 100.72 53 Pdiff Pdif 13 01 14.8 -0.1
baz=101
F30A Leola 100.73 45 Pdiff Pdif 13 01 14.6 -0.2
baz=101
D29A Pettibone, Tap 100.86 43 Pdiff Pdif 13 01 14.7 -0.6
baz=101
B28A Dugan Ranch, T 100.94 42 Pdiff Pdif 13 01 16.3 +0.7
baz=101
P36A Good Intent, A 100.94 52 Pdiff Pdif 13 01 16.4 +0.5
baz=101
L34A Svendsen Farm, 101.00 49 Pdiff Pdif 13 01 16.1 +0.1
baz=101
E30A Jud 101.07 44 Pdiff Pdif 13 01 17.1 +0.8
baz=101
N35A Tabor 101.10 50 Pdiff Pdif 13 01 17.7 +1.2
baz=101
MDND Maddock 101.16 43 Pdiff Pdif 13 01 18.1 +1.5
baz=101
A28A Rude Farm, Bot 101.18 41 Pdiff Pdif 13 01 16.5 -0.2
baz=101
Q37A Longview Farm, 101.21 52 Pdiff Pdif 13 01 17.3 +0.2
baz=101
M35A Neola 101.29 50 Pdiff Pdif 13 01 17.3 -0.1
baz=102
O36A Bolckow 101.30 51 Pdiff Pdif 13 01 16.8 -0.6
baz=102
D30A Buchanan 101.40 43 Pdiff Pdif 13 01 17.4 -0.3
baz=102
ECSD EROS Data Cent 101.51 47 Pdiff Pdif 13 01 18.9 +0.6
baz=102
ECSD EROS Data Cent 101.51 47 *e*Pdif Pdif 13 01 19.4 +1.1
B29A Wagenman Farm, 101.56 42 Pdiff Pdif 13 01 18.4 0.0
baz=102
PALK Pallekele 101.62 273 PP PP 13 05 35.4 -2.3
comp=Z,4.5nm,0.6s,baz=57,slow=15,SNR=4.6
L35A Bielow Farm, R 101.63 49 Pdiff Pdif 13 01 19.5 +0.7
baz=102
VBMS Vicksburg 101.79 60 Pdiff Pdif 13 01 19.2 -0.6
baz=102
C30A Mose, Pekin 101.81 43 Pdiff Pdif 13 01 19.1 -0.4
baz=102
A29A Manning Farm, 101.81 42 Pdiff Pdif 13 01 20.5 +1.0
baz=102
LPAZ La Paz 102.17 114 PKKPbc PKKPbc 13 17 22.9 -0.1
comp=Z,1.2nm,0.8s,baz=337,slow=7.7,SNR=3.8
B30A Myrvik Farm, E 102.19 42 Pdiff Pdif 13 01 21.3 +0.1
baz=102
A30A Hoffart Farm, 102.39 42 Pdiff Pdif 13 01 22.2 +0.1
baz=103
AGMN Agassiz Nation 103.66 43 Pdiff Pdif 13 01 27.8 +0.1
baz=104
SPMN St. Paul 104.58 47 Pdiff Pdif 13 01 31.8 -0.1
baz=105
HDIL Hopedale 105.52 52 Pdiff PKiKP 13 05 46.0 -0.4
baz=106
EYMN Ely 106.31 44 Pdiff PKiKP 13 05 47.7 0.0
baz=106
TIGA Tifton 107.09 63 Pdiff PKiKP 13 05 49.2 -0.5
baz=107
KMSC Kings Mountain 109.97 60 Pdiff PKiKP 13 05 54.1 -0.9
baz=110
RES Resolute Bay 111.61 17 S SKSac 13 11 48.2 -2.5
comp=Z,1.0nm,0.8s,baz=16,slow=7.4,SNR=4.4
RES PKKPab PKKPab 13 17 04.6 +2.3
comp=Z,2.9nm,0.9s,baz=81,slow=5.8,SNR=3.2
RES Resolute Bay 111.61 17 *e*PKIKP PKiKP 13 05 55.7 -1.2
RES S SKSac 13 11 48.2 -2.5
RES Resolute Bay 111.61 17 *e*PKPdf PKiKP 13 05 55.6 -1.2
RES S SKSac 13 11 48.2 -2.5
RES PKKPab PKKPab 13 17 04.6 +2.3
ZALV Zalesovo Beam 112.18 321 PKiKP PKiKP 13 05 57.7 -0.9
comp=Z,4.0nm,0.4s,baz=173,slow=1.1,SNR=17
ZALV SKP 13 08 43.7
comp=Z,2.8nm,0.7s,baz=121,slow=1.1,SNR=4.5
ZALV S SKSac 13 11 50.6 -3.2
comp=Z,0.7nm,0.3s,baz=93,slow=5.9,SNR=4.0
MK31 Makanchi Array 112.40 313 *i* PKIKP PKiKP 13 05 58.2 -1.1
MK31 pmax pmax
comp=Z,3.0nm,0.3s
MKAR Makanchi Array 112.40 313 Pdiff Pdif 13 02 07.8 +1.2
comp=Z,1.1nm,0.7s,baz=89,slow=6.2,SNR=8.2
MKAR PKiKP PKiKP 13 05 58.3 -1.0
comp=Z,4.7nm,0.5s,baz=224,slow=1.7,SNR=38
MKAR PP PP 13 06 44.4 -11
comp=Z,2.1nm,0.9s,baz=84,slow=11,SNR=3.9
MKAR SKP 13 08 44.4
comp=Z,4.6nm,0.8s,baz=75,slow=2.4,SNR=6.7
MKAR S SKSac 13 11 52.3 -2.9
comp=Z,1.5nm,0.7s,baz=92,slow=6.1,SNR=7.0
MKAR PKKPbc PKKPbc 13 16 51.2 -0.2
comp=Z,1.0nm,0.6s,baz=282,slow=3.2,SNR=8.3
MKAR PKKPab PKKPab 13 17 00.8 +1.2
comp=Z,1.2nm,0.6s,baz=268,slow=3.8,SNR=7.5
NVS Novosibirsk 113.25 321 *e*PKIKP PKiKP 13 05 59.1 -1.4
KURK Kurchatov 115.44 316 PKIKP PKPdf 13 06 04.2 -0.7
KURK 13 08 51.3
KURK S SKSac 13 12 02.8 -3.8
KURK Kurchatov 115.44 316 PKP PKPdf 13 06 04.2 -0.7
KURK PP PP 13 07 02.8 -13
KURK SKP 13 08 51.2
KURK S SKSac 13 12 02.8 -3.8
KURK PKKPbc PKKPbc 13 16 40.5 -0.7
KURBB Kurchatov Arra 115.48 316 PKP PKPdf 13 06 04.2 -0.8
comp=Z,12nm,0.7s,baz=98,slow=1.9,SNR=95
KURBB PP PP 13 07 02.8 -14
comp=Z,2.5nm,1.0s,baz=99,slow=6.2,SNR=5.5
KURBB SKP 13 08 51.2
comp=Z,5.6nm,0.9s,baz=106,slow=2.1,SNR=6.6
KURBB S SKSac 13 12 02.8 -4.0
comp=Z,0.6nm,0.6s,baz=81,slow=11,SNR=5.3
KURBB PKKPbc PKKPbc 13 16 40.5 -0.6
comp=Z,0.5nm,0.4s,baz=280,slow=4.7,SNR=6.8
KSH Kashi 115.53 304 PKP PKPdf 13 06 07.1 +1.5
KSH PP PP 13 07 23.2 +6.0
KSH sPKP 13 08 48.1
KSH PKS PKSdf 13 09 42.7 +0.3
KSH SKS SKSdf 13 12 33.1 +3.4
KSH SKKS SKKSac 13 13 27.1 +1.9
TKM2 Tokmak 2 116.39 307 P PKPdf 13 06 06.8 -0.4
SNR=13
TKM2 Tokmak 2 116.39 307 *e*PKIKP PKPdf 13 06 06.7 -0.6
TKM2 Tokmak 2 116.39 307 *e*PKPdf PKPdf 13 06 06.7 -0.6
CHMS Chumysh 117.02 307 P PKPdf 13 06 08.1 -0.2
SNR=7.6
UCH Uchtor 117.08 307 P PKPdf 13 06 09.5 +0.5
SNR=16
SFK Sufi-Kurgan 117.49 304 PKIKP PKPdf 13 06 09.6 +0.1
SFK pmax pmax
comp=Z,8.0nm,0.5s
AML Almayashu 117.67 306 P PKPdf 13 06 09.8 -0.2
SNR=14
EKS2 Erkin-Say 117.68 307 P PKPdf 13 06 09.7 0.0
SNR=5.5
EKS2 Erkin-Say 117.68 307 *e*PKIKP PKPdf 13 06 09.4 -0.3
EKS2 Erkin-Say 117.68 307 *e*PKPdf PKPdf 13 06 09.4 -0.3
BDFB Brasilia 118.56 125 PKP PKPdf 13 06 11.6 -0.5
comp=Z,4.8nm,0.5s,baz=197,slow=1.5,SNR=8.2
BDFB SKP 13 08 57.8
comp=Z,1.4nm,0.5s,baz=188,slow=1.4,SNR=5.3
BDFB PKKPab PKKPbc 13 16 30.2 -0.1
comp=Z,6.8nm,0.8s,baz=130,slow=2.7,SNR=6.9
KK31 Karatay Array 120.11 307 *i* PKIKP PKPdf 13 06 13.6 -0.6
KK31 pmax pmax
comp=Z,14nm,0.6s
KKAR Karatay Array 120.11 307 *e*PKIKP PKPdf 13 06 14.0 -0.2
KKAR Karatay Array 120.11 307 *e*PKPdf PKPdf 13 06 14.0 -0.2
BVAR Borovoye Array 120.68 319 PKP PKPdf 13 06 14.3 -0.6
comp=Z,18nm,0.4s,baz=89,slow=1.4,SNR=74
BVAR PP PP 13 07 46.9 -4.8
comp=Z,2.7nm,0.9s,baz=108,slow=4.8,SNR=3.8
BVAR SKP 13 09 01.8
comp=Z,5.2nm,0.8s,baz=106,slow=3.2,SNR=5.7
BRVK Borovoye 120.74 319 *e*PKIKP PKPdf 13 06 17.2 +2.2
BRVK Borovoye 120.74 319 *e*PKPdf PKPdf 13 06 14.7 -0.4
KULLO Kullorsuaq 121.43 15⇑ *i*P PKPdf 13 06 14.9 -0.8
comp=Z,16nm,0.5s
BOSA Boshof 122.41 206 PKP PKPdf 13 06 19.6 +0.3
comp=Z,9.0nm,0.6s,baz=161,slow=2.3,SNR=15
BOSA PKKPbc PKKPbc 13 16 15.2 -1.6
comp=Z,5.7nm,0.8s,baz=337,slow=2.7,SNR=9.6
SCHQ Schefferville 122.41 39 PKP PKPdf 13 06 16.6 -1.6
comp=Z,3.3nm,0.4s,baz=335,slow=2.3,SNR=13
SPA0 Spitsbergen Ar 125.25 356 *e*P PKPdf 13 06 23.0 -0.1
SPA0 IAmb IAmb 13 06 24.4
comp=Z,46nm,1.0s
ILULI Ilulissat 125.58 20 *i* P PKPdf 13 06 23.1 -0.7
comp=Z,32nm,0.5s
SVE Sverdlovsk 125.91 324 *e*PKIKP PKPdf 13 06 25.0 +0.2
SVE pmax pmax
comp=Z,33nm,1.0s
DAG Danmarks Havn 126.37 5 *i* P PKPdf 13 06 24.3 -0.9
comp=Z,12nm,0.5s
DAG Danmarks Havn 126.37 5 *i* PKIKP PKPdf 13 06 24.3 -0.9
DAG pmax pmax
comp=Z,8.0nm,0.5s
SFJD Kangerlussuaq 126.79 22 *i* P PKPdf 13 06 25.7 -0.5
comp=Z,19nm,0.6s
SFJD Kangerlussuaq 126.79 22 *i* PKIKP PKPdf 13 06 25.7 -0.5
SFJD pmax pmax
comp=Z,19nm,0.6s
SUMG Summit 126.93 14 *i* P PKPdf 13 06 27.4 +0.5
SUMG Summit 126.93 14 *i* PKIKP PKPdf 13 06 27.4 +0.5
SUMG Summit 126.93 14 *e*PKPdf PKPdf 13 06 26.5 -0.3
ARU Arti 127.11 324 *e*PKIKP PKPdf 13 06 26.9 -0.2
ARU Arti 127.11 324 *e*PKPdf PKPdf 13 06 26.9 -0.2
SOKR Solikamsk 127.22 328 *c* PKIKP PKPdf 13 06 27.7 +0.5
SOKR pmax pmax
comp=Z,30nm,0.9s
AB31 Akbulak array 127.45 315 *i* PKIKP PKPdf 13 06 27.3 -0.7
AB31 pmax pmax
comp=Z,1.0nm,0.3s
AKTO Aktyubinsk 128.54 316 SKPbc SKiKP 13 09 01.7 -17
comp=Z,7.6nm,0.7s,baz=102,slow=7.3,SNR=13
AKTO SKP 13 09 16.4
comp=Z,4.2nm,0.7s,baz=113,slow=3.5,SNR=4.5
GEYT Alibeck 129.22 300 PKP PKPdf 13 06 32.6 +0.8
comp=Z,16nm,0.8s,baz=286,slow=1.0,SNR=20
GEYT SKPbc SKPab 13 09 05.6 0.0
comp=Z,42nm,1.0s,baz=333,slow=1.7,SNR=29
HATD Hatta, Dubai 129.43 283⇑ *i*P SKPbc 13 09 07.2 +0.2
SNR=8.5
ASHO Ashiyiah 129.46 283⇓ *i*P SKPbc 13 09 07.0 -0.2
SNR=17
BANOM Banah 129.49 285⇑ *i*P SKPbc 13 09 07.7 +0.5
SNR=8.2
NAZ Nazwa, Dubai 129.88 283⇑ *i*P SKPbc 13 09 08.6 0.0
SNR=19
FAQ Al Faqa, Dubai 129.89 283⇑ *i*P SKPbc 13 09 08.7 0.0
SNR=17
ASUD Al Ashush, Dub 130.10 283 *i* P SKPbc 13 09 10.2 +0.7
SNR=7.8
HAMF Hammerfest 131.40 350 *e*P PKPdf 13 06 34.5 -0.4
PRGR Permogore 131.47 333 *e*PKIKP PKPdf 13 06 34.5 -0.7
PRGR *e* 13 09 09.7
PRGR pmax pmax
comp=Z,11nm,0.8s
NRS Narsarsuaq 131.58 28 *i* P PKPdf 13 06 43.3 +7.9
comp=Z,42nm,0.9s
NRS Narsarsuaq 131.58 28 *i* PKIKP PKPdf 13 06 43.3 +7.9
NRS pmax pmax
comp=Z,42nm,0.9s
ARCES ARCESS Array B 132.04 348 PKhKP PKPpre 13 06 20.4
comp=Z,1.4nm,0.5s,baz=43,slow=2.1,SNR=14
ARCES PKP PKPdf 13 06 35.4 -0.8
comp=Z,13nm,0.5s,baz=46,slow=3.5,SNR=36
ARCES SKPbc SKPbc 13 09 14.1 -0.9
comp=Z,79nm,0.8s,baz=45,slow=3.6,SNR=65
ARCES PKKP PKKPdf 13 16 29.7 -3.4
comp=Z,2.6nm,1.0s,baz=238,slow=1.1,SNR=3.6
ARE0 ARCESS Array S 132.04 348 *e*P PKPdf 13 06 35.8 -0.4
ARE0 *e*PP PP 13 09 14.2 +9.1
LSZ Lusaka 132.36 218 *e*PKIKP PKPdf 13 06 39.2 +0.6
LSZ Lusaka 132.36 218 *e*PKPdf PKPdf 13 06 39.1 +0.6
KMBO Kilima Mbogo 136.25 240 PKhKP PKPpre 13 06 36.2
comp=Z,0.7nm,0.3s,baz=53,slow=3.0,SNR=3.8
KMBO PKP PKiKP 13 06 48.1 +0.2
comp=Z,7.7nm,0.9s,baz=72,slow=20,SNR=8.6
KMBO SKPbc SKPbc 13 09 30.2 -0.3
comp=Z,35nm,1.2s,baz=76,slow=2.8,SNR=15
KMBO Kilima Mbogo 136.25 240 *c* PKIKP PKPdf 13 06 48.7 +2.7
KMBO pmax pmax
comp=Z,8.0nm,0.9s
KMBO Kilima Mbogo 136.25 240 *e*PKPdf PKPdf 13 06 47.2 +1.2
KMBO PKP PKiKP 13 06 48.1 +0.2
KMBO SKPbc SKPbc 13 09 30.2 -0.3
MOS Moscow 138.13 329 *e*PKIKP PKPdf 13 06 47.6 -0.2
MOS *i* 13 09 32.8
MOS pmax pmax
comp=Z,64nm,0.7s
FINES FINESS Array B 138.62 342 PKhKP PKPpre 13 06 37.8
comp=Z,4.2nm,0.5s,baz=84,slow=3.2,SNR=21
FINES PKP PKiKP 13 06 50.1 -0.7
comp=Z,8.7nm,0.4s,baz=60,slow=1.9,SNR=17
FINES SKPbc SKPbc 13 09 34.2 -1.2
comp=Z,80nm,0.8s,baz=85,slow=4.4,SNR=51
DGRG David-gareji 138.76 306 P SKPbc 13 09 37.8 +1.2
OBN Obninsk 138.99 329 SKPbc SKPbc 13 09 35.5 -1.1
comp=Z,46nm,0.6s,baz=53,slow=6.9,SNR=17
OBN Obninsk 138.99 329 *i* PKIKP PKPdf 13 06 49.9 +0.5
OBN pmax pmax
comp=Z,11nm,0.8s
TBLG Delisi 139.17 307 P SKPbc 13 09 38.3 +0.6
GNI Garni 139.46 304 SKPbc SKPbc 13 09 38.3 -0.4
comp=Z,20nm,0.8s,baz=174,slow=3.8,SNR=8.5
GNI Garni 139.46 304 PKIKP PKPdf 13 06 51.0 0.0
GNI Garni 139.46 304⇓ *i*P SKPbc 13 09 39.5 +0.8
SNR=6.2
VSR Storozhevoye 139.65 322 *e*PKHKP PKPpre 13 06 45.7
VSR pmax pmax
comp=N,9.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,20nm,0.8s
ONI Oni 139.92 308 P SKPbc 13 09 40.5 +0.8
KBZ Khabaz 140.03 310 PKhKP PKPpre 13 06 44.0
comp=Z,3.6nm,0.9s,baz=90,slow=1.0,SNR=8.8

KBZ SKPbc **SKPbc** **13 09 39.3 -0.5**
comp=Z,11nm,0.9s,baz=83,slow=2.7,SNR=14
KIV **Kislovodsk** **140.12 311** *i* PKIKP **PKPdf** **13 06 53.1 +1.1**
KIV *e* 13 09 38.8
KIV *e* 13 09 52.5
KIV *e*SS SS 13 27 33.2 -5.6
KIV pmax pmax
comp=Z,9.0nm,0.9s
KIV **Kislovodsk** **140.12 311** ⇑*i*P **SKPbc** **13 09 40.3 +0.1**
SNR=7.3
AKH **Akhalkalaki** **140.15 306** P **SKPbc** **13 09 41.3 +0.8**
VSU **Vasula** **140.76 338** *i* PKIKP **PKPdf** **13 06 56.0 +3.5**
CUKT **Cukurca** **140.76 300** *e*P PKPpre 13 06 47.5
EATA **Eleskirt** **141.21 304** *i* P **SKPbc** **13 09 44.2 +0.7**
DBOC **Borcka** **141.51 307** *i* P **SKPbc** **13 09 44.6 +0.7**
DDEM **Demirkent** **141.55 306** *i* P **SKPbc** **13 09 45.2 +1.2**
DDEM **Demirkent** **141.55 306** *i* P PKPpre 13 06 49.9
DBAD **Bademkaya** **141.56 306** *i* P PKPpre 13 06 50.9
EKAR **Karacoban** **141.65 303** *i* P **SKPbc** **13 09 46.2 +1.7**
ERZM **Erzurum** **142.05 305** *i* P PKPpre 13 06 52.8
EZM **Erzurum** **142.05 305** *e*P PKPpre 13 06 53.3
NB2 **NORSAR Subarra** **142.22 351** PKP PKPpre 13 06 50.8
comp=Z,4.7nm,0.6s,baz=10,slow=3.2
NB2 **NORSAR Subarra** **142.22 351** PKP PKPpre 13 06 50.8
baz=10,slow=3.2
NOA **NORSAR Array B** **142.22 351** PKhKP PKPpre 13 06 49.4
comp=Z,16nm,0.9s,baz=16,slow=4.7,SNR=32
NOA SKPbc **SKPbc** **13 09 43.8 -1.1**
comp=Z,18nm,0.9s,baz=14,slow=4.2,SNR=14
NOA SKPab SKiKP 13 10 00.9 +15
comp=Z,11nm,0.9s,baz=18,slow=3.2,SNR=6.3
NC602 **NORSAR Array S** **142.47 351** *e*P PKPpre 13 06 51.6
KOPT **Kop Dagi** **142.68 305** *i* P **SKPbc** **13 09 48.8 +1.7**
KOPT **Kop Dagi** **142.68 305** *i* P **PKPdf** **13 06 55.0 -1.9**
HFS **Hagfors** **142.70 349** PKhKP PKPpre 13 06 52.2
comp=Z,62nm,0.4s,baz=64,slow=3.4,SNR=548
HFS SKPbc **SKPbc** **13 09 44.8 -1.2**
comp=Z,34nm,0.8s,baz=292,slow=0.8,SNR=17
SUE **Sulen** **142.84 356** *e*P **PKPdf** **13 06 53.3 -2.9**
SUE IAmb IAmb 13 06 54.2
comp=Z,38nm,0.7s
BAYT **Ayd¨–ntepe-Bay** **142.85 306** *e*P **PKPdf** **13 06 55.5 -1.6**
IZAR **Zarasai** **142.99 336** *e*P **PKPdf** **13 06 55.1 -1.5**
IZAR IAmb IAmb 13 06 55.5
comp=Z,38nm,0.5s
IDID **Didziasalis** **143.12 335** *e*P PKPbc 13 06 54.9 +0.1
IDID IAmb IAmb 13 06 57.2
comp=Z,12nm,0.8s
IDID *i* 13 09 46.5
ISAL **Salakas** **143.16 336** *e*P PKPbc 13 06 55.6 +0.6
ISAL IAmb IAmb 13 06 57.4
comp=Z,17nm,1.0s
ISAL *i* 13 09 47.1
KBSD **Kabsdagh** **143.22 300** *e*P PKPbc 13 06 56.2 +0.4
MAZI **Mazidag** **143.22 301** *e*P PKPbc 13 06 55.8 -0.1
MICGM **Minsk** **143.25 333** IP PKPab 13 06 54.0 -0.9
MNK **Minsk** **143.27 333** ⇓*i*PKHKP PKPab 13 06 54.0 -1.0
MNK pmax pmax
comp=Z,190nm,1.0s
IIGN **Ignalina** **143.29 335** *e*P PKPbc 13 06 55.6 +0.2
IIGN IAmb IAmb 13 06 56.9
comp=Z,28nm,0.9s
IIGN *i* 13 09 46.9
MZRK **Al-Mazaregh** **143.30 298** *e*P **PKPdf** **13 06 58.8 +1.0**
GUMT **Gumushane** **143.33 306** *e*P **PKPdf** **13 06 57.1 -0.8**
ANN **Anapa** **143.41 314** *i* PKHKP PKPab 13 06 54.3 -1.5
ANN *e* 13 13 19.5
ANN pmax pmax
comp=Z,257nm,0.9s
RUND **Rundenannen** **143.45 356** *e*P PKPab 13 06 54.7 -0.9
BER **Bergen** **143.48 356** *e*P PKPab 13 06 55.6 0.0
BER IAmb IAmb 13 06 56.3
comp=Z,120nm,0.7s
KELT **Kelkit** **143.57 306** *i* P **SKPdf** **13 09 46.2 +1.5**
KELT **Kelkit** **143.57 306** *i* P PKPbc 13 06 57.5 +0.4
SFNV **Sufian** **143.65 299** *e*P **PKPdf** **13 06 57.9 -0.5**
KONO **Kongsberg** **143.78 352** *e*P PKPab 13 06 56.8 0.0
KONO IAmb IAmb 13 06 57.3
comp=Z,115nm,0.8s
KONO **Kongsberg** **143.78 352** *e*PKIKP PKPab 13 06 56.6 -0.2
KONO **Kongsberg** **143.78 352** *e*PKPdf PKPab 13 06 56.5 -0.2
ODD1 **Odda** **143.85 355** *e*P PKPbc 13 06 56.8 -0.2
ODD1 IAmb IAmb 13 06 57.6
comp=Z,49nm,0.6s
LNKU **Linkoeping** **144.12 346** P PKPbc 13 06 55.9 -1.9
LNKU **Linkoeping** **144.12 346** P PKPbc 13 06 55.9 -1.9
ELZG **Elazig** **144.16 303** *i* P **PKPdf** **13 07 00.3 +0.9**
SUSE **Susehri** **144.34 306** *i* P **PKPab** **13 06 59.9 +0.2**
BLS5 **Blasjo** **144.34 355** *e*P **PKPab** **13 06 58.9 0.0**
BLS5 IAmb IAmb 13 06 59.5
comp=Z,40nm,0.9s
KEMA **Kemaliye** **144.35 304** *i* P **SKPdf** **13 09 47.3 +1.5**
KEMA **Kemaliye** **144.35 304** *i* P **PKPab** **13 07 00.2 +0.4**
MALT **Malatya** **144.62 303** *e*P **PKPab** **13 07 01.6 +0.8**
MALT **Malatya** **144.62 303** ⇑PKIKP **PKPab** **13 07 01.3 +0.5**
MALT **Malatya** **144.62 303** ⇑*i*P **PKPab** **13 07 01.3 +0.5**
RSDY **Resadiye-TOKAT** **144.93 307** *e*P **PKPab** **13 07 01.9 +0.1**
JHLN **Al Jahlan** **145.10 298** *e*P **PKPdf** **13 06 59.9 -1.0**
AKASG **Malin Array Be** **145.19 327** PKPbc **PKPdf** **13 07 00.9 +0.4**
comp=Z,16nm,0.3s,baz=44,slow=4.3,SNR=121
AKASG SKKPbc **SKKPab** **13 17 49.9 -1.9**
comp=Z,46nm,0.8s,baz=45,slow=3.5,SNR=26
AKASG SKKPbc **SKKPab** **13 09 51.5 -0.7**
comp=Z,1.2nm,0.4s,baz=242,slow=2.9,SNR=7.9
KIEV **Kiev** **145.20 327** *c* *i*PKIKP **PKPdf** **13 07 00.9 +0.4**
KIEV **Kiev** **145.20 327** *e*PKPdf **PKPdf** **13 07 00.7 +0.2**
HOMB **Homborsund** **145.26 352** *e*P **PKPbc** **13 07 01.0 -0.4**
HOMB IAmb IAmb 13 07 02.2
comp=Z,76nm,0.9s
SVSK **Karacayir** **145.31 306** *e*P **PKPab** **13 07 03.3 +0.1**
SNART **Snartemo** **145.34 354** *e*P **PKPdf** **13 06 59.9 -0.6**
SNART IAmb IAmb 13 07 02.3
comp=Z,36nm,0.8s
BIGH **Upper Bighouse** **145.42 4** *e*P **PKPbc** **13 07 01.5 -0.4**
SLMH **Al Salmeh** **145.42 299** *e*P **PKPdf** **13 06 59.7 -1.8**
SUW **Suwalki** **145.46 336** *e*PKP **PKPbc** **13 07 01.6 -0.5**
SUW *e* 13 07 26.3
SUW **Suwalki** **145.46 336** *e*PKIKP **PKPbc** **13 07 01.7 -0.4**
GZT **Gaziantep** **145.49 302** *i* P **PKPab** **13 07 04.2 -0.1**
SIM **Simferopol'** **145.50 316** *d* *i*PKP2 **PKPab** **13 07 03.5 -0.3**
SIM pmax pmax
comp=Z,78nm,0.8s
MLA1 **Latheron** **145.64 3** *e*P **PKPbc** **13 07 02.2 -0.3**
MVH1 **Achvaich** **145.97 4** *e*P **PKPbc** **13 07 03.1 -0.4**
KMRS **Kahramanmaras** **145.98 302** *e*P **PKPbc** **13 07 05.1 +0.9**
KUZU **Kuzuini** **145.99 301** *i* P **PKPbc** **13 07 04.9 +0.6**
KAMA **Osmaniye** **146.23 301** *i* P **PKPbc** **13 07 05.7 +0.7**
ROOS **tl_alroos** **146.25 296** *e*P **PKPbc** **13 07 06.2 +1.1**
KAC **Achnashellach** **146.30 5** *e*P **PKPbc** **13 07 04.0 -0.4**
ZALF **Zalf** **146.35 294** *e*P **PKPbc** **13 07 06.5 +1.1**
MCD **Coleburn Disti** **146.36 3** *e*P **PKPbc** **13 07 04.1 -0.4**
ANDN **Andirin** **146.39 302** *i* P **PKPdf** **13 07 02.8 -0.4**
KPL **Plockton** **146.43 6** *e*P **PKPbc** **13 07 04.9 +0.2**
MDO **Dochfour** **146.44 5** *e*P **PKPbc** **13 07 04.5 -0.3**
KSB **Sheil Bridge** **146.58 6** *e*P **PKPbc** **13 07 05.0 -0.2**
MME1 **Meikle Cairn** **146.65 3** *e*P **PKPbc** **13 07 04.7 -0.7**
CTKT **Corum** **146.70 308** *i* P **PKPbc** **13 07 06.0 -0.2**
ASF **Jabal al Asfar** **146.79 292** PKPbc **PKPbc** **13 07 07.2 +0.5**
comp=Z,56nm,0.8s,baz=48,slow=1.9,SNR=63
ASF SKPbc **SKiKP** **13 09 57.2 +0.5**
comp=Z,7.3nm,0.9s,baz=78,slow=4.4,SNR=3.7
YAYL **Yayladag** **146.91 300** *i* P **PKPbc** **13 07 05.5 -1.4**
MUD **Monsted U'grnd** **146.94 351** ⇑*i*P **PKPbc** **13 07 06.1 0.0**
comp=Z,46nm,0.6s
MUD **Monsted U'grnd** **146.94 351** ⇑*i*PKIKP **PKPbc** **13 07 06.1 0.0**
MUD pmax pmax
comp=Z,46nm,0.6s
CEYT **Ceyhan** **146.98 301** *e*P **PKPbc** **13 07 07.8 +0.9**
TOTH **TOTAH** **147.06 295** *e*P **PKPdf** **13 07 01.6 -2.7**
DRUM **Mains of Drumt** **147.07 3** *e*P **PKPbc** **13 07 05.6 -0.9**
BSD **Bornholm Skovb** **147.09 344** ⇑*i*P **PKPbc** **13 07 06.4 -0.2**
comp=Z,93nm,0.9s
BSD **Bornholm Skovb** **147.09 344** ⇑*i*PKP2 **PKPbc** **13 07 06.4 -0.2**
BSD pmax pmax
comp=Z,93nm,0.9s
COP **Copenhagen** **147.11 347** ⇑*i*P **PKPbc** **13 07 06.6 0.0**
comp=Z,40nm,0.6s
COP **Copenhagen** **147.11 347** ⇑*i*PKP2 **PKPbc** **13 07 06.6 0.0**
COP pmax pmax
comp=Z,40nm,0.6s
COP **Copenhagen** **147.11 347** ⇑*i*P **PKPbc** **13 07 06.6 0.0**
comp=Z,40nm,0.6s
YURE **YUREGIR** **147.12 301** *i* P **PKPbc** **13 07 07.8 +0.5**

AVNT **Avonos** **147.22 305** *i* P **PKPbc** **13 07 07.0 -0.7**
SORM **Soroca** **147.23 324** ⇑PKP2 **PKPbc** **13 07 07.2 0.0**
SORM **Soroca** **147.23 324** ⇑*i*P **PKPbc** **13 07 07.2 0.0**
ILGA **Ilgaz** **147.32 309** *i* P **PKPbc** **13 07 08.8 +0.8**
CDAG **Cicekdag** **147.33 307** *i* P **PKPbc** **13 07 07.0 -0.9**
HWQ **Hawqa** **147.34 296** *e*P **PKPbc** **13 07 08.5 +0.4**
EDU **Dundee** **147.41 3** *e*P **PKPbc** **13 07 07.2 -0.2**
BRBR **Barbar** **147.45 295** *e*P **PKPbc** **13 07 08.5 0.0**
KARA **Karaisali** **147.46 302** *e*P **PKPbc** **13 07 08.2 0.0**
LLD **Lille Linde** **147.49 347** *i* P **PKPbc** **13 07 07.9 +0.3**
LLD **Lille Linde** **147.49 347** *i* PKP2 **PKPbc** **13 07 07.9 +0.3**
LLD **Lille Linde** **147.49 347** *i* P **PKPbc** **13 07 07.9 +0.3**
TCHB **Talchebab** **147.53 294** *e*P **PKPdf** **13 07 05.8 +0.7**
RCY **Rachaya** **147.54 295** *e*P **PKPbc** **13 07 09.4 +0.7**
NIG **Nigde** **147.59 304** *e*P **PKPbc** **13 07 09.3 +0.5**
BHL **Bhannes** **147.63 296** *e*P **PKPbc** **13 07 09.6 +0.7**
DQRL **Deir Qamar** **147.73 296** *e*P **PKPbc** **13 07 09.9 +0.8**
BRTR **Keskin Array B** **147.83 307** PKP **PKPdf** **13 07 05.5 -0.1**
comp=Z,20nm,0.6s,baz=119,slow=1.8,SNR=34
BRTR PKPbc **PKPbc** **13 07 09.3 +0.1**
comp=Z,21nm,0.6s,baz=124,slow=3.2,SNR=74
BRTR SKPbc **SKPbc** **13 09 58.1 -0.5**
comp=Z,3.4nm,0.9s,baz=70,slow=1.7,SNR=4.2
KAMT **Kaman** **147.89 306** *e*P **PKPbc** **13 07 09.2 -0.1**
MMAI **Mount Meron Ar** **147.96 294** PKPbc **PKPbc** **13 07 10.4 +0.7**
comp=Z,80nm,0.5s,baz=73,slow=5.7,SNR=125
MMAI pPKPbc **pPKPbc** **13 09 10.4 +2.4**
comp=Z,0.6nm,0.3s,baz=66,slow=1.7,SNR=1.3
MERS **Mersin** **147.97 302** *e*P **PKPbc** **13 07 09.6 +0.1**
SAFT **Safranbolu** **147.97 310** *e*P **PKPbc** **13 07 10.1 +0.7**
PGBU **Glenifferbraes** **148.04 5** *e*P **PKPbc** **13 07 08.7 -0.3**
ESY **Stoneypath** **148.06 3** *e*P **PKPbc** **13 07 08.9 -0.2**
BEL **Belsk** **148.07 336** *e*PKP **PKPbc** **13 07 09.5 +0.3**
BEL **Belsk** **148.07 336** *e*PKP2 **PKPbc** **13 07 09.5 +0.3**
EBL **Broad Law** **148.18 4** *e*P **PKPbc** **13 07 09.1 -0.3**
LVV **L'vov** **148.25 330** ⇓*i*PKHKP **PKPbc** **13 07 09.4 -0.4**
KIZK **Mersin** **148.36 301** *i* P **PKPbc** **13 07 10.3 -0.2**
ANTO **Ankara** **148.40 308** *e*P **PKPbc** **13 07 10.8 +0.2**
ANTO **Ankara** **148.40 308** ⇓PKHKP **PKPbc** **13 07 10.0 -0.6**
ANTO **Ankara** **148.40 308** ⇓*i*P **PKPbc** **13 07 09.9 -0.6**
ANTO **Ankara** **148.40 308** *e*PKPdf **PKPdf** **13 07 06.7 +0.3**
EREN **Erenkoy** **148.55 299** *e*P **PKPbc** **13 07 10.4 -0.5**
BCAM **Yenicaga** **148.57 310** *i* P **PKPbc** **13 07 10.6 -0.5**
EIL **Elat** **148.61 288** *e*P **PKPbc** **13 07 11.4 +0.1**
EIL **Elat** **148.61 288** PKPbc **PKPbc** **13 07 12.1 +0.8**
comp=Z,79nm,0.9s,baz=15,slow=1.2,SNR=47
EIL PKPab **PKPab** **13 07 18.2 +1.3**
comp=Z,100nm,0.8s,baz=19,slow=1.9,SNR=26
EKA **Eskdalemuir Ar** **148.61 4** PKP **PKPdf** **13 07 05.5 -0.6**
comp=Z,10nm,0.4s,baz=330,slow=1.2,SNR=6.5
EKA PKPbc **PKPbc** **13 07 09.7 -0.7**
comp=Z,14nm,0.4s,baz=352,slow=3.4,SNR=102
ESK **Eskdalemuir** **148.63 4** *e*P **PKPbc** **13 07 10.0 -0.5**
ESK **Eskdalemuir** **148.63 4** *i* PKP2 **PKPbc** **13 07 10.9 +0.4**
ESK **Eskdalemuir** **148.63 4** *e*PKPdf **PKPbc** **13 07 09.8 -0.7**
TLCR **148.66 319** ⇑PKHKP **PKPbc** **13 07 10.2 -0.7**
TLCR **148.66 319** ⇑*i*P **PKPbc** **13 07 10.1 -0.8**
ECK **Cauldkaine Hil** **148.77 4** *e*P **PKPbc** **13 07 10.4 -0.5**
GAL1 **Galloway** **148.96 6** *e*P **PKPbc** **13 07 11.1 -0.2**
KWP **Kalwaria Pacla** **148.98 331** *e*PKP **PKPbc** **13 07 11.7 +0.1**
KWP **Kalwaria Pacla** **148.98 331** *e*PKHKP **PKPbc** **13 07 11.7 +0.1**
CFR **Carcaliu** **149.07 320** ⇑PKHKP **PKPbc** **13 07 12.0 +0.1**
CFR **Carcaliu** **149.07 320** ⇑*i*P **PKPbc** **13 07 12.0 +0.1**
LFK **Lefkose** **149.11 299** *e*P **PKPbc** **13 07 12.8 +0.3**
TESR **Tescani** **149.13 323** ⇑*i*P **PKPbc** **13 07 11.9 -0.2**
BSEG **Bad Segeberg** **149.17 348** *e*PKPdf **PKPdf** **13 07 07.6 +0.6**
BSEG *e*PKPbc **PKiKP** **13 07 12.8 +0.1**
BSEG *e*PKPab **PKPab** **13 07 19.3 +1.0**
BSEG *e*pPKPbc pPKPbc 13 09 19.3 +7.8
BURAR **Bucovina Array** **149.19 326** ⇑PKP2 **PKPbc** **13 07 13.0 +0.7**
BURAR **Bucovina Array** **149.19 326** ⇑*i*P **PKPbc** **13 07 13.0 +0.7**
ERMK **Ermenek** **149.28 302** *i* P **PKPbc** **13 07 13.4 +0.4**
TIRR **Tirgusor** **149.29 319** ⇑PKP2 **PKPbc** **13 07 13.6 +1.1**
TIRR **Tirgusor** **149.29 319** ⇑*i*P **PKPbc** **13 07 13.6 +1.1**
TIRR **Tirgusor** **149.29 319** *e*PKPbc **PKPbc** **13 07 11.9 -0.6**
MDUB **Mudurnu** **149.31 310** *e*P **PKPbc** **13 07 12.8 -0.1**
HLG **Helgoland** **149.33 351** *e*PKPbc **PKPbc** **13 07 13.2 +1.0**
AUMIH **MIHALICIK** **149.34 309** *i* P **PKPbc** **13 07 12.6 -0.3**
KONT **Konya--Tatoy** **149.34 305** *e*P **PKPbc** **13 07 12.4 -0.5**
CSS **Prodhromos** **149.34 298** P **PKPbc** **13 07 13.2 +0.3**
CSS **Prodhromos** **149.34 298** *e*P **PKPbc** **13 07 12.8 -0.1**
CSS **Prodhromos** **149.34 298** *e*PKPbc **PKPbc** **13 07 12.5 -0.4**
KESW **Keswick, Cumbr** **149.36 4** *e*P **PKPbc** **13 07 12.3 0.0**
MAMC **Mammari** **149.38 299** P **PKPbc** **13 07 14.1 +1.1**
KIZT **Kizilcal** **149.40 306** *e*P **PKPbc** **13 07 13.2 +0.1**
AUSIV **SIVRIHISAR** **149.45 308** *i* P **PKPbc** **13 07 12.8 -0.4**
GMM **Mts of Mourne** **149.46 7** *e*P **PKPbc** **13 07 12.2 -0.3**
HARR **Harsova** **149.46 319** ⇑PKHKP **PKPbc** **13 07 13.7 +0.8**
HARR **Harsova** **149.46 319** ⇑*i*P **PKPbc** **13 07 13.7 +0.8**
VRI **Vrincioaia** **149.48 322** *e*P **PKPbc** **13 07 12.5 -0.4**
VRI **Vrincioaia** **149.48 322** ⇑PKHKP **PKPbc** **13 07 13.7 +0.8**
VRI **Vrincioaia** **149.48 322** ⇑*i*P **PKPbc** **13 07 13.7 +0.8**
PLOR **Plostina** **149.53 322** ⇑*i*P **PKPbc** **13 07 12.1 -1.0**
KOLS **Kolonicke sedl** **149.68 331** *e*PKHKP **PKPdf** **13 07 08.6 +0.6**
KOLS **Kolonicke sedl** **149.68 331** *e*PKP **PKPdf** **13 07 08.6 +0.6**
KOLS *e* 13 07 14.2
OJC **Ojcow** **149.74 335** *e*PKP **PKPbc** **13 07 13.4 0.0**
SZAC **Souni-Zanaja** **149.74 298** P **PKPbc** **13 07 14.8 +0.9**
RUE **Ruedersdorf** **149.76 343** *e*PKPbc **PKPbc** **13 07 14.1 +0.8**
STHS **Stebnicka Huta** **149.77 332** *e*PKHKP **PKPbc** **13 07 14.5 +1.0**
STHS **Stebnicka Huta** **149.77 332** *e*PKP **PKPbc** **13 07 14.5 +1.0**
PSN **Preselentsi** **149.84 317** ⇑PKHKP **PKPbc** **13 07 14.7 +0.9**
PSN **Preselentsi** **149.84 317** ⇑*i*P **PKPbc** **13 07 14.7 +0.9**
PSN **Preselentsi** **149.84 317** *i* P **PKPbc** **13 07 14.4 +0.6**
MSAB **Monastry St. A** **149.84 318** ⇓*i*P **PKPbc** **13 07 14.4 +0.6**
GAZI **Gazipasa** **149.85 301** *i* P **PKPbc** **13 07 13.2 -0.9**
ALFC **Alevga** **149.88 299** P **PKPbc** **13 07 14.7 +0.4**
UZH **Uzhgorod** **149.90 330** *e*PKHKP **PKPbc** **13 07 12.9 -0.9**
UZH *i* 13 07 22.5
SEYT **Eskypehyr** **149.92 308** *i* P **PKPbc** **13 07 14.3 0.0**
ARCR **ARCALIA** **149.98 326** ⇑*i*P **PKPbc** **13 07 14.8 +0.7**
ISR **Istrita** **150.03 321** ⇑PKHKP **PKPbc** **13 07 14.1 -0.2**
ISR **Istrita** **150.03 321** ⇑*i*P **PKPbc** **13 07 14.1 -0.2**
HPK **Haverah Park** **150.06 2** *e*P **PKPbc** **13 07 13.8 -0.2**
AKMC **Akamas** **150.13 299** P **PKPbc** **13 07 14.7 -0.1**
MLR **Muntele Rosu** **150.14 322** PKPbc **PKPbc** **13 07 14.7 +0.1**
comp=Z,3.0nm,0.4s,baz=332,slow=3.2,SNR=21
MLR **Muntele Rosu** **150.14 322** ⇓PKHP **PKPbc** **13 07 14.5 -0.2**
MLR **Muntele Rosu** **150.14 322** ⇓*i*P **PKPbc** **13 07 14.5 -0.2**
PPCY **Paphos** **150.15 299** P **PKPbc** **13 07 14.8 0.0**
DOPR **Dopca** **150.16 323** ⇓*i*P **PKPbc** **13 07 15.5 +1.0**
NIE **Niedzica** **150.16 333** *e*PKP **PKPbc** **13 07 15.1 +0.6**
NIE **Niedzica** **150.16 333** *e*PKIKP **PKPbc** **13 07 15.2 +0.7**
SECR **150.35 321** ⇑*i*P **PKPbc** **13 07 15.5 +0.5**
CAVI **Cavuskoy** **150.37 310** *e*P **PKPbc** **13 07 14.5 -0.7**
WME **Myndd Eilian** **150.45 6** *e*P **PKPbc** **13 07 14.6 -0.3**
LHO **Holmfirth** **150.46 3** *e*P **PKPbc** **13 07 14.7 -0.3**
KSP **Ksiaz** **150.47 339** *e*PKP **PKPbc** **13 07 15.6 +0.5**
KSP **Ksiaz** **150.47 339** *e*PKIKP **PKPbc** **13 07 15.6 +0.5**
BAGO **Egridir - ISPA** **150.50 305** *i* P **PKPbc** **13 07 14.6 -1.1**
SUTC **Sutluce-Ispart** **150.51 304** *e*P **PKPbc** **13 07 15.0 -0.8**
YRC **Rhoscolyn** **150.57 6** *e*P **PKPbc** **13 07 14.7 -0.5**
PRD **Provadia** **150.58 317** ⇑PKIKP **PKPbc** **13 07 16.3 +0.8**
PRD **Provadia** **150.58 317** ⇑*i*P **PKPbc** **13 07 16.3 +0.8**
PRD **Provadia** **150.58 317** *i* P **PKPbc** **13 07 16.1 +0.6**
CJR **Cluj-Napoca** **150.62 326** ⇓PKIKP **PKPbc** **13 07 16.2 +0.6**
CJR **Cluj-Napoca** **150.62 326** ⇓*i*P **PKPbc** **13 07 16.2 +0.6**
WPM1 **Penmaenmawr** **150.62 5** *e*P **PKPbc** **13 07 15.0 -0.4**
OKC **Ostrava-Krasne** **150.67 336** ⇑*e*PKP **PKPbc** **13 07 16.1 +0.5**
OKC *e*PKPAB **PKPab** **13 07 25.4 +0.7**
OKC *e*pPKP **pPKPab** **13 09 22.2 +3.0**
OKC **Ostrava-Krasne** **150.67 336** *e*PKIKP **PKPbc** **13 07 16.1 +0.5**
OKC *e* 13 07 25.4
VOIR **150.67 323** ⇑PKIKP **PKPbc** **13 07 16.4 +0.6**
VOIR **150.67 323** ⇑*i*P **PKPbc** **13 07 16.4 +0.6**
LANS **Liptovska Anna** **150.71 334** *e*PKIKP **PKPbc** **13 07 16.7 +1.0**
LANS **Liptovska Anna** **150.71 334** *e*PKP **PKPbc** **13 07 16.7 +1.0**
ISP **Isparta** **150.75 305** *e*PKIKP **PKPbc** **13 07 15.2 -1.1**
ISP *e* 13 07 25.4
ISP **Isparta** **150.75 305** *e*PKPbc **PKPbc** **13 07 15.2 -1.1**
ISP *e*PKPab **PKPab** **13 07 25.4 -0.3**
KBI1 **Birley Grange** **150.77 2** *e*P **PKPbc** **13 07 15.5 -0.1**
KECS **Kecovo** **150.81 332** *e*PKIKP **PKPbc** **13 07 16.0 +0.1**
KECS *e* 13 07 25.9
KECS **Kecovo** **150.81 332** *e*PKP **PKPbc** **13 07 16.0 +0.1**
KECS *e* 13 07 25.9
UPC **Upice** **150.85 339** ⇑*e*PKP **PKPbc** **13 07 16.4 +0.4**
UPC *e*PKPAB **PKPab** **13 07 26.4 +0.9**
UPC *e*pPKP **pPKPab** **13 09 22.6 +2.7**
UPC *e*SS SS 13 29 36.4 -1.2

UPC **Upice** **150.85 339** *e*PKIKP **PKPbc** **13 07 16.4 +0.4**
UPC *e* 13 07 26.4
UPC *e*SS SS 13 29 36.4 -1.2
YRE **Yr Eifl** **150.85 6** *e*P **PKPbc** **13 07 15.1 -0.8**
DPC **Dobruska-Polom** **150.89 339** *e*PKPDF **PKPdf** **13 07 10.1 +0.2**
DPC ⇑*e*PKP **PKiKP** **13 07 16.6 +0.1**
DPC *e*PKPAB **PKPab** **13 07 26.3 +0.6**
DPC *ex* x 13 07 41.2
DPC *e*pPKP **pPKPab** **13 09 22.7 +2.6**
DPC **Dobruska-Polom** **150.89 339** *e*PKIKP **PKPdf** **13 07 10.1 +0.2**
DPC *e* 13 07 26.3
TVSB **Tavsanli** **150.94 309** *e*P **PKPbc** **13 07 16.8 +0.1**
MORC **Moravsky Berou** **150.94 337** ⇑PKIKP **PKPbc** **13 07 17.0 +0.7**
MORC **Moravsky Berou** **150.94 337** ⇑*i*P **PKPbc** **13 07 17.0 +0.7**
MORC **Moravsky Berou** **150.94 337** *e*PKPbc **PKPbc** **13 07 16.2 0.0**
MORC *e*PKPab **PKPab** **13 07 26.5 +0.5**
ARR **Arges** **150.95 323** ⇑*i*P **PKPbc** **13 07 17.8 +1.4**
KRLC **Kraliky** **150.96 338** ⇑*e*PKP **PKPbc** **13 07 16.9 +0.6**
KRLC *e*PKPAB **PKPab** **13 07 26.8 +0.8**
KRLC *e*pPKP **pPKPab** **13 09 22.8 +2.4**
KRLC **Kraliky** **150.96 338** *e*PKIKP **PKPbc** **13 07 16.9 +0.6**
KRLC *e* 13 07 26.8
DRGR **151.01 327** ⇑PKIKP **PKPdf** **13 07 10.3 +0.1**
DRGR **151.01 327** ⇑*i*P **PKPdf** **13 07 10.3 +0.1**
CLL **Collm** **151.03 343** *e*PKPdf **PKPdf** **13 07 10.4 +0.4**
CLL *e*PKPbc **PKiKP** **13 07 17.0 +0.3**
CLL *e*PKPab **PKPab** **13 07 26.8 +0.7**
CLL *e*pPKPbc **pPKPab** **13 09 23.4 +2.8**
CLL **Collm** **151.03 343** *i* PKIKP **PKPdf** **13 07 10.0 0.0**
CLL pmax pmax
comp=Z,5.0nm,0.9s
CLL **Collm** **151.03 343** *i* PKPdf **PKPdf** **13 07 10.0 0.0**
comp=Z,5.0nm,0.9s
CLL *i* PKPbc **PKPbc** **13 07 16.5 +0.2**
comp=Z,120nm,0.7s
CLL *i* PKPab **PKPab** **13 07 26.1 0.0**
comp=Z,35nm,0.7s
CLL *i* pPKPab **pPKPab** **13 09 22.4 +1.8**
comp=Z,51nm,1.7s
CLL *e*SS SS 13 29 34.0 -5.3
CLL *e*SSS SSS 13 35 33.0
FOEL **Foel Wylfa** **151.04 4** *e*P **PKPbc** **13 07 16.2 -0.1**
CLZ **Clausthal** **151.15 347** *e*PKPdf **PKPdf** **13 07 10.7 +0.5**
CLZ *e*PKPbc **PKiKP** **13 07 17.6 +0.6**
CLZ *e*PKPab **PKPab** **13 07 27.8 +1.1**
KORT **Korkueli** **151.15 304** *i* P **PKPbc** **13 07 17.3 0.0**
IBBN **Ibbenburen** **151.17 350** *e*PKPbc **PKPbc** **13 07 17.3 +0.7**
IBBN *e*PKPab **PKPab** **13 07 27.7 +1.0**
FBE **Freiberg** **151.28 343** *e*PKPdf **PKPdf** **13 07 11.2 +0.8**
FBE *e*PKPbc **PKiKP** **13 07 18.1 +0.9**
FBE *e*PKPab **PKPab** **13 07 28.5 +1.3**
FBE *e*pPKPbc pPKPbc 13 09 24.3 +8.4
PVCC **Panska Ves** **151.29 341** ⇑*e*PKP **PKPbc** **13 07 17.5 +0.6**
PVCC *e*pPKP **pPKPab** **13 09 24.0 +2.3**
PVCC **Panska Ves** **151.29 341** *e*PKIKP **PKPbc** **13 07 17.5 +0.6**
CWF **Charnwood Fore** **151.29 2** *e*P **PKPbc** **13 07 16.3 -0.6**
KHAL **Karahalli** **151.33 307** *i* P **PKPbc** **13 07 17.6 0.0**
NEUB **Neuenburg** **151.43 345** *e*PKPbc **PKPbc** **13 07 18.3 +0.8**
NEUB *e*PKPab **PKPab** **13 07 28.7 +0.9**
NEUB *e*pPKPbc pPKPbc 13 09 24.1 +7.8
HLM1 **Long Mynd** **151.44 4** *e*P **PKPbc** **13 07 16.8 -0.4**
SZH **Strazhica** **151.44 319** *i* P **PKPbc** **13 07 18.3 +0.8**
VYHS **Vyhne** **151.49 334** *e*PKIKP **PKPbc** **13 07 17.9 +0.4**
VYHS *e* 13 07 28.7
VYHS **Vyhne** **151.49 334** *e*PKP **PKPbc** **13 07 17.9 +0.4**
VYHS *e* 13 07 28.7
PSZ **Piszkesteto** **151.49 332** ⇓PKIKP **PKPbc** **13 07 17.7 +0.1**
PSZ **Piszkesteto** **151.49 332** ⇓*i*P **PKPbc** **13 07 17.7 +0.1**
PSZ **Piszkesteto** **151.49 332** *e*PKPdf **PKPdf** **13 07 12.1 +1.2**
PSZ *e*PKPbc **PKPbc** **13 07 17.5 -0.1**
PSZ *e*PKPab **PKPab** **13 07 29.1 +0.7**
PSZ **Piszkesteto** **151.49 332** ⇓*e* **PKPbc** **13 07 18.2 +0.6**
DEMI **Demirci** **151.63 309** *i* P **PKPbc** **13 07 18.3 +0.1**
WTSB **Winterswijk** **151.64 351** *e*PKPdf **PKPbc** **13 07 17.6 -0.1**
comp=Z,97nm,0.5s
WTSB *e*PKPbc **PKPab** **13 07 28.7 0.0**
comp=Z,26nm,0.5s
GOLH **Golhisar** **151.67 305** *i* P **PKPbc** **13 07 17.1 -1.3**
VRAC **Vranov** **151.68 337** PKPbc **PKPbc** **13 07 18.3 +0.4**
comp=Z,7.4nm,0.5s,baz=35,slow=1.3,SNR=9.1
VRAC PKPab **PKPab** **13 07 29.7 +0.7**
comp=Z,27nm,0.7s,baz=37,slow=3.8,SNR=18
VRAC **Vranov** **151.68 337** ⇑*i*P **PKPbc** **13 07 18.3 +0.4**
PRA **Prague** **151.73 341** ⇑*e*PKP **PKPbc** **13 07 18.7 +0.8**
PRA **Prague** **151.73

KHC	**Kasperske Hory**	**152.82**	**341**	*e*PKPdf	**PKPdf**	**13 07 13.0**	**+0.2**
KHC				*e*PKPbc	**PKPbc**	**13 07 20.0**	**-0.5**
BEBN	**Eben Emael**	**152.93**	**352**	PKPab	**PKPab**	**13 07 34.3**	**+0.1**
HGN	**Heimansgroeve**	**152.93**	**352**	*e*PKPdf	**PKPbc**	**13 07 20.7**	**+0.2**
	comp=Z,10nm,0.4s						
HGN				*e*PKPbc	**PKPab**	**13 07 34.4**	**+0.2**
	comp=Z,43nm,1.1s						
GRF	**Grafenberg Arr**	**152.97**	**344**	*e*PKPab	**PKPab**	**13 07 35.7**	**+1.3**
WET	**Wettzell**	**153.02**	**342**	*e*PKPdf	**PKPdf**	**13 07 13.2**	**+0.1**
WET				*e*PKPab	**PKPab**	**13 07 36.1**	**+1.4**
GEC2	**GERESS Array S**	**153.04**	**340**	*e*PKPdf	**PKPdf**	**13 07 13.3**	**+0.1**
GEC2				*e*PKPbc	**PKiKP**	**13 07 21.4**	**+0.3**
GEC2				*e*PKPab	**PKPab**	**13 07 35.8**	**+0.9**
GERES	**GERESS Array B**	**153.04**	**340**	PKP	**PKPdf**	**13 07 12.2**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=80,slow=1.6,SNR=8.7						
GERES				PKPbc	**PKiKP**	**13 07 21.1**	**0.0**
	comp=Z,6.6nm,0.6s,baz=48,slow=2.0,SNR=34						
GERES				PKPab	**PKPab**	**13 07 35.1**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=35,slow=4.9,SNR=6.4						
SOP	**Sopron**	**153.04**	**335**⇑	*e*	**PKPbc**	**13 07 21.0**	**+0.1**
TNS	**Taunus Mts**	**153.07**	**348**	*e*PKPdf	**PKPdf**	**13 07 13.5**	**+0.4**
TNS				*e*PKPbc	**PKiKP**	**13 07 21.6**	**+0.6**
TNS				*e*PKPab	**PKPab**	**13 07 35.6**	**+0.7**
MEM	**Membach**	**153.07**	**352**	PKPbc	**PKPbc**	**13 07 21.2**	**+0.3**
MEM				PKPab	**PKPab**	**13 07 34.8**	**0.0**
CONA	**Conrad Observa**	**153.10**	**336**⇑	*i*PKPdf	**PKPdf**	**13 07 13.6**	**+0.3**
	comp=Z,2.9nm,0.6s						
CONA				⇓*i*PKiKP	**PKiKP**	**13 07 21.4**	**+0.1**
	comp=Z,21nm,1.0s						
CONA				⇓*i*PKPab	**PKPab**	**13 07 36.4**	**+1.2**
	comp=Z,37nm,0.7s						
PKSM	**Moragy**	**153.35**	**331**	⇑PKIKP	**PKPdf**	**13 07 13.8**	**+0.3**
PKSM	**Moragy**	**153.35**	**331**⇑	*i*P	**PKPdf**	**13 07 13.8**	**+0.3**
PKSM	**Moragy**	**153.35**	**331**⇓	*e*	**PKPdf**	**13 07 13.6**	**+0.1**
SNF	**Seneffe**	**153.36**	**354**	PKPbc	**PKPbc**	**13 07 22.0**	**+0.5**
SNF				PKPab	**PKPab**	**13 07 36.2**	**+0.2**
DYA	**Yadsworthy**	**153.42**	**6**	*e*P	**PKPbc**	**13 07 20.8**	**-0.8**
VTS	**Vitosha**	**153.47**	**320**⇑	PKIKP	**PKPbc**	**13 07 23.0**	**+0.8**
VTS	**Vitosha**	**153.47**	**320**⇑	*i*P	**PKPbc**	**13 07 23.0**	**+0.8**
VTS	**Vitosha**	**153.47**	**320**	*i* P	**PKPab**	**13 07 37.5**	**+0.5**
MMB	**Musomiste**	**153.74**	**318**	*i* P	**PKPab**	**13 07 39.2**	**+1.1**
DOU	**Dourbes**	**153.74**	**354**	PKPbc	**PKPbc**	**13 07 22.8**	**+0.5**
DOU				PKPab	**PKPab**	**13 07 37.7**	**+0.1**
KKB	**Krupnik**	**153.97**	**319**	*i* P	**PKPab**	**13 07 40.0**	**+0.9**
WLF	**Walferdange**	**153.98**	**351**	PKPbc	**PKPbc**	**13 07 23.9**	**+1.1**
WLF				PKPab	**PKPab**	**13 07 39.3**	**+0.6**
DIVS	**Divibare**	**154.26**	**326**⇑	*i*P	**PKPdf**	**13 07 15.2**	**+0.2**
STU	**Stuttgart**	**154.30**	**346**	*e*PKPdf	**PKPdf**	**13 07 15.1**	**+0.3**
STU				*e*PKPab	**PKPab**	**13 07 40.8**	**+0.7**
RJOB	**Jochberg**	**154.30**	**340**	*e*PKPab	**PKPab**	**13 07 41.8**	**+1.5**
FUR	**Furstenfeldbru**	**154.35**	**343**	*e*PKPab	**PKPab**	**13 07 41.8**	**+1.4**
SOKA	**Soboth**	**154.46**	**336**⇓	*i*PKPdf	**PKPdf**	**13 07 14.7**	**-0.5**
	comp=Z,7.2nm,1.1s						
SOKA				*i* PKPab	**PKPab**	**13 07 41.5**	**+0.5**
	comp=Z,15nm,0.7s,SNR=5.6						
PERS	**Pernice**	**154.46**	**336**	*i* PKPab	**PKPab**	**13 07 41.3**	**+0.3**
BFO	**Black Forest**	**154.90**	**347**	*e*PKPab	**PKPab**	**13 07 43.4**	**+0.6**
BFO	**Black Forest**	**154.90**	**347**	*e*PKIKP	**PKPdf**	**13 07 17.1**	**+1.4**
BFO				*e*		13 07 24.8	
BFO				*e*		13 07 42.5	
BFO	**Black Forest**	**154.90**	**347**	*e*PKPdf	**PKPdf**	**13 07 17.1**	**+1.4**
BFO				*e*PKPbc	**PKiKP**	**13 07 24.8**	**0.0**
BFO				*e*PKPab	**PKPab**	**13 07 42.5**	**-0.3**
WTTA	**Wattenberg**	**155.07**	**341**⇑	*i*PKPdf	**PKPdf**	**13 07 16.3**	**+0.1**
	comp=Z,11nm,1.0s						
WTTA				⇓*i*PKPab	**PKPab**	**13 07 44.6**	**+0.8**
	comp=Z,15nm,0.5s						
RETA	**Reutte**	**155.12**	**343**	*i* PKPab	**PKPab**	**13 07 44.6**	**+0.8**
	comp=Z,27nm,1.0s,SNR=5.6						
VISS	**Visnje**	**155.26**	**335**	*i* PKPdf	**PKPdf**	**13 07 15.8**	**-0.5**
VISS				*i* PKPbc	PKPbc	13 07 25.5	
VISS				*i* PKPab	**PKPab**	**13 07 44.5**	**+0.1**
ABTA	**Abfaltersbach**	**155.27**	**340**⇑	*i*PKPdf	**PKPdf**	**13 07 15.5**	**-0.8**
	comp=Z,15nm,1.2s						
ABTA				⇓*i*PKPab	**PKPab**	**13 07 44.5**	**0.0**
	comp=Z,11nm,0.6s						
BOJS	**Bojanci**	**155.35**	**334**	*i* PKPdf	**PKPdf**	**13 07 15.8**	**-0.6**
BOJS				*i* PKPbc	PKPbc	13 07 26.1	
BOJS				*i* PKPab	**PKPab**	**13 07 45.0**	**+0.3**
JAVS	**Javornik**	**155.48**	**336**	*e*PKPdf	**PKPdf**	**13 07 16.7**	**0.0**
JAVS				*i* PKPbc	PKPbc	13 07 26.0	
JAVS				*i* PKPab	**PKPab**	**13 07 45.0**	**-0.4**
DAVA	**Damuels**	**155.53**	**344**⇑	*i*PKPdf	**PKPdf**	**13 07 16.9**	**+0.2**
	comp=Z,9.3nm,1.1s						
DAVA				*i* PKPab	**PKPab**	**13 07 46.4**	**+0.7**
	comp=Z,30nm,0.8s,SNR=5.2						
FETA	**Feichten**	**155.55**	**343**⇑	*i*PKPdf	**PKPdf**	**13 07 16.2**	**-0.6**
	comp=Z,11nm,0.8s						
IDI	**Anoyia**	**155.88**	**303**	PKP	**PKPdf**	**13 07 17.8**	**+0.4**
	comp=Z,5.9nm,0.7s,baz=344,slow=8.5,SNR=4.0						
IDI				PKPbc	PKPbc	13 07 30.6	
	comp=Z,11nm,0.7s,baz=57,slow=9.7,SNR=4.0						
IDI				PKPab	**PKPab**	**13 07 47.3**	**-0.3**
	comp=Z,14nm,0.9s,baz=44,slow=11,SNR=3.9						
DAVOX	**Davos/Dischmat**	**156.00**	**344**	PKP	**PKPdf**	**13 07 16.7**	**-0.7**
	comp=Z,2.7nm,0.6s,baz=341,slow=2.1,SNR=5.8						
DAVOX				PKPbc	PKPbc	13 07 27.1	
	comp=Z,7.5nm,0.6s,baz=351,slow=14,SNR=9.2						
DAVOX				PKPab	**PKPab**	**13 07 48.6**	**+0.8**
	comp=Z,20nm,0.6s,baz=358,slow=2.0,SNR=15						
BNI	**Bardonecchia**	**158.37**	**348**	*e*PKIKP	**PKPdf**	**13 07 20.9**	**+0.6**
BNI	**Bardonecchia**	**158.37**	**348**	*e*PKPdf	**PKPdf**	**13 07 20.9**	**+0.6**
PGAV	**Gavieira, Arco**	**160.74**	**20**	*e*PKPdf	**PKPdf**	**13 07 23.4**	**+0.3**
PGAV	**Gavieira, Arco**	**160.74**	**20**	*e*PKPab	**PKPab**	**13 08 08.6**	**+0.2**
PCAB	**Cabril**	**161.05**	**19**	*e*PKPab	**PKPab**	**13 08 10.8**	**+1.1**
PBRG	**Braganca**	**161.32**	**17**	*e*PKPab	**PKPab**	**13 08 11.2**	**+0.3**
POLO	**Lamas de Olo**	**161.42**	**19**	*e*PKPdf	**PKPdf**	**13 07 23.9**	**+0.1**
POLO	**Lamas de Olo**	**161.42**	**19**	*e*PKPab	**PKPab**	**13 08 11.7**	**+0.3**
LIC	**Lamto**	**161.60**	**163**	*e*PKIKP	**PKPdf**	**13 07 23.1**	**-1.6**
	comp=Z,96nm,1.2s						
KIC	**Kosan Boka**	**161.81**	**164**	*e*P	**PKPdf**	**13 07 24.9**	**0.0**
	comp=Z,55nm,1.2s						
MVO	**Moncorvo**	**161.84**	**18**	*e*PKPdf	**PKPdf**	**13 07 24.9**	**+0.7**
MVO	**Moncorvo**	**161.84**	**18**	*e*PKPab	**PKPab**	**13 08 13.4**	**+0.2**
PVIS	**Viseu**	**161.99**	**20**	*e*PKPab	**PKPab**	**13 08 14.2**	**+0.3**
TIC	**Toumodi**	**162.00**	**163**	*e*P	**PKPdf**	**13 07 25.1**	**0.0**
DBIC	**Dimbokro**	**162.07**	**163**	PKP	**PKPdf**	**13 07 25.1**	**0.0**
	comp=Z,8.2nm,0.7s,baz=148,slow=1.0,SNR=8.5						
DBIC				PKPab	**PKPab**	**13 08 16.5**	**+1.8**
	comp=Z,3.3nm,0.5s,baz=151,slow=5.5,SNR=4.9						
MTE	**Manteigas**	**162.39**	**20**	*e*PKPdf	**PKPdf**	**13 07 25.7**	**+0.9**
MTE	**Manteigas**	**162.39**	**20**	*e*PKPab	**PKPab**	**13 08 15.7**	**0.0**
PTOM	**Tomar**	**162.80**	**23**	*e*PKPdf	**PKPdf**	**13 07 26.2**	**+1.1**
PTOM	**Tomar**	**162.80**	**23**	*e*PKPab	**PKPab**	**13 08 17.5**	**+0.1**
PCBR	**Castelo Branco**	**162.92**	**21**	*e*PKPdf	**PKPdf**	**13 07 26.1**	**+0.9**
PMRV	**Marv??o**	**163.32**	**21**	*e*PKPdf	**PKPdf**	**13 07 26.6**	**+1.0**
PMRV	**Marv??o**	**163.32**	**21**	*e*PKPab	**PKPab**	**13 08 19.8**	**+0.1**
PESTR	**Estremoz**	**163.76**	**22**	*e*PKPab	**PKPab**	**13 08 21.4**	**-0.3**
ESDC	**Sonseca Array**	**163.98**	**12**	PKPab	**PKPab**	**13 08 22.8**	**+0.1**
	comp=Z,5.3nm,0.7s,baz=344,slow=4.7,SNR=34						
PNCL	**Nicolau / Gran**	**164.07**	**26**	*e*PKPdf	**PKPdf**	**13 07 27.6**	**+1.3**
PNCL	**Nicolau / Gran**	**164.07**	**26**	*e*PKPab	**PKPab**	**13 08 23.2**	**+0.2**
MESJ	**Messejana**	**164.43**	**26**	*e*PKPdf	**PKPdf**	**13 07 28.1**	**+1.5**
MESJ	**Messejana**	**164.43**	**26**	*e*PKPab	**PKPab**	**13 08 24.5**	**-0.1**
PTEO	**Sao Teotonio**	**164.47**	**28**	*e*PKPdf	**PKPdf**	**13 07 27.9**	**+1.2**
PBAR	**Barrancos**	**164.57**	**22**	*e*PKPdf	**PKPdf**	**13 07 27.5**	**+0.8**
PBAR	**Barrancos**	**164.57**	**22**	*e*PKPab	**PKPab**	**13 08 25.6**	**+0.4**
PCVE	**Castro Verde**	**164.68**	**26**	*e*PKPdf	**PKPdf**	**13 07 28.0**	**+1.1**
PCVE	**Castro Verde**	**164.68**	**26**	*e*PKPab	**PKPab**	**13 08 26.0**	**+0.3**
MORF	**Marmelete**	**164.71**	**28**	*e*PKPdf	**PKPdf**	**13 07 28.2**	**+1.2**
MORF	**Marmelete**	**164.71**	**28**	*e*PKPab	**PKPab**	**13 08 26.0**	**+0.1**
PVAQ	**Vaqueiros**	**165.00**	**25**	*e*PKPdf	**PKPdf**	**13 07 28.6**	**+1.5**
PVAQ	**Vaqueiros**	**165.00**	**25**	*e*PKPab	**PKPab**	**13 08 27.5**	**+0.3**
PBDV	**Barranco-do-Ve**	**165.06**	**26**	*e*PKPdf	**PKPdf**	**13 07 28.6**	**+1.4**
KEST	**Kesra**	**165.92**	**328**	PKPab	**PKPab**	**13 08 31.9**	**+0.6**
	comp=Z,4.6nm,0.9s,baz=343,slow=3.1,SNR=11						
TORD	**Torodi Ar. Bea**	**169.11**	**187**	PKP	**PKPdf**	**13 07 30.0**	**-0.8**
	comp=Z,7.3nm,0.8s,baz=186,slow=1.4,SNR=33						
TORD				PKPab	**PKPab**	**13 08 46.4**	**+0.7**
	comp=Z,11nm,0.6s,baz=175,slow=4.1,SNR=31						
TORD				PP	**PP**	**13 12 34.2**	**-0.5**
	comp=Z,5.4nm,1.0s,baz=170,slow=4.2,SNR=6.2						
MDT	**Midelt**	**170.24**	**25**	PKP	**PKPdf**	**13 07 31.8**	**+0.7**
	comp=Z,3.7nm,0.6s,baz=274,slow=4.0,SNR=9.8						
MDT				PKPab	**PKPab**	**13 08 51.1**	**+0.5**
	comp=Z,8.3nm,0.9s,baz=343,slow=7.1,SNR=11						
TAM	**Tamanrasset**	**175.01**	**257**	*e*PKIKP	**PKPdf**	**13 07 34.2**	**+0.8**
TAM	**Tamanrasset**	**175.01**	**257**	*e*PKPdf	**PKPdf**	**13 07 34.2**	**+0.8**

*CSEM **08** 13:06:18.5±0.6,58°.32N×11°.45E,h2km,ML2.2, Error ellipse: s-maj=13.2km s-min=9.1km az=73.0, Mining explosion.*

UPP 08 13:06:16.6,58°.22N×11°.27E,h0km,ML2.2, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
VANU	**Vaenersborg**	**0.50**	**57**	P		Pg	13 06 26.1	-0.1
VANU	**Vaenersborg**	**0.50**	**57**	P		Pg	13 06 26.1	0.0
STRU	**Stroemstad**	**0.81**	**357**	P		Pg	13 06 31.9	-0.3
STRU				S		Sg	13 06 43.2	+0.4
STRU	**Stroemstad**	**0.81**	**357**	P		Pg	13 06 31.9	-0.3
STRU				S		Sg	13 06 43.2	+0.5
NASU	**Vaermlandsnaes**	**1.23**	**54**	P		Pg	13 06 39.3	-0.8
NASU				S		Sg	13 06 55.7	-0.2
NASU	**Vaermlandsnaes**	**1.23**	**54**	P		Pg	13 06 39.3	-0.8
NASU				S		Sg	13 06 55.7	-0.2
FKPU	**Falk**	**1.30**	**92**	P		Pg	13 06 40.3	-1.2
FKPU	**Falk**	**1.30**	**92**	P		Pg	13 06 40.3	-1.2
FINU	**Finntorp**	**1.34**	**27**	P		Pg	13 06 41.3	-0.9
FINU	**Finntorp**	**1.34**	**27**	P		Pg	13 06 41.3	-0.9

IDC 08 13:21:16.1±1.7,4°.88S×152°.57E,h0km,mb3.7/4, mb1 4.0/4,mb1mx3.6/26,mbtmp3.7/4,Error ellipse: s-maj=131.6km s-min=23.7km az=128.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.22**	**228**	P		P	13 26 24.6	-0.5
	0.8nm,0.5s,baz=54,slow=10,SNR=14							
ASAR	**Alice Springs**	**25.94**	**222**	P		P	13 26 50.9	+0.5
	0.4nm,0.6s,baz=57,slow=8.9,SNR=8.7							
ILAR	**Eielson Array**	**82.32**	**22**	P		P	13 33 40.0	+0.5
	1.2nm,0.7s,baz=257,slow=5.4,SNR=14							
YKA	**Yellowknife Ar**	**95.60**	**28**	P		P	13 34 42.2	-1.0
	0.2nm,0.5s,baz=284,slow=3.2,SNR=3.3							
TORD	**Torodi Ar. Bea**	**150.11**	**288**	PKPbc		PKPbc	13 41 09.6	-0.4
	0.6nm,0.4s,baz=80,slow=2.4,SNR=8.1							

MAN 08 13:25:14,13°.48N×120°.27E,h35km,mb4.0,ML2.8,MS2.4, 1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.26**	**355**	*e*P		Pn	13 25 23.4	+2.0
PGP	**Puerto Galera**	**0.67**	**88**⇓	*i*P		Pn	13 25 29.0	+2.0
SJMP	**San Jose**	**1.31**	**140**	*e*P		Pn	13 25 37.5	+1.7
SJMP				*e*S		Sn	13 25 53.2	+1.1
BUSP	**Coron**	**1.47**	**183**	*e*P		Pn	13 25 40.3	+2.3
ENPP	**El Nido**	**2.40**	**200**	*e*P		Pn	13 25 52.1	+1.2

IDC 08 13:37:33.4±7.8,21°.98S×179°.50W,h407km±86km, mb3.2/10,mb1 3.4/11,mb1mx3.3/31,mbtmp4.0/11,Error ellipse: s-maj=31.1km s-min=20.5km az=25.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.49**	**189**	P		P	13 41 01.4	0.0
	0.4nm,0.3s,baz=85,slow=19,SNR=3.1							
URZ				S		S	13 43 46.2	-7.4
	0.4nm,0.3s,baz=63,slow=24,SNR=6.1							
STKA	**Stephens Creek**	**35.90**	**246**	P		P	13 43 57.4	+0.3
	1.3nm,0.8s,baz=94,slow=12,SNR=3.0							
ASAR	**Alice Springs**	**42.84**	**258**	P		P	13 44 53.6	-0.2
	0.9nm,0.8s,baz=92,slow=7.8,SNR=8.9							
WRA	**Warramunga Arr**	**43.03**	**264**	P		P	13 44 54.9	-0.4
	0.8nm,0.7s,baz=96,slow=8.0,SNR=14							
SIJI	**Sorong**	**52.29**	**287**	P		P	13 46 05.7	+0.1
	3.9nm,0.6s,baz=150,slow=20,SNR=3.1							
VNDA	**Vanda**	**56.32**	**185**	P		P	13 46 33.1	-0.1
	0.8nm,0.6s,baz=6.6,slow=6.5,SNR=6.1							
ASAJ	**Asahikawa**	**74.37**	**333**	P		P	13 48 28.1	+0.2
	2.4nm,0.8s,baz=147,slow=16							
NVAR	**Mina Array Bea**	**83.06**	**44**	P		P	13 49 14.7	-0.3
	1.1nm,0.8s,baz=225,slow=8.2,SNR=9.0							
TXAR	**Lajitas Array**	**89.03**	**58**	P		P	13 49 44.5	+0.6
	1.2nm,0.9s,baz=224,sw=5.2,SNR=8.0							
ILAR	**Eielson Array**	**90.06**	**13**	P		P	13 49 46.9	-0.8
	0.2nm,0.5s,baz=212,slow=4.1,SNR=4.5							
PDAR	**Pinedale Array**	**90.99**	**44**	P		P	13 49 52.8	0.0
	0.4nm,0.8s,baz=242,slow=1.9,SNR=3.3							

*ISCJB **08** 13:46:55.5±0.7,14°.36N±0°.02×93°.18E±0°.01,h26km±5km, mb5.0/159,MS4.2/34,Error ellipse: s-maj=3.2km s-min=2.2km az=17.0*

*MOS **08** 13:46:56.5±1.1,14°.37N×93°.26E,h34km,mb5.3/54, MS4.3/10,Error ellipse: s-maj=6.7km s-min=4.4km az=113.8*

*BKK **08** 13:46:56.6±0.3,15°.N±3°.×9°.3E±°,h10km,M5.0/41, mB5.4/24,mb5.3/41,MLv5.2/18,Mw(mB)4.9/24*

*BJI **08** 13:46:57.2,14°.37N×93°.18E,h40km,mb4.9/60,mB5.0/45, Ms4.4/60,Ms7 4.1/55*

*SZGRF **08** 13:46:58.0,13°.99N×93°.38E,h42km,mb5.1,MS4.3, Andaman Islands, India, region*

*IDC **08** 13:46:58.1±0.6,14°.32N×93°.34E,h34km±4km,mb4.6/34, mb1 4.7/37,mb1mx4.7/44,mbtmp4.8/37,ML4.8/3,MS4.1/27, Ms1 4.1/27,ms1mx3.9/46,Error ellipse: s-maj=10.6km s-min=8.1km az=44.0*

*NEIC **08** 13:46:58.4±0.1,14°.37N×93°.26E,h35km,mb5.2/65,Error ellipse: s-maj=4.7km s-min=3.6km az=46.0*

*GCMT **08** 13:46:58.4±0.3,14°.37N×93°.20E,h28km±1km,MW5.0/70, Moment Tensor Solution. s35,c46; s70,c107; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.38±.18; $M_{\theta\theta}$2.26±.13; $M_{\phi\phi}$-0.87±.14; $M_{r\theta}$0.59±.23; $M_{r\phi}$4.11±.14; $M_{\theta\phi}$-0.48±.23; Best double couple: M≈4.50700×10^{16} NP1:ϕ_s279.00000°,δ80.00000°,λ-13.00000°. NP2: ϕ_s11.00000°,δ77.00000°,λ-170.00000°. Principal axes: T 5.0980, Plg2.0000°, Azm326.0000°; N -1.1780, Plg74.0000°, Azm62.0000°; P -3.9160, Plg16.0000°, Azm235.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*DJA **08** 13:46:58.9±0.6,15°.N±4°.×9°.3E±°,h68km±6km,M5.1/43, mb5.3/43,mB5.5/27,MLv5.2/1,MLv5.5/5,Mw(mB)5.0/27*

*KLM **08** 13:47:06.2,14°.25N×93°.75E,h41km,mb5.1,MS6.1*

ISC 08 13:46:58.6±0.3,14°.34N±0°.03×93°.20E±0°.03,h41km±2km, h41km:pP-P,n666,σ1°48/726,mb5.0/164,MS4.2/36, 62C-51D,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**1.19**	**193**	*e*P		**Pn**	**13 47 20.8**	**+2.0**
DGPR				*e*S		**Sn**	**13 47 36.4**	**+2.7**
PBA	**Port Blair**	**2.71**	**190**	*e*P		Pn	13 47 41.4	+1.8
PBA				*e*S		Sn	13 48 12.5	+1.3
KHLT	**Khaolaem Dam**	**5.24**	**84**	P		**Pn**	**13 48 15.6**	**+1.2**
	357nm,0.8s,3μm1.0nm							
SRDT	**SRDT**	**5.74**	**89**	P		**Pn**	**13 48 23.2**	**+1.9**
	1μm,0.7s,15μm4.0nm							
MHMT	**Maesarieng**	**5.93**	**49**	P		**Pn**	**13 48 23.0**	**-0.9**
	210nm,0.9s,3μm1.2nm							
UTHA	**Uthaitani**	**6.16**	**78**	P		**Pn**	**13 48 28.0**	**+1.0**
	132nm,0.7s,1μm0.5nm							
CM01	**Chiang Mai Arr**	**6.85**	**53**	*e*Pn		**Pn**	**13 48 35.2**	**-1.4**
CMAR	**Chiang Mai Arr**	**6.86**	**53**	Pn		**Pn**	**13 48 36.2**	**-0.5**
	5.6nm,0.3s,baz=242,slow=15,SNR=182							
CMAR						Sn	**13 49 50.8**	**-2.8**
	baz=235,slow=19,SNR=2.8							
CHTO	**Chiang Mai**	**7.08**	**50**	P		**Pn**	**13 48 38.6**	**-1.1**
	398nm,0.8s,7μm3.8nm							
CHTO	**Chiang Mai**	**7.08**	**50**	*e*P		**Pn**	**13 48 38.5**	**-1.1**
CHTO				*e*			13 49 57.1	
CHTO	**Chiang Mai**	**7.08**	**50**	*e*Pn		**Pn**	**13 48 38.5**	**-1.1**
CHTO				*e*Sn		**Sn**	**13 49 57.0**	**-1.8**
CMMT	**Chiang Mai**	**7.08**	**50**	P		**Pn**	**13 48 38.6**	**-1.1**
	203nm,0.9s,2μm1.1nm							
CMBY	**CAMPBELL BAY**	**7.32**	**174**	*e*P		**Pn**	**13 48 44.1**	**+1.1**
CMBY				*e*S		**Sn**	**13 50 04.3**	**-0.6**
LAMP	**Lampang**	**7.44**	**55**	P		**Pn**	**13 48 45.1**	**+0.5**
	92nm,0.9s,935nm0.3nm							
PATY	**Pattaya**	**7.58**	**100**	P		**Pn**	**13 48 47.9**	**+1.3**
	109nm,0.6s,0.4nm							
SURT	**Suratani**	**7.66**	**134**	P		Pn	13 48 51.4	+3.7
	42nm,1.0s,531nm0.2nm							
PBKT	**Sadao Pong**	**7.81**	**73**	P		**Pn**	**13 48 50.6**	**+0.9**
	191nm,0.8s,2μm0.6nm							
UTTA	**Uttaradit**	**7.84**	**63**	P		**Pn**	**13 48 50.2**	**+0.1**
	36nm,0.8s,401nm0.2nm							
NAYO	**Nakonayok**	**7.87**	**89**	P		**Pn**	**13 48 52.4**	**+1.8**
	57nm,0.8s,0.3nm							
CMAI	**Chiengmai2**	**7.88**	**44**	P		**Pn**	**13 48 50.9**	**+0.1**
	95nm,0.8s,11μm0.8nm							
PKDT	**Phuket**	**8.15**	**141**	P		Pn	13 48 57.7	+3.2
	123nm,0.8s,0.5nm							
LOEI	**Loei**	**8.37**	**67**	P		Pn	13 49 03.0	+5.6
SRIT	**Nakonsritamara**	**8.48**	**132**	P		**Pn**	**13 49 01.6**	**+2.6**
	86nm,0.7s,3μm0.3nm							
CRAI	**Chiangrai**	**9.01**	**48**	P		**Pn**	**13 49 03.5**	**-2.7**
	64nm,1.3s,0.3nm							
TRTT	**Trang**	**9.08**	**135**	P		Pn	13 49 10.7	+3.6
	52nm,0.9s,1μm							
CHLP	**Challavanipeta**	**9.70**	**296**	*e*Pn		**Pn**	**13 49 14.6**	**-1.0**
CHLP				IAmb		IAmb	13 49 15.5	
	comp=Z,293nm,0.5s							
CHLP				*e*			13 50 51.8	
CHLP				*e*Sn		**Sn**	**13 51 06.8**	**+3.6**
CHLP				IVMs_BB		IVMs_BB	13 54 00.4	
	comp=Z,520nm,5.3s							
LHMI	**Lhok Sumawe**	**9.78**	**157**	P		Pn	13 49 20.2	+3.4
	comp=Z,554nm,0.7s,comp=Z,5μm							
VIS	**Vishakhapatnam**	**10.07**	**291**	*i* P		**Pn**	**13 49 20.1**	**-0.6**
VIS				AMB		AMB	13 49 31.1	
	comp=Z,568nm,2.0s							
VIS				*i* S		Sn	13 51 01.7	-11
SKNT	**Sakolnakorn**	**10.71**	**74**	P		**Pn**	**13 49 32.0**	**+2.5**
	comp=Z,77nm,1.0s,comp=Z,3μm							
SHL	**Shillong**	**11.23**	**354**	*e*P		Pn	13 49 32.6	-4.1
SHL				AMB		AMB	13 49 54.8	
	comp=Z,219nm,1.8s							
SHL				*e*S		Sn	13 51 31.0	-10
PVM	**Polavaram**	**11.51**	**286**	*e*Pn		**Pn**	**13 49 40.1**	**-0.3**
PVM				IAmb		IAmb	13 49 43.9	
	comp=Z,64nm,0.5s							
PVM				*e*			13 51 35.1	
PVM				*e*Sn		**Sn**	**13 51 51.3**	**+3.6**
PVM				IVMsBB			13 55 04.2	
	comp=Z,447nm,5.1s							
KULM	**Kulim**	**11.61**	**140**	⇓P		Pn	13 49 44.7	+2.9
KULM	**Kulim**	**11.61**	**140**	*e*Pn		**Pn**	**13 49 43.7**	**+1.9**
BOK	**Bokaro**	**11.67**	**325**	*ex*		Pn	13 49 38.4	-4.1
BOK				AMB		AMB	13 49 43.5	
	comp=Z,269nm,0.2s							
UBPT	**Khong Chiam**	**11.90**	**84**	P		**Pn**	**13 49 47.7**	**+1.9**
	comp=Z,80nm,1.2s							
TSI	**Tuntungan**	**12.00**	**153**	P		Pn	13 49 53.8	+6.6
SLVN	**Son La**	**12.33**	**54**	*e*Pn		**Pn**	**13 49 49.7**	**-2.0**
IPM	**Ipoh**	**12.47**	**141**	⇓P		**Pn**	**13 49 55.6**	**+2.0**
IPM	**Ipoh**	**12.47**	**141**	*e*Pn		**Pn**

GUN **Gumba** 15.12 334 *e*P Pn 13 50 25.5 -4.2
comp=Z,408nm,0.7s
PBSI **Pulau Batu** 15.16 160 P Pn 13 50 26.6 -3.4
comp=Z,94nm,1.3s
DMN **Daman** 15.20 332 *e*P Pn 13 50 26.2 -4.5
comp=Z,578nm,0.9s
KKN **Kakani** 15.28 332 *e*P Pn 13 50 27.7 -3.9
comp=Z,106nm,0.5s
URV **Uravakonda** 15.44 274 *e*Pn Pn 13 50 31.9 -1.7
URV IAmb IAmb 13 50 34.1
comp=Z,15nm,0.6s
URV *e* 13 53 07.8
URV *e*Sn **Sn** **13 53 24.5 +0.9**
URV IVMs_BB IVMs_BB 13 55 58.7
comp=Z,753nm,4.8s
GKN **Gorkha** 15.75 331 *e*P Pn 13 50 33.1 -4.7
comp=Z,333nm,0.5s
KGM **Kluang** 15.81 140 ⇑P **P** **13 50 40.0 -1.7**
BKNI **Bangkinang** 15.94 150 P **Pn** **13 50 40.3 +0.2**
comp=Z,241nm,0.8s,comp=Z,3μm
BKNI **Bangkinang** 15.94 150 *e*Pn **Pn** **13 50 40.5 +0.4**
comp=Z,158nm,0.7s
KOLN **Koldanda** 16.07 328 *e*P Pn 13 50 37.1 -4.8
comp=Z,414nm,0.6s
MYKOM **Kota Tinggi** 16.32 139 ⇑P **P** **13 50 48.6 +1.3**
MYKOM **Kota Tinggi** 16.32 139 *e*Pn **Pn** **13 50 45.7 +0.8**
comp=Z,93nm,0.8s
PPI **Padang Panjang** 16.34 154 P **Pn** **13 50 44.7 -0.4**
comp=Z,375nm,0.9s,comp=Z,3μm
PPI **Padang Panjang** 16.34 154 P **Pn** **13 50 45.3 +0.2**
baz=16,SNR=14
KLRI **Killari** 16.37 285 *e*Pn **Pn** **13 50 44.7 -0.9**
KLRI IAmb IAmb 13 50 56.1
comp=Z,66nm,0.6s
KLRI *e* 13 53 27.8
KLRI *e*Sn **Sn** **13 53 47.5 +1.2**
KLRI IVMsBB 13 55 56.2
comp=Z,684nm,3.1s
DANN **Dangsing** 16.47 329 *e*P Pn 13 50 42.0 -5.0
comp=Z,28nm,0.5s
BTDF **Bukit Timah Da** 16.60 140 P **P** **13 50 50.9 +0.4**
baz=17,SNR=4.9
BTDF P **P** **13 50 50.9 +0.4**
baz=17,SNR=4.9
QIZ **Qiongzhong** 16.61 71 P **Pn** **13 50 49.0 +0.5**
QIZ S **Sn** **13 53 53.0 +1.0**
QIZ LN
comp=Z,910nm,18.5s
QIZ LZ
comp=Z,670nm,15.4s
SISI **Saibi** 16.63 159 P **Pn** **13 50 49.2 +0.5**
comp=Z,97nm,0.9s
AKL **Akola** 16.67 295 *e*P **Pn** **13 50 49.8 +0.5**
AKL AMB AMB 13 51 06.3
comp=Z,109nm,0.5s
SDSI **Sungai Dareh** 17.23 151 P **Pn** **13 50 55.6 -0.7**
comp=Z,149nm,1.2s,comp=Z,29μm
BHPL **Bhopal** 17.35 303 *e*P **P** **13 50 58.3 -0.4**
BHPL AMB AMB 13 51 14.5
comp=Z,137nm,0.8s
TPRI **Tanjung Pinang** 17.42 139 P **P** **13 51 01.2 +1.7**
comp=Z,84nm,0.7s
GYA **Guiyang** 17.43 44 ⇑*i*P **Pn** **13 50 58.8 -0.1**
GYA pP **pP** **13 51 07.4 -2.4**
GYA PP **PnPn** **13 51 15.2 +5.4**
GYA S **Sn** **13 54 12.9 +0.8**
GYA sS **S** **13 54 24.2 +5.2**
GYA SS **SnSn** **13 54 33.6 +7.7**
GYA PcP **PcP** **13 55 41.0 +2.3**
GYA PMZ
comp=Z,50nm,0.9s
GYA PMZ
comp=Z,120nm,4.8s
GYA LN
comp=Z,800nm,13.8s
GYA LE
comp=Z,410nm,12.1s
GYA LZ
comp=Z,530nm,11.8s
PPSI **Pulau Pagai** 18.29 158 P **Pn** **13 51 09.8 +0.5**
comp=Z,260nm,0.9s
JMBI **JAMBI** 18.95 146 P **Pn** **13 51 19.4 +2.1**
comp=Z,740nm,0.9s
POO **Poona** 19.02 285 ⇓*i*P **Pn** **13 51 19.0 +0.8**
comp=Z,70nm,1.2s
CD2 **Chengdu** 19.13 29 ⇓*i*P **P** **13 51 18.2 -0.1**
CD2 pP **pP** **13 51 27.8 -0.6**
CD2 sP **sP** **13 51 32.4 -1.3**
CD2 S **Sn** **13 54 52.1 -0.9**
CD2 PcP **PcP** **13 55 40.7 -0.7**
CD2 PMZ
comp=Z,130nm,0.9s
CD2 PMZ
comp=Z,190nm,5.7s
CD2 LN
comp=Z,1μm,11.0s
CD2 LZ
comp=Z,950nm,15.6s
LGTI **Lohaghat** 19.22 324 *e*P **Pn** **13 51 20.8 +0.3**
LGTI *ex* x 13 54 45.1
MASI **Maura Aman, Be** 19.55 152 P **P** **13 51 21.8 -1.2**
comp=Z,392nm,0.9s,comp=Z,4μm
KSI **Kapahiang** 20.16 152 P **P** **13 51 26.4 -3.2**
comp=Z,243nm,0.8s
NDI **New Delhi** 20.57 316 *e*P Pn 13 51 37.0 +0.5
NDI *ex* x 13 55 12.5
PMBI **Palembang** 20.64 145 P **P** **13 51 35.2 +0.4**
comp=Z,483nm,1.1s,comp=Z,6μm
LHSI **Lahat** 20.75 150 P **P** **13 51 33.6 -2.4**
comp=Z,121nm,0.9s,comp=Z,2μm
PPBI **Pangkal Pinang** 20.81 141 P **P** **13 51 37.6 +0.9**
comp=Z,225nm,0.8s,comp=Z,3μm
GZH **Guangzhou** 20.95 63 P Pn 13 51 43.9 +3.0
GZH LN
comp=Z,1μm,20.0s
GZH LE
comp=Z,1μm,19.9s
MNAI **Manna** 20.95 152 P **P** **13 51 35.3 -2.9**
comp=Z,304nm,0.6s
DDI **Dehra Dun** 21.15 321 *e*P **P** **13 51 42.2 +2.0**
DDI AMB AMB 13 51 46.6
comp=Z,188nm,1.6s
DDI *ex* x 13 51 50.0
DDI *ex* x 13 52 19.0
KSM **Kuching** 21.20 126 ⇑P **P** **13 51 43.0 +2.2**
baz=21,SNR=5.5
KSM **Kuching** 21.20 126 ⇓P P 13 51 45.6 +4.7
KSM **Kuching** 21.20 126 *e*P **P** **13 51 39.1 -1.8**
comp=Z,43nm,1.1s
MDSI **Maura Dua** 21.65 149 P **P** **13 51 42.5 -3.1**
comp=Z,33nm,0.9s
ENH **Enshi** 21.83 41 *e*P **P** **13 51 46.6 -0.9**
comp=Z,68nm,1.0s
LWLI **Liwa** 22.05 150 P **P** **13 51 48.3 -1.7**
comp=Z,73nm,0.8s,comp=Z,8μm
KLSI 22.10 148 P P 13 51 45.9 -4.6
SBUM **Sibu** 22.19 120 ⇑P **P** **13 51 52.7 +1.2**
SBUM **Sibu** 22.19 120 *e*P **P** **13 51 51.2 -0.2**
comp=Z,56nm,1.2s
TPI **Tanjungpandan** 22.22 139 P **P** **13 51 51.6 -0.2**
comp=Z,64nm,1.3s,comp=Z,842nm
SMLA **Simla** 22.26 321 *i* P **P** **13 51 52.9 +0.8**
SMLA AMB AMB 13 52 06.9
comp=Z,468nm,0.5s
SMLA *i* S **S** **13 55 57.2 +2.5**
BTM **Bintulu** 22.53 118 ⇑P **P** **13 51 57.5 +2.4**
SDNR **Sundarnagar** 22.64 322 *ex* P **13 52 00.0 +3.7**
BHK **Bhakra** 22.92 321 *ex* sP 13 52 14.0 -0.7
STKI **Sintang** 22.98 127 P **P** **13 52 00.5 +0.6**
comp=Z,48nm,1.1s,comp=Z,6μm
DHRM **DHARAMSHALA** 23.58 322 *e*P **P** **13 52 07.4 +1.6**
LZH **Lanzhou** 23.66 22 ⇓P **P** **13 52 07.1 +0.6**
LZH pP **pP** **13 52 17.0 -0.4**
LZH sP **sP** **13 52 20.9 -1.5**
LZH PP **PnPn** **13 52 40.6 +5.6**
LZH S **S** **13 56 16.1 -2.5**
LZH sS **sS** **13 56 34.5 -2.7**
LZH SS **SnSn** **13 57 08.2 +9.5**
LZH PMZ
comp=Z,120nm,1.4s
LZH PMZ
comp=Z,290nm,4.0s
LZH LN
comp=Z,470nm,11.0s
LZH LE
comp=Z,580nm,10.2s
LZH LZ
comp=Z,990nm,12.5s
DLH **Dalhousie** 23.98 322 *e*P **P** **13 52 12.0 +2.4**
KKM **Kota Kinabalu** 24.09 108 ⇓P P 13 52 22.0 +11
XAN **Xi'an** 24.23 33 P **P** **13 52 11.0 -0.7**
XAN sP **sP** **13 52 24.0 -3.8**
XAN PP **PnPn** **13 52 49.0 +6.3**
XAN S **S** **13 56 27.8 +0.2**
XAN PMZ
comp=Z,25nm,0.9s
XAN PMZ
comp=Z,34nm,5.5s
XAN LN
comp=Z,360nm,23.7s
XAN LE
comp=Z,220nm,25.0s
XAN LZ
comp=Z,180nm,15.7s
CGJI **Cibinong** 24.23 148 P P 13 52 06.9 -4.8
comp=Z,28nm,1.3s
KDM **Kudat** 24.36 105 ⇓P **P** **13 52 15.1 +2.2**
SDKM **Sandakan** 25.14 108 ⇑P **P** **13 52 21.5 +1.3**
LEM **Lembang** 25.44 145 P **P** **13 52 22.9 +0.1**
baz=26,SNR=3.0
GTA **Gaotai** 25.64 12 P **P** **13 52 25.6 +1.1**
GTA pP **pP** **13 52 35.0 -0.7**
GTA sP **sP** **13 52 39.1 -1.5**
GTA PcP **PcP** **13 55 56.9 +2.4**
GTA S **S** **13 56 51.7 +1.6**
GTA sS **sS** **13 57 06.9 -1.9**
GTA PMZ
comp=Z,21nm,2.1s
GTA PMZ
comp=Z,110nm,6.4s
GTA LN
comp=Z,290nm,21.4s
GTA LE
comp=Z,340nm,20.4s
GTA LZ
comp=Z,400nm,20.0s
QZH **Quanzhou** 26.09 62 P **P** **13 52 31.9 +3.3**
QZH S **S** **13 56 58.7 +1.5**
QZH LN
comp=Z,1μm,15.4s
QZH LE
comp=Z,420nm,9.7s
QZH LZ
comp=Z,880nm,17.6s
TSM **Tawau** 26.28 110 ⇑P **P** **13 52 33.1 +2.6**
MYLDM **Lahad Datu** 26.52 108 ⇓P **P** **13 52 34.6 +2.1**
MYLDM **Lahad Datu** 26.52 108 *e*P **P** **13 52 33.2 +0.7**
comp=Z,117nm,1.3s
UWJI **Ujung Watu** 27.12 138 P **P** **13 52 39.5 +1.6**
comp=Z,166nm,0.8s
SMRI **Semarang** 27.28 140 P **P** **13 52 40.9 +1.5**
SMRI **Semarang** 27.28 140 *e*P **P** **13 52 40.0 +0.6**
comp=Z,448nm,1.9s
UGM **Wanagama** 28.01 141 ⇓P **P** **13 52 46.5 +0.7**
baz=28,SNR=4.7
KSH **Kashi** 29.30 332 P **P** **13 52 57.4 +0.1**
KSH pP **pP** **13 53 07.2 -1.3**
KSH S **S** **13 57 45.4 -2.3**
KSH sS **sS** **13 58 04.1 -2.4**
KSH SS **SnSn** **13 59 20.1 +4.0**
KSH PcS **PcS** **13 59 47.7 +1.4**
KSH PMZ
comp=Z,26nm,0.6s
KSH PMZ
comp=Z,340nm,4.8s
KSH LN
comp=Z,390nm,9.8s
KSH LE
comp=Z,430nm,6.5s
KSH LZ
comp=Z,450nm,11.9s
NJ2 **Nanjing** 29.32 49 *e*P **P** **13 52 58.9 +1.5**
NJ2 S **S** **13 57 48.0 0.0**
NJ2 PMZ
comp=Z,30nm,0.8s
NJ2 LN
comp=Z,700nm,16.7s
NJ2 LE
comp=Z,1μm,17.2s
NJ2 LZ
comp=Z,1μm,19.5s
WMQ **Urumqi** 29.75 352 P **P** **13 53 03.0 +1.8**
WMQ pP **pP** **13 53 12.6 +0.2**
WMQ sP **sP** **13 53 16.6 -0.8**
WMQ PP **PnPn** **13 53 59.7 +1.8**
WMQ S **S** **13 57 55.4 +0.7**
WMQ SS **SnSn** **13 59 30.8 +3.7**
WMQ ScS **ScS** **14 03 38.7 +0.5**
WMQ LN
comp=Z,390nm,21.2s
WMQ LE
comp=Z,360nm,19.7s
WMQ LZ
comp=Z,430nm,19.7s
H08S3 **Diego Garcia H** 29.98 225 T T 14 24 18.0
baz=45
H08S2 **Diego Garcia H** 29.99 225 T T 14 24 18.0
baz=45
H08S1 **Diego Carcia H** 30.00 225 T T 14 24 20.3
baz=45
H08N2 **Diego Garcia H** 30.11 228 T T 14 25 13.1
baz=57
H08N1 **Diego Carcia H** 30.11 228 T T 14 25 15.2
baz=57
H08N3 **Diego Garcia H** 30.13 228 T T 14 25 21.2
baz=57
TIA **Tai'an** 30.54 40 ⇑P **P** **13 53 08.9 +0.7**
TIA PMZ
comp=Z,50nm,0.9s
TIA LN
comp=Z,290nm,16.5s
TIA LE
comp=Z,710nm,18.8s
TIA LZ
comp=Z,780nm,15.7s
SFK **Sufi-Kurgan** 30.85 330 P **P** **13 53 12.8 +1.6**
SFK pmax pmax
comp=Z,39nm,1.2s
HHC **Hu-ho-hao-te** 30.88 28 *e*P **P** **13 53 12.6 +1.3**
HHC pP **pP** **13 53 23.4 +0.9**
HHC sP **sP** **13 53 27.2 -0.3**
HHC PP **PnPn** **13 54 14.4 +1.6**
HHC S **S** **13 58 13.5 +0.9**
HHC SS **SnSn** **13 59 55.6 +0.9**
HHC PMZ
comp=Z,30nm,1.2s
HHC PMZ
comp=Z,53nm,4.2s
HHC LN
comp=Z,360nm,14.3s
HHC LE
comp=Z,320nm,14.2s
HHC LZ
comp=Z,310nm,15.1s
PDGK **Podgornoye** 31.19 340 P **P** **13 53 15.5 +1.7**
PDGK pmax pmax
comp=Z,14nm,0.9s
TKM2 **Tokmak 2** 32.26 335 *e*P **P** **13 53 25.1 +1.6**
TKM2 pmax pmax
comp=Z,9.0nm,0.7s
TKM2 **Tokmak 2** 32.26 335 *e*P **P** **13 53 25.1 +1.6**
comp=Z,9.3nm,0.7s
AAK **Ala-Archa** 32.48 334 *e*P **P** **13 53 27.3 +2.0**
AAK pmax pmax
comp=Z,12nm,0.9s
AAK **Ala-Archa** 32.48 334 *e*P **P** **13 53 27.3 +2.0**
comp=Z,12nm,0.9s
BJI **Beijing** 32.56 34 P **P** **13 53 27.3 +1.4**
BJI S **S** **13 58 38.1 -0.4**
BJI PMZ
comp=Z,47nm,0.8s
BJI LN
comp=Z,300nm,29.4s
BJI LE
comp=Z,400nm,30.2s
FRU **Bishkek** 32.59 334 *e*P P 13 53 36.0 +10
FRU pmax pmax
comp=Z,80nm,2.2s
KAPI **Kappang** 32.61 124 P **P** **13 53 26.2 -0.4**
comp=Z,4.0nm,0.4s,baz=353,slow=6.2,SNR=6.0
KAPI LR LR 14 08 49.1
comp=Z,380nm,19.0s,baz=298,slow=40
EKS2 **Erkin-Say** 32.81 333 *e*P **P** **13 53 26.5 -1.7**
EKS2 pmax pmax
comp=Z,16nm,0.8s
EKS2 **Erkin-Say** 32.81 333 *e*P **P** **13 53 26.5 -1.7**
comp=Z,16nm,0.8s
LUWI **Luwuk** 33.03 115 *e*P **P** **13 53 27.7 -2.6**
comp=Z,71nm,1.0s
MK01 **Makanchi Array** 33.59 346 *e*P **P** **13 53 35.6 +0.7**
MK31 **Makanchi Array** 33.62 346 *i* P **P** **13 53 36.2 +1.1**
MK31 pmax pmax
comp=Z,19nm,0.7s
MKAR **Makanchi Array** 33.62 346 P **P** **13 53 36.1 +1.0**
comp=Z,6.6nm,0.7s,baz=163,slow=8.5,SNR=59
MKAR PcP **PcP** **13 56 15.7 +1.0**
comp=Z,2.1nm,0.7s,baz=134,slow=6.2,SNR=2.7
MKAR LR LR 14 11 39.8
comp=Z,488nm,19.4s,baz=158,slow=44
MKAR **Makanchi Array** 33.62 346 ⇓P **P** **13 53 36.3 +1.2**
baz=34
KK31 **Karatay Array** 34.66 330 P **P** **13 53 45.5 +1.4**
KK31 pmax pmax
comp=Z,12nm,0.6s
KKAR **Karatay Array** 34.66 330 *e*P **P** **13 53 45.8 +1.7**
KKAR **Karatay Array** 34.66 330 *e*P **P** **13 53 45.8 +1.7**
SONM **Songino Array** 35.15 15 P **P** **13 53 49.5 +1.1**
comp=Z,16nm,1.0s,baz=198,slow=8.9,SNR=56
SONM PcP **PcP** **13 56 19.8 +0.7**
comp=Z,3.4nm,0.7s,baz=205,slow=3.5,SNR=3.7
SONM ScP **ScP** **14 00 02.1 +0.4**
comp=Z,0.3nm,0.4s,baz=184,slow=4.3,SNR=2.8
SONA1 **Songino Array** 35.16 15 *e*P **P** **13 53 49.4 +0.9**
MMRI **Maumere** 36.76 127 *e*P **P** **13 54 00.0 -2.4**
comp=Z,75nm,0.8s
ZAK **Zakamensk** 36.87 11 *e*P **P** **13 54 03.5 +0.4**
ZAK pmax pmax
comp=Z,7.0nm,1.6s
TJN **Taejon** 37.57 48 *d i*P **P** **13 54 08.9 -0.2**
MOY **Mondy** 37.75 8 *e*P **P** **13 54 12.4 +1.8**
OTUK **Ortayu** 37.95 337 P **P** **13 54 13.3 +1.1**
OTUK pmax pmax
comp=Z,35nm,1.2s
SNY **Shenyang** 37.95 38 ⇓P **P** **13 54 12.5 +0.2**
SNY PMZ
comp=Z,25nm,1.2s
SNY PMZ
comp=Z,200nm,4.3s
SNY LN
comp=Z,220nm,15.5s
SNY LE
comp=Z,290nm,15.9s
SNY LZ
comp=Z,330nm,17.2s
KURK **Kurchatov** 38.15 345 P **P** **13 54 14.1 +0.3**
comp=Z,105nm,1.3s,SNR=15
KURK **Kurchatov** 38.15 345 *e*P **P** **13 54 14.1 +0.3**
KURK pmax pmax
comp=Z,35nm,1.0s
KURK **Kurchatov** 38.15 345 *e*P **P** **13 54 14.1 +0.3**
comp=Z,35nm,1.0s
TLY **Talaya** 38.18 11 P **P** **13 54 14.4 +0.4**
comp=Z,2.3nm,0.5s,baz=209,slow=3.2,SNR=6.9
TLY **Talaya** 38.18 11 *e*P **P** **13 54 16.6 +2.6**
TLY pmax pmax
comp=Z,4.0nm,0.7s
TLY MLR MLR
comp=Z,353nm,18.0s
TLY **Talaya** 38.18 11 *e*P **P** **13 54 15.1 +1.1**
comp=Z,7.8nm,0.8s
KSAR **Wonju Array Be** 38.43 47 P **P** **13 54 16.1 -0.2**
KSAR **Wonju Array Be** 38.43 47 P **P** **13 54 16.1 -0.2**
KS01 **Wonju Array Si** 38.45 47 *e*P **P** **13 54 16.2 -0.3**
KSRS **Korea Array** 38.46 47 P **P** **13 54 16.1 -0.5**
comp=Z,6.6nm,0.6s,baz=240,slow=9.0,SNR=30
KSRS LR LR 14 12 19.1
comp=Z,406nm,18.2s,baz=250,slow=40
KSRS **Korea Array** 38.46 47 P **P** **13 54 16.1 -0.5**
KSRS pmax pmax
comp=Z,7.0nm,0.6s
KSRS MLR MLR
comp=Z,406nm,18.3s
GEYT **Alibeck** 38.93 314 P **P** **13 54 22.8 +2.2**
comp=Z,8.1nm,0.6s,baz=142,slow=7.4,SNR=15
GEYT LR LR 14 12 24.2
comp=Z,405nm,18.2s,baz=130,slow=39
JNU **Nakatsue** 38.96 55 P **P** **13 54 21.2 +0.3**
comp=Z,2.9nm,0.5s,baz=212,slow=1.8,SNR=6.5
JNU LR LR 14 11 59.8
comp=Z,257nm,18.5s,baz=240,slow=39
ZAA0 **Zalesovo Array** 40.06 352 *e*P **P** **13 54 29.9 +0.2**
ZALV **Zalesovo Beam** 40.06 352 P **P** **13 54 30.2 +0.6**
comp=Z,9.7nm,0.7s,baz=170,slow=9.0,SNR=24
ZALV ScP **ScP** **14 00 20.5 +0.7**
comp=Z,0.5nm,0.4s,baz=182,slow=4.3,SNR=3.1
ZALV LR LR 14 15 38.4
comp=Z,195nm,19.4s,baz=248,slow=43
CN2 **Changchun** 40.24 37 *e*P **P** **13 54 32.0 +0.6**
CN2 *e*sP **sP** **13 54 45.7 -2.0**
CN2 PcP **PcP** **13 56 35.3 +0.6**
CN2 *e*S **S** **14 00 36.3 +0.6**
CN2 PMZ
comp=Z,30nm,1.0s
CN2 PMZ
comp=Z,200nm,4.0s
CN2 LN
comp=Z,200nm,18.0s
CN2 LE
comp=Z,200nm,18.0s
CN2 LZ
comp=Z,200nm,19.0s
SIJI **Sorong** 40.60 109 P **P** **13 54 34.2 -0.5**
comp=Z,9.7nm,0.5s,baz=317,slow=7.6,SNR=14
IANJ **Anjilo** 41.01 308 *e*P P 13 54 41.4 +3.2
HIA **Hailar** 41.06 26 ⇑*e*P **P** **13 54 38.8 +0.7**
HIA pmax pmax
comp=Z,29nm,2.0s
NVS **Novosibirsk** 41.15 351 *e*P **P** **13 54 37.4 -1.2**
NVS *e*S **S** **14 00 47.8 -1.1**
NVS pmax pmax
comp=Z,17nm,1.2s
NVS pmax pmax
comp=N,6.0nm,1.0s
NVS smax smax
comp=N,37nm,2.7s
GIRL **Giralia** 42.14 150 ⇓P **P** **13 54 47.8 +0.6**
baz=42,SNR=8.3
FAKI **Fak Fak** 42.33 111 ⇓P **P** **13 54 48.5 -0.4**
baz=42,SNR=16
FAKI **Fak Fak** 42.33 111 *e*P **P** **13 54 48.1 -0.8**
comp=N,24nm,0.8s
IDMV **Damavand** 42.49 307 *e*P **P** **13 54 52.8 +2.4**
BRVK **Borovoye** 42.68 340 *ce*P **P** **13 54 51.9 +0.7**
BRVK pmax pmax
comp=Z,6.0nm,1.2s
BRVK **Borovoye** 42.68 340 *e*P **P** **13 54 50.5 -0.7**
comp=Z,9.7nm,0.9s
VLA **Vladivostok** 43.81 41 P **P** **13 55 01.0 +0.5**
VLA pmax pmax
comp=Z,50nm,2.0s
AB31 **Akbulak array** 44.19 329 *i* P **P** **13 55 04.6 +1.2**
AB31 pmax pmax
comp=Z,19nm,0.6s
USRK **Ussuriysk Ar.** 44.41 40 P **P** **13 55 05.3 +0.1**
comp=Z,8.3nm,0.7s,baz=262,slow=6.8,SNR=20
USRK LR LR 14 17 28.9
comp=Z,221nm,19.7s,baz=227,slow=41
MAJO **Matsushiro** 45.75 53 ⇑*i*P **P** **13 55 16.6 +0.5**
MAJO pmax pmax
comp=Z,99nm,0.8s
MAJO **Matsushiro** 45.75 53 *e*P **P** **13 55 15.4 -0.7**
comp=Z,19nm,0.8s
MAT **Matsushiro** 45.75 53 P **P** **13 55 16.7 +0.6**
MAT S S 14 02 04.0 +7.2
MJAR **Matsushiro Arr** 45.75 53 P **P** **13 55 15.9 -0.2**
comp=Z,8.2nm,0.8s,baz=260,slow=11,SNR=28
MJAR PcP **PcP** **13 56 54.0 +0.6**
comp=Z,3.4nm,0.6s,baz=222,slow=3.4,SNR=11
MJAR LR LR 14 16 08.6
comp=Z,148nm,20.0s,baz=235,slow=38
RAYN **Ar Rayn** 45.86 289 *e*P **P** **13 55 15.8 -1.4**
comp=Z,8.9nm,1.3s
KNRA **Kununurra** 46.10 129 ⇓P **P** **13 55 18.5 -0.5**
baz=46,SNR=8.6
BOD **Bodaibo** 46.15 15 *e*P **P** **13 55 19.5 +0.7**
BOD pmax pmax
comp=Z,15nm,1.1s
KLR **Kul'dur** 46.94 34 *e*P P 13 55 21.6 -3.6

DAMY Dhamar 47.19 277 *e*P **P** **13 55 29.4 +1.5**
comp=Z,42nm,0.8s
JCJ Chichijima 47.27 66 LR LR 14 15 31.2
comp=Z,74nm,21.1s,baz=280,slow=36
KDU Kakadu 47.27 123 ⇑P **P** **13 55 27.3 -0.9**
baz=47,SNR=4.4
MEEK Meekatharra 47.64 149 ⇓P **P** **13 55 30.8 -0.1**
baz=48,SNR=6.9
HABR Khabarovsk 48.38 36 *e*P **P** **13 55 34.8 -1.5**
HABR *e**PP **pP** **13 55 46.2 -1.9**
HABR *e**SP **sP** **13 55 51.2 -1.7**
HABR 13 57 00.9
HABR *e* 13 57 27.7
HABR *e*PPP PPP 13 58 17.0
HABR *e*S **S** **14 02 32.9 -1.0**
HABR *e**SS **sS** **14 02 52.4 -0.9**
HABR *e* 14 05 23.7
HABR *e*SS **SS** **14 06 04.6 +0.8**
HABR *e*SSS SSS 14 07 17.0
HABR pmax pmax
comp=Z,32nm,1.9s
HABR pmax pmax
comp=E,9.0nm,0.9s
HABR pmax pmax
comp=N,4.0nm,0.6s
HABR MLR MLR
comp=Z,177nm,22.0s
MORW Morawa 48.47 153 ⇓P **P** **13 55 37.6 +0.3**
baz=49,SNR=13
CLNS Chul'man 48.78 23 *e*P P 13 55 32.1 -7.3
CLNS pmax pmax
comp=Z,28nm,0.9s
CLNS pmax pmax
comp=N,12nm,0.8s
CLNS pmax pmax
comp=E,14nm,1.0s
SVE Sverdlovsk 49.10 337 ⇓*i*P **P** **13 55 43.3 +1.5**
SVE pmax pmax
comp=Z,54nm,1.1s
SVE MLR MLR
comp=Z,594nm,25.0s
DGRG David-gareji 49.34 313 P **P** **13 55 46.8 +2.8**
GNI Garni 49.40 311 P **P** **13 55 46.0 +1.4**
GNI pmax pmax
comp=Z,39nm,1.1s
GNI Garni 49.40 311 *e*P **P** **13 55 45.1 +0.6**
comp=Z,32nm,0.9s
ARU Arti 49.63 336*d i*P **P** **13 55 46.4 +0.6**
ARU 13 57 06.3
ARU 13 57 43.0
ARU S **S** **14 02 55.2 +4.0**
ARU SS **SS** **14 06 20.5 -3.2**
ARU pmax pmax
comp=Z,15nm,1.0s
ARU Arti 49.63 336 *e*P **P** **13 55 46.3 +0.5**
comp=Z,23nm,1.1s
JAY Jayapura 49.95 106 LR LR 14 16 13.3
comp=Z,52nm,21.3s,baz=322,slow=35
GUMO Guam 50.06 84 LR LR 14 18 33.4
comp=Z,67nm,18.0s,baz=268,slow=38
BLDU Ballidu 50.10 153 ⇓P **P** **13 55 49.8 +0.1**
baz=50,SNR=14
AKH Akhalkalaki 50.68 312 P **P** **13 55 57.0 +2.8**
ZEI Tsey 50.81 314 *e*P P 13 55 58.4 +3.1
ZEI pmax pmax
comp=Z,54nm,0.3s
ERM Erimo 51.03 47*c i*P **P** **13 55 58.9 +2.2**
ERM pmax pmax
comp=Z,16nm,1.2s
ERM Erimo 51.03 47 *e*P **P** **13 55 55.4 -1.3**
comp=Z,15nm,0.9s
ONI Oni 51.06 314 P P 13 56 05.1 +8.2
ASAJ Asahikawa 51.31 44 P **P** **13 55 59.3 +0.6**
baz=254,slow=5.4
ASAJ Asahikawa 51.31 44 *e*P **P** **13 55 58.9 +0.1**
comp=Z,21nm,0.9s
KLBR Kellerberrin 51.39 153 ⇑P **P** **13 55 58.8 -0.7**
baz=52,SNR=13
KBZ Khabaz 51.80 315 P **P** **13 56 03.8 +1.4**
comp=Z,4.6nm,0.8s,baz=136,slow=7.3,SNR=13
KBSD Kabsdagh 51.82 306 *e*P **P** **13 56 04.5 +1.8**
WRKA Warakurna 51.99 139 ⇑P **P** **13 56 04.1 0.0**
baz=52,SNR=65
KIV Kislovodsk 52.02 315 *e*P **P** **13 56 05.8 +1.7**
KIV pmax pmax
comp=Z,41nm,1.0s
KIV MLR MLR
comp=Z,213nm,16.0s
KIV Kislovodsk 52.02 315 P **P** **13 56 05.2 +1.1**
comp=Z,244nm,0.6s,SNR=6.7
KIV Kislovodsk 52.02 315 *e*P **P** **13 56 04.9 +0.7**
comp=Z,36nm,0.8s
SFNV Sufian 52.05 305 *e*P **P** **13 56 06.3 +1.8**
GOF Gofitskoye 52.14 316 *e*P P 13 56 11.3 +6.4
YSS Yuzh-Sakhalins 52.41 41⇓*e*P **P**
YSS *e* 13 56 19.7
YSS pmax pmax
comp=Z,60nm,1.0s
YSS MLR MLR
comp=Z,200nm,15.0s
YSS Yuzh-Sakhalins 52.41 41 *e*P **P** **13 56 07.6 +0.8**
comp=Z,49nm,0.9s
SOKR Solikamsk 52.50 338*c i*P **P** **13 56 08.6 +1.3**
SOKR pmax pmax
comp=Z,30nm,1.0s
SOKR MLR MLR
comp=Z,460nm,18.0s
WRA Warramunga Arr 52.90 129 P **P** **13 56 10.6 -0.2**
comp=Z,26nm,0.7s,baz=311,slow=8.0,SNR=139
WRA PcP **PcP** **13 57 20.3 +0.7**
comp=Z,6.0nm,0.6s,baz=313,slow=3.6,SNR=8.9
WRA S **S** **14 03 33.1 -4.2**
comp=Z,3.3nm,1.0s,baz=310,slow=15,SNR=6.5
WRAB Tennant Creek 52.90 129 P **P** **13 56 10.0 -0.9**
comp=Z,279nm,0.8s,SNR=13
WRAB Tennant Creek 52.90 129*c i*P **P** **13 56 10.6 -0.3**
WRAB pmax pmax
comp=Z,95nm,0.9s
WRAB Tennant Creek 52.90 129 *e*P **P** **13 56 10.8 -0.1**
comp=Z,34nm,0.8s
KMBL Kambalda 53.14 149 ⇑P **P** **13 56 12.6 +0.2**
baz=53
ZALF Zalf 53.80 300 *e*P **P** **13 56 19.4 +2.0**
ROOS tl_alroos 53.98 302 *e*P **P** **13 56 21.0 +2.3**
YAK Yakutsk 54.23 22 P **P** **13 56 19.6 -0.4**
comp=Z,1.7nm,0.3s,baz=276,slow=19,SNR=6.3
YAK Yakutsk 54.23 20 *e*P **P** **13 56 18.6 -1.3**
YAK *e* 13 57 25.1
YAK *e* 13 58 19.2
YAK *e*S S 14 03 48.3 -5.9
YAK *e*SS **SS** **14 07 34.2 -2.1**
YAK pmax pmax
comp=Z,29nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.3s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=Z,33nm,2.3s
YAK pmax pmax
comp=N,19nm,1.9s
YAK smax smax
comp=E,78nm,5.1s
YAK smax smax
comp=N,50nm,4.4s
YAK Yakutsk 54.23 20 P **P** **13 56 18.1 -1.9**
comp=N,27nm,0.7s
ASAR Alice Springs 54.87 133 P **P** **13 56 25.2 0.0**
comp=N,16nm,0.5s,baz=308,slow=6.8,SNR=426
ASAR PcP **PcP** **13 57 27.9 +0.9**
comp=N,4.7nm,0.7s,baz=319,slow=4.2,SNR=6.2
ASAR ScP **ScP** **14 01 23.0 +0.5**
comp=N,1.6nm,1.0s,baz=325,slow=5.7,SNR=4.6
ASAR S **S** **14 04 00.0 -4.0**
comp=N,3.9nm,0.9s,baz=303,slow=14,SNR=19
AS01 Alice Springs 54.90 133 *e*P **P** **13 56 24.2 -1.2**
AS01 *e*ScP **ScP** **14 01 22.8 +0.2**
ANN Anapa 55.87 315 *e*P **P** **13 56 31.6 -0.5**
ANN *e**PP **pP** **13 56 44.6 +0.6**
ANN *e* 13 58 34.9
ANN *e*S **S** **14 04 18.4 +1.7**
ANN *e*SS **SS** **14 08 03.1 +0.3**
ANN pmax pmax
comp=Z,35nm,1.1s
OPO Ambohidratompo 55.90 236 LR LR 14 15 57.2
comp=Z,206nm,20.9s,baz=58,slow=31

FORT Forrest 56.01 144 ⇓P **P** **13 56 33.8 +0.6**
baz=56,SNR=8.2
VSR Storozhevoye 56.67 322 *e*P **P** **13 56 37.5 -0.2**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=N,6.0nm,0.7s
VSR pmax pmax
comp=E,9.0nm,0.8s
COEN Coen 56.90 117 P **P** **13 56 40.0 +0.1**
baz=57,SNR=17
COEN Coen 56.90 117 *e*P **P** **13 56 40.2 +0.4**
comp=E,22nm,0.6s
QIS Mount Isa 57.29 126 P **P** **13 56 42.9 +0.3**
baz=58,SNR=17
BR131 Keskin Array S 57.63 308 *e*P **P** **13 56 45.1 +0.2**
comp=E,12nm,0.7s
BRTR Keskin Array B 57.63 308 P **P** **13 56 45.5 +0.6**
comp=E,17nm,0.8s,baz=120,slow=7.3,SNR=69
BRTR LR LR 14 24 54.9
comp=E,174nm,19.8s,baz=98,slow=39
PRGR Permogore 58.09 335 P **P** **13 56 47.0 -0.5**
PRGR *e**PP **pP** **13 56 59.0 -0.5**
PRGR pmax pmax
comp=Z,24nm,0.8s
SIM Simferopol' 58.20 314 *e*P **P** **13 56 50.1 +1.5**
SIM *e* 13 57 02.0
SIM pmax pmax
comp=Z,30nm,0.6s
ANTO Ankara 58.29 308 *e*P **P** **13 56 50.1 +0.6**
ANTO pmax pmax
comp=Z,32nm,0.9s
ANTO Ankara 58.29 308 *e*P **P** **13 56 50.1 +0.6**
comp=Z,32nm,0.9s
MOS Moscow 59.14 327 *e*P P 13 57 04.8 +10
MOS pmax pmax
comp=Z,89nm,1.1s
OBN Obninsk 59.48 326 *i*P **P** **13 56 55.9 -1.4**
OBN *e* 13 57 06.5
OBN pmax pmax
comp=Z,35nm,1.7s
MTSU Mount Surprise 59.84 121 ⇓P **P** **13 57 00.8 +0.4**
baz=60,SNR=4.4
TIXI Tiksi 61.12 12*d i*P **P** **13 57 08.0 -0.2**
TIXI pmax pmax
comp=Z,27nm,1.0s
TIXI MLR MLR
comp=Z,187nm,18.0s
TIXI Tiksi 61.12 12 *e*P **P** **13 57 07.2 -1.1**
comp=Z,20nm,0.8s
TIRR Tirgusor 62.13 313 ⇑P **P** **13 57 16.0 +0.5**
TIRR Tirgusor 62.13 313⇑*i*P **P** **13 57 15.9 +0.5**
TIRR Tirgusor 62.13 313 *e*P **P** **13 57 16.2 +0.7**
comp=Z,20nm,1.2s
BBOO Buckleboo 62.26 140 ⇑P **P** **13 57 16.7 +0.2**
baz=62,SNR=9.2
BBOO Buckleboo 62.26 140 *e*P **P** **13 57 15.9 -0.5**
comp=Z,7.6nm,0.6s
TMCR Tamitsa 62.36 336 *e*P **P** **13 57 17.5 +0.8**
TMCR pmax pmax
comp=Z,27nm,0.4s
CTA Charters Tower 62.39 122 P **P** **13 57 18.3 +0.7**
comp=Z,11nm,0.7s,baz=303,slow=6.7,SNR=12
CTA LR LR 14 27 19.9
comp=Z,158nm,20.0s,baz=86,slow=39
CTA Charters Tower 62.39 122 ⇓P **P** **13 57 18.5 +0.9**
baz=63
CTAO Charters Tower 62.39 122 *e*P **P** **13 57 17.6 0.0**
CTAO pmax pmax
comp=Z,22nm,1.0s
CTAO Charters Tower 62.39 122 *e*P **P** **13 57 17.6 0.0**
comp=Z,22nm,1.0s
KARP Karpathos 62.39 303 *e*P **P** **13 57 18.5 +1.0**
CFR Carcaliu 62.42 314 ⇑P **P** **13 57 18.6 +1.2**
CFR Carcaliu 62.42 314⇑*i*P **P** **13 57 18.6 +1.2**
AKASG Malin Array Be 62.59 320 P **P** **13 57 17.6 -0.9**
comp=Z,3.4nm,0.6s,baz=82,slow=5.3,SNR=8.9
AKASG LR LR 14 28 20.5
comp=Z,286nm,21.3s,baz=335,slow=40
KIEV Kiev 62.59 320*d i*P **P** **13 57 18.2 -0.3**
JMB Yambol 63.24 310 ⇑P **P** **13 57 24.7 +1.7**
JMB Yambol 63.24 310⇑*i*P **P** **13 57 24.7 +1.7**
CHOS Chios island 63.38 306 *e*P **P** **13 57 22.5 -1.6**
PETK Petropavlovsk- 63.38 37 P **P** **13 57 22.3 -1.4**
comp=Z,2.2nm,0.7s,baz=228,slow=5.8,SNR=4.1
PETK LR LR 14 28 14.5
comp=Z,107nm,18.7s,baz=252,slow=39
VRI Vrincioaia 63.48 314 ⇑P **P** **13 57 26.6 +2.1**
VRI Vrincioaia 63.48 314⇑*i*P **P** **13 57 26.6 +2.1**
SEY Seymchan 63.51 26 P **P** **13 57 23.2 -1.1**
comp=Z,1.8nm,0.5s,baz=223,slow=3.9,SNR=8.9
SEY Seymchan 63.51 26⇑*i*P **P** **13 57 24.1 -0.2**
ALN Alexandroupoli 63.52 309 *e*P P 13 57 19.5 -5.4
PLOR Plostina 63.53 314 ⇑P **P** **13 57 26.9 +2.0**
PLOR Plostina 63.53 314⇑*i*P **P** **13 57 26.9 +2.0**
MBAR Mbarara 63.54 262 *e*P **P** **13 57 26.8 +1.1**
MBAR pmax pmax
comp=Z,56nm,1.4s
MBAR Mbarara 63.54 262 *e*P **P** **13 57 26.8 +1.1**
comp=Z,56nm,1.4s
SIGR SIGRI 63.57 307 *e*P **P** **13 57 26.0 +0.8**
TESR Tescani 63.62 315⇑*i*P **P** **13 57 26.3 +0.9**
LAST Lasithi 63.76 302 *e*P **P** **13 57 27.0 +0.4**
LAST Lasithi 63.76 302 *e*P **P** **13 57 27.0 +0.4**
MLR Muntele Rosu 63.99 314 ⇑P **P** **13 57 29.7 +1.7**
MLR Muntele Rosu 63.99 314⇑*i*P **P** **13 57 29.7 +1.7**
KDZ Kurdzhali 64.05 310 ⇑P **P** **13 57 29.2 +0.9**
KDZ Kurdzhali 64.05 310⇑*i*P **P** **13 57 29.2 +0.9**
QLP Quilpie 64.14 129 P **P** **13 57 30.4 +1.3**
baz=64,SNR=31
SIVA Sivas 64.30 302 *e*P **P** **13 57 28.0 -2.1**
DOPR Dopca 64.42 314⇑*i*P **P** **13 57 31.8 +1.1**
HTT Hallett 64.48 138 P **P** **13 57 31.9 +0.7**
baz=65,SNR=7.4
VOIR 64.61 314 ⇑P **P** **13 57 33.6 +1.5**
VOIR 64.61 314⇑*i*P **P** **13 57 33.5 +1.5**
BURAR Bucovina Array 64.72 316 ⇑P **P** **13 57 34.4 +1.7**
BURAR Bucovina Array 64.72 316⇑*i*P **P** **13 57 34.4 +1.7**
BUR04 Bucovina Ar. S 64.72 316 *e*P **P** **13 57 33.6 +0.9**
IDID Didziasalis 64.96 325 *e*P **P** **13 57 34.5 +0.5**
IDID IAmb IAmb 13 57 52.4
comp=Z,9.5nm,0.9s
OUR Ouranopolis 65.06 308 *e*P P 13 57 41.0 +6.0
NVR Nevrokopi 65.20 309 *e*P P 13 57 39.0 +3.1
NVR Nevrokopi 65.20 309 *e*P **P** **13 57 36.5 +0.6**
IIGN Ignalina 65.25 325 *e*P **P** **13 57 36.4 +0.5**
IIGN IAmb IAmb 13 57 51.4
comp=Z,8.8nm,0.7s
PAIG Paliouri 65.28 308 *e*P **P** **13 57 37.0 +0.6**
STKA Stephens Creek 65.28 136 P **P** **13 57 36.8 +0.3**
comp=Z,13nm,0.6s,baz=313,slow=5.6,SNR=49
STKA LR LR 14 29 05.6
comp=Z,158nm,19.4s,baz=306,slow=39
STKA Stephens Creek 65.28 136 P **P** **13 57 36.8 +0.3**
STKA pmax pmax
comp=Z,13nm,0.6s
STKA MLR MLR
comp=Z,158nm,19.4s
MMB Musomiste 65.31 309 ⇓P **P** **13 57 36.9 +0.3**
MMB Musomiste 65.31 309⇓*i*P **P** **13 57 36.9 +0.3**
IZAR Zarasai 65.32 325 *e*P **P** **13 57 36.8 +0.5**
IZAR IAmb IAmb 13 57 49.2
comp=Z,9.9nm,0.8s
MRKA Markates 65.32 306 *e*P **P** **13 57 35.0 -1.7**
ISAL Salakas 65.35 325 *e*P **P** **13 57 37.0 +0.5**
ISAL IAmb IAmb 13 57 52.8
comp=Z,10nm,0.9s
SRS Serrai 65.39 309 *e*P **P** **13 57 40.0 +2.9**
SRS Serrai 65.39 309 *e*P **P** **13 57 37.5 +0.4**
PLG Polygyros 65.48 308 *e*P P 13 57 42.0 +4.3
APA Apatity 65.51 339⇑*i*P **P** **13 57 38.0 +0.6**
APA pmax pmax
comp=Z,22nm,0.9s
APA MLR MLR
comp=Z,500nm,14.0s
SOH Sokhos 65.56 309 *e*P P 13 57 41.5 +3.2
SOH Sokhos 65.56 309 *e*P **P** **13 57 38.5 +0.2**
VIL2 Platees 65.57 306 *e*P P 13 57 42.0 +3.7
VSU Vasula 65.62 328 P **P** **13 57 38.0 -0.2**
VSU pmax pmax
comp=Z,42nm,0.9s
NEO Neokhori 65.62 307 *e*P P 13 57 44.5 +5.9
SMIA Simia 65.62 306 *e*P P 13 57 46.0 +7.3
XOR Xorichti 65.64 307 *e*P P 13 57 45.0 +6.2
KRND KRANIDI 65.65 305 *e*P P 13 57 48.0 +9.2

VTS Vitosha 65.74 310 ⇑P **P** **13 57 40.5 +1.0**
VTS Vitosha 65.74 310⇑*i*P **P** **13 57 40.5 +1.0**
HORT Hortiatis 65.75 308 *e*P **P** **13 57 42.5 +3.0**
LKR Lokris 65.78 306 *e*P P 13 57 46.5 +6.8
LTK Loutraki 65.80 305 *e*P P 13 57 46.5 +6.7
LTK Loutraki 65.80 305 *e*P **P** **13 57 38.5 -1.3**
VLI Veliai 65.82 304 *e*P P 13 57 50.0 +10
KNT Kendrikon 65.92 309 *e*P **P** **13 57 42.0 +1.5**
KNT Kendrikon 65.92 309 *e*P **P** **13 57 41.0 +0.5**
DSF Desfina 66.15 306 *e*P P 13 57 47.5 +5.4
DSF Desfina 66.15 306 *e*P **P** **13 57 41.0 -1.1**
LIT Litokhoron 66.20 308 *e*P P 13 57 45.5 +3.1
VLX Vlachokerasia 66.27 305 *e*P P 13 57 51.5 +8.6
GRG Griva 66.29 309 *e*P **P** **13 57 43.5 +0.6**
GRG Griva 66.29 309 *e*P **P** **13 57 43.0 +0.1**
GUR Goura 66.30 305 *e*P P 13 57 50.0 +6.9
GUR Goura 66.30 305 *e*P **P** **13 57 42.5 -0.6**
DRGR 66.34 315 ⇑P **P** **13 57 44.3 +1.1**
DRGR 66.34 315⇑*i*P **P** **13 57 44.3 +1.1**
KLV Kalavryta, Ach 66.45 305 *e*P P 13 57 50.0 +6.0
TRIZ Trizonia 66.51 306 *e*P P 13 57 49.5 +5.2
THL Klokotos Trika 66.56 307 *e*P **P** **13 57 47.0 +2.4**
THL Klokotos Trika 66.56 307 *e*P **P** **13 57 43.0 -1.6**
KWP Kalwaria Pacla 66.58 318 *e*P **P** **13 57 45.3 +0.7**
KWP Kalwaria Pacla 66.58 318 *e*P **P** **13 57 45.4 +0.8**
FINES FINESS Array B 66.61 331 P **P** **13 57 44.9 +0.3**
comp=Z,9.5nm,0.6s,baz=111,slow=8.4,SNR=40
FINES pP **pP** **13 57 55.0 -1.7**
comp=Z,17nm,0.7s,baz=111,slow=8.4,SNR=14
FINES LR LR 14 29 34.9
comp=Z,254nm,19.6s,baz=112,slow=38
ITM Ithomi 66.63 305 *e*P **P** **13 57 45.5 +0.3**
EFP Efpalio 66.64 306 *e*P **P** **13 57 47.0 +1.9**
EFP Efpalio 66.64 306 *e*P **P** **13 57 45.5 +0.4**
EVR Evrytania 66.72 306 *e*P P 13 57 50.0 +4.2
KZN Kozani 66.75 308 *e*P **P** **13 57 47.0 +1.0**
UZH Uzhgorod 66.76 317*d i*P **P** **13 57 46.5 +0.8**
UZH *e* 13 58 00.9
UZH *i* 13 58 10.7
PYL PYLOS 66.78 304 *e*P P 13 57 54.0 +7.9
PYL PYLOS 66.78 304 *e*P **P** **13 57 45.5 -0.6**
SUW Suwalki 66.78 323 *e*P **P** **13 57 46.0 +0.3**
SUW Suwalki 66.78 323 *e*P **P** **13 57 46.1 +0.3**
DRO Drossia 66.80 305 *e*P P 13 57 53.0 +6.8
DRO Drossia 66.80 305 *e*P **P** **13 57 46.5 +0.3**
AMT Artemida-Makis 66.80 305 *e*P P 13 57 54.0 +7.8
KOLS Kolonicke sedl 66.80 317 *e*P **P** **13 57 47.5 +1.5**
KOLS Kolonicke sedl 66.80 317 *e*P **P** **13 57 47.5 +1.5**
RLS Riolos of Patr 66.99 305 *e*P P 13 57 53.0 +5.6
FNA Florina 67.06 308 *e*P **P** **13 57 47.5 -0.4**
PDO Prodromos 67.20 306 *e*P P 13 57 53.0 +4.2
PDO Prodromos 67.20 306 *e*P **P** **13 57 48.0 -0.8**
DSL Palaion Diasel 67.27 307 *e*P **P** **13 57 52.0 +2.8**
JAN Janina 67.46 307 *e*P **P** **13 57 50.0 -0.4**
STHS Stebnicka Huta 67.51 318 *e*P **P** **13 57 51.6 +1.1**
STHS *e* 13 58 03.1
STHS pmax pmax
comp=Z,5.0nm,0.7s
STHS Stebnicka Huta 67.51 318 *e*P **P** **13 57 51.6 +1.1**
STHS *e*pP **pP** **13 58 03.1 +0.4**
RMQ Roma 67.54 127 ⇓P **P** **13 57 53.0 +2.1**
baz=68,SNR=14
VLS Valsamata 67.68 306 *e*P **P** **13 57 54.0 +2.2**
VLS Valsamata 67.68 306 *e*P **P** **13 57 51.5 -0.3**
IGT Igoumenitsa 67.86 307 *e*P **P** **13 57 52.5 -0.4**
IGT Igoumenitsa 67.86 307 *e*P **P** **13 57 53.0 +0.1**
CMSA Ćobar Meteorol 67.93 133 P **P** **13 57 54.3 +0.9**
baz=68,SNR=46
SGD Sagiada 67.94 307 *e*P **P** **13 57 52.5 -0.8**
KECS Kecovo 67.95 317 *e*P **P** **13 57 54.3 +1.0**
KECS *e* 13 58 06.7
KECS pmax pmax
comp=Z,4.0nm,0.9s
KECS Kecovo 67.95 317 *e*P **P** **13 57 54.3 +1.0**
KECS *e*pP **pP** **13 58 06.6 +1.1**
NIE Niedzica 68.12 318 *e*P **P** **13 57 56.0 +1.6**
NIE Niedzica 68.12 318 *e*P **P** **13 57 56.0 +1.6**
DIVS Divibare 68.13 312⇑*i*P **P** **13 57 55.3 +0.7**
KEK Kerkira 68.27 307 *e*P **P** **13 57 55.0 -0.5**
KEK Kerkira 68.27 307 *e*P **P** **13 57 55.5 0.0**
PSZ Piszkesteto 68.32 316 ⇓P **P** **13 57 56.4 +0.7**
PSZ Piszkesteto 68.32 316⇓*i*P **P** **13 57 56.4 +0.7**
PSZ Piszkesteto 68.32 316 *e*P **P** **13 57 56.5 +0.8**
comp=Z,14nm,0.9s
ARPS Mount Arapiles 68.44 140 ⇑P **P** **13 57 58.0 +1.6**
baz=69,SNR=6.4
OJC Ojcow 68.50 319 *e*P **P** **13 57 57.0 +0.3**
OJC Ojcow 68.50 319 *e*P **P** **13 57 57.6 +0.9**
OJC pmax pmax
comp=Z,23nm,1.1s
OJC Ojcow 68.50 319 *e*P **P** **13 57 57.6 +0.9**
comp=Z,23nm,1.1s
ARA0 ARCESS Array S 68.91 340 *e*P **P** **13 57 59.7 +0.8**
ARCES ARCESS Array B 68.91 340 P **P** **13 57 59.8 +0.9**
comp=Z,6.5nm,0.7s,baz=88,slow=6.2,SNR=37
ARCES pP **pP** **13 58 10.7 -0.4**
comp=Z,7.6nm,0.6s,baz=97,slow=6.8,SNR=12
ARCES LR LR 14 31 32.6
comp=Z,293nm,19.7s,baz=117,slow=39
ARE0 ARCESS Array S 68.91 340 *e*P **P** **13 57 59.9 +1.0**
PKSM Moragy 69.12 314 ⇑P **P** **13 58 00.9 +0.3**
PKSM Moragy 69.12 314⇑*i*P **P** **13 58 00.9 +0.3**
PKSM Moragy 69.12 314⇑*e*P **P** **13 58 01.4 +0.8**
OKC Ostrava-Krasne 69.55 318⇓*e*P **P** **13 58 04.6 +1.4**
OKC *e*sP **sP** **13 58 19.6 -0.5**
OKC Ostrava-Krasne 69.55 318 *e*P **P** **13 58 04.6 +1.4**
OKC *e* 13 58 19.6
KTK1 Kautokeino 69.56 339 *e*P **P** **13 58 03.5 +0.7**
HAMF Hammerfest 69.81 341 *e*P **P** **13 58 05.2 +0.8**
MORC Moravsky Berou 69.94 318 ⇑P **P** **13 58 06.4 +0.8**
MORC Moravsky Berou 69.94 318⇑*i*P **P** **13 58 06.4 +0.8**
MORC Moravsky Berou 69.94 318 *e*P **P** **13 58 06.8 +1.2**
comp=Z,81nm,1.0s
KRLC Kraliky 70.43 318⇓*e*P **P** **13 58 09.7 +1.0**
KRLC *e*sP **sP** **13 58 24.5 -1.2**
KRLC Kraliky 70.43 318 *e*P **P** **13 58 09.7 +1.0**
KRLC *e* 13 58 24.5
BILL Bilibino 70.47 22*d i*P **P** **13 58 08.0 -0.5**
BILL pmax pmax
comp=Z,15nm,1.0s
LSZ Lusaka 70.69 248 P **P** **13 58 12.3 +1.4**
comp=Z,23nm,0.8s,baz=45,slow=9.2,SNR=7.5
LSZ Lusaka 70.69 248 *e*P **P** **13 58 11.0 +0.1**
LSZ pmax pmax
comp=Z,32nm,0.9s
LSZ Lusaka 70.69 248 *e*P **P** **13 58 11.0 +0.1**
comp=Z,32nm,0.9s
DPC Dobruska-Polom 70.73 319⇓*i*P **P** **13 58 11.8 +1.3**
DPC *e*pP **pP** **13 58 24.2 +1.4**
DPC Dobruska-Polom 70.73 319⇓*i*P **P** **13 58 11.8 +1.3**
DPC *e* 13 58 24.2
KSP Ksiaz 70.76 319 *e*P **P** **13 58 11.7 +1.1**
KSP Ksiaz 70.76 319 *e*P **P** **13 58 11.7 +1.1**
UPC Upice 70.93 319⇓*e*P **P** **13 58 13.4 +1.7**
UPC AMS AMS 14 33 00.0
comp=Z,400nm,24.5s
UPC Upice 70.93 319 *e*P **P** **13 58 13.4 +1.7**
UPC MLR MLR
comp=Z,400nm,24.5s
CONA Conrad Observa 71.03 316⇑*i*P **P** **13 58 13.3 +0.8**
comp=Z,5.6nm,0.8s
TRO Tromso 71.18 339 *e*P **P** **13 58 12.1 -0.6**
TRO *e*pP **pP** **13 58 24.8 -0.2**
TOO Toolangi 71.24 138 ⇑P **P** **13 58 15.4 +1.7**
baz=71,SNR=12
CEL Celeste 71.37 306 *e*P **P** **13 58 14.8 +0.2**
comp=Z,36nm,1.0s
BOJS Bojanci 71.50 314 *i*P **P** **13 58 15.8 +0.7**
BOJS *i* 13 58 29.5
PERS Pernice 71.56 315 *i*P **P** **13 58 16.3 +0.7**
PERS *i* 13 58 29.8
SOKA Soboth 71.62 315 *i*P **P** **13 58 17.0 +1.0**
comp=Z,17nm,1.5s,SNR=7.2
PDKS Podkum 71.66 314 *e*P **P** **13 58 17.2 +1.0**
BSD Bornholm Skovb 71.67 324 *i*P P 13 58 27.0 +11
comp=Z,15nm,0.9s
BSD Bornholm Skovb 71.67 324 *e*P P 13 58 27.0 +11
BSD pmax pmax
comp=Z,15nm,0.9s
ARMA Armidale 71.68 129 ⇓P **P** **13 58 18.7 +2.1**
baz=72,SNR=5.9
GOPC GO Pecny, Ondr 71.72 318⇓*e*P **P** **13 58 17.4 +0.9**

GOPC epP pP 13 58 31.2 +2.5
VISS Visnje 71.78 314 *i* P P 13 58 17.6 +0.7
VISS *i* 13 58 30.3
PVCC Panska Ves 71.85 319⇓ *e*P P 13 58 18.7 +1.5
PVCC *e*pP pP 13 58 30.9
PVCC Panska Ves 71.85 319 *e*P P 13 58 18.7 +1.5
PVCC *e* 13 58 30.9
PRU Pruhonice 71.88 318⇓ *e*P P 13 58 18.8 +1.4
PRU *e*pP pP 13 58 31.2 +1.6
PRU Pruhonice 71.88 318 *e*P P 13 58 18.8 +1.4
PRU *e* 13 58 31.2
PRA Prague 71.95 318⇓ *e*P P 13 58 16.9 -0.9
PRA Prague 71.95 318 *e*P P 13 58 16.9 -0.9
OBKA Obir 71.95 315 *i* P P 13 58 19.4 +1.3
comp=Z,20nm,1.4s,SNR=5.1
MOA Molln 72.11 316 *i* P P 13 58 19.4 +0.5
comp=Z,11nm,0.9s,SNR=6.5
CAN Canberra 72.31 135 ⇑P P 13 58 21.2 +1.0
baz=72
JAVS Javornik 72.31 314 *i* P P 13 58 19.8 -0.4
RUE Ruedersdorf 72.33 321 *e*P P 13 58 21.3 +1.4
comp=Z,44nm,0.9s
RUE *e*pP pP 13 58 33.3 +1.1
GEC2 GERESS Array S 72.45 317 *e*P P 13 58 22.3 +1.3
comp=Z,21nm,1.0s
GEC2 *e*pP pP 13 58 34.4 +1.2
GEC2 GERESS Array S 72.45 317 *e*P P 13 58 22.2 +1.3
GEC2 GERESS Array S 72.45 317 *e*P P 13 58 22.2 +1.3
GERES GERESS Array B 72.45 317 P P 13 58 21.8 +0.9
comp=Z,14nm,0.8s,baz=85,slow=5.8,SNR=75
KHC Kasperske Hory 72.52 317⇓ *e*P P 13 58 21.9 +0.6
KHC *e*pP pP 13 58 34.2 +0.6
KHC Kasperske Hory 72.52 317 *e*P P 13 58 21.9 +0.6
KHC *e* 13 58 34.2
KHC Kasperske Hory 72.52 317 *e*P P 13 58 21.7 +0.4
comp=Z,3.6nm,0.9s
CNB Canberra Magne 72.56 135 ⇓P P 13 58 22.4 +0.7
baz=73
FBE Freiberg 72.62 319 *e*P P 13 58 23.6 +1.8
comp=Z,40nm,1.2s
FBE *e*pP pP 13 58 35.7 +1.7
KBA Koelnbreinsper 72.76 315⇑ *i*P P 13 58 23.3 +0.3
comp=Z,11nm,1.0s
CLL Collm 72.83 320 *e*P P 13 58 24.0 +1.0
comp=Z,9.0nm,1.0s
CLL *e*pP pP 13 58 36.1 +0.8
CLL Collm 72.83 320 *i* P P 13 58 23.4 +0.4
CLL *i* *PP pP 13 58 36.3 +1.0
CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 72.83 320 *e*P P 13 58 23.6 +0.6
comp=Z,32nm,1.5s
CLL Collm 72.83 320 *i* P P 13 58 23.4 +0.4
comp=Z,9.0nm,1.0s
CLL *i* pP pP 13 58 33.0 -2.3
CLL *i* (sP) pP 13 58 36.3 +1.0
comp=Z,17nm,1.2s
CLL *i* 13 58 55.2
CLL LmV 14 34 00.0
comp=Z,200nm,20.4s
LOF Lofoten 72.94 337 *e*P P 13 58 23.3 0.0
LOF *e*pP pP 13 58 35.5 -0.1
WET Wettzell 72.98 317 *e*P P 13 58 25.3 +1.3
comp=Z,25nm,1.3s
WET *e*pP pP 13 58 37.5 +1.2
RJOB Jochberg 73.10 316 *e*P P 13 58 25.4 +0.6
comp=Z,16nm,1.4s
TANN Tannenbergstha 73.20 319 *e*P P 13 58 26.5 +1.2
comp=Z,12nm,1.2s
TANN *e*pP pP 13 58 38.6 +1.0
NKC Novy Kostel 73.22 319⇓ *e*P P 13 58 26.8 +1.4
NKC *es*P sP 13 58 41.7 -0.7
NKC Novy Kostel 73.22 319 *e*P P 13 58 26.8 +1.4
NKC *e* 13 58 41.7
WERN Wernitzgruen 73.26 319 *e*P P 13 58 27.1 +1.4
comp=Z,7.0nm,1.0s
WERN *e*pP pP 13 58 39.2 +1.2
GUNZ Gunzen 73.29 319 *e*P P 13 58 27.2 +1.4
comp=Z,19nm,1.2s
GUNZ *e*pP pP 13 58 39.3 +1.2
WERD Werda 73.30 319 *e*P P 13 58 27.2 +1.3
comp=Z,11nm,0.9s
WERD *e*pP pP 13 58 39.2 +1.0
ABTA Abfaltersbach 73.35 315⇑ *i*P P 13 58 26.3 0.0
comp=Z,6.0nm,0.9s
SPA0 Spitsbergen Ar 73.36 348 *e*P P 13 58 26.7 +1.0
SPA0 IAmb IAmb 13 58 29.0
comp=Z,44nm,1.4s
PLN Plauen 73.39 319 *e*P P 13 58 27.7 +1.3
comp=Z,8.0nm,0.8s
PLN *e*pP pP 13 58 39.8 +1.1
ROTZ Rotzenmuhle 73.39 318 *e*P P 13 58 28.3 +1.9
comp=Z,24nm,1.2s
ROTZ *e*pP PcP 13 58 40.5 -2.0
MANZ Manzenberg 73.45 318 *e*P P 13 58 28.5 +1.8
comp=Z,32nm,1.4s
MANZ *e*pP pP 13 58 40.6 +1.6
NC602 NORSAR Array S 73.53 330 *e*P P 13 58 26.7 -0.3
NB2 NORSAR Subarra 73.69 330 P P 13 58 27.8 -0.1
comp=Z,7.3nm,0.7s,baz=88,slow=5.9
NB2 NORSAR Subarra 73.69 330 P P 13 58 27.8 -0.1
baz=88,slow=5.9
NOA NORSAR Array B 73.69 330 P P 13 58 27.9 -0.1
comp=Z,7.0nm,0.8s,baz=89,slow=5.9,SNR=24
NOA pP pP 13 58 37.8 -2.5
comp=Z,5.7nm,0.6s,baz=89,slow=5.8,SNR=11
NOA LR LR 14 36 06.4
comp=Z,161nm,18.6s,baz=90,slow=40
MOX Moxa 73.73 319 *e*P P 13 58 29.7 +1.3
comp=Z,10.0nm,0.9s
MOX *e*pP pP 13 58 41.9 +1.2
MOX *e*L L 14 35 15.6
comp=Z,168nm,20.7s
WTTA Wattenberg 73.91 315⇑ *i*P P 13 58 29.6 -0.2
comp=Z,9.6nm,0.6s
GRF Grafenberg Arr 74.04 318 *e*P P 13 58 31.9 +1.7
comp=Z,23nm,1.3s
GRF *e*L L 14 35 17.8
comp=Z,171nm,21.3s
MOTA Moosalm 74.27 316⇑ *i*P P 13 58 31.8 0.0
comp=Z,12nm,0.8s
BSEG Bad Segeberg 74.36 322 *e*P P 13 58 33.6 +1.7
comp=Z,19nm,0.7s
BSEG *e*pP PcP 13 58 45.6 -0.9
CLZ Clausthal 74.45 320 *e*P P 13 58 34.0 +1.4
comp=Z,14nm,0.9s
CLZ *e*pP PcP 13 58 46.0 -1.0
RETA Reutte 74.49 316 *i* P P 13 58 33.1 +0.1
comp=Z,27nm,1.6s,SNR=7.1
FETA Feichten 74.55 315⇓ *i*P P 13 58 33.6 +0.2
comp=Z,10nm,1.0s,SNR=5.4
MUD Monsted U'grnd 74.89 325 *i* P P 13 58 35.4 +0.5
comp=Z,23nm,1.1s
MUD Monsted U'grnd 74.89 325 *i* P P 13 58 35.4 +0.5
MUD pmax pmax
comp=Z,23nm,1.1s
DAVA Damuels 75.10 316⇑ *i*P P 13 58 37.1 +0.5
comp=Z,24nm,1.1s,SNR=7.4
TNS Taunus Mts 75.78 319 *e*P P 13 58 41.6 +1.3
comp=Z,11nm,0.9s
IBBN Ibbenburen 76.02 321 *e*P P 13 58 42.9 +1.4
comp=Z,31nm,1.2s
BFO Black Forest 76.04 317 *i* P P 13 58 42.8 +1.0
BFO Black Forest 76.04 317 *e*P P 13 58 41.4 -0.4
comp=Z,18nm,1.6s
BUG Bochum--Univer 76.41 320 *e*P P 13 58 45.1 +1.4
comp=Z,19nm,0.9s
LBTB Lobatse 76.61 240 *e*P P 13 58 47.1 +1.6
LBTB pmax pmax
comp=Z,49nm,1.3s
LBTB Lobatse 76.61 240 *e*P P 13 58 47.1 +1.6
comp=Z,48nm,1.3s
KEST Kesra 76.85 304 P P 13 58 47.3 +0.6
comp=Z,4.9nm,0.9s,baz=7.6,slow=15,SNR=11
SENIN Lac Senin/Sane 76.96 315 *e*P P 13 58 48.0 +0.7
BNI Bardonecchia 77.56 314 *e*P P 13 58 49.2 -1.4
BNI pmax pmax
comp=Z,17nm,1.0s
BNI Bardonecchia 77.56 314 *e*P P 13 58 49.2 -1.4
comp=Z,17nm,1.0s
BOSA Boshof 78.31 236 P P 13 58 56.5 +1.5
comp=Z,31nm,0.7s,baz=70,slow=4.0,SNR=56
BOSA LR LR 14 27 36.4
comp=Z,93nm,21.3s,baz=2.5,slow=31
SSB Saint Sauveur 79.03 314 *e*P P 13 58 57.5 -1.0
SSB pmax pmax
comp=Z,7.0nm,0.9s
SSB Saint Sauveur 79.03 314 *e*P P 13 58 57.5 -1.0
comp=Z,7.2nm,0.9s
DAG Danmarks Havn 81.00 348 *i* P P 13 59 07.9 -0.6
comp=Z,8.5nm,1.1s
DAG Danmarks Havn 81.00 348 *i* P P 13 59 07.9 -0.6
DAG pmax pmax
comp=Z,11nm,1.1s
MAW Mawson 84.65 191 P P 13 59 28.9 +1.6
comp=Z,8.5nm,0.8s,baz=295,slow=22,SNR=6.2
MAW Mawson 84.65 191 *e*P P 13 59 29.0 +1.6
MAW pmax pmax
comp=Z,4.0nm,1.0s
MAW Mawson 84.65 191 *e*P P 13 59 28.9 +1.6
comp=Z,4.1nm,1.0s
IM04 Indian Mountai 86.02 22 *e*P P 13 59 35.5 +1.0
ES19 SONSECA Array 86.32 310 *e*P P 13 59 37.1 +0.5
ESDC Sonseca Array 86.37 310 P P 13 59 37.3 +0.4
comp=Z,5.3nm,0.8s,baz=52,slow=4.6,SNR=9.7
COLD Coldfoot 86.69 20 *e*P P 13 59 38.7 +1.0
comp=Z,7.1nm,1.0s
MLY Manley 87.58 22 *e*P P 13 59 43.5 +1.3
comp=Z,14nm,0.8s
SUMG Summit 87.67 347 *i* P P 13 59 43.6 +0.7
comp=Z,14nm,0.9s
SUMG Summit 87.67 347 *i* P P 13 59 43.6 +0.7
SUMG pmax pmax
comp=Z,14nm,0.9s
SUMG Summit 87.67 347 *e*P P 13 59 43.5 +0.7
comp=Z,26nm,1.2s
CAST Castle Rocks 87.85 24 *e*P P 13 59 44.7 +1.3
comp=Z,34nm,0.8s
BPAW Bear Paw Mtn. 87.95 23 *e*P P 13 59 45.0 +1.1
comp=Z,6.6nm,1.0s
PPLA Purkeypile 88.05 25 *e*P P 13 59 45.8 +1.2
comp=Z,85nm,1.9s
TOA0 Torodi Ar. Sit 88.23 283 *e*P P 13 59 47.0 +0.8
TORD Torodi Ar. Bea 88.23 283 P P 13 59 47.3 +1.1
comp=Z,17nm,0.7s,baz=84,slow=4.4,SNR=87
TORD PP PP 14 03 13.4 -0.4
comp=Z,2.1nm,0.9s,baz=68,slow=6.6,SNR=5.5
TORD LR LR 14 40 57.7
comp=Z,89nm,20.1s,baz=100,slow=37
TRF Thorofare Moun 88.54 24 *e*P P 13 59 48.5 +1.6
comp=Z,11nm,0.8s
MDM Murphy Dome 88.54 22 *e*P P 13 59 47.6 +0.9
comp=Z,25nm,1.0s
FYU Fort Yukon 88.70 20 *e*P P 13 59 49.0 +1.6
comp=Z,18nm,1.0s
COLA College 88.72 22⇓ *e*P P 13 59 47.7 +0.2
COLA pmax pmax
comp=Z,58nm,2.0s
WRH Wood River Hil 88.85 22 *e*P P 13 59 48.3 +0.2
comp=Z,33nm,2.0s
MCK McKinley 88.92 23 *e*P P 13 59 49.6 +1.1
MCK pmax pmax
comp=Z,20nm,0.9s
MCK McKinley 88.92 23 *e*P P 13 59 49.6 +1.1
comp=Z,20nm,0.9s
SPU Mount Spurr 88.92 26 *e*P P 13 59 49.3 +0.6
RND Reindeer 89.12 23 *e*P P 13 59 49.7 +0.2
RND pmax pmax
comp=Z,17nm,1.2s
RND Reindeer 89.12 23 *e*P P 13 59 49.7 +0.2
comp=Z,17nm,1.2s
IL1 Eielson Array 89.12 22 *e*P P 13 59 48.8 -0.6
ILAR Eielson Array 89.12 22 P P 13 59 49.0 -0.5
comp=Z,4.9nm,0.8s,baz=301,slow=4.4,SNR=56
ILAR PP PP 14 03 18.8 -0.6
comp=Z,1.0nm,0.9s,baz=309,slow=8.3,SNR=5.0
ILAR LR LR 14 46 28.7
comp=Z,30nm,18.6s,baz=313,slow=40
HDA Harding Lake 89.30 22 *e*P P 13 59 49.9 -0.3
comp=Z,7.7nm,0.8s
RC01 Rabbit Creek A 89.95 26 *e*P P 13 59 54.1 +0.7
comp=Z,37nm,0.8s
INK Inuvik 91.06 16 *e*P P 13 59 58.6 +0.3
INK pmax pmax
comp=Z,17nm,1.1s
INK Inuvik 91.06 16 *e*P P 13 59 58.6 +0.3
comp=Z,17nm,1.1s
EGAK Eagle 91.12 20 *e*P P 13 59 58.5 -0.2
comp=Z,8.6nm,0.9s
RPZ Rata Peaks 91.24 135 P P 14 00 01.3 +1.7
comp=Z,8.9nm,0.8s,baz=195,slow=19,SNR=2.6
DAWY Dawson 92.17 20 *e*P P 14 00 04.0 +0.3
DBIC Dimbokro 96.11 278 P P 14 00 22.8 +0.1
comp=Z,6.2nm,0.8s,baz=93,slow=6.2,SNR=6.4
DBIC LR LR 14 42 58.6
comp=Z,44nm,20.0s,baz=61,slow=35
SKAG Skagway 96.67 23 *e*P P 14 00 25.6 +1.4
comp=Z,11nm,1.1s
VNDA Vanda 99.41 168 LR LR 14 44 04.8
comp=Z,66nm,18.6s,baz=305,slow=34
YKA Yellowknife Ar 100.37 13 P Pdif 14 00 39.8 -1.0
comp=Z,0.6nm,0.8s,baz=320,slow=3.6,SNR=7.5
YKA PP PP 14 04 44.4 -2.2
comp=Z,0.6nm,0.8s,baz=338,slow=7.6,SNR=4.7
YKA PKKPbc PKKPbc 14 16 56.8 -2.2
comp=Z,0.4nm,0.8s,baz=146,slow=2.4,SNR=5.7
A22A Carney Farms, 114.70 14 P PKPdf 14 05 35.5 +0.7
baz=114
BOZ Bozeman (W) 116.20 19 P **PKPdf** **14 05 39.1 +1.2**
baz=116
D22A Cohagen 116.37 15 P **PKPdf** **14 05 39.8 +1.8**
baz=116
HLID Hailey 117.08 22 P **PKPdf** **14 05 40.7 +1.1**
baz=117
HLID Hailey 117.08 22 *e*PKPdf **PKPdf** **14 05 40.7 +1.1**
G20A Bridger 117.62 17 P **PKPdf** **14 05 41.6 +1.0**
baz=117
EYMN Ely 117.85 4 P **PKPdf** **14 05 41.2 +0.4**
baz=118
H19A Powell 117.90 18 P **PKPdf** **14 05 41.4 +0.3**
baz=118
REDW Red Top Meadow 118.49 20 *e*PKPdf **PKPdf** **14 05 43.9 +1.4**
I20A Worland 118.81 17 P **PKPdf** **14 05 43.8 +1.0**
baz=118
H24A Dirks Ranch, A 119.02 14 P **PKPdf** **14 05 43.3 0.0**
baz=119
I21A Big Trails, Te 119.17 17 P **PKPdf** **14 05 43.7 +0.1**
baz=119
I22A 9 Mile Ranch, 119.32 16 P **PKPdf** **14 05 44.2 +0.3**
baz=119
BW06 Boulder Array 119.45 19 *e*PKPdf **PKPdf** **14 05 44.5 +0.1**
BW06 *e*PKPdf **PkiKP** **14 05 44.9 +0.6**
PDAR Pinedale Array 119.45 19 PKP **PKPdf** **14 05 44.7 +0.4**
comp=Z,1.6nm,0.7s,baz=36,slow=2.9,SNR=9.3
NV01 Mina Array Sit 119.78 28 *e*PKPdf **PKPdf** **14 05 46.5 +1.5**
NVAR Mina Array Bea 119.78 28 PKP **PKPdf** **14 05 46.7 +1.6**
comp=Z,2.3nm,0.6s,baz=309,slow=1.4,SNR=26
I28A Midland 120.47 12 P **PKPdf** **14 05 46.5 +0.5**
baz=120
R11A Troy Canyon, C 121.05 26 P **PKPdf** **14 05 48.8 +1.3**
baz=121
R11A Troy Canyon, C 121.05 26 *e*PKPdf **PKPdf** **14 05 49.0 +1.5**
J30A Dallas 121.45 11 P **PKPdf** **14 05 48.9 +1.0**
baz=121
ECSD EROS Data Cent 121.51 8 P **PKPdf** **14 05 48.3 +0.4**
baz=121
ECSD EROS Data Cent 121.51 8 *e*PKPdf **PKPdf** **14 05 48.6 +0.7**
L25A Engebretsen Ra 121.60 15 P **PKPdf** **14 05 48.9 +0.6**
baz=121
TPNV Topopah Spring 121.92 28 P **PKPdf** **14 05 49.9 +0.8**
baz=122
MPMC Manual Prospec 122.08 29 P **PKPdf** **14 05 51.2 +1.7**
baz=122
N23A Red Feather La 122.25 17 P **PKPdf** **14 05 50.6 +0.8**
baz=122
MVU Marysvale 122.29 23 *e*PKPdf **PKPdf** **14 05 52.1 +2.2**
MSU Marysvale 122.30 23 *e*PKIKP **PKPdf** **14 05 52.0 +2.1**
MSU Marysvale 122.30 23 *e*PKPdf **PKPdf** **14 05 52.0 +2.1**
EDW2 Edwards Air Fo 122.79 30 P **PKPdf** **14 05 52.2 +1.5**
baz=122
GSC Goldstone 123.02 29 *e*PKIKP **PKPdf** **14 05 52.8 +1.6**
GSC Goldstone 123.02 29 *e*PKPdf **PKPdf** **14 05 52.8 +1.6**
O27A Beecher Island 123.82 14 P **PKPdf** **14 05 52.9 +0.3**
baz=124
GMRC Granite Mounta 123.98 29 P **PKPdf** **14 05 54.8 +1.7**
baz=124
P26A Davis Ranch, A 124.20 15 P **PKPdf** **14 05 53.6 +0.2**
baz=124
S22A 4UR Ranch, Cre 124.87 19 P **PKPdf** **14 05 56.2 +1.2**
baz=125
Q28A Sharon Springs 125.05 14 P **PKPdf** **14 05 55.2 +0.2**
baz=125
SDCO Great Sand Dun 125.29 18 P **PKPdf** **14 05 56.4 +0.7**
baz=125
Q31A Ellis 125.64 12 P **PKPdf** **14 05 56.2 +0.2**
baz=125
P35A Duane Minner, 125.72 9 P **PKPdf** **14 05 56.1 -0.1**
baz=125
R28A Tribune 125.73 15 P **PKPdf** **14 05 56.4 +0.1**
baz=125
GLA Glamis 125.80 29 P **PKPdf** **14 05 58.3 +1.8**
baz=126
Q32A Meitler Ranch, 125.82 11 P **PKPdf** **14 05 57.4 +1.1**
baz=126
Q33A Connelly Farm, 125.94 11 P **PKPdf** **14 05 57.2 +0.6**
baz=126
S26A Kim 125.99 16 P **PKPdf** **14 05 57.7 +0.8**
baz=126
T25A Trinidad 126.17 17 P **PKPdf** **14 05 58.3 +0.9**
baz=126
T25A Trinidad 126.17 17 *e*PKPdf **PKPdf** **14 05 58.6 +1.3**
W18A Petrified Fore 126.21 23 P **PKPdf** **14 05 59.8 +2.4**
baz=126
W18A Petrified Fore 126.21 23 *e*PKPdf **PKPdf** **14 05 59.1 +1.7**
Q35A Mercer Eighty, 126.38 9 P **PKPdf** **14 05 58.3 +0.9**
baz=126
S28A Manter 126.43 15 P **PKPdf** **14 05 58.5 +0.8**
baz=126
T27A Campo 126.72 16 P **PKPdf** **14 05 58.6 +0.4**
baz=126
R34A Isabella, Hill 126.72 10 P **PKPdf** **14 05 58.9 +0.8**
baz=126
R36A Gordon, Harris 126.98 9 P **PKPdf** **14 05 59.3 +0.7**
baz=127
S35A Otter Creek Ra 127.48 10 P **PKPdf** **14 06 00.4 +0.8**
baz=127
ANMO Albuquerque 127.55 20 *i* PKIKP **PKPdf** **14 06 01.0 +1.0**
ANMO Albuquerque 127.55 20 *e*PKPdf **PKPdf** **14 06 01.4 +1.4**
S36A Lake Cedric, C 127.55 9 P **PKPdf** **14 06 00.4 +0.7**
baz=127
LAZ Ladron 127.81 21 *e*PKPdf **PKPdf** **14 06 00.6 +0.1**
T34A McClaskey Farm 127.98 11 P **PKPdf** **14 06 01.8 +1.2**
baz=128
T36A Boggs Farm, Ca 128.16 9 P **PKPdf** **14 06 02.2 +1.3**
baz=128
BNM Barren Site 128.21 21 *e*PKPdf **PKPdf** **14 06 02.2 +0.8**
T37A Cheneyville 18 128.24 8 P **PKPdf** **14 06 01.8 +0.8**
baz=128
U37A Salina 128.92 9 P **PKPdf** **14 06 03.5 +1.2**
baz=129
V35A Meyer Ranch, C 129.27 11 P **PKPdf** **14 06 04.3 +1.3**
baz=129
V37A Hulbert 129.43 9 P **PKPdf** **14 06 03.8 +0.5**
baz=129
W37A Quinton 130.11 9 P **PKPdf** **14 06 06.2 +1.5**
baz=130
W38A Poteau 130.31 8 P **PKPdf** **14 06 06.4 +1.4**
baz=130
X35A Drake 130.57 11 P **PKPdf** **14 06 07.1 +1.6**
baz=130
Z29A Hungry Hill Ra 130.57 16 P **PKPdf** **14 06 07.3 +1.6**
baz=130
X37A Clayton 130.66 9 P **PKPdf** **14 06 06.9 +1.2**
baz=130
X38A Whitesboro 130.66 9 P **PKPdf** **14 06 07.1 +1.4**
baz=130
Y34A Reagan Ranch, 130.85 12 P **PKPdf** **14 06 07.6 +1.5**
baz=130
Z31A Sharp Cattle R 130.92 15 P **PKPdf** **14 06 07.3 +1.0**
baz=131
MIAR Mount Ida 130.96 7 *e*PKIKP **PKPdf** **14 06 07.3 +1.1**
MIAR Mount Ida 130.96 7 P **PKPdf** **14 06 07.6 +1.4**
baz=131
MIAR Mount Ida 130.96 7 *e*PKPdf **PKPdf** **14 06 07.3 +1.1**
Z32A Haskell 131.09 14 P **PKPdf** **14 06 07.8 +1.2**
baz=131
230A Sterling City 132.03 16 P **PKPdf** **14 06 09.3 +0.8**
baz=132
333A Richland Sprin 133.11 14 P **PKPdf** **14 06 11.1 +0.6**
baz=133
530A J-C Ranch, Com 133.60 17 P **PKPdf** **14 06 13.0 +1.5**
baz=133
TX31 Lajitas Ar. Si 133.62 20 *e*PKPdf **PKPdf** **14 06 11.9 +0.4**
TXAR Lajitas Array 133.62 20 PKP **PKPdf** **14 06 12.0 +0.4**
comp=Z,1.1nm,0.6s,baz=216,slow=1.1,SNR=15
TXAR Lajitas Array 133.62 20 PKIKP **PKPdf** **14 06 12.0 +0.4**
JCT Junction City 133.71 16 *e*PKIKP **PKPdf** **14 06 12.6 +1.0**
JCT Junction City 133.71 16 P **PKPdf** **14 06 12.7 +1.1**
baz=133
JCT Junction City 133.71 16 *e*PKPdf **PKPdf** **14 06 12.6 +1.0**
434A Burnet 133.77 14 P **PKPdf** **14 06 12.3 +0.6**
baz=134
531A Rocksprings 133.81 17 P **PKPdf** **14 06 13.0 +1.2**
baz=134
TRQA Tornquist 147.73 218 *e*PKPbc **PKPbc** **14 06 39.8 +0.5**
CPUP Villa Florida 149.98 242 PKPbc **PKPbc** **14 06 45.3 0.0**
comp=Z,7.1nm,1.0s,baz=98,slow=3.4,SNR=8.4
CPUP PKPab **PKPab** **14 06 51.2 +0.2**
comp=Z,9.3nm,0.8s,baz=109,slow=4.3,SNR=12
CPUP Villa Florida 149.98 242 PKIKP **PKPbc** **14 06 45.3 0.0**
CPUP 14 06 51.2
CPUP pmax pmax
comp=Z,7.0nm,1.0s
CPUP pmax pmax
comp=Z,9.0nm,0.8s
PTGA Pitinga 150.22 295 PKPbc **PKPbc** **14 06 46.6 +0.4**
baz=68,slow=19
PTGA Pitinga 150.22 295 *e*PKPbc **PKPbc** **14 06 46.8 +0.6**
SDV Santo Domingo 151.90 324 *e*PKPdf **PKPdf** **14 06 44.6 +0.7**
SDV *e*PKPbc **PKPbc** **14 06 50.0 -0.4**
SDV *e*PKPab **PKPab** **14 07 00.1 +0.7**
SIV San Ignacio 155.12 263 PKPbc PKPbc 14 07 01.3
comp=Z,1.6nm,0.8s,baz=120,slow=5.5,SNR=3.6
SIV PKPab **PKPab** **14 07 14.4 +1.4**
comp=Z,2.4nm,0.7s,baz=114,slow=5.0,SNR=4.4
CFAA Coronel Fontan 155.83 222 PKPbc PKPbc 14 07 07.8
comp=Z,0.2nm,0.5s,baz=44,slow=13,SNR=3.1
CFAA PKPab **PKPab** **14 07 16.0 +0.5**
comp=Z,1.1nm,0.9s,baz=257,slow=1.7,SNR=7.8
SAML Samuel 156.27 280 *e*PKPab **PKPab** **14 07 18.7 +0.8**
LCO Las Campanas 159.14 223 *e*PKPdf **PKPdf** **14 06 55.6 +2.3**
LPAZ La Paz 161.89 261 PKP **PKPdf** **14 06 58.1 +1.0**
comp=Z,2.6nm,0.9s,baz=22,slow=4.6,SNR=7.6
LPAZ pPKP **pPKPdf** **14 07 08.9 -1.2**
comp=Z,1.8nm,0.8s,baz=95,slow=2.4,SNR=3.5
LPAZ PKPab **PKPab** **14 07 43.5 +0.4**
comp=Z,3.4nm,0.8s,baz=104,slow=5.1,SNR=6.6

*TAP **08** 13:49:40.7,24.40N×122.23E,h8km±2km,ML2.3,D*
*JMA **08** 13:49:49.8±0.3,25.15N×123.12E,h170km±4km,M3.5*
ISC 08 13:49:35.0±1.4,25°41.1N±0.09×122°16.6E±0.04,h10km,n30,
σ1°49/33,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao** baz=340	**0.42**	**201**	*e*P		Pn	13 49 53.1	+6.0
TWE	**Neicheng** baz=302	**0.81**	**213**	*i* P		**Pn**	**13 49 53.2**	**+0.7**
TWE	baz=302			*i* S		**Sg**	**13 50 02.3**	**+1.1**
TWC	**Suao** baz=301	**0.84**	**199**	P		**Pg**	**13 49 49.4**	**-1.7**
TWC	baz=301			*e*S		Sg	13 49 55.8	-6.3
ENTT	**Nioudou** baz=291	**0.93**	**215**	*e*P		**Pb**	**13 49 54.5**	**+1.3**
ENTT	baz=291			*e*S		**Sg**	**13 50 04.0**	**-1.1**
NSK	**Sanguang** baz=288	**1.02**	**225**	*e*P		**Pn**	**13 49 57.6**	**+2.1**
NSK	baz=288			*e*S		**Sg**	**13 50 09.3**	**+1.3**
ENA	**Nanau** baz=273	**1.04**	**201**	*e*P		Pb	13 49 50.3	-4.9
ENA	baz=273			*e*S		Sg	13 49 57.7	-11
JYNG	**Yonagunijimaku**	**1.19**	**143**	P		Pg	13 50 14.8	+17
JYNG				*e*S		Sn	13 50 34.4	+20
YOJ	**Yonaguni jima**	**1.22**	**140**	P		Pg	13 50 14.7	+16
TWT	**Tachien** baz=261	**1.45**	**218**	*e*P		**Pn**	**13 50 00.0**	**-1.4**
TWT	baz=261			*e*S		Sn	13 50 14.3	-6.4
IRIF	**Iriomote-Funau**	**1.79**	**126**	P		Pg	13 50 16.4	+7.2
HATJ	**Hateruma jima**	**2.01**	**131**	P		Pg	13 50 19.4	+5.8
HATJ				*e*S		**Sg**	**13 50 41.2**	**+1.5**
JKRS	**Kuro-shima**	**2.05**	**124**	P		Pg	13 50 18.9	+4.7

JKRS				eS		Sg	13 50 40.4	-0.4
JIJ	**Ishigaki jima**	**2.08**	**119**	P		Pg	13 50 18.4	+3.5
JIJ				eS		Sb	**13 50 39.6**	**+0.8**
JISG	**Ishigakijimahi**	**2.12**	**112**	P		Pg	**13 50 17.7**	**+2.1**
JISG				eS		Sb	**13 50 40.0**	**+0.2**
JTJ	**Tarama**	**2.43**	**108**	P		Pg	**13 50 21.7**	**+0.1**
JTJ				eS		Sn	**13 50 45.3**	**+0.7**
JIRB	**Irabujima**	**2.80**	**101**	P		Pb	**13 50 25.1**	**+0.1**
JIRB				eS		Sn	**13 50 51.1**	**-2.5**
JIKM	**Ikemajima**	**2.84**	**99**	P		Pb	**13 50 26.1**	**+0.3**
JIKM				eS		Sn	**13 50 52.7**	**-2.0**
JMJ	**Miyako jima 2**	**2.91**	**101**	P		Pb	**13 50 26.5**	**-0.4**
JMJ				eS		Sn	**13 50 53.9**	**-2.4**
JOGS	**Gusukube**	**3.02**	**102**	P		Pb	**13 50 28.1**	**-0.7**
JOGS				eS		Sn	**13 50 56.4**	**-2.6**
JKE	**Kume jima 2**	**4.27**	**77**	P		Pn	13 50 43.1	+3.0
JAGN	**Aguni-jima**	**4.73**	**74**	P		Pn	**13 50 48.8**	**+2.5**
JAGN				eS		Sn	13 51 33.5	-7.7
JJT2	**Tamagusuku 2**	**5.10**	**81**	P		Pn	**13 50 53.1**	**+1.7**
JNTH	**Nagotoyohara**	**5.40**	**77**	P		Pn	**13 50 56.5**	**+1.0**
JIH	**Iheya**	**5.47**	**71**	P		Pn	**13 50 58.1**	**+1.6**
JOW	**Kunigami**	**5.68**	**74**	P		Pn	**13 51 00.0**	**+0.5**
JOW				eS		Sn	13 51 53.6	-11
JOKE	**Okinoerabujima**	**6.08**	**70**	P		Pn	**13 51 05.5**	**+0.6**
JTK	**Tokunoshima**	**6.53**	**67**	P		Pn	**13 51 11.2**	**+0.1**
JAMN	**Amaminishikomi**	**6.88**	**64**	P		Pn	**13 51 15.6**	**-0.3**
JAM	**Amami Oshima**	**7.29**	**64**	P		Pn	**13 51 20.5**	**-1.1**
JMZ	**Minamidaito 2**	**8.19**	**85**	P		Pn	**13 51 31.7**	**-2.3**
JMZ				eS		Sn	13 52 45.9	-21

*ISCJB **08** 14:07:54.4±1.2, 19°.64S±0°.05×70°.2W±0°.2, h94km±7km, mb3.8/4, Error ellipse: s-maj=24.9km s-min=7.8km az=5.1*
*GUC **08** 14:07:54.9±0.5, 19°.73S×70°.28W, h73km±15km, ML4.2*
*IDC **08** 14:07:56.4±2.7, 19°.72S×70°.16W, h100km±23km, mb3.7/4, mb1 3.7/7, mb1mx3.5/21, mbtmp4.1/7, MS2.3/1, Ms1 2.5/1, ms1mx2.3/22, Error ellipse: s-maj=38.7km s-min=16.4km az=93.0*

ISC 08 14:07:53.8±1.2, 19°.68S±0°.05×70°.3W±0°.1, h79km±8km, n23, σ1§48/28, mb3.8/4, 2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB11	**IPOC Station P**	**0.65**	**97**	*eP*	**Pn**	**14 08 09.2**	**+0.1**
PB11				*i* S	**Sn**	**14 08 20.1**	**-0.2**
PB11				AML	AML	14 08 22.0	
	comp=E,22µm,0.4s						
PB11	**IPOC Station P**	**0.65**	**97**	⇓*eP*	**Pn**	**14 08 09.1**	**+0.1**
PB11				*i* S	**Sn**	**14 08 20.4**	**0.0**
PB11				AML	AML	14 08 22.0	
	comp=E,22µm,0.4s						
MNMC	**Minimini**	**0.89**	**52**	⇓*iP*	**Pn**	**14 08 13.1**	**+1.4**
MNMC				*i* S	**Sn**	**14 08 26.1**	**+0.9**
MNMC	**Minimini**	**0.89**	**52**	*eP*	**Pn**	**14 08 12.6**	**+0.8**
MNMC				*i* S	**Sn**	**14 08 26.0**	**+0.9**
PB01	**IPOC Station P**	**1.57**	**150**	*eP*	**Pn**	**14 08 20.8**	**+0.7**
PB01				eS	**Sn**	**14 08 40.0**	**-0.1**
PB01	**IPOC Station P**	**1.57**	**150**	*eP*	**Pn**	**14 08 20.8**	**+0.7**
PB09	**IPOC Station P**	**2.34**	**154**	*eP*	**Pn**	**14 08 32.5**	**+2.1**
PB09				eS	**Sn**	**14 09 00.6**	**+2.1**
PB09				AML	AML	14 09 05.0	
	comp=E,2µm,0.7s						
PB09	**IPOC Station P**	**2.34**	**154**	*eP*	**Pn**	**14 08 32.4**	**+1.9**
PB09				*i* S	**Sn**	**14 09 00.5**	**+2.1**
PB09				AML	AML	14 09 05.0	
	comp=E,2µm,0.7s						
PB04	**IPOC Station P**	**2.69**	**163**	*eP*	**Pn**	**14 08 35.8**	**+0.8**
PB04				eS	**Sn**	**14 09 03.9**	**-2.7**
PB04				AML	AML	14 09 08.0	
	comp=N,691nm,0.4s						
PB04	**IPOC Station P**	**2.69**	**163**	*eP*	**Pn**	**14 08 35.9**	**+0.9**
PB04				*i* S	**Sn**	**14 09 04.1**	**-2.5**
PB04				AML	AML	14 09 08.0	
	comp=N,691nm,0.4s						
LVC	**Limon Verde**	**3.21**	**156**	P	**Pn**	**14 08 44.2**	**+2.0**
	comp=N,506nm,0.3s,baz=330,slow=10,SNR=407						
LVC				S	**Sn**	**14 09 20.7**	**+1.2**
	comp=N,793nm,0.3s,baz=273,slow=12,SNR=4.0						
LPAZ	**La Paz**	**3.98**	**32**	P	Pn	14 08 57.0	+4.0
LPAZ				LR	LR	14 11 05.6	
	comp=N,1.7nm,0.3s,baz=212,slow=6.6,SNR=39						
SIV	**San Ignacio**	**9.56**	**69**	P	**Pn**	**14 10 07.2**	**-1.5**
	comp=N,1.0nm,0.3s,baz=253,slow=14,SNR=10						
PTGA	**Pitinga**	**21.40**	**30**	P	**P**	**14 12 34.9**	**-0.3**
	comp=N,11nm,0.3s,baz=217,slow=20,SNR=23						
BDFB	**Brasilia**	**21.65**	**83**	P	**P**	**14 12 36.8**	**-1.3**
	comp=N,2.0nm,0.4s,baz=259,slow=5.2,SNR=2.3						
TORD	**Torodi Ar. Bea**	**78.03**	**71**	P	**P**	**14 19 44.9**	**+0.5**
	comp=N,0.5nm,0.5s,baz=254,slow=5.0,SNR=5.1						
TORD				pP	**pP**	**14 20 03.2**	**-2.1**
	comp=N,1.0nm,0.8s,baz=232,slow=6.8,SNR=2.8						
YKA	**Yellowknife Ar**	**89.04**	**341**	P	**P**	**14 20 39.3**	**-0.2**
	comp=N,0.1nm,0.4s,baz=126,slow=5.3,SNR=3.6						
YKA				pP	**pP**	**14 21 02.1**	**+1.1**
	comp=N,0.2nm,0.5s,baz=136,slow=4.6,SNR=3.6						
H11S2	**WAKE ISLAND Hyl**	**26.30**	**279**	T	T	16 46 10.5	
	baz=103						
H11S1	**WAKE ISLAND Hyl**	**26.31**	**279**	T	T	16 46 11.1	
	baz=103						
H11S3	**WAKE ISLAND Hyl**	**26.31**	**279**	T	T	16 46 07.4	
	baz=103						
H11N3	**WAKE ISLAND Hyl**	**26.33**	**280**	T	T	16 46 13.2	
	baz=103						
H11N2	**WAKE ISLAND Hyl**	**26.35**	**280**	T	T	16 46 13.4	
	baz=103						
H11N1	**WAKE ISLAND Hyl**	**26.35**	**280**	T	T	16 46 12.3	
	baz=103						

MEX 08 14:09:47.0±0.8, 15°.34N×93°.30W, h86km±8km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.37**	**12**	*eP*	Pn	14 09 58.9	-1.5
PCIG				*i* S	Sn	14 10 08.8	-1.5
TGIG		**1.44**	**7**	*eP*	Pn	14 10 10.9	-1.0
TGIG				*i* S	Sn	14 10 28.4	-2.4
CCIG	**Comitan**	**1.46**	**50**	*eP*	Pn	14 10 11.6	-0.7
CCIG				eS	Sn	14 10 29.7	-1.7

SKHL 08 14:13:33.4±0.0, 52°.08N×142°.01E, h10km, mb3.6/2, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TYV	**Tymovskoe**	**1.28**	**161**	*ePg*	Pg	14 13 59.1	+1.1
TYV				eSg	Sg	14 14 17.1	+2.4
NKL	**Nikolayevsk**	**1.34**	**323**	*ePg*	Pg	14 14 00.5	+1.3
NKL				AMB	AMB	14 14 01.5	
	38nm,0.3s						
NKL				eSg	Sg	14 14 19.5	+2.9
NKL				A	A	14 14 24.0	
	170nm,0.3s						
UGL	**Uglegorsk**	**3.01**	**179**	*eSg*	Sg	14 15 15.4	+5.5
UGL				A	A	14 15 16.0	
	40nm,0.4s						
GRNR	**Gornyy**	**3.74**	**252**	*eSg*	Sg	14 15 37.3	+4.0
GRNR				A	A	14 15 37.6	
	52nm,1.0s						
EKMR	**Ekimchan**	**5.61**	**284**	*ePg*	Pg	14 15 24.5	+3.7
EKMR				AMB	AMB	14 15 31.1	
	2.0nm,0.5s						
EKMR				eSg	Sg	14 16 42.3	+8.8
EKMR				A	A	14 16 47.9	
	24nm,0.8s						
EKMR				A	A	14 16 47.9	
	8.0nm,0.8s						
EKMR				A	A	14 16 47.9	
	12nm,0.8s						

JMA 08 14:14:38.7±0.1, 39°.63N×142°.72E, h33km±1km, M3.7, 5C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.70**	**266**	⇑P	Pn	14 14 52.0	-0.2
MIYJ				eS	Sn	14 15 01.4	-0.5
JTH	**Tanohata**	**0.73**	**295**	⇑P	Pn	14 14 52.7	0.0
JTH				eS	Sn	14 15 02.5	-0.2
OFUJ	**Ofunato**	**0.98**	**236**	⇓P	Pn	14 14 56.3	+0.1
OFUJ				S	Sn	14 15 08.9	0.0
JOM	**Ohasama**	**1.11**	**262**	⇑P	Pn	14 14 58.6	+0.6
JOM				S	Sb	14 15 13.0	-0.7
JKZ	**Kuzumaki**	**1.13**	**289**	⇑P	Pn	14 14 58.8	+0.6
JKZ				eS	Sn	14 15 13.1	+0.4
JANG	**Nango**	**1.19**	**309**	⇑P	Pn	14 14 58.9	-0.1
JMK	**Ichinoseki**	**1.35**	**240**	P	Pn	14 15 01.9	+0.7
JMK				S	Sn	14 15 18.8	+0.9
JIO	**Ouri**	**1.59**	**223**	⇓P	Pn	14 15 05.1	+0.6
JIO				eS	Sn	14 15 24.5	+0.7
JRG	**Rokugo**	**1.63**	**262**	P	Pn	14 15 06.6	+1.5
JAH	**Hinai**	**1.70**	**290**	P	Pn	14 15 07.6	+1.6
JAH				eS	Sb	14 15 28.9	-1.4
JTM	**Tenmabayashi**	**1.71**	**313**	P	Pn	14 15 07.3	+1.1
JTM				eS	Sb	14 15 28.9	-1.8

*IDC **08** 14:28:28.0±2.1, 6°.88S×130°.03E, h0km, mb3.6/1, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, ML3.6/3, Error ellipse: s-maj=67.0km s-min=31.0km az=61.0*
*DJA **08** 14:28:39.5±0.5, 7°.5S×13°.1E±°, h52km±15km, M4.3/10, mb4.5/5, mB4.8/2, MLv4.2/10, Mw(mB)4.0/2*

ISC 08 14:28:29.3±0.8, 6°.85S±0°.05×130°.02E±0°.08, h10km, n18, σ1§60/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.69**	**132**	P	**Pg**	**14 29 02.5**	**+0.6**
SAUI				S	**Sg**	**14 29 22.9**	**-1.0**
BNDI	**Bandanaira**	**2.31**	**357**	P	**Pg**	**14 29 13.9**	**+0.1**
BNDI				S	**Sg**	**14 29 41.8**	**-2.0**
MSAI	**Masohi**	**3.65**	**343**	P	**Pb**	**14 29 35.7**	**+1.7**
MSAI				S	**Sb**	**14 30 19.9**	**+1.6**
FAKI	**Fak Fak**	**4.49**	**30**	P	**Pn**	**14 29 36.4**	**-1.1**
FAKI				S	Sn	14 30 22.4	-7.4
FAKI	**Fak Fak**	**4.49**	**30**	P	**Pn**	**14 29 36.6**	**-0.9**
	baz=4.0,SNR=32						
NLAI	**Namlea**	**4.62**	**321**	P	**Pg**	**14 29 56.2**	**-1.7**
SWI	**Sorong**	**6.07**	**12**	P	**Pn**	**14 30 00.5**	**+1.2**
	15nm,0.3s,1µm0.3nm						
SWI	**Sorong**	**6.07**	**12**	P	**Pn**	**14 30 01.1**	**+1.8**
	baz=6.0,SNR=6.8						
KDU	**Kakadu**	**6.28**	**158**	P	Pn	14 30 04.3	+2.2
	baz=5.9,SNR=43						
SOEI	**Soe**	**6.39**	**243**	P	Pb	14 30 22.6	+1.9
LBMI	**Labuha**	**6.66**	**338**	P	Pb	14 30 15.6	-10
	14nm,0.8s,479nm0.2nm						
RKPI	**Ransiki, Papua**	**6.73**	**38**	P	**Pn**	**14 30 07.0**	**-1.3**
	50nm,0.7s,0.5nm						
RKPI				S	Sn	14 31 15.2	-10
	50nm,0.7s,0.5nm						
KNRA	**Kununurra**	**8.86**	**188**	P	Pn	14 30 42.7	+5.2
	baz=9.3,SNR=47						
KAPI	**Kappang**	**10.38**	**280**	Pn	**Pn**	**14 30 57.9**	**-0.5**
	0.5nm,0.3s,baz=102,slow=19,SNR=2.6						
WRA	**Warramunga Arr**	**13.67**	**163**	Pn	**Pn**	**14 31 41.9**	**-1.6**
	0.3nm,0.3s,baz=346,slow=13,SNR=26						
WRA				Sn	Sn	14 34 02.4	-13
	1.8nm,0.3s,baz=345,slow=23,SNR=11						
ASAR	**Alice Springs**	**17.13**	**168**	P	**P**	**14 32 29.6**	**-1.2**
	0.3nm,0.3s,baz=346,slow=8.9,SNR=33						
ASAR				S	Sn	14 35 27.3	-13
	0.2nm,0.3s,baz=355,slow=26,SNR=4.8						
WRKA	**Warakurna**	**18.16**	**185**	P	**P**	**14 32 45.1**	**+2.9**
	baz=18,SNR=5.9						
MKAR	**Makanchi Array**	**68.11**	**327**	P	**P**	**14 39 30.1**	**+0.5**
	0.3nm,0.4s,baz=122,slow=7.6,SNR=4.9						

IDC 08 14:57:32.7±13.0, 18°.87S×167°.44E, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.7/33, mbtmp4.0/4, ML3.4/1, Error ellipse: s-maj=226.8km s-min=38.6km az=76.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.32**	**196**	Pn	Pn	14 58 26.3	+0.3
	3.9nm,0.3s,baz=359,slow=5.2,SNR=27						
DZM				Sn	Sn	14 59 05.3	-1.0
	3.4nm,0.3s,baz=360,slow=19,SNR=5.0						
DZM	**Mont Dzumac**	**3.32**	**196**	*eP*	Pn	14 58 25.8	-0.3
DZM				eS	Sn	14 59 03.6	-2.7
STKA	**Stephens Creek**	**26.62**	**236**	P	P	15 03 14.2	+1.1
	1.7nm,0.8s,baz=84,slow=9.2,SNR=3.4						
WRA	**Warramunga Arr**	**31.21**	**262**	P	P	15 03 53.1	-0.9
	0.6nm,0.4s,baz=94,slow=8.3,SNR=19						
ASAR	**Alice Springs**	**31.57**	**255**	P	P	15 03 57.4	+0.2
	6.5nm,0.5s,baz=84,slow=8.3,SNR=233						

*ISCJB **08** 15:12:50.5±0.3, 7°.13S±0°.04×145°.96E±0°.06, h170km, mb4.2/27, Error ellipse: s-maj=8.9km s-min=6.3km az=5.9*
*IDC **08** 15:12:51.0±4.4, 7°.18S×146°.19E, h165km±40km, mb3.8/16, mb1 3.9/18, mb1mx3.8/36, mbtmp4.3/18, Error ellipse: s-maj=25.5km s-min=11.6km az=90.0*
*NEIC **08** 15:12:52.3±0.9, 7°.21S×146°.15E, h181km±9km, mb4.3/15, Error ellipse: s-maj=10.7km s-min=7.4km az=97.0*

ISC 08 15:12:51.8±0.5, 7°.18S±0°.06×146°.01E±0°.08, h170km, n50, σ0§94/51, mb4.2/27, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.48**	**153**	*ePn*	**Pn**	**15 13 33.9**	**+0.2**
RABL	**Rabaul**	**6.80**	**64**	P	**Pn**	**15 14 30.8**	**+1.4**
	baz=6.8,SNR=5.9						
COEN	**Coen**	**7.29**	**202**	P	**Pn**	**15 14 38.5**	**+2.8**
	baz=7.5,SNR=7.7						
HNR	**Honiara**	**13.97**	**100**	*ePn*	**P**	**15 16 06.0**	**+0.7**
	65nm,0.7s						
KDU	**Kakadu**	**14.41**	**247**	P	**Pn**	**15 16 08.0**	**-0.1**
	baz=14,SNR=6.0						
SIJI	**Sorong**	**15.98**	**292**	P	**P**	**15 16 27.3**	**-0.4**
	1.6nm,0.3s,baz=128,slow=13,SNR=5.1						
WRAB	**Tennant Creek**	**16.99**	**221**	*eP*	**Pn**	**15 16 38.9**	**-0.8**
WRA	**Warramunga Arr**	**17.00**	**221**	P	**Pn**	**15 16 39.3**	**-0.5**
	0.5nm,0.3s,baz=40,slow=11,SNR=18						
WRA				S	Sn	15 19 57.4	+6.9
	0.3nm,0.3s,baz=40,slow=17,SNR=5.0						
KNRA	**Kununurra**	**18.89**	**242**	P	**P**	**15 16 59.4**	**0.0**
	baz=19,SNR=4.1						
QLP	**Quilpie**	**19.37**	**185**	P	**Pn**	**15 17 06.4**	**-1.2**
	baz=20,SNR=13						
RMQ	**Roma**	**19.38**	**173**	P	**Pn**	**15 17 06.8**	**-0.9**
	baz=20,SNR=4.5						
ASAR	**Alice Springs**	**20.10**	**214**	P	**P**	**15 17 13.4**	**+1.0**
	0.7nm,0.3s,baz=44,slow=9.3,SNR=25						
ASAR				S	**S**	**15 20 48.1**	**-0.9**
	3.7nm,1.0s,baz=38,slow=22,SNR=4.2						
CMSA	**Cobar Meteorol**	**24.23**	**181**	P	**P**	**15 17 53.9**	**+0.9**
	baz=25,SNR=10						
WRKA	**Warakurna**	**24.54**	**222**	P	**P**	**15 17 55.7**	**-0.3**
	baz=25,SNR=5.6						
STKA	**Stephens Creek**	**24.91**	**189**	P	**P**	**15 17 58.8**	**-0.4**
	2.6nm,0.5s,baz=3.4,slow=8.2,SNR=14						
STKA	**Stephens Creek**	**24.91**	**189**	*eP*	**P**	**15 17 58.8**	**-0.4**
	0.8nm,0.6s						
KKM	**Kota Kinabalu**	**32.50**	**293**	P	**P**	**15 19 06.1**	**-0.7**
	18nm,0.9s						
YHNB	**Yeheng**	**39.73**	**324**	*eP*	**P**	**15 20 09.3**	**+1.3**
MJAR	**Matsushiro Arr**	**44.10**	**351**	P	**P**	**15 20 41.7**	**-1.5**
	1.1nm,0.7s,baz=181,slow=9.1,SNR=5.1						
KULM	**Kulim**	**46.93**	**284**	*eP*	**P**	**15 21 05.1**	**-0.7**
	5.2nm,0.5s						
KSRS	**Korea Array**	**47.51**	**340**	P	**P**	**15 21 10.2**	**+0.4**
	4.2nm,0.8s,baz=158,slow=8.6,SNR=23						
KSAR	**Wonju Array Be**	**47.52**	**340**	P	**P**	**15 21 10.2**	**+0.4**
ASAJ	**Asahikawa**	**51.15**	**357**	P	**P**	**15 21 37.6**	**+0.3**
	3.3nm,1.0s,baz=207,slow=9.0						
USRK	**Ussuriysk Ar.**	**52.69**	**347**	P	**P**	**15 21 48.7**	**0.0**
	1.9nm,0.5s,baz=163,slow=35,SNR=7.7						
CM31	**Chiang Mai Arr**	**52.96**	**299**	*eP*	**P**	**15 21 52.0**	**+0.9**
	6.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**52.96**	**299**	P	**P**	**15 21 52.2**	**+1.1**
	6.4nm,0.6s,baz=121,slow=5.7,SNR=39						
CHTO	**Chiang Mai**	**53.10**	**300**	*eP*	**P**	**15 21 52.6**	**+0.4**
	6.6nm,0.9s						
PETK	**Petropavlovsk-**	**60.87**	**8**	P	**P**	**15 22 46.3**	**+0.1**
	3.7nm,1.0s,baz=160,slow=4.6,SNR=3.6						
CASY	**Casey**	**63.87**	**195**	*eP*	**P**	**15 23 05.5**	**-0.4**
	3.3nm,0.6s						
LSA	**Lhasa**	**64.17**	**308**	*eP*	**P**	**15 23 10.2**	**+1.1**
	6.9nm,0.8s						
SONM	**Songino Array**	**64.96**	**332**	P	**P**	**15 23 14.1**	**+0.6**
	1.4nm,0.6s,baz=157,slow=5.4,SNR=8.9						
TLY	**Talaya**	**68.95**	**333**	P	**P**	**15 23 39.3**	**+0.9**
	1.9nm,0.6s,baz=159,slow=6.5,SNR=4.0						
SEY	**Seymchan**	**70.08**	**3**	P	**P**	**15 23 45.1**	**+0.1**
	2.5nm,0.7s,baz=175,slow=3.5,SNR=10						
VNDA	**Vanda**	**70.80**	**176**	P	**P**	**15 23 49.9**	**+0.6**
	2.0nm,0.8s,baz=333,slow=5.7,SNR=7.3						
VNDA	**Vanda**	**70.80**	**176**	*eP*	**P**	**15 23 49.1**	**-0.1**
	2.2nm,0.7s						
BILL	**Bilibino**	**76.40**	**8**	P	**P**	**15 24 21.8**	**-0.3**
MK31	**Makanchi Array**	**77.78**	**321**	*eP*	**P**	**15 24 30.1**	**-0.1**
MKAR	**Makanchi Array**	**77.78**	**321**	P	**P**	**15 24 30.5**	**+0.3**
	2.5nm,0.6s,baz=102,slow=7.0,SNR=40						
ZALV	**Zalesovo Beam**	**79.49**	**328**	P	**P**	**15 24 38.7**	**-0.6**
	2.3nm,0.5s,baz=108,slow=4.9,SNR=16						
TKM2	**Tokmak 2**	**80.79**	**315**	*eP*	**P**	**15 24 46.5**	**-0.4**
	2.4nm,0.6s						
KURK	**Kurchatov**	**81.57**	**324**	*eP*	**P**	**15 24 50.0**	**-0.5**
	3.1nm,0.9s						
EKS2	**Erkin-Say**	**81.98**	**315**	*eP*	**P**	**15 24 53.2**	**+0.2**
	4.7nm,0.8s						
QSPA	**South Pole Qui**	**82.79**	**180**	*eP*	**P**	**15 24 56.0**	**-0.8**
	4.0nm,0.6s						
MCK	**McKinley**	**85.70**	**24**	P	**P**	**15 25 08.5**	**-2.7**
	6.9nm,0.9s						
COLA	**College**	**86.61**	**23**	P	**P**	**15 25 14.2**	**-1.4**
	4.6nm,0.8s						
ILAR	**Eielson Array**	**86.95**	**23**	P	**P**	**15 25 15.5**	**-1.8**
	2.0nm,0.8s,baz=255,slow=4.9,SNR=18						
INK	**Inuvik**	**93.11**	**22**	P	**P**	**15 25 46.0**	**+0.1**
	1.8nm,0.6s,baz=213,slow=3.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**144.41**	**283**	PKP	PKPbc	15 32 07.6	-0.1
	8.2nm,0.7s,baz=68,slow=3.2,SNR=41						
DBIC	**Dimbokro**	**151.08**	**271**	PKPbc	**PKPbc**	**15 32 26.1**	**+0.3**
	9.2nm,0.5s,baz=74,slow=2.3,SNR=19						
DBIC				PKPab	**PKPab**	**15 32 34.2**	**+0.2**
	3.0nm,0.4s,baz=131,slow=2.9,SNR=6.5						
BDFB	**Brasilia**	**153.41**	**149**	PKPbc	**PKPbc**	**15 32 29.7**	**-1.4**
	2.3nm,0.5s,baz=217,slow=5.1,SNR=3.0						

*ISCJB **08** 15:37:04.6±0.5, 56°.11S±0°.07×27°.0W±0°.2, h63km, mb4.5/16, Error ellipse: s-maj=14.4km s-min=8.3km az=145.0*
*IDC **08** 15:37:08.0±6.0, 55°.99S×26°.84W, h75km±55km, mb4.1/9, mb1 4.2/10, mb1mx4.0/20, mbtmp4.3/10, ML3.6/1, MS3.4/1, Ms1 3.3/1, ms1mx2.5/18, Error ellipse: s-maj=21.0km s-min=16.0km az=55.0*
*NEIC **08** 15:37:10.7±2.6, 56°.12S×27°.13W, h104km±24km, mb4.7/9, Error ellipse: s-maj=11.3km s-min=7.2km az=213.0*

ISC 08 15:37:06.6±0.6, 56°.0S±0°.1×27°.0W±0°.1, h63km, n25, σ1§00/24, mb4.7/15, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.77**	**156**	P	**P**	**15 41 20.0**	**-0.2**
	0.2nm,0.3s,baz=304,slow=10,SNR=44						
SNAA				S	S	15 44 40.0	-10
	0.0nm,0.3s,baz=0.0,slow=20,SNR=4.2						
TRQA	**Tornquist**	**29.38**	**293**	*eP*	**P**	**15 43 03.4**	**-0.2**
	3.8nm,0.5s						
QSPA	**South Pole Qui**	**34.27**	**180**	P	**P**	**15 43 46.2**	**-0.1**
	2.1nm,0.5s,baz=51,slow=1.5,SNR=29						
QSPA	**South Pole Qui**	**34.27**	**180**	*eP*	**P**	**15 43 45.9**	**-0.4**
	88nm,2.5s						
QSPA				*e*		15 44 07.8	
CPUP	**Villa Florida**	**36.84**	**311**	P	**P**	**15 44 08.7**	**+0.2**
	7.2nm,0.8s,baz=146,slow=7.1,SNR=12						
LCO	**Las Campanas**	**40.97**	**293**	*eP*	**P**	**15 44 42.7**	**-0.6**
	22nm,1.1s						
BDFB	**Brasilia**	**43.35**	**330**	P	**P**	**15 45 03.5**	**+1.0**
	2.3nm,0.5s,baz=135,slow=10.0,SNR=4.6						
LVC	**Limon Verde**	**45.35**	**300**	*eP*	**P**	**15 45 19.1**	**+0.4**
	16nm,0.6s						
BOSA	**Boshof**	**45.86**	**76**	P	**P**	**15 45 23.3**	**+0.8**
	2.3nm,0.9s,baz=207,slow=7.8,SNR=5.1						
BOSA				LR	LR	16 02 12.3	
	comp=Z,45nm,18.8s,baz=162,slow=33						
VNDA	**Vanda**	**46.65**	**183**	P	**P**	**15 45 29.7**	**+1.7**
	1.5nm,0.5s,baz=191,slow=3.7,SNR=6.3						
LBTB	**Lobatse**	**48.89**	**73**	P	**P**	**15 45 43.7**	**-2.3**
	5.9nm,0.5s,baz=225,slow=4.8,SNR=16						
LBTB	**Lobatse**	**48.89**	**73**	*eP*	P	15 45 41.7	-4.4
	6.2nm,0.6s						
TSUM	**Tsumeb**	**49.56**	**61**	*eP*	**P**	**15 45 51.5**	**+0.2**
	3.2nm,0.8s						
LPAZ	**La Paz**	**50.41**	**305**	P	**P**	**15 45 59.0**	**+0.8**
	14nm,0.4s,baz=172,slow=4.7,SNR=103						
SAML	**Samuel**	**54.82**	**314**	*eP*	**P**	**15 46 29.7**	**-0.4**
	12nm,1.3s						
LSZ	**Lusaka**	**58.26**	**69**	*eP*	**P**	**15 46 55.1**	**+0.4**
	8.1nm,1.4s						
OTAV	**Otavalo**	**69.70**	**304**	*ePn*	**P**	**15 48 09.8**	**-0.3**
TOA0	**Torodi Ar. Sit**	**72.94**	**29**	*eP*	**P**	**15 48 29.6**	**+0.6**
TORD	**Torodi Ar. Bea**	**72.94**	**29**	P	**P**	**15 48 30.2**	**+1.1**
	1.3nm,0.7s,baz=206,slow=6.9,SNR=9.0						
SDV	**Santo Domingo**	**74.03**	**315**	*eP*	**P**	**15 48 35.3**	**-0.4**
	5.1nm,0.8s						
ASAR	**

comp=N,4µm,0.4s
VAY **Valandovo** 0.55 147 *e*Pg **Pb** 16 20 17.3 +0.2
VAY *e*Sg **Sb** 16 20 25.2 0.0
VAY **Valandovo** 0.55 147 P **Pg** 16 20 16.1 +0.3
VAY **Valandovo** 0.55 147 *i* Pg **Pb** 16 20 16.9 -0.2
VAY S **Sb** 16 20 24.0 -1.2
VAY *e*Lg Lg 16 20 24.6
comp=N,4µm,0.4s
VAY **Valandovo** 0.55 147 P **Pg** 16 20 16.1 +0.3
VAY S **Sb** 16 20 24.0 -1.2
SKO **Skopje** 0.58 289 *e*Pg **Pg** 16 20 18.2 +1.9
SKO **Skopje** 0.58 289 *e*Pg **Pg** 16 20 15.1 -1.2
SKO **Skopje** 0.58 289 *e*Pg **Pg** 16 20 15.1 -1.2
KKB **Krupnik** 0.69 83 *i* P **Pg** 16 20 19.3 +0.9
KKB **Krupnik** 0.69 83 *i* P **Pg** 16 20 19.3 +0.9
KNT **Kendrikon** 0.83 138 *e*PG **Pg** 16 20 21.2 +0.2
KNT *e*SG **Sb** 16 20 32.0 -1.1
KNT **Kendrikon** 0.83 138 *e*PB **Pg** 16 20 21.3 +0.2
KNT *e*SB **Sb** 16 20 32.0 -1.1
KNT **Kendrikon** 0.83 138 *e*Pb **Pg** 16 20 21.3 +0.2
KNT S **Sb** 16 20 32.2 -1.0
KNT **Kendrikon** 0.83 138 P **Pg** 16 20 21.2 +0.2
KNT S **Sb** 16 20 32.2 -1.0
GRG **Griva** 0.84 168 *e*PG **Pg** 16 20 20.5 -0.9
GRG **Griva** 0.84 168 *e*PB **Pg** 16 20 21.3 -0.1
GRG **Griva** 0.84 168 *e*Pg **Pg** 16 20 20.5 -0.9
GRG **Griva** 0.84 168 P **Pg** 16 20 21.3 -0.1
GRG S **Sn** 16 20 34.0 -2.1
GRG **Griva** 0.84 168 P **Pg** 16 20 21.3 -0.1
GRG S **Sn** 16 20 34.0 -2.1
BARS **Barje** 1.07 346 *e*Pg **Pb** 16 20 24.3 -1.6
BARS *e*Sg **Sb** 16 20 36.3 -3.8
BARS **Barje** 1.07 346 *e*Pg **Pb** 16 20 24.3 -1.6
BARS *e*Sg **Sb** 16 20 36.3 -3.8
VTS **Vitosha** 1.12 43 *e*Pg **Pb** 16 20 26.2 -0.7
VTS *e*Sg **Sb** 16 20 41.2 -0.5
VTS **Vitosha** 1.12 43⇑ *i*P **Pb** 16 20 26.3 -0.7
VTS **Vitosha** 1.12 43 S **Sb** 16 20 41.3 -0.5
VTS **Vitosha** 1.12 43 *i* P **Pb** 16 20 26.4 -0.5
VTS **Vitosha** 1.12 43 P **Pb** 16 20 26.1 -0.8
VTS *e*Sg **Sb** 16 20 41.2 -0.5
VTS S **Sb** 16 20 42.8 +1.1
VTS **Vitosha** 1.12 43 P **Pb** 16 20 26.1 -0.8
VTS S **Sb** 16 20 42.8 +1.1
FNA **Florina** 1.16 211 *e*PN **Pb** 16 20 27.4 -0.2
FNA **Florina** 1.16 211 *e*PN **Pb** 16 20 27.1 -0.5
FNA **Florina** 1.16 211 *e*Pn **Pb** 16 20 27.1 -0.5
FNA **Florina** 1.16 211 P **Pb** 16 20 27.4 -0.2
FNA S **Sn** 16 20 45.6 +1.6
FNA **Florina** 1.16 211 P **Pb** 16 20 27.4 -0.2
FNA S **Sn** 16 20 45.6 +1.6
MMB **Musomiste** 1.18 99⇑ *i*P **Pb** 16 20 28.0 0.0
MMB **Musomiste** 1.18 99 S **Sn** 16 20 45.5 +1.0
MMB **Musomiste** 1.18 99 *i* P **Pb** 16 20 27.9 0.0
MMB **Musomiste** 1.18 99 *i* P **Pb** 16 20 27.9 0.0
OHR **Ohrid** 1.23 237 *e*Pg **Pn** 16 20 27.7 -1.1
OHR *e*Sg **Sg** 16 20 45.3 +0.6
OHR *e*Lg Lg 16 20 45.5
comp=E,268nm,0.5s
OHR *e*Lg Lg 16 20 47.8
comp=N,258nm,0.4s
OHR **Ohrid** 1.23 237 *e*Pg **Pn** 16 20 27.7 -1.1
OHR *e*Sg **Sg** 16 20 45.3 +0.6
OHR *e*Lg Lg 16 20 47.7
comp=N,258nm,0.4s
SRS **Serrai** 1.26 121 *e*PG **Pn** 16 20 28.9 -0.3
SRS *e*SB **Sg** 16 20 45.2 -0.5
SRS **Serrai** 1.26 121 P **Pb** 16 20 29.1 -0.1
SRS *e*Sb **Sg** 16 20 45.2 -0.5
SRS S **Sn** 16 20 47.6 +1.3
SRS **Serrai** 1.26 121 P **Pb** 16 20 29.1 -0.1
SRS S **Sn** 16 20 47.6 +1.3
THE **Thessaloniki** 1.30 152 *e*PN **Pn** 16 20 28.5 -1.1
THE **Thessaloniki** 1.30 152 *e*Pn **Pn** 16 20 28.5 -1.1
PHP **Peshkopia** 1.30 266 *i* PG **Pn** 16 20 29.4 -0.3
PHP *i* SG **Sb** 16 20 47.1 +0.4
PHP **Peshkopia** 1.30 266 *i* Pg **Pn** 16 20 29.4 -0.3
PHP *i* Sg **Sb** 16 20 47.2 +0.4
SOH **Sokhos** 1.31 137 *e*PB **Pb** 16 20 30.0 -0.1
SOH *e*SB **Sg** 16 20 47.1 -0.2
SOH **Sokhos** 1.31 137 P **Pb** 16 20 29.8 -0.3
SOH *e*Sb **Sg** 16 20 47.1 -0.2
SOH S **Sg** 16 20 48.0 +0.7
SOH **Sokhos** 1.31 137 P **Pb** 16 20 29.8 -0.3
SOH S **Sg** 16 20 48.0 +0.7
NVR **Nevrokopi** 1.34 108 *e*PB **Pb** 16 20 30.7 +0.1
NVR *e*SB **Sg** 16 20 48.4 +0.1
NVR **Nevrokopi** 1.34 108 P **Pn** 16 20 30.5 +0.2
NVR S **Sg** 16 20 48.6 +0.3
NVR **Nevrokopi** 1.34 108 P **Pn** 16 20 30.5 +0.2
NVR S **Sg** 16 20 48.6 +0.3
HORT **Hortiatis** 1.38 149 *e*PN **Pg** 16 20 31.3 -0.3
HORT *e*SN **Sg** 16 20 51.2 +1.8
HORT **Hortiatis** 1.38 149 *e*PB **Pg** 16 20 31.2 -0.3
HORT **Hortiatis** 1.38 149 P **Pg** 16 20 31.5 -0.1
HORT *e*Sn **Sg** 16 20 51.2 +1.8
HORT **Hortiatis** 1.38 149 P **Pg** 16 20 31.5 -0.1
HORT S **Sg** 16 20 51.1 +1.7
KZN **Kozani** 1.50 192 *e*PG **Pb** 16 20 33.2 -0.2
KZN *e*SB **Sg** 16 20 53.4 -0.2
KZN **Kozani** 1.50 192 P **Pb** 16 20 33.4 0.0
KZN *e*Sb **Sg** 16 20 53.4 -0.2
KZN **Kozani** 1.50 192 P **Pb** 16 20 33.4 0.0
ZAPS **Zavoj** 1.53 13 *e*Pg **Pn** 16 20 32.7 -0.2
ZAPS *e*Sg **Sn** 16 20 51.3 -1.7
NEST **Nestorio** 1.61 212 P **Pb** 16 20 35.7 +0.5
NEST **Nestorio** 1.61 212 P **Pb** 16 20 35.7 +0.5
SELS **Selova** 1.63 332 *e*Pg **Pn** 16 20 34.5 +0.2
SELS *e*Sg **Sn** 16 20 55.2 -0.4
PGB **Panagyurishte** 1.67 62 *i* P **Pn** 16 20 35.3 +0.4
PGB **Panagyurishte** 1.67 62 *i* P **Pn** 16 20 35.3 +0.4
LIT **Litokhoron** 1.70 172 *e*PG **Pb** 16 20 36.6 -0.1
LIT **Litokhoron** 1.70 172 *e*Pg **Pb** 16 20 36.6 -0.1
PLG **Polygyros** 1.71 145 *e*PG **Pg** 16 20 37.2 -0.7
PLG *e*SB **Sg** 16 20 58.8 -1.2
PLG **Polygyros** 1.71 145 *e*Pg **Pg** 16 20 37.2 -0.7
PLG *e*Sb **Sg** 16 20 58.8 -1.2
PUK **Puka** 1.72 279 *i* PG **Pb** 16 20 37.6 +0.5
PUK **Puka** 1.72 279 *i* Pg **Pb** 16 20 37.6 +0.5
RZN **Rozhen** 1.91 92 *i* P **Pn** 16 20 39.3 +1.1
RZN **Rozhen** 1.91 92 *i* P **Pn** 16 20 39.3 +1.1
PLD **Plovdiv** 1.92 79 *e*Pn **Pn** 16 20 39.7 +1.5
PLD *e*Sg **Sg** 16 21 07.4 +0.6
PLD **Plovdiv** 1.92 79 *e*Pn **Pn** 16 20 39.7 +1.5
PLD *e*Sg **Sg** 16 21 07.4 +0.6
KAVA **Kavala** 1.93 113 *e*PN **Pb** 16 20 39.8 -0.8
KAVA *e*SN **Sb** 16 21 05.5 +0.6
KAVA **Kavala** 1.93 113 P **Pn** 16 20 38.8 +0.4
KAVA **Kavala** 1.93 113 *e*Pn **Pn** 16 20 39.8 -0.8
KAVA *e*Sn **Sb** 16 21 05.5 +0.6
KAVA **Kavala** 1.93 113 P **Pn** 16 20 38.8 +0.4
MPEP **Malo Peshtene** 1.95 36 *i* P **Pb** 16 20 41.4 +0.3
OUR **Ouranopolis** 1.99 136 *e*PN **Pb** 16 20 41.3 -0.4
OUR **Ouranopolis** 1.99 136 *e*Pn **Pb** 16 20 41.3 -0.4
BOLS **Boljevac** 2.05 356 *e*Pn **Pn** 16 20 40.9 +0.9
BOLS *e*Sg **Sn** 16 21 07.9 +2.0
BOLS **Boljevac** 2.05 356 *e*Pn **Pn** 16 20 40.9 +0.9
BOLS *e*Sg **Sn** 16 21 07.9 +2.0
PAIG **Paliouri** 2.18 148 *e*PN **Pb** 16 20 43.6 -1.3
PAIG **Paliouri** 2.18 148 *e*Pn **Pb** 16 20 43.6 -1.3
SJES **Sjenica** 2.19 313 *e*Pg **Pn** 16 20 44.3 +2.2
SJES *e*Sg **Sb** 16 21 14.1 +1.4
THL **Klokotos Trika** 2.22 183 *e*PN **Pb** 16 20 44.2 -1.4
THL **Klokotos Trika** 2.22 183 *e*Pn **Pb** 16 20 44.2 -1.4
PDG **Podgorica** 2.26 288 *e*Pg **Pb** 16 20 45.9 -0.4
PDG *e*Sg **Sb** 16 21 14.9 +0.4
PDG **Podgorica** 2.26 288 *e*Pg **Pb** 16 20 45.9 -0.4
PDG *e*Sg **Sb** 16 21 14.9 +0.4
JAN **Janina** 2.35 206 *e*PN **Pb** 16 20 46.3 -1.5
JAN **Janina** 2.35 206 *e*Pn **Pb** 16 20 46.3 -1.5
GRUS **Gruza** 2.36 334 *e*Pn **Pn** 16 20 44.9 +0.6
GRUS *e*Sg **Sb** 16 21 17.8 +0.5
GRUS **Gruza** 2.36 334 *e*Pn **Pn** 16 20 44.9 +0.6
GRUS *e*Sg **Sb** 16 21 17.8 +0.5
KDZ **Kurdzhali** 2.43 92 ||*i*P **Pn** 16 20 45.5 +0.2
KDZ **Kurdzhali** 2.43 92 S **Sg** 16 21 21.8 -1.6
KDZ **Kurdzhali** 2.43 92 ||*i*P **Pn** 16 20 45.5 +0.2
XOR **Xorichti** 2.54 162 *e*PB **Pn** 16 20 48.3 +1.6
XOR **Xorichti** 2.54 162 *e*Pb **Pn** 16 20 48.3 +1.6
SGD **Sagiada** 2.62 215 *e*PN **Pb** 16 20 50.3 -2.1
SGD **Sagiada** 2.62 215 *e*Pn **Pb** 16 20 50.3 -2.1
IGT **Igoumenitsa** 2.65 212 *e*PN **Pn** 16 20 50.5 +2.3
IGT **Igoumenitsa** 2.65 212 *e*PN **Pb** 16 20 50.7 -2.2
IGT **Igoumenitsa** 2.65 212 *e*PN **Pb** 16 20 50.7 -2.2
TRUS **Trudelj** 2.76 333 *e*Pn **Pn** 16 20 48.9 -0.9
TRUS *e*Sn **Sn** 16 21 21.8 -1.6
TRUS **Trudelj** 2.76 333 *e*Pn **Pn** 16 20 48.9 -0.9
TRUS *e*Sn **Sn** 16 21 21.8 -1.6
MAKR **Makrakomi, Fth** 2.77 181 *e*PB **Pn** 16 20 51.3 +1.4
MAKR **Makrakomi, Fth** 2.77 181 *e*Pb **Pn** 16 20 51.3 +1.4
DSL **Palaion Diasel** 2.77 198 *e*PN **Pb** 16 20 53.2 -1.8
DSL **Palaion Diasel** 2.77 198 *e*Pn **Pb** 16 20 53.2 -1.8
DIVS **Divibare** 2.81 326 *e*Pn **Pn** 16 20 50.5 -0.1
DIVS *e*Sg **Sb** 16 21 32.3 +1.9
DIVS **Divibare** 2.81 326⇑ *i*P **Pn** 16 20 50.6 -0.1
DIVS **Divibare** 2.81 326 S **Sn** 16 21 26.3 +1.5
DIVS **Divibare** 2.81 326 *e*Pn **Pn** 16 20 50.5 -0.1
DIVS *e*Sg **Sb** 16 21 32.3 +1.9
SMTH **Samothraki Isl** 2.86 116 *e*PB **Pb** 16 20 54.1 -2.4
SMTH **Samothraki Isl** 2.86 116 *e*Pb **Pb** 16 20 54.1 -2.4
EVR **Evrytania** 2.88 186 *e*PB **Pb** 16 20 54.7 -2.1
EVR **Evrytania** 2.88 186 *e*Pb **Pb** 16 20 54.7 -2.1
BBLS **Lazići** 2.91 317 *e*Pn **Pn** 16 20 52.2 +0.3
BBLS **Lazići** 2.91 317 *e*Pn **Pn** 16 20 52.2 +0.3
AXAR **Agios Charalam** 3.04 173 *e*PN **Pn** 16 20 55.2 +1.6
AXAR **Agios Charalam** 3.04 173 *e*Pn **Pn** 16 20 55.2 +1.6
ALN **Alexandroupoli** 3.05 106 *e*PN **Pn** 16 20 54.2 +0.5
ALN **Alexandroupoli** 3.05 106 *e*PN **Pn** 16 20 56.0 +2.3
ALN **Alexandroupoli** 3.05 106 *e*Pn **Pn** 16 20 56.0 +2.3
ENEZ **Enez** 3.18 108 *e*PN **Pn** 16 20 57.3 +1.8
ENEZ **Enez** 3.18 108 *e*Pn **Pn** 16 20 57.3 +1.8
GADA **Gvkgeada** 3.24 118 *e*PN **Pn** 16 20 57.8 +1.5
GADA **Gvkgeada** 3.24 118 *e*Pn **Pn** 16 20 57.8 +1.5
PDO **Prodromos** 3.27 194 *e*PN **Pn** 16 20 59.2 +2.4
PDO **Prodromos** 3.27 194 *e*Pn **Pn** 16 20 59.2 +2.4
JMB **Yambol** 3.35 77⇑ *i*P **Pn** 16 20 58.4 +0.5
JMB **Yambol** 3.35 77⇑ *i*P **Pn** 16 20 58.4 +0.5
EFP **Efpalio** 3.36 184 *e*PB Pn 16 21 00.9 +2.9
DSF **Desfina** 3.38 175 *e*PN **Pn** 16 20 59.5 +1.2
DSF **Desfina** 3.38 175 *e*Pn **Pn** 16 20 59.5 +1.2
KALE **Kalithea** 3.39 180 *e*PN **Pn** 16 21 00.9 +2.4
KALE **Kalithea** 3.39 180 *e*Pn **Pn** 16 21 00.9 +2.4
EDRB **Edirne** 3.42 87 *e*PN **Pn** 16 20 59.6 +0.8
EDRB **Edirne** 3.42 87 *e*Pn **Pn** 16 20 59.6 +0.8
ERIK **Erikli-Kesan** 3.46 107 *e*PN **Pn** 16 21 01.1 +1.7
ERIK **Erikli-Kesan** 3.46 107 *e*Pn **Pn** 16 21 01.1 +1.7
STON **Ston** 3.49 290 *e*Pn Pn 16 21 03.5 +3.7
STON Sn **Sn** 16 21 43.9 +2.7
GELI **Tayfur-Gelibol** 3.54 112 *e*PN **Pn** 16 21 01.9 +1.6
GELI **Tayfur-Gelibol** 3.54 112 *e*Pn **Pn** 16 21 02.0 +1.6
GZR **Gura Zlata** 3.64 7⇑ *i*P **Pn** 16 21 03.0 +1.1
GZR **Gura Zlata** 3.64 7 S **Sn** 16 21 42.9 -2.1
GZR **Gura Zlata** 3.64 7⇑ *i*P **Pn** 16 21 03.0 +1.1
GZR S **Sn** 16 21 42.9 -2.1
KLV **Kalavryta, Ach** 3.73 180 *e*PN **Pn** 16 21 05.2 +2.0
KLV **Kalavryta, Ach** 3.73 180 *e*Pn **Pn** 16 21 05.2 +2.0
LPK **Lapseki** 3.75 111 *e*PN **Pn** 16 21 04.1 +0.8
LPK **Lapseki** 3.75 111 *e*Pn **Pn** 16 21 04.1 +0.8
FGSL **Fruska Gora** 3.79 334 *e*Pn **Pn** 16 21 02.7 -1.2
FRGS **Fruska Gora** 3.79 334 *e*Pn **Pn** 16 21 02.7 -1.2
DRO **Drossia** 3.84 185 *e*PN **Pn** 16 21 06.5 +1.8
DRO **Drossia** 3.84 185 *e*Pn **Pn** 16 21 06.5 +1.8
GUR **Goura** 3.84 178 *e*PN **Pn** 16 21 07.3 +2.5
GUR **Goura** 3.84 178 *e*Pn **Pn** 16 21 07.3 +2.5
LOT **Lotru** 3.84 17 *e*PN **Pn** 16 21 05.8 +1.0
LOT **Lotru** 3.84 17⇑ *i*P **Pn** 16 21 05.6 +0.8
LOT **Lotru** 3.84 17 S **Sg** 16 22 08.4 -0.2
LOT **Lotru** 3.84 17⇑ *i*P **Pn** 16 21 05.6 +0.8
BZS **Buzias** 3.85 354 *e*PN **Pn** 16 21 06.6 +1.8
BZS **Buzias** 3.85 354 *e*Pn **Pn** 16 21 04.4 -0.4
BZS *e*Sn **Sn** 16 21 48.7 -1.6
BZS **Buzias** 3.85 354⇑ *i*P **Pn** 16 21 04.2 -0.6
BZS **Buzias** 3.85 354 S **Sb** 16 22 03.6 +3.4
BZS **Buzias** 3.85 354 *e*Pn **Pn** 16 21 04.4 -0.4
BZS *e*Sn **Sn** 16 21 48.7 -1.6
PHSR **Pinarhisar** 4.01 90 *e*PN **Pn** 16 21 08.3 +1.3
PHSR **Pinarhisar** 4.01 90 *e*Pn **Pn** 16 21 08.3 +1.3
VOIR 4.21 29⇑ *i*P **Pn** 16 21 10.3 +0.5
VOIR 4.21 29⇑ *i*P **Pn** 16 21 10.3 +0.5
DID **Didima** 4.35 169 *e*PN **Pn** 16 21 13.7 +2.0
DID **Didima** 4.35 169 *e*Pn **Pn** 16 21 13.7 +2.0
SIRR **Siria** 4.50 355⇑ *i*P Pn 16 21 08.0 -5.7
MLR **Muntele Rosu** 4.61 35⇓ *i*P **Pn** 16 21 14.9 -0.4
MLR **Muntele Rosu** 4.61 35⇓ *i*P **Pn** 16 21 14.9 -0.4
DOPR **Dopca** 4.79 28⇑ *i*P **Pg** 16 21 36.8 -0.8
CTKS **Kestanelik-??a** 4.79 94 *e*PN **Pn** 16 21 18.9 +1.3
CTKS **Kestanelik-??a** 4.79 94 *e*Pn **Pn** 16 21 19.0 +1.3
PSN **Preselentsi** 4.82 65⇑ *i*P Pn 16 21 13.5 -4.6
PSN **Preselentsi** 4.82 65⇑ *i*P Pn 16 21 13.5 -4.6
DRGR 5.02 4⇑ *i*P **Pn** 16 21 21.9 +1.0
DRGR 5.02 4 S Sb 16 22 42.3 +8.3
DRGR 5.02 4⇑ *i*P **Pn** 16 21 21.9 +1.0
PKSM **Moragy** 5.11 331⇓ *i*P **Pn** 16 21 22.5 +0.5
PKSM **Moragy** 5.11 331 S **Sn** 16 22 21.3 +0.1
PKSM **Moragy** 5.11 331⇓ *i*P **Pn** 16 21 22.5 +0.5
VRI **Vrincioaia** 5.25 37⇑ *i*P **Pn** 16 21 24.9 +0.9
VRI **Vrincioaia** 5.25 37⇑ *i*P **Pn** 16 21 24.9 +0.9
TLCR 5.91 53⇑ *i*P **Pn** 16 21 32.3 -0.7
TLCR 5.91 53⇑ *i*P **Pn** 16 21 32.3 -0.7
BURAR **Bucovina Array** 6.22 19 S **Pb** 16 21 55.5 +1.7
PSZ **Piszkesteto** 6.34 346⇑ *i*P Pn 16 21 34.6 -4.5
KECS **Kecovo** 6.80 351 *e*Sg **Sg** 16 23 43.3 -0.2
KECS **Kecovo** 6.80 351 *e*SG **Sg** 16 23 43.3 -0.2
KOLS **Kolonicke sedl** 7.15 1 *e*Pn **Pn** 16 21 50.0 -0.1
KOLS **Kolonicke sedl** 7.15 1 *e*PN **Pn** 16 21 50.0 -0.1
KOLS **Kolonicke sedl** 7.15 1 *e*SG **Sg** 16 23 56.1 +1.5

*IDC **08** 16:31:21.9±0.8, 10°.52N×84°.19W, h0km, mb4.1/9, mb1 4.3/10, mb1mx4.0/35, mbtmp4.2/10, ML4.4/1, MS3.3/5, Ms1 3.3/5, ms1mx3.1/16, Error ellipse: s-maj=22.6km s-min=9.1km az=163.0*
*ISCJB **08** 16:31:25.8±0.3, 10°.01N±0°.06×84°.56W±0°.04, h59km±4km, mb4.1/14, MS3.3/4, Error ellipse: s-maj=11.0km s-min=4.9km az=26.9*
*NEIC **08** 16:31:27.2, 9°.95N×84°.55W, h38km, mb4.3/6, MD4.2(CASC), After CASC.*
NEIC Felt [III] at San Jose. Also felt at Alajuelita, El Tejar, Escazu, Heredia, Jaco, Llorente, Orotina, Sabanilla and San Pedro.
ISC 08 16:31:26.6±0.7, 9°.98N±0°.07×84°.56W±0°.04, h51km±6km, n44, σ1°00/42, mb4.1/14, MS3.3/4, 5C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CGA2	**Cerro Gallo 2**	**0.10**	**68**	||*i*P	**Pn**		**16 31 34.6**	**-0.2**
JTS	**JuntasAbangare**	**0.49**	**309**	Pg		**Pn**		**16 31 38.3**	**+0.4**
	1µm,0.3s,baz=83,slow=13,SNR=4045								
JTS				Lg		Lg		16 31 47.2	
	13µm,0.3s,baz=54,slow=18,SNR=614								
JTS				LR		LR		16 31 49.3	
	comp=Z,499nm,20.5s,baz=161,slow=35								
JTS	**JuntasAbangare**	**0.49**	**309**	*e*Pg		**Pn**		**16 31 37.9**	**0.0**
JTS				*e*Sg		**Sn**		**16 31 46.8**	**+0.7**
JTS				Lg		Lg		16 31 47.2	
SJS	**Escuela Geolog**	**0.50**	**94**	||*i*P	**Pn**		**16 31 38.5**	**+0.3**
SJS				*e*S		**Sn**		**16 31 46.1**	**-0.3**
JCR	**Jicaral**	**0.56**	**257**	||*i*P	**Pn**		**16 31 38.2**	**-0.5**
JCR				*e*S		**Sn**		**16 31 47.5**	**+0.2**
CAO	**Cobano**	**0.60**	**243**	⇑*i*P		**Pn**		**16 31 38.5**	**-0.7**
URSC	**Urasca**	**0.79**	**100**	⇑*i*P		**Pn**		**16 31 42.1**	**+0.4**
BUS	**Buena Vista**	**0.90**	**118**	⇑*i*P		**Pn**		**16 31 42.8**	**-0.7**
VCR	**Vista de Mar**	**1.06**	**278**	||*e*P	**Pn**		**16 31 45.1**	**-0.2**
ACR	**Cerro Adams**	**1.90**	**134**	||*e*P	**Pn**		**16 31 56.2**	**-0.5**
ACR				*e*S		**Sn**		**16 32 00.7**	**+0.3**
BRU2	**Volcan**	**2.19**	**122**	*e*P		**Sn**		**16 32 28.7**	**+2.0**
BRU2				*e*S		**Sn**		**16 32 28.7**	**+2.0**
BCIP	**Isla Barro Col**	**4.73**	**99**	*e*Pn		**Pn**		**16 32 36.0**	**+0.5**
MTDJ	**Mount Denham**	**10.66**	**39**	Pn		**Pn**		**16 33 55.8**	**-1.1**
ROSC	**El Rosal**	**11.35**	**116**	LR		LR		16 39 09.0	
	comp=Z,73nm,18.4s,baz=217,slow=41								
OTAV	**Otavalo**	**11.43**	**147**	*e*Pn		**Pn**		**16 34 09.2**	**+1.5**
CMIG	**Matias Romero**	**12.27**	**306**	Pn		**Pn**		**16 34 19.3**	**+0.5**
	2.2nm,0.3s,baz=119,slow=12,SNR=8.1								
GTBY	**Guantanamo Bay**	**13.46**	**42**	*e*Pn		P		16 34 38.7	-4.1
SDV	**Santo Domingo**	**13.78**	**93**	*e*Pn		**Pn**		**16 34 38.6**	**-1.0**
	6.9nm,0.6s								
SDDR	**Presa de Saban**	**15.65**	**54**	Pn		Pn		16 34 53.7	-10
SJG	**San Juan**	**19.59**	**64**	*e*P		**Pn**		**16 35 52.1**	**-0.3**
	33nm,1.1s								
LRAL	**Lakeview Retre**	**23.06**	**355**	*e*P		**P**		**16 36 28.8**	**+1.1**
	9.2nm,0.7s								
JCT	**Junction City**	**24.86**	**327**	*e*P		**P**		**16 36 43.8**	**-0.7**
	11nm,0.8s								
MIAR	**Mount Ida**	**25.81**	**343**	*e*P		**P**		**16 36 53.1**	**+0.1**
	5.9nm,0.8s								
TXAR	**Lajitas Array**	**26.28**	**320**	P		**P**		**16 36 58.4**	**+0.9**
	1.4nm,0.4s,baz=148,slow=9.4,SNR=17								
TXAR				LR		LR		16 47 31.9	
	comp=Z,35nm,18.6s,baz=0.0,slow=37								
PTGA	**Pitinga**	**26.69**	**112**	P		**P**		**16 37 02.9**	**+1.6**
	6.8nm,1.0s,baz=300,slow=11,SNR=5.9								
WMOK	**Wichita Mounta**	**27.87**	**334**	*e*P		**P**		**16 37 10.9**	**-0.6**
	1.5nm,0.7s								
SAML	**Samuel**	**28.40**	**131**	P		**P**		**16 37 15.2**	**-1.3**
	7.5nm,1.4s								
BBSR	**BB Station**	**28.87**	**37**	P		P		16 37 15.1	-5.4
LPAZ	**La Paz**	**30.75**	**148**	LR		LR		16 50 23.4	
	comp=Z,116nm,19.9s,baz=317,slow=37								
PDAR	**Pinedale Array**	**39.29**	**331**	LR		LR		16 56 19.0	
	comp=Z,28nm,18.2s,baz=105,slow=38								
ISA	**Isabella**	**40.04**	**315**	P		**P**		**16 38 59.1**	**+2.1**
NVAR	**Mina Array Bea**	**41.42**	**319**	P		**P**		**16 39 10.1**	**+1.6**
	2.6nm,0.7s,baz=133,slow=7.2,SNR=16								
BDFB	**Brasilia**	**44.25**	**125**	LR		LR		16 58 31.4	
	comp=Z,91nm,18.5s,baz=248,slow=37								
SCHQ	**Schefferville**	**46.90**	**14**	P		**P**		**16 39 50.3**	**-1.5**
	3.8nm,0.9s,baz=228,slow=9.2,SNR=5.1								
YKA	**Yellowknife Ar**	**56.74**	**344**	P		**P**		**16 41 03.6**	**-1.4**
	1.3nm,0.8s,baz=139,slow=7.1,SNR=14								
ILAR	**Eielson Array**	**69.42**	**336**	P		**P**		**16 42 28.1**	**-0.9**
	0.7nm,0.7s,baz=131,slow=4.3,SNR=7.3								
ESDC	**Sonseca Array**	**76.49**	**52**	P		**P**		**16 43 12.0**	**+0.6**
	0.2nm,0.3s,baz=286,slow=6.4,SNR=4.1								
DBIC	**Dimbokro**	**78.77**	**85**	P		**P**		**16 43 24.8**	**+0.2**
	8.1nm,1.2s,baz=15,slow=5.6,SNR=3.1								
TOA0	**Torodi Ar. Sit**	**84.17**	**78**	*e*P		**P**		**16 43 52.4**	**-0.8**
TORD	**Torodi Ar. Bea**	**84.17**	**78**	P		**P**		**16 43 52.7**	**-0.5**
	0.9nm,0.7s,baz=291,slow=6.0,SNR=8.5								
ASAR	**Alice Springs**	**140.89**	**245**	PKhKP		PKPpre		16 50 46.4	
	0.4nm,0.4s,baz=107,slow=3.7,SNR=22								
ASAR				PKP		**PKiKP**		**16 50 54.2**	**-0.3**
	0.6nm,0.6s,baz=103,slow=2.1,SNR=14								
WRAB	**Tennant Creek**	**141.21**	**251**	P		**PKPdf**		**16 50 54.7**	**+2.2**
WRA	**Warramunga Arr**	**141.22**	**251**	PKhKP		PKPpre		16 50 48.2	
	0.7nm,0.7s,baz=102,slow=3.5,SNR=12								
WRA				PKP		**PKiKP**		**16 50 54.8**	**-0.4**
	0.6nm,0.6s,baz=91,slow=2.5,SNR=9.6								
CMAR	**Chiang Mai Arr**	**151.53**	**353**	PKPbc		**PKPbc**		**16 51 15.9**	**-0.1**
	0.3nm,0.7s,baz=352,slow=3.1,SNR=3.2								

*IDC **08** 17:00:15.5±1.5, 2°.49S×128°.21E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.3/32, mbtmp3.3/4, ML3.4/2, Error ellipse: s-maj=32.1km s-min=25.0km az=80.0*
*ISCJB **08** 17:00:19.9±0.6, 2°.42S±0°.05×128°.26E±0°.04, h32km, mb3.4/2, Error ellipse: s-maj=7.2km s-min=5.3km az=5.3*
*DJA **08** 17:00:20.7±0.6, 2°.S±3°×12°.8E±°, h58km±13km, M3.2/8, MLv3.2/8*
ISC 08 17:00:19.8±0.8, 2°.39S±0°.05×128°.20E±0°.04, h32km, n10, σ1°67/16, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
MSAI	**Masohi**	**1.20**	**143**	P		**Pn**		**17 00 40.3**	**-0.1**
MSAI				S		**Sb**		**17 00 57.0**	**-0.2**
NLAI	**Namlea**	**1.39**	**232**	P		**Pb**		**17 00 44.4**	**-0.7**
NLAI				S		**Sb**		**17 01 05.4**	**+2.9**
LBMI	**Labuha**	**1.87**	**338**	P		**Pb**		**17 00 52.8**	**-0.5**
LBMI				S		**Sb**		**17 01 15.4**	**-0.9**
SANI	**Sanana**	**2.23**	**279**	P		**Pn**		**17 00 55.8**	**+1.2**
SANI				S		**Sb**		**17 01 23.4**	**-3.4**
SWI	**Sorong**	**3.41**	**64**	P		**Pn**		**17 01 11.6**	**+0.8**
SWI				S		**Sn**		**17 01 51.2**	**+1.0**
SIJI	**Sorong**	**3.42**	**64**	Pn		**Pn**		**17 01 11.2**	**+0.4**
	3.7nm,0.3s,baz=235,slow=16,SNR=40								
SIJI				Sn		**Sn**		**17 01 52.0**	**+1.7**
	2.2nm,0.3s,baz=229,slow=19,SNR=8.5								
FAKI	**Fak Fak**	**4.08**	**98**	P		**Pn**		**17 01 19.2**	**-0.8**
WRA	**Warramunga Arr**	**18.45**	**161**	P		**P**		**17 04 31.2**	**-1.8**
	0.1nm,0.3s,baz=340,slow=11,SNR=11								
ASAR	**Alice Springs**	**21.86**	**166**	P		**

MGG	**Marie-Galante**	**0.64**	**12**	*e*P	Pn	17 46 20.4 +0.5
MGG				*e*S	Sn	17 46 39.0 +1.0
BVM	**Bellevue**	**0.67**	**145**	⇓*i*P	Pn	17 46 21.6 +1.5
PHG	**Guadaloupe-2**	**0.74**	**346**	*e*P	Pn	17 46 21.8 +1.2
MLG	**Mont-d'or**	**0.80**	**343**	*e*P	Pn	17 46 22.0 +1.0
TRMF	**Trois Ilets**	**0.85**	**152**	*e*P	Pn	17 46 22.2 +1.0
BIM	**Bigot**	**0.86**	**154**	*e*P	Pn	17 46 23.9 +2.6
LPMF	**Morne Lapointe**	**0.86**	**146**	*e*P	Pn	17 46 22.3 +1.0
LZG	**Guadaloupe-1**	**0.90**	**340**	*e*P	Pn	17 46 22.6 +1.0
MVM	**Montagne Vaucl**	**0.91**	**143**	*e*P	Pn	17 46 22.7 +1.0
DEG	**La Desirade**	**1.09**	**21**	*e*P	Pn	17 46 24.0 +0.9
SEG	**Port Louis**	**1.11**	**358**	⇑*i*P	Pn	17 46 24.2 +1.0
MBRY		**1.56**	**335**	⇑*i*P	Pn	17 46 28.4 +0.9
MLYT	**Lee's Yard**	**1.59**	**334**	⇑*i*P	Pn	17 46 28.7 +0.9
MLYT	**Lee's Yard**	**1.59**	**334**	⇑*i*P	Pn	17 46 28.8 +1.0
MLYT				*e*S	Sn	17 46 52.8 +0.7
MCLT	**Moule a Chique**	**1.65**	**162**	*e*P	Pn	17 46 28.9 +0.4
MCLT				*e*S	Sn	17 46 53.1 -0.2
SVV	**Soufriere Volc**	**1.98**	**173**	⇑*i*P	Pn	17 46 33.5 +1.5
SVV				*e*S	Sn	17 47 00.9 +1.3
SVB	**Belmont**	**2.02**	**174**	⇑*i*P	Pn	17 46 32.9 +0.3
SVB				*e*S	Sn	17 47 00.2 -0.3
FCV	**Fort Charlotte**	**2.13**	**174**	⇑*i*P	Pn	17 46 34.8 +1.0
FCV				*e*S	Sn	17 47 03.7 +0.9
ANWB	**Willy Bob**	**2.38**	**353**	*e*S	Sn	17 47 05.3 -2.8
GRGR	**Grenville**	**3.15**	**183**	*e*P	Pn	17 46 46.8 +0.7

*IDC **08** 17:50:12.3±0.8, 35°.23N×141°.36E, h0km, mb3.8/8, mb1 3.9/12, mb1mx3.7/40, mbtmp3.8/12, ML2.8/3, MS3.1/6, Ms1 3.1/6, ms1mx2.8/40, Error ellipse: s-maj=26.1km s-min=16.8km az=66.0*
*NEIC **08** 17:50:13.7±6.0, 35°.21N×141°.35E, h10km±37km, mb4.5/2, Error ellipse: s-maj=23.2km s-min=9.9km az=62.0*
*JMA **08** 17:50:15.9±0.1, 35°.26N×141°.25E, h25km±3km, MS3.2*
ISC 08 17:50:16.1±0.8, 35°.26N±0°.04×141°.25E±0°.07, h27km, n34, σ1§12/28, mb3.8/10, MS3.2/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.55**	**324**	P	**Pb**	**17 50 26.8**	**-0.4**
CHOJ				S	**Sb**	**17 50 33.7**	**-1.0**
BSO1	**Boso 1**	**0.65**	**200**	P	**Pb**	**17 50 27.9**	**-0.6**
BSO3	**Boso 3**	**0.76**	**233**	P	**Pb**	**17 50 30.1**	**-0.5**
BSO3				*e*S	**Sn**	**17 50 41.7**	**+0.4**
KTR	**Katsuura**	**0.77**	**262**	P	**Pn**	**17 50 30.6**	**-0.7**
BSO4	**Boso 4**	**0.80**	**250**	P	**Pn**	**17 50 31.1**	**-0.4**
JYT	**Yasato**	**1.29**	**319**	P	**Pb**	**17 50 39.0**	**-0.8**
JHO	**Hitachi**	**1.46**	**338**	P	**Pb**	**17 50 41.1**	**-1.5**
MJAR	**Matsushiro Arr** 4.1nm,0.3s,baz=101,slow=12,SNR=4.2	**2.78**	**298**	Pn	**Pn**	**17 51 00.7**	**+1.8**
MJAR	2.6nm,0.3s,baz=150,slow=14,SNR=4.8			Sn	**Sb**	**17 51 37.6**	**-1.2**
MJAR	comp=Z,230nm,18.5s,baz=135,slow=47			LR	LR	17 52 25.1	
MAJO	**Matsushiro**	**2.78**	**298**	*e*Pn	**Pn**	**17 51 00.8**	**+1.9**
MAT	**Matsushiro**	**2.78**	**298**	P	Pb	17 51 01.3	-3.9
MAT				S	**Sb**	**17 51 37.0**	**-1.8**
CBIJ	**Chichi jima**	**8.18**	**174**	Pn	**Pn**	**17 52 11.5**	**-1.5**
JCJ	**Chichijima** 5.0nm,0.3s,baz=336,slow=20,SNR=3.7	**8.18**	**174**	Pn	**Pn**	**17 52 11.5**	**-1.5**
JNU	**Nakatsue** comp=Z,78nm,19.5s,baz=176,slow=42	**8.85**	**259**	LR	LR	17 56 23.4	
KSRS	**Korea Array** 0.1nm,0.3s,baz=94,slow=15,SNR=3.3	**10.97**	**285**	Pn	**Pn**	**17 52 50.9**	**-0.4**
KSRS	comp=Z,80nm,18.9s,baz=92,slow=38			LR	LR	17 57 19.8	
KSAR	**Wonju Array Be**	**11.00**	**285**	Pn	**Pn**	**17 52 50.9**	**-0.8**
USRK	**Ussuriysk Ar.** 0.2nm,0.3s,baz=133,slow=13,SNR=6.9	**11.42**	**324**	Pn	**Pn**	**17 52 57.2**	**-0.1**
PETK	**Petropavlovsk-** comp=Z,21nm,20.0s,baz=256,slow=38	**21.30**	**28**	LR	LR	18 03 50.7	
H11N2	**WAKE ISLAND Hy** baz=314	**27.40**	**118**	T	T	18 25 01.6	
H11N1	**WAKE ISLAND Hy** baz=314	**27.41**	**118**	T	T	18 24 45.0	
H11N3	**WAKE ISLAND Hy** baz=314	**27.42**	**118**	T	T	18 24 57.9	
H11S1	**WAKE ISLAND Hy** baz=312	**28.05**	**120**	T	T	18 25 46.5	
H11S3	**WAKE ISLAND Hy** baz=312	**28.05**	**120**	T	T	18 25 24.0	
H11S2	**WAKE ISLAND Hy** baz=312	**28.07**	**120**	T	T	18 25 26.4	
SONM	**Songino Array** 0.5nm,0.5s,baz=105,slow=10,SNR=5.0	**28.70**	**307**	P	**P**	**17 56 12.5**	**+1.5**
SONM	comp=Z,53nm,18.3s,baz=203,slow=37			LR	LR	18 07 58.4	
ZALV	**Zalesovo Beam** 2.1nm,0.6s,baz=101,slow=7.6,SNR=9.9	**43.03**	**314**	P	**P**	**17 58 13.8**	**+0.7**
MKAR	**Makanchi Array** 1.0nm,0.6s,baz=88,slow=10.0,SNR=16	**44.97**	**304**	P	**P**	**17 58 29.7**	**+0.8**
KURK	**Kurchatov** 5.4nm,0.9s	**46.94**	**309**	*e*P	**P**	**17 58 44.5**	**+0.2**
ILAR	**Eielson Array** 0.3nm,0.6s,baz=263,slow=6.3,SNR=3.9	**51.07**	**32**	P	**P**	**17 59 14.5**	**-1.2**
WRAB	**Tennant Creek** 3.8nm,0.9s	**55.28**	**188**	*e*P	**P**	**17 59 47.4**	**+0.2**
WRA	**Warramunga Arr** 1.7nm,0.5s,baz=5.7,slow=7.5,SNR=62	**55.29**	**188**	P	**P**	**17 59 47.3**	**0.0**
ASAR	**Alice Springs** 0.3nm,0.5s,baz=357,slow=5.4,SNR=19	**59.02**	**188**	P	**P**	**18 00 13.7**	**+0.1**
NOA	**NORSAR Array B** comp=Z,24nm,19.3s,baz=0.0,slow=41	**75.77**	**337**	LR	LR	18 41 48.1	
GERES	**GERESS Array B** 0.3nm,0.6s,baz=37,slow=10.0,SNR=3.4	**84.15**	**328**	P	**P**	**18 02 45.1**	**+0.3**
TXAR	**Lajitas Array** 0.2nm,0.6s,baz=301,slow=4.0,SNR=3.2	**91.31**	**52**	P	**P**	**18 03 21.8**	**+2.1**

*IDC **08** 18:08:08.8±5.2, 13°.63N×56°.75E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.4/54, mbtmp3.6/8, MS3.2/3, Ms1 3.2/3, ms1mx2.7/36, Error ellipse: s-maj=113.7km s-min=33.7km az=172.0*
ISC 08 18:08:11.4±5.1, 13°.8N±0°.8×56°.7E±0°.3, h10km, n16, σ1§12/8, mb3.9/8, MS3.1/3, Socotra region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo** comp=Z,66nm,18.0s,baz=100,slow=38	**24.35**	**234**	LR	LR	18 23 27.8	
H08N2	**Diego Garcia H** baz=326,slow=76,SNR=59	**24.50**	**144**	T	T	18 38 50.7	
H08N3	**Diego Garcia H** baz=326,slow=76,SNR=45	**24.51**	**144**	T	T	18 38 51.6	
H08N1	**Diego Garcia H** baz=326,slow=76,SNR=48	**24.52**	**144**	T	T	18 38 52.4	
EIL	**Elat** comp=Z,35nm,18.0s,baz=75,slow=38	**25.59**	**312**	LR	LR	18 24 19.0	
MKAR	**Makanchi Array** 0.3nm,0.8s,baz=214,slow=8.0,SNR=3.3	**39.25**	**28**	P	**P**	**18 15 39.6**	**-0.4**
KURBB	**Kurchatov Arra** 0.2nm,0.7s,baz=218,slow=8.6,SNR=3.2	**40.77**	**21**	P	**P**	**18 15 52.3**	**-0.3**
AKASG	**Malin Array Be** 0.2nm,0.2s,baz=134,slow=7.4,SNR=3.8	**43.04**	**335**	P	**P**	**18 16 11.2**	**0.0**
AKASG	comp=Z,22nm,18.4s,baz=345,slow=41			LR	LR	18 37 24.9	
ZALV	**Zalesovo Beam** 0.9nm,0.7s,baz=228,slow=5.6,SNR=2.4	**45.74**	**23**	P	**P**	**18 16 34.8**	**+2.0**
KEST	**Kesra** 0.9nm,0.8s,baz=94,slow=13,SNR=3.6	**47.70**	**306**	P	**P**	**18 16 48.8**	**+0.2**
FINES	**FINESS Array B** 1.5nm,0.8s,baz=153,slow=12,SNR=3.7	**52.45**	**342**	P	**P**	**18 17 22.9**	**-1.1**
ARCES	**ARCESS Array B** 1.0nm,0.8s,baz=159,slow=7.7,SNR=2.9	**59.06**	**348**	P	**P**	**18 18 12.0**	**+0.6**
H01W3	**Cape Leeuwin H** baz=302,slow=75,SNR=6.0	**72.82**	**134**	T	T	19 39 00.4	
H01W2	**Cape Leeuwin H** baz=302,slow=75,SNR=5.4	**72.83**	**134**	T	T	19 39 01.2	
H01W1	**Cape Leeuwin H** baz=302,slow=75,SNR=5.7	**72.84**	**134**	T	T	19 39 02.7	
SEY	**Seymchan** 1.5nm,0.8s,baz=225,slow=11,SNR=5.1	**80.38**	**27**	P	**P**	**18 20 22.2**	**-0.6**

*ISCJB **08** 18:13:14.8±0.2, 0°.00N±0°.02×123°.46E±0°.02, h157km, mb4.3/37, Error ellipse: s-maj=3.3km s-min=2.7km az=177.8*
*NEIC **08** 18:13:15.5±0.8, 0°.01S×123°.44E, h155km±8km, mb4.5/9, Error ellipse: s-maj=11.7km s-min=9.6km az=56.0*
*IDC **08** 18:13:16.4±1.7, 0°.00S×123°.41E, h161km±16km, mb3.8/20, mb1 3.9/23, mb1mx3.8/38, mbtmp4.3/23, MS2.8/1, Ms1 2.8/1, ms1mx2.2/31, Error ellipse: s-maj=14.6km s-min=8.9km az=79.0*
*DJA **08** 18:13:17.1±0.2, 0°.S±2°×123°.3E±°, h106km±4km, M4.5/28, mb4.8/19, mB4.9/12, MLv4.9/28, Mw(mB)4.2/12*
*KLM **08** 18:13:17.9, 0°.10N×123°.63E, h113km, mb4.7, ML4.8, MS6.0*
ISC 08 18:13:16.1±0.3, 0°.00N±0°.04×123°.44E±0°.04, h157km, n103, σ1§59/124, mb4.3/37, 3C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.78**	**43**	P	**Pn**	**18 13 39.8**	**-0.1**
KMSI				S	**Sn**	**18 13 57.3**	**-0.8**
LUWI	**Luwuk**	**1.24**	**213**	P	**Pn**	**18 13 41.8**	**-1.8**
LUWI				S	**Sn**	**18 14 00.3**	**-4.4**
LUWI	**Luwuk** baz=1.7,SNR=112	**1.24**	**213**	P	**Pn**	**18 13 41.5**	**-2.1**
LUWI	**Luwuk**	**1.24**	**213**	*e*Pn	**Pn**	**18 13 41.5**	**-2.1**
MRSI	**Marisa**	**1.57**	**287**	P	**Pn**	**18 13 45.2**	**-1.7**
MRSI				S	**Sn**	**18 14 07.1**	**-3.5**
APSI	**Ampana**	**2.01**	**243**	P	**Pn**	**18 13 50.6**	**-1.1**
APSI				S	**Sn**	**18 14 15.7**	**-3.5**
TOLI	**Toli-Toli**	**2.87**	**293**	*e*Pn	**Pn**	**18 14 01.1**	**-1.1**
SANI	**Sanana**	**3.26**	**129**	P	**Pn**	**18 14 04.7**	**-2.3**
MPSI	**Mapaga**	**3.56**	**275**	P	**Pn**	**18 14 10.7**	**-0.1**
MPSI				S	**Sn**	**18 14 52.9**	**-0.5**
PCI	**Palu**	**3.72**	**256**	P	**Pn**	**18 14 12.2**	**-0.7**
PCI				S	**Sn**	**18 14 55.8**	**-1.2**
TNTI	**Ternate**	**4.00**	**79**	P	**Pn**	**18 14 15.3**	**-1.2**
TNTI				S	**Sn**	**18 15 00.5**	**-3.0**
TNTI	**Ternate**	**4.00**	**79**	*e*Pn	**Pn**	**18 14 15.0**	**-1.5**
KDI	**Kendari**	**4.02**	**192**	P	**Pn**	**18 14 15.3**	**-1.5**
KDI				S	**Sn**	**18 15 02.4**	**-1.7**
LBMI	**Labuha**	**4.11**	**99**	P	**Pn**	**18 14 16.3**	**-1.6**
LBMI				S	**Sn**	**18 15 02.7**	**-3.4**
SGSI	**Sangihe**	**4.21**	**30**	P	**Pn**	**18 14 19.4**	**+0.1**
TTSI	**Tana Toraja**	**4.72**	**230**	P	**Pn**	**18 14 25.1**	**-0.9**
TTSI				S	**Sn**	**18 15 19.9**	**-0.6**
NLAI	**Namlea**	**4.87**	**131**	P	**Pn**	**18 14 27.7**	**-0.2**
NLAI				S	**Sn**	**18 15 20.8**	**-3.3**
SPSI	**Sidrap Palu** 127nm,0.8s,2μm0.5nm	**5.39**	**223**	P	**Pn**	**18 14 34.2**	**-0.5**
SPSI	127nm,0.8s,2μm0.5nm			S	**Sn**	**18 15 35.9**	**-0.4**
KAPI	**Kappang** 10nm,0.3s,baz=19,slow=5.3,SNR=16	**6.20**	**216**	P	**Pn**	**18 14 45.5**	**-0.1**
KAPI	3.9nm,0.3s,baz=220,slow=20,SNR=7.7			S	**Sn**	**18 15 52.8**	**-2.9**
KAPI	comp=Z,80nm,18.4s,baz=44,slow=43			LR	LR	18 17 44.1	
BKSI	**Bulukumba** 44nm,0.6s,399nm0.2nm	**6.24**	**212**	P	**Pn**	**18 14 45.7**	**-0.4**
BKSI	44nm,0.6s,399nm0.2nm			S	**Sn**	**18 15 58.1**	**+1.4**
BKB	**Balikpapan** 555nm,0.8s,4μm1.6nm	**6.67**	**259**	P	**Pn**	**18 14 52.2**	**+0.5**
BKB	555nm,0.8s,4μm1.6nm			S	**Sn**	**18 16 07.4**	**+0.6**
BSSI	**Bau Bau, Buton** 102nm,0.7s,975nm0.4nm	**6.78**	**206**	P	**Pn**	**18 14 55.0**	**+1.7**
BSSI	102nm,0.7s,975nm0.4nm			S	**Sn**	**18 16 09.9**	**+0.3**
TSM	**Tawau**	**7.01**	**308**	⇑P	**Pn**	**18 14 58.6**	**+2.3**
MYLDM	**Lahad Datu**	**7.13**	**316**	⇑P	Pn	18 15 02.9	+5.0
CTBH	**Cotabato--PC H**	**7.21**	**6**	⇑*i*P	**Pn**	**18 15 01.4**	**+2.4**
SWI	**Sorong** 72nm,0.7s,807nm0.3nm	**7.86**	**96**	P	**Pn**	**18 15 07.4**	**-0.3**
SWI	72nm,0.7s,807nm0.3nm			S	**Sn**	**18 16 35.4**	**-0.1**
SWI	**Sorong** baz=7.8,SNR=9.3	**7.86**	**96**	P	Pn	18 15 02.8	-4.9
BNDI	**Bandanaira** 169nm,0.7s,0.6nm	**7.87**	**125**	P	**Pn**	**18 15 07.9**	**+0.2**
BNDI	169nm,0.7s,0.6nm			S	**Sn**	**18 16 35.8**	**+0.2**
SIJI	**Sorong** 9.1nm,0.3s,baz=299,slow=10,SNR=36	**7.87**	**96**	P	**Pn**	**18 15 07.8**	**0.0**
SIJI	1.2nm,0.3s,baz=232,slow=19,SNR=3.8			S	**Sn**	**18 16 35.8**	**0.0**
KBKI	**Kotabaru** 71nm,0.8s,669nm0.2nm	**7.98**	**246**	P	**Pn**	**18 15 08.8**	**-0.4**
FAKI	**Fak Fak** 22nm,1.2s	**9.27**	**108**	P	**Pn**	**18 15 25.1**	**-1.3**
FAKI	**Fak Fak** baz=9.3,SNR=30	**9.27**	**108**	P	**Pn**	**18 15 24.8**	**-1.6**
KKM	**Kota Kinabalu** baz=9.2,SNR=16	**9.38**	**310**	P	Pn	18 15 33.5	+5.5
KKM	**Kota Kinabalu** 52nm,0.6s	**9.38**	**310**	*e*P	Pn	18 15 32.7	+4.7
RKPI	**Ransiki, Papua** 37nm,0.8s	**10.84**	**98**	P	**Pn**	**18 15 48.9**	**+1.8**
SRBI	**Singaraja**	**11.48**	**225**	P	**Pn**	**18 15 57.3**	**+1.8**
KSM	**Kuching** 13nm,0.8s	**13.21**	**276**	*e*P	**P**	**18 16 23.6**	**+1.5**
KDU	**Kakadu** baz=16,SNR=6.1	**15.47**	**145**	P	**Pn**	**18 16 45.9**	**-0.1**
KNRA	**Kununurra** baz=17,SNR=5.7	**16.44**	**162**	P	**Pn**	**18 16 59.6**	**+1.7**
CISI	**Cisompet, Garu** baz=18,SNR=3.6	**17.30**	**244**	P	**Pn**	**18 17 10.0**	**+1.7**
JAY	**Jayapura** 9.9nm,0.3s,baz=88,slow=14,SNR=6.2	**17.44**	**98**	P	**Pn**	**18 17 10.4**	**+0.4**
DLV	**T Lat** 16nm,0.8s	**19.00**	**309**	*e*P	**Pn**	**18 17 28.0**	**-0.6**
WRA	**Warramunga Arr** 2.4nm,0.5s,baz=335,slow=10.0,SNR=52	**22.51**	**152**	P	**P**	**18 18 02.2**	**-0.6**
COEN	**Coen** baz=24,SNR=4.5	**23.96**	**126**	P	**P**	**18 18 18.4**	**+2.2**
PSI	**Prapat** 4.1nm,0.5s,baz=102,slow=8.8,SNR=4.2	**24.67**	**277**	P	**P**	**18 18 22.1**	**-0.6**
WRKA	**Warakurna** baz=26,SNR=8.0	**25.33**	**170**	P	**P**	**18 18 28.7**	**+0.2**
SKNT	**Sakolnakorn** 16nm,0.8s	**25.54**	**312**	P	**P**	**18 18 33.0**	**+2.6**
ASAR	**Alice Springs** 0.8nm,0.7s,baz=335,slow=7.8,SNR=21	**25.63**	**157**	P	**P**	**18 18 31.1**	**-0.1**
ASAR	1.6nm,0.7s,baz=356,slow=2.3,SNR=12			PcP	**PcP**	**18 21 57.9**	**-0.1**
ASAR	0.5nm,0.7s,baz=340,slow=2.5,SNR=5.4			ScP	**ScP**	**18 25 22.1**	**-0.8**
QIS	**Mount Isa** baz=26,SNR=4.3	**25.84**	**143**	P	**P**	**18 18 37.1**	**+4.0**
NAYO	**Nakonayok** 20nm,0.8s	**26.10**	**304**	P	**P**	**18 18 39.7**	**+4.2**
MEEK	**Meekatharra** baz=28,SNR=4.8	**26.89**	**190**	P	**P**	**18 18 42.0**	**-0.5**
LOEI	**Loei** 17nm,1.2s	**27.91**	**310**	P	**P**	**18 18 50.0**	**-1.7**
UTHA	**Uthaiani** 7.9nm,0.7s,66nm	**28.29**	**304**	P	**P**	**18 18 57.4**	**+2.3**
UTTA	**Uttaradit** 4.3nm,0.9s,41nm	**28.60**	**309**	P	**P**	**18 19 00.1**	**+2.4**
LAMP	**Lampang** 4.4nm,0.8s	**29.76**	**309**	P	**P**	**18 19 10.7**	**+2.6**
CMAR	**Chiang Mai Arr** 5.6nm,0.7s,baz=134,slow=7.1,SNR=41	**30.26**	**309**	P	**P**	**18 19 13.7**	**+1.2**
CMAR	1.1nm,0.7s,baz=127,slow=0.5,SNR=6.2			PcP	**PcP**	**18 22 09.6**	**+0.2**
CHTO	**Chiang Mai** 94nm,0.9s	**30.46**	**309**	P	**P**	**18 19 15.5**	**+1.3**
CHTO	**Chiang Mai** 16nm,0.8s	**30.46**	**309**	*e*P	**P**	**18 19 14.7**	**+0.5**
MHMT	**Maesarieng** 9.5nm,0.8s	**30.90**	**307**	P	**P**	**18 19 20.7**	**+2.6**
CMAI	**Chiengmai2** 242nm,0.8s,13μm	**31.04**	**311**	P	**P**	**18 19 21.4**	**+1.9**
ENH	**Enshi** 8.2nm,0.8s	**32.90**	**337**	*e*P	**P**	**18 19 36.9**	**+1.4**
QLP	**Quilpie** baz=34,SNR=3.7	**33.16**	**144**	P	**P**	**18 19 39.2**	**+1.5**
NWAO	**Narrogin (SRO)** 19nm,1.1s,baz=334,slow=1.6,SNR=3.8	**33.27**	**190**	P	**P**	**18 19 38.2**	**-0.4**
JNU	**Nakatsue** 4.0nm,0.8s,baz=218,slow=17,SNR=3.9	**33.68**	**11**	P	**P**	**18 19 43.4**	**+1.2**
STKA	**Stephens Creek** 4.4nm,0.7s,baz=332,slow=11,SNR=13	**36.06**	**153**	P	**P**	**18 20 03.2**	**+0.6**
STKA	1.0nm,0.4s,baz=347,slow=4.3,SNR=4.2			PcP	**PcP**	**18 22 25.3**	**-0.2**
HTT	**Hallett** baz=37,SNR=7.3	**36.30**	**158**	P	**P**	**18 20 06.2**	**+1.5**
KSAR	**Wonju Array Be**	**37.48**	**6**	P	**P**	**18 20 16.1**	**+1.6**
KSRS	**Korea Array** 1.0nm,0.6s,baz=183,slow=9.4,SNR=7.3	**37.49**	**6**	P	**P**	**18 20 16.1**	**+1.5**
CMSA	**Cobar Meteorol** baz=38,SNR=9.0	**37.79**	**148**	P	**P**	**18 20 18.7**	**+1.5**
MJAR	**Matsushiro Arr** 2.6nm,0.9s,baz=197,slow=9.1,SNR=9.3	**38.85**	**19**	P	**P**	**18 20 24.6**	**-1.4**
LSA	**Lhasa** 6.3nm,0.6s	**42.65**	**317**	*e*P	**P**	**18 20 58.8**	**+1.0**
ODAN	**Odare** 24nm,0.5s	**43.76**	**311**	*e*P	**P**	**18 21 07.1**	**+0.6**
TAPN	**Taplejung** 24nm,0.5s	**43.78**	**311**	*e*P	**P**	**18 21 07.3**	**+0.6**
RAMN	**Ramite** 73nm,0.6s	**44.41**	**310**	*e*P	**P**	**18 21 11.9**	**+0.2**
USRK	**Ussuriysk Ar.** 2.2nm,0.7s,baz=187,slow=5.8,SNR=5.9	**44.66**	**9**	P	**P**	**18 21 12.4**	**-0.6**
GUN	**Gumba** 63nm,0.4s	**45.45**	**311**	*e*P	**P**	**18 21 20.1**	**+0.1**
PKI	**Pulchoki** 20nm,0.5s	**45.63**	**310**	*e*P	**P**	**18 21 21.4**	**-0.1**
PKIN	**Phulchoki** 7.8nm,0.3s	**45.65**	**310**	*e*P	**P**	**18 21 21.8**	**+0.3**
KKN	**Kakani** 16nm,0.4s	**45.84**	**310**	*e*P	**P**	**18 21 22.8**	**-0.2**
DMN	**Daman** 57nm,1.0s	**45.89**	**310**	*e*P	**P**	**18 21 23.6**	**+0.3**
GKN	**Gorkha** 48nm,0.5s	**46.44**	**310**	*e*P	**P**	**18 21 27.8**	**+0.2**
ASAJ	**Asahikawa** 4.4nm,0.6s,baz=240,slow=8.2	**47.12**	**19**	P	**P**	**18 21 32.7**	**+0.3**
KOLN	**Koldanda** 104nm,0.7s	**47.13**	**309**	*e*P	**P**	**18 21 33.2**	**+0.3**
DANN	**Dangsing** 13nm,0.7s	**47.29**	**310**	*e*P	**P**	**18 21 34.2**	**-0.1**
SONM	**Songino Array** 5.1nm,0.7s,baz=161,slow=8.5,SNR=34	**49.90**	**345**	P	**P**	**18 21 53.1**	**-0.5**
SONM	1.3nm,0.5s,baz=169,slow=4.5,SNR=5.7			PcP	**PcP**	**18 23 10.6**	**-1.1**
TLY	**Talaya** 3.1nm,0.5s,baz=180,slow=9.1,SNR=4.1	**54.14**	**345**	P	**P**	**18 22 25.9**	**+1.1**
MKAR	**Makanchi Array** 4.0nm,0.4s,baz=122,slow=8.5,SNR=72	**58.84**	**328**	P	**P**	**18 22 57.3**	**-0.9**
MKAR	2.2nm,0.4s,baz=154,slow=3.2,SNR=16			PcP	**PcP**	**18 23 44.6**	**-1.4**
PETK	**Petropavlovsk-** 1.9nm,0.5s,baz=207,slow=2.3,SNR=3.4	**60.11**	**23**	P	**P**	**18 23 07.3**	**+0.6**
KBL	**Kabul** baz=61,SNR=4.6	**61.28**	**310**	P	**P**	**18 23 15.7**	**+0.5**
ZALV	**Zalesovo Beam** 1.9nm,0.5s,baz=123,slow=5.5,SNR=13	**62.49**	**335**	P	**P**	**18 23 21.0**	**-1.7**
KURK	**Kurchatov** 9.2nm,0.5s	**63.20**	**330**	*e*P	**P**	**18 23 25.9**	**-1.5**
SEY	**Seymchan** 1.1nm,0.8s,baz=195,slow=12,SNR=8.4	**66.40**	**14**	P	**P**	**18 23 48.2**	**+0.3**
TIXI	**Tiksi** 7.1nm,0.8s	**71.62**	**2**	*e*P	**P**	**18 24 18.9**	**-1.0**
ARU	**Arti** 2.2nm,0.8s	**76.36**	**329**	*e*P	**P**	**18 24 45.6**	**-2.2**
VNDA	**Vanda** 1.1nm,0.7s,baz=320,slow=3.6,SNR=4.2	**80.19**	**172**	P	**P**	**18 25 08.8**	**+0.4**
MMAI	**Mount Meron Ar** 1.2nm,0.5s,baz=87,slow=7.4,SNR=4.4	**88.35**	**303**	P	**P**	**18 25 51.9**	**+1.3**
ILAR	**Eielson Array** 0.4nm,0.5s,baz=240,slow=5.4,SNR=5.4	**89.86**	**25**	P	**P**	**18 25 55.0**	**-1.9**
AKASG	**Malin Array Be** 0.4nm,0.4s,baz=73,slow=4.2,SNR=4.5	**92.68**	**321**	P	**P**	**18 26 07.3**	**-2.9**
ARCES	**ARCESS Array B** 1.0nm,0.7s,baz=76,slow=5.1,SNR=6.8	**92.78**	**340**	P	**P**	**18 26 07.7**	**-2.6**
FINES	**FINESS Array B** 0.5nm,0.5s,baz=56,slow=4.8,SNR=5.8	**93.53**	**331**	P	**P**	**18 26 11.2**	**-2.6**
TORD	**Torodi Ar. Bea** 0.5nm,0.3s,baz=93,slow=1.9,SNR=3.2	**120.83**	**285**	PKP	**PKPdf**	**18 31 49.3**	**-1.4**
SCHQ	**Schefferville** 3.4nm,0.7s,baz=130,slow=2.3,SNR=5.6	**124.70**	**7**	PKP	**PKPdf**	**18 31 56.6**	**-0.4**
TXAR	**Lajitas Array** 0.3nm,0.7s,baz=348,slow=3.1,SNR=3.8	**126.46**	**53**	PKP	**PKPdf**	**18 32 01.8**	**+0.5**

*IDC **08** 18:17:15.6±2.9, 36°.68S×73°.82W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.7/22, mbtmp3.7/3, MS3.5/1, Ms1 3.5/1, ms1mx2.9/13, Error ellipse: s-maj=76.6km s-min=58.4km az=44.0*
*GUC **08** 18:17:19.2±0.5, 36°.14S×73°.85W, h33km±3km, ML4.8*
*ISCJB **08** 18:17:20.1±1.1, 36°.16S±0°.09×73°.82W±0°.09, h33km, mb3.7/2, Error ellipse: s-maj=13.3km s-min=10.1km az=2.6*
ISC 08 18:17:22.4±1.3, 36°.21S±0°.09×73°.7W±0°.1, h35km, n13, σ1§27/14, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.75**	**84**	*e*P	**Pn**	**18 17 34.8**	**-1.7**
COCH				*i* S	**Sn**	**18 17 46.5**	**-0.1**
CCSP	**San Pedro de C**	**0.80**	**142**	*e*P	**Pn**	**18 17 36.0**	**-1.1**
LNCH	**Linares**	**1.75**	**79**	*e*P	**Pn**	**18 17 49.7**	**-0.5**
LNCH				*i* S	**Sn**	**18 18 12.9**	**+1.7**
TALC	**Talca**	**1.88**	**65**	*e*P	**Pn**	**18 17 51.0**	**-0.9**
TALC				*e*S	**Sn**	**18 18 15.7**	**+1.3**
LNV	**Longovilo**	**2.94**	**41**	*e*P	**Pn**	**18 18 05.2**	**-1.4**
CHCH	**Chadas Angostu**	**3.39**	**49**	*e*P	**Pn**	**18 18 11.6**	**-1.1**
CLCH	**Cerro Calan**	**3.84**	**44**	*e*P	**Pn**	**18 18 17.5**	**-1.5**
CLCH	comp=N,940nm,0.5s			AML	AML	18 19 33.8	
PEL	**Peldehue**	**3.95**	**40**	*e*P	**Pn**	**18 18 19.4**	**-1.2**
PEL	comp=E,573nm,0.8s			AML	AML	18 19 31.1	
CPUP	**Villa Florida** comp=E,137nm,19.1s,baz=238,slow=39	**17.10**	**59**	LR	LR	18 28 29.2	
LPAZ	**La Paz** comp=E,1.2nm,0.6s,baz=209,slow=9.0,SNR=7.8	**20.46**	**16**	P	Pn	18 22 00.5	+0.5
TXAR	**Lajitas Array** comp=E,0.3nm,0.6s,baz=160,slow=8.6,SNR=3.7	**71.03**	**333**	P	**P**	**18 28 37.6**	**+0.9**
TORD	**Torodi Ar. Bea** comp=E,0.8nm,0.9s,baz=223,slow=3.2,SNR=3.5	**86.24**	**71**	P	**P**	**18 30 00.3**	**-0.3**
ZALV	**Zalesovo Beam** comp=E,0.7nm,0.6s,baz=296,slow=5.6,SNR=3.6	**156.83**	**33**	PKPab	**PKPab**	**18 37 43.8**	**+0.6**

MAN 08 18:34:26, 16°.03N×120°.62E, h19km, mb4.1, ML2.9, MS2.6, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.35**	**354**	⇑*i*P	Pn	18 34 35.2	-1.1
BCPH				*i* S	Sg	18 34 39.0	+0.1

**IDC 08 18:34:41.4±1.5, 2°.37N×127°.52E, h0km, mb3.7/5, mb

KOZ				eS		Sn	18 39 04.9	+2.6	
SRKR	**Sorokina**	**2.28**	**339**	*e*P		Pn	18 38 40.3	+2.8	
SRKR				eS		Sn	18 39 08.2	+3.7	
NLC	**Nalytchevo**	**2.38**	**236**	eS		Sn	18 39 08.5	+1.8	
SRDR	**Sredinnyy**	**2.44**	**318**	eP		Pn	18 38 41.5	+1.9	
SRDR				eS		Sn	18 39 10.2	+1.8	
SDLR	**Sedlovina**	**2.55**	**242**	eP		Pn	18 38 44.0	+2.8	
SDLR				eS		Sn	18 39 14.3	+3.1	
SMAR	**Somma**	**2.60**	**242**	eP		Pn	18 38 44.7	+2.7	
KRER	**Koryakskii**	**2.61**	**243**	eP		Pn	18 38 45.1	+3.0	
KRER				eS		Sn	18 39 16.2	+3.4	
UGLR	**Uglovaya**	**2.62**	**241**	eP		Pn	18 38 45.1	+3.0	
AVH	**Avacha**	**2.63**	**243**	eP		Pn	18 38 44.6	+2.3	
AVH				eS		Sn	18 39 15.6	+2.4	
KRX	**Arik**	**2.64**	**245**	eP		Pn	18 38 45.2	+2.8	
KOK	**Koryaka**	**2.67**	**244**	eP		Pn	18 38 45.9	+3.0	
PET	**Petropavlovsk**	**2.81**	**239**	eS		Sn	18 39 18.9	+1.8	
GNL	**Ganaly**	**2.89**	**255**	eP		Pn	18 38 48.8	+3.0	
RUS	**Russkaya**	**3.24**	**231**	eP		Pn	18 38 52.8	+2.4	

ISCJB ***08*** *18:39:18.8±1.4, 34.˚59S±0.˚05×72.˚01W±0.˚07, h2km± 10km, mb3.7/3, Error ellipse: s-maj=11.1km s-min=7.1km az=32.1*

GUC ***08*** *18:39:19.6±0.5, 34.˚58S×71.˚91W, h10km±2km, ML3.8*

IDC ***08*** *18:39:19.3±2.1, 34.˚70S×71.˚75W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.9/14, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=70.9km s-min=44.0km az=28.0*

ISC 08 18:39:20.6±1.7, 34.˚64S±0.˚04×71.˚77W±0.˚09, h8km±11km, n22, σ0°61/21, mb3.8/3, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.57**	**129**	*e*P		**Pn**	**18 39 33.9**	**-1.2**
NICH				*i* S		**Sn**	**18 39 44.2**	**-0.4**
LNV	**Longovilo**	**0.75**	**24**	*e*P		**Pg**	**18 39 34.6**	**-0.4**
TALC	**Talca**	**0.76**	**172**	*i* P		**Pb**	**18 39 36.3**	**+0.2**
TALC				eS		**Sb**	**18 39 46.9**	**+0.3**
CHCH	**Chadas Angostu**	**1.17**	**53**	*i* P		**Pb**	**18 39 43.0**	**0.0**
TACH	**Talagante**	**1.21**	**35**	*i* P		**Pb**	**18 39 42.8**	**-1.0**
TACH				*i* S		**Sn**	**18 40 00.3**	**0.0**
LNCH	**Linares**	**1.21**	**173**	⇓*i* P		**Pb**	**18 39 43.7**	**-0.1**
PCH	**Pirque**	**1.46**	**46**	*i* P		**Pb**	**18 39 47.9**	**-0.2**
PCH				*i* S		**Sg**	**18 40 08.9**	**+1.4**
SAN	**Santiago**	**1.50**	**38**	*i* P		**Pn**	**18 39 47.6**	**-0.3**
SAN				*i* S		**Sg**	**18 40 09.2**	**+0.3**
CLCH	**Cerro Calan**	**1.61**	**40**	*e*P		**Pn**	**18 39 49.9**	**+0.5**
CLCH				eS		**Sg**	**18 40 12.8**	**+0.4**
CLCH					AML	AML	18 40 17.6	
	comp=N,2μm,0.8s							
IHA	**Instituto Hidr**	**1.62**	**4**	*i* P		**Pn**	**18 39 48.5**	**-0.9**
PEL	**Peldehue**	**1.75**	**31**		AML	AML	18 40 19.4	
	comp=E,2μm,0.5s							
LPAZ	**La Paz**	**18.57**	**11**	P		**Pn**	**18 43 39.0**	**+0.2**
	comp=E,0.1nm,0.3s,baz=198,slow=9.6,SNR=4.9							
TXAR	**Lajitas Array**	**70.40**	**331**	P		**P**	**18 50 35.4**	**+0.1**
	comp=E,0.5nm,0.5s,baz=154,slow=8.6,SNR=10							
TORD	**Torodi Ar. Bea**	**84.22**	**70**	P		**P**	**18 51 53.0**	**0.0**
	comp=E,0.4nm,0.8s,baz=247,slow=5.3,SNR=2.7							
NVAR	**Mina Array Bea**	**84.54**	**325**	P		**P**	**18 51 54.9**	**+0.5**
	comp=E,0.2nm,0.3s,baz=152,slow=5.8,SNR=2.8							
H11S2	**WAKE ISLAND Hy**	**25.98**	**269**	T		T	21 16 46.1	
	baz=117,slow=74,SNR=25							
H11S1	**WAKE ISLAND Hy**	**25.99**	**269**	T		T	21 16 42.4	
	baz=117,slow=74,SNR=59							
H11S3	**WAKE ISLAND Hy**	**26.00**	**269**	T		T	21 16 43.1	
	baz=117,slow=74,SNR=22							
H11N3	**WAKE ISLAND Hy**	**26.41**	**270**	T		T	21 17 13.3	
	baz=115,slow=78,SNR=26							
H11N1	**WAKE ISLAND Hy**	**26.42**	**270**	T		T	21 17 12.9	
	baz=115,slow=78,SNR=65							
H11N2	**WAKE ISLAND Hy**	**26.43**	**270**	T		T	21 17 14.6	
	baz=115,slow=78,SNR=22							
ZALV	**Zalesovo Beam**	**154.65**	**33**	PKPbc		**PKPbc**	**18 59 21.6**	**+0.1**
	comp=E,0.3nm,0.3s,baz=332,slow=4.9,SNR=2.7							

NDI 08 19:06:32.0±2.0, 32.˚35N×75.˚59E, h10km, ML3.9, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**0.37**	**59**	*e*P		Pg	19 06 38.0	-1.6
DLH				eS		Sg	19 06 44.0	-0.7
PONG	**Pong**	**0.50**	**143**	eP		Pg	19 06 40.5	-1.2
SDNR	**Sundarnagar**	**1.45**	**126**	eP		Pn	19 06 58.0	-0.3
SDNR				ex		Sn	19 07 14.0	-3.4
SMLA	**Simla**	**1.81**	**132**	*i* P		Pb	19 07 04.5	-0.8
SMLA				*i* S		Sb	19 07 27.2	-0.8
SMLA				*i* S		Sn	19 07 27.2	+0.9
SMLA					AML	AML	19 07 28.3	
	comp=E,3μm,0.3s							
SMLA					AML	AML	19 07 29.4	
	comp=N,2μm,0.2s							
KALG	**Kalgarh**	**3.93**	**135**	eS		Sn	19 08 17.3	-1.2
AGRA	**Agra**	**5.50**	**158**	eP		Pn	19 07 55.2	+1.2
AGRA				eS		Sn	19 08 52.4	-4.9
AGRA					AML	AML	19 09 11.3	
	comp=N,124nm,0.6s							
AGRA					AML	AML	19 09 11.8	
	comp=E,79nm,0.6s							

ISCJB ***08*** *19:19:23.6±0.4, 67.˚05N±0.˚02×20.˚90E±0.˚09, h0km, Error ellipse: s-maj=4.9km s-min=2.8km az=178.2*

CSEM ***08*** *19:19:24.6±0.2, 67.˚08N×20.˚84E, h2km, ML1.8, Error ellipse: s-maj=5.5km s-min=3.0km az=83.0, Mining explosion.*

UPP ***08*** *19:19:24.1, 67.˚08N×20.˚95E, h0km, ML1.8, Mining explosion.*

IDC ***08*** *19:19:24.3±1.0, 67.˚09N×20.˚91E, h0km, mb1 2.7/3, mb1mx2.6/33, mbtmp2.6/3, ML2.1/3, Error ellipse: s-maj=15.5km s-min=8.3km az=109.0*

NAO ***08*** *19:19:24.4±2.0, 67.˚09N×20.˚83E, ML2.4*

BER ***08*** *19:19:25.8±2.9, 66.˚99N×20.˚59E, h0km, ML1.6, ML2.4(NAO), Suspected explosion*

HEL ***08*** *19:19:25.0±0.1, 67.˚08N×20.˚87E, h0km, ML2.2, ML1.8(UPP), Explosion*

ISC 08 19:19:24.0±0.8, 67.˚06N±0.˚02×20.˚86E±0.˚03, h0km, n74, σ0°95/110, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.73**	**134**	*i* P		**Pg**	**19 19 37.7**	**-0.3**
ERTU	**Ertsjaerv**	**0.73**	**134**	P		**Pg**	**19 19 37.7**	**-0.3**
ERTU	**Ertsjaerv**	**0.73**	**134**	P		**Pg**	**19 19 37.7**	**-0.3**
HARU	**Harads**	**0.91**	**177**	eP		**Pg**	**19 19 41.3**	**0.0**
HARU	**Harads**	**0.91**	**177**	P		**Pg**	**19 19 41.3**	**0.0**
HARU	**Harads**	**0.91**	**177**	P		**Pg**	**19 19 41.3**	**0.0**
KUA	**Kurravaara**	**0.92**	**348**	eP		**Pg**	**19 19 41.0**	**-0.5**
KUA	**Kurravaara**	**0.92**	**348**	P		**Pg**	**19 19 41.0**	**-0.5**
KUA	**Kurravaara**	**0.92**	**348**	P		**Pg**	**19 19 41.0**	**-0.5**
NIKU	**Nikkaluokta**	**1.07**	**320**	eP		**Pg**	**19 19 44.2**	**-0.3**
NIKU	**Nikkaluokta**	**1.07**	**320**	P		**Pg**	**19 19 44.2**	**-0.3**
NIKU	**Nikkaluokta**	**1.07**	**320**	P		**Pg**	**19 19 44.2**	**-0.3**
LANU	**Lannavaara**	**1.08**	**23**	eP		**Pg**	**19 19 43.6**	**-1.1**
LANU	**Lannavaara**	**1.08**	**23**	P		**Pg**	**19 19 43.6**	**-1.1**
LANU	**Lannavaara**	**1.08**	**23**	P		**Pg**	**19 19 43.6**	**-1.1**
KALU	**Kalix**	**1.57**	**139**	eP		**Pn**	**19 19 52.8**	**-0.3**
KALU	**Kalix**	**1.57**	**139**	P		**Pn**	**19 19 52.8**	**-0.3**
KALU	**Kalix**	**1.57**	**139**	P		**Pn**	**19 19 52.8**	**-0.3**
SJUU	**Sjulsmark**	**1.59**	**169**	eP		**Pn**	**19 19 53.5**	**+0.1**
SJUU	**Sjulsmark**	**1.59**	**169**	P		**Pn**	**19 19 53.5**	**+0.1**
SJUU	**Sjulsmark**	**1.59**	**169**	P		**Pn**	**19 19 53.5**	**+0.1**
HEF	**Hetta**	**1.72**	**37**	*e*P		**Pn**	**19 19 54.8**	**-0.3**
HEF				eS		**Sn**	**19 20 17.7**	**-0.1**
HEF					MSG		19 20 27.8	
	comp=Z,14nm,0.1s							
HEF	**Hetta**	**1.72**	**37**	P		**Pn**	**19 19 54.8**	**-0.3**
HEF				S		**Sn**	**19 20 17.7**	**-0.1**
LILU	**Lilltraesk**	**1.83**	**193**	*e*P		**Pn**	**19 19 57.4**	**+0.7**
LILU	**Lilltraesk**	**1.83**	**193**	P		**Pn**	**19 19 57.3**	**+0.7**
LILU	**Lilltraesk**	**1.83**	**193**	P		**Pn**	**19 19 57.4**	**+0.7**
KIF	**Kilpisjarvi**	**1.95**	**359**	Pn		**Pb**	**19 19 59.8**	**-0.5**
KIF				Sn		**Sb**	**19 20 25.9**	**+0.8**
KIF	**Kilpisjarvi**	**1.95**	**359**	Pn		**Pb**	**19 19 59.8**	**-0.5**
KIF				Sn		**Sb**	**19 20 25.9**	**+0.8**
KIF	**Kilpisjarvi**	**1.95**	**359**	*e*P		**Pb**	**19 19 59.7**	**-0.5**
KIF				eS		**Sb**	**19 20 25.5**	**+0.4**
KIF					MSG		19 20 36.5	
	comp=Z,20nm,0.1s							
KIF	**Kilpisjarvi**	**1.95**	**359**	P		**Pb**	**19 19 59.7**	**-0.5**
KIF				S		**Sb**	**19 20 25.5**	**+0.4**
RNF	**Rovaniemi**	**2.09**	**100**	*e*P		**Pn**	**19 20 01.2**	**+0.9**
RNF				eS		**Sb**	**19 20 28.6**	**-0.5**
RNF	**Rovaniemi**	**2.09**	**100**	P		**Pn**	**19 20 01.1**	**+0.9**
RNF				S		**Sb**	**19 20 28.6**	**-0.5**
KTK1	**Kautokeino**	**2.15**	**23**	*e*P		**Pn**	**19 20 02.3**	**+1.2**
KTK1				eS		**Sb**	**19 20 31.0**	**0.0**
KTK1					IAML		19 20 39.8	
	comp=Z,7.2nm,0.3s							
KTK1	**Kautokeino**	**2.15**	**23**	*e*P		**Pn**	**19 20 02.3**	**+1.2**
	SNR=50							
KTK1				eS		**Sb**	**19 20 31.0**	**0.0**
	SNR=50							
SGF	**Sodankyl**	**2.24**	**78**	*e*P		**Pn**	**19 20 03.3**	**+1.1**
SGF				eS		**Sn**	**19 20 30.4**	**0.0**
SGF	**Sodankyl**	**2.24**	**78**	P		**Pn**	**19 20 03.3**	**+1.1**
SGF				S		**Sn**	**19 20 30.4**	**0.0**
BURU	**Burvik**	**2.50**	**175**	*e*P		**Pn**	**19 20 07.2**	**+1.3**
BURU	**Burvik**	**2.50**	**175**	P		**Pn**	**19 20 07.1**	**+1.3**
BURU	**Burvik**	**2.50**	**175**	P		**Pn**	**19 20 07.2**	**+1.3**
SVAU	**Svanoeiden**	**2.63**	**192**	*e*P		**Pn**	**19 20 08.9**	**+1.2**
SVAU	**Svanoeiden**	**2.63**	**192**	P		**Pn**	**19 20 08.8**	**+1.2**
SVAU	**Svanoeiden**	**2.63**	**192**	P		**Pn**	**19 20 08.9**	**+1.2**
TRO	**Tromso**	**2.68**	**345**	*e*P		**Pn**	**19 20 08.5**	**+0.2**
TRO					IAML		19 20 56.5	
	comp=Z,7.0nm,0.3s							
TRO	**Tromso**	**2.68**	**345**	*e*P		**Pn**	**19 20 08.5**	**+0.2**
	SNR=50							
OUL	**Oulu**	**2.86**	**132**	*e*P		**Pn**	**19 20 12.9**	**+2.1**
OUL				eS		**Sn**	**19 20 46.7**	**+1.0**
OUL	**Oulu**	**2.86**	**132**	P		**Pn**	**19 20 12.8**	**+2.1**
OUL				S		**Sn**	**19 20 46.7**	**+1.0**
ARA0	**ARCESS Array S**	**3.02**	**33**	Pn		**Pn**	**19 20 13.1**	**0.0**
	baz=206,slow=16							
ARA0					Sn	**Sn**	**19 20 51.1**	**+1.2**
	baz=224,slow=22							
ARA0	**ARCESS Array S**	**3.02**	**33**	Pn		**Pn**	**19 20 13.1**	**0.0**
	baz=206,slow=16							
ARA0					Sn	**Sn**	**19 20 51.1**	**+1.2**
	baz=224,slow=22							
ARA0	**ARCESS Array S**	**3.02**	**33**	Pn		**Pn**	**19 20 13.1**	**0.0**
	SNR=50							
ARA0					Sn	**Sn**	**19 20 51.2**	**+1.2**
	SNR=50							
ARCES	**ARCESS Array B**	**3.02**	**33**	Pn		**Pn**	**19 20 13.1**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=214,slow=15,SNR=36							
ARCES					Sn	**Sn**	**19 20 49.9**	**0.0**
	comp=Z,0.5nm,0.3s,baz=213,slow=21,SNR=8.0							
ARE0	**ARCESS Array S**	**3.02**	**33**	*e*P		**Pn**	**19 20 13.2**	**+0.2**
ARE0	**ARCESS Array S**	**3.02**	**33**	*e*P		**Pn**	**19 20 13.2**	**+0.2**
	SNR=50							
MSF	**Maaselka**	**3.48**	**106**	*e*P		**Pn**	**19 20 19.8**	**+0.5**
MSF				eS		**Sn**	**19 21 01.8**	**+0.6**
MSF	**Maaselka**	**3.48**	**106**	P		**Pn**	**19 20 19.7**	**+0.5**
MSF				S		**Sn**	**19 21 01.8**	**+0.6**
KEV	**Kevo**	**3.53**	**37**	Pn		**Pn**	**19 20 19.8**	**-0.2**
KEV				Sn		**Sn**	**19 21 03.6**	**+1.3**
KEV	**Kevo**	**3.53**	**37**	Pn		**Pn**	**19 20 19.8**	**-0.2**
KEV				Sn		**Sn**	**19 21 03.6**	**+1.3**
KEV	**Kevo**	**3.53**	**37**	Pn		**Pn**	**19 20 19.8**	**-0.2**
	SNR=50							
KEV					Sn	**Sn**	**19 21 03.6**	**+1.3**
	SNR=50							
KU6	**Riekki**	**3.76**	**102**	*e*P		**Pn**	**19 20 24.0**	**+0.9**
KU6				eS		**Sn**	**19 21 08.8**	**+0.7**
KU6	**Riekki**	**3.76**	**102**	P		**Pn**	**19 20 24.0**	**+0.9**
KU6				S		**Sn**	**19 21 08.7**	**+0.7**
VAF	**Ylistaro**	**4.11**	**168**	*e*P		**Pn**	**19 20 29.5**	**+1.6**
VAF				eS		**Sn**	**19 21 17.0**	**+0.4**
VAF	**Ylistaro**	**4.11**	**168**	P		**Pn**	**19 20 29.5**	**+1.6**
VAF				S		**Sn**	**19 21 17.0**	**+0.4**
KJN	**Kajaani**	**4.13**	**133**	*e*P		**Pn**	**19 20 29.2**	**+1.0**
KJN				eS		**Sn**	**19 21 17.2**	**+0.1**
KJN	**Kajaani**	**4.13**	**133**	P		**Pn**	**19 20 29.2**	**+1.0**
KJN				S		**Sn**	**19 21 17.2**	**+0.1**
SUF	**Sumiainen**	**4.91**	**150**	*e*P		**Pn**	**19 20 40.2**	**+1.2**
SUF				eS		**Sn**	**19 21 35.5**	**-0.9**
SUF	**Sumiainen**	**4.91**	**150**	P		**Pn**	**19 20 40.1**	**+1.2**
SUF				S		**Sn**	**19 21 35.4**	**-0.9**
KEF	**Keuruu**	**5.21**	**159**	*e*P		**Pn**	**19 20 44.6**	**+1.6**
KEF				eS		**Sn**	**19 21 42.4**	**-1.4**
KEF	**Keuruu**	**5.21**	**159**	P		**Pn**	**19 20 44.6**	**+1.6**
KEF				S		**Sn**	**19 21 42.3**	**-1.4**
KAF	**Kangasniemi**	**5.50**	**152**	*e*P		**Pn**	**19 20 47.9**	**+0.9**
KAF				eS		**Sn**	**19 21 48.9**	**-1.8**
KAF	**Kangasniemi**	**5.50**	**152**	P		**Pn**	**19 20 47.8**	**+0.9**
FIA0	**FINESS Array S**	**6.08**	**156**	Pn		**Pn**	**19 20 56.4**	**+1.4**
	baz=345,slow=14							
FIA0	**FINESS Array S**	**6.08**	**156**	Pn		**Pn**	**19 20 56.4**	**+1.4**
	baz=345,slow=14							
FIA0	**FINESS Array S**	**6.08**	**156**	Pn		**Pn**	**19 20 56.4**	**+1.4**
	SNR=50							
FINES	**FINESS Array B**	**6.08**	**156**	Pn		**Pn**	**19 20 56.3**	**+1.4**
	comp=Z,0.0nm,0.3s,baz=347,slow=13,SNR=7.7							
FINES					Sn	**Sn**	**19 22 03.8**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=342,slow=22,SNR=3.4							
FINES					Lg	Lg	19 22 37.6	
	comp=Z,0.1nm,0.3s,baz=340,slow=28,SNR=2.2							
NOA	**NORSAR Array B**	**7.37**	**219**	Pn		**Pn**	**19 21 11.9**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=59,slow=18,SNR=2.5							
NOA					Sn	**Sn**	**19 22 34.0**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=36,slow=23,SNR=2.5							

IDC ***08*** *19:24:34.1±1.8, 7.˚67S×128.˚95E, h0km, mb3.3/1, mb1 3.8/4, mb1mx3.5/35, mbtmp3.6/4, ML3.8/3, Error ellipse: s-maj=64.5km s-min=29.0km az=77.0*

ISC 08 19:24:35.5±1.3, 7.˚66S±0.˚08×129.˚2E±0.˚3, h10km, n8, σ2°34/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**5.62**	**33**	P		**Pn**	**19 26 00.1**	**+1.0**
	baz=5.3,SNR=21							
KDU	**Kakadu**	**5.95**	**147**	P		Pn	19 26 07.9	+4.2
	baz=6.0,SNR=19							
SIJI	**Sorong**	**7.06**	**17**	Pn		**Pn**	**19 26 21.1**	**+2.0**
	1.2nm,0.3s,baz=221,slow=20,SNR=15							
SIJI					Sn	**Sn**	**19 27 36.7**	**-2.7**
	0.6nm,0.3s,baz=270,slow=20,SNR=4.7							
SWI	**Sorong**	**7.07**	**17**	P		**Pn**	**19 26 21.7**	**+2.6**
	baz=6.8,SNR=3.8							
KNRA	**Kununurra**	**7.97**	**183**	P		Pn	19 26 37.2	+5.7
	baz=8.2,SNR=14							
WRA	**Warramunga Arr**	**13.19**	**158**	Pn		**Pn**	**19 27 43.5**	**+0.5**
	0.6nm,0.3s,baz=342,slow=13,SNR=46							
WRA					Sn	Sn	19 30 01.5	-8.4
	0.4nm,0.3s,baz=332,slow=21,SNR=8.6							
ASAR	**Alice Springs**	**16.54**	**165**	Pn		**P**	**19 28 29.1**	**-1.3**
	0.2nm,0.3s,baz=345,slow=9.5,SNR=14							
ASAR					Sn	Sn	19 31 23.2	-8.4
	0.1nm,0.3s,baz=346,slow=26,SNR=4.0							
MKAR	**Makanchi Array**	**68.34**	**327**	P		**P**	**19 35 36.4**	**-0.8**
	0.2nm,0.5s,baz=119,slow=7.0,SNR=3.4							

IDC ***08*** *19:41:35.9±1.4, 10.˚04N×125.˚99E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/34, mbtmp3.8/7, Error ellipse: s-maj=176.3km s-min=17.6km az=67.0*

ISCJB ***08*** *19:41:39.3±0.7, 10.˚21N±0.˚05×126.˚53E±0.˚06, h35km, mb3.8/7, Error ellipse: s-maj=8.8km s-min=6.7km az=157.4*

MAN ***08*** *19:41:43, 10.˚26N×126.˚26E, h36km, mb4.9, ML3.8, MS3.8*

ISC 08 19:41:40.7±0.9, 10.˚21N±0.˚06×126.˚51E±0.˚09, h35km, n20, σ0°96/19, mb3.8/7, 2C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.78**	**302**	⇓*e*P		**Pn**	**19 42 09.8**	**+0.9**
PLP				eS		**Sn**	**19 42 29.2**	**-1.2**
BIPH	**Bislig**	**2.02**	**184**	⇑*i* P		**Pn**	**19 42 13.0**	**+0.8**
BIPH				*i* S		**Sn**	**19 42 35.5**	**-0.8**
CGP	**Cagayan de Oro**	**2.50**	**226**	⇑*e*P		**Pn**	**19 42 19.2**	**+0.3**
CGP				*i* S		**Sn**	**19 42 46.5**	**-1.6**
TBP	**Tagbilaran**	**2.66**	**259**	⇓*e*P		**Pn**	**19 42 22.1**	**+1.0**
TBP				eS		**Sn**	**19 42 52.2**	**+0.1**
DCPH	**Dipolog City**	**3.51**	**243**	⇓*i* P		**Pn**	**19 42 34.0**	**+1.2**
CTBH	**Cotabato--PC H**	**3.71**	**217**	⇓*i* P		**Pn**	**19 42 36.9**	**+1.2**
WRA	**Warramunga Arr**	**30.94**	**166**	P		**P**	**19 47 53.4**	**-1.2**
	0.3nm,0.6s,baz=343,slow=9.2,SNR=4.0							
ASAR	**Alice Springs**	**34.44**	**168**	P		**P**	**19 48 25.4**	**+0.2**
	0.4nm,0.4s,baz=352,slow=7.2,SNR=20							
ASAR					PcP	**PcP**	**19 51 00.7**	**+0.4**
	0.2nm,0.6s,baz=344,slow=2.5,SNR=4.5							
H11S3	**WAKE ISLAND Hy**	**39.72**	**73**	T		T	20 32 12.3	
	baz=262,slow=74,SNR=16							
H11S1	**WAKE ISLAND Hy**	**39.73**	**73**	T		T	20 32 08.9	
	baz=262,slow=74,SNR=9.7							
H11S2	**WAKE ISLAND Hy**	**39.73**	**73**	T		T	20 32 07.8	
	baz=262,slow=74,SNR=8.4							
H11N1	**WAKE ISLAND Hy**	**40.05**	**72**	T		T	20 32 38.1	
	baz=264,slow=75,SNR=50							
H11N2	**WAKE ISLAND Hy**	**40.06**	**72**	T		T	20 32 38.6	
	baz=264,slow=75,SNR=32							
H11N3	**WAKE ISLAND Hy**	**40.07**	**72**	T		T	20 32 38.7	
	baz=264,slow=75,SNR=37							
STKA	**Stephens Creek**	**44.27**	**162**	P		**P**	**19 49 47.9**	**+0.8**
	1.5nm,0.7s,baz=359,slow=8.3,SNR=5.7							
MKAR	**Makanchi Array**	**52.22**	**323**	P		**P**	**19 50 47.9**	**-0.4**
	0.6nm,0.7s,baz=116,slow=8.5,SNR=8.5							
KURBB	**Kurchatov Arra**	**56.26**	**325**	P		**P**	**19 51 16.9**	**-0.7**
	0.4nm,0.6s,baz=122,slow=7.7,SNR=5.4							
ARCES	**ARCESS Array B**	**84.33**	**340**	P		**P**	**19 54 09.8**	**+0.9**
	1.3nm,1.0s,baz=72,slow=6.7,SNR=3.1							
FINES	**FINESS Array B**	**86.06**	**332**	P		**P**	**19 54 17.3**	**-0.3**
	1.2nm,0.8s,baz=77,slow=7.2,SNR=6.6							
TORD	**Torodi Ar. Bea**	**120.51**	**292**	PKP		**PKPdf**	**20 00 28.7**	**-1.0**
	0.3nm,0.6s,baz=112,slow=1.6,SNR=2.9							

NIED ***08*** *19:43:00, 24.˚30N×122.˚10E, h23km, Mw5.0 Best double couple: M0 3.75000×10^16 NP1:φs304.00000°, δ19.00000°, λ-112.00000°. NP2:φs148.00000°, δ72.00000°, λ-82.00000°.*

BJI ***08*** *19:43:33.3, 24.˚31N×122.˚16E, h12km, mb4.8/66, mB5.0/43, ML4.9/9, Ms5.0/75, Ms7 4.8/68*

NEIC ***08*** *19:43:37.8±0.8, 24.˚42N×122.˚11E, h25km±5km, mb5.3/54, MS4.6/110, ML5.4(TAP), Error ellipse: s-maj=5.6km s-min=4.8km az=120.0*

NEIC Felt [II] at Taipei. Also felt at Hsin-chu, Hsin-chuang, Kao-hsiung, Lo-tung and Yang-mei. Recorded [5 TAP] in I-lan; [4 TAP] in Hua-lien; [3 TAP] in T'ai-pei; [2 TAP] in T'ai-chung and T'ao-yuan; [1 TAP] in Chang-hua, Hsin-chu, Miao-li, Nan-t'ou and Yun-lin.

MOS ***08*** *19:43:37.4±1.2, 24.˚48N×122.˚13E, h33km, mb5.4/41, MS4.6/23, Error ellipse: s-maj=7.5km s-min=4.4km az=100.4*

BKK ***08*** *19:43:37.0±0.4, 25.˚N±5.˚×12.˚2E±.˚, h10km, M4.9/35, mB5.2/20, mb5.0/35, MLv5.8/1, Mw(mB)4.6/20*

TAP ***08*** *19:43:37.5, 24.˚35N×122.˚04E, h19km, ML5.2, B*

GCMT ***08*** *19:43:37.8±0.3, 24.˚33N×121.˚93E, h34km±1km, MW5.0/81, Moment Tensor Solution. s49,c58; s81,c112; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.51±.17; Mθθ2.17±.11; Mφφ0.34±.12; Mrθ-0.40±.12; Mθφ-1.97±.07; Mφr3.31±.17; Best double couple: M0 4.51200×10^16 NP1:φs155.00000°, δ71.00000°, λ-61.00000°. NP2: φs275.00000°, δ34.00000°, λ-145.00000°. Principal axes: T 4.2510, Plg21.0000°, Azm224.0000°; N 0.5300, Plg27.0000°, Azm325.0000°; P -4.7720, Plg54.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

JMA ***08*** *19:43:37.4, 24.˚30N×122.˚03E, h28km±3km, M5.4*

JMA Felt I J1.

SZGRF ***08*** *19:43:38.1, 24.˚21N×122.˚44E, h33km, mb5.0, MS4.6, Taiwan region*

ISCJB ***08*** *19:43:38.8±0.2, 24.˚36N±0.˚01×122.˚11E±0.˚01, h44km±1km, mb5.1/202, MS4.6/140, Error ellipse: s-maj=2.2km s-min=1.7km az=151.7*

IDC ***08*** *19:43:39.1±1.5, 24.˚44N×122.˚21E, h38km±12km, mb4.7/32, mb1 4.7/34, mb1mx4.7/36, mbtmp4.9/34, ML4.6/2, MS4.5/23, Ms1 4.5/23, ms1mx4.2/41, Error ellipse: s-maj=12.2km s-min=9.1km az=70.0*

ISC 08 19:43:37.9±0.3, 24.˚34N±0.˚02×122.˚14E±0.˚02, h25km±1km, h25km:pP-P, n786, σ1s51/791, mb5.1/216, MS4.6/142, 56C-57D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.37**	**266**	*e*P		**Pb**	**19 43 44.5

baz=229
YUS eS Sn 19 44 19.9 +0.2
baz=229
WNT Mingjian 1.41 251 ⇓*i*P Pb 19 44 03.2 -0.3
baz=250
WNT eS Sb 19 44 22.7 +1.6
baz=250
CHKT Chengkung 1.43 210 ⇓P Pn 19 44 00.7 -1.5
baz=187
IRIF Iriomote-Funau 1.45 90 P Pb 19 44 03.5 -0.7
IRIF eS Sb 19 44 22.8 +0.6
ALS Alishan 1.48 236 ⇓*i*P Pn 19 44 03.7 +0.6
baz=233
CHN5 Tsauling 1.53 241 ⇓*i*P Pb 19 44 04.8 -0.8
baz=239
HATJ Hateruma jima 1.54 100 P Pb 19 44 05.5 -0.3
WGK Gukeng 1.58 246 ⇓*e*P Pb 19 44 05.8 -0.7
baz=244
WGK eS Sb 19 44 27.5 +1.4
baz=244
JKRS Kuro-shima 1.71 93 P Pb 19 44 07.8 -0.8
JKRS eS Sb 19 44 29.0 -0.7
CHN2 Minshiung 1.72 243 *e*P Pb 19 44 07.9 -1.0
baz=240
CHN2 eS Sb 19 44 30.9 +0.7
baz=240
STYT Tauyuan 1.73 228 ⇓*i*P Pn 19 44 07.0 +0.6
baz=224
STYT S Sn 19 44 28.6 +1.0
baz=224
WTCT Ta-ch'eng 1.77 255 *e*P Pn 19 44 07.8 +1.0
baz=254
WTCT eS Sb 19 44 31.4 0.0
baz=254
WTP Ta-pu 1.77 232 ⇓*i*P Pn 19 44 08.3 +1.3
baz=215
CHY Chiayi 1.78 242 ⇓*i*P Pb 19 44 08.8 -1.1
baz=226
CHY eS Sb 19 44 32.3 +0.5
baz=226
TWG Pinlang 1.80 213 *e*P Pn 19 44 06.2 -1.2
baz=207
TTN Taitung 1.82 210 *e*P Pn 19 44 07.2 -0.4
baz=190
JIJ Ishigaki jima 1.82 89 P Pn 19 44 08.5 +0.8
JIJ eS Sn 19 44 30.6 +0.6
TWK Hsinying 1.85 235 ⇓P Pn 19 44 09.5 +1.4
baz=232
TWK eS Sb 19 44 33.5 -0.4
baz=232
CHN1 Nanshi 1.87 232 ⇓*i*P Pn 19 44 09.7 +1.3
baz=230
CHN1 eS Sb 19 44 34.0 -0.5
baz=230
WSF Szhu 1.89 249 *e*P Pn 19 44 09.9 +1.4
baz=248
WSF eS Sb 19 44 34.5 -0.4
baz=248
SGST Jiashian 1.90 229 ⇓*i*P Pn 19 44 10.3 +1.6
baz=226
SGST eS Sb 19 44 34.5 -0.7
baz=226
JISG Ishigakijimahi 1.99 82 P Pn 19 44 10.8 +0.9
JISG eS Sn 19 44 35.8 +1.7
CHN8 Yiju 2.02 241 P Pn 19 44 11.8 +1.4
baz=223
CHN8 eS Sb 19 44 38.3 -0.5
baz=223
ECL Taimali 2.05 212 *e*P Pn 19 44 09.6 -1.1
baz=206
CHN3 Shinhua 2.06 233 P Pb 19 44 13.0 -1.6
baz=230
CHN3 eS Sb 19 44 40.5 +0.8
baz=230
SSD Sandimen 2.11 221 ⇑*e*P Pn 19 44 12.2 +0.7
baz=199
SSD S Sb 19 44 40.0 -1.2
baz=199
SCLT Jiali 2.13 237 *e*P Pn 19 44 13.2 +1.4
baz=235
SCLT eS Sb 19 44 41.0 -0.8
baz=235
TAI1 Yung-k'ang 2.18 234 ⇓P Pn 19 44 14.2 +1.7
baz=231
TWM1 Shoushan 2.18 227 ⇑P Pb 19 44 14.9 -1.9
baz=222
SGLT Jiouru 2.21 224 *e*P Pb 19 44 15.3 -1.9
baz=201
TAW Tawu 2.28 210 ⇑*e*P Pn 19 44 13.2 -0.7
baz=204
EAST Anshuo 2.28 212 ⇑P Pn 19 44 13.4 -0.6
baz=205
JTJ Tarama 2.35 82 P Pn 19 44 16.5 +1.6
JTJ eS Sb 19 44 45.7 -2.5
LAY Lan-yu 2.35 193 *e*P Pn 19 44 13.2 -1.8
baz=186
SCZT Fangliau 2.41 216 *e*P Pn 19 44 16.5 +0.9
baz=195
SCZT eS Sb 19 44 47.5 -2.3
baz=195
KAU Kaohsiung 2.44 224 *e*P Pn 19 44 16.7 +0.6
baz=218
PNG Penghu 2.49 253 ⇓*i*P Pn 19 44 16.8 0.0
baz=252
WDGT Dungji 2.51 245 ⇓*i*P Pn 19 44 17.6 +0.5
baz=244
TWP Hsiaoliuchiu 2.57 220 *e*P Pb 19 44 20.8 -2.5
baz=213
HEN Hengchun 2.66 209 *e*P Pn 19 44 19.7 +0.6
baz=190
TWK1 Hengchun 2.68 208 ⇑*e*P Pn 19 44 19.6 +0.1
baz=190
TSEB Hengchuen, Pin 2.68 205 *e*P Pn 19 44 19.6 +0.1
baz=191
TSEB eS Sn 19 44 51.5 +0.3
baz=191
JIRB Irabujima 2.80 79 P Pn 19 44 22.8 +1.7
JIRB eS Sn 19 44 55.6 +1.5
JIKM Ikemajima 2.89 78 P Pn 19 44 24.5 +2.3
JIKM eS Sn 19 44 59.6 +3.5
JMJ Miyako jima 2 2.91 80 P Pn 19 44 24.8 +2.2
JMJ eS Sn 19 44 59.6 +2.9
JMJ Miyako jima 2 2.91 80 ⇓*e*P Pn 19 44 24.8 +2.2
baz=81
JOGS Gusukube 3.00 81 P Pn 19 44 26.1 +2.2
JOGS eS Sn 19 45 01.7 +2.7
QZH Quanzhou 3.29 281 ⇑*i*Pn Pn 19 44 27.0 -0.7
QZH Sn Sn 19 45 03.3 -2.7
QZH SMN
8μm,0.8s
QZH SME
5μm,0.8s
QZH LN
15μm,4.9s
QZH LE
40μm,10.4s
QZH LZ
44μm,16.2s
KNM Kinmen 3.38 272 ⇓*e*P Pn 19 44 30.2 +1.1
baz=273
JKE Kume jima 2 4.64 64 P Pn 19 44 49.5 +3.1
JKE eS Sn 19 45 44.0 +4.4
JAGN Aguni-jima 5.12 63 P Pn 19 44 56.2 +3.2
JJT2 Tamagusuku 2 5.38 69 P Pn 19 45 00.2 +3.6
JNTH Nagotoyohara 5.74 67 P Pn 19 45 03.9 +2.4
JIH Iheya 5.90 62 P Pn 19 45 06.3 +2.6
JOW Kunigami 6.07 65 P Pn 19 45 07.5 +1.5
JOW Kunigami 6.07 65 *e*P Pn 19 45 07.9 +1.8
baz=67
SGCP Mt. Cagua 6.07 181 *e*P Pn 19 45 05.8 -0.3
PIP Pasuquin 6.15 194 ⇓*e*P Pn 19 45 08.0 +0.8
JOKE Okinoerabujima 6.53 61 P Pn 19 45 13.5 +1.2
CVP Callao Caves 6.61 183 ⇑*e*P Pn 19 45 14.0 +0.6
SSE Sheshan 6.78 353 Pn Pn 19 45 15.2 -0.6
SSE Sn Sn 19 46 36.2 +4.0
SSE SMN
500nm,1.2s
SSE SME
110nm,1.2s
SSE LN
3μm,10.7s
SSE LE
3μm,10.7s
SSE LZ
5μm,13.7s
ABRA Dolores 6.79 192 *e*P Pn 19 45 17.2 +1.2

JTK Tokunoshima 7.02 59 P Pn 19 45 20.2 +1.1
CAUP Cauayan 7.36 182 *e*P Pn 19 45 25.8 +2.0
JAMN Amaminishikomi 7.41 57 P Pn 19 45 25.5 +1.0
JAM Amami Oshima 7.83 57 P Pn 19 45 30.9 +0.8
BCPH Baguio City Da 8.05 191 ⇑*i*P Pn 19 45 35.3 +1.8
BCPH *i* S Px 19 45 47.0
GZH Guangzhou 8.16 263 P Pn 19 45 29.6 -5.1
GZH S Sn 19 46 52.1 -14
BOLP Bolinao 8.19 195 *e*P Pn 19 45 37.2 +2.0
NJ2 Nanjing 8.21 340 *e*P Pn 19 45 36.5 +1.1
NJ2 S Sn 19 47 09.2 +1.8
NJ2 PMZ
100nm,0.7s
NJ2 SMN
2μm,0.8s
NJ2 SME
820nm,0.8s
NJ2 LN
9μm,6.4s
NJ2 LE
7μm,9.4s
NJ2 LZ
9μm,9.8s
JMZ Minamidaito 2 8.36 78 P Pn 19 45 36.0 -1.5
BALP Baler 8.57 184 *e*P Pn 19 45 42.0 +1.6
WHN Wuhan 9.28 313 ⇓P Pn 19 45 49.3 -0.7
WHN S Sn 19 47 27.1 -6.5
WHN LN
13μm,4.9s
WHN LE
13μm,4.8s
WHN LZ
12μm,9.7s
TGY Tagaytay City 10.25 187 Pn Pn 19 46 09.0 +5.6
baz=90,slow=2.0
JNU Nakatsue 11.63 39 Pn Pn 19 46 26.4 +4.1
1.6nm,0.3s,baz=191,slow=6.4,SNR=41
JNU LR LR 19 51 43.1
comp=Z,4μm,18.0s,baz=181,slow=42
KSGUS GUNSAN 12.33 18 P P 19 46 38.3 -5.4
SNR=14
QIZ Qiongzhong 12.59 248 P Pn 19 46 35.5 0.0
QIZ S Sn 19 48 55.7 +0.7
QIZ PMZ
20nm,1.0s
QIZ LN
2μm,15.4s
QIZ LZ
4μm,19.6s
TIA Tai'an 12.60 341 ⇓P Pn 19 46 41.0 +5.5
TIA S Sn 19 49 05.5 +10
TIA PMZ
20nm,1.5s
TIA PMZ
240nm,8.1s
TIA LN
2μm,10.7s
TIA LE
4μm,9.7s
TIA LZ
3μm,17.7s
ENH Enshi 12.70 300 *e*Pn Pn 19 46 30.3 -6.7
TJN Taejon 12.81 19 P Pn 19 46 39.0 +0.6
KSKOJ Gongju 12.84 18 P P 19 46 45.1 -4.3
SNR=5.7
KSCPR CHUPUNGNYEONG 12.86 22 P P 19 46 45.0 -4.7
SNR=11
KSBON Boeun 13.06 21 P P 19 46 48.4 -3.5
SNR=10
KSSAJ Sangju 13.10 22 P P 19 46 48.6 -3.6
SNR=5.9
KSCEA Cheonan 13.20 18 P P 19 46 49.8 -3.6
SNR=7.8
KSEUS ULSEONG 13.23 24 P P 19 46 50.4 -3.3
SNR=8.1
KSPHA Pohang 13.36 26 P P 19 46 51.8 -3.3
SNR=6.6
KSSWO Suwon 13.53 17 P **P** **19 46 54.1 -3.0**
SNR=9.8
INCN Inchon 13.65 15 P P 19 46 55.3 -3.2
SNR=15
INCN Inchon 13.65 15 *e*P P 19 46 54.6 -3.9
108nm,0.8s
KSICN Icheon 13.68 18 P **P** **19 46 56.6 -2.1**
SNR=11
KSSEO Seoul 13.73 16 P P 19 46 55.9 -3.4
SNR=7.3
KSULJ Uljin 13.81 25 P **P** **19 46 58.1 -2.1**
SNR=6.8
KSYOW Yeongwol 13.89 21 P **P** **19 46 58.1 -3.0**
SNR=11
KSAR Wonju Array Be 13.96 19 P **Pn** **19 46 55.4 +1.4**
KSAR Wonju Array Be 13.96 19 Pn **Pn** **19 46 55.4 +1.4**
KSRS Korea Array 13.98 19 Pn **Pn** **19 46 55.4 +1.1**
0.9nm,0.3s,baz=198,slow=12,SNR=70
KSRS LR LR 19 52 59.4
comp=Z,2μm,18.0s,baz=189,slow=40
KSRS Korea Array 13.98 19 P **Pn** **19 46 55.4 +1.1**
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KSRS MLR MLR
comp=Z,2μm,18.0s
KS01 Wonju Array Si 13.99 19 *e*Pn **Pn** **19 46 57.5 +3.1**
KSTBA Taebaek 14.02 23 P P 19 46 59.3 -3.3
SNR=8.2
KSMUS Musan 14.07 15 P **P** **19 47 00.5 -2.5**
SNR=12
GYA Guiyang 14.15 282 ⇑*i*P **Pn** **19 46 56.8 0.0**
GYA PP **PnPn** **19 47 09.0 +4.2**
GYA S **Sn** **19 49 30.3 -2.8**
GYA sS S 19 49 41.6 -12
GYA SS **SnSn** **19 49 51.4 +5.8**
GYA PMZ
comp=Z,50nm,0.9s
GYA PMZ
comp=Z,140nm,7.2s
GYA LN
comp=Z,2μm,15.5s
GYA LE
comp=Z,6μm,14.3s
GYA LZ
comp=Z,7μm,15.2s
KSJES JEONGSEON 14.19 22 P **P** **19 47 02.0 -2.5**
SNR=9.6
KSDGY Daegwallycong 14.43 21 P **P** **19 47 04.9 -2.3**
SNR=7.8
KSCWO Cheorwon 14.45 17 P **P** **19 47 05.7 -1.6**
SNR=5.2
KSIJA INJE 14.53 19 P **P** **19 47 06.8 -1.4**
SNR=8.3
DL2 Dalian 14.53 358 P **P** **19 47 05.6 -2.6**
DL2 S Sn 19 49 49.3 +7.2
DL2 PMZ
comp=Z,12nm,0.9s
DL2 PMZ
comp=Z,34nm,4.2s
KSJMJ Jumunjin 14.63 21 P **P** **19 47 07.7 -1.7**
SNR=12
SEHB SEOHWA 14.83 19 P **P** **19 47 10.9 -0.6**
SNR=8.8
KSSKC Sokcho 14.93 20 P **P** **19 47 11.5 -1.1**
SNR=15
XAN Xi'an 15.04 313 P **Pn** **19 47 08.3 -0.6**
XAN pP **P** **19 47 15.8 +1.8**
XAN PP **pP** **19 47 21.1 +0.2**
XAN S **S** **19 50 05.4 -6.4**
XAN LN
comp=Z,2μm,6.8s
XAN LE
comp=Z,460nm,5.1s
XAN LZ
comp=Z,950nm,11.9s
TIY Taiyuan 15.70 330 *e*P **P** **19 47 21.5 +0.2**
TIY S **Sn** **19 50 15.9 +5.2**
TIY PMZ
comp=Z,71nm,1.2s
TIY LN
comp=Z,2μm,13.1s
TIY LE
comp=Z,2μm,8.3s
TIY LZ
comp=Z,2μm,11.1s
BJI Beijing 16.44 344 P **P** **19 47 29.7 +0.3**
BJI S **Sn** **19 50 33.2 +4.7**
BJI PMZ
comp=Z,34nm,1.6s

BJI LN
comp=Z,770nm,19.4s
BJI LE
comp=Z,2μm,18.3s
SLVN Son La 17.07 264 P **P** **19 47 35.9 -0.7**
comp=Z,44nm,1.1s
CTBH Cotabato--PC H 17.14 173 ⇑*i*P **P** **19 47 38.5 +1.2**
CD2 Chengdu 17.55 296 P **Pn** **19 47 40.1 -0.7**
CD2 pP **pP** **19 47 47.1 -1.6**
CD2 sP **sP** **19 47 50.8 -1.2**
CD2 PP **PnPn** **19 47 56.6 +5.2**
CD2 S **Sn** **19 50 54.1 -1.5**
CD2 sS **S** **19 51 02.2 -0.8**
CD2 SS **SnSn** **19 51 15.9 +6.8**
CD2 PMZ
comp=Z,110nm,1.3s
CD2 PMZ
comp=Z,360nm,4.3s
CD2 LN
comp=Z,5μm,6.3s
CD2 LZ
comp=Z,6μm,12.6s
KMI Kunming 17.64 277 P **P** **19 47 44.2 +1.1**
KMI pP **pP** **19 47 47.8 -2.2**
KMI sP **sP** **19 47 50.9 -2.4**
KMI PP **PnPn** **19 47 57.7 +4.8**
KMI S **Sn** **19 50 55.8 -2.5**
KMI sS **S** **19 51 03.8 -1.6**
KMI SS **SnSn** **19 51 18.5 +6.7**
KMI PMZ
comp=Z,24nm,1.4s
KMI LN
comp=Z,4μm,9.2s
KMI LE
comp=Z,8μm,12.1s
KMI LZ
comp=Z,9μm,11.7s
DLV T Lat 17.88 229 *e*Pn **P** **19 47 48.2 +2.5**
KDM Kudat 18.06 197 ⇓P **P** **19 47 50.0 +2.5**
UBPT Khong Chiam 18.07 243 P **P** **19 47 50.1 +2.5**
comp=Z,67nm,1.9s,comp=Z,1μm
CBIJ Chichi jima 18.27 77 P **P** **19 47 50.4 +0.7**
JCJ Chichijima 18.27 77 P **P** **19 47 50.4 +0.6**
comp=Z,11nm,0.3s,baz=202,slow=3.9,SNR=10
MAJO Matsushiro 18.40 45 ⇓*e*P **Pn** **19 47 51.8 +0.5**
MAJO pmax pmax
comp=Z,39nm,0.8s
MAT Matsushiro 18.40 45 P **Pn** **19 47 51.5 +0.2**
MAT S **S** **19 51 26.2 +6.2**
MJAR Matsushiro Arr 18.40 45 P **P** **19 47 49.7 -1.5**
comp=Z,0.4nm,0.3s,baz=235,slow=10.0,SNR=15
MJAR LR LR 19 55 16.7
comp=Z,2μm,21.6s,baz=225,slow=38
MJAR ScP **ScP** **19 55 53.0 -2.3**
comp=Z,0.1nm,0.3s,baz=238,slow=3.5,SNR=3.0
SKNT Sakolnakorn 18.50 250 P **Pn** **19 47 55.1 +2.6**
comp=Z,63nm,1.3s,comp=Z,2μm
HHC Hu-ho-hao-te 18.70 334 *e*P **Pn** **19 47 57.6 +2.7**
HHC sP **sP** **19 48 06.2 +1.5**
HHC PP **PnPn** **19 48 13.9 +6.7**
HHC S **S** **19 51 25.8 -0.1**
HHC sS sS 19 51 31.4 -5.8
HHC SS SnSn 19 51 48.3 +11
HHC PMZ
comp=Z,65nm,1.5s
HHC PMZ
comp=Z,550nm,5.6s
HHC LN
comp=Z,1μm,14.2s
HHC LE
comp=Z,1μm,14.2s
HHC LZ
comp=Z,1μm,14.2s
KKM Kota Kinabalu 19.06 198 ⇑P **Pn** **19 48 01.0 +1.6**
KKM Kota Kinabalu 19.06 198 *e*P **P** **19 47 57.4 -1.2**
BTO Baotou 19.14 331 *e*P **Pn** **19 48 00.3 0.0**
BTO PMZ
comp=Z,17nm,1.7s
MYLDM Lahad Datu 19.37 191 ⇑P **Pn** **19 48 05.2 +2.1**
MYLDM Lahad Datu 19.37 191 *e*P **Pn** **19 48 04.1 +1.0**
comp=Z,128nm,1.2s
CN2 Changchun 19.60 7 *e*P **Pn** **19 48 05.3 -0.4**
CN2 *ep*P **pP** **19 48 10.4 -0.8**
CN2 *es*P **sP** **19 48 13.8 -0.7**
CN2 *e*S **S** **19 51 41.4 -2.6**
CN2 PMZ
comp=Z,70nm,0.7s
CN2 PMZ
comp=Z,400nm,7.0s
CN2 LN
comp=Z,3μm,13.0s
CN2 LE
comp=Z,700nm,13.0s
CN2 LZ
comp=Z,2μm,15.0s
LZH Lanzhou 19.64 311 ⇓P **Pn** **19 48 07.5 +1.2**
LZH pP **pP** **19 48 12.5 +0.7**
LZH sP **sP** **19 48 16.2 +1.1**
LZH PP **PnPn** **19 48 25.7 +5.6**
LZH S **S** **19 51 42.1 -3.1**
LZH sS **Sn** **19 51 49.8 +3.6**
LZH SS **SnSn** **19 52 09.5 +8.9**
LZH PMZ
comp=Z,350nm,1.6s
LZH PMZ
comp=Z,690nm,4.5s
LZH LN
comp=Z,2μm,11.5s
LZH LE
comp=Z,3μm,13.0s
LZH LZ
comp=Z,4μm,14.2s
TSM Tawau 20.35 192 ⇓P **P** **19 48 13.3 +0.8**
VLA Vladivostok 20.38 21 P **P** **19 48 12.0 -0.7**
VLA pmax pmax
comp=Z,44nm,1.2s
CRAI Chiangrai 20.55 263 P **P** **19 48 14.0 -0.7**
comp=Z,61nm,1.5s,comp=Z,3μm
LOEI Loei 20.64 255 P **P** **19 48 14.1 -1.6**
comp=Z,55nm,1.3s
MDJ Mudanjiang 21.12 15 P **P** **19 48 22.4 +1.7**
MDJ pP **pP** **19 48 28.5 +0.8**
MDJ sP **sP** **19 48 32.1 +1.1**
MDJ PMZ
comp=Z,31nm,0.9s
MDJ PMZ
comp=Z,380nm,9.2s
MDJ LN
comp=Z,3μm,15.5s
MDJ LE
comp=Z,2μm,18.1s
MDJ LZ
comp=Z,4μm,14.2s
MDJ Mudanjiang 21.12 15 *e*P **P** **19 48 22.5 +1.9**
comp=Z,39nm,1.0s
MDJ LR LR
comp=Z,1μm,19.0s
UTTA Uttaradit 21.18 256 P **P** **19 48 23.3 +1.8**
comp=Z,10nm,1.1s,comp=Z,96nm
PBKT Sadao Pong 21.27 253 P **P** **19 48 24.5 +2.0**
comp=Z,168nm,1.1s,comp=Z,2μm
USRK Ussuriysk Ar. 21.39 20 P **P** **19 48 23.6 0.0**
comp=Z,17nm,0.8s,baz=202,slow=10.0,SNR=43
USRK LR LR 19 56 55.9
comp=Z,748nm,18.7s,baz=177,slow=38
LAMP Lampang 21.73 259 P **P** **19 48 29.7 +2.3**
comp=Z,22nm,1.0s,comp=Z,193nm
CMAI Chiengmai2 21.83 263 P **P** **19 48 32.3 +3.6**
comp=Z,47nm,1.9s
CMMT Chiang Mai 22.25 260 P **P** **19 48 34.4 +1.4**
comp=Z,53nm,1.0s,comp=Z,795nm
CHTO Chiang Mai 22.25 260 P **P** **19 48 34.5 +1.5**
comp=Z,184nm,1.1s,comp=Z,3μm
CHTO Chiang Mai 22.25 260 P **P** **19 48 34.8 +1.7**
SNR=20
CM01 Chiang Mai Arr 22.36 259 *e*P **P** **19 48 35.0 +0.7**
CMAR Chiang Mai Arr 22.36 259 P **P** **19 48 35.6 +1.3**
comp=Z,14nm,0.8s,baz=63,slow=8.0,SNR=47
CMAR PcP **PcP** **19 52 28.6 -0.5**
comp=Z,1.6nm,0.5s,baz=47,slow=1.1,SNR=6.3
CMAR LR LR 19 57 56.3
comp=Z,3μm,19.0s,baz=74,slow=38
CMAR Chiang Mai Arr 22.36 259 *ce*P **P** **19 48 36.2 +1.9**
CMAR pmax pmax
comp=Z,14nm,0.8s
BTM Bintulu 22.76 204 ⇓P **P** **19 48 39.6 +1.1**

UTHA	**Uthaitani**	**23.03**	**252**	P		**P**	**19 48 43.3**	**+2.1**
	comp=Z,7.2nm,1.1s,comp=Z,91nm							
MHMT	**Maesarieng**	**23.36**	**259**	P		**P**	**19 48 46.8**	**+2.2**
	comp=Z,17nm,1.1s,comp=Z,277nm							
KMSI	**Cibinong**	**23.69**	**175**	P		P	19 48 55.3	+7.5
MRSI	**Marisa**	**23.72**	**180**	P		**P**	**19 48 50.2**	**+2.1**
	comp=Z,72nm,1.6s,comp=Z,950nm							
SBUM	**Sibu**	**23.78**	**205**	⇓P		**P**	**19 48 47.8**	**-0.9**
SBUM	**Sibu**	**23.78**	**205**	*e*P		**P**	**19 48 47.6**	**-1.0**
	comp=Z,35nm,0.7s							
SRDT	**SRDT**	**23.85**	**250**	P		**P**	**19 48 52.1**	**+2.7**
	comp=Z,82nm,1.3s							
MPSI	**Mapaga**	**23.96**	**186**	P		**P**	**19 48 50.6**	**+0.3**
	comp=Z,34nm,1.4s,comp=Z,540nm							
GUMO	**Guam**	**23.97**	**112**	P		**P**	**19 48 50.9**	**+0.5**
	comp=Z,246nm,1.0s,baz=246,slow=1.6,SNR=6.5							
GUMO				LR		LR	19 58 02.5	
	comp=Z,1μm,19.2s,baz=288,slow=36							
TNTI	**Ternate**	**23.97**	**167**	P		**P**	**19 48 53.2**	**+2.8**
	comp=Z,338nm,1.2s,comp=Z,3μm							
GTA	**Gaotai**	**24.10**	**314**	⇓P		**P**	**19 48 51.7**	**0.0**
GTA				pP		**pP**	**19 49 01.0**	**+1.8**
GTA				sP		**sP**	**19 49 05.0**	**+2.7**
GTA				PcP		**PcP**	**19 52 32.4**	**-0.2**
GTA				S		**S**	**19 53 06.6**	**-1.3**
GTA				sS		**sS**	**19 53 19.5**	**-0.8**
GTA				SS		**SnSn**	**19 53 55.3**	**+5.4**
GTA				ScP		**ScP**	**19 56 09.6**	**+0.1**
GTA				PMZ				
	comp=Z,29nm,1.8s							
GTA				PMZ				
	comp=Z,230nm,5.7s							
GTA				LN				
	comp=Z,710nm,15.2s							
GTA				LE				
	comp=Z,2μm,14.5s							
GTA				LZ				
	comp=Z,2μm,15.2s							
ERM	**Erimo**	**24.79**	**40**	P		**P**	**19 48 54.2**	**-3.5**
	comp=Z,189nm,0.5s,SNR=17							
ERM	**Erimo**	**24.79**	**40**	*de*P		**P**	**19 48 54.6**	**-3.1**
ERM				pmax	pmax			
	comp=Z,15nm,0.8s							
ERM	**Erimo**	**24.79**	**40**	PFAKE			19 49 10.0	+12
ERM				LR	LR			
	comp=Z,1μm,21.0s							
HIA	**Hailar**	**24.95**	**356**	*e*P		**P**	**19 48 59.2**	**0.0**
HIA				pmax	pmax			
	comp=Z,31nm,0.8s							
HIA				MLR	MLR			
	comp=Z,2μm,19.0s							
HIA	**Hailar**	**24.95**	**356**	*e*P		**P**	**19 48 59.2**	**0.0**
	comp=Z,31nm,0.8s							
HIA				LR	LR			
	comp=Z,2μm,19.0s							
APSI	**Ampana**	**25.10**	**181**	P		**P**	**19 49 01.7**	**+0.9**
	comp=Z,89nm,1.1s,comp=Z,926nm							
PCI	**Palu**	**25.19**	**185**	P		**P**	**19 49 02.6**	**+1.0**
	comp=Z,86nm,1.9s,comp=Z,1μm							
LUWI	**Luwuk**	**25.24**	**179**	P		**P**	**19 49 01.7**	**-0.3**
	comp=Z,148nm,1.1s,comp=Z,1μm							
LBMI	**Labuha**	**25.37**	**167**	P		**P**	**19 49 05.2**	**+2.0**
	comp=Z,162nm,0.9s,comp=Z,2μm							
KSM	**Kuching**	**25.45**	**208**	⇑P		**P**	**19 49 04.4**	**+0.5**
KSM	**Kuching**	**25.45**	**208**	PFAKE			19 49 20.0	+16
KSM				LR	LR			
	comp=Z,829nm,21.0s							
ASAJ	**Asahikawa**	**25.86**	**35**	P		**P**	**19 49 05.0**	**-2.4**
	comp=Z,6.4nm,0.4s,baz=231,slow=9.2							
ASAJ				PcP		**PcP**	**19 52 35.6**	**-0.6**
	comp=Z,1.3nm,0.4s,baz=263,slow=5.4,SNR=5.3							
ASAJ	**Asahikawa**	**25.86**	**35**	P		**P**	**19 49 05.0**	**-2.4**
ASAJ							19 52 35.6	
ASAJ				pmax	pmax			
	comp=Z,6.0nm,0.4s							
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.4s							
BKB	**Balikpapan**	**25.95**	**192**	P		**P**	**19 49 09.5**	**+1.0**
	comp=Z,128nm,1.1s,comp=Z,1μm							
KLR	**Kul'dur**	**25.96**	**14**	*e*P		**P**	**19 49 04.7**	**-3.6**
KLR				MLR	MLR			
	comp=E,2μm,16.0s							
KLR				MLR	MLR			
	comp=Z,4μm,13.0s							
HABR	**Khabarovsk**	**26.16**	**20**	*e*P		**P**	**19 49 07.1**	**-2.9**
HABR				*e**SP		**sP**	**19 49 15.6**	**-5.1**
HABR				*e*PPP		PPP	19 49 53.2	
HABR				*e*			19 52 34.1	
HABR				S		**S**	**19 53 37.7**	**-2.5**
HABR				*e*SS		**SnSn**	**19 54 37.7**	**-2.1**
HABR				*e*			20 00 02.7	
HABR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
HABR				MLR	MLR			
	comp=Z,1μm,16.0s							
STKI	**Sintang**	**26.25**	**205**	P		**P**	**19 49 11.4**	**+0.2**
	comp=Z,45nm,1.4s							
KTGM	**Kuala Trenggan**	**26.29**	**227**	⇓P		**P**	**19 49 12.5**	**+0.9**
ULN	**Ulaanbaatar**	**26.36**	**337**	PFAKE			19 49 20.0	+7.9
ULN				LR	LR			
	comp=Z,1μm,19.0s							
SANI	**Sanana**	**26.50**	**171**	P		**P**	**19 49 13.0**	**-0.4**
	comp=Z,48nm,1.1s,comp=Z,556nm							
SWI	**Sorong**	**26.57**	**159**	P		**P**	**19 49 14.5**	**+0.5**
	comp=Z,40nm,1.4s							
SONM	**Songino Array**	**26.57**	**336**	P		**P**	**19 49 13.4**	**-0.6**
	comp=Z,70nm,1.0s,baz=152,slow=8.5,SNR=224							
SONM				PcP		**PcP**	**19 52 37.1**	**-0.8**
	comp=Z,2.9nm,0.9s,baz=163,slow=4.6,SNR=4.9							
SONM				ScP		**ScP**	**19 56 13.3**	**-3.0**
	comp=Z,3.7nm,1.1s,baz=164,slow=5.1,SNR=6.5							
SONM				LR	LR		20 00 41.9	
	comp=Z,1μm,18.9s,baz=146,slow=39							
SIJI	**Sorong**	**26.58**	**159**	P		**P**	**19 49 14.5**	**+0.4**
	comp=Z,21nm,0.8s,baz=343,slow=9.3,SNR=20							
SIJI				PcP		**PcP**	**19 52 37.6**	**-0.7**
	comp=Z,3.6nm,0.7s,baz=18,slow=3.2,SNR=3.5							
SONA1	**Songino Array**	**26.58**	**336**	*e*P		**P**	**19 49 13.0**	**-1.1**
SONA1				*e*ScP		**ScP**	**19 56 15.4**	**-1.0**
SURT	**Suratani**	**27.03**	**239**	P		**P**	**19 49 19.5**	**+1.3**
	comp=Z,18nm,0.9s,comp=Z,224nm							
TTSI	**Tana Toraja**	**27.31**	**185**	P		**P**	**19 49 22.9**	**+2.2**
	comp=Z,28nm,0.9s,comp=Z,434nm							
SHL	**Shillong**	**27.43**	**279**	*e*P		**P**	**19 49 23.0**	**+0.9**
YUK	**Yuzh-Kuril'sk**	**27.60**	**39**	*c i*P		**P**	**19 49 26.3**	**+3.2**
YUK				pmax	pmax			
	comp=Z,154nm,14.6s							
YUK				MLR	MLR			
	comp=N,1μm,21.0s							
YUK				MLR	MLR			
	comp=E,894nm,21.0s							
YUK				MLR	MLR			
	comp=Z,1μm,21.0s							
NLAI	**Namlea**	**27.83**	**169**	P		**P**	**19 49 26.2**	**+0.8**
	comp=Z,89nm,0.6s,comp=Z,770nm							
YSS	**Yuzh-Sakhalins**	**27.94**	**31**	⇑*e*P		**P**	**19 49 27.0**	**+0.9**
YSS				*e**SP		**sP**	**19 49 36.5**	**-0.3**
YSS				*e*			19 50 17.8	
YSS				*e*S		**S**	**19 54 08.0**	**-0.4**
YSS				*e*			19 54 29.0	
YSS				pmax	pmax			
	comp=Z,20nm,0.8s							
YSS				MLR	MLR			
	comp=N,800nm,15.0s							
YSS				MLR	MLR			
	comp=Z,900nm,15.0s							
YSS	**Yuzh-Sakhalins**	**27.94**	**31**	PFAKE			19 49 40.0	+14
YSS				LR	LR			
	comp=Z,434nm,22.0s							
KULM	**Kulim**	**28.03**	**231**	⇓P		**P**	**19 49 27.3**	**+0.1**
KULM	**Kulim**	**28.03**	**231**	PFAKE			19 49 40.0	+13
KULM				LR	LR			
	comp=Z,2μm,20.0s							
LSA	**Lhasa**	**28.07**	**288**	P		**P**	**19 49 29.2**	**+1.2**
LSA				S		**S**	**19 54 13.7**	**+1.9**
LSA				LN				
	comp=Z,2μm,17.1s							
LSA				LZ				
	comp=Z,4μm,15.0s							
LSA	**Lhasa**	**28.07**	**288**	*e*P		**P**	**19 49 29.5**	**+1.4**
LSA				pmax	pmax			
	comp=Z,18nm,0.8s							
LSA				MLR	MLR			
	comp=Z,3μm,20.0s							
LSA	**Lhasa**	**28.07**	**288**	*e*P		**P**	**19 49 29.5**	**+1.4**
	comp=Z,18nm,0.8s							
LSA				LR	LR			
	comp=Z,3μm,20.0s							
KBKI	**Kotabaru**	**28.08**	**193**	P		**P**	**19 49 29.3**	**+1.7**
	comp=Z,20nm,0.9s							
SPSI	**Sidrap Palu**	**28.23**	**185**	P		**P**	**19 49 28.8**	**-0.1**
	comp=Z,16nm,1.2s							
RKPI	**Ransiki, Papua**	**28.23**	**154**	P		**P**	**19 49 30.1**	**+1.1**
	comp=Z,79nm,1.4s,comp=Z,858nm							
IPM	**Ipoh**	**28.34**	**229**	⇑P		**P**	**19 49 30.0**	**0.0**
CIT	**Chita**	**28.41**	**349**	*e*P		**P**	**19 49 29.4**	**-0.9**
CIT				*e*			19 49 38.4	
CIT				*e*			19 49 48.0	
CIT				*e*			19 52 41.1	
CIT				pmax	pmax			
	comp=Z,49nm,1.9s							
MYKOM	**Kota Tinggi**	**28.55**	**221**	⇑P		**P**	**19 49 32.2**	**+0.3**
MYKOM	**Kota Tinggi**	**28.55**	**221**	*e*P		P	19 49 36.1	+4.3
	comp=Z,18nm,0.8s							
KGM	**Kluang**	**28.70**	**222**	⇓P		**P**	**19 49 34.5**	**+1.3**
BAKI	**Biak**	**28.77**	**150**	P		**P**	**19 49 31.0**	**-2.8**
	comp=Z,41nm,1.1s							
FAKI	**Fak Fak**	**28.82**	**159**	P		**P**	**19 49 34.0**	**-0.2**
	comp=Z,102nm,1.2s,comp=Z,881nm							
FRIM	**Kepong**	**28.84**	**226**	⇑P		**P**	**19 49 34.9**	**+0.4**
KAPI	**Kappang**	**29.27**	**185**	P		**P**	**19 49 38.0**	**-0.2**
	comp=Z,5.2nm,0.4s,baz=222,slow=0.3,SNR=5.4							
KAPI	**Kappang**	**29.27**	**185**	P		**P**	**19 49 38.0**	**-0.2**
KAPI				LR	LR			
	comp=Z,180nm,20.0s							
SRPI	**Serui, Papua**	**29.43**	**150**	P		**P**	**19 49 40.4**	**+0.7**
	comp=Z,133nm,1.1s,comp=Z,2μm							
ZAK	**Zakamensk**	**29.84**	**335**	*e*P		**P**	**19 49 41.7**	**-1.3**
ZAK				*e*			19 52 43.9	
ZAK				pmax	pmax			
	comp=Z,8.0nm,1.1s							
SMPI	**Sarmi**	**30.73**	**146**	P		**P**	**19 49 52.4**	**+1.3**
	comp=Z,56nm,1.3s,comp=Z,4μm							
TSI	**Tuntungan**	**30.76**	**231**	P		**P**	**19 49 53.0**	**+1.6**
	comp=Z,64nm,1.0s							
TLY	**Talaya**	**30.76**	**337**	P		**P**	**19 49 51.3**	**+0.2**
	comp=Z,25nm,0.7s,baz=172,slow=6.4							
TLY	**Talaya**	**30.76**	**337**	*e*P		**P**	**19 49 50.8**	**-0.3**
TLY				pmax	pmax			
	comp=Z,42nm,0.9s							
TLY				MLR	MLR			
	comp=Z,518nm,13.0s							
TLY	**Talaya**	**30.76**	**337**	P		**P**	**19 49 51.4**	**+0.2**
	comp=Z,280nm,0.8s,SNR=7.2							
TLY	**Talaya**	**30.76**	**337**	P		**P**	**19 49 51.4**	**+0.2**
	SNR=12							
TLY	**Talaya**	**30.76**	**337**	P		**P**	**19 49 51.3**	**+0.2**
TLY				LR	LR			
	comp=Z,955nm,20.0s							
LHMI	**Lhok Sumawe**	**30.79**	**236**	P		**P**	**19 49 53.3**	**+1.7**
	comp=Z,64nm,0.7s							
PSI	**Prapat**	**31.00**	**230**	P		**P**	**19 49 54.2**	**+0.5**
	comp=Z,24nm,0.8s,baz=13,slow=5.6,SNR=25							
PSI				LR	LR		20 02 02.7	
	comp=Z,1μm,21.4s,baz=89,slow=35							
IRK	**Irkutsk**	**31.02**	**339**	*e*P		**P**	**19 49 52.3**	**-1.0**
IRK				pmax	pmax			
	comp=Z,90nm,1.1s							
TAPN	**Taplejung**	**31.08**	**283**	*e*P		**P**	**19 49 56.2**	**+1.7**
	comp=Z,119nm,1.0s							
ODAN	**Odare**	**31.38**	**282**	*e*P		**P**	**19 49 58.6**	**+1.4**
	comp=Z,115nm,1.0s							
BKNI	**Bangkinang**	**31.43**	**224**	P		**P**	**19 49 57.9**	**+0.6**
	comp=Z,47nm,1.0s,comp=Z,2μm							
JMBI	**JAMBI**	**31.45**	**217**	P		**P**	**19 49 59.3**	**+1.8**
	comp=Z,167nm,0.7s							
MOY	**Mondy**	**31.74**	**335**	*e*P		**P**	**19 49 59.2**	**-0.6**
MOY				pmax	pmax			
	comp=Z,34nm,2.1s							
GENI	**Genyem**	**32.00**	**144**	P		**P**	**19 50 03.6**	**+1.3**
	comp=Z,47nm,1.2s							
MNSI	**Mandailing Nat**	**32.01**	**226**	P		**P**	**19 50 02.4**	**-0.1**
	comp=Z,64nm,0.9s							
RAMN	**Ramite**	**32.08**	**282**	*e*P		**P**	**19 50 04.8**	**+1.5**
	comp=Z,116nm,1.0s							
KMMI	**Kaliangit**	**32.20**	**195**	P		**P**	**19 50 04.5**	**+0.5**
	comp=Z,25nm,1.2s							
JAY	**Jayapura**	**32.22**	**143**	P		**P**	**19 50 04.0**	**-0.3**
	comp=Z,6.9nm,1.0s,baz=143,slow=2.5,SNR=4.1							
JAY				LR	LR		20 03 42.7	
	comp=Z,532nm,18.1s,baz=278,slow=37							
PPI	**Padang Panjang**	**32.44**	**224**	P		**P**	**19 50 06.5**	**+0.3**
	comp=Z,30nm,1.2s							
GUN	**Gumba**	**32.68**	**284**	*e*P		**P**	**19 50 09.9**	**+1.3**
	comp=Z,60nm,0.8s							
MMRI	**Maumere**	**32.77**	**180**	P		**P**	**19 50 09.2**	**+0.1**
	comp=Z,100nm,1.1s,comp=Z,973nm							
SRBI	**Singaraja**	**32.93**	**193**	P		**P**	**19 50 09.9**	**-0.5**
	comp=Z,22nm,1.5s							
BLJI	**Banyuglugur**	**32.96**	**196**	P		**P**	**19 50 10.7**	**0.0**
	comp=Z,72nm,0.6s							
GSI	**Gunungsitoli**	**33.00**	**230**	P		**P**	**19 50 09.9**	**-1.3**
	comp=Z,35nm,0.6s							
PKI	**Pulchoki**	**33.11**	**284**	*e*P		**P**	**19 50 13.1**	**+0.7**
	comp=Z,59nm,1.1s							
PKIN	**Phulchoki**	**33.12**	**284**	*e*P		**P**	**19 50 13.6**	**+1.2**
KKN	**Kakani**	**33.21**	**284**	*e*P		**P**	**19 50 14.1**	**+0.9**
	comp=Z,64nm,0.9s							
LHSI	**Lahat**	**33.35**	**215**	P		**P**	**19 50 14.6**	**+0.5**
	comp=Z,33nm,0.7s							
DMN	**Daman**	**33.38**	**284**	*e*P		**P**	**19 50 15.5**	**+0.9**
	comp=Z,67nm,0.9s							
KLSI		**33.47**	**213**	P		**P**	**19 50 15.6**	**+0.4**
	comp=Z,50nm,1.4s							
MASI	**Maura Aman, Be**	**33.48**	**218**	P		P	19 50 24.1	+8.8
DNP	**Denpasar**	**33.51**	**192**	P		**P**	**19 50 16.1**	**+0.7**
	comp=Z,224nm,1.3s							
MDSI	**Maura Dua**	**33.57**	**214**	P		**P**	**19 50 15.8**	**-0.2**
	comp=Z,28nm,1.0s							
IGBI	**Denpasar**	**33.66**	**193**	P		**P**	**19 50 15.3**	**-1.5**
	comp=Z,84nm,1.1s							
KSI	**Kapahiang**	**33.70**	**217**	P		**P**	**19 50 17.5**	**+0.2**
	comp=Z,48nm,0.9s							
GKN	**Gorkha**	**33.77**	**284**	*e*P		**P**	**19 50 18.7**	**+0.7**
	comp=Z,96nm,1.1s							
SOEI	**Soe**	**33.95**	**176**	P		**P**	**19 50 20.7**	**+1.2**
	comp=Z,60nm,1.0s							
SOEI	**Soe**	**33.95**	**176**	*e*P		**P**	**19 50 19.4**	**-0.1**
BOD	**Bodaibo**	**33.96**	**352**	*e*P		**P**	**19 50 16.5**	**-2.5**
BOD				pmax	pmax			
	comp=Z,5.0nm,1.8s							
KPJI	**Karang Pucung**	**34.02**	**204**	P		**P**	**19 50 21.5**	**+1.6**
	comp=Z,33nm,2.0s							
LEM	**Lembang**	**34.06**	**206**	P		**P**	**19 50 19.6**	**-0.9**
	comp=Z,5.1nm,0.3s,baz=14,slow=4.2,SNR=2.6							
LEM				LR	LR		20 05 36.3	
	comp=Z,272nm,18.6s,baz=28,slow=38							
LWLI	**Liwa**	**34.08**	**213**	P		**P**	**19 50 20.5**	**-0.2**
	comp=Z,42nm,0.7s,comp=Z,54μm							
WMQ	**Urumqi**	**34.18**	**313**	P		**P**	**19 50 22.4**	**+1.2**
WMQ				pP		**pP**	**19 50 27.9**	**-0.9**
WMQ				sP		**sP**	**19 50 31.4**	**-0.6**
WMQ				PcP		**PcP**	**19 52 58.0**	**+0.2**
WMQ				S		**S**	**19 55 46.4**	**+0.1**
WMQ				SS		**SnSn**	**19 57 54.7**	**-0.6**
WMQ				ScS		**ScS**	**20 00 43.1**	**-0.4**
WMQ				LN				
	comp=Z,760nm,12.1s							
WMQ				LE				
	comp=Z,960nm,10.0s							
WMQ				LZ				
	comp=Z,310nm,12.6s							
KASI	**Kota Agung**	**34.30**	**212**	P		**P**	**19 50 22.4**	**0.0**
	comp=Z,31nm,1.3s							
DANN	**Dangsing**	**34.53**	**285**	*e*P		**P**	**19 50 25.4**	**+0.7**
	comp=Z,14nm,1.0s							
KOLN	**Koldanda**	**34.70**	**284**	*e*P		**P**	**19 50 27.0**	**+0.9**
	comp=Z,63nm,0.8s							
CHLP	**Challavanipeta**	**35.85**	**268**	*e*P		**P**	**19 50 37.0**	**+1.3**
CHLP				IAmb	IAmb		19 50 39.0	
	comp=Z,34nm,1.0s							
YAK	**Yakutsk**	**38.02**	**6**	PcP		**PcP**	**19 53 06.7**	**-2.0**
	comp=Z,1.3nm,0.4s,baz=283,slow=2.0,SNR=1.9							
YAK	**Yakutsk**	**38.02**	**6**	*d i*P		**P**	**19 50 51.7**	**-2.0**
YAK				*e**PP		**pP**	**19 51 01.9**	**+0.5**
YAK				*e*			19 52 16.6	
YAK				*e*			19 53 07.2	
YAK				*e*S		**S**	**19 56 41.4**	**-2.9**
YAK				*e*			19 56 56.3	
YAK				*e*			20 01 00.4	
YAK				pmax	pmax			
	comp=Z,23nm,1.0s							
YAK				pmax	pmax			
	comp=N,21nm,1.2s							
YAK				pmax	pmax			
	comp=E,7.0nm,1.3s							
YAK				pmax	pmax			
	comp=Z,19nm,1.5s							
YAK				pmax	pmax			
	comp=N,23nm,1.7s							
YAK				pmax	pmax			
	comp=E,10.0nm,1.5s							
YAK				smax	smax			
	comp=E,68nm,3.6s							
YAK				smax	smax			
	comp=N,40nm,3.4s							
YAK				MLR	MLR			
	comp=Z,1μm,14.0s							
YAK				MLR	MLR			
	comp=N,767nm,12.0s							
YAK				MLR	MLR			
	comp=E,137nm,15.0s							
YAK	**Yakutsk**	**38.02**	**6**	PcP		**PcP**	**19 53 06.7**	**-2.0**
YAK				LR	LR			
	comp=Z,674nm,19.0s							
KRAR	**Krasnoyarsk**	**38.19**	**334**	*d i*P		**P**	**19 50 54.4**	**-0.8**
KRAR				pmax	pmax			
	comp=Z,68nm,1.4s							
KRAR				MLR	MLR			
	comp=Z,958nm,18.0s							
PVM	**Polavaram**	**38.43**	**267**	*e*P		**P**	**19 50 58.1**	**+0.4**
PVM				IAmb	IAmb		19 50 59.8	
	comp=Z,15nm,0.9s							
MKAR	**Makanchi Array**	**38.84**	**315**	P		**P**	**19 51 00.5**	**-0.4**
	comp=Z,19nm,0.8s,baz=107,slow=10,SNR=122							
MKAR				PcP		**PcP**	**19 53 10.6**	**-1.1**
	comp=Z,8.3nm,0.8s,baz=89,slow=5.1,SNR=6.9							
MKAR				ScP		**S**	**19 56 56.2**	**-1.0**
	comp=Z,2.7nm,0.9s,baz=93,slow=5.7,SNR=8.1							
MKAR				LR	LR		20 08 16.5	
	comp=Z,674nm,18.2s,baz=100,slow=38							
MKAR	**Makanchi Array**	**38.84**	**315**	*ce*P		**P**	**19 51 00.8**	**-0.1**
MKAR				pmax	pmax			
	comp=Z,19nm,0.8s							
PETK	**Petropavlovsk-**	**39.25**	**34**	LR	LR		20 07 01.9	
	comp=Z,744nm,20.7s,baz=223,slow=36							
PET	**Petropavlovsk**	**39.69**	**34**	PFAKE			19 51 20.0	+12
PET				LR	LR			
	comp=Z,1μm,22.0s							
RPR	**Rampur**	**40.09**	**271**	*e*P		**P**	**19 51 12.1**	**+0.4**
RPR				IAmb	IAmb		19 51 18.4	
	comp=Z,23nm,1.0s							
NDI	**New Delhi**	**40.26**	**286**	*e*P		**P**	**19 51 14.0**	**+1.1**
ADKI	**Addanki**	**40.37**	**266**	*e*P		**P**	**19 51 15.3**	**+1.3**
ADKI				IAmb	IAmb		19 51 16.5	
	comp=Z,18nm,1.1s							
ZAA0	**Zalesovo Array**	**40.59**	**327**	*e*P		**P**	**19 51 14.0**	**-1.3**
ZALV	**Zalesovo Beam**	**40.59**	**327**	P		**P**	**19 51 13.9**	**-1.4**
	comp=Z,45nm,0.5s,baz=112,slow=8.0,SNR=209							
ZALV				ScP		**ScP**	**19 57 02.6**	**-2.3**
	comp=Z,5.6nm,0.9s,baz=114,slow=3.7,SNR=11							
ZALV				LR	LR		20 09 07.0	
	comp=Z,673nm,19.3s,baz=70,slow=38							
ZALV	**Zalesovo Beam**	**40.59**	**327**	*i*P		**P**	**19 51 14.1**	**-1.2**
ZALV				pmax	pmax			
	comp=Z,45nm,0.5s							
NJS	**Nagarjunasagar**	**40.75**	**267**	*e*P		**P**	**19 51 17.5**	**+0.5**
NJS				IAmb	IAmb		19 51 24.6	
	comp=Z,19nm,1.1s							
SRSP	**Sriramsagar**	**40.94**	**271**	*e*P		**P**	**19 51 19.1**	**+0.4**
SRSP				IAmb	IAmb		19 51 30.6	
	comp=Z,42nm,1.4s							
HYB	**Hyderabad**	**41.17**	**269**	*i*P		**P**	**19 51 20.0**	**-0.6**
HYBB	**Hyderabad (bro**	**41.18**	**269**	*e*P		**P**	**19 51 20.8**	**+0.1**
HYBB				IAmb	IAmb		19 51 23.7	
	comp=Z,23nm,1.3s							
SRLM	**Srisailam**	**41.27**	**267**	*e*P		**P**	**19 51 21.5**	**0.0**
SRLM				IAmb	IAmb		19 51 28.2	
	comp=Z,14nm,1.1s							
RCLA	**Racherla**	**41.42**	**266**	*e*P		**P**	**19 51 22.9**	**+0.3**
RCLA				IAmb	IAmb		19 51 30.2	
	comp=Z,41nm,1.5s							
PMG	**Port Moresby**	**41.49**	**141**	*d i*P		**P**	**19 51 24.1**	**+1.0**
PMG	**Port Moresby**	**41.49**	**141**	*e*P		**P**	**19 51 22.3**	**-0.8**
PMG				LR	LR			
	comp=Z,341nm,20.0s							
KSH	**Kashi**	**41.55**	**303**	P		P	19 51 27.1	+3.5
KSH				pP		pP	19 51 32.4	+1.1
KSH				PP		**PnPn**	**19 53 05.5**	**+0.9**
KSH				PcP		**PcP**	**19 53 24.4**	**+3.7**
KSH				PcS		**PcS**	**19 57 14.2**	**+2.1**
KSH				S		**S**	**19 57 41.2**	**+3.1**
KSH				sS		sS	19 57 51.1	+0.3
KSH				PMZ				
	comp=Z,43nm,1.2s							
KSH				LN				
	comp=Z,520nm,6.2s							
KSH				LE				
	comp=Z,420nm,6.2s							
KSH				LZ				
	comp=Z,410nm,6.6s							
H11N1	**WAKE ISLAND Hy**	**41.61**	**87**	T		T	20 36 49.2	
	baz=281,slow=74							
H11N2	**WAKE ISLAND Hy**	**41.61**	**87**	T		T	20 36 53.7	
	baz=281							
H11N3	**WAKE ISLAND Hy**	**41.62**	**87**	T		T	20 36 53.4	
	baz=281,slow=74							
H11S3	**WAKE ISLAND Hy**	**41.74**	**89**	T		T	20 37 02.1	
	baz=284,slow=75,SNR=19							
H11S1	**WAKE ISLAND Hy**	**41.75**	**89**	T		T	20 37 00.5	
	baz=284,slow=75,SNR=12							
H11S2	**WAKE ISLAND Hy**	**41.76**	**89**	T		T	20 37 02.1	
	baz=284,slow=75,SNR=13							
ULHL	**Ulahoi**	**41.77**	**307**	P		**P**	**19 51 26.9**	**+1.4**
	SNR=18							
NVS	**Novosibirsk**	**41.85**	**327**	*e*P		**P**	**19 51 24.3**	**-1.3**
NVS				pmax	pmax			
	comp=E,21nm,0.9s							
NVS				pmax	pmax			
	comp=Z,31nm,0.9s							
NVS				pmax	pmax			
	comp=N,13nm,0.8s							
TKM2	**Tokmak 2**	**42.36**	**308**	P		**P**	**19 51 31.3**	**+1.0**
	SNR=26							
TKM2	**Tokmak 2**	**42.36**	**308**	PFAKE			19 51 40.0	+10
TKM2				LR	LR			
	comp=Z,490nm,19.0s							
KZA	**Kyzart**	**42.46**	**306**	P		**P**	**19 51 32.7**	**+1.3**
	SNR=16							
KURK

comp=Z,642nm,20.0s
PALK Pallekele 43.12 254 P **P** **19 51 37.5 +1.0**
comp=Z,8.1nm,0.9s,baz=84,slow=12,SNR=3.6
URV Uravakonda 43.13 266 *e*P **P** **19 51 37.2 +0.6**
URV IAmb IAmb 19 51 38.0
comp=Z,16nm,1.2s
USP Ospenovka 43.21 308 P **P** **19 51 37.5 +0.5**
SNR=7.4
SEY Seymchan 43.54 20 P **P** **19 51 38.0 -1.2**
AML Almayashu 43.62 306 P **P** **19 51 42.0 +1.3**
SNR=11
EKS2 Erkin-Say 43.63 307 P **P** **19 51 41.3 +0.9**
SNR=8.0
EKS2 Erkin-Say 43.63 307 PFAKE 19 51 50.0 +10
EKS2 LR LR
comp=Z,578nm,19.0s
COCO West Island 43.92 217 PFAKE 19 51 50.0 +7.2
COCO LR LR
comp=Z,565nm,20.0s
WRAB Tennant Creek 45.58 164 P **P** **19 51 56.0 0.0**
comp=Z,254nm,0.8s,SNR=17
WRAB Tennant Creek 45.58 164⇑ *e*P **P** **19 51 55.7 -0.3**
WRAB pmax pmax
comp=Z,148nm,1.7s
WRA Warramunga Arr 45.59 164 P **P** **19 51 55.5 -0.5**
comp=Z,20nm,0.8s,baz=346,slow=8.6,SNR=64
KKAR Karatay Array 46.07 307 *e*ScP **ScP** **19 57 26.9 -0.6**
KBL Kabul 46.89 295 *e*P **P** **19 52 07.6 +1.1**
KBL pmax pmax
comp=Z,36nm,1.0s
KBL Kabul 46.89 295 *e*P **P** **19 52 07.6 +1.1**
comp=Z,36nm,1.0s
TIXI Tiksi 47.49 3*d i*P **P** **19 52 08.6 -1.8**
TIXI pmax pmax
comp=Z,53nm,0.8s
TIXI MLR MLR
comp=Z,2μm,20.0s
TIXI Tiksi 47.49 3 *e*PcP **PcP** **19 53 39.4 -0.8**
TIXI LR LR
comp=Z,987nm,19.0s
BRVK Borovoye 48.18 320 P **P** **19 52 15.4 -0.6**
comp=Z,325nm,0.6s,SNR=16
BRVK Borovoye 48.18 320*d i*P **P** **19 52 15.6 -0.4**
BRVK pmax pmax
comp=Z,52nm,0.8s
BRVK Borovoye 48.18 320 P **P** **19 52 15.7 -0.3**
SNR=18
BRVK Borovoye 48.18 320 PFAKE 19 52 30.0 +14
BRVK LR LR
comp=Z,221nm,20.0s
ASAR Alice Springs 49.07 166 P **P** **19 52 24.2 +1.1**
comp=Z,8.1nm,0.8s,baz=348,slow=6.7,SNR=42
ASAR ScP **ScP** **19 57 37.4 -2.8**
comp=Z,2.8nm,1.0s,baz=344,slow=2.7,SNR=7.3
AS01 Alice Springs 49.08 166 *e*P **P** **19 52 24.3 +1.1**
AS01 *e*ScP **ScP** **19 57 38.8 -1.4**
HNR Honiara 49.88 128 PFAKE 19 52 40.0 +11
HNR LR LR
comp=Z,726nm,20.0s
CTAO Charters Tower 50.01 150 PFAKE 19 52 40.0 +10
CTAO LR LR
comp=Z,483nm,20.0s
BILL Bilibino 51.24 20 *i*P **P** **19 52 37.9 -1.2**
BILL *i* 19 53 54.0
BILL pmax pmax
comp=Z,7.0nm,0.8s
BILL MLR MLR
comp=Z,1μm,17.0s
IMYA Miami 54.05 298 *e*P **P** **19 53 01.8 +1.2**
TARA Tarawa 54.11 107 PFAKE 19 53 10.0 +8.9
TARA LR LR
comp=Z,948nm,19.0s
SVE Sverdlovsk 54.44 324⇑ *i*P **P** **19 53 02.4 -0.4**
SVE pmax pmax
comp=Z,75nm,0.7s
SVE MLR MLR
comp=Z,470nm,15.0s
ISRO Mashad 54.56 298 *e*P **P** **19 53 05.1 +0.9**
IMOG Moghan 54.69 298 *e*P **P** **19 53 07.0 +1.7**
IKRD Kardeh 55.27 299 *e*P P 19 53 04.9 -4.7
GEYT Alibeck 55.47 300 P **P** **19 53 11.5 +0.8**
comp=Z,23nm,0.9s,baz=64,slow=3.4,SNR=54
ARU Arti 55.51 323 P **P** **19 53 09.9 -0.7**
comp=Z,600nm,0.5s,SNR=35
ARU Arti 55.51 323*d i*P **P** **19 53 09.5 -1.1**
ARU 19 54 13.4
ARU S **S** **20 00 55.6 +1.4**
ARU SS **SS** **20 04 35.4 -3.5**
ARU pmax pmax
comp=Z,81nm,1.0s
ARU Arti 55.51 323 PFAKE 19 53 20.0 +9.4
ARU LR LR
comp=Z,391nm,19.0s
SOKR Solikamsk 56.88 326*c i*P **P** **19 53 19.7 -0.6**
SOKR pmax pmax
comp=Z,40nm,1.4s
SOKR MLR MLR
comp=Z,660nm,20.0s
BBOO Buckleboo 58.36 166 *e*P **P** **19 53 31.9 +0.9**
comp=Z,60nm,1.0s
STKA Stephens Creek 58.91 161 P **P** **19 53 35.5 +0.7**
comp=Z,8.5nm,0.8s,baz=340,slow=6.6,SNR=19
PRGR Permogore 62.51 328 *e*P **P** **19 53 56.9 -2.1**
PRGR pmax pmax
comp=Z,45nm,0.7s
DZM Mont Dzumac 63.10 133 *e*P **P** **19 54 04.9 +1.3**
comp=Z,65nm,1.1s
DZM Mont Dzumac 63.10 133 *e*LR LR 20 12 54.3
comp=Z,707nm,26.3s
ISRB Sarab 63.66 302 *e*P **P** **19 54 07.5 +0.1**
IHRS Heris 64.05 302 *e*P **P** **19 54 09.2 -0.8**
CHGN Chignik 64.32 37 *e*P **P** **19 54 09.4 -1.6**
DGRG David-gareji 64.71 306 P **P** **19 54 14.3 +0.3**
IAZR Azarshahr 65.00 302 *e*P **P** **19 54 16.6 +0.3**
GNI Garni 65.43 305*c i*P **P** **19 54 20.0 +1.1**
GNI pmax pmax
comp=Z,41nm,1.6s
GNI Garni 65.43 305 *e*P **P** **19 54 18.9 0.0**
GNI LR LR
comp=Z,296nm,21.0s
ZEI Tsey 65.53 308 *e*P **P** **19 54 18.4 -1.1**
ZEI pmax pmax
comp=Z,92nm,0.4s
IM04 Indian Mountai 65.64 27 *e*P **P** **19 54 18.5 -1.0**
GOF Gofitskoye 65.71 310 *e*P **P** **19 54 19.5 -0.9**
TMCR Tamitsa 65.83 331 *e*P **P** **19 54 20.1 -0.6**
TMCR *e* 19 56 46.2
TMCR pmax pmax
comp=Z,72nm,1.4s
ONI Oni 65.89 308 P **P** **19 54 22.7 +1.1**
KBZ Khabaz 66.06 309 P **P** **19 54 22.5 -0.1**
comp=Z,14nm,1.0s,baz=89,slow=3.8,SNR=23
KBZ LR LR 20 28 07.9
comp=Z,314nm,18.1s,baz=72,slow=40
AKH Akhalkalaki 66.10 306 P **P** **19 54 23.7 +0.5**
KIV Kislovodsk 66.17 309 *e*P **P** **19 54 23.4 -0.1**
KIV *e* 19 54 54.2
KIV *e*S **S** **20 03 10.7 -0.1**
KIV *e*SS **SS** **20 07 28.1 +1.6**
KIV pmax pmax
comp=Z,53nm,1.1s
KIV pmax pmax
comp=Z,77nm,5.9s
KIV MLR MLR
comp=Z,205nm,17.0s
KIV Kislovodsk 66.17 309 P **P** **19 54 23.8 +0.3**
comp=Z,234nm,1.2s,SNR=12
KIV Kislovodsk 66.17 309 P **P** **19 54 24.0 +0.5**
SNR=17
KIV Kislovodsk 66.17 309 PFAKE 19 54 40.0 +17
KIV LR LR
comp=Z,288nm,21.0s
CAST Castle Rocks 66.66 29 *e*P **P** **19 54 26.0 -0.2**
comp=Z,17nm,1.0s
PPLA Purkeypile 66.68 30 *e*P **P** **19 54 26.0 -0.5**
comp=Z,13nm,0.7s
LVZ Lovozero 66.77 336 P **P** **19 54 26.0 -0.8**
LVZ pmax pmax
comp=Z,31nm,1.4s
LVZ Lovozero 66.77 336 PFAKE 19 54 40.0 +13
LVZ LR LR
comp=Z,271nm,19.0s
MLY Manley 67.01 27 *e*P **P** **19 54 28.0 -0.4**
comp=Z,23nm,0.9s
VSR Storozhevoye 67.12 317*d i*P **P** **19 54 27.7 -1.6**
VSR pmax pmax
comp=Z,60nm,1.2s
MOS Moscow 67.21 322 *e*P **P** **19 54 27.2 -2.6**
MOS pmax pmax
comp=Z,38nm,1.2s
KDAK Kodiak Island 67.27 35 *i*P **P** **19 54 31.2 +1.1**
KDAK Kodiak Island 67.27 35 PFAKE 19 54 40.0 +10
KDAK LR LR
comp=Z,366nm,19.0s
APA Apatity 67.28 335⇑ *i*P **P** **19 54 29.5 -0.5**
BRLK Bradley Lake 67.80 33 *e*P **P** **19 54 33.0 -0.5**
comp=Z,52nm,0.5s
OBN Obninsk 67.92 322*d i*P **P** **19 54 32.6 -1.6**
OBN *i* 19 54 40.3
OBN *e*S **S** **20 03 33.6 +2.4**
OBN pmax pmax
comp=Z,46nm,1.7s
OBN MLR MLR
comp=Z,283nm,21.0s
OBN Obninsk 67.92 322 *e*P **P** **19 54 32.6 -1.6**
comp=Z,9.7nm,0.6s
MDM Murphy Dome 68.08 27 *e*P **P** **19 54 34.8 -0.3**
comp=Z,39nm,1.0s
RND Reindeer 68.09 29 *e*P **P** **19 54 33.6 -1.7**
RND pmax pmax
comp=Z,56nm,0.7s
RND Reindeer 68.09 29 *e*P **P** **19 54 33.6 -1.7**
comp=Z,56nm,0.7s
WRH Wood River Hil 68.22 28 *e*P **P** **19 54 35.8 -0.2**
comp=Z,19nm,1.0s
COLA College 68.25 27*c i*P **P** **19 54 36.4 +0.3**
COLA pmax pmax
comp=Z,54nm,1.0s
COLA College 68.25 27 PFAKE 19 54 50.0 +14
COLA LR LR
comp=Z,292nm,21.0s
CCB Clear Creek Bu 68.31 28 *e*P **P** **19 54 36.2 -0.3**
comp=Z,57nm,2.4s
ILAR Eielson Array 68.67 27 P **P** **19 54 36.3 -2.5**
comp=Z,2.3nm,0.6s,baz=268,slow=5.2,SNR=30
ILAR LR 20 27 52.4
comp=Z,258nm,18.0s,baz=301,slow=39
IL1 Eielson Array 68.67 27 *e*P **P** **19 54 36.2 -2.6**
MSVF Nonsavu 68.70 122 P **P** **19 54 41.9 +2.1**
comp=Z,281nm,1.0s,SNR=6.3
HDA Harding Lake 68.72 28 *e*P **P** **19 54 37.5 -1.6**
comp=Z,17nm,1.0s
SCM Sheep Creek Mo 69.10 31 *e*P **P** **19 54 40.9 -0.7**
SCM pmax pmax
comp=Z,38nm,0.7s
SCM Sheep Creek Mo 69.10 31 *e*P **P** **19 54 40.9 -0.7**
comp=Z,38nm,0.7s
RAYN Ar Rayn 69.14 287 P **P** **19 54 42.1 -0.4**
comp=Z,63nm,0.9s,SNR=5.5
RAYN Ar Rayn 69.14 287 PFAKE 19 54 50.0 +7.5
RAYN LR LR
comp=Z,440nm,19.0s
KEV Kevo 69.16 338 *e*P **P** **19 54 40.8 -0.9**
KEV Kevo 69.16 338 *e*P **P** **19 54 40.8 -0.9**
ARA0 ARCESS Array S 69.72 338 *e*P **P** **19 54 44.6 -0.7**
ARCES ARCESS Array B 69.72 338 P **P** **19 54 44.3 -0.9**
comp=Z,3.4nm,0.5s,baz=64,slow=8.5,SNR=32
ARCES LR LR 20 28 14.3
comp=Z,145nm,21.2s,baz=75,slow=38
DIV Divide 69.99 31 *e*P **P** **19 54 46.2 -0.9**
KBS Kingsbay 70.05 349 PFAKE 19 55 00.0 +13
KBS LR LR
comp=Z,671nm,20.0s
BMRM Bremner River 70.58 31 *e*P **P** **19 54 50.0 -0.7**
MALT Malatya 70.63 304⇑ *i*P **P** **19 54 52.1 +0.6**
TAU Tasmania Unive 70.83 161 *e*P **P** **19 54 54.9 +2.7**
TAU pmax pmax
comp=Z,59nm,1.4s
TAU Tasmania Unive 70.83 161 *e*P **P** **19 54 54.9 +2.7**
comp=Z,58nm,1.4s
EGAK Eagle 71.05 27 *e*P **P** **19 54 52.6 -0.8**
comp=Z,16nm,0.6s
EGAK LR LR
comp=Z,255nm,21.0s
FIA1 FINESS Array S 71.75 330 *e*P **P** **19 54 56.5 -1.2**
FINES FINESS Array B 71.75 330 P **P** **19 54 56.6 -1.0**
comp=Z,6.1nm,0.5s,baz=78,slow=5.6,SNR=62
FINES LR LR 20 29 22.5
comp=Z,499nm,18.2s,baz=76,slow=38
SIM Simferopol' 71.89 312 *e*P **P** **19 54 58.2 -0.6**
SIM pmax pmax
comp=Z,16nm,1.0s
DAWY Dawson 72.00 27 *e*P **P** **19 54 58.4 -0.8**
VSU Vasula 72.33 327⇓ *e*P **P** **19 54 59.6 -1.6**
VSU pmax pmax
comp=Z,84nm,1.5s
MICGM Minsk 72.94 323 *e* **P** **19 55 03.0 -1.9**
MNK Minsk 72.97 323 *e*P **P** **19 55 03.0 -2.1**
IDID Didziasalis 73.31 324 *e*P **P** **19 55 06.8 -0.3**
IDID IAmb IAmb 19 55 15.1
comp=Z,12nm,1.1s
AKASG Malin Array Be 73.33 318 P **P** **19 55 05.8 -1.6**
comp=Z,5.5nm,0.6s,baz=59,slow=5.8,SNR=25
KIEV Kiev 73.35 318*de*P **P** **19 55 05.7 -1.7**
KIEV Kiev 73.35 318 PFAKE 19 55 20.0 +13
KIEV LR LR
comp=Z,340nm,22.0s
AK11 Malin Array Si 73.38 318 *e*P **P** **19 55 06.2 -1.4**
NACGM Naroch 73.42 323 *e* P 19 55 01.0 -6.7
IZAR Zarasai 73.44 324 *e*P **P** **19 55 07.5 -0.3**
IZAR IAmb IAmb 19 55 09.3
comp=Z,9.6nm,0.9s
ISAL Salakas 73.56 324 *e*P **P** **19 55 08.2 -0.3**
ISAL IAmb IAmb 19 55 10.2
comp=Z,13nm,1.3s
IIGN Ignalina 73.58 324 *e*P **P** **19 55 08.4 -0.3**
IIGN IAmb IAmb 19 55 10.2
comp=Z,7.6nm,1.2s
BRTR Keskin Array B 73.78 307 P **P** **19 55 09.9 -0.5**
comp=Z,22nm,1.0s,baz=103,slow=5.3,SNR=61
BRTR Keskin Array B 73.78 307 *i*P **P** **19 55 10.3 -0.1**
BRTR pmax pmax
comp=Z,22nm,1.0s
HYT Haines Junctio 73.92 30 *e*P **P** **19 55 11.8 +1.0**
ANTO Ankara 74.36 307⇓ *i*P **P** **19 55 12.8 -0.8**
ANTO Ankara 74.36 307 PFAKE 19 55 30.0 +16
ANTO LR LR
comp=Z,158nm,21.0s
CSS Prodhromos 75.56 302 PFAKE 19 55 30.0 +9.4
CSS LR LR
comp=Z,58nm,20.0s
SUW Suwalki 75.70 323 *e*P **P** **19 55 19.7 -1.3**
SUW Suwalki 75.70 323 *e*P **P** **19 55 19.7 -1.3**
CFR Carcaliu 75.84 313⇑ *i*P **P** **19 55 21.3 -0.6**
BESE Bessie Mountai 76.02 32 *e*P **P** **19 55 24.2 +1.4**
comp=Z,7.0nm,1.1s
TESR Tescani 76.34 315⇓ *i*P **P** **19 55 24.1 -0.8**
DAG Danmarks Havn 76.35 351 *i*P **P** **19 55 21.9 -2.4**
comp=Z,11nm,0.9s
DAG Danmarks Havn 76.35 351 *i*P **P** **19 55 21.9 -2.4**
DAG pmax pmax
comp=Z,10.0nm,0.9s
VRI Vrincioaia 76.52 314⇓ *i*P **P** **19 55 26.3 +0.4**
ISP Isparta 76.71 306 PFAKE 19 55 40.0 +13
ISP LR LR
comp=Z,183nm,22.0s
BURAR Bucovina Array 76.86 316⇑ *i*P **P** **19 55 27.2 -0.7**
BUR04 Bucovina Ar. S 76.86 316 *e*P **P** **19 55 26.9 -1.0**
MLR Muntele Rosu 77.17 314⇑ *i*P **P** **19 55 29.2 -0.5**
KWP Kalwaria Pacla 77.63 319 *e*P **P** **19 55 31.6 -0.5**
KWP Kalwaria Pacla 77.63 319 *e*P **P** **19 55 31.6 -0.5**
HUMR Humele 78.17 314⇑ *i*P **P** **19 55 34.4 -0.7**
KOLS Kolonicke sedl 78.17 318 *e*P **P** **19 55 34.4 -0.7**
KOLS pmax pmax
comp=Z,4.0nm,1.1s
KOLS Kolonicke sedl 78.17 318 *e*P **P** **19 55 34.4 -0.7**
CJR Cluj-Napoca 78.22 316⇑ *i*P P 19 55 42.4 +7.0
UZH Uzhgorod 78.28 318 *e*P **P** **19 55 34.9 -0.7**
UZH *e* 19 55 46.7
DLBC Dease Lake 78.37 31 *e*P **P** **19 55 35.6 -0.4**
RES Resolute Bay 78.37 9 *e*P **P** **19 55 33.7 -1.9**
RES Resolute Bay 78.37 9 *e*P **P** **19 55 33.7 -1.9**
NB2 NORSAR Subarra 78.49 332 P **P** **19 55 34.9 -1.8**
comp=Z,4.5nm,0.7s,baz=59,slow=5.6
NOA NORSAR Array B 78.49 332 P **P** **19 55 34.8 -1.9**
comp=Z,4.3nm,0.6s,baz=58,slow=5.6,SNR=22
NOA LR LR 20 33 43.9
comp=Z,540nm,18.3s,baz=35,slow=38
STHS Stebnicka Huta 78.59 319 *e*P **P** **19 55 37.1 -0.3**
STHS pmax pmax
comp=Z,3.0nm,1.2s
STHS Stebnicka Huta 78.59 319 *e*P **P** **19 55 37.1 -0.3**
DRGR 78.75 316⇓ *i*P **P** **19 55 38.1 -0.3**
OJC Ojcow 79.11 320 *e*P **P** **19 55 39.5 -0.7**
OJC Ojcow 79.11 320 *e*P **P** **19 55 39.0 -1.2**
OJC pmax pmax
comp=Z,14nm,0.9s
OJC Ojcow 79.11 320 *e*P **P** **19 55 39.0 -1.2**
comp=Z,14nm,0.9s
NIE Niedzica 79.15 319 *e*P **P** **19 55 40.3 -0.2**
NIE Niedzica 79.15 319 *e*P **P** **19 55 40.4 -0.1**
KECS Kecovo 79.44 318 *e*P **P** **19 55 41.6 -0.4**
KECS pmax pmax
comp=Z,6.0nm,1.6s
KECS Kecovo 79.44 318 *e*P **P** **19 55 41.6 -0.4**
KONO Kongsberg 79.89 332 PFAKE 19 56 00.0 +16
KONO LR LR
comp=Z,278nm,22.0s
BZS Buzias 79.92 316⇑ *i*P **P** **19 55 44.7 0.0**
PSZ Piszkesteto 80.03 318 PFAKE 19 56 00.0 +15
PSZ LR LR
comp=Z,276nm,22.0s
VTS Vitosha 80.11 312⇑ *i*P **P** **19 55 45.9 -0.1**
MMB Musomiste 80.16 311⇑ *i*P **P** **19 55 45.3 -0.8**
OKC Ostrava-Krasne 80.24 320 *e*P **P** **19 55 46.5 +0.2**
OKC Ostrava-Krasne 80.24 320 *e*P **P** **19 55 46.5 +0.2**
KSP Ksiaz 80.85 322 *e*P **P** **19 55 49.1 -0.5**
KSP Ksiaz 80.85 322 *e*P **P** **19 55 49.2 -0.4**
KRLC Kraliky 80.92 321 *e*P **P** **19 55 49.5 -0.6**
KRLC *ex* x 19 56 01.1
KRLC *ex* x 19 56 22.7
KRLC Kraliky 80.92 321 *e*P **P** **19 55 49.5 -0.6**
KRLC *e* 19 56 01.1
SANT Santorini 81.01 306 PFAKE 19 56 00.0 +9.2
SANT LR LR
comp=Z,173nm,20.0s
DPC Dobruska-Polom 81.06 321 *e*P **P** **19 55 50.6 -0.2**
DPC *ex* x 19 56 10.9
DPC Dobruska-Polom 81.06 321 *e*P **P** **19 55 50.6 -0.2**
UPC Upice 81.16 322 *e*P **P** **19 55 49.9 -1.4**
UPC AMS AMS 20 40 30.0
comp=Z,300nm,17.2s
UPC Upice 81.16 322 *e*P **P** **19 55 49.9 -1.4**
UPC MLR MLR
comp=Z,300nm,17.2s
RPZ Rata Peaks 81.23 146 *e*P **P** **19 55 52.0 +0.5**
comp=Z,87nm,0.8s
KULLO Kullorsuaq 81.32 360 *i*P **P** **19 55 50.1 -1.5**
comp=Z,31nm,1.0s
VRAC Vranov 81.38 320⇓ *i*P **P** **19 55 52.3 -0.2**
PKSM Moragy 81.54 317⇑ *i*P **P** **19 55 52.9 -0.4**
DIVS Divibare 81.61 315⇑ *i*P **P** **19 55 52.8 -1.1**
BRG Berggiesshubel 82.15 323 *e*P **P** **19 55 56.4 -0.1**
comp=Z,16nm,1.9s
BRG Berggiesshubel 82.15 323 *e*P **P** **19 55 56.4 -0.1**
BRG pmax pmax
comp=Z,16nm,1.9s
BRG MLR MLR
comp=Z,533nm,7.3s
BRG MLR MLR
comp=N,252nm,6.9s
BRG MLR MLR
comp=E,192nm,6.9s
PRU Pruhonice 82.24 322 *e*P **P** **19 55 56.0 -1.0**
PRU *ep*P **pP** **19 56 03.7 -1.5**
PRU *ex* x 19 56 27.6
PRU Pruhonice 82.24 322 *e*P **P** **19 55 56.0 -1.0**
PRU *e* 19 56 03.7
SUMG Summit 82.44 354 *i*P **P** **19 55 57.0 -1.1**
comp=E,17nm,0.7s
SUMG Summit 82.44 354 *i*P **P** **19 55 57.0 -1.1**
SUMG pmax pmax
comp=Z,17nm,0.7s
CLL Collm 82.45 323 *i*P **P** **19 55 56.8 -1.2**
CLL *e*S **S** **20 06 11.0 -1.9**
CLL pmax pmax
comp=Z,9.0nm,1.4s
CLL Collm 82.45 323 *i*P **P** **19 55 56.8 -1.2**
comp=Z,9.0nm,1.4s
CLL *i* PcP **PcP** **19 56 04.4 +1.3**
CLL *e*PP **PP** **19 59 05.0 -1.7**
CLL *e*S **S** **20 06 11.0 -1.9**
CLL *e*SS **SS** **20 11 30.0 -3.2**
CLL LmV 20 37 00.0
comp=Z,300nm,20.7s
CONA Conrad Observa 82.45 319⇑ *i*P **P** **19 55 58.1 -0.2**
comp=Z,10nm,1.5s,SNR=5.6
YKA Yellowknife Ar 82.49 23 P **P** **19 55 56.7 -1.2**
comp=Z,6.0nm,0.6s,baz=315,slow=4.9,SNR=46
YKA Yellowknife Ar 82.49 23 P **P** **19 55 56.7 -1.2**
YKA pmax pmax
comp=Z,6.0nm,0.6s
TIR Tirane 82.89 312 PFAKE 19 56 10.0 +9.5
TIR LR LR
comp=Z,232nm,19.0s
ARSA Arzberg 82.97 319⇑ *i*P **P** **19 55 59.2 -1.7**
comp=Z,4.5nm,1.1s
NEUB Neuenburg 83.17 324 *e*P **P** **19 56 01.3 -0.4**
comp=Z,15nm,1.3s
TANN Tannenbergstha 83.20 323 *e*P **P** **19 56 01.5 -0.5**
comp=Z,19nm,2.1s
KHC Kasperske Hory 83.21 321 *e*P **P** **19 56 01.5 -0.6**
KHC *ex* x 19 56 17.3
KHC *ex* x 19 56 34.1
KHC Kasperske Hory 83.21 321 *e*P **P** **19 56 01.5 -0.6**
KHC pmax pmax
comp=Z,4.0nm,1.5s
KHC Kasperske Hory 83.21 321 *e*P **P** **19 56 01.5 -0.6**
comp=Z,4.4nm,1.5s
WERD Werda 83.27 323 *e*P **P** **19 56 01.8 -0.5**
comp=Z,21nm,1.9s
GEC2 GERESS Array S 83.28 321 *e*P **P** **19 56 02.1 -0.4**
comp=Z,8.0nm,1.2s
GEC2 GERESS Array S 83.28 321 *e*P **P** **19 56 01.9 -0.6**
GEC2 GERESS Array S 83.28 321 *e*P **P** **19 56 01.9 -0.6**
GERES GERESS Array B 83.28 321 P **P** **19 56 01.6 -0.9**
comp=Z,2.3nm,1.0s,baz=64,slow=6.1,SNR=18
GERES PKKPbc **PKKPbc** **20 14 22.2 -0.9**
comp=Z,0.4nm,0.6s,baz=199,slow=2.8,SNR=6.9
GUNZ Gunzen 83.29 323 *e*P **P** **19 56 02.1 -0.4**
comp=Z,10.0nm,1.5s
NKC Novy Kostel 83.30 322 *e*P **P** **19 56 01.5 -1.0**
NKC Novy Kostel 83.30 322 *e*P **P** **19 56 01.5 -1.0**
WERN Wernitzgruen 83.31 323 *e*P **P** **19 56 02.2 -0.4**
comp=Z,20nm,1.9s
PLN Plauen 83.33 323 *e*P **P** **19 56 02.3 -0.3**
comp=Z,28nm,2.2s
MOA Molln 83.43 320 *i*P **P** **19 56 03.0 -0.2**
comp=Z,15nm,1.8s,SNR=7.8
PERS Pernice 83.51 318 *i*P **P** **19 56 02.7 -1.0**
PERS Pernice 83.51 318 *i*P **P** **19 56 02.7 -1.0**
SOKA Soboth 83.54 319 *i*P **P** **19 56 03.0 -0.9**
comp=Z,12nm,1.3s,SNR=6.7
MOX Moxa 83.55 323 *e*P **P** **19 56 03.6 -0.1**
comp=Z,6.0nm,1.2s
MOX *e*L L 20 37 58.7
comp=Z,308nm,18.7s
CLZ Clausthal 83.59 325 *e*P **P** **19 56 04.0 0.0**
comp=Z,18nm,1.6s
WET Wettzell 83.60 321 *e*P **P** **19 56 04.0 -0.1**
comp=Z,14nm,1.7s
MANZ Manzenberg 83.61 322 *e*P **P** **19 56 03.9 -0.2**
comp=Z,11nm,1.6s
ROTZ Rotzenmuhle 83.67 322 *e*P **P** **19 56 04.3 -0.1**
comp=Z,21nm,1.8s
BOJS Bojanci 83.97 317 *i*P **P** **19 56 05.5 -0.5**
BOJS Bojanci 83.97 317 *i*P **P** **19 56 05.5 -0.5**
VISS Visnje 84.08 318 *i*P **P** **19 56 05.7 -0.9**
VISS Visnje 84.08 318 *i*P **P** **19 56 05.7 -0.9**
GRF Grafenberg Arr 84.25 322 *e*P **P** **19 56 07.1 -0.3**
comp=Z,26nm,1.5s
GRF *e*L L 20 38 23.6
comp=Z,278nm,21.9s
UBBA Unterbreizbach 84.33 324 *e*P **P** **19 56 07.1 -0.5**
comp=Z,26nm,2.1s
RJOB Jochberg 84.35 320 *e*P **P** **19 56 07.6 -0.4**
comp=Z,10.0nm,1.3s
KBA Koelnbreinsper 84.36 319⇑ *i*P **P** **19 56 07.3 -0.9**
comp=Z,5.7nm,0.9s
JAVS Javornik 84.51 318 *i*P **P** **19 56 08.1 -0.8**
JAVS Javornik 84.51 318 *i*P **P** **19 56 08.1 -0.8**
ABPO Ambohimpanom 84.73 247 PFAKE 19 56 20.0 +10
ABPO LR LR
comp=Z,345nm,19.0s
FUR Furstenfeldbru 85.01 321 *e*P **P** **19 56 11.1 -0.1**

	comp=Z,65nm,1.7s						
ABTA	Abfaltersbach	85.02	319⇑	iP	P	19 56 09.8	-1.6
	comp=Z,8.8nm,1.2s						
WTTA	Wattenberg	85.27	320	iP	P	19 56 11.9	-0.8
	comp=Z,14nm,1.3s,SNR=5.2						
BUG	Bochum--Univer	85.44	325	eP	P	19 56 13.0	-0.2
	comp=Z,35nm,1.6s						
KMBO	Kilima Mbogo	85.80	267	P	P	19 56 16.8	+0.8
	comp=Z,8.1nm,0.8s,baz=50,slow=7.7,SNR=15						
KMBO	Kilima Mbogo	85.80	267	iP	P	19 56 18.5	+2.5
KMBO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KMBO	Kilima Mbogo	85.80	267	P	P	19 56 16.8	+0.8
KMBO				LR	LR		
	comp=Z,345nm,20.0s						
FETA	Feichten	85.92	320⇑	iP	P	19 56 15.3	-0.7
	comp=Z,8.5nm,1.2s						
TIP	Timpagrande	86.00	311	PFAKE		19 56 30.0	+14
TIP				LR	LR		
	comp=Z,114nm,20.0s						
CUC	Castrocucco	86.25	312	PFAKE		19 56 30.0	+12
CUC				LR	LR		
	comp=Z,138nm,19.0s						
FUORN	Ofenpass-Fuorn	86.41	320	eP	P	19 56 17.9	-0.6
	comp=Z,10nm,1.0s						
MEM	Membach	86.57	325	P	P	19 56 18.7	-0.2
	comp=Z,5.5nm,1.6s						
MEM				AP	pP	19 56 25.5	-1.6
MEM				XP	sP	19 56 29.4	-0.8
BFO	Black Forest	86.59	322	eP	P	19 56 18.4	-0.7
	comp=Z,13nm,1.8s						
BFO	Black Forest	86.59	322	iP	P	19 56 21.3	+2.2
BFO	Black Forest	86.59	322	PFAKE		19 56 30.0	+11
BFO				LR	LR		
	comp=Z,301nm,21.0s						
BEBN	Eben Emael	86.63	325	P	P	19 56 18.8	-0.4
AQU	L'Aquila	86.68	315	eP	P	19 56 19.3	-0.4
AQU				MLR	MLR		
	comp=Z,197nm,19.0s						
AQU	L'Aquila	86.68	315	eP	P	19 56 19.3	-0.4
AQU				LR	LR		
	comp=Z,197nm,19.0s						
WLF	Walferdange	87.03	324	P	P	19 56 21.3	+0.1
	comp=Z,10nm,1.3s						
WLF	Walferdange	87.03	324	eP	P	19 56 21.2	+0.1
	comp=Z,14nm,0.9s						
WLF	Walferdange	87.03	324	eP	P	19 56 21.5	+0.3
WLF				pmax	pmax		
	comp=Z,11nm,0.9s						
WLF				MLR	MLR		
	comp=Z,338nm,20.0s						
WLF	Walferdange	87.03	324	eP	P	19 56 21.5	+0.3
	comp=Z,11nm,0.9s						
WLF				LR	LR		
	comp=Z,338nm,20.0s						
NLWA	Neilton Lookou	87.21	38	eP	P	19 56 22.2	+0.1
NLWA				LR	LR		
	comp=Z,262nm,22.0s						
DOU	Dourbes	87.60	325	P	P	19 56 24.5	+0.6
VLC	Villacollemand	87.64	318	PFAKE		19 56 40.0	+16
VLC				LR	LR		
	comp=Z,249nm,20.0s						
E03A	Lebam	87.85	39	eP	P	19 56 25.7	+0.6
	comp=Z,66nm,1.1s						
B06A	Marblemount	87.89	37	eP	P	19 56 25.8	+0.5
	comp=Z,42nm,0.8s						
F03A	Seaside	88.19	40	eP	P	19 56 27.8	+1.0
D05A	Enumclaw	88.38	38	eP	P	19 56 28.6	+0.9
	comp=Z,56nm,0.7s						
PNT	Penticton	88.43	35	P	P	19 56 27.7	-0.2
PNT	Penticton	88.43	35	P	P	19 56 27.6	-0.2
G03D	McMinnville, O	88.77	40	P	P	19 56 29.7	+0.2
	baz=88						
F04A	Amboy	88.85	39	eP	P	19 56 30.3	+0.4
	comp=Z,51nm,0.8s						
WPW	White Pass	88.91	38	P	P	19 56 30.6	+0.3
TWW	Teanaway	89.03	37	P	P	19 56 31.4	+0.6
ETW	Entiat	89.06	37	P	P	19 56 31.0	0.0
LTY	Liberty	89.07	37	eP	P	19 56 30.9	-0.1
	comp=Z,22nm,0.8s						
COR	Corvallis	89.09	41	eP	P	19 56 32.5	+1.5
COR				pmax	pmax		
	comp=Z,41nm,0.8s						
COR	Corvallis	89.09	41	eP	P	19 56 32.5	+1.5
	comp=Z,41nm,0.8s						
B08A	Colville Reser	89.15	36	eP	P	19 56 31.4	0.0
	comp=Z,43nm,0.8s						
CLTB	Caltabellotta	89.21	311	PFAKE		19 56 40.0	+8.1
CLTB				LR	LR		
	comp=Z,75nm,19.0s						
WTV	Waterville	89.21	37	P	P	19 56 31.4	-0.2
BNI	Bardonecchia	89.36	320	eP	P	19 56 31.2	-1.3
BNI				e		20 00 00.3	
BNI				MLR	MLR		
	comp=Z,321nm,20.0s						
BNI	Bardonecchia	89.36	320	eP	P	19 56 31.2	-1.3
BNI				ePP	PP	20 00 00.3	-2.7
BNI				LR	LR		
	comp=Z,321nm,20.0s						
SAW	Saint Andrews	89.50	36	P	P	19 56 33.1	+0.1
I03D	Drain, OR	89.56	41	P	P	19 56 34.3	+1.0
	baz=89,SNR=7.0						
H04A	Detroit Lake	89.69	40	eP	P	19 56 34.4	+0.4
	comp=Z,43nm,1.3s						
G05D	Wamic, OR	89.88	39	P	P	19 56 35.3	+0.5
	baz=90,SNR=5.7						
C09A	Chrisman Ranch	90.05	36	eP	P	19 56 35.9	+0.3
	comp=Z,70nm,1.4s						
I04A	Tendick Farm,	90.07	41	P	P	19 56 36.0	+0.2
	baz=90,SNR=14						
D08A	Wollman Farm,	90.15	37	eP	P	19 56 36.4	+0.4
	comp=Z,34nm,0.8s						
HAWA	Hanford	90.22	38	eP	P	19 56 37.0	+0.7
	comp=Z,31nm,0.8s						
HAWA				LR	LR		
	comp=Z,200nm,22.0s						
L02D	Cave Junction,	90.26	43	P	P	19 56 36.9	+0.2
	baz=90						
NEW	Newport	90.38	35	LR	LR	20 39 39.7	
	comp=Z,89nm,18.9s,baz=18,slow=37						
NEW	Newport	90.38	35	P	P	19 56 37.1	0.0
	baz=90						
I05D	Terrebonne, OR	90.39	40	P	P	19 56 37.3	+0.1
	baz=90,SNR=6.7						
SSB	Saint Sauveur	90.47	321	PFAKE		19 56 50.0	+12
SSB				LR	LR		
	comp=Z,252nm,19.0s						
J04D	Umpqua Nationa	90.56	41	P	P	19 56 38.9	+0.7
	baz=90,SNR=7.9						
CASY	Casey	90.77	185	PFAKE		19 56 50.0	+12
CASY				LR	LR		
	comp=Z,315nm,20.0s						
VSL	Villasalto	90.77	314	eP	P	19 56 38.2	-0.8
	comp=Z,9.2nm,1.0s						
VSL				epP	pP	19 56 45.5	-1.9
VSL				LR	LR		
	comp=Z,134nm,20.0s						
E09A	Wood Farm, Sta	90.91	37	eP	P	19 56 40.1	+0.6
	comp=Z,33nm,0.9s						
YBH	Yreka Blue Hor	91.05	43	LR	LR	20 32 32.0	
	comp=Z,96nm,20.7s,baz=309,slow=32						
YBH	Yreka Blue Hor	91.05	43	eP	P	19 56 41.1	+0.7
YBH				pmax	pmax		
	comp=Z,20nm,1.1s						
YBH	Yreka Blue Hor	91.05	43	eP	P	19 56 41.1	+0.7
	comp=Z,20nm,1.1s						
J05D	Fort Rock, OR	91.06	41	P	P	19 56 41.0	+0.5
	baz=91,SNR=22						
K04D	Chiloquin, OR	91.13	42	P	P	19 56 40.9	+0.1
	baz=91						
M02C	Callahan	91.15	43	P	P	19 56 41.3	+0.4
	baz=91						
G08A	Pilot Rock	91.20	38	eP	P	19 56 41.3	+0.2
	comp=Z,22nm,1.4s						
KMRM	Mail Ridge	91.27	44	eP	P	19 56 42.7	+1.3
	comp=Z,46nm,1.8s						
N02D	Trinity Center	91.48	43	P	P	19 56 42.8	+0.4
	baz=91						
MBAR	Mbarara	91.53	270	PFAKE		19 56 50.0	+6.8
MBAR				LR	LR		
	comp=Z,1µm,22.0s						
M04C	Macdoel	91.56	42	P	P	19 56 42.9	0.0
	baz=91						
K05A	Summer Lake	91.59	41	eP	P	19 56 43.7	+0.7
BMO	Blue Mountains	92.39	38	eP	P	19 56 46.4	-0.2
	comp=Z,23nm,1.2s						
MOD	Modoc	92.42	41	eP	P	19 56 47.3	+0.4
	comp=Z,32nm,1.2s						
FFC	Flin Flon	92.64	24	P	P	19 56 46.9	-0.4
	comp=Z,196nm,0.9s,SNR=8.2						
FFC	Flin Flon	92.64	24	eP	P	19 56 46.2	-1.2
FFC				pmax	pmax		
	comp=Z,30nm,0.9s						
FFC				MLR	MLR		
	comp=Z,248nm,19.0s						
FFC	Flin Flon	92.64	24	eP	P	19 56 46.2	-1.2
	comp=Z,30nm,0.9s						
FFC				LR	LR		
	comp=Z,248nm,19.0s						
KEST	Kesra	92.82	311	P	P	19 56 47.9	-0.8
	comp=Z,2.4nm,1.0s,baz=80,slow=1.8,SNR=6.4						
MSO	Missoula	92.95	35	P	P	19 56 48.7	-0.5
	baz=93,SNR=7.4						
MSO	Missoula	92.95	35	eP	P	19 56 49.0	-0.2
	comp=Z,12nm,0.9s						
WVOR	Wild Horse Val	93.10	40	PFAKE		19 57 00.0	+10
WVOR				LR	LR		
	comp=Z,161nm,22.0s						
A19A	Klindworth Far	94.10	31	P	P	19 56 53.8	-0.5
	baz=94						
EGMT	Eagleton	94.25	32	P	P	19 56 54.2	-0.8
	baz=94,SNR=9.3						
EGMT	Eagleton	94.25	32	eP	P	19 56 54.1	-1.0
EGMT				LR	LR		
	comp=Z,157nm,20.0s						
B19A	Brinkman Farms	94.33	31	P	P	19 56 55.0	-0.4
	baz=94						
LRM	Limekiln Ridge	94.39	35	eP	P	19 56 55.8	-0.1
A20A	Cobblestone Ra	94.51	31	P	P	19 56 55.7	-0.4
	baz=94,SNR=7.3						
B20A	Solberg Farm,	94.78	31	P	P	19 56 56.7	-0.8
	baz=94						
HLID	Hailey	94.82	37	P	P	19 56 59.0	+1.1
	baz=94,SNR=12						
HLID	Hailey	94.82	37	PFAKE		19 57 10.0	+12
HLID				LR	LR		
	comp=Z,154nm,19.0s						
A21A	Bergtoll Ranch	94.89	30	P	P	19 56 57.5	-0.4
	baz=95						
BOZ	Bozeman (W)	94.94	35	eP	P	19 56 58.3	-0.1
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BOZ				MLR	MLR		
	comp=Z,226nm,19.0s						
BOZ	Bozeman (W)	94.94	35	P	P	19 56 58.1	-0.2
	baz=95,SNR=8.8						
BOZ	Bozeman (W)	94.94	35	eP	P	19 56 58.2	-0.1
	comp=Z,4.4nm,0.8s						
BOZ				LR	LR		
	comp=Z,226nm,19.0s						
B21A	Ellsworth Farm	95.26	30	P	P	19 56 58.6	-1.0
	baz=95						
C20A	Veseth Ranch,	95.31	31	P	P	19 56 58.9	-0.9
	baz=95,SNR=13						
A22A	Carney Farms,	95.35	29	P	P	19 56 59.0	-1.0
	baz=95,SNR=8.1						
PPT	Papeete	95.56	107	LR	LR	20 31 20.5	
	comp=Z,230nm,21.9s,baz=322,slow=30						
PPT2	Papeete2	95.57	107	eLR	LR	20 27 48.6	
	comp=Z,486nm,23.0s,baz=290						
C21A	Desert Coulee	95.65	31	P	P	19 57 00.5	-0.9
	baz=95						
NV01	Mina Array Sit	95.72	43	eP	P	19 57 01.9	-0.2
NVAR	Mina Array Bea	95.72	43	P	P	19 57 01.9	-0.2
	comp=Z,4.5nm,0.7s,baz=294,slow=5.1,SNR=28						
B22A	Reddig Ranch S	95.82	30	P	P	19 57 01.2	-0.9
	baz=96						
A23A	Redstone	95.83	29	P	P	19 57 01.5	-0.7
	baz=96						
ELK	Elko	96.15	40	LR	LR	20 35 59.1	
	comp=Z,78nm,21.1s,baz=336,slow=33						
B23A	Brockton	96.15	29	P	P	19 57 02.8	-0.8
	baz=96						
A24A	Westby	96.25	29	P	P	19 57 03.4	-0.7
	baz=96						
D21A	La Casta Ranch	96.25	31	P	P	19 57 03.7	-0.5
	baz=96,SNR=9.3						
C22A	Vida	96.27	30	P	P	19 57 03.4	-0.8
	baz=96						
LKWY	Lake	96.31	35	PFAKE		19 57 20.0	+15
LKWY				LR	LR		
	comp=Z,307nm,19.0s						
DGMT	Dagmar	96.50	29	P	P	19 57 04.5	-0.7
	baz=96						
DGMT	Dagmar	96.50	29	PFAKE		19 57 20.0	+15
DGMT				LR	LR		
	comp=Z,258nm,20.0s						
RLMT	Red Lodge	96.51	34	P	P	19 57 04.9	-0.7
	baz=96						
RLMT	Red Lodge	96.51	34	PFAKE		19 57 20.0	+14
RLMT				LR	LR		
	comp=Z,237nm,19.0s						
D22A	Cohagen	96.57	31	P	P	19 57 04.3	-1.3
	baz=96						
E21A	Keefer Ranch,	96.59	32	P	P	19 57 04.1	-1.6
	baz=96						
PKM	Peak Mountain	96.84	47	P	P	19 57 07.0	-0.3
	baz=97						
G20A	Bridger	96.97	33	P	P	19 57 06.6	-1.0
	baz=97						
AHID	Auburn Hatcher	97.16	36	PFAKE		19 57 20.0	+11
AHID				LR	LR		
	comp=Z,157nm,20.0s						
D24A	Glendive	97.45	30	P	P	19 57 09.1	-0.5
	baz=97						
R11A	Troy Canyon, C	97.45	42	P	P	19 57 09.1	-0.9
	baz=97						
R11A	Troy Canyon, C	97.45	42	eP	Pdif	19 57 10.2	+0.2
	comp=Z,38nm,2.8s						
MPMC	Manual Prospec	97.67	45	P	P	19 57 10.3	-0.7
	baz=97						
HWUT	Hardware Ranch	97.69	38	PFAKE		19 57 20.0	+9.0
HWUT				LR	LR		
	comp=Z,215nm,19.0s						
FURC	Furnace Creek,	97.82	44	P	P	19 57 11.2	-0.2
	baz=98						
D25A	Fairfield	97.88	29	P	P	19 57 11.0	-0.5
	baz=98						
LRMC	Laurel Mountai	97.89	45	P	P	19 57 11.9	0.0
	baz=98						
J19A	Crowheart	97.91	35	P	P	19 57 11.5	-0.4
	baz=98						
TPNV	Topopah Spring	97.91	44	P	P	19 57 11.7	-0.4
	baz=98						
DUG	Dugway	97.92	39	P	P	19 57 11.6	-0.4
	baz=98						
DUG	Dugway	97.92	39	PFAKE		19 57 20.0	+8.0
DUG				LR	LR		
	comp=Z,150nm,22.0s						
TBI	Tubuai	97.94	112	eLR	LR	20 28 59.3	
	comp=Z,287nm,25.0s,baz=291						
BW06	Boulder Array	97.99	36	PFAKE		19 57 20.0	+7.6
BW06				LR	LR		
	comp=Z,147nm,20.0s						
PDAR	Pinedale Array	97.99	36	P	P	19 57 11.4	-1.0
	comp=Z,1.0nm,0.8s,baz=354,slow=4.5,SNR=4.6						
EDW2	Edwards Air Fo	98.06	46	P	P	19 57 12.4	-0.2
	baz=98						
F24A	Ekalaka	98.34	31	P	P	19 57 13.1	-0.6
	baz=98						
D26A	Manning	98.37	29	P	P	19 57 13.3	-0.4
	baz=98						
I21A	Big Trails, Te	98.44	34	P	P	19 57 12.7	-1.6
	baz=98						
GSC	Goldstone	98.57	45	eP	Pdif	19 57 15.4	+0.4
GSC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GSC	Goldstone	98.57	45	Pdiff	P	19 57 14.9	0.0
	baz=98						
GSC	Goldstone	98.57	45	eP	Pdif	19 57 15.4	+0.4
	comp=Z,6.2nm,1.1s						
J21A	Lysite	98.69	34	Pdiff	P	19 57 14.8	-0.6
	baz=98						
I22A	9 Mile Ranch,	98.78	33	Pdiff	P	19 57 14.9	-0.8
	baz=98						
ESDC	Sonseca Array	98.87	321	PKKPbc	PKKPbc	20 13 44.9	+1.4
	comp=Z,0.2nm,0.4s,baz=254,slow=2.0,SNR=5.9						
ESDC				LR	LR	20 44 13.2	
	comp=Z,76nm,19.1s,baz=30,slow=37						
H24A	Dirks Ranch, A	99.11	32	Pdiff	Pdif	19 57 16.2	-0.9
	baz=99						
PAB	San Pablo	99.18	321	PFAKE		19 57 30.0	+12
PAB				LR	LR		
	comp=Z,76nm,19.0s						
MSU	Marysvale	99.39	40	eP	Pdif	19 57 19.2	+0.5
MSU				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MSU	Marysvale	99.39	40	eP	Pdif	19 57 19.2	+0.5
	comp=Z,3.7nm,1.1s						
GMRC	Granite Mounta	99.63	45	Pdiff	Pdif	19 57 19.1	-0.6
	baz=99						
LSZ	Lusaka	99.67	258	PFAKE		19 57 30.0	+10
LSZ				LR	LR		
	comp=Z,389nm,21.0s						
PFO	Pinyon Flat Ob	99.84	46	Pdiff	Pdif	19 57 20.1	-0.5
	baz=100						
PFO	Pinyon Flat Ob	99.84	46	PFAKE		19 57 30.0	+9.3
PFO				LR	LR		
	comp=Z,246nm,21.0s						
BELC	Belle Mtn. Jos	99.90	46	Pdiff	Pdif	19 57 20.2	-0.8
	baz=100						
KNB	Kanab	99.99	42	eP	Pdif	19 57 22.5	+1.2
KNB				pmax	pmax		
	comp=Z,20nm,1.8s						
KNB	Kanab	99.99	42	ePdif	Pdif	19 57 22.5	+1.2
	comp=Z,20nm,1.8s						
F28A	McLaughlin	100.00	29	Pdiff	Pdif	19 57 20.7	-0.2
	baz=100						
I25A	Rochford	100.04	32	Pdiff	Pdif	19 57 21.2	-0.2
	baz=100						
AGMN	Agassiz Nation	100.07	25	PFAKE		19 57 30.0	+8.8
AGMN				LR	LR		
	comp=Z,235nm,19.0s						
MONP	Monument Peak	100.30	47	Pdiff	Pdif	19 57 22.5	-0.4
	baz=100						
IRM	Iron Mountain	100.35	45	Pdiff	Pdif	19 57 22.2	-0.6
	baz=100						
BC3	Big Chuckawall	100.47	46	Pdiff	Pdif	19 57 22.8	-0.6
	baz=100						
O20A	White River Ci	100.53	37	ePdif	Pdif	19 57 19.9	-3.8
G30A	Faulkton	101.29	28	Pdiff	Pdif	19 57 25.9	-0.8
	baz=101						
WUAZ	Wupatki	101.85	42	PFAKE		19 57 40.0	+10
WUAZ				LR	LR		
	comp=Z,126nm,20.0s						
EYMN	Ely	101.96	22	Pdiff	Pdif	19 57 29.0	-0.6
	baz=102						
EYMN	Ely	101.96	22	PFAKE		19 57 40.0	+10
EYMN				LR	LR		
	comp=Z,324nm,20.0s						
ISCO	Idaho Springs	102.19	36	PFAKE		19 57 40.0	+8.8
ISCO				LR	LR		
	comp=Z,183nm,19.0s						
MVCO	Mesa Verde	102.42	39	PFAKE		19 57 40.0	+7.8
MVCO				LR	LR		
	comp=Z,170nm,21.0s						
TAM	Tamanrasset	102.67	302	PFAKE		19 57 40.0	+6.5
TAM				LR	LR		
	comp=Z,196nm,19.0s						
ECSD	EROS Data Cent	103.49	28	PFAKE		19 57 50.0	+13
ECSD				LR	LR		
	comp=Z,238nm,20.0s						
SDCO	Great Sand Dun	103.73	37	PFAKE		19 57 50.0	+12
SDCO				LR	LR		
	comp=Z,155nm,19.0s						
TUC	Tucson	104.34	44	PFAKE		19 57 50.0	+9.4
TUC				LR	LR		
	comp=Z,189nm,20.0s						
COWI	Conover	104.36	22	PFAKE		19 57 50.0	+10
COWI				LR	LR		
	comp=Z,234nm,21.0s						
ANMO	Albuquerque	105.18	40	PFAKE		20 02 10.0	
ANMO				LR	LR		
	comp=Z,183nm,22.0s						
T26A	Comanche Natio	105.19	36	Pdiff	Pdif	19 57 43.2	-1.3
	baz=105						
SBA	Scott Base	105.25	171	PFAKE		20 02 10.0	
SBA				LR	LR		
	comp=Z,440nm,21.0s						
SCIA	State Center	106.41	27	PFAKE		20 02 10.0	
SCIA				LR	LR		
	comp=Z,298nm,21.0s						
JFWS	Jewell Farm	106.73	24	PFAKE		20 02 10.0	
JFWS				LR	LR		
	comp=Z,202nm,20.0s						
GLMI	Grayling	106.96	20	PFAKE		20 02 10.0	
GLMI				LR	LR		
	comp=Z,327nm,20.0s						
KSU1	Kansas State U	107.22	31	PFAKE		20 02 10.0	
KSU1				LR	LR		
	comp=Z,234nm,20.0s						
HDIL	Hopedale	109.12	25	PFAKE		20 02 20.0	
HDIL				LR	LR		
	comp=Z,233nm,20.0s						
AAM	Ann Arbor	109.54	20	PFAKE		20 02 20.0	
AAM				LR	LR		
	comp=Z,340nm,22.0s						
WMOK	Wichita Mounta	109.58	35	PFAKE		20 02 20.0	
WMOK				LR	LR		
	comp=Z,163nm,19.0s						
LONY	Lake Ozonia	109.69	13	PFAKE		20 02 20.0	
LONY				LR	LR		
	comp=Z,175nm,21.0s						
RKT	Rikitea	110.32	107	eLR	LR	20 34 41.8	
	comp=Z,390nm,25.2s						
NCB	Newcomb	110.39	13	PFAKE		20 02 20.0	
NCB				LR	LR		
	comp=Z,258nm,22.0s						
TSUM	Tsumeb	110.53	258	PFAKE		20 02 20.0	
TSUM				LR	LR		
	comp=Z,432nm,22.0s						
TXAR	Lajitas Array	110.82	42	PKiKP	PKiKP	20 02 08.6	-0.8
	comp=Z,0.4nm,0.6s,baz=320,slow=2.4,SNR=3.4						
TORD	Torodi Ar. Bea	110.95	296	PKiKP	PKiKP	20 02 08.4	-1.3
	comp=Z,0.7nm,0.6s,baz=12,slow=2.7,SNR=4.1						
TORD				PP	PP	20 02 54.0	+6.3
	comp=Z,1.2nm,0.9s,baz=52,slow=9.1,SNR=4.2						
TORD				PKKPbc	PKKPbc	20 13 05.4	-1.0
	comp=Z,0.5nm,0.5s,baz=247,slow=2.1,SNR=6.1						
TORD				PKKPab	PKKPab	20 13 17.4	-0.7
	comp=Z,3.4nm,1.1s,baz=253,slow=4.1,SNR=9.8						
ACSO	Alum Creek Sta	111.63	20	PFAKE		20 02 20.0	
ACSO				LR	LR		
	comp=Z,283nm,20.0s						
JCT	Junction City	112.26	39	PFAKE		20 02 20.0	
JCT				LR	LR		
	comp=Z,168nm,19.0s						
MIAR	Mount Ida	112.33	31	PFAKE		20 02 20.0	
MIAR				LR	LR		
	comp=Z,228nm,21.0s						
CBN	Corbin	115.14	17	PFAKE		20 02 30.0	+13
CBN				LR	LR		
	comp=Z,250nm,20.0s						
BLA	Blacksburg	115.19	20	PFAKE		20 02 30.0	+13
BLA				LR	LR		
	comp=Z,202nm,19.0s						
GOGA	Godfrey	117.61	24	PFAKE		20 02 30.0	+7.9
GOGA				LR	LR		
	comp=Z,228nm,19.0s						
CNNC	Cliffs of the	117.78	18	PFAKE		20 02 30.0	+7.7
CNNC				LR	LR		
	comp=Z,218nm,20.0s						
BRAL	Brewton	118.26	28	PFAKE		20 02 30.0	+6.6
BRAL				LR	LR		
	comp=Z,149nm,19.0s						
NHSC	New Hope	119.04	21	PFAKE		20 02 40.0	+15
NHSC				LR	LR		
	comp=Z,235nm,19.0s						
DBIC	Dimbokro	119.86	294	PKP	PKPdf	20 02 26.1	-0.8
	comp=Z,3.5nm,0.7s,baz=90,slow=1.0,SNR=4.3						
DBIC				PKKPab	PKKPbc	20 12 36.5	+1.1
	comp=Z,6.9nm,1.1s,baz=204,slow=7.9,SNR=4.4						
GRTK	Grand Turk	132.63	17	PFAKE		20 03 00.0	+8.9
GRTK				LR	LR		
	comp=Z,296nm,21.0s						
GTBY	Guantanamo Bay	132.90	22	PFAKE		20 03 00.0	+8.4
GTBY				LR	LR		
	comp=Z,191nm,21.0s						
MTDJ	Mount Denham	133.54	26	PFAKE		20 03 00.0	+7.0
MTDJ				LR	LR		
	comp=Z,192nm,19.0s						
SDDR	Presa de Saban	135.00	18	PFAKE		20 03 10.0	+14
SDDR				LR	LR		
	comp=Z,320nm,21.0s						
ASCN	Ascension	135.37	284	PFAKE		20 03 10.0	+14
ASCN				LR	LR		
	comp=Z,2µm,22.0s						
JTS	JuntasAbangare	136.59	41	ePKIKP	PKPdf	20 03 04.5	+5.8
JTS	JuntasAbangare	136.59	41	ePKPdf	PKPdf	20 03 04.5	+5.8
SJG	San Juan	137.04	12	PFAKE		20 03 10.0	+11

SJG						LR	LR			
	comp=Z,174nm,21.0s									
SDV	**Santo Domingo**	**144.70**	**22**	*e*PKPdf		**PKPab**		**20 03 11.3**	**-0.9**	
SDV						LR	LR			
	comp=Z,128nm,21.0s									
HOPE	**Hope Point**	**146.11**	**203**		PFAKE			20 03 30.0	+14	
HOPE						LR	LR			
	comp=Z,495nm,19.0s									
ROSC	**El Rosal**	**146.84**	**31**	PKPbc		**PKPdf**		**20 03 17.7**	**+0.3**	
	comp=Z,16nm,0.5s,baz=60,slow=4.1,SNR=8.8									
OTAV	**Otavalo**	**148.45**	**42**	*e*PKPbc		**PKPbc**		**20 03 23.1**	**-0.7**	
OTAV						LR	LR			
	comp=Z,170nm,22.0s									
RCBR	**Riachuelo**	**152.01**	**308**	*e*PKPbc		**PKPbc**		**20 03 31.6**	**-0.2**	
PTGA	**Pitinga**	**156.44**	**5**	*e*PKPab		**PKPab**		**20 03 58.1**	**-1.6**	
SAML	**Samuel**	**163.87**	**19**	*e*PKPdf		**PKPdf**		**20 03 39.4**	**-0.3**	
SAML				*e*PKPab		**PKPab**		**20 04 29.6**	**-2.4**	
SAML				LR	LR					
	comp=Z,279nm,21.0s									
BDFB	**Brasilia**	**167.34**	**311**	PKP		**PKPdf**		**20 03 42.7**	**+0.1**	
	comp=Z,3.7nm,0.6s,baz=321,slow=4.4,SNR=3.9									
BDFB				PKPab		**PKPab**		**20 04 46.7**	**-0.8**	
	comp=Z,3.5nm,0.6s,baz=135,slow=5.7,SNR=3.7									
LPAZ	**La Paz**	**167.47**	**52**	PKP		**PKPdf**		**20 03 43.8**	**+0.5**	
	comp=Z,12nm,1.1s,baz=8.4,slow=3.3,SNR=20									
LPAZ				PKPab		**PKPab**		**20 04 46.7**	**-2.1**	
	comp=Z,2.4nm,0.6s,baz=24,slow=8.5,SNR=4.6									

IDC ***08*** *20:00:12.5±3.7,9.˚32S×159.˚28E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/32, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=80.6km s-min=42.6km az=110.0*

ISCJB ***08*** *20:00:17.0±0.9, 9.˚3S±0.˚3×158.˚94E±0.˚06, h26km, mb3.3/3, Error ellipse: s-maj=36.9km s-min=8.7km az=3.5*

ISC 08 20:00:18.1±1.1, 9.˚3S±0.˚3×159.˚00E±0.˚09, h26km, n5, σ0$41/6, mb3.6/3, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**0.95**	**100**	*e*P	**Pn**	**20 00 36.0**	**+0.2**
HNR				*i* S	**Sb**	**20 00 48.0**	**-0.1**
JAY	**Jayapura**	**19.39**	**289**	P	**Pn**	**20 00 44.0**	**+0.4**
	0.4nm,0.3s,baz=105,slow=16,SNR=3.6						
WRA	**Warramunga Arr**	**26.08**	**243**	P	**P**	**20 05 50.1**	**+0.2**
	0.8nm,0.5s,baz=70,slow=9.5,SNR=12						
ASAR	**Alice Springs**	**27.94**	**236**	P	**P**	**20 06 06.3**	**-0.3**
	0.2nm,0.6s,baz=69,slow=9.5,SNR=3.6						
MKAR	**Makanchi Array**	**87.72**	**318**	P	**P**	**20 13 04.4**	**-0.4**
	0.2nm,0.6s,baz=86,slow=6.1,SNR=2.3						

IDC ***08*** *20:06:55.2±1.3,9.˚32S×159.˚00E, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.8/32, mbtmp3.8/7, ML4.2/1, Error ellipse: s-maj=41.5km s-min=27.8km az=140.0*

ISCJB ***08*** *20:06:58.4±0.7,9.˚3S±0.˚2×158.˚84E±0.˚06, h27km, mb3.7/6, Error ellipse: s-maj=27.6km s-min=8.8km az=5.9*

ISC 08 20:06:59.5±0.8, 9.˚3S±0.˚3×158.˚92E±0.˚09, h27km, n8, σ1$35/11, mb3.8/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.02**	**96**	*i* P	**Pn**	**20 07 16.0**	**-2.1**
HNR				*i* S	**Sn**	**20 07 34.0**	**+2.5**
JAY	**Jayapura**	**19.33**	**289**	P	**Pn**	**20 11 24.5**	**+0.4**
	0.7nm,0.3s,baz=134,slow=3.0,SNR=7.0						
WRA	**Warramunga Arr**	**25.98**	**243**	P	**P**	**20 12 30.4**	**+0.1**
	1.4nm,0.7s,baz=70,slow=9.3,SNR=11						
WRA				PcP	**PcP**	**20 15 58.4**	**0.0**
	0.7nm,0.8s,baz=69,slow=2.7,SNR=4.8						
ASAR	**Alice Springs**	**27.83**	**236**	P	**P**	**20 12 47.6**	**+0.7**
	0.9nm,0.9s,baz=72,slow=9.9,SNR=6.7						
ASAR				PcP	**PcP**	**20 16 02.0**	**-0.8**
	0.6nm,0.9s,baz=69,slow=3.1,SNR=4.6						
CMAR	**Chiang Mai Arr**	**65.28**	**295**	P	**P**	**20 17 40.4**	**+0.9**
	0.7nm,0.8s,baz=117,slow=5.2,SNR=5.4						
SONM	**Songino Array**	**73.40**	**326**	P	**P**	**20 18 29.5**	**+0.2**
	0.5nm,0.8s,baz=142,slow=5.3,SNR=2.4						
MKAR	**Makanchi Array**	**87.72**	**318**	P	**P**	**20 19 44.7**	**-1.3**
	0.4nm,0.6s,baz=92,slow=6.0,SNR=7.1						
NVAR	**Mina Array Bea**	**90.13**	**51**	P	**P**	**20 19 58.5**	**+0.8**
	0.6nm,0.9s,baz=284,slow=5.5,SNR=2.5						

BJI ***08*** *20:15:12.4,9.˚65S×121.˚99E,h100km,mb4.5/17,mB5.0/12*

MOS ***08*** *20:15:14.0±1.3,8.˚81S×121.˚99E,h63km,mb4.8/12, Error ellipse: s-maj=11.6km s-min=7.4km az=120.7*

ISCJB ***08*** *20:15:20.0±0.3,8.˚99S±0.˚03×121.˚84E±0.˚02,h122km±3km, mb4.6/43, Error ellipse: s-maj=4.2km s-min=3.2km az=179.7*

NEIC ***08*** *20:15:20.3±0.3,8.˚92S×121.˚87E,mb4.9/24, Error ellipse: s-maj=8.0km s-min=6.3km az=225.0*

DJA ***08*** *20:15:20.3±0.2,9.˚S±2.˚×12.˚2E±.˚, h88km±3km, M4.7/66, mb5.0/66, mB5.2/42, MLv5.3/22, Mw(mB)4.6/42, Mwp5.6/1*

IDC ***08*** *20:15:20.3±0.7,8.˚80S×121.˚91E,h103km±5km, mb4.4/24, mb1 4.5/28, mb1mx4.5/32, mbtmp4.8/28, MS3.4/7, Ms1 3.4/7, ms1mx3.0/31, Error ellipse: s-maj=13.6km s-min=8.5km az=78.0*

ISC 08 20:15:19.9±0.5, 9.˚01S±0.˚04×121.˚86E±0.˚04, h103km±4km, n191, σ1$63/211, mb4.6/43, 7C-4D, Savu Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**0.53**	**45**	P	**Pn**	**20 15 35.8**	**-0.5**
MMRI				S	**Sn**	**20 15 47.4**	**-1.1**
MMRI	**Maumere**	**0.53**	**45**	*e*Pg	**Pn**	**20 15 35.4**	**-0.9**
WSI	**Waingapu**	**1.68**	**247**	P	**Pn**	**20 15 49.4**	**+0.8**
WSI				S	**Sn**	**20 16 11.2**	**+0.9**
SOEI	**Soe**	**2.48**	**108**	P	**Pn**	**20 15 59.8**	**+0.7**
SOEI				S	**Sn**	**20 16 30.3**	**+1.2**
SOEI	**Soe**	**2.48**	**108**	*e*Pg	**Pn**	**20 15 59.2**	**+0.2**
WBSI	**Waikabubak, Su**	**2.52**	**255**	P	**Pn**	**20 16 00.0**	**+0.5**
WBSI				S	**Sn**	**20 16 29.7**	**-0.1**
BSSI	**Bau Bau, Buton**	**3.16**	**334**	P	**Pn**	**20 16 09.3**	**+1.4**
BKSI	**Bulukumba**	**4.05**	**335**	P	**Pn**	**20 16 21.7**	**+1.8**
KAPI	**Kappang**	**4.49**	**332**	P	**Pn**	**20 16 28.6**	**+2.8**
	49nm,0.3s,baz=154,slow=9.4,SNR=319						
KAPI				S	**Sn**	**20 17 21.3**	**+4.2**
	baz=67,slow=17,SNR=2.9						
KDI	**Kendari**	**5.08**	**9**	P	**Pn**	**20 16 36.0**	**+2.2**
	175nm,0.7s,1μm0.6nm						
SPSI	**Sidrap Palu**	**5.43**	**337**	P	**Pn**	**20 16 40.8**	**+2.2**
	204nm,0.9s,2μm0.6nm						
TTSI	**Tana Toraja**	**6.27**	**341**	P	Pn	20 16 54.5	+4.6
	209nm,0.9s,2μm0.6nm						
DNP	**Denpasar**	**6.58**	**272**	P	**Pn**	**20 16 55.9**	**+1.7**
	465nm,0.5s,26μm17nm						
DNP				S	**Sn**	**20 18 10.4**	**+2.5**
	465nm,0.5s,26μm17nm						
IGBI	**Denpasar**	**6.64**	**271**	P	**Pn**	**20 16 55.3**	**+0.3**
	301nm,1.0s,17μm21μm4.3nm						
IGBI				S	**Sn**	**20 18 08.6**	**-0.7**
	301nm,1.0s,17μm21μm4.3nm						
SRBI	**Singaraja**	**6.64**	**277**	P	**Pn**	**20 16 55.7**	**+0.7**
	87nm,1.0s,1μm0.7nm						
ABJI	**Asem Bagus**	**7.64**	**279**	P	**Pn**	**20 17 11.5**	**+2.8**
	127nm,0.7s,1μm0.7nm						
NLAI	**Namlea**	**7.74**	**43**	P	**Pn**	**20 17 12.7**	**+2.7**
	583nm,1.1s,5μm1.7nm						
LUWI	**Luwuk**	**7.97**	**7**	P	Pn	20 17 16.4	+3.3
	160nm,0.9s,2μm						
LUWI	**Luwuk**	**7.97**	**7**	⇑P	**Pn**	**20 17 15.0**	**+2.0**
	baz=8.2,SNR=14						
LUWI	**Luwuk**	**7.97**	**7**	*e*Pn	**Pn**	**20 17 15.0**	**+2.0**
	93nm,0.6s						
KBKI	**Kotabaru**	**8.02**	**315**	P	**Pn**	**20 17 16.4**	**+2.7**
	66nm,0.9s,1μm						
SANI	**Sanana**	**8.04**	**31**	P	**Pn**	**20 17 16.5**	**+2.4**
	168nm,0.8s,2μm						
APSI	**Ampana**	**8.05**	**358**	P	**Pn**	**20 17 16.7**	**+2.5**
	170nm,0.8s,1μm						
KMMI	**Kalianget**	**8.06**	**283**	P	Pn	20 17 17.5	+3.2
	73nm,0.9s						
BLJI	**Banyuglugur**	**8.28**	**278**	P	**Pn**	**20 17 18.3**	**+1.0**
	110nm,0.6s,2μm						
BLJI				S	**Sn**	**20 18 49.4**	**+0.3**
	110nm,0.6s,2μm						
PCI	**Palu**	**8.30**	**346**	P	Pn	20 17 21.9	+4.3
	73nm,1.1s,754nm						
GMJI	**Gumukmas**	**8.36**	**274**	P	**Pn**	**20 17 17.2**	**-1.1**
	75nm,0.7s,1μm						
GMJI				S	**Sn**	**20 18 47.4**	**-3.7**
	75nm,0.7s,1μm						
BNDI	**Bandanaira**	**9.14**	**61**	P	**Pn**	**20 17 30.7**	**+1.6**
	282nm,1.1s,3μm						
SAUI	**Saumlaki**	**9.39**	**84**	P	Pn	20 17 31.7	-0.7
	576nm,0.8s						
MRSI	**Marisa**	**9.43**	**0**	P	**Pn**	**20 17 34.9**	**+2.0**
	47nm,1.0s,526nm						
KNRA	**Kununurra**	**9.45**	**135**	P	Pn	20 17 29.6	-3.6
	baz=9.3,SNR=410						
MPSI	**Mapaga**	**9.49**	**348**	P	**Pn**	**20 17 36.5**	**+2.7**
	21nm,0.9s						
GRJI	**Gresik**	**9.53**	**282**	P	**Pn**	**20 17 35.7**	**+1.5**
	58nm,1.1s						
KMSI	**Cibinong**	**9.75**	**13**	P	Pn	20 17 41.7	+4.4
	98nm,0.7s,2μm						
PWJI	**Pagerwojo**	**10.00**	**275**	P	**Pn**	**20 17 42.0**	**+1.3**
	68nm,0.6s						
LBMI	**Labuha**	**10.04**	**34**	P	Pn	20 17 44.5	+3.3
	124nm,1.0s,1μm						
PCJI	**Pacitan**	**10.60**	**274**	P	**Pn**	**20 17 48.3**	**-0.5**
	88nm,1.1s,2μm						
KDU	**Kakadu**	**11.04**	**110**	P	Pn	20 17 51.6	-3.2
	baz=11,SNR=43						
TNTI	**Ternate**	**11.16**	**30**	P	**Pn**	**20 17 58.2**	**+1.8**
	97nm,1.1s,1μm						
TNTI	**Ternate**	**11.16**	**30**	*e*Pn	**Pn**	**20 17 58.3**	**+1.8**
	116nm,1.1s						
UGM	**Wanagama**	**11.27**	**275**	P	**Pn**	**20 17 58.4**	**+0.4**
	240nm,1.8s						
UGM	**Wanagama**	**11.27**	**275**	P	**Pn**	**20 17 57.9**	**-0.1**
	baz=11,SNR=20						
SMRI	**Semarang**	**11.48**	**279**	P	**Pn**	**20 18 02.1**	**+1.4**
	89nm,0.8s						
SMRI	**Semarang**	**11.48**	**279**	*e*Pn	**Pn**	**20 18 01.7**	**+1.0**
	58nm,0.6s						
FAKI	**Fak Fak**	**11.97**	**60**	P	**Pn**	**20 18 05.6**	**-1.6**
	84nm,0.9s,998nm						
FAKI				S	**Sn**	**20 20 19.3**	**+0.4**
	84nm,0.9s,998nm						
FAKI	**Fak Fak**	**11.97**	**60**	P	**Pn**	**20 18 06.0**	**-1.3**
	baz=12,SNR=12						
FAKI	**Fak Fak**	**11.97**	**60**	*e*P	**Pn**	**20 18 05.4**	**-1.8**
	64nm,0.8s						
MBWA	**Marble Bar**	**12.25**	**189**	*e*P	**Pn**	**20 18 08.4**	**-2.5**
	37nm,0.8s						
SIJI	**Sorong**	**12.37**	**50**	P	**Pn**	**20 18 11.9**	**-0.7**
	5.0nm,0.3s,baz=223,slow=7.6,SNR=35						
SIJI				S	**Sn**	**20 20 32.4**	**+3.7**
	1.9nm,0.3s,baz=317,slow=19,SNR=2.4						
SIJI				LR	LR	20 22 58.8	
	comp=Z,285nm,19.2s,baz=270,slow=38						
SWI	**Sorong**	**12.37**	**50**	P	**Pn**	**20 18 12.2**	**-0.3**
	98nm,1.3s,1μm						
SWI	**Sorong**	**12.37**	**50**	P	**Pn**	**20 18 12.7**	**+0.1**
	baz=12,SNR=9.1						
CMJI	**Cimerak**	**13.33**	**274**	P	**Pn**	**20 18 23.0**	**-2.1**
	85nm,1.0s						
STKI	**Sintang**	**13.72**	**311**	P	**P**	**20 18 36.5**	**+1.1**
	33nm,0.9s						
CISI	**Cisompet, Garu**	**13.98**	**275**	P	**Pn**	**20 18 32.7**	**-1.0**
	157nm,0.7s,2μm						
CISI	**Cisompet, Garu**	**13.98**	**275**	*e*P	**Pn**	**20 18 31.2**	**-2.5**
	102nm,0.6s						
LEM	**Lembang**	**14.28**	**278**	P	**Pn**	**20 18 37.5**	**-0.1**
	7.6nm,0.3s,baz=4.5,slow=10,SNR=14						
LEM				LR	LR	20 25 07.5	
	comp=Z,132nm,18.1s,baz=174,slow=41						
LEM	**Lembang**	**14.28**	**278**	P	**Pn**	**20 18 37.6**	**-0.1**
	baz=14,SNR=5.0						
RKPI	**Ransiki, Papua**	**14.34**	**59**	P	**Pn**	**20 18 36.7**	**-1.6**
	123nm,1.1s,1μm						
CNJI	**Cibinong**	**14.68**	**276**	P	**P**	**20 18 46.3**	**+0.2**
	191nm,0.7s,2μm						
CBJI	**Citeko**	**15.10**	**279**	P	**Pn**	**20 18 45.9**	**-2.0**
	179nm,0.6s,2μm						
SKJI	**Sukabumi**	**15.29**	**276**	P	**P**	**20 18 51.9**	**-0.9**
	310nm,0.9s,2μm						
GIRL	**Giralia**	**15.41**	**208**	P	**Pn**	**20 18 51.7**	**0.0**
	baz=15,SNR=15						
BAKI	**Biak**	**16.16**	**62**	P	**P**	**20 19 02.7**	**+0.2**
	108nm,0.8s,1μm						
CGJI	**Cibinong**	**16.20**	**277**	P	**P**	**20 19 03.1**	**+0.2**
	191nm,0.6s,2μm						
WRA	**Warramunga Arr**	**16.23**	**133**	P	**Pn**	**20 18 57.5**	**-4.6**
	4.3nm,0.3s,baz=303,slow=13,SNR=184						
WRA				S	Sn	20 21 45.5	-17
	5.7nm,0.3s,baz=303,slow=24,SNR=12						
WRA				ScP	**ScP**	**20 27 13.5**	**-2.4**
	baz=322,slow=2.0,SNR=4.6						
WRAB	**Tennant Creek**	**16.24**	**133**	⇑*e*P	**Pn**	**20 18 57.9**	**-4.2**
WRAB				pmax	pmax		
	comp=Z,145nm,0.7s						
WRAB	**Tennant Creek**	**16.24**	**133**	*e*P	**Pn**	**20 18 58.2**	**-3.9**
	comp=Z,78nm,0.8s						
PPBI	**Pangkal Pinang**	**17.06**	**293**	P	**P**	**20 19 12.9**	**+0.5**
	comp=Z,15nm,1.2s,comp=Z,553nm						
WRKA	**Warakurna**	**17.07**	**160**	P	**Pn**	**20 19 12.5**	**+0.1**
	baz=17,SNR=112						
KLSI		**17.54**	**283**	P	**Pn**	**20 19 18.3**	**+0.2**
	comp=Z,63nm,0.7s,comp=Z,3μm						
KASI	**Kota Agung**	**17.57**	**280**	P	**Pn**	**20 19 18.4**	**-0.1**
	comp=Z,99nm,0.5s,comp=Z,1μm						
MEEK	**Meekatharra**	**17.80**	**190**	P	**Pn**	**20 19 21.2**	**+0.1**
	baz=18,SNR=77						
LWLI	**Liwa**	**18.11**	**281**	P	**P**	**20 19 23.4**	**-0.7**
	comp=Z,54nm,0.7s						
ASAR	**Alice Springs**	**18.58**	**143**	P	**P**	**20 19 29.8**	**+0.7**
	comp=Z,14nm,0.3s,baz=329,slow=14,SNR=483						
ASAR				S	S	20 22 45.2	-10
	comp=Z,1.9nm,0.3s,baz=317,slow=24,SNR=8.2						
ASAR				LR	LR	20 27 15.8	
	comp=Z,176nm,18.3s,baz=319,slow=38						
ASAR				ScP	**ScP**	**20 27 20.3**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=355,slow=2.2,SNR=7.5						
LHSI	**Lahat**	**18.93**	**285**	P	**Pn**	**20 19 34.6**	**-0.2**
	comp=Z,58nm,0.7s						
GENI	**Genyem**	**19.29**	**72**	P	**P**	**20 19 37.0**	**+0.2**
	comp=Z,82nm,0.6s						
MNAI	**Manna**	**19.34**	**283**	P	**P**	**20 19 37.4**	**0.0**
	comp=Z,186nm,1.4s						
MNAI	**Manna**	**19.34**	**283**	P	**P**	**20 19 36.7**	**-0.7**
	baz=19,SNR=9.4						
JAY	**Jayapura**	**19.82**	**72**	P	**P**	**20 19 43.1**	**+0.5**
	comp=Z,26nm,0.7s,comp=Z,2μm						
JAY	**Jayapura**	**19.82**	**72**	P	**P**	**20 19 41.7**	**-0.9**
	comp=Z,1.4nm,0.3s,baz=249,slow=7.7,SNR=14						
JAY				LR	LR	20 29 08.7	
	comp=Z,82nm,21.0s,baz=147,slow=42						
JAY	**Jayapura**	**19.82**	**72**	P	**P**	**20 19 42.9**	**+0.2**
	baz=20,SNR=6.5						
KSI	**Kapahiang**	**19.87**	**284**	P	**P**	**20 19 43.7**	**+0.4**
	comp=Z,60nm,0.5s,comp=Z,1μm						
QIS	**Mount Isa**	**20.61**	**126**	P	**P**	**20 19 51.8**	**+0.7**
	baz=20,SNR=88						
MORW	**Morawa**	**20.69**	**195**	P	**P**	**20 19 52.6**	**+0.7**
	baz=21,SNR=32						
COEN	**Coen**	**21.45**	**105**	⇓P	**P**	**20 20 00.5**	**+0.4**
	baz=21,SNR=24						
COEN	**Coen**	**21.45**	**105**	*e*P	**P**	**20 20 01.2**	**+1.1**
	comp=Z,22nm,0.6s						
BLDU	**Ballidu**	**22.03**	**192**	⇑P	**P**	**20 20 05.8**	**-0.3**
	baz=22,SNR=85						
KMBL	**Kambalda**	**22.24**	**180**	P	**P**	**20 20 08.3**	**-0.1**
	baz=22,SNR=47						
FORT	**Forrest**	**22.42**	**166**	P	**P**	**20 20 10.2**	**0.0**
	baz=22,SNR=30						
FORT	**Forrest**	**22.42**	**166**	*e*P	**P**	**20 20 10.0**	**-0.2**
	comp=Z,180nm,0.8s						
KLBR	**Kellerberrin**	**22.79**	**189**	P	**P**	**20 20 13.8**	**-0.1**
	baz=23,SNR=87						
MTSU	**Mount Surprise**	**23.61**	**115**	P	**P**	**20 20 22.9**	**+1.1**
	baz=24,SNR=27						
NWAO	**Narrogin (SRO)**	**24.18**	**190**	P	**P**	**20 20 27.2**	**+0.4**
	comp=Z,37nm,0.6s,baz=329,slow=10,SNR=41						
NWAO				S	S	20 24 51.1	+13
	comp=Z,42nm,0.6s,baz=325,slow=21,SNR=9.0						
IPM	**Ipoh**	**24.72**	**302**	*e*P	**P**	**20 20 32.7**	**+0.8**
	comp=Z,4.7nm,0.5s						
PMG	**Port Moresby**	**24.97**	**93**	*e*P	**P**	**20 20 34.3**	**+0.1**
PMG	**Port Moresby**	**24.97**	**93**	*e*P	**P**	**20 20 34.3**	**+0.1**
KULM	**Kulim**	**25.48**	**303**	*e*P	**P**	**20 20 38.2**	**-0.6**
	comp=Z,33nm,1.3s						
PSI	**Prapat**	**25.70**	**296**	P	**P**	**20 20 44.2**	**+3.3**
	comp=Z,2.9nm,0.4s,baz=112,slow=11,SNR=4.5						
RKGY	**Rocky Gully**	**25.87**	**189**	P	**P**	**20 20 44.2**	**+2.1**
	baz=26,SNR=26						
CTA	**Charters Tower**	**26.01**	**118**	P	**P**	**20 20 44.5**	**+0.9**
	comp=Z,4.4nm,0.6s,baz=298,slow=13,SNR=9.1						
GSI	**Gunungsitoli**	**26.28**	**292**	⇑P	**P**	**20 20 47.6**	**+1.5**
	baz=26						
MANU	**Manus Island**	**26.30**	**76**	⇑P	**P**	**20 20 46.1**	**-0.1**
	baz=26						
BBOO	**Buckleboo**	**27.08**	**153**	⇓P	**P**	**20 20 53.1**	**0.0**
	baz=27,SNR=60						
BBOO	**Buckleboo**	**27.08**	**153**	*e*P	**P**	**20 20 53.0**	**0.0**
	comp=Z,58nm,0.9s						
QLP	**Quilpie**	**27.47**	**132**	P	**P**	**20 20 58.1**	**+1.6**
	baz=27,SNR=9.9						
HTT	**Hallett**	**28.95**	**150**	P	**P**	**20 21 11.0**	**+1.3**
	baz=29,SNR=16						
STKA	**Stephens Creek**	**29.21**	**144**	P	**P**	**20 21 12.9**	**+1.0**
	comp=Z,18nm,0.4s,baz=323,slow=8.2,SNR=115						
STKA				LR	LR	20 32 44.4	
	comp=Z,120nm,19.9s,baz=13,slow=36						
CMSA	**Cobar Meteorol**	**31.51**	**139**	P	**P**	**20 21 33.8**	**+1.6**
	baz=31,SNR=100						
ARPS	**Mount Arapiles**	**33.05**	**150**	P	**P**	**20 21 47.2**	**+1.6**
	baz=33,SNR=40						
CMAR	**Chiang Mai Arr**	**35.45**	**320**	P	**P**	**20 22 06.9**	**+0.3**
	comp=Z,2.4nm,0.9s,baz=145,slow=6.9,SNR=15						
CMAR				ScP	**ScP**	**20 28 10.4**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=166,slow=2.6,SNR=15						
CMAR				LR	LR	20 38 12.3	
	comp=Z,35nm,19.6s,baz=130,slow=39						
CHTO	**Chiang Mai**	**35.72**	**321**	*e*P	**P**	**20 22 08.0**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CHTO	**Chiang Mai**	**35.72**	**321**	*e*P	**P**	**20 22 08.0**	**-0.9**
	comp=Z,4.1nm,0.9s						
CNB	**Canberra Magne**	**36.28**	**140**	P	**P**	**20 22 15.6**	**+2.0**
	baz=36,SNR=5.6						
ENH	**Enshi**	**40.83**	**344**	*e*P	P	20 22 48.2	-3.4
	comp=Z,3.4nm,0.4s						
ENH				*e*pP	pP	20 23 14.3	-1.1
CBIJ	**Chichi jima**	**40.95**	**28**	P	**P**	**20 22 51.7**	**-0.9**
JCJ	**Chichijima**	**40.95**	**28**	P	**P**	**20 22 51.7**	**-0.9**
	comp=Z,46nm,0.6s,baz=282,slow=20,SNR=4.5						
JNU	**Nakatsue**	**42.77**	**11**	P	**P**	**20 23 05.2**	**-2.1**
	comp=Z,5.8nm,0.8s,baz=152,slow=9.8,SNR=3.8						
JNU				LR	LR	20 43 01.9	
	comp=Z,19nm,18.9s,baz=165,slow=39						
XAN	**Xi'an**	**44.54**	**345**	P	**P**	**20 23 21.0**	**-0.6**
KSAR	**Wonju Array Be**	**46.55**	**7**	P	**P**	**20 23 36.2**	**-1.1**
KSAR	**Wonju Array Be**	**46.55**	**7**	P	**P**	**20 23 36.2**	**-1.1**
KSRS	**Korea Array**	**46.57**	**7**	P	**P**	**20 23 36.2**	**-1.2**
	comp=Z,9nm,0.9s,baz=179,slow=9.1,SNR=16						
KSRS	**Korea Array**	**46.57**	**7**	P	**P**	**20 23 36.2**	**-1.2**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MJAR	**Matsushiro Arr**	**47.85**	**18**	P	**P**	**20 23 45.1**	**-2.3**
	comp=Z,3.7nm,0.5s,baz=200,slow=9.0,SNR=19						
MAJO	**Matsushiro**	**47.85**	**18**	⇑*i* P	**P**	**20 23 45.2**	**-2.2**
MAJO	**Matsushiro**	**47.85**	**18**	*e*P	**P**	**20 23 45.3**	**-2.1**
	comp=Z,22nm,1.3s						
MAT	**Matsushiro**	**47.85**	**18**	P	**P**	**20 23 45.8**	**-1.6**
LSA	**Lhasa**	**48.53**	**324**	*e*P	**P**	**20 23 53.9**	**+0.6**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
LSA	**Lhasa**	**48.53**	**324**	*e*P	**P**	**20 23 53.9**	**+0.6**
	comp=Z,9.4nm,0.6s						
ODAN	**Odare**	**48.89**	**318**	*e*P	**P**	**20 23 55.1**	**-0.8**
	comp=Z,22nm,0.9s						
TAPN	**Taplejung**	**49.01**	**319**	*e*P	**P**	**20 23 56.4**	**-0.4**
	comp=Z,14nm,0.5s						
RAMN	**Ramite**	**49.47**	**317**	*e*P	**P**	**20 23 59.8**	**-0.5**
	comp=Z,15nm,0.5s						
HHC	**Hu-ho-hao-te**	**50.51**	**350**	*e*P	P	20 24 12.9	+5.1
HHC				PP	PP	20 26 11.7	+7.1
HHC				S	**S**	**20 31 18.7**	**+4.6**
HHC				sS	sS	20 32 04.4	+8.0
HHC				SS	**SS**	**20 34 52.3**	**+2.6**
HHC				PMZ			
	comp=Z,12nm,1.0s						
HHC				PMZ			
	comp=Z,85nm,5.3s						
GUN	**Gumba**	**50.59**	**318**	*e*P	**P**	**20 24 08.3**	**-0.6**
	comp=Z,38nm,0.7s						
PKI	**Pulchoki**	**50.68**	**317**	*e*P	**P**	**20 24 08.4**	**-1.1**
	comp=Z,12nm,0.5s						
PKIN	**Phulchoki**	**50.69**	**317**	*e*P	**P**	**20 24 08.5**	**-1.1**
	comp=Z,6.1nm,0.4s						
DMN	**Daman**	**50.91**	**317**	*e*P	**P**	**20 24 10.3**	**-0.9**
	comp=Z,16nm,0.9s						
KKN	**Kakani**	**50.91**	**317**	*e*P	**P**	**20 24 10.1**	**-1.0**
	comp=Z,14

comp=E,32nm,3.3s
YAK **Yakutsk** 71.09 4 *e*P P 20 26 26.4 -0.2
comp=E,28nm,0.6s
NVS **Novosibirsk** 71.37 338 *e*P P 20 26 26.7 -1.8
VNDA **Vanda** 71.55 172 P P 20 26 30.8 +1.5
comp=E,4.7nm,0.5s,baz=318,slow=6.4,SNR=28
SEY **Seymchan** 75.47 14↓ *e*P P 20 26 52.2 -0.2
GEYT **Alibeck** 75.51 313 P P 20 26 52.8 -0.5
comp=E,1.9nm,0.8s,baz=124,slow=2.7,SNR=5.3
BRVK **Borovoye** 75.73 331 P P 20 26 53.0 -1.2
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BRVK MLR MLR
comp=Z,69nm,16.0s
BRVK **Borovoye** 75.73 331 *e*P P 20 26 52.4 -1.8
comp=Z,3.3nm,0.6s
SYO **Syowa Base** 78.87 201↑ *e*P P 20 27 11.8 +0.4
TIXI **Tiksi** 80.62 2 P P 20 27 19.0 -1.7
TIXI pmax pmax
comp=Z,14nm,1.0s
TIXI **Tiksi** 80.62 2 *e*P P 20 27 19.6 -1.2
comp=Z,16nm,0.9s
QSPA **South Pole Qui** 80.98 180 P P 20 27 24.4 +1.3
comp=Z,6.9nm,0.7s,baz=318,slow=1.3,SNR=44
QSPA pP **pP** 20 27 51.4 +1.7
comp=Z,5.2nm,0.6s,baz=309,slow=4.4,SNR=4.7
ARU **Arti** 83.27 330 P P 20 27 33.2 -1.7
ARU 20 30 46.5
ARU S S 20 27 51.3 +4.4
ARU SS SS 20 43 09.5 -4.7
KMBO **Kilima Mbogo** 84.50 270 P P 20 27 43.9 +1.4
comp=Z,2.3nm,0.6s,baz=49,slow=10,SNR=5.3
KBZ **Khabaz** 88.29 315 P P 20 27 59.5 -0.5
comp=Z,1.2nm,0.7s,baz=195,slow=12,SNR=3.6
BOSA **Boshof** 91.48 241 P P 20 28 17.1 +1.7
comp=Z,3.6nm,0.4s,baz=114,slow=3.4,SNR=23
BRTR **Keskin Array B** 94.33 309 P P 20 28 26.5 -1.8
comp=Z,0.5nm,0.8s,baz=123,slow=5.1,SNR=3.6
BRTR **Keskin Array B** 94.33 309 *i* P P 20 28 25.7 -2.6
BRTR pmax pmax
comp=Z,1.0nm,0.8s
ILAR **Eielson Array** 98.62 26 P P 20 28 45.8 -1.2
comp=Z,0.3nm,0.6s,baz=243,slow=5.2,SNR=4.7
GERES **GERESS Array B** 108.68 319 PKiKP **PKiKP** 20 33 36.8 -0.3
comp=Z,0.2nm,0.7s,baz=132,slow=2.0,SNR=3.9
YKA **Yellowknife Ar** 113.03 25 SKP **SKPdf** 20 37 09.9 -1.1
comp=Z,0.5nm,0.7s,baz=300,slow=2.0,SNR=5.7
TORD **Torodi Ar. Bea** 121.25 280 PKP **PKPdf** 20 34 02.0 +0.1
comp=Z,2.3nm,0.5s,baz=57,slow=1.9,SNR=31
TORD SKP 20 37 27.8
comp=Z,0.6nm,0.6s,baz=101,slow=2.4,SNR=4.2
ESDC **Sonseca Array** 123.04 312 PKP **PKPdf** 20 34 04.8 0.0
comp=Z,0.4nm,0.6s,baz=37,slow=2.6,SNR=3.8
DBIC **Dimbokro** 127.20 272 PKP **PKPdf** 20 34 14.2 +0.9
comp=Z,1.9nm,0.6s,baz=90,slow=6.1,SNR=3.8
TXAR **Lajitas Array** 132.85 58 PKP **PKPdf** 20 34 25.1 +1.3
comp=Z,0.2nm,0.6s,baz=253,slow=2.7,SNR=3.1
TXAR SKPbc **SKPbc** 20 37 40.5 -1.6
comp=Z,1.0nm,0.7s,baz=257,slow=3.0,SNR=13
SCHQ **Schefferville** 133.78 7 PKP **PKPdf** 20 34 24.9 +0.2
comp=Z,1.0nm,0.6s,baz=315,slow=7.1,SNR=2.8
SCHQ SKPbc **SKPbc** 20 37 42.7 -1.7
comp=Z,4.9nm,0.9s,baz=313,slow=5.0,SNR=5.1
CPUP **Villa Florida** 144.86 181 PKPbc **PKPdf** 20 34 46.9 +1.2
comp=Z,22nm,0.6s,baz=190,slow=2.3,SNR=48
LPAZ **La Paz** 152.99 158 PKPbc **PKPbc** 20 35 09.6 +2.5
comp=Z,2.1nm,0.5s,baz=250,slow=2.5,SNR=12
LPAZ PKPab **PKPab** 20 35 20.4 +1.9
comp=Z,9.0nm,0.5s,baz=110,slow=0.2,SNR=22
BDFB **Brasilia** 153.53 202 PKPbc **PKPbc** 20 35 11.3 +3.7
comp=Z,1.9nm,0.4s,baz=181,slow=7.8,SNR=3.7
BDFB PKPab **PKPab** 20 35 21.9 +1.7
comp=Z,5.5nm,0.6s,baz=130,slow=2.0,SNR=6.9

MAN 08 20:17:55, 8.81N×126.49E, h26km, mb4.8, ML3.8, MS3.8, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	0.63	191 ↓	*i* P	Pn	20 18 08.9	+0.6
BIPH				*i* S	Sn	20 18 17.8	+0.3
CGP	**Cagayan de Oro**	1.81	259	*e*P	Pn	20 18 24.5	+0.1
CGP				*i* S	Sn	20 18 45.3	-1.2
CTBH	**Cotabato--PC H**	2.72	235 ↑	*i* P	Pn	20 18 38.0	+0.9
TBP	**Tagbilaran**	2.73	289	*e*P	Pn	20 18 38.5	+1.2
TBP				*e*S	Sn	20 19 10.9	+1.4
PLP	**Palo**	2.77	328 ↓	*e*P	Pn	20 19 13.0	+2.5
PLP				*e*S	Sn	20 19 13.0	+2.5

IDC 08 20:40:08.1±32.0, 24.07S×179.84E, h520km±300km, mb3.2/5, mb1 3.3/5, mb1mx3.0/27, mbtmp4.2/5, Error ellipse: s-maj=209.3km s-min=71.8km az=84.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	31.33	271	P	P	20 45 46.9	+1.0
	3.9nm,0.4s,baz=92,slow=10,SNR=11						
STKA	**Stephens Creek**	34.52	248	P	P	20 46 12.3	-0.4
	1.0nm,0.6s,baz=86,slow=10,SNR=2.9						
ASAR	**Alice Springs**	41.86	261	P	P	20 47 12.1	-0.6
	1.4nm,1.0s,baz=96,slow=8.6,SNR=12						
WRA	**Warramunga Arr**	42.25	266	P	P	20 47 15.2	-0.5
	1.6nm,0.5s,baz=101,slow=8.3,SNR=12						
SIJI	**Sorong**	52.35	289	P	P	20 48 31.6	-0.3
	4.3nm,0.7s,baz=114,slow=10.0,SNR=5.6						
AKASG	**Malin Array Be**	145.04	327	PKPbc	PKPdf	20 58 45.5	-0.2
	0.4nm,0.4s,baz=45,slow=4.3,SNR=3.4						
BRTR	**Keskin Array B**	147.56	307	PKPbc	PKPbc	20 58 53.7	-0.4
	0.4nm,0.8s,baz=141,slow=2.3,SNR=2.7						

IDC 08 20:49:48.9±1.4, 6.42S×128.35E, h0km, mb3.2/1, mb1 4.1/5, mb1mx3.7/29, mbtmp4.0/5, ML4.2/4, MS3.3/1, Ms1 3.2/1, ms1mx2.4/17, Error ellipse: s-maj=43.6km s-min=27.9km az=80.0
ISCJB 08 20:50:01.8±0.4, 6.20S±0.03×130.07E±0.04, h150km, mb2.8/1, Error ellipse: s-maj=6.2km s-min=4.4km az=5.4
DJA 08 20:50:09.6±0.7, 6.36S±6.13×130.31E±0.14, h149km±9km, M4.2/11, mb4.5/6, mB5.1/3, MLv4.1/11, MLv4.1/11, Mw(mB)4.5/3
ISC 08 20:50:03.2±0.7, 6.10S±0.06×130.03E±0.06, h150km, n28, σ1§44/28, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	1.58	355	P	Pn	20 50 36.5	+2.9
FAKI	**Fak Fak**	3.86	35	P	**Pn**	20 51 02.2	**+0.5**
FAKI				S	**Sn**	20 51 46.3	**-0.8**
FAKI	**Fak Fak**	3.86	35	P	**Pn**	20 51 02.1	**+0.4**
	baz=4.2,SNR=147						
NLAI	**Namlea**	4.08	314	P	Pn	20 51 06.5	+2.0
SIJI	**Sorong**	5.34	13	Pn	**Pn**	20 51 21.2	**0.0**
	11nm,0.3s,baz=207,slow=16,SNR=94						
SIJI				Sn	**Sn**	20 52 19.3	**-2.9**
	9.1nm,0.3s,baz=310,slow=23,SNR=16						
SWI	**Sorong**	5.35	13	P	**Pn**	20 51 21.2	**-0.1**
SWI				S	**Sn**	20 52 19.5	**-2.8**
SWI	**Sorong**	5.35	13	P	**Pn**	20 51 21.5	**+0.2**
	baz=5.7,SNR=32						
SANI	**Sanana**	5.70	315	P	**Pn**	20 51 27.6	**+1.6**
	8.5nm,0.7s,0.0nm						
SANI				S	**Sn**	20 52 31.3	**+0.7**
	8.5nm,0.7s,0.0nm						
LBMI	**Labuha**	5.99	335	P	Pn	20 51 31.8	+2.0
	35nm,1.1s,0.2nm0.2nm						
LBMI				S	**Sn**	20 52 35.7	**-1.9**
	35nm,1.1s,0.2nm0.2nm						
RKPI	**Ransiki, Papua**	6.16	42	P	**Pn**	20 51 33.5	**+1.4**
	171nm,0.6s,4μm0.8nm0.8nm						
RKPI				S	**Sn**	20 52 41.4	**-0.3**
	171nm,0.6s,4μm0.8nm0.8nm						
SOEI	**Soe**	6.76	237	P	**Pn**	20 51 39.5	**-0.7**
SOEI	**Soe**	6.76	237	P	**Pn**	20 51 39.6	**-0.7**
	baz=6.6,SNR=5.5						
KDU	**Kakadu**	6.97	160	P	**Pn**	20 51 41.3	**-1.6**
	baz=6.7,SNR=123						
BAKI	**Biak**	7.78	51	P	**Pn**	20 51 56.7	**+2.9**
	140nm,1.0s,1μm0.4nm0.4nm						
BAKI				S	**Sn**	20 53 20.1	**-0.6**
	140nm,1.0s,1μm0.4nm0.4nm						
KNRA	**Kununurra**	9.60	187	P	Pn	20 52 14.2	-3.7
	baz=9.3,SNR=55						
MRSI	**Marisa**	10.39	309	P	**Pn**	20 52 30.1	**+1.6**
JAY	**Jayapura**	11.22	72	Pn	P	20 52 54.9	+7.3
	0.7nm,0.3s,baz=240,slow=16,SNR=6.9						
WRA	**Warramunga Arr**	14.38	163	Pn	Pn	20 53 16.0	-4.0
	0.8nm,0.3s,baz=334,slow=13,SNR=32						
WRA				Sn	Sn	20 55 48.2	-11
	2.6nm,0.3s,baz=335,slow=22,SNR=10						
COEN	**Coen**	15.11	122	P	**Pn**	**20 53 30.2**	**+1.1**
	baz=15,SNR=33						
QIS	**Mount Isa**	17.11	148	P	P	**20 53 53.6**	**+0.7**
	baz=17,SNR=4.0						
ASAR	**Alice Springs**	17.86	168	P	P	**20 54 00.8**	**-0.2**
	0.9nm,0.3s,baz=345,slow=11,SNR=69						
ASAR				S	S	20 57 10.1	-8.6
	0.6nm,0.3s,baz=342,slow=26,SNR=6.5						
MTSU	**Mount Surprise**	18.37	132	P	P	**20 54 08.1**	**+1.5**
	baz=18,SNR=14						
WRKA	**Warakurna**	18.90	185	P	P	**20 54 11.4**	**-1.0**
	baz=18,SNR=5.9						
MEEK	**Meekatharra**	23.14	207	P	P	**20 54 56.6**	**+0.2**
	baz=23,SNR=3.6						
STKA	**Stephens Creek**	27.83	159	LR	LR	21 09 08.8	
	comp=Z,62nm,20.4s,baz=301,slow=41						
KLBR	**Kellerberrin**	27.84	203	P	P	**20 55 37.1**	**-1.6**
	baz=28,SNR=7.5						
MKAR	**Makanchi Array**	67.50	327	P	P	**21 00 43.0**	**-0.1**
	0.1nm,0.5s,baz=116,slow=6.0,SNR=4.2						
LPAZ	**La Paz**	151.40	141	PKPbc	**PKPab**	**21 09 48.0**	**-1.7**
	1.2nm,0.4s,baz=198,slow=3.2,SNR=5.7						

MAN 08 20:54:22, 13.56N×121.22E, h15km, mb4.2, ML3.0, MS2.8, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	0.26	258	*i* P	Pb	20 54 29.0	+0.5
LUBP	**Lubang**	0.96	281	*e*P	Pn	20 54 40.8	-0.1
LUBP				*e*S	Sn	20 54 55.3	+1.0
SJMP	**San Jose**	1.09	185	*e*P	Pg	20 54 43.0	-0.1
SJMP				*e*S	Sn	20 54 59.2	+1.6
OTRP	**Odiongan**	1.42	146	*e*P	Pn	20 54 47.0	-0.4
BUSP	**Coron**	1.83	213	*e*P	Pn	20 54 52.7	-0.3
ENPP	**El Nido**	2.92	217	*e*P	Pn	20 55 09.3	+1.4

IDC 08 20:59:53.7±6.6, 5.48S×147.93E, h137km±58km, mb3.5/3, mb1 3.7/5, mb1mx3.2/29, mbtmp3.9/5, MS3.7/2, Ms1 3.7/2, ms1mx2.8/21, Error ellipse: s-maj=63.5km s-min=22.4km az=98.0
ISCJB 08 20:59:55.7±1.4, 5.5S±0.1×147.8E±0.2, h167km, mb3.7/3, Error ellipse: s-maj=27.7km s-min=20.5km az=175.6
ISC 08 20:59:56.9±1.5, 5.4S±0.2×147.7E±0.2, h167km, n8, σ0§52/6, mb3.9/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	7.58	292	P	**Pn**	**21 01 45.0**	**+0.2**
	0.3nm,0.3s,baz=135,slow=10.0,SNR=4.6						
JAY				S	Sn	21 02 55.3	-15
	0.4nm,0.3s,baz=225,slow=20,SNR=2.3						
CTA	**Charters Tower**	14.63	185	LR	LR	21 08 53.6	
	comp=Z,281nm,20.8s,baz=262,slow=37						
WRA	**Warramunga Arr**	19.43	221	P	P	**21 04 10.1**	**-0.6**
	0.9nm,0.3s,baz=48,slow=12,SNR=40						
ASAR	**Alice Springs**	22.49	215	P	P	**21 04 42.5**	**-0.2**
	2.4nm,0.6s,baz=50,slow=8.7,SNR=30						
STKA	**Stephens Creek**	26.92	192	P	P	**21 05 23.2**	**+0.6**
	3.9nm,1.1s,baz=34,slow=7.3,SNR=2.8						
URZ	**Urewera**	42.19	145	LR	LR	21 25 58.6	
	comp=Z,82nm,18.1s,baz=0.5,slow=37						
ILAR	**Eielson Array**	84.69	23	P	P	**21 12 11.6**	**-0.1**
	0.3nm,0.6s,baz=260,slow=5.3,SNR=3.1						
TORD	**Torodi Ar. Bea**	145.65	285	PKPbc	**PKPbc**	**21 19 17.0**	**-0.1**
	0.5nm,0.6s,baz=68,slow=3.7,SNR=4.4						

IDC 08 21:10:10.0±3.2, 31.45S×178.13W, h59km±27km, mb4.0/3, mb1 4.2/5, mb1mx3.7/31, mbtmp4.2/5, ML3.5/2, Error ellipse: s-maj=67.3km s-min=26.1km az=117.0
ISC 08 21:10:07.4±2.7, 31.65S±0.2×178.1W±0.4, h35km, n6, σ0§85/6, mb4.4/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	2.38	3	P	**Pn**	**21 10 44.4**	**+0.4**
	25nm,0.3s,baz=253,slow=19,SNR=2.3						
RAO				S	Sn	21 11 04.2	-7.7
	91nm,0.3s,baz=131,slow=20,SNR=3.3						
URZ	**Urewera**	7.70	210	P	Pn	21 12 00.8	+3.8
	0.4nm,0.3s,baz=11,slow=5.2,SNR=2.6						
URZ				S	**Sn**	**21 13 23.3**	**+0.3**
	0.8nm,0.3s,baz=331,slow=19,SNR=4.7						
STKA	**Stephens Creek**	34.17	259	P	P	**21 16 50.0**	**+0.7**
	9.2nm,1.4s,baz=100,slow=18,SNR=3.0						
ASAR	**Alice Springs**	43.01	268	P	P	**21 18 03.0**	**-0.6**
	1.0nm,0.5s,baz=105,slow=7.4,SNR=24						
WRA	**Warramunga Arr**	44.11	273	P	P	**21 18 11.7**	**-0.8**
	2.1nm,0.3s,baz=111,slow=8.1,SNR=104						
FINES	**FINESS Array B**	146.29	339	PKPbc	**PKPdf**	**21 29 41.7**	**-0.6**
	1.0nm,0.7s,baz=56,slow=3.5,SNR=4.1						

IDC 08 21:17:08.3±0.8, 21.49N×144.05E, h0km, mb3.9/9, mb1 4.1/9, mb1mx3.8/49, mbtmp3.9/9, MS3.0/4, Ms1 3.0/4, ms1mx2.7/32, Error ellipse: s-maj=30.8km s-min=17.7km az=86.0
ISCJB 08 21:17:11.9±0.6, 21.44N±0.05×144.0E±0.2, h33km, mb3.8/13, MS3.0/3, Error ellipse: s-maj=23.6km s-min=6.7km az=169.9
NEIC 08 21:17:16.2±1.8, 21.47N×143.99E, h60km±16km, mb4.1/3, Error ellipse: s-maj=20.0km s-min=9.9km az=89.0
ISC 08 21:17:13.4±0.8, 21.41N±0.09×144.2E±0.2, h33km, n26, σ1§60/21, mb3.9/13, MS2.7/3, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	5.96	342	Pn	**Pn**	**21 18 40.5**	**+1.2**
	2.7nm,0.3s,baz=73,slow=20,SNR=2.2						
JCJ				Sn	**Sn**	**21 19 45.5**	**-1.0**
	4.9nm,0.3s,baz=308,slow=20,SNR=3.9						
CBIJ	**Chichi jima**	5.96	342	Pn	**Pn**	**21 18 40.5**	**+1.2**
CBIJ				Sn	**Sn**	**21 19 45.5**	**-1.0**
MJAR	**Matsushiro Arr**	15.96	342	Pn	**Pn**	**21 20 55.2**	**-0.3**
	0.2nm,0.3s,baz=161,slow=10.0,SNR=3.2						
MJAR				LR	LR	21 26 12.8	
	comp=Z,30nm,21.3s,baz=310,slow=34						
H11N1	**WAKE ISLAND Hy**	21.29	90	T	T	21 43 59.3	
	baz=278,slow=75,SNR=31						
H11N2	**WAKE ISLAND Hy**	21.29	90	T	T	21 44 01.4	
	baz=278,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hy**	21.31	90	T	T	21 44 05.8	
	baz=278,slow=75,SNR=31						
H11S3	**WAKE ISLAND Hy**	21.31	94	T	T	21 44 05.9	
	baz=282,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	21.32	94	T	T	21 44 01.6	
	baz=282,slow=75,SNR=24						
H11S2	**WAKE ISLAND Hy**	21.33	94	T	T	21 44 02.2	
	baz=282,slow=75,SNR=21						
KSRS	**Korea Array**	21.33	322	P	P	**21 22 00.9**	**+3.4**
	1.5nm,0.7s,baz=148,slow=9.5,SNR=7.2						
KSRS				LR	LR	21 28 36.1	
	comp=Z,31nm,19.6s,baz=152,slow=32						
KSAR	**Wonju Array Be**	21.34	322	P	P	**21 22 00.9**	**+3.2**
ASAJ	**Asahikawa**	22.69	357	LR	LR	21 30 37.5	
	comp=Z,227nm,21.4s,baz=349,slow=36						
JAY	**Jayapura**	24.02	189	P	P	**21 22 25.4**	**-0.1**
	5.7nm,0.8s,baz=0.0,slow=3.0,SNR=2.9						
SONM	**Songino Array**	40.18	320	P	P	**21 24 46.5**	**-0.1**
	0.4nm,0.5s,baz=107,slow=5.0,SNR=3.2						
WRAB	**Tennant Creek**	42.21	194	*e*P	P	**21 25 03.7**	**+0.4**
	4.9nm,0.9s						
WRA	**Warramunga Arr**	42.22	194	P	P	**21 25 03.5**	**0.0**
	3.3nm,1.0s,baz=18,slow=8.9,SNR=8.4						
CMAR	**Chiang Mai Arr**	42.56	274	LR	LR	21 43 54.1	
	comp=Z,8.1nm,19.0s,baz=115,slow=38						
ASAR	**Alice Springs**	45.91	193	P	P	**21 25 33.2**	**+0.2**
	0.9nm,0.7s,baz=14,slow=8.2,SNR=13						
ZALV	**Zalesovo Beam**	55.04	322	P	P	**21 26 38.7**	**-2.9**
	0.4nm,0.5s,baz=120,slow=8.5,SNR=2.2						
MKAR	**Makanchi Array**	55.60	313	P	P	**21 26 44.2**	**-1.8**
	0.3nm,0.6s,baz=92,slow=9.1,SNR=3.6						
MKAR				PcP	**PcP**	**21 27 44.5**	**-0.9**
	0.6nm,0.7s,baz=97,slow=4.0,SNR=4.1						
KURK	**Kurchatov**	58.34	317	*e*P	P	**21 27 02.9**	**-2.3**
	0.9nm,0.6s						
ILAR	**Eielson Array**	61.86	27	P	P	**21 27 28.6**	**-0.5**
	0.9nm,0.9s,baz=249,slow=5.9,SNR=6.9						
BMO	**Blue Mountains**	80.94	45	P	P	**21 29 24.9**	**+0.1**
	0.7nm,0.6s						
NVAR	**Mina Array Bea**	82.56	52	P	P	**21 29 34.4**	**+0.8**
	0.8nm,0.7s,baz=273,slow=3.3,SNR=5.8						
KBZ	**Khabaz**	83.26	314	P	P	**21 29 36.8**	**0.0**
	3.9nm,0.8s,baz=55,slow=2.5,SNR=8.9						
LPAZ	**La Paz**	149.00	86	PKPbc	**PKPbc**	**21 37 00.1**	**+0.4**
	1.7nm,0.7s,baz=3.4,slow=6.2,SNR=6.3						

IDC 08 21:27:26.1±0.6, 51.34N×178.05W, h0km, mb4.0/21, mb1 4.2/21, mb1mx4.0/53, mbtmp4.0/21, MS3.5/19, Ms1 3.5/19, ms1mx3.4/32, Error ellipse: s-maj=23.8km s-min=12.2km az=175.0
ISCJB 08 21:27:29.8±0.4, 51.05N±0.05×177.92W±0.04, h34km, mb4.0/29, MS3.5/18, Error ellipse: s-maj=6.9km s-min=3.5km az=170.2
NEIC 08 21:27:31.4, 51.21N×177.95W, h31km, mb4.1/5, ML4.1(AEIC), After AEIC.
ISC 08 21:27:31.3±0.6, 51.15N±0.08×177.97W±0.04, h34km, n86, σ1§03/78, mb4.0/29, MS3.4/18, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAFL	**Tanaga Flats**	0.61	4	P	**Pn**	**21 27 42.4**	**-1.2**
TAPA	**Tanaga Point A**	0.68	8	P	**Pn**	**21 27 43.4**	**-1.1**
TASE	**Tanaga Tanaga Southea**	0.69	356	P	**Pn**	**21 27 44.0**	**-0.6**
TAFP	**Tanaga Falls P**	0.76	359	P	**Pn**	**21 27 44.4**	**-1.1**
TANO	**Tanaga North**	0.78	353	P	**Pn**	**21 27 45.1**	**-0.7**
GALAA	**Gareloi Lava P**	0.80	321	P	**Pn**	**21 27 45.8**	**-0.3**
GAEA	**Gareloi East**	0.80	323	P	**Pn**	**21 27 45.9**	**-0.3**
GANE	**Gareloi Northe**	0.84	323	P	**Pn**	**21 27 46.4**	**-0.4**
KIKV	**Kanaga Island**	0.89	34	P	**Pn**	**21 27 46.6**	**-0.8**
KICM	**Kanaga Island**	0.91	32	P	**Pn**	**21 27 47.0**	**-0.6**
KIRH	**Kanaga Island**	0.93	36	P	**Pn**	**21 27 47.7**	**-0.3**
KINC	**Kanaga Island**	0.95	33	P	**Pn**	**21 27 47.4**	**-0.7**
ADAG	**Mount Adagdak**	1.19	45	P	**Pn**	**21 27 51.7**	**+0.1**
ETKA	**Kagalaska Isla**	1.21	53	P	**Pn**	**21 27 51.2**	**-0.6**
GSCK	**Great Sitkin C**	1.42	52	P	**Pn**	**21 27 54.8**	**+0.1**
GSTD	**Great Sitkin T**	1.46	51	P	**Pn**	**21 27 55.7**	**+0.4**
GSTD				S	**Sb**	**21 28 15.2**	**-0.9**
GSMY	**Great Sitkin M**	1.49	52	P	**Pn**	**21 27 55.8**	**+0.1**
GSTR	**Great Sitkin T**	1.52	51	*e*Pn	**Pn**	**21 27 56.3**	**+0.1**
CERAA	**Semis' Rag'd T**	1.65	298	P	**Pn**	**21 27 58.3**	**+0.4**
CESW	**Semis' Southwe**	1.72	297	P	**Pn**	**21 27 59.1**	**+0.4**
AMKA	**Amchitka**	1.73	279	*e*Pn	**Pn**	**21 27 58.1**	**-0.8**
AMKA				*e*S	**Sb**	**21 28 23.0**	**-0.8**
CEAP	**Semis' Anvil P**	1.76	300	P	**Pn**	**21 28 00.0**	**+0.7**
LSPA	**Little Sitkin**	2.31	292	P	**Pn**	**21 28 07.8**	**+0.9**
LSPA				S	**Sn**	**21 28 37.2**	**+3.1**
LSSA	**Little Sitkin**	2.34	291	P	**Pn**	**21 28 08.5**	**+1.1**
LSNW	**Little Sitkin**	2.34	292	P	**Pn**	**21 28 07.9**	**+0.5**
UNV	**Unalaska Valle**	7.50	64	*e*Pn	**Pn**	**21 29 20.6**	**+2.4**
UNV				*e*S	**Sn**	**21 30 44.1**	**+2.2**
SDPT	**Sand Point**	11.29	61	*e*Pn	**Pn**	**21 30 10.4**	**+0.5**
GAMB	**Gambell**	13.10	12	*e*Pn	**Pn**	**21 30 36.9**	**+2.3**
PETK	**Petropavlovsk-**	15.05	287	Pn	**Pn**	**21 31 03.1**	**+1.8**
	0.1nm,0.3s,baz=88,slow=18,SNR=2.5						
PETK				LR	LR	21 36 32.7	
	comp=Z,190nm,21.8s,baz=92,slow=37						
KDAK	**Kodiak Island**	16.12	56	*e*Pn	**Pn**	**21 31 13.2**	**-1.8**
SEY	**Seychan**	19.77	318	P	**Pn**	**21 32 00.1**	**+0.3**
	0.1nm,0.3s,baz=115,slow=11,SNR=10						
ILAR	**Eielson Array**	21.10	38	P	P	**21 32 13.4**	**+0.9**
	0.9nm,0.8s,baz=255,slow=11,SNR=7.4						
ASAJ	**Asahikawa**	27.23	271	P	P	**21 33 12.9**	**+1.1**
	6.0nm,0.9s,baz=46,slow=12						
BBB	**Bella Bella**	30.45	68	LR	LR	21 43 32.1	
	comp=Z,59nm,20.6s,baz=324,slow=32						
H11N2	**WAKE ISLAND Hy**	33.55	206	T	T	22 09 60.0	
	baz=17,slow=76,SNR=212						
H11N3	**WAKE ISLAND Hy**	33.55	206	T	T	22 09 55.3	
	baz=17,slow=76,SNR=234						
H11N1	**WAKE ISLAND Hy**	33.56	206	T	T	22 09 59.3	
	baz=17,slow=76,SNR=203						
USRK	**Ussuriysk Ar.**	33.84	278	P	P	**21 34 09.5**	**-0.7**
	3.6nm,0.7s,baz=59,slow=9.8,SNR=12						
USRK				LR	LR	21 49 11.0	
	comp=Z,32nm,19.8s,baz=3.4,slow=39						
MJAR	**Matsushiro Arr**	34.27	262	P	P	**21 34 14.7**	**+0.8**
	1.3nm,0.8s,baz=48,slow=7.8,SNR=6.3						
MJAR				LR	LR	21 46 16.1	
	comp=Z,51nm,21.4s,baz=70,slow=33						
H11S1	**WAKE ISLAND Hy**	34.76	206	T	T	22 11 29.5	
	baz=17,slow=76,SNR=344						
H11S2	**WAKE ISLAND Hy**	34.78	206	T	T	22 11 31.9	
	baz=17,slow=76,SNR=168						
H11S3	**WAKE ISLAND Hy**	34.78	206	T	T	22 11 27.9	
	baz=17,slow=76,SNR=227						
YKA	**Yellowknife Ar**	35.01	46	P	P	**21 34 21.7**	**+1.6**
	0.2nm,0.3s,baz=277,slow=7.5,SNR=3.6						
YBH	**Yreka Blue Hor**	38.40	82	P	P	**21 34 48.7**	**-0.6**
	1.0nm,0.4s,baz=270,slow=12,SNR=3.3						
YBH				LR	LR	21 47 13.2	
	comp=Z,38nm,20.8s,baz=304,slow=31						
JCJ	**Chichijima**	38.46	247	LR	LR	21 48 05.0	
	comp=Z,36nm,20.1s,baz=128,slow=32						
NEW	**Newport**	38.47	70	P	P	**21 34 49.8**	**0.0**
	1.9nm,0.5s,baz=292,slow=11,SNR=4.3						
KSRS	**Korea Array**	40.16	272	LR	LR	21 48 52.1	
	comp=Z,40nm,21.9s,baz=52,slow=32

PKIN	Phulchoki	72.96	293	*e*P	P	21 38 58.0	+0.4	
GKN	Gorkha	73.08	294	*e*P	P	21 38 58.3	+0.2	
	45nm,1.1s							
DMN	Daman	73.10	293	*e*P	P	21 38 58.4	0.0	
	31nm,1.0s							
DANN	Dangsing	73.32	294	*e*P	P	21 39 00.2	+0.5	
KOLN	Koldanda	73.85	294	*e*P	P	21 39 02.7	-0.1	
	12nm,0.9s							
AKASG	Malin Array Be	75.93	343	P	P	21 39 12.2	-1.9	
	0.4nm,0.3s,baz=21,slow=5.6,SNR=6.6							
GEYT	Alibeck	78.61	318	LR	LR	22 16 47.4		
	comp=Z,82nm,21.2s,baz=20,slow=38							
KBZ	Khabaz	79.07	331	P	P	21 39 30.9	-0.8	
	1.8nm,0.9s,baz=51,slow=2.7,SNR=3.7							
KBZ				LR	LR	22 19 01.1		
	comp=Z,62nm,20.3s,baz=54,slow=39							
WRA	Warramunga Arr	82.21	225	P	P	21 39 47.6	-1.1	
	0.8nm,1.0s,baz=32,slow=5.9,SNR=3.7							
BRTR	Keskin Array B	85.37	336	P	P	21 40 03.8	-1.3	
	2.6nm,0.9s,baz=35,slow=2.1,SNR=10							
BRTR				LR	LR	22 22 44.5		
	comp=Z,26nm,18.2s,baz=338,slow=39							
ASAR	Alice Springs	85.67	223	P	P	21 40 06.8	+0.4	
	0.9nm,0.7s,baz=22,slow=5.5,SNR=11							
TORD	Torodi Ar. Bea	115.98	0	PKP	PKPdf	21 46 09.3	-1.3	
	0.2nm,0.3s,baz=350,slow=2.3,SNR=5.7							
BOSA	Boshof	151.52	313	PKPbc	PKPbc	21 47 21.0	-0.6	
	2.0nm,0.7s,baz=19,slow=4.1,SNR=5.1							

BJI 08 21:28:04.5, 21.73N×112.29E, h7km, mb4.3/1, ML4.3/5, Ms3.7/1, Ms7 3.5/1, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZH	Guangzhou	1.67	36	Pn	Pg	21 28 42.1	+5.6
GZH				Pg	Pb	21 28 47.6	+12
GZH				Sn	Sg	21 29 02.7	+4.6
GZH				Sg	Sb	21 29 15.6	+19
GZH				smax	smax		
	comp=N,580nm,0.5s						
GZH				smax	smax		
	comp=E,500nm,0.4s						
CD2	Chengdu	11.92	322	P	Pn	21 30 55.4	+0.4
CD2				pP		21 31 01.8	
CD2				sP		21 31 04.9	
CD2				S	Sn	21 33 13.2	+4.9
CD2				LN			
	comp=E,200nm,8.0s						
CD2				LZ			
	comp=E,160nm,8.0s						

*LJU **08** 21:39:10.9, 46.39N×15.07E, h0km Rockburst*
CSEM 08 21:39:10.9±99.0, 46.39N×15.07E, h0km, Suspected Mining induced., Northwestern Balkan Peninsula

WEL 08 21:53:35.3±0.5, 38.31S×175.99E, h185km±4km, ML4.1/19, 18C-4D, Error ellipse: s-maj=2.2km s-min=1.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOZ	Tahuroa Road	0.69	326	⇓PN	Pn	21 54 01.8	+0.2
KATZ	Kakaramea	0.71	199	PN	Pn	21 54 01.7	-0.2
KRVZ	Karewarewa	0.83	199	PN	Pn	21 54 02.2	-0.4
TWVZ	Taurewa	0.88	209	PN	Pn	21 54 02.7	-0.1
URZ	Urewera	0.89	87	PN	Pn	21 54 02.0	-0.7
URZ				SN	Sn	21 54 21.4	-2.4
URZ				AML	AML	21 54 22.4	
OTVZ	Oturere	0.90	196	PN	Pn	21 54 03.0	0.0
OTVZ				SN	Sn	21 54 23.9	-0.7
HIZ	Hauiti	0.91	256	PN	Pn	21 54 03.1	+0.2
HIZ				SN	Sn	21 54 23.8	-0.4
BKZ	Black Stump Fm	0.95	155	⇑PN	Pn	21 54 03.0	-0.3
BKZ				SN	Sn	21 54 22.7	-2.3
BKZ				AML	AML	21 54 24.4	
WPVZ	Whakapapa	0.96	201	PN	Pn	21 54 03.3	-0.1
FWVZ	Far West T-bar	1.01	199	PN	Pn	21 54 03.7	-0.2
NMHZ	Naumai	1.02	141	⇑PN	Pn	21 54 04.4	+0.7
NMHZ				SN	Sn	21 54 25.6	-0.3
TRVZ	Turoa	1.05	199	PN	Pn	21 54 04.0	-0.2
RAHZ	Arahi	1.06	126	PN	Pn	21 54 04.5	+0.5
PKVZ	Pokaka	1.10	207	PN	Pn	21 54 04.2	-0.2
MOVZ	Moawhango	1.12	189	PN	Pn	21 54 04.0	-0.5
SNGZ	Shannon Statio	1.16	115	⇑PN	Pn	21 54 05.0	+0.2
KWHZ	Kaweka Forest	1.17	163	PN	Pn	21 54 04.9	0.0
BHHZ	Black Hill Sta	1.18	177	⇑PN	Pn	21 54 04.6	-0.4
MWZ	Matawai	1.21	92	⇑PN	Pn	21 54 04.9	-0.3
MWZ				AML	AML	21 54 27.5	
MWZ				AML	AML	21 54 27.7	
ARHZ	Aropaoanui	1.24	141	PN	Pn	21 54 05.8	+0.5
MCHZ	McNeill Hill	1.27	154	⇑PN	Pn	21 54 06.2	+0.6
MKAZ	Moumakai	1.36	331	PN	Pn	21 54 06.7	+0.3
KRHZ	Kereru	1.37	168	⇑PN	Pn	21 54 06.5	-0.1
TKGZ	Te Karaka	1.47	96	PN	Pn	21 54 06.9	-0.5
KNZ	Kokohu	1.50	119	PN	Pn	21 54 07.7	0.0
HAZ	Te Kaha	1.52	69	⇑PN	Pn	21 54 07.0	-0.9
CKHZ	Cape Kidnapper	1.60	148	⇑PN	Pn	21 54 08.0	+0.4
PRGZ	Paritu Road	1.61	113	PN	Pn	21 54 08.8	0.0
PNHZ	Pukenui	1.62	174	⇑PN	Pn	21 54 08.4	-0.4
KAHZ	Kahuranaki	1.64	155	PN	Pn	21 54 09.4	+0.3
WAZ	Wanganui	1.65	208	PN	Pn	21 54 08.8	-0.3
TSZ	Takapari Road	1.75	181	PN	Pn	21 54 09.7	-0.5
TSZ				AML	AML	21 54 38.1	
TSZ				AML	AML	21 54 38.6	
CNGZ	Carnagh Statio	1.75	97	PN	Pn	21 54 10.6	+0.5
WPHZ	Waipukurau	1.79	169	⇑PN	Pn	21 54 10.3	-0.3
PUZ	Puketiti	1.81	83	PN	Pn	21 54 10.8	+0.1
PUZ				AML	AML	21 54 41.6	
PUZ				AML	AML	21 54 48.0	
PXZ	Pawanui	1.85	159	PN	Pn	21 54 10.9	-0.2
PXZ				AML	AML	21 54 39.6	
PXZ				AML	AML	21 54 39.7	
PXZ				AML	AML	21 54 41.1	
PXZ				AML	AML	21 54 41.1	
MXZ	Matakaoa Point	1.98	69	⇓PN	Pn	21 54 12.6	+0.2
MXZ				AML	AML	21 54 52.9	
MXZ				AML	AML	21 55 44.9	
WMGZ	Waiomatatini S	1.98	77	PN	Pn	21 54 12.5	0.0
DVHZ	Dannevirke	2.00	176	⇑PN	Pn	21 54 11.9	-0.8
PRHZ	Porangahau	2.02	166	PN	Pn	21 54 12.6	-0.4
POWZ	Post Office Ro	2.09	185	PN	Pn	21 54 12.8	-0.9
ANWZ	Angora Road	2.19	170	⇑PN	Pn	21 54 14.2	-0.5
PRWZ	Pori Road	2.25	180	⇑PN	Pn	21 54 14.7	-0.8
MRZ	Mangatainoka R	2.38	187	⇑PN	Pn	21 54 15.6	-1.3
MRZ				AML	AML	21 54 48.1	
MRZ				AML	AML	21 54 48.3	
BFZ	Birch Farm	2.38	175	PN	Pn	21 54 15.7	-1.2
TIWZ	Tintock	2.47	182	PN	Pn	21 54 16.7	-1.3
TIWZ				AML	AML	21 54 18.4	
TIWZ				AML	AML	21 54 47.8	
OGWZ	Otaki Gorge	2.59	194	⇑PN	Pn	21 54 18.0	-1.3
HOWZ	Holdsworth Sta	2.62	188	⇑PN	Pn	21 54 18.0	-1.6
KIW	Kapiti Island	2.69	198	⇑PN	Pn	21 54 18.7	-1.7
KIW				AML	AML	21 54 54.3	
KIW				AML	AML	21 54 58.5	
MTW	Mount Morrison	2.88	187	PN	Pn	21 54 20.7	-2.0
MTW				AML	AML	21 54 56.9	
MTW				AML	AML	21 54 57.8	
CAW	Cannon Point	2.89	194	PN	Pn	21 54 21.0	-1.8
CAW				AML	AML	21 54 22.1	
CAW				AML	AML	21 54 22.4	
DUWZ	D'Urville Isla	2.96	212	PN	Pn	21 54 21.8	-1.9
TRWZ	Traveller	3.10	184	PN	Pn	21 54 23.5	-1.8
TRWZ				AML	AML	21 55 01.7	
PAWZ	Paruwai Farm	3.10	188	PN	Pn	21 54 23.4	-2.0
PAWZ				AML	AML	21 55 00.4	
PAWZ				AML	AML	21 55 17.1	
MSWZ	Moikau Station	3.16	190	PN	Pn	21 54 23.8	-2.2
MSWZ				AML	AML	21 55 03.2	
MSWZ				AML	AML	21 55 04.2	
TCW	Tory Channel	3.19	204	PN	Pn	21 54 24.5	-1.9
TCW				AML	AML	21 55 04.1	
TCW				AML	AML	21 55 06.2	
PLWZ	Palliser	3.31	190	PN	Pn	21 54 25.7	-2.3
TUWZ	Tuamarina	3.50	206	PN	Pn	21 54 27.9	-2.3
TUWZ				AML	AML	21 55 09.8	
TUWZ				AML	AML	21 55 10.5	
NNZ	Nelson	3.54	214	⇓PN	Pn	21 54 28.2	-2.4
QRZ	Quartz Range	3.67	226	PN	Pn	21 54 29.4	-3.0
BSWZ	Blackbirch Sta	3.77	205	*e*PN	Pn	21 54 31.3	-2.4
BSWZ				AML	AML	21 55 18.1	
BSWZ				AML	AML	21 55 18.6	
THZ	Tophouse	4.19	213	PN	Pn	21 54 36.8	-2.1
THZ				SN	Sn	21 55 25.0	-3.9
KHZ	Kahutara	4.51	204	PN	Pn	21 54 40.7	-2.3
KHZ				SN	Sn	21 55 32.0	-4.3
KHZ				AML	AML	21 55 32.7	
DSZ	Denniston Nort	4.70	222	PN	Pn	21 54 42.3	-3.2
DSZ				SN	Sn	21 55 34.9	-5.8
LTZ	Lake Taylor	5.29	211	PN	Pn	21 54 48.0	-5.1
OXZ	Oxford	5.84	210	PN	Pn	21 54 56.3	-4.0
OXZ				SN	Sn	21 55 58.6	-8.6
MQZ	McQueen's Vall	5.96	204	⇓PN	Pn	21 54 57.4	-4.2
MQZ				SN	Sn	21 56 01.3	-8.6
WVZ	Waitaha Valley	6.21	218	PN	Pn	21 55 01.9	-3.2

*ISCJB **08** 21:55:01.7±0.6, 49.28S±0.08×120.8E±0.3, h10km, mb4.3/11, MS3.4/3, Error ellipse: s-maj=24.9km s-min=10.8km az=11.4*
*IDC **08** 21:55:01.9±0.7, 49.24S×120.72E, h0km, mb4.3/9, mb1 4.5/10, mb1mx4.3/24, mbtmp4.4/10, ML2.8/1, MS3.4/3, Ms1 3.5/3, ms1mx3.0/15, Error ellipse: s-maj=33.5km s-min=14.6km az=105.0*
*NEIC **08** 21:55:03.3±0.4, 49.27S×120.83E, h10km, mb4.5/3, Error ellipse: s-maj=16.7km s-min=7.8km az=103.0*
ISC 08 21:55:03.3±0.6, 49.2S±0.1×120.7E±0.2, h10km, n25, σ0.957/19, mb4.4/11, MS3.2/3, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	15.11	339	T	T	22 14 02.9	
	baz=162,slow=74,SNR=129						
H01W1	Cape Leeuwin H	15.11	339	T	T	22 14 06.9	
	baz=162,slow=74,SNR=88						
H01W3	Cape Leeuwin H	15.12	339	T	T	22 14 09.7	
	baz=162,slow=74,SNR=67						
NWAO	Narrogin (SRO)	16.48	350	Pn	P	21 58 56.5	-0.7
	1.9nm,0.3s,baz=149,slow=8.3,SNR=14						
STKA	Stephens Creek	23.39	50	P	P	22 00 12.4	+0.3
	8.0nm,0.9s,baz=208,slow=9.6,SNR=7.4						
STKA				LR	LR	22 07 18.7	
	comp=Z,66nm,21.3s,baz=204,slow=32						
STKA	Stephens Creek	23.39	50	*e*P	P	22 00 12.3	+0.2
	13nm,0.8s						
ASAR	Alice Springs	27.55	27	P	P	22 00 50.0	-0.3
	15nm,1.0s,baz=202,slow=8.6,SNR=41						
WRA	Warramunga Arr	31.20	25	P	P	22 01 22.0	-0.7
	5.5nm,1.0s,baz=198,slow=8.0,SNR=12						
WRAB	Tennant Creek	31.21	25	*e*P	P	22 01 22.3	-0.5
	2.5nm,0.6s						
VNDA	Vanda	32.40	164	P	P	22 01 32.7	0.0
	1.5nm,0.7s,baz=302,slow=8.1,SNR=8.0						
VNDA				LR	LR	22 13 52.1	
	comp=Z,184nm,18.5s,baz=342,slow=35						
MAW	Mawson	33.77	216	P	P	22 01 44.6	-0.1
	6.4nm,0.9s,baz=81,slow=13,SNR=6.2						
QSPA	South Pole Qui	40.90	180	P	P	22 02 45.2	-0.2
	7.2nm,0.9s,baz=334,slow=2.9,SNR=26						
SNAA	Sanae	53.00	199	P	P	22 04 19.7	+0.1
	5.7nm,0.9s,baz=149,slow=11,SNR=40						
H08S2	Diego Garcia H	57.79	299	T	T	23 07 29.7	
	baz=146						
H08S1	Diego Garcia H	57.80	299	T	T	23 07 34.9	
	baz=146						
H08S3	Diego Garcia H	57.81	299	T	T	23 07 30.9	
	baz=146						
CMAR	Chiang Mai Arr	70.10	338	P	P	22 06 15.4	-0.1
	0.7nm,0.6s,baz=196,slow=6.0,SNR=7.1						
CMAR				LR	LR	22 36 21.9	
	comp=Z,14nm,19.4s,baz=220,slow=35						
LSA	Lhasa	82.87	334	*e*P	P	22 07 28.6	+0.3
	6.2nm,1.1s						
KSAR	Wonju Array Be	86.53	6	P	P	22 07 47.0	+1.0
KSRS	Korea Array	86.54	6	P	P	22 07 47.0	+1.0
	0.4nm,0.3s,baz=193,slow=4.1,SNR=6.7						
TORD	Torodi Ar. Bea	118.69	256	PKP	PKPdf	22 13 50.9	-0.8
	0.6nm,1.1s,baz=155,slow=1.9,SNR=2.8						
PDAR	Pinedale Array	145.05	81	PKPbc	PKPbc	22 14 39.5	-0.5
	0.5nm,0.7s,baz=251,slow=2.8,SNR=3.1						
EKA	Eskdalemuir Ar	145.92	302	PKPbc	PKPab	22 14 42.6	+0.1
	1.8nm,0.9s,baz=64,slow=1.7,SNR=4.1						
YKA	Yellowknife Ar	147.37	45	PKPbc	PKPbc	22 14 45.9	0.0
	1.6nm,0.7s,baz=270,slow=2.7,SNR=5.0						
DAG	Danmarks Havn	148.14	343	*i* P	PKPbc	22 14 48.5	+0.9
	6.3nm,1.2s						

IDC 08 22:34:12.6±3.2, 21.14N×120.68E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/36, mbtmp3.5/4, MS2.9/2, Ms1 3.1/2, ms1mx2.5/25, Error ellipse: s-maj=292.6km s-min=21.9km az=61.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	17.43	20	LR	LR	22 44 52.3	
	comp=Z,39nm,18.2s,baz=216,slow=37						
CMAR	Chiang Mai Arr	20.63	266	LR	LR	22 46 36.3	
	comp=Z,36nm,18.6s,baz=160,slow=36						
MKAR	Makanchi Array	40.25	319	P	P	22 41 51.0	-0.1
	0.3nm,0.7s,baz=129,slow=8.2,SNR=4.7						
WRA	Warramunga Arr	42.96	161	P	P	22 42 13.3	-0.3
	0.8nm,0.5s,baz=342,slow=9.0,SNR=12						
KURBB	Kurchatov Arra	44.17	322	P	P	22 42 22.9	-0.2
	0.2nm,0.4s,baz=124,slow=7.5,SNR=2.9						
ASAR	Alice Springs	46.36	163	P	P	22 42 40.9	+0.1
	0.4nm,0.5s,baz=350,slow=7.4,SNR=4.6						

MEX 08 23:27:39.5±0.9, 14.79N×94.28W, h9km±18km, MD4.1, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.37	48	*e*P	Pn	23 28 00.8	-4.1
PCIG				*i* S	Sb	23 28 17.5	-5.6
TGIG		2.27	29	*e*P	Pn	23 28 14.8	-2.6
TGIG				*e*S	Sn	23 28 41.7	-3.9
CMIG	Matias Romero	2.36	346	*e*P	Pn	23 28 15.7	-2.8
CMIG				*e*S	Sn	23 28 43.0	-4.6
CCIG	Comitan	2.55	54	*i* P	Pn	23 28 18.9	-2.3
CCIG				*e*S	Sn	23 28 49.0	-3.6

*IDC **08** 23:30:21.6±0.9, 12.25N×87.04W, h0km, mb3.9/8, mb1 4.2/10, mb1mx3.9/31, mbtmp4.0/10, ML3.5/2, MS3.2/11, Ms1 3.2/11, ms1mx3.1/28, Error ellipse: s-maj=36.5km s-min=12.3km az=50.0*
*CASC **08** 23:30:24.3±3.9, 11.87N×87.41W, h12km±23km, MD4.2*
*ISCJB **08** 23:30:26.3±0.5, 11.95N±0.07×87.26W±0.07, h50km±4km, mb4.2/22, MS3.2/8, Error ellipse: s-maj=16.4km s-min=4.1km az=136.6*
*NEIC **08** 23:30:26.6±1.2, 12.08N×87.14W, h36km±13km, mb4.3/14, Error ellipse: s-maj=17.4km s-min=8.3km az=50.0*
ISC 08 23:30:25.2±1.5, 12.0N±0.1×87.3W±0.1, h32km±10km, n139, σ1.149/138, mb4.2/22, MS3.2/8, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	1.40	339	*e*P	Pb	23 30 49.8	-1.0
CNCH				*e*S	Sb	23 31 09.2	+0.8
BLLM	Bellamira	1.72	329	*e*P	Pn	23 30 54.3	+1.3
BLLM				*e*S	Sb	23 31 18.4	+0.9
VSM	San Miguel	1.73	328	*e*P	Pn	23 30 54.5	+1.3
CAHU	Cacacuatique	1.99	334	*e*P	Pb	23 30 59.3	-1.7
NY14	Universidad de	2.19	126	*i* P	Pn	23 31 00.1	+0.7
GB1A	Borinquen Arri	2.21	121	*i* P	Pn	23 30 59.6	-0.1
BUEV	Buena Vista	2.21	121	*i* P	Pn	23 31 00.9	+1.1
LFRS	El Faro	2.37	314	*e*P	Pn	23 31 02.2	+0.3
LFRS				*e*S	Sn	23 31 31.7	+1.8
LIM1	Limonal	2.39	121	*i* P	Pn	23 31 02.8	+0.6
LIM1				*i* S	Sb	23 31 38.1	+1.3
VCR	Vista de Mar	2.47	137	*e*P	Pn	23 31 02.4	-1.0
CUI	Cuipilapa	2.49	121	*i* P	Pn	23 31 04.9	+1.4
BOQS	Boqueron	2.59	313	*e*P	Pn	23 31 06.7	+1.6
AMAS	Alto Masis	2.65	120	*i* P	Pn	23 31 07.3	+1.4
JTS	JuntasAbangare	2.86	125	Pn	Pn	23 31 10.1	+1.4
	4.8nm,0.3s,baz=318,slow=14,SNR=11						
JTS				Pg	Pb	23 31 14.0	-1.7
	36nm,0.3s,baz=332,slow=16,SNR=21						
JTS				Lg	Lg	23 31 50.8	
	18nm,0.3s,baz=307,slow=12,SNR=4.5						
JTS				LR	LR	23 32 14.6	
	comp=Z,150nm,20.6s,baz=293,slow=40						
JTS	JuntasAbangare	2.86	125	*e*Pn	Pn	23 31 08.6	-0.1
JTS				*e*Sg	Sb	23 31 53.6	+3.3
JCR	Jicaral	3.02	134	*e*P	Pn	23 31 10.7	-0.2
RBDL	Robledal	3.14	313	*e*P	Pn	23 31 14.3	+1.7
CGA2	Cerro Gallo 2	3.41	124	*e*P	Pn	23 31 19.9	+3.6
URSC	Urasca	4.08	121	*e*P	Pn	23 31 29.2	+3.7
BUS	Buena Vista	4.24	124	*e*P	Pn	23 31 30.4	+2.3
BCIP	Isla Barro Col	7.87	110	*e*Pn	Pn	23 32 15.9	-1.7
CMIG	Matias Romero	8.92	306	Pn	Pn	23 32 33.6	+1.7
	0.7nm,0.3s,baz=111,slow=8.6,SNR=5.1						
CMIG				Sn	Sn	23 34 08.3	-3.0
	0.4nm,0.3s,baz=74,slow=18,SNR=2.1						
CMIG				LR	LR	23 36 27.1	
	comp=Z,221nm,20.4s,baz=122,slow=41						
ROSC	El Rosal	14.66	118	LR	LR	23 40 09.0	
	comp=Z,73nm,19.8s,baz=310,slow=40						
834A	Tilden	19.21	328	P	Pn	23 34 52.6	+5.0
	baz=19						
ATAH	Atahualpa	20.95	154	P	Pn	23 35 07.8	-1.0
	6.0nm,0.9s,baz=323,slow=15,SNR=3.6						
ATAH				LR	LR	23 41 49.0	
	comp=Z,113nm,21.6s,baz=358,slow=33						
632A	Uvalde	20.96	328	P	Pn	23 35 10.6	+2.3
	baz=21						
238A	Jacksonville	21.20	341	P	P	23 35 11.4	+3.3
	baz=21						
336A	Riesel	21.24	337	P	P	23 35 11.3	+2.8
	baz=21						
631A	Perdido Creek	21.30	327	P	P	23 35 14.1	+4.9
	baz=21						
237A	Washetta, Mont	21.42	340	P	P	23 35 12.0	+1.5
	baz=22						
532A	Rocksprings	21.52	329	P	P	23 35 15.6	+3.9
	baz=22						
GOGA	Godfrey	21.64	9	*e*Pn	P	23 35 15.0	+2.1
	8.1nm,0.8s						
433A	Art	21.64	332	P	P	23 35 15.6	+2.6
	baz=22						
334A	Lometa	21.75	334	P	P	23 35 16.7	+2.6
	baz=22						
JCT	Junction City	21.75	330	P	P	23 35 17.3	+3.0
	baz=22						
137A	Heron Place, G	21.95	341	P	P	23 35 18.7	+2.5
	baz=22						
WHTX	Lake Whitney	22.01	336	P	P	23 35 18.3	+1.4
	baz=22						
333A	Richland Sprin	22.07	333	P	P	23 35 19.1	+1.5
	baz=22						
432A	Menard	22.08	330	P	P	23 35 20.2	+2.5
	baz=22						
Z39A	Irene McRaven,	22.09	345	P	P	23 35 20.3	+2.6
	baz=22						
530A	J-C Ranch, Com	22.29	326	P	P	23 35 23.8	+3.8
	baz=22						
431A	Sonora	22.32	329	P	P	23 35 22.8	+2.5
	baz=22						
332A	Millersview	22.47	331	P	P	23 35 23.2	+1.3
	baz=22						
233A	Rising Star	22.63	334	P	P	23 35 24.3	+0.8
	baz=23						
430A	Baggett Ranch,	22.73	328	P	P	23 35 26.9	+2.2
	baz=23,SNR=5.2						
Y39A	Lockesburg	22.73	345	P	P	23 35 26.3	+1.8
	baz=23						
331A	San Angelo	22.74	330	P	P	23 35 26.2	+1.5
	baz=23,SNR=7.0						
134A	White-Moore Ra	22.77	336	P	P	23 35 26.0	+1.1
	baz=23						
232A	Coleman	22.85	332	P	P	23 35 27.1	+1.2
	baz=23						
429A	Davenport Ranc	22.96	326	P	P	23 35 30.9	+3.9
	baz=23						
TXAR	Lajitas Array	23.03	321	P	P	23 35 28.6	+0.8
	5.7nm,0.6s,baz=138,slow=9.8,SNR=41						
TXAR				PcP	PcP	23 39 16.7	-0.1
	0.3nm,0.6s,baz=163,slow=3.5,SNR=3.5						
TXAR				LR	LR	23 45 16.7	
	comp=Z,35nm,19.2s,baz=0.0,slow=39						
Z35A	Perchaven, San	23.13	338	P	P	23 35 28.6	-0.1
	baz=23						
133A	Hamilton Ranch	23.14	334	P	P	23 35 29.7	+0.8
	baz=23						
SWET	Sewanee	23.18	3	*e*P	P	23 35 29.6	+0.3
	2.5nm,0.4s						
MIAR	Mount Ida	23.19	347	P	P	23 35 30.4	+1.1
	baz=23,SNR=5.1						
MIAR	Mount Ida	23.19	347	*e*P	P	23 35 29.3	+0.1
	3.8nm,0.6s						
330A	Mertzon	23.19	329	P	P	23 35 30.8	+1.3
	baz=23						
231A	Bronte	23.20	331	P	P	23 35 31.3	+1.8
	baz=23						
Z34A	Collier Ranch,	23.41	337	P	P	23 35 31.1	-0.3
	baz=24						
ABTX	Abilene, Hawle	23.47	333	P	P	23 35 33.0	+0.9
	baz=24						
CPCT	Cooper Cave	23.52	6	*e*P	P	23 35 33.1	+0.6
230A	Sterling City	23.55	330	P	P	23 35 33.9	+1.0
	baz=24						
Y35A	Marietta	23.57	339	P	P	23 35 34.3	+1.2
	baz=24						
X38A	Whitesboro	23.61	344	P	P	23 35 34.5	+1.1
	baz=24,SNR=6.2						
329A	Wagon Wheel Ra	23.67	327	P	P	23 35 36.0	+1.8
	baz=24						
X37A	Clayton	23.68	343	P	P	23 35 35.9	+1.8
	baz=24						
TKL	Tuckaleechee C	23.81	7	P	P	23 35 35.9	+0.6
	3.5nm,0.4s,baz=151,slow=7.3,SNR=7.8						
TKL				LR	LR	23 44 49.8	
	comp=Z,45nm,19.8s,baz=22,slow=37						
Y34A	Reagan Ranch,	23.88	338	P	P	23 35 36.8	+0.8
	baz=24						
W38A	Poteau	23.91	345	P	P	23 35 37.5	+1.3
	baz=24,SNR=7.4						
X36A	Centrahoma	23.96	341	P	P	23 35 36.9	+0.2
	baz=24						
229A	Bryant Ranch,	23.96	328	P	P	23 35 39.0	+2.1
	baz=24						
Z32A	Haskell	23.98	334	P	P	23 35 38.8	+1.9
	baz=24						
X35A	Drake	24.00	340	P	P	23 35 38.4	+1.3
	baz=24						
130A	Snyder	24.05	331	P	P	23 35 39.2	+1.5
	baz=24			

Y30A	**Stafford Cattl**	**25.09**	**333**	P	**P**	**23 35 47.7**	**+0.7**
	baz=25						
V35A	**Meyer Ranch, C**	**25.21**	**342**	P	**P**	**23 35 48.2**	**+0.2**
	baz=25						
Z28A	**Tucker Farm, M**	**25.31**	**329**	P	**P**	**23 35 50.2**	**+1.1**
	baz=25,SNR=8.2						
X31A	**McDonald Ranch**	**25.33**	**335**	P	**P**	**23 35 50.1**	**+0.9**
	baz=25						
Y29A	**Porterfield Fa**	**25.43**	**331**	P	**P**	**23 35 51.3**	**+1.1**
	baz=26						
W32A	**Sentinel**	**25.47**	**337**	P	**P**	**23 35 50.6**	**+0.1**
	baz=26						
U36A	**Oologah**	**25.48**	**344**	P	**P**	**23 35 51.3**	**+0.8**
	baz=26						
V34A	**Guthrie**	**25.49**	**340**	P	**P**	**23 35 51.2**	**+0.5**
	baz=26						
X30A	**Coker Ranch, T**	**25.56**	**333**	P	**P**	**23 35 51.8**	**+0.5**
	baz=26						
V33A	**Lossen Ranch,**	**25.74**	**339**	P	**P**	**23 35 52.9**	**0.0**
	baz=26						
U35A	**Pawnee**	**25.74**	**342**	P	**P**	**23 35 53.4**	**+0.5**
	baz=26						
T37A	**Cheneyville 18**	**25.97**	**346**	P	**P**	**23 35 55.0**	**+0.1**
	baz=26						
U34A	**Anderson Ranch**	**26.05**	**341**	P	**P**	**23 35 55.3**	**-0.4**
	baz=26						
T36A	**Boggs Farm, Ca**	**26.15**	**344**	P	**P**	**23 35 56.7**	**+0.1**
	baz=26						
T35A	**Sooner Cattle**	**26.18**	**343**	P	**P**	**23 35 57.3**	**+0.4**
	baz=26						
S36A	**Lake Cedric, C**	**26.70**	**345**	P	**P**	**23 36 01.2**	**-0.4**
	baz=27						
S35A	**Otter Creek Ra**	**26.85**	**344**	P	**P**	**23 36 03.4**	**+0.5**
	baz=27						
R36A	**Gordon, Harris**	**27.25**	**346**	P	**P**	**23 36 07.7**	**+1.2**
	baz=27						
Y22D	**IRIS PASSCAL I**	**28.35**	**324**	P	**P**	**23 36 18.9**	**+2.4**
	baz=28						
Q33A	**Connelly Farm,**	**28.50**	**343**	P	**P**	**23 36 17.8**	**+0.1**
	baz=28						
P34A	**Walnut Farm, R**	**28.74**	**345**	P	**P**	**23 36 20.2**	**+0.5**
	baz=29						
Q31A	**Ellis**	**28.99**	**340**	P	**P**	**23 36 20.6**	**-1.5**
	baz=29						
O34A	**Beatrice**	**29.30**	**345**	P	**P**	**23 36 25.5**	**+0.7**
	baz=29						
PTGA	**Pitinga**	**29.95**	**113**	LR	LR	23 49 50.0	
	comp=Z,59nm,18.8s,baz=290,slow=39						
M35A	**Neola**	**30.29**	**347**	P	**P**	**23 36 34.4**	**+0.8**
	baz=30						
SDCO	**Great Sand Dun**	**30.39**	**331**	P	**P**	**23 36 36.0**	**+1.2**
	baz=30						
SAML	**Samuel**	**31.74**	**130**	*e*P	**P**	**23 36 46.4**	**-0.2**
K30A	**Basset**	**32.41**	**343**	P	**P**	**23 36 53.2**	**+1.0**
	baz=32						
ECSD	**EROS Data Cent**	**32.66**	**347**	*e*P	**P**	**23 36 53.1**	**-1.2**
	2.4nm,0.3s						
SADO	**Sadowa**	**33.44**	**11**	P	**P**	**23 37 00.2**	**-0.8**
	1.0nm,0.3s,baz=222,slow=10.0,SNR=3.2						
SRU	**San Rafael**	**33.99**	**327**	*e*P	**P**	**23 37 07.6**	**+1.4**
	2.6nm,0.6s						
PDAR	**Pinedale Array**	**36.26**	**332**	P	**P**	**23 37 26.7**	**+0.9**
	0.9nm,0.6s,baz=119,slow=9.4,SNR=8.3						
PDAR				LR	LR	23 54 58.9	
	comp=Z,46nm,18.1s,baz=116,slow=41						
SPUT	**South Promonto**	**36.59**	**328**	*e*P	**P**	**23 37 31.2**	**+2.6**
	1.9nm,0.7s						
REDW	**Red Top Meadow**	**37.32**	**331**	*e*P	**P**	**23 37 35.4**	**+0.5**
	7.7nm,0.6s						
TPAW	**Teton Pass**	**37.46**	**331**	*e*P	**P**	**23 37 36.9**	**+0.8**
	3.1nm,0.6s						
MOOW	**Moose Ponds**	**37.57**	**332**	*e*P	**P**	**23 37 37.3**	**+0.4**
	2.6nm,0.8s						
IMW	**Indian Meadow**	**37.77**	**332**	*e*P	**P**	**23 37 39.3**	**+0.7**
	6.4nm,0.5s						
NVAR	**Mina Array Bea**	**38.15**	**319**	P	**P**	**23 37 44.2**	**+2.4**
	0.7nm,0.6s,baz=134,slow=7.6,SNR=7.7						
NVAR				PcP	**PcP**	**23 39 57.1**	**+0.8**
	0.8nm,0.6s,baz=177,slow=4.5,SNR=5.4						
MCMT	**McKenzie Canyo**	**39.37**	**331**	*e*P	**P**	**23 37 52.3**	**+0.3**
	1.3nm,0.5s						
SCHQ	**Schefferville**	**45.71**	**16**	P	**P**	**23 38 41.5**	**-1.7**
	2.3nm,0.4s,baz=222,slow=9.1,SNR=18						
SCHQ				LR	LR	23 57 44.9	
	comp=Z,62nm,20.8s,baz=49,slow=36						
YKA	**Yellowknife Ar**	**54.11**	**345**	P	**P**	**23 39 44.6**	**-2.1**
	0.7nm,0.6s,baz=139,slow=7.1,SNR=4.0						
ILAR	**Eielson Array**	**66.51**	**336**	P	**P**	**23 41 10.4**	**-1.2**
	0.6nm,0.8s,baz=135,slow=4.9,SNR=5.3						
ESDC	**Sonseca Array**	**77.39**	**52**	LR	LR	00 07 39.2	
	comp=Z,14nm,21.9s,baz=300,slow=29						
NOA	**NORSAR Array B**	**83.73**	**29**	LR	LR	00 18 26.9	
	comp=Z,16nm,19.4s,baz=355,slow=35						
ASAR	**Alice Springs**	**139.20**	**248**	PKP	**PKPdf**	**23 49 51.4**	**+1.6**
	0.2nm,0.6s,baz=108,slow=2.2,SNR=2.8						
WRA	**Warramunga Arr**	**139.25**	**253**	PKhKP	PKPpre	23 49 45.4	
	0.3nm,0.6s,baz=87,slow=2.5,SNR=6.3						
WRA				PKP	**PKiKP**	**23 49 53.1**	**+0.9**
	0.5nm,0.5s,baz=91,slow=2.6,SNR=6.7						

BJI ***09*** *00:03:09.8,2˚.14S×152˚.51E,h15km,mb4.9/41,mB5.0/27, Ms4.8/17,Ms7 4.4/17*

IDC ***09*** *00:03:12.4±0.5, 1˚.84S×152˚.11E,h0km, mb4.4/20, mb1 4.5/21,mb1mx4.5/28,mbtmp4.4/21,ML4.2/1,MS3.6/12, Ms1 3.6/12,ms1mx3.4/32,Error ellipse: s-maj=19.9km s-min=12.5km az=90.0*

ISCJB ***09*** *00:03:15.6±0.2, 1˚.84S±0˚.03×152˚.06E±0˚.05,h33km, mb4.7/44,MS3.7/10,Error ellipse: s-maj=6.6km s-min=4.7km az=12.7*

NEIC ***09*** *00:03:17.0±1.6, 1˚.81S×151˚.97E,h32km±3km,mb4.8/29, Error ellipse: s-maj=17.8km s-min=14.0km az=85.0*

DJA ***09*** *00:03:19.4±0.7,2˚.S±5˚×15˚.2E±˚,h73km±10km,M4.9/12, mb4.8/12,mB5.5/4,Mw(mB)5.0/4*

ISC 09 00:03:17.7±0.4,1˚.93S±0˚.05×152˚.13E±0˚.06,h35km,n131, σ1ŝ60/130,mb4.7/43,MS3.8/10,1C-1D,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.25**	**179**	P	**Pn**	**00 03 54.9**	**+2.4**
	baz=2.4,SNR=8.5						
MANU	**Manus Island**	**4.77**	**269**	P	**Pn**	**00 04 26.1**	**-0.9**
	baz=5.0,SNR=16						
PMG	**Port Moresby**	**8.93**	**213**	*e*Pn	**Pn**	**00 05 26.9**	**+2.6**
PATS	**Pohnpei**	**10.67**	**35**	P	**Pn**	**00 05 46.7**	**-1.4**
	baz=10,SNR=4.2						
HNR	**Honiara**	**10.77**	**134**	*e*Pn	**Pn**	**00 05 52.3**	**+2.8**
JAY	**Jayapura**	**11.44**	**267**	LR	LR	00 09 54.0	
	comp=Z,693nm,19.1s,baz=74,slow=35						
JAY	**Jayapura**	**11.44**	**267**	P	Pn	00 06 05.6	+6.9
	baz=12,SNR=3.4						
SMPI	**Sarmi**	**13.42**	**269**	P	**Pn**	**00 06 25.8**	**+0.1**
	28nm,1.5s,10μm						
COEN	**Coen**	**14.88**	**216**	*e*Pn	**P**	**00 06 48.9**	**-2.0**
GUMO	**Guam**	**17.02**	**335**	LR	LR	00 13 48.4	
	comp=Z,33nm,20.2s,baz=168,slow=38						
CTA	**Charters Tower**	**18.94**	**197**	Pn	**Pn**	**00 07 38.1**	**+1.4**
	0.5nm,0.3s,baz=13,slow=15,SNR=5.1						
PALU	**Palau**	**19.88**	**298**	P	Pn	00 08 05.5	+17
	baz=20,SNR=4.2						
FAKI	**Fak Fak**	**19.89**	**267**	P	**P**	**00 07 45.8**	**-0.5**
	78nm,1.1s,1μm						
FAKI	**Fak Fak**	**19.89**	**267**	P	**P**	**00 07 46.0**	**-0.3**
	baz=20,SNR=13						
FAKI	**Fak Fak**	**19.89**	**267**	*e*P	**P**	**00 07 45.4**	**-0.9**
	103nm,1.2s						
SIJI	**Sorong**	**20.89**	**273**	P	**P**	**00 07 56.6**	**-0.6**
	25nm,0.6s,baz=78,slow=10.0,SNR=16						
SWI	**Sorong**	**20.89**	**273**	P	**P**	**00 07 57.7**	**+0.5**
	80nm,0.9s						
QIS	**Mount Isa**	**22.19**	**213**	P	**P**	**00 08 11.7**	**+0.6**
	baz=22,SNR=5.1						
KDU	**Kakadu**	**22.21**	**240**	P	**P**	**00 08 09.8**	**-1.6**
	baz=22,SNR=6.9						
EIDS	**Eidsvold**	**23.33**	**182**	*e*P	**P**	**00 08 23.2**	**+0.4**
	27nm,1.3s						
DZM	**Mont Dzumac**	**24.39**	**146**	P	**P**	**00 08 33.3**	**+0.4**
	6.6nm,0.7s,baz=90,slow=20,SNR=6.7						
LBMI	**Labuha**	**24.66**	**273**	P	P	00 08 49.4	+14
H11S3	**WAKE ISLAND Hy**	**24.84**	**35**	T	T	00 34 47.8	
	baz=220,slow=76,SNR=38						
H11S2	**WAKE ISLAND Hy**	**24.84**	**35**	T	T	00 34 50.6	
	baz=220,slow=76,SNR=27						
H11S1	**WAKE ISLAND Hy**	**24.86**	**35**	T	T	00 34 51.8	
	baz=220,slow=76,SNR=30						
WRAB	**Tennant Creek**	**24.95**	**223**	*e*P	**P**	**00 08 37.3**	**-0.7**
	58nm,0.6s						
WRA	**Warramunga Arr**	**24.96**	**223**	P	**P**	**00 08 37.6**	**-0.6**
	43nm,0.6s,baz=46,slow=9.6,SNR=304						
WRA				PcP	**PcP**	**00 12 14.2**	**+1.1**
	1.4nm,0.6s,baz=45,slow=2.2,SNR=5.4						
WRA				LR	LR	00 19 35.5	
	comp=Z,296nm,18.2s,baz=80,slow=39						
NLAI	**Namlea**	**25.04**	**266**	P	**P**	**00 08 39.0**	**+0.1**
	82nm,0.9s,833nm						
QLP	**Quilpie**	**25.66**	**197**	P	**P**	**00 08 44.2**	**-0.1**
	baz=26,SNR=4.5						
H11N1	**WAKE ISLAND Hy**	**25.93**	**33**	T	T	00 36 24.2	
	baz=218,slow=76,SNR=22						
H11N3	**WAKE ISLAND Hy**	**25.94**	**33**	T	T	00 36 11.5	
	baz=218,slow=76,SNR=21						
H11N2	**WAKE ISLAND Hy**	**25.95**	**33**	T	T	00 36 20.4	
	baz=218,slow=76,SNR=33						
SANI	**Sanana**	**26.13**	**269**	P	**P**	**00 08 48.5**	**-0.3**
KNRA	**Kununurra**	**26.79**	**238**	P	**P**	**00 08 55.8**	**+1.1**
	baz=27,SNR=15						
AS01	**Alice Springs**	**27.88**	**218**	*e*P	**P**	**00 09 03.4**	**-1.1**
AS12	**Alice Springs**	**27.91**	**218**	*e*P	**P**	**00 09 03.6**	**-1.1**
AS12				*e*PcP	**PcP**	**00 12 20.8**	**+0.8**
ASAR	**Alice Springs**	**27.91**	**218**	P	**P**	**00 09 03.6**	**-1.1**
	11nm,0.8s,baz=50,slow=8.1,SNR=72						
ASAR				PcP	**PcP**	**00 12 20.8**	**+0.8**
	1.7nm,0.7s,baz=48,slow=2.7,SNR=4.5						
ASAR				LR	LR	00 21 03.7	
	comp=Z,217nm,18.1s,baz=52,slow=38						
ARMA	**Armidale**	**28.34**	**181**	*e*P	**P**	**00 09 10.0**	**+1.4**
	26nm,1.1s						
LUWI	**Luwuk**	**29.36**	**271**	P	P	00 09 27.4	+10
LUWI	**Luwuk**	**29.36**	**271**	*e*P	**P**	**00 09 16.1**	**-1.6**
	80nm,1.3s						
CMSA	**Cobar Meteorol**	**30.08**	**191**	P	**P**	**00 09 26.4**	**+2.6**
	baz=30,SNR=10						
STKA	**Stephens Creek**	**31.41**	**197**	P	**P**	**00 09 35.3**	**-0.3**
	3.5nm,0.6s,baz=33,slow=14,SNR=15						
STKA				LR	LR	00 22 15.3	
	comp=Z,178nm,20.4s,baz=19,slow=36						
STKA	**Stephens Creek**	**31.41**	**197**	*e*P	**P**	**00 09 34.9**	**-0.6**
	40nm,2.9s						
KAPI	**Kappang**	**32.46**	**264**	*e*P	**P**	**00 09 43.1**	**-2.0**
	11nm,0.8s						
WRKA	**Warakurna**	**32.51**	**223**	P	**P**	**00 09 43.8**	**-1.6**
	baz=33,SNR=34						
HTT	**Hallett**	**33.70**	**200**	P	**P**	**00 09 55.4**	**-0.3**
	baz=34,SNR=3.6						
BBOO	**Buckleboo**	**34.23**	**204**	*e*P	**P**	**00 09 58.9**	**-1.4**
	73nm,1.6s						
FORT	**Forrest**	**36.65**	**216**	P	**P**	**00 10 19.8**	**-1.3**
	baz=37,SNR=11						
FORT	**Forrest**	**36.65**	**216**	*e*P	**P**	**00 10 19.7**	**-1.3**
	45nm,0.7s						
MBWA	**Marble Bar**	**36.91**	**236**	*e*P	**P**	**00 10 21.5**	**-1.9**
	293nm,2.3s						
YULB	**Yu-li**	**39.17**	**312**	*e*P	**P**	**00 10 39.9**	**-2.6**
	16nm,1.0s						
JNU	**Nakatsue**	**40.23**	**332**	P	**P**	**00 10 50.3**	**-0.8**
	16nm,1.0s,baz=157,slow=4.3,SNR=5.1						
JNU	**Nakatsue**	**40.23**	**332**	*e*P	**P**	**00 10 49.3**	**-1.8**
	23nm,1.1s						
MJAR	**Matsushiro Arr**	**40.41**	**343**	P	**P**	**00 10 49.5**	**-3.1**
	1.7nm,0.8s,baz=161,slow=12,SNR=3.7						
MJAR				LR	LR	00 25 58.0	
	comp=Z,30nm,20.9s,baz=155,slow=34						
MAJO	**Matsushiro**	**40.41**	**343**	*e*P	**P**	**00 10 49.5**	**-3.1**
	6.9nm,0.9s						
MEEK	**Meekatharra**	**40.48**	**230**	P	**P**	**00 10 51.9**	**-1.5**
	baz=41,SNR=5.1						
KMBL	**Kambalda**	**40.91**	**221**	P	**P**	**00 10 55.3**	**-1.5**
	baz=41,SNR=6.2						
KSRS	**Korea Array**	**45.16**	**333**	P	**P**	**00 11 29.7**	**-1.3**
	2.4nm,0.9s,baz=153,slow=9.4,SNR=11						
KS15	**Wonju Array Si**	**45.16**	**333**	*e*P	**P**	**00 11 29.7**	**-1.4**
KS01	**Wonju Array Si**	**45.19**	**333**	*e*P	**P**	**00 11 29.8**	**-1.5**
NJ2	**Nanjing**	**46.22**	**320**	*e*P	**P**	**00 11 40.0**	**+0.4**
NJ2				PMZ			
	10.0nm,0.6s						
QIZ	**Qiongzhong**	**46.48**	**299**	P	**P**	**00 11 42.3**	**+0.5**
QIZ				S	**S**	**00 18 30.8**	**+2.8**
QIZ				PMZ			
	19nm,2.0s						
ASAJ	**Asahikawa**	**46.63**	**351**	*e*P	**P**	**00 11 41.7**	**-0.8**
	11nm,0.8s						
WHN	**Wuhan**	**48.35**	**315**	⇓P	P	00 11 50.7	-5.5
USRK	**Ussuriysk Ar.**	**49.33**	**341**	P	**P**	**00 12 03.2**	**-0.3**
	3.2nm,0.7s,baz=154,slow=7.2,SNR=7.1						
ENH	**Enshi**	**51.74**	**312**	*e*P	**P**	**00 12 19.8**	**-2.2**
	6.9nm,0.8s						
GYA	**Guiyang**	**52.16**	**306**	*e*P	**P**	**00 12 27.0**	**+1.7**
GYA				PP	**PP**	**00 14 26.7**	**+2.8**
GYA				ScP	**ScP**	**00 17 33.2**	**+1.8**
GYA				S	**S**	**00 19 50.4**	**+2.7**
GYA				SS	**SS**	**00 23 25.0**	**-0.5**
GYA				PMZ			
	10.0nm,1.0s						
GYA				PMZ			
	90nm,4.9s						
GYA				LN			
	390nm,20.2s						
GYA				LE			
	270nm,21.0s						
GYA				LZ			
	300nm,20.4s						
BJI	**Beijing**	**53.15**	**326**	P	**P**	**00 12 30.0**	**-2.2**
BJI				PMZ			
	12nm,0.7s						
XAN	**Xi'an**	**54.11**	**315**	P	**P**	**00 12 38.9**	**-0.5**
XAN				PMZ			
	8.0nm,0.7s						
KMI	**Kunming**	**54.86**	**303**	P	**P**	**00 12 45.9**	**+0.6**
KMI				S	**S**	**00 20 26.0**	**+1.4**
KMI				PMZ			
	9.0nm,1.0s						
KMI				LZ			
	38nm,20.0s						
PEA2	**Petropavlovsk-**	**55.03**	**4**	*e*P	**P**	**00 12 44.4**	**-1.3**
PETK	**Petropavlovsk-**	**55.03**	**4**	P	**P**	**00 12 44.4**	**-1.3**
	3.6nm,0.6s,baz=167,slow=7.3,SNR=9.5						
PETK				LR	LR	00 32 30.3	
	comp=Z,31nm,20.3s,baz=166,slow=32						
CM01	**Chiang Mai Arr**	**56.07**	**294**	*e*P	**P**	**00 12 53.9**	**+0.1**
CM31	**Chiang Mai Arr**	**56.09**	**294**	*e*P	**P**	**00 12 54.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**56.09**	**294**	P	**P**	**00 12 54.4**	**+0.4**
	4.1nm,0.8s,baz=110,slow=5.2,SNR=19						
CHTO	**Chiang Mai**	**56.18**	**294**	*e*P	**P**	**00 12 53.3**	**-1.3**
	11nm,1.4s						
HHC	**Hu-ho-hao-te**	**56.35**	**324**	*e*P	**P**	**00 12 57.0**	**+1.5**
HHC				PP	**PP**	**00 15 05.1**	**+3.8**
HHC				S	**S**	**00 20 47.6**	**+3.9**
HHC				sS	sS	00 20 55.0	-6.2
HHC				SS	**SS**	**00 24 34.5**	**+3.3**
HHC				PMZ			
	12nm,1.1s						
HHC				PMZ			
	57nm,5.4s						
HHC				LN			
	99nm,17.3s						
HHC				LE			
	140nm,12.3s						
HHC				LZ			
	55nm,13.6s						
CD2	**Chengdu**	**56.39**	**310**	P	**P**	**00 12 55.9**	**0.0**
CD2				pP	pP	00 13 00.7	-5.8
CD2				sP	sP	00 13 02.7	-8.0
CD2				PP	**PP**	**00 15 01.7**	**-0.1**
CD2				S	**S**	**00 20 47.1**	**+2.6**
CD2				sS	sS	00 20 55.3	-6.7
CD2				SS	**SS**	**00 24 35.8**	**+3.7**
CD2				PMZ			
	30nm,0.7s						
CD2				PMZ			
	110nm,5.9s						
CD2				LN			
	170nm,5.1s						
CD2				LZ			
	160nm,5.9s						
LZH	**Lanzhou**	**58.73**	**315**	*e*P	**P**	**00 13 13.5**	**+1.0**
LZH				pP	**pP**	**00 13 18.2**	**-4.9**
LZH				sP	sP	00 13 20.6	-6.6
LZH				PP	**PP**	**00 15 25.4**	**+2.7**
LZH				PMZ			
	21nm,1.3s						
LZH				PMZ			
	76nm,7.8s						
LZH				LN			
	310nm,15.0s						
LZH				LE			
	300nm,15.3s						
LZH				LZ			
	430nm,19.5s						
PPT	**Papeete**	**59.26**	**109**	LR	LR	00 35 23.2	
	comp=Z,41nm,19.1s,baz=198,slow=33						
GTA	**Gaotai**	**63.12**	**317**	⇑P	**P**	**00 13 42.8**	**+0.6**
GTA				pP	pP	00 13 47.3	-5.6
GTA				sP	sP	00 13 49.8	-7.2
GTA				S	**S**	**00 22 12.5**	**+1.4**
GTA				SS	**SS**	**00 26 20.0**	**+2.4**
GTA				PMZ			
	12nm,1.6s						
GTA				PMZ			
	56nm,5.9s						
GTA				LN			
	74nm,14.7s						
GTA				LE			
	100nm,15.9s						
GTA				LZ			
	86nm,16.6s						
SONA0	**Songino Array**	**63.56**	**327**	*e*P	**P**	**00 13 45.6**	**+0.7**
SONM	**Songino Array**	**63.56**	**327**	P	**P**	**00 13 45.6**	**+0.7**
	1.9nm,0.8s,baz=153,slow=5.8,SNR=13						
SONA1	**Songino Array**	**63.56**	**327**	*e*P	**P**	**00 13 44.4**	**-0.5**
CASY	**Casey**	**70.56**	**197**	*e*P	**P**	**00 14 28.3**	**-0.5**
	15nm,0.9s						
WMQ	**Urumqi**	**73.20**	**317**	P	**P**	**00 14 46.2**	**+0.9**
WMQ				pP	**pP**	**00 14 51.2**	**-5.0**
WMQ				sP	sP	00 14 54.2	-6.0
WMQ				PMZ			
	9.0nm,1.2s						
WMQ				PMZ			
	76nm,4.0s						
WMQ				LN			
	32nm,17.0s						
WMQ				LE			
	43nm,16.0s						
WMQ				LZ			
	35nm,14.0s						
TIXI	**Tiksi**	**74.98**	**353**	*e*P	**P**	**00 14 54.5**	**-0.5**
	6.0nm,0.4s						
VNDA	**Vanda**	**75.71**	**178**	P	**P**	**00 15 00.1**	**+1.0**
	1.6nm,0.8s,baz=303,slow=6.1,SNR=7.6						
VNDA	**Vanda**	**75.71**	**178**	*e*P	**P**	**00 14 59.8**	**+0.6**
	56nm,2.8s						
MK32	**Makanchi Array**	**77.74**	**319**	*e*P	**P**	**00 15 11.0**	**-0.2**
MKAR	**Makanchi Array**	**77.74**	**319**	P	**P**	**00 15 11.0**	**-0.2**
	2.9nm,0.8s,baz=94,slow=6.6,SNR=21						
MKAR	**Makanchi Array**	**77.74**	**319**	*e*P	**P**	**00 15 09.9**	**-1.3**
IM04	**Indian Mountai**	**77.90**	**20**	*e*P	**P**	**00 15 12.0**	**+0.3**
RND	**Reindeer**	**78.36**	**23**	*e*P	**P**	**00 15 14.1**	**-0.3**
	7.4nm,0.7s						
ZAA0	**Zalesovo Array**	**78.41**	**326**	*e*P	**P**	**00 15 13.4**	**-1.3**
ZALV	**Zalesovo Beam**	**78.41**	**326**	P	**P**	**00 15 13.9**	**-0.8**
	1.7nm,0.4s,baz=103,slow=5.9,SNR=8.3						
ZAA1	**Zalesovo Array**	**78.41**	**326**	*e*P	**P**	**00 15 13.9**	**-0.8**
MLY	**Manley**	**78.46**	**21**	*e*P	**P**	**00 15 14.5**	**-0.3**
	7.8nm,0.7s						
MCK	**McKinley**	**78.49**	**23**	*e*P	**P**	**00 15 14.6**	**-0.4**
	9.6nm,0.8s						
WRH	**Wood River Hil**	**79.17**	**22**	*e*P	**P**	**00 15 17.8**	**-0.8**
	6.8nm,1.0s						
CCB	**Clear Creek Bu**	**79.36**	**22**	*e*P	**P**	**00 15 18.7**	**-1.0**
	6.6nm,0.7s						
ILAR	**Eielson Array**	**79.77**	**22**	P	**P**	**00 15 21.2**	**-0.7**
	1.9nm,0.7s,baz=247,slow=5.2,SNR=18						
ILB	**Eielson Array**	**79.77**	**22**	*e*P	**P**	**00 15 21.2**	**-0.7**
IL1	**Eielson Array**	**79.77**	**22**	*e*P	**P**	**00 15 21.3**	**-0.6**
KURK	**Kurchatov**	**81.11**	**322**	*e*P	**P**	**00 15 28.0**	**-1.4**
	3.1nm,0.8s						
EGAK	**Eagle**	**82.00**	**23**	*e*P	**P**	**00 15 34.0**	**+0.1**
	7.7nm,0.8s						
KKAR	**Karatay Array**	**85.19**	**313**	*e*P	**P**	**00 15 49.8**	**-0.9**
INK	**Inuvik**	**86.03**	**21**	LR	LR	00 49 35.9	
	comp=Z,30nm,21.0s,baz=201,slow=32						
YBH	**Yreka Blue Hor**	**87.65**	**48**	LR	LR	00 47 23.2	
	comp=Z,70nm,21.3s,baz=266,slow=30						
MAW	**Mawson**	**87.95**	**203**	P	**P**	**00 16 03.5**	**-0.1**
	2.3nm,0.6s,baz=90,slow=7.6,SNR=7.1						
MAW	**Mawson**	**87.95**	**203**	*e*P	**P**	**00 16 03.2**	**-0.5**
	16nm,2.2s						
K05A	**Summer Lake**	**89.06**	**47**	*e*P	**P**	**00 16 08.4**	**-1.3**
WVOR	**Wild Horse Val**	**90.72**	**48**	*e*P	**P**	**00 16 17.0**	**-0.4**
	4.9nm,1.1s						
NV01	**Mina Array Sit**	**90.84**	**52**	*e*P	**P**	**00 16 18.4**	**+0.2**
NVAR	**Mina Array Bea**	**90.84**	**52**	P	**P**	**00 16 17.2**	**-1.0**
	1.7nm,0.8s,baz=257,slow=6.6,SNR=11						
NEW	**Newport**	**91.92**	**42**	LR	LR	00 56 20.3	
	comp=Z,41nm,18.2s,baz=238,slow=35						
YKA	**Yellowknife Ar**	**93.21**	**28**	P	**P**	**00 16 29.2**	**+0.9**
	1.0nm,0.7s,baz=268,slow=4.8,SNR=4.4						
YKB5	**Yellowknife Ar**	**93.21**	**28**	*e*P	**P**	**00 16 27.6**	**-0.6**
ELK	**Elko**	**93.24**	**49**	LR	LR	00 54 47.2	
	comp=Z,31nm,18.4s,baz=288,slow=33						
GEYT	**Alibeck**	**94.35**	**308**	P	**P**	**00 16 34.4**	**+0.2**
	2.6nm,0.8s,baz=220,slow=1.2,SNR=7.6						
H06S1	**SOCORRO T**	**97.16**	**71**	T	T	02 05 40.8	
	SNR=7.6						
PD31	**Pinedale Array**	**97.41**	**47**	*e*P	Pdif	00 16 49.3	+1.0
PDAR	**Pinedale Array**	**97.41**	**47**	P	Pdif	00 16 49.3	+1.0
	0.7nm,0.6s,baz=304,slow=3.4,SNR=3.7						
STHS	**Stebnicka Huta**	**116.91**	**326**	*e*	**Pdif**	**00 18 17.7**	**+3.1**
GEC2	**GERESS Array S**	**121.27**	**329**	*e*PKPdf	**PKPdf**	**00 22 07.4**	**0.0**
GERES	**GERESS Array B**	**121.27**	**329**	PKP	**PKPdf**	**00 22 07.4**	**0.0**
	0.4nm,0.6s,baz=126,slow=1.8,SNR=5.9						
LPAZ	**La Paz**	**136.31**	**116**	PKP	**PKPdf**	**00 22 39.5**	**+2.0**
	0.9nm,0.5s,baz=287,slow=1.8,SNR=6.7						
TOA0	**Torodi Ar. Sit**	**148.69**	**292**	*e*PKPbc	**PKPbc**	**00 23 02.4**	**0.0**
TORD

PET	**Petropavlovsk**	**5.13**	**19**	*e*S		**Sn**	00 25 03.4	**+0.3**
UGLR	**Uglovaya**	**5.34**	**19**	*e*P		**Pn**	00 24 10.2	**+2.1**
UGLR				*e*S		**Sn**	00 25 08.2	**-0.2**
AVH	**Avacha**	**5.38**	**19**	*e*P		**Pn**	00 24 11.7	**+3.1**
AVH	**Avacha**	**5.38**	**19**	PN		**Pn**	00 24 11.7	**+3.1**
AVH	**Avacha**	**5.38**	**19**	*e*P		**Pn**	00 24 11.7	**+3.1**
KOK	**Koryaka**	**5.38**	**18**	*e*P		**Pn**	00 24 11.1	**+2.5**
KOK	**Koryaka**	**5.38**	**18**	PN		**Pn**	00 24 11.1	**+2.5**
KOK	**Koryaka**	**5.38**	**18**	*e*P		**Pn**	00 24 11.1	**+2.5**
SMAR	**Somma**	**5.39**	**19**	*e*P		Pn	00 24 12.1	+3.2
SMAR	**Somma**	**5.39**	**19**	PN		Pn	00 24 12.1	+3.2
KRER	**Koryakskii**	**5.42**	**18**	*e*P		**Pn**	00 24 11.2	**+2.0**
SDLR	**Sedlovina**	**5.42**	**19**	*e*P		**Pn**	00 24 11.2	**+2.0**
SDLR				*e*S		**Sn**	00 25 10.2	**-0.2**
SDLR	**Sedlovina**	**5.42**	**19**	PN		**Pn**	00 24 11.2	**+2.0**
SDLR				S		**Sn**	00 25 10.2	**-0.2**
KRX	**Arik**	**5.45**	**18**	*e*P		**Pn**	00 24 11.9	**+2.3**
SPN	**Mys Shipunski**	**5.56**	**27**	*e*P		**Pn**	00 24 12.5	**+1.6**
SPN				*e*S		**Sn**	00 25 13.0	**-0.5**
SPN	**Mys Shipunski**	**5.56**	**27**	PN		**Pn**	00 24 12.5	**+1.6**
SPN				S		**Sn**	00 25 13.0	**-0.5**
SPN	**Mys Shipunski**	**5.56**	**27**	*e*P		**Pn**	00 24 12.5	**+1.6**
GNL	**Ganaly**	**5.65**	**12**	*e*P		**Pn**	00 24 14.3	**+2.0**
GNL	**Ganaly**	**5.65**	**12**	PN		**Pn**	00 24 14.3	**+2.0**
KUR	**Kuril'sk**	**6.27**	**245**	*e*P		**Pn**	00 24 20.5	**-0.3**
KUR				AMB	AMB		00 24 21.5	
	comp=Z,110nm,0.8s							
KUR				*e*S		Sn	00 25 27.0	-4.1
KUR				A		A	00 25 43.1	
	comp=Z,90nm,0.7s							
MKZ	**Mys Kozlova**	**7.33**	**28**	*e*P		**Pn**	00 24 35.6	**+0.4**
MKZ	**Mys Kozlova**	**7.33**	**28**	PN		**Pn**	00 24 35.6	**+0.4**
MKZ	**Mys Kozlova**	**7.33**	**28**	*e*P		**Pn**	00 24 35.6	**+0.4**
KZV	**Kizimen**	**7.44**	**20**	*e*P		**Pn**	00 24 39.3	**+2.4**
TUMR	**Tumrok**	**7.56**	**19**	*e*P		**Pn**	00 24 40.6	**+2.0**
TUMR	**Tumrok**	**7.56**	**19**	PN		**Pn**	00 24 40.6	**+2.0**
KBTR	**Krutoberegovo**	**9.07**	**25**	*e*P		**Pn**	00 24 59.7	**+0.6**
KBTR	**Krutoberegovo**	**9.07**	**25**	PN		**Pn**	00 24 59.7	**+0.6**
UGL	**Uglegorsk**	**9.20**	**281**	*e*P		Pn	00 24 53.3	-7.7
UGL				AMB	AMB		00 24 53.8	
	comp=Z,40nm,0.4s							
BKI	**Bering**	**9.39**	**38**	*e*S		Sn	00 26 40.7	-6.9
EKMR	**Ekimchan**	**15.33**	**297**	*e*P		**Pn**	00 26 24.1	**-0.2**
EKMR				AMB	AMB		00 26 27.5	
	comp=Z,4.0nm,0.5s							

*ISCJB **09** 00:30:48.3±0.9,28°.61S±0'.05×69°.38W±0'.04, h115km±11km, Error ellipse: s-maj=8.7km s-min=5.7km az=26.6*
*SJA **09** 00:30:48.9±0.5,28°.67S×69°.30W, h120km±5km, MD3.7, ML3.1*
*GUC **09** 00:30:48.3±0.5,28°.60S×69°.32W, h92km±15km, ML3.8*

ISC 09 00:30:49.0±1.8,28°.61S±0'.05×69°.39W±0'.04, h112km±18km, n16, σ0§58/23, 1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**1.05**	**97**	*i* P		**Pn**	**00 31 11.5**	**+0.5**
VCA				*i* S		**Sn**	**00 31 28.1**	**+0.4**
VACH	**Vallenar**	**1.20**	**271**	*e*P		**Pn**	**00 31 12.3**	**-0.2**
VACH				*e*S		**Sn**	**00 31 30.2**	**-0.1**
LCO	**Las Campanas**	**1.22**	**250**	*e*P		**Pn**	**00 31 13.0**	**+0.1**
LCO				*e*S		**Sn**	**00 31 31.9**	**+0.8**
LCO				AML		AML	00 31 32.5	
	comp=N,2μm,0.2s							
CPCH	**Copiapo**	**1.51**	**326**	*e*P		**Pn**	**00 31 15.5**	**-0.5**
CPCH				*e*S		**Sn**	**00 31 35.9**	**-0.7**
CDCH	**Caldera**	**1.99**	**320**	*e*P		**Pn**	**00 31 21.9**	**0.0**
CDCH				*e*S		**Sn**	**00 31 47.2**	**+0.1**
LSCH	**La Serena**	**2.07**	**231**	*e*P		**Pn**	**00 31 23.0**	**0.0**
ACLC	**CERRO LA CRUZ**	**2.29**	**111**	*i* P		**Pn**	**00 31 25.9**	**0.0**
ACLC				*i* S		**Sn**	**00 31 53.4**	**-0.8**
AVFE	**Valle Fertil**	**2.65**	**141**	*i* P		**Pn**	**00 31 30.5**	**-0.1**
AVFE				*i* S		**Sn**	**00 32 01.3**	**-1.2**
AVFE				AML		AML	00 32 02.8	
	comp=Z,79nm,0.5s							
RTLL	**Cerro Villicun**	**2.83**	**164**	⇓*i* P		**Pn**	**00 31 33.1**	**+0.3**
APLL	**PUNTA DE LOS L**	**3.07**	**126**	*i* P		**Pn**	**00 31 35.9**	**-0.1**
CFAA	**Coronel Fontan**	**3.15**	**162**	*i* P		**Pn**	**00 31 37.3**	**+0.2**
CYA	**Choya**	**3.16**	**88**	*i* P		**Pn**	**00 31 37.1**	**-0.2**
CYA				AML		AML	00 32 13.8	
	comp=N,45nm,0.2s							
RTLS	**Leoncito**	**3.18**	**179**	*i* P		**Pn**	**00 31 38.6**	**+0.9**
RTCV	**Cerro Valdivia**	**3.32**	**167**	*i* P		**Pn**	**00 31 39.7**	**+0.3**
FSA	**Cafayete**	**3.92**	**51**	*i* P		**Pn**	**00 31 48.6**	**+1.2**
ACAN	**Cantantal**	**4.12**	**153**	*i* P		**Pn**	**00 31 50.0**	**0.0**

*ISCJB **09** 00:36:46.2±1.4,38°.45N±0'.05×25°.29E±0'.09, h13km, Error ellipse: s-maj=10.3km s-min=7.8km az=171.4*
*CSEM **09** 00:36:46.5±0.7,38°.41N×25°.30E, h15km, MD2.6, Error ellipse: s-maj=16.1km s-min=11.2km az=102.0*
*ISK **09** 00:36:47.7,38°.43N×25°.48E, h28km, MD2.6*
*DDA **09** 00:36:52.5,38°.05N×25°.64E, h7km, MD2.7*

ISC 09 00:36:46.5±1.6,38°.39N±0'.06×25°.36E±0'.09, h13km, n11, σ0§71/18, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.55**	**90**	*e*PG		**Pb**	**00 36 58.2**	**+0.3**
CHOS				*e*SG		**Sb**	**00 37 05.1**	**-0.6**
CHOS	**Chios island**	**0.55**	**90**	*e*Pg		**Pb**	**00 36 58.2**	**+0.3**
CHOS				*e*Sg		**Sb**	**00 37 05.1**	**-0.6**
SIGR	**SIGRI**	**0.91**	**25**	*e*PG		**Pg**	**00 37 04.2**	**+0.2**
SIGR				*e*SG		**Sg**	**00 37 15.4**	**-0.5**
SIGR	**SIGRI**	**0.91**	**25**	*e*Pg		**Pg**	**00 37 04.2**	**+0.2**
SIGR				*e*Sg		**Sg**	**00 37 15.4**	**-0.5**
ZEV	**¯zmir**	**0.91**	**99**	*i* P		**Pn**	**00 37 06.1**	**+1.2**
ZEV				*i* S		**Sn**	**00 37 17.7**	**-0.3**
URLA	**Izmir**	**0.97**	**91**	*i* P		**Pn**	**00 37 07.2**	**+1.4**
URLA				*i* S		**Sn**	**00 37 19.2**	**-0.3**
URLA	**Izmir**	**0.97**	**91**	*i* P		**Pn**	**00 37 07.2**	**+1.4**
URLA				*i* S		**Sn**	**00 37 19.2**	**-0.3**
BLCB	**Balcova**	**1.32**	**90**	*e*PN		**Pn**	**00 37 09.9**	**-0.7**
BLCB	**Balcova**	**1.32**	**90**	*e*Pn		**Pn**	**00 37 09.9**	**-0.7**
APE	**Apeiranthos**	**1.33**	**174**	*e*PN		**Pn**	**00 37 10.8**	**+0.1**
APE	**Apeiranthos**	**1.33**	**174**	*e*Pn		**Pn**	**00 37 10.8**	**+0.1**

*NIED **09** 00:41:00,24°.70N×122°.60E, h98km, Mw5.0 Best double couple: M◎3.09000×10^16 NP1:φ▷221.00000°,δ37.00000°, λ-16.00000°. NP2:φ▷324.00000°,δ81.00000°, λ-125.00000°.*
*SZGRF **09** 00:41:13.2,24°.16N×123°.03E, h88km, mb4.9, Southwestern Ryukyu Islands, Japan*
*MOS **09** 00:41:16.9±0.9,24°.91N×122°.66E, h111km, mb5.3/70, Error ellipse: s-maj=6.6km s-min=4.3km az=107.3*
*JMA **09** 00:41:18.9±0.1,24°.66N×122°.56E, h116km±2km, M5.0 JMA Felt I J1.*
*ISCJB **09** 00:41:18.2±0.1,24°.70N±0'.01×122°.63E±0'.01, h123km, mb5.2/253, Error ellipse: s-maj=2.1km s-min=1.5km az=146.2*
*BJI **09** 00:41:18.5,24°.69N×122°.46E, h130km, mb5.1/69, mB4.9/42*
*BKK **09** 00:41:18.6±0.7,25°.N±6°×12°.3E±°, h104km±6km, M5.2/50, mb5.5/50, mB5.7/35, MLv5.6/1, Mw(mB)5.2/35, Mwp5.2/1*
*TAP **09** 00:41:19.5,24°.70N×122°.61E, h114km, ML5.8, B*
*NEIC **09** 00:41:19.5±0.1,24°.75N×122°.60E, mb5.4/145, Error ellipse: s-maj=4.1km s-min=2.8km az=124.0*
NEIC Felt [II] at Taipei. Also felt at Chang-hua, Chung-ho and Hsin-chu. Recorded [3 TAP] in Hua-lien and I-lan; [2 TAP] in Miao-li, T'ai-chung, T'ai-pei, T'ai-tung and T'ao-yuan; [1 TAP] in Chang-hua, Chia-i, Hsin-chu, Nan-t'ou and Yun-lin. Recorded [1 JMA] on Iriomote-jima, Ishigaki-jima and Yonaguni-jima, Ryukyu Islands.
*GCMT **09** 00:41:19.5±0.2,24°.70N×122°.52E, h124km±1km, MW5.2/100, Moment Tensor Solution. s64,c93; s100,c171; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.06±.15; Mθθ-3.35±.17; Mφφ3.41±.16; Mrθ5.41±.11; Mθφ-0.63±.16; Mφr-2.56±.11; Best double couple: M◎6.81000×10^16 NP1:φ▷123.00000°,δ89.00000°, λ119.00000°. NP2:φ▷214.00000°,δ29.00000°,λ1.00000°. Principal axes: T 6.1600, Plg39.0000°, Azm59.0000°; N 1.2980, Plg29.0000°, Azm303.0000°; P -7.4600, Plg38.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **09** 00:41:20.1±0.5,24°.81N×122°.63E, h129km±4km, mb4.7/32, mb1 4.9/36, mb1mx4.9/39, mbtmp5.1/36, MS3.6/16, Ms1 3.7/16, ms1mx3.5/30 Error ellipse: s-maj=10.3km s-min=8.4km az=81.0*

ISC 09 00:41:19.5±0.3,24.75N±0°.02×122.64E±0°.02, h127km±1km, h127km: pP-P, n997, σ1§43/1204, mb5.2/258, 62C-65D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.41**	**137**	P		**Pn**	**00 41 36.1**	**-1.6**
JYNG				S		**Sn**	**00 41 48.7**	**-2.8**
YOJ	**Yonaguni jima**	**0.45**	**130**	P		**Pn**	**00 41 36.4**	**-1.5**
YOJ				S		**Sn**	**00 41 48.6**	**-3.2**
YOJ	**Yonaguni jima**	**0.45**	**130**	*e*P		**Pn**	**00 41 36.3**	**-1.6**
YOJ				*e*			00 41 51.5	
YOJ	**Yonaguni jima**	**0.45**	**130**	⇑*i* P		**Pn**	**00 41 36.5**	**-1.5**
	baz=128							
YOJ				*i* S		**Sn**	**00 41 49.1**	**-2.7**
	baz=128							
YOJ	**Yonaguni jima**	**0.45**	**130**	*e*Pn		**Pn**	**00 41 36.3**	**-1.5**
YOJ				*e*Sn		**Sn**	**00 41 51.5**	**-0.3**
TWB1	**Santiao Chiao**	**0.64**	**293**	⇓*i* P		**Pn**	**00 41 38.2**	**-0.9**
	baz=300							
TWB1				S		**Sn**	**00 41 51.2**	**-2.7**
	baz=300							
EGS		**0.65**	**278**	⇓*i* P		**Pn**	**00 41 37.9**	**-1.2**
	baz=275							
EGS				S		**Sn**	**00 41 51.2**	**-2.8**
	baz=275							
TWC	**Suao**	**0.73**	**259**	⇓*i* P		**Pn**	**00 41 38.1**	**-1.7**
	baz=260							
TWC				S		**Sn**	**00 41 51.3**	**-3.8**
	baz=260							
ILA	**Ilan**	**0.81**	**271**	⇓*i* P		**Pn**	**00 41 39.4**	**-1.0**
	baz=274							
ILA				S		**Sn**	**00 41 53.8**	**-2.4**
	baz=274							
NWF	**Wu-fen Shan**	**0.84**	**292**	⇓*i* P		**Pn**	**00 41 40.1**	**-0.7**
	baz=292							
NWF				S		**Sn**	**00 41 54.6**	**-2.3**
	baz=292							
ENA	**Nanau**	**0.88**	**249**	⇓*i* P		**Pn**	**00 41 39.6**	**-1.4**
	baz=248							
TWE	**Neicheng**	**0.88**	**268**	⇓P		**Pn**	**00 41 40.1**	**-0.9**
	baz=270							
EHP	**Heping Village**	**0.93**	**242**	P		**Pn**	**00 41 40.6**	**-0.9**
	baz=240							
EHP				*e*S		**Sn**	**00 41 56.0**	**-2.1**
	baz=240							
ENTT	**Nioudou**	**0.98**	**264**	⇓*i* P		**Pn**	**00 41 41.2**	**-0.8**
	baz=272							
PCYT	**Pengchaiyu**	**1.01**	**330**	⇑*i* P		**Pn**	**00 41 42.5**	**+0.3**
	baz=325							
PCYT				S		**Sn**	**00 41 59.2**	**-0.3**
	baz=325							
TAP1	**Taipei**	**1.05**	**286**	⇓*i* P		**Pn**	**00 41 41.6**	**-0.9**
	baz=282							
TAP1				S		**Sn**	**00 41 57.6**	**-2.5**
	baz=282							
TAP	**Taipei**	**1.07**	**286**	⇓*i* P		**Pn**	**00 41 41.7**	**-1.1**
	baz=282							
TAP				S		**Sn**	**00 41 57.8**	**-2.6**
	baz=282							
TATO	**Taipei**	**1.07**	**282**	P		**Pn**	**00 41 41.6**	**-1.1**
	SNR=54							
TATO	**Taipei**	**1.07**	**282**	*e*Pn		**Pn**	**00 41 41.5**	**-1.3**
TATO				*e*Sn		**Sn**	**00 41 57.7**	**-2.7**
TWY	**Chenhua**	**1.08**	**299**	⇓*i* P		**Pn**	**00 41 42.4**	**-0.4**
	baz=295							
TWY				S		**Sn**	**00 41 59.1**	**-1.5**
	baz=295							
IRIF	**Iriomote-Funau**	**1.08**	**113**	P		**Pn**	**00 41 41.8**	**-1.1**
IRIF				S		**Sn**	**00 41 58.6**	**-2.0**
NACB	**Ninganchiao**	**1.11**	**239**	*e*Pn		**Pn**	**00 41 40.7**	**-2.5**
YHNB	**Yeheng**	**1.15**	**266**	*e*Pn		**Pn**	**00 41 42.7**	**-1.0**
YHNB				*e*Sn		**Sn**	**00 41 59.3**	**-2.7**
TWD	**Chiawan**	**1.16**	**235**	⇓*i* P		**Pn**	**00 41 41.9**	**-1.9**
	baz=233							
TWD				*e*S		**Sn**	**00 41 58.8**	**-3.3**
	baz=233							
NSK	**Sanguang**	**1.17**	**266**	⇓*i* P		**Pn**	**00 41 42.9**	**-1.0**
	baz=264							
NSK				S		**Sn**	**00 41 59.8**	**-2.5**
	baz=264							
NNS	**Nan Shan**	**1.19**	**255**	⇓*i* P		**Pn**	**00 41 43.1**	**-1.1**
	baz=253							
NNS				*e*S		**Sn**	**00 42 00.2**	**-2.7**
	baz=253							
HWA	**Hwalien**	**1.22**	**231**	⇓*i* P		**Pn**	**00 41 42.7**	**-1.6**
	baz=232							
HATJ	**Hateruma jima**	**1.27**	**123**	P		**Pn**	**00 41 44.2**	**-0.6**
HATJ				S		**Sn**	**00 42 01.9**	**-2.2**
NCU	**National Centr**	**1.34**	**280**	⇓*e*P		**Pn**	**00 41 44.8**	**-0.7**
	baz=289							
NCU				*e*S		**Sn**	**00 42 03.5**	**-1.9**
	baz=289							
JKRS	**Kuro-shima**	**1.35**	**112**	P		**Pn**	**00 41 45.4**	**-0.3**
JKRS				S		**Sn**	**00 42 04.1**	**-1.5**
ESF	**Shoufeng Towns**	**1.35**	**230**	⇑P		**Pn**	**00 41 44.6**	**-1.1**
	baz=226							
TWT	**Tachien**	**1.42**	**250**	⇓*i* P		**Pn**	**00 41 46.3**	**-0.4**
	baz=246							
TWT				*e*S		**Sn**	**00 42 04.9**	**-2.4**
	baz=246							
JIJ	**Ishigaki jima**	**1.42**	**106**	P		**Pn**	**00 41 45.7**	**-0.8**
JIJ				S		**Sn**	**00 42 04.8**	**-2.3**
ESL	**Shilin**	**1.44**	**230**	⇓*i* P		**Pn**	**00 41 44.9**	**-1.9**
	baz=227							
ESL				*e*S		**Sn**	**00 42 03.2**	**-4.3**
	baz=227							
TEGC	**Jichi Village**	**1.44**	**224**	⇑*e*P		**Pn**	**00 41 45.9**	**-0.9**
	baz=231							
TEGC				*e*S		**Sn**	**00 42 04.6**	**-2.9**
	baz=231							
NSTT	**Nanjuang**	**1.49**	**266**	⇓*i* P		**Pn**	**00 41 46.6**	**-0.7**
	baz=268							
NSTT				*e*S		**Sn**	**00 42 05.9**	**-2.6**
	baz=268							
JISG	**Ishigakijimahi**	**1.53**	**96**	P		**Pn**	**00 41 47.3**	**-0.4**
JISG				S		**Sn**	**00 42 07.3**	**-1.9**
WDT	**Danda**	**1.69**	**234**	⇓*i* P		**Pn**	**00 41 48.8**	**-1.2**
	baz=236							
EHY	**Hungye**	**1.73**	**224**	⇓*i* P		**Pn**	**00 41 48.0**	**-2.1**
	baz=225							
EHY				*e*S		**Sn**	**00 42 08.7**	**-4.6**
	baz=225							
NSY	**Sanyi**	**1.74**	**259**	⇓*i* P		**Pn**	**00 41 49.9**	**-0.3**
	baz=261							
NSY				*e*S		**Sn**	**00 42 12.0**	**-1.6**
	baz=261							
TWQ1	**Liyutan**	**1.75**	**257**	⇓*i* P		**Pn**	**00 41 49.8**	**-0.5**
	baz=259							
TWQ1				*e*S		**Sn**	**00 42 11.5**	**-2.3**
	baz=259							
SMLT	**Sun Moon Lake**	**1.81**	**242**	⇓*i* P		**Pn**	**00 41 50.6**	**-0.4**
	baz=238							
SMLT				*e*S		**Sn**	**00 42 14.4**	**-0.8**
	baz=238							
SSLB	**Suanglung**	**1.81**	**238**	*e*Pn		**Pn**	**00 41 50.1**	**-1.0**
SSLB				*e*Sn		**Sn**	**00 42 14.4**	**-0.8**
YULB	**Yu-li**	**1.83**	**222**	*e*Pn		**Pn**	**00 41 48.7**	**-2.5**
YULB				*e*Sn		**Sn**	**00 42 10.7**	**-4.8**
TYC	**Yuchr**	**1.83**	**243**	⇓*i* P		**Pn**	**00 41 51.0**	**-0.2**
	baz=241							
TYC				*e*S		**Sn**	**00 42 14.4**	**-1.1**
	baz=241							
TWF1	**Yuli**	**1.86**	**222**	⇓*i* P		**Pn**	**00 41 49.7**	**-1.9**
	baz=229							
TWF1				S		**Sn**	**00 42 11.8**	**-4.3**
	baz=229							
JTJ	**Tarama**	**1.88**	**93**	P		**Pn**	**00 41 51.8**	**0.0**
JTJ				S		**Sn**	**00 42 15.4**	**-1.1**
WNT	**Mingjian**	**1.98**	**244**	⇓P		**Pn**	**00 41 53.0**	**-0.2**
	baz=246							
WNT				*e*S		**Sn**	**00 42 17.7**	**-1.1**
	baz=246							
YUS	**Yu-Shan**	**1.99**	**231**	⇓*i* P		**Pn**	**00 41 53.0**	**-0.7**
	baz=228							
YUS				*e*S		**Sn**	**00 42 16.5**	**-3.3**
	baz=228							
CHKT	**Chengkung**	**2.02**	**216**	⇓*i* P		**Pn**	**00 41 51.6**	**-1.9**
	baz=211							
CHKT				*e*S		**Sn**	**00 42 15.3**	**-4.2**
	baz=211							
ALS	**Alishan**	**2.08**	**234**	⇓*i* P		**Pn**	**00 41 54.5**	**-0.2**
	baz=230							
ALS				*e*S		**Sn**	**00 42 19.1**	**-2.4**
	baz=230							
CHN5	**Tsauling**	**2.13**	**238**	⇓*i* P		**Pn**	**00 41 54.9**	**-0.1**
	baz=239							
ELDTW	**Lidau**	**2.15**	**224**	⇓*i* P		**Pn**	**00 41 53.7**	**-1.6**
	baz=225							
ELDTW				*e*S		**Sn**	**00 42 19.2**	**-3.5**
	baz=225							
WGK	**Gukeng**	**2.17**	**241**	*e*P		**Pn**	**00 41 55.3**	**-0.1**
	baz=242							
WGK				*e*S		**Sn**	**00 42 22.2**	**-0.8**
	baz=242							
JIRB	**Irabujima**	**2.31**	**88**	P		**Pn**	**00 41 57.2**	**+0.1**
JIRB				S		**Sn**	**00 42 24.4**	**-1.5**
CHN2	**Minshiung**	**2.32**	**239**	⇓P		**Pn**	**00 41 57.3**	**0.0**
	baz=250							
CHN2				S		**Sn**	**00 42 25.4**	**-0.9**
	baz=250							
WTCT	**Ta-ch'eng**	**2.33**	**248**	P		**Pn**	**00 41 56.6**	**-0.8**
	baz=256							
WTCT				*i* S		**Sn**	**00 42 23.9**	**-2.5**
	baz=256							
STYT	**Tauyuan**	**2.34**	**228**	⇓*i* P		**Pn**	**00 41 57.4**	**-0.2**
	baz=229							
STYT				*e*S		**Sn**	**00 42 25.1**	**-1.7**
	baz=229							
TPUB	**Ta-pu**	**2.34**	**232**	*e*Pn		**Pn**	**00 41 56.8**	**-0.8**
TPUB				*e*Sn		Sn	00 42 18.4	-8.3
JIKM	**Ikemajima**	**2.38**	**85**	P		**Pn**	**00 41 58.5**	**+0.5**
JIKM				S		**Sn**	**00 42 27.0**	**-0.5**
CHY	**Chiayi**	**2.38**	**239**	⇓*i* P		**Pn**	**00 41 57.7**	**-0.3**
	baz=250							
CHY				S		**Sn**	**00 42 25.4**	**-2.2**
	baz=250							
WTP	**Ta-pu**	**2.38**	**231**	⇓*i* P		**Pn**	**00 41 57.8**	**-0.4**
	baz=232							
WTP				S		**Sn**	**00 42 26.1**	**-1.7**
	baz=232							
TWG	**Pinlang**	**2.40**	**217**	⇓*i* P		**Pn**	**00 41 56.2**	**-2.1**
	baz=223							
TWG				S		**Sn**	**00 42 24.4**	**-3.7**
	baz=223							
TWG	**Pinlang**	**2.40**	**217**	*e*Pn		**Pn**	**00 41 55.7**	**-2.6**
TWG				*e*Sn		Sn	00 42 21.6	-6.5
JMJ	**Miyako jima 2**	**2.41**	**88**	P		**Pn**	**00 41 58.7**	**+0.2**
JMJ				S		**Sn**	**00 42 27.8**	**-0.6**
JMJ	**Miyako jima 2**	**2.41**	**88**	*e*P		**Pn**	**00 41 58.7**	**+0.2**
	baz=86							
JMJ				*e*S		**Sn**	**00 42 27.1**	**-1.3**
	baz=86							
TTN	**Taitung**	**2.41**	**215**	*e*P		**Pn**	**00 41 57.3**	**-1.2**
	baz=211							
TTN				*e*S		**Sn**	**00 42 26.2**	**-2.2**
	baz=211							
TWK	**Hsinying**	**2.46**	**233**	⇓*i* P		**Pn**	**00 41 58.6**	**-0.5**
	baz=234							
TWK				*e*S		**Sn**	**00 42 27.6**	**-2.0**
	baz=234							
WSF	**Szhu**	**2.47**	**244**	⇓*i* P		**Pn**	**00 41 58.5**	**-0.7**
	baz=245							
WSF				*e*S		**Sn**	**00 42 27.6**	**-2.0**
	baz=245							
CHN1	**Nanshi**	**2.48**	**231**	⇓P		**Pn**	**00 41 58.9**	**-0.5**
	baz=233							
CHN1				*e*S		**Sn**	**00 42 28.4**	**-1.7**
	baz=233							
SGST	**Jiashian**	**2.51**	**229**	*e*P		**Pn**	**00 41 59.5**	**-0.2**
	baz=230							
SGST				S		**Sn**	**00 42 29.5**	**-1.2**
	baz=230							
JOGS	**Gusukube**	**2.52**	**89**	P		**Pn**	**00 42 00.4**	**+0.6**
JOGS				S		**Sn**	**00 42 30.4**	**-0.3**
CHN8	**Yiju**	**2.62**	**238**	*e*P		**Pn**	**00 42 00.3**	**-0.8**
	baz=248							
CHN8				*e*S		**Sn**	**00 42 31.0**	**-2.2**
	baz=248							
ECL	**Taimali**	**2.64**	**216**	⇓*i* P		**Pn**	**00 41 59.1**	**-2.3**
	baz=217							
ECL				*e*S		**Sn**	**00 42 29.2**	**-4.5**
	baz=217							
CHN3	**Shinhua**	**2.67**	**232**	*e*P		**Pn**	**00 42 01.8**	**0.0**
	baz=241							
CHN3				*e*S		**Sn**	**00 42 36.0**	**+1.8**
	baz=241							
SSD	**Sandimen**	**2.71**	**223**	⇓*i* P		**Pn**	**00 42 02.3**	**0.0**
	baz=224							
SSD				*e*S		**Sn**	**00 42 33.3**	**-2.0**
	baz=224							
SCLT	**Jiali**	**2.73**	**235**	⇓P		**Pn**	**00 42 02.3**	**-0.3**
	baz=229							
SCLT				*e*S		**Sn**	**00 42 34.0**	**-1.7**
	baz=229							
TAI1	**Yung-k'ang**	**2.79**	**233**	⇓P		**Pn**	**00 42 03.2**	**0.0**
	baz=234							
TAI1				*e*S		**Sn**	**00 42 33.9**	**-3.0**
	baz=234							
TWM1	**Shoushan**	**2.79**	**227**	⇓*e*P		**Pn**	**00 42 03.8**	**+0.4**
	baz=228							
SGLT	**Jiouru**	**2.82**	**225**	*e*P		**Pn**	**00 42 04.2**	**+0.6**
	baz=226							
TAW	**Tawu**	**2.87**	**214**	⇓*e*P		**Pn**	**00 42 02.3**	**-2.0**
	baz=215							
TAW				*e*S		**Sn**	**00 42 33.9**	**-5.0**
	baz=215							
EAST	**Anshuo**	**2.88**	**215**	⇓*i* P		**Pn**	**00 42 02.7**	**-1.8**
	baz=213							
EAST				*e*S		**Sn**	**00 42 35.8**	**-3.3**
	baz=213							
LAY	**Lan-yu**	**2.88**	**200**	⇓*i* P		**Pn**	**00 42 02.7**	**-1.8**
	baz=195							
LAY				*e*S		**Sn**	**00 42 33.4**	**-5.8**
	baz=195							
**S

JTK S **Sn** **00 43 58.8 -4.8**
SSE **Sheshan** 6.45 349 P **Pn** **00 42 52.5 +0.5**
SSE S **Sn** **00 44 00.7 -3.5**
SSE PMZ
250nm,1.1s
SSE LN
600nm,5.7s
SSE LE
2µm,5.8s
SSE LZ
680nm,4.0s
PIP **Pasuquin** 6.67 197⇑ *i*P **Pn** **00 42 54.6 -0.4**
JAMN **Amaminishikomi** 6.81 58 P **Pn** **00 42 54.6 -2.3**
JAMN *e*S **Sn** **00 44 09.6 -3.4**
JAM **Amami Oshima** 7.22 58 P **Pn** **00 42 59.8 -2.6**
JAM S **Sn** **00 44 18.8 -4.2**
JTAJ **Takarajima** 7.32 52 P **Pn** **00 43 00.8 -2.9**
JTAJ *e*S **Sn** **00 44 24.5 -0.7**
SZP **Santa** 7.45 196 *e*Pn **Pn** **00 43 05.0 -0.5**
SZP *e*Sn **Sn** **00 44 28.1 -0.6**
JZK **Kikaishima** 7.46 60 P **Pn** **00 43 04.2 -1.5**
JZK S **Sn** **00 44 26.2 -2.7**
JMZ **Minamidaito 2** 7.84 80 P Pn 00 43 07.5 -3.3
JMZ S Sn 00 44 29.1 -8.9
NJ2 **Nanjing** 8.00 336 *e*P **Pn** **00 43 14.5 +1.6**
NJ2 S **Sn** **00 44 45.1 +3.4**
NJ2 PMZ
20nm,0.7s
NJ2 LN
5µm,10.8s
NJ2 LE
3µm,10.5s
NJ2 LZ
3µm,11.6s
GZH **Guangzhou** 8.66 261 P Pn 00 43 16.8 -5.1
GZH S Sn 00 44 48.4 -10
GZH SMN
900nm,0.8s
GZH SME
800nm,0.9s
WHN **Wuhan** 9.34 310 ⇓P **Pn** **00 43 31.5 +0.6**
WHN S **Sn** **00 45 10.1 -4.1**
WHN LN
10µm,3.3s
WHN LE
5µm,5.1s
WHN LZ
3µm,4.4s
JFU **Fukue jima 2** 9.53 33 P **Pn** **00 43 36.1 +2.7**
JSU **Suzuyama** 9.63 44 P **Pn** **00 43 35.3 +0.4**
KSHUK **Heuksando** 10.19 13 P **Pn** **00 43 45.4 +3.0**
SNR=14
KSHUK **Heuksando** 10.19 13 P Pn 00 43 46.2 +3.8
SNR=9.5
TGY **Tagaytay City** 10.72 189 P **Pn** **00 43 50.9 +1.2**
baz=0.0,slow=20
JNU **Nakatsue** 11.02 39 P **Pn** **00 43 54.8 +1.2**
JNU **Nakatsue** 11.02 39 P **Pn** **00 43 54.3 +0.7**
10nm,0.3s,baz=206,slow=2.3,SNR=72
JNU **Nakatsue** 11.02 39 *e*Pn **Pn** **00 43 53.9 +0.3**
KSKWJ **Gwangju** 11.03 19 P Pn 00 43 57.4 +3.7
SNR=11
KSKWJ **Gwangju** 11.03 19 P Pn 00 43 57.9 +4.3
SNR=6.7
KSJEU **Jeongeup** 11.33 18 P P 00 44 02.6 -3.7
SNR=16
KSGUS **GUNSAN** 11.80 17 P Pn 00 44 07.7 +3.9
SNR=14
KSGUS **GUNSAN** 11.80 17 P Pn 00 44 07.7 +3.9
SNR=14
KSJEO **Jeonju** 11.85 19 P Pn 00 44 07.9 +3.5
SNR=13
KSJEO **Jeonju** 11.85 19 P **P** **00 44 09.4 -2.8**
SNR=7.3
KSBUS **Busan** 11.87 27 P P 00 44 08.5 -3.8
SNR=8.8
KSDAG **Daegu** 12.23 25 P P 00 44 13.3 -3.2
SNR=29
KSDAG **Daegu** 12.23 25 P **P** **00 44 13.6 -2.9**
SNR=8.3
KSTEJ **Daejeon** 12.27 18 P P 00 44 13.6 -3.3
SNR=8.0
TJN **Taejon** 12.28 18⇑ *e*P **Pn** **00 44 12.0 +2.0**
KSKOJ **Gongju** 12.30 17 P **P** **00 44 17.9 +0.7**
SNR=8.8
KSCPR **CHUPUNGNYEONG** 12.32 21 P P 00 44 14.0 -3.4
SNR=38
KSCPR **CHUPUNGNYEONG** 12.32 21 P P 00 44 14.0 -3.4
SNR=20
TIA **Tai'an** 12.37 339 ⇑P **Pn** **00 44 13.5 +2.3**
TIA S Sn 00 46 36.2 +8.8
TIA PMZ
60nm,0.7s
TIA PMZ
320nm,3.0s
TIA LN
290nm,3.2s
TIA LE
2µm,5.7s
KSYOC **YEONGCHEON** 12.43 24 P **P** **00 44 16.0 -2.7**
SNR=19
KSYOC **YEONGCHEON** 12.43 24 P **P** **00 44 16.1 -2.7**
SNR=11
KSSES **Seosan** 12.44 14 P **Pn** **00 44 14.9 +2.8**
SNR=26
KSSES **Seosan** 12.44 14 P Pn 00 44 15.3 +3.2
SNR=11
KSBON **Boeun** 12.52 20 P **P** **00 44 17.0 -2.7**
SNR=41
KSSAJ **Sangju** 12.55 21 P **P** **00 44 17.9 -2.1**
SNR=28
KSSAJ **Sangju** 12.55 21 P **Pn** **00 44 16.5 +3.0**
SNR=16
KSCEA **Cheonan** 12.67 17 P **P** **00 44 18.4 -2.9**
SNR=60
KSEUS **ULSEONG** 12.68 23 P **P** **00 44 18.5 -2.9**
SNR=17
KSPHA **Pohang** 12.79 25 P **P** **00 44 19.8 -2.8**
SNR=18
ENH **Enshi** 12.90 298 *e*Pn **Pn** **00 44 18.4 +0.2**
KSCHJ **Chungju** 12.92 19 P **Pn** **00 44 20.6 +2.2**
SNR=17
KSSWO **Suwon** 13.01 16 P **P** **00 44 22.7 -2.5**
SNR=48
INCN **Inchon** 13.14 14 Pn **P** **00 44 24.1 -2.5**
SNR=42
INCN **Inchon** 13.14 14 *e*Pn **Pn** **00 44 22.9 +1.7**
KSICN **Icheon** 13.15 17 P **P** **00 44 24.4 -2.3**
SNR=24
QIZ **Qiongzhong** 13.17 247 P **Pn** **00 44 23.5 +1.8**
QIZ sP 00 44 56.3
QIZ S **Sn** **00 46 49.1 +2.1**
QIZ PMZ
31nm,1.3s
QIZ PMZ
100nm,2.8s
QIZ LN
590nm,9.3s
QIZ LE
340nm,20.6s
QIZ **Qiongzhong** 13.17 247 *e*Pn **Pn** **00 44 23.1 +1.4**
KSSEO **Seoul** 13.21 15 P **P** **00 44 25.0 -2.3**
SNR=26
KSULJ **Ulji** 13.25 24 P **P** **00 44 25.8 -2.0**
SNR=16
JMN **Monobe** 13.27 45 P Pn 00 44 17.6 -5.4
KSBAR **Backryungdo** 13.30 7 P **P** **00 44 26.5 -1.8**
SNR=9.8
KSGAH **Ganghwa** 13.32 13 P **P** **00 44 26.2 -2.3**
SNR=16
KSYOW **Yeongwol** 13.34 21 P **P** **00 44 27.0 -1.8**
SNR=24
KS15 **Wonju Array Si** 13.42 18 *e*Pn **P** **00 44 27.5 -2.1**
KS15 *e*ScP **ScP** **00 53 04.7 +0.2**
KSWJU **Wonju** 13.43 19 P **P** **00 44 28.1 -1.8**
SNR=29
KSRS **Korea Array** 13.44 18 P **P** **00 44 27.5 -2.4**
9.7nm,0.3s,baz=200,slow=13,SNR=349
KSRS ScP **ScP** **00 53 04.7 +0.2**
0.3nm,0.3s,baz=196,slow=1.9,SNR=10.0
KS01 **Wonju Array Si** 13.45 18 *e*Pn **Pn** **00 44 27.3 +2.0**
KSTBA **Taebaek** 13.46 22 P **P** **00 44 28.2 -2.0**
SNR=68
KSMUS **Musan** 13.56 14 P **P** **00 44 29.5 -1.7**
SNR=23
KSDDC **Dongducheon** 13.64 15 P **P** **00 44 30.6 -1.5**
SNR=12
KSJES **JEONGSEON** 13.65 21 P **P** **00 44 30.7 -1.5**
SNR=18
KSCHC **Chuncheon** 13.71 18 P **P** **00 44 31.6 -1.3**
SNR=9.4
YNCB **YEONCHEON** 13.74 14 P **P** **00 44 31.9 -1.3**
SNR=7.7
KSDGY **Daegwallycong** 13.89 20 P **P** **00 44 33.5 -1.4**
SNR=25
KSCWO **Cheorwon** 13.92 16 P **P** **00 44 34.2 -1.1**
SNR=58
KSIJA **INJE** 13.99 18 P **P** **00 44 34.8 -1.2**
SNR=53
KSJMJ **Jumunjin** 14.09 20 P **P** **00 44 35.7 -1.4**
SNR=60
DL2 **Dalian** 14.14 357⇑ *i*P **P** **00 44 37.0 -0.6**
DL2 sP 00 45 08.5
DL2 PMZ
220nm,1.2s
DL2 PMZ
230nm,3.4s
SEHB **SEOHWA** 14.29 18 P **P** **00 44 38.9 -0.5**
SNR=21
KSSKC **Sokcho** 14.39 19 P **P** **00 44 39.7 -0.8**
SNR=40
KSULL **Ulleungdo** 14.51 27 P **P** **00 44 42.2 +0.3**
SNR=19
GYA **Guiyang** 14.51 280⇓ *i*P **Pn** **00 44 39.3 +0.3**
GYA PP **PP** 00 44 57.2
GYA S **Sn** **00 47 17.6 -2.0**
GYA PcP **PcP** **00 49 46.8 +2.2**
GYA PMZ
70nm,0.8s
GYA PMZ
180nm,9.7s
GYA LN
1µm,7.1s
GYA LE
420nm,9.0s
XAN **Xi'an** 15.10 311 P **P** **00 44 49.5 +1.0**
XAN S **Sn** **00 47 37.2 +3.6**
XAN PMZ
73nm,1.0s
XAN LN
1µm,7.8s
XAN LE
780nm,8.8s
XAN LZ
620nm,7.1s
TIY **Taiyuan** 15.57 328 *e*P **P** **00 44 56.6 +2.9**
TIY sP sP 00 45 26.4 -5.9
TIY S **S** **00 47 49.8 -0.4**
TIY PMZ
130nm,0.7s
TIY PMZ
430nm,4.4s
TIY LN
660nm,9.9s
TIY LE
1µm,8.3s
TIY LZ
750nm,5.8s
BJT **Baijiatuan** 16.16 342 *e*P **P** **00 45 00.9 +0.8**
BJT pmax pmax
comp=Z,130nm,0.8s
BJT **Baijiatuan** 16.16 342 *e*Pn **P** **00 45 00.9 +0.8**
comp=Z,130nm,0.8s
BJI **Beijing** 16.18 342 P **P** **00 45 01.5 +1.2**
BJI S **Sn** **00 48 00.6 +1.3**
BJI PMZ
comp=Z,170nm,0.8s
BJI PMZ
comp=Z,550nm,6.2s
BJI LN
comp=Z,300nm,4.6s
BJI LE
comp=Z,620nm,7.2s
SNY **Shenyang** 17.05 2 ⇑P **Pn** **00 45 11.2 +1.1**
SNY S **Sn** **00 48 18.8 -1.3**
SNY PMZ
comp=Z,37nm,0.6s
SNY PMZ
comp=Z,720nm,10.1s
SNY LN
comp=Z,410nm,12.1s
SNY LE
comp=Z,320nm,9.4s
JHJ2 **Mitsune** 17.17 57 *e*P **Pn** **00 45 13.7 +2.0**
comp=Z,2µm,0.9s
CTBH **Cotabato--PC H** 17.50 175⇑ *i*P **Pn** **00 45 17.3 +1.6**
SLVN **Son La** 17.57 263 *e*P **Pn** **00 45 17.3 +0.6**
comp=Z,44nm,1.1s
CBIJ **Chichi jima** 17.74 78 *e*P **P** **00 45 17.8 +0.2**
comp=Z,719nm,0.9s
JCJ **Chichijima** 17.74 78 P **P** **00 45 17.1 -0.4**
comp=Z,26nm,0.3s,baz=227,slow=3.9,SNR=24
JCJ LR LR 00 52 33.4
comp=Z,61nm,18.2s,baz=96,slow=38
CBI **Chichi jima** 17.74 78 *e*P **P** **00 45 17.1 -0.4**
CD2 **Chengdu** 17.78 294 P **Pn** **00 45 19.4 +0.3**
CD2 S **S** **00 48 37.2 +0.9**
CD2 PcP **PcP** **00 49 50.3 +0.9**
CD2 PMZ
comp=Z,100nm,0.9s
CD2 PMZ
comp=Z,180nm,9.2s
CD2 LN
comp=Z,2µm,7.6s
CD2 LZ
comp=Z,770nm,6.7s
MAJO **Matsushiro** 17.79 45 *e*P **P** **00 45 17.1 -1.0**
MAJO pmax pmax
comp=Z,55nm,0.9s
MAJO **Matsushiro** 17.79 45 *e*P **P** **00 45 17.1 -1.0**
comp=Z,55nm,0.9s
MAJO *e*ScP **ScP** **00 53 13.1 +0.4**
MAT **Matsushiro** 17.79 45 P **P** **00 45 16.9 -1.2**
MAT *e*S **Sn** **00 48 39.4 +1.3**
MJAR **Matsushiro Arr** 17.79 45 P **P** **00 45 17.1 -1.0**
comp=Z,2.5nm,0.3s,baz=234,slow=10,SNR=57
MJAR LR LR 00 53 12.1
comp=Z,177nm,18.7s,baz=230,slow=40
MJAR ScP **ScP** **00 53 13.1 +0.4**
comp=Z,0.2nm,0.3s,baz=236,slow=3.7,SNR=5.5
KMI **Kunming** 18.05 275 P **Pn** **00 45 24.2 +1.7**
KMI PP **pP** **00 45 44.1 +0.2**
KMI S **S** **00 48 39.5 -2.6**
KMI PMZ
comp=Z,18nm,1.2s
KMI PMZ
comp=Z,140nm,3.5s
KMI LN
comp=Z,600nm,9.5s
KMI LE
comp=Z,630nm,7.8s
KMI LZ
comp=Z,500nm,9.5s
DLV **T Lat** 18.49 229 *e*P **Pn** **00 45 28.4 +0.6**
HHC **Hu-ho-hao-te** 18.53 333 *e*P **Pn** **00 45 28.9 +1.0**
HHC sP **sP** **00 46 06.4 +1.4**
HHC S **S** **00 48 49.8 -1.2**
HHC PMZ
comp=Z,98nm,1.1s
HHC PMZ
comp=Z,290nm,3.8s
HHC LN
comp=Z,390nm,10.4s
HHC LE
comp=Z,280nm,7.1s
UBPT **Khong Chiam** 18.66 243 P **Pn** **00 45 30.2 +0.6**
comp=Z,87nm,1.1s,comp=Z,1µm
BTO **Baotou** 19.01 329 *e*P **P** **00 45 32.5 +1.0**
SKNT **Sakolnakorn** 19.06 250 P **Pn** **00 45 34.8 +0.5**
comp=Z,99nm,1.1s,comp=Z,2µm
CN2 **Changchun** 19.14 6 *e*P **P** **00 45 33.4 +0.7**
CN2 *e*S **S** **00 48 59.0 -3.9**
CN2 PMZ
comp=Z,40nm,0.7s
CN2 PMZ
comp=Z,400nm,8.0s
CN2 LN
comp=Z,300nm,12.0s
CN2 LE
comp=Z,300nm,12.0s
KKM **Kota Kinabalu** 19.60 199 ⇑P **P** **00 45 37.4 -0.6**
KKM **Kota Kinabalu** 19.60 199 *e*P **P** **00 45 38.8 +0.8**
comp=Z,711nm,1.0s
SDKM **Sandakan** 19.71 196 ⇑P **P** **00 45 39.1 0.0**
LZH **Lanzhou** 19.72 309 ⇑P **Pn** **00 45 41.3 -0.7**
LZH pP **pP** **00 46 04.6 +2.4**
LZH PP PP 00 46 06.5
LZH sP **sP** **00 46 21.3 +3.1**
LZH S **S** **00 49 11.2 -3.6**
LZH PMZ
comp=Z,210nm,1.4s
LZH PMZ
comp=Z,430nm,4.0s
LZH LN
comp=Z,900nm,10.0s
LZH LE
comp=Z,560nm,10.4s
LZH LZ
comp=Z,1µm,12.3s
VLA **Vladivostok** 19.84 20*c* *i*P **P** **00 45 41.2 +1.0**
VLA pmax pmax
comp=Z,234nm,0.9s
MYLDM **Lahad Datu** 19.86 192 *e*P **Pn** **00 45 42.5 -1.1**
comp=Z,322nm,1.1s
MDJ **Mudanjiang** 20.61 14 P **P** **00 45 48.8 +0.3**
MDJ S **S** **00 49 33.6 +1.7**
MDJ PcP **PcP** **00 49 52.8 -1.2**
MDJ sS sS 00 50 16.7 +6.2
MDJ PMZ
comp=Z,61nm,1.0s
MDJ PMZ
comp=Z,190nm,4.7s
MDJ LN
comp=Z,300nm,12.4s
MDJ LE
comp=Z,580nm,12.8s
MDJ **Mudanjiang** 20.61 14 *e*P **P** **00 45 48.5 -0.1**
comp=Z,50nm,0.8s
USRK **Ussuriysk Ar.** 20.85 19 P **P** **00 45 51.1 +0.1**
comp=Z,153nm,0.8s,baz=203,slow=9.6,SNR=237
USRK pP **pP** **00 46 17.6 +3.3**
comp=Z,21nm,0.7s,baz=206,slow=13,SNR=2.3
USRK ScP **ScP** **00 53 19.0 -0.5**
comp=Z,2.9nm,0.8s,baz=250,slow=5.7,SNR=7.0
TSM **Tawau** 20.85 193 ⇑P **P** **00 45 50.1 -1.3**
CRAI **Chiangrai** 21.05 262 P **P** **00 45 55.0 +1.4**
comp=Z,25nm,1.1s
LOEI **Loei** 21.18 254 P **P** **00 45 53.1 -1.9**
comp=Z,82nm,1.2s,comp=Z,1µm
JOM **Ohasama** 21.50 42 P **P** **00 45 54.9 -3.3**
UTTA **Uttaradit** 21.72 256 P **P** **00 46 02.3 +1.7**
comp=Z,6.7nm,1.4s,comp=Z,91nm
PBKT **Sadao Pong** 21.83 252 P **P** **00 46 03.4 +1.6**
comp=Z,136nm,1.2s,comp=Z,2µm
LAMP **Lampang** 22.25 258 P **P** **00 46 07.6 +1.4**
comp=Z,27nm,0.7s,comp=Z,239nm
CMAI **Chiengmai2** 22.33 262 P **P** **00 46 09.5 +2.3**
comp=Z,30nm,0.9s
NAYO **Nakonayok** 22.58 247 P **P** **00 46 11.1 +1.6**
comp=Z,122nm,1.1s,comp=Z,16µm
CMMT **Chiang Mai** 22.76 260 P **P** **00 46 12.0 +0.8**
comp=Z,92nm,1.0s,comp=Z,934nm
CHTO **Chiang Mai** 22.77 260 P **P** **00 46 12.0 +0.7**
comp=Z,249nm,1.3s,comp=Z,3µm
CHTO **Chiang Mai** 22.77 260 *e*P **P** **00 46 12.0 +0.7**
CHTO pmax pmax
comp=Z,36nm,0.6s
CHTO **Chiang Mai** 22.77 260 P **P** **00 46 12.6 +1.3**
SNR=22
CHTO **Chiang Mai** 22.77 260 *e*P **P** **00 46 12.0 +0.7**
comp=Z,36nm,0.6s
CM01 **Chiang Mai Arr** 22.89 259 *e*P **P** **00 46 13.2 +0.8**
CM01 *e*PcP **PcP** **00 50 00.6 +1.6**
CM31 **Chiang Mai Arr** 22.89 259 *e*P **P** **00 46 13.6 +1.2**
CM31 *e*pP **pP** **00 46 39.8 +3.0**
CM31 *e*ScP **ScP** **00 53 27.2 +2.1**
CMAR **Chiang Mai Arr** 22.89 259 P **P** **00 46 13.6 +1.2**
comp=Z,20nm,0.8s,baz=58,slow=8.0,SNR=82
CMAR pP **pP** **00 46 39.8 +3.1**
comp=Z,10nm,0.8s,baz=56,slow=7.8,SNR=3.3
CMAR PcP **PcP** **00 50 00.3 +1.3**
comp=Z,2.4nm,0.7s,baz=25,slow=1.1,SNR=9.5
CMAR ScP **ScP** **00 53 27.2 +2.1**
comp=Z,4.9nm,0.8s,baz=53,slow=1.1,SNR=18
CMAR LR LR 00 55 39.4
comp=Z,290nm,20.3s,baz=84,slow=38
CMAR **Chiang Mai Arr** 22.89 259 P **P** **00 46 13.6 +1.2**
CMAR *PP **pP** **00 46 39.8 +3.1**
CMAR 00 50 00.3
CMAR pmax pmax
comp=Z,20nm,0.8s
CMAR pmax pmax
comp=Z,10.0nm,0.9s
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CMAR pmax pmax
comp=N,5.0nm,0.8s
CMAR MLR MLR
comp=Z,291nm,20.3s
BTM **Bintulu** 23.32 205 ⇑P **P** **00 46 15.5 -1.0**
UTHA **Uthaitani** 23.59 252 P **P** **00 46 20.4 +1.6**
comp=Z,22nm,1.0s,comp=Z,192nm
PATY **Pattaya** 23.69 244 P **P** **00 46 23.1 +3.3**
comp=Z,22nm,1.0s,comp=Z,978nm
GUMO **Guam** 23.71 114 LR LR 00 55 31.0
comp=Z,121nm,18.6s,baz=346,slow=36
MHMT **Maesarieng** 23.89 259 P **P** **00 46 24.6 +3.0**
comp=Z,17nm,0.9s,comp=Z,550nm
KMSI **Cibinong** 24.07 177 P **P** **00 46 24.6 +1.4**
comp=Z,749nm,0.9s,comp=Z,6µm
MRSI **Marisa** 24.14 182 P **P** **00 46 26.0 +2.2**
comp=Z,211nm,0.9s,comp=Z,2µm
GTA **Gaotai** 24.15 313 ⇑P **P** **00 46 24.2 +0.3**
GTA pP **pP** **00 46 50.8 +0.7**
GTA sP **sP** **00 47 05.9 +0.2**
GTA PcP **PcP** **00 50 03.8 +2.3**
GTA S **S** **00 50 30.6 -2.2**
GTA sS **sS** **00 51 15.3 -4.8**
GTA SS **SnSn** **00 51 35.0 +5.3**
GTA ScP **ScP** **00 53 29.4 +1.0**
GTA PcS **PcS** **00 53 41.9 +0.5**
GTA ScS **ScS** **00 57 16.9 +1.0**
GTA PMZ
comp=Z,55nm,1.5s
GTA PMZ
comp=Z,200nm,5.5s
GTA LN
comp=Z,330nm,10.7s
GTA LE
comp=Z,300nm,11.2s
ERM **Erimo** 24.19 40 P **P** **00 46 21.4 -2.6**
comp=Z,1µm,0.6s,SNR=46
ERM **Erimo** 24.19 40 *e*P **P** **00 46 21.7 -2.3**
ERM pmax pmax
comp=Z,114nm,0.6s
ERM **Erimo** 24.19 40 *e*P **P** **00 46 21.7 -2.3**
comp=Z,114nm,0.6s
JEM **Erimo** 24.19 40 P **P** **00 46 21.7 -2.3**
TNTI **Ternate** 24.28 168 P **P** **00 46 26.6 +1.5**
comp=Z,1µm,1.4s,comp=Z,15µm
TNTI **Ternate** 24.28 168 *e*P **P** **00 46 26.0 +1.0**
comp=Z,1µm,1.2s
SBUM **Sibu** 24.35 206 ⇑P **P** **00 46 26.2 +0.4**
SBUM **Sibu** 24.35 206 *e*P **P** **00 46 26.1 +0.4**
comp=Z,937nm,1.3s
MPSI **Mapaga** 24.42 187 P **P** **00 46 27.3 +1.0**
comp=Z,62nm,1.5s,comp=Z,1µm
SRDT **SRDT** 24.42 249 P **P** **00 46 29.8 +3.4**
comp=Z,159nm,1.2s
HIA **Hailar** 24.57 355 *e*P **P** **00 46 26.8 -0.7**
HIA pmax pmax
comp=Z,121nm,1.3s
HIA **Hailar** 24.57 355 *e*P **P** **00 46 26.8 -0.7**
comp=Z,121nm,1.3s
ASAJ **Asahikawa** 25.26 35 P **P** **00 46 32.8 -1.0**
comp=Z,52nm,0.4s,baz=238,slow=7.8
ASAJ **Asahikawa** 25.26 35 P **P** **00 46 32.8 -1.0**
ASAJ pmax pmax
comp=Z,53nm,0.4s
ASAJ **Asahikawa** 25.26 35 *e*P **P** **00 46 32.5 -1.3**
comp=Z,68nm,0.5s
APSI **Ampana** 25.53 182 P **P** **00 46 36.8 +0.4**
comp=Z,250nm,1.3s,comp=Z,3µm
HABR **Khabarovsk** 25.62 19 *e*P **P** **00 46 34.6 -2.3**
HABR *e**PP **pP** **00 47 02.2 -1.9**
HABR *e* 00 47 19.0
HABR 00 50 02.6
HABR *e*S **S** **00 50 53.3 -2.2**

HABR *e* 00 57 18.2
HABR pmax pmax
comp=Z,33nm,1.0s
HABR MLR MLR
comp=Z,101nm,17.0s
LUWI Luwuk 25.64 180 P **P** **00 46 36.7 -0.8**
comp=Z,419nm,1.1s,comp=Z,6µm
LUWI Luwuk 25.64 180 *e*P **P** **00 46 36.2 -1.3**
comp=Z,401nm,1.0s
PCI Palu 25.65 186 P **P** **00 46 39.1 +1.5**
comp=Z,146nm,1.1s,comp=Z,2µm
LBMI Labuha 25.68 169 P **P** **00 46 40.4 +2.6**
comp=Z,513nm,1.0s,comp=Z,4µm
KSM Kuching 26.03 209 ⇑P **P** **00 46 41.0 +0.1**
KSM Kuching 26.03 209 *e*P **P** **00 46 41.1 +0.1**
comp=Z,448nm,1.0s
SONA0 Songino Array 26.39 335 *e*P **P** **00 46 44.2 +0.2**
SONA0 *e*pP **pP** **00 47 12.2 +1.0**
SONA0 *e*ScP **ScP** **00 53 34.7 +0.1**
SONM Songino Array 26.39 335 P **P** **00 46 44.2 +0.1**
comp=Z,76nm,0.8s,baz=148,slow=9.6,SNR=354
SONM pP **pP** **00 47 12.2 +1.0**
comp=Z,52nm,1.1s,baz=151,slow=11,SNR=5.1
SONM PcP **PcP** **00 50 07.3 +0.9**
comp=Z,2.3nm,0.6s,baz=168,slow=2.8,SNR=7.1
SONM ScP **ScP** **00 53 34.7 +0.1**
comp=Z,6.8nm,0.8s,baz=163,slow=5.9,SNR=21
SONM LR LR 00 57 59.2
comp=Z,246nm,18.1s,baz=132,slow=38
SONM Songino Array 26.39 335 P **P** **00 46 44.2 +0.1**
SONM *PP **pP** **00 47 12.2 +1.0**
SONM 00 50 07.3
SONM pmax pmax
comp=Z,76nm,0.8s
SONM pmax pmax
comp=Z,52nm,1.1s
SONM pmax pmax
comp=Z,2.0nm,0.6s
SONM pmax pmax
comp=N,7.0nm,0.9s
SONM MLR MLR
comp=Z,246nm,18.1s
SONA1 Songino Array 26.39 335 *e*P **P** **00 46 44.3 +0.1**
SONA1 *e*pP **pP** **00 47 11.3 0.0**
BKB Balikpapan 26.45 193 P **P** **00 46 47.1 +2.4**
SWI Sorong 26.80 161 P **P** **00 46 48.1 +0.2**
comp=Z,44nm,1.0s
SIJI Sorong 26.81 161 P **P** **00 46 47.9 -0.1**
comp=Z,20nm,0.7s,baz=360,slow=13,SNR=8.4
STKI Sintang 26.82 205 P **P** **00 46 49.7 +1.7**
comp=Z,209nm,1.3s,comp=Z,19µm
SANI Sanana 26.84 173 P **P** **00 46 47.9 -0.3**
comp=Z,352nm,1.1s,comp=Z,3µm
YUK Yuzh-Kuril'sk 27.00 39⇓ *i*P **P** **00 46 48.0 -1.4**
YUK *i* *PP **pP** **00 47 15.1 -1.5**
YUK *e* 00 47 37.8
YUK S **S** **00 51 17.8 +0.4**
YUK pmax pmax
comp=E,68nm,1.5s
YUK pmax pmax
comp=Z,78nm,1.5s
YUK pmax pmax
comp=N,46nm,0.5s
SRIT Nakonsritamara 27.22 238 P **P** **00 46 53.8 +2.1**
comp=N,163nm,0.8s,comp=N,10µm
YSS Yuzh-Sakhalins 27.36 31⇑ *e*P **P** **00 46 51.0 -1.5**
YSS pmax pmax
comp=Z,190nm,1.0s
YSS MLR MLR
comp=Z,300nm,16.0s
YSS Yuzh-Sakhalins 27.36 31 *e*P **P** **00 46 51.3 -1.3**
comp=Z,148nm,0.9s
YSS *ep*P **pP** **00 47 19.8 0.0**
SKLT Songkhla 27.38 234 P **P** **00 46 54.8 +1.7**
comp=Z,74nm,0.9s,comp=Z,751nm
SURT Suratani 27.63 239 P **P** **00 46 57.1 +1.8**
comp=Z,53nm,1.1s,comp=Z,538nm
TRTT Trang 27.64 236 P **P** **00 46 57.2 +1.8**
comp=Z,48nm,1.2s,comp=Z,681nm
KRAB Krabi 27.77 238 P **P** **00 46 58.3 +1.7**
comp=Z,249nm,0.7s,comp=Z,7µm
TTSI Tana Toraja 27.77 186 P **P** **00 46 57.1 +0.6**
comp=Z,36nm,1.1s
SHL Shillong 27.82 278 *e*P **P** **00 47 00.0 +2.8**
NLAI Namlea 28.16 171 P **P** **00 47 01.7 +1.7**
comp=Z,169nm,1.0s,comp=Z,2µm
LSA Lhasa 28.38 287 P **P** **00 47 04.1 +1.7**
LSA Lhasa 28.38 287 *e*P **P** **00 47 03.8 +1.3**
LSA *e* 00 50 14.2
LSA pmax pmax
comp=Z,17nm,0.8s
LSA Lhasa 28.38 287 *e*P **P** **00 47 03.8 +1.3**
comp=Z,17nm,0.8s
LSA *e*PcP **PcP** **00 50 14.2 +2.2**
RKPI Ransiki, Papua 28.41 155 P **P** **00 47 03.2 +1.0**
comp=Z,81nm,0.9s
KDI Kendari 28.54 180 P **P** **00 47 04.9 +1.5**
comp=Z,27nm,1.0s
PKDT Phuket 28.64 238 P **P** **00 47 06.3 +2.0**
comp=Z,172nm,1.1s,comp=Z,2µm
KULM Kulim 28.64 231 ⇑P **P** **00 47 04.6 +0.3**
KULM Kulim 28.64 231 *e*P **P** **00 47 05.3 +1.0**
comp=Z,102nm,1.3s
SPSI Sidrap Palu 28.68 186 P **P** **00 47 03.6 -1.0**
comp=Z,27nm,0.8s,comp=Z,688nm
BAKI Biak 28.91 151 P **P** **00 47 07.1 +0.4**
comp=Z,116nm,1.3s
IPM Ipoh 28.95 229 ⇑P **P** **00 47 07.0 -0.1**
IPM Ipoh 28.95 229 *e*P **P** **00 47 07.5 +0.4**
comp=Z,137nm,0.9s
FAKI Fak Fak 29.05 160 P **P** **00 47 07.8 -0.1**
comp=Z,69nm,1.2s,comp=Z,792nm
FAKI Fak Fak 29.05 160 *e*P **P** **00 47 07.6 -0.3**
comp=Z,75nm,1.1s
MYKOM Kota Tinggi 29.16 221 ⇑P **P** **00 47 09.0 0.0**
MYKOM Kota Tinggi 29.16 221 *e*P **P** **00 47 08.7 -0.3**
comp=Z,70nm,1.1s
KGM Kluang 29.31 222 ⇑P **P** **00 47 11.0 +0.8**
FRIM Kepong 29.45 227 ⇑P **P** **00 47 11.3 -0.2**
ZAK Zakamensk 29.65 335⇓ *i*P **P** **00 47 11.8 -1.2**
ZAK *e* 00 53 42.8
ZAK pmax pmax
comp=Z,12nm,1.0s
KAPI Kappang 29.72 186 P **P** **00 47 13.2 -0.6**
comp=Z,167nm,0.9s,SNR=5.5
KAPI Kappang 29.72 186 P **P** **00 47 13.9 0.0**
comp=Z,17nm,0.8s,baz=40,slow=7.5,SNR=15
KAPI Kappang 29.72 186 P **P** **00 47 14.2 +0.3**
SNR=10
KAPI Kappang 29.72 186 *e*P **P** **00 47 13.3 -0.6**
comp=Z,34nm,0.9s
BKSI Bulukumba 29.99 185 P **P** **00 47 14.9 -1.3**
comp=Z,17nm,0.8s
TLY Talaya 30.56 337 *c i*P **P** **00 47 21.0 +0.1**
TLY *e* 00 47 48.9
TLY pmax pmax
comp=Z,54nm,0.7s
TLY Talaya 30.56 337 P **P** **00 47 21.1 +0.1**
comp=Z,491nm,0.7s,SNR=9.6
TLY Talaya 30.56 337 P **P** **00 47 21.3 +0.4**
SNR=19
TLY Talaya 30.56 337 *e*P **P** **00 47 20.8 -0.1**
comp=Z,56nm,0.7s
TLY *ep*P **pP** **00 47 48.7 +0.3**
SMPI Sarmi 30.82 147 P **P** **00 47 24.7 +1.1**
TPI Tanjungpandan 30.98 210 P **P** **00 47 25.8 +0.9**
comp=Z,154nm,1.1s,comp=Z,2µm
PPBI Pangkal Pinang 31.18 213 P **P** **00 47 27.4 +0.7**
comp=Z,92nm,1.0s,comp=Z,45µm
LHMI Lhok Sumawe 31.39 236 P **P** **00 47 31.3 +2.7**
LHMI Lhok Sumawe 31.39 236 *e*P **P** **00 47 29.8 +1.2**
comp=Z,219nm,1.0s
TAPN Taplejung 31.43 282 *e*P **P** **00 47 29.6 +0.4**
comp=Z,24nm,0.6s
MOY Mondy 31.56 334 *e*P **P** **00 47 29.4 -0.4**
MOY pmax pmax
comp=Z,14nm,2.4s
PSI Prapat 31.61 230 *e*P **P** **00 47 31.5 +0.8**
PSI pmax pmax
comp=Z,119nm,1.0s
PSI Prapat 31.61 230 *e*P **P** **00 47 31.5 +0.8**
comp=Z,119nm,1.0s
ODAN Odare 31.74 281 *e*P **P** **00 47 32.8 +0.9**
comp=Z,54nm,0.8s
BKNI Bangkinang 32.04 224 P **P** **00 47 35.3 +1.0**
comp=Z,259nm,0.9s,comp=Z,5µm

BKNI Bangkinang 32.04 224 *e*P **P** **00 47 35.1 +0.9**
comp=Z,252nm,1.0s
JMBI JAMBI 32.06 218 P **P** **00 47 37.5 +3.1**
CLNS Chul'man 32.09 2 *e*P **P** **00 47 32.9 -1.4**
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS pmax pmax
comp=Z,13nm,0.9s
CLNS pmax pmax
comp=N,11nm,0.8s
RAMN Ramite 32.44 282 *e*P **P** **00 47 38.9 +0.9**
comp=N,25nm,0.7s
MNSI Mandailing Nat 32.63 227 P **P** **00 47 40.0 +0.6**
comp=N,436nm,0.8s,comp=N,3µm
KMMI Kalianget 32.72 196 P **P** **00 47 41.0 +0.8**
comp=N,72nm,1.0s
SDSI Sungai Dareh 32.78 222 P **P** **00 47 42.4 +1.7**
GUN Gumba 33.02 284 *e*P **P** **00 47 44.0 +0.9**
comp=N,34nm,0.7s
PPI Padang Panjang 33.05 224 P **P** **00 47 43.9 +0.8**
comp=N,204nm,1.3s,comp=N,2µm
TBJI Tambak Boyo 33.09 200 P **P** **00 47 44.5 +1.1**
comp=N,339nm,1.3s,comp=N,3µm
MMRI Maumere 33.19 181 P **P** **00 47 44.3 +0.1**
comp=N,282nm,1.4s,comp=N,4µm
MMRI Maumere 33.19 181 *e*P **P** **00 47 43.5 -0.7**
comp=N,342nm,1.2s
SRBI Singaraja 33.43 193 P **P** **00 47 46.3 0.0**
comp=N,40nm,1.6s
PKI Pulchoki 33.45 283 *e*P **P** **00 47 47.1 +0.2**
PKIN Phulchoki 33.46 283 *e*P **P** **00 47 47.7 +0.8**
BLJI Banyuglugur 33.48 196 P **P** **00 47 47.2 +0.4**
comp=N,141nm,0.9s,comp=N,2µm
KKN Kakani 33.55 283 *e*P **P** **00 47 48.1 +0.4**
BOD Bodaibo 33.61 352 *e*P **P** **00 47 46.2 -1.3**
BOD pmax pmax
comp=Z,11nm,1.5s
GSI Gunungsitoli 33.62 230 P **P** **00 47 47.7 -0.3**
comp=Z,66nm,0.7s
GSI Gunungsitoli 33.62 230 *e*P **P** **00 47 47.5 -0.5**
comp=Z,39nm,0.7s
DMN Daman 33.72 283 *e*P **P** **00 47 49.6 +0.5**
NGJI Ngawi 33.73 200 P **P** **00 47 50.9 +1.9**
comp=Z,118nm,1.1s
SMRI Semarang 33.77 202 P **P** **00 47 51.3 +2.0**
comp=Z,135nm,1.3s,comp=Z,5µm
SMRI Semarang 33.77 202 *e*P **P** **00 47 50.3 +1.0**
comp=Z,183nm,1.2s
LHSI Lahat 33.95 216 P **P** **00 47 52.2 +1.4**
comp=Z,150nm,0.9s,comp=Z,2µm
DNP Denpasar 34.01 193 P **P** **00 47 52.7 +1.4**
KLSI 34.06 213 P **P** **00 47 53.0 +1.2**
comp=Z,333nm,1.3s,comp=Z,3µm
MASI Maura Aman, Be 34.08 218 P **P** **00 47 53.1 +1.0**
comp=Z,362nm,1.2s,comp=Z,9µm
GKN Gorkha 34.11 284 *e*P **P** **00 47 52.8 +0.4**
comp=Z,54nm,0.9s
KLI Kotabumi 34.15 213 P **P** **00 47 53.1 +0.5**
comp=Z,198nm,1.0s,comp=Z,5µm
IGBI Denpasar 34.16 193 P **P** **00 47 53.0 +0.4**
comp=Z,118nm,0.9s
MDSI Maura Dua 34.16 214 P **P** **00 47 53.6 +0.9**
comp=Z,214nm,1.1s,comp=Z,2µm
WMQ Urumqi 34.23 313 P **P** **00 47 53.7 +0.5**
WMQ pP **pP** **00 48 21.7 +0.8**
WMQ sP **sP** **00 48 39.0 +3.4**
WMQ PP **PP** **00 49 15.2 +2.1**
WMQ PcP **PcP** **00 50 27.9 +1.0**
WMQ S **S** **00 53 10.1 -0.5**
WMQ sS **sS** **00 53 58.4 -0.7**
WMQ SS **SnSn** **00 55 27.6 -6.2**
WMQ PMZ
comp=Z,31nm,0.8s
WMQ PMZ
comp=Z,250nm,4.0s
WMQ LN
comp=Z,180nm,20.0s
WMQ LE
comp=Z,88nm,18.2s
WMQ LZ
comp=Z,63nm,18.2s
SOEI Soe 34.34 177 P **P** **00 47 53.0 -1.3**
comp=Z,149nm,0.9s
SOEI Soe 34.34 177 *e*P **P** **00 47 52.6 -1.7**
comp=Z,120nm,0.9s
SISI Saibi 34.55 225 P **P** **00 47 55.2 -0.8**
comp=Z,196nm,1.0s,comp=Z,2µm
UGM Wanagama 34.55 202 *e*P **P** **00 47 56.4 +0.3**
comp=Z,353nm,1.2s
LEM Lembang 34.63 207 P **P** **00 47 58.8 +1.9**
comp=Z,319nm,1.0s,comp=Z,3µm
SBJI Serang 34.64 210 P **P** **00 47 58.0 +1.2**
comp=Z,384nm,1.3s,comp=Z,5µm
LWLI Liwa 34.68 214 P **P** **00 47 58.3 +1.0**
DANN Dangsing 34.86 285 *e*P **P** **00 47 59.9 +0.9**
comp=Z,3.3nm,0.5s
KASI Kota Agung 34.89 213 P **P** **00 47 58.8 -0.2**
comp=Z,154nm,1.1s,comp=Z,1µm
KOLN Koldanda 35.04 284 *e*P **P** **00 48 01.1 +0.6**
comp=Z,25nm,0.9s
PPSI Pulau Pagai 35.09 222 P **P** **00 48 00.8 +0.1**
comp=Z,183nm,1.3s
CISI Cisompet, Garu 35.21 206 P **P** **00 48 01.1 -0.7**
comp=Z,176nm,1.2s
CISI Cisompet, Garu 35.21 206 *e*P **P** **00 48 01.1 -0.7**
comp=Z,156nm,1.0s
CNJI Cibinong 35.27 207 P **P** **00 48 01.1 -1.1**
comp=Z,181nm,1.1s,comp=Z,1µm
CGJI Cibinong 35.28 210 P **P** **00 48 01.3 -1.0**
comp=Z,86nm,1.1s
YAK Yakutsk 37.57 5 *e*P **P** **00 48 19.7 -1.5**
YAK *e**PP **pP** **00 48 45.6 -3.7**
YAK *e* 00 49 50.9
YAK *e* 00 50 34.8
YAK *e* 00 58 17.6
YAK pmax pmax
comp=Z,187nm,0.9s
YAK pmax pmax
comp=E,22nm,1.0s
YAK pmax pmax
comp=N,105nm,1.1s
YAK pmax pmax
comp=E,10.0nm,0.4s
YAK pmax pmax
comp=Z,15nm,0.4s
YAK Yakutsk 37.57 5 *e*P **P** **00 48 20.2 -1.0**
comp=Z,211nm,0.8s
KRAR Krasnoyarsk 38.02 333 P **P** **00 48 25.0 -0.1**
KRAR pmax pmax
comp=Z,23nm,0.7s
PEA0 Petropavlovsk- 38.66 34 *e*P **P** **00 48 30.5 0.0**
PETK Petropavlovsk- 38.66 34 P **P** **00 48 29.4 -1.1**
comp=Z,7.1nm,0.6s,baz=122,slow=2.4,SNR=11
PETK pP **pP** **00 49 00.5 +1.7**
comp=Z,6.8nm,0.8s,baz=213,slow=7.9,SNR=3.7
PETK PcP **PcP** **00 50 39.9 -0.1**
comp=Z,2.2nm,0.6s,baz=196,slow=3.6,SNR=3.0
PETK LR LR 01 04 03.1
comp=Z,96nm,21.6s,baz=231,slow=35
PETK Petropavlovsk- 38.66 34 P **P** **00 48 29.4 -1.1**
PETK 00 50 39.9
PETK pmax pmax
comp=Z,7.0nm,0.6s
PETK pmax pmax
comp=Z,2.0nm,0.6s
PETK MLR MLR
comp=Z,96nm,21.6s
PEA2 Petropavlovsk- 38.66 34 *e*P **P** **00 48 29.4 -1.2**
PEA2 *ep*P **pP** **00 49 00.5 +1.7**
MK31 Makanchi Array 38.86 315 *i* P **P** **00 48 32.1 -0.3**
MK31 pmax pmax
comp=Z,10.0nm,0.5s
MK32 Makanchi Array 38.86 315 *e*P **P** **00 48 32.4 0.0**
MK32 *ep*P **pP** **00 49 01.8 +1.2**
MK32 *e*ScP **ScP** **00 54 17.5 +0.2**
MKAR Makanchi Array 38.86 315 P **P** **00 48 32.4 0.0**
comp=Z,18nm,0.7s,baz=101,slow=11,SNR=150
MKAR pP **pP** **00 49 01.8 +1.2**
comp=Z,17nm,0.8s,baz=100,slow=11,SNR=5.2
MKAR PcP **PcP** **00 50 41.2 +0.4**
comp=Z,13nm,0.7s,baz=84,slow=5.3,SNR=11
MKAR ScP **ScP** **00 54 17.5 +0.2**
comp=Z,4.2nm,0.7s,baz=104,slow=5.1,SNR=12
MKAR ScS **ScS** **00 58 27.0 -1.6**
comp=Z,1.4nm,1.1s,baz=99,slow=7.5,SNR=4.0
MKAR Makanchi Array 38.86 315 P **P** **00 48 32.4 0.0**

MKAR *PP **pP** **00 49 01.8 +1.2**
MKAR 00 50 41.2
MKAR 00 54 17.5
MKAR 00 58 27.0
MKAR pmax pmax
comp=Z,18nm,0.7s
MKAR pmax pmax
comp=Z,17nm,0.8s
MKAR pmax pmax
comp=Z,13nm,0.7s
MKAR pmax pmax
comp=N,4.0nm,0.7s
MKAR pmax pmax
comp=N,1.0nm,1.1s
MKAR Makanchi Array 38.86 315 *e*P **P** **00 48 32.3 0.0**
MKAR *ep*P **pP** **00 49 01.3 +0.7**
MKAR *e*PcP **PcP** **00 50 40.9 +0.1**
PET Petropavlovsk 39.10 34 *e*P **P** **00 48 32.9 -1.2**
PET *e**PP **pP** **00 49 02.0 -0.4**
PET *e* 00 50 41.5
PET *e*S **S** **00 54 23.0 -1.1**
PET pmax pmax
comp=Z,46nm,0.8s
PET pmax pmax
comp=Z,48nm,1.3s
PET MLR MLR
comp=Z,100nm,19.0s
PET Petropavlovsk 39.10 34 *e*P **P** **00 48 33.3 -0.8**
comp=Z,83nm,1.3s
PET *ep*P **pP** **00 49 02.1 -0.3**
PDGK Podgornoye 39.76 309 P **P** **00 48 40.5 +0.7**
PDGK pmax pmax
comp=Z,91nm,0.7s
MA2 Magadan 39.96 22 *i* P **P** **00 48 40.2 -1.0**
ZAA0 Zalesovo Array 40.50 326 *e*P **P** **00 48 44.4 -1.3**
ZAA0 *ep*P **pP** **00 49 11.4 -2.8**
ZAA0 *e*PP **PP** **00 50 23.0 +1.6**
ZAA0 *e*PcP **PcP** **00 50 44.4 -1.4**
ZALV Zalesovo Beam 40.50 326 P **P** **00 48 44.9 -0.8**
comp=Z,40nm,0.7s,baz=110,slow=7.9,SNR=154
ZALV PcP **PcP** **00 50 45.1 -0.7**
comp=Z,6.6nm,0.5s,baz=111,slow=4.3,SNR=10
ZALV ScP **ScP** **00 54 22.8 -0.7**
comp=Z,3.7nm,0.8s,baz=115,slow=3.1,SNR=9.5
ZALV ScS **ScS** **00 58 35.3 -2.6**
comp=Z,0.7nm,0.6s,baz=153,slow=12,SNR=3.5
ZALV LR LR 01 06 02.2
comp=Z,95nm,20.0s,baz=74,slow=37
ZALV Zalesovo Beam 40.50 326 P **P** **00 48 44.9 -0.8**
ZALV 00 50 45.1
ZALV 00 58 35.3
ZALV pmax pmax
comp=Z,40nm,0.7s
ZALV pmax pmax
comp=Z,7.0nm,0.5s
ZALV pmax pmax
comp=N,4.0nm,0.8s
ZALV pmax pmax
comp=N,1.0nm,0.6s
ZALV MLR MLR
comp=Z,95nm,20.0s
ZAA1 Zalesovo Array 40.50 326 *e*P **P** **00 48 44.9 -0.9**
ZAA1 *e*ScP **ScP** **00 54 22.8 -0.7**
NDI New Delhi 40.58 286 *e*P **P** **00 48 48.0 +1.3**
PMG Port Moresby 41.53 142 *d i*P **P** **00 48 55.7 +1.1**
PMG pmax pmax
comp=Z,265nm,1.0s
PMG Port Moresby 41.53 142 *e*P **P** **00 48 54.7 +0.1**
comp=Z,254nm,1.0s
KSH Kashi 41.71 302 P P 00 49 00.0 +4.0
KSH pP pP 00 49 29.9 +5.3
KSH PP **PnPn** **00 50 44.1 +3.0**
KSH PcP **PcP** **00 50 55.1 +4.8**
KSH PcS **PcS** **00 54 45.1 +3.1**
KSH S **S** **00 55 08.3 +4.7**
KSH sS sS 00 56 01.2 +8.1
KSH ScS **ScS** **00 58 48.1 +2.1**
KSH PMZ
comp=Z,57nm,0.9s
KSH PMZ
comp=Z,270nm,4.4s
KSH LN
comp=Z,340nm,5.2s
KSH LE
comp=Z,340nm,6.2s
KSH LZ
comp=Z,490nm,5.6s
NVS Novosibirsk 41.75 327⇑ *i*P **P** **00 48 54.9 -1.0**
NVS pmax pmax
comp=N,10.0nm,0.9s
NVS pmax pmax
comp=Z,25nm,0.9s
NVS pmax pmax
comp=E,12nm,0.8s
ULHL Ulahol 41.88 306 P **P** **00 48 59.2 +1.7**
SNR=6.4
TKM2 Tokmak 2 42.47 307 P **P** **00 49 03.4 +1.2**
SNR=73
TKM2 Tokmak 2 42.47 307 P **ScP** **00 54 31.7 -0.2**
SNR=5.8
TKM2 Tokmak 2 42.47 307 *e*P **P** **00 49 02.8 +0.6**
TKM2 *e**PP **pP** **00 49 30.9 0.0**
TKM2 *e* 00 50 52.6
TKM2 pmax pmax
comp=Z,66nm,0.7s
TKM2 Tokmak 2 42.47 307 *e*P **P** **00 49 02.8 +0.6**
comp=Z,66nm,0.7s
TKM2 *ep*P **pP** **00 49 30.9 0.0**
TKM2 *e*PcP **PcP** **00 50 52.6 -0.2**
KURK Kurchatov 42.52 319 P **P** **00 49 01.2 -1.0**
comp=Z,262nm,0.5s,SNR=25
KURK Kurchatov 42.52 319 P **P** **00 49 01.6 -0.6**
KURK pmax pmax
comp=Z,12nm,0.6s
KURK Kurchatov 42.52 319 P **P** **00 49 02.2 0.0**
SNR=20
KURK Kurchatov 42.52 319 *e*P **P** **00 49 01.4 -0.8**
comp=Z,27nm,1.1s
KURK *ep*P **pP** **00 49 30.1 -0.7**
KURK *e*PcP **PcP** **00 50 51.8 -0.7**
KZA Kyzart 42.59 306 P **P** **00 49 05.2 +1.7**
SNR=13
KBK Karagaybulak 42.90 307 P **P** **00 49 07.1 +1.5**
SNR=25
SEY Seymchan 43.00 19⇓ *i*P **P** **00 49 05.8 -0.1**
CHMS Chumysh 43.09 307 P **P** **00 49 08.0 +1.0**
SNR=18
UCH Uchtor 43.15 306 P **P** **00 49 09.9 +1.9**
SNR=58
UCH Uchtor 43.15 306 P **ScP** **00 54 36.2 +1.3**
SNR=7.4
FRU Bishkek 43.16 307 *e*P **P** **00 49 08.5 +0.9**
FRU *e* 00 49 37.0
FRU *e* 00 50 54.0
AAK Ala-Archa 43.22 307 P **P** **00 49 09.4 +1.2**
SNR=7.3
AAK Ala-Archa 43.22 307 P **P** **00 49 09.0 +0.8**
AAK pmax pmax
comp=Z,14nm,0.8s
AAK Ala-Archa 43.22 307 *e*P **P** **00 49 09.1 +0.8**
comp=Z,15nm,0.8s
AAK *e*PP **PcP** **00 50 54.5 -0.8**
USP Ospenovka 43.32 308 P **P** **00 49 10.0 +1.1**
SNR=13
USP Ospenovka 43.32 308 P **ScP** **00 54 35.6 +0.6**
SNR=6.5
COEN Coen 43.38 150 *e*P **P** **00 49 10.7 +1.2**
comp=Z,126nm,0.8s
SFK Sufi-Kurgan 43.65 303 P **P** **00 49 13.0 +1.2**
SFK pmax pmax
comp=Z,31nm,0.8s
AML Almayashu 43.74 306 P **P** **00 49 14.2 +1.5**
SNR=18
EKS2 Erkin-Say 43.75 307 P **P** **00 49 13.4 +0.9**
SNR=16
EKS2 Erkin-Say 43.75 307 *e*P **P** **00 49 12.7 +0.3**
EKS2 *e**PP **pP** **00 49 39.9 -1.4**
EKS2 *e* 00 50 56.5
EKS2 pmax pmax
comp=Z,15nm,0.8s
EKS2 Erkin-Say 43.75 307 *e*P **P** **00 49 12.7 +0.3**
comp=Z,15nm,0.8s
EKS2 *ep*P **pP** **00 49 39.9 -1.4**
EKS2 *e*PP **PP** **00 50 56.5 -0.1**
MBWA Marble Bar 45.73 184 *e*P **P** **00 49 27.6 -0.5**

comp=Z,65nm,1.1s
OTUK Ortayu 45.74 314 P **P** **00 49 28.6 +0.6**
OTUK pmax pmax
comp=Z,45nm,0.7s
WRAB Tennant Creek 45.86 165 P **P** **00 49 29.3 +0.2**
comp=Z,895nm,1.0s,SNR=33
WRAB Tennant Creek 45.86 165 *d iP* **P** **00 49 29.6 +0.4**
WRAB pmax pmax
comp=Z,372nm,0.9s
WRAB Tennant Creek 45.86 165 *eP* **P** **00 49 29.5 +0.4**
comp=Z,135nm,0.9s
WRA Warramunga Arr 45.86 165 P **P** **00 49 29.7 +0.5**
comp=Z,92nm,0.8s,baz=347,slow=8.4,SNR=248
WRA PcP **PcP** **00 51 04.5 +0.1**
comp=Z,6.2nm,0.6s,baz=346,slow=4.0,SNR=5.0
WRA Warramunga Arr 45.86 165 P **P** **00 49 29.7 +0.5**
WRA 00 51 04.5
WRA pmax pmax
comp=Z,92nm,0.8s
WRA pmax pmax
comp=Z,6.0nm,0.6s
KK31 Karatay Array 46.19 307 *i* P **P** **00 49 32.0 +0.4**
KK31 pmax pmax
comp=Z,9.0nm,0.5s
KKAR Karatay Array 46.19 307 *eP* **P** **00 49 31.5 -0.1**
KKAR *e* 00 51 05.2
KKAR Karatay Array 46.19 307 *eP* **P** **00 49 31.4 -0.1**
KKAR *e*PcP **PcP** **00 51 05.2 -0.1**
KBL Kabul 47.12 295 *eP* **P** **00 49 39.8 +0.6**
KBL *e* 00 51 08.8
KBL pmax pmax
comp=Z,44nm,1.0s
KBL Kabul 47.12 295 *eP* **P** **00 49 39.8 +0.6**
comp=Z,44nm,1.0s
KBL *e*PcP **PcP** **00 51 08.8 -0.3**
DZET Dzherino 47.21 301 P **P** **00 49 40.6 +0.9**
DZET pmax pmax
comp=Z,36nm,0.7s
BRVK Borovoye 48.15 320 P **P** **00 49 46.2 -0.4**
comp=Z,215nm,1.0s,SNR=18
BRVK Borovoye 48.15 320 P **P** **00 49 46.4 -0.2**
BRVK pmax pmax
comp=Z,32nm,0.7s
BRVK Borovoye 48.15 320 P **P** **00 49 46.8 +0.2**
SNR=9.7
BRVK Borovoye 48.15 320 *eP* **P** **00 49 46.1 -0.5**
comp=Z,33nm,1.0s
BRVK *e*pP **pP** **00 50 15.3 -0.6**
BRVK *e*PcP **PcP** **00 51 11.6 -0.5**
ASAR Alice Springs 49.36 166 P **P** **00 49 57.0 +0.9**
comp=Z,36nm,0.7s,baz=346,slow=7.0,SNR=203
ASAR PcP **PcP** **00 51 17.1 +0.3**
comp=Z,9.3nm,0.9s,baz=340,slow=3.1,SNR=5.1
ASAR ScP **ScP** **00 55 00.2 -0.1**
comp=Z,1.6nm,0.8s,baz=349,slow=3.9,SNR=5.3
ASAR Alice Springs 49.36 166 P **P** **00 49 57.0 +0.9**
ASAR 00 51 17.1
ASAR pmax pmax
comp=Z,36nm,0.7s
ASAR pmax pmax
comp=Z,9.0nm,0.9s
ASAR pmax pmax
comp=N,2.0nm,0.8s
AS01 Alice Springs 49.37 166 *eP* **P** **00 49 56.2 0.0**
AS01 *e*PcP **PcP** **00 51 17.0 +0.1**
CTAO Charters Tower 50.15 151 *eP* **P** **00 50 02.9 +0.8**
CTAO pmax pmax
comp=Z,53nm,1.0s
CTAO Charters Tower 50.15 151 *eP* **P** **00 50 02.9 +0.8**
comp=Z,53nm,1.0s
AB31 Akbulak array 54.00 314 *i* P **P** **00 50 30.3 0.0**
AB31 pmax pmax
comp=Z,10.0nm,0.4s
IMYA Miami 54.25 298 *eP* **P** **00 50 34.0 +1.3**
SVE Sverdlovsk 54.38 323 *d iP* **P** **00 50 32.7 -0.2**
SVE pmax pmax
comp=Z,39nm,1.0s
IMOG Moghan 54.89 298 *eP* **P** **00 50 38.4 +1.0**
IPAY Payeh 55.13 298 *eP* **P** **00 50 40.8 +1.8**
AKTO Aktyubinsk 55.30 315 P **P** **00 50 38.9 -0.8**
AKTO pmax pmax
comp=Z,18nm,1.4s
ARU Arti 55.46 323 P **P** **00 50 39.8 -0.9**
comp=Z,242nm,0.4s,SNR=17
ARU Arti 55.46 323 *eP* **P** **00 50 40.0 -0.8**
ARU *e**PP **pP** **00 51 09.5 -1.2**
ARU *e* 00 51 37.0
ARU pmax pmax
comp=Z,40nm,1.1s
ARU Arti 55.46 323 *eP* **P** **00 50 40.0 -0.8**
comp=Z,40nm,1.1s
ARU *e*pP **pP** **00 51 09.5 -1.2**
ARU *e*PcP **PcP** **00 51 37.0 -2.3**
FORT Forrest 55.46 174 *eP* **P** **00 50 41.3 +0.3**
comp=Z,204nm,0.8s
GEYT Alibeck 55.66 300 P **P** **00 50 43.9 +1.3**
comp=Z,13nm,0.8s,baz=64,slow=3.4,SNR=36
GEYT PcP **PcP** **00 51 40.7 +0.1**
comp=Z,4.5nm,0.6s,baz=132,slow=2.1,SNR=2.5
GEYT ScP **ScP** **00 55 28.0 +0.3**
comp=Z,8.2nm,1.0s,baz=14,slow=0.6,SNR=10
EIDS Eidsvold 56.92 149 *eP* **P** **00 50 51.8 +0.3**
comp=Z,47nm,1.6s
EIDS *e*PcP **PcP** **00 51 41.1 -4.3**
BBOO Buckleboo 58.66 167 *eP* **P** **00 51 03.6 +0.1**
comp=Z,64nm,0.8s
STKA Stephens Creek 59.16 161 P **P** **00 51 07.4 +0.5**
comp=Z,14nm,0.6s,baz=340,slow=7.9,SNR=20
STKA PP **PP** **00 53 21.9 +2.6**
comp=Z,4.4nm,0.8s,baz=342,slow=9.6,SNR=2.9
STKA LR LR 01 18 59.5
comp=Z,42nm,18.9s,baz=20,slow=38
STKA Stephens Creek 59.16 161 P **P** **00 51 07.4 +0.5**
STKA 00 53 22.0
STKA pmax pmax
comp=Z,14nm,0.6s
STKA pmax pmax
comp=Z,4.0nm,0.8s
STKA MLR MLR
comp=Z,42nm,18.9s
STKA Stephens Creek 59.16 161 *eP* **P** **00 51 06.5 -0.4**
comp=Z,4.9nm,0.9s
IZEF Zefreh 61.13 295 *eP* **P** **00 51 20.6 -0.4**
ARMA Armidale 61.50 152 *eP* **P** **00 51 23.3 +0.3**
comp=Z,22nm,0.8s
IKLH Kolahrood 61.66 296 *eP* **P** **00 51 25.5 +1.0**
IPIR Pirpir 62.36 295 *eP* **P** **00 51 28.8 -0.4**
PRGR Permogore 62.39 328 ⇑*iP* **P** **00 51 27.7 -0.8**
PRGR pmax pmax
comp=Z,41nm,0.8s
IRAZ Razeghan 62.55 298 *eP* **P** **00 51 30.7 +0.4**
ISRB Sarab 63.83 302 *eP* pP 00 52 10.5 +1.0
IHRS Heris 64.21 302 *eP* **P** **00 51 41.8 +0.5**
IM04 Indian Mountai 65.07 27 *eP* **P** **00 51 46.4 +0.3**
IM04 *e*pP **PcP** **00 52 19.3 +1.4**
IMRD Marand 65.16 303 *eP* **P** **00 51 48.0 +0.8**
GNI Garni 65.57 305 P **P** **00 51 50.5 +0.6**
GNI pmax pmax
comp=Z,18nm,1.7s
ZEI Tsey 65.64 308 *eP* **P** **00 51 47.6 -2.7**
ZEI pmax pmax
comp=Z,56nm,0.5s
TMCR Tamitsa 65.68 331 *eP* **P** **00 51 49.5 -0.4**
TMCR pmax pmax
comp=Z,57nm,0.7s
CAST Castle Rocks 66.08 29 *eP* **P** **00 51 53.3 +0.7**
comp=Z,19nm,0.9s
PPLA Purkeypile 66.10 30 *eP* **P** **00 51 53.4 +0.6**
comp=Z,22nm,0.9s
KBZ Khabaz 66.16 309 P **P** **00 51 53.5 +0.1**
comp=Z,5.2nm,0.9s,baz=90,slow=3.8,SNR=10
KBZ Khabaz 66.16 309 P **P** **00 51 53.5 +0.1**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KIV Kislovodsk 66.26 309 *c iP* **P** **00 51 54.2 0.0**
KIV *i **PP **pP** **00 52 28.0 +2.8**
KIV S **S** **01 00 33.0 -0.5**
KIV *e* 01 01 37.2
KIV pmax pmax
comp=Z,30nm,1.8s
KIV MLR MLR
comp=Z,42nm,16.0s
KIV Kislovodsk 66.26 309 P **P** **00 51 55.3 +1.1**
SNR=6.4
KIV Kislovodsk 66.26 309 *eP* **P** **00 51 54.4 +0.2**
KIV *e*PcP **pP** **00 52 27.5 +2.3**
COLD Coldfoot 66.35 25 *eP* **P** **00 51 54.8 +0.5**
COLD *e*PcP **PcP** **00 52 23.3 +0.2**
NEY Neytrino 66.38 308 ⇑*iP* **P** **00 51 57.0 +1.9**
NEY pmax pmax
comp=Z,2.0nm,0.8s
MLY Manley 66.44 28 *eP* **P** **00 51 55.5 +0.6**
comp=Z,31nm,0.8s
MLY *e*PcP **PcP** **00 52 23.8 +0.2**
BPAW Bear Paw Mtn. 66.46 29 *eP* **P** **00 51 55.4 +0.4**
comp=Z,4.2nm,0.8s
BPAW *e*PcP **PcP** **00 52 24.0 +0.4**
LVZ Lovozero 66.58 336 *ceP* **P** **00 51 55.2 -0.5**
LVZ pmax pmax
comp=Z,32nm,1.5s
LVZ Lovozero 66.58 336 P **P** **00 51 55.8 +0.1**
comp=Z,146nm,0.7s,SNR=5.9
LVZ Lovozero 66.58 336 *eP* **P** **00 51 55.0 -0.7**
comp=Z,17nm,0.8s
KDAK Kodiak Island 66.68 36 P **P** **00 51 56.2 -0.2**
comp=Z,204nm,1.3s,SNR=10
KDAK Kodiak Island 66.68 36 *i* P **P** **00 51 57.0 +0.6**
TRF Thorofare Moun 66.87 29 *eP* **P** **00 51 57.7 -0.1**
comp=Z,21nm,0.8s
APA Apatity 67.10 335 ⇓*iP* **P** **00 51 58.5 -0.4**
APA *i* 00 52 31.0
APA pmax pmax
comp=Z,32nm,0.7s
APA MLR MLR
comp=Z,700nm,21.0s
BWN Browne 67.11 28 *eP* **P** **00 52 00.8 +1.7**
comp=Z,72nm,0.9s
VSR Storozhevoye 67.12 317 *ceP* **P** **00 51 58.5 -0.9**
VSR pmax pmax
comp=Z,13nm,0.7s
BRLK Bradley Lake 67.21 33 *eP* **P** **00 51 59.9 +0.1**
comp=Z,36nm,0.9s
MCK McKinley 67.42 29 *eP* **P** **00 52 01.3 +0.2**
MCK *e* 00 52 27.8
MCK pmax pmax
comp=Z,26nm,0.8s
MCK McKinley 67.42 29 *eP* **P** **00 52 01.3 +0.2**
comp=Z,26nm,0.8s
MCK *e*PcP **PcP** **00 52 27.8 +0.1**
MDM Murphy Dome 67.50 27 *eP* **P** **00 52 02.0 +0.4**
comp=Z,69nm,0.9s
MDM *e*PcP **PcP** **00 52 27.9 0.0**
RND Reindeer 67.51 29 *eP* **P** **00 52 01.3 -0.4**
RND pmax pmax
comp=Z,96nm,0.7s
RND Reindeer 67.51 29 *eP* **P** **00 52 01.3 -0.4**
comp=Z,96nm,0.7s
WRH Wood River Hil 67.65 28 *eP* **P** **00 52 02.5 +0.1**
comp=Z,22nm,0.8s
WRH *e*PcP **PcP** **00 52 28.6 +0.1**
COLA College 67.67 27 ⇓*iP* **P** **00 52 03.3 +0.7**
COLA pmax pmax
comp=Z,113nm,0.9s
COLA College 67.67 27 *eP* **P** **00 52 02.5 -0.1**
comp=Z,31nm,0.7s
PMR Palmer 67.72 31 *eP* **P** **00 52 02.6 -0.3**
PMR pmax pmax
comp=Z,18nm,0.5s
PMR Palmer 67.72 31 *eP* **P** **00 52 02.6 -0.3**
comp=Z,18nm,0.5s
CCB Clear Creek Bu 67.74 28 *eP* **P** **00 52 02.5 -0.5**
comp=Z,8.5nm,0.7s
OBN Obninsk 67.88 322 *ceP* **P** **00 52 03.1 -0.9**
OBN *e* 00 52 29.3
OBN *e**SP **sP** **00 52 48.0 -0.9**
OBN *e* 01 01 54.6
OBN pmax pmax
comp=Z,12nm,0.6s
OBN Obninsk 67.88 322 *eP* **P** **00 52 03.6 -0.4**
comp=Z,82nm,1.8s
ILAR Eielson Array 68.10 28 P **P** **00 52 04.3 -1.0**
comp=Z,5.3nm,0.5s,baz=270,slow=3.8,SNR=56
ILAR Eielson Array 68.10 28 P **P** **00 52 04.3 -1.0**
ILAR pmax pmax
comp=Z,5.0nm,0.5s
HDA Harding Lake 68.14 28 *eP* **P** **00 52 05.0 -0.6**
comp=Z,27nm,0.8s
SCM Sheep Creek Mo 68.51 31 *eP* **P** **00 52 07.5 -0.5**
SCM pmax pmax
comp=Z,65nm,0.7s
SCM Sheep Creek Mo 68.51 31 *eP* **P** **00 52 07.5 -0.5**
comp=Z,65nm,0.7s
KEV Kevo 68.94 338 *eP* **P** **00 52 10.0 -0.4**
KEV pmax pmax
comp=Z,24nm,0.8s
KEV Kevo 68.94 338 *eP* **P** **00 52 10.0 -0.4**
comp=Z,24nm,0.8s
PAX Paxson 69.10 29 *eP* **P** **00 52 11.7 0.0**
PAX pmax pmax
comp=Z,18nm,0.8s
PAX Paxson 69.10 29 *eP* **P** **00 52 11.7 0.0**
comp=Z,18nm,0.8s
DIV Divide 69.40 31 *eP* **P** **00 52 13.7 +0.2**
comp=Z,36nm,0.9s
RAYN Ar Rayn 69.45 287 *eP* **P** **00 52 13.8 -0.7**
comp=Z,9.0nm,1.1s
ARA0 ARCESS Array S 69.51 338 *eP* **P** **00 52 13.4 -0.5**
ARCES ARCESS Array B 69.51 338 P **P** **00 52 13.5 -0.4**
comp=Z,12nm,0.6s,baz=66,slow=8.4,SNR=51
ARCES LR LR 01 26 34.3
comp=Z,71nm,19.5s,baz=77,slow=39
ARCES ARCESS Array B 69.51 338 P **P** **00 52 13.5 -0.4**
ARCES pmax pmax
comp=Z,12nm,0.6s
ARCES MLR MLR
comp=Z,71nm,19.5s
ARE0 ARCESS Array S 69.51 338 *eP* **P** **00 52 13.7 -0.2**
ARE0 IAmb IAmb 00 52 14.8
comp=Z,22nm,0.8s
KBS Kingsbay 69.73 349 *eP* **P** **00 52 14.7 -0.5**
HAMF Hammerfest 69.80 339 *eP* **P** **00 52 15.9 +0.3**
HAMF IAmb IAmb 00 52 16.4
comp=Z,24nm,0.7s
HSPB Hornsund (broa 69.81 347 *eP* **P** **00 52 15.7 0.0**
BMRM Bremner River 69.99 31 *eP* **P** **00 52 17.5 +0.4**
comp=Z,29nm,0.7s
RAGM Ragged Mountai 70.11 32 *eP* **P** **00 52 18.4 +0.6**
comp=Z,43nm,0.9s
KTK1 Kautokeino 70.43 338 *eP* **P** **00 52 19.7 +0.1**
KTK1 IAmb IAmb 00 52 20.4
comp=Z,23nm,0.9s
EGAK Eagle 70.48 27 *eP* **P** **00 52 19.5 -0.4**
comp=Z,27nm,0.8s
MALT Malatya 70.78 304 ⇑*iP* **P** **00 52 23.8 +1.4**
MALT Malatya 70.78 304 ⇑*iP* **P** **00 52 23.8 +1.4**
DAWY Dawson 71.42 27 *eP* **P** **00 52 26.2 +0.5**
comp=Z,37nm,0.8s
FINES FINESS Array B 71.62 330 P **P** **00 52 26.6 -0.3**
comp=Z,17nm,0.5s,baz=68,slow=5.0,SNR=246
FINES pP **pP** **00 52 58.7 +0.5**
comp=Z,8.8nm,0.8s,baz=94,slow=7.6,SNR=3.4
FINES LR LR 01 26 19.1
comp=Z,129nm,20.6s,baz=67,slow=38
FINES FINESS Array B 71.62 330 P **P** **00 52 26.6 -0.3**
FINES *PP **pP** **00 52 58.7 +0.5**
FINES pmax pmax
comp=Z,17nm,0.5s
FINES pmax pmax
comp=Z,9.0nm,0.8s
FINES MLR MLR
comp=Z,129nm,20.6s
TRO Tromso 71.66 339 *eP* **P** **00 52 25.0 -1.9**
TRO IAmb IAmb 00 52 26.4
comp=Z,11nm,0.8s
INK Inuvik 72.20 22 P **P** **00 52 30.2 +0.1**
comp=Z,32nm,0.8s,baz=297,slow=6.5,SNR=34
INK Inuvik 72.20 22 *eP* **P** **00 52 30.1 -0.1**
INK pmax pmax
comp=Z,36nm,0.8s
INK Inuvik 72.20 22 *eP* **P** **00 52 30.1 -0.1**
comp=Z,36nm,0.8s
VSU Vasula 72.24 327 ⇓*eP* **P** **00 52 30.9 +0.3**
VSU pmax pmax
comp=Z,135nm,1.4s
IDID Didziasalis 73.25 324 *eP* **P** **00 52 36.6 0.0**
IDID IAmb IAmb 00 52 38.4
comp=Z,9.7nm,0.8s
AKASG Malin Array Be 73.33 318 P **P** **00 52 36.1 -1.0**
comp=Z,1.8nm,0.5s,baz=58,slow=6.4,SNR=18
AKASG Malin Array Be 73.33 318 P **P** **00 52 36.1 -1.0**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
KIEV Kiev 73.34 318 ⇑*iP* **P** **00 52 36.2 -1.0**
KIEV Kiev 73.34 318 *eP* **P** **00 52 36.0 -1.2**
KIEV *e*pP **pP** **00 53 06.6 -2.2**
NACGM Naroch 73.36 323 *e* **P** **00 52 35.0 -2.3**
AK11 Malin Array Si 73.37 318 *eP* **P** **00 52 36.3 -1.1**
IZAR Zarasai 73.37 324 IAmb IAmb 00 52 39.1
comp=Z,4.2nm,0.5s
ISAL Salakas 73.49 324 *eP* **P** **00 52 38.0 0.0**
ISAL IAmb IAmb 00 52 38.6
comp=Z,11nm,1.2s
IIGN Ignalina 73.51 324 *eP* **P** **00 52 38.2 0.0**
IIGN IAmb IAmb 00 52 39.9
comp=Z,4.1nm,0.6s
BRTR Keskin Array B 73.90 307 P **P** **00 52 41.2 +0.3**
comp=Z,4.3nm,0.9s,baz=102,slow=4.2,SNR=22
BRTR pP **pP** **00 53 13.8 +1.2**
comp=Z,6.2nm,0.8s,baz=97,slow=5.3,SNR=5.8
BRTR LR LR 01 28 00.1
comp=Z,29nm,18.1s,baz=54,slow=38
LOF Lofoten 74.06 338 *eP* **P** **00 52 40.2 -0.9**
ANTO Ankara 74.47 307 ⇑*iP* **P** **00 52 42.9 -1.3**
ANTO Ankara 74.47 307 ⇑*iP* **P** **00 52 42.9 -1.3**
BESE Bessie Mountai 75.43 32 *eP* **P** **00 52 49.9 +0.6**
comp=Z,9.9nm,1.1s
SUW Suwalki 75.64 323 *eP* **P** **00 52 50.0 -0.5**
SUW Suwalki 75.64 323 *eP* **P** **00 52 50.0 -0.5**
CSS Prodhromos 75.73 302 *eP* **P** **00 52 51.0 -0.3**
comp=Z,9.2nm,1.3s
CFR Carcaliu 75.88 313 ⇑*iP* **P** **00 52 52.1 +0.1**
CFR Carcaliu 75.88 313 ⇑*iP* **P** **00 52 52.1 +0.1**
DAG Danmarks Havn 76.01 351 *i P* **P** **00 52 50.9 -1.3**
comp=Z,4.8nm,0.7s
DAG *i* 00 53 22.0
DAG Danmarks Havn 76.01 351 *i* P **P** **00 52 50.9 -1.3**
DAG *i* 00 53 22.0
DAG pmax pmax
comp=Z,3.0nm,0.7s
NSS Namsos 76.31 335 *eP* **P** **00 52 53.4 -0.7**
TESR Tescani 76.37 315 ⇑*iP* **P** **00 52 54.0 -0.8**
VRI Vrincioaia 76.56 314 ⇑*iP* **P** **00 52 57.0 +1.1**
VRI Vrincioaia 76.56 314 ⇑*iP* **P** **00 52 57.0 +1.1**
PLOR Plostina 76.61 314 ⇑*iP* **P** **00 52 59.3 +3.1**
PLOR Plostina 76.61 314 ⇑*iP* **P** **00 52 59.3 +3.1**
BURAR Bucovina Array 76.87 316 ⇑*iP* **P** **00 52 57.8 +0.1**
BURAR Bucovina Array 76.87 316 ⇑*iP* **P** **00 52 57.8 +0.1**
BUR04 Bucovina Ar. S 76.87 316 *eP* **P** **00 52 57.7 -0.7**
BUR04 *e*pP **pP** **00 53 29.0 -0.5**
MLR Muntele Rosu 77.21 314 ⇑*iP* **P** **00 52 59.9 +0.2**
MLR Muntele Rosu 77.21 314 ⇑*iP* **P** **00 52 59.9 +0.2**
WRAK Wrangell Islan 77.57 33 *eP* **P** **00 53 01.6 +0.4**
comp=Z,39nm,1.1s
TBLU Trondheim 77.60 335 *eP* **P** **00 53 00.2 -1.1**
KWP Kalwaria Pacla 77.62 319 *eP* **P** **00 53 01.8 +0.1**
KWP Kalwaria Pacla 77.62 319 *eP* **P** **00 53 01.8 +0.1**
DLBC Dease Lake 77.78 31 P **P** **00 53 04.1 +1.5**
comp=Z,14nm,1.0s,baz=299,slow=6.9,SNR=21
DLBC Dease Lake 77.78 31 *eP* **P** **00 53 03.5 +0.9**
comp=Z,30nm,1.1s
VOIR 77.81 314 ⇑*iP* **P** **00 53 01.2 -1.8**
VOIR 77.81 314 ⇑*iP* **P** **00 53 01.2 -1.8**
RES Resolute Bay 77.89 10 P **P** **00 53 02.4 -0.4**
comp=Z,8.6nm,0.7s,baz=298,slow=8.4,SNR=7.8
RES Resolute Bay 77.89 10 *eP* **P** **00 53 02.3 -0.4**
RES pmax pmax
comp=Z,11nm,0.8s
RES Resolute Bay 77.89 10 *eP* **P** **00 53 02.2 -0.5**
comp=Z,11nm,0.8s
KOLS Kolonicke sedl 78.16 318 *eP* **P** **00 53 04.7 -0.1**
KOLS pmax pmax
comp=Z,35nm,2.6s
KOLS Kolonicke sedl 78.16 318 *eP* **P** **00 53 04.7 -0.1**
KOLS *e*pP **pP** **00 53 38.0 +1.4**
HUMR Humele 78.21 314 ⇑*iP* **P** **00 53 04.5 -0.6**
NB2 NORSAR Subarra 78.34 332 P **P** **00 53 05.0 -0.6**
comp=Z,9.2nm,0.5s,baz=52,slow=5.9
NB2 NORSAR Subarra 78.34 332 P **P** **00 53 05.0 -0.6**
baz=52,slow=5.9
NOA NORSAR Array B 78.34 332 P **P** **00 53 04.9 -0.6**
comp=Z,12nm,0.7s,baz=55,slow=5.7,SNR=59
NOA pP **pP** **00 53 36.8 -0.6**
comp=Z,17nm,0.9s,baz=59,slow=5.6,SNR=10
NOA LR LR 01 31 00.7
comp=Z,64nm,19.7s,baz=58,slow=38
NOA NORSAR Array B 78.34 332 P **P** **00 53 04.9 -0.6**
NOA *PP **pP** **00 53 36.8 -0.6**
NOA pmax pmax
comp=Z,12nm,0.7s
NOA pmax pmax
comp=Z,17nm,0.9s
NOA MLR MLR
comp=Z,64nm,19.7s
NC602 NORSAR Array S 78.35 332 *eP* **P** **00 53 04.9 -0.7**
NBO02 NORSAR Array S 78.48 333 *eP* **P** **00 53 05.0 -1.3**
NBO02 *e*pP **pP** **00 53 37.4 -0.8**
STHS Stebnicka Huta 78.58 319 *eP* **P** **00 53 07.9 +0.9**
STHS pmax pmax
comp=Z,3.0nm,1.3s
STHS Stebnicka Huta 78.58 319 *eP* **P** **00 53 07.9 +0.9**
STHS *e*pP **pP** **00 53 40.3 +1.4**
DRGR 78.76 316 ⇑*iP* **P** **00 53 08.0 -0.2**
DRGR 78.76 316 ⇑*iP* **P** **00 53 08.0 -0.2**
MOL Molde 79.02 335 *eP* **P** **00 53 09.5 +0.4**
OJC Ojcow 79.09 320 *eP* **P** **00 53 09.9 +0.1**
OJC Ojcow 79.09 320 *eP* **P** **00 53 09.5 -0.3**
OJC *e**PP **pP** **00 53 41.2 -0.5**
OJC Ojcow 79.09 320 *eP* **P** **00 53 09.9 +0.1**
OJC Ojcow 79.09 320 *eP* **P** **00 53 09.5 -0.3**
OJC *e*pP **pP** **00 53 41.2 -0.5**
OSL Oslo 79.11 332 *eP* **P** **00 53 09.7 0.0**
NIE Niedzica 79.13 319 *eP* **P** **00 53 10.6 +0.5**
NIE Niedzica 79.13 319 *eP* **P** **00 53 10.6 +0.5**
GKP Gorka Klasztor 79.17 324 *eP* **P** **00 53 09.3 -0.8**
GKP Gorka Klasztor 79.17 324 *eP* **P** **00 53 09.3 -0.8**
AKN Aaknes 79.45 335 *eP* **P** **00 53 11.9 +0.4**
AKN IAmb IAmb 00 53 12.4
comp=Z,24nm,0.8s
BSD Bornholm Skovb 79.53 326 *i P* **P** **00 53 11.4 -0.6**
comp=Z,18nm,1.0s
BSD Bornholm Skovb 79.53 326 *i* P **P** **00 53 11.4 -0.6**
BSD pmax pmax
comp=Z,18nm,1.0s
PSZ Piszkesteto 80.03 318 *eP* **P** **00 53 15.5 +0.5**
PSZ *e**PP **pP** **00 53 47.4 +0.4**
PSZ Piszkesteto 80.03 318 *eP* **P** **00 53 15.5 +0.5**
PSZ *e*pP **pP** **00 53 47.4 +0.4**
VTS Vitosha 80.17 312 ⇑*iP* P 00 53 09.5 -6.5
VTS Vitosha 80.17 312 ⇑*iP* P 00 53 09.5 -6.5
OKC Ostrava-Krasne 80.21 320 *eP* **P** **00 53 16.9 +1.1**
OKC *e*pP **pP** **00 53 48.5 +0.6**
OKC Ostrava-Krasne 80.21 320 *eP* **P** **00 53 16.9 +1.1**
OKC *e**PP **pP** **00 53 48.5 +0.6**
HYA Hoyanger 80.33 334 *eP* **P** **00 53 16.1 -0.1**
MORC Moravsky Berou 80.59 321 ⇑*iP* **P** **00 53 18.9 +1.0**
MORC Moravsky Berou 80.59 321 ⇑*iP* **P** **00 53 18.9 +1.0**
MORC Moravsky Berou 80.59 321 *eP* **P** **00 53 17.1 -0.8**
MORC *e*pP **pP** **00 53 49.9 -0.1**
KSP Ksiaz 80.81 322 *eP* **P** **00 53 19.2 +0.2**
KSP Ksiaz 80.81 322 *eP* **P** **00 53 19.2 +0.2**
ODD1 Odda 80.86 333 *eP* **P** **00 53 20.9 +1.7**
KRLC Kraliky 80.89 321 *eP* **P** **00 53 19.7 +0.2**
KRLC *e*pP **pP** **00 53 52.9 +1.3**
KRLC Kraliky 80.89 321 *eP* **P** **00 53 19.7 +0.2**
KRLC *e**PP **pP** **00 53 52.9 +1.3**
DPC Dobruska-Polom 81.02 322 *eP* **P** **00 53 20.2 0.0**
DPC *e*pP **pP** **00 53 54.0 +1.7**
DPC *e*AS 01 03 58.9
DPC Dobruska-Polom 81.02 322 *eP* **P** **00 53 20.2 0.0**
DPC *e* 01 03 58.9
UPC Upice 81.12 322 *eP* **P** **00 53 20.7 0.0**
UPC *e*pP **pP** **00 53 53.5 +0.7**
UPC *e*S S 01 03 29.2 +9.3
UPC Upice 81.12 322 *eP* **P** **00 53 20.7 0.0**
UPC *e**PP **pP** **00 53 53.5 +0.7**
UPC *e*S S 01 03 29.2 +9.3
BER Bergen 81.13 333 *eP* **P** **00 53 20.6 +0.1**
SNART Snartemo 81.50 331 *eP* **P** **00 53 22.5 0.0**
PKSM Moragy 81.55 317 ⇑*iP* **P** **00 53 23.1 +0.1**
PKSM Moragy 81.55 317 ⇑*iP* **P** **00 53 23.1 +0.1**
MUD Monsted U'grnd 81.64 329 *i P* **P** **00 53 23.4 +0.1**
comp=Z,28nm,1.1s
MUD Monsted U'grnd 81.64 329 *i* P **P** **00 53 23.4 +0.1**
MUD pmax pmax

comp=Z,28nm,1.1s
PVCC Panska Ves 81.92 322 *e*P P 00 53 25.2 +0.3
PVCC Panska Ves 81.92 322 *e*P P 00 53 25.2 +0.3
YKA Yellowknife Ar 81.93 23 P P 00 53 24.7 0.0
comp=Z,13nm,0.6s,baz=308,slow=5.2,SNR=47
YKA Yellowknife Ar 81.93 23 P P 00 53 24.7 0.0
YKA pmax pmax
comp=Z,13nm,0.6s
YKB5 Yellowknife Ar 81.93 23 *e*P P 00 53 24.2 -0.4
TREC Trest 82.00 321 *e*P P 00 53 25.7 +0.3
TREC *e*pP pP 00 53 58.9 +1.4
TREC *e*S S 01 03 24.9 -4.1
TREC Trest 82.00 321 *e*P P 00 53 25.7 +0.3
TREC *e**PP pP 00 53 58.9 +1.4
TREC *e*S S 01 03 24.9 -4.1
SUMG Summit 82.07 354 *i* P P 00 53 25.8 0.0
comp=Z,9.9nm,0.7s
SUMG *i* 00 53 57.4
SUMG Summit 82.07 354 *e*P P 00 53 24.9 -0.9
SUMG *e**PP pP 00 53 57.3 -0.6
SUMG pmax pmax
comp=Z,36nm,1.3s
SUMG Summit 82.07 354 *e*P P 00 53 24.9 -0.9
comp=Z,36nm,1.3s
SUMG *e*pP pP 00 53 57.2 -0.6
BRG Berggiesshubel 82.10 323 *e*P P 00 53 25.6 -0.2
comp=Z,7.9nm,1.3s
BRG Berggiesshubel 82.10 323 *e*P P 00 53 25.6 -0.2
BRG pmax pmax
comp=Z,8.0nm,1.3s
GOPC GO Pecny, Ondr 82.10 322 *e*P P 00 53 25.9 0.0
PRU Pruhonice 82.20 322 *e*P P 00 53 26.4 0.0
PRU *e*pP pP 00 53 59.9 +1.4
PRU Pruhonice 82.20 322 *e*P P 00 53 26.4 0.0
PRU *e**PP pP 00 53 59.9 +1.4
PRA Prague 82.22 322 *e*P P 00 53 27.0 +0.6
PRA Prague 82.22 322 *e*P P 00 53 27.0 +0.6
CLL Collm 82.39 323 *e*P P 00 53 27.3 0.0
comp=Z,8.0nm,0.6s
CLL *e*sP pP 00 54 00.3 +0.8
CLL Collm 82.39 323 *i* P P 00 53 27.1 -0.2
CLL *i* *PP pP 00 54 00.3 +0.8
CLL pmax pmax
comp=Z,10.0nm,0.6s
CLL Collm 82.39 323 *e*P P 00 53 25.9 -1.4
comp=Z,11nm,0.7s
CLL *e*pP pP 00 53 59.9 +0.4
CLL Collm 82.39 323 *i* P P 00 53 27.1 -0.2
comp=Z,10.0nm,0.6s
CLL *i* pP pP 00 54 00.3 +0.8
comp=Z,11nm,0.9s
CLL *e*PP PP 00 56 37.0 -0.4
CONA Conrad Observa 82.43 319 *i* P P 00 53 24.8 -2.9
comp=Z,8.9nm,1.2s
BSEG Bad Segeberg 82.44 327 *e*P P 00 53 28.0 +0.5
comp=Z,5.0nm,0.6s
KHC Kasperske Hory 83.17 321 *e*P P 00 53 31.8 +0.3
KHC *e*pP pP 00 54 05.0 +1.3
KHC *e*S S 01 03 38.2 -2.8
KHC *ex* x 01 05 09.3
KHC Kasperske Hory 83.17 321 *e*P P 00 53 31.8 +0.3
KHC *e**PP pP 00 54 05.0 +1.3
KHC *e*S S 01 03 38.2 -2.8
KHC *e* 01 05 09.3
KHC Kasperske Hory 83.17 321 *e*P P 00 53 31.0 -0.5
comp=Z,14nm,2.1s
GEC2 GERESS Array S 83.24 321 *e*P P 00 53 32.4 +0.5
comp=Z,3.0nm,0.7s
GEC2 GERESS Array S 83.24 321 *e*P P 00 53 31.7 -0.2
GEC2 GERESS Array S 83.24 321 *e*P P 00 53 31.6 -0.2
GERES GERESS Array B 83.24 321 P P 00 53 32.1 +0.2
comp=Z,3.2nm,0.7s,baz=54,slow=4.5,SNR=35
GERES pP pP 00 54 05.6 +1.5
comp=Z,4.2nm,0.9s,baz=48,slow=4.2,SNR=4.3
GERES LR LR 01 33 20.2
comp=Z,41nm,19.9s,baz=52,slow=38
GERES GERESS Array B 83.24 321 P P 00 53 32.1 +0.2
GERES *PP pP 00 54 05.6 +1.5
GERES pmax pmax
comp=Z,3.0nm,0.7s
GERES pmax pmax
comp=Z,4.0nm,0.9s
GERES MLR MLR
comp=Z,41nm,19.9s
NKC Novy Kostel 83.24 323 *e*P P 00 53 32.0 +0.2
NKC Novy Kostel 83.24 323 *e*P P 00 53 32.0 +0.2
CLZ Clausthal 83.52 325 *e*P P 00 53 34.2 +1.0
comp=Z,6.0nm,0.7s
ROTZ Rotzenmuhle 83.61 322 *e*P P 00 53 34.5 +0.8
comp=Z,3.0nm,0.8s
GRFO Grafenberg 84.20 323 *e*P P 00 53 36.3 -0.4
GRFO pmax pmax
comp=Z,14nm,1.2s
GRFO Grafenberg 84.20 323 *e*P P 00 53 36.3 -0.4
comp=Z,14nm,1.2s
RJOB Jochberg 84.32 320 *e*P P 00 53 37.7 +0.3
comp=Z,5.0nm,0.7s
FUR Furstenfeldbru 84.97 321 *e*P P 00 53 41.2 +0.6
comp=Z,11nm,0.6s
ABPO Ambohimpanom 85.31 247 *e*P P 00 53 42.7 -0.2
ABPO pmax pmax
comp=Z,21nm,0.8s
ABPO Ambohimpanom 85.31 247 *e*P P 00 53 42.7 -0.2
comp=Z,21nm,0.8s
TNS Taunus Mts 85.42 324 *e*P P 00 53 43.7 +0.9
comp=Z,3.0nm,0.6s
PGC Sidney 86.14 37 *e*P P 00 53 46.6 +0.3
comp=Z,48nm,0.8s
KMBO Kilima Mbogo 86.27 267 P P 00 53 48.0 +0.1
comp=Z,3.8nm,0.8s,baz=46,slow=5.1,SNR=9.3
KMBO LR LR 01 36 10.4
comp=Z,18nm,18.2s,baz=121,slow=38
KMBO Kilima Mbogo 86.27 267 *e*P P 00 53 46.8 -1.1
KMBO pmax pmax
comp=Z,22nm,0.9s
KMBO Kilima Mbogo 86.27 267 *e*P P 00 53 46.8 -1.1
comp=Z,22nm,0.9s
FUORN Ofenpass-Fuorn 86.38 320 *e*P P 00 53 46.9 -1.0
comp=Z,10.0nm,1.1s
MEM Membach 86.49 325 P P 00 53 47.6 -0.3
comp=Z,4.2nm,0.9s
MEM Membach 86.49 325 *e*P P 00 53 47.1 -0.9
MEM pmax pmax
comp=Z,8.0nm,0.9s
MEM Membach 86.49 325 *e*P P 00 53 47.1 -0.9
comp=Z,8.4nm,0.9s
BFO Black Forest 86.54 322 *e*P P 00 53 48.4 +0.1
comp=Z,4.0nm,1.0s
BFO Black Forest 86.54 322 *i* P P 00 53 48.7 +0.4
BFO Black Forest 86.54 322 *e*P P 00 53 47.7 -0.6
comp=Z,5.3nm,1.0s
NLWA Neilton Lookou 86.60 39 *e*P P 00 53 49.6 +0.9
comp=Z,60nm,1.0s
A05A Maple Falls 86.69 37 *e*P P 00 53 49.4 +0.4
WLF Walferdange 86.96 324 P P 00 53 50.3 +0.1
comp=Z,15nm,1.0s
WLF AP pP 00 54 24.6 +1.8
WLF Walferdange 86.96 324 *e*P P 00 53 51.0 +0.7
comp=Z,14nm,0.7s
WLF *e*sP pP 00 54 24.3 +1.5
WLF Walferdange 86.96 324 *e*P P 00 53 50.4 +0.1
WLF *e**PP pP 00 54 24.3 +1.5
WLF pmax pmax
comp=Z,21nm,0.9s
WLF Walferdange 86.96 324 *e*P P 00 53 50.4 +0.1
comp=Z,21nm,0.9s
WLF *e*pP pP 00 54 24.3 +1.5
UCC Uccle 87.22 326 *e*P P 00 53 50.2 -1.3
UCC pmax pmax
comp=Z,16nm,0.5s
UCC Uccle 87.22 326 *e*P P 00 53 50.2 -1.3
comp=Z,16nm,0.5s
E03A Lebam 87.24 39 *e*P P 00 53 52.0 +0.3
comp=Z,117nm,0.9s
B06A Marblemount 87.30 37 *e*P P 00 53 53.1 +1.2
DOU Dourbes 87.52 325 P P 00 53 52.6 -0.4
DOU AP pP 00 54 25.2 -0.2
comp=Z,7.1nm,1.3s
F03A Seaside 87.59 40 *e*P P 00 53 52.3 -1.1
D05A Enumclaw 87.78 38 *e*P P 00 53 55.4 +1.1
F04D Rainier, OR 87.82 39 P P 00 53 56.1 +1.7
baz=88
LON Longmire 88.13 38 *e*P P 00 53 56.8 +0.8
LON Longmire 88.13 38 *e*P P 00 53 56.8 +0.8
G03D McMinnville, O 88.16 40 P P 00 53 57.9 +1.8
baz=88
SENIN Lac Senin/Sane 88.23 321 *e*P P 00 53 55.8 -0.9
F04A Amboy 88.25 39 *e*P P 00 53 57.5 +1.0
EDM Edmonton 88.46 30 *e*P P 00 53 58.3 +0.9
EDM pmax pmax
comp=Z,74nm,0.8s
EDM Edmonton 88.46 30 *e*P P 00 53 58.3 +0.9
comp=Z,74nm,0.8s
LTY Liberty 88.47 38 *e*P P 00 53 57.8 +0.1
COR Corvallis 88.48 41 *e*P P 00 53 59.0 +1.4
COR pmax pmax
comp=Z,156nm,0.9s
COR Corvallis 88.48 41 *e*P P 00 53 59.0 +1.4
comp=Z,156nm,0.9s
B08A Colville Reser 88.55 36 *e*P P 00 53 58.9 +0.9
KEBM Edson Butte 88.81 43 *e*P P 00 54 00.6 +1.2
comp=Z,175nm,0.9s
I03D Drain, OR 88.95 42 P P 00 54 01.8 +1.9
baz=89,SNR=38
H04A Detroit Lake 89.09 40 *e*P P 00 54 01.2 +0.7
KBO Bosley Butte 89.23 43 *e*P P 00 54 02.3 +0.9
comp=Z,59nm,1.0s
G05D Wamic, OR 89.28 39 P P 00 54 03.3 +1.9
baz=89
BNI Bardonecchia 89.33 320 *e*P P 00 54 01.3 -0.5
BNI pmax pmax
comp=Z,5.0nm,0.7s
BNI Bardonecchia 89.33 320 *e*P P 00 54 01.3 -0.5
comp=Z,5.4nm,0.7s
E07A Sunnyside 89.33 38 *e*P P 00 54 03.1 +1.4
C09A Chrisman Ranch 89.45 36 *e*P P 00 54 03.0 +0.9
I04A Tendick Farm, 89.46 41 P P 00 54 03.7 +1.4
baz=89,SNR=67
D08A Wollman Farm, 89.55 37 *e*P P 00 54 04.1 +1.5
HAWA Hanford 89.61 38 *e*P P 00 54 04.4 +1.5
comp=Z,87nm,0.8s
L02D Cave Junction, 89.65 43 P P 00 54 04.8 +1.6
baz=89,SNR=12
G06A Carlson Farm, 89.67 39 *e*P P 00 54 03.6 +0.4
comp=Z,86nm,0.9s
NEW Newport 89.78 35 P P 00 54 05.2 +1.5
comp=Z,65nm,0.8s,baz=304,slow=4.2,SNR=103
NEW Newport 89.78 35 *e*P P 00 54 04.8 +1.1
NEW pmax pmax
comp=Z,82nm,0.9s
NEW Newport 89.78 35 P P 00 54 05.2 +1.5
baz=90
NEW Newport 89.78 35 *e*P P 00 54 04.8 +1.1
comp=Z,82nm,0.9s
I05D Terrebonne, OR 89.78 40 P P 00 54 05.6 +1.7
baz=90
HUMO Hull Mountain 89.80 42 *e*P P 00 54 04.9 +1.0
comp=Z,26nm,0.7s
J04D Umpqua Nationa 89.95 41 P P 00 54 06.6 +1.7
baz=90,SNR=26
KHMM Horse Mountain 90.28 44 *e*P P 00 54 06.7 +0.4
YBH Yreka Blue Hor 90.44 43 P P 00 54 09.2 +2.2
comp=Z,29nm,0.9s,baz=325,slow=1.8,SNR=15
YBH Yreka Blue Hor 90.44 43 *e*P P 00 54 07.9 +0.9
YBH pmax pmax
comp=Z,37nm,1.0s
YBH Yreka Blue Hor 90.44 43 *e*P P 00 54 07.9 +0.9
comp=Z,37nm,1.0s
J05D Fort Rock, OR 90.45 41 P P 00 54 08.6 +1.5
baz=90,SNR=49
K04D Chiloquin, OR 90.52 42 P P 00 54 09.0 +1.6
baz=90
M02C Callahan 90.54 43 P P 00 54 09.3 +1.8
baz=90
G08A Pilot Rock 90.59 38 *e*P P 00 54 08.9 +1.3
KMRM Mail Ridge 90.66 45 *e*P P 00 54 09.6 +1.6
VSL Villasalto 90.80 315 *e*P P 00 54 07.7 -1.0
comp=Z,9.9nm,1.0s
N02D Trinity Center 90.87 43 P P 00 54 10.6 +1.6
baz=91
WALA Waterton Lakes 90.92 33 *e*P P 00 54 10.1 +1.0
comp=Z,72nm,0.9s
M04C Macdoel 90.95 42 P P 00 54 10.8 +1.4
baz=91,SNR=33
K05A Summer Lake 90.98 41 *e*P P 00 54 11.0 +1.4
KIPM Iron Peak 91.03 45 *e*P P 00 54 11.0 +1.1
KCPM Cahto Peak 91.03 45 *e*P P 00 54 10.6 +0.8
F10A Beach Ranch, E 91.14 37 *e*P P 00 54 11.1 +0.9
WDC Whiskeytown Da 91.20 44 *e*P P 00 54 10.6 +0.2
WDC pmax pmax
comp=Z,38nm,0.9s
WDC Whiskeytown Da 91.20 44 *e*P P 00 54 10.6 +0.2
comp=Z,38nm,0.9s
CASY Casey 91.21 185 *e*P P 00 54 09.5 -0.1
comp=Z,37nm,1.3s
BSMT Bassoo Peak 91.26 35 *e*P P 00 54 11.8 +1.0
BLMT Blacktail Moun 91.37 34 *e*P P 00 54 12.0 +0.7
FCC Fort Churchill 91.40 18 *e*P P 00 54 10.4 -0.5
FCC *e**PP pP 00 54 43.8 +0.2
FCC pmax pmax
comp=Z,37nm,0.9s
FCC Fort Churchill 91.40 18 *e*P P 00 54 10.4 -0.5
comp=Z,37nm,0.9s
FCC *e*pP pP 00 54 43.8 +0.2
JTMT Jette 91.58 34 *e*P P 00 54 13.4 +1.1
YBMT Yellow Bay 91.65 34 *e*P P 00 54 13.4 +0.9
YBMT *e*pP pP 00 54 44.1 -1.0
SWMT Swartz Lake 91.88 35 *e*P P 00 54 14.4 +0.8
SWMT *e*pP pP 00 54 45.1 -1.1
FFC Flin Flon 92.08 24 P P 00 54 14.9 +0.7
comp=Z,407nm,0.7s,SNR=22
FFC Flin Flon 92.08 24 *e*P P 00 54 14.1 -0.1
FFC *e**PP pP 00 54 45.1 -1.8
FFC pmax pmax
comp=Z,57nm,0.8s
FFC Flin Flon 92.08 24 *e*P P 00 54 14.1 -0.1
comp=Z,57nm,0.8s
FFC *e*pP pP 00 54 45.1 -1.8
NSHM Saint Helena R 92.31 45 *e*P P 00 54 15.8 +0.1
SLMT Seeley Lake 92.32 34 *e*P P 00 54 16.3 +0.6
SLMT *e*pP pP 00 54 48.0 -0.3
MSO Missoula 92.36 35 P P 00 54 16.7 +0.9
baz=92
MSO Missoula 92.36 35 *e*P P 00 54 16.3 +0.5
comp=Z,34nm,0.9s
WVOR Wild Horse Val 92.50 41 *e*P P 00 54 17.4 +0.8
WVOR pmax pmax
comp=Z,50nm,0.9s
WVOR Wild Horse Val 92.50 41 *e*P P 00 54 17.4 +0.8
comp=Z,50nm,0.9s
OHCM Honcut 92.57 44 *e*P P 00 54 17.5 +0.7
CHMT Chamberlain Mo 92.66 35 *e*P P 00 54 17.5 +0.2
KEST Kesra 92.89 312 P P 00 54 18.8 +0.3
comp=Z,3.4nm,0.8s,baz=282,slow=1.9,SNR=13
KEST LR LR 01 41 34.9
comp=Z,14nm,20.5s,baz=260,slow=39
KEST Kesra 92.89 312 *e*P P 00 54 17.7 -0.7
A19A Klindworth Far 93.51 31 P P 00 54 21.5 +0.5
baz=93,SNR=7.7
MFID Camas Ranch 93.52 38 *e*P P 00 54 21.7 +0.5
comp=Z,41nm,0.9s
EGMT Eagleton 93.66 32 P P 00 54 22.1 +0.4
baz=93,SNR=23
EGMT Eagleton 93.66 32 *e*P P 00 54 21.9 +0.1
comp=Z,36nm,0.8s
B19A Brinkman Farms 93.75 32 P P 00 54 22.6 +0.5
baz=94,SNR=18
LRM Limekiln Ridge 93.80 35 *e*P P 00 54 23.3 +0.7
A20A Cobblestone Ra 93.93 31 P P 00 54 23.4 +0.5
baz=94,SNR=8.3
CMB Columbia Colle 94.02 45 *e*P P 00 54 23.9 +0.4
CMB pmax pmax
comp=Z,34nm,0.9s
CMB Columbia Colle 94.02 45 *e*P P 00 54 23.9 +0.4
comp=Z,34nm,0.9s
DLMT Dillon 94.03 35 *e*P P 00 54 24.5 +0.9
comp=Z,40nm,0.8s
B20A Solberg Farm, 94.19 31 P P 00 54 24.4 +0.2
baz=94,SNR=12
HLID Hailey 94.22 38 P P 00 54 26.3 +1.8
baz=94
HLID Hailey 94.22 38 *e*P P 00 54 26.2 +1.7
comp=Z,34nm,0.8s
MCMT McKenzie Canyo 94.24 36 *e*P P 00 54 25.4 +0.7
A21A Bergtoll Ranch 94.31 30 P P 00 54 25.2 +0.5
baz=94,SNR=6.1
BOZ Bozeman (W) 94.34 35 P P 00 54 26.1 +1.1
baz=94
WAKR Walker 94.35 44 *e*P P 00 54 26.2 +0.9
BMN Battle Mountai 94.56 41 *e*P P 00 54 27.3 +1.2
BMN pmax pmax
comp=Z,35nm,1.0s
BMN Battle Mountai 94.56 41 *e*P P 00 54 27.3 +1.2
comp=Z,35nm,1.0s
B21A Ellsworth Farm 94.67 31 P P 00 54 26.7 +0.4
baz=94
C20A Veseth Ranch, 94.72 32 P P 00 54 27.2 +0.6
baz=94,SNR=26
A22A Carney Farms, 94.77 30 P P 00 54 26.5 -0.2
baz=94,SNR=5.0
C21A Desert Coulee 95.07 31 P P 00 54 28.5 +0.3
baz=95,SNR=12
NV01 Mina Array Sit 95.11 44 *e*P P 00 54 29.5 +0.7
NVAR Mina Array Bea 95.11 44 P P 00 54 30.1 +1.3
comp=Z,25nm,0.8s,baz=287,slow=5.0,SNR=158
B22A Reddig Ranch S 95.23 30 P P 00 54 29.4 +0.5
baz=95
PPT Papeete 95.25 107 LR LR 01 28 51.9
comp=Z,22nm,19.6s,baz=136,slow=30
GCMT Greycliff 95.25 34 *e*P P 00 54 29.8 +0.7
A23A Redstone 95.25 29 P P 00 54 29.5 +0.6
baz=95
MLAC Mammoth Lakes 95.25 44 P P 00 54 30.8 +1.3
baz=95
ELK Elko 95.54 40 P P 00 54 32.5 +1.8
comp=Z,7.5nm,1.0s,baz=323,slow=2.6,SNR=21
ELK Elko 95.54 40 *e*P P 00 54 32.0 +1.3
ELK pmax pmax
comp=Z,20nm,1.4s
ELK Elko 95.54 40 *e*P P 00 54 32.0 +1.3
comp=Z,20nm,1.4s
YFT Old Faithful 95.56 35 *e*P P 00 54 32.9 +2.2
B23A Brockton 95.57 30 P P 00 54 30.9 +0.5
baz=95,SNR=7.7
MTUM Tungsten Hills 95.59 45 *e*P P 00 54 32.1 +1.1
D21A La Casta Ranch 95.66 32 P P 00 54 31.6 +0.7
baz=95,SNR=25
A24A Westby 95.67 29 P P 00 54 31.2 +0.4
baz=95
C22A Vida 95.69 31 P P 00 54 31.2 +0.2
baz=95
LKWY Lake 95.71 35 *e*P P 00 54 33.9 +2.5
LKWY pmax pmax
comp=Z,25nm,1.0s
LKWY Lake 95.71 35 *e*P P 00 54 33.9 +2.5
comp=Z,24nm,1.0s
H17A Grant Village 95.74 35 P P 00 54 34.5 +2.9
baz=96
H17A Grant Village 95.74 35 *e*P P 00 54 33.9 +2.3
comp=Z,21nm,1.1s
RCTC Rector, Farmer 95.78 46 P P 00 54 32.0 +0.5
baz=96
SMMC Simmler 95.86 47 P P 00 54 33.5 +1.5
baz=96
IMW Indian Meadow 95.89 36 *e*P P 00 54 33.5 +1.2
comp=Z,11nm,0.9s
FLWY Flagg Ranch 95.89 36 *e*P P 00 54 33.9 +1.7
comp=Z,19nm,0.8s
RLMT Red Lodge 95.92 34 P P 00 54 33.4 +1.1
baz=96,SNR=15
DGMT Dagmar 95.92 29 P P 00 54 32.5 +0.5
baz=96
DGMT Dagmar 95.92 29 *e*P P 00 54 32.0 0.0
comp=Z,38nm,0.8s
C23A Lambert 95.97 30 P P 00 54 32.8 +0.6
baz=96,SNR=8.3
TIN Tinemaha 95.98 45 P P 00 54 33.9 +1.3
baz=96
D22A Cohagen 95.99 31 P P 00 54 32.8 +0.4
baz=96,SNR=6.3
E21A Keefer Ranch, 96.00 32 P P 00 54 33.3 +0.8
baz=96
F20A Billings 96.00 33 P P 00 54 32.9 +0.4
baz=96
TPH Tonopah 96.00 43 *e*P P 00 54 33.4 +0.6
TPH pmax pmax
comp=Z,33nm,0.8s
TPH Tonopah 96.00 43 *e*P P 00 54 33.4 +0.6
comp=Z,33nm,0.8s
FXWY Fox Creek 96.01 36 *e*P P 00 54 33.8 +1.0
comp=Z,16nm,1.6s
A25A Svangstu Ranch 96.04 28 P P 00 54 33.3 +0.8
baz=96
MOOW Moose Ponds 96.09 36 *e*P P 00 54 33.5 +0.4
comp=Z,22nm,1.8s
TPAW Teton Pass 96.15 36 *e*P P 00 54 31.5 -2.0
comp=Z,6.6nm,0.8s
VES Vestal, Richgr 96.16 46 P P 00 54 33.1 -0.2
baz=96
PKM Peak Mountain 96.22 47 P P 00 54 35.2 +1.3
baz=96,SNR=14
LOHW Long Hollow 96.26 36 *e*P P 00 54 33.1 -0.8
comp=Z,5.5nm,1.3s
HVU Hansel Valley 96.29 38 *e*P P 00 54 35.0 +1.0
HVU Hansel Valley 96.29 38 *e*P P 00 54 35.0 +1.0
REDW Red Top Meadow 96.29 36 *e*P P 00 54 32.8 -1.3
comp=Z,21nm,1.8s
H19A Powell 96.37 34 P P 00 54 35.1 +0.9
baz=96,SNR=5.9
G20A Bridger 96.38 33 P P 00 54 34.4 +0.2
baz=96
D23A Lindsay 96.42 31 P P 00 54 35.1 +0.7
baz=96
CWC Cottonwood Cre 96.45 45 P P 00 54 35.5 +0.7
baz=96
F21A Absaloka Mine, 96.49 32 P P 00 54 35.1 +0.4
baz=96
C24A Savage 96.52 30 P P 00 54 35.3 +0.6
baz=96
B25A Knox Farm, Ray 96.53 29 P P 00 54 35.6 +0.8
baz=96
A26A Wade Farm, Ken 96.53 28 P P 00 54 35.3 +0.5
baz=96
SBC Santa Barbara 96.56 47 P P 00 54 36.7 +1.6
baz=96
GRAC Grapevine Rang 96.56 44 P P 00 54 36.2 +1.1
baz=96
E22A Miles City 96.61 31 P P 00 54 35.9 +0.7
baz=96
ISA Isabella 96.66 46 *e*P P 00 54 33.9 -1.7
ISA pmax pmax
comp=Z,8.0nm,0.8s
ISA Isabella 96.66 46 P P 00 54 35.8 +0.1
baz=96,SNR=6.3
ISA Isabella 96.66 46 *e*P P 00 54 33.9 -1.7
comp=Z,8.2nm,0.8s
BGU Big Grassy Mou 96.71 39 *e*P P 00 54 36.0 +0.1
ARVC Arvin 96.75 46 P P 00 54 36.7 +0.8
baz=96
A27A Ledoux Ranch, 96.83 27 P P 00 54 36.7 +0.7
baz=96
R11A Troy Canyon, C 96.84 42 P P 00 54 37.7 +1.1
baz=97,SNR=26
R11A Troy Canyon, C 96.84 42 *e*P P 00 54 36.8 +0.2
comp=Z,8.9nm,0.9s
B26A Jensen Ranch, 96.85 28 P P 00 54 36.8 +0.6
baz=96
DAC Darwin (Calif) 96.86 45 *e*P P 00 54 37.1 +0.4
DAC pmax pmax
comp=Z,15nm,0.8s
DAC Darwin (Calif) 96.86 45 *e*P P 00 54 37.1 +0.4
comp=Z,15nm,0.8s
D24A Glendive 96.87 30 P P 00 54 37.2 +0.9
baz=97
E23A Ismay 96.87 31 P P 00 54 36.9 +0.6
baz=97
BSC Santa Cruz Isl 96.88 48 P P 00 54 37.2 +0.6
baz=97
G21A Lodge Grass 96.88 33 P P 00 54 37.0 +0.6
baz=97
C25A Freed Ranch, W 96.91 29 P P 00 54 37.3 +0.8
baz=97
F22A Rosebud 96.94 32 P P 00 54 37.3 +0.6
baz=97
H20A Greybull 97.00 34 P Pdif 00 54 37.6 +0.5
baz=97
MPMC Manual Prospec 97.06 45 P Pdif 00 54 38.4 +0.7
baz=97,SNR=20
HWUT Hardware Ranch 97.08 38 *e*P Pdif 00 54 37.9 +0.2
comp=Z,7.5nm,1.0s
OSI Osito Adit 97.12 47 P Pdif 00 54 38.8 +1.0
baz=97
BLG Laguna Peak 97.19 47 P Pdif 00 54 38.6 +0.5
baz=97
FURC Furnace Creek, 97.21 44 P Pdif 00 54 38.7 +0.6
baz=97,SNR=16
A28A Rude Farm, Bot 97.27 27 P Pdif 00 54 38.2 +0.1
baz=97
LRMC Laurel Mountai 97.28 46 P Pdif 00 54 39.6 +1.0

	baz=97								
E24A	**Baker**	97.29	31	P		Pdif	00 54 38.9	+0.6	
	baz=97								
D25A	**Fairfield**	97.30	30	P		Pdif	00 54 39.0	+0.6	
	baz=97								
TPNV	**Topopah Spring**	97.30	44	*e*P		Pdif	00 54 39.4	+0.7	
TPNV				pmax		pmax			
	comp=Z,11nm,0.8s								
TPNV	**Topopah Spring**	97.30	44	P		Pdif	00 54 39.6	+0.9	
	baz=97,SNR=12								
TPNV	**Topopah Spring**	97.30	44	*e*P		Pdif	00 54 39.4	+0.7	
	comp=Z,11nm,0.8s								
DUG	**Dugway**	97.31	39	*e*P		Pdif	00 54 38.9	+0.2	
DUG				pmax		pmax			
	comp=Z,14nm,1.4s								
DUG	**Dugway**	97.31	39	P		Pdif	00 54 40.1	+1.5	
	baz=97,SNR=7.2								
DUG	**Dugway**	97.31	39	*e*P		Pdif	00 54 38.9	+0.2	
	comp=Z,14nm,1.4s								
J19A	**Crowheart**	97.32	35	P		Pdif	00 54 39.1	+0.4	
	baz=97,SNR=6.9								
I20A	**Worland**	97.32	34	P		Pdif	00 54 39.2	+0.6	
	baz=97								
C26A	**Wahner Farm, P**	97.33	29	P		Pdif	00 54 38.8	+0.4	
	baz=97								
G22A	**Birney**	97.33	32	P		Pdif	00 54 38.8	+0.2	
	baz=97								
H21A	**Big Horn, Sher**	97.39	33	P		Pdif	00 54 39.2	+0.4	
	baz=97								
BW06	**Boulder Array**	97.39	36	*e*P		**P**	**00 54 38.5**	**-0.5**	
PDAR	**Pinedale Array**	97.39	36	P		Pdif	00 54 39.1	0.0	
	comp=Z,2.5nm,0.7s,baz=15,slow=1.7,SNR=11								
F23A	**Volborg**	97.39	32	P		Pdif	00 54 39.3	+0.5	
	baz=97								
EDW2	**Edwards Air Fo**	97.44	46	P		Pdif	00 54 40.6	+1.3	
	baz=97,SNR=11								
B28A	**Dugan Ranch, T**	97.58	27	P		Pdif	00 54 40.0	+0.5	
	baz=97								
C27A	**Sayler Ranch,**	97.67	28	P		Pdif	00 54 40.7	+0.8	
	baz=97								
E25A	**Miller Ranch,**	97.75	30	P		Pdif	00 54 41.1	+0.7	
	baz=98								
F24A	**Ekalaka**	97.76	31	P		Pdif	00 54 40.9	+0.5	
	baz=98								
J20A	**Shoshoni**	97.76	35	P		Pdif	00 54 40.6	0.0	
	baz=98								
D26A	**Manning**	97.79	29	P		Pdif	00 54 40.7	+0.3	
	baz=98								
I21A	**Big Trails, Te**	97.84	34	P		Pdif	00 54 41.3	+0.3	
	baz=98,SNR=5.5								
NLU	**North Lily Min**	97.89	39	*e*P		**P**	**00 54 41.2**	**-0.1**	
GSC	**Goldstone**	97.96	45	*e*P		**P**	**00 54 41.3**	**-0.3**	
GSC				pmax		pmax			
	comp=Z,15nm,0.9s								
GSC	**Goldstone**	97.96	45	P		Pdif	00 54 42.4	+0.9	
	baz=98,SNR=12								
GSC	**Goldstone**	97.96	45	*e*P		**P**	**00 54 41.3**	**-0.3**	
	comp=Z,15nm,0.9s								
B29A	**Wagenman Farm,**	97.99	27	P		Pdif	00 54 41.4	+0.1	
	baz=98								
BFSC	**Mount Baldy Ra**	98.05	47	P		Pdif	00 54 42.6	+0.5	
	baz=98,SNR=5.5								
J21A	**Lysite**	98.09	34	P		Pdif	00 54 42.5	+0.4	
	baz=98,SNR=11								
MPU	**Maple Canyon**	98.11	39	*e*P		**P**	**00 54 40.8**	**-1.4**	
D27A	**Center**	98.13	29	P		Pdif	00 54 42.6	+0.6	
	baz=98								
C28A	**Hausauer Farms**	98.15	28	P		Pdif	00 54 42.7	+0.6	
	baz=98								
F25A	**Bowman**	98.16	31	P		Pdif	00 54 42.8	+0.6	
	baz=98								
I22A	**9 Mile Ranch,**	98.19	34	P		Pdif	00 54 42.9	+0.4	
	baz=98								
E26A	**Carlson Angus**	98.20	30	P		Pdif	00 54 42.8	+0.4	
	baz=98								
SHPR	**Sheep Range**	98.26	44	*e*P		Pdif	00 54 43.5	+0.5	
B30A	**Myrvik Farm, E**	98.42	26	Pdiff		**P**	**00 54 42.8**	**-0.4**	
	baz=98								
H24A	**Dirks Ranch, A**	98.52	32	Pdiff		Pdif	00 54 43.9	+0.1	
	baz=98								
F26A	**Lodgepole**	98.58	30	Pdiff		Pdif	00 54 44.9	+0.9	
	baz=98								
E27A	**Carson**	98.63	29	Pdiff		Pdif	00 54 45.1	+0.9	
	baz=98								
CCUT	**Cedar City**	98.71	42	*e*P		**P**	**00 54 43.5**	**-1.5**	
G25A	**Newell**	98.72	31	Pdiff		Pdif	00 54 44.8	+0.1	
	baz=98								
MVU	**Marysvale**	98.77	40	*e*P		Pdif	00 54 45.4	+0.1	
	comp=Z,12nm,1.4s								
MSU	**Marysvale**	98.79	40	*e*P		**P**	**00 54 44.4**	**-1.0**	
MSU	**Marysvale**	98.79	40	*e*P		**P**	**00 54 44.4**	**-1.0**	
F27A	**Lemmon**	98.85	30	Pdiff		**P**	**00 54 45.2**	**-0.1**	
	baz=99								
K22A	**Casper**	99.06	34	Pdiff		**Pdif**	**00 54 46.4**	**0.0**	
	baz=99								
I24A	**Kuemmerle Ranc**	99.14	33	Pdiff		**Pdif**	**00 54 47.2**	**+0.6**	
	baz=99								
PFO	**Pinyon Flat Ob**	99.22	47	P		**Pdif**	**00 54 48.6**	**+1.3**	
	comp=Z,11nm,1.1s,baz=337,slow=4.5,SNR=7.1								
PFO	**Pinyon Flat Ob**	99.22	47	*e*P		**Pdif**	**00 54 46.9**	**-0.4**	
PFO				pmax		pmax			
	comp=Z,15nm,0.4s								
PFO	**Pinyon Flat Ob**	99.22	47	*e*P		**Pdif**	**00 54 46.9**	**-0.4**	
	comp=Z,15nm,0.4s								
RSSD	**Black Hills**	99.23	32	*e*P		**Pdif**	**00 54 46.2**	**-1.0**	
RSSD				pmax		pmax			
	comp=Z,7.0nm,1.0s								
RSSD	**Black Hills**	99.23	32	*e*P		**Pdif**	**00 54 46.2**	**-1.0**	
	comp=Z,6.8nm,1.0s								
D30A	**Buchanan**	99.31	27	Pdiff		**Pdif**	**00 54 47.0**	**-0.2**	
	baz=99								
SRU	**San Rafael**	99.35	39	*e*P		**Pdif**	**00 54 47.6**	**-0.2**	
SRU	**San Rafael**	99.35	39	*e*Pdif		**Pdif**	**00 54 47.6**	**-0.2**	
KNB	**Kanab**	99.38	42	*e*P		**Pdif**	**00 54 49.2**	**+1.2**	
KNB	**Kanab**	99.38	42	*e*Pdif		**Pdif**	**00 54 49.2**	**+1.2**	
F28A	**McLaughlin**	99.42	29	Pdiff		**Pdif**	**00 54 47.9**	**+0.1**	
	baz=99								
I25A	**Rochford**	99.45	32	Pdiff		**Pdif**	**00 54 48.3**	**+0.1**	
	baz=99								
IRM	**Iron Mountain**	99.74	45	Pdiff		**Pdif**	**00 54 50.5**	**+1.1**	
	baz=100								
H27A	**Howes**	99.77	31	Pdiff		**Pdif**	**00 54 50.6**	**+1.2**	
	baz=100								
O20A	**White River Ci**	99.93	37	Pdiff		**Pdif**	**00 54 51.0**	**+0.6**	
	baz=100								
O20A	**White River Ci**	99.93	37	*e*Pdif		**Pdif**	**00 54 50.1**	**-0.3**	
	comp=Z,28nm,1.9s								
G28A	**Parade**	99.96	30	Pdiff		**Pdif**	**00 54 50.9**	**+0.6**	
	baz=100								
F30A	**Leola**	100.20	28	Pdiff		**Pdif**	**00 54 52.5**	**+1.2**	
	baz=100								
I27A	**Quinn**	100.21	31	Pdiff		**Pdif**	**00 54 52.7**	**+1.4**	
	baz=100								
H28A	**Mission Ridge**	100.22	30	Pdiff		**Pdif**	**00 54 52.4**	**+1.0**	
	baz=100								
J26A	**Sides Ranch, S**	100.30	32	Pdiff		**Pdif**	**00 54 52.8**	**+1.0**	
	baz=100								
PDMCI	**Parker Dam,Lak**	100.30	45	Pdiff		**Pdif**	**00 54 53.8**	**+1.9**	
	baz=100								
G29A	**Hoven**	100.32	29	Pdiff		**Pdif**	**00 54 52.6**	**+0.8**	
	baz=100								
Y12C	**Blythe**	100.40	45	Pdiff		**Pdif**	**00 54 53.7**	**+1.3**	
	baz=100								
N23A	**Red Feather La**	100.63	35	Pdiff		**Pdif**	**00 54 54.8**	**+1.3**	
	baz=100								
N23A	**Red Feather La**	100.63	35	*e*Pdif		**Pdif**	**00 54 53.9**	**+0.4**	
G30A	**Faulkton**	100.71	29	Pdiff		**Pdif**	**00 54 54.1**	**+0.7**	
	baz=100								
WUAZ	**Wupatki**	101.25	42	*e*Pdif		**Pdif**	**00 54 56.8**	**+0.5**	
SMCO	**Snowmass**	101.30	37	*e*Pdif		**Pdif**	**00 54 55.8**	**-0.9**	
EYMN	**Ely**	101.40	23	Pdiff		**Pdif**	**00 54 56.6**	**+0.1**	
	baz=101								
MVCO	**Mesa Verde**	101.81	39	Pdiff		**Pdif**	**00 54 58.5**	**-0.4**	
	baz=102								
S22A	**4UR Ranch, Cre**	102.39	38	Pdiff		**Pdif**	**00 55 01.0**	**-0.5**	
	baz=102								
214A	**Organ Pipe Nat**	102.65	46	Pdiff		**Pdif**	**00 55 03.1**	**+0.7**	
	baz=102								
ECSD	**EROS Data Cent**	102.91	28	Pdiff		**Pdif**	**00 55 04.1**	**+0.8**	
	baz=103								
SDCO	**Great Sand Dun**	103.13	37	*e*Pdif		**Pdif**	**00 55 00.9**	**-3.8**	
R26A	**Arlington**	103.83	36	Pdiff		**Pdif**	**00 55 07.6**	**-0.1**	
	baz=104								
T25A	**Trinidad**	104.17	37	Pdiff		**Pdif**	**00 55 09.8**	**+0.5**	
	baz=104								
ANMO	**Albuquerque**	104.57	40	Pdiff		**Pdif**	**00 55 13.0**	**+1.8**	
	comp=Z,1.5nm,0.9s,baz=340,slow=3.7,SNR=5.4								
ANMO	**Albuquerque**	104.57	40	*e*P		**Pdif**	**00 55 10.8**	**-0.4**	
ANMO	**Albuquerque**	104.57	40	*e*Pdif		**Pdif**	**00 55 10.8**	**-0.4**	
S28A	**Manter**	105.18	35	Pdiff		**Pdif**	**00 55 13.4**	**-0.3**	
	baz=105								
TXAR	**Lajitas Array**	110.21	42	Pdiff		**Pdif**	**00 55 39.2**	**+3.0**	
	comp=Z,0.7nm,0.7s,baz=295,slow=4.1,SNR=8.9								
TXAR				PP		**PP**	**01 00 11.1**	**-1.1**	
	comp=Z,0.8nm,0.9s,baz=304,slow=2.9,SNR=4.6								
TXAR	**Lajitas Array**	110.21	42	P		**Pdif**	**00 55 39.2**	**+3.0**	
TXAR							01 00 11.1		
TXAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
TXAR				pmax		pmax			
	comp=Z,1.0nm,0.9s								
331A	**San Angelo**	110.68	39	PKiKP		**PKiKP**	**00 59 37.4**	**-0.3**	
	baz=110								
332A	**Millersview**	111.02	38	PKiKP		**PKiKP**	**00 59 37.3**	**-1.1**	
	baz=111								
TOB5	**Torodi Ar. Sit**	111.19	296	*e*PKiKP		**PKiKP**	**00 59 38.9**	**-0.1**	
333A	**Richland Sprin**	111.48	38	PKiKP		**PKiKP**	**00 59 39.1**	**-0.1**	
	baz=111								
JCT	**Junction City**	111.66	39	PKiKP		**PKiKP**	**00 59 39.5**	**-0.2**	
	baz=111								
434A	**Burnet**	112.27	38	PKiKP		**PKiKP**	**00 59 39.8**	**-0.9**	
	baz=112								
138A	**Matatall Enter**	112.52	34	PKiKP		**PKiKP**	**00 59 41.2**	**+0.1**	
	baz=112								
534A	**Blanco**	112.75	38	PKiKP		**PKiKP**	**00 59 41.3**	**-0.3**	
	baz=112								
832A	**Faith Ranch, C**	113.19	41	PKiKP		**PKiKP**	**00 59 42.8**	**+0.2**	
	baz=113								
737A	**Port Lavaca**	114.86	38	PKiKP		PKPdf	00 59 46.1	+0.4	
	baz=115								
DBIC	**Dimbokro**	120.11	294	PKP		**PKPdf**	**00 59 57.0**	**+0.9**	
	comp=Z,4.7nm,0.6s,baz=104,slow=2.5,SNR=10.0								
DBIC	**Dimbokro**	120.11	294	*e*PKiKP		**PKPdf**	**00 59 56.5**	**+0.4**	
DBIC	**Dimbokro**	120.11	294	*e*PKPdf		**PKPdf**	**00 59 56.5**	**+0.4**	
KIC	**Kosan Boka**	120.18	294	*e*PKiKP		**PKPdf**	**00 59 57.2**	**+0.9**	
	comp=Z,15nm,0.6s								
TIC	**Toumodi**	120.26	294	*e*PKiKP		**PKPdf**	**00 59 57.2**	**+0.7**	
LIC	**Lamto**	120.50	294	*e*PKiKP		**PKPdf**	**00 59 57.7**	**+0.8**	
	comp=Z,43nm,0.9s								
SDV	**Santo Domingo**	144.15	23	*e*PKPdf		**PKPab**	**01 00 39.2**	**0.0**	
ROSC	**El Rosal**	146.25	32	PKPbc		**PKPab**	**01 00 47.3**	**-0.1**	
	comp=Z,24nm,0.6s,baz=39,slow=1.7,SNR=22								
ROSC	**El Rosal**	146.25	32	*e*PKPdf		**PKPdf**	**01 00 45.5**	**+0.3**	
OTAV	**Otavalo**	147.84	43	*e*PKPdf		**PKPdf**	**01 00 49.2**	**+1.2**	
RCBR	**Riachuelo**	152.11	309	*e*PKPbc		**PKPbc**	**01 01 00.6**	**-0.3**	
PTGA	**Pitinga**	155.99	6	*e*PKPdf		**PKPdf**	**01 00 57.3**	**-2.3**	
PTGA				*e*PKPab		**PKPab**	**01 01 25.9**	**-1.2**	
SAML	**Samuel**	163.33	20	*e*PKPdf		**PKPdf**	**01 01 08.3**	**+0.5**	
SAML				*e*PKPab		**PKPab**	**01 01 57.0**	**-1.9**	
LPAZ	**La Paz**	166.87	52	PKP		**PKPdf**	**01 01 13.1**	**+1.5**	
	comp=Z,2.8nm,1.0s,baz=37,slow=4.5,SNR=7.4								
LPAZ				PKPab		**PKPab**	**01 02 14.1**	**-1.3**	
	comp=Z,14nm,0.9s,baz=350,slow=7.5,SNR=27								
LPAZ	**La Paz**	166.87	52	*e*PKiKP		**PKPdf**	**01 01 09.8**	**-1.8**	
LPAZ				*e*			01 02 13.8		
LPAZ	**La Paz**	166.87	52	*e*PKPdf		**PKPdf**	**01 01 09.8**	**-1.8**	
LPAZ				*e*PKPab		**PKPab**	**01 02 13.8**	**-1.7**	
BDFB	**Brasilia**	167.39	314	PKPab		**PKPab**	**01 02 15.9**	**-1.2**	
	comp=Z,2.9nm,0.7s,baz=51,slow=2.7,SNR=4.8								
BDFB	**Brasilia**	167.39	314	PKP2		**PKPab**	**01 02 15.9**	**-1.2**	
BDFB				pmax		pmax			
	comp=Z,3.0nm,0.7s								
BDFB	**Brasilia**	167.39	314	*e*PKPdf		**PKPdf**	**01 01 09.8**	**-1.5**	
BDFB				*e*PKPab		**PKPab**	**01 02 15.8**	**-1.3**	

*SJA **09** 00:49:03.7±0.7,33°.23S×72°.83W,h10km,MD3.4,ML3.3*
*GUC **09** 00:49:08.5±0.4,33°.41S×72°.46W,h35km±2km,ML3.6*
ISC 09 00:49:07.5±2.8,33°45S±0°.06×72°4W±0°.1,h13km±12km,
n19,σ1°01/23,4C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	0.80	58	*i*P		**Pg**		**00 49 23.3**	**+0.4**
IHA				*i* S		**Sg**		**00 49 34.0**	**+0.6**
LNV	**Longovilo**	1.00	121	*e*P		**Pn**		**00 49 27.1**	**0.0**
LNV				*i* S		**Sg**		**00 49 40.7**	**+0.9**
TACH	**Talagante**	1.27	99	*i*P		**Pn**		**00 49 31.1**	**+0.1**
TACH				*i* S		**Sn**		**00 49 48.3**	**+0.3**
SAN	**Santiago**	1.49	91	*e*P		**Pb**		**00 49 34.5**	**-0.5**
SAN				*i* S		**Sb**		**00 49 54.3**	**+0.4**
PEL	**Peldehue**	1.51	79	*i*P		**Pn**		**00 49 34.6**	**+0.4**
PEL				*i* S		**Sb**		**00 49 54.4**	**+0.1**
PEL					AML	AML		00 50 00.8	
	comp=E,2μm,0.4s								
CHCH	**Chadas Angostu**	1.57	108	*e*P		**Pn**		**00 49 35.5**	**+0.4**
CHCH				*i* S		**Sb**		**00 49 56.7**	**+0.5**
CLCH	**Cerro Calan**	1.60	89	*i*P		**Pb**		**00 49 36.2**	**-0.7**
CLCH				*i* S		**Sb**		**00 49 57.1**	**+0.2**
CLCH					AML	AML		00 50 12.5	
	comp=E,807nm,0.4s								
PCH	**Pirque**	1.62	96	*e*P		**Pn**		**00 49 36.2**	**+0.4**
AUSP	**Uspallata**	2.85	65	*i* P		**Pb**		**00 49 56.0**	**-2.4**
AUSP				*i* S		**Sb**		**00 50 34.2**	**+0.9**
ARCO	**CERRO ARCO**	3.01	79	*i* P		Pb		00 49 58.1	-2.9
ARCO				*i* S		**Sb**		**00 50 38.8**	**+1.0**
ARCO					AML	AML		00 50 48.2	
	comp=Z,71nm,0.9s								
AAGR	**Agrelo**	3.05	84	*i* P		**Pb**		**00 49 59.5**	**-2.2**
RTLS	**Leoncito**	3.13	59	*i* P		Pn		00 49 59.2	+2.5
ASAL	**Salagasta**	3.15	75	*i* P		Pb		00 50 00.4	-3.0
ASAL				*i* S		**Sb**		**00 50 41.5**	**-0.3**
RTCV	**Cerro Valdivia**	3.66	65	*i* P		Pn		00 50 06.2	+2.4
RTCV				*e*S		**Sg**		**00 51 03.9**	**-1.0**
RTLL	**Cerro Villicun**	3.97	59	*i* P		Pn		00 50 10.0	+1.9
CFAA	**Coronel Fontan**	4.00	64	*e*P		Pn		00 50 11.1	+2.5
AMOG	**MOGNA**	4.18	54	*i* P		**Pn**		**00 50 12.5**	**+1.4**
ACAN	**Cantantal**	4.58	77	*i* P		Pn		00 50 19.6	+3.1
VCA	**Vinchina**	5.94	39	*e*P		**Pn**		**00 50 36.3**	**+1.0**

*CSEM **09** 00:50:53.1±0.2,37°.97N×21°.05E,h2km,ML3.5,Error ellipse: s-maj=3.6km s-min=2.9km az=46.0*
*THE **09** 00:50:53.2,37°.97N×21°.07E,h0km±1km,ML3.5/12,Error ellipse: s-maj=1.1km s-min=0.3km az=230.0*
*ATH **09** 00:50:53.3,38°.04N×21°.04E,h6km±2km,MD3.5/40,ML3.4*
ISC 09 00:50:52.9±0.8,37°98N±0°.01×21°.04E±0°.01,h10km±6km,
n203,σ0°99/269,2C-1D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VTN	**Vitineika**	0.13	120	P	**Pg**		**00 50 55.8**	**-0.1**
VTN				S	**Sg**		**00 50 57.6**	**-0.4**
VTN	**Vitineika**	0.13	120	P	**Pg**		**00 50 55.8**	**-0.1**
VTN				S	**Sg**		**00 50 57.6**	**-0.4**
KFL	**Anninata**	0.24	303	P	**Pg**		**00 50 58.2**	**+0.4**
KFL				S	**Sg**		**00 51 02.2**	**+1.1**
KFL	**Anninata**	0.24	303	P	**Pg**		**00 50 58.2**	**+0.4**
KFL				S	**Sg**		**00 51 02.2**	**+1.1**
RLS	**Riolos of Patr**	0.34	77	*e*PG	**Pg**		**00 50 59.7**	**-0.1**
RLS				*e*SB	**Sg**		**00 51 05.8**	**+1.5**
RLS	**Riolos of Patr**	0.34	77	P	**Pg**		**00 50 59.7**	**-0.1**
RLS				S	**Sg**		**00 51 04.8**	**+0.5**
RLS				*e*Sb	**Sg**		**00 51 05.8**	**+1.5**
RLS	**Riolos of Patr**	0.34	77	P	**Pg**		**00 50 59.7**	**-0.1**
RLS				S	**Sg**		**00 51 04.8**	**+0.5**
ZKS	**Zakynthos**	0.35	216	*e*PG	**Pg**		**00 51 00.2**	**+0.3**
ZKS				*e*SB	**Sb**		**00 51 06.5**	**-0.4**
ZKS	**Zakynthos**	0.35	216	P	**Pg**		**00 51 00.2**	**+0.3**
ZKS				S	**Sg**		**00 51 05.3**	**+0.8**
ZKS				*e*Sb	**Sb**		**00 51 06.5**	**-0.4**
ZKS	**Zakynthos**	0.35	216	P	**Pg**		**00 51 00.2**	**+0.3**
ZKS				S	**Sg**		**00 51 05.3**	**+0.8**
VLS	**Valsamata**	0.41	299	*e*PG	**Pg**		**00 51 00.6**	**-0.3**
VLS				*e*SB	**Sg**		**00 51 07.7**	**+1.4**
VLS	**Valsamata**	0.41	299	P	**Pg**		**00 51 00.6**	**-0.3**
VLS				S	**Sg**		**00 51 07.6**	**+1.3**
VLS	**Valsamata**	0.41	299	P	**Pg**		**00 51 00.6**	**-0.3**
VLS				S	**Sg**		**00 51 07.6**	**+1.3**
DRO	**Drossia**	0.53	93	*e*PB	**Pg**		**00 51 03.2**	**0.0**
DRO				*e*SB	**Sb**		**00 51 12.9**	**+0.8**
DRO	**Drossia**	0.53	93	P	**Pg**		**00 51 02.9**	**-0.3**
DRO	**Drossia**	0.53	93	*e*Pb	**Pg**		**00 51 03.2**	**0.0**
DRO				S	**Sg**		**00 51 10.2**	**0.0**
DRO				*e*Sb	**Sb**		**00 51 12.9**	**+0.8**
DRO	**Drossia**	0.53	93	P	**Pg**		**00 51 02.9**	**-0.3**
DRO				S	**Sg**		**00 51 10.2**	**0.0**
EXG	**Exogi**	0.58	326	P	**Pg**		**00 51 04.0**	**-0.1**
EXG				S	**Sb**		**00 51 13.3**	**-0.2**
EXG	**Exogi**	0.58	326	P	**Pg**		**00 51 04.0**	**-0.1**
EXG				S	**Sb**		**00 51 13.3**	**-0.2**
PDO	**Prodromos**	0.63	10	*e*PB	**Pg**		**00 51 05.3**	**+0.2**
PDO	**Prodromos**	0.63	10	*e*Pb	**Pg**		**00 51 05.3**	**+0.2**
PDO				S	**Sg**		**00 51 14.6**	**+1.3**
PDO	**Prodromos**	0.63	10	P	**Pg**		**00 51 05.1**	**0.0**
PDO				S	**Sg**		**00 51 14.6**	**+1.3**
UPR	**University Cam**	0.66	63	P	**Pg**		**00 51 05.0**	**-0.7**
UPR				S	**Sg**		**00 51 14.9**	**+0.6**
UPR	**University Cam**	0.66	63	P	**Pg**		**00 51 05.0**	**-0.7**
UPR				S	**Sg**		**00 51 14.9**	**+0.6**
AMT	**Artemida-Makis**	0.69	130	*e*PB	**Pg**		**00 51 06.6**	**+0.3**
AMT				*e*SB	**Sb**		**00 51 18.0**	**+1.2**
AMT	**Artemida-Makis**	0.69	130	P	**Pg**		**00 51 06.3**	**0.0**
AMT	**Artemida-Makis**	0.69	130	*e*Pb	**Pg**		**00 51 06.6**	**+0.3**
AMT				S	**Sg**		**00 51 15.7**	**+0.3**
AMT				*e*Sb	**Sb**		**00 51 18.0**	**+1.2**
AMT	**Artemida-Makis**	0.69	130	P	**Pg**		**00 51 06.3**	**0.0**
AMT				S	**Sg**		**00 51 15.7**	**+0.3**
SFD	**Strofades**	0.73	182	*e*PB	**Pb**		**00 51 07.7**	**0.0**
SFD				*e*SB	**Sn**		**00 51 20.8**	**+0.3**
SFD	**Strofades**	0.73	182	P	**Pg**		**00 51 07.4**	**+0.4**
SFD	**Strofades**	0.73	182	*e*Pb	**Pb**		**00 51 07.7**	**0.0**
SFD				*e*Sb	**Sn**		**00 51 20.8**	**+0.3**
SFD	**Strofades**	0.73	182	P	**Pg**		**00 51 07.4**	**+0.4**
PVO	**Paravola**	0.74	31	P	**Pg**		**00 51 07.6**	**+0.4**
PVO				S	**Sg**		**00 51 18.1**	**+1.2**
PVO	**Paravola**	0.74	31	P	**Pg**		**00 51 07.6**	**+0.4**
PVO				S	**Sg**		**00 51 18.1**	**+1.2**
LAKA	**Lakka**	0.78	70	*e*PG	**Pg**		**00 51 07.6**	**-0.4**
LAKA				*e*SB	**Sb**		**00 51 19.9**	**+0.5**
LAKA	**Lakka**	0.78	70	P	**Pg**		**00 51 07.6**	**-0.4**
LAKA				S	**Sg**		**00 51 18.6**	**+0.4**
LAKA				*e*Sb	**Sb**		**00 51 19.9**	**+0.5**
LAKA	**Lakka**	0.78	70	P	**Pg**		**00 51 07.6**	**-0.4**
LAKA				S	**Sg**		**00 51 18.6**	**+0.4**
EFP	**Efpalio**	0.81	57	*e*PB	**Pg**		**00 51 08.1**	**-0.5**
EFP				*e*SB	**Sg**		**00 51 20.2**	**+1.0**
EFP	**Efpalio**	0.81	57	P	**Pg**		**00 51 08.1**	**-0.5**
EFP				S	**Sg**		**00 51 20.1**	**+0.9**
EFP	**Efpalio**	0.81	57	P	**Pg**		**00 51 08.1**	**-0.5**
EFP				S	**Sg**		**00 51 20.1**	**+0.9**
KLV	**Kalavryta, Ach**	0.88	86	*e*PB	**Pg**		**00 51 09.1**	**-0.7**
KLV				*e*SB	**Sn**		**00 51 23.6**	**-0.7**
KLV	**Kalavryta, Ach**	0.88	86	P	**Pg**		**00 51 08.8**	**-1.0**
KLV	**Kalavryta, Ach**	0.88	86	*e*Pb	**Pg**		**00 51 09.1**	**-0.7**
KLV				S	**Sg**		**00 51 22.0**	**+0.7**
KLV				*e*Sb	**Sn**		**00 51 23.6**	**-0.7**
KLV	**Kalavryta, Ach**	0.88	86	P	**Pg**		**00 51 08.8**	**-1.0**
KLV				S	**Sg**		**00 51 22.0**	**+0.7**
TRIZ	**Trizonia**	0.90	64	*e*PG	**Pg**		**00 51 09.6**	**-0.6**
TRIZ				*e*SB	**Sg**		**00 51 22.8**	**+0.9**
TRIZ	**Trizonia**	0.90	64	P	**Pg**		**00 51 09.6**	**-0.6**
TRIZ				*e*Sb	**Sg**		**00 51 22.8**	**+0.9**
TRIZ	**Trizonia**	0.90	64	P	**Pg**		**00 51 09.6**	**-0.6**
TRIZ				S	**Sb**		**00 51 23.0**	**+0.3**
SERG	**Sergoula**	0.91	61	P	**Pg**		**00 51 09.7**	**-0.7**
SERG				S	**Sg**		**00 51 22.9**	**+0.6**
SERG	**Sergoula**	0.91

DID	**Didima**	**1.80**	**105**	P		**Pb**	**00 51 25.6**	**-0.5**
SMIA	**Simia**	**1.92**	**62**	*e*PG		**Pb**	**00 51 28.9**	**+0.8**
SMIA	**Simia**	**1.92**	**62**	*e*Pg		**Pb**	**00 51 28.9**	**+0.8**
VLI	**Veliai**	**1.97**	**129**	*e*PG		**Pg**	**00 51 30.9**	**+0.2**
VLI	**Veliai**	**1.97**	**129**	*e*Pg		**Pg**	**00 51 30.9**	**+0.2**
KEK	**Kerkira**	**1.98**	**331**	*e*PN		**Pb**	**00 51 28.4**	**-0.7**
KEK	**Kerkira**	**1.98**	**331**	P		**Pb**	**00 51 28.2**	**-0.9**
KEK	**Kerkira**	**1.98**	**331**	P		**Pb**	**00 51 28.2**	**-0.9**
FYTO	**Fytoko, Volos**	**2.06**	**46**	P		**Pn**	**00 51 28.3**	**+0.7**
FYTO	**Fytoko, Volos**	**2.06**	**46**	P		**Pn**	**00 51 28.3**	**+0.7**
ATH	**Athens Observa**	**2.11**	**89**	*e*PN		**Pb**	**00 51 31.9**	**+0.5**
ATH				*e*SN		**Sb**	**00 51 58.6**	**+0.9**
ATH	**Athens Observa**	**2.11**	**89**	*e*Pn		**Pb**	**00 51 31.9**	**+0.5**
ATH				*e*Sn		**Sb**	**00 51 58.6**	**+0.9**
MRKA	**Markates**	**2.13**	**69**	*e*PN		**Pb**	**00 51 31.5**	**-0.1**
MRKA	**Markates**	**2.13**	**69**	P		**Pn**	**00 51 29.6**	**+1.0**
MRKA	**Markates**	**2.13**	**69**	*e*Pn		**Pb**	**00 51 31.5**	**-0.1**
MRKA				S		**Sb**	**00 51 57.0**	**-1.1**
MRKA	**Markates**	**2.13**	**69**	P		**Pn**	**00 51 29.6**	**+1.0**
MRKA				S		**Sb**	**00 51 57.0**	**-1.1**
NEO	**Neokhori**	**2.16**	**52**	*e*PN		**Pb**	**00 51 32.0**	**-0.2**
NEO	**Neokhori**	**2.16**	**52**	*e*Pn		**Pb**	**00 51 32.0**	**-0.2**
XOR	**Xorichti**	**2.18**	**50**	*e*PN		**Pb**	**00 51 32.1**	**-0.4**
XOR	**Xorichti**	**2.18**	**50**	P		**Pn**	**00 51 30.0**	**+0.7**
XOR	**Xorichti**	**2.18**	**50**	*e*Pn		**Pb**	**00 51 32.1**	**-0.4**
XOR	**Xorichti**	**2.18**	**50**	P		**Pn**	**00 51 30.0**	**+0.7**
PTL	**Penteli**	**2.23**	**87**	*e*PN		**Pb**	**00 51 33.3**	**-0.1**
PTL	**Penteli**	**2.23**	**87**	*e*Pn		**Pb**	**00 51 33.3**	**-0.1**
EREA	**Eretria**	**2.32**	**78**	*e*PN		**Pb**	**00 51 34.3**	**-0.6**
EREA	**Eretria**	**2.32**	**78**	*e*Pn		**Pb**	**00 51 34.3**	**-0.6**
KZN	**Kozani**	**2.39**	**13**	*e*PN		**Pb**	**00 51 34.7**	**-1.4**
KZN	**Kozani**	**2.39**	**13**	*e*Pn		**Pb**	**00 51 34.7**	**-1.4**
LIT	**Litokhoron**	**2.40**	**28**	*e*PN		**Pb**	**00 51 35.2**	**-1.0**
LIT	**Litokhoron**	**2.40**	**28**	*e*Pn		**Pb**	**00 51 35.2**	**-1.0**
NEST	**Nestorio**	**2.43**	**0**	P		**Pn**	**00 51 34.4**	**+1.6**
NEST	**Nestorio**	**2.43**	**0**	P		**Pn**	**00 51 34.4**	**+1.6**
ANKY	**Antikythira Is**	**2.78**	**139**	*e*PB		**Pb**	**00 51 40.5**	**-2.2**
ANKY	**Antikythira Is**	**2.78**	**139**	*e*Pb		**Pb**	**00 51 40.5**	**-2.2**
FNA	**Florina**	**2.81**	**5**	*e*PB		**Pn**	**00 51 39.9**	**+1.9**
FNA	**Florina**	**2.81**	**5**	P		**Pn**	**00 51 39.2**	**+1.2**
FNA	**Florina**	**2.81**	**5**	*e*Pb		**Pn**	**00 51 39.9**	**+1.9**
FNA	**Florina**	**2.81**	**5**	P		**Pn**	**00 51 39.2**	**+1.2**
PAIG	**Paliouri**	**2.83**	**46**	*e*PB		**Pn**	**00 51 40.0**	**+1.8**
PAIG	**Paliouri**	**2.83**	**46**	*e*Pb		**Pn**	**00 51 40.0**	**+1.8**
HORT	**Hortiatis**	**3.06**	**31**	*e*PN		**Pn**	**00 51 43.9**	**+2.4**
HORT	**Hortiatis**	**3.06**	**31**	*e*Pn		**Pn**	**00 51 43.9**	**+2.4**
OUR	**Ouranopolis**	**3.28**	**43**	*e*PB		Pn	00 51 48.0	+3.6
OUR	**Ouranopolis**	**3.28**	**43**	*e*Pb		Pn	00 51 48.0	+3.6
SOH	**Sokhos**	**3.35**	**32**	*e*PB		Pn	00 51 48.7	+3.2
SOH	**Sokhos**	**3.35**	**32**	*e*Pb		Pn	00 51 48.7	+3.2
SRS	**Serrai**	**3.70**	**31**	*e*PN		**Pn**	**00 51 52.2**	**+2.0**
SRS	**Serrai**	**3.70**	**31**	*e*Pn		**Pn**	**00 51 52.2**	**+2.0**
LIA	**Limnos Island**	**3.75**	**58**	*e*PN		**Pn**	**00 51 53.8**	**+2.9**
LIA	**Limnos Island**	**3.75**	**58**	*e*Pn		**Pn**	**00 51 53.8**	**+2.9**
CHOS	**Chios island**	**3.97**	**83**	*e*PN		**Pn**	**00 51 56.2**	**+2.2**
CHOS	**Chios island**	**3.97**	**83**	*e*Pn		**Pn**	**00 51 56.2**	**+2.2**
NVR	**Nevrokopi**	**4.01**	**32**	*e*PN		**Pn**	**00 51 56.6**	**+2.2**
NVR	**Nevrokopi**	**4.01**	**32**	*e*Pn		**Pn**	**00 51 56.6**	**+2.2**
KAVA	**Kavala**	**4.04**	**41**	*e*PN		Pn	00 51 58.6	+3.8
KAVA	**Kavala**	**4.04**	**41**	*e*Pn		Pn	00 51 58.6	+3.8
MMB	**Musomiste**	**4.15**	**29**	⇓*i*P		Pn	00 52 00.7	+4.2
MMB	**Musomiste**	**4.15**	**29**	*e*P		Pn	00 52 00.5	+4.0
MMB	**Musomiste**	**4.15**	**29**	*e*P		Pn	00 52 00.5	+4.0
SMG	**Samos**	**4.59**	**92**	*e*PN		Pn	00 52 06.3	+3.8
SMG	**Samos**	**4.59**	**92**	*e*Pn		Pn	00 52 06.3	+3.8
RZN	**Rozhen**	**4.66**	**36**	*e*P		**Pn**	**00 52 06.2**	**+2.7**
RZN	**Rozhen**	**4.66**	**36**	*e*P		**Pn**	**00 52 06.2**	**+2.7**
ALN	**Alexandroupoli**	**4.84**	**52**	*e*PN		**Pn**	**00 52 08.3**	**+2.4**
ALN	**Alexandroupoli**	**4.84**	**52**	*e*Pn		**Pn**	**00 52 08.3**	**+2.4**
BARS	**Barje**	**4.87**	**7**	*e*Pn		**Pn**	**00 52 07.4**	**+1.2**
VTS	**Vitosha**	**4.89**	**19**	*e*P		**Pb**	**00 52 18.7**	**-0.1**
STON	**Ston**	**5.51**	**333**	*e*Pn		**Pn**	**00 52 14.1**	**-0.9**
STON				Sn		**Sn**	**00 53 15.1**	**-3.3**
STON	**Ston**	**5.51**	**333**	*e*Pn		**Pn**	**00 52 14.1**	**-0.9**
GRUS	**Gruza**	**5.91**	**358**	*e*Pn		**Pn**	**00 52 20.6**	**+0.1**
TEKS	**Tekeris**	**6.66**	**351**	*e*Pn		**Pn**	**00 52 31.4**	**+0.5**
AQU	**L'Aquila**	**7.30**	**309**	⇓*i*P		Pn	00 52 44.2	+4.5
BZS	**Buzias**	**7.64**	**3**	⇓*i*P		Pb	00 53 01.6	-3.9
UDBI	**Udbina**	**7.65**	**330**	*i* Pn		**Pn**	**00 52 45.2**	**+0.7**
UDBI				Sn		**Sn**	**00 54 09.4**	**-1.8**
UDBI	**Udbina**	**7.65**	**330**	*i* Pn		**Pn**	**00 52 45.2**	**+0.7**
NVLJ	**Novalja**	**8.05**	**327**	*e*Pn		**Pn**	**00 52 50.7**	**+0.8**
NVLJ				Sn		**Sn**	**00 54 18.4**	**-2.5**
NVLJ	**Novalja**	**8.05**	**327**	*e*Pn		**Pn**	**00 52 50.6**	**+0.8**
GBRS	**Gornja Briga**	**8.86**	**330**	P		**Pn**	**00 53 01.6**	**+0.5**

*DJA **09** 01:55:55.0±3.8, 7°N±42″×12°4E±″, h515km±17km, M4.2/13, mb4.4/13, mB4.9/6, Mw(mB)4.1/6*
*ISCJB **09** 01:55:58.8±0.6, 6°.06N±0°.08×123°.94E±0°.10, h550km, mb3.8/8, Error ellipse: s-maj=13.9km s-min=8.7km az=153.4*
*IDC **09** 01:56:01.0±1.5, 5°.99N×123°.99E, h565km±18km, mb3.3/8, mb1 3.5/10, mb1mx3.1/33, mbtmp4.4/10, Error ellipse: s-maj=38.2km s-min=10.9km az=60.0*

ISC 09 01:55:59.8±0.7, 6°.1N±0°.1×123°.9E±0°.2, h550km, n24, σ1⁰15/27, mb4.0/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**5.88**	**200**	P	**P**	**01 57 39.2**	**+1.8**
TNTI	**Ternate**	**6.26**	**147**	P	**P**	**01 57 40.0**	**-0.9**
	122nm,0.7s,4μm						
MPSI	**Mapaga**	**6.96**	**215**	P	**P**	**01 57 46.7**	**-0.7**
	20nm,1.1s						
LUWI	**Luwuk**	**7.14**	**189**	P	**P**	**01 57 49.1**	**-0.1**
	70nm,0.8s,3μm						
LUWI	**Luwuk**	**7.14**	**189**	P	**P**	**01 57 49.0**	**-0.2**
	baz=7.0,SNR=9.6						
APSI	**Ampana**	**7.28**	**198**	P	**P**	**01 57 50.4**	**-0.1**
	123nm,0.5s,1μm						
KKM	**Kota Kinabalu**	**7.67**	**270**	P	**P**	**01 57 54.2**	**-0.3**
	baz=7.6,SNR=11						
PCI	**Palu**	**8.03**	**211**	P	**P**	**01 57 56.6**	**-1.3**
	104nm,0.8s,1μm						
SANI	**Sanana**	**8.30**	**166**	P	**P**	**01 58 01.4**	**+0.8**
	29nm,0.7s						
TTSI	**Tana Toraja**	**9.92**	**205**	P	**P**	**01 58 15.9**	**-1.1**
	56nm,1.1s						
SIJI	**Sorong**	**10.04**	**133**	P	**P**	**01 58 18.8**	**+0.6**
	4.7nm,0.3s,baz=324,slow=14,SNR=9.0						
SPSI	**Sidrap Palu**	**10.78**	**203**	P	**P**	**01 58 25.9**	**+0.1**
	78nm,0.7s,687nm						
KAPI	**Kappang**	**11.76**	**201**	P	**P**	**01 58 36.8**	**+0.9**
	0.7nm,0.3s,baz=24,slow=4.0,SNR=9.8						
BKSI	**Bulukumba**	**11.92**	**199**	P	**P**	**01 58 40.6**	**+3.0**
	15nm,0.8s						
FAKI	**Fak Fak**	**12.18**	**137**	P	**P**	**01 58 40.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**27.31**	**299**	P	**P**	**02 01 02.4**	**+1.4**
	2.5nm,0.6s,baz=116,slow=6.8,SNR=12						
WRA	**Warramunga Arr**	**27.79**	**159**	P	**P**	**02 01 04.1**	**-1.1**
	5.0nm,0.4s,baz=341,slow=9.3,SNR=58						
WRA				ScP	**ScP**	**02 06 51.6**	**-1.0**
	0.6nm,0.6s,baz=343,slow=3.3,SNR=6.5						
ASAR	**Alice Springs**	**31.10**	**162**	P	**P**	**02 01 33.6**	**-0.2**
	4.6nm,0.6s,baz=342,slow=7.1,SNR=69						
STKA	**Stephens Creek**	**41.31**	**157**	P	**P**	**02 02 58.1**	**+0.3**
	2.5nm,0.4s,baz=336,slow=7.4,SNR=9.0						
SONM	**Songino Array**	**44.25**	**343**	P	**P**	**02 03 21.8**	**+1.1**
	1.1nm,0.8s,baz=156,slow=9.1,SNR=4.9						
MKAR	**Makanchi Array**	**54.08**	**326**	P	**P**	**02 04 34.0**	**+0.9**
	3.5nm,0.5s,baz=122,slow=8.4,SNR=46						
MKAR				PcP	**PcP**	**02 05 29.0**	**-0.3**
	0.6nm,0.5s,baz=101,slow=5.8,SNR=4.3						
MKAR				ScP	**ScP**	**02 08 32.8**	**-2.1**
	0.4nm,0.6s,baz=107,slow=6.0,SNR=3.6						
ZALV	**Zalesovo Beam**	**57.28**	**334**	P	**P**	**02 04 54.9**	**-0.2**
	0.4nm,0.3s,baz=135,slow=7.4,SNR=3.8						
BRTR	**Keskin Array B**	**86.40**	**309**	P	**P**	**02 07 43.6**	**-1.0**
	0.8nm,0.8s,baz=130,slow=6.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**119.54**	**289**	PKP	**PKPdf**	**02 13 47.3**	**-1.0**
	0.1nm,0.4s,baz=147,slow=2.1,SNR=4.6						

*BKK **09** 02:08:38.6±2.6, 11°N±7°×9°3E±2°8, h10km, M4.2/10, mB5.0/3, mb4.3/10, MLv4.0/2, Mw(mB)4.3/3*
*ISCJB **09** 02:08:40.2±0.4, 11°.12N±0°.05×93°.34E±0°.06, h123km, mb4.0/16, Error ellipse: s-maj=8.0km s-min=6.6km az=152.1*
*NEIC **09** 02:08:40.3±0.5, 11°.17N×93°.36E, mb4.2/2, Error ellipse: s-maj=12.3km s-min=11.0km az=123.0*

*IDC **09** 02:08:40.1±2.9, 11°.19N×93°.41E, h104km±25km, mb3.8/14, mb1 3.9/15, mb1mx3.7/40, mbtmp4.1/15, MS2.5/1, Ms1 2.7/1, ms1mx2.3/35, Error ellipse: s-maj=21.7km s-min=13.3km az=54.0*

ISC 09 02:08:42.0±0.5, 11°.21N±0°.06×93°.30E±0°.09, h123km, n51, σ1⁰56/52, mb4.0/16, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.70**	**309**	*e*P	Pn	02 08 59.3	-2.4
PBA				*e*S	Sn	02 09 12.2	-4.3
PBA				AML	AML	02 09 17.5	
	comp=N,12μm,0.4s						
PBA				AML	AML	02 09 17.8	
	comp=E,10μm,0.0s						
DGPR	**DIGLIPUR**	**1.99**	**350**	*e*P	**Pn**	**02 09 12.7**	**-2.8**
DGPR				*e*S	**Sn**	**02 09 37.1**	**-4.0**
DGPR				AML	AML	02 09 38.9	
	comp=E,1μm,0.7s						
DGPR				AML	AML	02 09 45.3	
	comp=N,1μm,0.5s						
CMBY	**CAMPBELL BAY**	**4.22**	**171**	*e*S	**Sn**	**02 10 28.7**	**-4.4**
CMBY				AML	AML	02 10 37.1	
	comp=N,677nm,0.4s						
CMBY				AML	AML	02 10 37.8	
	comp=E,637nm,0.3s						
SURT	**Suratani**	**5.86**	**112**	P	**Pn**	**02 10 06.9**	**+0.3**
	comp=E,8.8nm,1.0s,comp=E,0.0nm						
KRAB	**Krabi**	**6.53**	**117**	P	Pn	02 10 23.4	+7.8
MHMT	**Maesarieng**	**8.25**	**32**	P	**Pn**	**02 10 38.5**	**-0.4**
	comp=E,26nm,0.7s,comp=E,441nmcomp=E,0.1nm						
CMAR	**Chiang Mai Arr**	**9.04**	**36**	P	**Pn**	**02 10 47.3**	**-2.3**
	comp=E,1.2nm,0.3s,baz=230,slow=15,SNR=34						
CMAR				LR	LR	02 14 33.9	
	comp=E,29nm,20.7s,baz=262,slow=39						
PBKT	**Sadao Pong**	**9.16**	**54**	P	**Pn**	**02 10 50.4**	**-0.7**
	comp=E,12nm,1.3s						
CHTO	**Chiang Mai**	**9.32**	**35**	P	**Pn**	**02 10 53.5**	**+0.1**
	comp=E,36nm,1.0s						
CHTO	**Chiang Mai**	**9.32**	**35**	*e*Pn	**Pn**	**02 10 52.6**	**-0.8**
	comp=E,2.5nm,0.4s						
CMMT	**Chiang Mai**	**9.32**	**35**	P	**Pn**	**02 10 53.4**	**0.0**
	comp=E,11nm,0.9s						
LAMP	**Lampang**	**9.50**	**39**	P	**Pn**	**02 10 57.8**	**+2.0**
	comp=E,3.9nm,0.7s						
LOEI	**Loei**	**9.94**	**50**	P	**Pn**	**02 11 04.8**	**+3.1**
	comp=E,7.0nm,1.5s						
CRAI	**Chiangrai**	**11.26**	**36**	P	**Pn**	**02 11 18.2**	**-1.2**
	comp=E,23nm,0.8s,comp=E,994nm						
VIS	**Vishakhapatnam**	**11.62**	**305**	*i* P	**Pn**	**02 11 23.9**	**-0.3**
VIS				*i* S	Sn	02 13 21.8	-10
VIS				*i* S	Sn	02 13 22.1	-10
VIS				*ex*	x	02 13 23.8	
	comp=N,141nm,0.6s						
VIS				AML	AML	02 13 23.8	
	comp=E,106nm,0.4s						
SHL	**Shillong**	**14.35**	**355**	*e*P	**Pn**	**02 12 00.1**	**+0.5**
SHL				*i* S	Sn	02 14 25.0	-13
ODAN	**Odare**	**16.54**	**341**	*e*P	**P**	**02 12 28.8**	**+1.4**
	comp=E,39nm,0.4s						
RAMN	**Ramite**	**16.88**	**339**	*e*P	**P**	**02 12 32.5**	**+1.3**
	comp=E,40nm,0.4s						
TAPN	**Taplejung**	**16.90**	**343**	*e*P	**Pn**	**02 12 32.1**	**+0.7**
	comp=E,63nm,0.6s						
PKI	**Pulchoki**	**17.89**	**337**	*e*P	**Pn**	**02 12 43.8**	**+0.4**
	comp=E,40nm,0.5s						
PKIN	**Phulchoki**	**17.90**	**337**	*e*P	**Pn**	**02 12 44.2**	**+0.7**
	comp=E,28nm,0.3s						
GUN	**Gumba**	**18.02**	**338**	*e*P	**Pn**	**02 12 44.5**	**-0.5**
	comp=E,38nm,0.5s						
KKN	**Kakani**	**18.13**	**337**	*e*P	**Pn**	**02 12 46.1**	**-0.1**
	comp=E,18nm,0.5s						
GKN	**Gorkha**	**18.58**	**335**	*e*P	**Pn**	**02 12 51.1**	**-0.4**
	comp=E,58nm,0.7s						
KOLN	**Koldanda**	**18.82**	**332**	*e*P	**Pn**	**02 12 54.5**	**+0.1**
DANN	**Dangsing**	**19.25**	**334**	*e*P	**Pn**	**02 12 58.7**	**-0.8**
	comp=E,6.5nm,0.5s						
H08S3	**Diego Garcia H**	**27.91**	**229**	T	T	02 40 51.7	
	baz=51,slow=75,SNR=68						
H08S2	**Diego Garcia H**	**27.92**	**229**	T	T	02 40 56.1	
	baz=51,slow=75,SNR=56						
H08S1	**Diego Carcia H**	**27.93**	**229**	T	T	02 40 53.2	
	baz=51,slow=75,SNR=62						
MKAR	**Makanchi Array**	**36.67**	**347**	P	**P**	**02 15 37.2**	**+0.3**
	comp=E,2.8nm,0.6s,baz=168,slow=7.8,SNR=35						
SONM	**Songino Array**	**38.13**	**14**	P	**P**	**02 15 49.4**	**+0.1**
	comp=E,0.4nm,0.3s,baz=203,slow=9.4,SNR=8.3						
SONM				pP	**pP**	**02 16 14.6**	**-2.1**
	comp=E,1.1nm,0.9s,baz=190,slow=6.9,SNR=3.5						
SONM				PcP	**PcP**	**02 18 03.1**	**+1.4**
	comp=E,1.0nm,0.4s,baz=202,slow=3.4,SNR=7.0						
SONM				ScP	**ScP**	**02 21 39.5**	**+1.3**
	comp=E,0.6nm,0.8s,baz=196,slow=3.0,SNR=3.6						
GEYT	**Alibeck**	**41.20**	**316**	P	**P**	**02 16 16.5**	**+1.7**
	comp=E,5.1nm,0.5s,baz=134,slow=7.0,SNR=13						
ZALV	**Zalesovo Beam**	**43.16**	**353**	P	**P**	**02 16 30.7**	**+0.4**
	comp=E,2.6nm,0.5s,baz=176,slow=8.9,SNR=13						
ZALV				pP	**pP**	**02 16 55.6**	**-2.7**
	comp=E,0.8nm,0.3s,baz=177,slow=10.0,SNR=2.2						
WRA	**Warramunga Arr**	**50.90**	**127**	P	**P**	**02 17 29.9**	**-1.0**
	comp=E,3.1nm,0.4s,baz=302,slow=10.0,SNR=61						
WRA				PcP	**PcP**	**02 18 46.2**	**+0.4**
	comp=E,0.6nm,0.5s,baz=314,slow=2.9,SNR=6.0						
ASAR	**Alice Springs**	**52.70**	**131**	P	**P**	**02 17 42.9**	**-1.4**
	comp=E,1.0nm,0.5s,baz=305,slow=6.5,SNR=12						
BR131	**Keskin Array S**	**59.66**	**310**	*e*P	**P**	**02 18 33.7**	**+0.1**
	comp=E,1.3nm,0.8s						
BRTR	**Keskin Array B**	**59.66**	**310**	P	**P**	**02 18 33.7**	**+0.1**
	comp=E,0.9nm,0.7s,baz=115,slow=8.3,SNR=6.4						
AKASG	**Malin Array Be**	**65.05**	**321**	P	**P**	**02 19 08.5**	**-0.6**
	comp=E,0.6nm,0.4s,baz=84,slow=5.9,SNR=4.3						
FINES	**FINESS Array B**	**69.40**	**332**	P	**P**	**02 19 36.9**	**+0.5**
	comp=E,2.8nm,0.6s,baz=102,slow=5.4,SNR=23						
FINES				pP	**pP**	**02 20 03.4**	**-3.3**
	comp=E,1.3nm,0.8s,baz=111,slow=7.6,SNR=1.8						
ARCES	**ARCESS Array B**	**71.87**	**340**	P	**P**	**02 19 51.7**	**+0.4**
	comp=E,0.6nm,0.7s,baz=70,slow=7.0,SNR=4.6						
MORC	**Moravsky Berou**	**72.33**	**319**	*e*P	**P**	**02 19 55.3**	**+0.8**
	comp=E,2.4nm,0.4s						
GERES	**GERESS Array B**	**74.81**	**318**	P	**P**	**02 20 09.2**	**+0.2**
	comp=E,0.9nm,0.7s,baz=87,slow=6.8,SNR=11						
NOA	**NORSAR Array B**	**76.44**	**330**	P	**P**	**02 20 17.7**	**-0.3**
	comp=E,0.8nm,0.8s,baz=90,slow=5.9,SNR=3.0						
BOSA	**Boshof**	**76.67**	**237**	P	**P**	**02 20 21.6**	**+1.7**
	comp=E,2.9nm,0.4s,baz=84,slow=3.3,SNR=18						
KEST	**Kesra**	**78.67**	**304**	*e*P	**P**	**02 20 31.4**	**+0.4**
MAW	**Mawson**	**81.61**	**191**	P	P	02 20 41.7	-4.1
	comp=E,1.4nm,0.4s,baz=62,slow=7.9,SNR=4.2						
TORD	**Torodi Ar. Bea**	**89.03**	**283**	P	**P**	**02 21 25.2**	**+1.3**
	comp=E,0.4nm,0.7s,baz=99,slow=3.1,SNR=3.1						
PDAR	**Pinedale Array**	**122.35**	**20**	PKP	**PKPdf**	**02 27 23.4**	**+0.2**
	comp=E,0.5nm,0.6s,baz=40,slow=2.5,SNR=5.4						
NVAR	**Mina Array Bea**	**122.47**	**29**	PKP	**PKPdf**	**02 27 24.8**	**+1.2**
	comp=E,0.9nm,0.5s,baz=318,slow=2.1,SNR=9.2						
TXAR	**Lajitas Array**	**136.50**	**22**	PKP	**PKPdf**	**02 27 52.8**	**+2.5**
	comp=E,0.5nm,0.4s,baz=276,slow=0.2,SNR=9.7						
TXAR				SKP		02 31 12.6	
	comp=E,0.5nm,0.7s,baz=318,slow=1.2,SNR=6.7						
CPUP	**Villa Florida**	**148.49**	**237**	PKPbc	**PKPbc**	**02 28 13.8**	**-1.2**
	comp=E,1.7nm,0.7s,baz=115,slow=6.8,SNR=2.9						

*ISCJB **09** 02:10:31.4±0.4, 32°.33N±0°.03×115°.37W±0°.04, h19km±5km, Error ellipse: s-maj=5.0km s-min=4.7km az=173.9*
*NEIC **09** 02:10:32.7, 32°.32N×115°.39W, h8km, ML3.0(PAS), ML3.2(ECX), After ECX.*
*ECX **09** 02:10:32.7±0.6, 32°.31N×115°.40W, h6km, MD2.8, ML3.0*
*MEX **09** 02:10:32.7±0.4, 32°.41N×115°.40W, h13km±3km, MD3.8*

ISC 09 02:10:31.0±1.0, 32°.25N±0°.03×115°.40W±0°.03, h10km±8km, n25, σ1⁰36/40, 7C-11D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.19**	**26**	*e*P	**Pg**	**02 10 35.0**	**0.0**
CPBX				⇓*e*P	**Pg**	**02 10 35.0**	**0.0**
CPBX				*e*S	**Sg**	**02 10 37.2**	**-0.4**
MBIG	**Mexicali**	**0.23**	**47**	*i* P	**Pg**	**02 10 36.3**	**+0.6**
MBIG				*e*S	**Sg**	**02 10 38.6**	**-0.4**
SGL	**Mount Signal**	**0.48**	**325**	⇓*i*P	**Pg**	**02 10 40.3**	**-0.1**
ERPC	**Ernies Place**	**0.54**	**336**	⇓*i*P	**Pg**	**02 10 41.8**	**+0.3**
DREC	**Desert Rsrch C**	**0.56**	**356**	⇓*e*P	**Pg**	**02 10 41.9**	**+0.1**
RDX	**Rancho Dawling**	**0.56**	**235**	⇓*e*P	**Pb**	**02 10 43.6**	**+0.6**
RDX				*e*S	**Sb**	**02 10 51.7**	**+0.5**
RDX				IAML		02 10 53.6	
	comp=N,598nm,0.2s						
RDX				⇑*e*		02 10 53.6	
WESC	**Westside Schoo**	**0.58**	**331**	⇓*e*P	**Pg**	**02 10 42.3**	**+0.1**
YUH	**Yuha Desert**	**0.59**	**312**	⇑*i*P	**Pg**	**02 10 42.3**	**-0.3**
EMSC	**East Mesa**	**0.60**	**36**	⇓*i*P	**Pg**	**02 10 42.7**	**+0.1**
COA	**Coachella**	**0.66**	**21**	⇓*i*P	**Pg**	**02 10 43.2**	**-0.4**
COK	**Cook Ranch**	**0.66**	**335**	*e*P	**Pg**	**02 10 43.2**	**-0.5**
RMX	**La Rumorosa**	**0.67**	**302**	⇑*e*P	**Pg**	**02 10 43.9**	**-0.2**
RMX				*e*S	**Sg**	**02 10 52.4**	**-0.5**
ECBX	**El Chinero**	**0.83**	**159**	⇓*e*P	**Pb**	**02 10 48.6**	**+1.1**
ECBX				*e*S	**Sb**	**02 11 00.6**	**+1.9**
ZAX	**El Zacaton**	**1.04**	**226**	⇑*e*P	**Pn**	**02 10 52.3**	**+0.5**
ZAX				IAML		02 11 08.9	
	comp=E,566nm,0.5s						
ZAX				⇑*e*		02 11 08.9	
BAR	**Barrett**	**1.16**	**292**	⇑*e*P	**Pb**	**02 10 52.7**	**-0.4**
SPIG	**San Pedro Mart**	**1.20**	**183**	*e*P	**Pn**	**02 10 53.9**	**-0.3**
SPIG				*e*S	**Sb**	**02 11 10.6**	**+0.8**
SPIG	**San Pedro Mart**	**1.20**	**183**	*e*P	**Pn**	**02 10 53.9**	**-0.3**
SPIG				*e*S	**Sb**	**02 11 10.1**	**+0.3**
SPIG	**San Pedro Mart**	**1.20**	**183**	⇓*e*P	**Pn**	**02 10 54.5**	**+0.3**
SPX	**San Pedro Mart**	**1.20**	**183**	⇓*e*P	**Pn**	**02 10 54.5**	**+0.3**
SPX				IAML		02 11 15.0	
	comp=E,124nm,0.3s						
SPX				⇓*e*		02 11 15.0	
214A	**Organ Pipe Nat**	**2.22**	**97**	*e*Pn	**Pn**	**02 11 06.1**	**-1.8**
214A				*e*Pg	**Pg**	**02 11 14.7**	**+1.2**
PASC	**Pasadena Art C**	**3.02**	**310**	*e*Pn	**Pn**	**02 11 18.4**	**-0.5**
TUC	**Tucson**	**3.91**	**88**	*e*P	**Pn**	**02 11 31.5**	**+0.3**
TUC				*e*Pn	Pb	02 11 33.0	-7.1
TUC				*e*Pg	**Pg**	**02 11 43.9**	**-1.9**
TUC				*e*S	**Sn**	**02 12 16.5**	**-0.7**
TUC				*e*Sg	**Sg**	**02 12 33.5**	**-3.0**
SHPR	**Sheep Range**	**4.25**	**3**	*e*Pn	**Pn**	**02 11 36.1**	**+0.1**
SHPR				*e*Pg	**Pg**	**02 11 50.9**	**-1.5**
WUAZ	**Wupatki**	**4.67**	**45**	*e*Pn	**Pn**	**02 11 42.6**	**+0.8**
WUAZ				*e*Pg	**Pg**	**02 11 57.6**	**-2.8**
WUAZ				*e*Sg	**Sb**	**02 12 54.9**	**+5.4**
121A	**Cookes Peak, D**	**6.45**	**85**	*e*Pn	**Pn**	**02 12 06.2**	**0.0**

*MOS **09** 02:17:22.1±0.5, 53°.08N×157°.57E, h283km, mb4.1/1, Error ellipse: s-maj=77.8km s-min=24.5km az=58.1*

KRSC 09 02:17:23.9±0.9, 53°.25N×157°.63E, h263km±6km, ML4.0, Kamchatka Peninsula

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h m

comp=Z,340nm,13.5s
CD2 Chengdu 15.33 268 P **Pn** **02 28 10.1 -0.6**
CD2 S **Sn** **02 30 59.1 -0.7**
CD2 SS **S** **02 31 18.3 +2.5**
CD2 PMZ
comp=Z,20nm,0.6s
CD2 PMZ
comp=Z,90nm,6.3s
CD2 LZ
comp=Z,460nm,9.3s
SONM Songino Array 19.10 327 P **Pn** **02 28 58.1 +0.4**
comp=Z,0.2nm,0.3s,baz=154,slow=12,SNR=5.6
SONM LR LR 02 37 34.1
comp=Z,142nm,18.4s,baz=132,slow=41
CMAR Chiang Mai Arr 24.81 241 P **P** **02 29 57.5 +1.3**
comp=Z,0.8nm,0.3s,baz=38,slow=8.4,SNR=8.9
CMAR LR LR 02 40 19.8
comp=Z,42nm,20.4s,baz=170,slow=38
YAK Yakutsk 29.88 8 LR LR 02 44 16.0
comp=Z,50nm,19.1s,baz=218,slow=40
MKAR Makanchi Array 33.07 307 P **P** **02 31 09.7 +0.2**
comp=Z,0.3nm,0.5s,baz=101,slow=11,SNR=4.2
ZALV Zalesovo Beam 33.70 320 P **P** **02 31 15.2 +0.3**
comp=Z,0.6nm,0.5s,baz=124,slow=7.7,SNR=3.4
ZALV LR LR 02 46 01.7
comp=Z,77nm,19.1s,baz=28,slow=38
KURBB Kurchatov Arra 36.30 313 P **P** **02 31 37.5 +0.1**
comp=Z,1.4nm,0.8s,baz=104,slow=8.8,SNR=7.1
GEYT Alibeck 51.27 295 P **P** **02 33 38.6 +0.7**
comp=Z,0.6nm,0.3s,baz=64,slow=9.8,SNR=2.7
GEYT LR LR 02 56 40.8
comp=Z,40nm,20.0s,baz=175,slow=38
WRA Warramunga Arr 53.66 165 P **P** **02 33 55.3 -0.2**
comp=Z,0.5nm,0.8s,baz=348,slow=8.2,SNR=4.2
ASAR Alice Springs 57.18 167 P **P** **02 34 22.9 +1.9**
comp=Z,0.4nm,0.8s,baz=356,slow=13,SNR=3.3
OBN Obninsk 21.38 319 LR LR 03 03 20.6
comp=Z,77nm,18.3s,baz=89,slow=38
ILAR Eielson Array 61.60 29 P **P** **02 34 52.1 +1.1**
comp=Z,0.4nm,1.0s,baz=256,slow=7.3,SNR=2.9
FINES FINESS Array B 64.47 328 P **P** **02 35 10.0 -0.1**
comp=Z,0.9nm,0.7s,baz=72,slow=6.2,SNR=4.3
AKASG Malin Array Be 66.97 316 P **P** **02 35 25.4 -0.9**
comp=Z,0.6nm,0.5s,baz=64,slow=6.6,SNR=3.1
AKASG LR LR 03 06 35.3
comp=Z,57nm,19.7s,baz=355,slow=38
BRTR Keskin Array B 68.66 304 P **P** **02 35 37.6 +0.2**
comp=Z,1.1nm,0.8s,baz=98,slow=6.1,SNR=8.0
NOA NORSAR Array B 71.02 331 P **P** **02 35 49.5 -2.0**
comp=Z,0.7nm,0.9s,baz=57,slow=5.9,SNR=2.4
NOA LR LR 03 10 28.3
comp=Z,66nm,19.2s,baz=355,slow=39
VRAC Vranov 74.81 319 LR LR 03 12 06.4
comp=Z,66nm,18.2s,baz=359,slow=38
YKA Yellowknife Ar 75.07 320 P **P** **02 36 14.9 -0.4**
comp=Z,1.4nm,0.8s,baz=320,slow=5.3,SNR=4.9
GERES GERESS Array B 76.65 320 LR LR 03 12 53.2
comp=Z,46nm,20.0s,baz=54,slow=38

*IDC **09** 02:47:59.2±0.9, 40.02N×71.72E, h0km, mb3.6/11, mb1 3.7/16, mb1mx3.6/42, mbtmp3.6/16, ML3.0/5, MS3.0/1, Ms1 3.0/1, ms1mx2.3/41, Error ellipse: s-maj=17.2km s-min=14.2km az=161.0*
*KRNET **09** 02:48:01.3±0.1, 40.08N×71.63E, h2km, mb3.0*
*NNC **09** 02:48:03.4±1.2, 40.28N×71.68E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=12.5km s-min=6.8km az=26.0*
ISC 09 02:47:59.8±0.7, 40.02N±0.08×71.66E±0.05, h10km, n36, σ1§81/32, mb3.6/11, 11C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.42**	**90**	⇓P	**Pg**	**02 48 28.3**	**+1.3**
	34nm,0.3s						
SFK				⇑S	Sg	02 48 50.3	+4.9
	220nm,0.3s						
DZET	**Dzherino**	**2.50**	**242**	⇓Pn	**Pg**	**02 48 47.5**	**-0.2**
	52nm,0.5s						
DZET				⇓Lg	Lg	02 49 26.0	
	529nm,0.4s						
AML	**Almayashu**	**2.61**	**35**	P	**Pb**	**02 48 45.3**	**-1.6**
	SNR=34						
EKS2	**Erkin-Say**	**3.09**	**30**	P	**Pb**	**02 48 53.0**	**-1.8**
	SNR=8.7						
UCH	**Uchtor**	**3.09**	**43**	P	**Pb**	**02 48 52.5**	**-2.5**
	SNR=29						
KK31	**Karatay Array**	**3.20**	**345**	⇓Pn	**Pn**	**02 48 52.3**	**+2.2**
	3.0nm,0.2s,baz=157,slow=11,SNR=549						
KK31				⇑Pg	**Pb**	**02 48 58.2**	**+1.6**
	14nm,0.3s,baz=157,slow=16,SNR=52						
KK31				⇑Sn	**Sn**	**02 49 28.9**	**+0.6**
	0.1nm,0.1s						
KK31				⇓Lg	Lg	02 49 38.7	
	90nm,0.4s,baz=155,slow=27						
AAK	**Ala-Archa**	**3.38**	**38**	⇑Pn	Pb	02 48 56.4	-3.3
	19nm,0.7s						
AAK				⇑Lg	Lg	02 49 44.4	
	195nm,0.7s						
KZA	**Kyzart**	**3.41**	**52**	P	Pb	02 48 57.5	-3.0
	SNR=19						
KBK	**Karagaybulak**	**3.62**	**42**	P	**Pb**	**02 49 01.1**	**-2.8**
	SNR=23						
CHMS	**Chumysh**	**3.78**	**37**	P	Pb	02 49 02.2	-4.4
	SNR=10						
TKM2	**Tokmak 2**	**4.14**	**44**	P	Pb	02 49 07.4	-5.5
	SNR=17						
TKM2	**Tokmak 2**	**4.14**	**44**	⇑Pn	Pb	02 49 07.3	-5.6
	19nm,0.6s						
TKM2				⇓Lg	Lg	02 50 08.5	
	85nm,0.6s						
PDGK	**Podgornoye**	**6.73**	**58**	⇑Lg	Lg	02 51 31.7	
	27nm,0.8s						
MK31	**Makanchi Array**	**10.28**	**45**	⇑Pn	**Pn**	**02 50 27.9**	**+0.7**
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**10.28**	**45**	Pn	**Pn**	**02 50 28.2**	**+1.0**
	0.1nm,0.3s,baz=233,slow=16,SNR=3.3						
MKAR				Lg	Lg	02 53 22.1	
	0.2nm,0.3s,baz=241,slow=28,SNR=4.6						
GEYT	**Alibeck**	**10.75**	**263**	Pn	**Pn**	**02 50 31.2**	**-2.5**
	0.3nm,0.3s,baz=115,slow=13,SNR=3.6						
GEYT				Sn	**Sn**	**02 52 29.3**	**-4.7**
	0.5nm,0.3s,baz=73,slow=9.8,SNR=4.5						
KURBB	**Kurchatov Arra**	**11.65**	**22**	⇑Pn	**Pn**	**02 50 45.4**	**-0.5**
	3.7nm,0.6s						
KURBB				⇑Lg	Lg	02 54 03.5	
	17nm,0.7s						
KURBB	**Kurchatov Arra**	**11.65**	**22**	Pn	**Pn**	**02 50 45.3**	**-0.7**
	0.1nm,0.3s,baz=213,slow=13,SNR=4.6						
KURBB				Lg	Lg	02 54 03.3	
	0.1nm,0.3s,baz=222,slow=31,SNR=5.0						
KURK	**Kurchatov**	**11.76**	**22**	⇓Pn	**Pn**	**02 50 45.4**	**-2.0**
	1.8nm,1.4s						
KURK				⇑Lg	Lg	02 54 07.5	
	4.1nm,0.7s						
AB31	**Akbulak array**	**12.43**	**322**	Pn	**Pn**	**02 50 54.6**	**-2.0**
	0.3nm,0.2s,baz=129,slow=13,SNR=50						
BVAR	**Borovoye Array**	**13.04**	**357**	Pn	**Pn**	**02 51 03.8**	**-1.1**
	0.3nm,0.3s,baz=163,slow=9.0,SNR=4.7						
BVAR				Lg	Lg	02 54 48.1	
	0.9nm,0.3s,baz=224,slow=41,SNR=4.8						
AKTO	**Aktyubinsk**	**14.15**	**322**	⇓Pn	**Pn**	**02 51 18.0**	**-2.1**
	3.9nm,0.5s						
AKTO	**Aktyubinsk**	**14.15**	**322**	Pn	**Pn**	**02 51 18.5**	**-1.6**
	0.1nm,0.3s,baz=129,slow=19,SNR=4.2						
ZALV	**Zalesovo Beam**	**16.54**	**28**	Pn	**Pn**	**02 51 51.8**	**+0.2**
	0.2nm,0.3s,baz=222,slow=17,SNR=2.5						
SONM	**Songino Array**	**26.04**	**61**	P	**P**	**02 53 32.7**	**-0.5**
	0.3nm,0.6s,baz=258,slow=7.2,SNR=2.5						
BRTR	**Keskin Array B**	**29.03**	**282**	P	**P**	**02 54 03.0**	**+2.9**
	0.5nm,0.8s,baz=94,slow=12,SNR=3.0						
FINES	**FINESS Array B**	**34.91**	**323**	P	**P**	**02 54 52.4**	**+1.2**
	1.9nm,0.6s,baz=123,slow=9.5,SNR=9.5						
ARCES	**ARCESS Array B**	**38.12**	**336**	P	**P**	**02 55 19.3**	**+0.8**
	1.4nm,0.6s,baz=106,slow=8.9,SNR=11						
GERES	**GERESS Array B**	**41.41**	**302**	P	**P**	**02 55 47.7**	**+1.5**
	0.3nm,0.5s,baz=40,slow=4.4,SNR=3.6						
NOA	**NORSAR Array B**	**41.93**	**321**	P	**P**	**02 55 51.1**	**+0.8**
	0.5nm,0.7s,baz=91,slow=7.3,SNR=2.7						
KEST	**Kesra**	**48.49**	**286**	LR	LR	03 19 52.7	
	comp=Z,15nm,19.3s,baz=271,slow=39						
TORD	**Torodi Ar. Bea**	**66.35**	**267**	P	**P**	**02 58 49.5**	**+0.5**
	0.7nm,0.5s,baz=47,slow=5.3,SNR=15						
ILAR	**Eielson Array**	**71.26**	**16**	P	**P**	**02 59 19.2**	**+0.5**
	0.3nm,0.8s,baz=323,slow=4.6,SNR=4.3						
YKA	**Yellowknife Ar**	**77.71**	**3**	P	**P**	**02 59 57.6**	**+1.4**
	0.8nm,0.7s,baz=350,slow=5.6,SNR=4.5						
WRA	**Warramunga Arr**	**83.43**	**123**	P	**P**	**03 00 28.8**	**+1.3**
	0.4nm,0.7s,baz=327,slow=4.9,SNR=4.2						
ASAR	**Alice Springs**	**85.86**	**126**	P	**P**	**03 00 41.1**	**+1.3**
	0.3nm,0.6s,baz=305,slow=3.3,SNR=4.1						

*GUC **09** 02:57:36.0±0.7, 34.61S×71.96W, h8km±4km, ML3.9*
*SJA **09** 02:57:38.4±1.2, 34.44S×72.32W, h45km, MD3.5, ML3.2*
ISC 09 02:57:35.4±2.0, 34.61S±0.04×72.0W±0.1, h5km±13km, n21, σ1§40/29, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.72**	**123**	⇑*i*P	**Pg**	**02 57 50.3**	**+1.0**
NICH				*i* S	**Sb**	**02 58 00.1**	**-0.5**
LNV	**Longovilo**	**0.80**	**35**	⇑*i*P	**Pg**	**02 57 50.9**	**+0.2**
TALC	**Talca**	**0.83**	**161**	⇓*i*P	**Pg**	**02 57 52.2**	**+0.8**
TALC				*i* S	**Sb**	**02 58 03.7**	**-0.1**
LNCH	**Linares**	**1.27**	**167**	⇑*i*P	**Pn**	**02 57 58.6**	**-1.2**
LNCH				*i* S	**Sb**	**02 58 15.9**	**-0.6**
CHCH	**Chadas Angostu**	**1.28**	**58**	⇓*i*P	**Pn**	**02 57 58.9**	**-1.1**
PCH	**Pirque**	**1.56**	**51**	*e*P	**Pn**	**02 58 03.6**	**-0.2**
PCH				*e*S	**Sn**	**02 58 24.5**	**0.0**
SAN	**Santiago**	**1.58**	**43**	*e*P	**Pn**	**02 58 03.7**	**-0.4**
SAN				*i* S	**Sn**	**02 58 24.6**	**-0.4**
LACH	**Col Las Americ**	**1.66**	**46**	*e*P	**Pn**	**02 58 05.5**	**+0.2**
CLCH	**Cerro Calan**	**1.69**	**45**	⇑*i*P	**Pn**	**02 58 05.8**	**0.0**
CLCH				*i* S	**Sn**	**02 58 28.2**	**+0.4**
CLCH				AML	AML	02 58 33.2	
	comp=N,2μm,0.5s						
PEL	**Peldehue**	**1.81**	**36**	*e*P	**Pn**	**02 58 07.7**	**+0.4**
PEL				*i* S	**Sn**	**02 58 31.2**	**+0.5**
PEL				AML	AML	02 58 34.5	
	comp=N,2μm,0.5s						
AAGR	**Agrelo**	**3.02**	**61**	*e*P	**Pb**	**02 58 28.6**	**-1.2**
AAGR				*i* S	**Sb**	**02 59 06.1**	**-0.9**
ARCO	**CERRO ARCO**	**3.08**	**56**	*e*P	**Pb**	**02 58 30.7**	**-0.1**
ARCO				*i* S	**Sb**	**02 59 07.1**	**-1.6**
ARCO				AML	AML	02 59 16.4	
	comp=Z,64nm,0.5s						
AUSP	**Uspallata**	**3.21**	**43**	*i* P	**Pb**	**02 58 31.2**	**-1.9**
AUSP				*i* S	**Sb**	**02 59 10.3**	**-2.3**
ASAL	**Salagasta**	**3.30**	**53**	*e*P	**Pb**	**02 58 33.0**	**-1.4**
RTLS	**Leoncito**	**3.58**	**39**	*i* P	Pn	02 58 35.7	+3.8
RTLS				*i* S	**Sn**	**02 59 17.5**	**+2.7**
RTCV	**Cerro Valdivia**	**3.97**	**47**	*e*P	Pn	02 58 40.3	+3.3
RTLL	**Cerro Villicun**	**4.39**	**43**	*e*P	**Pn**	**02 58 45.6**	**+2.7**
ACAN	**Cantantal**	**4.62**	**61**	*e*P	Pn	02 58 49.4	+3.4
AMOG	**MOGNA**	**4.68**	**40**	*e*P	**Pn**	**02 58 49.2**	**+2.3**
AVFE	**Valle Fertil**	**5.47**	**45**	*e*P	**Pn**	**02 58 59.5**	**+1.8**
TCA	**Tanti**	**7.00**	**64**	*e*P	**Pn**	**02 59 20.6**	**+1.9**

IDC 09 02:59:31.6±2.2, 2.12N×97.14E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.5/26, mbtmp3.7/5, Error ellipse: s-maj=78.9km s-min=29.4km az=50.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**26.43**	**248**	T	T	03 32 07.0	
	baz=69,slow=76,SNR=58						
H08S3	**Diego Garcia H**	**26.43**	**248**	T	T	03 32 07.9	
	baz=69,slow=76,SNR=57						
H08S1	**Diego Garcia H**	**26.45**	**248**	T	T	03 32 08.3	
	baz=69,slow=76,SNR=60						
WRA	**Warramunga Arr**	**42.58**	**123**	P	P	03 07 29.5	-0.2
	0.2nm,0.5s,baz=302,slow=8.9,SNR=3.4						
SONM	**Songino Array**	**46.24**	**9**	P	P	03 07 59.5	+0.8
	0.2nm,0.4s,baz=204,slow=3.2,SNR=5.0						
MKAR	**Makanchi Array**	**46.34**	**346**	P	P	03 07 59.3	-0.2
	0.7nm,0.6s,baz=156,slow=9.2,SNR=7.8						
GEYT	**Alibeck**	**50.48**	**320**	P	P	03 08 31.6	0.0
	0.9nm,0.4s,baz=111,slow=7.9,SNR=2.4						
ZALV	**Zalesovo Beam**	**52.65**	**351**	P	P	03 08 46.6	-0.9
	1.1nm,0.5s,baz=164,slow=6.3,SNR=6.3						

*ISCJB **09** 03:23:31.3±0.3, 51.54N±0.02×16.03E±0.02, h0km, Error ellipse: s-maj=2.3km s-min=1.9km az=23.5*
*CSEM **09** 03:23:33.1±0.1, 51.54N×16.03E, h2km, ML3.7/13, Error ellipse: s-maj=2.1km s-min=1.9km az=47.0*
*IDC **09** 03:23:34.5±0.7, 51.57N×15.88E, h0km, mb1 3.2/8, mb1mx3.1/30, mbtmp3.1/8, ML2.9/8, Error ellipse: s-maj=11.8km s-min=5.9km az=100.0*
*BGR **09** 03:23:35.8±0.5, 51.51N×15.94E, h1km, ML3.3/10, Error ellipse: s-maj=5.6km s-min=4.4km az=171.0*
*PRU **09** 03:23:35.0, 51.49N×15.98E, h0km, Felt In Harrachov*
*VIE **09** 03:23:36.5±0.5, 51.29N×16.01E, h0km, mb2.6/5, ml3.0/5, Error ellipse: s-maj=2.9km s-min=2.7km az=8.0, Suspected Mining induced.*
*UPP **09** 03:23:39.9, 52.00N×15.37E, h0km, ML2.3, Suspected Mining explosion.*
ISC 09 03:23:33.1±0.7, 51.56N±0.02×16.03E±0.02, h0km, n111, σ1§10/186, 6C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.74**	**167**	*i* Pg	**Pg**	**03 23 47.7**	**+0.5**
KSP				*e*Sg	**Sg**	**03 23 57.0**	**+0.2**
KSP	**Ksiaz**	**0.74**	**167**	⇓*i* Pg	**Pg**	**03 23 47.7**	**+0.5**
KSP				*e*Sg	**Sg**	**03 23 57.0**	**+0.2**
UPC	**Upice**	**1.06**	**180**	*e*PG	**Pg**	**03 23 53.4**	**+0.1**
UPC				*e*SG	**Sg**	**03 24 06.4**	**-0.6**
	comp=Z,126nm,0.4s						
UPC	**Upice**	**1.06**	**180**	Pg	**Pg**	**03 23 53.4**	**+0.1**
UPC				Sg	**Sg**	**03 24 06.4**	**-0.6**
	126nm,0.4s						
DPC	**Dobruska-Polom**	**1.23**	**171**	*e*PG	**Pg**	**03 23 56.5**	**-0.1**
DPC				*e*SG	**Sg**	**03 24 11.8**	**-0.7**
	comp=Z,102nm,0.3s						
DPC	**Dobruska-Polom**	**1.23**	**171**	Pg	**Pg**	**03 23 56.5**	**-0.1**
DPC				Sg	**Sg**	**03 24 11.8**	**-0.7**
	102nm,0.3s						
PVCC	**Panska Ves**	**1.39**	**222**	*e*PG	**Pn**	**03 23 59.4**	**-0.3**
PVCC				*e*SG	**Sg**	**03 24 18.0**	**+0.5**
	comp=Z,362nm,0.5s						
PVCC	**Panska Ves**	**1.39**	**222**	Pg	**Pn**	**03 23 59.4**	**-0.3**
PVCC				Sg	**Sg**	**03 24 18.0**	**+0.5**
	362nm,0.5s						
BRG	**Berggiesshubel**	**1.48**	**243**	PN	**Pn**	**03 24 00.4**	**-0.6**
BRG				PG	**Pg**	**03 24 01.9**	**+0.5**
BRG				SG	**Sg**	**03 24 21.3**	**+0.7**
	320nm,0.4s						
KRLC	**Kraliky**	**1.56**	**162**	*e*PG	**Pn**	**03 24 01.9**	**-0.3**
KRLC				*e*SG	**Sn**	**03 24 22.2**	**-1.0**
KRLC	**Kraliky**	**1.56**	**162**	Pg	**Pn**	**03 24 01.9**	**-0.3**
KRLC				Sg	**Sn**	**03 24 22.2**	**-1.0**
RUE	**Ruedersdorf**	**1.67**	**304**	*e*Sg	**Sg**	**03 24 28.0**	**+1.5**
	SNR=4.8						
RUE	**Ruedersdorf**	**1.67**	**304**	Sg	**Sg**	**03 24 28.0**	**+1.5**
	SNR=4.8						
FBE	**Freiberg**	**1.80**	**250**	*e*Pg	**Pg**	**03 24 07.6**	**+0.1**
	SNR=10.0						
FBE				*e*Sg	**Sb**	**03 24 30.9**	**+1.0**
	SNR=3.8						
FBE	**Freiberg**	**1.80**	**250**	Pg	**Pg**	**03 24 07.6**	**+0.1**
	SNR=10.0						
FBE				Sg	**Sb**	**03 24 30.9**	**+1.0**
	SNR=3.8						
PRA	**Prague**	**1.80**	**215**	*e*PN	Pn	03 24 05.3	-0.1
PRA				*e*PG	**Pb**	**03 24 07.3**	**+0.3**
PRA				*e*SG	**Sb**	**03 24 30.3**	**+0.2**
	comp=Z,103nm,0.6s						
PRA	**Prague**	**1.80**	**215**	Pn	Pn	03 24 05.3	-0.1
PRA	**Prague**	**1.80**	**215**	Pg	**Pb**	**03 24 07.3**	**+0.3**
PRA				Sg	**Sb**	**03 24 30.3**	**+0.2**
	103nm,0.6s						
GOPC	**GO Pecny, Ondr**	**1.83**	**206**	*e*PN	**Pn**	**03 24 05.2**	**-0.6**
GOPC				*e*PG	**Pb**	**03 24 07.4**	**0.0**
GOPC				*e*SG	**Sn**	**03 24 30.4**	**+0.8**
	comp=Z,71nm,0.6s						
GOPC	**GO Pecny, Ondr**	**1.83**	**206**	Pn	**Pn**	**03 24 05.2**	**-0.6**
GOPC	**GO Pecny, Ondr**	**1.83**	**206**	Pg	**Pb**	**03 24 07.4**	**0.0**
GOPC				Sg	**Sn**	**03 24 30.4**	**+0.8**
	71nm,0.6s						
PRU	**Pruhonice**	**1.84**	**211**	*e*PN	**Pn**	**03 24 05.5**	**-0.4**
PRU				*e*PG	**Pb**	**03 24 07.1**	**-0.4**
PRU				*e*SG	**Sn**	**03 24 30.8**	**+1.0**
	comp=Z,69nm,0.3s						
PRU	**Pruhonice**	**1.84**	**211**	Pn	**Pn**	**03 24 05.5**	**-0.4**
CLL	**Collm**	**1.91**	**264**	*e*Pn	**Pn**	**03 24 06.5**	**-0.4**
	SNR=18						
CLL				*e*Sg	**Sg**	**03 24 34.4**	**0.0**
	SNR=2.8						
CLL	**Collm**	**1.91**	**264**	*i* Pn	**Pn**	**03 24 06.5**	**-0.4**
	comp=Z,9.0nm,0.3s						
CLL				*i* Pg	**Pb**	**03 24 09.4**	**+0.6**
CLL				*i*		03 24 13.6	
CLL				*i* Sn	**Sn**	**03 24 29.3**	**-2.3**
CLL				*i* Sg	**Sg**	**03 24 34.6**	**+0.2**
	comp=Z,83nm,0.6s						
MORC	**Moravsky Berou**	**2.03**	**151**	*e*Pn	**Pn**	**03 24 08.2**	**-0.4**
MORC				*e*Sg	**Sb**	**03 24 37.3**	**+0.6**
OKC	**Ostrava-Krasne**	**2.19**	**141**	*e*PG	**Pb**	**03 24 14.5**	**+0.9**
OKC				*e*SG	**Sb**	**03 24 42.5**	**+1.3**
	comp=Z,50nm,0.8s						
OKC	**Ostrava-Krasne**	**2.19**	**141**	Pg	**Pb**	**03 24 14.5**	**+0.9**
OKC				Sg	**Sb**	**03 24 42.5**	**+1.3**
	comp=Z,50nm,0.8s						
VRAC	**Vranov**	**2.29**	**171**	Pn	Pn	03 24 12.5	+0.5
	comp=Z,1.7nm,0.3s,baz=337,slow=14,SNR=13						
VRAC				Pg	**Pg**	**03 24 16.8**	**-0.1**
	comp=Z,4.9nm,0.3s,baz=346,slow=18,SNR=15						
VRAC				Sn	**Sb**	**03 24 44.6**	**+0.6**
	comp=Z,7.7nm,0.3s,baz=76,slow=18,SNR=8.7						
VRAC	**Vranov**	**2.29**	**171**	*e*Pn	Pn	03 24 12.2	+0.1
VRAC				*e*Sg	**Sg**	**03 24 46.2**	**-0.3**
TREC	**Trest**	**2.30**	**189**	*e*PN	Pn	03 24 12.4	+0.2
TREC				*e*PG	**Pb**	**03 24 15.9**	**+0.5**
TREC				*e*SG	**Sb**	**03 24 45.4**	**+1.1**
	comp=Z,42nm,0.3s						
TREC	**Trest**	**2.30**	**189**	Pn	Pn	03 24 12.4	+0.2
TREC	**Trest**	**2.30**	**189**	Pg	**Pb**	**03 24 15.9**	**+0.5**
TREC				Sg	**Sb**	**03 24 45.4**	**+1.1**
	comp=Z,42nm,0.3s						
TANN	**Tannenbergstha**	**2.53**	**244**	*e*Pn	Pn	03 24 15.7	+0.3
	SNR=22						
TANN				*e*Sg	**Sg**	**03 24 53.4**	**-0.9**
	SNR=8.3						
TANN	**Tannenbergstha**	**2.53**	**244**	Pn	Pn	03 24 15.7	+0.3
	SNR=22						
TANN				Sg	**Sg**	**03 24 53.4**	**-0.9**
	SNR=8.3						
WERD	**Werda**	**2.60**	**246**	*e*Sg	**Sb**	**03 24 55.1**	**+2.0**
	SNR=5.3						
WERD	**Werda**	**2.60**	**246**	Sg	**Sb**	**03 24 55.1**	**+2.0**
	SNR=5.3						
GUNZ	**Gunzen**	**2.63**	**244**	*e*Pn	Pn	03 24 17.7	+0.9
	SNR=11						
GUNZ				*e*Pg	**Pg**	**03 24 24.1**	**+0.7**
	SNR=3.6						
GUNZ				*e*Sg	**Sg**	**03 24 56.3**	**-1.1**
	SNR=7.9						
GUNZ	**Gunzen**	**2.63**	**244**	Pn	Pn	03 24 17.7	+0.9
	SNR=11						
NKC	**Novy Kostel**	**2.63**	**241**	*e*PN	Pn	03 24 17.4	+0.6
NKC				*e*PG	**Pg**	**03 24 23.1**	**-0.3**
NKC				*e*SG	**Sg**	**03 24 56.5**	**-0.9**
	comp=Z,162nm,0.5s						
NKC	**Novy Kostel**	**2.63**	**241**	Pn	Pn	03 24 17.4	+0.6
NKC	**Novy Kostel**	**2.63**	**241**	Pg	**Pg**	**03 24 23.1**	**-0.3**
NKC				Sg	**Sg**	**03 24 56.5**	**-0.9**
	comp=Z,162nm,0.5s						
WERN	**Wernitzgruen**	**2.64**	**242**	*e*Pn	Pn	03 24 17.6	+0.7
	SNR=14						
WERN				*e*Pg	**Pg**	**03 24 24.4**	**+0.7**
	SNR=2.6						
WERN	**Wernitzgruen**	**2.64**	**242**	Pn	Pn	03 24 17.6	+0.7
	SNR=14						
PLN	**Plauen**	**2.67**	**248**	*e*Sg	**Sg**	**03 24 58.1**	**-0.7**
	SNR=5.7						
PLN	**Plauen**	**2.67**	**248**	Sg	**Sg**	**03 24 58.1**	**-0.7**
	SNR=5.7						
NEUB	**Neuenburg**	**2.69**	**264**	*e*Sg	**Sg**	**03 24 59.6**	**+0.2**
	SNR=8.6						
NEUB	**Neuenburg**	**2.69**	**264**	Sg	**Sg**	**03 24 59.6**	**+0.2**
	SNR=8.6						
OJC	**Ojcow**	**2.74**	**118**	*e*Pg	**Pg**	**03 24 25.8**	**+0.2**
OJC				*e*Sg	**Sg**	**03 25 01.5**	**+0.4**
OJC	**Ojcow**	**2.74**	**118**	*e*Pg	**Pg**	**03 24 25.8**	**+0.2**
OJC				*e*Sg	**Sg**	**03 25 01.5**	**+0.4**
KHC	**Kasperske Hory**	**2.90**	**214**	*e*PN	Pn	03 24 20.4	-0.1
KHC				*e*PG	**Pb**	**03 24 26.2**	**+0.6**
KHC				*e*SN	**Sn**	**03 24 54.3**	**-1.7**
KHC				*e*SG	**Sb**	**03 25 04.0**	**+2.4**
	comp=Z,28nm,0.5s						
KHC	**Kasperske Hory**	**2.90**	**214**	Pn	Pn	03 24 20.4	-0.1
KHC	**Kasperske Hory**	**2.90**	**214**	Pg	**Pb**	**03 24 26.2**	**+0.6**
KHC				Sn	**Sn**	**03 24 54.3**	**-1.7**
KHC				Sg	**Sb**	**03 25 04.0**	**+2.4**
	comp=Z,28nm,0.5s						
MOX	**Moxa**	**2.93**	**253**	*e*Pn	Pn	03 24 21.3	+0.4
	SNR=5.5						
MOX				*e*Sg	**Sg**	**03 25 07.7**	**+0.6**
	SNR=4.2						
MOX	**Moxa**	**2.93**	**253**	Pn	Pn	03 24 21.3	+0.4
	SNR=5.5						
MOX				Sg	**Sg**	**03 25 07.7**	**+0.6**
	SNR=4.2						
MANZ	**Manzenberg**	**2.94**	**239**	*e*Pn	Pn	03 24 21.4	+0.3
	SNR=6.2						
MANZ				*e*Pg	**Pg**	**03 24 30.2**	**+0.7**
	SNR=1.6						
MANZ	**Manzenberg**	**2.94**	**239**	Pn	Pn	03 24 21.4	+0.3
	SNR=6.2						
ROTZ	**Rotzenmuhle**	**3.02**	**235**	*e*Pn	Pn	03 24 22.5	+0.3
	SNR=7.6						
ROTZ	**Rotzenmuhle**	**3.02**	**235**	Pn	Pn	03 24 22.5	+0.3
	SNR=7.6						
GEC2	**GERESS Array S**	**3.10**	**210**	*e*Pn	Pn

comp=Z,14nm,0.5s
ARSA Arzberg 4.33 185 Pn **Pn** 03 24 39.8 -0.3
ARSA Sg **Sg** 03 25 50.0 -2.1
comp=Z,14nm,0.5s
LUNU Lund 4.36 340 P **Pn** 03 24 39.2 -1.3
LUNU Lund 4.36 340 P **Pn** 03 24 39.2 -1.3
BLEU Blekinge 4.75 359 P **Pn** 03 24 45.8 -0.1
BLEU Blekinge 4.75 359 P **Pn** 03 24 45.8 -0.1
BLEU S **Sn** 03 25 37.0 -4.7
KOLS Kolonicke sedl 4.79 121 *e*Pn **Pn** 03 24 46.9 +0.4
KOLS Kolonicke sedl 4.79 121 *e*Pg **Pg** 03 25 07.8 +2.9
KOLS eSg **Sg** 03 26 08.7 +1.7
KOLS Kolonicke sedl 4.79 121 *e*PN **Pn** 03 24 46.9 +0.4
KOLS *e*PG **Pg** 03 25 07.8 +2.9
KOLS eSG **Sg** 03 26 08.7 +1.7
DEL Delary 5.08 346 P **Pn** 03 24 49.3 -1.1
DEL Delary 5.08 346 P **Pn** 03 24 49.3 -1.1
VXJU Vaexsjoe 5.41 354 P **Pn** 03 24 54.7 -0.2
VXJU Vaexsjoe 5.41 354 P **Pn** 03 24 54.7 -0.2
OSKU Oskarshamn 5.64 0 P **Pn** 03 24 57.9 -0.2
OSKU Oskarshamn 5.64 0 P **Pn** 03 24 57.9 -0.2
FABU Falkenberg 5.78 342 P **Pn** 03 24 59.1 -0.9
FABU Falkenberg 5.78 342 P **Pn** 03 24 59.1 -0.9
EKSU Eksjoe 6.04 356 P **Pn** 03 25 03.3 -0.3
EKSU Eksjoe 6.04 356 P **Pn** 03 25 03.3 -0.3
VSTU Vaestervik 6.12 3 P **Pn** 03 25 05.0 +0.4
VSTU Vaestervik 6.12 3 P **Pn** 03 25 05.0 +0.4
DAVOX Davos/Dischmat 6.25 222 Pn **Pn** 03 25 08.7 +1.9
comp=Z,0.2nm,0.3s,baz=39,slow=17,SNR=2.9
DAVOX Lg Lg 03 26 52.1
comp=Z,0.4nm,0.3s,baz=70,slow=18,SNR=3.5
AKASG Malin Array Be 8.35 91 Pn **Pn** 03 25 36.0 +0.7
comp=Z,0.7nm,0.3s,baz=284,slow=12,SNR=4.2
HFS Hagfors 8.69 352 Pn **Pn** 03 25 38.3 -1.6
comp=Z,0.1nm,0.3s,baz=174,slow=14,SNR=4.2
HFS Sn **Sn** 03 27 13.6 -5.0
comp=Z,0.2nm,0.3s,baz=170,slow=25,SNR=4.1
NOA NORSAR Array B 9.87 346 Pn **Pn** 03 25 54.3 -1.7
comp=Z,0.1nm,0.3s,baz=168,slow=12,SNR=3.0
FINES FINESS Array B 11.34 25 Pn **Pn** 03 26 13.6 -2.5
comp=Z,0.1nm,0.3s,baz=210,slow=13,SNR=5.6
FINES Sn Sn 03 28 13.8 -10
comp=Z,0.2nm,0.3s,baz=215,slow=24,SNR=4.3
EKA Eskdalemuir Ar 12.04 296 Pn Pn 03 26 22.1 -3.6
baz=102,slow=14,SNR=3.3
ARCES ARCESS Array B 18.58 10 P **Pn** 03 27 52.6 +1.1
comp=Z,0.1nm,0.3s,baz=192,slow=13,SNR=3.8

*ISCJB **09** 03:56:27.0±0.4, 2°.54N±0°.04×99°.20E±0°.06, h150km, mb3.7/10, Error ellipse: s-maj=9.3km s-min=4.8km az=164.0*
*IDC **09** 03:56:27.5±0.5, 2°.49N×99°.17E, h155km±3km, mb3.5/10, mb1 3.6/12, mb1mx3.4/29, mbtmp4.0/12, Error ellipse: s-maj=27.5km s-min=12.3km az=50.0*
*DJA **09** 03:56:28.5±0.5, 2°.N±3°×9°.E±°, h147km±8km, M4.3/16, mb4.8/3, mB5.0/2, MLv4.1/16, Mw(mB)4.3/2*
ISC 09 03:56:27.2±0.6, 2°.47N±0°.05×99°.09E±0°.07, h150km, n35, σ1°.57/39, mb3.7/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**0.36**	**333**	P	**Pn**	**03 56 50.3**	**+2.2**
	190nm,0.3s,baz=158,slow=4.1,SNR=814						
PSI				S	**Sn**	**03 57 06.5**	**+2.4**
	84nm,0.3s,baz=34,slow=23,SNR=29						
PSI	**Prapat**	**0.36**	**333**	P	**Pn**	**03 56 50.4**	**+2.2**
	baz=0.3,SNR=317						
TSI	**Tuntungan**	**1.15**	**333**	P	**Pn**	**03 56 55.6**	**+2.3**
KCSI	**Kotacane, Aceh**	**1.68**	**308**	P	**Pn**	**03 57 00.1**	**+1.4**
MNSI	**Mandailing Nat**	**1.74**	**164**	P	**Pn**	**03 57 01.2**	**+1.9**
MNSI				S	**Sn**	**03 57 26.1**	**+2.1**
GSI	**Gunungsitoli**	**1.91**	**233**	P	**Pn**	**03 57 03.0**	**+1.8**
PBSI	**Pulau Batu**	**2.64**	**198**	P	**Pn**	**03 57 11.8**	**+1.8**
PBSI				S	**Sn**	**03 57 44.2**	**+1.1**
BKNI	**Bangkinang**	**2.89**	**137**	P	**Pn**	**03 57 15.2**	**+2.0**
BKNI	**Bangkinang**	**2.89**	**137**	P	**Pn**	**03 57 15.5**	**+2.3**
	baz=3.0,SNR=7.3						
PPI	**Padang Panjang**	**3.19**	**156**	P	**Pn**	**03 57 19.2**	**+2.2**
PPI	**Padang Panjang**	**3.19**	**156**	P	**Pn**	**03 57 18.9**	**+1.9**
	baz=3.2,SNR=6.9						
LHMI	**Lhok Sumawe**	**3.47**	**322**	P	**Pn**	**03 57 22.0**	**+1.4**
LHMI	**Lhok Sumawe**	**3.47**	**322**	P	**Pn**	**03 57 22.6**	**+2.0**
	baz=3.4,SNR=5.5						
PDSI	**Padang**	**3.63**	**158**	P	**Pn**	**03 57 24.1**	**+1.4**
SISI	**Saibi**	**3.77**	**180**	P	**Pn**	**03 57 24.1**	**-0.4**
TRTT	**Trang**	**5.36**	**6**	P	**Pn**	**03 57 46.2**	**+0.8**
	56nm,0.9s,733nm0.2nm						
MASI	**Maura Aman, Be**	**6.41**	**151**	P	**Pn**	**03 58 02.4**	**+3.0**
SURT	**Suratani**	**6.45**	**357**	P	**Pn**	**03 58 00.9**	**+1.0**
	12nm,1.0s,217nm0.0nm						
KSI	**Kapahiang**	**7.02**	**150**	P	**Pn**	**03 58 09.1**	**+1.5**
	122nm,0.6s,2.3nm						
LHSI	**Lahat**	**7.67**	**145**	P	**Pn**	**03 58 17.0**	**+0.8**
MNAI	**Manna**	**7.81**	**150**	P	**Pn**	**03 58 16.9**	**-1.3**
	baz=7.9,SNR=4.8						
CMAR	**Chiang Mai Arr**	**15.89**	**359**	P	**P**	**04 00 03.1**	**-0.2**
	0.7nm,0.3s,baz=191,slow=12,SNR=25						
PALK	**Pallekele**	**18.93**	**285**	P	**Pn**	**04 00 39.5**	**+0.5**
	0.7nm,0.3s,baz=103,slow=15,SNR=4.0						
KAPI	**Kappang**	**21.94**	**110**	P	**P**	**04 01 09.5**	**+0.5**
	13nm,0.5s,baz=297,slow=8.9,SNR=9.0						
WRA	**Warramunga Arr**	**41.15**	**124**	P	**P**	**04 03 56.2**	**-0.8**
	1.9nm,0.6s,baz=307,slow=9.3,SNR=36						
WRA				PcP	**PcP**	**04 05 52.6**	**-1.0**
	1.4nm,1.2s,baz=316,slow=2.5,SNR=6.6						
ASAR	**Alice Springs**	**42.70**	**129**	P	**P**	**04 04 07.6**	**-1.9**
	1.1nm,0.8s,baz=308,slow=7.8,SNR=6.8						
KSRS	**Korea Array**	**43.74**	**34**	P	**P**	**04 04 16.6**	**-1.1**
	0.6nm,0.3s,baz=225,slow=9.4,SNR=5.9						
SONM	**Songino Array**	**45.63**	**7**	P	**P**	**04 04 32.4**	**-0.2**
	0.7nm,0.6s,baz=188,slow=10,SNR=7.2						
MKAR	**Makanchi Array**	**46.51**	**344**	P	**P**	**04 04 39.1**	**-0.3**
	1.3nm,0.6s,baz=160,slow=8.5,SNR=13						
QLP	**Quilpie**	**52.27**	**127**	P	**P**	**04 05 23.7**	**+0.2**
	baz=52,SNR=4.4						
ZALV	**Zalesovo Beam**	**52.63**	**349**	P	**P**	**04 05 25.5**	**-0.1**
	0.6nm,0.3s,baz=165,slow=6.2,SNR=5.5						
STKA	**Stephens Creek**	**52.84**	**134**	P	**P**	**04 05 26.8**	**-0.7**
	1.2nm,0.5s,baz=302,slow=9.5,SNR=2.9						
BRTR	**Keskin Array B**	**69.67**	**312**	P	**P**	**04 07 20.1**	**-0.8**
	0.4nm,0.6s,baz=118,slow=4.5,SNR=3.9						
FINES	**FINESS Array B**	**79.76**	**332**	P	**P**	**04 08 17.5**	**-0.7**
	0.6nm,0.6s,baz=101,slow=2.8,SNR=3.5						
TXAR	**Lajitas Array**	**141.59**	**33**	PKP	**PKPdf**	**04 15 41.7**	**+0.2**
	0.3nm,0.7s,baz=174,slow=1.1,SNR=3.5						

WEL 09 04:00:25.0±0.3, 37°.61S×176°.42E, h164km±2km, ML3.7/8, 5C-1D, Error ellipse: s-maj=3.4km s-min=2.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.85**	**140**	⇑PN	Pn	04 00 50.4	+0.4
URZ				SN	Sn	04 01 09.4	+0.1
URZ				AML	AML	04 01 10.5	
HAZ	**Te Kaha**	**1.09**	**98**	⇑PN	Pn	04 00 52.0	+0.1
HAZ				SN	Sn	04 01 12.5	-0.1
MWZ	**Matawai**	**1.14**	**130**	⇑PN	Pn	04 00 52.2	-0.1
MWZ				SN	Sn	04 01 13.5	0.0
MWZ				AML	AML	04 01 15.3	
MWZ				AML	AML	04 01 15.5	
MWZ				AML	AML	04 01 16.5	
SNGZ	**Shannon Statio**	**1.38**	**148**	PN	Pn	04 00 54.8	+0.2
SNGZ				SN	Sn	04 01 16.5	-0.9
TKGZ	**Te Karaka**	**1.40**	**127**	⇑PN	Pn	04 00 54.7	+0.1
MXZ	**Matakaoa Point**	**1.50**	**89**	AML	AML	04 00 53.2	
MXZ				PN	Pn	04 00 56.0	+0.3
MXZ				AML	AML	04 01 22.3	
NMHZ	**Naumai**	**1.52**	**169**	*e*PN	Pn	04 00 56.8	+0.8
RIGZ	**Rimuhau**	**1.52**	**136**	PN	Pn	04 00 56.1	+0.1
BKZ	**Black Stump Fm**	**1.56**	**178**	PN	Pn	04 00 56.1	-0.2
BKZ				AML	AML	04 01 19.9	
BKZ				AML	AML	04 01 20.1	
WMGZ	**Waiomatatini S**	**1.60**	**98**	PN	Pn	04 00 56.6	0.0
CNGZ	**Carnagh Statio**	**1.66**	**122**	PN	Pn	04 00 57.7	+0.4
KNZ	**Kokohu**	**1.72**	**145**	⇑PN	Pn	04 00 57.5	-0.4
WHVZ	**Whangaehu Hut**	**1.79**	**201**	PN	Pn	04 00 59.1	+0.1
KWHZ	**Kaweka Forest**	**1.81**	**180**	PN	Pn	04 00 59.0	-0.1
TRVZ	**Turoa**	**1.82**	**202**	PN	Pn	04 00 59.7	+0.4
MCHZ	**McNeill Hill**	**1.85**	**173**	PN	Pn	04 00 59.5	+0.1
MOVZ	**Moawhango**	**1.87**	**196**	PN	Pn	04 00 59.2	-0.5
BHHZ	**Black Hill Sta**	**1.90**	**188**	⇓PN	Pn	04 00 59.5	-0.5
KRHZ	**Kereru**	**2.03**	**181**	PN	Pn	04 01 00.8	-0.7
KAHZ	**Kahuranaki**	**2.21**	**171**	PN	Pn	04 01 02.7	-0.8
PNHZ	**Pukenui**	**2.31**	**184**	PN	Pn	04 01 03.4	-1.2
WAZ	**Wanganui**	**2.42**	**207**	PN	Pn	04 01 05.6	-0.3
PXZ	**Pawanui**	**2.44**	**172**	*e*PN	Pn	04 01 04.2	-1.9
PXZ				AML	AML	04 01 36.8	
PXZ				AML	AML	04 01 39.0	
TSZ	**Takapari Road**	**2.47**	**188**	PN	Pn	04 01 05.2	-1.4
DVHZ	**Dannevirke**	**2.69**	**184**	PN	Pn	04 01 07.1	-2.1
POWZ	**Post Office Ro**	**2.83**	**190**	PN	Pn	04 01 08.8	-2.0
ANWZ	**Angora Road**	**2.85**	**179**	PN	Pn	04 01 09.3	-1.7
PRWZ	**Pori Road**	**2.96**	**187**	PN	Pn	04 01 10.5	-2.0
BFZ	**Birch Farm**	**3.07**	**182**	*e*PN	Pn	04 01 11.6	-2.2
MRZ	**Mangatainoka R**	**3.12**	**192**	PN	Pn	04 01 11.8	-2.6
MRZ				AML	AML	04 01 50.6	
MRZ				AML	AML	04 02 49.3	
TIWZ	**Tintock**	**3.19**	**187**	*e*PN	Pn	04 01 13.0	-2.4
TIWZ				AML	AML	04 01 51.7	
OGWZ	**Otaki Gorge**	**3.35**	**196**	PN	Pn	04 01 14.6	-2.6
HOWZ	**Holdsworth Sta**	**3.36**	**192**	PN	Pn	04 01 14.4	-3.1
KIW	**Kapiti Island**	**3.45**	**199**	PN	Pn	04 01 15.7	-2.9
MTW	**Mount Morrison**	**3.62**	**191**	PN	Pn	04 01 17.0	-3.7
CAW	**Cannon Point**	**3.65**	**196**	PN	Pn	04 01 17.8	-3.3
DUWZ	**D'Urville Isla**	**3.73**	**211**	PN	Pn	04 01 19.5	-2.7
TRWZ	**Traveller**	**3.83**	**188**	PN	Pn	04 01 19.8	-3.6
TRWZ				AML	AML	04 02 05.5	
MSWZ	**Moikau Station**	**3.91**	**193**	PN	Pn	04 01 20.5	-4.0
TCW	**Tory Channel**	**3.96**	**204**	PN	Pn	04 01 21.9	-3.3
PLWZ	**Palliser**	**4.06**	**192**	PN	Pn	04 01 22.1	-4.3
TUWZ	**Tuamarina**	**4.27**	**206**	PN	Pn	04 01 25.5	-3.5
NNZ	**Nelson**	**4.30**	**212**	PN	Pn	04 01 25.8	-3.7
QRZ	**Quartz Range**	**4.41**	**222**	*e*PN	Pn	04 01 27.4	-3.6
BSWZ	**Blackbirch Sta**	**4.55**	**205**	PN	Pn	04 01 29.0	-3.7
THZ	**Tophouse**	**4.96**	**212**	*e*PN	Pn	04 01 35.0	-3.2
KHZ	**Kahutara**	**5.29**	**204**	PN	Pn	04 01 38.3	-4.1

*IDC **09** 04:15:05.3±0.6, 5°.53S×153°.90E, h0km, mb4.4/16, mb1 4.5/17, mb1mx4.4/24, mbtmp4.4/17, ML4.0/1, MS3.4/12, Ms1 3.5/12, ms1mx3.3/28, Error ellipse: s-maj=25.7km s-min=14.3km az=87.0*
*NEIC **09** 04:15:11.8±1.7, 5°.57S×153°.88E, h44km±14km, mb4.7/6, Error ellipse: s-maj=12.8km s-min=8.4km az=76.0*
*ISCJB **09** 04:15:13.6±0.5, 5°.64S±0°.07×153°.76E±0°.08, h74km, mb4.2/19, Error ellipse: s-maj=12.8km s-min=8.0km az=29.1*
ISC 09 04:15:15.2±0.6, 5°.63S±0°.09×153°.8E±0°.1, h74km, n39, σ0°.87/35, mb4.4/19, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.55**	**240**	*e*Pn	**Pn**	**04 17 00.8**	**-1.8**
	53nm,0.6s						
PMG				*e*Sn	**Sn**	**04 18 26.9**	**+0.2**
JAY	**Jayapura**	**13.39**	**283**	LR	LR	04 23 20.3	
	comp=Z,175nm,20.1s,baz=174,slow=37						
CTA	**Charters Tower**	**16.12**	**206**	Pn	**Pn**	**04 18 57.0**	**-0.3**
	0.3nm,0.3s,baz=43,slow=15,SNR=7.5						
CTAO	**Charters Tower**	**16.12**	**206**	*e*Pn	**Pn**	**04 18 56.7**	**-0.7**
DZM	**Mont Dzumac**	**20.43**	**144**	P	**P**	**04 19 45.5**	**-1.3**
	25nm,0.6s,baz=270,slow=20,SNR=46						
DZM	**Mont Dzumac**	**20.43**	**144**	*e*P	**P**	**04 19 46.2**	**-0.5**
	42nm,0.8s						
GUMO	**Guam**	**21.04**	**335**	LR	LR	04 29 00.8	
	comp=Z,47nm,18.4s,baz=76,slow=40						
WRA	**Warramunga Arr**	**23.65**	**231**	P	**P**	**04 20 19.5**	**-0.6**
	6.0nm,0.9s,baz=56,slow=10,SNR=22						
WRA				PcP	**PcP**	**04 24 03.9**	**+1.0**
	4.9nm,0.7s,baz=59,slow=2.3,SNR=17						
AS31	**Alice Springs**	**26.21**	**225**	*e*P	**P**	**04 20 44.2**	**+0.8**
ASAR	**Alice Springs**	**26.21**	**225**	P	**P**	**04 20 43.1**	**-0.3**
	6.2nm,0.9s,baz=57,slow=9.2,SNR=29						
ASAR				PcP	**PcP**	**04 24 09.8**	**+1.1**
	4.8nm,0.6s,baz=62,slow=2.5,SNR=23						
ASAR				LR	LR	04 31 13.5	
	comp=Z,132nm,18.4s,baz=71,slow=37						
H11S3	**WAKE ISLAND Hy**	**27.15**	**28**	T	T	04 49 04.7	
	baz=208,slow=76,SNR=50						
H11S2	**WAKE ISLAND Hy**	**27.16**	**28**	T	T	04 49 04.7	
	baz=208,slow=76,SNR=36						
H11S1	**WAKE ISLAND Hy**	**27.17**	**28**	T	T	04 49 03.5	
	baz=208,slow=76,SNR=50						
STKA	**Stephens Creek**	**28.49**	**202**	P	**P**	**04 21 03.4**	**-0.1**
	2.1nm,0.7s,baz=27,slow=11,SNR=3.1						
STKA				PcP	**PcP**	**04 24 14.6**	**+0.7**
	5.0nm,0.9s,baz=27,slow=4.5,SNR=4.0						
STKA				LR	LR	04 32 43.7	
	comp=Z,119nm,19.0s,baz=25,slow=37						
KAPI	**Kappang**	**33.87**	**269**	LR	LR	04 37 06.3	
	comp=Z,62nm,22.0s,baz=77,slow=39						
MJAR	**Matsushiro Arr**	**44.41**	**342**	LR	LR	04 39 46.2	
	comp=Z,25nm,22.0s,baz=20,slow=33						
KSRS	**Korea Array**	**49.17**	**33**	P	**P**	**04 23 55.4**	**-0.4**
	2.0nm,0.9s,baz=147,slow=9.2,SNR=10						
KSAR	**Wonju Array Be**	**49.18**	**333**	P	**P**	**04 23 55.4**	**-0.5**
PETK	**Petropavlovsk-**	**58.61**	**3**	P	**P**	**04 25 04.2**	**-0.2**
	1.2nm,0.4s,baz=205,slow=6.4,SNR=3.4						
PETK				LR	LR	04 46 12.1	
	comp=Z,22nm,21.9s,baz=152,slow=32						
CMAR	**Chiang Mai Arr**	**59.10**	**295**	P	**P**	**04 25 09.2**	**+0.8**
	8.6nm,0.9s,baz=108,slow=5.0,SNR=23						
CMAR				LR	LR	04 48 47.9	
	comp=Z,23nm,20.9s,baz=162,slow=34						
CHTO	**Chiang Mai**	**59.21**	**296**	*e*P	**P**	**04 25 10.3**	**+1.1**
	3.7nm,0.7s						
SONM	**Songino Array**	**67.54**	**328**	P	**P**	**04 26 04.4**	**+0.6**
	1.0nm,0.5s,baz=126,slow=7.3,SNR=6.8						
SONM				LR	LR	04 56 00.9	
	comp=Z,25nm,18.1s,baz=120,slow=36						
VNDA	**Vanda**	**71.97**	**178**	P	**P**	**04 26 31.5**	**+1.1**
	1.6nm,0.9s,baz=334,slow=6.5,SNR=7.0						
MCK	**McKinley**	**81.26**	**22**	*e*P	**P**	**04 27 21.4**	**-1.6**
	4.4nm,0.8s						
MKAR	**Makanchi Array**	**81.58**	**319**	P	**P**	**04 27 25.5**	**+0.4**
	4.9nm,0.8s,baz=101,slow=5.7,SNR=31						
ZALV	**Zalesovo Beam**	**82.38**	**326**	P	**P**	**04 27 28.9**	**-0.1**
	3.3nm,0.5s,baz=116,slow=6.6,SNR=9.0						
ZALV				LR	LR	05 05 50.9	
	comp=Z,15nm,18.9s,baz=45,slow=37						
ILAR	**Eielson Array**	**82.57**	**22**	P	**P**	**04 27 27.9**	**-1.9**
	0.9nm,0.6s,baz=242,slow=5.4,SNR=10						
ILAR				LR	LR	05 01 21.8	
	comp=Z,50nm,18.9s,baz=230,slow=34						
QSPA	**South Pole Qui**	**84.33**	**180**	P	**P**	**04 27 39.6**	**+0.6**
	12nm,0.7s,baz=350,slow=1.1,SNR=55						
QSPA	**South Pole Qui**	**84.33**	**180**	*e*P	**P**	**04 27 39.5**	**+0.4**
	14nm,0.8s						
KURK	**Kurchatov**	**85.01**	**322**	P	**P**	**04 27 42.8**	**+0.2**
KURBB	**Kurchatov Arra**	**85.05**	**322**	P	**P**	**04 27 42.8**	**+0.1**
	2.7nm,0.9s,baz=101,slow=3.3,SNR=19						
MAW	**Mawson**	**85.18**	**203**	P	**P**	**04 27 44.0**	**+1.0**
	2.2nm,0.6s,baz=101,slow=5.3,SNR=5.1						
TKM2	**Tokmak 2**	**85.20**	**314**	*e*P	**P**	**04 27 44.9**	**+0.9**
	7.3nm,1.0s						
EKS2	**Erkin-Say**	**86.46**	**313**	*e*P	**P**	**04 27 51.1**	**+1.0**
	2.9nm,0.8s						
BVAR	**Borovoye Array**	**90.48**	**323**	P	**P**	**04 28 07.8**	**-1.0**
	2.0nm,0.8s,baz=101,slow=7.5,SNR=7.8						
PDAR	**Pinedale Array**	**98.69**	**48**	LR	LR	05 06 37.8	
	comp=Z,53nm,21.8s,baz=268,slow=31						
TAM	**Tamanrasset**	**144.94**	**302**	*e*PKPdf	**PKPdf**	**04 34 45.5**	**+0.5**
BDFB	**Brasilia**	**149.80**	**135**	PKPbc	**PKPbc**	**04 34 57.8**	**-0.1**
	2.9nm,1.0s,baz=126,slow=6.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**151.48**	**287**	PKPbc	**PKPbc**	**04 35 01.4**	**-0.4**
	3.4nm,0.6s,baz=73,slow=1.7,SNR=56						

IDC 09 04:17:32.4±1.2, 21°.94N×143°.79E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.5/42, mbtmp3.9/5, Error ellipse: s-maj=60.9km s-min=27.7km az=77.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.64**	**193**	P	P	04 25 30.6	-0.2
	1.0nm,0.6s,baz=16,slow=9.3,SNR=9.1						
KURBB	**Kurchatov Arra**	**57.73**	**317**	P	P	04 27 25.6	+0.6
	0.3nm,0.2s,baz=91,slow=7.7,SNR=4.6						
BVAR	**Borovoye Array**	**62.85**	**319**	P	P	04 28 00.1	0.0
	0.8nm,0.4s,baz=116,slow=7.6,SNR=4.5						
ARCES	**ARCESS Array B**	**78.87**	**342**	P	P	04 29 37.5	+0.3
	1.7nm,0.9s,baz=60,slow=7.4,SNR=5.0						
FINES	**FINESS Array B**	**83.20**	**335**	P	P	04 29 59.2	-1.2
	0.4nm,0.4s,baz=71,slow=6.0,SNR=5.4						
LPAZ	**La Paz**	**149.35**	**85**	PKPbc	PKPbc	04 37 24.8	-0.1
	0.6nm,0.6s,baz=266,slow=4.1,SNR=5.6						

*MOS **09** 04:20:35.5±1.5, 50°.56N×159°.11E, h61km, mb4.2/1, Error ellipse: s-maj=36.6km s-min=10.9km az=95.5*
*KRSC **09** 04:20:35.5±1.5, 50°.56N×159°.11E, h61km±22km, ML4.1*
ISC 09 04:20:36.2±3.5, 50°.5N±0°.2×159°.2E±0°.1, h35km, n24, σ0°.68/30, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**1.82**	**305**	*e*P	**Pn**	**04 21 05.1**	**+0.1**
PAU				*e*S	**Sn**	**04 21 27.1**	**+0.3**
PAU	**Pauzhetka**	**1.82**	**305**	PN	**Pn**	**04 21 05.1**	**+0.1**
PAU				S	**Sn**	**04 21 27.1**	**+0.3**
SKR	**Severo-Kuril's**	**1.98**	**278**	*e*S	**Sn**	**04 21 29.4**	**-1.2**
SKR	**Severo-Kuril's**	**1.98**	**278**	*e*PN	Pn	04 20 54.7	-12
SKR				pmax	pmax		
	comp=Z,80nm,0.4s						
RUS	**Russkaya**	**2.03**	**348**	*e*P	**Pn**	**04 21 07.7**	**-0.2**
RUS				*e*S	**Sn**	**04 21 31.5**	**-0.5**
RUS	**Russkaya**	**2.03**	**348**	PN	**Pn**	**04 21 07.7**	**-0.2**
RUS				S	**Sn**	**04 21 31.5**	**-0.5**
ASAK	**Asacha**	**2.10**	**338**	*e*P	**Pn**	**04 21 09.3**	**+0.4**
MTVR	**Mutnovka**	**2.13**	**343**	*e*P	**Pn**	**04 21 08.9**	**-0.5**
MTVR				*e*S	**Sn**	**04 21 33.7**	**-1.1**
MIPR	**Malaya Ipel'ka**	**2.38**	**321**	*e*P	**Pn**	**04 21 13.4**	**+0.6**
SPN	**Mys Shipunski**	**2.70**	**11**	*e*P	**Pn**	**04 21 17.3**	**+0.2**
SPN				*e*S	**Sn**	**04 21 48.2**	**-0.4**
SPN	**Mys Shipunski**	**2.70**	**11**	PN	**Pn**	**04 21 17.3**	**+0.2**
SPN				S	**Sn**	**04 21 48.2**	**-0.4**
UGLR	**Uglovaya**	**2.77**	**355**	*e*P	**Pn**	**04 21 18.4**	**+0.2**
SMAR	**Somma**	**2.83**	**355**	*e*P	**Pn**	**04 21 19.6**	**+0.5**
SMAR	**Somma**	**2.83**	**355**	PN	**Pn**	**04 21 19.6**	**+0.5**
AVH	**Avacha**	**2.83**	**354**	*e*P	**Pn**	**04 21 20.1**	**+1.1**
AVH	**Avacha**	**2.83**	**354**	PN	**Pn**	**04 21 20.1**	**+1.1**
SDLR	**Sedlovina**	**2.84**	**356**	*e*P	**Pn**	**04 21 19.0**	**-0.1**
SDLR	**Sedlovina**	**2.84**	**356**	PN	**Pn**	**04 21 19.0**	**-0.1**
KOK	**Koryaka**	**2.87**	**353**	*e*P	**Pn**	**04 21 20.0**	**+0.5**
KOK	**Koryaka**	**2.87**	**353**	PN	**Pn**	**04 21 20.0**	**+0.5**
KRER	**Koryakskii**	**2.87**	**355**	*e*P	**Pn**	**04 21 20.3**	**+0.6**
KRX	**Arik**	**2.93**	**354**	*e*P	**Pn**	**04 21 28.1**	**+1.3**
GNL	**Ganaly**	**3.34**	**347**	*e*P	**Pn**	**04 21 27.1**	**+1.1**
GNL	**Ganaly**	**3.34**	**347**	PN	**Pn**	**04 21 27.1**	**+1.1**

*ISCJB **09** 04:25:33.3±0.6, 57°.26S±0°.09×24°.6W±0°.2, h10km, mb4.2/8, MS3.5/2, Error ellipse: s-maj=17.1km s-min=12.9km az=171.7*
*IDC **09** 04:25:33.6±0.7, 57°.26S×24°.47W, h0km, mb4.3/8, mb1 4.3/9, mb1mx4.1/24, mbtmp4.2/9, ML3.4/1, MS3.5/2, Ms1 3.5/2, ms1mx2.8/22, Error ellipse: s-maj=23.6km s-min=18.7km az=90.0*
*NEIC **09** 04:25:35.1±0.3, 57°.27S×24°.46W, h10km, mb4.4/3, Error ellipse: s-maj=12.0km s-min=7.9km az=82.0*
ISC 09 04:25:35.1±0.7, 57°.3S±0°.1×24°.5W±0°.1, h10km, n16, σ0°.28/16, mb4.3/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**17.02**	**157**	P	**Pn**	**04 29 32.8**	**-0.1**
	0.1nm,0.3s,baz=330,slow=15,SNR=32						
PMSA	**Palmer Station**	**20.28**	**232**	P	**P**	**04 30 10.6**	**+0.1**
	12nm,0.8s,baz=77,slow=12,SNR=1.5						
PMSA				LR	LR	04 36 23.0	
	comp=Z,164nm,18.4s,baz=64,slow=32						
PMSA	**Palmer Station**	**20.28**	**232**	*e*P	**P**	**04 30 10.8**	**+0.3**
	29nm,1.0s						
QSPA	**South Pole Qui**	**32.98**	**180**	P	**P**	**04 32 10.0**	**+0.1**
	1.0nm,0.4s,baz=234,slow=1.2,SNR=14						
CPUP	**Villa Florida**	**38.75**	**309**	P	**P**	**04 32 59.4**	**0.0**
	4.5nm,0.8s,baz=145,slow=7.1,SNR=11					

NIED ***09*** *05:21:00.3±2.0,30.50N×142.40E,h5km,Mw4.2 Best double couple: M₀2.00000×10¹⁵ NP1:φ₀7.00000°,δ19.00000°, λ83.00000°. NP2:φ₀195.00000°,δ71.00000°,λ92.00000°.*

IDC ***09*** *05:21:11.3±0.8,30.46N×142.38E,h0km,mb3.8/10, mb1 4.0/13,mb1mx3.8/36,mbtmp3.8/13,ML3.8/3,MS3.1/8, Ms1 3.2/8,ms1mx2.9/39,Error ellipse: s-maj=24.6km s-min=17.1km az=79.0*

ISCJB ***09*** *05:21:12.9±0.5,30.48N±0.03×142.2E±0.1,h24km, mb3.8/11,MS3.4/4,Error ellipse: s-maj=13.9km s-min=4.0km az=168.1*

NEIC ***09*** *05:21:12.8±0.4,30.45N×142.37E,h10km,mb4.2/1,Error ellipse: s-maj=10.8km s-min=6.6km az=66.0*

JMA ***09*** *05:21:13.3±0.2,30.50N×142.44E,h51km,M4.0*

ISC 09 05:21:14.8±0.7,30.45N±0.05×142.3E±0.1,h24km,n30, σ1ᵍ12/33,mb3.9/11,MS3.3/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.34**	**182**	P		**Pn**	**05 22 05.2**	**-0.4**
CBIJ				*e*S		**Sn**	**05 22 44.1**	**-0.4**
CBIJ	**Chichi jima**	**3.34**	**182**	Pn		**Pn**	**05 22 05.2**	**-0.4**
CBIJ				Sn		**Sn**	**05 22 43.5**	**-1.0**
JCJ	**Chichijima**	**3.34**	**182**	Pn		**Pn**	**05 22 05.2**	**-0.4**
	19nm,0.3s,baz=30,slow=20,SNR=8.1							
JCJ				LR		LR	05 22 41.0	
	comp=Z,40nm,20.0s,baz=108,slow=27							
JCJ				Sn		**Sn**	**05 22 43.5**	**-1.0**
	30nm,0.3s,baz=41,slow=20,SNR=7.8							
BSO1	**Boso 1**	**4.34**	**345**	P		**Pn**	**05 22 18.4**	**-0.3**
BSO1				S		**Sn**	**05 23 07.6**	**-0.6**
BSO2	**Boso 2**	**4.48**	**343**	*e*S		**Sn**	**05 23 11.8**	**-0.4**
JHU	**Hanno**	**5.95**	**336**	P		**Pn**	**05 22 41.1**	**-0.3**
JRY	**Ryogami san**	**6.24**	**334**	P		**Pn**	**05 22 45.3**	**-0.1**
JRY				S		**Sn**	**05 23 53.5**	**-2.4**
JAG	**Ashikaga**	**6.42**	**339**	P		**Pn**	**05 22 46.6**	**-1.2**
JAG				S		**Sn**	**05 23 56.2**	**-4.0**
MJAR	**Matsushiro Arr**	**6.97**	**332**	Pn		**Pn**	**05 22 54.7**	**-0.7**
	1.6nm,0.3s,baz=155,slow=11,SNR=13							
MJAR				LR		LR	05 25 24.8	
	comp=Z,105nm,20.1s,baz=125,slow=36							
MAJO	**Matsushiro**	**6.97**	**332**	*e*Pn		**Pn**	**05 22 55.6**	**+0.1**
	12nm,0.7s							
MAT	**Matsushiro**	**6.97**	**332**	P		**Pn**	**05 22 55.4**	**0.0**
MAT				S		**Sn**	**05 24 12.1**	**-1.8**
JNU	**Nakatsue**	**10.08**	**288**	LR		LR	05 27 28.9	
	comp=Z,110nm,18.6s,baz=156,slow=37							
JNU	**Nakatsue**	**10.08**	**288**	*e*Pn		**Pn**	**05 23 38.2**	**+0.1**
KSRS	**Korea Array**	**13.82**	**304**	Pn		**Pn**	**05 24 30.1**	**+1.0**
	0.2nm,0.3s,baz=109,slow=14,SNR=3.3							
KSRS				LR		LR	05 29 48.2	
	comp=Z,95nm,18.1s,baz=120,slow=37							
KSAR	**Wonju Array Be**	**13.84**	**304**	Pn		**Pn**	**05 24 30.1**	**+0.7**
SONM	**Songino Array**	**32.45**	**313**	P		**P**	**05 27 43.9**	**+0.7**
	1.5nm,0.8s,baz=112,slow=8.3,SNR=9.3							
SONM				LR		LR	05 41 36.5	
	comp=Z,47nm,18.8s,baz=106,slow=38							
CMAR	**Chiang Mai Arr**	**41.00**	**263**	LR		LR	05 47 35.9	
	comp=Z,28nm,18.5s,baz=275,slow=39							
MKAR	**Makanchi Array**	**48.47**	**307**	P		**P**	**05 29 55.8**	**+0.3**
	1.3nm,0.8s,baz=95,slow=7.4,SNR=6.0							
WRA	**Warramunga Arr**	**50.68**	**190**	P		**P**	**05 30 12.6**	**+0.2**
	1.3nm,0.4s,baz=6.0,slow=7.6,SNR=23							
KURK	**Kurchatov**	**50.75**	**313**	P		**P**	**05 30 13.2**	**+0.6**
KURBB	**Kurchatov Arra**	**50.81**	**313**	P		**P**	**05 30 13.2**	**+0.1**
	0.8nm,0.4s,baz=89,slow=8.7,SNR=2.5							
ASAR	**Alice Springs**	**54.41**	**189**	P		**P**	**05 30 40.2**	**+0.2**
	0.6nm,0.6s,baz=7.1,slow=6.6,SNR=8.5							
ILAR	**Eielson Array**	**54.74**	**30**	P		**P**	**05 30 41.2**	**-0.7**
	0.5nm,0.9s,baz=270,slow=6.3,SNR=3.5							
KKAR	**Karatay Array**	**57.25**	**304**	*e*P		**P**	**05 31 01.2**	**+0.9**
	1.1nm,0.5s							
FINES	**FINESS Array B**	**75.00**	**333**	P		**P**	**05 32 54.0**	**+0.2**
	0.4nm,0.4s,baz=98,slow=5.8,SNR=4.5							
NVAR	**Mina Array Bea**	**78.38**	**52**	P		**P**	**05 33 14.9**	**+1.2**
	0.6nm,0.6s,baz=296,slow=6.4,SNR=6.8							
PDAR	**Pinedale Array**	**81.77**	**45**	P		**P**	**05 33 31.7**	**-0.2**
	0.3nm,0.6s,baz=293,slow=5.5,SNR=3.0							
BRTR	**Keskin Array B**	**83.81**	**313**	P		**P**	**05 33 43.7**	**+1.3**
	0.3nm,0.3s,baz=71,slow=3.1,SNR=3.6							
VRAC	**Vranov**	**87.06**	**328**	LR		LR	06 16 01.2	
	comp=Z,28nm,18.1s,baz=44,slow=38							
TXAR	**Lajitas Array**	**93.52**	**53**	LR		LR	06 14 40.1	
	comp=Z,14nm,19.3s,baz=0.0,slow=34							

IDC ***09*** *05:26:08.3±2.0,54.11N×87.15E,h0km,mb3.9/1, mb1 3.5/3,mb1mx3.2/30,mbtmp3.3/3,ML2.5/2,MS3.5/1, Ms1 3.5/1,ms1mx2.4/32,Error ellipse: s-maj=19.2km s-min=13.8km az=92.0*

NNC ***09*** *05:26:08.0±16.0,52.62N×88.05E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=122.8km s-min=96.9km az=43.0*

ISC 09 05:26:11.1±2.1,54.1N±0.1×87.0E±0.1,h10km,n8, σ1ᵍ02/10,3C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.30**	**264**	*i*			05 35 00.0	
	baz=80,slow=317,SNR=2.5							
ZALV	**Zalesovo Beam**	**1.30**	**264**	Pn		**Pn**	**05 26 33.5**	**-1.8**
	1.8nm,0.3s,baz=82,slow=16,SNR=35							
ZALV				Lg		Lg	05 26 52.7	
	3.2nm,0.3s,baz=78,slow=26,SNR=16							
KURK	**Kurchatov**	**6.16**	**240**	⇓Pn		**Pn**	**05 27 43.1**	**+1.2**
	1.2nm,0.9s							
KURK				⇑Sn		**Sn**	**05 28 53.4**	**+1.0**
	1.0nm,0.6s							
KURK				⇑Lg		Lg	05 29 27.1	
	2.6nm,0.7s							
KURBB	**Kurchatov Arra**	**6.26**	**239**	⇓Pn		**Pn**	**05 27 43.2**	**-0.1**
	6.3nm,1.4s,baz=53,slow=13							
KURBB				⇓Sn		**Sn**	**05 28 54.5**	**-0.4**
	6.1nm,0.6s							
KURBB				⇑Lg		Lg	05 29 28.9	
	6.8nm,0.7s,baz=45,slow=28							
KURBB	**Kurchatov Arra**	**6.26**	**239**	Pn		**Pn**	**05 27 43.5**	**+0.1**
	0.1nm,0.3s,baz=57,slow=14,SNR=6.2							
KURBB				Sn		**Sn**	**05 28 55.2**	**+0.4**
	0.1nm,0.3s,baz=45,slow=17,SNR=4.5							
KURBB				Lg		Lg	05 29 31.2	
	0.0nm,0.3s,baz=41,slow=26,SNR=5.2							
MKAR	**Makanchi Array**	**7.92**	**204**	Pn		**Pn**	**05 28 05.8**	**-0.4**
	0.1nm,0.3s,baz=27,slow=13,SNR=3.7							
MKAR				Sn		**Sn**	**05 29 35.0**	**-0.8**
	0.1nm,0.3s,baz=28,slow=26,SNR=4.6							
ARCES	**ARCESS Array B**	**31.19**	**323**	P		**P**	**05 32 30.4**	**+0.6**
	1.0nm,0.7s,baz=81,slow=8.3,SNR=3.5							
JCJ	**Chichijima**	**48.24**	**101**	LR		LR	05 54 07.0	
	comp=Z,56nm,20.6s,baz=128,slow=35							

KRNET ***09*** *05:30:59.6±0.1,40.88N×74.91E,h10km,mb3.5*

NNC ***09*** *05:31:02.3±1.9,40.84N×74.85E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=40.2km s-min=8.4km az=131.0*

ISC 09 05:31:01.6±1.3,40.96N±0.03×74.86E±0.03,h1km±10km, n34,σ1ᵍ55/47,18C-14D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**0.99**	**61**	*e*P		**Pg**	**05 31 20.0**	**-0.6**
	baz=56							
NRN				*e*S		**Sg**	**05 31 32.7**	**-0.7**
	baz=56							
KZA	**Kyzart**	**1.16**	**15**	P		**Pg**	**05 31 23.2**	**-0.7**
	SNR=38							
KZA	**Kyzart**	**1.16**	**15**	⇑*i*P		**Pg**	**05 31 23.0**	**-0.9**
	baz=12							
KZA				⇑*i*S		**Sg**	**05 31 40.0**	**+1.1**
	baz=12							
UCH	**Uchtor**	**1.30**	**349**	P		**Pg**	**05 31 25.6**	**-0.9**
	SNR=72							
UCH	**Uchtor**	**1.30**	**349**	⇓*i*P		**Pg**	**05 31 25.6**	**-0.9**
	baz=348							
UCH				⇓*i*S		**Sn**	**05 31 45.8**	**+0.2**
	baz=348							
SFK	**Sufi-Kurgan**	**1.40**	**228**	⇑P		**Pn**	**05 31 25.8**	**-2.7**
	5.7nm,0.5s							
SFK				⇑S		**Sb**	**05 31 46.0**	**-1.1**
	120nm,0.6s							
SFK	**Sufi-Kurgan**	**1.40**	**228**	*e*P		**Pn**	**05 31 25.8**	**-2.7**
	baz=232							
SFK				*e*S		**Sb**	**05 31 46.0**	**-1.1**
	baz=232							
AML	**Almayashu**	**1.46**	**324**	P		**Pn**	**05 31 28.6**	**-1.0**
	SNR=55							
AML	**Almayashu**	**1.46**	**324**	⇑*i*P		**Pn**	**05 31 28.5**	**-1.0**
	baz=324							
AML				⇑*i*S		**Sg**	**05 31 52.6**	**+4.0**
	baz=324							
ULHL	**Ulahol**	**1.66**	**38**	P		**Pn**	**05 31 31.8**	**-0.3**
	SNR=29							
ULHL	**Ulahol**	**1.66**	**38**	⇑*i*P		**Pn**	**05 31 31.7**	**-0.4**
	baz=36							
ULHL				⇑*i*S		**Sn**	**05 31 53.4**	**-0.8**
	baz=36							
KSH	**Kashi**	**1.67**	**149**	Pg		**Pg**	**05 31 35.9**	**+2.3**
KSH				Sg		Sg	05 32 00.6	+5.3
KSH				smax		smax		
	comp=N,210nm,0.3s							
KSH				smax		smax		
	comp=E,130nm,0.5s							
AAK	**Ala-Archa**	**1.70**	**351**	P		**Pb**	**05 31 33.1**	**-0.7**
	SNR=59							
AAK	**Ala-Archa**	**1.70**	**351**	⇓*i*P		**Pb**	**05 31 33.0**	**-0.7**
	baz=350							
AAK				⇓*i*S		**Sg**	**05 31 59.3**	**+3.1**
	baz=350							
KBK	**Karagaybulak**	**1.70**	**2**	P		**Pb**	**05 31 33.5**	**-0.3**
	SNR=19							
KBK	**Karagaybulak**	**1.70**	**2**	⇓*i*P		**Pb**	**05 31 33.4**	**-0.5**
	baz=1.0							
KBK				⇓*i*S		**Sg**	**05 31 57.6**	**+1.3**
	baz=1.0							
EKS2	**Erkin-Say**	**1.89**	**335**	P		**Pb**	**05 31 36.4**	**-0.6**
	SNR=36							
EKS2	**Erkin-Say**	**1.89**	**335**	⇑*i*P		**Pb**	**05 31 36.3**	**-0.6**
	baz=335							
EKS2				⇑*i*S		**Sg**	**05 32 04.3**	**+2.1**
	baz=335							
FRU	**Bishkek**	**1.89**	**355**	*e*P		**Pg**	**05 31 38.0**	**+0.2**
	baz=354							
FRU				*e*S		**Sg**	**05 32 06.0**	**+3.8**
	baz=354							
EKS	**Erkin-Say**	**1.89**	**335**	⇓*i*P		**Pb**	**05 31 36.7**	**-0.3**
	baz=335							
EKS				⇓*e*S		**Sg**	**05 32 03.9**	**+1.6**
	baz=335							
TKM2	**Tokmak 2**	**2.04**	**15**	P		**Pb**	**05 31 39.1**	**-0.6**
	SNR=69							
TKM2	**Tokmak 2**	**2.04**	**15**	⇑Pn		**Pb**	**05 31 39.5**	**-0.2**
	comp=E,12nm,0.2s							
TKM2				⇓Lg		Lg	05 32 09.1	
	comp=E,79nm,0.5s							
TKM2	**Tokmak 2**	**2.04**	**15**	⇓*i*P		**Pb**	**05 31 39.2**	**-0.5**
	baz=14							
TKM2				⇓*i*S		**Sg**	**05 32 07.5**	**+0.3**
	baz=14							
CHMS	**Chumysh**	**2.04**	**358**	P		**Pb**	**05 31 39.2**	**-0.4**
	SNR=21							
CHMS	**Chumysh**	**2.04**	**358**	⇑*i*P		**Pb**	**05 31 39.1**	**-0.5**
	baz=357							
CHMS				⇑*i*S		**Sg**	**05 32 08.6**	**+1.3**
	baz=357							
USP	**Ospenovka**	**2.33**	**354**	P		**Pb**	**05 31 43.6**	**-0.8**
	SNR=87							
KNDC	**Almaty**	**2.75**	**34**	⇓S		**Sg**	**05 32 29.7**	**-0.3**
	comp=E,64nm,0.7s							
ANVS	**Anan'yevo**	**2.78**	**48**	*i* P		**Pb**	**05 31 52.6**	**+0.3**
	baz=46							
ANVS				*e*S		**Sg**	**05 32 30.6**	**-0.4**
	baz=46							
KK31	**Karatay Array**	**3.88**	**305**	Pg		**Pb**	**05 32 11.2**	**+0.3**
	comp=E,3.4nm,0.5s,baz=124,slow=16,SNR=25							
KK31				⇑Lg		Lg	05 33 03.6	
	comp=E,6.1nm,0.3s,baz=124,slow=29							
PDGK	**Podgornoye**	**4.18**	**54**	⇑Pn		**Pn**	**05 32 05.1**	**-1.4**
	comp=E,4.9nm,1.0s							
PDGK				⇑Pg		**Pb**	**05 32 16.4**	**+0.5**
	comp=E,7.6nm,0.7s							
PDGK				⇑Lg		Lg	05 33 13.6	
	comp=E,40nm,0.7s							
MK31	**Makanchi Array**	**7.93**	**40**	⇓Lg		Lg	05 35 14.9	
	comp=E,2.6nm,1.0s							
KURBB	**Kurchatov Arra**	**10.00**	**14**	⇓Lg		Lg	05 36 22.7	
	comp=E,5.6nm,0.8s							
KURK	**Kurchatov**	**10.11**	**14**	⇑Lg		Lg	05 36 23.4	
	comp=E,2.2nm,0.7s							
HHC	**Hu-ho-hao-te**	**27.62**	**78**	*e*P		P	05 36 55.8	+5.1
HHC				PP		PP	05 37 44.1	-8.8
HHC				S		**S**	**05 41 37.4**	**+4.1**
HHC				SS		SnSn	05 42 55.8	+12
HHC				pmax		pmax		
	comp=Z,14nm,1.1s							
HHC				pmax		pmax		
	comp=Z,110nm,5.2s							
HHC				LR		LR		
	comp=N,92nm,12.4s							
HHC				LR		LR		
	comp=E,57nm,12.6s							
HHC				LR		LR		
	comp=Z,43nm,13.3s							

IDC 09 05:43:28.9±48.0,14.88S×176.06W,h0km,mb4.2/3, mb1 4.4/3,mb1mx3.8/17,mbtmp4.2/3,Error ellipse: s-maj=911.6km s-min=171.5km az=76.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.09**	**239**	P		P	05 51 22.8	-0.1
	1.9nm,0.8s,baz=85,slow=11,SNR=4.2							
WRA	**Warramunga Arr**	**47.46**	**256**	P		P	05 52 05.8	-0.1
	0.3nm,0.2s,baz=91,slow=7.6,SNR=25							
ASAR	**Alice Springs**	**47.83**	**251**	P		P	05 52 08.6	-0.2
	14nm,0.5s,baz=86,slow=8.2,SNR=171							

KRNET ***09*** *05:45:40.8±0.1,40.92N×74.81E,h16km,mb3.4*

NNC ***09*** *05:45:41.9±0.8,40.89N×74.87E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=10.6km s-min=3.6km az=124.0*

ISC 09 05:45:41.6±1.2,40.94N±0.03×74.81E±0.03,h11km±12km, n34,σ1ᵍ23/49,19C-18D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.03**	**61**	*e*P		**Pg**	**05 46 02.2**	**+0.7**
	baz=60							
NRN				*e*S		**Sn**	**05 46 16.0**	**-1.0**
	baz=60							
KZA	**Kyzart**	**1.19**	**16**	P		**Pn**	**05 46 03.6**	**-1.0**
	SNR=55							
KZA	**Kyzart**	**1.19**	**16**	⇓*i*P		**Pn**	**05 46 03.5**	**-1.2**
	baz=16							
KZA				⇓*i*S		**Sg**	**05 46 20.6**	**+0.6**
	baz=16							
UCH	**Uchtor**	**1.31**	**350**	P		**Pb**	**05 46 06.2**	**-0.4**
	SNR=87							
UCH	**Uchtor**	**1.31**	**350**	⇓*i*P		**Pb**	**05 46 06.1**	**-0.4**
	baz=351							
UCH				⇓*i*S		**Sg**	**05 46 26.5**	**+2.6**
	baz=351							
SFK	**Sufi-Kurgan**	**1.36**	**228**	⇓P		**Pg**	**05 46 06.5**	**-1.2**
	29nm,0.3s							
SFK				⇑S		**Sg**	**05 46 25.9**	**+0.6**
	157nm,0.5s							
SFK	**Sufi-Kurgan**	**1.36**	**228**	*e*P		**Pg**	**05 46 06.5**	**-1.2**
	baz=228							
SFK				*e*S		**Sg**	**05 46 25.9**	**+0.6**
	baz=228							
AML	**Almayashu**	**1.46**	**325**	P		**Pg**	**05 46 09.0**	**-0.7**
	SNR=52							
AML	**Almayashu**	**1.46**	**325**	⇓*i*P		**Pg**	**05 46 08.9**	**-0.7**
	baz=325							
AML				⇓*i*S		**Sg**	**05 46 29.9**	**+1.3**
	baz=325							
ULHL	**Ulahol**	**1.69**	**39**	P		**Pb**	**05 46 12.4**	**-0.6**
	SNR=43							
ULHL	**Ulahol**	**1.69**	**39**	⇑*i*P		**Pb**	**05 46 12.1**	**-0.9**
	baz=39							
ULHL				⇑*i*S		**Sb**	**05 46 34.1**	**-0.3**
	baz=39							
AAK	**Ala-Archa**	**1.71**	**352**	P		**Pg**	**05 46 13.6**	**-0.9**
	SNR=58							
AAK	**Ala-Archa**	**1.71**	**352**	⇑Pn		**Pg**	**05 46 13.4**	**-1.1**
	42nm,0.5s							
AAK				⇓Sn		**Sg**	**05 46 38.5**	**+1.8**
	186nm,0.8s							
AAK	**Ala-Archa**	**1.71**	**352**	⇑*i*P		**Pg**	**05 46 13.6**	**-0.9**
	baz=352							
AAK				⇑*i*S		**Sg**	**05 46 38.0**	**+1.3**
	baz=352							
KBK	**Karagaybulak**	**1.72**	**3**	P		**Pg**	**05 46 13.7**	**-1.0**
	SNR=45							
KBK	**Karagaybulak**	**1.72**	**3**	⇓*i*P		**Pg**	**05 46 13.6**	**-1.1**
	baz=3.0							
KBK				⇓*i*S		**Sg**	**05 46 37.3**	**+0.2**
	baz=3.0							
EKS2	**Erkin-Say**	**1.89**	**336**	P		**Pg**	**05 46 16.7**	**-1.2**
	SNR=37							
EKS2	**Erkin-Say**	**1.89**	**336**	⇑*i*P		**Pg**	**05 46 16.5**	**-1.4**
	baz=337							
EKS2				⇑*i*S		**Sg**	**05 46 43.6**	**+1.2**
	baz=337							
EKS	**Erkin-Say**	**1.89**	**337**	*i* P		**Pg**	**05 46 17.2**	**-0.7**
	baz=337							
EKS				*e*S		**Sg**	**05 46 43.9**	**+1.4**
	baz=337							
FRU	**Bishkek**	**1.90**	**356**	*e*P		**Pg**	**05 46 18.0**	**-0.1**
	baz=356							
FRU				*e*S		**Sg**	**05 46 44.5**	**+1.7**
	baz=356							
CHMS	**Chumysh**	**2.06**	**359**	P		**Pg**	**05 46 19.8**	**-1.4**
	SNR=37							
CHMS	**Chumysh**	**2.06**	**359**	⇑*i*P		**Pg**	**05 46 19.6**	**-1.6**
	baz=359							
CHMS				⇑*i*S		**Sg**	**05 46 47.9**	**0.0**
	baz=359							
TKM2	**Tokmak 2**	**2.07**	**16**	P		**Pb**	**05 46 19.7**	**+0.3**
	SNR=52							
TKM2	**Tokmak 2**	**2.07**	**16**	⇑Pn		**Pb**	**05 46 19.7**	**+0.3**
	36nm,0.7s							
TKM2				⇓Lg		Lg	05 46 48.6	
	119nm,0.5s							
TKM2	**Tokmak 2**	**2.07**	**16**	⇑*i*P		**Pg**	**05 46 19.9**	**-1.4**
	baz=16							
TKM2				⇑*i*S		**Sg**	**05 46 48.2**	**0.0**
	baz=16							
USP	**Ospenovka**	**2.34**	**354**	P		**Pg**	**05 46 24.9**	**-1.6**
	SNR=94							
ANVS	**Anan'yevo**	**2.82**	**48**	*i* P		**Pb**	**05 46 33.1**	**+0.9**
	baz=48							
ANVS				*e*S		**Sg**	**05 47 11.9**	**-0.4**
	baz=48							
BTK	**Batken**	**3.17**	**255**	*e*P		**Pg**	**05 46 42.0**	**-0.3**
	baz=256							
BTK				*e*S		**Sg**	**05 47 25.0**	**+1.7**
	baz=256							
KK31	**Karatay Array**	**3.86**	**306**	⇑Pg		**Pb**	**05 46 51.0**	**+1.1**
	5.9nm,0.6s,baz=125,slow=16,SNR=18							
KK31				⇑Lg		Lg	05 47 42.6	
	9.8nm,0.3s,baz=127,slow=28,SNR=12							
PDGK	**Podgornoye**	**4.22**	**54**	⇓Pn		Pn	05 46 48.5	+2.6
	3.7nm,0.9s							
PDGK				⇓Pg		**Pb**	**05 46 57.2**	**+1.4**
	6.1nm,0.5s							
PDGK				⇑Sn		**Sn**	**05 47 38.5**	**+3.3**
	9.2nm,0.9s							
PDGK				⇓Lg		Lg	05 47 53.3	
	40nm,1.0s							
DZET	**Dzherino**	**5.07**	**247**	⇓Pn		Pn	05 47 01.5	+3.8
	2.0nm,0.4s							
DZET				⇑Pg		**Pg**	**05 47 17.6**	**-1.1**
	7.1nm,0.5s							
DZET				⇑Sn		Sb	05 48 03.0	-8.4
	9.4nm,0.4s							
DZET				⇓Lg		Lg	05 48 24.9	
	24nm,0.6s							
MK31	**Makanchi Array**	**7.97**	**40**	⇓Lg		Lg	05 49 54.7	
	3.1nm,0.9s							
KURBB	**Kurchatov Arra**	**10.03**	**14**	⇓Lg		Lg	05 50 57.8	
	19nm,1.0s							
KURK	**Kurchatov**	**10.13**	**14**	⇑Lg		Lg	05 51 01.2	
	3.8nm,1.0s							

IDC 09 06:15:30.8±2.5,54.14N×86.44E,h0km,mb1 3.2/2, mb1mx3.0/49,mbtmp3.2/2,ML2.9/2,5C-1D,Error ellipse: s-maj=19.0km s-min=12.0km az=60.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**260**	*i*			06 21 40.0	
	baz=78,slow=315,SNR=4.6							
ZALV	**Zalesovo Beam**	**0.97**	**260**	Pg		Pg	06 15 48.2	-1.2
	1.8nm,0.3s,baz=78,slow=16,SNR=11							
ZALV				Lg		Lg	06 16 03.0	
	2.8nm,0.3s,baz=80,slow=28,SNR=10.0							
KURK	**Kurchatov**	**5.88**	**238**	⇓Pn		Pn	06 16 58.0	-1.1
	0.4nm,0.5s							
KURK				⇑Sn		Sn	06 18 08.8	+1.7
	0.6nm,0.8s							
KURK				⇑Lg		Lg	06 18 40.3	
	2.4nm,1.2s							
KURBB	**Kurchatov Arra**	**5.98**	**237**	⇑Pn		Pn	06 17 00.8	+0.3
	1.9nm,0.5s,baz=56,slow=13							
KURBB				⇑Sn		Sn	06 18 11.2	+1.5
	1.9nm,0.8s							
KURBB				⇑Lg		Lg	06 18 43.8	
	3.1nm,0.7s,baz=61,slow=31							
KURBB	**Kurchatov Arra**	**5.98**	**237**	Pn		Pn	06 17 01.5	+1.0
	0.2nm,0.3s,baz=54,slow=13,SNR=12							
KURBB				Sn		Sn	06 18 08.8	-0.8
	baz=54,slow=24,SNR=2.5							
KURBB				Lg		Lg	06 18 41.9	
	0.1nm,0.3s,baz=49,slow=31,SNR=6.1							
MKAR	**Makanchi Array**	**7.81**	**201**	Pn		Pn	06 17 26.4	+0.8
	0.3nm,0.3s,baz=23,slow=13,SNR=8.0							
MKAR				Sn		Sn	06 18 54.8	0.0
	baz=23,slow=26,SNR=1.7							
MKAR				Lg		Lg	06 19 38.4	
	baz=21,slow=29,SNR=4.0							

ISCJB ***09*** *06:17:10.6±0.6,20.0S±0.1×178.0W±0.1,h569km, mb3.6/14,Error ellipse: s-maj=20.3km s-min=13.4km az=43.4*

IDC ***09*** *06:17:10.1±4.4,19.88S×178.01W,h548km,52km, mb3.2/14,mb1 3.4/15,mb1mx3.4/19,mbtmp4.1/15,Error ellipse: s-maj=23.2km s-min=19.5km az=58.0*

ISC 09 06:17:11.5±0.7,19.9S±0.1×178.1W±0.1,h569km,n19, σ1ᵍ04/19,mb3.7/14,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.64**	**259**	P		**P**	**06 20 16.7**	**-0.4**
	0.3nm,0.3s,baz=90,slow=20,SNR=7.7						

MEX 09 06:32:19.9±0.3, 16°.50N×96°.07W, h67km±6km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.73**	**183**	*eP*	Pn	06 32 33.5	-1.5
HUIG				*eS*	Sn	06 32 44.4	-1.7
VHO	**Vista Hermosa**	**0.85**	**312**	*eP*	Pn	06 32 35.3	-1.4
VHO				*eS*	Sn	06 32 47.1	-2.0
CMIG	**Matias Romero**	**1.28**	**63**	*eP*	Pn	06 32 40.5	-1.4
CMIG				*eS*	Sn	06 32 56.5	-1.9

IDC 09 06:38:08.6±3.1, 54°.31N×87°.37E, h0km, mb1 2.9/2, mb1mx2.9/39, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=27.8km s-min=19.2km az=40.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.54**	**258**	*i*		06 47 10.0	
	baz=76,slow=310,SNR=18						
ZALV	**Zalesovo Beam**	**1.54**	**258**	Pg	Pn	06 38 36.5	-0.8
	1.3nm,0.3s,baz=78,slow=17,SNR=16						
ZALV				Lg	Lg	06 38 57.8	
	1.5nm,0.3s,baz=76,slow=26,SNR=7.9						
KURBB	**Kurchatov Arra**	**6.54**	**239**	Pn	Pn	06 39 46.1	+0.2
	0.2nm,0.3s,baz=56,slow=14,SNR=7.1						
KURBB				Lg	Lg	06 41 36.9	
	0.0nm,0.3s,baz=48,slow=30,SNR=4.0						
MKAR	**Makanchi Array**	**8.19**	**205**	Pn	Pn	06 40 09.9	+1.3
	0.1nm,0.3s,baz=20,slow=12,SNR=3.4						
MKAR				Lg	Lg	06 42 29.3	
	0.0nm,0.3s,baz=12,slow=35,SNR=3.0						

*KRNET **09** 06:49:32.7±0.1, 40°.82N×74°.91E, h13km, mb3.1*
*NNC **09** 06:49:37.4±1.7, 40°.89N×74°.67E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=25.8km s-min=8.4km az=122.0*
ISC 09 06:49:32.7±1.4, 40°.80N±0°.04×74°.96E±0°.04, h1km±12km, n32, σ0°.73/45, 19C-16D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.01**	**51**	*eP*	**Pg**	**06 49 52.3**	**+0.2**
	baz=53						
NRN				*eS*	**Sb**	**06 50 06.1**	**-1.0**
	baz=53						
KZA	**Kyzart**	**1.29**	**10**	P	**Pg**	**06 49 57.4**	**-0.2**
	SNR=27						
KZA	**Kyzart**	**1.29**	**10**	↑*iP*	**Pg**	**06 49 57.3**	**-0.2**
	baz=12						
KZA				↑*iS*	**Sg**	**06 50 14.0**	**-0.3**
	baz=12						
SFK	**Sufi-Kurgan**	**1.36**	**235**	↓P	**Pn**	**06 49 58.1**	**-1.1**
	18nm,0.4s						
SFK				↓S	**Sn**	**06 50 20.0**	**+2.0**
	56nm,0.4s						
SFK	**Sufi-Kurgan**	**1.36**	**235**	*eP*	**Pn**	**06 49 58.0**	**-1.1**
	baz=234						
SFK				*eS*	**Sg**	**06 50 16.5**	**0.0**
	baz=234						
UCH	**Uchtor**	**1.46**	**347**	P	**Pn**	**06 49 59.9**	**-0.8**
	SNR=29						
UCH	**Uchtor**	**1.46**	**347**	↑*iP*	**Pn**	**06 49 59.7**	**-1.1**
	baz=348						
UCH				↑*iS*	**Sb**	**06 50 19.7**	**-0.7**
	baz=348						
AML	**Almayashu**	**1.63**	**325**	P	**Pn**	**06 50 02.8**	**-0.3**
	SNR=24						
AML	**Almayashu**	**1.63**	**325**	↑*iP*	**Pn**	**06 50 02.7**	**-0.3**
	baz=325						
AML				↑*iS*	**Sn**	**06 50 23.7**	**-1.2**
	baz=325						
ULHL	**Ulahol**	**1.73**	**33**	P	**Pg**	**06 50 06.2**	**+0.3**
	SNR=20						
ULHL	**Ulahol**	**1.73**	**33**	↑*iP*	**Pb**	**06 50 06.0**	**+0.5**
	baz=35						
ULHL				↑*iS*	**Sb**	**06 50 27.8**	**-0.1**
	baz=35						
KBK	**Karagaybulak**	**1.85**	**360**	P	**Pb**	**06 50 07.5**	**-0.1**
	SNR=30						
KBK	**Karagaybulak**	**1.85**	**360**	↑*iP*	**Pb**	**06 50 07.2**	**-0.3**
	baz=1.0						
KBK				↑*iS*	**Sb**	**06 50 31.6**	**+0.3**
	baz=1.0						
AAK	**Ala-Archa**	**1.86**	**349**	P	**Pb**	**06 50 07.3**	**-0.4**
	SNR=34						
AAK	**Ala-Archa**	**1.86**	**349**	↑Pn	**Pn**	**06 50 07.0**	**+1.0**
	27nm,0.5s						
AAK				↑Sn	**Sg**	**06 50 34.2**	**+1.6**
	69nm,0.7s						
AAK	**Ala-Archa**	**1.86**	**349**	↓*iP*	**Pb**	**06 50 07.3**	**-0.4**
	baz=351						
AAK				↓*iS*	**Sb**	**06 50 31.7**	**+0.1**
	baz=351						
FRU	**Bishkek**	**2.04**	**353**	*eP*	**Pb**	**06 50 11.0**	**+0.3**
	baz=354						
FRU				*eS*	**Sg**	**06 50 38.0**	**-0.5**
	baz=354						
EKS2	**Erkin-Say**	**2.06**	**335**	P	**Pb**	**06 50 10.7**	**-0.3**
	SNR=23						
EKS2	**Erkin-Say**	**2.06**	**335**	↑*iP*	**Pb**	**06 50 10.3**	**-0.7**
	baz=336						
EKS2				↑*iS*	**Sb**	**06 50 37.4**	**+0.2**
	baz=336						
EKS	**Erkin-Say**	**2.06**	**335**	↓*iP*	**Pb**	**06 50 11.3**	**+0.3**
	baz=336						
EKS				↓*eS*	**Sb**	**06 50 38.3**	**+1.1**
	baz=336						
TKM2	**Tokmak 2**	**2.17**	**12**	P	**Pb**	**06 50 13.3**	**+0.4**
	SNR=31						
TKM2	**Tokmak 2**	**2.17**	**12**	↓Pn	**Pb**	**06 50 13.4**	**+0.4**
	13nm,0.3s						
TKM2				↑Lg	Lg	06 50 41.9	
	80nm,0.5s						
TKM2	**Tokmak 2**	**2.17**	**12**	↓*iP*	**Pb**	**06 50 13.2**	**+0.2**
	baz=14						
TKM2				↓*iS*	**Sb**	**06 50 41.5**	**+1.0**
	baz=14						
CHMS	**Chumysh**	**2.20**	**356**	P	**Pb**	**06 50 13.5**	**+0.1**
	SNR=18						
CHMS	**Chumysh**	**2.20**	**356**	↓*iP*	**Pb**	**06 50 13.3**	**-0.1**
	baz=357						
CHMS				↓*iS*	**Sg**	**06 50 43.3**	**-0.1**
	baz=357						
USP	**Ospenovka**	**2.49**	**352**	P	**Pb**	**06 50 18.9**	**+0.7**
	SNR=18						
KNDC	**Almaty**	**2.84**	**31**	↑Pn	**Pg**	**06 50 26.3**	**-0.9**
	21nm,0.5s						
KNDC				↑Sn	**Sg**	**06 51 03.8**	**-0.1**
	38nm,0.5s						
KK31	**Karatay Array**	**4.04**	**306**	↓Pg	**Pb**	**06 50 45.3**	**+0.6**
	2.4nm,0.5s,baz=127,slow=16,SNR=18						
KK31				↓Lg	Lg	06 51 37.8	
	3.8nm,0.3s,baz=126,slow=29,SNR=7.7						
PDGK	**Podgornoye**	**4.21**	**52**	↑Pg	**Pg**	**06 50 53.9**	**+0.5**
	5.9nm,0.7s						
PDGK				↓Lg	Lg	06 51 50.6	
	19nm,0.9s						
MK31	**Makanchi Array**	**8.00**	**39**	↓Lg	Lg	06 53 50.5	
	1.2nm,0.7s						
KURBB	**Kurchatov Arra**	**10.13**	**13**	↓Lg	Lg	06 54 55.5	
	14nm,1.1s						
KURK	**Kurchatov**	**10.24**	**13**	↑Lg	Lg	06 54 57.4	
	2.5nm,0.8s						

*IDC **09** 07:08:06.4±1.1, 0°.15S×125°.81E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/33, mbtmp3.9/5, MS3.4/3, Ms1 3.4/3, ms1mx2.7/33, Error ellipse: s-maj=126.8km s-min=18.7km az=67.0*
*ISCJB **09** 07:08:14.0±0.6, 0°.35S±0°.07×126°.09E±0°.04, h44km, mb3.9/5, MS3.5/3, Error ellipse: s-maj=9.5km s-min=5.9km az=170.7*
*DJA **09** 07:08:13.3±0.3, 0°.S±3°×12°.6E±°, h10km, M3.9/11, mb4.2/2, MLv3.8/11*
ISC 09 07:08:13.9±0.9, 0°.22S±0°.06×126°.14E±0°.05, h44km, n15, σ2.930/17, mb3.9/5, MS3.5/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**1.42**	**107**	P	**Pn**	**07 08 36.2**	**-1.1**
LBMI				S	**Sn**	**07 08 56.9**	**+2.0**
TNTI	**Ternate**	**1.57**	**51**	P	**Pn**	**07 08 41.8**	**+2.4**
TNTI				S	**Sn**	**07 09 02.9**	**+4.4**
SANI	**Sanana**	**1.82**	**185**	P	**Pn**	**07 08 43.5**	**+0.7**
SANI				S	**Sn**	**07 09 09.1**	**+4.3**
NLAI	**Namlea**	**3.15**	**162**	P	**Pn**	**07 09 01.9**	**+0.9**
LUWI	**Luwuk**	**3.47**	**256**	P	**Pn**	**07 09 07.2**	**+1.8**
MRSI	**Marisa**	**4.26**	**279**	P	**Pn**	**07 09 18.1**	**+1.9**
APSI	**Ampana**	**4.54**	**261**	P	**Pn**	**07 09 20.7**	**+0.5**
MPSI	**Mapaga**	**6.27**	**275**	P	**Pn**	**07 09 45.0**	**+1.1**
	11nm,1.1s,0.1nm						
TTSI	**Tana Toraja**	**6.91**	**246**	P	**Pn**	**07 09 53.3**	**+0.6**
WRA	**Warramunga Arr**	**21.18**	**158**	P	**P**	**07 12 55.5**	**-0.3**
	2.6nm,0.5s,baz=336,slow=11,SNR=27						
ASAR	**Alice Springs**	**24.50**	**163**	P	**P**	**07 13 29.3**	**0.0**
	1.8nm,0.7s,baz=351,slow=15,SNR=13						
STKA	**Stephens Creek**	**34.72**	**157**	P	**P**	**07 14 59.9**	**+0.1**
	6.4nm,1.2s,baz=343,slow=11,SNR=2.2						
SONM	**Songino Array**	**50.85**	**343**	P	**P**	**07 17 07.9**	**-2.5**
	0.2nm,0.3s,baz=164,slow=7.2,SNR=2.6						
SONM				LR	LR	07 40 58.3	
	comp=Z,30nm,18.7s,baz=104,slow=39						
MKAR	**Makanchi Array**	**60.48**	**327**	P	**P**	**07 18 16.4**	**-2.9**
	0.5nm,0.4s,baz=111,slow=7.9,SNR=12						
MKAR				LR	LR	07 46 07.5	
	comp=Z,36nm,18.8s,baz=162,slow=38						
VNDA	**Vanda**	**79.61**	**173**	LR	LR	07 55 20.5	
	comp=Z,20nm,18.6s,baz=325,slow=36						

*NEIC **09** 07:44:50.7, 15°.76N×61°.17W, h35km, MD3.6(TRN), After TRN.*
NEIC Felt on Dominica.
TRN 09 07:44:51.0, 15°.74N×61°.17W, h32km, MD3.6, M3.6(FDF), 8C-4D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DWS	**Wesley**	**0.22**	**220**	↓*iP*	Pb	07 44 57.1	-0.6
DWS				*eS*	Sn	07 45 01.9	-0.6
DWS				*eS*	Sn	07 45 12.2	+10
DWS	**Wesley**	**0.22**	**220**	↓*iP*	Pb	07 44 57.1	-0.6
DWS				*eS*	Sb	07 45 01.9	-0.3
MGG	**Marie-Galante**	**0.23**	**321**	*eP*	Pn	07 44 59.3	+1.1
MGG	**Marie-Galante**	**0.23**	**321**	*eP*	Pn	07 44 59.3	+1.1
BBL	**Barber's Block**	**0.36**	**234**	↓*iP*	Pn	07 45 01.2	+1.1
MDN	**Morne-Daniel**	**0.47**	**208**	*eP*	Pn	07 45 03.1	+1.5
MDN				*eS*	Sn	07 45 11.1	+2.2
MDN	**Morne-Daniel**	**0.47**	**208**	*eP*	Pn	07 45 03.1	+1.5
MDN				*eS*	Sn	07 45 11.1	+2.2
TBG	**Guadaloupe-3**	**0.47**	**284**	*eP*	Pn	07 45 02.8	+1.1
TBG	**Guadaloupe-3**	**0.47**	**284**	↓*eP*	Pn	07 45 03.1	+1.4
TBG				*eS*	Sn	07 45 10.6	+1.6
TBG				*eS*	Sn	07 45 10.8	+1.9
TBG				*eS*	Sn	07 45 19.8	+11
DBCT	**Belle View Cho**	**0.50**	**200**	*eP*	Pn	07 45 03.3	+1.3
DBCT	**Belle View Cho**	**0.50**	**200**	*eP*	Pn	07 45 03.3	+1.3
DOG	**Dongo Capester**	**0.52**	**304**	↑*iP*	Pn	07 45 04.0	+1.7
PHG	**Guadaloupe-2**	**0.54**	**301**	↑*iP*	Pn	07 45 04.2	+1.6
DSHT	**Scott's Head**	**0.56**	**201**	*eP*	Pn	07 45 05.1	+2.3
DSHT				*eS*	Sn	07 45 14.6	+3.7
DSHT	**Scott's Head**	**0.56**	**201**	*eP*	Pn	07 45 04.1	+1.3
TAG	**Tarade**	**0.57**	**302**	*eP*	Pn	07 45 04.8	+1.8
HMG	**Houelmont**	**0.57**	**295**	↑*eP*	Pn	07 45 04.7	+1.7
HMG				*eS*	Sn	07 45 13.4	+2.1
DEG	**La Desirade**	**0.58**	**10**	↑*eP*	Pn	07 45 03.2	+0.1
DEG				*eS*	Sn	07 45 14.5	+2.8
DEG	**La Desirade**	**0.58**	**10**	*eP*	Pb	07 45 03.0	+0.1
DEG				*eS*	Sn	07 45 11.9	+0.3
MLG	**Mont-d'or**	**0.61**	**302**	↑*iP*	Pn	07 45 05.3	+1.6
MLG				*eS*	Sn	07 45 14.5	+2.0
LZG	**Guadaloupe-1**	**0.71**	**304**	*eP*	Pb	07 45 06.5	+1.5
SEG	**Port Louis**	**0.74**	**334**	↑*eP*	Pb	07 45 06.8	+1.3
FDF	**Fort de France**	**1.00**	**179**	↑*eP*	Pb	07 45 09.5	-0.4
FDF				*eS*	Sn	07 45 19.8	-2.2
FDF	**Fort de France**	**1.00**	**179**	*eP*	Sn	07 45 32.4	+10
FDF	**Fort de France**	**1.00**	**179**	*ePn*	Pn	07 45 09.2	+0.3
FDF				*eSn*	Sn	07 45 19.8	-2.2
BVM	**Bellevue**	**1.00**	**174**	*eP*	Pb	07 45 09.5	-0.5
ZAM	**Aeronautique**	**1.17**	**173**	*eP*	Pn	07 45 11.9	+0.8
LPMF	**Morne Lapointe**	**1.17**	**171**	*eP*	Pn	07 45 11.7	+0.5
TRMF	**Trois Ilets**	**1.20**	**175**	*eP*	Pn	07 45 12.4	+0.8
MVM	**Montagne Vaucl**	**1.21**	**167**	*eP*	Pn	07 45 12.6	-0.7
BIM	**Bigot**	**1.22**	**176**	*eP*	Pb	07 45 13.8	+0.2
ANWB	**Willy Bob**	**2.01**	**343**	*ePn*	Pn	07 45 23.8	+1.0
MCLT	**Moule a Chique**	**2.03**	**174**	*eP*	Pb	07 45 25.2	-2.1
MCLT				*eS*	Sn	07 45 34.3	-13
MCLT				*eS*	Sn	07 45 49.7	+2.3
MCLT				*eS*	Sn	07 45 59.6	+12
SVV	**Soufriere Volc**	**2.41**	**181**	*eP*	Pn	07 45 30.5	+2.3
SVV				*eS*	Sn	07 45 41.1	-16
SVB	**Belmont**	**2.45**	**182**	*eP*	Pn	07 45 30.8	+1.9
SVB				*eS*	Sn	07 45 41.3	-16
SVB				*eS*	Sn	07 45 58.6	+0.7
SVB	**Belmont**	**2.45**	**182**	*eP*	Pn	07 45 30.8	+1.9
SVB				*eS*	Sn	07 45 58.6	+0.7

*NNC **09** 07:49:28.9±3.4, 53°.56N×91°.14E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=29.5km s-min=24.3km az=173.0*
IDC 09 07:49:27.0±3.4, 53°.76N×91°.53E, h0km, mb1 3.4/4, mb1mx3.2/32, mbtmp3.4/4, ML2.8/4, 5C-4D, Error ellipse: s-maj=33.4km s-min=24.0km az=89.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.98**	**275**	*i*		08 11 15.0	
	baz=91,slow=317,SNR=35						
ZALV	**Zalesovo Beam**	**3.98**	**275**	Pn	Pn	07 50 29.0	-0.2
	0.4nm,0.3s,baz=92,slow=11,SNR=3.9						
ZALV				Lg	Lg	07 51 23.7	
	2.5nm,0.3s,baz=89,slow=27,SNR=4.8						
TLY	**Talaya**	**7.64**	**101**	Lg	Lg	07 53 31.8	
	0.0nm,0.3s,baz=212,slow=22,SNR=9.0						
KURK	**Kurchatov**	**8.49**	**254**	↑Pn	Pn	07 51 28.5	-2.7
	3.0nm,0.9s						
KURK				↓Sn	Sn	07 53 03.9	-3.7
	6.0nm,0.8s						
KURK				↑Lg	Lg	07 53 51.0	
	30nm,1.0s						
KURBB	**Kurchatov Arra**	**8.58**	**254**	↓Pn	Pn	07 51 29.2	-3.2
	7.1nm,0.6s						
KURBB				↓Sn	Sn	07 53 06.9	-2.9
	49nm,0.8s						
KURBB				↑Lg	Lg	07 53 52.8	
	46nm,0.7s						
KURBB	**Kurchatov Arra**	**8.58**	**254**	Pn	Pn	07 51 31.0	-1.3
	0.3nm,0.3s,baz=64,slow=14,SNR=10						
KURBB				Sn	Sn	07 53 07.2	-2.7
	0.2nm,0.3s,baz=66,slow=25,SNR=11						
KURBB				Lg	Lg	07 53 51.9	
	0.2nm,0.3s,baz=76,slow=32,SNR=6.9						
MK31	**Makanchi Array**	**9.14**	**224**	↑Pn	Pn	07 51 39.9	-0.2
	2.1nm,0.8s,baz=40,slow=14,SNR=10						
MK31				↓Sn	Sn	07 53 18.1	-5.5
	4.1nm,0.7s,baz=43,slow=22,SNR=3.6						
MK31				↑Lg	Lg	07 54 07.5	
	37nm,1.3s,baz=37,slow=32,SNR=4.7						
MKAR	**Makanchi Array**	**9.14**	**224**	Pn	Pn	07 51 40.6	+0.5
	0.3nm,0.3s,baz=41,slow=13,SNR=17						
MKAR				Sn	Sn	07 53 23.7	+0.1
	0.3nm,0.3s,baz=33,slow=20,SNR=6.7						
MKAR				Lg	Lg	07 54 09.4	
	0.2nm,0.3s,baz=44,slow=30,SNR=5.3						
SONM	**Songino Array**	**11.11**	**116**	Lg	Lg	07 55 23.5	
	0.3nm,0.3s,baz=305,slow=29,SNR=11						
BVAR	**Borovoye Array**	**12.64**	**275**	Pn	Pn	07 52 27.0	-0.9
	0.0nm,0.3s,baz=74,slow=15,SNR=2.5						
PPT2	**Papeete2**	**121.02**	**77**	*eLR*	LR	08 08 13.6	
	156nm,30.0s						

*NNC **09** 08:08:08.3±3.3, 53°.41N×87°.32E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=25.8km s-min=20.5km az=15.0*
IDC 09 08:08:05.9±2.6, 53°.51N×87°.63E, h0km, mb1 3.4/3, mb1mx3.2/31, mbtmp3.4/3, ML3.1/3, 5C-4D, Error ellipse: s-maj=24.6km s-min=12.9km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.73**	**286**	*i*		08 19 11.4	
	baz=100,slow=318,SNR=8.5						
ZALV	**Zalesovo Beam**	**1.73**	**286**	Pg	Pn	08 08 36.1	-1.1
	6.6nm,0.3s,baz=101,slow=14,SNR=57						
ZALV				Lg	Lg	08 08 59.4	
	4.7nm,0.3s,baz=103,slow=21,SNR=13						
KURK	**Kurchatov**	**6.22**	**247**	↑Pn	Pn	08 09 37.3	-1.6
	1.1nm,0.6s						
KURK				↑Sn	Sn	08 10 48.9	-1.7
	1.0nm,0.7s						
KURK				↑Lg	Lg	08 11 21.5	
	4.2nm,0.8s						
KURBB	**Kurchatov Arra**	**6.32**	**246**	↑Pn	Pn	08 09 40.2	0.0
	6.0nm,0.7s						
KURBB				↓Sn	Sn	08 10 50.6	-2.3
	3.7nm,0.7s						
KURBB				↓Lg	Lg	08 11 23.4	
	16nm,0.9s						
KURBB	**Kurchatov Arra**	**6.32**	**246**	Pn	Pn	08 09 40.5	+0.4
	0.2nm,0.3s,baz=62,slow=14,SNR=12						
KURBB				Lg	Lg	08 11 27.1	
	0.1nm,0.3s,baz=63,slow=33,SNR=10						
MK31	**Makanchi Array**	**7.55**	**209**	↓Pn	Pn	08 09 58.0	+0.8
	1.0nm,0.6s,baz=29,slow=12,SNR=18						
MK31				↓Sn	Sn	08 11 22.6	-0.9
	1.5nm,0.7s,baz=31,slow=27,SNR=6.3						
MK31				↑Lg	Lg	08 12 00.4	
	3.0nm,0.8s,baz=39,slow=30,SNR=6.6						
MKAR	**Makanchi Array**	**7.55**	**209**	Pn	Pn	08 09 58.2	+1.0
	0.4nm,0.3s,baz=22,slow=12,SNR=21						
MKAR				Sn	Sn	08 11 22.9	-0.6
	0.2nm,0.3s,baz=28,slow=26,SNR=7.9						
MKAR				Lg	Lg	08 12 05.2	
	0.1nm,0.3s,baz=29,slow=30,SNR=9.0						
BVAR	**Borovoye Array**	**10.34**	**274**	Pn	Pn	08 10 35.4	-0.1
	0.2nm,0.3s,baz=70,slow=17,SNR=3.3						

DJA 09 08:09:51.8±0.4, 2°.N±3°×9°.8E±°, h31km±8km, M3.5/7, MLv3.5/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.46**	**238**	P	Pn	08 10 03.0	+0.8
GSI				S	Sn	08 10 10.4	+1.1
PBSI	**Pulau Batu**	**1.63**	**169**	P	Pn	08 10 16.8	-1.5
PBSI				S	Sn	08 10 39.2	+1.0
MNSI	**Mandailing Nat**	**1.78**	**115**	P	Pb	08 10 24.5	+0.6
MNSI				S	Sn	08 10 41.8	-0.3
LHMI	**Lhok Sumawe**	**3.79**	**345**	P	Pn	08 10 48.4	+0.3

*IDC **09** 08:26:48.5±6.4, 21°.52N×143°.31E, h268km±65km, mb3.0/7, mb1 3.2/8, mb1mx3.0/27, mbtmp3.6/8, Error ellipse: s-maj=35.0km s-min=12.8km az=91.0*
*ISCJB **09** 08:26:49.8±0.7, 21°.45N±0°.06×143°.4E±0°.2, h300km, mb3.2/6, Error ellipse: s-maj=26.8km s-min=7.9km az=172.5*
*JMA **09** 08:26:52.3±0.2, 21°.67N×143°.68E, h339km, M3.9*
ISC 09 08:26:51.6±0.8, 21°.53N±0°.08×143°.4E±0°.2, h300km, n17, σ1.963/19, mb3.2/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**5.20**	**348**	P	**Pn**	**08 28 13.2**	**+1.8**
JHHJ				S	**S**	**08 29 16.8**	**+1.2**
CBIJ	**Chichi jima**	**5.65**	**349**	S	**S**	**08 29 25.8**	**+0.5**
BSO3	**Boso 3**	**13.47**	**350**	P	**Pn**	**08 29 52.3**	**+0.8**
JOD2	**Odawara 2**	**14.20**	**345**	P	**P**	**08 30 00.1**	**+0.3**
JTO	**Tosashimizu**	**14.70**	**322**	P	**Pn**	**08 30 08.1**	**+1.6**
JHU	**Hanno**	**14.72**	**347**	P	**P**	**08 30 05.5**	**0.0**
JRY	**Ryogami san**	**14.96**	**346**	P	**Pn**	**08 30 09.3**	**-0.3**
JAG	**Ashikaga**	**15.24**	**348**	P	**P**	**08 30 11.6**	**+0.4**
JAG				S	**S**	**08 32 51.5**	**-5.4**
MJAR	**Matsushiro Arr**	**15.63**	**344**	P	**P**	**08 30 14.6**	**-0.9**
	0.6nm,0.3s,baz=165,slow=9.8,SNR=6.5						
KSRS	**Korea Array**	**20.77**	**323**	P	**P**	**08 31 09.2**	**-1.0**
	1.6nm,0.6s,baz=145,slow=8.8,SNR=9.3						
WRA	**Warramunga Arr**	**42.16**	**193**	P	**P**	**08 34 14.9**	**-0.7**
	1.0nm,0.5s,baz=13,slow=8.5,SNR=37						
ASAR	**Alice Springs**	**45.87**	**192**	P	**P**	**08 34 43.9**	**-0.9**
	0.4nm,0.5s,baz=321,slow=6.8,SNR=8.5						
STKA	**Stephens Creek**	**53.13**	**182**	P	**P**	**08 35 39.1**	**0.0**
	4.5nm,1.2s,baz=321,slow=20,SNR=3.2						
MKAR	**Makanchi Array**	**54.97**	**313**	P	**P**	**08 35 51.5**	**-0.8**
	0.1nm,0.3s,baz=82,slow=10,SNR=2.3						
ILAR	**Eielson Array**	**62.09**	**27**	P	**P**	**08 36 40.7**	**-0.1**
	0.3nm,0.6s,baz=280,slow=5.4,SNR=3.6						
NVAR	**Mina Array Bea**	**83.08**	**52**	P	**P**	**08 38 45.0**	**+0.5**
	0.2nm,0.4s,baz=238,slow=3.1,SNR=2.6						
LPAZ	**La Paz**	**149.74**	**86**	PKPbc	**PKPbc**	**08 46 08.8**	**+1.0**
	0.9nm,0.5s,baz=313,slow=2.3,SNR=7.9						

*IDC **09** 08:39:04.1±1.1, 6°.25S×107°.70W, h0km, mb3.8/9, mb1 4.1/9, mb1mx4.0/16, mbtmp3.8/9, MS4.0/13, Ms1 4.0/13, ms1mx3.9/22, Error ellipse: s-maj=51.9km s-min=24.6km az=71.0*
*ISCJB **09** 08:39:05.1±1.0, 6°.2S±0°.1×107°.5W±0°.2, h10km, mb4.2/19, MS4.0/13, Error ellipse: s-maj=34.3km s-min=15.6km az=153.2*
*NEIC **09** 08:39:05.7±0.8, 6°.34S×107°.52W, h10km, mb4.5/10, Error ellipse: s-maj=29.3km s-min=14.3km az=61.0*
*GCMT **09** 08:39:05.7±0.4, 6°.16S×107°.36W, h19km±1km, MW5.0/75, Moment Tensor Solution. s27,c27; s75,c114; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r=-0.05±.14; $M_{\theta\theta}$0.96±.12; $M_{\phi\phi}$-0.90±.13; $M_{r\theta}$1.51±.27; $M_{\theta\phi}$2.87±.10; $M_{\phi r}$0.61±.25; Best double couple: $M_0$3.38200×10^{16} NP1:ϕ_s100.00000°, δ80.00000°, λ23.00000°. NP2: ϕ_s6.00000°, δ68.00000°, λ170.00000°. Principal axes: T 3.7100, Plg23.0000°, Azm325.0000°; N -0.6570, Plg65.0000°, Azm122.0000°; P -3.0530, Plg9.0000°, Azm232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 09 08:39:06.0±1.0, 6°.3S±0°.2×107°.5W±0°.2, h10km, n41, σ1.917/23, mb4.3/19, MS4.0/13, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**31.34**	**235**	*eLR*	LR	08 53 43.8	
	1μm,27.8s						
RKT	**Rikitea**	**31.34**	**235**	*eT*	T

HLID	**Hailey**	**49.98**	**353**	*e*P		**P**	**08 48 01.7**	**+1.1**
	5.1nm,1.4s							
MFID	**Camas Ranch**	**50.01**	**352**	*e*P		**P**	**08 48 02.1**	**+1.3**
	9.0nm,1.1s							
IMW	**Indian Meadow**	**50.02**	**357**	*e*P		**P**	**08 48 00.2**	**-0.8**
	5.1nm,1.1s							
FLWY	**Flagg Ranch**	**50.19**	**357**	*e*P		**P**	**08 48 02.8**	**+0.6**
	9.6nm,1.1s							
CPUP	**Villa Florida**	**51.72**	**119**	LR		LR	09 06 22.9	
	comp=Z,209nm,20.4s,baz=280,slow=32							
BDFB	**Brasilia**	**58.96**	**104**	LR		LR	09 12 01.8	
	comp=Z,172nm,18.6s,baz=245,slow=33							
DLBC	**Dease Lake**	**66.99**	**347**	P		**P**	**08 49 58.6**	**-0.3**
	1.9nm,0.8s,baz=153,slow=8.8,SNR=3.7							
YKA	**Yellowknife Ar**	**68.77**	**356**	P		**P**	**08 50 09.5**	**-0.4**
	1.0nm,0.8s,baz=164,slow=6.3,SNR=5.6							
SCHQ	**Schefferville**	**69.63**	**24**	LR		LR	09 20 22.7	
	comp=Z,98nm,20.8s,baz=311,slow=36							
ILAR	**Eielson Array**	**76.62**	**344**	P		**P**	**08 50 56.3**	**-0.4**
	0.5nm,0.8s,baz=155,slow=4.8,SNR=7.4							
ILAR				LR		LR	09 18 23.6	
	comp=Z,126nm,18.2s,baz=152,slow=31							
RES	**Resolute Bay**	**81.17**	**3**	*e*P		**P**	**08 51 23.2**	**+1.9**
	6.8nm,0.9s							
QSPA	**South Pole Qui**	**83.81**	**180**	P		**P**	**08 51 36.3**	**+0.8**
	2.2nm,0.9s,baz=215,slow=2.2,SNR=4.6							
QSPA	**South Pole Qui**	**83.81**	**180**	*e*P		**P**	**08 51 36.1**	**+0.5**
	4.4nm,0.9s							
H11N3	**WAKE ISLAND Hy**	**87.98**	**290**	T		T	10 29 24.6	
	baz=93							
H11N2	**WAKE ISLAND Hy**	**87.99**	**290**	T		T	10 29 24.0	
	baz=93							
H11N1	**WAKE ISLAND Hy**	**87.99**	**290**	T		T	10 29 23.4	
	baz=93							
H11S2	**WAKE ISLAND Hy**	**88.01**	**289**	T		T	10 29 26.3	
	baz=104							
H11S1	**WAKE ISLAND Hy**	**88.02**	**289**	T		T	10 29 25.7	
	baz=104							
H11S3	**WAKE ISLAND Hy**	**88.03**	**289**	T		T	10 29 26.9	
	baz=104							
PETK	**Petropavlovsk-**	**97.86**	**323**	LR		LR	09 27 55.4	
	comp=Z,58nm,21.6s,baz=103,slow=30							
CMAR	**Chiang Mai Arr**	**151.54**	**298**	PKPbc		**PKPbc**	**08 58 58.7**	**-2.8**
	1.0nm,0.3s,baz=64,slow=2.1,SNR=3.2							

*IDC **09** 08:45:57.1±1.6,6°.59S×107°.60W,h0km,mb4.0/14, mb1 4.2/14,mb1mx4.1/20,mbtmp4.0/14,MS3.5/1, Ms1 3.5/1,ms1mx3.2/17,Error ellipse: s-maj=56.3km s-min=17.4km az=45.0*

*ISCJB **09** 08:45:59.2±0.8,6°.3S±0°.1×107°.3W±0°.1,h10km,mb4.3/36, MS3.4/1,Error ellipse: s-maj=25.9km s-min=10.5km az=142.0*

*NEIC **09** 08:46:00.1±0.6,6°.41S×107°.38W,h10km,mb4.6/22,Error ellipse: s-maj=19.4km s-min=8.6km az=53.0*

ISC 09 08:46:00.2±1.0,6°.4S±0°.2×107°.4W±0°.2,h10km,n51, σ0§98/41,mb4.5/36,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**28.77**	**93**	LR	LR	09 00 52.9	
	comp=Z,79nm,18.1s,baz=261,slow=31						
RKT	**Rikitea**	**31.38**	**235**	*e*T	T	09 25 17.6	
	3.0nm,0.3s						
TXAR	**Lajitas Array**	**35.65**	**6**	P	**P**	**08 52 58.8**	**+0.1**
	0.9nm,0.9s,baz=197,slow=12,SNR=4.1						
LPAZ	**La Paz**	**39.64**	**108**	P	**P**	**08 53 33.8**	**+0.5**
	1.3nm,0.8s,baz=288,slow=9.0,SNR=6.9						
LPAZ	**La Paz**	**39.64**	**108**	*e*P	**P**	**08 53 34.6**	**+1.3**
WMOK	**Wichita Mounta**	**41.66**	**11**	*e*P	**P**	**08 53 49.7**	**+0.7**
	3.0nm,1.1s						
WUAZ	**Wupatki**	**41.81**	**355**	*e*P	**P**	**08 53 51.6**	**+1.2**
	14nm,1.5s						
PPT2	**Papeete2**	**42.68**	**251**	*e*LQ	LQ	09 03 49.8	
	391nm,28.0s						
PPT2				*e*LR	LR	09 05 40.9	
	435nm,24.5s,baz=76						
MIAR	**Mount Ida**	**42.71**	**17**	*e*P	**P**	**08 53 58.8**	**+1.2**
	5.8nm,1.0s						
V34A	**Guthrie**	**42.97**	**12**	*e*P	**P**	**08 54 01.1**	**+1.5**
	36nm,1.6s						
SHPR	**Sheep Range**	**43.25**	**351**	*e*P	**P**	**08 54 03.2**	**+1.1**
	14nm,1.6s						
SAML	**Samuel**	**43.84**	**96**	*e*P	**P**	**08 54 06.6**	**-0.5**
	5.8nm,0.9s						
TBI	**Tubuai**	**43.86**	**243**	*e*LR	LR	09 06 17.9	
	440nm,26.5s,baz=74						
SDCO	**Great Sand Dun**	**43.90**	**2**	*e*P	**P**	**08 54 08.6**	**+1.1**
	5.7nm,1.4s						
PV10	**Paradox Valley**	**44.52**	**358**	*e*P	**P**	**08 54 11.7**	**-0.7**
	61nm,0.5s						
TPH	**Tonopah**	**45.14**	**349**	*e*P	**P**	**08 54 18.7**	**+1.4**
	12nm,1.3s						
CBKS	**Cedar Bluff**	**45.49**	**8**	*e*P	**P**	**08 54 20.7**	**+0.8**
	14nm,1.3s						
NVAR	**Mina Array Bea**	**45.70**	**348**	P	**P**	**08 54 22.0**	**+0.3**
	2.0nm,0.9s,baz=175,slow=10,SNR=12						
CMB	**Columbia Colle**	**45.79**	**346**	*e*P	**P**	**08 54 22.5**	**+0.2**
	1.8nm,0.8s						
O20A	**White River Ci**	**46.26**	**359**	*e*P	**P**	**08 54 26.5**	**+0.4**
	7.9nm,1.1s						
SIV	**San Ignacio**	**46.32**	**106**	P	**P**	**08 54 26.2**	**-0.6**
	1.5nm,0.7s,baz=278,slow=9.2,SNR=3.9						
ELK	**Elko**	**47.42**	**352**	P	**P**	**08 54 35.9**	**+0.6**
	1.8nm,1.0s,baz=166,slow=8.1,SNR=6.5						
PTGA	**Pitinga**	**47.61**	**85**	P	**P**	**08 54 36.7**	**-0.3**
	4.2nm,0.9s,baz=252,slow=6.4,SNR=7.1						
HWUT	**Hardware Ranch**	**47.88**	**356**	*e*P	**P**	**08 54 39.5**	**+0.8**
	7.5nm,1.4s						
PDAR	**Pinedale Array**	**48.92**	**358**	P	**P**	**08 54 46.6**	**-0.2**
	0.9nm,1.0s,baz=153,slow=5.0,SNR=5.7						
MOD	**Modoc**	**49.45**	**347**	*e*P	**P**	**08 54 51.7**	**+0.9**
	7.1nm,1.2s						
YBH	**Yreka Blue Hor**	**49.87**	**345**	P	**P**	**08 54 54.0**	**+0.1**
	1.5nm,0.8s,baz=89,slow=8.3,SNR=6.1						
HLID	**Hailey**	**50.09**	**353**	*e*P	**P**	**08 54 56.8**	**+1.2**
	1.9nm,0.9s						
MFID	**Camas Ranch**	**50.12**	**352**	*e*P	**P**	**08 54 56.4**	**+0.5**
	8.7nm,1.1s						
FLWY	**Flagg Ranch**	**50.29**	**357**	*e*P	**P**	**08 54 56.9**	**-0.3**
	12nm,1.3s						
MDND	**Maddock**	**54.40**	**6**	*e*P	**P**	**08 55 26.8**	**-0.6**
	30nm,1.3s						
COWI	**Conover**	**54.69**	**15**	*e*P	**P**	**08 55 29.0**	**-0.6**
	4.5nm,1.0s						
NEW	**Newport**	**55.05**	**352**	P	**P**	**08 55 32.5**	**+0.3**
	1.1nm,0.8s,baz=169,slow=11,SNR=2.8						
BDFB	**Brasilia**	**58.82**	**104**	P	**P**	**08 55 59.2**	**-0.4**
	1.2nm,0.4s,baz=243,slow=4.5,SNR=3.0						
DLBC	**Dease Lake**	**67.11**	**347**	P	**P**	**08 56 53.6**	**-0.3**
	2.7nm,0.9s,baz=164,slow=6.8,SNR=5.9						
DLBC	**Dease Lake**	**67.11**	**347**	*e*P	**P**	**08 56 54.8**	**+0.9**
YKA	**Yellowknife Ar**	**68.87**	**356**	P	**P**	**08 57 04.3**	**-0.4**
	1.7nm,0.8s,baz=169,slow=6.1,SNR=6.8						
DAWY	**Dawson**	**74.22**	**346**	*e*P	**P**	**08 57 38.3**	**+1.1**
PMR	**Palmer**	**75.05**	**341**	*e*P	**P**	**08 57 42.5**	**+0.6**
	29nm,1.7s						
EGAK	**Eagle**	**75.25**	**346**	*e*P	**P**	**08 57 43.7**	**+0.7**
	6.4nm,1.1s						
INK	**Inuvik**	**76.72**	**350**	P	**P**	**08 57 49.4**	**-1.9**
	2.9nm,0.9s,baz=143,slow=6.3,SNR=2.8						
INK	**Inuvik**	**76.72**	**350**	*e*P	**P**	**08 57 48.9**	**-2.4**
	7.6nm,1.3s						
ILAR	**Eielson Array**	**76.74**	**344**	P	**P**	**08 57 51.0**	**-0.6**
	0.7nm,0.8s,baz=164,slow=5.8,SNR=9.2						
QSPA	**South Pole Qui**	**83.72**	**180**	*e*P	**P**	**08 58 30.5**	**+1.2**
	10.0nm,1.2s						
H11N3	**WAKE ISLAND Hy**	**88.12**	**290**	T	T	10 36 14.1	
	baz=98,slow=75,SNR=18						
H11N2	**WAKE ISLAND Hy**	**88.13**	**290**	T	T	10 36 15.1	
	baz=98,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**88.13**	**290**	T	T	10 36 18.1	
	baz=98,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**88.15**	**289**	T	T	10 36 24.9	
	baz=97,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**88.16**	**289**	T	T	10 36 15.1	
	baz=97,slow=75,SNR=17						
H11S3	**WAKE ISLAND Hy**	**88.17**	**289**	T	T	10 36 21.9	
	baz=97,slow=75,SNR=15						
CMAR	**Chiang Mai Arr**	**151.68**	**298**	PKPbc	**PKPbc**	**09 05 54.0**	**-2.1**
	1.1nm,0.3s,baz=12,slow=2.1,SNR=5.0						

DJA 09 08:53:31.0±1.8,1°.N±5°.×97°.E±1°.5,h36km±6km,M4.4/6, mb6.0/1,MLv3.6/6,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.33**	**75**	P	Pn	08 53 39.4	+0.2
GSI				S	Sn	08 53 48.4	+2.5
PBSI	**Pulau Batu**	**1.63**	**141**	P	Pn	08 53 58.4	+1.3
PBSI				S	Sn	08 54 17.9	+1.1
MNSI	**Mandailing Nat**	**2.36**	**100**	P	Pn	08 54 06.4	-0.8
PDSI	**Padang**	**3.84**	**123**	P	Pn	08 54 27.6	0.0
JMBI	**JAMBI**	**6.98**	**114**	P	Pn	08 55 10.9	+0.1

*ISCJB **09** 08:54:21.3±0.7,24°.29S±0°.06×66°.76W±0°.10,h181km, mb3.4/2,Error ellipse: s-maj=12.3km s-min=8.0km az=174.4*

*IDC **09** 08:54:22.7±1.4,24°.17S×66°.79W,h179km±16km,mb3.1/2, mb1 3.5/6,mb1mx3.2/36,mbtmp3.9/6,Error ellipse: s-maj=21.9km s-min=17.4km az=111.0*

ISC 09 08:54:22.5±0.8,24°.26S±0°.07×66°.8W±0°.1,h181km,n10, σ1§19/12,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.54**	**310**	P	**Pn**	**08 55 06.8**	**+0.7**
	607nm,0.3s,baz=128,slow=9.0,SNR=266						
LVC				S	**Sn**	**08 55 38.7**	**-1.1**
	920nm,0.3s,baz=303,slow=22,SNR=31						
CFAA	**Coronel Fontan**	**7.43**	**190**	P	**Pn**	**08 56 09.4**	**+1.2**
	0.1nm,0.3s,baz=8.5,slow=14,SNR=14						
CFAA				S	**Sn**	**08 57 29.3**	**-2.7**
	0.2nm,0.3s,baz=290,slow=15,SNR=9.1						
LPAZ	**La Paz**	**8.03**	**351**	P	**Pn**	**08 56 16.6**	**-0.3**
	0.5nm,0.3s,baz=159,slow=6.7,SNR=23						
SIV	**San Ignacio**	**9.82**	**34**	P	**Pn**	**08 56 39.0**	**-0.8**
	1.1nm,0.3s,baz=244,slow=13,SNR=10						
BDFB	**Brasilia**	**19.61**	**68**	P	**P**	**08 58 37.3**	**0.0**
	1.0nm,0.3s,baz=243,slow=9.8,SNR=14						
SNAA	**Sanae**	**59.04**	**161**	P	**P**	**09 04 04.2**	**+1.1**
	0.5nm,1.1s,baz=298,slow=11,SNR=4.3						
TORD	**Torodi Ar. Bea**	**76.49**	**69**	P	**P**	**09 05 52.8**	**-0.1**
	0.5nm,0.5s,baz=252,slow=5.7,SNR=9.4						
ASAR	**Alice Springs**	**128.30**	**204**	PKP	**PKPdf**	**09 13 08.6**	**+0.5**
	0.1nm,0.4s,baz=146,slow=2.0,SNR=2.7						
WRA	**Warramunga Arr**	**131.48**	**207**	PKP	**PKPdf**	**09 13 14.5**	**+0.3**
	0.4nm,0.9s,baz=166,slow=1.7,SNR=5.2						
MKAR	**Makanchi Array**	**146.60**	**40**	PKPbc	**PKPbc**	**09 13 42.2**	**-0.4**
	0.2nm,0.4s,baz=299,slow=3.0,SNR=2.7						

IDC 09 09:02:05.4±2.6,7°.14S×148°.57E,h0km,mb3.8/2, mb1 3.9/3,mb1mx3.5/27,mbtmp3.7/3,ML3.7/1,Error ellipse: s-maj=73.8km s-min=41.4km az=110.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.77**	**226**	P	P	09 06 25.1	-1.1
	0.3nm,0.3s,baz=52,slow=11,SNR=17						
ASAR	**Alice Springs**	**21.64**	**219**	P	P	09 06 57.5	+0.1
	1.6nm,0.6s,baz=52,slow=9.5,SNR=40						
STKA	**Stephens Creek**	**25.45**	**194**	P	P	09 07 35.3	+0.2
	2.5nm,0.8s,baz=8.9,slow=10,SNR=3.2						
TORD	**Torodi Ar. Bea**	**146.87**	**283**	PKPbc	PKPbc	09 21 50.2	-0.6
	0.3nm,0.8s,baz=72,slow=3.5,SNR=3.2						

GUC 09 09:08:09.1±0.5,36°.56S×73°.11W,h36km±2km,ML3.9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.29**	**181**	*e*P	Pn	09 08 16.8	-0.5
CCSP				*e*S	Sn	09 08 22.5	-1.7
U14B	**Concepcin**	**0.30**	**176**	*e*P	Pn	09 08 16.7	-0.6
U14B				*e*S	Sn	09 08 23.0	-1.1
U14B				AML	AML	09 08 24.9	
	comp=N,19µm,0.3s						
COCH	**Cobquecura**	**0.50**	**31**	*e*P	Pn	09 08 19.4	-0.2
COCH				*e*S	Sn	09 08 27.3	+0.4
LNCH	**Linares**	**1.41**	**60**	*e*P	Pn	09 08 33.2	+1.1
LNCH				*e*S	Sn	09 08 52.0	+2.5
TALC	**Talca**	**1.66**	**46**	*e*P	Pn	09 08 37.3	+1.7
TALC				*e*S	Sn	09 08 58.0	+2.3
CLCH	**Cerro Calan**	**3.79**	**35**	AML	AML	09 10 13.1	
	comp=E,117nm,0.3s						

*IDC **09** 09:11:55.2±0.7,21°.49N×144°.21E,h0km,mb3.9/13, mb1 4.1/15,mb1mx3.9/38,mbtmp3.9/15,ML3.8/2,MS3.2/5, Ms1 3.3/5,ms1mx2.8/48,Error ellipse: s-maj=23.7km s-min=15.9km az=87.0*

*NEIC **09** 09:11:56.7±0.5,21°.49N×144°.20E,h10km,mb4.0/3,Error ellipse: s-maj=13.8km s-min=9.0km az=78.0*

*ISCJB **09** 09:11:58.5±0.6,21°.49N±0°.06×144°.2E±0°.1,h33km, mb3.9/16,MS3.3/4,Error ellipse: s-maj=17.2km s-min=7.6km az=165.4*

ISC 09 09:11:60.0±0.7,21°.44N±0°.08×144°.2E±0°.1,h33km,n32, σ1§33/30,mb3.9/16,MS3.3/4,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.92**	**342**	Pn	**Pn**	**09 13 22.8**	**-2.6**
CBIJ				Sn	**Sn**	**09 14 33.0**	**+0.8**
JCJ	**Chichijima**	**5.92**	**342**	Pn	**Pn**	**09 13 22.8**	**-2.6**
	5.4nm,0.3s,baz=100,slow=23,SNR=5.5						
JCJ				Sn	**Sn**	**09 14 33.0**	**+0.8**
	15nm,0.3s,baz=350,slow=17,SNR=7.0						
MJAR	**Matsushiro Arr**	**15.93**	**342**	Pn	**Pn**	**09 15 39.6**	**-2.0**
	0.2nm,0.3s,baz=150,slow=9.9,SNR=2.9						
MJAR				LR	LR	09 21 23.3	
	comp=Z,33nm,19.9s,baz=200,slow=36						
MAJO	**Matsushiro**	**15.93**	**342**	Pn	**Pn**	**09 15 41.5**	**-0.1**
	6.9nm,0.7s						
MAJO				*e*Sn	**Sn**	**09 18 41.4**	**+4.2**
KSRS	**Korea Array**	**21.29**	**322**	P	**P**	**09 16 44.0**	**+0.4**
	2.1nm,0.7s,baz=146,slow=8.7,SNR=13						
KSAR	**Wonju Array Be**	**21.30**	**322**	P	**P**	**09 16 44.0**	**+0.2**
H11N1	**WAKE ISLAND Hy**	**21.32**	**91**	T	T	09 38 47.2	
	baz=278,slow=75,SNR=28						
H11N2	**WAKE ISLAND Hy**	**21.32**	**90**	T	T	09 38 49.5	
	baz=278,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**21.34**	**91**	T	T	09 38 48.4	
	baz=278,slow=75,SNR=27						
H11S3	**WAKE ISLAND Hy**	**21.34**	**94**	T	T	09 38 55.1	
	baz=282,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy**	**21.35**	**94**	T	T	09 38 49.2	
	baz=282,slow=75,SNR=24						
H11S2	**WAKE ISLAND Hy**	**21.36**	**94**	T	T	09 38 49.6	
	baz=282,slow=75,SNR=21						
USRK	**Usuriysk Ar.**	**24.85**	**339**	P	**P**	**09 17 19.8**	**+0.5**
	1.2nm,0.8s,baz=210,slow=8.3,SNR=2.5						
SIJI	**Sorong**	**25.52**	**211**	LR	LR	09 26 09.7	
	comp=Z,52nm,18.8s,baz=202,slow=33						
SONM	**Songino Array**	**40.14**	**320**	P	**P**	**09 19 32.7**	**-0.2**
	0.7nm,0.7s,baz=143,slow=6.8,SNR=4.9						
YAK	**Yakutsk**	**41.78**	**350**	LR	LR	09 39 29.8	
	comp=Z,100nm,19.0s,baz=72,slow=40						
SEY	**Seymchan**	**41.84**	**6**	P	**P**	**09 19 47.0**	**+0.5**
	1.5nm,0.8s,baz=198,slow=20,SNR=3.0						
WRA	**Warramunga Arr**	**42.24**	**194**	P	**P**	**09 19 50.8**	**+0.6**
	2.0nm,0.7s,baz=16,slow=8.9,SNR=15						
CMAR	**Chiang Mai Arr**	**42.53**	**274**	P	**P**	**09 19 53.4**	**+0.6**
	0.9nm,0.3s,baz=91,slow=5.9,SNR=4.1						
CMAR				LR	LR	09 35 40.2	
	comp=Z,22nm,21.4s,baz=175,slow=34						
ASAR	**Alice Springs**	**45.94**	**193**	P	**P**	**09 20 20.0**	**+0.1**
	0.9nm,0.8s,baz=10.0,slow=8.8,SNR=9.5						
MKAR	**Makanchi Array**	**55.56**	**313**	P	**P**	**09 21 32.2**	**-0.1**
	0.5nm,0.6s,baz=91,slow=9.7,SNR=4.7						
MKAR				PcP	**PcP**	**09 22 31.7**	**-0.1**
	0.9nm,0.7s,baz=76,slow=5.1,SNR=5.0						
ILAR	**Eielson Array**	**61.84**	**27**	P	**P**	**09 22 15.7**	**+0.1**
	1.0nm,0.8s,baz=262,slow=5.6,SNR=12						
YKA	**Yellowknife Ar**	**76.24**	**28**	P	**P**	**09 23 44.2**	**-0.7**
	0.4nm,0.5s,baz=264,slow=9.4,SNR=3.5						
ARCES	**ARCESS Array B**	**79.46**	**342**	P	**P**	**09 24 02.0**	**-0.8**
	2.5nm,1.0s,baz=61,slow=9.9,SNR=4.4						
BMO	**Blue Mountains**	**80.94**	**45**	*e*P	**P**	**09 24 13.1**	**+1.7**
	1.4nm,1.1s						
MFID	**Camas Ranch**	**82.46**	**46**	*e*P	**P**	**09 24 19.1**	**-0.3**
	1.4nm,0.6s						
NVAR	**Mina Array Bea**	**82.57**	**52**	P	**P**	**09 24 20.0**	**-0.2**
	1.3nm,0.8s,baz=279,slow=4.8,SNR=6.0						
KBZ	**Khabaz**	**83.22**	**314**	P	**P**	**09 24 23.2**	**+0.1**
	6.6nm,0.8s,baz=105,slow=3.0,SNR=15						
FINES	**FINESS Array B**	**83.81**	**335**	P	**P**	**09 24 24.9**	**-1.0**
	1.3nm,0.8s,baz=116,slow=8.7,SNR=5.1						
PDAR	**Pinedale Array**	**86.91**	**45**	LR	LR	09 56 19.9	
	comp=Z,23nm,21.0s,baz=276,slow=31						
LPAZ	**La Paz**	**149.02**	**86**	PKPbc	**PKPbc**	**09 31 47.6**	**+1.4**
	1.9nm,0.7s,baz=335,slow=1.5,SNR=15						
LPAZ	**La Paz**	**149.02**	**86**	*e*PKPdf	**PKPdf**	**09 31 42.4**	**+0.2**
LPAZ				*e*PKPbc	**PKiKP**	**09 31 46.6**	**-1.0**
LPAZ				PKPbc	**PKPbc**	**09 31 47.6**	**+1.4**
LPAZ				*e*PKPab	**PKPab**	**09 31 51.2**	**+0.7**

*ISCJB **09** 09:24:58.7±0.4,7°.01S±0°.05×155°.81E±0°.07,h62km, mb4.8/28,Error ellipse: s-maj=9.8km s-min=6.8km az=160.6*

*IDC **09** 09:25:03.1±4.5,7°.13S×155°.97E,h97km±39km,mb4.3/16, mb1 4.3/18,mb1mx4.1/36,mbtmp4.6/18,MS3.5/4, Ms1 3.6/4,ms1mx3.0/27,Error ellipse: s-maj=23.5km s-min=12.6km az=80.0*

*NEIC **09** 09:25:04.7±1.7,7°.13S×155°.90E,h110km±14km,mb4.8/3, Error ellipse: s-maj=14.1km s-min=7.9km az=68.0*

ISC 09 09:25:00.2±0.5,6°.98S±0°.07×155°.76E±0°.08,h62km,n75, σ1§30/70,mb4.9/28,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.81**	**121**	*e*P	**Pn**	**09 26 13.0**	**+2.9**
HNR				*e*S	**Sn**	**09 27 07.0**	**+2.5**
PMG	**Port Moresby**	**8.85**	**254**	*e*Pn	Pn	09 27 11.1	+5.7
CTA	**Charters Tower**	**15.96**	**214**	P	**P**	**09 28 42.9**	**-0.5**
	0.4nm,0.3s,baz=49,slow=12,SNR=8.1						
CTAO	**Charters Tower**	**15.96**	**214**	*e*Pn	**Pn**	**09 28 41.5**	**+0.6**
CTAO				*e*Sn	**Sn**	**09 31 40.5**	**+3.4**
DZM	**Mont Dzumac**	**18.20**	**147**	P	**P**	**09 29 06.9**	**-1.4**
	0.8nm,0.3s,baz=270,slow=24,SNR=13						
DZM	**Mont Dzumac**	**18.20**	**147**	*e*P	**P**	**09 29 08.2**	**-0.1**
QIS	**Mount Isa**	**20.66**	**228**	P	Pn	09 29 39.1	+1.1
	baz=20,SNR=6.9						
QLP	**Quilpie**	**22.37**	**208**	P	**P**	**09 29 52.9**	**-0.4**
	baz=22,SNR=5.8						
KDU	**Kakadu**	**23.62**	**254**	P	**P**	**09 30 06.9**	**+1.0**
	baz=24,SNR=18						
ARMA	**Armidale**	**23.64**	**189**	P	**P**	**09 30 06.4**	**+0.4**
	baz=23,SNR=4.4						
FAKI	**Fak Fak**	**23.76**	**279**	P	**P**	**09 30 08.8**	**+1.5**
	baz=24,SNR=8.6						
WRA	**Warramunga Arr**	**24.45**	**236**	P	**P**	**09 30 14.0**	**+0.6**
	13nm,0.5s,baz=60,slow=9.3,SNR=216						
WRA				PcP	**PcP**	**09 33 50.2**	**-1.0**
	1.3nm,0.8s,baz=318,slow=1.7,SNR=5.5						
WRA				LR	LR	09 39 16.2	
	comp=Z,136nm,18.6s,baz=70,slow=35						
CMSA	**Cobar Meteorol**	**26.18**	**200**	P	**P**	**09 30 27.9**	**-1.1**
	baz=26,SNR=13						
ASAR	**Alice Springs**	**26.75**	**229**	P	**P**	**09 30 33.9**	**-0.5**
	2.9nm,0.5s,baz=59,slow=9.8,SNR=88						
ASAR				PcP	**PcP**	**09 33 55.7**	**-0.7**
	0.9nm,0.5s,baz=68,slow=2.7,SNR=8.0						
H11S3	**WAKE ISLAND Hy**	**27.52**	**23**	T	T	09 59 03.3	
	baz=202,slow=75,SNR=1422						
H11S2	**WAKE ISLAND Hy**	**27.52**	**23**	T	T	09 59 02.5	
	baz=202,slow=75,SNR=1494						
H11S1	**WAKE ISLAND Hy**	**27.53**	**23**	T	T	09 59 07.3	
	baz=202,slow=75,SNR=574						
KNRA	**Kununurra**	**27.82**	**250**	P	**P**	**09 30 44.4**	**+0.6**
	baz=28,SNR=10						
STKA	**Stephens Creek**	**28.08**	**206**	P	**P**	**09 30 45.0**	**-1.0**
	1.4nm,0.5s,baz=9.0,slow=19,SNR=4.1						
H11N1	**WAKE ISLAND Hy**	**28.70**	**22**	T	T	10 00 29.1	
	baz=202,slow=76,SNR=88						
H11N3	**WAKE ISLAND Hy**	**28.71**	**22**	T	T	10 00 30.7	
	baz=202,slow=76,SNR=48						
H11N2	**WAKE ISLAND Hy**	**28.72**	**22**	T	T	10 00 30.4	
	baz=202,slow=76,SNR=22						
WRKA	**Warakurna**	**31.81**	**233**	P	**P**	**09 31 18.2**	**-0.9**
	baz=32,SNR=14						
RPZ	**Rata Peaks**	**38.97**	**162**	P	**P**	**09 32 18.2**	**-2.2**
	8.9nm,0.7s,baz=104,slow=14,SNR=5.0						
MEEK	**Meekatharra**	**40.35**	**237**	P	**P**	**09 32 32.1**	**0.0**
	baz=40,SNR=7.8						
KLBR	**Kellerberrin**	**43.08**	**230**	P	**P**	**09 32 53.9**	**-0.4**
	baz=43,SNR=15						
MORW	**Morawa**	**43.38**	**235**	P	**P**	**09 32 56.5**	**-0.3**
	baz=43,SNR=4.0						
MJAR	**Matsushiro Arr**	**46.32**	**340**	P	**P**	**09 33 19.6**	**-0.4**
	3.1nm,0.7s,baz=170,slow=8.4,SNR=10						
MAT	**Matsushiro**	**46.32**	**340**	P	**P**	**09 33 19.8**	**-0.2**
MAT				*e*S	Px	09 33 28.4	

GERES	**GERESS Array B**	**127.43**	**329**	PKP		**PKPdf**	**09 43 56.5**	**-1.8**
	0.8nm,0.5s,baz=63,slow=0.6,SNR=7.5							
CPUP	**Villa Florida**	**133.88**	**137**	PKP		**PKPdf**	**09 44 09.8**	**-1.3**
	1.1nm,0.9s,baz=167,slow=1.8,SNR=4.0							
TAM	**Tamanrasset**	**147.32**	**302**	*e*PKPbc		**PKPbc**	**09 44 38.4**	**+0.5**
TAM				*e*PKPab		**PKPab**	**09 44 39.9**	**+0.1**
BDFB	**Brasilia**	**147.45**	**134**	PKPbc		**PKPdf**	**09 44 36.6**	**+0.8**
	12nm,0.6s,baz=233,slow=2.8,SNR=17							
TORD	**Torodi Ar. Bea**	**153.75**	**286**	PKPbc		**PKPbc**	**09 44 52.0**	**-1.3**
	2.0nm,0.6s,baz=40,slow=2.1,SNR=17							
TORD				PKPab		**PKPab**	**09 45 06.0**	**-0.3**
	1.6nm,0.5s,baz=81,slow=3.8,SNR=11							

MEX 09 09:38:16.0±0.9, 16.79N×94.46W, h126km±11km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMIG	**Matias Romero**	**0.50**	**307**	*i* P		Pn	09 38 33.8	-0.9
CMIG				*e*S		Sn	09 38 47.0	-1.9
TGIG		**1.28**	**90**	*i* P		Pn	09 38 40.2	-1.4
TGIG				*i* S		Sn	09 38 58.6	-2.4
PCIG		**1.61**	**132**	*e*P		Pn	09 38 44.4	-0.7
PCIG				*i* S		Sn	09 39 05.8	-1.4
HUIG	**Huatulco**	**1.88**	**238**	*i* P		Pn	09 38 46.4	-2.0
HUIG				*e*S		Sn	09 39 11.2	-1.8

IDC 09 09:57:53.2±1.1, 26.83S×63.39W, h564km±17km, mb3.0/1, mb1 2.8/5, mb1mx2.7/27, mbtmp3.6/5, Error ellipse: s-maj=26.3km s-min=22.7km az=72.0, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CPUP	**Villa Florida**	**5.45**	**86**	P		P	09 59 28.1	+0.5
	0.3nm,0.3s,baz=264,slow=11,SNR=9.3							
CFAA	**Coronel Fontan**	**6.37**	**221**	P		P	09 59 36.5	+0.7
	0.2nm,0.3s,baz=103,slow=1.2,SNR=6							
CFAA				S		S	10 00 59.3	-0.5
	0.0nm,0.3s,baz=286,slow=18,SNR=5.7							
LVC	**Limon Verde**	**6.55**	**309**	P		P	09 59 38.9	+1.0
	57nm,0.3s,baz=102,slow=5.4,SNR=26							
LVC				S		S	10 01 02.5	-1.0
	52nm,0.3s,baz=226,slow=23,SNR=12							
LPAZ	**La Paz**	**11.38**	**336**	P		P	10 00 26.6	+0.2
	0.1nm,0.3s,baz=169,slow=5.2,SNR=7.3							
TORD	**Torodi Ar. Bea**	**74.62**	**66**	P		P	10 08 34.8	-0.9
	0.6nm,0.5s,baz=241,slow=7.6,SNR=6.5							
MKAR	**Makanchi Array**	**146.43**	**44**	PKPbc		PKPbc	10 16 31.4	0.0
	0.3nm,0.4s,baz=309,slow=2.8,SNR=4.0							

*IDC **09** 10:13:29.5±0.4,5.94S×105.38E,h0km,mb4.8/23, mb1 4.9/26,mb1mx4.7/36,mbtmp4.7/26,ML4.1/3,MS3.8/18, Ms1 3.9/18,ms1mx3.6/32,Error ellipse: s-maj=15.8km s-min=10.5km az=53.0*

*DJA **09** 10:13:34.6±0.2,6.3S×107.5E±°,h10km,M5.1/40, mb5.1/36,mB5.6/32,MLv5.4/40,Mw(mB)5.1/32,Mwp6.2/1*

*MOS **09** 10:13:35.3±1.2,5.92S×105.56E,h52km,mb5.1/26, MS4.2/4,Error ellipse: s-maj=9.2km s-min=6.5km az=116.8*

*ISCJB **09** 10:13:35.8±0.3,6.15S±0.03×105.37E±0.02,h54km±3km, mb4.8/67,MS3.9/20,Error ellipse: s-maj=5.2km s-min=2.7km az=37.1*

*BJI **09** 10:13:37.9,6.10S×105.50E,h73km,mb4.8/40,mB5.0/36, Ms4.9/39,MS7 4.7/34*

*NEIC **09** 10:13:38.7,6.10S×105.42E,h37km,mb5.0,ML5.0,MS5.9*

ISC 09 10:13:39.2±0.3, 6.14S±0.03×105.36E±0.04, h71km±2km, h71km:pP-P,n522,σ1§51/529, mb4.8/77, 48C-19D, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KASI	**Kota Agung**	**1.06**	**305**	P		Pn	10 13 50.6	-7.9
KASI				S		**Sn**	**10 14 07.6**	**-5.3**
TNG	**Tangerang**	**1.28**	**91**	P		Pn	10 13 54.4	-6.9
TNG				P		Pn	10 13 54.6	-6.7
TNG				S		**Sn**	**10 14 14.0**	**-3.8**
TNG				S		**Sn**	**10 14 15.7**	**-2.1**
KLI	**Kotabumi**	**1.37**	**338**	P		Pn	10 13 56.7	-5.8
SKJI	**Sukabumi**	**1.46**	**126**	P		Pn	10 13 57.8	-5.9
CBJI	**Citeko**	**1.50**	**101**	P		Pn	10 14 00.5	-3.8
KLSI		**1.57**	**336**	P		Pn	10 14 00.2	-5.0
LWLI	**Liwa**	**1.71**	**311**	P		Pn	10 14 03.0	-4.2
MDSI	**Maura Dua**	**2.02**	**324**	P		Pn	10 14 06.3	-5.0
CNJI	**Cibinong**	**2.10**	**124**	P		Pn	10 14 06.1	-6.2
LEM	**Lembang**	**2.34**	**107**	P		Pn	10 14 11.1	-4.6
LEM	**Lembang**	**2.34**	**107**	Pn		Pn	10 14 12.2	-3.5
	30nm,0.3s,baz=223,slow=9.1,SNR=27							
CISI	**Cisompet, Garu**	**2.81**	**120**	P		Pn	10 14 16.6	-5.3
CISI	**Cisompet, Garu**	**2.81**	**120**	P		Pn	10 14 17.6	-4.3
	baz=2.8,SNR=18							
CISI	**Cisompet, Garu**	**2.81**	**120**	*e*Pn		Pn	10 14 17.3	-4.6
JCJI	**Jatiwangi**	**2.91**	**97**	P		**Pn**	**10 14 25.7**	**+2.5**
LHSI	**Lahat**	**2.94**	**321**	P		**Pn**	**10 14 21.6**	**-2.1**
MNAI	**Manna**	**2.98**	**306**	P		**Pn**	**10 14 21.9**	**-2.3**
MNAI	**Manna**	**2.98**	**306**	P		**Pn**	**10 14 21.7**	**-2.5**
	baz=3.0,SNR=24							
MNAI	**Manna**	**2.98**	**306**	*e*Pn		**Pn**	**10 14 23.1**	**-1.1**
MNAI				*e*Sn		**Sn**	**10 14 55.0**	**-3.9**
PMBI	**Palembang**	**3.25**	**350**	P		**Pn**	**10 14 25.4**	**-2.5**
PMBI	**Palembang**	**3.25**	**350**	⇓P		**Pn**	**10 14 25.9**	**-2.0**
	baz=3.3,SNR=4.4							
CMJI	**Cimerak**	**3.47**	**118**	P		Pn	10 14 25.8	-5.1
KSI	**Kapahiang**	**3.71**	**312**	P		**Pn**	**10 14 32.5**	**-1.7**
TPI	**Tanjungpandan**	**4.07**	**34**	P		Pn	10 14 33.8	-5.2
MASI	**Maura Aman, Be**	**4.31**	**314**	P		**Pn**	**10 14 42.2**	**-0.2**
SMRI	**Semarang**	**5.12**	**100**	P		**Pn**	**10 14 53.2**	**-0.3**
	2µm,1.1s,19µm6.6nm							
SMRI	**Semarang**	**5.12**	**100**	⇓P		**Pn**	**10 14 51.7**	**-1.8**
	baz=5.1,SNR=5.3							
SMRI	**Semarang**	**5.12**	**100**	*e*Pn		**Pn**	**10 14 53.7**	**+0.2**
SMRI				*e*Sn		**Sn**	**10 15 46.5**	**-4.9**
UGM	**Wanagama**	**5.41**	**109**	P		**Pn**	**10 14 56.1**	**-1.4**
	783nm,1.3s,9µm2.7nm							
UGM	**Wanagama**	**5.41**	**109**	P		**Pn**	**10 14 55.9**	**-1.6**
	baz=5.4,SNR=9.8							
UGM	**Wanagama**	**5.41**	**109**	*e*Pn		**Pn**	**10 14 56.5**	**-1.0**
UWJI	**Ujung Watu**	**5.56**	**93**	P		**Pn**	**10 15 00.9**	**+1.5**
	2µm,1.1s,15µm5.3nm							
DSRI	**Dabo**	**5.68**	**352**	P		**Pn**	**10 15 00.9**	**-0.2**
	1µm,1.0s,12µm8.1nm							
WOJI	**Wonogiri, Jawa**	**5.77**	**107**	P		**Pn**	**10 15 00.5**	**-1.8**
	286nm,1.1s,5µm1.0nm							
PCJI	**Pacitan**	**6.12**	**110**	P		Pn	10 15 03.3	-3.8
	404nm,1.1s,4µm1.2nm							
NGJI	**Ngawi**	**6.18**	**102**	P		**Pn**	**10 15 08.5**	**+0.6**
	333nm,1.2s,7µm2.7nm							
PPSI	**Pulau Pagai**	**6.30**	**302**	P		**Pn**	**10 15 07.1**	**-2.5**
	437nm,1.6s,6µm1.4nm							
SDSI	**Sungai Dareh**	**6.50**	**323**	P		**Pn**	**10 15 12.6**	**+0.3**
	98nm,1.7s,0.8nm							
PWJI	**Pagerwojo**	**6.66**	**107**	P		**Pn**	**10 15 12.5**	**-2.0**
	356nm,1.1s,4µm1.3nm							
TPRI	**Tanjung Pinang**	**7.06**	**353**	P		**Pn**	**10 15 20.6**	**+0.6**
	146nm,1.2s,3.1nm							
GRJI	**Gresik**	**7.11**	**97**	P		**Pn**	**10 15 21.3**	**+0.6**
	243nm,0.9s,3µm1.1nm							
PDSI	**Padang**	**7.14**	**317**	P		**Pn**	**10 15 21.5**	**+0.5**
	92nm,1.7s,2µm0.4nm							
PPI	**Padang Panjang**	**7.51**	**319**	P		**Pn**	**10 15 26.8**	**+0.6**
	83nm,2.1s,2µm0.6nm							
BTDF	**Bukit Timah Da**	**7.62**	**348**	P		**Pn**	**10 15 27.5**	**-0.2**
	baz=7.7,SNR=4.9							
BTDF				P		**Pn**	**10 15 27.5**	**-0.2**
	baz=7.7,SNR=4.9							
BKNI	**Bangkinang**	**7.74**	**326**	P		Pn	10 15 36.9	+7.6
MYKOM	**Kota Tinggi**	**8.02**	**349**	⇑P		**Pn**	**10 15 33.1**	**0.0**
MYKOM	**Kota Tinggi**	**8.02**	**349**	*e*Pn		**Pn**	**10 15 33.2**	**0.0**
BLJI	**Banyuglugur**	**8.32**	**102**	P		**Pn**	**10 15 37.5**	**+0.2**
	174nm,1.4s,4µm							
KGM	**Kluang**	**8.36**	**346**	⇑P		**Pn**	**10 15 35.9**	**-1.8**
KMMI	**Kalianget**	**8.59**	**97**	P		**Pn**	**10 15 40.0**	**-0.9**
	171nm,0.9s,3µm							
STKI	**Sintang**	**8.68**	**45**	P		**Pn**	**10 15 43.5**	**+1.4**
ABJI	**Asem Bagus**	**8.96**	**101**	P		**Pn**	**10 15 48.2**	**+2.3**
MNSI	**Mandailing Nat**	**8.99**	**320**	P		**Pn**	**10 15 45.2**	**-1.2**
JAGI	**Jajag, Banyuwa**	**9.02**	**105**	P		**Pn**	**10 15 44.7**	**-2.0**
	302nm,1.1s,3µm							
JAGI	**Jajag, Banyuwa**	**9.02**	**105**	⇓P		**Pn**	**10 15 45.2**	**-1.6**
	baz=9.0,SNR=12							
JAGI	**Jajag, Banyuwa**	**9.02**	**105**	*e*Pn		**Pn**	**10 15 44.8**	**-2.0**
KSM	**Kuching**	**9.03**	**33**	⇑P		**Pn**	**10 15 45.3**	**-1.7**
KSM	**Kuching**	**9.03**	**33**	*e*Pn		**Pn**	**10 15 45.2**	**-1.7**
PBSI	**Pulau Batu**	**9.30**	**310**	P		**Pn**	**10 15 49.2**	**-1.4**
SRBI	**Singaraja**	**9.96**	**102**	P		**Pn**	**10 15 58.9**	**-0.7**
	146nm,1.2s,2µm							
FRIM	**Kepong**	**10.04**	**338**	⇑P		**Pn**	**10 16 01.1**	**+0.5**
IGBI	**Denpasar**	**10.06**	**106**	P		Pn	10 16 05.7	+4.8
COCO	**West Island**	**10.34**	**234**	*i* P		**Pn**	**10 16 05.4**	**+0.6**
GSI	**Gunungsitoli**	**10.73**	**313**	P		**Pn**	**10 16 07.0**	**-3.2**
	42nm,1.5s							
GSI	**Gunungsitoli**	**10.73**	**313**	*e*Pn		**Pn**	**10 16 08.5**	**-1.6**
SBUM	**Sibu**	**10.94**	**39**	⇑P		**Pn**	**10 16 12.7**	**-0.3**
SBUM	**Sibu**	**10.94**	**39**	*e*Pn		**Pn**	**10 16 11.7**	**-1.3**
PSI	**Prapat**	**10.97**	**324**	Pn		Pn	10 16 05.9	-7.6
	0.6nm,0.3s,baz=186,slow=20,SNR=3.5							
PSI				LR		LR	10 20 57.2	
	comp=Z,559nm,20.3s,baz=124,slow=42							
PSI	**Prapat**	**10.97**	**324**	P		Pn	10 16 05.9	-7.6
PSI				pmax		pmax		
	comp=Z,1.0nm,0.3s							
PSI				MLR		MLR		
	comp=Z,559nm,20.3s							
PSI	**Prapat**	**10.97**	**324**	⇓P		**Pn**	**10 16 10.9**	**-2.6**
	baz=11,SNR=13							
PSI	**Prapat**	**10.97**	**324**	*e*Pn		**Pn**	**10 16 14.1**	**+0.6**
IPM	**Ipoh**	**11.41**	**338**	⇑P		**Pn**	**10 16 20.1**	**+0.7**
IPM	**Ipoh**	**11.41**	**338**	*e*Pn		**Pn**	**10 16 20.9**	**+1.6**
KTGM	**Kuala Trenggan**	**11.61**	**349**	⇑P		**Pn**	**10 16 22.6**	**+0.5**
KCSI	**Kotacane, Aceh**	**12.23**	**322**	P		P	10 16 36.2	-4.2
KULM	**Kulim**	**12.29**	**337**	⇑P		**Pn**	**10 16 31.6**	**+0.1**
KULM	**Kulim**	**12.29**	**337**	*e*Pn		**Pn**	**10 16 31.4**	**-0.1**
SKLT	**Songkhla**	**14.05**	**340**	P		**P**	**10 16 57.5**	**-3.0**
	comp=Z,39nm,2.4s,comp=Z,1µm							
WBSI	**Waikabubak, Su**	**14.32**	**105**	P		**Pn**	**10 16 56.2**	**-2.4**
	comp=Z,77nm,1.0s,comp=Z,1µm							
KAPI	**Kappang**	**14.36**	**86**	Pn		Pn	10 16 55.4	-3.7
	comp=Z,2.6nm,0.3s,baz=198,slow=17,SNR=1.9							
KAPI				LR		LR	10 22 28.2	
	comp=Z,557nm,19.3s,baz=280,slow=38							
SPSI	**Sidrap Palu**	**14.51**	**82**	P		P	10 17 13.2	+7.5
BKSI	**Bulukumba**	**14.71**	**88**	P		**Pn**	**10 17 03.7**	**+0.1**
	comp=Z,77nm,1.2s,comp=Z,1µmcomp=Z,73µm							
TTSI	**Tana Toraja**	**14.73**	**79**	P		**P**	**10 17 06.5**	**-1.7**
TRTT	**Trang**	**14.99**	**338**	P		**Pn**	**10 17 08.1**	**+0.8**
	comp=Z,78nm,1.9s,comp=Z,1µm							
BSSI	**Bau Bau, Buton**	**15.04**	**91**	P		**P**	**10 17 11.1**	**-0.5**
PCI	**Palu**	**15.35**	**71**	P		**P**	**10 17 18.7**	**+3.6**
KRAB	**Krabi**	**15.54**	**337**	P		**Pn**	**10 17 14.8**	**+0.6**
	comp=Z,75nm,0.7s,comp=Z,31µm							
BASI	**Baing, Sumba**	**15.59**	**106**	P		**P**	**10 17 17.7**	**-0.1**
SRIT	**Nakonsritamara**	**15.73**	**339**	P		**P**	**10 17 18.0**	**-1.2**
	comp=Z,52nm,2.3s							
MPSI	**Magaga**	**15.87**	**67**	P		**P**	**10 17 19.7**	**-1.2**
	comp=Z,70nm,1.4s,comp=Z,1µm							
TSM	**Tawau**	**16.23**	**51**	⇑P		**P**	**10 17 24.7**	**-0.1**
SURT	**Suratani**	**16.37**	**336**	P		**P**	**10 17 26.0**	**-0.3**
	comp=Z,49nm,1.9s,comp=Z,711nm							
SDKM	**Sandakan**	**16.63**	**45**	⇑P		**Pn**	**10 17 27.5**	**-0.5**
MMRI	**Maumere**	**16.92**	**99**	P		**P**	**10 17 31.7**	**-0.7**
MMRI	**Maumere**	**16.92**	**99**	*e*Pn		**Pn**	**10 17 30.7**	**-0.8**
	comp=Z,676nm,2.2s							
MYLDM	**Lahad Datu**	**17.28**	**50**	⇑P		**P**	**10 17 37.0**	**+0.6**
MYLDM	**Lahad Datu**	**17.28**	**50**	*e*Pn		**P**	**10 17 39.2**	**+2.7**
	comp=Z,122nm,1.3s							
KDM	**Kudat**	**17.30**	**42**	⇑P		**P**	**10 17 37.6**	**+0.9**
LUWI	**Luwuk**	**18.09**	**74**	P		**Pn**	**10 17 46.0**	**+0.1**
	baz=18,SNR=5.8							
LUWI	**Luwuk**	**18.09**	**74**	*e*P		**Pn**	**10 17 45.4**	**-0.5**
	comp=Z,289nm,1.3s							
SOEI	**Soe**	**19.06**	**102**	P		**P**	**10 17 54.8**	**-1.4**
	baz=19,SNR=5.4							
SOEI	**Soe**	**19.06**	**102**	*e*P		**P**	**10 17 54.2**	**-2.0**
	comp=Z,188nm,0.9s							
PATY	**Pattaya**	**19.46**	**347**	P		**Pn**	**10 18 03.9**	**+1.7**
	comp=Z,21nm,1.0s,comp=Z,978nm							
MBWA	**Marble Bar**	**20.41**	**138**	*e*P		**P**	**10 18 11.1**	**+0.5**
	comp=Z,186nm,1.6s							
SRDT	**SRDT**	**21.28**	**343**	P		P	10 18 25.9	+5.9
	comp=Z,114nm,1.1s,comp=Z,6µm							
UBPT	**Khong Chiam**	**21.28**	**0**	P		**P**	**10 18 20.5**	**+0.5**
	comp=Z,83nm,1.1s,comp=Z,1µm							
KHLT	**Khaolaem Dam**	**21.86**	**342**	P		P	10 18 35.2	+9.0
UTHA	**Uthaitani**	**22.34**	**345**	P		**P**	**10 18 35.5**	**+4.1**
	comp=Z,19nm,1.1s,comp=Z,192nm							
PBKT	**Sadao Pong**	**22.98**	**349**	P		**P**	**10 18 37.8**	**-0.3**
	comp=Z,38nm,0.8s							
SKNT	**Sakolnakorn**	**23.01**	**357**	P		**P**	**10 18 38.6**	**+0.2**
	comp=Z,43nm,1.5s,comp=Z,6µm							
LOEI	**Loei**	**23.85**	**350**	P		**P**	**10 18 46.5**	**+0.4**
	comp=Z,14nm,0.8s,comp=Z,381nm							
UTTA	**Uttaradit**	**24.20**	**349**	P		**P**	**10 18 50.8**	**+1.5**
	comp=Z,8.4nm,0.8s,comp=Z,66nm							
KNRA	**Kununurra**	**24.83**	**114**	⇓P		**P**	**10 18 53.0**	**-2.0**
	baz=25,SNR=38							
MORW	**Morawa**	**24.94**	**157**	⇑P		**P**	**10 18 56.6**	**+0.7**
	baz=25,SNR=4.9							
LAMP	**Lampang**	**25.15**	**347**	P		**P**	**10 19 00.5**	**+2.5**
	comp=Z,10.0nm,1.0s,comp=Z,81nm							
CM01	**Chiang Mai Arr**	**25.21**	**346**	*e*P		**P**	**10 18 57.0**	**-1.5**
CM01				*e*PcP		**PcP**	**10 22 31.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**25.25**	**346**	P		**P**	**10 18 56.5**	**-2.4**
	comp=Z,8.0nm,0.8s,baz=179,slow=8.8,SNR=16							
CMAR				PcP		**PcP**	**10 22 31.2**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=206,slow=3.0,SNR=5.2							
CMAR				LR		LR	10 30 40.6	
	comp=Z,316nm,18.3s,baz=186,slow=41							
CMAR	**Chiang Mai Arr**	**25.25**	**346**	*ce*P		**P**	**10 18 57.7**	**-1.2**
CMAR				pmax		pmax		
	comp=Z,8.0nm,0.9s							
MHMT	**Maesarieng**	**25.25**	**343**	P		**P**	**10 19 03.3**	**+4.4**
	comp=Z,13nm,1.3s,comp=Z,350nm							
QIZ	**Qiongzhong**	**25.40**	**10**	P		**P**	**10 19 01.3**	**+1.1**
QIZ				pP		**pP**	**10 19 18.0**	**+1.1**
QIZ				sP		**sP**	**10 19 25.8**	**+0.5**
QIZ				S		**S**	**10 23 24.2**	**+2.3**
QIZ				PMZ				
	comp=Z,12nm,1.7s							
QIZ				PMZ				
	comp=Z,180nm,3.6s							
QIZ				LN				
	comp=Z,1µm,14.0s							
QIZ				LZ				
	comp=Z,1µm,15.0s							
CMMT	**Chiang Mai**	**25.59**	**346**	P		**P**	**10 19 01.1**	**-0.9**
	comp=Z,15nm,1.5s							
CHTO	**Chiang Mai**	**25.59**	**346**	P		**P**	**10 19 01.1**	**-0.9**
	comp=Z,54nm,1.5s							
CHTO	**Chiang Mai**	**25.59**	**346**	*e*P		**P**	**10 19 00.7**	**-1.3**
CHTO				pmax		pmax		
	comp=Z,19nm,1.3s							
CHTO	**Chiang Mai**	**25.59**	**346**	*e*P		**P**	**10 19 00.7**	**-1.3**
	comp=Z,19nm,1.3s							
SIJI	**Sonong**	**26.37**	**80**	P		**P**	**10 19 06.8**	**-2.3**
	comp=Z,15nm,0.8s,baz=268,slow=6.4,SNR=7.3							
CRAI	**Chiangrai**	**26.66**	**350**	P		**P**	**10 19 11.1**	**-0.5**
	comp=Z,21nm,1.1s							
SLVN	**Son La**	**27.34**	**357**	*e*P		**P**	**10 19 17.7**	**-0.1**
KLBR	**Kellerberrin**	**27.85**	**157**	⇓P		**P**	**10 19 23.1**	**+0.9**
	baz=28,SNR=4.9							
NWAO	**Narrogin (SRO)**	**28.85**	**159**	P		**P**	**10 19 31.8**	**+0.7**
	comp=Z,23nm,0.9s,baz=328,slow=4.4,SNR=3.9							
WRKA	**Warakurna**	**28.90**	**133**	P		**P**	**10 19 32.7**	**+1.0**
	baz=29,SNR=6.3							
KMBL	**Kambalda**	**29.48**	**150**	P		**P**	**10 19 38.2**	**+1.5**
	baz=30,SNR=4.5							
KMI	**Kunming**	**31.18**	**355**	P		P	10 19 55.6	+3.6
KMI				pP		pP	10 20 12.5	+3.5
KMI				S		**S**	**10 24 55.3**	**+2.1**
KMI				sS		sS	10 25 26.9	+4.6
KMI				PMZ				
	comp=Z,6.0nm,0.6s							
KMI				PMZ				
	comp=Z,74nm,3.5s							
KMI				LN				
	comp=Z,2µm,10.5s							
KMI				LE				
	comp=Z,2µm,10.5s							
KMI				LZ				
	comp=Z,2µm,9.8s							
WRA	**Warramunga Arr**	**31.31**	**119**	P		**P**	**10 19 51.2**	**-1.7**
	comp=Z,12nm,0.7s,baz=305,slow=8.8,SNR=80							
WRA				PcP		**PcP**	**10 22 46.0**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=308,slow=2.1,SNR=7.4							
WRAB	**Tennant Creek**	**31.31**	**119**	P		**P**	**10 19 51.0**	**-2.0**
	comp=Z,246nm,1.1s,SNR=27							
WRAB	**Tennant Creek**	**31.31**	**119**	*c* *i*P		**P**	**10 19 51.4**	**-1.6**
WRAB				pmax		pmax		
	comp=Z,177nm,1.7s							
SKHT	**Srikalahasti**	**32.23**	**308**	*e*P		**P**	**10 20 01.5**	**+0.5**
SKHT				IAmb		IAmb	10 20 02.9	
	comp=Z,34nm,1.1s							
GYA	**Guiyang**	**32.43**	**2**	P		P	10 20 06.0	+3.2
GYA				pP		pP	10 20 22.6	+2.8
GYA				sP		sP	10 20 32.8	+4.7
GYA				PP		**PP**	**10 21 16.0**	**-1.4**
GYA				PcP		**PcP**	**10 22 50.5**	**+1.7**
GYA				S		**S**	**10 25 15.0**	**+2.5**
GYA				sS		sS	10 25 44.4	+2.7
GYA				ScP		**ScP**	**10 26 27.0**	**+0.4**
GYA				SS		**SnSn**	**10 27 15.5**	**+3.2**
GYA				PMZ				
	comp=Z,20nm,0.8s							
GYA				PMZ				
	comp=Z,130nm,4.9s							
GYA				LN				
	comp=Z,770nm,17.1s							
GYA				LE				
	comp=Z,620nm,18.0s							
GYA				LZ				
	comp=Z,790nm,17.6s							
AS11	**Alice Springs**	**32.51**	**125**	⇑P		**P**	**10 20 03.4**	**-0.1**
	baz=32							
ASAR	**Alice Springs**	**32.51**	**125**	P		**P**	**10 20 02.3**	**-1.2**
	comp=Z,46nm,1.1s,baz=298,slow=7.8,SNR=94							
ASAR				PcP		**PcP**	**10 22 49.9**	**+0.8**
	comp=Z,4.7nm,0.9s,baz=318,slow=1.7,SNR=7.5							
ASAR				S		**S**	**10 25 16.1**	**+2.3**
	comp=Z,2.9nm,1.1s,baz=296,slow=14,SNR=5.5							
ASAR				LR		LR	10 34 17.9	
	comp=Z,184nm,20.4s,baz=290,slow=38							
AS01	**Alice Springs**	**32.54**	**125**	*e*P		**P**	**10 20 02.1**	**-1.7**
AS01				*e*PcP		**PcP**	**10 22 49.0**	**-0.2**
TPUB	**Ta-pu**	**32.85**	**27**	*e*P		**P**	**10 20 06.8**	**+0.4**
	comp=Z,22nm,0.8s							
PVM	**Polavaram**	**33.02**	**315**	*e*P		**P**	**10 20 05.6**	**-2.3**
PVM				IAmb		IAmb	10 20 15.6	
	comp=Z,17nm,1.4s							
YULB	**Yu-li**	**33.23**	**27**	*e*P		**P**	**10 20 09.6**	**-0.1**
	comp=Z,24nm,0.9s							
ADKI	**Addanki**	**33.31**	**311**	*e*P		**P**	**10 20 10.1**	**-0.3**
ADKI				IAmb		IAmb	10 20 11.9	
	comp=Z,11nm,0.8s							
SSLB	**Suanglung**	**33.41**	**27**	*e*P		**P**	**10 20 11.8**	**+0.5**
	comp=Z,24nm,0.8s							
QZH	**Quanzhou**	**33.47**	**22**	P		P	10 20 15.7	+3.9
QZH				S		**S**	**10 25 33.2**	**+4.7**
QZH				LN				
	comp=Z,1µm,11.4s							
QZH				LE				
	comp=Z,640nm,12.1s							
QZH				LZ				
	comp=Z,1µm,14.8s							
RCLA	**Racherla**	**33.84**	**310**	*e*P		**P**	**10 20 14.0**	**-1.1**
RCLA				IAML			10 20 16.1	
	comp=Z,19nm,1.1s							
SHL	**Shillong**	**34.13**	**338**	*e*P		**P**	**10 20 16.0**	**-1.7**
NJS	**Nagarjunasagar**	**34.25**	**312**	*e*P		**P**	**10 20 18.4**	**-0.2**
NJS				IAmb		IAmb	10 20 20.5	
	comp=Z,8.7nm,0.8s							
SRLM	**Srisailam**	**34.28**	**310**	*e*P		**P**	**10 20 18.9**	**0.0**
SRLM				IAmb		IAmb	10 20 20.4	
	comp=Z,16nm,1.0s							
URV	**Uravakonda**	**34.86**	**307**	*e*P		**P**	**10 20 23.7**	**-0.2**
URV				IAmb		IAmb	10 20 25.3	
	comp=Z,23nm,1.0s							
HYB	**Hyderabad**	**35.35**	**312**	*i* P		**P**	**10 20 27.0**	**-1.2**
HYBB	**Hyderabad (bro**	**35.35**	**312**	*e*P		**P**	**10 20 27.6**	**-0.6**
HYBB				IAmb		IAmb	10 20 30.0	
	comp=Z,18nm,1.1s							
RPR	**Rampur**	**35.74**	**315**	*e*P		**P**	**10 20 30.8**	**-0.6**
RPR				IAmb		IAmb	10 20 32.9	
	comp=Z,23nm,1.1s							
QIS	**Mount Isa**	**36.16**	**117**	P		**P**	**10 20 33.9**	**-1.2**
	baz=36,SNR=12							
SRSP	**Sriramsagar**	**36.47**	**314**	*e*P		**P**	**10 20 37.5**	**-0.2**
SRSP				IAmb		IAmb	10 20 40.5	
	comp=Z,41nm,1.1s							
CD2	**Chengdu**	**36.87**	**358**	P		P	10 20 41.4	+0.4
CD2		

STKA LR LR 10 40 43.7
comp=Z,193nm,20.2s,baz=280,slow=38
STKA Stephens Creek 42.42 132 *e*P **P** **10 21 27.2 +0.1**
STKA pmax pmax
comp=Z,19nm,1.0s
STKA Stephens Creek 42.42 132 P **P** **10 21 27.2 +0.1**
baz=42,SNR=16
STKA Stephens Creek 42.42 132 *e*P **P** **10 21 27.2 +0.1**
comp=Z,19nm,1.0s
NDI New Delhi 43.98 323 *e*P **P** **10 21 37.0 -2.7**
ARPS Mount Arapiles 45.14 138 ⇓P **P** **10 21 50.2 +1.4**
baz=45,SNR=7.9
CMSA Cobar Meteorol 45.37 129 P **P** **10 21 50.8 +0.1**
baz=45,SNR=44
GTA Gaotai 45.61 354 *e*P **P** **10 21 52.1 -0.5**
GTA pP **pP** **10 22 07.6 -2.8**
GTA sP **sP** **10 22 14.8 -3.7**
GTA PcP **PcP** **10 23 29.5 -0.5**
GTA S **S** **10 28 29.0 -1.1**
GTA SS **ScS** **10 31 45.9 +3.5**
GTA PMZ
comp=Z,5.0nm,1.5s
GTA PMZ
comp=Z,91nm,6.4s
GTA LN
comp=Z,310nm,15.2s
GTA LE
comp=Z,400nm,15.2s
JNU Nakatsue 45.95 30 LR LR 10 42 39.8
comp=Z,94nm,18.1s,baz=178,slow=38
RMQ Roma 46.00 121 P **P** **10 21 56.8 +1.0**
baz=46,SNR=8.4
BJI Beijing 47.02 11 P **P** **10 22 04.7 +1.2**
BJI S **S** **10 28 54.5 +4.5**
BJI PMZ
comp=Z,8.0nm,0.8s
BJI PMZ
comp=Z,86nm,3.9s
BJI LN
comp=Z,450nm,13.5s
BJI LE
comp=Z,390nm,11.0s
TJN Taejon 47.06 24 *i*P **P** **10 22 02.3 -1.5**
HHC Hu-ho-hao-te 47.11 6 *e*P **P** **10 22 05.9 +1.6**
HHC S **S** **10 28 54.8 +3.4**
HHC sS **sS** **10 29 25.6 +3.9**
HHC SS **SS** **10 32 13.4 -6.2**
HHC PMZ
comp=Z,13nm,1.1s
HHC PMZ
comp=Z,78nm,4.3s
HHC LN
comp=Z,480nm,14.0s
HHC LE
comp=Z,340nm,11.8s
HHC LZ
comp=Z,460nm,12.4s
EIDS Eidsvold 47.67 119 ⇓P **P** **10 22 09.7 +0.7**
baz=48,SNR=4.7
EIDS Eidsvold 47.67 119 *e*P **P** **10 22 09.6 +0.7**
comp=Z,87nm,1.4s
TOO Toolangi 48.04 136 P **P** **10 22 13.2 +1.7**
baz=48,SNR=11
KSAR Wonju Array Be 48.19 24 P **P** **10 22 11.0 -1.6**
KSAR Wonju Array Be 48.19 24 P **P** **10 22 10.9 -1.6**
KSRS Korea Array 48.21 24 P **P** **10 22 10.9 -1.8**
comp=Z,2.5nm,0.9s,baz=203,slow=7.2,SNR=13
KSRS LR LR 10 43 01.8
comp=Z,52nm,18.5s,baz=207,slow=37
KSRS Korea Array 48.21 24 P **P** **10 22 11.0 -1.8**
KSRS pmax pmax
comp=Z,3.0nm,1.0s
KSRS MLR MLR
comp=Z,52nm,18.5s
KS01 Wonju Array Si 48.22 24 *e*P **P** **10 22 11.5 -1.3**
JCJ Chichijima 48.59 45 LR LR 10 41 57.3
comp=Z,41nm,21.4s,baz=200,slow=35
YNG Young 48.60 131 P **P** **10 22 16.6 +0.6**
baz=49,SNR=21
ARMA Armidale 49.66 125 ⇑P **P** **10 22 25.4 +1.2**
baz=50,SNR=3.8
MGCD Mangrove Creek 50.23 129 P **P** **10 22 29.2 +0.8**
baz=50,SNR=10
WMQ Urumqi 52.23 344 P **P** **10 22 44.3 +1.1**
WMQ pP **pP** **10 23 03.3 +2.0**
WMQ sP **sP** **10 23 12.3 +3.0**
WMQ PMZ
comp=Z,13nm,0.9s
WMQ PMZ
comp=Z,66nm,4.0s
MAJO Matsushiro 52.43 33 *i*P P 10 22 41.1 -3.6
MJAR Matsushiro Arr 52.43 33 P **P** **10 22 43.0 -1.7**
comp=Z,1.7nm,0.7s,baz=219,slow=7.7,SNR=6.0
MJAR LR LR 10 46 01.6
comp=Z,58nm,19.0s,baz=245,slow=37
CN2 Changchun 52.92 18 *e*P **P** **10 22 46.0 -2.2**
CN2 *e*S **S** **10 30 09.5 -2.6**
CN2 PMZ
comp=Z,10.0nm,0.7s
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,200nm,14.0s
CN2 LE
comp=Z,100nm,14.0s
KSH Kashi 52.93 332 P **P** **10 22 47.5 -1.0**
KSH pP **pP** **10 23 10.0 +3.4**
KSH PcP **PcP** **10 23 59.7 +3.1**
KSH PP PP 10 24 54.0 +5.2
KSH S **S** **10 30 08.0 -4.6**
KSH sS **sS** **10 30 46.3 +2.9**
KSH SS **SS** **10 33 53.2 +0.5**
KSH PMZ
comp=Z,160nm,4.7s
KSH LN
comp=Z,480nm,6.3s
KSH LE
comp=Z,280nm,5.3s
KSH LZ
comp=Z,370nm,5.2s
KBL Kabul 53.03 322 *e*P **P** **10 22 48.2 -1.2**
KBL pmax pmax
comp=Z,19nm,1.3s
KBL Kabul 53.03 322 *e*P **P** **10 22 48.2 -1.2**
comp=Z,19nm,1.3s
SONM Songino Array 53.75 1 P **P** **10 22 52.6 -1.8**
comp=Z,5.4nm,0.9s,baz=177,slow=8.2,SNR=18
SONM PcP **PcP** **10 23 59.2 -0.4**
comp=Z,2.1nm,0.6s,baz=178,slow=3.8,SNR=5.4
SONM LR LR 10 48 21.1
comp=Z,300nm,19.1s,baz=176,slow=39
SONA1 Songino Array 53.77 1 *e*P **P** **10 22 53.0 -1.5**
MDJ Mudanjiang 55.03 21 P **P** **10 23 05.1 +1.6**
MDJ PMZ
comp=Z,7.0nm,0.8s
MDJ PMZ
comp=Z,64nm,5.2s
USRK Ussuriysk Ar. 55.56 23 P **P** **10 23 05.9 -1.4**
comp=Z,11nm,0.8s,baz=222,slow=5.4,SNR=14
TKM2 Tokmak 2 55.81 334 *e*P **P** **10 23 08.4 -1.1**
TKM2 Tokmak 2 55.81 334 *e*P **P** **10 23 08.4 -1.1**
ZAK Zakamensk 56.32 358 *e*P P 10 23 07.5 -5.3
ZAK pmax pmax
comp=Z,3.0nm,1.9s
EKS2 Erkin-Say 56.42 332 *e*P **P** **10 23 13.1 -0.6**
EKS2 Erkin-Say 56.42 332 *e*P **P** **10 23 13.1 -0.6**
MK01 Makanchi Array 56.52 341 *e*P P 10 23 10.9 -3.3
MKAR Makanchi Array 56.54 341 P P 10 23 11.1 -3.2
comp=Z,4.1nm,0.8s,baz=143,slow=8.5,SNR=17
MKAR PcP **PcP** **10 24 09.4 -0.8**
comp=Z,2.4nm,0.8s,baz=140,slow=4.7,SNR=3.9
MKAR Makanchi Array 56.54 341 *i*P **P** **10 23 13.3 -1.0**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
TLY Talaya 57.61 359 *e*P **P** **10 23 21.2 -0.6**
TLY pmax pmax
comp=Z,8.0nm,1.5s
TLY MLR MLR
comp=Z,284nm,13.0s
OPO Ambohidratompo 57.93 252 LR LR 10 44 03.9
comp=Z,112nm,18.1s,baz=68,slow=32
ERM Erimo 59.02 32 ⇑*i*P **P** **10 23 30.0 -1.8**
ERM pmax pmax
comp=Z,7.0nm,0.8s
KLR Kul'dur 59.76 20 *e*P P 10 23 30.0 -6.7
IMYA Miami 59.84 318 *e*P **P** **10 23 35.6 -2.2**
CASY Casey 60.14 178 *e*P **P** **10 23 40.5 +1.4**
IMOG Moghan 60.22 318 *e*P **P** **10 23 38.5 -2.0**
ASAJ Asahikawa 60.23 30 *e*P **P** **10 23 39.9 -0.1**
ISRO Mashad 60.24 318 *e*P **P** **10 23 37.6 -2.8**
HABR Khabarovsk 60.30 22 *e*P P 10 23 36.0 -4.4
HABR *e**PP pP 10 23 49.8 -9.0
HABR *e**SP sP 10 23 55.8 -11
HABR 10 24 21.4
HABR *e* 10 25 48.8
HABR *e*S **S** **10 31 45.9 -3.4**
HABR *e**SS sS 10 32 10.0 -11
HABR *e* 10 33 21.7
HABR *e*SS **SS** **10 35 44.8 -3.3**
HABR pmax pmax
comp=Z,10.0nm,1.1s
HABR MLR MLR
comp=Z,139nm,19.0s
IBAF Bafgh 60.51 312 *e*P **P** **10 23 40.2 -2.2**
IMEH Mehriz 61.12 311 *e*P **P** **10 23 44.5 -2.2**
IKRD Kardeh 61.14 318 *e*P P 10 23 40.9 -5.8
KURK Kurchatov 61.15 341 *i*P **P** **10 23 46.0 -0.2**
KURK pmax pmax
comp=Z,9.0nm,1.9s
IPAR Pars 61.61 309 *e*P **P** **10 23 50.5 +0.5**
YUK Yuzh-Kuril'sk 61.85 32 ⇑*i*P **P** **10 23 51.4 +0.4**
YUK pmax pmax
comp=N,27nm,0.9s
YUK pmax pmax
comp=E,51nm,0.9s
YUK pmax pmax
comp=Z,97nm,0.9s
GEYT Alibeck 62.05 319 P **P** **10 23 51.0 -1.6**
comp=Z,25nm,0.9s,baz=193,slow=4.6,SNR=20
GEYT LR LR 10 53 04.6
comp=Z,39nm,18.6s,baz=320,slow=38
ZALV Zalesovo Beam 62.31 346 P **P** **10 23 51.2 -2.6**
comp=Z,10nm,0.9s,baz=156,slow=3.8,SNR=16
ZALV LR LR 10 53 19.8
comp=Z,192nm,19.5s,baz=66,slow=38
ZALV Zalesovo Beam 62.31 346 *i*P **P** **10 23 53.5 -0.4**
ZALV pmax pmax
comp=Z,10.0nm,0.9s
YSS Yuzh-Sakhalins 62.37 28 *e*P **P** **10 23 52.0 -2.4**
YSS pmax pmax
comp=Z,30nm,1.0s
IKAZ Kazeroun 62.52 308 *e*P **P** **10 23 55.6 -0.6**
IANJ Anjilo 63.61 315 *e*P P 10 23 59.6 -3.7
DAMY Dhamar 63.86 289 *e*P P 10 24 08.7 +3.4
BOD Bodaibo 64.13 5 *e*P **P** **10 24 03.1 -2.7**
BOD pmax pmax
comp=Z,5.0nm,1.9s
IKIA Kiasar 64.14 315 *e*P **P** **10 24 07.4 +0.7**
IPIR Pirpir 64.52 311 *e*P **P** **10 24 06.9 -2.5**
IVRN Varamin 64.95 313 *e*P **P** **10 24 09.3 -2.5**
RAYN Ar Rayn 65.41 299 P **P** **10 24 14.1 -0.9**
comp=Z,91nm,0.9s,SNR=8.2
IR3 Iran Long-Peri 65.69 313 *e*P **P** **10 24 14.9 -1.7**
BRVK Borovoye 66.02 338 ⇑*i*P **P** **10 24 17.6 -0.6**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
IRAZ Razeghan 66.45 313 *e*P **P** **10 24 19.8 -1.8**
MAW Mawson 67.72 196 P **P** **10 24 30.6 +1.8**
comp=Z,8.0nm,0.8s,baz=18,slow=7.5,SNR=11
MAW LR LR 10 47 19.0
comp=Z,75nm,21.8s,baz=61,slow=30
KMBO Kilima Mbogo 68.12 271 P **P** **10 24 33.2 +0.6**
comp=Z,3.7nm,0.8s,baz=54,slow=4.6,SNR=5.7
KMBO Kilima Mbogo 68.12 271 *e*P **P** **10 24 35.6 +3.0**
KMBO Kilima Mbogo 68.12 271 *e*P **P** **10 24 35.6 +3.0**
IAZR Azarshahr 70.30 314 *e*P **P** **10 24 45.3 -0.4**
YAK Yakutsk 70.52 12 *e*P **P** **10 24 43.3 -2.8**
YAK *e* 10 25 01.9
YAK pmax pmax
comp=Z,20nm,0.8s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=Z,10.0nm,0.5s
YAK MLR MLR
comp=N,82nm,16.0s
YAK MLR MLR
comp=Z,146nm,17.0s
YAK MLR MLR
comp=E,90nm,15.0s
IMRD Marand 70.93 314 *e*P **P** **10 24 48.2 -1.1**
GNI Garni 72.20 315 ⇑*i*P **P** **10 24 56.7 -0.3**
GNI pmax pmax
comp=Z,22nm,1.0s
ARU Arti 73.16 335 *d i*P **P** **10 25 00.0 -2.1**
ARU 10 27 40.2
ARU S **S** **10 34 24.6 +0.4**
ARU pmax pmax
comp=Z,16nm,1.7s
AKH Akhalkalaki 73.59 316 ⇑*i*P **P** **10 25 06.6 +1.4**
PETK Petropavlovsk- 73.65 30 LR LR 10 59 06.2
comp=Z,31nm,18.9s,baz=219,slow=37
ZEI Tsey 73.87 318 *e*P **P** **10 25 08.7 +1.8**
ZEI pmax pmax
comp=Z,83nm,0.6s
NCK Nalchik 74.37 318 *e*P **P** **10 25 09.6 +0.1**
MA2 Magadan 74.70 22 *i*P **P** **10 25 10.0 -1.0**
NEY Neytrino 74.85 318 ⇓*i*P **P** **10 25 13.7 +1.2**
NEY pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 74.93 318 P **P** **10 25 11.5 -1.1**
comp=Z,16nm,0.9s,baz=113,slow=5.1,SNR=23
KIV Kislovodsk 75.16 318 ⇑*i*P **P** **10 25 14.4 +0.2**
KIV *PP **pP** **10 25 31.0 -2.3**
KIV *e*SP **sP** **10 25 36.3 -4.8**
KIV pmax pmax
comp=Z,39nm,1.6s
GOF Gofitskoye 75.38 320 *e*P **P** **10 25 13.3 -2.0**
GOF pmax pmax
comp=Z,30nm,1.2s
SYO Syowa Base 75.75 200 ⇑*e*P **P** **10 25 17.0 +0.1**
SYO Syowa Base 75.75 200 ⇓*e*PcP **PcP** **10 25 30.8 +1.5**
LSZ Lusaka 76.06 256 *e*P **P** **10 25 22.1 +2.2**
LSZ Lusaka 76.06 256 *e*P **P** **10 25 22.1 +2.2**
EIL Elat 76.25 302 P **P** **10 25 22.9 +2.4**
baz=76,SNR=4.8
SOC Sochi 77.00 317 *e*P **P** **10 25 21.4 -3.1**
SOC pmax pmax
comp=Z,33nm,0.9s
VNDA Vanda 77.11 169 P **P** **10 25 24.9 +0.4**
comp=Z,10.0nm,0.8s,baz=340,slow=9.1,SNR=20
VNDA LR LR 10 56 49.2
comp=Z,95nm,18.8s,baz=326,slow=34
VNDA Vanda 77.11 169 *e*P **P** **10 25 25.6 +1.1**
LBTB Lobatse 78.17 246 *e*P **P** **10 25 33.9 +2.3**
LBTB Lobatse 78.17 246 *e*P **P** **10 25 33.9 +2.3**
BOSA Boshof 78.41 242 P **P** **10 25 33.0 +0.1**
comp=Z,8.5nm,0.9s,baz=111,slow=6.3,SNR=8.4
BOSA Boshof 78.41 242 P **P** **10 25 33.0 +0.1**
CSS Prodhromos 78.97 307 *e*P **P** **10 25 37.3 +1.6**
BRTR Keskin Array B 80.05 312 P **P** **10 25 40.1 -1.4**
comp=Z,8.5nm,0.9s,baz=130,slow=5.6,SNR=33
BRTR LR LR 11 04 22.3
comp=Z,53nm,18.4s,baz=116,slow=38
VSR Storozhevoye 80.23 324 ⇓*i*P **P** **10 25 40.2 -1.8**
VSR pmax pmax
comp=Z,22nm,0.7s
PRGR Permogore 81.61 335 *e*P **P** **10 25 46.1 -3.0**
PRGR pmax pmax
comp=Z,10.0nm,0.8s
ISP Isparta 81.89 309 ⇑*i*P **P** **10 25 52.0 +0.6**
MOS Moscow 82.80 328 *e*P **P** **10 25 56.4 +0.9**
OBN Obninsk 83.13 327 ⇑*e*P **P** **10 25 56.5 -0.7**
OBN *PP PcP 10 26 08.0 +6.4
OBN *SP sP 10 26 15.0 -9.3
OBN pmax pmax
comp=Z,94nm,2.5s
OBN MLR MLR
comp=Z,45nm,15.0s
TIRR Tirgusor 85.03 316 ⇑*i*P **P** **10 26 07.2 +0.1**
BILL Bilibino 85.22 19 ⇓*e*P **P** **10 26 06.2 -1.4**
BILL pmax pmax
comp=Z,14nm,2.5s
MSAB Monastry St. A 85.36 315 ⇓*i*P **P** **10 26 10.7 +1.9**
KIS Kishinev 85.36 318 *e*P P 10 26 12.0 +3.3
KIS XM 10 26 13.5
comp=Z,200nm,2.5s
KIS Kishinev 85.36 318 *e*P P 10 26 12.0 +3.3
KIS *e* 10 26 31.0
KIS pmax pmax
comp=Z,240nm,2.5s
KIS pmax pmax
comp=Z,300nm,2.5s
JMB Yambol 85.89 313 ⇓*i*P **P** **10 26 13.2 +1.7**
AKASG Malin Array Be 86.02 322 P **P** **10 26 10.0 -1.9**
comp=Z,7.0nm,0.7s,baz=84,slow=5.0,SNR=12
KIEV Kiev 86.03 322 ⇑*i*P **P** **10 26 12.3 +0.4**
VRI Vrincioaia 86.51 317 ⇑*i*P **P** **10 26 15.3 +0.8**
PLOR Plostina 86.56 317 ⇑*i*P **P** **10 26 16.7 +1.9**
KDZ Kurdzhali 86.58 312 ⇑*i*P **P** **10 26 16.8 +1.9**
TESR Tescani 86.70 317 ⇑*i*P **P** **10 26 15.7 +0.3**
MLR Muntele Rosu 86.97 316 ⇑*i*P **P** **10 26 17.6 +0.7**
RZN Rozhen 87.10 312 *e*P **P** **10 26 17.0 -0.7**
DOPR Dopca 87.45 317 ⇓*i*P **P** **10 26 20.1 +1.1**
VOIR 87.58 316 ⇑*i*P **P** **10 26 20.7 +1.0**
MICGM Minsk 87.74 325 *e* **P** **10 26 18.0 -2.2**
MNK Minsk 87.77 325 *e*P **P** **10 26 18.0 -2.3**
ARR Arges 87.85 316 ⇑*i*P **P** **10 26 21.2 +0.2**
BURAR Bucovina Array 87.89 318 ⇓*i*P **P** **10 26 21.7 +0.5**
MPEP Malo Peshtene 88.11 314 *e*P **P** **10 26 23.7 +1.5**
ARCR ARCALIA 88.36 318 ⇑*i*P **P** **10 26 24.6 +1.3**
VTS Vitosha 88.36 313 ⇑*i*P **P** **10 26 23.8 +0.1**
VTS Vitosha 88.36 313 *e*P **P** **10 26 24.0 +0.3**
LOT Lotru 88.46 316 ⇑*i*P **P** **10 26 24.2 +0.2**
CJR Cluj-Napoca 88.81 317 ⇑*i*P **P** **10 26 27.4 +1.9**
BMR Baia Mare 89.04 318 ⇑*i*P **P** **10 26 27.5 +1.0**
LVV L'vov 89.08 320 *e*P **P** **10 26 29.7 +3.1**
DRGR 89.42 317 ⇓*i*P **P** **10 26 28.3 -0.1**
KWP Kalwaria Pacla 89.89 320 *e*P **P** **10 26 30.8 +0.3**
KWP Kalwaria Pacla 89.89 320 *e*P **P** **10 26 30.8 +0.3**
BZS Buzias 89.98 316 ⇑*i*P **P** **10 26 31.2 +0.2**
UZH Uzhgorod 90.00 319 *e*P P 10 26 34.3 +3.4
UZH *e* 10 26 46.1
SIRR Siria 90.05 316 ⇑*i*P **P** **10 26 32.0 +0.7**
KOLS Kolonicke sedl 90.06 319 *e*P **P** **10 26 31.6 +0.3**
KOLS pmax pmax
comp=Z,19nm,1.3s
KOLS Kolonicke sedl 90.06 319 *e*P **P** **10 26 31.6 +0.3**
KOLS epP **pP** **10 26 50.9 0.0**
FINES FINESS Array B 90.25 332 P **P** **10 26 31.1 -0.7**
comp=Z,7.6nm,0.8s,baz=48,slow=2.8,SNR=17
STHS Stebnicka Huta 90.80 319 *e*P **P** **10 26 35.1 +0.4**
STHS pmax pmax
comp=Z,5.0nm,0.8s
STHS Stebnicka Huta 90.80 319 *e*P **P** **10 26 35.1 +0.4**
STHS *e* 10 26 49.1
DIVS Divibare 90.91 314 ⇑*i*P **P** **10 26 35.7 +0.3**
KECS Kecovo 91.16 318 *e*P **P** **10 26 37.1 +0.7**
KECS pmax pmax
comp=Z,2.0nm,1.0s
KECS Kecovo 91.16 318 *e*P **P** **10 26 37.1 +0.7**
KECS *e* 10 26 50.6
KECS epP **pP** **10 26 56.7 +0.7**
NIE Niedzica 91.40 319 *e*P **P** **10 26 37.8 +0.3**
NIE Niedzica 91.40 319 *e*P **P** **10 26 37.9 +0.4**
PSZ Piszkesteto 91.48 318 ⇑*i*P **P** **10 26 39.6 +1.6**
VNA1 Neumayer--Stat 91.87 198 P P 10 26 42.8 +3.5
PKSM Moragy 92.12 316 ⇑*i*P **P** **10 26 40.8 -0.1**
ARCES ARCESS Array B 92.17 340 LR LR 11 14 58.5
comp=Z,59nm,18.8s,baz=73,slow=40
MORC Moravsky Berou 93.23 320 ⇑*i*P **P** **10 26 46.7 +0.7**
KRLC Kraliky 93.75 320 *e*P **P** **10 26 49.2 +0.8**
KRLC Kraliky 93.75 320 *e*P **P** **10 26 49.2 +0.8**
DPC Dobruska-Polom 94.07 320 *e*P **P** **10 26 50.8 +1.0**
DPC Dobruska-Polom 94.07 320 *e*P **P** **10 26 50.8 +1.0**
SOKA Soboth 94.65 316 ⇑*i*PcP **PcP** **10 26 52.9 0.0**
comp=Z,9.1nm,1.4s
GERES GERESS Array B 95.67 318 P **P** **10 26 56.5 -0.8**
comp=Z,0.5nm,0.6s,baz=99,slow=6.9,SNR=6.0
KHC Kasperske Hory 95.77 319 *e*P **P** **10 27 00.5 +2.9**
KHC Kasperske Hory 95.77 319 *e*P **P** **10 27 00.5 +2.9**
ILAR Eielson Array 103.06 25 PP PP 10 31 47.8 +2.7
comp=Z,0.4nm,0.9s,baz=254,slow=5.3,SNR=4.3
ILAR PKKPbc **PKKPbc** **10 43 30.4 +1.5**
comp=Z,0.3nm,0.9s,baz=62,slow=2.9,SNR=4.7
TORD Torodi Ar. Bea 104.65 282 PKIKP **PKiKP** **10 31 54.0 +0.3**
comp=Z,0.8nm,0.8s,baz=94,slow=2.0,SNR=4.9
YKA Yellowknife Ar 116.61 19 PKP **PKPdf** **10 32 15.1 +0.2**
comp=Z,2.4nm,1.0s,baz=293,slow=2.0,SNR=4.9
YKA Yellowknife Ar 116.61 19 PKIKP **PKPdf** **10 32 15.1 +0.2**
YKA pmax pmax
comp=Z,2.0nm,1.0s
I03D Drain, OR 123.30 41 P **PKPdf** **10 32 28.8 +0.5**
baz=123
I05D Terrebonne, OR 124.29 39 P **PKPdf** **10 32 30.3 0.0**
baz=124
J04D Umpqua Nationa 124.31 41 P **PKPdf** **10 32 30.5 0.0**
baz=124
J05D Fort Rock, OR 124.86 40 P **PKPdf** **10 32 31.7 +0.2**
baz=125
M04C Macdoel 125.16 42 P **PKPdf** **10 32 32.1 0.0**
baz=125
MSO Missoula 127.27 33 P **PKPdf** **10 32 36.0 +0.1**
baz=127
EGMT Eagleton 128.66 30 P **PKPdf** **10 32 38.9 +0.3**
baz=128
B19A Brinkman Farms 128.76 29 P **PKPdf** **10 32 39.4 +0.7**
baz=128
HLID Hailey 128.94 37 P **PKPdf** **10 32 40.2 +0.9**
baz=129
NVAR Mina Array Bea 129.10 44 PKP **PKPdf** **10 32 39.1 -0.8**
comp=Z,1.1nm,0.9s,baz=283,slow=1.7,SNR=9.0
B20A Solberg Farm, 129.21 28 P **PKPdf** **10 32 38.8 -0.7**
baz=129
BOZ Bozeman (W) 129.26 33 P **PKPdf** **10 32 40.4 +0.5**
baz=129
B21A Ellsworth Farm 129.69 28 P **PKPdf** **10 32 40.7 +0.3**
baz=129
VES Vestal, Richgr 129.70 48 P **PKPdf** **10 32 40.3 -0.5**
baz=130
C20A Veseth Ranch, 129.73 29 P **PKPdf** **10 32 41.3 +0.7**
baz=129
A22A Carney Farms, 129.77 26 P **PKPdf** **10 32 41.4 +0.8**
baz=130
B23A Brockton 130.57 26 P **PKPdf** **10 32 42.5 +0.4**
baz=130
D21A La Casta Ranch 130.68 29 P **PKPdf** **10 32 42.9 +0.5**
baz=130
C22A Vida 130.70 28 P **PKPdf** **10 32 42.9 +0.5**
baz=130
MPMC Manual Prospec 130.76 47 P **PKPdf** **10 32 43.9 +0.8**
baz=130
EDW2 Edwards Air Fo 130.91 48 P **PKPdf** **10 32 44.4 +1.1**
baz=131
C23A Lambert 130.98 27 P **PKPdf** **10 32 44.3 +1.4**
baz=131
F20A Billings 130.99 31 P **PKPdf** **10 32 43.7 +0.6**
baz=131
D22A Cohagen 131.00 28 P **PKPdf** **10 32 44.1 +1.1**
baz=131
E21A Keefer Ranch, 131.01 29 P **PKPdf** **10 32 44.0 +0.9**
baz=131
R11A Troy Canyon, C 131.01 43 P **PKPdf** **10 32 44.0 +0.5**
baz=131
SCHQ Schefferville 131.04 354 PKP **PKPdf** **10 32 42.8 0.0**
comp=Z,4.8nm,0.9s,baz=258,slow=1.4,SNR=8.1
TPNV Topopah Spring 131.24 45 P **PKPdf** **10 32 44.7 +0.8**
baz=131
H19A Powell 131.32 32 P **PKPdf** **10 32 45.2 +1.4**
baz=131
G20A Bridger 131.35 31 P **PKPdf** **10 32 44.6 +0.8**
baz=131
D23A Lindsay 131.44 28 P **PKPdf** **10 32 45.4 +1.6**
baz=131
A26A Wade Farm, Ken 131.49 24 P **PKPdf** **10 32 44.8 +0.9**
baz=131
GSC Goldstone 131.60 47 P **PKPdf** **10 32 45.8 +1.2**
baz=131
E22A Miles City 131.63 29 P **PKPdf** **10 32 45.8 +1.5**
baz=131
DUG Dugway 131.84 39 P **PKPdf** **10 32 45.6 +0.7**
baz=132
E23A Ismay 131.89 28 P **PKPdf** **10 32 45.5 +0.8**
baz=132
H20A Greybull 131.96 32 P **PKPdf** **10 32 46.1 +1.1**
baz=132
J19A Crowheart 132.21 34 P **PKPdf** **10 32 46.1 +0.5**
baz=132
PDAR Pinedale Array 132.24 35 PKP **PKPdf** **10 32 46.1 +0.4**
comp=Z,1.3nm,0.9s,baz=291,slow=1.3,SNR=9.1
I20A Worland 132.26 33 P **PKPdf** **10 32 46.4 +0.8**
baz=132
G22A Birney 132.33 30 P **PKPdf** **10 32 46.9 +1.2**

	baz=132								
F23A	**Volborg**	132.41	29	P		PKPdf	10 32 46.0	+0.2	
	baz=132								
C27A	**Sayler Ranch,**	132.64	25	P		PKPdf	10 32 47.0	+0.9	
	baz=132								
GMRC	**Granite Mounta**	132.68	47	P		PKPdf	10 32 47.6	+1.0	
	baz=132								
J20A	**Shoshoni**	132.68	33	P		PKPdf	10 32 47.5	+1.1	
	baz=132								
BELC	**Belle Mtn. Jos**	132.78	48	P		PKPdf	10 32 47.5	+0.6	
	baz=132								
G23A	**Biddle**	132.79	30	P		PKPdf	10 32 47.9	+1.4	
	baz=132								
I21A	**Big Trails, Te**	132.79	32	P		PKPdf	10 32 47.4	+0.8	
	baz=132								
G24A	**Alzada**	133.17	29	P		PKPdf	10 32 48.1	+0.8	
	baz=133								
E26A	**Carlson Angus**	133.20	26	P		PKPdf	10 32 48.3	+1.1	
	baz=133								
B30A	**Myrvik Farm, E**	133.28	22	P		PKPdf	10 32 48.1	+0.9	
	baz=133								
MDND	**Maddock**	133.29	23	P		PKPdf	10 32 47.9	+0.6	
	baz=133								
IRM	**Iron Mountain**	133.33	48	P		PKPdf	10 32 48.7	+0.9	
	baz=133								
H24A	**Dirks Ranch, A**	133.53	29	P		PKPdf	10 32 48.4	+0.5	
	baz=133								
F26A	**Lodgepole**	133.59	27	P		PKPdf	10 32 48.7	+0.7	
	baz=133								
G26A	**Maurine**	134.04	27	P		PKPdf	10 32 49.2	+0.4	
	baz=134								
D30A	**Buchanan**	134.23	23	P		PKPdf	10 32 50.0	+0.9	
	baz=134								
AGMN	**Agassiz Nation**	134.27	20	P		PKPdf	10 32 48.8	-0.3	
	baz=134								
G27A	**Dupree**	134.28	27	P		PKPdf	10 32 48.8	-0.4	
	baz=134								
I25A	**Rochford**	134.46	29	P		PKPdf	10 32 49.2	-0.6	
	baz=134								
E30A	**Jud**	134.67	24	P		PKPdf	10 32 50.8	+0.9	
	baz=134								
O20A	**White River Ci**	134.68	37	P		PKPdf	10 32 51.0	+0.6	
	baz=134								
G28A	**Parade**	134.97	26	P		PKPdf	10 32 51.7	+1.2	
	baz=135								
F30A	**Leola**	135.16	24	P		PKPdf	10 32 51.7	+0.8	
	baz=135								
H28A	**Mission Ridge**	135.24	27	P		PKPdf	10 32 51.0	-0.1	
	baz=135								
J26A	**Sides Ranch, S**	135.30	30	P		PKPdf	10 32 50.9	-0.3	
	baz=135								
H29A	**Onida**	135.63	26	P		PKPdf	10 32 51.4	-0.4	
	baz=135								
I28A	**Midland**	135.69	27	P		PKPdf	10 32 51.9	0.0	
	baz=135								
I29A	**Vivian Onida**	136.07	27	P		PKPdf	10 32 53.1	+0.5	
	baz=136								
J28A	**Allard Ranch,**	136.10	28	P		PKPdf	10 32 52.6	-0.1	
	baz=136								
J29A	**Okreek**	136.54	27	P		PKPdf	10 32 53.6	+0.1	
	baz=136								
J30A	**Dallas**	136.98	27	P		PKPdf	10 32 54.2	-0.2	
	baz=137								
SDCO	**Great Sand Dun**	137.85	37	P		PKPdf	10 32 56.2	-0.2	
	baz=138								
P26A	**Davis Ranch, A**	137.87	34	P		PKPdf	10 32 55.5	-0.7	
	baz=138								
ECSD	**EROS Data Cent**	137.87	24	P		PKPdf	10 32 56.1	+0.2	
	baz=138								
T25A	**Trinidad**	138.90	37	P		PKPdf	10 32 54.7	-3.6	
	baz=139								
R28A	**Tribune**	139.57	34	P		PKPdf	10 32 57.2	-2.2	
	baz=139								
Q29A	**Oakley**	139.63	32	P		PKPdf	10 32 58.6	-0.7	
	baz=139								
L35A	**Bielow Farm, R**	139.65	24	P		PKPdf	10 32 59.5	+0.3	
	baz=139								
T27A	**Campo**	139.95	36	P		PKPdf	10 33 01.5	+1.4	
	baz=140								
Q30A	**Quinter**	139.96	32	P		PKPdf	10 33 01.8	+1.8	
	baz=140								
P31A	**Stockton**	139.98	30	P		PKPdf	10 33 01.7	+1.8	
	baz=140								
U27A	**Thompson Grove**	140.33	37	P		PKPdf	10 33 03.2	+2.4	
	baz=140								
R30A	**Dighton**	140.45	32	P		PKPdf	10 33 03.4	+2.5	
	baz=140								
R31A	**Burdett**	140.84	32	P		PKPdf	10 33 02.2	+0.6	
	baz=140								
P34A	**Walnut Farm, R**	141.19	28	P		PKPdf	10 33 03.0	+0.9	
	baz=141								
P35A	**Duane Minner,**	141.58	27	P		PKPdf	10 33 03.1	+0.3	
	baz=141								
Q35A	**Mercer Eighty,**	142.11	28	P		PKPdf	10 33 04.9	+1.1	
	baz=142								
Y28A	**McKinney Farm,**	142.35	39	P		PKPdf	10 33 05.8	+1.4	
	baz=142								
S34A	**Willow Spring**	142.52	30	P		PKPdf	10 33 04.5	0.0	
	baz=142								
R37A	**Teagarden Farm**	143.11	27	P		PKPab	10 33 01.4	+0.3	
	baz=143								
S36A	**Lake Cedric, C**	143.23	28	P		PKPbc	10 33 02.3	-0.6	
	baz=143								
X31A	**McDonald Ranch**	143.24	36	P		PKPbc	10 33 02.7	-0.3	
	baz=143								
S37A	**Fort Scott**	143.56	27	P		PKPbc	10 33 03.4	-0.4	
	baz=143								
CPUP	**Villa Florida**	143.62	207	PKP		PKPdf	10 33 07.5	+0.7	
	comp=Z,6.5nm,1.0s,baz=162,slow=0.5,SNR=7.1								
T36A	**Boggs Farm, Ca**	143.62	29	P		PKPbc	10 33 03.8	-0.3	
	baz=143								
W33A	**Caddo, Fort Co**	143.73	34	P		PKPbc	10 33 04.1	-0.3	
	baz=143								
U35A	**Pawnee**	143.74	31	P		PKPbc	10 33 04.0	-0.3	
	baz=143								
T37A	**Cheneyville 18**	144.03	28	P		PKPbc	10 33 05.0	-0.2	
	baz=144								
Z31A	**Sharp Cattle R**	144.05	38	P		PKPbc	10 33 05.0	-0.4	
	baz=144								
329A	**Wagon Wheel Ra**	144.08	42	P		PKPab	10 33 05.2	0.0	
	baz=144								
TXAR	**Lajitas Array**	144.19	46	PKP		PKPbc	10 33 06.3	+0.2	
	comp=Z,6.7nm,1.0s,baz=283,slow=1.3,SNR=17								
230A	**Sterling City**	144.39	41	P		PKPab	10 33 05.7	-0.6	
	baz=144								
Z32A	**Haskell**	144.46	37	P		PKPab	10 33 06.2	-0.2	
	baz=144								
U37A	**Salina**	144.51	29	P		PKPab	10 33 06.2	-0.3	
	baz=144								
TUL1	**Tulsa**	144.57	30	P		PKPab	10 33 06.6	-0.1	
	baz=144								
W35A	**Tecumseh**	144.60	32	P		PKPab	10 33 06.6	-0.3	
	baz=144								
330A	**Mertzon**	144.66	41	P		PKPab	10 33 06.8	-0.5	
	baz=144								
ABTX	**Abilene, Hawle**	144.83	38	P		PKPab	10 33 07.6	-0.3	
	baz=145								
U38A	**Gravette**	144.84	28	P		PKPab	10 33 06.1	-1.7	
	baz=144								
231A	**Bronte**	144.87	40	P		PKPab	10 33 07.6	-0.4	
	baz=145								
Z33A	**Whitaker Ranch**	144.90	37	P		PKPab	10 33 07.6	-0.4	
	baz=145								
V37A	**Hulbert**	144.92	30	P		PKPab	10 33 07.0	-1.0	
	baz=145								
W36A	**Wetumka**	144.95	32	P		PKPab	10 33 07.4	-0.8	
	baz=145								
Y34A	**Reagan Ranch,**	145.00	35	P		PKPab	10 33 08.0	-0.4	
	baz=145								
430A	**Baggett Ranch,**	145.01	42	P		PKPbc	10 33 08.5	-0.1	
	baz=145								
X35A	**Drake**	145.11	33	P		PKPbc	10 33 08.1	-0.6	
	baz=145								
331A	**San Angelo**	145.21	41	P		PKPbc	10 33 08.5	-0.7	
	baz=145								
133A	**Hamilton Ranch**	145.29	38	P		PKPbc	10 33 09.1	-0.2	
	baz=145								
X36A	**Centrahoma**	145.32	32	P		PKPbc	10 33 08.7	-0.7	
	baz=145								
232A	**Coleman**	145.33	39	P		PKPbc	10 33 08.4	-1.1	
	baz=145								
530A	**J-C Ranch, Com**	145.34	43	P		PKPbc	10 33 09.3	-0.4	
	baz=145								
W37A	**Quinton**	145.36	31	P		PKPbc	10 33 08.0	-1.5	
	baz=145								
431A	**Sonora**	145.50	42	P		PKPdf	10 33 08.9	-1.1	
	baz=145								
332A	**Millersview**	145.60	40	P		PKPdf	10 33 09.6	-0.5	
	baz=145								
233A	**Rising Star**	145.70	38	P		PKPdf	10 33 10.0	-0.3	
	baz=145								
Z35A	**Perchaven, San**	145.75	35	P		PKPdf	10 33 09.2	-1.1	
	baz=146								
134A	**White-Moore Ra**	145.81	37	P		PKPdf	10 33 10.1	-0.3	
	baz=146								
X37A	**Clayton**	145.82	31	P		PKPdf	10 33 09.4	-0.9	
	baz=146								
Y36A	**Durant**	145.86	33	P		PKPdf	10 33 09.6	-0.8	
	baz=146								
531A	**Rocksprings**	145.87	42	P		PKPdf	10 33 10.8	+0.1	
	baz=146								
W38A	**Poteau**	145.87	30	P		PKPdf	10 33 09.5	-0.9	
	baz=146								
BDFB	**Brasilia**	145.89	230		PKPbc	PKPab	10 33 13.1	+0.8	
	comp=Z,17nm,0.8s,baz=147,slow=4.4,SNR=19								
432A	**Menard**	145.91	41	P		PKPdf	10 33 10.0	-0.7	
	baz=146								
X38A	**Whitesboro**	146.03	31	P		PKPdf	10 33 10.4	-0.4	
	baz=146								
333A	**Richland Sprin**	146.12	39	P		PKPdf	10 33 11.0	0.0	
	baz=146								
JCT	**Junction City**	146.16	41	P		PKPdf	10 33 11.2	+0.1	
	baz=146								
Y37A	**Hugo**	146.16	32	P		PKPdf	10 33 10.7	-0.2	
	baz=146								
234A	**Clairette**	146.18	37	P		PKPdf	10 33 11.1	+0.1	
	baz=146								
631A	**Perdido Creek**	146.31	43	P		PKPdf	10 33 11.7	+0.4	
	baz=146								
532A	**Rocksprings**	146.32	42	P		PKPdf	10 33 11.8	+0.4	
	baz=146								
433A	**Art**	146.44	40	P		PKPdf	10 33 11.9	+0.3	
	baz=146								
334A	**Lometa**	146.58	38	P		PKPdf	10 33 12.3	+0.5	
	baz=146								
WHTX	**Lake Whitney**	146.60	37	P		PKPbc	10 33 12.8	-0.6	
	baz=146								
MIAR	**Mount Ida**	146.76	29	P		PKPdf	10 33 12.4	+0.5	
	baz=146								
136A	**Ennis**	146.79	35	P		PKPdf	10 33 12.6	+0.5	
	baz=146								
632A	**Uvalde**	146.79	43	P		PKPbc	10 33 13.0	-1.0	
	baz=146								
434A	**Burnet**	146.92	39	P		PKPdf	10 33 12.6	+0.2	
	baz=147								
533A	**Kerrville**	146.93	41	P		PKPdf	10 33 12.9	+0.5	
	baz=147								
Y39A	**Lockesburg**	146.98	31	P		PKPdf	10 33 12.8	+0.5	
	baz=147								
335A	**Moody**	147.12	38	P		PKPbc	10 33 13.8	-1.1	
	baz=147								
236A	**Katherine and**	147.13	36	P		PKPbc	10 33 14.3	-0.5	
	baz=147								
732A	**Laxson Ranch,**	147.15	44	P		PKPbc	10 33 14.4	-0.6	
	baz=147								
633A	**Saathoff Ranch**	147.23	42	P		PKPbc	10 33 14.7	-0.5	
	baz=147								
534A	**Blanco**	147.32	40	P		PKPdf	10 33 14.1	+1.1	
	baz=147								
336A	**Riesel**	147.39	37	P		PKPbc	10 33 14.9	-0.7	
	baz=147								
832A	**Faith Ranch, C**	147.42	45	P		PKPbc	10 33 15.4	-0.4	
	baz=147								
237A	**Washetta, Mont**	147.55	35	P		PKPbc	10 33 15.8	-0.2	
	baz=147								
733A	**Divot King Ran**	147.62	43	P		PKPdf	10 33 14.8	+1.2	
	baz=147								
833A	**Chaparral WMA,**	147.80	44	P		PKPbc	10 33 16.0	-0.8	
	baz=148								
238A	**Jacksonville**	147.93	34	P		PKPbc	10 33 16.3	-0.8	
	baz=148								
734A	**La Parita Cree**	148.04	42	P		PKPbc	10 33 17.6	+0.2	
	baz=148								
239A	**Gary**	148.28	33	P		PKPbc	10 33 17.1	-0.9	
	baz=148								
338A	**Crockett**	148.31	35	P		PKPbc	10 33 17.9	-0.1	
	baz=148								
933A	**Laredo**	148.32	45	P		PKPbc	10 33 17.6	-0.6	
	baz=148								
NATX	**Nacogdoches**	148.37	34	P		PKPbc	10 33 18.4	+0.2	
	baz=148								
834A	**Tilden**	148.50	43	P		PKPbc	10 33 19.7	+1.0	
	baz=148								
735A	**Kenedy**	148.53	41	P		PKPbc	10 33 19.4	+0.8	
	baz=148								
636A	**Smothers Creek**	148.59	40	P		PKPbc	10 33 19.7	+0.9	
	baz=148								
537A	**Green Hill Far**	148.64	38	P		PKPbc	10 33 19.5	+0.5	
	baz=148								
438A	**Sam Houston St**	148.66	36	P		PKPbc	10 33 19.6	+0.7	
	baz=148								
934A	**Benavides**	148.85	44	P		PKPbc	10 33 20.6	+1.0	
	baz=149								
340A	**Bronson**	149.06	33	P		PKPbc	10 33 20.3	+0.4	
	baz=149								
034A	**Hebbronville**	149.07	45	P		PKPbc	10 33 20.8	+0.6	
	baz=149								
637A	**Eagle Lake**	149.08	39	P		PKPbc	10 33 21.0	+1.0	
	baz=149								
440A	**Kirbyville**	149.53	34	P		PKPbc	10 33 21.8	+0.7	
	baz=149								
VBMS	**Vicksburg**	150.12	28	P		PKPbc	10 33 22.7	+0.1	
	baz=150								
KMSC	**Kings Mountain**	150.49	11	P		PKPbc	10 33 22.6	-0.8	
	baz=150								
TIGA	**Tifton**	153.47	17	P		PKPbc	10 33 30.4	+0.2	
	baz=153								
LPAZ	**La Paz**	156.80	196		PKP	PKPdf	10 33 29.0	+0.8	
	comp=Z,3.0nm,1.1s,baz=210,slow=3.3,SNR=7.1								

MEX 09 10:13:44.2±0.5, 15°.61N×93°.46W, h94km±5km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.25**	**67**	*eP*	Pn	10 13 56.5	-1.4
PCIG				*eS*	Sn	10 14 06.4	-1.6
TGIG		**1.21**	**15**	*eP*	Pn	10 14 06.0	-0.7
TGIG				*eS*	Sn	10 14 21.8	-1.8
CCIG	**Comitan**	**1.43**	**62**	*eP*	Pn	10 14 08.7	-0.9
CCIG				*eS*	Sn	10 14 26.9	-1.8

KRSC 09 10:32:33.8±1.1, 52°.89N×159°.89E, h56km±9km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.22**	**22**	*eP*	Pn	10 32 44.9	+2.0
SPN				*eS*	Sn	10 32 51.2	+1.7
NLC	**Nalytchevo**	**0.43**	**311**	*eP*	Pn	10 32 45.9	+1.3
NLC				*eS*	Sn	10 32 52.9	+0.4
UGLR	**Uglovaya**	**0.71**	**297**	*eP*	Pn	10 32 49.5	+1.4
UGLR				*eS*	Sn	10 32 59.0	+0.4
SDLR	**Sedlovina**	**0.72**	**303**	*eP*	Pn	10 32 49.4	+1.2
SDLR				*eS*	Sn	10 32 58.9	+0.2
SMAR	**Somma**	**0.75**	**300**	*eP*	Pn	10 32 49.9	+1.2
PET	**Petropavlovsk**	**0.76**	**280**	*eP*	Pn	10 32 49.6	+1.1
PET				*eS*	Sn	10 32 59.6	+0.4
AVH	**Avacha**	**0.79**	**299**	*eP*	Pn	10 32 50.6	+1.6
AVH				*eS*	Sn	10 33 01.3	+1.2
KRER	**Koryakskii**	**0.80**	**301**	*eP*	Pn	10 32 50.7	+1.4
KRER				*eS*	Sn	10 33 01.2	+0.5
KOK	**Koryaka**	**0.85**	**298**	*eP*	Pn	10 32 51.3	+1.4
KOK				*eS*	Sn	10 33 02.6	+0.9
KRX	**Arik**	**0.88**	**303**	*eP*	Pn	10 32 51.4	+1.1
KRX				*eS*	Sn	10 33 02.5	+0.1
RUS	**Russkaya**	**0.95**	**242**	*eP*	Pn	10 32 52.3	+1.3
RUS				*eS*	Sn	10 33 04.5	+0.7
MTVR	**Mutnovka**	**1.11**	**249**	*eP*	Pn	10 32 54.9	+1.5
MTVR				*eS*	Sn	10 33 08.8	+0.9
GRL	**Gorelyy**	**1.15**	**253**	*eP*	Pn	10 32 56.0	+2.1
GRL				*eS*	Sn	10 33 10.4	+1.6
ASAK	**Asacha**	**1.31**	**248**	*eP*	Pn	10 32 58.1	+2.2
ASAK				*eS*	Sn	10 33 14.2	+1.7
GNL	**Ganaly**	**1.42**	**305**	*eP*	Pn	10 32 59.6	+2.2
GNL				*eS*	Sn	10 33 17.0	+1.9
APC	**Apacha**	**1.65**	**272**	*eP*	Pn	10 33 02.9	+2.5
APC				*eS*	Sn	10 33 23.2	+2.7
MKZ	**Mys Kozlova**	**1.99**	**33**	*eP*	Pn	10 33 06.9	+1.9
MKZ				*eS*	Sn	10 33 29.7	+0.9
MIPR	**Malaya Ipel'ka**	**2.01**	**253**	*eP*	Pn	10 33 07.8	+2.6
KZV	**Kizimen**	**2.24**	**6**	*eP*	Pn	10 33 11.7	+3.1
TUMR	**Tumrok**	**2.40**	**4**	*eP*	Pn	10 33 14.3	+3.6
TUMR				*eS*	Sn	10 33 43.1	+4.1
ESO	**Esso**	**3.12**	**348**	*eP*	Pn	10 33 23.5	+3.1
KBTR	**Krutoberegovo**	**3.73**	**26**	*eP*	Pn	10 33 32.8	+4.0
KBTR				*eS*	Sn	10 34 15.8	+4.3
BKI	**Bering**	**4.27**	**55**	*eP*	Pn	10 33 39.6	+3.5
BKI				*eS*	Sn	10 34 23.6	-1.0

IDC 09 10:33:39.1±1.9, 50°.36S×114°.54E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.9/24, mbtmp3.9/4, Error ellipse: s-maj=139.5km s-min=20.3km az=113.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.46**	**359**	T	T	10 52 51.8	
	baz=179,slow=74,SNR=243						
H01W1	**Cape Leeuwin H**	**15.46**	**359**	T	T	10 52 52.3	
	baz=179,slow=74,SNR=260						
H01W3	**Cape Leeuwin H**	**15.47**	**359**	T	T	10 52 53.0	
	baz=179,slow=74,SNR=287						
ASAR	**Alice Springs**	**30.62**	**37**	P	P	10 39 54.6	-0.3
	1.8nm,0.7s,baz=208,slow=7.9,SNR=23						
WRA	**Warramunga Arr**	**34.18**	**35**	P	P	10 40 25.6	-0.6
	2.8nm,0.8s,baz=203,slow=11,SNR=13						
QSPA	**South Pole Qui**	**39.76**	**180**	P	P	10 41 13.4	0.0
	1.1nm,0.7s,baz=336,slow=20,SNR=9.3						
SNAA	**Sanae**	**50.55**	**201**	P	P	10 42 38.1	-0.8
	0.8nm,1.0s,baz=146,slow=14,SNR=10						
H08S2	**Diego Garcia H**	**55.04**	**306**	T	T	11 42 02.2	
	baz=148,slow=76,SNR=28						
H08S1	**Diego Garcia H**	**55.05**	**306**	T	T	11 42 02.6	
	baz=148,slow=76,SNR=20						
H08S3	**Diego Garcia H**	**55.06**	**306**	T	T	11 42 09.2	
	baz=148,slow=76,SNR=26						
YKA	**Yellowknife Ar**	**151.01**	**46**	PKPbc	PKPbc	10 53 33.6	+1.0
	0.7nm,0.6s,baz=287,slow=2.0,SNR=2.9						

*FUNV **09** 10:52:27.8, 6°.74N×73°.25W, h163km, MW3.2*
*ISCJB **09** 10:52:28.3±0.6, 6°.88N±0°.07×73°.10W±0°.07, h161km, mb3.2/3, Error ellipse: s-maj=12.3km s-min=6.2km az=40.2*
*IDC **09** 10:52:30.4±2.5, 6°.69N×73°.22W, h165km±20km, mb3.1/3, mb1 3.4/4, mb1mx3.1/24, mbtmp3.6/4, Error ellipse: s-maj=50.2km s-min=24.2km az=93.0*
ISC 09 10:52:29.4±0.9, 6°.86N±0°.07×73°.09W±0°.08, h161km, n17, σ1§17/22, mb3.1/3, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.26**	**38**	⇓*eP*	**Pn**	**10 52 57.7**	**0.0**
CAPV				*eS*	**Sn**	**10 53 19.2**	**-0.3**
ROSC	**El Rosal**	**2.34**	**212**	P	**Pn**	**10 53 09.7**	**0.0**
	24nm,0.3s,baz=93,slow=7.2,SNR=45						
ROSC				S	**Sn**	**10 53 37.8**	**-2.9**
	40nm,0.3s,baz=94,slow=15,SNR=9.3						
VIGV	**El Vigia**	**2.60**	**41**	*eP*	**Pn**	**10 53 11.4**	**-1.0**
VIGV				*eS*	**Sn**	**10 53 45.1**	**-0.6**
SOCV	**Socops**	**2.63**	**57**	*eP*	**Pn**	**10 53 12.1**	**-0.6**
SOCV				*eS*	**Sn**	**10 53 45.5**	**-0.6**
ELOV	**Elorza**	**3.58**	**88**	*eP*	**Pn**	**10 53 24.3**	**-0.3**
VIRV	**Villa del Rosa**	**3.68**	**11**	*eP*	**Pn**	**10 53 24.6**	**-1.3**
VIRV				*eS*	**Sn**	**10 54 07.2**	**-2.6**
QARV	**Quebrada Arrib**	**4.18**	**37**	*eP*	**Pn**	**10 53 32.0**	**-0.3**
SANV	**Sanarito**	**4.39**	**53**	*eP*	**Pn**	**10 53 34.3**	**-0.9**
CURV	**Curarigua**	**4.40**	**44**	*eP*	**Pn**	**10 53 34.5**	**-0.7**
DABV	**Dabajuro**	**4.71**	**31**	*eP*	**Pn**	**10 53 38.9**	**-0.3**
SIQV	**Siquisique**	**4.97**	**41**	*eP*	**Pn**	**10 53 41.9**	**-0.8**
MAPV	**Macapo**	**5.45**	**57**	*eP*	**Pn**	**10 53 48.3**	**-0.7**
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**	**10 59 19.7**	**+0.6**
	0.2nm,0.5s,baz=126,slow=9.1,SNR=5.9						
PDAR	**Pinedale Array**	**48.06**	**324**	P	**P**	**11 00 54.1**	**+1.2**
	0.2nm,0.5s,baz=83,slow=7.4,SNR=3.1						
SCHQ	**Schefferville**	**48.10**	**5**	P	**P**	**11 00 54.1**	**+1.4**
	1.4nm,0.9s,baz=223,slow=19,SNR=2.9						
ASAR	**Alice Springs**	**149.16**	**234**	PKPbc	**PKPbc**	**11 11 59.4**	**-0.3**
	0.3nm,0.5s,baz=122,slow=3.3,SNR=5.7						
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc	**PKPbc**	**11 12 02.2**	**-0.5**
	0.2nm,0.5s,baz=106,slow=3.1,SNR=11						

*BJI **09** 11:16:10.6, 49°.88S×120°.92E, h5km, mb5.0/25, mB5.3/16, Ms5.0/15, Ms7 4.7/8*
*ISCJB **09** 11:16:14.6±0.3, 49°.30S±0°.04×120°.74E±0°.10, h10km, mb4.9/21, MS3.9/13, Error ellipse: s-maj=9.4km s-min=5.8km az=13.9*
*IDC **09** 11:16:14.6±0.6, 49°.25S×120°.77E, h0km, mb4.7/12, mb1 4.8/13, mb1mx4.6/23, mbtmp4.7/13, ML2.8/1, MS3.9/13, Ms1 3.9/13, ms1mx3.7/20, Error ellipse: s-maj=32.0km s-min=13.7km az=104.0*
*NEIC **09** 11:16:15.9±0.3, 49°.28S×120°.83E, h10km, mb5.2/14, Error ellipse: s-maj=15.2km s-min=6.6km az=104.0*
ISC 09 11:16:16.4±0.3, 49°.41S±0°.05×120°.95E±0°.09, h10km, n409, σ0§89/420, mb4.9/21, MS3.9/13, 5C-3D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RKGY	**Rocky Gully**	**15.07**	**347**	P	**Pn**	**11 19 46.5**	**-2.8**
	baz=14,SNR=5.3						
H01W1	**Cape Leeuwin H**	**15.34**	**338**	T	T	11 35 19.3	
	baz=162,slow=74,SNR=210						
H01W2	**Cape Leeuwin H**	**15.34**	**338**	T	T	11 35 23.1	
	baz=162,slow=74,SNR=206						
H01W3	**Cape Leeuwin H**	**15.36**	**338**	T	T	11 35 20.3	
	baz=162,slow=74,SNR=228						
NWAO	**Narrogin (SRO)**	**16.70**	**349**	Pn	**Pn**	**11 20 07.7**	**-2.7**
	1.8nm,0.3s,baz=147,slow=10,SNR=13						
NWAO	**Narrogin (SRO)**	**16.70**	**349**	⇑P	**Pn**	**11 20 08.5**	**-1.8**
	baz=16						
NWAO				⇑P	**Pn**	**11 20 08.5**	**-1.8**
	baz=16						
CASY	**

baz=31,SNR=4.8
VNDA **Vanda** **32.17 164** P **P** **11 22 45.1 +1.3**
5.6nm,0.9s,baz=303,slow=9.8,SNR=21
VNDA LR LR 11 35 04.0
comp=Z,921nm,18.4s,baz=322,slow=35
VNDA **Vanda** **32.17 164** *e*P **P** **11 22 44.4 +0.7**
80nm,2.1s
QIS **Mount Isa** **32.41 34** P **P** **11 22 45.9 -0.5**
baz=32,SNR=7.1
SBA **Scott Base** **33.23 164** *e*P **P** **11 22 55.0 +2.0**
117nm,2.3s
MAW **Mawson** **33.72 216** P **P** **11 22 57.4 +0.1**
12nm,0.9s,baz=74,slow=9.5,SNR=15
MAW LR LR 11 34 45.4
comp=Z,294nm,18.3s,baz=62,slow=33
MAW **Mawson** **33.72 216** *e*P **P** **11 22 57.0 -0.3**
63nm,2.8s
KNRA **Kununurra** **34.24 13** P **P** **11 23 01.3 -1.0**
baz=33,SNR=5.2
RPZ **Rata Peaks** **34.39 100** LR LR 11 34 13.2
comp=Z,268nm,20.4s,baz=235,slow=31
KDU **Kakadu** **37.83 19** P **P** **11 23 32.1 -0.9**
baz=37,SNR=9.1
COEN **Coen** **39.78 35** P **P** **11 23 49.6 +0.2**
baz=39,SNR=4.7
QSPA **South Pole Qui** **40.72 180** P **P** **11 23 57.8 +0.8**
24nm,1.1s,baz=326,slow=3.7,SNR=33
QSPA **South Pole Qui** **40.72 180** *e*P **P** **11 23 57.7 +0.8**
94nm,1.4s
SYO **Syowa Base** **42.12 212**⇑ *e*P **P** **11 24 06.4 -1.8**
FAKI **Fak Fak** **47.31 15** P **P** **11 24 50.1 0.0**
baz=47,SNR=12
FAKI **Fak Fak** **47.31 15** *e*P **P** **11 24 49.5 -0.6**
61nm,1.0s
LUWI **Luwuk** **48.21 2** *e*P **P** **11 24 56.1 -0.9**
27nm,0.7s
SMPI **Sarmi** **49.62 24** P **P** **11 25 09.6 +1.7**
35nm,1.3s,2µm
JAY **Jayapura** **49.67 26** P **P** **11 25 07.4 -0.9**
baz=49,SNR=4.0
PPI **Padang Panjang** **51.86 333** P P 11 25 29.5 +4.7
19nm,0.7s
SNAA **Sanae** **52.89 199** P **P** **11 25 32.2 +0.3**
16nm,1.0s,baz=144,slow=8.7,SNR=87
MYLDM **Lahad Datu** **54.40 357** *e*P **P** **11 25 43.7 +0.2**
157nm,2.2s
VNA1 **Neumayer--Stat** **54.81 198** P **P** **11 25 46.7 +0.9**
H08S2 **Diego Garcia H** **58.03 299** T T 12 28 40.9
baz=144,slow=76,SNR=12
H08S1 **Diego Carcia H** **58.04 299** T T 12 28 38.9
baz=144,slow=76,SNR=9.4
H08S3 **Diego Garcia H** **58.05 299** T T 12 28 36.6
baz=144,slow=76,SNR=10
GUMO **Guam** **66.18 26** LR LR 11 54 12.4
comp=Z,55nm,21.3s,baz=180,slow=34
QIZ **Qiongzhong** **68.84 349** P **P** **11 27 22.3 +1.5**
QIZ pP **pP** **11 27 25.3 +1.2**
QIZ sP **sP** **11 27 27.0 +1.7**
QIZ S **S** **11 36 26.8 +2.2**
QIZ PMZ
10.0nm,1.1s
CM01 **Chiang Mai Arr** **70.29 338** *e*P **P** **11 27 28.0 -1.8**
CMAR **Chiang Mai Arr** **70.33 338** P **P** **11 27 28.6 -1.4**
2.7nm,0.7s,baz=185,slow=5.3,SNR=17
CMAR LR LR 11 59 37.9
comp=Z,66nm,18.3s,baz=170,slow=37
BOSA **Boshof** **72.31 247** LR LR 11 52 43.9
comp=Z,117nm,21.4s,baz=159,slow=30
KMI **Kunming** **75.95 343** P **P** **11 28 03.4 0.0**
KMI sP **sP** **11 28 10.2 +2.3**
KMI PP **PP** **11 30 54.9 +0.7**
KMI S **S** **11 37 46.1 -0.2**
KMI sS **sS** **11 37 54.9 +3.2**
KMI SS **SS** **11 42 43.0 +3.5**
KMI PMZ
26nm,1.1s
KMI PMZ
130nm,3.5s
KMI LN
150nm,14.2s
KMI LE
140nm,14.9s
KMI LZ
190nm,15.9s
GYA **Guiyang** **76.59 347** P **P** **11 28 09.0 +2.1**
GYA PP **PP** **11 31 03.0 +3.5**
GYA S **S** **11 37 53.2 +0.2**
GYA SS **SS** **11 42 52.0 +3.0**
GYA PMZ
20nm,1.0s
GYA PMZ
120nm,5.7s
GYA LN
570nm,19.4s
GYA LE
480nm,20.0s
GYA LZ
520nm,19.2s
SHL **Shillong** **79.01 333** *e*P **P** **11 28 20.0 -0.5**
LSZ **Lusaka** **80.33 258** *e*P **P** **11 28 27.3 -0.7**
6.1nm,0.9s
NJ2 **Nanjing** **81.12 358** *e*P **P** **11 28 32.0 +0.6**
NJ2 PMZ
20nm,0.5s
CD2 **Chengdu** **81.41 345** P **P** **11 28 33.1 0.0**
CD2 pP **PcP** **11 28 37.8 -1.4**
CD2 sP **sP** **11 28 39.7 +2.1**
CD2 PP **PP** **11 31 39.2 -0.4**
CD2 S **S** **11 38 45.1 +1.0**
CD2 SKS **SKSac** **11 38 51.3 -1.0**
CD2 sS **SKKSac** **11 38 53.2 -1.9**
CD2 SS **SS** **11 44 02.9 +1.6**
CD2 PMZ
20nm,0.6s
CD2 PMZ
240nm,4.9s
CD2 LE
210nm,5.9s
CD2 LZ
160nm,12.6s
JNU **Nakatsue** **82.64 8** LR LR 12 08 38.8
comp=Z,29nm,18.4s,baz=166,slow=38
XAN **Xi'an** **83.76 350** P **P** **11 28 43.7 -1.6**
XAN PMZ
9.0nm,1.4s
TSUM **Tsumeb** **83.98 248** *e*P **P** **11 28 47.9 +0.8**
53nm,2.1s
LZH **Lanzhou** **86.46 346** *e*P **P** **11 28 58.5 -0.5**
LZH pP **pP** **11 29 03.4 +1.1**
LZH sP **sP** **11 29 05.6 +2.1**
LZH *e*PP **PP** **11 32 22.7 +1.7**
LZH SKS **SKSac** **11 39 22.3 -2.9**
LZH *e*S **SKKSac** **11 39 33.0 -0.1**
LZH *e*SS **SS** **11 45 17.5 +1.4**
LZH PMZ
25nm,1.3s
LZH PMZ
150nm,6.4s
LZH LN
170nm,15.0s
LZH LE
230nm,15.3s
LZH LZ
340nm,19.0s
KSAR **Wonju Array Be** **86.69 6** P **P** **11 28 59.8 0.0**
KSRS **Korea Array** **86.71 6** P **P** **11 28 59.8 -0.1**
4.9nm,1.1s,baz=179,slow=5.1,SNR=16
KSRS LR LR 12 08 29.8
comp=Z,18nm,19.9s,baz=172,slow=36
KS01 **Wonju Array Si** **86.73 6** *e*P **P** **11 28 59.4 -0.5**
MJAR **Matsushiro Arr** **86.94 14** P **P** **11 29 00.0 -1.1**
1.9nm,1.0s,baz=153,slow=11,SNR=4.7
MJAR LR LR 12 06 11.7
comp=Z,36nm,20.9s,baz=160,slow=34
BJI **Beijing** **89.17 356** P **P** **11 29 12.6 +1.1**
BJI PMZ
7.0nm,0.5s
HHC **Hu-ho-hao-te** **90.25 353** *e*P **P** **11 29 17.1 +0.3**
HHC PP **PP** **11 32 47.8 -3.5**
HHC S **S** **11 40 09.7 -0.8**
HHC SS **SS** **11 46 10.2 -0.9**
HHC PMZ
23nm,0.9s
HHC PMZ
110nm,4.1s
HHC LN
110nm,14.8s
HHC LE
120nm,13.6s
GTA **Gaotai** **90.39 344** ⇓P **P** **11 29 16.4 -1.1**
GTA pP **pP** **11 29 21.2 +0.4**
GTA sP **sP** **11 29 23.5 +1.5**
GTA SKS **SKSac** **11 39 45.5 -2.9**
GTA S **S** **11 40 10.0 -1.9**
GTA SS **SS** **11 46 16.0 +2.8**
GTA PMZ
9.0nm,1.3s
GTA PMZ
43nm,4.7s
GTA LN
85nm,16.9s
GTA LE
88nm,15.9s
CN2 **Changchun** **92.91 3** *e*P **P** **11 29 28.7 -0.2**
USRK **Ussuriysk Ar.** **93.72 8** P **P** **11 29 32.1 -0.5**
1.4nm,0.8s,baz=114,slow=2.3,SNR=4.2
WMQ **Urumqi** **97.30 336** *e*P **P** **11 29 48.4 -0.7**
WMQ pP **pP** **11 29 53.4 +1.0**
WMQ sP **sP** **11 29 55.4 +1.8**
WMQ PMZ
8.0nm,0.9s
WMQ PMZ
75nm,4.2s
WMQ LN
53nm,22.0s
SONM **Songino Array** **97.67 350** P **P** **11 29 49.2 -1.5**
0.9nm,0.9s,baz=173,slow=1.2,SNR=5.8
SONM LR LR 12 13 03.9
comp=Z,320nm,21.8s,baz=232,slow=35
SONA1 **Songino Array** **97.69 350** *e*P **P** **11 29 49.4 -1.4**
TORD **Torodi Ar. Bea** **118.82 256** PKP **PKPdf** **11 35 04.2 -0.9**
0.3nm,0.6s,baz=257,slow=5.6,SNR=2.9
AKASG **Malin Array Be** **126.64 308** PKP **PKPdf** **11 35 18.9 0.0**
0.2nm,0.3s,baz=90,slow=1.4,SNR=5.3
BUR04 **Bucovina Ar. S** **127.00 303** *e*PKPdf **PKPdf** **11 35 19.5 -0.4**
ILAR **Eielson Array** **134.00 37** PKP **PKPdf** **11 35 32.9 +0.5**
0.2nm,0.7s,baz=284,slow=3.6,SNR=4.4
GERES **GERESS Array B** **134.14 298** PKP **PKPdf** **11 35 33.4 0.0**
0.3nm,0.2s,baz=117,slow=3.4,SNR=4.0
NV01 **Mina Array Sit** **136.97 82** *e*PKPdf **PKPdf** **11 35 37.2 -2.0**
NVAR **Mina Array Bea** **136.97 82** PKP **PKPdf** **11 35 38.9 -0.3**
0.3nm,0.8s,baz=214,slow=5.4,SNR=3.9
ESDC **Sonseca Array** **140.35 277** PKP **PKPdf** **11 35 45.6 +0.5**
0.2nm,0.3s,baz=236,slow=0.5,SNR=4.7
TXAR **Lajitas Array** **140.81 104** PKP **PKPdf** **11 35 46.3 0.0**
0.4nm,0.7s,baz=179,slow=7.5,SNR=5.1
MCMT **McKenzie Canyo** **143.76 76** *e*PKPdf **PKPdf** **11 35 50.2 -1.0**
S22A **4UR Ranch, Cre** **144.05 91** *e*PKPdf PKPbc 11 35 50.1 0.0
DLMT **Dillon** **144.16 76** *e*PKPdf **PKPdf** **11 35 51.4 -0.4**
SWMT **Swartz Lake** **144.19 72** *e*PKPdf PKPbc 11 35 50.0 0.0
432A **Menard** **144.31 106** PKPbc PKPbc 11 35 51.1 +0.4
baz=144
TPAW **Teton Pass** **144.35 79** *e*PKPdf **PKPdf** **11 35 52.1 -0.3**
REDW **Red Top Meadow** **144.36 80** *e*PKPdf PKPbc 11 35 51.5 +0.7
FXWY **Fox Creek** **144.38 79** *e*PKPdf **PKPdf** **11 35 51.6 -0.8**
SLMT **Seeley Lake** **144.40 72** *e*PKPdf PKPbc 11 35 50.7 0.0
CHMT **Chamberlain Mo** **144.41 73** *e*PKPdf PKPbc 11 35 51.3 +0.5
LRM **Limekiln Ridge** **144.45 75** *e*PKPdf **PKPdf** **11 35 51.9 -0.5**
SNOW **Snow King Moun** **144.47 79** *e*PKPdf **PKPdf** **11 35 52.6 0.0**
534A **Blanco** **144.55 108** PKPbc PKPbc 11 35 52.1 +0.6
baz=145
IMW **Indian Meadow** **144.55 79** *e*PKPdf **PKPdf** **11 35 52.4 -0.3**
MOOW **Moose Ponds** **144.61 79** *e*PKPdf **PKPdf** **11 35 52.2 -0.5**
LOHW **Long Hollow** **144.63 79** *e*PKPdf **PKPdf** **11 35 52.5 -0.3**
736A **Circle Diamond** **144.66 111** PKPbc PKPbc 11 35 52.3 +0.6
baz=145
QLMT **Earthquake Lak** **144.66 77** *e*PKPdf **PKPdf** **11 35 53.8 +1.0**
433A **Art** **144.67 107** PKPbc PKPbc 11 35 52.1 +0.3
baz=145
Z29A **Hungry Hill Ra** **144.67 101** PKPbc PKPbc 11 35 52.4 +0.5
baz=145
332A **Millersview** **144.69 105** PKPbc PKPbc 11 35 52.2 +0.3
baz=145
231A **Bronte** **144.69 104** PKPbc **PKPab** **11 35 51.4 -0.4**
baz=145
SMCO **Snowmass** **144.75 88** *e*PKPbc **PKPdf** **11 35 54.4 +1.0**
FLWY **Flagg Ranch** **144.79 79** *e*PKPbc **PKPdf** **11 35 53.9 +0.9**
WALA **Waterton Lakes** **144.85 69** *e*PKPbc **PKPdf** **11 35 52.9 +0.1**
BOZ **Bozeman (W)** **144.90 76** PKPbc **PKPab** **11 35 51.7 -0.6**
baz=145
BW06 **Boulder Array** **144.91 81** *e*PKPbc **PKPab** **11 35 52.0 -0.6**
PDAR **Pinedale Array** **144.91 81** PKP PKPbc 11 35 52.5 0.0
2.9nm,1.0s,baz=192,slow=1.4,SNR=19
SDCO **Great Sand Dun** **144.92 92** PKPbc **PKPab** **11 35 51.6 -1.1**
baz=145
SDCO **Great Sand Dun** **144.92 92** *e*PKPbc PKPbc 11 35 53.1 +0.3
H17A **Grant Village** **145.01 78** PKPbc **PKPbc** **11 35 51.9 -1.0**
baz=145
H17A **Grant Village** **145.01 78** *e*PKPbc **PKPdf** **11 35 55.5 +2.0**
Z30A **Sanderson Ranc** **145.06 101** PKPbc **PKPbc** **11 35 52.2 -0.9**
baz=145
Y29A **Porterfield Fa** **145.08 100** PKPbc **PKPbc** **11 35 52.6 -0.6**
baz=145
232A **Coleman** **145.09 105** PKPbc **PKPbc** **11 35 52.9 -0.3**
baz=145
535A **Dale** **145.11 109** PKPbc **PKPbc** **11 35 52.2 -1.0**
baz=145
333A **Richland Sprin** **145.12 106** PKPbc **PKPbc** **11 35 52.5 -0.8**
baz=145
131A **Roby** **145.13 103** PKPbc **PKPbc** **11 35 52.6 -0.7**
baz=145
X28A **Dimmitt** **145.15 99** PKPbc **PKPbc** **11 35 52.5 -1.0**
baz=145
434A **Burnet** **145.22 108** PKPbc **PKPbc** **11 35 53.4 -0.2**
baz=145
T25A **Trinidad** **145.28 93** PKPbc **PKPbc** **11 35 53.5 -0.4**
baz=146
T25A **Trinidad** **145.28 93** *e*PKPdf **PKPdf** **11 35 54.2 +0.1**
X29A **Tulia** **145.43 99** PKPbc **PKPbc** **11 35 53.8 -0.5**
baz=146
J19A **Crowheart** **145.47 81** PKPbc **PKPdf** **11 35 54.0 -0.2**
baz=146
V27A **Dan Oppiter Fa** **145.50 97** PKPbc **PKPdf** **11 35 54.1 -0.3**
baz=146
ABTX **Abilene, Hawle** **145.57 104** PKPbc **PKPdf** **11 35 54.0 -0.5**
baz=146
ABTX **Abilene, Hawle** **145.57 104** *e*PKPdf **PKPdf** **11 35 54.3 -0.2**
Y30A **Stafford Cattl** **145.58 101** PKPbc **PKPdf** **11 35 54.2 -0.3**
baz=146
334A **Lometa** **145.60 107** PKPbc **PKPdf** **11 35 54.2 -0.3**
baz=146
W28A **Vega** **145.60 98** PKPbc **PKPdf** **11 35 54.4 -0.2**
baz=146
435B **Jarrell** **145.62 108** PKPbc **PKPdf** **11 35 54.5 -0.2**
baz=146
233A **Rising Star** **145.64 105** PKPbc **PKPdf** **11 35 54.7 0.0**
baz=146
Z31A **Sharp Cattle R** **145.71 102** PKPbc **PKPdf** **11 35 54.8 0.0**
baz=146
AMTX **Amarillo** **145.71 99** PKPbc **PKPdf** **11 35 54.8 0.0**
baz=146
AMTX **Amarillo** **145.71 99** *e*PKPdf **PKPbc** **11 35 55.3 +0.1**
Q24A **Divide** **145.83 90** PKPbc **PKPdf** **11 35 55.3 +0.2**
baz=146
T26A **Comanche Natio** **145.84 94** PKPbc **PKPdf** **11 35 55.3 +0.2**
baz=146
I19A **Meeteetse** **145.86 80** PKPbc **PKPbc** **11 35 55.6 +0.1**
baz=146
W29A **Amraillo** **145.88 98** PKPbc **PKPbc** **11 35 55.6 -0.1**
baz=146
V28A **Channing** **145.89 97** PKPbc **PKPbc** **11 35 55.7 0.0**
baz=146
U27A **Thompson Grove** **145.90 96** PKPbc **PKPdf** **11 35 55.4 +0.3**
baz=146
537A **Green Hill Far** **145.92 111** PKPbc **PKPbc** **11 35 55.8 0.0**
baz=146
X30A **Coker Ranch, T** **145.96 100** PKPbc **PKPbc** **11 35 55.6 -0.3**
baz=146
ISCO **Idaho Springs** **145.97 88** PKPbc **PKPbc** **11 35 55.9 -0.2**
baz=146
ISCO **Idaho Springs** **145.97 88** *e*PKPdf **PKPab** **11 35 56.7 0.0**
133A **Hamilton Ranch** **146.03 105** PKPbc **PKPbc** **11 35 56.1 0.0**
baz=146
Y31A **Rekieta Farm,** **146.05 101** PKPbc **PKPbc** **11 35 56.3 +0.1**
baz=146
335A **Moody** **146.07 108** PKPbc **PKPbc** **11 35 56.3 +0.1**
baz=146
436A **Wall Ranch, Ga** **146.10 109** PKPbc **PKPbc** **11 35 56.1 -0.2**
baz=146
234A **Clairette** **146.11 106** PKPbc **PKPbc** **11 35 56.1 -0.3**
baz=146
Z32A **Haskell** **146.13 103** PKPbc **PKPab** **11 35 56.7 -0.3**
baz=146
J20A **Shoshoni** **146.14 81** PKPbc **PKPab** **11 35 56.7 -0.2**
baz=146
H19A **Powell** **146.15 79** PKPbc **PKPab** **11 35 56.9 -0.1**
baz=146
RLMT **Red Lodge** **146.17 78** PKPbc **PKPab** **11 35 57.2 0.0**
baz=146
S26A **Kim** **146.18 93** PKPbc **PKPbc** **11 35 56.6 0.0**
baz=146
ESK **Eskdalemuir** **146.19 302** *e*PKPdf **PKPbc** **11 35 55.5 -0.3**
GCMT **Greycliff** **146.20 76** *e*PKPdf **PKPab** **11 35 57.6 +0.5**
U28A **Mallet** **146.26 96** PKPbc **PKPbc** **11 35 56.8 -0.1**
baz=146
N23A **Red Feather La** **146.33 87** PKPbc **PKPbc** **11 35 57.4 +0.4**
baz=146
N23A **Red Feather La** **146.33 87** *e*PKPdf **PKPab** **11 35 58.4 +0.5**
T27A **Campo** **146.34 95** PKPbc **PKPbc** **11 35 56.9 -0.1**
baz=147
I20A **Worland** **146.38 80** PKPbc **PKPbc** **11 35 57.3 +0.3**
baz=147
V29A **Stinnett** **146.42 98** PKPbc **PKPbc** **11 35 57.5 +0.2**
baz=147
336A **Riesel** **146.50 108** PKPbc **PKPbc** **11 35 57.6 +0.1**
baz=147
134A **White-Moore Ra** **146.53 105** PKPbc **PKPbc** **11 35 57.2 -0.3**
baz=147
WHTX **Lake Whitney** **146.53 107** PKPbc **PKPbc** **11 35 57.5 -0.1**
baz=147
EDM **Edmonton** **146.54 62** *e*PKPdf **PKPab** **11 35 58.4 +0.4**
J21A **Lysite** **146.54 82** PKPbc **PKPbc** **11 35 57.9 +0.3**
baz=147
Z33A **Whitaker Ranch** **146.57 104** PKPbc **PKPbc** **11 35 57.7 +0.1**
baz=147
R26A **Arlington** **146.57 92** PKPbc **PKPbc** **11 35 57.9 +0.2**
baz=147
S27A **Las Animas** **146.58 94** PKPbc **PKPbc** **11 35 57.9 +0.1**
baz=147
Y32A **R-V Farms, Ver** **146.60 102** PKPbc **PKPbc** **11 35 58.0 +0.2**
baz=147
W30A **Crocket Farms** **146.61 99** PKPbc **PKPbc** **11 35 57.9 +0.1**
baz=147
X31A **McDonald Ranch** **146.65 101** PKPbc **PKPbc** **11 35 57.9 0.0**
baz=147
H20A **Greybull** **146.71 79** PKPbc **PKPbc** **11 35 58.1 +0.2**
baz=147
T28A **Walsh** **146.77 95** PKPbc **PKPbc** **11 35 58.2 0.0**
baz=147
K22A **Casper** **146.81 83** PKPbc **PKPbc** **11 35 58.6 +0.2**
baz=147
K22A **Casper** **146.81 83** *e*PKPdf **PKPab** **11 35 59.8 +0.1**
PHWY **Pilot Hill** **146.85 86** *e*PKPdf **PKPab** **11 35 59.7 -0.2**
I21A **Big Trails, Te** **146.86 81** PKPbc **PKPbc** **11 35 58.5 +0.1**
baz=147
Q26A **Hugo** **146.87 91** PKPbc **PKPbc** **11 35 59.0 +0.4**
baz=147
G20A **Bridger** **146.88 78** PKPbc **PKPbc** **11 35 58.9 +0.5**
baz=147
V30A **Spur Ranch, Mi** **146.89 98** PKPbc **PKPbc** **11 35 58.9 +0.3**
baz=147
438A **Sam Houston St** **146.90 111** PKPbc **PKPbc** **11 35 59.0 +0.3**
baz=147
U29A **Oasis Ranch, S** **146.93 97** PKPbc **PKPbc** **11 35 59.0 +0.3**
baz=147
135A **Vickery Place,** **146.94 106** PKPbc **PKPbc** **11 35 58.7 0.0**
baz=147
X32A **Elmer** **146.96 102** PKPbc **PKPbc** **11 35 58.8 0.0**
baz=147
R27A **Eads** **146.99 93** PKPbc **PKPbc** **11 35 59.1 +0.3**
baz=147
W31A **Holland Ranch,** **147.02 100** PKPbc **PKPbc** **11 35 58.9 -0.1**
baz=147
EGMT **Eagleton** **147.03 73** PKPbc **PKPbc** **11 35 58.9 +0.3**
baz=147
EGMT **Eagleton** **147.03 73** *e*PKPbc **PKPab** **11 35 59.8 -0.4**
337A **Centerville** **147.04 109** PKPbc **PKPbc** **11 35 59.0 0.0**
baz=147
236A **Katherine and** **147.11 108** PKPbc **PKPbc** **11 35 59.2 -0.1**
baz=147
Y33A **Hilltop Ranch,** **147.12 103** PKPbc **PKPbc** **11 35 59.1 -0.1**
baz=147
Z34A **Collier Ranch,** **147.16 104** PKPbc **PKPbc** **11 35 59.4 0.0**
baz=147
F20A **Billings** **147.17 77** PKPbc **PKPbc** **11 35 59.5 +0.3**
baz=147
S28A **Manter** **147.18 95** PKPbc **PKPbc** **11 35 59.6 +0.2**
baz=147
T29A **Hugoton** **147.32 96** PKPbc **PKPbc** **11 35 59.7 -0.1**
baz=148
P26A **Davis Ranch, A** **147.33 90** PKPbc **PKPbc** **11 35 59.7 -0.1**
baz=148
YKA **Yellowknife Ar** **147.37 45** PKPbc **PKPbc** **11 35 59.3 +0.3**
4.1nm,0.9s,baz=278,slow=2.8,SNR=8.4
YKB5 **Yellowknife Ar** **147.37 45** *e*PKPdf **PKPbc** **11 35 58.8 -0.1**
U30A **WK&E Inc. Balk** **147.38 97** PKPbc **PKPbc** **11 35 59.6 -0.3**
baz=148
H21A **Big Horn, Sher** **147.38 80** PKPbc **PKPbc** **11 35 59.7 -0.1**
baz=148
I22A **9 Mile Ranch,** **147.42 81** PKPbc **PKPbc** **11 36 00.1 +0.2**
baz=148
338A **Crockett** **147.43 110** PKPbc **PKPbc** **11 35 60.0 -0.1**
baz=148
W32A **Sentinel** **147.43 101** PKPbc **PKPbc** **11 36 00.4 +0.3**
baz=148
V31A **Spring Creek L** **147.44 99** PKPbc **PKPbc** **11 36 00.1 0.0**
baz=148
K23A **Bowen Ranch, D** **147.45 84** PKPbc **PKPbc** **11 36 00.1 +0.1**
baz=148
KSCO **Kaye Shedlock'** **147.50 92** PKPbc **PKPbc** **11 36 00.3 0.0**
baz=148
KSCO **Kaye Shedlock'** **147.50 92** *e*PKPbc **PKPab** **11 36 01.6 -0.8**
X33A **Lawton** **147.54 102** PKPbc **PKPbc** **11 36 00.1 -0.3**
baz=148
Z35A **Perchaven, San** **147.55 105** PKPbc **PKPbc** **11 36 00.0 -0.4**
baz=148
237A **Washetta, Mont** **147.56 109** PKPbc **PKPbc** **11 36 00.2 -0.3**
baz=148
Y34A **Reagan Ranch,** **147.64 104** PKPbc **PKPbc** **11 36 00.3 -0.4**
baz=148
R28A **Tribune** **147.66 94** PKPbc **PKPbc** **11 36 01.3 +0.6**
baz=148
S29A **Ulysses** **147.71 95** PKPbc **PKPbc** **11 36 01.0 +0.2**
baz=148
O26A **Horse Wrangler** **147.71 89** PKPbc **PKPbc** **11 36 00.9 +0.1**
baz=148
T30A **Plains** **147.76 97** PKPbc **PKPbc** **11 36 00.9 -0.1**
baz=148
J23A **Dilts Ranch, B** **147.80 83** PKPbc **PKPbc** **11 36 01.0 0.0**
baz=148
U31A **Nine Bar Ranch** **147.80 98** PKPbc **PKPbc** **11 36 01.1 +0.1**
baz=148
H22A **Clearmont** **147.81 80** PKPbc **PKPbc** **11 36 01.0 +0.1**
baz=148
P27A **Ficken Ranch,** **147.83 91** PKPbc **PKPbc** **11 36 01.5 +0.4**
baz=148
M25A **Palm-Egli Farm** **147.83 87** PKPbc **PKPbc** **11 36 01.4 +0.2**
baz=148
F21A **Absaloka Mine,** **147.83 78** PKPbc **PKPbc** **11 36 01.3 +0.4**
baz=148
339A **Huntington** **147.87 111** PKPbc **PKPbc** **11 36 01.2 -0.1**
baz=148
V32A **Arapaho** **147.93 100** PKPbc **PKPbc** **11 36 01.5 0.0**
baz=148
W33A **Caddo, Fort Co** **147.94 101** PKPbc **PKPbc** **11 36 01.5 0.0**
baz=148
K24A **Anderson Ranch** **147.96 84** PKPbc **PKPbc** **11 36 01.5 0.0**
baz=148
137A **Heron Place, G** **148.00 108** PKPbc **PKPbc** **11 36 01.8 +0.2**
baz=148
X34A **Smith Ranch, M** **148.00 103** PKPbc **PKPbc** **11 36 02.0 +0.3**
baz=148
C20A **Veseth Ranch,** **148.01 74** PKPbc **PKPbc** **11 36 01.6 +0.4**
baz=148
Z36A **Blue Ridge** **148.03 106** PKPbc **PKPbc** **11 36 01.8 +0.1**
baz=148
Q28A **Sharon Springs** **148.05 92** PKPbc **PKPbc** **11 36 01.9 +0.2**
baz=148
Y35A **Marietta** **148.06 105** PKPbc **PKPbc** **11 36 01.9 +0.1**
baz=148
N26A **Koester Ranch,** **148.07 89** PKPbc **PKPbc** **11 36 02.0 +0.2**
baz=148
NATX **Nacogdoches** **148.10 110** PKPbc **PKPbc** **11 36 01.9 0.0**
baz=148
G22A **Birney** **148.12 79** PKPbc **PKPbc** **11 36 01.9 +0.2**
baz=148
S30A **Montezuma** **148.14 96** PKPbc **PKPbc** **11 36 02.0 0.0**
baz=148
R29A **Marienthal** **148.15 94** PKPbc **PKPbc** **11 36 02.1 +0.1**
baz=148

E21A	Keefer Ranch, baz=148	148.15	77		PKPbc	PKPbc	11 36 01.9	+0.2
O27A	Beecher Island baz=148	148.23	90		PKPbc	PKPbc	11 36 02.3	+0.1
L25A	Engebretsen Ra baz=148	148.24	86		PKPbc	PKPbc	11 36 02.3	+0.1
B20A	Solberg Farm, baz=148	148.26	73		PKPbc	PKPbc	11 36 02.1	+0.2
340A	Bronson baz=148	148.34	112		PKPbc	PKPbc	11 36 02.3	-0.2
DAG	Danmarks Havn 15nm,1.3s	148.36	343	*i* P		PKPdf	11 35 59.5	+1.7
F22A	Rosebud baz=149	148.37	78		PKPbc	PKPbc	11 36 02.6	+0.3
P28A	Saint Francis baz=149	148.37	92		PKPbc	PKPbc	11 36 02.7	+0.1
239A	Gary baz=149	148.40	110		PKPbc	PKPbc	11 36 02.6	-0.1
D21A	La Casta Ranch baz=149	148.41	76		PKPbc	PKPbc	11 36 02.7	+0.4
H23A	Clabaugh Cattl baz=149	148.41	81		PKPbc	PKPbc	11 36 02.6	+0.1
X35A	Drake baz=149	148.42	104		PKPbc	PKPbc	11 36 02.6	-0.1
W34A	Bridge Creek, baz=149	148.44	102		PKPbc	PKPbc	11 36 03.3	+0.6
M26A	McRoberts Ranc baz=149	148.44	88		PKPbc	PKPbc	11 36 03.6	+0.8
138A	Matatall Enter baz=149	148.46	108		PKPbc	PKPbc	11 36 03.3	+0.5
A20A	Cobblestone Ra baz=149	148.47	72		PKPbc	PKPbc	11 36 03.0	+0.5
V33A	Lossen Ranch, baz=149	148.47	101		PKPbc	PKPbc	11 36 03.1	+0.3
Z37A	Pogue Cattle C baz=149	148.49	107		PKPbc	PKPbc	11 36 03.4	+0.5
N27A	Anderson Farm, baz=149	148.51	89		PKPbc	PKPbc	11 36 03.5	+0.6
Q29A	Oakley baz=149	148.51	93		PKPbc	PKPbc	11 36 03.7	+0.8
K25A	Mack Ranch, Ha baz=149	148.52	85		PKPbc	PKPbc	11 36 03.6	+0.7
Y36A	Durant baz=149	148.53	105		PKPbc	PKPbc	11 36 03.1	+0.1
I24A	Kuemmerle Ranc baz=149	148.60	83		PKPbc	PKPbc	11 36 03.0	-0.1
C21A	Desert Coulee baz=149	148.62	74		PKPbc	PKPbc	11 36 03.2	+0.3
R30A	Dighton baz=149	148.63	95		PKPbc	PKPbc	11 36 03.4	+0.2
O28A	Krutsinger Ran baz=149	148.65	91		PKPbc	PKPbc	11 36 03.5	+0.2
G23A	Biddle baz=149	148.69	80		PKPbc	PKPbc	11 36 03.3	+0.1
L26A	Underwood Farm baz=149	148.76	87		PKPbc	PKPbc	11 36 03.6	+0.1
S31A	Mullinville baz=149	148.77	97		PKPbc	PKPbc	11 36 03.6	0.0
E22A	Miles City baz=149	148.83	77		PKPbc	PKPbc	11 36 03.9	+0.4
T32A	Huddler Ranch, baz=149	148.88	98		PKPbc	PKPbc	11 36 03.9	+0.1
B21A	Ellsworth Farm baz=149	148.88	73		PKPbc	PKPbc	11 36 03.9	+0.4
F23A	Volborg baz=149	148.89	79		PKPbc	PKPbc	11 36 04.1	+0.4
139A	Bunkhouse Ranc baz=149	148.90	109		PKPbc	PKPbc	11 36 04.1	+0.2
OGNE	Ogallala baz=149	148.91	89		PKPbc	PKPbc	11 36 04.1	+0.3
Z38A	Mt. Pleasant baz=149	148.92	108		PKPbc	PKPbc	11 36 04.1	+0.1
X36A	Centrahoma baz=149	148.92	104		PKPbc	PKPbc	11 36 03.8	-0.1
J25A	Sunshine Ranch baz=149	148.93	84		PKPbc	PKPbc	11 36 04.1	+0.2
P29A	Atwood baz=149	148.93	92		PKPbc	PKPbc	11 36 04.3	+0.3
D22A	Cohagen baz=149	148.95	76		PKPbc	PKPbc	11 36 04.2	+0.5
U33A	Lingo Farm, Me baz=149	148.96	100		PKPbc	PKPbc	11 36 04.1	0.0
W35A	Tecumseh baz=149	148.96	103		PKPbc	PKPbc	11 36 04.0	-0.1
M27A	Reverse DX Ran baz=149	148.97	88		PKPbc	PKPbc	11 36 04.0	-0.1
V34A	Guthrie baz=149	148.97	101		PKPbc	PKPbc	11 36 04.3	+0.2
Y37A	Hugo baz=149	149.00	106		PKPbc	PKPbc	11 36 04.4	+0.3
K26A	Motz Farm, Whi baz=149	149.01	85		PKPbc	PKPbc	11 36 04.6	+0.5
H24A	Dirks Ranch, A baz=149	149.04	81		PKPbc	PKPbc	11 36 04.0	-0.1
Q30A	Quinter baz=149	149.05	94		PKPbc	PKPbc	11 36 04.5	+0.2
N28A	Pribbeno Ranch baz=149	149.10	90		PKPbc	PKPbc	11 36 04.7	+0.3
RSSD	Black Hills	149.10	82	*e*PKPbc		PKPbc	11 36 04.2	-0.3
R31A	Burdett baz=149	149.12	96		PKPbc	PKPbc	11 36 04.7	+0.3
A21A	Bergtoll Ranch baz=149	149.13	72		PKPbc	PKPbc	11 36 04.3	+0.2
S32A	Newby Ranch, P baz=149	149.17	97		PKPbc	PKPbc	11 36 04.7	+0.1
I25A	Rochford baz=150	149.25	83		PKPbc	PKPbc	11 36 04.8	0.0
T33A	Patterson Ranc baz=150	149.26	99		PKPbc	PKPbc	11 36 05.2	+0.4
E23A	Ismay baz=150	149.26	78		PKPbc	PKPbc	11 36 04.8	+0.3
CBKS	Cedar Bluff baz=150	149.28	95		PKPbc	PKPbc	11 36 05.2	+0.4
L27A	T5 Ranch, Ells baz=150	149.28	87		PKPbc	PKPbc	11 36 04.8	0.0
O29A	4D Ranch, Culb baz=150	149.29	92		PKPbc	PKPbc	11 36 05.2	+0.3
P30A	Selden baz=150	149.34	93		PKPbc	PKPbc	11 36 05.4	+0.4
C22A	Vida baz=150	149.36	75		PKPbc	PKPbc	11 36 05.2	+0.5
J26A	Sides Ranch, S baz=150	149.36	84		PKPbc	PKPbc	11 36 05.1	+0.2
V35A	Meyer Ranch, C baz=150	149.37	102		PKPbc	PKPbc	11 36 05.1	0.0
W36A	Wetumka baz=150	149.37	104		PKPbc	PKPbc	11 36 05.3	+0.3
G24A	Alzada baz=150	149.37	80		PKPbc	PKPbc	11 36 05.3	+0.4
Z39A	Irene McRaven, baz=150	149.41	109		PKPbc	PKPbc	11 36 05.8	+0.6
B22A	Reddig Ranch S baz=150	149.48	74		PKPbc	PKPbc	11 36 05.6	+0.6
Y38A	Idabel baz=150	149.53	107		PKPbc	PKPbc	11 36 05.6	+0.2
X37A	Clayton baz=150	149.56	105		PKPbc	PKPbc	11 36 05.7	+0.1
F24A	Ekalaka baz=150	149.56	79		PKPbc	PKPbc	11 36 05.3	0.0
M28A	Bar X Bar Ranc baz=150	149.56	89		PKPbc	PKPbc	11 36 05.8	+0.3
D23A	Lindsay baz=150	149.58	76		PKPbc	PKPbc	11 36 06.0	+0.7
H25A	Fruitdale baz=150	149.60	82		PKPbc	PKPbc	11 36 05.7	+0.2
Q31A	Ellis baz=150	149.60	95		PKPbc	PKPbc	11 36 05.9	+0.3
K27A	Flueckinger Fa baz=150	149.63	86		PKPbc	PKPbc	11 36 05.9	+0.3
S33A	Kaszmaul Farm, baz=150	149.71	98		PKPbc	PKPbc	11 36 06.2	+0.3
R32A	Long Quarter, baz=150	149.73	96		PKPbc	PKPbc	11 36 06.4	+0.5
A22A	Carney Farms, baz=150	149.76	73		PKPbc	PKPbc	11 36 06.4	+0.7
N29A	Votaw Ranch, W baz=150	149.76	91		PKPbc	PKPbc	11 36 06.0	0.0
L28A	Connealy Angus baz=150	149.77	88		PKPbc	PKPbc	11 36 06.2	+0.2
O30A	MW Ranch, Wils baz=150	149.80	92		PKPbc	PKPbc	11 36 06.3	+0.3
U35A	Pawnee baz=150	149.81	101		PKPbc	PKPbc	11 36 06.5	+0.3
C23A	Lambert baz=150	149.82	75		PKPbc	PKPbc	11 36 06.5	+0.6
I26A	New Underwood baz=150	149.82	83		PKPbc	PKPbc	11 36 06.4	+0.4
W37A	Quinton baz=150	149.87	104		PKPbc	PKPbc	11 36 06.7	+0.3
P31A	Stockton baz=150	149.90	94		PKPbc	PKPbc	11 36 06.6	+0.3
T34A	McClaskey Farm baz=150	149.90	100		PKPbc	PKPbc	11 36 06.7	+0.3
E24A	Baker baz=150	149.92	78		PKPbc	PKPbc	11 36 06.8	+0.7
Y39A	Lockesburg baz=150	149.93	108		PKPbc	PKPbc	11 36 06.8	+0.3
X38A	Whitesboro baz=150	149.95	106		PKPbc	PKPbc	11 36 06.6	+0.1
V36A	Jenks baz=150	149.95	103		PKPbc	PKPbc	11 36 06.8	+0.4
G25A	Newell baz=150	149.96	81		PKPbc	PKPbc	11 36 06.3	+0.1
J27A	Elkhorn Farm, baz=150	150.03	85		PKPbc	PKPbc	11 36 06.7	+0.1
M29A	Burnside Ranch baz=150	150.03	89		PKPbc	PKPbc	11 36 06.7	0.0
D24A	Glendive baz=150	150.12	77		PKPbc	PKPbc	11 36 06.8	+0.2
TUL1	Tulsa baz=150	150.12	103		PKPbc	PKPbc	11 36 07.1	+0.2
TUL1	Tulsa	150.12	103	*e*PKPbc		PKPbc	11 36 07.7	+0.8
H26A	Fairpoint baz=150	150.13	82		PKPbc	PKPbc	11 36 06.9	+0.2
R33A	Olander Ranch, baz=150	150.13	97		PKPbc	PKPbc	11 36 07.2	+0.3
Q32A	Meitler Ranch, baz=150	150.14	95		PKPbc	PKPbc	11 36 07.0	+0.1
B23A	Brockton baz=150	150.16	74		PKPbc	PKPbc	11 36 07.0	+0.4
K28A	Ten Mile Ranch baz=150	150.20	87		PKPbc	PKPbc	11 36 07.3	+0.3
C24A	Savage baz=150	150.20	76		PKPbc	PKPbc	11 36 07.1	+0.4
F25A	Bowman baz=150	150.22	80		PKPbc	PKPbc	11 36 07.2	+0.3
O31A	Woolen Ranch, baz=150	150.26	93		PKPbc	PKPbc	11 36 07.3	+0.1
T35A	Sooner Cattle baz=150	150.27	101		PKPbc	PKPbc	11 36 07.6	+0.4
S34A	Willow Spring baz=151	150.35	99		PKPbc	PKPbc	11 36 07.6	+0.2
I27A	Quinn baz=151	150.36	84		PKPbc	PKPbc	11 36 07.7	+0.4
A23A	Redstone baz=151	150.40	73		PKPbc	PKPbc	11 36 07.7	+0.6
W38A	Poteau baz=151	150.40	106		PKPbc	PKPbc	11 36 08.1	+0.5
P32A	Huiting Farm, baz=151	150.46	94		PKPbc	PKPbc	11 36 08.0	+0.4
U36A	Oologah baz=151	150.46	102		PKPbc	PKPbc	11 36 07.9	+0.2
L29A	Massberg Ranch baz=151	150.47	88		PKPbc	PKPbc	11 36 07.9	+0.2
E25A	Miller Ranch, baz=151	150.48	78		PKPbc	PKPbc	11 36 07.8	+0.3
V37A	Hulbert baz=151	150.52	104		PKPbc	PKPbc	11 36 07.5	-0.4
G26A	Maurine baz=151	150.52	81		PKPbc	PKPbc	11 36 07.6	0.0
H27A	Howes baz=151	150.59	83		PKPbc	PKPbc	11 36 07.6	-0.2
R34A	Isabella, Hill baz=151	150.61	98		PKPbc	PKPbc	11 36 08.3	+0.3
J28A	Allard Ranch, baz=151	150.61	85		PKPbc	PKPbc	11 36 07.7	-0.2
M30A	Dale-Ortello V baz=151	150.61	90		PKPbc	PKPbc	11 36 08.1	+0.1
Q33A	Connelly Farm, baz=151	150.62	96		PKPbc	PKPbc	11 36 08.1	+0.1
MIAR	Mount Ida baz=151	150.65	107		PKPbc	PKPbc	11 36 08.1	-0.1
DGMT	Dagmar baz=151	150.67	74		PKPbc	PKPbc	11 36 08.2	+0.3
DGMT	Dagmar	150.67	74	*e*PKPbc		PKPbc	11 36 09.2	+1.3
DGMT				*e*PKPab		PKPab	11 36 16.6	+1.7
F26A	Lodgepole baz=151	150.70	80		PKPbc	PKPbc	11 36 08.1	0.0
T36A	Boggs Farm, Ca baz=151	150.77	101		PKPbc	PKPbc	11 36 08.4	0.0
D25A	Fairfield baz=151	150.77	77		PKPbc	PKPbc	11 36 08.4	+0.2
S35A	Otter Creek Ra baz=151	150.85	100		PKPbc	PKPbc	11 36 08.7	+0.1
N31A	Bailey Ranch, baz=151	150.85	92		PKPbc	PKPbc	11 36 09.1	+0.6
K29A	Lazy Trails An baz=151	150.91	87		PKPbc	PKPbc	11 36 08.9	+0.3
I28A	Midland baz=151	150.91	84		PKPbc	PKPbc	11 36 08.5	-0.1
A24A	Westby baz=151	150.93	74		PKPbc	PKPbc	11 36 08.5	0.0
P33A	Williams Farm, baz=151	150.95	95		PKPbc	PKPbc	11 36 08.9	+0.1
G27A	Dupree baz=151	150.99	81		PKPbc	PKPbc	11 36 09.4	+0.7
C25A	Freed Ranch, W baz=151	151.01	76		PKPbc	PKPbc	11 36 09.4	+0.7
E26A	Carlson Angus baz=151	151.07	79		PKPbc	PKPbc	11 36 09.3	+0.4
Q34A	Chapman baz=151	151.15	97		PKPbc	PKPbc	11 36 10.7	+1.4
J29A	Okreek baz=151	151.20	86		PKPbc	PKPbc	11 36 10.6	+1.4
B25A	Knox Farm, Ray baz=151	151.25	75		PKPbc	PKPbc	11 36 10.4	+1.2
H28A	Mission Ridge baz=152	151.29	83		PKPbc	PKPbc	11 36 10.3	+0.9
R35A	Emporia Munici baz=152	151.30	99		PKPbc	PKPbc	11 36 10.2	+0.6
S36A	Lake Cedric, C baz=152	151.34	100		PKPbc	PKPbc	11 36 10.6	+0.9
O33A	Hebron baz=152	151.36	94		PKPbc	PKPbc	11 36 10.6	+0.8
T37A	Cheneyville 18 baz=152	151.42	102		PKPbc	PKPbc	11 36 10.7	+0.8
KSU1	Kansas State U baz=152	151.47	97		PKPbc	PKPbc	11 36 10.9	+0.9
I29A	Vivian Onida baz=152	151.48	85		PKPbc	PKPbc	11 36 10.2	+0.3
G28A	Parade baz=152	151.52	83		PKPbc	PKPbc	11 36 10.6	+0.6
P34A	Walnut Farm, R baz=152	151.57	96		PKPbc	PKPbc	11 36 11.1	+0.9
L31A	Butterfield Fa baz=152	151.60	89		PKPbc	PKPbc	11 36 11.1	+0.9
E27A	Carson baz=152	151.63	80		PKPbc	PKPbc	11 36 10.9	+0.7
J30A	Dallas baz=152	151.70	87		PKPbc	PKPbc	11 36 10.9	+0.5
Q35A	Mercer Eighty, baz=152	151.70	98		PKPbc	PKPbc	11 36 11.3	+0.7
R36A	Gordon, Harris baz=152	151.75	99		PKPbc	PKPbc	11 36 11.4	+0.8
S37A	Fort Scott baz=152	151.85	101		PKPbc	PKPbc	11 36 11.5	+0.6
D27A	Center baz=152	151.90	78		PKPbc	PKPbc	11 36 11.8	+1.1
P35A	Duane Minner, baz=152	152.09	97		PKPbc	PKPbc	11 36 12.3	+0.9
Q36A	Arnold C. Orve baz=152	152.13	98		PKPbc	PKPbc	11 36 12.2	+0.7
A26A	Wade Farm, Ken baz=152	152.16	74		PKPbc	PKPbc	11 36 12.3	+1.1
ECSD	EROS Data Cent	153.76	88	*e*PKPdf		PKPdf	11 36 08.0	+0.9
COWI	Conover	159.57	88	*e*PKPdf		PKPdf	11 36 14.2	-0.3

*ISCJB **09** 11:24:41.4±0.5, 49°.35S±0'.07×120°.9E±0'.2, h10km, mb4.2/11, Error ellipse: s-maj=23.5km s-min=8.8km az=12.0*

*IDC **09** 11:24:41.8±0.7, 49°.31S×120°.98E, h0km, mb4.2/9, mb1 4.4/10, mb1mx4.2/27, mbtmp4.3/10, ML2.5/1, Error ellipse: s-maj=36.5km s-min=14.5km az=105.0*

*NEIC **09** 11:24:43.1±0.3, 49°.34S×120°.95E, h10km, mb4.3/4, Error ellipse: s-maj=17.4km s-min=6.7km az=101.0*

ISC 09 11:24:43.1±0.6, **49°.36S**±0'.09×**120°.9E**±0'.2, **h10**km, **n26, σ2s90/23, mb4.1/11, 1D, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
H01W1	Cape Leeuwin H baz=162,slow=74,SNR=71	15.29	338	T	T			11 43 42.9	
H01W2	Cape Leeuwin H baz=162,slow=74,SNR=75	15.29	338	T	T			11 43 48.9	
H01W3	Cape Leeuwin H baz=162,slow=74,SNR=69	15.30	338	T	T			11 43 43.9	
NWAO	Narrogin (SRO) 0.8nm,0.3s,baz=146,slow=8.4,SNR=5.0	16.64	349	Pn	Pn			11 28 36.6	+0.2
CASY	Casey 28nm,1.2s	17.80	194	*e*Pn	Pn			11 28 50.2	-0.4
STKA	Stephens Creek 4.1nm,0.7s,baz=194,slow=5.9,SNR=5.2	23.35	49	P	P			11 29 51.5	0.0
STKA	Stephens Creek	23.35	49	*e*P	P			11 29 52.3	+0.8
ASAR	Alice Springs 6.1nm,0.9s,baz=206,slow=8.3,SNR=33	27.60	26	P	P			11 30 30.2	-0.3
WRA	Warramunga Arr 2.6nm,1.0s,baz=195,slow=11,SNR=11	31.25	25	P	P			11 31 01.6	-1.2
WRAB	Tennant Creek 5.7nm,0.9s	31.26	25	*e*P	P			11 31 02.6	-0.4
VNDA	Vanda 1.7nm,0.7s,baz=308,slow=9.3,SNR=11	32.23	164	P	P			11 31 11.5	+0.6
SBA	Scott Base 1.7nm,0.9s	33.29	164	*e*P	P			11 31 20.5	+0.4
MAW	Mawson 6.8nm,0.8s,baz=74,slow=11,SNR=10	33.76	216	P	P			11 31 24.8	+0.5
QSPA	South Pole Qui 3.8nm,0.6s,baz=327,slow=1.4,SNR=38	40.77	180	P	P			11 32 24.4	+0.4
QSPA	South Pole Qui 8.0nm,1.0s	40.77	180	*e*P	P			11 32 24.4	+0.4
SYO	Syowa Base 4.9nm,0.9s,baz=146,slow=10,SNR=45	42.16	212	*e*P	P			11 32 34.4	-0.8
SNAA	Sanae 4.9nm,0.9s,baz=146,slow=10,SNR=45	52.93	199	P	P			11 33 59.7	+0.8
CMAR	Chiang Mai Arr 0.4nm,0.3s,baz=198,slow=8.5,SNR=3.1	70.28	338	P	P			11 35 56.5	0.0
KSAR	Wonju Array Be	86.64	6	P	P			11 37 27.1	+0.8
KSRS	Korea Array 0.3nm,0.3s,baz=178,slow=5.2,SNR=2.9	86.66	6	P	P			11 37 27.1	+0.7
BB16B	Bebedouro	109.31	190	*e*P		Pdif		11 39 01.5	-8.5
BB16B				*e*				11 39 08.5	
BB16B				*i*				11 39 13.0	
BB16B				*i*				11 39 15.2	
BB16B				*i*				11 39 23.2	
CHMT	Chamberlain Mo	144.41	73	*e*PKPdf		PKPdf		11 44 19.0	0.0
IMW	Indian Meadow	144.55	79	*e*PKPdf		PKPdf		11 44 19.5	0.0
LOHW	Long Hollow	144.64	79	*e*PKPdf		PKPdf		11 44 19.3	-0.2
PDAR	Pinedale Array 0.3nm,0.6s,baz=64,slow=4.2,SNR=3.5	144.91	81	PKP		PKPab		11 44 18.4	-0.9
YKA	Yellowknife Ar 2.8nm,0.8s,baz=269,slow=2.6,SNR=3.9	147.34	45	PKPbc		PKPbc		11 44 26.1	+0.5

KRSC 09 11:31:07.9±1.6, **50.12N**×**156.76E, h47**km±20km, **ML3.6, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
SKR	Severo-Kuril's	0.69	324	*e*P			Pn	11 31 22.0	+0.6
SKR				*e*S			Sn	11 31 32.3	+1.1
PAU	Pauzhetka	1.34	2	*e*P			Pn	11 31 32.0	+1.7
PAU				*e*S			Sn	11 31 49.0	+2.0
MIPR	Malaya Ipel'ka	2.15	0	*e*P			Pn	11 31 43.8	+2.4
ASAK	Asacha	2.37	17	*e*P			Pn	11 31 47.7	+3.2
MTVR	Mutnovka	2.53	20	*e*S			Sn	11 32 20.7	+4.4
RUS	Russkaya	2.56	25	*e*P			Pn	11 31 49.4	+2.5
RUS				*e*S			Sn	11 32 19.0	+2.2
UGLR	Uglovaya	3.35	22	*e*P			Pn	11 32 02.1	+4.3
AVH	Avacha	3.38	21	*e*P			Pn	11 32 02.4	+4.2
KOK	Koryaka	3.38	20	*e*P			Pn	11 32 02.6	+4.3
KRER	Koryakskii	3.42	21	*e*P			Pn	11 32 02.6	+3.7
SDLR	Sedlovina	3.42	22	*e*P			Pn	11 32 01.9	+3.0
KRX	Arik	3.45	19	*e*P			Pn	11 32 02.3	+3.0
SPN	Mys Shipunski	3.61	33	*e*P			Pn	11 32 04.3	+3.0
GNL	Ganaly	3.65	11	*e*P			Pn	11 32 04.5	+2.5

*NIED **09** 11:33:00, 44°.70N×148°.00E, h113km, Mw3.9 Best double couple: M0 8.98000×10^14 NP1:φs108.00000°, δ38.00000°, λ149.00000°. NP2:φs223.00000°, δ72.00000°, λ56.00000°.*

*MOS **09** 11:33:01.0±1.7, 45°.34N×147°.65E, h117km, mb4.0/1, Error ellipse: s-maj=21.1km s-min=10.6km az=59.2*

*ISCJB **09** 11:33:01.1±0.5, 45°.11N±0'.06×147°.73E±0'.08, h119km±5km, mb3.5/5, Error ellipse: s-maj=12.0km s-min=5.5km az=137.3*

*SKHL **09** 11:33:01.9±0.7, 45°.11N×147°.55E, h115km±4km, mb4.7/4, msh5.2/3*

*IDC **09** 11:33:02.5±4.6, 45°.11N×147°.98E, h110km±43km, mb3.4/5, mb1 3.6/8, mb1mx3.3/32, mbtmp3.7/8, Error ellipse: s-maj=99.8km s-min=25.0km az=141.0*

*JMA **09** 11:33:03.5±0.5, 44°.69N×148°.00E, h108km, M3.7*

ISC 09 11:33:01.7±0.7, **45°.10N**±0'.06×**147°.71E**±0'.07, **h120**km±6km, **n44, σ1s72/48, mb3.6/5, 4C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
KUR	Kuril'sk	0.17	41	*c i*PN			Pn	11 33 18.0	-0.2
KUR				*i* S			Sn	11 33 29.9	-0.7
KUR	comp=N,36nm,0.1s			pmax	pmax				
KUR	comp=E,7.0nm,0.1s			pmax	pmax				
KUR	comp=Z,88nm,0.1s			pmax	pmax				
KUR	comp=E,254nm,0.2s			smax	smax				
KUR	comp=N,863nm,0.4s			smax	smax				
KUR	Kuril'sk	0.17	41	*i*P			Pn	11 33 18.0	-0.2
KUR	comp=N,110nm,0.4s			AMB	AMB			11 33 18.2	
KUR	comp=N,90nm,0.4s			AMB	AMB			11 33 18.2	
KUR	comp=N,230nm,0.4s			AMB	AMB			11 33 18.2	
KUR				*i* S			Sn	11 33 29.8	-0.8
KUR	comp=N,5μm,1.0s			A	A			11 33 30.0	
KUR	comp=N,2μm,1.0s			A	A			11 33 30.0	
KUR	comp=N,2μm,0.5s			A	A			11 33 30.5	
KUR	comp=N,680nm,0.5s			A	A			11 33 30.5	
SHO	Shikotan	1.38	207	*e*P			Pn	11 33 24.8	-2.9
SHO	comp=N,130nm,0.3s			AMB	AMB			11 33 31.2	
SHO				*e*S			Sn	11 33 42.7	-4.8
SHO	comp=N,800nm,0.6s			A	A			11 33 47.8	
YUK	Yuzh-Kuril'sk	1.69	232	*c i*PN			Pn	11 33 32.9	+1.5
YUK				*i* S			Sn	11 33 55.9	+1.9
YUK	comp=Z,332nm,0.5s			pmax	pmax				
YUK	comp=N,27nm,0.3s			pmax	pmax				
YUK	comp=E,25nm,0.3s			pmax	pmax				
YUK	comp=N,141nm,0.3s			smax	smax				
YUK	comp=E,281nm,0.6s			smax	smax				
YUK	Yuzh-Kuril'sk	1.69	232	*i*P			Pn	11 33 31.9	+0.5
YUK	comp=E,330nm,0.5s			AMB	AMB			11 33 33.4	
YUK				*i* S			Sn	11 33 53.9	-0.1
YUK	comp=E,140nm,0.5s			A	A			11 34 00.9	
YUK	comp=E,280nm,0.5s			A	A			11 34 00.9	
JRA	Rausu	2.18	239	P	P		Pn	11 33 39.5	+2.1
NEM2	Nemuro 2	2.24	220	P	P		Pn	11 33 37.9	-0.2
NEM2				*e*S			Sn	11 34 04.2	-1.7
JNK	Nakash	2.62	236	P	P		Pn	11 33 45.1	+2.0
JTKR	Abashiri--Toko	2.94	249	P	P		Pn	11 33 49.8	+2.6
JAK	Akkeshi	3.02	227	P	P		Pn	11 33 48.9	+0.7
JAK				*e*S			Sn	11 34 23.5	-0.6
JAR	Ashorobuto	3.36	239	P	P		Pn	11 33 55.6	+2.9
JSE	Soyaes	3.63	270	P	P		Pn	11 34 00.5	+4.2
JKK2	Kamakawa 2	3.75	253	P	P		Pn	11 34 01.4	+3.5
JKA	Kamikawa-asahi	3.78	257	*e*P	P		Pn	11 34 02.2	+4.0
ASAJ	Asahikawa baz=76,slow=14	3.78	257	P	P		Pn	11 34 02.2	+4.0
YSS	Yuzh-Sakhalins	3.91	300	*e*PN			Pn	11 33 59.5	-0.5
YSS	Yuzh-Sakhalins	3.91	300	*e*P			Pn	11 33 59.5	-0.5
YSS				*e*S			Sn	11 34 45.0	-0.2
YSS	comp=E,30nm,1.0s			A	A			11 34 55.0	

JCH	**Churui**	**4.00**	**233**	P	**Pn**	11 34 02.8	**+1.5**
JCH				*e*S	**Sn**	11 34 47.6	**+0.2**
ERM	**Erimo**	**4.52**	**229**	‖ *e*PN	**Pn**	11 34 07.9	**-0.3**
ERM	**Erimo**	**4.52**	**229**	*e*P	**Pn**	11 34 07.9	**-0.3**
JNBK	**Urakawa-nobuka**	**4.57**	**234**	P	**Pn**	11 34 09.5	**+0.7**
JNBK				*e*S	**Sn**	11 35 00.5	**-0.4**
JKB	**Kayabe**	**5.82**	**239**	P	**Pn**	11 34 26.7	**+1.1**
JKB				*e*S	**Sn**	11 35 29.9	**-1.2**
JOT	**Ohata**	**6.12**	**235**	P	**Pn**	11 34 29.8	**+0.1**
JOT				*e*S	**Sn**	11 35 34.5	**-3.8**
JOSM	**Okushiri--Mats**	**6.69**	**246**	P	**Pn**	11 34 39.5	**+2.1**
SKR	**Severo-Kuril's**	**7.94**	**42**	*e*PN	Pn	11 34 42.5	-12
SKR				pmax	pmax		
	comp=Z,40nm,0.6s						
SKR	**Severo-Kuril's**	**7.94**	**42**	*e*P	**Pn**	**11 34 56.8**	**+2.6**
SKR				AMB	AMB	11 34 57.4	
	comp=Z,20nm,0.6s						
SKR				AMB	AMB	11 34 57.4	
	comp=Z,40nm,0.6s						
PETK	**Petropavlovsk-**	**10.34**	**36**	P	**Pn**	**11 35 25.5**	**-1.1**
	comp=Z,1.3nm,0.3s,baz=194,slow=12,SNR=14						
PETK	**Petropavlovsk-**	**10.34**	**36**	PN	**Pn**	**11 35 25.5**	**-1.1**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PET	**Petropavlovsk**	**10.69**	**38**	*e*PN	**Pn**	**11 35 29.8**	**-1.5**
PET	**Petropavlovsk**	**10.69**	**38**	*e*P	**Pn**	**11 35 29.8**	**-1.5**
MAJO	**Matsushiro**	**11.17**	**223**	‖ *e*PN	**Pn**	**11 35 39.4**	**+1.5**
MAJO	**Matsushiro**	**11.17**	**223**	*e*P	**Pn**	**11 35 39.4**	**+1.5**
MA2	**Magadan**	**14.62**	**6**	*e*P	Pn	11 36 17.1	-5.3
MA2	**Magadan**	**14.62**	**6**	*e*P	Pn	11 36 17.1	-5.3
KSRS	**Korea Array**	**16.69**	**250**	P	**P**	**11 36 50.8**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=61,slow=10,SNR=3.2						
ILAR	**Eielson Array**	**40.17**	**37**	P	**P**	**11 40 25.9**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=269,slow=8.7,SNR=6.6						
NVS	**Novosibirsk**	**41.20**	**308**	*e*P	**P**	**11 40 31.2**	**-3.0**
NVS	**Novosibirsk**	**41.20**	**308**	*e*P	**P**	**11 40 31.2**	**-3.0**
INK	**Inuvik**	**45.04**	**31**	P	**P**	**11 41 05.8**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=304,slow=3.6,SNR=9.9						
NVAR	**Mina Array Bea**	**66.53**	**59**	P	**P**	**11 43 39.0**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=287,slow=7.5,SNR=5.5						
PDAR	**Pinedale Array**	**68.74**	**50**	P	**P**	**11 43 53.9**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=11,slow=0.9,SNR=7.0						
TXAR	**Lajitas Array**	**81.57**	**57**	P	**P**	**11 45 07.7**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=290,slow=3.8,SNR=11						
TXAR	**Lajitas Array**	**81.57**	**57**	P	**P**	**11 45 07.7**	**+1.4**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**81.57**	**57**	*e*P	**P**	**11 45 07.0**	**+0.7**

MAN 09 11:41:51, 13°.49N×120°.95E, h32km, mb4.0, ML2.7, MS2.4, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.01**	**29**	‖ *i*P	Pb	11 41 59.7	+3.3
LUBP	**Lubang**	**0.72**	**289**	*e*P	Pb	11 42 05.6	+0.4
LUBP				*e*S	Sb	11 42 12.9	-2.0
SJMP	**San Jose**	**1.04**	**171**	*e*P	Pb	11 42 09.9	-0.5
SJMP				*e*S	Sn	11 42 23.1	+0.3

IDC 09 11:54:57.6±2.1, 5°.55S×154°.00E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/35, mbtmp3.4/3, Error ellipse: s-maj=94.7km s-min=37.3km az=117.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.88**	**231**	P	P	12 00 12.8	-0.3
	0.3nm,0.8s,baz=63,slow=12,SNR=4.4						
WRA				PcP	PcP	12 03 55.8	-0.6
	0.8nm,0.8s,baz=57,slow=2.5,SNR=7.5						
ASAR	**Alice Springs**	**26.44**	**225**	P	P	12 00 36.5	+0.1
	0.6nm,0.8s,baz=59,slow=9.0,SNR=4.6						
ASAR				PcP	PcP	12 04 02.5	+0.4
	0.7nm,0.6s,baz=67,slow=2.4,SNR=10						
MKAR	**Makanchi Array**	**81.67**	**319**	P	P	12 07 17.9	-0.1
	0.1nm,0.3s,baz=116,slow=5.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**151.67**	**287**	PKPbc	PKPbc	12 14 54.6	-0.6
	0.3nm,0.4s,baz=91,slow=2.3,SNR=4.6						

MEX 09 11:59:57.3±0.4, 16°.64N×99°.75W, h14km±7km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.64**	**309**	*e*P	Pg	12 00 07.9	-1.9
CAIG				*e*S	Sg	12 00 16.2	-2.0
TLIG	**Tlapa**	**1.46**	**51**	*e*P	Pn	12 00 19.3	-4.2
TLIG				*i*S	Sn	12 00 37.2	-5.3
PNIG	**Pinotepa**	**1.58**	**99**	*e*P	Pn	12 00 21.8	-3.2
PNIG				*i*S	Sn	12 00 40.2	-5.1
ARIG	**Puente Sto Nin**	**1.73**	**341**	*e*P	Pn	12 00 23.9	-3.2
ARIG				*e*S	Sn	12 00 44.4	-4.6
PLIG	**Platanillo**	**1.76**	**8**	*e*P	Pn	12 00 24.0	-3.6
PLIG				*e*S	Sn	12 00 45.3	-4.6

*IDC **09** 12:17:38.3±2.4, 9°.37S×112°.82E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/30, mbtmp3.4/3, Error ellipse: s-maj=125.2km s-min=25.5km az=47.0*
*ISCJB **09** 12:17:43.9±0.9, 9°.41S±0°.07×112°.99E±0°.05, h36km, mb3.3/3, Error ellipse: s-maj=10.5km s-min=6.9km az=23.8*
*DJA **09** 12:17:44.7±1.0, 9°.5S±5°×111°.3E±°, h21km±12km, M3.8/14, MLv3.8/14*

ISC 09 12:17:44.0±1.3, 9°.44S±0°.10×113°.00E±0°.05, h36km, n14, σ1°53/17, mb3.4/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**1.50**	**50**	P	**Pn**	**12 18 08.0**	**-0.4**
JAGI				S	**Sn**	**12 18 24.0**	**-2.6**
BLJI	**Banyuglugur**	**1.79**	**19**	P	**Pn**	**12 18 13.0**	**+0.6**
BLJI				S	**Sn**	**12 18 33.5**	**-0.3**
PWJI	**Pagerwojo**	**1.84**	**320**	P	**Pn**	**12 18 12.8**	**-0.3**
PWJI				S	**Sn**	**12 18 33.6**	**-1.5**
ABJI	**Asem Bagus**	**2.04**	**37**	P	**Pn**	**12 18 17.1**	**+1.2**
PCJI	**Pacitan**	**2.18**	**304**	P	**Pn**	**12 18 17.8**	**0.0**
IGBI	**Denpasar**	**2.21**	**74**	P	**Pn**	**12 18 18.8**	**+0.6**
DNP	**Denpasar**	**2.31**	**71**	P	**Pn**	**12 18 20.7**	**+1.1**
NGJI	**Ngawi**	**2.56**	**323**	P	**Pn**	**12 18 25.8**	**+2.8**
GRJI	**Gresik**	**2.56**	**348**	P	**Pn**	**12 18 24.2**	**+1.1**
KMMI	**Kalianget**	**2.56**	**22**	P	**Pn**	**12 18 25.6**	**+2.5**
SRBI	**Singaraja**	**2.57**	**59**	P	**Pn**	**12 18 24.0**	**+0.8**
WRA	**Warramunga Arr**	**23.10**	**119**	P	**P**	**12 22 47.5**	**+0.6**
	0.8nm,1.0s,baz=293,slow=12,SNR=7.1						
ASAR	**Alice Springs**	**24.48**	**128**	P	**P**	**12 23 01.4**	**+1.4**
	0.8nm,0.7s,baz=301,slow=8.6,SNR=13						
MKAR	**Makanchi Array**	**62.33**	**337**	P	**P**	**12 28 01.6**	**-1.1**
	0.2nm,0.4s,baz=134,slow=8.2,SNR=2.7						

*JMA **09** 12:50:14.2±0.5, 33°.10N×142°.31E, h0km, M3.6*
*ISCJB **09** 12:50:16.5±1.2, 33°.01N±0°.10×142°.4E±0°.2, h40km, mb3.3/3, Error ellipse: s-maj=25.1km s-min=6.9km az=150.5*
*IDC **09** 12:50:17.7±2.9, 32°.51N×141°.20E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/26, mbtmp3.3/4, ML3.3/1, MS2.4/1, Ms1 2.4/1, ms1mx1.9/17, Error ellipse: s-maj=102.0km s-min=22.6km az=69.0*

ISC 09 12:50:18.7±1.6, 33°.00N±0°.10×142°.4E±0°.2, h40km, n14, σ0°93/19, mb3.3/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.02**	**325**	P	**Pn**	**12 50 48.5**	**-1.2**
BSO1				*e*S	**Sn**	**12 51 13.4**	**-0.1**
JHJ2	**Mitsune**	**2.16**	**274**	P	**Pn**	**12 50 51.5**	**-0.6**
BSO2	**Boso 2**	**2.21**	**323**	S	**Sn**	**12 51 19.5**	**+1.0**
BSO3	**Boso 3**	**2.38**	**319**	P	**Pn**	**12 50 53.8**	**-1.1**
BSO3				S	**Sn**	**12 51 23.8**	**+1.1**
BSO4	**Boso 4**	**2.61**	**320**	P	**Pn**	**12 50 58.0**	**-0.3**
JYN	**Shimob**	**4.04**	**309**	S	**Sn**	**12 52 05.4**	**+1.3**
JRY	**Ryogami san**	**4.16**	**317**	P	**Pn**	**12 51 19.2**	**-0.5**
JRY				S	**Sn**	**12 52 06.9**	**-0.2**
JAG	**Ashikaga**	**4.18**	**326**	P	**Pn**	**12 51 19.9**	**0.0**
JAG				S	**Sn**	**12 52 07.7**	**+0.2**
MJAR	**Matsushiro Arr**	**4.93**	**317**	Pn	**Pn**	**12 51 29.5**	**-0.7**
	1.3nm,0.3s,baz=154,slow=12,SNR=25						
MJAR				Sn	**Sn**	**12 52 24.7**	**-1.2**
	1.0nm,0.3s,baz=147,slow=24,SNR=6.7						
MAT	**Matsushiro**	**4.93**	**317**	P	**Pn**	**12 51 30.5**	**+0.3**
MAT				S	**Sn**	**12 52 24.8**	**-1.2**
JNU	**Nakatsue**	**9.66**	**274**	LR	LR	12 55 42.5	
	comp=Z,24nm,21.1s,baz=38,slow=37						
MKAR	**Makanchi Array**	**47.02**	**306**	P	**P**	**12 58 46.8**	**+0.8**
	0.2nm,0.6s,baz=73,slow=11,SNR=2.8						
WRA	**Warramunga Arr**	**53.21**	**189**	P	**P**	**12 59 31.8**	**-1.2**
	0.2nm,0.4s,baz=6.1,slow=7.6,SNR=6.0						
ASAR	**Alice Springs**	**56.93**	**189**	P	**P**	**13 00 00.9**	**+1.0**
	0.2nm,0.6s,baz=15,slow=14,SNR=3.0						

*IDC **09** 13:01:28.2±1.4, 37°.91N×21°.20E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/29, mbtmp3.5/5, Error ellipse: s-maj=52.1km s-min=24.6km az=125.0*
*ISCJB **09** 13:01:31.7±0.4, 37°.83N±0°.01×21°.35E±0°.02, h12km±2km, mb3.4/5, Error ellipse: s-maj=2.7km s-min=2.4km az=141.8*
*CSEM **09** 13:01:32.0±0.1, 37°.86N×21°.40E, h2km, MD3.3, Error ellipse: s-maj=2.8km s-min=2.6km az=52.0*
*THE **09** 13:01:32.0, 37°.84N×21°.40E, h18km, ML3.5/9, Error ellipse: s-maj=0.8km s-min=0.5km az=197.0*
*ATH **09** 13:01:32.0, 37°.87N×21°.41E, h15km±1km, MD3.3/39, ML3.0*

ISC 09 13:01:31.7±0.8, 37°.85N±0°.01×21°.39E±0°.01, h18km±2km, n155, σ1°07/242, mb3.5/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VTN	**Vitineika**	**0.17**	**292**	P	**Pg**	**13 01 37.1**	**+0.8**
VTN	**Vitineika**	**0.17**	**292**	P	**Pg**	**13 01 37.1**	**+0.8**
RLS	**Riolos of Patr**	**0.21**	**17**	*e*PB	**Pg**	**13 01 37.2**	**+0.3**
RLS	**Riolos of Patr**	**0.21**	**17**	P	**Pg**	**13 01 37.0**	**+0.1**
RLS				S	**Sg**	**13 01 41.6**	**+1.6**
RLS	**Riolos of Patr**	**0.21**	**17**	P	**Pg**	**13 01 37.0**	**+0.1**
RLS				S	**Sb**	**13 01 41.6**	**+1.6**
DRO	**Drossia**	**0.28**	**68**	*e*PB	**Pg**	**13 01 37.9**	**0.0**
DRO				*e*SB	**Sg**	**13 01 42.3**	**+0.2**
DRO	**Drossia**	**0.28**	**68**	P	**Pg**	**13 01 37.9**	**0.0**
DRO				*e*Sb	**Sg**	**13 01 42.3**	**+0.2**
DRO	**Drossia**	**0.28**	**68**	P	**Pg**	**13 01 37.9**	**0.0**
DRO				S	**Sb**	**13 01 42.9**	**+0.7**
AMT	**Artemida-Makis**	**0.41**	**141**	*e*PB	**Pg**	**13 01 40.0**	**-0.2**
AMT				*e*SB	**Sb**	**13 01 46.2**	**-0.1**
AMT	**Artemida-Makis**	**0.41**	**141**	*e*Pb	**Pg**	**13 01 40.0**	**-0.2**
AMT				*e*Sb	**Sb**	**13 01 46.2**	**-0.1**
AMT	**Artemida-Makis**	**0.41**	**141**	P	**Pg**	**13 01 39.9**	**-0.2**
AMT				S	**Sb**	**13 01 46.4**	**+0.1**
ZKS	**Zakynthos**	**0.50**	**252**	*e*PN	**Pg**	**13 01 41.6**	**-0.3**
ZKS				*e*SN	**Sb**	**13 01 50.3**	**+1.4**
ZKS	**Zakynthos**	**0.50**	**252**	P	**Pg**	**13 01 41.5**	**-0.3**
ZKS				S	**Sb**	**13 01 50.4**	**+1.5**
ZKS	**Zakynthos**	**0.50**	**252**	P	**Pg**	**13 01 41.5**	**-0.3**
ZKS				S	**Sb**	**13 01 50.4**	**+1.5**
KFL	**Anninata**	**0.54**	**299**	P	**Pg**	**13 01 42.1**	**-0.4**
KFL				S	**Sb**	**13 01 51.4**	**+1.4**
KFL	**Anninata**	**0.54**	**299**	P	**Pg**	**13 01 42.1**	**-0.4**
KFL				S	**Sb**	**13 01 51.4**	**+1.4**
LAKA	**Lakka**	**0.61**	**50**	*e*PN	**Pg**	**13 01 43.5**	**-0.3**
LAKA				*e*SN	**Sg**	**13 01 52.3**	**+0.3**
LAKA	**Lakka**	**0.61**	**50**	*e*Pn	**Pg**	**13 01 43.5**	**-0.3**
LAKA				*e*Sn	**Sg**	**13 01 52.3**	**+0.3**
LAKA				S	**Sb**	**13 01 53.1**	**+1.2**
LAKA	**Lakka**	**0.61**	**50**	P	**Pg**	**13 01 43.4**	**-0.3**
LAKA				S	**Sb**	**13 01 53.1**	**+1.2**
KLV	**Kalavryta, Ach**	**0.63**	**72**	*e*PB	**Pb**	**13 01 43.6**	**-0.6**
KLV				*e*SN	**Sg**	**13 01 53.0**	**+0.2**
KLV	**Kalavryta, Ach**	**0.63**	**72**	P	**Pb**	**13 01 43.6**	**-0.6**
KLV				*e*Sn	**Sg**	**13 01 53.0**	**+0.2**
KLV	**Kalavryta, Ach**	**0.63**	**72**	P	**Pb**	**13 01 43.6**	**-0.6**
KLV				S	**Sb**	**13 01 53.2**	**+0.5**
SFD	**Strofades**	**0.67**	**206**	*e*PN	**Pg**	**13 01 45.2**	**+0.3**
SFD				*e*SN	**Sn**	**13 01 56.0**	**-0.2**
SFD	**Strofades**	**0.67**	**206**	P	**Pg**	**13 01 45.1**	**+0.2**
SFD				*e*Sn	**Sn**	**13 01 56.0**	**-0.2**
SFD	**Strofades**	**0.67**	**206**	P	**Pg**	**13 01 45.1**	**+0.2**
EFP	**Efpalio**	**0.70**	**35**	*e*PN	**Pb**	**13 01 45.0**	**-0.4**
EFP				*e*SN	**Sg**	**13 01 55.5**	**+0.5**
EFP	**Efpalio**	**0.70**	**35**	*e*Pn	**Pb**	**13 01 45.0**	**-0.4**
EFP				*e*Sn	**Sg**	**13 01 55.5**	**+0.5**
EFP				S	**Sg**	**13 01 56.2**	**+1.2**
EFP	**Efpalio**	**0.70**	**35**	P	**Pb**	**13 01 44.8**	**-0.6**
EFP				S	**Sg**	**13 01 56.2**	**+1.2**
VLS	**Valsamata**	**0.71**	**298**	*e*PB	**Pb**	**13 01 44.7**	**-0.8**
VLS	**Valsamata**	**0.71**	**298**	P	**Pb**	**13 01 44.9**	**-0.6**
VLS	**Valsamata**	**0.71**	**298**	P	**Pb**	**13 01 44.9**	**-0.6**
TRIZ	**Trizonia**	**0.74**	**46**	*e*PN	**Pb**	**13 01 45.6**	**-0.5**
TRIZ				*e*SN	**Sb**	**13 01 56.0**	**+0.1**
TRIZ	**Trizonia**	**0.74**	**46**	P	**Pb**	**13 01 45.4**	**-0.7**
TRIZ				*e*Sn	**Sb**	**13 01 56.0**	**+0.1**
TRIZ	**Trizonia**	**0.74**	**46**	P	**Pb**	**13 01 45.4**	**-0.7**
TRIZ				S	**Sg**	**13 01 56.5**	**+0.2**
GUR	**Goura**	**0.76**	**83**	*e*PB	**Pb**	**13 01 45.5**	**-0.9**
GUR				*e*SN	**Sb**	**13 01 56.8**	**+0.3**
GUR	**Goura**	**0.76**	**83**	P	**Pb**	**13 01 45.5**	**-0.9**
GUR				S	**Sg**	**13 01 56.9**	**+0.1**
GUR	**Goura**	**0.76**	**83**	P	**Pb**	**13 01 45.5**	**-0.9**
GUR				S	**Sg**	**13 01 56.9**	**+0.1**
PDO	**Prodromos**	**0.76**	**348**	*e*PN	**Pb**	**13 01 46.5**	**+0.1**
PDO				*e*SN	**Sg**	**13 01 58.0**	**+1.2**
PDO	**Prodromos**	**0.76**	**348**	P	**Pb**	**13 01 46.3**	**-0.1**
PDO				*e*Sn	**Sg**	**13 01 58.0**	**+1.2**
PDO	**Prodromos**	**0.76**	**348**	P	**Pb**	**13 01 46.3**	**-0.1**
PDO				S	**Sn**	**13 01 58.6**	**0.0**
SERG	**Sergoula**	**0.77**	**43**	P	**Pb**	**13 01 45.9**	**-0.7**
SERG				S	**Sg**	**13 01 57.9**	**+0.8**
SERG	**Sergoula**	**0.77**	**43**	P	**Pb**	**13 01 45.9**	**-0.7**
SERG				S	**Sg**	**13 01 57.9**	**+0.8**
PVO	**Paravola**	**0.77**	**8**	P	**Pb**	**13 01 46.6**	**0.0**
PVO	**Paravola**	**0.77**	**8**	P	**Pb**	**13 01 46.6**	**0.0**
ITM	**Ithomi**	**0.80**	**147**	*e*PN	**Pb**	**13 01 46.5**	**-0.6**
ITM	**Ithomi**	**0.80**	**147**	P	**Pb**	**13 01 46.4**	**-0.6**
ITM				S	**Sn**	**13 01 58.8**	**-0.6**
ITM	**Ithomi**	**0.80**	**147**	P	**Pb**	**13 01 46.4**	**-0.6**
ITM				S	**Sn**	**13 01 58.8**	**-0.6**
KALE	**Kalithea**	**0.80**	**48**	*e*PN	**Pb**	**13 01 46.5**	**-0.6**
KALE				*e*SN	**Sb**	**13 01 58.3**	**+0.7**
KALE	**Kalithea**	**0.80**	**48**	P	**Pb**	**13 01 46.5**	**-0.6**
KALE				*e*Sn	**Sb**	**13 01 58.3**	**+0.7**
KALE				S	**Sg**	**13 01 59.0**	**+0.9**
KALE	**Kalithea**	**0.80**	**48**	P	**Pb**	**13 01 46.5**	**-0.6**
KALE				S	**Sg**	**13 01 59.0**	**+0.9**
EXG	**Exogi**	**0.85**	**316**	P	**Pg**	**13 01 47.5**	**-0.4**
EXG				S	**Sg**	**13 02 00.8**	**+1.2**
EXG	**Exogi**	**0.85**	**316**	P	**Pb**	**13 01 47.5**	**-0.4**
EXG				S	**Sg**	**13 02 00.8**	**+1.2**
VLX	**Vlachokerasia**	**0.92**	**121**	*e*PN	**Pb**	**13 01 49.3**	**+0.1**
VLX	**Vlachokerasia**	**0.92**	**121**	P	**Pb**	**13 01 48.7**	**-0.5**
VLX				S	**Sg**	**13 02 02.3**	**+0.4**
VLX	**Vlachokerasia**	**0.92**	**121**	P	**Pb**	**13 01 48.7**	**-0.5**
VLX				S	**Sg**	**13 02 02.3**	**+0.4**
PYL	**PYLOS**	**0.99**	**163**	*e*PB	**Pb**	**13 01 50.0**	**-0.4**
PYL				*e*SN	**Sn**	**13 02 05.2**	**+0.9**
PYL	**PYLOS**	**0.99**	**163**	P	**Pb**	**13 01 49.5**	**-0.9**
PYL	**PYLOS**	**0.99**	**163**	*e*Pb	**Pb**	**13 01 50.0**	**-0.4**
PYL	**PYLOS**	**0.99**	**163**	P	**Pb**	**13 01 49.5**	**-0.9**
THAL	**Thalero**	**1.02**	**79**	*e*PB	**Pb**	**13 01 50.4**	**-0.5**
THAL	**Thalero**	**1.02**	**79**	*e*Pb	**Pb**	**13 01 50.4**	**-0.5**
THAL				S	**Sn**	**13 02 05.4**	**+0.4**
THAL	**Thalero**	**1.02**	**79**	P	**Pb**	**13 01 50.2**	**-0.7**
THAL				S	**Sn**	**13 02 05.4**	**+0.4**
DSF	**Desfina**	**1.06**	**58**	*e*PB	**Pb**	**13 01 51.0**	**-0.5**
DSF				*e*SN	**Sg**	**13 02 07.2**	**+1.0**
DSF	**Desfina**	**1.06**	**58**	*e*Pb	**Pb**	**13 01 51.0**	**-0.5**
DSF				S	**Sn**	**13 02 06.0**	**+0.1**
DSF	**Desfina**	**1.06**	**58**	P	**Pb**	**13 01 50.9**	**-0.5**
DSF				S	**Sn**	**13 02 06.0**	**+0.1**
EVR	**Evrytania**	**1.11**	**17**	*e*PB	**Pn**	**13 01 52.0**	**-0.5**
EVR				*e*SN	**Sg**	**13 02 09.1**	**+1.1**
EVR	**Evrytania**	**1.11**	**17**	P	**Pn**	**13 01 52.0**	**-0.5**
EVR				*e*Sn	**Sg**	**13 02 09.1**	**+1.1**
EVR	**Evrytania**	**1.11**	**17**	P	**Pn**	**13 01 52.0**	**-0.5**
LTK	**Loutraki**	**1.26**	**82**	*e*PB	**Pn**	**13 01 54.7**	**+0.3**
LTK				*e*SN	**Sg**	**13 02 13.1**	**+0.5**
LTK	**Loutraki**	**1.26**	**82**	*e*Pb	**Pn**	**13 01 54.7**	**+0.3**
LTK				*e*Sn	**Sg**	**13 02 13.1**	**+0.5**
LOUT	**Loutraki**	**1.26**	**83**	*e*PN	**Pg**	**13 01 56.0**	**-0.1**
LOUT	**Loutraki**	**1.26**	**83**	*e*Pn	**Pg**	**13 01 56.0**	**-0.1**
MAKR	**Makrakomi, Fth**	**1.30**	**27**	*e*Pn	**Pb**	**13 01 55.9**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.30**	**27**	*e*Pn	**Pb**	**13 01 55.9**	**+0.3**
DSL	**Palaion Diasel**	**1.30**	**350**	*e*PB	**Pn**	**13 01 55.2**	**+0.2**
DSL				*e*SN	**Sg**	**13 02 14.7**	**+0.8**
DSL	**Palaion Diasel**	**1.30**	**350**	P	**Pn**	**13 01 55.1**	**+0.1**
DSL				*e*Sn	**Sg**	**13 02 14.7**	**+0.8**
DSL	**Palaion Diasel**	**1.30**	**350**	P	**Pn**	**13 01 55.1**	**+0.1**
AXAR	**Agios Charalam**	**1.35**	**47**	*e*PB	**Pn**	**13 01 56.2**	**+0.5**
AXAR				*e*SN	**Sg**	**13 02 16.2**	**+0.6**
AXAR	**Agios Charalam**	**1.35**	**47**	P	**Pn**	**13 01 55.5**	**-0.2**
AXAR	**Agios Charalam**	**1.35**	**47**	*e*Pb	**Pn**	**13 01 56.2**	**+0.5**
AXAR				*e*Sn	**Sg**	**13 02 16.2**	**+0.6**
AXAR	**Agios Charalam**	**1.35**	**47**	P	**Pn**	**13 01 55.5**	**-0.2**
KRND	**KRANIDI**	**1.48**	**108**	*e*PN	**Pb**	**13 01 59.4**	**+0.8**
KRND				*e*SN	**Sg**	**13 02 20.7**	**+1.3**
KRND	**KRANIDI**	**1.48**	**108**	*e*Pn	**Pb**	**13 01 59.4**	**+0.8**
KRND				*e*Sn	**Sg**	**13 02 20.7**	**+1.3**
DIDY	**Didyma**	**1.50**	**104**	*e*PN	**Pg**	**13 02 00.0**	**-0.5**
DIDY				*e*SN	**Sg**	**13 02 20.6**	**+0.5**
DIDY	**Didyma**	**1.50**	**104**	*e*Pn	**Pg**	**13 02 00.0**	**-0.5**
DIDY				*e*Sn	**Sg**	**13 02 20.6**	**+0.5**
LKR	**Lokris**	**1.50**	**57**	*e*PN	**Pb**	**13 01 59.9**	**+0.9**
LKR				*e*SN	**Sg**	**13 02 19.8**	**-0.4**
LKR	**Lokris**	**1.50**	**57**	*e*Pn	**Pb**	**13 01 59.9**	**+0.9**
LKR				*e*Sn	**Sg**	**13 02 19.8**	**-0.4**
DID	**Didima**	**1.51**	**103**	*e*PN	**Pb**	**13 01 59.4**	**+0.3**
DID	**Didima**	**1.51**	**103**	*e*Pn	**Pb**	**13 01 59.4**	**+0.3**
VIL2	**Platees**	**1.53**	**76**	*e*PN	**Pg**	**13 02 00.8**	**-0.4**
VILL	**Villia**	**1.55**	**78**	*e*Pn	**Pb**	**13 02 00.8**	**+0.9**
NAIG	**Nisos Aigina**	**1.67**	**93**	*e*PN	**Pb**	**13 02 02.9**	**+1.1**
NAIG	**Nisos Aigina**	**1.67**	**93**	*e*Pn	**Pb**	**13 02 02.9**	**+1.1**
VLI	**Veliai**	**1.68**	**132**	*e*PN	**Pg**	**13 02 03.9**	**0.0**
VLI				*e*SN	**Sg**	**13 02 26.5**	**+0.7**
VLI	**Veliai**	**1.68**	**132**	*e*Pn	**Pg**	**13 02 03.9**	**0.0**
VLI				*e*Sn	**Sg**	**13 02 26.5**	**+0.7**
SMIA	**Simia**	**1.76**	**54**	*e*PN	**Pb**	**13 02 04.6**	**+1.1**
SMIA	**Simia**	**1.76**	**54**	*e*Pn	**Pb**	**13 02 04.6**	**+1.1**
THL	**Klokotos Trika**	**1.78**	**16**	*e*PN	**Pb**	**13 02 04.4**	**+0.6**
THL				*e*SN	**Sg**	**13 02 28.5**	**-0.6**
THL	**Klokotos Trika**	**1.78**	**16**	*e*Pn	**Pb**	**13 02 04.4**	**+0.6**
THL				*e*Sn	**Sg**	**13 02 28.5**	**-0.6**
ATH	**Athens Observa**	**1.85**	**86**	*e*PN	**Pb**	**13 02 04.4**	**-0.5**
ATH				*e*SN	**Sb**	**13 02 29.3**	**+1.7**
ATH	**Athens Observa**	**1.85**	**86**	*e*Pn	**Pb**	**13 02 04.4**	**-0.5**
ATH				*e*Sn	**Sb**	**13 02 29.3**	**+1.7**
JAN	**Janina**	**1.85**	**347**	*e*PN	**Pb**	**13 02 04.9**	**-0.1**
JAN	**Janina**	**1.85**	**347**	*e*Pn	**Pb**	**13 02 04.9**	**-0.1**
IGT	**Igoumenitsa**	**1.87**	**334**	*e*PN	**Pb**	**13 02 04.9**	**-0.4**
IGT				*e*SN	**Sb**	**13 02 29.5**	**+1.1**
IGT	**Igoumenitsa**	**1.87**	**334**	*e*Pn	**Pb**	**13 02 04.9**	**-0.4**
IGT				*e*Sn	**Sb**	**13 02 29.5**	**+1.1**
MRKA	**Markates**	**1.93**	**63**	*e*PN	**Pb**	**13 02 06.2**	**-0.1**
MRKA				*e*SN	**Sb**	**13 02 32.2**	**+2.1**
MRKA	**Markates**	**1.93**	**63**	*e*Pn	**Pb**	**13 02 06.2**	**-0.1**
MRKA				*e*Sn	**Sb**	**13 02 32.2**	**+2.1**

MEX 09 13:13:03.3±0.9, 17°22N×94°76W, h134km±6km, MD4.2, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.17**	**221**	*i* P	Pn	13 13 20.5	-1.2
CMIG				*i* S	Sn	13 13 33.7	-1.8
CMIG	**Matias Romero**	**0.17**	**221**	*i* P	Pn	13 13 20.5	-1.2
CMIG				*i* S	Sn	13 13 33.7	-1.8
TUIG	**Tuzandepetl**	**0.87**	**22**	*i* P	Pn	13 13 23.8	-1.7
TUIG				*i* S	Sn	13 13 39.9	-2.5
TUIG	**Tuzandepetl**	**0.87**	**22**	*i* P	Pn	13 13 23.8	-1.7
TUIG				*i* S	Sn	13 13 39.9	-2.5
TGIG		**1.63**	**105**	*i* P	Pn	13 13 32.3	-1.0
TGIG				*i* S	Sn	13 13 53.9	-2.2
TGIG		**1.63**	**105**	*i* P	Pn	13 13 32.3	-1.0
TGIG				*i* S	Sn	13 13 53.9	-2.2
TGBT	**Tuxtla Gutierr**	**1.66**	**105**	*i* P	Pn	13 13 32.6	-0.9
VHO	**Vista Hermosa**	**1.89**	**266**	*e*P	Pn	13 13 35.8	-0.7
VHO				*e*S	Sn	13 14 00.1	-1.7
VHO	**Vista Hermosa**	**1.89**	**266**	*e*P	Pn	13 13 35.8	-0.7
VHO				*e*S	Sn	13 14 00.1	-1.7
HUIG	**Huatulco**	**1.94**	**222**	*e*P	Pn	13 13 34.4	-2.4
HUIG				*e*S	Sn	13 14 00.9	-1.5
HUIG	**Huatulco**	**1.94**	**222**	*e*P	Pn	13 13 34.3	-2.5
HUIG				*e*S	Sn	13 14 00.9	-1.5
PCIG		**2.12**	**135**	*i* P	Pn	13 13 38.5	-0.5
PCIG				*i* S	Sn	13 14 04.3	-1.9
PCIG		**2.12**	**135**	*i* P	Pn	13 13 38.5	-0.5
PCIG				*i* S	Sn	13 14 04.3	-1.9
CCIG	**Comitan**	**2.68**	**110**	*i* P	Pn	13 13 44.4	-1.9
CCIG				*i* S	Sn	13 14 17.2	-2.1
CCIG	**Comitan**	**2.68**	**110**	*i* P	Pn	13 13 44.4	-1.9
CCIG				*i* S	Sn	13 14 17.2	-2.1
PNIG	**Pinotepa**	**3.33**	**256**	*i* P	Pn	13 13 53.4	-1.0
PNIG				*i* S	Sn	13 14 31.5	-2.4
PNIG	**Pinotepa**	**3.33**	**256**	*i* P	Pn	13 13 53.4	-1.0
PNIG				*i* S	Sn	13 14 31.5	-2.4

*ISCJB **09** 13:24:50.3±0.7, 35°34N±0°06×139°5E±0°1, h148km±5km, mb3.1/2, Error ellipse: s-maj=17.3km s-min=8.9km az=167.7*
*IDC **09** 13:24:50.5±4.0, 36°32N×136°75E, h184km±41km, mb2.8/2, mb1 2.9/3, mb1mx2.7/41, mbtmp3.3/3, Error ellipse: s-maj=112.8km s-min=27.5km az=91.0*
*JMA **09** 13:24:52.3±0.2, 35°35N×139°55E, h135km±2km, M2.9*

ISC 09 13:24:51.4±1.2, 35°37N±0°07×139°5E±0°1, h145km±8km, n13, σ0°93/20, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYO	**Yokosk**	**0.20**	**134**	P	**Pn**	**13 25 11.4**	**+0.3**
JYO				S	**Sn**	**13 25 26.7**	**+0.8**
JOD2	**Odawara 2**	**0.34**	**252**	P	**Pn**	**13 25 11.3**	**-0.2**
JOD2				S	**Sn**	**13 25 26.0**	**-0.7**
TOK	**Tokyo**	**0.39**	**35**	P	**Pn**	**13 25 12.5**	**+0.9**
JIM2	**Oshima 3**	**0.65**	**184**	S	**Sn**	**13 25 27.6**	**-1.9**
JYN	**Shimob**	**0.78**	**280**	P	**Pn**	**13 25 14.6**	**+0.6**
JRY	**Ryogami san**	**0.81**	**324**	P	**Pn**	**13 25 14.9**	**+0.8**
JRY				S	**Sn**	**13 25 32.1**	**+0.6**
JIZS	**Izushimoda**	**0.82**	**218**	P	**Pn**	**13 25 14.3**	**+0.1**
JIZS				S	**Sn**	**13 25 31.0**	**-0.5**
JAG	**Ashikaga**	**1.06**	**359**	P	**Pn**	**13 25 16.5**	**+0.3**
JAG				*e*S	**Sn**	**13 25 34.6**	**-0.6**
MJAR	**Matsushiro Arr**	**1.56**	**319**	P	**Pn**	**13 25 21.0**	**-0.3**
	0.8nm,0.3s,baz=270,slow=14,SNR=12						
MJAR				S	**Sn**	**13 25 43.2**	**-1.0**
	3.0nm,0.3s,baz=164,slow=20,SNR=13						
MAT	**Matsushiro**	**1.57**	**319**	P	**Pn**	**13 25 22.1**	**+0.8**
MAT				S	**Sn**	**13 25 44.5**	**+0.3**
ASAJ	**Asahikawa**	**9.06**	**14**	P	**Pn**	**13 26 57.1**	**-1.7**
	baz=219,slow=16						
WRA	**Warramunga Arr**	**55.22**	**186**	P	**P**	**13 34 08.9**	**-0.5**
	0.2nm,0.4s,baz=1.7,slow=7.6,SNR=6.5						
ASAR	**Alice Springs**	**58.95**	**186**	P	**P**	**13 34 36.6**	**+1.0**
	0.3nm,1.0s,baz=17,slow=9.2,SNR=3.5						

IDC 09 13:30:37.5±3.3, 5°99S×150°86E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.2/30, mbtmp3.3/2, MS3.8/1, Ms1 3.8/1, ms1mx2.6/14, Error ellipse: s-maj=130.4km s-min=44.7km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.22**	**228**	P	P	13 35 24.9	-0.1
	0.6nm,0.7s,baz=52,slow=10,SNR=8.2						
ASAR	**Alice Springs**	**23.98**	**221**	P	P	13 35 53.6	-0.3
	0.6nm,0.6s,baz=58,slow=8.9,SNR=20						
PSI	**Prapat**	**52.59**	**278**	LR	LR	14 04 48.8	
	comp=Z,75nm,18.1s,slow=39						
TORD	**Torodi Ar. Bea**	**148.80**	**285**	PKPbc	PKPbc	13 50 27.8	-0.3
	0.5nm,0.7s,baz=90,slow=1.4,SNR=3.1						

WEL 09 13:43:11.5±0.4, 45°72S×166°53E, h12km, ML3.5/9, 4D, Error ellipse: s-maj=4.6km s-min=1.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.46**	**167**	↓P*	Pg	13 43 20.5	0.0
PYZ				S*	Sg	13 43 26.7	0.0
DCZ	**Deep Cove**	**0.50**	**61**	↓P*	Pg	13 43 21.3	0.0
DCZ				S*	Sg	13 43 27.6	-0.3
DCZ				AML	AML	13 43 27.9	
DCZ				AML	AML	13 43 28.5	
DCZ				AML	AML	13 43 28.5	
WHZ	**Wether Hill Ro**	**1.00**	**100**	↓P*	Pb	13 43 30.0	-0.8
WHZ				AML	AML	13 43 48.7	
WHZ				AML	AML	13 43 48.7	
MLZ	**Mavora Lakes**	**1.21**	**73**	↓P*	Pn	13 43 32.7	-1.7
MLZ				S*	Sb	13 43 47.9	-2.2
MLZ				AML	AML	13 43 54.5	
MSZ	**Milford Sound**	**1.44**	**44**	PN	Pn	13 43 35.2	-2.2
MSZ				AML	AML	13 44 04.4	
MSZ				AML	AML	13 44 06.2	
MSZ				AML	AML	13 44 06.2	
MSZ				AML	AML	13 44 07.9	
APZ	**The Paps**	**1.50**	**138**	PN	Pn	13 43 36.9	-1.4
APZ				SN	Sn	13 43 56.9	-0.9
APZ				AML	AML	13 43 57.6	
WKZ	**Wanaka**	**1.97**	**64**	PN	Pb	13 43 46.1	-1.2
WKZ				AML	AML	13 44 16.8	
WKZ				AML	AML	13 44 16.9	
WKZ				AML	AML	13 44 21.2	
SYZ	**Scrubby Hill**	**1.99**	**115**	PN	Pn	13 43 45.7	+0.8
SYZ				AML	AML	13 44 11.4	
SYZ				AML	AML	13 44 13.9	
EAZ	**Earnscleugh**	**2.01**	**77**	PN	Pb	13 43 46.7	-1.3
EAZ				AML	AML	13 44 14.3	
EAZ				AML	AML	13 44 16.3	
EAZ				AML	AML	13 44 16.7	
TUZ	**Tuapeka**	**2.18**	**97**	PN	Pb	13 43 49.2	-1.6
JCZ	**Jackson Bay**	**2.28**	**45**	PN	Pn	13 43 50.8	+1.6
JCZ				AML	AML	13 44 30.9	
JCZ				AML	AML	13 44 31.7	
LBZ	**Lake Benmore**	**2.91**	**64**	PN	Pn	13 43 58.6	+0.9
WVZ	**Waitaha Valley**	**4.01**	**50**	PN	Pn	13 44 14.9	+2.2

*ISCJB **09** 13:47:50.7±1.4, 38°60N±0°06×141°9E±0°1, h52km±10km, mb3.5/2, Error ellipse: s-maj=19.5km s-min=7.5km az=20.2*
*JMA **09** 13:47:51.6±0.1, 38°62N×141°90E, h47km±1km, M3.2*
JMA Felt I J1
*IDC **09** 13:47:52.1±1.9, 39°06N×141°02E, h0km, mb3.4/2, mb1 3.4/4, mb1mx3.2/28, mbtmp3.3/4, ML2.7/1, Error ellipse: s-maj=52.6km s-min=27.8km az=95.0*

ISC 09 13:47:51.4±2.0, 38°61N±0°07×141°9E±0°1, h45km±14km, n12, σ0°54/17, 7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.47**	**251**	↓P	**Pn**	**13 48 02.2**	**+0.2**
JIO				*e*S	**Sn**	**13 48 09.4**	**-0.1**
OFUJ	**Ofunato**	**0.51**	**338**	↓P	**Pn**	**13 48 02.7**	**+0.2**
OFUJ				*e*S	**Sn**	**13 48 10.3**	**-0.1**
JMK	**Ichinoseki**	**0.65**	**302**	↓P	**Pn**	**13 48 04.4**	**+0.1**
JMK				*e*S	**Sn**	**13 48 13.4**	**-0.1**
JOM	**Ohasama**	**0.99**	**331**	↓P	**Pn**	**13 48 09.0**	**0.0**
JOM				S	**Sn**	**13 48 22.2**	**+0.4**
JOU	**Okura**	**1.01**	**257**	↓P	**Pn**	**13 48 09.2**	**-0.1**
JOU				*e*S	**Sn**	**13 48 22.4**	**0.0**
JMM	**Marumori**	**1.16**	**231**	↓P	**Pn**	**13 48 10.8**	**-0.4**
JMM				*e*S	**Sn**	**13 48 25.0**	**-0.8**
JYK	**Kaneyama**	**1.26**	**285**	↓P	**Pn**	**13 48 12.8**	**+0.2**
JRG	**Rokugo**	**1.27**	**309**	P	**Pn**	**13 48 12.9**	**+0.1**
MJAR	**Matsushiro Arr**	**3.60**	**236**	Pn	**Pn**	**13 48 46.3**	**+1.6**
	0.8nm,0.3s,baz=39,slow=12,SNR=12						
ASAJ	**Asahikawa**	**5.53**	**5**	Pn	**Pn**	**13 49 11.4**	**+0.3**
	baz=207,slow=10						
MKAR	**Makanchi Array**	**43.64**	**301**	P	**P**	**13 55 51.1**	**-0.4**
	0.2nm,0.3s,baz=89,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**58.67**	**188**	P	P	13 57 53.6	+9.3
	0.7nm,0.9s,baz=6.2,slow=7.3,SNR=3.0						

*MOS **09** 13:52:29.8±1.8, 50°07N×159°16E, h81km, mb4.2/1, Error ellipse: s-maj=23.8km s-min=5.5km az=91.8*
*KRSC **09** 13:52:29.9±2.2, 50°07N×159°16E, h81km±28km, ML4.1*

ISC 09 13:52:27.9±2.5, 49°8N±0°1×159°27E±0°06, h30km, n45, σ1°79/74, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.19**	**294**	*e*P	**Pn**	**13 53 02.4**	**+0.3**
SKR				*e*S	**Sn**	**13 53 25.6**	**-2.6**
SKR	**Severo-Kuril's**	**2.19**	**294**	*e*PN	Pn	13 52 51.3	-11
SKR				pmax	pmax		
	comp=Z,90nm,0.4s						
PAU	**Pauzhetka**	**2.25**	**317**	*e*P	**Pn**	**13 53 04.1**	**+1.0**
PAU				*e*S	**Sn**	**13 53 28.6**	**-1.2**
PAU	**Pauzhetka**	**2.25**	**317**	PN	**Pn**	**13 53 04.1**	**+1.0**
PAU				S	**Sn**	**13 53 28.6**	**-1.2**
RUS	**Russkaya**	**2.64**	**350**	*e*P	**Pn**	**13 53 09.2**	**+0.9**
RUS				*e*S	**Sn**	**13 53 37.3**	**-1.9**
RUS	**Russkaya**	**2.64**	**350**	PN	**Pn**	**13 53 09.2**	**+0.9**
RUS				S	**Sn**	**13 53 37.3**	**-1.9**
ASAK	**Asacha**	**2.69**	**342**	*e*P	**Pn**	**13 53 10.3**	**+1.2**
ASAK				*e*S	**Sn**	**13 53 39.1**	**-1.5**
MTVR	**Mutnovka**	**2.73**	**346**	*e*P	**Pn**	**13 53 11.0**	**+1.3**
MTVR				*e*S	**Sn**	**13 53 40.4**	**-1.4**
GRL	**Gorelyy**	**2.81**	**345**	*e*P	**Pn**	**13 53 12.5**	**+1.6**
GRL				*e*S	**Sn**	**13 53 43.1**	**-0.7**
GRL	**Gorelyy**	**2.81**	**345**	PN	**Pn**	**13 53 12.5**	**+1.6**
GRL				S	**Sn**	**13 53 43.1**	**-0.7**
MIPR	**Malaya Ipel'ka**	**2.90**	**328**	*e*P	**Pn**	**13 53 13.6**	**+1.6**
MIPR				*e*S	**Sn**	**13 53 44.9**	**-1.0**
PET	**Petropavlovsk**	**3.21**	**353**	*e*P	**Pn**	**13 53 17.5**	**+1.4**
PET				*e*S	**Sn**	**13 53 52.1**	**-1.2**
PET	**Petropavlovsk**	**3.21**	**353**	*e*PN	**Pn**	**13 53 17.3**	**+1.1**
PET				*e*S	**Sn**	**13 53 52.3**	**-1.0**
PET				pmax	pmax		
	comp=Z,27nm,0.7s						
PET				smax	smax		
	comp=N,90nm,0.3s						
SPN	**Mys Shipunski**	**3.29**	**8**	*e*P	**Pn**	**13 53 18.8**	**+1.5**
SPN				*e*S	**Sn**	**13 53 54.5**	**-0.9**
SPN	**Mys Shipunski**	**3.29**	**8**	PN	**Pn**	**13 53 18.8**	**+1.5**
SPN				S	**Sn**	**13 53 54.5**	**-0.9**
NLC	**Nalytchevo**	**3.33**	**1**	*e*P	**Pn**	**13 53 18.6**	**+0.7**
NLC				*e*S	**Sn**	**13 53 54.0**	**-2.4**
NLC	**Nalytchevo**	**3.33**	**1**	PN	**Pn**	**13 53 18.6**	**+0.7**
NLC				S	**Sn**	**13 53 54.0**	**-2.4**
APC	**Apacha**	**3.36**	**338**	*e*P	**Pn**	**13 53 19.8**	**+1.6**
APC				*e*S	**Sn**	**13 53 55.4**	**-1.6**
APC	**Apacha**	**3.36**	**338**	PN	**Pn**	**13 53 19.8**	**+1.6**
APC				S	**Sn**	**13 53 55.4**	**-1.6**
UGLR	**Uglovaya**	**3.38**	**355**	*e*P	**Pn**	**13 53 20.2**	**+1.5**
UGLR				*e*S	**Sn**	**13 53 56.7**	**-1.1**
SMAR	**Somma**	**3.44**	**355**	*e*P	**Pn**	**13 53 20.7**	**+1.2**
SMAR	**Somma**	**3.44**	**355**	PN	**Pn**	**13 53 20.7**	**+1.2**
AVH	**Avacha**	**3.44**	**355**	*e*P	**Pn**	**13 53 21.1**	**+1.6**
AVH				*e*S	**Sn**	**13 53 58.6**	**-0.6**
AVH	**Avacha**	**3.44**	**355**	PN	**Pn**	**13 53 21.1**	**+1.6**
AVH				S	**Sn**	**13 53 58.6**	**-0.6**
SDLR	**Sedlovina**	**3.45**	**356**	*e*P	**Pn**	**13 53 20.6**	**+1.0**
SDLR				*e*S	**Sn**	**13 53 57.2**	**-2.2**
SDLR	**Sedlovina**	**3.45**	**356**	PN	**Pn**	**13 53 20.6**	**+1.0**
SDLR				S	**Sn**	**13 53 57.2**	**-2.2**
KOK	**Koryaka**	**3.48**	**354**	*e*P	**Pn**	**13 53 21.7**	**+1.8**
KOK				*e*S	**Sn**	**13 53 59.0**	**-1.1**
KOK	**Koryaka**	**3.48**	**354**	PN	**Pn**	**13 53 21.7**	**+1.8**
KOK				S	**Sn**	**13 53 59.0**	**-1.1**
KRER	**Koryakskii**	**3.48**	**355**	*e*P	**Pn**	**13 53 21.7**	**+1.6**
KRX	**Arik**	**3.54**	**354**	*e*P	**Pn**	**13 53 22.3**	**+1.4**
KRX				*e*S	**Sn**	**13 54 00.3**	**-1.5**
GNL	**Ganaly**	**3.94**	**348**	*e*P	**Pn**	**13 53 28.4**	**+2.0**
GNL				*e*S	**Sn**	**13 54 10.5**	**-1.2**
GNL	**Ganaly**	**3.94**	**348**	PN	**Pn**	**13 53 28.4**	**+2.0**
GNL				S	**Sn**	**13 54 10.5**	**-1.2**
MKZ	**Mys Kozlova**	**4.96**	**17**	*e*P	**Pn**	**13 53 41.2**	**+1.0**
MKZ				*e*S	**Sn**	**13 54 33.1**	**-3.3**
MKZ	**Mys Kozlova**	**4.96**	**17**	PN	**Pn**	**13 53 41.2**	**+1.0**
MKZ				S	**Sn**	**13 54 33.1**	**-3.3**
KZV	**Kizimen**	**5.32**	**6**	*e*P	**Pn**	**13 53 47.6**	**+2.3**
KZV				*e*S	**Sn**	**13 54 44.0**	**-1.5**
TUMR	**Tumrok**	**5.48**	**5**	*e*P	**Pn**	**13 53 50.4**	**+3.0**
TUMR	**Tumrok**	**5.48**	**5**	PN	**Pn**	**13 53 50.4**	**+3.0**
KMNR	**Kamenistaya**	**5.95**	**5**	*e*P	Pn	13 53 57.6	+3.7
KMNR	**Kamenistaya**	**5.95**	**5**	PN	Pn	13 53 57.6	+3.7
ESO	**Esso**	**6.10**	**357**	*e*P	**Pn**	**13 53 58.8**	**+2.9**
ESO	**Esso**	**6.10**	**357**	PN	**Pn**	**13 53 58.8**	**+2.9**
KBTR	**Krutoberegovo**	**6.73**	**17**	*e*P	**Pn**	**13 54 06.4**	**+2.0**
KBTR	**Krutoberegovo**	**6.73**	**17**	PN	**Pn**	**13 54 06.4**	**+2.0**
BKI	**Bering**	**6.75**	**35**	*e*P	**Pn**	**13 54 07.0**	**+2.3**
BKI				*e*S	**Sn**	**13 55 16.0**	**-4.5**
BKI	**Bering**	**6.75**	**35**	PN	**Pn**	**13 54 07.0**	**+2.3**

MEX 09 14:02:07.1±0.7, 16°06N×98°14W, h5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.34**	**2**	*i* P	Pg	14 02 12.7	-1.0
PNIG				*i* S	Sg	14 02 18.3	+0.2
TLIG	**Tlapa**	**1.55**	**345**	*e*P	Pn	14 02 32.6	-3.0
TLIG				*e*S	Sn	14 02 52.0	-4.3
VHO	**Vista Hermosa**	**1.69**	**53**	*i* P	Pn	14 02 34.2	-3.4
VHO				*i* S	Sn	14 02 55.0	-4.8
OXX	**Oaxaca**	**1.70**	**53**	*e*P	Pb	14 02 39.0	-0.2

MAN 09 14:03:06, 18°36N×121°01E, h17km, mb4.4, ML3.2, MS3.1, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APYP	**Conner**	**0.54**	**155**	*e*P	Pn	14 03 18.6	-0.3
APYP				*e*S	Sn	14 03 29.1	+1.5
SIPP	**Brgy, Tapao**	**0.68**	**231**	*e*P	Pb	14 03 19.5	+0.2
SIPP				*e*S	Sn	14 03 33.0	+2.0
ABRA	**Dolores**	**0.76**	**202**	*e*P	Pb	14 03 20.6	-0.1
ABRA				*e*S	Sn	14 03 34.1	+1.1
SGCP	**Mt. Cagua**	**0.99**	**96**	*e*P	Pb	14 03 24.9	+0.1
SGCP				*e*S	Sn	14 03 40.2	+1.4
CAUP	**Cauayan**	**1.60**	**151**	*e*P	Pg	14 03 37.5	+0.6
CAUP				*e*S	Sb	14 03 56.4	+1.2

*ISCJB **09** 14:04:14.0±0.2, 38°42N±0°01×21°85E±0°01, h10km±1km, Error ellipse: s-maj=2.1km s-min=1.9km az=18.5*
*CSEM **09** 14:04:14.2±0.1, 38°41N×21°85E, h8km, MD3.3, Error ellipse: s-maj=2.2km s-min=2.1km az=38.0*
*THE **09** 14:04:14.2, 38°42N×21°84E, h10km, ML3.1/14, Error ellipse: s-maj=0.8km s-min=0.4km az=112.0*
*ATH **09** 14:04:14.1, 38°42N×21°88E, h15km±1km, MD3.3/33, ML6.8*

ISC 09 14:04:14.4±0.8, 38°41N±0°01×21°85E±0°01, h10km±4km, n140, σ0°69/236, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.04**	**68**	*e*PB	**Pg**	**14 04 16.0**	**-0.4**
EFP				*e*SB	**Sg**	**14 04 17.5**	**-0.3**
EFP	**Efpalio**	**0.04**	**68**	*e*Pb	**Pg**	**14 04 16.0**	**-0.4**
EFP				S	**Sg**	**14 04 17.4**	**-0.3**
EFP	**Efpalio**	**0.04**	**68**	P	**Pg**	**14 04 15.9**	**-0.4**
EFP				S	**Sg**	**14 04 17.4**	**-0.3**
UPR	**University Cam**	**0.14**	**203**	P	**Pg**	**14 04 17.6**	**+0.1**
SERG	**Sergoula**	**0.16**	**89**	S	**Sg**	**14 04 20.8**	**+0.4**
SERG	**Sergoula**	**0.16**	**89**	P	**Pg**	**14 04 17.9**	**0.0**
SERG				S	**Sg**	**14 04 20.8**	**+0.4**
TRIZ	**Trizonia**	**0.18**	**105**	*e*PB	**Pg**	**14 04 18.3**	**+0.1**
TRIZ				*e*SB	**Sg**	**14 04 20.6**	**-0.2**
TRIZ	**Trizonia**	**0.18**	**105**	*e*Pb	**Pg**	**14 04 18.3**	**+0.1**
TRIZ				*e*Sb	**Sg**	**14 04 20.6**	**-0.2**
TRIZ				S	**Sg**	**14 04 21.5**	**+0.7**
TRIZ	**Trizonia**	**0.18**	**105**	P	**Sg**	**14 04 18.2**	**+0.1**
TRIZ				S	**Sg**	**14 04 21.5**	**+0.7**
LAKA	**Lakka**	**0.20**	**150**	*e*PB	**Pg**	**14 04 18.7**	**+0.2**
LAKA	**Lakka**	**0.20**	**150**	*e*Pb	**Pg**	**14 04 18.7**	**+0.2**
LAKA				S	**Sg**	**14 04 21.9**	**+0.5**
LAKA	**Lakka**	**0.20**	**150**	P	**Pg**	**14 04 18.6**	**+0.1**
LAKA				S	**Sg**	**14 04 21.9**	**+0.5**
KALE	**Kalithea**	**0.23**	**95**	*e*PB	**Pg**	**14 04 19.1**	**0.0**
KALE				*e*SB	**Sg**	**14 04 23.2**	**+1.0**
KALE	**Kalithea**	**0.23**	**95**	*e*Pb	**Pg**	**14 04 19.1**	**0.0**
KALE				S	**Sg**	**14 04 22.9**	**+0.7**
KALE				*e*Sb	**Sg**	**14 04 23.2**	**+1.0**
KALE	**Kalithea**	**0.23**	**95**	P	**Pg**	**14 04 19.0**	**0.0**
KALE				S	**Sg**	**14 04 22.9**	**+0.7**
PVO	**Paravola**	**0.33**	**309**	P	**Pg**	**14 04 20.6**	**-0.4**
PVO				S	**Sg**	**14 04 26.2**	**+0.8**
PVO	**Paravola**	**0.33**	**309**	P	**Pg**	**14 04 20.6**	**-0.4**
PVO				S	**Sg**	**14 04 26.2**	**+0.8**
KLV	**Kalavryta, Ach**	**0.43**	**147**	*e*PB	**Pg**	**14 04 22.8**	**-0.1**
KLV				*e*SB	**Sg**	**14 04 28.2**	**-0.4**
KLV	**Kalavryta, Ach**	**0.43**	**147**	*e*Pb	**Pg**	**14 04 22.8**	**-0.1**
KLV				*e*Sb	**Sg**	**14 04 28.2**	**-0.4**
KLV	**Kalavryta, Ach**	**0.43**	**147**	P	**Pg**	**14 04 22.7**	**-0.1**
KLV				S	**Sg**	**14 04 28.8**	**+0.2**
RLS	**Riolos of Patr**	**0.47**	**221**	*e*PB	**Pg**	**14 04 23.6**	**+0.1**
RLS				*e*SB	**Sb**	**14 04 31.0**	**-0.6**
RLS	**Riolos of Patr**	**0.47**	**221**	*e*Pb	**Pg**	**14 04 23.6**	**+0.1**
RLS				S	**Sb**	**14 04 31.0**	**-0.6**
RLS	**Riolos of Patr**	**0.47**	**221**	P	**Pg**	**14 04 23.4**	**-0.1**
RLS				S	**Sb**	**14 04 31.0**	**-0.6**
DRO	**Drossia**	**0.47**	**194**	*e*PB	**Pg**	**14 04 23.4**	**-0.2**
DRO				*e*SB	**Sb**	**14 04 31.0**	**-0.7**
DRO	**Drossia**	**0.47**	**194**	P	**Pg**	**14 04 23.1**	**-0.5**
DRO	**Drossia**	**0.47**	**194**	*e*Pb	**Pg**	**14 04 23.4**	**-0.2**
DRO				S	**Sb**	**14 04 31.0**	**-0.7**
DRO	**Drossia**	**0.47**	**194**	P	**Pg**	**14 04 23.1**	**-0.5**
DRO				S	**Sb**	**14 04 31.0**	**-0.7**
EVR	**Evrytania**	**0.51**	**356**	*e*PN	**Pg**	**14 04 23.6**	**-0.7**
EVR				*e*SN	**Sg**	**14 04 30.8**	**-0.2**
EVR	**Evrytania**	**0.51**	**356**	P	**Pg**	**14 04 23.7**	**-0.6**
EVR				*e*Sn	**Sg**	**14 04 30.8**	**-0.2**
EVR	**Evrytania**	**0.51**	**356**	P	**Pg**	**14 04 23.7**	**-0.6**
EVR				S	**Sg**	**14 04 30.9**	**-0.1**
DSF	**Desfina**	**0.53**	**90**	*e*PN	**Pg**	**14 04 23.9**	**-0.8**
DSF				*e*SN	**Sg**	**14 04 32.0**	**+0.3**
DSF	**Desfina**	**0.53**	**90**	*e*Pn	**Pg**	**14 04 23.9**	**-0.8**
DSF				*e*Sn	**Sg**	**14 04 32.0**	**+0.3**
DSF	**Desfina**	**0.53**	**90**	P	**Pg**	**14 04 23.8**	**-0.9**
DSF				S	**Sb**	**14 04 32.8**	**-0.7**
PDO	**Prodromos**	**0.56**	**290**	*e*PN	**Pg**	**14 04 24.1**	**-1.2**
PDO				*e*SN	**Sb**	**14 04 34.0**	**-0.3**
PDO	**Prodromos**	**0.56**	**290**	*e*Pn	**Pg**	**14 04 24.1**	**-1.2**
PDO				*e*Sn	**Sg**	**14 04 32.3**	**-0.3**
PDO				S	**Sb**	**14 04 34.0**	**-0.3**
PDO	**Prodromos**	**0.56**	**290**	P	**Pg**	**14 04 24.0**	**-1.2**
PDO				S	**Sg**	**14 04 32.3**	**-0.3**
GUR	**Goura**	**0.61**	**141**	*e*PN	**Pg**	**14 04 25.8**	**-0.4**
GUR				*e*SN	**Sg**	**14 04 34.1**	**-0.1**
GUR	**Goura**	**0.61**	**141**	*e*Pn	**Pg**	**14 04 25.8**	**-0.4**
GUR				*e*Sn	**Sg**	**14 04 34.1**	**-0.1**
GUR	**Goura**	**0.61**	**141**	P	**Pg**	**14 04 25.6**	**-0.6**
GUR				S	**Sg**	**14 04 34.8**	**+0.6**
MAKR	**Makrakomi, Fth**	**0.64**	**20**	*e*PN	**Pg**	**14 04 26.5**	**-0.3**
MAKR				*e*SN	**Sg**	**14 04 35.4**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.64**	**20**	P	**Pg**	**14 04 26.1**	**-0.7**
MAKR	**Makrakomi, Fth**	**0.64**	**20**	*e*Pn	**Pg**	**14 04 26.5**	**-0.3**
MAKR				*e*Sn	**Sg**	**14 04 35.4**	**+0.2**
MAKR				S	**Sb**	**14 04 36.8**	**+0.1**
MAKR	**Makrakomi, Fth**	**0.64**	**20**	P	**Pg**	**14 04 26.1**	**-0.7**
MAKR				S	**Sb**	**14 04 36.8**	**+0.1**
AXAR	**Agios Charalam**	**0.72**	**60**	*e*PB	**Pg**	**14 04 27.0**	**-1.4**
AXAR				*e*SN	**Sg**	**14 04 38.4**	**+0.6**
AXAR	**Agios Charalam**	**0.72**	**60**	*e*Pb	**Pg**	**14 04 27.0**	**-1.4**

ITM				*e*Sn	**Sn**	**14 04 54.8**	**+0.5**
ITM	**Ithomi**	**1.23**	**177**	P	**Pn**	**14 04 37.1**	**-0.5**
ITM				S	**Sn**	**14 04 54.7**	**+0.5**
SFD	**Strofades**	**1.33**	**210**	*e*PN	**Pg**	**14 04 40.1**	**+0.1**
SFD				*e*SN	**Sg**	**14 04 58.8**	**+1.5**
SFD	**Strofades**	**1.33**	**210**	*e*Pn	**Pg**	**14 04 40.1**	**+0.1**
SFD				*e*Sn	**Sg**	**14 04 58.8**	**+1.5**
MRKA	**Markates**	**1.39**	**77**	*e*PN	**Pn**	**14 04 39.8**	**0.0**
MRKA				*e*SN	**Sg**	**14 04 59.5**	**+0.4**
MRKA	**Markates**	**1.39**	**77**	*e*Pn	**Pn**	**14 04 39.8**	**0.0**
MRKA				*e*Sn	**Sg**	**14 04 59.5**	**+0.4**
NEO	**Neokhori**	**1.39**	**50**	*e*PB	**Pn**	**14 04 39.0**	**-0.9**
NEO				*e*SN	**Sn**	**14 04 58.1**	**-0.3**
NEO	**Neokhori**	**1.39**	**50**	*e*Pn	**Pn**	**14 04 39.0**	**-0.9**
NEO				*e*Sn	**Sn**	**14 04 58.1**	**-0.3**
XOR	**Xorichti**	**1.42**	**47**	*e*PN	**Pb**	**14 04 40.8**	**-0.1**
XOR				*e*SN	**Sn**	**14 04 58.2**	**-0.7**
XOR	**Xorichti**	**1.42**	**47**	*e*Pn	**Pb**	**14 04 40.8**	**-0.1**
XOR				*e*Sn	**Sn**	**14 04 58.2**	**-0.7**
DID	**Didima**	**1.42**	**129**	*e*PN	**Pb**	**14 04 40.8**	**-0.1**
DID				*e*SN	**Sb**	**14 04 59.2**	**+0.2**
DID	**Didima**	**1.42**	**129**	*e*Pn	**Pb**	**14 04 40.8**	**-0.1**
DID				S	**Sb**	**14 04 59.1**	**+0.1**
DID	**Didima**	**1.42**	**129**	P	**Pb**	**14 04 40.9**	**0.0**
DID				S	**Sb**	**14 04 59.1**	**+0.1**
DIDY	**Didyma**	**1.42**	**131**	*e*PN	**Pb**	**14 04 41.1**	**+0.1**
DIDY				*e*SN	**Sg**	**14 05 01.3**	**+1.2**
DIDY	**Didyma**	**1.42**	**131**	*e*Pn	**Pb**	**14 04 41.1**	**+0.1**
DIDY				*e*Sn	**Sg**	**14 05 01.3**	**+1.2**
NAIG	**Nisos Aigina**	**1.45**	**116**	*e*PN	**Pb**	**14 04 41.1**	**-0.2**
NAIG	**Nisos Aigina**	**1.45**	**116**	*e*Pn	**Pb**	**14 04 41.1**	**-0.2**
KRND	**KRANIDI**	**1.45**	**135**	*e*PN	**Pn**	**14 04 40.7**	**+0.1**
KRND	**KRANIDI**	**1.45**	**135**	*e*Pn	**Pn**	**14 04 40.7**	**+0.1**
JAN	**Janina**	**1.47**	**328**	*e*PN	**Pb**	**14 04 42.0**	**+0.2**
JAN	**Janina**	**1.47**	**328**	*e*Pn	**Pb**	**14 04 42.0**	**+0.2**
PYL	**PYLOS**	**1.52**	**183**	*e*PN	**Pb**	**14 04 42.0**	**-0.5**
PYL				*e*SN	**Sg**	**14 05 04.2**	**+1.1**
PYL	**PYLOS**	**1.52**	**183**	*e*Pn	**Pb**	**14 04 42.0**	**-0.5**
PYL				*e*Sn	**Sg**	**14 05 04.2**	**+1.1**
ATH	**Athens Observa**	**1.53**	**106**	*e*PN	**Pn**	**14 04 41.5**	**-0.2**
ATH	**Athens Observa**	**1.53**	**106**	*e*Pn	**Pn**	**14 04 41.5**	**-0.2**
PTL	**Penteli**	**1.62**	**102**	*e*PN	**Pb**	**14 04 43.8**	**-0.6**
PTL				*e*SN	**Sb**	**14 05 05.5**	**+0.5**
PTL	**Penteli**	**1.62**	**102**	*e*Pn	**Pb**	**14 04 43.8**	**-0.6**
PTL				*e*Sn	**Sb**	**14 05 05.5**	**+0.5**
EREA	**Eretria**	**1.63**	**89**	*e*PN	**Pn**	**14 04 43.8**	**+0.6**
EREA	**Eretria**	**1.63**	**89**	*e*Pn	**Pn**	**14 04 43.8**	**+0.6**
IGT	**Igoumenitsa**	**1.63**	**314**	*e*PN	**Pg**	**14 04 45.9**	**+0.2**
SGD	**Sagiada**	**1.74**	**314**	*e*PN	**Pb**	**14 04 45.9**	**-0.5**
SGD	**Sagiada**	**1.74**	**314**	*e*Pn	**Pb**	**14 04 45.9**	**-0.5**
AOS	**Alonnisos**	**1.76**	**64**	*e*PN	**Pb**	**14 04 47.0**	**+0.4**
AOS	**Alonnisos**	**1.76**	**64**	*e*Pn	**Pb**	**14 04 47.0**	**+0.4**
LIT	**Litokhoron**	**1.76**	**16**	*e*PN	**Pn**	**14 04 45.6**	**+0.7**
LIT	**Litokhoron**	**1.76**	**16**	*e*Pn	**Pn**	**14 04 45.6**	**+0.7**
KZN	**Kozani**	**1.90**	**358**	*e*PN	**Pn**	**14 04 47.7**	**+0.9**
KZN	**Kozani**	**1.90**	**358**	*e*Pn	**Pn**	**14 04 47.7**	**+0.9**
VLI	**Veliai**	**1.90**	**153**	*e*PN	**Pn**	**14 04 47.6**	**+0.9**
VLI	**Veliai**	**1.90**	**153**	*e*Pn	**Pn**	**14 04 47.6**	**+0.9**
KEK	**Kerkira**	**2.06**	**310**	*e*PN	**Pn**	**14 04 50.3**	**+1.3**
KEK	**Kerkira**	**2.06**	**310**	*e*Pn	**Pn**	**14 04 50.3**	**+1.3**
PLG	**Polygyros**	**2.32**	**32**	*e*PB	**Pn**	**14 04 53.2**	**+0.6**
KYTH	**Kithira**	**2.33**	**156**	*e*PN	**Pb**	**14 04 54.7**	**-1.7**
KYTH	**Kithira**	**2.33**	**156**	*e*Pn	**Pb**	**14 04 54.7**	**-1.7**
HORT	**Hortiatis**	**2.39**	**23**	*e*PB	**Pn**	**14 04 53.9**	**+0.3**
FNA	**Florina**	**2.40**	**351**	*e*PN	**Pn**	**14 04 55.2**	**+1.5**
FNA	**Florina**	**2.40**	**351**	*e*Pn	**Pn**	**14 04 55.2**	**+1.5**
OUR	**Ouranopolis**	**2.53**	**40**	*e*PB	**Pn**	**14 04 55.3**	**-0.2**
GRG	**Griva**	**2.58**	**9**	*e*PB	**Pn**	**14 04 57.9**	**+1.7**
SOH	**Sokhos**	**2.67**	**25**	*e*PB	**Pn**	**14 04 59.1**	**+1.6**
KNT	**Kendrikon**	**2.86**	**16**	*e*PN	**Pn**	**14 05 01.8**	**+1.7**
KNT	**Kendrikon**	**2.86**	**16**	*e*Pn	**Pn**	**14 05 01.8**	**+1.7**

NEIC ***09*** *14:36:15.4, 16.˚02N×98.˚13W, h3km, MD4.1(MEX), After MEX.*

MEX 09 14:36:15.4±0.5, 16˚02N×98˚13W, h3km±3km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.37**	**360**	*i* P	Pg	14 36 22.1	-0.6
PNIG				*i* S	Sg	14 36 27.9	+0.4
PNIG	**Pinotepa**	**0.37**	**360**	*i* P	Pg	14 36 22.1	-0.6
PNIG				*i* S	Sg	14 36 27.9	+0.4
TLIG	**Tlapa**	**1.59**	**345**	*e*P	Pn	14 36 41.5	-3.2
TLIG				*e*S	Sn	14 37 00.5	-5.4
VHO	**Vista Hermosa**	**1.70**	**52**	*e*P	Pn	14 36 42.3	-3.9
VHO				*i* S	Sn	14 37 03.8	-4.8
VHO	**Vista Hermosa**	**1.70**	**52**	*e*P	Pn	14 36 42.3	-3.9
VHO				*i* S	Sn	14 37 03.8	-4.8
HUIG	**Huatulco**	**1.96**	**97**	*e*P	Pn	14 36 45.9	-3.6
HUIG				*i* S	Sn	14 37 10.5	-4.1
HUIG	**Huatulco**	**1.96**	**97**	*e*P	Pn	14 36 45.9	-3.6
HUIG				*i* S	Sn	14 37 10.5	-4.1
CAIG	**El Cayaco**	**2.29**	**297**	*e*P	Pn	14 36 51.3	-2.8
CAIG				*e*S	Sn	14 37 19.0	-3.9
CAIG	**El Cayaco**	**2.29**	**297**	*e*P	Pn	14 36 51.3	-2.8
CAIG				*e*S	Sn	14 37 19.0	-3.9
CMIG	**Matias Romero**	**3.29**	**71**	*i* P	Pn	14 37 03.7	-4.2
CMIG				*i* S	Sn	14 37 44.7	-2.8
CMIG	**Matias Romero**	**3.29**	**71**	*i* P	Pn	14 37 03.7	-4.2
CMIG				*i* S	Sn	14 37 44.7	-2.8

NEIC ***09*** *14:45:14.8±0.4, 6˚20S×148˚04E, h35km, mb4.7/3, Error ellipse: s-maj=11.8km s-min=6.6km az=92.0*
NEIC Felt at Kainantu.
ISCJB ***09*** *14:45:15.4±0.4, 6˚24S±0˚03×147˚93E±0˚05, h51km, mb4.4/16, MS3.7/8, Error ellipse: s-maj=7.2km s-min=4.8km az=171.2*
IDC ***09*** *14:45:15.1±0.8, 6˚24S×148˚01E, h36km±5km, mb4.0/12, mb1 4.2/16, mb1mx4.1/31, mbtmp4.3/16, ML4.4/4, MS3.7/9, Ms1 3.7/9, ms1mx3.4/38, Error ellipse: s-maj=19.9km s-min=9.1km az=110.0*

ISC 09 14:45:17.0±0.5, 6˚25S±0˚05×147˚95E±0˚07, h51km, n68, σ1§24/71, mb4.3/16, MS3.8/8, 5C-4D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** baz=3.1,SNR=61	**3.24**	**194**	P	**Pn**	**14 46 05.9**	**+0.6**
PMG				P	**Pn**	**14 46 05.9**	**+0.6**
	baz=3.1,SNR=61						
PMG				P	**Pn**	**14 46 05.9**	**+0.6**
	baz=3.1,SNR=61						
PMG	**Port Moresby**	**3.24**	**194**	*e*Pn	**Pn**	**14 46 05.4**	**0.0**
PMG				*e*Sn	**Sn**	**14 46 40.0**	**-2.6**
RABL	**Rabaul** baz=4.8,SNR=58	**4.67**	**64**	P	**Pn**	**14 46 27.5**	**+2.4**
JAY	**Jayapura**	**8.12**	**297**	P	**Pn**	**14 47 11.2**	**-1.1**
JAY	**Jayapura** 3.5nm,0.3s,baz=154,slow=6.9,SNR=19	**8.12**	**297**	Pn	**Pn**	**14 47 13.3**	**+0.9**
JAY				LR	LR	14 50 23.1	
	comp=Z,586nm,21.3s,baz=3.5,slow=38						
JAY	**Jayapura** baz=8.1,SNR=10	**8.12**	**297**	P	**Pn**	**14 47 15.3**	**+2.9**
GENI	**Genyem**	**8.56**	**295**	P	**Pn**	**14 47 16.7**	**-1.7**
COEN	**Coen** baz=8.9,SNR=12	**8.99**	**211**	P	**Pn**	**14 47 25.0**	**+0.7**
COEN	**Coen** 10nm,0.5s	**8.99**	**211**	*e*Pn	**Pn**	**14 47 21.9**	**-2.4**
COEN				*e*Sn	**Sn**	**14 49 04.3**	**+0.1**
SMPI	**Sarmi**	**10.13**	**294**	P	**Pn**	**14 47 40.8**	**+0.8**
MTSU	**Mount Surprise** baz=12,SNR=24	**12.34**	**196**	P	**Pn**	**14 48 11.1**	**+1.0**
SRPI	**Serui, Papua** 179nm,0.5s,0.7nm	**12.46**	**290**	P	**Pn**	**14 48 11.6**	**-0.1**
BAKI	**Biak**	**12.83**	**293**	P	**Pn**	**14 48 19.6**	**+2.7**
CTA	**Charters Tower** 0.2nm,0.3s,baz=344,slow=14,SNR=3.0	**13.86**	**187**	Pn	**Pn**	**14 48 30.3**	**-0.5**
RKPI	**Ransiki, Papua** 90nm,0.9s,2μm	**14.52**	**288**	P	**Pn**	**14 48 42.4**	**+2.7**
FAKI	**Fak Fak** baz=16,SNR=8.6	**15.99**	**281**	⇓P	**Pn**	**14 48 58.5**	**-0.3**
FAKI	**Fak Fak** 12nm,0.7s	**15.99**	**281**	*e*Pn	**Pn**	**14 48 57.8**	**-1.0**
FAKI				*e*Sn	**Sn**	**14 51 55.7**	**+0.5**
QIS	**Mount Isa** baz=16,SNR=26	**16.37**	**209**	P	**Pn**	**14 49 03.9**	**+0.4**
KDU	**Kakadu**	**16.55**	**246**	P	**Pn**	**14 49 05.0**	**-0.7**
	baz=16,SNR=13						
SIJI	**Sorong** 1.8nm,0.3s,baz=95,slow=10,SNR=11	**17.48**	**287**	P	**Pn**	**14 49 17.5**	**+0.1**
SWI	**Sorong**	**17.49**	**287**	P	**P**	**14 49 18.9**	**+0.9**
SWI	**Sorong** baz=18,SNR=5.6	**17.49**	**287**	P	**P**	**14 49 19.6**	**+1.5**
WRA	**Warramunga Arr** 3.5nm,0.3s,baz=49,slow=10,SNR=103	**18.98**	**223**	P	**P**	**14 49 33.9**	**-0.5**
WRA				S	**Sn**	**14 53 07.3**	**-0.2**
	baz=43,slow=21,SNR=5.9						
WRA				ScP	**ScP**	**14 57 32.8**	**+2.5**
	0.0nm,0.3s,baz=44,slow=2.7,SNR=5.6						
EIDS	**Eidsvold** baz=19,SNR=5.9	**19.25**	**171**	P	**Pn**	**14 49 39.1**	**+0.4**
GUMO	**Guam** comp=Z,94nm,18.2s,baz=166,slow=37	**19.94**	**351**	LR	LR	14 57 25.6	
RMQ	**Roma** baz=20,SNR=28	**20.14**	**178**	P	Pn	14 49 49.0	-0.3
QLP	**Quilpie** baz=20,SNR=92	**20.53**	**190**	P	**P**	**14 49 52.4**	**+1.2**
KNRA	**Kununurra** baz=21,SNR=33	**21.02**	**242**	P	**P**	**14 49 55.8**	**-0.7**
AS06	**Alice Springs** baz=22	**21.91**	**216**	⇑P	**P**	**14 50 06.3**	**+0.2**
AS31	**Alice Springs**	**21.96**	**216**	*e*P	**P**	**14 50 06.8**	**0.0**
ASAR	**Alice Springs** 25nm,0.6s,baz=50,slow=9.2,SNR=1961	**21.97**	**216**	P	**P**	**14 50 06.7**	**0.0**
ASAR				S	**S**	**14 54 08.6**	**+2.0**
	5.8nm,1.0s,baz=36,slow=19,SNR=6.6						
ASAR				LR	LR	14 59 52.6	
	comp=Z,252nm,18.6s,baz=50,slow=40						
ASPA	**Alice Springs** baz=22	**21.97**	**217**	⇓P	**P**	**14 50 06.9**	**+0.2**
SOEI	**Soe** baz=24,SNR=4.5	**23.70**	**260**	⇓P	**P**	**14 50 25.6**	**+1.0**
SOEI	**Soe** 30nm,0.6s	**23.70**	**260**	*e*P	**P**	**14 50 25.0**	**+0.4**
ARMA	**Armidale** baz=24,SNR=5.5	**24.30**	**172**	⇑P	**P**	**14 50 30.6**	**+0.7**
CMSA	**Cobar Meteorol** baz=25,SNR=17	**25.25**	**185**	P	**P**	**14 50 39.4**	**+1.0**
STKA	**Stephens Creek** 17nm,0.5s,baz=3.4,slow=7.8,SNR=41	**26.18**	**192**	P	**P**	**14 50 47.4**	**+0.5**
STKA				LR	LR	15 01 44.9	
	comp=Z,265nm,19.4s,baz=15,slow=38						
STKA	**Stephens Creek** baz=26,SNR=38	**26.18**	**192**	P	**P**	**14 50 47.3**	**+0.5**
WRKA	**Warakurna** baz=26,SNR=57	**26.52**	**223**	P	**P**	**14 50 49.7**	**-0.4**
YNG	**Young** baz=28,SNR=5.2	**27.92**	**179**	P	**P**	**14 51 03.5**	**+1.0**
KAPI	**Kappang** comp=Z,74nm,19.5s,baz=108,slow=42	**28.08**	**271**	LR	LR	15 05 02.4	
HTT	**Hallett** baz=28,SNR=5.9	**28.32**	**196**	⇑P	**P**	**14 51 06.5**	**+0.5**
TGY	**Tagaytay City** 92nm,0.3s,baz=0.0,slow=0.0	**33.57**	**307**	P	**P**	**14 51 51.5**	**-1.1**
JCJ	**Chichijima** comp=Z,38nm,20.1s,baz=172,slow=34	**33.61**	**351**	LR	LR	15 04 08.9	
MEEK	**Meekatharra** baz=34,SNR=13	**34.52**	**231**	⇑P	**P**	**14 52 01.1**	**+0.4**
KMBL	**Kambalda** baz=35,SNR=8.4	**34.93**	**221**	⇓P	**P**	**14 52 04.3**	**+0.2**
MORW	**Morawa** baz=38,SNR=5.8	**37.72**	**229**	⇑P	**P**	**14 52 28.3**	**+0.4**
KLBR	**Kellerberrin** baz=38,SNR=22	**37.85**	**224**	P	**P**	**14 52 29.0**	**-0.1**
URZ	**Urewera** comp=Z,140nm,18.7s,baz=316,slow=32	**41.41**	**145**	LR	LR	15 07 40.9	
JNU	**Nakatsue** 4.1nm,0.9s,baz=128,slow=18,SNR=3.6	**42.37**	**339**	P	**P**	**14 53 06.2**	**-0.2**
MJAR	**Matsushiro Arr** 6.8nm,1.0s,baz=177,slow=8.9,SNR=9.8	**43.53**	**349**	P	**P**	**14 53 15.1**	**-0.7**
KSRS	**Korea Array** 1.4nm,0.8s,baz=152,slow=8.8,SNR=12	**47.32**	**338**	P	**P**	**14 53 45.0**	**-0.6**
KSAR	**Wonju Array Be**	**47.33**	**338**	P	**P**	**14 53 45.0**	**-0.7**
WHN	**Wuhan**	**48.72**	**321**	P	**P**	**14 53 56.2**	**-0.4**
USRK	**Ussuriysk Ar.** 1.3nm,0.5s,baz=209,slow=14,SNR=3.6	**52.24**	**346**	P	**P**	**14 54 23.8**	**+0.9**
HHC	**Hu-ho-hao-te**	**57.54**	**328**	*e*P	P	14 55 05.6	+4.1
HHC				PP	PP	14 57 15.7	+6.0
HHC				S	**S**	**15 02 57.9**	**+2.2**
HHC				sS	sS	15 03 25.8	+6.6
HHC	**Hu-ho-hao-te**	**57.54**	**328**	SS	SS	15 06 50.5	+3.9
HHC				pmax	pmax		
	comp=Z,22nm,1.1s						
HHC				pmax	pmax		
	comp=Z,36nm,5.1s						
HHC				LR	LR		
	comp=N,71nm,15.3s						
HHC				LR	LR		
	comp=E,190nm,14.5s						
HHC				LR	LR		
	comp=Z,52nm,15.3s						
PETK	**Petropavlovsk-** comp=Z,3.0nm,0.9s,baz=174,slow=8.7,SNR=4.6	**59.70**	**7**	P	**P**	**14 55 16.6**	**+0.3**
PETK				pP	**pP**	**14 55 27.1**	**-3.3**
	comp=Z,7.4nm,0.9s,baz=172,slow=7.0,SNR=6.9						
SONM	**Songino Array** comp=Z,0.8nm,0.7s,baz=141,slow=7.0,SNR=5.7	**65.08**	**330**	P	**P**	**14 55 52.3**	**-0.1**
SONM				pP	**pP**	**14 56 04.2**	**-2.5**
	comp=Z,1.6nm,0.8s,baz=138,slow=6.0,SNR=5.9						
VNDA	**Vanda** comp=Z,0.7nm,0.5s,baz=332,slow=6.5,SNR=13	**71.61**	**177**	P	**P**	**14 56 31.9**	**-0.8**
VNDA				LR	LR	15 26 03.5	
	comp=Z,113nm,18.1s,baz=350,slow=34						
MKAR	**Makanchi Array** comp=Z,1.4nm,0.8s,baz=120,slow=5.5,SNR=9.6	**78.28**	**320**	P	**P**	**14 57 11.1**	**-0.7**
ZALV	**Zalesovo Beam** comp=Z,0.5nm,0.4s,baz=120,slow=6.8,SNR=3.6	**79.72**	**328**	P	**P**	**14 57 18.2**	**-1.1**
MAW	**Mawson** comp=Z,58nm,19.0s,baz=59,slow=35	**82.39**	**203**	LR	LR	15 33 18.3	
QSPA	**South Pole Qui** comp=Z,4.3nm,0.7s	**83.72**	**180**	*e*P	**P**	**14 57 40.3**	**-0.1**
ILAR	**Eielson Array** comp=Z,0.6nm,0.9s,baz=251,slow=5.1,SNR=4.3	**85.34**	**23**	P	**P**	**14 57 46.7**	**-1.7**
ILAR				pP	PcP	14 57 58.1	+6.8
	comp=Z,1.4nm,0.7s,baz=253,slow=4.7,SNR=9.6						
LPAZ	**La Paz** comp=Z,0.8nm,0.6s,baz=244,slow=9.4,SNR=2.6	**137.86**	**123**	PKP	**PKPdf**	**15 04 37.9**	**+0.2**
TORD	**Torodi Ar. Bea** comp=Z,3.9nm,0.7s,baz=76,slow=3.7,SNR=20	**146.06**	**284**	PKPbc	**PKPdf**	**15 04 51.2**	**-0.3**
BDFB	**Brasilia** comp=Z,3.1nm,0.5s,baz=168,slow=4.6,SNR=4.7	**153.12**	**144**	PKPbc	**PKPbc**	**15 05 10.6**	**+0.4**

KRSC 09 15:09:57.7±1.1, 55˚78N×164˚13E, h10km±8km, ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.85**	**301**	*e*P	Pg	15 10 13.4	-0.7
KBTR				*e*S	Sg	15 10 24.9	-0.3
BKI	**Bering**	**1.20**	**118**	*e*P	Pg	15 10 20.8	+0.1
BKI				*e*S	Sn	15 10 36.8	0.0
SMKR	**Semkarok**	**1.69**	**299**	*e*P	Pn	15 10 27.7	+0.3
SMKR				*e*S	Sn	15 10 49.2	+0.1
BDR	**Baidarnaya**	**1.81**	**297**	*e*P	Pb	15 10 30.4	-0.7
BDR				*e*S	Sb	15 10 53.6	-0.3
MKZ	**Mys Kozlova**	**1.85**	**229**	*e*P	Pb	15 10 31.2	-0.3
MKZ				*e*S	Sb	15 10 55.0	+0.4
SRKR	**Sorokina**	**1.87**	**299**	*e*P	Pn	15 10 30.0	+0.2
SRKR				*e*S	Sn	15 10 52.8	-0.8
KLY	**Klyuchi**	**2.02**	**287**	*e*P	Pn	15 10 32.1	+0.3
KLY				*e*S	Sn	15 10 56.7	-0.4
KZV	**Kizimen**	**2.29**	**254**	*e*P	Pb	15 10 38.7	-0.5
TUMR	**Tumrok**	**2.32**	**259**	*e*P	Pb	15 10 39.4	-0.4
TUMR				*e*S	Sb	15 11 08.0	-0.6
SRDR	**Sredinnyy**	**2.53**	**284**	*e*P	Pb	15 10 41.9	-1.4
SRDR				*e*S	Sb	15 11 12.7	-1.9
SPN	**Mys Shipunski**	**3.60**	**223**	*e*P	Pn	15 10 54.8	+1.2
SDLR	**Sedlovina**	**3.96**	**233**	*e*P	Pn	15 11 01.9	+3.3
SMAR	**Somma**	**4.00**	**233**	*e*P	Pn	15 11 02.0	+2.7
KRX	**Arik**	**4.01**	**235**	*e*P	Pn	15 11 03.5	+4.2
UGLR	**Uglovaya**	**4.03**	**232**	*e*P	Pn	15 11 01.4	+1.9
AVH	**Avacha**	**4.03**	**233**	*e*P	Pn	15 11 04.1	+4.6
KOK	**Koryaka**	**4.06**	**234**	*e*P	Pn	15 11 03.4	+3.5
GNL	**Ganaly**	**4.15**	**242**	*e*P	Pn	15 11 05.0	+3.7
RUS	**Russkaya**	**4.71**	**227**	*e*P	Pn	15 11 11.7	+3.0

SKHL ***09*** *15:17:43.1±0.6, 52˚17N×142˚21E, h10km±2km, mb4.8/11, Ms4.8/4*
SKHL Felt (III-IV) at Nogliki, (II-III) at Nikolaevsk-na-Amure.
ISCJB ***09*** *15:17:43.7±0.5, 52˚17N±0˚02×142˚27E±0˚02, h5km±3km, mb4.9/190, MS4.5/41, Error ellipse: s-maj=2.9km s-min=2.1km az=145.5*
MOS ***09*** *15:17:44.4±0.9, 52˚10N×142˚23E, h11km, mb5.0/71, MS4.6/28, Error ellipse: s-maj=7.5km s-min=4.0km az=87.8*
MOS Felt (III-IV) at Nogliki;(II-III) at Nikolaevsk-na-Amure.
IDC ***09*** *15:17:44.4±0.4, 52˚16N×142˚21E, h0km, mb4.5/36, mb1 4.6/42, mb1mx4.6/56, mbtmp4.5/42, ML3.2/7, MS4.1/25, Ms1 4.2/25, ms1mx3.9/50, Error ellipse: s-maj=10.6km s-min=9.1km az=137.0*
BJI ***09*** *15:17:46.0, 52˚18N×142˚12E, h16km, mb4.7/60, mB5.0/48, Ms5.3/69, Ms7 5.1/64*
NEIC ***09*** *15:17:48.3±1.8, 52˚16N×142˚12E, h23km±13km, mb5.1/112, Error ellipse: s-maj=6.2km s-min=3.4km az=155.0*
NEIC Felt [IV] at Nogliki and [III] at Nikolayevsk-na-Amure.
GCMT ***09*** *15:17:48.3±0.2, 52˚12N×142˚06E, h13km, MW5.0/91, Moment Tensor Solution. s47,c60; s91,c141; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.24±.14; $M_{\theta\theta}$-0.05±.09; $M_{\phi\phi}$-3.19±.10; $M_{r\theta}$-0.05±.27; $M_{\theta\phi}$0.89±.07; $M_{\phi r}$-0.93±.22; Best double couple: M_o3.45900×10^{16} NP1:ϕ_s170.00000°, δ53.00000°, λ96.00000°. NP2: ϕ_s340.00000°, δ38.00000°, λ82.00000°. Principal axes: T 3.3790, Plg81.0000°, Azm109.0000°; N 0.1610, Plg5.0000°, Azm346.0000°; P -3.5390, Plg7.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***09*** *15:17:50.1, 52˚64N×142˚49E, h30km, mb5.2, Sakhalin Island, Russia*

ISC 09 15:17:48.1±0.3, 52˚15N±0˚02×142˚21E±0˚03, h19km±1km, h19km:pP-P, n912, σ1§29/994, mb5.0/190, MS4.6/41, 29C-15D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TYV	**Tymovskoe**	**1.32**	**168**	*e*Pg	**Pn**	**15 18 09.5**	**-1.9**
TYV				pP	pP	15 18 12.8	
TYV				sP	sP	15 18 17.9	
TYV				*e*Sg	**Sn**	**15 18 27.5**	**-0.9**
TYV	**Tymovskoe**	**1.32**	**168**	*e*PN	**Pn**	**15 18 09.0**	**-2.4**
TYV				*e*		15 18 26.0	
NKL	**Nikolayevsk**	**1.37**	**318**	*i* Pg	**Pn**	**15 18 10.0**	**-2.1**
NKL				AMB	AMB	15 18 13.0	
	6μm,2.0s						
NKL				AMB	AMB	15 18 13.0	
	5μm,2.0s						
NKL				AMB	AMB	15 18 13.0	
	7μm,2.0s						
NKL				*e*Sg	**Sn**	**15 18 29.0**	**-0.7**
NKL				A	A	15 18 31.3	
	8.0nm,0.5s						
NKL				A	A	15 18 31.3	
	180nm,0.5s						
NKL				A	A	15 18 32.0	
	33μm,2.0s						
NKL				AMS	AMS	15 19 12.0	
	8μm,5.0s						
NKL				AMS	AMS	15 19 12.0	
	8μm,5.0s						
NKL				AMS	AMS	15 19 12.0	
	10μm,5.0s						
OKH	**Okha**	**1.47**	**17**	*i* Pg	**Pn**	**15 18 14.0**	**+0.5**
OKH				⇓*i*Pg	**Pn**	**15 18 14.0**	**+0.5**
OKH				pP	**Pg**	**15 18 16.5**	**0.0**
OKH				AMB	AMB	15 18 18.0	
	9μm,1.0s						
OKH				AMB	AMB	15 18 20.0	
	5μm,0.7s						
OKH				sP		15 18 20.0	
OKH				⇑*i*Sg	**Sg**	**15 18 36.0**	**+0.3**
OKH				*i* Sg	**Sg**	**15 18 36.0**	**+0.3**
OKH				A	A	15 18 37.7	
	9μm,0.9s						
OKH				A	A	15 18 37.7	
	21μm,0.9s						
OKH	**Okha**	**1.47**	**17**	*i* PN	**Pn**	**15 18 13.6**	**+0.1**
OKH				*i* S	**Sg**	**15 18 36.6**	**+0.9**
OKH				pmax	pmax		
	comp=Z,1.0nm,0.6s						
OKH				smax	smax		
	comp=E,21nm,0.9s						
OKH				smax	smax		
	comp=N,9.0nm,1.0s						
UGL	**Uglegorsk**	**3.08**	**182**	*e*P	**Pn**	**15 18 33.0**	**-2.6**
UGL				pP	Pb	15 18 35.8	-6.3
UGL				*e*Pg	Pg	15 18 43.6	-3.4
UGL				AMB	AMB	15 18 45.0	
	comp=N,506nm,0.8s						
UGL				AMB	AMB	15 18 45.0	
	comp=N,386nm,0.8s						
UGL				AMB	AMB	15 18 45.0	
	comp=N,720nm,0.8s						
UGL				AMB	AMB	15 18 46.0	
	comp=N,2μm,2.0s						
UGL				*i* Sg	**Sg**	**15 19 27.3**	**+0.5**
UGL				A	A	15 19 33.0	
	comp=N,2μm,0.7s						
UGL				A	A	15 19 33.0	
	comp=N,4μm,0.7s						
UGL				A	A	15 19 33.0	
	comp=N,4μm,0.7s						
UGL				AMS	AMS	15 21 12.0	
	comp=N,18μm,9.0s						
UGL				AMS	AMS	15 21 12.0	
	comp=N,11μm,9.0s						
UGL				AMS	AMS	15 21 12.0	
	comp=N,13μm,9.0s

EKMR **Ekimchan** 5.72 283 *e*P **Pn** **15 19 09.5 -2.4**
EKMR *e*Pg **Pg** **15 19 35.0 -2.5**
EKMR AMB AMB 15 19 36.1
comp=N,72nm,0.5s
EKMR AMB AMB 15 19 36.1
comp=N,110nm,0.5s
EKMR AMB AMB 15 19 36.1
comp=N,170nm,0.5s
EKMR *e*S **Sn** **15 20 14.5 -2.4**
EKMR *e*Sg **Sg** **15 20 54.5 +3.1**
EKMR A A 15 20 57.2
comp=N,840nm,0.5s
EKMR A A 15 20 57.2
comp=N,420nm,0.5s
EKMR A A 15 20 57.2
comp=N,370nm,0.5s
HABR **Khabarovsk** 5.88 234 *e*P **Pn** **15 19 13.0 -1.1**
HABR **Khabarovsk** 5.88 234 *e*PN **Pn** **15 19 13.0 -1.1**
HABR *e*SS Sb 15 20 32.3 -7.5
HABR pmax pmax
comp=N,5.0nm,0.7s
HABR pmax pmax
comp=Z,31nm,1.2s
HABR pmax pmax
comp=E,10.0nm,0.7s
HABR MLR MLR
comp=Z,2µm,11.0s
KLR **Kul'dur** 7.26 250 *e*P **Pn** **15 19 34.0 +1.0**
KLR AMB AMB 15 20 00.5
comp=Z,60nm,0.6s
KLR AMB AMB 15 20 00.5
comp=Z,40nm,0.6s
KLR AMB AMB 15 20 00.5
comp=Z,70nm,0.6s
KLR *e*S **Sb** **15 21 14.0 -5.5**
KLR **Kul'dur** 7.26 250 *e*PN **Pn** **15 19 34.0 +1.0**
KLR MLR MLR
comp=E,12µm,8.5s
KLR MLR MLR
comp=Z,24µm,8.5s
KUR **Kuril'sk** 7.87 149 *d i*PN **Pn** **15 19 39.7 -1.6**
KUR pmax pmax
comp=N,6.0nm,0.7s
KUR pmax pmax
comp=Z,7.0nm,0.7s
KUR pmax pmax
comp=E,4.0nm,0.4s
TEY **Ternei** 8.03 210 *e*P **Pn** **15 19 42.5 -1.1**
TEY AMB AMB 15 19 43.2
comp=E,9.0nm,0.6s
TEY *e*Sg Sg 15 21 59.0
ASAJ **Asahikawa** 8.04 178 Pn **Pn** **15 19 43.0 -0.7**
comp=E,1.5nm,0.3s,baz=286,slow=28,SNR=21
ASAJ **Asahikawa** 8.04 178 PN **Pn** **15 19 43.1 -0.7**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ **Asahikawa** 8.04 178 *e*Pn **Pn** **15 19 42.9 -0.9**
BMKR **Bomnak** 8.39 293 *e*P **Pn** **15 19 50.2 +1.7**
BMKR AMB AMB 15 20 02.0
comp=Z,14nm,0.6s
BMKR *e*Sg Sg 15 22 18.2
BMKR A A 15 22 26.9
comp=Z,460nm,0.9s
YUK **Yuzh-Kuril'sk** 8.48 162⇑ *i*P **Pn** **15 19 47.3 -2.5**
YUK AMB AMB 15 19 53.9
comp=Z,30nm,0.9s
YUK AMB AMB 15 19 53.9
comp=Z,38nm,0.9s
YUK AMB AMB 15 19 53.9
comp=Z,62nm,0.9s
YUK **Yuzh-Kuril'sk** 8.48 162 *c i*PN **Pn** **15 19 47.2 -2.5**
YUK pmax pmax
comp=E,38nm,0.9s
YUK pmax pmax
comp=Z,62nm,0.9s
YUK pmax pmax
comp=N,33nm,0.4s
YUK MLR MLR
comp=N,899nm,12.0s
YUK MLR MLR
comp=E,447nm,12.0s
YUK MLR MLR
comp=Z,866nm,12.0s
YASR **Yasnyy** 8.72 283 *e*P **Pn** **15 19 50.0 -3.0**
YASR AMB AMB 15 19 54.6
comp=Z,3.0nm,0.6s
YASR AMB AMB 15 19 54.6
comp=Z,4.0nm,0.6s
YASR AMB AMB 15 19 54.6
comp=Z,9.0nm,0.6s
YASR *e*Sg Sg 15 22 09.4
YASR A A 15 22 21.1
comp=Z,360nm,0.7s
YASR A A 15 22 21.1
comp=Z,160nm,0.7s
SKR **Severo-Kuril's** 8.82 94 *e*P Pn 15 19 51.0 -3.4
SKR *e*S **Sn** **15 21 35.5 +2.4**
SKR A A 15 21 36.0
comp=Z,70nm,0.3s
SKR A A 15 21 36.0
comp=Z,90nm,0.3s
SKR A A 15 21 36.0
comp=Z,20nm,0.3s
SKR AMS AMS 15 24 32.0
comp=Z,2µm,14.0s
SKR AMS AMS 15 24 32.0
comp=Z,4µm,14.0s
SKR AMS AMS 15 24 32.0
comp=Z,5µm,14.0s
SKR **Severo-Kuril's** 8.82 94 *e*PN Pn 15 19 50.6 -3.8
SKR MLR MLR
comp=Z,5µm,12.0s
MA2 **Magadan** 8.86 29 *e*PN **Pn** **15 19 57.3 +2.4**
PEA0 **Petropavlovsk-** 9.47 78 *e*Pn **Pn** **15 20 01.4 -2.0**
PETK **Petropavlovsk-** 9.47 78 Pn **Pn** **15 20 01.5 -1.9**
comp=Z,1.0nm,0.3s,baz=264,slow=10,SNR=11
PETK Sn **Sn** **15 21 43.6 -5.6**
comp=Z,0.4nm,0.3s,baz=247,slow=18,SNR=2.8
PETK LR LR 15 24 01.9
comp=Z,268nm,18.9s,baz=267,slow=40
PET **Petropavlovsk** 10.05 79 *e*P **Pn** **15 20 11.9 +0.7**
PET AMB AMB 15 20 15.7
comp=Z,164nm,4.0s
PET AMB AMB 15 20 24.9
comp=Z,35nm,0.9s
PET *e*S **Sn** **15 22 04.7 +1.4**
PET AMS AMS 15 22 24.6
comp=Z,3µm,12.0s
PET **Petropavlovsk** 10.05 79 *e*PN **Pn** **15 20 11.9 +0.7**
PET pmax pmax
comp=Z,200nm,4.0s
PET pmax pmax
comp=Z,200nm,14.9s
PET pmax pmax
comp=Z,35nm,0.9s
PET MLR MLR
comp=Z,3µm,12.0s
PET MLR MLR
comp=Z,3µm,11.0s
PET **Petropavlovsk** 10.05 79 *e*Pn **Pn** **15 20 11.2 0.0**
ERM **Erimo** 10.16 176 Pn Pn 15 20 16.8 +4.0
comp=Z,770nm,1.0s,SNR=10
ERM **Erimo** 10.16 176⇓ *e*PN **Pn** **15 20 14.2 +1.4**
ERM **Erimo** 10.16 176 *e*Pn **Pn** **15 20 15.9 +3.1**
USRK **Ussuriysk Ar.** 10.47 225 Pn **Pn** **15 20 17.0 0.0**
comp=Z,0.3nm,0.3s,baz=33,slow=14,SNR=17
USRK Sn **Sn** **15 22 17.0 +3.3**
comp=Z,0.3nm,0.3s,baz=9.9,slow=16,SNR=4.1
USRK Lg Lg 15 23 14.4
comp=Z,1.0nm,0.3s,baz=42,slow=26,SNR=5.2
USRK LR LR 15 24 45.4
comp=Z,2µm,19.7s,baz=32,slow=40
I45RU **USSURIYSK INFR** 10.47 225 *i* 16 21 10.0
baz=34,slow=323,SNR=0.4
CLNS **Chul'man** 11.10 302 *e*PN Pn 15 20 30.6 +4.9
CLNS *e*S Sn 15 22 36.4 +7.2
CLNS pmax pmax
comp=E,10.0nm,0.9s
CLNS pmax pmax
comp=N,11nm,0.8s
CLNS pmax pmax
comp=Z,16nm,1.3s
CLNS smax smax
comp=E,36nm,0.9s
CLNS smax smax
comp=N,33nm,1.0s
CLNS MLR MLR
comp=E,3µm,10.0s
CLNS MLR MLR
comp=Z,4µm,10.0s
CLNS MLR MLR
comp=N,2µm,11.0s
MDJ **Mudanjiang** 11.27 233 P **Pn** **15 20 28.3 +0.4**
MDJ S **Sn** **15 22 33.5 +0.3**
MDJ PMZ
comp=N,7.0nm,1.2s
MDJ PMZ
comp=N,230nm,7.3s
MDJ LN
comp=N,7µm,9.5s
MDJ LE
comp=N,5µm,8.3s
MDJ LZ
comp=N,11µm,9.5s
VLA **Vladivostok** 11.39 222 *e*PN **Pn** **15 20 29.6 -0.1**
VLA pmax pmax
comp=Z,11nm,1.2s
VLA MLR MLR
comp=Z,2µm,18.0s
YAK **Yakutsk** 12.00 331 Pn **Pn** **15 20 37.6 -0.2**
comp=Z,0.0nm,0.3s,baz=261,slow=19,SNR=3.2
YAK Lg Lg 15 23 59.4
comp=Z,0.0nm,0.3s,baz=235,slow=23,SNR=9.6
YAK **Yakutsk** 12.00 331 *e*PN **Pn** **15 20 39.7 +1.9**
YAK *e*SS Sn 15 23 02.9 +12
YAK pmax pmax
comp=N,15nm,1.3s
YAK pmax pmax
comp=Z,16nm,0.9s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=Z,7.0nm,0.6s
YAK MLR MLR
comp=Z,1µm,16.0s
YAK MLR MLR
comp=E,681nm,15.0s
YAK MLR MLR
comp=N,805nm,16.0s
SEY **Seymchan** 12.09 23 Pn **Pn** **15 20 39.1 -0.1**
comp=N,0.4nm,0.3s,baz=188,slow=14,SNR=11
SEY LR LR 15 25 41.8
comp=N,737nm,18.6s,baz=212,slow=40
SEY **Seymchan** 12.09 23 *e*PN **Pn** **15 20 41.8 +2.6**
CN2 **Changchun** 13.97 240 *e*P **Pn** **15 21 04.6 -0.2**
CN2 *e*pP **P** **15 21 14.4 +1.7**
CN2 *e*S **Sn** **15 23 39.4 +0.2**
CN2 PMZ
comp=N,10.0nm,0.6s
CN2 PMZ
comp=N,200nm,3.0s
CN2 LN
comp=N,2µm,10.0s
CN2 LE
comp=N,4µm,10.0s
CN2 LZ
comp=N,3µm,10.0s
MAJO **Matsushiro** 15.86 192 *e*P **Pn** **15 21 29.4 -0.8**
MAJO **Matsushiro** 15.86 192 *e*Pn **Pn** **15 21 29.7 -0.4**
comp=N,22nm,0.9s
MAT **Matsushiro** 15.86 192 P **Pn** **15 21 29.9 -0.3**
MAT S **Sn** **15 24 30.6 +5.3**
MJAR **Matsushiro Arr** 15.86 192 Pn **Pn** **15 21 29.8 -0.4**
comp=N,0.1nm,0.3s,baz=359,slow=13,SNR=10
MJAR LR LR 15 27 53.9
comp=N,338nm,19.4s,baz=10.0,slow=38
SNY **Shenyang** 16.33 238 ⇑P **P** **15 21 41.8 +2.9**
SNY S **S** **15 24 52.1 +3.2**
SNY pmax pmax
comp=Z,22nm,2.5s
SNY pmax pmax
comp=Z,430nm,10.6s
SNY LR LR
comp=N,4µm,7.9s
SNY LR LR
comp=E,6µm,8.5s
SNY LR LR
comp=Z,7µm,8.6s
KSULL **Ulleungdo** 16.69 213 P **Pn** **15 21 41.1 +0.4**
SNR=13
KSULL **Ulleungdo** 16.69 213 P **Pn** **15 21 41.1 +0.4**
SNR=13
KSSKC **Sokcho** 16.84 220 P **P** **15 21 46.0 +1.4**
SNR=6.0
KSSKC **Sokcho** 16.84 220 P **P** **15 21 46.0 +1.4**
SNR=6.0
SEHB **SEOHWA** 16.96 221 P **P** **15 21 47.4 +1.4**
SNR=26
SEHB **SEOHWA** 16.96 221 P **P** **15 21 47.4 +1.4**
SNR=26
BOD **Bodaibo** 17.07 301 *e*P **Pn** **15 21 44.5 -0.9**
BOD pmax pmax
comp=Z,12nm,1.4s
KSJMJ **Jumunjin** 17.10 219 P **P** **15 21 48.0 +0.5**
SNR=7.1
KSJMJ **Jumunjin** 17.10 219 P **P** **15 21 48.0 +0.5**
SNR=7.1
KSIJA **INJE** 17.26 220 P **P** **15 21 50.4 +1.1**
SNR=9.8
KSIJA **INJE** 17.26 220 P **P** **15 21 50.4 +1.1**
SNR=9.8
KSDGY **Daegwallycong** 17.30 219 P **P** **15 21 50.3 +0.5**
SNR=28
KSDGY **Daegwallycong** 17.30 219 P **P** **15 21 50.6 +0.8**
SNR=5.7
KSCWO **Cheorwon** 17.42 222 P **P** **15 21 53.1 +2.0**
SNR=11
KSCWO **Cheorwon** 17.42 222 P **P** **15 21 53.1 +2.0**
SNR=11
KSCHC **Chuncheon** 17.56 221 P **P** **15 21 53.7 +1.1**
SNR=21
KSCHC **Chuncheon** 17.56 221 P **P** **15 21 53.7 +1.1**
SNR=21
CIT **Chita** 17.57 281 *e*P **P** **15 21 57.2 +4.5**
CIT pmax pmax
comp=Z,112nm,2.1s
KSTBA **Taebaek** 17.69 217 P **P** **15 21 55.1 +0.9**
SNR=11
KSTBA **Taebaek** 17.69 217 P **P** **15 21 55.1 +0.9**
SNR=7.0
YNCB **YEONCHEON** 17.70 223 P **P** **15 21 55.4 +1.2**
SNR=35
YNCB **YEONCHEON** 17.70 223 P **P** **15 21 55.4 +1.2**
SNR=35
KS01 **Wonju Array Si** 17.79 220 *e*Pn **Pn** **15 21 54.9 +0.5**
KSRS **Korea Array** 17.80 220 P **Pn** **15 21 54.5 -0.1**
comp=Z,0.3nm,0.3s,baz=31,slow=10,SNR=74
KSRS PcP **PcP** **15 26 30.8 -0.3**
comp=Z,0.1nm,0.3s,baz=38,slow=1.4,SNR=4.9
KSRS LR LR 15 28 45.4
comp=Z,836nm,19.1s,baz=40,slow=37
KSULJ **Ulijin** 17.90 215 P **P** **15 21 57.1 +0.7**
SNR=22
KSULJ **Ulijin** 17.90 215 P **P** **15 21 57.1 +0.7**
SNR=22
KSMUS **Musan** 17.90 223 P **P** **15 21 59.4 +3.0**
SNR=13
KSMUS **Musan** 17.90 223 P **P** **15 21 59.4 +3.0**
SNR=13
KSICN **Icheon** 18.14 221 P **P** **15 22 00.8 +1.8**
SNR=5.1
KSGAH **Ganghwa** 18.19 224 P **P** **15 22 01.2 +1.7**
SNR=11
KSGAH **Ganghwa** 18.19 224 P **P** **15 22 01.2 +1.7**
SNR=11
KSCHJ **Chungju** 18.28 219 P **P** **15 22 01.5 +0.9**
SNR=16
KSCEA **Cheonan** 18.61 220 P **Pn** **15 22 05.2 +0.7**
SNR=6.0
KSBON **Boeun** 18.68 219 P **P** **15 22 04.7 -0.3**
SNR=16
KSBAR **Backryungdo** 18.73 228 P **Pn** **15 22 07.6 +1.7**
SNR=7.5
TJN **Taejon** 18.95 220 *d i*P **Pn** **15 22 08.8 +0.1**
KSGUS **GUNSAN** 19.48 220 P **Pn** **15 22 14.9 0.0**
SNR=8.8
DL2 **Dalian** 19.49 235⇑ *i*P **Pn** **15 22 15.2 +0.2**
DL2 S **Sn** **15 25 56.1 +3.1**
DL2 PMZ
comp=Z,62nm,1.3s
DL2 PMZ
comp=Z,310nm,9.5s
DL2 LN
comp=Z,4µm,8.0s
DL2 LE
comp=Z,3µm,8.1s
DL2 LZ
comp=Z,6µm,8.2s
BILL **Bilibino** 19.71 27 *c i*P **Pn** **15 22 16.8 -0.7**
BILL *e*S **Sn** **15 26 02.5 +4.3**
BILL pmax pmax
comp=Z,45nm,1.7s
BILL MLR MLR
comp=Z,2µm,16.0s
BILL **Bilibino** 19.71 27 *e*P **P** **15 22 14.5 -1.6**
comp=Z,187nm,1.8s
KSJEU **Jeongeup** 19.90 219 P **P** **15 22 19.2 +0.9**
SNR=14
JNU **Nakatsue** 20.71 208 P **P** **15 22 27.1 -0.1**
comp=Z,10nm,1.1s,baz=346,slow=4.2,SNR=4.1
JNU LR LR 15 30 42.1
comp=Z,417nm,19.4s,baz=30,slow=38
JNU **Nakatsue** 20.71 208 *e*P **P** **15 22 26.8 -0.4**
comp=Z,45nm,1.2s
KSJDO **Jindo** 21.04 219 P **P** **15 22 31.4 +0.7**
SNR=9.3
BJI **Beijing** 21.61 246 P **P** **15 22 36.3 -0.4**
BJI S **S** **15 26 34.9 -0.1**
BJI PMZ
comp=Z,55nm,1.0s
BJI PMZ
comp=Z,330nm,6.4s
BJI LN
comp=Z,3µm,10.3s
BJI LE
comp=Z,3µm,8.5s
BJI LZ
comp=Z,700nm,11.8s
IRK **Irkutsk** 23.08 285 *e*P **P** **15 22 56.6 +4.3**
IRK pmax pmax
comp=Z,107nm,1.8s
SONA1 **Songino Array** 23.26 274 *e*P **P** **15 22 53.4 -0.9**
SONM **Songino Array** 23.27 274 P **P** **15 22 53.8 -0.5**
comp=Z,5.1nm,0.8s,baz=72,slow=9.3,SNR=25
SONM PcP **PcP** **15 26 41.2 -0.1**
comp=Z,1.9nm,0.8s,baz=31,slow=5.9,SNR=3.9
SONM Lg Lg 15 29 59.6
comp=Z,3.5nm,1.0s,baz=57,slow=35,SNR=5.4
TLY **Talaya** 23.61 284 P **P** **15 22 57.0 -0.6**
comp=Z,16nm,1.1s,baz=73,slow=8.4,SNR=14
TLY Lg Lg 15 30 11.5
comp=Z,1.0nm,0.5s,baz=136,slow=21,SNR=3.3
TLY **Talaya** 23.61 284 *e*P **P** **15 22 57.6 0.0**
TLY *e*S **S** **15 27 15.5 +4.6**
TLY pmax pmax
comp=Z,85nm,1.8s
TLY MLR MLR
comp=Z,1µm,13.0s
TLY **Talaya** 23.61 284 P **P** **15 22 58.4 +0.8**
comp=Z,198nm,1.3s,SNR=9.1
TLY **Talaya** 23.61 284 *e*P **P** **15 22 58.0 +0.4**
comp=Z,83nm,1.4s
HHC **Hu-ho-hao-te** 23.75 254 *e*P **P** **15 22 58.8 -0.3**
HHC sP **sP** **15 23 08.1 +0.8**
HHC PP **PnPn** **15 23 30.0 +3.3**
HHC S **S** **15 27 06.9 -6.5**
HHC sS **sS** **15 27 19.2 -3.8**
HHC PMZ
comp=Z,16nm,0.8s
HHC PMZ
comp=Z,250nm,3.7s
HHC LN
comp=Z,4µm,7.6s
HHC LE
comp=Z,2µm,8.3s
HHC LZ
comp=Z,4µm,8.5s
TIA **Tai'an** 23.85 238 ⇑P **P** **15 23 00.2 +0.2**
TIA S **S** **15 27 15.3 +0.4**
TIA PMZ
comp=Z,40nm,0.7s
TIA PMZ
comp=Z,440nm,5.4s
TIA LN
comp=Z,2µm,13.1s
TIA LE
comp=Z,2µm,13.1s
TIA LZ
comp=Z,2µm,12.5s
ZAK **Zakamensk** 24.23 281 *e*P **P** **15 23 04.8 +1.3**
ZAK pmax pmax
comp=Z,29nm,1.7s
MOY **Mondy** 25.19 285 *e*P P 15 23 17.2 +4.9
MOY pmax pmax
comp=Z,48nm,2.2s
TIY **Taiyuan** 25.32 247 *e*P **P** **15 23 17.2 +3.7**
TIY S **S** **15 27 42.5 +3.9**
TIY PMZ
comp=Z,220nm,7.5s
TIY LN
comp=Z,2µm,8.1s
TIY LE
comp=Z,3µm,8.2s
TIY LZ
comp=Z,5µm,9.3s
SSE **Sheshan** 26.08 224 P **P** **15 23 19.4 -0.9**
SSE S **S** **15 27 52.3 +1.8**
SSE PMZ
comp=Z,42nm,0.8s
SSE PMZ
comp=Z,170nm,5.0s
SSE LN
comp=Z,1µm,13.6s
SSE LE
comp=Z,770nm,13.6s
SSE LZ
comp=Z,940nm,12.8s
NJ2 **Nanjing** 26.32 229 *e*P **P** **15 23 21.2 -1.3**
NJ2 pP **pP** **15 23 27.8 -0.5**
NJ2 sP **sP** **15 23 30.2 -0.5**
NJ2 S **S** **15 27 55.0 +0.7**
NJ2 sS **sS** **15 28 05.2 +1.3**
NJ2 PMZ
comp=Z,10.0nm,0.8s
NJ2 PMZ
comp=Z,40nm,5.1s
NJ2 LN
comp=Z,2µm,20.9s
NJ2 LE
comp=Z,6µm,20.2s
NJ2 LZ
comp=Z,6µm,20.0s
TNA **Tin City** 28.18 42 *e*P **P** **15 23 39.8 +0.9**
comp=Z,37nm,1.0s
KRAR **Krasnoyarsk** 28.70 297 *e*P **P** **15 23 45.8 +2.2**
KRAR pmax pmax
comp=Z,24nm,1.1s
KRAR MLR MLR
comp=Z,3µm,11.0s
WHN **Wuhan** 29.74 234 ⇓P **P** **15 23 52.7 -0.4**
WHN S **S** **15 28 45.9 -2.3**
WHN LN
comp=Z,3µm,9.3s
WHN LE
comp=Z,4µm,10.2s
WHN LZ
comp=Z,6µm,9.3s
XAN **Xi'an** 29.94 246 P **P** **15 23 53.8 -1.1**
XAN pP **pP** **15 23 59.6 -1.1**
XAN PP **PnPn** **15 24 50.1 -1.2**
XAN SS SS 15 30 23.8 -35
XAN PMZ
comp=Z,6.0nm,1.2s
XAN PMZ
comp=Z,120nm,7.1s
XAN LN
comp=Z,2µm,9.8s
XAN LE
comp=Z,1µm,9.8s
XAN LZ
comp=Z,2µm,10.4s
LZH **Lanzhou** 31.44 255 *e*P **P** **15 24 09.7 +1.5**
LZH pP **pP** **15 24 15.6 +1.5**
LZH sP **sP** **15 24 18.9 +2.4**
LZH PP **PnPn** **15 25 13.5 +2.5**
LZH S **S** **15 29 15.2 +0.2**
LZH sS **sS** **15 29 24.8 +0.1**
LZH SS **SnSn** **15 31 02.6 +3.2**
LZH PMZ

comp=Z,80nm,1.4s
LZH PMZ
comp=Z,150nm,4.0s
LZH LN
comp=Z,3µm,12.5s
LZH LE
comp=Z,2µm,11.0s
LZH LZ
comp=Z,4µm,13.6s
GTA Gaotai 31.73 263 ⇑P **P 15 24 12.4 +1.7**
GTA pP **pP 15 24 18.2 +1.6**
GTA sP **sP 15 24 21.2 +2.3**
GTA PcP **PcP 15 27 03.8 +1.9**
GTA S **S 15 29 23.5 +4.1**
GTA sS **sS 15 29 33.7 +4.6**
GTA PMZ
comp=Z,6.0nm,1.3s
GTA PMZ
comp=Z,97nm,5.2s
GTA LN
comp=Z,2µm,9.3s
GTA LE
comp=Z,3µm,9.5s
GTA LZ
comp=Z,3µm,9.3s
ENH Enshi 32.49 241 *e*P **P 15 24 15.4 -1.9**
comp=Z,15nm,0.8s
QZH Quanzhou 32.56 223 *e*P **P 15 24 20.8 +2.9**
QZH S S 15 29 41.0 +8.8
QZH LN
comp=Z,1µm,10.4s
QZH LE
comp=Z,3µm,11.1s
QZH LZ
comp=Z,2µm,12.0s
ZAA0 Zalesovo Array 33.74 296 *e*P **P 15 24 26.1 -1.9**
ZALV Zalesovo Beam 33.74 296 P **P 15 24 26.9 -1.1**
comp=Z,1.3nm,0.5s,baz=66,slow=6.9,SNR=6.5
PcP **PcP 15 27 05.8 -1.2**
ZALV comp=Z,3.2nm,0.6s,baz=44,slow=1.7,SNR=9.5
ZALV LR LR 15 38 52.7
comp=Z,297nm,21.3s,baz=68,slow=38
ZALV Zalesovo Beam 33.74 296 *i* P **P 15 24 26.8 -1.2**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
IM04 Indian Mountai 33.99 41 *e*P **P 15 24 29.5 -0.6**
SVW2 Sparrevohn 34.11 50 *e*P **P 15 24 32.0 +0.8**
comp=Z,13nm,1.0s
NVS Novosibirsk 34.29 298 *e*P **P 15 24 31.7 -1.0**
NVS *e*S **S 15 30 02.8 +4.1**
NVS pmax pmax
comp=N,16nm,1.6s
NVS pmax pmax
comp=E,39nm,1.6s
NVS pmax pmax
comp=Z,48nm,1.6s
NVS smax smax
comp=N,12nm,2.1s
NVS smax smax
comp=E,15nm,2.1s
CAST Castle Rocks 35.17 45 *e*P **P 15 24 40.7 +0.4**
comp=E,26nm,1.0s
CD2 Chengdu 35.18 248 P **P 15 24 39.8 -0.9**
CD2 pP **pP 15 24 46.0 -0.6**
CD2 sP **sP 15 24 48.8 -0.2**
CD2 PP **PnPn 15 25 59.7 +1.2**
CD2 S **S 15 30 12.3 -0.6**
CD2 sS **sS 15 30 23.0 +0.4**
CD2 PMZ
comp=E,20nm,0.7s
CD2 PMZ
comp=E,140nm,6.5s
CD2 LN
comp=E,1µm,9.7s
CD2 LZ
comp=E,1µm,11.0s
COLD Coldfoot 35.22 39 *e*P **P 15 24 40.6 0.0**
comp=E,24nm,1.0s
PPLA Purkeypile 35.24 46 *e*P **P 15 24 42.3 +1.2**
comp=E,47nm,1.3s
MLY Manley 35.40 42 *e*P **P 15 24 42.5 +0.2**
comp=E,44nm,1.3s
BPAW Bear Paw Mtn. 35.50 44 *e*P **P 15 24 42.7 -0.4**
comp=E,4.9nm,1.1s
SPU Mount Spurr 35.74 49 *e*P **P 15 24 43.3 -2.0**
TRF Thorofare Moun 35.95 45 *e*P **P 15 24 46.6 -0.5**
comp=E,47nm,1.0s
BWN Browne 36.13 44 *e*P **P 15 24 50.4 +2.0**
comp=E,90nm,1.0s
BWN *e*S **S 15 30 30.9 +4.1**
MDM Murphy Dome 36.46 42 *e*P **P 15 24 51.5 +0.2**
comp=E,135nm,2.0s
MCK McKinley 36.46 44 *e*P **P 15 24 51.7 +0.3**
MCK pmax pmax
comp=Z,55nm,0.9s
MCK McKinley 36.46 44 *e*P **P 15 24 51.7 +0.3**
comp=Z,55nm,0.9s
RND Reindeer 36.58 45 *e*P **P 15 24 52.2 -0.3**
RND pmax pmax
comp=Z,39nm,1.4s
RND Reindeer 36.58 45 *e*P **P 15 24 52.2 -0.3**
comp=Z,39nm,1.4s
WRH Wood River Hil 36.64 43 *e*P **P 15 24 52.4 -0.4**
comp=Z,66nm,1.0s
COLA College 36.64 42 *e*P **P 15 24 52.2 -0.5**
COLA College 36.64 42 *e*P **P 15 24 53.5 +0.7**
comp=Z,34nm,1.0s
WMQ Urumqi 36.65 279 P **P 15 24 54.7 +1.5**
WMQ pP **pP 15 25 00.7 +1.6**
WMQ sP **sP 15 25 03.7 +2.2**
WMQ S **S 15 30 36.0 +0.8**
WMQ sS **sS 15 30 45.7 +0.8**
WMQ ScS **ScS 15 35 07.6 -0.2**
WMQ PMZ
comp=Z,12nm,0.8s
WMQ PMZ
comp=Z,130nm,5.0s
WMQ LN
comp=Z,900nm,14.0s
WMQ LE
comp=Z,530nm,15.5s
WMQ LZ
comp=Z,350nm,14.0s
CCB Clear Creek Bu 36.71 43 *e*P **P 15 24 53.4 0.0**
comp=Z,42nm,1.1s
BRLK Bradley Lake 36.72 51 *e*P **P 15 24 55.9 +2.3**
comp=Z,23nm,1.0s
RC01 Rabbit Creek A 36.84 49 *e*P **P 15 24 57.4 +2.8**
comp=Z,18nm,1.0s
PMR Palmer 36.97 48 *e*P **P 15 24 58.6 +3.0**
PMR pmax pmax
comp=Z,24nm,1.1s
PMR Palmer 36.97 48 *e*P **P 15 24 58.6 +3.0**
comp=Z,24nm,1.1s
GYA Guiyang 37.02 240 P **P 15 24 57.8 +1.3**
GYA pP **pP 15 25 02.6 +0.1**
GYA PP **PnPn 15 26 23.0 +1.8**
GYA PcP **PcP 15 27 18.8 +1.6**
GYA S **S 15 30 41.2 0.0**
GYA sS **sS 15 30 50.9 0.0**
GYA ScP **ScP 15 31 02.6 -0.2**
GYA SS **SnSn 15 33 10.0 -4.8**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,130nm,4.9s
GYA LN
comp=Z,720nm,17.4s
GYA LE
comp=Z,680nm,18.2s
GYA LZ
comp=Z,770nm,17.8s
IL1 Eielson Array 37.06 42 *e*P **P 15 24 55.0 -1.4**
ILAR Eielson Array 37.06 42 P **P 15 24 56.0 -0.3**
comp=Z,9.3nm,0.8s,baz=276,slow=9.3,SNR=42
ILAR LR LR 15 41 44.2
comp=Z,268nm,18.2s,baz=288,slow=39
ILAR Eielson Array 37.06 42 P **P 15 24 56.1 -0.3**
ILAR pmax pmax
comp=Z,9.0nm,0.8s
ILAR MLR MLR
comp=Z,268nm,18.2s
HDA Harding Lake 37.13 43 *e*P **P 15 24 57.8 +0.8**
comp=Z,51nm,1.0s
SCM Sheep Creek Mo 37.72 47 *e*P **P 15 25 02.4 +0.3**
SCM pmax pmax
comp=Z,26nm,0.9s
SCM Sheep Creek Mo 37.72 47 *e*P **P 15 25 02.4 +0.3**
comp=Z,26nm,0.9s
PAX Paxson 38.18 45 *e*P **P 15 25 06.7 +0.7**
PAX pmax pmax
comp=Z,15nm,1.1s
PAX Paxson 38.18 45 *e*P **P 15 25 06.7 +0.7**
comp=Z,15nm,1.1s
MKAR Makanchi Array 38.33 287 P **P 15 25 06.6 -0.8**
comp=Z,3.8nm,0.7s,baz=66,slow=7.8,SNR=38
MKAR PcP **PcP 15 27 19.2 -1.6**
comp=Z,1.1nm,0.6s,baz=50,slow=5.7,SNR=5.3
MKAR LR LR 15 41 48.2
comp=Z,474nm,19.0s,baz=50,slow=38
MK01 Makanchi Array 38.34 286 *e*P **P 15 25 06.6 -0.8**
GUMO Guam 38.52 176 LR LR 15 41 46.7
comp=Z,78nm,19.8s,baz=9.5,slow=37
KURK Kurchatov 38.54 294 P **P 15 25 08.4 -0.6**
comp=Z,116nm,0.7s,SNR=8.4
KURK Kurchatov 38.54 294 P **P 15 25 09.2 +0.2**
KURK 15 27 20.8
KURK pmax pmax
comp=Z,4.0nm,0.6s
KURK Kurchatov 38.54 294 *e*P **P 15 25 08.4 -0.6**
KURBB Kurchatov Arra 38.63 294 P **P 15 25 09.2 -0.6**
comp=Z,4.2nm,0.6s,baz=67,slow=8.7,SNR=30
KURBB PcP **PcP 15 27 20.8 -0.8**
comp=Z,3.2nm,0.7s,baz=67,slow=3.0,SNR=9.5
DIV Divide 38.65 48 *e*P **P 15 25 09.8 -0.2**
comp=Z,47nm,1.3s
BMRM Bremner River 39.24 48 *e*P **P 15 25 15.7 +0.8**
comp=Z,32nm,1.1s
EGAK Eagle 39.41 41 *e*P **P 15 25 15.3 -0.8**
comp=Z,69nm,1.1s
RAGM Ragged Mountai 39.42 48 *e*P **P 15 25 16.1 -0.3**
comp=Z,38nm,1.2s
KMI Kunming 40.20 243 P **P 15 25 21.3 -2.2**
KMI pP **pP 15 25 27.9 -1.5**
KMI sP **sP 15 25 30.0 -1.8**
KMI PP **PnPn 15 27 01.1 +1.5**
KMI S **S 15 31 29.3 -0.2**
KMI sS **sS 15 31 38.1 -1.2**
KMI SS **SS 15 34 21.1 -6.5**
KMI PMZ
comp=Z,10.0nm,1.2s
KMI PMZ
comp=Z,100nm,3.1s
KMI LN
comp=Z,970nm,9.4s
KMI LE
comp=Z,860nm,9.7s
KMI LZ
comp=Z,1µm,9.0s
DAWY Dawson 40.37 42 *e*P **P 15 25 24.4 +0.1**
comp=Z,13nm,1.0s
INK Inuvik 41.06 34 P **P 15 25 28.0 -1.7**
comp=Z,6.0nm,0.7s,baz=324,slow=7.9,SNR=9.3
INK Inuvik 41.06 34 P **P 15 25 28.0 -1.7**
INK pmax pmax
comp=Z,6.0nm,0.7s
INK Inuvik 41.06 34 *e*P **P 15 25 29.9 +0.1**
comp=Z,72nm,1.8s
QIZ Qiongzhong 41.61 230 P **P 15 25 34.8 0.0**
QIZ pP **pP 15 25 40.5 -0.3**
QIZ S **S 15 31 50.9 +0.8**
QIZ PMZ
comp=Z,20nm,1.7s
QIZ LN
comp=Z,750nm,19.5s
QIZ LE
comp=Z,690nm,19.7s
QIZ LZ
comp=Z,950nm,13.5s
BVAR Borovoye Array 41.94 301 P **P 15 25 36.6 -0.6**
comp=Z,2.2nm,0.6s,baz=56,slow=7.3,SNR=13
BVAR PcP **PcP 15 27 31.1 -1.2**
comp=Z,2.4nm,0.5s,baz=65,slow=2.9,SNR=5.7
BVAR Borovoye Array 41.94 301 P **P 15 25 36.6 -0.6**
BVAR 15 27 31.1
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BRVK Borovoye 41.98 301 *e*P **P 15 25 38.0 +0.5**
BRVK pmax pmax
comp=Z,10.0nm,1.2s
BRVK MLR MLR
comp=Z,453nm,14.0s
BRVK Borovoye 41.98 301 *e*P **P 15 25 37.2 -0.3**
HYT Haines Junctio 42.48 46 *e*P **P 15 25 44.0 +2.4**
LSA Lhasa 43.51 259 P **P 15 25 51.7 +0.9**
LSA Lhasa 43.51 259 *e*P **P 15 25 52.0 +1.2**
LSA Lhasa 43.51 259 *e*P **P 15 25 52.0 +1.2**
SKAG Skagway 44.08 47 *e*P **P 15 25 55.7 +1.4**
comp=Z,38nm,1.2s
TKM2 Tokmak 2 44.43 286 *e*P **P 15 25 57.2 -0.5**
TKM2 pmax pmax
comp=Z,5.0nm,0.8s
TKM2 Tokmak 2 44.43 286 *e*P **P 15 25 57.2 -0.5**
comp=Z,5.3nm,0.8s
SVE Sverdlovsk 44.96 310 *e*P **P 15 26 00.7 -0.8**
SVE pmax pmax
comp=Z,30nm,1.2s
SVE MLR MLR
comp=Z,1µm,13.0s
AAK Ala-Archa 45.26 286 *e*P **P 15 26 03.8 -0.4**
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 45.26 286 *e*P **P 15 26 03.8 -0.4**
comp=Z,6.2nm,0.8s
CRAI Chiangrai 45.42 242 P **P 15 26 07.1 +1.5**
comp=Z,20nm,1.1s
EKS2 Erkin-Say 45.66 286 *e*P **P 15 26 06.7 -0.7**
EKS2 pmax pmax
comp=Z,6.0nm,0.8s
EKS2 Erkin-Say 45.66 286 *e*P **P 15 26 06.7 -0.7**
comp=Z,6.4nm,0.8s
ARU Arti 46.15 310 *c i*P **P 15 26 10.1 -0.8**
ARU 15 28 00.3
ARU S **S 15 32 55.3 -0.3**
ARU SS **SS 15 36 18.1 -2.2**
ARU pmax pmax
comp=Z,19nm,0.6s
ARU MLR MLR
comp=Z,814nm,13.0s
ARU Arti 46.15 310 P **P 15 26 10.5 -0.4**
comp=Z,219nm,0.6s,SNR=11
SKNT Sakolnakorn 46.23 235 P P 15 26 18.4 +6.5
comp=Z,13nm,1.6s
KSH Kashi 46.27 282 P P 15 26 21.2 +9.0
KSH pP pP 15 26 23.1 +4.8
KSH PcP **PcP 15 27 51.2 +3.8**
KSH PP PP 15 28 09.6 +8.9
KSH sS sS 15 33 18.4 +10
KSH SS **SS 15 36 22.2 -1.0**
KSH PMZ
comp=Z,290nm,4.6s
KSH LN
comp=Z,600nm,6.5s
KSH LE
comp=Z,1µm,10.5s
KSH LZ
comp=Z,1µm,10.0s
CMAI Chiengmai2 46.39 243 P P 15 26 17.4 +4.0
comp=Z,43nm,0.8s
UBPT Khong Chiam 46.94 232 P P 15 26 22.0 +4.6
comp=Z,16nm,1.8s
DLBC Dease Lake 46.96 46 P **P 15 26 18.2 +0.9**
comp=Z,5.7nm,0.8s,baz=308,slow=10,SNR=9.7
DLBC LR LR 15 48 28.4
comp=Z,409nm,19.0s,baz=310,slow=39
DLBC Dease Lake 46.96 46 *e*P **P 15 26 18.8 +1.5**
WRAK Wrangell Islan 47.00 49 *e*P **P 15 26 20.3 +2.8**
comp=Z,32nm,1.1s
CTBH Cotabato--PC H 47.16 205 ⇓ *i*P **P 15 26 20.1 +0.9**
LOEI Loei 47.18 238 P P 15 26 18.3 -1.1
comp=Z,53nm,1.3s
LAMP Lampang 47.22 241 P **P 15 26 21.6 +1.9**
comp=Z,8.2nm,1.1s
KKAR Karatay Array 47.31 289 *e*P **P 15 26 18.8 -1.4**
KKAR Karatay Array 47.31 289 *e*P **P 15 26 18.8 -1.4**
CMMT Chiang Mai 47.35 242 P **P 15 26 21.2 +0.5**
comp=Z,28nm,1.2s
CHTO Chiang Mai 47.35 242 P **P 15 26 21.3 +0.6**
comp=Z,98nm,1.2s
CHTO Chiang Mai 47.35 242 *e*P **P 15 26 19.8 -0.9**
CHTO pmax pmax
comp=Z,17nm,0.9s
CHTO Chiang Mai 47.35 242 *e*P **P 15 26 19.8 -0.9**
comp=Z,17nm,0.9s
UTTA Uttaradit 47.36 239 P P 15 26 26.4 +5.6
comp=Z,3.3nm,1.3s
CMAR Chiang Mai Arr 47.64 242 P **P 15 26 23.2 +0.3**
comp=Z,6.6nm,1.1s,baz=24,slow=6.3,SNR=14
CMAR LR LR 15 46 08.0
comp=Z,183nm,21.2s,baz=31,slow=36
CMAR Chiang Mai Arr 47.64 242 P **P 15 26 23.3 +0.3**
CMAR pmax pmax
comp=Z,7.0nm,1.1s
CMAR MLR MLR
comp=Z,183nm,21.2s
CM01 Chiang Mai Arr 47.66 242 *e*P **P 15 26 23.5 +0.4**
RES Resolute Bay 47.91 18 P **P 15 26 23.5 -0.9**
comp=Z,6.6nm,0.7s,baz=318,slow=5.2,SNR=4.1
RES Resolute Bay 47.91 18 *e*P **P 15 26 23.8 -0.5**
RES pmax pmax
comp=Z,12nm,0.9s
RES Resolute Bay 47.91 18 *e*P **P 15 26 23.8 -0.5**
comp=Z,12nm,0.9s
PBKT Sadao Pong 48.12 238 P P 15 26 31.4 +4.8
comp=Z,9.3nm,1.1s
MHMT Maesarieng 48.42 243 P P 15 26 35.0 +6.0
comp=Z,11nm,0.9s
PRGR Permogore 48.83 321 *e*P P 15 26 28.4 -3.2
PRGR pmax pmax
comp=Z,14nm,0.5s
APA Apatity 49.38 331 ⇓ *i*P **P 15 26 36.0 +0.3**
APA *i* S **S 15 33 42.0 +0.9**
APA pmax pmax
comp=Z,25nm,1.2s
APA MLR MLR
comp=Z,600nm,20.0s
UTHA Uthaitani 49.76 239 P P 15 26 45.5 +6.2
comp=Z,6.1nm,1.3s
ARCES ARCESS Array B 50.22 336 P **P 15 26 40.6 -1.5**
comp=Z,1.9nm,0.9s,baz=46,slow=7.5,SNR=6.6
ARCES LR LR 15 51 56.0
comp=Z,232nm,18.8s,baz=45,slow=41
ARCES ARCESS Array B 50.22 336 P **P 15 26 40.6 -1.5**
ARCES pmax pmax
comp=Z,2.0nm,0.9s
ARCES MLR MLR
comp=Z,232nm,18.8s
YKA Yellowknife Ar 50.78 36 P **P 15 26 45.2 -1.2**
comp=Z,5.4nm,0.8s,baz=310,slow=7.2,SNR=6.0
YKA Yellowknife Ar 50.78 36 P **P 15 26 45.2 -1.2**
YKA pmax pmax
comp=Z,5.0nm,0.8s
SIJI Sorong 53.63 194 P **P 15 27 06.3 -1.8**
comp=Z,11nm,0.6s,baz=37,slow=12,SNR=5.9
JAY Jayapura 54.47 182 P **P 15 27 12.8 -1.5**
comp=Z,10nm,1.0s,baz=350,slow=5.4,SNR=5.4
JAY Jayapura 54.47 182 P **P 15 27 12.8 -1.5**
JAY pmax pmax
comp=Z,10.0nm,1.0s
SBUM Sibu 55.48 217 *e*P **P 15 27 23.0 +1.4**
comp=Z,21nm,1.0s
SUMG Summit 55.57 0 *i* P **P 15 27 21.3 -0.8**
comp=Z,13nm,1.1s
SUMG Summit 55.57 0 *e*P **P 15 27 21.3 -0.8**
SUMG pmax pmax
comp=Z,13nm,1.1s
SUMG Summit 55.57 0 *e*P **P 15 27 21.4 -0.6**
comp=Z,149nm,2.6s
MOS Moscow 55.82 319 *e*P **P 15 27 22.4 -1.2**
MOS *e* 15 28 19.4
MOS pmax pmax
comp=Z,41nm,1.1s
FINES FINESS Array B 55.92 329 P **P 15 27 23.6 -0.7**
comp=Z,19nm,0.6s,baz=52,slow=7.2,SNR=100
FINES LR LR 15 53 32.1
comp=Z,223nm,21.6s,baz=38,slow=38
OBN Obninsk 56.69 319 P **P 15 27 30.0 +0.3**
OBN *i* 15 27 33.6
OBN S S 15 35 29.0 +8.2
OBN pmax pmax
comp=Z,19nm,1.2s
OBN MLR MLR
comp=Z,744nm,16.0s
EDM Edmonton 57.53 44 *e*P **P 15 27 35.9 +0.1**
EDM *e* 15 29 43.9
EDM Edmonton 57.53 44 *e*P **P 15 27 35.9 +0.1**
EDM *e*PP **PP 15 29 43.9 +0.9**
GEYT Alibeck 57.84 292 P **P 15 27 38.0 -0.3**
comp=Z,2.9nm,0.5s,baz=18,slow=3.9,SNR=7.4
GEYT LR LR 15 55 52.3
comp=Z,209nm,18.0s,baz=135,slow=40
VSU Vasula 57.95 326 *d i*P **P 15 27 38.1 -0.5**
VSU pmax pmax
comp=Z,39nm,1.2s
VSU MLR MLR
comp=Z,514nm,16.0s
VSR Storozhevoye 58.34 314 *e*P **P 15 27 40.4 -1.1**
VSR pmax pmax
comp=N,20nm,1.4s
VSR pmax pmax
comp=Z,30nm,1.4s
VSR pmax pmax
comp=E,20nm,1.1s
VSR MLR MLR
comp=N,630nm,16.0s
VSR MLR MLR
comp=E,430nm,16.0s
VSR MLR MLR
comp=Z,930nm,16.0s
G03D McMinnville, O 58.48 56 P **P 15 27 42.0 -0.6**
baz=58
C09A Chrisman Ranch 59.14 51 *e*P **P 15 27 46.4 -0.7**
C09A *es*P **sP 15 27 56.1 +0.5**
D08A Wollman Farm, 59.35 52 *e*P **P 15 27 48.2 -0.4**
NEW Newport 59.35 50 P **P 15 27 48.4 -0.3**
comp=Z,1.8nm,0.5s,baz=320,slow=7.0,SNR=7.1
NEW Newport 59.35 50 P **P 15 27 48.4 -0.3**
NEW pmax pmax
comp=Z,2.0nm,0.5s
NEW Newport 59.35 50 P **P 15 27 47.7 -1.0**
baz=59
H04A Detroit Lake 59.40 56 *e*P **P 15 27 49.3 +0.3**
G05D Wamic, OR 59.45 55 P **P 15 27 48.1 -1.2**
baz=59
I03D Drain, OR 59.50 57 P **P 15 27 49.3 -0.3**
baz=59
HAWA Hanford 59.52 53 *e*P **P 15 27 49.2 -0.5**
comp=Z,34nm,1.6s
I04A Tendick Farm, 59.91 56 P **P 15 27 52.0 -0.5**
baz=60
I05D Terrebonne, OR 60.08 55 P **P 15 27 53.5 -0.1**
baz=60
WALA Waterton Lakes 60.27 47 *e*P **P 15 27 54.3 -0.7**
comp=Z,1µm,1.1s
L02D Cave Junction, 60.45 58 P **P 15 27 56.6 +0.4**
baz=60
J04D Umpqua Nationa 60.46 57 P **P 15 27 56.5 0.0**
baz=60
HUMO Hull Mountain 60.47 58 *e*P **P 15 27 57.7 +1.3**
comp=Z,14nm,1.3s
NB2 NORSAR Subarra 60.58 335 P **P 15 27 56.1 -0.7**
comp=Z,15nm,0.8s,baz=32,slow=6.9
NB2 NORSAR Subarra 60.58 335 P **P 15 27 56.1 -0.7**
baz=32,slow=6.9
NOA NORSAR Array B 60.58 335 P **P 15 27 56.4 -0.4**
comp=Z,11nm,0.7s,baz=44,slow=8.2,SNR=35
NOA LR LR 15 57 55.2
comp=Z,230nm,18.5s,baz=35,slow=40
NOA NORSAR Array B 60.58 335 P **P 15 27 56.4 -0.4**
NOA pmax pmax
comp=Z,11nm,0.7s
NOA MLR MLR
comp=Z,230nm,18.5s
G08A Pilot Rock 60.59 53 *e*P **P 15 27 56.3 -0.9**
NBO02 NORSAR Array S 60.66 335 *e*P **P 15 27 56.6 -0.8**
BSMT Bassoo Peak 60.74 49 *e*P **P 15 27 58.4 +0.1**
BLMT Blacktail Moun 60.82 48 *e*P **P 15 27 59.2 +0.3**
J05D Fort Rock, OR 60.88 56 P **P 15 27 59.0 -0.3**
baz=61
GOF Gofitskoye 60.92 307 *e*P P 15 27 56.1 -3.2
FFC Flin Flon 60.93 37 P **P 15 27 58.0 -1.3**
comp=Z,205nm,1.0s,SNR=8.4
JTMT Jette 61.05 49 *e*P **P 15 28 00.4 0.0**
K04D Chiloquin, OR 61.08 57 P **P 15 28 00.7 0.0**
baz=61
YBH Yreka Blue Hor 61.22 58 P **P 15 28 01.8 +0.2**
comp=Z,2.8nm,0.7s,baz=163,slow=0.6,SNR=5.0
YBH Yreka Blue Hor 61.22 58 P **P 15 28 01.8 +0.2**

YBH pmax pmax
comp=Z,3.0nm,0.7s
YBH Yreka Blue Hor 61.22 58 *e*P **P 15 28 03.3 +1.8**
comp=Z,7.6nm,1.1s
SWMT Swartz Lake 61.35 49 *e*P **P 15 28 02.1 -0.3**
M02C Callahan 61.39 59 P **P 15 28 03.1 +0.4**
baz=61
M04C Macdoel 61.64 58 P **P 15 28 04.5 0.0**
baz=61
N02D Trinity Center 61.77 59 P **P 15 28 05.0 -0.3**
baz=62
SLMT Seeley Lake 61.78 49 *e*P **P 15 28 05.7 +0.4**
MSO Missoula 61.88 49 P **P 15 28 05.6 -0.4**
baz=62
MSO Missoula 61.88 49 *e*P **P 15 28 04.6 -1.3**
comp=Z,40nm,1.5s
KIV Kislovodsk 61.89 306⇓ *e*P **P 15 28 06.2 +0.1**
KIV *i* 15 28 10.7
KIV S S 15 36 46.0 +17
KIV pmax pmax
comp=Z,40nm,1.7s
KIV MLR MLR
comp=Z,649nm,15.0s
KIV Kislovodsk 61.89 306 *e*P **P 15 28 05.6 -0.5**
KBZ Khabaz 61.95 306 P **P 15 28 06.4 +0.1**
comp=Z,3.8nm,0.9s,baz=56,slow=9.7,SNR=4.7
KBZ LR LR 15 59 13.2
comp=Z,734nm,18.8s,baz=42,slow=40
KBZ Khabaz 61.95 306 P **P 15 28 06.4 +0.1**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
KBZ MLR MLR
comp=Z,734nm,18.8s
WDC Whiskeytown Da 62.13 59 *e*P **P 15 28 06.8 -0.8**
WDC pmax pmax
comp=Z,60nm,2.3s
WDC Whiskeytown Da 62.13 59 *e*P **P 15 28 06.8 -0.8**
comp=Z,60nm,2.3s
CHMT Chamberlain Mo 62.14 49 *e*P **P 15 28 06.7 -1.1**
A19A Klindworth Far 62.65 45 P **P 15 28 10.5 -0.6**
baz=62
WVOR Wild Horse Val 62.81 55 *e*P **P 15 28 12.3 0.0**
WVOR pmax pmax
comp=Z,15nm,1.0s
WVOR Wild Horse Val 62.81 55 *e*P **P 15 28 12.3 0.0**
comp=Z,15nm,1.0s
GSI Gunungsitoli 62.86 232 *e*P **P 15 28 11.9 -0.8**
comp=Z,130nm,2.3s
EGMT Eagleton 62.89 46 P **P 15 28 12.0 -0.7**
baz=63,SNR=15
EGMT Eagleton 62.89 46 *e*P **P 15 28 12.0 -0.7**
comp=Z,32nm,1.0s
HRY Holter Researc 62.94 48 *e*P **P 15 28 13.2 +0.1**
AKASG Malin Array Be 62.95 319 P **P 15 28 11.6 -1.3**
comp=Z,4.5nm,0.8s,baz=37,slow=7.3,SNR=21
AKASG LR LR 15 58 13.3
comp=Z,310nm,20.7s,baz=45,slow=39
AKASG Malin Array Be 62.95 319 *i* P **P 15 28 11.6 -1.3**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
KIEV Kiev 62.96 319 *e*P **P 15 28 13.5 +0.6**
KIEV Kiev 62.96 319 *e*P **P 15 28 12.7 -0.2**
comp=Z,28nm,1.4s
AK11 Malin Array Si 62.99 319 *e*P **P 15 28 12.3 -0.8**
A20A Cobblestone Ra 63.04 44 P **P 15 28 12.8 -0.8**
baz=63
LRM Limekiln Ridge 63.32 49 *e*P **P 15 28 14.7 -1.0**
B20A Solberg Farm, 63.34 45 P **P 15 28 14.8 -0.8**
baz=63
A21A Bergtoll Ranch 63.38 44 P **P 15 28 15.2 -0.7**
baz=63
MFID Camas Ranch 63.49 53 *e*P **P 15 28 16.0 -0.7**
comp=Z,11nm,1.0s
DLMT Dillon 63.60 49 *e*P **P 15 28 17.4 -0.1**
comp=Z,52nm,1.0s
GNI Garni 63.61 302 *ce*P **P 15 28 19.7 +2.0**
GNI pmax pmax
comp=Z,16nm,1.7s
B21A Ellsworth Farm 63.77 44 P **P 15 28 17.5 -0.9**
baz=64,SNR=8.8
A22A Carney Farms, 63.81 43 P **P 15 28 17.8 -0.9**
baz=64
ANN Anapa 63.82 310 *e*P **P 15 28 17.4 -1.3**
ANN *e* 15 30 40.8
ANN *e*S **S 15 36 49.8 -2.8**
ANN pmax pmax
comp=Z,153nm,2.9s
BOZ Bozeman (W) 63.83 49 P **P 15 28 18.4 -0.6**
baz=64,SNR=32
MCMT McKenzie Canyo 63.88 50 *e*P **P 15 28 19.7 +0.2**
C20A Veseth Ranch, 63.90 45 P **P 15 28 18.9 -0.4**
baz=64,SNR=22
HLID Hailey 64.07 52 P **P 15 28 20.8 +0.1**
baz=64
HLID Hailey 64.07 52 *e*P **P 15 28 19.6 -1.1**
comp=Z,60nm,2.1s
C21A Desert Coulee 64.20 44 P **P 15 28 21.2 -0.1**
baz=64
A23A Redstone 64.27 42 P **P 15 28 21.5 -0.2**
baz=64
B22A Reddig Ranch S 64.31 43 P **P 15 28 20.9 -1.1**
baz=64
QLMT Earthquake Lak 64.54 49 *e*P **P 15 28 23.1 -0.6**
B23A Brockton 64.60 43 P **P 15 28 23.0 -0.9**
baz=64
GCMT Greycliff 64.62 47 *e*P **P 15 28 25.1 +0.9**
A24A Westby 64.66 42 P **P 15 28 23.4 -0.8**
baz=64
C22A Vida 64.78 44 P **P 15 28 23.9 -1.2**
baz=64
D21A La Casta Ranch 64.83 45 P **P 15 28 24.3 -1.1**
baz=64
DGMT Dagmar 64.93 42 P **P 15 28 25.0 -1.0**
baz=65
BMN Battle Mountai 65.01 56 *e*P **P 15 28 26.1 -0.7**
BMN pmax pmax
comp=Z,8.0nm,0.9s
BMN Battle Mountai 65.01 56 *e*P **P 15 28 26.1 -0.7**
comp=Z,8.3nm,0.9s
A25A Svangstu Ranch 65.01 41 P **P 15 28 26.0 -0.5**
baz=65
C23A Lambert 65.04 43 P **P 15 28 25.9 -0.8**
baz=65
D22A Cohagen 65.12 44 P **P 15 28 26.5 -0.8**
baz=65
CMB Columbia Colle 65.13 60 *e*P **P 15 28 26.6 -0.9**
CMB pmax pmax
comp=Z,22nm,1.3s
CMB Columbia Colle 65.13 60 *e*P **P 15 28 26.6 -0.9**
comp=Z,22nm,1.3s
E21A Keefer Ranch, 65.20 45 P **P 15 28 27.5 -0.4**
baz=65
H17A Grant Village 65.27 49 P **P 15 28 27.6 -1.0**
baz=65
H17A Grant Village 65.27 49 *e*P **P 15 28 30.9 +2.3**
comp=Z,23nm,1.0s
WAKR Walker 65.29 59 *e*P **P 15 28 29.6 +0.9**
F20A Billings 65.30 46 P **P 15 28 27.9 -0.6**
baz=65
RLMT Red Lodge 65.31 48 P **P 15 28 28.5 -0.3**
baz=65,SNR=19
FLWY Flagg Ranch 65.45 49 *e*P **P 15 28 30.3 +0.6**
comp=Z,16nm,0.9s
A26A Wade Farm, Ken 65.48 41 P **P 15 28 28.7 -0.8**
baz=65
IMW Indian Meadow 65.48 50 *e*P **P 15 28 31.2 +1.3**
comp=Z,39nm,1.8s
B25A Knox Farm, Ray 65.51 42 P **P 15 28 29.2 -0.6**
baz=65
D23A Lindsay 65.52 44 P **P 15 28 29.3 -0.5**
baz=65
C24A Savage 65.57 43 P **P 15 28 29.4 -0.8**
baz=65
FXWY Fox Creek 65.63 50 *e*P **P 15 28 30.6 -0.3**
comp=Z,7.4nm,0.9s
MOOW Moose Ponds 65.68 49 *e*P **P 15 28 31.8 +0.6**
comp=Z,14nm,1.1s
G20A Bridger 65.72 47 P **P 15 28 29.9 -1.4**
baz=65
F21A Absaloka Mine, 65.74 46 P **P 15 28 30.3 -1.1**
baz=66
A27A Ledoux Ranch, 65.75 40 P **P 15 28 30.4 -0.9**
baz=65
E22A Miles City 65.77 45 P **P 15 28 30.4 -1.2**
baz=66
ELK Elko 65.78 54 *e*P **P 15 28 32.2 +0.3**
ELK pmax pmax
comp=Z,11nm,1.0s
ELK Elko 65.78 54 *e*P **P 15 28 32.2 +0.3**
comp=Z,11nm,1.0s
H19A Powell 65.79 48 P **P 15 28 30.4 -1.4**
baz=66
B26A Jensen Ranch, 65.81 41 P **P 15 28 31.4 -0.3**
baz=66
COEN Coen 65.83 179 *e*P **P 15 28 31.7 -0.3**
comp=Z,32nm,1.1s
LOHW Long Hollow 65.85 50 *e*P P 15 28 27.8 -4.5
comp=Z,23nm,1.1s
C25A Freed Ranch, W 65.92 42 P **P 15 28 32.4 0.0**
baz=66
REDW Red Top Meadow 65.93 50 *e*P **P 15 28 33.0 +0.2**
comp=Z,35nm,1.4s
NV01 Mina Array Sit 65.94 58 *e*P **P 15 28 32.6 -0.3**
NVAR Mina Array Bea 65.94 58 P **P 15 28 32.9 0.0**
comp=Z,5.3nm,0.8s,baz=295,slow=5.2,SNR=18
D24A Glendive 65.94 43 P **P 15 28 31.4 -1.2**
baz=66
KIS Kishinev 66.00 317 *e*P **P 15 28 32.0 -0.9**
KIS *e*LQ LQ 15 53 35.0
KIS LRM MLR 15 59 20.0
comp=Z,1μm,16.0s
KIS Kishinev 66.00 317 *e*P **P 15 28 32.0 -0.9**
KIS MLR MLR
comp=N,800nm,16.0s
KIS MLR MLR
comp=E,500nm,16.0s
KIS MLR MLR
comp=Z,1μm,16.0s
KIS MLR MLR
comp=Z,1μm,16.0s
E23A Ismay 66.00 44 P **P 15 28 32.1 -0.9**
baz=66
F22A Rosebud 66.15 45 P **P 15 28 33.1 -0.8**
baz=66,SNR=10
G21A Lodge Grass 66.16 46 P **P 15 28 32.9 -1.2**
baz=66
A28A Rude Farm, Bot 66.17 40 P **P 15 28 32.8 -1.2**
baz=66
B27A Peters Farms, 66.18 41 P **P 15 28 33.4 -0.7**
baz=66
MLAC Mammoth Lakes 66.25 59 P **P 15 28 34.0 -1.0**
baz=66
I19A Meeteetse 66.27 48 P **P 15 28 34.6 -0.4**
baz=66
C26A Wahner Farm, P 66.30 42 P **P 15 28 33.7 -1.2**
baz=66
D25A Fairfield 66.33 43 P **P 15 28 34.2 -0.9**
baz=66
H20A Greybull 66.38 47 P **P 15 28 34.3 -1.2**
baz=66
E24A Baker 66.38 44 P **P 15 28 34.4 -1.1**
baz=66
B28A Dugan Ranch, T 66.50 40 P **P 15 28 35.0 -1.2**
baz=66
A29A Manning Farm, 66.57 39 P **P 15 28 35.5 -1.0**
baz=66
F23A Volborg 66.57 45 P **P 15 28 35.7 -0.9**
baz=66
G22A Birney 66.57 46 P **P 15 28 35.8 -1.0**
baz=66
C27A Sayler Ranch, 66.64 41 P **P 15 28 36.1 -0.9**
baz=66
I20A Worland 66.74 48 P **P 15 28 36.9 -0.9**
baz=66
TPH Tonopah 66.77 58 *e*P **P 15 28 39.1 +0.9**
TPH pmax pmax
comp=Z,12nm,1.0s
TPH Tonopah 66.77 58 *e*P **P 15 28 39.1 +0.9**
comp=Z,12nm,1.0s
D26A Manning 66.80 42 P **P 15 28 37.0 -1.0**
baz=66
E25A Miller Ranch, 66.81 43 P **P 15 28 37.5 -0.7**
baz=66
J19A Crowheart 66.84 49 P **P 15 28 38.0 -0.6**
baz=67
F24A Ekalaka 66.89 44 P **P 15 28 37.3 -1.5**
baz=67
B29A Wagenman Farm, 66.89 40 P **P 15 28 37.5 -1.0**
baz=67
A30A Hoffart Farm, 66.91 39 P **P 15 28 37.7 -1.1**
baz=67
HWUT Hardware Ranch 66.93 52 *e*P **P 15 28 39.3 +0.1**
comp=Z,18nm,1.0s
G23A Biddle 66.98 45 P **P 15 28 38.2 -1.2**
baz=67
BW06 Boulder Array 66.99 49 *e*P **P 15 28 39.2 -0.4**
PDAR Pinedale Array 66.99 49 P **P 15 28 39.1 -0.5**
comp=Z,8.8nm,0.9s,baz=11,slow=3.1,SNR=25
PDAR LR LR 15 59 12.4
comp=Z,93nm,18.4s,baz=354,slow=7
BUR04 Bucovina Ar. S 67.00 319 *e*P **P 15 28 38.6 -0.8**
BURAR Bucovina Array 67.00 319⇑ *i*P **P 15 28 38.7 -0.7**
TIN Tinemaha 67.00 59 P **P 15 28 38.9 -0.7**
baz=67
RCTC Rector, Farmer 67.03 60 P **P 15 28 38.8 -0.8**
baz=67
H22A Clearmont 67.04 46 P **P 15 28 38.8 -1.0**
baz=67
C28A Hausauer Farms 67.08 41 P **P 15 28 38.9 -1.0**
baz=67
STHS Stebnicka Huta 67.08 323 *e*P **P 15 28 40.8 +1.0**
STHS pmax pmax
comp=Z,9.0nm,1.8s
STHS Stebnicka Huta 67.08 323 *e*P **P 15 28 40.8 +1.0**
KOLS Kolonicke sedl 67.09 322 *e*P **P 15 28 40.0 +0.2**
KOLS pmax pmax
comp=Z,12nm,1.8s
KOLS Kolonicke sedl 67.09 322 *e*P **P 15 28 40.0 +0.2**
D27A Center 67.11 42 P **P 15 28 38.9 -1.2**
baz=67
J20A Shoshoni 67.22 48 P **P 15 28 40.0 -1.0**
baz=67
I21A Big Trails, Te 67.22 47 P **P 15 28 40.0 -1.0**
baz=67,SNR=19
E26A Carlson Angus 67.23 43 P **P 15 28 40.1 -0.8**
baz=67
F25A Bowman 67.25 44 P **P 15 28 40.4 -0.6**
baz=67
MDND Maddock 67.29 40 P **P 15 28 40.1 -1.0**
baz=67
MDND Maddock 67.29 40 *e*P **P 15 28 39.5 -1.7**
B30A Myrvik Farm, E 67.30 39 P **P 15 28 39.9 -1.3**
baz=67
G24A Alzada 67.31 45 P **P 15 28 39.9 -1.5**
baz=67
SMMC Simmler 67.36 61 P **P 15 28 41.8 0.0**
baz=67
DUG Dugway 67.40 53 *e*P **P 15 28 41.9 -0.2**
DUG pmax pmax
comp=Z,10.0nm,1.0s
DUG Dugway 67.40 53 P **P 15 28 41.8 -0.2**
baz=67,SNR=7.4
DUG Dugway 67.40 53 *e*P **P 15 28 41.9 -0.2**
comp=Z,9.6nm,1.0s
R11A Troy Canyon, C 67.41 56 P **P 15 28 41.5 -0.7**
baz=67,SNR=8.0
R11A Troy Canyon, C 67.41 56 *e*P **P 15 28 42.0 -0.2**
comp=Z,4.6nm,1.0s
NIE Niedzica 67.43 323 *e*P **P 15 28 42.1 +0.1**
NIE Niedzica 67.43 323 *e*P **P 15 28 42.2 +0.2**
D28A Regan 67.43 41 P **P 15 28 41.0 -1.1**
baz=67
VES Vestal, Richgr 67.46 60 P **P 15 28 41.1 -1.3**
baz=67
H23A Clabaugh Cattl 67.48 46 P **P 15 28 41.6 -1.0**
baz=67
GRAC Grapevine Rang 67.50 58 P **P 15 28 42.2 -0.5**
baz=67
J21A Lysite 67.52 48 P **P 15 28 41.9 -1.0**
baz=67
I22A 9 Mile Ranch, 67.53 47 P **P 15 28 41.8 -1.0**
baz=67
CWC Cottonwood Cre 67.55 59 P **P 15 28 42.7 -0.4**
baz=67
E27A Carson 67.64 42 P **P 15 28 42.4 -1.0**
baz=67
F26A Lodgepole 67.64 43 P **P 15 28 42.8 -0.7**
baz=67
KSP Ksiaz 67.67 326 *e*P **P 15 28 43.2 -0.3**
KSP Ksiaz 67.67 326 *e*P **P 15 28 43.2 -0.3**
H24A Dirks Ranch, A 67.71 45 P **P 15 28 42.5 -1.4**
baz=67
CFR Carcaliu 67.73 316⇑ *i*P **P 15 28 44.0 +0.1**
PKM Peak Mountain 67.77 62 P **P 15 28 44.1 -0.5**
baz=68
G25A Newell 67.84 44 P **P 15 28 43.5 -1.2**
baz=68
C30A Mose, Pekin 67.85 39 P **P 15 28 43.8 -0.9**
baz=68
OKC Ostrava-Krasne 67.87 325 *e*P **P 15 28 44.5 -0.2**
OKC *e*pP **pP 15 28 49.5 -1.5**
OKC AMS AMS 16 01 40.0
comp=Z,500nm,15.8s
OKC Ostrava-Krasne 67.87 325 *e*P **P 15 28 44.5 -0.2**
OKC *e* 15 28 49.5
OKC MLR MLR
comp=Z,500nm,15.8s
E28A Huff 67.88 42 P **P 15 28 43.9 -1.0**
baz=68
F27A Lemmon 67.89 43 P **P 15 28 44.0 -1.0**
baz=68
ISA Isabella 67.92 60 *e*P **P 15 28 45.3 -0.1**
ISA pmax pmax
comp=Z,4.0nm,0.9s
ISA Isabella 67.92 60 P **P 15 28 44.5 -0.9**
baz=68
ISA Isabella 67.92 60 *e*P **P 15 28 45.3 -0.1**
comp=Z,3.7nm,0.9s
I23A Meade Ranch, G 67.93 46 P **P 15 28 43.5 -1.9**
baz=68
D29A Pettibone, Tap 67.93 41 P **P 15 28 43.9 -1.3**
baz=68
UPC Upice 68.05 326 *e*P **P 15 28 45.8 -0.1**
UPC AMS AMS 16 01 10.0
comp=Z,500nm,15.0s
UPC Upice 68.05 326 *e*P **P 15 28 45.8 -0.1**
UPC MLR MLR
comp=Z,500nm,15.0s
DPC Dobruska-Polom 68.08 326 *i* P **P 15 28 46.1 0.0**
DPC *e*pP **pP 15 28 50.8 -1.5**
DPC AMS AMS 16 01 50.0
comp=Z,400nm,12.7s
DPC Dobruska-Polom 68.08 326 *i* P **P 15 28 46.1 0.0**
DPC *e* 15 28 50.8
DPC MLR MLR
comp=Z,400nm,12.7s
G26A Maurine 68.11 43 P **P 15 28 45.4 -1.0**
baz=68
TPNV Topopah Spring 68.12 58 *e*P **P 15 28 46.6 -0.2**
TPNV pmax pmax
comp=Z,9.0nm,0.8s
TPNV Topopah Spring 68.12 58 P **P 15 28 46.3 -0.5**
baz=68,SNR=15
TPNV Topopah Spring 68.12 58 *e*P **P 15 28 46.6 -0.2**
comp=Z,9.3nm,0.8s
MORC Moravsky Berou 68.13 325 *e*P **P 15 28 45.7 -0.8**
MORC pmax pmax
comp=Z,88nm,1.3s
MORC Moravsky Berou 68.13 325⇑ *i*P **P 15 28 46.4 -0.1**
MORC Moravsky Berou 68.13 325 *e*P **P 15 28 45.7 -0.8**
comp=Z,88nm,1.3s
KECS Kecovo 68.14 322 *e*P P 15 28 41.6 -4.8
KECS pmax pmax
comp=Z,1.0nm,1.1s
KECS Kecovo 68.14 322 *e* P 15 28 41.6 -4.8
MPMC Manual Prospec 68.14 59 P **P 15 28 46.4 -0.5**
baz=68,SNR=8.8
KRLC Kraliky 68.15 326 *e*P **P 15 28 46.3 -0.3**
KRLC *e*pP **pP 15 28 50.7 -2.1**
KRLC Kraliky 68.15 326 *e*P **P 15 28 46.3 -0.3**
KRLC *e* 15 28 50.7
FURC Furnace Creek, 68.17 58 P **P 15 28 46.6 -0.1**
baz=68
H25A Fruitdale 68.22 45 P **P 15 28 46.3 -0.9**
baz=68
D30A Buchanan 68.23 40 P **P 15 28 46.2 -0.9**
baz=68
E29A Napoleon 68.31 41 P **P 15 28 46.4 -1.2**
baz=68
G27A Dupree 68.33 43 P **P 15 28 46.5 -1.2**
baz=68
J23A Dilts Ranch, B 68.33 47 P **P 15 28 46.9 -1.0**
baz=68
AGMN Agassiz Nation 68.37 38 P **P 15 28 45.8 -2.1**
baz=68
AGMN Agassiz Nation 68.37 38 *e*P **P 15 28 47.2 -0.6**
comp=Z,23nm,1.0s
CLL Collm 68.37 328 *e*P **P 15 28 47.3 -0.5**
comp=Z,31nm,1.0s
CLL Collm 68.37 328⇑ *i*P **P 15 28 47.0 -0.8**
CLL pmax pmax
comp=Z,16nm,0.9s
CLL MLR MLR
comp=Z,400nm,15.1s
CLL Collm 68.37 328 *e*P **P 15 28 46.7 -1.1**
comp=Z,30nm,0.9s
CLL Collm 68.37 328⇑ *i*P **P 15 28 47.0 -0.8**
comp=Z,16nm,0.9s
CLL *i* pP **pP 15 28 51.7 -2.4**
comp=Z,31nm,1.0s
CLL *i* sP **sP 15 28 54.0 -2.4**
comp=Z,15nm,0.9s
CLL LmH 15 56 00.0
comp=N,500nm,19.2s
CLL LmH 15 56 00.0
comp=E,800nm,20.0s
I24A Kuemmerle Ranc 68.38 46 P **P 15 28 46.6 -1.6**
baz=68
MLR Muntele Rosu 68.41 317⇑ *i*P **P 15 28 48.3 -0.1**
F28A McLaughlin 68.42 42 P **P 15 28 47.0 -1.3**
baz=68
RSSD Black Hills 68.43 45 *e*P **P 15 28 48.0 -0.7**
RSSD *e*S **S 15 37 53.3 +4.1**
RSSD pmax pmax
comp=Z,18nm,1.0s
RSSD Black Hills 68.43 45 *e*P **P 15 28 48.0 -0.7**
comp=Z,18nm,1.0s
RSSD *e*S **S 15 37 53.3 +4.1**
BRG Berggiesshubel 68.44 328 *e*P **P 15 28 47.6 -0.7**
comp=Z,4.8nm,1.0s
BRG Berggiesshubel 68.44 328 *e*P **P 15 28 47.6 -0.7**
comp=Z,26nm,1.7s
BRG Berggiesshubel 68.44 328 *e*P **P 15 28 47.6 -0.7**
BRG pmax pmax
comp=Z,5.0nm,1.0s
ISR Istrita 68.45 317⇓ *i*P **P 15 28 48.9 +0.3**
LRMC Laurel Mountai 68.48 60 P **P 15 28 48.5 -0.5**
baz=68
K22A Casper 68.48 48 P **P 15 28 48.0 -0.9**
baz=68
K22A Casper 68.48 48 *e*P **P 15 28 48.5 -0.5**
comp=Z,9.1nm,0.8s
PVCC Panska Ves 68.52 327 *e*P **P 15 28 48.8 0.0**
PVCC AMS AMS 16 01 40.0
comp=Z,600nm,15.2s
PVCC Panska Ves 68.52 327 *e*P **P 15 28 48.8 0.0**
PVCC MLR MLR
comp=Z,600nm,15.2s
BSC Santa Cruz Isl 68.55 62 P **P 15 28 48.7 -0.6**
baz=68
OSI Osito Adit 68.58 61 P **P 15 28 48.7 -0.8**
baz=68
H26A Fairpoint 68.58 44 P **P 15 28 48.1 -1.3**
baz=68
I25A Rochford 68.64 45 P **P 15 28 48.4 -1.5**
baz=68
E30A Jud 68.66 40 P **P 15 28 48.9 -0.9**
baz=68
DRGR 68.67 320⇑ *i*P **P 15 28 49.7 -0.2**
MSAB Monastry St. A 68.73 315⇑ *i*P **P 15 28 50.2 0.0**
CLZ Clausthal 68.73 330 *e*P **P 15 28 50.1 -0.1**
comp=Z,34nm,1.4s
EDW2 Edwards Air Fo 68.77 60 P **P 15 28 50.1 -0.6**
baz=68,SNR=12
BLG Laguna Peak 68.77 62 P **P 15 28 49.5 -1.2**
baz=69
J24A Dixon Ranch, L 68.78 46 P **P 15 28 49.8 -0.9**
baz=68
K23A Bowen Ranch, D 68.81 47 P **P 15 28 49.8 -1.1**
baz=68
VOIR 68.82 318⇓ *i*P **P 15 28 51.3 +0.4**
PSZ Piszkesteto 68.83 322 *e*P **P 15 28 50.6 -0.2**
PSZ pmax pmax
comp=Z,55nm,1.9s
PSZ Piszkesteto 68.83 322⇑ *i*P **P 15 28 51.0 +0.1**
PSZ Piszkesteto 68.83 322 *e*P **P 15 28 50.6 -0.2**
comp=Z,55nm,1.9s
F29A Eureka 68.83 41 P **P 15 28 50.0 -0.8**
baz=68
VRAC Vranov 68.86 325 P **P 15 28 50.0 -1.0**
comp=Z,2.7nm,0.5s,baz=90,slow=5.1,SNR=5.6

VRAC Vranov 68.86 325 P P 15 28 50.0 -1.0
VRAC pmax pmax
comp=Z,3.0nm,0.5s
VRAC Vranov 68.86 325 ⇑*i*P P 15 28 51.1 +0.1
H27A Howes 68.86 44 P P 15 28 50.1 -1.0
baz=69
SHOC Shoshone 68.90 59 P P 15 28 50.9 -0.5
baz=69
PRA Prague 68.96 327 AMS AMS 16 02 00.0
comp=Z,700nm,12.4s
GOPC GO Pecny, Ondr 68.97 327 *e*P P 15 28 52.3 +0.6
GOPC AMS AMS 16 01 40.0
comp=Z,500nm,14.9s
PRU Pruhonice 68.99 327 *e*P P 15 28 51.8 +0.1
PRU *e*pP pP 15 28 55.8 -2.2
PRU AMS AMS 16 01 50.0
comp=Z,600nm,15.3s
PRU Pruhonice 68.99 327 *e*P P 15 28 51.8 +0.1
PRU *e* 15 28 55.8
PRU MLR MLR
comp=Z,600nm,15.3s
MVU Marysvale 68.99 54 *e*P P 15 28 53.3 +1.0
comp=Z,8.5nm,1.0s
G28A Parade 69.00 43 P P 15 28 50.8 -1.2
baz=69
I26A New Underwood 69.01 44 P P 15 28 50.8 -1.3
baz=69
SHPR Sheep Range 69.03 57 *e*P P 15 28 52.2 -0.2
ARR Arges 69.05 318 ⇓*i*P P 15 28 52.0 -0.3
DECC Green Verdugo 69.06 61 P P 15 28 51.3 -1.2
baz=69
GSC Goldstone 69.08 59 *e*P P 15 28 53.1 +0.5
GSC pmax pmax
comp=Z,10.0nm,1.0s
GSC Goldstone 69.08 59 P P 15 28 52.2 -0.5
baz=69
GSC Goldstone 69.08 59 *e*P P 15 28 53.1 +0.5
comp=Z,9.7nm,1.0s
J25A Sunshine Ranch 69.11 45 P P 15 28 51.4 -1.4
baz=69
F30A Leola 69.16 41 P P 15 28 51.6 -1.3
baz=69
K24A Anderson Ranch 69.20 47 P P 15 28 51.5 -1.9
baz=69
TREC Trest 69.26 326 *e*P P 15 28 53.2 -0.3
TREC AMS AMS 16 02 00.0
comp=Z,500nm,12.2s
TREC Trest 69.26 326 *e*P P 15 28 53.2 -0.3
TREC MLR MLR
comp=Z,500nm,12.2s
H28A Mission Ridge 69.28 43 P P 15 28 52.3 -1.4
baz=69
RRX Edison Barstow 69.30 60 P P 15 28 53.4 -0.5
baz=69
G29A Hoven 69.31 42 P P 15 28 52.4 -1.5
baz=69
TANN Tannenbergstha 69.31 328 *e*P P 15 28 53.4 -0.4
comp=Z,15nm,1.4s
I27A Quinn 69.33 44 P P 15 28 52.9 -1.1
baz=69
MOX Moxa 69.39 329 *e*P P 15 28 53.7 -0.5
comp=Z,28nm,1.4s
BFSC Mount Baldy Ra 69.43 61 P P 15 28 54.5 -0.4
baz=69
TUQ Turquoise Moun 69.44 59 P P 15 28 54.6 -0.4
baz=69,SNR=10
NKC Novy Kostel 69.47 328 *e*P P 15 28 54.8 0.0
NKC *e*pP pP 15 28 59.0 -2.0
NKC Novy Kostel 69.47 328 *e*P P 15 28 54.8 0.0
NKC *e* 15 28 59.0
FMP Fort Macarthur 69.49 61 P P 15 28 54.6 -0.5
baz=69
J26A Sides Ranch, S 69.50 45 P P 15 28 53.7 -1.4
baz=69
BRTR Keskin Array B 69.51 309 P P 15 28 54.7 -0.6
comp=Z,3.9nm,0.8s,baz=67,slow=4.1,SNR=8.4
BRTR PP PP 15 31 32.5 +4.0
comp=Z,4.2nm,1.1s,baz=18,slow=4.3,SNR=6.0
H29A Onida 69.66 42 P P 15 28 54.4 -1.6
O20A White River Ci 69.66 50 P P 15 28 55.2 -1.1
baz=69
O20A White River Ci 69.66 50 *e*P P 15 28 55.4 -0.9
comp=Z,25nm,0.8s
G30A Faulkton 69.69 41 P P 15 28 54.9 -1.3
baz=69
HEC Hector,Ludlow 69.69 59 P P 15 28 56.1 -0.3
baz=70
K25A Mack Ranch, Ha 69.71 46 P P 15 28 55.4 -1.0
baz=69
UBBA Unterbreizbach 69.74 330 *e*P P 15 28 55.6 -0.6
comp=Z,40nm,1.7s
I28A Midland 69.76 43 P P 15 28 55.3 -1.4
baz=70
GZR Gura Zlata 69.79 319 ⇓*i*P P 15 28 56.6 -0.2
BBRC Big Bear Solar 69.81 60 P P 15 28 56.9 -0.5
baz=70
BR231 Keskin MP Arra 69.83 309 *e*P P 15 28 55.0 -2.2
SCI San Clemente I 69.91 62 P P 15 28 57.1 -0.6
baz=70
K26A Motz Farm, Whi 69.94 46 P P 15 28 56.8 -1.0
baz=70
ROTZ Rotzenmuhle 69.96 328 *e*P P 15 28 57.5 -0.2
comp=Z,21nm,1.4s
J27A Elkhorn Farm, 70.01 44 P P 15 28 57.7 -0.5
baz=70
BUG Bochum--Univer 70.01 332 *e*P P 15 28 57.6 -0.4
comp=Z,33nm,1.3s
KHC Kasperske Hory 70.05 327 *i*P P 15 28 58.1 -0.3
KHC *e*pP pP 15 29 02.3 -2.3
KHC AMS AMS 16 02 30.0
comp=Z,500nm,13.0s
KHC Kasperske Hory 70.05 327 *i*P P 15 28 58.1 -0.3
KHC *e* 15 29 02.3
KHC MLR MLR
comp=Z,500nm,13.0s
KHC Kasperske Hory 70.05 327 *e*P P 15 28 58.2 -0.1
comp=Z,6.7nm,1.2s
GMRC Granite Mounta 70.08 59 P P 15 28 58.5 -0.4
baz=70,SNR=12
I29A Vivian Onida 70.11 43 P P 15 28 57.4 -1.4
baz=70
N23A Red Feather La 70.14 48 P P 15 28 58.6 -0.7
baz=70
N23A Red Feather La 70.14 48 *e*P P 15 28 58.4 -0.9
comp=Z,8.2nm,1.0s
LDFC Landfair 70.14 58 *e*P P 15 28 58.6 -0.7
comp=Z,20nm,0.8s
J28A Allard Ranch, 70.20 44 P P 15 28 58.8 -0.6
baz=70
GEC2 GERESS Array S 70.25 327 *e*P P 15 28 59.2 -0.5
comp=Z,17nm,1.6s
GEC2 GERESS Array S 70.25 327 *e*P P 15 28 59.8 +0.1
GEC2 GERESS Array S 70.25 327 *e*P P 15 28 59.8 +0.1
GERES GERESS Array B 70.25 327 P P 15 28 59.0 -0.6
comp=Z,1.8nm,0.7s,baz=33,slow=5.1,SNR=10
GERES LR LR 16 03 19.8
comp=Z,248nm,18.1s,baz=30,slow=39
GERES GERESS Array B 70.25 327 P P 15 28 59.1 -0.6
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES MLR MLR
comp=Z,248nm,18.1s
EYMN Ely 70.26 35 P P 15 28 59.8 +0.2
baz=70
EYMN Ely 70.26 35 *e*P P 15 28 58.4 -1.2
comp=Z,17nm,1.1s
WET Wettzell 70.27 327 *e*P P 15 28 59.7 0.0
comp=Z,25nm,1.4s
CONA Conrad Observa 70.29 325 ⇑*i*P P 15 28 59.0 -0.9
comp=Z,17nm,1.5s
GRF Grafenberg Arr 70.34 329 *e*P P 15 29 00.2 +0.1
comp=Z,54nm,1.4s
K27A Flueckinger Fa 70.35 45 P P 15 28 59.0 -1.4
baz=70
DNR Dunn Ranch,Anz 70.50 60 *e*P P 15 28 59.5 -2.0
BELC Belle Mtn. Jos 70.50 60 P P 15 29 00.4 -1.1
baz=70
PV09 Paradox Valley 70.51 52 *e*P P 15 29 01.9 +0.2
PFO Pinyon Flat Ob 70.56 60 P P 15 29 01.0 -0.9
comp=Z,3.4nm,0.7s,baz=0.0,slow=6.1
PFO Pinyon Flat Ob 70.56 60 *e*P P 15 29 02.4 +0.6
PFO Pinyon Flat Ob 70.56 60 P P 15 29 01.6 -0.2
baz=70
PFO Pinyon Flat Ob 70.56 60 *e*P P 15 29 02.4 +0.6
I30A Oacoma 70.56 42 P P 15 28 60.0 -1.6
baz=70

M25A Palm-Egli Farm 70.56 47 P P 15 29 01.4 -0.4
baz=70
J29A Okreek 70.60 43 P P 15 29 00.8 -1.0
baz=70
SCHQ Schefferville 70.69 17 P P 15 29 00.2 -1.9
comp=Z,2.0nm,0.5s,baz=273,slow=5.3,SNR=3.7
PV04 Paradox Valley 70.71 52 *e*P P 15 29 01.8 -0.9
K28A Ten Mile Ranch 70.72 44 P P 15 29 01.8 -0.8
baz=70
PKSM Moragy 70.72 322 ⇓*i*P P 15 29 01.6 -0.8
TNS Taunus Mts 70.74 331 *e*P P 15 29 02.1 -0.5
comp=Z,19nm,1.6s
L27A T5 Ranch, Ells 70.82 45 P P 15 29 02.2 -1.0
baz=70
IRM Iron Mountain 70.83 59 P P 15 29 03.0 -0.4
baz=71,SNR=12
PV05 Paradox Valley 70.86 52 *e*P P 15 29 03.0 -0.7
M26A McRoberts Ranc 70.95 46 P P 15 29 03.3 -0.8
baz=71
SMCO Snowmass 71.02 50 *e*P P 15 29 05.2 +0.3
comp=Z,16nm,0.9s
J30A Dallas 71.02 43 P P 15 29 03.0 -1.4
baz=71
PV01 Paradox Valley 71.07 52 *e*P P 15 29 04.7 -0.4
MEM Membach 71.12 332 P P 15 29 05.4 +0.6
MEM Membach 71.12 332 *e*P P 15 29 03.7 -1.1
MEM pmax pmax
comp=Z,19nm,1.1s
MEM Membach 71.12 332 *e*P P 15 29 03.7 -1.1
comp=Z,19nm,1.1s
K29A Lazy Trails An 71.13 44 P P 15 29 04.3 -0.8
baz=71
MONP Monument Peak 71.13 61 P P 15 29 05.0 -0.4
baz=71
BAR Barrett 71.15 61 *e*P P 15 29 04.4 -1.0
comp=Z,3.1nm,0.9s
ISCO Idaho Springs 71.16 49 *e*P P 15 29 05.8 +0.2
ISCO pmax pmax
comp=Z,28nm,1.4s
ISCO Idaho Springs 71.16 49 P P 15 29 05.0 -0.6
baz=71,SNR=13
ISCO Idaho Springs 71.16 49 *e*P P 15 29 05.8 +0.2
comp=Z,28nm,1.4s
L28A Connealy Angus 71.23 45 P P 15 29 05.1 -0.6
baz=71
M27A Reverse DX Ran 71.23 46 P P 15 29 05.4 -0.4
baz=71
PDMCI Parker Dam,Lak 71.25 58 P P 15 29 05.8 0.0
baz=71
SWSC Sam W. Stewart 71.42 60 P P 15 29 06.3 -0.6
baz=71
N26A Koester Ranch, 71.43 47 P P 15 29 06.1 -0.9
baz=71
Y12C Blythe 71.48 59 P P 15 29 06.9 -0.3
baz=71
IBP Imperial Bould 71.48 61 P P 15 29 07.0 -0.4
baz=71
K30A Basset 71.50 43 P P 15 29 06.7 -0.6
baz=71
RJOB Jochberg 71.52 327 *e*P P 15 29 07.4 +0.1
comp=Z,12nm,1.0s
L29A Maesberg Ranch 71.63 44 P P 15 29 07.4 -0.8
baz=71
WUAZ Wupatki 71.73 55 P P 15 29 08.5 -0.5
baz=72,SNR=11
WUAZ Wupatki 71.73 55 *e*P P 15 29 09.2 +0.2
comp=Z,18nm,1.1s
N27A Anderson Farm, 71.75 46 P P 15 29 08.4 -0.5
baz=72
M28A Bar X Bar Ranc 71.79 45 P P 15 29 08.1 -1.0
baz=72
MVCO Mesa Verde 71.84 52 P P 15 29 08.8 -0.8
baz=72
MVCO Mesa Verde 71.84 52 *e*P P 15 29 08.7 -1.0
comp=Z,8.9nm,0.8s
GLA Glamis 71.86 59 P P 15 29 09.1 -0.5
baz=72
O26A Horse Wrangler 71.86 47 P P 15 29 08.9 -0.7
baz=72
ECSD EROS Data Cent 71.86 41 P P 15 29 08.2 -1.2
baz=72,SNR=24
ECSD EROS Data Cent 71.86 41 *e*P P 15 29 08.3 -1.1
comp=Z,28nm,0.8s
OGNE Ogallala 71.86 46 P P 15 29 09.0 -0.6
baz=72
KBA Koelnbreinsper 71.90 326 *i*P P 15 29 10.2 +0.5
comp=Z,28nm,0.9s,SNR=16
VTS Vitosha 71.91 317 ⇑*i*P P 15 29 09.4 -0.5
DIVS Divibare 71.97 320 ⇑*i*P P 15 29 09.4 -0.8
DOU Dourbes 71.98 333 P P 15 29 09.1 -0.9
Q24A Divide 72.04 49 P P 15 29 09.9 -1.0
baz=72
M29A Burnside Ranch 72.05 45 P P 15 29 09.9 -0.8
baz=72
L30A Spencer Herefo 72.05 44 P P 15 29 09.5 -1.1
baz=72
SPMN St. Paul 72.09 37 P P 15 29 10.9 +0.2
baz=72
SPMN St. Paul 72.09 37 *e*P P 15 29 10.0 -0.7
comp=Z,38nm,0.7s
WRAB Tennant Creek 72.10 188 *e*P P 15 29 11.0 +0.1
WRAB pmax pmax
comp=Z,89nm,1.7s
WRAB Tennant Creek 72.10 188 *e*P P 15 29 10.4 -0.5
WRA Warramunga Arr 72.11 188 P P 15 29 09.4 -1.6
comp=Z,12nm,1.0s,baz=6.2,slow=6.8,SNR=20
WRA Warramunga Arr 72.11 188 *i*P P 15 29 10.3 -0.7
WRA pmax pmax
comp=Z,12nm,1.0s
S22A 4UR Ranch, Cre 72.22 51 P P 15 29 11.6 -0.4
baz=72,SNR=13
S22A 4UR Ranch, Cre 72.22 51 *e*P P 15 29 11.8 -0.2
comp=Z,23nm,1.4s
L31A Butterfield Fa 72.23 43 P P 15 29 11.1 -0.6
baz=72
O27A Beecher Island 72.28 47 P P 15 29 11.7 -0.4
baz=72
N28A Pribbeno Ranch 72.29 46 P P 15 29 11.2 -0.9
baz=72
WTTA Wattenberg 72.32 327 ⇓*i*P P 15 29 12.1 -0.2
comp=Z,31nm,1.4s,SNR=7.6
M30A Dale-Ortello V 72.32 44 P P 15 29 11.3 -1.0
baz=72
P26A Davis Ranch, A 72.39 48 P P 15 29 11.9 -0.9
baz=72
MOTA Moosalm 72.43 327 ⇑*i*P P 15 29 12.7 -0.2
comp=Z,3.8nm,0.5s
BFO Black Forest 72.45 330 *e*P P 15 29 12.0 -0.9
comp=Z,18nm,1.2s
BFO Black Forest 72.45 330 *i*P P 15 29 14.1 +1.2
BFO Black Forest 72.45 330 *e*P P 15 29 12.1 -0.7
N29A Votaw Ranch, W 72.58 45 P P 15 29 13.0 -0.9
baz=72
O28A Krutsinger Ran 72.64 46 P P 15 29 13.3 -0.9
baz=73
COWI Conover 72.67 35 *e*P P 15 29 13.3 -0.9
comp=Z,42nm,1.9s
P27A Ficken Ranch, 72.75 47 P P 15 29 13.7 -1.2
baz=72
Q26A Hugo 72.83 48 P P 15 29 14.9 -0.5
baz=72
N30A Hueftle Ranch, 72.83 45 P P 15 29 14.2 -1.1
baz=72
FETA Feichten 72.83 328 ⇑*i*P P 15 29 14.9 -0.4
comp=Z,15nm,1.3s
SDCO Great Sand Dun 72.85 50 P P 15 29 14.7 -1.1
baz=73,SNR=14
SDCO Great Sand Dun 72.85 50 *e*P P 15 29 14.7 -1.1
comp=Z,8.3nm,1.0s
M31A Lambtecht Ranc 72.86 44 P P 15 29 14.6 -0.9
baz=73
W18A Petrified Fore 72.87 55 P P 15 29 15.1 -0.7
baz=73
O29A 4D Ranch, Culb 73.08 46 P P 15 29 15.7 -1.1
baz=73
P28A Saint Francis 73.10 47 P P 15 29 15.6 -1.4
baz=73
BGNE Belgrade 73.16 43 P P 15 29 16.4 -0.8
baz=73
KSCO Kaye Shedlock' 73.17 47 P P 15 29 16.3 -1.2
baz=73
N31A Bailey Ranch, 73.30 44 P P 15 29 16.7 -1.4
baz=73
FUORN Ofenpass-Fuorn 73.34 328 *e*P P 15 29 17.9 -0.5
comp=Z,20nm,1.1s
O30A MW Ranch, Wils 73.36 45 P P 15 29 17.3 -1.2
baz=73
R26A Arlington 73.36 48 P P 15 29 17.3 -1.3
baz=73
M33A Taylor Creek F 73.42 42 P P 15 29 17.0 -1.7
baz=73
L34A Svendsen Farm, 73.43 42 P P 15 29 17.3 -1.4
baz=73
P29A Atwood 73.44 46 P P 15 29 17.4 -1.6
baz=73
Q28A Sharon Springs 73.48 47 P P 15 29 17.9 -1.4
baz=73
N32A Stulken Farm, 73.63 44 P P 15 29 18.7 -1.3
baz=73
L35A Bielow Farm, R 73.65 41 P P 15 29 18.9 -1.1
baz=73
R27A Eads 73.67 48 P P 15 29 19.0 -1.4
baz=73
O31A Woolen Ranch, 73.69 45 P P 15 29 19.2 -1.2
baz=73
M34A Aspy Farms, Fr 73.73 42 P P 15 29 19.3 -1.3
baz=73
214A Organ Pipe Nat 73.77 59 P P 15 29 20.1 -0.9
baz=74
P30A Selden 73.79 46 P P 15 29 19.7 -1.3
baz=74
T25A Trinidad 73.86 50 P P 15 29 20.3 -1.3
baz=74,SNR=8.1
T25A Trinidad 73.86 50 *e*P P 15 29 21.8 +0.2
comp=Z,31nm,1.4s
S26A Kim 73.90 49 P P 15 29 20.0 -1.7
baz=74,SNR=8.5
Q29A Oakley 74.00 46 P P 15 29 20.7 -1.6
baz=74
O32A Brockman Farm, 74.06 44 P P 15 29 21.0 -1.5
baz=74
R28A Tribune 74.08 47 P P 15 29 21.4 -1.4
baz=74,SNR=9.8
S27A Las Animas 74.12 48 P P 15 29 21.8 -1.3
baz=74
M35A Neola 74.13 41 P P 15 29 21.5 -1.4
baz=74
P31A Stockton 74.19 45 P P 15 29 21.9 -1.4
baz=74
T26A Comanche Natio 74.21 49 P P 15 29 21.9 -1.7
baz=74,SNR=8.2
Q30A Quinter 74.27 46 P P 15 29 22.4 -1.4
baz=74
R29A Marienthal 74.32 47 P P 15 29 22.7 -1.4
baz=74
N34A Lincoln 74.32 42 P P 15 29 22.6 -1.4
baz=74
P32A Huiting Farm, 74.45 44 P P 15 29 22.8 -2.0
baz=74
O33A Hebron 74.50 43 P P 15 29 23.3 -1.8
baz=74
TUC Tucson 74.55 57 *e*P P 15 29 26.1 +0.5
TUC pmax pmax
comp=Z,11nm,1.2s
TUC Tucson 74.55 57 *e*P P 15 29 26.1 +0.5
comp=Z,11nm,1.2s
Q31A Ellis 74.61 45 P P 15 29 24.6 -1.2
baz=74
CBKS Cedar Bluff 74.62 46 P P 15 29 23.9 -1.9
baz=74
ANMO Albuquerque 74.64 53 P P 15 29 24.9 -1.2
comp=Z,0.8nm,0.5s,baz=311,slow=8.6,SNR=8.5
ANMO Albuquerque 74.64 53*c i*P P 15 29 25.1 -1.1
ANMO pmax pmax
comp=Z,45nm,1.7s
ANMO MLR MLR
comp=Z,399nm,18.0s
ANMO Albuquerque 74.64 53 *e*P P 15 29 26.6 +0.5
comp=Z,14nm,1.5s
S28A Manter 74.65 48 P P 15 29 24.5 -1.6
baz=74
N35A Tabor 74.66 42 P P 15 29 25.2 -0.7
baz=74
T27A Campo 74.71 49 P P 15 29 25.1 -1.4
baz=74
O34A Beatrice 74.79 43 P P 15 29 25.0 -1.8
baz=74
R30A Dighton 74.82 46 P P 15 29 25.0 -2.0
baz=74
T28A Walsh 74.94 48 P P 15 29 26.2 -1.6
baz=75
S29A Ulysses 74.98 47 P P 15 29 26.5 -1.5
baz=75,SNR=5.6
Q32A Meitler Ranch, 74.99 45 P P 15 29 25.9 -2.0
baz=75
P33A Williams Farm, 74.99 44 P P 15 29 26.2 -1.7
baz=75
O35A Humboldt 75.05 42 P P 15 29 26.4 -1.8
baz=75
COCO West Island 75.05 226 *i*P P 15 29 26.3 -2.0
Y22D IRIS PASSCAL I 75.11 53 P P 15 29 27.1 -1.8
baz=75
R31A Burdett 75.14 46 P P 15 29 27.5 -1.4
baz=75
U27A Thompson Grove 75.18 49 P P 15 29 28.1 -1.1
baz=75
S30A Montezuma 75.26 47 P P 15 29 28.0 -1.6
baz=75
P34A Walnut Farm, R 75.27 43 P P 15 29 28.0 -1.5
baz=75
T29A Hugoton 75.28 48 P P 15 29 28.4 -1.4
baz=75
Q33A Connelly Farm, 75.30 44 P P 15 29 28.4 -1.3
baz=75
R32A Long Quarter, 75.39 45 P P 15 29 28.9 -1.4
baz=75
U28A Mallet 75.49 49 P P 15 29 29.8 -1.1
baz=75
O36A Bolckow 75.55 42 P P 15 29 30.1 -1.0
baz=75
P35A Duane Minner, 75.62 43 P P 15 29 30.3 -1.2
baz=75
V27A Dan Oppiter Fa 75.72 50 P P 15 29 30.9 -1.4
baz=75
S31A Mullinville 75.72 46 P P 15 29 30.8 -1.4
baz=75
T30A Plains 75.72 47 P P 15 29 30.9 -1.3
baz=75
KSU1 Kansas State U 75.73 43 P P 15 29 31.1 -1.1
baz=75
Q34A Chapman 75.74 44 P P 15 29 31.0 -1.2
baz=75
AS01 Alice Springs 75.83 188 *e*P P 15 29 32.1 -0.6
ASAR Alice Springs 75.84 188 P P 15 29 32.2 -0.5
comp=Z,8.9nm,0.6s,baz=2.7,slow=5.5,SNR=54
ASAR LR LR 16 02 54.3
comp=Z,70nm,20.1s,baz=330,slow=36
ASAR Alice Springs 75.84 188 P P 15 29 32.2 -0.5
ASAR pmax pmax
comp=Z,9.0nm,0.6s
ASAR MLR MLR
comp=Z,70nm,20.1s
U29A Oasis Ranch, S 75.87 48 P P 15 29 31.9 -1.2
baz=76
P36A Good Intent, A 75.88 42 P P 15 29 31.8 -1.3
baz=76
BNI Bardonecchia 75.89 329 *e*P P 15 29 32.7 -0.4
BNI pmax pmax
comp=Z,6.0nm,0.9s
BNI Bardonecchia 75.89 329 *e*P P 15 29 32.7 -0.4
comp=Z,6.5nm,0.9s
S32A Newby Ranch, P 75.89 46 P P 15 29 31.6 -1.6
baz=76
121A Cookes Peak, D 75.91 55 P P 15 29 33.2 -0.3
baz=76
V28A Channing 76.01 49 P P 15 29 32.6 -1.3
baz=76
U30A WK&E Inc. Balk 76.09 48 P P 15 29 33.2 -1.2
baz=76
R34A Isabella, Hill 76.13 44 P P 15 29 33.2 -1.2
baz=76
Q35A Mercer Eighty, 76.18 43 P P 15 29 33.2 -1.5
baz=76
V29A Stinnett 76.23 49 P P 15 29 33.8 -1.4
baz=76
T32A Huddler Ranch, 76.33 46 P P 15 29 34.8 -0.8
baz=76
Q36A Arnold C. Orve 76.33 43 P P 15 29 34.3 -1.2
baz=76
S33A Kaszmaul Farm, 76.39 45 P P 15 29 34.6 -1.4
baz=76
W28A Vega 76.42 49 P P 15 29 35.0 -1.3
baz=76
R35A Emporia Munici 76.56 44 P P 15 29 35.7 -1.2
baz=76
U31A Nine Bar Ranch 76.59 47 P P 15 29 35.8 -1.3

	baz=76							
V30A	Spur Ranch, Mi	76.71	48	P		P	15 29 36.5	-1.4
	baz=76							
T33A	Patterson Ranc	76.71	46	P		P	15 29 36.7	-1.1
	baz=76							
W29A	Amraillo	76.79	49	P		P	15 29 37.2	-1.1
	baz=76							
Q37A	Longview Farm,	76.82	42	P		P	15 29 37.2	-1.2
	baz=76							
R36A	Gordon, Harris	76.85	43	P		P	15 29 37.1	-1.5
	baz=76							
U32A	Winter Ranch,	76.96	47	P		P	15 29 38.0	-1.2
	baz=77							
AMTX	Amarillo	76.97	49	P		P	15 29 38.3	-1.1
	baz=77							
AMTX	Amarillo	76.97	49	*e*P		P	15 29 38.8	-0.5
	comp=Z,25nm,1.0s							
X28A	Dimmitt	77.03	50	P		P	15 29 38.2	-1.5
	baz=77							
S35A	Otter Creek Ra	77.05	44	P		P	15 29 37.8	-1.9
	baz=77							
V31A	Spring Creek L	77.08	47	P		P	15 29 38.0	-2.0
	baz=77							
R37A	Teagarden Farm	77.14	43	P		P	15 29 38.4	-1.8
	baz=77							
MSTX	Muleshoe	77.20	51	P		P	15 29 39.1	-1.6
	baz=77							
MSTX	Muleshoe	77.20	51	*e*P		P	15 29 40.3	-0.5
	comp=Z,9.3nm,0.9s							
T34A	McClaskey Farm	77.22	45	P		P	15 29 39.1	-1.6
	baz=77							
W30A	Crocket Farms	77.24	48	P		P	15 29 40.0	-0.8
	baz=77							
U33A	Lingo Farm, Me	77.31	46	P		P	15 29 39.6	-1.6
	baz=77							
S36A	Lake Cedric, C	77.32	43	P		P	15 29 39.6	-1.6
	baz=77,SNR=5.5							
X29A	Tulia	77.32	50	P		P	15 29 40.1	-1.2
	baz=77							
HDIL	Hopedale	77.42	38	P		P	15 29 40.2	-1.4
	baz=77							
V32A	Arapaho	77.49	47	P		P	15 29 39.5	-2.7
	baz=77							
Y28A	McKinney Farm,	77.50	50	P		P	15 29 41.1	-1.3
	baz=77							
W31A	Holland Ranch,	77.52	48	P		P	15 29 41.2	-1.2
	baz=77							
T35A	Sooner Cattle	77.61	45	P		P	15 29 41.4	-1.4
	baz=77,SNR=5.3							
S37A	Fort Scott	77.61	43	P		P	15 29 41.4	-1.4
	baz=77							
X30A	Coker Ranch, T	77.71	49	P		P	15 29 42.2	-1.2
	baz=77							
V33A	Losseen Ranch,	77.75	46	P		P	15 29 42.4	-1.2
	baz=78							
T36A	Boggs Farm, Ca	77.76	44	P		P	15 29 42.6	-1.1
	baz=78							
Y29A	Porterfield Fa	77.82	50	P		P	15 29 43.2	-0.9
	baz=78							
W32A	Sentinel	77.89	47	P		P	15 29 43.5	-0.9
	baz=78							
Z28A	Tucker Farm, M	77.95	51	P		P	15 29 43.7	-1.1
	baz=78							
X31A	McDonald Ranch	77.97	48	P		P	15 29 44.1	-0.8
	baz=78,SNR=5.6							
U35A	Pawnee	77.97	45	P		P	15 29 44.0	-0.8
	baz=78							
V34A	Guthrie	78.08	46	P		P	15 29 44.6	-0.9
	baz=78							
V34A	Guthrie	78.08	46	*e*P		P	15 29 44.8	-0.6
	comp=Z,40nm,0.9s							
T37A	Cheneyville 18	78.11	43	P		P	15 29 44.4	-1.2
	baz=78,SNR=9.3							
Y30A	Stafford Cattl	78.17	49	P		P	15 29 44.9	-1.1
	baz=78							
W33A	Caddo, Fort Co	78.22	47	P		P	15 29 44.9	-1.3
	baz=78							
Z29A	Hungry Hill Ra	78.29	50	P		P	15 29 45.4	-1.3
	baz=78,SNR=13							
U36A	Oologah	78.38	44	P		P	15 29 46.5	-0.6
	baz=78							
SFIN	Scholer Farm	78.39	36	P		P	15 29 46.2	-0.8
	baz=78							
Y31A	Rekieta Farm,	78.39	49	P		P	15 29 46.1	-1.2
	baz=78							
WMOK	Wichita Mounta	78.42	47	*e*P		P	15 29 46.6	-0.8
WMOK				pmax		pmax		
	comp=Z,19nm,1.0s							
WMOK	Wichita Mounta	78.42	47	*e*P		P	15 29 46.6	-0.8
	comp=Z,19nm,1.0s							
V35A	Meyer Ranch, C	78.43	45	P		P	15 29 46.7	-0.7
	baz=78							
128A	Castleberry Fa	78.45	51	P		P	15 29 46.6	-1.1
	baz=78							
W34A	Bridge Creek,	78.46	46	P		P	15 29 46.8	-0.8
	baz=78							
W34A	Bridge Creek,	78.46	46	*e*P		P	15 29 47.6	0.0
	comp=Z,24nm,0.8s							
Z30A	Sanderson Ranc	78.55	50	P		P	15 29 47.0	-1.2
	baz=78,SNR=12							
X33A	Lawton	78.72	47	P		P	15 29 47.8	-1.2
	baz=78							
129A	Stewart Farms,	78.73	51	P		P	15 29 48.3	-0.9
	baz=78							
Y32A	R-V Farms, Ver	78.73	48	P		P	15 29 48.1	-1.0
	baz=78							
TUL1	Tulsa	78.77	45	P		P	15 29 48.3	-0.9
	baz=78							
TUL1	Tulsa	78.77	45	*e*P		P	15 29 48.8	-0.5
	comp=Z,25nm,0.8s							
V36A	Jenks	78.81	45	P		P	15 29 48.5	-0.9
	baz=78							
228A	UT Block 9, Go	78.81	52	P		P	15 29 48.4	-1.2
	baz=78							
W35A	Tecumseh	78.93	46	P		P	15 29 49.0	-1.2
	baz=79							
X34A	Smith Ranch, M	78.97	47	P		P	15 29 49.3	-1.1
	baz=79							
Z31A	Sharp Cattle R	78.98	49	P		P	15 29 49.2	-1.3
	baz=79							
V37A	Hulbert	79.07	44	P		P	15 29 49.7	-1.2
	baz=79							
Y33A	Hilltop Ranch,	79.10	48	P		P	15 29 49.8	-1.3
	baz=79							
130A	Snyder	79.19	50	P		P	15 29 50.0	-1.7
	baz=79							
W36A	Watumka	79.23	45	P		P	15 29 50.2	-1.6
	baz=79							
Z32A	Haskell	79.30	49	P		P	15 29 51.1	-1.2
	baz=79							
229A	Bryant Ranch,	79.31	51	P		P	15 29 51.6	-0.7
	baz=79							
131A	Roby	79.40	50	P		P	15 29 52.0	-0.8
	baz=79							
X35A	Drake	79.52	46	P		P	15 29 52.5	-0.8
	baz=79							
Y34A	Reagan Ranch,	79.54	47	P		P	15 29 52.6	-0.9
	baz=79							
W37A	Quinton	79.58	45	P		P	15 29 52.9	-0.8
	baz=79,SNR=9.9							
329A	Wagon Wheel Ra	79.62	51	P		P	15 29 53.2	-0.8
	baz=79							
Z33A	Whitaker Ranch	79.64	48	P		P	15 29 53.2	-0.9
	baz=79							
X36A	Centrahoma	79.65	46	P		P	15 29 53.3	-0.8
	baz=79							
230A	Sterling City	79.71	51	P		P	15 29 53.6	-0.9
	baz=79							
ABTX	Abilene, Hawle	79.79	49	P		P	15 29 54.0	-0.9
	baz=80							
ABTX	Abilene, Hawle	79.79	49	*e*P		P	15 29 54.8	-0.1
	comp=Z,38nm,1.4s							
Y35A	Marietta	79.91	47	P		P	15 29 54.3	-1.1
	baz=80							
SIUC	Southern Illin	79.92	39	*e*P		P	15 29 54.9	-0.6
	comp=Z,21nm,0.9s							
Z34A	Collier Ranch,	79.96	47	P		P	15 29 54.5	-1.3
	baz=80							
W38A	Poteau	80.03	44	P		P	15 29 54.9	-1.2
	baz=80,SNR=5.0							
231A	Bronte	80.05	50	P		P	15 29 55.3	-1.0
	baz=80							
X37A	Clayton	80.07	45	P		P	15 29 54.9	-1.4
	baz=80							
330A	Mertzon	80.08	51	P		P	15 29 55.5	-1.0
	baz=80							
133A	Hamilton Ranch	80.14	49	P		P	15 29 55.9	-0.8
	baz=80							
X38A	Whitesboro	80.23	45	P		P	15 29 56.5	-0.7
	baz=80,SNR=12							
Y36A	Durant	80.25	46	P		P	15 29 56.0	-1.3
	baz=80							
PBMO	Poplar Bluff	80.25	40	*e*P		P	15 29 56.5	-0.7
	comp=Z,50nm,1.4s							
Z35A	Perchaven, San	80.29	47	P		P	15 29 55.7	-1.9
	baz=80							
429A	Davenport Ranc	80.37	52	P		P	15 29 57.3	-0.9
	baz=80							
232A	Coleman	80.40	50	P		P	15 29 57.6	-0.6
	baz=80							
Y37A	Hugo	80.47	45	P		P	15 29 57.7	-0.8
	baz=80							
331A	San Angelo	80.51	50	P		P	15 29 58.4	-0.5
	baz=80							
134A	White-Moore Ra	80.55	48	P		P	15 29 58.1	-0.9
	baz=80							
430A	Baggett Ranch,	80.56	51	P		P	15 29 57.9	-1.2
	baz=80							
TX31	Lajitas Ar. Si	80.56	54	*e*P		P	15 29 58.7	-0.5
TXAR	Lajitas Array	80.56	54	P		P	15 29 59.2	+0.1
	comp=Z,10nm,0.8s,baz=292,slow=4.3,SNR=34							
TXAR				LR		LR	16 07 34.0	
	comp=Z,125nm,18.4s,baz=0.0,slow=37							
TXAR	Lajitas Array	80.56	54	P		P	15 29 59.3	+0.1
TXAR				pmax		pmax		
	comp=Z,10.0nm,0.8s							
TXAR				MLR		MLR		
	comp=Z,125nm,18.5s							
233A	Rising Star	80.64	49	P		P	15 29 58.7	-0.8
	baz=80							
Z36A	Blue Ridge	80.71	46	P		P	15 29 58.6	-1.2
	baz=80							
332A	Millersview	80.77	50	P		P	15 29 59.1	-1.2
	baz=80,SNR=8.0							
135A	Vickery Place,	80.87	48	P		P	15 29 59.8	-0.9
	baz=81							
MIAR	Mount Ida	80.88	44	*e*P		P	15 30 00.7	0.0
MIAR				pmax		pmax		
	comp=Z,13nm,1.1s							
MIAR	Mount Ida	80.88	44	P		P	15 29 59.9	-0.8
	baz=81							
MIAR	Mount Ida	80.88	44	*e*P		P	15 30 00.7	0.0
	comp=Z,12nm,1.1s							
Y38A	Idabel	80.91	45	P		P	15 29 59.8	-1.0
	baz=81							
431A	Sonora	80.94	51	P		P	15 30 00.4	-0.8
	baz=81							
234A	Clairette	81.00	48	P		P	15 30 00.7	-0.8
	baz=81							
530A	J-C Ranch, Com	81.04	52	P		P	15 30 00.6	-1.1
	baz=81							
Z37A	Pogue Cattle C	81.13	46	P		P	15 30 01.4	-0.7
	baz=81							
432A	Menard	81.17	50	P		P	15 30 01.4	-1.0
	baz=81							
Y39A	Lockesburg	81.17	44	P		P	15 30 01.9	-0.4
	baz=81							
333A	Richland Sprin	81.18	49	P		P	15 30 01.3	-1.1
	baz=81							
WHTX	Lake Whitney	81.33	48	P		P	15 30 02.6	-0.6
	baz=81							
WHTX	Lake Whitney	81.33	48	*e*P		P	15 30 03.0	-0.1
	comp=Z,60nm,1.4s							
Z38A	Mt. Pleasant	81.37	45	P		P	15 30 02.3	-1.0
	baz=81							
531A	Rocksprings	81.40	51	P		P	15 30 02.8	-0.9
	baz=81							
JCT	Junction City	81.50	50	*e*P		P	15 30 03.4	-0.7
JCT				pmax		pmax		
	comp=Z,23nm,1.2s							
JCT	Junction City	81.50	50	P		P	15 30 03.3	-0.9
	baz=81							
JCT	Junction City	81.50	50	*e*P		P	15 30 03.4	-0.7
	comp=Z,23nm,1.2s							
334A	Lometa	81.52	49	P		P	15 30 03.5	-0.7
	baz=81							
137A	Heron Place, G	81.58	46	P		P	15 30 04.0	-0.5
	baz=81							
433A	Art	81.61	50	P		P	15 30 03.9	-0.7
	baz=81							
Z39A	Irene McRaven,	81.73	45	P		P	15 30 04.6	-0.6
	baz=81							
236A	Katherine and	81.74	47	P		P	15 30 04.5	-0.7
	baz=82							
532A	Rocksprings	81.74	51	P		P	15 30 04.7	-0.7
	baz=82							
138A	Matatall Enter	81.83	46	P		P	15 30 05.3	-0.5
	baz=82							
WVT	Waverly	81.84	39	*e*P		P	15 30 05.4	-0.4
WVT				pmax		pmax		
	comp=Z,33nm,1.5s							
WVT	Waverly	81.84	39	*e*P		P	15 30 05.4	-0.4
	comp=Z,33nm,1.5s							
335A	Moody	81.94	48	P		P	15 30 05.6	-0.7
	baz=82							
434A	Burnet	81.94	49	P		P	15 30 05.5	-0.9
	baz=82							
631A	Perdido Creek	82.01	52	P		P	15 30 06.3	-0.5
	baz=82							
237A	Washetta, Mont	82.06	47	P		P	15 30 06.5	-0.4
	baz=82							
336A	Riesel	82.11	48	P		P	15 30 06.9	-0.3
	baz=82							
139A	Bunkhouse Ranc	82.12	45	P		P	15 30 06.7	-0.5
	baz=82							
533A	Kerrville	82.20	50	P		P	15 30 06.9	-0.9
	baz=82							
435B	Jarrell	82.28	49	P		P	15 30 07.5	-0.7
	baz=82							
632A	Uvalde	82.31	51	P		P	15 30 08.3	-0.1
	baz=82							
238A	Jacksonville	82.37	46	P		P	15 30 08.6	0.0
	baz=82							
534A	Blanco	82.50	50	P		P	15 30 08.4	-1.0
	baz=82							
337A	Centerville	82.61	47	P		P	15 30 09.5	-0.4
	baz=82							
239A	Gary	82.64	46	P		P	15 30 09.8	-0.2
	baz=82							
633A	Saathoff Ranch	82.65	51	P		P	15 30 09.7	-0.4
	baz=82							
436A	Wall Ranch, Ga	82.66	48	P		P	15 30 10.0	-0.2
	baz=82							
NATX	Nacogdoches	82.78	46	P		P	15 30 10.2	-0.5
	baz=82							
338A	Crockett	82.83	47	P		P	15 30 10.4	-0.6
	baz=83							
732A	Laxson Ranch,	82.87	52	P		P	15 30 11.4	+0.1
	baz=83							
339A	Huntington	83.19	46	P		P	15 30 12.4	-0.5
	baz=83							
733A	Divot King Ran	83.21	51	P		P	15 30 12.5	-0.5
	baz=83							
KEST	Kesra	83.29	323	LR		LR	16 11 14.7	
	comp=Z,138nm,18.4s,baz=350,slow=39							
537A	Green Hill Far	83.46	48	P		P	15 30 13.5	-0.8
	baz=83							
636A	Smothers Creek	83.62	49	P		P	15 30 14.9	-0.2
	baz=83							
STKA	Stephens Creek	83.67	181	P		P	15 30 14.9	-0.1
	comp=Z,5.3nm,0.8s,baz=351,slow=4.2,SNR=4.3							
STKA	Stephens Creek	83.67	181	P		P	15 30 14.9	-0.1
STKA				pmax		pmax		
	comp=Z,5.0nm,0.8s							
ES19	SONSECA Array	83.89	334	*e*P		P	15 30 15.6	-0.8
ESDC	Sonseca Array	83.93	334	P		P	15 30 16.4	-0.2
	comp=Z,2.4nm,0.7s,baz=16,slow=4.3,SNR=8.2							
ESDC				LR		LR	16 11 37.2	
	comp=Z,75nm,20.2s,baz=5.0,slow=38							
834A	Tilden	84.06	51	P		P	15 30 17.8	+0.5
	baz=84							
933A	Laredo	84.14	52	P		P	15 30 17.4	-0.4
	baz=84							
737A	Port Lavaca	84.52	49	P		P	15 30 19.7	+0.1
	baz=84							
PPT	Papeete	91.04	118	LR		LR	16 03 17.9	
	comp=Z,520nm,21.6s,baz=316,slow=30							
TORD	Torodi Ar. Bea	106.57	320	PP		PP	15 36 27.0	+1.4
	comp=Z,0.7nm,0.7s,baz=31,slow=6.7,SNR=4.5							
BOSA	Boshof	128.37	271	PKP		PKPdf	15 36 51.7	-1.5
	comp=Z,1.0nm,0.5s,baz=37,slow=4.6,SNR=3.5							
VNDA	Vanda	129.98	175	PKP		PKPdf	15 36 53.7	-0.9
	comp=Z,1.5nm,0.6s,baz=324,slow=5.1,SNR=6.3							
LPAZ	La Paz	136.91	45	PKP		PKPdf	15 37 11.4	+1.2
	comp=Z,1.0nm,0.8s,baz=270,slow=3.0,SNR=3.3							
SYO	Syowa Base	141.55	214	*e*X		PKPpre	15 37 10.0	
CPUP	Villa Florida	150.30	37	PKPbc		PKPbc	15 37 35.6	-2.0
	comp=Z,5.2nm,0.9s,baz=344,slow=1.9,SNR=8.3							

IDC ***09*** *15:22:33.0±1.0,2.11S×136.02E,h0km,mb3.9/5, mb1 4.0/8,mb1mx3.7/37,mbtmp3.8/8,ML3.4/3,Error ellipse: s-maj=30.8km s-min=21.8km az=74.0*
DJA ***09*** *15:22:34.9±0.3,2.3S×4.3×13.6E±.1,h10km,M4.1/8,MLv4.1/8*
ISCJB ***09*** *15:22:35.1±0.4,2.03S±0.05×135.95E±0.03,h33km, mb3.8/5,Error ellipse: s-maj=6.7km s-min=4.6km az=7.4*
ISC 09 15:22:36.7±0.8,**1.93S**±0.07×**135.92E**±0.04,**h35**km,**n23,**
σ1.274/25,mb3.8/5,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SRPI	Serui, Papua	0.32	79	P		Pn	15 22 41.0	-4.0
BAKI	Biak	0.76	14	P		Pn	15 22 49.9	-1.1
BAKI				S		Sn	15 23 01.1	-0.1
RKPI	Ransiki, Papua	1.79	283	P		Pn	15 23 05.8	+0.6
RKPI				S		Sn	15 23 27.8	+1.0
SMPI	Sarmi	2.79	91	P		Pn	15 23 18.6	-0.3
SMPI				S		Sn	15 23 55.4	+4.1
FAKI	Fak Fak	3.80	255	P		Pn	15 23 32.4	-0.4
FAKI	Fak Fak	3.80	255	P		Pn	15 23 32.8	-0.1
	baz=3.7,SNR=26							
GENI	Genyem	4.29	99	P		Pn	15 23 39.8	+0.2
SIJI	Sorong	4.77	283	Pn		Pn	15 23 47.5	+1.3
	1.7nm,0.3s,baz=178,slow=23,SNR=9.7							
SIJI				Sn		Sn	15 24 42.1	+1.7
	2.7nm,0.3s,baz=84,slow=23,SNR=6.1							
SWI	Sorong	4.78	283	P		Pn	15 23 48.6	+2.3
SWI	Sorong	4.78	283	P		Pn	15 23 48.0	+1.6
	baz=4.6,SNR=5.0							
JAY	Jayapura	4.81	97	Pn		Pn	15 23 45.6	-1.2
	0.4nm,0.3s,baz=306,slow=17,SNR=3.5							
JAY				Sn		Sn	15 24 42.4	+1.0
	0.7nm,0.3s,baz=86,slow=19,SNR=2.5							
JAY	Jayapura	4.81	97	P		Pn	15 23 48.3	+1.5
	baz=5.0,SNR=3.1							
KDU	Kakadu	11.22	198	P		Pn	15 25 13.2	-1.5
	baz=12,SNR=7.4							
LUWI	Luwuk	13.18	274	P		Pn	15 25 32.9	-8.6
	baz=13,SNR=3.3							
KNRA	Kununurra	15.38	207	P		Pn	15 26 09.1	-2.1
	baz=16,SNR=7.4							
WRA	Warramunga Arr	17.97	185	P		Pn	15 26 40.5	-3.5
	0.3nm,0.3s,baz=9.2,slow=13,SNR=19							
WRA				S		Sn	15 29 51.5	-12
	0.3nm,0.3s,baz=12,slow=22,SNR=7.2							
QIS	Mount Isa	18.86	169	P		Pn	15 26 56.0	+1.2
	baz=19,SNR=3.9							
ASAR	Alice Springs	21.70	185	P		P	15 27 24.1	-0.7
	6.1nm,0.8s,baz=11,slow=12,SNR=40							
STKA	Stephens Creek	30.27	170	P		P	15 28 45.2	+0.7
	1.1nm,0.5s,baz=4.0,slow=9.6,SNR=4.1							
MKAR	Makanchi Array	67.49	323	P		P	15 33 33.4	+4.1
	0.3nm,0.5s,baz=110,slow=8.1,SNR=4.6							
VNDA	Vanda	76.81	174	P		P	15 34 24.2	-0.2
	0.4nm,0.4s,baz=310,slow=3.0,SNR=4.1							
ILAR	Eielson Array	86.29	25	P		P	15 35 15.3	+0.6
	0.6nm,0.9s,baz=236,slow=6.4,SNR=4.0							
LPAZ	La Paz	150.13	128	PKPbc		PKPab	15 42 28.8	-2.8
	1.0nm,0.6s,baz=340,slow=3.5,SNR=4.2							

JMA ***09*** *15:41:03.2±0.2,24.80N×122.08E,h120km±2km,M3.1*
ISCJB ***09*** *15:41:04.2±0.6,24.84N±0.03×122.15E±0.02, h113km±4km,Error ellipse: s-maj=5.4km s-min=2.9km az=159.6*
TAP ***09*** *15:41:04.4,24.93N×122.07E,h116km,ML3.8,D*
ISC 09 15:41:04.2±1.6,**24.85N**±0.05×**122.14E**±0.03,**h115**km±8km,
n58,σ0.983/102,12D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EGS		0.19	267	*i* P		Pn	15 41 20.4	+0.3
	baz=231							
TWB1	Santiao Chiao	0.21	318	⇓*i* P		Pn	15 41 20.3	+0.1
	baz=320							
TWB1				S		Sn	15 41 32.0	-0.3
	baz=320							
TWC	Suao	0.36	228	P		Pn	15 41 21.8	+0.9
	baz=210							
TWC				*e*S		Sn	15 41 32.8	-0.5
	baz=210							
ILA	Ilan	0.37	256	*i* P		Pn	15 41 21.0	+0.2
	baz=239							
ILA				S		Sn	15 41 33.7	+0.3
	baz=239							
NWF	Wu-fen Shan	0.39	303	⇓*i* P		Pn	15 41 21.1	0.0
	baz=298							
NWF				S		Sn	15 41 33.3	-0.5
	baz=298							
TWE	Neicheng	0.45	253	*i* P		Pn	15 41 21.4	+0.1
	baz=238							
TWE				*e*S		Sn	15 41 33.8	-0.3
	baz=238							
TWA	Mucha	0.52	284	*i* P		Pn	15 41 21.5	-0.3
	baz=276							
TWA				S		Sn	15 41 34.3	-0.7
	baz=276							
ENA	Nanau	0.56	221	*i* P		Pn	15 41 22.5	+0.5
	baz=209							
ENA				S		Sn	15 41 36.4	+1.0
	baz=209							
ENTT	Nioudou	0.57	248	⇓*i* P		Pn	15 41 22.4	+0.4
	baz=236							
ENTT				*e*S		Sn	15 41 36.7	+1.2
	baz=236							
TAP1	Taipei	0.59	288	*i* P		Pn	15 41 22.5	+0.3
	baz=281							
TAP1				S		Sn	15 41 34.8	-0.9
	baz=281							
TWY	Chenhua	0.65	311	⇓*i* P		Pn	15 41 22.3	-0.3
	baz=309							
TWY				S		Sn	15 41 35.0	-1.6
	baz=309							
TWS1	Kuangyinshan	0.70	291	⇓*i* P		Pn	15 41 23.0	-0.1
	baz=286							
TWS1				*e*S		Sn	15 41 38.7	+1.4
	baz=286							
NSK	Sanguang	0.73	256	⇓*i* P		Pn	15 41 23.4	-0.1
	baz=248							
NSK				S		Sn	15 41 37.3	-0.6
	baz=248							
PCYT	Pengchaiyu	0.78	355	⇓*i* P		Pn	15 41 24.0	+0.3
	baz=1.0							
NNS	Nan Shan	0.81	240	⇓*i* P		Pn	15 41 24.5	+0.3
	baz=231							
NNS				*e*S		Sn	15 41 39.4	+0.2
	baz=231							
JYNG	Yonagunijimaku	0.83	119	P		Pn	15 41 24.2	0.0
JYNG				S		Sn	15 41 39.2	-0.1
NCU	National Centr	0.88	278	*i* P		Pn	15 41 24.7	+0.1
	baz=272							
NCU				*e*S		Sn	15 41 40.3	+0.4
	baz=272							
YOJ	Yonaguni jima	0.88	116	P		Pn	15 41 24.6	0.0
YOJ				*e*S		Sn	15 41 40.6	+0.6
TWD	Chiawan	0.92	213	*e*P		Pn	15 41 24.7	-0.3
	baz=206							
TWD				*e*S		Sn	15 41 40.3	-0.3
	baz=206							
NSTT	Nanjuang	1.06	258	*i* P		Pn	15 41 26.3	-0.1
	baz=252							
NSTT				*i* S		Sn	15 41 42.5	-0.8
	baz=252							
TWT	Tachien	1.06	236	P		Pn	15 41 27.6	+0.9
	baz=230							
TWT				S		Sn	15 41 44.2	+0.6
	baz=230							
WHF	Hehuan Shan	1.07	229	⇓*i* P		Pn	15 41 27.2	+0.2
	baz=222							
WHF				S		Sn	15 41 44.0	-0.1

	baz=243							
WDT	**Danda**	**1.43**	**220**	*i*	P	**Pn**	**15 41 31.2**	**+0.3**
	baz=215							
WDT					S	**Sn**	**15 41 50.9**	**-0.1**
	baz=215							
SMLT	**Sun Moon Lake**	**1.49**	**230**	⇓ *i*	P	**Pn**	**15 41 31.9**	**+0.5**
	baz=225							
SMLT					*e*S	**Sn**	**15 41 52.9**	**+1.0**
	baz=225							
TYC	**Yuchr**	**1.51**	**231**	*i*	P	**Pn**	**15 41 31.8**	**+0.4**
	baz=226							
TYC					S	**Sn**	**15 41 52.4**	**+0.4**
	baz=226							
TCU	**Taichung**	**1.51**	**243**	*i*	P	**Pn**	**15 41 31.7**	**+0.2**
	baz=238							
TCU					*e*S	**Sn**	**15 41 51.3**	**-0.9**
	baz=238							
IRIF	**Iriomote-Funau**	**1.53**	**109**		P	**Pn**	**15 41 31.3**	**-0.4**
IRIF					S	**Sn**	**15 41 52.5**	**-0.1**
EHY	**Hungye**	**1.54**	**209**	*i*	P	**Pn**	**15 41 32.4**	**+0.6**
	baz=205							
EHY					*e*S	**Sn**	**15 41 50.9**	**-1.9**
	baz=205							
WNT	**Mingjian**	**1.65**	**234**	*i*	P	**Pn**	**15 41 33.5**	**+0.5**
	baz=230							
WNT					S	**Sn**	**15 41 55.6**	**+0.5**
	baz=230							
TWF1	**Yuli**	**1.68**	**208**	*e*	P	**Pn**	**15 41 33.3**	**-0.2**
	baz=203							
TWF1					*e*S	**Sn**	**15 41 55.4**	**-0.5**
	baz=203							
HATJ	**Hateruma jima**	**1.71**	**117**		P	**Pn**	**15 41 33.8**	**0.0**
YUS	**Yu-Shan**	**1.74**	**219**	*e*	P	**Pn**	**15 41 35.9**	**+1.2**
	baz=215							
YUS					*e*S	**Sn**	**15 41 59.0**	**+1.1**
	baz=215							
JKRS	**Kuro-shima**	**1.81**	**109**		P	**Pn**	**15 41 35.4**	**+0.4**
JKRS					*e*S	**Sn**	**15 41 58.6**	**+0.1**
ALS	**Alishan**	**1.81**	**223**		P	**Pn**	**15 41 36.4**	**+1.0**
	baz=218							
ALS					*e*S	**Sn**	**15 41 60.0**	**+0.8**
	baz=218							
CHN5	**Tsauling**	**1.83**	**227**	*i*	P	**Pn**	**15 41 35.9**	**+0.5**
	baz=223							
CHN5					S	**Sn**	**15 41 59.6**	**+0.4**
	baz=223							
WGK	**Gukeng**	**1.85**	**231**	*i*	P	**Pn**	**15 41 35.8**	**+0.2**
	baz=227							
WGK					*e*S	**Sn**	**15 42 00.5**	**+1.0**
	baz=227							
JIJ	**Ishigaki jima**	**1.89**	**105**		P	**Pn**	**15 41 35.7**	**-0.3**
JIJ					*e*S	**Sn**	**15 41 59.4**	**-0.8**
CHKT	**Chengkung**	**1.89**	**202**	*e*S		**Sn**	**15 41 59.1**	**-1.2**
	baz=199							
WTCT	**Ta-ch'eng**	**1.96**	**240**	S		**Sn**	**15 42 01.3**	**-0.6**
	baz=236							
JISG	**Ishigakijimahi**	**1.99**	**97**		P	**Pn**	**15 41 37.3**	**0.0**
JISG					*e*S	**Sn**	**15 42 01.8**	**-0.7**
CHN4	**Tsaushan**	**2.06**	**224**	*i*	P	**Pn**	**15 41 39.0**	**+0.8**
	baz=220							
CHN4					*e*S	**Sn**	**15 42 05.7**	**+1.5**
	baz=220							
CHY	**Chiayi**	**2.07**	**230**	S		**Sn**	**15 42 04.5**	**+0.1**
	baz=226							
STYT	**Tauyuan**	**2.11**	**217**	*i*	P	**Pn**	**15 41 39.5**	**+0.6**
	baz=213							
STYT					*e*S	**Sn**	**15 42 05.9**	**+0.6**
	baz=213							
WTP	**Ta-pu**	**2.12**	**221**	*e*P		**Pn**	**15 41 39.0**	**-0.1**
	baz=218							
WTP					*e*S	**Sn**	**15 42 04.9**	**-0.8**
	baz=218							
WSF	**Szhu**	**2.13**	**236**	S		**Sn**	**15 42 05.5**	**-0.2**
	baz=232							
TWK	**Hsinying**	**2.19**	**224**	P		**Pn**	**15 41 40.1**	**+0.2**
	baz=220							
TWK					S	**Sn**	**15 42 07.0**	**-0.1**
	baz=220							
CHN1	**Nanshi**	**2.22**	**222**	*e*P		**Pn**	**15 41 40.4**	**+0.1**
	baz=218							
CHN1					S	**Sn**	**15 42 08.0**	**+0.1**
	baz=218							
TWG	**Pinlang**	**2.25**	**206**	*e*S		**Sn**	**15 42 06.5**	**-2.0**
	baz=203							
SGST	**Jiashian**	**2.27**	**219**	S		**Sn**	**15 42 09.5**	**+0.6**
	baz=216							
JTJ	**Tarama**	**2.34**	**95**		P	**Pn**	**15 41 42.1**	**+0.4**
JTJ					*e*S	**Sn**	**15 42 10.3**	**-0.1**
SCLT	**Jiali**	**2.44**	**227**		S	**Sn**	**15 42 13.0**	**+0.1**
	baz=224							
SSD	**Sandimen**	**2.51**	**214**	S		**Sn**	**15 42 15.2**	**+0.6**
	baz=210							
PNG	**Penghu**	**2.69**	**242**	*e*S		**Sn**	**15 42 16.0**	**-2.6**
	baz=239							
JIRB	**Irabujima**	**2.75**	**90**	P		**Pn**	**15 41 48.5**	**+1.4**
WDGT	**Dungji**	**2.77**	**236**	*e*S		**Sn**	**15 42 18.6**	**-1.9**
	baz=232							

MEX 09 16:05:30.5±0.9, 16°.78N×94°.95W, h107km±7km, MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.31**	**11**	*i* P	Pn	16 05 44.8	-1.2
CMIG				*i* S	Sn	16 05 55.6	-2.1
TUIG	**Tuzandepetl**	**1.34**	**22**	*e*P	Pn	16 05 54.0	-1.4
TUIG				*e*S	Sn	16 06 12.6	-1.5
HUIG	**Huatulco**	**1.50**	**228**	*i* P	Pn	16 05 55.4	-1.8
HUIG				*i* S	Sn	16 06 16.7	-0.8
VHO	**Vista Hermosa**	**1.73**	**280**	*e*P	Pn	16 06 00.1	-0.2
VHO				*i* S	Sn	16 06 21.6	-1.4
TGIG		**1.75**	**90**	*e*P	Pn	16 05 59.5	-0.8
TGIG				*e*S	Sn	16 06 20.8	-2.2
PCIG		**1.98**	**123**	*e*P	Pn	16 06 02.7	-0.3
PCIG				*e*S	Sn	16 06 27.0	-1.0
PNIG	**Pinotepa**	**3.07**	**263**	*e*P	Pn	16 06 15.9	-1.5
PNIG				*i* S	Sn	16 06 52.1	-1.6

*ISCJB **09** 16:10:51.2±1.0, 19°.0S±0°.2×169°.5E±0°.2, h246km, mb3.7/7, Error ellipse: s-maj=32.5km s-min=12.7km az=41.4*
*IDC **09** 16:10:52.7±2.8, 19°.19S×169°.50E, h253km±29km, mb3.6/7, mb1 3.8/8, mb1mx3.3/35, mbtmp4.1/8, Error ellipse: s-maj=51.6km s-min=20.0km az=148.0*
ISC 09 16:10:52.2±1.2, 19°.2S±0°.2×169°.5E±0°.2, h246km, n21, σ1§64/20, mb3.7/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**2.63**	**232**	*e*P	**Pn**	**16 11 37.6**	**-3.0**
LIFNC				*e*S	**S**	**16 12 14.7**	**-4.0**
DZM	**Mont Dzumac**	**4.04**	**224**	P	**Pn**	**16 11 57.4**	**+0.9**
	1.3nm,0.3s,baz=270,slow=24,SNR=18						
NOUC	**Port Laguerre**	**4.16**	**225**	*e*P	**Pn**	**16 11 58.7**	**+1.0**
RMQ	**Roma**	**20.41**	**245**	P	Pn	16 15 14.9	-1.6
	baz=18,SNR=6.4						
MTSU	**Mount Surprise**	**23.84**	**268**	P	**P**	**16 15 45.1**	**+1.6**
	baz=22,SNR=12						
QLP	**Quilpie**	**24.36**	**248**	P	**P**	**16 15 49.4**	**+1.4**
	baz=22,SNR=5.6						
CMSA	**Cobar Meteorol**	**24.70**	**235**	P	**P**	**16 15 53.2**	**+2.1**
	baz=23,SNR=7.4						
STKA	**Stephens Creek**	**28.06**	**238**	P	**P**	**16 16 21.0**	**-0.2**
	2.9nm,0.6s,baz=59,slow=10,SNR=7.9						
STKA	**Stephens Creek**	**28.06**	**238**	P	**P**	**16 16 23.8**	**+2.6**
	baz=26,SNR=4.5						
WRA	**Warramunga Arr**	**33.06**	**263**	P	**P**	**16 17 05.2**	**0.0**
	0.6nm,0.3s,baz=83,slow=6.5,SNR=31						
ASAR	**Alice Springs**	**33.34**	**256**	P	**P**	**16 17 08.0**	**+0.4**
	11nm,0.5s,baz=81,slow=8.8,SNR=355						
WRKA	**Warakurna**	**38.47**	**254**	P	**P**	**16 17 51.7**	**+0.7**
	baz=36,SNR=4.6						
KNRA	**Kununurra**	**38.92**	**269**	P	**P**	**16 17 54.8**	**+0.1**
	baz=37,SNR=6.6						
MEEK	**Meekatharra**	**47.17**	**251**	P	**P**	**16 19 01.6**	**+1.0**
	baz=45,SNR=4.6						
PMBI	**Palembang**	**65.15**	**276**	P	P	16 21 03.0	-4.6
	baz=63,SNR=4.5						
PETK	**Petropavlovsk-**	**72.68**	**353**	P	**P**	**16 21 53.4**	**+0.4**
	1.6nm,0.6s,baz=164,slow=8.3,SNR=3.7						
SONM	**Songino Array**	**87.27**	**323**	P	**P**	**16 23 10.5**	**-0.7**
	0.6nm,0.7s,baz=146,slow=2.9,SNR=5.0						
NVAR	**Mina Array Bea**	**88.59**	**48**	P	**P**	**16 23 17.3**	**-0.5**
	0.4nm,0.8s,baz=211,slow=6.9,SNR=3.3						
ILAR	**Eielson Array**	**90.09**	**17**	P	**P**	**16 23 23.0**	**-0.8**
	0.3nm,0.6s,baz=232,slow=5.5,SNR=3.9						
ARCES	**ARCESS Array B**	**125.04**	**345**	PKP	**PKPdf**	**16 29 22.2**	**-0.4**
	0.9nm,0.7s,baz=56,slow=3.1,SNR=5.2						
GERES	**GERESS Array B**	**144.51**	**332**	PKP	**PKPdf**	**16 29 59.5**	**+0.1**
	0.8nm,0.7s,baz=46,slow=3.9,SNR=8.5						

*TAP **09** 16:12:38.8, 24°.39N×121°.83E, h38km, ML3.9, B*
*JMA **09** 16:12:38.0, 24°.30N×121°.81E, h35km±4km, M3.1*
*ISCJB **09** 16:12:39.4±0.2, 24°.38N±0°.01×121°.89E±0°.02, h35km±5km, Error ellipse: s-maj=2.9km s-min=2.0km az=41.8*
ISC 09 16:12:39.6±1.0, 24°.39N±0°.02×121°.87E±0°.02, h34km±2km, n71, σ0§89/127, 14C-10D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.12**	**289**	⇑ *i* P	**Pb**	**16 12 45.3**	**-0.2**
	baz=294						
ENA				*e*S	**Sb**	**16 12 49.8**	**+0.1**
	baz=294						
EHP	**Heping Village**	**0.14**	**236**	P	**Pb**	**16 12 46.2**	**+0.5**
	baz=220						
EHP				S	**Sb**	**16 12 51.4**	**+1.5**
	baz=220						
TWC	**Suao**	**0.22**	**356**	⇓ *i* P	**Pn**	**16 12 46.4**	**+0.6**
	baz=13						
TWC				*i* S	**Sb**	**16 12 51.5**	**+0.4**
	baz=13						
ENTT	**Nioudou**	**0.37**	**313**	⇑ *i* P	**Pb**	**16 12 47.9**	**-0.5**
	baz=312						
ENTT				*i* S	**Sb**	**16 12 54.3**	**-0.1**
	baz=312						
TWE	**Neicheng**	**0.38**	**331**	⇓ *i* P	**Pb**	**16 12 48.1**	**-0.3**
	baz=338						
TWE				*i* S	**Sb**	**16 12 54.6**	**+0.2**
	baz=338						
ILA	**Ilan**	**0.39**	**344**	P	**Pb**	**16 12 48.4**	**-0.2**
	baz=350						
ILA				S	**Sb**	**16 12 55.4**	**+0.6**
	baz=350						
TWD	**Chiawan**	**0.39**	**219**	P	**Pb**	**16 12 47.8**	**-0.8**
	baz=216						
TWD				S	**Sb**	**16 12 54.9**	**+0.1**
	baz=216						
NNS	**Nan Shan**	**0.45**	**277**	⇑ *i* P	**Pb**	**16 12 48.6**	**-1.0**
	baz=272						
NNS				S	**Sb**	**16 12 55.7**	**-0.8**
	baz=272						
EGS		**0.46**	**7**	⇓ *i* P	**Pb**	**16 12 49.6**	**0.0**
	baz=14						
EGS				S	**Sn**	**16 12 57.3**	**+0.4**
	baz=14						
HWA	**Hwalien**	**0.47**	**210**	⇓ *i* P	**Pb**	**16 12 49.5**	**-0.3**
	baz=196						
HWA				*e*S	**Sn**	**16 12 57.9**	**+0.8**
	baz=196						
NSK	**Sanguang**	**0.55**	**302**	⇑ *i* P	**Pn**	**16 12 50.1**	**-0.9**
	baz=303						
NSK				*i* S	**Sb**	**16 12 57.6**	**-1.2**
	baz=303						
WHF	**Hehuan Shan**	**0.60**	**246**	⇑ *i* P	**Pn**	**16 12 51.0**	**-1.0**
	baz=251						
WHF				*i* S	**Sn**	**16 12 60.0**	**-0.9**
	baz=251						
ESF	**Shoufeng Towns**	**0.61**	**213**	*e*P	Pn	16 12 49.2	-2.6
	baz=222						
ESF				S	**Sn**	**16 13 00.6**	**+0.2**
	baz=222						
TWB1	**Santiao Chiao**	**0.63**	**10**	⇓ *i* P	**Pn**	**16 12 52.0**	**0.0**
	baz=15						
TWB1				*i* S	**Sn**	**16 13 01.4**	**+0.4**
	baz=15						
TWA	**Mucha**	**0.64**	**336**	⇓ *i* P	**Pn**	**16 12 52.2**	**-0.2**
	baz=340						
TWA				S	**Sn**	**16 13 01.5**	**+0.1**
	baz=340						
TWT	**Tachien**	**0.64**	**258**	⇑ *i* P	**Pn**	**16 12 52.0**	**-0.5**
	baz=256						
TWT				S	**Sn**	**16 13 01.2**	**-0.4**
	baz=256						
NWF	**Wu-fen Shan**	**0.69**	**353**	⇓ *i* P	**Pn**	**16 12 53.2**	**+0.2**
	baz=347						
NWF				S	**Sn**	**16 13 03.1**	**+0.5**
	baz=347						
ESL	**Shilin**	**0.69**	**215**	⇑ P	Pn	16 12 51.4	-1.6
	baz=222						
ESL				*e*S	**Sn**	**16 13 01.0**	**-1.7**
	baz=222						
TAP1	**Taipei**	**0.72**	**334**	*e*P	**Pn**	**16 12 52.7**	**-0.7**
	baz=327						
TAP1				S	**Sn**	**16 13 03.7**	**+0.4**
	baz=327						
TAP	**Taipei**	**0.73**	**333**	P	**Pn**	**16 12 52.8**	**-0.7**
	baz=326						
TAP				S	**Sn**	**16 13 03.6**	**+0.1**
	baz=326						
TEGC	**Jichi Village**	**0.74**	**204**	*e*P	**Pn**	**16 12 53.6**	**0.0**
	baz=189						
TWS1	**Kuangyinshan**	**0.82**	**330**	P	**Pn**	**16 12 54.2**	**-0.6**
	baz=332						
TWS1				*e*S	**Sn**	**16 13 06.3**	**+0.6**
	baz=332						
NSTT	**Nanjuang**	**0.82**	**287**	⇑ *i* P	**Pn**	**16 12 54.8**	**0.0**
	baz=287						
NSTT				*i* S	**Sn**	**16 13 05.3**	**-0.5**
	baz=287						
NCU	**National Centr**	**0.85**	**313**	P	**Pn**	**16 12 54.6**	**-0.6**
	baz=315						
NCU				*e*S	**Sn**	**16 13 07.0**	**+0.6**
	baz=315						
TWY	**Chenhua**	**0.92**	**345**	⇓ P	**Pn**	**16 12 55.8**	**-0.3**
	baz=348						
TWY				*e*S	**Sn**	**16 13 08.7**	**+0.6**
	baz=348						
WDT	**Danda**	**0.92**	**227**	⇑ *i* P	**Pn**	**16 12 55.4**	**-1.0**
	baz=216						
WDT				S	**Sn**	**16 13 07.6**	**-1.0**
	baz=216						
JYNG	**Yonaguni jima**	**0.98**	**86**	P	**Pn**	**16 12 56.8**	**-0.2**
JYNG				*e*S	**Sn**	**16 13 10.6**	**+0.8**
TWQ1	**Liyutan**	**1.00**	**268**	*e*P	**Pn**	**16 12 57.7**	**+0.5**
	baz=266						
TWQ1				*e*S	**Sn**	**16 13 11.0**	**+0.9**
	baz=266						
NSY	**Sanyi**	**1.01**	**272**	*e*P	**Pn**	**16 12 58.1**	**+0.7**
	baz=270						
NSY				*e*S	**Sn**	**16 13 11.4**	**+1.0**
	baz=270						
EHY	**Hungye**	**1.01**	**210**	*e*P	Pn	16 12 55.1	-2.3
	baz=216						
EHY				*e*S	**Sn**	**16 13 08.6**	**-1.9**
	baz=216						
SMLT	**Sun Moon Lake**	**1.02**	**241**	⇑ *i* P	**Pn**	**16 12 57.2**	**-0.3**
	baz=229						
SMLT				*e*S	**Sn**	**16 13 10.4**	**-0.4**
	baz=229						
TYC	**Yuchr**	**1.04**	**243**	⇑ *i* P	**Pn**	**16 12 57.6**	**-0.2**
	baz=231						
TYC				*e*S	**Sn**	**16 13 11.9**	**+0.7**
	baz=231						
YOJ	**Yonaguni jima**	**1.05**	**86**	P	**Pn**	**16 12 57.6**	**-0.3**
YOJ				*e*S	**Sn**	**16 13 11.6**	**+0.3**
YOJ	**Yonaguni jima**	**1.05**	**86**	⇓ *i* P	**Pn**	**16 12 57.6**	**-0.3**
	baz=75						
YOJ				S	**Sn**	**16 13 11.8**	**+0.5**
	baz=75						
TCU	**Taichung**	**1.11**	**258**	⇑ P	**Pn**	**16 12 59.2**	**+0.4**
	baz=256						
TCU				*e*S	**Sn**	**16 13 14.2**	**+1.2**
	baz=256						
TWF1	**Yuli**	**1.16**	**207**	*e*P	Pn	16 12 57.5	-1.9
	baz=213						
TWF1				*e*S	**Sn**	**16 13 14.2**	**+0.1**
	baz=213						
WNT	**Mingjian**	**1.19**	**245**	*e*P	**Pn**	**16 13 00.4**	**+0.5**
	baz=243						
YUS	**Yu-Shan**	**1.23**	**223**	⇑ P	**Pn**	**16 13 00.5**	**-0.3**
	baz=212						
YUS				*e*S	**Sn**	**16 13 16.5**	**+0.1**
	baz=212						
PCYT	**Pengchaiyu**	**1.25**	**8**	⇓ *i* P	**Pn**	**16 13 00.7**	**-0.1**
	baz=12						
PCYT				*i* S	**Sn**	**16 13 16.9**	**+0.6**
	baz=12						
ALS	**Alishan**	**1.31**	**228**	*e*P	**Pn**	**16 13 01.9**	**+0.2**
	baz=216						
ALS				*e*S	**Sn**	**16 13 18.6**	**+0.4**
	baz=216						
CHN5	**Tsauling**	**1.34**	**234**	*e*P	**Pn**	**16 13 02.5**	**+0.5**
	baz=231						
CHN5				*e*S	**Sn**	**16 13 19.9**	**+1.1**
	baz=231						
CHKT	**Chengkung**	**1.36**	**200**	*e*P	**Pn**	**16 13 01.3**	**-0.9**
	baz=184						
CHKT				*e*S	**Sn**	**16 13 19.1**	**0.0**
	baz=184						
WGK	**Gukeng**	**1.38**	**240**	*e*P	**Pn**	**16 13 03.4**	**+0.9**
	baz=237						
WGK				*e*S	**Sb**	**16 13 22.0**	**-0.2**
	baz=237						
CHN2	**Minshiung**	**1.53**	**237**	*e*P	**Pn**	**16 13 05.7**	**+1.1**
	baz=234						
CHN2				*e*S	**Sb**	**16 13 25.8**	**-0.7**
	baz=234						
WTCT	**Ta-ch'eng**	**1.54**	**251**	*e*P	**Pn**	**16 13 04.6**	**-0.1**
	baz=248						
WTCT				*e*S	**Sn**	**16 13 23.8**	**+0.3**
	baz=248						
CHN4	**Tsaushan**	**1.56**	**229**	⇑ *e*P	**Pn**	**16 13 06.2**	**+1.3**
	baz=217						
CHN4				*e*S	**Sb**	**16 13 26.8**	**-0.4**
	baz=217						
STYT	**Tauyuan**	**1.59**	**220**	*e*P	**Pn**	**16 13 05.6**	**+0.2**
	baz=216						
STYT				*e*S	**Sn**	**16 13 26.9**	**+2.1**
	baz=216						
CHY	**Chiayi**	**1.59**	**236**	*e*P	**Pn**	**16 13 05.9**	**+0.6**
	baz=233						
CHY				*e*S	**Sn**	**16 13 26.5**	**+1.8**
	baz=233						
WTP	**Ta-pu**	**1.61**	**226**	*e*P	**Pn**	**16 13 06.4**	**+0.6**
	baz=222						
WTP				*e*S	**Sn**	**16 13 27.0**	**+1.5**
	baz=222						
WSF	**Szhu**	**1.68**	**244**	*e*P	**Pn**	**16 13 06.6**	**0.0**
	baz=255						
TWK	**Hsinying**	**1.69**	**229**	*e*P	**Pn**	**16 13 07.5**	**+0.7**
	baz=225						
TWK				*e*S	**Sn**	**16 13 29.3**	**+2.1**
	baz=225						
IRIF	**Iriomote-Funau**	**1.70**	**91**	P	**Pn**	**16 13 06.2**	**-0.7**
IRIF				*e*S	**Sn**	**16 13 26.9**	**-0.6**
CHN1	**Nanshi**	**1.71**	**226**	*e*P	**Pn**	**16 13 07.8**	**+0.6**
	baz=222						
CHN1				*e*S	**Sn**	**16 13 29.5**	**+1.6**
	baz=222						
TWG	**Pinlang**	**1.72**	**205**	*e*P	**Pn**	**16 13 05.9**	**-1.3**
	baz=202						
TWG				*e*S	**Sn**	**16 13 25.8**	**-2.2**
	baz=202						
SGST	**Jiashian**	**1.75**	**222**	*e*P	**Pn**	**16 13 08.7**	**+1.0**
	baz=208						
SGST				*e*S	**Sn**	**16 13 30.8**	**+2.0**
	baz=208						
HATJ	**Hateruma jima**	**1.80**	**100**	*e*S		**Sn**	**16 13 30.7**	**+0.8**
CHN3	**Shinhua**	**1.90**	**227**	*e*P		**Pn**	**16 13 10.4**	**+0.8**
	baz=225							
SCLT	**Jiali**	**1.95**	**232**	*e*P		**Pn**	**16 13 11.7**	**+1.4**
	baz=215							
SCLT				*e*S		**Sn**	**16 13 36.6**	**+3.0**
	baz=215							
JKRS	**Kuro-shima**	**1.96**	**94**	P		**Pn**	**16 13 10.5**	**0.0**
JKRS				*e*S		**Sn**	**16 13 34.4**	**+0.5**
ECL	**Taimali**	**1.97**	**205**	*e*P		**Pn**	**16 13 09.6**	**-1.0**
	baz=191							
ECL				*e*S		**Sn**	**16 13 33.8**	**-0.4**
	baz=191							
SSD	**Sandimen**	**1.99**	**215**	*e*P		**Pn**	**16 13 11.9**	**+1.1**
	baz=224							
SSD				*e*S		**Sn**	**16 13 36.1**	**+1.5**
	baz=224							
TWM1	**Shoushan**	**2.04**	**221**	*e*P		Pn	16 13 13.7	+2.0
	baz=219							
JIJ	**Ishigaki jima**	**2.08**	**90**	P		**Pn**	**16 13 11.5**	**-0.6**
JIJ				*e*S		**Sn**	**16 13 35.8**	**-1.0**
EAST	**Anshuo**	**2.20**	**205**	*e*P		**Pn**	**16 13 14.3**	**+0.5**
	baz=193							
TAW	**Tawu**	**2.21**	**204**	*e*P		**Pn**	**16 13 15.5**	**+1.6**
	baz=193							
JISG	**Ishigakijimahi**	**2.24**	**84**	P		**Pn**	**16 13 13.6**	**-0.6**
JISG				*e*S		**Sn**	**16 13 40.6**	**-0.1**
PNG	**Penghu**	**2.27**	**249**	*e*P		**Pn**	**16 13 13.7**	**-1.0**
	baz=247							
PNG				*e*S		**Sn**	**16 13 41.0**	**-0.5**
	baz=247							
SCZT	**Fangliau**	**2.31**	**210**	*e*P		**Pn**	**16 13 16.4**	**+1.1**
	baz=205							
SCZT				*e*S		**Sn**	**16 13 43.1**	**+0.6**
	baz=205							
WDGT	**Dungji**	**2.31**	**241**	*e*P		**Pn**	**16 13 14.4**	**-0.9**
	baz=238							
WDGT				*e*S		**Sn**	**16 13 41.9**	**-0.7**
	baz=238							
JTJ	**Tarama**	**2.59**	**84**	P		**Pn**	**16 13 19.2**	**0.0**
TWK1	**Hengchun**	**2.62**	**202**	*e*P		**Pn**	**16 13 21.4**	**+1.8**
	baz=191							

*NEIC **09** 16:56:30.1±0.5, 6°.01S×147°.08E, h10km, mb5.0/5, Error ellipse: s-maj=12.9km s-min=7.8km az=90.0*
*IDC **09** 16:56:34.2±2.8, 6°.05S×146°.91E, h38km±23km, mb4.0/13, mb1 4.2/17, mb1mx4.1/29, mbtmp4.3/17, ML3.8/4, MS3.6/21, Ms1 3.6/21, ms1mx3.5/29, Error ellipse: s-maj=23.0km s-min=13.6km az=76.0*
*ISCJB **09** 16:56:36.5±0.4, 6°.16S±0°.05×146°.84E±0°.06, h78km, mb4.3/18, Error ellipse: s-maj=8.3km s-min=6.5km az=7.4*
*DJA **09** 16:56:43.9±1.3, 7°.5S±8°×147°.7E±1°.5, h91km±9km, M4.9/12, mb4.6/12, mB5.2/6, MLv5.2/4, Mw(mB)4.6/6*
ISC 09 16:56:38.5±0.5, 6°.17S±0°.07×146°.83E±0°.07, h78km, n75, σ1§64/53, mb4.4/18, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.23**	**174**	P	**Pn**	**16 57 25.8**	**-1.1**
	baz=3.2,SNR=79						
PMG				P	**Pn**	**16 57 25.8**	**-1.1**
	baz=3.2,SNR=79						
PMG				P	**Pn**	**16 57 25.8**	**-1.1**
	baz=3.2,SNR=79						
PMG	**Port Moresby**	**3.23**	**174**	*e*Pn	Pn	16 57 23.1	-3.8
RABL	**Rabaul**	**5.66**	**70**	P	**Pn**	**16 57 60.0**	**-0.2**
	baz=5.6,SNR=11						
JAY	**Jayapura**	**7.11**	**300**	P	Pn	16 58 24.9	+5.0
	26nm,1.5s,5μm0.2nm						
JAY	**Jayapura**	**7.11**	**300**	Pn	**Pn**	**16 58 17.9**	**-2.0**
	0.9nm,0.3s,baz=58,slow=3.6,SNR=5.9						
JAY				LR	LR	17 01 42.8	
	comp=Z,265nm,18.6s,baz=226,slow=43						
JAY	**Jayapura**	**7.11**	**300**	P	**Pn**	**16 58 20.5**	**+0.6**
	baz=7.2,SNR=4.5						
GENI	**Genyem**	**7.54**	**298**	P	Pn	16 58 34.0	+8.3
	41nm,1.2s,1μm0.5nm						
COEN	**Coen**	**8.53**	**205**	P	**Pn**	**16 58 37.9**	**-1.4**
	baz=8.5,SNR=27						
COEN	**Coen**	**8.53**	**205**	*e*Pn	**Pn**	**16 58 37.0**	**-2.3**
	24nm,0.8s						
SMPI	**Sarmi**	**9.10**	**297**	P	Px	16 59 11.5	
CTA	**Charters Tower**	**13.84**	**182**	Pn	**Pn**	**16 59 50.1**	**-1.1**
	0.3nm,0.3s,baz=2.3,slow=13,SNR=6.6						
**

GUMO	**Guam**	**19.73**	**354**	LR	LR	17 08 40.2	
	comp=Z,130nm,18.1s,baz=178,slow=37						
NLAI	**Namlea**	**19.88**	**278**	P	**Pn**	**17 01 05.0**	**-1.0**
NLAI	**Namlea**	**19.88**	**278**	P	**Pn**	**17 01 05.4**	**-0.6**
	24nm,1.9s						
LBMI	**Labuha**	**20.06**	**285**	P	**P**	**17 01 03.0**	**-2.6**
LBMI				S	Px	17 01 17.9	
LBMI	**Labuha**	**20.06**	**285**	P	**P**	**17 01 06.8**	**+1.2**
	43nm,1.2s,659nm						
KNRA	**Kunumurra**	**20.08**	**240**	P	Pn	17 01 07.9	-0.4
	baz=20,SNR=5.3						
RMQ	**Roma**	**20.28**	**175**	P	Pn	17 01 11.9	+1.3
	baz=20,SNR=5.5						
QLP	**Quilpie**	**20.45**	**187**	P	**P**	**17 01 10.8**	**+1.1**
	baz=20,SNR=8.4						
SANI	**Sanana**	**21.18**	**280**	P	**P**	**17 01 17.7**	**-0.1**
SANI	**Sanana**	**21.18**	**280**	P	**P**	**17 01 20.0**	**+2.2**
	39nm,0.9s						
ASAR	**Alice Springs**	**21.38**	**214**	P	**P**	**17 01 19.9**	**+0.1**
	1.6nm,0.4s,baz=52,slow=9.0,SNR=35						
ASAR				LR	LR	17 10 34.8	
	comp=Z,450nm,19.5s,baz=42,slow=39						
SOEI	**Soe**	**22.62**	**259**	P	Px	17 01 49.8	
SOEI	**Soe**	**22.62**	**259**	*eP*	**P**	**17 01 37.1**	**+3.8**
	50nm,1.0s						
KMSI	**Cibinong**	**23.77**	**286**	P	P	17 01 53.2	+9.0
LUWI	**Luwuk**	**24.54**	**281**	P	P	17 01 57.7	+6.6
LUWI	**Luwuk**	**24.54**	**281**	*eP*	**P**	**17 01 52.5**	**+1.5**
	55nm,0.8s						
DZM	**Mont Dzumac**	**24.68**	**132**	P	**P**	**17 01 53.2**	**+0.8**
	8.6nm,0.9s,baz=90,slow=24,SNR=38						
WRKA	**Warakurna**	**25.83**	**221**	P	**P**	**17 02 02.1**	**-0.6**
	baz=26,SNR=7.9						
STKA	**Stephens Creek**	**26.04**	**190**	P	**P**	**17 02 05.5**	**+1.1**
	4.8nm,0.8s,baz=331,slow=12,SNR=5.2						
STKA				LR	LR	17 13 32.4	
	comp=Z,325nm,19.1s,baz=20,slow=39						
STKA	**Stephens Creek**	**26.04**	**190**	P	**P**	**17 02 06.1**	**+1.6**
	baz=26,SNR=4.2						
WSI	**Waingapu**	**26.50**	**261**	P	P	17 02 17.1	+8.2
H11S3	**WAKE ISLAND Hy**	**31.38**	**38**	T	T	17 35 38.5	
	baz=220,slow=76,SNR=9.4						
H11S2	**WAKE ISLAND Hy**	**31.38**	**38**	T	T	17 35 42.1	
	baz=220,slow=76,SNR=9.7						
H11S1	**WAKE ISLAND Hy**	**31.39**	**38**	T	T	17 35 42.6	
	baz=220,slow=76,SNR=8.9						
H11N1	**WAKE ISLAND Hy**	**32.43**	**37**	T	T	17 36 53.8	
	baz=218,slow=76,SNR=21						
H11N3	**WAKE ISLAND Hy**	**32.44**	**37**	T	T	17 36 60.0	
	baz=218,slow=76,SNR=13						
H11N2	**WAKE ISLAND Hy**	**32.45**	**37**	T	T	17 37 01.1	
	baz=218,slow=76,SNR=30						
JCJ	**Chichijima**	**33.38**	**352**	LR	LR	17 14 20.7	
	comp=Z,70nm,21.4s,baz=158,slow=32						
MEEK	**Meekatharra**	**33.71**	**230**	P	**P**	**17 03 12.4**	**-0.1**
	baz=34,SNR=5.8						
LEM	**Lembang**	**38.96**	**267**	LR	LR	17 21 43.2	
	comp=Z,49nm,18.4s,slow=39						
JNU	**Nakatsue**	**41.91**	**340**	LR	LR	17 18 30.2	
	comp=Z,70nm,20.7s,baz=158,slow=32						
URZ	**Urewera**	**42.11**	**144**	LR	LR	17 20 48.0	
	comp=Z,66nm,20.5s,baz=307,slow=34						
RPZ	**Rata Peaks**	**43.03**	**154**	LR	LR	17 20 25.7	
	comp=Z,152nm,19.8s,baz=320,slow=33						
MJAR	**Matsushiro Arr**	**43.25**	**350**	P	**P**	**17 04 30.9**	**-1.4**
	1.6nm,0.8s,baz=182,slow=8.3,SNR=4.2						
MJAR				LR	LR	17 22 07.6	
	comp=Z,39nm,18.4s,baz=150,slow=36						
KSRS	**Korea Array**	**46.85**	**339**	P	**P**	**17 05 00.2**	**-0.5**
	5.7nm,1.0s,baz=157,slow=8.8,SNR=18						
KSRS				LR	LR	17 22 51.8	
	comp=Z,63nm,21.2s,baz=153,slow=34						
KSAR	**Wonju Array Be**	**46.86**	**339**	P	**P**	**17 05 00.2**	**-0.6**
USRK	**Ussuriysk Ar.**	**51.90**	**346**	LR	LR	17 26 25.4	
	comp=Z,30nm,19.5s,baz=169,slow=35						
CMAR	**Chiang Mai Arr**	**53.18**	**298**	P	**P**	**17 05 49.8**	**+0.7**
	3.1nm,0.7s,baz=122,slow=6.0,SNR=21						
CMAR				LR	LR	17 30 01.6	
	comp=Z,8.1nm,20.3s,baz=115,slow=38						
PETK	**Petropavlovsk-**	**59.77**	**8**	P	**P**	**17 06 34.9**	**-0.3**
	10nm,1.1s,baz=151,slow=5.4,SNR=4.4						
PETK				LR	LR	17 28 03.5	
	comp=Z,76nm,21.8s,baz=184,slow=32						
SONM	**Songino Array**	**64.47**	**331**	P	**P**	**17 07 06.7**	**-0.3**
	2.6nm,0.9s,baz=156,slow=6.2,SNR=12						
SONM				LR	LR	17 36 38.8	
	comp=Z,32nm,19.5s,baz=98,slow=37						
VNDA	**Vanda**	**71.75**	**177**	P	**P**	**17 07 51.9**	**0.0**
	3.4nm,0.8s,baz=334,slow=6.4,SNR=19						
VNDA				LR	LR	17 35 26.1	
	comp=Z,38nm,20.2s,baz=338,slow=32						
MKAR	**Makanchi Array**	**77.52**	**321**	P	**P**	**17 08 25.2**	**-0.7**
	1.9nm,1.0s,baz=130,slow=5.3,SNR=8.1						
ZALV	**Zalesovo Beam**	**79.07**	**328**	P	**P**	**17 08 32.2**	**-1.9**
	0.7nm,0.5s,baz=118,slow=6.0,SNR=4.4						
ZALV				LR	LR	17 42 45.9	
	comp=Z,20nm,21.9s,baz=70,slow=35						
ILAR	**Eielson Array**	**85.71**	**23**	P	**P**	**17 09 07.5**	**-1.0**
	3.2nm,0.7s,baz=257,slow=5.1,SNR=30						
ILAR				LR	LR	17 43 21.4	
	comp=Z,51nm,19.9s,baz=272,slow=33						
EGAK	**Eagle**	**87.99**	**24**	*eP*	**P**	**17 09 18.4**	**-1.2**
	6.0nm,0.9s						
HYT	**Haines Junctio**	**88.42**	**28**	*eP*	**P**	**17 09 20.1**	**-1.8**
	8.4nm,1.0s						
NVAR	**Mina Array Bea**	**97.61**	**52**	P	**P**	**17 10 04.8**	**-0.1**
	0.3nm,0.6s,baz=256,slow=3.6,SNR=2.7						
PFO	**Pinyon Flat Ob**	**98.97**	**57**	LR	LR	17 49 09.2	
	comp=Z,41nm,18.3s,baz=180,slow=32						
ELK	**Elko**	**100.00**	**50**	LR	LR	17 49 49.2	
	comp=Z,26nm,19.3s,baz=241,slow=32						
CLL	**Collm**	**121.02**	**328**	*e*PKPdf	**PKPdf**	**17 15 25.0**	**+2.9**
LPAZ	**La Paz**	**138.83**	**123**	PKP	**PKPdf**	**17 15 59.5**	**+1.9**
	1.9nm,0.8s,baz=126,slow=1.4,SNR=7.1						
TORD	**Torodi Ar. Bea**	**144.97**	**284**	PKPbc	**PKPdf**	**17 16 07.8**	**0.0**
	5.6nm,0.9s,baz=78,slow=3.3,SNR=21						

*DDA **09** 17:00:42.8, 38°.04N×28°.47E, h11km, MD3.6*
*ATH **09** 17:00:42.3, 38°.12N×28°.46E, h9km±1km, MD3.5/9*
*ISK **09** 17:00:42.3, 38°.03N×28°.44E, h2km, ML3.5*
*CSEM **09** 17:00:43.3±0.1, 38°.04N×28°.46E, h2km, ML3.5, Error ellipse: s-maj=2.4km s-min=2.1km az=112.0*
*THE **09** 17:00:43.9, 38°.05N×28°.54E, h4km±2km, ML3.3/5, Error ellipse: s-maj=3.2km s-min=0.9km az=71.0*

ISC 09 17:00:43.4±1.1, 38°.04N±0°.01×28°.46E±0°.01, h2km±9km, n138, σ0°.72/184, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AYDB	**Zeytinkoy-Aydi**	**0.46**	**259**	P*g*	**Pg**	**17 00 52.0**	**-0.2**
AYDB				*eSg*	**Sg**	**17 00 59.2**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**0.46**	**259**	*i* P*g*	**Pg**	**17 00 52.0**	**-0.2**
AYDB				*eSg*	**Sg**	**17 00 59.2**	**+1.1**
MANT	**Manisa**	**0.46**	**10**	*i* P	**Pg**	**17 00 52.2**	**0.0**
MANT				*i* S	**Sg**	**17 00 58.9**	**+0.7**
MANT	**Manisa**	**0.46**	**10**	*i* P	**Pg**	**17 00 52.2**	**0.0**
MANT				*i* S	**Sg**	**17 00 58.9**	**+0.7**
DENT	**Denizli**	**0.54**	**122**	*e*P*g*	**Pg**	**17 00 53.6**	**0.0**
DENT	**Denizli**	**0.54**	**122**	*e*P*g*	**Pg**	**17 00 53.6**	**0.0**
AYDN	**Tasoluk**	**0.59**	**231**	*i* P	**Pg**	**17 00 55.0**	**+0.3**
AYDN				*i* S	**Sg**	**17 01 03.8**	**+1.3**
AYDN	**Tasoluk**	**0.59**	**231**	*i* P	**Pg**	**17 00 55.0**	**+0.3**
AYDN				*i* S	**Sg**	**17 01 03.8**	**+1.3**
KHAL	**Karahalli**	**0.88**	**67**	*i* P	**Pg**	**17 00 59.3**	**-0.9**
KHAL				*i* S	**Sg**	**17 01 11.1**	**-0.5**
KHAL	**Karahalli**	**0.88**	**67**	*i* P	**Pg**	**17 00 59.3**	**-0.9**
KHAL				*i* S	**Sg**	**17 01 11.1**	**-0.5**
KHL	**Karahalli**	**0.89**	**71**	*e*P*g*	**Pg**	**17 01 00.3**	**-0.1**
KHL	**Karahalli**	**0.89**	**71**	*e*P*g*	**Pg**	**17 01 00.3**	**-0.1**
YER	**Yerkesik**	**0.91**	**189**	*e*P*g*	**Pg**	**17 01 00.7**	**-0.2**
YER				*e*S*g*	**Sg**	**17 01 13.2**	**+0.5**
YER	**Yerkesik**	**0.91**	**189**	*e*P*g*	**Pg**	**17 01 00.6**	**-0.2**
YER				*e*S*g*	**Sg**	**17 01 13.2**	**+0.5**
AKHS	**Akhisar**	**0.98**	**329**	*i* P	**Pg**	**17 01 02.3**	**+0.1**
AKHS				*i* S	**Sb**	**17 01 15.8**	**-0.8**
AKHS	**Akhisar**	**0.98**	**329**	*i* P	**Pg**	**17 01 02.3**	**+0.1**
AKHS				*i* S	**Sb**	**17 01 15.8**	**-0.8**
AKS	**Akhisar**	**0.98**	**329**	*e*P*G*	**Pg**	**17 01 02.1**	**-0.1**
AKS	**Akhisar**	**0.98**	**329**	*e*P*g*	**Pg**	**17 01 02.1**	**-0.1**
IZM	**Izmir**	**1.01**	**291**	*e*P*G*	**Pg**	**17 01 02.8**	**+0.1**
IZM	**Izmir**	**1.01**	**291**	*e*P*g*	**Pg**	**17 01 02.8**	**+0.1**
DEMI	**Demirci**	**1.02**	**11**	*i* P	**Pg**	**17 01 02.4**	**-0.6**
DEMI	**Demirci**	**1.02**	**11**	*i* P	**Pg**	**17 01 02.4**	**-0.6**
TURN	**Turunc**	**1.17**	**174**	*i* P	**Pn**	**17 01 06.9**	**+0.1**
TURN				*i* S	**Sn**	**17 01 24.7**	**+1.4**
TURN	**Turunc**	**1.17**	**174**	*i* P	**Pn**	**17 01 06.9**	**+0.1**
TURN				*i* S	**Sn**	**17 01 24.7**	**+1.4**
BLCB	**Balcova**	**1.17**	**288**	*e*PN	**Pg**	**17 01 05.5**	**-0.3**
BLCB	**Balcova**	**1.17**	**288**	*e*Pn	**Pg**	**17 01 05.5**	**-0.3**
GOLH	**Golhisar**	**1.19**	**132**	*i* P	**Pg**	**17 01 05.0**	**-1.1**
GOLH				*i* S	**Sn**	**17 01 24.8**	**+0.9**
GOLH	**Golhisar**	**1.19**	**132**	*i* P	**Pg**	**17 01 05.0**	**-1.1**
GOLH				*i* S	**Sn**	**17 01 24.8**	**+0.9**
DALY	**Dalyan (Mu¨la**	**1.23**	**173**	*e*PN	**Pg**	**17 01 06.5**	**-0.4**
DALY	**Dalyan (Mu¨la**	**1.23**	**173**	*e*Pn	**Pg**	**17 01 06.5**	**-0.4**
BDRM	**Kayabasi**	**1.26**	**220**	*i* P	**Pg**	**17 01 07.0**	**-0.6**
BDRM				*i* S	**Sg**	**17 01 23.1**	**-0.8**
BDRM	**Kayabasi**	**1.26**	**220**	*i* P	**Pg**	**17 01 07.0**	**-0.6**
BDRM				*i* S	**Sg**	**17 01 23.1**	**-0.8**
GDZ	**Gediz**	**1.32**	**37**	*i* P	**Pg**	**17 01 07.0**	**-1.7**
GDZ				*i* S	**Sg**	**17 01 25.2**	**-0.6**
GDZ	**Gediz**	**1.32**	**37**	*i* P	**Pg**	**17 01 07.0**	**-1.7**
GDZ				*i* S	**Sg**	**17 01 25.2**	**-0.6**
SMG	**Samos**	**1.32**	**256**	*e*PG	**Pg**	**17 01 07.5**	**-1.3**
SMG				*e*SB	**Sg**	**17 01 26.2**	**+0.2**
SMG	**Samos**	**1.32**	**256**	P	**Pg**	**17 01 07.5**	**-1.3**
SMG				*e*Sb	**Sg**	**17 01 26.2**	**+0.2**
SMG				S	**Sn**	**17 01 28.0**	**+0.8**
SMG	**Samos**	**1.32**	**256**	P	**Pg**	**17 01 07.5**	**-1.3**
SMG				S	**Sn**	**17 01 28.0**	**+0.8**
BODT	**Bodrum**	**1.33**	**224**	*e*PN	**Pg**	**17 01 08.1**	**-0.9**
BODT	**Bodrum**	**1.33**	**224**	*e*Pn	**Pg**	**17 01 08.1**	**-0.9**
ZEY	**¨zmir**	**1.56**	**278**	*i* P	**Pn**	**17 01 10.9**	**-1.2**
DURS	**Dursunbey**	**1.56**	**0**	*i* P	**Pn**	**17 01 10.8**	**-1.5**
DURS	**Dursunbey**	**1.56**	**0**	*i* P	**Pn**	**17 01 10.8**	**-1.5**
DST	**Dursunbey**	**1.57**	**5**	*e*PN	**Pn**	**17 01 11.6**	**-0.8**
DST	**Dursunbey**	**1.57**	**5**	*e*Pn	**Pn**	**17 01 11.6**	**-0.8**
TVSB	**Tavsanli**	**1.61**	**29**	*e*PN	**Pn**	**17 01 12.6**	**-0.5**
TVSB	**Tavsanli**	**1.61**	**29**	*e*Pn	**Pn**	**17 01 12.6**	**-0.5**
ISP	**Isparta**	**1.65**	**97**	*e*PN	**Pb**	**17 01 14.1**	**-0.4**
ISP	**Isparta**	**1.65**	**97**	P	**Pn**	**17 01 11.1**	**-2.4**
ISP	**Isparta**	**1.65**	**97**	*e*Pn	**Pb**	**17 01 14.1**	**-0.4**
ISP	**Isparta**	**1.65**	**97**	P	**Pn**	**17 01 11.1**	**-2.4**
NIS1	**Nisyros Isl.**	**1.76**	**216**	*e*PN	**Pn**	**17 01 15.3**	**+0.4**
NIS1	**Nisyros Isl.**	**1.76**	**216**	*e*PG	**Pb**	**17 01 16.2**	**-0.2**
NIS1				*e*SN	**Sg**	**17 01 40.7**	**+0.8**
NIS1	**Nisyros Isl.**	**1.76**	**216**	*e*Pn	**Pn**	**17 01 15.4**	**+0.4**
NIS1	**Nisyros Isl.**	**1.76**	**216**	*e*Pg	**Pb**	**17 01 16.2**	**-0.2**
NIS1				*e*Sn	**Sg**	**17 01 40.7**	**+0.8**
BCK	**Bucak**	**1.78**	**108**	*e*PN	**Pn**	**17 01 15.9**	**+0.6**
BCK	**Bucak**	**1.78**	**108**	*e*Pn	**Pn**	**17 01 15.9**	**+0.6**
ARG	**Arkhangelos**	**1.84**	**188**	*e*PN	**Pb**	**17 01 17.1**	**-0.6**
ARG				*e*SN	**Sg**	**17 01 42.8**	**+0.4**
ARG	**Arkhangelos**	**1.84**	**188**	P	**Pn**	**17 01 15.6**	**-0.4**
ARG	**Arkhangelos**	**1.84**	**188**	*e*Pn	**Pb**	**17 01 17.1**	**-0.6**
ARG				S	**Sn**	**17 01 39.1**	**-0.8**
ARG				*e*Sn	**Sg**	**17 01 42.8**	**+0.4**
ARG	**Arkhangelos**	**1.84**	**188**	P	**Pn**	**17 01 15.6**	**-0.4**
ARG				S	**Sn**	**17 01 39.1**	**-0.8**
BAGO	**Egridir - ISPA**	**1.84**	**91**	*i* P	**Pg**	**17 01 18.4**	**-0.3**
BAGO				*i* S	**Sg**	**17 01 45.0**	**+2.5**
AYVA	**Ayvalik**	**1.88**	**313**	*i* P	**Pg**	**17 01 19.5**	**+0.1**
AYVA				*i* S	**Sg**	**17 01 44.4**	**+0.7**
AYVA	**Ayvalik**	**1.88**	**313**	*i* P	**Pg**	**17 01 19.5**	**+0.1**
AYVA				*i* S	**Sg**	**17 01 44.4**	**+0.7**
CHOS	**Chios island**	**1.93**	**281**	*e*PN	**Pn**	**17 01 16.9**	**-0.4**
CHOS	**Chios island**	**1.93**	**281**	*e*PN	**Pn**	**17 01 17.3**	**0.0**
CHOS				*e*SN	**Sn**	**17 01 42.6**	**+0.4**
CHOS	**Chios island**	**1.93**	**281**	*e*Pn	**Pn**	**17 01 17.3**	**0.0**
CHOS				*e*Sn	**Sn**	**17 01 42.6**	**+0.4**
CHOS	**Chios island**	**1.93**	**281**	P	**Pn**	**17 01 17.4**	**+0.1**
CHOS				S	**Sn**	**17 01 42.7**	**+0.5**
ORLT	**Orhaneli**	**2.03**	**9**	*e*PN	**Pn**	**17 01 18.9**	**+0.1**
ORLT	**Orhaneli**	**2.03**	**9**	*e*Pn	**Pn**	**17 01 18.9**	**+0.1**
AUKIR	**K¨–rka- Seyitg**	**2.04**	**52**	*i* P	**Pg**	**17 01 21.9**	**-0.6**
AUKIR				*i* S	**Sb**	**17 01 47.5**	**+0.3**
BOLV	**Bolvadin**	**2.07**	**70**	*i* P	**Pb**	**17 01 22.4**	**+0.6**
BOLV				*i* S	**Sg**	**17 01 52.2**	**+2.2**
BOLV	**Bolvadin**	**2.07**	**70**	*i* P	**Pb**	**17 01 22.4**	**+0.6**
ANTB	**Antalya**	**2.08**	**122**	*e*PN	**Pn**	**17 01 19.8**	**+0.4**
ANTB	**Antalya**	**2.08**	**122**	*e*Pn	**Pn**	**17 01 19.8**	**+0.4**
KSL	**Kastellorizon**	**2.09**	**154**	*e*PN	**Pb**	**17 01 20.9**	**-1.1**
SUTC	**Sutluce-Ispart**	**2.09**	**105**	*e*PN	**Pn**	**17 01 20.1**	**+0.5**
SUTC	**Sutluce-Ispart**	**2.09**	**105**	*e*Pn	**Pn**	**17 01 20.1**	**+0.5**
PRK	**Paraskevi**	**2.10**	**306**	*e*PN	**Pn**	**17 01 19.0**	**-0.5**
PRK	**Paraskevi**	**2.10**	**306**	P	**Pn**	**17 01 19.0**	**-0.5**
PRK	**Paraskevi**	**2.10**	**306**	P	**Pn**	**17 01 19.0**	**-0.5**
ULDT	**Uludag**	**2.17**	**14**	*i* P	**Pb**	**17 01 23.4**	**-0.1**
ULDT	**Uludag**	**2.17**	**14**	*i* P	**Pb**	**17 01 23.4**	**-0.1**
KCTX	**Karacabey (Bur**	**2.23**	**358**	*e*PN	**Pn**	**17 01 21.1**	**-0.3**
KCTX	**Karacabey (Bur**	**2.23**	**358**	*e*Pn	**Pn**	**17 01 21.1**	**-0.3**
MDNY	**Mudanya-Bursa**	**2.35**	**8**	*e*PN	**Pn**	**17 01 24.0**	**+0.9**
MDNY	**Mudanya-Bursa**	**2.35**	**8**	*e*Pn	**Pn**	**17 01 24.0**	**+0.9**
EDC	**Edincik**	**2.35**	**349**	*e*PN	**Pn**	**17 01 23.9**	**+0.8**
EDC	**Edincik**	**2.35**	**349**	*e*Pn	**Pn**	**17 01 23.9**	**+0.8**
SIGR	**SIGRI**	**2.35**	**301**	*e*PN	**Pn**	**17 01 23.7**	**+0.6**
SIGR	**SIGRI**	**2.35**	**301**	*e*PN	**Pn**	**17 01 23.1**	**0.0**
SIGR	**SIGRI**	**2.35**	**301**	P	**Pn**	**17 01 22.4**	**-0.7**
SIGR	**SIGRI**	**2.35**	**301**	*e*Pn	**Pn**	**17 01 23.1**	**0.0**
SIGR				S	**Sn**	**17 01 53.0**	**+0.4**
SIGR	**SIGRI**	**2.35**	**301**	P	**Pn**	**17 01 22.4**	**-0.7**
SIGR				S	**Sn**	**17 01 53.0**	**+0.4**
ESKT	**Eskisehir**	**2.38**	**51**	*e*PN	**Pn**	**17 01 24.2**	**+0.5**
ESKT	**Eskisehir**	**2.38**	**51**	*e*Pn	**Pn**	**17 01 24.2**	**+0.5**
BORA	**Eskisehir**	**2.41**	**40**	*i* P	**Pb**	**17 01 28.2**	**+0.6**
BORA				*i* S	**Sb**	**17 01 57.5**	**-0.2**
BORA	**Eskisehir**	**2.41**	**40**	*i* P	**Pb**	**17 01 28.2**	**+0.6**
BORA				*i* S	**Sb**	**17 01 57.5**	**-0.2**
CAVI	**Cavuskoy**	**2.41**	**26**	*e*PN	**Pn**	**17 01 24.2**	**+0.2**
CAVI	**Cavuskoy**	**2.41**	**26**	*e*Pn	**Pn**	**17 01 24.2**	**+0.2**
IZI	**Iznik**	**2.43**	**19**	*e*PN	**Pn**	**17 01 24.5**	**+0.3**
IZI	**Iznik**	**2.43**	**19**	*e*Pn	**Pn**	**17 01 24.5**	**+0.3**
EZN	**Ezine**	**2.44**	**318**	*e*PN	**Pn**	**17 01 24.5**	**+0.2**
EZN	**Ezine**	**2.44**	**318**	*e*Pn	**Pn**	**17 01 24.5**	**+0.2**
GEMT	**Gemlik**	**2.46**	**13**	*e*PN	**Pn**	**17 01 25.4**	**+0.8**
GEMT	**Gemlik**	**2.46**	**13**	*e*Pn	**Pn**	**17 01 25.4**	**+0.8**
APE	**Apeiranthos**	**2.52**	**248**	*e*PN	**Pn**	**17 01 26.2**	**+0.8**
APE	**Apeiranthos**	**2.52**	**248**	*e*Pn	**Pn**	**17 01 26.2**	**+0.8**
ARMT	**Armutlu**	**2.54**	**7**	*e*PN	**Pn**	**17 01 26.3**	**+0.5**
ARMT	**Armutlu**	**2.54**	**7**	*e*Pn	**Pn**	**17 01 26.3**	**+0.5**
BOZC	**Bozcaada**	**2.60**	**315**	*i* P	**Pn**	**17 01 26.6**	**+0.1**
MRMT	**Marmara Adasi**	**2.65**	**346**	*e*PN	**Pn**	**17 01 27.1**	**-0.1**
MRMT	**Marmara Adasi**	**2.65**	**346**	*e*Pn	**Pn**	**17 01 27.1**	**-0.1**
LPK	**Lapseki**	**2.68**	**331**	*e*PN	**Pn**	**17 01 27.3**	**-0.3**
LPK	**Lapseki**	**2.68**	**331**	*e*Pn	**Pn**	**17 01 27.3**	**-0.3**
SVRH	**Sivrihisar-ESK**	**2.78**	**59**	*e*PN	**Pn**	**17 01 29.3**	**+0.2**
SVRH	**Sivrihisar-ESK**	**2.78**	**59**	*e*Pn	**Pn**	**17 01 29.3**	**+0.2**
KIZT	**Kizilcal**	**2.81**	**72**	*e*PN	**Pn**	**17 01 29.9**	**+0.3**
KIZT	**Kizilcal**	**2.81**	**72**	*e*Pn	**Pn**	**17 01 29.9**	**+0.3**
GELI	**Tayfur-Gelibol**	**2.82**	**327**	*e*PN	**Pn**	**17 01 29.6**	**+0.1**
GELI	**Tayfur-Gelibol**	**2.82**	**327**	*e*Pn	**Pn**	**17 01 29.6**	**+0.1**
GULT	**Gulveren**	**2.88**	**33**	*e*PN	**Pn**	**17 01 31.4**	**+1.0**
GULT	**Gulveren**	**2.88**	**33**	*e*Pn	**Pn**	**17 01 31.4**	**+1.0**
GADA	**Gvkgeada**	**2.93**	**318**	*e*PN	**Pn**	**17 01 31.0**	**-0.1**
GADA	**Gvkgeada**	**2.93**	**318**	*e*Pn	**Pn**	**17 01 31.0**	**-0.1**
ERIK	**Erikli-Kesan**	**3.03**	**331**	*e*PN	**Pn**	**17 01 32.6**	**+0.2**
ERIK	**Erikli-Kesan**	**3.03**	**331**	*e*Pn	**Pn**	**17 01 32.6**	**+0.2**
LIA	**Limnos Island**	**3.16**	**307**	*e*PN	**Pn**	**17 01 34.0**	**-0.1**
LIA	**Limnos Island**	**3.16**	**307**	P	**Pn**	**17 01 34.0**	**-0.1**
LIA				S	**Sn**	**17 02 12.4**	**0.0**
LIA	**Limnos Island**	**3.16**	**307**	P	**Pn**	**17 01 34.0**	**-0.1**
LIA				S	**Sn**	**17 02 12.4**	**0.0**
ENEZ	**Enez**	**3.23**	**327**	*e*PN	**Pn**	**17 01 35.3**	**+0.1**
ENEZ	**Enez**	**3.23**	**327**	*e*Pn	**Pn**	**17 01 35.3**	**+0.1**
SMTH	**Samothraki Isl**	**3.33**	**318**	*e*PN	**Pn**	**17 01 36.0**	**-0.5**
SMTH	**Samothraki Isl**	**3.33**	**318**	*e*Pn	**Pn**	**17 01 36.0**	**-0.5**
ALN	**Alexandroupoli**	**3.41**	**328**	*e*PN	**Pn**	**17 01 37.9**	**+0.3**
ALN	**Alexandroupoli**	**3.41**	**328**	*e*PN	**Pn**	**17 01 36.9**	**-0.7**
ALN	**Alexandroupoli**	**3.41**	**328**	P	**Pn**	**17 01 37.0**	**-0.7**
ALN	**Alexandroupoli**	**3.41**	**328**	*e*Pn	**Pn**	**17 01 37.9**	**+0.3**
ALN				S	**Sn**	**17 02 18.1**	**-0.6**
ALN	**Alexandroupoli**	**3.41**	**328**	P	**Pn**	**17 01 37.0**	**-0.7**
ALN				S	**Sn**	**17 02 18.1**	**-0.6**

IDC 09 17:10:32.8±470.0, 47°.70N×42°.98E, h0km, Error ellipse: s-maj=205.2km s-min=138.2km az=170.0, Ukraine - Moldova - Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**9.70**	**341**	*i*		18 11 00.0	
	baz=154,slow=318,SNR=1.3						
I31KZ	**AKTYUBINSK INF**	**10.25**	**69**	*i*		18 17 40.0	
	baz=258,slow=308,SNR=1.1						
I26DE	**FREYUNG INFRAS**	**19.47**	**284**	*i*		19 12 30.0	
	baz=80,slow=312,SNR=0.8						

IDC 09 17:11:46.5±7.0, 14°.29S×167°.17E, h117km±67km, mb3.5/5, mb1 3.7/6, mb1mx3.3/40, mbtmp3.8/6, Error ellipse: s-maj=54.7km s-min=28.6km az=159.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.77**	**185**	P	Pn	17 13 37.9	+0.9
	0.6nm,0.3s,baz=270,slow=24,SNR=12						
DZM				S	Sn	17 15 03.3	-0.1
	0.6nm,0.3s,baz=270,slow=20,SNR=2.3						
STKA	**Stephens Creek**	**29.20**	**229**	P	P	17 17 37.4	+0.2
	1.7nm,0.6s,baz=66,slow=9.7,SNR=4.0						
WRA	**Warramunga Arr**	**31.84**	**255**	P	P	17 17 59.4	-1.2
	0.3nm,0.4s,baz=85,slow=9.3,SNR=6.1						
ASAR	**Alice Springs**	**32.74**	**248**	P	P	17 18 08.1	-0.3
	0.4nm,0.4s,baz=73,slow=9.7,SNR=19						
CMAR	**Chiang Mai Arr**	**74.68**	**294**	P	P	17 23 15.2	+1.3
	0.8nm,0.7s,baz=124,slow=4.8,SNR=5.3						
ILAR	**Eielson Array**	**86.14**	**18**	P	P	17 24 13.2	-0.9
	0.6nm,0.8s,baz=219,slow=5.6,SNR=3.9						
ARCES	**ARCESS Array B**	**119.81**	**345**	PKP	PKPdf	17 30 22.3	-0.1
	0.6nm,0.3s,baz=81,slow=2.2,SNR=15						
FINES	**FINESS Array B**	**125.28**	**338**	PKP	PKPdf	17 30 33.2	+0.2
	1.1nm,0.8s,baz=338,slow=2.1,SNR=4.5						

**IDC 09 17:16:17.8±27.0, 20°.61S×179°.30W, h650km±227km, mb3.3/6, mb1 3.

0.4nm,0.4s,baz=158,slow=12,SNR=3.1
H11N1 WAKE ISLAND Hy 40.60 74 T T 18 31 02.9
baz=266,slow=75,SNR=70
H11N2 WAKE ISLAND Hy 40.60 74 T T 18 31 03.4
baz=266,slow=75,SNR=54
H11N3 WAKE ISLAND Hy 40.61 74 T T 18 31 04.3
baz=266,slow=75,SNR=55
STKA Stephens Creek 46.80 161 P **P** **17 48 40.7 -0.5**
2.6nm,0.7s,baz=341,slow=5.3,SNR=5.0
MKAR Makanchi Array 49.67 322 P **P** **17 49 04.5 +1.2**
2.5nm,0.8s,baz=117,slow=8.7,SNR=18
ZALV Zalesovo Beam 52.22 331 P **P** **17 49 22.7 +0.5**
0.8nm,0.6s,baz=100,slow=9.7,SNR=4.1
IDI Anoyia 91.14 306 LR LR 18 38 47.7
comp=Z,14nm,20.3s,baz=237,slow=38

*IDC **09** 18:13:01.2±0.7,4.84S×145.83E,h0km,mb4.4/16,*
mb1 4.4/20,mb1mx4.3/35,mbtmp4.3/20,ML3.9/4,MS3.5/11,
Ms1 3.6/11,ms1mx3.4/24,Error ellipse: s-maj=22.1km
s-min=11.3km az=97.0
*ISCJB **09** 18:13:04.0±0.4,4.82S±0.04×145.80E±0.06,h27km,*
mb4.5/27,MS3.5/9,Error ellipse: s-maj=.8.1km
s-min=5.8km az=171.8
*DJA **09** 18:13:05.0±1.8,4°S±15°×14°6E±1°8,h10km,M5.0/15,*
mb4.8/15,mB5.3/9,MLv5.5/5,Mw(mB)4.7/9,Mwp7.2/1
*NEIC **09** 18:13:08.5±1.2,4.83S×145.70E,h52km±11km,mb4.7/14,*
Error ellipse: s-maj=12.4km s-min=7.1km az=76.0
ISC 09 18:13:05.7±0.5,4.81S±0.06×145.86E±0.08,h27km,n79,
σ1s53/63,mb4.6/27,MS3.7/9,Near north coast of New
Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.13**	**29**	P	**Pb**	**18 14 01.5**	**+0.8**
	baz=3.3,SNR=4.3						
PMG	**Port Moresby**	**4.75**	**164**	P	Pn	18 14 19.8	+4.3
	baz=4.9,SNR=41						
PMG				P	Pn	18 14 19.8	+4.3
	baz=4.9,SNR=41						
PMG				P	Pn	18 14 19.8	+4.3
	baz=4.9,SNR=41						
PMG	**Port Moresby**	**4.75**	**164**	*e*Pn	**Pn**	**18 14 18.4**	**+2.9**
PMG				*e*Sn	Sn	18 15 00.7	-9.0
JAY	**Jayapura**	**5.62**	**294**	P	**Pn**	**18 14 27.7**	**+0.1**
	86nm,1.0s,0.5nm						
JAY	**Jayapura**	**5.62**	**294**	Pn	**Pn**	**18 14 25.9**	**-1.7**
	3.1nm,0.3s,baz=181,slow=6.2,SNR=24						
JAY				LR	LR	18 16 56.4	
	comp=Z,942nm,20.9s,baz=64,slow=42						
JAY	**Jayapura**	**5.62**	**294**	P	**Pn**	**18 14 27.7**	**+0.1**
	baz=5.4,SNR=9.3						
GENI	**Genyem**	**6.09**	**291**	P	**Pn**	**18 14 34.7**	**+0.8**
	192nm,0.7s,3μm1.9nm						
RABL	**Rabaul**	**6.32**	**85**	P	Pn	18 14 44.2	+7.1
	baz=6.6,SNR=8.9						
SMPI	**Sarmi**	**7.66**	**291**	P	**Pn**	**18 14 56.2**	**+0.6**
	107nm,1.0s,41μm0.6nm						
COEN	**Coen**	**9.47**	**196**	P	**Pn**	**18 15 22.9**	**+2.5**
	baz=9.4,SNR=15						
COEN	**Coen**	**9.47**	**196**	*e*Pn	**Pn**	**18 15 22.6**	**+2.2**
	26nm,0.5s						
BAKI	**Biak**	**10.38**	**290**	P	**Pn**	**18 15 34.2**	**+1.4**
	60nm,0.9s						
RKPI	**Ransiki, Papua**	**12.11**	**285**	P	**P**	**18 16 11.4**	**+2.4**
MTSU	**Mount Surprise**	**13.33**	**186**	P	**Pn**	**18 16 15.9**	**+2.7**
	baz=13,SNR=10						
SIJI	**Sorong**	**15.09**	**285**	Pn	**Pn**	**18 16 35.9**	**-1.3**
	1.4nm,0.3s,baz=114,slow=16,SNR=9.1						
SWI	**Sorong**	**15.09**	**285**	P	**Pn**	**18 16 38.5**	**+1.3**
	47nm,0.8s,564nm						
SWI	**Sorong**	**15.09**	**285**	P	**Pn**	**18 16 38.1**	**+0.8**
	baz=15,SNR=6.1						
CTA	**Charters Tower**	**15.19**	**179**	Pn	**Pn**	**18 16 38.0**	**-0.6**
	0.1nm,0.3s,baz=307,slow=20,SNR=1.7						
CTAO	**Charters Tower**	**15.19**	**179**	*e*Pn	**P**	**18 16 42.0**	**-1.3**
	23nm,1.4s						
KDU	**Kakadu**	**15.36**	**238**	P	**Pn**	**18 16 37.6**	**-3.1**
	baz=15,SNR=19						
QIS	**Mount Isa**	**16.80**	**201**	P	P	18 17 06.9	+5.8
	baz=17,SNR=4.9						
GUMO	**Guam**	**18.30**	**357**	LR	LR	18 24 16.0	
	comp=Z,73nm,18.1s,baz=191,slow=37						
WRAB	**Tennant Creek**	**18.75**	**216**	*e*P	**P**	**18 17 21.6**	**-1.1**
	12nm,0.7s						
WRA	**Warramunga Arr**	**18.76**	**216**	P	**P**	**18 17 21.6**	**-1.2**
	0.9nm,0.3s,baz=30,slow=10.0,SNR=79						
NLAI	**Namlea**	**18.77**	**274**	P	**Pn**	**18 17 25.5**	**+1.9**
	52nm,0.8s,628nm						
LBMI	**Labuha**	**18.79**	**282**	P	Pn	18 17 28.5	+4.7
	39nm,1.1s,688nm						
SANI	**Sanana**	**20.02**	**277**	P	**Pn**	**18 17 39.2**	**+0.7**
	30nm,1.1s,469nm						
QLP	**Quilpie**	**21.71**	**184**	P	**P**	**18 17 56.7**	**+2.0**
	baz=22,SNR=8.0						
RMQ	**Roma**	**21.73**	**173**	P	**P**	**18 17 59.6**	**+4.6**
	baz=22,SNR=6.9						
SOEI	**Soe**	**21.96**	**256**	P	**P**	**18 17 58.5**	**+0.7**
SOEI	**Soe**	**21.96**	**256**	P	**P**	**18 17 57.9**	**+0.1**
	baz=22,SNR=7.0						
SOEI	**Soe**	**21.96**	**256**	*e*P	**P**	**18 17 57.5**	**-0.2**
	144nm,1.1s						
ASAR	**Alice Springs**	**22.01**	**210**	P	**P**	**18 17 56.8**	**-1.3**
	1.6nm,0.5s,baz=42,slow=7.5,SNR=78						
ASAR				S	**S**	**18 22 01.7**	**+2.0**
	2.6nm,1.0s,baz=31,slow=22,SNR=5.1						
ASAR				LR	LR	18 26 57.7	
	comp=Z,164nm,20.7s,baz=27,slow=38						
MMRI	**Maumere**	**23.76**	**260**	P	**P**	**18 18 12.9**	**-3.2**
MRSI	**Marisa**	**24.46**	**282**	P	P	18 18 33.5	+11
APSI	**Ampana**	**24.48**	**278**	P	P	18 18 32.1	+9.3
TTSI	**Tana Toraja**	**26.03**	**273**	P	P	18 18 44.0	+7.1
ARMA	**Armidale**	**26.05**	**169**	P	**P**	**18 18 39.0**	**+2.0**
	baz=26,SNR=4.4						
WRKA	**Warakurna**	**26.25**	**218**	P	**P**	**18 18 38.4**	**-0.4**
	baz=26,SNR=11						
STKA	**Stephens Creek**	**27.22**	**188**	P	**P**	**18 18 48.2**	**+0.8**
	9.1nm,0.8s,baz=43,slow=13,SNR=9.8						
STKA				LR	LR	18 30 38.8	
	comp=Z,254nm,20.0s,baz=17,slow=39						
STKA	**Stephens Creek**	**27.22**	**188**	P	**P**	**18 18 50.9**	**+3.4**
	baz=27,SNR=6.8						
STKA	**Stephens Creek**	**27.22**	**188**	*e*Pn	**P**	**18 18 47.6**	**+0.2**
	3.7nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**30.95**	**41**	T	T	18 51 55.6	
	baz=222,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**30.96**	**41**	T	T	18 51 52.1	
	baz=222,slow=75,SNR=5.8						
H11S1	**WAKE ISLAND Hy**	**30.97**	**41**	T	T	18 51 59.0	
	baz=222,slow=75,SNR=7.7						
H11N2	**WAKE ISLAND Hy**	**31.98**	**40**	T	T	18 53 10.6	
	SNR=4.4						
MEEK	**Meekatharra**	**33.89**	**227**	P	**P**	**18 19 45.6**	**-0.8**
	baz=34,SNR=5.0						
KSM	**Kuching**	**36.06**	**279**	*e*P	P	18 20 00.6	-4.7
	22nm,1.4s						
KLBR	**Kellerberrin**	**37.48**	**221**	P	**P**	**18 20 16.1**	**-1.1**
	baz=37,SNR=9.2						
BLDU	**Ballidu**	**37.58**	**224**	P	**P**	**18 20 16.8**	**-1.2**
	baz=37,SNR=6.2						
LEM	**Lembang**	**38.09**	**265**	LR	LR	18 37 54.7	
	comp=Z,49nm,18.9s,baz=65,slow=39						
JNU	**Nakatsue**	**40.31**	**340**	LR	LR	18 34 04.6	
	comp=Z,112nm,21.8s,baz=150,slow=31						
MJAR	**Matsushiro Arr**	**41.75**	**351**	P	**P**	**18 20 52.8**	**+0.2**
	3.3nm,0.8s,baz=177,slow=10,SNR=9.6						
MAJO	**Matsushiro**	**41.75**	**351**	*e*P	**P**	**18 20 52.5**	**-0.2**
	29nm,1.3s						
KSRS	**Korea Array**	**45.24**	**340**	P	**P**	**18 21 21.6**	**+0.8**
	8.1nm,0.9s,baz=159,slow=9.1,SNR=36						
KSRS				LR	LR	18 38 07.9	
	comp=Z,94nm,19.1s,baz=154,slow=33						
KSAR	**Wonju Array Be**	**45.24**	**340**	P	**P**	**18 21 21.6**	**+0.8**
PSI	**Prapat**	**47.49**	**278**	P	P	18 21 47.3	+8.3
	baz=47,SNR=3.2						
ASAJ	**Asahikawa**	**48.79**	**357**	P	**P**	**18 21 47.4**	**-1.0**
	4.7nm,1.1s						
USRK	**Ussuriysk Ar.**	**50.35**	**347**	P	**P**	**18 22 01.8**	**+1.5**
	11nm,0.6s,baz=176,slow=7.0,SNR=26						
USRK				LR	LR	18 42 06.3	
	comp=Z,21nm,18.9s,baz=154,slow=35						
MDJ	**Mudanjiang**	**51.32**	**345**	*e*P	**P**	**18 22 08.3**	**+0.8**
	6.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**51.69**	**298**	P	**P**	**18 22 11.1**	**+0.3**
	2.1nm,0.8s,baz=118,slow=6.4,SNR=5.6						
CMAR				LR	LR	18 47 13.9	
	comp=Z,9.5nm,18.3s,baz=100,slow=40						
RAR	**Rarotonga**	**55.14**	**112**	P	**P**	**18 22 35.2**	**-0.9**
	12nm,0.6s,baz=45,slow=5.1,SNR=3.1						
HIA	**Hailar**	**58.45**	**340**	*e*P	**P**	**18 22 59.9**	**+0.8**
	4.3nm,0.3s						
LSA	**Lhasa**	**62.62**	**307**	*e*P	**P**	**18 23 28.1**	**-0.5**
	6.1nm,1.3s						
SONM	**Songino Array**	**62.82**	**331**	P	**P**	**18 23 28.3**	**-0.7**
	0.7nm,0.6s,baz=155,slow=8.2,SNR=5.1						
SONM				LR	LR	18 50 37.7	
	comp=Z,50nm,19.5s,baz=106,slow=36						
CASY	**Casey**	**66.10**	**195**	*e*P	**P**	**18 23 49.5**	**-0.6**
	6.8nm,0.8s						
VNDA	**Vanda**	**73.16**	**176**	P	**P**	**18 24 32.2**	**-1.2**
	0.7nm,0.7s,baz=326,slow=9.2,SNR=5.6						
VNDA				LR	LR	18 54 58.2	
	comp=Z,66nm,19.1s,baz=320,slow=34						
MKAR	**Makanchi Array**	**75.86**	**321**	P	**P**	**18 24 49.5**	**-0.3**
	2.3nm,0.7s,baz=103,slow=6.8,SNR=18						
ZALV	**Zalesovo Beam**	**77.40**	**328**	P	**P**	**18 24 57.1**	**-1.1**
	2.0nm,0.7s,baz=113,slow=6.1,SNR=7.3						
KURK	**Kurchatov**	**79.58**	**323**	P	**P**	**18 25 09.1**	**-1.2**
KURBB	**Kurchatov Arra**	**79.60**	**323**	P	**P**	**18 25 09.1**	**-1.3**
	1.0nm,0.8s,baz=114,slow=4.6,SNR=14						
MAW	**Mawson**	**82.90**	**203**	P	**P**	**18 25 27.2**	**-0.4**
	3.0nm,0.9s,baz=72,slow=7.6,SNR=4.3						
MCK	**McKinley**	**83.61**	**24**	*e*P	**P**	**18 25 32.4**	**+1.0**
	18nm,1.0s						
COLA	**College**	**84.50**	**23**	*e*P	**P**	**18 25 36.3**	**+0.4**
	9.1nm,0.8s						
ILAR	**Eielson Array**	**84.84**	**23**	P	**P**	**18 25 38.0**	**+0.4**
	10.0nm,0.8s,baz=254,slow=5.1,SNR=86						
BVAR	**Borovoye Array**	**85.14**	**324**	P	**P**	**18 25 38.5**	**-0.9**
	1.6nm,0.6s,baz=119,slow=6.7,SNR=14						
QSPA	**South Pole Qui**	**85.15**	**180**	*e*P	**P**	**18 25 38.4**	**-1.0**
	5.7nm,0.8s						
YKA	**Yellowknife Ar**	**98.65**	**28**	P	**P**	**18 26 42.2**	**+0.1**
	1.7nm,0.8s,baz=52,slow=6.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**143.68**	**286**	PKhKP	PKPpre	18 32 33.1	
	0.4nm,0.7s,baz=65,slow=2.5,SNR=4.0						

*IDC **09** 18:25:05.3±1.2,35.07N×69.18E,h0km,mb3.8/10,*
mb1 3.9/15,mb1mx3.7/54,mbtmp3.8/15,ML3.9/5,MS3.0/5,
Ms1 3.0/5,ms1mx2.7/42,Error ellipse: s-maj=26.1km
s-min=16.0km az=24.0
*NEIC **09** 18:25:06.7±0.9,35.22N×69.24E,h10km,mb4.1/3,Error*
ellipse: s-maj=16.4km s-min=13.7km az=200.0
NEIC Felt at Bagrami, Charikar and Kabul.
*ISCJB **09** 18:25:07.4±0.4,34.98N±0.03×69.11E±0.05,h33km,*
mb3.8/12,MS3.0/3,Error ellipse: s-maj=6.4km
s-min=4.1km az=154.4
*NNC **09** 18:25:10.8±4.2,35.27N×68.81E,h15km±27km,mb4.4,*
mpv4.4,Error ellipse: s-maj=27.3km s-min=24.9km
az=164.0
ISC 09 18:25:09.3±0.6,34.98N±0.05×69.11E±0.06,h35km,n70,
σ2s31/68,mb3.8/12,MS2.8/3,10C-8D,Southeastern
Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**0.44**	**187**	P	**Pn**	**18 25 17.7**	**-1.5**
	baz=82,SNR=1000						
CEP	**Cherat**	**2.58**	**116**	P	Pn	18 25 53.6	+4.9
CEP				S	Sn	18 26 28.0	+9.0
THW	**Thamme Wali**	**3.08**	**134**	P	Pn	18 25 59.9	+4.4
CHCP	**Chirah Chowk**	**3.68**	**110**	P	Pn	18 26 07.5	+3.8
DZET	**Dzherino**	**3.83**	**357**	⇓Pn	**Pn**	**18 26 07.0**	**+1.2**
	22nm,0.4s						
DZET				⇑Lg	Lg	18 27 02.9	
	446nm,0.5s						
SFK	**Sufi-Kurgan**	**6.12**	**33**	⇓Pn	Pn	18 26 41.2	+3.8
	28nm,0.4s						
SFK				⇑Sn	**Sn**	**18 27 50.8**	**+4.4**
	31nm,0.6s						
DLH	**Dalhousie**	**6.20**	**111**	*e*P	Pn	18 26 47.0	+8.4
DLH				*e*S	**Sn**	**18 27 53.0**	**+4.6**
BHK	**Bhakra**	**7.08**	**118**	*e*S	Sn	18 28 27.3	+18
SDNR	**Sundarnagar**	**7.44**	**116**	*e*P	**Pn**	**18 26 58.0**	**+2.6**
SMLA	**Simla**	**7.77**	**117**	*i* P	**Pn**	**18 27 02.1**	**+2.2**
SMLA				*i* S	**Sn**	**18 28 25.2**	**-1.4**
AML	**Almayashu**	**8.00**	**25**	P	**Pn**	**18 27 04.7**	**+1.4**
	SNR=91						
KK31	**Karatay Array**	**8.19**	**7**	Pn	**Pn**	**18 27 06.2**	**+0.6**
	4.8nm,0.3s,baz=184,slow=14,SNR=85						
KK31				⇓Sn	**Sn**	**18 28 35.0**	**-1.9**
	5.3nm,0.5s,baz=190,slow=25,SNR=4.5						
KK31				⇑Lg	Lg	18 29 20.4	
	15nm,0.6s,baz=189,slow=26,SNR=4.3						
UCH	**Uchtor**	**8.38**	**29**	P	**Pn**	**18 27 10.1**	**+1.5**
	SNR=63						
EKS2	**Erkin-Say**	**8.49**	**24**	P	**Pn**	**18 27 11.6**	**+1.8**
	SNR=23						
EKS2	**Erkin-Say**	**8.49**	**24**	*e*Pn	Pn	18 27 04.5	-5.4
EKS2				*e*Sn	**Sn**	**18 28 39.5**	**-5.0**
KZA	**Kyzart**	**8.57**	**32**	P	**Pn**	**18 27 13.2**	**+2.1**
	SNR=28						
AAK	**Ala-Archa**	**8.72**	**27**	P	**Pn**	**18 27 15.3**	**+2.3**
	SNR=16						
AAK	**Ala-Archa**	**8.72**	**27**	⇓Pn	**Pn**	**18 27 15.0**	**+2.0**
	18nm,0.5s						
AAK				⇓Sn	**Sn**	**18 28 52.5**	**+2.3**
	28nm,0.8s						
KBK	**Karagaybulak**	**8.92**	**29**	P	Pn	18 27 18.3	+2.6
	SNR=16						
KHET	**Khetri**	**8.94**	**138**	*e*P	**Pn**	**18 27 16.9**	**+0.9**
KHET				*e*S	**Sn**	**18 28 52.9**	**-2.6**
KHET				AML	AML	18 30 10.6	
	comp=E,115nm,0.1s						
KHET				AML	AML	18 30 11.9	
	comp=N,107nm,0.1s						
CHMS	**Chumysh**	**9.13**	**27**	P	**Pn**	**18 27 20.7**	**+2.1**
	SNR=43						
ULHL	**Ulahol**	**9.15**	**35**	P	**Pn**	**18 27 21.1**	**+2.1**
	SNR=15						
KUDL	**Kundal**	**9.27**	**135**	*e*P	**Pn**	**18 27 21.4**	**+1.0**
KUDL				*e*S	**Sn**	**18 29 00.5**	**-3.0**
KUDL				AML	AML	18 30 00.8	
	comp=N,12nm,0.2s						
KUDL				AML	AML	18 30 02.3	
	comp=E,13nm,0.9s						
USP	**Ospenovka**	**9.28**	**25**	P	**Pn**	**18 27 21.8**	**+1.3**
	SNR=19						
NDI	**New Delhi**	**9.32**	**130**	*e*P	**Pn**	**18 27 23.0**	**+1.9**
NDI				*e*S	**Sn**	**18 29 03.5**	**-1.2**
GEYT	**Alibeck**	**9.34**	**292**	Pn	**Pn**	**18 27 22.4**	**+1.0**
	comp=E,1.7nm,0.3s,baz=127,slow=9.8,SNR=12						
TKM2	**Tokmak 2**	**9.40**	**31**	P	**Pn**	**18 27 24.3**	**+1.9**
	SNR=36						
TKM2	**Tokmak 2**	**9.40**	**31**	⇑Pn	**Pn**	**18 27 24.0**	**+1.6**
	comp=E,25nm,0.6s						
BISR	**Bishrakh**	**9.54**	**130**	*e*S	**Sn**	**18 29 06.7**	**-3.3**
BISR				AML	AML	18 30 00.1	
KALG	**Kalgarh**	**9.82**	**121**	*e*P	**Pn**	**18 27 30.0**	**+2.1**
KALG				*e*S	**Sn**	**18 29 11.8**	**-5.0**
AGRA	**Agra**	**10.81**	**133**	*e*S	**Sn**	**18 29 36.3**	**-4.9**
AGRA				AML	AML	18 29 44.7	
	comp=E,114nm,0.6s						
AGRA				AML	AML	18 29 57.8	
	comp=N,78nm,0.6s						
PDGK	**Podgornoye**	**11.59**	**41**	⇓Pn	**Pn**	**18 27 52.9**	**+0.9**
	comp=N,7.9nm,0.9s						
OTUK	**Ortayu**	**13.47**	**9**	⇑Pn	**Pn**	**18 28 16.1**	**-1.8**
	comp=N,3.3nm,0.7s						
KOLN	**Koldanda**	**14.30**	**116**	*e*P	**Pn**	**18 28 28.8**	**-0.6**
	comp=N,19nm,0.3s						
GKN	**Gorkha**	**14.95**	**113**	*e*P	**Pn**	**18 28 35.7**	**-2.4**
MK31	**Makanchi Array**	**15.43**	**36**	⇑Pn	**Pn**	**18 28 44.9**	**+0.8**
	comp=N,8.7nm,0.8s						
MKAR	**Makanchi Array**	**15.43**	**36**	Pn	**Pn**	**18 28 43.0**	**-1.1**
	comp=N,0.3nm,0.3s,baz=224,slow=16,SNR=12						
MKAR				LR	LR	18 35 14.6	
	comp=N,45nm,20.1s,baz=178,slow=40						
DMN	**Daman**	**15.51**	**114**	*e*P	**Pn**	**18 28 43.4**	**-2.2**
KKN	**Kakani**	**15.54**	**113**	*e*P	**Pn**	**18 28 44.0**	**-2.0**
PKIN	**Phulchoki**	**15.74**	**113**	*e*P	**Pn**	**18 28 46.9**	**-1.8**
PKI	**Pulchoki**	**15.76**	**113**	*e*P	**Pn**	**18 28 46.9**	**-2.0**
AB31	**Akbulak array**	**15.79**	**337**	⇑Pn	**Pn**	**18 28 46.8**	**-2.0**
	comp=N,1.4nm,0.4s,baz=155,slow=12,SNR=40						
AB31				⇓Sn	**Sn**	**18 31 36.7**	**-5.8**
	comp=N,1.1nm,0.5s,baz=163,slow=21,SNR=2.8						
RAMN	**Ramite**	**16.98**	**113**	*e*P	**Pn**	**18 29 02.1**	**-2.3**
	comp=N,14nm,0.4s						
KURBB	**Kurchatov Arra**	**17.07**	**21**	⇑Pn	**Pn**	**18 29 02.6**	**-2.5**
	comp=N,18nm,1.4s						
KURBB	**Kurchatov Arra**	**17.07**	**21**	Pn	**Pn**	**18 29 01.1**	**-4.0**
	comp=N,0.2nm,0.3s,baz=210,slow=10,SNR=8.6						
KURK	**Kurchatov**	**17.18**	**21**	Pn	Pn	18 29 01.1	-5.3
AKTO	**Aktyubinsk**	**17.44**	**336**	⇓Pn	**P**	**18 29 11.1**	**+0.5**
	comp=N,8.3nm,1.1s						
AKTO	**Aktyubinsk**	**17.44**	**336**	P	**Pn**	**18 29 09.0**	**-0.6**
	comp=N,0.3nm,0.3s,baz=154,slow=12,SNR=6.5						
AKTO				LR	LR	18 36 44.7	
	comp=N,50nm,19.6s,baz=149,slow=40						
BVA0	**Borovoye Array**	**18.07**	**2**	⇑Pn	**Pn**	**18 29 15.2**	**-2.1**
	comp=N,1.3nm,0.6s,baz=178,slow=16,SNR=21						
BVAR	**Borovoye Array**	**18.07**	**2**	P	**Pn**	**18 29 15.4**	**-2.0**
	comp=N,0.8nm,0.3s,baz=178,slow=12,SNR=11						
BRVK	**Borovoye**	**18.10**	**2**	⇑Pn	**Pn**	**18 29 15.2**	**-2.5**
	comp=N,16nm,0.9s						
BRVK	**Borovoye**	**18.10**	**2**	*e*Pn	Pn	18 29 11.8	-5.9
LSA	**Lhasa**	**19.34**	**100**	*e*Pn	**P**	**18 29 32.0**	**-0.1**
	comp=N,6.3nm,0.6s						
ZALV	**Zalesovo Beam**	**21.94**	**25**	P	**P**	**18 29 59.4**	**-0.1**
	comp=N,8.4nm,0.5s,baz=222,slow=11,SNR=42						
ZALV				LR	LR	18 39 25.9	
	comp=N,40nm,21.4s,baz=250,slow=39						
KBZ	**Khabaz**	**22.00**	**301**	P	**P**	**18 30 01.8**	**+1.5**
	comp=N,0.5nm,0.3s,baz=66,slow=20,SNR=1.9						
ARU	**Arti**	**22.64**	**345**	*e*P	P	18 30 11.3	+4.4
	comp=N,8.7nm,0.8s						
RAYN	**Ar Rayn**	**23.49**	**247**	P	**P**	**18 30 17.4**	**+1.5**
	comp=N,4.8nm,1.2s						
EIL	**Elat**	**29.26**	**269**	LR	LR	18 44 38.2	
	comp=N,24nm,21.3s,baz=338,slow=40						
PALK	**Pallekele**	**29.56**	**156**	LR	LR	18 45 11.6	
	comp=N,71nm,18.0s,baz=79,slow=41						
SONM	**Songino Array**	**30.47**	**54**	P	**P**	**18 31 18.5**	**-0.3**
	comp=N,1.7nm,0.8s,baz=256,slow=10,SNR=10						
CMAR	**Chiang Mai Arr**	**31.16**	**114**	P	**P**	**18 31 26.6**	**+1.7**
	comp=N,0.3nm,0.4s,baz=294,slow=8.8,SNR=3.5						
AKASG	**Malin Array Be**	**32.74**	**311**	P	**P**	**18 31 39.6**	**+1.1**
	comp=N,0.6nm,0.6s,baz=82,slow=8.5,SNR=2.9						
FINES	**FINESS Array B**	**37.92**	**328**	P	**P**	**18 32 24.1**	**+1.2**
	comp=N,2.1nm,0.9s,baz=162,slow=19,SNR=4.0						
ARCES	**ARCESS Array B**	**41.99**	**339**	P	**P**	**18 32 56.6**	**0.0**
	comp=N,1.8nm,0.8s,baz=98,slow=8.7,SNR=5.0						
NB2	**NORSAR Subarra**	**44.69**	**324**	P	**P**	**18 33 18.7**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=100,slow=7.9						
NOA	**NORSAR Array B**	**44.69**	**324**	P	**P**	**18 33 18.4**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=95,slow=4.4,SNR=4.2						
NAO01	**NORSAR Array S**	**44.82**	**324**	P	**P**	**18 33 16.6**	**-2.9**
KSAR	**Wonju Array Be**	**46.82**	**69**	P	**P**	**18 33 35.9**	**+0.3**
KSRS	**Korea Array**	**46.84**	**69**	P	**P**	**18 33 35.9**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=280,slow=7.3,SNR=4.4						
ASAR	**Alice Springs**	**84.67**	**124**	P	**P**	**18 37 40.8**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=312,slow=4.7,SNR=5.3						

*ISCJB **09** 18:30:49.9±0.4,0.36S±0.06×29.63E±0.05,h10km,*
mb4.1/24,MS3.7/15,Error ellipse: s-maj=8.2km
s-min=7.7km az=0.2
*IDC **09** 18:30:50.3±0.6,0.36S×29.56E,h0km,mb4.1/18,*
mb1 4.3/20,mb1mx4.1/48,mbtmp4.2/20,ML5.0/2,MS3.7/16,
Ms1 3.7/16,ms1mx3.5/31,Error ellipse: s-maj=18.2km
s-min=13.0km az=95.0
*NEIC **09** 18:30:51.9±0.3,0.40S×29.56E,h10km,mb4.4/7,Error*
ellipse: s-maj=8.9km s-min=7.9km az=89.0
NEIC Felt at Fort Portal, Kampala and Mbarara, Uganda. Also
felt at Kigali, Rwanda.
ISC 09 18:30:51.8±0.4,0.42S±0.07×29.55E±0.06,h10km,n41,
σ1s06/39,mb4.2/24,MS3.7/15,Zaire

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**1.21**	**99**	*e*Pn	**Pg**	**18 31 15.9**	**+1.0**
MBAR				*e*Sn	**Sn**	**18 31 32.5**	**+1.2**
KMBO	**Kilima Mbogo**	**7.74**	**95**	Pn	**Pn**	**18 32 44.8**	**0.0**
	7.7nm,0.3s,baz=261,slow=18,SNR=46						
KMBO				Sn	**Sn**	**18 34 11.5**	**-1.2**
	13nm,0.3s,baz=193,slow=23,SNR=4.9						
KMBO				Lg	Lg	18 34 49.7	
	22nm,0.3s,baz=230,slow=20,SNR=5.3						
KMBO	**Kilima Mbogo**	**7.74**	**95**	*e*Pn	**Pn**	**18 32 44.4**	**-0.4**
KMBO				*e*Sn	Sn	18 33 53.3	-20
KMBO				Sn	**Sn**	**18 34 11.5**	**-1.2**
KMBO				Lg	Lg	18 34 49.7	
LSZ	**Lusaka**	**14.83**	**185**	Pn	**Pn**	**18 34 20.6**	**-1.2**
	3.4nm,0.3s,baz=359,slow=11,SNR=60						
LSZ				Lg	Lg	18 38 35.2	
	1.5nm,0.3s,baz=118,slow=17,SNR=5.7						
LSZ				LR	LR	18 40 20.4	
	comp=Z,558nm,18.0s,baz=290,slow=38						
TSUM	**Tsumeb**	**22.

SONM	**Songino Array**	**81.49**	**42**	P		**P**	**18 43 11.4**	**+1.7**
	comp=Z,1.0nm,0.6s,baz=254,slow=5.6,SNR=8.1							
CPUP	**Villa Florida**	**87.01**	**244**	LR		LR	19 19 55.4	
	comp=Z,30nm,18.2s,baz=114,slow=34							
CPUP	**Villa Florida**	**87.01**	**244**	P		**P**	**18 43 39.0**	**+1.0**
	comp=Z,0.8nm,1.6s							
SAML	**Samuel**	**92.63**	**261**	P		**P**	**18 44 04.4**	**-0.2**
	comp=Z,1.6nm,1.0s							
KSRS	**Korea Array**	**96.91**	**52**	LR		LR	19 33 11.7	
	comp=Z,16nm,18.2s,baz=256,slow=39							
VNDA	**Vanda**	**98.01**	**171**	LR		LR	19 27 55.3	
	comp=Z,52nm,18.6s,baz=236,slow=35							
JNU	**Nakatsue**	**99.72**	**57**	LR		LR	19 30 37.8	
	comp=Z,20nm,18.2s,baz=353,slow=36							
PDAR	**Pinedale Array**	**124.16**	**324**	PKP		**PKPdf**	**18 49 52.3**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=21,slow=9.5,SNR=4.3							
NVAR	**Mina Array Bea**	**132.02**	**326**	PKP		**PKPdf**	**18 50 08.4**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=50,slow=2.3,SNR=3.5							

*NIED **09** 18:31:00.4⁀40.4ᵛN×142⁀30.2ᵛE,h44ᵏᵐ,Mw3.9 Best double couple: M₀8.84000×10¹⁴ NP1:φ=227.00000°,δ=25.00000°, λ=113.00000°. NP2:φ=22.00000°,δ=67.00000°,λ=80.00000°.*

*ISCJB **09** 18:31:53.4±0.8,40⁀38.4ᵛN±0.4⁀×142⁀2.2ᵛE±0.1,h63ᵏᵐ±6ᵏᵐ, mb3.9/16,Error ellipse: s-maj=13.0km s-min=7.3km az=7.9*

*JMA **09** 18:31:53.8±0.1,40⁀37.1ᵛN×142⁀28.2ᵛE,h40ᵏᵐ±1ᵏᵐ,M4.0 Broadband fault plane solution: P waves. NP1: φ=34.00000°,δ=51.00000°,λ=122.00000°. NP2: φ=170.00000°,δ=49.00000°,λ=57.00000°. Principal axes: T Plg66.0000°, Azm10.0000°; N Plg24.0000°, Azm192.0000°; P Plg1.0000°, Azm102.0000°;*

JMA Felt I J1.

*IDC **09** 18:31:54.5±2.4,40⁀38.1ᵛN×142⁀22.2ᵛE,h56ᵏᵐ±21ᵏᵐ,mb3.7/16, mb1 3.8/20,mb1mx3.6/49,mbtmp3.9/20,ML2.9/3 Error ellipse: s-maj=22.3km s-min=15.5km az=95.0*

ISC 09 18:31:54.0±1.4,**40⁀39.1**ᵛN±0.1⁀×**142⁀22.2**ᵛE±0.1⁀**0,h51**ᵏᵐ±11ᵏᵐ, **n34,**σ**0**ˢ**96/35,mb4.0/16,1C-4D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.53**	**212**	⇑P	**Pn**	**18 32 04.9**	**-0.7**
JANG	**Nango**	**0.54**	**269**	⇓P	**Pn**	**18 32 05.6**	**-0.2**
JANG				S	**Sn**	**18 32 14.1**	**-0.2**
JKZ	**Kuzumaki**	**0.79**	**240**	⇓P	**Pn**	**18 32 09.2**	**+0.2**
JKZ				S	**Sn**	**18 32 20.3**	**+0.3**
JTM	**Tenmabayashi**	**0.96**	**295**	P	**Pn**	**18 32 11.2**	**-0.1**
JTM				*e*S	**Sn**	**18 32 24.2**	**+0.2**
JOM	**Ohasama**	**1.16**	**218**	⇓P	**Pn**	**18 32 14.2**	**+0.3**
JOM				*e*S	**Sn**	**18 32 29.3**	**+0.6**
JAH	**Hinai**	**1.23**	**261**	⇓P	**Pn**	**18 32 15.4**	**+0.6**
JAH				*e*S	**Sn**	**18 32 30.8**	**+0.5**
JOT	**Ohata**	**1.33**	**319**	P	**Pn**	**18 32 16.0**	**-0.2**
ASAJ	**Asahikawa**	**3.74**	**4**	P	**Pn**	**18 32 50.1**	**+1.0**
MAT	**Matsushiro**	**4.97**	**221**	P	**Pn**	**18 33 09.0**	**+3.0**
MAT				*e*S	**Sn**	**18 34 02.1**	**0.0**
MJAR	**Matsushiro Ar**	**4.97**	**221**	P	**Pn**	**18 33 07.3**	**+1.3**
	1.0nm,0.3s,baz=31,slow=13,SNR=23						
USRK	**Ussuriysk Ar.**	**8.49**	**300**	P	**Pn**	**18 33 55.7**	**+1.5**
	1.0nm,0.3s,baz=105,slow=16,SNR=11						
KSRS	**Korea Array**	**11.52**	**260**	P	**Pn**	**18 34 34.8**	**-0.9**
	0.0nm,0.3s,baz=73,slow=12,SNR=2.3						
SEY	**Seymchan**	**23.38**	**12**	P	**P**	**18 36 56.4**	**-1.4**
	1.1nm,0.7s,baz=208,slow=21,SNR=6.0						
SONM	**Songino Array**	**26.59**	**298**	P	**P**	**18 37 25.5**	**-1.9**
	0.5nm,0.5s,baz=86,slow=6.1,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**29.49**	**127**	T	T	19 08 45.7	
	baz=318,slow=75,SNR=38						
H11N1	**WAKE ISLAND Hy**	**29.50**	**127**	T	T	19 08 55.7	
	baz=318,slow=75,SNR=38						
H11N3	**WAKE ISLAND Hy**	**29.51**	**127**	T	T	19 08 46.2	
	baz=318,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy**	**30.31**	**129**	T	T	19 10 02.9	
	baz=3.1,slow=74,SNR=20						
H11S2	**WAKE ISLAND Hy**	**30.33**	**129**	T	T	19 09 56.8	
	baz=326,slow=74,SNR=16						
ZALV	**Zalesovo Beam**	**40.20**	**310**	P	**P**	**18 39 24.2**	**-0.9**
	2.1nm,0.4s,baz=93,slow=8.9,SNR=11						
MKAR	**Makanchi Array**	**42.95**	**299**	P	**P**	**18 39 48.2**	**+0.4**
	2.2nm,0.7s,baz=84,slow=9.6,SNR=17						
KURBB	**Kurchatov Arra**	**44.51**	**305**	P	**P**	**18 40 00.2**	**+0.1**
	4.3nm,0.7s,baz=81,slow=8.6,SNR=39						
ILAR	**Eielson Array**	**46.34**	**34**	P	**P**	**18 40 14.9**	**+0.4**
	0.1nm,0.4s,baz=270,slow=7.2,SNR=3.2						
BVAR	**Borovoye Array**	**48.84**	**310**	P	**P**	**18 40 34.3**	**+0.4**
	1.8nm,0.4s,baz=76,slow=8.9,SNR=14						
AKTO	**Aktyubinsk**	**56.94**	**311**	P	**P**	**18 41 35.3**	**+1.6**
	1.0nm,0.6s,baz=76,slow=14,SNR=3.8						
WRA	**Warramunga Arr**	**60.47**	**189**	P	**P**	**18 41 57.7**	**-0.7**
	0.3nm,0.6s,baz=7.0,slow=6.8,SNR=5.9						
ARCES	**ARCESS Array B**	**61.09**	**339**	P	**P**	**18 42 02.3**	**+0.1**
	2.5nm,0.7s,baz=67,slow=4.1,SNR=10.0						
ASAR	**Alice Springs**	**64.19**	**188**	P	**P**	**18 42 23.6**	**+0.3**
	0.3nm,0.7s,baz=2.0,slow=4.7,SNR=6.9						
FINES	**FINESS Array B**	**66.15**	**332**	P	**P**	**18 42 36.0**	**+0.4**
	2.2nm,0.7s,baz=35,slow=7.0,SNR=5.1						
HFS	**Hagfors**	**71.30**	**336**	P	**P**	**18 43 07.2**	**-0.5**
	1.1nm,0.5s,baz=329,slow=1.7,SNR=7.2						
NB2	**NORSAR Subarra**	**71.34**	**337**	P	**P**	**18 43 08.1**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**71.34**	**337**	P	**P**	**18 43 08.4**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=39,slow=6.0,SNR=7.1						
AKASG	**Malin Array Be**	**72.04**	**322**	P	**P**	**18 43 12.3**	**0.0**
	comp=Z,1.4nm,0.5s,baz=42,slow=6.0,SNR=6.1						
KEST	**Kesra**	**92.73**	**323**	P	**P**	**18 44 59.6**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=71,slow=6.5,SNR=4.8						

*MOS **09** 18:39:42.7±1.1,44⁀90.9ᵛN×41⁀78.1ᵛE,h15ᵏᵐ,mb4.0/2,Error ellipse: s-maj=12.4km s-min=6.2km az=115.3*

MOS Felt (II-III) at Stavropol', Nevinnomyssk.

*CSEM **09** 18:39:43.0±0.3,44⁀86.6ᵛN×41⁀85.2ᵛE,h2ᵏᵐ,mb4.0,Error ellipse: s-maj=9.8km s-min=6.1km az=41.0*

ISC 09 18:39:42.5±1.2,**44⁀84.8**ᵛN±0.0⁀×**41⁀78.6**ᵛE±0.0⁀**2,h9**ᵏᵐ±10ᵏᵐ, **n50,**σ**1**ˢ**48/66,2C-2D,Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GOF	**Gofitskoye**	**0.92**	**76**	*e*PG	**Pb**	**18 39 58.8**	**-1.9**
GOF				*e*S	**Sg**	**18 40 13.0**	**+0.8**
GOF				pmax	pmax		
	comp=Z,60nm,0.8s						
GOF				smax	smax		
	comp=N,820nm,1.0s						
GOF				smax	smax		
	comp=E,490nm,1.0s						
GOF	**Gofitskoye**	**0.92**	**76**	*e*Pg	**Pb**	**18 39 58.8**	**-1.9**
	comp=E,60nm,0.8s						
GOF				*e*Sg	**Sg**	**18 40 13.0**	**+0.8**
KIV	**Kislovodsk**	**1.09**	**143**	*de*PG	**Pn**	**18 40 02.4**	**-1.7**
KIV				*i*		18 40 19.5	
KIV				pmax	pmax		
	comp=Z,34nm,0.6s						
KIV	**Kislovodsk**	**1.09**	**143**	*e*Pg	**Pn**	**18 40 02.4**	**-1.7**
	comp=Z,34nm,0.6s						
KIV				*i* Sg	**Sn**	**18 40 19.5**	**+0.1**
PYA	**Pyatigorsk**	**1.22**	**131**	*i* PG	**Pn**	**18 40 04.3**	**-1.4**
PYA				*e*S	**Sb**	**18 40 21.5**	**0.0**
PYA	**Pyatigorsk**	**1.22**	**131**	*i* Pg	**Pn**	**18 40 04.3**	**-1.4**
PYA				*e*Sg	**Sb**	**18 40 21.5**	**0.0**
KUBR	**Kubataba**	**1.56**	**131**	⇑*e*PG	**Pn**	**18 40 10.8**	**+0.3**
KUBR				*e*S	**Sb**	**18 40 32.4**	**+0.9**
KUBR	**Kubataba**	**1.56**	**131**	*e*Pg	**Pn**	**18 40 10.8**	**+0.3**
KUBR				*e*Sg	**Sb**	**18 40 32.4**	**+0.9**
NEY	**Neytrino**	**1.73**	**157**	*e*PN	**Pn**	**18 40 12.7**	**-0.2**
NEY	**Neytrino**	**1.73**	**157**	*e*Pn	**Pn**	**18 40 12.7**	**-0.2**
NCK	**Nalchik**	**1.87**	**135**	⇑*e*PN	**Pn**	**18 40 15.4**	**+0.7**
NCK	**Nalchik**	**1.87**	**135**	*e*Pn	**Pn**	**18 40 15.4**	**+0.7**
SOC	**Sochi**	**1.94**	**231**	*e*PN	**Pb**	**18 40 17.8**	**-0.3**
SOC						18 40 45.6	
SOC				pmax	pmax		
	comp=Z,23nm,0.6s						
SOC	**Sochi**	**1.94**	**231**	*e*Pn	**Pb**	**18 40 17.8**	**-0.3**
	comp=Z,23nm,0.6s						
SOC				Sg	**Sg**	**18 40 45.6**	**+0.6**
PRTR	**Priterechnaya**	**2.10**	**120**	*e*PN	**Pn**	**18 40 18.8**	**+1.0**
PRTR	**Priterechnaya**	**2.10**	**120**	*e*Pn	**Pn**	**18 40 18.8**	**+1.0**
LSNR	**Lesken**	**2.15**	**136**	*e*PN	**Pb**	**18 40 22.7**	**+1.1**
LSNR				*i* S	**Sb**	**18 40 50.6**	**+2.3**
LSNR				pmax	pmax		
	comp=Z,13nm,0.1s						
LSNR				smax	smax		
	comp=E,126nm,0.2s						
LSNR	**Lesken**	**2.15**	**136**	*e*Pn	**Pb**	**18 40 22.7**	**+1.1**
	comp=E,13nm,0.1s						
LSNR				*i* Sn	**Sb**	**18 40 50.6**	**+2.3**
DIGR	**Digorskoe uzhe**	**2.33**	**146**	*e*PN	**Pb**	**18 40 24.4**	**-0.5**
DIGR				*e*S	**Sn**	**18 40 51.4**	**+1.3**
DIGR				pmax	pmax		
	comp=Z,11nm,0.1s						
DIGR				smax	smax		
	comp=N,57nm,0.2s						
DIGR	**Digorskoe uzhe**	**2.33**	**146**	*e*Pn	**Pb**	**18 40 24.4**	**-0.5**
	comp=N,11nm,0.1s						
DIGR				*e*Sn	**Sn**	**18 40 51.4**	**+1.3**
	comp=N,57nm,0.2s						
ARNR	**Ardon**	**2.45**	**132**	*e*PN	**Pg**	**18 40 29.0**	**-0.5**
ARNR				pmax	pmax		
	comp=Z,43nm,0.3s						
BTKR	**Batakoyurt**	**2.47**	**125**	*e*PN	**Pg**	**18 40 30.5**	**+0.7**
BTKR				pmax	pmax		
	comp=Z,42nm,0.3s						
BTKR	**Batakoyurt**	**2.47**	**125**	*e*Pn	**Pg**	**18 40 30.5**	**+0.7**
	comp=Z,42nm,0.3s						
ONI	**Oni**	**2.55**	**151**	P	**Pb**	**18 40 29.4**	**+0.9**
ONI				S	**Sb**	**18 41 01.7**	**+1.7**
ONI	**Oni**	**2.55**	**151**	P	**Pb**	**18 40 29.4**	**+0.9**
ONI				S	**Sb**	**18 41 01.7**	**+1.7**
LACR	**Lac**	**2.71**	**137**	*i* PN	**Pb**	**18 40 30.6**	**-0.7**
LACR				*e*S	**Sb**	**18 41 04.3**	**-0.3**
LACR				pmax	pmax		
	comp=Z,23nm,0.1s						
LACR				smax	smax		
	comp=E,209nm,0.3s						
LACR	**Lac**	**2.71**	**137**	*i* Pn	**Pb**	**18 40 30.6**	**-0.7**
	comp=E,23nm,0.1s						
LACR				*e*Sn	**Sb**	**18 41 04.3**	**-0.3**
ANN	**Anapa**	**3.10**	**271**	*e*PN	**Pn**	**18 40 33.3**	**+1.8**
ANN				*e*S	**Sb**	**18 41 12.3**	**-3.3**
ANN				*e*SS	**Sg**	**18 41 24.7**	**+2.8**
ANN				pmax	pmax		
	comp=Z,50nm,1.0s						
ANN				MLR	MLR		
	comp=Z,63nm,6.0s						
ANN	**Anapa**	**3.10**	**271**	*e*Pn	**Pn**	**18 40 33.3**	**+1.8**
	comp=Z,50nm,1.0s						
ANN				*e*Sn	**Sb**	**18 41 12.3**	**-3.3**
	comp=Z,63nm,6.0s						
ANN				*e*Sb	**Sg**	**18 41 24.7**	**+2.8**
AKH	**Akhalkalaki**	**3.65**	**159**	P	**Sg**	**18 41 38.3**	**-1.4**
BTLR	**Botlikh**	**3.88**	**122**	*i* PN	**Pn**	**18 40 42.6**	**+0.2**
BTLR	**Botlikh**	**3.88**	**122**	*i* Pn	**Pn**	**18 40 42.6**	**+0.2**
GNI	**Garni**	**5.17**	**154**	*i* PN	Pn	18 41 04.3	+4.1
GNI	**Garni**	**5.17**	**154**	*i* Pn	Pn	18 41 04.3	+4.1
VSR	**Storozhevoye**	**6.62**	**346**	*d* iP	**Pn**	**18 41 20.9**	**+1.0**
VSR	**Storozhevoye**	**6.62**	**346**	*i* P	**Pn**	**18 41 20.9**	**+1.0**
TIRR	**Tirgusor**	**9.54**	**272**	*i* P	**Pn**	**18 41 57.1**	**-2.9**
TIRR	**Tirgusor**	**9.54**	**272**	*i* P	**Pn**	**18 41 57.1**	**-2.9**
KIEV	**Kiev**	**10.29**	**309**	*i* P	**Pn**	**18 42 11.7**	**+1.5**
KIEV	**Kiev**	**10.29**	**309**	*i* P	**Pn**	**18 42 11.7**	**+1.5**
OBN	**Obninsk**	**10.82**	**344**	*i* P	**Pn**	**18 42 19.2**	**+1.8**
OBN	**Obninsk**	**10.82**	**344**	*i* P	**Pn**	**18 42 19.2**	**+1.8**
FINES	**FINESS Array B**	**19.02**	**336**	*i* P	**Pn**	**18 44 06.5**	**+1.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES	**FINESS Array B**	**19.02**	**336**	*i* P	**Pn**	**18 44 06.5**	**+1.3**
	comp=Z,2.0nm,0.9s						
KONO	**Kongsberg**	**24.34**	**319**	*e*P	**P**	**18 45 01.8**	**+1.5**
KONO	**Kongsberg**	**24.34**	**319**	*e*P	**P**	**18 45 01.8**	**+1.5**
KURK	**Kurchatov**	**25.25**	**63**	*i* P	**P**	**18 45 09.8**	**+1.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KURK	**Kurchatov**	**25.25**	**63**	*i* P	**P**	**18 45 09.8**	**+1.1**
	comp=Z,2.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**54.03**	**100**	*i* P	P	18 49 15.8	+8.5
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**54.03**	**100**	*i* P	P	18 49 15.8	+8.5
	comp=Z,1.0nm,0.5s						

KRSC 09 18:46:42.7±0.9,**51⁀15.9**ᵛN×**158⁀33.6**ᵛE,**h41**ᵏᵐ±16ᵏᵐ,**ML3.6, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**1.00**	**289**	*e*P	Pn	18 47 01.9	+1.6
PAU				*e*S	Sn	18 47 15.0	+1.8
ASAK	**Asacha**	**1.26**	**348**	*e*P	Pn	18 47 05.3	+1.3
ASAK				*e*S	Sn	18 47 21.4	+1.6
RUS	**Russkaya**	**1.29**	**5**	*e*P	Pn	18 47 05.0	+0.8
RUS				*e*S	Sn	18 47 20.6	+0.3
MTVR	**Mutnovka**	**1.34**	**356**	*e*P	Pn	18 47 06.4	+1.3
MTVR				*e*S	Sn	18 47 22.8	+1.0
SKR	**Severo-Kuril's**	**1.47**	**252**	*e*P	Pn	18 47 08.0	+1.3
SKR				*e*S	Sn	18 47 25.7	+1.0
MIPR	**Malaya Ipel'ka**	**1.49**	**320**	*e*P	Pn	18 47 09.1	+2.1
MIPR				*e*S	Sn	18 47 27.9	+2.6
PET	**Petropavlovsk**	**1.89**	**6**	*e*P	Pn	18 47 13.9	+1.5
APC	**Apacha**	**1.92**	**338**	*e*P	Pn	18 47 15.1	+2.3
UGLR	**Uglovaya**	**2.08**	**8**	*e*P	Pn	18 47 18.0	+2.7
UGLR				*e*S	Sn	18 47 43.1	+3.0
AVH	**Avacha**	**2.13**	**7**	*e*P	Pn	18 47 19.1	+3.2
AVH				*e*S	Sn	18 47 45.1	+3.8
SMAR	**Somma**	**2.14**	**8**	*e*P	Pn	18 47 18.7	+2.6
KOK	**Koryaka**	**2.15**	**5**	*e*P	Pn	18 47 19.1	+2.9
SDLR	**Sedlovina**	**2.16**	**9**	*e*P	Pn	18 47 18.5	+2.2
SDLR				*e*S	Sn	18 47 44.1	+2.1
KRER	**Koryakskii**	**2.17**	**7**	*e*P	Pn	18 47 19.4	+2.8
SPN	**Mys Shipunski**	**2.21**	**28**	*e*P	Pn	18 47 19.8	+2.9
SPN				*e*S	Sn	18 47 46.1	+3.1
KRX	**Arik**	**2.22**	**5**	*e*P	Pn	18 47 19.7	+2.5
KRX				*e*S	Sn	18 47 46.1	+2.5
GNL	**Ganaly**	**2.56**	**355**	*e*P	Pn	18 47 24.3	+2.5
MKZ	**Mys Kozlova**	**3.99**	**30**	*e*P	Pn	18 47 45.0	+3.8

*ISCJB **09** 19:02:36.5±0.6,21⁀50.1ᵛN±0.0⁀4×143⁀2.2ᵛE±0.1⁀,h311ᵏᵐ, mb3.9/16,Error ellipse: s-maj=19.1km s-min=6.0km az=176.8*

*JMA **09** 19:02:37.4±0.3,21⁀62.1ᵛN×143⁀54.6ᵛE,h326ᵏᵐ,M4.1*

*IDC **09** 19:02:39.5±1.4,21⁀64.1ᵛN×143⁀18.1ᵛE,h326ᵏᵐ±13ᵏᵐ, mb3.6/17,mb1 3.8/20,mb1mx3.5/53,mbtmp4.3/20,Error ellipse: s-maj=15.9km s-min=9.8km az=82.0*

ISC 09 19:02:37.9±0.6,**21⁀58.1**ᵛN±0.0⁀7×**143⁀2.2**ᵛE±0.0⁀**2,h311**ᵏᵐ**,n35,** σ**1**ˢ**53/47,mb3.9/16,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**5.11**	**350**	P	**Pn**	**19 03 58.2**	**+1.1**
JHHJ				S	**S**	**19 05 00.9**	**+0.1**
CBIJ	**Chichi jima**	**5.57**	**351**	P	**Pn**	**19 04 02.9**	**+0.5**
CBIJ				*e*S	**S**	**19 05 11.0**	**+0.5**
JCJ	**Chichijima**	**5.57**	**351**	P	**Pn**	**19 04 02.9**	**+0.5**
	26nm,0.3s,baz=122,slow=1.0,SNR=19						
JCJ				S	**S**	**19 05 11.2**	**+0.7**
	11nm,0.3s,baz=287,slow=19,SNR=6.0						
GUMO	**Guam**	**8.10**	**168**	P	**P**	**19 04 37.5**	**-0.3**
	8.3nm,0.3s,baz=17,slow=11,SNR=4.4						
BSO1	**Boso 1**	**13.17**	**352**	P	**P**	**19 05 35.2**	**+1.6**
BSO1				*e*S	**S**	**19 07 55.8**	**-2.8**
BSO3	**Boso 3**	**13.38**	**350**	P	**Pn**	**19 05 37.2**	**+0.7**
BSO3				*e*S	**S**	**19 08 04.7**	**+1.0**
BSO4	**Boso 4**	**13.60**	**350**	P	**Pn**	**19 05 40.4**	**+1.3**
BSO4				S	**S**	**19 08 11.2**	**+2.7**
JWZ	**Kozaga**	**13.62**	**332**	P	**Pn**	**19 05 42.0**	**+2.4**
JIE	**Ise**	**13.99**	**337**	P	**Pn**	**19 05 45.6**	**+1.7**
JOD2	**Odawara 2**	**14.10**	**346**	P	**Pn**	**19 05 45.9**	**+0.6**
JHU	**Hanno**	**14.63**	**347**	P	**P**	**19 05 50.4**	**+0.2**
JYT	**Yasato**	**14.83**	**350**	P	**Pn**	**19 05 55.1**	**+1.3**
JRY	**Ryogami san**	**14.87**	**346**	P	**Pn**	**19 05 53.9**	**-0.4**
JRY				S	**S**	**19 08 31.6**	**-3.1**
JAG	**Ashikaga**	**15.15**	**348**	P	**P**	**19 05 56.3**	**+0.4**
JAG				*e*S	**S**	**19 08 34.0**	**-6.3**
JHO	**Hitachi**	**15.15**	**352**	P	**Pn**	**19 05 58.4**	**+0.8**
JHO				S	**S**	**19 08 38.9**	**-1.4**
MJAR	**Matsushiro Arr**	**15.53**	**345**	P	**Pn**	**19 06 00.9**	**-1.2**
	0.9nm,0.3s,baz=161,slow=9.4,SNR=12						
MJAR				S	**S**	**19 08 46.3**	**-1.6**
	0.2nm,0.3s,baz=175,slow=16,SNR=4.1						
KSRS	**Korea Array**	**20.62**	**323**	P	**P**	**19 06 54.4**	**+0.2**
	4.6nm,0.6s,baz=148,slow=8.7,SNR=33						
USRK	**Ussuriysk Ar.**	**24.40**	**340**	P	**P**	**19 07 29.9**	**+1.3**
	1.7nm,0.6s,baz=161,slow=6.1,SNR=4.7						
SONM	**Songino Array**	**39.44**	**321**	P	**P**	**19 09 38.8**	**+0.1**
	0.9nm,0.4s,baz=131,slow=7.6,SNR=7.7						
CMAR	**Chiang Mai Arr**	**41.60**	**274**	P	**P**	**19 09 56.8**	**+0.2**
	0.9nm,0.7s,baz=81,slow=6.1,SNR=13						
WRA	**Warramunga Arr**	**42.17**	**192**	P	**P**	**19 10 01.4**	**+0.5**
	1.7nm,0.3s,baz=16,slow=9.3,SNR=87						
ASAR	**Alice Springs**	**45.88**	**192**	P	**P**	**19 10 30.2**	**+0.1**
	0.6nm,0.4s,baz=12,slow=6.7,SNR=27						
ZALV	**Zalesovo Beam**	**54.31**	**322**	P	**P**	**19 11 31.9**	**-0.7**
	2.9nm,0.6s,baz=102,slow=7.2,SNR=13						
ZALV				PcP	**PcP**	**19 12 31.1**	**-1.2**
	1.5nm,0.4s,baz=118,slow=3.6,SNR=7.4						
MKAR	**Makanchi Array**	**54.79**	**313**	P	**P**	**19 11 36.3**	**+0.1**
	2.2nm,0.5s,baz=87,slow=9.1,SNR=28						
MKAR				PcP	**PcP**	**19 12 33.9**	**-0.5**
	0.6nm,0.4s,baz=92,slow=4.6,SNR=6.5						
KURBB	**Kurchatov Arra**	**57.62**	**317**	P	**P**	**19 11 55.5**	**-0.5**
	10nm,0.6s,baz=94,slow=7.5,SNR=112						
ILAR	**Eielson Array**	**62.13**	**27**	P	**P**	**19 12 25.4**	**-0.9**
	1.1nm,0.6s,baz=263,slow=5.2,SNR=16						
BVAR	**Borovoye Array**	**62.77**	**320**	P	**P**	**19 12 30.7**	**+0.1**
	8.8nm,0.3s,baz=101,slow=7.9,SNR=77						
YKA	**Yellowknife Ar**	**76.55**	**28**	P	**P**	**19 13 54.0**	**+0.1**
	2.3nm,0.5s,baz=293,slow=5.7,SNR=7.5						
ARCES	**ARCESS Array B**	**79.04**	**342**	P	**P**	**19 14 07.6**	**0.0**
	3.3nm,0.6s,baz=74,slow=8.6,SNR=31						
KBZ	**Khabaz**	**82.46**	**314**	P	**P**	**19 14 26.4**	**+0.4**
	2.4nm,0.7s,baz=88,slow=1.7,SNR=5.4						
NVAR	**Mina Array Bea**	**83.20**	**51**	P	**P**	**19 14 31.6**	**+1.3**
	1.3nm,0.7s,baz=280,slow=5.2,SNR=10.0						
FINES	**FINESS Array B**	**83.30**	**334**	P	**P**	**19 14 28.8**	**-1.1**
	2.5nm,0.4s,baz=80,slow=4.4,SNR=37						
AKASG	**Malin Array Be**	**87.61**	**324**	P	**P**	**19 14 49.6**	**-1.6**
	0.5nm,0.5s,baz=51,slow=5.3,SNR=3.2						
TORD	**Torodi Ar. Bea**	**128.83**	**309**	PKP	**PKPdf**	**19 21 08.7**	**-0.8**
	0.4nm,0.9s,baz=50,slow=0.8,SNR=4.4						
LPAZ	**La Paz**	**149.93**	**85**	PKPbc	**PKPbc**	**19 21 53.6**	**+0.4**
	1.6nm,0.6s,baz=360,slow=2.1,SNR=5.6						

*IDC **09** 19:21:48.6±1.1,30⁀48.4ᵛN×67⁀42.4ᵛE,h0ᵏᵐ,mb3.8/12, mb1 4.0/13,mb1mx3.7/32,mbtmp3.8/13,ML3.7/1,MS3.2/6, Ms1 3.2/6,ms1mx2.8/41,Error ellipse: s-maj=27.7km s-min=23.2km az=80.0*

*ISCJB **09** 19:21:49.8±1.0,30⁀6.1ᵛN±0.1⁀×67⁀8.1ᵛE±0.1⁀,h14ᵏᵐ,mb3.8/12, MS3.1/6,Error ellipse: s-maj=22.8km s-min=7.4km az=33.9*

ISC 09 19:21:51.9±1.4,**30⁀6.1**ᵛN±0.2⁀×**67⁀9.1**ᵛE±0.1⁀,**h14**ᵏᵐ**,n28,** σ**1**ˢ**07/23,mb3.8/12,MS3.1/6,Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GEYT	**Alibeck**	**10.87**	**315**	Pn	**Pn**	**19 24 26.5**	**-0.6**
	0.2nm,0.3s,baz=110,slow=12,SNR=2.4						
DANN	**Dangsing**	**14.03**	**95**	*e*P	**Pn**	**19 25 11.6**	**+1.0**
	3.0nm,0.6s						
KOLN	**Koldanda**	**14.04**	**98**	*e*P	**Pn**	**19 25 10.2**	**-0.4**
	17nm,0.7s						
KOLN				*e*S	**Sn**	**19 27 44.1**	**-2.2**
GKN	**Gorkha**	**14.86**	**96**	*e*P	**Pn**	**19 25 21.3**	**-0.5**
	11nm,0.6s						
KKN	**Kakani**	**15.47**	**96**	*e*P	**Pn**	**19 25 28.9**	**-1.0**
	14nm,0.6s						
PKIN	**Phulchoki**	**15.62**	**97**	*e*P	**Pn**	**19 25 31.9**	**

WRA	**Warramunga Arr**	**43.72 263**	P	**P**	**20 43 52.9**	**-0.6**
	2.3nm,0.6s,baz=95,slow=8.1,SNR=110					
SIJI	**Sorong**	**52.84 286**	P	**P**	**20 45 02.7**	**+0.9**
	61nm,0.3s,baz=116,slow=0.4,SNR=90					
CMAR	**Chiang Mai Arr**	**89.82 290**	P	P	20 48 40.7	+2.4
	1.3nm,0.9s,baz=131,slow=3.7,SNR=7.2					
ARCES	**ARCESS Array B**	**129.95 349**	PKP	**PKPdf**	**20 54 45.1**	**+0.5**
	1.4nm,0.9s,baz=48,slow=1.3,SNR=4.4					
FINES	**FINESS Array B**	**136.69 343**	PKP	**PKPdf**	**20 54 58.5**	**+1.1**
	1.7nm,0.9s,baz=132,slow=2.1,SNR=3.4					
AKASG	**Malin Array Be**	**143.68 330**	PKP	**PKPdf**	**20 55 09.8**	**-0.5**
	0.6nm,0.3s,baz=42,slow=4.6,SNR=6.1					
BRTR	**Keskin Array B**	**147.07 310**	PKPbc	**PKPab**	**20 55 19.9**	**-2.9**
	0.7nm,0.6s,baz=90,slow=2.9,SNR=4.9					
GERES	**GERESS Array B**	**151.13 343**	PKPbc	**PKPbc**	**20 55 30.4**	**+1.3**
	0.2nm,0.3s,baz=37,slow=2.5,SNR=4.1					

*ISCJB **09** 20:39:57.1±0.5, 55.81S±0.08×26.2W±0.2, h10km, mb4.5/14, MS3.5/3, Error ellipse: s-maj=15.3km s-min=10.9km az=155.1*

*IDC **09** 20:39:57.9±0.5, 55.85S×26.27W, h0km, mb4.5/10, mb1 4.5/11, mb1mx4.3/20, mbtmp4.4/11, ML3.6/1, MS3.5/3, Ms1 3.4/3, ms1mx3.1/16, Error ellipse: s-maj=22.7km s-min=16.4km az=72.0*

*NEIC **09** 20:40:00.1±6.8, 55.84S×26.20W, h16km±41km, mb4.8/8, Error ellipse: s-maj=13.6km s-min=9.4km az=53.0*

*AWI **09** 20:40:08.7, 56.69S×25.87W*

ISC 09 20:39:59.0±0.5, 55.38S±0.1×26.3W±0.1, h10km, n35, σ0s94/33, mb4.7/13, MS3.4/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**16.82 159**		P	**P**	**20 43 58.8**	**+2.4**
SNAA	**Sanae**	**18.75 157**		P	**P**	**20 44 17.9**	**+0.2**
	0.2nm,0.3s,baz=314,slow=9.4,SNR=12						
PMSA	**Palmer Station**	**20.43 229**		P	Pn	20 44 38.0	-0.1
	17nm,0.7s,baz=39,slow=4.9,SNR=5.9						
QSPA	**South Pole Qui**	**34.43 180**		P	**P**	**20 46 46.0**	**-0.3**
	15nm,0.7s,baz=196,slow=3.4,SNR=126						
QSPA	**South Pole Qui**	**34.43 180**		*eP*	**P**	**20 46 45.6**	**-0.7**
	13nm,0.6s						
CPUP	**Villa Florida**	**37.05 310**		P	**P**	**20 47 09.1**	**+0.1**
	1.5nm,0.5s,baz=152,slow=6.8,SNR=4.4						
CPUP				LR	LR	21 01 46.1	
	comp=Z,48nm,19.6s,baz=142,slow=35						
MAW	**Mawson**	**40.03 143**		P	**P**	**20 47 34.8**	**+1.3**
	2.2nm,0.6s,baz=222,slow=6.7,SNR=11						
MAW	**Mawson**	**40.03 143**		*eP*	**P**	**20 47 33.6**	**0.0**
	0.8nm,0.8s						
BOSA	**Boshof**	**45.42 75**		P	**P**	**20 48 18.7**	**+0.8**
	2.0nm,0.7s,baz=221,slow=10,SNR=3.6						
BOSA				LR	LR	21 03 57.9	
	comp=Z,104nm,19.4s,baz=232,slow=32						
LVC	**Limon Verde**	**45.63 299**		*eP*	**P**	**20 48 20.5**	**+0.7**
	7.7nm,0.6s						
SBA	**Scott Base**	**46.34 184**		*eP*	**P**	**20 48 23.6**	**-0.8**
	3.3nm,0.6s						
VNDA	**Vanda**	**46.82 182**		P	**P**	**20 48 28.2**	**0.0**
	8.9nm,0.6s,baz=189,slow=6.5,SNR=61						
VNDA	**Vanda**	**46.82 182**		*eP*	**P**	**20 48 27.9**	**-0.4**
	8.0nm,0.6s						
LPAZ	**La Paz**	**50.67 304**		P	**P**	**20 48 59.9**	**+0.7**
	2.2nm,0.4s,baz=174,slow=5.7,SNR=16						
LPAZ	**La Paz**	**50.67 304**		*eP*	**P**	**20 48 59.1**	**-0.1**
	5.6nm,0.7s						
CASY	**Casey**	**53.95 160**		*eP*	**P**	**20 49 21.7**	**-0.6**
	10nm,1.1s						
SAML	**Samuel**	**55.01 314**		*eP*	**P**	**20 49 29.8**	**-0.8**
	20nm,1.9s						
DBIC	**Dimbokro**	**64.75 24**		P	**P**	**20 50 36.2**	**-1.2**
ABPO	**Ambohimpanom**	**65.23 88**		*eP*	**P**	**20 50 39.0**	**-1.9**
	12nm,1.2s						
TORD	**Torodi Ar. Bea**	**72.61 29**		P	**P**	**20 51 27.4**	**+1.0**
	2.3nm,0.6s,baz=198,slow=6.2,SNR=25						
TORD				LR	LR	21 17 24.4	
	comp=Z,18nm,19.7s,baz=70,slow=31						
CDVI	**St. Croix**	**80.17 323**		*eP*	P	20 52 03.2	-6.0
STKA	**Stephens Creek**	**92.04 170**		P	**P**	**20 53 07.2**	**-0.8**
	2.4nm,0.7s,baz=167,slow=5.6,SNR=5.0						
ASAR	**Alice Springs**	**99.05 162**		P	**Pdif**	**20 53 39.7**	**-0.5**
	1.2nm,0.7s,baz=182,slow=3.9,SNR=17						
WRA	**Warramunga Arr**	**102.76 161**		P	**Pdif**	**20 53 56.4**	**-0.3**
	0.5nm,0.8s,baz=196,slow=4.4,SNR=6.1						
NVAR	**Mina Array Bea**	**121.78 293**	PKP	**PKPdf**	**20 58 53.4**	**+0.6**
	0.2nm,0.5s,baz=201,slow=3.9,SNR=2.5						
FINES	**FINESS Array B**	**123.94 27**	PKP	**PKPdf**	**20 58 55.6**	**-0.3**
	1.3nm,0.8s,baz=201,slow=2.7,SNR=5.8						
CMAR	**Chiang Mai Arr**	**124.66 109**	PKP	**PKPdf**	**20 58 57.9**	**-0.8**
	1.2nm,0.7s,baz=235,slow=3.2,SNR=6.9						
ARCES	**ARCESS Array B**	**130.54 21**	PKP	**PKPdf**	**20 59 07.9**	**-0.4**
	0.7nm,0.7s,baz=219,slow=2.3,SNR=5.9						
MKAR	**Makanchi Array**	**136.33 71**	PKP	**PKPdf**	**20 59 20.6**	**+0.7**
	0.4nm,0.7s,baz=229,slow=1.3,SNR=3.1						
YKA	**Yellowknife Ar**	**136.34 318**	PKP	**PKPdf**	**20 59 19.7**	**+0.4**
	0.8nm,0.5s,baz=338,slow=1.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**141.81 63**	PKiKP	**PKiKP**	**20 59 35.0**	**+2.5**
	1.4nm,0.4s,baz=243,slow=4.0,SNR=11						
INK	**Inuvik**	**145.95 321**	PKPbc	**PKPab**	**20 59 37.6**	**-0.1**
	4.7nm,0.6s,baz=22,slow=1.7,SNR=7.6						
SONM	**Songino Array**	**150.20 85**	PKPbc	**PKPbc**	**20 59 49.4**	**+0.1**
	2.2nm,0.8s,baz=219,slow=3.3,SNR=16						
ILAR	**Eielson Array**	**150.34 312**	PKPbc	**PKPbc**	**20 59 48.9**	**-0.1**
	6.3nm,0.8s,baz=136,slow=2.4,SNR=46						
TLY	**Talaya**	**150.63 77**	PKPbc	**PKPbc**	**20 59 50.1**	**0.0**
	3.4nm,0.6s,baz=127,slow=5.1,SNR=6.7						

*ISCJB **09** 20:40:30.7±0.4, 5.37S±0.04×154.41E±0.06, h118km, mb4.3/21, Error ellipse: s-maj=8.1km s-min=6.2km az=179.0*

*NEIC **09** 20:40:31.8±1.1, 5.37S×154.38E, h112km±11km, mb4.7/6, Error ellipse: s-maj=10.1km s-min=7.8km az=69.0*

*IDC **09** 20:40:37.4±3.8, 5.46S×154.26E, h162km±36km, mb3.9/18, mb1 4.0/20, mb1mx4.0/26, mbtmp4.4/20, MS3.7/3, Ms1 3.7/3, ms1mx2.8/24, Error ellipse: s-maj=18.6km s-min=9.8km az=75.0*

ISC 09 20:40:32.3±0.5, 5.36S±0.07×154.43E±0.07, h118km, n56, σ1s11/55, mb4.3/21, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.54 297**		P	**Pn**	**20 41 12.5**	**0.0**
	baz=3.0,SNR=133						
HNR	**Honiara**	**6.80 127**		*e*Pn	**Pn**	**20 42 08.2**	**-1.4**
	93nm,0.6s						
PMG	**Port Moresby**	**8.26 240**		P	**Pn**	**20 42 31.6**	**+2.3**
	baz=9.2,SNR=43						
PMG				P	**Pn**	**20 42 31.6**	**+2.3**
	baz=9.2,SNR=43						
PMG				P	**Pn**	**20 42 31.6**	**+2.3**
	baz=9.2,SNR=43						
PMG	**Port Moresby**	**8.26 240**		*e*Pn	**Pn**	**20 42 28.7**	**-0.6**
	63nm,0.4s						
PMG				*e*Sn	**Sn**	**20 44 01.6**	**+0.6**
JAY	**Jayapura**	**13.98 281**		P	**P**	**20 43 48.6**	**-1.0**
	1.4nm,0.3s,baz=136,slow=4.6,SNR=15						
JAY	**Jayapura**	**13.98 281**		P	**Pn**	**20 43 46.0**	**+0.6**
	baz=15,SNR=4.4						
COEN	**Coen**	**14.00 232**		P	**P**	**20 43 51.0**	**+1.2**
	baz=15,SNR=8.0						
MTSU	**Mount Surprise**	**16.09 217**		P	**P**	**20 44 13.1**	**+0.2**
	baz=17,SNR=10						
CTA	**Charters Tower**	**16.67 208**		P	**P**	**20 44 19.6**	**+0.3**
	1.0nm,0.3s,baz=30,slow=12,SNR=12						
EIDS	**Eidsvold**	**20.16 189**		P	**P**	**20 44 58.2**	**+0.8**
	baz=21,SNR=4.2						
DZM	**Mont Dzumac**	**20.28 146**		P	**P**	**20 45 00.2**	**+1.5**
	7.9nm,0.5s,baz=90,slow=24,SNR=15						
QIS	**Mount Isa**	**20.88 222**		P	**P**	**20 45 04.8**	**-0.4**
	baz=22,SNR=17						
RMQ	**Roma**	**21.70 194**		P	**P**	**20 45 14.4**	**+0.5**
	baz=22,SNR=11						
KDU	**Kakadu**	**22.87 250**		P	**P**	**20 45 24.1**	**-1.8**
	baz=24,SNR=3.5						
QLP	**Quilpie**	**23.25 204**		P	**P**	**20 45 28.5**	**-0.8**
	baz=24,SNR=21						
WRAB	**Tennant Creek**	**24.32 232**		*e*P	**P**	**20 45 37.7**	**-1.5**
	20nm,0.9s						
WRA	**Warramunga Arr**	**24.34 232**		P	**P**	**20 45 38.3**	**-1.1**
	8.7nm,0.5s,baz=56,slow=10.0,SNR=54						
ARMA	**Armidale**	**25.07 186**		P	**P**	**20 45 46.4**	**+0.5**
	baz=26,SNR=4.8						

H11S3	**WAKE ISLAND Hy**	**26.60 27**		T	T	21 14 46.4	
	baz=208,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**26.61 27**		T	T	21 14 45.6	
	baz=208,slow=76,SNR=3.8						
H11S1	**WAKE ISLAND Hy**	**26.62 27**		T	T	21 14 45.7	
	baz=208,slow=76,SNR=7.7						
ASAR	**Alice Springs**	**26.88 225**		P	**P**	**20 46 01.0**	**-1.3**
	2.1nm,0.4s,baz=54,slow=9.2,SNR=49						
KNRA	**Kununurra**	**27.21 246**		P	**P**	**20 46 04.4**	**-0.9**
	baz=28,SNR=4.7						
CMSA	**Cobar Meteorol**	**27.31 196**		P	**P**	**20 46 05.5**	**-0.5**
	baz=28,SNR=25						
STKA	**Stephens Creek**	**29.00 203**		P	**P**	**20 46 19.8**	**-1.1**
	6.9nm,0.5s,baz=13,slow=7.5,SNR=14						
STKA	**Stephens Creek**	**29.00 203**		P	**P**	**20 46 19.9**	**-1.1**
	baz=30,SNR=9.3						
HTT	**Hallett**	**31.44 205**		P	**P**	**20 46 41.9**	**-0.7**
	baz=32,SNR=9.0						
WRKA	**Warakurna**	**31.80 229**		P	**P**	**20 46 44.1**	**-1.8**
	baz=33,SNR=25						
BBOO	**Buckleboo**	**32.25 210**		P	**P**	**20 46 48.3**	**-1.3**
	baz=33,SNR=10.0						
ARPS	**Mount Arapiles**	**33.33 199**		P	**P**	**20 46 58.7**	**-0.3**
	baz=34,SNR=6.6						
RAO	**Raoul Island**	**35.33 135**		LR	LR	20 59 20.6	
	comp=Z,381nm,21.7s,baz=76,slow=32						
TAU	**Tasmania Unive**	**37.93 189**		*e*P	**P**	**20 47 38.9**	**+0.7**
URZ	**Urewera**	**38.70 151**		P	**P**	**20 47 46.5**	**+1.8**
	4.7nm,0.9s,baz=305,slow=3.8,SNR=3.7						
URZ				LR	LR	21 02 23.5	
	comp=Z,123nm,18.4s,baz=5.0,slow=34						
KMBL	**Kambalda**	**40.01 226**		P	**P**	**20 47 54.3**	**-1.4**
	baz=41,SNR=10.0						
MEEK	**Meekatharra**	**40.18 234**		P	**P**	**20 47 55.9**	**-1.3**
	baz=41,SNR=3.5						
RPZ	**Rata Peaks**	**40.92 162**		P	**P**	**20 48 03.6**	**+0.6**
	8.8nm,0.5s,baz=328,slow=5.5,SNR=10.0						
KLBR	**Kellerberrin**	**43.13 228**		P	**P**	**20 48 19.1**	**-2.1**
	baz=44,SNR=5.7						
JNU	**Nakatsue**	**44.31 331**		P	**P**	**20 48 30.8**	**+0.2**
	7.9nm,0.7s,baz=170,slow=3.9,SNR=9.9						
MJAR	**Matsushiro Arr**	**44.36 341**		P	**P**	**20 48 31.4**	**+0.5**
	0.8nm,0.5s,baz=170,slow=7.8,SNR=5.3						
MAJO	**Matsushiro**	**44.36 341**		P	**P**	**20 48 29.6**	**-1.3**
KSM	**Kuching**	**44.59 278**		*e*P	**P**	**20 48 32.7**	**-0.4**
	8.8nm,0.6s						
KSRS	**Korea Array**	**49.24 332**		P	**P**	**20 49 09.2**	**+0.4**
	3.2nm,0.7s,baz=144,slow=6.9,SNR=18						
KSAR	**Wonju Array Be**	**49.25 332**		P	**P**	**20 49 09.2**	**+0.4**
ASAJ	**Asahikawa**	**50.39 349**		P	**P**	**20 49 18.4**	**+1.0**
	5.8nm,0.7s						
USRK	**Ussuriysk Ar.**	**53.31 340**		P	**P**	**20 49 40.3**	**+1.2**
	2.0nm,0.6s,baz=157,slow=7.8,SNR=8.3						
CMAR	**Chiang Mai Arr**	**59.59 295**		P	**P**	**20 50 24.9**	**+0.7**
	2.0nm,0.8s,baz=115,slow=5.1,SNR=12						
SONM	**Songino Array**	**67.66 327**		P	**P**	**20 51 17.2**	**+0.4**
	1.8nm,0.6s,baz=142,slow=6.8,SNR=12						
SONM				LR	LR	21 21 45.1	
	comp=Z,12nm,18.9s,baz=245,slow=36						
LSA	**Lhasa**	**69.89 304**		*e*P	**P**	**20 51 32.1**	**+0.7**
	2.4nm,0.6s						
VNDA	**Vanda**	**72.22 178**		P	**P**	**20 51 44.2**	**+0.2**
	1.8nm,0.6s,baz=333,slow=6.7,SNR=7.2						
PALK	**Pallekele**	**74.63 279**		*e*P	**P**	**20 51 59.3**	**-0.1**
MKAR	**Makanchi Array**	**81.81 319**		P	**P**	**20 52 38.6**	**+0.3**
	1.2nm,0.6s,baz=101,slow=6.5,SNR=13						
ILAR	**Eielson Array**	**82.06 22**		P	**P**	**20 52 39.6**	**+0.4**
	1.2nm,0.6s,baz=240,slow=5.7,SNR=16						
ZALV	**Zalesovo Beam**	**82.52 326**		P	**P**	**20 52 41.9**	**+0.2**
	0.6nm,0.3s,baz=121,slow=6.1,SNR=4.2						
QSPA	**South Pole Qui**	**84.61 180**		*e*P	**P**	**20 52 51.9**	**-0.5**
	2.6nm,0.7s						
MAW	**Mawson**	**85.69 203**		P	**P**	**20 52 56.8**	**-0.7**
	2.6nm,0.6s,baz=92,slow=6.1,SNR=13						
TORD	**Torodi Ar. Bea**	**152.03 288**	PKPbc	**PKPbc**	**21 00 13.4**	**-1.3**	
	0.3nm,0.5s,baz=65,slow=1.9,SNR=8.7						

*ISCJB **09** 20:41:01.1±0.4, 23.58N±0.03×103.16E±0.06, h10km, mb4.0/10, MS3.1/6, Error ellipse: s-maj=8.1km s-min=4.4km az=15.0*

*IDC **09** 20:41:01.5±1.2, 23.60N×103.26E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.6/39, mbtmp3.9/7, ML4.4/1, MS3.1/6, Ms1 3.2/6, ms1mx2.8/37, Error ellipse: s-maj=29.4km s-min=17.6km az=95.0*

*NEIC **09** 20:41:03.3±0.5, 23.65N×103.18E, h10km, mb4.3/3, Error ellipse: s-maj=12.6km s-min=7.7km az=83.0*

*BJI **09** 20:41:03.3, 23.63N×103.07E, h14km, mb4.0/4, mB4.2/2, ML3.6/9, Ms3.7/8, Ms7 3.6/5*

*BKK **09** 20:41:10.4±9.0, 23°N±63'×10°3E±4'2, h0km, M4.2/7, mb4.1/7, mB4.5/4, MLv4.5/7, Mw(mB)3.7/4*

ISC 09 20:41:04.0±0.6, 23.58N±0.04×103.09E±0.06, h10km, n38, σ1s59/40, mb4.0/10, MS3.0/6, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**1.57 348**		Pg	**Pb**	**20 41 31.6**	**-1.6**
KMI				Sg	**Sg**	**20 41 53.5**	**-1.0**
KMI				SMN			
	480nm,0.9s						
KMI				SME			
	1µm,0.7s						
KMI	**Kunming**	**1.57 348**		Pg	**Pb**	**20 41 31.6**	**-1.6**
KMI				Sg	**Sg**	**20 41 53.5**	**-1.0**
SLVN	**Son La**	**2.36 161**		*e*Pn	**Pn**	**20 41 44.2**	**+1.4**
SLVN				*e*Sn	**Sb**	**20 42 16.2**	**+0.3**
CRAI	**Chiangrai**	**4.18 218**		P	Pn	20 42 04.1	-3.8
GYA	**Guiyang**	**4.32 48**		Pn	**Pn**	**20 42 07.5**	**-2.4**
GYA				Pg	**Pb**	**20 42 22.2**	**+2.0**
GYA				Sn	**Sn**	**20 43 00.8**	**+0.3**
GYA				Sg	**Sg**	**20 43 19.5**	**-3.4**
GYA				SMN			
	380nm,0.9s						
GYA				SME			
	240nm,0.9s						
CMAI	**Chiengmai2**	**5.23 227**		P	**Pn**	**20 42 22.2**	**-0.2**
LAMP	**Lampang**	**5.98 213**		P	**Pn**	**20 42 32.8**	**+0.2**
	16nm,0.7s,132nm0.1nm						
CMMT	**Chiang Mai**	**6.12 220**		P	**Pn**	**20 42 34.8**	**+0.2**
	14nm,1.1s,0.3nm						
CHTO	**Chiang Mai**	**6.12 220**		P	**Pn**	**20 42 34.8**	**+0.2**
	39nm,0.6s,1.0nm						
CHTO	**Chiang Mai**	**6.12 220**		*e*Pn	**Pn**	**20 42 33.5**	**-1.0**
	9.4nm,0.8s						
CHTO				*e*Pg	Pg	20 42 57.3	-4.0
CHTO				*e*Sg	**Sg**	**20 44 18.7**	**-1.9**
UTTA	**Uttaradit**	**6.28 203**		P	**Pn**	**20 42 36.6**	**-0.1**
	5.4nm,0.6s,61nm0.1nm						
CMAR	**Chiang Mai Arr**	**6.41 218**		Pn	**Pn**	**20 42 38.5**	**0.0**
	1.9nm,0.3s,baz=29,slow=12,SNR=24						
CMAR				Pg	Pg	20 43 01.8	-5.0
	1.4nm,0.3s,baz=31,slow=18,SNR=30						
CMAR				Lg	Lg	20 44 25.8	
	1.3nm,0.3s,baz=41,slow=29,SNR=9.6						
MHMT	**Maesarieng**	**7.23 223**		P	**Pn**	**20 42 50.3**	**+0.6**
	5.7nm,0.9s,0.2nm						
PBKT	**Sadao Pong**	**7.26 196**		P	**Pn**	**20 42 50.2**	**+0.1**
QIZ	**Qiongzhong**	**7.75 124**		*e*Pn	**Pn**	**20 42 54.9**	**-2.0**
ENH	**Enshi**	**8.77 39**		*e*Pn	**Pn**	**20 43 09.2**	**-1.8**
	9.1nm,0.5s						
XAN	**Xi'an**	**11.60 25**		P	Pn	20 43 45.8	-3.9
XAN				S	Sn	20 45 45.9	-14
XAN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
XAN				LR	LR		
	comp=N,180nm,10.1s						
XAN				LR	LR		
	comp=E,270nm,10.5s						
XAN				LR	LR		
	comp=Z,280nm,11.5s						
LZH	**Lanzhou**	**12.48 3**		*e*P	**Pn**	**20 44 02.6**	**+0.8**
LZH				pP		20 44 06.0	
LZH				sP		20 44 09.2	
LZH				PP	**PnPn**	**20 44 12.8**	**+3.0**
LZH				LE			
	comp=Z,280nm,10.6s						
LZH				LZ			
	comp=Z,330nm,12.7s						
GTA	**Gaotai**	**16.02 351**		*e*P	**P**	**20 44 54.7**	**+1.6**
GTA				pP	**pP**	**20 44 59.1**	**+3.2**
GTA				sP	sP	20 45 01.7	+4.5
GTA				PMZ			
	comp=Z,4.0nm,1.4s						
TIY	**Taiyuan**	**16.20 27**		*e*P	**P**	**20 44 54.1**	**-0.9**
TIY				S	**Sn**	**20 47 53.6**	**+2.0**
TIY				LE			
	comp=Z,290nm,11.1s						
TIY				LZ			
	comp=Z,440nm,10.7s						
PSI	**Prapat**	**21.05 192**		LR	LR	20 54 44.5	
	comp=Z,96nm,18.6s,baz=29,slow=39						
SONM	**Songino Array**	**24.34 5**		P	**P**	**20 46 20.6**	**-1.5**
	comp=Z,1.7nm,0.8s,baz=184,slow=9.4,SNR=10						
KSRS	**Korea Array**	**25.37 51**		LR	LR	20 56 07.3	
	comp=Z,36nm,18.5s,baz=258,slow=36						
JNU	**Nakatsue**	**26.17 63**		LR	LR	20 58 30.6	
	comp=Z,28nm,18.4s,baz=256,slow=40						
MKAR	**Makanchi Array**	**28.56 329**		P	**P**	**20 47 01.4**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=125,slow=10,SNR=3.9						
EKS2	**Erkin-Say**	**30.83 315**		*e*P	**P**	**20 47 20.4**	**+0.1**
	comp=Z,3.4nm,0.7s						
MJAR	**Matsushiro Arr**	**32.84 59**		LR	LR	21 02 27.7	
	comp=Z,20nm,21.4s,baz=295,slow=39						
KURBB	**Kurchatov Array**	**33.05 331**		P	**P**	**20 47 38.6**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=138,slow=9.2,SNR=11						
KURK	**Kurchatov**	**33.08 331**		P	**P**	**20 47 38.6**	**-1.1**
ZAA0	**Zalesovo Array**	**33.30 340**		*e*P	**P**	**20 47 39.4**	**-2.2**
ZALV	**Zalesovo Beam**	**33.30 340**		P	**P**	**20 47 40.2**	**-1.4**
	comp=Z,3.7nm,0.8s,baz=146,slow=8.2,SNR=15						
BVAR	**Borovoye Array**	**38.43 328**		P	**P**	**20 48 24.9**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=123,slow=11,SNR=6.5						
BRVK	**Borovoye**	**38.50 328**		P	**P**	**20 48 25.3**	**-1.0**
	comp=Z,2.3nm,0.7s						
DGAR	**Diego Garcia**	**42.96 228**		P	**P**	**20 49 06.0**	**+2.5**
	comp=Z,64nm,0.9s						
ARU	**Arti**	**46.04 327**		P	**P**	**20 49 27.3**	**-0.4**
	comp=Z,3.2nm,0.9s						
PETK	**Petropavlovsk-**	**50.38 40**		LR	LR	21 11 47.7	
	comp=Z,16nm,18.0s,baz=115,slow=37						
WRA	**Warramunga Arr**	**52.91 142**		P	**P**	**20 50 19.4**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=332,slow=8.4,SNR=5.4						
ILAR	**Eielson Array**	**77.01 24**		LR	LR	21 27 10.4	
	comp=Z,25nm,18.4s,baz=126,slow=36						

*NEIC **09** 20:49:30.2, 16.04N×98.15W, h10km, MD4.1(MEX), After MEX.*

MEX 09 20:49:30.3±0.6, 16.04N×98.15W, h9km±6km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.35 3**		*i* P	Pg	20 49 36.4	-0.9
PNIG				*i* S	Sg	20 49 42.2	+0.1
PNIG	**Pinotepa**	**0.35 3**		*i* P	Pg	20 49 36.4	-0.9
PNIG				*i* S	Sg	20 49 42.2	+0.1
TLIG	**Tlapa**	**1.57 345**		*e*P	Pn	20 49 55.6	-3.0
TLIG				*i* S	Sn	20 50 14.5	-4.7
VHO	**Vista Hermosa**	**1.70 53**		*i* P	Pn	20 49 56.7	-3.8
VHO				*e*S	Sn	20 50 17.8	-4.8
VHO	**Vista Hermosa**	**1.70 53**		*i* P	Pn	20 49 56.7	-3.8
VHO				*e*S	Sn	20 50 17.8	-4.8
OXX	**Oaxaca**	**1.71 53**		*e*P	Pn	20 49 58.6	-2.1
ACX	**Acapulco**	**1.84 297**		*e*P	Pn	20 49 59.0	-3.1
ACX	**Acapulco**	**1.84 297**		*e*P	Pn	20 49 59.0	-3.1
HUIG	**Huatulco**	**1.98 98**		*e*P	Pn	20 50 01.1	-2.9
HUIG				*i* S	Sn	20 50 24.9	-4.1
HUIG	**Huatulco**	**1.98 98**		*i* P	Pn	20 49 58.8	-5.2
HUIG				*e*S	Sn	20 50 19.8	-9.3
CAIG	**El Cayaco**	**2.27 297**		*e*P	Pn	20 50 04.5	-3.5
CAIG				*i* S	Sn	20 50 31.6	-4.5
CAIG	**El Cayaco**	**2.27 297**		*e*P	Pn	20 50 04.5	-3.5

*IDC **09** 20:50:09.5±4.9, 10.78N×61.95W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.6/33, mbtmp4.0/4, Error ellipse: s-maj=132.9km s-min=62.7km az=35.0*

*ISCJB **09** 20:50:17.2±0.3, 10.90N±0.02×61.82W±0.03, h69km±4km, mb3.8/4, Error ellipse: s-maj=5.4km s-min=3.2km az=26.9*

*FUNV **09** 20:50:18.8, 10.88N×61.69W, h36km, MW3.5*

*TRN **09** 20:50:19.4, 10.94N×61.74W, h41km, MD3.9*

TRN Felt North-west Trinidad, MMI III.

*NEIC **09** 20:50:19.6, 10.94N×61.72W, h40km, MD3.9(TRN), MW3.5(CAR), After TRN.*

NEIC Felt at Carenage, Diego Martin, Maraval, Saint Augustine, Saint James and Success Village-Laventille.

ISC 09 20:50:18.0±0.8, 10.91N±0.03×61.80W±0.03, h56km±6km, n58, σ1s28/87, mb3.9/4, 7C-3D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TCE	**Chacachacare**	**0.22 167**		*i* P	**Pn**	**20 50 27.1**	**-0.1**
TCE				*e*S	**Sn**	**20 50 33.5**	**-0.3**
TCE	**Chacachacare**	**0.22 167**		*i* P	**Pn**	**20 50 27.1**	**-0.1**
TCE				*e*S	**Sn**	**20 50 33.5**	**-0.3**
TRN	**Trinidad (W)**	**0.47 123**		*i* P	**Pn**	**20 50 29.2**	**-0.2**
TRN				*i* S	**Sn**	**20 50 36.4**	**-1.2**
TRN	**Trinidad (W)**	**0.47 123**		*i* P	**Pn**	**20 50 29.2**	**-0.2**
TRN				*i* S	**Sn**	**20 50 36.4**	**-1.2**
GUIV	**Guiria**	**0.49 238**		*e*P	**Pn**	**20 50 30.2**	**+0.7**
GUIV				*e*S	**Sn**	**20 50 38.8**	**+0.9**
TPP	**Pointe-a-Pierr**	**0.68 149**		*i* P	**Pn**	**20 50 32.1**	**+0.2**
TPP				*e*S	**Sn**	**20 50 42.8**	**+0.9**
TPP	**Pointe-a-Pierr**	**0.68 149**		*i* P	**Pn**	**20 50

BAUV	**El Baul**	**6.45**	**253**	*e*P	**Pn**	**20 51 49.8**	**-0.6**
BAUV				*e*S	**Sn**	**20 52 57.6**	**-5.1**
MAPV	**Macapo**	**6.63**	**261**	*e*P	**Pn**	**20 51 52.7**	**-0.3**
STVI	**Saint Thomas**	**8.00**	**338**	*e*Pn	**Pn**	**20 52 11.6**	**-0.1**
	37nm,0.4s						
SJG	**San Juan**	**8.30**	**330**	*e*Pn	**Pn**	**20 52 13.6**	**-2.2**
SJG				*e*Sn	Sn	20 53 40.1	-8.1
SDV	**Santo Domingo**	**8.93**	**258**	Pn	Pn	20 52 19.8	-4.8
SDV				*e*Sn	Sn	20 53 57.8	-6.1
AGPR	**Aguadilla, PR**	**9.10**	**326**	*e*Pn	**Pn**	**20 52 27.3**	**+0.6**
SDDR	**Presa de Saban**	**12.18**	**312**	*e*Pn	**Pn**	**20 53 08.9**	**+0.1**
SDDR				*e*Sn	Sn	20 55 15.6	-7.6
SAML	**Samuel**	**19.78**	**184**	P	**P**	**20 54 42.9**	**-0.8**
ESDC	**Sonseca Array**	**58.46**	**50**	P	**P**	**21 00 09.7**	**+1.1**
	0.5nm,0.8s,baz=260,slow=7.3,SNR=8.1						
TORD	**Torodi Ar. Bea**	**62.00**	**81**	P	**P**	**21 00 32.7**	**-0.4**
	0.3nm,0.3s,baz=289,slow=6.8,SNR=8.6						
ARCES	**ARCESS Array B**	**78.92**	**21**	P	**P**	**21 02 15.0**	**-0.2**
	2.4nm,1.0s,baz=262,slow=5.4,SNR=4.1						
FINES	**FINESS Array B**	**79.49**	**29**	P	**P**	**21 02 18.2**	**-0.3**
	1.3nm,0.7s,baz=262,slow=3.9,SNR=7.6						
CMAR	**Chiang Mai Arr**	**145.18**	**33**	PKPbc	**PKPdf**	**21 09 50.4**	**0.0**
	0.4nm,0.7s,baz=329,slow=4.3,SNR=5.1						

IDC 09 21:00:44.6±5.3, 13°28S×166°99E, h216km±54km, mb3.5/8, mb1 3.6/9, mb1mx3.4/21, mbtmp4.0/9, Error ellipse: s-maj=42.7km s-min=25.5km az=162.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.76**	**183**	P	Pn	21 02 48.4	+0.6
	0.6nm,0.3s,baz=270,slow=24,SNR=12						
DZM				S	S	21 04 25.7	-1.0
	0.2nm,0.3s,baz=90,slow=20,SNR=43						
CTA	**Charters Tower**	**20.98**	**248**	P	P	21 05 12.3	+1.0
	5.6nm,1.0s,baz=65,slow=9.0,SNR=3.1						
STKA	**Stephens Creek**	**29.75**	**227**	P	P	21 06 32.0	+1.1
	3.4nm,0.5s,baz=46,slow=8.5,SNR=9.6						
WRA	**Warramunga Arr**	**31.95**	**254**	P	P	21 06 48.8	-1.6
	1.0nm,0.6s,baz=84,slow=8.8,SNR=16						
ASAR	**Alice Springs**	**32.97**	**247**	P	P	21 06 58.2	-1.1
	2.2nm,0.6s,baz=75,slow=9.3,SNR=57						
CMAR	**Chiang Mai Arr**	**74.12**	**294**	P	P	21 11 58.4	+0.7
	0.6nm,0.8s,baz=139,slow=4.5,SNR=4.9						
SONM	**Songino Array**	**81.17**	**324**	P	P	21 12 36.9	+0.7
	0.3nm,0.5s,baz=125,slow=4.9,SNR=3.5						
ILAR	**Eielson Array**	**85.23**	**18**	P	P	21 12 55.1	-1.3
	0.5nm,0.6s,baz=231,slow=5.5,SNR=4.7						
MKAR	**Makanchi Array**	**95.97**	**317**	P	P	21 13 47.1	+0.1
	0.5nm,0.8s,baz=93,slow=7.2,SNR=4.1						
ARCES	**ARCESS Array B**	**118.78**	**346**	PKP	PKPdf	21 19 06.3	-0.1
	1.6nm,0.9s,baz=75,slow=1.6,SNR=7.6						
TORD	**Torodi Ar. Bea**	**165.68**	**271**	PKPab	PKPab	21 21 24.9	+0.3
	0.7nm,1.2s,baz=92,slow=4.6,SNR=4.5						

*ISCJB **09** 21:09:53.7±0.5, 10°90N±0°03×61°83W±0°04, h70km±6km, Error ellipse: s-maj=7.3km s-min=3.5km az=33.4*
*FUNV **09** 21:09:56.0, 10°84N×61°73W, h36km, MW3.6*
*TRN **09** 21:09:56.7, 10°98N×61°70W, h44km, MD3.9*
TRN Felt North-West Trinidad. MMI III.
*NEIC **09** 21:09:56.5, 10°98N×61°69W, h47km, MD3.9(TRN), MW3.6(CAR), After TRN.*
NEIC Felt on Trinidad.

ISC 09 21:09:54.1±1.2, 10°89N±0°03×61°83W±0°04, h70km±8km, n41, σ1°56/68, 2C-1D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TCE	**Chacachacare**	**0.21**	**160**	*e*P	**Pn**	**21 10 05.1**	**+0.4**
TCE				*e*S	**Sn**	**21 10 11.9**	**-0.7**
TCE	**Chacachacare**	**0.21**	**160**	*e*P	**Pn**	**21 10 05.1**	**+0.4**
TCE				*e*S	**Sn**	**21 10 11.9**	**-0.7**
GUIV	**Guiria**	**0.46**	**238**	*e*P	**Pn**	**21 10 06.9**	**+0.3**
GUIV				*e*S	**Sn**	**21 10 14.4**	**-1.3**
TRN	**Trinidad (W)**	**0.48**	**120**	⇑*i*P	**Pn**	**21 10 07.3**	**+0.6**
TRN				*e*S	**Sn**	**21 10 14.5**	**-1.4**
TRN	**Trinidad (W)**	**0.48**	**120**	⇑*i*P	**Pn**	**21 10 07.3**	**+0.6**
TRN				*e*S	**Sn**	**21 10 14.5**	**-1.4**
TPP	**Pointe-a-Pierr**	**0.68**	**147**	*e*P	**Pn**	**21 10 10.2**	**+1.5**
TPP				*e*S	**Sn**	**21 10 19.6**	**0.0**
TPP	**Pointe-a-Pierr**	**0.68**	**147**	*e*P	**Pn**	**21 10 10.2**	**+1.5**
TPP				*e*S	**Sn**	**21 10 19.6**	**0.0**
GRGR	**Grenville**	**1.24**	**8**	*e*P	**Pn**	**21 10 15.9**	**+0.2**
GRGR				*e*S	**Sn**	**21 10 30.8**	**-1.0**
GRGR	**Grenville**	**1.24**	**8**	*e*Pn	**Pn**	**21 10 15.9**	**+0.2**
GRGR				*e*Sn	**Sn**	**21 10 29.1**	**-2.8**
GUNV	**Guanoco**	**1.32**	**237**	*e*P	**Pn**	**21 10 18.4**	**+1.8**
GUNV				⇓*e*S	**Sn**	**21 10 34.4**	**+0.9**
CRUV	**Carupano**	**1.40**	**261**	*e*P	**Pn**	**21 10 19.0**	**+1.2**
CRUV				*e*S	**Sn**	**21 10 36.4**	**+0.8**
FCV	**Fort Charlotte**	**2.32**	**14**	*e*P	**Pn**	**21 10 31.5**	**+1.4**
FCV				*e*S	**Sn**	**21 10 56.3**	**-1.4**
FCV	**Fort Charlotte**	**2.32**	**14**	*e*P	**Pn**	**21 10 31.5**	**+1.4**
FCV				*e*S	**Sn**	**21 10 56.3**	**-1.4**
ORIV	**Oritupano**	**2.39**	**221**	*e*P	**Pn**	**21 10 32.6**	**+1.6**
ORIV				*e*S	**Sn**	**21 10 59.5**	**+0.1**
SVB	**Belmont**	**2.43**	**13**	*e*P	**Pn**	**21 10 33.3**	**+1.7**
SVB				*e*S	**Sn**	**21 10 58.8**	**-1.5**
SVB	**Belmont**	**2.43**	**13**	*e*P	**Pn**	**21 10 33.3**	**+1.7**
SVB				*e*S	**Sn**	**21 10 58.8**	**-1.5**
SVV	**Soufriere Volc**	**2.48**	**14**	*e*P	**Pn**	**21 10 33.6**	**+1.3**
SVV				*e*S	**Sn**	**21 10 59.9**	**-1.7**
SVV	**Soufriere Volc**	**2.48**	**14**	*e*P	**Pn**	**21 10 33.6**	**+1.3**
SVV				*e*S	**Sn**	**21 10 59.9**	**-1.7**
RIOV	**Rio Grande**	**2.81**	**180**	*e*P	**Pn**	**21 10 37.0**	**+0.3**
RIOV				*e*S	**Sn**	**21 11 07.3**	**-2.2**
PCRV	**Puerto La Cruz**	**2.85**	**256**	*e*P	**Pn**	**21 10 39.5**	**+2.1**
MCLT	**Moule a Chique**	**2.93**	**17**	*e*P	**Pn**	**21 10 39.7**	**+1.4**
MCLT				*e*S	**Sn**	**21 11 11.3**	**-1.2**
MCLT	**Moule a Chique**	**2.93**	**17**	*e*P	**Pn**	**21 10 39.7**	**+1.4**
MCLT				*e*S	**Sn**	**21 11 11.3**	**-1.2**
PRGV	**PARIAGUAN**	**3.50**	**233**	*e*P	**Pn**	**21 10 47.1**	**+1.0**
TRMF	**Trois Ilets**	**3.70**	**12**	*e*P	**Pn**	**21 10 50.8**	**+1.9**
ZAM	**Aeronautique**	**3.74**	**12**	*e*P	**Pn**	**21 10 51.3**	**+2.0**
MVM	**Montagne Vaucl**	**3.75**	**14**	*e*P	**Pn**	**21 10 52.0**	**+2.5**
LPMF	**Morne Lapointe**	**3.75**	**13**	*e*P	**Pn**	**21 10 51.6**	**+2.0**
FDF	**Fort de France**	**3.87**	**10**	*e*P	**Pn**	**21 10 53.1**	**+1.8**
FDF				*e*S	**Sn**	**21 11 36.0**	**+0.4**
FDF	**Fort de France**	**3.87**	**10**	*e*Pn	**Pn**	**21 10 52.5**	**+1.3**
FDF				*e*Sn	**Sn**	**21 11 34.8**	**-0.8**
BVM	**Bellevue**	**3.89**	**11**	*e*P	**Pn**	**21 10 51.2**	**-0.3**
ORCV	**Isla La Orchil**	**4.38**	**282**	*e*P	**Pn**	**21 10 59.0**	**+0.8**
BIRV	**Birongo**	**4.39**	**265**	*e*P	**Pn**	**21 10 60.0**	**+1.7**
BIRV				*e*S	**Sn**	**21 11 47.3**	**-0.8**
BBL	**Barber's Block**	**4.62**	**4**	*e*P	**Pn**	**21 11 03.3**	**+1.9**
MERV	**Las Mercedes**	**4.70**	**250**	*e*P	**Pn**	**21 11 03.7**	**+1.3**
MERV				*e*S	**Sn**	**21 11 54.1**	**-1.6**
LUEV	**Luepa**	**5.03**	**176**	*e*P	**Pn**	**21 11 06.2**	**-1.0**
LUEV				*e*S	Sn	21 11 58.9	-5.2
HMG	**Houelmont**	**5.06**	**1**	*e*P	**Pn**	**21 11 09.6**	**+2.1**
TURV	**Turiamo**	**5.93**	**266**	*e*P	**Pn**	**21 11 21.4**	**+2.1**
BAUV	**El Baul**	**6.42**	**253**	*e*P	**Pn**	**21 11 26.2**	**+0.1**
BAUV				*e*S	**Sn**	**21 12 33.9**	**-4.2**
MAPV	**Macapo**	**6.61**	**261**	*e*P	**Pn**	**21 11 29.8**	**+1.2**
MAPV				*e*S	**Sn**	**21 12 38.9**	**-3.8**
CURV	**Curarigua**	**8.05**	**265**	*e*P	**Pn**	**21 11 49.8**	**+1.4**
SOCV	**Socops**	**9.28**	**255**	*e*P	**Pn**	**21 12 04.8**	**-0.3**

CASC 09 21:29:44.7±1.8, 12°83N×88°90W, h8km±11km, MD4.4, ML3.4, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNVI	**San Vicente**	**0.78**	**4**	*e*P	Pb	21 30 00.6	-0.3
SNVI				*e*S	Sb	21 30 12.2	+0.4
LFRS	**El Faro**	**0.81**	**349**	*e*P	Pb	21 30 00.8	-0.4
LFRS				*e*S	Sb	21 30 12.4	0.0
VSM	**San Miguel**	**0.85**	**45**	*e*P	Pg	21 30 01.1	-0.4
SNET	**Serv Nac Est T**	**0.92**	**339**	AML	AML	21 30 16.4	
	comp=Z,1μm,0.3s						
LBRS	**Las Brisas**	**0.92**	**351**	*e*P	Pg	21 30 02.5	0.0
LFU	**La Fuente**	**0.94**	**347**	*e*P	Pg	21 30 02.6	-0.3
LFU				*e*S	Sg	21 30 15.0	-0.3
BOQS	**Boqueron**	**0.98**	**338**	*e*P	Pg	21 30 03.5	-0.3
BOQS				*e*S	Sb	21 30 17.1	-0.4
CNCH	**Conchagua**	**1.13**	**67**	*e*P	Pg	21 30 04.4	-2.2
CNCH				*e*S	Sg	21 30 20.3	-1.1
CAHU	**Cacacuatique**	**1.15**	**35**	*e*P	Pg	21 30 05.5	-1.7
SBLS	**San Blas**	**1.23**	**325**	*e*P	Pb	21 30 07.4	-1.2
SNJE	**San Jose**	**1.24**	**327**	*e*P	Pn	21 30 06.9	-1.8
RTR	**El Retiro**	**1.29**	**326**	*e*P	Pn	21 30 08.0	-1.4
RBDL	**Robledal**	**1.49**	**329**	*e*P	Pn	21 30 10.7	-1.4
IXG	**Ixpaco**	**2.02**	**312**	*e*P	Pn	21 30 17.7	-1.6
VCR	**Vista de Mar**	**4.18**	**130**	*e*P	Pn	21 30 48.0	-1.0
VCR				*e*S	Sg	21 31 56.2	-3.0
JCR	**Jicaral**	**4.75**	**128**	*e*P	Pn	21 30 56.2	-0.5
JCR				*e*S	Sb	21 32 03.5	-2.2
QCR	**Quepos**	**5.75**	**126**	*e*P	Pn	21 31 10.7	+0.3
URSC	**Urasca**	**5.83**	**120**	*e*P	Pn	21 31 13.6	+1.7
URSC				*e*S	Sn	21 32 21.3	+2.1
BUS	**Buena Vista**	**6.00**	**122**	*e*P	Pn	21 31 15.0	+0.6
BUS				*e*S	Sn	21 32 25.7	+1.9

*IDC **09** 21:38:39.2±7.7, 19°20S×168°98E, h83km±58km, mb3.8/3, mb1 4.0/4, mb1mx3.5/17, mbtmp4.1/4, ML4.1/1, Error ellipse: s-maj=77.0km s-min=55.9km az=136.0*

ISC 09 21:38:41.7±2.5, 19°45S×169°0E±0°4, h104km, n8, σ0°81/11, mb3.8/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**2.16**	**229**	*e*P	**Pn**	**21 39 16.7**	**+0.3**
LIFNC				*e*S	**Sn**	**21 39 42.6**	**-0.4**
DZM	**Mont Dzumac**	**3.59**	**221**	P	**Pn**	**21 39 35.9**	**+0.4**
	17nm,0.3s,baz=180,slow=0.7,SNR=211						
DZM				S	**Sn**	**21 40 16.4**	**-0.7**
	9.2nm,0.3s,baz=90,slow=20,SNR=5.2						
NOUC	**Port Laguerre**	**3.70**	**222**	*e*P	**Pn**	**21 39 37.8**	**+0.9**
NOUC				*e*S	**Sn**	**21 40 19.1**	**-0.5**
STKA	**Stephens Creek**	**27.57**	**238**	P	**P**	**21 44 19.9**	**+0.9**
	1.1nm,0.4s,baz=80,slow=11,SNR=3.3						
WRA	**Warramunga Arr**	**32.59**	**263**	P	**P**	**21 45 03.4**	**-0.1**
	0.6nm,0.5s,baz=89,slow=8.4,SNR=21						
ASAR	**Alice Springs**	**32.86**	**256**	P	**P**	**21 45 06.2**	**+0.4**
	2.0nm,0.4s,baz=85,slow=9.0,SNR=20						
GERES	**GERESS Array B**	**144.48**	**332**	PKP	**PKPab**	**21 58 04.4**	**0.0**
	0.3nm,0.7s,baz=19,slow=4.2,SNR=3.3						
TORD	**Torodi Ar. Bea**	**166.32**	**245**	PKPab	**PKPab**	**21 59 35.8**	**-1.5**
	0.6nm,1.0s,baz=118,slow=2.2,SNR=3.1						

*IDC **09** 22:00:16.1±1.0, 2°30S×136°62E, h0km, mb4.1/6, mb1 4.4/9, mb1mx4.0/36, mbtmp4.2/9, ML3.9/3, MS3.2/6, Ms1 3.2/6, ms1mx2.9/33, Error ellipse: s-maj=27.2km s-min=17.0km az=51.0*
*ISCJB **09** 22:00:19.4±0.4, 2°28S±0°04×136°59E±0°03, h42km, mb4.0/6, MS3.2/4, Error ellipse: s-maj=5.8km s-min=3.9km az=19.4.*
*DJA **09** 22:00:20.5±0.5, 2°S±4°×13°7E±°, h13km±4km, M4.6/10, mb4.5/3, mB5.3/3, MLv4.6/10, Mw(mB)4.7/3*

ISC 09 22:00:21.4±0.7, 2°28S±0°06×136°63E±0°04, h42km, n26, σ1°73/31, mb3.9/6, MS3.3/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.57**	**316**	P	Pn	22 00 28.7	-4.4
SRPI				S	**Sn**	**22 00 38.6**	**-2.8**
BAKI	**Biak**	**1.20**	**334**	P	Pn	22 00 38.1	-3.7
BAKI				S	**Sn**	**22 00 53.8**	**-3.1**
SMPI	**Sarmi**	**2.10**	**82**	P	**Pn**	**22 00 54.0**	**0.0**
SMPI				S	**Sn**	**22 01 19.6**	**+0.7**
RKPI	**Ransiki, Papua**	**2.57**	**287**	P	**Pn**	**22 00 59.9**	**-0.7**
RKPI				S	**Sn**	**22 01 35.2**	**+4.5**
GENI	**Genyem**	**3.54**	**95**	P	**Pn**	**22 01 14.1**	**+0.1**
JAY	**Jayapura**	**4.08**	**93**	P	**Pn**	**22 01 24.0**	**+2.7**
JAY	**Jayapura**	**4.08**	**93**	Pn	**Pn**	**22 01 21.2**	**-0.1**
	5.6nm,0.3s,baz=264,slow=9.9,SNR=44						
JAY				Sn	**Sn**	**22 02 08.4**	**+0.6**
	13nm,0.3s,baz=138,slow=22,SNR=11						
JAY	**Jayapura**	**4.08**	**93**	P	Pn	22 01 24.3	+3.0
	baz=4.2,SNR=3.1						
FAKI	**Fak Fak**	**4.43**	**262**	P	**Pn**	**22 01 26.4**	**+0.3**
FAKI				S	**Sn**	**22 02 15.7**	**-0.7**
FAKI	**Fak Fak**	**4.43**	**262**	P	**Pn**	**22 01 26.3**	**+0.2**
	baz=4.3,SNR=11						
SIJI	**Sorong**	**5.54**	**285**	Pn	**Pn**	**22 01 40.7**	**-0.8**
	5.1nm,0.3s,baz=152,slow=23,SNR=34						
SIJI				Sn	**Sn**	**22 02 43.8**	**-0.2**
	4.5nm,0.3s,baz=107,slow=19,SNR=6.8						
SIJI				LR	LR	22 04 21.7	
	comp=Z,347nm,19.9s,baz=62,slow=44						
SWI	**Sorong**	**5.55**	**285**	P	**Pn**	**22 01 43.1**	**+1.5**
	58nm,0.7s,1μm0.3nm						
SWI				S	**Sn**	**22 02 43.4**	**-0.8**
	58nm,0.7s,1μm0.3nm						
SWI	**Sorong**	**5.55**	**285**	P	**Pn**	**22 01 41.8**	**+0.2**
	baz=5.5,SNR=6.6						
NLAI	**Namlea**	**9.57**	**264**	P	**Pn**	**22 02 38.4**	**+1.7**
KDU	**Kakadu**	**11.13**	**202**	P	**Pn**	**22 02 56.5**	**-1.6**
	baz=11,SNR=7.8						
COEN	**Coen**	**13.28**	**151**	P	**Pn**	**22 03 27.1**	**-0.4**
	baz=13,SNR=12						
KNRA	**Kununurra**	**15.41**	**210**	P	**Pn**	**22 03 54.4**	**-1.6**
	baz=15,SNR=11						
WRA	**Warramunga Arr**	**17.70**	**187**	P	**Pn**	**22 04 22.1**	**-2.8**
	0.5nm,0.3s,baz=8.7,slow=12,SNR=27						
WRA				S	**Sn**	**22 07 37.9**	**-3.3**
	0.3nm,0.3s,baz=1.4,slow=23,SNR=6.4						
GUMO	**Guam**	**17.76**	**27**	LR	LR	22 11 08.4	
	comp=Z,23nm,18.8s,baz=99,slow=37						
ASAR	**Alice Springs**	**21.42**	**187**	P	**P**	**22 05 05.9**	**-0.1**
	12nm,0.5s,baz=10,slow=11,SNR=107						
ASAR				S	**S**	**22 09 02.2**	**+0.6**
	0.9nm,0.8s,baz=7.6,slow=24,SNR=2.6						
ASAR				LR	LR	22 14 15.2	
	comp=Z,169nm,21.2s,baz=8.5,slow=39						
STKA	**Stephens Creek**	**29.81**	**171**	P	**P**	**22 06 25.8**	**+1.3**
	2.1nm,0.4s,baz=343,slow=8.3,SNR=6.2						
STKA				LR	LR	22 17 29.1	
	comp=Z,81nm,21.5s,baz=16,slow=35						
JNU	**Nakatsue**	**35.63**	**352**	LR	LR	22 19 33.5	
	comp=Z,45nm,19.6s,baz=167,slow=32						
CMAR	**Chiang Mai Arr**	**42.43**	**301**	P	**P**	**22 08 13.6**	**+1.1**
	1.3nm,0.7s,baz=117,slow=6.6,SNR=12						
CMAR				LR	LR	22 26 51.6	
	comp=Z,14nm,19.6s,baz=305,slow=38						
MKAR	**Makanchi Array**	**66.19**	**323**	P	**P**	**22 11 19.1**	**+1.5**
	0.6nm,0.7s,baz=111,slow=6.6,SNR=4.2						
ZALV	**Zalesovo Beam**	**70.53**	**330**	P	**P**	**22 11 31.6**	**-0.2**
	0.3nm,0.3s,baz=94,slow=6.5,SNR=2.7						
VNDA	**Vanda**	**76.39**	**175**	P	**P**	**22 12 06.3**	**+0.3**
	1.4nm,0.7s,baz=330,slow=6.8,SNR=9.8						

*ISCJB **09** 22:01:09.9±0.5, 35°47N±0°03×22°30E±0°04, h44km, mb3.9/12, Error ellipse: s-maj=5.9km s-min=3.2km az=43.5*
*ATH **09** 22:01:11.9, 35°61N×22°47E, h69km±4km, ML3.6*
*CSEM **09** 22:01:12.1±0.3, 35°54N×22°40E, h71km±4km, ML3.6, Error ellipse: s-maj=7.9km s-min=3.1km az=42.0*
*THE **09** 22:01:12.5, 35°55N×22°44E, h60km±6km, ML3.8/7, Error ellipse: s-maj=6.3km s-min=1.1km az=62.0*
*IDC **09** 22:01:13.2±2.1, 35°65N×22°45E, h61km±24km, mb3.7/12, mb1 3.7/15, mb1mx3.6/40, mbtmp4.0/15, ML3.8/3, MS3.1/2, Ms1 3.1/2, ms1mx2.5/44, Error ellipse: s-maj=20.0km s-min=15.4km az=178.0*

ISC 09 22:01:11.2±0.7, 35°52N±0°05×22°38E±0°05, h44km, n218, σ1°29/233, mb4.0/12, 14C-6D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANKY	**Antikythira Is**	**0.82**	**65**	*e*P	**Pn**	**22 01 27.6**	**+1.1**
ANKY	**Antikythira Is**	**0.82**	**65**	*e*P	**Pn**	**22 01 27.6**	**+1.1**
ANKY				S	**Sn**	**22 01 38.8**	**+1.3**
ANKY	**Antikythira Is**	**0.82**	**65**	P	**Pn**	**22 01 27.5**	**+1.1**
ANKY				S	**Sn**	**22 01 38.8**	**+1.3**
KYTH	**Kithira**	**0.93**	**35**	*e*P	**Pn**	**22 01 28.7**	**+0.8**
KYTH	**Kithira**	**0.93**	**35**	*e*P	**Pn**	**22 01 28.7**	**+0.8**
KYTH	**Kithira**	**0.93**	**35**	P	**Pn**	**22 01 28.5**	**+0.6**
VLI	**Veliai**	**1.28**	**20**	*e*P	**Pn**	**22 01 34.2**	**+1.6**
VLI	**Veliai**	**1.28**	**20**	P	**Pn**	**22 01 34.1**	**+1.5**
VLI				S	**Sn**	**22 01 50.1**	**+1.5**
VLI	**Veliai**	**1.28**	**20**	P	**Pn**	**22 01 34.1**	**+1.5**
VLI				S	**Sn**	**22 01 50.1**	**+1.5**
PYL	**PYLOS**	**1.47**	**340**	*e*P	**Pn**	**22 01 34.9**	**-0.3**
PYL	**PYLOS**	**1.47**	**340**	P	**Pn**	**22 01 35.1**	**-0.1**
PYL	**PYLOS**	**1.47**	**340**	P	**Pn**	**22 01 35.1**	**-0.1**
VAM	**Vamos**	**1.49**	**94**	*e*P	**Pn**	**22 01 37.4**	**+1.9**
VAM	**Vamos**	**1.49**	**94**	*e*P	**Pn**	**22 01 37.4**	**+1.9**
GVD	**Gavdhos**	**1.55**	**115**	*e*P	**Pn**	**22 01 38.0**	**+1.6**
GVD	**Gavdhos**	**1.55**	**115**	P	**Pn**	**22 01 37.8**	**+1.4**
GVD				S	**Sn**	**22 01 56.0**	**+0.7**
GVD	**Gavdhos**	**1.55**	**115**	P	**Pn**	**22 01 37.8**	**+1.4**
GVD				S	**Sn**	**22 01 56.0**	**+0.7**
ITM	**Ithomi**	**1.70**	**348**	*e*P	**Pn**	**22 01 38.9**	**+0.5**
ITM	**Ithomi**	**1.70**	**348**	*e*P	**Pn**	**22 01 38.9**	**+0.5**
ITM				S	**Sn**	**22 02 00.8**	**+1.9**
ITM	**Ithomi**	**1.70**	**348**	P	**Pn**	**22 01 38.9**	**+0.5**
ITM				S	**Sn**	**22 02 00.8**	**+1.9**
VLX	**Vlachokerasia**	**1.85**	**360**	*e*P	**Pn**	**22 01 42.2**	**+1.7**
VLX	**Vlachokerasia**	**1.85**	**360**	*e*P	**Pn**	**22 01 42.2**	**+1.7**
VLX				S	**Sn**	**22 02 03.6**	**+0.9**
VLX	**Vlachokerasia**	**1.85**	**360**	P	**Pn**	**22 01 42.5**	**+2.0**
VLX				S	**Sn**	**22 02 03.6**	**+0.9**
KRND	**KRANIDI**	**1.96**	**18**	*e*P	**Pn**	**22 01 42.9**	**+0.9**
KRND	**KRANIDI**	**1.96**	**18**	*e*P	**Pn**	**22 01 42.9**	**+0.9**
KRND	**KRANIDI**	**1.96**	**18**	P	**Pn**	**22 01 42.9**	**+0.9**
MHLO	**Agia Marina, M**	**2.01**	**54**	*e*P	**Pn**	**22 01 43.4**	**+0.8**
MHLO	**Agia Marina, M**	**2.01**	**54**	*e*P	**Pn**	**22 01 43.4**	**+0.8**
MHLO	**Agia Marina, M**	**2.01**	**54**	P	**Pn**	**22 01 43.2**	**+0.6**
SIVA	**Sivas**	**2.05**	**103**	*e*P	**Pn**	**22 01 45.1**	**+1.9**
SIVA	**Sivas**	**2.05**	**103**	*e*P	**Pn**	**22 01 45.1**	**+1.9**
SIVA	**Sivas**	**2.05**	**103**	P	**Pn**	**22 01 45.2**	**+2.0**
IDI	**Anoyia**	**2.06**	**96**	P	**Pn**	**22 01 45.4**	**+2.0**
	7.8nm,0.3s,baz=234,slow=7.1,SNR=124						
IDI				S	**Sn**	**22 02 09.6**	**+1.6**
	39nm,0.3s,baz=297,slow=18,SNR=7.2						
DIDY	**Didyma**	**2.06**	**19**	*e*P	**Pn**	**22 01 44.2**	**+0.7**
DIDY	**Didyma**	**2.06**	**19**	P	**Pn**	**22 01 44.6**	**+1.1**
DIDY	**Didyma**	**2.06**	**19**	P	**Pn**	**22 01 44.6**	**+1.1**
AMT	**Artemida-Makis**	**2.08**	**345**	*e*P	**Pn**	**22 01 45.0**	**+1.3**
AMT	**Artemida-Makis**	**2.08**	**345**	*e*P	**Pn**	**22 01 45.0**	**+1.3**
AMT				S	**Sn**	**22 02 11.1**	**+2.7**
AMT	**Artemida-Makis**	**2.08**	**345**	P	**Pn**	**22 01 45.6**	**+1.9**
AMT				S	**Sn**	**22 02 11.1**	**+2.7**
DID	**Didima**	**2.10**	**19**	*e*P	**Pn**	**22 01 44.6**	**+0.7**
DID	**Didima**	**2.10**	**19**	P	**Pn**	**22 01 44.8**	**+0.9**
DID	**Didima**	**2.10**	**19**	P	**Pn**	**22 01 44.8**	**+0.9**
NAIG	**Nisos Aigina**	**2.40**	**21**	*e*P	**Pn**	**22 01 49.2**	**+1.1**
NAIG	**Nisos Aigina**	**2.40**	**21**	*e*P	**Pn**	**22 01 49.2**	**+1.1**
GUR	**Goura**	**2.41**	**359**	*e*P	**Pn**	**22 01 50.5**	**+2.2**
GUR	**Goura**	**2.41**	**359**	P	**Pn**	**22 01 50.2**	**+1.9**
GUR				S	**Sn**	**22 02 18.8**	**+2.2**
GUR	**Goura**	**2.41**	**359**	P	**Pn**	**22 01 50.2**	**+1.9**
GUR				S	**Sn**	**22 02 18.8**	**+2.2**
DRO	**Drossia**	**2.49**	**348**	*e*P	**Pn**	**22 01 50.8**	**+1.6**
DRO	**Drossia**	**2.49**	**348**	*e*P	**Pn**	**22 01 50.8**	**+1.6**
DRO	**Drossia**	**2.49**	**348**	P	**Pn**	**22 01 50.9**	**+1.7**
LOUT	**Loutraki**	**2.51**	**11**	*e*P	**Pn**	**22 01 52.3**	**+2.8**
LOUT	**Loutraki**	**2.51**	**11**	*e*P	**Pn**	**22 01 52.3**	**+2.8**
THAL	**Thalero**	**2.52**	**5**	*e*P	**Pn**	**22 01 51.0**	**+1.3**
THAL	**Thalero**	**2.52**	**5**	P	**Pn**	**22 01 50.8**	**+1.1**
THAL	**Thalero**	**2.52**	**5**	P	**Pn**	**22 01 50.8**	**+1.1**
ZKS	**Zakynthos**	**2.52**	**330**

SIGR	SIGRI	4.61	36	eP	Pn	22 02 18.3	0.0
ARG	Arkhangelos	4.72	80	eP	Pn	22 02 20.6	+0.8
ARG	Arkhangelos	4.72	80	eP	Pn	22 02 20.6	+0.8
KZN	Kozani	4.80	354	eP	Pn	22 02 21.9	+0.8
KZN	Kozani	4.80	354	eP	Pn	22 02 21.9	+0.8
OUR	Ouranopolis	4.97	14	eP	Pn	22 02 24.0	+0.7
OUR	Ouranopolis	4.97	14	eP	Pn	22 02 24.0	+0.7
HORT	Hortiatis	5.10	6	eP	Pn	22 02 25.4	+0.2
HORT	Hortiatis	5.10	6	eP	Pn	22 02 25.4	+0.2
FNA	Florina	5.31	352	eP	Pn	22 02 28.2	+0.1
FNA	Florina	5.31	352	eP	Pn	22 02 28.2	+0.1
SOH	Sokhos	5.35	8	eP	Pn	22 02 29.1	+0.6
SOH	Sokhos	5.35	8	eP	Pn	22 02 29.1	+0.6
GRG	Griva	5.43	0	eP	Pn	22 02 29.7	+0.1
GRG	Griva	5.43	0	eP	Pn	22 02 29.7	+0.1
OHR	Ohrid	5.72	348	*i* Pn	Pn	22 02 32.9	-0.7
OHR	Ohrid	5.72	348	*i* Pn	Pn	22 02 32.9	-0.7
VAY	Valandovo	5.79	1	*i* Pn	Pn	22 02 35.3	+0.6
VAY	Valandovo	5.79	1	*i* Pn	Pn	22 02 35.2	+0.6
MMB	Musomiste	6.15	9	ǁ*i*P	Pn	22 02 39.2	-0.3
MMB	Musomiste	6.15	9	ǁ*i*P	Pn	22 02 39.2	-0.3
SKO	Skopje	6.48	354	*i* Pn	Pn	22 02 44.1	0.0
SKO	Skopje	6.48	354	*i* Pn	Pn	22 02 44.1	0.0
KDZ	Kurdzhali	6.56	20	⇑*i*P	Pn	22 02 45.4	+0.2
KDZ	Kurdzhali	6.56	20	⇑*i*P	Pn	22 02 45.4	+0.2
VTS	Vitosha	7.09	5	⇑*i*P	Pn	22 02 53.2	+0.7
VTS	Vitosha	7.09	5	⇑*i*P	Pn	22 02 53.2	+0.7
STON	Ston	8.19	335	*e*Pn	Pn	22 03 04.1	-3.3
STON				S	Sn	22 04 28.4	-10
BRTR	**Keskin Array B**	**9.86**	**61**	P	**Pn**	**22 03 32.7**	**+2.2**
	0.4nm,0.3s,baz=244,slow=15,SNR=16						
GZR	**Gura Zlata**	**9.87**	**2**	⇑*i*P	**Pn**	**22 03 29.5**	**-1.0**
GZR	**Gura Zlata**	**9.87**	**2**	⇑*i*P	**Pn**	**22 03 29.5**	**-1.0**
LOT	**Lotru**	**9.97**	**6**	⇑*i*P	**Pn**	**22 03 31.8**	**-0.2**
LOT	**Lotru**	**9.97**	**6**	⇑*i*P	**Pn**	**22 03 31.8**	**-0.2**
BZS	**Buzias**	**10.10**	**357**	⇑*i*P	**Pn**	**22 03 31.2**	**-2.4**
VOIR		**10.11**	**11**	ǁ*i*P	**Pn**	**22 03 34.6**	**+0.8**
VOIR		**10.11**	**11**	ǁ*i*P	**Pn**	**22 03 34.6**	**+0.8**
UDBI	**Udbina**	**10.32**	**333**	*i* Pn	**Pn**	**22 03 35.5**	**-1.2**
UDBI				S	Sn	22 05 21.2	-10
NVLJ	**Novalja**	**10.71**	**330**	*e*Pn	**Pn**	**22 03 39.8**	**-2.0**
NVLJ				S	Sn	22 05 29.1	-11
PKSM	**Moragy**	**11.05**	**346**	ǁ*i*P	Pn	22 03 43.5	-3.0
MMAI	**Mount Meron Ar**	**11.06**	**99**	P	Pn	22 03 43.5	-3.3
	0.8nm,0.3s,baz=311,slow=12,SNR=9.6						
MMAI				S	Sn	22 05 43.2	-6.0
	2.5nm,0.3s,baz=312,slow=12,SNR=5.1						
DRGR		**11.26**	**1**	⇑*i*P	**Pn**	**22 03 48.4**	**-1.2**
DRGR		**11.26**	**1**	⇑*i*P	**Pn**	**22 03 48.4**	**-1.2**
EIL	**Elat**	**12.09**	**115**	P	**Pn**	**22 03 58.8**	**-2.1**
	0.3nm,0.3s,baz=42,slow=1.5,SNR=8.8						
EIL				S	Sn	22 06 04.6	-10
	1.6nm,0.3s,baz=74,slow=19,SNR=6.0						
SOKA	**Soboth**	**12.44**	**336**	ǁ*i*Pn	Pn	22 04 02.1	-3.5
OBKA	**Obir**	**12.46**	**334**	⇑*i*Pn	**Pn**	**22 04 03.7**	**-2.3**
MOA	**Molln**	**13.72**	**336**	⇑*i*Pn	**Pn**	**22 04 20.9**	**-2.2**
VRAC	**Vranov**	**14.42**	**345**	LR	LR	22 10 44.9	
	comp=2,55nm,20.1s,baz=174,slow=40						
GERES	**GERESS Array B**	**14.77**	**337**	P	Pn	22 04 33.4	-3.9
	0.2nm,0.3s,baz=155,slow=13,SNR=5.1						
GERES				LR	LR	22 11 42.0	
	comp=Z,118nm,18.8s,baz=154,slow=43						
AKASG	**Malin Array Be**	**15.96**	**16**	P	**Pn**	**22 04 52.2**	**-0.4**
	3.8nm,0.3s,baz=191,slow=9.7,SNR=11						
ESDC	**Sonseca Array**	**21.25**	**289**	P	**P**	**22 05 55.0**	**+1.3**
	0.3nm,0.4s,baz=90,slow=11,SNR=6.1						
OBN	**Obninsk**	**21.98**	**22**	P	**P**	**22 05 59.0**	**-1.4**
	7.8nm,0.4s,baz=61,slow=21,SNR=3.2						
HFS	**Hagfors**	**25.27**	**350**	P	**P**	**22 06 32.2**	**-0.8**
	1.6nm,0.4s,baz=160,slow=11,SNR=29						
FINES	**FINESS Array B**	**26.05**	**4**	P	**P**	**22 06 38.9**	**-1.2**
	1.0nm,0.5s,baz=164,slow=12,SNR=14						
EKA	**Eskdalemuir Ar**	**26.46**	**326**	P	**P**	**22 06 43.9**	**0.0**
	2.0nm,0.5s,baz=127,slow=8.9,SNR=26						
NB2	**NORSAR Subarra**	**26.52**	**348**	P	**P**	**22 06 43.0**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=159,slow=9.3						
NB2	**NORSAR Subarra**	**26.52**	**348**	P	**P**	**22 06 43.0**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=159,slow=9.0,SNR=3.5						
NOA	**NORSAR Array B**	**26.52**	**348**	P	**P**	**22 06 43.4**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=159,slow=9.1,SNR=9.8						
TORD	**Torodi Ar. Bea**	**29.06**	**225**	P	**P**	**22 07 08.8**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=32,slow=9.0,SNR=11						
AKTO	**Aktyubinsk**	**29.70**	**49**	P	**P**	**22 07 11.8**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=268,slow=3.1,SNR=5.2						
ARCES	**ARCESS Array B**	**34.11**	**2**	P	**P**	**22 07 50.8**	**-0.5**
	comp=Z,1.8nm,0.4s,baz=185,slow=9.5,SNR=35						
MKAR	**Makanchi Array**	**45.47**	**57**	P	**P**	**22 09 25.6**	**-0.4**
	comp=Z,1.5nm,0.3s,baz=273,slow=7.7,SNR=7.7						
ZALV	**Zalesovo Beam**	**46.40**	**46**	P	**P**	**22 09 32.5**	**-0.6**
	comp=Z,1.5nm,0.3s,baz=270,slow=7.8,SNR=9.6						
SONM	**Songino Array**	**61.00**	**50**	P	**P**	**22 11 20.0**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=280,slow=6.4,SNR=3.8						

IDC ***09*** *22:13:09.4± 0.9, 35°.70N × 22°.39E, h0km, mb4.0/17, mb1 4.0/23, mb1mx3.9/51, mbtmp3.9/23, ML3.6/7, Error ellipse: s-maj=19.3km s-min=13.3km az=13.0*
THE ***09*** *22:13:12.7, 35°.49N × 22°.24E, h2km ± 1km, ML3.9/10, Error ellipse: s-maj=1.5km s-min=0.6km az=206.0*
CSEM ***09*** *22:13:12.7 ± 0.4, 35°.42N × 22°.22E, h20km, ML3.8, Error ellipse: s-maj=8.7km s-min=4.1km az=35.0*
ATH ***09*** *22:13:15.1, 35°.57N × 22°.41E, h42km ± 1km, ML3.8*

ISC 09 22:13:12.4 ± 1.3, 35°.48N ± 0°.04 × 22°.27E ± 0°.03, h26km ± 10km, n219, σ1§74/251, mb4.0/17, 9C-11D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.93**	**65**	*e*P	**Pn**			**22 13 30.8**	**+1.1**
ANKY				*e*S	**Sn**			**22 13 42.4**	**+0.3**
ANKY	**Antikythira Is**	**0.93**	**65**	*e*P	**Pn**			**22 13 30.8**	**+1.1**
ANKY				S	**Sn**			**22 13 43.9**	**+1.8**
ANKY	**Antikythira Is**	**0.93**	**65**	P	**Pn**			**22 13 30.6**	**+0.9**
ANKY				S	**Sn**			**22 13 43.9**	**+1.8**
KYTH	**Kithira**	**1.01**	**38**	*e*P	**Pb**			**22 13 32.3**	**+0.9**
KYTH	**Kithira**	**1.01**	**38**	*e*P	**Pb**			**22 13 32.3**	**+0.9**
KYTH	**Kithira**	**1.01**	**38**	P	**Pb**			**22 13 32.0**	**+0.6**
VLI	**Veliai**	**1.35**	**23**	*e*P	**Pb**			**22 13 37.6**	**+0.6**
VLI				*e*S	**Sb**			**22 13 53.5**	**+0.9**
VLI	**Veliai**	**1.35**	**23**	P	**Pb**			**22 13 37.6**	**+0.6**
VLI				S	**Sb**			**22 13 56.8**	**+2.9**
VLI	**Veliai**	**1.35**	**23**	P	**Pb**			**22 13 37.6**	**+0.6**
VLI				S	**Sb**			**22 13 56.8**	**+2.9**
PYL	**PYLOS**	**1.48**	**343**	*e*P	**Pn**			**22 13 38.2**	**+0.9**
PYL				*e*S	**Sb**			**22 13 59.2**	**+1.7**
PYL	**PYLOS**	**1.48**	**343**	P	**Pb**			**22 13 38.5**	**-0.7**
PYL				*e*S	**Sb**			**22 13 59.2**	**+1.7**
PYL	**PYLOS**	**1.48**	**343**	P	**Pb**			**22 13 38.5**	**-0.7**
PYL				S	**Sb**			**22 13 59.4**	**+1.9**
VAM	**Vamos**	**1.58**	**92**	*e*P	**Pb**			**22 13 40.7**	**-0.2**
VAM				*e*S	**Sb**			**22 13 59.2**	**-1.3**
VAM	**Vamos**	**1.58**	**92**	*e*P	**Pb**			**22 13 40.7**	**-0.2**
VAM				*e*S	**Sb**			**22 13 59.2**	**-1.3**
GVD	**Gavdhos**	**1.62**	**113**	*e*P	**Pb**			**22 13 41.4**	**-0.3**
GVD				*e*S	**Sb**			**22 14 01.5**	**-0.2**
GVD	**Gavdhos**	**1.62**	**113**	P	**Pb**			**22 13 41.1**	**-0.6**
GVD				S	**Sb**			**22 14 04.5**	**+2.8**
ITM	**Ithomi**	**1.72**	**351**	*e*P	**Pb**			**22 13 42.5**	**-0.8**
ITM				*e*S	**Sb**			**22 14 04.0**	**-0.5**
ITM	**Ithomi**	**1.72**	**351**	P	**Pb**			**22 13 42.5**	**-0.8**
ITM				*e*S	**Sb**			**22 14 04.0**	**-0.5**
ITM	**Ithomi**	**1.72**	**351**	P	**Pb**			**22 13 42.5**	**-0.8**
ITM				S	**Sb**			**22 14 05.4**	**+0.9**
VLX	**Vlachokerasia**	**1.89**	**3**	*e*P	**Pb**			**22 13 46.1**	**-0.2**
VLX	**Vlachokerasia**	**1.89**	**3**	P	**Pb**			**22 13 45.4**	**-0.9**
VLX				S	**Sb**			**22 14 09.5**	**0.0**
VLX	**Vlachokerasia**	**1.89**	**3**	P	**Pb**			**22 13 45.4**	**-0.9**
VLX				S	**Sb**			**22 14 09.5**	**0.0**
KRND	**KRANIDI**	**2.03**	**20**	*e*P	**Pn**			**22 13 46.4**	**+1.5**
KRND	**KRANIDI**	**2.03**	**20**	P	**Pn**			**22 13 46.4**	**+1.5**
KRND				S	**Sb**			**22 14 13.7**	**+0.3**
KRND	**KRANIDI**	**2.03**	**20**	P	**Pn**			**22 13 46.4**	**+1.5**
KRND				S	**Sb**			**22 14 13.7**	**+0.3**
AMT	**Artemida-Makis**	**2.10**	**348**	*e*P	**Pb**			**22 13 48.5**	**-1.3**
AMT	**Artemida-Makis**	**2.10**	**348**	P	**Pb**			**22 13 47.5**	**+1.6**
AMT				S	**Sb**			**22 14 15.1**	**-0.3**
AMT	**Artemida-Makis**	**2.10**	**348**	P	**Pb**			**22 13 47.5**	**+1.6**
AMT				S	**Sb**			**22 14 15.1**	**-0.3**
MHLO	**Agia Marina, M**	**2.11**	**54**	*e*P	**Pn**			**22 13 46.9**	**+0.9**
MHLO				S	**Sb**			**22 14 16.2**	**+0.5**
MHLO	**Agia Marina, M**	**2.11**	**54**	P	**Pn**			**22 13 46.7**	**+0.7**
MHLO				S	**Sb**			**22 14 16.2**	**+0.5**
SIVA	**Sivas**	**2.13**	**102**	P	**Pb**			**22 13 48.9**	**-1.4**
SIVA				S	**Sb**			**22 14 17.1**	**+0.8**
SIVA	**Sivas**	**2.13**	**102**	P	**Pb**			**22 13 48.9**	**-1.4**
SIVA				S	**Sb**			**22 14 17.1**	**+0.8**
DIDY	**Didyma**	**2.13**	**21**	*e*P	**Pn**			**22 13 48.6**	**+2.2**
DIDY	**Didyma**	**2.13**	**21**	P	**Pn**			**22 13 48.4**	**+2.0**
DIDY	**Didyma**	**2.13**	**21**	P	**Pn**			**22 13 48.4**	**+2.0**
IDI	**Anoyia**	**2.15**	**94**	Pn	**Pn**			**22 13 47.3**	**+0.7**
	3.4nm,0.3s,baz=277,slow=16,SNR=35								
IDI				Sn	**Sn**			**22 14 14.5**	**+2.0**
	17nm,0.3s,baz=285,slow=20,SNR=6.8								
DID	**Didima**	**2.17**	**21**	*e*P	**Pn**			**22 13 48.3**	**+1.5**
DID	**Didima**	**2.17**	**21**	P	**Pn**			**22 13 48.6**	**+1.8**
DID				S	**Sb**			**22 14 17.7**	**+0.3**
DID	**Didima**	**2.17**	**21**	P	**Pn**			**22 13 48.6**	**+1.8**
DID				S	**Sb**			**22 14 17.7**	**+0.3**
GUR	**Goura**	**2.45**	**1**	*e*P	**Pb**			**22 13 53.7**	**-2.2**
GUR	**Goura**	**2.45**	**1**	P	**Pn**			**22 13 53.2**	**+2.4**
GUR				S	**Sb**			**22 14 24.3**	**-1.4**
GUR	**Goura**	**2.45**	**1**	P	**Pn**			**22 13 53.2**	**+2.4**
GUR				S	**Sb**			**22 14 24.3**	**-1.4**
NAIG	**Nisos Aigina**	**2.48**	**23**	*e*P	**Pn**			**22 13 52.7**	**+1.7**
NAIG	**Nisos Aigina**	**2.48**	**23**	*e*P	**Pn**			**22 13 52.7**	**+1.7**
DRO	**Drossia**	**2.51**	**350**	*e*P	**Pb**			**22 13 54.5**	**-2.3**
DRO	**Drossia**	**2.51**	**350**	P	**Pb**			**22 13 53.8**	**+2.3**
DRO	**Drossia**	**2.51**	**350**	P	**Pn**			**22 13 53.8**	**+2.3**
ZKS	**Zakynthos**	**2.51**	**332**	*e*P	**Pn**			**22 13 53.4**	**+1.8**
ZKS	**Zakynthos**	**2.51**	**332**	*e*P	**Pn**			**22 13 53.4**	**+1.8**
ZKS				S	**Sb**			**22 14 25.6**	**-1.8**
ZKS	**Zakynthos**	**2.51**	**332**	P	**Pn**			**22 13 53.2**	**+1.6**
ZKS				S	**Sb**			**22 14 25.6**	**-1.8**
KLV	**Kalavryta, Ach**	**2.56**	**358**	*e*P	**Pn**			**22 13 55.2**	**+2.9**
KLV	**Kalavryta, Ach**	**2.56**	**358**	P	**Pn**			**22 13 55.0**	**+2.7**
KLV	**Kalavryta, Ach**	**2.56**	**358**	P	**Pn**			**22 13 55.0**	**+2.7**
LOUT	**Loutraki**	**2.57**	**13**	*e*P	**Pb**			**22 13 55.5**	**-2.3**
LOUT	**Loutraki**	**2.57**	**13**	*e*P	**Pb**			**22 13 55.5**	**-2.3**
THAL	**Thalero**	**2.57**	**7**	*e*P	**Pn**			**22 13 55.2**	**+2.9**
THAL	**Thalero**	**2.57**	**7**	P	**Pn**			**22 13 54.9**	**+2.6**
THAL				S	**Sb**			**22 14 27.9**	**-1.1**
THAL	**Thalero**	**2.57**	**7**	P	**Pn**			**22 13 54.9**	**+2.6**
THAL				S	**Sb**			**22 14 27.9**	**-1.1**
LTK	**Loutraki**	**2.60**	**12**	*e*P	**Pn**			**22 13 55.4**	**+2.6**
LTK	**Loutraki**	**2.60**	**12**	P	**Pn**			**22 13 55.2**	**+2.4**
LTK	**Loutraki**	**2.60**	**12**	P	**Pn**			**22 13 55.2**	**+2.4**
LAST	**Lasithi**	**2.64**	**96**	*e*P	**Pb**			**22 13 56.3**	**-2.8**
LAST	**Lasithi**	**2.64**	**96**	P	**Pn**			**22 13 55.9**	**+2.5**
LAST	**Lasithi**	**2.64**	**96**	P	**Pn**			**22 13 55.9**	**+2.5**
RLS	**Riolos of Patr**	**2.65**	**346**	*e*P	**Pn**			**22 13 56.4**	**+3.0**
RLS	**Riolos of Patr**	**2.65**	**346**	P	**Pn**			**22 13 56.0**	**+2.6**
RLS	**Riolos of Patr**	**2.65**	**346**	P	**Pn**			**22 13 56.0**	**+2.6**
ATH	**Athens Observa**	**2.75**	**25**	*e*P	**Pn**			**22 13 56.2**	**+1.5**
ATH	**Athens Observa**	**2.75**	**25**	*e*P	**Pn**			**22 13 56.2**	**+1.5**
LAKA	**Lakka**	**2.77**	**355**	*e*P	Pn			22 13 58.2	+3.2
LAKA	**Lakka**	**2.77**	**355**	P	**Pn**			**22 13 58.0**	**+3.0**
LAKA	**Lakka**	**2.77**	**355**	P	**Pn**			**22 13 58.0**	**+3.0**
VILL	**Villia**	**2.81**	**17**	P	**Pn**			**22 13 57.8**	**+2.2**
VILL				S	**Sb**			**22 14 33.2**	**-2.6**
VILL	**Villia**	**2.81**	**17**	P	**Pn**			**22 13 57.8**	**+2.2**
VILL				S	**Sb**			**22 14 33.2**	**-2.6**
VILL	**Platees**	**2.84**	**16**	*e*P	**Pn**			**22 13 57.7**	**+0.9**
PTL	**Penteli**	**2.87**	**26**	*e*P	**Pn**			**22 13 58.1**	**+1.7**
PTL	**Penteli**	**2.87**	**26**	*e*P	**Pn**			**22 13 58.1**	**+1.7**
KFL	**Anninata**	**2.88**	**336**	P	**Pn**			**22 13 58.5**	**+1.9**
KFL				S	**Sb**			**22 14 35.2**	**-2.7**
KFL	**Anninata**	**2.88**	**336**	P	**Pn**			**22 13 58.5**	**+1.9**
KFL				S	**Sb**			**22 14 35.2**	**-2.7**
TRIZ	**Trizonia**	**2.88**	**357**	*e*P	**Pn**			**22 13 59.3**	**+2.7**
TRIZ	**Trizonia**	**2.88**	**357**	*e*P	**Pn**			**22 13 59.3**	**+2.7**
TRIZ	**Trizonia**	**2.88**	**357**	P	**Pn**			**22 13 59.4**	**+2.8**
KALE	**Kalithea**	**2.91**	**358**	*e*P	**Pn**			**22 13 59.4**	**+2.4**
KALE	**Kalithea**	**2.91**	**358**	*e*P	**Pn**			**22 13 59.4**	**+2.4**
KALE	**Kalithea**	**2.91**	**358**	P	**Pn**			**22 13 59.5**	**+2.4**
DSF	**Desfina**	**2.93**	**4**	*e*P	**Pn**			**22 13 58.7**	**+1.3**
DSF	**Desfina**	**2.93**	**4**	P	**Pn**			**22 13 58.9**	**+1.5**
DSF				S	**Sn**			**22 14 36.0**	**+4.2**
DSF	**Desfina**	**2.93**	**4**	P	**Pn**			**22 13 58.9**	**+1.5**
DSF				S	**Sn**			**22 14 36.0**	**+4.2**
SERG	**Sergoula**	**2.93**	**357**	P	**Pn**			**22 14 00.1**	**+2.8**
SERG	**Sergoula**	**2.93**	**357**	P	**Pn**			**22 14 00.1**	**+2.8**
EFP	**Efpalio**	**2.96**	**354**	*e*P	**Pn**			**22 14 00.7**	**+3.1**
EFP	**Efpalio**	**2.96**	**354**	*e*P	**Pn**			**22 14 00.7**	**+3.1**
VLS	**Valsamata**	**3.01**	**334**	*e*P	Pn			22 14 01.8	+3.4
VLS	**Valsamata**	**3.01**	**334**	P	**Pn**			**22 14 00.1**	**+1.7**
VLS				S	**Sn**			**22 14 37.4**	**+3.8**
VLS	**Valsamata**	**3.01**	**334**	P	**Pn**			**22 14 00.1**	**+1.7**
VLS				S	**Sn**			**22 14 37.4**	**+3.8**
APE	**Apeiranthos**	**3.08**	**58**	⇑*i*P	**Pn**			**22 14 01.3**	**+2.0**
APE	**Apeiranthos**	**3.08**	**58**	⇑*i*P	**Pn**			**22 14 01.3**	**+2.0**
KARY	**Karystos**	**3.08**	**34**	P	**Pn**			**22 14 00.6**	**+1.2**
LKR	**Lokris**	**3.22**	**10**	*e*P	**Pn**			**22 14 02.8**	**+1.6**
LKR	**Lokris**	**3.22**	**10**	P	**Pn**			**22 14 03.0**	**+1.8**
LKR	**Lokris**	**3.22**	**10**	P	**Pn**			**22 14 03.0**	**+1.8**
EREA	**Eretria**	**3.22**	**24**	*e*P	**Pn**			**22 14 02.3**	**+1.0**
EREA	**Eretria**	**3.22**	**24**	*e*P	**Pn**			**22 14 02.3**	**+1.0**
PDO	**Prodromos**	**3.23**	**345**	*e*P	**Pn**			**22 14 04.2**	**+2.8**
PDO	**Prodromos**	**3.23**	**345**	*e*P	**Pn**			**22 14 04.2**	**+2.8**
PDO	**Prodromos**	**3.23**	**345**	P	**Pn**			**22 14 04.5**	**+3.1**
EXG	**Exogi**	**3.25**	**337**	P	**Pn**			**22 14 03.8**	**+2.1**
EXG	**Exogi**	**3.25**	**337**	P	**Pn**			**22 14 03.8**	**+2.1**
ATAL	**Atalanti**	**3.26**	**10**	P	**Pn**			**22 14 03.8**	**+1.9**
ATAL	**Atalanti**	**3.26**	**10**	P	**Pn**			**22 14 03.8**	**+1.9**
AXAR	**Agios Charalam**	**3.29**	**5**	*e*P	**Pn**			**22 14 04.3**	**+2.0**
AXAR	**Agios Charalam**	**3.29**	**5**	*e*P	**Pn**			**22 14 04.3**	**+2.0**
AXAR	**Agios Charalam**	**3.29**	**5**	P	**Pn**			**22 14 04.5**	**+2.2**
MRKA	**Markates**	**3.39**	**18**	*e*P	**Pn**			**22 14 05.7**	**+2.1**
MRKA	**Markates**	**3.39**	**18**	*e*P	**Pn**			**22 14 05.7**	**+2.1**
EVR	**Evrytania**	**3.45**	**354**	*e*P	Pn			22 14 08.4	+3.9
EVR	**Evrytania**	**3.45**	**354**	*e*P	Pn			22 14 08.4	+3.9
SMIA	**Simia**	**3.48**	**12**	*e*P	**Pn**			**22 14 06.6**	**+1.8**
SMIA	**Simia**	**3.48**	**12**	*e*P	**Pn**			**22 14 06.6**	**+1.8**
SMIA	**Simia**	**3.48**	**12**	P	**Pn**			**22 14 06.3**	**+1.5**
MAKR	**Makrakomi, Fth**	**3.53**	**358**	*e*P	Pn			22 14 08.8	+3.3
MAKR	**Makrakomi, Fth**	**3.53**	**358**	*e*P	Pn			22 14 08.8	+3.3
MAKR	**Makrakomi, Fth**	**3.53**	**358**	P	Pn			22 14 09.0	+3.5
DSL	**Palaion Diasel**	**3.77**	**346**	*e*P	**Pn**			**22 14 11.2**	**+2.4**
DSL	**Palaion Diasel**	**3.77**	**346**	P	**Pn**			**22 14 11.0**	**+2.2**
DSL	**Palaion Diasel**	**3.77**	**346**	P	**Pn**			**22 14 11.0**	**+2.2**
NEO	**Neokhori**	**3.90**	**11**	*e*P	**Pn**			**22 14 12.4**	**+1.8**
NEO	**Neokhori**	**3.90**	**11**	*e*P	**Pn**			**22 14 12.4**	**+1.8**
AOS	**Alonnisos**	**3.90**	**19**	*e*P	**Pn**			**22 14 12.2**	**+1.6**
AOS	**Alonnisos**	**3.90**	**19**	*e*P	**Pn**			**22 14 12.2**	**+1.6**
XOR	**Xorichti**	**3.95**	**10**	*e*P	**Pn**			**22 14 12.7**	**+1.4**
XOR	**Xorichti**	**3.95**	**10**	*e*P	**Pn**			**22 14 12.7**	**+1.4**
KARP	**Karpathos**	**3.99**	**88**	*e*P	**Pn**			**22 14 14.4**	**+2.5**
KARP	**Karpathos**	**3.99**	**88**	*e*P	**Pn**			**22 14 14.4**	**+2.5**
THL	**Klokotos Trika**	**4.08**	**357**	*e*P	**Pn**			**22 14 14.9**	**+1.8**
THL	**Klokotos Trika**	**4.08**	**357**	*e*P	**Pn**			**22 14 14.9**	**+1.8**
SMG	**Samos**	**4.30**	**57**	*e*P	**Pn**			**22 14 17.3**	**+1.2**
SMG	**Samos**	**4.30**	**57**	*e*P	**Pn**			**22 14 17.3**	**+1.2**
JAN	**Janina**	**4.32**	**345**	*e*P	**Pn**			**22 14 18.2**	**+1.8**
JAN	**Janina**	**4.32**	**345**	*e*P	**Pn**			**22 14 18.2**	**+1.8**
PAIG	**Paliouri**	**4.58**	**14**	*e*P	**Pn**			**22 14 21.5**	**+1.6**
PAIG	**Paliouri**	**4.58**	**14**	*e*P	**Pn**			**22 14 21.5**	**+1.6**
LIT	**Litokhoron**	**4.62**	**2**	*e*P	**Pn**			**22 14 22.3**	**+1.8**
LIT	**Litokhoron**	**4.62**	**2**	*e*P	**Pn**			**22 14 22.3**	**+1.8**
ARG	**Arkhangelos**	**4.81**	**80**	*e*P	**Pn**			**22 14 24.0**	**+0.8**
ARG	**Arkhangelos**	**4.81**	**80**	*e*P	**Pn**			**22 14 24.0**	**+0.8**
KZN	**Kozani**	**4.83**	**355**	*e*P	**Pn**			**22 14 25.4**	**+1.9**
KZN	**Kozani**	**4.83**	**355**	*e*P	**Pn**			**22 14 25.4**	**+1.9**
PLG	**Polygyros**	**4.97**	**10**	*e*P	**Pn**			**22 14 26.2**	**+0.8**
PLG	**Polygyros**	**4.97**	**10**	*e*P	**Pn**			**22 14 26.2**	**+0.8**
OUR	**Ouranopolis**	**5.03**	**15**	*e*P	**Pn**			**22 14 27.1**	**+1.0**
OUR	**Ouranopolis**	**5.03**	**15**	*e*P	**Pn**			**22 14 27.1**	**+1.0**
HORT	**Hortiatis**	**5.15**	**7**	*e*P	**Pn**			**22 14 28.5**	**+0.6**
HORT	**Hortiatis**	**5.15**	**7**	*e*P	**Pn**			**22 14 28.5**	**+0.6**
THE	**Thessaloniki**	**5.17**	**6**	*e*P	**Pn**			**22 14 28.4**	**+0.3**
THE	**Thessaloniki**	**5.17**	**6**	*e*P	**Pn**			**22 14 28.4**	**+0.3**
FNA	**Florina**	**5.34**	**353**	*e*P	**Pn**			**22 14 31.4**	**+0.9**
FNA	**Florina**	**5.34**	**353**	*e*P	**Pn**			**22 14 31.4**	**+0.9**
SOH	**Sokhos**	**5.40**	**9**	*e*P	**Pn**			**22 14 32.4**	**+1.1**
SOH	**Sokhos**	**5.40**	**9**	*e*P	**Pn**			**22 14 32.4**	**+1.1**
GRG	**Griva**	**5.47**	**1**	*e*P	**Pn**			**22 14 33.1**	**+0.9**
GRG	**Griva**	**5.47**	**1**	*e*P	**Pn**			**22 14 33.1**	**+0.9**
KNT	**Kendrikon**	**5.70**	**5**	*e*P	**Pn**			**22 14 36.1**	**+0.8**
KNT	**Kendrikon**	**5.70**	**5**	*e*P	**Pn**			**22 14 36.1**	**+0.8**
SRS	**Serrai**	**5.72**	**10**	*e*P	**Pn**			**22 14 36.5**	**+0.8**
SRS	**Serrai**	**5.72**	**10**	*e*P	**Pn**			**22 14 36.5**	**+0.8**
NVR	**Nevrokopi**	**5.99**	**12**	*e*P	**Pn**			**22 14 39.7**	**+0.3**
NVR	**Nevrokopi**	**5.99**	**12**	*e*P	**Pn**			**22 14 39.7**	**+0.3**
MMB	**Musomiste**	**6.21**	**10**	ǁ*i*P	**Pn**			**22 14 42.6**	**+0.3**
MMB	**Musomiste**	**6.21**	**10**	ǁ*i*P	**Pn**			**22 14 42.6**	**+0.3**
KDZ	**Kurdzhali**	**6.63**	**21**	⇑*i*P	**Pn**			**22 14 48.4**	**+0.2**
KDZ	**Kurdzhali**	**6.63**	**21**	⇑*i*P	**Pn**			**22 14 48.4**	**+0.2**
VTS	**Vitosha**	**7.14**	**6**	ǁ*i*P	**Pn**			**22 14 56.1**	**+0.9**
VTS	**Vitosha**	**7.14**	**6**	ǁ*i*P	**Pn**			**22 14 56.1**	**+0.9**
STON	**Ston**	**8.19**	**336**	*i* Pn	**Pn**			**22 15 07.9**	**-1.5**
DIVS	**Divibare**	**8.78**	**349**	⇑*i*P	**Pn**			**22 15 16.1**	**-1.6**
GZR	**Gura Zlata**	**9.91**	**2**	⇑*i*P	**Pn**			**22 15 33.4**	**+0.3**
GZR	**Gura Zlata**	**9.91**	**2

KBN S Sn 22 15 40.7 +1.5
KBN Korca 0.87 132 P Pb 22 15 26.2 -0.7
KBN S Sn 22 15 40.7 +1.5
KBN Korca 0.87 132 P Pb 22 15 25.1 -1.8
KBN S Sb 22 15 38.1 0.0
ULC Ulcinj 0.92 326⇓iPg Pn 22 15 28.1 +0.2
ULC eSg Sn 22 15 41.7 +1.3
ULC Ulcinj 0.92 326 P Pn 22 15 28.6 +0.7
ULC S Sb 22 15 39.5 0.0
ULC Ulcinj 0.92 326⇓iPg Pn 22 15 28.1 +0.2
ULC Ulcinj 0.92 326 P Pn 22 15 28.6 +0.7
ULC S Sb 22 15 39.5 0.0
ULC eSg Sn 22 15 41.7 +1.3
ULC Ulcinj 0.92 326 P Pn 22 15 28.6 +0.7
ULC S Sb 22 15 39.5 0.0
DRME Dracevica, Mon 1.13 330⇓iPg Pb 22 15 31.4 +0.1
DRME eSg Sb 22 15 49.3 +3.7
DRME Dracevica, Mon 1.13 330⇓iPg Pb 22 15 31.4 +0.1
DRME eSg Sb 22 15 49.3 +3.7
NEST Nestorio 1.16 133 P Pn 22 15 31.3 +0.1
NEST Nestorio 1.16 133 P Pn 22 15 31.3 +0.1
FNA Florina 1.17 111 P Pn 22 15 31.4 0.0
FNA S Sb 22 15 50.9 +4.2
FNA Florina 1.17 111 ePN Pn 22 15 30.9 -0.5
FNA eSN Sb 22 15 49.8 +3.1
FNA Florina 1.17 111 ePn Pn 22 15 30.9 -0.5
FNA Florina 1.17 111 P Pn 22 15 31.4 0.0
FNA S Sb 22 15 47.7 +1.0
FNA eSn Sb 22 15 49.8 +3.1
FNA Florina 1.17 111 P Pn 22 15 31.4 0.0
FNA S Sb 22 15 50.9 +4.2
FNA Florina 1.17 111 P Pn 22 15 30.7 -0.7
FNA S Sb 22 15 47.7 +1.0
SRN Sarande 1.32 178 iPG Pb 22 15 35.3 +0.8
SRN iSG Sb 22 15 54.1 +3.0
SRN Sarande 1.32 178 P Pb 22 15 35.1 +0.5
SRN S Sb 22 15 52.7 +1.6
SRN Sarande 1.32 178 P Pb 22 15 35.3 +0.8
SRN S Sb 22 15 54.0 +3.0
SRN Sarande 1.32 178 P Pb 22 15 35.1 +0.5
SRN S Sb 22 15 52.7 +1.6
PDG Podgorica 1.33 338 ePg Pb 22 15 35.5 +0.8
PDG eSg Sb 22 15 51.6 +0.4
PDG Podgorica 1.33 338 Pn Pb 22 15 35.3 +0.7
PDG Sn Sb 22 15 55.0 +3.8
PDG Podgorica 1.33 338⇓iPg Pb 22 15 34.7 +0.1
PDG Podgorica 1.33 338 Pn Pb 22 15 35.3 +0.7
PDG eSg Sb 22 15 51.6 +0.4
PDG Sn Sb 22 15 55.0 +3.8
PDG Podgorica 1.33 338 P Pb 22 15 35.4 +0.8
PDG S Sb 22 15 55.5 +4.3
TTG Podgorica 1.33 338⇓iPg Pb 22 15 34.7 +0.1
TTG eSg Sb 22 15 54.8 +3.6
BUM Brajici-Budva 1.34 325⇑iPg Pb 22 15 35.3 +0.3
BUM eSg Sb 22 15 54.7 +2.9
BUM Brajici-Budva 1.34 325⇑iPg Pb 22 15 35.3 +0.3
BUM Brajici-Budva 1.34 325 P Pb 22 15 36.1 +1.1
BUM S Sb 22 15 53.6 +1.8
BUM eSg Sb 22 15 54.7 +2.9
BUM Brajici-Budva 1.34 325 P Pb 22 15 36.1 +1.1
BUM S Sb 22 15 53.6 +1.8
SKO Skopje 1.36 55 ePn Pb 22 15 35.4 +0.1
SKO Skopje 1.36 55 ePn Pn 22 15 33.1 -0.9
SKO eSg Sn 22 15 49.2 -2.2
SKO Skopje 1.36 55 ePg Pn 22 15 33.1 -0.9
SKO Skopje 1.36 55 P Pb 22 15 34.9 -0.4
SKO Skopje 1.36 55 ePn Pb 22 15 35.3 +0.1
SKO S Sb 22 15 54.9 +2.6
SKO Skopje 1.36 55 P Pb 22 15 34.9 -0.4
SKO S Sb 22 15 54.9 +2.6
PVY Plav 1.39 1⇑iPg Pb 22 15 35.6 -0.2
PVY eSg Sb 22 15 56.6 +3.5
PVY Plav 1.39 1 P Pn 22 15 35.2 +0.7
PVY Plav 1.39 1⇑iPg Pb 22 15 35.6 -0.2
PVY S Sn 22 15 52.2 0.0
PVY eSg Sb 22 15 56.6 +3.5
PVY Plav 1.39 1 P Pn 22 15 35.2 +0.7
PVY S Sn 22 15 52.2 0.0
KEK Kerkira 1.49 184 Pn Pb 22 15 36.8 -0.7
5μm,1.0s
KEK Kerkira 1.49 184 ePN Pn 22 15 36.0 +0.2
KEK eSN Sb 22 15 58.3 +2.3
KEK Kerkira 1.49 184 P Pn 22 15 36.5 +0.7
KEK Kerkira 1.49 184 Pn Pb 22 15 36.8 -0.7
5μm,1.0s
KEK Kerkira 1.49 184 P Pn 22 15 36.5 +0.7
KEK S Sb 22 15 58.4 +2.4
SGD Sagiada 1.61 172 P Pb 22 15 39.6 +0.2
SGD Sagiada 1.61 172 P Pb 22 15 39.6 +0.2
SGD S Sb 22 16 00.9 +1.7
HCY Herceg Novi 1.64 320⇑iPn Pn 22 15 38.9 +1.0
HCY eSn Sb 22 16 01.7 +1.4
HCY Herceg Novi 1.64 320 P Pn 22 15 41.7 +1.7
HCY S Sb 22 16 02.6 +2.3
HCY Herceg Novi 1.64 320⇑iPn Pn 22 15 38.9 +1.0
HCY Herceg Novi 1.64 320 P Pb 22 15 41.7 +1.7
HCY eSn Sb 22 16 01.7 +1.4
HCY S Sb 22 16 02.6 +2.3
HCY Herceg Novi 1.64 320 P Pb 22 15 41.7 +1.7
HCY S Sb 22 16 02.6 +2.3
KZN Kozani 1.66 122 ePN Pn 22 15 39.7 -0.6
KZN eSN Sb 22 16 03.2 +2.4
KZN Kozani 1.66 122 P Pb 22 15 39.4 -0.9
KZN Kozani 1.66 122 ePn Pn 22 15 39.7 -0.6
KZN S Sn 22 15 59.6 +0.9
KZN eSn Sb 22 16 03.2 +2.4
KZN Kozani 1.66 122 P Pb 22 15 39.4 -0.9
KZN S Sn 22 15 59.6 +0.9
BEY Berane 1.67 359⇑iPn Pn 22 15 39.9 -0.6
BEY eSn Sb 22 16 03.4 +2.3
IVA Berane 1.67 359⇑iPn Pn 22 15 39.9 -0.6
IVA eSn Sb 22 16 03.4 +2.3
IGT Igoumenitsa 1.70 170 P Pn 22 15 39.7 +1.1
IGT S Sb 22 16 04.3 +2.4
IGT Igoumenitsa 1.70 170 ePN Pn 22 15 39.6 +0.9
IGT eSN Sb 22 16 02.9 +1.0
IGT Igoumenitsa 1.70 170 P Pn 22 15 39.5 +0.9
IGT S Sb 22 16 04.3 +2.4
IGT Igoumenitsa 1.70 170 P Pn 22 15 39.7 +1.1
IGT S Sb 22 16 04.3 +2.4
IGT Igoumenitsa 1.70 170 P Pn 22 15 39.5 +0.9
IGT S Sb 22 16 02.9 +1.0
JAN Janina 1.70 155 ePN Pn 22 15 39.1 +0.5
JAN Janina 1.70 155 ePn Pn 22 15 39.1 +0.5
JAN Janina 1.70 155 P Pb 22 15 40.4 -0.5
JAN Janina 1.70 155 P Pb 22 15 40.4 -0.5
JAN S Sb 22 16 01.3 -0.6
NKME Niksic 1.73 335⇓iPn Pb 22 15 40.5 -0.9
NKME eSn Sb 22 16 03.9 +1.2
NKME Niksic 1.73 335⇓iPn Pb 22 15 40.5 -0.9
NKME eSn Sb 22 16 03.9 +1.2
NKY Niksic 1.75 337⇓iPn Pb 22 15 41.4 -0.6
NKY eSn Sb 22 16 05.0 +1.4
NKY Niksic 1.75 337 P Pb 22 15 42.5 +0.5
NKY S Sb 22 16 03.9 +0.3
NKY Niksic 1.75 337⇓iPn Pb 22 15 41.4 -0.6
NKY Niksic 1.75 337 P Pb 22 15 42.5 +0.5
NKY S Sb 22 16 03.9 +0.3
NKY eSn Sb 22 16 05.0 +1.4
NKY Niksic 1.75 337 P Pb 22 15 42.5 +0.5
NKY S Sb 22 16 03.9 +0.3
GRG Griva 1.88 97 ePN Pn 22 15 41.9 +0.8
GRG eSN Sb 22 16 07.8 +0.6
GRG Griva 1.88 97 P Pn 22 15 41.4 +0.3
GRG Griva 1.88 97 ePn Pn 22 15 41.9 +0.8
GRG S Sn 22 16 04.6 +0.4
GRG eSn Sb 22 16 07.8 +0.6
GRG Griva 1.88 97 P Pn 22 15 41.4 +0.3
GRG S Sn 22 16 04.6 +0.4
TREB Trebinje 1.92 322 ePg Pb 22 15 46.8 +2.1
TREB eSg Sb 22 16 12.4 +4.2
TREB Trebinje 1.92 322 ePg Pb 22 15 46.8 +2.1
PE1 Pezze di Greco 1.94 259 ePn Pn 22 15 42.9 +1.0
BRY Bratogost 1.99 329⇓iPn Pn 22 15 44.4 +1.6
BRY eSn Sb 22 16 10.2 -0.2
BRY Bratogost 1.99 329 P Pb 22 15 46.0 0.0
BRY S Sb 22 16 09.9 -0.5
BRY Bratogost 1.99 329⇓iPn Pn 22 15 44.4 +1.6
BRY Bratogost 1.99 329 P Pb 22 15 46.0 0.0
BRY S Sb 22 16 09.9 -0.5
BRY eSn Sb 22 16 10.2 -0.2
BRY Bratogost 1.99 329 P Pb 22 15 46.0 0.0
BRY S Sb 22 16 09.9 -0.5
VAY Valandovo 1.99 86 ePn Pn 22 15 43.5 +0.9
VAY Valandovo 1.99 86 ePg Pb 22 15 47.0 +1.1
VAY eSg Sb 22 16 11.4 +1.2
VAY Valandovo 1.99 86 P Pn 22 15 42.6 0.0
VAY Valandovo 1.99 86 ePn Pn 22 15 43.5 +0.9
VAY Valandovo 1.99 86 ePg Pb 22 15 47.0 +1.1
VAY eSg Sb 22 16 11.4 +1.2
VAY Valandovo 1.99 86 P Pn 22 15 42.6 0.0
SJES Sjenica 2.06 1 ePg Pb 22 15 46.0 -1.1
SJES eSg Sn 22 16 10.2 +1.6
SJES Sjenica 2.06 1 ePg Pb 22 15 46.0 -1.1
SJES eSg Sn 22 16 10.2 +1.6
TAR1 Taranto 2.12 252 ePn Pn 22 15 44.2 -0.2
BARS Barje 2.13 40 ePn Pn 22 15 46.0 +1.4
BARS Barje 2.13 40 ePn Pn 22 15 46.0 +1.4
UPM Unac-Piva 2.14 339⇓iPn Pb 22 15 46.9 -1.7
UPM eSn Sb 22 16 13.7 -1.1
UPM Unac-Piva 2.14 339⇓iPn Pb 22 15 46.9 -1.7
UPM Unac-Piva 2.14 339 P Pb 22 15 47.6 -1.0
UPM S Sn 22 16 12.6 +1.9
UPM eSn Sb 22 16 13.7 -1.1
UPM Unac-Piva 2.14 339 P Pb 22 15 47.6 -1.0
UPM S Sn 22 16 12.6 +1.9
PLE Pljevlja 2.16 349⇓iPn Pn 22 15 47.0 +1.9
PLE eSn Sb 22 16 14.9 -0.5
PLE Pljevlja 2.16 349 P Pb 22 15 47.7 -1.2
PLE S Sn 22 16 12.7 +1.5
PLE Pljevlja 2.16 349⇓iPn Pn 22 15 47.0 +1.9
PLE Pljevlja 2.16 349 P Pb 22 15 47.7 -1.2
PLE S Sn 22 16 12.7 +1.5
PLE eSn Sb 22 16 14.9 -0.5
PLE Pljevlja 2.16 349 P Pb 22 15 47.7 -1.2
PLE S Sn 22 16 12.7 +1.5
SELS Selova 2.20 23 ePn Pn 22 15 46.4 +0.9
SELS eSg Sn 22 16 12.9 +0.9
NOCI Noci 2.21 260 Pn Pn 22 15 45.6 -0.1
5μm,0.5s
NOCI Noci 2.21 260 Pn Pn 22 15 45.6 -0.1
5μm,0.5s
LIT Litokhoron 2.23 119 ePB Pn 22 15 47.1 +1.1
LIT Litokhoron 2.23 119 P Pn 22 15 47.1 +1.1
LIT Litokhoron 2.23 119 P Pn 22 15 47.1 +1.1
KNT Kendrikon 2.24 90 ePB Pn 22 15 46.9 +0.9
KNT eSN Sn 22 16 14.0 +1.1
KNT Kendrikon 2.24 90 P Pn 22 15 46.5 +0.5
KNT Kendrikon 2.24 90 ePb Pn 22 15 46.9 +0.9
KNT eSn Sn 22 16 14.0 +1.1
KNT Kendrikon 2.24 90 P Pn 22 15 46.5 +0.5
DSL Palaion Diasel 2.25 156 ePB Pn 22 15 47.8 +1.6
DSL Palaion Diasel 2.25 156 ePb Pn 22 15 47.8 +1.6
DSL Palaion Diasel 2.25 156 P Pn 22 15 48.2 +2.0
DSL Palaion Diasel 2.25 156 P Pn 22 15 48.2 +2.0
THL Klokotos Trika 2.28 135 ePN Pn 22 15 47.5 +0.9
THL eSN Sb 22 16 16.5 -2.1
THL Klokotos Trika 2.28 135 ePn Pn 22 15 47.5 +0.9
THL Klokotos Trika 2.28 135 P Pn 22 15 48.1 +1.5
THL eSn Sb 22 16 16.5 -2.1
THL Klokotos Trika 2.28 135 P Pn 22 15 48.1 +1.5
BAI Bari 2.31 269 ePn Pn 22 15 47.1 +0.1
STON Ston 2.35 316 ePn Pb 22 15 49.9 -2.2
STON Sn Sb 22 16 18.8 -1.9
STON Ston 2.35 316 ePn Pb 22 15 51.9 -0.2
STON eSg Sb 22 16 27.5 +6.8
STON Ston 2.35 316 ePn Pb 22 15 49.9 -2.2
STON Sn Sb 22 16 18.8 -1.9
THE Thessaloniki 2.37 103 P Pn 22 15 48.1 +0.3
THE Thessaloniki 2.37 103 ePN Pn 22 15 48.0 +0.3
THE eSN Sb 22 16 19.1 -2.0
THE Thessaloniki 2.37 103 P Pn 22 15 48.1 +0.3
THE eSn Sb 22 16 19.1 -2.0
THE Thessaloniki 2.37 103 P Pn 22 15 48.1 +0.3
THE Thessaloniki 2.37 103 P Pn 22 15 47.7 -0.1
HORT Hortiatis 2.47 103 ePN Pn 22 15 49.7 +0.4
HORT eSN Sn 22 16 21.0 +2.1
HORT Hortiatis 2.47 103 P Pn 22 15 49.7 +0.4
HORT eSn Sn 22 16 21.0 +2.1
HORT Hortiatis 2.47 103 P Pn 22 15 49.7 +0.4
SG1 Sgolgore (BA) 2.49 263 iPn Pn 22 15 49.8 +0.3
AMUR Altamura 2.54 264 Pn Pn 22 15 50.1 -0.1
3μm,0.5s
AMUR Altamura 2.54 264 Pn Pn 22 15 50.1 -0.1
3μm,0.5s
SOH Sokhos 2.62 97 ePN Pn 22 15 51.9 +0.6
SOH Sokhos 2.62 97 ePn Pn 22 15 51.9 +0.6
SOH Sokhos 2.62 97 P Pn 22 15 52.3 +1.0
SOH Sokhos 2.62 97 P Pn 22 15 52.3 +1.0
BBLS Lazići 2.69 352 ePn Pn 22 15 54.3 +2.0
BBLS Lazići 2.69 352 ePn Pn 22 15 54.3 +2.0
EVR Evrytania 2.70 147 ePN Pn 22 15 53.8 +1.3
EVR Evrytania 2.70 147 ePn Pn 22 15 53.8 +1.3
MIGL Miglionico 2.72 258 Pn Pn 22 15 53.3 +0.7
MIGL Miglionico 2.72 258 Pn Pn 22 15 53.3 +0.7
GRUS Gruza 2.74 12 ePn Pn 22 15 55.4 +2.4
GRUS Gruza 2.74 12 ePn Pn 22 15 55.4 +2.4
MAKR Makrakomi, Fth 2.76 142 ePB Pn 22 15 55.7 +2.4
MAKR Makrakomi, Fth 2.76 142 ePb Pn 22 15 55.7 +2.4
SRS Serrai 2.76 91 ePN Pn 22 15 53.1 -0.1
SRS eSN Sn 22 16 27.2 +1.3
SRS Serrai 2.76 91 ePn Pn 22 15 53.1 -0.1
SRS Serrai 2.76 91 P Pn 22 15 53.9 +0.7
SRS eSn Sn 22 16 27.2 +1.3
SRS Serrai 2.76 91 P Pn 22 15 53.9 +0.7
CDT Castel del Mon 2.77 269 ePn Pn 22 15 53.6 +0.3
PDO Prodromos 2.77 159 ePN Pn 22 15 53.8 +0.4
PDO Prodromos 2.77 159 ePn Pn 22 15 53.8 +0.4
PLG Polygyros 2.79 106 ePN Pn 22 15 54.8 +1.1
PLG Polygyros 2.79 106 P Pn 22 15 54.8 +1.1
PLG S Sn 22 16 27.7 +1.1
PLG Polygyros 2.79 106 P Pn 22 15 54.8 +1.1
PLG S Sn 22 16 27.7 +1.1
VTS Vitosha 2.81 59 ePn Pn 22 15 55.4 +1.4
VTS eSg Sb 22 16 33.7 -0.3
VTS Vitosha 2.81 59⇓iP Pn 22 15 55.3 +1.3
VTS Vitosha 2.81 59 S Sn 22 16 29.6 +2.4
VTS Vitosha 2.81 59 P Pn 22 15 55.1 +1.1
VTS Vitosha 2.81 59 ePn Pn 22 15 55.4 +1.4
VTS Vitosha 2.81 59 P Pn 22 15 55.1 +1.1
MRVN Minervino Murg 2.83 268 Pn Pn 22 15 54.3 +0.1
5μm,1.2s
MRVN Minervino Murg 2.83 268 Pn Pn 22 15 54.3 +0.1
5μm,1.2s
MMB Musomiste 2.88 81⇑iP Pn 22 15 57.8 +2.9
MMB Musomiste 2.88 81 S Sb 22 16 40.2 +4.3
MMB Musomiste 2.88 81⇑iP Pn 22 15 57.8 +2.9
ZAPS Zavoj 2.88 43 ePg Pb 22 16 01.3 +0.2
ZAPS eSg Sb 22 16 33.8 -2.1
ORI Oriolo Calabro 2.89 248 Pn Pn 22 15 54.8 -0.2
6μm,0.7s
ORI Oriolo Calabro 2.89 248 Pn Pn 22 15 54.8 -0.2
6μm,0.7s
DIVS Divibare 2.89 1 ePn Pn 22 15 56.7 +1.6
DIVS Divibare 2.89 1⇓iP Pn 22 15 57.4 +2.3
DIVS Divibare 2.89 1 ePn Pn 22 15 56.7 +1.6
DIVS Divibare 2.89 1 P Pn 22 15 58.1 +3.0
DIVS S Sn 22 16 32.4 +3.2
DIVS Divibare 2.89 1 P Pn 22 15 58.1 +3.0
DIVS S Sn 22 16 32.4 +3.2
FYTO Fytoko, Volos 2.91 127 P Pn 22 15 56.9 +1.6
FYTO Fytoko, Volos 2.91 127 P Pn 22 15 56.9 +1.6
PIPA Pietrapaola 2.94 235 Pn Pn 22 15 56.1 +0.4
PIPA Pietrapaola 2.94 235 Pn Pn 22 15 56.1 +0.4
NVR Nevrokopi 2.96 86 ePN Pn 22 15 56.1 +0.1
NVR eSN Sn 22 16 32.1 +1.2
NVR Nevrokopi 2.96 86 ePn Pn 22 15 56.1 +0.1
NVR Nevrokopi 2.96 86 P Pn 22 15 57.0 +1.0
NVR eSn Sn 22 16 32.1 +1.2
NVR Nevrokopi 2.96 86 P Pn 22 15 57.0 +1.0
LADO San Nicola del 2.97 231 Pn Pn 22 15 56.5 +0.4
LADO San Nicola del 2.97 231 Pn Pn 22 15 56.5 +0.4
BOLS Boljevac 3.02 29 ePn Pn 22 15 56.8 +0.1
BOLS Boljevac 3.02 29 ePn Pn 22 15 58.2 +1.5
BOLS Boljevac 3.02 29 ePn Pn 22 15 58.2 +1.5
TRUS Trudelj 3.04 6 ePn Pn 22 15 58.3 +1.3
TRUS Trudelj 3.04 6 ePn Pn 22 15 58.3 +1.3
MS1 Monte Sant'Ang 3.04 281 iPn Pn 22 15 57.2 0.0
VLS Valsamata 3.06 170 ePN Pn 22 15 56.8 -0.6
VLS Valsamata 3.06 170 ePn Pn 22 15 56.8 -0.6
MSAG Monte S. Angel 3.07 281 Pn Pn 22 15 57.6 +0.1
MSAG Monte S. Angel 3.07 281 Pn Pn 22 15 57.6 +0.1
XOR Xorichti 3.09 125 ePN Pn 22 15 58.6 +0.7
XOR eSN Sn 22 16 37.3 +3.2
XOR Xorichti 3.09 125 P Pn 22 15 58.5 +0.7
XOR eSn Sn 22 16 37.3 +3.2
XOR Xorichti 3.09 125 P Pn 22 15 58.5 +0.7
PAIG Paliouri 3.12 113 ePN Pn 22 15 58.3 +0.1
PAIG eSN Sn 22 16 37.0 +2.2
PAIG Paliouri 3.12 113 P Pn 22 15 58.3 +0.1
PAIG eSn Sn 22 16 37.0 +2.2
PAIG Paliouri 3.12 113 P Pn 22 15 58.3 +0.1
NEO Neokhori 3.15 126 ePN Pn 22 15 59.3 +0.7
NEO eSN Sn 22 16 39.6 +4.1
NEO Neokhori 3.15 126 ePn Pn 22 15 59.3 +0.7
NEO eSn Sn 22 16 39.6 +4.1
EFP Efpalio 3.16 151 ePN Pn 22 16 01.2 +2.5
EFP Efpalio 3.16 151 ePn Pn 22 16 01.2 +2.5
TIP Timpagrande 3.17 231 ePn Pn 22 15 59.0 +0.2
TIP eSn Sn 22 16 37.0 +1.1
TIP Timpagrande 3.17 231 ePn Pn 22 15 59.0 +0.2
TIP eSn Sn 22 16 37.0 +1.1
OUR Ouranopolis 3.19 104 ePN Pn 22 16 00.4 +1.3
OUR eSN Sn 22 16 40.0 +3.5
OUR Ouranopolis 3.19 104 P Pn 22 16 00.2 +1.1
OUR eSn Sn 22 16 40.0 +3.5
OUR Ouranopolis 3.19 104 P Pn 22 16 00.2 +1.1
SGRT San Giovanni R 3.20 281 Pn Pn 22 15 59.2 -0.1
SGRT San Giovanni R 3.20 281 Pn Pn 22 15 59.2 -0.1
SVIS Svilajnac 3.20 17 ePn Pn 22 16 01.1 +1.9
SVIS eSn Sn 22 16 33.2 -3.4
AXAR Agios Charalam 3.21 138 ePN Pn 22 16 00.7 +1.3
AXAR Agios Charalam 3.21 138 ePn Pn 22 16 00.7 +1.3
TRIZ Trizonia 3.28 149 ePN Pn 22 16 02.2 +1.9
TRIZ Trizonia 3.28 149 ePn Pn 22 16 02.2 +1.9
KALE Kalithea 3.28 148 ePB Pn 22 16 03.6 +3.1
KALE Kalithea 3.28 148 ePb Pn 22 16 03.6 +3.1
SERS Sersale 3.30 230 Pn Pn 22 16 01.3 +0.6
2μm,1.2s
SERS Sersale 3.30 230 Pn Pn 22 16 01.3 +0.6
2μm,1.2s
LAKA Lakka 3.35 151 ePN Pn 22 16 03.5 +2.1
LAKA Lakka 3.35 151 ePn Pn 22 16 03.5 +2.1
TEKS Tekeris 3.36 355 ePN Pn 22 16 03.0 +1.6
TEKS Tekeris 3.36 355 ePn Pn 22 16 03.0 +1.6
RLS Riolos of Patr 3.36 159 ePN Pn 22 16 02.7 +1.3
RLS Riolos of Patr 3.36 159 ePn Pn 22 16 02.7 +1.3
CUC Castrocucco 3.36 250 ePn Pn 22 16 02.3 +0.8
CUC eSn Sn 22 16 41.6 +0.9
CUC Castrocucco 3.36 250 ePn Pn 22 16 02.3 +0.8
CUC eSn Sn 22 16 41.6 +0.9
SMIA Simia 3.42 132 ePN Pn 22 16 03.2 +0.9
SMIA Simia 3.42 132 ePn Pn 22 16 03.2 +0.9
DSF Desfina 3.43 144 ePN Pn 22 16 02.7 +0.2
DSF Desfina 3.43 144 ePn Pn 22 16 02.7 +0.2
KAVA Kavala 3.47 92 ePN Pn 22 16 03.3 +0.4
KAVA Kavala 3.47 92 ePn Pn 22 16 03.3 +0.4
KAVA Kavala 3.47 92 P Pn 22 16 03.1 +0.2
LKR Lokris 3.47 136 ePN Pn 22 16 04.0 +1.0
LKR Lokris 3.47 136 ePn Pn 22 16 04.0 +1.0
DRO Drossia 3.53 157 ePN Pn 22 16 06.0 +2.2
DRO Drossia 3.53 157 ePn Pn 22 16 06.0 +2.2
KLV Kalavryta, Ach 3.59 151 ePN Pn 22 16 07.2 +2.5
KLV Kalavryta, Ach 3.59 151 ePn Pn 22 16 07.2 +2.5
BEO Beograd 3.62 6 ePn Pn 22 16 05.6 +0.5
AOS Alonnisos 3.64 123 ePN Pn 22 16 05.8 +0.5
AOS Alonnisos 3.64 123 ePn Pn 22 16 05.8 +0.5
PLD Plovdiv 3.68 74 P Pn 22 16 07.3 +1.4
PLD Plovdiv 3.68 74 P Pn 22 16 07.3 +1.4
MRKA Markates 3.75 130 ePN Pn 22 16 08.2 +1.3
MRKA Markates 3.75 130 ePn Pn 22 16 08.2 +1.3
GUR Goura 3.76 150 ePN Pn 22 16 07.9 +0.9
GUR Goura 3.76 150 ePn Pn 22 16 07.9 +0.9
THAL Thalero 3.80 145 ePN Pn 22 16 08.3 +0.8
THAL Thalero 3.80 145 ePn Pn 22 16 08.3 +0.8
PLAC Placanica 3.85 226 Pn Pn 22 16 07.6 -0.6
639nm,0.8s
PLAC Placanica 3.85 226 Pn Pn 22 16 07.6 -0.6
639nm,0.8s
AMT Artemida-Makis 3.92 159 ePN Pn 22 16 10.5 +1.4
AMT Artemida-Makis 3.92 159 ePn Pn 22 16 10.5 +1.4
VIL2 Platees 3.94 138 ePN Pn 22 16 11.8 +2.3
SACR S. Croce Del S 3.94 275 Pn Pn 22 16 10.3 +0.7
SACR S. Croce Del S 3.94 275 Pn Pn 22 16 10.3 +0.7
DJES Djerdap 3.95 28 ePn Pn 22 16 11.0 +1.5
DJES eSn Sn 22 16 50.5 -4.5
LTK Loutraki 3.95 143 ePN Pn 22 16 10.6 +1.1
LTK Loutraki 3.95 143 ePn Pn 22 16 10.6 +1.1
FGSL Fruska Gora 3.95 359 ePn Pn 22 16 10.5 +0.9
FGSL eSn Sn 22 16 52.5 -2.7
FRGS Fruska Gora 3.95 359 ePn Pn 22 16 10.5 +0.9
FRGS eSn Sn 22 16 52.5 -2.7
LOUT Loutraki 3.98 143 ePN Pn 22 16 11.7 +1.7
LOUT Loutraki 3.98 143 ePn Pn 22 16 11.7 +1.7
VILL Villia 4.00 138 ePn Pn 22 16 11.8 +1.5
RMGR Halanga-Turnu 4.00 29⇓iP Pn 22 16 12.8 +2.5
RMGR Halanga-Turnu 4.00 29⇓iP Pn 22 16 12.8 +2.5
FRES Fresagrandinar 4.02 283 Pn Pn 22 16 11.5 +0.9
2μm,0.7s
FRES Fresagrandinar 4.02 283 Pn Pn 22 16 11.5 +0.9
2μm,0.7s
PAOL Paolisi 4.06 269 Pn Pn 22 16 12.3 +1.2
4μm,1.6s
PAOL Paolisi 4.06 269 Pn Pn 22 16 12.3 +1.2
4μm,1.6s
BLY Banja Luka 4.08 331 Pn Pn 22 16 12.9 +1.6
2μm,0.9s
BLY Banja Luka 4.08 331 Pn Pn 22 16 12.9 +1.6
2μm,0.9s
KDZ Kurdzhali 4.14 82⇑iP Pn 22 16 13.0 +0.7
KDZ Kurdzhali 4.14 82⇑iP Pn 22 16 13.0 +0.7
EREA Eretria 4.15 131 ePN Pn 22 16 14.0 +1.7
EREA Eretria 4.15 131 ePn Pn 22 16 14.0 +1.7
LIA Limnos Island 4.21 106 ePN Pn 22 16 14.0 +1.0
LIA Limnos Island 4.21 106 ePn Pn 22 16 14.0 +1.0
SRE Strehaia 4.21 34⇓iP Pn 22 16 15.1 +2.0
SRE Strehaia 4.21 34⇓iP Pn 22 16 15.1 +2.0
CRAR CRAIOVA 4.22 41⇑iP Pn 22 16 16.4 +3.1
CRAR CRAIOVA 4.22 41⇑iP Pn 22 16 16.4 +3.1
BANR Banloc 4.27 11⇑iP Pn 22 16 16.0 +2.1
BANR Banloc 4.27 11⇑iP Pn 22 16 16.0 +2.1
VLX Vlachokerasia 4.27 153 ePN Pn 22 16 15.1 +1.0
VLX Vlachokerasia 4.27 153 ePn Pn 22 16 15.1 +1.0
CAFR Castel Frentan 4.31 286 Pn Pn 22 16 15.3 +0.9
5μm,0.9s
CAFR Castel Frentan 4.31 286 Pn Pn 22 16 15.3 +0.9
5μm,0.9s
ITM Ithomi 4.31 158 ePN Pn 22 16 14.8 +0.3
ITM Ithomi 4.31 158 ePn Pn 22 16 14.8 +0.3
SMTH Samothraki Isl 4.31 98 ePN Pn 22 16 14.4 -0.1
SMTH Samothraki Isl 4.31 98 ePn Pn 22 16 14.4 -0.1
SOI Samo 4.33 225 Pn Pn 22 16 14.4 -0.4
551nm,1.1s
SOI Samo 4.33 225 Pn Pn 22 16 14.4 -0.4
551nm,1.1s
ATH Athens Observa 4.35 137 ePN Pn 22 16 15.9 +0.8
ATH Athens Observa 4.35 137 ePn Pn 22 16 15.9 +0.8
PTL Penteli 4.37 135 ePN Pn 22 16 16.1 +0.7
PTL Penteli 4.37 135 ePn Pn 22 16 16.1 +0.7
RNI2 Rionero Sannit 4.38 278 Pn Pn 22 16 16.5 +1.0
830nm,0.7s
RNI2 Rionero Sannit 4.38 278 Pn Pn 22 16 16.5 +1.0
830nm,0.7s
NAIG Nisos Aigina 4.40 140 ePN Pn 22 16 17.5 +1.7
NAIG Nisos Aigina 4.40 140 ePn Pn 22 16 17.5 +1.7
CERA Filignano 4.47 277 Pn Pn 22 16 18.2 +1.5
2μm,0.7s
CERA Filignano 4.47 277 Pn Pn 22 16 18.2 +1.5
2μm,0.7s
DIDY Didyma 4.51 145 ePN Pn 22 16 18.3 +1.0
DIDY Didyma 4.51 145 ePn Pn 22 16 18.3 +1.0
UDBI Udbina 4.52 319 ePn Pn 22 16 19.8 +2.3
UDBI Sn Sn 22 17 13.2 +3.9
UDBI Udbina 4.52 319 ePn Pn 22 16 19.7 +2.3
UDBI Sn Sn 22 17 13.2 +3.9
PYL PYLOS 4.53 161 ePN Pn 22 16 18.0 +0.5
PYL PYLOS 4.53 161 ePn Pn 22 16 18.0 +0.5
KRND KRANIDI 4.56 146 ePN Pn 22 16 18.4 +0.5
KRND KRANIDI 4.56 146 ePn Pn 22 16 18.4 +0.5
MODR Mondragone 4.57 271 Pn Pn 22 16 18.4 +0.3

	549nm,0.8s									
MODR	**Mondragone**	**4.57**	**271**		Pn		**Pn**	**22 16 18.4**	**+0.3**
	549nm,0.8s									
BZS	**Buzias**	**4.58**	**15**	*e*	Pn		**Pn**	**22 16 19.6**	**+1.4**
BZS	**Buzias**	**4.58**	**15**	⇓	*i* P		**Pn**	**22 16 19.5**	**+1.4**
BZS	**Buzias**	**4.58**	**15**		S		**Sn**	**22 17 16.2**	**+5.6**
BZS	**Buzias**	**4.58**	**15**	⇓	*i* P		**Pn**	**22 16 19.5**	**+1.4**
TIM	**Timisoara**	**4.63**	**11**	⇑	*i* P		**Pn**	**22 16 20.3**	**+1.5**
TIM	**Timisoara**	**4.63**	**11**	⇑	*i* P		**Pn**	**22 16 20.3**	**+1.5**
ALN	**Alexandroupoli**	**4.63**	**92**	*e*	PN		**Pn**	**22 16 19.8**	**+0.9**
ALN	**Alexandroupoli**	**4.63**	**92**	*e*	Pn		**Pn**	**22 16 19.8**	**+0.9**
ALN	**Alexandroupoli**	**4.63**	**92**		P		**Pn**	**22 16 19.6**	**+0.7**
GZR	**Gura Zlata**	**4.67**	**25**	⇑	*i* P		**Pn**	**22 16 21.7**	**+2.2**
GZR	**Gura Zlata**	**4.67**	**25**	⇑	*i* P		**Pn**	**22 16 21.7**	**+2.2**
POFI	**Posta Fibreno**	**4.71**	**278**		Pn		**Pn**	**22 16 20.8**	**+0.8**
	392nm,0.7s									
POFI	**Posta Fibreno**	**4.71**	**278**		Pn		**Pn**	**22 16 20.8**	**+0.8**
	392nm,0.7s									
ZIMR		**4.71**	**57**	⇑	*i* P		**Pn**	**22 16 21.8**	**+1.9**
VCEL	**Villa Celiera**	**4.71**	**287**		Pn		**Pn**	**22 16 20.6**	**+0.5**
	1µm,0.7s									
VCEL	**Villa Celiera**	**4.71**	**287**		Pn		**Pn**	**22 16 20.6**	**+0.5**
	1µm,0.7s									
VVLD	**Villa Vallelon**	**4.79**	**280**		Pn		**Pn**	**22 16 21.7**	**+0.6**
VVLD	**Villa Vallelon**	**4.79**	**280**		Pn		**Pn**	**22 16 21.7**	**+0.6**
GUMA	**Gualdo di Mace**	**4.83**	**295**		Pn		Pn	22 16 27.8	+6.1
	1µm,0.6s									
TERO	**Teramo**	**4.93**	**289**		Pn		**Pn**	**22 16 23.7**	**+0.6**
	664nm,0.5s									
TERO	**Teramo**	**4.93**	**289**		Pn		**Pn**	**22 16 23.7**	**+0.6**
	664nm,0.5s									
SIGR	**SIGRI**	**4.95**	**112**	*e*	PN		**Pn**	**22 16 23.8**	**+0.5**
SIGR	**SIGRI**	**4.95**	**112**	*e*	Pn		**Pn**	**22 16 23.8**	**+0.5**
PTQR	**Pietraquaria**	**4.97**	**282**		Pn		**Pn**	**22 16 24.8**	**+1.2**
	75nm,0.6s									
PTQR	**Pietraquaria**	**4.97**	**282**		Pn		**Pn**	**22 16 24.8**	**+1.2**
	75nm,0.6s									
HUMR	**Humele**	**4.98**	**46**	⇓	*i* P		**Pn**	**22 16 26.1**	**+2.4**
HUMR	**Humele**	**4.98**	**46**	⇓	*i* P		**Pn**	**22 16 26.1**	**+2.4**
NVLJ	**Novalja**	**5.01**	**314**	*e*	Pn		**Pn**	**22 16 25.4**	**+1.2**
NVLJ					Sn		**Sn**	**22 17 22.5**	**+1.3**
NVLJ	**Novalja**	**5.01**	**314**	*e*	Pn		**Pn**	**22 16 25.3**	**+1.2**
NVLJ					Sn		**Sn**	**22 17 22.5**	**+1.3**
AQU	**L'Aquila**	**5.02**	**285**	*e*	P		**Pn**	**22 16 25.0**	**+0.7**
AQU	**L'Aquila**	**5.02**	**285**	⇑	*i* P		**Pn**	**22 16 25.3**	**+1.0**
AQU	**L'Aquila**	**5.02**	**285**		Pn		**Pn**	**22 16 25.1**	**+0.7**
	304nm,0.7s									
AQU	**L'Aquila**	**5.02**	**285**	*e*	P		**Pn**	**22 16 25.0**	**+0.7**
AQU	**L'Aquila**	**5.02**	**285**	*e*	Pn		**Pn**	**22 16 25.0**	**+0.7**
T0106	**Roio Piano**	**5.02**	**285**		Pn		**Pn**	**22 16 25.7**	**+1.3**
	654nm,0.7s									
CAMP	**Campotosto**	**5.05**	**287**		Pn		**Pn**	**22 16 25.4**	**+0.6**
	615nm,0.8s									
CAMP	**Campotosto**	**5.05**	**287**		Pn		**Pn**	**22 16 25.4**	**+0.6**
	615nm,0.8s									
VLI	**Veliai**	**5.05**	**151**	*e*	PN		**Pn**	**22 16 26.2**	**+1.5**
VLI	**Veliai**	**5.05**	**151**	*e*	Pn		**Pn**	**22 16 26.2**	**+1.5**
T0104	**Madonna delle**	**5.07**	**285**		Pn		**Pn**	**22 16 25.9**	**+0.9**
LOT	**Lotru**	**5.08**	**32**	⇑	*i* P		**Pn**	**22 16 27.2**	**+2.0**
LOT	**Lotru**	**5.08**	**32**	⇑	*i* P		**Pn**	**22 16 27.2**	**+2.0**
PKSM	**Moragy**	**5.09**	**350**	*e*	Pn		**Pn**	**22 16 26.1**	**+0.9**
PKSM	**Moragy**	**5.09**	**350**	⇓	*i* P		**Pn**	**22 16 26.6**	**+1.4**
PKSM	**Moragy**	**5.09**	**350**	*e*	Pn		**Pn**	**22 16 26.1**	**+0.9**
PKSM	**Moragy**	**5.09**	**350**	⇓	*i* P		**Pn**	**22 16 26.6**	**+1.4**
JMB	**Yambol**	**5.12**	**74**	⇑	*i* P		**Pn**	**22 16 28.0**	**+2.3**
JMB	**Yambol**	**5.12**	**74**	⇑	*i* P		**Pn**	**22 16 28.0**	**+2.3**
SMA1	**SAN MARTINO**	**5.13**	**288**		Pn		**Pn**	**22 16 26.4**	**+0.6**
	928nm,0.5s									
SMA1	**SAN MARTINO**	**5.13**	**288**		Pn		**Pn**	**22 16 26.4**	**+0.6**
	928nm,0.5s									
DEV	**Deva**	**5.15**	**24**	⇓	*i* P		Pn	22 16 30.4	+4.4
DEV	**Deva**	**5.15**	**24**	⇓	*i* P		Pn	22 16 30.4	+4.4
GOLR		**5.17**	**44**	⇑	*i* P		Pn	22 16 30.0	+3.6
GOLR		**5.17**	**44**	⇑	*i* P		Pn	22 16 30.0	+3.6
FIAM	**Fiamignano**	**5.21**	**284**		Pn		**Pn**	**22 16 28.3**	**+1.3**
	524nm,0.7s									
FIAM	**Fiamignano**	**5.21**	**284**		Pn		**Pn**	**22 16 28.3**	**+1.3**
	524nm,0.7s									
SIRR	**Siria**	**5.21**	**13**	⇑	*i* P		**Pn**	**22 16 29.3**	**+2.4**
SIRR	**Siria**	**5.21**	**13**	⇑	*i* P		**Pn**	**22 16 29.3**	**+2.4**
PRK	**Paraskevi**	**5.23**	**110**	*e*	PN		**Pn**	**22 16 27.9**	**+0.8**
PRK	**Paraskevi**	**5.23**	**110**	*e*	Pn		**Pn**	**22 16 27.9**	**+0.8**
AOI	**Ancona**	**5.24**	**299**		Pn		**Pn**	**22 16 27.5**	**+0.1**
	666nm,0.7s									
AOI	**Ancona**	**5.24**	**299**		Pn		**Pn**	**22 16 27.5**	**+0.1**
	666nm,0.7s									
CERT	**Cerreto**	**5.27**	**280**		Pn		**Pn**	**22 16 28.5**	**+0.8**
	499nm,1.0s									
CERT	**Cerreto**	**5.27**	**280**		Pn		**Pn**	**22 16 28.5**	**+0.8**
	499nm,1.0s									
LNSS	**Leonessa**	**5.33**	**287**		Pn		**Pn**	**22 16 29.7**	**+1.1**
	767nm,0.6s									
LNSS	**Leonessa**	**5.33**	**287**		Pn		**Pn**	**22 16 29.7**	**+1.1**
	767nm,0.6s									
ARR	**Arges**	**5.39**	**38**	⇑	*i* P		**Pn**	**22 16 31.7**	**+2.3**
CING	**Cingoli**	**5.45**	**296**		Pn		**Pn**	**22 16 30.3**	**+0.1**
	647nm,0.7s									
CING	**Cingoli**	**5.45**	**296**		Pn		**Pn**	**22 16 30.3**	**+0.1**
	647nm,0.7s									
KYTH	**Kithira**	**5.48**	**153**	*e*	PN		**Pn**	**22 16 31.8**	**+1.2**
KYTH	**Kithira**	**5.48**	**153**	*e*	Pn		**Pn**	**22 16 31.8**	**+1.2**
CHOS	**Chios island**	**5.49**	**119**	*e*	PN		**Pn**	**22 16 31.3**	**+0.5**
CHOS	**Chios island**	**5.49**	**119**	*e*	Pn		**Pn**	**22 16 31.3**	**+0.5**
MTUR	**Matau**	**5.49**	**41**	⇑	*i* P		**Pn**	**22 16 33.1**	**+2.2**
SNTG	**Esanatoglia**	**5.58**	**294**		Pn		**Pn**	**22 16 32.1**	**+0.1**
	322nm,0.6s									
SNTG	**Esanatoglia**	**5.58**	**294**		Pn		**Pn**	**22 16 32.1**	**+0.1**
	322nm,0.6s									
VOIR		**5.64**	**40**	⇓	*i* P		**Pn**	**22 16 35.8**	**+3.0**
SULR		**5.79**	**51**	⇑	*i* P		**Pn**	**22 16 37.4**	**+2.6**
FSSB	**Fossombrone**	**5.85**	**298**		Pn		**Pn**	**22 16 35.8**	**+0.1**
	954nm,0.5s									
FSSB	**Fossombrone**	**5.85**	**298**		Pn		**Pn**	**22 16 35.8**	**+0.1**
	954nm,0.5s									
ATFO	**Monte Foce - G**	**5.87**	**294**		Pn		**Pn**	**22 16 36.4**	**+0.3**
	295nm,0.8s									
ATFO	**Monte Foce - G**	**5.87**	**294**		Pn		**Pn**	**22 16 36.4**	**+0.3**
	295nm,0.8s									
PRD	**Provadia**	**5.89**	**68**	⇑	*i* P		**Pn**	**22 16 38.7**	**+2.5**
MDB	**Medias**	**5.89**	**32**	⇓	*i* P		**Pn**	**22 16 38.8**	**+2.5**
SECR		**5.90**	**47**	⇓	*i* P		**Pn**	**22 16 39.3**	**+3.0**
PESA	**Pesaro**	**5.91**	**300**		Pn		**Pn**	**22 16 36.6**	**+0.1**
	781nm,0.8s									
PESA	**Pesaro**	**5.91**	**300**		Pn		**Pn**	**22 16 36.6**	**+0.1**
	781nm,0.8s									
DRGR		**5.93**	**19**	*e*	Pn		**Pn**	**22 16 36.8**	**-0.1**
DRGR		**5.93**	**19**	⇑	*i* P		**Pn**	**22 16 38.9**	**+2.0**
DRGR		**5.93**	**19**		S		**Sn**	**22 17 44.7**	**+0.6**
DRGR		**5.93**	**19**	*e*	Pn		**Pn**	**22 16 36.8**	**-0.1**
ANKY	**Antikythira Is**	**5.95**	**153**	*e*	PN		**Pn**	**22 16 38.5**	**+1.5**
ANKY	**Antikythira Is**	**5.95**	**153**	*e*	Pn		**Pn**	**22 16 38.5**	**+1.5**
PIEI	**Pieia**	**5.96**	**295**		Pn		**Pn**	**22 16 37.1**	**-0.1**
	183nm,0.5s									
PIEI	**Pieia**	**5.96**	**295**		Pn		**Pn**	**22 16 37.1**	**-0.1**
	183nm,0.5s									
ATVO	**AVT- Monte Val**	**5.99**	**294**		Pn		**Pn**	**22 16 38.1**	**+0.4**
	470nm,0.7s									
ATVO	**AVT- Monte Val**	**5.99**	**294**		Pn		**Pn**	**22 16 38.1**	**+0.4**
	470nm,0.7s									
APE	**Apeiranthos**	**6.00**	**132**	*e*	PN		**Pn**	**22 16 39.6**	**+1.9**
APE	**Apeiranthos**	**6.00**	**132**	*e*	Pn		**Pn**	**22 16 39.6**	**+1.9**
CEY	**Cerknica**	**6.05**	**320**	*i*	Pn		**Pn**	**22 16 39.2**	**+0.8**
CJR	**Cluj-Napoca**	**6.11**	**24**	⇓	*i* P		**Pn**	**22 16 41.8**	**+2.6**
SKDS	**Skadanscina**	**6.12**	**317**	*i*	Pn		**Pn**	**22 16 39.2**	**-0.1**
MLR	**Muntele Rosu**	**6.13**	**44**		Pn		**Pn**	**22 16 39.9**	**+0.3**
	1.2nm,0.3s,baz=228,slow=16,SNR=25									
MLR					Sn		**Sn**	**22 17 44.8**	**-4.2**
	0.5nm,0.3s,baz=283,slow=19,SNR=3.7									
MLR					Lg		Lg	22 18 22.0		
	0.5nm,0.3s,baz=235,slow=9.3,SNR=3.7									
MLR	**Muntele Rosu**	**6.13**	**44**	⇑	*i* P		**Pn**	**22 16 42.6**	**+3.0**
BADI	**Badiali**	**6.15**	**295**		Pn		**Pn**	**22 16 40.7**	**+1.0**
	442nm,0.5s									
BADI	**Badiali**	**6.15**	**295**		Pn		**Pn**	**22 16 40.7**	**+1.0**
	442nm,0.5s									
DOPR	**Dopca**	**6.19**	**38**	⇓	*i* P		**Pn**	**22 16 42.8**	**+2.4**
ISR	**Istrita**	**6.22**	**49**	⇑	*i* P		Pn	22 16 44.8	+4.1
LJU	**Ljubljana**	**6.23**	**323**	*e*	Pn		**Pn**	**22 16 41.0**	**+0.2**
LJU				*e*	Sn		**Sn**	**22 17 53.0**	**+1.7**
CAFI	**Castiglion Fio**	**6.28**	**292**		Pn		**Pn**	**22 16 41.7**	**+0.1**
CAFI	**Castiglion Fio**	**6.28**	**292**		Pn		**Pn**	**22 16 41.7**	**+0.1**
CLTB	**Caltabellotta**	**6.34**	**237**	*e*	Pn		**Pn**	**22 16 44.0**	**+1.5**
CLTB	**Caltabellotta**	**6.34**	**237**	*e*	Pn		**Pn**	**22 16 44.0**	**+1.5**
TRI	**Trieste**	**6.36**	**317**	*e*	P		**Pn**	**22 16 42.2**	**-0.4**
TRI	**Trieste**	**6.36**	**317**		Pn		**Pn**	**22 16 42.4**	**-0.2**
	223nm,0.7s									
TRI	**Trieste**	**6.36**	**317**		Pn		**Pn**	**22 16 42.4**	**-0.2**
	223nm,0.7s									
TRI	**Trieste**	**6.36**	**317**	*e*	Pn		**Pn**	**22 16 42.2**	**-0.4**
SMG	**Samos**	**6.38**	**121**	*e*	PN		**Pn**	**22 16 45.1**	**+2.1**
SMG	**Samos**	**6.38**	**121**	*e*	Pn		**Pn**	**22 16 45.1**	**+2.1**
AMRR	**Amara**	**6.41**	**55**	⇑	*i* P		**Pn**	**22 16 45.5**	**+2.2**
MSAB	**Monastry St. A**	**6.49**	**61**	⇑	*i* P		**Pn**	**22 16 46.9**	**+2.4**
MSAB	**Monastry St. A**	**6.49**	**61**	⇑	*i* P		**Pn**	**22 16 46.9**	**+2.4**
SOKA	**Soboth**	**6.51**	**329**	⇑	*i* Pn		**Pn**	**22 16 44.7**	**-0.1**
	SNR=31									
VOJS	**Vojsko**	**6.52**	**320**	*i*	Pn		**Pn**	**22 16 45.3**	**+0.3**
OBKA	**Obir**	**6.58**	**326**	*e*	Pn		**Pn**	**22 16 46.7**	**+1.0**
OBKA	**Obir**	**6.58**	**326**	⇑	*i* Pn		**Pn**	**22 16 45.6**	**-0.2**
	SNR=25									
OBKA	**Obir**	**6.58**	**326**	*e*	Pn		**Pn**	**22 16 46.7**	**+1.0**
PSN	**Preselentsi**	**6.58**	**65**	⇓	*i* P		**Pn**	**22 16 47.0**	**+1.3**
PSN	**Preselentsi**	**6.58**	**65**	⇓	*i* P		**Pn**	**22 16 47.0**	**+1.3**
GRER		**6.62**	**49**	⇓	*i* P		Pn	22 16 50.8	+4.6
ARCR	**ARCALIA**	**6.68**	**27**	⇓	*i* P		Pn	22 16 51.4	+4.3
VAM	**Vamos**	**6.69**	**149**	*e*	PN		**Pn**	**22 16 47.4**	**+0.2**
VAM	**Vamos**	**6.69**	**149**	*e*	Pn		**Pn**	**22 16 47.4**	**+0.2**
PSZ	**Piszkesteto**	**6.71**	**360**	*e*	P		**Pn**	**22 16 47.4**	**-0.2**
PSZ	**Piszkesteto**	**6.71**	**360**	⇓	*i* P		**Pn**	**22 16 49.2**	**+1.6**
PSZ	**Piszkesteto**	**6.71**	**360**	*e*	P		**Pn**	**22 16 47.4**	**-0.2**
PSZ	**Piszkesteto**	**6.71**	**360**	*e*	Pn		**Pn**	**22 16 47.4**	**-0.2**
PLOR	**Plostina**	**6.74**	**44**	⇑	*i* P		**Pn**	**22 16 50.2**	**+2.4**
PLOR	**Plostina**	**6.74**	**44**	⇑	*i* P		**Pn**	**22 16 50.2**	**+2.4**
VRI	**Vrincioaia**	**6.79**	**44**	⇑	*i* P		**Pn**	**22 16 51.6**	**+3.1**
VRI	**Vrincioaia**	**6.79**	**44**	⇑	*i* P		**Pn**	**22 16 51.6**	**+3.1**
WDD	**Wield Dalam**	**6.81**	**220**	*e*	Pn		Pn	22 16 43.9	-5.0
HARR	**Harsova**	**6.82**	**57**	⇓	*i* P		**Pn**	**22 16 51.9**	**+2.9**
HARR	**Harsova**	**6.82**	**57**	⇓	*i* P		**Pn**	**22 16 51.9**	**+2.9**
ARSA	**Arzberg**	**6.82**	**334**	*e*	PN		**Pn**	**22 16 50.0**	**+0.9**
ARSA	**Arzberg**	**6.82**	**334**	*e*	Pn		**Pn**	**22 16 50.5**	**+1.5**
ARSA	**Arzberg**	**6.82**	**334**	*i*	Pn		**Pn**	**22 16 50.0**	**+0.9**
	SNR=33									
ARSA	**Arzberg**	**6.82**	**334**	*e*	Pn		**Pn**	**22 16 50.0**	**+0.9**
BMR	**Baia Mare**	**6.95**	**20**	⇑	*i* P		**Pn**	**22 16 53.9**	**+3.1**
BMR	**Baia Mare**	**6.95**	**20**	⇑	*i* P		**Pn**	**22 16 53.9**	**+3.1**
TIRR	**Tirgusor**	**7.03**	**60**	*e*	P		**Pn**	**22 16 52.9**	**+1.1**
TIRR	**Tirgusor**	**7.03**	**60**	⇑	*i* P		**Pn**	**22 16 53.5**	**+1.7**
TIRR	**Tirgusor**	**7.03**	**60**	*e*	P		**Pn**	**22 16 52.9**	**+1.1**
TIRR	**Tirgusor**	**7.03**	**60**	*e*	Pn		**Pn**	**22 16 52.9**	**+1.1**
ACOM	**Acomizza, Ital**	**7.07**	**321**		Pn		**Pn**	**22 16 52.7**	**+0.1**
	334nm,1.3s									
ACOM	**Acomizza, Ital**	**7.07**	**321**		Pn		**Pn**	**22 16 52.7**	**+0.1**
	334nm,1.3s									
MYKA	**Terra Mystica**	**7.07**	**322**	⇓	*i* Pn		**Pn**	**22 16 52.2**	**-0.3**
	SNR=16									
MYKA	**Terra Mystica**	**7.07**	**322**		Pn		**Pn**	**22 16 52.2**	**-0.3**
	SNR=16									
IDI	**Anoyia**	**7.08**	**145**		Pn		**Pn**	**22 16 52.0**	**-0.6**
	0.6nm,0.3s,baz=321,slow=13,SNR=4.0									
IDI					Sn		**Sn**	**22 18 09.8**	**-2.5**
	2.1nm,0.3s,baz=10,slow=19,SNR=2.8									
IDI					LR		LR	22 20 07.4		
	comp=Z,2µm,18.2s,baz=328,slow=42									
GVD	**Gavdhos**	**7.15**	**151**	*e*	Pn		**Pn**	**22 16 53.6**	**+0.1**
GVD	**Gavdhos**	**7.15**	**151**	*e*	Pn		**Pn**	**22 16 53.6**	**+0.1**
TESR	**Tescani**	**7.19**	**40**	⇑	*i* P		**Pn**	**22 16 57.0**	**+3.0**
TESR	**Tescani**	**7.19**	**40**	⇑	*i* P		**Pn**	**22 16 57.0**	**+3.0**
CFR	**Carcaliu**	**7.19**	**54**	⇑	*i* P		**Pn**	**22 16 56.6**	**+2.6**
CFR	**Carcaliu**	**7.19**	**54**	⇑	*i* P		**Pn**	**22 16 56.6**	**+2.6**
KECS	**Kecovo**	**7.29**	**3**	*e*	P		**Pn**	**22 16 58.5**	**+3.1**
KECS				*e*				22 18 17.1		
KECS	**Kecovo**	**7.29**	**3**	*e*	P		**Pn**	**22 16 58.5**	**+3.1**
KECS				*e*	S		**Sn**	**22 18 17.1**	**-0.2**
KECS	**Kecovo**	**7.29**	**3**	*e*	PN		**Pn**	**22 16 58.5**	**+3.1**
KECS				*e*	SN		**Sn**	**22 18 17.1**	**-0.2**
TEOL	**Teolo**	**7.32**	**307**		Pn		**Pn**	**22 16 55.2**	**-0.7**
	1µm,0.8s									
TEOL	**Teolo**	**7.32**	**307**		Pn		**Pn**	**22 16 55.2**	**-0.7**
	1µm,0.8s									
CONA	**Conrad Observa**	**7.32**	**338**	*i*	Pn		**Pn**	**22 16 57.1**	**+1.2**
	SNR=12									
CONA	**Conrad Observa**	**7.32**	**338**		Pn		**Pn**	**22 16 57.1**	**+1.2**
	SNR=12									
BURAR	**Bucovina Array**	**7.44**	**29**	⇓	*i* P		Pn	22 17 01.0	+3.4
BUR04	**Bucovina Ar. S**	**7.44**	**29**	*e*	Pn		**Pn**	**22 17 00.0**	**+2.4**
BUR04	**Bucovina Ar. S**	**7.44**	**29**	*e*	Pn		**Pn**	**22 17 00.0**	**+2.4**
SMOL	**Smolenice**	**7.52**	**347**	*e*	P		Pn	22 17 02.3	+3.7
SMOL				*e*				22 18 22.0		
SMOL	**Smolenice**	**7.52**	**347**	*e*	S		**Sn**	**22 18 22.0**	**-1.1**
SMOL	**Smolenice**	**7.52**	**347**	*e*	PN		Pn	22 17 02.3	+3.7
SMOL				*e*	SN		**Sn**	**22 18 22.0**	**-1.1**
SMOL				*e*	SG		Sb	22 19 20.5	+31
KBA	**Koelnbreinsper**	**7.54**	**323**	*e*	Pn		**Pn**	**22 17 00.1**	**+1.0**
KBA	**Koelnbreinsper**	**7.54**	**323**	⇓	*i* Pn		**Pn**	**22 16 59.4**	**+0.3**
	SNR=66									
KBA	**Koelnbreinsper**	**7.54**	**323**	*e*	Pn		**Pn**	**22 17 00.1**	**+1.0**
TLCR		**7.61**	**56**	⇓	*i* P		Pn	22 17 03.2	+3.4
TLCR		**7.61**	**56**	⇓	*i* P		Pn	22 17 03.2	+3.4
UZH	**Uzhgorod**	**7.61**	**12**	*e*	P		**Pn**	**22 17 01.5**	**+1.7**
UZH				*e*	S		**Sn**	**22 18 28.6**	**+3.3**
UZH					MLR		MLR		
	comp=N,3µm,10.0s									
UZH					MLR		MLR		
	comp=E,2µm,10.0s									
UZH					MLR		MLR		
	comp=Z,2µm,10.0s									
UZH	**Uzhgorod**	**7.61**	**12**	*e*	P		**Pn**	**22 17 01.5**	**+1.7**
VLC	**Villacollemand**	**7.63**	**296**	*e*	Pn		**Pn**	**22 17 00.5**	**+0.4**
VLC				*e*	Sn		**Sn**	**22 18 25.3**	**-0.5**
VLC	**Villacollemand**	**7.63**	**296**	*e*	Pn		**Pn**	**22 17 00.5**	**+0.4**
VLC				*e*	Sn		**Sn**	**22 18 25.3**	**-0.5**
ABTA	**Abfaltersbach**	**7.70**	**318**	⇓	*i* Pn		**Pn**	**22 17 01.2**	**0.0**
	SNR=20									
ABTA	**Abfaltersbach**	**7.70**	**318**		Pn		**Pn**	**22 17 01.2**	**0.0**
	SNR=20									
MOA	**Molln**	**7.78**	**331**	*e*	Pn		**Pn**	**22 17 03.7**	**+1.6**
MOA	**Molln**	**7.78**	**331**	⇑	*i* Pn		**Pn**	**22 17 02.9**	**+0.8**
	SNR=33									
MOA	**Molln**	**7.78**	**331**	*e*	Pn		**Pn**	**22 17 03.7**	**+1.6**
ROVR	**Rover˜¤ Verone**	**7.83**	**307**		Pn		**Pn**	**22 17 02.1**	**-0.8**
	comp=Z,400nm,1.3s									
ROVR	**Rover˜¤ Verone**	**7.83**	**307**		Pn		**Pn**	**22 17 02.1**	**-0.8**
	comp=Z,400nm,1.3s									
KOLS	**Kolonicke sedl**	**7.90**	**11**	*e*	P		**Pn**	**22 17 07.0**	**+3.2**
KOLS	**Kolonicke sedl**	**7.90**	**11**	*e*	P		**Pn**	**22 17 07.0**	**+3.2**
KOLS	**Kolonicke sedl**	**7.90**	**11**	*e*	PN		**Pn**	**22 17 07.0**	**+3.2**
KOLS				*e*				22 18 26.3		
NIE	**Niedzica**	**8.22**	**2**	*e*	P		Pn	22 17 12.1	+3.9
NIE				*e*	PP		**PnPn**	**22 17 20.0**	**+4.2**
NIE				*e*	Sn		Sn	22 18 47.1	+6.8
NIE				*e*	Sg		Sb	22 19 34.4	+25
NIE	**Niedzica**	**8.22**	**2**	*e*	P		Pn	22 17 12.1	+3.9
NIE				*e*				22 18 47.1		
VSL	**Villasalto**	**8.24**	**262**	*e*	Pn		**Pn**	**22 17 07.4**	**-1.1**
VSL	**Villasalto**	**8.24**	**262**	*e*	Pn		**Pn**	**22 17 07.4**	**-1.1**
STHS	**Stebnicka Huta**	**8.26**	**6**	*e*	P		Pn	22 17 13.1	+4.3
STHS				*e*				22 18 36.9		
STHS	**Stebnicka Huta**	**8.26**	**6**	*e*	PN		Pn	22 17 13.1	+4.3
STHS				*e*				22 18 36.9		
PGF	**Pioggiola**	**8.27**	**283**	*e*	P		**Pn**	**22 17 09.3**	**+0.3**
PGF	**Pioggiola**	**8.27**	**283**	*e*	P		**Pn**	**22 17 09.3**	**+0.3**
PGF	**Pioggiola**	**8.27**	**283**	*e*	P		**Pn**	**22 17 09.3**	**+0.3**
PGF	**Pioggiola**	**8.27**	**283**	*e*	Pn		**Pn**	**22 17 09.3**	**+0.3**
RJOB	**Jochberg**	**8.29**	**324**	*e*	Pn		**Pn**	**22 17 10.4**	**+1.3**
RJOB	**Jochberg**	**8.29**	**324**	*e*	Pn		**Pn**	**22 17 10.4**	**+1.3**
VRAC	**Vranov**	**8.44**	**345**		Pn		**Pn**	**22 17 11.6**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=167,slow=12,SNR=18									
VRAC					Sn		**Sn**	**22 18 43.6**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=198,slow=19,SNR=2.1									
VRAC					LR		LR	22 21 14.9		
	comp=Z,2µm,19.6s,baz=164,slow=44									
VRAC	**Vranov**	**8.44**	**345**	⇑	*i* P		**Pn**	**22 17 13.3**	**+2.1**
WTTA	**Wattenberg**	**8.49**	**318**	*e*	Pn		**Pn**	**22 17 13.8**	**+1.7**
WTTA	**Wattenberg**	**8.49**	**318**	⇓	*i* Pn		**Pn**	**22 17 12.4**	**+0.3**
	SNR=40									
WTTA	**Wattenberg**	**8.49**	**318**	*e*	Pn		**Pn**	**22 17 13.8**	**+1.7**
WATA	**Walderalm**	**8.57**	**318**	⇓	*i* Pn		**Pn**	**22 17 14.3**	**+1.2**
	SNR=62									
WATA	**Walderalm**	**8.57**	**318**		Pn		**Pn**	**22 17 14.3**	**+1.2**
	SNR=62									
KIS	**Kishinev**	**8.62**	**45**	*e*	P		Pn	22 17 17.0	+3.3
KIS				*e*	S		**Sn**	**22 18 54.0**	**+3.9**
KIS				*e*	Li			22 19 22.0		
KIS				*e*	Lg		Lg	22 20 04.0		
KIS				*e*	Rg		Rg	22 20 30.0		
KIS					LRM		MLR	22 21 30.0		
	comp=Z,4µm,14.0s									
KIS	**Kishinev**	**8.62**	**45**	*e*	P		Pn	22 17 17.0	+3.3
KIS				*e*	S		**Sn**	**22 18 54.0**	**+3.9**
KIS					MLR		MLR		
	comp=Z,4µm,13.0s									
KIS					MLR		MLR		
	comp=N,2µm,14.0s									
KIS					MLR		MLR		
	comp=E,2µm,12.0s									
KIS					MLR		MLR			
	comp=Z,4µm,14.0s									
KIS	**Kishinev**	**8.62**	**45**	*e*	P		Pn	22 17 17.0	+3.3
	comp=Z,4µm,13.0s									
KWP	**Kalwaria Pacla**	**8.65**	**12**	*e*	P		Pn	22 17 18.5	+4.5
KWP				*e*	PP		**PnPn**	**22 17 27.2**	**+5.5**
KWP				*e*	Sn		**Sn**	**22 18 55.9**	**+5.1**
KWP				*e*	Sg			22 19 53.4		
KWP	**Kalwaria Pacla**	**8.65**	**12**	*e*	P		Pn	22 17 18.5	+4.5
KWP				*e*				22 18 56.0		
TREC	**Trest**	**8.68**	**340**	*e*	PN		**Pn**	**22 17 16.3**	**+1.9**
TREC		

KSP Ksiaz 9.97 347 *e*P **Pn** **22 17 34.3 +2.2**
KSP Ksiaz 9.97 347 *e*P **Pn** **22 17 34.3 +2.2**
KSP Ksiaz 9.97 347 *e*P **Pn** **22 17 34.3 +2.2**
PVCC Panska Ves 10.04 340 *e*PN **Pn** **22 17 34.8 +1.7**
PVCC AMS AMS 22 21 50.0
comp=Z,2µm,12.9s
PVCC Panska Ves 10.04 340 *e*P **Pn** **22 17 34.8 +1.7**
PVCC MLR MLR
comp=Z,2µm,12.9s
PVCC Panska Ves 10.04 340 Pn **Pn** **22 17 34.8 +1.7**
FRF La Foret Royal 10.11 288 *e*Pn Pn 22 17 30.8 -3.3
FRF La Foret Royal 10.11 288 *e*P Pn 22 17 30.8 -3.3
FRF La Foret Royal 10.11 288 *e*Sn Sn 22 19 16.1 -11
comp=Z,24nm,0.8s
FRF La Foret Royal 10.11 288 *e*Pn Pn 22 17 30.8 -3.3
FRF La Foret Royal 10.11 288 *e*Sn Sn 22 19 16.1 -11
comp=Z,49nm,0.8s
FRF La Foret Royal 10.11 288 *e*Sn Sn 22 19 16.1 -11
FRF La Foret Royal 10.11 288 *e* Sn 22 19 16.1 -11
LMR La Mourre 10.18 287 *e*Pn Pn 22 17 30.8 -4.2
LMR La Mourre 10.18 287 *e*P Pn 22 17 30.8 -4.2
LMR La Mourre 10.18 287 *e*Pn Pn 22 17 30.8 -4.2
LMR La Mourre 10.18 287 *e* Sn 22 19 17.4 -11
LMR La Mourre 10.18 287 *e*Sn Sn 22 19 17.4 -11
comp=Z,11nm,0.5s
LMR La Mourre 10.18 287 *e*Sn Sn 22 19 17.4 -11
MBDF Montbardon 10.27 294 *e*Pn Pn 22 17 32.7 -3.7
MBDF *e*Sn Sn 22 19 19.7 -11
comp=Z,49nm,0.6s
MBDF Montbardon 10.27 294 *e*P Pn 22 17 32.7 -3.7
MBDF *e* 22 19 19.7
MBDF Montbardon 10.27 294 *e*Pn Pn 22 17 32.7 -3.7
MBDF *e*Sn Sn 22 19 19.7 -11
MANZ Manzenberg 10.35 331 *e*Pn **Pn** **22 17 36.5 -0.8**
MANZ Manzenberg 10.35 331 *e*Pn **Pn** **22 17 36.5 -0.8**
BNI Bardonecchia 10.42 296 *e*P **Pn** **22 17 38.7 +0.2**
BNI *e* 22 19 33.8
BNI Bardonecchia 10.42 296 *e*P **Pn** **22 17 38.7 +0.2**
BNI *e*S **Sn** **22 19 33.8 -0.8**
BNI Bardonecchia 10.42 296 *e*Pn **Pn** **22 17 38.7 +0.2**
BNI *e*Sn **Sn** **22 19 33.8 -0.8**
NKC Novy Kostel 10.43 332 *e*PN **Pn** **22 17 40.2 +1.7**
NKC AMS AMS 22 22 00.0
comp=Z,2µm,17.8s
NKC Novy Kostel 10.43 332 *e*P **Pn** **22 17 40.2 +1.7**
NKC MLR MLR
comp=Z,2µm,17.8s
NKC Novy Kostel 10.43 332 Pn **Pn** **22 17 40.2 +1.7**
GRA1 Grafenberg Arr 10.46 327 *e*Pn **Pn** **22 17 37.9 -0.9**
GRF Grafenberg Arr 10.46 327 *e*Pn **Pn** **22 17 37.9 -0.9**
GRFO Grafenberg 10.46 327 *e*P **Pn** **22 17 37.5 -1.3**
GRFO Grafenberg 10.46 327 *e*P **Pn** **22 17 37.5 -1.3**
GRFO Grafenberg 10.46 327 *e*Pn **Pn** **22 17 37.5 -1.3**
SENIN Lac Senin/Sane 10.49 304 *e*Pn **Pn** **22 17 39.2 -0.2**
SENIN Lac Senin/Sane 10.49 304 *e*Pn **Pn** **22 17 39.2 -0.2**
SENIN *e*Sn **Sn** **22 19 32.5 -3.7**
SPAK Spaichingen-Ko 10.51 315 P **Pn** **22 17 38.6 -1.0**
LPG La Plagne 10.52 298 *e*Pn **Pn** **22 17 37.3 -2.6**
LPG *e*Sn Sn 22 19 23.4 -14
comp=Z,174nm,0.8s
LPG La Plagne 10.52 298 *e*P **Pn** **22 17 37.3 -2.6**
LPG La Plagne 10.52 298 *e*Pn **Pn** **22 17 37.3 -2.6**
LPG *e*Sn Sn 22 19 23.4 -14
BRG Berggiesshubel 10.53 339 *e*P **Pn** **22 17 40.5 +0.8**
comp=Z,34nm,1.4s
BRG S x 22 18 38.0
comp=N,1µm,12.5s
comp=E,1µm,15.5s
comp=Z,2µm,13.2s
BRG Berggiesshubel 10.53 339 *e*Pn **Pn** **22 17 40.8 +1.1**
BRG Berggiesshubel 10.53 339 *e*P **Pn** **22 17 40.5 +0.8**
BRG pmax pmax
comp=Z,34nm,1.4s
BRG MLR MLR
comp=N,1µm,12.5s
BRG MLR MLR
comp=E,1µm,15.5s
BRG Berggiesshubel 10.53 339 *e*P **Pn** **22 17 40.5 +0.8**
comp=E,1µm,12.5s
BRG Berggiesshubel 10.53 339 *e*Pn **Pn** **22 17 40.8 +1.1**
LPL La Plagne 10.53 299 *e*Pn **Pn** **22 17 37.5 -2.6**
LPL *e*Sn Sn 22 19 24.5 -13
comp=E,115nm,0.6s
LPL La Plagne 10.53 299 *e*P **Pn** **22 17 37.5 -2.6**
LPL La Plagne 10.53 299 *e*Pn **Pn** **22 17 37.5 -2.6**
LPL *e*Sn Sn 22 19 24.5 -13
BR101 Keskin Array S 10.55 94 *e*Pn **Pn** **22 19 39.7 -0.6**
BR101 Keskin Array S 10.55 94 *e*Pn **Pn** **22 19 39.7 -0.6**
BRTR Keskin Array B 10.55 94 Pn **Pn** **22 17 39.7 -0.6**
comp=E,0.2nm,0.3s,baz=268,slow=13,SNR=8.4
BRTR Keskin Array B 10.55 94 *i*P Pn 22 17 43.5 +3.3
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 10.55 94 *i*P Pn 22 17 43.5 +3.3
comp=Z,1.0nm,0.6s
BEL Belsk 10.65 3 *e*P Pn 22 17 55.2 +14
BEL Belsk 10.65 3 *e*P Pn 22 17 55.2 +14
RSL Roselend 10.66 299 P **Pn** **22 17 40.8 -1.0**
RSL Roselend 10.66 299 P **Pn** **22 17 40.8 -1.0**
STU Stuttgart 10.72 318 *e*Pn **Pn** **22 17 42.3 -0.1**
STU Stuttgart 10.72 318 *e*P **Pn** **22 17 41.8 -0.6**
STU Stuttgart 10.72 318 *e*P **Pn** **22 17 41.8 -0.6**
STU Stuttgart 10.72 318 *e*Pn **Pn** **22 17 42.3 -0.1**
STU Stuttgart 10.72 318 *e*Pn **Pn** **22 17 41.8 -0.6**
FBE Freiberg 10.73 337 *e*Pn **Pn** **22 17 43.9 +1.3**
FBE Freiberg 10.73 337 *e*Pn **Pn** **22 17 43.9 +1.3**
BBS Basel-Blauen 10.87 309 P **Pn** **22 17 43.5 -1.1**
BFO Black Forest 10.89 315 *e*Pn **Pn** **22 17 43.6 -1.2**
BFO Black Forest 10.89 315 *i*P **Pn** **22 17 43.7 -1.1**
BFO Black Forest 10.89 315 *e*Pn **Pn** **22 17 43.6 -1.2**
BFO Black Forest 10.89 315 *e*Pn **Pn** **22 17 42.8 -2.0**
ORIF Oris-en-Rattie 10.93 295 *e*Pn Pn 22 17 42.3 -3.1
ORIF *e*Sn Sn 22 19 35.4 -12
comp=Z,67nm,0.8s
ORIF *e*R
comp=Z,1µm,22.5s
ORIF Oris-en-Rattie 10.93 295 *e*P Pn 22 17 42.3 -3.1
ORIF *e* 22 19 35.4
ORIF Oris-en-Rattie 10.93 295 *e*Pn Pn 22 17 42.3 -3.1
ORIF *e*Sn Sn 22 19 35.4 -12
SMRF Simiane la Rot 10.95 289 *e*Pn Pn 22 17 41.8 -3.7
SMRF Simiane la Rot 10.95 289 *e*Sn Sn 22 19 35.8 -11
comp=Z,13nm,0.9s
SMRF Simiane la Rot 10.95 289 *e*Pn Pn 22 17 41.8 -3.7
SMRF Simiane la Rot 10.95 289 *e*Sn Sn 22 19 35.8 -11
comp=Z,27nm,0.9s
SMRF Simiane la Rot 10.95 289 *e*Sn Sn 22 19 35.8 -11
CLL Collm 11.18 337 *i*P **Pn** **22 17 50.0 +1.3**
CLL pmax pmax
comp=Z,27nm,1.2s
CLL MLR MLR
comp=Z,2µm,15.4s
CLL Collm 11.18 337 *e*Pn **Pn** **22 17 48.4 -0.3**
CLL Collm 11.18 337 *i*P **Pn** **22 17 50.0 +1.3**
comp=Z,2µm,15.4s
CLL Collm 11.18 337 *e*Pn **Pn** **22 17 48.4 -0.3**
CLL Collm 11.18 337 *i*Pn **Pn** **22 17 50.0 +1.3**
comp=Z,27nm,1.2s
CLL *i* 22 18 06.0
CLL *e*Sn Sn 22 19 35.0 -18
CLL *e*Sb 22 20 28.0
CLL *e*Sg 22 21 11.0
comp=Z,47nm,1.0s
LIBD Limburg 11.19 312 P **Pn** **22 17 47.7 -1.1**
LOMF Lomont 11.22 308 P **Pn** **22 17 48.3 -1.0**
LOMF Lomont 11.22 308 P **Pn** **22 17 48.3 -1.0**
MOF Molkenrain 11.29 310 P **Pn** **22 17 49.3 -1.0**
MOF Molkenrain 11.29 310 P **Pn** **22 17 49.3 -1.0**
CABF La Chapelle 11.35 303 *e*Pn **Pn** **22 17 48.6 -2.6**
CABF *e*Sn Sn 22 19 46.0 -11
comp=Z,73nm,0.7s
CABF La Chapelle 11.35 303 *e*P **Pn** **22 17 48.6 -2.6**
CABF La Chapelle 11.35 303 *e*Pn **Pn** **22 17 48.6 -2.6**
CABF *e*Sn Sn 22 19 46.0 -11
HINF Hinteralfeld 11.44 310 *e*Pn **Pn** **22 17 50.1 -2.1**
HINF *e*Sn Sn 22 19 47.5 -12
comp=Z,44nm,0.5s
HINF Hinteralfeld 11.44 310 *e*P **Pn** **22 17 50.1 -2.1**
HINF Hinteralfeld 11.44 310 *e*Pn **Pn** **22 17 50.1 -2.1**
HINF *e*Sn Sn 22 19 47.5 -12
KIEV Kiev 11.47 31 *e*P **Pn** **22 17 55.1 +2.5**
KIEV Kiev 11.47 31 *e*Pn **Pn** **22 17 52.0 -0.6**
KIEV Kiev 11.47 31 *e*P **Pn** **22 17 55.1 +2.5**
KIEV Kiev 11.47 31 *e*Pn **Pn** **22 17 52.0 -0.6**
ECH Echery 11.47 312 P **Pn** **22 17 51.3 -1.4**
ECH Echery 11.47 312 P **Pn** **22 17 51.3 -1.4**
AKASG Malin Array Be 11.48 31 Pn **Pn** **22 17 51.3 -1.5**
baz=216,slow=11,SNR=3.2
AKBB Malin Array Si 11.48 31 *e*P **Pn** **22 17 51.3 -1.5**
AKBB Malin Array Si 11.48 31 *e*P **Pn** **22 17 51.3 -1.5**
AKBB Malin Array Si 11.48 31 *e*Pn **Pn** **22 17 51.3 -1.5**
CDF Champ du Feu 11.51 313 *e*Pn **Pn** **22 17 50.5 -2.8**
CDF *e*Sn Sn 22 19 49.6 -12
comp=Z,29nm,0.6s
CDF Champ du Feu 11.51 313 *e*P **Pn** **22 17 50.5 -2.8**
CDF Champ du Feu 11.51 313 *e*Pn **Pn** **22 17 50.5 -2.8**
CDF *e*Sn Sn 22 19 49.6 -12
LANF Langenberg 11.56 316 P **Pn** **22 17 52.6 -1.4**
LANF Langenberg 11.56 316 P **Pn** **22 17 52.6 -1.4**
VIVF Saint-Julien-l 11.75 293 *e*Pn Pn 22 17 51.6 -5.0
VIVF *e*Sn Sn 22 19 55.2 -12
comp=Z,19nm,0.6s
VIVF Saint-Julien-l 11.75 293 *e*P Pn 22 17 51.6 -5.0
VIVF *e* 22 19 55.2
VIVF Saint-Julien-l 11.75 293 *e*Pn Pn 22 17 51.6 -5.0
VIVF *e*Sn Sn 22 19 55.2 -12
HAU Haudompre 11.82 310 *e*Pn **Pn** **22 17 55.0 -2.5**
HAU *e*Sn Sn 22 19 57.0 -12
comp=Z,55nm,0.6s
HAU *e*R
comp=Z,1µm,17.5s
HAU Haudompre 11.82 310 *e*P **Pn** **22 17 55.0 -2.5**
HAU Haudompre 11.82 310 *e*Pn **Pn** **22 17 55.0 -2.5**
HAU *e*Sn Sn 22 19 57.0 -12
THEF They Montfort 12.14 310 P **Pn** **22 18 00.6 -1.3**
THEF They Montfort 12.14 310 P **Pn** **22 18 00.6 -1.3**
LASF Ste Croix 12.19 289 *e*Pn Pn 22 17 57.7 -4.8
LASF Ste Croix 12.19 289 *e*Pn Pn 22 17 57.7 -4.8
GKP Gorka Klasztor 12.21 352 *e*P Pn 22 18 08.4 +5.7
GKP Gorka Klasztor 12.21 352 *e*P **Pn** 22 18 08.4 +5.7
RUP Ruppelstein 12.39 318 P **Pn** **22 18 04.3 -1.0**
PAGF Fort de Pagny 12.46 311 *e*Pn **Pn** **22 18 05.2 -1.0**
baz=124
PAGF *e*Sn Sn 22 20 12.2 -12
comp=Z,17nm,1.0s
PAGF Fort de Pagny 12.46 311 *e*Pn **Pn** **22 18 05.2 -1.0**
PAGF Fort de Pagny 12.46 311 *e*Pn **Pn** **22 18 05.2 -1.0**
PAGF *e*Sn Sn 22 20 12.2 -12
SFTF Sexfontaines 12.69 308 *e*Pn **Pn** **22 18 07.5 -1.8**
baz=132
SFTF *e*Sn Sn 22 20 17.6 -12
comp=Z,13nm,0.4s
SFTF Sexfontaines 12.69 308 *e*Pn **Pn** **22 18 07.5 -1.8**
SFTF Sexfontaines 12.69 308 *e*Pn **Pn** **22 18 07.5 -1.8**
SFTF *e*Sn Sn 22 20 17.6 -12
SMF Signal de Mont 12.81 301 *e*Pn **Pn** **22 18 08.5 -2.5**
SMF *e*Sn Sn 22 20 20.5 -12
comp=Z,31nm,0.5s
SMF Signal de Mont 12.81 301 *e*P **Pn** **22 18 08.5 -2.5**
SMF Signal de Mont 12.81 301 *e*Pn **Pn** **22 18 08.5 -2.5**
SMF *e*Sn Sn 22 20 20.5 -12
LBL Lubilhac 12.82 294 P **Pn** **22 18 10.2 -1.0**
LBL Lubilhac 12.82 294 P **Pn** **22 18 10.2 -1.0**
MEZF Maizieres J'vi 12.82 310 *e*Pn **Pn** **22 18 08.8 -2.3**
baz=122
MEZF *e*Sn Sn 22 20 20.7 -12
comp=Z,22nm,0.7s
MEZF Maizieres J'vi 12.82 310 *e*Pn **Pn** **22 18 08.8 -2.3**
WLF Walferdange 12.84 316 P **Pn** **22 18 12.6 +1.2**
comp=Z,28nm,1.5s
WLF Walferdange 12.84 316 *e*P **Pn** **22 18 11.9 +0.5**
WLF Walferdange 12.84 316 *e*P **Pn** **22 18 11.9 +0.5**
WLF Walferdange 12.84 316 *e*Pn **Pn** **22 18 11.9 +0.5**
SUW Suwalki 13.00 9 *e*P Pn 22 18 17.0 +3.5
SUW Suwalki 13.00 9 *e*P Pn 22 18 17.0 +3.5
LOR Lormes 13.02 303 *e*Pn Pn 22 18 10.1 -3.7
baz=120
LOR *e*Sn Sn 22 20 25.4 -12
comp=Z,77nm,0.6s
LOR *e*R
comp=Z,1µm,19.8s
LOR Lormes 13.02 303 *e*P Pn 22 18 10.1 -3.7
LOR Lormes 13.02 303 *e*Pn Pn 22 18 10.1 -3.7
LOR *e*Sn Sn 22 20 25.4 -12
SSF Saint Saulge 13.16 302 *e*Pn **Pn** **22 18 13.0 -2.8**
SSF *e*Sn Sn 22 20 29.0 -12
comp=Z,21nm,0.5s
SSF Saint Saulge 13.16 302 *e*P **Pn** **22 18 13.0 -2.8**
SSF Saint Saulge 13.16 302 *e*Pn **Pn** **22 18 13.0 -2.8**
SSF *e*Sn Sn 22 20 29.0 -12
AVF Avril sur Loir 13.17 301 *e*Pn Pn 22 18 11.3 -4.6
AVF *e*Sn Sn 22 20 29.1 -12
comp=Z,48nm,1.1s
AVF Avril sur Loir 13.17 301 *e*P Pn 22 18 11.3 -4.6
AVF Avril sur Loir 13.17 301 *e*Pn Pn 22 18 11.3 -4.6
AVF *e*Sn Sn 22 20 29.1 -12
MTLF Montolieu 13.30 285 *e*Pn Pn 22 18 13.0 -4.6
MTLF Montolieu 13.30 285 *e*P Pn 22 18 13.0 -4.6
MTLF Montolieu 13.30 285 *e*Pn Pn 22 18 13.0 -4.6
ANN Anapa 13.30 69 *e*P **Pn** **22 18 18.3 +0.7**
ANN *e*S **Sn** **22 20 44.2 -0.5**
ANN pmax pmax
comp=Z,34nm,1.3s
ANN Anapa 13.30 69 *e*P **Pn** **22 18 18.3 +0.7**
comp=Z,34nm,1.3s
ANN *e*S **Sn** **22 20 44.2 -0.5**
BGF Bois d'Agland 13.43 299 *e*Pn **Pn** **22 18 17.0 -2.5**
BGF *e*Sn Sn 22 20 35.1 -13
comp=Z,39nm,0.5s
BGF Bois d'Agland 13.43 299 *e*P **Pn** **22 18 17.0 -2.5**
BGF Bois d'Agland 13.43 299 *e*Pn **Pn** **22 18 17.0 -2.5**
BGF *e*Sn Sn 22 20 35.1 -13
MEM Membach 13.49 319 P **Pn** **22 18 20.2 0.0**
comp=Z,12nm,1.8s
MEM Membach 13.49 319 *e*P **Pn** **22 18 20.8 +0.6**
MEM Membach 13.49 319 *e*P **Pn** **22 18 20.8 +0.6**
MEM Membach 13.49 319 *e*Pn **Pn** **22 18 20.8 +0.6**
CAF Calvac 13.58 292 *e*Pn Pn 22 18 17.1 -4.5
CAF Calvac 13.58 292 *e*P Pn 22 18 17.1 -4.5
CAF Calvac 13.58 292 *e*Sn Sn 22 20 38.9 -13
comp=Z,2.4nm,0.7s
CAF Calvac 13.58 292 *e*Pn Pn 22 18 17.1 -4.5
CAF Calvac 13.58 292 *e*Sn Sn 22 20 38.9 -13
comp=Z,4.8nm,0.7s
CAF Calvac 13.58 292 *e*Sn Sn 22 20 38.9 -13
CAF Calvac 13.58 292 *e* Sn 22 20 38.9 -13
HGN Heimansgroeve 13.62 319 *e*P **Pn** **22 18 22.8 +0.8**
comp=Z,47nm,1.7s
TCF Toulx Ste Croi 13.78 298 *e*Pn Pn 22 18 20.7 -3.5
TCF *e*Sn Sn 22 20 43.6 -13
comp=Z,16nm,0.5s
TCF Toulx Ste Croi 13.78 298 *e*P Pn 22 18 20.7 -3.5
TCF Toulx Ste Croi 13.78 298 *e*Pn Pn 22 18 20.7 -3.5
TCF *e*Sn Sn 22 20 43.6 -13
HYF Humbligny 13.79 302 *e*P **Pn** **22 18 25.1 +0.7**
HYF *e*Sn Sn 22 20 44.0 -13
HYF Humbligny 13.79 302 *e*Pn **Pn** **22 18 25.1 +0.7**
HYF *e*Sn Sn 22 20 44.0 -13
GIVF Givet 13.79 315 *e*P **Pn** **22 18 24.2 -0.2**
GIVF Givet 13.79 315 *e*P **Pn** **22 18 24.2 -0.2**
GIVF Givet 13.79 315 *e*Pn **Pn** **22 18 24.2 -0.2**
DOU Dourbes 13.91 315 P **Pn** **22 18 25.6 -0.4**
comp=Z,23nm,1.7s
RJF Les Rejaudoux 14.03 293 *e*Pn Pn 22 18 23.1 -4.6
RJF *e*Sn Sn 22 20 49.7 -13
comp=Z,10.0nm,0.9s
RJF *e*R
comp=Z,1µm,18.2s
RJF Les Rejaudoux 14.03 293 *e*P Pn 22 18 23.1 -4.6
RJF *e* 22 20 49.7
RJF Les Rejaudoux 14.03 293 *e*Pn Pn 22 18 23.1 -4.6
RJF *e*Sn Sn 22 20 49.7 -13
BAIF Baives 14.10 314 *e*P **Pn** **22 18 28.5 -0.1**
BAIF Baives 14.10 314 *e*P **Pn** **22 18 28.5 -0.1**
BAIF Baives 14.10 314 *e*Pn **Pn** **22 18 28.5 -0.1**
MNK Minsk 14.31 19 *e*P Pn 22 18 27.0 -4.3
MNK MLR MLR
comp=Z,6µm,14.0s
SNF Seneffe 14.31 316 P **Pn** **22 18 32.2 +0.8**
LFF La Frestale 14.52 291 *e*Pn Pn 22 18 29.6 -4.7
LFF La Frestale 14.52 291 *e*P Pn 22 18 29.6 -4.7
LFF La Frestale 14.52 291 *e*Sn Sn 22 21 00.9 -13
comp=Z,14nm,1.1s
LFF La Frestale 14.52 291 *e*Pn Pn 22 18 29.6 -4.7
LFF La Frestale 14.52 291 *e*Sn Sn 22 21 00.9 -13
LFF La Frestale 14.52 291 *e*Sn Sn 22 21 00.9 -13
comp=Z,28nm,1.1s
MALT Malatya 14.52 95 ||*i*P **Pn** **22 18 37.3 +2.9**
EPF Esparros 14.66 284 *e*Pn Pn 22 18 31.6 -4.7
EPF Esparros 14.66 284 *e*P Pn 22 18 31.6 -4.7
EPF Esparros 14.66 284 *e*Pn Pn 22 18 31.6 -4.7
IIGN Ignalina 14.75 14 *e*P **P** **22 18 43.6 +0.4**
IIGN IAmb IAmb 22 18 44.2
comp=Z,17nm,1.1s
IIGN Ignalina 14.75 14 *e*P **P** **22 18 43.6 +0.4**
SNR=40
MMAI Mount Meron Ar 14.79 119 Pn **Pn** **22 18 36.0 -2.1**
baz=320,slow=13,SNR=2.8
MMAI LR LR 22 25 21.8
comp=Z,519nm,20.6s,baz=315,slow=42
SOC Sochi 14.81 74 *e*P **P** **22 18 42.2 -1.7**
SOC *e* 22 21 25.4
SOC pmax pmax
comp=Z,25nm,0.8s
SOC MLR MLR
comp=Z,218nm,13.0s
SOC Sochi 14.81 74 *e*P **P** **22 18 42.2 -1.7**
comp=Z,25nm,0.8s
IDID Didziasalis 14.82 15 *e*P **P** **22 18 44.2 +0.3**
IDID IAmb IAmb 22 18 45.8
comp=Z,12nm,1.1s
ISAL Salakas 14.94 14 *e*P **P** **22 18 45.7 +0.3**
ISAL IAmb IAmb 22 18 47.4
comp=Z,22nm,1.1s
IZAR Zarasai 15.13 14 *e*P **P** **22 18 47.9 +0.4**
IZAR IAmb IAmb 22 18 49.6
comp=Z,24nm,1.1s
ETSF Etsaut 15.32 283 *e*Pn **Pn** **22 18 40.5 -4.6**
ETSF Etsaut 15.32 283 *e*P **Pn** **22 18 40.5 -4.6**
ETSF Etsaut 15.32 283 *e*Pn **Pn** **22 18 40.5 -4.6**
MFF Saint Martin d 15.43 297 *e*Pn Pn 22 18 41.6 -4.9
MFF *e*Sn Sn 22 21 22.9 -14
comp=Z,7.4nm,0.6s
MFF Saint Martin d 15.43 297 *e*P Pn 22 18 41.6 -4.9
MFF Saint Martin d 15.43 297 *e*Pn Pn 22 18 41.6 -4.9
MFF *e*Sn Sn 22 21 22.9 -14
SJPF Ste Jean 15.81 284 *e*Pn **Pn** **22 18 47.0 -4.4**
SJPF Ste Jean 15.81 284 *e*P **Pn** **22 18 47.0 -4.4**
SJPF Ste Jean 15.81 284 *e*Pn **Pn** **22 18 47.0 -4.4**
LDF La Druitiere 15.99 304 *e*Pn **Pn** **22 18 50.0 -3.7**
LDF *e*Sn Sn 22 21 36.6 -14
comp=Z,47nm,1.3s
LDF La Druitiere 15.99 304 *e*P **Pn** **22 18 50.0 -3.7**
LDF *e* 22 21 36.6
LDF La Druitiere 15.99 304 *e*Pn **Pn** **22 18 50.0 -3.7**
LDF *e*Sn Sn 22 21 36.6 -14
FLN La Foliniere 16.27 305 *e*Pn **Pn** **22 18 53.5 -3.8**
baz=114
FLN *e*R
comp=Z,969nm,21.2s
FLN La Foliniere 16.27 305 *e*P **Pn** **22 18 53.5 -3.8**
FLN La Foliniere 16.27 305 *e*Pn **Pn** **22 18 53.5 -3.8**
ASF Jabal al Asfar 16.30 118 LR LR 22 26 40.9
comp=Z,388nm,20.6s,baz=264,slow=43
GRR Gorron 16.39 303 *e*Pn **Pn** **22 18 55.0 -3.7**
GRR *e*Sn Sn 22 21 46.2 -14
comp=Z,19nm,1.0s
GRR Gorron 16.39 303 *e*P **Pn** **22 18 55.0 -3.7**
GRR *e* 22 21 46.2
GRR Gorron 16.39 303 *e*Pn **Pn** **22 18 55.0 -3.7**
GRR *e*Sn Sn 22 21 46.2 -14
VSR Storozhevoye 16.61 46 *e*P **Pn** **22 19 02.6 +1.1**
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,20nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR MLR MLR
comp=N,260nm,17.0s
VSR MLR MLR
comp=E,710nm,17.0s
VSR MLR MLR
comp=Z,1µm,17.0s
VSR Storozhevoye 16.61 46 *e*P **Pn** **22 19 02.6 +1.1**
KIV Kislovodsk 16.97 73 ||*e*P **P** **22 19 10.4 +2.3**
KIV *i*S **S** **22 22 23.6 -0.3**
KIV pmax pmax
comp=Z,8.0nm,1.2s
KIV MLR MLR
comp=Z,252nm,15.0s
KIV Kislovodsk 16.97 73 *e*Pn **Pn** **22 19 05.4 -0.9**
comp=Z,14nm,0.9s
KIV *i*S **S** **22 22 23.6 -0.3**
KIV Kislovodsk 16.97 73 *e*Pn **Pn** **22 19 05.4 -0.9**
comp=Z,14nm,0.9s
KBZ Khabaz 17.12 74 P **Pn** **22 19 08.4 +0.4**
comp=Z,0.1nm,0.3s,baz=290,slow=12,SNR=2.5
GOF Gofitskoye 17.29 69 *e*P Pn 22 19 02.5 -7.6
SGMF Saint Gilles 17.43 301 *e*Pn **Pn** **22 19 09.3 -2.6**
SGMF Saint Gilles 17.43 301 *e*P **Pn** **22 19 09.3 -2.6**
SGMF Saint Gilles 17.43 301 *e*Pn **Pn** **22 19 09.3 -2.6**
SGMF Saint Gilles 17.43 301 *e*Pn **Pn** **22 19 09.3 -2.6**
ONI Oni 17.55 78 P **P** **22 19 16.5 +2.0**
ONI Oni 17.55 78 P **P** **22 19 16.5 +2.0**
OBN Obninsk 17.73 33 P **Pn** **22 19 14.6 -0.9**
comp=Z,1.7nm,0.3s,baz=236,slow=2.5,SNR=12
OBN Obninsk 17.73 33 *d*P **P** **22 19 15.9 -0.3**
OBN *i*S **S** **22 22 36.3 -2.7**
OBN pmax pmax
comp=Z,80nm,1.6s
OBN MLR MLR
comp=Z,551nm,15.0s
OBN Obninsk 17.73 33 *e*Pn **Pn** **22 19 13.4 -2.1**
comp=Z,86nm,1.3s
OBN Obninsk 17.73 33 *i*P **P** **22 19 15.9 -0.3**
comp=Z,80nm,1.6s
OBN *i*S **S** **22 22 36.3 -2.7**
comp=Z,551nm,15.0s
OBN Obninsk 17.73 33 *e*Pn **Pn** **22 19 13.4 -2.1**
comp=Z,86nm,1.3s
QUIF Quistinic 17.74 300 *e*Pn **Pn** **22 19 12.9 -2.8**
QUIF Quistinic 17.74 300 *e*P **Pn** **22 19 12.9 -2.8**
QUIF Quistinic 17.74 300 *e*Pn **Pn** **22 19 12.9 -2.8**
QUIF Quistinic 17.74 300 *e*Pn **Pn** **22 19 12.9 -2.8**
VSU Vasula 17.81 12 *e*P **P** **22 19 17.8 +0.8**
VSU pmax pmax
comp=Z,71nm,1.2s
VSU Vasula 17.81 12 *e*P **P** **22 19 17.8 +0.8**
comp=Z,71nm,1.2s
ROSF Rostrenen 17.91 301 *e*Pn **Pn** **22 19 16.0 -1.8**
ROSF Rostrenen 17.91 301 *e*P **Pn** **22 19 16.0 -1.8**
ROSF Rostrenen 17.91 301 *e*Pn **Pn** **22 19 16.0 -1.8**
ROSF Rostrenen 17.91 301 *e*Pn **Pn** **22 19 16.0 -1.8**
PRTR Priterechnaya 18.12 74 ||*i*P P 22 19 25.9 +5.3
LACR Lac 18.16 77 *e*P **P** **22 19 23.7 +2.5**
ES19 SONSECA Array 18.19 273 *e*Pn **Pn** **22 19 18.5 -2.9**
ES19 SONSECA Array 18.19 273 *e*Pn **Pn** **22 19 18.5 -2.9**
ESDC Sonseca Array 18.25 273 P **P** **22 19 22.4 +0.2**
comp=Z,0.1nm,0.3s,baz=72,slow=12,SNR=16
PAB San Pablo 18.57 273 *e*P **P** **22 19 25.1 -0.6**
PAB pmax pmax
comp=Z,26nm,1.6s
PAB San Pablo 18.57 273 *e*P **P** **22 19 25.0 -0.6**
comp=Z,26nm,1.6s
PAB San Pablo 18.57 273 *e*P **P** **22 19 25.1 -0.6**
comp=Z,26nm,1.6s
TBLG Delisi 18.58 80 P Pn 22 19 33.7 +7.6
TBLG Delisi 18.58 80 *e*P Pn 22 19 33.7 +7.6
MOS Moscow 18.60 33 *e*P **P** **22 19 25.3 -0.5**
MOS pmax pmax
comp=Z,112nm,1.3s
MOS pmax pmax
comp=Z,100nm,1.3s
MOS MLR MLR
comp=Z,700nm,14.0s
MOS Moscow 18.60 33 *e*P **P** **22 19 25.3 -0.5**
comp=Z,700nm,14.0s
GNI Garni 18.83 85 P **P** **22 19 27.3 -1.3**
comp=Z,0.3nm,0.3s,baz=266,slow=8.1,SNR=8.6
GNI LR LR 22 28 01.0
comp=Z,271nm,18.8s,baz=280,slow=41
GNI Garni 18.83 85 *d*P **Pn** **22 19 30.2 +0.9**
GNI pmax pmax
comp=Z,28nm,1.7s
GNI Garni 18.83 85 *e*P **P** **22 19 26.8 -1.9**
comp=Z,42nm,1.5s
GNI Garni 18.83 85 *e*P **P** **22 19 26.8 -1.9**
comp=Z,42nm,1.5s
DGRG David-gareji 19.09 81 P **Pn** **22 19 36.2 +3.9**
HFS Hagfors 19.34 351 P **P** **22 19 32.9 -1.0**

comp=Z,0.6nm,0.3s,baz=163,slow=11,SNR=16
HFS LR LR 22 27 19.0
comp=Z,444nm,21.7s,baz=170,slow=38
HFS Hagfors 19.34 351 P **P 22 19 32.9 -1.0**
HFS pmax pmax
comp=Z,1.0nm,0.3s
HFS MLR MLR
comp=Z,444nm,21.7s
IMRD Marand 19.89 89 *e*P **P 22 19 40.5 +0.2**
IMRD Marand 19.89 89 *e*P **P 22 19 40.5 +0.2**
PBRG Braganca 19.97 281 *e*P **Pn 22 19 42.2 -0.5**
comp=Z,36nm,1.6s
MVO Moncorvo 20.27 279 *e*P Pn 22 19 45.5 -0.9
comp=Z,29nm,1.3s
MVO *e*S Sn 22 23 37.2 +3.2
MVO *e*LR LR 22 26 50.7
comp=Z,408nm,16.0s
TZK Tazeka 20.34 257 *i* P **P 22 19 46.0 +0.8**
ITBZ Tabriz 20.36 90 *e*P **P 22 19 45.4 +0.1**
ITBZ Tabriz 20.36 90 *e*P **P 22 19 45.4 +0.1**
MAK Makhachkala 20.51 76 P **P 22 19 46.9 +0.2**
MAK *e* 22 20 04.9
MAK *e*S Sn 22 23 37.6 -1.8
MAK *e*SS **PcP 22 23 57.8 +0.2**
MAK pmax pmax
comp=Z,59nm,1.2s
MAK MLR MLR
comp=Z,517nm,14.0s
MAK Makhachkala 20.51 76 P **P 22 19 46.9 +0.2**
comp=Z,59nm,1.2s
MAK Makhachkala 20.51 76 *e*PcP **PcP 22 23 57.8 +0.2**
comp=Z,517nm,14.0s
NB2 NORSAR Subarra 20.57 348 P **P 22 19 46.4 -0.9**
comp=Z,13nm,1.0s,baz=161,slow=11
NB2 NORSAR Subarra 20.57 348 P **P 22 19 46.4 -0.9**
comp=Z,13nm,1.0s,SNR=6.0
NB200 NORSAR Array S 20.57 348 *e*P **P 22 19 46.8 -0.5**
NB200 NORSAR Array S 20.57 348 *e*P **P 22 19 46.8 -0.5**
NOA NORSAR Array B 20.57 348 P **P 22 19 46.8 -0.5**
comp=Z,4.3nm,0.6s,baz=151,slow=9.9,SNR=13
NOA LR LR 22 28 26.1
comp=Z,381nm,21.1s,baz=165,slow=39
NOA NORSAR Array B 20.57 348 P **P 22 19 46.8 -0.5**
NOA pmax pmax
comp=Z,4.0nm,0.6s
NOA MLR MLR
comp=Z,381nm,21.1s
FIA0 FINESS Array S 20.61 8 *e*P **P 22 19 46.3 -1.4**
FIA0 FINESS Array S 20.61 8 *e*P **P 22 19 46.3 -1.4**
FIA0 FINESS Array S 20.61 8 *e*P **P 22 19 46.3 -1.4**
FINES FINESS Array B 20.61 8 P **P 22 19 46.3 -1.4**
comp=Z,14nm,0.9s,baz=178,slow=9.5,SNR=16
FINES LR LR 22 28 37.3
comp=Z,1µm,18.4s,baz=192,slow=39
FINES FINESS Array B 20.61 8 *c*e**P P 22 19 47.2 -0.5**
FINES pmax pmax
comp=Z,14nm,0.9s
FINES FINESS Array B 20.61 8 *e*P **P 22 19 47.2 -0.5**
comp=Z,14nm,0.9s
NBO02 NORSAR Array S 20.63 347 *e*P **P 22 19 47.6 -0.4**
NBO02 NORSAR Array S 20.63 347 *e*P **P 22 19 47.6 -0.4**
EKA Eskdalemuir Ar 20.75 321 P **P 22 19 49.6 +0.3**
comp=Z,14nm,1.0s,baz=117,slow=12,SNR=14
ESK Eskdalemuir 20.76 321 *i* P Pn 22 19 50.6 -1.2
ESK Eskdalemuir 20.76 321 *e*P **P 22 19 49.6 +0.3**
comp=Z,387nm,2.5s
ESK Eskdalemuir 20.76 321 *e*P **P 22 19 49.6 +0.3**
comp=Z,387nm,2.5s
PVRL Vila Real 20.77 279 *e*P Pn 22 19 53.0 +0.9
MTE Manteigas 20.79 277 *e*P **P 22 19 50.7 +0.8**
comp=Z,49nm,1.2s
MTE *e*S Sn 22 23 47.7 +1.2
MTE *e*LR LR 22 26 17.9
comp=Z,558nm,18.0s
MTE Manteigas 20.79 277 *e*P **P 22 19 48.5 -1.4**
comp=Z,20nm,1.0s
MTE Manteigas 20.79 277 *e*P **P 22 19 48.5 -1.4**
comp=Z,20nm,1.0s
POLO Lamas de Olo 20.81 280 *e*P Pn 22 19 51.9 -0.8
comp=Z,11nm,1.9s
PCBR Castelo Branco 20.86 275 *e*P Pn 22 19 52.9 -0.2
comp=Z,30nm,1.7s
PMRV Marv??o 20.89 274 *e*P Pn 22 19 52.4 -1.1
comp=Z,38nm,1.9s
PMRV *e*S **S 22 23 40.5 -2.1**
PMRV *e*LR LR 22 26 14.4
comp=Z,274nm,18.0s
PCAB Cabril 20.93 281 *e*P Pn 22 19 52.9 -1.1
comp=Z,39nm,2.0s
PBAR Barrancos 20.95 271 *e*P **P 22 19 51.7 +0.2**
comp=Z,81nm,1.6s
TGT Taghat 20.99 258 *i* P **P 22 19 52.0 -0.1**
PVIS Viseu 20.99 278 *e*P **P 22 19 53.4 +1.3**
comp=Z,31nm,1.6s
IHRS Heris 21.01 89 *e*P **P 22 19 53.5 +1.1**
IHRS Heris 21.01 89 *e*P **P 22 19 53.5 +1.1**
PGAV Gavieira, Arco 21.08 281 *e*P **P 22 19 52.0 -1.0**
comp=Z,69nm,1.4s
PGAV *e*S Sn 22 23 52.5 -0.9
PGAV *e*LR LR 22 28 17.2
comp=Z,274nm,16.0s
TSY Tnine Yamani 21.11 262 *i* P **P 22 19 51.0 -2.3**
PESTR Estremoz 21.17 273 *e*P **P 22 19 55.3 +1.3**
comp=Z,43nm,1.5s
MDT Midelt 21.27 255 P **P 22 19 56.1 +0.9**
comp=Z,6.7nm,0.9s,baz=71,slow=10,SNR=10
MIF Mishlifen 21.43 257 *i* P **P 22 19 55.0 -2.0**
EVO Evora 21.58 272 *e*P **P 22 19 58.9 +0.6**
comp=Z,19nm,1.0s
EVO *e*R
comp=Z,870nm,17.5s
PMTG Montargil 21.60 274 *e*P **P 22 19 58.6 +0.1**
comp=Z,88nm,1.6s
EVOP Sao Brissos 21.67 272 *e*P **P 22 19 58.9 -0.3**
EVOP Sao Brissos 21.67 272 *e*P **P 22 19 58.9 -0.3**
comp=Z,9.3nm,1.0s
EVOP Sao Brissos 21.67 272 *e*P **P 22 19 58.9 -0.3**
PVAQ Vaqueiros 21.69 269 *e*P **P 22 20 03.0 +3.4**
comp=Z,41nm,1.0s
PVAQ *e*S **S 22 24 01.0 +2.5**
IDHR Dehrash 21.80 99 *e*P **P 22 19 59.9 -1.0**
IDHR Dehrash 21.80 99 *e*P **P 22 19 59.9 -1.0**
IVIS Veis 22.22 99 *e*P **P 22 20 03.2 -2.1**
IVIS Veis 22.22 99 *e*P **P 22 20 03.2 -2.1**
IKOM Komasi 22.86 99 *e*P **P 22 20 11.7 -0.5**
IKOM Komasi 22.86 99 *e*P **P 22 20 11.7 -0.5**
TMCR Tamitsa 25.29 19 *e*P **P 22 20 34.0 -0.7**
TMCR *e* 22 21 09.0
TMCR pmax pmax
comp=Z,98nm,1.3s
TMCR Tamitsa 25.29 19 *e*P **P 22 20 34.0 -0.7**
comp=Z,98nm,1.3s
PRGR Permogore 25.67 29 *e*P **P 22 20 36.8 -1.4**
PRGR S **S 22 25 00.2 -4.9**
PRGR pmax pmax
comp=Z,47nm,1.1s
PRGR Permogore 25.67 29 *e*P **P 22 20 36.8 -1.4**
comp=Z,47nm,1.1s
IVRN Varamin 25.68 94 *e*P **P 22 20 37.6 -1.0**
IVRN Varamin 25.68 94 *e*P **P 22 20 37.6 -1.0**
IDMV Damavand 25.69 92 *e*P **P 22 20 37.9 -1.0**
IDMV Damavand 25.69 92 *e*P **P 22 20 37.9 -1.0**
IPIR Pirpir 26.06 99 *e*P **P 22 20 39.2 -3.1**
IPIR Pirpir 26.06 99 *e*P **P 22 20 39.2 -3.1**
IKLH Kolahrood 26.28 97 *e*P **P 22 20 44.0 -0.3**
IKLH Kolahrood 26.28 97 *e*P **P 22 20 44.0 -0.3**
IZEF Zefreh 27.03 97 *e*P **P 22 20 52.0 +0.9**
IZEF Zefreh 27.03 97 *e*P **P 22 20 52.0 +0.9**
APA Apatity 27.43 11 *i*P **P 22 20 50.5 -3.5**
APA pmax pmax
comp=Z,12nm,0.8s
APA MLR MLR
comp=Z,2µm,14.0s
AKTK Aktyubinsk 27.83 58 *e*P **P 22 20 56.7 -1.1**
AKTO Aktyubinsk 27.83 58 P **P 22 20 56.7 -1.1**
comp=Z,0.7nm,0.4s,baz=265,slow=8.4,SNR=5.6
ISAD Sadrabad 28.50 98 *e*P **P 22 21 03.5 -0.8**
ISAD Sadrabad 28.50 98 *e*P **P 22 21 03.5 -0.8**
ARA0 ARCESS Array S 28.55 4 *e*P **P 22 21 03.1 -0.9**
ARA0 ARCESS Array S 28.55 4 *e*P **P 22 21 03.1 -0.9**
ARCES ARCESS Array B 28.55 4 P **P 22 21 03.1 -0.9**
comp=Z,3.6nm,1.0s,baz=191,slow=5.9,SNR=4.1
ARCES ARCESS Array B 28.55 4 P **P 22 21 03.1 -0.9**
ARCES pmax pmax
comp=Z,4.0nm,1.0s

ARU Arti 29.17 45 *c i*P **P 22 21 12.5 +2.8**
ARU 22 22 05.1
ARU 22 24 15.0
ARU S **S 22 26 06.1 +5.7**
ARU SS **SnSn 22 27 29.7 +4.1**
ARU pmax pmax
comp=Z,5.0nm,1.2s
ARU MLR MLR
comp=Z,742nm,17.0s
ARU Arti 29.17 45 *e*P **P 22 21 07.8 -1.8**
comp=Z,33nm,1.7s
ARU Arti 29.17 45 PcP **PcP 22 24 15.0 -1.5**
ARU Arti 29.17 45 *e*P **P 22 21 07.8 -1.8**
comp=Z,33nm,1.7s
GEYT Alibeck 29.46 84 P **P 22 21 10.7 -1.8**
comp=Z,1.5nm,0.6s,baz=292,slow=7.8,SNR=3.9
GEYT LR LR 22 35 48.9
comp=Z,163nm,20.9s,baz=330,slow=42
SVE Sverdlovsk 30.38 45 *e*P **P 22 21 20.7 +0.3**
SVE pmax pmax
comp=Z,11nm,0.9s
SVE MLR MLR
comp=Z,802nm,16.0s
SVE Sverdlovsk 30.38 45 *e*P **P 22 21 20.7 +0.3**
comp=Z,802nm,16.0s
TOA0 Torodi Ar. Sit 32.18 215 *e*P **P 22 21 37.3 +0.8**
TOA0 Torodi Ar. Sit 32.18 215 *e*P **P 22 21 37.3 +0.8**
TORD Torodi Ar. Bea 32.18 215 P **P 22 21 37.3 +0.8**
comp=Z,3.0nm,1.1s,baz=38,slow=7.3,SNR=10.0
TORD LR LR 22 37 21.6
comp=Z,399nm,18.8s,baz=15,slow=41
BRVK Borovoye 35.53 53 *e*P **P 22 22 05.7 +0.4**
BRVK pmax pmax
comp=Z,16nm,1.2s
BRVK Borovoye 35.53 53 *e*P **P 22 22 05.7 +0.4**
comp=Z,16nm,1.2s
BRVK Borovoye 35.53 53 *e*P **P 22 22 02.9 -2.4**
comp=Z,9.6nm,0.9s
BVAR Borovoye Array 35.59 53 P **P 22 22 05.5 -0.3**
comp=Z,3.1nm,0.8s,baz=258,slow=7.4,SNR=17
BVAR Borovoye Array 35.59 53 P **P 22 22 05.5 -0.3**
BVAR pmax pmax
comp=Z,3.0nm,0.8s
EKS2 Erkin-Say 39.51 69 *e*P **P 22 22 38.1 -1.2**
EKS2 pmax pmax
comp=Z,4.0nm,0.8s
EKS2 Erkin-Say 39.51 69 *e*P **P 22 22 38.1 -1.2**
comp=Z,4.4nm,0.8s
EKS2 Erkin-Say 39.51 69 *e*P **P 22 22 38.1 -1.2**
comp=Z,4.5nm,0.8s
KURBB Kurchatov Arra 40.86 56 P **P 22 22 49.4 -0.8**
comp=Z,3.8nm,1.0s,baz=282,slow=9.3,SNR=17
KURBB PP **PnPn 22 24 28.9 +0.3**
comp=Z,2.1nm,1.1s,baz=285,slow=12,SNR=4.7
DBIC Dimbokro 40.87 220 P **P 22 22 52.0 +1.4**
comp=Z,10nm,1.1s,baz=23,slow=11,SNR=3.6
DBIC LR LR 22 41 55.4
comp=Z,292nm,19.4s,baz=14,slow=39
DBIC Dimbokro 40.87 220 *e*P **P 22 22 51.3 +0.6**
DBIC pmax pmax
comp=Z,55nm,1.5s
DBIC Dimbokro 40.87 220 *e*P **P 22 22 51.2 +0.6**
comp=Z,55nm,1.5s
DBIC Dimbokro 40.87 220 *e*P **P 22 22 51.2 +0.6**
comp=Z,55nm,1.5s
KURK Kurchatov 40.90 56 *e*P **P 22 22 49.3 -1.2**
KURK pmax pmax
comp=Z,8.0nm,1.3s
KURK Kurchatov 40.90 56 *e*P **P 22 22 49.3 -1.2**
comp=Z,8.3nm,1.3s
KURK Kurchatov 40.90 56 *e*P **P 22 22 49.3 -1.2**
comp=Z,8.3nm,1.3s
KSH Kashi 42.10 73 P P 22 23 06.4 +5.7
KSH sP sP 22 23 10.1 -0.6
KSH PP **PP 22 24 41.1 +2.9**
KSH PcP **PcP 22 24 58.1 +3.0**
KSH S **S 22 29 23.3 +4.4**
KSH sS sS 22 29 27.2 -3.5
KSH SS SS 22 32 18.1 -8.4
KSH pmax pmax
comp=Z,67nm,4.3s
KSH LR LR
comp=N,200nm,4.7s
KSH LR LR
comp=E,220nm,4.6s
KSH LR LR
comp=Z,360nm,5.3s
NVS Novosibirsk 42.99 49 *e*P **P 22 23 06.0 -1.6**
NVS *e* 22 24 47.7
NVS pmax pmax
comp=Z,19nm,1.7s
NVS pmax pmax
comp=N,4.0nm,1.2s
NVS pmax pmax
comp=E,6.0nm,1.2s
NVS Novosibirsk 42.99 49 *e*P **P 22 23 06.0 -1.6**
comp=E,19nm,1.7s
ZAA1 Zalesovo Array 44.06 50 *e*P **P 22 23 15.4 -0.8**
ZAA1 Zalesovo Array 44.06 50 *e*P **P 22 23 15.4 -0.8**
ZAA0 Zalesovo Array 44.06 50 *e*P **P 22 23 15.4 -0.7**
ZAA0 Zalesovo Array 44.06 50 *e*P **P 22 23 15.4 -0.7**
ZALV Zalesovo Beam 44.06 50 P **P 22 23 15.4 -0.8**
comp=E,4.4nm,0.6s,baz=278,slow=9.2,SNR=18
ZALV pmax pmax
comp=Z,4.0nm,0.6s
MK32 Makanchi Array 44.16 61 *e*P **P 22 23 16.2 -0.9**
MK32 Makanchi Array 44.16 61 *e*P **P 22 23 16.2 -0.9**
MKAR Makanchi Array 44.16 61 P **P 22 23 16.3 -0.9**
comp=Z,2.5nm,0.9s,baz=289,slow=7.2,SNR=7.5
MKAR Makanchi Array 44.16 61 *e*P **P 22 23 15.0 -2.2**
MKAR Makanchi Array 44.16 61 *e*P **P 22 23 15.0 -2.2**
MK01 Makanchi Array 44.18 61 *e*P **P 22 23 16.0 -1.3**
MK01 Makanchi Array 44.18 61 *e*P **P 22 23 16.0 -1.3**
KMBO Kilima Mbogo 44.98 155 LR LR 22 44 37.5
comp=Z,95nm,19.4s,baz=346,slow=39
WMQ Urumqi 48.74 63 P **P 22 23 56.0 +2.9**
WMQ pP **pP 22 24 02.0 +1.6**
WMQ sP **sP 22 24 05.0 +1.8**
WMQ PMZ
comp=Z,8.0nm,0.9s
WMQ PMZ
comp=Z,78nm,4.2s
WMQ LN
comp=Z,180nm,18.8s
WMQ LE
comp=Z,170nm,20.8s
WMQ LZ
comp=Z,170nm,20.0s
DANN Dangsing 52.89 83 *e*P **P 22 24 23.0 -1.9**
comp=Z,6.9nm,0.9s
GKN Gorkha 53.73 83 *e*P **P 22 24 28.7 -2.2**
comp=Z,33nm,0.8s
DMN Daman 54.29 83 *e*P **P 22 24 32.8 -2.3**
comp=Z,32nm,1.0s
KKN Kakani 54.32 82 *e*P **P 22 24 32.5 -2.8**
comp=Z,18nm,0.8s
PKI Pulchoki 54.54 83 *e*P **P 22 24 35.1 -1.9**
GUN Gumba 54.71 82 *e*P **P 22 24 36.9 -1.4**
TLY Talaya 55.60 49 *e*P **P 22 24 45.2 +1.2**
TLY pmax pmax
comp=Z,12nm,1.4s
TLY MLR MLR
comp=Z,451nm,15.0s
TLY Talaya 55.60 49 *e*P **P 22 24 45.2 +1.2**
comp=Z,451nm,15.0s
RAMN Ramite 55.76 82 *e*P **P 22 24 43.3 -2.5**
comp=Z,62nm,1.0s
ZAK Zakamensk 55.94 50 *e*P **P 22 24 45.9 -0.6**
ZAK pmax pmax
comp=Z,3.0nm,1.4s
ZAK Zakamensk 55.94 50 *e*P **P 22 24 45.9 -0.6**
comp=Z,3.0nm,1.4s
SCHQ Schefferville 55.95 316 P **P 22 24 46.0 -0.4**
comp=Z,2.9nm,0.7s,baz=79,slow=7.6,SNR=4.8
SCHQ Schefferville 55.95 316 *e*P **P 22 24 46.6 +0.1**
comp=Z,29nm,1.9s
SCHQ Schefferville 55.95 316 *e*P **P 22 24 46.6 +0.1**
comp=Z,29nm,1.9s
ODAN Odare 56.40 82 *e*P **P 22 24 48.6 -1.7**
comp=Z,26nm,0.9s
BOD Bodaibo 58.28 39 *e*P **P 22 25 01.2 -1.6**
BOD pmax pmax
comp=Z,32nm,1.2s
BOD Bodaibo 58.28 39 *e*P **P 22 25 01.2 -1.6**
comp=Z,32nm,1.2s

GTA Gaotai 58.82 63 *e*P **P 22 25 07.1 0.0**
GTA pP **pP 22 25 13.3 -1.1**
GTA sP **sP 22 25 16.3 -1.0**
GTA S **S 22 33 09.3 -1.9**
GTA SS **SS 22 37 04.2 0.0**
GTA PMZ
comp=Z,3.0nm,1.3s
GTA PMZ
comp=Z,42nm,5.2s
GTA LN
comp=Z,160nm,19.2s
GTA LE
comp=Z,300nm,17.1s
GTA LZ
comp=Z,290nm,19.7s
SONA0 Songino Array 58.91 52 *e*P **P 22 25 07.2 -0.4**
SONA0 Songino Array 58.91 52 *e*P **P 22 25 07.2 -0.4**
SONA1 Songino Array 58.91 52 *e*P **P 22 25 06.5 -1.1**
SONA1 Songino Array 58.91 52 *e*P **P 22 25 06.5 -1.1**
SONM Songino Array 58.91 52 P **P 22 25 07.2 -0.4**
comp=Z,4.0nm,0.8s,baz=288,slow=8.1,SNR=19
SONM Songino Array 58.91 52 P **P 22 25 07.2 -0.4**
SONM pmax pmax
comp=Z,4.0nm,0.9s
LZH Lanzhou 63.28 64 *e*P **P 22 25 38.0 +0.6**
LZH pP **pP 22 25 44.3 -0.5**
LZH sP **sP 22 25 47.1 -0.5**
LZH PP **PP 22 27 58.5 +2.1**
LZH PMZ
comp=Z,22nm,1.3s
LZH PMZ
comp=Z,87nm,8.1s
LZH LN
comp=Z,310nm,15.5s
LZH LE
comp=Z,340nm,16.0s
LZH LZ
comp=Z,440nm,19.6s
HHC Hu-ho-hao-te 65.71 56 *e*P **P 22 25 55.1 +1.9**
HHC S **S 22 34 37.5 -0.5**
HHC SS **SS 22 38 52.7 +1.0**
HHC PMZ
comp=Z,14nm,1.2s
HHC PMZ
comp=Z,81nm,5.6s
HHC LN
comp=Z,91nm,14.5s
HHC LE
comp=Z,200nm,15.3s
HHC LZ
comp=Z,280nm,15.3s
CD2 Chengdu 66.09 69 P **P 22 25 55.4 -0.3**
CD2 pP **pP 22 26 02.0 -1.2**
CD2 sP **sP 22 26 04.7 -1.3**
CD2 PP **PP 22 28 20.4 -0.6**
CD2 S **S 22 34 42.2 -0.6**
CD2 sS **sS 22 34 53.5 -1.5**
CD2 SKS **SKSac 22 35 49.8 -0.7**
CD2 SS **SS 22 38 58.4 +0.4**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,90nm,5.5s
CD2 LN
comp=Z,150nm,5.9s
CD2 LZ
comp=Z,210nm,6.3s
FCC Fort Churchill 66.42 329 *e*P **P 22 25 56.4 -0.8**
FCC pmax pmax
comp=Z,9.0nm,1.0s
FCC Fort Churchill 66.42 329 *e*P **P 22 25 56.4 -0.8**
comp=Z,9.2nm,1.0s
FCC Fort Churchill 66.42 329 *e*P **P 22 25 56.4 -0.8**
comp=Z,9.2nm,1.0s
XAN Xi'an 67.87 64 P **P 22 26 06.9 -0.1**
XAN PMZ
comp=Z,5.0nm,1.2s
BILL Bilibino 68.17 13 *i*P **P 22 26 07.6 -0.6**
BILL pmax pmax
comp=Z,6.0nm,1.2s
BILL MLR MLR
comp=Z,314nm,21.0s
BILL Bilibino 68.17 13 *e*P **P 22 26 07.6 -0.6**
comp=Z,314nm,21.0s
KMI Kunming 68.73 75 P **P 22 26 10.7 -2.0**
KMI PMZ
comp=Z,4.0nm,0.9s
BJI Beijing 69.05 55 P **P 22 26 13.5 -0.6**
BJI PMZ
comp=Z,10.0nm,1.5s
BJI PMZ
comp=Z,49nm,3.8s
SEY Seymchan 69.48 21 *c*e**P P 22 26 17.5 +1.1**
SEY Seymchan 69.48 21 *e*P **P 22 26 17.5 +1.1**
BOSA Boshof 69.64 175 LR LR 22 59 35.6
comp=Z,316nm,18.6s,baz=338,slow=38
CHTO Chiang Mai 69.72 82 *e*P **P 22 26 16.8 -1.8**
CHTO pmax pmax
comp=Z,8.0nm,1.0s
CHTO Chiang Mai 69.72 82 *e*P **P 22 26 16.8 -1.8**
comp=Z,8.4nm,1.0s
CHTO Chiang Mai 69.72 82 *e*P **P 22 26 16.8 -1.8**
comp=Z,8.4nm,1.0s
CM31 Chiang Mai Arr 69.94 83 *e*P **P 22 26 19.2 -0.8**
CM31 Chiang Mai Arr 69.94 83 *e*P **P 22 26 19.2 -0.8**
CMAR Chiang Mai Arr 69.94 83 P **P 22 26 19.2 -0.8**
comp=Z,0.7nm,0.7s,baz=308,slow=6.7,SNR=5.9
CMAR LR LR 23 01 27.9
comp=Z,46nm,21.5s,baz=308,slow=40
CMAR Chiang Mai Arr 69.94 83 *i*P **P 22 26 19.5 -0.5**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 69.94 83 *i* P **P 22 26 19.5 -0.5**
comp=Z,1.0nm,0.7s
CM01 Chiang Mai Arr 69.97 83 *e*P **P 22 26 18.7 -1.4**
CM01 Chiang Mai Arr 69.97 83 *e*P **P 22 26 18.7 -1.4**
YKA Yellowknife Ar 70.40 339 P **P 22 26 21.9 -0.1**
comp=Z,2.8nm,1.0s,baz=40,slow=6.5,SNR=6.3
YKA Yellowknife Ar 70.40 339 P **P 22 26 21.9 -0.1**
YKA pmax pmax
comp=Z,3.0nm,1.0s
GYA Guiyang 70.77 71 *e*P **P 22 26 26.0 +0.9**
GYA PMZ
comp=Z,10.0nm,1.0s
COLD Coldfoot 71.64 356 *e*P **P 22 26 29.4 -0.1**
comp=Z,7.1nm,1.1s
COLD Coldfoot 71.64 356 *e*P **P 22 26 29.4 -0.1**
comp=Z,7.1nm,1.1s
KLR Kul'dur 71.83 40 *e*P P 22 26 27.7 -3.3
KLR MLR MLR
comp=Z,900nm,13.0s
CN2 Changchun 72.15 47 *e*P **P 22 26 33.1 +0.1**
CN2 *es*P **sP 22 26 44.2 +0.9**
CN2 *e*S **S 22 35 50.8 -3.0**
CN2 PMZ
comp=Z,10.0nm,0.7s
CN2 PMZ
comp=Z,200nm,4.0s
CN2 LZ
comp=Z,100nm,12.0s
FFC Flin Flon 72.35 329 *e*P **P 22 26 34.1 +0.1**
FFC pmax pmax
comp=Z,8.0nm,1.3s
FFC Flin Flon 72.35 329 *e*P **P 22 26 34.1 +0.1**
comp=Z,8.2nm,1.3s
FFC Flin Flon 72.35 329 *e*P **P 22 26 34.1 +0.1**
comp=Z,8.2nm,1.3s
COWI Conover 72.56 316 *e*P **P 22 26 34.7 -0.7**
comp=Z,8.9nm,1.0s
COWI Conover 72.56 316 *e*P **P 22 26 34.7 -0.7**
comp=Z,8.9nm,1.0s
MDM Murphy Dome 73.77 355 *e*P **P 22 26 42.0 -0.3**
comp=Z,9.9nm,1.3s
MDM Murphy Dome 73.77 355 *e*P **P 22 26 42.0 -0.3**
comp=Z,9.9nm,1.3s
DAWY Dawson 73.80 351 *e*P **P 22 26 41.9 -0.6**
DAWY Dawson 73.80 351 *e*P **P 22 26 41.9 -0.6**
IL1 Eielson Array 73.86 354 *e*P **P 22 26 42.5 -0.3**
IL1 Eielson Array 73.86 354 *e*P **P 22 26 42.5 -0.3**
ILAR Eielson Array 73.86 354 P **P 22 26 43.0 +0.2**
comp=Z,0.5nm,0.8s,baz=4.9,slow=4.9,SNR=5.5
ILAR Eielson Array 73.86 354 P **P 22 26 43.0 +0.2**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 73.86 354 P **P 22 26 43.0 +0.2**
comp=Z,1.0nm,0.8s

ILB Eielson Array 73.86 354 eP P 22 26 43.0 +0.2
ILB Eielson Array 73.86 354 eP P 22 26 43.0 +0.2
WRH Wood River Hil 74.24 355 eP P 22 26 44.7 -0.3
comp=Z,58nm,2.7s
WRH Wood River Hil 74.24 355 eP P 22 26 44.7 -0.3
comp=Z,58nm,2.7s
AGMN Agassiz Nation 74.38 321 P P 22 26 45.9 -0.3
baz=74
AGMN Agassiz Nation 74.38 321 eP P 22 26 45.8 -0.3
comp=Z,8.9nm,1.3s
AGMN Agassiz Nation 74.38 321 eP P 22 26 45.8 -0.3
comp=Z,8.9nm,1.3s
SPMN St. Paul 75.04 318 P P 22 26 50.0 0.0
baz=75
A30A Hoffart Farm, 75.05 323 P P 22 26 49.6 -0.4
baz=75
KMSC Kings Mountain 75.22 304 P P 22 26 51.2 +0.1
baz=75
SFIN Scholer Farm 75.25 311 P P 22 26 50.9 -0.3
baz=75
USRK Ussuriysk Ar. 75.39 44 P P 22 26 51.7 -0.3
comp=Z,1.0nm,0.6s,baz=292,slow=7.2,SNR=5.3
B30A Myrvik Farm, E 75.42 323 P P 22 26 51.8 -0.3
baz=75
A29A Manning Farm, 75.48 323 P P 22 26 52.2 -0.3
baz=75
NJ2 Nanjing 75.69 60 eP P 22 26 55.0 +1.1
NJ2 PMZ
comp=Z,10.0nm,0.6s
B29A Wagenman Farm, 75.87 323 P P 22 26 54.4 -0.3
baz=76
A28A Rude Farm, Bot 75.95 324 P P 22 26 55.6 +0.4
baz=76
C30A Mose, Pekin 76.03 322 P P 22 26 56.3 +0.7
baz=76
B28A Dugan Ranch, T 76.34 324 P P 22 26 57.6 +0.2
baz=76
A27A Ledoux Ranch, 76.35 325 P P 22 26 57.9 +0.5
baz=76
MDND Maddock 76.44 323 P P 22 26 58.6 +0.7
baz=76
D30A Buchanan 76.59 322 P P 22 26 58.3 -0.5
baz=76
A26A Wade Farm, Ken 76.74 325 P P 22 27 00.3 +0.7
baz=76
B27A Peters Farms, 76.77 324 P P 22 27 00.4 +0.6
baz=76
C28A Hausauer Farms 76.89 323 P P 22 27 00.8 +0.3
baz=77
OLIL Olney 76.92 310 eP P 22 26 59.7 -1.1
comp=Z,48nm,1.0s
OLIL Olney 76.92 310 eP P 22 26 59.6 -1.1
comp=Z,48nm,1.0s
D29A Pettibone, Tap 77.02 322 P P 22 27 01.3 +0.1
baz=77
E30A Jud 77.11 322 P P 22 27 02.2 +0.4
baz=77
A25A Svangstu Ranch 77.17 325 P P 22 27 02.9 +0.8
baz=77
B26A Jensen Ranch, 77.22 325 P P 22 27 03.3 +0.9
baz=77
D28A Regan 77.36 323 P P 22 27 03.6 +0.4
baz=77
C27A Sayler Ranch, 77.39 324 P P 22 27 03.4 +0.1
baz=77
SUA Susitna One 77.40 355 eP P 22 27 02.5 -0.7
comp=Z,37nm,1.6s
SUA Susitna One 77.40 355 eP P 22 27 02.5 -0.7
comp=Z,37nm,1.6s
E29A Napoleon 77.40 322 P P 22 27 03.6 +0.2
baz=77
A24A Westby 77.56 326 P P 22 27 04.3 +0.1
baz=77
C26A Wahner Farm, P 77.57 324 P P 22 27 05.4 +1.0
baz=77
F30A Leola 77.66 321 P P 22 27 05.2 +0.3
baz=77
KS01 Wonju Array Si 77.73 51 eP P 22 27 04.1 -1.3
KS01 Wonju Array Si 77.73 51 eP P 22 27 04.1 -1.3
KS15 Wonju Array Si 77.75 51 eP P 22 27 05.0 -0.5
KS15 Wonju Array Si 77.75 51 eP P 22 27 05.0 -0.5
KSRS Korea Array 77.76 51 P P 22 27 05.0 -0.5
comp=Z,4.0nm,1.0s,baz=316,slow=5.0,SNR=18
KSRS Korea Array 77.76 51 P P 22 27 05.0 -0.5
KSRS pmax pmax
comp=Z,4.0nm,1.0s
KSRS Korea Array 77.76 51 P P 22 27 05.0 -0.5
comp=Z,4.0nm,1.0s
E28A Huff 77.88 323 P P 22 27 06.1 +0.1
baz=78
A23A Redstone 77.90 326 P P 22 27 07.0 +0.8
baz=78
ECSD EROS Data Cent 78.02 318 eP P 22 27 05.5 -1.4
comp=Z,6.6nm,1.1s
ECSD EROS Data Cent 78.02 318 eP P 22 27 05.5 -1.4
comp=Z,6.6nm,1.1s
F29A Eureka 78.03 322 P P 22 27 07.0 +0.1
baz=78
C25A Freed Ranch, W 78.17 325 P P 22 27 08.3 +0.7
baz=78
G30A Faulkton 78.23 321 P P 22 27 08.0 0.0
baz=78
A22A Carney Farms, 78.31 327 P P 22 27 09.1 +0.7
baz=78
D26A Manning 78.33 324 P P 22 27 09.7 +1.2
baz=78
B23A Brockton 78.33 326 P P 22 27 08.9 +0.3
baz=78
E27A Carson 78.39 323 P P 22 27 09.8 +0.9
baz=78
F28A McLaughlin 78.48 322 P P 22 27 09.4 0.0
baz=78
G29A Hoven 78.56 321 P P 22 27 09.2 -0.7
baz=78
YSS Yuzh-Sakhalins 78.58 36 eP P 22 27 10.2 +0.3
YSS e 22 27 21.0
YSS MLR MLR
comp=Z,500nm,18.0s
YSS Yuzh-Sakhalins 78.58 36 eP P 22 27 10.2 +0.3
comp=Z,500nm,18.0s
D25A Fairfield 78.63 324 P P 22 27 09.9 -0.4
baz=78
L35A Bielow Farm, R 78.64 317 P P 22 27 10.3 0.0
baz=78
E26A Carlson Angus 78.76 323 P P 22 27 11.0 0.0
baz=78
C24A Savage 78.81 325 P P 22 27 11.9 +0.7
baz=79
B22A Reddig Ranch S 78.88 327 P P 22 27 12.0 +0.4
baz=79
C23A Lambert 78.93 326 P P 22 27 12.0 +0.2
baz=79
F27A Lemmon 79.02 323 P P 22 27 12.3 -0.1
baz=79
TIGA Tifton 79.06 302 P P 22 27 12.7 -0.1
baz=79
D24A Glendive 79.09 325 P P 22 27 13.2 +0.4
baz=79
G28A Parade 79.11 322 P P 22 27 13.1 +0.2
baz=79
H29A Onida 79.12 321 P P 22 27 13.2 +0.3
baz=79
E25A Miller Ranch, 79.16 324 P P 22 27 12.6 -0.6
baz=79
L34A Svendsen Farm, 79.18 317 P P 22 27 12.9 -0.4
baz=79
M35A Neola 79.19 316 P P 22 27 13.3 0.0
baz=79
B21A Ellsworth Farm 79.20 327 P P 22 27 13.3 0.0
baz=79
A20A Cobblestone Ra 79.21 328 P P 22 27 13.9 +0.5
baz=79
I30A Oacoma 79.27 320 P P 22 27 14.0 +0.2
baz=79
F26A Lodgepole 79.33 323 P P 22 27 14.1 0.0
baz=79
G27A Dupree 79.35 322 P P 22 27 14.9 +0.6
baz=79
D23A Lindsay 79.43 325 P P 22 27 15.3 +0.6
baz=79
H28A Mission Ridge 79.46 322 P P 22 27 15.1 +0.3
baz=79
A19A Klindworth Far 79.50 328 P P 22 27 15.6 +0.6
baz=79
B20A Solberg Farm, 79.60 328 P P 22 27 16.1 +0.6
baz=79
I29A Vivian Onida 79.61 321 P P 22 27 16.1 +0.4
baz=79
F25A Bowman 79.63 324 P P 22 27 16.2 +0.5
baz=79
C21A Desert Coulee 79.71 327 P P 22 27 16.7 +0.6
baz=80
G26A Maurine 79.72 323 P P 22 27 16.5 +0.3
baz=80
J30A Dallas 79.74 320 P P 22 27 16.6 +0.2
baz=80
D22A Cohagen 79.86 326 P P 22 27 17.1 +0.2
baz=80
M33A Taylor Creek F 79.88 317 P P 22 27 17.3 +0.2
baz=80
B19A Brinkman Farms 79.96 328 P P 22 27 18.2 +0.7
baz=80
H27A Howes 79.99 322 P P 22 27 17.5 -0.2
baz=80
E23A Ismay 80.00 325 P P 22 27 18.6 +0.9
baz=80
I28A Midland 80.04 321 P P 22 27 18.5 +0.6
baz=80
N34A Lincoln 80.06 316 P P 22 27 18.2 +0.1
baz=80
J29A Okreek 80.08 320 P P 22 27 17.9 -0.3
baz=80
F24A Ekalaka 80.13 324 P P 22 27 19.0 +0.5
baz=80
LRAL Lakeview Retre 80.13 305 eP P 22 27 17.8 -0.8
comp=Z,9.3nm,1.1s
LRAL Lakeview Retre 80.13 305 eP P 22 27 17.8 -0.8
comp=Z,9.3nm,1.1s
O35A Humboldt 80.17 316 P P 22 27 18.8 +0.1
baz=80
C20A Veseth Ranch, 80.17 327 P P 22 27 19.5 +0.8
baz=80
G25A Newell 80.17 323 P P 22 27 19.2 +0.5
baz=80
P36A Good Intent, A 80.26 315 P P 22 27 19.5 +0.3
baz=80
D21A La Casta Ranch 80.27 326 P P 22 27 19.8 +0.7
baz=80,SNR=6.6
K30A Basset 80.28 319 P P 22 27 19.7 +0.3
baz=80
E22A Miles City 80.32 325 P P 22 27 19.5 0.0
baz=80
H26A Fairpoint 80.32 322 P P 22 27 19.6 +0.1
baz=80
Q37A Longview Farm, 80.39 314 P P 22 27 20.1 +0.2
baz=80
I27A Quinn 80.40 322 P P 22 27 19.6 -0.4
baz=80
BGNE Belgrade 80.49 318 P P 22 27 20.5 0.0
baz=80
J28A Allard Ranch, 80.51 321 P P 22 27 21.1 +0.5
baz=80
G24A Alzada 80.52 324 P P 22 27 19.9 -0.7
baz=80
K29A Lazy Trails An 80.56 320 P P 22 27 21.0 +0.2
baz=80
EGMT Eagleton 80.62 328 eP P 22 27 21.0 -0.1
comp=Z,38nm,1.2s
EGMT Eagleton 80.62 328 eP P 22 27 21.0 -0.1
comp=Z,38nm,1.2s
N33A J Bar K, Exete 80.63 317 P P 22 27 21.0 -0.2
baz=80
O34A Beatrice 80.64 316 P P 22 27 21.1 -0.1
baz=80
F23A Volborg 80.65 325 P P 22 27 21.4 +0.1
baz=80
H25A Fruitdale 80.69 323 P P 22 27 21.3 -0.2
baz=80
E21A Keefer Ranch, 80.72 326 P P 22 27 21.9 +0.3
baz=80
P35A Duane Minner, 80.76 315 P P 22 27 22.0 +0.1
baz=81
I26A New Underwood 80.81 322 P P 22 27 22.0 -0.1
baz=81
Q36A Arnold C. Orve 80.87 314 P P 22 27 22.3 -0.2
baz=81
L30A Spencer Herefo 80.88 319 P P 22 27 22.7 +0.2
baz=81
M31A Lambtecht Ranc 80.96 318 P P 22 27 22.8 -0.1
baz=81
F22A Rosebud 80.97 325 P P 22 27 23.4 +0.4
baz=81
R37A Teagarden Farm 81.00 314 P P 22 27 24.2 +1.0
baz=81
J27A Elkhorn Farm, 81.00 321 P P 22 27 23.5 +0.2
baz=81
H24A Dirks Ranch, A 81.03 324 P P 22 27 23.6 +0.2
baz=81
N32A Stulken Farm, 81.04 317 P P 22 27 23.7 +0.3
baz=81
G23A Biddle 81.05 324 P P 22 27 23.7 +0.2
baz=81
K28A Ten Mile Ranch 81.11 320 P P 22 27 24.7 +0.9
baz=81
L29A Maesberg Ranch 81.17 319 P P 22 27 25.0 +0.9
baz=81
P34A Walnut Farm, R 81.17 316 P P 22 27 24.2 +0.1
baz=81
O33A Hebron 81.18 316 P P 22 27 24.4 +0.2
baz=81
I25A Rochford 81.22 323 P P 22 27 24.6 +0.1
baz=81
Q35A Mercer Eighty, 81.25 315 P P 22 27 24.2 -0.3
baz=81
M30A Dale-Ortello V 81.26 319 P P 22 27 24.9 +0.3
baz=81
F21A Absaloka Mine, 81.31 326 P P 22 27 25.4 +0.6
baz=81
R36A Gordon, Harris 81.36 314 P P 22 27 25.5 +0.4
baz=81
S37A Fort Scott 81.39 313 P P 22 27 25.8 +0.5
baz=81
O32A Brockman Farm, 81.40 317 P P 22 27 25.1 -0.2
baz=81
J26A Sides Ranch, S 81.46 322 P P 22 27 26.0 +0.4
baz=81
K27A Flueckinger Fa 81.53 321 P P 22 27 26.4 +0.4
baz=81
Q34A Chapman 81.69 315 P P 22 27 27.3 +0.4
baz=82
P33A Williams Farm, 81.71 316 P P 22 27 28.1 +1.2
baz=82
R35A Emporia Munici 81.73 314 P P 22 27 27.5 +0.5
baz=82
M29A Burnside Ranch 81.74 319 P P 22 27 26.9 -0.2
baz=82
J25A Sunshine Ranch 81.74 322 P P 22 27 27.2 +0.1
baz=82
F20A Billings 81.76 326 P P 22 27 27.6 +0.4
baz=82
G21A Lodge Grass 81.82 325 P P 22 27 27.8 +0.2
baz=82
S36A Lake Cedric, C 81.84 314 P P 22 27 27.8 +0.1
baz=82
T37A Cheyenne Valley 81.90 313 P P 22 27 28.0 0.0
baz=82,SNR=7.5
N30A Hueftle Ranch, 81.93 318 P P 22 27 28.6 +0.5
baz=82
H22A Clearmont 81.95 324 P P 22 27 28.7 +0.5
baz=82
K26A Motz Farm, Whi 81.98 321 P P 22 27 28.8 +0.4
baz=82
O31A Woolen Ranch, 82.02 318 P P 22 27 28.9 +0.3
baz=82
L27A T5 Ranch, Ells 82.04 321 P P 22 27 29.0 +0.2
baz=82
P32A Huiting Farm, 82.04 317 P P 22 27 28.9 +0.1
baz=82
Q33A Connelly Farm, 82.11 316 P P 22 27 29.4 +0.3
baz=82
N29A Votaw Ranch, W 82.18 319 P P 22 27 29.9 +0.5
baz=82
J24A Dixon Ranch, L 82.18 323 P P 22 27 29.8 +0.3
baz=82
G20A Bridger 82.25 326 P P 22 27 30.3 +0.4
baz=82,SNR=7.8
S35A Otter Creek Ra 82.26 314 P P 22 27 29.6 -0.3
baz=82
R34A Isabella, Hill 82.31 315 P P 22 27 30.4 +0.3
baz=82
K25A Mack Ranch, Ha 82.37 322 P P 22 27 30.5 -0.1
baz=82
O30A MW Ranch, Wils 82.37 318 P P 22 27 31.1 +0.6
baz=82
GCMT Greycliff 82.40 327 eP P 22 27 30.8 +0.2
L26A Underwood Farm 82.44 321 P P 22 27 31.6 +0.7
baz=82
T36A Boggs Farm, Ca 82.47 313 P P 22 27 31.0 0.0
baz=82
Q32A Meitler Ranch, 82.49 316 P P 22 27 31.3 +0.2
baz=82
M27A Reverse DX Ran 82.50 320 P P 22 27 31.8 +0.6
baz=82
P31A Stockton 82.52 317 P P 22 27 31.6 +0.4
baz=82
J23A Dilts Ranch, B 82.53 323 P P 22 27 31.3 -0.1
baz=82
I22A 9 Mile Ranch, 82.56 324 P P 22 27 31.5 +0.1
baz=82,SNR=5.4
JTMT Jette 82.58 331 eP P 22 27 31.2 -0.3
SWMT Swartz Lake 82.67 331 eP P 22 27 32.0 0.0
S34A Willow Spring 82.68 315 P P 22 27 32.7 +0.7
baz=82
R33A Olander Ranch, 82.69 316 P P 22 27 32.5 +0.4
baz=82
K24A Anderson Ranch 82.72 322 P P 22 27 32.6 +0.2
baz=82
N28A Pribbeno Ranch 82.73 319 P P 22 27 32.4 +0.1
baz=82
H20A Greybull 82.75 325 P P 22 27 32.6 +0.2
baz=82
L25A Engebretsen Ra 82.77 322 P P 22 27 32.9 +0.3
baz=82
PTGA Pitinga 82.88 263 eP P 22 27 32.7 -0.7
comp=Z,11nm,1.3s
U36A Oologah 82.88 313 P P 22 27 33.2 +0.1
baz=83
M26A McRoberts Ranc 82.91 321 P P 22 27 34.2 +0.9
baz=83
Q31A Ellis 82.91 317 P P 22 27 33.7 +0.4
baz=83
V37A Hulbert 82.92 312 P P 22 27 33.9 +0.5
baz=83
T35A Sooner Cattle 82.93 314 P P 22 27 33.6 +0.3
baz=83
P30A Selden 82.94 318 P P 22 27 33.7 +0.3
baz=83
I21A Big Trails, Te 82.98 324 P P 22 27 33.1 -0.6
baz=83,SNR=6.6
R32A Long Quarter, 82.99 316 P P 22 27 33.7 0.0
baz=83
MIAR Mount Ida 82.99 310 eP P 22 27 32.9 -0.8
MIAR pmax pmax
comp=Z,12nm,1.3s
MIAR Mount Ida 82.99 310 eP P 22 27 32.9 -0.8
comp=Z,12nm,1.3s
H19A Powell 83.02 326 P P 22 27 34.6 +0.8
baz=83,SNR=6.6
K23A Bowen Ranch, D 83.07 323 P P 22 27 33.7 -0.4
baz=83
N27A Anderson Farm, 83.13 320 P P 22 27 33.7 -0.7
baz=83
W38A Poteau 83.16 311 P P 22 27 35.1 +0.6
baz=83
T34A McClaskey Farm 83.22 314 P P 22 27 35.1 +0.2
baz=83
I20A Worland 83.23 325 P P 22 27 35.2 +0.2
baz=83
S33A Kaszmaul Farm, 83.23 315 P P 22 27 35.5 +0.6
baz=83
P29A Atwood 83.25 318 P P 22 27 35.2 +0.1
baz=83
TUL1 Tulsa 83.26 313 P P 22 27 35.3 +0.2
baz=83
O28A Krutsinger Ran 83.27 319 P P 22 27 35.4 +0.2
baz=83
Q30A Quinter 83.36 317 P P 22 27 35.5 -0.1
baz=83
J21A Lysite 83.42 324 P P 22 27 36.0 0.0
baz=83,SNR=6.7
V36A Jenks 83.44 313 P P 22 27 36.5 +0.5
baz=83
N26A Koester Ranch, 83.44 320 P P 22 27 37.0 +0.9
baz=83
U35A Pawnee 83.45 313 P P 22 27 36.8 +0.8
baz=83
LRM Limekiln Ridge 83.49 329 eP P 22 27 36.1 -0.3
R31A Burdett 83.52 316 P P 22 27 36.6 +0.2
baz=83
I19A Meeteetse 83.53 326 P P 22 27 37.1 +0.5
baz=83,SNR=8.4
K22A Casper 83.56 323 P P 22 27 36.1 -0.6
baz=83
K22A Casper 83.56 323 eP P 22 27 36.6 -0.1
comp=Z,15nm,1.0s
O27A Beecher Island 83.57 319 P P 22 27 37.0 +0.3
baz=83
W37A Quinton 83.62 312 P P 22 27 37.8 +0.8
baz=83
X38A Whitesboro 83.62 311 P P 22 27 37.2 +0.2
baz=83
S32A Newby Ranch, P 83.65 316 P P 22 27 37.6 +0.5
baz=83
P28A Saint Francis 83.68 319 P P 22 27 37.5 +0.2
baz=84
J20A Shoshoni 83.69 325 P P 22 27 37.8 +0.5
baz=84,SNR=7.2
Y39A Lockesburg 83.73 310 P P 22 27 38.3 +0.8
baz=84
T33A Patterson Ranc 83.74 315 P P 22 27 38.0 +0.5
baz=84
Q29A Oakley 83.81 318 P P 22 27 38.2 +0.3
baz=84,SNR=6.7
U34A Anderson Ranch 83.84 314 P P 22 27 38.7 +0.6
baz=84
QLMT Earthquake Lak 83.90 328 eP P 22 27 39.5 +1.0
R30A Dighton 83.91 317 P P 22 27 38.6 +0.2
baz=84,SNR=5.1
DLMT Dillon 83.93 329 eP P 22 27 36.6 -1.9
comp=Z,16nm,1.3s
O26A Horse Wrangler 83.94 320 P P 22 27 39.0 +0.4
baz=84
V35A Meyer Ranch, C 83.95 313 P P 22 27 39.2 +0.6
baz=84
X37A Clayton 83.99 311 P P 22 27 39.5 +0.7
baz=84
S31A Mullinville 84.00 316 P P 22 27 39.5 +0.6
baz=84
T32A Huddler Ranch, 84.03 315 P P 22 27 40.0 +1.0
baz=84
W36A Wetumka 84.07 312 P P 22 27 39.7 +0.4
baz=84
Y38A Idabel 84.10 311 P P 22 27 39.9 +0.5
baz=84
P27A Ficken Ranch, 84.11 319 P P 22 27 40.1 +0.5
baz=84
Q28A Sharon Springs 84.11 318 P P 22 27 39.7 +0.2
baz=84
PHWY Pilot Hill 84.13 322 eP P 22 27 38.9 -0.9
comp=Z,20nm,1.3s
U33A Lingo Farm, Me 84.15 314 P P 22 27 40.4 +0.7
baz=84
J19A Crowheart 84.18 325 P P 22 27 40.1 +0.2
baz=84
MAJO Matsushiro 84.19 45 eP P 22 27 39.8 -0.1
MAJO pmax pmax
comp=Z,20nm,1.3s
MAJO Matsushiro 84.19 45 eP P 22 27 39.8 -0.1
comp=Z,20nm,1.3s
MJAR Matsushiro Arr 84.19 45 P P 22 27 39.8 -0.1
comp=Z,2.7nm,0.8s,baz=294,slow=6.2,SNR=8.1
MJAR Matsushiro Arr 84.19 45 P P 22 27 39.8 -0.1
MJAR pmax pmax
comp=Z,3.0nm,0.8s
R29A Marienthal 84.25 317 P P 22 27 40.6 +0.4
baz=84
V34A Guthrie 84.27 314 P P 22 27 40.7 +0.4
baz=84
Z39A Irene McRaven, 84.28 310 P P 22 27 41.5 +1.2
baz=84
W35A Tecumseh 84.42 313 P P 22 27 41.6 +0.6
baz=84
BDFB Brasilia 84.43 244 P P 22 27 43.2 +1.9
comp=Z,8.7nm,1.1s,baz=55,slow=5.4,SNR=6.1
BDFB Brasilia 84.43 244 eP P 22 27 39.4 -1.9
BDFB Brasilia 84.43 244 eP P 22 27 39.4 -1.9
MCMT McKenzie Canyo 84.47 328 eP P 22 27 41.1 -0.3
P26A Davis Ranch, A 84.48 320 P P 22 27 41.6 +0.1
baz=84
S30A Montezuma 84.49 317 P P 22 27 42.1 +0.7
baz=84
MOOW Moose Ponds 84.50 326 eP P 22 27 41.2 -0.4
comp=Z,5.8nm,1.1s
KSCO Kaye Shedlock' 84.55 319 P P 22 27 42.1 +0.3

baz=84
KSCO Kaye Shedlock' 84.55 319 eP P 22 27 41.1 -0.6
comp=Z,63nm,1.4s
X36A Centrahoma 84.55 312 P P 22 27 42.5 +0.8
baz=84
LOHW Long Hollow 84.56 326 eP P 22 27 39.7 -2.2
comp=Z,7.1nm,1.3s
Y37A Hugo 84.57 311 P P 22 27 43.0 +1.2
baz=84
SDV Santo Domingo 84.65 277 eP P 22 27 40.2 -2.5
comp=Z,14nm,1.2s
R28A Tribune 84.65 318 P P 22 27 42.4 +0.1
baz=84
U32A Winter Ranch, 84.67 315 P P 22 27 43.0 +0.7
baz=84
N23A Red Feather La 84.68 322 P P 22 27 43.0 +0.4
baz=84
N23A Red Feather La 84.68 322 eP P 22 27 42.0 -0.5
comp=Z,17nm,1.4s
V33A Lossen Ranch, 84.70 314 P P 22 27 43.2 +0.8
baz=84
BW06 Boulder Array 84.80 325 eP P 22 27 42.2 -0.9
comp=Z,8.9nm,1.3s
PD31 Pinedale Array 84.80 325 eP P 22 27 43.5 +0.4
PDAR Pinedale Array 84.80 325 P P 22 27 43.5 +0.4
comp=Z,2.4nm,1.0s,baz=46,slow=6.4,SNR=12
S29A Ulysses 84.85 317 P P 22 27 43.2 -0.1
baz=85
REDW Red Top Meadow 84.87 326 eP P 22 27 42.9 -0.5
comp=Z,9.3nm,1.3s
T30A Plains 84.97 316 P P 22 27 43.8 0.0
baz=85
Y36A Durant 85.01 311 P P 22 27 45.1 +1.1
baz=85
X35A Drake 85.03 312 P P 22 27 44.8 +0.7
baz=85
Q26A Hugo 85.06 319 P P 22 27 44.4 +0.1
baz=85
U31A Nine Bar Ranch 85.13 315 P P 22 27 44.9 +0.3
baz=85
Z37A Pogue Cattle C 85.14 311 P P 22 27 45.5 +0.8
baz=85
R27A Eads 85.19 318 P P 22 27 45.5 +0.5
baz=85
138A Matatall Enter 85.23 310 P P 22 27 45.8 +0.6
baz=85
S28A Manter 85.27 317 P P 22 27 46.0 +0.6
baz=85,SNR=5.6
T29A Hugoton 85.29 317 P P 22 27 46.2 +0.7
baz=85
X34A Smith Ranch, M 85.36 313 P P 22 27 45.6 -0.2
baz=85
Y35A Marietta 85.43 312 P P 22 27 46.3 +0.2
baz=85
U30A WK&E Inc. Balk 85.43 316 P P 22 27 46.0 -0.2
baz=85
R26A Arlington 85.50 319 P P 22 27 46.7 +0.1
baz=85,SNR=5.0
Z36A Blue Ridge 85.55 311 P P 22 27 47.0 +0.3
baz=85
V31A Spring Creek L 85.57 315 P P 22 27 47.1 +0.2
baz=85
HAWA Hanford 85.60 333 eP P 22 27 45.7 -1.1
comp=Z,11nm,1.0s
S27A Las Animas 85.70 318 P P 22 27 47.8 +0.2
baz=86
238A Jacksonville 85.72 309 P P 22 27 48.8 +1.3
baz=86
T28A Walsh 85.74 317 P P 22 27 47.8 0.0
baz=86
W32A Sentinel 85.74 314 P P 22 27 48.3 +0.7
baz=86
X33A Lawton 85.77 313 P P 22 27 48.8 +1.0
baz=86
WMOK Wichita Mounta 85.78 314 eP P 22 27 48.2 +0.4
WMOK pmax pmax
comp=Z,15nm,1.4s
WMOK Wichita Mounta 85.78 314 eP P 22 27 48.2 +0.4
comp=Z,15nm,1.4s
Y34A Reagan Ranch, 85.79 312 P P 22 27 48.5 +0.5
baz=86
U29A Oasis Ranch, S 85.81 316 P P 22 27 49.0 +0.9
baz=86
Q24A Divide 85.82 320 P P 22 27 47.6 -0.8
baz=86
339A Huntington 85.88 309 P P 22 27 49.6 +1.2
baz=86
440A Kirbyville 85.95 308 P P 22 27 49.6 +0.9
baz=86
Z35A Perchaven, San 85.97 312 P P 22 27 49.3 +0.5
baz=86
S26A Kim 86.04 318 P P 22 27 49.6 +0.4
baz=86
W31A Holland Ranch, 86.07 315 P P 22 27 49.7 +0.4
baz=86
T27A Campo 86.09 318 P P 22 27 49.9 +0.4
baz=86
237A Washetta, Mont 86.12 310 P P 22 27 50.7 +1.1
baz=86
Y33A Hilltop Ranch, 86.23 313 P P 22 27 50.6 +0.5
baz=86
X32A Elmer 86.29 314 P P 22 27 51.2 +0.8
baz=86
338A Crockett 86.30 309 P P 22 27 52.1 +1.7
baz=86
Z34A Collier Ranch, 86.31 312 P P 22 27 51.3 +0.8
baz=86
O20A White River Ci 86.34 323 P P 22 27 51.1 +0.3
baz=86
U28A Mallet 86.36 317 P P 22 27 51.2 +0.3
baz=86
439A Center Grove, 86.39 308 P P 22 27 52.0 +1.1
baz=86
W30A Crocket Farms 86.41 315 P P 22 27 52.3 +1.2
baz=86
T26A Comanche Natio 86.45 318 P P 22 27 52.0 +0.7
baz=86
236A Katherine and 86.54 310 P P 22 27 52.5 +0.8
baz=86
135A Vickery Place, 86.63 311 P P 22 27 53.1 +1.0
baz=86
Y32A R-V Farms, Ver 86.69 314 P P 22 27 53.0 +0.6
baz=86
MFID Camas Ranch 86.82 329 eP P 22 27 51.5 -1.5
comp=Z,12nm,1.2s
438A Sam Houston St 86.84 309 P P 22 27 54.3 +1.2
baz=87
V28A Channing 86.85 316 P P 22 27 53.7 +0.5
baz=87
Z33A Whitaker Ranch 86.85 313 P P 22 27 53.3 +0.2
baz=87
134A White-Moore Ra 87.00 312 P P 22 27 54.3 +0.4
baz=87
W29A Amraillo 87.03 316 P P 22 27 54.3 +0.2
baz=87
WHTX Lake Whitney 87.08 311 P P 22 27 54.9 +0.7
baz=87
X30A Coker Ranch, T 87.13 315 P P 22 27 54.8 +0.3
baz=87
V27A Dan Oppiter Fa 87.16 317 P P 22 27 55.2 +0.5
baz=87
437A Phantom Ranch, 87.17 309 P P 22 27 55.7 +1.0
baz=87
Z32A Haskell 87.23 313 P P 22 27 55.5 +0.5
baz=87
538A Harpers Horsep 87.23 308 P P 22 27 55.2 +0.2
baz=87
133A Hamilton Ranch 87.44 312 P P 22 27 56.5 +0.5
baz=87
234A Clairette 87.45 311 P P 22 27 56.8 +0.7
baz=87
Z31A Sharp Cattle R 87.59 314 P P 22 27 57.1 +0.4
baz=87
S22A 4UR Ranch, Cre 87.59 321 P P 22 27 57.0 0.0
baz=87
436A Wall Ranch, Ga 87.60 310 P P 22 27 57.6 +0.8
baz=87
BGU Big Grassy Mou 87.79 326 eP P 22 27 56.7 -1.1
233A Rising Star 87.87 312 P P 22 27 58.6 +0.4
baz=88
334A Lometa 88.01 311 P P 22 27 59.6 +0.8
baz=88
PV09 Paradox Valley 88.07 322 eP P 22 27 58.8 -0.5
DUG Dugway 88.31 326 eP P 22 27 59.3 -0.9
DUG pmax pmax
comp=Z,5.0nm,1.0s
DUG Dugway 88.31 326 eP P 22 27 59.3 -0.9
comp=Z,5.3nm,1.0s

434A Burnet 88.41 311 P P 22 28 01.6 +0.9
baz=88
333A Richland Sprin 88.44 311 P P 22 28 01.7 +0.8
baz=88
Z29A Hungry Hill Ra 88.48 314 P P 22 28 01.5 +0.5
baz=88
MVCO Mesa Verde 88.81 321 eP P 22 28 02.1 -0.7
comp=Z,14nm,0.4s
332A Millersview 88.82 312 P P 22 28 03.9 +1.3
baz=89
I04A Tendick Farm, 88.86 334 P P 22 28 03.2 +0.7
baz=89
J05D Fort Rock, OR 88.91 333 P P 22 28 03.9 +1.0
baz=89
433A Art 88.93 311 P P 22 28 04.1 +1.0
baz=89
534A Blanco 89.12 310 P P 22 28 05.6 +1.5
baz=89
432A Menard 89.23 312 P P 22 28 05.3 +0.7
baz=89
MVU Marysvale 89.45 324 eP P 22 28 05.0 -0.8
comp=Z,6.9nm,1.3s
330A Mertzon 89.60 313 P P 22 28 07.3 +1.0
baz=89
ANMO Albuquerque 89.63 319 ceP P 22 28 06.2 -0.4
ANMO pmax pmax
comp=Z,15nm,2.5s
431A Sonora 89.84 312 P P 22 28 08.2 +0.8
baz=90
532A Rocksprings 89.86 311 P P 22 28 08.8 +1.2
baz=90
633A Saathoff Ranch 89.95 310 P P 22 28 09.0 +1.1
baz=90
835A Beeville 90.04 309 P P 22 28 09.4 +1.1
baz=90
430A Baggett Ranch, 90.11 313 P P 22 28 09.3 +0.6
baz=90
531A Rocksprings 90.19 312 P P 22 28 10.0 +0.9
baz=90
530A J-C Ranch, Com 90.65 312 P P 22 28 12.0 +0.8
baz=90
L02D Cave Junction, 90.71 334 P P 22 28 11.8 +0.6
baz=90
CCUT Cedar City 90.75 325 eP P 22 28 09.5 -2.3
631A Perdido Creek 90.78 311 P P 22 28 12.2 +0.4
baz=91
732A Laxson Ranch, 90.95 310 P P 22 28 13.8 +1.2
baz=91
R11A Troy Canyon, C 91.02 327 P P 22 28 13.4 +0.4
baz=91
R11A Troy Canyon, C 91.02 327 eP P 22 28 12.0 -1.0
comp=Z,5.1nm,1.4s
M02C Callahan 91.14 333 P P 22 28 13.8 +0.5
baz=91
WUAZ Wupatki 91.54 322 eP P 22 28 14.6 -0.8
comp=Z,8.5nm,1.2s
LTX Lajitas 92.57 313 eP P 22 28 20.7 +0.5
LTX Lajitas 92.57 313 eP P 22 28 20.7 +0.5
TX31 Lajitas Ar. Si 92.57 313 eP P 22 28 19.8 -0.4
TXAR Lajitas Array 92.57 313 P P 22 28 20.7 +0.5
comp=Z,3.4nm,1.1s,baz=72,slow=4.1,SNR=14
TXAR Lajitas Array 92.57 313 P P 22 28 20.7 +0.5
TXAR pmax pmax
comp=Z,3.0nm,1.1s
LEM Lembang 92.70 97 LR LR 23 14 50.8
comp=Z,56nm,18.4s,slow=39
MPMC Manual Prospec 93.76 327 P P 22 28 26.7 +1.0
baz=94
IRM Iron Mountain 94.38 324 P P 22 28 28.9 +0.6
baz=94
BELC Belle Mtn. Jos 94.88 325 P P 22 28 31.7 +0.9
baz=95
EDW2 Edwards Air Fo 94.98 326 P P 22 28 31.8 +0.7
baz=95
MONP Monument Peak 96.01 324 P P 22 28 36.8 +0.7
baz=96
CIS Catalina Islan 96.43 326 P P 22 28 38.4 +0.7
baz=96
BSC Santa Cruz Isl 96.43 327 P P 22 28 38.3 +0.6
baz=96
SCI San Clemente I 96.85 326 P P 22 28 40.3 +0.7
baz=97

GUC 09 22:16:04.2±0.6, 36°.90S×73°.06W, h33km±1km, ML4.4, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	San Pedro de C	0.07	326	⇑eP	Pb	22 16 09.8	0.0
CCSP				eS	Sb	22 16 13.9	+0.4
CCSP				AML	AML	22 16 14.9	
	comp=E,56μm,0.2s						
COCH	Cobquecura	0.80	16	eP	Pn	22 16 18.5	-0.7
COCH				eS	Sn	22 16 30.0	0.0
LNCH	Linares	1.58	49	⇑iP	Pn	22 16 31.2	+1.3
LNCH				eS	Sb	22 16 51.8	-0.6
TALC	Talca	1.89	38	eP	Pn	22 16 35.4	+1.2
TALC				eS	Sb	22 16 59.6	-1.7
CLCH	Cerro Calan	4.06	31	AML	AML	22 18 14.6	
	comp=E,190nm,0.4s						
PEL	Peldehue	4.23	28	⇑eP	Pn	22 17 07.8	+1.4
PEL				AML	AML	22 18 26.3	
	comp=N,192nm,2.4s						

IDC 09 22:34:48.3±2.6, 9°.27S×111°.82E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/37, mbtmp3.6/5, Error ellipse: s-maj=125.6km s-min=20.8km az=50.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.20	118	P	P	22 40 06.6	-0.3
	1.1nm,0.6s,baz=294,slow=11,SNR=14						
ASAR	Alice Springs	25.50	127	P	P	22 40 18.9	+0.3
	0.7nm,0.8s,baz=299,slow=8.9,SNR=6.1						
H08S2	Diego Garcia H	38.92	269	T	T	23 23 56.6	
	baz=94,slow=76,SNR=5.9						
H08S3	Diego Garcia H	38.93	269	T	T	23 23 56.4	
	baz=94,slow=76,SNR=5.1						
H08S1	Diego Garcia H	38.94	269	T	T	23 23 56.2	
	baz=94,slow=76,SNR=7.0						
SONM	Songino Array	57.06	356	P	P	22 44 37.7	+1.4
	0.4nm,0.5s,baz=183,slow=8.4,SNR=2.8						
MKAR	Makanchi Array	61.72	337	P	P	22 45 08.8	+0.4
	0.6nm,0.4s,baz=150,slow=7.3,SNR=13						
ZALV	Zalesovo Beam	67.00	343	P	P	22 45 41.1	-1.7
	0.7nm,0.8s,baz=153,slow=6.2,SNR=3.4						

*ISCJB **09** 22:40:39.2±1.0, 29°.26N±0°.06×52°.5E±0°.2, h15km, mb3.7/7, Error ellipse: s-maj=26.1km s-min=8.0km az=6.2*
*IDC **09** 22:40:39.5±2.7, 29°.37N×52°.41E, h0km, mb3.7/7, mb1 3.7/8, mb1mx3.4/45, mbtmp3.6/8, ML3.1/1, Error ellipse: s-maj=53.8km s-min=29.5km az=144.0*

ISC 09 22:40:41.3±1.2, 29°.28N±0°.08×52°.5E±0°.2, h15km, n11, σ0°.78/11, mb3.8/7, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLWS		4.75	200	P	Pn	22 41 52.9	+0.6
BTHS		5.41	196	S	Sn	22 43 02.5	-0.9
BTHS		5.41	196	P	Pn	22 42 01.7	+0.4
BRTR	Keskin Array B	18.64	309	P	Pn	22 44 59.9	+1.0
	0.1nm,0.3s,baz=114,slow=12,SNR=4.6						
ZALV	Zalesovo Beam	34.04	34	P	P	22 47 24.9	+0.3
	0.4nm,0.5s,baz=238,slow=8.3,SNR=3.0						
FINES	FINESS Array B	36.60	339	P	P	22 47 46.0	-0.5
	1.0nm,0.6s,baz=146,slow=12,SNR=7.2						
HFS	Hagfors	40.34	331	P	P	22 48 17.6	-0.3
	0.5nm,0.4s,baz=127,slow=9.4,SNR=6.7						
NOA	NORSAR Array B	41.86	331	P	P	22 48 30.2	-0.4
	0.5nm,0.8s,baz=117,slow=7.5,SNR=2.9						
ARCES	ARCESS Array B	43.16	347	P	P	22 48 41.1	+0.2
	1.7nm,0.9s,baz=138,slow=9.6,SNR=3.6						
EKA	Eskdalemuir Ar	47.06	320	P	P	22 49 10.7	-1.4
	1.3nm,0.9s,baz=107,slow=9.7,SNR=3.4						
TORD	Torodi Ar. Bea	49.58	262	P	P	22 49 32.6	+0.5
	1.2nm,0.7s,baz=61,slow=7.1,SNR=19						

*CSEM **09** 22:45:40.9, 35°.61N×21°.91E, h5km, MD3.5*
ATH 09 22:45:40.9, 35°.61N×21°.91E, h5km, MD3.5/6, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC

KYTH Kithira 1.13 53 ePN Pg 22 46 02.4 -0.3
KYTH Kithira 1.13 53 ePn Pg 22 46 02.4 -0.3
ANKY Antikythira Is 1.16 77 ePB Pn 22 46 03.8 0.0
ANKY Antikythira Is 1.16 77 ePb Pn 22 46 03.8 0.0
PYL PYLOS 1.29 354 ePB Pn 22 46 05.5 -0.1
PYL PYLOS 1.29 354 ePb Pn 22 46 05.5 -0.1
VLI Veliai 1.38 37 ePG Pn 22 46 06.4 -0.5
VLI Veliai 1.38 37 ePg Pn 22 46 06.4 -0.5
ITM Ithomi 1.57 0 ePG Pb 22 46 10.3 -0.1
ITM eSB Sg 22 46 32.8 +1.4
ITM Ithomi 1.57 0 ePg Pb 22 46 10.3 -0.1
ITM eSb Sg 22 46 32.8 +1.4
VLX Vlachokerasia 1.80 12 ePN Pg 22 46 15.5 0.0
VLX Vlachokerasia 1.80 12 ePn Pg 22 46 15.5 0.0

*IDC **09** 22:57:13.4±0.6, 45°.95S×76°.08W, h0km, mb4.2/13, mb1 4.3/15, mb1mx4.3/23, mbtmp4.2/15, ML3.5/2, MS4.7/18, Ms1 4.6/18, ms1mx4.6/22, Error ellipse: s-maj=27.5km s-min=14.3km az=86.0*
*NEIC **09** 22:57:17.8±1.9, 46°.06S×75°.59W, h15km±3km, mb5.1/35, Error ellipse: s-maj=24.0km s-min=13.5km az=86.0*
*GCMT **09** 22:57:17.8±0.2, 45°.93S×76°.41W, h12km±1km, MW5.3/97, Moment Tensor Solution. s70,c96; s97,c163; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.02±.02; $M_{\theta\theta}$0.37±.02; $M_{\phi\phi}$-0.35±.02; $M_{r\theta}$0.01±.04; $M_{\theta\phi}$-0.77±.02; $M_{\phi r}$-0.54±.08; Best double couple: $M_0$1.00500×10^{17} NP1:ϕ_s347.00000°,δ86.00000°,λ-31.00000°. NP2: ϕ_s79.00000°,δ59.00000°,λ-176.00000°. Principal axes: T 0.9610, Plg19.0000°, Azm37.0000°; N 0.0880, Plg58.0000°, Azm161.0000°; P -1.0490, Plg24.0000°, Azm298.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **09** 22:57:18.6±0.3, 46°.03S±0°.05×75°.5W±0°.1, h33km, mb4.8/41, MS4.9/26 Error ellipse: s-maj=10.8km s-min=7.2km az=164.3*
*MOS **09** 22:57:19.0±1.4, 46°.06S×75°.57W, h33km, mb5.2/17, Error ellipse: s-maj=28.7km s-min=11.0km az=92.9*
*BJI **09** 22:57:26.7, 45°.58S×74°.58W, h46km, mB5.0/10, Ms5.2/10, Ms7 5.1/10*
ISC 09 22:57:21.8±0.3, 45°.90S±0°.06×75°.3W±0°.1, h35km, n338, σ1s81/306, mb5.0/41, MS5.0/26, 3C, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
USHA	Ushuaia	9.97	156	Pn	Pn	22 59 40.0	-2.3
	1.4nm,0.3s,baz=325,slow=14,SNR=9.0						
USHA				LR	LR	23 04 09.8	
	comp=Z,5μm,19.8s,baz=305,slow=41						
TRQA	Tornquist	12.65	56	ePn	Pn	23 00 21.3	+2.2
CFAA	Coronel Fontan	15.30	24	Pn	Pn	23 00 54.9	-0.2
	0.1nm,0.3s,baz=199,slow=10,SNR=9.8						
CFAA				LR	LR	23 07 04.6	
	comp=Z,827nm,20.0s,baz=200,slow=38						
PMSA	Palmer Station	19.92	166	P	P	23 01 48.0	-2.0
	0.6nm,0.3s,baz=333,slow=18,SNR=1.6						
PMSA				LR	LR	23 07 52.4	
	comp=Z,2μm,20.5s,baz=329,slow=32						
LVC	Limon Verde	23.81	15	P	P	23 02 30.2	-1.5
	16nm,0.9s,baz=220,slow=4.4,SNR=4.2						
LVC				LR	LR	23 12 38.8	
	comp=Z,7μm,18.4s,baz=192,slow=39						
LVC	Limon Verde	23.81	15	eP	P	23 02 33.2	+1.6
CPUP	Villa Florida	24.25	43	P	P	23 02 35.3	-0.1
	8.8nm,0.8s,baz=224,slow=9.6,SNR=26						
CPUP				LR	LR	23 12 56.3	
	comp=Z,5μm,18.9s,baz=214,slow=38						
CPUP	Villa Florida	24.25	43	eP	P	23 02 35.6	+0.2
CPUP	Villa Florida	24.25	43	eP	P	23 02 35.6	+0.2
LPAZ	La Paz	30.13	14	P	P	23 03 27.0	-2.0
	0.8nm,0.9s,baz=187,slow=6.4,SNR=2.7						
LPAZ	La Paz	30.13	14	eP	P	23 03 31.6	+2.7
LPAZ				pmax	pmax		
	comp=Z,17nm,1.3s						
LPAZ	La Paz	30.13	14	eP	P	23 03 31.6	+2.7
	comp=Z,17nm,1.3s						
BDFB	Brasilia	37.86	46	P	P	23 04 35.5	+0.1
	comp=Z,8.4nm,1.0s,baz=181,slow=7.4,SNR=6.3						
BDFB				LR	LR	23 22 31.2	
	comp=Z,2μm,18.5s,baz=199,slow=40						
BDFB	Brasilia	37.86	46	eP	P	23 04 35.9	+0.5
BDFB	Brasilia	37.86	46	eP	P	23 04 35.9	+0.5
SAML	Samuel	38.27	20	eP	P	23 04 38.9	+0.2
	comp=Z,34nm,1.6s						
SNAA	Sanae	41.81	153	P	P	23 05 06.5	-1.1
	comp=Z,4.9nm,0.8s,baz=283,slow=5.2,SNR=26						
QSPA	South Pole Qui	44.35	180	P	P	23 05 24.8	-3.5
	comp=Z,4.4nm,1.1s,baz=140,slow=6.5,SNR=4.7						
PTGA	Pitinga	46.97	21	eP	P	23 05 49.4	+0.1
	comp=Z,53nm,2.0s						
ROSC	El Rosal	50.54	1	LR	LR	23 25 47.0	
	comp=Z,888nm,18.7s,baz=188,slow=34						
VNDA	Vanda	51.95	193	LR	LR	23 26 12.6	
	comp=Z,476nm,18.2s,baz=142,slow=34						
VNDA	Vanda	51.95	193	eP	P	23 06 24.1	-2.5
VNDA				pmax	pmax		
	comp=Z,30nm,1.8s						
VNDA	Vanda	51.95	193	eP	P	23 06 24.1	-2.5
	comp=Z,30nm,1.8s						
RKT	Rikitea	52.81	274	eLR	LR	23 21 34.5	
	comp=Z,977nm,28.0s						
SDV	Santo Domingo	54.70	6	eP	P	23 06 47.7	+0.1
	comp=Z,7.3nm,0.9s						
SYO	Syowa Base	55.83	157	⇑eX	P	23 06 55.8	+0.8
JTS	JuntasAbangare	56.59	349	eP	P	23 07 02.4	+1.4
JTS				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MAW	Mawson	62.51	163	P	P	23 07 38.6	-2.6
	comp=Z,1.4nm,0.6s,baz=214,slow=13,SNR=2.3						
MAW				LR	LR	23 33 51.7	
	comp=Z,1μm,21.8s,baz=222,slow=35						
MAW	Mawson	62.51	163	eP	P	23 07 39.5	-1.7
MAW				pmax	pmax		
	comp=Z,3.0nm,1.4s						
MAW	Mawson	62.51	163	eP	P	23 07 39.5	-1.7
	comp=Z,3.4nm,1.4s						
TBI	Tubuai	62.76	264	eS	S	23 16 16.8	+6.8
	comp=Z,191nm,29.5s						
TBI				eLQ	LQ	23 23 32.6	
	comp=Z,961nm,35.0s						
TBI				eLR	LR	23 26 05.7	
	comp=Z,500nm,27.5s						
DRV	Dumont d'Urvil	64.56	195	S	S	23 16 35.0	+3.8
DRV				SS	SS	23 20 40.0	-0.9
DRV				L	L	23 23 00.0	
DRV				R		23 27 00.0	
PPT2	Papeete2	66.67	268	eLR	LR	23 27 47.2	
	comp=Z,323nm,26.2s						
PPT	Papeete	66.69	269	LR	LR	23 30 21.0	
	comp=Z,171nm,20.2s,baz=176,slow=30						
034A	Hebbronville	75.65	339	P	P	23 09 02.8	-0.2
	baz=76						
934A	Benavides	76.12	339	P	P	23 09 05.3	-0.5
	baz=77						
LPIG	La Paz	76.56	327	LR	LR	23 35 29.9	
	comp=Z,195nm,19.0s,baz=217,slow=30						
834A	Tilden	76.63	339	P	P	23 09 07.9	-0.7
	baz=77						
BOSA	Boshof	76.82	117	P	P	23 09 10.2	+0.1
	comp=Z,3.6nm,0.8s,baz=164,slow=13,SNR=3.7						
BOSA				LR	LR	23 39 42.5	
	comp=Z,581nm,19.1s,baz=235,slow=33						
833A	Chaparral WMA,	77.03	338	P	P	23 09 10.1	-0.8
	baz=78						
736A	Circle Diamond	77.07	341	P	P	23 09 10.1	-0.9
	baz=78						
735A	Kenedy	77.15	340	P	P	23 09 10.7	-0.8
	baz=78						
832A	Faith Ranch, C	77.15	338	P	P	23 09 10.5	-1.1
	baz=78						
734A	La Parita Cree	77.32	339	P	P	23 09 11.8	-0.7
	baz=78						
732A	Laxson Ranch,	77.57	338	P	P	23 09 13.0	-0.8
	baz=78,SNR=7.9						
636A	Smothers Creek	77.57	341	P	P	23 09 13.5	-0.4
	baz=78						
633A	Saathoff Ranch	78.06	339	P	P	23 09 15.8	-0.8
	baz=79,SNR=5.8						
632A	Uvalde	78.26	338	P	P	23 09 17.1	-0.6
	baz=79,SNR=5.4						
631A	Perdido Creek	78.38	338	P	P	23 09 16.8	-1.5
	baz=79						

534A Blanco 78.43 340 P P 23 09 17.3 -1.3
baz=79
533A Kerrville 78.61 339 P P 23 09 18.2 -1.5
baz=79
532A Rocksprings 78.88 338 P P 23 09 18.2 -3.0
baz=80,SNR=6.2
531A Rocksprings 79.08 338 P P 23 09 20.6 -1.7
baz=80,SNR=7.5
434A Burnet 79.13 340 P P 23 09 19.9 -2.6
baz=80,SNR=5.9
LTX Lajitas 79.17 335 eP P 23 09 20.1 -2.7
LTX Lajitas 79.17 335 eP P 23 09 20.1 -2.7
TXAR Lajitas Array 79.17 335 P P 23 09 20.0 -2.8
comp=Z,2.2nm,1.0s,baz=156,slow=7.1,SNR=18
TXAR LR LR 23 38 20.9
comp=Z,251nm,19.8s,baz=0.0,slow=31
TXAR Lajitas Array 79.17 335 P P 23 09 20.0 -2.8
TXAR pmax pmax
comp=Z,2.0nm,1.0s
TXAR MLR MLR
comp=Z,251nm,19.8s
TX31 Lajitas Ar. Si 79.17 335 eP P 23 09 22.8 0.0
JCT Junction City 79.19 339 P P 23 09 20.0 -2.8
baz=80
433A Art 79.28 339 P P 23 09 21.5 -1.8
baz=80,SNR=6.3
530A J-C Ranch, Com 79.28 337 P P 23 09 21.3 -2.1
baz=80,SNR=7.0
GOGA Godfrey 79.28 353 eP P 23 09 22.6 -0.6
GOGA pmax pmax
comp=Z,14nm,1.1s
GOGA Godfrey 79.28 353 eP P 23 09 22.6 -0.6
comp=Z,14nm,1.1s
335A Moody 79.39 341 P P 23 09 21.9 -1.9
baz=80
432A Menard 79.57 339 P P 23 09 22.3 -2.6
baz=80,SNR=5.8
431A Sonora 79.59 338 P P 23 09 21.9 -3.2
baz=80,SNR=7.2
334A Lometa 79.62 340 P P 23 09 22.0 -3.2
baz=80
333A Richland Sprin 79.79 340 P P 23 09 23.2 -2.9
baz=80
430A Baggett Ranch, 79.86 338 P P 23 09 23.3 -3.2
baz=80,SNR=7.0
332A Millersview 80.04 339 P P 23 09 24.5 -2.9
baz=81,SNR=8.5
WHTX Lake Whitney 80.07 341 P P 23 09 25.0 -2.5
baz=81
331A San Angelo 80.14 338 P P 23 09 25.3 -2.7
baz=81
330A Mertzon 80.43 338 P P 23 09 26.6 -2.9
baz=81
233A Rising Star 80.44 340 P P 23 09 26.5 -3.1
baz=81
232A Coleman 80.49 339 P P 23 09 26.3 -3.6
baz=81
231A Bronte 80.71 339 P P 23 09 28.5 -2.5
baz=81
329A Wagon Wheel Ra 80.72 337 P P 23 09 29.6 -1.6
baz=81,SNR=5.8
134A White-Moore Ra 80.77 341 P P 23 09 29.8 -1.5
baz=81
133A Hamilton Ranch 81.00 340 P P 23 09 31.5 -1.0
baz=82
229A Bryant Ranch, 81.13 337 P P 23 09 32.2 -1.1
baz=82
ABTX Abilene, Hawle 81.19 339 P P 23 09 32.2 -1.4
baz=82
ABTX Abilene, Hawle 81.19 339 eP P 23 09 33.2 -0.4
comp=Z,9.1nm,1.0s
Z35A Perchaven, San 81.32 342 P P 23 09 33.3 -0.9
baz=82
131A Roby 81.43 339 P P 23 09 33.7 -1.2
baz=82
228A UT Block 9, Go 81.48 337 P P 23 09 34.5 -0.7
baz=82
130A Snyder 81.50 338 P P 23 09 34.4 -0.8
baz=82
Z34A Collier Ranch, 81.50 341 P P 23 09 34.1 -1.1
baz=82
Z33A Whitaker Ranch 81.62 340 P P 23 09 34.1 -1.6
baz=82
Z32A Haskell 81.81 340 P P 23 09 36.0 -0.8
baz=82
128A Castleberry Fa 81.93 337 P P 23 09 36.0 -1.6
baz=83
Z31A Sharp Cattle R 81.98 339 P P 23 09 36.3 -1.4
baz=83,SNR=7.6
Y34A Reagan Ranch, 82.03 341 P P 23 09 36.8 -1.1
baz=83
X38A Whitesboro 82.11 344 P P 23 09 36.9 -1.4
baz=83
X37A Clayton 82.14 343 P P 23 09 36.7 -1.8
baz=83
Z30A Sanderson Ranc 82.20 338 P P 23 09 36.9 -2.0
baz=83
Y33A Hilltop Ranch, 82.28 341 P P 23 09 37.0 -2.2
baz=83
X35A Drake 82.28 342 P P 23 09 37.3 -1.9
baz=83
X36A Centrahoma 82.32 343 P P 23 09 37.8 -1.6
baz=83
Z29A Hungry Hill Ra 82.32 338 P P 23 09 37.6 -1.9
baz=83,SNR=8.0
WVT Waverly 82.42 350 eP P 23 09 40.1 +0.2
WVT pmax pmax
comp=Z,32nm,1.6s
WVT Waverly 82.42 350 eP P 23 09 40.1 +0.2
comp=Z,32nm,1.6s
W38A Poteau 82.44 344 P P 23 09 38.0 -2.0
baz=83
Y32A R-V Farms, Ver 82.46 340 P P 23 09 38.3 -1.9
baz=83
Y31A Rekieta Farm, 82.62 339 P P 23 09 39.7 -1.4
baz=83
X34A Smith Ranch, M 82.67 341 P P 23 09 39.0 -2.3
baz=83
W37A Quinton 82.68 344 P P 23 09 41.1 -0.2
baz=83
Y30A Stafford Cattl 82.70 339 P P 23 09 41.7 +0.2
baz=83
X33A Lawton 82.76 341 P P 23 09 41.7 0.0
baz=83
X32A Elmer 82.83 340 P P 23 09 42.3 +0.2
baz=84
W36A Wetumka 82.84 343 P P 23 09 41.6 -0.6
baz=84
Y29A Porterfield Fa 82.88 338 P P 23 09 43.0 +0.5
baz=84
W35A Tecumseh 82.99 342 P P 23 09 42.5 -0.4
baz=84
Y28A McKinney Farm, 83.08 338 P P 23 09 43.1 -0.5
baz=84
X31A McDonald Ranch 83.19 340 P P 23 09 43.1 -0.9
baz=84,SNR=5.8
X30A Coker Ranch, T 83.24 339 P P 23 09 43.6 -0.7
baz=84
W34A Bridge Creek, 83.26 342 P P 23 09 43.7 -0.7
baz=84
MSTX Muleshoe 83.28 337 P P 23 09 43.5 -1.1
baz=84
MSTX Muleshoe 83.28 337 eP P 23 09 44.1 -0.5
comp=Z,23nm,1.3s
W33A Caddo, Fort Co 83.34 341 P P 23 09 43.6 -1.1
baz=84
V37A Hulbert 83.34 344 P P 23 09 44.4 -0.2
baz=84
V36A Jenks 83.41 343 P P 23 09 43.5 -1.5
baz=84
121A Cookes Peak, D 83.41 333 P P 23 09 44.6 -0.7
baz=84
X29A Tulia 83.44 338 P P 23 09 43.6 -1.8
baz=84
W32A Sentinel 83.49 340 P P 23 09 43.6 -1.9
baz=84
TUL1 Tulsa 83.50 343 P P 23 09 44.4 -1.1
baz=84
TUL1 Tulsa 83.50 343 eP P 23 09 45.4 0.0
comp=Z,21nm,1.0s
V35A Meyer Ranch, C 83.57 343 P P 23 09 44.4 -1.5
baz=84
X28A Dimmitt 83.64 338 P P 23 09 44.7 -1.7
baz=84
W31A Holland Ranch, 83.71 340 P P 23 09 44.9 -1.8
baz=84
U38A Gravette 83.74 345 P P 23 09 45.1 -1.7
baz=84

V34A Guthrie 83.78 342 P P 23 09 45.7 -1.3
baz=84
AMTX Amarillo 83.86 338 P P 23 09 46.3 -1.2
baz=84
AMTX Amarillo 83.86 338 eP P 23 09 47.2 -0.3
comp=Z,35nm,1.5s
V33A Lossen Ranch, 83.94 341 P P 23 09 46.6 -1.1
baz=85
V32A Arapaho 84.01 341 P P 23 09 47.1 -1.0
baz=85
W29A Amraillo 84.07 339 P P 23 09 48.9 +0.3
baz=85
U35A Pawnee 84.13 343 P P 23 09 47.1 -1.6
baz=85
TUC Tucson 84.20 330 eP P 23 09 49.1 -0.2
TUC pmax pmax
comp=Z,16nm,1.6s
TUC Tucson 84.20 330 eP P 23 09 49.1 -0.2
comp=Z,16nm,1.6s
V31A Spring Creek L 84.25 340 P P 23 09 47.0 -2.4
baz=85
W28A Vega 84.34 338 P P 23 09 49.1 -0.8
baz=85
T37A Cheneyville 18 84.50 344 P P 23 09 48.9 -1.7
baz=85,SNR=5.5
BNM Barren Site 84.55 334 eP P 23 09 50.6 -0.6
214A Organ Pipe Nat 84.60 329 P P 23 09 50.9 -0.4
baz=85
T35A Sooner Cattle 84.61 343 P P 23 09 49.8 -1.4
baz=85
T36A Boggs Farm, Ca 84.63 344 P P 23 09 50.2 -1.0
baz=85
U32A Winter Ranch, 84.63 341 P P 23 09 50.7 -0.6
baz=85
LPM Los Pinos Moun 84.70 334 eP P 23 09 52.6 +0.7
T34A McClaskey Farm 84.86 343 P P 23 09 51.7 -0.6
baz=86
LAZ Ladron 84.94 334 eP P 23 09 52.6 -0.6
S37A Fort Scott 85.10 345 P P 23 09 52.3 -1.3
baz=86
T33A Patterson Ranc 85.14 342 P P 23 09 52.7 -1.1
baz=86
U30A WK&E Inc. Balk 85.16 340 P P 23 09 53.0 -1.1
baz=86
S36A Lake Cedric, C 85.21 344 P P 23 09 52.6 -1.5
baz=86
ANMO Albuquerque 85.24 335 LR LR 23 41 59.7
comp=Z,219nm,19.1s,baz=160,slow=32
ANMO Albuquerque 85.24 335 eP P 23 09 53.5 -1.1
ANMO pmax pmax
comp=Z,7.0nm,0.9s
ANMO Albuquerque 85.24 335 eP P 23 09 53.5 -1.1
comp=Z,6.5nm,0.9s
S35A Otter Creek Ra 85.32 343 P P 23 09 53.5 -1.1
baz=86
T31A Randall Ranch, 85.48 341 P P 23 09 54.5 -1.0
baz=86
S34A Willow Spring 85.49 343 P P 23 09 54.6 -1.0
baz=86
T30A Plains 85.63 340 P P 23 09 55.3 -1.0
baz=86
R37A Teagarden Farm 85.64 345 P P 23 09 55.8 -0.5
baz=86
R36A Gordon, Harris 85.78 344 P P 23 09 56.0 -0.9
baz=86
T28A Walsh 86.09 339 P P 23 09 57.3 -1.3
baz=87
R34A Isabella, Hill 86.10 343 P P 23 09 57.8 -0.8
baz=87
S30A Montezuma 86.18 340 P P 23 09 57.9 -1.2
baz=87
T27A Campo 86.19 338 P P 23 09 58.2 -1.0
baz=87
Q36A Arnold C. Orve 86.39 344 P P 23 09 59.6 -0.3
baz=87
S28A Manter 86.48 339 P P 23 09 59.3 -1.2
baz=87
T26A Comanche Natio 86.52 338 P P 23 09 59.3 -1.5
baz=87
Q34A Chapman 86.64 343 P P 23 09 59.8 -1.4
baz=87
T25A Trinidad 86.70 337 P P 23 10 00.1 -1.7
baz=87
T25A Trinidad 86.70 337 eP P 23 10 00.9 -0.9
comp=Z,52nm,1.6s
Q33A Connelly Farm, 86.89 343 P P 23 10 00.8 -1.6
baz=88
S26A Kim 86.91 338 P P 23 10 01.4 -1.3
baz=88
P36A Good Intent, A 86.98 345 P P 23 10 01.5 -1.3
baz=88
Q32A Meitler Ranch, 87.04 342 P P 23 10 01.9 -1.2
baz=88
P35A Duane Minner, 87.04 344 P P 23 10 01.6 -1.5
baz=88
R29A Marienthal 87.08 340 P P 23 10 02.3 -1.2
baz=88
BC3 Big Chuckawall 87.09 327 P P 23 10 02.5 -1.2
baz=88
R28A Tribune 87.17 339 P P 23 10 02.2 -1.7
baz=88
P34A Walnut Farm, R 87.22 344 P P 23 10 03.1 -0.9
baz=88
WUAZ Wupatki 87.32 331 P P 23 10 04.1 -0.7
baz=88
WUAZ Wupatki 87.32 331 eP P 23 10 04.8 0.0
comp=Z,23nm,1.4s
R27A Eads 87.36 339 P P 23 10 04.1 -0.7
baz=88
Q30A Quinter 87.40 341 P P 23 10 05.2 +0.2
baz=88
IRM Iron Mountain 87.43 328 P P 23 10 04.7 -0.5
baz=88
PFO Pinyon Flat Ob 87.44 327 LR LR 23 40 03.7
comp=Z,169nm,20.7s,baz=145,slow=30
PFO Pinyon Flat Ob 87.44 327 eP P 23 10 06.1 +0.7
PFO Pinyon Flat Ob 87.44 327 eP P 23 10 06.1 +0.7
R26A Arlington 87.54 338 P P 23 10 04.5 -1.2
baz=88
SDCO Great Sand Dun 87.57 337 eP P 23 10 07.0 +0.9
comp=Z,10nm,1.3s
BELC Belle Mtn. Jos 87.61 327 P P 23 10 06.0 -0.1
baz=88
MURC Murrieta 87.71 326 P P 23 10 06.4 -0.1
baz=88
O34A Beatrice 87.81 344 P P 23 10 06.3 -0.4
baz=88
S22A 4UR Ranch, Cre 87.95 336 P P 23 10 06.4 -1.5
baz=89
S22A 4UR Ranch, Cre 87.95 336 eP P 23 10 07.2 -0.7
comp=Z,33nm,1.6s
KSCO Kaye Shedlock' 88.00 339 P P 23 10 06.7 -1.2
baz=89
Q26A Hugo 88.15 338 P P 23 10 08.5 -0.1
baz=89
GMRC Granite Mounta 88.17 328 P P 23 10 08.2 -0.6
baz=89
BFSC Mount Baldy Ra 88.46 326 P P 23 10 10.0 -0.2
baz=89
Q24A Divide 88.62 337 P P 23 10 10.6 -0.5
baz=89
Q24A Divide 88.62 337 eP P 23 10 10.1 -1.0
comp=Z,22nm,1.4s
GSC Goldstone 89.07 327 eP P 23 10 12.4 -0.6
GSC pmax pmax
comp=Z,11nm,1.3s
GSC Goldstone 89.07 327 P P 23 10 12.7 -0.3
baz=90
GSC Goldstone 89.07 327 eP P 23 10 12.4 -0.6
comp=Z,11nm,1.3s
EDW2 Edwards Air Fo 89.15 326 P P 23 10 13.5 +0.1
baz=90
PV04 Paradox Valley 89.16 334 eP P 23 10 12.7 -0.8
KNB Kanab 89.17 331 eP P 23 10 12.0 -1.6
KNB Kanab 89.17 331 eP P 23 10 12.0 -1.6
SMCO Snowmass 89.32 336 eP P 23 10 14.0 -0.5
comp=Z,72nm,2.1s
PV09 Paradox Valley 89.33 334 eP P 23 10 14.1 -0.3
JFWS Jewell Farm 89.42 349 eP P 23 10 14.0 -0.3
JFWS pmax pmax
comp=Z,38nm,1.4s
JFWS Jewell Farm 89.42 349 eP P 23 10 14.0 -0.3
comp=Z,38nm,1.4s
L35A Bielow Farm, R 89.46 345 P P 23 10 13.4 -1.1
baz=90
ISCO Idaho Springs 89.52 337 eP P 23 10 14.4 -0.9
ISCO pmax pmax
comp=Z,22nm,1.6s

ISCO Idaho Springs 89.52 337 P P 23 10 14.5 -0.9
baz=90
ISCO Idaho Springs 89.52 337 eP P 23 10 14.4 -0.9
comp=Z,22nm,1.6s
SHPR Sheep Range 89.53 329 eP P 23 10 14.9 -0.3
LRMC Laurel Mountai 89.56 327 P P 23 10 14.9 -0.5
baz=90
CCUT Cedar City 89.83 331 eP P 23 10 15.7 -1.1
MPMC Manual Prospec 90.00 327 P P 23 10 17.4 -0.1
baz=91
ISA Isabella 90.02 326 P P 23 10 17.6 +0.1
baz=91
FURC Furnace Creek, 90.12 328 P P 23 10 18.5 +0.7
baz=91
MSU Marysvale 90.31 332 eP P 23 10 18.8 -0.1
MSU Marysvale 90.31 332 eP P 23 10 18.8 -0.1
TPNV Topopah Spring 90.32 328 eP P 23 10 18.7 -0.2
TPNV pmax pmax
comp=Z,21nm,1.6s
TPNV Topopah Spring 90.32 328 P P 23 10 19.1 +0.2
baz=91
TPNV Topopah Spring 90.32 328 eP P 23 10 18.7 -0.2
comp=Z,21nm,1.6s
TOA0 Torodi Ar. Sit 90.53 72 eP P 23 10 19.6 -0.5
TORD Torodi Ar. Bea 90.53 72 P P 23 10 19.5 -0.7
comp=Z,0.5nm,0.9s,baz=228,slow=4.6,SNR=2.6
TORD LR LR 23 48 46.0
comp=Z,275nm,18.8s,baz=220,slow=34
N23A Red Feather La 90.64 337 P P 23 10 19.9 -0.5
baz=91
N23A Red Feather La 90.64 337 eP P 23 10 19.3 -1.1
comp=Z,24nm,1.3s
PHWY Pilot Hill 90.89 338 eP P 23 10 21.3 -0.3
comp=Z,27nm,1.6s
R11A Troy Canyon, C 91.33 329 P P 23 10 23.8 +0.2
baz=92
R11A Troy Canyon, C 91.33 329 eP P 23 10 23.2 -0.4
comp=Z,11nm,1.6s
TPH Tonopah 91.67 328 eP P 23 10 24.8 -0.4
TPH pmax pmax
comp=Z,8.0nm,1.2s
TPH Tonopah 91.67 328 eP P 23 10 24.8 -0.4
comp=Z,7.6nm,1.2s
DUG Dugway 92.04 332 eP P 23 10 27.9 +1.1
DUG pmax pmax
comp=Z,10.0nm,0.5s
DUG Dugway 92.04 332 eP P 23 10 27.9 +1.1
comp=Z,10nm,0.5s
J26A Sides Ranch, S 92.18 340 P P 23 10 27.4 +0.1
baz=93
DZM Mont Dzumac 92.22 235 eLR LR 23 39 55.2
comp=Z,978nm,29.2s
K23A Bowen Ranch, D 92.29 338 P P 23 10 27.7 -0.2
baz=93
NV01 Mina Array Sit 92.39 328 eP P 23 10 27.5 -1.1
NVAR Mina Array Bea 92.39 328 P P 23 10 25.4 -3.1
comp=Z,0.2nm,0.5s,baz=160,slow=5.8,SNR=2.6
K22A Casper 92.43 338 P P 23 10 27.8 -0.7
baz=93
K22A Casper 92.43 338 eP P 23 10 28.0 -0.6
comp=Z,73nm,1.9s
J24A Dixon Ranch, L 92.58 339 P P 23 10 29.0 -0.2
baz=93
I25A Rochford 93.00 340 P P 23 10 30.7 -0.5
baz=94
J21A Lysite 93.32 337 P P 23 10 33.1 +0.4
baz=94
PD31 Pinedale Array 93.38 335 eP P 23 10 28.9 -4.1
PDAR Pinedale Array 93.38 335 P P 23 10 29.0 -4.1
comp=Z,0.4nm,0.8s,baz=146,slow=3.9,SNR=2.9
PDAR LR LR 23 46 18.0
comp=Z,145nm,19.6s,baz=155,slow=32
BW06 Boulder Array 93.38 335 eP P 23 10 32.7 -0.4
J20A Shoshoni 93.50 337 P P 23 10 33.3 -0.2
baz=94
I22A 9 Mile Ranch, 93.58 338 P P 23 10 34.0 +0.2
baz=94
I21A Big Trails, Te 93.72 337 P P 23 10 34.0 -0.5
baz=94
H24A Dirks Ranch, A 93.89 340 P P 23 10 36.1 +0.9
baz=94
I20A Worland 94.07 337 P P 23 10 34.7 -1.3
baz=95
STKA Stephens Creek 95.67 211 LR LR 23 46 56.9
comp=Z,410nm,18.5s,baz=185,slow=31
CHMT Chamberlain Mo 98.24 335 eP P 23 10 54.0 -1.1
EGMT Eagleton 98.27 337 eP P 23 10 54.1 -0.8
comp=Z,7.7nm,0.6s
GEC2 GERESS Array S 121.98 51 ePKIKP PKPdf 23 16 09.3 -2.4
GEC2 GERESS Array S 121.98 51 ePKPdf PKPdf 23 16 09.3 -2.4
GERES GERESS Array B 121.98 51 PKP PKPdf 23 16 09.3 -2.4
comp=Z,0.5nm,0.7s,baz=259,slow=1.0,SNR=5.8
GERES GERESS Array B 121.98 51 PKIKP PKPdf 23 16 09.3 -2.4
GERES pmax pmax
comp=Z,1.0nm,0.7s
KHC Kasperske Hory 122.08 51 AMS AMS 00 05 40.0
comp=Z,600nm,20.1s
NKC Novy Kostel 122.10 49 AMS AMS 00 10 00.0
comp=Z,400nm,18.8s
H11S2 WAKE ISLAND Hyl 22.43 263 T T 01 29 32.9
baz=134
H11S1 WAKE ISLAND Hyl 22.44 263 T T 01 29 36.9
baz=134
H11S3 WAKE ISLAND Hyl 22.44 263 T T 01 29 34.0
baz=134
PRA Prague 123.06 50 AMS AMS 00 05 50.0
comp=Z,300nm,16.2s
PRU Pruhonice 123.08 50 AMS AMS 00 05 50.0
comp=Z,500nm,24.1s
H11N3 WAKE ISLAND Hyl 23.12 265 T T 01 30 26.1
baz=135,slow=75
H11N1 WAKE ISLAND Hyl 23.13 265 T T 01 30 26.8
baz=135,slow=75
H11N2 WAKE ISLAND Hyl 23.13 265 T T 01 30 28.2
baz=135,slow=75
GOPC GO Pecny, Ondr 123.17 51 AMS AMS 00 05 40.0
comp=Z,400nm,18.3s
TREC Trest 123.21 51 AMS AMS 00 11 50.0
comp=Z,400nm,18.8s
PVCC Panska Ves 123.39 50 AMS AMS 00 11 20.0
comp=Z,500nm,19.5s
ILAR Eielson Array 123.50 331 PKP PKPdf 23 16 09.5 -4.5
comp=Z,0.4nm,0.7s,baz=132,slow=1.3,SNR=5.0
ILB Eielson Array 123.50 331 ePKPpre PKPdf 23 16 09.5 -4.5
UPC Upice 124.15 50 AMS AMS 00 06 10.0
comp=Z,400nm,19.3s
DPC Dobruska-Polom 124.24 51 AMS AMS 00 05 20.0
comp=Z,400nm,19.6s
OKC Ostrava-Krasne 124.96 52 AMS AMS 00 14 10.0
comp=Z,400nm,18.4s
KECS Kecovo 125.56 54 ePKIKP PKPdf 23 16 18.6 +0.1
KECS Kecovo 125.56 54 ePKP PKPdf 23 16 18.6 +0.1
STHS Stebnicka Huta 126.47 54 ePKIKP PKPdf 23 16 20.1 -0.1
STHS Stebnicka Huta 126.47 54 ePKP PKPdf 23 16 20.1 -0.1
IM04 Indian Mountai 126.56 330 ePKPdf PKPdf 23 16 19.8 0.0
KOLS Kolonicke sedl 126.81 55 ePKIKP PKPdf 23 16 19.4 -1.5
KOLS Kolonicke sedl 126.81 55 ePKP PKPdf 23 16 19.4 -1.5
DAG Danmarks Havn 127.46 14 iP PKPdf 23 16 24.8 +3.5
comp=Z,5.5nm,1.1s
DAG Danmarks Havn 127.46 14 ePKIKP PKPdf 23 16 24.8 +3.5
DAG pmax pmax
comp=Z,7.0nm,1.1s
BUR04 Bucovina Ar. S 127.85 57 ePKPdf PKPdf 23 16 23.0 0.0
BR101 Keskin Array S 129.11 70 ePKPdf PKPdf 23 16 22.4 -3.4
BRTR Keskin Array B 129.11 70 PKP PKPdf 23 16 22.3 -3.4
comp=Z,0.8nm,0.8s,baz=191,slow=1.6,SNR=4.4
BRTR Keskin Array B 129.11 70 PKIKP PKPdf 23 16 22.3 -3.4
BRTR pmax pmax
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 131.61 55 PKP PKPdf 23 16 28.0 -1.9
comp=Z,0.4nm,0.4s,baz=248,slow=2.7,SNR=3.5
AKASG Malin Array Be 131.61 55 PKIKP PKPdf 23 16 28.0 -1.9
AKBB Malin Array Si 131.61 55 ePKIKP PKPdf 23 16 28.0 -1.9
AKBB Malin Array Si 131.61 55 ePKPdf PKPdf 23 16 28.0 -1.9
KIV Kislovodsk 137.06 69 PKIKP PKPdf 23 16 44.0 +3.5
KIV e 23 16 48.9
KIV pmax pmax
comp=Z,7.0nm,1.0s
OBN Obninsk 137.35 52 PKIKP PKPdf 23 16 44.0 +3.5
OBN e 23 16 54.3
OBN pmax pmax
comp=Z,4.0nm,0.7s
VSR Storozhevoye 137.62 58 ePKIKP PKPdf 23 16 43.9 +2.8
GOF Gofitskoye 137.75 68 ePKIKP PKPdf 23 16 53.9 +12
GOF pmax pmax
comp=Z,20nm,1.3s

BILL	**Bilibino**	**142.00**	**327**	*e*PKIKP	**PKPdf**	**23 16 49.3**	**+0.7**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.5s						
BILL				MLR	MLR		
	comp=Z,661nm,22.0s						
PRGR	**Permogore**	**143.18**	**43**	*e*PKIKP	PKPbc	23 16 48.1	+0.2
PRGR				pmax	pmax		
	comp=Z,18nm,0.6s						
HYB	**Hyderabad**	**144.26**	**134**	*i* PKP	**PKPdf**	**23 16 54.0**	**-0.2**
GEYT	**Alibeck**	**144.88**	**86**	PKPbc	**PKPab**	**23 16 51.9**	**-2.0**
	comp=Z,1.5nm,0.6s,baz=256,slow=5.8,SNR=4.1						
PEA2	**Petropavlovsk-**	**145.50**	**302**	*e*PKPdf	**PKPdf**	**23 16 50.5**	**-4.7**
PETK	**Petropavlovsk-**	**145.50**	**302**	PKPbc	**PKPdf**	**23 16 50.5**	**-4.7**
	comp=Z,3.7nm,0.7s,baz=134,slow=6.2,SNR=6.6						
SOKR	**Solikamsk**	**148.71**	**47**	*i* PKP2	**PKPab**	**23 17 08.6**	**+0.6**
SOKR				pmax	pmax		
	comp=Z,20nm,1.2s						
ARU	**Arti**	**149.79**	**53**	*i* PKIKP	**PKPbc**	**23 17 05.5**	**-1.4**
CM01	**Chiang Mai Arr**	**152.19**	**168**	*e*PKPdf	**PKPdf**	**23 17 07.2**	**+0.2**
CM31	**Chiang Mai Arr**	**152.23**	**168**	*e*PKPdf	**PKPdf**	**23 17 09.8**	**+2.7**
CMAR	**Chiang Mai Arr**	**152.23**	**168**	PKPbc	**PKPdf**	**23 17 09.8**	**+2.7**
	comp=Z,2.1nm,0.7s,baz=209,slow=4.0,SNR=11						
CMAR	**Chiang Mai Arr**	**152.23**	**168**	PKIKP	**PKPdf**	**23 17 09.8**	**+2.7**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVAR	**Borovoye Array**	**156.79**	**60**	PKP	**PKPdf**	**23 17 10.8**	**-1.6**
	comp=Z,0.9nm,0.9s,baz=313,slow=3.0,SNR=2.5						
BVAR	**Borovoye Array**	**156.79**	**60**	PKIKP	**PKPdf**	**23 17 10.8**	**-1.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KSH	**Kashi**	**158.05**	**97**	PKP	**PKPdf**	**23 17 19.1**	**+4.5**
KSH				pPKP	**pPKPdf**	**23 17 30.1**	**+4.0**
KSH				PP	**PP**	**23 21 24.5**	**-4.2**
KSH				SKS	**SKSdf**	**23 24 19.3**	**+1.7**
KSH				PPMZ			
	comp=Z,120nm,4.3s						
KSH				LN			
	comp=Z,93nm,4.5s						
KSH				LE			
	comp=Z,97nm,3.8s						
KSH				LZ			
	comp=Z,420nm,7.6s						
KMI	**Kunming**	**159.21**	**175**	PKP	**PKPdf**	**23 17 20.7**	**+4.2**
KMI				pPKP	**pPKPdf**	**23 17 32.3**	**+4.3**
KMI				PP	PP	23 21 45.7	+12
KMI				SS	SS	23 41 45.5	+10
KMI				PPMZ			
	comp=Z,83nm,8.2s						
KMI				LN			
	comp=Z,170nm,21.1s						
KMI				LE			
	comp=Z,110nm,21.1s						
KMI				LZ			
	comp=Z,240nm,16.9s						
GYA	**Guiyang**	**160.53**	**185**	*e*PKP	**PKPdf**	**23 17 22.0**	**+4.1**
GYA				sPKP		23 17 37.6	
GYA				PKPab	PKPab	23 18 07.2	+8.0
GYA				PKS	**PKSdf**	**23 20 54.8**	**+3.4**
GYA				PP	PP	23 21 53.0	+12
GYA				PPMZ			
	comp=Z,120nm,7.9s						
WHN	**Wuhan**	**162.91**	**210**	PKP	PKPdf	23 17 29.2	+9.2
NVS	**Novosibirsk**	**163.72**	**49**	*e*PKIKP	**PKPdf**	**23 17 20.2**	**+0.2**
NVS				pmax	pmax		
	comp=Z,16nm,2.1s						
MK32	**Makanchi Array**	**164.53**	**79**	*e*PKPdf	**PKPdf**	**23 17 16.9**	**-4.2**
MKAR	**Makanchi Array**	**164.53**	**79**	PKP	**PKPdf**	**23 17 16.9**	**-4.2**
	comp=Z,0.4nm,0.8s,baz=342,slow=0.6,SNR=2.6						
ZAA1	**Zalesovo Array**	**164.93**	**50**	*e*PKPdf	**PKPdf**	**23 17 17.5**	**-3.5**
ZALV	**Zalesovo Beam**	**164.93**	**51**	PKP	**PKPdf**	**23 17 17.5**	**-3.6**
	comp=Z,1.7nm,0.9s,baz=281,slow=2.2,SNR=2.8						
ZALV	**Zalesovo Beam**	**164.93**	**51**	PKIKP	**PKPdf**	**23 17 17.5**	**-3.6**
ZALV				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CD2	**Chengdu**	**165.02**	**177**	PKP	**PKPdf**	**23 17 25.1**	**+3.1**
CD2				pPKP	**pPKPdf**	**23 17 36.6**	**+3.1**
CD2				sPKP		23 17 40.8	
CD2				PP	PP	23 22 10.8	+6.3
CD2				SKS	**SKSdf**	**23 24 26.5**	**+3.0**
CD2				SKKS	**SKKSac**	**23 28 55.1**	**+5.0**
CD2				SS	SS	23 42 46.1	+10
CD2				LN			
	comp=Z,150nm,5.1s						
CD2				LZ			
	comp=Z,170nm,6.7s						
WMQ	**Urumqi**	**167.78**	**94**	*e*PKP	**PKPdf**	**23 17 27.5**	**+3.7**
WMQ				LN			
	comp=Z,250nm,20.0s						
WMQ				LE			
	comp=Z,220nm,22.8s						
WMQ				LZ			
	comp=Z,250nm,22.1s						
BJI	**Beijing**	**169.73**	**239**	PKP	**PKPdf**	**23 17 29.0**	**+4.0**
BJI				SS	SS	23 43 28.6	+3.6
BJI				LN			
	comp=Z,120nm,26.4s						
BJI				LE			
	comp=Z,130nm,22.4s						
BJI				LZ			
	comp=Z,190nm,29.0s						
LZH	**Lanzhou**	**170.18**	**176**	*e*PKP	PKPdf	23 17 31.5	+5.8
LZH				pPKP	pPKPdf	23 17 42.7	+5.5
LZH				sPKP		23 17 46.8	
LZH				LN			
	comp=Z,180nm,18.1s						
LZH				LE			
	comp=Z,180nm,18.5s						
LZH				LZ			
	comp=Z,220nm,20.3s						
GTA	**Gaotai**	**172.60**	**149**	*e*PKP	PKPdf	23 17 34.6	+7.9
GTA				pPKP	pPKPdf	23 17 45.4	+7.2
GTA				sPKP		23 17 48.7	
GTA				SKS	**SKSdf**	**23 24 31.9**	**+4.7**
GTA				PPMZ			
	comp=Z,140nm,8.5s						
GTA				LN			
	comp=Z,170nm,19.5s						
GTA				LE			
	comp=Z,150nm,21.9s						
GTA				LZ			
	comp=Z,210nm,19.5s						
HHC	**Hu-ho-hao-te**	**172.88**	**227**	*e*PKP	**PKPdf**	**23 17 30.4**	**+3.7**
HHC				PP	PP	23 22 51.4	+6.3
HHC				SKKS		23 29 34.0	
HHC				SS	**SS**	**23 43 59.8**	**+4.0**
HHC				PPMZ			
	comp=Z,43nm,4.9s						
HHC				LN			
	comp=Z,230nm,19.1s						
HHC				LE			
	comp=Z,170nm,17.2s						
HHC				LZ			
	comp=Z,340nm,18.8s						
ZAK	**Zakamensk**	**175.42**	**11**	*e*PKP2	**PKPab**	**23 19 01.6**	**-2.7**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.6s						
SONA0	**Songino Array**	**177.72**	**329**	*e*PKPab	PKPab	23 19 14.7	0.0
SONM	**Songino Array**	**177.72**	**329**	PKPab	PKPab	23 19 14.7	0.0
	comp=Z,0.9nm,0.9s,baz=42,slow=0.9,SNR=6.0						

*IDC **10** 00:05:07.7±4.7, 30°.65S×179°.41W, h357km±40km, mb3.0/2, mb1 3.5/4, mb1mx3.2/22, mbtmp4.2/4, Error ellipse: s-maj=50.0km s-min=21.1km az=59.0*

ISC 10 00:05:07.3±1.2, 30°.67S±0°.08×179°.6W±0°.2, h350km, n38, σ1§13/48, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**7.09**	**193**	*e*PN	**Pn**	**00 06 51.6**	**+1.1**
MXZ				*e*SN	**S**	**00 08 15.0**	**+0.5**
WMGZ	**Waiomatatini S**	**7.31**	**192**	PN	**Pn**	**00 06 56.0**	**+2.8**
HAZ	**Te Kaha**	**7.39**	**196**	PN	**Pn**	**00 06 54.9**	**+0.8**
HAZ				*e*SN	**S**	**00 08 23.1**	**+2.1**
PUZ	**Puketiti**	**7.59**	**193**	PN	**Pn**	**00 06 56.0**	**-0.5**
PUZ				*e*SN	**S**	**00 08 25.8**	**+0.3**
CNGZ	**Carnagh Statio**	**8.00**	**192**	*e*PN	**Pn**	**00 07 02.3**	**+1.0**
MWZ	**Matawai**	**8.00**	**196**	PN	**Pn**	**00 07 01.5**	**+0.1**
MWZ				*e*SN	**S**	**00 08 35.8**	**+1.4**
URZ	**Urewera**	**8.04**	**199**	P	**Pn**	**00 07 03.0**	**+1.3**
	7.8nm,0.3s,baz=261,slow=3.9,SNR=46						
URZ				S	**S**	**00 08 36.2**	**+1.1**
	5.4nm,0.3s,baz=276,slow=22,SNR=12						
URZ	**Urewera**	**8.04**	**199**	PN	**Pn**	**00 07 02.8**	**+1.0**
URZ				*e*SN	**S**	**00 08 35.2**	**+0.1**
BKZ	**Black Stump Fm**	**9.05**	**200**	PN	**P**	**00 07 15.7**	**-0.4**
KWHZ	**Kaweka Forest**	**9.31**	**199**	PN	**P**	**00 07 18.7**	**-0.4**
WHVZ	**Whangaehu Hut**	**9.44**	**203**	PN	**P**	**00 07 19.7**	**-1.0**
KRHZ	**Kereru**	**9.53**	**199**	PN	**P**	**00 07 20.6**	**-0.9**
MTVZ	**Mangateitei**	**9.58**	**203**	PN	**P**	**00 07 22.0**	**0.0**
PNHZ	**Pukenui**	**9.83**	**199**	PN	**Pn**	**00 07 23.3**	**+0.2**
TSZ	**Takapari Road**	**10.04**	**200**	PN	**Pn**	**00 07 25.8**	**+0.2**
TSZ				*e*SN	**S**	**00 09 17.8**	**-1.2**
DVHZ	**Dannevirke**	**10.20**	**198**	PN	**P**	**00 07 28.2**	**-0.6**
BFZ	**Birch Farm**	**10.54**	**197**	PN	**P**	**00 07 33.0**	**+0.4**
BFZ				*e*SN	**S**	**00 09 28.6**	**-1.4**
MRZ	**Mangatainoka R**	**10.70**	**200**	PN	**Pn**	**00 07 30.9**	**-2.6**
MRZ				SN	**S**	**00 09 30.7**	**-2.9**
TIWZ	**Tintock**	**10.72**	**199**	PN	**Pn**	**00 07 33.6**	**-0.1**
OGWZ	**Otaki Gorge**	**10.97**	**201**	*e*PN	**Pn**	**00 07 35.5**	**-1.2**
OGWZ				*e*SN	**S**	**00 09 39.5**	**0.0**
KIW	**Kapiti Island**	**11.09**	**202**	PN	**P**	**00 07 38.4**	**-0.3**
CAW	**Cannon Point**	**11.27**	**201**	PN	**Pn**	**00 07 39.9**	**-0.3**
PLWZ	**Palliser**	**11.63**	**199**	PN	**P**	**00 07 45.0**	**+0.2**
NNZ	**Nelson**	**11.95**	**206**	*e*PN	**P**	**00 07 46.5**	**-1.7**
THZ	**Tophouse**	**12.60**	**206**	SN	**S**	**00 10 14.3**	**-0.5**
OXZ	**Oxford**	**14.27**	**205**	PN	**Pn**	**00 08 14.6**	**-0.9**
OXZ				*e*SN	**S**	**00 10 48.4**	**+0.1**
MQZ	**McQueen's Vall**	**14.38**	**203**	*e*PN	**P**	**00 08 15.3**	**+0.3**
MQZ				*e*SN	**S**	**00 10 50.6**	**0.0**
RPZ	**Rata Peaks**	**14.97**	**207**	S	**S**	**00 11 04.0**	**+1.5**
	0.9nm,0.3s,baz=30,slow=14,SNR=5.1						
DZM	**Mont Dzumac**	**15.13**	**301**	P	**Pn**	**00 08 26.8**	**+1.0**
	0.6nm,0.3s,baz=91,slow=24,SNR=6.8						
WRA	**Warramunga Arr**	**42.71**	**273**	P	**P**	**00 12 32.4**	**+1.0**
	0.4nm,0.3s,baz=110,slow=8.2,SNR=19						
VNDA	**Vanda**	**47.69**	**185**	P	**P**	**00 13 09.9**	**+0.6**
	0.6nm,0.4s,baz=76,slow=16,SNR=9.1						
ARCES	**ARCESS Array B**	**138.55**	**347**	PKhKP	PKPpre	00 23 42.8	
	3.4nm,1.1s,baz=72,slow=2.9,SNR=3.7						
FINES	**FINESS Array B**	**144.90**	**339**	PKP	PKPbc	00 24 01.3	-1.1
	3.7nm,0.5s,baz=58,slow=4.0,SNR=54						
NB2	**NORSAR Subarra**	**148.75**	**350**	PKP	**PKPbc**	**00 24 12.3**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=18,slow=2.6						
NOA	**NORSAR Array B**	**148.79**	**350**	PKPbc	**PKPbc**	**00 24 12.2**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=18,slow=4.2,SNR=3.5						
AKASG	**Malin Array Be**	**150.65**	**321**	PKPbc	**PKPbc**	**00 24 16.6**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=50,slow=3.0,SNR=5.8						
BRTR	**Keskin Array B**	**151.49**	**298**	PKPbc	**PKPbc**	**00 24 20.1**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=151,slow=5.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**162.52**	**184**	PKPab	**PKPab**	**00 25 17.5**	**-0.6**
	comp=Z,0.6nm,1.1s,baz=177,slow=3.4,SNR=3.4						

*DJA **10** 01:02:34.9±1.3, 6°.S±4°×10°.4E±°, h14km±11km, M4.5/17, mb4.9/4, mB5.1/1, MLv4.4/10, MLv4.5/17, Mw(mB)4.4/1*
*ISCJB **10** 01:02:35.7±1.0, 6°.45S±0°.07×103°.67E±0°.07, h53km±7km, mb4.4/25, MS3.0/1, Error ellipse: s-maj=15.2km s-min=5.3km az=43.1*
*NEIC **10** 01:02:37.9±0.5, 6°.27S×103°.80E, mb4.5/10, Error ellipse: s-maj=14.9km s-min=5.0km az=221.0*
*IDC **10** 01:02:37.7±0.8, 6°.33S×103°.66E, h48km±4km, mb4.0/16, mb1 4.1/17, mb1mx3.9/46, mbtmp4.3/17, MS3.0/3, Ms1 3.0/3, ms1mx2.6/40, Error ellipse: s-maj=23.4km s-min=9.8km az=38.0*

ISC 10 01:02:37.3±0.8, 6°.40S±0°.08×103°.68E±0°.08, h47km±5km, h47km: pP-P, n70, σ1§05/74, mb4.5/25, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**1.19**	**43**	P	**Pn**	**01 02 56.3**	**-1.3**
LWLI	**Liwa**	**1.42**	**15**	P	**Pn**	**01 03 00.1**	**-0.8**
LWLI				S	**Sn**	**01 03 19.5**	**+1.0**
KLI	**Kotabumi**	**1.92**	**37**	P	**Pn**	**01 03 08.6**	**+1.0**
MDSI	**Maura Dua**	**1.96**	**15**	P	**Pn**	**01 03 08.0**	**-0.2**
KLSI		**1.99**	**32**	P	**Pn**	**01 03 08.9**	**+0.3**
CGJI	**Cibinong**	**2.01**	**96**	P	**Pn**	**01 03 07.6**	**-1.2**
MNAI	**Manna**	**2.15**	**340**	*e*Pn	**Pn**	**01 03 10.6**	**-0.2**
LHSI	**Lahat**	**2.56**	**356**	P	**Pn**	**01 03 17.0**	**+0.6**
KSI	**Kapahiang**	**2.94**	**338**	P	**Pn**	**01 03 21.9**	**+0.3**
CBJI	**Citeko**	**3.15**	**91**	P	**Pn**	**01 03 26.0**	**+1.6**
CNJI	**Cibinong**	**3.54**	**105**	P	**Pn**	**01 03 28.6**	**-1.2**
MASI	**Maura Aman, Be**	**3.54**	**336**	P	**Pn**	**01 03 29.5**	**-0.4**
LEM	**Lembang**	**3.93**	**96**	P	**Pn**	**01 03 37.3**	**+2.0**
LEM	**Lembang**	**3.93**	**96**	P	**Pn**	**01 03 38.1**	**+2.7**
	11nm,0.3s,baz=166,slow=12,SNR=4.9						
LEM				S	**Sn**	**01 04 23.4**	**+3.1**
	7.0nm,0.3s,baz=186,slow=7.4,SNR=3.7						
LEM				LR	LR	01 05 28.6	
	comp=Z,171nm,21.1s,baz=12,slow=43						
CISI	**Cisompet, Garu**	**4.26**	**106**	*e*Pn	**Pn**	**01 03 38.4**	**-1.4**
CISI				*e*Sn	**Sn**	**01 04 23.5**	**-4.8**
CMJI	**Cimerak**	**4.92**	**106**	P	**Pn**	**01 03 47.9**	**-0.9**
PPSI	**Pulau Pagai**	**5.14**	**314**	P	**Pn**	**01 03 51.0**	**-0.9**
	104nm,0.7s,2μm1.2nm						
UGM	**Wanagama**	**6.95**	**103**	P	**Pn**	**01 04 17.3**	**+0.6**
	149nm,2.0s,0.8nm						
PCJI	**Pacitan**	**7.64**	**104**	P	**Pn**	**01 04 26.2**	**0.0**
	58nm,0.4s,0.3nm						
PWJI	**Pagerwojo**	**8.22**	**102**	P	**Pn**	**01 04 34.7**	**+0.7**
KAPI	**Kappang**	**16.05**	**86**	LR	LR	01 13 28.6	
	comp=Z,77nm,18.0s,baz=347,slow=40						
LUWI	**Luwuk**	**19.77**	**75**	*e*P	**P**	**01 07 03.5**	**-0.2**
	13nm,0.6s						
SOEI	**Soe**	**20.65**	**101**	*e*P	**P**	**01 07 12.5**	**-0.8**
CMAR	**Chiang Mai Arr**	**25.14**	**349**	P	**P**	**01 07 57.2**	**-1.0**
	7.4nm,0.5s,baz=182,slow=9.2,SNR=32						
CHTO	**Chiang Mai**	**25.49**	**350**	*e*P	**P**	**01 08 00.3**	**-1.0**
	4.1nm,0.6s						
H01W3	**Cape Leeuwin H**	**29.94**	**163**	T	T	01 39 52.6	
	baz=320,slow=76						
H01W2	**Cape Leeuwin H**	**29.95**	**163**	T	T	01 39 55.3	
	baz=320,slow=76						
H01W1	**Cape Leeuwin H**	**29.95**	**163**	T	T	01 39 58.3	
	baz=320,slow=76						
H08S2	**Diego Garcia H**	**30.98**	**266**	T	T	01 41 22.6	
	baz=90,slow=75,SNR=14						
H08S3	**Diego Garcia H**	**30.99**	**266**	T	T	01 41 18.9	
	baz=90,slow=75,SNR=13						
H08S1	**Diego Garcia H**	**31.00**	**266**	T	T	01 41 24.2	
	baz=90,slow=75,SNR=13						
WRA	**Warramunga Arr**	**32.66**	**117**	P	**P**	**01 09 05.7**	**+0.4**
	1.6nm,0.6s,baz=287,slow=12,SNR=20						
ASAR	**Alice Springs**	**33.74**	**124**	P	**P**	**01 09 15.1**	**+0.4**
	0.8nm,0.5s,baz=304,slow=7.5,SNR=9.5						
ASAR				pP	**pP**	**01 09 26.1**	**-1.1**
	1.2nm,0.3s,baz=303,slow=7.8,SNR=7.7						
ODAN	**Odare**	**36.64**	**335**	*e*P	**P**	**01 09 40.0**	**+0.3**
	28nm,0.5s						
ENH	**Enshi**	**36.88**	**8**	*e*P	**P**	**01 09 41.2**	**-0.3**
	5.2nm,0.5s						
TAPN	**Taplejung**	**36.94**	**336**	*e*P	**P**	**01 09 42.5**	**+0.2**
	20nm,0.6s						
RAMN	**Ramite**	**37.05**	**334**	*e*P	**P**	**01 09 43.9**	**+0.6**
	16nm,0.3s						
LSA	**Lhasa**	**37.86**	**342**	*e*P	**P**	**01 09 50.4**	**+0.1**
	3.2nm,0.4s						
PKI	**Pulchoki**	**38.12**	**333**	*e*P	**P**	**01 09 52.1**	**-0.2**
	10nm,0.5s						
GUN	**Gumba**	**38.20**	**334**	*e*P	**P**	**01 09 53.3**	**+0.2**
	42nm,0.5s						
DMN	**Daman**	**38.28**	**333**	*e*P	**P**	**01 09 53.8**	**+0.1**
	6.1nm,0.3s						
KKN	**Kakani**	**38.36**	**333**	*e*P	**P**	**01 09 54.3**	**0.0**
	26nm,0.6s						
GKN	**Gorkha**	**38.84**	**333**	*e*P	**P**	**01 09 58.4**	**+0.2**
	22nm,0.3s						
KOLN	**Koldanda**	**39.12**	**331**	*e*P	**P**	**01 10 01.0**	**+0.4**
	15nm,0.6s						
DANN	**Dangsing**	**39.53**	**332**	*e*P	**P**	**01 10 04.7**	**+0.5**
	4.6nm,0.5s						
COEN	**Coen**	**39.54**	**104**	*e*P	**P**	**01 10 05.1**	**+1.0**
	6.4nm,0.7s						
PMG	**Port Moresby**	**43.15**	**97**	*e*P	**P**	**01 10 33.5**	**-0.2**
	7.9nm,0.7s						
STKA	**Stephens Creek**	**43.51**	**131**	P	**P**	**01 10 36.6**	**+0.2**
	3.4nm,0.6s,baz=293,slow=7.1,SNR=7.4						
STKA				pP	**pP**	**01 10 50.9**	**+1.7**
	4.9nm,0.6s,baz=302,slow=7.6,SNR=3.2						
KSAR	**Wonju Array Be**	**49.12**	**26**	P	**P**	**01 11 20.1**	**-0.2**
KSRS	**Korea Array**	**49.15**	**26**	P	**P**	**01 11 20.1**	**-0.4**
	2.7nm,0.7s,baz=223,slow=7.9,SNR=14						
MJAR	**Matsushiro Arr**	**53.58**	**35**	P	**P**	**01 11 51.9**	**-1.8**
	1.0nm,0.6s,baz=210,slow=7.2,SNR=4.4						
SONM	**Songino Array**	**54.05**	**2**	P	**P**	**01 11 57.3**	**+0.2**
	3.8nm,0.7s,baz=181,slow=9.3,SNR=25						
SONM				pP	**pP**	**01 12 10.5**	**+0.2**
	1.3nm,0.6s,baz=173,slow=10,SNR=4.3						
SONM				PcP	**PcP**	**01 13 01.6**	**0.0**
	0.6nm,0.4s,baz=183,slow=3.5,SNR=3.2						
TKM2	**Tokmak 2**	**55.32**	**335**	*e*P	**P**	**01 12 06.8**	**+0.2**
	3.9nm,0.4s						
EKS2	**Erkin-Say**	**55.90**	**334**	*e*P	**P**	**01 12 11.2**	**+0.6**
	4.7nm,0.8s						
MK31	**Makanchi Array**	**56.27**	**342**	*e*P	**P**	**01 12 12.6**	**-0.4**
MKAR	**Makanchi Array**	**56.27**	**342**	P	**P**	**01 12 12.8**	**-0.2**
	2.8nm,0.5s,baz=150,slow=9.2,SNR=48						
MKAR				pP	**pP**	**01 12 26.3**	**0.0**
	1.9nm,0.7s,baz=144,slow=8.0,SNR=6.3						
USRK	**Ussuriysk Ar.**	**56.47**	**24**	P	**P**	**01 12 13.7**	**-0.7**
	4.3nm,0.6s,baz=218,slow=6.6,SNR=13						
KURBB	**Kurchatov Arra**	**60.81**	**342**	P	**P**	**01 12 44.1**	**-0.5**
	1.0nm,0.5s,baz=158,slow=6.3,SNR=13						
KURBB				pP	**pP**	**01 12 57.8**	**-0.1**
	1.3nm,0.8s,baz=162,slow=6.3,SNR=5.2						
KURK	**Kurchatov**	**60.87**	**342**	*e*P	**P**	**01 12 44.3**	**-0.6**
	3.1nm,0.8s						
KURK				pP	**pP**	**01 12 57.8**	**-0.5**
ZALV	**Zalesovo Beam**	**62.19**	**348**	P	**P**	**01 12 53.3**	**-0.4**
	3.3nm,0.4s,baz=152,slow=5.4,SNR=20						
ZALV				pP	**pP**	**01 13 07.1**	**0.0**
	3.3nm,0.7s,baz=159,slow=4.4,SNR=6.2						
BVAR	**Borovoye Array**	**65.57**	**339**	P	**P**	**01 13 15.7**	**-0.3**
	3.0nm,0.5s,baz=145,slow=9.4,SNR=24						
BVAR				pP	**pP**	**01 13 29.5**	**-0.1**
	1.0nm,0.5s,baz=139,slow=9.2,SNR=4.1						
ABKAR	**Akbulak array**	**67.24**	**331**	*e*P	**P**	**01 13 26.6**	**-0.2**
	2.5nm,0.4s						
YAK	**Yakutsk**	**71.13**	**13**	LR	LR	01 46 37.8	
	comp=Z,8.8nm,18.8s,baz=233,slow=37						
KBZ	**Khabaz**	**74.02**	**319**	P	**P**	**01 14 09.5**	**+1.4**
	2.4nm,0.8s,baz=158,slow=4.7,SNR=5.9						
BRTR	**Keskin Array B**	**78.98**	**312**	P	**P**	**01 14 36.9**	**+0.3**
	0.4nm,0.6s,baz=151,slow=6.5,SNR=3.6						
FINES	**FINESS Array B**	**89.69**	**332**	P	**P**	**01 15 30.8**	**+0.7**
	0.7nm,0.5s,baz=134,slow=11,SNR=9.1						
ARCES	**ARCESS Array B**	**91.84**	**340**	P	**P**	**01 15 38.8**	**-1.1**
	2.7nm,1.0s,baz=90,slow=3.6,SNR=3.7						
TXAR	**Lajitas Array**	**145.56**	**45**	PKPbc	**PKPab**	**01 22 12.3**	**+0.6**
	3.5nm,0.7s,baz=279,slow=1.0,SNR=19						
TXAR				pPKPbc	pPKPbc	01 22 25.3	-0.6
	2.0nm,0.8s,baz=245,slow=1.9,SNR=8.5						
JCT	**Junction City**	**147.44**	**40**	*e*PKPbc	**PKPbc**	**01 22 17.1**	**+0.3**
WVT	**Waverly**	**148.58**	**18**	*e*PKPbc	**PKPbc**	**01 22 19.5**	**-0.1**

GUC 10 01:07:59.4±0.5, 36°.71S×73°.14W, h32km±4km, ML4.1, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.14**	**170**	*e*P	Pb	01 08 05.7	+0.3
CCSP				*e*S	Sb	01 08 09.9	+0.5
CCSP				AML	AML	01 08 10.8	
	comp=N,18μm,0.6s						
COCH	**Cobquecura**	**0.64**	**26**	*e*P	Pb	01 08 12.2	0.0
COCH				*e*S	Sn	01 08 21.9	+0.6
LNCH	**Linares**	**1.51**	**56**	*e*P	Pb	01 08 26.1	-0.8
LNCH				*e*S	Sb	01 08 46.3	+0.6
TALC	**Talca**	**1.79**	**43**	*e*P	Pb	01 08 30.4	-1.1
CLCH	**Cerro Calan**	**3.93**	**34**	AML	AML	01 10 10.1	
	comp=N,212nm,0.7s						
PEL	**Peldehue**	**4.09**	**30**	AML	AML	01 10 12.6	
	comp=E,231nm,0.6s						

DJA 10 01:08:09.6±0.6, 5°.5S±4°×12°.7E±°, h55km±13km, M4.0/7, mb4.6/3, mB4.7/2, MLv3.7/7, Mw(mB)3.9/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**1.39**	**21**	P	Pn	01 08 31.9	-0.8
AAI	**Ambon**	**1.80**	**62**	P	Pn	01 08 42.0	+3.7
AAI				S	Sn	01 08 59.3	-0.8
SANI	**Sanana**	**2.55**	**346**	P	Pn	01 08 47.1	-1.4
SANI				S	Sn	01 09 19.3	+0.9
LBMI	**Labuha**	**3.98**	**13**	P	Pn	01 09 14.4	+6.2
LBMI				S	Sn	01 09 57.6	+4.0
FAKI	**Fak Fak**	**5.86**	**74**	P	Pn	01 09 33.9	-0.1
	32nm,0.7s,0.1nm						
SWI	**Sorong**	**5.92**	**52**	P	Pn	01 09 35.2	+0.5
	54nm,0.8s,898nm0.2nm						
SWI				S	Sn	01 10 42.5	+1.3
	54nm,0.8s,898nm0.2nm						
GTOI	**Gorontalo**	**6.27**	**325**	P	Pn	01 09 46.8	+7.3
BKSI	**Bulukumba**	**6.50**	**263**	P	Pn	01 09 41.6	-1.1

**IDC 10 01:17:48.4±3.1, 25°.32S×177°.07W, h0km, mb3.9/3,

comp=N,0.0nm,0.3s,baz=60,slow=20,SNR=2.2
CPUP Lg Lg 01 30 25.5
comp=N,0.1nm,0.3s,baz=165,slow=15,SNR=4.2
CPUP LR LR 01 31 48.8
comp=N,88nm,18.6s,baz=236,slow=37
LPAZ La Paz 19.83 15 P **Pn** **01 26 10.9 +0.8**
comp=N,0.1nm,0.3s,baz=188,slow=7.1,SNR=9.7
SIV San Ignacio 22.41 32 P **P** **01 26 35.8 +0.1**
comp=N,5.8nm,1.1s,baz=219,slow=14,SNR=9.4
SIV LR LR 01 37 06.4
comp=N,202nm,18.9s,baz=181,slow=41
SAML Samuel 28.14 21 *eP* **P** **01 27 28.2 -1.0**
comp=N,1.5nm,0.7s
ATAH Atahualpa 28.78 349 LR LR 01 37 22.6
comp=N,60nm,18.9s,baz=229,slow=33
PMSA Palmer Station 29.67 172 LR LR 01 39 22.3
comp=N,92nm,20.7s,baz=22,slow=36
BDFB Brasilia 30.10 55 P **P** **01 27 49.4 +2.6**
comp=N,3.6nm,0.8s,baz=211,slow=5.9,SNR=5.9
PTGA Pitinga 36.89 23 P **P** **01 28 45.5 -0.3**
comp=N,0.8nm,0.3s,baz=179,slow=7.7,SNR=4.6
SDV Santo Domingo 44.38 4 *eP* **P** **01 29 47.6 -0.2**
comp=N,2.9nm,0.6s
SNAA Sanae 50.43 157 P **P** **01 30 34.3 +0.1**
comp=N,2.2nm,0.9s,baz=272,slow=5.0,SNR=17
QSPA South Pole Qui 54.57 180 P **P** **01 31 05.8 +0.7**
comp=N,5.3nm,0.9s,baz=136,slow=2.2,SNR=11
QSPA South Pole Qui 54.57 180 *eP* **P** **01 31 05.4 +0.4**
comp=N,5.0nm,1.0s
GOGA Godfrey 69.38 351 *eP* **P** **01 32 44.1 -0.5**
comp=N,1.7nm,0.6s
TXAR Lajitas Array 70.71 332 P **P** **01 32 53.1 0.0**
comp=N,0.9nm,0.7s,baz=135,slow=9.0,SNR=5.4
WHTX Lake Whitney 71.03 338 *eP* **P** **01 32 55.0 +0.2**
comp=N,5.3nm,0.9s
MAW Mawson 71.87 164 P **P** **01 32 59.1 -0.3**
comp=N,3.9nm,0.8s,baz=184,slow=2.6,SNR=8.5
ABTX Abilene, Hawle 72.30 337 *eP* **P** **01 33 02.1 -0.3**
comp=N,6.0nm,0.9s
WVT Waverly 72.71 348 *eP* **P** **01 33 04.7 -0.1**
comp=N,18nm,1.4s
ANMO Albuquerque 76.78 332 *eP* **P** **01 33 29.0 +0.4**
comp=N,1.7nm,1.1s
BOSA Boshof 80.18 118 P **P** **01 33 47.2 -0.5**
comp=N,3.1nm,0.8s,baz=228,slow=6.1,SNR=5.3
ECSD EROS Data Cent 81.83 343 *eP* **P** **01 33 55.6 -0.2**
comp=N,9.0nm,1.2s
LBTB Lobatse 82.51 115 *eP* **P** **01 34 00.2 +0.1**
comp=N,16nm,1.5s
DUG Dugway 83.81 331 *eP* **P** **01 34 05.3 -1.1**
comp=N,3.3nm,1.2s
HWUT Hardware Ranch 84.54 332 *eP* **P** **01 34 09.1 -1.0**
comp=N,2.9nm,1.0s
PDAR Pinedale Array 84.81 334 P **P** **01 34 11.7 +0.2**
comp=N,1.2nm,1.1s,baz=131,slow=4.1,SNR=4.6
TORD Torodi Ar. Bea 85.71 71 P **P** **01 34 15.6 -0.7**
comp=N,1.0nm,0.9s,baz=264,slow=6.0,SNR=3.5
H11N3 WAKE ISLAND Hyl 25.19 270 T T 03 58 35.9
baz=120
H11N1 WAKE ISLAND Hyl 25.20 270 T T 03 58 33.8
baz=120,slow=74
H11N2 WAKE ISLAND Hyl 25.21 270 T T 03 58 33.4
baz=120,slow=74
ABKAR Akbulak array 143.49 53 *e*PKPdf PKPab 01 41 07.9 +0.5
BRVK Borovoye 149.10 44 *e*PKPbc **PKPbc** **01 41 25.2 +0.5**
BVAR Borovoye Array 149.17 44 PKPbc **PKPbc** **01 41 25.0 +0.1**
comp=N,0.7nm,0.6s,baz=329,slow=2.6,SNR=5.2
ZAA0 Zalesovo Array 156.16 33 *e*PKPab **PKPab** **01 41 58.5 -0.1**
ZALV Zalesovo Beam 156.16 33 PKP **PKPdf** **01 41 29.8 -1.1**
comp=N,0.3nm,0.3s,baz=29,slow=3.3,SNR=4.1
ZALV PKPab **PKPab** **01 41 59.1 +0.4**
comp=N,1.1nm,0.6s,baz=301,slow=5.4,SNR=5.4
SONM Songino Array 167.84 1 PKPab **PKPab** **01 42 50.4 +0.5**
comp=N,0.3nm,0.3s,baz=330,slow=3.3,SNR=3.8

*IDC **10** 01:22:50.1±11.0, 17.90S×177.86W, h572km±114km, mb3.0/5, mb1 3.2/5, mb1mx2.9/34, mbtmp3.9/5, Error ellipse: s-maj=97.4km s-min=28.8km az=119.0*
ISC 10 01:22:51.2±2.5, 17.9S±0.4×177.9W±0.4, h590km, n7, σ0≤20/8, mb3.5/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.13 259**		P	**P**	**01 30 16.5**	**-0.1**
	0.3nm,0.4s,baz=93,slow=7.6,SNR=12						
WRA				PcP	**PcP**	**01 31 44.0**	**-0.2**
	0.5nm,0.9s,baz=90,slow=3.6,SNR=8.6						
ASAR	**Alice Springs**	**45.28 254**		P	**P**	**01 30 17.9**	**+0.2**
	0.8nm,0.5s,baz=91,slow=8.1,SNR=8.5						
MJAR	**Matsushiro Arr**	**68.24 323**		P	**P**	**01 32 54.1**	**0.0**
	1.0nm,0.6s,baz=156,slow=5.8,SNR=3.4						
PETK	**Petropavlovsk-**	**73.84 345**		P	**P**	**01 33 26.5**	**+0.1**
	2.4nm,0.7s,baz=134,slow=8.3,SNR=3.1						
ILAR	**Eielson Array**	**85.80 13**		P	**P**	**01 34 28.6**	**0.0**
	0.4nm,0.4s,baz=225,slow=4.9,SNR=9.1						
BRTR	**Keskin Array B**	**145.17 315**		PKPbc	**PKPbc**	**01 41 23.6**	**-0.2**
	1.0nm,0.6s,baz=107,slow=3.4,SNR=5.6						
GERES	**GERESS Array B**	**147.77 346**		PKPbc	**PKPbc**	**01 41 30.8**	**+0.2**
	0.8nm,0.5s,baz=23,slow=3.0,SNR=10						

*IDC **10** 01:42:12.3±0.8, 6.77S×148.30E, h0km, mb4.2/7, mb1 4.3/10, mb1mx4.0/33, mbtmp4.1/10, ML3.9/3, MS3.3/7, Ms1 3.3/7, ms1mx3.1/29, Error ellipse: s-maj=31.7km s-min=18.3km az=84.0*
*ISCJB **10** 01:42:18.2±0.6, 6.92S±0.06×148.01E±0.09, h54km, mb4.2/11, MS3.2/6, Error ellipse: s-maj=13.3km s-min=8.7km az=10.4*
*NEIC **10** 01:42:18.4±1.6, 6.85S×148.18E, h42km±13km, mb4.5/5, Error ellipse: s-maj=17.0km s-min=9.5km az=66.0*
ISC 10 01:42:19.8±0.7, 6.89S±0.08×148.0E±0.1, h54km, n25, σ1≤02/22, mb4.2/11, MS3.2/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.65 199**		*e*Pn	**Pn**	**01 43 00.7**	**+0.6**
COEN	**Coen**	**8.50 214**		*e*Pn	**Pn**	**01 44 18.3**	**-2.1**
COEN				*e*Sn	**Sn**	**01 45 54.0**	**-1.0**
JAY	**Jayapura**	**8.50 300**		Pn	**Pn**	**01 44 21.3**	**+0.8**
	0.2nm,0.3s,baz=130,slow=17,SNR=1.8						
CTA	**Charters Tower**	**13.24 187**		Pn	**Pn**	**01 45 25.6**	**+0.5**
	0.3nm,0.3s,baz=345,slow=19,SNR=3.5						
SIJI	**Sorong**	**17.76 289**		LR	LR	01 54 58.3	
	comp=Z,156nm,21.0s,baz=5.5,slow=43						
WRAB	**Tennant Creek**	**18.57 224**		*e*P	**Pn**	**01 46 33.0**	**-0.2**
	5.7nm,0.6s						
WRA	**Warramunga Arr**	**18.58 224**		P	**P**	**01 46 32.9**	**+0.3**
	1.3nm,0.3s,baz=52,slow=10,SNR=42						
GUMO	**Guam**	**20.59 351**		LR	LR	01 53 29.4	
	comp=Z,73nm,22.0s,baz=114,slow=33						
ASAR	**Alice Springs**	**21.51 218**		P	**P**	**01 47 05.4**	**+0.9**
	11nm,0.6s,baz=51,slow=9.5,SNR=139						
ASAR				S	**S**	**01 50 59.6**	**-0.6**
	2.2nm,0.9s,baz=33,slow=25,SNR=6.8						
ASAR				LR	LR	01 55 25.3	
	comp=Z,81nm,19.3s,baz=37,slow=36						
DZM	**Mont Dzumac**	**23.31 132**		*e*P	**P**	**01 47 21.3**	**-2.1**
	24nm,1.2s						
STKA	**Stephens Creek**	**25.58 193**		P	**P**	**01 47 44.1**	**+0.1**
	4.7nm,0.5s,baz=14,slow=7.7,SNR=9.8						
STKA				LR	LR	01 58 47.3	
	comp=Z,110nm,18.7s,baz=26,slow=39						
JCJ	**Chichijima**	**34.25 351**		LR	LR	02 01 28.9	
	comp=Z,55nm,19.7s,baz=152,slow=34						
RPZ	**Rata Peaks**	**41.87 155**		P	**P**	**01 50 04.4**	**-0.4**
	5.7nm,0.7s,baz=330,slow=4.3,SNR=5.7						
MJAR	**Matsushiro Arr**	**44.17 349**		LR	LR	02 07 06.0	
	comp=Z,28nm,21.0s,baz=210,slow=34						
KSRS	**Korea Array**	**47.95 338**		LR	LR	02 08 37.6	
	comp=Z,38nm,21.8s,baz=170,slow=33						
VNDA	**Vanda**	**70.97 177**		P	**P**	**01 53 32.2**	**+1.0**
	1.7nm,0.8s,baz=325,slow=6.3,SNR=10						
MKAR	**Makanchi Array**	**78.83 320**		P	**P**	**01 54 18.1**	**+0.9**
	0.3nm,0.4s,baz=97,slow=9.2,SNR=6.5						
ZALV	**Zalesovo Beam**	**80.31 328**		P	**P**	**01 54 23.8**	**-1.1**
	0.8nm,0.3s,baz=100,slow=5.2,SNR=3.2						
KURK	**Kurchatov**	**82.53 323**		*e*P	**P**	**01 54 36.5**	**-0.4**
	1.6nm,0.7s						
QSPA	**South Pole Qui**	**83.09 180**		*e*P	**P**	**01 54 39.4**	**-0.2**
	8.1nm,1.2s						
EKS2	**Erkin-Say**	**83.21 314**		*e*P	**P**	**01 54 40.5**	**-0.2**
	2.1nm,0.3s						
ILAR	**Eielson Array**	**85.89 23**		P	**P**	**01 54 52.3**	**-1.3**
	0.5nm,0.9s,baz=266,slow=5.7,SNR=4.0						
GERES	**GERESS Array B**	**123.22 326**		PKP	**PKPdf**	**02 01 12.2**	**+1.4**
	0.4nm,0.5s,baz=60,slow=2.2,SNR=7.5						
TORD	**Torodi Ar. Bea**	**146.31 283**		PKPbc	**PKPab**	**02 01 56.8**	**+0.3**
	1.9nm,0.7s,baz=67,slow=3.2,SNR=18						
BDFB	**Brasilia**	**152.54 145**		PKPbc	**PKPbc**	**02 02 11.9**	**+0.5**
	2.0nm,0.5s,baz=188,slow=4.1,SNR=4.0						

MEX 10 01:46:40.5±0.6, 15.81N×96.22W, h42km±4km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.11 109**		*i* P	Pn	01 46 46.0	-1.5
HUIG				*i* S	Sn	01 46 50.2	-2.2
PANG	**Puerto Angel**	**0.28 241**		*e*P	Pn	01 46 47.4	-1.4
PANG				*i* S	Sn	01 46 53.2	-1.3
VHO	**Vista Hermosa**	**1.35 339**		*e*P	Pn	01 47 01.7	-1.5
VHO				*i* S	Sn	01 47 17.7	-2.5
CMIG	**Matias Romero**	**1.81 45**		*e*P	Pn	01 47 07.4	-1.8
CMIG				*e*S	Sn	01 47 29.3	-1.7
PNIG	**Pinotepa**	**1.93 288**		*e*P	Pn	01 47 09.0	-1.9
PNIG				*i* S	Sn	01 47 31.4	-2.5
TLIG	**Tlapa**	**2.85 308**		*e*P	Pn	01 47 22.5	-1.2
TLIG				*i* S	Sn	01 47 55.2	-1.7
PCIG		**2.89 92**		*e*P	Pn	01 47 23.4	-0.6
PCIG				*e*S	Sn	01 47 55.4	-2.1
TGIG		**3.13 72**		*e*P	Pn	01 47 26.1	-1.3
TGIG				*e*S	Sn	01 48 02.2	-1.4

*IDC **10** 01:53:32.8±2.0, 21.63N×143.35E, h272km±19km, mb3.4/9, mb1 3.5/12, mb1mx3.2/35, mbtmp4.1/12, Error ellipse: s-maj=28.3km s-min=11.8km az=85.0*
*ISCJB **10** 01:53:33.6±0.8, 21.70N±0.08×143.4E±0.3, h300km, mb3.6/8, Error ellipse: s-maj=32.8km s-min=9.8km az=172.0*
ISC 10 01:53:34.4±0.9, 21.76N±0.09×143.6E±0.2, h300km, n13, σ1≤79/14, mb3.7/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.46 347**		P	**Pn**	**01 54 57.4**	**+0.1**
	6.7nm,0.3s,baz=119,slow=21,SNR=5.6						
JCJ				S	**S**	**01 56 00.9**	**-3.0**
	4.2nm,0.3s,baz=288,slow=20,SNR=3.0						
MJAR	**Matsushiro Arr**	**15.45 344**		P	**Pn**	**01 56 57.6**	**-0.4**
	0.9nm,0.3s,baz=163,slow=8.8,SNR=7.6						
JNU	**Nakatsue**	**15.95 318**		P	**Pn**	**01 57 02.9**	**-1.0**
	0.5nm,0.3s,baz=77,slow=5.2,SNR=4.6						
KSRS	**Korea Array**	**20.68 323**		P	**P**	**01 57 52.7**	**+0.7**
	2.2nm,0.6s,baz=149,slow=9.1,SNR=11						
SONM	**Songino Array**	**39.52 320**		P	**P**	**02 00 37.4**	**+0.7**
	0.6nm,0.6s,baz=142,slow=5.0,SNR=5.0						
WRA	**Warramunga Arr**	**42.41 193**		P	**P**	**02 00 59.8**	**-0.6**
	2.3nm,0.5s,baz=17,slow=9.3,SNR=64						
ASAR	**Alice Springs**	**46.12 192**		P	**P**	**02 01 28.8**	**-0.8**
	0.8nm,0.6s,baz=16,slow=12,SNR=13						
STKA	**Stephens Creek**	**53.36 182**		P	**P**	**02 02 23.6**	**0.0**
	7.0nm,1.1s,baz=351,slow=7.0,SNR=2.9						
ZALV	**Zalesovo Beam**	**54.38 322**		P	**P**	**02 02 31.3**	**+0.6**
	1.8nm,0.7s,baz=104,slow=6.2,SNR=5.9						
ILAR	**Eielson Array**	**61.83 27**		P	**P**	**02 03 24.1**	**+2.3**
	0.5nm,0.8s,baz=266,slow=5.4,SNR=6.7						
ARCES	**ARCESS Array B**	**78.97 342**		P	**P**	**02 05 06.5**	**+1.6**
	2.2nm,0.8s,baz=78,slow=8.7,SNR=9.5						
FINES	**FINESS Array B**	**83.28 335**		P	**P**	**02 05 28.1**	**+0.6**
	0.6nm,0.3s,baz=68,slow=4.3,SNR=12						
LPAZ	**La Paz**	**149.58 85**		PKPbc	**PKPab**	**02 12 52.5**	**-3.8**
	0.5nm,0.6s,baz=340,slow=2.2,SNR=3.6						

*IDC **10** 02:06:26.9±1.3, 30.72N×142.21E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.6/25, mbtmp3.6/7, ML3.6/2, Error ellipse: s-maj=45.2km s-min=22.8km az=81.0*
*ISCJB **10** 02:06:29.1±0.7, 30.79N±0.05×142.0E±0.2, h23km, mb3.7/5, Error ellipse: s-maj=20.3km s-min=5.0km az=164.2*
*JMA **10** 02:06:29.6±0.2, 30.79N×141.98E, h28km, M4.0*
ISC 10 02:06:30.3±0.9, 30.70N±0.06×142.0E±0.2, h23km, n16, σ1≤38/23, mb3.6/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**3.06 323**		*e*S	**Sn**	**02 07 50.4**	**-2.7**
CBIJ	**Chichi jima**	**3.59 178**		P	**Pn**	**02 07 26.6**	**+2.0**
JCJ	**Chichijima**	**3.59 178**		Pn	**Pn**	**02 07 26.1**	**+1.5**
	5.0nm,0.3s,baz=283,slow=19,SNR=4.8						
JCJ				Sn	**Sn**	**02 08 03.6**	**-2.7**
	6.3nm,0.3s,baz=270,slow=20,SNR=4.0						
BSO1	**Boso 1**	**4.04 348**		P	**Pn**	**02 07 29.3**	**-1.0**
BSO1				*e*S	**Sn**	**02 08 15.7**	**-1.0**
BSO2	**Boso 2**	**4.18 345**		S	**Sn**	**02 08 19.1**	**-1.4**
BSO3	**Boso 3**	**4.29 343**		P	**Pn**	**02 07 33.7**	**-0.2**
BSO3				S	**Sn**	**02 08 23.2**	**+0.1**
BSO4	**Boso 4**	**4.51 342**		P	**Pn**	**02 07 38.2**	**+1.1**
BSO4				*e*S	**Sn**	**02 08 28.5**	**-0.3**
JOD2	**Odawara 2**	**5.18 332**		P	**Pn**	**02 07 47.6**	**+1.1**
JOD2				*e*S	**Sn**	**02 08 44.7**	**-0.8**
JHJ	**Hanno**	**5.63 337**		P	**Pn**	**02 07 52.6**	**0.0**
JHJ				*e*S	**Sn**	**02 08 55.2**	**-1.4**
MJAR	**Matsushiro Arr**	**6.64 332**		Pn	**Pn**	**02 08 06.8**	**+0.3**
	1.2nm,0.3s,baz=156,slow=11,SNR=11						
MAT	**Matsushiro**	**6.64 332**		P	**Pn**	**02 08 04.7**	**-1.9**
MAT				S	**Sn**	**02 09 20.8**	**-0.8**
SONM	**Songino Array**	**32.11 312**		P	**P**	**02 12 57.7**	**+1.9**
	0.3nm,0.6s,baz=118,slow=6.8,SNR=2.5						
MKAR	**Makanchi Array**	**48.14 307**		P	**P**	**02 15 08.9**	**+0.4**
	0.2nm,0.3s,baz=83,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**50.89 189**		P	**P**	**02 15 29.2**	**-0.5**
	1.2nm,0.5s,baz=5.0,slow=7.4,SNR=4.6						
ILAR	**Eielson Array**	**54.65 30**		P	**P**	**02 15 56.6**	**-0.3**
	0.4nm,0.7s,baz=279,slow=6.0,SNR=4.3						
FINES	**FINESS Array B**	**74.67 333**		P	**P**	**02 18 07.6**	**0.0**
	1.0nm,0.8s,baz=345,slow=10,SNR=3.3						

*MEX **10** 02:08:27.8±0.6, 15.34N×92.87W, h111km±4km, MD4.8*
*NEIC **10** 02:08:28.2±0.3, 15.48N×92.62W, mb4.6/72, MD4.8(MEX), Error ellipse: s-maj=7.5km s-min=4.5km az=50.0*
*IDC **10** 02:08:28.7±0.6, 15.65N×92.36W, h122km±4km, mb3.9/19, mb1 4.1/21, mb1mx4.0/28, mbtmp4.3/21, MS3.0/4, Ms1 3.0/4, ms1mx2.7/31, Error ellipse: s-maj=17.7km s-min=9.1km az=56.0*
*ISCJB **10** 02:08:29.4±0.4, 15.51N±0.03×92.50W±0.04, h146km±3km, mb4.4/70, Error ellipse: s-maj=7.2km s-min=2.9km az=142.6*
*BJI **10** 02:08:29.5, 15.50N×92.50W, h137km, mB4.4/1*
ISC 10 02:08:27.6±0.4, 15.45N±0.04×92.69W±0.04, h118km±3km, h117km:pP-P, n429, σ1≤43/480, mb4.5/71, 4C-3D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.57 297**		*i* P	**Pn**	**02 08 43.8**	**-2.0**
PCIG				*i* S	**Sn**	**02 08 56.9**	**-2.6**
PCIG		**0.57 297**		*i* P	**Pn**	**02 08 43.8**	**-2.0**
PCIG				*i* S	**Sn**	**02 08 55.5**	**-3.9**
PCIG		**0.57 297**		*i* P	**Pn**	**02 08 43.8**	**-2.0**
PCIG				*i* S	**Sn**	**02 08 55.5**	**-3.9**
CCIG	**Comitan**	**0.98 32**		*e*P	**Pn**	**02 08 50.1**	**+0.6**
CCIG				*i* S	**Sn**	**02 09 07.5**	**+1.5**
CCIG	**Comitan**	**0.98 32**		*e*P	**Pn**	**02 08 50.1**	**+0.6**
CCIG				*e*S	**Sn**	**02 09 07.2**	**+1.2**
CCIG	**Comitan**	**0.98 32**		*e*P	**Pn**	**02 08 50.1**	**+0.6**
CCIG				*e*S	**Sn**	**02 09 07.2**	**+1.2**
TGIG		**1.39 343**		*e*P	**Pn**	**02 08 52.3**	**-1.3**
TGIG				*i* S	**Sn**	**02 09 12.1**	**-1.4**
TGIG		**1.39 343**		*e*P	**Pn**	**02 08 52.4**	**-1.3**
TGIG				*i* S	**Sn**	**02 09 12.1**	**-1.4**
TGIG		**1.39 343**		*e*P	**Pn**	**02 08 52.4**	**-1.3**
TGIG				*i* S	**Sn**	**02 09 12.1**	**-1.4**
JAT	**Jato**	**1.52 138**		*i* P	**Pn**	**02 08 56.7**	**+1.6**
FUG	**Fuego 3**	**2.04 119**		*e*P	**Pn**	**02 09 03.3**	**+1.7**
PCG	**Pacaya**	**2.27 117**		*e*P	**Pn**	**02 09 07.2**	**+2.2**
NBG	**Las Nubes**	**2.42 110**		*e*P	**Pn**	**02 09 08.7**	**+2.2**
CMIG	**Matias Romero**	**2.67 308**		*e*P	**Pn**	**02 09 06.9**	**-2.6**
CMIG				*e*S	**Sn**	**02 09 38.5**	**-3.3**
CMIG	**Matias Romero**	**2.67 308**		*e*P	**Pn**	**02 09 07.8**	**-1.6**
CMIG				*e*S	**Sn**	**02 09 38.5**	**-3.3**
CMIG	**Matias Romero**	**2.67 308**		P	**Pn**	**02 09 07.9**	**-1.6**
	114nm,0.3s,baz=103,slow=11,SNR=738						
CMIG				S	Sn	02 09 34.1	-7.6
	307nm,0.3s,baz=115,slow=14,SNR=13						
CMIG				LR	LR	02 09 56.8	
	comp=Z,160nm,21.1s,baz=190,slow=31						
MRL	**Marmol**	**2.92 97**		*e*P	**Pn**	**02 09 13.6**	**+0.6**
MRL				*e*S	**Sn**	**02 09 42.6**	**-5.2**
RBDL	**Robledal**	**3.19 114**		*e*P	**Pn**	**02 09 17.5**	**+0.9**
HUIG	**Huatulco**	**3.31 276**		*e*P	Pn	02 09 14.1	-3.8
HUIG				*i* S	Sn	02 09 47.6	-9.3
HUIG	**Huatulco**	**3.31 276**		*e*P	Pn	02 09 14.1	-3.8
HUIG				*e*S	Sn	02 09 47.0	-10
HUIG	**Huatulco**	**3.31 276**		*e*P	Pn	02 09 14.1	-3.8
HUIG				*e*S	Sn	02 09 47.0	-10
RTR	**El Retiro**	**3.32 117**		*e*P	**Pn**	**02 09 19.2**	**+0.9**
SBLS	**San Blas**	**3.37 118**		*e*P	**Pn**	**02 09 20.0**	**+1.1**
SNJE	**San Jose**	**3.37 117**		*e*P	**Pn**	**02 09 19.7**	**+0.7**
VHO	**Vista Hermosa**	**4.21 293**		*i* P	Pn	02 09 26.9	-3.2
VHO				*e*S	**Sn**	**02 10 13.3**	**-5.3**
VHO	**Vista Hermosa**	**4.21 293**		*e*P	**Pn**	**02 09 28.7**	**-1.4**
VHO				*e*S	**Sn**	**02 10 15.8**	**-2.8**
VHO	**Vista Hermosa**	**4.21 293**		*e*P	**Pn**	**02 09 28.7**	**-1.4**
VHO				*e*S	**Sn**	**02 10 15.8**	**-2.8**
VCR	**Vista de Mar**	**8.68 127**		*e*P	**Pn**	**02 10 31.7**	**+1.3**
VCR				*e*S	**Sn**	**02 12 06.9**	**+0.2**
JTS	**JuntasAbangare**	**9.12 123**		P	**Pn**	**02 10 37.2**	**+0.9**
	23nm,0.3s,baz=310,slow=6.7,SNR=52						
JTS				S	**Sn**	**02 12 16.5**	**-0.7**
	1.7nm,0.3s,baz=284,slow=19,SNR=3.5						
JCR	**Jicaral**	**9.25 126**		*e*P	**Pn**	**02 10 39.5**	**+1.3**
JCR				*e*S	**Sn**	**02 12 15.7**	**-4.8**
CGA2	**Cerro Gallo 2**	**9.67 123**		*e*P	**Pn**	**02 10 44.9**	**+1.0**
QCR	**Quepos**	**10.25 125**		*e*P	**Pn**	**02 10 52.6**	**+1.1**
URSC	**Urasca**	**10.33 122**		*e*P	**Pn**	**02 10 53.9**	**+1.1**
BUS	**Buena Vista**	**10.50 123**		*e*P	**Pn**	**02 10 56.2**	**+0.9**
BUS				*e*S	**Sn**	**02 12 46.6**	**-4.8**
034A	**Hebbronville**	**12.84 335**		P	**Pn**	**02 11 28.4**	**+2.6**
	baz=13						
934A	**Benavides**	**13.25 337**		P	**Pn**	**02 11 32.9**	**+1.7**
	baz=13						
933A	**Laredo**	**13.56 334**		P	**P**	**02 11 38.2**	**-2.0**
	baz=14						
834A	**Tilden**	**13.74 338**		P	**Pn**	**02 11 39.3**	**+1.8**
	baz=14						
BCIP	**Isla Barro Col**	**14.02 115**		*e*Pn	**Pn**	**02 11 41.1**	**-0.1**
736A	**Circle Diamond**	**14.04 344**		P	**P**	**02 11 44.3**	**-1.1**
	baz=14						
735A	**Kenedy**	**14.16 341**		P	**Pn**	**02 11 44.2**	**+1.3**
	baz=14						
833A	**Chaparral WMA,**	**14.24 335**		P	**P**	**02 11 46.1**	**-1.6**
	baz=14,SNR=14						
734A	**La Parita Cree**	**14.40 339**		P	**P**	**02 11 48.2**	**-1.1**
	baz=14						
832A	**Faith Ranch, C**	**14.45 333**		P	**P**	**02 11 48.7**	**-1.3**
	baz=14,SNR=12						
636A	**Smothers Creek**	**14.54 345**		P	**P**	**02 11 49.9**	**-1.0**
	baz=15						
733A	**Divot King Ran**	**14.55 336**		P	**P**	**02 11 50.3**	**-0.8**
	baz=15,SNR=6.4						
635A	**Leesville**	**14.64 342**		P	**P**	**02 11 51.3**	**-0.8**
	baz=15						
539A	**Cross D Ranch,**	**14.71 353**		P	**P**	**02 11 52.0**	**-0.9**
	baz=15						
HKT	**Hockley**	**14.72 349**		*e*Pn	**Pn**	**02 11 50.1**	**+0.1**
MTDJ	**Mount Denham**	**14.77 77**		*e*Pn	**Pn**	**02 11 51.2**	**+0.4**
	58nm,0.6s						
634A	**China Grove, S**	**14.82 340**		P	**P**	**02 11 54.3**	**+0.2**
	baz=15						
732A	**Laxson Ranch,**	**14.83 334**		P	**P**	**02 11 53.4**	**-0.8**
	baz=15,SNR=8.6						
537A	**Green Hill Far**	**14.94 348**		P	**P**	**02 11 55.5**	**0.0**
	baz=15						
633A	**Saathoff Ranch**	**15.17 338**		P	**P**	**02 11 57.6**	**-0.5**
	baz=15,SNR=18						
535A	**Dale**	**15.19 344**		P	**P**	**02 11 58.5**	**+0.3**
	baz=15						
439A	**Center Grove,**	**15.39 353**		P	**P**	**02 12 00.3**	**-0.2**
	baz=15						
438A	**Sam Houston St**	**15.44 351**		P	**P**	**02 12 01.4**	**+0.4**
	baz=16						
632A	**Uvalde**	**15.45 336**		P	**P**	**02 12 01.3**	**+0.2**
	baz=16,SNR=14						
534A	**Blanco**	**15.46 341**		P	**P**	**02 12 00.7**	**-0.5**
	baz=16,SNR=18						
533A	**Kerrville**	**15.68 339**		P	**P**	**02 12 04.3**	**+0.6**
	baz=16,SNR=11						
436A	**Wall Ranch, Ga**	**15.71 347**		P	**P**	**02 12 04.2**	**+0.2**
	baz=16						
339A	**Huntington**	**15.90 354**		P	**P**	**02 12 06.6**	**+0.5**
	baz=16						
435B	**Jarrell**	**15.91 344**		P	**P**	**02 12 08.2**	**+2.0**
	baz=16						
340A	**Bronson**	**15.93 356**		P	**P**	**02 12 06.6**	**+0.2**
	baz=16						
338A	**Crockett**	**16.02 352**		P	**P**	**02 12 08.0**	**+0.7**
	baz=16,SNR=6.0						
532A	**Rocksprings**	**16.05 337**		P	**P**	**02 12 09.5**	**+1.7**
	baz=16,SNR=18						
434A	**Burnet**	**16.13 342**		P	**P**	**02 12 09.4**	**+0.7**
	baz=16						
336A	**Riesel**	**16.32 347**		P	**P**	**02 12 11.6**	**+0.9**
	baz=16						
JCT	**Junction City**	**16.32 338**		P	**P**	**02 12 12.

330A	**Mertzon**	**17.68**	**335**	P	**Pn**	02 12 27.9	+1.3
	baz=18,SNR=12						
134A	**White-Moore Ra**	**17.74**	**345**	P	**Pn**	02 12 28.3	+1.2
	baz=18						
231A	**Bronte**	**17.83**	**338**	P	**Pn**	02 12 28.8	+0.5
	baz=18,SNR=7.9						
Z38A	**Mt. Pleasant**	**17.85**	**354**	P	**Pn**	02 12 29.0	+0.5
	baz=18						
Z37A	**Pogue Cattle C**	**17.87**	**352**	P	**Pn**	02 12 30.2	+1.5
	baz=18						
TIGA	**Tifton**	**17.96**	**26**	P	**Pn**	02 12 30.5	+0.7
	baz=18,SNR=11						
TIGA	**Tifton**	**17.96**	**26**	*e*P	**Pn**	02 12 30.5	+0.7
	569nm,1.5s						
133A	**Hamilton Ranch**	**18.00**	**343**	P	**Pn**	02 12 32.0	+1.7
	baz=18,SNR=6.0						
Z36A	**Blue Ridge**	**18.07**	**350**	P	**Pn**	02 12 31.4	+0.3
	baz=18						
230A	**Sterling City**	**18.08**	**336**	P	**Pn**	02 12 31.8	+0.5
	baz=18,SNR=7.1						
230A				S	**Sn**	02 15 58.6	+5.0
	baz=18						
329A	**Wagon Wheel Ra**	**18.08**	**334**	P	**Pn**	02 12 34.5	+3.1
	baz=18						
ABTX	**Abilene, Hawle**	**18.23**	**341**	P	**Pn**	02 12 33.2	+0.1
	baz=18,SNR=5.7						
ABTX	**Abilene, Hawle**	**18.23**	**341**	*e*P	**Pn**	02 12 33.0	0.0
	40nm,1.2s						
LRAL	**Lakeview Retre**	**18.25**	**15**	*e*P	**Pn**	02 12 32.6	-0.7
	12nm,0.6s						
LRAL				*e*S	**S**	02 15 48.4	-6.5
Z35A	**Perchaven, San**	**18.28**	**348**	P	**Pn**	02 12 34.7	+1.1
	baz=18						
229A	**Bryant Ranch,**	**18.43**	**335**	P	**Pn**	02 12 36.2	+0.7
	baz=18,SNR=6.0						
Y39A	**Lockesburg**	**18.45**	**356**	P	**Pn**	02 12 35.7	0.0
	baz=18						
Z34A	**Collier Ranch,**	**18.46**	**346**	P	**Pn**	02 12 35.1	-0.7
	baz=18						
Y38A	**Idabel**	**18.49**	**355**	P	**Pn**	02 12 35.6	-0.5
	baz=19						
131A	**Roby**	**18.52**	**339**	P	**Pn**	02 12 36.2	-0.3
	baz=19						
Z33A	**Whitaker Ranch**	**18.59**	**344**	P	**Pn**	02 12 37.1	-0.3
	baz=19						
Y37A	**Hugo**	**18.64**	**352**	P	**Pn**	02 12 37.6	-0.3
	baz=19,SNR=12						
130A	**Snyder**	**18.66**	**338**	P	**Pn**	02 12 37.7	-0.5
	baz=19						
Y35A	**Marietta**	**18.79**	**349**	P	**Pn**	02 12 39.2	-0.5
	baz=19						
Z32A	**Haskell**	**18.82**	**342**	P	**Pn**	02 12 39.5	-0.5
	baz=19,SNR=16						
228A	**UT Block 9, Go**	**18.89**	**333**	P	**Pn**	02 12 40.6	-0.4
	baz=19,SNR=7.4						
Y34A	**Reagan Ranch,**	**18.99**	**347**	P	**P**	02 12 40.4	+0.4
	baz=19						
Z31A	**Sharp Cattle R**	**19.03**	**341**	P	**P**	02 12 41.4	+0.9
	baz=19,SNR=11						
129A	**Stewart Farms,**	**19.03**	**336**	P	**Pn**	02 12 42.0	-0.6
	baz=19,SNR=15						
MIAR	**Mount Ida**	**19.03**	**358**	P	**P**	02 12 41.4	+0.9
	baz=19,SNR=28						
MIAR	**Mount Ida**	**19.03**	**358**	*e*P	**P**	02 12 41.1	+0.7
	80nm,1.2s						
MIAR				*e*S	S	02 16 02.1	-8.2
OXF	**Oxford**	**19.21**	**8**	*e*P	**P**	02 12 43.1	+0.7
	41nm,0.7s						
X37A	**Clayton**	**19.21**	**353**	P	**P**	02 12 43.5	+1.1
	baz=19,SNR=21						
X38A	**Whitesboro**	**19.24**	**355**	P	**Pn**	02 12 43.8	-1.1
	baz=19,SNR=28						
Y33A	**Hilltop Ranch,**	**19.24**	**345**	P	**P**	02 12 43.4	+0.6
	baz=19						
UALR	**University of**	**19.25**	**1**	*e*P	**P**	02 12 43.8	+1.0
	161nm,1.6s						
X35A	**Drake**	**19.26**	**349**	P	**Pn**	02 12 44.2	-1.0
	baz=19						
128A	**Castleberry Fa**	**19.28**	**334**	P	**Pn**	02 12 44.8	-0.7
	baz=19,SNR=21						
X36A	**Centrahoma**	**19.32**	**351**	P	**P**	02 12 44.6	+0.9
	baz=19,SNR=6.4						
Z30A	**Sanderson Ranc**	**19.34**	**338**	P	**P**	02 12 44.3	+0.4
	baz=19,SNR=8.4						
Y32A	**R-V Farms, Ver**	**19.46**	**343**	P	**P**	02 12 45.9	+0.8
	baz=20,SNR=9.4						
Z29A	**Hungry Hill Ra**	**19.53**	**337**	P	**P**	02 12 46.5	+0.6
	baz=20,SNR=32						
W38A	**Poteau**	**19.61**	**356**	P	**Pn**	02 12 48.9	-0.3
	baz=20						
X34A	**Smith Ranch, M**	**19.63**	**347**	P	**Pn**	02 12 51.3	+1.8
	baz=20,SNR=16						
Y31A	**Rekieta Farm,**	**19.66**	**341**	P	**P**	02 12 48.3	+0.9
	baz=20,SNR=19						
GOGA	**Godfrey**	**19.74**	**23**	*e*P	**P**	02 12 49.0	+0.8
	35nm,0.7s						
GOGA				*e*S	**S**	02 16 20.9	-3.4
W37A	**Quinton**	**19.76**	**353**	P	**P**	02 12 49.4	+1.0
	baz=20,SNR=12						
Y30A	**Stafford Cattl**	**19.79**	**339**	P	**P**	02 12 49.4	+0.6
	baz=20,SNR=15						
X32A	**Elmer**	**19.81**	**344**	P	**P**	02 12 49.5	+0.6
	baz=20,SNR=14						
Z28A	**Tucker Farm, M**	**19.82**	**335**	P	**P**	02 12 49.9	+0.8
	baz=20,SNR=15						
W36A	**Wetumka**	**19.86**	**351**	P	**P**	02 12 50.0	+0.5
	baz=20						
WMOK	**Wichita Mounta**	**19.98**	**345**	*e*P	**P**	02 12 50.7	-0.1
	34nm,0.6s						
WMOK				*e*S	**S**	02 16 27.2	-1.8
W35A	**Tecumseh**	**19.98**	**350**	P	**P**	02 12 51.0	+0.3
	baz=20,SNR=15						
Y29A	**Porterfield Fa**	**20.05**	**338**	P	**P**	02 12 52.4	+0.8
	baz=20,SNR=5.8						
X31A	**McDonald Ranch**	**20.20**	**342**	P	**P**	02 12 54.0	+0.9
	baz=20,SNR=19						
W34A	**Bridge Creek,**	**20.23**	**348**	P	**P**	02 12 53.7	+0.3
	baz=20,SNR=7.6						
W34A	**Bridge Creek,**	**20.23**	**348**	*e*P	**P**	02 12 53.1	-0.3
	58nm,0.8s						
W34A				*e*S	**S**	02 16 33.9	0.0
W33A	**Caddo, Fort Co**	**20.30**	**346**	P	**P**	02 12 54.9	+0.7
	baz=20						
X30A	**Coker Ranch, T**	**20.30**	**340**	P	**P**	02 12 55.1	+0.8
	baz=20,SNR=10						
Y28A	**McKinney Farm,**	**20.31**	**337**	P	**P**	02 12 55.0	+0.6
	baz=20,SNR=11						
W32A	**Sentinel**	**20.46**	**344**	P	**P**	02 12 56.3	+0.3
	baz=20,SNR=13						
V36A	**Jenks**	**20.46**	**352**	P	**P**	02 12 56.5	+0.5
	baz=20						
V37A	**Hulbert**	**20.47**	**354**	P	**P**	02 12 55.9	-0.1
	baz=20,SNR=18						
MSTX	**Muleshoe**	**20.57**	**336**	P	**P**	02 12 57.7	+0.5
	baz=21						
MSTX	**Muleshoe**	**20.57**	**336**	*e*P	**P**	02 12 57.2	+0.1
	10nm,0.6s						
MSTX				*e*S	**S**	02 16 41.1	+0.2
TUL1	**Tulsa**	**20.57**	**353**	P	**P**	02 12 57.6	+0.5
	baz=21,SNR=7.2						
TUL1	**Tulsa**	**20.57**	**353**	*e*P	**P**	02 12 57.6	+0.5
	34nm,0.9s						
V35A	**Meyer Ranch, C**	**20.57**	**350**	P	**P**	02 12 56.4	-0.6
	baz=21,SNR=8.7						
X29A	**Tulia**	**20.59**	**338**	P	**P**	02 12 58.0	+0.7
	baz=21,SNR=8.8						
OTAV	**Otavalo**	**20.64**	**136**	*e*P	Pn	02 13 01.2	-0.9
W31A	**Holland Ranch,**	**20.71**	**343**	P	**P**	02 12 59.0	+0.4
	baz=21						
SDDR	**Presa de Saban**	**20.74**	**77**	*e*P	Pn	02 13 00.8	-1.9
	52nm,0.9s						
V34A	**Guthrie**	**20.76**	**349**	P	Pn	02 13 01.4	-1.3
	baz=21						
V34A	**Guthrie**	**20.76**	**349**	*e*P	**P**	02 13 00.6	+1.5
	38nm,0.8s						
X28A	**Dimmitt**	**20.83**	**337**	P	**P**	02 13 00.5	+0.5
	baz=21						
ROSC	**El Rosal**	**20.89**	**118**	P	**P**	02 13 01.7	+0.5
	7.4nm,0.4s,baz=81,slow=10,SNR=5.2						
ROSC	**El Rosal**	**20.89**	**118**	*e*P	**P**	02 13 02.0	+0.9
ROSC				*e*pP	pP	02 13 14.2	-8.7
V33A	**Lossen Ranch,**	**20.90**	**347**	P	**P**	02 13 01.7	+1.1
	baz=21,SNR=23						
NHSC	**New Hope**	**20.92**	**31**	*e*P	Pn	02 13 02.9	-1.7
	667nm,1.3s						
U38A	**Gravette**	**20.96**	**356**	P	**P**	02 13 01.8	+0.5
	baz=21						
AMTX	**Amarillo**	**20.97**	**339**	P	**P**	02 13 02.2	+0.7
	baz=21						
AMTX	**Amarillo**	**20.97**	**339**	*e*P	**P**	02 13 01.7	+0.2
	45nm,0.7s						
V32A	**Arapaho**	**20.98**	**345**	P	**P**	02 13 03.3	+1.8
	baz=21						
U37A	**Salina**	**20.98**	**355**	P	**P**	02 13 02.0	+0.5
	baz=21						
WVT	**Waverly**	**21.05**	**11**	*e*P	**P**	02 13 02.3	+0.1
	10nm,0.8s						
U35A	**Pawnee**	**21.15**	**351**	P	**P**	02 13 03.8	+0.5
	baz=21						
W29A	**Amarillo**	**21.18**	**339**	P	**P**	02 13 04.2	+0.4
	baz=21,SNR=5.0						
V31A	**Spring Creek L**	**21.23**	**344**	P	**P**	02 13 06.1	+1.8
	baz=21,SNR=16						
GRTK	**Grand Turk**	**21.30**	**70**	*e*P	**P**	02 13 06.4	+1.3
	105nm,0.8s						
PBMO	**Poplar Bluff**	**21.34**	**5**	*e*P	**P**	02 13 04.4	-0.9
	213nm,1.9s						
U34A	**Anderson Ranch**	**21.35**	**349**	P	**P**	02 13 06.0	+0.6
	baz=21						
U34A	**Anderson Ranch**	**21.35**	**349**	*e*P	**P**	02 13 05.7	+0.3
	23nm,0.8s						
U33A	**Lingo Farm, Me**	**21.45**	**348**	P	**P**	02 13 07.2	+0.7
	baz=22						
W28A	**Vega**	**21.50**	**338**	P	**P**	02 13 06.4	-0.8
	baz=22						
U32A	**Winter Ranch,**	**21.59**	**346**	P	**P**	02 13 08.9	+0.9
	baz=22						
TKL	**Tuckaleechee C**	**21.65**	**20**	P	**P**	02 13 08.0	-0.6
	7.7nm,0.5s,baz=182,slow=9.5,SNR=18						
T35A	**Sooner Cattle**	**21.65**	**352**	P	**P**	02 13 07.9	-0.8
	baz=22,SNR=6.7						
T37A	**Cheneyville 18**	**21.68**	**355**	P	**P**	02 13 08.7	-0.2
	baz=22,SNR=30						
T36A	**Boggs Farm, Ca**	**21.71**	**353**	P	**P**	02 13 08.1	-1.2
	baz=22,SNR=6.7						
U31A	**Nine Bar Ranch**	**21.79**	**344**	P	**P**	02 13 10.9	+0.7
	baz=22						
V29A	**Stinnett**	**21.82**	**340**	P	**P**	02 13 10.9	+0.3
	baz=22						
121A	**Cookes Peak, D**	**21.85**	**324**	P	**P**	02 13 13.2	+2.2
	baz=22,SNR=6.6						
121A	**Cookes Peak, D**	**21.85**	**324**	*e*P	**P**	02 13 12.8	+1.8
	4.8nm,0.8s						
T34A	**McClaskey Farm**	**21.86**	**350**	P	**P**	02 13 10.7	-0.1
	baz=22,SNR=9.0						
V28A	**Channing**	**21.95**	**339**	P	**P**	02 13 12.6	+0.7
	baz=22						
KMSC	**Kings Mountain**	**22.10**	**25**	P	**P**	02 13 13.2	-0.1
	baz=22,SNR=8.1						
KMSC	**Kings Mountain**	**22.10**	**25**	*e*P	**P**	02 13 14.2	+0.9
	21nm,0.7s						
T33A	**Patterson Ranc**	**22.11**	**348**	P	**P**	02 13 13.7	+0.3
	baz=22,SNR=5.2						
U30A	**WK&E Inc. Balk**	**22.16**	**343**	P	**P**	02 13 15.6	+1.5
	baz=22,SNR=13						
V27A	**Dan Oppiter Fa**	**22.17**	**338**	P	**P**	02 13 15.1	+0.8
	baz=22						
U29A	**Oasis Ranch, S**	**22.27**	**341**	P	**P**	02 13 16.5	+1.2
	baz=22						
S37A	**Fort Scott**	**22.30**	**356**	P	**P**	02 13 14.9	-0.5
	baz=22						
S36A	**Lake Cedric, C**	**22.34**	**354**	P	**P**	02 13 15.1	-0.7
	baz=22,SNR=12						
T32A	**Huddler Ranch,**	**22.34**	**347**	P	**P**	02 13 15.9	0.0
	baz=22						
S35A	**Otter Creek Ra**	**22.38**	**352**	P	**P**	02 13 16.1	-0.1
	baz=22,SNR=20						
T31A	**Randall Ranch,**	**22.44**	**345**	P	**P**	02 13 17.5	+0.6
	baz=22						
S34A	**Wiow Spring**	**22.51**	**351**	P	**P**	02 13 17.6	0.0
	baz=23						
SDV	**Santo Domingo**	**22.51**	**104**	*e*P	**P**	02 13 15.7	-2.3
	18nm,0.8s						
SDV				*e*PcP	**PcP**	02 17 08.0	+0.1
U28A	**Mallet**	**22.51**	**340**	P	**P**	02 13 18.1	+0.4
	baz=23						
S33A	**Kaszmaul Farm,**	**22.55**	**349**	P	**P**	02 13 18.4	+0.4
	baz=23						
Y22D	**IRIS PASSCAL I**	**22.56**	**328**	P	**P**	02 13 18.5	+0.3
	baz=23						
LPM	**Los Pinos Moun**	**22.60**	**329**	*e*P	**P**	02 13 19.7	+1.0
	5.5nm,0.6s						
T30A	**Plains**	**22.62**	**344**	P	**P**	02 13 18.8	+0.2
	baz=23,SNR=5.6						
U27A	**Thompson Grove**	**22.76**	**338**	P	**P**	02 13 20.8	+0.7
	baz=23,SNR=9.6						
S32A	**Newby Ranch, P**	**22.84**	**347**	P	**P**	02 13 21.2	+0.3
	baz=23,SNR=6.7						
R36A	**Gean, Harris**	**22.92**	**354**	P	**P**	02 13 20.4	-1.1
	baz=23						
LAZ	**Ladron**	**22.93**	**328**	*e*P	**P**	02 13 23.4	+1.5
	4.8nm,0.9s						
T29A	**Hugoton**	**22.93**	**342**	P	**P**	02 13 21.9	+0.1
	baz=23,SNR=10						
R35A	**Emporia Munici**	**23.00**	**353**	P	**P**	02 13 21.6	-0.6
	baz=23						
ANMO	**Albuquerque**	**23.02**	**330**	P	**P**	02 13 24.1	+1.4
	3.8nm,0.7s,baz=147,slow=12,SNR=21						
ANMO				PcP	**PcP**	02 17 08.7	0.0
	1.2nm,0.8s,baz=96,slow=10,SNR=2.3						
ANMO	**Albuquerque**	**23.02**	**330**	*e*P	**P**	02 13 23.8	+1.0
	6.4nm,0.8s						
ANMO				PcP	**PcP**	02 17 08.7	0.0
R34A	**Isabella, Hill**	**23.12**	**351**	P	**P**	02 13 22.8	-0.6
	baz=23						
S30A	**Montezuma**	**23.15**	**344**	P	**P**	02 13 24.3	+0.5
	baz=23,SNR=9.9						
T28A	**Walsh**	**23.15**	**341**	P	**P**	02 13 23.5	-0.3
	baz=23,SNR=5.6						
R33A	**Olander Ranch,**	**23.25**	**349**	P	**P**	02 13 24.1	-0.6
	baz=23,SNR=5.6						
T27A	**Campo**	**23.30**	**339**	P	**P**	02 13 25.8	+0.6
	baz=23						
S29A	**Ulysses**	**23.31**	**343**	P	**P**	02 13 25.5	+0.2
	baz=23,SNR=12						
Q37A	**Longview Farm,**	**23.39**	**357**	P	**P**	02 13 25.3	-0.5
	baz=24						
R32A	**Long Quarter,**	**23.49**	**348**	P	**P**	02 13 26.8	-0.1
	baz=24,SNR=7.0						
TUC	**Tucson**	**23.51**	**319**	*e*P	**P**	02 13 28.9	+1.8
	19nm,1.0s						
S28A	**Manter**	**23.52**	**341**	P	**P**	02 13 27.0	-0.1
	baz=24						
R31A	**Burdett**	**23.54**	**346**	P	**P**	02 13 27.2	-0.2
	baz=24,SNR=10						
OLIL	**Olney**	**23.55**	**9**	*e*P	**P**	02 13 26.8	-0.5
Q34A	**Chapman**	**23.68**	**352**	P	**P**	02 13 28.7	+0.2
	baz=24						
T26A	**Comanche Natio**	**23.71**	**338**	P	**P**	02 13 29.8	+0.7
	baz=24						
R30A	**Dighton**	**23.71**	**345**	P	**P**	02 13 29.3	+0.4
	baz=24,SNR=18						
CNNC	**Cliffs of the**	**23.76**	**31**	*e*P	**P**	02 13 29.5	+0.3
	20nm,0.5s						
KSU1	**Kansas State U**	**23.81**	**352**	P	**P**	02 13 29.6	-0.2
	baz=24,SNR=5.2						
KSU1	**Kansas State U**	**23.81**	**352**	*e*P	**P**	02 13 28.8	-0.9
	43nm,0.6s						
Q33A	**Connelly Farm,**	**23.89**	**350**	P	**P**	02 13 30.1	-0.3
	baz=24						
T25A	**Trinidad**	**23.98**	**336**	P	**P**	02 13 33.3	+1.8
	baz=24,SNR=19						
Q32A	**Meitler Ranch,**	**24.02**	**349**	P	**P**	02 13 31.8	+0.3
	baz=24,SNR=10						
S26A	**Kim**	**24.06**	**339**	P	**P**	02 13 32.6	+0.5
	baz=24						
R29A	**Marienthal**	**24.07**	**344**	P	**P**	02 13 32.3	+0.2
	baz=24						
CBKS	**Cedar Bluff**	**24.09**	**346**	P	**P**	02 13 32.3	0.0
	baz=24						
CBKS	**Cedar Bluff**	**24.09**	**346**	*e*P	**P**	02 13 32.1	-0.2
	20nm,0.9s						
P35A	**Duane Minner,**	**24.17**	**354**	P	**P**	02 13 32.4	-0.5
	baz=24						
P36A	**Good Intent, A**	**24.18**	**355**	P	**P**	02 13 32.6	-0.4
	baz=24,SNR=7.1						
R28A	**Tribune**	**24.18**	**342**	P	**P**	02 13 33.4	+0.2
	baz=24,SNR=11						
Q31A	**Ellis**	**24.20**	**347**	P	**P**	02 13 33.4	+0.2
	baz=24						
BLO	**Bloomington**	**24.25**	**12**	*e*P	**P**	02 13 34.7	+1.1
BLA	**Blacksburg**	**24.26**	**24**	*e*P	**P**	02 13 35.0	+1.2
	30nm,0.9s						
P34A	**Walnut Farm, R**	**24.28**	**352**	P	**P**	02 13 34.1	+0.1
	baz=24,SNR=14						
P33A	**Williams Farm,**	**24.30**	**351**	P	**P**	02 13 34.2	+0.1
	baz=24						
Q30A	**Quinter**	**24.36**	**346**	P	**P**	02 13 34.8	+0.1
	baz=24,SNR=14						
R27A	**Eads**	**24.44**	**340**	P	**P**	02 13 36.2	+0.7
	baz=24,SNR=5.6						
214A	**Organ Pipe Nat**	**24.62**	**315**	*e*P	**P**	02 13 39.1	+2.0
	2.1nm,0.7s						
P32A	**Hutting Farm,**	**24.64**	**349**	P	**P**	02 13 36.7	-0.5
	baz=25						
P31A	**Stockton**	**24.69**	**348**	P	**P**	02 13 39.1	+1.4
	baz=25						
O34A	**Beatrice**	**24.89**	**353**	P	**P**	02 13 39.9	+0.4
	baz=25,SNR=17						
P30A	**Selden**	**24.90**	**346**	P	**P**	02 13 39.7	0.0
	baz=25						
O33A	**Hebron**	**24.91**	**351**	P	**P**	02 13 39.3	-0.3
	baz=25,SNR=5.9						
SDCO	**Great Sand Dun**	**24.94**	**335**	P	**P**	02 13 41.9	+1.6
	baz=25						
KSCO	**Kaye Shedlock'**	**25.05**	**341**	P	**P**	02 13 41.7	+0.6
	baz=25						
KSCO	**Kaye Shedlock'**	**25.05**	**341**	*e*P	**P**	02 13 41.6	+0.5
P29A	**Atwood**	**25.12**	**345**	P	**P**	02 13 42.6	+0.9
	baz=25,SNR=6.1						
HDIL	**Hopedale**	**25.19**	**6**	P	**P**	02 13 41.1	-1.1
	baz=25						
Q26A	**Hugo**	**25.25**	**340**	P	**P**	02 13 44.7	+1.8
	baz=25						
P28A	**Saint Francis**	**25.31**	**343**	P	**P**	02 13 43.9	+0.4
	baz=25						
SFIN	**Scholer Farm**	**25.31**	**10**	P	**P**	02 13 45.6	+2.3
	baz=25,SNR=5.8						
SFIN	**Scholer Farm**	**25.31**	**10**	*e*P	**P**	02 13 41.4	-1.9
S22A	**4UR Ranch, Cre**	**25.49**	**333**	P	**P**	02 13 46.8	+1.4
	baz=26,SNR=10						
P26A	**Davis Ranch, A**	**25.77**	**341**	P	**P**	02 13 49.9	+2.2
	baz=26,SNR=5.4						
MVCO	**Mesa Verde**	**25.82**	**330**	P	**P**	02 13 49.9	+1.7
	baz=26,SNR=26						
MVCO	**Mesa Verde**	**25.82**	**330**	*e*P	**P**	02 13 49.9	+1.7
	24nm,0.8s						
WUAZ	**Wupatki**	**26.06**	**323**	P	**P**	02 13 52.7	+2.3
	baz=26						
WUAZ	**Wupatki**	**26.06**	**323**	*e*P	**P**	02 13 52.8	+2.4
	44nm,1.1s						
WUAZ				*e*pP	**pP**	02 14 17.8	+2.0
O27A	**Beecher Island**	**26.09**	**343**	P	**P**	02 13 51.6	+1.1
	baz=26						
M34A	**Aspy Farms, Fr**	**26.18**	**353**	P	**P**	02 13 51.3	+0.2
	baz=26						
O26A	**Horse Wrangler**	**26.39**	**341**	P	**P**	02 13 53.5	+0.3
	baz=26						
PV01	**Paradox Valley**	**26.59**	**331**	*e*P	**P**	02 13 57.5	+2.4
PV01				*e*pP	**pP**	02 14 24.5	+3.9
OGNE	**Ogallala**	**26.67**	**344**	P	**P**	02 13 56.7	+1.0
	baz=27						
OGNE	**Ogallala**	**26.67**	**344**	*e*P	**P**	02 13 56.5	+0.9
	18nm,1.1s						
ISCO	**Idaho Springs**	**26.77**	**338**	P	**P**	02 13 57.6	+0.8
	baz=27						
ISCO	**Idaho Springs**	**26.77**	**338**	*e*P	**P**	02 13 57.6	+0.8
	2.8nm,0.8s						
ISCO				*e*pP	**pP**	02 14 26.6	+4.3
PDMCI	**Parker Dam,Lak**	**26.94**	**318**	P	**P**	02 13 59.5	+1.5
	baz=27,SNR=6.7						
PV04	**Paradox Valley**	**26.96**	**331**	*e*P	**P**	02 14 00.5	+2.1
PV04				*e*pP	**pP**	02 14 25.1	+1.2
BC3	**Big Chuckawall**	**27.41**	**315**	P	**P**	02 14 04.8	+2.4
	baz=28,SNR=7.6						
JFWS	**Jewell Farm**	**27.45**	**4**	*e*P	**P**	02 14 01.1	-1.4
	11nm,0.8s						
IRM	**Iron Mountain**	**27.51**	**317**	P	**P**	02 14 05.3	+2.1
	baz=28						
MONP	**Monument Peak**	**27.65**	**313**	P	**P**	02 14 06.7	+2.0
	baz=28						
BELC	**Belle Mtn. Jos**	**27.98**	**316**	P	**P**	02 14 09.3	+1.8
	baz=28						
O20A	**White River Ci**	**28.09**	**334**	P	**P**	02 14 09.5	+1.0
	baz=28						
O20A	**White River Ci**	**28.09**	**334**	*e*P	**P**	02 14 09.5	+1.0
	14nm,1.3s						
O20A				*e*PcP	**PcP**	02 17 20.4	+0.3
GMRC	**Granite Mounta**	**28.22**	**317**	P	**P**	02 14 11.5	+1.9
	baz=28						
ECSD	**EROS Data Cent**	**28.39**	**354**	P	**P**	02 14 09.9	-0.9
	baz=28,SNR=8.0						
ECSD	**EROS Data Cent**	**28.39**	**354**	*e*P	**P**	02 14 09.7	-1.2
	15nm,0.7s						
ECSD				*e*pP	**pP**	02 14 35.0	-1.5
ECSD				*e*PcP	**PcP**	02 17 20.4	-0.1
P17A	**Butcher Ranch,**	**28.69**	**330**	*e*P	**P**	02 14 15.8	+2.0
SHPR	**Sheep Range**	**28.98**	**321**	*e*P	**P**	02 14 18.9	+2.5
SHPR				*e*pP	**pP**	02 14 44.9	+2.8
I29A	**Vivian Onida**	**29.21**	**349**	P	**P**	02 14 18.3	+0.1
	baz=29						
K23A	**Bowen Ranch, D**	**29.39**	**340**	P	**P**	02 14 21.3	+1.4
	baz=30						
K22A	**Casper**	**29.60**	**339**	P	**P**	02 14 22.5	+0.7
	baz=30						
SPMN	**St. Paul**	**29.68**	**360**	P	**P**	02 14 22.0	-0.3
	baz=30						
SPMN	**St. Paul**	**29.68**	**360**	*e*P	**P**	02 14 21.2	-1.1
	10nm,0.6s						
TPNV	**Topopah Spring**	**29.94**	**320**	P	**P**	02 14 26.9	+2.0
	baz=30,SNR=5.7						
I25A	**Rochford**	**29.99**	**344**	P	**P**	02 14 25.8	+0.6
	baz=30						
MPMC	**Manual Prospec**	**30.18**	**317**	P	**P**	02 14 29.3	+2.2
	baz=30,SNR=9.3						
DUG	**Dugway**	**30.26**	**328**	P	**P**	02 14 29.7	+2.1
	baz=30						
DUG	**Dugway**	**30.26**	**328**	*e*P	**P**	02 14 30.0	+2.4
	25nm,2.3s						
R11A	**Troy Canyon, C**	**30.45**	**323**	P	**P**	02 14 31.1	+1.7
	baz=30,SNR=5.6						
J21A	**L

	17nm,1.4s							
WAKR	**Walker**	**32.89**	**319**	*e*P	**P**		02 14 52.5	+1.7
WAKR				*e*pP	**pP**		02 15 20.2	+3.6
CMB	**Columbia Colle**	**33.22**	**318**	*e*P	**P**		02 14 56.0	+2.6
	6.1nm,1.1s							
B30A	**Myrvik Farm, E**	**33.24**	**353**	P	**P**		02 14 52.5	-0.9
	baz=33,SNR=9.8							
B29A	**Wagenman Farm,**	**33.38**	**352**	P	**P**		02 14 54.2	-0.5
	baz=34,SNR=7.0							
C24A	**Savage**	**33.44**	**346**	P	**P**		02 14 56.1	+0.9
	baz=34							
B28A	**Dugan Ranch, T**	**33.51**	**351**	P	**P**		02 14 55.9	+0.1
	baz=34							
D22A	**Cohagen**	**33.54**	**343**	P	**P**		02 14 56.5	+0.3
	baz=34,SNR=7.2							
HLID	**Hailey**	**33.59**	**331**	P	**P**		02 14 58.6	+1.8
	baz=34,SNR=9.3							
HLID	**Hailey**	**33.59**	**331**	*e*P	**P**		02 14 57.5	+0.7
	11nm,0.8s							
HLID				*e*pP	**pP**		02 15 22.6	-0.1
D21A	**La Casta Ranch**	**33.70**	**342**	P	**P**		02 14 58.1	+0.6
	baz=34							
A30A	**Hoffart Farm,**	**33.72**	**353**	P	**P**		02 14 57.0	-0.6
	baz=34,SNR=6.2							
A29A	**Manning Farm,**	**33.81**	**352**	P	**P**		02 14 57.7	-0.7
	baz=34,SNR=5.6							
A28A	**Rude Farm, Bot**	**33.94**	**351**	P	**P**		02 14 59.1	-0.5
	baz=34							
BOZ	**Bozeman (W)**	**34.06**	**336**	P	**P**		02 15 01.3	+0.5
	baz=34							
MFID	**Camas Ranch**	**34.16**	**329**	*e*P	**P**		02 15 02.6	+0.9
	34nm,2.1s							
A26A	**Wade Farm, Ken**	**34.23**	**349**	P	**P**		02 15 02.1	0.0
	baz=34							
C21A	**Desert Coulee**	**34.42**	**343**	P	**P**		02 15 04.1	+0.4
	baz=34							
A25A	**Svangstu Ranch**	**34.48**	**348**	P	**P**		02 15 04.5	+0.4
	baz=34							
C20A	**Veseth Ranch,**	**34.58**	**342**	P	**P**		02 15 05.4	+0.3
	baz=35							
WVOR	**Wild Horse Val**	**34.93**	**326**	*e*P	**P**		02 15 09.0	+0.8
	6.8nm,0.9s							
EGMT	**Eagleton**	**35.41**	**340**	P	**P**		02 15 13.1	+0.8
	baz=36							
EGMT	**Eagleton**	**35.41**	**340**	*e*P	**P**		02 15 12.8	+0.5
	5.2nm,0.8s							
EGMT				*e*PcP	**PcP**		02 17 40.1	+0.5
MOD	**Modoc**	**35.51**	**323**	*e*P	**P**		02 15 14.7	+1.3
B19A	**Brinkman Farms**	**35.53**	**341**	P	**P**		02 15 14.2	+0.9
	baz=36							
A20A	**Cobblestone Ra**	**35.61**	**343**	P	**P**		02 15 14.6	+0.7
	baz=36							
BMO	**Blue Mountains**	**35.94**	**330**	*e*P	**P**		02 15 16.8	-0.1
	4.8nm,1.1s							
MSO	**Missoula**	**35.95**	**335**	P	**P**		02 15 17.7	+0.8
	baz=36,SNR=5.6							
MSO	**Missoula**	**35.95**	**335**	*e*P	**P**		02 15 18.2	+1.3
	11nm,1.0s							
M04C	**Macdoel**	**36.33**	**322**	P	**P**		02 15 21.9	+1.5
	baz=36							
J04D	**Umpqua Nationa**	**37.39**	**324**	P	**P**		02 15 31.2	+1.9
	baz=38							
I05D	**Terrebonne, OR**	**37.66**	**326**	P	**P**		02 15 32.6	+1.2
	baz=38							
SAML	**Samuel**	**37.97**	**128**	*e*P	**P**		02 15 32.6	-1.7
	11nm,0.8s							
SAML				*e*PcP	**PcP**		02 17 47.8	0.0
G05D	**Wamic, OR**	**38.25**	**327**	P	**P**		02 15 37.7	+1.4
	baz=38							
I03D	**Drain, OR**	**38.38**	**323**	P	**P**		02 15 38.8	+1.5
	baz=38							
NEW	**Newport**	**38.41**	**334**	*e*P	**P**		02 15 38.4	+0.8
	4.8nm,0.7s							
NEW				*e*PcP	**PcP**		02 17 48.5	-0.1
G03D	**McMinnville, O**	**39.28**	**325**	P	**P**		02 15 46.8	+2.0
	baz=39							
LPAZ	**La Paz**	**39.77**	**141**	P	**P**		02 15 51.2	+1.2
	3.0nm,0.4s,baz=330,slow=6.1,SNR=25							
LPAZ				PcP	**PcP**		02 17 55.1	+0.9
	1.3nm,0.7s,baz=341,slow=7.4,SNR=4.1							
LPAZ	**La Paz**	**39.77**	**141**	*e*P	**P**		02 15 49.8	-0.1
	5.0nm,0.7s							
LPAZ				PcP	**PcP**		02 17 55.1	+0.9
EDM	**Edmonton**	**41.06**	**341**	*e*P	**P**		02 15 58.9	-0.6
	5.5nm,0.7s							
FCC	**Fort Churchill**	**43.25**	**359**	*e*P	**P**		02 16 16.8	-0.3
SCHQ	**Schefferville**	**44.11**	**21**	P	**P**		02 16 22.2	-1.9
	1.1nm,0.5s,baz=235,slow=12,SNR=3.3							
SCHQ				pP	**pP**		02 16 50.1	-1.0
	3.6nm,0.9s,baz=196,slow=8.0,SNR=3.3							
SCHQ				LR	LR		02 37 27.9	
	comp=Z,39nm,18.8s,baz=237,slow=40							
LVC	**Limon Verde**	**44.42**	**148**	*e*P	**P**		02 16 28.2	+1.0
	5.1nm,0.8s							
RPN	**Rapa Nui**	**45.30**	**201**	P	**P**		02 16 35.8	+2.0
	24nm,0.4s,baz=16,slow=7.4,SNR=3.0							
LCO	**Las Campanas**	**49.04**	**154**	*e*P	**P**		02 17 03.9	+0.7
	8.7nm,0.7s							
YKA	**Yellowknife Ar**	**49.47**	**347**	P	**P**		02 17 04.9	-0.7
	5.8nm,0.7s,baz=147,slow=7.5,SNR=17							
YKA				pP	**pP**		02 17 31.6	-1.5
	2.2nm,0.6s,baz=146,slow=7.8,SNR=5.8							
DLBC	**Dease Lake**	**51.07**	**336**	*e*P	**P**		02 17 18.3	+0.4
	2.8nm,0.9s							
DLBC				*e*PcP	**PcP**		02 18 31.0	-1.0
BDFB	**Brasilia**	**53.86**	**123**	P	**P**		02 17 38.1	-0.9
	17nm,0.9s,baz=299,slow=11,SNR=16							
CPUP	**Villa Florida**	**53.91**	**140**	P	**P**		02 17 38.6	-0.5
	1.9nm,0.6s,baz=328,slow=8.8,SNR=7.7							
CPUP				PcP	**PcP**		02 18 43.8	+0.6
	2.0nm,0.7s,baz=329,slow=6.5,SNR=4.3							
CPUP	**Villa Florida**	**53.91**	**140**	*e*P	**P**		02 17 38.4	-0.8
	0.1nm,0.9s							
CPUP				PcP	**PcP**		02 18 43.8	+0.6
BMRM	**Bremner River**	**58.59**	**333**	*e*P	**P**		02 18 13.5	+1.6
	5.3nm,0.8s							
INK	**Inuvik**	**58.87**	**344**	P	**P**		02 18 13.2	-0.5
	1.5nm,0.5s,baz=180,slow=9.4,SNR=4.5							
INK	**Inuvik**	**58.87**	**344**	*e*P	**P**		02 18 13.7	0.0
	3.7nm,0.7s							
PLCA	**Paso Flores**	**59.55**	**161**	*e*P	**P**		02 18 20.3	+1.4
	2.4nm,0.6s							
TRQA	**Torquist**	**60.53**	**152**	*e*P	**P**		02 18 27.4	+1.9
	5.8nm,1.1s							
RC01	**Rabbit Creek A**	**60.91**	**332**	*e*P	**P**		02 18 28.5	+0.8
	21nm,0.9s							
ILAR	**Eielson Array**	**61.25**	**337**	P	**P**		02 18 30.2	+0.1
	4.4nm,0.8s,baz=127,slow=4.6,SNR=41							
ILAR				pP	**pP**		02 19 00.1	+1.5
	5.4nm,1.1s,baz=122,slow=4.3,SNR=9.6							
MCK	**McKinley**	**61.61**	**335**	*e*P	**P**		02 18 32.7	+0.2
	8.0nm,1.1s							
MCK				*e*PcP	**PcP**		02 19 13.1	+0.1
COLA	**College**	**61.67**	**337**	*e*P	**P**		02 18 32.7	-0.1
	3.8nm,0.8s							
COLA				*e*PcP	**PcP**		02 19 13.2	+0.1
RSO	**Redoubt South**	**62.07**	**331**	*e*P	**P**		02 18 36.2	+0.3
	57nm,0.7s							
ESDC	**Sonseca Array**	**79.34**	**52**	P	**P**		02 20 18.3	-2.5
	0.7nm,0.6s,baz=279,slow=5.9,SNR=4.6							
BILL	**Bilibino**	**79.88**	**338**	*e*P	**P**		02 20 23.9	+0.9
	15nm,0.9s							
NB2	**NORSAR Subarra**	**83.20**	**28**	P	**P**		02 20 39.3	-1.3
	comp=Z,1.2nm,0.7s,baz=289,slow=5.1							
NOA	**NORSAR Array B**	**83.20**	**28**	P	**P**		02 20 39.5	-1.1
	comp=Z,1.6nm,0.7s,baz=291,slow=5.1,SNR=7.2							
NOA				pP	**pP**		02 21 10.7	0.0
	comp=Z,3.7nm,0.8s,baz=290,slow=5.1,SNR=8.4							
NOA				LR	LR		02 58 20.1	
	comp=Z,11nm,18.2s,baz=250,slow=36							
ARCES	**ARCESS Array B**	**84.98**	**18**	P	**P**		02 20 47.3	-2.1
	comp=Z,0.8nm,0.6s,baz=288,slow=3.4,SNR=11							
ARCES				pP	**pP**		02 21 19.6	-0.1
	comp=Z,1.6nm,0.8s,baz=297,slow=5.3,SNR=5.6							
CLL	**Collm**	**87.57**	**37**	*e*pP	pP		02 21 32.0	-0.8
BRG	**Berggiesshubel**	**88.28**	**37**	*e*(P)	**P**		02 21 07.1	+1.2
	comp=Z,3.1nm,1.0s							
GERES	**GERESS Array B**	**88.91**	**39**	P	**P**		02 21 06.9	-2.2
	comp=Z,0.3nm,0.5s,baz=300,slow=2.9,SNR=4.9							
PETK	**Petropavlovsk-**	**89.08**	**325**	P	**P**		02 21 09.3	-0.3
	comp=Z,2.2nm,0.7s,baz=63,slow=16,SNR=4.2							
FINES	**FINESS Array B**	**89.47**	**25**	P	**P**		02 21 10.5	-0.7
	comp=Z,0.9nm,0.5s,baz=215,slow=2.3,SNR=7.9							
FINES				pP	**pP**		02 21 40.6	-1.1
	comp=Z,4.4nm,0.9s,baz=301,slow=1.1,SNR=8.0							
KEST	**Kesra**	**90.55**	**53**	P	**P**		02 21 15.0	-1.9
	comp=Z,0.8nm,0.9s,baz=84,slow=19,SNR=3.8							
KEST	**Kesra**	**90.55**	**53**	*e*P	**P**		02 21 14.9	-2.0
TORD	**Torodi Ar. Bea**	**90.69**	**76**	P	P		02 21 14.0	-3.8
	comp=Z,0.3nm,0.6s,baz=280,slow=5.4,SNR=6.2							
ZALV	**Zalesovo Beam**	**110.85**	**2**	PKiKP	**PKiKP**		02 26 45.9	-0.8
	comp=Z,0.6nm,0.4s,baz=272,slow=3.0,SNR=4.3							
SONM	**Songino Array**	**114.73**	**346**	PKP	PKPdf		02 26 54.6	0.0
	comp=Z,0.7nm,0.7s,baz=311,slow=0.9,SNR=5.9							
KSRS	**Korea Array**	**114.98**	**325**	PKP	PKPdf		02 26 55.0	-0.1
	comp=Z,0.7nm,0.7s,baz=49,slow=2.2,SNR=3.3							
KSAR	**Wonju Array Be**	**115.01**	**325**	PKP	**PKPdf**		02 26 55.0	-0.2
MKAR	**Makanchi Array**	**117.88**	**4**	PKP	**PKPdf**		02 26 59.9	-0.6
	comp=Z,0.9nm,0.7s,baz=336,slow=2.2,SNR=7.3							
HHC	**Hu-ho-hao-te**	**119.64**	**339**	*e*PKP	**PKPdf**		02 27 00.2	-4.0
HHC				PP	**PP**		02 28 28.4	+1.4
HHC				SKS	SKSdf		02 33 55.7	-10
HHC				PPMZ				
	comp=Z,28nm,6.5s							
EKS2	**Erkin-Say**	**120.85**	**12**	*e*PKPdf	**PKPdf**		02 27 06.9	+0.4
WMQ	**Urumqi**	**121.02**	**360**	*e*PKP	**PKPdf**		02 27 07.2	+0.5
WMQ				LN				
	comp=Z,26nm,20.0s							
WMQ				LZ				
	comp=Z,22nm,21.3s							
BOSA	**Boshof**	**121.56**	**114**	PKP	**PKPdf**		02 27 08.1	0.0
	comp=Z,11nm,0.8s,baz=265,slow=1.7,SNR=23							
NJ2	**Nanjing**	**123.92**	**328**	*e*PKP	**PKPdf**		02 27 13.6	+1.1
GTA	**Gaotai**	**124.19**	**348**	*e*PKP	**PKPdf**		02 27 13.8	+0.8
GTA				sPKP			02 28 02.7	
LZH	**Lanzhou**	**126.41**	**343**	*e*PKP	**PKPdf**		02 27 17.9	+0.5
LZH				sPKP			02 28 10.5	
STKA	**Stephens Creek**	**128.18**	**241**	PKP	**PKPdf**		02 27 21.3	+0.7
	comp=Z,1.6nm,0.5s,baz=148,slow=19,SNR=2.9							
CD2	**Chengdu**	**131.27**	**341**	PKP	**PKPdf**		02 27 25.9	-0.7
WRAB	**Tennant Creek**	**135.07**	**257**	*e*PKPdf	**PKPdf**		02 27 36.1	+2.2
WRA	**Warramunga Arr**	**135.09**	**257**	PKP	**PKPdf**		02 27 35.4	+1.4
	comp=Z,1.0nm,0.8s,baz=90,slow=2.3,SNR=4.5							
ASAR	**Alice Springs**	**135.50**	**252**	PKP	**PKPdf**		02 27 36.8	+2.1
	comp=Z,0.8nm,0.8s,baz=73,slow=1.4,SNR=6.0							
CMAR	**Chiang Mai Arr**	**144.41**	**341**	PKP	PKPbc		02 27 50.0	+0.3
	comp=Z,5.2nm,0.8s,baz=338,slow=3.8,SNR=30							

NIED **10** *02:40:00,28˚.50N×142˚.00E,h56km,Mw4.1 Best double couple: M₀1.64000×10¹⁵ NP1:φ=144.00000°,δ43.00000°, λ72.00000°. NP2:φ=347.00000°,δ50.00000°,λ106.00000°.*

ISCJB **10** *02:40:53.8±0.4,28˚.52N±0˚.05×141˚.8E±0˚.2,h55km, mb4.1/17,MS2.9/2,Error ellipse: s-maj=21.4km s-min=4.9km az=163.2*

IDC **10** *02:40:55.0±1.4,28˚.48N×141˚.81E,h48km±16km,mb3.7/14, mb1 3.9/15,mb1mx3.8/27,mbtmp4.0/15,ML3.9/1,MS2.9/4, Ms1 2.9/4,ms1mx2.6/36,Error ellipse: s-maj=25.7km s-min=11.3km az=79.0*

NEIC **10** *02:40:55.4±1.0,28˚.50N×141˚.89E,h54km±9km,mb4.2/2, Error ellipse: s-maj=17.9km s-min=8.5km az=73.0*

ISC 10 02:40:55.4±0.6,28˚.50N±0˚.07×141˚.7E±0˚.2,h55km,n37, σ1±25/32,mb4.1/17,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.46**	**164**	P		**Pn**	**02 41 18.9**	**-0.5**
CBIJ				S		**Sn**	**02 41 35.9**	**-1.6**
JCJ	**Chichijima**	**1.46**	**164**	P		**Pn**	**02 41 18.9**	**-0.5**
	209nm,0.3s,baz=286,slow=23,SNR=104							
JCJ				S		**Sn**	**02 41 35.9**	**-1.6**
	795nm,0.3s,baz=203,slow=24,SNR=36							
JCJ				LR		LR	02 41 56.3	
	comp=Z,120nm,19.7s,baz=202,slow=43							
MJAR	**Matsushiro Arr**	**8.55**	**341**	P		**Pn**	**02 42 55.4**	**-1.2**
	1.4nm,0.3s,baz=162,slow=12,SNR=8.7							
MJAR				S		**Sn**	**02 44 26.2**	**-5.3**
	0.2nm,0.3s,baz=140,slow=17,SNR=2.7							
MAJO	**Matsushiro**	**8.55**	**341**	*e*Pn		**Pn**	**02 42 57.4**	**+0.8**
MAT	**Matsushiro**	**8.55**	**341**	P		**Pn**	**02 42 55.5**	**-1.1**
MAT				S		**Sn**	**02 44 32.0**	**+0.4**
JNU	**Nakatsue**	**10.40**	**299**	P		Pn	02 43 28.5	+6.6
	0.4nm,0.3s,baz=159,slow=11,SNR=3.9							
JNU				LR		LR	02 47 01.0	
	comp=Z,57nm,19.7s,baz=116,slow=35							
KSRS	**Korea Array**	**14.62**	**311**	P		**P**	**02 44 23.4**	**-0.6**
	0.2nm,0.3s,baz=123,slow=10,SNR=6.4							
KSAR	**Wonju Array Be**	**14.63**	**311**	P		**P**	**02 44 23.4**	**-0.9**
GUMO	**Guam**	**15.12**	**168**	LR		LR	02 49 11.7	
	comp=Z,42nm,20.0s,baz=108,slow=33							
H11N2	**WAKE ISLAND Hy**	**24.53**	**105**	T		T	03 11 43.6	
	baz=296,slow=75,SNR=137							
H11N1	**WAKE ISLAND Hy**	**24.54**	**105**	T		T	03 11 43.7	
	baz=296,slow=75,SNR=103							
H11N3	**WAKE ISLAND Hy**	**24.55**	**105**	T		T	03 11 44.9	
	baz=296,slow=75,SNR=146							
H11S3	**WAKE ISLAND Hy**	**24.91**	**108**	T		T	03 11 53.0	
	baz=297,slow=75,SNR=28							
H11S1	**WAKE ISLAND Hy**	**24.92**	**108**	T		T	03 11 54.3	
	baz=297,slow=75,SNR=19							
H11S2	**WAKE ISLAND Hy**	**24.93**	**108**	T		T	03 11 51.3	
	baz=297,slow=75,SNR=9.6							
PETK	**Petropavlovsk-**	**27.27**	**21**	LR		LR	03 02 16.6	
	comp=Z,5.3nm,18.0s,baz=206,slow=47							
SONM	**Songino Array**	**33.43**	**315**	P		**P**	**02 47 30.0**	**+1.0**
	0.4nm,0.5s,baz=124,slow=7.3,SNR=4.5							
SEY	**Seymchan**	**35.13**	**8**	P		**P**	**02 47 43.5**	**+0.1**
	1.4nm,0.5s,baz=183,slow=7.5,SNR=6.9							
ZALV	**Zalesovo Beam**	**48.17**	**318**	P		**P**	**02 49 30.4**	**+0.4**
	0.6nm,0.4s,baz=111,slow=8.1,SNR=3.8							
WRA	**Warramunga Arr**	**48.69**	**189**	P		**P**	**02 49 34.5**	**+0.2**
	6.7nm,0.7s,baz=10.0,slow=8.8,SNR=59							
MK31	**Makanchi Array**	**49.28**	**309**	*e*P		**P**	**02 49 38.7**	**0.0**
MKAR	**Makanchi Array**	**49.28**	**309**	P		**P**	**02 49 39.0**	**+0.4**
	0.6nm,0.5s,baz=91,slow=8.5,SNR=5.9							
MKAR				PcP		**PcP**	**02 51 01.5**	**+0.7**
	0.6nm,0.6s,baz=68,slow=3.8,SNR=4.0							
MKAR				ScP		**ScP**	**02 54 51.7**	**+0.2**
	0.8nm,0.7s,baz=75,slow=5.1,SNR=5.9							
KURK	**Kurchatov**	**51.72**	**314**	*e*P		**P**	**02 49 57.8**	**+0.8**
	2.2nm,0.5s							
ASAR	**Alice Springs**	**52.41**	**189**	P		**P**	**02 50 02.2**	**-0.1**
	0.4nm,0.5s,baz=12,slow=6.9,SNR=6.0							
ILAR	**Eielson Array**	**56.68**	**29**	P		**P**	**02 50 32.7**	**-0.2**
	0.8nm,0.8s,baz=256,slow=5.8,SNR=12							
ARU	**Arti**	**63.07**	**322**	*e*P		**P**	**02 51 16.9**	**0.0**
	4.1nm,0.4s							
ABKAR	**Akbulak array**	**63.83**	**314**	*e*P		**P**	**02 51 21.6**	**-0.3**
	0.8nm,0.4s							
ARCES	**ARCESS Array B**	**72.09**	**341**	P		**P**	**02 52 14.4**	**+0.9**
	2.1nm,0.7s,baz=66,slow=6.8,SNR=7.4							
FINES	**FINESS Array B**	**76.51**	**334**	P		**P**	**02 52 40.0**	**+0.7**
	2.2nm,0.5s,baz=78,slow=5.0,SNR=32							
KBZ	**Khabaz**	**76.76**	**313**	P		P	02 52 43.0	+2.0
	1.0nm,0.5s,baz=111,slow=8.7,SNR=4.0							
NVAR	**Mina Array Bea**	**79.97**	**52**	P		**P**	**02 52 59.8**	**+0.7**
	0.2nm,0.3s,baz=278,slow=7.0,SNR=2.3							
AKASG	**Malin Array Be**	**81.25**	**324**	P		**P**	**02 53 05.7**	**+0.2**
	0.4nm,0.4s,baz=51,slow=5.4,SNR=4.2							
NB2	**NORSAR Subarra**	**82.16**	**338**	P		**P**	**02 53 10.2**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=44,slow=4.8							
NOA	**NORSAR Array B**	**82.16**	**339**	P		**P**	**02 53 10.3**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=43,slow=5.3,SNR=4.3							
BRTR	**Keskin Array B**	**84.76**	**313**	P		**P**	**02 53 25.5**	**+1.5**
	comp=Z,1.4nm,0.7s,baz=108,slow=4.9,SNR=9.1							
MMAI	**Mount Meron Ar**	**87.16**	**306**	LR		LR	03 38 24.0	
	comp=Z,20nm,18.2s,baz=110,slow=40							
TORD	**Torodi Ar. Bea**	**123.36**	**311**	PKP		**PKPdf**	**02 59 47.0**	**0.0**
	comp=Z,0.2nm,0.5s,baz=106,slow=0.6,SNR=4.3							

VIE **10** *02:41:36.8±0.2,45˚.98N×7˚.76E,h10km±1km,mb1.7/1, ml2.7/3,Error ellipse: s-maj=3.8km s-min=1.1km az=137.0*

ISCJB **10** *02:41:36.5±0.2,46˚.03N±0˚.01×7˚.64E±0˚.02,h10km±1km, Error ellipse: s-maj=1.9km s-min=1.5km az=39.7*

ROM **10** *02:41:37.1±0.1,46˚.02N×7˚.67E,h9km±1km,Md2.9/15, Ml2.4/8,Error ellipse: s-maj=1.4km s-min=1.1km az=172.0*

GEN **10** *02:41:37.3,46˚.05N×7˚.66E,h8km,ML2.3*

CSEM **10** *02:41:37.2±0.1,46˚.01N×7˚.67E,h2km,ML3.0/36,Error ellipse: s-maj=2.4km s-min=1.8km az=121.0*

ZUR **10** *02:41:37.9,46˚.04N×7˚.69E,h2km±3km,ML2.4/17*

LDG **10** *02:41:37.9±0.1,46˚.01N×7˚.68E,h2km,Md3.0/3,Ml2.9/40, Error ellipse: s-maj=1.3km s-min=1.0km az=110.0*

STR **10** *02:41:40.6±0.1,46˚.06N×7˚.51E,h10km,Ml2.9,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

PRU **10** *02:41:42.5,45˚.94N×7˚.90E,h5km*

ISC 10 02:41:37.5±0.8,46˚.01N±0˚.01×7˚.67E±0˚.01,h11km±5km, n273,σ1±52/420,7C-30D,Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DIX	**Grande Dixence**	**0.19**	**290**	⇓*i*Pg		**Pg**	**02 41 44.6**	**+2.8**
	2µm,0.3s							
SATI	**Passo dei Sala**	**0.20**	**134**	Pg		**Pg**	**02 41 42.3**	**+0.4**
SATI				Sg		**Sg**	**02 41 45.2**	**+0.1**
SATI	**Passo dei Sala**	**0.20**	**134**	P		**Pg**	**02 41 42.3**	**+0.4**
SATI				Sg		**Sg**	**02 41 45.2**	**+0.1**
VANNI	**Vissoie, Val d**	**0.20**	**346**	⇓*i*Pg		**Pg**	**02 41 41.5**	**-0.4**
	3µm,0.5s							
VANNI	**Vissoie, Val d**	**0.20**	**346**	⇓*i*Pg		**Pg**	**02 41 41.5**	**-0.4**
	3µm,0.5s							
MMK	**Mattmark**	**0.21**	**80**	⇓*i*Pg		**Pg**	**02 41 41.5**	**-0.6**
	1µm,0.9s							
MMK				*i* Sg		**Sg**	**02 41 41.9**	**-3.4**
	1µm,0.9s							
MMK	**Mattmark**	**0.21**	**80**	Pg		**Pg**	**02 41 41.8**	**-0.3**
MMK				Sg		**Sg**	**02 41 45.5**	**+0.2**
MMK	**Mattmark**	**0.21**	**80**	Pg		**Pg**	**02 41 41.8**	**-0.3**
MMK				Sg		**Sg**	**02 41 45.5**	**+0.2**
EMBD	**Embd, Matterta**	**0.23**	**30**	⇓*i*Pg		**Pg**	**02 41 42.0**	**-0.4**
	1µm,1.0s							
EMBD	**Embd, Matterta**	**0.23**	**30**	⇓*i*Pg		**Pg**	**02 41 42.0**	**-0.4**
	1µm,1.0s							
SIOV	**Sion-Valere**	**0.30**	**317**	⇓*i*Pg		**Pg**	**02 41 43.6**	**-0.1**
SIOV	**Sion-Valere**	**0.30**	**317**	⇓*i*Pg		**Pg**	**02 41 43.6**	**-0.1**
BIBA	**Brigerbad**	**0.34**	**32**	⇓*i*Pg		**Pg**	**02 41 44.1**	**-0.3**
BIBA				*i* Sg		**Sg**	**02 41 48.2**	**-0.8**
BIBA	**Brigerbad**	**0.34**	**32**	⇓*i*Pg		**Pg**	**02 41 44.1**	**-0.3**
BIBA				*i* Sg		**Sg**	**02 41 48.2**	**-0.8**
LKBD2	**Leukerbad 2**	**0.36**	**358**	⇓*i*Pg		**Pg**	**02 41 44.5**	**-0.3**
LKBD2	**Leukerbad 2**	**0.36**	**358**	⇓*i*Pg		**Pg**	**02 41 44.5**	**-0.3**
LKBD	**Leukerbad**	**0.37**	**356**	⇓*i*Pg		**Pg**	**02 41 44.7**	**-0.3**
	134nm,0.4s							
LKBD	**Leukerbad**	**0.37**	**356**	⇓*i*Pg		**Pg**	**02 41 44.7**	**-0.3**
	134nm,0.4s							
CIRO	**Champorcher**	**0.42**	**189**	Pg		**Pg**	**02 41 46.1**	**+0.3**
CIRO				Sg		**Sg**	**02 41 52.0**	**+0.6**
	150nm,0.3s							
CIRO	**Champorcher**	**0.42**	**189**	Pg		**Pg**	**02 41 46.1**	**+0.3**
CIRO				Sg		**Sg**	**02 41 52.0**	**+0.6**
	150nm,0.3s							
SENIN	**Lac Senin/Sane**	**0.43**	**324**	⇓*i*Pg		**Pg**	**02 41 45.9**	**-0.2**
	375nm,0.6s							
SENIN	**Lac Senin/Sane**	**0.43**	**324**	⇓*i*Pg		**Pg**	**02 41 45.9**	**-0.2**
	375nm,0.6s							
GRYON	**Gryon**	**0.45**	**302**	*e*Pg		**Pg**	**02 41 46.3**	**-0.1**
	98nm,0.3s							
GRYON	**Gryon**	**0.45**	**302**	*e*Pg		**Pg**	**02 41 46.3**	**-0.1**
	98nm,0.3s							
MRGE	**Morge**	**0.49**	**240**	⇓*i*Pg		**Pg**	**02 41 47.6**	**+0.5**
	556nm,0.5s							
MRGE	**Morge**	**0.49**	**240**	Pg		**Pg**	**02 41 47.1**	**0.0**
MRGE				Sg		**Sg**	**02 41 54.1**	**+0.6**
	183nm,0.6s							
MRGE	**Morge**	**0.49**	**240**	Pg		**Pg**	**02 41 47.1**	**0.0**
MRGE				Sg		**Sg**	**02 41 54.1**	**+0.6**
	183nm,0.6s							
SALAN	**Lac Salanfe**	**0.50**	**285**	*e*Pg		**Pg**	**02 41 47.5**	**+0.2**
	45nm,0.6s							
**SAL

MBDF	**Montbardon**	**1.43**	**206**	*e*Pg	**Pb**	**02 42 04.7**	**+0.5**
MBDF				*e*Sg	**Sg**	**02 42 23.9**	**+0.3**
	29nm,0.5s						
BBS	**Basel-Blauen**	**1.46**	**356**	Pg	**Pg**	**02 42 06.5**	**+1.1**
BBS				Sg	**Sg**	**02 42 26.3**	**+2.0**
LOMF	**Lomont**	**1.46**	**337**	Pg	**Pg**	**02 42 05.7**	**+0.3**
LOMF				Sg	**Sg**	**02 42 26.0**	**+1.7**
LOMF	**Lomont**	**1.46**	**337**	Pg	**Pg**	**02 42 05.7**	**+0.3**
LOMF				Sg	**Sg**	**02 42 26.0**	**+1.7**
GRN	**Grenoble**	**1.55**	**241**	Pn	**Pb**	**02 42 06.1**	**-0.1**
GRN	**Grenoble**	**1.55**	**241**	Pn	**Pb**	**02 42 06.1**	**-0.1**
PZZ	**Stroppo**	**1.56**	**195**	Pg	**Pn**	**02 42 05.0**	**-0.2**
	90nm,0.5s						
PZZ	**Stroppo**	**1.56**	**195**	Pg	**Pn**	**02 42 05.0**	**-0.2**
	90nm,0.5s						
PLONS	**Plons/SG**	**1.57**	**48**	Pg	**Pb**	**02 42 06.6**	**0.0**
	62nm,0.7s						
SURF	**Saint Ours**	**1.65**	**202**	Pn	**Pb**	**02 42 08.6**	**+0.7**
SURF	**Saint Ours**	**1.65**	**202**	Pn	**Pb**	**02 42 08.6**	**+0.7**
ORIF	**Oris-en-Rattie**	**1.67**	**230**	*e*Pn	**Pn**	**02 42 06.6**	**0.0**
ORIF	**Oris-en-Rattie**	**1.67**	**230**	*e*Pg	**Pb**	**02 42 09.2**	**+1.0**
ORIF				*e*Sg	**Sg**	**02 42 31.2**	**+0.1**
	37nm,0.5s						
ORIF	**Oris-en-Rattie**	**1.67**	**230**	*e*Pn	**Pn**	**02 42 06.6**	**0.0**
ORIF	**Oris-en-Rattie**	**1.67**	**230**	*e*Pg	**Pb**	**02 42 09.2**	**+1.0**
ORIF				*e*Sg	**Sg**	**02 42 31.2**	**+0.1**
	19nm,0.5s						
MOF	**Molkenrain**	**1.87**	**349**	Pn	**Pn**	**02 42 10.8**	**+1.3**
MOF	**Molkenrain**	**1.87**	**349**	Pg	**Pg**	**02 42 15.4**	**+2.0**
MOF				Sg	**Sg**	**02 42 39.5**	**+1.8**
MOF	**Molkenrain**	**1.87**	**349**	Pn	**Pn**	**02 42 10.8**	**+1.3**
MOF	**Molkenrain**	**1.87**	**349**	Pg	**Pg**	**02 42 15.4**	**+2.0**
MOF				Sg	**Sg**	**02 42 39.5**	**+1.8**
FELD	**Feldberg im Sc**	**1.88**	**7**	Pn	**Pn**	**02 42 10.3**	**+0.7**
FELD	**Feldberg im Sc**	**1.88**	**7**	Pg	**Pg**	**02 42 15.1**	**+1.6**
FELD				Sg	**Sg**	**02 42 40.8**	**+3.0**
HINF	**Hinteralfeld**	**1.89**	**343**	*e*P	**Pn**	**02 42 10.9**	**+1.3**
HINF	**Hinteralfeld**	**1.89**	**343**	*e*Pg	**Pg**	**02 42 13.1**	**-0.6**
HINF				*e*Sg	**Sg**	**02 42 37.7**	**-0.4**
	28nm,0.3s						
HINF	**Hinteralfeld**	**1.89**	**343**	*e*P	**Pn**	**02 42 10.9**	**+1.3**
HINF	**Hinteralfeld**	**1.89**	**343**	*e*Pg	**Pg**	**02 42 13.1**	**-0.6**
HINF				*e*Sg	**Sg**	**02 42 37.7**	**-0.4**
	14nm,0.3s						
DAVA	**Damuels**	**1.99**	**49**⇑	*e*Pg	**Pb**	**02 42 14.6**	**+0.9**
	SNR=7.7						
DAVA				⇓*i*Sn	**Sn**	**02 42 36.1**	**+0.1**
DAVA				⇓*i*Sg	**Sg**	**02 42 41.8**	**+0.5**
	43nm,0.3s						
DAVA	**Damuels**	**1.99**	**49**	Pg	**Pb**	**02 42 14.6**	**+0.9**
	SNR=7.7						
DAVA				Sn	**Sn**	**02 42 36.1**	**+0.1**
DAVA				Sg	**Sg**	**02 42 41.8**	**+0.5**
	43nm,0.3s						
TOUF	**Mont Tournerai**	**2.02**	**189**	Pn	**Pb**	**02 42 14.1**	**-0.2**
TOUF	**Mont Tournerai**	**2.02**	**189**	Pg	**Pg**	**02 42 19.0**	**+2.8**
TOUF				Sg	**Sg**	**02 42 47.9**	**+5.4**
TOUF	**Mont Tournerai**	**2.02**	**189**	Pn	**Pb**	**02 42 14.1**	**-0.2**
TOUF	**Mont Tournerai**	**2.02**	**189**	Pg	**Pg**	**02 42 19.0**	**+2.8**
LIBD	**Limburg**	**2.14**	**359**	Pn	**Pn**	**02 42 14.3**	**+1.3**
MVIF	**Mont Vial**	**2.15**	**190**	Pn	**Pb**	**02 42 15.6**	**-0.8**
MVIF	**Mont Vial**	**2.15**	**190**	Pg	**Pg**	**02 42 21.7**	**+3.0**
MVIF				Sg	**Sg**	**02 42 52.1**	**+5.6**
MVIF	**Mont Vial**	**2.15**	**190**	Pn	**Pb**	**02 42 15.6**	**-0.8**
MVIF	**Mont Vial**	**2.15**	**190**	Pg	**Pg**	**02 42 21.7**	**+3.0**
SBF	**Sospel**	**2.16**	**184**	*e*Pn	**Pn**	**02 42 13.0**	**-0.4**
SBF	**Sospel**	**2.16**	**184**	*e*Pg	**Pb**	**02 42 17.9**	**+1.4**
SBF				*e*Sg	**Sg**	**02 42 46.2**	**-0.6**
	29nm,0.4s						
SBF	**Sospel**	**2.16**	**184**	*e*Pn	**Pn**	**02 42 13.0**	**-0.4**
SBF	**Sospel**	**2.16**	**184**	*e*Pg	**Pb**	**02 42 17.9**	**+1.4**
SBF				*e*Sg	**Sg**	**02 42 46.2**	**-0.6**
	14nm,0.4s						
HAU	**Haudompre**	**2.19**	**336**	*e*P	**Pn**	**02 42 15.4**	**+1.7**
HAU	**Haudompre**	**2.19**	**336**	*e*Pg	**Pg**	**02 42 19.0**	**-0.4**
HAU				*e*Sg	**Sg**	**02 42 46.4**	**-1.3**
	26nm,0.3s						
HAU	**Haudompre**	**2.19**	**336**	*e*P	**Pn**	**02 42 15.4**	**+1.7**
HAU	**Haudompre**	**2.19**	**336**	*e*Pg	**Pg**	**02 42 19.0**	**-0.4**
HAU				*e*Sg	**Sg**	**02 42 46.4**	**-1.3**
	13nm,0.3s						
SPAK	**Spaichingen-Ko**	**2.23**	**20**	Pn	**Pn**	**02 42 16.0**	**+1.7**
SPAK				Sg	**Sg**	**02 42 53.1**	**+4.1**
ECH	**Echery**	**2.23**	**351**	Pn	**Pn**	**02 42 15.6**	**+1.3**
ECH	**Echery**	**2.23**	**351**	Pn	**Pn**	**02 42 15.6**	**+1.3**
SSB	**Saint Sauveur**	**2.31**	**253**	Pn	**Pn**	**02 42 16.1**	**+0.6**
SSB	**Saint Sauveur**	**2.31**	**253**	Pg	**Pg**	**02 42 22.1**	**+0.3**
SSB				Sg	**Sg**	**02 42 52.4**	**+0.7**
SSB	**Saint Sauveur**	**2.31**	**253**	Pn	**Pn**	**02 42 16.1**	**+0.6**
SSB	**Saint Sauveur**	**2.31**	**253**	Pg	**Pg**	**02 42 22.1**	**+0.3**
SSB				Sg	**Sg**	**02 42 52.4**	**+0.7**
FETA	**Feichten**	**2.34**	**63**⇓	*i*Pn	**Pn**	**02 42 15.3**	**-0.7**
FETA				⇓*i*Pg	**Pb**	**02 42 21.3**	**+1.6**
FETA				⇑*i*Sg	**Sg**	**02 42 52.7**	**0.0**
	6.3nm,0.4s						
FETA	**Feichten**	**2.34**	**63**	Pn	**Pn**	**02 42 15.3**	**-0.7**
VIVF	**Saint-Julien-l**	**2.40**	**242**	*e*Pn	**Pn**	**02 42 16.7**	**0.0**
VIVF	**Saint-Julien-l**	**2.40**	**242**	*e*P	**Pb**	**02 42 19.4**	**-1.3**
VIVF	**Saint-Julien-l**	**2.40**	**242**	*e*Pg	**Pg**	**02 42 23.5**	**0.0**
VIVF				*e*Sg	**Sg**	**02 42 54.0**	**-0.7**
	23nm,0.4s						
VIVF	**Saint-Julien-l**	**2.40**	**242**	*e*Pn	**Pn**	**02 42 16.7**	**0.0**
VIVF	**Saint-Julien-l**	**2.40**	**242**	*e*P	**Pb**	**02 42 19.4**	**-1.3**
VIVF	**Saint-Julien-l**	**2.40**	**242**	*e*Pg	**Pg**	**02 42 23.5**	**0.0**
VIVF				*e*Sg	**Sg**	**02 42 54.0**	**-0.7**
	11nm,0.4s						
CDF	**Champ du Feu**	**2.41**	**354**	*e*Pn	**Pn**	**02 42 17.3**	**+0.4**
CDF	**Champ du Feu**	**2.41**	**354**	*e*Pg	**Pg**	**02 42 22.9**	**-0.8**
CDF				*e*Sg	**Sb**	**02 42 52.6**	**+1.9**
	18nm,0.4s						
CDF	**Champ du Feu**	**2.41**	**354**	*e*Pn	**Pn**	**02 42 17.3**	**+0.4**
CDF	**Champ du Feu**	**2.41**	**354**	*e*Pg	**Pg**	**02 42 22.9**	**-0.8**
CDF				*e*Sg	**Sb**	**02 42 52.6**	**+1.9**
	9.1nm,0.4s						
THEF	**They Montfort**	**2.49**	**333**	Pn	**Pn**	**02 42 18.7**	**+0.8**
THEF	**They Montfort**	**2.49**	**333**	Pg	**Pg**	**02 42 26.0**	**+0.8**
THEF	**They Montfort**	**2.49**	**333**	Pn	**Pn**	**02 42 18.7**	**+0.8**
THEF	**They Montfort**	**2.49**	**333**	Pg	**Pg**	**02 42 26.0**	**+0.8**
SMRF	**Simiane la Rot**	**2.52**	**217**	*e*Pn	**Pn**	**02 42 18.1**	**-0.2**
SMRF	**Simiane la Rot**	**2.52**	**217**	*e*Pg	**Pg**	**02 42 24.6**	**-1.2**
SMRF				*e*Sg	**Sg**	**02 42 57.0**	**-1.4**
	14nm,0.6s						
SMRF	**Simiane la Rot**	**2.52**	**217**	*e*Pn	**Pn**	**02 42 18.1**	**-0.2**
SMRF	**Simiane la Rot**	**2.52**	**217**	*e*Pg	**Pg**	**02 42 24.6**	**-1.2**
SMRF				*e*Sg	**Sg**	**02 42 57.0**	**-1.4**
	7.1nm,0.6s						
FRF	**La Foret Royal**	**2.56**	**197**	*e*Pn	**Pn**	**02 42 18.8**	**0.0**
FRF	**La Foret Royal**	**2.56**	**197**	*e*Pg	**Pg**	**02 42 25.4**	**-1.1**
FRF				*e*Sg	**Sg**	**02 42 58.6**	**-1.0**
	22nm,0.5s						
FRF	**La Foret Royal**	**2.56**	**197**	*e*Pn	**Pn**	**02 42 18.8**	**0.0**
FRF	**La Foret Royal**	**2.56**	**197**	*e*Pg	**Pg**	**02 42 25.4**	**-1.1**
FRF				*e*Sg	**Sg**	**02 42 58.6**	**-1.0**
	11nm,0.5s						
MOTA	**Moosalm**	**2.71**	**59**⇓	*i*Pn	**Pn**	**02 42 20.5**	**-0.6**
MOTA				⇓*i*Sn	**Sn**	**02 42 53.4**	**-0.6**
MOTA	**Moosalm**	**2.71**	**59**	Pn	**Pn**	**02 42 20.5**	**-0.6**
MOTA				Sn	**Sn**	**02 42 53.4**	**-0.6**
SMF	**Signal de Mont**	**2.72**	**285**	*e*P	**Pn**	**02 42 23.7**	**+2.6**
SMF				*e*Sg	**Sg**	**02 43 03.6**	**-1.3**
	24nm,0.3s						
SMF	**Signal de Mont**	**2.72**	**285**	*e*P	**Pn**	**02 42 23.7**	**+2.6**
SMF				*e*Sg	**Sg**	**02 43 03.6**	**-1.3**
	12nm,0.3s						
LMR	**La Mourre**	**2.80**	**198**	*e*Pn	**Pn**	**02 42 22.0**	**-0.2**
LMR	**La Mourre**	**2.80**	**198**	*e*Pg	**Pg**	**02 42 29.9**	**-1.3**
LMR				*e*Sg	**Sg**	**02 43 05.8**	**-1.7**
	11nm,0.5s						
LMR	**La Mourre**	**2.80**	**198**	*e*Pn	**Pn**	**02 42 22.0**	**-0.2**
LMR	**La Mourre**	**2.80**	**198**	*e*Pg	**Pg**	**02 42 29.9**	**-1.3**
LMR				*e*Sg	**Sg**	**02 43 05.8**	**-1.7**
	5.7nm,0.5s						
PLDF	**La Plantade**	**2.82**	**271**	Pn	**Pn**	**02 42 23.5**	**+1.0**
PLDF				Sg	**Sg**	**02 43 09.0**	**+1.0**
PLDF	**La Plantade**	**2.82**	**271**	Pn	**Pn**	**02 42 23.5**	**+1.0**
PLDF				Sg	**Sg**	**02 43 09.0**	**+1.0**
SFTF	**Sexfontaines**	**2.83**	**322**	*e*Pn	**Pn**	**02 42 21.8**	**-0.8**
SFTF	**Sexfontaines**	**2.83**	**322**	*e*Pg	**Pb**	**02 42 29.3**	**+1.3**
	baz=132						
SFTF				*e*Sg	**Sg**	**02 43 06.8**	**-1.6**
	38nm,0.6s						
SFTF	**Sexfontaines**	**2.83**	**322**	*e*Pn	**Pn**	**02 42 21.8**	**-0.8**
SFTF	**Sexfontaines**	**2.83**	**322**	*e*Pg	**Pb**	**02 42 29.3**	**+1.3**
SFTF				*e*Sg	**Sg**	**02 43 06.8**	**-1.6**
	19nm,0.6s						
PAGF	**Fort de Pagny**	**2.87**	**333**	*e*P	**Pn**	**02 42 25.1**	**+2.1**
	baz=141						
PAGF	**Fort de Pagny**	**2.87**	**333**	*e*Pg	**Pg**	**02 42 31.4**	**-0.9**
	baz=145						
PAGF				*e*Sg	**Sg**	**02 43 07.3**	**-2.1**
	5.3nm,0.6s						
PAGF	**Fort de Pagny**	**2.87**	**333**	*e*P	**Pn**	**02 42 25.1**	**+2.1**
PAGF	**Fort de Pagny**	**2.87**	**333**	*e*Pg	**Pg**	**02 42 31.4**	**-0.9**
PAGF				*e*Sg	**Sg**	**02 43 07.3**	**-2.1**
	2.7nm,0.6s						
LOR	**Lormes**	**2.91**	**297**	*e*Pn	**Pn**	**02 42 23.6**	**0.0**
LOR	**Lormes**	**2.91**	**297**	*e*P	**Pn**	**02 42 26.4**	**+2.8**
	baz=123						
LOR	**Lormes**	**2.91**	**297**	*e*Pg	**Pg**	**02 42 32.3**	**-0.8**
	baz=124						
LOR				*e*Sn	**Sn**	**02 42 57.2**	**-1.3**
LOR				*e*Sg	**Sg**	**02 43 09.5**	**-1.3**
	13nm,0.4s						
LOR	**Lormes**	**2.91**	**297**	*e*Pn	**Pn**	**02 42 23.6**	**0.0**
LOR	**Lormes**	**2.91**	**297**	*e*P	**Pn**	**02 42 26.4**	**+2.8**
LOR	**Lormes**	**2.91**	**297**	*e*Pg	**Pg**	**02 42 32.3**	**-0.8**
LOR				*e*Sn	**Sn**	**02 42 57.2**	**-1.3**
LOR				*e*Sg	**Sg**	**02 43 09.5**	**-1.3**
	6.5nm,0.4s						
LANF	**Langenberg**	**2.97**	**2**	Pn	**Pn**	**02 42 25.5**	**+1.0**
LANF	**Langenberg**	**2.97**	**2**	Pg	**Pg**	**02 42 35.6**	**+1.3**
LANF	**Langenberg**	**2.97**	**2**	Pn	**Pn**	**02 42 25.5**	**+1.0**
LANF	**Langenberg**	**2.97**	**2**	Pg	**Pg**	**02 42 35.6**	**+1.3**
SSF	**Saint Saulge**	**3.06**	**292**	*e*Pn	**Pn**	**02 42 25.5**	**-0.2**
SSF	**Saint Saulge**	**3.06**	**292**	*e*P	**Pn**	**02 42 28.4**	**+2.7**
SSF	**Saint Saulge**	**3.06**	**292**	*e*Pg	**Pg**	**02 42 35.1**	**-0.9**
SSF				*e*Sn	**Sn**	**02 43 00.4**	**-1.8**
SSF				*e*Sg	**Sg**	**02 43 14.1**	**-1.5**
	11nm,0.4s						
SSF	**Saint Saulge**	**3.06**	**292**	*e*Pn	**Pn**	**02 42 25.5**	**-0.2**
SSF	**Saint Saulge**	**3.06**	**292**	*e*P	**Pn**	**02 42 28.4**	**+2.7**
SSF	**Saint Saulge**	**3.06**	**292**	*e*Pg	**Pg**	**02 42 35.1**	**-0.9**
SSF				*e*Sn	**Sn**	**02 43 00.4**	**-1.8**
SSF				*e*Sg	**Sg**	**02 43 14.1**	**-1.5**
	5.7nm,0.4s						
MEZF	**Maizieres J'vi**	**3.06**	**325**	*e*Pn	**Pn**	**02 42 25.8**	**+0.1**
MEZF	**Maizieres J'vi**	**3.06**	**325**	*e*Pg	**Pg**	**02 42 34.5**	**-1.6**
	baz=138						
MEZF				*e*Sg	**Sg**	**02 43 14.7**	**-1.0**
	27nm,0.4s						
MEZF	**Maizieres J'vi**	**3.06**	**325**	*e*Pn	**Pn**	**02 42 25.8**	**+0.1**
MEZF	**Maizieres J'vi**	**3.06**	**325**	*e*Pg	**Pg**	**02 42 34.5**	**-1.6**
MEZF				*e*Sg	**Sg**	**02 43 14.7**	**-1.0**
	14nm,0.4s						
AVF	**Avril sur Loir**	**3.08**	**286**	*e*P	**Pn**	**02 42 28.4**	**+2.4**
AVF				*e*Sg	**Sg**	**02 43 14.9**	**-1.6**
	7.6nm,0.3s						
AVF	**Avril sur Loir**	**3.08**	**286**	*e*P	**Pn**	**02 42 28.4**	**+2.4**
AVF				*e*Sg	**Sg**	**02 43 14.9**	**-1.6**
	3.8nm,0.3s						
LBL	**Lubilhac**	**3.20**	**257**	Pn	**Pn**	**02 42 28.1**	**+0.4**
LBL	**Lubilhac**	**3.20**	**257**	Pg	**Pg**	**02 42 38.5**	**-0.2**
LBL				Sg	**Sg**	**02 43 22.1**	**+2.0**
LBL	**Lubilhac**	**3.20**	**257**	Pn	**Pn**	**02 42 28.1**	**+0.4**
LBL	**Lubilhac**	**3.20**	**257**	Pg	**Pg**	**02 42 38.5**	**-0.2**
LBL				Sg	**Sg**	**02 43 22.1**	**+2.0**
PYM	**Petit Puy Mans**	**3.26**	**267**	Pn	**Pn**	**02 42 29.2**	**+0.6**
PYM	**Petit Puy Mans**	**3.26**	**267**	Pg	**Pg**	**02 42 40.1**	**+0.1**
PYM				Sg	**Sg**	**02 43 23.2**	**+0.9**
PYM	**Petit Puy Mans**	**3.26**	**267**	Pn	**Pn**	**02 42 29.2**	**+0.6**
PYM	**Petit Puy Mans**	**3.26**	**267**	Pg	**Pg**	**02 42 40.1**	**+0.1**
PYM				Sg	**Sg**	**02 43 23.2**	**+0.9**
LASF	**Ste Croix**	**3.32**	**236**	*e*Pn	**Pn**	**02 42 28.6**	**-0.7**
LASF	**Ste Croix**	**3.32**	**236**	*e*Pg	**Pb**	**02 42 38.6**	**+2.2**
LASF				*e*Sn	**Sn**	**02 43 06.8**	**-2.0**
LASF				*e*Sg	**Sg**	**02 43 21.7**	**-2.4**
	9.8nm,0.7s						
LASF	**Ste Croix**	**3.32**	**236**	*e*Pn	**Pn**	**02 42 28.6**	**-0.7**
LASF	**Ste Croix**	**3.32**	**236**	*e*Pg	**Pb**	**02 42 38.6**	**+2.2**
LASF				*e*Sn	**Sn**	**02 43 06.8**	**-2.0**
LASF				*e*Sg	**Sg**	**02 43 21.7**	**-2.4**
	4.9nm,0.7s						
BGF	**Bois d'Agland**	**3.39**	**281**	*e*P	**Pn**	**02 42 32.6**	**+2.4**
BGF				*e*Sn	**Sn**	**02 43 08.3**	**-2.0**
BGF				*e*Sg	**Sg**	**02 43 24.3**	**-1.8**
	22nm,0.4s						
BGF	**Bois d'Agland**	**3.39**	**281**	*e*P	**Pn**	**02 42 32.6**	**+2.4**
BGF				*e*Sn	**Sn**	**02 43 08.3**	**-2.0**
BGF				*e*Sg	**Sg**	**02 43 24.3**	**-1.8**
	11nm,0.4s						
PGF	**Pioggiola**	**3.59**	**164**	*e*Pn	**Pn**	**02 42 32.7**	**-0.5**
PGF				*e*Sn	**Sn**	**02 43 13.6**	**-2.0**
	5.5nm,0.6s						
PGF	**Pioggiola**	**3.59**	**164**	*e*Pn	**Pn**	**02 42 32.7**	**-0.5**
PGF				*e*Sn	**Sn**	**02 43 13.6**	**-2.0**
	2.8nm,0.6s						
HYF	**Humbligny**	**3.68**	**292**	*e*P	**Pn**	**02 42 36.9**	**+2.6**
HYF				*e*Sn	**Sn**	**02 43 15.7**	**-1.9**
HYF				*e*Sg	**Sg**	**02 43 33.8**	**-1.9**
HYF	**Humbligny**	**3.68**	**292**	*e*P	**Pn**	**02 42 36.9**	**+2.6**
HYF				*e*Sn	**Sn**	**02 43 15.7**	**-1.9**
HYF				*e*Sg	**Sg**	**02 43 33.8**	**-1.9**
RUP	**Ruppelstein**	**3.71**	**354**	Pn	**Pn**	**02 42 34.6**	**-0.1**
WLF	**Walferdange**	**3.79**	**345**	PN	**Pn**	**02 42 38.7**	**+2.9**
WLF				SN	**Sn**	**02 43 23.0**	**+2.6**
	comp=E,5.5nm,0.0s						
WLF	**Walferdange**	**3.79**	**345**	Pn	**Pn**	**02 42 38.7**	**+2.9**
WLF				Sn	**Sn**	**02 43 22.9**	**+2.6**
TCF	**Toulx Ste Croi**	**3.80**	**276**	*e*Pn	**Pn**	**02 42 35.3**	**-0.6**
TCF	**Toulx Ste Croi**	**3.80**	**276**	*e*P	**Pn**	**02 42 38.4**	**+2.5**
TCF	**Toulx Ste Croi**	**3.80**	**276**	*e*Pg	**Pg**	**02 42 48.8**	**-1.5**
TCF				*e*Sn	**Sn**	**02 43 18.4**	**-2.2**
	comp=E,7.9nm,0.4s						
TCF				*e*Sg	**Sg**	**02 43 37.2**	**-2.3**
	comp=E,4.8nm,0.3s						
TCF	**Toulx Ste Croi**	**3.80**	**276**	*e*Pn	**Pn**	**02 42 35.3**	**-0.6**
TCF	**Toulx Ste Croi**	**3.80**	**276**	*e*P	**Pn**	**02 42 38.4**	**+2.5**
TCF	**Toulx Ste Croi**	**3.80**	**276**	*e*Pg	**Pg**	**02 42 48.8**	**-1.5**
TCF				*e*Sn	**Sn**	**02 43 18.4**	**-2.2**
	comp=E,4.0nm,0.4s						
TCF				*e*Sg	**Sg**	**02 43 37.2**	**-2.3**
	comp=E,2.4nm,0.3s						
CAF	**Calviac**	**4.09**	**257**	*e*Pn	**Pn**	**02 42 38.8**	**-1.1**
CAF	**Calviac**	**4.09**	**257**	*e*P	**Pn**	**02 42 42.4**	**+2.5**
CAF				*e*Sg	**Sg**	**02 43 46.0**	**-2.7**
	comp=E,8.4nm,0.5s						
CAF	**Calviac**	**4.09**	**257**	*e*Pn	**Pn**	**02 42 38.8**	**-1.1**
CAF	**Calviac**	**4.09**	**257**	*e*P	**Pn**	**02 42 42.4**	**+2.5**
CAF				*e*Sg	**Sg**	**02 43 46.0**	**-2.7**
	comp=E,4.2nm,0.5s						
RJF	**Les Rejaudoux**	**4.37**	**263**	*e*Pn	**Pn**	**02 42 42.9**	**-0.8**
RJF	**Les Rejaudoux**	**4.37**	**263**	*e*P	**Pn**	**02 42 46.6**	**+2.9**
RJF				*e*Sg	**Sg**	**02 43 54.8**	**-2.9**
	comp=E,14nm,0.6s						
RJF	**Les Rejaudoux**	**4.37**	**263**	*e*Pn	**Pn**	**02 42 42.9**	**-0.8**
RJF	**Les Rejaudoux**	**4.37**	**263**	*e*P	**Pn**	**02 42 46.6**	**+2.9**
RJF				*e*Sg	**Sg**	**02 43 54.8**	**-2.9**
	comp=E,6.8nm,0.6s						
GIVF	**Givet**	**4.51**	**336**	*e*Pn	**Pn**	**02 42 45.2**	**-0.4**
GIVF	**Givet**	**4.51**	**336**	*e*P	**Pn**	**02 42 48.6**	**+3.0**
GIVF				*e*Sg	**Sg**	**02 43 58.7**	**-3.6**
	comp=E,3.9nm,0.3s						
GIVF	**Givet**	**4.51**	**336**	*e*Pn	**Pn**	**02 42 45.2**	**-0.4**
GIVF	**Givet**	**4.51**	**336**	*e*P	**Pn**	**02 42 48.6**	**+3.0**
GIVF				*e*Sg	**Sg**	**02 43 58.7**	**-3.6**
	comp=E,2.0nm,0.3s						
DOU	**Dourbes**	**4.57**	**334**	PN	**Pn**	**02 42 49.3**	**+2.8**
DOU				SN	**Sn**	**02 43 39.9**	**+0.4**
DOU	**Dourbes**	**4.57**	**334**	Pn	**Pn**	**02 42 49.3**	**+2.8**
DOU				Sn	**Sn**	**02 43 39.9**	**+0.4**
BAIF	**Baives**	**4.67**	**331**	*e*Pn	**Pn**	**02 42 47.3**	**-0.4**
BAIF	**Baives**	**4.67**	**331**	*e*P	**Pn**	**02 42 50.3**	**+2.6**
BAIF	**Baives**	**4.67**	**331**	*e*Pn	**Pn**	**02 42 47.3**	**-0.4**
BAIF	**Baives**	**4.67**	**331**	*e*P	**Pn**	**02 42 50.3**	**+2.6**
MTLF	**Montolieu**	**4.71**	**237**	*e*Pn	**Pn**	**02 42 47.7**	**-0.8**
MTLF	**Montolieu**	**4.71**	**237**	*e*P	**Pn**	**02 42 51.5**	**+3.0**
MTLF				*e*Sg	**Sg**	**02 44 05.3**	**-3.5**
	comp=E,3.6nm,0.7s						
MTLF	**Montolieu**	**4.71**	**237**	*e*Pn	**Pn**	**02 42 47.7**	**-0.8**
MTLF	**Montolieu**	**4.71**	**237**	*e*P	**Pn**	**02 42 51.5**	**+3.0**
MTLF				*e*Sg	**Sg**	**02 44 05.3**	**-3.5**
	comp=E,1.8nm,0.7s						
MEM	**Membach**	**4.73**	**347**	PN	**Pn**	**02 42 51.3**	**+2.6**
MEM	**Membach**	**4.73**	**347**	Pn	**Pn**	**02 42 51.2**	**+2.6**
LFF	**La Frestale**	**4.99**	**260**	*e*Pn	**Pn**	**02 42 51.3**	**-0.9**
LFF				*e*Sg	**Sg**	**02 44 14.3**	**-3.2**
	comp=E,9.9nm,0.5s						
LFF	**La Frestale**	**4.99**	**260**	*e*Pn	**Pn**	**02 42 51.3**	**-0.9**
LFF				*e*Sg	**Sg**	**02 44 14.3**	**-3.2**
	comp=E,4.9nm,0.5s						
KHC	**Kasperske Hory**	**5.07**	**50**	*e*PN	**Pn**	**02 42 56.3**	**+2.9**
KHC				*ex*	x	02 43 02.5	
KHC				*e*PG	**Pg**	**02 43 13.2**	**-1.4**
KHC				*ex*	x	02 43 16.8	
KHC				*e*SN	**Sn**	**02 43 52.5**	**+0.6**
KHC				*e*SG	**Sg**	**02 44 21.5**	**+1.3**
	comp=E,4.9nm,0.5s						
KHC	**Kasperske Hory**	**5.07**	**50**	Pn	**Pn**	**02 42 56.3**	**+2.9**
KHC	**Kasperske Hory**	**5.07**	**50**	Pg	**Pg**	**02 43 13.2**	**-1.4**
KHC				Sg	**Sg**	**02 44 21.5**	**+1.3**
	comp=E,4.9nm,0.5s						
NKC	**Novy Kostel**	**5.30**	**35**	*e*SG	**Sg**	**02 44 30.0**	**+2.6**
	comp=E,5.3nm,0.4s						
NKC	**Novy Kostel**	**5.30**	**35**	Sg	**Sg**	**02 44 30.0**	**+2.6**
	comp=E,5.3nm,0.4s						
MFF	**Saint Martin d**	**5.45**	**279**	*e*Pn	**Pn**	**02 42 57.6**	**-0.9**
MFF	**Saint Martin d**	**5.45**	**279**	*e*P	**Pn**	**02 43 01.5**	**+3.0**
MFF				*e*Sn	**Sn**	**02 43 57.6**	**-3.4**
	comp=E,4.9nm,0.5s						
MFF	**Saint Martin d**	**5.45**	**279**	*e*Pn	**Pn**	**02 42 57.6**	**-0.9**
MFF	**Saint Martin d**	**5.45**	**279**	*e*P	**Pn**	**02 43 01.5**	**+3.0**
LDF	**La Druitiere**	**5.89**	**299**	*e*Pn	**Pn**	**02 43 04.2**	**-0.4**
LDF				*e*Sn	**Sn**	**02 44 08.6**	**-3.4**
	comp=E,3.3nm,0.7s						
LDF	**La Druitiere**	**5.89**	**299**	*e*Pn	**Pn**	**02 43 04.2**	**-0.4**
EPF	**Esparros**	**6.03**	**243**	*e*Pn	**Pn**	**02 43 06.0**	**-0.5**
EPF				*e*Sg	**Sg**	**02 44 46.3**	**-4.5**
	comp=E,3.1nm,0.5s						
EPF	**Esparros**	**6.03**	**243**	*e*Pn	**Pn**	**02 43 06.0**	**-0.5**
PRU	**Pruhonice**	**6.09**	**47**	*e*PG	**Pg**	**02 43 31.4**	**-2.6**
PRU				*e*SG	**Sg**	**02 44 53.1**	**+0.3**
	comp=E,2.7nm,0.6s						
PRU	**Pruhonice**	**6.09**	**47**	Pg	**Pg**	**02 43 31.4**	**-2.6**
PRU				Sg	**Sg**	**02 44 53.1**	**+0.3**
	comp=E,

LBRS	**Las Brisas**	**1.25**	**322**	*e*P	**Pn**	**03 11 28.4**	**+0.3**	
LBRS				*e*S	**Sn**	**03 11 42.9**	**-1.1**	
LFU	**La Fuente**	**1.30**	**320**	*e*P	**Pn**	**03 11 29.1**	**+0.3**	
SNET	**Serv Nac Est T**	**1.33**	**315**	*e*P	**Pn**	**03 11 28.8**	**-0.3**	
SNET				*e*S	**Sn**	**03 11 44.6**	**-1.5**	
SNET				AML	AML	03 11 47.7		
	comp=Z,3μm,0.3s							
BOQS	**Boqueron**	**1.40**	**315**⇑	*e*P	**Pn**	**03 11 30.4**	**+0.2**	
BOQS				*e*S	**Sn**	**03 11 48.2**	**+0.4**	
SBLS	**San Blas**	**1.71**	**309**	*e*P	**Pn**	**03 11 34.5**	**0.0**	
SBLS				*e*S	**Sn**	**03 11 57.2**	**+1.6**	
SNJE	**San Jose**	**1.72**	**311**	*e*P	**Pn**	**03 11 34.8**	**+0.3**	
RTR	**El Retiro**	**1.77**	**310**	*e*P	**Pn**	**03 11 36.0**	**+0.9**	
RBDL	**Robledal**	**1.94**	**315**	*e*P	**Pn**	**03 11 37.7**	**+0.2**	
MRL	**Marmol**	**2.69**	**329**	*e*P	**Pn**	**03 11 49.8**	**+2.1**	
NBG	**Las Nubes**	**2.73**	**312**	*e*P	**Pn**	**03 11 50.5**	**+2.2**	
FUG	**Fuego 3**	**3.03**	**304**	*e*P	**Pn**	**03 11 53.4**	**+1.1**	
VCR	**Vista de Mar**	**3.66**	**135**	*e*P	**Pn**	**03 12 00.6**	**-0.3**	
JTS	**JuntasAbangare**	**4.06**	**127**	P	**Pn**	**03 12 06.7**	**+0.4**	
	comp=Z,2.8nm,0.3s,baz=313,slow=9.6,SNR=11							
JTS				S	**Sn**	**03 12 51.0**	**-1.6**	
	baz=317,slow=19,SNR=1.9							
JCR	**Jicaral**	**4.22**	**133**	*e*P	**Pn**	**03 12 08.7**	**+0.2**	
CGA2	**Cerro Gallo 2**	**4.60**	**126**	*e*P	**Pn**	**03 12 16.4**	**+2.5**	
QCR	**Quepos**	**5.20**	**129**	*e*P	**Pn**	**03 12 23.4**	**+1.5**	
QCR				*e*S	**Sn**	**03 13 19.4**	**-1.2**	
URSC	**Urasca**	**5.26**	**123**	*e*P	Pn	03 12 26.3	+3.4	
URSC				*e*S	**Sn**	**03 13 24.5**	**+2.1**	
BUS	**Buena Vista**	**5.44**	**125**	*e*P	**Pn**	**03 12 27.8**	**+2.2**	
BUS				*e*S	**Sn**	**03 13 25.2**	**-1.9**	
CMIG	**Matias Romero**	**7.72**	**305**	P	**Pn**	**03 12 57.5**	**+1.1**	
	comp=Z,0.9nm,0.3s,baz=130,slow=8.9,SNR=11							
CMIG				S	**Sn**	**03 14 22.7**	**+0.2**	
	comp=Z,0.3nm,0.3s,baz=41,slow=20,SNR=2.3							
TXAR	**Lajitas Array**	**21.85**	**321**	P	**P**	**03 15 55.2**	**+0.9**	
	comp=Z,3.3nm,0.6s,baz=140,slow=9.7,SNR=31							
TXAR				pP	**pP**	**03 16 07.7**	**0.0**	
	comp=Z,1.4nm,0.7s,baz=146,slow=12,SNR=6.2							
ATAH	**Atahualpa**	**22.05**	**153**	LR	LR	03 23 01.9		
	comp=Z,53nm,19.7s,baz=317,slow=32							
TKL	**Tuckaleechee C**	**23.17**	**9**	P	**P**	**03 16 06.8**	**-1.1**	
	comp=Z,5.1nm,0.9s,baz=196,slow=11,SNR=5.1							
PDAR	**Pinedale Array**	**35.14**	**332**	P	**P**	**03 17 55.0**	**+0.4**	
	comp=Z,0.5nm,0.5s,baz=135,slow=9.0,SNR=3.2							
NVAR	**Mina Array Bea**	**36.96**	**319**	P	**P**	**03 18 10.4**	**+0.2**	
	comp=Z,0.2nm,0.5s,baz=132,slow=7.5,SNR=2.9							
SCHQ	**Schefferville**	**45.23**	**17**	P	**P**	**03 19 15.8**	**-1.8**	
	comp=Z,2.2nm,0.9s,baz=249,slow=8.6,SNR=3.4							
YKA	**Yellowknife Ar**	**53.12**	**345**	P	**P**	**03 20 16.4**	**-1.3**	
	comp=Z,0.4nm,0.5s,baz=149,slow=7.3,SNR=3.6							
ILAR	**Eielson Array**	**65.43**	**336**	P	**P**	**03 21 41.4**	**-1.4**	
	comp=Z,0.5nm,0.9s,baz=146,slow=4.1,SNR=6.5							
ILAR				pP	**pP**	**03 21 58.5**	**-0.8**	
	comp=Z,0.2nm,0.5s,baz=156,slow=4.8,SNR=3.2							
BORG	**Borgarnes**	**68.78**	**25**	LR	LR	03 53 01.8		
	comp=Z,22nm,19.8s,baz=16,slow=37							
WRA	**Warramunga Arr**	**138.59**	**254**	PKP	**PKPdf**	**03 30 28.6**	**+2.3**	
	comp=Z,0.4nm,0.5s,baz=88,slow=2.5,SNR=5.7							
WRA				pPKP	**pPKPdf**	**03 30 45.8**	**+1.4**	
	comp=Z,0.5nm,0.9s,baz=89,slow=2.7,SNR=2.5							
ASAR	**Alice Springs**	**138.64**	**249**	PKP	**PKPdf**	**03 30 29.7**	**+3.2**	
	comp=Z,0.3nm,0.6s,baz=90,slow=2.3,SNR=3.0							

IDC ***10*** *03:16:16.4±0.6,29˚.97N×79˚.59E,h0km,mb4.1/24, mb1 4.3/26,mb1mx4.1/44,mbtmp4.1/26,ML4.0/2,MS3.3/4, Ms1 3.3/4,ms1mx2.7/56,Error ellipse: s-maj=18.4km s-min=11.8km az=22.0*

NEIC ***10*** *03:16:18.8±3.7,30˚.08N×79˚.61E,h13km±22km,mb4.6/11, Error ellipse: s-maj=9.6km s-min=5.7km az=222.0*

NEIC Felt at Ranikhet.

NDI ***10*** *03:16:19.3±3.1,30˚.01N×79˚.62E,h10km,ML4.4, mb4.6(NEIC)*

DMN ***10*** *03:16:19.2±0.4,29˚.79N×79˚.23E,h10km,Ml4.9/7,Error ellipse: s-maj=37.7km s-min=7.1km az=19.0*

ISC 10 03:16:17.8±1.2,30˚.01N±0˚.03×79˚.61E±0˚.03,h7km±7km, n111,σ1§58/141,mb4.3/35,MS3.4/3,7C-4D,Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTH	**Pithoragarh**	**0.70**	**131**	*e*P	**Pg**	**03 16 30.9**	**-0.3**
PTH				*e*S	**Sg**	**03 16 41.1**	**+0.8**
LGTI	**Lohaghat**	**0.78**	**135**	*e*P	**Pn**	**03 16 35.4**	**+0.1**
LGTI				*e*S	**Sb**	**03 16 45.5**	**+0.9**
KALG	**Kalgarh**	**0.90**	**236**	*e*P	**Pb**	**03 16 35.6**	**-0.1**
KALG				*e*S	**Sn**	**03 16 49.6**	**-0.5**
DDI	**Dehra Dun**	**1.39**	**283**	*e*P	**Pg**	**03 16 45.5**	**+1.1**
DDI				*e*S	**Sg**	**03 17 03.5**	**+1.2**
DDI				AML	AML	03 17 08.7	
	comp=N,9μm,0.1s						
DDI				AML	AML	03 17 08.8	
	comp=E,5μm,0.3s						
BISR	**Bishrakh**	**2.38**	**234**	*e*P	**Pb**	**03 16 59.4**	**-1.6**
BISR				*e*S	**Sn**	**03 17 27.4**	**+0.7**
SMLA	**Simla**	**2.39**	**298**	*i* P	**Pb**	**03 16 59.8**	**-1.3**
SMLA				*i* S	**Sn**	**03 17 27.8**	**+0.8**
SMLA				AML	AML	03 17 31.4	
	comp=E,16μm,0.4s						
SMLA				AML	AML	03 17 32.6	
	comp=N,12μm,0.4s						
NDI	**New Delhi**	**2.48**	**238**	*ex*	Pn	03 17 02.5	+3.9
NDI				*e*S	**Sn**	**03 17 30.5**	**+1.4**
BHGR	**Bahadurgarh**	**2.68**	**241**	*e*P	**Pn**	**03 17 03.2**	**+1.8**
BHGR				*e*S	**Sn**	**03 17 33.5**	**-0.6**
SDNR	**Sundarnagar**	**2.72**	**304**	*e*P	**Pn**	**03 17 03.6**	**+1.6**
SDNR				*ex*	**Sb**	**03 17 43.0**	**+2.6**
BHK	**Bhakra**	**3.09**	**298**	*e*P	**Pg**	**03 17 16.0**	**-1.0**
BHK				*e*S	**Sg**	**03 17 57.0**	**-0.1**
AGRA	**Agra**	**3.13**	**208**	*e*P	**Pn**	**03 17 08.9**	**+1.3**
AGRA				*e*S	**Sn**	**03 17 45.1**	**-0.2**
AGRA				AML	AML	03 18 07.8	
	comp=N,1μm,0.4s						
AGRA				AML	AML	03 18 09.1	
	comp=E,1μm,0.3s						
DHRM	**DHARAMSHALA**	**3.61**	**309**	*e*P	**Pn**	**03 17 15.5**	**+1.0**
DHRM				*e*S	**Sn**	**03 17 55.5**	**-2.1**
DHRM				AML	AML	03 18 20.5	
	comp=N,692nm,0.3s						
DHRM				AML	AML	03 18 21.7	
	comp=E,1μm,0.7s						
KHET	**Khetri**	**3.85**	**241**	*e*P	**Pn**	**03 17 18.8**	**+1.2**
KHET				*e*S	**Sn**	**03 18 01.7**	**-1.4**
DANN	**Dangsing**	**3.98**	**113**	*e*Pn	**Pn**	**03 17 22.2**	**+2.5**
DANN				*e*Sn	**Sn**	**03 18 09.2**	**+2.4**
	comp=E,78nm,0.3s						
DLH	**Dalhousie**	**4.01**	**310**	*e*P	**Pn**	**03 17 23.0**	**+3.0**
DLH				*ex*	**Sn**	**03 18 10.0**	**+2.5**
KOLN	**Koldanda**	**4.15**	**122**	*e*Pn	**Pn**	**03 17 23.9**	**+2.1**
GKN	**Gorkha**	**4.83**	**113**	*e*Pn	**Pn**	**03 17 33.4**	**+2.2**
GKN				*e*Sn	**Sn**	**03 18 27.6**	**+0.1**
	comp=E,414nm,0.3s						
DMN	**Daman**	**5.38**	**115**	*e*Pn	**Pn**	**03 17 40.7**	**+1.9**
KKN	**Kakani**	**5.44**	**113**	*e*Pn	**Pn**	**03 17 41.4**	**+1.8**
PKIN	**Phulchoki**	**5.62**	**114**	*e*Pn	**Pn**	**03 17 43.7**	**+1.5**
PKIN				*e*Sn	**Sn**	**03 18 47.5**	**+0.3**
	comp=E,165nm,0.3s						
PKI	**Pulchoki**	**5.64**	**114**	*e*Pn	**Pn**	**03 17 44.0**	**+1.6**
PKI				*e*Sn	**Sn**	**03 18 47.1**	**-0.5**
	comp=E,207nm,0.3s						
GUN	**Gumba**	**5.87**	**109**	*e*Pn	**Pn**	**03 17 48.4**	**+2.7**
CHCP	**Chirah Chowk**	**6.51**	**306**	P	**Pn**	**03 17 55.8**	**+1.6**
RAMN	**Ramite**	**6.86**	**115**	*e*Pn	**Pn**	**03 18 00.5**	**+1.3**
RAMN				*e*Sn	**Sn**	**03 19 16.7**	**-1.0**
	comp=E,379nm,0.4s						
BHPL	**Bhopal**	**7.02**	**197**	*e*P	**Pn**	**03 18 01.8**	**+0.6**
BHPL				*e*S	**Sn**	**03 19 16.9**	**-4.3**
THW	**Thamme Wali**	**7.28**	**294**	P	**Pn**	**03 18 05.4**	**+0.7**
ODAN	**Odare**	**7.53**	**113**	*e*Pn	**Pn**	**03 18 09.9**	**+1.6**
ODAN				*e*Sn	**Sn**	**03 19 32.7**	**-1.4**
	comp=E,173nm,0.4s						
CEP	**Cherat**	**7.57**	**302**	P	**Pn**	**03 18 10.1**	**+1.3**
TAPN	**Taplejung**	**7.59**	**108**	*e*Pn	**Pn**	**03 18 11.3**	**+2.1**
TAPN				*e*Sn	**Sn**	**03 19 35.0**	**-0.7**
	comp=E,132nm,0.4s						
NGP	**Nagpur**	**8.84**	**183**⇑	*e*P	**Pn**	**03 18 28.0**	**+2.0**
NGP				*ex*	**Sn**	**03 20 01.1**	**-4.8**
LSA	**Lhasa**	**10.02**	**89**	*e*Pn	**Pn**	**03 18 45.2**	**+2.5**
SRSP	**Sriramsagar**	**11.09**	**186**	*e*Pn	**Pn**	**03 18 56.0**	**-1.0**
SRSP				IAmb	IAmb	03 19 05.7	
	comp=Z,17nm,0.4s						
SRSP				*e*		03 20 53.3	
				Sn	**Sn**	**03 21 02.5**	**+1.1**
SRSP				IVMs_BB	IVMs_BB	03 23 28.5	
	comp=Z,515nm,5.5s						
RPR	**Rampur**	**11.11**	**182**	*e*Pn	**Pn**	**03 18 56.5**	**-0.7**
RPR				IAmb	IAmb	03 19 02.7	
	comp=Z,12nm,0.6s						
RPR				*e*		03 20 53.8	
RPR				*e*Sn	**Sn**	**03 21 03.9**	**+2.2**
RPR				IVMs_BB	IVMs_BB	03 23 27.4	
	comp=Z,324nm,4.4s						
SFK	**Sufi-Kurgan**	**11.16**	**335**	⇑Pn	**Pn**	**03 18 59.9**	**+1.8**
	comp=Z,4.0nm,0.4s						
SFK				Lg	Lg	03 19 51.8	
SHL	**Shillong**	**11.73**	**109**	*e*P	**Pn**	**03 19 05.4**	**-0.5**
SHL				*e*S	Sn	03 21 06.0	-11
CHLP	**Challavanipeta**	**12.14**	**160**	*e*Pn	**Pn**	**03 19 12.2**	**+0.8**
CHLP				IAmb	IAmb	03 19 15.7	
	comp=Z,101nm,2.1s						
CHLP				*e*		03 21 19.4	
CHLP				Sn	**Sn**	**03 21 27.6**	**+0.5**
CHLP				IVMs_BB	IVMs_BB	03 24 03.6	
	comp=Z,198nm,6.7s						
KLRI	**Killari**	**12.20**	**194**	*e*Pn	**Pn**	**03 19 10.6**	**-1.6**
KLRI				IAmb	IAmb	03 19 16.8	
	comp=Z,35nm,0.7s						
KLRI				*e*		03 21 20.0	
KLRI				Sn	**Sn**	**03 21 30.1**	**+1.6**
KLRI				IVMsBB		03 23 58.1	
	comp=Z,493nm,4.0s						
HYBB	**Hyderabad (bro**	**12.57**	**185**	*e*Pn	**Pn**	**03 19 15.5**	**-1.8**
HYBB				IAmb	IAmb	03 19 21.8	
	comp=Z,16nm,0.5s						
HYBB				*e*		03 21 27.1	
HYBB				*e*Sn	**Sn**	**03 21 38.8**	**+1.1**
HYBB				IVMs_BB	IVMs_BB	03 24 12.6	
	comp=Z,473nm,5.2s						
HYB	**Hyderabad**	**12.57**	**185**	*i* P	**Pn**	**03 19 14.5**	**-2.8**
HYB				*e*		03 21 28.0	
HYB				*e*S	**Sn**	**03 21 38.0**	**+0.3**
HYB	**Hyderabad**	**12.57**	**185**	*ex*	Pn	03 19 10.3	-6.9
HYB				*e*S	Sn	03 21 25.5	-12
HYB	**Hyderabad**	**12.57**	**185**	*e*P	**Pn**	**03 19 15.0**	**-2.3**
HYB				*e*S	**Sn**	**03 21 43.0**	**+5.3**
POO	**Poona**	**12.57**	**206**	*e*P	**Pn**	**03 19 17.0**	**-0.3**
POO				*e*PP	**PnPn**	**03 19 26.5**	**+1.3**
BOM	**Bombay**	**12.67**	**211**	*ex*	Pn	03 19 11.2	-7.4
BOM				*ex*	x	03 21 28.0	
PVM	**Polavaram**	**12.83**	**171**	*e*Pn	**Pn**	**03 19 19.5**	**-1.2**
PVM				IAmb	IAmb	03 19 26.6	
	comp=Z,10.0nm,0.7s						
PVM				*e*		03 21 33.4	
PVM				*e*Sn	**Sn**	**03 21 46.3**	**+2.3**
PVM				IVMs_BB	IVMs_BB	03 24 35.3	
	comp=Z,306nm,5.0s						
AAK	**Ala-Archa**	**13.25**	**343**	⇑Pn	**Pn**	**03 19 27.9**	**+1.3**
	comp=Z,1.4nm,0.3s						
NJS	**Nagarjunasagar**	**13.40**	**181**	*e*Pn	**Pn**	**03 19 26.9**	**-1.6**
NJS				IAmb	IAmb	03 19 31.3	
	comp=Z,15nm,0.7s						
NJS				*e*		03 21 47.0	
NJS				Sn	**Sn**	**03 21 59.4**	**+1.7**
NJS				IVMs_BB	IVMs_BB	03 24 46.7	
	comp=Z,539nm,4.9s						
EKS2	**Erkin-Say**	**13.47**	**341**	*e*Pn	**Pn**	**03 19 29.0**	**-0.5**
	comp=Z,3.4nm,0.6s						
SRLM	**Srisailam**	**13.86**	**183**	*e*Pn	**Pn**	**03 19 33.4**	**-1.5**
SRLM				IAmb	IAmb	03 19 42.0	
	comp=Z,12nm,0.6s						
SRLM				*e*		03 21 57.1	
SRLM				Sn	**Sn**	**03 22 11.1**	**+1.9**
SRLM				IVMs_BB	IVMs_BB	03 25 01.5	
	comp=Z,470nm,5.6s						
ADKI	**Addanki**	**14.10**	**179**	*e*Pn	**Pn**	**03 19 36.7**	**-1.4**
ADKI				IAmb	IAmb	03 19 42.2	
	comp=Z,9.0nm,0.6s						
ADKI				*e*		03 22 05.0	
ADKI				Sn	**Sn**	**03 22 18.4**	**+3.4**
ADKI				IVMsBB		03 24 57.2	
	comp=Z,373nm,4.0s						
RCLA	**Racherla**	**14.50**	**183**	*e*Pn	**Pn**	**03 19 41.7**	**-1.8**
RCLA				*e*		03 22 13.4	
RCLA				Sn	**Sn**	**03 22 25.6**	**+0.9**
RCLA				IVMsBB		03 25 26.6	
	comp=Z,315nm,4.8s						
KK31	**Karatay Array**	**14.96**	**333**	Pn	Pn	03 19 39.9	-10
	comp=Z,1.6nm,0.3s,baz=176,slow=12,SNR=55						
KKAR	**Karatay Array**	**14.96**	**333**	*e*Pn	Pn	03 19 39.8	-10
	comp=Z,4.2nm,0.3s						
URV	**Uravakonda**	**15.15**	**189**	*e*Pn	**Pn**	**03 19 50.5**	**-1.9**
URV				IAmb	IAmb	03 19 55.2	
	comp=Z,85nm,2.2s						
URV				*e*		03 22 27.2	
URV				Sn	**Sn**	**03 22 40.9**	**+0.4**
URV				IVMs_BB	IVMs_BB	03 25 51.8	
	comp=Z,362nm,4.9s						
SKHT	**Srikalahasti**	**16.19**	**180**	*e*Pn	**Pn**	**03 20 06.9**	**+1.0**
SKHT				IAmb	IAmb	03 20 16.2	
	comp=Z,10nm,1.0s						
SKHT				*e*		03 22 53.8	
SKHT				Sn	**Sn**	**03 23 06.7**	**+0.8**
SKHT				IVMs_BB	IVMs_BB	03 26 13.0	
	comp=Z,383nm,5.4s						
MK31	**Makanchi Array**	**16.89**	**6**	*e*Pn	**Pn**	**03 20 12.9**	**-1.7**
MKAR	**Makanchi Array**	**16.89**	**6**	Pn	**Pn**	**03 20 11.7**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=186,slow=14,SNR=5.8						
MKAR				Sn	Sn	03 23 08.1	-14
	comp=Z,0.2nm,0.3s,baz=192,slow=23,SNR=5.0						
MKAR				LR	LR	03 26 55.5	
	comp=Z,22nm,19.5s,baz=186,slow=38						
GEYT	**Alibeck**	**19.47**	**300**	P	**P**	**03 20 45.5**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=114,slow=14,SNR=3.7						
KURBB	**Kurchatov Arra**	**20.61**	**358**	P	**P**	**03 20 56.4**	**-1.1**
	comp=Z,4.2nm,0.7s,baz=186,slow=9.8,SNR=52						
KURK	**Kurchatov**	**20.70**	**358**	*e*P	**P**	**03 20 57.5**	**-1.0**
	comp=Z,14nm,0.8s						
CMAR	**Chiang Mai Arr**	**21.01**	**119**	P	**P**	**03 21 01.0**	**-1.1**
	comp=Z,1.7nm,0.6s,baz=303,slow=9.2,SNR=4.8						
PALK	**Pallekele**	**22.64**	**177**	LR	LR	03 30 57.0	
	comp=Z,50nm,18.2s,baz=2.2,slow=39						
PALK	**Pallekele**	**22.64**	**177**	*e*P	**P**	**03 21 20.1**	**+0.4**
	comp=Z,13nm,1.0s						
BVAR	**Borovoye Array**	**23.97**	**346**	P	**P**	**03 21 32.1**	**-0.7**
	comp=Z,1.8nm,0.4s,baz=162,slow=13,SNR=9.6						
ZALV	**Zalesovo Beam**	**24.22**	**8**	P	**P**	**03 21 34.6**	**-0.4**
	comp=Z,6.3nm,0.6s,baz=195,slow=9.7,SNR=30						
AB31	**Akbulak array**	**24.34**	**328**	Pn	**P**	**03 21 32.4**	**-3.9**
	comp=Z,1.7nm,0.5s,baz=143,slow=11,SNR=26						
ABKAR	**Akbulak array**	**24.34**	**328**	*e*P	**P**	**03 21 32.4**	**-3.9**
	comp=Z,2.6nm,0.6s						
AKTO	**Aktyubinsk**	**26.06**	**328**	⇓Pn	**P**	**03 21 52.3**	**+0.5**
	comp=Z,4.2nm,0.8s						
AKTO	**Aktyubinsk**	**26.06**	**328**	P	**P**	**03 21 51.9**	**0.0**
	comp=Z,3.9nm,0.7s,baz=144,slow=5.9,SNR=16						
SONM	**Songino Array**	**27.20**	**42**	P	**P**	**03 22 03.7**	**+1.4**
	comp=Z,4.3nm,0.6s,baz=230,slow=9.7,SNR=35						
KBZ	**Khabaz**	**32.13**	**305**	P	**P**	**03 22 46.2**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=96,slow=7.0,SNR=3.7						
BRTR	**Keskin Array B**	**38.59**	**297**	P	**P**	**03 23 41.8**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=133,slow=9.6,SNR=4.0						
KSAR	**Wonju Array Be**	**40.47**	**66**	P	**P**	**03 23 56.8**	**-0.4**
KSRS	**Korea Array**	**40.50**	**66**	P	**P**	**03 23 56.8**	**-0.6**
	comp=Z,2.5nm,0.7s,baz=271,slow=8.8,SNR=10						
KKM	**Kota Kinabalu**	**41.88**	**117**	*e*P	**P**	**03 24 09.9**	**+0.7**
	comp=Z,13nm,1.0s						
AKASG	**Malin Array Be**	**42.63**	**314**	P	**P**	**03 24 14.2**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=81,slow=7.7,SNR=11						
KIEV	**Kiev**	**42.64**	**314**	*e*P	**P**	**03 24 14.2**	**-0.6**
	comp=Z,3.5nm,0.7s						
USRK	**Ussuriysk Ar.**	**43.40**	**56**	P	**P**	**03 24 21.2**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=262,slow=10.0,SNR=3.9						
JNU	**Nakatsue**	**43.44**	**72**	P	**P**	**03 24 21.9**	**+0.3**
	comp=Z,5.2nm,0.8s,baz=330,slow=8.1,SNR=3.6						
VRI	**Vrincioaia**	**43.80**	**306**⇑	*i*P	**P**	**03 24 25.8**	**+1.4**
PLOR	**Plostina**	**43.86**	**306**⇑	*i*P	**P**	**03 24 25.5**	**+0.7**
MLR	**Muntele Rosu**	**44.34**	**306**⇓	*i*P	**P**	**03 24 30.2**	**+1.4**
FINES	**FINESS Array B**	**46.84**	**328**	P	**P**	**03 24 48.1**	**0.0**
	comp=Z,2.3nm,0.4s,baz=121,slow=8.6,SNR=34						
SIRR	**Siria**	**47.34**	**307**⇑	*i*P	**P**	**03 24 54.0**	**+1.7**
BZS	**Buzias**	**47.38**	**306**⇓	*i*P	**P**	**03 24 53.1**	**+0.4**
PKSM	**Moragy**	**49.43**	**307**⇑	*i*P	**P**	**03 25 08.6**	**+0.2**
ARCES	**ARCESS Array B**	**49.86**	**338**	P	**P**	**03 25 11.9**	**+0.5**
	comp=Z,4.5nm,0.6s,baz=119,slow=8.3,SNR=44						
MORC	**Moravsky Berou**	**50.04**	**312**	⇓*i*P	**P**	**03 25 14.0**	**+0.9**
MORC	**Moravsky Berou**	**50.04**	**312**	*e*P	**P**	**03 25 13.2**	**+0.1**
	comp=Z,11nm,0.6s						
ASAJ	**Asahikawa**	**51.02**	**56**	LR	LR	03 50 08.0	
	comp=Z,237nm,18.6s,slow=40						
BRG	**Berggiesshubel**	**52.31**	**313**	*e*P	**P**	**03 25 30.5**	**+0.5**
	comp=Z,3.3nm,0.6s						
GERES	**GERESS Array B**	**52.59**	**311**	P	**P**	**03 25 32.1**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=81,slow=6.5,SNR=11						
NB2	**NORSAR Subarra**	**53.84**	**326**	P	**P**	**03 25 40.2**	**-1.0**
	comp=Z,2.3nm,0.7s,baz=95,slow=7.4						
NOA	**NORSAR Array B**	**53.84**	**326**	P	**P**	**03 25 40.5**	**-0.7**
	comp=Z,2.3nm,0.8s,baz=93,slow=7.3,SNR=7.9						
KEST	**Kesra**	**58.16**	**296**	P	**P**	**03 26 12.3**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=292,slow=1.9,SNR=8.3						
JMIC	**Jan Mayen**	**61.35**	**338**	LR	LR	03 51 56.6	
	comp=Z,22nm,18.1s,baz=266,slow=35						
ESDC	**Sonseca Array**	**66.96**	**304**	P	**P**	**03 27 10.8**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=62,slow=6.7,SNR=13						
WRA	**Warramunga Arr**	**72.39**	**126**	P	**P**	**03 27 44.6**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=322,slow=6.1,SNR=44						
WRAB	**Tennant Creek**	**72.39**	**126**	*e*P	**P**	**03 27 44.5**	**-0.4**
	comp=Z,24nm,1.6s						
TORD	**Torodi Ar. Bea**	**73.18**	**276**	P	**P**	**03 27 49.2**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=51,slow=5.5,SNR=24						
AS31	**Alice Springs**	**74.60**	**129**	*e*P	**P**	**03 27 57.5**	**-0.4**
ASAR	**Alice Springs**	**74.60**	**129**	P	**P**	**03 27 57.5**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=311,slow=5.8,SNR=12						
LBTB	**Lobatse**	**75.34**	**229**	*e*P	**P**	**03 28 02.2**	**-0.1**
	comp=Z,7.3nm,0.6s						
PMG	**Port Moresby**	**75.75**	**110**	*e*P	**P**	**03 28 04.8**	**+0.1**
	comp=Z,9.6nm,0.8s						
COLA	**College**	**78.49**	**19**	*e*P	**P**	**03 28 18.9**	**-0.4**
	comp=Z,3.2nm,0.6s						
ILAR	**Eielson Array**	**78.83**	**18**	P	**P**	**03 28 20.4**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=312,slow=5.2,SNR=23						
INK	**Inuvik**	**78.94**	**12**	*e*P	**P**	**03 28 20.6**	**-1.1**
	comp=Z,1.3nm,0.5s						
DBIC	**Dimbokro**	**81.93**	**273**	P	**P**	**03 28 38.8**	**+0.1**
	comp=Z,4.7nm,0.7s,baz=37,slow=8.8,SNR=4.1						
YKA	**Yellowknife Ar**	**87.11**	**7**	P	**P**	**03 29 03.0**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=343,slow=4.9,SNR=3.0						
TRQA	**Tornquist**	**147.36**	**245**	*e*PKPbc	**PKPbc**	**03 36 03.1**	**+0.7**
LPAZ	**La Paz**	**147.48**	**288**	PKPbc	**PKPbc**	**03 36 03.0**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=294,slow=1.9,SNR=4.8						
LVC	**Limon Verde**	**150.91**	**277**	*e*PKPbc	**PKPbc**	**03 36 13.2**	**+1.1**

DJA 10 03:29:41.6±1.0,8˚S±10˚×10˚7E±˚,h28km±9km,M3.6/7, MLv3.6/7,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNJI	**Cibinong**	**0.50**	**54**	P	Pn	03 29 53.0	0.0
CNJI				S	Sn	03 30 00.8	+0.1
SKJI	**Sukabumi**	**0.62**	**345**	P	Pb	03 29 54.3	+0.3
SKJI				S	Sn	03 30 03.4	-0.3
CISI	**Cisompet, Garu**	**1.09**	**87**	P	Pn	03 30 00.9	-0.2
CISI				S	Sn	03 30 14.7	-0.6
LEM	**Lembang**	**1.18**	**49**	P	Pb	03 30 03.1	-0.5
CGJI	**Cibinong**	**1.42**	**314**	P	Pn	03 30 05.2	-0.4
CMJI	**Cimerak**	**1.72**	**96**	P	Pn	03 30 09.0	-0.7

ISCJB ***10*** *03:36:07.4±0.5,39˚.34N±0˚.08×29˚.82W±0˚.05,h10km, mb3.4/4,M

PSMN					A	A	03 38 09.0	
	17nm,0.4s							
PSMN	**Pico do Norte,**	**4.44**	**122**	*eP*		**Pn**	**03 37 15.3**	**+1.6**
PSMN				*eS*		**Sn**	**03 38 03.2**	**-2.2**
ESDC	**Sonseca Array**	**19.90**	**81**	P		Pn	03 40 47.7	+8.1
	0.6nm,0.7s,baz=290,slow=10,SNR=5.3							
TORD	**Torodi Ar. Bea**	**38.15**	**125**	P		P	03 43 30.2	+4.3
	0.4nm,0.9s,baz=315,slow=6.9,SNR=3.7							
AKTO	**Aktyubinsk**	**59.65**	**48**	LR		LR	04 12 06.8	
	comp=Z,22nm,18.2s,baz=245,slow=36							
TXAR	**Lajitas Array**	**60.26**	**285**	P		P	03 46 20.0	+5.0
	0.2nm,0.5s,baz=83,slow=7.5,SNR=2.7							
KURBB	**Kurchatov Arra**	**70.58**	**40**	P		P	03 47 27.9	+6.5
	0.3nm,0.5s,baz=316,slow=6.5,SNR=3.1							
ZALV	**Zalesovo Beam**	**71.36**	**35**	LR		LR	04 19 35.5	
	comp=Z,10.0nm,18.7s,baz=70,slow=36							
MKAR	**Makanchi Array**	**74.96**	**41**	P		P	03 47 53.6	+6.0
	0.4nm,0.6s,baz=306,slow=6.1,SNR=3.7							

IDC 10 03:36:53.0±1.8, 5.53S×153.89E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/33, mbtmp3.5/3, Error ellipse: s-maj=73.8km s-min=33.8km az=114.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.80**	**231**	P		P	03 42 08.1	+0.2
	0.6nm,0.7s,baz=57,slow=10.0,SNR=6.4							
WRA				PcP		PcP	03 45 51.4	-0.2
	0.4nm,0.6s,baz=55,slow=2.6,SNR=10							
ASAR	**Alice Springs**	**26.37**	**225**	P		P	03 42 31.8	+0.5
	0.6nm,0.6s,baz=61,slow=8.5,SNR=5.7							
ASAR				PcP		PcP	03 45 57.1	-0.3
	0.8nm,0.6s,baz=68,slow=2.6,SNR=9.8							
MKAR	**Makanchi Array**	**81.58**	**319**	P		P	03 49 13.9	+0.9
	0.3nm,0.5s,baz=105,slow=5.1,SNR=3.6							
TORD	**Torodi Ar. Bea**	**151.56**	**287**	PKPbc		PKPbc	03 56 49.5	-0.9
	0.6nm,0.6s,baz=91,slow=2.2,SNR=15							
TORD				PKPab		PKPab	03 56 57.1	-1.7
	0.4nm,0.7s,baz=74,slow=3.2,SNR=6.6							

*ISCJB **10** 03:38:53.3±0.3, 51.50N±0.02×16.13E±0.03, h0km, mb3.0/1, MS2.3/1, Error ellipse: s-maj=2.4km s-min=2.3km az=145.6*
*CSEM **10** 03:38:55.5±0.1, 51.48N×16.05E, h2km, ML3.5/12, Error ellipse: s-maj=2.9km s-min=2.4km az=87.0, Suspected Mining explosion.*
*IDC **10** 03:38:56.2±0.7, 51.48N×15.92E, h0km, mb3.5/1, mb1 3.3/10, mb1mx3.2/51, mbtmp3.2/10, ML2.9/9, MS2.4/2, Ms1 2.4/2, ms1mx1.9/39, Error ellipse: s-maj=14.1km s-min=7.3km az=106.0*
*VIE **10** 03:38:57.9±0.5, 51.29N×16.09E, h0km, mb2.5/4, ml3.1/4, Error ellipse: s-maj=3.7km s-min=3.0km az=25.0, Suspected Mining induced.*
*UPP **10** 03:39:01.0, 51.82N×15.59E, h0km, ML1.7, Suspected Mining explosion.*

ISC 10 03:38:54.7±0.7, 51.51N±0.03×16.06E±0.02, h0km, n77, σ1s19/127, 4C, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.69**	**167**	*e*Pg		**Pg**	**03 39 08.7**	**+0.9**
KSP				*e*Sg		**Sg**	**03 39 17.7**	**+1.0**
KSP				*e*			03 39 20.6	
KSP	**Ksiaz**	**0.69**	**167**	*e*Pg		**Pg**	**03 39 08.7**	**+0.9**
KSP				*e*Sg		**Sg**	**03 39 17.7**	**+1.0**
UPC	**Upice**	**1.01**	**182**	*e*PG		**Pg**	**03 39 14.4**	**+0.5**
UPC				*e*SG		**Sg**	**03 39 26.2**	**-0.8**
	comp=Z,112nm,0.3s							
UPC	**Upice**	**1.01**	**182**	Pg		**Pg**	**03 39 14.4**	**+0.5**
UPC				Sg		**Sg**	**03 39 26.2**	**-0.8**
	112nm,0.3s							
DPC	**Dobruska-Polom**	**1.18**	**172**	*e*PG		**Pg**	**03 39 17.2**	**0.0**
DPC				*e*SG		**Sg**	**03 39 31.1**	**-1.3**
	comp=Z,51nm,0.3s							
DPC	**Dobruska-Polom**	**1.18**	**172**	Pg		**Pg**	**03 39 17.2**	**0.0**
DPC				Sg		**Sg**	**03 39 31.1**	**-1.3**
	51nm,0.3s							
PVCC	**Panska Ves**	**1.36**	**224**	*e*PG		**Pb**	**03 39 21.9**	**+0.9**
PVCC				*e*SG		**Sn**	**03 39 40.0**	**+0.3**
	comp=Z,208nm,0.2s							
PVCC	**Panska Ves**	**1.36**	**224**	Pg		**Pb**	**03 39 21.9**	**+0.9**
PVCC				Sg		**Sn**	**03 39 40.0**	**+0.3**
	208nm,0.2s							
BRG	**Berggiesshubel**	**1.48**	**245**	PN		**Pb**	**03 39 23.1**	**+0.2**
BRG				PG		**Pg**	**03 39 24.7**	**+1.8**
BRG				SG		**Sn**	**03 39 44.4**	**+1.9**
	72nm,0.6s							
KRLC	**Kraliky**	**1.51**	**162**	*e*PG		**Pn**	**03 39 23.1**	**+0.1**
KRLC				*e*SG		**Sg**	**03 39 41.9**	**-1.3**
KRLC	**Kraliky**	**1.51**	**162**	Pg		**Pn**	**03 39 23.1**	**+0.1**
KRLC				Sg		**Sg**	**03 39 41.9**	**-1.3**
PRA	**Prague**	**1.77**	**216**	*e*PN		**Pn**	**03 39 27.2**	**+0.6**
PRA				*e*PG		**Pg**	**03 39 29.1**	**+0.5**
PRA				*e*SG		**Sg**	**03 39 52.4**	**+0.8**
	comp=Z,23nm,0.3s							
PRA	**Prague**	**1.77**	**216**	Pn		**Pn**	**03 39 27.2**	**+0.6**
GOPC	**GO Pecny, Ondr**	**1.79**	**207**	*e*PN		**Pn**	**03 39 27.1**	**+0.2**
GOPC				*e*PG		**Pb**	**03 39 29.0**	**+0.6**
GOPC				*e*SG		**Sg**	**03 39 52.4**	**+0.2**
	comp=Z,19nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.79**	**207**	Pn		**Pn**	**03 39 27.1**	**+0.2**
GOPC	**GO Pecny, Ondr**	**1.79**	**207**	Pg		**Pn**	**03 39 29.0**	**+0.6**
GOPC				Sg		**Sg**	**03 39 52.4**	**+0.2**
	19nm,0.2s							
PRU	**Pruhonice**	**1.80**	**213**	*e*PN		**Pn**	**03 39 27.3**	**+0.3**
PRU				*e*PG		**Pg**	**03 39 29.3**	**+0.1**
PRU				*e*SG		**Sg**	**03 52.9**	**+0.3**
	comp=Z,27nm,0.3s							
PRU	**Pruhonice**	**1.80**	**213**	Pn		**Pn**	**03 39 27.3**	**+0.3**
PRU	**Pruhonice**	**1.80**	**213**	Pg		**Pg**	**03 39 29.3**	**+0.1**
PRU				Sg		**Sg**	**03 52.9**	**+0.3**
	27nm,0.3s							
CLL	**Collm**	**1.92**	**265**	*i* Pn		**Pn**	**03 39 29.2**	**+0.6**
	comp=Z,5.0nm,0.8s							
CLL				*i* Pg		**Pg**	**03 39 32.3**	**+0.8**
CLL				*i*			03 39 36.5	
CLL				*e*			03 39 49.0	
CLL				*i* Sg		**Sg**	**03 39 58.6**	**+2.2**
	comp=Z,41nm,0.9s							
MORC	**Moravsky Berou**	**1.98**	**151**	*e*Pn		**Pn**	**03 39 29.5**	**0.0**
MORC				*e*Sg		**Sn**	**03 39 55.9**	**+0.9**
OKC	**Ostrava-Krasne**	**2.14**	**141**	*e*PN		**Pn**	**03 39 31.2**	**-0.4**
OKC				*e*PG		**Pb**	**03 39 34.5**	**+0.2**
OKC				*e*SG		**Sb**	**03 40 01.7**	**+0.3**
	comp=Z,38nm,0.4s							
OKC	**Ostrava-Krasne**	**2.14**	**141**	Pn		**Pn**	**03 39 31.2**	**-0.4**
OKC	**Ostrava-Krasne**	**2.14**	**141**	Pg		**Pb**	**03 39 34.5**	**+0.2**
OKC				Sg		**Sb**	**03 40 01.7**	**+0.3**
	comp=Z,38nm,0.4s							
VRAC	**Vranov**	**2.23**	**171**	Pn		**Pn**	**03 39 33.7**	**+0.7**
	comp=Z,1.3nm,0.3s,baz=332,slow=16,SNR=16							
VRAC				Lg		Lg	03 40 05.0	
	comp=Z,7.8nm,0.3s,baz=280,slow=23,SNR=16							
VRAC	**Vranov**	**2.23**	**171**	*e*Pn		**Pn**	**03 39 33.8**	**+0.9**
VRAC				*e*Sg		**Sb**	**03 40 03.6**	**-0.5**
TREC	**Trest**	**2.25**	**190**	*e*PN		**Pn**	**03 39 33.8**	**+0.6**
TREC				*e*PG		**Pb**	**03 39 36.8**	**+0.6**
TREC				*e*SG		**Sb**	**03 40 05.9**	**+1.3**
	comp=Z,24nm,0.2s							
TREC	**Trest**	**2.25**	**190**	Pn		**Pn**	**03 39 33.8**	**+0.6**
NKC	**Novy Kostel**	**2.62**	**242**	*e*PN		**Pn**	**03 39 39.7**	**+1.5**
NKC				*e*PG		**Pg**	**03 39 45.4**	**+0.6**
NKC				*e*SG		**Sg**	**03 40 20.8**	**+2.0**
	comp=Z,46nm,0.4s							
NKC	**Novy Kostel**	**2.62**	**242**	Pn		**Pn**	**03 39 39.7**	**+1.5**
OJC	**Ojcow**	**2.70**	**117**	*e*Pg		**Pg**	**03 39 47.1**	**+0.7**
OJC				*e*Sg		**Sg**	**03 40 22.1**	**+0.7**
OJC	**Ojcow**	**2.70**	**117**	*e*Pg		**Pg**	**03 39 47.1**	**+0.7**
OJC				*e*Sg		**Sg**	**03 40 22.1**	**+0.7**
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PN		**Pn**	**03 39 42.4**	**+0.8**
KHC				*e*PG		**Pg**	**03 39 48.5**	**-1.0**
KHC				*e*SN		**Sn**	**03 40 16.9**	**+0.1**
KHC				*e*SG		**Sg**	**03 40 26.6**	**0.0**
	comp=Z,10nm,0.3s							
KHC	**Kasperske Hory**	**2.87**	**215**	Pn		**Pn**	**03 39 42.4**	**+0.8**
GERES	**GERESS Array B**	**3.07**	**210**	Pn		**Pn**	**03 39 45.1**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=25,slow=13,SNR=21							
GERES				Pg		**Pb**	**03 39 51.2**	**+1.0**
	comp=Z,2.3nm,0.3s,baz=32,slow=14,SNR=50							
GERES				Sn		**Sn**	**03 40 22.9**	**+0.9**
	comp=Z,1.9nm,0.3s,baz=30,slow=25,SNR=4.4							
GERES				Lg		Lg	03 40 30.1	
	comp=Z,4.5nm,0.3s,baz=34,slow=29,SNR=7.6							
LANS	**Liptovska Anna**	**3.22**	**136**	*e*Sg		**Sg**	**03 40 37.9**	**-0.2**
LANS	**Liptovska Anna**	**3.22**	**136**	*e*SG		**Sg**	**03 40 37.9**	**-0.2**
ZST	**Bratislava**	**3.39**	**168**	*e*Sg		**Sg**	**03 40 41.9**	**-1.6**
ZST	**Bratislava**	**3.39**	**168**	*e*SG		**Sg**	**03 40 41.9**	**-1.6**
CONA	**Conrad Observa**	**3.59**	**182**	*i* Pn		**Pn**	**03 39 52.0**	**+0.4**
CONA				↑↑ *i* Sg		**Sg**	**03 40 49.4**	**-0.6**
	comp=Z,19nm,0.4s							
CONA	**Conrad Observa**	**3.59**	**182**	Pn		**Pn**	**03 39 52.0**	**+0.4**
CONA				Sg		**Sg**	**03 40 49.4**	**-0.6**
	comp=Z,19nm,0.4s							
BSD	**Bornholm Skovb**	**3.67**	**350**	*i* P		**Pn**	**03 39 53.3**	**+0.7**
BSD				*i* S		**Sn**	**03 40 34.7**	**-1.9**
MOA	**Molln**	**3.85**	**198**	↑↑ *i* Pn		**Pn**	**03 39 55.7**	**+0.6**
MOA				↑↑ *i* Sg		**Sg**	**03 40 58.3**	**+0.1**
	comp=Z,31nm,0.6s							
MOA	**Molln**	**3.85**	**198**	Pn		**Pn**	**03 39 55.7**	**+0.6**
MOA				Sg		**Sg**	**03 40 58.3**	**+0.1**
	comp=Z,31nm,0.6s							
STHS	**Stebnicka Huta**	**3.92**	**120**	*e*Pn		**Pn**	**03 39 57.4**	**+1.3**
STHS	**Stebnicka Huta**	**3.92**	**120**	*e*Pg		**Pg**	**03 40 11.6**	**+1.8**
STHS				*e*Sg		**Sg**	**03 41 03.6**	**+3.0**
STHS	**Stebnicka Huta**	**3.92**	**120**	*e*PN		**Pn**	**03 39 57.4**	**+1.3**
STHS				*e*PG		**Pg**	**03 40 11.6**	**+1.8**
STHS				*e*SG		**Sg**	**03 41 03.6**	**+3.0**
KECS	**Kecovo**	**4.17**	**135**	*e*Pg		**Pg**	**03 40 15.9**	**+1.4**
KECS				*e*Sg		**Sg**	**03 41 07.3**	**-1.2**
KECS	**Kecovo**	**4.17**	**135**	*e*PG		**Pg**	**03 40 15.9**	**+1.4**
KECS				*e*SG		**Sg**	**03 41 07.3**	**-1.2**
KOLS	**Kolonicke sedl**	**4.75**	**120**	*e*Pg		**Pg**	**03 40 27.0**	**+1.3**
KOLS				*e*Sg		**Sg**	**03 41 30.4**	**+3.1**
KOLS	**Kolonicke sedl**	**4.75**	**120**	*e*PG		**Pg**	**03 40 27.0**	**+1.3**
KOLS				*e*SG		**Sg**	**03 41 30.4**	**+3.1**
BLEU	**Blekinge**	**4.80**	**358**	P		**Pn**	**03 40 09.2**	**+1.0**
BLEU	**Blekinge**	**4.80**	**358**	P		**Pn**	**03 40 09.2**	**+1.0**
BLEU				S		**Sn**	**03 41 02.2**	**-2.3**
DEL	**Delary**	**5.13**	**346**	P		**Pn**	**03 40 12.9**	**+0.2**
DEL	**Delary**	**5.13**	**346**	P		**Pn**	**03 40 12.9**	**+0.2**
VXJU	**Vaexsjoe**	**5.46**	**354**	P		**Pn**	**03 40 18.0**	**+0.8**
VXJU	**Vaexsjoe**	**5.46**	**354**	P		**Pn**	**03 40 18.0**	**+0.8**
OSKU	**Oskarshamn**	**5.69**	**0**	P		**Pn**	**03 40 21.3**	**+0.9**
OSKU	**Oskarshamn**	**5.69**	**0**	P		**Pn**	**03 40 21.3**	**+0.9**
FABU	**Falkenberg**	**5.84**	**342**	P		**Pn**	**03 40 22.6**	**+0.3**
FABU	**Falkenberg**	**5.84**	**342**	P		**Pn**	**03 40 22.6**	**+0.3**
ASPU	**Aespoe**	**5.93**	**3**	P		**Pn**	**03 40 25.0**	**+1.4**
ASPU	**Aespoe**	**5.93**	**3**	P		**Pn**	**03 40 25.0**	**+1.4**
EKSU	**Eksjoe**	**6.09**	**356**	P		**Pn**	**03 40 26.8**	**+1.0**
EKSU	**Eksjoe**	**6.09**	**356**	P		**Pn**	**03 40 26.8**	**+1.0**
VSTU	**Vaestervik**	**6.17**	**2**	P		**Pn**	**03 40 28.1**	**+1.2**
VSTU	**Vaestervik**	**6.17**	**2**	P		**Pn**	**03 40 28.1**	**+1.2**
DAVOX	**Davos/Dischmat**	**6.23**	**223**	Pn		**Pn**	**03 40 28.3**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=34,slow=7.3,SNR=3.0							
DAVOX				Sn		**Sn**	**03 41 35.6**	**-4.4**
	comp=Z,0.1nm,0.3s,baz=343,slow=19,SNR=2.0							
DAVOX				Lg		Lg	03 42 13.1	
	comp=Z,0.2nm,0.3s,baz=229,slow=19,SNR=3.0							
AKASG	**Malin Array Be**	**8.33**	**90**	Pn		**Pn**	**03 40 55.4**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=280,slow=12,SNR=4.6							
AKASG				Lg		Lg	03 43 25.4	
	baz=280,slow=26,SNR=3.3							
HFS	**Hagfors**	**8.74**	**352**	Pn		**Pn**	**03 41 02.2**	**0.0**
	comp=Z,0.1nm,0.3s,baz=155,slow=11,SNR=3.2							
HFS				Sn		Sn	03 42 32.6	-8.7
	comp=Z,0.0nm,0.3s,baz=184,slow=20,SNR=3.5							
NOA	**NORSAR Array B**	**9.92**	**346**	Pn		**Pn**	**03 41 17.1**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=180,slow=6.1,SNR=2.2							
NOA				Sn		Sn	03 43 01.7	-8.6
	comp=Z,0.1nm,0.3s,baz=221,slow=14,SNR=2.6							
FINES	**FINESS Array B**	**11.37**	**25**	Pn		**Pn**	**03 41 36.5**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=212,slow=12,SNR=8.5							
FINES				Sn		Sn	03 43 35.5	-10
	comp=Z,0.1nm,0.3s,baz=200,slow=22,SNR=2.6							
EKA	**Eskdalemuir Ar**	**12.07**	**296**	Pn		**Pn**	**03 41 47.4**	**-0.4**
	baz=99,slow=13,SNR=2.5							
KEST	**Kesra**	**16.49**	**200**	LR		LR	03 48 09.4	
	comp=Z,9.6nm,20.0s,baz=260,slow=34							
ARCES	**ARCESS Array B**	**18.63**	**10**	Pn		**P**	**03 43 09.8**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=198,slow=12,SNR=7.0							
GNI	**Garni**	**22.84**	**109**	LR		LR	03 55 32.6	
	comp=Z,12nm,19.9s,baz=297,slow=44							
TORD	**Torodi Ar. Bea**	**39.99**	**202**	P		**P**	**03 46 31.8**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=19,slow=11,SNR=2.8							

IDC 10 04:12:24.7±9.1, 13.00S×169.22E, h571km±91km, mb3.1/4, mb1 3.4/4, mb1mx3.0/32, mbtmp4.1/4, Error ellipse: s-maj=88.3km s-min=39.2km az=123.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**34.10**	**254**	P		P	04 18 22.7	-0.3
	2.1nm,0.3s,baz=84,slow=8.6,SNR=82							
WRA				PcP		PcP	04 20 43.2	-0.5
	0.2nm,0.4s,baz=82,slow=3.7,SNR=3.3							
ASAR	**Alice Springs**	**35.07**	**247**	P		P	04 18 31.1	0.0
	3.5nm,0.5s,baz=73,slow=9.8,SNR=66							
SONM	**Songino Array**	**82.25**	**323**	P		P	04 23 47.3	+0.3
	0.3nm,0.7s,baz=129,slow=4.6,SNR=2.6							
ILAR	**Eielson Array**	**84.31**	**17**	P		P	04 23 56.9	+0.2
	0.6nm,0.5s,baz=238,slow=5.0,SNR=10							
ARCES	**ARCESS Array B**	**119.05**	**346**	PKP		PKPdf	04 30 07.8	-0.7
	1.4nm,0.9s,baz=57,slow=3.3,SNR=7.3							

*IDC **10** 04:20:31.0±1.9, 24.07S×179.92W, h490km±17km, mb3.7/12, mb1 3.8/13, mb1mx3.5/28, mbtmp4.5/13, Error ellipse: s-maj=20.3km s-min=15.4km az=69.0*
*ISCJB **10** 04:20:32.3±0.8, 24.14S±0.08×180.0W±0.1, h518km, mb4.1/11, Error ellipse: s-maj=14.7km s-min=9.9km az=172.6*

ISC 10 04:20:33.5±0.8, 24.24S±0.10×179.9W±0.1, h518km, n38, σ1s15/42, mb4.2/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.72**	**277**	P		**P**	**04 23 20.8**	**+1.0**
	1.0nm,0.3s,baz=90,slow=20,SNR=8.9							
URZ	**Urewera**	**14.20**	**190**	P		**P**	**04 23 34.0**	**-0.9**
	2.3nm,0.3s,baz=265,slow=3.0,SNR=13							
URZ				S		**S**	**04 26 03.3**	**-1.2**
	1.2nm,0.3s,baz=221,slow=15,SNR=11							
RPZ	**Rata Peaks**	**20.79**	**199**	P		**P**	**04 24 38.4**	**+0.3**
	3.5nm,0.5s,baz=357,slow=19,SNR=4.5							
ARMA	**Armidale**	**25.96**	**250**	P		**P**	**04 25 26.2**	**+1.6**
	baz=26,SNR=5.9							
EIDS	**Eidsvold**	**26.32**	**261**	P		**P**	**04 25 28.1**	**+0.4**
	baz=27,SNR=6.1							
MGCD	**Mangrove Creek**	**26.85**	**244**	P		**P**	**04 25 34.0**	**+1.7**
	baz=27,SNR=4.8							
RMQ	**Roma**	**28.35**	**259**	P		**P**	**04 25 47.0**	**+1.4**
	baz=29,SNR=4.2							
CNB	**Canberra Magne**	**28.74**	**240**	P		**P**	**04 25 50.4**	**+1.5**
	baz=29,SNR=4.6							
CMSA	**Cobar Meteorol**	**31.15**	**249**	P		**P**	**04 26 10.1**	**+0.4**
	baz=32,SNR=13							
CTA	**Charters Tower**	**31.54**	**271**	P		**P**	**04 26 13.4**	**+0.1**
	25nm,0.4s,baz=92,slow=11,SNR=44							
QLP	**Quilpie**	**32.39**	**258**	P		**P**	**04 26 20.4**	**0.0**
	baz=33,SNR=7.0							
MTSU	**Mount Surprise**	**33.82**	**273**	P		**P**	**04 26 32.9**	**+0.3**
	baz=34,SNR=20							
STKA	**Stephens Creek**	**34.66**	**249**	P		**P**	**04 26 39.7**	**+0.2**
	4.1nm,0.5s,baz=91,slow=9.7,SNR=4.5							
COEN	**Coen**	**36.23**	**280**	P		**P**	**04 26 52.8**	**+0.1**
	baz=37,SNR=6.9							
HTT	**Hallett**	**36.99**	**246**	P		**P**	**04 26 59.1**	**+0.2**
	baz=38,SNR=4.6							
QIS	**Mount Isa**	**37.50**	**267**	P		**P**	**04 27 03.5**	**+0.4**
	baz=38,SNR=3.7							
BBOO	**Buckleboo**	**39.37**	**247**	P		**P**	**04 27 17.6**	**-0.5**
	baz=40,SNR=17							
ASAR	**Alice Springs**	**42.04**	**261**	P		**P**	**04 27 39.1**	**-0.6**
	4.9nm,0.5s,baz=93,slow=7.4,SNR=64							
ASAR				ScP		**ScP**	**04 32 26.4**	**+2.7**
	0.2nm,0.4s,baz=102,slow=4.5,SNR=5.4							
WRA	**Warramunga Arr**	**42.45**	**266**	P		**P**	**04 27 41.8**	**-1.1**
	8.3nm,0.4s,baz=96,slow=8.3,SNR=393							
WRA				ScP		**ScP**	**04 32 29.2**	**+3.8**
	1.0nm,0.8s,baz=97,slow=3.9,SNR=4.8							
JAY	**Jayapura**	**43.71**	**294**	P		**P**	**04 27 51.6**	**-1.2**
	7.8nm,0.5s,baz=114,slow=5.0,SNR=8.3							
FORT	**Forrest**	**46.25**	**250**	P		**P**	**04 28 11.4**	**-0.7**
	baz=47,SNR=10							
KDU	**Kakadu**	**46.38**	**276**	P		**P**	**04 28 12.0**	**-1.3**
	baz=47,SNR=6.8							
WRKA	**Warakurna**	**46.83**	**258**	P		**P**	**04 28 16.1**	**-0.5**
	baz=47,SNR=11							
KNRA	**Kununurra**	**48.75**	**270**	P		**P**	**04 28 30.6**	**-0.4**
	baz=49,SNR=9.3							
KLBR	**Kellerberrin**	**54.92**	**247**	P		**P**	**04 29 14.8**	**-0.6**
	baz=55,SNR=5.1							
MEEK	**Meekatharra**	**55.08**	**254**	P		**P**	**04 29 15.7**	**-0.9**
	baz=56,SNR=4.3							
BLDU	**Ballidu**	**55.96**	**248**	P		**P**	**04 29 22.0**	**-0.7**
	baz=56,SNR=13							
MORW	**Morawa**	**56.82**	**250**	P		**P**	**04 29 28.3**	**-0.3**
	baz=57,SNR=5.1							
QSPA	**South Pole Qui**	**65.84**	**180**	P		**P**	**04 30 28.3**	**+1.0**
	2.4nm,0.6s,baz=298,slow=1.5,SNR=17							
MJAR	**Matsushiro Arr**	**72.21**	**326**	P		**P**	**04 31 04.6**	**-1.2**
	1.1nm,0.6s,baz=162,slow=5.3,SNR=4.2							
KSRS	**Korea Array**	**78.55**	**320**	P		**P**	**04 31 40.4**	**-0.7**
	1.4nm,0.6s,baz=137,slow=6.0,SNR=6.1							
PETK	**Petropavlovsk-**	**79.44**	**347**	P		**P**	**04 31 45.0**	**-0.5**
	1.5nm,0.5s,baz=133,slow=5.7,SNR=2.6							
CMAR	**Chiang Mai Arr**	**89.70**	**290**	P		**P**	**04 32 37.7**	**+1.0**
	1.5nm,0.3s,baz=123,slow=3.3,SNR=4.8							
TXAR	**Lajitas Array**	**90.56**	**58**	P		**P**	**04 32 41.0**	**+0.5**
	0.4nm,0.8s,baz=260,slow=5.0,SNR=4.4							
FINES	**FINESS Array B**	**138.79**	**341**	PKHKP		PKPpre	04 38 49.1	
	3.6nm,1.1s,baz=114,slow=1.7,SNR=3.8							
FINES				SKPbc		**SKPbc**	**04 41 46.9**	**+1.0**
	0.6nm,0.6s,baz=57,slow=5.1,SNR=3.5							
AKASG	**Malin Array Be**	**145.29**	**327**	PKPbc		**PKPdf**	**04 39 11.2**	**-0.6**
	1.0nm,0.3s,baz=46,slow=4.4,SNR=6.7							
AKASG				SKPbc		**SKiKP**	**04 42 03.7**	**+0.8**
	0.9nm,0.6s,baz=49,slow=3.6,SNR=6.5							
BRTR	**Keskin Array B**	**147.83**	**307**	PKPbc		**PKPbc**	**04 39 19.1**	**-1.2**
	0.9nm,0.7s,baz=120,slow=5.0,SNR=5.4							
BRG	**Berggiesshubel**	**151.33**	**342**	*e*P		**PKPbc**	**04 39 27.7**	**-0.5**
	2.0nm,0.5s							

IDC 10 04:43:03.3±7.4, 17.57S×178.26W, h508km±77km, mb2.8/5, mb1 3.2/5, mb1mx3.0/21, mbtmp3.7/5, Error ellipse: s-maj=131.2km s-min=24.3km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.84**	**259**	P		P	04 50 31.0	-1.0
	0.3nm,0.4s,baz=94,slow=7.6,SNR=3.9							
WRA				PcP		PcP	04 52 02.6	-0.5
	0.4nm,0.4s,baz=92,slow=3.3,SNR=8.4							
ASAR	**Alice Springs**	**45.02**	**254**	P		P	04 50 34.0	+0.5
	2.1nm,0.5s,baz=89,slow=8.4,SNR=43							
ASAR				PcP		PcP	04 52 03.2	-0.6
	0.8nm,0.5s,baz=97,slow=4.0,SNR=8.8							
NVAR	**Mina Array Bea**	**79.08**	**44**	P		P	04 54 14.8	-0.3
	0.2nm,0.4s,baz=216,slow=7.2,SNR=3.7							
TXAR	**Lajitas Array**	**85.69**	**58**	P		P	04 54 48.9	+0.3
	0.5nm,0.9s,baz=240,slow=7.1,SNR=4.2							
PDAR	**Pinedale Array**	**87.01**	**43**	P		P	04 54 54.3	-0.4
	0.3nm,0.8s,baz=227,slow=3.6,SNR=2.8							
GERES	**GERESS Array B**	**147.32**	**345**	PKPbc		PKPbc	05 01 49.4	-0.2
	0.4nm,0.5s,baz=24,slow=2.7,SNR=4.5							

**K

CFAA	**Coronel Fontan**	**3.84**	**56**	*e*P	**Pn**	**05 12 50.1 +2.0**
AMOG	**MOGNA**	**4.11**	**47**	*e*P	**Pn**	**05 12 53.1 +1.2**
AVFE	**Valle Fertil**	**4.95**	**52**	*e*P	Pn	05 13 07.1 +3.6
AVFE				*e*S	**Sb**	**05 14 11.2 -4.2**
ACLC	**CERRO LA CRUZ**	**6.12**	**46**	*e*P	Pn	05 13 24.1 +4.5
CYA	**Choya**	**7.52**	**46**	*e*P	**Pn**	**05 13 39.6 +0.9**

BJI ***10*** *05:39:39.5, 13.˚91N×145.˚35E, h136km, mb5.4/74, mB5.4/51*

ISCJB ***10*** *05:39:42.4±0.4, 14.˚04N±0.˚02×144.˚99E±0.˚02, h140km±4km, mb5.4/291, Error ellipse: s-maj=3.6km s-min=2.8km az=176.8*

MOS ***10*** *05:39:42.3±1.1, 14.˚10N×144.˚93E, h141km, mb5.5/78, MS4.7/11, Error ellipse: s-maj=7.6km s-min=4.5km az=106.2*

NEIC ***10*** *05:39:43.1±0.1, 14.˚01N×145.˚03E, h136km, mb5.6/190, ME5.6, MW5.5, Error ellipse: s-maj=3.8km s-min=3.3km az=121.0, Moment Tensor Solution. s39 Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.62; $M_{\phi\phi}$-0.62; $M_{r\theta}$2.27; $M_{\theta\phi}$-1.07; $M_{\phi r}$0.49; Best double couple: M_o2.60000×10^{17} NP1:ϕ_s166.00000°, δ28.00000°, λ0.00000°. NP2: ϕ_s256.00000°, δ90.00000°, λ-118.00000°. Principal axes: T 2.6800, Plg38.0000°, Azm11.0000°; N -0.0900, Plg28.0000°, Azm256.0000°; P -2.5800, Plg38.0000°, Azm141.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC *Felt [IV] at Barrigada, Dededo, Hagatna Heights, Mangilao and Tamuning; [III] at Andersen AFB, Hagatna, Santa Rita and Yigo, Guam. Also felt at Apra Heights, Barrigada Heights, Chalan Pago, Latte Heights Estates, Talofofo and Yona. Felt [III] on Saipan, Northern Mariana Islands. Also felt on Rota and Tinian.*

IDC ***10*** *05:39:43.6±0.5, 14.˚03N×144.˚96E, h141km±3km, mb5.0/36, mb1 5.0/38, mb1mx5.0/39, mbtmp5.3/38, MS4.4/21, Ms1 4.4/21, ms1mx4.1/35 Error ellipse: s-maj=11.3km s-min=7.4km az=75.0*

GCMT ***10*** *05:39:43.1±0.1, 13.˚83N×145.˚15E, h146km, MW5.6/115, Moment Tensor Solution. s102,c181; s115,c274; Duration: 1s5 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.18±.04; $M_{\theta\theta}$0.28±.04; $M_{\phi\phi}$-0.10±.05; $M_{r\theta}$2.63±.03; $M_{\theta\phi}$-1.81±.04; $M_{\phi r}$0.08±.03; Best double couple: M_o3.20300×10^{17} NP1:ϕ_s269.00000°, δ88.00000°, λ-125.00000°. NP2:ϕ_s176.00000°, δ35.00000°, λ-3.00000°. Principal axes: T 3.2280, Plg34.0000°, Azm28.0000°; N -0.0500, Plg35.0000°, Azm270.0000°; P -3.1780, Plg37.0000°, Azm148.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

DJA ***10*** *05:39:58.6±0.6, 14˚N±5˚×14˚5E±˚, h275km±5km, M5.1/75, mb5.1/75, mB5.6/46, MLv5.0/1, Mw(mB)5.1/46, Mwp6.4/2*

ISC 10 05:39:43.4±0.2, 14.˚08N±0.˚03×145.˚12E±0.˚03, h142km±1km, h142km:pP-P, n1025, σ1s46/1360, mb5.5/303, 39C-18D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.55**	**206**	P		**Pn**	**05 40 04.0**	**-0.1**
	19μm,0.3s,baz=297,slow=2.3,SNR=3859							
GUMO				S		**Sn**	**05 40 18.1**	**-1.8**
	baz=352,slow=14							
CBIJ	**Chichi jima**	**13.23**	**349**	*e*Pn		**P**	**05 42 49.0**	**-1.6**
JCJ	**Chichijima**	**13.23**	**349**	P		**Pn**	**05 42 46.8**	**+0.9**
	54nm,0.3s,baz=249,slow=5.2,SNR=31							
JAY	**Jayapura**	**17.06**	**195**	P		**Pn**	**05 43 34.2**	**+0.6**
	2.0nm,0.3s,baz=3.3,slow=5.5,SNR=17							
JAY				S		**S**	**05 46 39.7**	**-4.1**
	0.4nm,0.3s,baz=343,slow=19,SNR=2.4							
SMPI	**Sarmi**	**17.18**	**202**	P		**Pn**	**05 43 37.1**	**+2.1**
	258nm,1.9s,6μm							
GENI	**Genyem**	**17.28**	**197**	P		**Pn**	**05 43 37.4**	**+1.2**
	362nm,1.0s,9μm							
RKPI	**Ransiki, Papua**	**18.91**	**216**	P		**Pn**	**05 43 57.2**	**+1.7**
	126nm,1.1s							
WAMI	**Wamena**	**18.95**	**200**	P		**Pn**	**05 43 56.0**	**+0.1**
	473nm,0.8s,12μm							
JHJ2	**Mitsune**	**19.55**	**347**	*e*P		**Pn**	**05 44 02.7**	**-0.1**
	1μm,2.0s							
PLP	**Palo**	**19.86**	**264**	⇓*e*P		**P**	**05 44 03.1**	**-0.5**
JOW	**Kunigami**	**20.22**	**311**	*e*P		Pn	05 44 09.8	-0.9
	104nm,0.7s							
SIJI	**Sorong**	**20.22**	**224**	P		**P**	**05 44 06.3**	**-1.2**
	31nm,0.6s,baz=47,slow=19,SNR=28							
SWI	**Sorong**	**20.22**	**224**	P		**P**	**05 44 06.4**	**-1.1**
	144nm,1.2s,4μm							
H11S3	**WAKE ISLAND Hy**	**21.16**	**75**	T		T	06 06 01.1	
	baz=263,slow=75,SNR=46							
FAKI	**Fak Fak**	**21.17**	**218**	P		**P**	**05 44 18.2**	**+0.6**
	300nm,0.7s,4μm							
FAKI	**Fak Fak**	**21.17**	**218**	*e*P		**P**	**05 44 17.9**	**+0.2**
	190nm,0.7s							
H11S1	**WAKE ISLAND Hy**	**21.17**	**75**	T		T	06 06 02.7	
	baz=263,slow=75,SNR=47							
H11S2	**WAKE ISLAND Hy**	**21.17**	**75**	T		T	06 06 01.9	
	baz=263,slow=75,SNR=29							
WAKE	**Wake Island**	**21.26**	**73**	*e*P		**P**	**05 44 20.0**	**+1.4**
	569nm,1.3s							
H11N1	**WAKE ISLAND Hy**	**21.56**	**72**	T		T	06 07 41.2	
	baz=257,slow=75,SNR=40							
H11N2	**WAKE ISLAND Hy**	**21.57**	**72**	T		T	06 07 41.6	
	baz=257,slow=75,SNR=34							
H11N3	**WAKE ISLAND Hy**	**21.58**	**72**	T		T	06 07 30.7	
	baz=257,slow=75,SNR=48							
CTBH	**Cotabato--PC H**	**21.60**	**254**	⇓*i*P		**P**	**05 44 22.6**	**+0.3**
KWAJ	**Kwajalein Atol**	**22.66**	**101**	*e*P		**P**	**05 44 34.5**	**+1.7**
KWAJ				pmax		pmax		
	comp=Z,574nm,1.4s							
KWAJ	**Kwajalein Atol**	**22.66**	**101**	*e*P		**P**	**05 44 34.5**	**+1.7**
	comp=Z,574nm,1.4s							
LBMI	**Labuha**	**22.77**	**231**	P		P	05 44 41.0	+7.1
	comp=Z,149nm,1.5s,comp=Z,4μm							
JNU	**Nakatsue**	**22.96**	**328**	P		**P**	**05 44 36.6**	**+1.0**
	comp=Z,62nm,0.6s,baz=134,slow=3.0,SNR=51							
JNU				ScP		**ScP**	**05 51 44.8**	**-1.1**
	comp=Z,25nm,0.9s,baz=97,slow=5.0,SNR=11							
JNU	**Nakatsue**	**22.96**	**328**	*e*P		**P**	**05 44 36.6**	**+1.0**
	comp=Z,214nm,1.1s							
JNU				ScP		**ScP**	**05 51 44.8**	**-1.1**
MJAR	**Matsushiro Arr**	**23.20**	**346**	P		**P**	**05 44 36.6**	**-1.2**
	comp=Z,41nm,0.9s,baz=168,slow=9.9,SNR=80							
MJAR				PcP		**PcP**	**05 48 21.9**	**+0.4**
	comp=Z,15nm,0.7s,baz=186,slow=4.1,SNR=6.2							
MJAR				S		**S**	**05 48 43.2**	**+4.4**
	comp=Z,6.8nm,1.1s,baz=159,slow=15,SNR=3.9							
MJAR				ScP		**ScP**	**05 51 45.2**	**-1.2**
	comp=Z,11nm,0.9s,baz=201,slow=4.7,SNR=9.0							
MJAR				LR		LR	05 52 38.2	
	comp=Z,990nm,20.2s,baz=170,slow=33							
MAJO	**Matsushiro**	**23.21**	**346**	*c i*P		**P**	**05 44 36.1**	**-1.7**
MAJO				pmax		pmax		
	comp=Z,489nm,0.7s							
MAJO	**Matsushiro**	**23.21**	**346**	*e*P		**P**	**05 44 37.6**	**-0.2**
	comp=Z,99nm,0.8s							
MAT	**Matsushiro**	**23.21**	**346**	P		**P**	**05 44 36.8**	**-1.0**
MAT				S		**S**	**05 48 42.2**	**+3.4**
YOJ	**Yonaguni jima**	**23.25**	**300**	*e*P		**P**	**05 44 39.7**	**+1.4**
YOJ				pmax		pmax		
	comp=Z,90nm,0.9s							
YOJ	**Yonaguni jima**	**23.25**	**300**	*e*P		**P**	**05 44 39.7**	**+1.4**
	comp=Z,90nm,0.9s							
PMG	**Port Moresby**	**23.42**	**175**	*d i*P		**P**	**05 44 38.3**	**-1.6**
PMG				pmax		pmax		
	comp=Z,4μm,1.0s							
PMG	**Port Moresby**	**23.42**	**175**	*e*P		**P**	**05 44 38.4**	**-1.5**
	comp=Z,219nm,1.0s							
TGY	**Tagaytay City**	**23.45**	**273**	P		**P**	**05 44 40.9**	**+0.6**
	comp=Z,113nm,0.4s,baz=90,slow=11							
MSAI	**Masohi**	**23.61**	**224**	P		**P**	**05 44 42.6**	**+0.9**
	comp=Z,26nm,0.6s,comp=Z,2μm							
YULB	**Yu-li**	**24.35**	**296**	*e*P		**P**	**05 44 49.4**	**+1.1**
	comp=Z,102nm,0.8s							
AAI	**Ambon**	**24.36**	**225**	P		**P**	**05 44 49.4**	**+1.0**
	comp=Z,162nm,0.8s,comp=Z,5μm							
TWG	**Pinlang**	**24.38**	**294**	*e*P		**P**	**05 44 48.8**	**+0.2**
	comp=Z,258nm,0.8s							
YHNB	**Yeheng**	**24.71**	**299**	*e*P		**P**	**05 44 54.2**	**+2.6**
	comp=Z,216nm,1.5s							
SSLB	**Suanglung**	**24.78**	**297**	*e*P		**P**	**05 44 52.9**	**+0.7**
	comp=Z,557nm,1.5s							
SANI	**Sanana**	**24.83**	**231**	P		**P**	**05 44 55.1**	**+2.4**
	comp=Z,35nm,0.9s,comp=Z,2μmcomp=Z,7μm							
KMSI	**Cibinong**	**24.85**	**239**	P		P	05 44 58.8	+5.9
	comp=Z,467nm,1.4s,comp=Z,12μm							
TPUB	**Ta-pu**	**24.91**	**295**	*e*P		**P**	**05 44 53.8**	**+0.4**
	comp=Z,77nm,0.8s							
KSBUS	**Busan**	**25.54**	**328**	P		**P**	**05 44 59.6**	**+0.7**
	SNR=6.5							
KSJJU	**Jeju**	**25.61**	**322**	P		**P**	**05 45 01.3**	**+1.7**
	SNR=7.5							
KSNAH	**Namhae**	**25.83**	**326**	P		**P**	**05 45 02.4**	**+0.9**
	SNR=6.8							
KSWAN	**Wando**	**26.20**	**324**	P		**P**	**05 45 05.6**	**+0.8**
	SNR=9.2							
MRSI	**Marisa**	**26.62**	**241**	P		**P**	**05 45 08.6**	**-0.3**
	comp=Z,61nm,0.8s,comp=Z,6μm							
LUWI	**Luwuk**	**26.75**	**238**	P		**P**	**05 45 08.5**	**-1.6**
	comp=Z,217nm,0.9s,comp=Z,8μm							
LUWI	**Luwuk**	**26.75**	**238**	*e*P		**P**	**05 45 08.1**	**-2.0**
	comp=Z,1μm,1.4s							
KSJEU	**Jeongeup**	**26.87**	**326**	P		**P**	**05 45 11.7**	**+0.8**
	SNR=13							
KSBON	**Boeun**	**27.18**	**328**	P		**P**	**05 45 14.5**	**+0.9**
	SNR=6.5							
QZH	**Quanzhou**	**27.18**	**297**	⇑*i*P		**P**	**05 45 14.0**	**+0.2**
QZH				pP		**pP**	**05 45 42.3**	**-1.5**
QZH				sP		**sP**	**05 45 57.8**	**-2.5**
QZH				S		**S**	**05 49 40.2**	**-2.0**
QZH				LN				
	comp=Z,2μm,12.2s							
QZH				LE				
	comp=Z,1μm,9.9s							
QZH				LZ				
	comp=Z,2μm,21.9s							
TJN	**Taejon**	**27.31**	**328**	*e*P		**P**	**05 45 13.5**	**-1.3**
KSCHJ	**Chungju**	**27.38**	**329**	P		**P**	**05 45 15.8**	**+0.4**
	SNR=7.1							
KSYOW	**Yeongwol**	**27.38**	**330**	P		**P**	**05 45 16.6**	**+1.1**
	SNR=7.0							
SSE	**Sheshan**	**27.74**	**312**	P		**P**	**05 45 19.3**	**+0.6**
SSE				sP		**sP**	**05 46 06.1**	**+0.9**
SSE				S		**S**	**05 49 49.7**	**-1.1**
SSE				sS		**sS**	**05 50 47.3**	**+3.5**
SSE				PMZ				
	comp=Z,76nm,0.7s							
SSE				PMZ				
	comp=Z,180nm,4.5s							
SSE				LN				
	comp=Z,740nm,14.6s							
SSE				LE				
	comp=Z,300nm,15.2s							
SSE				LZ				
	comp=Z,770nm,15.4s							
KSRS	**Korea Array**	**27.86**	**330**	P		**P**	**05 45 20.1**	**+0.5**
	comp=Z,17nm,0.7s,baz=146,slow=9.7,SNR=75							
KSRS				PcP		**PcP**	**05 48 33.2**	**+1.2**
	comp=Z,14nm,0.8s,baz=153,slow=2.2,SNR=12							
KSRS				ScP		**ScP**	**05 52 00.2**	**+0.5**
	comp=Z,12nm,0.9s,baz=140,slow=3.6,SNR=17							
KSRS				LR		LR	05 54 47.7	
	comp=Z,782nm,21.0s,baz=156,slow=32							
KSRS				P3KPbc			06 17 41.6	
	comp=Z,2.9nm,0.9s,baz=334,slow=3.7,SNR=7.4							
KSRS	**Korea Array**	**27.86**	**330**	P		**P**	**05 45 20.2**	**+0.5**
KSRS							05 48 33.2	
KSRS				pmax		pmax		
	comp=Z,17nm,0.7s							
KSRS				pmax		pmax		
	comp=Z,14nm,0.8s							
KSRS				pmax		pmax		
	comp=N,12nm,0.9s							
KSRS				MLR		MLR		
	comp=Z,782nm,21.0s							
KSRS				pmax		pmax		
	comp=Z,3.0nm,1.0s							
KSAR	**Wonju Array Be**	**27.87**	**330**	P		**P**	**05 45 20.2**	**+0.4**
KSAR							05 48 33.2	
KSAR	**Wonju Array Be**	**27.87**	**330**	P		**P**	**05 45 20.1**	**+0.4**
KSAR				PcP		**PcP**	**05 48 33.2**	**+1.1**
KSAR				ScP		**ScP**	**05 52 00.2**	**+0.4**
KSAR				*e*			06 17 41.6	
COEN	**Coen**	**27.93**	**184**	*e*P		**P**	**05 45 20.2**	**-0.2**
	comp=Z,71nm,1.8s							
KSCHC	**Chuncheon**	**28.17**	**330**	P		**P**	**05 45 23.6**	**+1.2**
	SNR=7.4							
KSIJA	**INJE**	**28.19**	**331**	P		**P**	**05 45 23.8**	**+1.2**
	SNR=6.8							
MPSI	**Mapaga**	**28.45**	**243**	P		**P**	**05 45 26.8**	**+1.6**
	comp=Z,15nm,1.4s,comp=Z,889nm							
TSM	**Tawau**	**28.57**	**253**	⇑P		**P**	**05 45 26.6**	**+0.4**
SDKM	**Sandakan**	**28.73**	**256**	⇑P		**P**	**05 45 28.2**	**+0.4**
KKM	**Kota Kinabalu**	**29.53**	**257**	⇓P		**P**	**05 45 35.5**	**+0.6**
KKM	**Kota Kinabalu**	**29.53**	**257**	*e*P		**P**	**05 45 35.1**	**+0.2**
	comp=Z,16nm,0.7s							
YUK	**Yuzh-Kuril'sk**	**29.86**	**1**	*c i*P		**P**	**05 45 36.7**	**-0.6**
YUK				S		**S**	**05 50 22.3**	**-1.4**
NJ2	**Nanjing**	**29.93**	**311**	*e*P		**P**	**05 45 39.9**	**+1.8**
NJ2				pP		**pP**	**05 46 06.8**	**-1.6**
NJ2				sP		**sP**	**05 46 22.8**	**-2.0**
NJ2				S		**S**	**05 50 28.0**	**+2.7**
NJ2				sS		**sS**	**05 51 19.0**	**+0.6**
NJ2				PMZ				
	comp=Z,50nm,0.9s							
NJ2				PMZ				
	comp=Z,380nm,11.4s							
NJ2				LN				
	comp=Z,2μm,17.8s							
NJ2				LE				
	comp=Z,2μm,13.4s							
NJ2				LZ				
	comp=Z,2μm,13.4s							
ASAJ	**Asahikawa**	**30.01**	**356**	P		**P**	**05 45 40.4**	**+1.7**
	comp=Z,39nm,0.7s,baz=213,slow=8.6							
ASAJ				PcP		**PcP**	**05 48 38.4**	**+1.0**
	baz=225,slow=1.4							
ASAJ				LR		LR	05 59 34.0	
	comp=Z,296nm,18.3s,slow=40							
ASAJ	**Asahikawa**	**30.01**	**356**	P		**P**	**05 45 40.4**	**+1.7**
ASAJ							05 48 38.4	
ASAJ				pmax		pmax		
	comp=Z,39nm,0.7s							
ASAJ				MLR		MLR		
	comp=Z,296nm,18.3s							
ASAJ	**Asahikawa**	**30.01**	**356**	*e*P		**P**	**05 45 40.1**	**+1.5**
	comp=Z,17nm,0.8s							
ASAJ				PcP		**PcP**	**05 48 38.4**	**+1.0**
SOEI	**Soe**	**31.45**	**222**	P		P	05 46 00.6	+8.9
SOEI	**Soe**	**31.45**	**222**	*e*P		**P**	**05 45 50.1**	**-1.6**
	comp=Z,34nm,0.6s							
KAPI	**Kappang**	**31.52**	**235**	P		**P**	**05 45 50.9**	**-1.4**
	comp=Z,8.4nm,0.5s,baz=52,slow=8.4,SNR=8.4							
MMRI	**Maumere**	**32.02**	**226**	*e*P		**P**	**05 45 55.7**	**-0.9**
	comp=Z,39nm,0.5s							
USRK	**Ussuriysk Ar.**	**32.04**	**342**	P		**P**	**05 45 57.5**	**+1.0**
	comp=Z,9.3nm,0.6s,baz=162,slow=9.0,SNR=15							
USRK				ScP		**ScP**	**05 52 11.7**	**-1.5**
	comp=Z,8.7nm,1.0s,baz=132,slow=2.8,SNR=15							
USRK				LR		LR	05 58 30.4	
	comp=Z,549nm,18.6s,baz=137,slow=35							
USRK				P3KPbc			06 17 23.6	
	comp=Z,1.0nm,0.5s,baz=255,slow=5.7,SNR=4.7							
DL2	**Dalian**	**32.27**	**324**	⇑*i*P		**P**	**05 45 59.9**	**+1.4**
DL2				pP		**pP**	**05 46 30.8**	**+1.8**
DL2				sP		**sP**	**05 46 44.3**	**-1.0**
DL2				S		**S**	**05 51 02.4**	**+0.9**
DL2				ScS		**ScS**	**05 56 12.5**	**-0.8**
DL2				PMZ				
	comp=Z,200nm,0.8s							
DL2				PMZ				
	comp=Z,270nm,4.3s							
WHN	**Wuhan**	**32.69**	**305**	⇓*i*P		**P**	**05 46 04.2**	**+1.8**
WHN				pP		**pP**	**05 46 33.7**	**+0.8**
WHN				PcP		**PcP**	**05 48 45.7**	**+0.8**
WHN				S		**S**	**05 51 10.6**	**+2.3**
WHN				PMZ				
	comp=Z,63nm,0.6s							
WHN				PMZ				
	comp=Z,610nm,4.0s							
WHN				LN				
	comp=Z,1μm,7.6s							
WHN				LE				
	comp=Z,1μm,8.5s							
WHN				LZ				
	comp=Z,2μm,20.6s							
YSS	**Yuzh-Sakhalins**	**32.83**	**357**	*αe*P		**P**	**05 46 03.1**	**-0.2**
YSS				*e**PP		**pP**	**05 46 35.0**	**+1.2**
YSS				*e**SP		**sP**	**05 46 51.0**	**+0.8**
YSS				*e*			05 47 14.0	
YSS				*e*S		**S**	**05 51 06.0**	**-4.0**
YSS				*e*SSS		SSS	05 53 14.0	
YSS				pmax		pmax		
	comp=Z,50nm,0.8s							
YSS				MLR		MLR		
	comp=Z,600nm,18.0s							
YSS				MLR		MLR		
	comp=N,600nm,16.0s							
YSS				MLR		MLR		
	comp=E,600nm,15.0s							
YSS	**Yuzh-Sakhalins**	**32.83**	**357**	*e*P		**P**	**05 46 03.7**	**+0.4**
	comp=E,36nm,0.6s							
MDJ	**Mudanjiang**	**33.18**	**340**	P		**P**	**05 46 07.5**	**+1.1**
MDJ				pP		**pP**	**05 46 36.1**	**-0.9**
MDJ				sP		**sP**	**05 46 51.3**	**-2.0**
MDJ				S		**S**	**05 51 16.8**	**+1.3**
MDJ				ScS		**ScS**	**05 56 17.2**	**-0.7**
MDJ				LN				
	comp=E,790nm,31.2s							
MDJ				LE				
	comp=E,2μm,27.6s							
MDJ				LZ				
	comp=E,1μm,30.0s							
MDJ	**Mudanjiang**	**33.18**	**340**	*e*P		**P**	**05 46 07.5**	**+1.1**
	comp=E,32nm,1.1s							
TIA	**Tai'an**	**33.37**	**316**	⇑P		**P**	**05 46 09.1**	**+0.9**
TIA				pP		**pP**	**05 46 39.1**	**+0.3**
TIA				sP		**sP**	**05 46 55.1**	**0.0**
TIA				S		**S**	**05 51 18.9**	**+0.2**
TIA				PMZ				
	comp=E,40nm,0.7s							
TIA				PMZ				
	comp=E,380nm,3.6s							
TIA				LN				
	comp=E,810nm,17.8s							
TIA				LE				
	comp=E,1μm,19.6s							
TIA				LZ				
	comp=E,520nm,14.3s							
CTA	**Charters Tower**	**33.98**	**178**	P		**P**	**05 46 13.3**	**-0.2**
	comp=E,61nm,0.8s,baz=356,slow=10,SNR=39							
CTAO	**Charters Tower**	**33.98**	**178**	*e*P		**P**	**05 46 13.2**	**-0.3**
CTAO				pmax		pmax		
	comp=E,610nm,1.7s							
CTAO	**Charters Tower**	**33.98**	**178**	*e*P		**P**	**05 46 13.2**	**-0.3**
	comp=E,610nm,1.7s							
CN2	**Changchun**	**34.07**	**334**	*e*P		**P**	**05 46 14.8**	**+0.7**
CN2				PP		**PP**	**05 47 37.2**	**+3.0**
CN2				*e*S		**S**	**05 51 27.3**	**-2.0**
CN2				SS		**SnSn**	**05 53 49.9**	**-3.7**
CN2				PMZ				
	comp=Z,10.0nm,0.6s							
CN2				LN				
	comp=Z,1μm,17.0s							
CN2				LE				
	comp=Z,700nm,17.0s							
CN2				LZ				
	comp=Z,500nm,18.0s							
QIZ	**Qiongzhong**	**34.13**	**283**	P		**P**	**05 46 14.9**	**-0.1**
QIZ				pP		**pP**	**05 46 43.4**	**-2.2**
QIZ				sP		**sP**	**05 46 58.2**	**-3.7**
QIZ				S		**S**	**05 51 31.6**	**+0.8**
QIZ				sS		**ScP**	**05 52 21.8**	**+0.8**
QIZ				PMZ				
	comp=Z,16nm,1.9s							
QIZ				LN				
	comp=Z,1μm,27.6s							
QIZ				LZ				
	comp=Z,650nm,18.5s							
SBUM	**Sibu**	**34.49**	**253**	⇓P		**P**	**05 46 18.5**	**+0.4**
HABR	**Khabarovsk**	**35.29**	**348**	*c e*P		**P**	**05 46 22.6**	**-1.9**
HABR				*e**PP		**pP**	**05 46 54.9**	**-0.4**
HABR				*e**SP		**sP**	**05 47 12.5**	**+0.9**
HABR				*e*			05 47 46.0	
HABR				*e*			05 48 49.2	
HABR				*e*S		**S**	**05 51 46.1**	**-1.7**
HABR				*e*			05 52 36.5	
HABR				*e*			05 56 25.6	
HABR				pmax		pmax		
	comp=E,9.0nm,0.7s							
HABR				pmax		pmax		
	comp=N,20nm,1.0s							
HABR				pmax		pmax		
	comp=Z,52nm,1.4s							
HABR				MLR		MLR		
	comp=Z,324nm,19.0s							
WRAB	**Tennant Creek**	**35.42**	**198**	*d i*P		**P**	**05 46 24.7**	**-1.3**
WRAB				pmax		pmax		
	comp=Z,477nm,0.6s							
WRAB	**Tennant Creek**	**35.42**	**198**	*e*P		**P**	**05 46 25.1**	**-0.9**
	comp=Z,221nm,0.8s							
WRA	**Warramunga Arr**	**35.44**	**198**	P		**P**	**05 46 24.9**	**-1.2**
	comp=Z,156nm,0.7s,baz=23,slow=10.0,SNR=329							
WRA				PcP		**PcP**	**05 48 53.8**	**+1.0**
	comp=Z,11nm,0.6s,baz=14,slow=3.5,SNR=5.4							
WRA				S		**S**	**05 51 45.7**	**-5.0**
	comp=Z,9.7nm,1.1s,baz=16,slow=17,SNR=7.6							
WRA				ScP		**ScP**	**05 52 24.8**	**-0.8**
	comp=Z,7.8nm,0.7s,baz=22,slow=4.0,SNR=7.9							
WRA				PKiKP		**PKiKP**	**05 56 13.5**	**-0.4**
	comp=Z,1.2nm,0.4s,baz=325,slow=1.4,SNR=25							
WRA	**Warramunga Arr**	**35.44**	**198**	*i* P		**P**	**05 46 23.2**	**-2.9**
WRA				pmax		pmax		
	comp=Z,156nm,0.7s							
STKI	**Sintang**	**36.09**	**250**	P		**P**	**05 46 31.2**	**-0.6**
	comp=Z,125nm,0.6s							
BJT	**Baijiatuao**	**36.20**	**321**	*e*P		**P**	**05 46 33.3**	**+0.9**
BJT				pmax		pmax		
	comp=Z,60nm,0.4s							
BJT	**Baijiatuao**	**36.20**	**321**	*e*P		**P**	**05 46 33.3**	**+0.9**
	comp=Z,60nm,0.4s							
BJI	**Beijing**	**36.21**	**321**	P		**P**	**05 46 33.5**	**+1.0**
BJI				pP		**pP**	**05 47 03.6**	**+0.2**
BJI				sP		**sP**	**05 47 15.3**	**-4.4**
BJI				S		**S**	**05 52 01.0**	**-1.2**
BJI				sS		**sS**	**05 52 57.7**	**+1.6**
BJI				PMZ				
	comp=Z,110nm,0.8s							
BJI				PMZ				
	comp=Z,520nm,3.2s							
ENH	**Enshi**	**36.53**	**302**	*e*P		**P**	**05 46 36.6**	**+1.2**
	comp=Z,49nm,0.8s							
KSM	**Kuching**	**36.62**	**253**	⇓P		**P**	**05 46 35.8**	**-0.6**
KSM	**Kuching**	**36.62**	**253**	*e*P		**P**	**05 46 35.6**	**-0.7**
	comp=Z,93nm,1.0s							
KLR	**Kul'dur**	**36.73**	**345**	*e*P		**P**	**05 46 33.8**	**-3.0**
KLR				*e*			05 47 05.6	
KLR				*e*			05 47 21.0	
KLR				*e*S		S	05 52 03.0	-

GYA pP **pP** **05 47 19.0 +0.2**
GYA sP **sP** **05 47 35.2 +0.2**
GYA PP **PnPn** **05 48 21.8 +1.3**
GYA PcP **PcP** **05 49 02.1 +1.4**
GYA S **S** **05 52 30.9 +1.4**
GYA ScP **ScP** **05 52 35.5 +0.3**
GYA sS **sS** **05 53 22.4 -1.3**
GYA SS **SS** **05 55 14.8 -7.5**
GYA ScS **ScS** **05 56 44.6 -0.5**
GYA PMZ
comp=N,40nm,0.9s
GYA PMZ
comp=N,250nm,5.3s
GYA LN
comp=N,520nm,19.0s
GYA LE
comp=N,630nm,18.6s
GYA LZ
comp=N,580nm,19.2s
JAGI Jajag, Banyuwa 38.03 236 P **P** **05 46 48.9 +0.7**
comp=N,39nm,1.0s
JAGI Jajag, Banyuwa 38.03 236 *e*P **P** **05 46 47.1 -1.1**
comp=N,26nm,0.7s
BLJI Banyuglugur 38.06 237 P **P** **05 46 50.3 +1.8**
comp=N,55nm,0.6s
XAN Xi'an 38.28 308 P **P** **05 46 51.1 +0.9**
XAN pP **pP** **05 47 19.1 -2.2**
XAN PP **PnPn** **05 48 25.1 +1.1**
XAN S **S** **05 52 33.7 -0.2**
XAN sS **sS** **05 53 27.6 -0.6**
XAN PMZ
comp=N,55nm,0.7s
XAN PMZ
comp=N,280nm,8.4s
XAN LN
comp=N,1µm,18.3s
XAN LE
comp=N,880nm,22.9s
XAN LZ
comp=N,660nm,14.9s
ASAR Alice Springs 39.09 196 P **P** **05 46 56.0 -0.9**
comp=N,35nm,0.6s,baz=21,slow=9.6,SNR=256
ASAR PcP **PcP** **05 49 04.6 +0.6**
comp=N,15nm,0.9s,baz=4.2,slow=3.0,SNR=4.1
ASAR ScP **ScP** **05 52 38.5 -0.8**
comp=N,4.6nm,0.7s,baz=20,slow=3.7,SNR=5.5
ASAR PKiKP **PKiKP** **05 56 16.6 -0.3**
comp=N,0.4nm,0.5s,baz=4.4,slow=1.8,SNR=4.9
ASAR LR LR 06 03 59.1
comp=N,276nm,19.1s,baz=24,slow=37
HHC Hu-ho-hao-te 39.56 319 *e*P **P** **05 47 02.1 +1.3**
HHC pP **pP** **05 47 33.2 +1.1**
HHC sP **sP** **05 47 49.4 +1.2**
HHC PP **PnPn** **05 48 40.2 +1.2**
HHC S **S** **05 52 55.4 +2.5**
HHC sS **sS** **05 53 48.4 +1.0**
HHC ScS **ScS** **05 56 52.9 -0.9**
HHC PMZ
comp=N,29nm,0.6s
HHC PMZ
comp=N,330nm,6.1s
EIDS Eidsvold 39.64 172 *e*P **P** **05 47 01.0 -0.4**
comp=N,36nm,0.7s
PWJI Pagerwojo 39.69 238 P **P** **05 47 01.0 -1.0**
comp=N,141nm,0.8s,comp=N,1µm
SKNT Sakolnakorn 39.69 280 P **P** **05 47 03.2 +1.2**
comp=N,46nm,1.0s,comp=N,3µm
SLVN Son La 39.83 286 *e*P **P** **05 47 04.0 +0.9**
comp=N,9.4nm,0.9s
PETK Petropavlovsk- 40.20 12 P **P** **05 47 06.3 +0.6**
comp=N,8.6nm,0.5s,baz=184,slow=9.7,SNR=5.9
PETK PcP **PcP** **05 49 07.4 +0.4**
comp=N,12nm,0.7s,baz=172,slow=5.1,SNR=3.1
PETK ScP **ScP** **05 52 41.1 -2.0**
comp=N,6.8nm,0.8s,baz=167,slow=7.2,SNR=3.9
PETK LR LR 06 03 10.3
comp=N,304nm,19.3s,baz=200,slow=35
PCJI Pacitan 40.30 239 P **P** **05 47 06.7 -0.3**
comp=N,121nm,1.1s,comp=N,2µm
PET Petropavlovsk 40.31 13*c**e*P **P** **05 47 04.1 -2.5**
PET *e**SP **sP** **05 47 53.1 -1.0**
PET *e* 05 48 42.6
PET *e*S **S** **05 52 58.0 -5.5**
PET *e**SS **sS** **05 53 55.4 -2.7**
PET pmax pmax
comp=Z,400nm,8.1s
PET pmax pmax
comp=Z,300nm,16.2s
PET pmax pmax
comp=Z,72nm,0.7s
PET Petropavlovsk 40.31 13 *e*P **P** **05 47 08.0 +1.4**
comp=Z,46nm,0.7s
BTO Baotou 40.43 318 *e*P **P** **05 47 08.9 +1.0**
BTO PMZ
comp=Z,25nm,1.0s
UGM Wanagama 40.70 240 P **P** **05 47 09.5 -0.8**
TPI Tanjungpandan 40.73 249 P **P** **05 47 10.1 -0.5**
comp=Z,100nm,0.7s,comp=Z,1µm
HIA Hailar 40.80 335 *e*P **P** **05 47 11.9 +1.1**
HIA pmax pmax
comp=Z,60nm,1.0s
HIA Hailar 40.80 335 *e*P **P** **05 47 11.9 +1.1**
comp=Z,60nm,1.0s
LIFNC LIFOU 40.90 147 *e*P **P** **05 47 11.1 -0.7**
KMI Kunming 41.25 292 P **P** **05 47 16.6 +1.6**
KMI pP **pP** **05 47 47.5 +1.0**
KMI sP **sP** **05 48 02.3 -0.3**
KMI PcP **PcP** **05 49 13.0 +1.7**
KMI ScP **ScP** **05 52 48.4 +0.3**
KMI S **S** **05 53 20.0 +1.3**
KMI sS **sS** **05 54 13.2 -0.3**
KMI SS **SS** **05 56 28.2 +0.5**
KMI PMZ
comp=Z,25nm,0.8s
KMI PMZ
comp=Z,200nm,3.6s
KMI LN
comp=Z,250nm,16.7s
KMI LE
comp=Z,340nm,16.7s
KMI LZ
comp=Z,310nm,16.2s
CD2 Chengdu 41.45 301 P **P** **05 47 17.1 +0.7**
CD2 pP **pP** **05 47 49.7 +1.8**
CD2 sP **sP** **05 48 06.7 +2.7**
CD2 PP **PP** **05 48 55.8 +0.8**
CD2 S **S** **05 53 21.4 +0.3**
CD2 sS **sS** **05 54 19.0 +3.0**
CD2 SS **SS** **05 56 32.9 +1.8**
CD2 PMZ
comp=Z,50nm,0.6s
CD2 PMZ
comp=Z,370nm,5.4s
NOUC Port Laguerre 41.53 150 *e*P **P** **05 47 16.5 -0.4**
DZM Mont Dzumac 41.57 149 *e*P **P** **05 47 18.6 +1.2**
comp=Z,1µm,1.2s
DZM *e*S **S** **05 53 24.8 +1.8**
comp=Z,563nm,32.4s
DZM *e*LQ LQ 05 57 18.8
comp=Z,3µm,30.1s
DZM *e*LR LR 05 58 55.1
comp=Z,2µm,32.6s
DZM Mont Dzumac 41.57 149 *e*P **P** **05 47 18.3 +0.9**
comp=Z,469nm,0.8s
KPJI Karang Pucung 41.74 242 P **P** **05 47 18.4 -0.4**
LOEI Loei 42.27 281 P **P** **05 47 20.9 -2.2**
comp=Z,17nm,0.7s
PBKT Sadao Pong 42.59 279 P **P** **05 47 27.0 +1.3**
comp=Z,46nm,0.8s,comp=Z,3µm
LEM Lembang 42.62 243 P **P** **05 47 28.5 +2.3**
comp=Z,64nm,0.9s
DSRI Dabo 42.66 254 P **P** **05 47 25.8 -0.5**
comp=Z,256nm,0.9s,comp=Z,8µmcomp=Z,604µm
CISI Cisompet, Garu 42.81 242 P **P** **05 47 26.7 -0.9**
comp=Z,65nm,0.9s,comp=Z,4µm
LZH Lanzhou 42.90 308 ⇑P **P** **05 47 30.2 +2.0**
LZH pP **pP** **05 48 01.8 +1.9**
LZH sP **sP** **05 48 15.2 -0.8**
LZH PP **PcP** **05 49 14.0 -2.5**
LZH PcP PP 05 49 17.8 +7.1
LZH S **S** **05 53 44.0 +1.4**
LZH sS **sS** **05 54 40.1 +2.4**
LZH SS **SS** **05 56 54.2 -5.4**
LZH PMZ
comp=Z,160nm,1.2s
LZH PMZ
comp=Z,440nm,4.0s
LZH LN
comp=Z,900nm,15.4s
LZH LE
comp=Z,590nm,14.4s
LZH LZ
comp=Z,580nm,16.0s
UTTA Uttaradit 42.94 281 P **P** **05 47 29.4 +0.9**
comp=Z,4.6nm,0.6s,comp=Z,76nm
MBWA Marble Bar 42.99 216 *e*P **P** **05 47 27.1 -1.7**
comp=Z,29nm,1.0s
CRAI Chiangrai 43.09 285 P **P** **05 47 28.0 -1.8**
comp=Z,8.6nm,0.7s,comp=Z,2µm
LAMP Lampang 43.80 282 P **P** **05 47 36.5 +1.1**
comp=Z,7.1nm,0.6s,comp=Z,71nm
SUKH Sukhothai 43.83 281 P P 05 47 39.8 +4.1
comp=Z,5.3nm,0.9s,comp=Z,112nm
UTHA Uthaitani 44.12 278 P **P** **05 47 39.5 +1.5**
comp=Z,15nm,0.7s,comp=Z,1µm
KLSI 44.19 248 P **P** **05 47 37.8 -0.8**
comp=Z,108nm,0.6s,comp=Z,2µm
CGJI Cibinong 44.20 245 P **P** **05 47 36.2 -2.4**
SKLT Songkhla 44.21 266 P **P** **05 47 39.9 +1.1**
comp=Z,38nm,1.0s,comp=Z,628nm
CMAI Chiengmai2 44.34 284 P **P** **05 47 41.0 +1.1**
comp=Z,33nm,0.9s,comp=Z,835nm
CHTO Chiang Mai 44.44 283 P **P** **05 47 41.5 +0.9**
comp=Z,50nm,0.8s,comp=Z,1µm
CHTO Chiang Mai 44.44 283 *e*P **P** **05 47 41.0 +0.4**
CHTO pmax pmax
comp=Z,6.0nm,0.6s
CHTO Chiang Mai 44.44 283 *e*P **P** **05 47 41.0 +0.4**
comp=Z,5.5nm,0.6s
CMAR Chiang Mai Arr 44.45 282 P **P** **05 47 38.2 -2.4**
comp=Z,17nm,0.7s,baz=86,slow=7.1,SNR=15
CMAR PcP **PcP** **05 49 23.9 +2.0**
comp=Z,16nm,0.7s,baz=91,slow=1.8,SNR=7.5
CMAR ScP **ScP** **05 53 02.0 +1.2**
comp=Z,8.3nm,0.8s,baz=89,slow=2.5,SNR=10
CMAR Chiang Mai Arr 44.45 282 *i* P **P** **05 47 41.9 +1.3**
CMAR pmax pmax
comp=Z,17nm,0.6s
IPM Ipoh 44.47 262 *e*P **P** **05 47 40.9 0.0**
comp=Z,12nm,0.6s
MDSI Maura Dua 44.60 248 P **P** **05 47 40.6 -1.3**
KULM Kulim 44.63 263 *e*P **P** **05 47 42.7 +0.6**
comp=Z,50nm,1.1s
ARMA Armidale 44.69 172 *e*P **P** **05 47 42.3 0.0**
comp=Z,158nm,1.1s
SMY Shemya 44.92 25 *e*P **P** **05 47 45.9 +2.2**
SMY pmax pmax
comp=Z,243nm,0.6s
SMY Shemya 44.92 25 *e*P **P** **05 47 45.9 +2.2**
comp=Z,243nm,0.6s
LWLI Liwa 44.94 248 P **P** **05 47 43.4 -1.2**
comp=Z,112nm,0.8s,comp=Z,4µm
MSVF Nonsavu 45.33 133 *e*P **P** **05 47 48.6 +1.0**
MSVF pmax pmax
comp=Z,237nm,1.2s
MSVF Nonsavu 45.33 133 *e*P **P** **05 47 48.6 +1.0**
comp=Z,237nm,1.2s
CLNS Chul'man 45.38 345 *e*P **P** **05 47 47.1 -0.3**
CLNS pmax pmax
comp=Z,30nm,0.9s
CLNS pmax pmax
comp=N,21nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,0.8s
MHMT Maesarieng 45.42 282 P **P** **05 47 49.8 +1.5**
comp=E,22nm,0.9s
CIT Chita 45.49 333 *e*P **P** **05 47 49.6 +1.2**
MA2 Magadan 45.61 4 *e*P **P** **05 47 50.7 +1.6**
SURT Suratani 45.62 269 P **P** **05 47 51.4 +1.5**
comp=E,18nm,0.8s
KSI Kapahiang 45.70 250 P **P** **05 47 49.3 -1.3**
comp=E,110nm,1.1s
STKA Stephens Creek 45.82 184 P **P** **05 47 50.0 -1.1**
comp=E,84nm,0.6s,baz=355,slow=7.8,SNR=66
STKA LR LR 06 07 26.6
comp=E,611nm,19.3s,baz=358,slow=36
MASI Maura Aman, Be 45.83 251 P **P** **05 47 51.7 +0.1**
comp=E,163nm,0.6s
AMKA Amchitka 46.25 29 *e*P **P** **05 47 56.2 +1.9**
comp=E,737nm,0.8s
SONM Songino Array 46.47 324 P **P** **05 47 57.5 +1.2**
comp=E,18nm,0.8s,baz=138,slow=7.8,SNR=76
SONM pP **pP** **05 48 28.2 -0.2**
comp=E,21nm,1.0s,baz=135,slow=4.9,SNR=4.5
SONM ScP **ScP** **05 53 08.6 -0.2**
comp=E,23nm,1.0s,baz=140,slow=4.0,SNR=18
SONM LR LR 06 07 35.0
comp=E,364nm,18.5s,baz=119,slow=36
PPI Padang Panjang 46.57 256 P **P** **05 47 56.0 -1.3**
comp=E,17nm,1.3s
PDSI Padang 46.66 255 P **P** **05 47 55.8 -2.3**
comp=E,26nm,0.7s,comp=E,2µm
MNSI Mandailing Nat 46.93 258 P **P** **05 48 01.8 +1.7**
comp=E,17nm,0.7s,comp=E,976nm
GTA Gaotai 47.03 311 ⇑P **P** **05 48 02.0 +1.2**
GTA pP **pP** **05 48 33.9 +0.9**
GTA sP **sP** **05 48 50.0 +1.1**
GTA PcP **PcP** **05 49 32.1 +1.4**
GTA ScP **ScP** **05 53 11.2 -0.2**
GTA S **S** **05 54 41.8 -0.1**
GTA sS **sS** **05 55 37.1 -0.7**
GTA ScS **ScS** **05 57 38.9 -1.8**
GTA SS **SS** **05 58 04.9 -5.8**
GTA PMZ
comp=E,50nm,2.1s
GTA PMZ
comp=E,390nm,6.4s
GTA LN
comp=E,840nm,19.5s
GTA LE
comp=E,560nm,19.5s
GTA LZ
comp=E,520nm,18.5s
BBOO Buckleboo 47.42 190 *e*P **P** **05 48 02.6 -1.0**
comp=E,227nm,0.7s
FORT Forrest 47.53 200 *e*P **P** **05 48 04.1 -0.3**
comp=E,291nm,0.8s
KCSI Kotacane, Aceh 47.86 262 P **P** **05 48 07.9 +0.5**
comp=E,42nm,1.2s,comp=E,4µm
SISI Saibi 48.09 255 P **P** **05 48 08.2 -0.9**
comp=E,97nm,0.7s
GSI Gunungsitoli 48.68 259 P **P** **05 48 12.6 -1.0**
comp=E,113nm,1.1s
GSI Gunungsitoli 48.68 259 *e*P **P** **05 48 12.0 -1.6**
comp=E,40nm,0.8s
SEY Seymchan 49.05 4*c**i*P **P** **05 48 15.6 -0.1**
YAK Yakutsk 49.14 350 *e*P **P** **05 48 15.5 -0.9**
YAK *e* 05 48 50.7
YAK *e* 05 50 12.9
YAK *e*S **S** **05 55 05.5 -5.1**
YAK *e* 05 57 48.4
YAK *e*SS SKiKP 06 00 07.1 +23
YAK pmax pmax
comp=Z,106nm,0.9s
YAK pmax pmax
comp=E,11nm,0.9s
YAK pmax pmax
comp=N,24nm,1.2s
YAK pmax pmax
comp=Z,43nm,0.9s
YAK pmax pmax
comp=N,43nm,1.4s
YAK pmax pmax
comp=E,22nm,1.2s
YAK smax smax
comp=E,177nm,2.3s
YAK smax smax
comp=N,75nm,2.4s
YAK Yakutsk 49.14 350 *e*P **P** **05 48 17.0 +0.6**
comp=N,184nm,0.6s
CAN Canberra 49.27 176 *e*P **P** **05 48 17.9 +0.1**
CAN pmax pmax
comp=Z,119nm,1.1s
CAN Canberra 49.27 176 *e*P **P** **05 48 17.9 +0.1**
comp=Z,119nm,1.1s
BOD Bodaibo 49.55 339 *e*P **P** **05 48 19.6 +0.1**
BOD pmax pmax
comp=Z,17nm,0.9s
ZAK Zakamensk 49.57 326 ⇓*i*P **P** **05 48 20.5 +0.5**
ZAK *i* 05 48 53.6
ZAK *e* 05 57 56.4
ZAK pmax pmax
comp=Z,21nm,1.1s
IRK Irkutsk 50.06 328 *e*P **P** **05 48 23.9 +0.4**
IRK *e* 05 48 56.8
IRK pmax pmax
comp=Z,48nm,0.8s
TLY Talaya 50.07 327 ScP **ScP** **05 53 24.5 +0.6**
comp=Z,15nm,1.0s,baz=174,slow=4.8,SNR=14
TLY LR LR 06 09 54.4
comp=Z,601nm,19.7s,baz=166,slow=36
TLY Talaya 50.07 327*c**i*P **P** **05 48 24.4 +0.7**
TLY *e* 05 48 55.5
TLY *e* 05 49 13.4
TLY *e*S **S** **05 55 26.2 +2.3**
TLY *e* 05 56 24.3
TLY *e* 05 58 00.5
TLY pmax pmax
comp=Z,28nm,0.8s
TLY MLR MLR
comp=Z,539nm,19.0s
TLY Talaya 50.07 327 P **P** **05 48 25.4 +1.7**
comp=Z,203nm,0.6s,SNR=9.6
TLY Talaya 50.07 327 *e*P **P** **05 48 24.6 +0.9**
comp=Z,52nm,1.0s
TLY ScP **ScP** **05 53 24.5 +0.6**
SHL Shillong 51.07 292 *ex* P **05 48 32.0 +0.2**
SHL *ex* **pP** **05 49 04.0 -0.5**
MOY Mondy 51.47 326 *e*P **P** **05 48 35.3 +1.1**
MOY pmax pmax
comp=Z,57nm,3.5s
LSA Lhasa 51.99 297 *e*P **P** **05 48 40.8 +1.9**
LSA pmax pmax
comp=Z,69nm,0.9s
LSA Lhasa 51.99 297 *e*P **P** **05 48 40.8 +1.9**
comp=Z,70nm,0.9s
UNV Unalaska Valle 54.78 33 *e*P **P** **05 48 58.8 +0.5**
comp=Z,154nm,0.6s
TAPN Taplejung 54.87 294 *e*P **P** **05 49 00.4 +0.6**
comp=Z,104nm,1.0s
ODAN Odare 55.15 293 *e*P **P** **05 49 02.3 +0.6**
AKUT Akutan 55.30 33 *e*P **P** **05 49 02.7 +0.7**
comp=Z,447nm,1.1s
BILL Bilibino 55.64 9*c**i*P **P** **05 49 02.7 -1.5**
BILL *i*S **S** **05 56 36.2 -2.7**
BILL pmax pmax
comp=Z,77nm,1.0s
BILL Bilibino 55.64 9 *e*P **P** **05 49 04.3 +0.1**
comp=Z,52nm,0.7s
RAMN Ramite 55.85 293 *e*P **P** **05 49 07.2 +0.4**
OUZ Omahuta 55.98 152 *e*P **P** **05 49 09.2 +2.1**
comp=Z,203nm,1.3s
GUN Gumba 56.51 294 *e*P **P** **05 49 12.1 +0.6**
comp=Z,101nm,0.8s
TAU Tasmania Unive 56.75 178 *e*P **P** **05 49 11.9 -0.4**
TAU pmax pmax
comp=Z,159nm,1.2s
TAU Tasmania Unive 56.75 178 *e*P **P** **05 49 11.9 -0.4**
comp=Z,159nm,1.2s
POHA Pohakuloa 56.83 75 *e*P **P** **05 49 16.3 +2.6**
comp=Z,168nm,1.0s
FALS False Pass 56.85 33 *e*P **P** **05 49 14.1 +1.1**
comp=Z,77nm,0.7s
PKI Pulchoki 56.92 294 *e*P **P** **05 49 14.6 +0.2**
comp=Z,30nm,0.7s
PKIN Phulchoki 56.93 294 *e*P **P** **05 49 15.1 +0.7**
comp=Z,42nm,1.0s
WMQ Urumqi 56.98 313 P **P** **05 49 16.0 +1.8**
WMQ pP **pP** **05 49 48.3 +0.7**
WMQ sP **sP** **05 50 04.5 +1.3**
WMQ PcP **PcP** **05 50 08.9 +1.1**
WMQ PP **PP** **05 51 26.0 +3.7**
WMQ S **S** **05 56 57.4 -0.1**
WMQ sS **sS** **05 57 55.0 -0.1**
WMQ ScS **ScS** **05 58 47.4 -2.3**
WMQ SS **SS** **06 00 49.4 +1.3**
WMQ PMZ
comp=Z,86nm,1.0s
WMQ PMZ
comp=Z,470nm,4.0s
WMQ LN
comp=Z,550nm,18.6s
WMQ LE
comp=Z,380nm,24.8s
WMQ LZ
comp=Z,470nm,21.7s
KKN Kakani 57.04 294 *e*P **P** **05 49 15.4 +0.3**
comp=Z,38nm,0.8s
DMN Daman 57.19 294 *e*P **P** **05 49 16.6 +0.4**
comp=Z,38nm,0.7s
GKN Gorkha 57.61 294 *e*P **P** **05 49 19.4 +0.3**
comp=Z,186nm,1.3s
KRAR Krasnoyarsk 57.74 328 *e*P **P** **05 49 18.1 -1.1**
KRAR pmax pmax
comp=Z,17nm,1.2s
GAMB Gambell 57.93 21 *e*P **P** **05 49 20.8 +0.4**
comp=Z,30nm,0.7s
DANN Dangsing 58.39 295 *e*P **P** **05 49 24.9 +0.3**
comp=Z,14nm,0.6s
KOLN Koldanda 58.53 294 *e*P **P** **05 49 25.8 +0.3**
comp=Z,58nm,0.8s
CHLP Challavanipeta 58.55 283 *e*P **P** **05 49 26.0 +0.5**
CHLP IAmb IAmb 05 49 29.3
comp=Z,15nm,0.7s
SDPT Sand Point 58.60 33 *e*P **P** **05 49 25.9 +0.8**
comp=Z,33nm,0.7s
URZ Urewera 60.08 151 *e*P **P** **05 49 35.0 -0.6**
comp=Z,90nm,1.1s
PVM Polavaram 60.98 282 *e*P **P** **05 49 42.7 +0.5**
PVM IAmb IAmb 05 49 43.8
comp=Z,65nm,1.9s
MK31 Makanchi Array 61.31 316 *i* P **P** **05 49 44.6 +0.7**
MK31 pmax pmax
comp=Z,33nm,0.6s
MKAR Makanchi Array 61.31 316 P **P** **05 49 45.0 +1.1**
comp=Z,40nm,0.6s,baz=90,slow=8.9,SNR=344
MKAR pP **pP** **05 50 17.8 +0.1**
comp=Z,16nm,0.8s,baz=105,slow=8.1,SNR=3.2
MKAR ScP **ScP** **05 54 13.2 -0.2**
comp=Z,5.5nm,0.8s,baz=109,slow=5.4,SNR=3.9
MKAR PKP2bc 06 19 05.4
comp=Z,1.9nm,0.9s,baz=299,slow=1.2,SNR=8.5
ZALV Zalesovo Beam 61.37 324 P **P** **05 49 44.2 +0.1**
comp=Z,12nm,0.6s,baz=106,slow=6.5,SNR=51
ZALV ScP **ScP** **05 54 12.8 -0.6**
comp=Z,5.5nm,1.0s,baz=130,slow=4.6,SNR=3.6
ZALV LR LR 06 16 56.5
comp=Z,432nm,20.9s,baz=69,slow=36
ZALV PKPPKP **P'P'df** **06 18 57.9 +0.1**
comp=Z,1.6nm,0.8s,baz=356,slow=2.2,SNR=5.4
SNZO South Karori 61.53 155 *e*P **P** **05 49 44.4 -0.9**
comp=Z,67nm,0.6s
KHZ Kahutara 62.00 156 *e*P **P** **05 49 46.9 -1.6**
comp=Z,62nm,0.7s
RPZ Rata Peaks 62.21 159 LR LR 06 13 07.0
comp=Z,503nm,21.7s,baz=337,slow=32
RPZ Rata Peaks 62.21 159 *e*P **P** **05 49 48.9 -1.0**
comp=Z,190nm,0.8s
NVS Novosibirsk 62.50 325 ⇑*i*P **P** **05 49 51.8 +0.1**
NVS *e**PP **pP** **05 50 26.9 +1.3**
NVS *e*S **S** **05 58 06.6 -1.1**
NVS pmax pmax
comp=E,21nm,1.0s
NVS pmax pmax
comp=Z,50nm,1.0s
NVS pmax pmax
comp=N,11nm,0.8s
NVS smax smax
comp=N,174nm,3.7s
ADKI Addanki 62.74 281 *e*P **P** **05 49 53.4 -0.5**
ADKI IAmb IAmb 05 49 55.2
comp=Z,8.4nm,0.8s
KALG Kalgarh 62.77 296 *e*P **P** **05 49 53.4 -0.6**
KALG *e*S pP 05 50 22.1 -5.8
PDGK Podgornoye 62.78 312 P **P** **05 49 54.4 +0.7**
PDGK pmax pmax
comp=Z,46nm,0.8s
RPR Rampur 63.00 284 *e*P **P** **05 49 56.4 +0.7**
RPR IAmb IAmb 05 50 05.5
comp=Z,39nm,1.5s
OHAK Old Harbor 63.00 32 *e*P **P** **05 49 56.1 +1.1**
comp=Z,111nm,0.9s
NJS Nagarjunasagar 63.27 282 *e*P **P** **05 49 57.5 0.0**
NJS IAmb IAmb 05 49 59.0
comp=Z,17nm,1.0s
SKHT Srikalahasti 63.29 278 *e*P **P** **05 49 57.0 -0.6**
SKHT IAmb IAmb 05 49 58.0
comp=Z,68nm,1.9s

PALK **Pallekele** 63.51 271 LR LR 06 16 41.0
comp=Z,120nm,19.8s,baz=32,slow=35
KDAK **Kodiak Island** 63.52 32 *i* P **P** **05 49 59.3 +0.9**
KDAK **Kodiak Island** 63.52 32 *e*P **P** **05 49 59.6 +1.3**
comp=Z,63nm,0.6s
AGRA **Agra** 63.56 294 *e*P P 05 49 54.9 -4.3
AGRA *e*S x 05 50 23.9
AGRA AML AML 05 50 59.7
comp=N,120nm,0.3s
AGRA AML AML 05 51 05.4
comp=E,95nm,0.2s
SRLM **Srisailam** 63.73 281 IAmb IAmb 05 50 00.7
comp=Z,34nm,1.3s
SRLM *e*P **P** **05 50 00.7 +0.2**
RCLA **Racherla** 63.76 280 *e*P **P** **05 50 01.1 +0.4**
RCLA IAmb IAmb 05 50 04.2
comp=Z,20nm,1.5s
HYB **Hyderabad** 63.87 283 *i* P **P** **05 50 01.0 -0.4**
HYB *e*pP **pP** **05 50 35.5 0.0**
HYBB **Hyderabad (bro** 63.87 283 *e*P **P** **05 50 01.6 +0.2**
HYBB IAmb IAmb 05 50 02.7
comp=Z,19nm,1.1s
HYBB *e*sP **sP** **05 50 47.9 -3.0**
SRSP **Sriramsagar** 63.88 284 *e*P **P** **05 50 01.9 +0.4**
SRSP IAmb IAmb 05 50 10.5
comp=Z,20nm,1.2s
NDI **New Delhi** 64.14 295 *e*P **P** **05 50 03.5 +0.5**
NDI *ex* pP 05 50 30.5 -6.6
RSO **Redoubt South** 64.23 29 *e*P **P** **05 50 03.2 0.0**
comp=Z,123nm,0.8s
SONA **Sohna** 64.28 295 *e*P **P** **05 50 03.9 +0.1**
SONA *e*S **pP** **05 50 39.7 +1.8**
SONA AML AML 05 50 42.9
comp=E,13nm,0.1s
SONA AML AML 05 50 43.3
comp=N,8.4nm,0.3s
KURK **Kurchatov** 64.36 320 P **P** **05 50 04.7 +0.7**
KURK S **S** **05 58 30.7 -0.3**
KURK pmax pmax
comp=Z,69nm,0.7s
KURK smax smax
comp=N,2.0nm,1.2s
KURK **Kurchatov** 64.36 320 *e*P **P** **05 50 04.5 +0.4**
comp=N,108nm,0.8s
KURK S **S** **05 58 30.7 -0.3**
KURBB **Kurchatov Arra** 64.41 320 P **P** **05 50 04.7 +0.4**
comp=N,69nm,0.7s,baz=102,slow=6.7,SNR=5.3
KURBB S **S** **05 58 30.7 -0.8**
comp=N,2.2nm,1.2s,baz=101,slow=9.8,SNR=5.9
KKR **Kurukshetra** 64.44 297 *ex* **P** **05 50 05.9 +1.0**
KKR *ex* **pP** **05 50 38.9 -0.1**
ULHL **Ulahol** 65.06 310 P **P** **05 50 09.8 +0.8**
SNR=18
KSH **Kashi** 65.14 307 P P 05 50 13.0 +3.6
KSH PcP **PcP** **05 50 45.1 +4.1**
KSH pP pP 05 50 47.9 +4.3
KSH PP PP 05 52 42.1 +7.7
KSH S **S** **05 58 40.3 -0.9**
KSH sS sS 05 59 44.9 +4.7
KSH SS **SS** **06 03 03.0 +6.9**
KSH PMZ
comp=N,35nm,0.8s
KSH PMZ
comp=N,570nm,3.7s
KSH LN
comp=N,810nm,13.6s
KSH LE
comp=N,470nm,7.5s
KSH LZ
comp=N,740nm,20.7s
PPLA **Purkeypile** 65.24 27 *e*P **P** **05 50 10.5 +0.8**
comp=N,61nm,0.6s
URV **Uravakonda** 65.45 280 *e*P **P** **05 50 11.7 0.0**
URV IAmb IAmb 05 50 12.2
comp=Z,10.0nm,0.9s
TKM2 **Tokmak 2** 65.58 311 P **P** **05 50 13.4 +1.1**
SNR=27
TKM2 **Tokmak 2** 65.58 311 *e*P **P** **05 50 13.2 +0.9**
TKM2 pmax pmax
comp=Z,30nm,0.8s
TKM2 **Tokmak 2** 65.58 311 *e*P **P** **05 50 13.2 +0.9**
comp=Z,30nm,0.8s
KLRI **Killari** 65.64 284 *e*P **P** **05 50 13.2 +0.3**
KZA **Kyzart** 65.79 310 P **P** **05 50 15.7 +1.8**
SNR=27
RC01 **Rabbit Creek A** 65.83 29 *e*P **P** **05 50 13.2 -0.1**
comp=Z,85nm,0.6s
KBK **Karagaybulak** 66.04 311 P **P** **05 50 16.3 +1.1**
SNR=19
BPAW **Bear Paw Mtn.** 66.13 26 *e*P **P** **05 50 14.9 -0.3**
comp=Z,11nm,0.8s
CHMS **Chumysh** 66.20 311 P **P** **05 50 16.9 +0.8**
SNR=8.6
TRF **Thorofare Moun** 66.23 26 *e*P **P** **05 50 15.9 -0.1**
comp=Z,49nm,0.7s
PMR **Palmer** 66.24 28 *e*P **P** **05 50 15.6 -0.3**
PMR pmax pmax
comp=Z,70nm,0.7s
PMR **Palmer** 66.24 28 *e*P **P** **05 50 15.6 -0.3**
comp=Z,70nm,0.7s
FRU **Bishkek** 66.30 311⇑ *i*P **P** **05 50 17.0 +0.3**
FRU *i* 05 50 52.0
FRU *i* 05 51 07.0
FRU *e* 05 59 40.0
FRU pmax pmax
comp=Z,70nm,2.0s
UCH **Uchtor** 66.34 310 P **P** **05 50 19.1 +1.5**
SNR=39
AAK **Ala-Archa** 66.38 311 P **P** **05 50 18.1 +0.7**
SNR=7.2
AAK **Ala-Archa** 66.38 311 *i* P **P** **05 50 17.8 +0.4**
AAK pmax pmax
comp=Z,15nm,0.7s
USP **Ospenovka** 66.40 311 P **P** **05 50 18.1 +0.7**
SNR=16
SML **Sawmill** 66.66 28 *e*P **P** **05 50 19.1 +0.4**
SML pmax pmax
comp=Z,42nm,0.9s
SML **Sawmill** 66.66 28 *e*P **P** **05 50 19.1 +0.4**
comp=Z,42nm,0.9s
MCK **McKinley** 66.89 26 *e*P **P** **05 50 19.4 -0.6**
MCK pmax pmax
comp=Z,25nm,0.6s
MCK **McKinley** 66.89 26 *e*P **P** **05 50 19.4 -0.6**
comp=Z,25nm,0.6s
EKS2 **Erkin-Say** 66.91 311 P **P** **05 50 21.7 +1.0**
SNR=13
EKS2 **Erkin-Say** 66.91 311 *e*P **P** **05 50 20.9 +0.2**
EKS2 pmax pmax
comp=Z,45nm,1.4s
EKS2 **Erkin-Say** 66.91 311 *e*P **P** **05 50 20.9 +0.2**
comp=Z,45nm,1.4s
AML **Almayashu** 66.95 310 P **P** **05 50 22.7 +1.4**
SNR=19
COLD **Coldfoot** 67.40 22 *e*P **P** **05 50 23.6 +0.5**
comp=Z,41nm,0.6s
COLA **College** 67.65 25 *d* iP **P** **05 50 24.5 -0.2**
COLA pmax pmax
comp=Z,146nm,1.2s
COLA **College** 67.65 25 *e*P **P** **05 50 24.6 -0.2**
comp=Z,30nm,0.7s
DIV **Divide** 67.71 29 *e*P **P** **05 50 26.2 +0.9**
comp=Z,54nm,0.7s
ILAR **Eielson Array** 68.02 25 P **P** **05 50 25.6 -1.5**
comp=Z,38nm,0.6s,baz=250,slow=5.9,SNR=576
ILAR LR LR 06 16 44.5
comp=Z,116nm,21.9s,baz=266,slow=33
ILAR PKPPKP **P'P'df** **06 18 43.9 -2.4**
comp=Z,0.6nm,1.0s,baz=78,slow=1.8,SNR=5.3
PAX **Paxson** 68.22 27 *e*P **P** **05 50 28.8 +0.3**
PAX pmax pmax
comp=Z,49nm,0.6s
PAX **Paxson** 68.22 27 *e*P **P** **05 50 28.8 +0.3**
comp=Z,49nm,0.6s
BMRM **Bremner River** 68.24 30 *e*P **P** **05 50 29.1 +0.5**
comp=Z,71nm,0.8s
MENT **Mentasta** 69.00 28 *e*P **P** **05 50 33.6 +0.4**
KK31 **Karatay Array** 69.31 311 *i* P **P** **05 50 36.1 +0.5**
KK31 pmax pmax
comp=Z,22nm,0.6s
KKAR **Karatay Array** 69.31 311 *e*P **P** **05 50 36.0 +0.5**
KKAR pmax pmax
comp=Z,25nm,0.6s
KKAR **Karatay Array** 69.31 311 *e*P **P** **05 50 36.0 +0.5**
comp=Z,25nm,0.6s
BVA0 **Borovoye Array** 69.69 322 *i* P **P** **05 50 37.9 +0.2**
BVA0 pmax pmax
comp=Z,47nm,0.7s
BVAR **Borovoye Array** 69.69 322 P **P** **05 50 37.8 +0.2**
comp=Z,44nm,0.6s,baz=107,slow=7.8,SNR=27
BRVK **Borovoye** 69.76 322 P **P** **05 50 38.1 +0.1**
comp=Z,412nm,0.7s,SNR=22
BRVK **Borovoye** 69.76 322 *e*P **P** **05 50 38.2 +0.2**
BRVK pmax pmax
comp=Z,46nm,0.8s
BRVK **Borovoye** 69.76 322 *e*P **P** **05 50 38.2 +0.2**
comp=Z,46nm,0.8s
JASL **Jaisalmer** 69.84 294 *e*P pP 05 51 17.0 +3.3
EGAK **Eagle** 70.43 26 *e*P **P** **05 50 42.1 +0.2**
comp=Z,30nm,0.6s
KBL **Kabul** 70.78 302 *e*P **P** **05 50 45.2 +0.3**
KBL pmax pmax
comp=Z,31nm,0.8s
KBL **Kabul** 70.78 302 *e*P **P** **05 50 45.2 +0.3**
comp=Z,31nm,0.8s
DAWY **Dawson** 71.09 27 *e*P **P** **05 50 46.8 +0.7**
HYT **Haines Junctio** 71.66 30 *e*P **P** **05 50 51.5 +2.0**
PPT **Papeete** 71.69 114 P **P** **05 50 52.7 +2.4**
comp=Z,44nm,0.7s,baz=22,slow=0.6,SNR=4.7
PPT LR LR 06 16 13.9
comp=Z,318nm,19.2s,baz=298,slow=30
PPT2 **Papeete2** 71.70 114 *e*S **S** **05 59 57.2 -2.0**
comp=Z,676nm,25.5s
PPT2 **Papeete2** 71.70 114 *e*LR LR 06 12 16.8
comp=Z,437nm,22.0s
TIAR **Tiarei** 71.89 114 *e*P **P** **05 50 53.8 +2.3**
comp=Z,32nm,1.1s
TVO **Taravao** 72.06 114 *e*P **P** **05 50 55.2 +2.6**
comp=Z,36nm,1.1s
PMOR **Pomariorio Ree** 72.28 111 *e*P **P** **05 50 54.6 +0.8**
comp=Z,283nm,1.4s
PMOR **Pomariorio Ree** 72.28 111 *e*T T 07 09 53.3
comp=Z,7.0nm,0.2s
SKAG **Skagway** 72.68 32 *e*P **P** **05 50 57.0 +1.5**
comp=Z,55nm,1.0s
MEH **Mehetia** 73.14 114 *e*P **P** **05 51 00.1 +1.2**
comp=Z,34nm,1.1s
INK **Inuvik** 73.82 23 *e*P **P** **05 51 02.0 0.0**
INK pmax pmax
comp=Z,37nm,0.9s
INK **Inuvik** 73.82 23 *e*P **P** **05 51 02.0 0.0**
comp=Z,37nm,0.9s
TBI **Tubuai** 74.00 120 *e*S **S** **06 00 23.7 -1.3**
comp=Z,499nm,27.5s
TBI **Tubuai** 74.00 120 *e*LQ LQ 06 10 46.2
comp=Z,769nm,26.8s
TBI *e*LR LR 06 13 07.2
comp=Z,353nm,36.0s
TBI **Tubuai** 74.00 120 *e*T T 07 12 02.1
comp=Z,16nm,0.3s
WRAK **Wrangell Islan** 74.27 35 *e*P **P** **05 51 06.2 +1.4**
comp=Z,32nm,0.7s
SVE **Sverdlovsk** 75.33 326 *d* iP **P** **05 51 11.4 +0.5**
SVE *e*S **S** **06 00 35.8 -2.9**
SVE pmax pmax
comp=Z,49nm,1.4s
SVE MLR MLR
comp=Z,456nm,21.0s
DLBC **Dease Lake** 75.44 33 *e*P **P** **05 51 12.8 +1.2**
AB31 **Akbulak array** 76.34 318 P **P** **05 51 16.6 -0.2**
AB31 pmax pmax
comp=Z,14nm,0.6s
ABKAR **Akbulak array** 76.34 318 *e*P **P** **05 51 16.8 0.0**
comp=Z,20nm,0.7s
ARU **Arti** 76.50 325 *e*P **P** **05 51 17.2 -0.4**
ARU pmax pmax
comp=Z,24nm,0.8s
ARU **Arti** 76.50 325 P **P** **05 51 17.5 -0.1**
comp=Z,196nm,0.6s,SNR=10
ARU **Arti** 76.50 325 *e*P **P** **05 51 17.2 -0.4**
comp=Z,24nm,0.8s
SOKR **Solikamsk** 77.14 329 *c* iP **P** **05 51 21.2 +0.2**
SOKR *PP **pP** **05 51 56.9 +0.6**
SOKR S **S** **06 01 01.7 +3.4**
SOKR pmax pmax
comp=Z,30nm,1.3s
SOKR MLR MLR
comp=Z,340nm,18.0s
AKTO **Aktyubinsk** 77.45 319 P **P** **05 51 22.6 -0.4**
comp=Z,8.7nm,0.7s,baz=88,slow=7.7,SNR=18
IMYA **Miami** 77.84 305 *e*P **P** **05 51 26.2 +0.5**
IMOG **Moghan** 78.48 304 *e*P **P** **05 51 31.1 +1.7**
IAKL **Akhelmad** 78.87 305 *e*P **P** **05 51 31.8 +0.3**
GEYT **Alibeck** 79.16 306 P **P** **05 51 33.3 +0.5**
comp=Z,26nm,0.9s,baz=45,slow=2.3,SNR=25
GEYT pP **pP** **05 52 07.9 -0.2**
comp=Z,3.6nm,0.4s,baz=49,slow=4.4,SNR=2.9
GEYT LR LR 06 29 15.1
comp=Z,168nm,18.9s,baz=110,slow=38
ISFR **Sfrayin** 79.39 306 *e*P **P** **05 51 35.0 +0.7**
ISHV **Shirvan** 79.55 306 *e*P **P** **05 51 35.2 +0.2**
NLWA **Neilton Lookou** 80.46 44 *e*P **P** **05 51 41.4 +1.9**
comp=Z,188nm,0.7s
PGC **Sidney** 80.51 42 *e*P **P** **05 51 41.1 +1.4**
DRV **Dumont d'Urvil** 80.61 182 P **P** **05 51 39.0 -0.6**
DRV PP **PP** **05 54 48.0 +2.5**
DRV S S 06 01 20.0 -15
DRV SS **SS** **06 06 44.0 -6.8**
DRV L L 06 12 00.0
DRV R 06 18 00.0
KEBM **Edson Butte** 80.96 48 *e*P **P** **05 51 44.6 +2.2**
comp=Z,329nm,1.0s
KBO **Bosley Butte** 81.16 49 *e*P **P** **05 51 45.6 +2.2**
comp=Z,189nm,1.4s
G03D **McMinnville, O** 81.28 46 P **P** **05 51 45.9 +2.0**
baz=81,SNR=21
F04D **Rainier, OR** 81.28 45 P **P** **05 51 45.5 +1.7**
baz=81
COR **Corvallis** 81.37 46 *e*P **P** **05 51 46.5 +2.1**
COR pmax pmax
comp=Z,202nm,0.9s
COR **Corvallis** 81.37 46 *e*P **P** **05 51 46.5 +2.1**
comp=Z,202nm,0.9s
I03D **Drain, OR** 81.51 47 P **P** **05 51 46.8 +1.7**
baz=82,SNR=43
L02D **Cave Junction,** 81.63 49 P **P** **05 51 47.4 +1.5**
baz=82,SNR=19
KHMM **Horse Mountain** 81.79 50 *e*P **P** **05 51 49.2 +2.3**
comp=Z,213nm,0.8s
LON **Longmire** 81.96 44 *e*P **P** **05 51 48.4 +0.9**
LON pmax pmax
comp=Z,41nm,0.9s
LON **Longmire** 81.96 44 *e*P **P** **05 51 48.4 +0.9**
comp=Z,41nm,0.9s
HUMO **Hull Mountain** 82.01 48 *e*P **P** **05 51 49.4 +1.6**
comp=Z,95nm,0.6s
KCPM **Cahto Peak** 82.14 51 *e*P **P** **05 51 50.9 +2.2**
comp=Z,140nm,0.8s
I04A **Tendick Farm,** 82.16 47 P **P** **05 51 49.7 +1.1**
baz=82,SNR=56
PRGR **Permogore** 82.18 332 *e*P **P** **05 51 46.6 -1.6**
PRGR *PP **pP** **05 52 24.1 +0.2**
PRGR S **S** **06 01 47.2 -4.1**
PRGR pmax pmax
comp=Z,33nm,0.6s
KIPM **Iron Peak** 82.19 51 *e*P **P** **05 51 51.0 +2.0**
comp=Z,186nm,1.0s
YKA **Yellowknife Ar** 82.31 27 P **P** **05 51 48.6 -0.3**
comp=Z,15nm,0.5s,baz=286,slow=5.1,SNR=124
YKA **Yellowknife Ar** 82.31 27 P **P** **05 51 48.6 -0.3**
YKA pmax pmax
comp=Z,15nm,0.5s
M02C **Callahan** 82.33 49 P **P** **05 51 51.2 +1.6**
baz=82,SNR=63
YBH **Yreka Blue Hor** 82.37 49 *e*P **P** **05 51 51.6 +1.8**
YBH pmax pmax
comp=Z,361nm,1.1s
YBH **Yreka Blue Hor** 82.37 49 *e*P **P** **05 51 51.6 +1.8**
comp=Z,361nm,1.1s
IBAF **Bafgh** 82.38 301 *e*P **P** **05 51 50.1 -0.1**
J04D **Umpqua Nationa** 82.49 47 P **P** **05 51 52.0 +1.5**
baz=82,SNR=113
N02D **Trinity Center** 82.53 50 P **P** **05 51 52.7 +2.1**
baz=82,SNR=59
G05D **Wamic, OR** 82.62 45 P **P** **05 51 51.7 +0.7**
baz=83,SNR=30
ALE **Alert** 82.73 4 P **P** **05 51 51.9 +1.1**
comp=Z,188nm,0.6s,SNR=6.0
WDC **Whiskeytown Da** 82.73 50 *e*P **P** **05 51 53.4 +1.8**
WDC pmax pmax
comp=Z,123nm,1.1s
WDC **Whiskeytown Da** 82.73 50 *e*P **P** **05 51 53.4 +1.8**
comp=Z,123nm,1.1s
I05D **Terrebonne, OR** 82.80 46 P **P** **05 51 52.6 +0.7**
baz=83,SNR=60
K04D **Chiloquin, OR** 82.87 48 P **P** **05 51 53.6 +1.2**
baz=83,SNR=83
IANJ **Anjilo** 82.93 305 *e*P **P** **05 51 52.5 -0.5**
MCCM **Marconi Confer** 82.99 53 *e*P **P** **05 51 54.3 +1.4**
comp=Z,85nm,0.9s
M04C **Macdoel** 82.99 49 P **P** **05 51 54.2 +1.1**
baz=83,SNR=110
J05D **Fort Rock, OR** 83.10 47 P **P** **05 51 55.3 +1.6**
baz=83,SNR=262
ICHK **Chekchek** 83.21 301 *e*P **P** **05 51 54.5 -0.1**
ISHM **Shahmirzad** 83.36 305 *e*P **P** **05 51 55.0 -0.3**
HAWA **Hanford** 83.58 44 *e*P **P** **05 51 56.7 +0.9**
comp=Z,95nm,0.7s
SPA0 **Spitsbergen Ar** 83.61 351 *e*P **P** **05 51 55.8 +0.4**
ILAS **Lasjerd** 83.71 305 *e*P **P** **05 51 56.9 -0.1**
KBS **Kingsbay** 83.75 352 *e*P **P** **05 51 54.0 -2.0**
KBS **Kingsbay** 83.75 352 *e*P **P** **05 51 56.3 +0.2**
KBS pmax pmax
comp=Z,29nm,0.8s
KBS **Kingsbay** 83.75 352 *e*P **P** **05 51 56.2 +0.2**
comp=Z,29nm,0.8s
RES **Resolute Bay** 84.02 13 *e*P **P** **05 51 57.8 +0.4**
RES pmax pmax
comp=Z,22nm,0.8s
RES **Resolute Bay** 84.02 13 *e*P **P** **05 51 57.8 +0.4**
comp=Z,22nm,0.8s
MOD **Modoc** 84.08 48 *e*P **P** **05 51 59.8 +1.1**
comp=Z,121nm,0.8s
CASY **Casey** 84.14 193 *e*P **P** **05 51 58.2 +0.1**
comp=Z,93nm,1.3s
IDMV **Damavand** 84.41 305 *e*P **P** **05 51 59.8 -0.8**
HSPB **Hornsund (broa** 84.52 350 *e*P **P** **05 52 00.5 +0.6**
HSPB IAmb IAmb 05 52 01.5
comp=Z,53nm,1.0s
LVZ **Lovozero** 84.53 339 *d* iP **P** **05 51 59.8 -0.4**
LVZ pmax pmax
comp=Z,31nm,1.0s
TMCR **Tamitsa** 84.70 335 *e*P **P** **05 51 59.5 -1.5**
TMCR pmax pmax
comp=Z,80nm,1.4s
NEW **Newport** 84.70 42 *e*P **P** **05 52 02.3 +0.8**
NEW pmax pmax
comp=Z,158nm,1.0s
NEW **Newport** 84.70 42 P **P** **05 52 02.4 +0.8**
baz=85,SNR=100
NEW **Newport** 84.70 42 *e*P **P** **05 52 02.3 +0.8**
comp=Z,158nm,1.0s
IZEF **Zefreh** 84.78 302 *e*P **P** **05 52 01.9 -0.6**
IVRN **Varamin** 84.78 305 *e*P **P** **05 52 01.5 -0.7**
CMB **Columbia Colle** 84.93 52 *e*P **P** **05 52 04.1 +1.2**
CMB pmax pmax
comp=Z,109nm,0.9s
CMB **Columbia Colle** 84.93 52 *e*P **P** **05 52 04.1 +1.2**
comp=Z,109nm,0.9s
APA **Apatity** 85.09 339⇑ *i*P **P** **05 52 02.5 -0.5**
APA *i* S **S** **06 02 16.0 -4.3**
APA pmax pmax
comp=Z,102nm,1.5s
APA MLR MLR
comp=Z,600nm,20.0s
WVOR **Wild Horse Val** 85.16 48 *e*P **P** **05 52 05.4 +1.4**
WVOR pmax pmax
comp=Z,111nm,0.9s
WVOR **Wild Horse Val** 85.16 48 *e*P **P** **05 52 05.4 +1.4**
comp=Z,112nm,0.9s
IKLH **Kolahrood** 85.30 303 *e*P **P** **05 52 05.2 +0.1**
BMO **Blue Mountains** 85.47 45 *e*P **P** **05 52 06.7 +1.2**
comp=Z,209nm,0.9s
WAKR **Walker** 85.55 52 *e*P **P** **05 52 08.0 +1.9**
comp=Z,56nm,0.8s
EDM **Edmonton** 85.61 36 *e*P **P** **05 52 06.3 +0.4**
EDM **Edmonton** 85.61 36 *e*P **P** **05 52 06.3 +0.4**
IGZV **Ghazvin** 85.64 306 *e*P **P** **05 52 06.5 -0.2**
SMMC **Simmler** 85.89 55 P **P** **05 52 09.1 +1.4**
baz=86,SNR=17
MAK **Makhachkala** 86.00 313 *e*P **P** **05 52 06.8 -1.2**
MAK *e*PP **pP** **05 52 42.1 -1.8**
MAK *e*SP **sP** **05 52 57.0 -1.9**
MAK *e* 05 55 30.5
MAK *e*PPP PPP 05 57 26.7
MAK *e*S **SKSac** **06 02 19.0 -1.7**
MAK *e*SS sS 06 03 21.7 -10
MAK pmax pmax
comp=Z,35nm,0.5s
MAK MLR MLR
comp=Z,668nm,22.0s
IRAZ **Razeghan** 86.11 305 *e*P **P** **05 52 06.4 -2.6**
KEV **Kevo** 86.13 342 *e*P **P** **05 52 07.4 -0.7**
KEV pmax pmax
comp=Z,38nm,0.6s
KEV **Kevo** 86.13 342 *e*P **P** **05 52 07.4 -0.7**
comp=Z,38nm,0.6s
PKM **Peak Mountain** 86.14 55 P **P** **05 52 10.5 +1.4**
baz=86,SNR=32
MLAC **Mammoth Lakes** 86.22 52 P **P** **05 52 11.5 +2.0**
baz=86,SNR=13
RCTC **Rector, Farmer** 86.25 54 P **P** **05 52 10.9 +1.6**
baz=86
BSMT **Bassoo Peak** 86.32 42 *e*P **P** **05 52 10.7 +1.0**
comp=Z,174nm,0.8s
SBC **Santa Barbara** 86.34 56 P **P** **05 52 10.9 +1.1**
baz=86
NVAR **Mina Array Bea** 86.42 51 P **P** **05 52 12.2 +1.7**
comp=Z,83nm,0.8s,baz=264,slow=6.3,SNR=520
RKT **Rikitea** 86.44 115 *e*LR LR 06 18 40.3
comp=Z,323nm,36.8s
VES **Vestal, Richgr** 86.48 54 P **P** **05 52 10.4 -0.1**
baz=86,SNR=45
BSC **Santa Cruz Isl** 86.51 56 P **P** **05 52 11.5 +0.7**
baz=86
WALA **Waterton Lakes** 86.52 40 *e*P **P** **05 52 11.9 +1.3**
BLMT **Blacktail Moun** 86.55 41 *e*P **P** **05 52 11.9 +1.0**
comp=Z,129nm,0.8s
HAMF **Hammerfest** 86.61 343 *e*P **P** **05 52 09.7 -0.7**
HAMF IAmb IAmb 05 52 10.4
comp=Z,64nm,0.9s
JTMT **Jette** 86.68 42 *e*P **P** **05 52 12.1 +0.7**
comp=Z,46nm,0.9s
ARCES **ARCESS Array B** 86.69 342 P **P** **05 52 10.4 -0.4**
comp=Z,51nm,0.7s,baz=68,slow=6.2,SNR=203
ARCES PKiKP **PKiKP** **05 57 16.6 +0.3**
comp=Z,1.2nm,0.7s,baz=104,slow=0.9,SNR=6.0
ARCES PKKPbc **PKKPbc** **06 10 05.0 -2.5**
comp=Z,1.9nm,0.8s,baz=101,slow=0.9,SNR=4.9
ARCES LR LR 06 34 45.1
comp=Z,385nm,19.2s,baz=70,slow=38
ARE0 **ARCESS Array S** 86.69 342 *e*P **P** **05 52 10.5 -0.3**
ARE0 IAmb IAmb 05 52 11.3
comp=Z,60nm,0.7s
ARE0 *e*SKSac **SKSac** **06 02 25.0 +0.9**
BMN **Battle Mountai** 86.71 49 *e*P **P** **05 52 13.4 +1.7**
BMN pmax pmax
comp=Z,36nm,0.6s
BMN **Battle Mountai** 86.71 49 *e*P **P** **05 52 13.4 +1.7**
comp=Z,36nm,0.6s
YBMT **Yellow Bay** 86.82 41 *e*P **P** **05 52 12.9 +0.8**
comp=Z,82nm,1.1s
TIN **Tinemaha** 86.84 53 P **P** **05 52 13.2 +0.8**
baz=87,SNR=9.3
ARVC **Arvin** 86.87 55 P **P** **05 52 12.8 +0.4**
baz=87,SNR=19
MFID **Camas Ranch** 86.89 46 *e*P **P** **05 52 13.8 +1.3**
comp=Z,284nm,0.8s
SWMT **Swartz Lake** 86.93 42 *e*P **P** **05 52 12.7 +0.1**
comp=Z,67nm,1.4s
BLG **Laguna Peak** 86.94 56 P **P** **05 52 13.5 +0.7**
baz=87
ISA **Isabella** 87.01 54 *e*P **P** **05 52 13.9 +0.7**
ISA pmax pmax
comp=Z,70nm,1.3s
ISA **Isabella** 87.01 54 P **P** **05 52 14.1 +0.9**
baz=87,SNR=29
ISA **Isabella** 87.01 54 *e*P **P** **05 52 13.9 +0.7**
comp=Z,70nm,1.3s
OSI **Osito Adit** 87.08 55 P **P** **05 52 15.3 +1.7**
baz=87
OSI **Osito Adit** 87.08 55 *e*P **P** **05 52 15.6 +2.0**
comp=Z,46nm,0.9s
CWC **Cottonwood Cre** 87.12 53 P **P** **05 52 15.5 +1.7**
baz=87,SNR=40
MSO **Missoula** 87.17 42 P **P** **05 52 14.2 +0.4**
baz=87,SNR=36
SLMT **Seeley Lake** 87.34 42 *e*P **P** **05 52 14.8 +0.2**

comp=Z,105nm,1.2s
TPH Tonopah 87.34 52 *e*P **P 05 52 16.3 +1.4**
TPH pmax pmax
comp=Z,111nm,0.9s
TPH Tonopah 87.34 52 *e*P **P 05 52 16.3 +1.4**
comp=Z,112nm,0.9s
DECC Green Verdugo 87.49 55 P **P 05 52 17.1 +1.6**
baz=88,SNR=7.0
GRAC Grapevine Rang 87.52 53 P **P 05 52 17.2 +1.7**
baz=88,SNR=43
DAC Darwin (Calif) 87.54 53 *e*P **P 05 52 17.0 +1.1**
DAC pmax pmax
comp=Z,74nm,1.1s
DAC Darwin (Calif) 87.54 53 *e*P **P 05 52 17.0 +1.1**
comp=Z,74nm,1.1s
CHMT Chamberlain Mo 87.60 42 *e*P **P 05 52 15.8 -0.1**
comp=Z,34nm,1.2s
EDW2 Edwards Air Fo 87.60 55 P **P 05 52 17.7 +1.7**
baz=88,SNR=56
PASC Pasadena Art C 87.63 56 *e*P **P 05 52 17.7 +1.6**
comp=Z,120nm,1.4s
SCI San Clemente I 87.65 57 P **P 05 52 17.3 +1.1**
baz=88
CIS Catalina Islan 87.66 56 P **P 05 52 17.5 +1.2**
baz=88,SNR=9.6
KTK1 Kautokeino 87.66 342 *e*P **P 05 52 14.6 -0.9**
KTK1 IAmb IAmb 05 52 15.4
comp=Z,22nm,0.8s
FMP Fort Macarthur 87.66 56 P **P 05 52 17.6 +1.4**
baz=88
LRMC Laurel Mountai 87.68 54 P **P 05 52 18.0 +1.5**
baz=88,SNR=41
MPMC Manual Prospec 87.68 54 P **P 05 52 18.1 +1.5**
baz=88,SNR=115
MWC Mount Wilson 87.72 55 *e*P **P 05 52 17.9 +1.1**
MWC pmax pmax
comp=Z,144nm,1.3s
MWC Mount Wilson 87.72 55 *e*P **P 05 52 17.9 +1.1**
comp=Z,144nm,1.3s
HLID Hailey 87.83 46 P **P 05 52 18.7 +1.6**
baz=88
HLID Hailey 87.83 46 *e*P **P 05 52 18.6 +1.5**
comp=Z,137nm,0.8s
MOS Moscow 88.03 327 *e*P **P 05 52 14.4 -3.1**
MOS *e* 06 02 32.3
MOS pmax pmax
comp=Z,60nm,1.0s
BFSC Mount Baldy Ra 88.03 55 P **P 05 52 19.1 +0.9**
baz=88,SNR=19
FURC Furnace Creek, 88.06 53 P **P 05 52 19.7 +1.6**
baz=88,SNR=126
RRX Edison Barstow 88.38 55 P **P 05 52 21.2 +1.6**
baz=88
TPNV Topopah Spring 88.39 52 P **P 05 52 21.4 +1.6**
baz=88,SNR=187
GSC Goldstone 88.42 54 *e*P **P 05 52 21.6 +1.7**
GSC pmax pmax
comp=Z,107nm,0.9s
GSC Goldstone 88.42 54 P **P 05 52 21.4 +1.5**
baz=88,SNR=102
GSC Goldstone 88.42 54 *e*P **P 05 52 21.6 +1.7**
comp=Z,107nm,0.9s
LRM Limekiln Ridge 88.47 43 *e*P **P 05 52 20.9 +0.8**
comp=Z,670nm,1.1s
GOF Gofitskoye 88.47 316 *e*P **P 05 52 18.3 -1.5**
GOF *e*S **SKSac 06 02 34.9 -0.9**
GOF pmax pmax
comp=Z,30nm,0.9s
R11A Troy Canyon, C 88.50 51 P **P 05 52 22.2 +1.8**
baz=88,SNR=143
R11A Troy Canyon, C 88.50 51 *e*P **P 05 52 21.4 +1.1**
comp=Z,89nm,1.1s
MCMT McKenzie Canyo 88.51 44 *e*P **P 05 52 21.3 +1.0**
comp=Z,11nm,0.6s
TRO Tromso 88.52 344 *e*P **P 05 52 17.6 -1.9**
TRO IAmb IAmb 05 52 18.3
comp=Z,49nm,0.6s
MURC Murrieta 88.57 56 P **P 05 52 22.2 +1.6**
baz=89,SNR=14
ZEI Tsey 88.58 314 *e*P **P 05 52 20.1 -0.6**
ZEI *e* 05 52 56.9
ZEI pmax pmax
comp=Z,39nm,0.3s
HRY Holter Researc 88.59 42 *e*P **P 05 52 22.1 +1.5**
comp=Z,50nm,0.6s
BBRC Big Bear Solar 88.61 55 P **P 05 52 22.3 +1.3**
baz=89,SNR=9.5
SHOC Shoshone 88.66 53 P **P 05 52 22.7 +1.7**
baz=89,SNR=48
GNI Garni 88.78 311 P **P 05 52 21.4 -0.2**
comp=Z,5.0nm,0.4s,baz=151,slow=19,SNR=4.8
GNI Garni 88.78 311 *c i*P **P 05 52 20.8 -0.8**
GNI pmax pmax
comp=Z,19nm,1.9s
DAG Danmarks Havn 88.81 356⇑ *i*P **P 05 52 19.5 -1.3**
comp=Z,16nm,0.8s
DAG Danmarks Havn 88.81 356⇑ *i*P **P 05 52 19.5 -1.3**
DAG pmax pmax
comp=Z,12nm,0.8s
OBN Obninsk 88.82 327 P **P 05 52 19.8 -1.4**
comp=Z,18nm,0.4s,baz=332,slow=23,SNR=7.3
OBN Obninsk 88.82 327 *c i*P **P 05 52 20.0 -1.2**
OBN *e**PP **pP 05 52 57.3 0.0**
OBN *e*S **SKSac 06 02 34.6 -2.7**
OBN pmax pmax
comp=Z,50nm,1.4s
OBN MLR MLR
comp=Z,565nm,23.0s
VSR Storozhevoye 88.84 323 *e*P **P 05 52 19.9 -1.5**
VSR pmax pmax
comp=N,20nm,1.0s
VSR pmax pmax
comp=E,40nm,1.0s
VSR pmax pmax
comp=Z,100nm,1.0s
109C Camp Elliot, M 88.84 56 P **P 05 52 23.2 +1.4**
baz=89,SNR=12
HEC Hector,Ludlow 88.92 54 P **P 05 52 24.1 +1.8**
baz=89,SNR=40
KBZ Khabaz 88.99 315 P **P 05 52 21.2 -1.1**
comp=Z,12nm,0.9s,baz=114,slow=2.1,SNR=18
KBZ LR LR 06 35 16.6
comp=Z,172nm,20.7s,baz=68,slow=38
KIV Kislovodsk 89.06 315 *ce*P **P 05 52 21.6 -1.2**
KIV *e* 05 55 54.4
KIV *e*S **SKSac 06 02 37.5 -2.0**
KIV *i* PS **SP 06 04 02.9 -1.0**
KIV pmax pmax
comp=Z,28nm,1.0s
KIV Kislovodsk 89.06 315 *e*P **P 05 52 22.1 -0.6**
comp=Z,28nm,0.8s
BOZ Bozeman (W) 89.07 43 *e*P **P 05 52 23.6 +0.8**
BOZ pmax pmax
comp=Z,76nm,1.3s
BOZ Bozeman (W) 89.07 43 P **P 05 52 24.2 +1.4**
baz=89,SNR=26
BOZ Bozeman (W) 89.07 43 *e*P **P 05 52 23.6 +0.8**
comp=Z,76nm,1.3s
TUQ Turquoise Moun 89.07 54 P **P 05 52 24.4 +1.4**
baz=89,SNR=126
PFO Pinyon Flat Ob 89.17 56 P **P 05 52 25.2 +1.7**
comp=Z,424nm,1.2s,SNR=25
PFO Pinyon Flat Ob 89.17 56 *e*P **P 05 52 24.7 +1.2**
PFO pmax pmax
comp=Z,124nm,1.3s
PFO Pinyon Flat Ob 89.17 56 P **P 05 52 24.9 +1.3**
baz=89,SNR=36
PFO Pinyon Flat Ob 89.17 56 *e*P **P 05 52 24.7 +1.2**
comp=Z,124nm,1.3s
BAR Barrett 89.25 57 *e*P **P 05 52 24.9 +1.1**
comp=Z,207nm,1.7s
SHPR Sheep Range 89.36 53 *e*P **P 05 52 26.1 +1.7**
comp=Z,103nm,0.9s
MONP Monument Peak 89.40 56 P **P 05 52 26.1 +1.4**
baz=89,SNR=47
BELC Belle Mtn. Jos 89.42 55 P **P 05 52 26.2 +1.5**
baz=89,SNR=80
GMRC Granite Mounta 89.47 54 P **P 05 52 26.4 +1.5**
baz=90,SNR=176
QLMT Earthquake Lak 89.47 44 *e*P **P 05 52 26.4 +1.6**
comp=Z,14nm,1.1s
EGMT Eagleton 89.47 40 P **P 05 52 25.1 +0.6**
baz=90
EGMT P **PP 05 55 56.0 -1.4**
baz=90,SNR=5.9
EGMT Eagleton 89.47 40 *e*P **P 05 52 25.1 +0.6**
comp=Z,9.7nm,0.6s

HVU Hansel Valley 89.53 47 *e*P **P 05 52 26.6 +1.5**
HVU pmax pmax
comp=Z,127nm,1.1s
HVU Hansel Valley 89.53 47 *e*P **P 05 52 26.6 +1.5**
comp=Z,127nm,1.1s
BGU Big Grassy Mou 89.61 48 *e*P **P 05 52 26.6 +1.1**
comp=Z,54nm,1.1s
IBP Imperial Bould 89.72 56 P **P 05 52 27.8 +1.7**
baz=90
A19A Klindworth Far 89.78 39 P **P 05 52 26.4 +0.4**
baz=90,SNR=28
A19A P **PP 05 55 58.9 -0.9**
baz=90,SNR=5.9
LDFC Landfair 89.81 54 *e*P **P 05 52 28.2 +1.7**
comp=Z,382nm,1.1s
B19A Brinkman Farms 89.83 40 P **P 05 52 26.5 +0.3**
baz=90
B19A P **PP 05 55 59.9 -0.2**
baz=90,SNR=9.3
YMR Madison River 89.83 44 *e*P **P 05 52 28.6 +2.1**
comp=Z,81nm,0.8s
SWSC Sam W. Stewart 89.89 56 P **P 05 52 28.2 +1.5**
baz=90,SNR=30
SPUT South Promonto 89.91 47 *e*P **P 05 52 28.3 +1.5**
comp=Z,158nm,1.3s
BC3 Big Chuckawall 89.95 55 P **P 05 52 28.5 +1.3**
baz=90,SNR=90
YFT Old Faithful 90.00 44 *e*P **P 05 52 30.2 +2.9**
comp=Z,169nm,1.3s
DUG Dugway 90.00 49 *e*P **P 05 52 28.5 +1.2**
DUG pmax pmax
comp=Z,88nm,1.2s
DUG Dugway 90.00 49 P **P 05 52 29.0 +1.8**
baz=90,SNR=118
DUG Dugway 90.00 49 *e*P **P 05 52 28.5 +1.2**
comp=Z,88nm,1.2s
YNR Norris Junctio 90.01 44 *e*P **P 05 52 30.4 +3.0**
comp=Z,226nm,1.3s
IRM Iron Mountain 90.05 55 P **P 05 52 29.4 +1.9**
baz=90,SNR=80
IRM P **PP 05 55 58.8 -3.6**
baz=90
H17A Grant Village 90.19 44 P **P 05 52 31.2 +2.9**
baz=90,SNR=51
H17A Grant Village 90.19 44 *e*P **P 05 52 31.1 +2.9**
comp=Z,136nm,1.2s
LKWY Lake 90.25 44 *e*P **P 05 52 31.4 +2.9**
LKWY pmax pmax
comp=Z,153nm,1.5s
LKWY Lake 90.25 44 *e*P **P 05 52 31.4 +2.9**
comp=Z,153nm,1.5s
NEE2 Needles Airpor 90.29 54 P **P 05 52 30.7 +2.1**
baz=90,SNR=11
A20A Cobblestone Ra 90.30 39 P **P 05 52 29.2 +0.8**
baz=90,SNR=15
A20A P **PP 05 56 02.6 -1.3**
baz=90,SNR=5.0
GCMT Greycliff 90.31 42 *e*P **P 05 52 29.6 +1.0**
comp=Z,15nm,0.7s
AHID Auburn Hatcher 90.38 46 *e*P **P 05 52 30.3 +1.2**
comp=Z,177nm,1.3s
B20A Solberg Farm, 90.40 40 P **P 05 52 29.7 +0.8**
baz=90,SNR=6.3
B20A P **PP 05 56 03.6 -1.2**
baz=90,SNR=5.3
CCUT Cedar City 90.42 51 *e*P **P 05 52 30.9 +1.5**
comp=Z,70nm,1.2s
HWUT Hardware Ranch 90.44 47 *e*P **P 05 52 30.6 +1.2**
comp=Z,124nm,1.0s
CTU Camp Tracy 90.61 48 *e*P **P 05 52 31.2 +1.1**
comp=Z,100nm,1.2s
NLU North Lily Min 90.61 49 *e*P **P 05 52 31.4 +1.1**
comp=Z,70nm,1.1s
GLA Glamis 90.63 56 *e*P **P 05 52 32.5 +2.2**
GLA pmax pmax
comp=Z,135nm,1.1s
GLA Glamis 90.63 56 P **P 05 52 32.1 +1.9**
baz=91,SNR=22
GLA Glamis 90.63 56 *e*P **P 05 52 32.5 +2.2**
comp=Z,135nm,1.1s
STEI Steigen 90.64 343 *e*P **P 05 52 29.4 0.0**
STEI IAmb IAmb 05 52 29.6
comp=Z,79nm,0.7s
Y12C Blythe 90.67 55 P **P 05 52 32.5 +2.1**
baz=91,SNR=44
C20A Veseth Ranch, 90.68 40 P **P 05 52 31.6 +1.4**
baz=91,SNR=51
C20A P **PP 05 56 05.3 -1.7**
baz=91
TCUT Toone Canyon 90.71 47 *e*P **P 05 52 31.7 +1.0**
comp=Z,51nm,0.7s
PDMCI Parker Dam,Lak 90.81 54 P **P 05 52 32.7 +1.8**
baz=91,SNR=48
RLMT Red Ledge 90.81 43 P **P 05 52 33.0 +2.0**
baz=91,SNR=14
RLMT Red Ledge 90.81 43 *e*P **P 05 52 32.5 +1.4**
comp=Z,47nm,0.8s
FINES FINESS Array B 90.82 335 P **P 05 52 28.9 -1.5**
comp=Z,17nm,0.5s,baz=80,slow=4.4,SNR=180
FINES PKKP **PKKPdf 06 09 54.3 +2.0**
comp=Z,1.0nm,0.7s,baz=159,slow=4.2,SNR=4.4
FINES LR LR 06 35 55.7
comp=Z,198nm,19.0s,baz=52,slow=37
JLU Jordanelle 90.85 48 *e*P **P 05 52 32.5 +1.2**
comp=Z,73nm,0.9s
A21A Bergtoll Ranch 90.87 39 P **P 05 52 31.7 +0.7**
baz=91,SNR=5.3
LOF Lofoten 90.98 344 *e*P **P 05 52 30.7 -0.3**
MVU Marysvale 90.98 50 *e*P **P 05 52 33.6 +1.6**
comp=Z,57nm,1.2s
PAF Port-aux-Franc 91.01 219 P **P 05 52 30.0 -1.4**
PAF PP PP 05 56 16.0 +6.1
PAF S **SKSac 06 02 54.0 +4.0**
PAF SS **SS 06 09 25.0 +1.0**
PAF L L 06 17 00.0
PAF R 06 22 00.0
B21A Ellsworth Farm 91.03 39 P **P 05 52 32.8 +1.1**
baz=91
B21A P **PP 05 56 09.0 -0.6**
baz=91
H19A Powell 91.16 43 P **P 05 52 34.3 +1.7**
baz=91,SNR=44
C21A Desert Coulee 91.21 40 P **P 05 52 33.4 +0.8**
baz=91,SNR=13
C21A P **PP 05 56 11.0 -0.1**
baz=91
F20A Billings 91.30 42 P **P 05 52 34.1 +1.0**
baz=91,SNR=15
I19A Meeteetse 91.38 44 P **P 05 52 34.9 +1.2**
baz=91,SNR=58
BW06 Boulder Array 91.45 45 *e*P **P 05 52 34.6 +0.5**
comp=Z,43nm,1.2s
PDAR Pinedale Array 91.45 45 P **P 05 52 34.7 +0.6**
comp=Z,13nm,0.7s,baz=282,slow=1.3,SNR=153
PDAR PP **PP 05 56 15.2 +1.7**
comp=Z,3.9nm,1.1s,baz=319,slow=5.9,SNR=4.9
PDAR LR LR 06 26 39.1
comp=Z,61nm,20.3s,baz=320,slow=31
TMUT Trail Mountain 91.46 49 *e*P **P 05 52 35.7 +1.4**
comp=Z,18nm,0.8s
G20A Bridger 91.47 43 P **P 05 52 34.8 +0.8**
baz=91,SNR=34
A22A Carney Farms, 91.48 39 P **P 05 52 34.2 +0.4**
baz=91,SNR=13
D21A La Casta Ranch 91.56 41 P **P 05 52 35.3 +1.0**
baz=92,SNR=38
D21A P **PP 05 56 14.9 +1.0**
baz=92
J19A Crowheart 91.62 45 P **P 05 52 36.5 +1.7**
baz=92,SNR=212
B22A Reddig Ranch S 91.70 39 P **P 05 52 35.7 +0.8**
baz=92,SNR=14
E21A Keefer Ranch, 91.71 41 P **P 05 52 36.2 +1.2**
baz=92,SNR=14
E21A P **PP 05 56 13.1 -2.1**
baz=92,SNR=5.7
H20A Greybull 91.88 43 P **P 05 52 37.2 +1.3**
baz=92,SNR=40
VNDA Vanda 91.94 176 P **P 05 52 35.7 +0.6**
comp=Z,32nm,1.0s,baz=321,slow=5.6,SNR=66
VNDA PKKP **PKKPdf 06 09 52.2 -0.3**
comp=Z,0.6nm,0.5s,baz=109,slow=0.3,SNR=3.8
F21A Absaloka Mine, 91.95 42 P **P 05 52 37.3 +1.2**
baz=92,SNR=7.9
C22A Vida 91.99 40 P **P 05 52 37.0 +0.8**
baz=92
C22A P **PP 05 56 16.6 -0.7**
baz=92

I20A Worland 92.00 44 P **P 05 52 37.9 +1.4**
baz=92,SNR=59
I20A P **PP 05 56 14.1 -3.5**
baz=92
SRU San Rafael 92.02 49 *e*P **P 05 52 37.4 +0.7**
SRU pmax pmax
comp=Z,47nm,0.9s
SRU San Rafael 92.02 49 *e*P **P 05 52 37.4 +0.7**
comp=Z,47nm,0.9s
D22A Cohagen 92.04 40 P **P 05 52 37.5 +1.0**
baz=92,SNR=48
D22A P **PP 05 56 17.2 -0.5**
baz=92,SNR=7.2
VSU Vasula 92.11 332 *c i*P **P 05 52 34.8 -1.6**
VSU pmax pmax
comp=Z,53nm,1.0s
A23A Redstone 92.12 38 P **P 05 52 37.4 +0.6**
baz=92
G21A Lodge Grass 92.13 42 P **P 05 52 38.5 +1.5**
baz=92,SNR=14
J20A Shoshoni 92.24 44 P **P 05 52 38.8 +1.2**
baz=92,SNR=30
J20A P **PP 05 56 15.7 -3.9**
baz=92
B23A Brockton 92.25 39 P **P 05 52 38.3 +0.9**
baz=92,SNR=23
ANN Anapa 92.30 317 *e*P **P 05 52 35.6 -2.0**
ANN *e**PP **pP 05 53 13.0 -0.8**
ANN *e* 06 02 55.2
ANN *e*SS SS 06 09 51.7 +10
ANN pmax pmax
comp=Z,41nm,0.9s
C23A Lambert 92.40 39 P **P 05 52 39.4 +1.3**
baz=92,SNR=52
C23A P **PP 05 56 20.0 -0.5**
baz=92,SNR=6.4
H21A Big Horn, Sher 92.46 43 P **P 05 52 40.1 +1.5**
baz=92,SNR=54
E22A Miles City 92.47 41 P **P 05 52 39.6 +1.1**
baz=92,SNR=17
E22A P **PP 05 56 20.4 -0.7**
baz=92
F22A Rosebud 92.53 42 P **P 05 52 40.0 +1.2**
baz=92,SNR=19
F22A P **PP 05 56 19.7 -1.9**
baz=92
WUAZ Wupatki 92.58 53 P **P 05 52 41.5 +2.1**
baz=93,SNR=84
WUAZ P **PP 05 56 18.7 -3.8**
baz=93
WUAZ Wupatki 92.58 53 *e*P **P 05 52 41.4 +2.0**
comp=Z,79nm,0.9s
214A Organ Pipe Nat 92.59 56 P **P 05 52 41.4 +2.1**
baz=93
214A Organ Pipe Nat 92.59 56 *e*P **P 05 52 40.9 +1.6**
comp=Z,92nm,1.2s
SBA Scott Base 92.59 176 *e*P **P 05 52 39.7 +1.6**
SBA pmax pmax
comp=Z,120nm,1.4s
SBA Scott Base 92.59 176 *e*P **P 05 52 39.7 +1.6**
comp=Z,120nm,1.4s
I21A Big Trails, Te 92.61 44 P **P 05 52 40.4 +1.1**
baz=93,SNR=75
I21A P **PP 05 56 19.2 -3.2**
baz=93
D23A Lindsay 92.64 40 P **P 05 52 40.6 +1.4**
baz=93,SNR=52
D23A P **PP 05 56 21.7 -0.8**
baz=93,SNR=5.1
A24A Westby 92.66 38 P **P 05 52 39.6 +0.4**
baz=93,SNR=7.0
A24A P **PP 05 56 20.8 -1.6**
baz=93
J21A Lysite 92.68 44 P **P 05 52 40.8 +1.1**
baz=93,SNR=31
J21A P PP 05 56 14.7 -8.3
baz=93
G22A Birney 92.73 42 P **P 05 52 41.0 +1.2**
baz=93,SNR=17
DGMT Dagmar 92.73 39 P **P 05 52 40.1 +0.5**
baz=93,SNR=6.3
DGMT Dagmar 92.73 39 *e*P **P 05 52 39.9 +0.3**
comp=Z,64nm,1.4s
E23A Ismay 92.85 41 P **P 05 52 41.4 +1.2**
baz=93,SNR=21
E23A P **PP 05 56 24.4 +0.4**
baz=93,SNR=10
H22A Clearmont 92.93 43 P **P 05 52 41.7 +1.0**
baz=93,SNR=26
C24A Savage 92.98 39 P **P 05 52 41.6 +0.8**
baz=93,SNR=16
C24A P **PP 05 56 22.2 -2.8**
baz=93
FCC Fort Churchill 93.01 27 *e*P **P 05 52 40.7 +0.1**
FCC Fort Churchill 93.01 27 *e*P **P 05 52 40.7 +0.1**
RAYN Ar Rayn 93.03 295 *e*P **P 05 52 40.7 -0.8**
comp=Z,3.7nm,0.8s
F23A Volborg 93.10 41 P **P 05 52 42.3 +0.9**
baz=93,SNR=30
F23A P **PP 05 56 24.2 -1.8**
baz=93,SNR=6.5
I22A 9 Mile Ranch, 93.12 43 P **P 05 52 42.7 +1.1**
baz=93,SNR=22
A25A Svangstu Ranch 93.18 38 P **P 05 52 42.1 +0.5**
baz=93
D24A Glendive 93.21 40 P **P 05 52 42.9 +1.0**
baz=93,SNR=5.3
D24A P **PP 05 56 26.5 -0.4**
baz=93
O20A White River Ci 93.31 47 P **P 05 52 43.7 +1.0**
baz=93,SNR=37
O20A White River Ci 93.31 47 *e*P **P 05 52 43.3 +0.6**
comp=Z,122nm,1.4s
G23A Biddle 93.32 42 P **P 05 52 43.4 +0.9**
baz=93,SNR=30
G23A P **PP 05 56 26.3 -1.5**
baz=93
PV10 Paradox Valley 93.37 49 *e*P **P 05 52 44.2 +1.2**
comp=Z,963nm,0.9s
B25A Knox Farm, Ray 93.44 38 P **P 05 52 43.7 +0.8**
baz=93,SNR=6.3
E24A Baker 93.46 40 P **P 05 52 44.1 +1.1**
baz=93,SNR=11
E24A P **PP 05 56 28.7 -0.1**
baz=93,SNR=5.6
PV04 Paradox Valley 93.46 49 *e*P **P 05 52 44.2 +0.8**
SUMG Summit 93.51 1⇑ *i*P **P 05 52 42.5 -0.7**
comp=Z,15nm,1.2s
SUMG Summit 93.51 1⇑ *i*P **P 05 52 42.5 -0.7**
SUMG pmax pmax
comp=Z,15nm,1.2s
SUMG Summit 93.51 1 *e*P **P 05 52 42.0 -1.1**
comp=Z,6.1nm,0.8s
H23A Clabaugh Cattl 93.57 42 P **P 05 52 44.3 +0.6**
baz=94
K22A Casper 93.57 45 P **P 05 52 44.8 +1.0**
baz=94,SNR=28
K22A P **PP 05 56 28.7 -1.2**
baz=94
K22A Casper 93.57 45 *e*P **P 05 52 44.1 +0.3**
comp=Z,159nm,1.5s
C25A Freed Ranch, W 93.62 39 P **P 05 52 44.8 +1.1**
baz=94,SNR=8.7
F24A Ekalaka 93.67 41 P **P 05 52 44.6 +0.6**
baz=94,SNR=17
F24A P **PP 05 56 30.4 0.0**
baz=94,SNR=8.7
PV01 Paradox Valley 93.80 49 *e*P **P 05 52 45.4 +0.4**
comp=Z,3µm,0.9s
D25A Fairfield 93.82 40 P **P 05 52 45.7 +1.0**
baz=94,SNR=8.5
D25A P **PP 05 56 31.2 -0.4**
baz=94
A26A Wade Farm, Ken 93.84 38 P **P 05 52 45.5 +0.8**
baz=94,SNR=13
G24A Alzada 93.90 41 P **P 05 52 45.5 +0.4**
baz=94,SNR=17
G24A P **PP 05 56 29.7 -2.6**
baz=94
J23A Dilts Ranch, B 93.93 44 P **P 05 52 46.0 +0.6**
baz=94
J23A P **PP 05 56 30.3 -2.3**
baz=94
W18A Petrified Fore 93.98 52 P **P 05 52 47.5 +1.6**
baz=94,SNR=7.8
W18A Petrified Fore 93.98 52 *e*P **P 05 52 47.9 +2.1**
comp=Z,46nm,1.2s
MALT Malatya 94.01 311⇓ P **P 05 52 45.5 -0.3**

MALT **Malatya** 94.01 311 ⇓*i*P P 05 52 45.5 -0.3
H24A **Dirks Ranch, A** 94.05 42 P P 05 52 46.5 +0.6
baz=94,SNR=33
H24A P PP 05 56 30.9 -2.6
baz=94
E25A **Miller Ranch,** 94.05 40 P P 05 52 46.9 +1.1
baz=94,SNR=27
E25A P PP 05 56 33.0 -0.4
baz=94,SNR=7.1
TUC **Tucson** 94.10 55 *e*P P 05 52 48.1 +1.7
TUC pmax pmax
comp=Z,44nm,1.3s
TUC **Tucson** 94.10 55 *e*P P 05 52 48.0 +1.7
comp=Z,44nm,1.3s
K23A **Bowen Ranch, D** 94.14 44 P P 05 52 47.2 +0.9
baz=94,SNR=26
K23A P PP 05 56 30.9 -3.5
baz=94
MVCO **Mesa Verde** 94.18 50 P P 05 52 48.0 +1.2
baz=94,SNR=21
MVCO **Mesa Verde** 94.18 50 *e*P P 05 52 47.7 +0.9
comp=Z,50nm,1.2s
F25A **Bowman** 94.26 41 P P 05 52 47.9 +1.2
baz=94,SNR=12
F25A P PP 05 56 35.3 +0.2
baz=94,SNR=6.8
C26A **Wahner Farm, P** 94.28 39 P P 05 52 47.5 +0.7
baz=94,SNR=7.6
A27A **Ledoux Ranch,** 94.28 37 P P 05 52 47.6 +0.9
baz=94
I24A **Kuemmerle Ranc** 94.36 43 P P 05 52 48.0 +0.6
baz=94,SNR=14
I24A P PP 05 56 32.2 -3.8
baz=94
D26A **Manning** 94.42 39 P P 05 52 48.2 +0.8
baz=94,SNR=8.2
B27A **Peters Farms,** 94.52 38 P P 05 52 48.4 +0.6
baz=94,SNR=8.8
J24A **Dixon Ranch, L** 94.55 43 P P 05 52 49.0 +0.8
baz=94,SNR=6.2
J24A P PP 05 56 33.7 -3.8
baz=94
G25A **Newell** 94.59 41 P P 05 52 48.9 +0.6
baz=95,SNR=20
G25A P PP 05 56 36.0 -1.7
baz=95
RSSD **Black Hills** 94.64 42 *e*P P 05 52 49.0 +0.2
RSSD pmax pmax
comp=Z,28nm,0.8s
RSSD **Black Hills** 94.64 42 *e*P P 05 52 49.0 +0.2
comp=Z,28nm,0.8s
E26A **Carlson Angus** 94.65 40 P P 05 52 49.3 +0.8
baz=95,SNR=64
E26A P PP 05 56 35.7 -2.3
baz=95
N23A **Red Feather La** 94.65 46 P P 05 52 50.5 +1.6
baz=95,SNR=39
N23A P PP 05 56 31.7 -6.8
baz=95
C27A **Sayler Ranch,** 94.69 38 P P 05 52 49.3 +0.7
baz=95,SNR=9.2
K24A **Anderson Ranch** 94.70 44 P P 05 52 49.5 +0.6
baz=95
H25A **Fruitdale** 94.72 42 P P 05 52 50.0 +1.1
baz=95,SNR=40
H25A P PP 05 56 38.7 0.0
baz=95,SNR=8.5
AKASG **Malin Array Be** 94.75 325 P P 05 52 46.8 -2.0
comp=Z,1.8nm,0.6s,baz=47,slow=4.7,SNR=16
AKASG PKKP PKKPdf 06 09 44.5 -0.8
comp=Z,1.2nm,0.6s,baz=257,slow=2.5,SNR=4.6
AKASG LR LR 06 37 15.3
comp=Z,477nm,21.2s,baz=55,slow=36
KIEV **Kiev** 94.77 325*c i*P P 05 52 46.4 -2.4
F26A **Lodgepole** 94.79 40 P P 05 52 50.0 +0.8
baz=95,SNR=23
F26A P PP 05 56 37.7 -1.5
baz=95
A28A **Rude Farm, Bot** 94.87 37 P P 05 52 49.9 +0.4
baz=95,SNR=8.7
I25A **Rochford** 94.88 42 P P 05 52 50.3 +0.4
baz=95,SNR=39
I25A P PP 05 56 39.5 -0.7
baz=95
D27A **Center** 94.94 39 P P 05 52 50.9 +1.1
baz=95,SNR=7.1
D27A P PP 05 56 45.9 +5.6
baz=95
B28A **Dugan Ranch, T** 95.03 37 P P 05 52 51.0 +0.9
baz=95
G26A **Maurine** 95.07 41 P P 05 52 51.0 +0.5
baz=95,SNR=44
G26A P PP 05 56 39.9 -1.5
baz=95,SNR=6.4
J25A **Sunshine Ranch** 95.10 43 P P 05 52 51.6 +0.9
baz=95
J25A P PP 05 56 40.1 -1.6
baz=95
F27A **Lemmon** 95.19 40 P P 05 52 51.7 +0.7
baz=95,SNR=31
F27A P PP 05 56 39.8 -2.4
baz=95
S22A **4UR Ranch, Cre** 95.22 49 P P 05 52 53.1 +1.5
baz=95,SNR=33
S22A P PP 05 56 42.7 -0.3
baz=95
E27A **Carson** 95.22 40 P P 05 52 52.5 +1.4
baz=95,SNR=42
H26A **Fairpoint** 95.25 42 P P 05 52 52.1 +0.8
baz=95,SNR=18
H26A P PP 05 56 41.6 -1.2
baz=95
ISCO **Idaho Springs** 95.31 47 *e*P P 05 52 53.2 +1.2
ISCO pmax pmax
comp=Z,6.0nm,0.8s
ISCO **Idaho Springs** 95.31 47 P P 05 52 53.2 +1.2
baz=95,SNR=14
ISCO P PP 05 56 39.4 -4.3
baz=95
ISCO **Idaho Springs** 95.31 47 *e*P P 05 52 53.2 +1.2
comp=Z,6.3nm,0.8s
C28A **Hausauer Farms** 95.36 38 P P 05 52 52.3 +0.7
baz=95,SNR=18
K25A **Mack Ranch, Ha** 95.38 44 P P 05 52 53.6 +1.5
baz=95
K25A P PP 05 56 41.7 -2.2
baz=95
I26A **New Underwood** 95.45 42 P P 05 52 52.9 +0.7
baz=95,SNR=8.0
I26A P PP 05 56 44.9 +0.5
baz=95
G27A **Dupree** 95.46 41 P P 05 52 53.0 +0.8
baz=95,SNR=50
G27A P PP 05 56 43.1 -1.3
baz=95
A29A **Manning Farm,** 95.47 37 P P 05 52 52.6 +0.4
baz=95,SNR=24
D28A **Regan** 95.49 39 P P 05 52 53.1 +0.8
baz=95,SNR=6.4
L25A **Engebretsen Ra** 95.50 44 P P 05 52 54.0 +1.4
baz=96
J26A **Sides Ranch, S** 95.61 43 P P 05 52 54.1 +1.1
baz=96
J26A P PP 05 56 43.5 -2.1
baz=96
B29A **Wagenman Farm,** 95.62 37 P P 05 52 53.3 +0.5
baz=96,SNR=11
E28A **Huff** 95.69 39 P P 05 52 54.0 +0.7
baz=96,SNR=16
H27A **Howes** 95.69 41 P P 05 52 54.1 +0.8
baz=96,SNR=16
H27A P PP 05 56 44.5 -1.6
baz=96
MDND **Maddock** 95.76 38 P P 05 52 54.0 +0.5
baz=96,SNR=5.2
MDND P PP 05 56 52.7 +6.2
baz=96
MDND **Maddock** 95.76 38 *e*P P 05 52 53.4 -0.1
comp=Z,31nm,1.1s
K26A **Motz Farm, Whi** 95.81 44 P P 05 52 54.3 +0.4
baz=96,SNR=8.7
K26A P PP 05 56 41.1 -6.1
baz=96
I27A **Quinn** 95.96 42 P P 05 52 55.4 +0.8
baz=96,SNR=21
I27A P PP 05 56 47.4 -0.8
baz=96,SNR=6.1
F28A **McLaughlin** 95.96 40 P P 05 52 55.2 +0.7
baz=96,SNR=7.5
F28A P PP 05 56 47.1 -1.1
baz=96
Q24A **Divide** 95.97 48 P P 05 52 56.1 +1.1
baz=96
A30A **Hoffart Farm,** 96.00 36 P P 05 52 55.1 +0.6
baz=96,SNR=12
D29A **Pettibone, Tap** 96.14 38 P P 05 52 55.7 +0.5
baz=96,SNR=5.9
D29A P PP 05 56 55.4 +5.9
baz=96
L26A **Underwood Farm** 96.15 44 P P 05 52 56.7 +1.2
baz=96
SDCO **Great Sand Dun** 96.19 49 P P 05 52 57.0 +1.0
baz=96,SNR=16
SDCO **Great Sand Dun** 96.19 49 *e*P P 05 52 56.9 +0.8
comp=Z,2.7nm,0.5s
B30A **Myrvik Farm, E** 96.22 37 P P 05 52 55.8 +0.2
baz=96,SNR=15
LAZ **Ladron** 96.23 52 *e*P P 05 52 57.3 +1.2
comp=Z,3.4nm,0.8s
G28A **Parade** 96.24 41 P P 05 52 56.2 +0.4
baz=96,SNR=18
G28A P PP 05 56 48.4 -1.9
baz=96
E29A **Napoleon** 96.34 39 P P 05 52 56.4 +0.2
baz=96
E29A P PP 05 56 55.7 +4.7
baz=96
J27A **Elkhorn Farm,** 96.34 43 P P 05 52 57.0 +0.7
baz=96,SNR=11
J27A P PP 05 56 49.7 -1.6
baz=96
M26A **McRoberts Ranc** 96.35 45 P P 05 52 57.6 +1.2
baz=96
H28A **Mission Ridge** 96.35 41 P P 05 52 56.7 +0.4
baz=96,SNR=7.4
H28A P PP 05 56 51.2 -0.1
baz=96
121A **Cookes Peak, D** 96.41 54 P P 05 52 58.8 +1.8
baz=96
121A **Cookes Peak, D** 96.41 54 *e*P P 05 52 58.7 +1.7
comp=Z,81nm,1.6s
K27A **Flueckinger Fa** 96.43 43 P P 05 52 57.3 +0.6
baz=96,SNR=6.4
K27A P PP 05 56 51.3 -0.6
baz=96
C30A **Mose, Pekin** 96.50 38 P P 05 52 57.2 +0.3
baz=96,SNR=15
Y22D **IRIS PASSCAL I** 96.52 53 P P 05 52 59.8 +2.4
baz=96
ANMO **Albuquerque** 96.55 52*c i*P P 05 52 58.7 +1.2
ANMO pmax pmax
comp=Z,30nm,1.0s
ANMO **Albuquerque** 96.55 52 *e*P P 05 52 58.8 +1.2
comp=Z,7.2nm,0.9s
I28A **Midland** 96.56 42 P P 05 52 57.6 +0.4
baz=96,SNR=14
N26A **Koester Ranch,** 96.56 45 P P 05 52 57.9 +0.4
baz=96
F29A **Eureka** 96.57 40 P P 05 52 57.7 +0.5
baz=96,SNR=7.0
D30A **Buchanan** 96.62 38 P P 05 52 57.6 +0.2
baz=97,SNR=25
L27A **T5 Ranch, Ells** 96.65 44 P P 05 52 58.1 +0.3
baz=97
L27A P PP 05 56 53.4 -0.3
baz=97
NB2 **NORSAR Subarra** 96.68 339 P P 05 52 55.7 -1.6
comp=Z,7.5nm,0.8s,baz=49,slow=4.6
NB2 **NORSAR Subarra** 96.68 339 P P 05 52 55.7 -1.6
baz=49,slow=4.6
NOA **NORSAR Array B** 96.68 339 P P 05 52 55.8 -1.6
comp=Z,7.0nm,0.9s,baz=48,slow=4.8,SNR=19
NOA PP PP 05 56 48.9 -4.3
comp=Z,1.3nm,0.7s,baz=42,slow=8.2,SNR=3.5
NOA PKKP PKKPbc 06 09 39.8 -2.2
comp=Z,0.6nm,0.6s,baz=228,slow=2.8,SNR=3.7
NOA LR LR 06 39 46.5
comp=Z,233nm,20.6s,baz=40,slow=37
O26A **Horse Wrangler** 96.75 46 P P 05 52 59.0 +0.7
baz=97
O26A P PP 05 56 52.3 -2.2
baz=97
J28A **Allard Ranch,** 96.77 42 P P 05 52 58.6 +0.3
baz=97,SNR=16
J28A P PP 05 56 53.5 -1.0
baz=97
G29A **Hoven** 96.81 40 P P 05 52 58.0 -0.3
baz=97
E30A **Jud** 96.82 39 P P 05 52 58.6 +0.3
baz=97
M27A **Reverse DX Ran** 96.84 44 P P 05 52 59.2 +0.5
baz=97
M27A P PP 05 56 53.8 -1.4
baz=97
H29A **Onida** 96.89 41 P P 05 52 58.8 +0.2
baz=97,SNR=6.5
H29A P PP 05 56 55.4 +0.1
baz=97
BRTR **Keskin Array B** 96.90 314 P P 05 52 57.7 -1.3
comp=Z,7.2nm,0.9s,baz=68,slow=4.0,SNR=28
BRTR pP pP 05 53 34.5 -0.7
comp=Z,5.8nm,1.0s,baz=48,slow=3.7,SNR=5.3
BRTR PKKP PKKPbc 06 09 40.5 -0.3
comp=Z,0.4nm,0.4s,baz=306,slow=4.2,SNR=3.7
K28A **Ten Mile Ranch** 97.00 43 P Pdif 05 52 59.7 +0.3
baz=97
K28A P PP 05 56 55.6 -0.7
baz=97
P26A **Davis Ranch, A** 97.01 46 P Pdif 05 53 00.2 +0.6
baz=97,SNR=12
P26A P PP 05 56 53.0 -3.6
baz=97
N27A **Anderson Farm,** 97.04 45 P Pdif 05 53 00.2 +0.5
baz=97,SNR=5.7
N27A P PP 05 56 54.2 -2.5
baz=97
F30A **Leola** 97.06 39 P P 05 52 59.5 0.0
baz=97
I29A **Vivian Onida** 97.11 41 P P 05 52 59.6 -0.1
baz=97,SNR=5.9
I29A P PP 05 56 56.2 -0.8
baz=97,SNR=6.4
Q26A **Hugo** 97.15 47 P Pdif 05 53 01.1 +0.9
baz=97,SNR=9.9
Q26A P PP 05 56 54.9 -2.8
baz=97
T25A **Trinidad** 97.23 49 P Pdif 05 53 02.1 +1.4
baz=97,SNR=11
T25A P PP 05 56 55.7 -2.8
baz=97
G30A **Faulkton** 97.33 40 P Pdif 05 53 00.8 +0.1
baz=97
G30A P PP 05 56 55.8 -2.8
baz=97
OGNE **Ogallala** 97.33 45 P Pdif 05 53 01.2 +0.3
baz=97
O27A **Beecher Island** 97.35 46 P Pdif 05 53 01.7 +0.7
baz=97
J29A **Okreek** 97.37 42 P Pdif 05 53 01.1 +0.1
baz=97,SNR=7.2
J29A P PP 05 56 57.5 -1.6
baz=97
ASF **Jabal al Asfar** 97.42 306 P P 05 53 00.4 -1.0
comp=Z,2.2nm,0.7s,baz=123,slow=3.4,SNR=5.1
R26A **Arlington** 97.46 48 P Pdif 05 53 02.2 +0.6
baz=97,SNR=11
R26A P PP 05 56 55.5 -4.5
baz=97
P27A **Ficken Ranch,** 97.55 46 P Pdif 05 53 02.4 +0.5
baz=98,SNR=7.7
P27A P PP 05 56 57.2 -3.5
baz=98
M28A **Bar X Bar Ranc** 97.58 44 P Pdif 05 53 02.6 +0.5
baz=98
K29A **Lazy Trails An** 97.67 43 P Pdif 05 53 02.6 +0.2
baz=98,SNR=5.7
K29A P PP 05 56 56.6 -4.8
baz=98
S26A **Kim** 97.72 48 P Pdif 05 53 03.2 +0.4
baz=98,SNR=11
S26A P PP 05 56 57.4 -4.7
baz=98
AGMN **Agassiz Nation** 97.72 36 P P 05 53 02.1 -0.2
baz=98,SNR=7.0
AGMN **Agassiz Nation** 97.72 36 *e*P P 05 53 02.0 -0.2
comp=Z,12nm,1.1s
KSCO **Kaye Shedlock'** 97.74 47 P Pdif 05 53 03.6 +0.7
baz=98,SNR=10
KSCO P PP 05 57 00.1 -2.1
baz=98
KSCO **Kaye Shedlock'** 97.74 47 *e*P Pdif 05 53 03.4 +0.6
comp=Z,18nm,0.8s
N28A **Pribbeno Ranch** 97.78 45 P Pdif 05 53 03.4 +0.5
baz=98
T26A **Comanche Natio** 97.81 49 P Pdif 05 53 03.9 +0.6
baz=98,SNR=10.0
T26A P PP 05 56 59.2 -3.7
baz=98
O28A **Krutsinger Ran** 97.86 45 P Pdif 05 53 03.7 +0.4
baz=98,SNR=5.4
O28A P PP 05 57 02.3 -0.7
baz=98
L29A **Maesberg Ranch** 97.88 43 P Pdif 05 53 03.7 +0.4
baz=98,SNR=9.2
L29A P PP 05 57 01.8 -1.3
baz=98
R27A **Eads** 97.93 47 P Pdif 05 53 04.3 +0.7
baz=98,SNR=5.5
R27A P PP 05 57 00.5 -3.1
baz=98
J30A **Dallas** 97.95 42 P P 05 53 03.5 0.0
baz=98,SNR=8.4
J30A P PP 05 57 03.6 +0.1
baz=98,SNR=5.1
M29A **Burnside Ranch** 98.02 44 P Pdif 05 53 04.1 +0.2
baz=98
M29A P PP 05 57 02.9 -1.3
baz=98
P28A **Saint Francis** 98.11 46 P Pdif 05 53 05.0 +0.6
baz=98,SNR=5.9
P28A P PP 05 57 03.6 -1.4
baz=98
K30A **Basset** 98.17 42 P Pdif 05 53 04.9 +0.3
baz=98,SNR=6.7
K30A P PP 05 57 05.3 +0.1
baz=98
MMAI **Mount Meron Ar** 98.27 307 P P 05 53 03.7 -1.5
comp=Z,5.8nm,0.8s,baz=354,slow=4.2,SNR=8.1
Q28A **Sharon Springs** 98.28 46 P Pdif 05 53 05.9 +0.7
baz=98,SNR=6.2
Q28A P PP 05 57 06.8 +0.5
baz=98
N29A **Votaw Ranch, W** 98.34 44 P PP 05 57 06.5 -0.2
baz=98
L30A **Spencer Herefo** 98.44 43 P Pdif 05 53 06.0 +0.2
baz=98
L30A P PP 05 57 06.8 -0.5
baz=98
T27A **Campo** 98.49 49 P Pdif 05 53 07.1 +0.9
baz=98
M30A **Dale-Ortello V** 98.53 43 P Pdif 05 53 06.8 +0.7
baz=98
M30A P PP 05 57 08.0 0.0
baz=98
O29A **4D Ranch, Culb** 98.53 45 P Pdif 05 53 06.9 +0.6
baz=98
O29A P PP 05 57 06.6 -1.5
baz=98
BURAR **Bucovina Array** 98.58 324 ⇑P P 05 53 05.3 -1.0
BURAR **Bucovina Array** 98.58 324 ⇑*i*P P 05 53 05.3 -1.0
VRI **Vrincioaia** 98.59 322 ⇓P Pdif 05 53 06.3 0.0
VRI **Vrincioaia** 98.59 322 ⇓*i*P Pdif 05 53 06.3 0.0
R28A **Tribune** 98.61 47 P Pdif 05 53 07.6 +0.9
baz=99,SNR=7.6
R28A P PP 05 57 06.7 -2.1
baz=99
PLOR **Plostina** 98.65 322 ⇑P P 05 53 05.9 -0.7
PLOR **Plostina** 98.65 322 ⇑*i*P P 05 53 05.9 -0.7
P29A **Atwood** 98.67 46 P Pdif 05 53 07.4 +0.5
baz=99
P29A P PP 05 57 07.2 -2.1
baz=99
U27A **Thompson Grove** 98.68 49 P Pdif 05 53 08.1 +1.0
baz=99
U27A P PP 05 57 06.6 -2.9
baz=99
N30A **Hueftle Ranch,** 98.71 44 P PP 05 57 09.9 +0.5
baz=99
S28A **Manter** 98.86 48 P Pdif 05 53 09.0 +1.2
baz=99,SNR=9.0
S28A P PP 05 57 08.3 -2.5
baz=99
T28A **Walsh** 98.91 48 P Pdif 05 53 09.1 +1.1
baz=99,SNR=9.7
T28A P PP 05 57 10.3 -0.8
baz=99
L31A **Butterfield Fa** 98.91 43 P P 05 53 07.7 -0.1
baz=99
L31A P PP 05 57 10.9 0.0
baz=99
V27A **Dan Oppiter Fa** 98.95 50 P Pdif 05 53 09.0 +0.8
baz=99
Q29A **Oakley** 98.95 46 P Pdif 05 53 08.9 +0.8
baz=99,SNR=6.5
Q29A P PP 05 57 10.4 -1.0
baz=99
O30A **MW Ranch, Wils** 99.02 45 P Pdif 05 53 09.6 +1.3
baz=99
O30A P PP 05 57 10.9 -0.9
baz=99
R29A **Marienthal** 99.05 47 P PP 05 57 11.3 -0.8
baz=99
U28A **Mallet** 99.14 49 P Pdif 05 53 10.1 +1.0
baz=99,SNR=6.3
U28A P PP 05 57 11.2 -1.7
baz=99
P30A **Selden** 99.17 45 P Pdif 05 53 09.5 +0.4
baz=99
P30A P PP 05 57 12.9 -0.1
baz=99
M31A **Lambtecht Ranc** 99.21 43 P PP 05 57 13.3 +0.1
baz=99
DOPR **Dopca** 99.34 322 ⇑*i*P Pdif 05 53 09.7 +0.1
V28A **Channing** 99.41 50 P PP 05 57 14.3 -0.6
baz=99
S29A **Ulysses** 99.41 47 P Pdif 05 53 11.3 +1.1
baz=99
S29A P PP 05 57 13.7 -1.2
baz=99
Q30A **Quinter** 99.45 46 P Pdif 05 53 10.9 +0.6
baz=99
Q30A P PP 05 57 13.0 -2.1
baz=99
N31A **Bailey Ranch,** 99.47 44 P PP 05 57 16.0 +0.9
baz=99
T29A **Hugoton** 99.48 48 P Pdif 05 53 11.0 +0.4
baz=100
O31A **Woolen Ranch,** 99.53 45 P Pdif 05 53 11.7 +1.1
baz=100
O31A P PP 05 57 15.4 -0.3
baz=100
ECSD **EROS Data Cent** 99.59 40 P Pdif 05 53 10.8 0.0
baz=100
ECSD **EROS Data Cent** 99.59 40 *e*P Pdif 05 53 10.5 -0.2
comp=Z,20nm,1.4s
R30A **Dighton** 99.72 47 P Pdif 05 53 12.6 +1.0
baz=100
R30A P PP 05 57 17.6 +0.4
baz=100
BGNE **Belgrade** 99.73 43 P PP 05 57 16.8 -0.3
baz=100
MSTX **Muleshoe** 99.73 51 P Pdif 05 53 12.2 +0.4
baz=100
MSTX P PP 05 57 18.0 +0.5
baz=100,SNR=6.3
MSTX **Muleshoe** 99.73 51 *e*Pdif Pdif 05 53 11.3 -0.4
comp=Z,5.4nm,1.0s
P31A **Stockton** 99.78 45 P Pdif 05 53 11.9 +0.1
baz=100
P31A P PP 05 57 17.2 -0.3
baz=100
CBKS **Cedar Bluff** 99.86 46 P PP 05 57 18.7 +0.5
baz=100
S30A **Montezuma** 99.87 47 P PP 05 57 17.6 -0.7
baz=100
EIL **Elat** 99.91 304 P Pdif 05 53 11.8 -0.7
comp=Z,5.0nm,0.8s,baz=235,slow=1.9,SNR=3.6
N32A **Stulken Farm,** 99.94 44 P PP 05 57 17.0 -1.7
baz=100
X28A **Dimmitt** 99.94 51 P Pdif 05 53 13.3 +0.7
baz=100
X28A P PP 05 57 18.9 -0.1
baz=100
MAW **Mawson** 99.97 203 P Pdif 05 53 11.9 +0.2

comp=Z,8.2nm,0.9s,baz=60,slow=6.5,SNR=10
MAW PP **PP** **05 57 16.3 -2.4**
comp=Z,4.6nm,1.0s,baz=76,slow=11,SNR=4.8
MAW PKKPbc **PKKPbc** **06 09 31.8 -1.6**
comp=Z,1.3nm,0.5s,baz=231,slow=3.7,SNR=5.6
Q31A Ellis 100.01 46 P **PP** **05 57 18.0 -1.3**
baz=100
T30A Plains 100.08 48 P **PP** **05 57 20.1 +0.2**
baz=100
W29A Amraillo 100.10 50 P **PP** **05 57 19.4 -0.8**
baz=100
Y28A McKinney Farm, 100.15 51 P **Pdif** **05 53 14.4 +0.8**
baz=100
AMTX Amarillo 100.17 50 P **Pdif** **05 53 15.0 +1.3**
baz=100
AMTX P **PP** **05 57 20.3 -0.5**
baz=100
AMTX Amarillo 100.17 50 *e*Pdif **Pdif** **05 53 14.6 +1.0**
comp=Z,32nm,1.4s
O32A Brockman Farm, 100.19 44 P **Pdif** **05 53 13.8 +0.3**
baz=100
O32A P **PP** **05 57 20.4 -0.2**
baz=100
U30A WK&E Inc. Balk 100.22 48 P **PP** **05 57 17.7 -3.3**
baz=100,SNR=6.9
R31A Burdett 100.24 46 P **Pdif** **05 53 14.2 +0.3**
baz=100
R31A P **PP** **05 57 20.9 -0.2**
baz=100,SNR=5.2
M33A Taylor Creek F 100.28 42 P **PP** **05 57 21.2 0.0**
baz=100
Z28A Tucker Farm, M 100.31 52 P **Pdif** **05 53 15.2 +0.9**
baz=100,SNR=7.6
Z28A P **PP** **05 57 19.7 -2.1**
baz=100
X29A Tulia 100.34 51 P **Pdif** **05 53 15.5 +1.0**
baz=100,SNR=10
X29A P **PP** **05 57 21.4 -0.7**
baz=100
EYMN Ely 100.37 35 P **Pdif** **05 53 13.8 -0.3**
baz=100
DRGR 100.47 324 ⇓P **Pdif** **05 53 14.0 -0.7**
DRGR 100.47 324 ⇓*i*P **Pdif** **05 53 14.0 -0.7**
128A Castleberry Fa 100.50 53 P **Pdif** **05 53 16.0 +0.8**
baz=100
128A P **PP** **05 57 22.3 -1.1**
baz=100
N33A J Bar K, Exete 100.52 43 P **PP** **05 57 23.1 +0.1**
baz=100
S31A Mullinville 100.57 47 P **Pdif** **05 53 16.3 +0.9**
baz=100
S31A P **PP** **05 57 24.2 +0.6**
baz=100
Q32A Meitler Ranch, 100.59 45 P **Pdif** **05 53 15.6 +0.3**
baz=101
Q32A P **PP** **05 57 21.7 -2.0**
baz=101
Y29A Porterfield Fa 100.61 51 P **Pdif** **05 53 17.0 +1.4**
baz=101,SNR=6.9
Y29A P **PP** **05 57 24.1 0.0**
baz=101
L34A Svendsen Farm, 100.62 42 P **Pdif** **05 53 15.8 +0.4**
baz=101
L34A P **PP** **05 57 23.5 -0.3**
baz=101
T31A Randall Ranch, 100.67 47 P **Pdif** **05 53 16.8 +1.1**
baz=101
T31A P **PP** **05 57 25.4 +1.0**
baz=101
M34A Aspy Farms, Fr 100.71 42 P **PP** **05 57 24.8 +0.4**
baz=101
O33A Hebron 100.74 44 P **PP** **05 57 24.1 -0.7**
baz=101
R32A Long Quarter, 100.75 46 P **Pdif** **05 53 16.7 +0.6**
baz=101
R32A P **PP** **05 57 22.4 -2.5**
baz=101
Z29A Hungry Hill Ra 100.83 52 P **Pdif** **05 53 17.9 +1.2**
baz=101,SNR=6.4
Z29A P **PP** **05 57 22.9 -3.0**
baz=101
TXAR Lajitas Array 100.88 56 P **Pdif** **05 53 18.4 +1.5**
comp=Z,3.9nm,1.1s,baz=289,slow=3.8,SNR=22
TXAR PP **PP** **05 57 26.1 -0.3**
comp=Z,1.9nm,0.9s,baz=284,slow=6.1,SNR=5.4
TXAR PKKPbc **PKKPbc** **06 09 30.2 +0.9**
comp=Z,0.4nm,0.7s,baz=129,slow=5.5,SNR=5.1
S32A Newby Ranch, P 100.92 47 P **Pdif** **05 53 18.0 +1.1**
baz=101
X30A Coker Ranch, T 100.96 50 P **Pdif** **05 53 18.4 +1.3**
baz=101,SNR=7.1
X30A P **PP** **05 57 23.2 -3.5**
baz=101
129A Stewart Farms, 100.97 52 P **Pdif** **05 53 18.4 +1.2**
baz=101
P33A Williams Farm, 100.97 45 P **PP** **05 57 26.6 +0.1**
baz=101
Q33A Connelly Farm, 101.09 45 P **Pdif** **05 53 17.9 +0.4**
baz=101
Q33A P **PP** **05 57 26.9 -0.5**
baz=101
N34A Lincoln 101.10 43 P **Pdif** **05 53 16.7 -0.8**
baz=101
N34A P **PP** **05 57 26.5 -0.9**
baz=101
SPMN St. Paul 101.14 38 P **Pdif** **05 53 17.9 +0.3**
baz=101
SPMN St. Paul 101.14 38 *e*Pdif **Pdif** **05 53 17.6 +0.1**
comp=Z,4.0nm,0.5s
V31A Spring Creek L 101.14 49 P **Pdif** **05 53 18.9 +1.0**
baz=101
V31A P **PP** **05 57 25.6 -2.3**
baz=101
OKC Ostrava-Krasne 101.16 328 *ex* x 05 58 10.6
OKC *e*SKS **SKSac** **06 03 44.5 +1.0**
OKC *e*SDIF **Sdif** **06 04 45.0 +0.5**
OKC *e*SP **SP** **06 06 14.4 -1.1**
OKC AMS AMS 06 40 50.0
comp=Z,300nm,16.3s
Y30A Stafford Cattl 101.19 51 P **Pdif** **05 53 19.6 +1.4**
baz=101
Y30A P **PP** **05 57 28.5 0.0**
baz=101
Z30A Sanderson Ranc 101.26 51 P **Pdif** **05 53 19.6 +1.1**
baz=101
Z30A P **PP** **05 57 28.5 -0.5**
baz=101
O34A Beatrice 101.29 44 P **PP** **05 57 28.0 -0.9**
baz=101
229A Bryant Ranch, 101.29 53 P **Pdif** **05 53 20.3 +1.7**
baz=101
R33A Olander Ranch, 101.31 46 P **Pdif** **05 53 19.5 +1.0**
baz=101
R33A P **PP** **05 57 27.0 -2.1**
baz=101
W31A Holland Ranch, 101.33 49 P **Pdif** **05 53 20.5 +1.7**
baz=101
W31A P **PP** **05 57 27.7 -1.7**
baz=101
329A Wagon Wheel Ra 101.36 53 P **Pdif** **05 53 20.7 +1.7**
baz=101,SNR=7.0
329A P **PP** **05 57 27.9 -1.9**
baz=101
U32A Winter Ranch, 101.48 48 P **Pdif** **05 53 20.6 +1.2**
baz=102
U32A P **PP** **05 57 29.2 -1.3**
baz=102
P34A Walnut Farm, R 101.51 44 P **Pdif** **05 53 19.4 0.0**
baz=102
P34A P **PP** **05 57 29.4 -1.2**
baz=102
X31A McDonald Ranch 101.55 50 P **Pdif** **05 53 20.6 +0.9**
baz=102
X31A P **PP** **05 57 27.9 -3.1**
baz=102
Y31A Rekieta Farm, 101.63 50 P **Pdif** **05 53 21.7 +1.6**
baz=102,SNR=7.1
Y31A P **PP** **05 57 30.0 -1.6**
baz=102
N35A Tabor 101.65 43 P **PP** **05 57 30.6 -0.9**
baz=102,SNR=6.9
130A Snyder 101.68 52 P **Pdif** **05 53 21.7 +1.3**
baz=102
130A P **PP** **05 57 31.9 -0.2**
baz=102
Q34A Chapman 101.73 45 P **PP** **05 57 30.8 -1.4**
baz=102
V32A Arapaho 101.75 48 P **Pdif** **05 53 22.1 +1.5**
baz=102
V32A P **PP** **05 57 30.9 -1.6**
baz=102
DPC Dobruska-Polom 101.76 329 *e*PP PP 05 57 29.9 -2.1
DPC *ex* x 05 58 09.1
DPC *e*SKS 06 03 41.9
DPC *e*SDIF **Sdif** **06 04 42.4 -7.2**
DPC *e*SP **SP** **06 06 21.7 -0.1**
DPC AMS AMS 06 41 50.0
comp=Z,300nm,16.9s
O35A Humboldt 101.77 43 P **PP** **05 57 32.6 +0.2**
baz=102
UPC Upice 101.81 330 *e*PP PP 05 57 32.2 -0.1
UPC *ex* x 05 58 07.4
UPC *ex* x 05 58 20.3
UPC *e*SKS 06 03 44.6
UPC *e*SDIF **Sdif** **06 04 47.4 -2.5**
UPC *e*SP **SP** **06 06 18.4 -3.9**
UPC AMS AMS 06 38 50.0
comp=Z,300nm,21.3s
R34A Isabella, Hill 101.82 45 P **PP** **05 57 31.4 -1.5**
baz=102
230A Sterling City 101.86 53 P **Pdif** **05 53 22.6 +1.4**
baz=102
230A P **PP** **05 57 31.8 -1.8**
baz=102
W32A Sentinel 101.87 49 P **Pdif** **05 53 23.0 +1.9**
baz=102
W32A P **PP** **05 57 30.5 -3.0**
baz=102
KSU1 Kansas State U 101.87 44 P **PP** **05 57 33.0 -0.2**
baz=102
Z31A Sharp Cattle R 101.99 51 P **Pdif** **05 53 22.8 +1.1**
baz=102
Z31A P **PP** **05 57 34.1 -0.4**
baz=102
330A Mertzon 102.02 53 P **Pdif** **05 53 22.4 +0.5**
baz=102
330A P **PP** **05 57 34.8 +0.1**
baz=102
P35A Duane Minner, 102.06 44 P **Pdif** **05 53 22.1 +0.2**
baz=102
P35A P **PP** **05 57 34.7 0.0**
baz=102
131A Roby 102.09 52 P **Pdif** **05 53 22.3 +0.1**
baz=102
131A P **PP** **05 57 34.5 -0.7**
baz=102
U33A Lingo Farm, Me 102.09 47 P **Pdif** **05 53 22.4 +0.3**
baz=102
U33A P **PP** **05 57 35.0 0.0**
baz=102
X32A Elmer 102.15 50 P **Pdif** **05 53 23.9 +1.5**
baz=102
X32A P **PP** **05 57 34.2 -1.4**
baz=102
Y32A R-V Farms, Ver 102.22 50 P **Pdif** **05 53 23.6 +0.9**
baz=102
Y32A P **PP** **05 57 35.0 -1.1**
baz=102
430A Baggett Ranch, 102.23 54 P **Pdif** **05 53 23.3 +0.5**
baz=102
430A P **PP** **05 57 35.6 -0.8**
baz=102
Q35A Mercer Eighty, 102.38 44 P **Pdif** **05 53 23.6 +0.3**
baz=102
Q35A P **PP** **05 57 36.5 -0.6**
baz=102
WMOK Wichita Mounta 102.38 49 *e*P **Pdif** **05 53 23.4 0.0**
WMOK pmax pmax
comp=Z,8.0nm,1.1s
WMOK Wichita Mounta 102.38 49 *e*Pdif **Pdif** **05 53 23.4 0.0**
comp=Z,7.7nm,1.1s
530A J-C Ranch, Com 102.41 54 P **Pdif** **05 53 25.2 +1.5**
baz=102
W33A Caddo, Fort Co 102.42 49 P **Pdif** **05 53 25.3 +1.7**
baz=102
W33A P **PP** **05 57 35.5 -2.0**
baz=102
231A Bronte 102.46 52 P **Pdif** **05 53 24.8 +1.0**
baz=102
231A P **PP** **05 57 37.3 -0.7**
baz=102
O36A Bolckow 102.46 43 P **PP** **05 57 38.0 +0.3**
baz=102
T34A McClaskey Farm 102.47 47 P **Pdif** **05 53 24.5 +0.8**
baz=102
T34A P **PP** **05 57 37.0 -0.8**
baz=102
Z32A Haskell 102.50 51 P **Pdif** **05 53 25.2 +1.2**
baz=102,SNR=10
Z32A P **PP** **05 57 36.1 -2.1**
baz=102
PVCC Panska Ves 102.50 330 AMS AMS 06 39 20.0
comp=Z,500nm,19.6s
U34A Anderson Ranch 102.50 47 P **Pdif** **05 53 25.1 +1.2**
baz=102
U34A P **PP** **05 57 36.7 -1.4**
baz=102
U34A Anderson Ranch 102.50 47 *e*Pdif **Pdif** **05 53 25.0 +1.1**
comp=Z,9.2nm,0.9s
P36A Good Intent, A 102.56 43 P **Pdif** **05 53 24.6 +0.5**
baz=102
P36A P **PP** **05 57 36.9 -1.5**
baz=102
BRG Berggiesshubel 102.57 331 *e*P **PKiKP** **05 57 41.2 -3.0**
comp=Z,1.7nm,0.6s
331A San Angelo 102.64 53 P **Pdif** **05 53 25.0 +0.3**
baz=103
ABTX Abilene, Hawle 102.67 51 P **Pdif** **05 53 26.1 +1.4**
baz=103,SNR=7.1
ABTX P **PP** **05 57 38.4 -1.1**
baz=103
ABTX Abilene, Hawle 102.67 51 *e*Pdif **Pdif** **05 53 25.9 +1.1**
comp=Z,20nm,1.4s
X33A Lawton 102.68 49 P **Pdif** **05 53 25.8 +1.1**
baz=103
X33A P **PP** **05 57 37.7 -1.7**
baz=103
Q36A Arnold C. Orve 102.72 44 P **Pdif** **05 53 24.9 +0.1**
baz=103
CLL Collm 102.72 331 *e*PP PP 05 57 37.0 -2.1
CLL *e*pPP 05 58 15.0
CLL *e*sPP 05 58 30.0
CLL *e*SKSac **SKSac** **06 03 48.0 -2.8**
CLL *e*Sdif **Sdif** **06 04 54.0 -3.4**
CLL *e*PS **PS** **06 06 52.0 +2.2**
CLL *e*(PPS) 06 07 31.0
CLL *e*SSS SSS 06 16 05.0
CLL L L 06 46 00.0
comp=Z,300nm,18.6s
431A Sonora 102.76 54 P **Pdif** **05 53 25.7 +0.5**
baz=103
431A P **PP** **05 57 40.5 +0.2**
baz=103
S35A Otter Creek Ra 102.76 46 P **Pdif** **05 53 25.7 +0.7**
baz=103
S35A P **PP** **05 57 40.4 +0.4**
baz=103
V34A Guthrie 102.80 48 P **Pdif** **05 53 25.8 +0.6**
baz=103
V34A P **PP** **05 57 37.1 -3.2**
baz=103
GOPC GO Pecny, Ondr 102.80 330 *e*PP PP 05 57 40.0 +0.3
GOPC *ex* x 05 58 19.2
GOPC *ex* x 05 58 27.4
GOPC *e*SKS 06 03 48.6
GOPC *e*SDIF **Sdif** **06 04 50.8 -7.4**
GOPC *e*SP **SP** **06 06 34.3 +1.5**
GOPC AMS AMS 06 42 50.0
comp=Z,300nm,15.5s
Y33A Hilltop Ranch, 102.83 50 P **Pdif** **05 53 25.7 +0.3**
baz=103
Y33A P **PP** **05 57 38.2 -2.4**
baz=103
TREC Trest 102.85 329 *e*SKS 06 03 53.6
TREC *e*SDIF **Sdif** **06 04 52.9 -5.8**
TREC *e*SP **SP** **06 06 31.9 -1.5**
TREC AMS AMS 06 44 10.0
comp=Z,400nm,18.3s
PRU Pruhonice 102.87 330 *e*PP PP 05 57 41.4 +1.2
PRU *ex* x 05 58 21.7
PRU *e*SKS 06 03 48.7
PRU *ex* x 06 04 47.5
PRU *e*SP **SP** **06 06 31.1 -2.4**
PRU AMS AMS 06 39 30.0
comp=Z,300nm,19.0s
W34A Bridge Creek, 102.89 48 P **Pdif** **05 53 25.6 0.0**
baz=103
W34A P **PP** **05 57 41.8 +0.7**
baz=103
232A Coleman 102.99 52 P **Pdif** **05 53 26.1 -0.1**
baz=103
232A P **PP** **05 57 41.3 -0.7**
baz=103
T35A Sooner Cattle 103.00 46 P **Pdif** **05 53 26.8 +0.7**
baz=103
R36A Gordon, Harris 103.01 45 P **Pdif** **05 53 26.3 +0.2**
baz=103
R36A P **PP** **05 57 41.2 -0.6**
baz=103,SNR=5.0
531A Rocksprings 103.03 54 P **Pdif** **05 53 27.5 +1.1**
baz=103,SNR=5.8
531A P **PP** **05 57 40.2 -2.1**
baz=103
Z33A Whitaker Ranch 103.05 51 P **Pdif** **05 53 27.2 +0.8**
baz=103
PKSM Moragy 103.10 325 ⇑P **Pdif** **05 53 27.0 +0.7**
PKSM Moragy 103.10 325 ⇑*i*P **Pdif** **05 53 27.0 +0.7**
U35A Pawnee 103.10 47 P **Pdif** **05 53 27.6 +1.0**
baz=103
U35A P **PP** **05 57 41.8 -0.8**
baz=103
332A Millersview 103.14 53 P **Pdif** **05 53 28.2 +1.3**
baz=103
332A P **PP** **05 57 43.3 +0.2**
baz=103
X34A Smith Ranch, M 103.14 49 P **PP** **05 57 41.7 -1.2**
baz=103
133A Hamilton Ranch 103.23 51 P **PP** **05 57 43.1 -0.6**
baz=103
S36A Lake Cedric, C 103.24 45 P **Pdif** **05 53 27.6 +0.4**
baz=103
S36A P **PP** **05 57 42.2 -1.3**
baz=103
432A Menard 103.31 53 P **Pdif** **05 53 28.1 +0.4**
baz=103
432A P **PP** **05 57 42.5 -1.9**
baz=103
V35A Meyer Ranch, C 103.32 48 P **PP** **05 57 41.7 -2.5**
baz=103
T36A Boggs Farm, Ca 103.37 46 P **Pdif** **05 53 28.2 +0.4**
baz=103
T36A P **PP** **05 57 44.6 +0.1**
baz=103
R37A Teagarden Farm 103.47 44 P **PP** **05 57 46.3 +1.1**
baz=103
JCT Junction City 103.48 54 *e*P **Pdif** **05 53 29.7 +1.3**
JCT pmax pmax
comp=Z,2.0nm,0.4s
JCT Junction City 103.48 54 P **Pdif** **05 53 29.4 +1.0**
baz=104
JCT P **PKiKP** **05 57 47.4 +0.8**
baz=104
JCT Junction City 103.48 54 *e*Pdif **Pdif** **05 53 29.7 +1.3**
comp=Z,2.4nm,0.4s
Y34A Reagan Ranch, 103.49 50 P **PP** **05 57 44.6 -0.9**
baz=104
233A Rising Star 103.50 52 P **Pdif** **05 53 29.7 +1.2**
baz=104
233A P **PP** **05 57 46.0 +0.2**
baz=104
532A Rocksprings 103.55 54 P **Pdif** **05 53 30.0 +1.3**
baz=104
532A P **PKiKP** **05 57 46.7 -0.1**
baz=104
DIVS Divibare 103.57 323 ⇑*i*P **Pdif** **05 53 27.7 -0.9**
W35A Tecumseh 103.58 48 P **Pdif** **05 53 29.3 +0.6**
baz=104
W35A P **PKiKP** **05 57 47.0 +0.4**
baz=104,SNR=5.7
Z34A Collier Ranch, 103.64 50 P **PKiKP** **05 57 47.9 +1.1**
baz=104
NKC Novy Kostel 103.71 331 AMS AMS 06 44 10.0
comp=Z,300nm,15.8s
333A Richland Sprin 103.75 52 P **Pdif** **05 53 31.0 +1.4**
baz=104
333A P **PP** **05 57 47.6 0.0**
baz=104
S37A Fort Scott 103.75 45 P **PKiKP** **05 57 46.2 -0.6**
baz=104
X35A Drake 103.86 49 P **Pdif** **05 53 30.1 +0.2**
baz=104
X35A P **PKiKP** **05 57 47.6 +0.5**
baz=104
134A White-Moore Ra 103.88 51 P **Pdif** **05 53 31.2 +1.1**
baz=104
134A P **PP** **05 57 48.6 +0.2**
baz=104
632A Uvalde 103.90 54 P **Pdif** **05 53 31.3 +1.0**
baz=104
632A P **PP** **05 57 49.2 +0.4**
baz=104
KHC Kasperske Hory 103.91 330 *e*PP PP 05 57 48.0 0.0
KHC *ex* x 05 58 19.5
KHC *ex* x 05 58 32.9
KHC *e*SKS 06 03 53.3
KHC *ex* x 06 04 56.1
KHC *e*SP **SP** **06 06 43.9 -0.5**
KHC AMS AMS 06 46 50.0
comp=Z,300nm,18.8s
433A Art 103.91 53 P **Pdif** **05 53 30.5 +0.2**
baz=104
V36A Jenks 103.94 47 P **PKiKP** **05 57 48.2 +0.9**
baz=104
TUL1 Tulsa 103.99 47 P **Pdif** **05 53 31.6 +1.0**
baz=104
TUL1 P **PKiKP** **05 57 47.8 +0.5**
baz=104
T37A Cheneyville 18 104.01 46 P **Pdif** **05 53 31.0 +0.4**
baz=104
T37A P **PKiKP** **05 57 47.6 +0.3**
baz=104
GERES GERESS Array B 104.04 329 Pdiff **Pdif** **05 53 32.9 +2.4**
comp=Z,0.3nm,0.5s,baz=23,slow=3.2,SNR=3.3
GERES PKiKP **PKiKP** **05 57 47.8 +0.7**
comp=Z,1.1nm,0.6s,baz=57,slow=3.3,SNR=9.5
GERES PKKPbc **PKKPbc** **06 09 19.0 -1.8**
comp=Z,0.6nm,0.6s,baz=222,slow=3.6,SNR=6.1
Y35A Marietta 104.05 49 P **PKiKP** **05 57 47.9 +0.4**
baz=104
W36A Wetumka 104.05 48 P **Pdif** **05 53 31.9 +1.1**
baz=104
W36A P **PKiKP** **05 57 48.2 +0.8**
baz=104
732A Laxson Ranch, 104.08 55 P **Pdif** **05 53 31.7 +0.6**
baz=104
732A P **PP** **05 57 50.3 +0.1**
baz=104
234A Clairette 104.09 51 P **Pdif** **05 53 31.6 +0.5**
baz=104
234A P **PP** **05 57 50.0 -0.1**
baz=104
Z35A Perchaven, San 104.15 50 P **Pdif** **05 53 31.5 +0.2**
baz=104
U37A Salina 104.23 46 P **PKiKP** **05 57 50.6 +2.9**
baz=104
X36A Centrahoma 104.23 48 P **Pdif** **05 53 32.0 +0.4**
baz=104
X36A P **PKiKP** **05 57 49.2 +1.4**
baz=104
832A Faith Ranch, C 104.27 56 P **Pdif** **05 53 32.5 +0.6**
baz=104
832A P **PP** **05 57 50.8 -0.8**
baz=104
334A Lometa 104.31 52 P **Pdif** **05 53 33.0 +0.9**
baz=104
334A P **PP** **05 57 50.7 -1.1**
baz=104
V37A Hulbert 104.47 47 P **Pdif** **05 53 32.6 0.0**
baz=104
V37A P **PKiKP** **05 57 49.5 +1.3**
baz=104
434A Burnet 104.52 53 P **Pdif** **05 53 33.3 +0.3**
baz=104
434A P **PKiKP** **05 57 50.8 +2.3**
baz=104
Y36A Durant 104.60 49 P **Pdif** **05 53 33.5 +0.3**
baz=105
Y36A P **PKiKP** **05 57 50.4 +2.0**
baz=105
WHTX Lake Whitney 104.61 51 P **PP** **05 57 54.0 0.0**
baz=105
W37A Quinton 104.63 48 P **Pdif** **05 53 33.4 +0.1**
baz=105

W37A				P		**PP**	**05 57 53.1**	**-0.9**
	baz=105								
534A	**Blanco**	**104.71**	**53**	P		**Pdif**	**05 53 34.2**	**+0.3**
	baz=105								
833A	**Chaparral WMA,**	**104.71**	**55**	P		**Pdif**	**05 53 34.1**	**+0.2**
	baz=105								
833A				P		**PKiKP**	**05 57 51.0**	**+2.2**
	baz=105								
U38A	**Gravette**	**104.72**	**46**	P		**Pdif**	**05 53 33.7**	**0.0**
	baz=105								
U38A				P		**PP**	**05 57 52.1**	**-2.5**
	baz=105								
Z36A	**Blue Ridge**	**104.79**	**50**	P		**PP**	**05 57 53.2**	**-2.0**
	baz=105								
X37A	**Clayton**	**104.93**	**48**	P		**Pdif**	**05 53 35.0**	**+0.2**
	baz=105								
X37A				P		**PP**	**05 57 53.1**	**-3.1**
	baz=105								
SCHQ	**Schefferville**	**106.21**	**19**	PKiKP		**PKiKP**	**05 57 50.7**	**-0.2**
	comp=Z,2.6nm,0.6s,baz=39,slow=3.2,SNR=7.8								
MIAR	**Mount Ida**	**106.24**	**47**	*e*P		**Pdif**	**05 53 40.6**	**+0.1**
MIAR				pmax		pmax			
	comp=Z,2.0nm,0.8s								
MIAR	**Mount Ida**	**106.24**	**47**	*e*Pdif		**Pdif**	**05 53 40.6**	**+0.1**
	comp=Z,2.0nm,0.8s								
OLIL	**Olney**	**107.68**	**41**	*e*PKPdf		**PKiKP**	**05 57 54.7**	**+0.7**
BLO	**Bloomington**	**108.42**	**40**	*e*PKPdf		**PKiKP**	**05 57 56.2**	**+0.8**
WVT	**Waverly**	**109.35**	**43**	*e*PKPdf		**PKiKP**	**05 57 56.5**	**-0.8**
BNI	**Bardonecchia**	**110.13**	**330**	*e*PKIKP		**PKiKP**	**05 57 58.5**	**-0.1**
BNI	**Bardonecchia**	**110.13**	**330**	*e*PKPdf		**PKiKP**	**05 57 58.5**	**-0.1**
LRAL	**Lakeview Retre**	**111.67**	**46**	*e*PKPdf		**PKiKP**	**05 58 01.9**	**+0.2**
MDV	**Middlebury**	**112.47**	**29**	*e*PKPdf		**PKiKP**	**05 58 03.0**	**+0.1**
SSPA	**Standing Stone**	**112.53**	**34**	*e*PKPdf		**PKiKP**	**05 58 03.0**	**-0.2**
GOGA	**Godfrey**	**113.85**	**43**	*e*PKIKP		**PKiKP**	**05 58 06.4**	**+0.5**
GOGA	**Godfrey**	**113.85**	**43**	*e*PKPdf		**PKiKP**	**05 58 06.4**	**+0.5**
KEST	**Kesra**	**115.16**	**321**	PKP		**PKPdf**	**05 58 09.0**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=207,slow=0.7,SNR=7.2								
PBRG	**Braganca**	**118.63**	**336**	*e*PKPdf		**PKPdf**	**05 58 15.2**	**+0.3**
PGAV	**Gavieira, Arco**	**119.07**	**338**	*e*PKPdf		**PKPdf**	**05 58 16.4**	**+0.6**
LSZ	**Lusaka**	**119.17**	**260**	*e*PKIKP		**PKPdf**	**05 58 17.7**	**+1.1**
LSZ	**Lusaka**	**119.17**	**260**	*e*PKPdf		**PKPdf**	**05 58 17.7**	**+1.1**
PCAB	**Cabril**	**119.20**	**337**	*e*PKPdf		**PKPdf**	**05 58 16.5**	**+0.8**
ESDC	**Sonseca Array**	**119.26**	**333**	PKP		**PKPdf**	**05 58 16.5**	**+0.3**
	comp=Z,2.9nm,0.6s,baz=9.6,slow=2.6,SNR=24								
ESDC				PP		**PP**	**05 59 35.9**	**-1.8**
	comp=Z,1.5nm,0.7s,baz=35,slow=6.8,SNR=9.9								
ESDC				PKKPbc		**PKKPbc**	**06 08 30.2**	**-0.3**
	comp=Z,3.0nm,1.0s,baz=222,slow=3.7,SNR=8.0								
MVO	**Moncorvo**	**119.29**	**336**	*e*PKPdf		**PKPdf**	**05 58 17.2**	**+1.0**
POLO	**Lamas de Olo**	**119.40**	**337**	*e*PKPdf		**PKPdf**	**05 58 17.2**	**+0.7**
PVRL	**Vila Real**	**119.46**	**337**	*e*PKPdf		**PKPdf**	**05 58 17.3**	**+0.8**
PAB	**San Pablo**	**119.53**	**333**	*e*PKIKP		**PKPdf**	**05 58 17.1**	**+0.3**
PAB	**San Pablo**	**119.53**	**333**	*e*PKPdf		**PKPdf**	**05 58 17.1**	**+0.3**
PVIS	**Viseu**	**120.01**	**337**	*e*PKPdf		**PKPdf**	**05 58 18.5**	**+0.9**
MTE	**Manteigas**	**120.14**	**336**	*e*PKPdf		**PKPdf**	**05 58 19.7**	**+0.8**
PCBR	**Castelo Branco**	**120.60**	**336**	*e*PKPdf		**PKPdf**	**05 58 19.5**	**+0.8**
PCAS	**Casmilo, Conde**	**120.81**	**337**	*e*PKPdf		**PKPdf**	**05 58 19.7**	**+0.6**
PMRV	**Marv??o**	**120.91**	**335**	*e*PKPdf		**PKPdf**	**05 58 20.1**	**+0.8**
VNA1	**Neumayer--Stat**	**121.14**	**190**	P		**PKPdf**	**05 58 19.8**	**+1.1**
PTOM	**Tomar**	**121.16**	**336**	*e*PKPdf		**PKPdf**	**05 58 20.7**	**+1.0**
PESTR	**Estremoz**	**121.47**	**335**	*e*PKPdf		**PKPdf**	**05 58 21.3**	**+0.9**
PMTG	**Montargil**	**121.55**	**336**	*e*PKPdf		**PKPdf**	**05 58 21.0**	**+0.5**
PBAR	**Barrancos**	**121.83**	**334**	*e*PKPdf		**PKPdf**	**05 58 22.0**	**+0.9**
EVO	**Evora**	**121.93**	**335**	*e*PKPdf		**PKPdf**	**05 58 22.1**	**+0.8**
PNCL	**Nicolau / Gran**	**122.50**	**335**	*e*PKPdf		**PKPdf**	**05 58 23.2**	**+0.8**
MESJ	**Messejana**	**122.61**	**335**	*e*PKPdf		**PKPdf**	**05 58 23.7**	**+1.1**
BOSA	**Boshof**	**122.68**	**245**	PKP		**PKPdf**	**05 58 23.8**	**+0.7**
	comp=Z,4.7nm,0.9s,baz=159,slow=1.3,SNR=7.1								
PCVE	**Castro Verde**	**122.71**	**335**	*e*PKPdf		**PKPdf**	**05 58 23.4**	**+0.6**
PVAQ	**Vaqueiros**	**122.77**	**334**	*e*PKPdf		**PKPdf**	**05 58 23.9**	**+1.0**
PBDV	**Barranco-do-Ve**	**122.99**	**334**	*e*PKPdf		**PKPdf**	**05 58 24.6**	**+1.2**
PTEO	**Sao Teotonio**	**123.06**	**335**	*e*PKPdf		**PKPdf**	**05 58 24.3**	**+0.8**
MORF	**Marmelete**	**123.24**	**335**	*e*PKPdf		**PKPdf**	**05 58 25.1**	**+1.2**
JTS	**JuntasAbangare**	**124.75**	**67**	*e*PKIKP		**PKPdf**	**05 58 27.6**	**+0.3**
JTS	**JuntasAbangare**	**124.75**	**67**	*e*PKPdf		**PKPdf**	**05 58 27.6**	**+0.3**
TAM	**Tamanrasset**	**126.07**	**312**	*e*PKIKP		**PKPdf**	**05 58 30.6**	**+0.8**
TAM	**Tamanrasset**	**126.07**	**312**	*e*PKPdf		**PKPdf**	**05 58 30.6**	**+0.8**
TORD	**Torodi Ar. Bea**	**134.78**	**305**	PKhKP		PKPpre	05 58 30.3		
	comp=Z,1.2nm,0.6s,baz=66,slow=1.8,SNR=14								
TORD				PKP		**PKPdf**	**05 58 46.7**	**+0.4**
	comp=Z,16nm,0.5s,baz=30,slow=2.2,SNR=42								
TORD				SKPbc		**SKPbc**	**06 02 02.4**	**-1.2**
	comp=Z,18nm,0.9s,baz=51,slow=3.1,SNR=19								
TORD				SKKPbc		**SKKPbc**	**06 11 09.2**	**-0.6**
	comp=Z,1.0nm,1.0s,baz=190,slow=5.8,SNR=6.9								
STVI	**Saint Thomas**	**136.21**	**43**	*e*PKPdf		**PKPdf**	**05 58 48.8**	**-0.1**
ROSC	**El Rosal**	**136.58**	**67**	PKP		**PKPdf**	**05 58 50.4**	**+0.2**
	comp=Z,5.7nm,0.6s,baz=273,slow=3.0,SNR=8.0								
ROSC				SKPbc		**SKPbc**	**06 02 10.3**	**+0.6**
	comp=Z,3.9nm,0.5s,baz=248,slow=9.5,SNR=6.2								
ATAH	**Atahualpa**	**136.73**	**85**	PKP		**PKPdf**	**05 58 51.5**	**+1.0**
	comp=Z,6.5nm,0.6s,baz=217,slow=2.3,SNR=3.1								
ATAH				SKP			06 02 12.2		
	comp=Z,8.7nm,0.7s,baz=299,slow=4.9,SNR=4.9								
LCO	**Las Campanas**	**143.69**	**120**	*e*PKPdf		PKPbc	05 59 00.8	+0.4	
DBIC	**Dimbokro**	**143.77**	**303**	PKP		PKPbc	05 59 00.6	-0.1	
	comp=Z,81nm,0.5s,baz=30,slow=3.6,SNR=230								
DBIC				SKPbc		**SKPbc**	**06 02 28.2**	**-0.2**
	comp=Z,9.8nm,0.8s,baz=59,slow=4.3,SNR=3.3								
KIC	**Kosan Boka**	**143.85**	**302**	*e*PKP1		PKPbc	05 59 00.8	-0.1	
	comp=Z,157nm,0.5s								
TIC	**Toumodi**	**143.91**	**303**	*e*PKP1		PKPbc	05 59 00.9	-0.2	
LIC	**Lamto**	**144.16**	**302**	*e*PKP1		PKPbc	05 59 01.8	0.0	
	comp=Z,495nm,0.5s								
CFAA	**Coronel Fontan**	**144.85**	**125**	PKP		**PKPdf**	**05 59 04.2**	**+0.1**
	comp=Z,18nm,0.8s,baz=245,slow=2.9,SNR=225								
TRQA	**Tornquist**	**146.13**	**140**	*e*PKPbc		**PKPbc**	**05 59 07.3**	**0.0**
LVC	**Limon Verde**	**146.67**	**110**	PKPbc		**PKPbc**	**05 59 10.1**	**+0.5**
	comp=Z,215nm,0.8s,baz=262,slow=3.3,SNR=62								
LVC	**Limon Verde**	**146.67**	**110**	*e*PKPbc		**PKPab**	**05 59 10.9**	**-0.1**
LPAZ	**La Paz**	**147.86**	**98**	PKPbc		**PKPbc**	**05 59 12.0**	**-1.5**
	comp=Z,19nm,0.8s,baz=226,slow=2.6,SNR=30								
LPAZ	**La Paz**	**147.86**	**98**	PKIKP		**PKPbc**	**05 59 12.0**	**-1.5**
SAML	**Samuel**	**151.82**	**83**	*e*PKPdf		**PKPdf**	**05 59 17.0**	**+1.1**
SAML				*e*PKPbc		**PKiKP**	**05 59 23.1**	**+0.4**
PTGA	**Pitinga**	**151.86**	**64**	PKP		**PKPdf**	**05 59 17.2**	**+1.2**
	comp=Z,15nm,0.9s,baz=328,slow=1.1,SNR=23								
PTGA				PKPbc		**PKiKP**	**05 59 23.2**	**+0.3**
	comp=Z,32nm,0.6s,baz=247,slow=4.6,SNR=32								
PTGA				PKPab		**PKPab**	**05 59 33.1**	**+1.0**
	comp=Z,6.2nm,0.5s,baz=212,slow=2.7,SNR=6.6								
SIV	**San Ignacio**	**154.64**	**98**	PKP		**PKPdf**	**05 59 19.9**	**0.0**
	comp=Z,0.8nm,0.6s,baz=217,slow=4.4,SNR=3.0								
SIV				PKPbc		**PKiKP**	**05 59 29.5**	**+1.0**
	comp=Z,3.3nm,0.7s,baz=257,slow=5.4,SNR=7.3								
SIV				PKPab		**PKPab**	**05 59 45.0**	**+1.1**
	comp=Z,10nm,0.9s,baz=273,slow=2.6,SNR=12								
CPUP	**Villa Florida**	**155.71**	**124**	PKP		**PKPdf**	**05 59 21.6**	**+0.6**
	comp=Z,1.9nm,1.0s,baz=229,slow=2.9,SNR=3.6								
CPUP				PKPab		**PKPab**	**05 59 48.6**	**+0.6**
	comp=Z,8.8nm,1.0s,baz=246,slow=4.8,SNR=9.6								
BDFB	**Brasilia**	**167.21**	**99**	PKP		**PKPdf**	**05 59 34.1**	**+0.7**
	comp=Z,4.2nm,0.7s,baz=237,slow=1.2,SNR=9.5								
BDFB				pPKP		**pPKPdf**	**06 00 11.2**	**-0.4**
	comp=Z,3.4nm,0.8s,baz=217,slow=5.5,SNR=3.0								
BDFB				PKPab		**PKPab**	**06 00 39.8**	**+0.9**
	comp=Z,7.7nm,0.9s,baz=230,slow=2.6,SNR=5.0								

IDC ***10*** *06:07:39.3±1.1,6.°91S×148.°16E, h0km, mb4.2/5, mb1 4.3/7, mb1mx3.9/37, mbtmp4.2/7, ML3.9/2, MS3.4/1, Ms1 3.4/1, ms1mx2.8/26, Error ellipse: s-maj=42.3km s-min=24.3km az=108.0*

ISCJB ***10*** *06:07:45.2±1.1, 7.°0S±0.°1×148.°1E±0.°1, h54km, mb4.1/5, MS3.5/1, Error ellipse: s-maj=18.1km s-min=16.1km az=29.5*

ISC 10 06:07:46.7±1.0, 6.°9S±0.°1×148.°1E±0.°2, h54km, n21, σ0.°77/22, mb4.2/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.62**	**201**	P		P	**Pn**	**06 08 27.2**	**+0.5**
	baz=2.5,SNR=44								
PMG				P		P	**Pn**	**06 08 27.2**	**+0.5**
	baz=2.5,SNR=44								
PMG				P		P	**Pn**	**06 08 27.2**	**+0.5**
	baz=2.5,SNR=44								
MANU	**Manus Island**	**4.92**	**351**	P		P	Pn	06 09 05.5	+7.3
	baz=5.2,SNR=3.8								
MTSU	**Mount Surprise**	**11.72**	**198**	P		P	**Pn**	**06 10 32.6**	**+1.2**
	baz=12,SNR=4.2								
CTA	**Charters Tower**	**13.19**	**188**	Pn		P	**Pn**	**06 10 50.3**	**-1.1**
	0.3nm,0.3s,baz=15,slow=16,SNR=3.2								
QIS	**Mount Isa**	**15.85**	**211**	P		P	**Pn**	**06 11 27.0**	**+0.5**
	baz=16,SNR=3.9								
KDU	**Kakadu**	**16.43**	**248**	P		P	**P**	**06 11 34.4**	**-1.4**
	baz=16,SNR=4.3								
WRA	**Warramunga Arr**	**18.59**	**225**	P		P	**P**	**06 11 58.1**	**-1.6**
	0.5nm,0.3s,baz=51,slow=11,SNR=31								
WRA				PcP		PcP	**PcP**	**06 16 27.9**	**+0.7**
	0.0nm,0.3s,baz=49,slow=2.4,SNR=3.5								
QLP	**Quilpie**	**19.88**	**190**	P		P	**P**	**06 12 14.0**	**+0.3**
	baz=20,SNR=18								
KNRA	**Kununurra**	**20.85**	**244**	P		P	**P**	**06 12 24.2**	**-0.1**
	baz=21,SNR=5.2								
ASAR	**Alice Springs**	**21.52**	**218**	P		P	**P**	**06 12 31.2**	**-0.2**
	10nm,0.6s,baz=52,slow=9.4,SNR=149								
STKA	**Stephens Creek**	**25.55**	**193**	P		P	**P**	**06 13 09.7**	**-0.8**
	3.4nm,0.4s,baz=7.5,slow=12,SNR=6.5								
STKA	**Stephens Creek**	**25.55**	**193**	P		P	**P**	**06 13 11.4**	**+0.9**
	baz=26,SNR=4.5								
WRKA	**Warakurna**	**26.14**	**224**	P		P	**P**	**06 13 15.5**	**-0.6**
	baz=26,SNR=5.4								
MEEK	**Meekatharra**	**34.22**	**232**	P		P	**P**	**06 14 27.6**	**+0.1**
	baz=34,SNR=3.7								
KLBR	**Kellerberrin**	**37.48**	**225**	P		P	**P**	**06 14 54.9**	**-0.4**
	baz=37,SNR=6.6								
RPZ	**Rata Peaks**	**41.79**	**155**	P		P	**P**	**06 15 31.0**	**0.0**
	8.5nm,0.7s,baz=297,slow=5.7,SNR=5.5								
KSRS	**Korea Array**	**48.02**	**338**	LR		LR		06 34 02.6	
	comp=Z,50nm,22.0s,baz=158,slow=33								
VNDA	**Vanda**	**70.92**	**177**	P		P	**P**	**06 18 57.6**	**-0.1**
	1.5nm,0.8s,baz=337,slow=8.2,SNR=5.2								
ILAR	**Eielson Array**	**85.91**	**23**	P		P	**P**	**06 20 21.0**	**+0.4**
	0.2nm,0.6s,baz=245,slow=3.9,SNR=3.3								
TORD	**Torodi Ar. Bea**	**146.39**	**283**	PKPbc		**PKPbc**	**06 27 22.5**	**-0.2**	
	1.5nm,0.9s,baz=70,slow=3.3,SNR=6.8								
BDFB	**Brasilia**	**152.46**	**145**	PKPbc		**PKPbc**	**06 27 37.7**	**-0.4**	
	3.5nm,0.9s,baz=239,slow=5.0,SNR=3.1								

ISCJB ***10*** *06:10:24.4±1.2, 30.°61S±0.°03×71.°98W±0.°08, h25km±10km, Error ellipse: s-maj=11.8km s-min=5.0km az=7.7*
SJA ***10*** *06:10:25.5±0.7, 30.°57S×71.°89W, h57km±8km, ML3.8*
GUC ***10*** *06:10:25.7±0.5, 30.°64S×71.°63W, h45km±3km, ML3.7*

ISC 10 06:10:22.8±2.1, 30.°61S±0.°04×72.°01W±0.°09, h11km±12km, n24, σ1.°936/37, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.96**	**44**	*e*P		P	**Pg**	**06 10 41.3**	**-0.1**
LSCH				*e*S		S	**Sg**	**06 10 53.4**	**-0.5**
LSCH				AML		AML		06 10 55.1	
	comp=N,1μm,0.1s								
LCO	**Las Campanas**	**1.96**	**36**	*i* P		P	**Pn**	**06 10 56.7**	**+0.5**
LCO				*i* S		S	**Sn**	**06 11 20.6**	**-0.3**
LCO				AML		AML		06 11 27.6	
	comp=N,831nm,0.4s								
VACH	**Vallenar**	**2.30**	**29**	*e*P		P	**Pn**	**06 11 01.6**	**+0.9**
VACH				*e*S		S	**Sn**	**06 11 29.5**	**+0.5**
RTLS	**Leoncito**	**2.61**	**118**	*i* P		P	**Pn**	**06 11 06.6**	**+1.4**
RTLS				*i* S		S	**Sn**	**06 11 37.5**	**+0.4**
AUSP	**Uspallata**	**2.76**	**126**	*i* P		P	**Pn**	**06 11 09.0**	**+1.6**
AUSP				*i* S		S	**Sn**	**06 11 41.9**	**+1.0**
PEL	**Peldehue**	**2.77**	**156**	*e*P		P	**Pn**	**06 11 07.5**	**+0.2**
PEL				*e*S		S	**Sn**	**06 11 39.8**	**-0.9**
PEL				AML		AML		06 11 50.3	
	comp=E,718nm,1.4s								
AMOG	**MOGNA**	**3.05**	**97**	*e*P		P	**Pn**	**06 11 13.0**	**+2.0**
CLCH	**Cerro Calan**	**3.05**	**156**	*e*P		P	**Pn**	**06 11 12.0**	**+0.9**
CLCH				*e*S		S	**Sn**	**06 11 46.5**	**-1.2**
CLCH				AML		AML		06 12 04.8	
	comp=E,478nm,0.7s								
RCDM	**Rinconada Maip**	**3.05**	**161**	*e*P		P	**Pn**	**06 11 12.1**	**+1.0**
SAN	**Santiago**	**3.06**	**158**	*e*S		S	**Sn**	**06 11 46.8**	**-1.1**
SJA	**San Juan**	**3.10**	**108**	*e*P		P	**Pn**	**06 11 13.4**	**+1.6**
LACH	**Col Las Americ**	**3.10**	**156**	*e*P		P	**Pn**	**06 11 12.3**	**+0.5**
LACH				*e*S		S	**Sn**	**06 11 47.9**	**-1.0**
LACH				AML		AML		06 12 06.8	
	comp=E,169nm,2.1s								
RTLL	**Cerro Villicun**	**3.12**	**104**	*i* P		P	**Pn**	**06 11 13.0**	**+1.0**
RTLL				*i* P		P	**Pn**	**06 11 13.0**	**+1.0**
RTCV	**Cerro Valdivia**	**3.23**	**114**	*e*P		P	**Pn**	**06 11 15.4**	**+1.9**
RTCV				*i* S		S	**Sn**	**06 11 51.1**	**-0.8**
ASAL	**Salagasta**	**3.36**	**127**	*i* P		P	**Pn**	**06 11 17.4**	**+2.0**
CFAA	**Coronel Fontan**	**3.39**	**108**	*e*P		P	**Pn**	**06 11 17.0**	**+1.3**
CFAA				⇓*e*S		S	**Sn**	**06 11 56.6**	**+0.7**
ARCO	**CERRO ARCO**	**3.44**	**131**	*e*P		P	**Pn**	**06 11 19.5**	**+2.9**
ARCO				*e*S		S	**Sb**	**06 12 04.4**	**-1.5**
ARCO				AML		AML		06 12 12.1	
	comp=Z,200nm,0.6s								
AAGR	**Agrelo**	**3.67**	**133**	*e*P		P	**Pn**	**06 11 22.5**	**+2.8**
ACAN	**Cantantal**	**4.45**	**113**	*e*P		P	**Pn**	**06 11 31.2**	**+0.9**
ACLC	**CERRO LA CRUZ**	**4.54**	**76**	*i* P		P	**Pn**	**06 11 32.8**	**+1.1**
ACLC				*i* S		S	**Sn**	**06 12 22.9**	**-1.8**
APLL	**PUNTA DE LOS L**	**4.74**	**89**	*e*P		P	**Pn**	**06 11 34.9**	**+0.6**
CYA	**Choya**	**5.83**	**70**	*i* P		P	**Pn**	**06 11 49.4**	**+0.2**
TCA	**Tanti**	**6.41**	**98**	*e*P		P	**Pn**	**06 11 55.9**	**-1.4**
FSA	**Cafayete**	**6.94**	**51**	*e*P		P	**Pn**	**06 12 06.1**	**+1.4**

IDC ***10*** *06:18:21.9±0.6, 39.°97S×16.°59W, h0km, mb4.1/13, mb1 4.2/13, mb1mx4.2/23, mbtmp4.1/13, MS4.5/16, Ms1 4.5/16, ms1mx4.5/16, Error ellipse: s-maj=18.4km s-min=17.1km az=179.0*

ISCJB ***10*** *06:18:22.1±0.4, 39.°92S±0.°08×16.°6W±0.°1, h10km, mb4.5/22, MS4.6/22, Error ellipse: s-maj=11.6km s-min=10.9km az=0.6*

NEIC ***10*** *06:18:23.6±0.3, 39.°92S×16.°53W, h10km, mb5.0/12, Error ellipse: s-maj=13.0km s-min=11.2km az=186.0*

GCMT ***10*** *06:18:23.6±0.2, 40.°17S×16.°43W, h12km, MW5.2/107, Moment Tensor Solution. s40,c45; s107,c170; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr-0.83±.02; Mθθ 0.01±.02; Mϕϕ 0.82±.01; Mrθ-0.20±.07; Mθϕ-0.16±.01; Mϕr 0.04±.05; Best double couple: M0 0.87000×10^17 NP1:ϕs157.00000°, δ49.00000°, λ-107.00000°. NP2:ϕs2.00000°, δ44.00000°, λ-72.00000°. Principal axes: T 0.8590, Plg3.0000°, Azm259.0000°; N 0.0230, Plg13.0000°, Azm168.0000°; P -0.8810, Plg77.0000°, Azm1.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 10 06:18:23.8±0.4, 39.°90S±0.°10×16.°54W±0.°09, h10km, n70, σ1.°902/45, mb4.6/22, MS4.6/22, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**31.12**	**175**	P		P	**P**	**06 24 42.9**	**+0.9**
SNAA	**Sanae**	**32.59**	**172**	P		P	**P**	**06 24 54.5**	**-0.6**
	1.8nm,1.1s,baz=360,slow=9.8,SNR=8.1								
TSUM	**Tsumeb**	**35.83**	**65**	P		P	**P**	**06 25 23.2**	**-0.6**
	2.5nm,0.7s,baz=216,slow=12,SNR=4.7								
TSUM	**Tsumeb**	**35.83**	**65**	*e*P		P	**P**	**06 25 22.4**	**-1.4**
	33nm,1.5s								
BOSA	**Boshof**	**36.04**	**85**	LR		LR		06 37 19.9	
	comp=Z,2μm,19.8s,baz=237,slow=32								
CPUP	**Villa Florida**	**36.43**	**279**	P		P	**P**	**06 25 29.3**	**+0.7**
	0.4nm,0.4s,baz=127,slow=7.6,SNR=2.5								
CPUP				LR		LR		06 38 41.7	
	comp=Z,2μm,19.1s,baz=132,slow=34								
CPUP	**Villa Florida**	**36.43**	**279**	*e*P		P	**P**	**06 25 29.9**	**+1.2**
	1.7nm,1.8s								
BDFB	**Brasilia**	**36.55**	**302**	P		P	**P**	**06 25 29.1**	**-0.8**
	3.0nm,0.7s,baz=144,slow=9.0,SNR=5.0								
BDFB				LR		LR		06 37 34.0	
	comp=Z,614nm,21.1s,baz=128,slow=32								
CFAA	**Coronel Fontan**	**42.27**	**265**	P		P	**P**	**06 26 17.1**	**-0.3**
	0.8nm,1.1s,baz=104,slow=10,SNR=6.4								
LSZ	**Lusaka**	**45.99**	**71**	*e*P		P	**P**	**06 26 47.3**	**-0.3**
	31nm,1.5s								
DBIC	**Dimbokro**	**47.58**	**16**	LR		LR		06 42 23.2	
	comp=Z,121nm,18.1s,baz=153,slow=30								
MAW	**Mawson**	**49.89**	**150**	P		P	**P**	**06 27 16.6**	**-0.2**
	1.5nm,0.5s,baz=275,slow=8.5,SNR=5.1								
MAW				LR		LR		06 43 50.5	
	comp=Z,489nm,21.4s,baz=244,slow=31								
MAW	**Mawson**	**49.89**	**150**	*e*P		P	**P**	**06 27 17.3**	**+0.4**
	11nm,1.8s								
QSPA	**South Pole Qui**	**50.36**	**180**	*e*P		P	**P**	**06 27 21.0**	**+0.2**
	38nm,1.4s								
LPAZ	**La Paz**	**50.42**	**282**	P		P	**P**	**06 27 20.7**	**-1.6**
	8.4nm,1.3s,baz=105,slow=4.3,SNR=10.0								
LPAZ				LR		LR		06 47 28.8	
	comp=Z,700nm,21.3s,baz=138,slow=35								
SAML	**Samuel**	**51.64**	**294**	*e*P		P	**P**	**06 27 30.3**	**-0.5**
	31nm,1.3s								
TORD	**Torodi Ar. Bea**	**55.44**	**22**	P		P	**P**	**06 27 58.0**	**-0.5**
	4.8nm,1.3s,baz=196,slow=6.0,SNR=5.2								
TORD				LR		LR		06 46 28.3	
	comp=Z,430nm,21.0s,baz=175,slow=30								
TORD	**Torodi Ar. Bea**	**55.44**	**22**	P		P	**P**	**06 27 58.0**	**-0.5**
KMBO	**Kilima Mbogo**	**62.17**	**66**	P		P	**P**	**06 28 46.9**	**+1.1**
	0.6nm,0.3s,baz=208,slow=7.6,SNR=3.3								
KMBO				LR		LR		06 53 44.0	
	comp=Z,2μm,18.0s,baz=185,slow=34								
KMBO	**Kilima Mbogo**	**62.17**	**66**	*e*P		P	**P**	**06 28 46.8**	**+1.0**
	18nm,1.5s								
SBA	**Scott Base**	**62.50**	**181**	*e*P		P	**P**	**06 28 48.6**	**+1.8**
	30nm,0.8s								
VNDA	**Vanda**	**62.85**	**180**	P		P	**P**	**06 28 48.4**	**-0.8**
	7.2nm,1.3s,baz=192,slow=8.6,SNR=7.6								
VNDA				LR		LR		06 52 14.7	
	comp=Z,248nm,21.7s,baz=168,slow=32								
TAM	**Tamanrasset**	**65.68**	**22**	*e*P		P	**P**	**06 29 10.3**	**+1.8**
	26nm,1.4s								
OTAV	**Otavalo**	**68.92**	**289**	*e*P		P	**P**	**06 29 30.3**	**+0.5**
	14nm,1.4s								
ROSC	**El Rosal**	**69.21**	**296**	LR		LR		06 58 27.9	
	comp=Z,1μm,19.9s,baz=175,slow=35								
SDV	**Santo Domingo**	**69.65**	**301**	*e*P		P	**P**	**06 29 34.7**	**+0.8**
	7.9nm,1.1s								
KEST	**Kesra**	**78.95**	**21**	P		P	**P**	**06 30 28.3**	**+0.9**
	1.2nm,0.7s,baz=177,slow=7.6,SNR=7.1								
KEST				LR		LR		07 01 15.4	
	comp=Z,204nm,21.7s,baz=170,slow=33								
PAB	**San Pablo**	**79.85**	**10**	*e*P		P	**P**	**06 30 32.3**	**0.0**
	15nm,1.5s								
ESDC	**Sonseca Array**	**80.03**	**10**	P		P	**P**	**06 30 33.9**	**+0.7**
	2.1nm,0.8s,baz=180,slow=5.6,SNR=17								
ESDC				LR		LR		07 03 03.6	
	comp=Z,61nm,18.4s,baz=100,slow=34								
ESLA	**Sonseca Array**	**80.03**	**10**	*e*P		P	**P**	**06 30 33.8**	**+0.6**

WRA	**Warramunga Arr**	**39.53**	**198**	P		**P**	**06 56 16.8**	**-0.4**
	1.1nm,1.0s,baz=21,slow=8.8,SNR=4.4							
ASAR	**Alice Springs**	**43.18**	**197**	P		**P**	**06 56 46.7**	**-0.3**
	0.4nm,0.7s,baz=24,slow=7.2,SNR=3.8							
PSI	**Prapat**	**49.02**	**258**	LR		LR	07 20 21.9	
	comp=Z,344nm,19.0s,slow=38							
ZALV	**Zalesovo Beam**	**59.08**	**323**	P		**P**	**06 58 44.9**	**-0.9**
	1.0nm,0.6s,baz=104,slow=9.3,SNR=4.5							
MKAR	**Makanchi Array**	**59.54**	**314**	P		**P**	**06 58 49.3**	**+0.2**
	0.3nm,0.7s,baz=91,slow=9.1,SNR=3.6							
KURBB	**Kurchatov Arra**	**62.39**	**318**	P		**P**	**06 59 08.9**	**+0.6**
	0.6nm,0.6s,baz=96,slow=6.6,SNR=7.0							
ILAR	**Eielson Array**	**63.95**	**26**	P		**P**	**06 59 17.3**	**-1.1**
	0.3nm,0.9s,baz=243,slow=6.0,SNR=3.3							
BVAR	**Borovoye Array**	**67.54**	**321**	P		**P**	**06 59 41.5**	**-0.3**
	0.6nm,0.4s,baz=77,slow=9.0,SNR=4.9							
NVAR	**Mina Array Bea**	**82.96**	**52**	P		**P**	**07 01 11.8**	**+0.8**
	0.2nm,0.6s,baz=261,slow=4.5,SNR=2.8							
ARCES	**ARCESS Array B**	**83.43**	**342**	P		**P**	**07 01 12.9**	**+0.5**
	2.7nm,1.0s,baz=56,slow=6.6,SNR=3.9							
FINES	**FINESS Array B**	**87.88**	**336**	P		**P**	**07 01 33.5**	**-1.1**
	0.5nm,0.4s,baz=84,slow=4.9,SNR=12							

*IDC **10** 07:08:43.6±0.9, 29.46N×142.86E, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.5/42, mbtmp3.5/8, ML3.5/2, MS2.4/1, Ms1 2.4/1, ms1mx2.1/32, Error ellipse: s-maj=32.9km s-min=19.0km az=94.0*

*ISCJB **10** 07:08:45.1±0.8, 29.48N±0.06×142.7E±0.2, h22km, mb3.6/6, Error ellipse: s-maj=27.1km s-min=8.8km az=1.0*

ISC 10 07:08:46.8±0.9, **29.52N**±0.07×**142.5E**±0.2, **h22**km, **n8,** σ**2**s**28**/10, **mb3.6/6, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.44**	**187**	Pn	**Pn**	**07 09 25.1**	**-0.2**
	14nm,0.3s,baz=211,slow=24,SNR=44						
JCJ				Sn	**Sn**	**07 09 52.7**	**-1.7**
	19nm,0.3s,baz=266,slow=22,SNR=8.6						
MJAR	**Matsushiro Arr**	**7.87**	**334**	Pn	**Pn**	**07 10 40.8**	**+0.8**
	0.5nm,0.3s,baz=157,slow=11,SNR=6.1						
MJAR				Sn	**Sn**	**07 12 04.1**	**-4.3**
	0.1nm,0.3s,baz=195,slow=23,SNR=2.4						
MJAR				LR	LR	07 13 56.0	
	comp=Z,28nm,21.6s,baz=105,slow=39						
MKAR	**Makanchi Array**	**49.17**	**308**	P	**P**	**07 17 35.5**	**+2.4**
	0.5nm,0.6s,baz=96,slow=9.9,SNR=4.4						
WRA	**Warramunga Arr**	**49.80**	**190**	P	**P**	**07 17 38.0**	**-0.1**
	0.6nm,0.4s,baz=7.6,slow=7.6,SNR=14						
KURBB	**Kurchatov Arra**	**51.57**	**313**	P	**P**	**07 17 54.0**	**+2.9**
	0.2nm,0.4s,baz=89,slow=6.7,SNR=4.4						
ASAR	**Alice Springs**	**53.53**	**190**	P	**P**	**07 18 05.6**	**-0.3**
	0.4nm,0.7s,baz=3.8,slow=5.7,SNR=4.4						
YKA	**Yellowknife Ar**	**69.89**	**29**	P	**P**	**07 19 55.0**	**-0.7**
	0.5nm,0.7s,baz=297,slow=6.5,SNR=3.7						
NVAR	**Mina Array Bea**	**78.81**	**52**	P	**P**	**07 20 48.3**	**-0.1**
	0.4nm,0.7s,baz=288,slow=5.3,SNR=3.5						

*ISCJB **10** 07:14:21.0±0.3, 6.36S±0.07×105.92E±0.05, h116km±3km, mb4.1/19, Error ellipse: s-maj=13.1km s-min=4.2km az=31.5*

*IDC **10** 07:14:21.9±0.8, 6.21S×105.92E, h106km±6km, mb3.8/16, mb1 3.9/16, mb1mx3.7/45, mbtmp4.1/16, MS4.0/1, Ms1 4.0/1, ms1mx2.8/30, Error ellipse: s-maj=17.6km s-min=7.7km az=39.0*

*NEIC **10** 07:14:22.1±0.6, 6.22S×105.96E, h111km±4km, mb4.7/5, Error ellipse: s-maj=11.8km s-min=5.8km az=217.0*

*DJA **10** 07:14:23.0±0.3, 7°S×10°E°, h74km±4km, M4.4/28, mb4.6/6, mB5.3/2, MLv4.3/28, Mw(mB)4.7/2*

ISC 10 07:14:21.1±0.6, **6.44S**±0.06×**105.87E**±0.05, **h102**km±4km, **n73,** σ**1**s**41**/82, **mb4.0**/19, **Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGJI	**Cibinong**	**0.24**	**225**	P	**Pn**	**07 14 35.6**	**-0.2**
CGJI				S	**Sn**	**07 14 45.9**	**-0.8**
SBJI	**Serang**	**0.41**	**40**	P	**Pn**	**07 14 36.8**	**+0.2**
TNG	**Tangerang**	**0.82**	**71**	P	**Pn**	**07 14 40.2**	**+0.3**
TNG				S	**Sn**	**07 14 54.7**	**+0.7**
TNG	**Tangerang**	**0.82**	**71**	P	**Pn**	**07 14 40.2**	**+0.3**
SKJI	**Sukabumi**	**0.89**	**129**	P	**Pn**	**07 14 40.4**	**-0.1**
SKJI				S	**Sn**	**07 14 52.9**	**-2.3**
CBJI	**Citeko**	**0.98**	**89**	P	**Pn**	**07 14 43.0**	**+1.5**
CNJI	**Cibinong**	**1.52**	**125**	P	**Pn**	**07 14 46.8**	**-1.0**
KASI	**Kota Agung**	**1.64**	**304**	P	**Pn**	**07 14 50.1**	**+0.9**
LEM	**Lembang**	**1.78**	**103**	P	**Pn**	**07 14 52.6**	**+1.4**
LEM	**Lembang**	**1.78**	**103**	P	**Pn**	**07 14 52.4**	**+1.2**
	158nm,0.3s,baz=170,slow=18,SNR=46						
LEM				S	**Sn**	**07 15 15.8**	**+1.8**
	75nm,0.3s,baz=97,slow=22,SNR=16						
KLI	**Kotabumi**	**1.86**	**327**	P	**Pn**	**07 14 54.5**	**+2.5**
KLSI		**2.07**	**327**	P	**Pn**	**07 14 57.5**	**+2.7**
CISI	**Cisompet, Garu**	**2.23**	**120**	P	**Pn**	**07 14 56.3**	**-0.5**
CISI				S	**Sn**	**07 15 24.1**	**-0.1**
CISI	**Cisompet, Garu**	**2.23**	**120**	*e*Pn	**Pn**	**07 14 56.3**	**-0.5**
CISI				*e*Sn	**Sn**	**07 15 23.3**	**-0.9**
LWLI	**Liwa**	**2.29**	**308**	P	**Pn**	**07 15 00.4**	**+2.8**
JCJI	**Jatiwangi**	**2.39**	**91**	P	**Pn**	**07 14 59.9**	**+1.1**
MDSI	**Maura Dua**	**2.57**	**319**	P	**Pn**	**07 15 04.2**	**+3.0**
CMJI	**Cimerak**	**2.89**	**118**	P	**Pn**	**07 15 05.3**	**-0.2**
KPJI	**Karang Pucung**	**3.17**	**106**	P	**Pn**	**07 15 10.4**	**+1.2**
LHSI	**Lahat**	**3.49**	**318**	P	**Pn**	**07 15 16.1**	**+2.6**
MNAI	**Manna**	**3.56**	**305**	P	**Pn**	**07 15 17.0**	**+2.6**
MNAI	**Manna**	**3.56**	**305**	*e*Pn	**Pn**	**07 15 16.4**	**+1.9**
MNAI				*e*Sn	**Sn**	**07 15 57.3**	**+1.6**
SMRI	**Semarang**	**4.58**	**98**	*e*Pn	**Pn**	**07 15 29.3**	**+1.0**
UGM	**Wanagama**	**4.85**	**108**	P	**Pn**	**07 15 33.0**	**+1.2**
WOJI	**Wonogiri, Jawa**	**5.21**	**106**	P	**Pn**	**07 15 38.9**	**+2.2**
	61nm,0.9s,0.3nm						
PCJI	**Pacitan**	**5.55**	**109**	P	**Pn**	**07 15 42.4**	**+1.1**
	81nm,1.5s,0.3nm						
PWJI	**Pagerwojo**	**6.10**	**105**	P	**Pn**	**07 15 51.0**	**+2.2**
	45nm,0.8s,1μm0.2nm						
PPSI	**Pulau Pagai**	**6.88**	**302**	P	**Pn**	**07 15 59.7**	**+0.2**
ABJI	**Asem Bagus**	**8.41**	**100**	P	Pn	07 16 24.1	+3.8
JAGI	**Jajag, Banyuwa**	**8.46**	**104**	*e*Pn	**Pn**	**07 16 22.6**	**+1.6**
	52nm,0.3s						
PBSI	**Pulau Batu**	**9.88**	**310**	P	**Pn**	**07 16 38.4**	**-1.8**
GSI	**Gunungsitoli**	**11.30**	**313**	*e*Pn	**Pn**	**07 16 57.5**	**-2.0**
MMRI	**Maumere**	**16.38**	**99**	*e*P	**P**	**07 18 05.7**	**-0.4**
	55nm,0.6s						
SOEI	**Soe**	**18.51**	**101**	*e*P	**P**	**07 18 29.7**	**0.0**
	46nm,0.7s						
NWAO	**Narrogin (SRO)**	**28.40**	**160**	P	**P**	**07 20 07.0**	**+1.1**
	12nm,0.9s,baz=328,slow=7.7,SNR=2.9						
H01W3	**Cape Leeuwin H**	**29.32**	**166**	T	T	07 50 51.5	
	baz=344,slow=76,SNR=164						
H01W1	**Cape Leeuwin H**	**29.33**	**166**	T	T	07 50 51.9	
	baz=344,slow=76,SNR=159						
H01W2	**Cape Leeuwin H**	**29.33**	**166**	T	T	07 50 52.5	
	baz=344,slow=76,SNR=191						
WRA	**Warramunga Arr**	**30.73**	**119**	P	**P**	**07 20 27.0**	**+0.3**
	1.1nm,0.3s,baz=307,slow=9.0,SNR=36						
WRA				PcP	**PcP**	**07 23 22.6**	**+0.3**
	0.5nm,0.5s,baz=299,slow=2.1,SNR=8.3						
WRAB	**Tennant Creek**	**30.73**	**119**	*e*P	**P**	**07 20 27.5**	**+0.7**
	3.0nm,0.7s						
AS31	**Alice Springs**	**31.93**	**125**	*e*P	**P**	**07 20 38.0**	**+0.7**
ASAR	**Alice Springs**	**31.93**	**125**	P	**P**	**07 20 37.6**	**+0.3**
	1.4nm,0.4s,baz=299,slow=7.6,SNR=29						
ASAR				PcP	**PcP**	**07 23 26.1**	**+0.5**
	0.5nm,0.4s,baz=288,slow=1.8,SNR=5.7						
ASAR				S	**S**	**07 25 40.2**	**-1.0**
	2.4nm,0.9s,baz=300,slow=17,SNR=11						
ASAR				ScP	**ScP**	**07 27 00.6**	**+0.8**
	0.2nm,0.6s,baz=296,slow=3.3,SNR=4.1						
H08S2	**Diego Garcia H**	**33.14**	**266**	T	T	07 55 03.9	
	baz=90,slow=76,SNR=23						
H08S3	**Diego Garcia H**	**33.15**	**266**	T	T	07 55 05.1	
	baz=90,slow=76,SNR=24						
H08S1	**Diego Carcia H**	**33.16**	**266**	T	T	07 55 05.8	
	baz=90,slow=76,SNR=21						
STKA	**Stephens Creek**	**41.85**	**132**	P	**P**	**07 22 02.5**	**+1.3**
	7.4nm,0.5s,baz=311,slow=7.4,SNR=16						
KSRS	**Korea Array**	**48.28**	**24**	LR	LR	07 43 27.8	
	comp=Z,165nm,20.2s,baz=240,slow=36						
MAJO	**Matsushiro**	**52.40**	**33**	*e*P	**P**	**07 23 21.6**	**-1.5**
	2.9nm,0.4s						
SONM	**Songino Array**	**54.04**	**0**	P	**P**	**07 23 34.7**	**-0.3**
	0.3nm,0.4s,baz=178,slow=10,SNR=3.4						
SONM				pP	**pP**	**07 23 59.5**	**-0.3**
	0.9nm,0.9s,baz=179,slow=7.6,SNR=3.4						
SONM				PcP	**PcP**	**07 24 38.5**	**-0.3**
	0.4nm,0.4s,baz=169,slow=4.0,SNR=3.6						
SONM				ScP	**ScP**	**07 28 25.5**	**-2.1**
	1.3nm,0.8s,baz=177,slow=3.5,SNR=8.6						
MKAR	**Makanchi Array**	**56.98**	**341**	P	**P**	**07 23 54.1**	**-1.9**
	0.2nm,0.3s,baz=147,slow=8.8,SNR=6.1						
KURBB	**Kurchatov Arra**	**61.55**	**341**	P	**P**	**07 24 26.0**	**-1.3**
	0.2nm,0.2s,baz=155,slow=6.8,SNR=2.5						
KURBB				PcP	**PcP**	**07 25 08.1**	**0.0**
	0.7nm,0.5s,baz=154,slow=3.8,SNR=5.7						
KURK	**Kurchatov**	**61.60**	**341**	P	**P**	**07 24 26.0**	**-1.6**
KURK				PcP	**PcP**	**07 25 08.1**	**-0.2**
ZALV	**Zalesovo Beam**	**62.72**	**346**	P	**P**	**07 24 33.1**	**-1.9**
	0.8nm,0.3s,baz=142,slow=5.3,SNR=4.3						
BVAR	**Borovoye Array**	**66.42**	**338**	P	**P**	**07 24 57.8**	**-1.3**
	0.3nm,0.3s,baz=141,slow=9.3,SNR=4.1						
MAW	**Mawson**	**67.58**	**196**	P	**P**	**07 25 08.4**	**+2.1**
	0.5nm,0.3s,baz=23,slow=6.3,SNR=4.6						
KBZ	**Khabaz**	**75.48**	**318**	P	**P**	**07 25 54.9**	**+0.7**
	2.0nm,0.7s,baz=95,slow=3.9,SNR=5.1						
VNDA	**Vanda**	**76.72**	**169**	P	**P**	**07 26 02.1**	**+1.5**
	1.0nm,0.5s,baz=304,slow=5.0,SNR=3.9						
BOSA	**Boshof**	**78.72**	**242**	P	**P**	**07 26 14.8**	**+1.9**
	1.8nm,0.6s,baz=83,slow=5.0,SNR=6.0						
BRTR	**Keskin Array B**	**80.62**	**312**	P	**P**	**07 26 22.6**	**-0.2**
	1.3nm,0.6s,baz=126,slow=6.9,SNR=7.6						
BRTR				pP	**pP**	**07 26 48.9**	**-0.5**
	0.9nm,0.7s,baz=133,slow=7.1,SNR=3.7						
QSPA	**South Pole Qui**	**83.55**	**180**	*e*P	**P**	**07 26 39.1**	**+1.4**
	11nm,1.5s						
FINES	**FINESS Array B**	**90.75**	**332**	P	**P**	**07 27 11.8**	**-0.5**
	1.0nm,0.7s,baz=114,slow=14,SNR=4.6						
ARCES	**ARCESS Array B**	**92.62**	**340**	P	**P**	**07 27 20.2**	**-0.7**
	1.2nm,0.8s,baz=105,slow=6.8,SNR=2.7						
SCHQ	**Schefferville**	**131.39**	**354**	SKPbc	**SKPbc**	**07 36 36.4**	**-1.1**
	2.6nm,0.7s,baz=7.7,slow=3.1,SNR=6.8						
HWUT	**Hardware Ranch**	**131.72**	**38**	*e*PKPdf	**PKPdf**	**07 33 19.8**	**-2.9**
PDAR	**Pinedale Array**	**132.20**	**35**	SKPbc	**SKPbc**	**07 36 38.4**	**-2.6**
	0.6nm,0.6s,baz=308,slow=2.2,SNR=6.3						
CPUP	**Villa Florida**	**143.57**	**206**	PKP	**PKPdf**	**07 33 43.8**	**-0.9**
	1.0nm,0.8s,baz=165,slow=3.3,SNR=4.7						
TXAR	**Lajitas Array**	**144.03**	**47**	PKP	PKPbc	07 33 44.5	+0.8
	0.8nm,0.6s,baz=283,slow=0.9,SNR=15						
TXAR				pPKP	pPKPdf	07 34 14.6	+0.9
	0.6nm,0.9s,baz=279,slow=1.0,SNR=3.0						
TXAR				SKPbc	**SKPbc**	**07 37 14.9**	**-0.4**
	0.4nm,0.5s,baz=256,slow=1.0,SNR=6.8						
OLIL	**Olney**	**145.46**	**19**	*e*PKPdf	**PKPdf**	**07 33 47.5**	**-0.1**
JCT	**Junction City**	**146.04**	**42**	*e*PKPbc	**PKPbc**	**07 33 50.0**	**+0.1**
BDFB	**Brasilia**	**146.08**	**229**	PKPbc	**PKPab**	**07 33 52.2**	**+1.1**
	3.2nm,0.3s,baz=88,slow=4.6,SNR=8.1						
MIAR	**Mount Ida**	**146.76**	**30**	*e*PKPbc	**PKPbc**	**07 33 51.3**	**-0.5**
WVT	**Waverly**	**147.89**	**21**	*e*PKPbc	**PKPbc**	**07 33 54.4**	**-0.4**
CPCT	**Cooper Cave**	**149.59**	**17**	*e*PKPbc	**PKPbc**	**07 33 58.5**	**-0.7**

*ISCJB **10** 07:24:12.9±0.6, 31.98N±0.06×141.0E±0.1, h57km, mb3.7/6, Error ellipse: s-maj=18.7km s-min=5.3km az=156.5*

*JMA **10** 07:24:14.0±0.5, 32.15N×141.05E, h22km, M3.7*

*IDC **10** 07:24:15.1±2.8, 31.93N×141.13E, h67km±26km, mb3.4/6, mb1 3.6/8, mb1mx3.4/43, mbtmp3.7/8, Error ellipse: s-maj=40.3km s-min=16.3km az=80.0*

ISC 10 07:24:13.7±0.8, **31.98N**±0.07×**141.1E**±0.1, **h57**km, **n24,** σ**1**s**97**/25, **mb3.8/6, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**1.57**	**314**	P	**Pn**	**07 24 39.0**	**-0.3**
JHCJ				S	**Sn**	**07 24 56.4**	**-2.1**
JHJ2	**Mitsune**	**1.58**	**316**	P	**Pn**	**07 24 38.8**	**-0.7**
JHJ2				S	**Sn**	**07 24 55.0**	**-3.9**
JOD2	**Odawara 2**	**3.69**	**333**	P	**Pn**	**07 25 09.0**	**+0.7**
JYN	**Shimob**	**4.12**	**329**	P	**Pn**	**07 25 16.4**	**+2.2**
JRY	**Ryogami san**	**4.43**	**336**	P	**Pn**	**07 25 20.5**	**+2.1**
JRY				*e*S	**Sn**	**07 26 07.2**	**-1.5**
JAG	**Ashikaga**	**4.64**	**343**	P	**Pn**	**07 25 22.3**	**+1.0**
CBIJ	**Chichi jima**	**4.96**	**169**	P	**Pn**	**07 25 28.7**	**+3.1**
JCJ	**Chichijima**	**4.96**	**169**	P	**Pn**	**07 25 25.9**	**+0.2**
	4.5nm,0.3s,baz=358,slow=18,SNR=12						
JCJ				S	**Sn**	**07 26 18.1**	**-3.5**
	5.5nm,0.3s,baz=287,slow=19,SNR=3.3						
MJAR	**Matsushiro Arr**	**5.15**	**333**	P	**Pn**	**07 25 30.4**	**+2.1**
	2.5nm,0.3s,baz=194,slow=22,SNR=15						
MJAR				S	**Sn**	**07 26 26.8**	**+0.4**
	baz=156,slow=22,SNR=3.5						
MAT	**Matsushiro**	**5.15**	**333**	P	**Pn**	**07 25 29.7**	**+1.4**
MAT				S	**Sn**	**07 26 25.2**	**-1.3**
MAT	**Matsushiro**	**5.15**	**333**	P	**Pn**	**07 25 31.2**	**+2.9**
JFT	**Otama**	**5.56**	**353**	P	**Pn**	**07 25 33.8**	**-0.1**
JFT				S	**Sn**	**07 26 32.8**	**-3.7**
H11N2	**WAKE ISLAND Hy**	**26.12**	**112**	T	T	07 57 15.9	
	baz=305						
H11N1	**WAKE ISLAND Hy**	**26.13**	**112**	T	T	07 57 28.3	
	baz=305,slow=74						
H11N3	**WAKE ISLAND Hy**	**26.14**	**112**	T	T	07 57 11.5	
	baz=305,slow=74						
H11S3	**WAKE ISLAND Hy**	**26.65**	**114**	T	T	07 58 29.6	
	baz=304						
H11S1	**WAKE ISLAND Hy**	**26.65**	**114**	T	T	07 58 26.4	
	baz=304,slow=74						
H11S2	**WAKE ISLAND Hy**	**26.67**	**114**	T	T	07 58 29.6	
	baz=304,slow=74						
MKAR	**Makanchi Array**	**46.76**	**306**	P	**P**	**07 32 37.6**	**+0.3**
	1.1nm,0.5s,baz=84,slow=10,SNR=18						
WRA	**Warramunga Arr**	**52.04**	**188**	P	**P**	**07 33 17.6**	**-0.1**
	0.7nm,0.4s,baz=5.1,slow=7.7,SNR=22						
ILAR	**Eielson Array**	**53.92**	**30**	P	**P**	**07 33 31.7**	**+0.6**
	0.3nm,0.7s,baz=264,slow=6.2,SNR=5.0						
ASAR	**Alice Springs**	**55.77**	**188**	P	**P**	**07 33 45.0**	**+0.1**
	0.3nm,0.4s,baz=4.9,slow=7.0,SNR=7.8						
FINES	**FINESS Array B**	**73.18**	**333**	P	**P**	**07 35 38.8**	**+0.7**
	0.6nm,0.5s,baz=93,slow=3.8,SNR=6.0						
NOA	**NORSAR Array B**	**78.75**	**338**	P	**P**	**07 36 10.2**	**+0.3**
	0.4nm,0.5s,baz=16,slow=5.0,SNR=2.4						

*BYKL **10** 07:28:37.3±1.4, 48.90N×103.16E*

*MOS **10** 07:29:00.5±1.5, 50.25N×103.31E, h9km, mb4.3/1, Error ellipse: s-maj=78.8km s-min=18.0km az=80.1*

ISC 10 07:28:39.1±2.0, **48.96N**±0.09×**103.20E**±0.06, **h10**km, **n23,** σ**2**s**32**/31, **4C-1D, Mongolia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAK	**Zakamensk**	**1.43**	**2**	↑*i*Pg	**Pn**	**07 29 04.3**	**-0.9**
	49nm,0.5s						
ZAK				↑*i*Pg	**Pn**	**07 29 04.3**	**-0.9**
	4.0nm,0.5s						
ZAK				↑*i*Pg	**Pn**	**07 29 04.3**	**-0.9**
	45nm,0.5s						
ZAK				↑*i*		07 29 06.2	
ZAK				*i* Sg	**Sn**	**07 29 23.9**	**-0.2**
ZAK				*e*Sb	**Sg**	**07 29 26.1**	**+1.1**
ZAK				max			
	106nm,0.2s						
ZAK				max			
	396nm,0.4s						
ZAK	**Zakamensk**	**1.43**	**2**	*e*PG	**Pn**	**07 29 04.2**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,105nm,0.2s						
TLY	**Talaya**	**2.74**	**6**	↓*i*Pg	**Pb**	**07 29 27.8**	**-0.4**
TLY				*e*Sg	**Sb**	**07 30 04.4**	**+2.5**
TLY				Pmax			
	comp=Z,29nm,0.3s						
TLY				Smax			
	comp=Z,144nm,0.5s						
TLY	**Talaya**	**2.74**	**6**	*e*PG	**Pb**	**07 29 27.5**	**-0.7**
TLY				pmax	pmax		
	comp=Z,29nm,0.3s						
LSTR	**Listvyanka**	**3.10**	**19**	*e*Pg	**Pb**	**07 29 33.7**	**-0.6**
LSTR				*e*		07 29 35.1	
LSTR				*e*		07 29 51.3	
LSTR				*e*		07 30 00.3	
LSTR				*i* Sg	**Sb**	**07 30 14.6**	**+2.5**
LSTR				max			
	comp=Z,7.0nm,0.1s						
LSTR				Smax			
	comp=Z,62nm,0.7s						
LSTR	**Listvyanka**	**3.10**	**19**	*e*PN	**Pb**	**07 29 33.5**	**-0.8**
IRK	**Irkutsk**	**3.36**	**11**	*e*Sg	**Sb**	**07 30 22.9**	**+3.2**
IRK				Smax			
	comp=Z,428nm,0.5s						
IRK	**Irkutsk**	**3.36**	**11**	*e*PN	**Pb**	**07 29 38.7**	**-0.1**
IRK				pmax	pmax		
	comp=Z,165nm,0.1s						

HRMR	**Khuramsha**	**3.60**	**41**	*e*Pg		**Pb**	**07 29 42.8**	**-0.1**
HRMR				*e*PgPg		**PbPb**	**07 29 45.9**	**-0.1**
HRMR				*i* Sg		**Sb**	**07 30 30.5**	**+3.9**
HRMR				max				
	comp=Z,22nm,0.3s							
HRMR				Smax				
	comp=Z,422nm,0.6s							
KAB	**Kabansk**	**3.80**	**34**	*e*Sg		**Sg**	**07 30 36.9**	**-4.3**
KAB				Smax				
	comp=Z,428nm,0.9s							
KAB	**Kabansk**	**3.80**	**34**	*e*PN		**Pb**	**07 29 46.1**	**-0.2**
KAB				pmax		pmax		
	comp=Z,70nm,0.5s							
UUDB	**Ulan-Yde**	**4.08**	**43**	*e*Pg		**Pb**	**07 29 50.1**	**-0.9**
UUDB				*i* Sg		**Sb**	**07 30 44.6**	**+4.2**
UUDB				Pmax				
	comp=Z,15nm,0.5s							
UUDB				Smax				
	comp=Z,161nm,1.1s							
ORL	**Orlik**	**4.18**	**330**	*e*Pg		**Pb**	**07 29 53.9**	**+1.1**
ORL				*e*			07 30 04.0	
ORL				*e*Sg		**Sg**	**07 30 49.8**	**-3.5**
ORL				Pmax				
	comp=Z,9.0nm,0.7s							
ORL				Smax				
	comp=Z,36nm,1.2s							
TRG	**Tyrgan**	**4.30**	**26**	*e*Pg		**Pb**	**07 29 54.3**	**-0.5**
TRG				*e*Sg		**Sb**	**07 30 50.7**	**+4.0**
TRG				*e*			07 30 52.1	
TRG				max				
	comp=Z,47nm,0.5s							
OGRR	**Ongureny**	**5.44**	**29**	*e*Pn		**Pn**	**07 30 01.2**	**+0.9**
OGRR				*e*Pg		**Pb**	**07 30 16.2**	**+2.0**
OGRR				*e*			07 31 18.7	
OGRR				*e*Sg		**Sg**	**07 31 28.2**	**-5.5**
OGRR				Pmax				
	comp=Z,2.0nm,0.2s							
OGRR				Smax				
	comp=Z,46nm,1.0s							
KPC	**Khapcheranga**	**6.05**	**79**	*e*Pn		**Pn**	**07 30 07.1**	**-1.6**
KPC				*e*			07 30 09.1	
KPC				*e*Pg		**Pb**	**07 30 25.7**	**+1.1**
KPC				*e*Sg		Sg	07 31 44.8	-8.5
KPC				Pmax				
	comp=Z,3.0nm,0.5s							
KPC				Smax				
	comp=Z,33nm,1.6s							
SYVR	**Suvo**	**6.35**	**40**	*e*Sn		**Sn**	**07 31 25.1**	**-0.2**
SYVR				*e*Sg		Sg	07 31 54.3	-8.5
SYVR				*e*			07 31 59.5	
SYVR				max				
	comp=Z,39nm,1.4s							
YLYR	**Ulyunkhan**	**7.70**	**37**	*e*		Pn	07 30 34.2	+2.9
YLYR				*e*			07 31 03.4	
YLYR				*e*Sg		Sg	07 32 37.9	-8.2
YLYR				Smax				
	comp=Z,72nm,1.0s							
KMO	**Kumora**	**8.49**	**32**	*e*Sg		Sg	07 33 03.7	-7.5
KMO				Smax				
	comp=Z,25nm,1.1s							
UKT	**Uakit**	**9.14**	**40**	*e*Pg		Pn	07 31 23.6	+32
UKT				*e*			07 31 32.4	
UKT				*i* Sg		Sn	07 33 22.9	+49
UKT				*e*			07 33 38.9	
UKT				Pmax				
	comp=Z,1.0nm,1.1s							
UKT				max				
	comp=Z,15nm,1.7s							
SVKR	**Severomuysk**	**9.54**	**37**	*e*Sg		Sn	07 33 37.5	+54
NLYR	**Nelyaty**	**10.69**	**40**	*e*Sg			07 34 12.4	
NLYR				*e*			07 34 28.6	
NLYR				max				
	comp=Z,30nm,1.2s							
TUP	**Tupik**	**11.74**	**56**	*e*			07 32 46.7	
TUP				*e*Sg			07 34 45.2	
TUP				Smax				
	comp=Z,28nm,1.8s							

*ISCJB **10** 07:29:20.8±0.5, 0.71N±0.06×120.73E±0.10, h550km, mb3.8/8, Error ellipse: s-maj=12.6km s-min=8.1km az=0.7*

*IDC **10** 07:29:21.4±1.5, 0.70N×120.74E, h538km±17km, mb3.2/8, mb1 3.3/9, mb1mx3.1/36, mbtmp4.1/9, Error ellipse: s-maj=33.9km s-min=11.1km az=73.0*

*DJA **10** 07:29:22.5±0.6, 1°N±6'×12'1E±', h540km±8km, M3.8/14, mb4.2/8, mB4.8/1, mB4.8/4, MLv3.4/7, MLv3.9/14, Mw(mB

ACP2	**Acapulco**	**0.45**	**215**	*e*P		Pn	07 29 35.8	-2.0
ACP2				*e*S		Sn	07 29 43.8	-2.1
CAIG	**El Cayaco**	**0.65**	**253**	*e*P		Pn	07 29 38.6	-1.5
CAIG				*e*S		Sn	07 29 48.5	-1.5
MEIG	**Mezcala**	**0.68**	**0**	*i* P		Pn	07 29 39.1	-1.6
MEIG				*i* S		Sn	07 29 48.9	-2.0
TLIG	**Tlapa**	**1.06**	**72**	*e*P		Pn	07 29 44.1	-1.4
TLIG				*i* S		Sn	07 29 57.6	-1.9

JMA 10 07:43:49.6±0.3, 30°.83N×142°.49E, h35km, M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.73**	**184**	P	Pn	07 44 46.5	+1.8
BSO1	**Boso 1**	**4.02**	**342**	P	Pn	07 44 50.6	+2.6
JOD2	**Odawara 2**	**5.26**	**328**	P	Pn	07 45 10.1	+4.3
JHU	**Hanno**	**5.68**	**333**	P	Pn	07 45 14.5	+3.0
JHU				S	Sn	07 46 18.7	+3.2
JRY	**Ryogami san**	**5.98**	**331**	P	Pn	07 45 19.1	+3.5
JHO	**Hitachi**	**5.98**	**345**	P	Pn	07 45 18.5	+2.8
JHO				*e*S	Sn	07 46 25.9	+2.9

*CSEM **10** 07:56:58.4, 39°.41N×29°.89W, h10km, ML3.5*
PDA 10 07:56:58.4±0.9, 39°.41N×29°.89W, h10km, MD3.7, ML3.5, Error ellipse: s-maj=8.8km s-min=1.8km az=28.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07N1	**FLORES T-PHASE**	**0.99**	**287**	*e*P	Pg	07 57 13.8	-3.8
H07N1				*e*S	Sg	07 57 25.1	-5.5
H07S1	**FLORES T-PHASE**	**1.02**	**269**	*e*P	Pg	07 57 14.3	-3.9
H07S1				*e*S	Sg	07 57 25.8	-5.7
PCED	**Cedros**	**1.21**	**130**	*e*P	Pn	07 57 16.7	-4.6
PCED				*e*S	Sb	07 57 30.0	-7.0
PCED				A	A	07 57 32.4	
	551nm,0.5s						
PCED	**Cedros**	**1.21**	**130**	*e*P	Pn	07 57 16.7	-4.6
PCED				*e*S	Sb	07 57 30.0	-7.0
CALA	**Caldeira**	**1.24**	**131**	*e*P	Pn	07 57 18.1	-3.8
CALA				*e*S	Sb	07 57 31.0	-7.1
CALA	**Caldeira**	**1.24**	**131**	*e*P	Pn	07 57 18.1	-3.8
CALA				*e*S	Sb	07 57 31.0	-7.1
HOR	**Horta**	**1.32**	**132**	*e*P	Pn	07 57 18.2	-4.6
HOR				*e*S	Sb	07 57 33.0	-7.1
HOR	**Horta**	**1.32**	**132**	*e*P	Pn	07 57 18.2	-4.6
HOR				*e*S	Sb	07 57 33.0	-7.1
PCAN	**Candelaria**	**1.44**	**130**	*e*P	Pn	07 57 20.0	-4.6
PCAN				*e*S	Sn	07 57 36.0	-7.6
PCAN				A	A	07 57 42.4	
	402nm,0.4s						
PCAN	**Candelaria**	**1.44**	**130**	*e*P	Pn	07 57 20.0	-4.6
PCAN				*e*S	Sn	07 57 36.0	-7.6
ROSA	**Rosais**	**1.45**	**118**	*e*P	Pn	07 57 20.1	-4.6
ROSA				*e*S	Sn	07 57 35.9	-8.0
ROSA				A	A	07 57 38.5	
	167nm,0.4s						
ROSA	**Rosais**	**1.45**	**118**	*e*P	Pn	07 57 20.1	-4.6
ROSA				*e*S	Sn	07 57 35.9	-8.0
PGRA	**Graciosa**	**1.53**	**104**	*e*P	Pn	07 57 21.1	-4.7
PGRA				*e*S	Sn	07 57 36.3	-9.4
PGRA				A	A	07 57 40.3	
	54nm,0.4s						
PGRA	**Graciosa**	**1.53**	**104**	*e*P	Pn	07 57 21.1	-4.7
PGRA				*e*S	Sn	07 57 36.3	-9.4
PPNO	**Prainha do Nor**	**1.57**	**126**	*e*P	Pn	07 57 21.8	-4.7
PPNO				*e*S	Sn	07 57 39.3	-7.6
PPNO				A	A	07 57 49.0	
	228nm,0.3s						
PPNO	**Prainha do Nor**	**1.57**	**126**	*e*P	Pn	07 57 21.8	-4.7
PPNO				*e*S	Sn	07 57 39.3	-7.6
PMAN	**Manadas**	**1.60**	**118**	*e*P	Pn	07 57 22.1	-4.6
PMAN				*e*S	Sn	07 57 39.5	-7.9
PMAN				A	A	07 57 45.8	
	153nm,0.5s						
PMAN	**Manadas**	**1.60**	**118**	*e*P	Pn	07 57 22.1	-4.6
PMAN				*e*S	Sn	07 57 39.5	-7.9

*CSEM **10** 07:58:40.9, 39°.49N×29°.85W, h10km, ML3.2*
PDA 10 07:58:40.9±1.0, 39°.49N×29°.85W, h10km, MD3.6, ML3.2, Error ellipse: s-maj=8.5km s-min=2.2km az=26.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07N1	**FLORES T-PHASE**	**1.01**	**282**	*e*S	Sg	07 59 08.0	-5.5
H07S1	**FLORES T-PHASE**	**1.06**	**265**	*e*S	Sg	07 59 09.0	-6.2
PCED	**Cedros**	**1.23**	**134**	*e*P	Pn	07 58 59.7	-4.5
PCED				*e*S	Sb	07 59 13.1	-7.2
PCED				A	A	07 59 15.4	
	238nm,0.4s						
PCED	**Cedros**	**1.23**	**134**	*e*P	Pn	07 58 59.7	-4.5
PCED				*e*S	Sb	07 59 13.1	-7.2
CALA	**Caldeira**	**1.27**	**135**	*e*S	Sb	07 59 14.3	-7.1
CALA	**Caldeira**	**1.27**	**135**	*e*S	Sb	07 59 14.3	-7.1
HOR	**Horta**	**1.35**	**135**	*e*P	Pn	07 59 01.5	-4.2
HOR				*e*S	Sb	07 59 16.1	-7.4
HOR	**Horta**	**1.35**	**135**	*e*P	Pn	07 59 01.5	-4.2
HOR				*e*S	Sb	07 59 16.1	-7.4
ROSA	**Rosais**	**1.46**	**121**	*e*P	Pn	07 59 02.7	-4.7
ROSA				*e*S	Sn	07 59 18.7	-7.9
ROSA				A	A	07 59 21.7	
	74nm,0.3s						
ROSA	**Rosais**	**1.46**	**121**	*e*P	Pn	07 59 02.7	-4.7
ROSA				*e*S	Sn	07 59 18.7	-7.9
PCAN	**Candelaria**	**1.47**	**133**	*e*P	Pn	07 59 03.1	-4.4
PCAN				*e*S	Sn	07 59 19.4	-7.4
PCAN				A	A	07 59 20.8	
	234nm,0.3s						
PCAN	**Candelaria**	**1.47**	**133**	*e*P	Pn	07 59 03.1	-4.4
PCAN				*e*S	Sn	07 59 19.4	-7.4
PGRA	**Graciosa**	**1.52**	**107**	*e*S	Sn	07 59 19.9	-8.0
PGRA				A	A	07 59 20.6	
	30nm,0.3s						
PGRA	**Graciosa**	**1.52**	**107**	*e*S	Sn	07 59 19.9	-8.0
PPNO	**Prainha do Nor**	**1.59**	**129**	*e*P	Pn	07 59 04.8	-4.5
PPNO				*e*S	Sn	07 59 22.5	-7.5
PPNO				A	A	07 59 32.2	
	109nm,0.3s						
PPNO	**Prainha do Nor**	**1.59**	**129**	*e*P	Pn	07 59 04.8	-4.5
PPNO				*e*S	Sn	07 59 22.5	-7.5
PMAN	**Manadas**	**1.61**	**121**	*e*P	Pn	07 59 04.9	-4.5
PMAN				*e*S	Sn	07 59 22.3	-7.9
PMAN				A	A	07 59 24.7	
	66nm,0.3s						
PMAN	**Manadas**	**1.61**	**121**	*e*P	Pn	07 59 04.9	-4.5
PMAN				*e*S	Sn	07 59 22.3	-7.9

MEX 10 08:09:16.1±1.0, 15°.16N×92°.66W, h105km±11km, MD3.6, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.77**	**315**	*i* P	Pn	08 09 33.7	-0.9
PCIG				*e*S	Sn	08 09 47.1	-1.4
CCIG	**Comitan**	**1.23**	**24**	*e*P	Pn	08 09 39.3	-0.4
CCIG				*i* S	Sn	08 09 55.3	-2.1
TGIG		**1.67**	**345**	*e*P	Pn	08 09 43.5	-1.3
TGIG				*i* S	Sn	08 10 04.4	-2.3

*ISCJB **10** 08:18:24.6±0.6, 6°.59S±0°.05×127°.6E±0°.1, h250km, mb3.7/7, Error ellipse: s-maj=15.2km s-min=6.9km az=177.7*
*IDC **10** 08:18:27.6±3.5, 6°.52S×127°.86E, h263km±35km, mb3.4/7, mb1 3.7/10, mb1mx3.5/31, mbtmp4.2/10, Error ellipse: s-maj=49.8km s-min=13.4km az=81.0*
ISC 10 08:18:26.3±0.8, 6°.57S±0°.07×127°.7E±0°.1, h250km, n18, σ1§70/17, mb3.7/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**5.77**	**51**	P	Pn	08 19 56.6	+4.9
	baz=5.5,SNR=26						
SIJI	**Sorong**	**6.66**	**32**	P	**Pn**	**08 20 02.1**	**-0.7**
	1.4nm,0.3s,baz=261,slow=19,SNR=4.7						
SIJI				S	**S**	**08 21 21.1**	**+0.9**
	2.4nm,0.3s,baz=143,slow=20,SNR=3.5						
KDU	**Kakadu**	**7.67**	**143**	P	Pn	08 20 20.3	+4.9
	baz=7.6,SNR=7.5						
KNRA	**Kununurra**	**9.11**	**174**	P	P	08 20 39.0	-1.8
	baz=9.2,SNR=5.1						
WRA	**Warramunga Arr**	**14.76**	**155**	P	**P**	**08 21 44.6**	**+1.0**
	3.4nm,0.3s,baz=331,slow=12,SNR=166						
WRA				S	S	08 24 34.1	+7.1
	0.3nm,0.3s,baz=338,slow=16,SNR=4.5						
COEN	**Coen**	**16.86**	**117**	P	**P**	**08 22 07.3**	**+0.5**
	baz=17,SNR=20						
ASAR	**Alice Springs**	**18.00**	**161**	P	**P**	**08 22 20.6**	**+1.4**
	3.1nm,0.3s,baz=345,slow=12,SNR=310						
ASAR				S	**S**	**08 25 27.8**	**-4.8**
	0.1nm,0.3s,baz=353,slow=23,SNR=4.0						
QIS	**Mount Isa**	**18.05**	**142**	P	**P**	**08 22 20.2**	**+0.6**
	baz=18,SNR=26						
WRKA	**Warakurna**	**18.37**	**178**	P	**P**	**08 22 25.5**	**+2.4**
	baz=19,SNR=4.0						
MANU	**Manus Island**	**20.08**	**78**	P	**P**	**08 22 42.0**	**+0.7**
	baz=20,SNR=6.4						
STKA	**Stephens Creek**	**28.31**	**155**	P	**P**	**08 23 56.4**	**-0.7**
	4.7nm,0.6s,baz=324,slow=10,SNR=8.4						
HTT	**Hallett**	**28.68**	**160**	P	**P**	**08 24 02.2**	**+1.8**
	baz=29,SNR=3.3						
KSRS	**Korea Array**	**43.79**	**0**	P	**P**	**08 26 08.0**	**+0.4**
	2.2nm,0.6s,baz=178,slow=9.2,SNR=11						
USRK	**Ussuriysk Ar.**	**50.68**	**4**	P	**P**	**08 26 59.7**	**-0.7**
	1.9nm,0.6s,baz=192,slow=9.9,SNR=5.4						
SONM	**Songino Array**	**57.35**	**343**	P	**P**	**08 27 49.1**	**+0.5**
	0.7nm,0.6s,baz=167,slow=5.8,SNR=5.4						
PETK	**Petropavlovsk-**	**64.64**	**19**	P	**P**	**08 28 36.6**	**-0.7**
	0.9nm,0.5s,baz=205,slow=6.4,SNR=3.9						
MKAR	**Makanchi Array**	**66.65**	**328**	P	**P**	**08 28 50.0**	**-0.3**
	0.4nm,0.5s,baz=128,slow=6.8,SNR=5.3						
ZALV	**Zalesovo Bam**	**70.22**	**335**	P	**P**	**08 29 11.0**	**-1.1**
	0.8nm,0.6s,baz=122,slow=5.4,SNR=4.0						

NNC 10 08:25:17.6±1.3, 36°.87N×70°.81E, h180km±12km, mb2.5, mpv3.6,6C-4D, Error ellipse: s-maj=13.7km s-min=6.1km az=163.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.49**	**322**	⇓P	Pn	08 26 00.1	-0.2
	19nm,0.3s						
DZET				⇑S	Sn	08 26 34.1	+0.5
	21nm,0.4s						
SFK	**Sufi-Kurgan**	**3.79**	**33**	⇓P	Pn	08 26 16.3	0.0
	2.4nm,0.3s						
SFK				⇓S	Sn	08 27 02.6	+0.4
	7.8nm,0.3s						
KK31	**Karatay Array**	**6.23**	**358**	⇑P	Pn	08 26 47.8	+0.1
	5.5nm,0.7s,baz=186,slow=17,SNR=34						
KK31				⇓S	Sn	08 27 58.2	-0.5
	1.1nm,0.4s,baz=191,slow=23,SNR=5.0						
AAK	**Ala-Archa**	**6.42**	**25**	⇑P	Pn	08 26 50.3	0.0
	2.0nm,0.6s						
AAK				⇑S	Sn	08 28 04.6	+1.2
	2.7nm,0.6s						
TKM2	**Tokmak 2**	**7.08**	**30**	⇑P	Pn	08 26 58.6	-0.4
	1.2nm,0.3s						
AB31	**Akbulak array**	**14.69**	**331**	⇑P	P	08 28 37.9	-0.3
	0.2nm,0.3s,baz=148,slow=13,SNR=13						

*IDC **10** 08:42:20.0±0.4, 10°.47S×161°.42E, h0km, mb4.7/27, mb1 4.8/28, mb1mx4.8/36, mbtmp4.7/28, ML4.5/1, MS3.9/12, Ms1 4.0/12, ms1mx3.7/23, Error ellipse: s-maj=16.1km s-min=12.1km az=91.0*
*ISCJB **10** 08:42:26.6±0.2, 10°.49S±0°.04×161°.29E±0°.03, h50km, mb5.0/115, MS4.1/16, Error ellipse: s-maj=5.5km s-min=3.9km az=147.6*
*BJI **10** 08:42:26.7, 10°.43S×161°.97E, h72km, mb4.8/32, mB4.9/23, Ms4.6/14, Ms7 4.2/17*
*NEIC **10** 08:42:28.7±0.8, 10°.53S×161°.34E, h60km±7km, mb5.0/76, Error ellipse: s-maj=5.1km s-min=4.7km az=122.0*
*MOS **10** 08:42:28.6±0.8, 10°.42S×161°.23E, h71km, mb5.1/27, Error ellipse: s-maj=9.9km s-min=8.5km az=70.9*
ISC 10 08:42:27.2±0.5, 10°.55S±0°.04×161°.55E±0°.05, h49km±3km, h49km:pP-P, n299, σ1§56/300, mb5.0/114, MS4.0/16, 10C-2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.93**	**305**	*e*P	**Pn**	**08 42 56.6**	**-1.0**
HNR				*e*		08 43 23.5	
HNR	**Honiara**	**1.93**	**305**	*e*Pn	**Pn**	**08 42 56.6**	**-1.0**
HNR				*e*Sn	**Sn**	**08 43 23.5**	**+2.8**
DZM	**Mont Dzumac**	**12.38**	**158**	*e*Pn	**Pn**	**08 45 22.1**	**+1.3**
	29nm,0.5s						
DZM				*e*Sn	Sn	08 47 30.0	-7.4
	19nm,0.4s						
DZM				*e*LR	LR	08 48 09.2	
	2μm,25.2s						
DZM	**Mont Dzumac**	**12.38**	**158**	Pn	**Pn**	**08 45 21.3**	**+0.5**
	2.6nm,0.3s,baz=3.0,slow=6.6,SNR=23						
DZM				Sn	**Sn**	**08 47 33.1**	**-4.3**
	0.8nm,0.3s,baz=360,slow=18,SNR=3.7						
DZM	**Mont Dzumac**	**12.38**	**158**	*e*Pn	**Pn**	**08 45 21.9**	**+1.1**
	176nm,1.6s						
DZM				Sn	**Sn**	**08 47 33.1**	**-4.3**
TARA	**Tarawa**	**16.37**	**44**	*e*P	**Pn**	**08 46 14.8**	**+1.1**
CTA	**Charters Tower**	**17.52**	**235**	P	**Pn**	**08 46 28.3**	**+0.2**
	3.9nm,0.3s,baz=65,slow=14,SNR=51						
CTAO	**Charters Tower**	**17.52**	**235**	*e*P	**P**	**08 46 30.8**	**+2.2**
CTAO				pmax	pmax		
	comp=Z,164nm,1.0s						
CTAO	**Charters Tower**	**17.52**	**235**	*e*P	**P**	**08 46 30.8**	**+2.2**
	comp=Z,164nm,1.0s						
EIDS	**Eidsvold**	**17.77**	**213**	P	**P**	**08 46 33.1**	**+1.8**
	baz=18,SNR=11						
EIDS	**Eidsvold**	**17.77**	**213**	*e*P	**P**	**08 46 31.9**	**+0.6**
	comp=Z,70nm,1.1s						
COEN	**Coen**	**18.27**	**257**	P	**Pn**	**08 46 39.0**	**+1.8**
	baz=18,SNR=8.4						
COEN	**Coen**	**18.27**	**257**	*e*P	**Pn**	**08 46 38.1**	**+0.8**
	comp=Z,7.5nm,1.0s						
MTSU	**Mount Surprise**	**18.31**	**244**	P	**Pn**	**08 46 39.8**	**+2.0**
	baz=18,SNR=23						
RMQ	**Roma**	**19.93**	**216**	P	**Pn**	**08 46 57.4**	**+0.4**
	baz=20,SNR=55						
ARMA	**Armidale**	**21.82**	**204**	P	**P**	**08 47 16.1**	**+0.7**
	baz=22,SNR=24						
ARMA	**Armidale**	**21.82**	**204**	*e*P	**P**	**08 47 16.1**	**+0.7**
	comp=Z,25nm,0.8s						
JAY	**Jayapura**	**22.18**	**290**	P	**P**	**08 47 19.2**	**-0.2**
	comp=Z,13nm,0.8s,baz=120,slow=8.1,SNR=6.7						
QLP	**Quilpie**	**22.84**	**223**	P	**P**	**08 47 26.4**	**+0.2**
	baz=23,SNR=8.9						
QIS	**Mount Isa**	**23.34**	**242**	P	**P**	**08 47 31.6**	**+0.3**
	baz=23,SNR=6.6						
SMPI	**Sarmi**	**24.23**	**289**	P	**P**	**08 47 39.2**	**-0.4**
	comp=Z,82nm,1.0s						
MGCD	**Mangrove Creek**	**24.51**	**201**	P	**P**	**08 47 43.5**	**+1.5**
	baz=24,SNR=6.1						
CMSA	**Cobar Meteorol**	**25.53**	**213**	P	**P**	**08 47 53.3**	**+2.0**
	baz=25,SNR=5.5						
WRAB	**Tennant Creek**	**27.81**	**247**	P	**P**	**08 48 11.0**	**-1.0**
	comp=Z,52nm,0.5s,SNR=15						
WRAB	**Tennant Creek**	**27.81**	**247**	⇑*e*P	**P**	**08 48 11.9**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,21nm,1.0s						
WRAB	**Tennant Creek**	**27.81**	**247**	*e*P	**P**	**08 48 11.7**	**-0.3**
	comp=Z,34nm,1.0s						
WRA	**Warramunga Arr**	**27.82**	**247**	P	**P**	**08 48 11.2**	**-0.9**
	comp=Z,5.2nm,0.6s,baz=77,slow=8.9,SNR=50						
WRA				ScP	**ScP**	**08 55 08.2**	**+3.8**
	comp=Z,1.2nm,0.9s,baz=74,slow=3.7,SNR=4.8						
WRA				LR	LR	08 58 34.4	
	comp=Z,463nm,19.5s,baz=70,slow=35						
WRA	**Warramunga Arr**	**27.82**	**247**	*i* P	**P**	**08 48 10.1**	**-2.0**
WRA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
STKA	**Stephens Creek**	**28.12**	**218**	P	**P**	**08 48 15.3**	**+0.7**
	comp=Z,6.1nm,0.8s,baz=57,slow=14,SNR=7.5						
STKA				LR	LR	08 59 00.8	
	comp=Z,950nm,20.1s,baz=38,slow=36						
STKA	**Stephens Creek**	**28.12**	**218**	P	**P**	**08 48 15.7**	**+1.1**
	baz=28,SNR=4.9						
KDU	**Kakadu**	**28.55**	**263**	P	**P**	**08 48 18.1**	**-0.5**
	baz=28,SNR=8.3						
GUMO	**Guam**	**29.14**	**325**	LR	LR	08 59 25.9	
	comp=Z,360nm,20.2s,baz=150,slow=35						
H11S2	**WAKE ISLAND Hy**	**29.30**	**10**	T	T	09 19 44.0	
	baz=189,slow=76,SNR=41						
H11S3	**WAKE ISLAND Hy**	**29.31**	**10**	T	T	09 19 41.9	
	baz=189,slow=76,SNR=29						
H11S1	**WAKE ISLAND Hy**	**29.32**	**10**	T	T	09 19 43.6	
	baz=189,slow=76,SNR=30						
ASAR	**Alice Springs**	**29.39**	**240**	P	**P**	**08 48 24.7**	**-1.4**
	comp=Z,3.3nm,0.7s,baz=64,slow=9.8,SNR=33						
ASAR				ScP	**ScP**	**08 55 12.9**	**+3.7**
	comp=Z,0.8nm,0.9s,baz=76,slow=2.6,SNR=3.8						
ASAR				LR	LR	09 00 15.8	
	comp=Z,849nm,18.0s,baz=72,slow=37						
H11N1	**WAKE ISLAND Hy**	**30.53**	**10**	T	T	09 21 15.9	
	baz=192						
TOO	**Toolangi**	**30.54**	**206**	P	**P**	**08 48 37.1**	**+1.1**
	baz=30,SNR=13						
H11N3	**WAKE ISLAND Hy**	**30.54**	**10**	T	T	09 21 16.9	
	baz=192						
H11N2	**WAKE ISLAND Hy**	**30.55**	**10**	T	T	09 21 17.7	
	baz=192						
HTT	**Hallett**	**30.82**	**219**	P	**P**	**08 48 38.9**	**+0.3**
	baz=31,SNR=5.5						
URZ	**Urewera**	**30.91**	**156**	P	**P**	**08 48 40.3**	**+1.1**
	comp=Z,10nm,0.5s,baz=246,slow=0.6,SNR=7.2						
URZ	**Urewera**	**30.91**	**156**	*e*P	**P**	**08 48 40.6**	**+1.4**
	comp=Z,170nm,2.0s						
BKZ	**Black Stump Fm**	**31.46**	**157**	*e*P	**P**	**08 48 45.6**	**+1.4**
	comp=Z,30nm,0.6s						
SIJI	**Sorong**	**31.60**	**286**	P	**P**	**08 48 44.2**	**-1.4**
	comp=Z,11nm,0.7s,baz=72,slow=13,SNR=3.6						
BBOO	**Buckleboo**	**32.27**	**223**	P	**P**	**08 48 51.4**	**+0.1**
	baz=32,SNR=12						
KNRA	**Kununurra**	**32.31**	**257**	P	**P**	**08 48 51.6**	**-0.2**
	baz=32,SNR=22						
SNZO	**South Karori**	**32.75**	**162**	*e*P	**P**	**08 48 56.0**	**+0.7**
	comp=Z,148nm,1.4s						
RPZ	**Rata Peaks**	**34.05**	**168**	P	**P**	**08 49 06.9**	**+0.2**
	comp=Z,12nm,0.7s,baz=319,slow=2.5,SNR=7.4						
RPZ	**Rata Peaks**	**34.05**	**168**	*e*P	**P**	**08 49 07.0**	**+0.2**
	comp=Z,19nm,0.8s						
WRKA	**Warakurna**	**34.66**	**241**	P	**P**	**08 49 11.2**	**-1.1**
	baz=34,SNR=31						
SANI	**Sanana**	**36.31**	**281**	P	**P**	**08 49 26.9**	**+0.4**
	comp=Z,56nm,1.1s						
MBWA	**Marble Bar**	**41.47**	**250**	*e*P	**P**	**08 50 09.1**	**-0.6**
	comp=Z,11nm,0.5s						
KAPI	**Kappang**	**41.75**	**274**	*e*P	**P**	**08 50 11.5**	**-0.5**
	comp=Z,16nm,0.8s						
SPSI	**Sidrap Palu**	**41.93**	**276**	P	P	08 50 10.2	-3.2
	comp=Z,16nm,0.8s						
MEEK	**Meekatharra**	**43.49**	**242**	P	**P**	**08 50 26.1**	**+0.1**
	baz=43,SNR=32						
IGBI	**Denpasar**	**45.74**	**268**	P	**P**	**08 50 42.7**	**-1.4**
	comp=Z,123nm,0.8s						
SRBI	**Singaraja**	**45.76**	**269**	P	**P**	**08 50 43.5**	**-0.7**
	comp=Z,42nm,0.9s						
BLDU	**Ballidu**	**46.11**	**238**	P	**P**	**08 50 46.6**	**-0.2**
	baz=46,SNR=7.7						
MORW	**Morawa**	**46.27**	**240**	P	**P**	**08 50 48.8**	**+0.7**
	baz=46,SNR=7.8						
JAGI	**Jajag, Banyuwa**	**46.76**	**268**	P	**P**	**08 50 50.6**	**-1.5**
	comp=Z,121nm,0.8s,comp=Z,1μm						
JAGI	**Jajag, Banyuwa**	**46.76**	**268**	P	**P**	**08 50 50.4**	**-1.7**
	baz=47,SNR=8.2						
JAGI	**Jajag, Banyuwa**	**46.76**	**268**	*e*P	**P**	**08 50 49.9**	**-2.2**
	comp=Z,71nm,0.6s						
PPT	**Papeete**	**47.81**	**104**	LR	LR	09 06 41.0	
	comp=Z,154nm,20.4s,baz=297,slow=30						
PPT2	**Papeete2**	**47.81**	**104**	*e*LQ	LQ	09 02 52.5	
	comp=Z,245nm,25.0s						
PPT2				*e*LR	LR	09 04 51.8	
	comp=Z,276nm,22.8s,baz=271						
KKM	**Kota Kinabalu**	**48.06**	**288**	P	**P**	**08 51 01.5**	**-0.8**
	baz=48,SNR=4.7						
KKM	**Kota Kinabalu**	**48.06**	**288**	*e*P	**P**	**08 51 00.8**	**-1.5**
	comp=Z,12nm,0.6s						
TBI	**Tubuai**	**48.34**	**112**	*e*LQ	LQ	09 02 57.4	
	comp=Z,303nm,33.0s						
TBI				*e*LR	LR	09 05 07.9	
	comp=Z,152nm,25.2s,baz=287						
PWJI	**Pagerwojo**	**49.12**	**268**	P	**P**	**08 51 08.9**	**-1.4**
	comp=Z,17nm,0.7s						
JOW	**Kunigami**	**49.24**	**320**	*e*P	**P**	**08 51 11.7**	**+0.6**
	comp=Z,13nm,1.0s						
PCJI	**Pacitan**	**49.72**	**268**	P	**P**	**08 51 19.8**	**-1.3**
	comp=Z,128nm,0.8s						
UGM	**Wanagama**	**50.39**	**268**	P	**P**	**08 51 19.8**	**-0.3**
	comp=Z,85nm,2.1s						
UGM	**Wanagama**	**50.39**	**268**	P	**P**	**08 51 19.2**	**-0.9**
	baz=50,SNR=3.9						
SBUM	**Sibu**	**50.77**	**282**	*e*P	**P**	**08 51 22.7**	**-0.1**
	comp=Z,64nm,2.3s						
KIP	**Kipapa**	**50.86**	**51**	⇑*i*P	**P**	**08 51 24.2**	**+0.8**
KIP				pmax	pmax		
	comp=Z,32nm,0.6s						
MJAR	**Matsushiro Arr**	**51.74**	**336**	P	**P**	**08 51 28.5**	**-1.3**
	comp=Z,5.4nm,0.6s,baz=168,slow=8.7,SNR=21						
MJAR				LR	LR	09 13 13.1	
	comp=Z,61nm,20.0s,baz=140,slow=36						
MAJO	**Matsushiro**	**51.74**	**336**	*d* P	**P**	**08 51 28.7**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,59nm,0.6s						
MAJO	**Matsushiro**	**51.74**	**336**	*e*P	**P**	**08 51 28.5**	**-1.3**
	comp=Z,9.3nm,0.6s						
YULB	**Yu-li**	**51.85**	**311**	*e*P	**P**	**08 51 30.9**	**0.0**
	comp=Z,9.1nm,0.9s						
POHA	**Pohakuloa**	**51.90**	**55**	*e*P	**P**	**08 51 32.7**	**+1.3**
	comp=Z,71nm,0.7s						
SSLB	**Suanglung**	**52.34**	**311**	*e*P	**P**	**08 51 33.5**	**-1.0**
	comp=Z,26nm,0.9s						
JNU	**Nakatsue**	**52.36**	**327**	P	**P**	**08 51 33.6**	**-0.8**
	comp=Z,6.6nm,0.7s,baz=135,slow=1.1,SNR=8.7						
JNU	**Nakatsue**	**52.36**	**327**	*e*P	**P**	**08 51 34.2**	**-0.2**
	comp=Z,12nm,1.0s						
CMJI	**Cimerak**	**52.45**

HABR eS **S** **09 01 15.8 -3.1**
HABR e*SS **sS** **09 01 40.0 -2.1**
HABR e 09 02 36.4
HABR eSS **SS** **09 05 23.6 -2.7**
HABR pmax pmax
comp=Z,10.0nm,1.1s
HABR MLR MLR
comp=Z,113nm,18.0s
PETK Petropavlovsk- 63.49 357 P **P** **08 52 51.1 -0.9**
comp=Z,3.6nm,0.6s,baz=160,slow=9.0,SNR=3.2
PETK LR LR 09 15 40.1
comp=Z,87nm,21.7s,baz=167,slow=32
GSI Gunungsitoli 64.71 276 P **P** **08 52 59.8 -1.0**
GSI Gunungsitoli 64.71 276 eP **P** **08 52 59.2 -1.6**
comp=Z,30nm,0.7s
GYA Guiyang 64.76 306 eP **P** **08 53 03.0 +1.9**
GYA PP **PP** **08 55 27.5 +3.4**
GYA S **S** **09 01 38.0 -0.5**
GYA SS **SS** **09 05 50.0 -0.7**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.0s
GYA LN
comp=Z,540nm,19.8s
GYA LE
comp=Z,510nm,18.9s
GYA LZ
comp=Z,560nm,19.6s
KLR Kul'dur 65.04 339 eP P 08 52 58.8 -3.5
BJI Beijing 65.56 323 P **P** **08 53 08.4 +2.6**
BJI S **S** **09 01 43.5 -4.0**
BJI PMZ
comp=Z,8.0nm,0.6s
BJI LZ
comp=Z,100nm,24.7s
XAN Xi'an 66.78 314 P P 08 53 22.3 +8.4
XAN pmax pmax
comp=Z,15nm,0.7s
VNDA Vanda 66.95 180 P **P** **08 53 14.9 +0.7**
comp=Z,12nm,0.7s,baz=344,slow=6.8,SNR=35
SBA Scott Base 67.34 179 eP **P** **08 53 18.5 +1.9**
SBA pmax pmax
comp=Z,14nm,1.0s
SBA Scott Base 67.34 179 eP **P** **08 53 18.5 +1.9**
comp=Z,14nm,1.0s
KMI Kunming 67.37 303 P **P** **08 53 19.1 +1.1**
KMI S **S** **09 02 10.3 -0.2**
KMI PMZ
comp=Z,10.0nm,0.9s
KMI PMZ
comp=Z,39nm,3.8s
KMI LN
comp=Z,53nm,18.4s
KMI LE
comp=Z,130nm,17.9s
KMI LZ
comp=Z,120nm,18.9s
CMAR Chiang Mai Arr 68.15 295 P **P** **08 53 22.0 -0.7**
comp=Z,3.5nm,0.6s,baz=129,slow=5.4,SNR=12
CMAR LR LR 09 24 59.9
comp=Z,28nm,18.2s,baz=128,slow=38
CMAI Chiengmai2 68.57 296 P P 08 53 30.8 +5.3
HHC Hu-ho-hao-te 68.84 321 eP **P** **08 53 27.6 +0.9**
HHC PP **PP** **08 56 04.0 +4.6**
HHC S **S** **09 02 26.8 -0.4**
HHC ScS **SKiKP** **09 03 17.0 +2.4**
HHC PMZ
comp=Z,21nm,0.6s
HHC PMZ
comp=Z,75nm,6.4s
HHC LN
comp=Z,110nm,16.5s
HHC LE
comp=Z,100nm,15.9s
HHC LZ
comp=Z,92nm,16.7s
CD2 Chengdu 69.06 309 P **P** **08 53 27.5 -0.7**
CD2 PP **PP** **08 55 59.8 -1.6**
CD2 S **S** **09 02 29.3 -0.8**
CD2 SS **SS** **09 06 56.2 -0.9**
CD2 PMZ
comp=Z,20nm,0.6s
CD2 PMZ
comp=Z,80nm,5.1s
CD2 LN
comp=Z,160nm,5.5s
CD2 LZ
comp=Z,150nm,7.6s
HIA Hailar 69.96 332⇓ *i*P **P** **08 53 32.5 -0.9**
HIA *i* *PP **pP** **08 53 48.9 +1.5**
HIA pmax pmax
comp=Z,17nm,1.0s
HIA Hailar 69.96 332 eP **P** **08 53 32.9 -0.5**
comp=Z,15nm,0.7s
LZH Lanzhou 71.41 314 eP P 08 53 49.5 +6.8
LZH pP pP 08 53 58.2 +1.5
LZH sP sP 08 54 03.7 +1.4
LZH pmax pmax
comp=Z,20nm,1.0s
LZH pmax pmax
comp=Z,100nm,4.8s
SEY Seymchan 73.61 356 P **P** **08 53 54.8 -0.1**
comp=Z,4.5nm,0.7s,baz=169,slow=4.7,SNR=20
SEY Seymchan 73.61 356⇑ eP **P** **08 53 55.0 +0.1**
GTA Gaotai 75.78 315 eP **P** **08 54 08.6 +0.4**
GTA S **S** **09 03 47.0 +0.2**
GTA SS **SS** **09 08 42.2 +2.4**
GTA PMZ
comp=Z,5.0nm,1.2s
GTA PMZ
comp=Z,56nm,5.2s
GTA LN
comp=Z,69nm,16.6s
GTA LE
comp=Z,79nm,18.3s
GTA LZ
comp=Z,110nm,18.5s
SONM Songino Array 75.88 325 P **P** **08 54 08.3 -0.3**
comp=Z,18nm,0.7s,baz=139,slow=5.2,SNR=88
SONM LR LR 09 28 53.7
comp=Z,85nm,18.6s,baz=112,slow=37
YAK Yakutsk 76.51 345 eP **P** **08 54 08.6 -3.1**
YAK e 08 54 21.1
YAK pmax pmax
comp=Z,29nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK Yakutsk 76.51 345 eP **P** **08 54 11.8 +0.1**
comp=N,42nm,0.5s
KDAK Kodiak Island 77.69 23 *i* P **P** **08 54 19.5 +1.1**
BOD Bodaibo 78.38 336 eP **P** **08 54 21.1 -1.1**
BOD pmax pmax
comp=Z,6.0nm,1.2s
BILL Bilibino 78.46 2 eP **P** **08 54 23.0 +0.6**
BILL pmax pmax
comp=Z,15nm,0.9s
BILL Bilibino 78.46 2 eP **P** **08 54 23.0 +0.6**
comp=Z,15nm,0.9s
ZAK Zakamensk 78.97 326⇑ *i*P **P** **08 54 25.3 -0.5**
ZAK e 08 54 35.0
ZAK pmax pmax
comp=Z,5.0nm,0.9s
SVW2 Sparrevohn 78.99 20 eP **P** **08 54 27.2 +1.7**
comp=Z,25nm,0.6s
QSPA South Pole Qui 79.44 180 eP **P** **08 54 28.7 +0.5**
comp=Z,21nm,0.9s
TLY Talaya 79.46 328 eP **P** **08 54 27.7 -0.6**
TLY pmax pmax
comp=Z,9.0nm,0.9s
TLY Talaya 79.46 328 P **P** **08 54 28.2 -0.1**
comp=Z,61nm,0.6s,SNR=6.2
TLY Talaya 79.46 328 eP **P** **08 54 27.7 -0.6**
comp=Z,9.3nm,0.9s
RC01 Rabbit Creek A 81.01 22 eP **P** **08 54 36.9 +0.5**
comp=Z,8.0nm,0.5s
PMR Palmer 81.56 22 eP **P** **08 54 40.1 +0.8**
PMR pmax pmax
comp=Z,6.0nm,0.7s
PMR Palmer 81.56 22 eP **P** **08 54 40.1 +0.8**
comp=Z,5.7nm,0.7s
CAST Castle Rocks 81.80 19 eP **P** **08 54 40.9 +0.3**
comp=Z,21nm,0.8s
SML Sawmill 81.99 22 eP **P** **08 54 42.3 +0.6**
SML pmax pmax
comp=Z,2.0nm,0.8s
SML Sawmill 81.99 22 eP **P** **08 54 42.3 +0.6**
comp=Z,2.1nm,0.8s
TRF Thorofare Moun 82.41 20 eP **P** **08 54 43.6 -0.3**
comp=Z,13nm,1.1s
DIV Divide 82.52 23 eP **P** **08 54 45.2 +0.7**
comp=Z,11nm,0.7s
BPAW Bear Paw Mtn. 82.62 19 eP **P** **08 54 44.8 -0.1**
comp=Z,1.7nm,0.9s
BMRM Bremner River 82.87 23 eP **P** **08 54 47.1 +0.8**
MCK McKinley 83.05 20 eP **P** **08 54 47.0 -0.1**
MCK pmax pmax
comp=Z,23nm,0.9s
MCK McKinley 83.05 20 eP **P** **08 54 47.0 -0.1**
comp=Z,23nm,0.9s
IM04 Indian Mountai 83.09 17 eP **P** **08 54 47.5 +0.2**
BWN Browne 83.16 19 eP **P** **08 54 48.6 +1.0**
comp=Z,52nm,0.8s
MAW Mawson 83.61 202 P **P** **08 54 50.3 +0.3**
comp=Z,39nm,0.7s,baz=103,slow=6.6,SNR=76
MAW Mawson 83.61 202 P **P** **08 54 50.7 +0.7**
baz=83,SNR=52
CCB Clear Creek Bu 84.02 20 eP **P** **08 54 51.6 -0.3**
comp=Z,13nm,1.2s
COLA College 84.15 19*c i*P **P** **08 54 52.3 -0.3**
COLA *i* *PP **pP** **08 55 07.2 +0.2**
COLA pmax pmax
comp=Z,45nm,0.7s
COLA College 84.15 19 eP **P** **08 54 52.5 -0.1**
comp=Z,12nm,0.7s
MENT Mentasta 84.38 22 eP **P** **08 54 55.2 +1.3**
ILAR Eielson Array 84.40 20 P **P** **08 54 53.5 -0.5**
comp=Z,3.1nm,0.5s,baz=242,slow=5.3,SNR=40
RIDG Independ'e Rid 84.46 21 eP **P** **08 54 55.5 +1.1**
comp=Z,8.2nm,0.8s
COLD Coldfoot 84.99 17 eP **P** **08 54 58.4 +1.5**
comp=Z,78nm,3.0s
WMQ Urumqi 85.85 316 P **P** **08 55 01.8 0.0**
WMQ PMZ
comp=Z,11nm,1.0s
WMQ PMZ
comp=Z,85nm,4.2s
WMQ LN
comp=Z,45nm,27.2s
WMQ LZ
comp=Z,51nm,28.0s
EGAK Eagle 86.37 21 eP **P** **08 55 05.1 +1.3**
comp=Z,33nm,1.4s
YBH Yreka Blue Hor 86.53 47 P **P** **08 55 05.7 +0.5**
comp=Z,2.2nm,0.6s,baz=276,slow=1.2,SNR=4.2
BBB Bella Bella 86.54 36 P **P** **08 55 04.5 -0.4**
comp=Z,3.9nm,1.0s,baz=249,slow=7.3,SNR=3.0
HUMO Hull Mountain 86.61 46 eP **P** **08 55 07.1 +1.6**
comp=Z,7.9nm,0.9s
CMB Columbia Colle 87.19 51 eP **P** **08 55 09.5 +1.0**
CMB pmax pmax
comp=Z,5.0nm,1.0s
CMB Columbia Colle 87.19 51 eP **P** **08 55 09.5 +1.0**
comp=Z,4.9nm,1.0s
J05D Fort Rock, OR 88.02 45 P **P** **08 55 15.0 +2.6**
baz=88,SNR=6.6
WAKR Walker 88.04 50 eP **P** **08 55 14.0 +1.3**
comp=Z,7.1nm,1.2s
MWC Mount Wilson 88.05 55 eP **P** **08 55 14.4 +1.6**
MWC pmax pmax
comp=Z,14nm,1.0s
MWC Mount Wilson 88.05 55 eP **P** **08 55 14.3 +1.6**
comp=Z,14nm,1.0s
ISA Isabella 88.07 53 eP **P** **08 55 14.4 +1.7**
ISA pmax pmax
comp=Z,5.0nm,1.3s
ISA Isabella 88.07 53 P **P** **08 55 14.7 +1.9**
baz=88
ISA Isabella 88.07 53 eP **P** **08 55 14.4 +1.7**
comp=Z,4.8nm,1.3s
K05A Summer Lake 88.10 46 eP **P** **08 55 15.1 +2.2**
comp=Z,9.1nm,0.9s
I05D Terrebonne, OR 88.24 44 P **P** **08 55 16.1 +2.7**
baz=88
EDW2 Edwards Air Fo 88.26 54 P **P** **08 55 15.7 +2.0**
baz=88
MOD Modoc 88.30 47 eP **P** **08 55 15.3 +1.5**
comp=Z,5.3nm,0.9s
BFSC Mount Baldy Ra 88.37 55 P **P** **08 55 15.5 +1.2**
baz=89
109C Camp Elliot, M 88.50 56 P **P** **08 55 16.6 +1.8**
baz=89
LRMC Laurel Mountai 88.64 54 P **P** **08 55 18.0 +2.4**
baz=89,SNR=5.9
BAR Barrett 88.81 57 eP **P** **08 55 18.2 +1.9**
comp=Z,2.5nm,1.0s
NVAR Mina Array Bea 88.88 51 P **P** **08 55 18.6 +1.8**
comp=Z,3.6nm,0.7s,baz=236,slow=6.9,SNR=32
DAC Darwin (Calif) 88.91 53 eP **P** **08 55 18.3 +1.4**
DAC pmax pmax
comp=Z,18nm,1.3s
DAC Darwin (Calif) 88.91 53 eP **P** **08 55 18.3 +1.4**
comp=Z,18nm,1.3s
MPMC Manual Prospec 88.94 53 P **P** **08 55 19.3 +2.3**
baz=89,SNR=11
RRX Edison Barstow 89.05 54 P **P** **08 55 20.0 +2.7**
baz=89
MONP Monument Peak 89.06 56 P **P** **08 55 20.1 +2.4**
baz=89,SNR=6.9
PFO Pinyon Flat Ob 89.20 56 P **P** **08 55 19.9 +1.8**
baz=89
GRAC Grapevine Rang 89.25 52 P **P** **08 55 20.2 +1.9**
baz=90,SNR=7.0
GSC Goldstone 89.30 54 eP **P** **08 55 19.2 +0.6**
GSC pmax pmax
comp=Z,9.0nm,1.1s
GSC Goldstone 89.30 54 P **P** **08 55 20.6 +2.0**
baz=90
GSC Goldstone 89.30 54 eP **P** **08 55 19.2 +0.6**
comp=Z,8.6nm,1.1s
FURC Furnace Creek, 89.53 53 P **P** **08 55 21.5 +2.0**
baz=90,SNR=11
HEC Hector,Ludlow 89.57 55 P **P** **08 55 21.5 +1.7**
baz=90,SNR=6.5
SWSC Sam W. Stewart 89.58 57 P **P** **08 55 22.1 +2.2**
baz=90
TPH Tonopah 89.62 51 eP **P** **08 55 21.5 +1.3**
TPH pmax pmax
comp=Z,8.0nm,0.9s
TPH Tonopah 89.62 51 eP **P** **08 55 21.5 +1.3**
comp=Z,7.8nm,0.9s
WVOR Wild Horse Val 89.63 47 eP **P** **08 55 21.3 +1.3**
WVOR pmax pmax
comp=Z,22nm,1.4s
WVOR Wild Horse Val 89.63 47 eP **P** **08 55 21.3 +1.3**
comp=Z,22nm,1.4s
BELC Belle Mtn. Jos 89.66 55 P **P** **08 55 22.1 +1.7**
baz=90,SNR=11
SHOC Shoshone 89.86 54 P **P** **08 55 23.0 +2.0**
baz=90
BC3 Big Chuckawall 90.02 56 P **P** **08 55 23.9 +1.9**
baz=90,SNR=7.0
TUQ Turquoise Moun 90.03 54 P **P** **08 55 23.8 +1.8**
baz=90,SNR=10.0
GMRC Granite Mounta 90.10 55 P **P** **08 55 24.2 +1.8**
baz=90,SNR=10
TPNV Topopah Spring 90.12 53 P **P** **08 55 24.2 +1.8**
baz=90,SNR=16
G08A Pilot Rock 90.13 44 eP **P** **08 55 24.0 +1.7**
comp=Z,8.0nm,1.3s
BMN Battle Mountai 90.18 49 eP **P** **08 55 24.9 +2.2**
BMN pmax pmax
comp=Z,7.0nm,0.9s
BMN Battle Mountai 90.18 49 eP **P** **08 55 24.9 +2.2**
comp=Z,6.9nm,0.9s
MK31 Makanchi Array 90.36 318 P **P** **08 55 22.3 -0.9**
baz=90,SNR=5.1
MKAR Makanchi Array 90.36 318 P **P** **08 55 21.7 -1.5**
comp=Z,2.2nm,0.5s,baz=94,slow=6.6,SNR=18
MKAR Makanchi Array 90.36 318*ce*P **P** **08 55 22.2 -1.0**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
IRM Iron Mountain 90.38 55 P **P** **08 55 25.5 +1.9**
baz=91,SNR=7.9
GLA Glamis 90.40 57 P **P** **08 55 24.7 +0.9**
baz=91
LDFC Landfair 90.61 55 eP **P** **08 55 26.4 +1.7**
comp=Z,24nm,1.1s
D08A Wollman Farm, 90.61 42 eP **P** **08 55 25.9 +1.7**
comp=Z,9.7nm,1.3s
B08A Colville Reser 90.67 41 eP **P** **08 55 25.8 +1.1**
comp=Z,6.4nm,0.9s
ZALV Zalesovo Beam 90.77 325 P **P** **08 55 22.2 -2.6**
comp=Z,1.4nm,0.6s,baz=120,slow=5.3,SNR=8.2
ZALV LR LR 09 35 09.6
comp=Z,46nm,21.5s,baz=70,slow=35
Y12C Blythe 90.80 56 P **P** **08 55 27.8 +2.4**
baz=91
INK Inuvik 90.80 20 P **P** **08 55 25.4 +0.7**
comp=Z,1.4nm,0.8s,baz=282,slow=3.7,SNR=3.8
SHPR Sheep Range 90.87 53 eP **P** **08 55 27.8 +1.8**
R11A Troy Canyon, C 90.94 51 P **P** **08 55 28.3 +2.0**
baz=91,SNR=11
R11A Troy Canyon, C 90.94 51 eP **P** **08 55 27.3 +1.0**
comp=Z,7.3nm,1.0s
BMO Blue Mountains 91.16 45 eP **P** **08 55 28.1 +1.1**
comp=Z,8.6nm,1.2s
PDMCI Parker Dam,Lak 91.22 55 P **P** **08 55 29.2 +1.8**
baz=92
214A Organ Pipe Nat 91.85 58 P **P** **08 55 31.2 +0.7**
baz=92
MFID Camas Ranch 91.87 46 eP **P** **08 55 31.4 +1.0**
comp=Z,6.3nm,1.0s
NEW Newport 92.08 41 P **P** **08 55 31.7 +0.5**
comp=Z,3.0nm,0.8s,baz=239,slow=6.9,SNR=6.6
NEW Newport 92.08 41 P **P** **08 55 31.7 +0.5**
NEW pmax pmax
comp=Z,3.0nm,0.8s
NEW Newport 92.08 41 P **P** **08 55 32.8 +1.6**
baz=92
NEW Newport 92.08 41 eP **P** **08 55 32.5 +1.3**
comp=Z,5.0nm,0.9s
HLID Hailey 92.91 46 P **P** **08 55 37.5 +2.2**
baz=93
HLID Hailey 92.91 46 eP **P** **08 55 37.1 +1.8**
comp=Z,11nm,1.3s
KSH Kashi 93.25 309 P **P** **08 55 38.0 +1.1**
KSH pP **pP** **08 55 54.6 +3.2**
KSH PP **PP** **08 59 25.0 +3.8**
KSH S **S** **09 06 37.6 -3.0**
KSH SS **SS** **09 13 02.1 +4.7**
KSH LZ
comp=Z,230nm,7.0s
TUC Tucson 93.61 58 eP **P** **08 55 40.7 +2.1**
TUC pmax pmax
comp=Z,3.0nm,1.1s
TUC Tucson 93.61 58 eP **P** **08 55 40.6 +2.1**
comp=Z,3.0nm,1.1s
WUAZ Wupatki 93.69 55 P **P** **08 55 40.6 +1.6**
baz=94
WUAZ Wupatki 93.69 55 eP **P** **08 55 40.4 +1.4**
comp=Z,2.7nm,0.9s
HVU Hansel Valley 93.75 48 eP **P** **08 55 40.6 +1.5**
HVU pmax pmax
comp=Z,6.0nm,1.2s
HVU Hansel Valley 93.75 48 eP **P** **08 55 40.6 +1.5**
comp=Z,5.7nm,1.2s
MCMT McKenzie Canyo 94.25 45 eP **P** **08 55 42.7 +1.2**
comp=Z,1.3nm,1.0s
WALA Waterton Lakes 94.33 41 eP **P** **08 55 43.2 +1.6**
BOZ Bozeman (W) 95.25 45 eP **P** **08 55 47.4 +1.5**
BOZ pmax pmax
comp=Z,2.0nm,0.9s
BOZ Bozeman (W) 95.25 45 P **P** **08 55 47.7 +1.8**
baz=96
BOZ Bozeman (W) 95.25 45 eP **P** **08 55 47.4 +1.5**
comp=Z,2.4nm,0.9s
H17A Grant Village 95.78 46 eP P 08 55 51.8 +3.2
comp=Z,3.0nm,0.8s
MVCO Mesa Verde 96.25 53 P **P** **08 55 52.4 +1.6**
baz=96
PDAR Pinedale Array 96.26 48 P **P** **08 55 51.8 +1.0**
comp=Z,1.0nm,0.8s,baz=308,slow=0.2,SNR=10
PV01 Paradox Valley 96.33 53 eP **P** **08 55 52.0 +0.8**
comp=Z,83nm,0.7s
YKA Yellowknife Ar 96.44 28 P **P** **08 55 50.4 -0.3**
comp=Z,2.3nm,0.6s,baz=261,slow=4.7,SNR=30
YKA Yellowknife Ar 96.44 28 P **P** **08 55 50.4 -0.3**
YKA pmax pmax
comp=Z,2.0nm,0.6s
EGMT Eagleton 96.88 43 P **P** **08 55 53.7 +0.4**
baz=97
ANMO Albuquerque 97.58 56⇑ eP Pdif 08 55 57.2 +0.3
ANMO pmax pmax
comp=Z,7.0nm,1.0s
ANMO Albuquerque 97.58 56 eP Pdif 08 55 58.0 +1.1
comp=Z,1.5nm,0.9s
S22A 4UR Ranch, Cre 97.64 53 P Pdif 08 55 58.3 +1.1
baz=98
A19A Klindworth Far 97.67 42 P Pdif 08 55 58.5 +1.7
baz=98
C20A Veseth Ranch, 98.01 43 P Pdif 08 55 59.8 +1.4
baz=98
A20A Cobblestone Ra 98.20 42 P Pdif 08 56 00.3 +1.1
baz=98
C21A Desert Coulee 98.63 43 P Pdif 08 56 01.8 +0.7
baz=99
VNA1 Neumayer--Stat 98.69 183 P **P** **08 56 00.7 -0.1**
B21A Ellsworth Farm 98.75 42 P Pdif 08 56 03.2 +1.6
baz=99
BRVK Borovoye 99.10 322⇑ eP **Pdif** **08 56 01.5 -1.5**
BRVK pmax pmax
comp=Z,1.0nm,0.5s
D22A Cohagen 99.18 44 P **Pdif** **08 56 05.2 +1.7**
baz=99
TXAR Lajitas Array 99.22 62 P **Pdif** **08 56 04.4 +0.2**
comp=Z,0.4nm,0.8s,baz=224,slow=5.9,SNR=4.4
TXAR PP **PP** **09 00 05.1 -2.5**
comp=Z,0.7nm,1.0s,baz=224,slow=9.9,SNR=5.3
C23A Lambert 99.91 43 P **Pdif** **08 56 08.5 +1.7**
baz=100
B23A Brockton 100.10 42 P **Pdif** **08 56 09.0 +1.4**
baz=100
S26A Kim 100.28 54 P **Pdif** **08 56 09.8 +1.0**
baz=100
ARCES ARCESS Array B 114.79 344 PKP PKPdf 09 01 00.3 -1.5
comp=Z,0.5nm,0.4s,baz=78,slow=1.4,SNR=12
ARCES PKKPbc **PKKPbc** **09 11 38.5 -3.4**
comp=Z,1.1nm,0.8s,baz=251,slow=3.7,SNR=4.7
KIV Kislovodsk 117.95 314*c i*PKIKP **PKPdf** **09 01 07.4 -1.3**
KIV pmax pmax
comp=Z,4.0nm,0.7s
KIV MLR MLR
comp=Z,49nm,18.0s
OBN Obninsk 118.22 328 *e*PKIKP **PKPdf** **09 01 07.3 -1.4**
OBN *e* 09 02 24.3
OBN pmax pmax
comp=Z,4.0nm,1.2s
SCHQ Schefferville 121.75 31 PKP **PKPdf** **09 01 15.0 -0.6**
comp=Z,0.9nm,0.7s,baz=232,slow=1.8,SNR=2.7
BOSA Boshof 122.57 226 PKP **PKPdf** **09 01 16.1 -2.0**
comp=Z,3.6nm,0.9s,baz=153,slow=5.3,SNR=2.7
LPAZ La Paz 124.08 118 PKP **PKPdf** **09 01 21.8 -0.1**
comp=Z,0.8nm,0.5s,baz=34,slow=3.3,SNR=7.9
AKASG Malin Array Be 124.16 325 PKP **PKPdf** **09 01 19.0 -1.3**
comp=Z,0.2nm,0.3s,baz=57,slow=2.2,SNR=3.4
HFS Hagfors 125.05 341 PKKPbc PKKPbc 09 11 00.6 -2.9
comp=Z,0.8nm,0.6s,baz=163,slow=5.6,SNR=5.3
CPUP Villa Florida 127.35 135 PKP **PKPdf** **09 01 27.0 -0.2**
comp=Z,1.0nm,0.7s,baz=292,slow=1.2,SNR=3.7
KECS Kecovo 130.15 327 eP **Pdif** **08 58 24.8 +3.6**
KECS Kecovo 130.15 327 PDIF **Pdif** **08 58 24.8 +3.6**
PRU Pruhonice 132.17 332 AMS AMS 09 59 00.0
TREC Trest 132.19 330 AMS AMS 09 58 30.0
comp=Z,200nm,20.8s
KHC Kasperske Hory 133.22 331 AMS AMS 09 57 20.0
comp=Z,200nm,18.1s
GERES GERESS Array B 133.36 331 PKP **PKPdf** **09 01 37.5 -0.6**
comp=Z,0.3nm,0.5s,baz=90,slow=1.0,SNR=3.5
KEST Kesra 144.44 319 PKP PKPbc 09 01 57.2 0.0
comp=Z,1.1nm,0.6s,baz=110,slow=3.7,SNR=3.6
PBRG Braganca 147.22 344 PKP **PKPbc** **09 02 05.9 +0.5**
PGAV Gavieira, Arco 147.46 346 PKP **PKPbc** **09 02 05.8 -0.3**
MVO Moncorvo 147.89 344 PKP **PKPab** **09 02 09.2 -0.6**
POLO Lamas de Olo 147.90 345 PKP **PKPbc** **09 02 08.3 +1.0**
PVRL Vila Real 147.97 345 PKP **PKPbc** **09 02 08.6 +1.1**
ESDC Sonseca Array 148.26 338 PKPbc **PKPbc** **09 02 06.9 -1.4**
comp=Z,0.4nm,0.5s,baz=7.0,slow=3.4,SNR=6.7
PVIS Viseu 148.54 345 PKP **PKPbc** **09 02 10.5 +1.5**
MTE Manteigas 148.74 344 PKP **PKPbc** **09 02 10.3 +0.8**
PCBR Castelo Branco 149.25 343 PKP **PKPbc** **09 02 10.4 -0.3**
PMRV Marv??o 149.60 343 PKP **PKPbc** **09 02 11.1 -0.6**
PMTG Montargil 150.17 344 PKP **PKPbc** **09 02 12.2 -0.8**
EVO Evora 150.62 343 PKP **PKPbc** **09 02 13.6 -0.5**
PBAR Barrancos 150.65 341 PKP **PKPab** **09 02 20.2 -0.8**
PCVE Castro Verde 151.46 343 PKP **PKPbc** **09 02 17.0 +0.9**
TORD Torodi Ar. Bea 160.12 279 PKP **PKPdf** **09 02 20.9 -1.2**
comp=Z,0.6nm,0.8s,baz=70,slow=2.0,SNR=3.4

TORD PKPab **PKPab** **09 02 59.3 -2.9**
comp=Z,0.7nm,0.7s,baz=60,slow=3.6,SNR=3.3

*ISCJB **10** 08:59:47.6±0.5, 46°.9S±0'.1×10°.6W±0'.1, h10km, mb4.3/16, MS3.8/14, Error ellipse: s-maj=16.2km s-min=11.6km az=166.5*
*IDC **10** 08:59:47.5±0.6, 46°.89S×10°.64W, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.1/32, mbtmp4.1/11, MS3.8/14, Ms1 3.8/14, ms1mx3.8/18, Error ellipse: s-maj=21.0km s-min=16.5km az=164.0*
*NEIC **10** 08:59:49.1±0.4, 46°.91S×10°.62W, h10km, mb4.7/6, Error ellipse: s-maj=12.8km s-min=9.0km az=166.0*
ISC 10 08:59:49.1±0.6, **46°.9S**±0'.1×**10°.6W**±0'.1, **h10**km**, n32,** σ0**s74/22, mb4.5**/16**, MS3.8**/14**, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**25.12**	**174**	P		**P**	**P**	**09 05 14.3**	**+0.5**
	1.4nm,0.9s,baz=356,slow=11,SNR=10								
SNAA				LR		LR	LR	09 12 39.3	
	comp=Z,82nm,18.9s,baz=309,slow=31								
BOSA	**Boshof**	**33.35**	**70**	P		**P**	**P**	**09 06 26.6**	**-0.9**
	5.9nm,0.8s,baz=232,slow=7.0,SNR=7.8								
BOSA				LR		LR	LR	09 17 33.8	
	comp=Z,246nm,18.4s,baz=224,slow=32								
TSUM	**Tsumeb**	**35.99**	**49**	*eP*		**P**	**P**	**09 06 50.2**	**-0.1**
	9.5nm,1.0s								
LBTB	**Lobatse**	**36.09**	**65**	P		**P**	**P**	**09 06 50.6**	**-0.6**
	6.3nm,0.7s,baz=239,slow=10,SNR=9.5								
MAW	**Mawson**	**41.67**	**146**	LR		LR	LR	09 22 26.0	
	comp=Z,44nm,19.3s,baz=57,slow=33								
CPUP	**Villa Florida**	**42.01**	**283**	P		**P**	**P**	**09 07 40.3**	**-0.3**
	3.7nm,0.8s,baz=127,slow=6.5,SNR=11								
CPUP				LR		LR	LR	09 22 07.5	
	comp=Z,60nm,20.9s,baz=148,slow=32								
CPUP	**Villa Florida**	**42.01**	**283**	*eP*		**P**	**P**	**09 07 40.3**	**-0.3**
	1.1nm,1.2s								
QSPA	**South Pole Qui**	**43.36**	**180**	P		**P**	**P**	**09 07 51.3**	**0.0**
	2.2nm,0.8s,baz=266,slow=0.4,SNR=7.8								
QSPA	**South Pole Qui**	**43.36**	**180**	*eP*		**P**	**P**	**09 07 51.3**	**0.0**
	2.8nm,0.8s								
BDFB	**Brasilia**	**43.96**	**303**	P		**P**	**P**	**09 07 56.5**	**-0.1**
	6.1nm,0.7s,baz=101,slow=5.3,SNR=8.6								
BDFB				LR		LR	LR	09 22 32.3	
	comp=Z,290nm,21.6s,baz=126,slow=31								
LSZ	**Lusaka**	**45.06**	**59**	P		**P**	**P**	**09 08 05.4**	**0.0**
	4.1nm,0.8s,baz=210,slow=9.6,SNR=7.2								
CFAA	**Coronel Fontan**	**46.14**	**268**	P		**P**	**P**	**09 08 13.1**	**-0.7**
	0.9nm,0.9s,baz=126,slow=8.7,SNR=11								
LVC	**Limon Verde**	**52.32**	**277**	*eP*		**P**	**P**	**09 09 01.7**	**+0.4**
	14nm,0.7s								
DBIC	**Dimbokro**	**53.58**	**7**	LR		LR	LR	09 26 17.6	
	comp=Z,113nm,20.2s,baz=164,slow=30								
VNDA	**Vanda**	**55.77**	**178**	LR		LR	LR	09 31 20.2	
	comp=Z,236nm,20.0s,baz=184,slow=34								
LPAZ	**La Paz**	**56.18**	**283**	P		**P**	**P**	**09 09 28.8**	**-1.2**
	1.6nm,0.9s,baz=74,slow=8.5,SNR=5.4								
LPAZ				LR		LR	LR	09 33 29.2	
	comp=Z,50nm,18.1s,baz=138,slow=36								
SAML	**Samuel**	**58.38**	**293**	*eP*		**P**	**P**	**09 09 44.4**	**-0.4**
	8.2nm,1.0s								
TORD	**Torodi Ar. Bea**	**60.78**	**14**	P		**P**	**P**	**09 10 01.4**	**+0.3**
	1.1nm,0.5s,baz=194,slow=7.5,SNR=18								
TORD				LR		LR	LR	09 30 34.5	
	comp=Z,190nm,21.6s,baz=155,slow=30								
KMBO	**Kilima Mbogo**	**61.69**	**57**	LR		LR	LR	09 34 35.2	
	comp=Z,167nm,20.8s,baz=174,slow=34								
OTAV	**Otavalo**	**75.19**	**287**	*eP*		**P**	**P**	**09 11 33.5**	**+1.0**
	13nm,1.5s								
ROSC	**El Rosal**	**76.03**	**293**	LR		LR	LR	09 43 27.2	
	comp=Z,40nm,19.6s,baz=20,slow=34								
KEST	**Kesra**	**84.19**	**16**	LR		LR	LR	09 47 33.3	
	comp=Z,39nm,18.5s,baz=230,slow=34								
H01W2	**Cape Leeuwin H**	**84.65**	**137**	T		T	T	10 46 41.8	
	baz=217								
H01W3	**Cape Leeuwin H**	**84.66**	**137**	T		T	T	10 46 38.0	
	baz=217								
H01W1	**Cape Leeuwin H**	**84.66**	**137**	T		T	T	10 46 42.9	
	baz=217								
PAB	**San Pablo**	**86.25**	**5**	*eP*		**P**	**P**	**09 12 31.8**	**+1.3**
	12nm,1.5s								
ESDC	**Sonseca Array**	**86.40**	**5**	P		**P**	**P**	**09 12 32.2**	**+1.0**
	0.1nm,0.3s,baz=183,slow=4.5,SNR=4.2								
ESDC				LR		LR	LR	09 47 33.0	
	comp=Z,41nm,21.1s,baz=190,slow=33								
BRTR	**Keskin Array B**	**94.85**	**33**	LR		LR	LR	09 54 07.8	
	comp=Z,30nm,21.7s,baz=230,slow=34								
PDAR	**Pinedale Array**	**124.82**	**298**	PKP		**PKPdf**	**PKPdf**	**09 18 48.7**	**-0.2**
	0.2nm,0.4s,baz=113,slow=4.2,SNR=2.9								
NVAR	**Mina Array Bea**	**127.89**	**289**	PKP		**PKPdf**	**PKPdf**	**09 18 53.9**	**-1.0**
	0.1nm,0.3s,baz=171,slow=6.2,SNR=2.3								
INK	**Inuvik**	**144.51**	**327**	PKP		**PKPdf**	**PKPdf**	**09 19 25.4**	**+1.1**
	2.9nm,0.8s,baz=66,slow=4.2								
ILAR	**Eielson Array**	**150.46**	**323**	PKPbc		**PKPbc**	**PKPbc**	**09 19 39.0**	**-0.7**
	1.5nm,0.8s,baz=34,slow=0.8,SNR=19								

*IDC **10** 09:12:19.4±0.7, 6°.29S×154°.53E, h0km, mb4.1/18, mb1 4.3/18, mb1mx4.2/31, mbtmp4.1/18, MS3.8/14, Ms1 3.8/14, ms1mx3.6/28, Error ellipse: s-maj=25.9km s-min=15.9km az=110.0*
*ISCJB **10** 09:12:26.5±0.4, 6°.22S±0°.05×154°.35E±0°.07, h61km, mb4.2/21, Error ellipse: s-maj=10.4km s-min=7.5km az=14.6*
*NEIC **10** 09:12:30.0±1.3, 6°.20S×154°.30E, h79km±13km, mb4.7/4, Error ellipse: s-maj=12.0km s-min=9.3km az=136.0*
ISC 10 09:12:28.6±0.5, **6°.17S**±0°.07×**154°.38E**±0°.08, **h61**km**, n48,** σ1**s56/46, mb4.1/21, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.96**	**312**	P		**P**	**Pn**	**09 13 13.3**	**+0.1**
	baz=3.1,SNR=49								
HNR	**Honiara**	**6.40**	**121**	P		Pn		09 14 07.0	+6.7
HNR	**Honiara**	**6.40**	**121**	*e*Pn		**Pn**		**09 14 02.3**	**+2.0**
	95nm,0.5s								
HNR					*e*Sn	Sn		09 15 18.9	+6.9
PMG	**Port Moresby**	**7.84**	**245**	P		**Pn**		**09 14 20.8**	**+0.7**
	baz=8.1,SNR=17								
PMG				P		**Pn**		**09 14 20.8**	**+0.7**
	baz=8.1,SNR=17								
PMG				P		**Pn**		**09 14 20.8**	**+0.7**
	baz=8.1,SNR=17								
PMG	**Port Moresby**	**7.84**	**245**	*e*Pn		**Pn**		**09 14 19.2**	**-0.9**
	92nm,0.6s								
COEN	**Coen**	**13.47**	**234**	P		**P**		**09 15 44.8**	**+0.6**
	baz=14,SNR=6.0								
JAY	**Jayapura**	**14.11**	**284**	LR		LR		09 21 39.8	
	comp=Z,783nm,19.7s,baz=105,slow=39								
MTSU	**Mount Surprise**	**15.42**	**219**	P		**P**		**09 16 06.0**	**0.0**
	baz=16,SNR=7.8								
CTA	**Charters Tower**	**15.93**	**209**	Pn		**P**		**09 16 10.4**	**-1.1**
	0.9nm,0.3s,baz=31,slow=13,SNR=10								
CTA				LR		LR		09 21 34.0	
	comp=Z,392nm,20.5s,baz=43,slow=35								
CTAO	**Charters Tower**	**15.93**	**209**	*e*Pn		**P**		**09 16 10.8**	**-0.8**
	13nm,0.8s								
DZM	**Mont Dzumac**	**19.64**	**145**	P		**P**		**09 16 52.6**	**+0.1**
	1.8nm,0.3s,baz=0.0,slow=14,SNR=12								
QIS	**Mount Isa**	**20.25**	**224**	P		**P**		**09 16 57.6**	**-1.5**
	baz=21,SNR=10								
RMQ	**Roma**	**20.90**	**194**	P		**P**		**09 17 05.7**	**-0.4**
	baz=21,SNR=12								
GUMO	**Guam**	**21.78**	**334**	LR		LR		09 25 32.1	
	comp=Z,113nm,18.4s,baz=158,slow=36								
QLP	**Quilpie**	**22.49**	**204**	P		**P**		**09 17 20.7**	**-2.4**
	baz=23,SNR=10								
KDU	**Kakadu**	**22.55**	**252**	P		**P**		**09 17 26.7**	**+2.9**
	baz=23,SNR=7.3								
SIJI	**Sorong**	**23.66**	**282**	P		**P**		**09 17 34.3**	**-0.5**
	6.1nm,0.6s,baz=106,slow=18,SNR=2.7								
WRAB	**Tennant Creek**	**23.79**	**233**	*eP*		**P**		**09 17 34.1**	**-1.8**
	23nm,0.9s								
WRA	**Warramunga Arr**	**23.80**	**233**	P		**P**		**09 17 34.1**	**-1.9**
	9.5nm,0.5s,baz=59,slow=9.6,SNR=167								
WRA					PcP	PcP		**09 21 19.1**	**+0.9**
	0.3nm,0.4s,baz=54,slow=2.3,SNR=4.3								
WRA					ScP	**ScP**		**09 24 55.6**	**+4.1**
	0.7nm,0.7s,baz=59,slow=2.8,SNR=3.7								
WRA				LR		LR		09 26 57.9	
	comp=Z,336nm,19.5s,baz=65,slow=37								
AS31	**Alice Springs**	**26.28**	**226**	*eP*		**P**		**09 17 56.9**	**-1.6**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**26.28**	**226**	P		**P**		**09 17 56.7**	**-1.8**
	3.1nm,0.5s,baz=57,slow=9.0,SNR=84								
ASAR					PcP	**PcP**		**09 21 24.2**	**+0.4**
	0.4nm,0.5s,baz=65,slow=2.4,SNR=5.9								
ASAR					ScP	**ScP**		**09 25 03.2**	**+4.6**
	0.8nm,0.6s,baz=57,slow=3.3,SNR=6.4								
ASAR				LR		LR		09 28 11.1	
	comp=Z,358nm,19.3s,baz=91,slow=36								
H11S3	**WAKE ISLAND Hy**	**27.35**	**26**	T		T		09 46 36.1	
	baz=202,slow=74								
H11S2	**WAKE ISLAND Hy**	**27.35**	**26**	T		T		09 46 50.3	
	baz=202,slow=74								
H11S1	**WAKE ISLAND Hy**	**27.37**	**26**	T		T		09 46 32.8	
	baz=202								
WAKE	**Wake Island**	**28.03**	**25**	*eP*		**P**		**09 18 14.2**	**0.0**
	43nm,0.4s								
STKA	**Stephens Creek**	**28.23**	**203**	P		**P**		**09 18 13.2**	**-2.7**
	3.2nm,0.9s,baz=28,slow=13,SNR=4.3								
STKA				LR		LR		09 29 11.7	
	comp=Z,377nm,21.5s,baz=21,slow=36								
WRKA	**Warakurna**	**31.24**	**230**	P		**P**		**09 18 40.5**	**-2.1**
	baz=32,SNR=6.8								
MEEK	**Meekatharra**	**39.67**	**235**	P		**P**		**09 19 54.6**	**-0.4**
	baz=40,SNR=3.3								
JNU	**Nakatsue**	**45.00**	**332**	P		**P**		**09 20 37.7**	**-0.5**
	2.7nm,0.5s,baz=72,slow=3.2								
MJAR	**Matsushiro Arr**	**45.11**	**342**	LR		LR		09 41 23.0	
	comp=Z,25nm,18.1s,baz=165,slow=38								
KSRS	**Korea Array**	**49.93**	**332**	P		**P**		**09 21 16.1**	**-0.2**
	1.7nm,1.0s,baz=143,slow=9.8,SNR=5.4								
KSRS				LR		LR		09 39 14.6	
	comp=Z,46nm,21.4s,baz=154,slow=32								
KSAR	**Wonju Array Be**	**49.94**	**332**	P		**P**		**09 21 16.1**	**-0.3**
USRK	**Ussuriysk Ar.**	**54.05**	**340**	P		**P**		**09 21 47.5**	**+0.7**
	1.0nm,0.5s,baz=186,slow=7.2,SNR=3.4								
PPT2	**Papeete2**	**55.82**	**107**	*e*S		S		09 30 01.4	+18
	42nm,22.8s								
PPT2					*e*LR	LR		09 38 46.5	
	49nm,20.2s								
PETK	**Petropavlovsk-**	**59.12**	**2**	P		**P**		**09 22 22.7**	**0.0**
	1.5nm,0.8s,baz=163,slow=10,SNR=2.9								
PETK				LR		LR		09 44 10.1	
	comp=Z,53nm,22.0s,baz=188,slow=32								
CMAR	**Chiang Mai Arr**	**59.88**	**295**	P		**P**		**09 22 30.6**	**+2.0**
	1.2nm,0.3s,baz=114,slow=4.4,SNR=4.2								
CMAR				LR		LR		09 46 56.6	
	comp=Z,49nm,21.1s,baz=200,slow=35								
SONM	**Songino Array**	**68.32**	**327**	P		**P**		**09 23 24.1**	**+0.6**
	0.3nm,0.4s,baz=142,slow=6.8,SNR=8.8								
SONM				LR		LR		09 55 05.4	
	comp=Z,66nm,18.4s,baz=118,slow=38								
MKAR	**Makanchi Array**	**82.39**	**319**	P		**P**		**09 24 45.0**	**+0.8**
	0.4nm,0.6s,baz=88,slow=6.1,SNR=3.8								
ILAR	**Eielson Array**	**82.84**	**22**	P		**P**		**09 24 44.4**	**-1.7**
	0.6nm,0.7s,baz=257,slow=5.1,SNR=7.1								
ILAR				LR		LR		09 59 00.5	
	comp=Z,164nm,19.2s,baz=236,slow=34								
ZALV	**Zalesovo Beam**	**83.16**	**326**	P		**P**		**09 24 46.7**	**-1.2**
	0.3nm,0.4s,baz=114,slow=6.7,SNR=2.6								
QSPA	**South Pole Qui**	**83.80**	**180**	*eP*		**P**		**09 24 51.0**	**-0.2**
	16nm,1.4s								
MAW	**Mawson**	**84.92**	**203**	P		**P**		**09 24 56.4**	**-0.2**
	0.9nm,0.4s,baz=59,slow=5.9,SNR=3.6								
MAW				LR		LR		09 59 33.1	
	comp=Z,69nm,19.8s,baz=61,slow=33								
BVAR	**Borovoye Array**	**91.27**	**323**	P		**P**		**09 25 27.0**	**-0.4**
	0.3nm,0.4s,baz=104,slow=6.1,SNR=2.8								
BVAR	**Borovoye Array**	**91.27**	**323**	P		**P**		**09 25 27.0**	**-0.4**
NVAR	**Mina Array Bea**	**91.69**	**52**	P		**P**		**09 25 30.5**	**+0.5**
	1.9nm,0.9s,baz=256,slow=6.5,SNR=13								
YKA	**Yellowknife Ar**	**95.90**	**28**	P		**P**		**09 25 46.7**	**-1.6**
	0.4nm,0.8s,baz=261,slow=4.6,SNR=3.2								
PDAR	**Pinedale Array**	**98.60**	**48**	P		**P**		**09 26 00.5**	**-0.9**
	0.3nm,0.5s,baz=200,slow=1.3,SNR=3.6								
PDAR				LR		LR		10 03 45.1	
	comp=Z,57nm,21.7s,baz=252,slow=31								
TORD	**Torodi Ar. Bea**	**152.21**	**286**	PKPbc		**PKPbc**		**09 32 17.8**	**-0.7**
	1.6nm,0.5s,baz=51,slow=2.0,SNR=32								

*IDC **10** 09:17:45.3±0.8, 6°.25S×154°.35E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.9/30, mbtmp3.9/7, ML3.9/1, Error ellipse: s-maj=30.6km s-min=21.5km az=107.0*
*ISCJB **10** 09:17:49.1±0.7, 6°.18S±0°.09×154°.51E±0°.09, h35km, mb3.8/7, Error ellipse: s-maj=15.2km s-min=9.9km az=138.0*
*NEIC **10** 09:17:54.1±2.5, 6°.25S×154°.31E, h66km±23km, mb4.1/1, Error ellipse: s-maj=18.2km s-min=15.6km az=71.0*
ISC 10 09:17:51.0±0.8, **6°.1S**±0°.1×**154°.5E**±0°.1, **h35**km**, n16,** σ1**s63/17, mb3.8/7, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.99**	**246**	*e*Pn		**Pn**		**09 19 43.8**	**-0.8**
	43nm,0.8s								
PMG					*e*Sn	**Sn**		**09 21 16.5**	**+2.7**
CTA	**Charters Tower**	**16.02**	**209**	Pn		**Pn**		**09 21 34.3**	**+0.5**
	0.1nm,0.3s,baz=23,slow=13,SNR=5.1								
DZM	**Mont Dzumac**	**19.58**	**145**	*e*LR		LR		09 21 54.8	
	534nm,24.8s								
DZM	**Mont Dzumac**	**19.58**	**145**	P		**P**		**09 22 17.0**	**+0.8**
	0.4nm,0.3s,baz=282,slow=20,SNR=3.4								
WRAB	**Tennant Creek**	**23.92**	**233**	*eP*		**P**		**09 22 60.0**	**-1.9**
	5.9nm,0.8s								
WRA	**Warramunga Arr**	**23.93**	**233**	P		**P**		**09 22 59.7**	**-2.3**
	6.1nm,0.8s,baz=56,slow=9.6,SNR=21								
WRA					PcP	**PcP**		**09 26 42.7**	**-1.5**
	0.5nm,0.9s,baz=65,slow=2.6,SNR=4.5								
WRA					ScP	**ScP**		**09 30 21.6**	**+1.5**
	0.4nm,0.8s,baz=56,slow=3.3,SNR=3.6								
ASAR	**Alice Springs**	**26.40**	**227**	P		**P**		**09 23 22.1**	**-2.4**
	0.9nm,0.6s,baz=60,slow=8.7,SNR=12								
ASAR					PcP	**PcP**		**09 26 49.1**	**-0.6**
	0.2nm,0.5s,baz=47,slow=3.4,SNR=3.2								
ASAR					ScP	**ScP**		**09 30 28.8**	**+1.7**
	0.3nm,0.6s,baz=52,slow=3.0,SNR=5.2								
H11S3	**WAKE ISLAND Hy**	**27.26**	**26**	T		T		09 51 35.3	
	baz=201								
H11S2	**WAKE ISLAND Hy**	**27.27**	**26**	T		T		09 51 37.6	
	baz=201								
H11S1	**WAKE ISLAND Hy**	**27.28**	**26**	T		T		09 51 35.3	
	baz=201								
JNU	**Nakatsue**	**45.05**	**332**	P		**P**		**09 26 03.5**	**-0.1**
	4.2nm,0.8s,baz=127,slow=5.1,SNR=2.7								
KSRS	**Korea Array**	**49.97**	**332**	P		**P**		**09 26 42.5**	**+0.8**
	0.2nm,0.3s,baz=151,slow=6.4,SNR=2.8								
KSAR	**Wonju Array Be**	**49.98**	**332**	P		**P**		**09 26 42.5**	**+0.8**
ILAR	**Eielson Array**	**82.76**	**22**	P		**P**		**09 30 10.2**	**-0.9**
	0.3nm,0.7s,baz=247,slow=6.7,SNR=3.4								
NVAR	**Mina Array Bea**	**91.56**	**52**	P		**P**		**09 30 56.5**	**+1.7**
	0.3nm,0.6s,baz=254,slow=6.5,SNR=3.1								
TORD	**Torodi Ar. Bea**	**152.35**	**287**	PKPbc		**PKPbc**		**09 37 43.5**	**-0.8**
	0.9nm,0.7s,baz=50,slow=2.5,SNR=7.7								

GUC 10 09:42:19.3±0.5, **36°.63S**×**73°.00W, h18**km±5km**, ML3.7, 1C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.23**	**201**	↓*i*P		Pg		09 42 25.3	+0.4
CCSP				*i* S		Sg		09 42 29.4	+0.8
CCSP				AML		AML		09 42 30.2	
	comp=E,17μm,0.5s								
COCH	**Cobquecura**	**0.52**	**19**	↓*i*P		Pb		09 42 30.2	+0.4
COCH				*i* S		Sb		09 42 38.0	+1.0
LNCH	**Linares**	**1.37**	**56**	*eP*		Pb		09 42 44.5	+0.1
LNCH				*i* S		Sg		09 43 03.4	-0.4
TALC	**Talca**	**1.65**	**43**	↑*i*P		Pb		09 42 48.7	-0.5
TALC				*i* S		Sb		09 43 11.1	+1.5

*ISCJB **10** 09:43:31.3±0.7, 33°.36S±0°.05×179°.14W±0°.10, h45km, mb4.3/7, MS3.5/2, Error ellipse: s-maj=12.1km s-min=5.7km az=18.6*
*IDC **10** 09:43:34.6±2.6, 33°.22S×179°.30W, h48km±22km, mb4.0/5, mb1 4.3/7, mb1mx3.9/27, mbtmp4.3/7, ML4.6/2, MS3.6/2, Ms1 3.6/2, ms1mx2.9/27, Error ellipse: s-maj=30.6km s-min=20.6km az=120.0*
*NEIC **10** 09:43:35.4±1.2, 33°.17S×179°.11W, h62km±10km, mb4.6/2, Error ellipse: s-maj=20.5km s-min=11.1km az=116.0*
ISC 10 09:43:32.5±0.7, **33°.41S**±0°.06×**179°.0W**±0°.1, **h45**km**, n62,** σ2**s21/59, mb4.4/7, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.24**	**13**	P		**Pn**		**09 44 34.6**	**0.0**
	74nm,0.3s,baz=240,slow=20,SNR=2.6								
RAO				S		**Sn**		**09 45 19.1**	**-3.8**
	84nm,0.3s,baz=90,slow=20,SNR=2.4								
MXZ	**Matakaoa Point**	**4.70**	**207**	PN		Pn		09 44 43.2	+2.4
MXZ						*e*SN		**Sn**	**09 45 35.7**	**+1.6**
WMGZ	**Waiomatatini S**	**4.89**	**205**	*e*PN		Pn		09 44 46.6	+3.1
WMGZ						*e*SN		**Sn**	**09 45 41.1**	**+2.4**
HAZ	**Te Kaha**	**5.08**	**210**	PN		Pn		09 44 48.7	+2.7
PUZ	**Puketiti**	**5.17**	**205**	*e*PN		**Pn**		**09 44 48.9**	**+1.6**
TWGZ	**Tauwhareparae**	**5.36**	**207**	*e*PN		**Pn**		**09 44 50.8**	**+0.8**
TWGZ						*e*SN		**Sn**	**09 45 52.1**	**+1.6**
GRZ	**Great Barrier**	**5.38**	**237**	PN		Pn		09 44 55.2	+4.9
KUZ	**Kuaotunu**	**5.47**	**231**	*e*PN		Pn		09 44 56.3	+4.8
MWZ	**Matawai**	**5.68**	**209**	*e*PN		**Pn**		**09 44 55.4**	**+1.1**
MWZ						*e*SN		**Sn**	**09 46 00.4**	**+2.2**
URZ	**Urewera**	**5.79**	**212**	P		**Pn**		**09 44 57.1**	**+1.3**
	8.8nm,0.3s,baz=8.1,slow=1.5,SNR=61								
URZ				S		**Sn**		**09 46 03.9**	**+3.0**
	23nm,0.3s,baz=140,slow=18,SNR=9.2								
URZ	**Urewera**	**5.79**	**212**	*e*PN		**Pn**		**09 44 56.9**	**+1.1**
URZ						SN		**Sn**	**09 46 04.1**	**+3.2**
URZ	**Urewera**	**5.79**	**212**	*e*Pn		Pn		09 44 59.4	+3.5
	67nm,0.6s								
URZ				S		**Sn**		**09 46 03.9**	**+3.0**
URZ						*e*Sn		Sn	09 46 05.8	+4.8
WCZ	**Waipu Caves**	**6.05**	**243**	PN		Pn		09 45 04.1	+4.7
RRRZ	**Republican Roa**	**6.13**	**215**	*e*PN		Pn		09 45 03.8	+3.3
KNZ	**Kokohu**	**6.22**	**205**	*e*PN		**Pn**		**09 45 02.6**	**+0.8**
RAHZ	**Arahi**	**6.35**	**209**	*e*PN		**Pn**		**09 45 05.4**	**+1.8**
OUZ	**Omahuta**	**6.40**	**252**	*e*PN		Pn		09 45 07.9	+3.7
OUZ	**Omahuta**	**6.40**	**252**	*e*Pn		Pn		09 45 08.1	+3.9
	100nm,0.5s								
OUZ						*e*Sn		**Sn**	**09 46 15.2**	**-0.8**
BKZ	**Black Stump Fm**	**6.81**	**211**	*e*PN		**Pn**		**09 45 10.3**	**+0.4**
BKZ						SN		**Sn**	**09 46 27.4**	**+1.3**
KWHZ	**Kaweka Forest**	**7.05**	**210**	*e*PN		**Pn**		**09 45 13.9**	**+0.7**
BHHZ	**Black Hill Sta**	**7.26**	**212**	*e*PN		**Pn**		**09 45 17.7**	**+1.6**
FWVZ	**Far West T-bar**	**7.32**	**216**	*e*PN		**Pn**		**09 45 18.9**	**+2.0**
WHVZ	**Whangaehu Hut**	**7.32**	**215**	*e*PN		**Pn**		**09 45 17.3**	**+0.3**
WNVZ	**Wahianoa**	**7.35**	**215**	*e*PN		**Pn**		**09 45 18.6**	**+1.2**
PXZ	**Pawanui**	**7.41**	**206**	*e*PN		**Pn**		**09 45 16.9**	**-1.1**
PXZ						*e*SN		**Sn**	**09 46 36.5**	**-4.2**
TSZ	**Takapari Road**	**7.78**	**210**	*e*PN		**Pn**		**09 45 22.4**	**-0.8**
WAZ	**Wanganui**	**7.98**	**216**	*e*PN		**Pn**		**09 45 26.4**	**+0.5**
BFZ	**Birch Farm**	**8.20**	**206**	*e*PN		**Pn**		**09 45 27.7**	**-1.2**
BFZ						*e*SN		**Sn**	**09 46 56.4**	**-3.8**
MRZ	**Mangatainoka R**	**8.45**	**209**	*e*PN		**Pn**		**09 45 29.1**	**-3.1**
MRZ						*e*SN		**Sn**	**09 47 02.1**	**-4.1**
HOWZ	**Holdsworth Sta**	**8.67**	**209**	*e*PN		**Pn**		**09 45 33.7**	**-1.6**
KIW	**Kapiti Island**	**8.89**	**211**	*e*PN		**Pn**		**09 45 36.0**	**-2.5**
MTW	**Mount Morrison**	**8.90**	**208**	*e*PN		**Pn**		**09 45 36.3**	**-2.2**
CAW	**Cannon Point**	**9.03**	**210**	*e*PN		**Pn**		**09 45 38.4**	**-1.8**
TCW	**Tory Channel**	**9.46**	**213**	*e*PN		**Pn**		**09 45 43.3**	**-2.8**
TUWZ	**Tuamarina**	**9.79**	**213**	*e*PN		**Pn**		**09 45 48.7**	**-1.8**
NNZ	**Nelson**	**9.89**	**216**	*e*PN		**Pn**		**09 45 50.3**	**-1.6**
NNZ						*e*SN		**Sn**	**09 47 37.7**	**-3.8**
QRZ	**Quartz Range**	**10.04**	**220**	*e*PN		**Pn**		**09 45 51.8**	**-2.2**
CTZ	**Chatham Island**	**10.48**	**171**	*e*PN		Pn		09 46 02.9	+2.8
CTZ

IDC ***10*** *10:15:38.3±0.5,29˚.23N×87˚.13E,h0km,mb4.3/24, mb1 4.4/26,mb1mx4.3/50,mbtmp4.3/26,ML4.1/2,MS3.7/22, Ms1 3.7/22,ms1mx3.5/39,Error ellipse: s-maj=16.6km s-min=12.3km az=33.0*

BJI ***10*** *10:15:43.1,29˚.35N×87˚.03E,h30km, mb4.5/38,mB4.6/31, Ms4.3/39,Ms7 3.9/38*

ISCJB ***10*** *10:15:44.7±0.5,29˚.39N±0˚.02×86˚.99E±0˚.02,h51km±5km, mb4.5/80,MS3.7/24,Error ellipse: s-maj=3.8km s-min=3.0km az=179.5*

DMN ***10*** *10:15:44.2±0.4,29˚.51N×87˚.23E,h30km,Ml5.3/4,Error ellipse: s-maj=9.2km s-min=5.2km az=31.0*

NDI ***10*** *10:15:45.4±2.3,29˚.18N×87˚.02E,h33km,ML4.7, mb4.6(NEIC)*

MOS ***10*** *10:15:45.7±1.1,29˚.31N×87˚.04E,h67km,mb4.9/23,Error ellipse: s-maj=8.9km s-min=5.0km az=117.4*

NEIC ***10*** *10:15:45.2±1.0,29˚.32N×86˚.98E,h42km±9km,mb4.6/21, Error ellipse: s-maj=9.3km s-min=5.8km az=207.0*

SZGRF ***10*** *10:15:50.7,29˚.83N×86˚.39E,h33km, mb4.7,Xizang*

BKK ***10*** *10:15:57.8±1.2,29˚.N±22˚×8˚7E±1˚4,h152km±15km, M3.9/19,mB4.7/10,mb4.1/19,Mw(mB)3.9/10*

ISC 10 10:15:45.8±0.4,**29˚.36N**±0˚.03×**86˚.98E**±0˚.03,**h48**km±3km, **h47**km:**pP-P,n247,**σ1**9**65**/292,**mb4.6**/80,**MS3.7**/25, **19C-21D,Xizang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUN	**Gumba**	**1.74**	**214**	*e*Pg	**Pn**	**10 16 12.4**	**-1.5**
GUN				*e*Sn	**Sn**	**10 16 36.2**	**+1.1**
	15μm,0.8s						
TAPN	**Taplejung**	**2.10**	**162**	*e*Pn	**Pn**	**10 16 17.4**	**-1.5**
KKN	**Kakani**	**2.17**	**224**	*e*Pn	**Pn**	**10 16 20.6**	**+0.9**
KKN				*e*Sn	**Sn**	**10 16 48.1**	**+2.7**
	10μm,1.1s						
PKI	**Pulchoki**	**2.26**	**218**	*e*Pn	**Pn**	**10 16 22.2**	**+1.2**
PKIN	**Phulchoki**	**2.26**	**219**	*e*Pn	**Pn**	**10 16 22.3**	**+1.3**
DMN	**Daman**	**2.40**	**224**	*e*Pn	**Pn**	**10 16 24.0**	**+1.0**
DMN				*e*Sn	**Sn**	**10 16 53.8**	**+2.5**
	7μm,0.9s						
RAMN	**Ramite**	**2.43**	**188**	*e*Pn	**Pn**	**10 16 22.7**	**-0.6**
RAMN				*e*Sn	**Sn**	**10 16 51.6**	**-0.3**
	5μm,0.6s						
GKN	**Gorkha**	**2.47**	**237**	*e*Pn	**Pn**	**10 16 24.5**	**+0.8**
GTK	**Gangtok**	**2.48**	**144**	*e*P	**Pn**	**10 16 22.0**	**-2.0**
ODAN	**Odare**	**2.52**	**172**	*e*Pn	**Pn**	**10 16 24.1**	**-0.4**
ODAN				*e*Sn	**Sn**	**10 16 53.6**	**-0.5**
DANN	**Dangsing**	**3.00**	**251**	*e*Pn	**Pn**	**10 16 32.2**	**+1.0**
KOLN	**Koldanda**	**3.37**	**243**	*e*Pn	**Pn**	**10 16 36.9**	**+0.7**
LSA	**Lhasa**	**3.65**	**84**	Pn	**Pn**	**10 16 41.3**	**+1.1**
LSA	**Lhasa**	**3.65**	**84**	*e*P	**Pn**	**10 16 41.0**	**+0.8**
LSA				*e*		10 17 28.8	
LSA	**Lhasa**	**3.65**	**84**	*e*Pn	**Pn**	**10 16 41.0**	**+0.8**
LSA				*e*Sn	Sn	10 17 28.8	+6.6
SHL	**Shillong**	**5.76**	**130**	*e*P	**Pn**	**10 17 06.0**	**-3.0**
SHL				*ex*	x	10 18 40.0	
KALG	**Kalgarh**	**7.18**	**273**	*e*P	**Pn**	**10 17 28.4**	**+0.2**
NDI	**New Delhi**	**8.58**	**268**	*ex*	**Sn**	**10 19 20.5**	**-2.3**
SMLA	**Simla**	**8.67**	**284**	*i* P	**Pn**	**10 17 50.1**	**+1.5**
SMLA				*i* x	**Sn**	**10 19 28.4**	**+3.4**
SMLA				AML	AML	10 19 32.7	
	comp=E,473nm,0.5s						
SMLA				AML	AML	10 19 35.0	
	comp=N,334nm,0.8s						
AYAN	**Aya Nagar**	**8.68**	**267**	*e*P	**Pn**	**10 17 48.2**	**-0.6**
KKR	**Kurukshetra**	**8.86**	**276**	*e*P	**Pn**	**10 17 50.0**	**-1.3**
KKR				*ex*	**Sn**	**10 19 30.6**	**+0.8**
KHET	**Khetri**	**9.90**	**265**	*e*P	**Pn**	**10 18 04.7**	**-0.8**
KHET				*ex*	**Sn**	**10 19 55.9**	**+0.7**
NGP	**Nagpur**	**10.88**	**223**	*e*P	**Pn**	**10 18 16.1**	**-2.8**
NGP				*ex*	Sn	10 20 12.5	-6.8
CHLP	**Challavanipeta**	**11.13**	**195**	IAmb	IAmb	10 18 21.6	
	comp=Z,19nm,0.7s						
CHLP				*e*		10 20 15.3	
CHLP				Sn	**Sn**	**10 20 27.7**	**+2.2**
CHLP				IVMs_BB	IVMs_BB	10 24 17.7	
	comp=Z,999nm,5.3s						
RPR	**Rampur**	**12.59**	**216**	*e*Pn	**Pn**	**10 18 43.2**	**+0.9**
RPR				IAmb	IAmb	10 18 48.0	
	comp=Z,17nm,1.0s						
RPR				*e*		10 20 53.5	
RPR				Sn	**Sn**	**10 21 04.6**	**+3.4**
RPR				IVMsBB		10 24 51.2	
	comp=Z,1μm,7.8s						
PVM	**Polavaram**	**13.02**	**203**	*e*P	Pn	10 18 44.6	-3.5
PVM				IAmb	IAmb	10 18 59.1	
	comp=Z,13nm,0.8s						
PVM				*e*		10 21 05.5	
PVM				*e*Sn	**Sn**	**10 21 15.1**	**+3.5**
PVM				IVMsBB		10 25 15.2	
	comp=Z,712nm,5.6s						
SRSP	**Sriramsagar**	**13.04**	**219**	*e*		10 20 53.2	
SRSP				Sn	**Sn**	**10 21 15.4**	**+3.4**
SRSP				IVMsBB		10 23 58.4	
	comp=Z,666nm,9.0s						
KSH	**Kashi**	**13.60**	**321**	P	**Pn**	**10 18 54.5**	**-1.6**
KSH				pP	**P**	**10 19 03.1**	**-0.7**
KSH				PP	**PnPn**	**10 19 06.2**	**+2.1**
KSH				S	**Sn**	**10 21 22.2**	**-3.4**
KSH				sS	**S**	**10 21 42.3**	**-4.4**
KSH				PcP	**PcP**	**10 24 18.1**	**-1.1**
KSH				PMZ			
	comp=Z,75nm,0.9s						
KSH				LN			
	comp=Z,3μm,13.2s						
KSH				LE			
	comp=Z,1μm,10.0s						
KSH				LZ			
	comp=Z,420nm,7.0s						
HYBB	**Hyderabad (bro**	**14.18**	**215**	*e*Pn	**Pn**	**10 19 02.0**	**-1.9**
HYBB				IAmb	IAmb	10 19 02.9	
	comp=Z,14nm,1.0s						
HYBB				Sn	**Sn**	**10 21 44.7**	**+4.8**
HYBB				IVMsBB		10 24 44.8	
	comp=Z,521nm,5.2s						
HYBB				IVMs_BB	IVMs_BB	10 26 31.7	
	comp=Z,970nm,4.9s						
HYB	**Hyderabad**	**14.18**	**215**	*i* P	Pn	10 18 54.5	-9.5
HYB				*e*S	**Sn**	**10 21 35.0**	**-4.9**
JASL	**Jaisalmer**	**14.39**	**264**	*e*P	**Pn**	**10 19 06.8**	**0.0**
JASL				*e*S	**Sn**	**10 21 46.2**	**+1.2**
CMAI	**Chiengmai2**	**14.43**	**128**	P	**P**	**10 19 11.1**	**-2.1**
	comp=Z,15nm,0.7s,comp=Z,1μm						
WMQ	**Urumqi**	**14.44**	**2**	P	**P**	**10 19 12.4**	**-0.7**
WMQ				S	Sn	10 21 52.4	+6.3
WMQ				PMZ			
	comp=Z,21nm,1.0s						
WMQ				PMZ			
	comp=Z,170nm,4.0s						
WMQ				LN			
	comp=Z,230nm,10.0s						
WMQ				LE			
	comp=Z,200nm,9.0s						
WMQ				LZ			
	comp=Z,110nm,14.0s						
GTA	**Gaotai**	**14.57**	**43**	*e*P	**P**	**10 19 13.5**	**-1.1**
GTA				pP	Pn	10 19 18.2	+9.0
GTA				sP		10 19 22.1	
GTA				S	Sn	10 21 56.3	+7.0
GTA				sS	**S**	**10 22 03.0**	**-3.7**
GTA				PMZ			
	comp=Z,10.0nm,1.6s						
GTA				PMZ			
	comp=Z,92nm,5.7s						
GTA				LN			
	comp=Z,640nm,16.4s						
GTA				LE			
	comp=Z,410nm,16.2s						
GTA				LZ			
	comp=Z,310nm,14.0s						
NJS	**Nagarjunasagar**	**14.57**	**211**	*e*P	Pn	10 19 03.4	-5.8
NJS				IAmb	IAmb	10 19 06.0	
	comp=Z,12nm,0.7s						
NJS				*e*		10 21 38.7	
NJS				Sn	**Sn**	**10 21 49.8**	**+0.4**
NJS				IVMsBB		10 24 21.7	
	comp=Z,753nm,3.8s						
CD2	**Chengdu**	**14.60**	**80**	P	**Pn**	**10 19 09.6**	**+0.1**
CD2				S	**Sn**	**10 21 51.1**	**+1.0**
CD2				PcP	**PcP**	**10 24 20.3**	**-0.3**
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,130nm,5.5s						
CD2				LN			
	comp=Z,1μm,10.9s						
CD2				LZ			
	comp=Z,790nm,11.0s						
KMI	**Kunming**	**14.64**	**103**	P	**Pn**	**10 19 12.9**	**+2.7**
KMI				pP	pP	10 19 20.4	
KMI				S	**Sn**	**10 21 54.1**	**+2.8**
KMI				sS	**S**	**10 22 07.6**	**-0.8**
KMI				PMZ			
	comp=Z,12nm,0.8s						
KMI				PMZ			
	comp=Z,95nm,4.2s						
KMI				LN			
	comp=Z,920nm,17.7s						
KMI				LE			
	comp=Z,400nm,16.0s						
KMI				LZ			
	comp=Z,730nm,18.8s						
KLRI	**Killari**	**14.71**	**222**	*e*P	Pn	10 19 06.8	-4.3
KLRI				IAmb	IAmb	10 19 12.8	
	comp=Z,26nm,0.6s						
KLRI				*e*		10 21 44.3	
KLRI				*e*Sn	**Sn**	**10 21 58.4**	**+5.4**
KLRI				IVMsBB		10 24 51.8	
	comp=Z,773nm,3.6s						
ADKI	**Addanki**	**14.92**	**207**	*e*Pn	Pn	10 19 09.8	-4.0
ADKI				*e*		10 21 52.9	
ADKI				Sn	**Sn**	**10 22 00.9**	**+2.9**
ADKI				IVMsBB		10 26 17.4	
	comp=Z,592nm,5.5s						
MHMT	**Maesarieng**	**14.97**	**136**	P	Pn	10 19 10.1	-4.3
	comp=Z,10.0nm,1.0s						
CHTO	**Chiang Mai**	**15.14**	**131**	P	**Pn**	**10 19 18.2**	**+1.6**
	comp=Z,79nm,1.0s						
CHTO	**Chiang Mai**	**15.14**	**131**	*e*P	**Pn**	**10 19 17.1**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,23nm,1.2s						
CHTO	**Chiang Mai**	**15.14**	**131**	*e*Pn	**Pn**	**10 19 17.1**	**+0.5**
	comp=Z,23nm,1.2s						
CMMT	**Chiang Mai**	**15.14**	**131**	P	**Pn**	**10 19 18.2**	**+1.5**
	comp=Z,22nm,1.0s						
SRLM	**Srisailam**	**15.15**	**211**	*e*Pn	Pn	10 19 10.4	-6.4
SRLM				IAmb	IAmb	10 19 12.8	
	comp=Z,17nm,0.8s						
SRLM				*e*		10 22 02.2	
SRLM				Sn	**S**	**10 22 22.3**	**+3.6**
SRLM				IVMsBB		10 25 17.4	
	comp=Z,772nm,4.5s						
CRAI	**Chiangrai**	**15.17**	**124**	P	**Pn**	**10 19 16.1**	**-1.0**
	comp=Z,7.9nm,1.0s,comp=Z,2μm						
CMAR	**Chiang Mai Arr**	**15.39**	**132**	Pn	Pn	10 19 14.2	-5.8
	comp=Z,0.8nm,0.3s,baz=307,slow=14,SNR=9.8						
CMAR				LR	LR	10 25 54.0	
	comp=Z,183nm,18.1s,baz=327,slow=40						
LZH	**Lanzhou**	**15.69**	**60**	*e*P	**Pn**	**10 19 24.6**	**+0.9**
LZH				pP	**pP**	**10 19 33.5**	**-4.6**
LZH				*e*S	**Sn**	**10 22 15.1**	**-1.5**
LZH				sS	**S**	**10 22 32.0**	**+2.4**
LZH				*e*SS	**SnSn**	**10 22 35.6**	**+5.8**
LZH				PMZ			
	comp=Z,13nm,1.0s						
LZH				PMZ			
	comp=Z,81nm,4.0s						
LZH				LN			
	comp=Z,410nm,8.6s						
LZH				LE			
	comp=Z,390nm,6.9s						
LZH				LZ			
	comp=Z,370nm,10.2s						
RCLA	**Racherla**	**15.69**	**210**	*e*P	Pn	10 19 18.4	-5.4
RCLA				IAmb	IAmb	10 19 28.7	
	comp=Z,15nm,0.8s						
RCLA				*e*		10 22 15.9	
RCLA				Sn	**Sn**	**10 22 20.8**	**+4.0**
RCLA				IVMs_BB	IVMs_BB	10 26 36.2	
	comp=Z,608nm,6.6s						
LAMP	**Lampang**	**15.80**	**130**	P	**P**	**10 19 27.5**	**-0.8**
	comp=Z,5.3nm,1.1s						
KBL	**Kabul**	**16.07**	**293**	*e*P	**Pn**	**10 19 25.5**	**-3.3**
KBL				*e*		10 22 23.0	
KBL				pmax	pmax		
	comp=Z,26nm,0.9s						
KBL	**Kabul**	**16.07**	**293**	*e*Pn	**Pn**	**10 19 25.5**	**-3.3**
	comp=Z,26nm,0.9s						
KBL				*e*Sn	**Sn**	**10 22 23.0**	**-3.1**
POO	**Poona**	**16.12**	**231**	*i* SS	**S**	**10 22 40.5**	**+2.0**
TKM2	**Tokmak 2**	**16.34**	**329**	*e*P	**Pn**	**10 19 32.4**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,17nm,1.2s						
TKM2	**Tokmak 2**	**16.34**	**329**	*e*Pn	**Pn**	**10 19 32.4**	**+0.4**
	comp=Z,17nm,1.2s						
SUKH	**Sukhothai**	**16.55**	**133**	P	**Pn**	**10 19 34.3**	**-0.4**
	comp=Z,4.7nm,0.8s,comp=Z,46nm						
FRU	**Bishkek**	**16.72**	**327**	*i*,*e*P	**P**	**10 19 39.0**	**+0.6**
FRU				pmax	pmax		
	comp=Z,80nm,2.1s						
URV	**Uravakonda**	**16.92**	**214**	*e*Pn	**Pn**	**10 19 35.2**	**-4.2**
URV				IAmb	IAmb	10 19 43.3	
	comp=Z,10nm,0.7s						
URV				*e*		10 22 35.8	
URV				Sn	**Sn**	**10 22 48.4**	**+1.8**
URV				IVMs_BB	IVMs_BB	10 27 08.9	
	comp=Z,600nm,6.4s						
SKHT	**Srikalahasti**	**16.94**	**205**	*e*P	**P**	**10 19 40.9**	**0.0**
SKHT				IAmb	IAmb	10 19 46.8	
	comp=Z,9.3nm,0.8s						
SKHT				*e*		10 22 38.6	
SKHT				Sn	**S**	**10 22 52.8**	**-2.4**
SKHT				IVMs_BB	IVMs_BB	10 26 07.6	
	comp=Z,414nm,8.1s						
UTTA	**Uttaradit**	**16.97**	**130**	P	**Pn**	**10 19 38.6**	**-1.3**
	comp=Z,9.2nm,0.9s,comp=Z,71nm						
EKS2	**Erkin-Say**	**17.01**	**325**	*e*P	**P**	**10 19 41.9**	**+0.3**
EKS2				pmax	pmax		
	comp=Z,6.0nm,0.7s						
EKS2	**Erkin-Say**	**17.01**	**325**	*e*P	**P**	**10 19 41.9**	**+0.3**
	comp=Z,5.6nm,0.7s						
LOEI	**Loei**	**17.61**	**129**	P	**P**	**10 19 48.8**	**+0.4**
	comp=Z,13nm,1.2s,comp=Z,278nm						
GYA	**Guiyang**	**17.63**	**95**	*e*P	**P**	**10 19 48.9**	**+0.2**
GYA				pP	**pP**	**10 19 58.6**	**-1.1**
GYA				S	**Sn**	**10 23 01.4**	**-2.4**
GYA				sS	S	10 23 17.8	+8.4
GYA				SS	**SnSn**	**10 23 25.0**	**+7.4**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
GYA				LN			
	comp=Z,340nm,15.2s						
GYA				LE			
	comp=Z,410nm,14.9s						
GYA				LZ			
	comp=Z,360nm,15.0s						
MKAR	**Makanchi Array**	**17.79**	**349**	P	**Pn**	**10 19 48.8**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=163,slow=13,SNR=26						
MKAR				LR	LR	10 28 09.6	
	comp=Z,72nm,18.1s,baz=168,slow=42						
MKAR	**Makanchi Array**	**17.79**	**349**	*i* P	**Pn**	**10 19 49.2**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
UTHA	**Uthaitani**	**17.91**	**137**	P	**Pn**	**10 19 49.9**	**-1.5**
	comp=Z,9.0nm,0.9s,comp=Z,111nm						
PBKT	**Sadao Pong**	**18.09**	**132**	P	**P**	**10 19 51.4**	**-2.2**
	comp=Z,34nm,1.1s						
KKAR	**Karatay Array**	**19.05**	**320**	*e*P	**Pn**	**10 20 04.9**	**-0.2**
KKAR	**Karatay Array**	**19.05**	**320**	*e*Pn	**Pn**	**10 20 04.9**	**-0.2**
XAN	**Xi'an**	**19.23**	**70**	P	**P**	**10 20 05.6**	**-0.5**
XAN				pP	**pP**	**10 20 15.9**	**-1.3**
XAN				S	**S**	**10 23 40.5**	**-1.0**
XAN				PMZ			
	comp=Z,6.0nm,1.1s						
XAN				PMZ			
	comp=Z,89nm,5.3s						
XAN				LE			
	comp=Z,360nm,14.4s						
XAN				LZ			
	comp=Z,460nm,11.8s						
ENH	**Enshi**	**19.55**	**82**	P	**P**	**10 20 08.8**	**-0.7**
	comp=Z,9.5nm,1.1s						
SKNT	**Sakolnakorn**	**19.88**	**125**	P	**P**	**10 20 12.2**	**-1.0**
	comp=Z,14nm,1.5s,comp=Z,1μm						
NAYO	**Nakonayok**	**20.00**	**135**	P	**P**	**10 20 15.4**	**+0.9**
	comp=Z,11nm,1.2s,comp=Z,703nm						
PATY	**Pattaya**	**20.83**	**139**	P	**P**	**10 20 24.1**	**+0.6**
	comp=Z,9.6nm,1.1s,comp=Z,709nm						
UBPT	**Khong Chiam**	**22.07**	**125**	P	**P**	**10 20 35.1**	**-1.7**
	comp=Z,26nm,1.2s,comp=Z,399nm						
KURBB	**Kurchatov Arra**	**22.17**	**346**	P	**P**	**10 20 36.9**	**-0.7**
	comp=Z,14nm,0.9s,baz=161,slow=9.9,SNR=64						
KURK	**Kurchatov**	**22.24**	**346**	P	**P**	**10 20 36.9**	**-1.5**
KURK	**Kurchatov**	**22.24**	**346**	P	**P**	**10 20 36.9**	**-1.5**
PALK	**Pallekele**	**22.76**	**196**	LR	LR	10 29 56.0	
	comp=Z,84nm,20.4s,baz=17,slow=38						
HHC	**Hu-ho-hao-te**	**23.07**	**54**	*e*P	**P**	**10 20 48.4**	**+1.1**
HHC				pP	**pP**	**10 20 59.8**	**+1.0**
HHC				sP	**sP**	**10 21 05.1**	**+0.4**
HHC				PP	**PnPn**	**10 21 19.5**	**+5.7**
HHC				S	**S**	**10 24 54.2**	**-0.6**
HHC				sS	Sn	10 25 11.1	-3.1
HHC				PMZ			
	comp=Z,11nm,0.6s						
HHC				PMZ			
	comp=Z,91nm,6.3s						
HHC				LN			
	comp=Z,380nm,12.2s						
HHC				LE			
	comp=Z,310nm,14.1s						
HHC				LZ			
	comp=Z,200nm,13.2s						
QIZ	**Qiongzhong**	**23.21**	**111**	P	**P**	**10 20 49.2**	**+0.4**
QIZ				pP	**pP**	**10 20 59.6**	**-0.7**
QIZ				sP	**sP**	**10 21 04.7**	**-1.6**
QIZ				S	**S**	**10 24 58.4**	**+1.2**
QIZ				PMZ			
	comp=Z,23nm,1.9s						
QIZ				PMZ			
	comp=Z,96nm,3.2s						
QIZ				LZ			
	comp=Z,260nm,15.3s						
IMYA	**Miami**	**23.58**	**294**	*e*P	**P**	**10 20 52.6**	**+0.2**
WHN	**Wuhan**	**23.72**	**80**	P	P	10 21 00.9	+7.4
WHN				S	S	10 25 13.0	+7.6
WHN				LR	LR		
	comp=Z,1μm,21.1s						
SONM	**Songino Array**	**23.77**	**34**	P	**P**	**10 20 54.0**	**+0.1**
	comp=Z,10nm,0.7s,baz=220,slow=9.9,SNR=93						
SONM				PcP	**PcP**	**10 24 36.8**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=207,slow=3.1,SNR=6.4						
SONM				LR	LR	10 31 13.1	
	comp=Z,278nm,21.7s,baz=226,slow=39						
ISRO	**Mashad**	**24.08**	**294**	*e*P	**P**	**10 20 58.9**	**+1.9**
ZAK	**Zakamensk**	**24.33**	**26**	⇓*i*P	**P**	**10 20 59.3**	**+0.2**
ZAK				*e*		10 24 34.8	
ZAK				pmax	pmax		
	comp=Z,11nm,0.9s						
ZALV	**Zalesovo Beam**	**24.62**	**357**	P	**P**	**10 21 01.1**	**-0.4**
	comp=Z,2.8nm,0.8s,baz=186,slow=9.8,SNR=12						
ZALV				LR	LR	10 32 09.3	
	comp=Z,100nm,18.3s,baz=246,slow=40						
ZALV	**Zalesovo Beam**	**24.62**	**357**	*i* P	**P**	**10 21 01.6**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
IAKL	**Akhelmad**	**24.70**	**294**	*e*P	**P**	**10 21 02.7**	**0.0**
GEYT	**Alibeck**	**25.43**	**297**	P	**P**	**10 21 10.7**	**+1.6**
	comp=Z,2.9nm,0.8s,baz=70,slow=5.2,SNR=4.3						
GEYT				LR	LR	10 32 58.8	
	comp=Z,432nm,20.9s,baz=100,slow=41						
TLY	**Talaya**	**25.52**	**24**	LR	LR	10 32 22.1	
	comp=Z,123nm,22.0s,baz=184,slow=39						
TLY	**Talaya**	**25.52**	**24**	*e*P	**P**	**10 21 11.2**	**+1.4**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TLY				MLR	MLR		
	comp=Z,29nm,14.0s						
NVS	**Novosibirsk**	**25.61**	**355**	*e*P	**P**	**10 21 09.4**	**-1.0**
NVS				pmax	pmax		
	comp=Z,24nm,2.3s						
NVS				pmax	pmax		
	comp=N,9.0nm,2.0s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.3s						
BJI	**Beijing**	**26.15**	**58**	P	**P**	**10 21 12.6**	**-2.9**
BJI				S	**S**	**10 25 46.3**	**+2.4**
BJI				PMZ			
	comp=E,9.0nm,1.7s						
BJI				PMZ			
	comp=E,95nm,4.2s						
BJI				LN			
	comp=E,200nm,16.2s						
BJI				LE			
	comp=E,290nm,13.2s						
BJI				LZ			
	comp=E,260nm,22.8s						
BVAR	**Borovoye Array**	**26.61**	**337**	P	**P**	**10 21 20.3**	**+0.8**
	comp=E,2.0nm,0.7s,baz=149,slow=12,SNR=8.7						
BRVK	**Borovoye**	**26.67**	**337**	*ce*P	**P**	**10 21 21.5**	**+1.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KRAR	**Krasnoyarsk**	**26.96**	**7**	⇓*i*P	**P**	**10 21 24.2**	**+1.5**
KRAR				pmax	pmax		
	comp=Z,53nm,1.2s						
NJ2	**Nanjing**	**27.48**	**76**	*e*P	**P**	**10 21 29.2**	**+1.6**
NJ2				S	**S**	**10 26 07.0**	**+1.9**
NJ2				PMZ			
	comp=Z,40nm,0.6s						
NJ2				LN			
	comp=Z,810nm,14.1s						
NJ2				LE			
	comp=Z,730nm,19.0s						
NJ2				LZ			
	comp=Z,3μm,19.9s						
ABKAR	**Akbulak array**	**28.60**	**322**	*e*P	**P**	**10 21 38.2**	**+0.8**
	comp=Z,1.9nm,0.7s						
GSI	**Gunungsitoli**	**29.67**	**158**	*e*P	P	10 21 51.4	+4.2
	comp=Z,59nm,1.2s						
HIA	**Hailar**	**31.85**	**42**	*ce*P	**P**	**10 22 07.1**	**+1.0**
HIA				pmax	pmax		
	comp=Z,14nm,1.2s						
SVE	**Sverdlovsk**	**33.12**	**333**	⇓*i*P	**P**	**10 22 19.3**	**+2.2**
SVE				pmax	pmax		
	comp=Z,21nm,1.2s						
ARU	**Arti**	**33.68**	**332**	*c i*P	**P**	**10 22 23.6**	**+1.6**
ARU						10 23 40.2	
ARU						10 25 00.1	
ARU				S	S	10 27 47.8	+6.2
ARU				SS	**SnSn**	**10 29 52.9**	**+4.2**
ARU				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ARU	**Arti**	**33.68**	**332**	*e*P	**P**	**10 22 23.1**	**+1.1**
	comp=Z,8.6nm,1.0s						
BOD	**Bodaibo**	**34.08**	**26**	*e*P	**P**	**10 22 25.7**	**+0.3**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KSAR	**Wonju Array Be**	**34.87**	**66**	P	**P**	**10 22 30.3**	**-2.2**
KSAR						10 25 03.8	
KSAR	**Wonju Array Be**	**34.87**	**66**	P	**P**	**10 22 30.3**	**-2.2**
KSAR				PcP	**PcP**	**10 25 03.8**	**-0.9**
KSRS	**Korea Array**	**34.90**	**66**	P	**P**	**10 22 30.3**	**-2.5**
	comp=Z,1.1nm,0.7s,baz=237,slow=8.8,SNR=4.3						
KSRS				PcP	**PcP**	**10 25 03.8**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=254,slow=2.0,SNR=5.7						
KSRS				LR	LR	10 37 56.5	
	comp=Z,236nm,19.1s,baz=268,slow=38						
KSRS	**Korea Array**	**34.90**	**66**	P	**P**	**10 22 30.3**	**-2.5**
KSRS						10 25 03.8	
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KSRS				MLR	MLR		
	comp=Z,236nm,19.1s						
GNI	**Garni**	**36.03**	**299**	⇓*e*P	**P**	**10 22 41.7**	**-1.0**
GNI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SOKR	**Solikamsk**	**36.51**	**335**	*c i*P	**P**	**10 22 48.2**	**+2.0**
SOKR				pmax	pmax		
	comp=Z,40nm,1.4s						
RAYN	**Ar Rayn**	**37.45**	**271**	*e*P	**P**

USRK	**Ussuriysk Ar.**	**38.48**	**55**	LR	LR	10 39 58.3		
	comp=Z,132nm,21.9s,baz=261,slow=38							
VSR	**Storozhevoye**	**41.59**	**315**	*eP*	**P**	**10 23 29.0**	**+0.2**	
VSR				pmax	pmax			
	comp=N,2.0nm,0.8s							
VSR				pmax	pmax			
	comp=Z,7.0nm,0.8s							
VSR				pmax	pmax			
	comp=E,3.0nm,0.4s							
PRGR	**Permogore**	**42.14**	**332**	*eP*	**P**	**10 23 32.9**	**-0.3**	
PRGR				pmax	pmax			
	comp=Z,18nm,0.9s							
YAK	**Yakutsk**	**42.89**	**28**	*i* P	**P**	**10 23 39.7**	**+0.4**	
YAK				pmax	pmax			
	comp=Z,21nm,1.3s							
MAJO	**Matsushiro**	**43.16**	**67**⇑	*iP*	**P**	**10 23 40.7**	**-1.2**	
MAJO				pmax	pmax			
	comp=Z,46nm,1.0s							
MJAR	**Matsushiro Arr**	**43.16**	**67**	P	**P**	**10 23 40.0**	**-1.9**	
	comp=Z,3.6nm,0.9s,baz=277,slow=11,SNR=9.5							
MJAR				PcP	**PcP**	**10 25 30.2**	**-0.6**	
	comp=Z,2.6nm,1.1s,baz=270,slow=0.9,SNR=4.9							
MJAR				LR	LR	10 42 31.7		
	comp=Z,68nm,19.1s,baz=255,slow=37							
OBN	**Obninsk**	**44.04**	**320***c*	*iP*	**P**	**10 23 49.2**	**+0.6**	
OBN				*i* *PP	**pP**	**10 24 02.4**	**+0.9**	
OBN				*e*		10 25 33.6		
OBN				pmax	pmax			
	comp=Z,22nm,1.7s							
OBN				MLR	MLR			
	comp=Z,93nm,20.0s							
BRTR	**Keskin Array B**	**44.56**	**298**	P	**P**	**10 23 54.0**	**+0.7**	
	comp=Z,1.1nm,0.8s,baz=120,slow=7.3,SNR=7.9							
BRTR				PcP	**PcP**	**10 25 35.6**	**-0.1**	
	comp=Z,1.2nm,1.0s,baz=128,slow=2.4,SNR=3.6							
BRTR	**Keskin Array B**	**44.56**	**298**	*iP*	**P**	**10 23 55.0**	**+1.7**	
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
TMCR	**Tamitsa**	**46.39**	**333**	*eP*	**P**	**10 24 08.4**	**+1.3**	
TMCR				pmax	pmax			
	comp=Z,31nm,1.0s							
KAPI	**Kappang**	**46.46**	**132**	LR	LR	10 47 41.9		
	comp=Z,43nm,18.1s,baz=291,slow=42							
ERM	**Erimo**	**46.57**	**58**⇑	*eP*	**P**	**10 24 08.8**	**-0.1**	
AKASG	**Malin Array Be**	**47.73**	**313**	P	**P**	**10 24 17.1**	**-0.7**	
	comp=Z,0.5nm,0.4s,baz=76,slow=7.6,SNR=7.2							
AKASG				LR	LR	10 48 21.9		
	comp=Z,140nm,21.0s,baz=90,slow=41							
AKASG	**Malin Array Be**	**47.73**	**313**	*iP*	**P**	**10 24 17.7**	**-0.1**	
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
KIEV	**Kiev**	**47.74**	**313**⇓	*iP*	**P**	**10 24 17.3**	**-0.5**	
PSN	**Preselentsi**	**48.41**	**304**⇑	*iP*	pP	10 24 38.0	+1.8	
LVZ	**Lovozero**	**49.20**	**337**⇓	*eP*	**P**	**10 24 27.1**	**-1.8**	
LVZ				pmax	pmax			
	comp=Z,35nm,1.7s							
VRI	**Vrincioaia**	**49.34**	**307**	⇓P	**P**	**10 24 32.2**	**+1.9**	
VRI	**Vrincioaia**	**49.34**	**307**	⇓*iP*	**P**	**10 24 32.2**	**+1.9**	
PLOR	**Plostina**	**49.39**	**307**	⇑P	**P**	**10 24 30.9**	**+0.2**	
PLOR	**Plostina**	**49.39**	**307**	⇑*iP*	**P**	**10 24 30.9**	**+0.2**	
MLR	**Muntele Rosu**	**49.90**	**306**	⇓P	**P**	**10 24 36.9**	**+2.2**	
MLR	**Muntele Rosu**	**49.90**	**306**	⇓*iP*	**P**	**10 24 36.9**	**+2.2**	
VSU	**Vasula**	**50.01**	**323***d*	*iP*	**P**	**10 24 35.3**	**+0.2**	
VSU				pmax	pmax			
	comp=Z,22nm,1.0s							
BURAR	**Bucovina Array**	**50.31**	**309**	⇑P	**P**	**10 24 38.4**	**+0.7**	
BURAR	**Bucovina Array**	**50.31**	**309**⇑	*iP*	**P**	**10 24 38.4**	**+0.7**	
VOIR		**50.54**	**306**	⇑P	**P**	**10 24 40.1**	**+0.6**	
VOIR		**50.54**	**306**⇑	*iP*	**P**	**10 24 40.1**	**+0.6**	
FINES	**FINESS Array B**	**50.82**	**327**	P	**P**	**10 24 41.6**	**+0.5**	
	comp=Z,4.7nm,0.7s,baz=108,slow=8.9,SNR=21							
FINES				LR	LR	10 48 47.6		
	comp=Z,94nm,18.6s,baz=142,slow=39							
FINES	**FINESS Array B**	**50.82**	**327**	*iP*	**P**	**10 24 41.9**	**+0.7**	
FINES				pmax	pmax			
	comp=Z,5.0nm,0.7s							
DRGR		**52.06**	**308**	⇑P	**P**	**10 24 52.1**	**+1.3**	
DRGR		**52.06**	**308**⇑	*iP*	**P**	**10 24 52.1**	**+1.3**	
GZR	**Gura Zlata**	**52.13**	**307**	⇓P	**P**	**10 24 51.9**	**+0.5**	
GZR	**Gura Zlata**	**52.13**	**307**	⇓*iP*	**P**	**10 24 51.9**	**+0.5**	
VTS	**Vitosha**	**52.13**	**303**	⇓P	**P**	**10 24 50.3**	**-1.3**	
VTS	**Vitosha**	**52.13**	**303**	⇓*iP*	**P**	**10 24 50.3**	**-1.3**	
ARCES	**ARCESS Array B**	**52.90**	**337**	P	**P**	**10 24 57.2**	**+0.6**	
	comp=Z,9.0nm,0.7s,baz=99,slow=7.9,SNR=30							
ARCES				PcP	**PcP**	**10 26 06.0**	**+0.9**	
	comp=Z,1.4nm,0.6s,baz=70,slow=5.2,SNR=3.6							
SEY	**Seymchan**	**53.13**	**31**	P	**P**	**10 24 58.0**	**-0.3**	
	comp=Z,6.9nm,1.0s,baz=292,slow=7.3,SNR=15							
SEY	**Seymchan**	**53.13**	**31**⇑	*iP*	**P**	**10 24 58.6**	**+0.2**	
OKC	**Ostrava-Krasne**	**54.84**	**312**	*eP*	**P**	**10 25 10.9**	**-0.2**	
OKC	**Ostrava-Krasne**	**54.84**	**312**	*eP*	**P**	**10 25 10.9**	**-0.2**	
MORC	**Moravsky Berou**	**55.24**	**312**	*eP*	**P**	**10 25 14.4**	**+0.4**	
MORC				pmax	pmax			
	comp=Z,36nm,1.4s							
MORC	**Moravsky Berou**	**55.24**	**312**	*eP*	**P**	**10 25 14.4**	**+0.4**	
	comp=Z,36nm,1.4s							
GUMO	**Guam**	**55.59**	**93**	LR	LR	10 47 59.1		
	comp=Z,33nm,22.0s,baz=46,slow=35							
KRLC	**Kraliky**	**55.70**	**313**	*eP*	**P**	**10 25 18.0**	**+0.7**	
KRLC				*ex*	x	10 25 21.7		
KRLC				*ep*	**pP**	**10 25 33.0**	**+2.4**	
KRLC	**Kraliky**	**55.70**	**313**	*eP*	**P**	**10 25 18.0**	**+0.7**	
KRLC				*e*		10 25 33.0		
VRAC	**Vranov**	**55.90**	**312**	⇑P	**P**	**10 25 19.9**	**+1.1**	
VRAC	**Vranov**	**55.90**	**312**⇑	*iP*	**P**	**10 25 19.9**	**+1.1**	
DPC	**Dobruska-Polom**	**55.96**	**313**	*eP*	**P**	**10 25 18.0**	**-1.2**	
DPC				*ex*	x	10 25 20.1		
DPC				*ep*	**pP**	**10 25 27.5**	**-5.0**	
DPC	**Dobruska-Polom**	**55.96**	**313**	*eP*	**P**	**10 25 18.0**	**-1.2**	
UPC	**Upice**	**56.14**	**313**	*eP*	**P**	**10 25 21.1**	**+0.7**	
UPC	**Upice**	**56.14**	**313**	*eP*	**P**	**10 25 21.1**	**+0.7**	
TREC	**Trest**	**56.62**	**312**	*eP*	**P**	**10 25 24.5**	**+0.6**	
TREC	**Trest**	**56.62**	**312**	*eP*	**P**	**10 25 24.5**	**+0.6**	
GOPC	**GO Pecny, Ondr**	**56.99**	**313**	*eP*	**P**	**10 25 27.1**	**+0.6**	
GOPC				*ep*	**pP**	**10 25 40.9**	**+1.1**	
PRU	**Pruhonice**	**57.14**	**313**	*eP*	**P**	**10 25 26.9**	**-0.6**	
PRU	**Pruhonice**	**57.14**	**313**	*eP*	**P**	**10 25 26.9**	**-0.6**	
BRG	**Berggiesshubel**	**57.40**	**314**	*eP*	**P**	**10 25 29.6**	**+0.3**	
	comp=Z,6.8nm,1.1s							
BRG	**Berggiesshubel**	**57.40**	**314**	*eP*	**P**	**10 25 29.7**	**+0.4**	
	comp=Z,7.0nm,1.1s							
BRG	**Berggiesshubel**	**57.40**	**314**	*eP*	**P**	**10 25 29.6**	**+0.3**	
BRG				pmax	pmax			
	comp=Z,7.0nm,1.1s							
FBE	**Freiberg**	**57.76**	**314**	*eP*	**P**	**10 25 32.4**	**+0.5**	
	comp=Z,13nm,1.3s							
GEC2	**GERESS Array S**	**57.85**	**312**	*eP*	**P**	**10 25 33.2**	**+0.5**	
	comp=Z,10.0nm,1.4s							
GERES	**GERESS Array B**	**57.85**	**312**	P	**P**	**10 25 33.0**	**+0.3**	
	comp=Z,2.4nm,0.8s,baz=78,slow=7.0,SNR=21							
GERES				LR	LR	10 54 29.9		
	comp=Z,55nm,19.4s,baz=84,slow=40							
KHC	**Kasperske Hory**	**57.89**	**312**	*eP*	**P**	**10 25 31.1**	**-1.7**	
KHC				*ex*	x	10 25 33.3		
KHC				*ep*	**pP**	**10 25 44.7**	**-1.5**	
KHC	**Kasperske Hory**	**57.89**	**312**	*eP*	**P**	**10 25 31.1**	**-1.7**	
KHC				*e*		10 25 44.7		
KHC	**Kasperske Hory**	**57.89**	**312**	*eP*	**P**	**10 25 33.6**	**+0.8**	
	comp=Z,3.3nm,1.3s							
CLL	**Collm**	**57.93**	**315**	*eP*	**P**	**10 25 32.8**	**-0.3**	
	comp=Z,9.0nm,1.4s							
CLL	**Collm**	**57.93**	**315**⇓	*iP*	**P**	**10 25 32.7**	**-0.3**	
CLL				pmax	pmax			
	comp=Z,9.0nm,1.4s							
CLL	**Collm**	**57.93**	**315**⇓	*iP*	**P**	**10 25 32.7**	**-0.3**	
	comp=Z,9.0nm,1.4s							
CLL				L	L	10 53 00.0		
	comp=Z,100nm,21.2s							
NB2	**NORSAR Subarra**	**57.95**	**326**	P	**P**	**10 25 32.6**	**-0.5**	
	comp=Z,11nm,0.9s,baz=86,slow=7.4							
NOA	**NORSAR Array B**	**57.95**	**326**	P	**P**	**10 25 32.8**	**-0.3**	
	comp=Z,7.1nm,0.9s,baz=86,slow=7.0,SNR=16							
NOA				LR	LR	10 52 58.2		
	comp=Z,62nm,18.4s,baz=110,slow=38							
WET	**Wettzell**	**58.34**	**312**	*eP*	**P**	**10 25 36.5**	**+0.5**	
	comp=Z,11nm,1.5s							
TANN	**Tannenbergstha**	**58.40**	**314**	*eP*	**P**	**10 25 36.5**	**+0.1**	
	comp=Z,4.0nm,1.0s							
GUNZ	**Gunzen**	**58.49**	**314**	*eP*	**P**	**10 25 37.3**	**+0.3**	
	comp=Z,11nm,1.2s							
WERD	**Werda**	**58.49**	**314**	*eP*	**P**	**10 25 37.3**	**+0.3**	
	comp=Z,6.0nm,1.1s							
PLN	**Plauen**	**58.58**	**314**	*eP*	**P**	**10 25 38.0**	**+0.4**	
ROTZ	**Rotzenmuhle**	**58.67**	**313**	*eP*	**P**	**10 25 39.1**	**+0.9**	
	comp=Z,10.0nm,1.2s							
MANZ	**Manzenberg**	**58.69**	**313**	*eP*	**P**	**10 25 39.1**	**+0.7**	
	comp=Z,15nm,1.6s							
MOX	**Moxa**	**58.90**	**314**	*eP*	**P**	**10 25 40.3**	**+0.5**	
	comp=Z,6.0nm,1.2s							
BILL	**Bilibino**	**59.13**	**26***d*	*iP*	**P**	**10 25 41.9**	**+0.8**	
BILL				pmax	pmax			
	comp=Z,15nm,1.0s							
BILL				MLR	MLR			
	comp=Z,122nm,19.0s							
BILL	**Bilibino**	**59.13**	**26**	*eP*	**P**	**10 25 42.4**	**+1.2**	
BSEG	**Bad Segeberg**	**59.17**	**318**	*eP*	**P**	**10 25 42.2**	**+0.6**	
	comp=Z,15nm,1.2s							
CLZ	**Clausthal**	**59.47**	**316**	*eP*	**P**	**10 25 44.2**	**+0.4**	
	comp=Z,16nm,1.1s							
TNS	**Taunus Mts**	**60.97**	**314**	*eP*	**P**	**10 25 54.4**	**+0.3**	
	comp=Z,7.0nm,1.0s							
IBBN	**Ibbenburen**	**60.97**	**316**	*eP*	**P**	**10 25 54.6**	**+0.6**	
	comp=Z,16nm,1.1s							
BUG	**Bochum--Univer**	**61.44**	**315**	*eP*	**P**	**10 25 57.8**	**+0.6**	
	comp=Z,12nm,1.1s							
MEM	**Membach**	**62.41**	**315**	P	**P**	**10 26 03.9**	**+0.2**	
	comp=Z,3.0nm,0.9s							
WLF	**Walferdange**	**62.53**	**314**	*eP*	**P**	**10 26 05.6**	**+1.0**	
	comp=Z,15nm,1.2s							
SENIN	**Lac Senin/Sane**	**62.60**	**310**	*eP*	**P**	**10 26 05.8**	**+0.5**	
	comp=Z,6.8nm,1.0s							
BNI	**Bardonecchia**	**63.37**	**309**	*eP*	**P**	**10 26 11.0**	**+0.7**	
BNI				pmax	pmax			
	comp=Z,7.0nm,1.1s							
BNI	**Bardonecchia**	**63.37**	**309**	*eP*	**P**	**10 26 11.0**	**+0.7**	
	comp=Z,6.8nm,1.1s							
KEST	**Kesra**	**64.17**	**298**	P	**P**	**10 26 16.6**	**+0.8**	
	comp=Z,1.7nm,0.8s,baz=313,slow=2.4,SNR=4.7							
DAG	**Danmarks Havn**	**65.13**	**346**	*iP*	**P**	**10 26 21.1**	**-0.1**	
	comp=Z,5.5nm,1.1s							
DAG	**Danmarks Havn**	**65.13**	**346**	*iP*	**P**	**10 26 21.1**	**-0.1**	
DAG				pmax	pmax			
	comp=Z,7.0nm,1.1s							
ESK	**Eskdalemuir**	**66.51**	**321**	*iP*	**P**	**10 26 31.3**	**+0.9**	
WRA	**Warramunga Arr**	**66.99**	**131**	P	**P**	**10 26 32.3**	**-1.6**	
	comp=Z,3.0nm,0.8s,baz=326,slow=6.6,SNR=20							
WRAB	**Tennant Creek**	**66.99**	**131**⇓	*eP*	**P**	**10 26 33.3**	**-0.6**	
WRAB				pmax	pmax			
	comp=Z,37nm,1.7s							
ASAR	**Alice Springs**	**69.39**	**134**	P	**P**	**10 26 47.6**	**-1.3**	
	comp=Z,1.8nm,0.8s,baz=318,slow=6.0,SNR=18							
SUMG	**Summit**	**71.78**	**345**	*iP*	**P**	**10 27 04.3**	**+1.0**	
	comp=Z,20nm,1.3s							
SUMG	**Summit**	**71.78**	**345**	*iP*	**P**	**10 27 04.3**	**+1.0**	
SUMG				pmax	pmax			
	comp=Z,20nm,1.3s							
SUMG	**Summit**	**71.78**	**345**	*eP*	**P**	**10 27 03.5**	**+0.3**	
	comp=Z,222nm,3.0s							
LSZ	**Lusaka**	**72.02**	**240**	*eP*	**P**	**10 27 04.8**	**-0.3**	
LSZ				pmax	pmax			
	comp=Z,6.0nm,0.8s							
LSZ	**Lusaka**	**72.02**	**240**	*eP*	**P**	**10 27 04.8**	**-0.3**	
	comp=Z,6.0nm,0.8s							
ESDC	**Sonseca Array**	**72.60**	**306**	P	**P**	**10 27 08.6**	**+0.3**	
	comp=Z,2.0nm,0.8s,baz=47,slow=5.8,SNR=10							
COLD	**Coldfoot**	**74.62**	**20**	*eP*	**P**	**10 27 20.5**	**+0.9**	
	comp=Z,8.9nm,1.1s							
BPAW	**Bear Paw Mtn.**	**76.41**	**23**	*eP*	**P**	**10 27 30.5**	**+0.6**	
CAST	**Castle Rocks**	**76.48**	**23**	*eP*	**P**	**10 27 31.6**	**+1.3**	
COLA	**College**	**76.91**	**21***d*	*iP*	**P**	**10 27 32.7**	**0.0**	
COLA				pmax	pmax			
	comp=Z,43nm,1.0s							
COLA	**College**	**76.91**	**21**	*eP*	**P**	**10 27 32.9**	**+0.2**	
ILAR	**Eielson Array**	**77.28**	**21**	P	**P**	**10 27 34.4**	**-0.5**	
	comp=Z,3.3nm,0.9s,baz=300,slow=4.4,SNR=33							
ILAR				PP	**PP**	**10 30 29.2**	**+0.5**	
	comp=Z,0.5nm,0.9s,baz=309,slow=9.2,SNR=4.8							
ILAR				LR	LR	11 07 06.6		
	comp=Z,31nm,18.7s,baz=298,slow=40							
INK	**Inuvik**	**78.11**	**14**	P	**P**	**10 27 39.5**	**+0.2**	
	comp=Z,7.9nm,1.0s,baz=344,slow=5.3							
INK	**Inuvik**	**78.11**	**14**	P	**P**	**10 27 39.5**	**+0.2**	
INK				pmax	pmax			
	comp=Z,8.0nm,1.0s							
INK	**Inuvik**	**78.11**	**14**	*eP*	**P**	**10 27 39.2**	**-0.1**	
	comp=Z,10nm,1.1s							
SML	**Sawmill**	**78.85**	**23**	*eP*	**P**	**10 27 44.0**	**+0.4**	
SML				pmax	pmax			
	comp=Z,3.0nm,1.0s							
SML	**Sawmill**	**78.85**	**23**	*eP*	**P**	**10 27 44.0**	**+0.4**	
	comp=Z,3.1nm,1.0s							
EGAK	**Eagle**	**78.98**	**19**	*eP*	**P**	**10 27 44.8**	**+0.6**	
	comp=Z,4.3nm,1.0s							
TORD	**Tordi Ar. Bea**	**79.62**	**279**	P	**P**	**10 27 48.6**	**0.0**	
	comp=Z,5.1nm,0.8s,baz=58,slow=4.4,SNR=30							
TORD				LR	LR	11 06 20.9		
	comp=Z,47nm,19.6s,baz=50,slow=38							
STKA	**Stephens Creek**	**80.00**	**135**	LR	LR	11 10 41.9		
	comp=Z,81nm,18.9s,baz=190,slow=41							
BMRM	**Bremner River**	**80.72**	**23**	*eP*	**P**	**10 27 55.0**	**+1.3**	
	comp=Z,16nm,1.2s							
BOSA	**Boshof**	**82.47**	**231**	P	**P**	**10 28 02.5**	**-1.0**	
	comp=Z,3.2nm,0.8s,baz=21,slow=5.1,SNR=3.8							
BOSA				LR	LR	11 01 29.8		
	comp=Z,26nm,19.3s,baz=3.0,slow=33							
HYT	**Haines Junctio**	**83.10**	**20**	*eP*	**P**	**10 28 07.3**	**+0.9**	
	comp=Z,6.7nm,1.0s							
SKAG	**Skagway**	**84.85**	**20**	*eP*	**P**	**10 28 16.6**	**+1.5**	
	comp=Z,17nm,1.4s							
YKA	**Yellowknife Ar**	**86.84**	**10**	P	**P**	**10 28 24.3**	**-0.6**	
	comp=Z,1.3nm,0.8s,baz=334,slow=5.1,SNR=12							
SCHQ	**Schefferville**	**93.17**	**345**	LR	LR	11 18 40.0		
	comp=Z,21nm,18.4s,baz=70,slow=40							
NVAR	**Mina Array Bea**	**108.54**	**21**	PKiKP	**PKiKP**	**10 34 10.1**	**+0.3**	
	comp=Z,0.3nm,0.6s,baz=288,slow=1.8,SNR=3.9							
QSPA	**South Pole Qui**	**119.16**	**180**	PKP	**PKPdf**	**10 34 27.7**	**-1.0**	
	comp=Z,0.6nm,0.6s,baz=304,slow=3.6,SNR=3.7							
TXAR	**Lajitas Array**	**120.75**	**11**	PKP	**PKPdf**	**10 34 32.7**	**-0.4**	
	comp=Z,1.3nm,0.9s,baz=312,slow=0.9,SNR=13							
SAML	**Samuel**	**145.44**	**300**	*e*PKPbc	**PKPab**	**10 35 19.6**	**+0.1**	
OTAV	**Otavalo**	**147.44**	**332**	*e*PKPdf	**PKPbc**	**10 35 24.8**	**-1.1**	
OTAV				*e*PKPbc	**PKPab**	**10 35 27.0**	**-0.8**	
CPUP	**Villa Florida**	**148.38**	**267**	PKP	**PKPdf**	**10 35 23.1**	**-0.8**	
	comp=Z,3.8nm,0.7s,baz=64,slow=5.5,SNR=4.4							
CPUP				PKPbc	**PKPbc**	**10 35 26.7**	**-0.6**	
	comp=Z,3.3nm,0.7s,baz=79,slow=4.1,SNR=10.0							

NIED ***10*** *10:24:00,42.˚60N×142.˚10E,h113km,Mw4.0 Best double couple: M₀9.47000×10¹⁴ NP1:φ₁123.00000°, δ45.00000°,λ-13.00000°. NP2:φ₂222.00000°,δ81.00000°, λ-134.00000°.*

ISCJB ***10*** *10:24:39.1±0.3,42.˚59N±0.˚03×142.˚14E±0.˚05, h132km±2km,mb3.7/14, Error ellipse: s-maj=6.4km s-min=4.3km az=43.4*

IDC ***10*** *10:24:40.9±1.6,42.˚70N×142.˚09E,h127km±12km, mb3.5/14,mb1 3.6/18,mb1mx3.4/53,mbtmp3.9/18,Error ellipse: s-maj=24.2km s-min=12.9km az=159.0*

JMA ***10*** *10:24:40.0±0.2,42.˚66N×142.˚09E,h132km±2km,M3.9 Broadband fault plane solution: P waves. NP1: φ₁39.00000°,δ79.00000°,λ144.00000°. NP2: φ₂137.00000°,δ54.00000°,λ13.00000°. Principal axes: T Plg33.0000°, Azm352.0000°; N Plg52.0000°, Azm205.0000°; P Plg16.0000°, Azm93.0000°;*

JMA Felt I J1.

ISC 10 10:24:40.2±0.7, 42˚59N±0˚04×142˚14E±0˚04, h128km±5km, n44, σ0°84/56, mb3.9/14, 5C-9D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JBT2	**Biratori 2**	**0.26**	**41**	⇑P		**Pn**	**10 24 58.4**	**+0.5**
JBT2						*eS*	**Sn**	**10 25 12.0**	**+0.6**
JNBK	**Urakawa-nobuka**	**0.55**	**124**	⇑P		**Pn**	**10 25 00.2**	**+0.9**
JNBK						*eS*	**Sn**	**10 25 15.6**	**+1.8**
JEW	**Eniwo**	**0.56**	**297**	⇓P		**Pn**	**10 24 59.2**	**-0.2**
JEW						*eS*	**Sn**	**10 25 13.0**	**-1.0**
JFR	**Furan**	**0.67**	**30**	P		**Pn**	**10 24 59.9**	**-0.2**
JFR						*eS*	**Sn**	**10 25 14.8**	**-0.5**
JNB	**Noboribetsu**	**0.82**	**262**	⇓P		**Pn**	**10 25 01.1**	**-0.2**
JNB						*eS*	**Sn**	**10 25 16.8**	**-0.5**
JCH	**Churui**	**0.91**	**88**	P		**Pn**	**10 25 02.1**	**+0.1**
JCH						*eS*	**Sn**	**10 25 18.1**	**-0.5**
JAB	**Ashibetsu**	**0.92**	**4**	⇓P		**Pn**	**10 25 02.3**	**+0.1**
JAB						*eS*	**Sn**	**10 25 18.8**	**-0.1**
JKB	**Kayabe**	**1.08**	**230**	⇑P		**Pn**	**10 25 03.5**	**-0.1**
JKB						*eS*	**Sn**	**10 25 20.6**	**-0.8**
JHR	**Hokuryu**	**1.19**	**346**	⇓P		**Pn**	**10 25 05.0**	**+0.2**
JHR						*eS*	**Sn**	**10 25 23.5**	**-0.1**
JKK2	**Kamakawa 2**	**1.36**	**19**	⇑P		**Pn**	**10 25 06.7**	**+0.1**
JKK2						*eS*	**Sn**	**10 25 25.8**	**-1.0**
JAR	**Ashorobuto**	**1.39**	**59**	⇓P		**Pn**	**10 25 06.8**	**-0.1**
JAR						*eS*	**Sn**	**10 25 26.3**	**-1.0**
JSK	**Shakotan**	**1.44**	**303**	⇓P		**Pn**	**10 25 07.5**	**+0.1**
JSK						*eS*	**Sn**	**10 25 28.0**	**-0.2**
JOT	**Ohata**	**1.45**	**214**	⇑P		**Pn**	**10 25 07.7**	**+0.1**
JOT						*eS*	**Sn**	**10 25 27.9**	**-0.5**
ASAJ	**Asahikawa**	**1.57**	**12**	P		**Pn**	**10 25 08.8**	**0.0**
	baz=225,slow=8.5							
ASAJ				S		**Sn**	**10 25 29.6**	**-1.2**
	baz=354,slow=19							
JTKR	**Abashiri--Toko**	**1.90**	**43**	⇓P		**Pn**	**10 25 13.2**	**+0.5**
JTKR						*eS*	**Sn**	**10 25 37.7**	**+0.1**
JYG	**Yagishiri**	**1.91**	**345**	*eS*		**Sn**	**10 25 38.2**	**+0.2**
JAK	**Akkeshi**	**1.93**	**77**	⇓P		**Pn**	**10 25 12.7**	**-0.4**
JAK						*eS*	**Sn**	**10 25 36.7**	**-1.6**
JOSM	**Okushiri--Mats**	**2.04**	**257**	⇓P		**Pn**	**10 25 14.5**	**+0.1**
MAT	**Matsushiro**	**6.75**	**208**	P		**Pn**	**10 26 17.5**	**+0.7**
MAT						*eS*	**Sn**	**10 27 30.1**	**-2.3**
MJAR	**Matsushiro Arr**	**6.75**	**208**	P		**Pn**	**10 26 17.7**	**+0.9**
	2.0nm,0.3s,baz=27,slow=13,SNR=21							
MJAR				S		**Sn**	**10 27 30.8**	**-1.6**
	baz=10,slow=19,SNR=2.1							
USRK	**Ussuriysk Ar.**	**7.56**	**286**	P		**Pn**	**10 26 29.0**	**+1.3**
	0.3nm,0.3s,baz=82,slow=14,SNR=3.7							
KSRS	**Korea Array**	**12.04**	**250**	P		**Pn**	**10 27 27.6**	**+0.1**
	0.1nm,0.3s,baz=61,slow=13,SNR=5.9							
PETK	**Petropavlovsk-**	**14.80**	**39**	P		**Pn**	**10 28 01.3**	**-1.5**
	0.2nm,0.3s,baz=207,slow=12,SNR=3.1							
SEY	**Seymchan**	**21.25**	**13**	P		**P**	**10 29 13.7**	**-2.1**
	3.8nm,0.5s,baz=205,slow=9.4,SNR=21							
SONM	**Songino Array**	**25.56**	**294**	P		**P**	**10 29 56.9**	**-0.2**
	1.0nm,0.7s,baz=97,slow=7.7,SNR=6.1							
H11N2	**WAKE ISLAND Hy**	**30.91**	**130**	T		T	11 02 38.7	
	baz=326,slow=75,SNR=30							
H11N1	**WAKE ISLAND Hy**	**30.92**	**130**	T		T	11 02 37.7	
	baz=326,slow=75,SNR=36							
H11N3	**WAKE ISLAND Hy**	**30.93**	**130**	T		T	11 02 45.2	
	baz=326,slow=75,SNR=26							
H11S1	**WAKE ISLAND Hy**	**31.78**	**131**	T		T	11 03 46.1	
	baz=326,slow=76,SNR=51							
H11S3	**WAKE ISLAND Hy**	**31.78**	**132**	T		T	11 03 47.5	
	baz=326,slow=76,SNR=32							
H11S2	**WAKE ISLAND Hy**	**31.80**	**132**	T		T	11 03 50.6	
	baz=326,slow=76,SNR=35							
ZALV	**Zalesovo Beam**	**38.78**	**307**	P		**P**	**10 31 52.3**	**+0.4**
	3.2nm,0.6s,baz=91,slow=7.3,SNR=15							
MKAR	**Makanchi Array**	**41.86**	**297**	P		**P**	**10 32 17.6**	**+0.3**
	1.6nm,0.6s,baz=83,slow=9.9,SNR=13							
ILAR	**Eielson Array**	**44.58**	**35**	P		**P**	**10 32 39.0**	**+0.2**
	0.7nm,0.8s,baz=253,slow=5.6,SNR=9.2							
BVAR	**Borovoye Array**	**47.39**	**309**	P		**P**	**10 33 01.7**	**+0.6**
	5.3nm,0.5s,baz=75,slow=8.9,SNR=25							
INK	**Inuvik**	**49.23**	**29**	P		**P**	**10 33 15.2**	**+0.2**
	0.6nm,0.3s,baz=290,slow=4.9,SNR=12							
YKA	**Yellowknife Ar**	**58.77**	**32**	P		**P**	**10 34 24.6**	**+0.4**
	0.3nm,0.8s,baz=304,slow=

comp=E,2μm,2.0s

LNV	**Longovilo**	**2.28**	**35**	*e*P	Pn	11 03 40.9	+1.6
U73B	**San Pedro**	**2.31**	**34**	*e*P	Pn	11 03 41.4	+1.8
U73B				AML	AML	11 04 21.3	

comp=E,501nm,0.6s

CLCH	**Cerro Calan**	**3.17**	**40**	*e*P	Pn	11 03 53.2	+1.8
CLCH				*e*S	Sn	11 04 30.5	+2.4
PEL	**Peldehue**	**3.29**	**36**	*e*P	Pn	11 03 55.0	+1.8
PEL				*e*S	Sn	11 04 33.7	+2.6
PEL				AML	AML	11 04 56.5	

comp=N,259nm,1.5s

DJA 10 11:27:26.2±2.6, 1°S±15″×13°1E±1″8, h30km±7km, M4.0/4, MLv4.0/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**0.26**	**137**	P	Pn	11 27 34.4	+0.3
SWI				S	Sn	11 27 40.4	+1.3
FAKI	**Fak Fak**	**2.52**	**152**	P	Pn	11 28 05.4	+0.2
FAKI				S	Sn	11 28 13.2	-22
RKPI	**Ransiki, Papua**	**3.21**	**105**	P	Pn	11 28 14.9	+0.3

IDC ***10*** *11:32:41.8±3.6, 36.6′60N×141.7′08E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/35, mbtmp3.2/3, ML3.5/1, Error ellipse: s-maj=71.0km s-min=37.5km az=42.0*

ISCJB ***10*** *11:32:50.7±0.7, 36.6′63N±0.7′05×140.7′49E±0.7′06, h82km±6km, mb3.5/2, Error ellipse: s-maj=10.3km s-min=6.3km az=143.2*

JMA ***10*** *11:32:52.4±0.1, 36.7′65N×140.7′40E, h72km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φs199.00000°, δ89.00000°, λ89.00000°. NP2: φs75.00000°, δ2.00000°, λ146.00000°. Principal axes: T Plg46.0000°, Azm107.0000°; N Plg1.0000°, Azm199.0000°; P Plg44.0000°, Azm290.0000°;*

JMA Felt I J1.

ISC 10 11:32:51.7±1.2, 36°63N±0.7′06×140°47E±0.7′06, H76km±9km, n13, σ0°41/24, 7C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.08**	**106**	⇓P	**Pn**	**11 33 02.9**	**+0.2**
JHO				S	**Sn**	**11 33 10.6**	**-0.1**
JFK	**Kawauchi**	**0.80**	**24**	⇓P	**Pn**	**11 33 08.6**	**+0.4**
JFK				S	**Sn**	**11 33 20.3**	**-0.2**
JAG	**Ashikaga**	**0.84**	**256**	⇑P	**Pn**	**11 33 08.8**	**+0.1**
JAG				S	**Sn**	**11 33 20.5**	**-0.8**
JFT	**Otama**	**0.89**	**353**	⇑P	**Pn**	**11 33 09.5**	**+0.3**
JFT				S	**Sn**	**11 33 22.6**	**+0.4**
JFY	**Yanaizu**	**0.98**	**322**	⇑P	**Pn**	**11 33 10.4**	**0.0**
JFY				S	**Sn**	**11 33 23.9**	**-0.4**
JKT	**Katashina**	**0.99**	**278**	⇑P	**Pn**	**11 33 10.7**	**+0.2**
JKT				S	**Sn**	**11 33 24.8**	**+0.3**
JMM	**Marumori**	**1.26**	**12**	⇑P	**Pn**	**11 33 14.0**	**+0.3**
JMM				S	**Sn**	**11 33 29.7**	**-0.5**
JHK	**Hiroka**	**1.31**	**298**	⇑P	**Pn**	**11 33 14.6**	**+0.1**
JHK				S	**Sn**	**11 33 31.0**	**-0.6**
JRY	**Ryogami san**	**1.41**	**244**	⇑P	**Pn**	**11 33 16.0**	**+0.3**
JRY				S	**Sn**	**11 33 33.5**	**-0.3**
MJAR	**Matsushiro Arr**	**1.82**	**268**	Pn	**Pn**	**11 33 21.0**	**-0.1**

12nm,0.3s,baz=87,slow=25,SNR=108

MJAR				Sn	**Sn**	**11 33 43.5**	**+0.1**

7.3nm,0.3s,baz=164,slow=29,SNR=12

MAT	**Matsushiro**	**1.82**	**268**	P	**Pn**	**11 33 22.0**	**+0.9**
MAT				S	**Sn**	**11 33 44.0**	**+0.5**
WRA	**Warramunga Arr**	**56.57**	**187**	P	**P**	**11 42 26.3**	**-0.2**

0.3nm,0.7s,baz=4.3,slow=7.5,SNR=2.0

ASAR	**Alice Springs**	**60.30**	**187**	P	**P**	**11 42 52.3**	**-0.1**

0.4nm,0.9s,baz=359,slow=9.3,SNR=2.1

ISCJB ***10*** *11:43:29.7±0.6, 11.7′14N±0.7′02×146.7′01E±0.7′01, h2km±3km, mb6.0/389, MS6.1/416, Error ellipse: s-maj=2.7km s-min=2.1km az=165.6*

IDC ***10*** *11:43:30.9±0.3, 11.7′23N×146.7′07E, h0km, mb5.7/34, mb1 5.8/36, mb1mx5.8/37, mbtmp5.7/36, ML5.0/3, MS5.9/32, Ms1 5.9/32, ms1mx5.8/37, Error ellipse: s-maj=12.8km s-min=9.1km az=73.0*

BJI ***10*** *11:43:30.3, 11.7′23N×146.7′15E, h10km, mb6.0/87, mB6.4/71, Ms6.2/97, Ms7 6.1/88*

NEIC ***10*** *11:43:32.0±0.0, 11.7′13N×146.7′05E, h15km, Moment Tensor Solution. s26 Moment tensor: Scale 10^18Nm; Mrr0.08; Mθθ0.52; Mφφ-0.60; Mrθ-0.74; Mθφ2.31; Mrφ1.35; Best double couple: M0 2.80000×10^18 NP1:φs188.00000°, δ78.00000°, λ-154.00000°. NP2:φs93.00000°, δ66.00000°, λ-11.00000°. Principal axes: T 2.3700, Plg7.0000°, Azm319.0000°; N 0.7600, Plg63.0000°, Azm213.0000°; P -3.1400, Plg25.0000°, Azm53.0000°;*

GCMT ***10*** *11:43:32.8±0.1, 11.7′09N×146.7′09E, h14km, MW6.3/133, Moment Tensor Solution. s131,c312; s133,c535; Duration: 3s3 Moment tensor: Scale 10^18Nm; Mrr0.02±.01; Mθθ0.79±.02; Mφφ-0.80±.02; Mrθ0.57±.04; Mθφ2.94±.02; Mrφ0.69±.04; Best double couple: M0 3.17100×10^18 NP1:φs7.00000°, δ82.00000°, λ166.00000°. NP2:φs99.00000°, δ77.00000°, λ8.00000°. Principal axes: T 3.2710, Plg15.0000°, Azm322.0000°; N -0.2000, Plg74.0000°, Azm158.0000°; P -3.0710, Plg4.0000°, Azm53.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***10*** *11:43:32.8±0.1, 11.7′14N×146.7′00E, h13km, mb6.2/217, ME6.9, MS6.1/300, MW6.2, MW6.3 Error ellipse: s-maj=2.9km s-min=2.5km az=143.0 Broadband fault plane solution: P waves. NP1:φs2.00000°, δ89.00000°, λ-178.00000°. NP2:φs272.00000°, δ88.00000°, λ-1.00000°. Principal axes: T Plg1.0000°, Azm137.0000°; N Plg0.0000°, Azm0.0000°; P Plg2.0000°, Azm227.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [III] at Dededo and Hagatna and [II] at Mangilao, Santa Rita and Tamuning, Guam. Also felt at Andersen AFB, Apra Harbor, Hagatna Heights, Sinajana and Yigo. Felt at Chalan Kanoa, San Rogue, San Vicente and Susupe, Saipan.

MOS ***10*** *11:43:34.7±1.1, 11.7′16N×145.7′92E, h36km, mb6.3/92, MS6.1/104 Error ellipse: s-maj=6.6km s-min=4.1km az=105.3*

DJA ***10*** *11:43:43.5±0.9, 11°N±4′×14°6E±′, h92km±7km, M6.3/133, mb6.0/133, mB6.5/120, Mw(mB)6.3/120, Mwp6.2/27*

NEIC ***10*** *11:43:54.7±0.0, 11.7′67N×146.7′07E, h10km, Moment Tensor Solution. s122 Moment tensor: Scale 1018Nm; Mrr-0.45; Mθθ1.22; Mφφ-0.76; Mrθ-0.49; Mθφ2.86; Mrφ1.28; Best double couple: M0 3.30000×10^18 NP1:φs97.00000°, δ69.00000°, λ-13.00000°. NP2:φs192.00000°, δ77.00000°, λ-157.00000°. Principal axes: T 3.2900, Plg5.0000°, Azm323.0000°; N 0.1100, Plg64.0000°, Azm221.0000°; P -3.4000, Plg24.0000°, Azm55.0000°;*

ISC 10 11:43:33.0±0.2, 11°17N±0.7′02×146°08E±0.7′03, h17km±1km, h17km: pP-P, n1748, σ1°66/1928, mb6.1/393, MS6.2/422, 70C-32D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.68**	**334**	Pn	**Pn**	**11 44 15.2**	**-0.3**

15μm,0.3s,baz=128,slow=5.1,SNR=5573

GUMO				Sn	**Sn**	**11 44 45.8**	**-1.8**

8μm,0.3s,baz=22,slow=19,SNR=7.4

PALU	**Palau**	**12.07**	**253**	P	**Pn**	**11 46 22.9**	**-1.5**

baz=12,SNR=202

MANU	**Manus Island**	**13.19**	**174**	⇑P	**Pn**	**11 46 37.7**	**-1.9**

baz=13,SNR=28

JAY	**Jayapura**	**14.61**	**202**	P	**Pn**	**11 47 00.7**	**+1.6**

433nm,1.6s,10μm

JAY	**Jayapura**	**14.61**	**202**	Pn	**Pn**	**11 46 59.4**	**+0.3**

5.9nm,0.3s,baz=11,slow=5.2,SNR=35

JAY				Sn	Sn	11 49 32.5	-8.3

0.9nm,0.3s,baz=22,slow=18,SNR=3.3

JAY				LR	LR	11 51 10.4	

comp=Z,72nm,19.1s,baz=17,slow=31

JAY	**Jayapura**	**14.61**	**202**	⇑P	**Pn**	**11 46 59.7**	**+0.6**

baz=15

GENI	**Genyem**	**14.88**	**204**	P	**Pn**	**11 47 04.4**	**+1.6**
SMPI	**Sarmi**	**14.99**	**210**	P	**Pn**	**11 47 05.4**	**+1.2**
BAKI	**Biak**	**15.78**	**220**	P	**Pn**	**11 47 14.8**	**+0.1**

713nm,1.4s,37μm171μm

JCJ	**Chichijima**	**16.27**	**348**	Pn	**Pn**	**11 47 18.1**	**-2.7**

14nm,0.3s,baz=243,slow=9.3,SNR=11

JCJ				Sn	**Sn**	**11 50 20.5**	**-0.4**

12nm,0.3s,baz=44,slow=22,SNR=3.8

CBIJ	**Chichi jima**	**16.27**	**348**	Pn	**Pn**	**11 47 18.1**	**-2.7**

67nm,1.3s

CBIJ				*e*Sn	**Sn**	**11 50 17.0**	**-4.0**
CBIJ				Sn	**Sn**	**11 50 20.5**	**-0.4**
RABL	**Rabaul**	**16.41**	**158**	⇑P	**Pn**	**11 47 20.2**	**-2.5**

baz=16,SNR=32

WAMI	**Wamena**	**16.65**	**207**	P	**P**	**11 47 31.7**	**+3.6**

1μm,1.4s,16μm103μm

RKPI	**Ransiki, Papua**	**17.29**	**224**	P	**Pn**	**11 47 34.0**	**+0.2**

2μm,1.4s,20μm96μm

SIJI	**Sorong**	**18.97**	**232**	P	**Pn**	**11 47 54.5**	**0.0**

2.3nm,0.3s,baz=40,slow=12,SNR=98

SIJI				LR	LR	11 53 34.0	

comp=Z,70μm,20.8s,baz=59,slow=32

SWI	**Sorong**	**18.97**	**232**	P	**Pn**	**11 47 56.1**	**+1.6**

2μm,0.9s,23μm141μm

FAKI	**Fak Fak**	**19.63**	**225**	P	**Pn**	**11 48 02.0**	**-0.4**

2μm,2.2s,37μm113μm

FAKI	**Fak Fak**	**19.63**	**225**	P	**Pn**	**11 48 02.0**	**-0.4**

baz=20,SNR=39

FAKI	**Fak Fak**	**19.63**	**225**	*e*P	**P**	**11 48 00.9**	**0.0**

1μm,1.6s

FAKI				*e*S	**Sn**	**11 51 45.1**	**+2.6**
MATI	**Mati**	**20.02**	**260**	*e*P	Pn	11 48 06.9	-0.1
BUTP	**Butuan**	**20.26**	**266**	*e*P	Pn	11 48 10.4	+0.5
SCPH	**Surigao**	**20.30**	**268**	⇓*e*P	Pn	11 48 11.3	+1.0
PMG	**Port Moresby**	**20.47**	**177**	*c i*P	**P**	**11 48 09.4**	**-0.6**

PMG				pmax	pmax		

comp=Z,10μm,2.5s

PMG	**Port Moresby**	**20.47**	**177**	P	**P**	**11 48 09.5**	**-0.6**

baz=20,SNR=24

PMG				P	**P**	**11 48 09.5**	**-0.6**

baz=20,SNR=24

PMG				P	**P**	**11 48 09.5**	**-0.6**

baz=20,SNR=24

PMG	**Port Moresby**	**20.47**	**177**	*e*P	**P**	**11 48 09.7**	**-0.3**
PMG				*e*S	S	11 51 51.1	-7.6
PMG				LR	LR		

comp=Z,42μm,20.0s

DAV	**Davao City (W)**	**20.64**	**260**	P	Pn	11 48 14.3	-0.1

SNR=136

DAV	**Davao City (W)**	**20.64**	**260**	*e*P	Pn	11 48 14.2	-0.2

comp=Z,8μm,1.6s

DAV				*e*S	Sn	11 52 12.0	+4.9
DAV				LR	LR		

comp=Z,12μm,19.0s

PLP	**Palo**	**20.70**	**272**	⇓*e*P	**P**	**11 48 13.4**	**+0.7**
MSLP	**Maasin**	**20.88**	**269**	*e*P	Pn	11 48 16.3	-0.9
BUKP	**Musuan**	**20.98**	**263**	*e*P	**P**	**11 48 16.7**	**+1.0**
OCLP	**Ormoc**	**21.07**	**272**	*e*P	**P**	**11 48 21.1**	**+4.5**
H11S3	**WAKE ISLAND Hy**	**21.20**	**67**	P	**P**	**11 48 18.6**	**+0.8**

baz=251,slow=7.3,SNR=14

H11S3				T	T	12 10 14.8	

baz=253,slow=75,SNR=393

H11S1	**WAKE ISLAND Hy**	**21.21**	**67**	P	**P**	**11 48 18.6**	**+0.7**

baz=251,slow=7.3,SNR=5.9

H11S1				T	T	12 10 16.6	

baz=253,slow=75,SNR=367

H11S2	**WAKE ISLAND Hy**	**21.21**	**68**	P	**P**	**11 48 18.7**	**+0.8**

baz=251,slow=7.3,SNR=15

H11S2				T	T	12 10 21.1	

baz=253,slow=75,SNR=417

CGP	**Cagayan de Oro**	**21.25**	**265**	*e*P	**P**	**11 48 19.0**	**+0.5**
KWAJ	**Kwajalein Atol**	**21.33**	**94**	*e*P	**P**	**11 48 19.8**	**+0.3**
KWAJ				pmax	pmax		

comp=Z,806nm,0.9s

KWAJ				MLR	MLR		

comp=Z,21μm,19.0s

KWAJ	**Kwajalein Atol**	**21.33**	**94**	*e*P	**P**	**11 48 19.8**	**+0.3**

comp=Z,806nm,0.9s

KWAJ				LR	LR		

comp=Z,21μm,19.0s

WAKE	**Wake Island**	**21.41**	**65**	*e*P	**P**	**11 48 19.9**	**-0.4**

comp=Z,5μm,1.5s

WAKE				S	**S**	**11 52 15.9**	**-1.6**
WAKE				LR	LR		

comp=Z,49μm,22.0s

GSPH	**General Santos**	**21.49**	**258**	⇓*e*P	**P**	**11 48 21.0**	**-0.3**
PVCP	**Virac**	**21.55**	**279**	⇓*i*P	**P**	**11 48 23.5**	**+1.7**
SGSI	**Sangihe**	**21.68**	**252**	P	**P**	**11 48 26.3**	**+3.1**

comp=Z,2μm,1.2s,comp=Z,25μm

H11N1	**WAKE ISLAND Hy**	**21.76**	**65**	P	**P**	**11 48 24.3**	**+0.4**

baz=242,slow=14,SNR=34

H11N1				T	T	12 11 00.2	

baz=250,slow=75,SNR=359

H11N2	**WAKE ISLAND Hy**	**21.77**	**64**	P	**P**	**11 48 24.4**	**+0.5**

baz=242,slow=14,SNR=24

H11N2				T	T	12 10 59.0	

baz=250,slow=75,SNR=204

H11N3	**WAKE ISLAND Hy**	**21.78**	**65**	P	**P**	**11 48 24.3**	**+0.2**

baz=242,slow=14,SNR=41

H11N3				T	T	12 11 01.6	

baz=250,slow=75,SNR=375

LBMI	**Labuha**	**21.88**	**239**	P	**P**	**11 48 26.1**	**+0.8**

comp=Z,2μm,1.7s,comp=Z,39μmcomp=Z,60μm

TBP	**Tagbilaran**	**21.90**	**268**	*e*P	**P**	**11 48 28.8**	**+3.3**
CTBH	**Cotabato--PC H**	**21.91**	**262**	⇓*i*P	**P**	**11 48 26.7**	**+1.1**
MSAI	**Masohi**	**22.34**	**231**	P	**P**	**11 48 32.5**	**+2.2**

comp=Z,495nm,1.3s,comp=Z,7μmcomp=Z,29μm

BNDI	**Bandanaira**	**22.41**	**227**	P	**P**	**11 48 32.3**	**+1.3**

comp=Z,3μm,1.2s,comp=Z,44μmcomp=Z,76μm

DCPH	**Dipolog City**	**22.54**	**266**	⇓*e*P	**P**	**11 48 35.9**	**+3.5**
JHJ2	**Mitsune**	**22.59**	**346**	*e*P	**P**	**11 48 32.4**	**-0.4**

comp=Z,374nm,0.7s

JHJ2				*e*		11 52 20.5	
JHJ2				LR	LR		

comp=Z,49μm,21.0s

PAGZ	**Pagadian**	**22.63**	**264**	*e*P	**P**	**11 48 36.8**	**+3.5**
JOW	**Kunigami**	**22.89**	**315**	*e*P	**P**	**11 48 36.2**	**+0.2**

comp=Z,3μm,1.8s

JOW				LR	LR		

comp=Z,41μm,22.0s

GUIM	**Jordan**	**23.08**	**271**	*e*P	**P**	**11 48 39.5**	**+1.4**
GQP	**Guinayangan**	**23.23**	**279**	⇓*e*P	**P**	**11 48 41.7**	**+2.1**
NLAI	**Namia**	**23.70**	**234**	P	**P**	**11 48 45.1**	**+0.9**

comp=Z,439nm,1.7s,comp=Z,11μmcomp=Z,39μm

SANI	**Sanana**	**23.91**	**238**	P	**P**	**11 48 44.9**	**-1.4**

comp=Z,343nm,1.3s,comp=Z,9μmcomp=Z,49μm

SAUI	**Saumlaki**	**24.05**	**218**	P	P	11 48 53.0	+5.5
SAUI	**Saumlaki**	**24.05**	**218**	*e*P	**P**	**11 48 51.4**	**+3.9**

comp=Z,2μm,1.3s

LQP	**Lukban**	**24.12**	**280**	⇑*e*P	**P**	**11 48 51.1**	**+2.6**
KMSI	**Cibinong**	**24.34**	**246**	P	**P**	**11 48 50.8**	**+0.5**

comp=Z,3μm,1.3s,comp=Z,58μmcomp=Z,46μm

HNR	**Honiara**	**24.68**	**146**	*e*P	**P**	**11 48 53.4**	**+0.1**
HNR				pmax	pmax		

comp=Z,52nm,1.0s

HNR				MLR	MLR		

comp=Z,51μm,21.0s

HNR	**Honiara**	**24.68**	**146**	*e*P	**P**	**11 48 58.0**	**+4.7**
HNR	**Honiara**	**24.68**	**146**	*e*P	**P**	**11 48 53.4**	**+0.1**

comp=Z,52nm,1.0s

HNR				LR	LR		

comp=Z,51μm,21.0s

TGY	**Tagaytay City**	**24.70**	**279**	P	**P**	**11 48 55.4**	**+1.8**

comp=Z,2μm,1.1s,baz=90,slow=19

COEN	**Coen**	**25.13**	**187**	⇑P	**P**	**11 48 56.8**	**-0.5**

baz=25,SNR=23

COEN	**Coen**	**25.13**	**187**	*e*P	**P**	**11 48 56.8**	**-0.5**
COEN				LR	LR		

comp=Z,9μm,18.0s

BCPH	**Baguio City Da**	**25.29**	**285**	⇑*i*P	**P**	**11 48 59.2**	**+0.2**
BCPH				*i* S	S	11 53 35.7	+11
YOJ	**Yonaguni jima**	**25.58**	**304**	*e*P	**P**	**11 49 01.3**	**-0.1**
YOJ				pmax	pmax		

comp=Z,768nm,1.4s

YOJ				MLR	MLR		

comp=Z,31μm,19.0s

YOJ	**Yonaguni jima**	**25.58**	**304**	*e*P	**P**	**11 49 01.3**	**-0.1**

comp=Z,768nm,1.4s

YOJ				LR	LR		

comp=Z,31μm,19.0s

SZP	**Santa**	**25.61**	**287**	*e*P	**P**	**11 49 01.6**	**-0.2**

comp=Z,1μm,1.4s

SZP				LR	LR		

comp=Z,32μm,19.0s

JNU	**Nakatsue**	**25.93**	**330**	P	**P**	**11 49 04.2**	**-0.3**

comp=Z,946nm,1.1s,baz=130,slow=2.9,SNR=111

JNU				S	**S**	**11 53 34.5**	**+0.3**

comp=Z,22nm,1.1s,baz=75,slow=16,SNR=1.9

JNU				LR	LR	11 58 31.0	

comp=Z,11μm,21.3s,baz=186,slow=35

JNU	**Nakatsue**	**25.93**	**330**	P	**P**	**11 49 04.2**	**-0.3**

comp=Z,118nm,1.4s

JNU				S	**S**	**11 53 34.5**	**+0.3**
JNU				*e*S	S	11 53 35.5	+1.2
JNU				*e*ScP	ScP	11 55 59.2	-13
LUWI	**Luwuk**	**26.16**	**244**	P	**P**	**11 49 06.4**	**-0.3**

comp=Z,3μm,1.4s,comp=Z,29μmcomp=Z,61μm

LUWI	**Luwuk**	**26.16**	**244**	P	**P**	**11 49 06.7**	**-0.1**

baz=26,SNR=85

LUWI	**Luwuk**	**26.16**	**244**	*e*P	**P**	**11 49 05.7**	**-1.1**

comp=Z,4μm,1.2s

LUWI				*e*S	**S**	**11 53 32.8**	**-5.3**
LUWI				*e*ScP	**ScP**	**11 56 15.4**	**+2.2**
MRSI	**Marisa**	**26.23**	**248**	P	**P**	**11 49 07.6**	**+0.2**

comp=Z,1μm,1.1s,comp=Z,13μm

MJAR	**Matsushiro Arr**	**26.25**	**346**	P	**P**	**11 49 05.4**	**-1.9**

comp=Z,45nm,0.9s,baz=172,slow=9.6,SNR=84

MJAR				S	**S**	**11 53 40.4**	**+1.3**

comp=Z,9.4nm,1.1s,baz=162,slow=12,SNR=2.1

MJAR				LR	LR	11 59 22.4	

comp=Z,26μm,19.6s,baz=170,slow=36

MAJO	**Matsushiro**	**26.25**	**346**	*c i*P	**P**	**11 49 05.8**	**-1.6**
MAJO				pmax	pmax		

comp=Z,4μm,1.7s

MAJO				MLR	MLR		

comp=Z,473μm,21.0s

MAJO	**Matsushiro**	**26.25**	**346**	*e*P	**P**	**11 49 05.5**	**-1.8**
MAJO				*e*S	**S**	**11 53 32.9**	**-6.2**
MAJO				*e*ScP	**ScP**	**11 56 17.9**	**+4.8**
MAJO				LR	LR		

comp=Z,36μm,19.0s

TWG	**Pinlang**	**26.53**	**299**	*e*P	**P**	**11 49 08.9**	**-1.2**

comp=Z,1μm,1.1s

TWG				*e*S	**S**	**11 53 47.5**	**+3.7**
TWG				LR	LR		

comp=Z,100μm,20.0s

YULB	**Yu-li**	**26.55**	**301**	*e*P	**P**	**11 49 09.7**	**-0.6**

comp=Z,2μm,1.6s

YULB				*e*S	**S**	**11 53 40.8**	**-3.4**
YULB				*e*ScP	ScP	11 56 03.6	-11
YULB				LR	LR		

comp=Z,18μm,20.0s

SSLB	**Suanglung**	**27.00**	**301**	*e*P	**P**	**11 49 13.6**	**-0.8**

comp=Z,6μm,1.9s

SSLB				*e*S	**S**	**11 53 54.7**	**+3.4**
SSLB				*e*ScP	**ScP**	**11 56 21.2**	**+5.6**
YHNB	**Yeheng**	**27.01**	**303**	*e*P	**P**	**11 49 14.0**	**-0.5**

comp=Z,831nm,1.4s

YHNB				*e*ScP	**ScP**	**11 56 17.0**	**+1.3**
YHNB				LR	LR		

comp=Z,42μm,19.0s

TOLI	**Toli-Toli**	**27.02**	**250**	*e*P	**P**	**11 49 14.6**	**0.0**

comp=Z,446nm,1.1s

TOLI				*e*ScP	ScP	11 56 06.3	-10
TOLI				LR	LR		

comp=Z,35μm,22.0s

TATO	**Taipei**	**27.05**	**304**	*e*P	**P**	**11 49 13.3**	**-1.4**

comp=Z,588nm,1.3s

TATO				*e*ScP	**ScP**	**11 56 22.9**	**+7.2**
TATO				LR	LR		

comp=Z,35μm,19.0s

TPUB	**Ta-pu**	**27.09**	**300**	*e*P	**P**	**11 49 14.1**	**-1.0**

comp=Z,1μm,1.4s

TPUB				*e*S	**S**	**11 53 54.2**	**+1.5**
TPUB				*e*ScP	**ScP**	**11 56 17.9**	**+2.1**
TPUB				LR	LR		

comp=Z,23μm,18.0s

APSI	**Ampana**	**27.09**	**245**	P	**P**	**11 49 15.0**	**-0.2**

comp=Z,784nm,1.5s,comp=Z,13μmcomp=Z,23μm

KDU	**Kakadu**	**27

KKM Kota Kinabalu 29.95 263 ⇑P **P** **11 49 42.3 +1.5**
KKM Kota Kinabalu 29.95 263 *e*P **P** **11 49 40.6 -0.2**
comp=Z,343nm,1.4s
KKM *e*S **S** **11 54 42.5 +4.4**
KKM LR LR
comp=Z,26µm,19.0s
KSJEO Jeonju 29.96 328 P **P** **11 49 41.3 +0.8**
SNR=19
KSHUK Heuksando 30.02 325 P **P** **11 49 42.2 +1.1**
SNR=12
SOEI Soe 30.04 227 P **P** **11 49 41.4 -0.2**
comp=Z,403nm,1.6s,comp=Z,9µm
SOEI Soe 30.04 227 P **P** **11 49 41.3 -0.2**
baz=30,SNR=19
SOEI Soe 30.04 227 *e*P **P** **11 49 41.1 -0.4**
comp=Z,546nm,1.0s
SOEI LR LR
comp=Z,17µm,19.0s
KSTBA Taebaek 30.10 332 P **P** **11 49 41.7 -0.1**
SNR=20
KSTBA Taebaek 30.10 332 P **P** **11 49 41.7 -0.1**
SNR=20
KSBON Boeun 30.15 330 P **P** **11 49 42.1 -0.1**
SNR=12
SPSI Sidrap Palu 30.19 242 P **P** **11 49 42.6 -0.2**
comp=Z,187nm,1.2s,comp=Z,5µm
KSTEJ Daejeon 30.26 329 P **P** **11 49 44.6 +1.5**
SNR=12
TJN Taejon 30.27 329*c i*P **P** **11 49 43.8 +0.6**
KSGUS GUNSAN 30.30 328 P **P** **11 49 44.2 +0.7**
SNR=26
KSCHJ Chungju 30.36 330 P **P** **11 49 43.9 -0.1**
SNR=19
KSYOW Yeongwol 30.37 331 P **P** **11 49 44.1 0.0**
SNR=18
SSE Sheshan 30.41 314 P **P** **11 49 44.2 -0.3**
SSE pP **pP** **11 49 51.6 +1.9**
SSE PP **PnPn** **11 50 46.1 +3.0**
SSE S **S** **11 54 44.1 -0.5**
SSE sS **sS** **11 54 54.0 +0.8**
SSE PMZ
comp=Z,250nm,1.8s
SSE PMZ
comp=Z,2µm,4.2s
SSE LN
comp=Z,14µm,17.9s
SSE LE
comp=Z,18µm,18.6s
SSE LZ
comp=Z,20µm,17.7s
KSKOJ Gongju 30.45 329 P **P** **11 49 45.5 +0.6**
SNR=16
KSJES JEONGSEON 30.48 332 P **P** **11 49 45.3 +0.2**
SNR=9.4
BKSI Bulukumba 30.59 239 P **P** **11 49 46.5 +0.2**
comp=Z,144nm,1.4s,comp=Z,4µm
KSCEA Cheonan 30.67 329 P **P** **11 49 47.8 +1.0**
SNR=17
KSDGY Daegwallycong 30.69 332 P **P** **11 49 46.9 -0.1**
SNR=50
BSSI Bau Bau, Buton 30.73 237 P **P** **11 49 48.1 +0.5**
comp=Z,540nm,0.8s,comp=Z,5µmcomp=Z,21µm
KAPI Kappang 30.74 240 P **P** **11 49 48.4 +0.8**
SNR=18
KAPI Kappang 30.74 240 *e*P **P** **11 49 47.3 -0.4**
comp=Z,387nm,1.3s
KAPI *e*ScP **ScP** **11 56 26.1 -1.4**
KAPI LR LR
comp=Z,19µm,20.0s
KSWJU Wonju 30.74 331 P **P** **11 49 48.0 +0.5**
SNR=19
KSJMJ Jumunjin 30.81 333 P **P** **11 49 47.9 -0.1**
SNR=33
MMRI Maumere 30.82 231 P **P** **11 49 50.1 +1.8**
comp=Z,285nm,1.7s,comp=Z,7µmcomp=Z,24µm
MMRI Maumere 30.82 231 *e*P **P** **11 49 47.4 -0.9**
comp=Z,460nm,1.4s
MMRI *e*S S 11 54 58.2 +6.8
MMRI LR LR
comp=Z,26µm,21.0s
ERM Erimo 30.84 356*d i*P **P** **11 49 48.5 +0.3**
ERM pmax pmax
comp=Z,217nm,1.7s
ERM MLR MLR
comp=Z,51µm,20.0s
ERM Erimo 30.84 356 PFAKE 11 50 00.0 +12
ERM LR LR
comp=Z,56µm,20.0s
KSRS Korea Array 30.84 331 P **P** **11 49 47.8 -0.5**
comp=Z,45nm,1.0s,baz=145,slow=9.1,SNR=92
KSRS PcP **PcP** **11 52 47.5 +2.4**
comp=Z,19nm,0.9s,baz=138,slow=6.0,SNR=4.1
KSRS PKiKP **PKiKP** **12 00 21.1 +5.2**
comp=Z,1.4nm,0.9s,baz=123,slow=1.4,SNR=4.2
KSRS P3KPbc 12 21 35.5
comp=Z,1.7nm,0.8s,baz=346,slow=4.3,SNR=5.3
KSRS PKPPKP P'P'df 12 23 23.2 -20
comp=Z,2.6nm,1.0s,baz=6.1,slow=1.8,SNR=6.3
KSAR Wonju Array Be 30.85 331 P **P** **11 49 47.8 -0.6**
KSAR 11 52 47.6
KSAR 12 00 21.1
KSAR Wonju Array Be 30.85 331 P **P** **11 49 47.8 -0.6**
KSAR PcP **PcP** **11 52 47.5 +2.3**
KSAR PKiKP **PKiKP** **12 00 21.1 +5.1**
KSAR *e* 12 21 35.5
KSAR P'P' 12 23 23.2
KS01 Wonju Array Si 30.88 331 *e*P **P** **11 49 47.3 -1.3**
KSSES Seosan 31.05 328 P **P** **11 49 50.9 +0.8**
SNR=6.6
CTA Charters Tower 31.06 180 LR LR 12 02 11.7
comp=Z,16µm,19.4s,slow=36
CTA Charters Tower 31.06 180 ⇑P **P** **11 49 50.0 -0.4**
baz=31
CTAO Charters Tower 31.06 180 *e*P **P** **11 49 49.6 -0.7**
CTAO pmax pmax
comp=Z,91nm,1.0s
CTAO MLR MLR
comp=Z,24µm,22.0s
CTAO Charters Tower 31.06 180 *e*P **P** **11 49 49.6 -0.7**
comp=Z,91nm,1.0s
CTAO LR LR
comp=Z,24µm,22.0s
KSCHC Chuncheon 31.16 331 P **P** **11 49 50.9 -0.2**
SNR=17
KSSWO Suwon 31.16 330 P **P** **11 49 51.3 +0.2**
SNR=10
KSIJA INJE 31.19 332 P **P** **11 49 51.6 +0.2**
SNR=46
KSSKC Sokcho 31.25 333 P **P** **11 49 52.0 +0.2**
SNR=33
SEHB SEOHWA 31.35 332 P **P** **11 49 53.4 +0.6**
SNR=29
INCN Inchon 31.50 330 P **P** **11 49 54.4 +0.3**
SNR=20
INCN Inchon 31.50 330 *e*P **P** **11 49 53.9 -0.2**
comp=Z,177nm,0.9s
INCN *e*S **S** **11 55 02.3 +0.6**
INCN LR LR
comp=Z,36µm,19.0s
BKB Balikpapan 31.54 249 P **P** **11 49 56.6 +1.9**
comp=Z,671nm,1.4s,comp=Z,9µm
KSCWO Cheorwon 31.54 331 P **P** **11 49 54.6 +0.2**
SNR=8.8
KSDDC Dongducheon 31.61 331 P **P** **11 49 55.5 +0.4**
SNR=6.7
KNRA Kununurra 31.71 213 P **P** **11 49 55.5 -0.6**
baz=32,SNR=45
KSMUS Musan 31.75 330 P **P** **11 49 56.7 +0.4**
SNR=13
KSGAH Ganghwa 31.76 330 P **P** **11 49 56.5 +0.2**
SNR=36
YNCB YEONCHEON 31.79 331 P **P** **11 49 56.7 +0.1**
SNR=27
QIS Mount Isa 32.16 191 P **P** **11 49 59.2 -0.8**
baz=32,SNR=68
HKC Hong Kong Obse 32.43 294 ⇑*i*P P 11 50 06.0 +3.6
HKC S **S** **11 55 16.0 -0.5**
NJ2 Nanjing 32.59 314 *e*P **P** **11 50 04.0 +0.3**
NJ2 pP **pP** **11 50 06.8 -2.1**
NJ2 sP **sP** **11 50 08.6 -2.4**
NJ2 S **S** **11 55 21.0 +2.3**
NJ2 sS **sS** **11 55 26.0 -1.3**
NJ2 ScP **ScP** **11 56 33.7 +0.3**
NJ2 PMZ
comp=Z,300nm,0.7s
NJ2 PMZ
comp=Z,5µm,5.1s
NJ2 LN
comp=Z,21µm,12.7s
NJ2 LE
comp=Z,38µm,15.7s
NJ2 LZ
comp=Z,62µm,15.8s
YUK Yuzh-Kuril'sk 32.75 360*c i*P **P** **11 50 06.0 +1.1**
YUK *i* S **S** **11 55 17.3 -3.6**
YUK pmax pmax
comp=Z,1µm,6.7s
YUK MLR MLR
comp=N,15µm,20.0s
YUK MLR MLR
comp=Z,19µm,20.0s
YUK MLR MLR
comp=E,8µm,10.0s
KSBAR Backryungdo 32.85 328 P **P** **11 50 07.4 +1.5**
SNR=7.9
ASAJ Asahikawa 32.97 355 P **P** **11 50 06.9 0.0**
comp=E,338nm,1.3s,baz=232,slow=12
ASAJ LR LR 12 06 28.7
comp=E,7µm,18.6s,baz=192,slow=42
ASAJ Asahikawa 32.97 355 P **P** **11 50 06.9 0.0**
ASAJ pmax pmax
comp=Z,338nm,1.3s
ASAJ MLR MLR
comp=Z,7µm,18.6s
ASAJ Asahikawa 32.97 355 P **P** **11 50 06.9 0.0**
comp=Z,19nm,1.1s
ASAJ *e*PcP **PcP** **11 52 52.5 +1.7**
WRAB Tennant Creek 32.99 201 *e*P **P** **11 50 06.6 -0.7**
WRAB pmax pmax
comp=Z,2µm,1.9s
WRAB MLR MLR
comp=Z,29µm,20.0s
WRAB Tennant Creek 32.99 201 *e*P **P** **11 50 06.6 -0.7**
comp=Z,2µm,1.9s
WRAB LR LR
comp=Z,29µm,20.0s
WRA Warramunga Arr 33.01 201 P **P** **11 50 06.9 -0.6**
comp=Z,139nm,0.8s,baz=30,slow=9.8,SNR=273
WRA PcP **PcP** **11 52 52.6 +1.2**
comp=Z,31nm,0.8s,baz=17,slow=3.1,SNR=5.7
WRA S **S** **11 55 20.6 -4.8**
comp=Z,6.2nm,0.9s,baz=26,slow=10,SNR=5.0
WRA LR LR 12 03 52.6
comp=Z,22µm,20.0s,baz=20,slow=37
WRA P3KP 12 22 49.9
comp=Z,1.5nm,0.9s,baz=228,slow=1.0,SNR=5.2
WRA Warramunga Arr 33.01 201 *i* P **P** **11 50 06.3 -1.2**
WRA pmax pmax
comp=Z,139nm,0.8s
KBKI Kotabaru 33.05 246 P **P** **11 50 08.1 +0.1**
comp=Z,155nm,1.9s,comp=Z,3µmcomp=Z,12µm
GZH Guangzhou 33.37 295 P **P** **11 50 10.4 -0.3**
GZH PP **PnPn** **11 51 22.1 +0.6**
GZH PcP **PcP** **11 52 52.9 +0.6**
GZH S **S** **11 55 27.3 -3.8**
GZH ScP **ScP** **11 56 32.7 -3.6**
GZH PcS **PcS** **11 56 34.5 -3.7**
GZH SS **SnSn** **11 57 28.3 -4.4**
GZH LN
comp=Z,21µm,19.9s
GZH LE
comp=Z,38µm,19.4s
WBSI Waikabubak, Su 33.64 233 P **P** **11 50 11.0 -2.2**
comp=Z,177nm,1.3s,comp=Z,3µm
BTM Bintulu 33.65 259 ⇓P **P** **11 50 14.1 +0.9**
KUR Kuril'sk 33.98 2*d i*P **P** **11 50 13.9 -1.8**
KUR *i* S **S** **11 55 38.7 -1.3**
KUR pmax pmax
comp=N,142nm,1.3s
KUR pmax pmax
comp=E,88nm,1.3s
KUR pmax pmax
comp=Z,111nm,1.3s
KUR pmax pmax
comp=Z,297nm,5.9s
KUR MLR MLR
comp=E,10µm,17.0s
KUR MLR MLR
comp=Z,675nm,17.0s
BBKI Banjar Baru 34.31 247 P **P** **11 50 19.4 +0.4**
comp=Z,191nm,1.4s,comp=Z,4µm
SBUM Sibu 34.68 258 ⇑P **P** **11 50 23.6 +1.4**
SBUM Sibu 34.68 258 *e*P **P** **11 50 22.9 +0.7**
comp=Z,527nm,1.4s
SBUM LR LR
comp=Z,20µm,18.0s
USRK Ussuriysk Ar. 35.09 342 P **P** **11 50 25.5 +0.2**
comp=Z,56nm,0.8s,baz=157,slow=9.5,SNR=62
USRK S **S** **11 56 02.0 +4.8**
comp=Z,0.9nm,0.5s,baz=175,slow=28,SNR=2.1
USRK LR LR 12 04 17.4
comp=Z,24µm,20.3s,baz=140,slow=36
USRK P3KPbc 12 21 15.5
comp=Z,4.8nm,0.8s,baz=347,slow=3.1,SNR=9.6
WHN Wuhan 35.18 308 ⇑*i*P **P** **11 50 27.3 +1.0**
WHN PP **PP** **11 51 49.1 +2.9**
WHN S **S** **11 56 00.8 +1.9**
WHN PMZ
comp=Z,2µm,1.6s
WHN PMZ
comp=Z,7µm,5.3s
WHN LN
comp=Z,25µm,12.4s
WHN LE
comp=Z,16µm,14.7s
WHN LZ
comp=Z,63µm,20.4s
DL2 Dalian 35.18 326 ⇑*i*P **P** **11 50 27.7 +1.5**
DL2 S **S** **11 55 59.6 +0.8**
DL2 PMZ
comp=Z,1µm,1.4s
DL2 PMZ
comp=Z,8µm,3.9s
DL2 LN
comp=Z,9µm,14.7s
DL2 LE
comp=Z,8µm,16.5s
DL2 LZ
comp=Z,12µm,18.6s
YSS Yuzh-Sakhalins 35.78 356 ⇑*e*P **P** **11 50 29.0 -2.2**
YSS *e**SP **sP** **11 50 36.0 -2.5**
YSS *e*S **S** **11 56 04.0 -3.7**
YSS pmax pmax
comp=Z,140nm,1.0s
YSS MLR MLR
comp=Z,23µm,21.0s
YSS MLR MLR
comp=N,27µm,20.0s
YSS MLR MLR
comp=E,23µm,22.0s
YSS Yuzh-Sakhalins 35.78 356 *e*P **P** **11 50 30.0 -1.2**
comp=E,184nm,1.0s
YSS *e*PP **PnPn** **11 51 44.8 -6.5**
YSS LR LR
comp=Z,12µm,21.0s
QIZ Qiongzhong 35.79 287 P **P** **11 50 31.0 -0.7**
QIZ pP **pP** **11 50 34.1 -2.9**
QIZ S **S** **11 56 07.2 -1.5**
QIZ sS **sS** **11 56 14.6 -2.7**
QIZ PMZ
comp=Z,97nm,1.6s
QIZ PMZ
comp=Z,870nm,5.8s
QIZ LN
comp=Z,22µm,21.7s
QIZ LZ
comp=Z,16µm,20.4s
QIZ Qiongzhong 35.79 287 *e*P **P** **11 50 32.9 +1.2**
comp=Z,205nm,1.2s
QIZ LR LR
comp=Z,17µm,20.0s
STKI Sintang 36.11 255 P **P** **11 50 35.0 +0.5**
comp=Z,270nm,1.6s,comp=Z,14µm
TIA Tai'an 36.14 318 ⇑P **P** **11 50 35.0 +0.5**
TIA S S 11 56 07.5 -6.1
TIA PMZ
comp=Z,320nm,1.5s
TIA PMZ
comp=Z,5µm,3.6s
TIA LN
comp=Z,20µm,19.0s
TIA LE
comp=Z,12µm,21.4s
TIA LZ
comp=Z,30µm,20.7s
SRBI Singaraja 36.18 239 P **P** **11 50 35.1 +0.1**
comp=Z,416nm,1.4s,comp=Z,6µm
MDJ Mudanjiang 36.23 340 P **P** **11 50 35.8 +0.7**
MDJ pP **pP** **11 50 38.8 -1.5**
MDJ PP **PP** **11 51 58.5 +0.9**
MDJ S **S** **11 56 15.5 +0.9**
MDJ PcS **PcS** **11 56 50.4 +2.7**
MDJ PMZ
comp=Z,210nm,1.2s
MDJ PMZ
comp=Z,4µm,7.5s
MDJ LN
comp=Z,27µm,32.6s
MDJ LE
comp=Z,24µm,36.5s
MDJ LZ
comp=Z,34µm,21.1s
MDJ Mudanjiang 36.23 340 *e*P **P** **11 50 35.5 +0.4**
comp=Z,386nm,1.3s
MDJ LR LR
comp=Z,36µm,21.0s
SNY Shenyang 36.35 331 ⇑P **P** **11 50 36.0 -0.2**
SNY S **S** **11 56 11.3 -5.3**
SNY PMZ
comp=Z,250nm,1.6s
SNY PMZ
comp=Z,4µm,4.8s
SNY LN
comp=Z,15µm,15.7s
SNY LE
comp=Z,9µm,17.4s
SNY LZ
comp=Z,16µm,17.8s
DNP Denpasar 36.49 239 P **P** **11 50 38.3 +0.6**
comp=Z,578nm,1.5s,comp=Z,20µm
AS01 Alice Springs 36.59 199 *e*P **P** **11 50 37.2 -1.2**
ASAR Alice Springs 36.61 199 P **P** **11 50 37.8 -0.9**
comp=Z,82nm,0.8s,baz=16,slow=6.3,SNR=502
ASAR PP **PP** **11 52 05.6 +3.4**
comp=Z,168nm,1.1s,baz=21,slow=10,SNR=9.9
ASAR PcP **PcP** **11 53 03.2 +1.4**
comp=Z,30nm,0.8s,baz=28,slow=3.5,SNR=4.8
ASAR S **S** **11 56 18.2 -2.8**
comp=Z,11nm,1.2s,baz=26,slow=20,SNR=4.4
ASAR LR LR 12 06 07.6
comp=Z,26µm,20.4s,baz=16,slow=37
ASAR P3KPbc 12 21 14.4
comp=Z,0.8nm,0.8s,baz=199,slow=4.7,SNR=4.7
ASPA Alice Springs 36.61 199 ⇑P **P** **11 50 38.2 -0.4**
baz=37
IGBI Denpasar 36.62 238 P **P** **11 50 38.3 -0.5**
comp=Z,215nm,1.3s,comp=Z,4µm
EIDS Eidsvold 36.64 172 P **P** **11 50 37.9 -0.9**
baz=37,SNR=34
EIDS Eidsvold 36.64 172 *e*P **P** **11 50 37.9 -0.9**
comp=Z,115nm,0.7s
EIDS *e*PP **PP** **11 52 04.9 +2.5**
EIDS LR LR
comp=Z,25µm,19.0s
KMMI Kalianget 36.73 242 P **P** **11 50 41.7 +2.0**
comp=Z,519nm,1.5s,comp=Z,8µm
KSM Kuching 36.79 257 P **P** **11 50 40.4 +0.1**
baz=37,SNR=48
KSM Kuching 36.79 257 ⇑P **P** **11 50 40.5 +0.2**
KSM Kuching 36.79 257 *e*P **P** **11 50 38.6 -1.7**
comp=Z,552nm,1.6s
KSM *e*PP **PnPn** **11 51 60.0 -4.2**
KSM LR LR
comp=Z,14µm,22.0s
DLV T Lat 36.82 275 *e*P **P** **11 50 41.5 +0.7**
ABJI Asem Bagus 36.87 241 P **P** **11 50 42.4 +1.5**
comp=Z,660nm,1.1s,comp=Z,12µm
PBKI Pangkalan Bun 36.90 250 P **P** **11 50 42.1 +0.9**
comp=Z,2µm,1.1s,comp=Z,20µm
CN2 Changchun 37.09 335 ⇑P **P** **11 50 42.4 -0.1**
CN2 *e*pP **pP** **11 50 46.9 -0.8**
CN2 *e*sP **sP** **11 50 49.4 -0.4**
CN2 PP **PP** **11 52 07.0 -0.1**
CN2 *e*S **S** **11 56 28.4 +0.5**
CN2 SS **SnSn** **11 58 59.0 -3.4**
CN2 PMZ
comp=Z,100nm,1.7s
CN2 PMZ
comp=Z,4µm,5.0s
CN2 LN
comp=Z,21µm,16.0s
CN2 LE
comp=Z,23µm,16.0s
CN2 LZ
comp=Z,8µm,18.0s
BLJI Banyuglugur 37.39 241 P **P** **11 50 46.2 +0.9**
comp=Z,1µm,1.3s,comp=Z,15µm
RMQ Roma 37.52 176 P **P** **11 50 45.7 -0.5**
baz=38,SNR=53
QLP Quilpie 37.56 183 P **P** **11 50 45.0 -1.6**
baz=38,SNR=53
LIFNC LIFOU 37.95 147 *e*P **P** **11 50 49.0 -0.9**
GRJI Gresik 37.96 243 P **P** **11 50 51.8 +1.6**
comp=Z,452nm,1.4s,comp=Z,5µm
MIDW Midway 38.17 58 *e*P **P** **11 50 52.5 +0.7**
comp=Z,156nm,0.8s
MIDW LR LR
comp=Z,17µm,19.0s
HABR Khabarovsk 38.32 348*ce*P **P** **11 50 50.9 -1.8**
HABR *e* 11 52 18.7
HABR *e* 11 53 04.2
HABR *e*S **S** **11 56 46.1 -0.2**
HABR *e* 12 01 02.2
HABR pmax pmax
comp=E,11nm,0.7s
HABR pmax pmax
comp=N,41nm,2.0s
HABR pmax pmax
comp=Z,93nm,2.0s
HABR pmax pmax
comp=Z,4µm,5.7s
HABR MLR MLR
comp=Z,29µm,22.0s
TBJI Tambak Boyo 38.47 244 P **P** **11 50 56.8 +2.3**
comp=Z,449nm,1.2s,comp=Z,7µm
NOUC Port Laguerre 38.56 149 *e*P **P** **11 50 54.3 -0.8**
DZM Mont Dzumac 38.60 149 *e*P **P** **11 50 55.7 +0.1**
comp=Z,976nm,1.1s
DZM *e*S **S** **11 56 45.7 -5.7**
comp=Z,13µm,23.9s
DZM *e*LR LR 12 01 18.8
comp=Z,61µm,27.7s
DZM Mont Dzumac 38.60 149 LR LR 12 06 26.8
comp=Z,36µm,18.4s,baz=0.0,slow=36
DZM Mont Dzumac 38.60 149 *e*P **P** **11 50 55.6 +0.1**
comp=Z,446nm,1.0s
DZM *e*PP **PnPn** **11 52 28.9 +2.7**
ENH Enshi 38.91 305 *e*P **P** **11 50 58.9 +0.8**
comp=Z,231nm,0.9s
ENH LR LR
comp=Z,24µm,22.0s
NGJI Ngawi 39.06 243 P **P** **11 51 01.5 +2.0**
comp=Z,646nm,1.3s,comp=Z,11µm
BJT Baijiatuau 39.06 323 *e*P **P** **11 50 59.8 +0.6**
BJT pmax pmax
comp=Z,1µm,1.4s
BJT MLR MLR
comp=Z,17µm,19.0s
BJT Baijiatuau 39.06 323 *e*P **P** **11 50 59.8 +0.6**
comp=Z,1µm,1.4s
BJT LR LR
comp=Z,17µm,19.0s
PWJI Pagerwojo 39.07 242 P **P** **11 50 59.0 -0.5**
comp=Z,792nm,1.0s,comp=Z,8µm
BJI Beijing 39.07 323 P **P** **11 50 59.7 +0.5**
BJI PP **PnPn** **11 52 30.7 -0.7**
BJI S **S** **11 56 58.1 +0.1**
BJI PMZ
comp=Z,630nm,1.7s
BJI PMZ
comp=Z,6µm,4.5s
BJI LN
comp=Z,16µm,21.5s
BJI LE
comp=Z,14µm,18.5s
BJI LZ
comp=Z,26µm,36.3s
UWJI Ujung Watu 39.09 245 P **P** **11 51 01.1 +1.4**
comp=Z,989nm,1.3s
TYV Tymovskoe 39.68 357 *e*P **P** **11 51 04.0 -0.1**
TYV *e*S **S** **11 57 06.0 -0.8**

TYV pmax pmax
comp=N,2μm,6.0s
TYV pmax pmax
comp=Z,2μm,6.0s
TYV smax smax
comp=E,12μm,8.0s
TYV smax smax
comp=N,20μm,20.0s
TYV smax smax
comp=E,26μm,22.0s
PCJI Pacitan 39.70 242 P **P** **11 51 04.9 +0.1**
comp=E,918nm,1.5s,comp=E,10μm
UBPT Khong Chiam 39.71 280 P **P** **11 51 06.6 +1.8**
comp=E,94nm,2.4s,comp=E,5μm
KLR Kul'dur 39.77 345 *e*P P 11 51 00.0 -5.0
KLR *e*S **S** **11 57 04.0 -4.3**
KLR pmax pmax
comp=N,200nm,1.8s
KLR pmax pmax
comp=E,320nm,1.8s
KLR pmax pmax
comp=Z,1μm,1.8s
KLR pmax pmax
comp=Z,4μm,6.0s
KLR MLR MLR
comp=Z,44μm,13.5s
SMRI Semarang 39.82 245 P **P** **11 51 07.0 +1.2**
comp=Z,532nm,1.4s,comp=Z,11μm
SMRI Semarang 39.82 245 ⇓P **P** **11 51 06.9 +1.2**
baz=40,SNR=6.9
SMRI Semarang 39.82 245 *e*P **P** **11 51 06.9 +1.2**
comp=Z,454nm,1.0s
SMRI LR LR
comp=Z,22μm,22.0s
WRKA Warakurna 39.95 206 P **P** **11 51 05.8 -0.9**
baz=40,SNR=107
TIY Taiyuan 40.09 317 *e*P **P** **11 51 09.2 +1.4**
TIY PP **PnPn** **11 52 47.4 +3.8**
TIY S **S** **11 57 16.1 +2.6**
TIY PMZ
comp=Z,240nm,0.8s
TIY PMZ
comp=Z,9μm,5.3s
TIY LN
comp=Z,12μm,14.3s
TIY LE
comp=Z,4μm,10.4s
TIY LZ
comp=Z,28μm,28.7s
GYA Guiyang 40.11 298 ⇑*i*P **P** **11 51 09.5 +1.3**
GYA PcP **PcP** **11 53 13.4 +0.6**
GYA ScP **ScP** **11 57 02.8 +1.4**
GYA S **S** **11 57 14.7 +0.6**
GYA SS **SS** **12 00 05.8 -6.1**
GYA ScS **ScS** **12 01 14.2 -0.9**
GYA PMZ
comp=Z,230nm,1.0s
GYA PMZ
comp=Z,3μm,7.8s
GYA LN
comp=Z,22μm,19.0s
GYA LE
comp=Z,16μm,20.0s
GYA LZ
comp=Z,20μm,22.6s
UGM Wanagama 40.14 243 P **P** **11 51 08.9 +0.4**
comp=Z,2μm,1.2s,comp=Z,22μmcomp=Z,17μm
UGM Wanagama 40.14 243 P **P** **11 51 08.3 -0.1**
baz=40,SNR=34
UGM Wanagama 40.14 243 *e*P **P** **11 51 08.4 -0.1**
comp=Z,2μm,1.0s
UGM LR LR
comp=Z,12μm,22.0s
SKR Severo-Kuril's 40.26 10 *e*P P 11 50 58.0 -11
SKR *e* 11 51 16.5
SKR *e*S S 11 57 05.0 -10
SKR pmax pmax
comp=N,1μm,1.5s
SKR pmax pmax
comp=E,880nm,1.5s
SKR pmax pmax
comp=Z,640nm,1.5s
SKR pmax pmax
comp=N,3μm,4.0s
SKR pmax pmax
comp=E,3μm,4.0s
SKR pmax pmax
comp=Z,4μm,4.0s
SKR smax smax
comp=N,5μm,12.0s
SKR smax smax
comp=E,15μm,12.0s
SKR MLR MLR
comp=Z,9μm,14.0s
SKR MLR MLR
comp=N,7μm,12.0s
SKR MLR MLR
comp=E,8μm,12.0s
XAN Xi'an 40.83 310 P **P** **11 51 13.9 -0.1**
XAN PP **PP** **11 52 45.8 -2.5**
XAN PcS **PcS** **11 57 05.7 -0.1**
XAN S **S** **11 57 23.7 -1.0**
XAN PMZ
comp=E,90nm,1.0s
XAN PMZ
comp=E,4μm,4.7s
XAN LN
comp=E,4μm,17.2s
XAN LE
comp=E,16μm,17.2s
XAN LZ
comp=E,23μm,17.2s
SKNT Sakolnakorn 41.18 283 P **P** **11 51 18.3 +1.2**
comp=E,226nm,1.1s,comp=E,6μm
MBWA Marble Bar 41.26 219 P **P** **11 51 18.4 +0.9**
SNR=13
MBWA Marble Bar 41.26 219 *e*P **P** **11 51 17.7 +0.2**
comp=E,627nm,1.5s
MBWA LR LR
comp=Z,16μm,19.0s
KPJI Karang Pucung 41.28 245 P **P** **11 51 18.2 +0.3**
comp=Z,664nm,1.5s,comp=Z,9μm
JCJI Jatiwangi 41.52 247 P **P** **11 51 22.4 +2.6**
comp=Z,665nm,2.0s,comp=Z,14μm
SLVN Son La 41.62 290 *e*P **P** **11 51 21.3 +0.6**
comp=Z,206nm,1.4s
ARMA Armidale 41.69 173 P **P** **11 51 20.8 -0.3**
baz=42,SNR=29
ARMA Armidale 41.69 173 *e*P **P** **11 51 20.7 -0.3**
comp=Z,261nm,1.6s
ARMA LR LR
comp=Z,20μm,20.0s
CMJI Cimerak 41.91 245 P **P** **11 51 22.2 -0.8**
comp=Z,530nm,1.2s,comp=Z,7μm
LEM Lembang 42.25 247 P **P** **11 51 27.1 +1.1**
comp=Z,355nm,2.0s,comp=Z,7μm
LEM Lembang 42.25 247 LR LR 12 08 45.7
comp=Z,10μm,20.9s,baz=73,slow=36
HHC Hu-ho-hao-te 42.38 320 *e*P **P** **11 51 27.6 +0.9**
HHC pP **pP** **11 51 32.9 +0.9**
HHC sP **sP** **11 51 35.2 +1.2**
HHC PP PP 11 53 10.2 +5.3
HHC S **S** **11 57 48.9 +1.4**
HHC sS **sS** **11 57 56.2 0.0**
HHC ScS **ScS** **12 01 30.8 +2.6**
HHC PMZ
comp=Z,39nm,0.6s
HHC PMZ
comp=Z,4μm,6.3s
HHC LN
comp=Z,12μm,19.1s
HHC LE
comp=Z,18μm,20.6s
HHC LZ
comp=Z,23μm,19.6s
CISI Cisompet, Garu 42.38 246 P **P** **11 51 26.4 -0.5**
comp=Z,298nm,1.8s,comp=Z,5μm
CISI Cisompet, Garu 42.38 246 *e*P **P** **11 51 25.6 -1.4**
comp=Z,422nm,1.1s
CISI LR LR
comp=Z,8μm,20.0s
CMSA Cobar Meteorol 42.46 180 P **P** **11 51 26.1 -1.1**
baz=42,SNR=8.4
TPRI Tanjung Pinang 42.50 259 P **P** **11 51 29.2 +1.3**
comp=Z,117nm,1.9s,comp=Z,6μm
MSVF Nonsavu 42.68 132 *e*P **P** **11 51 29.1 -0.2**
MSVF pmax pmax
comp=Z,938nm,1.3s
MSVF MLR MLR
comp=Z,22μm,21.0s
MSVF Nonsavu 42.68 132 *e*P **P** **11 51 29.1 -0.2**
comp=Z,938nm,1.3s
MSVF LR LR
comp=Z,22μm,21.0s
CBJI Citeko 42.77 248 P **P** **11 51 31.4 +1.3**
comp=Z,372nm,1.3s,comp=Z,10μm
DSRI Dabo 42.84 257 P **P** **11 51 31.6 +1.0**
comp=Z,342nm,1.4s,comp=Z,10μm
TNG Tangerang 42.86 248 P P 11 51 34.3 +3.5
comp=Z,2μm,1.5s,comp=Z,26μm
TNG Tangerang 42.86 248 P P 11 51 34.2 +3.5
comp=Z,1μm,1.5s,comp=Z,16μm
PEA0 Petropavlovsk- 42.86 10 *e*P **P** **11 51 30.5 +0.2**
PETK Petropavlovsk- 42.86 10 P **P** **11 51 30.3 0.0**
comp=Z,95nm,1.0s,baz=274,slow=9.8,SNR=6.1
PETK PcP **PcP** **11 53 21.8 +0.7**
comp=Z,53nm,0.9s,baz=165,slow=6.2,SNR=3.7
PETK LR LR 12 09 14.7
comp=Z,15μm,20.2s,baz=199,slow=36
KTGM Kuala Trenggan 42.86 266 ⇓P **P** **11 51 31.7 +0.9**
CNJI Cibinong 42.89 246 P **P** **11 51 30.9 -0.1**
MYKOM Kota Tinggi 42.93 261 *e*P **P** **11 51 31.6 +0.2**
comp=Z,421nm,1.5s
MYKOM LR LR
comp=Z,10μm,21.0s
PET Petropavlovsk 42.95 11 ⇑*i*P **P** **11 51 31.4 +0.4**
PET *e* 11 53 14.3
PET *e*S **S** **11 57 52.9 -2.4**
PET *e*SS **SS** **12 01 00.9 -6.4**
PET pmax pmax
comp=Z,245nm,1.1s
PET pmax pmax
comp=Z,2μm,7.7s
PET pmax pmax
comp=Z,1μm,7.6s
PET MLR MLR
comp=Z,16μm,15.0s
PET MLR MLR
comp=Z,15μm,14.0s
PET Petropavlovsk 42.95 11 *e*P **P** **11 51 31.7 +0.7**
comp=Z,251nm,1.1s
PET LR LR
comp=Z,17μm,21.0s
STKA Stephens Creek 43.01 186 P **P** **11 51 30.3 -1.4**
comp=Z,46nm,0.8s,baz=352,slow=8.9,SNR=29
STKA LR LR 12 09 32.0
comp=Z,37μm,18.1s,baz=1.7,slow=36
STKA Stephens Creek 43.01 186 P **P** **11 51 30.3 -1.4**
baz=43,SNR=31
BTDF Bukit Timah Da 43.11 260 ⇑P **P** **11 51 33.0 +0.1**
baz=43,SNR=5.5
BTDF ⇑P **P** **11 51 33.0 +0.1**
baz=43,SNR=5.5
BTO Baotou 43.22 319 *e*P **P** **11 51 34.3 +0.8**
BTO PMZ
comp=Z,82nm,1.4s
KMI Kunming 43.27 295 P **P** **11 51 35.5 +1.2**
KMI PP **PP** **11 53 18.9 +4.0**
KMI S **S** **11 58 02.7 +1.5**
KMI SS **SS** **12 01 08.6 -6.1**
KMI PMZ
comp=Z,270nm,1.4s
KMI PMZ
comp=Z,1μm,3.4s
KMI LN
comp=Z,19μm,18.8s
KMI LE
comp=Z,8μm,18.4s
KMI LZ
comp=Z,16μm,26.0s
SKJI Sukabumi 43.28 247 P **P** **11 51 35.7 +1.5**
comp=Z,302nm,1.3s,comp=Z,4μm
SBJI Serang 43.31 249 P **P** **11 51 37.4 +3.0**
comp=Z,378nm,1.5s,comp=Z,7μm
PMBI Palembang 43.41 254 P **P** **11 51 37.8 +2.5**
comp=Z,721nm,1.3s,comp=Z,19μmcomp=Z,11μm
NAYO Nakonayok 43.72 279 P **P** **11 51 39.8 +2.0**
comp=Z,117nm,1.7s,comp=Z,2μm
CD2 Chengdu 43.78 303 ⇑*i*P **P** **11 51 38.4 +0.2**
CD2 pP **pP** **11 51 41.5 -2.0**
CD2 sP **sP** **11 51 42.9 -2.6**
CD2 PP **PP** **11 53 20.4 +0.2**
CD2 S **S** **11 58 04.9 -3.4**
CD2 sS **sS** **11 58 15.2 -1.8**
CD2 PMZ
comp=Z,970nm,1.1s
CD2 PMZ
comp=Z,5μm,7.2s
CD2 LN
comp=Z,4μm,15.2s
CD2 LZ
comp=Z,4μm,14.3s
LOEI Loei 43.80 284 P **P** **11 51 36.0 -2.4**
comp=Z,110nm,1.4s,comp=Z,3μm
HIA Hailar 43.83 335 *e*P **P** **11 51 38.9 +0.7**
HIA pmax pmax
comp=Z,351nm,1.0s
HIA MLR MLR
comp=Z,22μm,21.0s
HIA Hailar 43.83 335 *e*P **P** **11 51 38.9 +0.7**
comp=Z,351nm,1.0s
HIA LR LR
comp=Z,22μm,21.0s
CGJI Cibinong 43.90 248 P **P** **11 51 37.7 -1.5**
comp=Z,438nm,1.4s,comp=Z,6μm
KLI Kotabumi 44.01 251 P **P** **11 51 40.6 +0.5**
comp=Z,569nm,1.4s,comp=Z,6μm
PBKT Sadao Pong 44.05 282 P **P** **11 51 41.8 +1.4**
comp=Z,237nm,1.5s,comp=Z,5μm
KLSI 44.06 251 P **P** **11 51 40.9 +0.4**
comp=Z,528nm,1.5s,comp=Z,11μm
JMBI JAMBI 44.07 256 P P 11 51 44.1 +3.5
comp=Z,438nm,1.4s,comp=Z,10μm
KNTN Kanton 44.20 106 *e*P **P** **11 51 41.7 +0.1**
comp=Z,4μm,3.0s
KNTN LR LR
comp=Z,20μm,21.0s
PATY Pattaya 44.21 277 P **P** **11 51 44.7 +3.0**
comp=Z,37nm,1.2s,comp=Z,4μm
UTTA Uttaradit 44.48 284 P **P** **11 51 44.9 +1.1**
comp=Z,36nm,1.3s,comp=Z,376nm
MDSI Maura Dua 44.50 252 P **P** **11 51 43.7 -0.3**
comp=Z,258nm,1.3s,comp=Z,5μm
KASI Kota Agung 44.58 250 P **P** **11 51 44.0 -0.7**
comp=Z,775nm,1.1s,comp=Z,7μm
BBOO Buckleboo 44.76 192 P **P** **11 51 44.7 -1.1**
baz=45,SNR=48
BBOO Buckleboo 44.76 192 *e*P **P** **11 51 44.6 -1.1**
comp=Z,197nm,0.8s
BBOO LR LR
comp=Z,25μm,20.0s
LWLI Liwa 44.80 251 P **P** **11 51 46.2 -0.4**
comp=Z,474nm,0.9s,comp=Z,6μm
HTT Hallett 44.87 188 P **P** **11 51 45.8 -0.9**
baz=45,SNR=14
LHSI Lahat 44.89 253 P **P** **11 51 47.5 +0.4**
comp=Z,521nm,1.6s,comp=Z,9μm
SKLT Songkhla 45.02 269 P **P** **11 51 50.1 +1.9**
comp=Z,195nm,1.1s,comp=Z,4μm
IPM Ipoh 45.09 265 *e*P **P** **11 51 48.7 -0.1**
comp=Z,225nm,1.4s
IPM LR LR
comp=Z,10μm,20.0s
FORT Forrest 45.16 202 PFAKE 11 52 00.0 +11
FORT LR LR
comp=Z,15μm,19.0s
YNG Young 45.27 177 P **P** **11 51 49.4 -0.4**
baz=45,SNR=25
KULM Kulim 45.30 266 *e*P **P** **11 51 50.7 +0.3**
comp=Z,284nm,1.3s
KULM LR LR
comp=Z,7μm,20.0s
SUKH Sukhothai 45.35 284 P **P** **11 51 52.2 +1.4**
comp=Z,51nm,1.1s,comp=Z,451nm
LAMP Lampang 45.39 285 P **P** **11 51 52.2 +1.1**
comp=Z,20nm,1.2s,comp=Z,218nm
LZH Lanzhou 45.47 310 ⇑P **P** **11 51 52.9 +1.2**
LZH pP **pP** **11 51 58.2 +1.2**
LZH sP **sP** **11 52 00.2 +1.1**
LZH PP **PP** **11 53 39.1 +1.0**
LZH S **S** **11 58 36.0 +3.2**
LZH sS **sS** **11 58 41.5 -0.1**
LZH SS **ScS** **12 01 47.0 -1.0**
LZH PMZ
comp=Z,2μm,1.5s
LZH PMZ
comp=Z,4μm,4.0s
LZH LN
comp=Z,20μm,14.6s
LZH LE
comp=Z,19μm,15.4s
LZH LZ
comp=Z,23μm,15.8s
UTHA Uthaitani 45.52 281 P **P** **11 51 53.8 +1.7**
comp=Z,44nm,1.2s,comp=Z,485nm
XMI Christmas Isla 45.53 243 ⇑P **P** **11 51 52.7 +0.5**
baz=46,SNR=7.6
MNAI Manna 45.60 253 P P 11 51 57.1 +4.3
comp=Z,2μm,1.3s,comp=Z,20μm
MNAI Manna 45.60 253 *e*P **P** **11 51 52.0 -0.8**
comp=Z,2μm,1.2s
KSI Kapahiang 45.70 254 P **P** **11 51 53.3 -0.4**
comp=Z,617nm,1.2s,comp=Z,9μm
TRTT Trang 45.84 270 P **P** **11 51 56.7 +2.0**
comp=Z,224nm,1.5s,comp=Z,3μm
SRDT SRDT 45.85 279 P **P** **11 51 56.7 +1.9**
comp=Z,652nm,1.0s,comp=Z,15μm
GIRL Giralia 45.86 223 ⇑P **P** **11 51 55.6 +0.9**
baz=46,SNR=9.8
MASI Maura Aman, Be 45.87 254 P **P** **11 51 55.3 +0.3**
comp=Z,2μm,1.3s,comp=Z,23μm
SDSI Sungai Dareh 45.98 258 P P 11 51 59.7 +3.9
comp=Z,241nm,1.5s,comp=Z,33μm
BKNI Bangkinang 46.02 260 P **P** **11 51 57.5 +1.4**
comp=Z,329nm,1.4s,comp=Z,6μm
BKNI Bangkinang 46.02 260 *e*P **P** **11 51 55.8 -0.3**
comp=Z,130nm,0.8s
BKNI *e*ScP **ScP** **11 57 25.6 +0.3**
CMAI Chiengmai2 46.02 287 P **P** **11 51 57.2 +1.0**
comp=Z,241nm,1.2s,comp=Z,4μm
CM01 Chiang Mai Arr 46.02 285 *e*P **P** **11 51 56.3 +0.2**
CMAR Chiang Mai Arr 46.04 285 P **P** **11 51 57.1 +0.9**
comp=Z,28nm,0.9s,baz=83,slow=4.9,SNR=75
CMAR LR LR 12 10 05.8
comp=Z,9μm,20.6s,baz=91,slow=35
CMAR PKPPKP **P'P'df** **12 23 22.8 -5.0**
comp=Z,1.0nm,0.8s,baz=224,slow=3.8,SNR=3.2
CMMT Chiang Mai 46.05 285 P **P** **11 51 57.2 +0.9**
comp=Z,81nm,1.9s,comp=Z,3μm
CHTO Chiang Mai 46.05 285 P **P** **11 51 57.2 +0.9**
comp=Z,272nm,1.9s,comp=Z,9μm
CHTO Chiang Mai 46.05 285 *e*P **P** **11 51 56.5 +0.1**
CHTO *e* 11 53 34.1
CHTO *e*S **S** **11 58 36.6 -4.8**
CHTO pmax pmax
comp=Z,158nm,1.6s
CHTO MLR MLR
comp=Z,10μm,19.0s
CHTO Chiang Mai 46.05 285 P **P** **11 51 57.5 +1.2**
SNR=31
CHTO Chiang Mai 46.05 285 *e*P **P** **11 51 56.5 +0.1**
comp=Z,158nm,1.6s
CHTO *e*PcP **PcP** **11 53 34.1 +1.4**
CHTO *e*S **S** **11 58 36.6 -4.8**
CHTO LR LR
comp=Z,10μm,19.0s
MEEK Meekatharra 46.09 215 P **P** **11 51 56.2 -0.2**
baz=46,SNR=23
CAN Canberra 46.31 177 *e*P **P** **11 51 57.6 -0.5**
CAN *e* 11 53 34.2
CAN pmax pmax
comp=Z,101nm,1.1s
CAN MLR MLR
comp=Z,24μm,22.0s
CAN Canberra 46.31 177 *e*P **P** **11 51 57.5 -0.5**
comp=Z,101nm,1.1s
CAN *e*PcP **PcP** **11 53 34.2 +0.9**
CAN LR LR
comp=Z,24μm,22.0s
CNB Canberra Magne 46.33 176 P **P** **11 51 58.2 0.0**
baz=46,SNR=29
KHLT Khaolaem Dam 46.36 280 P **P** **11 52 01.4 +2.7**
comp=Z,72nm,1.5s,comp=Z,2μm
SURT Suratani 46.58 272 P **P** **11 52 03.3 +2.8**
comp=Z,100nm,1.4s,comp=Z,2μm
PPI Padang Panjang 46.84 259 P **P** **11 52 01.9 -0.7**
comp=Z,139nm,1.5s,comp=Z,5μm
PPI Padang Panjang 46.84 259 P **P** **11 52 02.2 -0.4**
baz=47,SNR=4.6
MHMT Maesariang 46.99 284 P **P** **11 52 05.4 +1.7**
comp=Z,79nm,1.4s,comp=Z,2μm
PKDT Phuket 47.16 270 P **P** **11 52 07.7 +2.6**
comp=Z,311nm,1.4s
SMY Shemya 47.19 23 *e*P **P** **11 52 06.2 +1.6**
SMY *e* 11 53 35.1
SMY pmax pmax
comp=Z,917nm,1.4s
SMY MLR MLR
comp=Z,17μm,20.0s
SMY Shemya 47.19 23 *e*P **P** **11 52 06.2 +1.6**
comp=Z,917nm,1.4s
SMY *e*PcP **PcP** **11 53 35.1 -0.9**
SMY LR LR
comp=Z,17μm,20.0s
MNSI Mandailing Nat 47.31 261 P **P** **11 52 06.0 -0.2**
comp=Z,144nm,1.3s,comp=Z,3μm
PSI Prapat 47.48 264 *e*P **P** **11 52 07.1 -0.6**
PSI pmax pmax
comp=Z,148nm,1.0s
PSI Prapat 47.48 264 P **P** **11 52 07.8 +0.1**
baz=48,SNR=36
PSI Prapat 47.48 264 *e*P **P** **11 52 07.1 -0.6**
comp=Z,148nm,1.0s
TSI Tuntungan 47.69 265 P P 11 52 12.6 +3.5
comp=Z,230nm,1.0s
ARPS Mount Arapiles 47.85 185 P **P** **11 52 09.8 -0.2**
baz=48,SNR=29
PPSI Pulau Pagai 47.87 256 P **P** **11 52 10.9 +0.3**
comp=Z,1μm,1.3s,comp=Z,12μm
MILA Mila 48.05 177 P **P** **11 52 11.8 +0.2**
baz=48,SNR=6.4
KMBL Kambalda 48.24 208 P **P** **11 52 13.0 -0.1**
baz=48,SNR=17
SISI Saibi 48.34 258 P **P** **11 52 13.1 -1.1**
comp=Z,438nm,1.4s,comp=Z,6μm
AMKA Amchitka 48.36 27 *e*P **P** **11 52 15.9 +2.1**
comp=Z,2μm,1.0s
CLNS Chul'man 48.42 345 *e*P **P** **11 52 13.8 -0.5**
CLNS *e**PP **pP** **11 52 21.2 +1.6**
CLNS *e* 11 53 40.6
CLNS *e* 11 54 01.3
CLNS *e*S **S** **11 59 10.3 -3.9**
CLNS *e*SS **ScS** **12 02 09.1 +2.8**
CLNS pmax pmax
comp=N,45nm,1.0s
CLNS pmax pmax
comp=Z,77nm,1.2s
CLNS pmax pmax
comp=E,28nm,1.2s
CLNS pmax pmax
comp=N,80nm,1.2s
CLNS pmax pmax
comp=Z,63nm,1.2s
CLNS pmax pmax
comp=E,33nm,1.5s
CLNS smax smax
comp=N,4μm,13.5s
CLNS smax smax
comp=E,4μm,12.1s
MA2 Magadan 48.44 3 *e*P **P** **11 52 15.2 +0.9**
TOO Toolangi 48.48 181 P **P** **11 52 15.2 +0.3**
baz=49,SNR=26
CIT Chita 48.51 334 *e*P **P** **11 52 15.7 +0.7**
CIT *e* 11 52 35.6
CIT *e*S **S** **11 59 16.5 +1.0**
CIT pmax pmax
comp=Z,1μm,2.0s
AFI Afiamalu 48.65 120 *e*P **P** **11 52 17.7 +1.1**
AFI pmax pmax
comp=Z,410nm,1.3s
AFI MLR MLR
comp=Z,12μm,20.0s
AFI Afiamalu 48.65 120 *e*P **P** **11 52 17.7 +1.1**
comp=Z,410nm,1.3s
AFI LR LR
comp=Z,12μm,20.0s
PBSI Pulau Batu 48.78 260 P **P** **11 52 17.6 0.0**
comp=Z,193nm,1.4s
LHMI Lhok Sumawe 48.94 267 P P 11 52 22.1 +3.3
comp=Z,367nm,1.7s,comp=Z,9μm

LHMI	**Lhok Sumawe**	**48.94**	**267**	*e*P		**P**	**11 52 21.0**	**+2.2**
	comp=Z,196nm,0.9s							
ULN	**Ulaanbaatar**	**49.04**	**326**	PFAKE			11 52 30.0	+11
ULN				LR	LR			
	comp=Z,19µm,20.0s							
GSI	**Gunungsitoli**	**49.13**	**262**	P		**P**	**11 52 19.1**	**-1.2**
GSI	**Gunungsitoli**	**49.13**	**262**	*e*P		**P**	**11 52 19.3**	**-1.0**
	comp=Z,142nm,0.7s							
GSI				*e*PcP		**PcP**	**11 53 45.5**	**+1.7**
SONM	**Songino Array**	**49.38**	**325**	P		**P**	**11 52 22.7**	**+0.8**
	comp=Z,95nm,0.8s,baz=135,slow=5.5,SNR=261							
SONM				PP		**PP**	**11 54 16.6**	**+0.6**
	comp=Z,53nm,1.1s,baz=94,slow=4.6,SNR=3.2							
SONM				LR	LR		12 13 16.0	
	comp=Z,18µm,20.0s,baz=116,slow=36							
SONM				PKPPKP		**P'P'df**	**12 23 19.8**	**-3.1**
	comp=Z,1.2nm,1.0s,baz=210,slow=1.2,SNR=4.7							
SONM				PKP2ab			12 24 13.6	
	comp=Z,1.6nm,0.9s,baz=294,slow=2.5,SNR=4.0							
SONA1	**Songino Array**	**49.39**	**325**	*e*P		**P**	**11 52 21.9**	**0.0**
MORW	**Morawa**	**49.41**	**215**	P		**P**	**11 52 21.6**	**-0.5**
	baz=50,SNR=73							
GTA	**Gaotai**	**49.67**	**313**	⇑P		**P**	**11 52 25.2**	**+1.0**
GTA				pP		**pP**	**11 52 30.0**	**+0.4**
GTA				sP		**sP**	**11 52 32.3**	**+0.6**
GTA				PcP		**PcP**	**11 53 47.9**	**+2.4**
GTA				PP		**PP**	**11 54 21.2**	**+2.4**
GTA				S		**S**	**11 59 34.1**	**+1.7**
GTA				sS		**sS**	**11 59 41.4**	**+0.2**
GTA				SS		**SS**	**12 03 02.6**	**-2.2**
GTA				PMZ				
	comp=Z,400nm,1.6s							
GTA				PMZ				
	comp=Z,3µm,5.0s							
GTA				LN				
	comp=Z,10µm,19.9s							
GTA				LE				
	comp=Z,9µm,20.0s							
GTA				LZ				
	comp=Z,14µm,17.6s							
BLDU	**Ballidu**	**50.23**	**213**	P		**P**	**11 52 28.0**	**-0.4**
	baz=50,SNR=31							
KLBR	**Kellerberrin**	**50.44**	**212**	P		**P**	**11 52 29.8**	**-0.2**
	baz=50,SNR=16							
NWAO	**Narrogin (SRO)**	**51.77**	**211**	P		**P**	**11 52 39.9**	**0.0**
	baz=52,SNR=13							
NWAO				P		**P**	**11 52 39.9**	**0.0**
	baz=52,SNR=13							
SEY	**Seymchan**	**51.88**	**4**	P		**P**	**11 52 40.5**	**+0.2**
	comp=Z,72nm,0.9s,baz=182,slow=6.4,SNR=132							
SEY	**Seymchan**	**51.88**	**4***c*	*i*P		**P**	**11 52 40.4**	**+0.1**
ATKA	**Atka Island**	**51.96**	**30**	*e*P		**P**	**11 52 43.1**	**+2.0**
	comp=Z,213nm,1.1s							
YAK	**Yakutsk**	**52.16**	**350**	P		**P**	**11 52 41.6**	**-0.8**
	comp=Z,9.9nm,0.6s,baz=338,slow=22,SNR=36							
YAK				S		**S**	**12 00 00.2**	**-5.7**
	comp=Z,2.4nm,0.3s,baz=226,slow=23,SNR=7.5							
YAK	**Yakutsk**	**52.16**	**350***c*	*i*P		**P**	**11 52 41.4**	**-0.9**
YAK				*e**PP		**pP**	**11 52 48.8**	**+1.1**
YAK				*e*			11 53 55.7	
YAK				*e*			11 54 39.3	
YAK				*e*PPP		PPP	11 55 43.1	
YAK				*e*S		**S**	**12 00 04.5**	**-1.3**
YAK				pmax	pmax			
	comp=Z,261nm,1.1s							
YAK				pmax	pmax			
	comp=E,9.0nm,0.9s							
YAK				pmax	pmax			
	comp=N,147nm,1.5s							
YAK				pmax	pmax			
	comp=Z,515nm,4.2s							
YAK				pmax	pmax			
	comp=N,669nm,3.6s							
YAK				pmax	pmax			
	comp=E,191nm,2.1s							
YAK				smax	smax			
	comp=N,1µm,5.2s							
YAK				smax	smax			
	comp=E,5µm,6.6s							
YAK	**Yakutsk**	**52.16**	**350**	*e*P		**P**	**11 52 41.6**	**-0.8**
	comp=E,330nm,0.8s							
YAK				S		**S**	**12 00 00.2**	**-5.7**
YAK				LR	LR			
	comp=Z,27µm,22.0s							
ZAK	**Zakamensk**	**52.50**	**327**⇑	*i*P		**P**	**11 52 45.9**	**+0.6**
ZAK				pmax	pmax			
	comp=Z,182nm,1.6s							
BOD	**Bodaibo**	**52.59**	**339**	*e*P		**P**	**11 52 45.2**	**-0.5**
BOD				pmax	pmax			
	comp=Z,139nm,1.5s							
OUZ	**Omahuta**	**52.98**	**152**	PN		**P**	**11 52 50.4**	**+1.7**
OUZ	**Omahuta**	**52.98**	**152**	*e*P		**P**	**11 52 50.5**	**+1.7**
	comp=Z,247nm,0.9s							
OUZ				LR	LR			
	comp=Z,26µm,20.0s							
IRK	**Irkutsk**	**53.02**	**329**	*e*P		**P**	**11 52 48.8**	**-0.2**
IRK				*e*S		**S**	**12 00 20.7**	**+2.6**
IRK				pmax	pmax			
	comp=Z,429nm,2.3s							
TLY	**Talaya**	**53.02**	**328**	P		**P**	**11 52 49.8**	**+0.8**
	comp=Z,75nm,1.1s,baz=145,slow=5.2,SNR=54							
TLY	**Talaya**	**53.02**	**328***c*	*i*P		**P**	**11 52 49.5**	**+0.5**
TLY				*e*			11 54 48.0	
TLY				*e*S		**S**	**12 00 15.6**	**-2.6**
TLY				*e*			12 00 35.0	
TLY				*e*SSS		SSS	12 05 40.5	
TLY				pmax	pmax			
	comp=Z,297nm,1.1s							
TLY				MLR	MLR			
	comp=Z,13µm,19.0s							
TLY	**Talaya**	**53.02**	**328**	P		**P**	**11 52 49.6**	**+0.5**
	comp=Z,1µm,0.9s,SNR=65							
TLY	**Talaya**	**53.02**	**328**	P		**P**	**11 52 50.0**	**+0.9**
	SNR=206							
TLY	**Talaya**	**53.02**	**328**	*e*P		**P**	**11 52 49.2**	**+0.1**
	comp=Z,284nm,1.0s							
TLY				*e*S		**S**	**12 00 19.7**	**+1.5**
TLY				LR	LR			
	comp=Z,14µm,20.0s							
SHL	**Shillong**	**53.05**	**294**	*i* P		**P**	**11 52 51.0**	**+1.1**
SHL				*ex*		x	12 00 18.0	
RAO	**Raoul Island**	**53.11**	**140**	LR		LR	12 12 19.3	
	comp=Z,26µm,20.2s,baz=321,slow=32							
RKGY	**Rocky Gully**	**53.24**	**210**	P		**P**	**11 52 52.0**	**+1.2**
	baz=53,SNR=9.2							
MOO	**Moorlands**	**53.35**	**179**	P		**P**	**11 52 52.4**	**+0.9**
	baz=54,SNR=5.4							
TAU	**Tasmania Unive**	**53.82**	**179**	*e*P		**P**	**11 52 55.1**	**+0.3**
TAU				MLR	MLR			
	comp=Z,30µm,22.0s							
TAU	**Tasmania Unive**	**53.82**	**179**	*e*P		**P**	**11 52 55.1**	**+0.3**
TAU				LR	LR			
	comp=Z,30µm,22.0s							
COCO	**West Island**	**54.13**	**246**	PFAKE			11 53 10.0	+12
COCO				LR	LR			
	comp=Z,6µm,22.0s							
LSA	**Lhasa**	**54.17**	**299**	P		**P**	**11 52 58.6**	**+0.2**
LSA				S		**S**	**12 00 35.6**	**+0.3**
LSA				LN				
	comp=Z,5µm,16.0s							
LSA				LE				
	comp=Z,6µm,26.0s							
LSA				LZ				
	comp=Z,5µm,25.2s							
LSA	**Lhasa**	**54.17**	**299**	*e*P		**P**	**11 52 59.6**	**+1.2**
LSA				pmax	pmax			
	comp=Z,169nm,0.8s							
LSA				MLR	MLR			
	comp=Z,8µm,20.0s							
LSA	**Lhasa**	**54.17**	**299**	*e*P		**P**	**11 52 59.6**	**+1.2**
	comp=Z,169nm,0.8s							
LSA				LR	LR			
	comp=Z,8µm,20.0s							
KIP	**Kipapa**	**54.38**	**72**⇓	*e*P		**P**	**11 53 00.7**	**+1.3**
KIP				pmax	pmax			
	comp=Z,93nm,0.8s							
KIP	**Kipapa**	**54.38**	**72**	*e*P		**P**	**11 53 00.5**	**+1.1**
	comp=Z,81nm,0.8s							
KIP				LR	LR			
	comp=Z,14µm,21.0s							
MOY	**Mondy**	**54.41**	**327**	*e*P		**P**	**11 52 59.6**	**+0.3**
MOY				pmax	pmax			
	comp=Z,643nm,3.5s							
NIKH	**Nikolski High**	**55.08**	**31**	*e*P		**P**	**11 53 05.5**	**+1.5**
HIZ	**Hauiti**	**56.26**	**153**	PN		**P**	**11 53 13.7**	**+1.1**
DREZ	**Durham Road**	**56.53**	**154**	*e*PN		**P**	**11 53 16.4**	**+1.9**
POHA	**Pohakuloa**	**56.69**	**74**	*e*P		**P**	**11 53 17.7**	**+1.3**
POHA				LR	LR			
	comp=Z,16µm,22.0s							
XMAS	**Kiritimati**	**56.74**	**95**	PFAKE			11 53 30.0	+14
XMAS				LR	LR			
	comp=Z,15µm,19.0s							
UNV	**Unalaska Valle**	**56.74**	**31**	*e*P		**P**	**11 53 17.0**	**+1.2**
	comp=Z,334nm,1.0s							
UNV				LR	LR			
	comp=Z,24µm,22.0s							
SPIA	**Saint Paul Isl**	**56.77**	**27**	*e*P		**P**	**11 53 18.0**	**+2.0**
	comp=Z,622nm,1.1s							
TARZ	**Mount Tarawera**	**56.78**	**152**	PN		**P**	**11 53 17.9**	**+1.4**
TAPN	**Taplejung**	**56.93**	**295**	*e*P		**P**	**11 53 18.6**	**+0.5**
	comp=Z,1µm,0.9s							
RATZ	**Rangitukua**	**56.96**	**153**	PN		**P**	**11 53 18.7**	**+1.1**
URZ	**Urewera**	**57.09**	**151**	LR	LR		12 16 34.4	
	comp=Z,12µm,18.6s,baz=334,slow=35							
URZ	**Urewera**	**57.09**	**151**	*e*PN		**P**	**11 53 18.1**	**-0.3**
URZ	**Urewera**	**57.09**	**151**	*e*P		**P**	**11 53 17.5**	**-1.0**
ODAN	**Odare**	**57.18**	**295**	*e*P		**P**	**11 53 20.2**	**+0.4**
	comp=Z,2µm,1.3s							
QRZ	**Quartz Range**	**57.22**	**156**	PN		**P**	**11 53 20.0**	**+0.6**
AKUT	**Akutan**	**57.26**	**31**	*e*P		**P**	**11 53 21.0**	**+1.5**
	comp=Z,462nm,1.0s							
AKUT				LR	LR			
	comp=Z,23µm,21.0s							
MWZ	**Matawai**	**57.35**	**151**	*e*PN		**P**	**11 53 19.7**	**-0.7**
BKZ	**Black Stump Fm**	**57.53**	**152**	PN		**P**	**11 53 21.1**	**-0.6**
BKZ	**Black Stump Fm**	**57.53**	**152**	*e*P		**P**	**11 53 21.4**	**-0.3**
	comp=Z,232nm,0.8s							
BKZ				LR	LR			
	comp=Z,12µm,22.0s							
NNZ	**Nelson**	**57.89**	**156**	*e*PN		**P**	**11 53 23.1**	**-1.0**
RAMN	**Ramite**	**57.89**	**295**	*e*P		**P**	**11 53 25.2**	**+0.4**
	comp=Z,2µm,1.5s							
THZ	**Tophouse**	**58.16**	**157**	*e*PN		**P**	**11 53 25.0**	**-1.1**
HVS	**Khovu-Aksy**	**58.21**	**324***ce*	P		**P**	**11 53 27.4**	**+1.0**
HVS				pmax	pmax			
	comp=Z,1µm,1.7s							
HVS				MLR	MLR			
	comp=Z,69µm,20.0s							
MRZ	**Mangatainoka R**	**58.34**	**154**	*e*PN		**P**	**11 53 26.2**	**-1.1**
BILL	**Bilibino**	**58.35**	**9***c*	*i*P		**P**	**11 53 26.3**	**-0.7**
BILL				*e*			11 54 21.9	
BILL				pmax	pmax			
	comp=Z,406nm,1.2s							
BILL	**Bilibino**	**58.35**	**9**	*e*P		**P**	**11 53 26.8**	**-0.1**
	comp=Z,370nm,1.1s							
BILL				LR	LR			
	comp=Z,7µm,19.0s							
WVZ	**Waitaha Valley**	**58.50**	**159**	*e*PN		**P**	**11 53 27.2**	**-1.0**
SNZO	**South Karori**	**58.51**	**155**	*e*P		**P**	**11 53 27.0**	**-1.4**
SNZO	comp=Z,319nm,1.1s			LR	LR			
	comp=Z,10µm,20.0s							
GUN	**Gumba**	**58.59**	**296**	*e*P		**P**	**11 53 30.3**	**+0.5**
	comp=Z,2µm,1.0s							
BFZ	**Birch Farm**	**58.65**	**153**	*e*PN		**P**	**11 53 28.6**	**-0.8**
BFZ	**Birch Farm**	**58.65**	**153**	*e*P		**P**	**11 53 28.9**	**-0.5**
	comp=Z,214nm,0.8s							
BFZ				LR	LR			
	comp=Z,30µm,20.0s							
JCZ	**Jackson Bay**	**58.72**	**161**	PN		**P**	**11 53 30.0**	**0.0**
FALS	**False Pass**	**58.81**	**31**	*e*P		**P**	**11 53 30.9**	**+0.6**
FALS				LR	LR			
	comp=Z,8µm,22.0s							
KHZ	**Kahutara**	**58.97**	**157**	*e*P		**P**	**11 53 29.9**	**-1.6**
	comp=Z,166nm,0.9s							
KHZ				LR	LR			
	comp=Z,15µm,20.0s							
PKI	**Pulchoki**	**58.99**	**295**	*e*P		**P**	**11 53 32.5**	**0.0**
	comp=Z,739nm,1.1s							
PKIN	**Phulchoki**	**59.00**	**295**	*e*P		**P**	**11 53 32.8**	**+0.3**
	comp=Z,337nm,0.9s							
MSZ	**Milford Sound**	**59.00**	**162**	*e*PN		**P**	**11 53 32.2**	**+0.4**
KKN	**Kakani**	**59.11**	**296**	*e*P		**P**	**11 53 33.3**	**0.0**
	comp=Z,589nm,0.9s							
RPZ	**Rata Peaks**	**59.17**	**159**	LR	LR		12 16 33.3	
	comp=Z,13µm,20.0s,baz=327,slow=34							
RPZ	**Rata Peaks**	**59.17**	**159**	PN		**P**	**11 53 31.8**	**-1.1**
RPZ	**Rata Peaks**	**59.17**	**159**	*e*P		**P**	**11 53 32.4**	**-0.6**
	comp=Z,288nm,0.9s							
OXZ	**Oxford**	**59.18**	**158**	PN		**P**	**11 53 31.8**	**-1.3**
DMN	**Daman**	**59.26**	**295**	*e*P		**P**	**11 53 34.5**	**+0.2**
	comp=Z,978nm,1.0s							
LBZ	**Lake Benmore**	**59.46**	**160**	*e*PN		**P**	**11 53 34.2**	**-0.8**
DCZ	**Deep Cove**	**59.50**	**163**	*e*P		**P**	**11 53 35.0**	**-0.1**
	comp=Z,210nm,0.9s							
DCZ				LR	LR			
	comp=Z,9µm,18.0s							
WMQ	**Urumqi**	**59.66**	**314**	P		**P**	**11 53 38.4**	**+1.8**
WMQ				pP		**pP**	**11 53 44.4**	**+2.3**
WMQ				sP		**sP**	**11 53 45.4**	**+1.3**
WMQ				PcP		**PcP**	**11 54 23.8**	**+0.2**
WMQ				PP		**PP**	**11 55 50.6**	**+2.3**
WMQ				PcS		**PcS**	**11 58 25.4**	**-0.3**
WMQ				S		**S**	**12 01 47.0**	**+0.4**
WMQ				sS		**sS**	**12 01 54.6**	**-1.0**
WMQ				SS		**SS**	**12 05 43.7**	**+1.4**
WMQ				PMZ				
	comp=Z,380nm,1.4s							
WMQ				PMZ				
	comp=Z,5µm,4.0s							
WMQ				LN				
	comp=Z,11µm,16.9s							
WMQ				LE				
	comp=Z,14µm,17.7s							
WMQ				LZ				
	comp=Z,11µm,20.0s							
MLZ	**Mavora Lakes**	**59.68**	**162**	*e*PN		**P**	**11 53 36.2**	**-0.3**
GKN	**Gorkha**	**59.69**	**296**	*e*P		**P**	**11 53 37.4**	**+0.2**
	comp=Z,1µm,1.0s							
EAZ	**Earnscleugh**	**59.93**	**161**	*e*PN		**P**	**11 53 37.4**	**-0.8**
WHZ	**Wether Hill Ro**	**60.11**	**163**	*e*P		**P**	**11 53 38.5**	**-0.9**
	comp=Z,191nm,0.9s							
WHZ				LR	LR			
	comp=Z,16µm,18.0s							
CHLP	**Challavanipeta**	**60.16**	**285**	*e*P		**P**	**11 53 41.2**	**+0.9**
CHLP				IAmb	IAmb		11 53 44.6	
	comp=Z,411nm,1.4s							
CHLP				*es*P		**sP**	**11 53 46.8**	**-1.1**
CHLP				*e*ScP		**ScP**	**11 58 31.1**	**+4.5**
CHLP				*e*S		**S**	**12 01 52.2**	**-1.4**
CHLP				IVMsBB			12 14 19.3	
	comp=Z,1µm,29.0s							
GAMB	**Gambell**	**60.31**	**20**	*e*P		**P**	**11 53 41.9**	**+1.3**
GAMB				*e*PP		**PP**	**11 55 48.9**	**-4.6**
GAMB				LR	LR			
	comp=Z,15µm,21.0s							
DANN	**Dangsing**	**60.48**	**296**	*e*P		**P**	**11 53 43.0**	**+0.2**
	comp=Z,142nm,0.7s							
SDPT	**Sand Point**	**60.54**	**32**	*e*P		**P**	**11 53 42.8**	**+0.5**
	comp=Z,764nm,1.0s							
SDPT				LR	LR			
	comp=Z,15µm,21.0s							
KOLN	**Koldanda**	**60.60**	**296**	*e*P		**P**	**11 53 43.6**	**+0.1**
	comp=Z,818nm,0.8s							
TUZ	**Tuapeka**	**60.68**	**161**	*e*PN		**P**	**11 53 43.1**	**-0.2**
KRAR	**Krasnoyarsk**	**60.71**	**329***de*	P		**P**	**11 53 43.3**	**-0.1**
KRAR				pmax	pmax			
	comp=Z,288nm,1.7s							
KRAR				MLR	MLR			
	comp=Z,6µm,15.0s							
CHGN	**Chignik**	**62.00**	**31**	*e*P		**P**	**11 53 52.8**	**+0.7**
RAR	**Rarotonga**	**62.15**	**121**	*e*P		P	11 53 59.0	+5.3
RAR				pmax	pmax			
	comp=Z,267nm,1.3s							
RAR	**Rarotonga**	**62.15**	**121**	*e*P		P	11 53 59.0	+5.3
	comp=Z,267nm,1.3s							
PVM	**Polavaram**	**62.55**	**284**	*e*P		**P**	**11 53 56.6**	**+0.1**
PVM				*es*P		**sP**	**11 54 01.7**	**-2.4**
PVM				IAmb	IAmb		11 54 03.2	
	comp=Z,130nm,1.0s							
PVM				*e*S		**S**	**12 02 21.6**	**-2.3**
PVM				IVMs_BB	IVMs_BB		12 17 52.7	
	comp=Z,1µm,17.9s							
TNA	**Tin City**	**62.70**	**20**	*e*P		**P**	**11 53 57.5**	**+0.8**
	comp=Z,65nm,0.9s							
TNA				LR	LR			
	comp=Z,12µm,20.0s							
LGTI	**Lohaghat**	**63.61**	**297**	*e*P		**P**	**11 54 05.2**	**+1.8**
PTH	**Pithoragarh**	**63.64**	**297**	*e*P		**P**	**11 54 01.8**	**-2.0**
MK01	**Makanchi Array**	**64.04**	**317**	*e*P		**P**	**11 54 05.8**	**-0.2**
MK01				⇑*e*			12 23 00.1	
MK31	**Makanchi Array**	**64.05**	**317**	*i* P		**P**	**11 54 06.4**	**+0.3**
MK31				pmax	pmax			
	comp=Z,380nm,1.1s							
MKAR	**Makanchi Array**	**64.05**	**317**	P		**P**	**11 54 06.8**	**+0.7**
	comp=Z,40nm,0.7s,baz=96,slow=8.8,SNR=244							
MKAR				S		**S**	**12 02 45.4**	**+3.5**
	comp=Z,2.0nm,1.0s,baz=83,slow=10,SNR=3.5							
MKAR				PKPPKP		P'P'df	12 22 50.5	-10
	comp=Z,2.0nm,1.1s,baz=282,slow=2.2,SNR=6.0							
MKAR				PKP2bc			12 23 01.6	
	comp=Z,6.5nm,0.9s,baz=303,slow=2.3,SNR=17							
MKAR				PKP2ab			12 23 09.8	
	comp=Z,4.4nm,0.8s,baz=312,slow=1.9,SNR=7.0							
MKAR				LR	LR		12 24 01.2	
	comp=Z,8µm,18.3s,baz=92,slow=38							
MKAR	**Makanchi Array**	**64.05**	**317**	⇑P		**P**	**11 54 06.8**	**+0.7**
	baz=64							
ADKI	**Addanki**	**64.24**	**282**	*e*P		**P**	**11 54 07.6**	**-0.1**
ADKI				IAmb	IAmb		11 54 11.0	
	comp=Z,198nm,1.3s							
ADKI				*e*			11 54 12.2	
ADKI				*e*PcP		**PcP**	**11 54 42.8**	**+0.2**
ADKI				*e*S		**S**	**12 02 43.2**	**-1.9**
ADKI				*e*SKSac		**SKSac**	**12 04 01.6**	**-0.2**
ADKI				*e*SS		**SS**	**12 06 51.6**	**-3.2**
ADKI				IVMsBB			12 25 32.4	
	comp=Z,2µm,17.5s							
ZAA0	**Zalesovo Array**	**64.27**	**325**	*e*P		**P**	**11 54 05.8**	**-1.5**
ZALV	**Zalesovo Beam**	**64.27**	**325**	P		**P**	**11 54 07.0**	**-0.3**
	comp=Z,13nm,0.5s,baz=104,slow=6.1,SNR=56							
ZALV				PKKPbc	PKKPdf		12 15 04.8	+25
	comp=Z,0.7nm,0.3s,baz=268,slow=8.8,SNR=4.5							
ZALV				PKP2bc			12 22 58.0	
	comp=Z,5.6nm,0.9s,baz=267,slow=3.0,SNR=11							
ZALV				PKP2ab			12 23 06.7	
	comp=Z,10.0nm,1.1s,baz=310,slow=2.0,SNR=7.7							
ZALV				LR	LR		12 23 08.6	
	comp=Z,7µm,20.1s,baz=89,slow=37							
PALK	**Pallekele**	**64.55**	**273**	*e*P		**P**	**11 54 11.8**	**+1.9**
PALK				pmax	pmax			
	comp=Z,52nm,1.3s							
PALK	**Pallekele**	**64.55**	**273**	*e*P		**P**	**11 54 11.8**	**+1.9**
	comp=Z,52nm,1.3s							
RPR	**Rampur**	**64.65**	**286**	*e*P		**P**	**11 54 10.8**	**+0.3**
RPR				IAmb	IAmb		11 54 13.9	
	comp=Z,323nm,1.4s							
RPR				*es*P		**sP**	**11 54 15.8**	**-2.2**
RPR				*e*S		**S**	**12 02 47.9**	**-2.3**
RPR				*e*SKSac		**ScS**	**12 04 07.5**	**+2.5**
RPR				*e*SS		**SS**	**12 06 56.5**	**-4.7**
RPR				IVMs_BB	IVMs_BB		12 26 56.2	
	comp=Z,1µm,16.4s							
SKHT	**Srikalahasti**	**64.69**	**280**	*e*P		**P**	**11 54 11.5**	**+0.8**
SKHT				IAmb	IAmb		11 54 13.7	
	comp=Z,242nm,1.4s							
SKHT				*es*P		**sP**	**11 54 15.7**	**-2.5**
SKHT				*e*S		**S**	**12 02 48.0**	**-2.7**
SKHT				*e*SKSac		**SKSac**	**12 04 02.3**	**-2.9**
SKHT				*e*SS		**SS**	**12 07 03.5**	**+1.7**
SKHT				IVMs_BB	IVMs_BB		12 22 08.6	
	comp=Z,2µm,23.2s							
NGP	**Nagpur**	**64.76**	**288**	*e*P		**P**	**11 54 11.4**	**+0.3**
NGP				*e*S		**S**	**12 02 49.4**	**-2.1**
NJS	**Nagarjunasagar**	**64.81**	**283**	*e*P		**P**	**11 54 11.8**	**+0.3**
NJS				IAmb	IAmb		11 54 14.3	
	comp=Z,247nm,1.2s							
NJS				*es*P		**sP**	**11 54 17.0**	**-2.0**
NJS				*e*S		**S**	**12 02 49.4**	**-2.8**
NJS				*e*SS		**SS**	**12 07 06.3**	**+2.5**
NJS				IVMs_BB	IVMs_BB		12 15 42.6	
	comp=Z,1µm,17.1s							
OHAK	**Old Harbor**	**64.96**	**32**	*e*P		**P**	**11 54 12.4**	**+0.7**
	comp=Z,663nm,1.2s							
OHAK				LR	LR			
	comp=Z,25µm,20.0s							
RCLA	**Racherla**	**65.24**	**282**	*e*P		**P**	**11 54 14.9**	**+0.6**
RCLA				IAmb	IAmb		11 54 16.8	
	comp=Z,154nm,1.5s							
RCLA				*es*P		**sP**	**11 54 19.9**	**-1.9**
RCLA				*e*PcP		**PcP**	**11 54 47.8**	**+1.0**
RCLA				*e*S		**S**	**12 02 54.2**	**-3.4**
RCLA				*e*SKSac		**SKSac**	**12 04 07.2**	**-2.2**
RCLA				IVMs_BB	IVMs_BB		12 20 45.5	
	comp=Z,2µm,16.5s							
SRLM	**Srisailam**	**65.25**	**283**	*e*P		**P**	**11 54 14.0**	**-0.4**
SRLM				*es*P		**sP**	**11 54 19.8**	**-2.1**
SRLM				IAmb	IAmb		11 54 20.9	
	comp=Z,171nm,0.9s							
SRLM				*e*S		**S**	**12 02 54.5**	**-3.2**
SRLM				*e*SKSac		**SKSac**	**12 04 08.9**	**-0.6**
SRLM				*e*SS		**SS**	**12 07 15.7**	**+5.1**
SRLM				IVMs_BB	IVMs_BB		12 16 08.3	
	comp=Z,2µm,23.2s							
SVW2	**Sparrevohn**	**65.27**	**27**	*e*P		**P**	**11 54 15.0**	**+1.3**
	comp=Z,144nm,1.0s							
NVS	**Novosibirsk**	**65.42**	**326**⇑	*i*P		**P**	**11 54 14.8**	**+0.1**
NVS				*i*			11 56 38.6	
NVS				*i* S		**S**	**12 02 58.8**	**+0.4**
NVS				*e*PS		**SKSac**	**12 04 09.6**	**+0.3**
NVS				pmax	pmax			
	comp=N,130nm,1.5s							
NVS				pmax	pmax			
	comp=E,292nm,1.5s							
NVS				pmax	pmax			
	comp=Z,432nm,1.5s							
NVS				pmax	pmax			
	comp=Z,178nm,1.6s							
NVS				pmax	pmax			
	comp=N,58nm,1.8s							
NVS				pmax	pmax			
	comp=E,66nm,1.8s							
NVS				smax	smax			
	comp=N,576nm,3.4s							
NVS				smax	smax			
	comp=E,1µm,3.3s							
PDGK	**Podgornoye**	**65.42**	**313**	P		**P**	**11 54 14.9**	**-0.1**
PDGK				pmax	pmax			
	comp=Z,472nm,1.7s							
HYB	**Hyderabad**	**65.46**	**284**	*i* P		**P**	**11 54 15.0**	**-0.7**
HYB				*e*PcP		**PcP**	**11 54 50.0**	**+2.4**
HYB				*e*S		**S**	**12 03 00.0**	**-0.2**
HYB				*e*ScS		**SKSac**	**12 04 08.0**	**-3.1**
HYB				*e*SS		**SS**	**12 07 10.0**	**-3.9**
HYBB	**Hyderabad (bro**	**65.46**	**284**	*e*P		**P**	**11 54 15.2**	**-0.5**
HYBB				IAmb	IAmb		11 54 18.9	
	comp=Z,260nm,1.4s							
HYBB				*ep*P		**pP**	**11 54 19.4**	**-1.9**
HYBB				*e*PcP		**PcP**	**11 54 48.3**	**+0.7**
HYBB				*e*S		**S**	**12 02 59.7**	**-0.5**
HYBB				*e*SKSac		**SKSac**	**12 04 07.2**	**-3.9**
HYBB				IVMs_BB	IVMs_BB	

URV eS **S** **12 03 17.2 -0.9**
URV eSS **SS** **12 07 38.1 +1.4**
URV IVMs_BB IVMs_BB 12 17 16.4
comp=Z,2µm,15.2s
BHK Bhakra 66.96 299 eP **P** **11 54 27.0 +1.8**
BRLK Bradley Lake 66.97 29 eP **P** **11 54 24.8 +0.1**
comp=Z,281nm,1.0s
BRLK LR LR
comp=Z,17µm,22.0s
KURK Kurchatov 67.19 320 eP **P** **11 54 26.3 +0.1**
KURK pmax pmax
comp=Z,730nm,0.9s
KURK MLR MLR
comp=Z,16µm,19.0s
KURK Kurchatov 67.19 320 eP **P** **11 54 26.3 +0.1**
comp=Z,730nm,0.9s
KURK LR LR
comp=Z,16µm,19.0s
AAA Alma-Ata 67.25 312 *i* P **P** **11 54 28.3 +1.5**
AAA eS **S** **12 03 23.9 +2.6**
AAA pmax pmax
comp=Z,2µm,1.2s
AAA smax smax
comp=E,7µm,10.1s
KLRI Killari 67.26 285 eP **P** **11 54 27.4 +0.1**
KLRI IAmb IAmb 11 54 29.4
comp=Z,362nm,1.5s
KLRI eSP **sP** **11 54 32.3 -2.6**
KLRI eS S 12 03 16.2 -6.0
KLRI IVMs_BB IVMs_BB 12 23 58.6
comp=Z,2µm,22.5s
DLH Dalhousie 67.36 301 eP **P** **11 54 29.0 +1.1**
PPLA Purkeypile 67.42 26 eP **P** **11 54 28.1 +0.5**
PPLA LR LR
comp=Z,14µm,20.0s
CAST Castle Rocks 67.65 25 PFAKE 11 54 40.0 +11
CAST LR LR
comp=Z,14µm,22.0s
KSH Kashi 67.65 308⇑ *i*P **P** **11 54 32.7 +3.2**
KSH pP **pP** **11 54 37.1 +2.0**
KSH PcP **PcP** **11 54 58.1 +1.6**
KSH PP PP 11 57 05.1 +6.4
KSH PcS 11 59 03.2
KSH S **S** **12 03 30.0 +3.6**
KSH sS **sS** **12 03 38.4 +2.9**
KSH SS **SS** **12 07 53.1 +5.8**
KSH PMZ
comp=Z,790nm,1.5s
KSH PMZ
comp=Z,5µm,4.2s
KSH LN
comp=Z,5µm,15.6s
KSH LE
comp=Z,4µm,11.6s
KSH LZ
comp=Z,12µm,16.8s
ULHL Ulahol 67.67 311 P **P** **11 54 30.4 +0.7**
SNR=40
RC01 Rabbit Creek A 67.92 28 eP **P** **11 54 31.0 +0.4**
comp=Z,779nm,1.3s
RC01 LR LR
comp=Z,20µm,21.0s
IM04 Indian Mountai 67.94 23 eP **P** **11 54 30.9 +0.3**
IM04 ⇑*e* 12 22 55.9
TKM2 Tokmak 2 68.20 312 P **P** **11 54 33.7 +0.7**
SNR=58
TKM2 Tokmak 2 68.20 312 *i* P **P** **11 54 33.3 +0.3**
TKM2 pmax pmax
comp=Z,246nm,1.2s
TKM2 Tokmak 2 68.20 312 eP **P** **11 54 33.6 +0.5**
TKM2 LR LR
comp=Z,7µm,19.0s
BPAW Bear Paw Mtn. 68.35 25 eP **P** **11 54 33.7 +0.4**
comp=Z,48nm,1.2s
BPAW LR LR
comp=Z,3µm,20.0s
PMR Palmer 68.35 28 eP **P** **11 54 33.9 +0.6**
PMR pmax pmax
comp=Z,238nm,0.9s
PMR Palmer 68.35 28 eP **P** **11 54 33.9 +0.6**
comp=Z,238nm,0.9s
KZA Kyzart 68.39 311 P **P** **11 54 36.0 +1.5**
SNR=166
TRF Thorofare Moun 68.42 26 eP **P** **11 54 34.5 +0.5**
comp=Z,324nm,1.2s
TRF eP'P'df P'P'df 12 22 58.8 +5.6
KBK Karagaybulak 68.66 311 P **P** **11 54 37.0 +1.2**
SNR=18
MLY Manley 68.77 24 eP **P** **11 54 36.4 +0.4**
comp=Z,214nm,0.9s
MLY LR LR
comp=Z,12µm,21.0s
SML Sawmill 68.78 28 eP **P** **11 54 37.0 +0.9**
SML pmax pmax
comp=Z,133nm,1.0s
SML Sawmill 68.78 28 eP **P** **11 54 37.0 +0.9**
comp=Z,133nm,1.0s
CHMS Chumysh 68.83 312 P **P** **11 54 37.1 +0.4**
SNR=42
FRU Bishkek 68.91 312 *i* P **P** **11 54 37.0 -0.3**
FRU *i* 11 54 53.0
FRU *i* 11 58 46.0
FRU eS **S** **12 03 44.0 +2.9**
FRU pmax pmax
comp=Z,560nm,2.0s
FRU MLR MLR
comp=Z,10µm,17.0s
FRU MLR MLR
comp=E,10µm,17.0s
UCH Uchtor 68.94 311 P **P** **11 54 39.2 +1.2**
SNR=140
AAK Ala-Archa 68.99 311 P **P** **11 54 38.6 +0.7**
SNR=24
AAK Ala-Archa 68.99 311 *i* P **P** **11 54 38.1 +0.2**
AAK pmax pmax
comp=Z,192nm,1.6s
AAK Ala-Archa 68.99 311 eP **P** **11 54 38.6 +0.7**
comp=Z,131nm,1.1s
AAK eP'P'df **P'P'df** **12 22 48.1 -4.7**
AAK LR LR
comp=Z,9µm,19.0s
BWN Browne 69.00 25 eP **P** **11 54 39.0 +1.7**
comp=Z,459nm,0.9s
BWN LR LR
comp=Z,12µm,20.0s
RND Reindeer 69.02 26 eP **P** **11 54 37.6 0.0**
RND pmax pmax
comp=Z,200nm,1.1s
RND MLR MLR
comp=Z,15µm,20.0s
RND Reindeer 69.02 26 eP **P** **11 54 37.6 0.0**
comp=Z,200nm,1.1s
RND LR LR
comp=Z,15µm,20.0s
USP Ospenovka 69.03 312 P **P** **11 54 38.4 +0.4**
SNR=26
MCK McKinley 69.09 26 eP **P** **11 54 38.3 +0.4**
MCK pmax pmax
comp=Z,268nm,1.3s
MCK MLR MLR
comp=Z,18µm,20.0s
MCK McKinley 69.09 26 eP **P** **11 54 38.3 +0.4**
comp=Z,268nm,1.3s
MCK LR LR
comp=Z,18µm,20.0s
MID Middleton Isla 69.10 30 eP **P** **11 54 40.0 +2.0**
MID pmax pmax
comp=Z,581nm,1.2s
MID MLR MLR
comp=Z,19µm,22.0s
MID Middleton Isla 69.10 30 eP **P** **11 54 40.0 +2.0**
comp=Z,581nm,1.2s
MID LR LR
comp=Z,19µm,22.0s
SCM Sheep Creek Mo 69.25 28 eP **P** **11 54 40.0 +1.0**
SCM pmax pmax
comp=Z,714nm,1.0s
SCM MLR MLR
comp=Z,15µm,22.0s
SCM Sheep Creek Mo 69.25 28 eP **P** **11 54 40.0 +1.0**
comp=Z,714nm,1.0s
SCM LR LR
comp=Z,15µm,22.0s
EKS2 Erkin-Say 69.52 311 P **P** **11 54 41.8 +0.7**
SNR=55
EKS2 Erkin-Say 69.52 311 eP **P** **11 54 41.5 +0.4**
EKS2 MLR MLR
comp=Z,10µm,19.0s
EKS2 Erkin-Say 69.52 311 eP **P** **11 54 41.5 +0.4**
EKS2 LR LR
comp=Z,10µm,19.0s
AML Almayashu 69.55 311 P **P** **11 54 43.3 +1.6**
SNR=30
SFK Sufi-Kurgan 69.58 309 P **P** **11 54 42.4 +0.7**
SFK pmax pmax
comp=Z,464nm,1.7s
PPT Papeete 69.66 114 LR LR 12 20 20.1
comp=Z,6µm,19.6s,baz=280,slow=32
WRH Wood River Hil 69.66 25 eP **P** **11 54 40.5 -0.9**
comp=Z,213nm,1.0s
WRH LR LR
comp=Z,12µm,20.0s
PPT2 Papeete2 69.67 114 eP **P** **11 54 41.9 -0.4**
comp=Z,174nm,1.3s
PPT2 eS **S** **12 03 46.4 -4.3**
comp=Z,8µm,27.0s
PPT2 Papeete2 69.67 114 eLR LR 12 15 36.1
comp=Z,9µm,23.0s,baz=290
PAE Paea 69.69 114 eP **P** **11 54 41.7 -0.6**
comp=Z,37nm,1.3s
COLD Coldfoot 69.73 22 eP **P** **11 54 42.7 +0.9**
comp=Z,171nm,1.0s
COLD LR LR
comp=Z,10µm,21.0s
MDM Murphy Dome 69.75 24 eP **P** **11 54 42.8 +0.7**
comp=Z,134nm,0.9s
MDM LR LR
comp=Z,16µm,20.0s
DIV Divide 69.79 29 eP **P** **11 54 43.5 +1.2**
comp=Z,356nm,1.0s
DIV LR LR
comp=Z,32µm,21.0s
POO Poona 69.83 286⇓ *i*P **P** **11 54 43.0 -0.3**
comp=Z,338nm,1.0s
CCB Clear Creek Bu 69.83 25 eP **P** **11 54 41.6 -0.8**
comp=Z,171nm,1.1s
CCB LR LR
comp=Z,12µm,20.0s
TIAR Tiarei 69.86 113 eP **P** **11 54 42.9 -0.6**
comp=Z,54nm,1.0s
COLA College 69.88 25*d* *i*P **P** **11 54 42.6 -0.1**
COLA pmax pmax
comp=Z,543nm,1.2s
COLA MLR MLR
comp=Z,47µm,21.0s
COLA College 69.88 25 eP **P** **11 54 43.4 +0.7**
COLA LR LR
comp=Z,15µm,22.0s
TVO Taravao 70.02 114 eP **P** **11 54 43.1 -1.4**
comp=Z,50nm,1.0s
HDA Harding Lake 70.12 25 eP **P** **11 54 43.7 -0.5**
comp=Z,118nm,1.0s
HDA LR LR
comp=Z,15µm,22.0s
ILAR Eielson Array 70.25 25 P **P** **11 54 43.8 -1.3**
comp=Z,66nm,0.8s,baz=255,slow=4.5,SNR=388
ILAR PKP2bc 12 22 42.9
comp=Z,0.9nm,0.9s,baz=352,slow=1.4,SNR=4.9
ILAR LR LR 12 22 53.7
comp=Z,9µm,21.0s,baz=261,slow=34
IL1 Eielson Array 70.25 25 eP **P** **11 54 43.2 -1.8**
BMRM Bremner River 70.30 29 eP **P** **11 54 46.3 +0.8**
comp=Z,407nm,1.3s
BMRM LR LR
comp=Z,22µm,22.0s
PAX Paxson 70.38 27 eP **P** **11 54 46.3 +0.4**
PAX pmax pmax
comp=Z,210nm,0.9s
PAX MLR MLR
comp=Z,11µm,19.0s
PAX Paxson 70.38 27 eP **P** **11 54 46.3 +0.4**
comp=Z,210nm,0.9s
PAX LR LR
comp=Z,11µm,19.0s
PMOR Pomariorio Ree 70.38 110 eP **P** **11 54 45.8 -0.8**
comp=Z,313nm,1.0s
VAH Vaihoa 70.69 111 eP **P** **11 54 47.3 -1.2**
comp=Z,198nm,1.1s
OTUK Ortayu 70.93 317 P **P** **11 54 48.9 -0.6**
OTUK pmax pmax
comp=Z,307nm,1.7s
MEH Mehetia 71.12 113 eP **P** **11 54 50.4 -0.7**
comp=Z,72nm,1.3s
BHV Bhavnagar 71.14 289 eP **P** **11 54 51.0 -0.2**
FYU Fort Yukon 71.40 23 eP **P** **11 54 52.7 +0.7**
comp=Z,530nm,1.2s
FYU LR LR
comp=Z,9µm,21.0s
TBI Tubuai 71.76 119 eP **P** **11 54 54.0 -0.9**
comp=Z,251nm,1.0s
TBI eS **S** **12 04 09.2 -5.5**
comp=Z,6µm,29.5s
TBI eSS **SS** **12 08 49.1 -2.0**
comp=Z,2µm,26.2s
TBI eLQ LQ 12 13 33.2
comp=Z,17µm,35.8s
TBI eLR LR 12 16 33.3
comp=Z,8µm,27.5s
KK31 Karatay Array 71.94 312 *i* P **P** **11 54 55.7 0.0**
KK31 pmax pmax
comp=Z,523nm,1.7s
KKAR Karatay Array 71.94 312 eP **P** **11 54 56.0 +0.3**
KKAR Karatay Array 71.94 312 eP **P** **11 54 56.0 +0.3**
YKU2 Yakutat 72.46 31 PFAKE 11 55 10.0 +12
YKU2 LR LR
comp=Z,8µm,19.0s
BVA0 Borovoye Array 72.55 322 *i* P **P** **11 54 56.4 -2.8**
BVA0 pmax pmax
comp=Z,925nm,1.7s
BRVK Borovoye 72.62 322 P **P** **11 54 59.9 +0.3**
comp=Z,2µm,1.6s,SNR=93
BRVK Borovoye 72.62 322*c* *i*P **P** **11 54 59.7 +0.1**
BRVK pmax pmax
comp=Z,536nm,1.7s
BRVK Borovoye 72.62 322 P **P** **11 55 00.1 +0.5**
SNR=229
BRVK Borovoye 72.62 322 eP **P** **11 54 59.9 +0.3**
BRVK ePP **PP** **11 57 42.3 +1.3**
BRVK eS **S** **12 04 24.1 +0.4**
BRVK LR LR
comp=Z,12µm,20.0s
EGAK Eagle 72.63 25 eP **P** **11 55 00.5 +1.1**
EGAK ePP **PP** **11 57 41.8 +0.9**
EGAK LR LR
comp=Z,12µm,21.0s
KBL Kabul 73.12 303 eP **P** **11 55 03.5 +0.3**
KBL pmax pmax
comp=Z,271nm,1.0s
KBL MLR MLR
comp=Z,4µm,18.0s
KBL Kabul 73.12 303 ⇑P **P** **11 55 03.6 +0.3**
baz=73,SNR=16
KBL Kabul 73.12 303 eP **P** **11 55 03.5 +0.3**
comp=Z,271nm,1.0s
KBL LR LR
comp=Z,4µm,18.0s
DZET Dzherino 73.19 307 P **P** **11 55 03.7 +0.3**
DZET pmax pmax
comp=Z,598nm,1.1s
DAWY Dawson 73.27 26 eP **P** **11 55 04.3 +1.1**
comp=Z,299nm,1.2s
DAWY ePP **PP** **11 57 45.7 -0.7**
DAWY eS **SKiKP** **12 04 33.2 -1.2**
HYT Haines Junctio 73.70 30 eP **P** **11 55 08.8 +2.8**
comp=Z,392nm,0.9s
SKAG Skagway 74.66 31 eP **P** **11 55 12.8 +1.4**
SKAG LR LR
comp=Z,13µm,22.0s
BESE Bessie Mountai 74.84 32 eP **P** **11 55 14.3 +1.7**
comp=Z,124nm,1.4s
BESE LR LR
comp=Z,6µm,22.0s
DGAR Diego Garcia 75.54 259⇑ eP **P** **11 55 15.3 -2.0**
DGAR Diego Garcia 75.54 259 PFAKE 11 55 30.0 +13
DGAR LR LR
comp=Z,6µm,22.0s
H08S2 Diego Garcia H 75.56 259 P **P** **11 55 15.6 -1.5**
H08S3 Diego Garcia H 75.56 259 P **P** **11 55 14.8 -2.4**
H08S1 Diego Garcia H 75.58 259 P **P** **11 55 16.0 -1.2**
CRAG Craig 75.67 35 eP **P** **11 55 18.4 +1.2**
H02N1 VAN INLET T-PH 75.98 38 P **P** **11 55 19.7 +0.4**
H02N1 T T 13 19 04.7
SNR=18
TAOE Nuku Hiva Isla 76.02 102 eS **S** **12 04 57.9 -5.4**
comp=Z,7µm,26.8s
TAOE Nuku Hiva Isla 76.02 102 eLQ LQ 12 15 26.6
comp=Z,19µm,24.4s
TAOE eLR LR 12 18 37.3
comp=Z,8µm,21.5s,baz=288
H02S1 DAWSON INLET T 76.02 38 P **P** **11 55 20.1 +0.7**
SNR=60
WRAK Wrangell Islan 76.12 34 eP **P** **11 55 21.5 +1.7**
WRAK LR LR
comp=Z,9µm,20.0s
INK Inuvik 76.14 22 P **P** **11 55 20.0 +0.2**
comp=Z,118nm,1.0s,baz=263,slow=6.5,SNR=101
INK Inuvik 76.14 22 P **P** **11 55 20.0 +0.2**
INK pmax pmax
comp=Z,119nm,1.0s
INK Inuvik 76.14 22 eP **P** **11 55 20.1 +0.4**
comp=Z,186nm,1.1s
INK LR LR
comp=Z,9µm,20.0s
H08N1 Diego Carcia H 76.69 261 P **P** **11 55 25.5 +2.0**
H08N2 Diego Garcia H 76.70 261 P **P** **11 55 25.8 +2.2**
DLBC Dease Lake 77.38 32 P **P** **11 55 28.5 +1.4**
comp=Z,154nm,1.0s,baz=279,slow=5.4,SNR=171
DLBC Dease Lake 77.38 32 eP **P** **11 55 28.4 +1.4**
DLBC LR LR
comp=Z,10µm,21.0s
DRV Dumont d'Urvil 77.75 182 P P 11 55 18.0 -11
DRV PP PP 11 58 17.0 -7.3
DRV S **SKiKP** **12 04 36.0 -4.9**
DRV SS SS 12 09 56.0 -25
DRV L L 12 15 00.0
DRV R 12 21 00.0
SVE Sverdlovsk 78.25 326*d* *i*P **P** **11 55 32.1 +0.3**
SVE *e* 11 58 36.3
SVE ePPP PPP 12 00 26.7
SVE eS **S** **12 05 25.6 -0.5**
SVE *e* 12 05 59.4
SVE pmax pmax
comp=Z,240nm,1.6s
SVE MLR MLR
comp=Z,7µm,17.0s
AB31 Akbulak array 79.13 318 *i* P **P** **11 55 36.2 -0.6**
AB31 pmax pmax
comp=Z,350nm,1.6s
ABKAR Akbulak array 79.13 318 eP **P** **11 55 36.3 -0.5**
comp=Z,64nm,0.8s
ARU Arti 79.42 326*c* *i*P **P** **11 55 37.9 -0.3**
ARU 11 58 37.6
ARU PPP PPP 12 00 27.9
ARU S **S** **12 05 40.4 +1.9**
ARU pmax pmax
comp=Z,176nm,1.7s
ARU MLR MLR
comp=Z,13µm,18.0s
ARU Arti 79.42 326 P **P** **11 55 38.0 -0.3**
comp=Z,629nm,1.3s,SNR=35
ARU Arti 79.42 326 eP **P** **11 55 38.0 -0.2**
comp=Z,116nm,1.0s
ARU LR LR
comp=Z,13µm,19.0s
SOKR Solikamsk 80.11 329*c* *i*P **P** **11 55 41.0 -0.8**
SOKR 11 58 38.2
SOKR S **S** **12 05 44.5 -1.0**
SOKR pmax pmax
comp=Z,160nm,1.5s
SOKR MLR MLR
comp=Z,11µm,22.0s
AKTO Aktyubinsk 80.26 320 S **S** **12 05 44.1 -3.6**
comp=Z,0.5nm,0.3s,baz=24,slow=18,SNR=2.9
AKTO PKKPbc **PKKPbc** **12 14 25.7 -1.7**
comp=Z,1.2nm,0.9s,baz=280,slow=5.1,SNR=3.9
AKTO Aktyubinsk 80.26 320 P **P** **11 55 42.4 -0.6**
AKTO pmax pmax
comp=Z,119nm,1.5s
IMYA Miami 80.27 305 eP **P** **11 55 44.9 +1.4**
AIS Amsterdam Isla 80.37 228 S S 12 05 43.0 -6.0
AIS SS **SS** **12 10 58.0 -3.1**
AIS L L 12 16 00.0
AIS R 12 21 00.0
ISRO Mashad 80.78 305 eP **P** **11 55 47.4 +1.3**
IDAH Dahanechah 80.90 302 eP **P** **11 55 48.2 +1.1**
IMOG Moghan 80.91 305 eP **P** **11 55 49.2 +2.1**
IPAY Payeh 81.14 305 eP **P** **11 55 49.5 +1.2**
IEMG Emamgholi 81.29 306 eP **P** **11 55 50.3 +1.2**
IAKL Akhelmad 81.31 306 eP **P** **11 55 50.3 +1.1**
IKRD Kardeh 81.48 306 eP **P** **11 55 47.4 -2.7**
CASY Casey 81.54 194 eP **P** **11 55 48.6 -0.7**
CASY ePP **PP** **11 58 52.5 -3.4**
CASY LR LR
comp=Z,7µm,21.0s
GEYT Alibeck 81.64 307 P **P** **11 55 51.3 +0.7**
comp=Z,163nm,1.2s,baz=11,slow=1.5,SNR=65
GEYT PP **PP** **11 58 59.2 +1.9**
comp=Z,117nm,1.2s,baz=45,slow=6.3,SNR=6.1
GEYT S **S** **12 06 05.4 +2.8**
comp=Z,1.4nm,0.4s,baz=37,slow=17,SNR=2.0
GEYT LR LR 12 33 47.2
comp=Z,6µm,22.0s,baz=85,slow=37
IKOO Kooshah 81.66 301 eP **P** **11 55 52.1 +1.0**
ISFR Sfrayin 81.85 306 eP **P** **11 55 53.3 +1.2**
NLWA Neilton Lookou 81.92 43 eP **P** **11 55 53.5 +1.6**
NLWA LR LR
comp=Z,7µm,19.0s
PGC Sidney 82.03 42 eP **P** **11 55 54.0 +1.6**
comp=Z,3µm,1.1s
PGC LR LR
comp=Z,10µm,22.0s
KEBM Edson Butte 82.20 48 eP **P** **11 55 55.5 +1.9**
KEBM LR LR
comp=Z,11µm,22.0s
E03A Lebam 82.24 44 eP **P** **11 55 55.0 +1.5**
comp=Z,334nm,1.0s
F03A Seaside 82.33 45 eP **P** **11 55 55.6 +1.6**
comp=Z,357nm,1.0s
F03A LR LR
comp=Z,14µm,21.0s
KBO Bosley Butte 82.37 49 eP **P** **11 55 56.6 +2.2**
comp=Z,516nm,1.7s
KBO LR LR
comp=Z,9µm,22.0s
G03D McMinnville, O 82.64 45 P **P** **11 55 57.5 +1.9**
baz=83,SNR=17
F04D Rainier, OR 82.68 45 P **P** **11 55 58.1 +2.3**
baz=83
COR Corvallis 82.70 46 eP **P** **11 55 57.5 +1.5**
COR pmax pmax
comp=Z,173nm,0.9s
COR MLR MLR
comp=Z,17µm,21.0s
COR Corvallis 82.70 46 eP **P** **11 55 57.5 +1.5**
comp=Z,173nm,0.9s
COR LR LR
comp=Z,17µm,21.0s
I03D Drain, OR 82.80 47 P **P** **11 55 57.9 +1.4**
baz=83,SNR=27
L02D Cave Junction, 82.84 49 P **P** **11 55 57.9 +1.1**
baz=83,SNR=13
A05A Maple Falls 82.87 42 eP **P** **11 55 58.0 +1.3**
comp=Z,250nm,1.1s
A05A LR LR
comp=Z,12µm,20.0s
KHMM Horse Mountain 82.93 50 eP **P** **11 55 59.1 +1.6**
comp=Z,243nm,1.2s
KHMM LR LR
comp=Z,11µm,21.0s
KMRM Mail Ridge 83.05 50 eP **P** **11 56 00.5 +2.5**
comp=Z,292nm,1.3s
KMRM LR LR
comp=Z,10µm,22.0s
F04A Amboy 83.11 45 eP **P** **11 55 59.6 +1.5**
comp=Z,304nm,1.0s
F04A LR LR
comp=Z,10µm,20.0s
WBK Wadi Bani Khal 83.15 292 P **P** **11 55 59.8 +0.9**
SNR=22
D05A Enumclaw 83.21 43 eP **P** **11 56 00.0 +1.4**
comp=Z,293nm,1.0s
D05A LR LR
comp=Z,6µm,21.0s
KCPM Cahto Peak 83.23 51 eP **P** **11 56 00.2 +1.2**
comp=Z,176nm,1.1s
KCPM LR LR
comp=Z,6µm,22.0s
HUMO Hull Mountain 83.25 48 eP **P** **11 56 00.2 +1.3**
HUMO LR LR

comp=Z,13µm,22.0s
KIPM Iron Peak 83.28 51 *e*P **P 11 56 01.1 +1.8**
B06A Marblemount 83.34 42 *e*P **P 11 56 00.5 +1.3**
comp=Z,174nm,1.3s
B06A LR LR
comp=Z,11µm,21.0s
LON Longmire 83.40 44 *e*P **P 11 56 00.7 +1.0**
LON pmax pmax
comp=Z,65nm,1.0s
LON MLR MLR
comp=Z,8µm,20.0s
LON Longmire 83.40 44 *e*P **P 11 56 00.7 +1.0**
comp=Z,65nm,1.0s
LON LR LR
comp=Z,8µm,20.0s
I04A Tendick Farm, 83.45 47 P **P 11 56 01.1 +1.1**
baz=83,SNR=59
H04A Detroit Lake 83.47 46 *e*P **P 11 56 00.8 +0.8**
comp=Z,201nm,1.1s
H04A LR LR
comp=Z,16µm,22.0s
M02C Callahan 83.51 49 P **P 11 56 02.4 +2.1**
baz=84,SNR=40
YBH Yreka Blue Hor 83.56 49 P **P 11 56 02.1 +1.4**
comp=Z,84nm,1.0s,baz=261,slow=1.6,SNR=62
YBH Yreka Blue Hor 83.56 49 *e*P **P 11 56 02.0 +1.4**
YBH MLR MLR
comp=Z,14µm,21.0s
YBH Yreka Blue Hor 83.56 49 *e*P **P 11 56 02.0 +1.4**
YBH LR LR
comp=Z,14µm,21.0s
N02D Trinity Center 83.69 50 P **P 11 56 03.1 +1.9**
baz=84,SNR=34
J04D Umpqua Nationa 83.76 47 P **P 11 56 03.3 +1.5**
baz=84,SNR=64
WDC Whiskeytown Da 83.87 50 *e*P **P 11 56 03.3 +1.2**
WDC MLR MLR
comp=Z,11µm,22.0s
WDC Whiskeytown Da 83.87 50 *e*P **P 11 56 03.3 +1.2**
WDC LR LR
comp=Z,11µm,22.0s
SMDO Samad 83.92 292 P **P 11 56 04.8 +2.0**
SNR=20
JMDO Jabal Madar 83.98 292 P **P 11 56 04.3 +1.2**
SNR=14
G05D Wamic, OR 83.99 45 P **P 11 56 03.8 +1.1**
baz=84,SNR=25
MCCM Marconi Confer 84.01 52 *e*P **P 11 56 03.6 +0.8**
MCCM *e*PP **PP 11 59 18.3 +1.7**
MCCM LR LR
comp=Z,8µm,21.0s
LTY Liberty 84.09 43 *e*P **P 11 56 03.8 +0.6**
comp=Z,102nm,1.0s
LTY LR LR
comp=Z,9µm,20.0s
K04D Chiloquin, OR 84.12 48 P **P 11 56 05.0 +1.4**
baz=84,SNR=40
I05D Terrebonne, OR 84.13 46 P **P 11 56 05.0 +1.5**
baz=84,SNR=39
NSHM Saint Helena R 84.16 52 *e*P **P 11 56 04.8 +1.1**
M04C Macdoel 84.20 49 P **P 11 56 06.1 +2.2**
baz=84,SNR=64
RKT Rikitea 84.37 115 *e*P **P 11 56 03.5 -1.4**
comp=Z,188nm,1.2s
RKT Rikitea 84.37 115 *e*PP PP 11 59 09.6 -11
comp=Z,326nm,25.2s
RKT *e*S **S 12 06 25.4 -5.3**
comp=Z,4µm,29.5s
RKT *e*SS **SS 12 11 56.3 -4.9**
comp=Z,4µm,30.2s
RKT Rikitea 84.37 115 *e*LR LR 12 22 34.4
comp=Z,8µm,22.2s,baz=288
J05D Fort Rock, OR 84.38 47 P **P 11 56 06.8 +2.0**
baz=84,SNR=135
YKA Yellowknife Ar 84.45 27 P **P 11 56 04.4 -0.2**
comp=Z,79nm,0.8s,baz=286,slow=5.4,SNR=409
YKA PKKP PKKPdf 12 14 01.5 -7.8
comp=Z,0.5nm,0.8s,baz=126,slow=3.0,SNR=4.6
YKA PKKPbc **PKKPbc 12 14 15.5 -2.6**
comp=Z,0.9nm,0.8s,baz=108,slow=2.2,SNR=6.6
YKA PKPPKP P'P'df 12 22 17.6 -6.7
comp=Z,0.9nm,1.0s,baz=120,slow=2.9,SNR=3.9
YKB5 Yellowknife Ar 84.45 27 *e*P **P 11 56 03.8 -0.8**
YKB5 *e*P'P'df P'P'df 12 22 16.8 -7.4
G06A Carlson Farm, 84.47 45 *e*P **P 11 56 05.8 +0.7**
comp=Z,694nm,2.3s
G06A LR LR
comp=Z,12µm,21.0s
SAC San Andreas 84.47 53 *e*P **P 11 56 06.0 +0.8**
SAC pmax pmax
comp=Z,892nm,2.0s
SAC San Andreas 84.47 53 *e*P **P 11 56 06.0 +0.8**
comp=Z,892nm,2.0s
HOQ Hoqain 84.50 293 P **P 11 56 06.7 +1.0**
SNR=41
IBND Bandar-abas 84.54 297 *e*P **P 11 56 07.8 +2.0**
BKS Berkeley--Byer 84.56 53 *e*P **P 11 56 06.2 +0.6**
K05A Summer Lake 84.73 48 *e*P **P 11 56 08.1 +1.4**
comp=Z,250nm,1.0s
K05A LR LR
comp=Z,10µm,22.0s
E07A Sunnyside 84.76 44 *e*P **P 11 56 08.3 +1.8**
comp=Z,147nm,1.1s
E07A LR LR
comp=Z,8µm,19.0s
B08A Colville Reser 84.78 42 *e*P **P 11 56 07.2 +0.6**
comp=Z,208nm,1.3s
B08A LR LR
comp=Z,8µm,21.0s
OHCM Honcut 84.89 51 *e*P **P 11 56 08.2 +0.9**
BANOM Banah 85.01 295 P **P 11 56 10.5 +2.3**
SNR=9.6
HAWA Hanford 85.01 44 *e*P **P 11 56 08.8 +1.0**
comp=Z,111nm,1.0s
HAWA LR LR
comp=Z,9µm,21.0s
PRGR Permogore 85.18 332 *e*P **P 11 56 06.6 -1.7**
PRGR *e* 11 59 23.5
PRGR pmax pmax
comp=Z,221nm,1.5s
IGLO Ghaloghah 85.25 306 *e*P **P 11 56 10.0 +0.5**
ARQ Araqi 85.26 293 P **P 11 56 10.6 +1.1**
SNR=60
UOSS Wadi Hilu 85.26 294 P **P 11 56 09.5 0.0**
comp=Z,607nm,1.4s,SNR=14
D08A Wollman Farm, 85.30 43 *e*P **P 11 56 10.0 +0.8**
comp=Z,1µm,2.5s
D08A LR LR
comp=Z,9µm,22.0s
MOD Modoc 85.31 48 *e*P **P 11 56 10.4 +0.8**
comp=Z,433nm,1.6s
IANJ Anjilo 85.36 305 *e*P **P 11 56 10.3 +0.3**
IKIA Kiasar 85.42 306 *e*P **P 11 56 10.7 +0.3**
ASHO Ashiyiah 85.44 294 P **P 11 56 11.5 +1.1**
SNR=23
IMEH Mehriz 85.51 301 *e*P **P 11 56 11.2 +0.3**
ICHK Chekchek 85.53 302 *e*P **P 11 56 11.5 +0.5**
ALE Alert 85.56 4 P **P 11 56 11.9 +2.0**
comp=Z,250nm,1.3s,SNR=8.0
C09A Chrisman Ranch 85.58 42 *e*P **P 11 56 11.3 +0.7**
comp=Z,128nm,1.1s
C09A LR LR
comp=Z,9µm,21.0s
G08A Pilot Rock 85.62 45 *e*P **P 11 56 11.6 +0.6**
comp=Z,395nm,2.1s
G08A LR LR
comp=Z,10µm,21.0s
LRV Little Rabbit 85.77 54 *e*P **P 11 56 13.4 +1.6**
ISHM Shahmirzad 85.80 306 *e*P **P 11 56 13.7 +1.4**
E09A Wood Farm, Sta 85.93 44 *e*P **P 11 56 13.3 +0.9**
comp=Z,198nm,1.3s
E09A LR LR
comp=Z,10µm,20.0s
CMB Columbia Colle 85.97 52 *e*P **P 11 56 13.7 +0.9**
CMB pmax pmax
comp=Z,164nm,1.1s
CMB MLR MLR
comp=Z,10µm,20.0s
CMB Columbia Colle 85.97 52 *e*P **P 11 56 13.7 +0.9**
comp=Z,164nm,1.1s
CMB LR LR
comp=Z,10µm,20.0s
HOPEN Hopen 86.09 348 *e*P **P 11 56 13.5 +1.0**
IALA Alasht 86.13 306 *e*P **P 11 56 13.6 -0.4**
ILAS Lasjerd 86.15 305 *e*P **P 11 56 14.1 +0.1**
ISAD Sadrabad 86.20 302 *e*P **P 11 56 15.4 +1.1**
NEW Newport 86.24 42 P **P 11 56 14.7 +0.7**
comp=Z,150nm,1.0s,baz=276,slow=3.9,SNR=197
NEW Newport 86.24 42 P **P 11 56 14.7 +0.7**
NEW *e* 11 59 34.3
NEW MLR MLR
comp=Z,9µm,20.0s
NEW Newport 86.24 42 P **P 11 56 14.9 +1.0**
baz=86,SNR=216
NEW Newport 86.24 42 P **P 11 56 14.7 +0.7**
NEW *e*PP **PP 11 59 34.3 -0.1**
NEW LR LR
comp=Z,9µm,20.0s
IFIR Firoozkooh 86.26 305 *e*P **P 11 56 15.2 +0.6**
WVOR Wild Horse Val 86.42 48 *e*P **P 11 56 16.0 +1.0**
WVOR pmax pmax
comp=Z,151nm,1.0s
WVOR MLR MLR
comp=Z,8µm,20.0s
WVOR Wild Horse Val 86.42 48 *e*P **P 11 56 16.0 +1.0**
comp=Z,151nm,1.0s
WVOR LR LR
comp=Z,8µm,20.0s
IPRN Peran 86.48 306 *e*P **P 11 56 15.4 0.0**
MIR Mirnyy 86.58 199↑ *e*P P 11 56 24.0 +9.1
MIR pmax pmax
comp=Z,360nm,1.0s
WAKR Walker 86.61 52 *e*P **P 11 56 17.4 +1.3**
comp=Z,102nm,1.0s
RES Resolute Bay 86.62 13 P **P 11 56 16.0 +0.9**
comp=Z,75nm,1.1s,baz=305,slow=5.6,SNR=32
RES Resolute Bay 86.62 13 *e*P **P 11 56 15.8 +0.6**
RES pmax pmax
comp=Z,151nm,1.1s
RES MLR MLR
comp=Z,6µm,20.0s
RES Resolute Bay 86.62 13 *e*P **P 11 56 15.8 +0.6**
comp=Z,151nm,1.1s
RES LR LR
comp=Z,6µm,20.0s
SPA0 Spitsbergen Ar 86.62 351 *e*P **P 11 56 14.9 -0.2**
SPA0 IAmb IAmb 11 56 17.2
comp=Z,1µm,1.9s
SPA0 *e*SS SS 12 12 25.5 -5.7
SPA0 IVMs_BB IVMs_BB 12 33 39.6
comp=Z,3µm,19.9s
F10A Beach Ranch, E 86.67 44 *e*P **P 11 56 16.6 +0.5**
comp=Z,448nm,2.0s
KBS Kingsbay 86.75 352 *e*P **P 11 56 15.6 -0.2**
KBS *e*SKSac **SKSac 12 06 44.7 +3.1**
KBS IVMs_BB IVMs_BB 12 30 12.0
comp=Z,14µm,24.6s
KBS Kingsbay 86.75 352 *e*P **P 11 56 16.3 +0.5**
KBS *e* 11 59 35.9
KBS pmax pmax
comp=Z,197nm,1.2s
KBS MLR MLR
comp=Z,6µm,21.0s
KBS Kingsbay 86.75 352 *e*P **P 11 56 16.3 +0.5**
comp=Z,197nm,1.2s
KBS *e*PP **PP 11 59 35.9 -1.9**
KBS LR LR
comp=Z,6µm,21.0s
SMMC Simmler 86.80 55 P **P 11 56 18.3 +1.4**
baz=87,SNR=39
IDMV Damavand 86.85 305 *e*P **P 11 56 17.2 -0.3**
BMO Blue Mountains 86.85 45 *e*P **P 11 56 17.5 +0.4**
comp=Z,168nm,1.0s
BMO LR LR
comp=Z,12µm,21.0s
CARC Carrizo Plain 86.92 55 *e*P **P 11 56 18.8 +1.3**
PKM Peak Mountain 87.02 55 P **P 11 56 19.5 +1.2**
baz=87,SNR=82
IPAR Pars 87.13 300 *e*P **P 11 56 19.3 +0.3**
IZEF Zefreh 87.14 303 *e*P **P 11 56 18.7 -0.2**
ISRV Sarvestan 87.16 299 *e*P **P 11 56 18.6 -0.5**
SBC Santa Barbara 87.20 56 P **P 11 56 20.8 +2.0**
baz=87,SNR=8.3
RCTC Rector, Farmer 87.20 54 P **P 11 56 20.1 +1.3**
baz=87,SNR=15
IVRN Varamin 87.21 305 *e*P **P 11 56 18.6 -0.4**
MLAC Mammoth Lakes 87.25 52 P **P 11 56 21.2 +1.9**
baz=87,SNR=5.4
BSC Santa Cruz Isl 87.35 56 P **P 11 56 21.0 +1.4**
baz=87,SNR=5.3
EDM Edmonton 87.39 36 *e*P **P 11 56 20.0 +0.6**
EDM Edmonton 87.39 36 *e*P **P 11 56 20.0 +0.6**
VES Vestal, Richgr 87.42 54 P **P 11 56 19.1 -0.8**
baz=87,SNR=63
NV01 Mina Array Sit 87.50 51 *e*P **P 11 56 21.1 +0.6**
NVAR Mina Array Bea 87.50 51 P **P 11 56 21.6 +1.1**
comp=Z,109nm,0.9s,baz=263,slow=5.3,SNR=323
NVAR PKKPbc **PKKPbc 12 14 11.4 +1.0**
comp=Z,0.8nm,0.8s,baz=145,slow=2.2,SNR=3.9
NVAR PKPPKP **P'P'df 12 22 22.9 +3.2**
comp=Z,0.5nm,0.7s,baz=93,slow=6.3,SNR=3.7
MTUM Tungsten Hills 87.52 53 *e*P **P 11 56 21.7 +1.1**
HSPB Hornsund (broa 87.53 350 *e*P **P 11 56 19.8 +0.2**
comp=Z,11µm,24.6s
HSPB IVMs_BB IVMs_BB 12 33 57.3
comp=Z,3µm,25.8s
LVZ Lovozero 87.57 339*c e*P **P 11 56 18.4 -1.6**
LVZ pmax pmax
comp=Z,173nm,1.8s
LVZ MLR MLR
comp=Z,9µm,20.0s
LVZ Lovozero 87.57 339 *e*P **P 11 56 18.1 -1.9**
LVZ LR LR
comp=Z,9µm,20.0s
IR3 Iran Long-Peri 87.68 306 *e*P **P 11 56 21.1 -0.1**
TMCR Tamitsa 87.72 335 *e*P **P 11 56 21.3 +0.6**
TMCR *e* 11 59 47.9
TMCR *e*S **SKSac 12 06 50.6 +2.7**
TMCR pmax pmax
comp=Z,65nm,1.1s
ARVC Arvin 87.77 55 P **P 11 56 22.8 +1.2**
baz=88,SNR=28
BLG Laguna Peak 87.79 56 P **P 11 56 22.8 +1.0**
baz=88,SNR=7.8
TIN Tinemaha 87.84 53 P **P 11 56 23.7 +1.6**
baz=88,SNR=12
BSMT Bassoo Peak 87.86 42 *e*P **P 11 56 23.0 +1.0**
comp=Z,301nm,1.1s
BMN Battle Mountai 87.88 49 *e*P **P 11 56 23.2 +1.0**
BMN pmax pmax
comp=Z,116nm,1.1s
BMN MLR MLR
comp=Z,7µm,21.0s
BMN Battle Mountai 87.88 49 *e*P **P 11 56 23.2 +1.0**
comp=Z,116nm,1.1s
BMN LR LR
comp=Z,7µm,21.0s
IMHD Mahdasht 87.92 306 *e*P **P 11 56 22.6 +0.1**
ISA Isabella 87.94 54 *e*P **P 11 56 22.8 +0.3**
ISA MLR MLR
comp=Z,11µm,21.0s
ISA Isabella 87.94 54 P **P 11 56 23.6 +1.1**
baz=88,SNR=69
ISA Isabella 87.94 54 *e*P **P 11 56 22.8 +0.3**
ISA LR LR
comp=Z,11µm,21.0s
OSI Osito Adit 87.96 55 P **P 11 56 24.3 +1.7**
baz=88,SNR=8.2
OSI Osito Adit 87.96 55 *e*P **P 11 56 24.2 +1.6**
comp=Z,39nm,1.1s
OSI LR LR
comp=Z,4µm,20.0s
IR5 Iran Long-Peri 88.08 305 *e*P **P 11 56 23.5 +0.2**
CWC Cottonwood Cre 88.09 53 P **P 11 56 24.7 +1.4**
baz=88,SNR=24
BLMT Blacktail Moun 88.10 41 *e*P **P 11 56 23.7 +0.6**
comp=Z,184nm,1.1s
WALA Waterton Lakes 88.12 40 *e*P **P 11 56 24.3 +1.2**
comp=Z,263nm,1.2s
WALA LR LR
comp=Z,10µm,20.0s
IGZV Ghazvin 88.12 307 *e*P **P 11 56 24.6 +1.1**
APA Apatity 88.14 339↑ *e*P **P 11 56 21.5 -1.1**
APA *i* 11 59 56.0
APA *i* PPP PPP 12 01 56.0
APA *i* 12 06 48.0
APA *i* S **S 12 07 06.0 +0.1**
APA *i* PS **PnS 12 08 00.0 -8.8**
APA *i* SSS SSS 12 16 21.0
APA pmax pmax
comp=Z,119nm,1.4s
APA MLR MLR
comp=Z,4µm,8.0s
IKAZ Kazeroun 88.17 300 *e*P **P 11 56 23.9 -0.1**
JTMT Jette 88.22 42 *e*P **P 11 56 23.9 +0.3**
comp=Z,62nm,1.2s
MFID Camas Ranch 88.22 46 *e*P **P 11 56 24.5 +0.8**
comp=Z,301nm,1.0s
MFID LR LR
comp=Z,12µm,22.0s
DECC Green Verdugo 88.36 56 P **P 11 56 25.4 +1.0**
baz=88,SNR=11
YBMT Yellow Bay 88.36 42 *e*P **P 11 56 24.8 +0.5**
comp=Z,79nm,1.3s
IPIR Pirpir 88.36 303 *e*P **P 11 56 23.1 -1.7**
TPH Tonopah 88.40 52 *e*P **P 11 56 25.6 +0.8**
TPH pmax pmax
comp=Z,154nm,1.1s
TPH MLR MLR
comp=Z,8µm,19.0s
TPH Tonopah 88.40 52 *e*P **P 11 56 25.6 +0.8**
comp=Z,154nm,1.1s
TPH LR LR
comp=Z,8µm,19.0s
SCI San Clemente I 88.45 57 P **P 11 56 25.9 +1.0**
baz=88,SNR=7.6
BJO Bjornoya 88.45 348 *e* **S 12 07 12.5 +3.8**
SWMT Swartz Lake 88.46 42 *e*P **P 11 56 24.9 +0.1**
comp=Z,39nm,0.9s
SWMT *e*PP **PP 11 59 49.1 -3.4**
RBK Rabkut 88.46 287 P **P 11 56 26.8 +1.5**
SNR=9.9
CIS Catalina Islan 88.48 56 P **P 11 56 26.1 +1.1**
baz=88,SNR=38
PASC Pasadena Art C 88.49 56 *e*P **P 11 56 25.6 +0.5**
comp=Z,225nm,1.2s
PASC LR LR
comp=Z,15µm,20.0s
EDW2 Edwards Air Fo 88.50 55 P **P 11 56 26.6 +1.5**
baz=88,SNR=89
FMP Fort Macarthur 88.50 56 P **P 11 56 26.5 +1.4**
baz=88,SNR=7.0
DAC Darwin (Calif) 88.51 53 *e*P **P 11 56 26.1 +0.8**
DAC MLR MLR
comp=Z,9µm,21.0s
DAC Darwin (Calif) 88.51 53 *e*P **P 11 56 26.1 +0.8**
DAC LR LR
comp=Z,9µm,21.0s
GRAC Grapevine Rang 88.53 53 P **P 11 56 26.5 +1.3**
baz=88,SNR=67
IRAZ Razeghan 88.56 306 *e*P **P 11 56 25.1 -0.5**
MWC Mount Wilson 88.58 56 *e*P **P 11 56 26.2 +0.5**
MWC MLR MLR
comp=Z,18µm,20.0s
MWC Mount Wilson 88.58 56 *e*P **P 11 56 26.2 +0.5**
MWC LR LR
comp=Z,18µm,20.0s
LRMC Laurel Mountai 88.61 54 P **P 11 56 26.8 +1.1**
baz=89,SNR=60
MPMC Manual Prospec 88.64 54 P **P 11 56 27.2 +1.2**
baz=89,SNR=218
MAK Makhachkala 88.67 313 *e*P **P 11 56 23.2 -2.4**
MAK *e* 11 59 50.9
MAK *e*PPP PPP 12 01 49.2
MAK *e*S **SKSac 12 06 50.5 -4.0**
MAK *e* 12 07 14.6
MAK *e*PS **PnS 12 08 13.0 -3.1**
MAK *e*SS **SS 12 12 57.2 -5.6**
MAK pmax pmax
comp=Z,22nm,0.3s
MSO Missoula 88.67 43 P **P 11 56 26.4 +0.6**
baz=89,SNR=29
MSO Missoula 88.67 43 *e*P **P 11 56 25.9 +0.2**
comp=Z,82nm,1.3s
MSO LR LR
comp=Z,8µm,21.0s
SLMT Seeley Lake 88.86 42 *e*P **P 11 56 26.5 -0.2**
comp=Z,111nm,1.3s
SLMT *e*PP **PP 11 59 53.4 -2.4**
BFSC Mount Baldy Ra 88.90 55 P **P 11 56 27.8 +0.7**
baz=89,SNR=40
VNDA Vanda 88.99 177 P **P 11 56 26.8 +0.4**
comp=Z,27nm,0.9s,baz=328,slow=5.7,SNR=32
VNDA LR LR 12 34 53.2
comp=Z,7µm,18.9s,baz=345,slow=35
FURC Furnace Creek, 89.04 53 P **P 11 56 28.6 +1.1**
baz=89,SNR=150
BLKC Black Mountain 89.07 55 *e*P **P 11 56 29.2 +1.4**
CHMT Chamberlain Mo 89.11 42 *e*P **P 11 56 28.0 +0.1**
comp=Z,113nm,1.6s
CHMT *e*PP **PP 11 59 58.9 +1.2**
PTCN Pitcairn Islan 89.16 116 PFAKE 11 56 40.0 +12
PTCN LR LR
comp=Z,6µm,19.0s
KEV Kevo 89.18 342 *e*P **P 11 56 26.5 -1.0**
KEV *e* 11 59 58.9
KEV MLR MLR
comp=Z,9µm,19.0s
KEV Kevo 89.18 342 *e*P **P 11 56 26.5 -1.0**
KEV *e*PP **PP 11 59 58.9 +1.6**
KEV LR LR
comp=Z,9µm,19.0s
HLID Hailey 89.18 46 P **P 11 56 29.9 +1.6**
baz=89
HLID Hailey 89.18 46 *e*P **P 11 56 29.4 +1.1**
HLID *e*PP **PP 11 59 58.5 +0.1**
HLID LR LR
comp=Z,8µm,19.0s
ELK Elko 89.28 49 P **P 11 56 29.9 +0.9**
comp=Z,124nm,0.9s,baz=290,slow=4.5,SNR=262
RRX Edison Barstow 89.29 55 P **P 11 56 30.4 +1.6**
baz=89,SNR=8.6
ABTO Aybut 89.34 287 P **P 11 56 31.3 +1.9**
SNR=6.0
GSC Goldstone 89.35 54 *e*P **P 11 56 30.1 +0.9**
GSC *e* 11 59 59.0
GSC pmax pmax
comp=Z,115nm,1.1s
GSC MLR MLR
comp=Z,10µm,21.0s
GSC Goldstone 89.35 54 P **P 11 56 30.4 +1.3**
baz=89,SNR=82
GSC Goldstone 89.35 54 *e*P **P 11 56 30.1 +0.9**
comp=Z,115nm,1.1s
GSC *e*PP **PP 11 59 59.0 -0.9**
GSC LR LR
comp=Z,10µm,21.0s
PAF Port-aux-Franc 89.36 219 S S 12 07 07.0 -11
PAF SS SS 12 12 56.0 -17
PAF L L 12 20 00.0
PAF R 12 26 00.0
PAF Port-aux-Franc 89.36 219 PFAKE 11 56 40.0 +11
PAF LR LR
comp=Z,5µm,21.0s
TPNV Topopah Spring 89.41 53 *e*P **P 11 56 30.3 +0.8**
TPNV pmax pmax
comp=Z,154nm,0.9s
TPNV MLR MLR
comp=Z,4µm,21.0s
TPNV Topopah Spring 89.41 53 P **P 11 56 30.5 +1.0**
baz=89,SNR=180
TPNV Topopah Spring 89.41 53 *e*P **P 11 56 30.3 +0.8**
comp=Z,154nm,0.9s
TPNV LR LR
comp=Z,4µm,21.0s
MURC Murrieta 89.42 56 P **P 11 56 30.2 +0.8**
baz=89,SNR=23
BBRC Big Bear Solar 89.50 55 P **P 11 56 30.7 +0.7**
baz=90,SNR=21
R11A Troy Canyon, C 89.59 51 P **P 11 56 31.3 +1.0**
baz=90,SNR=186
R11A Troy Canyon, C 89.59 51 *e*P **P 11 56 31.6 +1.2**
R11A LR LR
comp=Z,8µm,21.0s
SBA Scott Base 89.63 176 *e*P **P 11 56 30.9 +1.6**
SBA MLR MLR
comp=Z,5µm,19.0s
SBA Scott Base 89.63 176 *e*P **P 11 56 30.9 +1.6**
SBA LR LR
comp=Z,5µm,19.0s
SHOC Shoshone 89.63 54 P **P 11 56 31.6 +1.2**
baz=90,SNR=112
HAMF Hammerfest 89.65 344 *e*P **P 11 56 27.8 -1.8**
HAMF *e*SKSac **SKSac 12 06 58.5 -0.6**
109C Camp Elliot, M 89.65 57 P **P 11 56 31.1 +0.6**
baz=90,SNR=44
ARA0 ARCESS Array S 89.74 342 *e*P **P 11 56 29.5 -0.6**
ARCES ARCESS Array B 89.74 342 P **P 11 56 29.4 -0.7**
comp=Z,37nm,1.0s,baz=52,slow=8.0,SNR=48

ARCES PKKPbc **PKKPbc** **12 14 04.0 -1.7**
comp=Z,3.4nm,0.9s,baz=258,slow=3.6,SNR=6.0
ARCES LR LR 12 42 21.7
comp=Z,8µm,18.1s,baz=59,slow=39
ARE0 ARCESS Array S 89.74 342 *e*P **P** **11 56 29.4 -0.8**
ARE0 *e*SKSac **SKSac** **12 07 00.9 +1.1**
ARE0 IVMs_BB IVMs_BB 12 37 25.8
comp=Z,4µm,16.7s
ISRB Sarab 89.78 308 *e*P **P** **11 56 30.9 -0.4**
HEC Hector,Ludlow 89.84 55 P **P** **11 56 32.5 +1.1**
baz=90,SNR=24
DNR Dunn Ranch,Anz 89.89 56 *e*P **P** **11 56 32.5 +0.8**
LRM Limekiln Ridge 89.94 43 *e*P **P** **11 56 32.5 +0.6**
comp=Z,879nm,1.1s
MCMT McKenzie Canyo 89.94 44 *e*P **P** **11 56 32.7 +0.8**
comp=Z,36nm,1.1s
MCMT *e*PP **PP** **12 00 04.9 +0.4**
PFO Pinyon Flat Ob 90.02 56 P **P** **11 56 32.9 +0.5**
comp=Z,446nm,1.1s,SNR=32
PFO Pinyon Flat Ob 90.02 56 P **P** **11 56 32.6 +0.3**
comp=Z,60nm,1.0s,baz=270,slow=3.4,SNR=60
PFO PP **PP** **12 00 04.3 -1.1**
comp=Z,12nm,1.0s,baz=300,slow=6.3,SNR=3.9
PFO Pinyon Flat Ob 90.02 56 *e*P **P** **11 56 32.7 +0.3**
PFO 12 00 04.3
PFO MLR MLR
comp=Z,11µm,19.0s
PFO Pinyon Flat Ob 90.02 56 P **P** **11 56 32.8 +0.5**
baz=90,SNR=45
PFO Pinyon Flat Ob 90.02 56 *e*P **P** **11 56 32.7 +0.3**
PFO PP **PP** **12 00 04.3 -1.1**
PFO LR LR
comp=Z,11µm,19.0s
TUQ Turquoise Moun 90.02 54 P **P** **11 56 33.4 +1.0**
baz=90,SNR=119
BAR Barrett 90.06 57 *e*P **P** **11 56 32.9 +0.4**
BAR *e*PP **PP** **12 00 06.3 +0.8**
BAR LR LR
comp=Z,3µm,22.0s
HRY Holter Researc 90.10 42 *e*P **P** **11 56 33.3 +0.8**
comp=Z,55nm,0.8s
IHRS Heris 90.14 309 *e*P **P** **11 56 32.2 -0.8**
MONP Monument Peak 90.22 57 P **P** **11 56 34.3 +0.9**
baz=90,SNR=95
BELC Belle Mtn. Jos 90.30 55 P **P** **11 56 34.5 +0.8**
baz=90,SNR=64
SHPR Sheep Range 90.37 53 *e*P **P** **11 56 35.2 +1.2**
comp=Z,225nm,1.2s
SHPR *e*PP **PP** **12 00 07.6 -0.5**
GMRC Granite Mounta 90.39 55 P **P** **11 56 34.7 +0.6**
baz=90,SNR=50
IBP Imperial Bould 90.54 57 P **P** **11 56 36.0 +1.2**
baz=90,SNR=7.2
BOZ Bozeman (W) 90.54 43 *e*P **P** **11 56 35.5 +0.9**
BOZ pmax pmax
comp=Z,85nm,1.2s
BOZ MLR MLR
comp=Z,8µm,21.0s
BOZ Bozeman (W) 90.54 43 P **P** **11 56 36.0 +1.4**
baz=90,SNR=117
BOZ Bozeman (W) 90.54 43 *e*P **P** **11 56 35.5 +0.9**
comp=Z,85nm,1.2s
BOZ LR LR
comp=Z,8µm,21.0s
DGRG David-gareji 90.58 312 P **P** **11 56 35.3 +0.6**
DGRG S **SKSac** **12 07 10.1 +4.2**
KTK1 Kautokeino 90.70 342 *e*P **P** **11 56 34.1 -0.5**
KTK1 IAmb IAmb 11 56 36.3
comp=Z,95nm,1.4s
SWSC Sam W. Stewart 90.71 56 P **P** **11 56 36.2 +0.8**
baz=91,SNR=26
LDFC Landfair 90.75 54 *e*P **P** **11 56 36.8 +1.1**
LDFC *e*PP **PP** **12 00 10.4 -0.7**
LDFC LR LR
comp=Z,9µm,21.0s
HVU Hansel Valley 90.81 47 *e*P **P** **11 56 37.2 +1.3**
HVU pmax pmax
comp=Z,141nm,1.2s
HVU Hansel Valley 90.81 47 *e*P **P** **11 56 37.2 +1.3**
comp=Z,141nm,1.2s
BC3 Big Chuckawall 90.82 56 P **P** **11 56 36.9 +0.8**
baz=91,SNR=68
BGU Big Grassy Mou 90.85 48 *e*P **P** **11 56 36.9 +0.7**
comp=Z,62nm,1.2s
BGU *e*PP **PP** **12 00 12.8 +1.1**
BGU LR LR
comp=Z,19µm,22.0s
NPI North Pocatell 90.89 47 *e*P **P** **11 56 37.5 +1.2**
QLMT Earthquake Lak 90.91 44 *e*P **P** **11 56 37.9 +1.5**
QLMT *e*PP **PP** **12 00 12.7 +0.6**
IRM Iron Mountain 90.94 55 P **P** **11 56 37.9 +1.3**
baz=91,SNR=84
TBLG Delisi 90.97 313 P **P** **11 56 36.9 +0.4**
TBLG S **SKSac** **12 07 07.7 -0.4**
TBLG Delisi 90.97 313 *e*P **P** **11 56 36.8 +0.4**
TBLG *e*S **SKSac** **12 07 07.7 -0.4**
MOS Moscow 90.98 328 *e*P **P** **11 56 34.1 -2.0**
MOS *e* 12 00 10.8
MOS *e*S S 12 07 25.0 -7.8
MOS *e*PS **PS** **12 08 38.0 -4.4**
MOS *e*SS SS 12 13 44.2 +8.8
MOS pmax pmax
comp=Z,149nm,1.5s
MOS pmax pmax
comp=Z,300nm,1.9s
MOS MLR MLR
comp=N,8µm,18.0s
MOS MLR MLR
comp=E,10µm,18.0s
MOS MLR MLR
comp=Z,10µm,18.0s
IMRD Marand 91.06 310 *e*P **P** **11 56 36.1 -1.1**
MTUT Morton Thiokol 91.06 47 *e*P **P** **11 56 38.3 +1.2**
EGMT Eagleton 91.06 41 P **P** **11 56 37.7 +0.8**
baz=91,SNR=66
EGMT Eagleton 91.06 41 *e*P **P** **11 56 37.3 +0.4**
EGMT *e*PP **PP** **12 00 11.8 -1.3**
EGMT LR LR
comp=Z,8µm,20.0s
YHB Horse Butte 91.09 44 *e*P **P** **11 56 39.0 +1.7**
SPUT South Promonto 91.17 48 *e*P **P** **11 56 38.5 +0.8**
comp=Z,111nm,1.2s
SPUT *e*PP **PP** **12 00 15.2 +0.9**
SPUT LR LR
comp=Z,15µm,22.0s
EPU East Promontor 91.18 48 *e*P **P** **11 56 38.7 +1.1**
DUG Dugway 91.21 49 *e*P **P** **11 56 38.7 +0.9**
DUG MLR MLR
comp=Z,7µm,20.0s
DUG Dugway 91.21 49 P **P** **11 56 38.4 +0.6**
baz=91,SNR=120
DUG Dugway 91.21 49 *e*P **P** **11 56 38.7 +0.9**
DUG LR LR
comp=Z,7µm,20.0s
GOF Gofitskoye 91.21 316⇑ *i*P **P** **11 56 37.3 -0.2**
GOF *e*S **S** **12 07 35.4 0.0**
GOF pmax pmax
comp=Z,90nm,1.4s
NEE2 Needles Airpor 91.22 54 P **P** **11 56 39.3 +1.5**
baz=91,SNR=18
IVIS Veis 91.23 305 *e*P **P** **11 56 35.7 -2.2**
MCID Moose Creek 91.26 45 *e*P **P** **11 56 39.9 +1.9**
YMR Madison River 91.27 44 *e*P **P** **11 56 39.6 +1.6**
comp=Z,87nm,0.9s
YMR LR LR
comp=Z,14µm,22.0s
YPM Purple Mountai 91.34 44 *e*P **P** **11 56 40.6 +2.1**
GNI Garni 91.39 311 *e*P **P** **11 56 39.3 +0.6**
GNI *e* 12 00 22.3
GNI MLR MLR
comp=Z,4µm,20.0s
GNI Garni 91.39 311 P **P** **11 56 38.9 +0.2**
SNR=38
GNI Garni 91.39 311 *e*P **P** **11 56 39.3 +0.6**
GNI *e*PP PP 12 00 22.3 +6.2
GNI LR LR
comp=Z,4µm,20.0s
NAIU Northern Antel 91.41 48 *e*P **P** **11 56 39.6 +0.9**
A19A Klindworth Far 91.42 40 P **P** **11 56 39.8 +1.4**
baz=91
YFT Old Faithful 91.42 44 *e*P P 11 56 42.1 +3.2
comp=Z,115nm,1.1s
YFT LR LR
comp=Z,16µm,20.0s
WVUT Wellsville 91.44 47 *e*P **P** **11 56 39.8 +0.9**

B19A Brinkman Farms 91.44 40 P **P** **11 56 39.2 +0.6**
baz=91,SNR=37
YNR Norris Junctio 91.45 44 *e*P **P** **11 56 41.8 +2.9**
comp=Z,178nm,1.2s
GLA Glamis 91.48 56 *e*P **P** **11 56 40.4 +1.3**
GLA MLR MLR
comp=Z,9µm,19.0s
GLA Glamis 91.48 56 P **P** **11 56 40.3 +1.3**
baz=92,SNR=16
GLA Glamis 91.48 56 *e*P **P** **11 56 40.4 +1.3**
GLA LR LR
comp=Z,9µm,19.0s
MSEY Mahe Island 91.48 266 PFAKE 11 56 50.0 +11
MSEY LR LR
comp=Z,3µm,21.0s
CCUT Cedar City 91.50 51 *e*P **P** **11 56 40.9 +1.6**
CCUT *e*PP **PP** **12 00 17.3 +0.2**
CCUT LR LR
comp=Z,7µm,20.0s
VOR Voronezh 91.52 323 P **P** **11 56 39.0 +0.2**
VOR pmax pmax
comp=Z,250nm,2.0s
HDU Hyde Park 91.53 47 *e*P **P** **11 56 40.4 +1.0**
Y12C Blythe 91.55 55 P **P** **11 56 40.8 +1.5**
baz=92,SNR=18
TRO Tromso 91.56 344 *e*P **P** **11 56 37.7 -0.9**
TRO *e*SKSac **SKSac** **12 07 07.8 -2.4**
TRO IVMs_BB IVMs_BB 12 41 17.0
comp=Z,3µm,13.9s
TRO IAMs_20 IAMs_20 12 41 23.0
comp=Z,9µm,18.5s
CRMT Chrome Mountai 91.59 43 *e*P **P** **11 56 41.0 +1.2**
ONI Oni 91.64 314 P **P** **11 56 40.3 +0.7**
ONI S **SKSac** **12 07 13.6 +1.7**
LKWY Lake 91.69 44 *e*P **P** **11 56 43.0 +2.9**
LKWY MLR MLR
comp=Z,12µm,20.0s
LKWY Lake 91.69 44 *e*P **P** **11 56 43.0 +2.9**
LKWY LR LR
comp=Z,12µm,20.0s
KBZ Khabaz 91.70 315 P **P** **11 56 38.8 -1.0**
comp=Z,9.8nm,1.0s,baz=62,slow=2.7,SNR=35
KBZ LR LR 12 40 57.6
comp=Z,10µm,21.2s,baz=66,slow=38
VSR Storozhevoye 91.72 323 *e*P **P** **11 56 38.3 -1.4**
VSR *e* 12 00 18.5
VSR *e*S S 12 07 33.4 -6.3
VSR *e*SS **SS** **12 13 40.4 -6.0**
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,30nm,0.8s
VSR pmax pmax
comp=N,630nm,5.3s
VSR pmax pmax
comp=E,1µm,5.3s
VSR pmax pmax
comp=Z,1µm,5.3s
VSR smax smax
comp=N,490nm,5.2s
VSR smax smax
comp=E,830nm,5.2s
VSR smax smax
comp=Z,310nm,5.2s
VSR MLR MLR
comp=N,3µm,19.0s
VSR MLR MLR
comp=E,5µm,19.0s
VSR MLR MLR
comp=Z,9µm,19.0s
PDMCI Parker Dam,Lak 91.72 55 P **P** **11 56 41.5 +1.4**
baz=92,SNR=11
AHID Auburn Hatcher 91.73 46 *e*P **P** **11 56 41.4 +1.1**
comp=Z,90nm,1.1s
AHID *e*PP **PP** **12 00 17.9 -0.8**
AHID LR LR
comp=Z,12µm,21.0s
HWUT Hardware Ranch 91.73 47 *e*P **P** **11 56 40.9 +0.6**
HWUT *e*PP **PP** **12 00 18.3 -0.4**
HWUT LR LR
comp=Z,16µm,22.0s
DAG Danmarks Havn 91.76 357 *i*P **P** **11 56 38.6 -0.8**
comp=Z,39nm,1.0s
DAG Danmarks Havn 91.76 357 *i*P **P** **11 56 38.6 -0.8**
DAG pmax pmax
comp=Z,39nm,1.0s
DAG MLR MLR
comp=Z,3µm,20.0s
OBN Obninsk 91.77 327 PP PP 12 00 20.6 +2.3
comp=Z,19nm,0.5s,baz=115,slow=0.2,SNR=4.7
OBN Obninsk 91.77 327 *d iP* **P** **11 56 38.8 -1.0**
OBN *e* 12 00 26.5
OBN *i*PS **PS** **12 08 44.4 -6.8**
OBN *e*SS SS 12 13 50.5 +3.7
OBN pmax pmax
comp=Z,154nm,1.4s
OBN MLR MLR
comp=Z,14µm,18.0s
OBN Obninsk 91.77 327 P **P** **11 56 39.7 -0.1**
comp=Z,439nm,1.0s,SNR=8.3
OBN Obninsk 91.77 327 *e*P **P** **11 56 38.8 -1.0**
OBN PP **PP** **12 00 20.6 +2.3**
OBN LR LR
comp=Z,15µm,20.0s
KIV Kislovodsk 91.78 315 *c iP* **P** **11 56 39.9 -0.4**
KIV *e* 12 00 16.2
KIV *i*S **SKSac** **12 07 11.6 -1.2**
KIV *i*PS **PnS** **12 08 59.9 +7.0**
KIV *e*SS SS 12 13 38.0 -10
KIV pmax pmax
comp=Z,88nm,1.3s
KIV MLR MLR
comp=Z,10µm,24.0s
KIV Kislovodsk 91.78 315 P **P** **11 56 39.2 -1.1**
comp=Z,321nm,1.0s,SNR=11
KIV Kislovodsk 91.78 315 P **P** **11 56 39.8 -0.4**
SNR=23
KIV Kislovodsk 91.78 315 *e*P **P** **11 56 40.2 -0.1**
KIV LR LR
comp=Z,2µm,22.0s
GCMT Greycliff 91.81 43 *e*P **P** **11 56 41.2 +0.8**
comp=Z,3.4nm,0.6s
MCU Monte Cristo P 91.81 47 *e*P **P** **11 56 41.5 +0.8**
YTP The Promontory 91.81 44 *e*P **P** **11 56 42.6 +1.9**
NLU North Lily Min 91.82 49 *e*P **P** **11 56 41.6 +0.8**
comp=Z,164nm,1.1s
NLU LR LR
comp=Z,7µm,22.0s
RSUT Red Spur Mount 91.83 47 *e*P **P** **11 56 41.6 +0.8**
CTU Camp Tracy 91.85 48 *e*P **P** **11 56 41.6 +0.8**
comp=Z,92nm,1.1s
CTU *e*PP **PP** **12 00 19.7 0.0**
BMUT Black Mountain 91.86 47 *e*P **P** **11 56 42.0 +1.1**
GMU Granite Mounta 91.88 48 *e*P **P** **11 56 41.9 +1.0**
FLU Fool Peak 91.91 49 *e*P **P** **11 56 42.4 +1.2**
A20A Cobblestone Ra 91.94 39 P **P** **11 56 41.7 +0.8**
baz=92,SNR=41
AKH Akhalkalaki 91.95 313 P **P** **11 56 42.0 +0.7**
AKH S **SKSac** **12 07 15.1 +1.0**
TCUT Toone Canyon 91.98 48 *e*P **P** **11 56 42.3 +0.8**
comp=Z,64nm,0.9s
TCUT LR LR
comp=Z,16µm,22.0s
B20A Solberg Farm, 92.03 40 P **P** **11 56 42.4 +1.0**
baz=92,SNR=67
KNB Kanab 92.05 52 *e*P **P** **11 56 43.6 +1.8**
KNB pmax pmax
comp=Z,254nm,1.0s
KNB MLR MLR
comp=Z,6µm,22.0s
KNB Kanab 92.05 52 *e*P **P** **11 56 43.6 +1.8**
comp=Z,254nm,1.0s
KNB LR LR
comp=Z,6µm,22.0s
WCU Willow Creek 92.08 50 *e*P **P** **11 56 43.6 +1.5**
JLU Jordanelle 92.10 48 *e*P **P** **11 56 42.8 +0.8**
comp=Z,98nm,1.0s
JLU *e*PP **PP** **12 00 22.3 +0.6**
JLU LR LR
comp=Z,9µm,20.0s
MVU Marysvale 92.11 50 *e*P **P** **11 56 43.5 +1.3**
MVU LR LR
comp=Z,8µm,22.0s
KLJ Keetly 92.12 48 *e*P **P** **11 56 43.1 +1.0**

LEVU Levan 92.14 49 *e*P **P** **11 56 43.5 +1.3**
MSU Marysvale 92.14 50 *e*P **P** **11 56 43.4 +1.1**
MSU pmax pmax
comp=Z,23nm,1.4s
MSU Marysvale 92.14 50 *e*P **P** **11 56 43.4 +1.1**
comp=Z,23nm,1.4s
HTU Hoyt Peak 92.24 48 *e*P **P** **11 56 43.6 +0.9**
C20A Veseth Ranch, 92.28 41 P **P** **11 56 43.5 +1.0**
baz=92,SNR=244
RLMT Red Lodge 92.28 43 P **P** **11 56 43.9 +1.1**
baz=92,SNR=40
RLMT Red Lodge 92.28 43 *e*P **P** **11 56 43.2 +0.5**
comp=Z,235nm,1.7s
RLMT LR LR
comp=Z,6µm,19.0s
EKU East Kanab 92.29 52 *e*P **P** **11 56 44.5 +1.6**
SGU Sterling 92.35 49 *e*P **P** **11 56 45.0 +1.7**
SNO Snow College 92.39 49 *e*P **P** **11 56 45.2 +1.7**
A21A Bergtoll Ranch 92.53 39 P **P** **11 56 44.2 +0.6**
baz=92,SNR=20
BTU Barney Top 92.58 51 *e*P **P** **11 56 46.1 +1.6**
H19A Powell 92.61 44 P **P** **11 56 46.3 +2.1**
baz=93,SNR=27
TMUT Trail Mountain 92.65 49 *e*P **P** **11 56 45.7 +1.0**
comp=Z,78nm,1.1s
TMUT *e*PP **PP** **12 00 26.1 0.0**
B21A Ellsworth Farm 92.67 40 P **P** **11 56 45.0 +0.8**
baz=93,SNR=112
I19A Meeteetse 92.81 44 P **P** **11 56 46.7 +1.5**
baz=93,SNR=35
BW06 Boulder Array 92.81 46 *e*P **P** **11 56 45.1 -0.2**
comp=Z,17nm,0.8s
BW06 *e*PP **PP** **12 00 26.3 -1.0**
BW06 *e*PKKPdf **PKKPbc** **12 13 56.6 -0.7**
BW06 *e*SS SS 12 13 57.5 -5.7
BW06 LR LR
comp=Z,11µm,22.0s
PDAR Pinedale Array 92.81 46 P **P** **11 56 45.4 +0.1**
comp=Z,9.4nm,0.9s,baz=323,slow=2.2,SNR=62
PDAR PP **PP** **12 00 25.6 -1.7**
comp=Z,6.9nm,1.1s,baz=290,slow=3.7,SNR=4.8
PDAR PKKPbc **PKKPbc** **12 13 56.7 -0.6**
comp=Z,1.7nm,0.9s,baz=100,slow=4.7,SNR=8.3
PDAR PKPPKP **P'P'df** **12 22 07.6 -2.0**
comp=Z,0.6nm,0.9s,baz=74,slow=6.7,SNR=2.7
PDAR LR LR 12 31 22.4
comp=Z,9µm,21.9s,baz=311,slow=31
F20A Billings 92.81 42 P **P** **11 56 45.9 +0.9**
baz=93,SNR=29
C21A Desert Coulee 92.82 40 P **P** **11 56 46.1 +1.1**
baz=93,SNR=41
PUL Pulkovo 92.86 333⇑ *e*P **P** **11 56 45.6 +0.8**
PUL pmax pmax
comp=Z,120nm,0.7s
PUL MLR MLR
comp=Z,11µm,21.0s
MMU Miners Mountai 92.89 50 *e*P **P** **11 56 46.9 +1.1**
G20A Bridger 92.96 43 P **P** **11 56 47.0 +1.2**
baz=93,SNR=32
J19A Crowheart 93.01 45 P **P** **11 56 47.2 +1.1**
baz=93,SNR=88
D21A La Casta Ranch 93.14 41 P **P** **11 56 47.2 +0.7**
baz=93,SNR=50
A22A Carney Farms, 93.15 39 P **P** **11 56 46.7 +0.2**
baz=93,SNR=73
KULLO Kullorsuaq 93.19 6 *i*P **P** **11 56 45.9 -0.1**
comp=Z,92nm,1.4s
FFC Flin Flon 93.21 33 *e*P **P** **11 56 46.8 +0.3**
FFC *e* 12 00 31.5
FFC pmax pmax
comp=Z,70nm,0.9s
FFC MLR MLR
comp=Z,10µm,20.0s
FFC Flin Flon 93.21 33 *e*P **P** **11 56 46.8 +0.3**
comp=Z,70nm,0.9s
FFC *e*PP **PP** **12 00 31.5 +1.9**
FFC LR LR
comp=Z,10µm,20.0s
SRU San Rafael 93.21 49 *e*P **P** **11 56 47.7 +0.6**
SRU *e* 12 00 29.8
SRU pmax pmax
comp=Z,69nm,0.9s
SRU MLR MLR
comp=Z,5µm,21.0s
SRU San Rafael 93.21 49 *e*P **P** **11 56 47.7 +0.6**
comp=Z,69nm,0.9s
SRU *e*PP **PP** **12 00 29.8 -0.6**
SRU LR LR
comp=Z,5µm,21.0s
E21A Keefer Ranch, 93.27 41 P **P** **11 56 48.4 +1.3**
baz=93,SNR=20
H20A Greybull 93.34 44 P **P** **11 56 48.5 +1.0**
baz=93,SNR=22
B22A Reddig Ranch S 93.35 40 P **P** **11 56 48.1 +0.7**
baz=93,SNR=85
214A Organ Pipe Nat 93.40 57 P **P** **11 56 49.2 +1.2**
baz=93
214A Organ Pipe Nat 93.40 57 *e*P **P** **11 56 48.8 +0.9**
comp=Z,62nm,1.1s
I20A Worland 93.43 44 P **P** **11 56 49.3 +1.4**
baz=93,SNR=29
F21A Absaloka Mine, 93.48 42 P **P** **11 56 49.2 +1.1**
baz=93,SNR=7.5
WUAZ Wupatki 93.59 53 P **P** **11 56 50.4 +1.4**
baz=94,SNR=117
WUAZ Wupatki 93.59 53 *e*P **P** **11 56 50.5 +1.6**
WUAZ LR LR
comp=Z,6µm,21.0s
C22A Vida 93.61 40 P **P** **11 56 49.0 +0.4**
baz=94
G21A Lodge Grass 93.63 43 P **P** **11 56 49.7 +0.8**
baz=94
D22A Cohagen 93.64 41 P **P** **11 56 50.0 +1.3**
baz=94,SNR=48
J20A Shoshoni 93.65 45 P **P** **11 56 50.2 +1.1**
baz=94
A23A Redstone 93.80 39 P **P** **11 56 49.8 +0.4**
baz=94
FINES FINESS Array B 93.84 335 P **P** **11 56 47.8 -1.4**
comp=Z,9.0nm,0.8s,baz=105,slow=4.5,SNR=31
FINES PP **PP** **12 00 30.2 -4.2**
comp=Z,12nm,1.0s,baz=64,slow=9.4,SNR=3.7
FINES PKKPbc **PKKPdf** **12 13 53.5 +0.5**
comp=Z,3.0nm,1.0s,baz=202,slow=1.5,SNR=4.7
FINES LR LR 12 40 58.1
comp=Z,8µm,20.4s,baz=56,slow=37
FINES FINESS Array B 93.84 335 *i*P **P** **11 56 47.7 -1.6**
FINES pmax pmax
comp=Z,9.0nm,0.8s
B23A Brockton 93.91 39 P **P** **11 56 50.7 +0.7**
baz=94,SNR=56
H21A Big Horn, Sher 93.94 43 P **P** **11 56 51.6 +1.3**
baz=94,SNR=27
SOC Sochi 93.94 316 *c iP* **P** **11 56 48.2 -1.9**
SOC *e* 12 00 33.4
SOC *e*PPP PPP 12 02 33.9
SOC *e*S **SKSac** **12 07 24.4 -0.1**
SOC *e*PS **PS** **12 09 12.9 -2.9**
SOC *e*SS **SS** **12 14 23.8 +5.1**
SOC pmax pmax
comp=Z,5.0nm,0.4s
SOC pmax pmax
comp=Z,231nm,3.0s
SOC MLR MLR
comp=Z,7µm,17.0s
C23A Lambert 94.03 40 P **P** **11 56 51.7 +1.1**
baz=94,SNR=90
E22A Miles City 94.04 41 P **P** **11 56 51.1 +0.5**
baz=94,SNR=31
I21A Big Trails, Te 94.04 44 P **P** **11 56 51.6 +0.7**
baz=94,SNR=41
F22A Rosebud 94.07 42 P **P** **11 56 51.5 +0.7**
baz=94,SNR=9.8
J21A Lysite 94.09 45 P **P** **11 56 52.0 +0.8**
baz=94,SNR=50
G22A Birney 94.24 42 P **P** **11 56 52.6 +1.0**
baz=94,SNR=6.2
D23A Lindsay 94.25 40 P **P** **11 56 52.8 +1.2**
baz=94,SNR=34
A24A Westby 94.35 38 P **P** **11 56 52.5 +0.6**
baz=94,SNR=23
DGMT Dagmar 94.40 39 P **P** **11 56 52.6 +0.4**
baz=94,SNR=18
DGMT Dagmar 94.40 39 *e*P **P** **11 56 52.5 +0.2**
comp=Z,134nm,1.0s
DGMT LR LR
comp=Z,12µm,21.0s

H22A	**Clearmont**	**94.41**	**43**	P	**P**	**11 56 53.6**	**+1.2**
	baz=94,SNR=10						
PV09	**Paradox Valley**	**94.43**	**50**	*e*P	**P**	**11 56 54.2**	**+1.3**
E23A	**Ismay**	**94.43**	**41**	P	**P**	**11 56 53.1**	**+0.7**
	baz=94						
PV10	**Paradox Valley**	**94.54**	**50**	*e*P	**P**	**11 56 54.0**	**+0.6**
I22A	**9 Mile Ranch,**	**94.57**	**44**	P	**P**	**11 56 54.1**	**+0.9**
	baz=94,SNR=5.7						
O20A	**White River Ci**	**94.57**	**48**	P	**P**	**11 56 54.4**	**+1.0**
	baz=94,SNR=47						
O20A	**White River Ci**	**94.57**	**48**	*e*P	**P**	**11 56 53.8**	**+0.3**
	comp=Z,65nm,0.9s						
O20A				LR	LR		
	comp=Z,11µm,22.0s						
PV05	**Paradox Valley**	**94.58**	**50**	*e*P	**P**	**11 56 54.3**	**+0.8**
C24A	**Savage**	**94.61**	**40**	P	**P**	**11 56 54.3**	**+1.1**
	baz=95,SNR=30						
PV04	**Paradox Valley**	**94.63**	**50**	*e*P	**P**	**11 56 54.4**	**+0.7**
PV04				*e*PP	**PP**	**12 00 39.4**	**-2.1**
F23A	**Volborg**	**94.64**	**42**	P	**P**	**11 56 54.3**	**+0.8**
	baz=95,SNR=18						
D24A	**Glendive**	**94.83**	**40**	P	**P**	**11 56 55.5**	**+1.2**
	baz=95,SNR=24						
G23A	**Biddle**	**94.84**	**42**	P	**P**	**11 56 55.2**	**+0.8**
	baz=95,SNR=12						
A25A	**Svangstu Ranch**	**94.89**	**38**	P	**P**	**11 56 55.1**	**+0.7**
	baz=95,SNR=19						
TUC	**Tucson**	**94.96**	**56**	*e*P	**P**	**11 56 56.1**	**+0.9**
TUC				*e*		12 00 39.9	
TUC				pmax	pmax		
	comp=Z,55nm,1.3s						
TUC				MLR	MLR		
	comp=Z,8µm,20.0s						
TUC	**Tucson**	**94.96**	**56**	*e*P	**P**	**11 56 56.1**	**+0.9**
	comp=Z,55nm,1.3s						
TUC				*e*PP	**PP**	**12 00 39.9**	**-4.3**
TUC				LR	LR		
	comp=Z,8µm,20.0s						
PV01	**Paradox Valley**	**94.96**	**50**	*e*P	**P**	**11 56 55.7**	**+0.4**
	comp=Z,6µm,0.9s						
PV01				*e*PP	**PP**	**12 00 43.1**	**-1.1**
K22A	**Casper**	**94.96**	**45**	P	**P**	**11 56 56.0**	**+0.9**
	baz=95						
K22A	**Casper**	**94.96**	**45**	*e*P	**P**	**11 56 56.1**	**+1.0**
	comp=Z,62nm,1.2s						
K22A				*e*PP	**PP**	**12 00 42.9**	**-1.1**
K22A				LR	LR		
	comp=Z,12µm,22.0s						
W18A	**Petrified Fore**	**94.99**	**53**	P	**P**	**11 56 56.9**	**+1.6**
	baz=95,SNR=19						
W18A	**Petrified Fore**	**94.99**	**53**	*e*P	**P**	**11 56 57.0**	**+1.6**
	comp=Z,96nm,1.1s						
W18A				*e*PP	**PP**	**12 00 42.6**	**-1.8**
W18A				LR	LR		
	comp=Z,9µm,20.0s						
E24A	**Baker**	**95.05**	**41**	P	**P**	**11 56 56.3**	**+1.0**
	baz=95,SNR=6.6						
H23A	**Clabaugh Cattl**	**95.06**	**43**	P	**P**	**11 56 56.2**	**+0.8**
	baz=95						
ANN	**Anapa**	**95.06**	**317**	*e*P	**P**	**11 56 53.6**	**-1.6**
ANN				*e*		12 00 47.0	
ANN				*e*PPP	PPP	12 02 47.7	
ANN				*e*		12 07 28.8	
ANN				*e*SP	SP	12 09 24.3	-1.2
ANN				*e*SS	**SS**	**12 14 37.3**	**+2.8**
ANN				pmax	pmax		
	comp=Z,88nm,1.6s						
ANN				MLR	MLR		
	comp=N,6µm,19.0s						
ANN				MLR	MLR		
	comp=Z,8µm,19.0s						
ANN				MLR	MLR		
	comp=E,6µm,19.0s						
RAYN	**Ar Rayn**	**95.11**	**295**	*e*P	**P**	**11 56 54.8**	**-1.2**
RAYN				*e*PP	**PP**	**12 00 45.0**	**-0.6**
RAYN				LR	LR		
	comp=Z,3µm,19.0s						
VSU	**Vasula**	**95.11**	**333**	*de*P	**P**	**11 56 54.1**	**-1.0**
VSU				pmax	pmax		
	comp=Z,225nm,1.7s						
VSU				MLR	MLR		
	comp=Z,14µm,16.0s						
B25A	**Knox Farm, Ray**	**95.12**	**39**	P	**P**	**11 56 56.2**	**+0.7**
	baz=95						
FCC	**Fort Churchill**	**95.17**	**27**	*e*P	**P**	**11 56 55.0**	**-0.4**
FCC				MLR	MLR		
	comp=Z,12µm,21.0s						
FCC	**Fort Churchill**	**95.17**	**27**	*e*P	**P**	**11 56 55.0**	**-0.4**
FCC				LR	LR		
	comp=Z,12µm,21.0s						
F24A	**Ekalaka**	**95.22**	**41**	P	**P**	**11 56 56.7**	**+0.6**
	baz=95,SNR=13						
I23A	**Meade Ranch, G**	**95.23**	**43**	P	**P**	**11 56 57.1**	**+0.8**
	baz=95						
C25A	**Freed Ranch, W**	**95.28**	**39**	P	**P**	**11 56 57.2**	**+1.0**
	baz=95,SNR=15						
MVCO	**Mesa Verde**	**95.30**	**51**	P	**P**	**11 56 58.0**	**+1.2**
	baz=95,SNR=44						
MVCO	**Mesa Verde**	**95.30**	**51**	*e*P	**P**	**11 56 57.4**	**+0.6**
	comp=Z,93nm,1.2s						
MVCO				*e*PP	**PP**	**12 00 43.6**	**-3.3**
MVCO				LR	LR		
	comp=Z,8µm,22.0s						
J23A	**Dilts Ranch, B**	**95.37**	**44**	P	**P**	**11 56 57.3**	**+0.4**
	baz=95						
G24A	**Alzada**	**95.44**	**42**	P	**P**	**11 56 57.6**	**+0.6**
	baz=95,SNR=5.4						
D25A	**Fairfield**	**95.45**	**40**	P	**P**	**11 56 58.0**	**+1.0**
	baz=95,SNR=11						
K23A	**Bowen Ranch, D**	**95.55**	**45**	P	**P**	**11 56 58.6**	**+0.9**
	baz=96,SNR=8.5						
A26A	**Wade Farm, Ken**	**95.55**	**38**	P	**P**	**11 56 58.0**	**+0.5**
	baz=96,SNR=35						
H24A	**Dirks Ranch, A**	**95.56**	**42**	P	**P**	**11 56 58.1**	**+0.5**
	baz=96,SNR=14						
B26A	**Jensen Ranch,**	**95.64**	**39**	P	**P**	**11 56 58.5**	**+0.6**
	baz=96						
E25A	**Miller Ranch,**	**95.65**	**41**	P	**P**	**11 56 58.9**	**+0.9**
	baz=96,SNR=16						
F25A	**Bowman**	**95.83**	**41**	P	**P**	**11 56 60.0**	**+1.1**
	baz=96						
I24A	**Kuemmerle Ranc**	**95.83**	**43**	P	**P**	**11 56 59.3**	**+0.3**
	baz=96						
C26A	**Wahner Farm, P**	**95.95**	**39**	P	**P**	**11 57 00.0**	**+0.7**
	baz=96,SNR=9.9						
N23A	**Red Feather La**	**95.97**	**46**	P	**P**	**11 57 00.8**	**+0.9**
	baz=96,SNR=36						
N23A	**Red Feather La**	**95.97**	**46**	*e*P	**P**	**11 57 00.8**	**+0.9**
	comp=Z,100nm,1.3s						
N23A				LR	LR		
	comp=Z,15µm,22.0s						
J24A	**Dixon Ranch, L**	**96.00**	**44**	P	**P**	**11 56 59.9**	**+0.2**
	baz=96						
A27A	**Ledoux Ranch,**	**96.01**	**38**	P	**P**	**11 57 00.0**	**+0.5**
	baz=96,SNR=12						
D26A	**Manning**	**96.06**	**40**	P	**P**	**11 57 00.2**	**+0.4**
	baz=96,SNR=12						
K24A	**Anderson Ranch**	**96.12**	**44**	P	**P**	**11 57 01.1**	**+0.8**
	baz=96						
RSSD	**Black Hills**	**96.14**	**43**	*e*P	**P**	**11 57 00.9**	**+0.4**
RSSD				pmax	pmax		
	comp=Z,70nm,1.8s						
RSSD				MLR	MLR		
	comp=Z,5µm,19.0s						
RSSD	**Black Hills**	**96.14**	**43**	*e*P	**P**	**11 57 00.9**	**+0.4**
	comp=Z,70nm,1.8s						
RSSD				LR	LR		
	comp=Z,5µm,19.0s						
G25A	**Newell**	**96.14**	**42**	P	**P**	**11 57 00.6**	**+0.3**
	baz=96						
B27A	**Peters Farms,**	**96.22**	**38**	P	**P**	**11 57 00.9**	**+0.4**
	baz=96,SNR=5.9						
H25A	**Fruitdale**	**96.24**	**42**	P	**P**	**11 57 01.5**	**+0.8**
	baz=96,SNR=11						
JMIC	**Jan Mayen**	**96.24**	**352**	*e*PP	PP	12 00 53.2	+0.5
E26A	**Carlson Angus**	**96.26**	**40**	P	**P**	**11 57 01.6**	**+0.8**
	baz=96,SNR=33						
C27A	**Sayler Ranch,**	**96.36**	**39**	P	**P**	**11 57 01.8**	**+0.6**
	baz=96						
F26A	**Lodgepole**	**96.37**	**41**	P	**P**	**11 57 01.8**	**+0.5**
	baz=96,SNR=7.0						
I25A	**Rochford**	**96.38**	**43**	P	**P**	**11 57 01.8**	**+0.3**
	baz=96,SNR=10						
SUMG	**Summit**	**96.39**	**1**	*i* P	**P**	**11 57 01.8**	**+0.5**
	comp=Z,30nm,0.9s						
SUMG	**Summit**	**96.39**	**1**	*e*P	**P**	**11 57 01.7**	**+0.5**
SUMG				*e*		12 00 57.1	
SUMG				MLR	MLR		
	comp=Z,6µm,22.0s						
SUMG	**Summit**	**96.39**	**1**	*e*P	**P**	**11 57 01.7**	**+0.5**
SUMG				*e*PP	**PP**	**12 00 57.1**	**+2.9**
SUMG				*e*PKKPbc	**PKKPbc**	**12 13 46.3**	**-2.7**
SUMG				LR	LR		
	comp=Z,6µm,22.0s						
S22A	**4UR Ranch, Cre**	**96.39**	**50**	P	**P**	**11 57 02.9**	**+1.1**
	baz=96,SNR=33						
S22A	**4UR Ranch, Cre**	**96.39**	**50**	*e*P	**P**	**11 57 02.8**	**+0.9**
	comp=Z,71nm,1.4s						
S22A				LR	LR		
	comp=Z,6µm,20.0s						
MICGM	**Minsk**	**96.56**	**329**	*e*P	P	11 57 06.0	+4.2
J25A	**Sunshine Ranch**	**96.56**	**44**	P	**P**	**11 57 02.8**	**+0.5**
	baz=96						
MNK	**Minsk**	**96.58**	**329**	*e*P	P	11 57 06.0	+4.1
MNK				*e*		12 00 56.0	
MNK				*e*PS	PS	12 10 20.0	+36
MNK				pmax	pmax		
	comp=Z,50nm,1.5s						
MNK				MLR	MLR		
	comp=N,7µm,20.0s						
MNK				MLR	MLR		
	comp=E,11µm,20.0s						
MNK				MLR	MLR		
	comp=Z,17µm,18.0s						
ISCO	**Idaho Springs**	**96.59**	**47**	*e*P	**P**	**11 57 03.5**	**+0.7**
ISCO				MLR	MLR		
	comp=Z,11µm,22.0s						
ISCO	**Idaho Springs**	**96.59**	**47**	P	**P**	**11 57 03.3**	**+0.5**
	baz=97,SNR=23						
ISCO	**Idaho Springs**	**96.59**	**47**	*e*P	**P**	**11 57 03.5**	**+0.7**
ISCO				LR	LR		
	comp=Z,11µm,22.0s						
D27A	**Center**	**96.59**	**39**	P	**P**	**11 57 03.1**	**+0.8**
	baz=96,SNR=6.3						
A28A	**Rude Farm, Bot**	**96.61**	**37**	P	**P**	**11 57 02.7**	**+0.4**
	baz=96,SNR=13						
MALT	**Malatya**	**96.62**	**311**	*i* P	**P**	**11 57 03.7**	**+1.0**
G26A	**Maurine**	**96.63**	**41**	P	**P**	**11 57 03.0**	**+0.5**
	baz=97,SNR=8.3						
IDID	**Didziasalis**	**96.72**	**330**	*e*P	**P**	**11 57 02.2**	**-0.3**
IDID				IAmb	IAmb	11 57 04.2	
	comp=Z,3.6nm,0.8s						
IZAR	**Zarasai**	**96.74**	**330**	*e*P	**P**	**11 57 02.2**	**-0.4**
IZAR				IAmb	IAmb	11 57 03.5	
	comp=Z,10nm,0.8s						
B28A	**Dugan Ranch, T**	**96.75**	**38**	P	**P**	**11 57 03.4**	**+0.5**
	baz=97,SNR=20						
F27A	**Lemmon**	**96.78**	**41**	P	**P**	**11 57 04.0**	**+0.9**
	baz=97,SNR=12						
H26A	**Fairpoint**	**96.78**	**42**	P	**P**	**11 57 03.6**	**+0.4**
	baz=97						
K25A	**Mack Ranch, Ha**	**96.81**	**44**	P	**P**	**11 57 04.1**	**+0.7**
	baz=97						
E27A	**Carson**	**96.84**	**40**	P	**P**	**11 57 04.6**	**+1.2**
	baz=97,SNR=10						
ISAL	**Salakas**	**96.89**	**330**	*e*P	**P**	**11 57 02.8**	**-0.5**
ISAL				IAmb	IAmb	11 57 04.1	
	comp=Z,6.5nm,0.8s						
NACGM	**Naroch**	**96.91**	**330**	*e*P	**P**	**11 57 02.0**	**-1.4**
L25A	**Engebretsen Ra**	**96.91**	**45**	P	**P**	**11 57 05.5**	**+1.6**
	baz=97						
I26A	**New Underwood**	**96.95**	**43**	P	**P**	**11 57 04.8**	**+0.8**
	baz=97						
IIGN	**Ignalina**	**96.96**	**330**	*e*P	**P**	**11 57 03.0**	**-0.6**
IIGN				IAmb	IAmb	11 57 05.0	
	comp=Z,4.3nm,0.6s						
G27A	**Dupree**	**97.03**	**41**	P	Pdif	11 57 04.7	+0.3
	baz=97,SNR=13						
C28A	**Hausauer Farms**	**97.05**	**39**	P	Pdif	11 57 05.2	+0.8
	baz=97,SNR=15						
J26A	**Sides Ranch, S**	**97.08**	**43**	P	Pdif	11 57 05.6	+0.9
	baz=97						
M25A	**Palm-Egli Farm**	**97.11**	**45**	P	Pdif	11 57 05.9	+0.9
	baz=97						
D28A	**Regan**	**97.15**	**39**	P	Pdif	11 57 05.4	+0.6
	baz=97						
SIM	**Simferopol'**	**97.19**	**318**	*c i*P	P	11 57 00.2	-4.7
SIM				*e*S	S	12 08 20.0	-7.9
SIM				pmax	pmax		
	comp=Z,500nm,10.4s						
Q24A	**Divide**	**97.22**	**48**	P	Pdif	11 57 06.8	+1.1
	baz=97,SNR=10						
Q24A	**Divide**	**97.22**	**48**	*e*P	Pdif	11 57 06.7	+1.0
	comp=Z,29nm,1.3s						
Q24A				*e*PP	**PP**	**12 01 02.2**	**+0.6**
Q24A				LR	LR		
	comp=Z,5µm,20.0s						
A29A	**Manning Farm,**	**97.22**	**37**	P	Pdif	11 57 05.4	+0.3
	baz=97,SNR=6.0						
H27A	**Howes**	**97.23**	**42**	P	Pdif	11 57 05.9	+0.6
	baz=97						
LAZ	**Ladron**	**97.24**	**53**	*e*P	Pdif	11 57 06.7	+1.0
	comp=Z,14nm,1.1s						
K26A	**Motz Farm, Whi**	**97.25**	**44**	P	Pdif	11 57 05.8	+0.4
	baz=97						
121A	**Cookes Peak, D**	**97.32**	**55**	P	Pdif	11 57 06.7	+0.5
	baz=97						
121A	**Cookes Peak, D**	**97.32**	**55**	*e*P	Pdif	11 57 07.2	+1.1
	comp=Z,48nm,1.2s						
E28A	**Huff**	**97.33**	**40**	P	Pdif	11 57 06.2	+0.6
	baz=97,SNR=7.6						
B29A	**Wagenman Farm,**	**97.35**	**38**	P	Pdif	11 57 05.9	+0.3
	baz=97,SNR=10						
SDCO	**Great Sand Dun**	**97.38**	**49**	P	Pdif	11 57 06.9	+0.5
	baz=97						
SDCO	**Great Sand Dun**	**97.38**	**49**	*e*P	Pdif	11 57 06.7	+0.3
SDCO				*e*PP	**PP**	**12 01 04.5**	**+1.6**
SDCO				LR	LR		
	comp=Z,8µm,22.0s						
LENM	**Lemitar**	**97.44**	**53**	*e*P	Pdif	11 57 06.9	+0.2
	comp=Z,710nm,2.3s						
MDND	**Maddock**	**97.47**	**38**	P	Pdif	11 57 06.5	+0.3
	baz=97,SNR=9.5						
MDND	**Maddock**	**97.47**	**38**	*e*P	Pdif	11 57 06.8	+0.6
MDND				*e*PP	**PP**	**12 01 02.8**	**-0.1**
MDND				LR	LR		
	comp=Z,12µm,22.0s						
I27A	**Quinn**	**97.47**	**42**	P	Pdif	11 57 07.2	+0.8
	baz=97						
Y22D	**IRIS PASSCAL I**	**97.52**	**53**	P	Pdif	11 57 08.8	+1.9
	baz=98						
F28A	**McLaughlin**	**97.57**	**40**	P	Pdif	11 57 07.2	+0.5
	baz=98,SNR=5.9						
L26A	**Underwood Farm**	**97.57**	**45**	P	Pdif	11 57 08.0	+1.0
	baz=98						
ANMO	**Albuquerque**	**97.59**	**52**	*d i*P	Pdif	11 57 08.6	+1.3
ANMO				pmax	pmax		
	comp=Z,128nm,1.1s						
ANMO				MLR	MLR		
	comp=Z,25µm,19.0s						
ANMO	**Albuquerque**	**97.59**	**52**	*e*P	Pdif	11 57 08.3	+0.9
	comp=Z,26nm,0.9s						
ANMO				LR	LR		
	comp=Z,8µm,20.0s						
MAW	**Mawson**	**97.66**	**203**	P	Pdif	11 57 07.2	+0.7
	comp=Z,28nm,0.9s,baz=62,slow=5.5,SNR=29						
MAW				PP	**PP**	**12 01 03.4**	**-0.9**
	comp=Z,3.2nm,0.9s,baz=97,slow=12,SNR=3.6						
MAW				PKKPbc	**PKKPbc**	**12 13 42.8**	**-2.4**
	comp=Z,7.3nm,1.0s,baz=315,slow=5.7,SNR=5.3						
MAW				LR	LR	12 39 52.1	
	comp=Z,4µm,19.6s,baz=74,slow=35						
LPM	**Los Pinos Moun**	**97.67**	**53**	*e*P	Pdif	11 57 08.8	+1.1
	comp=Z,26nm,1.6s						
LPM				*e*PP	**PP**	**12 01 01.0**	**-4.1**
AKASG	**Malin Array Be**	**97.67**	**325**	P	**P**	**11 57 05.2**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=51,slow=4.9,SNR=24						
AKASG				PP	**PP**	**12 01 00.2**	**-4.1**
	comp=Z,5.5nm,0.9s,baz=51,slow=7.6,SNR=5.0						
AKASG				PKKPbc	**PKKPbc**	**12 13 42.3**	**-2.1**
	comp=Z,4.4nm,0.8s,baz=259,slow=3.3,SNR=12						
AKASG				LR	LR	12 45 03.0	
	comp=Z,9µm,19.4s,baz=60,slow=38						
AKASG	**Malin Array Be**	**97.67**	**325**	*i* P	**P**	**11 57 06.0**	**-0.9**
KIEV	**Kiev**	**97.68**	**325**	*i e*P	**P**	**11 57 06.3**	**-0.7**
KIEV	**Kiev**	**97.68**	**325**	*e*P	**P**	**11 57 06.0**	**-1.0**
	comp=Z,68nm,1.6s						
KIEV				*e*PKKPbc	**PKKPbc**	**12 13 42.9**	**-1.5**
KIEV				LR	LR		
	comp=Z,15µm,20.0s						
AK11	**Malin Array Si**	**97.71**	**325**	*e*P	**P**	**11 57 05.7**	**-1.5**
AK11				*e*PP	**PP**	**12 01 08.5**	**+3.9**
AK11				*e*PKKPbc	**PKKPbc**	**12 13 42.6**	**-1.6**
BNM	**Barren Site**	**97.72**	**53**	*e*P	Pdif	11 57 09.5	+1.5
M26A	**McRoberts Ranc**	**97.74**	**45**	P	**P**	**11 57 06.5**	**-1.2**
	baz=98						
A30A	**Hoffart Farm,**	**97.76**	**37**	P	Pdif	11 57 08.0	+0.5
	baz=98,SNR=15						
D29A	**Pettibone, Tap**	**97.81**	**39**	P	**P**	**11 57 06.4**	**-1.3**
	baz=98						
G28A	**Parade**	**97.81**	**41**	P	Pdif	11 57 08.0	+0.2
	baz=98						
J27A	**Elkhorn Farm,**	**97.83**	**43**	P	Pdif	11 57 08.3	+0.3
	baz=98						
K27A	**Flueckinger Fa**	**97.89**	**44**	P	Pdif	11 57 09.0	+0.7
	baz=98						
H28A	**Mission Ridge**	**97.91**	**42**	P	Pdif	11 57 08.6	+0.3
	baz=98						
N26A	**Koester Ranch,**	**97.92**	**46**	P	**P**	**11 57 08.1**	**-0.4**
	baz=98						
B30A	**Myrvik Farm, E**	**97.97**	**37**	P	Pdif	11 57 08.9	+0.5
	baz=98,SNR=17						
E29A	**Napoleon**	**97.99**	**39**	P	Pdif	11 57 09.2	+0.6
	baz=98						
SLBS	**Sierra La Lagu**	**98.07**	**64**	*e*P	Pdif	11 57 10.9	+1.4
	comp=Z,29nm,1.0s						
SLBS				LR	LR		
	comp=Z,5µm,19.0s						
O26A	**Horse Wrangler**	**98.08**	**46**	P	Pdif	11 57 09.9	+0.6
	baz=98,SNR=8.2						
I28A	**Midland**	**98.09**	**42**	P	Pdif	11 57 09.6	+0.5
	baz=98						
SCO	**Scoresbysund**	**98.13**	**356**	*i* P	Pdif	11 57 09.0	+0.4
	comp=Z,26nm,1.1s						
SCO	**Scoresbysund**	**98.13**	**356**	*i* P	Pdif	11 57 09.0	+0.4
SCO				pmax	pmax		
	comp=Z,28nm,1.1s						
F29A	**Eureka**	**98.19**	**40**	P	Pdif	11 57 09.7	+0.2
	baz=98						
C30A	**Mose, Pekin**	**98.21**	**38**	P	**P**	**11 57 09.4**	**-0.1**
	baz=98,SNR=8.4						
M27A	**Reverse DX Ran**	**98.24**	**45**	P	Pdif	11 57 10.3	+0.4
	baz=98						
J28A	**Allard Ranch,**	**98.27**	**43**	P	Pdif	11 57 10.8	+0.8
	baz=98						
DAMY	**Dhamar**	**98.30**	**287**	*e*P	Pdif	11 57 12.3	+1.3
	comp=Z,52nm,1.3s						
D30A	**Buchanan**	**98.31**	**39**	P	Pdif	11 57 10.1	+0.1
	baz=98,SNR=15						
P26A	**Davis Ranch, A**	**98.31**	**47**	P	Pdif	11 57 10.9	+0.5
	baz=98,SNR=19						
G29A	**Hoven**	**98.40**	**41**	P	**P**	**11 57 10.4**	**0.0**
	baz=98						
T25A	**Trinidad**	**98.41**	**50**	P	Pdif	11 57 11.9	+0.9
	baz=98						
T25A	**Trinidad**	**98.41**	**50**	*e*P	Pdif	11 57 12.0	+1.1
	comp=Z,198nm,2.5s						
T25A				LR	LR		
	comp=Z,7µm,22.0s						
N27A	**Anderson Farm,**	**98.41**	**46**	P	Pdif	11 57 11.7	+1.0
	baz=98						
Q26A	**Hugo**	**98.42**	**48**	P	Pdif	11 57 12.1	+1.3
	baz=98,SNR=14						
H29A	**Onida**	**98.45**	**41**	P	Pdif	11 57 11.8	+1.1
	baz=98						
K28A	**Ten Mile Ranch**	**98.47**	**43**	P	Pdif	11 57 11.8	+0.9
	baz=98						
E30A	**Jud**	**98.48**	**39**	P	Pdif	11 57 10.9	+0.1
	baz=98						
I29A	**Vivian Onida**	**98.65**	**42**	P	Pdif	11 57 11.8	+0.3
	baz=99						
O27A	**Beecher Island**	**98.69**	**46**	P	Pdif	11 57 12.5	+0.6
	baz=99						
F30A	**Leola**	**98.70**	**40**	P	Pdif	11 57 12.3	+0.5
	baz=99						
R26A	**Arlington**	**98.70**	**48**	P	Pdif	11 57 12.6	+0.5
	baz=99,SNR=11						
OGNE	**Ogallala**	**98.71**	**45**	P	Pdif	11 57 12.3	+0.2
	baz=99						
OGNE	**Ogallala**	**98.71**	**45**	*e*P	Pdif	11 57 12.0	0.0
	comp=Z,50nm,1.5s						
OGNE				LR	LR		
	comp=Z,9µm,22.0s						
P27A	**Ficken Ranch,**	**98.86**	**47**	P	Pdif	11 57 13.6	+0.9
	baz=99						
J29A	**Okreek**	**98.89**	**43**	P	Pdif	11 57 13.3	+0.6
	baz=99						
G30A	**Faulkton**	**98.93**	**41**	P	Pdif	11 57 13.5	+0.7
	baz=99						
S26A	**Kim**	**98.93**	**49**	P	Pdif	11 57 14.2	+1.1
	baz=99,SNR=18						
S26A				P	**PP**	**12 01 15.6**	**+1.0**
	baz=99,SNR=6.4						
M28A	**Bar X Bar Ranc**	**98.99**	**45**	P	Pdif	11 57 14.9	+1.6
	baz=99						
T26A	**Comanche Natio**	**99.00**	**49**	P	**Pdif**	**11 57 14.8**	**+1.3**
	baz=99,SNR=13						
T26A				P	**PP**	**12 01 15.3**	**0.0**
	baz=99,SNR=9.9						
KSCO	**Kaye Shedlock'**	**99.03**	**47**	P	**Pdif**	**11 57 14.7**	**+1.1**
	baz=99,SNR=13						
KSCO	**Kaye Shedlock'**	**99.03**	**47**	*e*P	**Pdif**	**11 57 14.5**	**+1.0**
	comp=Z,40nm,0.9s						
KSCO				LR	LR		
	comp=Z,14µm,22.0s						
N28A	**Pribbeno Ranch**	**99.16**	**45**	P	**Pdif**	**11 57 15.3**	**+1.3**
	baz=99						
K29A	**Lazy Trails An**	**99.16**	**43**	P	**Pdif**	**11 57 14.7**	**+0.8**
	baz=99						
SUW	**Suwalki**	**99.17**	**330**	*e*P	**Pdif**	**11 57 12.8**	**-0.8**
SUW				*e*PP	**PP**	**12 01 12.2**	**-3.4**
SUW				LMZ	LR	12 39 53.3	
SUW	**Suwalki**	**99.17**	**330**	*e*P	**Pdif**	**11 57 12.8**	**-0.8**
SUW				*e*		12 01 12.3	
SUW				MLR	MLR		
	comp=Z,10µm,27.2s						
R27A	**Eads**	**99.18**	**48**	P	**Pdif**	**11 57 15.2**	**+1.1**
	baz=99,SNR=10						
P28A	**Saint Francis**	**99.44**	**47**	P	**Pdif**	**11 57 16.2**	**+0.9**
	baz=99						
HFS	**Hagfors**	**99.47**	**338**	PP	PP	12 01 18.2	+0.6
	comp=Z,5.1nm,0.8s,baz=48,slow=12,SNR=3.2						
J30A	**Dallas**	**99.47**	**42**	P	**Pdif**	**11 57 15.7**	**+0.5**
	baz=99						
AGMN	**Agassiz Nation**	**99.50**	**37**	P	**Pdif**	**11 57 15.7**	**+0.5**
	baz=99,SNR=9.4						
AGMN	**Agassiz Nation**	**99.50**	**37**	*e*P	**Pdif**	**11 57 15.2**	**0.0**
	comp=Z,27nm,1.3s						
AGMN				LR	LR		
	comp=Z,12µm,21.0s						
BRTR	**Keskin Array B**	**99.58**	**314**	P	**Pdif**	**11 57 15.2**	**-0.8**
	comp=Z,7.9nm,1.1s,baz=90,slow=2.5,SNR=29						
BRTR				PP	**PP**	**12 01 19.7**	**+0.2**
	comp=Z,14nm,1.1s,baz=76,slow=7.3,SNR=3.6						
BRTR				PKKPbc	**PKKPbc**	**12 13 37.9**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=237,slow=3.7,SNR=3.2						
BRTR				LR	LR	12

U27A Thompson Grove 99.85 50 P **Pdif** **11 57 18.4 +1.2**
baz=100
U27A P **PP** **12 01 22.2 +0.5**
baz=100,SNR=7.2
ASF Jabal al Asfar 99.88 306 PP PP 12 01 19.6 -2.4
comp=Z,16nm,1.1s,baz=45,slow=1.4,SNR=3.6
R28A Tribune 99.88 48 P **Pdif** **11 57 18.4 +1.1**
baz=100,SNR=17
L30A Spencer Herefo 99.90 44 P **Pdif** **11 57 18.3 +1.1**
baz=100
O29A 4D Ranch, Culb 99.90 46 P **Pdif** **11 57 18.0 +0.7**
baz=100
M30A Dale-Ortello V 99.97 44 P **Pdif** **11 57 18.2 +0.6**
baz=100
P29A Atwood 100.02 46 P **Pdif** **11 57 19.3 +1.4**
baz=100
V27A Dan Oppiter Fa 100.09 50 P **Pdif** **11 57 19.8 +1.5**
baz=100
S28A Manter 100.10 48 P **Pdif** **11 57 19.9 +1.6**
baz=100,SNR=15
T28A Walsh 100.12 49 P **Pdif** **11 57 19.9 +1.5**
baz=100,SNR=13
ANTO Ankara 100.12 314 *e*PP PP 12 01 30.6 +7.1
ANTO LR LR
comp=Z,6µm,22.0s
GDL2 Guadalupe Moun 100.16 54 *e*Pdif **Pdif** **11 57 19.6 +1.0**
comp=Z,40nm,0.8s
AKN Aaknes 100.25 342 *e* Pdif 11 57 29.0 +11
AKN IAMs_20 IAMs_20 12 47 09.5
comp=Z,8µm,20.5s
Q29A Oakley 100.26 47 P **Pdif** **11 57 20.3 +1.3**
baz=100,SNR=8.0
Q29A P **PP** **12 01 24.5 -0.1**
baz=100,SNR=6.0
U28A Mallet 100.32 50 P **Pdif** **11 57 20.6 +1.3**
baz=100
R29A Marienthal 100.33 47 P **Pdif** **11 57 20.9 +1.7**
baz=100,SNR=5.1
P30A Selden 100.52 46 P **Pdif** **11 57 21.2 +1.1**
baz=100
CLNB Carlsbad 100.53 54 *e*Pdif **Pdif** **11 57 22.0 +1.7**
comp=Z,2.1nm,1.1s
V28A Channing 100.55 50 P **Pdif** **11 57 22.1 +1.8**
baz=100
S29A Ulysses 100.66 48 P **Pdif** **11 57 22.5 +1.8**
baz=101,SNR=5.7
OSL Oslo 100.68 339 *e*PP PP 12 01 27.8 +1.0
OSL IAMs_20 IAMs_20 12 45 18.9
comp=Z,11µm,22.1s
OSL IVMs_BB IVMs_BB 12 45 35.1
comp=Z,3µm,14.9s
T29A Hugoton 100.71 49 P **Pdif** **11 57 22.5 +1.5**
baz=101
W28A Vega 100.75 51 P **Pdif** **11 57 22.8 +1.6**
baz=101
MMAI Mount Meron Ar 100.77 307 PP PP 12 01 31.6 +2.9
comp=Z,52nm,1.3s,baz=94,slow=8.7,SNR=5.8
Q30A Quinter 100.77 47 P **Pdif** **11 57 22.6 +1.4**
baz=101
Q30A P **PP** **12 01 29.2 +0.8**
baz=101,SNR=5.7
MSTX Muleshoe 100.79 52 P **Pdif** **11 57 22.8 +1.4**
baz=101
MSTX Muleshoe 100.79 52 *e*Pdif **Pdif** **11 57 21.7 +0.3**
comp=Z,10nm,0.3s
MSTX LR LR
comp=Z,12µm,20.0s
CRZF Crozet Islands 100.89 225 SS SS 12 15 26.0 -31
CRZF L L 12 24 00.0
CRZF R 12 31 00.0
CFR Carcaliu 100.91 320 ⇓*i*P **Pdif** **11 57 21.6 +0.1**
LVV L'vov 101.00 326 *e* **SKSac** **12 07 57.0 -3.5**
R30A Dighton 101.01 47 P **Pdif** **11 57 23.8 +1.5**
baz=101,SNR=10.0
QSPA South Pole Qui 101.02 180 *e*Pdif **Pdif** **11 57 21.8 +0.2**
comp=Z,29nm,1.0s
QSPA *e*PKKPbc **PKKPbc** **12 13 34.2 -2.1**
QSPA LR LR
comp=Z,15µm,19.0s
X28A Dimmitt 101.03 51 P **Pdif** **11 57 23.7 +1.2**
baz=101
TIRR Tirgusor 101.07 320 PFAKE 11 57 30.0 +7.7
TIRR LR LR
comp=Z,8µm,22.0s
SFJD Kangerlussuaq 101.10 7 PFAKE 11 57 30.0 +8.1
SFJD LR LR
comp=Z,3µm,20.0s
S30A Montezuma 101.13 48 P **Pdif** **11 57 24.7 +1.8**
baz=101
P31A Stockton 101.14 46 P **Pdif** **11 57 23.9 +1.1**
baz=101
ECSD EROS Data Cent 101.17 41 P **Pdif** **11 57 22.9 +0.1**
baz=101
ECSD EROS Data Cent 101.17 41 *e*Pdif **Pdif** **11 57 22.1 -0.6**
ECSD LR LR
comp=Z,8µm,20.0s
TESR Tescani 101.18 322 ⇓*i*P **Pdif** **11 57 23.0 +0.3**
CBKS Cedar Bluff 101.18 47 P **Pdif** **11 57 24.1 +1.1**
baz=101
CBKS Cedar Bluff 101.18 47 PFAKE 11 57 40.0 +17
CBKS LR LR
comp=Z,9µm,22.0s
BGNE Belgrade 101.19 44 P **Pdif** **11 57 23.8 +0.9**
baz=101
BGNE Belgrade 101.19 44 *e*PP PP 12 01 31.9 +0.4
Y28A McKinney Farm, 101.22 52 P **Pdif** **11 57 24.3 +1.0**
baz=101,SNR=9.7
KONO Kongsberg 101.28 339 *e*PP PP 12 01 33.6 +2.2
KONO IVMs_BB IVMs_BB 12 46 27.8
comp=Z,3µm,22.8s
KONO Kongsberg 101.28 339 PFAKE 11 57 30.0 +7.1
KONO LR LR
comp=Z,9µm,20.0s
AMTX Amarillo 101.29 51 P **Pdif** **11 57 24.9 +1.3**
baz=101
AMTX Amarillo 101.29 51 *e*Pdif **Pdif** **11 57 24.4 +0.8**
comp=Z,24nm,0.9s
AMTX *e*PP **PP** **12 01 31.6 -1.0**
AMTX LR LR
comp=Z,9µm,22.0s
FOO Floro 101.29 342 IAMs_20 IAMs_20 12 40 44.2
comp=Z,7µm,20.0s
Z28A Tucker Farm, M 101.33 53 P **Pdif** **11 57 24.9 +1.1**
baz=101,SNR=9.2
Q31A Ellis 101.35 46 P **Pdif** **11 57 25.0 +1.3**
baz=101
X29A Tulia 101.44 51 P **Pdif** **11 57 25.6 +1.3**
baz=101,SNR=10
VRI Vrincioaia 101.45 322 ⇑*i*P **Pdif** **11 57 25.3 +1.3**
BURAR Bucovina Array 101.47 324 ⇓*i*P **Pdif** **11 57 25.2 +1.0**
BUR04 Bucovina Ar. S 101.47 324 *e*Pdif **Pdif** **11 57 23.7 -0.5**
BUR04 *e*PKKPbc **PKKPbc** **12 13 33.4 -0.3**
128A Castleberry Fa 101.50 53 P **Pdif** **11 57 25.9 +1.3**
baz=102
PLOR Plostina 101.50 322 ⇑*i*P **Pdif** **11 57 24.4 +0.2**
R31A Burdett 101.55 47 P **Pdif** **11 57 26.1 +1.5**
baz=102
228A UT Block 9, Go 101.60 54 P **Pdif** **11 57 26.3 +1.3**
baz=102
CSS Prodhromos 101.65 309 *e*Pdif **Pdif** **11 57 25.1 0.0**
comp=Z,3.3nm,0.8s
CSS LR LR
comp=Z,1µm,20.0s
Y29A Porterfield Fa 101.68 52 P **Pdif** **11 57 27.1 +1.7**
baz=102,SNR=11
TXAR Lajitas Array 101.70 57 P **Pdif** **11 57 26.8 +1.2**
comp=Z,4.1nm,1.1s,baz=278,slow=3.7,SNR=28
TXAR PP **PP** **12 01 36.3 +0.4**
comp=Z,1.8nm,0.9s,baz=297,slow=4.0,SNR=2.1
TXAR PKiKP **PKiKP** **12 01 52.5 +3.3**
comp=Z,3.6nm,1.1s,baz=282,slow=4.2,SNR=4.0
TXAR PKKPbc **PKKPbc** **12 13 32.6 +0.2**
comp=Z,1.0nm,0.9s,baz=125,slow=4.7,SNR=4.5
TXAR PKPPKP P'P'df 12 22 02.2 +9.4
comp=Z,0.8nm,1.1s,baz=111,slow=4.0,SNR=3.6
SUE Sulen 101.80 342 *e*PP PP 12 01 35.5 +0.3
KWP Kalwaria Pacla 101.82 326 *e*P **Pdif** **11 57 26.0 +0.5**
KWP LMZ LR 12 44 05.9
KWP Kalwaria Pacla 101.82 326 *e*P **Pdif** **11 57 26.0 +0.5**
KWP MLR MLR
comp=Z,10µm,21.8s
ABPO Ambohimpanom 101.84 253 PFAKE 11 57 40.0 +14
ABPO LR LR
comp=Z,2µm,20.0s
Z29A Hungry Hill Ra 101.88 52 P **Pdif** **11 57 27.5 +1.2**
baz=102,SNR=14
T31A Randall Ranch, 101.92 48 P **Pdif** **11 57 27.8 +1.5**
baz=102
Q32A Meitler Ranch, 101.94 46 P **Pdif** **11 57 27.5 +1.2**
baz=102
129A Stewart Farms, 101.98 53 P **Pdif** **11 57 28.4 +1.6**
baz=102
X30A Coker Ranch, T 102.07 51 P **Pdif** **11 57 28.7 +1.7**
baz=102
R32A Long Quarter, 102.08 47 P **Pdif** **11 57 28.5 +1.6**
baz=102
MLR Muntele Rosu 102.11 322 P **Pdif** **11 57 26.8 -0.3**
comp=Z,0.4nm,0.4s,baz=18,slow=11,SNR=1.7
MLR PP PKiKP 12 01 44.0 -5.4
comp=Z,2.2nm,0.9s,baz=62,slow=10,SNR=4.8
BER Bergen 102.15 341 *e*PP PP 12 01 38.4 +0.6
EYMN Ely 102.20 35 P **Pdif** **11 57 27.5 +0.2**
baz=102
EYMN Ely 102.20 35 *e*Pdif **Pdif** **11 57 26.8 -0.4**
comp=Z,9.8nm,1.0s
EYMN *e*PP PP 12 01 31.8 -6.9
EYMN LR LR
comp=Z,13µm,21.0s
S32A Newby Ranch, P 102.21 47 P **Pdif** **11 57 28.9 +1.4**
baz=102
Y30A Stafford Cattl 102.27 52 P **Pdif** **11 57 29.5 +1.5**
baz=102
229A Bryant Ranch, 102.27 54 P **Pdif** **11 57 29.0 +1.0**
baz=102
EIL Elat 102.31 304 PP PP 12 01 41.4 +1.1
comp=Z,32nm,1.2s,baz=124,slow=3.6,SNR=3.6
329A Wagon Wheel Ra 102.31 54 P **Pdif** **11 57 30.3 +2.1**
baz=102,SNR=11
329A P **PP** **12 01 39.9 -0.5**
baz=102,SNR=5.4
Z30A Sanderson Ranc 102.31 52 P **Pdif** **11 57 29.5 +1.3**
baz=102
T32A Huddler Ranch, 102.44 48 P **Pdif** **11 57 29.9 +1.3**
baz=102
KOLS Kolonicke sedl 102.44 326 *e*P **Pdif** **11 57 29.0 +0.7**
KOLS *e*SS SS 12 16 37.0 +19
KOLS Kolonicke sedl 102.44 326 PDIF **Pdif** **11 57 29.0 +0.7**
Q33A Connelly Farm, 102.45 46 P **Pdif** **11 57 29.9 +1.3**
baz=102
W31A Holland Ranch, 102.49 50 P **Pdif** **11 57 30.5 +1.6**
baz=102
W31A P **PP** **12 01 41.8 +0.3**
baz=102,SNR=6.5
BLS5 Blasjo 102.52 340 *e*PP PP 12 01 41.2 +0.4
N34A Lincoln 102.56 44 P **Pdif** **11 57 29.9 +0.8**
baz=102
ISP Isparta 102.58 313 *e*PP PP 12 01 43.5 +1.4
ISP LR LR
comp=Z,3µm,22.0s
UZH Uzhgorod 102.60 326 *e*P **Pdif** **11 57 28.6 -0.4**
UZH *e* 12 01 50.2
UZH *e*S **Sdif** **12 09 04.2 -9.0**
UZH *e*PS PS 12 11 47.8 +59
UZH *e*SS SS 12 16 30.6 +11
L35A Bielow Farm, R 102.62 42 P **Pdif** **11 57 29.6 +0.4**
baz=102
R33A Olander Ranch, 102.64 46 P **Pdif** **11 57 30.6 +1.1**
baz=103
HOMB Homborsund 102.68 339 *e*PP PP 12 01 43.3 +1.4
X31A McDonald Ranch 102.68 51 P **Pdif** **11 57 31.1 +1.4**
baz=103,SNR=6.3
VOIR 102.68 322 ⇑*i*P **Pdif** **11 57 30.7 +1.1**
130A Snyder 102.70 53 P **Pdif** **11 57 32.0 +2.1**
baz=103
U32A Winter Ranch, 102.71 49 P **Pdif** **11 57 31.8 +2.0**
baz=103
Y31A Rekieta Farm, 102.72 51 P **Pdif** **11 57 32.0 +2.1**
baz=103,SNR=9.5
STHS Stebnicka Huta 102.73 327 *e*P **Pdif** **11 57 31.4 +1.8**
STHS Stebnicka Huta 102.73 327 PDIF **Pdif** **11 57 31.4 +1.8**
SPMN St. Paul 102.84 38 P **Pdif** **11 57 31.5 +1.3**
baz=103
SPMN St. Paul 102.84 38 *e*Pdif **Pdif** **11 57 29.8 -0.3**
comp=Z,9.1nm,0.7s
SPMN LR LR
comp=Z,9µm,20.0s
230A Sterling City 102.85 54 P **Pdif** **11 57 32.4 +1.8**
baz=103
V32A Arapaho 102.95 49 P **Pdif** **11 57 33.1 +2.2**
baz=103
330A Mertzon 102.98 54 P **Pdif** **11 57 32.1 +0.9**
baz=103,SNR=6.6
330A P **PP** **12 01 45.3 0.0**
baz=103,SNR=5.2
W32A Sentinel 103.04 50 P **Pdif** **11 57 33.3 +2.0**
baz=103
W32A P **PP** **12 01 46.1 +0.5**
baz=103,SNR=6.3
OJC Ojcow 103.04 328 *e*P **Pdif** **11 57 31.2 +0.3**
OJC LMZ LR 12 46 07.0
OJC Ojcow 103.04 328 *e*P **Pdif** **11 57 31.2 +0.3**
OJC MLR MLR
comp=Z,10µm,20.7s
OJC Ojcow 103.04 328 *e*Pdif **Pdif** **11 57 31.7 +0.8**
Z31A Sharp Cattle R 103.06 52 P **Pdif** **11 57 32.8 +1.4**
baz=103
131A Roby 103.12 53 P **Pdif** **11 57 31.7 -0.1**
baz=103
430A Baggett Ranch, 103.16 55 P **Pdif** **11 57 33.0 +1.0**
baz=103,SNR=6.2
R34A Isabella, Hill 103.17 46 P **Pdif** **11 57 32.0 +0.2**
baz=103
SZH Strazhica 103.22 320 P **PKiKP** **12 01 55.5 +4.2**
NIE Niedzica 103.23 327 *e*P **Pdif** **11 57 32.4 +0.6**
NIE LMZ LR 12 45 32.9
NIE Niedzica 103.23 327 *e*P **Pdif** **11 57 32.4 +0.6**
NIE MLR MLR
comp=Z,8µm,22.7s
KSU1 Kansas State U 103.27 45 PFAKE 11 57 40.0 +7.8
KSU1 LR LR
comp=Z,10µm,22.0s
X32A Elmer 103.29 51 P **Pdif** **11 57 34.0 +1.6**
baz=103
530A J-C Ranch, Com 103.31 55 P **Pdif** **11 57 34.4 +1.7**
baz=103
Y32A R-V Farms, Ver 103.33 51 P **Pdif** **11 57 34.7 +2.1**
baz=103
U33A Lingo Farm, Me 103.34 48 P **Pdif** **11 57 34.7 +2.1**
baz=103
DRGR 103.36 324 ⇑*i*P **Pdif** **11 57 32.4 -0.1**
231A Bronte 103.46 53 P **Pdif** **11 57 34.5 +1.2**
baz=103,SNR=6.2
V33A Lossen Ranch, 103.47 49 P **Pdif** **11 57 35.5 +2.3**
baz=103
P35A Duane Minner, 103.48 45 P **Pdif** **11 57 33.6 +0.5**
baz=103
S34A Willow Spring 103.52 47 P **Pdif** **11 57 34.5 +1.1**
baz=104
WMOK Wichita Mounta 103.54 50 *e*P **Pdif** **11 57 34.1 +0.6**
WMOK pmax pmax
comp=Z,168nm,2.8s
WMOK MLR MLR
comp=Z,7µm,21.0s
WMOK Wichita Mounta 103.54 50 *e*Pdif **Pdif** **11 57 34.1 +0.6**
comp=Z,168nm,2.8s
WMOK LR LR
comp=Z,7µm,21.0s
W33A Caddo, Fort Co 103.61 50 P **Pdif** **11 57 35.5 +1.7**
baz=104
W33A P **PP** **12 01 49.9 0.0**
baz=104,SNR=6.9
331A San Angelo 103.61 54 P **Pdif** **11 57 35.3 +1.4**
baz=104
KECS Kecovo 103.67 326 *e*P **Pdif** **11 57 34.6 +0.8**
KECS Kecovo 103.67 326 PDIF **Pdif** **11 57 34.6 +0.8**
431A Sonora 103.70 55 P **Pdif** **11 57 35.4 +1.0**
baz=104,SNR=10
BORG Borgarnes 103.71 354 PFAKE 11 57 50.0 +16
BORG LR LR
comp=Z,2µm,20.0s
ABTX Abilene, Hawle 103.72 52 P **Pdif** **11 57 35.7 +1.3**
baz=104,SNR=6.8
ABTX Abilene, Hawle 103.72 52 *e*Pdif **Pdif** **11 57 35.2 +0.9**
ABTX LR LR
comp=Z,10µm,20.0s
U34A Anderson Ranch 103.76 48 P **Pdif** **11 57 36.3 +1.9**
baz=104
U34A Anderson Ranch 103.76 48 *e*Pdif **Pdif** **11 57 36.8 +2.3**
U34A *e*PP **PP** **12 01 51.3 +0.4**
T34A McClaskey Farm 103.76 47 P **Pdif** **11 57 36.4 +1.9**
baz=104
Q35A Mercer Eighty, 103.77 45 P **Pdif** **11 57 36.3 +1.9**
baz=104
531A Rocksprings 103.94 55 P **Pdif** **11 57 37.3 +1.8**
baz=104,SNR=7.6
232A Coleman 104.00 53 P **Pdif** **11 57 37.3 +1.6**
baz=104,SNR=6.0
V34A Guthrie 104.03 49 P **Pdif** **11 57 36.9 +1.3**
baz=104
V34A Guthrie 104.03 49 *e*Pdif **Pdif** **11 57 38.1 +2.4**
V34A *e*PP **PP** **12 01 48.9 -4.0**
V34A LR LR
comp=Z,7µm,19.0s
GZR Gura Zlata 104.07 323 ⇓*i*P **Pdif** **11 57 36.0 +0.3**
W34A Bridge Creek, 104.09 49 P **Pdif** **11 57 38.3 +2.4**
baz=104
W34A Bridge Creek, 104.09 49 *e*PKiKP **PKiKP** **12 01 53.9 +0.7**
W34A LR LR
comp=Z,11µm,22.0s
S35A Otter Creek Ra 104.10 46 P **Pdif** **11 57 37.1 +1.2**
baz=104
OKC Ostrava-Krasne 104.12 328 *e*PDIFF **Pdif** **11 57 36.0 +0.3**
OKC *ex* x 11 58 01.4
OKC *ex* x 12 01 01.6
OKC *ex* x 12 01 45.0
OKC *e*PP **PP** **12 01 57.1 +4.1**
OKC *e*SKS 12 08 22.5
OKC *e*SP **SP** **12 11 02.1 -0.3**
OKC *ex* x 12 11 48.8
OKC *e*PKKP **PKKPbc** **12 13 21.5 -4.3**
OKC *ex* x 12 13 36.4
OKC *e*SS SS 12 16 52.5 +12
OKC AMS AMS 12 48 10.0
comp=Z,7µm,17.7s
OKC Ostrava-Krasne 104.12 328 *e*P **Pdif** **11 57 36.0 +0.3**
OKC *e* 12 01 57.1
OKC *e* 12 11 02.1
OKC *e* 12 11 48.8
OKC *e*SS SS 12 16 52.5 +12
OKC MLR MLR
comp=Z,7µm,17.7s
332A Millersview 104.12 54 P **Pdif** **11 57 38.1 +1.8**
baz=104,SNR=6.4
Z33A Whitaker Ranch 104.14 51 P **Pdif** **11 57 37.4 +1.2**
baz=104
631A Perdido Creek 104.20 56 P **Pdif** **11 57 38.0 +1.4**
baz=104
SCIA State Center 104.24 41 PFAKE 11 57 50.0 +14
SCIA LR LR
comp=Z,7µm,22.0s
432A Menard 104.28 54 P **Pdif** **11 57 38.3 +1.4**
baz=104
133A Hamilton Ranch 104.29 52 P **Pdif** **11 57 38.5 +1.6**
baz=104
T35A Sooner Cattle 104.30 47 P **Pdif** **11 57 38.5 +1.7**
baz=104
X34A Smith Ranch, M 104.31 50 P **Pdif** **11 57 37.6 +0.6**
baz=104
PSZ Piszkesteto 104.32 326 *e*P **Pdif** **11 57 36.8 0.0**
PSZ MLR MLR
comp=Z,12µm,19.0s
PSZ Piszkesteto 104.32 326 ⇓*i*P **Pdif** **11 57 36.9 +0.1**
PSZ Piszkesteto 104.32 326 *e*Pdif **Pdif** **11 57 36.8 +0.1**
PSZ LR LR
comp=Z,12µm,19.0s
U35A Pawnee 104.37 48 P **Pdif** **11 57 38.5 +1.3**
baz=104
JCT Junction City 104.42 54 *e*P **Pdif** **11 57 38.3 +0.7**
JCT *e* 12 01 53.9
JCT MLR MLR
comp=Z,6µm,20.0s
JCT Junction City 104.42 54 P **Pdif** **11 57 39.4 +1.8**
baz=104,SNR=7.6
JCT Junction City 104.42 54 *e*Pdif **Pdif** **11 57 38.3 +0.7**
JCT *e*PKiKP **PKiKP** **12 01 53.9 -0.1**
JCT LR LR
comp=Z,6µm,20.0s
KSP Ksiaz 104.44 330 *e*P **Pdif** **11 57 37.6 +0.5**
KSP LMZ LR 12 43 19.2
KSP Ksiaz 104.44 330 *e*P **Pdif** **11 57 37.6 +0.5**
KSP MLR MLR
comp=Z,9µm,24.9s
532A Rocksprings 104.47 55 P **Pdif** **11 57 39.8 +2.0**
baz=104
MORC Moravsky Berou 104.47 328 ⇑*i*P **Pdif** **11 57 39.3 +1.9**
MORC Moravsky Berou 104.47 328 PFAKE 11 57 50.0 +13
MORC LR LR
comp=Z,40µm,20.0s
233A Rising Star 104.54 53 P **Pdif** **11 57 39.8 +1.7**
baz=104
COWI Conover 104.56 36 *e*PKiKP **PKiKP** **12 01 54.1 +0.4**
COWI LR LR
comp=Z,11µm,20.0s
RUE Ruedersdorf 104.58 332 PFAKE 11 57 50.0 +12
RUE LR LR
comp=Z,11µm,19.0s
S36A Lake Cedric, C 104.59 46 P **Pdif** **11 57 39.4 +1.3**
baz=104
Y34A Reagan Ranch, 104.63 50 P **Pdif** **11 57 40.9 +2.5**
baz=105
KRLC Kraliky 104.67 329 *e*PDIFF **Pdif** **11 57 39.9 +1.6**
KRLC *ex* x 11 57 57.9
KRLC *ex* x 12 00 56.8
KRLC *e*PKKP **PKKPbc** **12 13 23.5 -0.7**
KRLC Kraliky 104.67 329 *e*P **Pdif** **11 57 39.9 +1.6**
T36A Boggs Farm, Ca 104.69 47 P **Pdif** **11 57 39.6 +1.1**
baz=105
DPC Dobruska-Polom 104.73 329 *e*PDIFF **Pdif** **11 57 38.8 +0.3**
DPC *ex* x 11 57 55.0
DPC *ex* x 11 58 05.2
DPC *ex* x 12 01 02.6
DPC *e*PP **PP** **12 01 57.3 -0.3**
DPC *e*SKS 12 08 19.4
DPC *e*SP **SP** **12 11 07.0 -1.8**
DPC *ex* x 12 11 58.1
DPC *e*PKKP **PKKPbc** **12 13 22.3 -1.8**
DPC *ex* x 12 13 41.1
DPC *e*SS **SS** **12 16 53.7 +4.8**
DPC AMS AMS 12 50 00.0
comp=Z,7µm,18.1s
DPC Dobruska-Polom 104.73 329 *e*P **Pdif** **11 57 38.8 +0.3**
DPC *e* 12 01 57.3
DPC *e* 12 08 19.4
DPC *e* 12 11 07.0
DPC *e* 12 11 58.1
DPC *e*SS SS 12 16 53.7 +4.7
DPC MLR MLR
comp=Z,7µm,18.1s
333A Richland Sprin 104.74 53 P **Pdif** **11 57 40.7 +1.8**
baz=105
Z34A Collier Ranch, 104.75 51 P **Pdif** **11 57 41.3 +2.4**
baz=105
UPC Upice 104.79 330 *e*PDIFF **Pdif** **11 57 38.2 -0.5**
UPC *ex* x 11 57 54.9
UPC *ex* x 11 58 04.4
UPC *ex* x 12 01 00.8
UPC *e*PP **PP** **12 01 57.5 -0.4**
UPC *e*SKS 12 08 20.4
UPC *e*SP **SP** **12 11 07.4 -1.9**
UPC *ex* x 12 11 52.0
UPC *e*PKKP **PKKPbc** **12 13 24.2 +0.3**
UPC *ex* x 12 13 38.2
UPC AMS AMS 12 49 30.0
comp=Z,8µm,17.8s
UPC Upice 104.79 330 *e*P **Pdif** **11 57 38.2 -0.5**
UPC *e* 12 01 57.5
UPC *e* 12 08 20.4
UPC *e* 12 11 07.4
UPC MLR MLR
comp=Z,8µm,17.8s
W35A Tecumseh 104.79 49 P **Pdif** **11 57 41.0 +2.0**
baz=105
632A Uvalde 104.80 55 P **Pdif** **11 57 40.9 +1.6**
baz=105,SNR=7.1
R37A Teagarden Farm 104.86 45 P **Pdif** **11 57 40.0 +0.7**
baz=105
Q37A Longview Farm, 104.86 45 P **Pdif** **11 57 40.3 +1.0**
baz=105
433A Art 104.88 54 P **Pdif** **11 57 40.0 +0.4**
baz=105
732A Laxson Ranch, 104.94 56 P **Pdif** **11 57 40.6 +0.7**
baz=105
134A White-Moore Ra 104.95 52 P **Pdif** **11 57 41.2 +1.3**
baz=105
X35A Drake 105.04 50 P **Pdif** **11 57 41.2 +1.0**
baz=105
FURI Furi 105.10 282 PFAKE 12 02 10.0
FURI LR LR

comp=Z,2µm,20.0s
832A Faith Ranch, C 105.10 57 P PKiKP 12 01 56.3 +1.1
baz=105
S37A Fort Scott 105.12 46 P PKiKP 12 01 55.7 +0.7
baz=105
234A Clairette 105.14 52 P PKiKP 12 01 55.9 +0.7
baz=105
Y35A Marietta 105.20 50 P PKiKP 12 01 55.7 +0.4
baz=105
V36A Jenks 105.20 48 P PKiKP 12 01 55.6 +0.4
baz=105
VRAC Vranov 105.25 328 Pdiff Pdif 11 57 39.7 -1.0
comp=Z,2.1nm,0.6s,baz=76,slow=5.8,SNR=6.6
VRAC PKiKP PKiKP 12 01 46.8 -8.1
comp=Z,4.2nm,0.8s,baz=48,slow=8.0,SNR=4.7
TUL1 Tulsa 105.26 48 P PKiKP 12 01 56.4 +1.1
baz=105
TUL1 Tulsa 105.26 48 *e*PKPdf PKiKP 12 01 56.1 +0.8
Z35A Perchaven, San 105.28 51 P PKiKP 12 01 56.5 +1.1
baz=105
W36A Wetumka 105.28 49 P PKiKP 12 01 56.4 +1.1
baz=105
VTS Vitosha 105.28 320 ⇓ *i*P Pdif 11 57 40.5 -0.8
633A Saathoff Ranch 105.31 55 P PKiKP 12 01 56.1 +0.5
baz=105
334A Lometa 105.33 53 P PP 12 02 00.2 -2.5
baz=105
T37A Cheneyville 18 105.34 46 P PKiKP 12 01 56.3 +0.8
baz=105
X36A Centrahoma 105.43 49 P PP 12 02 02.6 -0.8
baz=105
MMB Musomiste 105.47 319 ⇑ *i*P Pdif 11 57 40.4 -1.6
135A Vickery Place, 105.47 52 P PP 12 02 06.8 +3.0
baz=105
PVCC Panska Ves 105.48 330 *e*PDIFF Pdif 11 57 43.8 +2.0
PVCC *ex* x 12 01 05.3
PVCC *e*PP **PP** **12 02 05.0 +2.0**
PVCC *e*SKS **SKSac** **12 08 15.3 -6.1**
PVCC *e*SP **SP** **12 11 13.0 -3.5**
PVCC *ex* x 12 12 05.6
PVCC *e*SS **SKKPbc** **12 17 06.5 +3.9**
PVCC AMS AMS 12 51 10.0
comp=Z,8µm,19.5s
PVCC Panska Ves 105.48 330 *e*P Pdif 11 57 43.8 +2.0
PVCC *e* 12 02 05.0
PVCC *e* 12 08 15.3
PVCC *e* 12 11 13.0
PVCC *e* 12 12 05.6
PVCC *e*SS SS 12 17 06.5 +7.4
PVCC MLR MLR
comp=Z,8µm,19.5s
733A Divot King Ran 105.50 56 P PP 12 02 06.0 +2.0
baz=106
434A Burnet 105.51 54 P PP 12 02 06.3 +2.2
baz=106
U37A Salina 105.53 47 P PP 12 02 02.2 -1.8
baz=106
833A Chaparral WMA, 105.56 56 P PP 12 02 07.8 +3.2
baz=106
BRG Berggiesshubel 105.56 331 *e*PDIF Pdif 11 57 42.3 +0.2
comp=Z,11nm,1.6s
BRG PP PKiKP 12 01 36.0 -19
BRG SKS **SKSac** **12 08 20.0 -1.7**
BRG S **Sdif** **12 09 37.0 -0.9**
BRG *e*PKKP **PKKPbc** **12 13 20.4 -1.2**
comp=Z,4.0nm,0.9s
BRG SS **SS** **12 16 58.0 -2.1**
BRG Berggiesshubel 105.56 331 *e*P **Pdif** **11 57 42.3 +0.2**
BRG **SKSac** **12 08 20.0 -1.7**
BRG S **Sdif** **12 09 37.0 -0.9**
BRG SS **SS** **12 16 58.0 -2.1**
BRG pmax pmax
comp=Z,11nm,1.6s
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG MLR MLR
comp=N,6µm,16.9s
BRG MLR MLR
comp=E,5µm,17.2s
JFWS Jewell Farm 105.61 39 PFAKE 12 02 10.0
JFWS LR LR
comp=Z,11µm,20.0s
534A Blanco 105.65 54 P PP 12 02 03.8 -1.4
baz=106
WHTX Lake Whitney 105.67 52 P PP 12 02 06.0 +0.8
baz=106
WHTX Lake Whitney 105.67 52 *e*PKPdf PKiKP 12 01 58.6 +2.4
WHTX LR LR
comp=Z,8µm,20.0s
CLL Collm 105.72 332 *i* P Pdif 11 57 43.8 +1.0
CLL *e* 12 08 16.0
CLL pmax pmax
comp=Z,16nm,1.4s
CLL MLR MLR
comp=Z,10µm,21.6s
CLL Collm 105.72 332 *e*Pdif Pdif 11 57 43.5 +0.7
CLL *e*PKiKP **PKiKP** **12 01 57.0 +1.3**
CLL LR LR
comp=Z,12µm,20.0s
CLL Collm 105.72 332 *i* Pdif Pdif 11 57 43.8 +1.0
comp=Z,16nm,1.4s
CLL *i* 12 01 06.1
CLL *e*PP **PKiKP** **12 02 00.0 +4.3**
CLL *e*PPlp 12 02 06.0
CLL *e*PPP PPP 12 04 18.0
CLL *e*SKSac **SKSac** **12 08 25.0 +2.6**
CLL *e*Sdif **Sdif** **12 09 43.0 +3.9**
CLL *e*PS **PS** **12 11 20.0 -1.6**
CLL *e*PPS PPS 12 12 12.0
CLL *i* PKKPbc **PKKPbc** **12 13 20.0 -1.0**
comp=Z,8.0nm,1.3s
CLL *i* sPKKPbc 12 13 24.8
CLL *e*PKKPdf **PKKPdf** **12 13 30.0 -1.4**
CLL *i* PKKPab **PKKPab** **12 13 37.5 -0.7**
CLL *e*SS SS 12 17 18.0 +16
CLL *e*(SSS) 12 20 42.0
CLL LmV 12 49 00.0
comp=Z,10µm,21.6s
V37A Hulbert 105.75 48 P PP 12 02 05.9 +0.3
baz=106
Y36A Durant 105.77 50 P PP 12 02 05.1 -0.8
baz=106
GOPC GO Pecny, Ondr 105.78 330 *e*PDIFF Pdif 11 57 43.1 0.0
GOPC *ex* x 12 01 08.1
GOPC *e*PP **PP** **12 02 04.9 -0.3**
GOPC *e*SKS **SKSac** **12 08 17.1 -5.7**
GOPC *e*SP **SP** **12 11 15.3 -4.3**
GOPC *ex* x 12 12 09.6
GOPC *e*PKKP **PKKPbc** **12 13 19.7 -1.2**
GOPC *ex* x 12 13 31.6
GOPC *e*SS **SS** **12 17 04.1 +1.0**
GOPC AMS AMS 12 50 00.0
comp=Z,8µm,18.0s
TREC Trest 105.82 329 *e*PDIFF Pdif 11 57 45.0 +1.7
TREC *ex* x 12 01 08.3
TREC *e*PP **PP** **12 02 05.1 -0.5**
TREC *ex* x 12 11 10.4
TREC *ex* x 12 12 10.4
TREC *e*SS SS 12 17 05.4 +1.6
TREC AMS AMS 12 51 30.0
comp=Z,8µm,17.5s
TREC Trest 105.82 329 *e*P Pdif 11 57 45.0 +1.7
TREC *e* 12 02 05.1
TREC *e* 12 11 10.4
TREC *e* 12 12 10.4
TREC *e*SS SS 12 17 05.4 +1.6
TREC MLR MLR
comp=Z,8µm,17.5s
PRU Pruhonice 105.85 330 *e*PDIFF Pdif 11 57 43.6 +0.2
PRU *ex* x 11 58 11.0
PRU *ex* x 12 01 48.8
PRU *e*PP **PP** **12 02 05.1 -0.6**
PRU *e*SKS **SKSac** **12 08 19.2 -3.8**
PRU *e*SP **SP** **12 11 17.7 -2.6**
PRU *ex* x 12 12 05.4
PRU *e*PKKP **PKKPbc** **12 13 19.5 -1.1**
PRU *ex* x 12 13 31.0
PRU *e*SS **SS** **12 17 03.7 -0.3**
PRU AMS AMS 12 50 00.0
comp=Z,6µm,17.2s
PRU Pruhonice 105.85 330 *e*P Pdif 11 57 43.6 +0.2
PRU *e* 12 02 05.1
PRU *e* 12 08 19.2
PRU *e* 12 11 17.7
PRU *e*SS SS 12 17 03.7 -0.3
PRU MLR MLR
comp=Z,6µm,17.2s
PRA Prague 105.85 330 *e*PDIFF Pdif 11 57 43.6 +0.2
PRA *ex* x 12 01 09.0
PRA *e*PP **PP** **12 02 06.0 +0.3**
PRA *e*SKS **SKSac** **12 08 17.6 -5.4**
PRA *e*SP **SP** **12 11 14.4 -5.9**
PRA *ex* x 12 12 10.9
PRA *e*SS **SS** **12 17 05.0 +1.0**
PRA AMS AMS 12 53 20.0
comp=Z,6µm,18.9s
PRA Prague 105.85 330 *e*P Pdif 11 57 43.6 +0.2
PRA *e* 12 02 06.0
PRA *e* 12 08 17.6
PRA *e* 12 11 14.4
PRA *e* 12 12 10.9
PRA *e*SS SS 12 17 05.0 +1.0
PRA MLR MLR
comp=Z,6µm,18.9s
W37A Quinton 105.87 48 P PP 12 02 07.5 +0.9
baz=106
Z36A Blue Ridge 105.92 51 P PP 12 02 06.2 -0.8
baz=106
933A Laredo 105.92 57 P PP 12 02 06.3 -1.0
baz=106
335A Moody 105.98 53 P PP 12 02 08.0 +0.4
baz=106
634A China Grove, S 106.00 55 P PP 12 02 12.4 +4.6
baz=106
PKSM Moragy 106.01 325 ⇓ *i*P Pdif 11 57 45.0 +0.8
U38A Gravette 106.04 47 P PP 12 02 09.9 +2.2
baz=106
734A La Parita Cree 106.04 56 P PP 12 02 12.2 +4.1
baz=106
435B Jarrell 106.06 53 P PP 12 02 12.2 +4.1
baz=106
X37A Clayton 106.15 49 P PP 12 02 08.8 +0.2
baz=106,SNR=7.8
136A Ennis 106.19 51 P PP 12 02 12.2 +3.2
baz=106
Y37A Hugo 106.23 50 P PP 12 02 09.8 +0.5
baz=106
SYO Sywa Base 106.25 201 ⇑ *e*PPKiKP PP 12 02 02.6 -6.1
834A Tilden 106.32 56 P PP 12 02 13.0 +2.8
baz=106
535A Dale 106.37 54 P PP 12 02 09.3 -1.2
baz=106
236A Katherine and 106.38 52 P PP 12 02 08.7 -1.7
baz=106
336A Riesel 106.39 53 P PP 12 02 10.7 +0.1
baz=106
DIVS Divide 106.44 323 ⇑ *i*P Pdif 11 57 47.6 +1.3
635A Leesville 106.47 55 P PP 12 02 08.6 -2.6
baz=106
X38A Whitesboro 106.52 49 P PP 12 02 11.9 +0.6
baz=106
934A Benavides 106.55 57 P PP 12 02 10.0 -1.8
baz=106
W38A Poteau 106.56 48 P PP 12 02 12.8 +1.2
baz=106
Z37A Pogue Cattle C 106.57 50 P PP 12 02 11.8 0.0
baz=106
034A Hebbronville 106.62 57 P PP 12 02 12.5 +0.1
baz=107
735A Kenedy 106.65 55 P PP 12 02 15.8 +3.3
baz=107
NKC Novy Kostel 106.70 331 *e*PDIFF Pdif 11 57 45.5 -1.8
NKC *ex* x 11 58 05.4
NKC *ex* x 12 01 07.4
NKC *e*PKP **PKiKP** **12 01 52.9 -4.7**
NKC *e*PP **PP** **12 02 13.0 +1.0**
NKC *ex* x 12 11 17.7
NKC *ex* x 12 12 22.1
NKC *e*PKKP **PKKPbc** **12 13 17.1 -0.9**
NKC *ex* x 12 13 28.2
NKC AMS AMS 12 52 00.0
comp=Z,13µm,16.6s
NKC Novy Kostel 106.70 331 *e*P Pdif 11 57 45.5 -1.8
NKC *e* 12 02 13.0
NKC *e* 12 12 22.1
NKC MLR MLR
comp=Z,13µm,16.6s
137A Heron Place, G 106.72 51 P PP 12 02 13.2 +0.2
baz=107
536A Bastrop 106.75 54 P PP 12 02 16.2 +3.0
baz=107
SANT Santorini 106.85 313 PFAKE 12 02 10.0
SANT LR LR
comp=Z,4µm,20.0s
835A Beeville 106.85 56 P PP 12 02 17.8 +3.7
baz=107
KHC Kasperske Hory 106.88 330 *e*PDIFF Pdif 11 57 47.3 -0.8
KHC *ex* x 11 58 07.9
KHC *ex* x 11 58 14.2
KHC *e*PKP **PKiKP** **12 01 55.8 -2.2**
KHC *e*PP **PP** **12 02 13.1 -0.3**
KHC *e*SKS **SKSac** **12 08 23.9 -3.8**
KHC *e*SP **SP** **12 11 27.7 -3.4**
KHC *ex* x 12 12 10.8
KHC *e*PKKP **PKKPbc** **12 13 16.3 -1.2**
KHC *ex* x 12 13 27.5
KHC *e*SS **SS** **12 17 21.6 +3.4**
KHC AMS AMS 12 51 40.0
comp=Z,8µm,16.6s
KHC Kasperske Hory 106.88 330 *e*P Pdif 11 57 47.3 -0.8
KHC *e* 12 02 13.1
KHC *e* 12 08 23.9
KHC *e* 12 11 27.7
KHC *e*SS SS 12 17 21.6 +3.4
KHC MLR MLR
comp=Z,8µm,16.6s
KHC Kasperske Hory 106.88 330 *e*Pdif Pdif 11 57 48.9 +0.8
KHC LR LR
comp=Z,3µm,18.0s
Y38A Idabel 106.92 49 P PP 12 02 16.2 +1.9
baz=107
237A Washetta, Mont 106.94 52 P PP 12 02 13.7 -0.9
baz=107
636A Smothers Creek 107.00 54 P PP 12 02 17.0 +1.9
baz=107
GEC2 GERESS Array S 107.01 329 *e*PKKPbc PKKPbc 12 13 16.4 -0.8
GERES GERESS Array B 107.01 329 Pdiff Pdif 11 57 48.7 -0.1
comp=Z,1.0nm,0.9s,baz=46,slow=7.0,SNR=5.6
GERES PKiKP **PKiKP** **12 02 00.0 +1.7**
comp=Z,2.3nm,0.9s,baz=45,slow=2.6,SNR=6.3
GERES PP **PP** **12 02 15.0 +0.6**
comp=Z,4.5nm,1.0s,baz=45,slow=4.3,SNR=5.0
GERES PKKPbc **PKKPbc** **12 13 15.9 -1.2**
comp=Z,3.5nm,0.9s,baz=204,slow=2.9,SNR=11
GERES PKKP **PKKPdf** **12 13 28.3 -0.8**
comp=Z,3.1nm,1.0s,baz=238,slow=3.3,SNR=5.0
GERES PKPPKP **P'P'df** **12 21 37.6 -4.4**
comp=Z,0.2nm,0.4s,baz=186,slow=4.9,SNR=3.5
Z38A Mt. Pleasant 107.03 50 P PP 12 02 15.9 +0.8
baz=107
337A Centerville 107.17 52 P PP 12 02 18.6 +2.4
baz=107
437A Phantom Ranch, 107.18 53 P PP 12 02 18.9 +2.6
baz=107
138A Matatall Enter 107.21 51 P PP 12 02 19.8 +3.3
baz=107
537A Green Hill Far 107.35 54 P PP 12 02 19.8 +2.2
baz=107
Y39A Lockesburg 107.39 49 P PP 12 02 16.3 -1.4
baz=107
238A Jacksonville 107.47 51 P PP 12 02 18.9 +0.5
baz=107
HDIL Hopedale 107.47 41 P PP 12 02 19.1 +1.0
baz=107
HDIL Hopedale 107.47 41 *e*PKPdf PKiKP 12 02 00.3 +1.0
HDIL LR LR
comp=Z,9µm,21.0s
MIAR Mount Ida 107.49 48 P PP 12 02 20.9 +2.3
baz=107
MIAR Mount Ida 107.49 48 *e*PKPdf PKiKP 12 01 58.7 -0.8
MIAR LR LR
comp=Z,11µm,20.0s
GROS Grobnik 107.59 327 *e*Pdiff Pdif 11 57 51.6 +0.2
GROS *e* 12 01 15.3
GROS *e* 12 02 16.1
GROS *e* 12 02 27.0
GROS *e* 12 11 38.0
637A Eagle Lake 107.59 54 P PP 12 02 19.4 0.0
baz=108
338A Crockett 107.60 52 P PP 12 02 17.3 -2.1
baz=108
Z39A Irene McRaven, 107.63 50 P PP 12 02 19.5 0.0
baz=108
GRFO Grafenberg 107.65 331 PFAKE 12 02 10.0
GRFO LR LR
comp=Z,10µm,18.0s
139A Bunkhouse Ranc 107.72 50 P PP 12 02 22.8 +2.6
baz=108
438A Sam Houston St 107.73 53 P PP 12 02 19.1 -1.3
baz=108
HKT Hockley 107.78 54 PFAKE 12 02 10.0
HKT LR LR
comp=Z,6µm,18.0s
SLM Saint Louis 107.85 43 PFAKE 12 02 10.0
SLM LR LR
comp=Z,8µm,20.0s
GLMI Grayling 107.89 35 *e*PKPdf 12 02 00.7
GLMI LR LR
comp=Z,10µm,21.0s
RPN Rapa Nui 107.91 115 PFAKE 12 02 10.0
RPN LR LR
comp=Z,5µm,19.0s
NATX Nacogdoches 107.92 51 P PP 12 02 23.7 +2.0
baz=108
NATX Nacogdoches 107.92 51 *e*PKPdf PKiKP 12 02 00.4 0.0
NATX LR LR
comp=Z,7µm,20.0s
239A Gary 107.96 51 P PP 12 02 22.4 +0.5
baz=108
TIR Tirane 108.05 320 *e*PKPdf PKiKP 12 02 00.9 +0.6
TIR LR LR
comp=Z,8µm,19.0s
339A Huntington 108.19 52 P PP 12 02 21.6 -2.1
baz=108
439A Center Grove, 108.26 52 P PP 12 02 28.1 +3.8
baz=108
UALR University of 108.28 48 PFAKE 12 02 10.0
UALR LR LR
comp=Z,9µm,22.0s
EDI Edinburgh 108.41 342 PFAKE 12 02 10.0
EDI LR LR
comp=Z,2µm,21.0s
SCHQ Schefferville 108.64 19 PKKPbc PKKPbc 12 13 10.2 -1.9
comp=Z,3.1nm,0.8s,baz=112,slow=4.5,SNR=5.3
SCHQ PKKP **PKKPab** **12 13 23.7 -1.5**
comp=Z,3.4nm,0.9s,baz=130,slow=7.3,SNR=2.8
PBMO Poplar Bluff 108.66 45 *e*PP PP 12 02 24.5 -2.4
PBMO *e*PKKPbc **PKKPbc** **12 13 11.3 -0.1**
PBMO LR LR
comp=Z,6µm,20.0s
340A Bronson 108.67 51 P PP 12 02 29.9 +2.7
baz=109
KMBO Kilima Mbogo 108.69 273 Pdiff Pdif 11 57 57.6 +0.5
comp=Z,0.8nm,0.3s,baz=117,slow=14,SNR=2.6
KMBO PP PP 12 02 33.9 +5.3
comp=Z,0.9nm,0.3s,baz=60,slow=9.3,SNR=3.6
KMBO Kilima Mbogo 108.69 273 P Pdif 11 57 57.6 +0.5
KMBO 12 02 33.9
KMBO MLR MLR
comp=Z,2µm,20.0s
KMBO Kilima Mbogo 108.69 273 Pdif Pdif 11 57 57.6 +0.5
KMBO PP PP 12 02 33.9 +5.3
KMBO LR LR
comp=Z,2µm,20.0s
EKA Eskdalemuir Ar 108.90 342 PP PP 12 02 28.1 +0.4
comp=Z,17nm,1.1s,baz=40,slow=7.8,SNR=7.2
EKA PKKPbc **PKKPbc** **12 13 08.3 -2.9**
comp=Z,1.3nm,0.7s,baz=212,slow=2.5,SNR=4.6
440A Kirbyville 108.91 52 P PP 12 02 32.5 +3.5
baz=109
ESK Eskdalemuir 108.93 342 PFAKE 12 02 10.0
ESK LR LR
comp=Z,7µm,21.0s
SFIN Scholer Farm 108.97 40 P PP 12 02 31.2 +2.2
baz=109
SFIN Scholer Farm 108.97 40 *e*PKPdf PKiKP 12 02 02.3 +0.2
SFIN LR LR
comp=Z,9µm,21.0s
TRI Trieste 109.00 327 PFAKE 12 02 10.0
TRI LR LR
comp=Z,12µm,20.0s
SIUC Southern Illin 109.02 44 PFAKE 12 02 10.0
SIUC LR LR
comp=Z,6µm,20.0s
OLIL Olney 109.22 42 *e*PKPdf PKiKP 12 02 03.9 +1.3
OLIL *e*PKKPab **PKKPab** **12 13 22.0 -0.4**
OLIL LR LR
comp=Z,10µm,20.0s
STU Stuttgart 109.25 331 PFAKE 12 02 10.0
STU LR LR
comp=Z,8µm,18.0s
BEBN Eben Emael 109.34 335 PP PP 12 02 32.4 +1.3
MEM Membach 109.34 334 PP PP 12 02 32.0 +0.8
MEM Membach 109.34 334 *e*PP PP 12 02 32.8 +1.7
MEM LR LR
comp=Z,7µm,21.0s
PVMO Portageville 109.36 45 PFAKE 12 02 10.0
PVMO LR LR
comp=Z,8µm,21.0s
BCLA Clavier 109.78 335 PKP PKiKP 12 02 01.7 -1.6
MET Memphis--Engin 109.84 46 PFAKE 12 02 20.0
MET LR LR
comp=Z,10µm,22.0s
UCC Uccle 109.89 335 PFAKE 12 02 20.0
UCC LR LR
comp=Z,12µm,20.0s
USIN University of 109.92 43 *e*PP PP 12 02 36.4 +0.4
USIN LR LR
comp=Z,7µm,20.0s
AAM Ann Arbor 109.97 37 *e*PKIKP PKiKP 12 02 04.0 +0.1
AAM MLR MLR
comp=Z,12µm,22.0s
AAM Ann Arbor 109.97 37 *e*PKPdf PKiKP 12 02 04.0 +0.1
AAM LR LR
comp=Z,12µm,22.0s
BFO Black Forest 109.97 331 PFAKE 12 02 20.0
BFO LR LR
comp=Z,8µm,19.0s
WLF Walferdange 109.98 334 PP PP 12 02 35.6 -0.2
WLF Walferdange 109.98 334 PFAKE 12 02 20.0
WLF LR LR
comp=Z,9µm,21.0s
BLO Bloomington 110.01 41 *e*PKIKP PKiKP 12 02 05.4 +1.3
BLO MLR MLR
comp=Z,10µm,22.0s
BLO Bloomington 110.01 41 *e*PKPdf PKiKP 12 02 05.4 +1.3
BLO LR LR
comp=Z,10µm,22.0s
SNF Seneffe 110.14 335 PP PP 12 02 37.2 +0.3
FUORN Ofenpass-Fuorn 110.22 329 *e*PKKPbc PKKPbc 12 13 06.5 -0.7
FUORN LR LR
comp=Z,10µm,22.0s
DAVOX Davos/Dischmat 110.30 330 Pdiff Pdif 11 58 03.7 +0.1
comp=Z,1.9nm,0.9s,baz=141,slow=6.5,SNR=2.2
DAVOX PKIKP **PKiKP** **12 02 03.9 -0.7**
comp=Z,3.9nm,0.8s,baz=317,slow=4.3,SNR=3.1
DAVOX PP **PP** **12 02 37.7 -0.8**
comp=Z,6.3nm,0.9s,baz=328,slow=7.4,SNR=4.2
DOU Dourbes 110.32 335 PP PP 12 02 37.2 -1.1
OXF Oxford 110.52 47 PFAKE 12 02 20.0
OXF LR LR
comp=Z,10µm,20.0s
ECH Echery 110.59 332 PFAKE 12 02 20.0
ECH LR LR
comp=Z,7µm,19.0s
WVT Waverly 110.79 44 *e*PKIKP PKiKP 12 02 05.9 +0.3
WVT *e* 12 02 39.4
WVT MLR MLR
comp=Z,6µm,20.0s
WVT Waverly 110.79 44 *e*PKPdf PKiKP 12 02 05.9 +0.3
WVT *e*PP **PP** **12 02 39.4 -3.0**
WVT LR LR
comp=Z,6µm,20.0s
VBMS Vicksburg 110.84 49 P PP 12 02 42.4 -0.4
baz=111
VBMS Vicksburg 110.84 49 PFAKE 12 02 20.0
VBMS LR LR
comp=Z,10µm,22.0s
TIP Timpagrande 111.24 320 *e*PP PP 12 02 43.6 -1.9
TIP LR LR
comp=Z,3µm,19.0s
AQU L'Aquila 111.34 324 PFAKE 12 02 20.0
AQU LR LR
comp=Z,6µm,20.0s
CUC Castrocucco 111.35 321 *e*PP PP 12 02 47.2 +1.0

CUC LR LR
comp=Z,5µm,22.0s
ACSO Alum Creek Sta 111.62 38 ePKiKP **PKiKP 12 02 08.5 +1.4**
ACSO LR LR
comp=Z,9µm,20.0s
DSB Dublin 111.66 343 PFAKE 12 02 20.0
DSB LR LR
comp=Z,4µm,22.0s
VLC Villacollemand 111.83 327 PFAKE 12 02 20.0
VLC LR LR
comp=Z,7µm,21.0s
SENIN Lac Senin/Sane 111.86 331 ePP PP 12 02 52.1 +2.4
SENIN ePKKPab **PKKPab 12 13 10.6 -0.5**
SWET Sewanee 112.59 44 ePKPdf **PKiKP 12 02 08.8 -0.4**
MMNY Mt. Morris Dam 112.96 34 PFAKE 12 02 20.0
MMNY LR LR
comp=Z,27µm,21.0s
LRAL Lakeview Retre 113.00 47 ePKPdf **PKiKP 12 02 10.0 +0.1**
LRAL LR LR
comp=Z,11µm,21.0s
BNI Bardonecchia 113.11 330 ePKIKP **PKiKP 12 02 10.8 +0.9**
BNI MLR MLR
comp=Z,11µm,19.0s
BNI Bardonecchia 113.11 330 ePKPdf **PKiKP 12 02 10.8 +0.9**
BNI LR LR
comp=Z,11µm,19.0s
DYA Yadsworthy 113.30 340 ePP PP 12 02 59.1 -0.4
DYA LR LR
comp=Z,8µm,19.0s
LONY Lake Ozonia 113.38 30 ePKPdf **PKiKP 12 02 09.0 -1.3**
LONY ePP **PP 12 02 59.6 -0.7**
LONY LR LR
comp=Z,8µm,22.0s
CPCT Cooper Cave 113.42 43 ePKPdf **PKiKP 12 02 11.4 +0.7**
CMIG Matias Romero 113.53 66 PKKPab PKKPab 12 13 03.1 +0.1
comp=Z,2.5nm,0.8s,baz=80,slow=6.1,SNR=4.3
TKL Tuckaleechee C 113.80 43 ePKIKP **PKiKP 12 02 12.0 +0.6**
TKL Tuckaleechee C 113.80 43 ePKiKP **PKiKP 12 02 11.9 +0.6**
SSB Saint Sauveur 113.97 331 ePKIKP **PKiKP 12 02 12.0 +0.5**
SSB e 12 03 07.0
SSB MLR MLR
comp=Z,4µm,20.0s
SSB Saint Sauveur 113.97 331 ePKPdf **PKiKP 12 02 12.0 +0.5**
SSB ePP **PP 12 03 07.0 +2.5**
SSB LR LR
comp=Z,4µm,20.0s
BRAL Brewton 114.00 49 PFAKE 12 02 20.0 +8.1
BRAL LR LR
comp=Z,9µm,21.0s
NCB Newcomb 114.03 31 PFAKE 12 02 20.0 +8.4
NCB LR LR
comp=Z,10µm,21.0s
NVL N'lazarevskaya 114.11 195 ePKIKP PKPdf 12 02 11.3 +0.5
NVL e*PP PKiKP 12 02 26.5 +16
NVL pmax pmax
comp=Z,9.0nm,0.9s
SSPA Standing Stone 114.37 35 ePKPdf PKPdf 12 02 12.5 +0.2
SSPA ePP **PP 12 03 08.8 +1.3**
SSPA LR LR
comp=Z,9µm,21.0s
CLTB Caltabellotta 114.43 320 PFAKE 12 02 20.0 +7.4
CLTB LR LR
comp=Z,2µm,19.0s
MDV Middlebury 114.53 30 ePKPdf PKPdf 12 02 11.7 -0.8
WDD Wield Dalam 114.62 318 PFAKE 12 02 20.0 +7.1
WDD LR LR
comp=Z,3µm,22.0s
MBAR Mbarara 114.96 275 eSP SP 12 13 03.4 +12
MBAR LR LR
comp=Z,1µm,20.0s
BLA Blacksburg 115.05 40 ePKIKP **PKPdf 12 02 14.0 +0.2**
BLA MLR MLR
comp=Z,9µm,20.0s
BLA Blacksburg 115.05 40 ePKPdf **PKPdf 12 02 14.0 +0.2**
BLA LR LR
comp=Z,9µm,20.0s
GOGA Godfrey 115.28 45 ePKIKP **PKPdf 12 02 14.9 +0.6**
GOGA e 12 03 13.7
GOGA MLR MLR
comp=Z,9µm,22.0s
GOGA Godfrey 115.28 45 ePKPdf **PKPdf 12 02 14.9 +0.6**
GOGA ePP **PP 12 03 13.7 -0.7**
GOGA LR LR
comp=Z,9µm,22.0s
PKME Peaks-Kenny Pk 115.39 27 PFAKE 12 02 30.0 +16
PKME LR LR
comp=Z,6µm,22.0s
VSL Villasalto 115.52 324 ePKPdf **PKPdf 12 02 15.8 +1.2**
VSL LR LR
comp=Z,6µm,22.0s
MVL Millersville 115.67 35 ePKPdf **PKPdf 12 02 15.7 +0.9**
KMSC Kings Mountain 115.72 42 ePKPdf **PKPdf 12 02 15.9 +0.8**
KMSC ePP **PP 12 03 15.3 -2.0**
KMSC eSKPdf **SKPdf 12 05 49.5 -0.6**
KMSC LR LR
comp=Z,8µm,21.0s
LUPA Lehigh Univers 115.80 34 ePP PP 12 03 15.5 -2.1
LUPA LR LR
comp=Z,2µm,21.0s
ODNJ Ogdensburg 115.88 33 ePKPdf **PKPdf 12 02 16.6 +1.4**
ODNJ ePP **PP 12 03 18.6 +0.5**
ODNJ LR LR
comp=Z,11µm,20.0s
BRNJ Basking Ridge 116.19 34 PFAKE 12 02 30.0 +14
BRNJ LR LR
comp=Z,5µm,21.0s
CBN Corbin 116.28 37 ePKPdf **PKPdf 12 02 16.8 +0.8**
CBN LR LR
comp=Z,13µm,21.0s
JSC Jenkinsville 116.28 43 PFAKE 12 02 30.0 +14
JSC LR LR
comp=Z,7µm,19.0s
TIGA Tifton 116.29 47 ePKPdf **PKPdf 12 02 17.6 +1.3**
TIGA ePP **PP 12 03 21.6 +0.1**
TIGA LR LR
comp=Z,12µm,22.0s
JSRW J. Sargeant Re 116.31 38 ePKPdf **PKPdf 12 02 16.7 +0.6**
PAL Palisades 116.31 33 PFAKE 12 02 30.0 +14
PAL LR LR
comp=Z,12µm,21.0s
DRLN Deer Lake 116.35 17 PFAKE 12 02 30.0 +14
DRLN LR LR
comp=Z,8µm,20.0s
HRV Adam Dziewonsk 116.43 30 ePKIKP **PKPdf 12 02 17.2 +1.0**
HRV MLR MLR
comp=Z,8µm,20.0s
HRV Adam Dziewonsk 116.43 30 ePKPdf **PKPdf 12 02 17.2 +1.0**
HRV LR LR
comp=Z,8µm,20.0s
URVA University of 116.59 38 ePKPdf **PKPdf 12 02 17.6 +1.0**
SNAA Sanae 116.64 191 PKKPbc PKKPbc 12 12 43.4 -2.3
comp=Z,2.0nm,1.0s,baz=355,slow=7.8,SNR=6.1
NHSC New Hope 117.70 43 PFAKE 12 02 30.0 +11
NHSC LR LR
comp=Z,7µm,20.0s
CNNC Cliffs of the 117.88 40 PFAKE 12 02 30.0 +11
CNNC LR LR
comp=Z,11µm,20.0s
KEST Kesra 118.00 321 PKP **PKPdf 12 02 21.2 +1.6**
comp=Z,2.9nm,0.9s,baz=216,slow=4.2,SNR=7.4
KEST PP **PP 12 03 34.8 +1.6**
comp=Z,6.8nm,1.2s,baz=329,slow=5.9,SNR=3.8
KEST PKKPbc **PKKPbc 12 12 36.4 -3.7**
comp=Z,1.5nm,0.5s,baz=36,slow=3.4,SNR=4.6
VNA1 Neumayer--Stat 118.44 189 P **PKPdf 12 02 19.9 +0.8**
VNA1 Neumayer--Stat 118.44 189 P **PKKPab 12 12 38.1 -0.8**
LSZ Lusaka 119.57 259 ePKIKP **PKPdf 12 02 23.6 +0.5**
LSZ MLR MLR
comp=Z,3µm,22.0s
LSZ Lusaka 119.57 259 ePKPdf **PKPdf 12 02 23.6 +0.5**
LSZ LR LR
comp=Z,3µm,22.0s
SNET Serv Nac Est T 119.84 67 PFAKE 12 02 40.0 +16
SNET LR LR
comp=Z,3µm,18.0s
PBRG Braganca 121.66 336 ePKPdf **PKPdf 12 02 28.0 +1.6**
PGAV Gavieira, Arco 122.11 338 ePKPdf **PKPdf 12 02 28.2 +0.9**
PGAV Gavieira, Arco 122.11 338 eSS SS 12 20 40.4 +2.0
PGAV Gavieira, Arco 122.11 338 eLQ LQ 12 36 53.9
PGAV eLR LR 12 42 19.5
comp=Z,4µm,18.0s
ES19 SONSECA Array 122.22 333 ePKPdf **PKPdf 12 02 28.2 +0.7**
ES19 ePKKPbc **PKKPbc 12 12 24.6 -0.1**
PCAB Cabril 122.24 337 ePKPdf **PKPdf 12 02 29.4 +1.9**
PCAB Cabril 122.24 337 ePP PP 12 04 04.3 +2.6
BOSA Boshof 122.26 243 PKP **PKPdf 12 02 28.9 +1.0**
comp=Z,5.8nm,0.8s,baz=343,slow=1.4,SNR=6.3
BOSA PKKPab **PKKPbc 12 12 25.2 +1.2**
comp=Z,7.6nm,1.1s,baz=260,slow=5.5,SNR=4.1
BOSA Boshof 122.26 243 PKIKP **PKPdf 12 02 29.0 +1.0**
ESDC Sonseca Array 122.27 333 PKP **PKPdf 12 02 27.5 -0.1**
comp=Z,2.4nm,0.7s,baz=21,slow=2.3,SNR=16
ESDC PP **PP 12 04 01.0 -1.0**
comp=Z,22nm,1.1s,baz=32,slow=6.8,SNR=15
ESDC PKKPbc **PKKPbc 12 12 23.9 -0.5**
comp=Z,4.8nm,1.0s,baz=229,slow=3.1,SNR=13
ESDC SKKPbc SKKPbc 12 16 13.7 +1.5
comp=Z,0.2nm,0.3s,baz=243,slow=5.2,SNR=3.5
MVO Moncorvo 122.32 336 ePKPdf **PKPdf 12 02 28.9 +1.2**
MVO Moncorvo 122.32 336 ePP PP 12 04 03.9 +1.6
MVO Moncorvo 122.32 336 eSS SS 12 20 43.3 +2.2
MVO Moncorvo 122.32 336 eLQ LQ 12 36 34.6
MVO eLR LR 12 41 38.1
comp=Z,5µm,20.0s
POLO Lamas de Olo 122.44 337 ePKPdf **PKPdf 12 02 29.1 +1.1**
POLO Lamas de Olo 122.44 337 ePP PP 12 04 04.8 +1.7
PVRL Vila Real 122.49 337 ePKPdf **PKPdf 12 02 29.9 +1.9**
PMSA Palmer Station 122.52 165 PFAKE 12 02 40.0 +13
PMSA LR LR
comp=Z,3µm,20.0s
PAB San Pablo 122.54 333 ePKIKP **PKPdf 12 02 29.7 +1.5**
PAB e 12 04 03.1
PAB MLR MLR
comp=Z,6µm,21.0s
PAB San Pablo 122.54 333 ePKPdf **PKPdf 12 02 29.6 +1.5**
PAB ePP **PP 12 04 03.1 -0.9**
PAB LR LR
comp=Z,6µm,21.0s
PVIS Viseu 123.04 337 ePKPdf **PKPdf 12 02 31.1 +2.0**
PAYG Puerto Ayora 123.07 83 PFAKE 12 02 40.0 +10
PAYG LR LR
comp=Z,5µm,20.0s
MTE Manteigas 123.17 336 ePKPdf **PKPdf 12 02 30.7 +1.3**
MTE Manteigas 123.17 336 ePP PP 12 04 13.7 +5.6
MTE Manteigas 123.17 336 eSS SS 12 20 51.5 -0.5
MTE Manteigas 123.17 336 eLQ LQ 12 37 20.1
MTE eLR LR 12 42 48.0
comp=Z,5µm,18.0s
MTE Manteigas 123.17 336 ePKPdf **PKPdf 12 02 30.1 +0.8**
MTE LR LR
comp=Z,6µm,19.0s
PCBR Castelo Branco 123.62 336 ePKPdf **PKPdf 12 02 31.8 +1.7**
PCBR Castelo Branco 123.62 336 ePP PP 12 04 17.4 +6.4
PCAS Casmilo, Conde 123.85 337 ePKPdf **PKPdf 12 02 31.9 +1.3**
PCAS Casmilo, Conde 123.85 337 ePP PP 12 04 13.5 +1.0
PMRV Marv??o 123.94 335 ePKPdf **PKPdf 12 02 32.4 +1.6**
PMRV Marv??o 123.94 335 ePP PP 12 04 08.3 -4.9
PMRV Marv??o 123.94 335 eLQ LQ 12 37 48.7
PMRV eLR LR 12 43 10.6
comp=Z,4µm,18.0s
PTOM Tomar 124.19 336 ePKPdf **PKPdf 12 02 32.8 +1.6**
PESTR Estremoz 124.50 335 ePKPdf **PKPdf 12 02 33.7 +1.8**
PESTR Estremoz 124.50 335 ePP PP 12 04 18.6 +1.6
PMTG Montargil 124.58 336 ePKPdf **PKPdf 12 02 32.4 +0.4**
PMTG Montargil 124.58 336 ePP PP 12 04 15.5 -2.0
PBAR Barrancos 124.85 334 ePKPdf **PKPdf 12 02 34.2 +1.7**
PBAR Barrancos 124.85 334 ePP PP 12 04 21.6 +2.3
EVO Evora 124.95 335 ePKPdf **PKPdf 12 02 34.5 +1.8**
EVO Evora 124.95 335 ePP PP 12 04 16.6 -3.4
JTS JuntasAbangare 124.97 69 *d* iPKIKP **PKPdf 12 02 34.6 +1.2**
JTS JuntasAbangare 124.97 69 ePKPdf **PKPdf 12 02 33.6 +0.2**
JTS ePP **PP 12 04 23.9 +2.1**
JTS LR LR
comp=Z,4µm,21.0s
PACT Alcochete 125.08 336 ePKPdf **PKPdf 12 02 33.9 +1.0**
PACT Alcochete 125.08 336 ePP PP 12 04 23.0 +2.2
PMST Lisbon--Monsan 125.25 336 ePKPdf **PKPdf 12 02 35.1 +1.8**
PMST Lisbon--Monsan 125.25 336 ePP PP 12 04 27.6 +5.7
LIS Lisbon 125.25 336 ePP PP 12 04 22.5 +0.6
LIS AMS AMS 12 54 30.7
comp=E,6µm,17.9s
PNCL Nicolau / Gran 125.53 335 ePKPdf **PKPdf 12 02 35.0 +1.2**
PNCL Nicolau / Gran 125.53 335 ePP PP 12 04 25.8 +2.0
SUR Sutherland 125.59 238 PFAKE 12 02 50.0 +16
SUR LR LR
comp=Z,6µm,21.0s
MESJ Messejana 125.63 335 ePP PP 12 04 25.6 +1.1
MESJ AMS AMS 13 00 13.1
comp=Z,4µm,24.5s
PCVE Castro Verde 125.73 335 ePKPdf **PKPdf 12 02 35.4 +1.1**
PCVE Castro Verde 125.73 335 ePP PP 12 04 28.9 +3.7
PVAQ Vaqueiros 125.79 334 ePKPdf **PKPdf 12 02 36.4 +2.0**
PVAQ Vaqueiros 125.79 334 ePP PP 12 04 27.7 +2.1
PVAQ Vaqueiros 125.79 334 eSS SS 12 21 40.0 +15
PVAQ Vaqueiros 125.79 334 eLQ LQ 12 38 41.8
PVAQ eLR LR 12 44 08.9
comp=Z,6µm,20.0s
PBDV Barranco-do-Ve 126.02 334 ePKPdf **PKPdf 12 02 37.1 +2.3**
PBDV Barranco-do-Ve 126.02 334 ePP PP 12 04 29.4 +2.3
PTEO Sao Teotonio 126.09 335 ePKPdf **PKPdf 12 02 37.0 +2.1**
PTEO Sao Teotonio 126.09 335 ePP PP 12 04 31.9 +4.4
MORF Marmelete 126.26 335 eP **PKPdf 12 02 33.8 -1.5**
MORF ePP **PP 12 04 29.3 +0.5**
MORF eSS SS 12 21 34.7 +3.8
MORF AMS AMS 12 58 22.0
comp=N,4µm,21.0s
MORF Marmelete 126.26 335 ePKPdf **PKPdf 12 02 36.9 +1.6**
MORF Marmelete 126.26 335 ePP PP 12 04 30.2 +1.4
MORF Marmelete 126.26 335 ePKIKP **PKPdf 12 02 33.8 -1.5**
MORF e 12 04 29.2
PFVI Vila Bisbo 126.48 335 ePKPdf **PKPdf 12 02 36.2 +0.5**
PFVI Vila Bisbo 126.48 335 ePP PP 12 04 31.7 +1.5
BBSR BB Station 127.66 33 PFAKE 12 02 50.0 +12
BBSR LR LR
comp=Z,7µm,22.0s
MTDJ Mount Denham 127.98 56 PFAKE 12 02 50.0 +11
MTDJ LR LR
comp=Z,3µm,22.0s
MDT Midelt 128.08 328 PKP **PKPdf 12 02 40.3 +1.2**
comp=Z,12nm,0.9s,baz=39,slow=3.0,SNR=20
MDT PP **PP 12 04 41.3 +0.2**
comp=Z,36nm,1.3s,baz=44,slow=7.6,SNR=5.6
TAM Tamanrasset 128.70 311 ePKIKP **PKPdf 12 02 40.6 +0.1**
TAM e 12 04 45.2
TAM MLR MLR
comp=Z,2µm,19.0s
TAM Tamanrasset 128.70 311 ePKPdf **PKPdf 12 02 40.6 +0.1**
TAM ePP **PP 12 04 45.2 -0.7**
TAM LR LR
comp=Z,2µm,19.0s
GTBY Guantanamo Bay 129.02 53 PFAKE 12 02 50.0 +9.0
GTBY LR LR
comp=Z,5µm,22.0s
TSUM Tsumeb 129.81 254 ePKPdf **PKPdf 12 02 45.4 +2.7**
TSUM LR LR
comp=Z,3µm,20.0s
BCIP Isla Barro Col 130.06 68 ePKPdf **PKPdf 12 02 44.0 +0.9**
BCIP LR LR
comp=Z,4µm,20.0s
GRTK Grand Turk 131.11 48 PFAKE 12 03 00.0 +15
GRTK LR LR
comp=Z,5µm,20.0s
SDDR Presa de Saban 132.51 51 PFAKE 12 03 00.0 +12
SDDR LR LR
comp=Z,5µm,22.0s
PMOZ Porto Moniz, M 133.44 341 eLQ LQ 12 39 21.2
PMOZ eLR LR 12 48 12.6
comp=Z,3µm,20.0s
SMN1 Samana, DR 133.91 49 ePKPdf **PKPdf 12 02 51.7 +1.4**
OTAV Otavalo 134.32 79 ePKPdf **PKPdf 12 02 52.4 +0.6**
OTAV ePP **PP 12 05 23.6 0.0**
OTAV LR LR
comp=Z,5µm,20.0s
EFI East Falkland 135.08 159 PFAKE 12 03 00.0 +8.6
EFI LR LR
comp=Z,5µm,20.0s
ATAH Atahualpa 135.94 89 PKP **PKPdf 12 02 57.4 +2.7**
comp=Z,12nm,0.8s,baz=243,slow=2.3,SNR=5.7
LSP Las Mesas 136.16 49 ePKPdf **PKPdf 12 02 55.6 +1.1**
CRPR Cabo Rojo, PR 136.25 49 ePKPdf **PKPdf 12 02 56.0 +1.4**
CELP Cerrillos 136.60 48 ePKPdf **PKPdf 12 02 56.9 +1.6**
OBIP Obispado Ponce 136.60 48 ePKPdf **PKPdf 12 02 56.3 +1.0**
ROSC El Rosal 136.75 71 PKP **PKPdf 12 02 57.6 +1.4**
comp=Z,6.5nm,0.5s,baz=91,slow=9.2,SNR=6.7
ICMP Isla Caja de M 136.75 49 ePKPdf **PKPdf 12 02 57.2 +1.7**
SJG San Juan 136.89 48 ePKIKP **PKPdf 12 02 58.0 +2.2**
SJG MLR MLR
comp=Z,5µm,21.0s
SJG San Juan 136.89 48 ePKPdf **PKPdf 12 02 58.0 +2.2**
SJG LR LR
comp=Z,5µm,21.0s
HOPE Hope Point 136.94 178 PFAKE 12 03 10.0 +15
HOPE LR LR
comp=Z,9µm,21.0s
TOAO Torodi Ar. Sit 137.19 303 ePKPpre PKPpre 12 02 47.8
TORD Torodi Ar. Bea 137.19 303 PKHKP PKPpre 12 02 49.1
comp=Z,3.5nm,0.8s,baz=45,slow=2.3,SNR=9.0
TORD PKP **PKPdf 12 02 56.9 +0.4**
comp=Z,14nm,0.9s,baz=31,slow=1.2,SNR=23
TORD PP **PP 12 05 41.0 +0.6**
comp=Z,21nm,1.2s,baz=43,slow=2.1,SNR=6.3
TOB4 Torodi Ar. Sit 137.21 303 ePKP1 PKPpre 12 02 49.3
STVI Saint Thomas 137.59 47 ePKPdf **PKPdf 12 02 57.7 +0.6**
NNA Nana 137.97 96 PKP **PKPdf 12 02 59.3 +1.4**
comp=Z,19nm,0.9s,baz=264,slow=6.0,SNR=3.9
NNA Nana 137.97 96 PKIKP **PKPdf 12 02 59.3 +1.4**
NNA MLR MLR
comp=Z,4µm,22.0s
NNA Nana 137.97 96 PKP **PKPdf 12 02 59.3 +1.4**
NNA LR LR
comp=Z,4µm,22.0s
CDVI St. Croix 138.12 47 ePKPdf **PKPdf 12 02 58.9 +0.8**
SDV Santo Domingo 138.40 63 ePKPdf **PKPdf 12 03 00.1 +1.1**
SDV ePP **PP 12 05 51.6 +3.2**
SDV LR LR
comp=Z,4µm,20.0s
SMRT St. Maarten 139.12 45 ePKPdf **PKPdf 12 03 01.1 +1.2**
ANWB Willy Bob 140.27 44 PFAKE 12 03 10.0 +8.0
ANWB LR LR
comp=Z,6µm,21.0s
LCO Las Campanas 141.38 123 ePKPdf **PKPdf 12 03 03.9 -0.2**
LCO LR LR
comp=Z,5µm,20.0s
H05N1 Guadeloupe/Mar 141.70 45 PKhKP PKPpre 12 03 00.1
CFAA Coronel Fontan 142.36 128 PKhKP PKPpre 12 03 02.2
comp=Z,3.9nm,0.9s,baz=252,slow=3.2,SNR=45
FDF Fort de France 142.71 47 ePKIKP **PKPdf 12 03 06.4 -0.1**
FDF MLR MLR
comp=Z,8µm,20.0s
FDF Fort de France 142.71 47 ePKPdf **PKPdf 12 03 06.4 -0.1**
FDF LR LR
comp=Z,8µm,20.0s
PCRV Puerto La Cruz 142.82 56 PKhKP PKPpre 12 03 01.9
comp=Z,8.2nm,0.9s,baz=12,slow=7.4,SNR=1.7
H05S1 Guadeloupe/Mar 143.14 47 PKP **PKPdf 12 03 06.0 -1.2**
TRQA Tornquist 143.29 142 PKPdf **PKPdf 12 03 10.1 +3.2**
TRQA LR LR
comp=Z,3µm,20.0s
GRGR Grenville 144.02 51 PFAKE 12 03 20.0 +11
GRGR LR LR
comp=Z,6µm,20.0s
LVC Limon Verde 144.73 113 PKP **PKPdf 12 03 10.5 +0.3**
comp=Z,805nm,1.0s,baz=262,slow=3.4,SNR=162
LVC Limon Verde 144.73 113 PKP **PKPdf 12 03 10.5 +0.3**
LVC ePKPdf PKPbc 12 03 10.6 +1.5
LVC LR LR
comp=Z,2µm,20.0s
BBGH Gun Hill 144.92 47 PFAKE 12 03 20.0 +10
BBGH LR LR
comp=Z,13µm,21.0s
DBIC Dimbokro 146.08 300 PKPbc **PKPab 12 03 13.6 -0.2**
comp=Z,113nm,0.9s,baz=44,slow=3.5,SNR=30
KIC Kosan Boka 146.14 300 ePKP1 **PKPbc 12 03 13.7 +0.3**
comp=Z,417nm,1.0s
TIC Toumodi 146.23 300 ePKP1 **PKPbc 12 03 13.7 0.0**
LPAZ La Paz 146.41 103 PKPbc **PKPab 12 03 15.4 -0.3**
comp=Z,56nm,0.7s,baz=260,slow=3.4,SNR=120
LIC Lamto 146.46 300 ePKP1 **PKPbc 12 03 14.4 0.0**
comp=Z,289nm,0.8s
H09W1 TRISTAN DA CUN 147.69 213 PKPbc **PKPab 12 03 19.0 -0.4**
TRIS Tristan da Cun 147.70 213 PFAKE 12 03 30.0 +11
TRIS LR LR
comp=Z,6µm,20.0s
SAML Samuel 151.11 88 ePKPdf **PKPdf 12 03 21.0 +0.5**
SAML ePKPbc **PKiKP 12 03 27.7 +0.8**
SAML LR LR
comp=Z,4µm,21.0s
SACV Santiago Islan 152.09 338 ePKPdf **PKPdf 12 03 22.4 +0.4**
SACV ePKPbc **PKiKP 12 03 29.6 +0.7**
SACV LR LR
comp=Z,3µm,21.0s
PTGA Pitinga 152.13 70 PKP **PKPdf 12 03 23.1 +1.0**
comp=Z,12nm,0.8s,baz=273,slow=1.3,SNR=21
PTGA PKPbc **PKPbc 12 03 28.8 +0.1**
comp=Z,57nm,0.9s,baz=274,slow=2.6,SNR=20
PTGA Pitinga 152.13 70 ePKPdf **PKPdf 12 03 22.3 +0.2**
PTGA PKP **PKPdf 12 03 23.1 +1.0**
PTGA PKPbc **PKPbc 12 03 28.8 +0.1**
SIV San Ignacio 153.19 103 PKP **PKPdf 12 03 24.1 +0.5**
comp=Z,3.3nm,0.8s,baz=264,slow=2.5,SNR=8.9
SIV PKPbc **PKPbc 12 03 30.7 -0.3**
comp=Z,22nm,0.8s,baz=265,slow=2.5,SNR=38
CPUP Villa Florida 153.26 128 PKP **PKPdf 12 03 25.0 +1.6**
comp=Z,3.9nm,0.9s,baz=294,slow=3.0,SNR=7.5
CPUP PKPbc **PKiKP 12 03 31.8 +0.8**
comp=Z,21nm,0.8s,baz=269,slow=2.6,SNR=40
ASCN Ascension 160.45 278 PFAKE 12 03 40.0 +7.0
ASCN LR LR
comp=Z,3µm,20.0s
BB16B Bebedouro 162.84 127 eP PKPpre 12 03 28.9
BB16B *i* **PKPdf 12 03 34.9 -0.4**
BB16B *i* 12 03 47.5
BB16B *i* 12 03 50.7
BB16B *i* 12 03 55.5
BB16B *i* 12 04 06.4
BB16B *i* 12 04 24.6
BDFB Brasilia 165.59 110 PKP **PKPdf 12 03 40.0 +2.0**
comp=Z,6.1nm,0.8s,baz=137,slow=2.6,SNR=6.8
BDFB PKPab **PKPab 12 04 36.6 0.0**
comp=Z,15nm,1.0s,baz=220,slow=2.4,SNR=5.2
RCBR Riachuelo 174.34 20 PFAKE 12 03 50.0 +7.0
RCBR LR LR
comp=Z,5µm,22.0s

*ISCJB **10** 12:26:20.6±0.4, 60˚.16N±0˚.03×153˚.25W±0˚.09, h146km±4km, mb3.0/2, Error ellipse: s-maj=8.0km s-min=4.4km az=22.6*
*NEIC **10** 12:26:22.2, 60˚.15N×153˚.26W, h142km, MG3.0(AEIC), After AEIC.*
*IDC **10** 12:26:22.2±7.5, 60˚.21N×152˚.85W, h108km±76km, mb2.8/2, mb1 3.3/4, mb1mx2.9/35, mbtmp3.3/4, ML3.4/2, Error ellipse: s-maj=61.2km s-min=54.0km az=82.0*
ISC 10 12:26:22.2±1.0, 60˚.17N±0˚.04×153˚.27W±0˚.06, h140km±6km, n64, σ1°09/72, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILIM	**Iliamna**	**0.18**	**121**	P	**Pn**	**12 26 40.8**	**-0.6**
ILIM				S	**Sn**	**12 26 55.5**	**-0.3**
ILS	**Iliamna Low So**	**0.24**	**155**	P	**Pn**	**12 26 40.9**	**-0.7**
RDWB	**Redoubt West**	**0.38**	**33**	P	**Pn**	**12 26 41.5**	**-0.6**
RDWB				S	**Sn**	**12 26 56.3**	**-0.8**
RSO	**Redoubt South**	**0.39**	**41**	P	**Pn**	**12 26 41.7**	**-0.5**
RDN	**Redoubt North**	**0.42**	**36**	P	**Pn**	**12 26 41.8**	**-0.5**
NCT	**North Crescent**	**0.43**	**23**	P	**Pn**	**12 26 41.8**	**-0.4**
DFR	**Drift River**	**0.51**	**34**	P	**Pn**	**12 26 41.9**	**-0.7**
OPT	**Oil Point**	**0.52**	**178**	P	**Pn**	**12 26 42.2**	**-0.4**
PDB	**Pedro Bay**	**0.60**	**231**	P	**Pn**	**12 26 42.3**	**-0.8**
AUL	**Augustine Lava**	**0.80**	**186**	P	**Pn**	**12 26 44.2**	**-0.2**
AUP	**Augustine Pinn**	**0.81**	**186**	P	**Pn**	**12 26 44.3**	**-0.3**
AUI	**Augustine Isla**	**0.84**	**186**	P	**Pn**	**12 26 44.2**	**-0.6**
HOM	**Homer**	**0.96**	**122**	P	**Pn**	**12 26 45.5**	**-0.2**
HOM				S	**Sn**	**12 27 03.8**	**+0.2**
CKL	**Chakachamna La**	**1.12**	**23**	P	**Pn**	**12 26 47.1**	**-0.2**
NKA	**Nikishka**	**1.16**	**59**	P	**Pn**	**12 26 48.5**	**+1.0**
BGL	**Barrier Glacie**	**1.18**	**21**	P	**Pn**	**12 26 47.8**	**0.0**
SPBG	**Spurr Blockage**	**1.18**	**22**	P	**Pn**	**12 26 47.7**	**-0.1**
SPBG				S	**Sn**	**12 27 07.8**	**+0.5**
CKN	**Chakachatna No**	**1.18**	**26**	P	**Pn**	**12 26 47.6**	**-0.1**
BRLK	**Bradley Lake**	**1.26**	**108**	P	**Pn**	**12 26 48.0**	**-0.6**
BRLK				S	**Sn**	**12 27 08.0**	**-0.7**
SVW2	**Sparrevohn**	**1.47**	**310**	P	**Pn**	**12 26 49.5**	**-1.2**
STLK	**Strandline Lak**	**1.50**	**27**	P	**Pn**	**12 26 50.8**	**-0.4**
SLKM	**Skilak Lake**	**1.55**	**76**	P	**Pn**	**12 26 50.7**	**-0.9**
VOGL	**Vogel Lake**	**1.62**	**58**	P	**Pn**	**12 26 52.6**	**+0.3**
SUA	**Susitna One**	**1.79**	**43**	P	**Pn**	**12 26 54.3**	**-0.1**
FIB	**Fire Island**	**1.82**	**55**	P	**Pn**	**12 26 55.4**	**+0.9**
RC01	**Rabbit Creek A**	**1.97**	**61**	P	**Pn**	**12 26 55.5**	**-0.8**
RC01				S	**Sn**	**12 27 21.3**	**-1.2**

SKT	**Skwentna**	**2.00**	**24**	P		**Pn**	**12 26 56.7**	**0.0**
KVTA	**Katmai Vly 10**	**2.08**	**211**	P		**Pn**	**12 26 56.8**	**-0.9**
KAKN	**Katmai Knife C**	**2.10**	**207**	P		**Pn**	**12 26 57.1**	**-0.9**
KBM	**Katmai Bkd Mtn**	**2.15**	**208**	P		**Pn**	**12 26 57.8**	**-0.7**
KELA	**Mount Kelaz**	**2.15**	**217**	P		**Pn**	**12 26 57.6**	**-1.0**
KCE	**Katmai Mt Cerb**	**2.17**	**208**	P		**Pn**	**12 26 58.5**	**-0.3**
PTE	**Portage**	**2.21**	**70**	P		**Pn**	**12 26 58.9**	**-0.2**
KABR	**Katmai Barrier**	**2.23**	**204**	P		**Pn**	**12 26 58.4**	**-1.1**
KDAK	**Kodiak Island**	**2.42**	**171**	P		**Pn**	**12 26 59.6**	**-2.2**
KDAK				S		**Sn**	**12 27 30.1**	**-2.2**
PMR	**Palmer**	**2.47**	**53**	P		**Pn**	**12 27 01.7**	**-0.7**
CUT	**Chulitna**	**2.67**	**32**	P		**Pn**	**12 27 04.6**	**-0.3**
PPLA	**Purkeypile**	**2.78**	**10**	P		**Pn**	**12 27 06.9**	**+0.4**
SML	**Sawmill**	**2.91**	**54**	P		**Pn**	**12 27 06.2**	**-1.9**
OHAK	**Old Harbor**	**2.96**	**180**	P		**Pn**	**12 27 05.9**	**-2.7**
GLI	**Glacier Island**	**3.13**	**74**	P		**Pn**	**12 27 10.0**	**-0.8**
CAST	**Castle Rocks**	**3.31**	**9**	P		**Pn**	**12 27 12.6**	**-0.5**
SCM	**Sheep Creek Mo**	**3.34**	**57**	P		**Pn**	**12 27 12.5**	**-1.0**
VLZ	**Valdez**	**3.55**	**71**	P		**Pn**	**12 27 16.1**	**0.0**
TRF	**Thorofare Moun**	**3.58**	**22**	P		**Pn**	**12 27 16.5**	**-0.3**
RND	**Reindeer**	**3.86**	**31**	P		**Pn**	**12 27 19.4**	**-0.9**
BPAW	**Bear Paw Mtn.**	**4.09**	**14**	P		**Pn**	**12 27 23.3**	**+0.1**
MCK	**McKinley**	**4.12**	**28**	P		**Pn**	**12 27 23.4**	**-0.3**
PAX	**Paxson**	**4.67**	**50**	P		**Pn**	**12 27 30.2**	**-0.8**
WRH	**Wood River Hil**	**4.94**	**27**	P		**Pn**	**12 27 33.1**	**-1.4**
MLY	**Manley**	**5.01**	**12**	P		**Pn**	**12 27 35.3**	**-0.3**
CCB	**Clear Creek Bu**	**5.16**	**27**	P		**Pn**	**12 27 36.0**	**-1.4**
HDA	**Harding Lake**	**5.17**	**32**	P		**Pn**	**12 27 36.4**	**-1.2**
MDM	**Murphy Dome**	**5.34**	**24**	P		**Pn**	**12 27 38.6**	**-1.2**
COLA	**College**	**5.34**	**26**	P		**Pn**	**12 27 38.5**	**-1.3**
RIDG	**Independ'e Rid**	**5.35**	**44**	P		**Pn**	**12 27 39.3**	**-0.7**
PTPK	**Patty Peak**	**5.41**	**74**	P		**Pn**	**12 27 40.1**	**-0.8**
IL1	**Eielson Array**	**5.48**	**30**	P		**Pn**	**12 27 40.1**	**-1.6**
ILAR	**Eielson Array**	**5.48**	**30**	P		**Pn**	**12 27 40.1**	**-1.6**
	2.1nm,0.3s,baz=216,slow=13,SNR=123							
ILAR				S		**Sn**	**12 28 39.8**	**-4.0**
	4.0nm,0.3s,baz=216,slow=26,SNR=20							
ILB	**Eielson Array**	**5.48**	**30**	P		**Pn**	**12 27 40.1**	**-1.6**
COLD	**Coldfoot**	**7.21**	**10**	*e*Pn		**Pn**	**12 28 04.2**	**-0.6**
	5.3nm,1.0s							
YKA	**Yellowknife Ar**	**18.50**	**66**	P		**P**	**12 30 27.0**	**-0.2**
	0.1nm,0.3s,baz=278,slow=9.9,SNR=9.9							
NVAR	**Mina Array Bea**	**30.92**	**119**	P		**P**	**12 32 27.7**	**+2.0**
	0.3nm,0.6s,baz=309,slow=10,SNR=4.3							
TXAR	**Lajitas Array**	**45.17**	**110**	P		**P**	**12 34 26.1**	**+1.3**
	0.1nm,0.4s,baz=273,slow=5.8,SNR=4.3							

IDC 10 12:27:23.4±2.6, 4°98S×130°60E, h0km, mb3.2/1, mb1 3.4/3, mb1mx3.2/27, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=146.9km s-min=32.1km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.31**	**167**	Pn	Pn	12 30 58.9	-2.1
	0.1nm,0.3s,baz=350,slow=13,SNR=5.8						
WRA				Sn	Sn	12 33 43.1	-8.3
	0.1nm,0.3s,baz=359,slow=23,SNR=6.2						
ASAR	**Alice Springs**	**18.85**	**171**	P	Pn	12 31 45.9	+0.3
	0.2nm,0.3s,baz=350,slow=11,SNR=15						
MKAR	**Makanchi Array**	**66.88**	**326**	P	P	12 38 17.4	0.0
	0.1nm,0.5s,baz=108,slow=7.7,SNR=1.3						

*ISCJB **10** 12:52:51.1±0.3, 41°.50N±0°.03×140°.15E±0°.07, h157km±2km, mb3.4/14, Error ellipse: s-maj=8.4km s-min=5.5km az=179.3*
*JMA **10** 12:52:52.3±0.1, 41°.49N×140°.16E, h150km±1km, M3.0*
*IDC **10** 12:52:52.4±1.5, 41°.60N×140°.08E, h151km±11km, mb3.2/14, mb1 3.4/17, mb1mx3.3/31, mbtmp3.7/17, Error ellipse: s-maj=22.2km s-min=12.3km az=145.0*

ISC 10 12:52:52.0±0.7, 41°.48N±0°.04×140°.15E±0°.06, h153km±5km, n33, σ0°58/49, mb3.6/14, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSR	**Shiriuchi**	**0.20**	**77**	P	**Pn**	**12 53 12.6**	**-0.1**
JSR				*e*S	**Sn**	**12 53 28.2**	**-0.2**
JSI2	**Shiura 2**	**0.47**	**155**	P	**Pn**	**12 53 13.8**	**+0.2**
JSI2				*e*S	**Sn**	**12 53 30.3**	**+0.3**
JYM2	**Yakumo 2**	**0.66**	**14**	P	**Pn**	**12 53 14.8**	**+0.2**
JYM2				*e*S	**Sn**	**12 53 31.7**	**-0.2**
JOT	**Ohata**	**0.68**	**98**	P	**Pn**	**12 53 14.7**	**0.0**
JOT				*e*S	**Sn**	**12 53 31.6**	**-0.4**
JKB	**Kayabe**	**0.77**	**58**	P	**Pn**	**12 53 15.5**	**+0.2**
JKB				*e*S	**Sn**	**12 53 33.3**	**+0.2**
JOSM	**Okushiri--Mats**	**0.79**	**320**	P	**Pn**	**12 53 15.2**	**-0.2**
JOSM				*e*S	**Sn**	**12 53 32.4**	**-0.9**
JIW	**Iwasaki**	**0.90**	**187**	P	**Pn**	**12 53 16.5**	**+0.2**
JTM	**Tenmabayashi**	**0.98**	**135**	P	**Pn**	**12 53 17.0**	**+0.1**
JTM				*e*S	**Sn**	**12 53 35.6**	**-0.3**
JSH	**Shimam**	**1.16**	**356**	P	**Pn**	**12 53 18.7**	**+0.2**
JSH				*e*S	**Sn**	**12 53 38.4**	**-0.4**
JNB	**Noboribetsu**	**1.19**	**34**	P	**Pn**	**12 53 18.7**	**0.0**
JAH	**Hinai**	**1.34**	**164**	P	**Pn**	**12 53 20.6**	**+0.3**
JAH				*e*S	**Sn**	**12 53 42.6**	**+0.8**
JANG	**Nango**	**1.51**	**137**	P	**Pn**	**12 53 21.5**	**-0.5**
JANG				*e*S	**Sn**	**12 53 44.3**	**-0.6**
JEW	**Eniwo**	**1.67**	**35**	P	**Pn**	**12 53 23.4**	**+0.9**
JSK	**Shakotan**	**1.88**	**7**	P	**Pn**	**12 53 26.4**	**+0.5**
JSK				*e*S	**Sn**	**12 53 52.8**	**+0.7**
JNBK	**Urakawa-nobuka**	**2.10**	**67**	P	**Pn**	**12 53 28.9**	**+0.5**
JNBK				*e*S	**Sn**	**12 53 57.0**	**+0.5**
JOM	**Ohasama**	**2.19**	**156**	P	**Pn**	**12 53 29.2**	**-0.4**
JOM				*e*S	**Sn**	**12 53 58.2**	**-0.2**
ASAJ	**Asahikawa**	**3.19**	**34**	P	**Pn**	**12 53 42.5**	**+0.7**
	baz=239,slow=12						
ASAJ				S	**Sn**	**12 54 19.3**	**-1.2**
	baz=36,slow=18						
MJAR	**Matsushiro Arr**	**5.16**	**198**	P	**Pn**	**12 54 08.9**	**+1.2**
	0.8nm,0.3s,baz=279,slow=6.3,SNR=13						
KSRS	**Korea Array**	**10.27**	**251**	P	**Pn**	**12 55 16.9**	**+1.4**
	0.1nm,0.3s,baz=60,slow=13,SNR=4.1						
SEY	**Seymchan**	**22.67**	**15**	P	**P**	**12 57 39.0**	**-1.1**
	0.3nm,0.4s,baz=218,slow=19,SNR=3.7						
ZALV	**Zalesovo Beam**	**38.29**	**308**	P	**P**	**12 59 56.2**	**-1.1**
	1.4nm,0.3s,baz=94,slow=13,SNR=4.0						
ZALV				PcP	**PcP**	**13 02 08.0**	**0.0**
	0.7nm,0.4s,baz=134,slow=4.2,SNR=3.5						
MKAR	**Makanchi Array**	**41.05**	**298**	P	**P**	**13 00 20.2**	**-0.1**
	0.4nm,0.6s,baz=82,slow=10,SNR=3.8						
KURBB	**Kurchatov Arra**	**42.59**	**304**	P	**P**	**13 00 32.3**	**-0.4**
	1.0nm,0.4s,baz=79,slow=8.7,SNR=6.7						
ILAR	**Eielson Array**	**46.32**	**35**	P	**P**	**13 01 02.3**	**+0.3**
	0.5nm,0.8s,baz=272,slow=6.7,SNR=7.2						
BVAR	**Borovoye Array**	**46.93**	**309**	P	**P**	**13 01 06.5**	**-0.4**
	0.6nm,0.4s,baz=72,slow=8.8,SNR=3.0						
INK	**Inuvik**	**50.91**	**29**	P	**P**	**13 01 37.7**	**+0.8**
	1.7nm,0.8s,baz=290,slow=8.2,SNR=6.9						
ARCES	**ARCESS Array B**	**59.50**	**338**	P	**P**	**13 02 38.4**	**-0.1**
	0.8nm,0.8s,baz=42,slow=9.7,SNR=2.8						
YKA	**Yellowknife Ar**	**60.48**	**31**	P	**P**	**13 02 45.4**	**+0.2**
	0.2nm,0.6s,baz=300,slow=6.5,SNR=3.8						
YKA				PcP	**PcP**	**13 03 28.9**	**+0.6**
	0.2nm,0.4s,baz=307,slow=3.8,SNR=6.1						
FINES	**FINESS Array B**	**64.44**	**331**	P	**P**	**13 03 11.0**	**-0.5**
	0.4nm,0.2s,baz=29,slow=10,SNR=5.7						
NOA	**NORSAR Array B**	**69.72**	**336**	P	**P**	**13 03 44.1**	**-0.8**
	1.1nm,0.8s,baz=25,slow=3.1,SNR=3.5						
NVAR	**Mina Array Bea**	**73.12**	**54**	P	**P**	**13 04 05.8**	**-0.1**
	0.2nm,0.6s,baz=280,slow=5.4,SNR=4.0						
PDAR	**Pinedale Array**	**75.25**	**46**	P	**P**	**13 04 18.6**	**+0.4**
	0.6nm,0.5s,baz=321,slow=2.4,SNR=3.3						
TXAR	**Lajitas Array**	**88.16**	**52**	P	**P**	**13 05 25.3**	**-0.5**
	0.1nm,0.6s,baz=284,slow=3.6,SNR=2.4						

*ISCJB **10** 12:54:15.6±1.0, 7°.85S±0°.02×158°.69E±0°.02, h22km±7km, mb5.7/230, MS5.3/193, Error ellipse: s-maj=3.9km s-min=3.2km az=6.6*
*BJI **10** 12:54:16.5, 7°.55S×159°.01E, h32km, mb5.6/71, mB5.7/38, Ms5.3/57, Ms7 5.1/56*
*MOS **10** 12:54:18.5±1.0, 7°.77S×158°.66E, h41km, mb5.9/60, MS5.3/47, Error ellipse: s-maj=7.1km s-min=5.5km az=98.5*
*IDC **10** 12:54:19.0±0.6, 7°.85S×158°.83E, h41km±4km, mb5.3/31, mb1 5.3/34, mb1mx5.3/36, mbtmp5.5/34, ML4.3/3, MS5.0/28, Ms1 5.0/28, ms1mx5.0/36, Error ellipse: s-maj=10.5km s-min=8.6km az=99.0*
*NEIC **10** 12:54:19.9±0.1, 7°.86S×158°.71E, mb5.7/157, MS5.4/153,*

Error ellipse: s-maj=3.5km s-min=3.0km az=151.0
*GCMT **10** 12:54:19.9±0.2, 7°.85S×158°.81E, h40km, MW5.7/110, Moment Tensor Solution. s75,c112; s110,c238; Duration: 1s8 Moment tensor: Scale 10^17^Nm; Mrr-3.47±.11; Mθθ4.52±.07; Mϕϕ-1.05±.07; Mrθ-2.16±.09; Mθϕ-0.34±.06; Mϕr1.44±.08; Best double couple: M04.83200×10^17^ NP1:ϕs112.00000°, δ63.00000°, λ-69.00000°. NP2:ϕs252.00000°, δ34.00000°, λ-125.00000°. Principal axes: T 5.1440, Plg15.0000°, Azm187.0000°; N -0.6240, Plg19.0000°, Azm282.0000°; P -4.5200, Plg66.0000°, Azm60.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 10 12:54:19.1±0.2, 7°.85S±0°.03×158°.79E±0°.03, h40km±1km, h40km:pP-P, n1025, σ1929/1070, mb5.7/237, MS5.4/197, 63C-50D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.95**	**144**	*e*P	**Pn**	**12 54 51.1**	**+1.3**
HNR				*e*		12 55 17.3	
HNR	**Honiara**	**1.95**	**144**	*e*Pn	**Pn**	**12 54 51.1**	**+1.3**
HNR				*e*Sn	**Sn**	**12 55 17.3**	**+4.3**
RABL	**Rabaul**	**7.52**	**298**	⇑P	**Pn**	**12 56 09.2**	**+2.9**
	baz=7.6						
PMG	**Port Moresby**	**11.60**	**261**	*de*P	**Pn**	**12 56 59.7**	**-2.5**
PMG	**Port Moresby**	**11.60**	**261**	Pn	**Pn**	**12 57 00.3**	**-1.9**
LIFNC	**LIFOU**	**15.24**	**148**	*e*P	**Pn**	**12 57 52.8**	**+1.3**
NOUC	**Port Laguerre**	**15.92**	**154**	*e*P	**P**	**12 58 04.0**	**+0.5**
DZM	**Mont Dzumac**	**15.95**	**153**	*e*Pn	**Pn**	**12 58 02.3**	**+1.4**
	805nm,1.3s						
DZM				*e*LR	LR	13 01 46.7	
	22μm,29.1s						
DZM	**Mont Dzumac**	**15.95**	**153**	P	**Pn**	**12 58 01.0**	**+0.1**
	0.4nm,0.3s,baz=270,slow=20,SNR=5.6						
DZM	**Mont Dzumac**	**15.95**	**153**	*e*P	**Pn**	**12 58 01.6**	**+0.8**
DZM	**Mont Dzumac**	**15.95**	**153**	*e*Pn	**Pn**	**12 58 01.0**	**+0.1**
	459nm,1.3s						
DZM				*e*S	**S**	**13 01 07.9**	**-1.7**
COEN	**Coen**	**16.48**	**247**	Pn	**Pn**	**12 58 06.5**	**-1.1**
	30nm,1.0s						
TARA	**Tarawa**	**16.80**	**58**	*e*Pn	**Pn**	**12 58 12.2**	**+0.6**
	216nm,0.5s						
CTA	**Charters Tower**	**17.19**	**224**	P	**P**	**12 58 17.5**	**-0.1**
	0.3nm,0.3s,baz=38,slow=16,SNR=6.5						
CTA				LR	LR	13 04 07.4	
	comp=Z,12μm,21.9s,baz=56,slow=34						
CTAO	**Charters Tower**	**17.19**	**224**	*e*P	**Pn**	**12 58 16.5**	**+0.1**
CTAO				*e*S	**S**	**13 01 31.1**	**-3.5**
CTAO				pmax	pmax		
	comp=Z,146nm,1.0s						
CTAO	**Charters Tower**	**17.19**	**224**	*e*Pn	**Pn**	**12 58 16.4**	**+0.1**
	comp=Z,146nm,1.0s						
CTAO				*e*S	**S**	**13 01 31.1**	**-3.5**
CTAO				*e*PcP	**PcP**	**13 02 59.2**	**+0.2**
KWAJ	**Kwajalein Atol**	**18.73**	**28**	*e*P	**Pn**	**12 58 36.2**	**+0.9**
KWAJ				pmax	pmax		
	comp=Z,439nm,0.6s						
KWAJ	**Kwajalein Atol**	**18.73**	**28**	*e*P	**Pn**	**12 58 36.2**	**+0.9**
	comp=Z,439nm,0.6s						
JAY	**Jayapura**	**18.76**	**285**	P	**Pn**	**12 58 36.2**	**+0.4**
JAY	**Jayapura**	**18.76**	**285**	P	**Pn**	**12 58 35.6**	**-0.1**
	comp=Z,6.7nm,0.3s,baz=113,slow=3.8,SNR=33						
JAY				LR	LR	13 06 30.1	
	comp=Z,5μm,18.7s,baz=92,slow=39						
JAY	**Jayapura**	**18.76**	**285**	⇑P	**Pn**	**12 58 35.7**	**-0.1**
	baz=19,SNR=20						
EIDS	**Eidsvold**	**18.91**	**202**	P	**Pn**	**12 58 39.2**	**+1.7**
	baz=19,SNR=50						
EIDS	**Eidsvold**	**18.91**	**202**	*e*P	**Pn**	**12 58 38.7**	**+1.3**
	comp=Z,146nm,0.8s						
EIDS				*e*S	**S**	**13 02 14.3**	**+4.8**
GENI	**Genyem**	**19.25**	**285**	P	**Pn**	**12 58 41.5**	**-0.1**
SMPI	**Sarmi**	**20.82**	**285**	P	**P**	**12 58 58.4**	**+1.0**
RMQ	**Roma**	**20.85**	**206**	P	Pn	12 58 59.8	-0.5
	baz=21,SNR=42						
MSVF	**Nonsavu**	**21.18**	**120**	*e*P	**P**	**12 59 02.3**	**+0.9**
MSVF				pmax	pmax		
	comp=Z,309nm,0.9s						
MSVF				MLR	MLR		
	comp=Z,8μm,22.0s						
MSVF	**Nonsavu**	**21.18**	**120**	*e*P	**P**	**12 59 02.2**	**+0.9**
	comp=Z,309nm,0.9s						
MSVF				LR	LR		
	comp=Z,8μm,22.0s						
QIS	**Mount Isa**	**22.45**	**234**	P	**P**	**12 59 15.7**	**+0.8**
	baz=22,SNR=38						
QLP	**Quilpie**	**23.20**	**215**	P	**P**	**12 59 22.7**	**0.0**
	baz=23,SNR=105						
ARMA	**Armidale**	**23.44**	**196**	P	**P**	**12 59 25.3**	**+0.3**
	baz=24,SNR=17						
ARMA	**Armidale**	**23.44**	**196**	*e*P	**P**	**12 59 25.3**	**+0.3**
	comp=Z,429nm,1.3s						
BAKI	**Biak**	**23.54**	**285**	P	**P**	**12 59 26.9**	**+0.8**
	comp=Z,228nm,1.2s						
LHI	**Lord Howe Isla**	**23.56**	**179**	P	**P**	**12 59 27.0**	**+1.0**
	baz=24,SNR=5.7						
RKPI	**Ransiki, Papua**	**25.31**	**283**	P	**P**	**12 59 43.2**	**+0.9**
GUMO	**Guam**	**25.39**	**327**	P	**P**	**12 59 42.4**	**-0.5**
	comp=Z,133nm,1.0s,baz=149,slow=12,SNR=4.9						
GUMO				LR	LR	13 08 45.7	
	comp=Z,4μm,21.8s,baz=141,slow=34						
MGCD	**Mangrove Creek**	**26.22**	**195**	P	**P**	**12 59 50.9**	**+0.6**
	baz=26,SNR=10.0						
KDU	**Kakadu**	**26.32**	**257**	P	**P**	**12 59 51.2**	**-0.2**
	baz=26,SNR=19						
WR9	**Warramunga Arr**	**26.41**	**240**	⇓P	**P**	**12 59 51.7**	**-0.6**
	baz=26						
WRAB	**Tennant Creek**	**26.54**	**241**	*e*P	**P**	**12 59 52.9**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,139nm,0.9s						
WRAB				MLR	MLR		
	comp=Z,10μm,21.0s						
WRAB	**Tennant Creek**	**26.54**	**241**	*e*P	**P**	**12 59 52.9**	**-0.5**
	comp=Z,139nm,0.9s						
WRAB				*e*ScP	**ScP**	**13 06 53.6**	**-0.9**
WRAB				LR	LR		
	comp=Z,10μm,21.0s						
CMSA	**Cobar Meteorol**	**26.55**	**206**	P	**P**	**12 59 52.9**	**-0.4**
	baz=27,SNR=68						
WRA	**Warramunga Arr**	**26.56**	**241**	P	**P**	**12 59 53.6**	**+0.1**
	comp=Z,50nm,0.8s,baz=64,slow=8.9,SNR=124						
WRA				pP	**pP**	**13 00 04.8**	**+0.4**
	comp=Z,131nm,0.8s,baz=65,slow=8.8,SNR=32						
WRA				S	**S**	**13 04 23.5**	**-2.1**
	comp=Z,6.3nm,0.9s,baz=73,slow=15,SNR=3.9						
WRA				ScP	**ScP**	**13 06 53.8**	**-0.8**
	comp=Z,10nm,0.9s,baz=64,slow=3.2,SNR=9.0						
WRA				LR	LR	13 09 51.8	
	comp=Z,10μm,21.9s,baz=65,slow=35						
WRA				P3KPbc		13 32 35.9	
	comp=Z,1.3nm,1.0s,baz=246,slow=3.4,SNR=3.6						
FAKI	**Fak Fak**	**26.86**	**279**	P	**P**	**12 59 57.2**	**+0.9**
FAKI	**Fak Fak**	**26.86**	**279**	*e*P	**P**	**12 59 55.3**	**-1.0**
	comp=Z,34nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**27.31**	**17**	P	**P**	**13 00 01.5**	**+1.4**
H11S3				T	T	13 28 38.5	
	baz=192						
H11S2	**WAKE ISLAND Hy**	**27.31**	**17**	P	**P**	**13 00 00.9**	**+0.9**
H11S2				T	T	13 28 38.8	
	baz=192						
H11S1	**WAKE ISLAND Hy**	**27.33**	**17**	P	**P**	**13 00 01.9**	**+1.7**
H11S1				T	T	13 28 40.0	
	baz=192						
YNG	**Young**	**28.01**	**199**	P	**P**	**13 00 06.8**	**+0.4**
	baz=28,SNR=8.1						
WAKE	**Wake Island**	**28.05**	**16**	PFAKE		13 00 20.0	+13
WAKE				LR	LR		
	comp=Z,6μm,22.0s						
SIJI	**Sorong**	**28.28**	**283**	P	**P**	**13 00 08.6**	**-0.5**
	comp=Z,6.7nm,0.6s,baz=45,slow=14,SNR=2.3						
SIJI				LR	LR	13 10 47.4	
	comp=Z,2μm,21.0s,baz=182,slow=35						
H11N1	**WAKE ISLAND Hy**	**28.52**	**16**	T	T	13 30 11.8	
	baz=198						
H11N3	**WAKE ISLAND Hy**	**28.53**	**16**	T	T	13 30 12.5	
	baz=198						
H11N2	**WAKE ISLAND Hy**	**28.54**	**16**	T	T	13 30 13.2	
	baz=198						
PALU	**Palau**	**28.55**	**301**	P	**P**	**13 00 12.3**	**+0.9**
	baz=29,SNR=28						
AS09	**Alice Springs**	**28.56**	**234**	⇓P	**P**	**13 00 10.7**	**-0.8**
	baz=29						
ASAR	**Alice Springs**	**28.57**	**234**	P	**P**	**13 00 10.2**	**-1.4**
	comp=Z,17nm,0.6s,baz=60,slow=9.7,SNR=82						
ASAR				pP	**pP**	**13 00 23.4**	**+0.8**
	comp=Z,53nm,0.8s,baz=63,slow=9.0,SNR=31						
ASAR				S	**S**	**13 05 03.0**	**+5.7**
	comp=Z,1.9nm,0.8s,baz=60,slow=17,SNR=5.1						
ASAR				ScP	**SS**	**13 06 59.8**	**+0.5**
	comp=Z,11nm,0.9s,baz=58,slow=3.5,SNR=11						
ASAR				LR	LR	13 11 03.9	
	comp=Z,8μm,21.3s,baz=58,slow=35						
ASAR				P3KPbc		13 32 27.8	
	comp=Z,2.8nm,1.0s,baz=217,slow=4.5,SNR=7.7						
ASPA	**Alice Springs**	**28.57**	**234**	⇑P	**P**	**13 00 10.7**	**-0.9**
	baz=29						
CNB	**Canberra Magne**	**28.68**	**196**	P	**P**	**13 00 13.2**	**+0.8**
	baz=29,SNR=13						
STKA	**Stephens Creek**	**28.77**	**211**	P	**P**	**13 00 13.2**	**0.0**
	comp=Z,20nm,0.5s,baz=45,slow=14,SNR=38						
STKA				pP	**pP**	**13 00 25.2**	**+1.0**
	comp=Z,61nm,0.8s,baz=30,slow=10,SNR=12						
STKA				LR	LR	13 11 30.5	
	comp=Z,7μm,20.4s,baz=32,slow=36						
STKA	**Stephens Creek**	**28.77**	**211**	P	**P**	**13 00 13.3**	**0.0**
	baz=29,SNR=23						
CAN	**Canberra**	**28.78**	**197**	*e*P	**P**	**13 00 13.7**	**+0.4**
CAN				pmax	pmax		
	comp=Z,37nm,0.7s						
CAN				MLR	MLR		
	comp=Z,6μm,21.0s						
CAN	**Canberra**	**28.78**	**197**	⇑P	**P**	**13 00 13.5**	**+0.2**
	baz=29						
CAN	**Canberra**	**28.78**	**197**	*e*P	**P**	**13 00 13.7**	**+0.4**
	comp=Z,37nm,0.7s						
CAN				LR	LR		
	comp=Z,6μm,21.0s						
AFI	**Afiamalu**	**29.51**	**104**	*e*P	**P**	**13 00 17.1**	**-2.9**
AFI				pmax	pmax		
	comp=Z,56nm,1.4s						
AFI				MLR	MLR		
	comp=Z,4μm,19.0s						
AFI	**Afiamalu**	**29.51**	**104**	*e*P	**P**	**13 00 17.1**	**-2.9**
	comp=Z,56nm,1.4s						
AFI				LR	LR		
	comp=Z,4μm,19.0s						
MILA	**Mila**	**30.37**	**195**	⇓P	**P**	**13 00 28.2**	**+0.9**
	baz=30,SNR=4.9						
KNRA	**Kununurra**	**30.38**	**252**	⇑P	**P**	**13 00 27.3**	**-0.3**
	baz=30						
OUZ	**Omahuta**	**30.45**	**156**	*e*P	**P**	**13 00 28.4**	**+0.4**
	comp=Z,79nm,1.1s						
RAO	**Raoul Island**	**30.56**	**137**	LR	LR	13 11 20.1	
	comp=Z,2μm,21.3s,baz=276,slow=34						
HTT	**Hallett**	**31.40**	**213**	P	**P**	**13 00 36.4**	**-0.1**
	baz=32,SNR=10						
TOO	**Toolangi**	**31.95**	**200**	P	**P**	**13 00 41.7**	**+0.4**
	baz=32,SNR=33						
LBMI	**Labuha**	**31.99**	**281**	P	**P**	**13 00 42.7**	**+0.8**
BBOO	**Buckleboo**	**32.58**	**217**	P	**P**	**13 00 46.1**	**-0.7**
	baz=33,SNR=46						
BBOO	**Buckleboo**	**32.58**	**217**	*e*P	**P**	**13 00 46.1**	**-0.7**
	comp=Z,16nm,0.8s						
ARPS	**Mount Arapiles**	**32.67**	**206**	P	**P**	**13 00 47.6**	**+0.1**
	baz=33,SNR=19						
SANI	**Sanana**	**33.16**	**278**	P	**P**	**13 00 52.9**	**+0.7**
HIZ	**Hauiti**	**33.80**	**157**	*e*PN	**P**	**13 00 57.6**	**+0.2**
SOEI	**Soe**	**34.16**	**264**	P	**P**	**13 01 02.1**	**+1.2**
SOEI	**Soe**	**34.16**	**264**	P	**P**	**13 01 00.1**	**-0.8**
	comp=Z,23nm,0.5s						
HAZ	**Te Kaha**	**34.39**	**153**	*e*PN	**P**	**13 01 03.4**	**+0.9**
HAZ				pP	**pP**	**13 01 17.3**	**+3.7**
URZ	**Urewera**	**34.51**	**154**	P	**P**	**13 01 02.4**	**-1.1**
	comp=Z,12nm,0.5s,baz=324,slow=0.9,SNR=24						
URZ				LR	LR	13 13 16.2	
	comp=Z,3μm,21.7s,baz=344,slow=33						
URZ	**Urewera**	**34.51**	**154**	*e*P	**P**	**13 01 03.9**	**+0.4**
MWZ	**Matawai**	**34.76**	**154**	*e*PN	**P**	**13 01 04.3**	**-1.4**
BKZ	**Black Stump Fm**	**35.02**	**156**	*e*PN	**P**	**13 01 06.5**	**-1.5**
KMSI	**Cibinong**	**35.70**	**282**	P	**P**	**13 01 14.9**	**+0.8**
MOO	**Moorlands**	**35.95**	**195**	⇑P	**P**	**13 01 16.8**	**+1.0**
	baz=36,SNR=4.3						
THZ	**Tophouse**	**36.02**	**162**	*e*PN	**P**	**13 01 15.4**	**-1.2**
THZ				pP	**pP**	**13 01 28.5**	**+0.8**
MMRI	**Maumere**	**36.17**	**266**	P	**P**	**13 01 17.1**	**-1.1**
MMRI	**Maumere**	**36.17**	**266**	*e*P	**P**	**13 01 16.8**	**-1.4**
	comp=Z,232nm,0.9s						
MMRI				*e*S	**S**	**13 06 51.8**	**-3.9**
SNZO	**South Karori**	**36.20

KKM	**Kota Kinabalu**	**44.65**	**287**	P		**P**	**13 02 28.2**	**-0.1**
	baz=45,SNR=18								
KKM	**Kota Kinabalu**	**44.65**	**287**	⇑P		**P**	**13 02 28.3**	**-0.1**
KKM	**Kota Kinabalu**	**44.65**	**287**	*e*P		**P**	**13 02 28.1**	**-0.3**
	comp=Z,69nm,0.9s								
KKM					LR	LR			
	comp=Z,2μm,22.0s								
XMAS	**Kiritimati**	**44.75**	**79**	*e*P		**P**	**13 02 29.1**	**0.0**	
	comp=Z,330nm,1.0s								
BLJI	**Banyuglugur**	**44.76**	**267**	P		**P**	**13 02 31.8**	**+2.6**	
	comp=Z,71nm,1.3s								
KLBR	**Kellerberrin**	**44.89**	**233**	⇓P		**P**	**13 02 29.6**	**-0.4**	
	baz=45,SNR=7.4								
BLDU	**Ballidu**	**45.36**	**234**	P		**P**	**13 02 33.7**	**0.0**	
	baz=45,SNR=10.0								
MORW	**Morawa**	**45.37**	**237**	P		**P**	**13 02 33.4**	**-0.4**	
	baz=45,SNR=10								
JOW	**Kunigami**	**45.43**	**320**	*e*P		**P**	**13 02 35.3**	**+1.0**	
	comp=Z,35nm,1.1s								
SZP	**Santa**	**45.51**	**304**	*e*P		**P**	**13 02 36.0**	**+1.0**	
	comp=Z,38nm,0.8s								
NWAO	**Narrogin (SRO)**	**45.82**	**231**	P		**P**	**13 02 38.4**	**+1.0**	
	baz=46,SNR=4.5								
NWAO					P	**P**	**13 02 38.4**	**+1.0**	
	baz=46,SNR=4.5								
PWJI	**Pagerwojo**	**46.51**	**266**	P		**P**	**13 02 43.6**	**+0.6**	
	comp=Z,204nm,0.9s,comp=Z,2μm								
NGJI	**Ngawi**	**46.89**	**267**	P		P	13 02 51.5	+5.5	
BTM	**Bintulu**	**46.89**	**282**	⇑P		**P**	**13 02 47.0**	**+1.0**	
PCJI	**Pacitan**	**47.12**	**266**	P		**P**	**13 02 47.2**	**-0.6**	
	comp=Z,610nm,1.0s,comp=Z,5μm								
YOJ	**Yonaguni jima**	**47.41**	**314**	*e*P		**P**	**13 02 50.5**	**+0.6**	
YOJ					pmax	pmax			
	comp=Z,77nm,0.8s								
YOJ	**Yonaguni jima**	**47.41**	**314**	*e*P		**P**	**13 02 50.5**	**+0.6**	
	comp=Z,77nm,0.8s								
SBUM	**Sibu**	**47.56**	**281**	⇓P		**P**	**13 02 51.4**	**+0.1**	
STKI	**Sintang**	**47.81**	**277**	P		**P**	**13 02 55.4**	**+2.2**	
TWG	**Pinlang**	**47.87**	**310**	*e*P		**P**	**13 02 53.1**	**-0.4**	
	comp=Z,115nm,0.8s								
SMRI	**Semarang**	**47.92**	**268**	*e*P		**P**	**13 02 52.8**	**-1.3**	
	comp=Z,107nm,0.8s								
YULB	**Yu-li**	**48.03**	**311**	*e*P		**P**	**13 02 54.6**	**-0.1**	
	comp=Z,67nm,0.9s								
MJAR	**Matsushiro Arr**	**48.19**	**338**	P		**P**	**13 02 55.0**	**-0.8**	
	comp=Z,57nm,0.7s,baz=168,slow=9.0,SNR=74								
MJAR					PcP	**PcP**	**13 04 22.7**	**+0.1**	
	comp=Z,11nm,0.8s,baz=177,slow=4.8,SNR=4.0								
MJAR					LR	LR	13 22 17.3		
	comp=Z,1μm,21.5s,baz=160,slow=35								
MAJO	**Matsushiro**	**48.20**	**338**	*d*iP		**P**	**13 02 55.2**	**-0.6**	
MAJO					pmax	pmax			
	comp=Z,492nm,0.7s								
MAJO	**Matsushiro**	**48.20**	**338**	*e*P		**P**	**13 02 55.5**	**-0.3**	
	comp=Z,93nm,0.8s								
MAJO					LR	LR			
	comp=Z,3μm,22.0s								
MAT	**Matsushiro**	**48.20**	**338**	P		**P**	**13 02 55.1**	**-0.7**	
TPUB	**Ta-pu**	**48.48**	**311**	*e*P		**P**	**13 02 58.2**	**+0.1**	
	comp=Z,250nm,1.4s								
SSLB	**Suanglung**	**48.51**	**311**	*e*P		**P**	**13 02 58.7**	**+0.2**	
	comp=Z,74nm,0.8s								
JNU	**Nakatsue**	**48.62**	**328**	P		**P**	**13 02 59.4**	**+0.2**	
	comp=Z,84nm,1.0s,baz=119,slow=4.5,SNR=23								
JNU					LR	LR	13 20 32.4		
	comp=Z,752nm,21.4s,baz=122,slow=32								
YHNB	**Yeheng**	**48.72**	**313**	*e*P		**P**	**13 03 00.6**	**+0.5**	
	comp=Z,176nm,0.9s								
YHNB					LR	LR			
	comp=Z,2μm,22.0s								
TATO	**Taipei**	**48.82**	**313**	*e*P		**P**	**13 03 01.4**	**+0.6**	
	comp=Z,74nm,0.7s								
TATO					LR	LR			
	comp=Z,2μm,20.0s								
KSM	**Kuching**	**49.22**	**279**	P		**P**	**13 03 03.2**	**-0.9**	
	baz=49,SNR=12								
KSM	**Kuching**	**49.22**	**279**	⇑P		**P**	**13 03 03.4**	**-0.7**	
KSM	**Kuching**	**49.22**	**279**	*e*P		**P**	**13 03 02.9**	**-1.1**	
	comp=Z,40nm,1.0s								
KSM					LR	LR			
	comp=Z,771nm,21.0s								
QZH	**Quanzhou**	**50.94**	**311**	⇓*i*P		**P**	**13 03 17.6**	**+0.8**	
QZH					sP	**sP**	**13 03 32.7**	**-0.3**	
QZH					S	**S**	**13 10 34.7**	**+3.7**	
QZH					PMZ				
	comp=Z,540nm,1.0s								
QZH					PMZ				
	comp=Z,3μm,10.2s								
QZH					LZ				
	comp=Z,2μm,18.7s								
PPT	**Papeete**	**51.15**	**106**	P		P	13 03 15.3	-3.4	
	comp=Z,46nm,1.1s,baz=197,slow=1.0,SNR=2.9								
PPT					LR	LR	13 21 17.2		
	comp=Z,1μm,19.6s,baz=279,slow=32								
PPT2	**Papeete2**	**51.15**	**106**	*e*P		**P**	**13 03 20.4**	**+1.7**	
	comp=Z,84nm,1.2s								
PPT2					*e*S	**S**	**13 10 34.1**	**-0.4**	
	comp=Z,1μm,26.0s								
PPT2					*e*LQ	LQ	13 15 40.3		
	comp=Z,2μm,26.5s								
PPT2					*e*LR	LR	13 17 43.4		
	comp=Z,3μm,30.5s								
TIAR	**Tiarei**	**51.37**	**106**	*e*P		**P**	**13 03 22.0**	**+1.7**	
	comp=Z,15nm,0.7s								
KIP	**Kipapa**	**51.41**	**55**	⇑eP		P	13 03 23.7	+3.2	
KIP					pmax	pmax			
	comp=Z,100nm,1.7s								
KIP	**Kipapa**	**51.41**	**55**	PFAKE			13 03 30.0	+10	
KIP					LR	LR			
	comp=Z,5μm,21.0s								
ERM	**Erimo**	**51.64**	**345**	⇑*e*P		**P**	**13 03 23.2**	**+1.4**	
ERM					pmax	pmax			
	comp=Z,32nm,0.7s								
ERM	**Erimo**	**51.64**	**345**	PFAKE			13 03 30.0	+8.2	
ERM					LR	LR			
	comp=Z,4μm,19.0s								
KSDAG	**Daegu**	**51.71**	**329**	P		**P**	**13 03 22.9**	**+0.5**	
	SNR=9.9								
KSDAG	**Daegu**	**51.71**	**329**	P		**P**	**13 03 22.9**	**+0.5**	
	SNR=9.9								
KSPHA	**Pohang**	**51.80**	**330**	P		**P**	**13 03 23.3**	**+0.2**	
	SNR=20								
KSPHA	**Pohang**	**51.80**	**330**	P		**P**	**13 03 24.0**	**+0.9**	
	SNR=11								
TBI	**Tubuai**	**51.89**	**113**	*e*P		**P**	**13 03 26.4**	**+2.3**	
	comp=Z,314nm,1.3s								
TBI					*e*S	**S**	**13 10 44.5**	**+0.1**	
	comp=Z,999nm,26.2s								
TBI					*e*LQ	LQ	13 15 58.1		
	comp=Z,5μm,28.5s								
TBI					*e*LR	LR	13 18 13.3		
	comp=Z,5μm,34.8s,baz=291								
KSULL	**Ulleungdo**	**52.08**	**332**	P		**P**	**13 03 25.9**	**+0.8**	
	SNR=6.3								
KSULJ	**Ulijn**	**52.18**	**330**	P		**P**	**13 03 26.8**	**+0.9**	
	SNR=15								
KSULJ	**Ulijn**	**52.18**	**330**	P		**P**	**13 03 26.4**	**+0.5**	
	SNR=55								
KSEUS	**ULSEONG**	**52.27**	**329**	P		**P**	**13 03 27.6**	**+1.1**	
	SNR=6.1								
KSEUS	**ULSEONG**	**52.27**	**329**	P		**P**	**13 03 27.6**	**+1.1**	
	SNR=6.1								
KSCPR	**CHUPUNGNYEONG**	**52.53**	**329**	P		**P**	**13 03 29.1**	**+0.5**	
	SNR=7.1								
KSCPR	**CHUPUNGNYEONG**	**52.53**	**329**	P		**P**	**13 03 29.1**	**+0.5**	
	SNR=7.1								
MEH	**Mehetia**	**52.61**	**106**	*e*P		**P**	**13 03 31.1**	**+1.6**	
	comp=Z,56nm,1.1s								
PMOR	**Pomariorio Ree**	**52.64**	**103**	*e*P		**P**	**13 03 31.5**	**+1.8**	
	comp=Z,399nm,1.2s								
POHA	**Pohakuloa**	**52.67**	**58**	PFAKE			13 03 40.0	+10	
POHA					LR	LR			
	comp=Z,4μm,20.0s								
KSJEO	**Jeonju**	**52.67**	**328**	P		**P**	**13 03 30.9**	**+1.3**	
	SNR=6.4								
KSJEO	**Jeonju**	**52.67**	**328**	P		**P**	**13 03 30.9**	**+1.3**	
	SNR=6.4								
KSTBA	**Taebaek**	**52.74**	**330**	P		**P**	**13 03 31.1**	**+1.0**	
	SNR=25								
KSTBA	**Taebaek**	**52.74**	**330**	P		**P**	**13 03 31.1**	**+1.0**	
	SNR=25								
KSBON	**Boeun**	**52.84**	**329**	P		**P**	**13 03 31.6**	**+0.8**	
	SNR=20								
KSBON	**Boeun**	**52.84**	**329**	P		**P**	**13 03 31.6**	**+0.8**	
	SNR=20								
VAH	**Vaihoa**	**52.91**	**103**	*e*P		**P**	**13 03 33.2**	**+1.5**	
	comp=Z,116nm,1.0s								
TJN	**Taejon**	**52.97**	**328**	*c i*P		**P**	**13 03 32.7**	**+0.9**	
KSYOW	**Yeongwol**	**53.02**	**330**	P		**P**	**13 03 33.2**	**+1.0**	
	SNR=11								
KSYOW	**Yeongwol**	**53.02**	**330**	P		**P**	**13 03 33.2**	**+1.0**	
	SNR=14								
KSCHJ	**Chungju**	**53.03**	**329**	P		**P**	**13 03 32.9**	**+0.7**	
	SNR=31								
KSCHJ	**Chungju**	**53.03**	**329**	P		**P**	**13 03 33.0**	**+0.7**	
	SNR=7.4								
KSJES	**JEONGSEON**	**53.12**	**330**	P		**P**	**13 03 33.9**	**+1.0**	
	SNR=5.9								
KSJES	**JEONGSEON**	**53.12**	**330**	P		**P**	**13 03 33.9**	**+1.0**	
	SNR=5.9								
KSDGY	**Daegwallycong**	**53.32**	**330**	P		**P**	**13 03 35.1**	**+0.6**	
	SNR=30								
KSCEA	**Cheonan**	**53.36**	**328**	P		**P**	**13 03 35.4**	**+0.7**	
	SNR=9.9								
KSCEA	**Cheonan**	**53.36**	**328**	P		**P**	**13 03 35.4**	**+0.7**	
	SNR=9.9								
KSWJU	**Wonju**	**53.40**	**330**	P		**P**	**13 03 35.9**	**+0.9**	
	SNR=13								
KSJMJ	**Jumunjin**	**53.43**	**330**	P		**P**	**13 03 36.2**	**+1.1**	
	SNR=26								
KSJMJ	**Jumunjin**	**53.43**	**330**	P		**P**	**13 03 36.2**	**+1.1**	
	SNR=26								
KSRS	**Korea Array**	**53.51**	**329**	P		**P**	**13 03 36.0**	**+0.3**	
	comp=Z,48nm,0.8s,baz=145,slow=6.8,SNR=89								
KSRS					LR	LR	13 27 03.2		
	comp=Z,685nm,18.4s,baz=129,slow=37								
KSRS	**Korea Array**	**53.51**	**329**	P		**P**	**13 03 36.0**	**+0.3**	
KSRS					pmax	pmax			
	comp=Z,48nm,0.8s								
KSRS					MLR	MLR			
	comp=Z,685nm,18.4s								
KSAR	**Wonju Array Be**	**53.52**	**329**	P		**P**	**13 03 36.0**	**+0.2**	
KSAR	**Wonju Array Be**	**53.52**	**329**	P		**P**	**13 03 36.0**	**+0.2**	
KSICN	**Icheon**	**53.64**	**329**	P		**P**	**13 03 37.4**	**+0.7**	
	SNR=6.4								
DLV	**T Lat**	**53.74**	**291**	*e*P		**P**	**13 03 37.4**	**-0.6**	
	comp=Z,17nm,0.9s								
ASAJ	**Asahikawa**	**53.75**	**346**	P		**P**	**13 03 38.8**	**+1.4**	
	comp=Z,34nm,0.7s,baz=211,slow=7.7,SNR=22								
ASAJ	**Asahikawa**	**53.75**	**346**	P		**P**	**13 03 38.8**	**+1.4**	
ASAJ					pmax	pmax			
	comp=Z,34nm,0.7s								
ASAJ	**Asahikawa**	**53.75**	**346**	*e*P		**P**	**13 03 38.3**	**+0.9**	
	comp=Z,22nm,0.9s								
KSSES	**Seosan**	**53.76**	**328**	P		**P**	**13 03 38.5**	**+0.9**	
	SNR=16								
KSCHC	**Chuncheon**	**53.81**	**330**	P		**P**	**13 03 38.9**	**+0.9**	
	SNR=12								
KSIJA	**INJE**	**53.83**	**330**	P		**P**	**13 03 39.2**	**+1.1**	
	SNR=28								
KSSWO	**Suwon**	**53.85**	**329**	P		**P**	**13 03 39.0**	**+0.8**	
	SNR=12								
KSSKC	**Sokcho**	**53.86**	**331**	P		**P**	**13 03 39.3**	**+1.0**	
	SNR=13								
SEHB	**SEOHWA**	**53.98**	**330**	P		**P**	**13 03 40.4**	**+1.2**	
	SNR=25								
GZH	**Guangzhou**	**54.04**	**306**	P		**P**	**13 03 41.6**	**+1.8**	
GZH					PcP	**PcP**	**13 04 41.0**	**-3.6**	
GZH					PP	**PP**	**13 05 46.2**	**+4.5**	
GZH					S	S	13 11 21.8	+8.3	
GZH					ScS	**ScS**	**13 13 23.9**	**-2.5**	
GZH					LN				
	comp=Z,1μm,17.5s								
GZH					LE				
	comp=Z,2μm,17.5s								
KSSEO	**Seoul**	**54.05**	**329**	P		**P**	**13 03 40.6**	**+1.0**	
	SNR=12								
INCN	**Inchon**	**54.19**	**329**	*e*P		**P**	**13 03 41.2**	**+0.4**	
	comp=Z,155nm,1.0s								
INCN					LR	LR			
	comp=Z,1μm,21.0s								
KSCWO	**Cheorwon**	**54.20**	**330**	P		**P**	**13 03 41.8**	**+1.0**	
	SNR=30								
KSMUS	**Musan**	**54.43**	**329**	P		**P**	**13 03 43.3**	**+0.9**	
	SNR=20								
KSGAH	**Ganghwa**	**54.45**	**329**	P		**P**	**13 03 44.1**	**+1.5**	
	SNR=6.3								
YNCB	**YEONCHEON**	**54.46**	**329**	P		**P**	**13 03 43.7**	**+1.1**	
	SNR=41								
NJ2	**Nanjing**	**55.00**	**318**	*e*P		**P**	**13 03 47.0**	**+0.3**	
NJ2					pP	**pP**	**13 03 58.9**	**+0.6**	
NJ2					sP	**sP**	**13 04 00.3**	**-2.7**	
NJ2					S	**S**	**13 11 28.0**	**+1.8**	
NJ2					PMZ				
	comp=Z,100nm,1.0s								
NJ2					PMZ				
	comp=Z,1μm,9.8s								
NJ2					LN				
	comp=Z,750nm,15.8s								
NJ2					LE				
	comp=Z,930nm,16.5s								
NJ2					LZ				
	comp=Z,3μm,17.4s								
QIZ	**Qiongzhong**	**55.13**	**300**	P		**P**	**13 03 50.1**	**+2.2**	
QIZ					sP	**sP**	**13 04 01.6**	**-2.6**	
QIZ					S	**S**	**13 11 32.3**	**+3.9**	
QIZ					sS	**sS**	**13 11 46.2**	**-1.5**	
QIZ					SS	**SS**	**13 15 16.4**	**+3.3**	
QIZ					PMZ				
	comp=Z,31nm,1.9s								
QIZ					LZ				
	comp=Z,810nm,19.0s								
QIZ	**Qiongzhong**	**55.13**	**300**	PFAKE			13 04 00.0	+12	
QIZ					LR	LR			
	comp=Z,640nm,21.0s								
MYKOM	**Kota Tinggi**	**55.62**	**278**	⇑P		**P**	**13 03 51.6**	**+0.1**	
KGM	**Kluang**	**56.18**	**278**	⇑P		**P**	**13 03 55.3**	**-0.3**	
YSS	**Yuzh-Sakhalins**	**56.39**	**347**	⇓*e*P		**P**	**13 03 56.2**	**-0.1**	
YSS					*e*		13 04 12.0		
YSS					pmax	pmax			
	comp=Z,60nm,1.0s								
YSS	**Yuzh-Sakhalins**	**56.39**	**347**	*e*P		**P**	**13 03 56.6**	**+0.3**	
	comp=Z,122nm,0.9s								
YSS					LR	LR			
	comp=Z,1μm,21.0s								
KTGM	**Kuala Trenggan**	**57.03**	**282**	⇑P		**P**	**13 04 01.1**	**-0.5**	
USRK	**Ussuriysk Ar.**	**57.19**	**337**	P		**P**	**13 04 02.9**	**+0.8**	
	comp=Z,198nm,0.9s,baz=146,slow=6.9,SNR=156								
USRK					LR	LR	13 26 26.2		
	comp=Z,2μm,21.5s,baz=126,slow=34								
WHN	**Wuhan**	**57.20**	**314**	⇓*i*P		**P**	**13 04 02.6**	**+0.2**	
WHN					sP	**sP**	**13 04 18.7**	**0.0**	
WHN					S	**S**	**13 11 58.1**	**+2.7**	
WHN					LZ				
	comp=Z,3μm,26.7s								
DL2	**Dalian**	**57.91**	**326**	P		**P**	**13 04 07.1**	**-0.2**	
DL2					*e*S	**S**	**13 12 04.7**	**+0.2**	
DL2					PMZ				
	comp=Z,110nm,0.8s								
DL2					LE				
	comp=Z,590nm,11.9s								
DL2					LZ				
	comp=Z,590nm,20.6s								
SKR	**Severo-Kuril's**	**58.33**	**358**	*e*P		P	13 03 58.5	-11	
MDJ	**Mudanjiang**	**58.48**	**336**	P		**P**	**13 04 11.9**	**+0.7**	
MDJ					pP	**pP**	**13 04 20.0**	**-2.9**	
MDJ					PcP	**PcP**	**13 04 59.7**	**-1.7**	
MDJ					S	**S**	**13 12 15.5**	**+3.7**	
MDJ					ScS	**ScS**	**13 13 52.4**	**-5.3**	
MDJ					PMZ				
	comp=Z,140nm,1.1s								
MDJ					PMZ				
	comp=Z,780nm,9.9s								
MDJ					LN				
	comp=Z,2μm,23.6s								
MDJ					LE				
	comp=Z,1μm,26.2s								
MDJ					LZ				
	comp=Z,3μm,26.2s								
MDJ	**Mudanjiang**	**58.48**	**336**	*e*P		**P**	**13 04 11.3**	**+0.2**	
	comp=Z,227nm,1.3s								
MDJ					LR	LR			
	comp=Z,3μm,22.0s								
TIA	**Tai'an**	**58.74**	**321**	⇑P		**P**	**13 04 13.0**	**-0.2**	
TIA					PMZ				
	comp=Z,70nm,0.8s								
IPM	**Ipoh**	**58.91**	**280**	⇑P		**P**	**13 04 15.8**	**+1.0**	
IPM	**Ipoh**	**58.91**	**280**	*e*P		**P**	**13 04 15.3**	**+0.5**	
	comp=Z,26nm,0.9s								
SNY	**Shenyang**	**59.01**	**330**	⇓P		**P**	**13 04 14.7**	**-0.2**	
SNY					PMZ				
	comp=Z,33nm,0.9s								
SNY					PMZ				
	comp=Z,660nm,12.0s								
SNY					LN				
	comp=Z,1μm,23.1s								
SNY					LE				
	comp=Z,950nm,25.9s								
SNY					LZ				
	comp=Z,2μm,27.6s								
KULM	**Kulim**	**59.44**	**281**	⇓P		**P**	**13 04 19.2**	**+0.7**	
KULM	**Kulim**	**59.44**	**281**	*e*P		**P**	**13 04 18.2**	**-0.2**	
	comp=Z,20nm,0.8s								
KULM					LR	LR			
	comp=Z,919nm,22.0s								
SKNT	**Sakolnakorn**	**59.53**	**295**	P		**P**	**13 04 19.6**	**+0.7**	
	comp=Z,82nm,1.3s,comp=Z,2μm								
CN2	**Changchun**	**59.62**	**333**	*e*P		**P**	**13 04 19.0**	**0.0**	
CN2					PMZ				
	comp=Z,60nm,1.0s								
CN2					PMZ				
	comp=Z,400nm,3.0s								
HABR	**Khabarovsk**	**59.84**	**342**	*de*P		**P**	**13 04 19.9**	**-0.6**	
HABR					*e**PP	**pP**	**13 04 30.0**	**-2.2**	
HABR					*e**SP	**sP**	**13 04 34.4**	**-2.4**	
HABR					*e*		13 05 06.9		
HABR							13 06 32.3		
HABR					*e*S	**S**	**13 12 28.4**	**-0.8**	
HABR					*e**SS	**sS**	**13 12 45.5**	**-3.2**	
HABR					*e*		13 14 07.4		
HABR					*e*SS	**SS**	**13 16 26.0**	**-0.2**	
HABR					pmax	pmax			
	comp=N,13nm,1.1s								
HABR					pmax	pmax			
	comp=E,12nm,0.8s								
HABR					pmax	pmax			
	comp=Z,54nm,1.1s								
HABR					pmax	pmax			
	comp=Z,509nm,1.9s								
HABR					MLR	MLR			
	comp=Z,2μm,19.0s								
DRV	**Dumont d'Urvil**	**60.13**	**189**	S		S	13 12 21.0	-11	
DRV					SS	**SS**	**13 16 23.0**	**-6.8**	
DRV					L	L	13 19 00.0		
DRV					R		13 21 00.0		
ENH	**Enshi**	**60.60**	**311**	*e*P		**P**	**13 04 26.1**	**0.0**	
	comp=Z,86nm,1.1s								
ENH					LR	LR			
	comp=Z,31nm,20.0s								
PET	**Petropavlovsk**	**60.63**	**360**	⇓*i*P		**P**	**13 04 25.1**	**-0.7**	
PET					*e*S	**S**	**13 12 39.7**	**+0.5**	
PET					pmax	pmax			
	comp=Z,138nm,0.8s								
PET					pmax	pmax			
	comp=Z,1μm,11.3s								
PET	**Petropavlovsk**	**60.63**	**360**	*e*P		**P**	**13 04 25.9**	**+0.1**	
	comp=Z,187nm,1.1s								
PET					LR	LR			
	comp=Z,3μm,20.0s								
PETK	**Petropavlovsk-**	**60.72**	**359**	P		**P**	**13 04 26.8**	**+0.3**	
	comp=Z,96nm,0.9s,baz=168,slow=9.1,SNR=39								
PETK					LR	LR	13 27 12.6		
	comp=Z,2μm,21.9s,baz=170,slow=32								
GYA	**Guiyang**	**60.97**	**306**	⇓*i*P		**P**	**13 04 29.4**	**+0.6**	
GYA					pP	**pP**	**13 04 41.0**	**+0.4**	
GYA					sP	**sP**	**13 04 46.8**	**+1.6**	
GYA					PP	**PP**	**13 06 48.2**	**+4.6**	
GYA					ScP	**ScP**	**13 09 11.4**	**+0.9**	
GYA					S	**S**	**13 12 46.0**	**+1.2**	
GYA					sS	**sS**	**13 13 01.8**	**-2.5**	
GYA					SS	**SS**	**13 16 47.7**	**+2.7**	
GYA					PMZ				
	comp=Z,80nm,1.0s								
GYA					PMZ				
	comp=Z,150nm,5.8s								
GYA					LN				
	comp=Z,3μm,19.4s								
GYA					LE				
	comp=Z,3μm,20.6s								
GYA					LZ				
	comp=Z,3μm,22.0s								
COCO	**West Island**	**61.05**	**260**	PFAKE			13 04 40.0	+11	
COCO					LR	LR			
	comp=Z,2μm,20.0s								
NAYO	**Nakonayok**	**61.10**	**291**	P		**P**	**13 04 32.5**	**+2.7**	
	comp=Z,25nm,1.4s,comp=Z,1μm								
SLVN	**Son La**	**61.16**	**299**	*e*P		**P**	**13 04 29.9**	**-0.3**	
	comp=Z,161nm,1.7s								
KLR	**Kul'dur**	**61.57**	**340**	⇑*i*P		**P**	**13 04 29.2**	**-3.0**	
KLR					*e*		13 04 43.3		
KLR					pmax	pmax			
	comp=E,200nm,1.6s								
KLR					pmax	pmax			
	comp=Z,450nm,1.6s								
GSI	**Gunungsitoli**	**61.71**	**276**	*e*P		**P**	**13 04 31.9**	**-2.1**	
	comp=Z,71nm,0.9s								
BJT	**Baijiatuau**	**61.77**	**324**	*e*P		**P**	**13 04 33.4**	**-0.4**	
BJT					pmax	pmax			
	comp=Z,92nm,1.3s								
BJT					MLR	MLR			
	comp=Z,1μm,22.0s								
BJT	**Baijiatuau**	**61.77**	**324**	*e*P		**P**	**13 04 33.4**	**-0.4**	
	comp=Z,92nm,1.3s								
BJT					LR	LR			
	comp=Z,1μm,22.0s								
BJI	**Beijing**	**61.78**	**324**	P		**P**	**13 04 33.6**	**-0.2**	
BJI					S	**S**	**13 12 55.0**	**+0.8**	
BJI					PMZ				
	comp=Z,45nm,1.3s								
BJI					PMZ				
	comp=Z,250nm,4.3s								
BJI					LN				
	comp=Z,1μm,20.6s								
BJI					LE				
	comp=Z,1μm,25.4s								
PBKT	**Sadao Pong**	**62.12**	**293**	P		**P**	**13 04 37.6**	**+1.1**	
	comp=Z,46nm,1.1s								
LOEI	**Loei**	**62.15**	**294**	P		**P**	**13 04 35.2**	**-1.6**	
	comp=Z,37nm,1.5s,comp=Z,1μm								
UTTA	**Uttaradit**	**62.87**	**294**	P		**P**	**13 04 43.6**	**+2.1**	
	comp=Z,10nm,1.0s,comp=Z,137nm								
XAN	**Xi'an**	**62.95**	**315**	P		**P**	**13 04 41.5**	**-0.4**	
XAN					pP	**pP**	**13 04 51.7**	**-2.0**	
XAN					PMZ				
	comp=Z,61nm,1.2s								
SRDT	**SRDT**	**63.15**	**290**	P		P	13 04 46.7	+3.2	
	comp=Z,246nm,1.2s,comp=Z,14μm								
KMI	**Kunming**	**63.62**	**303**	P		**P**	**13 04 48.1**	**+1.4**	
KMI					pP	**pP**	**13 04 59.8**	**+1.3**	
KMI					sP	**sP**	**13 05 03.6**	**+0.5

CMAI Chiengmai2 64.93 296 P P 13 04 56.5 +1.2
comp=Z,494nm,19.0s
comp=Z,86nm,1.2s,comp=Z,11µm
HHC Hu-ho-hao-te 65.03 322 eP P 13 04 56.6 +1.1
HHC pP pP 13 05 07.0 -0.4
HHC sP sP 13 05 12.7 +0.7
HHC PP PP 13 07 25.2 +6.1
HHC S S 13 13 37.6 +2.5
HHC sS sS 13 13 53.9 -0.9
HHC ScS SKSac 13 14 44.5 -3.0
HHC PMZ
comp=Z,32nm,0.6s
HHC PMZ
comp=Z,300nm,6.1s
HHC LN
comp=Z,500nm,16.5s
HHC LE
comp=Z,700nm,14.3s
HHC LZ
comp=Z,590nm,15.7s
RKT Rikitea 65.14 112 eP P 13 04 55.5 -1.0
comp=Z,169nm,1.4s
RKT Rikitea 65.14 112 eLQ LQ 13 21 32.3
comp=Z,2µm,32.0s
RKT eLR LR 13 24 21.5
comp=Z,5µm,29.8s,baz=280
CD2 Chengdu 65.24 309 P P 13 04 57.6 +0.6
CD2 pP pP 13 05 08.2 -0.7
CD2 sP sP 13 05 12.5 -1.0
CD2 PP PP 13 07 21.4 +0.4
CD2 S S 13 13 39.6 +1.7
CD2 sS sS 13 13 57.7 +0.1
CD2 SS SS 13 17 54.1 +2.6
CD2 PMZ
comp=Z,140nm,1.0s
CD2 PMZ
comp=Z,810nm,9.8s
CD2 LN
comp=Z,1µm,17.7s
CD2 LZ
comp=Z,1µm,21.1s
MHMT Maesarieng 65.37 294 P P 13 05 01.7 +3.7
comp=Z,26nm,1.1s
BTO Baotou 65.84 321 eP P 13 05 00.8 +0.1
BTO PMZ
comp=Z,11nm,0.5s
HIA Hailar 66.32 333 eP P 13 05 03.9 +0.4
HIA pmax pmax
comp=Z,182nm,0.9s
HIA MLR MLR
comp=Z,1µm,20.0s
HIA Hailar 66.32 333 eP P 13 05 03.9 +0.4
comp=Z,182nm,0.9s
HIA LR LR
comp=Z,1µm,20.0s
CASY Casey 66.99 199 eP P 13 05 07.8 +0.3
comp=Z,52nm,1.1s
CASY LR LR
comp=Z,3µm,21.0s
MA2 Magadan 67.51 356 eP P 13 05 10.7 -0.1
LZH Lanzhou 67.58 314 ⇑P P 13 05 13.6 +1.6
LZH pP pP 13 05 23.1 -0.8
LZH sP sP 13 05 28.7 +0.2
LZH PP PP 13 07 44.5 +3.0
LZH eS S 13 14 07.4 +1.1
LZH sS sS 13 14 25.1 -0.9
LZH SS SS 13 18 30.2 +2.4
LZH PMZ
comp=Z,170nm,1.2s
LZH PMZ
comp=Z,570nm,4.0s
LZH LN
comp=Z,690nm,15.6s
LZH LE
comp=Z,930nm,17.3s
LZH LZ
comp=Z,1µm,18.0s
UNV Unalaska Valle 68.08 21 eP P 13 05 13.7 -0.9
comp=Z,57nm,0.8s
PTCN Pitcairn Islan 69.64 114 PFAKE 13 05 40.0 +15
PTCN LR LR
comp=Z,3µm,20.0s
VNDA Vanda 69.66 179 P P 13 05 24.1 0.0
comp=Z,43nm,0.9s,baz=337,slow=6.3,SNR=73
VNDA LR LR 13 30 00.4
comp=Z,3µm,21.9s,baz=2.5,slow=31
FALS False Pass 70.00 22 eP P 13 05 25.9 -0.6
comp=Z,46nm,0.7s
SBA Scott Base 70.10 178 eP P 13 05 27.6 +0.8
SBA pmax pmax
comp=Z,43nm,1.0s
SBA MLR MLR
comp=Z,3µm,22.0s
SBA Scott Base 70.10 178 eP P 13 05 27.6 +0.8
comp=Z,43nm,1.0s
SBA LR LR
comp=Z,3µm,22.0s
CLNS Chul'man 70.20 341 eP P 13 05 28.2 +0.5
CLNS pmax pmax
comp=Z,69nm,1.1s
CLNS pmax pmax
comp=N,31nm,1.1s
CLNS pmax pmax
comp=E,10.0nm,0.9s
SEY Seymchan 70.74 357 P P 13 05 30.6 -0.2
comp=E,112nm,1.1s,baz=158,slow=6.4,SNR=65
SEY LR LR 13 33 15.6
comp=E,3µm,22.0s,baz=145,slow=33
SEY Seymchan 70.74 357d iP P 13 05 30.4 -0.4
CIT Chita 71.06 332 eP P 13 05 30.6 -2.5
ULN Ulaanbaatar 71.76 326 PFAKE 13 05 50.0 +12
ULN LR LR
comp=Z,1µm,22.0s
GTA Gaotai 71.95 316 ⇓P P 13 05 39.5 +0.7
GTA pP pP 13 05 49.8 -1.0
GTA sP sP 13 05 54.1 -1.2
GTA S S 13 14 57.9 +0.5
GTA sS SKiKP 13 15 15.2 +1.8
GTA SS SS 13 19 36.5 +1.6
GTA PMZ
comp=Z,43nm,1.4s
GTA PMZ
comp=Z,710nm,7.1s
GTA LN
comp=Z,480nm,17.1s
GTA LE
comp=Z,1µm,19.7s
GTA LZ
comp=Z,1µm,20.4s
SONM Songino Array 72.11 326 P P 13 05 40.3 +0.7
comp=Z,192nm,0.8s,baz=136,slow=6.0,SNR=388
SONM PKPPKP P'P'df 13 33 33.7 +7.6
comp=Z,0.5nm,0.9s,baz=318,slow=2.0,SNR=3.6
SONM LR LR 13 38 27.9
comp=Z,516nm,18.0s,baz=107,slow=37
SHL Shillong 72.97 300 eP P 13 05 46.0 +0.8
SHL eS S 13 15 11.0 +1.2
YAK Yakutsk 73.23 346 P P 13 05 46.0 +0.2
comp=Z,16nm,0.6s,baz=318,slow=19,SNR=22
YAK LR LR 13 38 34.4
comp=Z,665nm,19.3s,baz=112,slow=36
YAK Yakutsk 73.23 346d iP P 13 05 45.3 -0.4
YAK e 13 06 01.3
YAK eS S 13 15 07.9 -2.9
YAK e 13 15 35.5
YAK e*SS ScS 13 15 52.5 +1.8
YAK pmax pmax
comp=Z,186nm,1.0s
YAK pmax pmax
comp=N,47nm,1.3s
YAK pmax pmax
comp=E,27nm,1.6s
YAK pmax pmax
comp=Z,26nm,1.3s
YAK pmax pmax
comp=N,103nm,2.7s
YAK pmax pmax
comp=E,30nm,1.9s
YAK smax smax
comp=E,143nm,2.6s
YAK smax smax
comp=N,128nm,2.3s
YAK Yakutsk 73.23 346 eP P 13 05 45.9 +0.2
comp=N,203nm,0.8s
MIR Mirnyy 73.32 202 eP P 13 05 57.0 +11
BOD Bodaibo 74.82 337⇓iP P 13 05 54.9 -0.2
BOD pmax pmax
comp=Z,81nm,1.4s
GAMB Gambell 74.84 13 eP P 13 05 55.4 +0.3
comp=Z,92nm,1.0s
LSA Lhasa 74.86 304 eP P 13 05 57.7 +1.1
LSA pmax pmax
comp=Z,137nm,1.3s
LSA MLR MLR
comp=Z,853nm,19.0s
LSA Lhasa 74.86 304 eP P 13 05 57.7 +1.1
comp=Z,136nm,1.3s
LSA LR LR
comp=Z,853nm,19.0s
ZAK Zakamensk 75.22 327⇓iP P 13 05 58.0 +0.2
ZAK pmax pmax
comp=Z,80nm,1.0s
OHAK Old Harbor 75.68 25 eP P 13 05 59.6 -0.5
comp=Z,72nm,0.8s
IRK Irkutsk 75.72 329 eP P 13 06 00.4 0.0
IRK e 13 06 10.3
IRK pmax pmax
comp=Z,194nm,1.4s
TLY Talaya 75.73 328 P P 13 06 01.2 +0.7
comp=Z,59nm,0.8s,baz=147,slow=3.4,SNR=28
TLY LR LR 13 38 49.2
comp=Z,221nm,21.2s,baz=130,slow=35
TLY Talaya 75.73 328d iP P 13 06 00.9 +0.3
TLY e 13 06 15.8
TLY pmax pmax
comp=Z,103nm,0.9s
TLY Talaya 75.73 328 P P 13 06 00.9 +0.3
comp=Z,596nm,0.8s,SNR=26
TLY Talaya 75.73 328 eP P 13 06 00.8 +0.3
comp=Z,86nm,0.9s
BILL Bilibino 75.89 3 PFAKE 13 06 10.0 +9.0
BILL LR LR
comp=Z,7µm,22.0s
KDAK Kodiak Island 76.33 24 iP P 13 06 03.4 -0.4
KDAK Kodiak Island 76.33 24 eP P 13 06 03.7 0.0
KDAK comp=Z,66nm,0.8s
KDAK LR LR
comp=Z,2µm,22.0s
TAPN Taplejung 77.06 300 eP P 13 06 09.6 +0.6
comp=Z,186nm,0.9s
MOY Mondy 77.13 327 eP P 13 06 08.5 -0.1
MOY pmax pmax
comp=Z,115nm,1.9s
ODAN Odare 77.21 300 eP P 13 06 10.2 +0.5
comp=Z,131nm,0.8s
RAMN Ramite 77.91 300 eP P 13 06 13.6 -0.1
RSO Redoubt South 78.01 22 eP P 13 06 12.3 -1.1
comp=Z,74nm,0.8s
CHLP Challavanipeta 78.18 291 eP P 13 06 15.0 +0.1
CHLP IAmb IAmb 13 06 18.3
comp=Z,66nm,0.8s
CHLP esP sP 13 06 32.6 +1.0
GUN Gumba 78.78 300 eP P 13 06 19.0 +0.4
comp=Z,139nm,0.7s
PKI Pulchoki 79.09 300 eP P 13 06 20.3 0.0
PKIN Phulchoki 79.11 300 eP P 13 06 20.6 +0.3
comp=Z,48nm,0.8s
KKN Kakani 79.26 300 eP P 13 06 21.3 +0.2
comp=Z,95nm,0.9s
PALK Pallekele 79.29 279 eP P 13 06 21.1 -0.2
PALK pmax pmax
comp=Z,47nm,1.1s
PALK Pallekele 79.29 279 eP P 13 06 21.1 -0.2
comp=Z,47nm,1.1s
DMN Daman 79.36 300 eP P 13 06 22.1 +0.4
comp=Z,160nm,0.8s
PPLA Purkeypile 79.80 21 eP P 13 06 22.6 -0.5
comp=Z,94nm,1.4s
GKN Gorkha 79.86 300 eP P 13 06 24.3 0.0
comp=Z,290nm,0.8s
PMR Palmer 80.09 23 eP P 13 06 24.3 -0.2
PMR pmax pmax
comp=Z,120nm,1.0s
PMR Palmer 80.09 23 eP P 13 06 24.2 -0.2
comp=Z,120nm,1.0s
PVM Polavaram 80.19 289 eP P 13 06 25.3 -0.6
PVM IAmb IAmb 13 06 28.4
comp=Z,27nm,0.8s
PVM epP pP 13 06 38.9 +0.8
SML Sawmill 80.53 23 eP P 13 06 26.9 0.0
SML pmax pmax
comp=Z,39nm,1.0s
SML Sawmill 80.53 23 eP P 13 06 26.9 0.0
comp=Z,39nm,1.0s
KOLN Koldanda 80.70 300 eP P 13 06 28.5 -0.3
comp=Z,90nm,0.8s
DANN Dangsing 80.70 300 eP P 13 06 28.4 -0.5
TRF Thorofare Moun 80.82 21 eP P 13 06 27.6 -1.1
comp=Z,81nm,0.8s
HVS Khovu-Aksy 80.93 325d iP P 13 06 29.3 -0.1
HVS pmax pmax
comp=Z,482nm,1.0s
BPAW Bear Paw Mtn. 80.99 20 eP P 13 06 28.4 -1.0
comp=Z,12nm,1.2s
DIV Divide 81.13 24 eP P 13 06 30.0 -0.2
comp=Z,87nm,1.2s
SKHT Srikalahasti 81.35 285 eP P 13 06 31.8 -0.4
SKHT IAmb IAmb 13 06 34.9
comp=Z,40nm,0.9s
SKHT esP sP 13 06 49.1 +0.2
MCK McKinley 81.47 21 eP P 13 06 31.2 -0.7
MCK pmax pmax
comp=Z,257nm,1.0s
MCK McKinley 81.47 21 eP P 13 06 31.2 -0.7
comp=Z,257nm,1.0s
ADKI Addanki 81.48 287 eP P 13 06 32.8 -0.1
ADKI IAmb IAmb 13 06 35.4
comp=Z,34nm,0.9s
ADKI esP sP 13 06 51.1 +1.6
BMRM Bremner River 81.51 24 eP P 13 06 31.8 -0.4
comp=Z,125nm,1.4s
WMQ Urumqi 82.02 316 P P 13 06 36.2 +0.9
WMQ pP pP 13 06 45.4 -2.1
WMQ sP sP 13 06 51.4 -0.6
WMQ PP PP 13 09 46.1 +2.5
WMQ S S 13 16 46.6 -0.3
WMQ sS ScS 13 17 04.0 +1.0
WMQ SS SS 13 22 09.1 +2.3
WMQ PMZ
comp=Z,110nm,1.4s
WMQ PMZ
comp=Z,490nm,3.8s
WMQ LN
comp=Z,510nm,19.0s
WMQ LE
comp=Z,530nm,16.5s
WMQ LZ
comp=Z,750nm,22.0s
QSPA South Pole Qui 82.14 180 eP P 13 06 34.9 -0.7
comp=Z,65nm,1.3s
QSPA LR LR
comp=Z,1µm,19.0s
NJS Nagarjunasagar 82.23 288 eP P 13 06 35.8 -1.1
NJS IAmb IAmb 13 06 39.1
comp=Z,61nm,0.8s
NJS epP pP 13 06 50.3 +1.3
NJS esP sP 13 06 55.9 +2.3
PAX Paxson 82.29 22 eP P 13 06 35.6 -0.7
PAX pmax pmax
comp=Z,43nm,1.3s
PAX Paxson 82.29 22 eP P 13 06 35.6 -0.7
comp=Z,43nm,1.3s
RCLA Racherla 82.37 287 eP P 13 06 36.4 -1.2
RCLA IAmb IAmb 13 06 39.5
comp=Z,17nm,1.0s
RCLA esP sP 13 06 53.7 -0.6
COLA College 82.54 20deP P 13 06 35.9 -1.5
COLA pmax pmax
comp=Z,966nm,1.7s
COLA College 82.54 20 eP P 13 06 36.7 -0.7
comp=Z,111nm,0.8s
COLA LR LR
comp=Z,1µm,19.0s
SRLM Srisailam 82.55 287 eP P 13 06 37.7 -0.8
SRLM IAmb IAmb 13 06 40.8
comp=Z,63nm,0.9s
SRLM epP pP 13 06 51.4 +0.7
SRLM esP sP 13 06 56.4 +1.2
RPR Rampur 82.67 290 eP P 13 06 38.8 -0.3
RPR IAmb IAmb 13 06 41.4
comp=Z,89nm,1.0s
RPR esP sP 13 06 56.3 +0.5
ILAR Eielson Array 82.81 21 P P 13 06 37.2 -1.6
comp=Z,20nm,0.9s,baz=256,slow=4.8,SNR=79
ILAR PP PP 13 09 49.7 +0.2
comp=Z,3.4nm,1.0s,baz=240,slow=5.9,SNR=4.9
ILAR PKKP PKKPdf 13 24 59.9 +3.3
comp=Z,1.0nm,1.0s,baz=23,slow=2.2,SNR=6.1
ILAR LR LR 13 38 19.3
comp=Z,1µm,21.7s,baz=236,slow=32
MENT Mentasta 82.94 23 eP P 13 06 39.7 +0.1
HYB Hyderabad 83.10 289 iP P 13 06 40.0 -1.4
HYB esP sP 13 07 00.0 +1.9
HYBB Hyderabad (bro 83.10 289 eP P 13 06 40.4 -1.1
HYBB IAmb IAmb 13 06 42.9
comp=Z,38nm,0.9s
HYBB esP sP 13 06 58.3 +0.2
COLD Coldfoot 83.24 18 eP P 13 06 41.1 +0.1
comp=Z,167nm,1.6s
KRAR Krasnoyarsk 83.40 329c iP P 13 06 41.8 -0.3
KRAR pmax pmax
comp=Z,175nm,1.7s
SRSP Sriramsagar 83.57 290 eP P 13 06 42.7 -1.1
SRSP IAmb IAmb 13 06 45.8
comp=Z,135nm,0.9s
SRSP epP pP 13 06 55.1 -0.9
SRSP esP sP 13 07 01.2 +0.7
H02S1 DAWSON INLET T 83.81 34 P P 13 06 44.4 +0.2
URV Uravakonda 83.89 286 eP P 13 06 44.8 -0.7
URV IAmb IAmb 13 06 48.0
comp=Z,77nm,1.1s
URV epP pP 13 06 57.6 -0.1
URV esP sP 13 07 03.2 +1.0
CRAG Craig 84.32 32 eP P 13 06 49.1 +2.4
comp=Z,231nm,1.8s
SKAG Skagway 84.83 28 eP P 13 06 49.6 +0.4
comp=Z,158nm,1.2s
EGAK Eagle 84.87 22 eP P 13 06 49.8 +0.4
comp=Z,192nm,1.2s
EGAK LR LR
comp=Z,1µm,21.0s
KLRI Killari 85.05 289 eP P 13 06 49.6 -1.8
KLRI IAmb IAmb 13 06 52.4
comp=Z,49nm,1.0s
KLRI epP pP 13 07 04.5 +0.9
KLRI esP sP 13 07 09.3 +1.2
MAW Mawson 85.06 202 P P 13 06 50.0 -0.3
comp=Z,18nm,0.8s,baz=85,slow=8.1,SNR=22
MAW Mawson 85.06 202 P P 13 06 50.1 -0.3
baz=85,SNR=14
WRAK Wrangell Islan 85.08 31 eP P 13 06 50.8 +0.2
comp=Z,206nm,1.4s
WRAK LR LR
comp=Z,2µm,22.0s
H08S2 Diego Garcia H 85.33 263 P P 13 06 52.0 -0.5
baz=40,slow=6.2,SNR=5.8
H08S3 Diego Garcia H 85.34 263 P sP 13 07 08.4 -0.9
baz=40,slow=6.2,SNR=3.9
H08S1 Diego Garcia H 85.35 263 P P 13 06 58.9 +6.4
baz=40,slow=6.2,SNR=5.2
KCPM Cahto Peak 85.56 49 eP P 13 06 54.4 +0.8
comp=Z,80nm,0.9s
KIPM Iron Peak 85.66 49 eP P 13 06 55.4 +1.4
comp=Z,163nm,1.0s
KBO Bosley Butte 85.70 47 eP P 13 06 55.0 +0.8
comp=Z,594nm,2.2s
MCCM Marconi Confer 85.72 51 eP P 13 06 54.8 +0.6
comp=Z,100nm,1.1s
KHMM Horse Mountain 85.73 48 eP P 13 06 55.5 +1.0
comp=Z,171nm,1.0s
L02D Cave Junction, 86.14 47 P P 13 06 57.2 +1.0
baz=86
M02C Callahan 86.50 48 P P 13 06 59.9 +1.8
baz=87,SNR=11
N02D Trinity Center 86.51 48 P P 13 06 59.9 +1.7
baz=87
MK31 Makanchi Array 86.53 318 P P 13 06 57.3 -0.8
MK31 pmax pmax
comp=Z,135nm,1.1s
MKAR Makanchi Array 86.53 318 P P 13 06 57.8 -0.3
comp=Z,45nm,0.8s,baz=100,slow=6.1,SNR=169
MKAR S SKSac 13 17 20.4 -1.2
comp=Z,0.4nm,0.8s,baz=104,slow=5.8,SNR=2.2
MKAR Makanchi Array 86.53 318 iP P 13 06 57.7 -0.3
MKAR pmax pmax
comp=Z,46nm,0.8s
MKAR Makanchi Array 86.53 318 ⇓P P 13 06 57.9 -0.2
baz=87
WDC Whiskeytown Da 86.54 48 eP P 13 06 59.0 +0.8
WDC pmax pmax
comp=Z,276nm,1.7s
WDC Whiskeytown Da 86.54 48 eP P 13 06 59.0 +0.8
comp=Z,276nm,1.7s
YBH Yreka Blue Hor 86.68 47 eP P 13 06 59.8 +0.8
YBH pmax pmax
comp=Z,72nm,1.1s
YBH Yreka Blue Hor 86.68 47 eP P 13 06 59.8 +0.8
comp=Z,72nm,1.1s
I03D Drain, OR 86.69 45 P P 13 07 00.3 +1.4
baz=87,SNR=13
HUMO Hull Mountain 86.71 46 eP P 13 07 00.3 +1.3
comp=Z,88nm,1.1s
SMLA Simla 86.90 302 iP P 13 06 59.9 -0.3
COR Corvallis 86.94 44 eP P 13 07 01.2 +1.2
COR pmax pmax
comp=Z,64nm,0.9s
COR Corvallis 86.94 44 eP P 13 07 01.2 +1.2
comp=Z,64nm,0.9s
DLBC Dease Lake 86.98 30 P P 13 06 59.3 -0.8
comp=Z,19nm,0.9s,baz=251,slow=6.3,SNR=3.6
DLBC Dease Lake 86.98 30 eP P 13 07 00.3 +0.2
ZALV Zalesovo Beam 87.00 325 P P 13 06 58.6 -1.5
comp=Z,12nm,0.7s,baz=107,slow=4.9,SNR=39
ZALV LR LR 13 44 54.6
comp=Z,654nm,21.7s,baz=68,slow=35
ZALV Zalesovo Beam 87.00 325 iP P 13 06 58.5 -1.6
ZALV pmax pmax
comp=Z,12nm,0.7s
G03D McMinnville, O 87.12 44 P P 13 07 02.9 +1.9
baz=87
NLWA Neilton Lookou 87.25 42 eP P 13 07 02.5 +0.9
comp=Z,26nm,0.9s
NLWA LR LR
comp=Z,2µm,22.0s
M04C Macdoel 87.33 47 P P 13 07 03.9 +1.6
baz=88,SNR=35
I04A Tendick Farm, 87.38 45 P P 13 07 04.2 +1.9
baz=88,SNR=16
PKM Peak Mountain 87.44 54 P P 13 07 04.6 +1.6
baz=88,SNR=23
J04D Umpqua Nationa 87.46 46 P P 13 07 04.3 +1.3
baz=88
K04D Chiloquin, OR 87.58 47 P P 13 07 04.7 +1.3
baz=88
PDGK Podgornoye 87.62 314 P P 13 07 02.3 -1.1
PDGK pmax pmax
comp=Z,43nm,1.1s
CMB Columbia Colle 87.62 51 eP P 13 07 04.0 +0.4
CMB pmax pmax
comp=Z,57nm,1.3s
CMB Columbia Colle 87.62 51 eP P 13 07 04.0 +0.4
comp=Z,57nm,1.3s
PGC Sidney 87.84 40 eP P 13 07 04.3 +0.1
J05D Fort Rock, OR 88.09 46 P P 13 07 07.3 +1.4
baz=88,SNR=29
NVS Novosibirsk 88.14 326⇓iP P 13 07 04.0 -1.6
NVS i 13 07 20.2
NVS iS SKSac 13 17 29.0 -2.0
NVS i 13 17 45.0
NVS pmax pmax
comp=Z,74nm,1.7s
NVS pmax pmax
comp=N,26nm,1.9s
NVS pmax pmax
comp=E,48nm,1.9s
NVS smax smax
comp=N,7.0nm,1.7s
NVS smax smax
comp=E,21nm,2.1s
VES Vestal, Richgr 88.21 54 P P 13 07 05.4 -1.0
baz=88,SNR=16
I05D Terrebonne, OR 88.25 45 P P 13 07 06.9 +0.5
baz=88
OSI Osito Adit 88.28 55 eP P 13 07 08.2 +1.4
comp=E,135nm,1.4s
ARVC Arvin 88.28 54 P P 13 07 07.8 +1.1
baz=88,SNR=5.8
CIS Catalina Islan 88.31 56 P P 13 07 07.8 +0.8
baz=88,SNR=16

WAKR **Walker** 88.45 51 *e*P P 13 07 08.4 +0.7
comp=E,73nm,1.2s
LON **Longmire** 88.46 43 *e*P P 13 07 07.8 +0.4
LON pmax pmax
comp=Z,4.0nm,0.6s
LON **Longmire** 88.46 43 *e*P P 13 07 07.8 +0.4
comp=Z,3.6nm,0.6s
G05D **Wamic, OR** 88.46 44 P P 13 07 09.1 +1.7
baz=89
MOD **Modoc** 88.47 48 *e*P P 13 07 08.1 +0.4
comp=Z,59nm,0.9s
PASC **Pasadena Art C** 88.63 55 *e*P P 13 07 08.9 +0.5
comp=Z,195nm,1.4s
ISA **Isabella** 88.67 54 *e*P P 13 07 09.1 +0.4
ISA pmax pmax
comp=Z,229nm,1.9s
ISA **Isabella** 88.67 54 P P 13 07 09.8 +1.2
baz=89,SNR=44
ISA **Isabella** 88.67 54 *e*P P 13 07 09.1 +0.4
comp=Z,229nm,1.9s
MWC **Mount Wilson** 88.75 55 *e*P P 13 07 09.9 +0.7
MWC pmax pmax
comp=Z,203nm,1.2s
MWC **Mount Wilson** 88.75 55 *e*P P 13 07 09.9 +0.7
comp=Z,203nm,1.2s
EDW2 **Edwards Air Fo** 88.92 55 P P 13 07 10.8 +1.0
baz=89,SNR=42
BFSC **Mount Baldy Ra** 89.07 55 P P 13 07 11.7 +1.1
baz=89,SNR=24
CWC **Cottonwood Cre** 89.12 53 P P 13 07 11.8 +0.9
baz=89,SNR=36
INK **Inuvik** 89.20 20 P P 13 07 09.9 -0.3
comp=Z,42nm,0.9s,baz=221,slow=7.0,SNR=36
INK LR LR 13 45 22.1
comp=Z,713nm,18.9s,baz=237,slow=34
INK **Inuvik** 89.20 20 *e*P P 13 07 10.2 0.0
INK pmax pmax
comp=Z,192nm,1.5s
INK **Inuvik** 89.20 20 *e*P P 13 07 10.2 0.0
comp=Z,192nm,1.5s
LRMC **Laurel Mountai** 89.26 54 P P 13 07 12.5 +0.9
baz=89,SNR=57
109C **Camp Elliot, M** 89.30 57 P P 13 07 13.3 +1.7
baz=89,SNR=7.9
NVAR **Mina Array Bea** 89.31 51 P P 13 07 12.5 +0.7
comp=Z,47nm,0.8s,baz=244,slow=6.9,SNR=150
NVAR PKKP **PKKPdf** 13 24 41.2 -3.6
comp=Z,0.4nm,0.9s,baz=167,slow=4.4,SNR=2.9
MURC **Murrieta** 89.34 56 P P 13 07 13.2 +1.4
baz=90,SNR=6.1
DAC **Darwin (Calif)** 89.48 53 *e*P P 13 07 13.4 +0.8
DAC pmax pmax
comp=Z,318nm,1.6s
DAC **Darwin (Calif)** 89.48 53 *e*P P 13 07 13.4 +0.8
comp=Z,318nm,1.6s
MPMC **Manual Prospec** 89.53 54 P P 13 07 13.8 +1.0
baz=90,SNR=74
BBRC **Big Bear Solar** 89.68 56 P P 13 07 14.8 +1.2
baz=90,SNR=7.6
RRX **Edison Barstow** 89.72 55 P P 13 07 15.1 +1.6
baz=90,SNR=5.6
ULHL **Ulahol** 89.73 313 P P 13 07 14.2 +0.5
SNR=15
GRAC **Grapevine Rang** 89.78 53 P P 13 07 15.2 +1.4
baz=90,SNR=20
WVOR **Wild Horse Val** 89.79 47 *e*P P 13 07 14.4 +0.6
WVOR pmax pmax
comp=Z,206nm,1.6s
WVOR MLR MLR
comp=Z,1μm,20.0s
WVOR **Wild Horse Val** 89.79 47 *e*P P 13 07 14.4 +0.6
comp=Z,206nm,1.6s
WVOR LR LR
comp=Z,1μm,20.0s
KURK **Kurchatov** 89.83 321 P P 13 07 12.6 -1.0
KURK 13 10 42.5
KURK pmax pmax
comp=Z,4.0nm,1.7s
KURK MLR MLR
comp=Z,913nm,21.0s
KURK **Kurchatov** 89.83 321 P P 13 07 12.6 -1.0
comp=Z,3.9nm,1.7s
KURK PP **PP** 13 10 42.5 -4.1
KURK LR LR
comp=Z,913nm,21.0s
KURBB **Kurchatov Arra** 89.87 321 P P 13 07 12.6 -1.2
comp=Z,10nm,0.8s,baz=110,slow=3.2,SNR=45
KURBB PP **PP** 13 10 42.5 -4.4
comp=Z,4.2nm,1.0s,baz=98,slow=7.0,SNR=4.5
HAWA **Hanford** 89.92 43 *e*P P 13 07 14.6 +0.4
comp=Z,15nm,0.8s
GSC **Goldstone** 89.95 54 *e*P P 13 07 15.8 +1.1
GSC pmax pmax
comp=Z,243nm,1.8s
GSC **Goldstone** 89.95 54 P P 13 07 16.0 +1.3
baz=90,SNR=30
GSC **Goldstone** 89.95 54 *e*P P 13 07 15.8 +1.1
comp=Z,243nm,1.8s
PFO **Pinyon Flat Ob** 89.95 56 P P 13 07 14.2 -0.6
comp=Z,240nm,1.2s,SNR=11
PFO **Pinyon Flat Ob** 89.95 56 LR LR 13 39 01.9
comp=Z,3μm,21.3s,baz=292,slow=30
PFO **Pinyon Flat Ob** 89.95 56 *e*P P 13 07 15.9 +1.1
PFO pmax pmax
comp=Z,109nm,1.4s
PFO **Pinyon Flat Ob** 89.95 56 P P 13 07 16.0 +1.1
baz=90,SNR=7.1
PFO **Pinyon Flat Ob** 89.95 56 *e*P P 13 07 15.9 +1.1
comp=Z,109nm,1.4s
TPH **Tonopah** 90.08 52 *e*P P 13 07 15.7 +0.3
TPH pmax pmax
comp=Z,92nm,1.3s
TPH **Tonopah** 90.08 52 *e*P P 13 07 15.7 +0.3
comp=Z,92nm,1.3s
FURC **Furnace Creek,** 90.10 53 P P 13 07 16.8 +1.7
baz=90,SNR=100
HEC **Hector,Ludlow** 90.25 55 P P 13 07 17.4 +1.3
baz=90,SNR=42
TKM2 **Tokmak 2** 90.33 313 P P 13 07 16.4 0.0
SNR=25
TKM2 **Tokmak 2** 90.33 313 *e*P P 13 07 16.2 -0.3
TKM2 pmax pmax
comp=Z,32nm,1.0s
TKM2 MLR MLR
comp=Z,521nm,19.0s
TKM2 **Tokmak 2** 90.33 313 *e*P P 13 07 16.2 -0.3
comp=Z,32nm,1.0s
TKM2 LR LR
comp=Z,521nm,19.0s
BELC **Belle Mtn. Jos** 90.39 56 P P 13 07 18.7 +1.9
baz=90,SNR=48
KZA **Kyzart** 90.43 312 P P 13 07 18.1 +0.9
SNR=12
SHOC **Shoshone** 90.47 54 P P 13 07 18.6 +1.6
baz=91,SNR=56
BMN **Battle Mountai** 90.48 49 *e*P P 13 07 18.3 +1.1
BMN pmax pmax
comp=Z,121nm,1.4s
BMN **Battle Mountai** 90.48 49 *e*P P 13 07 18.3 +1.1
comp=Z,121nm,1.4s
TPNV **Topopah Spring** 90.66 53 P P 13 07 19.5 +1.4
baz=91,SNR=115
TUQ **Turquoise Moun** 90.68 54 P P 13 07 19.5 +1.4
baz=91,SNR=39
KBK **Karagaybulak** 90.75 313 P P 13 07 18.5 +0.1
SNR=13
BC3 **Big Chuckawall** 90.79 56 P P 13 07 20.6 +1.9
baz=91,SNR=8.1
GMRC **Granite Mounta** 90.79 55 P P 13 07 19.9 +1.2
baz=91,SNR=72
CHMS **Chumysh** 90.95 313 P P 13 07 18.8 -0.3
SNR=25
UCH **Uchtor** 90.99 312 P P 13 07 20.2 +0.4
SNR=33
FRU **Bishkek** 91.02 313 *i*P P 13 07 20.0 +0.6
FRU *i* 13 07 34.0
FRU *i* 13 07 40.0
FRU pmax pmax
comp=Z,120nm,1.8s
AAK **Ala-Archa** 91.08 313 P P 13 07 20.1 +0.2
SNR=12
AAK **Ala-Archa** 91.08 313 P P 13 07 18.9 -1.0
AAK pmax pmax
comp=Z,32nm,1.0s
AAK **Ala-Archa** 91.08 313 PFAKE 13 07 30.0 +10
AAK LR LR
comp=Z,608nm,21.0s

IRM **Iron Mountain** 91.11 56 P P 13 07 21.7 +1.7
baz=91,SNR=28
BMO **Blue Mountains** 91.18 45 *e*P P 13 07 20.1 -0.1
comp=Z,51nm,1.0s
BMO LR LR
comp=Z,2μm,21.0s
USP **Ospenovka** 91.18 313 P P 13 07 20.2 0.0
SNR=16
LDFC **Landfair** 91.28 55 *e*P P 13 07 22.2 +1.3
comp=Z,392nm,1.4s
R11A **Troy Canyon, C** 91.40 52 P P 13 07 22.5 +1.0
baz=92,SNR=162
R11A **Troy Canyon, C** 91.40 52 *e*P P 13 07 22.2 +0.7
comp=Z,156nm,1.4s
SHPR **Sheep Range** 91.45 54 *e*P P 13 07 23.0 +1.2
comp=Z,258nm,1.4s
AML **Almayashu** 91.58 312 P P 13 07 23.1 +0.5
SNR=12
EKS2 **Erkin-Say** 91.60 313 P P 13 07 22.6 +0.3
SNR=14
EKS2 **Erkin-Say** 91.60 313 *e*P P 13 07 21.6 -0.7
EKS2 pmax pmax
comp=Z,29nm,1.0s
EKS2 MLR MLR
comp=Z,597nm,20.0s
EKS2 **Erkin-Say** 91.60 313 *e*P P 13 07 21.6 -0.7
comp=Z,29nm,1.0s
EKS2 LR LR
comp=Z,597nm,20.0s
NEW **Newport** 91.88 42 *e*P P 13 07 22.8 -0.5
NEW pmax pmax
comp=Z,37nm,1.3s
NEW MLR MLR
comp=Z,2μm,20.0s
NEW **Newport** 91.88 42 *e*P P 13 07 22.8 -0.5
comp=Z,37nm,1.3s
NEW LR LR
comp=Z,2μm,20.0s
PDMCI **Parker Dam,Lak** 91.96 56 P P 13 07 25.6 +1.7
baz=92,SNR=14
MFID **Camas Ranch** 91.99 47 *e*P P 13 07 24.6 +0.6
comp=Z,76nm,1.3s
214A **Organ Pipe Nat** 92.75 58 *e*P P 13 07 28.5 +0.8
214A *e*PP **PP** 13 11 10.2 -0.1
CCUT **Cedar City** 93.03 53 *e*P P 13 07 30.5 +1.4
comp=Z,137nm,1.2s
HLID **Hailey** 93.03 47 *e*P P 13 07 29.6 +0.6
comp=Z,83nm,1.1s
HLID LR LR
comp=Z,2μm,21.0s
BSMT **Bassoo Peak** 93.36 42 *e*P P 13 07 30.2 -0.2
comp=Z,18nm,1.1s
JTMT **Jette** 93.69 42 *e*P P 13 07 31.0 -0.7
comp=Z,4.1nm,0.9s
BGU **Big Grassy Mou** 93.71 49 *e*P P 13 07 33.0 +0.9
comp=Z,100nm,1.5s
DUG **Dugway** 93.78 50 *e*P P 13 07 33.2 +0.8
DUG pmax pmax
comp=Z,49nm,1.2s
DUG MLR MLR
comp=Z,734nm,20.0s
DUG **Dugway** 93.78 50 P P 13 07 33.7 +1.2
baz=94,SNR=37
DUG **Dugway** 93.78 50 *e*P P 13 07 33.2 +0.8
comp=Z,49nm,1.2s
DUG LR LR
comp=Z,734nm,20.0s
SWMT **Swartz Lake** 93.84 43 *e*P P 13 07 31.6 -0.9
comp=Z,6.7nm,1.2s
HVU **Hansel Valley** 94.00 49 *e*P P 13 07 34.3 +0.9
HVU pmax pmax
comp=Z,233nm,1.5s
HVU **Hansel Valley** 94.00 49 *e*P P 13 07 34.2 +0.9
comp=Z,233nm,1.5s
KKAR **Karatay Array** 94.04 313 *e*P P 13 07 32.5 -0.9
KKAR pmax pmax
comp=Z,21nm,0.9s
KKAR **Karatay Array** 94.04 313 *e*P P 13 07 32.5 -0.9
comp=Z,21nm,0.9s
MVU **Marysvale** 94.05 52 *e*P P 13 07 35.1 +1.3
comp=Z,105nm,1.4s
MSU **Marysvale** 94.07 52 *e*P P 13 07 35.3 +1.4
MSU pmax pmax
comp=Z,142nm,1.4s
MSU **Marysvale** 94.07 52 *e*P P 13 07 35.3 +1.4
comp=Z,142nm,1.4s
WALA **Waterton Lakes** 94.10 41 *e*P P 13 07 33.6 -0.1
SLMT **Seeley Lake** 94.15 43 *e*P P 13 07 33.5 -0.5
comp=Z,11nm,1.2s
SPUT **South Promonto** 94.19 49 *e*P P 13 07 35.4 +1.1
comp=Z,127nm,1.6s
CHMT **Chamberlain Mo** 94.28 43 *e*P P 13 07 34.0 -0.6
comp=Z,30nm,1.7s
MCMT **McKenzie Canyo** 94.31 46 *e*P P 13 07 35.2 +0.4
comp=Z,23nm,1.7s
NLU **North Lily Min** 94.32 50 *e*P P 13 07 36.1 +1.1
comp=Z,75nm,1.1s
WUAZ **Wupatki** 94.37 55 P P 13 07 37.0 +1.7
baz=94,SNR=14
WUAZ **Wupatki** 94.37 55 *e*P P 13 07 36.5 +1.3
comp=Z,22nm,0.9s
WUAZ LR LR
comp=Z,2μm,22.0s
TUC **Tucson** 94.50 58 *e*P P 13 07 37.3 +1.5
TUC *e* 13 11 23.7
TUC pmax pmax
comp=Z,5.0nm,0.8s
TUC MLR MLR
comp=Z,2μm,19.0s
TUC **Tucson** 94.50 58 *e*P P 13 07 37.3 +1.5
comp=Z,5.3nm,0.8s
TUC *e*PP **PP** 13 11 23.7 -0.3
TUC LR LR
comp=Z,2μm,19.0s
CTU **Camp Tracy** 94.65 50 *e*P P 13 07 37.3 +0.9
comp=Z,45nm,1.0s
LRM **Limekiln Ridge** 94.70 45 *e*P P 13 07 36.1 -0.6
comp=Z,83nm,1.0s
JLU **Jordanelle** 94.86 50 *e*P P 13 07 38.6 +1.0
comp=Z,64nm,1.2s
HWUT **Hardware Ranch** 94.89 49 *e*P P 13 07 37.9 +0.4
comp=Z,77nm,1.5s
HWUT LR LR
comp=Z,938nm,20.0s
TMUT **Trail Mountain** 94.91 51 *e*P P 13 07 38.8 +1.0
comp=Z,57nm,1.1s
EDM **Edmonton** 94.94 37 *e*P P 13 07 36.6 -0.7
EDM **Edmonton** 94.94 37 *e*P P 13 07 36.6 -0.7
TCUT **Toone Canyon** 94.95 49 *e*P P 13 07 38.2 +0.4
comp=Z,90nm,1.3s
HRY **Holter Researc** 95.22 44 *e*P P 13 07 39.0 +0.2
comp=Z,6.2nm,0.5s
BVA0 **Borovoye Array** 95.24 323 *i*P P 13 07 36.3 -2.3
BVA0 pmax pmax
comp=Z,59nm,1.0s
BVAR **Borovoye Array** 95.24 323 P P 13 07 37.4 -1.2
comp=Z,28nm,0.8s,baz=100,slow=5.1,SNR=57
BVAR PKKP **PKKPbc** 13 24 33.3 -0.9
comp=Z,0.5nm,0.6s,baz=203,slow=5.9,SNR=3.2
BOZ **Bozeman (W)** 95.26 45 *e*P P 13 07 39.0 0.0
BOZ pmax pmax
comp=Z,19nm,1.1s
BOZ MLR MLR
comp=Z,2μm,20.0s
BOZ **Bozeman (W)** 95.26 45 *e*P P 13 07 39.0 0.0
comp=Z,20nm,1.1s
BOZ LR LR
comp=Z,2μm,20.0s
BRVK **Borovoye** 95.31 323 P P 13 07 37.7 -1.2
comp=Z,219nm,0.9s,SNR=11
BRVK **Borovoye** 95.31 323 *d i*P P 13 07 37.1 -1.8
BRVK pmax pmax
comp=Z,41nm,1.0s
BRVK **Borovoye** 95.31 323 *e*P P 13 07 37.6 -1.2
comp=Z,32nm,0.9s
BRVK LR LR
comp=Z,844nm,20.0s
QLMT **Earthquake Lak** 95.31 46 *e*P P 13 07 40.3 +0.8
comp=Z,2.7nm,1.1s
YKA **Yellowknife Ar** 95.33 28 P P 13 07 38.5 -0.2
comp=Z,36nm,0.8s,baz=258,slow=4.5,SNR=150
YKA PP **PP** 13 11 30.9 +1.5
comp=Z,1.2nm,1.1s,baz=280,slow=1.4,SNR=2.7
YKA PKKP PKKPbc 13 24 28.7 -5.5
comp=Z,0.4nm,0.8s,baz=82,slow=4.4,SNR=4.2
AHID **Auburn Hatcher** 95.35 48 PFAKE 13 07 50.0 +10
AHID LR LR
comp=Z,1μm,19.0s
SRU **San Rafael** 95.42 51 *e*P P 13 07 40.8 +0.8
SRU pmax pmax
comp=Z,31nm,1.1s
SRU **San Rafael** 95.42 51 *e*P P 13 07 40.8 +0.8
comp=Z,31nm,1.1s
H17A **Grant Village** 95.88 46 *e*P P 13 07 43.9 +1.8
comp=Z,20nm,0.8s
LKWY **Lake** 96.02 46 P P 13 07 44.1 +1.4
LKWY pmax pmax
comp=Z,10.0nm,0.8s
LKWY MLR MLR
comp=Z,3μm,21.0s
LKWY **Lake** 96.02 46 P P 13 07 44.1 +1.4
comp=Z,10nm,0.8s
LKWY LR LR
comp=Z,3μm,21.0s
BW06 **Boulder Array** 96.48 48 *e*P P 13 07 44.7 -0.1
comp=Z,18nm,1.0s
BW06 LR LR
comp=Z,1μm,21.0s
PDAR **Pinedale Array** 96.48 48 P P 13 07 44.8 -0.1
comp=Z,9.9nm,0.8s,baz=282,slow=1.4,SNR=33
PDAR LR LR 13 47 00.9
comp=Z,636nm,19.6s,baz=346,slow=33
PV04 **Paradox Valley** 96.62 52 *e*P P 13 07 46.6 +1.1
GCMT **Greycliff** 96.64 45 *e*P P 13 07 45.9 +0.6
comp=Z,11nm,1.0s
EGMT **Eagleton** 96.75 43 *e*P P 13 07 45.5 -0.2
comp=Z,9.0nm,0.7s
EGMT LR LR
comp=Z,1μm,22.0s
MVCO **Mesa Verde** 96.84 53 P P 13 07 47.1 +0.5
baz=97,SNR=6.2
MVCO **Mesa Verde** 96.84 53 PFAKE 13 08 00.0 +13
MVCO LR LR
comp=Z,890nm,20.0s
PV01 **Paradox Valley** 96.86 53 *e*P P 13 07 47.3 +0.7
comp=Z,4μm,1.5s
RLMT **Red Lodge** 96.87 45 P P 13 07 47.4 +0.9
baz=97,SNR=6.4
RLMT **Red Lodge** 96.87 45 *e*P P 13 07 46.7 +0.2
comp=Z,12nm,1.0s
RLMT LR LR
comp=Z,1μm,20.0s
J19A **Crowheart** 96.89 47 P P 13 07 47.4 +0.9
baz=97,SNR=8.9
I19A **Meeteetse** 96.98 47 P P 13 07 48.3 +1.2
baz=97,SNR=8.1
H19A **Powell** 97.04 46 P Pdif 13 07 48.3 +1.0
baz=97,SNR=13
121A **Cookes Peak, D** 97.04 58 *e*P Pdif 13 07 48.6 +0.9
comp=Z,25nm,1.3s
O20A **White River Ci** 97.27 51 P Pdif 13 07 49.5 +1.1
baz=97,SNR=13
O20A **White River Ci** 97.27 51 *e*P Pdif 13 07 49.1 +0.6
comp=Z,46nm,1.3s
LAZ **Ladron** 97.73 56 *e*P Pdif 13 07 52.1 +1.4
comp=Z,3.2nm,0.9s
C20A **Veseth Ranch,** 97.90 43 P Pdif 13 07 51.3 +0.4
baz=98,SNR=7.3
J21A **Lysite** 98.06 47 P Pdif 13 07 52.9 +1.0
baz=98,SNR=25
I21A **Big Trails, Te** 98.20 47 P Pdif 13 07 53.0 +0.5
baz=98,SNR=7.5
S22A **4UR Ranch, Cre** 98.20 53 P Pdif 13 07 53.7 +0.9
baz=98,SNR=16
ANMO **Albuquerque** 98.33 56 *e*P Pdif 13 07 54.7 +1.4
ANMO pmax pmax
comp=Z,48nm,2.5s
ANMO **Albuquerque** 98.33 56 PFAKE 13 08 00.0 +6.7
ANMO LR LR
comp=Z,2μm,21.0s
G21A **Lodge Grass** 98.33 45 P Pdif 13 07 54.0 +1.0
baz=98,SNR=14
K22A **Casper** 98.70 48 P Pdif 13 07 55.8 +1.0
baz=99,SNR=5.3
K22A **Casper** 98.70 48 *e*P Pdif 13 07 55.1 +0.3
comp=Z,26nm,1.1s
I22A **9 Mile Ranch,** 98.79 47 P Pdif 13 07 56.3 +1.2
baz=99,SNR=8.0
H22A **Clearmont** 98.91 46 P Pdif 13 07 55.9 +0.3
baz=99,SNR=7.9
G22A **Birney** 98.97 45 P Pdif 13 07 56.8 +1.0
baz=99,SNR=5.9
N23A **Red Feather La** 99.06 50 P **Pdif** 13 07 57.4 +0.9
baz=99,SNR=22
D22A **Cohagen** 99.12 44 P **Pdif** 13 07 56.8 +0.4
baz=99,SNR=5.5
SDCO **Great Sand Dun** 99.26 53 PFAKE 13 08 10.0 +12
SDCO LR LR
comp=Z,942nm,19.0s
ISCO **Idaho Springs** 99.26 51 P **Pdif** 13 07 58.2 +0.7
baz=99,SNR=6.0
ISCO **Idaho Springs** 99.26 51 PFAKE 13 08 10.0 +12
ISCO LR LR
comp=Z,2μm,22.0s
Q24A **Divide** 99.59 52 P **Pdif** 13 07 59.9 +0.9
baz=100,SNR=5.6
G23A **Biddle** 99.61 46 P **Pdif** 13 07 59.8 +1.1
baz=100,SNR=10
F23A **Volborg** 99.61 45 P **Pdif** 13 07 59.6 +1.0
baz=100,SNR=5.7
E23A **Ismay** 99.70 44 P **Pdif** 13 07 59.8 +0.9
baz=100,SNR=6.5
GDL2 **Guadalupe Moun** 99.91 59 *e*Pdif **Pdif** 13 08 01.5 +1.2
comp=Z,9.2nm,1.0s
H24A **Dirks Ranch, A** 100.20 46 P **Pdif** 13 08 02.4 +1.1
baz=100,SNR=17
TXAR **Lajitas Array** 100.35 62 P **Pdif** 13 08 03.1 +0.8
comp=Z,2.3nm,1.0s,baz=256,slow=3.4,SNR=16
TXAR PP **PP** 13 12 05.8 -3.3
comp=Z,2.1nm,1.0s,baz=249,slow=7.5,SNR=6.4
TXAR PKKP **PKKPdf** 13 24 23.1 -1.4
comp=Z,0.2nm,0.6s,baz=97,slow=4.6,SNR=2.6
DGMT **Dagmar** 100.47 42 *e*Pdif **Pdif** 13 08 01.7 -0.6
comp=Z,29nm,1.1s
DGMT LR LR
comp=Z,1μm,22.0s
RSSD **Black Hills** 100.56 47 *e*P **Pdif** 13 08 03.2 +0.1
RSSD pmax pmax
comp=Z,37nm,1.5s
RSSD **Black Hills** 100.56 47 *e*Pdif **Pdif** 13 08 03.1 +0.1
comp=Z,37nm,1.5s
I25A **Rochford** 100.78 47 P **Pdif** 13 08 04.9 +0.9
baz=101,SNR=7.6
PMSA **Palmer Station** 100.89 163 PFAKE 13 08 20.0 +16
PMSA LR LR
comp=Z,1μm,21.0s
VNA1 **Neumayer--Stat** 101.19 184 P **Pdif** 13 08 05.6 +0.6
J26A **Sides Ranch, S** 101.25 47 P **Pdif** 13 08 07.1 +1.2
baz=101,SNR=5.6
G26A **Maurine** 101.58 45 P **Pdif** 13 08 08.1 +0.8
baz=102,SNR=11
AB31 **Akbulak array** 101.67 319 *i*P **Pdif** 13 08 05.3 -2.2
AB31 pmax pmax
comp=Z,9.0nm,0.9s
ABKAR **Akbulak array** 101.67 319 *e*Pdif **Pdif** 13 08 05.6 -1.9
comp=Z,4.4nm,0.8s
FFC **Flin Flon** 101.69 36 PFAKE 13 08 20.0 +12
FFC LR LR
comp=Z,1μm,22.0s
H27A **Howes** 101.96 46 P **Pdif** 13 08 10.0 +0.9
baz=102,SNR=5.0
OGNE **Ogallala** 102.02 50 PFAKE 13 08 20.0 +11
OGNE LR LR
comp=Z,1μm,20.0s
ARU **Arti** 102.15 326 *c i*P **Pdif** 13 08 07.8 -1.7
ARU 13 12 19.2
ARU S **SKSac** 13 18 44.5 -1.3
ARU SP **SP** 13 21 20.9 -1.4
ARU PS **PS** 13 21 29.8 +1.9
ARU pmax pmax
comp=Z,18nm,1.7s
ARU **Arti** 102.15 326 *e*Pdif **Pdif** 13 08 07.6 -1.9
comp=Z,17nm,1.4s
ARU LR LR
comp=Z,1μm,20.0s
AMTX **Amarillo** 102.25 56 *e*Pdif **Pdif** 13 08 13.1 +2.5
comp=Z,9.2nm,1.0s
MSEY **Mahe Island** 102.49 263 PFAKE 13 08 20.0 +7.9
MSEY LR LR
comp=Z,1μm,20.0s
AKTO **Aktyubinsk** 102.86 320 P **Pdif** 13 08 10.1 -2.7
comp=Z,3.3nm,0.9s,baz=106,slow=2.2,SNR=8.7
AKTO PP **PP** 13 12 28.6 +1.4
comp=Z,2.0nm,0.7s,baz=97,slow=6.1,SNR=3.6

GEYT Alibeck 103.18 307 Pdiff Pdif 13 08 13.4 -1.2
comp=Z,2.6nm,0.8s,baz=259,slow=5.4,SNR=6.3
GEYT PP **PP 13 12 31.9 +1.9**
comp=Z,5.9nm,1.0s,baz=102,slow=13,SNR=5.0
JCT Junction City 103.75 61 PFAKE 13 08 30.0 +13
JCT LR LR
comp=Z,2µm,20.0s
CBKS Cedar Bluff 103.81 52 PFAKE 13 08 30.0 +13
CBKS LR LR
comp=Z,1µm,20.0s
B30A Myrvik Farm, E 104.38 42 P Pdif 13 08 20.6 +1.0
baz=104,SNR=5.2
WMOK Wichita Mounta 104.63 56 PFAKE 13 08 30.0 +8.9
WMOK LR LR
comp=Z,2µm,22.0s
ECSD EROS Data Cent 105.93 47 PFAKE 13 12 50.0
ECSD LR LR
comp=Z,1µm,22.0s
AGMN Agassiz Nation 106.03 42 PFAKE 13 12 50.0
AGMN LR LR
comp=Z,1µm,21.0s
KSU1 Kansas State U 106.23 52 PFAKE 13 12 50.0
KSU1 LR LR
comp=Z,1µm,20.0s
TUL1 Tulsa 107.04 55 *e*PKPdf **PKiKP 13 12 41.6 +0.4**
KBS Kingsbay 107.06 354 PFAKE 13 12 50.0
KBS LR LR
comp=Z,1µm,21.0s
SPITS Spitsbergen Ar 107.13 352 Pdiff Pdif 13 08 28.3 -2.9
comp=Z,9.0nm,1.1s,baz=19,slow=18,SNR=2.8
SPITS PP **PP 13 12 57.7 -0.2**
comp=Z,7.0nm,0.9s,baz=27,slow=13,SNR=2.8
HKT Hockley 107.18 61 *e*PKPdf **PKiKP 13 12 40.5 -1.0**
ABPO Ambohimpanom 107.49 247 PFAKE 13 12 50.0
ABPO LR LR
comp=Z,2µm,19.0s
PRGR Permogore 107.77 333 P Pdif 13 08 31.2 -3.2
PRGR pmax pmax
comp=Z,14nm,0.8s
SCIA State Center 108.59 49 PFAKE 13 13 00.0
SCIA LR LR
comp=Z,1µm,21.0s
MIAR Mount Ida 108.93 56 PFAKE 13 13 00.0
MIAR LR LR
comp=Z,2µm,21.0s
EYMN Ely 108.97 42 PFAKE 13 13 00.0
EYMN LR LR
comp=Z,1µm,20.0s
LVZ Lovozero 109.63 341 PFAKE 13 13 00.0
LVZ LR LR
comp=Z,953nm,21.0s
PAYG Puerto Ayora 110.63 94 PFAKE 13 13 00.0
PAYG LR LR
comp=Z,1µm,19.0s
JFWS Jewell Farm 110.64 47 PFAKE 13 13 00.0
JFWS LR LR
comp=Z,1µm,21.0s
COWI Conover 110.89 44 PFAKE 13 13 00.0
COWI LR LR
comp=Z,1µm,21.0s
KEV Kevo 110.91 344 PFAKE 13 13 00.0
KEV LR LR
comp=Z,1µm,22.0s
DAG Danmarks Havn 111.09 359 *i* P **PKiKP 13 12 48.0 +0.3**
comp=Z,3.7nm,0.9s
DAG Danmarks Havn 111.09 359 *i* PKIKP **PKiKP 13 12 48.0 +0.3**
DAG pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 111.46 344 Pdiff **Pdif 13 08 49.5 -1.2**
comp=Z,1.5nm,0.9s,baz=35,slow=13,SNR=2.6
ARCES PKiKP **PKiKP 13 12 47.9 -0.7**
comp=Z,2.5nm,0.7s,baz=53,slow=3.5,SNR=8.4
ARCES PKKPab **PKKPab 13 23 54.4 +1.3**
comp=Z,2.0nm,0.9s,baz=247,slow=1.9,SNR=5.5
HDIL Hopedale 111.69 50 PFAKE 13 13 00.0
HDIL LR LR
comp=Z,2µm,22.0s
GNI Garni 113.36 310 PFAKE 13 13 00.0
GNI LR LR
comp=Z,550nm,20.0s
SFIN Scholer Farm 113.38 49 *e*PKPdf **PKiKP 13 12 52.7 -0.3**
MOS Moscow 113.69 328 *e*PKIKP **PKiKP 13 12 52.8 -0.3**
KBZ Khabaz 114.02 314 PP PP 13 13 49.2 +0.6
comp=Z,2.2nm,0.8s,baz=80,slow=8.3,SNR=5.7
KIV Kislovodsk 114.11 315 ⇑*i*PKIKP PKPdf 13 12 54.4 -0.1
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,812nm,22.0s
KIV Kislovodsk 114.11 315 PFAKE 13 13 10.0 +16
KIV LR LR
comp=Z,519nm,21.0s
GLMI Grayling 114.26 44 PFAKE 13 13 10.0 +15
GLMI LR LR
comp=Z,970nm,21.0s
RAYN Ar Rayn 114.41 292 PFAKE 13 13 10.0 +14
RAYN LR LR
comp=Z,786nm,21.0s
VSR Storozhevoye 114.42 323 *e*PKIKP PKPdf 13 12 54.0 -0.7
VSR pmax pmax
comp=N,4.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
SUMG Summit 114.48 6 *i* P PKPdf 13 12 55.6 +0.8
comp=Z,21nm,1.3s
SUMG Summit 114.48 6 *i* PKIKP PKPdf 13 12 55.6 +0.8
SUMG pmax pmax
comp=Z,21nm,1.3s
SUMG Summit 114.48 6 *e*PKPdf PKPdf 13 12 55.3 +0.5
SUMG *e*SKPdf **SKiKP 13 16 30.4 +3.0**
OBN Obninsk 114.48 328 ⇓*i*PKIKP PKPdf 13 12 54.7 0.0
OBN *e* 13 13 52.9
OBN pmax pmax
comp=Z,7.0nm,1.1s
OBN MLR MLR
comp=Z,998nm,20.0s
OBN Obninsk 114.48 328 PFAKE 13 13 10.0 +15
OBN LR LR
comp=Z,1µm,22.0s
BRAL Brewton 114.69 60 PFAKE 13 13 10.0 +14
BRAL LR LR
comp=Z,1µm,20.0s
AAM Ann Arbor 115.53 47 PFAKE 13 13 10.0 +13
AAM LR LR
comp=Z,2µm,20.0s
FINES FINESS Array B 116.22 337 PKP PKPdf 13 12 56.9 -1.0
comp=Z,6.9nm,0.7s,baz=114,slow=4.6,SNR=25
FINES PP **PP 13 14 04.1 +0.8**
comp=Z,7.8nm,1.0s,baz=77,slow=6.0,SNR=4.0
FINES PKKPbc **PKKPbc 13 23 28.0 -1.8**
comp=Z,1.1nm,0.8s,baz=266,slow=5.5,SNR=4.0
ACSO Alum Creek Sta 116.49 49 PFAKE 13 13 10.0 +11
ACSO LR LR
comp=Z,2µm,19.0s
HOPE Hope Point 116.78 170 PFAKE 13 13 10.0 +11
HOPE LR LR
comp=Z,2µm,22.0s
JTS JuntasAbangare 117.10 82 PFAKE 13 13 10.0 +9.1
JTS LR LR
comp=Z,1µm,20.0s
GOGA Godfrey 117.40 56 PFAKE 13 13 10.0 +9.0
GOGA LR LR
comp=Z,2µm,21.0s
ANN Anapa 117.53 317 *i* P **Pdif 13 09 17.6 -0.6**
ANN *e* 13 19 59.1
ANN pmax pmax
comp=Z,30nm,0.9s
ANN MLR MLR
comp=N,483nm,22.0s
ANN MLR MLR
comp=Z,814nm,22.0s
ANN MLR MLR
comp=E,565nm,22.0s
SFJD Kangerlussuaq 117.64 13 PFAKE 13 13 10.0 +10
SFJD LR LR
comp=Z,2µm,22.0s
VSU Vasula 117.66 334 ⇑*i*PKIKP **PKPdf 13 13 00.0 -0.7**
KMSC Kings Mountain 118.83 54 *e*PKPdf **PKPdf 13 13 03.5 -0.2**
BLA Blacksburg 119.12 52 *e*PKIKP **PKPdf 13 13 05.2 +0.9**
BLA MLR MLR
comp=Z,2µm,21.0s
BLA Blacksburg 119.12 52 *e*PKPdf **PKPdf 13 13 05.2 +0.9**
BLA LR LR
comp=Z,2µm,21.0s

LCO Las Campanas 119.89 130 PFAKE 13 13 20.0 +14
LCO LR LR
comp=Z,2µm,20.0s
SSPA Standing Stone 120.15 47 *e*PKPdf **PKPdf 13 13 05.2 -0.9**
NHSC New Hope 120.16 56 PFAKE 13 13 20.0 +14
NHSC LR LR
comp=Z,3µm,22.0s
CFAA Coronel Fontan 120.37 134 PKP PKPdf 13 13 06.0 -0.9
comp=Z,0.5nm,0.7s,baz=203,slow=4.8,SNR=5.4
AKASG Malin Array Be 120.39 325 PKP PKPdf 13 13 05.5 -0.7
comp=Z,14nm,0.8s,baz=62,slow=2.2,SNR=31
AKASG PP **PP 13 14 32.5 0.0**
comp=Z,2.6nm,0.9s,baz=57,slow=7.4,SNR=5.7
AKASG PKKPbc **PKKPab 13 23 13.8 -0.2**
comp=Z,0.4nm,0.3s,baz=257,slow=3.7,SNR=6.4
KIEV Kiev 120.40 325 *c*/*i*PKIKP **PKPdf 13 13 05.5 -0.7**
KIEV Kiev 120.40 325 *e*PKPdf **PKPdf 13 13 04.2 -2.0**
KIEV LR LR
comp=Z,889nm,20.0s
TRQA Tornquist 120.61 143 PFAKE 13 13 20.0 +13
TRQA LR LR
comp=Z,1µm,21.0s
SCHQ Schefferville 120.77 29 PKP PKPdf 13 13 05.2 -1.7
comp=Z,3.3nm,0.8s,baz=7.6,slow=5.8,SNR=5.4
SCHQ PP **PP 13 14 33.3 -1.6**
comp=Z,3.8nm,0.9s,baz=325,slow=7.2,SNR=3.4
JSRW J. Sargeant Re 120.96 51 *e*P **PKPdf 13 13 06.0 -1.7**
KMBO Kilima Mbogo 121.03 264 PKP PKPdf 13 13 07.6 -1.2
comp=Z,6.9nm,0.2s,baz=354,slow=6.9,SNR=3.2
KMBO Kilima Mbogo 121.03 264 PKIKP **PKPdf 13 13 07.6 -1.2**
KMBO MLR MLR
comp=Z,1µm,22.0s
KMBO Kilima Mbogo 121.03 264 PKP PKPdf 13 13 07.6 -1.2
KMBO LR LR
comp=Z,1µm,22.0s
ATAH Atahualpa 121.08 103 PKP PKPdf 13 13 07.7 -1.5
comp=Z,5.5nm,0.7s,baz=229,slow=10,SNR=2.1
LONY Lake Ozonia 121.14 42 PFAKE 13 13 20.0 +12
LONY LR LR
comp=Z,2µm,22.0s
CBN Corbin 121.21 50 PFAKE 13 13 20.0 +12
CBN LR LR
comp=Z,2µm,20.0s
NNA Nana 121.29 109 PKP PKPdf 13 13 07.7 -1.4
comp=Z,3.5nm,0.3s,baz=212,slow=4.7,SNR=2.5
NNA Nana 121.29 109 PKIKP **PKPdf 13 13 07.7 -1.4**
NNA MLR MLR
comp=Z,907nm,19.0s
NNA Nana 121.29 109 PKP PKPdf 13 13 07.7 -1.4
NNA LR LR
comp=Z,907nm,19.0s
CNNC Cliffs of the 121.56 53 PFAKE 13 13 20.0 +11
CNNC LR LR
comp=Z,2µm,20.0s
NCB Newcomb 121.62 43 PFAKE 13 13 20.0 +11
NCB LR LR
comp=Z,1µm,20.0s
NB2 NORSAR Subarra 121.70 342 PKPdf **PKPdf 13 13 07.4 -1.1**
comp=Z,14nm,0.8s,baz=39,slow=1.9
NB2 NORSAR Subarra 121.70 342 PKPdf **PKPdf 13 13 07.4 -1.1**
baz=39,slow=1.9
NOA NORSAR Array B 121.70 342 PKP PKPdf 13 13 07.1 -1.4
comp=Z,9.8nm,0.8s,baz=41,slow=1.9,SNR=36
NOA pPKP **pPKPdf 13 13 20.2 -0.9**
comp=Z,1.8nm,0.7s,baz=43,slow=2.0,SNR=3.0
NOA PP **PP 13 14 40.2 -0.8**
comp=Z,3.3nm,1.1s,baz=43,slow=8.2,SNR=3.4
BRTR Keskin Array B 121.75 312 PKP PKPdf 13 13 08.5 -0.9
comp=Z,4.3nm,0.9s,baz=123,slow=3.7,SNR=15
BRTR PKKPbc **PKKPbc 13 23 09.5 +0.3**
comp=Z,2.1nm,0.9s,baz=197,slow=1.3,SNR=7.9
SUW Suwalki 121.82 331 *e*PKP **PKPdf 13 13 08.4 -0.4**
SUW *e* 13 13 24.4
SUW Suwalki 121.82 331 *e*PKIKP **PKPdf 13 13 08.4 -0.4**
SUW *e* 13 13 24.5
BCIP Isla Barro Col 122.06 84 PFAKE 13 13 20.0 +10
BCIP LR LR
comp=Z,723nm,21.0s
ANTO Ankara 122.32 313 *e*PKIKP **PKPdf 13 13 10.4 0.0**
ANTO MLR MLR
comp=Z,471nm,20.0s
ANTO Ankara 122.32 313 *e*PKPdf **PKPdf 13 13 10.4 0.0**
ANTO LR LR
comp=Z,471nm,20.0s
BOSA Boshof 122.37 229 PKP PKPdf 13 13 11.7 +0.7
comp=Z,2.4nm,0.7s,baz=231,slow=3.9,SNR=4.1
OTAV Otavalo 122.46 95 PFAKE 13 13 20.0 +8.1
OTAV LR LR
comp=Z,776nm,20.0s
TLCR 123.09 320 ⇑PKIKP **PKPdf 13 13 13.7 +2.2**
TLCR 123.09 320 ⇑*i*P **PKPdf 13 13 13.7 +2.2**
BORG Borgarnes 123.19 0 PFAKE 13 13 20.0 +8.8
BORG LR LR
comp=Z,1µm,22.0s
KONO Kongsberg 123.29 342 PFAKE 13 13 20.0 +8.5
KONO LR LR
comp=Z,1µm,22.0s
CSS Prodhromos 123.32 307 PFAKE 13 13 20.0 +7.6
CSS LR LR
comp=Z,169nm,21.0s
SUR Sutherland 123.40 223 PFAKE 13 13 20.0 +7.1
SUR LR LR
comp=Z,2µm,19.0s
CFR Carcaliu 123.53 320 ⇓PKIKP **PKPdf 13 13 12.3 -0.1**
CFR Carcaliu 123.53 320 ⇓*i*P **PKPdf 13 13 12.3 -0.1**
TIRR Tirgusor 123.66 319 ⇓PKIKP **PKPdf 13 13 11.6 -1.1**
TIRR Tirgusor 123.66 319 ⇓*i*P **PKPdf 13 13 11.6 -1.1**
LVV L'vov 123.72 326 *e*PKIKP **PKPdf 13 13 12.0 -0.7**
LVV *e* 13 13 27.8
LVV *e* 13 14 59.4
TESR Tescani 123.86 322 ⇑*i*P **PKPdf 13 13 12.5 -0.5**
VRI Vrincioaia 124.11 321 ⇑PKIKP **PKPdf 13 13 12.4 -1.1**
VRI Vrincioaia 124.11 321 ⇑*i*P **PKPdf 13 13 12.4 -1.1**
PSN Preselentsi 124.13 318 ⇑PKIKP **PKPdf 13 13 13.3 -0.3**
PSN Preselentsi 124.13 318 ⇑*i*P **PKPdf 13 13 13.3 -0.3**
BURAR Bucovina Array 124.18 324 ⇓PKIKP **PKPdf 13 13 16.2 +2.4**
BURAR Bucovina Array 124.18 324 ⇓*i*P **PKPdf 13 13 16.2 +2.4**
BEL Belsk 124.27 330 *e*PKP **PKPdf 13 13 12.7 -0.9**
BEL Belsk 124.27 330 *e*PKIKP **PKPdf 13 13 12.7 -0.9**
PKME Peaks-Kenny Pk 124.30 39 PFAKE 13 13 30.0 +16
PKME LR LR
comp=Z,1µm,20.0s
LVC Limon Verde 124.36 124 PKP PKPdf 13 13 15.5 +0.5
comp=Z,20nm,0.7s,baz=295,slow=2.7,SNR=7.5
LVC Limon Verde 124.36 124 PKP PKPdf 13 13 15.5 +0.5
LVC LR LR
comp=Z,1µm,20.0s
MTDJ Mount Denham 124.36 73 PFAKE 13 13 30.0 +15
MTDJ LR LR
comp=Z,930nm,20.0s
KWP Kalwaria Pacla 124.54 327 *e*PKP **PKPdf 13 13 15.9 +1.6**
KWP *e* 13 13 30.3
KWP Kalwaria Pacla 124.54 327 *e*PKIKP **PKPdf 13 13 15.9 +1.6**
KWP *e* 13 13 30.4
ISP Isparta 124.66 311 PFAKE 13 13 30.0 +15
ISP LR LR
comp=Z,619nm,21.0s
MLR Muntele Rosu 124.77 321 ⇑PKIKP **PKPdf 13 13 14.7 -0.3**
MLR Muntele Rosu 124.77 321 ⇑*i*P **PKPdf 13 13 14.7 -0.3**
BSD Bornholm Skovb 124.80 336 ⇓*i*P **PKPdf 13 13 15.7 +1.2**
comp=Z,22nm,0.9s
BSD Bornholm Skovb 124.80 336 ⇓*i*PKIKP **PKPdf 13 13 15.7 +1.2**
BSD pmax pmax
comp=Z,22nm,0.9s
PRD Provadia 124.85 318 ⇓PKIKP **PKPdf 13 13 16.0 +1.0**
PRD Provadia 124.85 318 ⇓*i*P **PKPdf 13 13 16.0 +1.0**
DOPR Dopca 124.89 322 ⇑*i*P **PKPdf 13 13 15.4 +0.4**
KOLS Kolonicke sedl 125.17 326 *e*PKIKP **PKPdf 13 13 16.0 +0.5**
KOLS Kolonicke sedl 125.17 326 *e*PKP **PKPdf 13 13 16.0 +0.5**
UZH Uzhgorod 125.32 326 *e*PKIKP **PKPdf 13 13 15.6 -0.1**
UZH *e* 13 13 25.8
UZH *i* 13 13 31.6
VOIR 125.35 321 ⇓PKIKP **PKPdf 13 13 16.7 +0.7**
VOIR 125.35 321 ⇓*i*P **PKPdf 13 13 16.7 +0.7**
STHS Stebnicka Huta 125.45 327 *e*PKIKP **PKPdf 13 13 17.1 +1.1**
STHS Stebnicka Huta 125.45 327 *e*PKP **PKPdf 13 13 17.1 +1.1**
ARR Arges 125.64 322 ⇑*i*P **PKPdf 13 13 17.9 +1.3**
OJC Ojcow 125.74 329 *e*PKP **PKPdf 13 13 16.3 -0.2**
OJC *e* 13 13 32.5
OJC Ojcow 125.74 329 *e*PKIKP **PKPdf 13 13 16.3 -0.2**
OJC *e* 13 13 32.5
HUMR Humele 125.82 320 ⇑*i*P **PKPdf 13 13 17.0 +0.2**
LSZ Lusaka 125.92 245 *e*PKIKP **PKPdf 13 13 18.0 0.0**
LSZ MLR MLR
comp=Z,2µm,21.0s
LSZ Lusaka 125.92 245 *e*PKPdf **PKPdf 13 13 18.0 0.0**
LSZ LR LR
comp=Z,2µm,21.0s
NIE Niedzica 125.95 328 *e*PKP **PKPdf 13 13 17.5 +0.5**
NIE *e* 13 13 33.8
NIE Niedzica 125.95 328 *e*PKIKP **PKPdf 13 13 17.5 +0.5**
NIE *e* 13 13 33.8
DRGR 126.07 324 ⇓PKIKP **PKPdf 13 13 17.5 +0.1**
DRGR 126.07 324 ⇓*i*P **PKPdf 13 13 17.5 +0.1**
KECS Kecovo 126.40 327 *e*PKIKP **PKPdf 13 13 17.5 -0.3**
KECS Kecovo 126.40 327 *e*PKP **PKPdf 13 13 17.5 -0.3**
GTBY Guantanamo Bay 126.53 71 PFAKE 13 13 30.0 +11
GTBY LR LR
comp=Z,933nm,20.0s
ALN Alexandroupoli 126.74 316 *e*P **PKPdf 13 13 19.3 +0.6**
GZR Gura Zlata 126.76 322 ⇑PKIKP **PKPdf 13 13 18.2 -0.5**
GZR Gura Zlata 126.76 322 ⇑*i*P **PKPdf 13 13 18.2 -0.5**
OKC Ostrava-Krasne 126.82 329 *e*PKPdf **PKPdf 13 13 18.9 +0.3**
OKC *ep*PKP **pPKPdf 13 13 33.6 +2.3**
OKC AMS AMS 14 12 50.0
comp=Z,800nm,19.2s
OKC Ostrava-Krasne 126.82 329 *e*PKIKP **PKPdf 13 13 18.9 +0.3**
OKC *e* 13 13 33.6
OKC MLR MLR
comp=Z,800nm,19.2s
SIRR Siria 126.97 324 ⇑*i*P **PKPdf 13 13 20.4 +1.4**
PSZ Piszkesteto 127.05 326 *e*PKIKP **PKPdf 13 13 19.1 -0.1**
PSZ MLR MLR
comp=Z,930nm,21.0s
PSZ Piszkesteto 127.05 326 ⇑*i*P **PKPdf 13 13 19.1 -0.1**
PSZ Piszkesteto 127.05 326 *e*PKPdf **PKPdf 13 13 19.1 -0.1**
PSZ LR LR
comp=Z,930nm,21.0s
PSZ Piszkesteto 127.05 326 ⇑*e*PKPdf **PKPdf 13 13 19.8 +0.6**
KSP Ksiaz 127.10 331 *e*PKP **PKPdf 13 13 18.6 -0.5**
KSP *e* 13 13 35.5
KSP Ksiaz 127.10 331 *e*PKIKP **PKPdf 13 13 18.6 -0.5**
KSP *e* 13 13 35.5
RUE Ruedersdorf 127.13 334 *e*PKP **PKPdf 13 13 19.5 +0.5**
ROSC El Rosal 127.15 90 PKP PKPdf 13 13 20.4 -0.3
comp=Z,23nm,0.8s,baz=109,slow=3.3,SNR=9.8
ROSC PP **PP 13 15 20.3 +0.3**
comp=Z,3.4nm,0.3s,baz=280,slow=6.2,SNR=3.9
MORC Moravsky Berou 127.17 329 ⇑PKIKP **PKPdf 13 13 19.7 +0.4**
MORC Moravsky Berou 127.17 329 ⇑*i*P **PKPdf 13 13 19.7 +0.4**
MORC Moravsky Berou 127.17 329 *e*PKPdf **PKPdf 13 13 19.4 +0.1**
KRLC Kraliky 127.36 330 *e*PKPdf **PKPdf 13 13 19.6 -0.1**
KRLC *ep*PKP **pPKPdf 13 13 35.8 +3.4**
KRLC Kraliky 127.36 330 *e*PKIKP **PKPdf 13 13 19.6 -0.1**
KRLC *e* 13 13 35.8
DPC Dobruska-Polom 127.40 331 *e*PKPdf **PKPdf 13 13 19.9 +0.1**
DPC *ep*PKP **pPKPdf 13 13 35.6 +3.2**
DPC *e*PP **PP 13 15 19.4 -0.2**
DPC AMS AMS 14 13 40.0
comp=Z,800nm,17.0s
DPC Dobruska-Polom 127.40 331 *e*PKIKP **PKPdf 13 13 19.9 +0.1**
DPC *e* 13 13 35.6
DPC *e* 13 15 19.4
DPC MLR MLR
comp=Z,800nm,17.0s
UPC Upice 127.45 331 *e*PKPdf **PKPdf 13 13 20.1 +0.3**
UPC *ep*PKP **pPKPdf 13 13 35.8 +3.3**
UPC AMS AMS 14 11 30.0
comp=Z,900nm,20.3s
UPC Upice 127.45 331 *e*PKIKP **PKPdf 13 13 20.1 +0.3**
UPC *e* 13 13 35.8
UPC MLR MLR
comp=Z,900nm,20.3s
BSEG Bad Segeberg 127.49 337 *e*PKP **PKPdf 13 13 20.3 +0.6**
BSEG Bad Segeberg 127.49 337 *e*PKP **PKPdf 13 13 20.2 +0.6**
MBAR Mbarara 127.53 263 PFAKE 13 13 30.0 +8.8
MBAR LR LR
comp=Z,629nm,21.0s
SIGR SIGRI 127.56 314 *e*P **PKPdf 13 13 16.0 -4.3**
KAVA Kavala 127.74 317 *e*P **PKPdf 13 13 19.9 -0.7**
LPAZ La Paz 127.75 117 PKP PKPdf 13 13 22.0 -0.1
comp=Z,13nm,0.7s,baz=295,slow=1.5,SNR=37
CHOS Chios island 127.75 313 *e*P **PKPdf 13 13 20.9 +0.1**
LIA Limnos Island 127.75 315 *e*P **PKPdf 13 13 21.9 +1.3**
BUD Budapest 127.78 326 ⇓*e*PKPdf **PKPdf 13 13 21.9 +1.4**
VTS Vitosha 127.88 319 ⇑PKIKP **PKPdf 13 13 21.2 +0.2**
VTS Vitosha 127.88 319 ⇑*i*P **PKPdf 13 13 21.1 0.0**
VTS Vitosha 127.88 319 P **PKPdf 13 13 21.0 0.0**
VTS Vitosha 127.88 319 P **PKPdf 13 13 21.0 0.0**
VRAC Vranov 127.94 329 ⇓PKIKP **PKPdf 13 13 21.0 +0.2**
VRAC Vranov 127.94 329 ⇓*i*P **PKPdf 13 13 21.0 +0.2**
MMB Musomiste 128.00 318 ⇑PKIKP **PKPdf 13 13 20.7 -0.5**
MMB Musomiste 128.00 318 ⇑*i*P **PKPdf 13 13 20.7 -0.5**
NVR Nevrokopi 128.02 317 *e*P **PKPdf 13 13 20.8 -0.4**
NVR Nevrokopi 128.02 317 P **PKPdf 13 13 20.6 -0.6**
NVR Nevrokopi 128.02 317 P **PKPdf 13 13 20.6 -0.6**
PVCC Panska Ves 128.12 332 *e*PKPdf **PKPdf 13 13 21.1 0.0**
PVCC *ep*PKP **pPKPdf 13 13 37.6 +3.9**
PVCC AMS AMS 14 09 30.0
comp=Z,800nm,17.9s
PVCC Panska Ves 128.12 332 *e*PKIKP **PKPdf 13 13 21.1 0.0**
PVCC *e* 13 13 37.6
PVCC MLR MLR
comp=Z,800nm,17.9s
BRG Berggiesshubel 128.18 332 *i* PKP **PKPdf 13 13 21.3 +0.2**
comp=Z,28nm,1.3s
BRG *i* 13 13 23.3
comp=Z,53nm,1.2s
BRG *i* 13 13 37.2
comp=Z,46nm,1.3s
comp=N,1µm,22.2s
comp=E,493nm,17.9s
comp=Z,1µm,21.9s
BRG Berggiesshubel 128.18 332 *e*PKP **PKPdf 13 13 21.6 +0.4**
BRG Berggiesshubel 128.18 332 *e*PKP **PKPdf 13 13 21.5 +0.4**
BRG Berggiesshubel 128.18 332 *i* PKIKP **PKPdf 13 13 21.3 +0.2**
BRG *i* 13 13 37.2
BRG pmax pmax
comp=Z,28nm,1.3s
BRG MLR MLR
comp=N,1µm,22.2s
BRG MLR MLR
comp=E,493nm,17.9s
BRG MLR MLR
comp=Z,1µm,21.9s
PKSG 128.18 327 ⇑*e*PKPdf **PKPdf 13 13 21.4 +0.2**
CSKK Cs̆kako 128.27 327 ⇑*e*PKPdf **PKPdf 13 13 20.9 -0.5**
CLL Collm 128.30 333 *e*PKP **PKPdf 13 13 21.5 +0.1**
CLL Collm 128.30 333 *e*PKP **PKPdf 13 13 21.5 +0.1**
CLL Collm 128.30 333 *i* PKIKP **PKPdf 13 13 21.3 -0.1**
CLL *i* 13 13 37.4
CLL pmax pmax
comp=Z,15nm,1.0s
CLL MLR MLR
comp=Z,1µm,20.1s
CLL Collm 128.30 333 *i* PKPdf **PKPdf 13 13 21.3 -0.1**
comp=Z,15nm,1.0s
CLL *i* PKiKP **PKiKP 13 13 23.0 +1.0**
comp=Z,39nm,1.0s
CLL *i* pPKPdf **pPKPdf 13 13 37.4 +3.4**
comp=Z,28nm,1.2s
CLL *e* 13 13 46.0
CLL *e*PP **PP 13 15 27.0 +1.7**
comp=Z,29nm,1.5s
CLL *i* pPP 13 15 42.5
CLL LmV 14 12 00.0
comp=Z,1µm,20.1s
FBE Freiberg 128.41 333 *e*PKP **PKPdf 13 13 22.2 +0.6**
GOPC GO Pecny, Ondr 128.43 331 *e*PKPdf **PKPdf 13 13 20.8 -0.9**
GOPC *ep*PKP **pPKPdf 13 13 37.6 +3.2**
GOPC AMS AMS 14 13 00.0
comp=Z,1µm,19.1s
PKST T"s 128.45 327 ⇑*e*PKPdf **PKPdf 13 13 21.9 +0.1**
PRA Prague 128.50 331 *e*PKPdf **PKPdf 13 13 21.2 -0.6**
PRA *ep*PKP **pPKPdf 13 13 38.3 +3.9**
PRA Prague 128.50 331 *e*PKIKP **PKPdf 13 13 21.2 -0.6**
PRA *e* 13 13 38.3
PRU Pruhonice 128.50 331 *e*PKPdf **PKPdf 13 13 21.7 -0.1**
PRU *ep*PKP **pPKPdf 13 13 37.5 +3.0**
PRU AMS AMS 14 13 30.0
comp=Z,800nm,18.3s
PRU Pruhonice 128.50 331 *e*PKIKP **PKPdf 13 13 21.7 -0.1**
PRU *e* 13 13 37.5
PRU MLR MLR
comp=Z,800nm,18.3s
TREC Trest 128.50 330 *e*PKPdf **PKPdf 13 13 21.7 -0.2**
TREC *ep*PKP **pPKPdf 13 13 37.7 +3.2**

TREC				AMS	AMS	14 13 00.0		
	comp=Z,1μm,20.7s							
TREC	**Trest**	**128.50**	**330**	*e*PKIKP	**PKPdf**	**13 13 21.7**	**-0.2**	
TREC				*e*		13 13 37.7		
TREC				MLR	MLR			
	comp=Z,1μm,20.7s							
PKS9	**Tamasi**	**128.72**	**326**⇑	*e*PKPdf	**PKPdf**	**13 13 23.8**	**+1.5**	
PKSM	**Moragy**	**128.74**	**325**	⇑PKIKP	**PKPdf**	**13 13 22.1**	**-0.2**	
PKSM	**Moragy**	**128.74**	**325**⇑	*i*P	**PKPdf**	**13 13 22.1**	**-0.2**	
PKSM	**Moragy**	**128.74**	**325**⇑	*e*PKPdf	**PKPdf**	**13 13 23.0**	**+0.7**	
KNT	**Kendrikon**	**128.75**	**318**	*e*P	**PKPdf**	**13 13 21.5**	**-1.1**	
HORT	**Hortiatis**	**128.88**	**317**	*e*P	**PKPdf**	**13 13 22.1**	**-0.8**	
NEUB	**Neuenburg**	**128.91**	**334**	*e*PKP	**PKPdf**	**13 13 23.0**	**+0.5**	
SANT	**Santorini**	**128.96**	**311**	PFAKE		13 13 30.0	+6.9	
SANT				LR	LR			
	comp=Z,664nm,21.0s							
AOS	**Alonnisos**	**128.97**	**315**	*e*P	**PKPdf**	**13 13 20.3**	**-2.7**	
SOP	**Sopron**	**128.99**	**328**⇑	*e*PKPdf	**PKPdf**	**13 13 23.2**	**+0.4**	
CLZ	**Clausthal**	**129.05**	**335**	*e*PKP	**PKPdf**	**13 13 23.4**	**+0.6**	
DIVS	**Divibare**	**129.13**	**322**⇑	*i*P	**PKPdf**	**13 13 24.2**	**+0.9**	
DIVS	**Divibare**	**129.13**	**322**	P	**PKPdf**	**13 13 23.1**	**-0.2**	
TANN	**Tannenbergstha**	**129.18**	**333**	*e*PKP	**PKPdf**	**13 13 23.5**	**+0.3**	
TANN	**Tannenbergstha**	**129.18**	**333**	*e*PKP	**PKPdf**	**13 13 23.5**	**+0.3**	
GRG	**Griva**	**129.18**	**318**	*e*P	**PKPdf**	**13 13 22.1**	**-1.3**	
CONA	**Conrad Observa**	**129.19**	**328**⇑	*i*PKIKP	**PKPdf**	**13 13 23.3**	**0.0**	
	comp=Z,45nm,1.6s,SNR=26							
WERD	**Werda**	**129.22**	**333**	*e*PKP	**PKPdf**	**13 13 23.5**	**+0.3**	
PLN	**Plauen**	**129.26**	**333**	*e*PKP	**PKPdf**	**13 13 23.5**	**+0.3**	
GUNZ	**Gunzen**	**129.27**	**333**	*e*PKP	**PKPdf**	**13 13 23.8**	**+0.5**	
WERN	**Wernitzgruen**	**129.30**	**333**	*e*PKP	**PKPdf**	**13 13 23.7**	**+0.3**	
NKC	**Novy Kostel**	**129.31**	**333**	*e*PKPdf	**PKPdf**	**13 13 23.3**	**-0.1**	
NKC				*e*pPKP	**pPKPdf**	**13 13 37.2**	**+1.2**	
NKC				*e*PP	**PP**	**13 15 33.4**	**+1.4**	
NKC				AMS	AMS	14 11 20.0		
	comp=Z,900nm,20.1s							
NKC	**Novy Kostel**	**129.31**	**333**	*e*PKIKP	**PKPdf**	**13 13 23.3**	**-0.1**	
NKC				*e*		13 13 37.2		
NKC				*e*		13 15 33.4		
NKC				MLR	MLR			
	comp=Z,900nm,20.1s							
XOR	**Xorichti**	**129.37**	**315**	*e*P	**PKPdf**	**13 13 22.8**	**-1.0**	
MOX	**Moxa**	**129.39**	**333**	*e*PKP	**PKPdf**	**13 13 23.7**	**+0.3**	
MOX	**Moxa**	**129.39**	**333**	*e*PKP	**PKPdf**	**13 13 23.8**	**+0.3**	
MOX				*e*L	L	14 14 04.7		
	comp=Z,1μm,20.5s							
LIT	**Litokhoron**	**129.52**	**317**	*e*P	**PKPdf**	**13 13 25.0**	**+0.9**	
KHC	**Kasperske Hory**	**129.54**	**331**	*e*PKPdf	**PKPdf**	**13 13 23.7**	**-0.2**	
KHC				*e*pPKP	**pPKPdf**	**13 13 39.3**	**+2.8**	
KHC				*e*PP	**PP**	**13 15 32.9**	**-0.7**	
KHC				AMS	AMS	14 12 10.0		
	comp=Z,2μm,20.4s							
KHC	**Kasperske Hory**	**129.54**	**331**	*e*PKIKP	**PKPdf**	**13 13 23.7**	**-0.2**	
KHC				*e*		13 13 39.3		
KHC				*e*		13 15 32.9		
KHC				MLR	MLR			
	comp=Z,2μm,20.4s							
KHC	**Kasperske Hory**	**129.54**	**331**	*e*PKPdf	**PKPdf**	**13 13 23.8**	**0.0**	
BEHE	**Becsehely**	**129.62**	**326**⇓	*e*PKPdf	**PKPdf**	**13 13 24.9**	**+0.9**	
MANZ	**Manzenberg**	**129.64**	**333**	*e*PKP	**PKPdf**	**13 13 24.3**	**+0.3**	
GEC2	**GERESS Array S**	**129.68**	**331**	*e*PKP	**PKPdf**	**13 13 24.2**	**0.0**	
GEC2	**GERESS Array S**	**129.68**	**331**	*e*PKP	**PKPdf**	**13 13 24.5**	**+0.3**	
GEC2				*e*L	L	14 12 12.3		
	comp=Z,1μm,21.4s							
GERES	**GERESS Array B**	**129.68**	**331**	PKP	**PKPdf**	**13 13 24.0**	**-0.2**	
	comp=Z,9.9nm,0.8s,baz=53,slow=1.6,SNR=34							
IBBN	**Ibbenburen**	**129.73**	**337**	*e*PKP	**PKPdf**	**13 13 24.6**	**+0.6**	
IBBN	**Ibbenburen**	**129.73**	**337**	*e*PKP	**PKPdf**	**13 13 24.6**	**+0.6**	
ROTZ	**Rotzenmuhle**	**129.75**	**332**	*e*PKP	**PKPdf**	**13 13 24.4**	**+0.2**	
ROTZ	**Rotzenmuhle**	**129.75**	**332**	*e*PKP	**PKPdf**	**13 13 24.7**	**+0.5**	
ARSA	**Arzberg**	**129.80**	**328**⇑	*i*PKPdf	**PKPdf**	**13 13 23.9**	**-0.5**	
	comp=Z,19nm,1.6s,SNR=11							
LKR	**Lokris**	**129.82**	**315**	*e*P	**PKPdf**	**13 13 24.4**	**-0.2**	
WET	**Wettzell**	**129.87**	**331**	*e*PKP	**PKPdf**	**13 13 24.8**	**+0.3**	
WET	**Wettzell**	**129.87**	**331**	*e*PKP	**PKPdf**	**13 13 25.0**	**+0.5**	
WET				*e*L	L	14 12 29.2		
	comp=Z,2μm,20.7s							
FNA	**Florina**	**129.95**	**318**	PKIKP	**PKPdf**	**13 13 23.1**	**-1.8**	
FNA	**Florina**	**129.95**	**318**	*e*P	**PKPdf**	**13 13 24.7**	**-0.2**	
FNA	**Florina**	**129.95**	**318**	P	**PKPdf**	**13 13 23.1**	**-1.8**	
FNA	**Florina**	**129.95**	**318**	P	**PKPdf**	**13 13 23.1**	**-1.8**	
UBBA	**Unterbreizbach**	**129.96**	**335**	*e*PKP	**PKPdf**	**13 13 24.7**	**+0.3**	
UBBA	**Unterbreizbach**	**129.96**	**335**	*e*PKP	**PKPdf**	**13 13 25.0**	**+0.6**	
AXAR	**Agios Charalam**	**130.01**	**315**	*e*P	**PKPdf**	**13 13 25.1**	**+0.1**	
GRTK	**Grand Turk**	**130.05**	**69**	PFAKE		13 13 40.0	+14	
GRTK				LR	LR			
	comp=Z,926nm,21.0s							
MOA	**Molln**	**130.06**	**329**⇑	*i*PKPdf	**PKPdf**	**13 13 24.3**	**-0.6**	
	comp=Z,14nm,0.9s,SNR=12							
THL	**Klokotos Trika**	**130.09**	**316**	*e*P	**PKPdf**	**13 13 24.8**	**-0.3**	
DIDY	**Didyma**	**130.17**	**313**	*e*P	**PKPdf**	**13 13 24.4**	**-1.1**	
SDDR	**Presa de Saban**	**130.21**	**72**	PFAKE		13 13 40.0	+14	
SDDR				LR	LR			
	comp=Z,774nm,19.0s							
GRF	**Grafenberg Arr**	**130.25**	**333**	*e*PKP	**PKPdf**	**13 13 25.7**	**+0.5**	
GRF	**Grafenberg Arr**	**130.25**	**333**	*e*PKP	**PKPdf**	**13 13 25.5**	**+0.3**	
GRF				*e*L	L	14 14 42.8		
	comp=Z,1μm,20.3s							
GRFO	**Grafenberg**	**130.25**	**333**	*e*PKIKP	**PKPdf**	**13 13 24.6**	**-0.5**	
GRFO	**Grafenberg**	**130.25**	**333**	*e*PKPdf	**PKPdf**	**13 13 24.6**	**-0.5**	
DSF	**Desfina**	**130.26**	**315**	*e*P	**PKPdf**	**13 13 26.6**	**+1.0**	
MAKR	**Makrakomi, Fth**	**130.26**	**316**	*e*P	**PKPdf**	**13 13 25.5**	**0.0**	
MAKR	**Makrakomi, Fth**	**130.26**	**316**	P	**PKPdf**	**13 13 25.0**	**-0.5**	
MAKR	**Makrakomi, Fth**	**130.26**	**316**	P	**PKPdf**	**13 13 25.0**	**-0.5**	
SOKA	**Soboth**	**130.43**	**328**	*i*PKPdf	**PKPdf**	**13 13 25.2**	**-0.5**	
	comp=Z,32nm,1.3s,SNR=21							
MEV	**Metsovon**	**130.53**	**317**	*e*P	**PKPdf**	**13 13 27.7**	**+1.5**	
ESK	**Eskdalemuir**	**130.53**	**347**	PFAKE		13 13 40.0	+15	
ESK				LR	LR			
	comp=Z,967nm,19.0s							
EVR	**Evrytania**	**130.53**	**316**	*e*P	**PKPdf**	**13 13 27.4**	**+1.3**	
GUR	**Goura**	**130.60**	**314**	*e*P	**PKPdf**	**13 13 26.9**	**+0.6**	
GUR	**Goura**	**130.60**	**314**	P	**PKPdf**	**13 13 25.4**	**-0.9**	
GUR	**Goura**	**130.60**	**314**	P	**PKPdf**	**13 13 25.4**	**-0.9**	
BUG	**Bochum--Univer**	**130.60**	**337**	*e*PKP	**PKPdf**	**13 13 26.0**	**+0.4**	
BUG	**Bochum--Univer**	**130.60**	**337**	*e*PKP	**PKPdf**	**13 13 26.1**	**+0.4**	
TIR	**Tirane**	**130.66**	**319**	PFAKE		13 13 40.0	+14	
TIR				LR	LR			
	comp=Z,1μm,22.0s							
KLV	**Kalavryta, Ach**	**130.69**	**314**	*e*P	**PKPdf**	**13 13 26.6**	**+0.2**	
KLV	**Kalavryta, Ach**	**130.69**	**314**	P	**PKPdf**	**13 13 25.9**	**-0.5**	
KLV	**Kalavryta, Ach**	**130.69**	**314**	P	**PKPdf**	**13 13 25.9**	**-0.5**	
LAKA	**Lakka**	**130.72**	**315**	*e*P	**PKPdf**	**13 13 27.6**	**+1.2**	
ANKY	**Antikythira Is**	**130.76**	**311**	*e*P	**PKPdf**	**13 13 27.1**	**+0.6**	
VLX	**Vlachokerasia**	**130.81**	**313**	*e*P	**PKPdf**	**13 13 28.6**	**+1.9**	
JAN	**Janina**	**130.84**	**317**	*e*P	**PKPdf**	**13 13 27.6**	**+1.0**	
RJOB	**Jochberg**	**130.88**	**330**	*e*PKP	**PKPdf**	**13 13 26.1**	**-0.4**	
RJOB	**Jochberg**	**130.88**	**330**	*e*PKP	**PKPdf**	**13 13 26.3**	**-0.2**	
DRO	**Drossia**	**131.04**	**314**	*e*P	**PKPdf**	**13 13 29.8**	**+2.8**	
BOJS	**Bojanci**	**131.05**	**326**	*e*PKPdf	**PKPdf**	**13 13 27.0**	**+0.3**	
TNS	**Taunus Mts**	**131.07**	**335**	*e*PKP	**PKPdf**	**13 13 27.6**	**+0.9**	
TNS	**Taunus Mts**	**131.07**	**335**	*e*PKP	**PKPdf**	**13 13 27.3**	**+0.6**	
LJU	**Ljubljana**	**131.10**	**327**	*e*PKPdf	**PKPdf**	**13 13 26.9**	**+0.1**	
SDV	**Santo Domingo**	**131.12**	**85**	*e*PKPdf	**PKPdf**	**13 13 27.6**	**-0.5**	
SDV				LR	LR			
	comp=Z,693nm,19.0s							
RLS	**Riolos of Patr**	**131.16**	**315**	*e*P	**PKPdf**	**13 13 29.3**	**+2.1**	
CPUP	**Villa Florida**	**131.18**	**135**	PKP	**PKPdf**	**13 13 27.6**	**-0.1**	
	comp=Z,6.6nm,1.0s,baz=154,slow=1.1,SNR=8.2							
CPUP				SKPbc	**SKPbc**	**13 16 48.2**	**-1.1**	
	comp=Z,8.3nm,1.1s,baz=251,slow=3.6,SNR=7.0							
ITM	**Ithomi**	**131.22**	**313**	*e*P	**PKPdf**	**13 13 27.7**	**+0.3**	
IGT	**Igoumenitsa**	**131.25**	**317**	*e*P	**PKPdf**	**13 13 27.9**	**+0.5**	
FUR	**Furstenfeldbru**	**131.31**	**331**	*e*PKP	**PKPdf**	**13 13 27.6**	**+0.4**	
PYL	**PYLOS**	**131.48**	**313**	*e*P	**PKPdf**	**13 13 27.3**	**-0.6**	
ABTA	**Abfaltersbach**	**131.69**	**329**	*i*PKPdf	**PKPdf**	**13 13 27.4**	**-0.6**	
	comp=Z,40nm,1.6s,SNR=12							
MEM	**Membach**	**131.75**	**337**	PKP	**PKPdf**	**13 13 28.6**	**+0.7**	
WATA	**Walderalm**	**131.75**	**330**⇓	*i*PKiKP	**PKPdf**	**13 13 28.7**	**+0.4**	
	comp=Z,18nm,0.9s,SNR=6.3							
WTTA	**Wattenberg**	**131.77**	**330**	*i*PKiKP	**PKPdf**	**13 13 28.2**	**-0.2**	
	comp=Z,70nm,1.5s,SNR=20							
STU	**Stuttgart**	**131.83**	**333**	*e*PKP	**PKPdf**	**13 13 29.5**	**+1.3**	
STU	**Stuttgart**	**131.83**	**333**	*e*PKP	**PKPdf**	**13 13 28.8**	**+0.6**	
STU	**Stuttgart**	**131.83**	**333**	*e*PKIKP	**PKPdf**	**13 13 28.6**	**+0.5**	
STU	**Stuttgart**	**131.83**	**333**	*e*PKPdf	**PKPdf**	**13 13 28.6**	**+0.5**	
MOTA	**Moosalm**	**131.97**	**331**⇑	*i*PKPdf	**PKPdf**	**13 13 28.1**	**-0.6**	
	comp=Z,15nm,0.8s,SNR=12							
RETA	**Reutte**	**132.04**	**331**⇓	*i*PKiKP	**PKPdf**	**13 13 29.2**	**+0.5**	
	comp=Z,16nm,1.1s,SNR=9.1							
UCC	**Uccle**	**132.22**	**338**	PKP	**PKPdf**	**13 13 31.9**	**+3.1**	
FETA	**Feichten**	**132.38**	**331**⇑	*i*PKPdf	**PKPdf**	**13 13 25.4**	**-4.1**	
	comp=Z,27nm,1.2s,SNR=7.1							
WLF	**Walferdange**	**132.44**	**336**	PKP	**PKPdf**	**13 13 31.4**	**+2.1**	
WLF				APKP	**pPKPdf**	**13 13 47.4**	**+5.5**	
WLF	**Walferdange**	**132.44**	**336**	*e*PKP	**PKPdf**	**13 13 31.1**	**+1.9**	
WLF	**Walferdange**	**132.44**	**336**	*e*PKP	**PKPdf**	**13 13 30.6**	**+1.3**	
WLF	**Walferdange**	**132.44**	**336**	*e*PKIKP	**PKPdf**	**13 13 31.2**	**+1.9**	
WLF				MLR	MLR			
	comp=Z,1μm,20.0s							
WLF	**Walferdange**	**132.44**	**336**	*e*PKPdf	**PKPdf**	**13 13 31.2**	**+1.9**	
WLF				LR	LR			
	comp=Z,1μm,20.0s							
SNF	**Seneffe**	**132.48**	**338**	PKP	**PKPdf**	**13 13 30.9**	**+1.7**	
SNF				APKP	**pPKPdf**	**13 13 46.9**	**+4.9**	
BFO	**Black Forest**	**132.55**	**333**	*e*PKP	**PKPdf**	**13 13 29.4**	**-0.2**	
BFO	**Black Forest**	**132.55**	**333**	*e*PKP	**PKPdf**	**13 13 29.8**	**+0.2**	
BFO	**Black Forest**	**132.55**	**333**	*e*PKIKP	**PKPdf**	**13 13 29.1**	**-0.5**	
BFO				*e*		13 15 51.6		
BFO				MLR	MLR			
	comp=Z,859nm,22.0s							
BFO	**Black Forest**	**132.55**	**333**	*e*PKPdf	**PKPdf**	**13 13 29.1**	**-0.5**	
BFO				*e*PP	**PP**	**13 15 51.6**	**-1.3**	
BFO				LR	LR			
	comp=Z,859nm,22.0s							
DAVA	**Damuels**	**132.60**	**331**⇑	*i*PKiKP	**PKPdf**	**13 13 29.5**	**-0.3**	
	comp=Z,24nm,1.0s,SNR=5.5							
DOU	**Dourbes**	**132.70**	**338**	PKP	**PKPdf**	**13 13 31.0**	**+1.2**	
DOU				APKP	**pPKPdf**	**13 13 47.2**	**+4.8**	
BBSR	**BB Station**	**132.89**	**53**	PFAKE		13 13 40.0	+9.4	
BBSR				LR	LR			
	comp=Z,1μm,22.0s							
ECH	**Echery**	**133.14**	**334**	*e*PKIKP	**PKPdf**	**13 13 31.1**	**+0.4**	
ECH				*e*		13 15 55.0		
ECH				MLR	MLR			
	comp=Z,851nm,20.0s							
ECH	**Echery**	**133.14**	**334**	*e*PKPdf	**PKPdf**	**13 13 31.1**	**+0.4**	
ECH				*e*PP	**PP**	**13 15 55.0**	**-1.7**	
ECH				LR	LR			
	comp=Z,851nm,20.0s							
TSUM	**Tsumeb**	**133.27**	**234**	PFAKE		13 13 40.0	+8.1	
TSUM				LR	LR			
	comp=Z,2μm,19.0s							
TIP	**Timpagrande**	**133.82**	**318**	*e*PKPdf	**PKPdf**	**13 13 33.4**	**+1.1**	
TIP				LR	LR			
	comp=Z,572nm,22.0s							
SIV	**San Ignacio**	**133.98**	**121**	PKhKP	PKPpre	13 13 28.4		
	comp=Z,1.3nm,0.8s,baz=236,slow=5.4,SNR=2.8							
SIV				PKP	**PKPdf**	**13 13 33.5**	**+0.3**	
	comp=Z,3.5nm,0.8s,baz=235,slow=5.2,SNR=10							
SIV				SKPbc	**SKPbc**	**13 16 58.0**	**-1.4**	
	comp=Z,1.5nm,0.7s,baz=239,slow=5.9,SNR=4.5							
CUC	**Castrocucco**	**133.98**	**320**	*e*PKPdf	**PKPdf**	**13 13 31.6**	**-0.9**	
CUC				LR	LR			
	comp=Z,599nm,21.0s							
AQU	**L'Aquila**	**134.06**	**324**	*e*PKIKP	**PKPdf**	**13 13 32.6**	**0.0**	
AQU				MLR	MLR			
	comp=Z,1μm,20.0s							
AQU	**L'Aquila**	**134.06**	**324**	*e*PKPdf	**PKPdf**	**13 13 32.6**	**0.0**	
AQU				LR	LR			
	comp=Z,1μm,20.0s							
VLC	**Villacollemand**	**134.55**	**328**	PFAKE		13 13 40.0	+6.5	
VLC				LR	LR			
	comp=Z,1μm,21.0s							
CELP	**Cerrillos**	**134.75**	**72**	PKPdf	**PKPdf**	**13 13 35.1**	**+0.6**	
SAML	**Samuel**	**134.98**	**111**	PFAKE		13 13 50.0	+15	
SAML				LR	LR			
	comp=Z,916nm,19.0s							
SJG	**San Juan**	**135.15**	**72**	*e*PKIKP	**PKPdf**	**13 13 34.7**	**-0.5**	
SJG				MLR	MLR			
	comp=Z,673nm,21.0s							
SJG	**San Juan**	**135.15**	**72**	*e*PKPdf	**PKPdf**	**13 13 34.7**	**-0.5**	
SJG				LR	LR			
	comp=Z,673nm,21.0s							
BNI	**Bardonecchia**	**135.75**	**332**	*e*PKIKP	**PKPdf**	**13 13 35.6**	**-0.2**	
BNI				MLR	MLR			
	comp=Z,1μm,21.0s							
BNI	**Bardonecchia**	**135.75**	**332**	*e*PKPdf	**PKPdf**	**13 13 35.6**	**-0.2**	
BNI				LR	LR			
	comp=Z,1μm,21.0s							
SSB	**Saint Sauveur**	**136.56**	**334**	*e*PKIKP	**PKPdf**	**13 13 37.7**	**+0.5**	
SSB				MLR	MLR			
	comp=Z,858nm,20.0s							
SSB	**Saint Sauveur**	**136.56**	**334**	*e*PKPdf	**PKPdf**	**13 13 37.7**	**+0.5**	
SSB				*e*SKPbc	**SKiKP**	**13 17 10.7**	**-1.4**	
SSB				LR	LR			
	comp=Z,858nm,20.0s							
CLTB	**Caltabellotta**	**137.02**	**319**	*e*PKPdf	**PKPdf**	**13 13 38.4**	**0.0**	
CLTB				LR	LR			
	comp=Z,680nm,21.0s							
PCRV	**Puerto La Cruz**	**137.07**	**84**	PKP	**PKPdf**	**13 13 37.2**	**-1.8**	
	comp=Z,9.4nm,0.9s,baz=34,slow=7.1,SNR=3.3							
PCRV				SKPbc	**SKPbc**	**13 17 10.8**	**+1.7**	
	comp=Z,5.9nm,0.7s,baz=322,slow=17,SNR=2.6							
WDD	**Wield Dalam**	**137.08**	**316**	PFAKE		13 13 50.0	+12	
WDD				LR	LR			
	comp=Z,937nm,19.0s							
VSL	**Villasalto**	**138.23**	**324**	*e*PKPdf	**PKPdf**	**13 13 39.4**	**-1.0**	
VSL				LR	LR			
	comp=Z,570nm,20.0s							
ANWB	**Willy Bob**	**139.33**	**72**	PFAKE		13 13 50.0	+7.0	
ANWB				LR	LR			
	comp=Z,536nm,22.0s							
GRGR	**Grenville**	**139.97**	**81**	PFAKE		13 14 00.0	+16	
GRGR				LR	LR			
	comp=Z,624nm,20.0s							
FDF	**Fort de France**	**140.29**	**76**	PFAKE		13 14 00.0	+15	
FDF				LR	LR			
	comp=Z,589nm,19.0s							
PTGA	**Pitinga**	**140.43**	**101**	PKhKP	PKPpre	13 13 37.6		
	comp=Z,2.6nm,0.6s,baz=336,slow=20,SNR=4.3							
PTGA				PKP	**PKPdf**	**13 13 43.8**	**-1.4**	
	comp=Z,11nm,0.9s,baz=258,slow=3.5,SNR=4.2							
PTGA				SKPbc	**SKPbc**	**13 17 18.1**	**-0.5**	
	comp=Z,8.1nm,0.8s,baz=256,slow=6.5,SNR=6.6							
KEST	**Kesra**	**140.62**	**319**	PKhKP	PKPpre	13 13 38.4		
	comp=Z,2.1nm,0.8s,baz=325,slow=2.8,SNR=5.2							
KEST				SKPbc	**SKPbc**	**13 17 18.4**	**-0.1**	
	comp=Z,4.5nm,1.1s,baz=324,slow=6.0,SNR=4.0							
KEST	**Kesra**	**140.62**	**319**	PKPpre	PKPpre	13 13 38.4		
KEST				*e*PKPdf	**PKPdf**	**13 13 45.9**	**+0.9**	
KEST				SKPbc	**SKPbc**	**13 17 18.4**	**-0.1**	
CMAH	**Djebel Manchou**	**141.27**	**322**	P	**PKPdf**	**13 13 45.6**	**-0.5**	
ABSA	**Djebel Ababsia**	**141.46**	**321**	P	**PKPdf**	**13 13 43.6**	**-2.9**	
CKFL	**Kef-Lekhel**	**141.84**	**322**	P	**PKPdf**	**13 13 42.8**	**-4.4**	
CASM	**Ain Snara**	**142.07**	**322**	P	**PKPdf**	**13 13 43.4**	**-4.1**	
DFRA	**Djebel Bou Aff**	**142.25**	**323**	P	**PKPdf**	**13 13 46.7**	**-1.2**	
SET	**Setif**	**142.77**	**323**	P	PKPdf	13 13 43.0	-5.8	
ATAF	**Djebel Tarf**	**143.65**	**324**	P	PKPbc	13 13 48.2	+0.3	
PBRG	**Braganca**	**143.83**	**342**	*e*PKP	PKPab	13 13 47.7	+0.2	
ADJB	**Djebel Djouab**	**143.94**	**325**	P	PKPbc	13 13 49.4	+0.7	
PGAV	**Gavieira, Arco**	**144.14**	**343**	*e*PKP	**PKPab**	**13 13 48.7**	**0.0**	
EMHD	**Djebel Mahouad**	**144.18**	**326**	P	PKPbc	13 13 49.8	+0.3	
PCAB	**Cabril**	**144.31**	**343**	*e*PKP	PKPbc	13 13 49.8	+0.2	
MVO	**Moncorvo**	**144.50**	**341**	*e*PKP	**PKPab**	**13 13 49.8**	**-0.2**	
POLO	**Lamas de Olo**	**144.55**	**342**	*e*PKP	**PKPab**	**13 13 50.3**	**+0.1**	
PVRL	**Vila Real**	**144.61**	**342**	*e*PKP	PKPbc	13 13 50.6	0.0	
BDFB	**Brasilia**	**144.66**	**131**	PKP	**PKPab**	**13 13 50.9**	**-0.5**	
	comp=Z,109nm,0.8s,baz=223,slow=2.1,SNR=82							
ESDC	**Sonseca Array**	**144.73**	**337**	PKP	**PKPab**	**13 13 51.0**	**+0.1**	
	comp=Z,30nm,1.0s,baz=25,slow=3.0,SNR=56							
ESDC				PP	**PP**	**13 17 09.4**	**+1.2**	
	comp=Z,3.4nm,0.8s,baz=19,slow=6.5,SNR=5.4							
ESDC				SKPbc	**SKPbc**	**13 17 26.7**	**-1.7**	
	comp=Z,4.7nm,1.1s,baz=0.0,slow=6.4,SNR=4.4							
EBNR	**Beni Rached**	**144.90**	**327**	P	**PKPdf**	**13 13 53.4**	**+0.9**	
PAB	**San Pablo**	**145.00**	**337**	*e*PKIKP	**PKPab**	**13 13 51.4**	**-0.5**	
PAB				MLR	MLR			
	comp=Z,773nm,20.0s							
PAB	**San Pablo**	**145.00**	**337**	*e*PKPdf	**PKPab**	**13 13 51.4**	**-0.5**	
PAB				LR	LR			
	comp=Z,773nm,20.0s							
PVIS	**Viseu**	**145.18**	**342**	*e*PKP	**PKPdf**	**13 13 52.7**	**-0.2**	
MTE	**Manteigas**	**145.36**	**341**	*e*PKP	**PKPdf**	**13 13 53.2**	**0.0**	
MTE	**Manteigas**	**145.36**	**341**	*e*PKPbc	**PKPbc**	**13 13 53.0**	**0.0**	
MTE				LR	LR			
	comp=Z,906nm,22.0s							
EANR	**'Ain N'Sour**	**145.38**	**327**	P	**PKPbc**	**13 13 52.8**	**-0.4**	
ETRT	**Tiaret**	**145.69**	**326**	P	**PKPdf**	**13 13 54.0**	**0.0**	
PCBR	**Castelo Branco**	**145.85**	**341**	*e*PKP	**PKPab**	**13 13 54.8**	**-0.1**	
OJGS	**Djebel Guires**	**145.90**	**327**	P	**PKPbc**	**13 13 55.0**	**+0.1**	
PCAS	**Casmilo, Conde**	**145.97**	**342**	*e*PKP	**PKPab**	**13 13 55.2**	**-0.2**	
PMRV	**Marv??o**	**146.19**	**341**	*e*PKP	**PKPdf**	**13 13 55.0**	**+0.4**	
PTOM	**Tomar**	**146.34**	**342**	*e*PKP	**PKPbc**	**13 13 56.1**	**+0.1**	
ODJA	**Bouhanifia**	**146.52**	**328**	P	**PKPbc**	**13 13 57.0**	**+0.3**	
PESTR	**Estremoz**	**146.76**	**340**	*e*PKP	**PKPbc**	**13 13 57.4**	**+0.1**	
PMTG	**Montargil**	**146.79**	**341**	*e*PKP	**PKPbc**	**13 13 57.0**	**-0.3**	
H07N1	**FLORES T-PHASB**	**147.07**	**14**	*e*PKP	**PKPab**	**13 13 59.3**	**-0.4**	
H07N1	**FLORES T-PHASB**	**147.07**	**14**	PKPbc	**PKPbc**	**13 13 58.4**	**+0.2**	
PBAR	**Barrancos**	**147.20**	**339**	*e*PKP	**PKPbc**	**13 13 59.3**	**+0.8**	
EVO	**Evora**	**147.21**	**341**	*e*PKP	**PKPbc**	**13 13 58.9**	**+0.4**	
PMAFR	**Mafra**	**147.22**	**343**	*e*PKP	**PKPdf**	**13 13 55.8**	**-0.5**	
OLHC	**Oulhaca**	**147.24**	**329**	P	**PKPdf**	**13 13 56.0**	**-0.5**	
H07S1	**FLORES T-PHASB**	**147.34**	**14**	*e*PKP	**PKPab**	**13 14 02.6**	**+1.8**	
H07S1	**FLORES T-PHASB**	**147.34**	**14**	PKPbc	**PKPab**	**13 14 00.3**	**-0.5**	
MESJ	**Messejana**	**147.90**	**340**	*e*P	**PKPdf**	**13 13 56.9**	**-0.6**	
PGRA	**Graciosa**	**148.36**	**10**	*e*P	**PKPbc**	**13 14 02.0**	**+0.4**	
MORF	**Marmelete**	**148.53**	**341**	*e*P	**PKPdf**	**13 13 57.8**	**-0.8**	
ROSA	**Rosais**	**148.62**	**11**	*e*P	**PKPbc**	**13 14 03.0**	**+0.7**	
PMAN	**Manadas**	**148.73**	**10**	*e*P	**PKPbc**	**13 14 02.9**	**+0.3**	
PCAN	**Candelaria**	**148.82**	**11**	*e*P	**PKPbc**	**13 14 04.2**	**+1.4**	
ADH	**Angra Heroismo**	**148.85**	**9**	*e*P	**PKPab**	**13 14 05.2**	**-1.5**	
PPNO	**Prainha do Nor**	**148.85**	**11**	*e*P	**PKPab**	**13 14 08.3**	**+1.5**	
PSET	**Sete Cidades**	**149.88**	**7**	*e*P	**PKPbc**	**13 14 07.0**	**+1.5**	
BART	**Pico Bartolome**	**149.99**	**6**	*e*P	**PKPdf**	**13 14 02.0**	**+1.1**	
TAM	**Tamanrasset**	**150.32**	**303**	*e*P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U73B	**San Pedro**	**0.74**	**62**	*eP*	Pn	13 01 52.3	-0.4
U73B				*i* S	Sn	13 02 02.9	-0.4
U73B				AML	AML	13 02 07.8	
	comp=N,6μm,0.2s						
U65B	**HualaæØ**	**0.77**	**154**	⇓*i* P	Pb	13 01 52.3	0.0
U65B				*eS*	Sn	13 02 03.3	-0.6
U65B				AML	AML	13 02 05.8	
	comp=E,8μm,0.2s						
U69B	**Peumo**	**0.86**	**97**	*eP*	Pb	13 01 53.7	-0.1
NICH	**Los Niches**	**1.08**	**132**	*eP*	Pb	13 01 57.8	+0.1
NICH				*eS*	Sn	13 02 12.7	+1.0
TALC	**Talca**	**1.22**	**157**	⇑*i* P	Pb	13 01 59.8	-0.1
TALC				*eS*	Sb	13 02 16.0	+0.8
CLCH	**Cerro Calan**	**1.64**	**58**	⇑*i* P	Pb	13 02 06.3	-1.0
CLCH				*i* S	Sb	13 02 28.6	+1.0
CLCH				AML	AML	13 02 40.0	
	comp=N,1μm,0.5s						
LNCH	**Linares**	**1.65**	**163**	*eP*	Pb	13 02 06.3	-1.0
LNCH				*eS*	Sb	13 02 28.3	+0.7
PEL	**Peldehue**	**1.70**	**49**	⇓*eP*	Pb	13 02 07.1	-1.1
PEL				*eS*	Sb	13 02 29.7	+0.5
PEL				AML	AML	13 02 39.4	
	comp=E,2μm,0.6s						

MAN 10 13:06:51.1±3.5, 13°45.5'N × 121°34.6'E, h1 ± 1 km, mb 4.2, ML 3.1, MS 2.9, 2C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.38**	**277**	⇓*eP*	Pg	13 06 59.2	+0.8
LQP	**Lukban**	**0.68**	**17**	⇑*eP*	Pn	13 07 13.1	+5.0
TGY	**Tagaytay City**	**0.75**	**329**	⇑*i* P	Pg	13 07 06.0	+0.4
TGY				*i* S	Sb	13 07 16.9	-1.0
SJMP	**San Jose**	**1.01**	**192**	*eP*	Pn	13 07 13.0	+0.7
SJMP				*eS*	Sn	13 07 26.6	-0.5
GQP	**Guinayangan**	**1.17**	**67**	⇓*eP*	Pn	13 07 14.6	+0.1
GQP				*eS*	Sn	13 07 31.7	+0.6
OTRP	**Odiongan**	**1.27**	**148**	*eP*	Pg	13 07 15.1	-0.4
BUSP	**Coron**	**1.82**	**218**	*eP*	Pn	13 07 23.8	+0.3
BUSP				*eS*	Sn	13 07 45.0	-2.2
BALP	**Baler**	**2.29**	**6**	*eP*	Pn	13 07 30.9	+1.0
CUYO	**Cuyo Island**	**2.61**	**187**	*eP*	Pn	13 07 32.5	-1.8
PVCP	**Virac**	**2.74**	**87**	*eP*	Pn	13 07 37.3	+1.2

*CSEM **10** 13:10:49.9, 43°.91N × 19°.37E, h0 km, ML 1.6*
BEO 10 13:10:49.9±0.6, 43°.91N × 19°.37E, h0 km, ML 1.6/8, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBLS	**Lazić**	**0.05**	**150**	*eP*	Pg	13 10 49.5	-1.5
BBLS				*eS*	Sg	13 10 51.6	-0.1
BBLS	**Lazić**	**0.05**	**150**	*eP*	Pg	13 10 49.5	-1.5
BBLS				*eS*	Sg	13 10 51.6	-0.1
DIVS	**Divibare**	**0.49**	**67**	*eP*	Pg	13 10 57.5	-1.9
DIVS				*eS*	Sg	13 11 05.1	-0.7
DIVS	**Divibare**	**0.49**	**67**	*eP*	Pg	13 10 57.5	-1.9
DIVS				*eS*	Sg	13 11 05.1	-0.7
TEKS	**Tekeris**	**0.65**	**10**	*eP*	Pg	13 11 02.1	-0.3
TEKS				*eS*	Sg	13 11 11.4	+0.5
TEKS	**Tekeris**	**0.65**	**10**	*eP*	Pg	13 11 02.1	-0.3
TEKS				*eS*	Sg	13 11 11.4	+0.5
SJES	**Sjenica**	**0.78**	**146**	*eP*	Pg	13 11 04.2	-0.9
SJES				*eS*	Sg	13 11 15.2	-0.2
TRUS	**Trudelj**	**0.81**	**67**	*eP*	Pg	13 11 04.1	-1.4
TRUS				*eS*	Sg	13 11 14.6	-1.4
TRUS	**Trudelj**	**0.81**	**67**	*eP*	Pg	13 11 04.1	-1.4
TRUS				*eS*	Sg	13 11 14.6	-1.4
GRUS	**Gruza**	**0.97**	**91**	*eP*	Pg	13 11 07.5	-1.1
GRUS				*eS*	Sg	13 11 21.8	+0.6
GRUS	**Gruza**	**0.97**	**91**	*eP*	Pg	13 11 07.5	-1.1
GRUS				*eS*	Sg	13 11 21.8	+0.6
FGSL	**Fruska Gora**	**1.29**	**14**	*eS*	Sg	13 11 30.7	-0.7
FRGS	**Fruska Gora**	**1.29**	**14**	*eS*	Sg	13 11 30.7	-0.7
SELS	**Selova**	**1.45**	**118**	*eP*	Pn	13 11 15.8	-1.6
BARS	**Barje**	**2.09**	**121**	*eP*	Pb	13 11 27.6	-1.1
BARS				*eS*	Sg	13 11 56.7	-0.5
BARS	**Barje**	**2.09**	**121**	*eP*	Pb	13 11 27.6	-1.1
BARS				*eS*	Sg	13 11 56.7	-0.5

*IDC **10** 13:18:40.0±1.3, 8°.00S × 158°.83E, h46 km ± 8 km, mb 3.7/12, mb1 3.9/13, mb1mx3.8/34, mbtmp4.0/13, ML 4.3/1, Error ellipse: s-maj=33.3km s-min=18.5km az=128.0*
*ISCJB **10** 13:18:41.3±0.5, 7°.78S±0°.08 × 158°.59E±0°.09, h61 km, mb3.9/12, Error ellipse: s-maj=16.2km s-min=8.0km az=139.6*
ISC 10 13:18:42.4±0.6, 7°.9S±0°.1 × 158°.6E±0°.1, h61 km, n21, σ1§59/18, mb4.0/12, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.07**	**139**	*eP*	**Pn**	**13 19 16.0**	**+1.1**
HNR				*i* S	**Sn**	**13 19 40.0**	**+0.4**
JAY	**Jayapura**	**18.55**	**286**	P	**Pn**	**13 22 56.4**	**+1.1**
	1.0nm,0.3s,baz=51,slow=1.5,SNR=5.2						
WRA	**Warramunga Arr**	**26.35**	**240**	P	**P**	**13 24 13.9**	**+0.9**
	0.9nm,0.5s,baz=64,slow=9.0,SNR=14						
WRA				pP	**pP**	**13 24 25.6**	**-2.3**
	4.4nm,0.8s,baz=65,slow=9.1,SNR=17						
H11S3	**WAKE ISLAND Hy**	**27.40**	**17**	T	T	13 52 46.8	
	baz=198,slow=76,SNR=191						
H11S2	**WAKE ISLAND Hy**	**27.40**	**17**	T	T	13 53 02.0	
	baz=198,slow=76,SNR=161						
H11S1	**WAKE ISLAND Hy**	**27.42**	**17**	T	T	13 53 03.0	
	baz=198,slow=76,SNR=138						
ASAR	**Alice Springs**	**28.37**	**234**	P	**P**	**13 24 31.4**	**+0.2**
	0.4nm,0.4s,baz=63,slow=9.7,SNR=8.9						
ASAR				pP	**pP**	**13 24 42.6**	**-3.5**
	1.6nm,0.7s,baz=63,slow=9.3,SNR=9.6						
H11N1	**WAKE ISLAND Hy**	**28.61**	**17**	T	T	13 54 30.0	
	baz=196,slow=76,SNR=89						
H11N3	**WAKE ISLAND Hy**	**28.62**	**17**	T	T	13 54 27.2	
	baz=196,slow=76,SNR=72						
H11N2	**WAKE ISLAND Hy**	**28.63**	**17**	T	T	13 54 30.8	
	baz=196,slow=76,SNR=47						
MJAR	**Matsushiro Arr**	**48.13**	**338**	P	**P**	**13 27 15.8**	**-0.7**
	0.9nm,0.7s,baz=167,slow=7.8,SNR=4.9						
KSRS	**Korea Array**	**53.42**	**330**	P	**P**	**13 27 57.3**	**+1.1**
	1.3nm,0.6s,baz=138,slow=7.1,SNR=8.7						
USRK	**Ussuriysk Ar.**	**57.13**	**337**	P	**P**	**13 28 23.6**	**+0.9**
	3.8nm,0.9s,baz=148,slow=8.5,SNR=8.3						
CMAR	**Chiang Mai Arr**	**64.35**	**295**	P	**P**	**13 29 14.0**	**+1.6**
	0.3nm,0.4s,baz=96,slow=8.4,SNR=3.0						
SEY	**Seymchan**	**70.76**	**357**	P	**P**	**13 29 51.9**	**0.0**
	1.2nm,0.9s,baz=184,slow=16,SNR=2.7						
SONM	**Songino Array**	**72.01**	**326**	P	**P**	**13 30 01.6**	**+1.7**
	4.3nm,0.8s,baz=136,slow=5.7,SNR=23						
AIS	**Amsterdam Isla**	**78.11**	**233**	R		13 31 00.0	
ILAR	**Eielson Array**	**82.92**	**21**	P	**P**	**13 30 58.4**	**-2.0**
	0.3nm,0.8s,baz=229,slow=5.5,SNR=4.4						
MKAR	**Makanchi Array**	**86.41**	**318**	P	**P**	**13 31 18.8**	**+0.4**
	1.0nm,0.6s,baz=100,slow=6.2,SNR=7.2						
MKAR				pP	**pP**	**13 31 33.6**	**-1.9**
	1.3nm,0.7s,baz=107,slow=5.3,SNR=6.5						
NVAR	**Mina Array Bea**	**89.50**	**51**	P	**P**	**13 31 33.5**	**0.0**
	0.8nm,0.8s,baz=235,slow=7.1,SNR=7.3						
YKA	**Yellowknife Ar**	**95.46**	**28**	P	**P**	**13 31 59.0**	**-1.2**
	0.6nm,0.7s,baz=260,slow=4.6,SNR=8.3						

*IDC **10** 13:21:16.6±5.6, 36°.09N × 70°.96E, h146 km ± 50 km, mb 3.3/11, mb1 3.4/15, mb1mx3.2/31, mbtmp3.8/15, Error ellipse: s-maj=26.5km s-min=16.5km az=16.0*
*ISCJB **10** 13:21:23.5±0.5, 36°.49N ± 0°.03 × 71°.05E ± 0°.08, h188 km, mb3.5/10, Error ellipse: s-maj=9.0km s-min=4.7km az=176.2*
*NNC **10** 13:21:29.3±2.0, 36°.85N × 71°.04E, h198 km ± 16 km, mb3.2, mpv4.5, Error ellipse: s-maj=20.6km s-min=9.2km az=165.0*
ISC 10 13:21:22.9±0.6, 36°.45N±0°.05 × 71°.16E±0°.07, h188 km, n38, σ1§89/43, mb3.5/10, 6C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.69**	**167**	⇓P	Pn	13 22 11.9	+3.4
CEP				S	**Sn**	**13 22 47.0**	**+3.1**
DZET	**Dzherino**	**2.99**	**322**	⇑Pn	**Pn**	**13 22 14.5**	**+2.7**
	88nm,0.1s						
DZET				⇑Sn	**Sn**	**13 22 50.4**	**+0.2**
	231nm,0.2s						
CHCP	**Chirah Chowk**	**3.28**	**148**	P	Pn	13 22 19.3	+4.0
THW	**Thamme Wali**	**3.68**	**172**	⇓P	**Pn**	**13 22 23.1**	**+2.8**
SFK	**Sufi-Kurgan**	**4.01**	**27**	⇓Pn	**Pn**	**13 22 27.0**	**+2.5**
	27nm,0.3s						
SFK				⇑Sn	**Sn**	**13 23 14.4**	**+1.5**
	23nm,0.4s						
SARP	**Sargodha**	**4.69**	**164**	P	**Pn**	**13 22 34.7**	**+1.7**
DLH	**Dalhousie**	**5.56**	**133**	*eP*	**Sn**	**13 23 49.0**	**+0.2**
AML	**Almayashu**	**6.00**	**18**	P	**Pn**	**13 22 52.3**	**+2.0**
	SNR=132						
UCH	**Uchtor**	**6.33**	**23**	P	**Pn**	**13 22 56.4**	**+1.9**
	SNR=33						
KZA	**Kyzart**	**6.45**	**28**	P	**Pn**	**13 22 57.5**	**+1.3**
	SNR=16						
EKS2	**Erkin-Say**	**6.52**	**17**	P	**Pn**	**13 22 59.2**	**+2.4**
	SNR=8.6						
KK31	**Karatay Array**	**6.66**	**356**	⇓P	**Pn**	**13 23 00.1**	**+1.5**
	7.5nm,0.3s,baz=181,slow=13,SNR=228						
KK31				⇑S	**Sn**	**13 24 10.0**	**-4.3**
	13nm,0.7s,baz=184,slow=18,SNR=9.3						
AAK	**Ala-Archa**	**6.69**	**22**	P	**Pn**	**13 23 01.3**	**+2.2**
	SNR=26						
AAK	**Ala-Archa**	**6.69**	**22**	P	**Pn**	**13 23 01.2**	**+2.2**
	22nm,0.6s						
AAK				⇓S	**Sn**	**13 24 15.7**	**+0.5**
	12nm,0.6s						
KBK	**Karagaybulak**	**6.85**	**24**	P	**Pn**	**13 23 03.8**	**+2.6**
	SNR=18						
ULHL	**Ulahol**	**7.00**	**33**	P	**Pn**	**13 23 04.7**	**+1.6**
	SNR=7.4						
CHMS	**Chumysh**	**7.10**	**22**	P	**Pn**	**13 23 06.2**	**+2.0**
	SNR=12						
USP	**Ospenovka**	**7.28**	**20**	P	**Pn**	**13 23 08.2**	**+1.6**
	SNR=12						
SMLA	**Simla**	**7.29**	**135**	*i* P	**Pn**	**13 23 08.2**	**+1.3**
SMLA				*i* S	**Sn**	**13 24 26.3**	**-2.9**
SMLA				*i* S	**Sn**	**13 24 26.3**	**-2.9**
SMLA				AML	AML	13 24 29.7	
	comp=E,655nm,0.2s						
SMLA				AML	AML	13 24 29.8	
	comp=N,636nm,0.2s						
TKM2	**Tokmak 2**	**7.31**	**27**	P	**Pn**	**13 23 08.9**	**+1.7**
	SNR=39						
TKM2	**Tokmak 2**	**7.31**	**27**	⇓P	**Pn**	**13 23 09.1**	**+1.9**
	comp=N,37nm,0.9s						
MKAR	**Makanchi Array**	**13.26**	**35**	P	**Pn**	**13 24 24.2**	**+0.4**
	comp=N,0.3nm,0.3s,baz=216,slow=14,SNR=7.0						
KURBB	**Kurchatov Arra**	**15.13**	**18**	P	**Pn**	**13 24 46.6**	**-0.3**
	comp=N,0.1nm,0.3s,baz=210,slow=11,SNR=7.1						
AB31	**Akbulak array**	**15.19**	**331**	P	**P**	**13 24 50.5**	**+2.0**
	comp=N,1.6nm,0.6s,baz=139,slow=11,SNR=19						
AB31				⇑S	**S**	**13 27 36.1**	**-1.2**
	comp=N,2.5nm,0.9s,baz=148,slow=20,SNR=6.2						
BVAR	**Borovoye Array**	**16.58**	**358**	P	**Pn**	**13 25 04.5**	**0.0**
	comp=N,0.5nm,0.3s,baz=154,slow=8.6,SNR=8.4						
AKTO	**Aktyubinsk**	**16.89**	**330**	⇑P	**Pn**	**13 25 08.8**	**+0.6**
	comp=N,1.5nm,0.7s						
AKTO	**Aktyubinsk**	**16.89**	**330**	P	**P**	**13 25 07.4**	**+0.3**
	comp=N,0.3nm,0.3s,baz=141,slow=15,SNR=4.0						
ZALV	**Zalesovo Beam**	**19.91**	**24**	P	**P**	**13 25 40.6**	**+0.8**
	comp=N,1.1nm,0.3s,baz=218,slow=10,SNR=5.9						
SONM	**Songino Array**	**28.26**	**55**	P	**P**	**13 26 58.3**	**-0.2**
	comp=N,0.3nm,0.5s,baz=258,slow=7.2,SNR=2.8						
BRTR	**Keskin Array B**	**29.57**	**288**	P	P	13 27 05.5	-4.7
	comp=N,0.4nm,0.5s,baz=94,slow=13,SNR=4.3						
FINES	**FINESS Array B**	**37.59**	**326**	P	**P**	**13 28 19.6**	**+0.7**
	comp=N,1.1nm,0.6s,baz=122,slow=9.3,SNR=9.8						
ARCES	**ARCESS Array B**	**41.24**	**338**	P	**P**	**13 28 49.5**	**+0.5**
	comp=N,0.7nm,0.3s,baz=71,slow=11,SNR=8.3						
NOA	**NORSAR Array B**	**44.50**	**323**	P	**P**	**13 29 14.7**	**-0.6**
	comp=N,0.2nm,0.3s,baz=101,slow=7.3,SNR=5.3						
TORD	**Torodi Ar. Bea**	**65.84**	**269**	P	**P**	**13 31 45.6**	**-2.8**
	comp=N,0.6nm,0.5s,baz=51,slow=6.5,SNR=9.7						
INK	**Inuvik**	**73.93**	**9**	P	**P**	**13 32 36.4**	**-0.4**
	comp=N,1.0nm,0.7s,baz=352,slow=5.2,SNR=4.5						
YKA	**Yellowknife Ar**	**81.29**	**3**	P	**P**	**13 33 17.5**	**-0.1**
	comp=N,0.3nm,0.5s,baz=351,slow=5.5,SNR=11						
WRA	**Warramunga Arr**	**81.86**	**122**	P	**P**	**13 33 19.8**	**-1.4**
	comp=N,0.4nm,0.5s,baz=325,slow=5.0,SNR=14						
ASAR	**Alice Springs**	**84.12**	**125**	P	**P**	**13 33 31.4**	**-1.5**
	comp=N,0.7nm,0.7s,baz=313,slow=4.9,SNR=9.6						

*NEIC **10** 13:23:35.2, 17°.82N × 95°.23W, h123 km, MD 4.2(MEX), After MEX.*
MEX 10 13:23:35.1±0.4, 17°.81N × 95°.23W, h123 km ± 4 km, MD 4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.79**	**155**	*iP*	Pn	13 23 54.3	-1.2
CMIG				*i* S	Sn	13 24 09.0	-2.0
CMIG	**Matias Romero**	**0.79**	**155**	*i* P	Pn	13 23 54.3	-1.2
CMIG				*i* S	Sn	13 24 09.0	-2.0
TUIG	**Tuzandepetl**	**0.80**	**74**	*i* P	Pn	13 23 54.4	-1.3
TUIG				*eS*	Sn	13 24 09.5	-1.6
TUIG	**Tuzandepetl**	**0.80**	**74**	*i* P	Pn	13 23 54.4	-1.3
TUIG				*eS*	Sn	13 24 09.5	-1.6
VHO	**Vista Hermosa**	**1.61**	**243**	*eP*	Pn	13 24 03.1	-1.1
VHO				*eS*	Sn	13 24 25.4	-1.1
VHO	**Vista Hermosa**	**1.61**	**243**	*eP*	Pn	13 24 03.1	-1.1
VHO				*eS*	Sn	13 24 25.4	-1.1
TPIG	**Tehuac#an**	**2.12**	**287**	*i* P	Pn	13 24 09.2	-1.2
TPIG				*i* S	Sn	13 24 34.8	-2.6
TPIG	**Tehuac#an**	**2.12**	**287**	*i* P	Pn	13 24 09.2	-1.2
TPIG				*i* S	Sn	13 24 34.8	-2.6
HUIG	**Huatulco**	**2.19**	**203**	*eP*	Pn	13 24 09.7	-1.5
HUIG				*eS*	Sn	13 24 36.9	-1.9
HUIG	**Huatulco**	**2.19**	**203**	*eP*	Pn	13 24 08.2	-3.0
LVIG	**Laguna Verde**	**2.21**	**330**	*eP*	Pn	13 24 08.2	-3.1
LVIG				*eS*	Sn	13 24 34.7	-4.5
LVIG	**Laguna Verde**	**2.21**	**330**	*eP*	Pn	13 24 07.9	-3.4
LVIG				*eS*	Sn	13 24 33.9	-5.3
TGIG		**2.26**	**117**	*eP*	Pn	13 24 10.7	-1.3
TGIG				*eS*	Sn	13 24 38.1	-2.3
TGIG		**2.26**	**117**	*eP*	Pn	13 24 10.7	-1.3
TGIG				*eS*	Sn	13 24 38.1	-2.3
PCIG		**2.84**	**137**	*i* P	Pn	13 24 18.3	-1.2
PCIG		**2.84**	**137**	*i* P	Pn	13 24 18.3	-1.2
TLIG	**Tlapa**	**3.19**	**266**	*eP*	Pn	13 24 22.7	-1.4
TLIG				*eS*	Sn	13 25 00.5	-1.6
CCIG	**Comitan**	**3.33**	**117**	*eP*	Pn	13 24 24.2	-1.8
CCIG				*eS*	Sn	13 25 04.2	-1.1
CCIG	**Comitan**	**3.33**	**117**	*eP*	Pn	13 24 25.9	-0.2
YAIG	**Yautepec**	**3.79**	**287**	*eP*	Pn	13 24 31.2	-0.9
YAIG				*i* S	Sn	13 24 14.4	-1.9
YAIG	**Yautepec**	**3.79**	**287**	*eP*	Pn	13 24 31.2	-0.9
YAIG				*eS*	Sn	13 25 14.7	-1.7

*ISCJB **10** 13:31:44.0±0.4, 45°.59N±0°.07 × 142°.3E±0°.1, h332 km ± 4 km, mb3.3/9, Error ellipse: s-maj=12.2km s-min=10.3km az=136.6*
*JMA **10** 13:31:44.7±0.2, 45°.66N × 142°.28E, h326 km ± 2 km, M3.3*
*IDC **10** 13:31:45.1±0.6, 45°.70N × 142°.22E, h326 km ± 12 km, mb3.1/9, mb1 3.4/12, mb1mx3.0/49, mbtmp3.8/12, Error ellipse: s-maj=26.6km s-min=15.6km az=168.0*
ISC 10 13:31:44.6±0.7, 45°.54N±0°.08 × 142°.34E±0°.08, h330 km ± 6 km, n30, σ1§14/41, mb3.2/9, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.38**	**235**	P	**Pn**	**13 32 26.3**	**-0.1**
JWK2				*eS*	**S**	**13 32 58.1**	**-1.7**
JSE	**Soyaes**	**0.60**	**163**	P	**Pn**	**13 32 26.8**	**-0.2**
JSE				*eS*	**S**	**13 33 00.4**	**-0.3**
JRR	**Rishiri**	**0.83**	**242**	P	**Pn**	**13 32 27.5**	**-0.1**
JRR				*eS*	**S**	**13 33 01.0**	**-0.9**
JSS	**Shosan**	**1.19**	**197**	P	**Pn**	**13 32 29.6**	**+0.4**
JSS				*eS*	**S**	**13 33 04.6**	**-0.1**
ASAJ	**Asahikawa**	**1.43**	**173**	P	**Pn**	**13 32 31.0**	**+0.5**
ASAJ	**Asahikawa**	**1.43**	**173**	P	**Pn**	**13 32 31.1**	**+0.6**
	8.9nm,0.3s,baz=345,slow=6.0,SNR=113						
ASAJ				S	**S**	**13 33 09.0**	**+1.9**
	baz=287,slow=19						
JKK2	**Kamakawa 2**	**1.69**	**170**	P	**Pn**	**13 32 32.9**	**+0.8**
JKK2				*eS*	**S**	**13 33 11.5**	**+1.5**
JMP	**Maruseppu**	**1.69**	**154**	P	**Pn**	**13 32 32.6**	**+0.5**
JMP				*eS*	**S**	**13 33 10.5**	**+0.5**
JHR	**Hokuryu**	**1.85**	**194**	P	**Pn**	**13 32 34.3**	**+1.2**
JTKR	**Abashiri--Toko**	**1.92**	**144**	P	**Pn**	**13 32 34.6**	**+1.0**
JAR	**Ashorobuto**	**2.46**	**155**	P	**Pn**	**13 32 39.0**	**+1.2**
JAR				*eS*	**S**	**13 33 21.1**	**+0.7**
JEW	**Eniwo**	**2.77**	**194**	P	**Pn**	**13 32 41.5**	**+1.0**
JCH	**Churui**	**3.01**	**165**	P	**Pn**	**13 32 42.1**	**-0.6**
JCH				*eS*	**S**	**13 33 26.1**	**-3.2**
JAK	**Akkeshi**	**3.05**	**145**	P	**Pn**	**13 32 43.1**	**+0.1**
JAK				*eS*	**S**	**13 33 27.8**	**-2.1**
NEM2	**Nemuro 2**	**3.26**	**130**	*eS*	**S**	**13 33 31.0**	**-2.5**
JNBK	**Urakawa-nobuka**	**3.27**	**175**	P	**Pn**	**13 32 45.2**	**+0.1**
JNBK				*eS*	**S**	**13 33 33.5**	**-0.2**
JKB	**Kayabe**	**3.77**	**195**	P	**Pn**	**13 32 49.7**	**-0.4**
JOSM	**Okushiri--Mats**	**4.03**	**212**	P	**Pn**	**13 32 52.6**	**-0.2**
USRK	**Ussuriysk Ar.**	**7.47**	**263**	P	**Pn**	**13 33 31.6**	**-0.5**
	1.0nm,0.3s,baz=73,slow=12,SNR=17						
MJAR	**Matsushiro Arr**	**9.51**	**201**	P	**Pn**	**13 33 57.8**	**+1.0**
	0.9nm,0.3s,baz=5.9,slow=12,SNR=19						
SEY	**Seymchan**	**18.35**	**15**	P	**P**	**13 35 35.3**	**-0.7**
	0.5nm,0.3s,baz=194,slow=7.8,SNR=13						
SONM	**Songino Array**	**24.63**	**288**	P	**P**	**13 36 36.0**	**-0.1**
	1.4nm,0.5s,baz=77,slow=8.9,SNR=9.7						
ILAR	**Eielson Array**	**42.11**	**37**	P	**P**	**13 39 04.5**	**-0.3**
	0.9nm,0.6s,baz=278,slow=7.9,SNR=15						
INK	**Inuvik**	**46.60**	**31**	P	**P**	**13 39 39.6**	**-0.4**
	1.1nm,0.3s,baz=300,slow=8.0,SNR=13						
YKA	**Yellowknife Ar**	**56.20**	**33**	P	**P**	**13 40 50.6**	**0.0**
	0.4nm,0.5s,baz=306,slow=6.8,SNR=7.5						
NOA	**NORSAR Array B**	**66.65**	**336**	P	P	13 41 59.8	-0.3
	0.2nm,0.6s,baz=52,slow=17,SNR=2.7						
NVAR	**Mina Array Bea**	**69.48**	**56**	P	**P**	**13 42 19.9**	**+1.7**
	0.3nm,0.5s,baz=302,slow=5.2,SNR=3.9						
PDAR	**Pinedale Array**	**71.31**	**48**	P	**P**	**13 42 30.2**	**+1.1**
	0.2nm,0.6s,baz=309,slow=2.9,SNR=2.8						
SADO	**Sadowa**	**82.87**	**28**	P	**P**	**13 43 31.1**	**-1.4**
	2.5nm,0.7s,baz=323,slow=5.1,SNR=3.1						
TXAR	**Lajitas Array**	**84.42**	**53**	P	**P**	**13 43 41.9**	**+1.1**
	0.1nm,0.4s,baz=270,slow=4.5,SNR=2.8						

IDC 10 13:32:48.1±6.7, 7°.49S × 157°.55E, h0 km, mb 3.6/3, mb1 3.7/3, mb1mx3.4/40, mbtmp3.6/3, Error ellipse: s-maj=185.0km s-min=37.7km az=110.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.06**	**129**	*eP*	Pn	13 33 28.0	-10
HNR				*eS*	Sn	13 33 51.0	-24
WRA	**Warramunga Arr**	**25.68**	**239**	P	P	13 38 20.8	+0.7
	0.3nm,0.3s,baz=65,slow=9.0,SNR=5.9						
H11S3	**WAKE ISLAND Hy**	**27.35**	**19**	T	T	14 07 02.0	
	baz=198,slow=76,SNR=23						
H11S2	**WAKE ISLAND Hy**	**27.35**	**19**	T	T	14 07 04.9	
	baz=198,slow=76,SNR=25						
H11S1	**WAKE ISLAND Hy**	**27.37**	**19**	T	T	14 07 03.3	
	baz=198,slow=76,SNR=18						
ASAR	**Alice Springs**	**27.81**	**232**	P	P	13 38 38.5	-0.8
	0.3nm,0.8s,baz=60,slow=9.7,SNR=5.2						
H11N1	**WAKE ISLAND Hy**	**28.56**	**19**	T	T	14 08 33.1	
	baz=196,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**28.57**	**19**	T	T	14 08 33.6	
	baz=196,slow=76,SNR=14						
H11N2	**WAKE ISLAND Hy**	**28.57**	**19**	T	T	14 08 37.6	
	baz=196,slow=76,SNR=12						
SONM	**Songino Array**	**71.14**	**326**	P	P	13 44 08.8	0.0
	1.0nm,0.7s,baz=136,slow=6.7,SNR=5.3						

JMA 10 13:47:36.0±0.2, 31°.37N × 131°.98E, h24 km ± 2 km, M3.6, 8C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	**Kushima--Naru**	**0.62**	**285**	⇓P	Pb	13 47 48.1	-0.2
JNAR				S	Sb	13 47 57.0	+0.3
JTZ	**Takazaki**	**0.93**	**305**	⇑P	Pb	13 47 52.8	-0.6
JTZ				*eS*	Sb	13 48 05.1	-0.2
JTSR	**Tashiro 2**	**0.93**	**258**	⇑P	Pb	13 47 53.2	-0.3
JTSR				S	Sn	13 48 06.0	-0.2
JTSN	**Tsuno**	**0.96**	**335**	⇑P	Pb	13 47 53.6	-0.4
JTSN				*eS*	Sn	13 48 07.2	+0.2
JTN	**Tanegashima 3**	**1.12**	**231**	⇑P	Pb	13 47 56.7	0.0
JTN				*eS*	Sn	13 48 11.1	+0.3
JSU	**Suzuyama**	**1.31**	**

mb3.8/8,Error ellipse: s-maj=10.2km s-min=5.3km az=17.8

DJA ***10*** *14:06:14.0±0.9,8˚S×7˚×10˚7E±˚,h19km±7km,M4.6/19, mb5.0/2,mB5.2/1,MLv4.5/19,Mw(mB)4.5/1*

IDC ***10*** *14:06:18.4±2.9,7.76S×107.39E,h93km±19km,mb3.3/6, mb1 3.5/6,mb1mx3.3/36,mbtmp3.7/6,Error ellipse: s-maj=59.9km s-min=14.6km az=53.0*

ISC 10 14:06:13.3±1.2,8.11S±0.06×107.23E±0.05,h50km±11km, n53,σ1ˢ58/55,mb3.7/8,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.80**	**47**	P	**Pn**	**14 06 28.3**	**0.0**
CISI				S	**Sn**	**14 06 37.9**	**-1.4**
CISI	**Cisompet, Garu**	**0.80**	**47**	P	**Pn**	**14 06 27.4**	**-1.0**
	baz=0.9,SNR=1000						
CISI	**Cisompet, Garu**	**0.80**	**47**	*e*Pg	**Pn**	**14 06 28.0**	**-0.4**
CISI				*e*Sg	**Sn**	**14 06 38.1**	**-1.2**
CNJI	**Cibinong**	**0.80**	**353**	P	**Pn**	**14 06 28.7**	**+0.4**
CNJI				S	**Sn**	**14 06 38.9**	**-0.4**
CMJI	**Cimerak**	**1.25**	**75**	P	**Pn**	**14 06 34.5**	**+0.2**
CMJI				S	**Sn**	**14 06 49.1**	**-1.0**
SKJI	**Sukabumi**	**1.28**	**329**	P	**Pn**	**14 06 36.1**	**+1.3**
LEM	**Lembang**	**1.33**	**17**	P	**Pn**	**14 06 37.5**	**+1.9**
LEM	**Lembang**	**1.33**	**17**	P	**Pn**	**14 06 37.0**	**+1.5**
	235nm,0.3s,baz=27,slow=8.3,SNR=75						
LEM				S	**Sn**	**14 06 53.4**	**+1.2**
	696nm,0.3s,baz=285,slow=20,SNR=33						
LEM	**Lembang**	**1.33**	**17**	P	**Pn**	**14 06 37.2**	**+1.6**
	baz=1.4,SNR=66						
KPJI	**Karang Pucung**	**1.85**	**66**	P	**Pn**	**14 06 43.7**	**+1.1**
JCJI	**Jatiwangi**	**1.91**	**33**	P	**Pn**	**14 06 42.3**	**-1.1**
CGJI	**Cibinong**	**2.13**	**314**	P	**Pn**	**14 06 47.7**	**+1.3**
SBJI	**Serang**	**2.25**	**331**	P	**Pn**	**14 06 50.9**	**+2.8**
XMI	**Christmas Isla**	**2.78**	**213**	P	**Pn**	**14 06 56.1**	**+0.7**
	baz=2.7,SNR=18						
UGM	**Wanagama**	**3.27**	**87**	P	**Pn**	**14 07 02.8**	**+0.8**
UGM	**Wanagama**	**3.27**	**87**	P	**Pn**	**14 07 02.7**	**+0.6**
	baz=3.2,SNR=83						
SMRI	**Semarang**	**3.35**	**72**	P	**Pn**	**14 07 05.7**	**+2.5**
SMRI	**Semarang**	**3.35**	**72**	P	**Pn**	**14 07 05.6**	**+2.4**
	baz=3.4,SNR=17						
SMRI	**Semarang**	**3.35**	**72**	*e*Pn	**Pn**	**14 07 04.5**	**+1.3**
SMRI				*e*Sn	**Sn**	**14 07 41.9**	**+0.1**
KASI	**Kota Agung**	**3.73**	**313**	P	**Pn**	**14 07 10.5**	**+2.1**
PCJI	**Pacitan**	**3.91**	**92**	P	**Pn**	**14 07 12.1**	**+1.3**
UWJI	**Ujung Watu**	**4.05**	**66**	P	**Pn**	**14 07 14.3**	**+1.5**
KLSI		**4.21**	**324**	P	**Pn**	**14 07 17.6**	**+2.7**
NGJI	**Ngawi**	**4.26**	**80**	P	**Pn**	**14 07 17.0**	**+1.4**
PWJI	**Pagerwojo**	**4.53**	**89**	P	**Pn**	**14 07 20.5**	**+1.2**
MDSI	**Maura Dua**	**4.71**	**320**	P	**Pn**	**14 07 24.2**	**+2.5**
TBJI	**Tambak Boyo**	**4.75**	**75**	P	**Pn**	**14 07 23.7**	**+1.3**
MNAI	**Manna**	**5.65**	**311**	P	**Pn**	**14 07 37.0**	**+2.3**
	332nm,1.3s						
MNAI	**Manna**	**5.65**	**311**	P	**Pn**	**14 07 36.8**	**+2.1**
	baz=5.8,SNR=7.3						
SRBI	**Singaraja**	**7.90**	**90**	P	**Pn**	**14 08 07.9**	**+2.3**
GSI	**Gunungsitoli**	**13.42**	**314**	*e*Pn	Pn	14 09 16.9	-4.2
	11nm,0.4s						
GIRL	**Giralia**	**15.95**	**156**	P	**Pn**	**14 09 53.4**	**-0.9**
	baz=16,SNR=4.3						
KNRA	**Kununurra**	**22.36**	**112**	P	**P**	**14 11 08.0**	**+0.7**
	baz=22,SNR=7.8						
KDU	**Kakadu**	**25.23**	**103**	P	**P**	**14 11 34.4**	**-0.4**
	baz=25,SNR=3.7						
H01W3	**Cape Leeuwin H**	**27.39**	**168**	T	T	14 41 40.6	
	baz=343,slow=78,SNR=4.9						
H01W1	**Cape Leeuwin H**	**27.41**	**168**	T	T	14 41 33.0	
	baz=343,slow=78,SNR=4.3						
H01W2	**Cape Leeuwin H**	**27.41**	**168**	T	T	14 41 31.7	
	baz=343,slow=78,SNR=6.3						
WRA	**Warramunga Arr**	**28.76**	**117**	P	**P**	**14 12 07.2**	**+0.8**
	0.7nm,0.6s,baz=292,slow=10,SNR=24						
WRA				PcP	**PcP**	**14 15 16.5**	**+0.7**
	0.7nm,1.1s,baz=310,slow=1.8,SNR=4.9						
WRAB	**Tennant Creek**	**28.77**	**117**	*e*P	**P**	**14 12 07.5**	**+1.0**
	2.6nm,0.9s						
ASAR	**Alice Springs**	**29.87**	**124**	P	**P**	**14 12 17.5**	**+1.2**
	0.5nm,0.6s,baz=299,slow=7.8,SNR=13						
ASAR				PcP	**PcP**	**14 15 19.1**	**+0.5**
	0.2nm,0.4s,baz=312,slow=2.2,SNR=4.3						
H08S2	**Diego Garcia H**	**34.41**	**268**	T	T	14 50 18.5	
	baz=92,slow=76,SNR=35						
H08S3	**Diego Garcia H**	**34.42**	**268**	T	T	14 50 20.7	
	baz=92,slow=76,SNR=30						
H08S1	**Diego Carcia H**	**34.42**	**268**	T	T	14 50 20.5	
	baz=92,slow=76,SNR=6.3						
MTSU	**Mount Surprise**	**37.40**	**109**	P	**P**	**14 13 23.5**	**+1.8**
	baz=37,SNR=5.2						
QLP	**Quilpie**	**39.61**	**122**	P	**P**	**14 13 42.6**	**+2.5**
	baz=40,SNR=3.9						
STKA	**Stephens Creek**	**39.74**	**131**	P	**P**	**14 13 43.3**	**+2.1**
	12nm,0.5s,baz=310,slow=7.4,SNR=10						
STKA	**Stephens Creek**	**39.74**	**131**	P	**P**	**14 13 43.5**	**+2.4**
	baz=40,SNR=6.8						
SONM	**Songino Array**	**55.70**	**359**	P	**P**	**14 15 42.5**	**-2.2**
	0.2nm,0.5s,baz=185,slow=6.9,SNR=2.9						
SONM				PcP	**PcP**	**14 16 42.7**	**-0.8**
	0.5nm,0.5s,baz=181,slow=4.1,SNR=5.0						
MKAR	**Makanchi Array**	**59.00**	**340**	P	**P**	**14 16 05.1**	**-2.7**
	0.4nm,0.6s,baz=157,slow=7.9,SNR=6.4						
BVAR	**Borovoye Array**	**68.47**	**337**	P	**P**	**14 17 09.2**	**-0.8**
	0.5nm,0.3s,baz=131,slow=8.5,SNR=4.8						
ABKAR	**Akbulak array**	**70.47**	**329**	*e*P	**P**	**14 17 20.6**	**-1.9**
BRTR	**Keskin Array B**	**82.73**	**312**	P	**P**	**14 18 32.3**	**+0.1**
	0.4nm,0.5s,baz=134,slow=8.2,SNR=2.9						
TXAR	**Lajitas Array**	**144.11**	**50**	PKP	**PKPdf**	**14 25 43.4**	**-0.9**
	0.2nm,0.5s,baz=358,slow=1.3,SNR=5.9						

IDC ***10*** *14:49:41.2±0.6,25˚19S×176˚44W,h0km,mb4.4/15, mb1 4.6/17,mb1mx4.6/24,mbtmp4.4/17,ML4.6/2,MS4.2/13, Ms1 4.2/13,ms1mx3.9/24,Error ellipse: s-maj=21.4km s-min=15.0km az=125.0*

ISCJB ***10*** *14:49:44.4±0.1,25˚68S±0˚03×176˚44W±0˚04,h33km, mb4.9/56,MS4.3/16,Error ellipse: s-maj=6.7km s-min=3.5km az=39.2*

MOS ***10*** *14:49:45.6±1.2,25˚17S×176˚59W,h33km,mb5.3/18, Error ellipse: s-maj=12.5km s-min=10.3km az=62.0*

BJI ***10*** *14:49:45.7,24˚62S×175˚97W,h28km,mb5.2/29, mB5.6/14,Ms5.0/10,Ms7 4.7/11*

NEIC ***10*** *14:49:51.0±1.1,25˚26S×176˚54W,h73km±9km,mb5.0/39, Error ellipse: s-maj=8.4km s-min=6.7km az=126.0*

ISC 10 14:49:47.0±0.4,25˚26S±0˚06×176˚43W±0˚08,h36km, h36km:pP-P,n329,σ1ˢ17/326,mb5.0/57,MS4.3/16,20C-2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.19**	**198**	Pn	**Pn**	**14 50 49.3**	**+1.0**
	215nm,0.3s,baz=178,slow=7.1,SNR=8.5						
RAO				Sn	**Sn**	**14 51 39.1**	**+3.2**
	137nm,0.3s,baz=270,slow=20,SNR=3.5						
NIUE	**Niue**	**8.62**	**46**	P	Pn	14 51 42.5	-6.6
	baz=8.1,SNR=6.1						
MSVF	**Nonsavu**	**9.08**	**325**	Pn	Pn	14 52 01.0	+5.4
	763nm,0.8s,SNR=7.5						
MSVF	**Nonsavu**	**9.08**	**325**	*e*P	Pn	14 51 59.7	+4.1
MSVF	**Nonsavu**	**9.08**	**325**	*e*Pn	Pn	14 51 59.7	+4.1
AFI	**Afiamalu**	**12.12**	**22**	*e*P	Pn	14 52 30.5	-6.7
AFI	**Afiamalu**	**12.12**	**22**	*e*Pn	Pn	14 52 30.5	-6.7
OUZ	**Omahuta**	**13.13**	**219**	*e*Pn	**P**	**14 53 01.6**	**+1.1**
HAZ	**Te Kaha**	**13.39**	**200**	*e*PN	Pn	14 52 47.2	-7.2
HAZ				*e*SN	Sn	14 55 13.1	-8.8
TWGZ	**Tauwhareparae**	**13.72**	**199**	*e*SN	Sn	14 55 19.6	-10
MWZ	**Matawai**	**14.00**	**200**	*e*PN	Pn	14 52 53.9	-8.9
MWZ				*e*SN	Sn	14 55 24.0	-13
URZ	**Urewera**	**14.07**	**201**	Pn	**Pn**	**14 53 00.8**	**-2.9**
	0.4nm,0.3s,baz=218,slow=18,SNR=4.4						
URZ				Sn	Sn	14 55 28.0	-10
	2.6nm,0.3s,baz=322,slow=8.7,SNR=7.1						
URZ	**Urewera**	**14.07**	**201**	*e*PN	**Pn**	**14 53 00.5**	**-3.1**
URZ				*e*SN	Sn	14 55 25.9	-13
BKZ	**Black Stump Fm**	**15.09**	**202**	*e*PN	Pn	14 53 11.1	-6.5
BKZ	**Black Stump Fm**	**15.09**	**202**	*e*Pn	**P**	**14 53 21.8**	**-0.5**
	25nm,1.1s						
RAR	**Rarotonga**	**15.83**	**79**	Pn	Pn	14 53 19.2	-7.9
	6.5nm,0.3s,baz=254,slow=6.9,SNR=9.0						
RAR				Sn	Sn	14 55 59.8	-22
	3.4nm,0.3s,baz=101,slow=16,SNR=4.3						
RAR				LR	LR	14 57 48.5	
	comp=Z,1μm,21.8s,baz=276,slow=31						
DZM	**Mont Dzumac**	**16.01**	**278**	*e*Pn	P	14 53 41.0	+8.4
	1.4nm,0.3s						
DZM				*e*LR	LR	14 57 30.3	
	2μm,26.9s						
TSZ	**Takapari Road**	**16.07**	**202**	*e*PN	**Pn**	**14 53 27.2**	**-3.0**
TSZ				*e*SN	Sn	14 56 13.2	-14
BFZ	**Birch Farm**	**16.55**	**200**	*e*SN	Sn	14 56 19.3	-19
BFZ	**Birch Farm**	**16.55**	**200**	*e*PN	**P**	**14 53 37.7**	**-0.7**
	515nm,2.3s						
MRZ	**Mangatainoka R**	**16.74**	**202**	*e*PN	Pn	14 53 31.4	-7.3
MRZ				*e*SN	Sn	14 56 24.1	-19
TIWZ	**Tintock**	**16.75**	**201**	*e*PN	Pn	14 53 32.2	-6.6
OGWZ	**Otaki Gorge**	**17.02**	**202**	*e*PN	**Pn**	**14 53 37.5**	**-4.6**
OGWZ				*e*SN	Sn	14 56 31.7	-18
CAW	**Cannon Point**	**17.31**	**202**	*e*PN	**Pn**	**14 53 43.0**	**-2.8**
CAW				*e*SN	Sn	14 56 40.7	-17
SNZO	**South Karori**	**17.62**	**203**	*e*Pn	**P**	**14 53 51.6**	**+1.3**
	217nm,1.7s						
TCW	**Tory Channel**	**17.68**	**204**	*e*PN	**Pn**	**14 53 47.5**	**-2.8**
TCW				*e*SN	Sn	14 56 47.3	-19
TUWZ	**Tuamarina**	**18.00**	**204**	*e*PN	Pn	14 53 48.7	-5.5
TUWZ				*e*SN	Sn	14 56 53.7	-20
NNZ	**Nelson**	**18.03**	**206**	*e*PN	Pn	14 53 47.4	-7.2
NNZ				*e*SN	Sn	14 56 56.3	-18
THZ	**Tophouse**	**18.68**	**206**	*e*PN	P	14 53 55.1	-6.9
THZ				*e*SN	Sn	14 57 12.1	-18
KHZ	**Kahutara**	**19.00**	**203**	*e*SN	Sn	14 57 16.9	-21
KHZ	**Kahutara**	**19.00**	**203**	*e*P	P	14 54 00.5	-4.9
MQZ	**McQueen's Vall**	**20.45**	**203**	*e*PN	**P**	**14 54 17.8**	**-3.4**
RPZ	**Rata Peaks**	**21.06**	**206**	P	**P**	**14 54 23.6**	**-4.2**
	3.9nm,0.7s,baz=29,slow=4.2,SNR=2.2						
RPZ				S	S	14 58 02.6	-18
	9.2nm,1.0s,baz=357,slow=18,SNR=3.5						
RPZ				LR	LR	15 02 14.0	
	comp=Z,1μm,21.9s,baz=41,slow=36						
TBI	**Tubuai**	**24.64**	**91**	*e*LR	LR	15 00 58.9	
	1μm,26.5s,baz=262						
TBI	**Tubuai**	**24.64**	**91**	*e*T	T	15 19 46.8	
	68nm,0.3s						
PAE	**Paea**	**26.08**	**78**	*e*T	T	15 21 35.7	
	26nm,0.3s						
PPT2	**Papeete2**	**26.11**	**78**	*e*LR	LR	15 01 36.5	
	2μm,25.5s,baz=247						
PPT2	**Papeete2**	**26.11**	**78**	*e*T	T	15 21 39.0	
	18nm,0.3s						
PPT	**Papeete**	**26.11**	**78**	LR	LR	15 02 43.4	
	comp=Z,543nm,21.6s,baz=272,slow=90						
TVO	**Taravao**	**26.32**	**79**	*e*T	T	15 21 54.6	
	4.9nm,0.3s						
MEH	**Mehetia**	**27.35**	**80**	*e*T	T	15 23 10.7	
	59nm,0.3s						
ARMA	**Armidale**	**28.65**	**252**	*e*P	P	14 55 44.0	+3.5
	34nm,1.7s						
VAH	**Vaihoa**	**28.75**	**75**	*e*T	T	15 24 56.7	
	15nm,0.2s						
EIDS	**Eidsvold**	**29.33**	**263**	P	**P**	**14 55 48.3**	**+1.9**
	baz=30,SNR=3.0						
RMQ	**Roma**	**31.29**	**260**	P	**P**	**14 56 06.2**	**+2.4**
	baz=32,SNR=8.6						
CTA	**Charters Tower**	**34.74**	**271**	P	**P**	**14 56 34.6**	**+0.7**
	6.4nm,0.8s,baz=102,slow=12,SNR=9.5						
CTAO	**Charters Tower**	**34.74**	**271**	*e*P	**P**	**14 56 33.4**	**-0.5**
CTAO	**Charters Tower**	**34.74**	**271**	*e*P	**P**	**14 56 33.4**	**-0.5**
QLP	**Quilpie**	**35.31**	**259**	P	**P**	**14 56 39.4**	**+0.7**
	baz=36,SNR=15						
MTSU	**Mount Surprise**	**37.05**	**273**	P	**P**	**14 56 54.5**	**+0.7**
	baz=38,SNR=6.6						
STKA	**Stephens Creek**	**37.27**	**250**	P	**P**	**14 56 56.0**	**+0.5**
	2.5nm,0.4s,baz=100,slow=14,SNR=11						
STKA				LR	LR	15 10 58.9	
	comp=Z,439nm,18.7s,baz=61,slow=34						
STKA	**Stephens Creek**	**37.27**	**250**	P	**P**	**14 56 56.0**	**+0.5**
STKA	**Stephens Creek**	**37.27**	**250**	P	**P**	**14 56 57.0**	**+1.5**
	baz=38,SNR=8.4						
RKT	**Rikitea**	**37.77**	**96**	*e*LR	LR	15 07 02.6	
	566nm,27.5s						
RKT	**Rikitea**	**37.77**	**96**	*e*T	T	15 36 10.5	
	6.2nm,0.3s						
PMG	**Port Moresby**	**38.01**	**288**	⇑*e*P	**P**	**14 56 58.9**	**-2.9**
PMG				pmax	pmax		
	comp=Z,158nm,1.1s						
HTT	**Hallett**	**39.52**	**247**	P	**P**	**14 57 14.4**	**0.0**
	baz=40,SNR=6.0						
COEN	**Coen**	**39.53**	**279**	P	**P**	**14 57 15.2**	**+0.6**
	baz=40,SNR=6.1						
COEN	**Coen**	**39.53**	**279**	*e*P	**P**	**14 57 13.6**	**-1.1**
AS31	**Alice Springs**	**45.02**	**261**	*e*P	**P**	**14 57 58.4**	**-1.0**
ASAR	**Alice Springs**	**45.03**	**261**	P	**P**	**14 57 58.5**	**-0.9**
	comp=Z,5.2nm,0.9s,baz=99,slow=8.2,SNR=23						
ASAR				LR	LR	15 16 25.5	
	comp=Z,291nm,18.6s,baz=75,slow=36						
WRAB	**Tennant Creek**	**45.55**	**266**	⇓*e*P	**P**	**14 58 02.7**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,36nm,2.5s						
WRAB	**Tennant Creek**	**45.55**	**266**	*e*P	**P**	**14 58 02.5**	**-1.1**
	comp=Z,1.7nm,0.6s						
WRA	**Warramunga Arr**	**45.56**	**266**	P	**P**	**14 58 01.5**	**-2.1**
	comp=Z,4.7nm,0.9s,baz=101,slow=8.4,SNR=39						
WRA				LR	LR	15 16 47.9	
	comp=Z,308nm,18.4s,baz=120,slow=36						
KDU	**Kakadu**	**49.64**	**275**	P	**P**	**14 58 34.5**	**-0.9**
	baz=50,SNR=5.1						
WRKA	**Warakurna**	**49.72**	**258**	P	**P**	**14 58 34.8**	**-1.0**
	baz=50,SNR=6.1						
KNRA	**Kununurra**	**51.93**	**269**	P	**P**	**14 58 52.1**	**-0.5**
	baz=53,SNR=5.4						
SBA	**Scott Base**	**53.24**	**184**	*e*P	**P**	**14 59 03.0**	**+1.6**
SBA				pmax	pmax		
	comp=Z,116nm,2.3s						
SBA	**Scott Base**	**53.24**	**184**	*e*P	**P**	**14 59 03.0**	**+1.6**
	comp=Z,116nm,2.3s						
VNDA	**Vanda**	**53.33**	**186**	P	**P**	**14 59 02.0**	**0.0**
	comp=Z,3.4nm,1.0s,baz=9.4,slow=6.0,SNR=5.6						
MEEK	**Meekatharra**	**57.83**	**253**	P	**P**	**14 59 33.6**	**-1.6**
	baz=58,SNR=4.4						
SOEI	**Soe**	**58.19**	**274**	*e*P	**P**	**14 59 37.7**	**-0.2**
	comp=Z,55nm,1.0s						
BLDU	**Ballidu**	**58.54**	**248**	P	**P**	**14 59 39.1**	**-1.0**
	baz=59,SNR=6.0						
MORW	**Morawa**	**59.46**	**250**	P	**P**	**14 59 45.5**	**-1.0**
	baz=60,SNR=6.8						
LUWI	**Luwuk**	**63.30**	**282**	P	P	15 00 27.2	+15
	baz=64,SNR=9.0						
QSPA	**South Pole Qui**	**64.83**	**180**	*e*P	**P**	**15 00 22.8**	**+0.7**
	comp=Z,19nm,1.2s						
MJAR	**Matsushiro Arr**	**74.89**	**324**	P	**P**	**15 01 22.7**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=51,slow=1.1,SNR=5.1						
MJAR				LR	LR	15 28 55.9	
	comp=Z,148nm,21.7s,baz=150,slow=32						
KSM	**Kuching**	**75.53**	**279**	P	**P**	**15 01 27.4**	**-0.8**
	baz=76,SNR=3.8						
KSM	**Kuching**	**75.53**	**279**	*e*P	**P**	**15 01 26.7**	**-1.5**
	comp=Z,16nm,1.0s						
MAW	**Mawson**	**77.59**	**200**	P	**P**	**15 01 39.6**	**+0.7**
	comp=Z,8.9nm,1.0s,baz=86,slow=6.9,SNR=7.9						
MAW				LR	LR	15 35 08.8	
	comp=Z,293nm,19.7s,baz=68,slow=35						
MAW	**Mawson**	**77.59**	**200**	P	**P**	**15 01 40.6**	**+1.7**
	baz=78,SNR=4.9						
YSS	**Yuzh-Sakhalins**	**80.78**	**333**	*e*P	**P**	**15 01 58.5**	**+2.0**
YSS				pmax	pmax		
	comp=Z,29nm,1.7s						
MURC	**Murrieta**	**81.21**	**47**	P	**P**	**15 02 00.6**	**+1.4**
	baz=82						
PETK	**Petropavlovsk-**	**81.22**	**345**	P	**P**	**15 01 58.9**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=157,slow=5.3,SNR=2.7						
PETK	**Petropavlovsk-**	**81.22**	**345**	P	**P**	**15 01 58.9**	**+0.2**
PETK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KSRS	**Korea Array**	**81.39**	**318**	P	**P**	**15 02 00.5**	**+0.5**
	comp=Z,3.9nm,1.0s,baz=137,slow=5.6,SNR=13						
KSRS				LR	LR	15 36 22.3	
	comp=Z,60nm,19.0s,baz=335,slow=34						
VES	**Vestal, Richgr**	**81.40**	**44**	P	**P**	**15 02 00.9**	**+0.8**
	baz=82						
KSAR	**Wonju Array Be**	**81.41**	**318**	P	**P**	**15 02 00.5**	**+0.4**
KSAR	**Wonju Array Be**	**81.41**	**318**	P	**P**	**15 02 00.5**	**+0.4**
EDW2	**Edwards Air Fo**	**81.49**	**45**	P	**P**	**15 02 01.4**	**+0.7**
	baz=82,SNR=6.6						
ISA	**Isabella**	**81.67**	**44**	*e*P	**P**	**15 02 01.6**	**-0.1**
ISA				pmax	pmax		
	comp=Z,23nm,1.4s						
ISA	**Isabella**	**81.67**	**44**	P	**P**	**15 02 02.6**	**+0.9**
	baz=82,SNR=6.9						
ISA	**Isabella**	**81.67**	**44**	*e*P	**P**	**15 02 01.6**	**-0.1**
	comp=Z,23nm,1.4s						
PFO	**Pinyon Flat Ob**	**81.71**	**47**	P	P	15 01 56.3	-5.7
	comp=Z,54nm,0.2s,SNR=8.4						
COCO	**West Island**	**81.98**	**260**	*i* P	**P**	**15 02 02.1**	**-1.6**
CMB	**Columbia Colle**	**82.02**	**41**	*e*P	**P**	**15 02 04.0**	**+0.6**
CMB				pmax	pmax		
	comp=Z,13nm,1.4s						
CMB	**Columbia Colle**	**82.02**	**41**	*e*P	**P**	**15 02 04.0**	**+0.6**
	comp=Z,13nm,1.4s						
LRMC	**Laurel Mountai**	**82.06**	**45**	P	**P**	**15 02 04.6**	**+0.8**
	baz=82,SNR=6.1						
BELC	**Belle Mtn. Jos**	**82.25**	**47**	P	**P**	**15 02 05.7**	**+0.9**
	baz=82						
BC3	**Big Chuckawall**	**82.40**	**47**	P	**P**	**15 02 06.0**	**+0.4**
	baz=83						
CWC	**Cottonwood Cre**	**82.41**	**44**	P	**P**	**15 02 06.9**	**+1.3**
	baz=83						
WDC	**Whiskeytown Da**	**82.45**	**38**	*e*P	**P**	**15 02 05.7**	**+0.2**
WDC				pmax	pmax		
	comp=Z,22nm,1.4s						
WDC	**Whiskeytown Da**	**82.45**	**38**	*e*P	**P**	**15 02 05.7**	**+0.2**
	comp=Z,22nm,1.4s						
GSC	**Goldstone**	**82.51**	**45**	*e*P	**P**	**15 02 06.6**	**+0.5**
GSC				pmax	pmax		
	comp=Z,17nm,1.4s						
GSC	**Goldstone**	**82.51**	**45**	P	**P**	**15 02 06.9**	**+0.8**
	baz=83,SNR=5.9						
GSC	**Goldstone**	**82.51**	**45**	*e*P	**P**	**15 02 06.6**	**+0.5**
	comp=Z,17nm,1.4s						
HEC	**Hector,Ludlow**	**82.53**	**46**	P	**P**	**15 02 07.4**	**+1.2**
	baz=83						
MPMC	**Manual Prospec**	**82.54**	**44**	P	**P**	**15 02 07.3**	**+0.9**
	baz=83,SNR=9.5						
N02D	**Trinity Center**	**82.62**	**38**	P	**P**	**15 02 08.2**	**+1.6**
	baz=83						
M02C	**Callahan**	**82.83**	**38**	P	**P**	**15 02 09.5**	**+1.9**
	baz=83						
WAKR	**Walker**	**82.89**	**42**	*e*P	**P**	**15 02 08.6**	**+0.4**
IRM	**Iron Mountain**	**82.90**	**47**	P	**P**	**15 02 09.7**	**+1.6**
	baz=83						
GMRC	**Granite Mounta**	**82.94**	**46**	P	**P**	**15 02 09.6**	**+1.2**
	baz=83						
YBH	**Yreka Blue Hor**	**83.14**	**37**	*e*P	**P**	**15 02 09.5**	**+0.3**
YBH				pmax	pmax		
	comp=Z,16nm,1.4s						
YBH	**Yreka Blue Hor**	**83.14**	**37**	*e*P	**P**	**15 02 09.5**	**+0.3**
	comp=Z,16nm,1.4s						
TUQ	**Turquoise Moun**	**83.17**	**46**	P	**P**	**15 02 10.1**	**+0.6**
	baz=83,SNR=6.4						
FURC	**Furnace Creek,**	**83.20**	**44**	P	**P**	**15 02 10.9**	**+1.4**
	baz=84						
GRAC	**Grapevine Rang**	**83.20**	**44**	P	**P**	**15 02 11.0**	**+1.4**
	baz=84						
SHOC	**Shoshone**	**83.22**	**45**	P	**P**	**15 02 11.0**	**+1.3**
	baz=84						
LDFC	**Landfair**	**83.48**	**46**	*e*P	**P**	**15 02 12.0**	**+0.8**
	comp=Z,30nm,1.2s						
NVAR	**Mina Array Bea**	**83.53**	**42**	P	**P**	**15 02 11.7**	**+0.3**
	comp=Z,2.6nm,1.0s,baz=219,slow=8.2,SNR=18						
HUMO	**Hull Mountain**	**83.59**	**37**	*e*P	**P**	**15 02 12.0**	**+0.6**
	comp=Z,31nm,1.5s						
M04C	**Macdoel**	**83.65**	**38**	P	**P**	**15 02 13.0**	**+1.2**
	baz=84						
PDMCI	**Parker Dam,Lak**	**83.66**	**48**	P	**P**	**15 02 13.5**	**+1.6**
	baz=84						
USRK	**Ussuriysk Ar.**	**83.69**	**325**	P	**P**	**15 02 12.5**	**+0.6**
	comp=Z,11nm,1.0s,baz=123,slow=3.6,SNR=24						
TPNV	**Topopah Spring**	**83.88**	**44**	P	**P**	**15 02 13.9**	**+0.7**
	baz=84,SNR=6.4						
VNA1	**Neumayer--Stat**	**83.99**	**176**	P	**P**	**15 02 13.6**	**+0.6**
NJ2	**Nanjing**	**84.02**	**309**	*e*P	**P**	**15 02 14.4**	**+0.6**
NJ2				PMZ			
	comp=Z,30nm,0.7s						
SHPR	**Sheep Range**	**84.30**	**45**	*e*P	**P**	**15 02 15.6**	**+0.2**
J04D	**Umpqua Nationa**	**84.48**	**37**	P	**P**	**15 02 16.5**	**+0.3**
	baz=85						
MOD	**Modoc**	**84.59**	**39**	*e*P	**P**	**15 02 16.9**	**+0.3**
	comp=Z,13nm,1.2s						
I04A	**Tendick Farm,**	**84.69**	**36**	P	**P**	**15 02 17.9**	**+0.8**
	baz=85						
K05A	**Summer Lake**	**84.80**	**38**	*e*P	**P**	**15 02 18.0**	**+0.2**
	comp=Z,69nm,1.6s						
TUC	**Tucson**	**84.81**	**51**	*e*P	**P**	**15 02 17.6**	**-0.4**
TUC				pmax	pmax		
	comp

BJI	**Beijing**	**90.27**	**315**	P		P		15 02 47.2 +3.3
BJI				PMZ				
	comp=Z,13nm,0.8s							
NEW	**Newport**	**90.40**	**35**	P		**P**		**15 02 44.9 +0.5**
	baz=91							
CAST	**Castle Rocks**	**90.46**	**11**	*e*P		**P**		**15 02 42.8 -1.5**
	comp=Z,9.7nm,1.2s							
S22A	**4UR Ranch, Cre**	**90.49**	**48**	P		**P**		**15 02 46.0 +0.5**
	baz=91							
530A	**J-C Ranch, Com**	**90.59**	**57**	P		**P**		**15 02 45.6 -0.2**
	baz=91							
228A	**UT Block 9, Go**	**90.61**	**55**	P		**P**		**15 02 46.0 +0.1**
	baz=91							
MCMT	**McKenzie Canyo**	**90.66**	**40**	*e*P		**P**		**15 02 46.2 +0.3**
832A	**Faith Ranch, C**	**90.75**	**59**	P		**P**		**15 02 47.1 +0.6**
	baz=91							
329A	**Wagon Wheel Ra**	**90.76**	**55**	P		**P**		**15 02 46.8 +0.2**
	baz=91							
631A	**Perdido Creek**	**90.82**	**58**	P		**P**		**15 02 47.0 +0.2**
	baz=91							
O20A	**White River Ci**	**90.84**	**45**	P		**P**		**15 02 47.7 +0.8**
	baz=91							
128A	**Castleberry Fa**	**90.94**	**54**	P		**P**		**15 02 47.7 +0.4**
	baz=91							
732A	**Laxson Ranch,**	**90.96**	**59**	P		**P**		**15 02 47.6 +0.1**
	baz=91							
933A	**Laredo**	**90.98**	**60**	P		**P**		**15 02 48.8 +1.3**
	baz=91							
229A	**Bryant Ranch,**	**91.12**	**55**	P		**P**		**15 02 49.4 +1.2**
	baz=91							
034A	**Hebbronville**	**91.19**	**61**	P		**P**		**15 02 49.8 +1.2**
	baz=91							
531A	**Rocksprings**	**91.20**	**57**	P		**P**		**15 02 49.5 +0.9**
	baz=91,SNR=6.2							
MSO	**Missoula**	**91.23**	**38**	P		**P**		**15 02 49.0 +0.7**
	baz=92							
MSO	**Missoula**	**91.23**	**38**	*e*P		**P**		**15 02 48.2 -0.1**
	comp=Z,18nm,1.5s							
330A	**Mertzon**	**91.32**	**56**	P		**P**		**15 02 49.7 +0.5**
	baz=92							
SEY	**Seymchan**	**91.32**	**346**⇑	*e*P		**P**		**15 02 48.6 +0.3**
SDCO	**Great Sand Dun**	**91.39**	**49**	P		**P**		**15 02 50.0 +0.4**
	baz=92							
MSTX	**Muleshoe**	**91.40**	**53**	P		**P**		**15 02 49.8 +0.3**
	baz=92							
035Z	**Hargill**	**91.40**	**61**	P		**P**		**15 02 50.8 +1.3**
	baz=92							
431A	**Sonora**	**91.40**	**57**	P		**P**		**15 02 49.9 +0.4**
	baz=92							
PDAR	**Pinedale Array**	**91.45**	**43**	P		**P**		**15 02 49.5 -0.1**
	comp=Z,1.5nm,1.0s,baz=258,slow=1.4,SNR=9.8							
PDAR				LR		LR		15 42 12.8
	comp=Z,57nm,18.4s,baz=266,slow=34							
632A	**Uvalde**	**91.47**	**58**	P		**P**		**15 02 50.5 +0.7**
	baz=92							
934A	**Benavides**	**91.57**	**60**	P		**P**		**15 02 51.1 +0.9**
	baz=92							
BWN	**Browne**	**91.61**	**11**	*e*P		**P**		**15 02 52.1 +2.5**
	comp=Z,22nm,0.8s							
532A	**Rocksprings**	**91.67**	**57**	P		**P**		**15 02 51.4 +0.6**
	baz=92,SNR=8.7							
834A	**Tilden**	**91.78**	**60**	P		**P**		**15 02 52.2 +1.0**
	baz=92							
T25A	**Trinidad**	**91.82**	**50**	P		**P**		**15 02 51.8 +0.2**
	baz=92							
Z29A	**Hungry Hill Ra**	**91.82**	**54**	P		**P**		**15 02 51.5 +0.1**
	baz=92							
BOZ	**Bozeman (W)**	**91.84**	**39**	*e*P		**P**		**15 02 50.6 -0.7**
BOZ				pmax		pmax		
	comp=Z,21nm,1.4s							
BOZ	**Bozeman (W)**	**91.84**	**39**	P		**P**		**15 02 52.2 +0.9**
	baz=92							
BOZ	**Bozeman (W)**	**91.84**	**39**	*e*P		**P**		**15 02 50.6 -0.7**
	comp=Z,21nm,1.4s							
JCT	**Junction City**	**91.92**	**57**	P		**P**		**15 02 52.3 +0.4**
	baz=92							
J19A	**Crowheart**	**92.03**	**42**	P		**P**		**15 02 52.9 +0.6**
	baz=92							
130A	**Snyder**	**92.05**	**55**	P		**P**		**15 02 52.7 +0.2**
	baz=92							
X28A	**Dimmitt**	**92.08**	**53**	P		**P**		**15 02 52.9 +0.3**
	baz=92							
432A	**Menard**	**92.11**	**57**	P		**P**		**15 02 52.8 0.0**
	baz=92							
RIDG	**Independ'e Rid**	**92.12**	**13**	*e*P		**P**		**15 02 50.9 -1.1**
	comp=Z,17nm,1.4s							
Y29A	**Porterfield Fa**	**92.14**	**53**	P		**P**		**15 02 53.2 +0.3**
	baz=92							
XAN	**Xi'an**	**92.14**	**307**	P		**P**		**15 02 55.1 +2.2**
XAN				pP		**pP**		**15 03 05.4 +1.1**
XAN				PMZ				
	comp=Z,17nm,0.8s							
231A	**Bronte**	**92.22**	**56**	P		**P**		**15 02 52.9 -0.3**
	baz=92							
V27A	**Dan Oppiter Fa**	**92.23**	**51**	P		**P**		**15 02 53.6 +0.3**
	baz=92							
Q24A	**Divide**	**92.25**	**48**	P		**P**		**15 02 54.3 +0.7**
	baz=92							
Z30A	**Sanderson Ranc**	**92.26**	**54**	P		**P**		**15 02 53.3 -0.1**
	baz=92							
533A	**Kerrville**	**92.31**	**58**	P		**P**		**15 02 54.0 +0.3**
	baz=92							
CCB	**Clear Creek Bu**	**92.34**	**12**	*e*P		**P**		**15 02 52.1 -0.9**
	comp=Z,7.7nm,1.4s							
332A	**Millersview**	**92.39**	**56**	P		**P**		**15 02 54.4 +0.3**
	baz=93,SNR=6.3							
T26A	**Comanche Natio**	**92.41**	**50**	P		**P**		**15 02 54.7 +0.5**
	baz=93							
I19A	**Meeteetse**	**92.49**	**42**	P		**P**		**15 02 55.3 +0.8**
	baz=93							
131A	**Roby**	**92.51**	**55**	P		**P**		**15 02 54.5 -0.1**
	baz=93							
COLA	**College**	**92.54**	**12**⇑	*e*P		**P**		**15 02 53.6 -0.2**
COLA				pmax		pmax		
	comp=Z,50nm,2.5s							
U27A	**Thompson Grove**	**92.57**	**51**	P		**P**		**15 02 55.2 +0.3**
	baz=93							
433A	**Art**	**92.59**	**57**	P		**P**		**15 02 55.1 +0.1**
	baz=93,SNR=8.9							
ILAR	**Eielson Array**	**92.63**	**12**	P		**P**		**15 02 53.3 -1.0**
	comp=Z,0.9nm,0.8s,baz=214,slow=5.4,SNR=9.7							
J20A	**Shoshoni**	**92.67**	**43**	P		**P**		**15 02 56.0 +0.8**
	baz=93							
232A	**Coleman**	**92.70**	**56**	P		**P**		**15 02 55.9 +0.4**
	baz=93							
KMI	**Kunming**	**92.77**	**296**	P		**P**		**15 02 57.3 +1.1**
KMI				pP		**pP**		**15 03 08.0 +0.4**
KMI				sP		**sP**		**15 03 12.4 +0.7**
KMI				PMZ				
	comp=Z,11nm,1.9s							
RLMT	**Red Lodge**	**92.92**	**41**	P		**P**		**15 02 57.3 +0.8**
	baz=93							
RLMT	**Red Lodge**	**92.92**	**41**	*e*P		**P**		**15 02 55.8 -0.7**
	comp=Z,11nm,1.5s							
333A	**Richland Sprin**	**92.93**	**57**	P		**P**		**15 02 56.9 +0.3**
	baz=93							
Z31A	**Sharp Cattle R**	**93.00**	**55**	P		**P**		**15 02 56.8 0.0**
	baz=93							
CMAR	**Chiang Mai Arr**	**93.04**	**289**	P		**P**		**15 02 57.4 0.0**
	comp=Z,2.1nm,0.8s,baz=127,slow=2.8,SNR=14							
CMAR				LR		LR		15 47 56.9
	comp=Z,24nm,18.0s,baz=164,slow=38							
ABTX	**Abilene, Hawle**	**93.05**	**55**	P		**P**		**15 02 57.4 +0.4**
	baz=93							
ABTX	**Abilene, Hawle**	**93.05**	**55**	*e*P		**P**		**15 02 57.0 0.0**
	comp=Z,26nm,1.5s							
J21A	**Lysite**	**93.06**	**43**	P		**P**		**15 02 57.9 +0.8**
	baz=93							
R26A	**Arlington**	**93.07**	**49**	P		**P**		**15 02 57.4 +0.3**
	baz=93							
CHTO	**Chiang Mai**	**93.19**	**289**	*e*P		**P**		**15 02 59.2 +1.2**
CHTO				pmax		pmax		
	comp=Z,5.0nm,0.9s							
CHTO	**Chiang Mai**	**93.19**	**289**	*e*P		**P**		**15 02 59.2 +1.2**
	comp=Z,5.0nm,0.9s							
Y31A	**Rekieta Farm,**	**93.22**	**54**	P		**P**		**15 02 58.2 +0.4**
	baz=94							
233A	**Rising Star**	**93.32**	**56**	P		**P**		**15 02 58.8 +0.4**
	baz=94							
I21A	**Big Trails, Te**	**93.41**	**43**	P		**P**		**15 02 58.8 +0.2**
	baz=94							
T28A	**Walsh**	**93.41**	**50**	P		**P**		**15 02 58.8 0.0**
	baz=94							
Z32A	**Haskell**	**93.49**	**55**	P		**P**		**15 02 59.6 +0.5**
	baz=94,SNR=7.6							
334A	**Lometa**	**93.50**	**57**	P		**P**		**15 02 59.4 +0.2**
	baz=94							
HHC	**Hu-ho-hao-te**	**93.69**	**314**	*e*P		**P**		**15 03 02.2 +2.3**
HHC				pP		**pP**		**15 03 12.9 +1.6**
HHC				sP		**sP**		**15 03 17.0 +1.6**
HHC				PP		PP		15 06 52.4 +6.7
HHC				SKS		**SKSac**		**15 13 33.0 +1.2**
HHC				S		**ScS**		**15 14 07.1 -0.8**
HHC				sS		**sS**		**15 14 24.6 -0.9**
HHC				PMZ				
	comp=Z,11nm,0.6s							
HHC				PMZ				
	comp=Z,74nm,6.9s							
HHC				LN				
	comp=Z,120nm,16.9s							
HHC				LE				
	comp=Z,130nm,14.1s							
HHC				LZ				
	comp=Z,140nm,16.7s							
Y32A	**R-V Farms, Ver**	**93.84**	**54**	P		**P**		**15 03 00.9 +0.2**
	baz=94							
BILL	**Bilibino**	**93.90**	**354***c*	*e*P		**P**		**15 03 00.5 +0.4**
BILL				pmax		pmax		
	comp=Z,10.0nm,1.2s							
H21A	**Big Horn, Sher**	**93.99**	**42**	P		**P**		**15 03 02.8 +1.6**
	baz=94							
Z33A	**Whitaker Ranch**	**94.01**	**55**	P		**P**		**15 03 01.7 +0.3**
	baz=94							
X32A	**Elmer**	**94.15**	**54**	P		**P**		**15 03 02.2 +0.1**
	baz=94							
EGMT	**Eagleton**	**94.24**	**38**	P		**P**		**15 03 02.7 +0.5**
	baz=94							
CD2	**Chengdu**	**94.55**	**302**	P		**P**		**15 03 04.7 +0.7**
CD2				pP		**pP**		**15 03 15.7 +0.3**
CD2				sP		**sP**		**15 03 19.9 +0.4**
CD2				PP		**PP**		**15 06 53.1 +0.6**
CD2				SKS		**SKSac**		**15 13 36.9 +0.1**
CD2				S		**ScS**		**15 14 15.4 0.0**
CD2				sS		**sS**		**15 14 34.3 +1.0**
CD2				SS		**SS**		**15 20 41.1 +2.9**
CD2				PMZ				
	comp=Z,20nm,0.8s							
CD2				PMZ				
	comp=Z,130nm,5.1s							
CD2				LN				
	comp=Z,170nm,5.5s							
CD2				LZ				
	comp=Z,170nm,6.3s							
H24A	**Dirks Ranch, A**	**95.57**	**43**	P		**P**		**15 03 08.5 +0.1**
	baz=96							
RSSD	**Black Hills**	**95.58**	**44**	*e*P		**P**		**15 03 07.1 -1.5**
RSSD				pmax		pmax		
	comp=Z,6.0nm,1.2s							
RSSD	**Black Hills**	**95.58**	**44**	*e*P		**P**		**15 03 07.1 -1.5**
	comp=Z,6.2nm,1.2s							
I25A	**Rochford**	**95.72**	**44**	P		**P**		**15 03 09.6 +0.3**
	baz=96							
LZH	**Lanzhou**	**96.78**	**307**	*e*P		P		15 03 18.2 +4.0
LZH				pP		pP		15 03 29.3 +3.6
LZH				sP		sP		15 03 34.2 +4.4
LZH				PMZ				
	comp=Z,21nm,1.0s							
LZH				PMZ				
	comp=Z,89nm,4.0s							
YAK	**Yakutsk**	**97.05**	**337**	*e*P		**P**		**15 03 13.6 -0.9**
YAK				pmax		pmax		
	comp=Z,5.0nm,0.6s							
LPAZ	**La Paz**	**98.90**	**113**	LR		LR		15 37 56.5
	comp=Z,56nm,21.7s,baz=267,slow=29							
YKA	**Yellowknife Ar**	**100.22**	**25**	P		**Pdif**		**15 03 28.5 -0.3**
	comp=Z,0.2nm,0.7s,baz=230,slow=4.5,SNR=2.8							
GTA	**Gaotai**	**101.07**	**308**	*e*P		**Pdif**		**15 03 36.7 +3.4**
GTA				pP		pP		15 03 47.2 +2.3
GTA				sP				15 03 51.2
GTA				PMZ				
	comp=Z,3.0nm,1.2s							
WMQ	**Urumqi**	**111.09**	**309**	*e*PKP		**PKiKP**		**15 08 17.0 +0.3**
WMQ				LN				
	comp=Z,160nm,30.0s							
WMQ				LZ				
	comp=Z,69nm,24.0s							
ZALV	**Zalesovo Beam**	**115.07**	**320**	PKP		**PKPdf**		**15 08 22.7 -1.1**
	comp=Z,0.4nm,0.4s,baz=24,slow=3.9,SNR=5.8							
ZALV	**Zalesovo Beam**	**115.07**	**320**	*i* PKIKP		**PKPdf**		**15 08 23.2 -0.6**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**115.47**	**312**	PKP		**PKPdf**		**15 08 23.5 -1.4**
	comp=Z,0.6nm,0.5s,baz=187,slow=0.9,SNR=10							
BRVK	**Borovoye**	**123.67**	**318**⇑	*i* PKIKP		**PKPdf**		**15 08 39.8 -0.6**
BRVK				pmax		pmax		
	comp=Z,10.0nm,2.5s							
ARU	**Arti**	**129.90**	**324**	*i* PKIKP		**PKPdf**		**15 08 52.2 0.0**
ARU								15 11 00.2
ARU								15 15 56.6
ARCES	**ARCESS Array B**	**133.84**	**350**	PKP		**PKPdf**		**15 08 58.9 -0.4**
	comp=Z,2.6nm,0.9s,baz=39,slow=2.3,SNR=8.7							
FINES	**FINESS Array B**	**140.73**	**343**	PKhKP		PKPpre		15 09 03.8
	comp=Z,1.3nm,0.7s,baz=344,slow=20,SNR=4.8							
FINES				PKP		**PKPdf**		**15 09 11.0 -1.2**
	comp=Z,1.2nm,0.8s,baz=119,slow=2.4,SNR=5.5							
FINES	**FINESS Array B**	**140.73**	**343***c*	*i* PKIKP		**PKPdf**		**15 09 13.6 +1.4**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.7s							
OBN	**Obninsk**	**141.60**	**330**	*e*PKIKP		**PKPdf**		**15 09 12.9 -1.0**
OBN				pmax		pmax		
	comp=Z,4.0nm,0.8s							
GNI	**Garni**	**142.66**	**304**⇑	*i* PKIKP		**PKPdf**		**15 09 17.2 +0.6**
KBZ	**Khabaz**	**143.14**	**310**	PKP		PKPbc		15 09 14.8 +0.7
	comp=Z,1.5nm,0.9s,baz=14,slow=2.0,SNR=3.1							
KIV	**Kislovodsk**	**143.22**	**310**	*e*PKIKP		PKPbc		15 09 14.8 +0.4
KIV				pmax		pmax		
	comp=Z,4.0nm,1.1s							
NB2	**NORSAR Subarra1**	**143.86**	**354**	PKP		PKPab		15 09 14.6 -0.4
	comp=Z,20nm,1.4s,baz=12,slow=3.4							
NOA	**NORSAR Array B**	**143.86**	**354**	PKP		PKPab		15 09 14.8 -0.1
	comp=Z,4.8nm,1.0s,baz=9.1,slow=2.3,SNR=8.3							
IZAR	**Zarasai**	**145.33**	**337**	*e*P		**PKPab**		**15 09 20.7 +0.2**
IZAR				IAmb		IAmb		15 09 21.2
	comp=Z,24nm,1.0s							
ISAL	**Salakas**	**145.51**	**337**	*e*P		**PKPab**		**15 09 21.3 +0.1**
ISAL				IAmb		IAmb		15 09 23.1
	comp=Z,50nm,1.4s							
IIGN	**Ignalina**	**145.65**	**337**	*e*P		**PKPab**		**15 09 21.6 -0.1**
IIGN				IAmb		IAmb		15 09 23.4
	comp=Z,28nm,1.1s							
MICGM	**Minsk**	**145.69**	**335**⇑	*e*P		**PKPdf**		**15 09 20.0 -1.2**
MNK	**Minsk**	**145.71**	**335**⇑	*e*PKIKP		**PKPdf**		**15 09 20.0 -1.2**
MNK				pmax		pmax		
	comp=Z,150nm,1.0s							
NACGM	**Naroch**	**145.80**	**336**	*e*		**PKPdf**		**15 09 20.0 -1.3**
ANN	**Anapa**	**146.44**	**314**	*i* PKP2		**PKPbc**		**15 09 23.8 -0.3**
ANN				pmax		pmax		
	comp=Z,40nm,1.0s							
SUW	**Suwalki**	**147.78**	**338**	*e*PKP		**PKPbc**		**15 09 26.5 -1.0**
SUW	**Suwalki**	**147.78**	**338**	*e*PKP2		**PKPbc**		**15 09 26.6 -1.0**
AKASG	**Malin Array Be**	**147.84**	**329**	PKPbc		**PKPbc**		**15 09 26.5 -1.3**
	comp=Z,3.7nm,0.6s,baz=39,slow=3.2,SNR=16							
KIS	**Kishinev**	**150.46**	**324**	*e*P		**PKPbc**		**15 09 34.0 -0.5**
KIS	**Kishinev**	**150.46**	**324**	*e*PKIKP		**PKPbc**		**15 09 34.0 -0.5**
LVV	**L'vov**	**150.79**	**332**	*e*PKIKP		**PKPbc**		**15 09 34.0 -1.3**
BRTR	**Keskin Array B**	**150.99**	**307**	PKPbc		**PKPbc**		**15 09 35.7 -0.6**
	comp=Z,4.0nm,0.8s,baz=116,slow=2.9,SNR=22							
KWP	**Kalwaria Pacla**	**151.48**	**333**	*e*PKP		**PKPbc**		**15 09 36.9 0.0**
KWP	**Kalwaria Pacla**	**151.48**	**333**	*e*PKIKP		**PKPbc**		**15 09 36.9 0.0**
OJC	**Ojcow**	**152.10**	**337**	*e*PKP		**PKPbc**		**15 09 38.1 -0.2**
OJC	**Ojcow**	**152.10**	**337**	*e*PKIKP		**PKPbc**		**15 09 38.2 -0.1**
KOLS	**Kolonicke sedl**	**152.21**	**333**	*e*PKIKP		**PKPdf**		**15 09 31.9 0.0**
KOLS				*e*				15 09 39.1
KOLS	**Kolonicke sedl**	**152.21**	**333**	*e*PKP		**PKPdf**		**15 09 31.9 0.0**
KOLS				*e*				15 09 39.1
STHS	**Stebnicka Huta**	**152.23**	**335**	*e*PKIKP		**PKPbc**		**15 09 38.9 +0.3**
STHS				*e*				15 09 48.8
STHS	**Stebnicka Huta**	**152.23**	**335**	*e*PKP		**PKPbc**		**15 09 38.9 +0.3**
STHS				*e*				15 09 48.8
UZH	**Uzhgorod**	**152.43**	**333**	*e*PKIKP		**PKPbc**		**15 09 39.2 +0.2**
NIE	**Niedzica**	**152.58**	**336**	*e*PKP		**PKPbc**		**15 09 39.9 +0.5**
NIE	**Niedzica**	**152.58**	**336**	*e*PKIKP		**PKPbc**		**15 09 39.9 +0.5**
KSP	**Ksiaz**	**152.65**	**342**	*e*PKP		**PKPbc**		**15 09 39.6 +0.1**
KSP	**Ksiaz**	**152.65**	**342**	*e*PKIKP		**PKPbc**		**15 09 39.6 +0.1**
OKC	**Ostrava-Krasne**	**152.98**	**339**⇑	*e*PKP		**PKPbc**		**15 09 40.6 +0.4**
OKC				*e*PKPAB		**PKPab**		**15 09 50.8 -0.7**
OKC				*e*pPKP		pPKP		15 09 57.8
OKC	**Ostrava-Krasne**	**152.98**	**339**	*e*PKIKP		**PKPbc**		**15 09 40.6 +0.4**
OKC				*e*				15 09 50.8
CLL	**Collm**	**153.01**	**347**	*i* PKIKP		**PKPbc**		**15 09 39.7 -0.5**
CLL				pmax		pmax		
	comp=Z,19nm,1.7s							
CLL				*i* PKPab		**PKPab**		**15 09 50.2 -1.4**
	comp=Z,17nm,1.3s							
UPC	**Upice**	**153.03**	**342**⇑	*e*PKP		**PKPbc**		**15 09 40.3 0.0**
UPC				*e*PKPAB		**PKPab**		**15 09 50.6 -1.1**
UPC				*e*pPKP		pPKP		15 09 57.6
UPC				AMS		AMS		16 12 40.0
	comp=Z,100nm,19.1s							
UPC	**Upice**	**153.03**	**342**	*e*PKIKP		**PKPbc**		**15 09 40.3 0.0**
UPC				*e*				15 09 50.6
UPC				MLR		MLR		
	comp=Z,100nm,19.1s							
DPC	**Dobruska-Polom**	**153.08**	**342**	*e*PKPDF		**PKPdf**		**15 09 33.0 -0.2**
DPC			⇑	*e*PKP		**PKPbc**		**15 09 40.2 -0.3**
DPC				*e*PKPAB		**PKPab**		**15 09 52.0 0.0**
DPC				*e*pPKP		pPKP		15 09 57.9
DPC	**Dobruska-Polom**	**153.08**	**342**	*e*PKIKP		**PKPdf**		**15 09 33.0 -0.2**
DPC				*e*				15 09 40.2
DPC				*e*				15 09 52.0
KRLC	**Kraliky**	**153.19**	**341**	*e*PKPDF		**PKPdf**		**15 09 32.0 -1.3**
KRLC			⇑	*e*PKP		**PKiKP**		**15 09 40.9 0.0**
KRLC				*e*PKPAB		**PKPab**		**15 09 51.6 -0.9**
KRLC				*e*pPKP		pPKP		15 10 00.1
KRLC	**Kraliky**	**153.19**	**341**	*e*PKIKP		**PKPdf**		**15 09 32.0 -1.3**
KRLC				*e*				15 09 40.9
KRLC				*e*				15 09 51.6
BRG	**Berggiesshubel**	**153.21**	**345**	*e*PKP		**PKPdf**		**15 09 33.1 -0.2**
	comp=Z,6.7nm,1.6s							
BRG				*i*				15 09 40.6
	comp=Z,11nm,1.2s							
BRG				*e*				15 09 47.9
BRG	**Berggiesshubel**	**153.21**	**345**	*e*PKIKP		**PKPdf**		**15 09 33.1 -0.2**
BRG				*i*				15 09 40.6
BRG				*e*				15 09 47.8
BRG				pmax		pmax		
	comp=Z,7.0nm,1.6s							
BRG				pmax		pmax		
	comp=Z,11nm,1.2s							
BRG				smax		smax		
	comp=N,2.0nm,0.3s							
KECS	**Kecovo**	**153.28**	**334**	*e*PKIKP		**PKPdf**		**15 09 33.9 +0.5**
KECS				*e*				15 09 51.4
KECS	**Kecovo**	**153.28**	**334**	*e*PKP		**PKPdf**		**15 09 33.9 +0.5**
KECS				*e*				15 09 51.4
PVCC	**Panska Ves**	**153.38**	**344**⇑	*e*PKP		**PKPbc**		**15 09 41.4 +0.3**
PVCC	**Panska Ves**	**153.38**	**344**	*e*PKIKP		**PKPbc**		**15 09 41.4 +0.3**
PRA	**Prague**	**153.84**	**344**⇑	*e*PKP		**PKPbc**		**15 09 42.1 0.0**
PRA	**Prague**	**153.84**	**344**	*e*PKIKP		**PKPbc**		**15 09 42.1 0.0**
PRU	**Pruhonice**	**153.89**	**344**⇑	*e*PKP		**PKPbc**		**15 09 43.1 +0.9**
PRU				*e*PKPAB		**PKPab**		**15 09 54.9 -0.5**
PRU				*e*pPKP		pPKP		15 10 02.4
PRU	**Pruhonice**	**153.89**	**344**	*e*PKIKP		**PKPbc**		**15 09 43.1 +0.9**
PRU				*e*				15 09 54.9
GOPC	**GO Pecny, Ondr**	**153.89**	**343**⇑	*e*PKP		**PKPbc**		**15 09 42.6 +0.3**
GOPC				*e*PKPAB		**PKPab**		**15 09 54.4 -1.0**
GOPC				*e*pPKP		pPKP		15 10 01.2
NKC	**Novy Kostel**	**154.14**	**347**⇑	*e*PKP		**PKPbc**		**15 09 42.8 0.0**
NKC				*e*PKPAB		**PKPab**		**15 09 55.9 -0.6**
NKC	**Novy Kostel**	**154.14**	**347**	*e*PKIKP		**PKPbc**		**15 09 42.8 0.0**
NKC				*e*				15 09 55.9
TREC	**Trest**	**154.27**	**342**	AMS		AMS		16 19 30.0
	comp=N,100nm,18.4s							
KHC	**Kasperske Hory**	**154.92**	**344**	*e*PKPDF		**PKPdf**		**15 09 36.2 +0.4**
KHC			⇑	*e*PKP		**PKiKP**		**15 09 44.6 +0.1**
KHC				*e*PKPAB		**PKPab**		**15 09 59.5 -0.4**
KHC				*e*pPKP		pPKP		15 10 07.7
KHC				AMS		AMS		16 24 20.0
	comp=N,100nm,17.4s							
KHC	**Kasperske Hory**	**154.92**	**344**	*e*PKIKP		**PKPdf**		**15 09 36.2 +0.4**
KHC				*e*				15 09 44.6
KHC				*e*				15 09 59.5
KHC				MLR		MLR		
	comp=Z,100nm,17.4s							
GERES	**GERESS Array B**	**155.16**	**344**	PKP		**PKPdf**		**15 09 35.6 -0.5**
	comp=Z,0.1nm,0.3s,baz=104,slow=4.1,SNR=3.1							
GERES				PKPab		**PKPab**		**15 10 00.0 -0.9**
	comp=Z,0.6nm,0.7s,baz=44,slow=4.1,SNR=7.8							
ESDC	**Sonseca Array**	**164.30**	**22**	PKPab		**PKPab**		**15 10 40.3 -0.6**
	comp=Z,0.1nm,0.4s,baz=323,slow=4.3,SNR=5.4							
TORD	**Torodi Ar. Bea**	**167.82**	**171**	PKPab		**PKPab**		**15 10 56.7 -0.1**
	comp=Z,3.5nm,1.1s,baz=183,slow=3.0,SNR=7.5							

MAN 10 15:19:40.13̊68N×120̊74E,h24km,mb3.7,ML2.5,MS2.0,
1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.27**	**131**⇓	*e*P	Pn	15 19 47.9	-0.6
LUBP	**Lubang**	**0.48**	**276**	*e*P	Pn	15 19 50.9	-0.6
LUBP				*e*S	Sb	15 19 54.5	-2.2
SJMP	**San Jose**	**1.27**	**163**	*e*P	Pb	15 20 04.5	+1.3
SJMP				*e*S	Sb	15 20 21.4	+2.4
ENPP	**El Nido**	**2.77**	**208**	*e*P	Pn	15 20 23.7	+0.7

MDD ***10*** *15:33:43.8±3.2,35̊86N×4̊49E,h10km±7km,mb4.0/8,*
*Error ellipse: s-

ETOS			S	Sn	15 35 30.1	-2.6
	1.1nm,0.3s,SNR=7.9					
ETOS	**Mallorca**	**3.95 345**	P	**Pn**	15 34 46.4	+0.4
	1.3nm,0.2s,SNR=7.9					
ETOS			S	Sn	15 35 30.1	-2.6
	1.1nm,0.3s,SNR=7.9					
EBEN	**Beniarda**	**4.45 309**	P	**Pn**	15 34 55.3	+2.4
	0.3nm,0.3s,SNR=7.9					
EBEN	**Beniarda**	**4.45 309**	P	**Pn**	15 34 55.3	+2.4
	0.3nm,0.3s,SNR=7.9					
EMUR	**La Murta**	**4.73 295**	P	**Pn**	15 34 56.7	0.0
	3.8nm,0.3s,SNR=16					
EMUR	**La Murta**	**4.73 295**	P	**Pn**	15 34 56.7	0.0
	3.8nm,0.3s,SNR=16					
ETOB	**Tobarra**	**5.29 302**	P	**Pn**	15 35 05.6	+1.1
	0.7nm,0.4s,SNR=11					
ETOB			S	Sn	15 36 06.5	+0.7
	1.1nm,0.4s,SNR=7.9					
ETOB	**Tobarra**	**5.29 302**	P	**Pn**	15 35 05.6	+1.1
	0.7nm,0.4s,SNR=11					
ETOB			S	Sn	15 36 06.5	+0.7
	1.1nm,0.4s,SNR=7.9					
EMOS	**Mosqueruela**	**5.72 322**	P	**Pn**	15 35 10.7	+0.3
	0.3nm,0.1s,SNR=7.9					
EMOS	**Mosqueruela**	**5.72 322**	P	**Pn**	15 35 10.7	+0.3
	0.3nm,0.1s,SNR=7.9					
EBER	**Berja**	**5.77 281**	P	**Pn**	15 35 10.9	-0.3
	0.7nm,0.2s,SNR=7.9					
EBER			S	Sn	15 36 16.9	-1.0
	1.3nm,0.3s,SNR=7.9					
EBER	**Berja**	**5.77 281**	P	**Pn**	15 35 10.9	-0.3
	0.7nm,0.2s,SNR=7.9					
EBER			S	Sn	15 36 16.9	-1.0
	1.3nm,0.3s,SNR=7.9					
SESP	**Santiago Espad**	**5.79 294**	P	**Pn**	15 35 13.3	+1.8
	2.8nm,0.2s,SNR=7.9					
SESP			S	Sn	15 36 19.6	+1.3
	SNR=7.9					
SESP	**Santiago Espad**	**5.79 294**	P	**Pn**	15 35 13.3	+1.8
	2.8nm,0.2s,SNR=7.9					
SESP			S	Sn	15 36 19.6	+1.3
	SNR=7.9					
CFON	**Fontmartina**	**5.95 347**	P	Pn	15 35 17.2	+3.7
	1.0nm,0.2s,SNR=7.9					
CFON	**Fontmartina**	**5.95 347**	P	Pn	15 35 17.2	+3.7
	1.0nm,0.2s,SNR=7.9					
EVIA	**Vianos**	**5.96 299**	P	Pn	15 35 16.9	+3.2
	1.5nm,0.2s,SNR=7.9					
EQES	**Quesada**	**6.09 290**	P	**Pn**	15 35 16.9	+1.4
	2.0nm,0.4s,SNR=12					
EQES			S	Sn	15 36 27.3	+1.7
	SNR=7.9					
EQES	**Quesada**	**6.09 290**	P	**Pn**	15 35 16.9	+1.4
	2.0nm,0.4s,SNR=12					
EQES			S	Sn	15 36 27.3	+1.7
	SNR=7.9					
EQUE	**Quentar**	**6.25 284**	P	**Pn**	15 35 18.1	+0.4
	1.3nm,0.3s,SNR=7.9					
EQUE	**Quentar**	**6.25 284**	P	**Pn**	15 35 18.1	+0.4
	1.3nm,0.3s,SNR=7.9					

IDC 10 15:37:10.0±10.0, 2°08S×127°70E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.5/29, mbtmp3.7/3, ML3.7/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/27, Error ellipse: s-maj=158.3km s-min=136.6km az=104.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.90**	**160**	P	Pn	15 41 33.4	+0.5
	0.2nm,0.3s,baz=339,slow=12,SNR=27						
ASAR	**Alice Springs**	**22.28**	**165**	P	P	15 42 08.2	-0.9
	0.8nm,0.5s,baz=346,slow=12,SNR=15						
STKA	**Stephens Creek**	**32.41**	**158**	P	P	15 43 41.9	+0.2
	2.7nm,1.0s,baz=306,slow=8.7,SNR=3.5						
JNU	**Nakatsue**	**35.14**	**5**	LR	LR	15 58 32.1	
	comp=Z,26nm,19.9s,baz=29,slow=36						

*NEIC **10** 15:42:28.3, 15°.30N×94°.51W, h17km, MD4.2(MEX), After MEX.*

MEX 10 15:42:28.0±0.8, 15°.26N×94°.51W, h16km±9km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.32**	**70**	*i* P	Pn	15 42 48.3	-3.4
PCIG				*i* S	Sn	15 43 03.4	-5.6
PCIG		**1.32**	**70**	*i* P	Pn	15 42 48.3	-3.4
PCIG				*i* S	Sn	15 43 03.4	-5.6
HUIG	**Huatulco**	**1.63**	**288**	*i* P	Pn	15 42 53.2	-2.9
HUIG				*i* S	Sn	15 43 10.7	-6.0
HUIG	**Huatulco**	**1.63**	**288**	*i* P	Pn	15 42 53.2	-2.9
HUIG				*i* S	Sn	15 43 10.7	-6.0
CMIG	**Matias Romero**	**1.86**	**349**	*i* P	Pn	15 42 56.1	-3.1
CMIG				*i* S	Sn	15 43 17.3	-5.2
CMIG	**Matias Romero**	**1.86**	**349**	*i* P	Pn	15 42 56.1	-3.1
CMIG				*i* S	Sn	15 43 15.8	-6.7
CCIG	**Comitan**	**2.50**	**66**	*e*P	Pn	15 43 04.9	-3.4
CCIG				*i* S	Sn	15 43 35.0	-3.6
CCIG	**Comitan**	**2.50**	**66**	*e*P	Pn	15 43 07.1	-1.2
CCIG				*i* S	Sn	15 43 35.4	-3.2
VHO	**Vista Hermosa**	**2.80**	**310**	*i* P	Pn	15 43 09.3	-3.1
VHO				*i* S	Sn	15 43 42.2	-3.9
VHO	**Vista Hermosa**	**2.80**	**310**	*i* P	Pn	15 43 08.6	-3.8
VHO				*i* S	Sn	15 43 42.2	-3.9

*NIED **10** 15:58:00, 25°.30N×124°.60E, h56km, Mw4.4 Best double couple: M₀4.71000×10¹⁵ NP1:φ=271.00000°, δ19.00000°, λ-21.00000°. NP2:φ=21.00000°, δ83.00000°, λ-108.00000°.*

*ISCJB **10** 15:58:31.3±0.3, 25°.42N±0°.06×124°.62E±0°.05, h116km±5km, mb3.8/15, Error ellipse: s-maj=11.7km s-min=4.4km az=150.6*

*JMA **10** 15:58:33.1±0.2, 25°.34N×124°.59E, h110km±4km, M3.7*

*IDC **10** 15:58:35.6±4.2, 25°.41N×124°.55E, h140km±39km, mb3.5/15, mb1 3.7/17, mb1mx3.5/39, mbtmp3.9/17, Error ellipse: s-maj=18.6km s-min=13.0km az=68.0*

ISC 10 15:58:32.5±0.7, 25°.42N±0°.08×124°.64E±0°.05, h113km±9km, n41, σ1°.03/54, mb3.7/15, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.74**	**132**	P	**Pn**	15 58 51.8	+0.4
JIKM				S	**Sn**	15 59 06.0	+0.3
JIRB	**Irabujima**	**0.76**	**141**	P	**Pn**	15 58 51.6	0.0
JIRB				S	**Sn**	15 59 05.5	-0.5
JTJ	**Tarama**	**0.78**	**176**	P	**Pn**	15 58 51.7	-0.1
JTJ				S	**Sn**	15 59 05.6	-0.7
JMJ	**Miyako jima 2**	**0.84**	**136**	P	**Pn**	15 58 52.7	+0.3
JMJ				S	**Sn**	15 59 07.5	+0.1
JISG	**Ishigakijimahi**	**0.88**	**200**	P	**Pn**	15 58 52.4	-0.4
JISG				S	**Sn**	15 59 06.7	-1.3
JOGS	**Gusukube**	**0.95**	**133**	P	**Pn**	15 58 53.9	+0.5
JOGS				S	**Sn**	15 59 09.5	+0.2
JIJ	**Ishigaki jima**	**1.15**	**203**	P	**Pn**	15 58 54.7	-0.7
JIJ				S	**Sn**	15 59 10.6	-2.2
JKRS	**Kuro-shima**	**1.31**	**206**	P	**Pn**	15 58 56.8	-0.5
JKRS				S	**Sn**	15 59 14.5	-1.5
IRIF	**Iriomote-Funau**	**1.36**	**218**	P	**Pn**	15 58 57.3	-0.5
IRIF				S	**Sn**	15 59 15.7	-1.4
HATJ	**Hateruma jima**	**1.56**	**209**	P	**Pn**	15 58 59.6	-0.5
HATJ				S	**Sn**	15 59 20.0	-1.2
YOJ	**Yonaguni jima**	**1.76**	**238**	P	**Pn**	15 59 02.9	+0.3
YOJ				S	**Sn**	15 59 24.4	-1.2
JYNG	**Yonagunijimaku**	**1.82**	**238**	P	**Pn**	15 59 03.6	+0.3
JYNG				S	**Sn**	15 59 26.3	-0.5
JKE	**Kume jima 2**	**2.13**	**65**	P	**Pn**	15 59 07.8	+0.6
JAGN	**Aguni-jima**	**2.61**	**63**	P	**Pn**	15 59 13.9	+0.5
JAGN				*e*S	**Sn**	15 59 44.0	-0.9
JJT2	**Tamagusuku 2**	**2.89**	**75**	P	**Pn**	15 59 17.5	+0.4
JNTH	**Nagotoyohara**	**3.23**	**69**	P	**Pn**	15 59 21.6	0.0
JIH	**Iheya**	**3.39**	**61**	P	**Pn**	15 59 24.4	+0.7
JOW	**Kunigami**	**3.55**	**66**	P	**Pn**	15 59 25.5	-0.4
JOKE	**Okinoerabujima**	**4.02**	**60**	P	**Pn**	15 59 31.5	-0.6
JTK	**Tokunoshima**	**4.52**	**58**	P	**Pn**	15 59 38.2	-0.6
JAMN	**Amaminishikomi**	**4.93**	**54**	P	**Pn**	15 59 43.4	-0.9
JAM	**Amami Oshima**	**5.34**	**55**	P	**Pn**	15 59 49.0	-0.8
JAM				*e*S	**Sn**	16 00 46.4	-3.7
JMZ	**Minamidaito 2**	**5.95**	**85**	P	**Pn**	15 59 55.5	-2.6
KSRS	**Korea Array**	**12.32**	**12**	P	Pn	16 01 27.4	+3.6
	0.2nm,0.3s,baz=186,slow=13,SNR=7.7						
MJAR	**Matsushiro Arr**	**16.05**	**43**	P	**P**	**16 02 13.1**	**+0.2**
	0.1nm,0.3s,baz=227,slow=9.7,SNR=8.6						
SONM	**Songino Array**	**26.61**	**332**	P	**P**	**16 04 01.5**	**+1.2**
	0.4nm,0.4s,baz=145,slow=10,SNR=3.5						
PETK	**Petropavlovsk-**	**37.10**	**33**	P	**P**	**16 05 32.7**	**+0.9**
	1.9nm,0.9s,baz=223,slow=6.9,SNR=3.0						
MKAR	**Makanchi Array**	**39.70**	**314**	P	**P**	**16 05 53.2**	**-0.4**
	2.0nm,0.5s,baz=99,slow=10.0,SNR=28						
ZALV	**Zalesovo Beam**	**40.99**	**325**	P	**P**	**16 06 03.0**	**-1.0**
	1.7nm,0.4s,baz=109,slow=8.3,SNR=11						
KURBB	**Kurchatov Arra**	**43.25**	**318**	P	**P**	**16 06 22.3**	**-0.1**
	1.0nm,0.5s,baz=109,slow=8.0,SNR=10						
WRA	**Warramunga Arr**	**46.07**	**167**	P	**P**	**16 06 45.1**	**0.0**
	0.8nm,0.5s,baz=348,slow=8.8,SNR=17						
ASAR	**Alice Springs**	**49.62**	**169**	P	**P**	**16 07 12.9**	**+0.4**
	0.6nm,0.6s,baz=354,slow=6.8,SNR=23						
GEYT	**Ailbeck**	**56.90**	**300**	P	**P**	**16 08 06.8**	**+1.1**
	2.5nm,0.5s,baz=355,slow=3.7,SNR=5.6						
ILAR	**Eielson Array**	**66.67**	**28**	P	**P**	**16 09 10.4**	**-0.3**
	0.4nm,0.6s,baz=247,slow=5.0,SNR=11						
ARCES	**ARCESS Array B**	**69.57**	**338**	P	**P**	**16 09 28.3**	**-0.5**
	0.9nm,0.8s,baz=72,slow=7.8,SNR=5.3						
FINES	**FINESS Array B**	**71.96**	**330**	P	**P**	**16 09 42.6**	**-0.8**
	0.8nm,0.7s,baz=84,slow=5.9,SNR=9.0						
BRTR	**Keskin Array B**	**74.96**	**307**	P	**P**	**16 10 01.5**	**-0.1**
	0.5nm,0.5s,baz=93,slow=3.0,SNR=3.7						
DLBC	**Dease Lake**	**76.27**	**31**	P	**P**	**16 10 10.6**	**+2.0**
	2.5nm,0.8s,baz=296,slow=4.8,SNR=5.4						
NB2	**NORSAR Subarra**	**78.58**	**333**	P	**P**	**16 10 20.8**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=55,slow=6.2						
NOA	**NORSAR Array B**	**78.58**	**333**	P	**P**	**16 10 20.9**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=56,slow=5.6,SNR=3.3						
YKA	**Yellowknife Ar**	**80.59**	**24**	P	**P**	**16 10 32.7**	**+0.5**
	comp=Z,2.4nm,0.5s,baz=302,slow=5.5,SNR=30						

*IDC **10** 16:04:23.5±2.4, 40°.44N×123°.95W, h0km, mb1 3.7/4, mb1mx3.4/38, mbtmp3.3/4, ML3.7/4, Error ellipse: s-maj=24.6km s-min=10.4km az=90.0*

*NEIC **10** 16:04:30.4, 40°.43N×123°.57W, h32km, MW3.8(BRK), After NCEDC.*

NEIC Felt at Eureka, Ferndale and Trinity Center.

ISC 10 16:04:29.4±1.9, 40°.42N±0°.03×123°.57W±0°.08, h25km±14km, n31, σ0°.76/44, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDC	**Whiskeytown Da**	**0.80**	**78**	*e*Pg	**Pb**	**16 04 44.3**	**-0.4**
WDC				*e*Sg	**Sb**	16 04 55.6	+0.6
N02D	**Trinity Center**	**0.86**	**49**	P	**Pb**	16 04 45.5	-0.2
	baz=0.9,SNR=1000						
N02D				S	**Sb**	16 04 57.3	+0.4
	baz=0.9						
M02C	**Callahan**	**1.11**	**29**	P	**Pn**	16 04 49.1	-0.4
	baz=1.1,SNR=727						
M02C				S	**Sb**	16 05 03.6	-0.6
	baz=1.1						
YBH	**Yreka Blue Hor**	**1.47**	**26**	Pn	**Pn**	16 04 54.6	+0.2
	24nm,0.3s,baz=249,slow=5.3,SNR=404						
YBH				Lg	Lg	16 05 12.5	
	70nm,0.3s,baz=114,slow=20,SNR=22						
YBH	**Yreka Blue Hor**	**1.47**	**26**	*e*Pn	**Pn**	**16 04 54.5**	**+0.2**
YBH				*e*Sn	**Sn**	16 05 12.0	-0.7
YBH				Lg	Lg	16 05 12.5	
L02D	**Cave Junction,**	**1.74**	**359**	P	**Pn**	16 04 58.0	-0.1
	baz=1.7,SNR=63						
L02D				S	**Sn**	16 05 19.1	-0.3
	baz=1.7						
M04C	**Macdoel**	**1.89**	**43**	P	**Pn**	16 05 00.7	+0.5
	baz=1.9,SNR=112						
M04C				S	**Sn**	16 05 22.9	-0.3
	baz=1.9						
HUMO	**Hull Mountain**	**2.24**	**12**	*e*Pn	**Pn**	**16 05 05.2**	**+0.3**
HUMO				*e*Sn	**Sn**	16 05 30.4	-1.3
MCCM	**Marconi Confer**	**2.33**	**167**	*e*Pn	**Pn**	16 05 06.2	+0.1
MCCM				*e*Sn	**Sn**	16 05 33.6	-0.3
K04D	**Chiloquin, OR**	**2.59**	**31**	P	**Pn**	16 05 10.7	+0.8
	baz=2.6,SNR=5.2						
K04D				S	**Sn**	16 05 41.0	+0.4
	baz=2.6						
MOD	**Modoc**	**2.88**	**58**	*e*Pn	**Pn**	16 05 13.3	-0.4
MOD				*e*Sn	**Sn**	16 05 47.0	-0.6
I03D	**Drain, OR**	**3.28**	**3**	P	**Pn**	16 05 20.6	+1.4
	baz=3.3						
J05D	**Fort Rock, OR**	**3.35**	**31**	P	**Pn**	16 05 21.9	+1.6
	baz=3.3,SNR=7.4						
J05D				S	**Sn**	16 05 59.5	+0.1
	baz=3.3						
CMB	**Columbia Colle**	**3.43**	**133**	*e*Pn	**Pn**	16 05 21.8	+0.6
CMB				*e*Sn	**Sn**	16 06 00.9	-0.2
I04A	**Tendick Farm,**	**3.48**	**14**	P	**Pn**	16 05 23.2	+1.2
	baz=3.5,SNR=5.3						
I04A				S	**Sn**	16 06 02.8	+0.4
	baz=3.5						
WAKR	**Walker**	**3.72**	**120**	*e*Pn	**Pn**	16 05 26.0	+0.6
WAKR				*e*Sn	**Sn**	16 06 07.7	-0.9
COR	**Corvallis**	**4.17**	**3**	*e*Pn	**Pn**	16 05 31.1	-0.3
WVOR	**Wild Horse Val**	**4.22**	**60**	*e*Pn	**Pn**	16 05 31.7	-0.5
NVAR	**Mina Array Bea**	**4.53**	**114**	Pn	**Pn**	16 05 37.5	+0.9
	3.0nm,0.3s,baz=287,slow=14,SNR=64						
NVAR				Lg	Lg	16 06 57.1	
	baz=291,slow=31,SNR=2.4						
G03D	**McMinnville, O**	**4.80**	**3**	P	**Pn**	16 05 41.4	+1.4
	baz=4.8,SNR=14						
TPH	**Tonopah**	**5.45**	**113**	*e*Pn	**Pn**	16 05 48.9	-0.2
	1.6nm,0.4s						
ELK	**Elko**	**6.35**	**84**	Pn	**Pn**	16 06 03.8	+2.2
	0.2nm,0.3s,baz=215,slow=7.8,SNR=5.1						
BMO	**Blue Mountains**	**6.40**	**44**	*e*Pn	**Pn**	16 06 02.0	-0.1
	2.7nm,0.8s						
MFID	**Camas Ranch**	**6.50**	**60**	*e*Pn	**Pn**	16 06 03.3	-0.2
	25nm,1.4s						
R11A	**Troy Canyon, C**	**6.52**	**106**	*e*Pn	**Pn**	16 06 03.9	+0.1
	4.8nm,1.3s						
HLID	**Hailey**	**7.51**	**62**	*e*Pn	**Pn**	16 06 18.0	+0.6
	3.2nm,1.0s						
DUG	**Dugway**	**8.22**	**88**	*e*Pn	**Pn**	16 06 27.8	+0.6
	3.4nm,0.9s						
MVU	**Marysvale**	**8.99**	**99**	*e*Pn	**Pn**	16 06 36.9	-0.9
	3.4nm,0.8s						
MSU	**Marysvale**	**9.01**	**99**	*e*Pn	**Pn**	16 06 38.1	+0.1
	2.3nm,0.7s						
PDAR	**Pinedale Array**	**10.75**	**73**	Pn	Pn	16 07 07.0	+5.1
	0.1nm,0.3s,baz=269,slow=11,SNR=3						
TXAR	**Lajitas Array**	**19.67**	**118**	P	**P**	**16 08 56.6**	**0.0**
	0.1nm,0.3s,baz=295,slow=9.6,SNR=9.3						

IDC 10 16:17:29.5±3.6, 5°.74S×154°.42E, h413km±44km, mb3.2/8, mb1 3.3/11, mb1mx3.2/32, mbtmp4.0/11, Error ellipse: s-maj=21.5km s-min=17.1km az=86.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**14.05**	**283**	P	P	16 20 31.0	-0.5
	1.3nm,0.3s,baz=124,slow=5.2,SNR=7.8						
CTA	**Charters Tower**	**16.32**	**208**	P	P	16 20 57.1	+1.2
	0.4nm,0.3s,baz=75,slow=18,SNR=3.6						
DZM	**Mont Dzumac**	**19.97**	**146**	P	P	16 21 33.3	+0.2
	0.3nm,0.3s,baz=270,slow=20,SNR=3.2						
WRA	**Warramunga Arr**	**24.09**	**232**	P	P	16 22 10.3	-0.1
	0.8nm,0.4s,baz=52,slow=9.5,SNR=56						
ASAR	**Alice Springs**	**26.60**	**226**	P	P	16 22 32.3	-0.4
	0.6nm,0.3s,baz=55,slow=9.1,SNR=47						
MJAR	**Matsushiro Arr**	**44.72**	**341**	P	P	16 25 02.4	-1.6
	1.0nm,0.7s,baz=92,slow=0.9,SNR=8.1						
KSRS	**Korea Array**	**49.57**	**332**	P	P	16 25 41.1	+0.2
	0.9nm,0.9s,baz=149,slow=7.7,SNR=4.1						
PETK	**Petropavlovsk-**	**58.69**	**2**	P	P	16 26 46.2	+0.7
	1.7nm,0.6s,baz=156,slow=7.5,SNR=5.3						
SONM	**Songino Array**	**67.98**	**327**	P	P	16 27 47.2	+1.3
	0.7nm,0.5s,baz=144,slow=6.3,SNR=6.8						
MKAR	**Makanchi Array**	**82.09**	**319**	P	P	16 29 06.0	+0.6
	0.7nm,0.8s,baz=127,slow=5.2,SNR=4.3						
ILAR	**Eielson Array**	**82.43**	**22**	P	P	16 29 06.0	-0.7
	0.8nm,0.6s,baz=240,slow=4.9,SNR=9.5						
TORD	**Torodi Ar. Bea**	**152.12**	**287**	PKPbc	PKPbc	16 36 37.5	-0.6
	0.2nm,0.3s,baz=97,slow=1.7,SNR=6.3						

*ISCJB **10** 16:49:04.8±0.6, 0°.07S±0°.08×126°.68E±0°.05, h73km, mb3.6/5, Error ellipse: s-maj=11.6km s-min=6.9km az=9.9*

*DJA **10** 16:49:04.3±1.0, 0°.5±6°×12°.7E±°, h16km±14km, M4.0/7, mb4.4/1, mB4.7/1, MLv3.8/7, Mw(mB)4.0/1*

*IDC **10** 16:49:06.9±2.8, 0°.04S×126°.73E, h69km±31km, mb3.3/5, mb1 3.5/7, mb1mx3.3/47, mbtmp3.7/7, ML3.6/2, Error ellipse: s-maj=21.8km s-min=19.6km az=37.0*

ISC 10 16:49:06.4±0.9, 0°.10S±0°.08×126°.66E±0°.06, h73km, n13, σ1°.52/15, mb3.7/5, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**1.00**	**123**	P	**Pn**	**16 49 22.6**	**-2.4**
SANI	**Sanana**	**2.05**	**199**	P	**Pn**	16 49 38.0	-0.9
KMSI	**Cibinong**	**2.76**	**284**	P	**Pn**	16 49 47.0	-1.5
NLAI	**Namlea**	**3.15**	**172**	P	**Pn**	16 49 53.6	-0.2
SWI	**Sorong**	**4.66**	**99**	P	**Pn**	16 50 14.4	+0.1
SIJI	**Sorong**	**4.67**	**99**	P	**Pn**	16 50 14.3	-0.1
	1.9nm,0.3s,baz=99,slow=4.3,SNR=44						
SIJI				S	**Sn**	16 51 07.2	-0.2
	0.2nm,0.3s,baz=207,slow=18,SNR=1.9						
APSI	**Ampana**	**5.08**	**261**	P	**Pn**	16 50 19.6	-0.4
KAPI	**Kappang**	**8.46**	**235**	P	**Pn**	16 51 08.1	+1.9
	1.2nm,0.3s,baz=27,slow=6.1,SNR=9.5						
KAPI				S	**Sn**	16 52 37.1	-3.0
	0.5nm,0.3s,baz=270,slow=20,SNR=3.8						
WRA	**Warramunga Arr**	**21.11**	**160**	P	**P**	16 53 45.0	-0.3
	0.5nm,0.3s,baz=339,slow=10,SNR=30						
ASAR	**Alice Springs**	**24.46**	**164**	P	**P**	16 54 20.8	+2.0
	1.0nm,0.7s,baz=342,slow=11,SNR=13						
SONM	**Songino Array**	**50.89**	**342**	P	**P**	16 58 01.1	+0.9
	0.4nm,0.5s,baz=162,slow=9.3,SNR=4.1						
MKAR	**Makanchi Array**	**60.67**	**327**	P	**P**	16 59 10.8	+0.8
	0.5nm,0.4s,baz=117,slow=8.4,SNR=11						
KURBB	**Kurchatov Arra**	**64.92**	**328**	P	**P**	16 59 38.8	+0.6
	0.6nm,0.5s,baz=127,slow=6.3,SNR=11						

*ISCJB **10** 16:49:17.5±1.4, 31°.78N±0°.03×77°.60E±0°.07, h3km±8km, mb3.3/6, Error ellipse: s-maj=10.4km s-min=5.4km az=172.8*

*IDC **10** 16:49:18.4±1.3, 31°.79N×77°.54E, h0km, mb3.3/6, mb1 3.4/8, mb1mx3.2/53, mbtmp3.3/8, ML2.8/2, Error ellipse: s-maj=50.9km s-min=19.5km az=63.0*

*NDI **10** 16:49:21.6±1.9, 31°.72N×77°.33E, h10km, ML4.0*

ISC 10 16:49:19.1±1.4, 31°.75N±0°.04×77°.55E±0°.05, h6km±10km, n21, σ1°.28/27, mb3.3/6, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDNR	**Sundarnagar**	**0.56**	**243**	*e*PG	**Pg**	**16 49 30.0**	**+0.2**
SDNR				*e*SG	**Sb**	16 49 37.6	-1.9
SMLA	**Simla**	**0.70**	**208**	*i* P	**Pg**	16 49 32.8	+0.2
SMLA				*i* S	**Sg**	16 49 41.1	-0.6
SMLA				AML	AML	16 49 42.2	
	comp=E,19μm,0.2s						
SMLA				AML	AML	16 49 42.7	
	comp=N,18μm,0.2s						
BHK	**Bhakra**	**1.03**	**251**	*e*PN	**Pn**	16 49 40.6	+0.6
BHK				*ex*	Sn	16 50 02.8	+8.1
PONG	**Pong**	**1.38**	**279**	*e*P	**Pg**	16 49 45.5	0.0
PONG				*ex*	Sn	16 50 10.5	+7.1
DDI	**Dehra Dun**	**1.49**	**163**	*e*PN	**Pn**	16 49 45.0	-1.4
DDI				*e*SN	**Sn**	16 50 05.0	-1.2
DLH	**Dalhousie**	**1.56**	**301**	*e*PG	**Pg**	16 49 49.0	+0.5
DLH				*e*SG	**Sg**	16 50 09.0	-0.3
KKR	**Kurukshetra**	**1.89**	**200**	*e*P	**Pb**	16 49 53.9	-0.1
KKR				*e*S	**Sn**	16 50 15.7	-0.4
KKR				AML	AML	16 50 17.1	
	comp=Z,643nm,0.2s						
KALG	**Kalgarh**	**2.46**	**155**	*e*P	**Pn**	16 50 02.4	+2.6
KALG				*ex*	**Sg**	16 50 36.7	-1.6
KALG				AML	AML	16 50 40.5	
	comp=E,483nm,0.2s						
NDI	**New Delhi**	**3.07**	**186**	*e*P	**Pb**	16 50 16.0	+1.9
NDI				*e*S	**Sb**	16 50 53.0	+1.1
LGTI	**Lohaghat**	**3.26**	**134**	*e*P	Pn	16 50 14.4	+3.7
LGTI				*ex*	**Sg**	16 51 03.7	-0.2
CHCP	**Chirah Chowk**	**4.09**	**299**	P	Pn	16 50 25.4	+3.3
THW	**Thamme Wali**	**5.03**	**283**	P	**Pn**	16 50 36.1	+1.0
CEP	**Cherat**	**5.18**	**295**	P	**Pn**	16 50 39.1	+1.8
MKAR	**Makanchi Array**	**15.46**	**12**	Pn	**Pn**	16 52 55.0	-2.6
	comp=E,0.0nm,0.3s,baz=190,slow=13,SNR=2.5						
KURBB	**Kurchatov Arra**	**18.87**	**2**	P	**P**	16 53 40.6	+0.8
	comp=E,0.0nm,0.3s,baz=191,slow=11,SNR=3.3						
BVAR	**Borovoye Array**	**21.89**	**348**	P	**P**	16 54 13.2	+0.6
	comp=E,0.5nm,0.5s,baz=163,slow=16,SNR=3.7						
ZALV	**Zalesovo Beam**	**22.79**	**11**	P	**P**	16 54 21.4	-0.8
	comp=E,0.2nm,0.3s,baz=199,slow=7.2,SNR=2.2						
FINES	**FINESS Array B**	**44.42**	**328**	P	**P**	16 57 30.9	+0.5
	comp=E,1.1nm,0.9s,baz=105,slow=8.1,SNR=3.3						
NOA	**NORSAR Array B**	**51.40**	**325**	P	**P**	16 58 23.4	-1.1
	comp=E,0.4nm,0.7s,baz=80,slow=7.7,SNR=2.5						
**WRA

THZ				*e*SN	**S**	**17 01 11.1**	**+0.4**
KHZ	**Kahutara**	**10.99**	**203**	PN	**P**	**16 59 14.9**	**-0.6**
OXZ	**Oxford**	**12.31**	**205**	*e*PN	**P**	**16 59 30.6**	**+0.5**
CRLZ	**Canterbury Las**	**12.33**	**203**	*e*PN	**P**	**16 59 30.9**	**+0.6**
MQZ	**McQueen's Vall**	**12.43**	**203**	*e*PN	**P**	**16 59 32.0**	**+0.6**
MQZ				*e*SN	**S**	**17 01 47.3**	**-1.1**
WVZ	**Waitaha Valley**	**12.61**	**210**	*e*PN	**Pn**	**16 59 34.8**	**+0.2**
RPZ	**Rata Peaks**	**13.01**	**207**	P	**Pn**	**16 59 39.4**	**+0.1**
	1.0nm,0.3s,baz=251,slow=2.0,SNR=8.7						
RPZ				S	**S**	**17 02 00.1**	**0.0**
	0.4nm,0.3s,baz=0.0,slow=20,SNR=4.5						
JCZ	**Jackson Bay**	**14.27**	**212**	*e*PN	**Pn**	**16 59 53.3**	**-0.6**
ASAR	**Alice Springs**	**40.68**	**271**	P	**P**	**17 03 52.9**	**+0.7**
	0.4nm,0.3s,baz=106,slow=7.5,SNR=6.6						
WRA	**Warramunga Arr**	**41.86**	**276**	P	**P**	**17 04 02.0**	**+0.4**
	0.9nm,0.3s,baz=111,slow=8.0,SNR=55						
FINES	**FINESS Array B**	**146.11**	**337**	PKPbc	**PKPdf**	**17 15 38.7**	**-2.0**
	0.8nm,0.4s,baz=47,slow=3.6,SNR=15						

IDC 10 17:19:26.9±1.9, 13°88S×166°20E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/35, mbtmp3.8/4, ML3.4/1, MS3.4/2, Ms1 3.3/2, ms1mx2.7/23, Error ellipse: s-maj=42.7km s-min=30.9km az=109.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.15**	**178**	Pn	Pn	17 21 27.6	+0.9
	0.5nm,0.3s,baz=270,slow=20,SNR=4.2						
DZM				Sn	Sn	17 22 58.0	-1.6
	0.1nm,0.3s,baz=270,slow=20,SNR=1.8						
STKA	**Stephens Creek**	**28.77**	**227**	LR	LR	17 35 06.0	
	comp=Z,64nm,18.2s,baz=311,slow=33						
WRA	**Warramunga Arr**	**31.04**	**254**	P	P	17 25 46.8	0.0
	1.1nm,0.8s,baz=85,slow=9.5,SNR=12						
ASAR	**Alice Springs**	**32.02**	**248**	P	P	17 25 55.5	0.0
	0.8nm,0.6s,baz=75,slow=9.7,SNR=23						
ASAR				LR	LR	17 37 03.6	
	comp=Z,61nm,21.2s,baz=124,slow=33						
ILAR	**Eielson Array**	**86.05**	**18**	P	P	17 32 08.9	-0.2
	0.3nm,0.6s,baz=239,slow=6.0,SNR=4.2						

*IDC **10** 17:43:01.6±1.3, 1°80S×136°42E, h0km, mb3.6/3, mb1 3.8/6, mb1mx3.5/30, mbtmp3.6/6, ML3.1/3, Error ellipse: s-maj=31.4km s-min=21.7km az=43.0*
*ISCJB **10** 17:43:02.8±0.9, 1°81S±0°09×136°36E±0°05, h18km±9km, mb3.5/3, Error ellipse: s-maj=14.9km s-min=8.4km az=14.5*
*DJA **10** 17:43:03.8±0.4, 2°S±6°×13°6E±°, h10km, M3.8/6, mb4.0/1, mB4.9/1, MLv3.7/6, Mw(mB)4.2/1*

ISC 10 17:43:03.0±1.5, 1°76S±0°07×136°38E±0°06, h9km±11km, n12, σ1°913/13, mb3.5/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.18**	**231**	P	**Pg**	**17 43 06.7**	**-0.1**
BAKI	**Biak**	**0.62**	**334**	P	**Pg**	**17 43 14.6**	**-0.5**
RKPI	**Ransiki, Papua**	**2.22**	**276**	P	**Pn**	**17 43 40.7**	**+0.8**
SMPI	**Sarmi**	**2.34**	**96**	P	**Pn**	**17 43 42.5**	**+0.9**
GENI	**Genyem**	**3.88**	**102**	P	**Pn**	**17 44 04.9**	**+2.2**
JAY	**Jayapura**	**4.39**	**100**	*Pn*	**Pn**	**17 44 10.6**	**+0.8**
	0.9nm,0.3s,baz=122,slow=15,SNR=5.2						
JAY				Sn	**Sn**	**17 44 59.4**	**-1.7**
	0.5nm,0.3s,baz=78,slow=20,SNR=2.3						
SIJI	**Sorong**	**5.19**	**280**	Pn	Pn	**17 44 21.0**	**+0.2**
	0.7nm,0.3s,baz=76,slow=14,SNR=3.9						
SWI	**Sorong**	**5.20**	**280**	P	**Pn**	**17 44 21.0**	**+0.1**
WRA	**Warramunga Arr**	**18.18**	**186**	P	**Pn**	**17 47 14.9**	**-0.9**
	0.1nm,0.3s,baz=9.9,slow=12,SNR=7.4						
ASAR	**Alice Springs**	**21.91**	**186**	P	**P**	**17 47 56.2**	**-0.5**
	1.2nm,0.6s,baz=15,slow=10,SNR=25						
CMAR	**Chiang Mai Arr**	**41.95**	**300**	P	**P**	**17 50 54.7**	**+0.2**
	0.6nm,0.9s,baz=143,slow=7.3,SNR=4.7						
MKAR	**Makanchi Array**	**67.62**	**323**	P	**P**	**17 54 00.8**	**+0.5**
	0.6nm,0.6s,baz=101,slow=7.5,SNR=2.7						

*DJA **10** 17:44:39.3±2.9, 5°N±8°×9°5E±1°7, h12km±26km, M4.5/8, mb4.6/5, mB5.1/2, MLv4.4/8, Mw(mB)4.5/2*
*ISCJB **10** 17:44:44.1±0.4, 4°83N±0°06×94°96E±0°05, h50km, mb4.3/23, MS3.0/3, Error ellipse: s-maj=10.0km s-min=4.4km az=42.0*
*NEIC **10** 17:44:47.5±0.8, 4°83N×95°00E, h68km±7km, mb4.4/10, Error ellipse: s-maj=9.7km s-min=6.3km az=49.0*
*IDC **10** 17:44:47.1±3.2, 4°90N×95°00E, h60km±29km, mb3.9/14, mb1 4.0/16, mb1mx3.8/39, mbtmp4.2/16, ML4.3/2, MS2.9/6, Ms1 3.0/6, ms1mx2.7/43, Error ellipse: s-maj=27.1km s-min=14.3km az=49.0*

ISC 10 17:44:45.9±0.5, 4°84N±0°06×94°97E±0°06, h50km, n69, σ1°936/65, mb4.4/23, MS3.0/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**2.01**	**79**	P	**Pn**	**17 45 18.4**	**+1.0**
LHMI	**Lhok Sumawe**	**2.01**	**79**	P	**Pn**	**17 45 18.8**	**+1.5**
	baz=2.6,SNR=45						
LHMI	**Lhok Sumawe**	**2.01**	**79**	*e*Pn	**Pn**	**17 45 18.8**	**+1.5**
TSI	**Tuntungan**	**3.82**	**110**	P	Pn	17 45 52.9	+1.9
GSI	**Gunungsitoli**	**4.37**	**143**	P	**Pn**	**17 45 49.8**	**0.0**
GSI	**Gunungsitoli**	**4.37**	**143**	*e*Pn	**Pn**	**17 45 49.2**	**-0.7**
GSI				*e*Sn	**Sn**	**17 46 36.9**	**-2.6**
PSI	**Prapat**	**4.43**	**117**	P	**Pn**	**17 45 53.7**	**+2.9**
	6.7nm,0.3s,baz=312,slow=10,SNR=19						
PSI				S	**Sn**	**17 46 43.6**	**+2.4**
	4.0nm,0.3s,baz=198,slow=20,SNR=2.9						
PSI				LR	LR	17 47 56.6	
	comp=Z,148nm,19.5s,baz=280,slow=42						
PSI	**Prapat**	**4.43**	**117**	P	**Pn**	**17 45 53.5**	**+2.7**
	baz=4.8,SNR=15						
KULM	**Kulim**	**5.68**	**85**	*e*Pn	**Pn**	**17 46 08.3**	**+0.5**
	16nm,0.6s						
KULM				*e*Sn	**Sn**	**17 47 08.0**	**-3.7**
PBSI	**Pulau Batu**	**5.88**	**146**	P	Pn	**17 46 10.1**	**-0.4**
	47nm,0.9s,0.3nm						
IPM	**Ipoh**	**6.05**	**93**	*e*Pn	**Pn**	**17 46 13.2**	**+0.4**
	26nm,0.4s						
IPM				*e*Sn	**Sn**	**17 47 19.6**	**-1.2**
MNSI	**Mandailing Nat**	**6.11**	**131**	P	**Pn**	**17 46 15.5**	**+1.8**
CM31	**Chiang Mai Arr**	**14.08**	**16**	P	**P**	**17 48 08.0**	**-1.2**
	baz=15,SNR=5.7						
CM31	**Chiang Mai Arr**	**14.08**	**16**	*e*Pn	**Pn**	**17 48 05.6**	**+2.9**
	3.6nm,0.4s						
CMAR	**Chiang Mai Arr**	**14.08**	**16**	P	**Pn**	**17 48 04.3**	**+1.6**
	0.8nm,0.3s,baz=209,slow=12,SNR=46						
CMAR				LR	LR	17 53 44.8	
	comp=Z,40nm,18.3s,baz=196,slow=38						
PALK	**Pallekele**	**14.39**	**280**	LR	LR	17 52 52.1	
	comp=Z,56nm,19.4s,baz=115,slow=34						
PALK	**Pallekele**	**14.39**	**280**	Pn	**Pn**	**17 48 09.0**	**+2.0**
PALK				*e*Sn	Sn	17 50 32.5	-13
CHTO	**Chiang Mai**	**14.42**	**15**	*e*Pn	**Pn**	**17 48 07.7**	**+0.4**
	6.1nm,0.8s						
KSM	**Kuching**	**15.67**	**102**	P	**P**	**17 48 29.3**	**+2.4**
	baz=16,SNR=4.0						
KSM	**Kuching**	**15.67**	**102**	Pn	**P**	**17 48 26.0**	**-0.9**
	4.7nm,0.8s						
ODAN	**Odare**	**23.06**	**342**	*e*P	**P**	**17 49 47.4**	**-0.1**
	7.3nm,0.5s						
RAMN	**Ramite**	**23.39**	**341**	*e*P	**P**	**17 49 51.2**	**+0.5**
	6.2nm,0.5s						
TAPN	**Taplejung**	**23.43**	**344**	*e*P	**P**	**17 49 51.1**	**0.0**
	6.3nm,0.3s						
KKN	**Kakani**	**24.62**	**339**	*e*P	**P**	**17 50 01.5**	**-0.5**
	3.3nm,0.3s						
LSA	**Lhasa**	**24.99**	**352**	*e*Pn	**P**	**17 50 04.7**	**-0.9**
GKN	**Gorkha**	**25.05**	**338**	*e*P	**P**	**17 50 05.6**	**-0.2**
	9.4nm,0.3s						
KOLN	**Koldanda**	**25.24**	**336**	*e*P	**P**	**17 50 07.5**	**-0.1**
	13nm,0.5s						
MPSI	**Mapaga**	**25.30**	**99**	P	**P**	**17 50 12.4**	**+4.4**
H08S2	**Diego Garcia H**	**25.63**	**241**	T	T	18 17 17.1	
	baz=61,slow=76,SNR=704						
H08S3	**Diego Garcia H**	**25.63**	**241**	T	T	18 17 17.2	
	baz=61,slow=76,SNR=745						
H08S1	**Diego Carcia H**	**25.64**	**241**	T	T	18 17 18.3	
	baz=61,slow=76,SNR=453						
LUWI	**Luwuk**	**28.38**	**101**	P	**P**	**17 50 36.7**	**+0.9**
	baz=29,SNR=3.4						
FAKI	**Fak Fak**	**38.03**	**101**	P	**P**	**17 51 59.1**	**-0.7**
	baz=38,SNR=4.3						
KNRA	**Kununurra**	**39.18**	**122**	P	**P**	**17 52 08.3**	**-1.0**
	baz=40,SNR=4.7						
TKM2	**Tokmak 2**	**41.63**	**338**	*e*P	**P**	**17 52 29.8**	**+0.2**
	4.3nm,0.9s						
EKS2	**Erkin-Say**	**42.11**	**337**	*e*P	**P**	**17 52 34.1**	**+0.8**
	2.0nm,0.6s						
MK31	**Makanchi Array**	**43.21**	**347**	*e*P	**P**	**17 52 40.9**	**-1.2**
MK31				*e*PcP	**PcP**	**17 54 30.6**	**-0.1**
MKAR	**Makanchi Array**	**43.21**	**347**	P	**P**	**17 52 41.6**	**-0.5**
	3.7nm,0.5s,baz=154,slow=6.4,SNR=65						
MKAR				LR	LR	18 14 09.8	
	comp=Z,17nm,18.7s,baz=186,slow=41						
H01W3	**Cape Leeuwin H**	**43.44**	**157**	T	T	18 39 03.5	
	baz=206,slow=75,SNR=4.7						
H01W2	**Cape Leeuwin H**	**43.45**	**157**	T	T	18 39 02.3	
	baz=206,slow=75,SNR=5.2						
H01W1	**Cape Leeuwin H**	**43.45**	**157**	T	T	18 39 03.6	
	baz=206,slow=75,SNR=4.6						
KKAR	**Karatay Array**	**43.83**	**334**	*e*P	**P**	**17 52 47.4**	**+0.2**
	1.6nm,0.5s						
SONM	**Songino Array**	**43.95**	**11**	P	**P**	**17 52 47.2**	**-1.0**
	0.6nm,0.4s,baz=190,slow=9.3,SNR=7.7						
KSAR	**Wonju Array Be**	**44.23**	**38**	P	**P**	**17 52 49.8**	**-0.6**
KSRS	**Korea Array**	**44.26**	**38**	P	**P**	**17 52 49.7**	**-0.9**
	0.9nm,0.8s,baz=223,slow=7.2,SNR=4.6						
KSRS				LR	LR	18 11 37.7	
	comp=Z,17nm,19.1s,baz=218,slow=36						
WRA	**Warramunga Arr**	**45.87**	**124**	P	**P**	**17 53 03.8**	**+0.1**
	3.2nm,0.7s,baz=302,slow=9.5,SNR=37						
WRAB	**Tennant Creek**	**45.87**	**124**	*e*P	**P**	**17 53 03.7**	**0.0**
WRAB				e		17 53 17.0	
GEYT	**Alibeck**	**47.01**	**320**	P	**P**	**17 53 12.6**	**+0.1**
	3.4nm,0.6s,baz=150,slow=12,SNR=7.1						
ASAR	**Alice Springs**	**47.37**	**128**	P	**P**	**17 53 15.7**	**+0.2**
	0.8nm,0.4s,baz=300,slow=7.7,SNR=31						
KURK	**Kurchatov**	**47.74**	**346**	*e*P	**P**	**17 53 17.4**	**-0.4**
	1.8nm,0.4s						
ZAA0	**Zalesovo Array**	**49.66**	**352**	P	**P**	**17 53 32.0**	**-0.4**
	baz=50,SNR=5.2						
ZALV	**Zalesovo Beam**	**49.66**	**352**	P	**P**	**17 53 31.7**	**-0.7**
	2.8nm,0.4s,baz=183,slow=7.0,SNR=24						
GUMO	**Guam**	**49.93**	**76**	LR	LR	18 18 06.3	
	comp=Z,12nm,18.0s,baz=145,slow=40						
MJAR	**Matsushiro Arr**	**50.63**	**46**	P	**P**	**17 53 40.6**	**+0.4**
	0.7nm,0.7s,baz=244,slow=7.4,SNR=5.8						
BRVK	**Borovoye**	**52.17**	**341**	*e*P	**P**	**17 53 50.9**	**-0.5**
	6.4nm,0.6s						
ABKAR	**Akbulak array**	**53.28**	**332**	*e*P	**P**	**17 53 59.7**	**+0.1**
	1.2nm,0.3s						
ASAJ	**Asahikawa**	**57.19**	**39**	P	**P**	**17 54 27.9**	**-0.1**
	3.2nm,0.4s,baz=150,slow=8.1						
YSS	**Yuzh-Sakhalins**	**58.69**	**36**	P	**P**	**17 54 38.1**	**-0.3**
	9.9nm,0.8s						
ARU	**Arti**	**58.99**	**337**	*e*P	**P**	**17 54 39.4**	**-0.8**
	3.1nm,0.8s						
KIV	**Kislovodsk**	**60.12**	**319**	*e*P	**P**	**17 54 49.3**	**+0.9**
	6.3nm,0.7s						
YAK	**Yakutsk**	**62.61**	**18**	*e*P	**P**	**17 55 03.2**	**-1.6**
BRTR	**Keskin Array B**	**65.04**	**312**	P	**P**	**17 55 21.1**	**-0.3**
	1.6nm,0.5s,baz=135,slow=7.2,SNR=14						
FINES	**FINESS Array B**	**75.76**	**332**	P	**P**	**17 56 25.7**	**-0.5**
	2.5nm,0.4s,baz=112,slow=6.2,SNR=36						
ARCES	**ARCESS Array B**	**78.38**	**340**	P	**P**	**17 56 40.8**	**0.0**
	1.8nm,0.5s,baz=95,slow=5.7,SNR=34						
GERES	**GERESS Array B**	**80.63**	**319**	P	**P**	**17 56 54.4**	**+0.8**
	2.0nm,0.8s,baz=95,slow=5.3,SNR=18						
NB2	**NORSAR Subarra**	**82.76**	**331**	P	**P**	**17 57 03.9**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=94,slow=5.9						
NOA	**NORSAR Array B**	**82.76**	**331**	P	**P**	**17 57 04.0**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=87,slow=5.8,SNR=4.4						
NVAR	**Mina Array Bea**	**127.05**	**33**	PKP	**PKPdf**	**18 03 45.5**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=308,slow=2.6,SNR=3.8						
TXAR	**Lajitas Array**	**141.59**	**27**	PKP	**PKPdf**	**18 04 10.6**	**-2.0**
	comp=Z,0.3nm,0.6s,baz=311,slow=1.6,SNR=3.2						

*CSEM **10** 18:07:29.2±0.7, 40°15N×41°25E, h5km, MD2.6, Error ellipse: s-maj=18.9km s-min=7.0km az=34.0*
*DDA **10** 18:07:30.2, 39°97N×41°10E, h7km, MD2.6*

ISC 10 18:07:30.8±0.9, 39°91N±0°07×41°11E±0°03, h11km±8km, n15, σ0966/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZM	**Erzurum**	**0.19**	**90**	*e*PG	**Pg**	**18 07 35.0**	**-0.2**
EZM				*e*SG	**Sg**	**18 07 38.5**	**+0.4**
EZM	**Erzurum**	**0.19**	**90**	*e*Pg	**Pg**	**18 07 35.0**	**-0.2**
EZM				*e*Sg	**Sg**	**18 07 38.5**	**+0.4**
ERZM	**Erzurum**	**0.20**	**90**	*i* P	**Pg**	**18 07 35.0**	**-0.2**
ERZM				*i* S	**Sg**	**18 07 38.2**	**0.0**
ERZM	**Erzurum**	**0.20**	**90**	*i* P	**Pg**	**18 07 35.0**	**-0.2**
ERZM				*i* S	**Sg**	**18 07 38.2**	**0.0**
KOPT	**Kop Dagi**	**0.48**	**284**	*i* P	**Pg**	**18 07 39.4**	**-1.0**
KOPT				*i* S	**Sb**	**18 07 49.0**	**+0.2**
KOPT	**Kop Dagi**	**0.48**	**284**	*i* P	**Pg**	**18 07 39.4**	**-1.0**
KOPT				*i* S	**Sb**	**18 07 49.0**	**+0.2**
HOMI	**Horasan**	**0.63**	**77**	*i* P	**Pg**	**18 07 42.4**	**-0.7**
HOMI				*i* S	**Sn**	**18 07 55.1**	**-0.9**
BAYT	**Ayd¨–ntepe-Bay**	**0.89**	**304**	*e*PG	**Pg**	**18 07 47.6**	**-0.4**
BAYT	**Ayd¨–ntepe-Bay**	**0.89**	**304**	*e*Pg	**Pg**	**18 07 47.6**	**-0.4**
EKAR	**Karacoban**	**0.98**	**131**	*i* P	**Pb**	**18 07 50.2**	**+0.2**
EKAR	**Karacoban**	**0.98**	**131**	*i* P	**Pb**	**18 07 50.2**	**+0.2**
EATA	**Eleskirt**	**1.06**	**92**	*i* S	**Sn**	**18 08 07.9**	**+0.9**
DAGI	**Agillar**	**1.32**	**27**	*i* P	**Pn**	**18 07 54.9**	**-0.5**
DAGI				*i* S	**Sg**	**18 08 14.5**	**+1.1**
KELT	**Kelkit**	**1.44**	**280**	*i* P	**Pn**	**18 07 56.9**	**-0.2**
KELT				*i* S	**Sg**	**18 08 18.5**	**+1.1**
KELT	**Kelkit**	**1.44**	**280**	*i* P	**Pn**	**18 07 56.9**	**-0.2**
KELT				*i* S	**Sg**	**18 08 18.5**	**+1.1**

NNC 10 18:10:37.1±4.6, 37°93N×70°73E, h0km, mb3.5, mpv3.3, 7C, Error ellipse: s-maj=39.9km s-min=34.7km az=56.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.17**	**358**	⇑Pn	Pn	18 11 59.3	+3.5
	0.6nm,0.2s,baz=187,slow=14,SNR=37						
KK31				⇑Sn	Sn	18 13 02.5	+6.3
	0.3nm,0.3s						
AAK	**Ala-Archa**	**5.51**	**30**	⇑Pn	Pn	18 11 60.0	-0.7
	2.5nm,0.3s						
AAK				⇑Sn	Sn	18 13 06.8	+1.9
	1.4nm,0.5s						
TKM2	**Tokmak 2**	**6.22**	**35**	⇑Pn	Pn	18 12 07.9	-2.5
	0.8nm,0.3s						
AB31	**Akbulak array**	**13.74**	**329**	⇑Pn	Pn	18 13 53.3	+0.2
	0.1nm,0.3s,baz=145,slow=13,SNR=5.1						
AB31				⇑Sn	Sn	18 16 24.7	-1.7
	0.5nm,0.7s						

*SKHL **10** 18:15:20.6±0.9, 47°93N×155°12E, h60km±5km, mb4.5/5, msh4.0/1*
*ISCJB **10** 18:15:21.4±0.5, 48°20N±0°06×154°6E±0°1, h43km, mb3.9/18, MS2.6/2, Error ellipse: s-maj=13.3km s-min=3.8km az=42.1*
*KRSC **10** 18:15:21.6±2.1, 48°14N×156°07E, h16km±7km, ML4.4*
*MOS **10** 18:15:23.3±1.2, 48°32N×154°61E, h66km, mb4.2/8, Error ellipse: s-maj=18.8km s-min=6.3km az=72.0*
*IDC **10** 18:15:25.1±3.4, 48°31N×154°43E, h60km±30km, mb3.6/17, mb1 3.7/19, mb1mx3.5/38, mbtmp3.8/19, ML3.0/2, MS2.6/3, Ms1 2.7/3, ms1mx2.4/32, Error ellipse: s-maj=19.7km s-min=15.7km az=131.0*

ISC 10 18:15:22.4±0.7, 48°10N±0°08×154°86E±0°09, h43km, n83, σ1°964/86, mb3.8/18, 3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.71**	**17**	*e*P	**Pn**	**18 16 03.4**	**0.0**
SKR				*e*S	**Sn**	**18 16 34.0**	**-0.9**
SKR	**Severo-Kuril's**	**2.71**	**17**	*e*Pn	Pn	18 15 52.0	-11
SKR				pmax	pmax		
	comp=Z,80nm,0.6s						
SKR				pmax	pmax		
	comp=N,50nm,0.4s						
SKR				pmax	pmax		
	comp=E,40nm,0.4s						
SKR	**Severo-Kuril's**	**2.71**	**17**	*e*P	**Pn**	**18 16 03.0**	**-0.4**
SKR				AMB	AMB	18 16 05.5	
	comp=E,50nm,0.6s						
SKR				AMB	AMB	18 16 05.5	
	comp=E,40nm,0.6s						
SKR				AMB	AMB	18 16 05.5	
	comp=E,80nm,0.6s						
SKR				*e*S	**Sn**	**18 16 35.5**	**+0.6**
SKR				A	A	18 16 43.0	
	comp=E,120nm,0.5s						
SKR				A	A	18 16 43.0	
	comp=E,190nm,0.5s						
PAU	**Pauzhetka**	**3.60**	**20**	*e*P	**Pn**	**18 16 16.5**	**+0.9**
PAU				*e*S	**Sn**	**18 16 57.8**	**+1.0**
PAU	**Pauzhetka**	**3.60**	**20**	PN	**Pn**	**18 16 16.5**	**+0.9**
PAU				S	**Sn**	**18 16 57.8**	**+1.0**
MIPR	**Malaya Ipel'ka**	**4.35**	**16**	*e*P	**Pn**	**18 16 27.3**	**+1.3**
ASAK	**Asacha**	**4.71**	**23**	*e*P	**Pn**	**18 16 29.7**	**-1.2**
MTVR	**Mutnovka**	**4.88**	**25**	*e*P	**Pn**	**18 16 35.4**	**+2.1**
RUS	**Russkaya**	**4.93**	**27**	*e*P	**Pn**	**18 16 33.5**	**-0.3**
RUS				*e*S	**Sn**	**18 17 26.8**	**-2.7**
RUS	**Russkaya**	**4.93**	**27**	PN	**Pn**	**18 16 33.5**	**-0.3**
RUS				S	**Sn**	**18 17 26.8**	**-2.7**
RUS	**Russkaya**	**4.93**	**27**	*e*P	**Pn**	**18 16 33.5**	**-0.3**
RUS				*e*S	**Sn**	**18 17 26.8**	**-2.7**
APC	**Apacha**	**5.05**	**16**	*e*P	**Pn**	**18 16 37.7**	**+2.2**
APC	**Apacha**	**5.05**	**16**	PN	**Pn**	**18 16 37.7**	**+2.2**
PETK	**Petropavlovsk-**	**5.33**	**19**	P	**Pn**	**18 16 41.1**	**+1.7**
	comp=E,1.5nm,0.3s,baz=179,slow=13,SNR=40						
PETK				LR	LR	18 18 53.8	
	comp=E,57nm,20.3s,baz=141,slow=40						
PETK	**Petropavlovsk-**	**5.33**	**19**	PN	**Pn**	**18 16 41.1**	**+1.7**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,57nm,20.3s						
PET	**Petropavlovsk**	**5.49**	**25**	*e*P	**Pn**	**18 16 41.5**	**0.0**
PET				*e*S	**Sn**	**18 17 42.2**	**-1.1**
PET	**Petropavlovsk**	**5.49**	**25**	*e*PN	Pn	18 16 47.1	+5.6
PET				*e*S	**Sn**	**18 17 43.1**	**-0.2**
PET				pmax	pmax		
	comp=Z,14nm,0.5s						
PET				smax	smax		
	comp=E,55nm,0.8s						
PET				smax	smax		
	comp=N,102nm,0.7s						
PET				MLR	MLR		
	comp=Z,100nm,14.0s						
PET				MLR	MLR		
	comp=Z,100nm,14.0s						
PET	**Petropavlovsk**	**5.49**	**25**	*e*P	**Pn**	**18 16 42.0**	**+0.5**
PET				*e*S	**Sn**	**18 17 42.7**	**-0.6**
PET				A	A	18 18 02.2	
	comp=Z,70nm,0.6s						
KUR	**Kuril'sk**	**5.60**	**242**	*e*PN	**Pn**	**18 16 45.9**	**+2.8**
KUR				*e*S	**Sn**	**18 17 46.1**	**0.0**
KUR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KUR				pmax	pmax		
	comp=E,10.0nm,0.3s						
KUR				pmax	pmax		
	comp=N,10.0nm,0.6s						
KUR				smax	smax		
	comp=N,27nm,0.5s						
KUR				smax	smax		
	comp=E,1.0nm,0.5s						
KUR	**Kuril'sk**	**5.60**	**242**	*e*P	**Pn**	**18 16 45.9**	**+2.8**
KUR				AMB	AMB	18 16 47.0	
	comp=E,10.0nm,0.5s						
KUR				*e*S	**Sn**	**18 17 48.5**	**+2.4**
KUR				A	A	18 17 56.3	
	comp=E,30nm,0.5s						
KUR				A	A	18 17 56.3	
	comp=E,20nm,0.5s						
KUR				A	A	18 18 00.8	
	comp=E,100nm,3.0s						
UGLR	**Uglovaya**	**5.70**	**25**	*e*P	**Pn**	**18 16 45.5**	**+0.9**
KOK	**Koryaka**	**5.72**	**23**	*e*P	**Pn**	**18 16 47.6**	**+2.7**
KOK	**Koryaka**	**5.72**	**23**	PN	**Pn**	**18 16 47.6**	**+2.7**
KOK	**Koryaka**	**5.72**	**23**	*e*P	**Pn**	**18 16 47.6**	**+2.7**
AVH	**Avacha**	**5.73**	**24**	*e*P	Pn	18 16 48.1	+3.2
AVH	**Avacha**	**5.73**	**24**	PN	Pn	18 16 48.1	+3.2
SMAR	**Somma**	**5.74**	**24**	*e*P	**Pn**	**18 16 46.1**	**+0.9**
SMAR	**Somma**	**5.74**	**24**	PN	**Pn**	**18 16 46.1**	**+0.9**
KRER	**Koryakskii**	**5.76**	**24**	*e*P	**Pn**	**18 16 47.1**	**+1.6**
SDLR	**Sedlovina**	**5.78**	**25**	*e*P	**Pn**	**18 16 45.9**	**+0.3**
SDLR	**Sedlovina**	**5.78**	**25**	PN	**Pn**	**18 16 45.9**	**+0.3**
KRX	**Arik**	**5.79**	**23**	*e*P	**Pn**	**18 16 47.5**	**+1.7**
GNL	**Ganaly**	**5.93**	**18**	*e*P	**Pn**	**18 16 49.6**	**+1.9**
GNL	**Ganaly**	**5.93**	**18**	PN	**Pn**	**18 16 49.6**	**+1.9**
SPN	**Mys Shipunski**	**5.99**	**31**	*e*P	**Pn**	**18 16 48.0**	**-0.3**
SPN				*e*S	**Sn**	**18 17 53.1**	**-2.4**
SPN	**Mys Shipunski**	**5.99**	**31**	PN	**Pn**	**18 16 48.0**	**-0.3**
SPN	**Mys Shipunski**	**5.99**	**31**	*e*P	**Pn**	**18 16 48.0**	**-0.3**
SHO	**Shikotan**	**7.01**	**236**	*e*P	**Pn**	**18 17 01.9**	**-0.5**
SHO				AMB	AMB	18 17 03.4	
	comp=E,10.0nm,0.1s						
SHO				*e*S	**Sn**	**18 18 16.2**	**-4.6**
SHO				A	A	18 18 18.8	
	comp

comp=Z,0.4nm,0.7s,baz=288,slow=8.2,SNR=4.2
FINES FINESS Array B 63.31 335 P **P** 18 25 44.2 -2.2
comp=Z,0.3nm,0.4s,baz=35,slow=7.0,SNR=8.9
NOA NORSAR Array B 67.32 342 P **P** 18 26 10.9 -1.5
comp=Z,0.6nm,0.8s,baz=27,slow=6.5,SNR=4.0
NOA LR LR 18 59 03.7
comp=Z,9.4nm,18.5s,baz=290,slow=39
NOA NORSAR Array B 67.32 342 P **P** 18 26 10.9 -1.5
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA MLR MLR
comp=Z,9.0nm,18.5s
WRA Warramunga Arr 70.19 201 P **P** 18 26 30.9 +0.3
comp=Z,0.4nm,0.7s,baz=16,slow=6.5,SNR=4.1
SCHQ Schefferville 71.60 24 P **P** 18 26 39.5 +0.6
comp=Z,1.2nm,0.5s,baz=290,slow=11,SNR=3.9
ASAR Alice Springs 73.88 200 P **P** 18 26 54.3 +1.7
comp=Z,0.3nm,0.7s,baz=14,slow=5.0,SNR=8.6
TXAR Lajitas Array 75.80 62 P **P** 18 27 05.5 +1.5
comp=Z,0.2nm,0.5s,baz=315,slow=5.1,SNR=4.8
GERES GERESS Array B 77.74 335 P **P** 18 27 13.7 -0.9
comp=Z,0.4nm,0.5s,baz=51,slow=5.3,SNR=5.8
BRTR Keskin Array B 78.20 318 P **P** 18 27 16.6 -0.8
comp=Z,0.8nm,0.5s,baz=95,slow=1.9,SNR=6.7
BRTR Keskin Array B 78.20 318 P **P** 18 27 16.6 -0.8
BRTR pmax pmax
comp=Z,1.0nm,0.5s
ASF Jabal al Asfar 82.72 311 P **P** 18 27 41.8 +0.1
comp=Z,1.3nm,0.7s,baz=205,slow=0.8,SNR=4.2
ASF Jabal al Asfar 82.72 311 P **P** 18 27 41.8 +0.1
ASF pmax pmax
comp=Z,1.0nm,0.7s
MMAI Mount Meron Ar 82.79 312 P **P** 18 27 41.6 -0.4
comp=Z,3.0nm,0.5s,baz=35,slow=6.3,SNR=6.0

*IDC **10** 18:25:29.7±6.6,36°.23N×71°.15E,h172km±60km,mb3.2/9, mb1 3.3/13,mb1mx3.1/43,mbtmp3.7/13,Error ellipse: s-maj=34.7km s-min=18.2km az=24.0*
*ISCJB **10** 18:25:32.7±0.5,36°.46N±0°.04×71°.08E±0°.07,h188km, mb3.3/8,Error ellipse: s-maj=9.1km s-min=3.7km az=155.2*
*NNC **10** 18:25:37.8±4.3,37°.18N×70°.60E,h0km,mb4.3,mpv3.9, Error ellipse: s-maj=33.1km s-min=32.0km az=165.0*
ISC 10 18:25:34.2±0.7,36°.59N±0°.06×71°.20E±0°.08,h188km,n44, σ1§99/48,mb3.4/8,4C-6D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.82**	**168**	P		P	Pn	18 26 25.1	+3.8
CEP				S		S	**Sn**	**18 27 02.0**	**+4.0**
CHCP	**Chirah Chowk**	**3.38**	**149**	P		P	Pn	18 26 31.5	+3.6
THW	**Thamme Wali**	**3.81**	**173**	P		P	**Pn**	**18 26 36.2**	**+2.9**
SARP	**Sargodha**	**4.81**	**165**	P		P	**Pn**	**18 26 47.5**	**+1.5**
DLH	**Dalhousie**	**5.63**	**134**	*eP*		P	**Pn**	**18 26 59.0**	**+2.2**
DLH				*eS*		S	**Sn**	**18 28 02.0**	**+0.2**
AML	**Almayashu** SNR=151	**5.86**	**18**	P		P	**Pn**	**18 27 02.5**	**+2.8**
UCH	**Uchtor** SNR=33	**6.18**	**23**	P		P	**Pn**	**18 27 06.8**	**+2.7**
KZA	**Kyzart** SNR=7.6	**6.31**	**29**	P		P	**Pn**	**18 27 07.6**	**+2.0**
EKS2	**Erkin-Say** SNR=10	**6.38**	**17**	P		P	**Pn**	**18 27 09.5**	**+3.2**
KK31	**Karatay Array** 2.8nm,0.3s,baz=174,slow=12,SNR=163	**6.53**	**356**	⇓Pn		P	**Pn**	**18 27 10.5**	**+2.4**
KK31				⇑Sn		S	**Sn**	**18 28 21.9**	**-0.4**
	25nm,0.4s,baz=188,slow=25,SNR=30								
AAK	**Ala-Archa** SNR=7.3	**6.55**	**22**	P		P	**Pn**	**18 27 11.5**	**+3.0**
AAK	**Ala-Archa** 4.5nm,0.4s	**6.55**	**22**	⇑Pn		P	**Pn**	**18 27 11.4**	**+2.9**
AAK				⇓Sn		S	**Sn**	**18 28 25.0**	**+1.9**
	43nm,0.7s								
KBK	**Karagaybulak** SNR=7.2	**6.71**	**24**	P		P	**Pn**	**18 27 13.8**	**+3.2**
ULHL	**Ulahol** SNR=8.8	**6.86**	**33**	P		P	**Pn**	**18 27 14.6**	**+2.0**
CHMS	**Chumysh** SNR=7.2	**6.96**	**22**	P		P	**Pn**	**18 27 16.9**	**+3.1**
TKM2	**Tokmak 2** SNR=17	**7.17**	**27**	P		P	**Pn**	**18 27 19.1**	**+2.4**
TKM2	**Tokmak 2** 7.3nm,0.5s	**7.17**	**27**	⇓Pn		P	**Pn**	**18 27 19.0**	**+2.3**
TKM2				⇓Sn		S	**Sn**	**18 28 38.9**	**+1.1**
	23nm,1.1s								
SMLA	**Simla**	**7.37**	**136**	*i* P		P	**Pn**	**18 27 19.9**	**+0.7**
SMLA				*i* S		S	**Sn**	**18 28 39.1**	**-3.3**
SMLA				*i* S		S	**Sn**	**18 28 39.3**	**-3.0**
SMLA	comp=N,1μm,0.3s			AML		AML	18 28 42.5		
SMLA	comp=E,1μm,0.3s			AML		AML	18 28 43.0		
MKAR	**Makanchi Array** comp=E,0.3nm,0.3s,baz=212,slow=13,SNR=16	**13.12**	**36**	P		P	**Pn**	**18 28 33.5**	**0.0**
KOLN	**Koldanda** comp=E,19nm,0.3s	**13.69**	**126**	*eP*		P	**Pn**	**18 28 40.7**	**-0.2**
GKN	**Gorkha** comp=E,15nm,0.2s	**14.21**	**123**	*eP*		P	**Pn**	**18 28 46.5**	**-1.0**
DMN	**Daman** comp=E,34nm,0.6s	**14.79**	**123**	*eP*		P	**Pn**	**18 28 53.6**	**-1.0**
KKN	**Kakani** comp=E,12nm,0.2s	**14.79**	**122**	*eP*		P	**Pn**	**18 28 53.2**	**-1.4**
KURBB	**Kurchatov Arra** comp=E,0.1nm,0.3s,baz=208,slow=11,SNR=3.7	**14.98**	**18**	P		P	**Pn**	**18 28 55.7**	**-0.8**
PKIN	**Phulchoki** comp=E,22nm,0.3s	**15.00**	**123**	*eP*		P	**Pn**	**18 28 56.6**	**-0.7**
PKI	**Pulchoki** comp=E,28nm,0.3s	**15.02**	**123**	*eP*		P	**Pn**	**18 28 56.2**	**-1.3**
AB31	**Akbulak array** comp=E,2.1nm,0.5s,baz=143,slow=12,SNR=24	**15.08**	**331**	⇓Pn		P	**Pn**	**18 29 00.6**	**+2.0**
AB31				⇓Sn		S	**Sn**	**18 31 44.4**	**-1.8**
	comp=E,0.3nm,0.4s,baz=151,slow=17,SNR=5.2								
GUN	**Gumba** comp=E,27nm,0.4s	**15.12**	**121**	*eP*		P	**Pn**	**18 28 57.4**	**-1.4**
RAMN	**Ramite**	**16.22**	**122**	*eP*		P	**Pn**	**18 29 10.8**	**-0.9**
BVAR	**Borovoye Array** comp=E,0.4nm,0.3s,baz=157,slow=11,SNR=8.2	**16.44**	**358**	P		P	**Pn**	**18 29 14.8**	**+0.6**
TAPN	**Taplejung** comp=E,15nm,0.4s	**16.75**	**119**	*eP*		P	**Pn**	**18 29 17.8**	**+0.3**
AKTO	**Aktyubinsk** comp=E,3.0nm,0.6s	**16.78**	**330**	⇑Pn		P	**Pn**	**18 29 18.6**	**+0.3**
AKTO	comp=E,2.8nm,1.0s			⇑Sn		S	**Sn**	**18 32 19.9**	**-2.7**
AKTO	**Aktyubinsk** comp=E,0.8nm,0.3s,baz=133,slow=8.7,SNR=5.7	**16.78**	**330**	P		P	**Pn**	**18 29 18.7**	**+0.3**
ODAN	**Odare** comp=E,10nm,0.4s	**16.82**	**121**	*eP*		P	**Pn**	**18 29 18.6**	**+0.3**
ZALV	**Zalesovo Beam** comp=E,2.0nm,0.3s,baz=215,slow=11,SNR=12	**19.76**	**24**	P		P	**Pn**	**18 29 49.3**	**-0.3**
FINES	**FINESS Array B** comp=E,0.5nm,0.3s,baz=126,slow=11,SNR=14	**37.50**	**326**	P		P	**Pn**	**18 32 29.0**	**-0.5**
ARCES	**ARCESS Array B** comp=E,0.8nm,0.5s,baz=113,slow=8.0,SNR=7.9	**41.12**	**337**	P		P	**Pn**	**18 32 59.1**	**-0.2**
NB2	**NORSAR Subarra** comp=Z,0.7nm,0.6s,baz=97,slow=7.9	**44.41**	**323**	P		P	**Pn**	**18 33 24.7**	**-1.2**
NOA	**NORSAR Array B** comp=Z,0.9nm,0.6s,baz=96,slow=7.8,SNR=5.5	**44.41**	**323**	P		P	**Pn**	**18 33 24.7**	**-1.2**
ESDC	**Sonseca Array** comp=Z,0.1nm,0.4s,baz=69,slow=8.1,SNR=4.9	**57.56**	**298**	P		P	**Pn**	**18 35 02.0**	**-2.2**
TORD	**Torodi Ar. Bea** comp=Z,0.9nm,0.6s,baz=50,slow=5.7,SNR=8.3	**65.88**	**269**	P		P		18 35 56.3	-3.7
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.4s,baz=354,slow=5.1,SNR=5.1	**81.14**	**3**	P		P	**Pn**	**18 37 26.6**	**-1.6**
WRA	**Warramunga Arr** comp=Z,0.1nm,0.3s,baz=323,slow=4.9,SNR=4.9	**81.90**	**122**	P		P		18 37 29.4	-3.5
ASAR	**Alice Springs** comp=Z,0.2nm,0.8s,baz=338,slow=7.1,SNR=3.9	**84.17**	**125**	P		P		18 37 41.4	-3.0

*IDC **10** 18:36:39.0±1.0,4°.05S×121°.92E,h0km,mb3.9/8, mb1 4.0/10,mb1mx3.9/37,mbtmp3.9/10,ML3.4/2,MS3.2/4, Ms1 3.2/4,ms1mx2.7/32,Error ellipse: s-maj=22.0km s-min=19.6km az=71.0*
*DJA **10** 18:36:41.7±0.3,4°.3S±3°×12°.2E±°,h10km,M4.7/15,mb5.0/1, mB4.9/1,MLv4.5/15,Mw(mB)4.2/1*
*NEIC **10** 18:36:42.0±2.3,4°.08S×121°.85E,h22km±18km,mb4.2/4, Error ellipse: s-maj=11.3km s-min=7.0km az=61.0*
ISC 10 18:36:40.7±3.0,4°.13S±0°.05×121°.96E±0°.04,h16km±20km, n36,σ1§36/39,mb4.1/12,MS3.4/3,Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KDI	**Kendari**	**0.68**	**75**	P		P	**Pb**	**18 36 54.4**	**+0.2**
KDI				S		S	**Sn**	**18 37 06.1**	**+0.1**
BKSI	**Bulukumba**	**2.18**	**237**	P		P	**Pn**	**18 37 16.4**	**+0.1**
BKSI				S		S	**Sn**	**18 37 45.0**	**+2.1**
SPSI	**Sidrap Palu**	**2.19**	**274**	P		P	**Pn**	**18 37 18.1**	**+1.7**
SPSI				S		S	**Sb**	**18 37 45.8**	**-1.1**
KAPI	**Kappang** 30nm,0.3s,baz=67,slow=3.6,SNR=154	**2.37**	**248**	Pn		P	**Pn**	**18 37 19.0**	**+0.1**
KAPI	comp=Z,266nm,20.6s,baz=85,slow=28			LR		LR		18 37 46.4	
KAPI	115nm,0.3s,baz=254,slow=21,SNR=29			Sn			**Sn**	**18 37 49.3**	**+1.7**
KAPI	**Kappang**	**2.37**	**248**	*e*Pn		P	**Pn**	**18 37 18.0**	**-0.9**
KAPI				Sn		S	**Sn**	**18 37 49.3**	**+1.7**
TTSI	**Tana Toraja**	**2.39**	**297**	P		P	**Pn**	**18 37 21.2**	**+2.0**
TTSI				S		S	**Sb**	**18 37 51.8**	**-0.9**
BSSI	**Bau Bau, Buton**	**2.47**	**216**	P		P	**Pn**	**18 37 21.4**	**+1.0**
LUWI	**Luwuk**	**3.18**	**15**	P		P	**Pn**	**18 37 32.0**	**+2.0**
LUWI	**Luwuk**	**3.18**	**15**	*e*Pn		P	**Pn**	**18 37 29.5**	**-0.5**
APSI	**Ampana**	**3.22**	**354**	P		P	**Pn**	**18 37 33.3**	**+2.7**
PCI	**Palu**	**3.84**	**326**	P		P	Pn	18 37 42.3	+3.1
MRSI	**Marisa**	**4.58**	**360**	P		P	**Pn**	**18 37 50.8**	**+1.5**
MPSI	**Mapaga**	**4.89**	**335**	P		P	**Pn**	**18 37 54.1**	**+0.4**
KMSI	**Cibinong**	**5.09**	**23**	P		P	**Pb**	**18 38 09.9**	**+0.4**
TOLI	**Toli-Toli** 82nm,0.6s	**5.35**	**347**	*e*Pn		P	**Pn**	**18 38 01.1**	**+1.2**
WBSI	**Waikabubak, Su**	**6.04**	**205**	P		P	Pb	18 38 21.7	-3.9
SOEI	**Soe** 65nm,1.3s	**6.04**	**158**	*e*Pn		P	**Pn**	**18 38 11.8**	**+2.3**
KSM	**Kuching** 3.0nm,0.7s	**12.91**	**295**	*e*Pn		P	**Pn**	**18 39 41.5**	**-2.1**
WRAB	**Tennant Creek** 3.5nm,0.8s	**19.81**	**143**	P		P	**Pn**	**18 41 12.8**	**+0.5**
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=314,slow=13,SNR=3.5	**19.81**	**143**	P		P		**18 41 11.8**	**+1.0**
ASAR	**Alice Springs** 0.7nm,0.7s,baz=334,slow=12,SNR=7.6	**22.59**	**150**	P		P		**18 41 42.7**	**+2.0**
PSI	**Prapat** 20nm,1.2s,baz=116,slow=5.8,SNR=6.9	**24.03**	**286**	P		P		**18 41 55.3**	**0.0**
PSI	comp=Z,105nm,18.4s,baz=91,slow=40			LR		LR		18 52 46.2	
CMAR	**Chiang Mai Arr** 2.5nm,1.0s,baz=141,slow=7.4,SNR=10	**31.91**	**315**	P		P		**18 43 06.2**	**+0.5**
CHTO	**Chiang Mai** 5.9nm,1.3s	**32.15**	**316**	*e*P		P		**18 43 07.5**	**-0.4**
STKA	**Stephens Creek**	**33.19**	**149**	P		P		**18 43 14.4**	**-2.4**
JNU	**Nakatsue** comp=Z,24nm,20.5s,baz=128,slow=36	**38.00**	**12**	LR		LR		18 59 23.1	
MJAR	**Matsushiro Arr** 1.0nm,0.9s,baz=200,slow=9.6,SNR=4.7	**43.22**	**19**	P		P		**18 44 41.0**	**-0.2**
LSA	**Lhasa** 2.0nm,0.7s	**44.76**	**321**	*e*P		P		**18 44 54.8**	**+0.6**
USRK	**Ussuriysk Ar.** 4.6nm,0.8s,baz=199,slow=5.2,SNR=8.4	**48.95**	**10**	P		P		**18 45 26.9**	**+0.7**
SONM	**Songino Array** 1.7nm,1.0s,baz=164,slow=7.0,SNR=6.2	**53.53**	**347**	P		P		**18 46 00.9**	**+0.3**
SONM	comp=Z,34nm,18.4s,baz=306,slow=38			LR		LR		19 10 19.1	
MKAR	**Makanchi Array** 1.5nm,1.1s,baz=118,slow=7.0,SNR=3.6	**61.61**	**330**	P		P		**18 46 58.5**	**+0.9**
ZALV	**Zalesovo Beam** 0.3nm,0.4s,baz=134,slow=8.5,SNR=3.8	**65.65**	**337**	P		P		**18 47 22.8**	**-1.3**
KURK	**Kurchatov** 2.9nm,1.1s	**66.05**	**331**	*e*P		P		**18 47 25.0**	**-1.7**
ABKAR	**Akbulak array**	**75.37**	**323**	*e*P		P		**18 48 22.7**	**-0.8**
ARU	**Arti**	**79.13**	**330**	P		P		**18 48 43.7**	**-0.7**
SANT	**Santorini** 88nm,1.1s	**97.67**	**306**	P		P		**18 50 15.1**	**0.0**

IDC 10 18:40:05.3±789.0,46°.29N×62°.94E,h0km,Error ellipse: s-maj=302.8km s-min=186.2km az=159.0,Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF** baz=132,slow=311,SNR=28	**5.26**	**323**	*i*				19 12 40.0	
I46RU	**ZALESOVO INFRA** baz=246,slow=300,SNR=2.2	**15.94**	**53**	*i*				20 26 40.0	
I43RU	**DUBNA INFRASONI** baz=114,slow=318,SNR=1.0	**18.99**	**313**	*i*				20 34 10.0	

*CSEM **10** 18:43:35.9±0.5,36°.20N×22°.09E,h2km,ML2.7,Error ellipse: s-maj=11.1km s-min=5.3km az=40.0*
*THE **10** 18:43:35.5,36°.20N×22°.08E,h2km±1km,ML2.7/7,Error ellipse: s-maj=1.7km s-min=0.8km az=221.0*
*ATH **10** 18:43:35.3,36°.15N×22°.03E,h8km±1km,MD3.5/19*
ISC 10 18:43:34.6±1.5,36°.17N±0°.04×22°.05E±0°.04,h3km±11km, n59,σ0§51/81,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.77**	**341**	*e*PG		**Pg**		**18 43 49.9**	**+0.6**
PYL				*e*SB		**Sb**		**18 44 01.0**	**-0.4**
PYL	**PYLOS**	**0.77**	**341**	P		**Pg**		**18 43 49.8**	**+0.5**
PYL				*e*Sb		**Sb**		**18 44 01.0**	**-0.4**
PYL	**PYLOS**	**0.77**	**341**	P		**Pg**		**18 43 49.8**	**+0.5**
PYL				S		**Sb**		**18 44 01.1**	**-0.4**
KYTH	**Kithira**	**0.81**	**82**	*e*PB		**Pb**		**18 43 51.0**	**-0.3**
KYTH	**Kithira**	**0.81**	**82**	P		**Pb**		**18 43 50.9**	**-0.3**
KYTH	**Kithira**	**0.81**	**82**	P		**Pb**		**18 43 50.9**	**-0.3**
VLI	**Veliai**	**0.91**	**52**	*e*PB		**Pb**		**18 43 53.1**	**+0.2**
VLI	**Veliai**	**0.91**	**52**	P		**Pg**		**18 43 51.7**	**-0.2**
VLI	**Veliai**	**0.91**	**52**	*e*Pb		**Pb**		**18 43 53.1**	**+0.2**
VLI				S		**Sg**		**18 44 03.8**	**+0.1**
VLI	**Veliai**	**0.91**	**52**	P		**Pg**		**18 43 51.7**	**-0.2**
VLI				S		**Sg**		**18 44 03.8**	**+0.1**
ITM	**Ithomi**	**1.02**	**355**	*e*PG		**Pg**		**18 43 54.0**	**-0.1**
ITM				*e*SB		**Sb**		**18 44 08.8**	**+0.2**
ITM	**Ithomi**	**1.02**	**355**	P		**Pg**		**18 43 53.7**	**-0.4**
ITM	**Ithomi**	**1.02**	**355**	*e*Pg		**Pg**		**18 43 54.0**	**-0.1**
ITM				S		**Sb**		**18 44 08.1**	**-0.5**
ITM	**Ithomi**	**1.02**	**355**	P		**Pg**		**18 43 53.7**	**-0.4**
ITM				S		**Sb**		**18 44 08.1**	**-0.5**
ANKY	**Antikythira Is**	**1.06**	**106**	*e*PN		**Pb**		**18 43 55.6**	**+0.1**
ANKY				*e*SB		**Sb**		**18 44 10.2**	**+0.4**
ANKY	**Antikythira Is**	**1.06**	**106**	P		**Pg**		**18 43 54.8**	**-0.1**
ANKY	**Antikythira Is**	**1.06**	**106**	*e*Pn		**Pb**		**18 43 55.6**	**+0.1**
ANKY				S		**Sb**		**18 44 10.0**	**+0.2**
ANKY	**Antikythira Is**	**1.06**	**106**	P		**Pg**		**18 43 54.8**	**-0.1**
ANKY				S		**Sb**		**18 44 10.0**	**+0.2**
VLX	**Vlachokerasia**	**1.23**	**12**	*e*PB		**Pg**		**18 43 57.6**	**-0.6**
VLX				*e*SB		**Sn**		**18 44 15.7**	**-0.2**
VLX	**Vlachokerasia**	**1.23**	**12**	P		**Pg**		**18 43 57.5**	**-0.6**
VLX				*e*Sb		**Sn**		**18 44 15.7**	**-0.2**
VLX	**Vlachokerasia**	**1.23**	**12**	P		**Pg**		**18 43 57.5**	**-0.6**
VLX				S		**Sb**		**18 44 15.5**	**+0.7**
AMT	**Artemida-Makis**	**1.39**	**349**	*e*PB		**Pg**		**18 44 02.1**	**+0.9**
AMT				*e*SB		**Sn**		**18 44 21.4**	**+1.6**
AMT	**Artemida-Makis**	**1.39**	**349**	P		**Pn**		**18 43 59.9**	**-1.0**
AMT	**Artemida-Makis**	**1.39**	**349**	*e*Pb		**Pg**		**18 44 02.1**	**+0.9**
AMT				S		**Sn**		**18 44 19.7**	**-0.1**
AMT				*e*Sb		**Sn**		**18 44 21.4**	**+1.6**
AMT	**Artemida-Makis**	**1.39**	**349**	P		**Pn**		**18 43 59.9**	**-1.0**
AMT				S		**Sn**		**18 44 19.7**	**-0.1**
KRND	**KRANIDI**	**1.50**	**36**	*e*PG		**Pg**		**18 44 03.7**	**+0.3**
KRND	**KRANIDI**	**1.50**	**36**	P		**Pn**		**18 44 02.5**	**+0.1**
KRND	**KRANIDI**	**1.50**	**36**	*e*Pg		**Pg**		**18 44 03.7**	**+0.3**
KRND				S		**Sb**		**18 44 22.9**	**+0.3**
KRND	**KRANIDI**	**1.50**	**36**	P		**Pn**		**18 44 02.5**	**+0.1**
KRND				S		**Sb**		**18 44 22.9**	**+0.3**
DIDY	**Didyma**	**1.61**	**35**	*e*PG		**Pb**		**18 44 05.3**	**+0.4**
DIDY	**Didyma**	**1.61**	**35**	*e*Pg		**Pb**		**18 44 05.3**	**+0.4**
DID	**Didima**	**1.64**	**35**	*e*PG		**Pg**		**18 44 06.3**	**+0.2**
DID	**Didima**	**1.64**	**35**	P		**Pn**		**18 44 04.0**	**-0.4**
DID	**Didima**	**1.64**	**35**	*e*Pg		**Pg**		**18 44 06.3**	**+0.2**
DID				S		**Sn**		**18 44 26.1**	**+0.1**
DID	**Didima**	**1.64**	**35**	P		**Pn**		**18 44 04.0**	**-0.4**
DID				S		**Sn**		**18 44 26.1**	**+0.1**
GUR	**Goura**	**1.78**	**8**	*e*PN		**Pb**		**18 44 08.2**	**+0.3**
GUR	**Goura**	**1.78**	**8**	*e*Pn		**Pb**		**18 44 08.2**	**+0.3**
DRO	**Drossia**	**1.80**	**352**	*e*PN		**Pb**		**18 44 08.7**	**+0.5**
DRO	**Drossia**	**1.80**	**352**	P		**Pn**		**18 44 05.9**	**-0.6**
DRO	**Drossia**	**1.80**	**352**	*e*Pn		**Pb**		**18 44 08.7**	**+0.5**
DRO	**Drossia**	**1.80**	**352**	P		**Pn**		**18 44 05.9**	**-0.6**
ZKS	**Zakynthos**	**1.83**	**327**	*e*PG		**Pg**		**18 44 09.9**	**+0.2**
ZKS	**Zakynthos**	**1.83**	**327**	*e*Pg		**Pg**		**18 44 09.9**	**+0.2**
KLV	**Kalavryta, Ach**	**1.88**	**3**	*e*PN		**Pb**		**18 44 10.0**	**+0.5**
KLV	**Kalavryta, Ach**	**1.88**	**3**	*e*Pn		**Pb**		**18 44 10.0**	**+0.5**
VAM	**Vamos**	**1.91**	**113**	*e*PN		**Pb**		**18 44 10.1**	**+0.1**
VAM	**Vamos**	**1.91**	**113**	*e*Pn		**Pb**		**18 44 10.1**	**+0.1**
RLS	**Riolos of Patr**	**1.94**	**346**	*e*PG		**Pg**		**18 44 11.3**	**-0.5**
RLS	**Riolos of Patr**	**1.94**	**346**	*e*Pg		**Pg**		**18 44 11.3**	**-0.5**
LTK	**Loutraki**	**1.99**	**21**	*e*PN		**Pb**		**18 44 12.1**	**+0.6**
LTK	**Loutraki**	**1.99**	**21**	*e*Pn		**Pb**		**18 44 12.1**	**+0.6**
LAKA	**Lakka**	**2.07**	**359**	*e*PN		**Pb**		**18 44 12.9**	**+0.1**
LAKA	**Lakka**	**2.07**	**359**	*e*Pn		**Pb**		**18 44 12.9**	**+0.1**
KALE	**Kalithea**	**2.22**	**2**	*e*PN		**Pb**		**18 44 14.9**	**-0.5**
KALE	**Kalithea**	**2.22**	**2**	*e*Pn		**Pb**		**18 44 14.9**	**-0.5**
EFP	**Efpalio**	**2.26**	**357**	*e*PN		**Pb**		**18 44 15.7**	**-0.3**
EFP	**Efpalio**	**2.26**	**357**	*e*Pn		**Pb**		**18 44 15.7**	**-0.3**
DSF	**Desfina**	**2.27**	**10**	*e*PN		**Pb**		**18 44 15.5**	**-0.8**
DSF	**Desfina**	**2.27**	**10**	*e*Pn		**Pb**		**18 44 15.5**	**-0.8**

*IDC **10** 18:49:30.8±0.8,32°.03N×85°.30E,h0km,mb3.7/13, mb1 3.9/16,mb1mx3.7/41,mbtmp3.7/16,ML3.3/3,MS3.1/2, Ms1 3.2/2,ms1mx2.6/42,Error ellipse: s-maj=25.7km s-min=15.0km az=50.0*
*ISCJB **10** 18:49:34.0±0.6,32°.08N±0°.10×85°.3E±0°.1,h33km, mb3.6/13,MS3.2/1,Error ellipse: s-maj=19.6km s-min=10.5km az=144.5*
ISC 10 18:49:36.2±0.8,32°.1N±0°.1×85°.28E±0°.08,h35km,n19, σ1§51/22,mb3.6/13,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array** 0.0nm,0.3s,baz=164,slow=13,SNR=2.8	**14.86**	**352**	Pn		P	**Pn**	**18 53 02.8**	**-0.8**
CD2	**Chengdu**	**15.81**	**89**	P		P	**Pn**	**18 53 22.5**	**+2.8**
CD2				pP		**pP**	**Pn**	**18 53 30.2**	**+1.4**
CD2				sP		**sP**	**Pn**	**18 53 31.6**	**-1.7**
CD2				PP		pwP		18 53 37.1	+8.3
CD2				S		S	**Pn**	**18 56 19.7**	**-4.3**
CD2				SS		SnSn		18 56 39.1	+16
CD2				sS		**sS**	**Pn**	**18 56 40.7**	**+2.3**
CD2	comp=Z,10.0nm,0.9s			pmax		pmax			
CD2	comp=Z,80nm,4.5s			pmax		pmax			
CD2	comp=N,250nm,11.8s			LR		LR			
CD2	comp=Z,210nm,6.3s			LR		LR			
CMAR	**Chiang Mai Arr** comp=Z,0.1nm,0.3s,baz=326,slow=12,SNR=17	**18.33**	**135**	P		P	**Pn**	**18 53 46.9**	**-0.8**
CMAR	comp=Z,39nm,18.1s,baz=145,slow=40			LR		LR		19 01 45.4	
KURBB	**Kurchatov Arra** comp=Z,0.1nm,0.3s,baz=164,slow=11,SNR=42	**19.18**	**347**	P		P	**Pn**	**18 53 57.1**	**+0.4**
ZALV	**Zalesovo Beam** comp=Z,5.8nm,0.8s,baz=183,slow=11,SNR=21	**21.84**	**359**	P		P	**Pn**	**18 54 24.8**	**-0.7**
SONM	**Songino Array** comp=Z,1.6nm,0.8s,baz=217,slow=12,SNR=10.0	**22.45**	**39**	P		P	**Pn**	**18 54 33.0**	**+0.7**
GEYT	**Ailibeck** comp=Z,3.5nm,0.9s,baz=119,slow=8.4,SNR=3.0	**22.95**	**292**	P		P		**18 54 38.8**	**+1.3**
BVAR	**Borovoye Array** comp=Z,0.4nm,0.5s,baz=150,slow=13,SNR=4.5	**23.52**	**337**	P		P	**Pn**	**18 54 43.8**	**+0.8**
AKTO	**Aktyubinsk** comp=Z,0.4nm,0.5s,baz=118,slow=11,SNR=2.6	**27.25**	**320**	P		P	**Pn**	**18 55 17.6**	**+0.6**
FINES	**FINESS Array B** comp=Z,0.9nm,0.6s,baz=123,slow=14,SNR=8.3	**47.74**	**326**	P		P	**Pn**	**18 58 09.6**	**+0.2**
ARCES	**ARCESS Array B** comp=Z,1.8nm,1.0s,baz=60,slow=7.4,SNR=3.7	**49.81**	**337**	P		P	**Pn**	**18 58 25.1**	**-0.2**
VRAC	**Vranov** comp=Z,21nm,19.6s,baz=98,slow=40	**53.01**	**310**	LR		LR		19 24 32.5	
NB2	**NORSAR Subarra** comp=Z,1.4nm,0.7s,baz=86,slow=7.4	**54.88**	**325**	P		P	**Pn**	**18 59 02.6**	**-0.4**
NOA	**NORSAR Array B** comp=Z,2.3nm,0.8s,baz=86,slow=7.3,SNR=10	**54.88**	**325**	P		P	**Pn**	**18 59 03.1**	**+0.1**
GERES	**GERESS Array B** comp=Z,0.2nm,0.3s,baz=67,slow=10,SNR=6.4	**54.96**	**310**	P		P	**Pn**	**18 59 04.0**	**+0.2**
WRA	**Warramunga Arr** comp=Z,0.2nm,0.4s,baz=321,slow=7.4,SNR=6.6	**69.88**	**131**	P		P		**19 00 43.5**	**-0.3**
ASAR	**Alice Springs** comp=Z,0.5nm,0.7s,baz=321,slow=5.9,SNR=13	**72.34**	**134**	P		P		**19 00 58.5**	**-0.2**
ILAR	**Eielson Array** comp=Z,0.5nm,0.9s,baz=315,slow=3.6,SNR=4.5	**75.25**	**20**	P		P		**19 01 14.1**	**-1.0**
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.7s,baz=36,slow=5.2,SNR=3.2	**77.77**	**278**	P		P		**19 01 29.5**	**-0.7**

MEX 10 18:55:15.4±0.4,16°.09N×97°.07W,h5km±7km,MD3.8, Oaxaca

| Code | Station Name | Δ° | AZ° | Phase |

SVW2	Sparrevohn	9.01	30	ePn		Pn		19 00 35.9 +3.4
RSO	Redoubt South	9.51	39	ePn		Pn		19 00 39.9 +0.4
	60nm,0.3s							
AMKA	Amchitka	9.89	263	P		Pn		19 00 45.4 +0.9
RC01	Rabbit Creek A	11.06	42	ePn		Pn		19 01 00.3 -0.3
PPLA	Purkeypile	11.42	31	ePn		Pn		19 01 09.0 +3.5
CAST	Castle Rocks	11.85	29	ePn		Pn		19 01 15.2 +3.9
TRF	Thorofare Moun	12.41	32	ePn		Pn		19 01 21.4 +2.2
BPAW	Bear Paw Mtn.	12.68	29	ePn		Pn		19 01 25.2 +2.5
DIV	Divide	12.72	46	ePn		Pn		19 01 24.2 +0.9
IM04	Indian Mountai	13.54	20	ePn		Pn		19 01 38.1 +3.7
CCB	Clear Creek Bu	14.03	31	ePn		Pn		19 01 39.9 -1.2
COLA	College	14.18	31	eP		Pn		19 01 45.9 +2.9
ILAR	Eielson Array	14.41	32	Pn		Pn		19 01 45.0 -1.1
	0.2nm,0.3s,baz=226,slow=12,SNR=12							
MENT	Mentasta	14.45	42	ePn		Pn		19 01 45.6 -1.2
RIDG	Independ'e Rid	14.46	38	ePn		Pn		19 01 46.3 -0.7
EGAK	Eagle	16.37	38	ePn		Pn		19 02 12.7 +0.8
HYT	Haines Junctio	16.39	53	ePn		P		19 02 17.9 +3.1
	20nm,0.9s							
DAWY	Dawson	16.69	41	eP		P		19 02 19.5 +1.5
BILL	Bilibino	19.84	328	eP		Pn		19 02 54.8 +0.6
BILL					pmax	pmax		
	comp=Z,9.0nm,0.9s							
BILL					MLR	MLR		
	comp=Z,965nm,19.0s							
BILL	Bilibino	19.84	328	ePn		Pn		19 02 54.9 +0.7
	comp=Z,8.1nm,0.9s							
DLBC	Dease Lake	19.91	62	P		P		19 02 53.4 -0.1
	comp=Z,0.7nm,0.3s,baz=268,slow=8.9,SNR=18							
DLBC					LR	LR		19 10 35.3
	comp=Z,183nm,19.4s,baz=274,slow=37							
DLBC	Dease Lake	19.91	62	P		P		19 02 53.4 -0.1
DLBC				ePn		Pn		19 02 54.3 -1.0
INK	Inuvik	20.80	33	P		P		19 03 02.5 -0.4
	comp=Z,2.9nm,0.5s,baz=252,slow=6.9,SNR=5.6							
INK	Inuvik	20.80	33	P		P		19 03 02.5 -0.4
INK					pmax	pmax		
	comp=Z,3.0nm,0.5s							
INK	Inuvik	20.80	33	eP		P		19 03 02.5 -0.4
	comp=Z,5.4nm,0.6s							
BBB	Bella Bella	22.09	79	LR		LR		19 09 55.0
	comp=Z,162nm,22.0s,baz=300,slow=31							
PETK	Petropavlovsk-	22.15	284	P		P		19 03 17.6 0.0
	comp=Z,4.9nm,0.6s,baz=90,slow=13,SNR=13							
PETK					LR	LR		19 11 10.5
	comp=Z,128nm,21.4s,baz=91,slow=35							
PETK	Petropavlovsk-	22.15	284	P		P		19 03 17.6 0.0
PETK					pmax	pmax		
	comp=Z,5.0nm,0.6s							
PETK					MLR	MLR		
	comp=Z,128nm,21.4s							
SEY	Seymchan	23.85	310	P		P		19 03 35.6 +0.8
	comp=Z,2.5nm,0.7s,baz=105,slow=8.2,SNR=6.6							
SEY	Seymchan	23.85	310	eP		P		19 03 33.8 -0.9
YKA	Yellowknife Ar	27.36	51	P		P		19 04 07.9 +1.4
	comp=Z,3.1nm,0.7s,baz=275,slow=9.4,SNR=15							
YKA	Yellowknife Ar	27.36	51	P		P		19 04 07.9 +1.4
YKA					pmax	pmax		
	comp=Z,3.0nm,0.7s							
I04A	Tendick Farm,	29.31	92	P		P		19 04 26.5 +2.3
	baz=29							
J04D	Umpqua Nationa	29.81	93	P		P		19 04 31.1 +2.4
	baz=30							
EDM	Edmonton	30.17	70	eP		P		19 04 31.5 -0.2
J05D	Fort Rock, OR	30.31	92	P		P		19 04 34.9 +1.8
	baz=30							
YBH	Yreka Blue Hor	30.35	96	LR		LR		19 13 59.4
	comp=Z,200nm,18.8s,baz=308,slow=31							
M02C	Callahan	30.48	96	P		P		19 04 36.5 +2.0
	baz=30							
K05A	Summer Lake	30.84	93	eP		P		19 04 38.9 +1.0
	comp=Z,14nm,1.0s							
M04C	Macdoel	30.84	95	P		P		19 04 39.7 +1.9
	baz=31							
MOD	Modoc	31.68	93	eP		P		19 04 43.1 -2.1
	comp=Z,17nm,1.2s							
WVOR	Wild Horse Val	32.35	91	eP		P		19 04 51.5 +0.4
	comp=Z,15nm,1.1s							
MFID	Camas Ranch	33.45	87	eP		P		19 05 00.8 +0.2
	comp=Z,3.8nm,1.0s							
RES	Resolute Bay	34.04	26	LR		LR		19 21 55.9
	comp=Z,128nm,18.5s,baz=222,slow=42							
CMB	Columbia Colle	34.09	99	eP		P		19 05 06.9 +0.7
	comp=Z,6.6nm,1.3s							
WAKR	Walker	34.34	97	eP		P		19 05 09.5 +1.0
YAK	Yakutsk	34.37	311	LR		LR		19 20 20.6
	comp=Z,160nm,18.4s,baz=91,slow=38							
MCMT	McKenzie Canyo	34.42	83	eP		P		19 05 09.4 +0.2
BMN	Battle Mountai	34.42	93	eP		P		19 05 09.1 0.0
	comp=Z,19nm,1.5s							
EGMT	Eagleton	34.53	76	P		P		19 05 10.7 +0.7
	baz=34							
BOZ	Bozeman (W)	34.68	81	P		P		19 05 11.5 +0.1
	baz=34							
NVAR	Mina Array Bea	35.06	96	P		P		19 05 15.6 +0.8
	comp=Z,10nm,1.0s,baz=295,slow=8.3,SNR=48							
ELK	Elko	35.40	91	LR		LR		19 17 20.9
	comp=Z,160nm,21.0s,baz=301,slow=32							
C20A	Veseth Ranch,	35.70	76	P		P		19 05 20.5 +0.5
	baz=36,SNR=12							
TPH	Tonopah	35.93	96	eP		P		19 05 22.6 +0.4
	comp=Z,18nm,1.1s							
C21A	Desert Coulee	36.16	75	P		P		19 05 24.3 +0.3
	baz=36							
A22A	Carney Farms,	36.24	73	P		P		19 05 24.3 -0.3
	baz=36							
VES	Vestal, Richgr	36.35	100	P		P		19 05 25.2 -0.3
	baz=36							
RLMT	Red Lodge	36.36	80	P		P		19 05 25.9 +0.1
	baz=36							
RLMT	Red Lodge	36.36	80	eP		P		19 05 26.3 +0.4
	comp=Z,9.2nm,1.2s							
CWC	Cottonwood Cre	36.52	99	P		P		19 05 26.7 -0.5
	baz=36							
GRAC	Grapevine Rang	36.56	97	P		P		19 05 28.6 +1.2
	baz=36,SNR=8.3							
PKM	Peak Mountain	36.58	102	P		P		19 05 27.6 -0.2
	baz=36							
R11A	Troy Canyon, C	36.72	94	P		P		19 05 29.3 +0.4
	baz=37,SNR=27							
R11A	Troy Canyon, C	36.72	94	eP		P		19 05 28.9 -0.1
	comp=Z,14nm,1.0s							
H19A	Powell	36.78	81	P		P		19 05 30.5 +1.2
	baz=37							
ISA	Isabella	36.83	100	P		P		19 05 30.4 +0.7
	baz=37							
ISA	Isabella	36.83	100	eP		P		19 05 29.9 +0.1
	comp=Z,4.0nm,0.6s							
E21A	Keefer Ranch,	36.86	77	P		P		19 05 31.0 +1.1
	baz=37							
C22A	Vida	36.90	75	P		P		19 05 31.0 +0.7
	baz=37							
DAC	Darwin (Calif)	36.92	99	eP		P		19 05 30.9 +0.2
	comp=Z,8.8nm,0.9s							
G20A	Bridger	36.92	80	P		P		19 05 31.7 +1.2
	baz=37							
B23A	Brockton	37.04	73	P		P		19 05 31.7 +0.3
	baz=37,SNR=7.1							
D22A	Cohagen	37.05	76	P		P		19 05 32.6 +1.1
	baz=37,SNR=7.7							
MPMC	Manual Prospec	37.13	99	P		P		19 05 33.0 +0.6
	baz=37,SNR=16							
I19A	Meeteetse	37.14	82	P		P		19 05 33.1 +0.7
	baz=37							
DUG	Dugway	37.19	90	P		P		19 05 33.4 +0.5
	baz=37,SNR=5.4							
DUG	Dugway	37.19	90	eP		P		19 05 33.3 +0.5
	comp=Z,11nm,1.3s							
FURC	Furnace Creek,	37.22	98	P		P		19 05 34.1 +1.1
	baz=37,SNR=14							
F21A	Absaloka Mine,	37.23	78	P		P		19 05 33.7 +0.7
	baz=37							
TPNV	Topopah Spring	37.26	97	P		P		19 05 34.8 +1.3
	baz=37,SNR=24							
C23A	Lambert	37.27	74	P		P		19 05 34.2 +0.8
	baz=37,SNR=11							
BSC	Santa Cruz Isl	37.33	103	P		P		19 05 34.8 +0.9
	baz=37							
A24A	Westby	37.36	72	P		P		19 05 35.2 +1.1
	baz=37							
OSI	Osito Adit	37.41	102	P		P		19 05 36.0 +1.3
	baz=37							
LRMC	Laurel Mountai	37.42	100	P		P		19 05 35.5 +0.7
	baz=37							
DGMT	Dagmar	37.49	73	P		P		19 05 35.4 +0.2
	baz=37							
G21A	Lodge Grass	37.51	79	P		P		19 05 36.4 +0.9
	baz=37							
PDAR	Pinedale Array	37.55	84	P		P		19 05 36.8 +0.8
	comp=Z,1.4nm,0.9s,baz=317,slow=6.3,SNR=11							
PDAR					LR	LR		19 18 58.5
	comp=Z,51nm,19.8s,baz=308,slow=33							
E22A	Miles City	37.57	76	P		P		19 05 37.5 +1.6
	baz=37							
BLG	Laguna Peak	37.57	103	P		P		19 05 37.6 +1.6
	baz=38							
D23A	Lindsay	37.60	75	P		P		19 05 37.8 +1.7
	baz=37							
EDW2	Edwards Air Fo	37.66	101	P		P		19 05 38.1 +1.3
	baz=38							
I20A	Worland	37.70	81	P		P		19 05 38.8 +1.7
	baz=38							
NLU	North Lily Min	37.78	89	P		P		19 05 36.5 -1.4
C24A	Savage	37.85	74	P		P		19 05 40.3 +2.0
	baz=38							
A25A	Svangstu Ranch	37.86	71	P		P		19 05 38.7 +0.5
	baz=38							
E23A	Ismay	37.91	76	P		P		19 05 39.7 +1.0
	baz=38,SNR=7.8							
H21A	Big Horn, Sher	37.95	80	P		P		19 05 40.8 +1.6
	baz=38							
SHOC	Shoshone	37.95	98	P		P		19 05 40.9 +1.7
	baz=38							
G22A	Birney	38.05	78	P		P		19 05 41.1 +1.1
	baz=38							
GSC	Goldstone	38.06	99	P		P		19 05 40.8 +0.7
	baz=38,SNR=14							
GSC	Goldstone	38.06	99	eP		P		19 05 40.4 +0.3
	comp=Z,17nm,1.1s							
J20A	Shoshoni	38.07	82	P		P		19 05 41.4 +1.1
	baz=38							
D24A	Glendive	38.13	74	P		P		19 05 42.1 +1.4
	baz=38,SNR=11							
SHPR	Sheep Range	38.20	96	eP		P		19 05 41.3 -0.2
I21A	Big Trails, Te	38.27	81	P		P		19 05 42.6 +0.6
	baz=38							
BFSC	Mount Baldy Ra	38.30	101	P		P		19 05 43.0 +0.7
	baz=38							
E24A	Baker	38.45	75	P		P		19 05 45.1 +1.8
	baz=38							
A26A	Wade Farm, Ken	38.48	71	P		P		19 05 44.3 +0.8
	baz=38							
CCUT	Cedar City	38.57	93	eP		P		19 05 45.0 +0.3
	comp=Z,5.8nm,1.1s							
G23A	Biddle	38.58	78	P		P		19 05 44.6 +0.1
	baz=38							
MVU	Marysvale	38.63	91	eP		P		19 05 44.9 -0.3
	comp=Z,4.5nm,1.0s							
MSU	Marysvale	38.64	91	eP		P		19 05 45.1 -0.1
	comp=Z,12nm,1.5s							
HEC	Hector,Ludlow	38.66	99	P		P		19 05 45.7 +0.5
	baz=39,SNR=7.6							
I22A	9 Mile Ranch,	38.70	80	P		P		19 05 47.2 +1.7
	baz=38							
F24A	Ekalaka	38.77	76	P		P		19 05 46.9 +0.8
	baz=39							
E25A	Miller Ranch,	39.00	75	P		P		19 05 49.8 +1.9
	baz=39							
GMRC	Granite Mounta	39.09	99	P		P		19 05 49.7 +0.8
	baz=39,SNR=13							
LDFC	Landfair	39.21	98	P		P		19 05 49.7 -0.1
SRU	San Rafael	39.24	89	eP		P		19 05 50.3 +0.2
	comp=Z,17nm,1.6s							
F25A	Bowman	39.29	76	P		P		19 05 51.7 +1.4
	baz=39							
BELC	Belle Mtn. Jos	39.44	100	P		P		19 05 51.9 +0.1
	baz=39,SNR=7.0							
PFO	Pinyon Flat Ob	39.45	101	iP		P		19 05 52.9 +1.0
PFO	Pinyon Flat Ob	39.45	101	P		P		19 05 52.2 +0.3
	baz=39							
J23A	Dilts Ranch, B	39.53	80	P		P		19 05 52.2 -0.3
	baz=39							
G25A	Newell	39.73	76	P		P		19 05 54.7 +0.6
	baz=40							
D27A	Center	39.74	73	P		P		19 05 54.9 +0.9
	baz=40							
F26A	Lodgepole	39.79	75	P		P		19 05 55.2 +0.6
	baz=40							
I24A	Kuemmerle Ranc	39.81	79	P		P		19 05 55.5 +0.7
	baz=40							
IRM	Iron Mountain	39.83	99	P		P		19 05 55.8 +0.9
	baz=40,SNR=8.4							
O20A	White River Ci	39.95	86	P		P		19 05 56.3 +0.2
	baz=40,SNR=9.4							
O20A	White River Ci	39.95	86	eP		P		19 05 55.0 -1.1
	comp=Z,15nm,0.8s							
MONP	Monument Peak	39.99	101	P		P		19 05 57.1 +0.6
	baz=40,SNR=6.5							
BAR	Bart	39.99	102	eP		P		19 05 56.6 +0.4
	comp=Z,3.3nm,1.1s							
RSSD	Black Hills	40.00	78	eP		P		19 05 55.9 -0.6
	comp=Z,4.2nm,0.9s							
BC3	Big Chuckawall	40.01	100	P		P		19 05 57.4 +0.9
	baz=40							
A29A	Manning Farm,	40.04	69	P		P		19 05 57.2 +0.7
	baz=40							
E27A	Carson	40.09	74	P		P		19 05 57.9 +0.9
	baz=40							
G26A	Maurine	40.15	76	P		P		19 05 58.2 +0.7
	baz=40							
F27A	Lemmon	40.15	75	P		P		19 05 58.2 +0.8
	baz=40,SNR=5.2							
H11N2	WAKE ISLAND Hy	40.19	224	T		T		19 48 43.1
	baz=25,slow=76,SNR=618							
H11N3	WAKE ISLAND Hy	40.19	224	T		T		19 48 46.5
	baz=25,slow=76,SNR=982							
H11N1	WAKE ISLAND Hy	40.20	224	T		T		19 48 43.3
	baz=25,slow=76,SNR=611							
I25A	Rochford	40.23	78	P		P		19 05 59.3 +1.0
	baz=40							
D28A	Regan	40.23	72	P		P		19 05 58.9 +0.8
	baz=40							
SWSC	Sam W. Stewart	40.31	101	P		P		19 06 00.2 +1.3
	baz=40							
PDMC	Parker Dam,Lak	40.33	98	P		P		19 05 59.7 +0.7
	baz=40							
IBP	Imperial Bould	40.34	101	P		P		19 06 00.4 +1.1
	baz=40,SNR=5.9							
MDND	Maddock	40.42	71	P		P		19 06 01.1 +1.4
	baz=40							
G27A	Dupree	40.48	75	P		P		19 06 01.1 +0.8
	baz=40							
Y12C	Blythe	40.48	99	P		P		19 06 01.3 +1.0
	baz=40,SNR=5.3							
GLA	Glamis	40.80	100	P		P		19 06 04.0 +0.9
	baz=41							
N23A	Red Feather La	40.83	83	P		P		19 06 04.5 +1.0
	baz=41							
H27A	Howes	40.83	76	P		P		19 06 03.4 +0.2
	baz=41							
F28A	McLaughlin	40.86	74	P		P		19 06 03.6 +0.3
	baz=41							
J26A	Sides Ranch, S	41.04	79	P		P		19 06 05.4 +0.5
	baz=41							
PV01	Paradox Valley	41.04	89	eP		P		19 06 05.3 +0.2
	comp=Z,974nm,1.2s							
WUAZ	Wupatki	41.12	94	P		P		19 06 06.7 +1.0
	baz=41,SNR=6.9							
WUAZ	Wupatki	41.12	94	eP		P		19 06 06.1 +0.4
	comp=Z,7.4nm,0.7s							
I27A	Quinn	41.18	77	P		P		19 06 07.2 +1.1
	baz=41							
L25A	Engebretsen Ra	41.22	81	P		P		19 06 07.3 +0.8
	baz=41							
USRK	Ussuriysk Ar.	41.24	283	LR		LR		19 24 58.6
	comp=Z,64nm,18.7s,baz=44,slow=39							
G28A	Parade	41.24	75	P		P		19 06 07.1 +0.5
	baz=41							
D30A	Buchanan	41.30	71	P		P		19 06 07.4 +0.4
	baz=41							
K26A	Motz Farm, Whi	41.35	79	P		P		19 06 07.6 +0.1
	baz=41							
H11S1	WAKE ISLAND Hy	41.36	223	T		T		19 50 15.6
	baz=25,slow=76,SNR=544							
H11S2	WAKE ISLAND Hy	41.38	223	T		T		19 50 12.0
	baz=25,slow=76,SNR=649							
H11S3	WAKE ISLAND Hy	41.38	223	T		T		19 50 19.7
	baz=25,slow=76,SNR=430							
H28A	Mission Ridge	41.42	76	P		P		19 06 08.3 +0.3
	baz=41							
E30A	Jud	41.56	72	P		P		19 06 09.2 +0.1
	baz=41							
MVCO	Mesa Verde	41.69	90	P		P		19 06 11.0 +0.5
	baz=42							
ISCO	Idaho Springs	41.72	85	P		P		19 06 11.4 +0.6
	baz=42							
I28A	Midland	41.73	76	P		P		19 06 11.3 +0.7
	baz=42							
J28A	Allard Ranch,	42.04	77	P		P		19 06 14.1 +1.0
	baz=42							
G30A	Faulkton	42.23	74	P		P		19 06 15.1 +0.6
	baz=42							
AGMN	Agassiz Nation	42.25	68	P		P		19 06 15.1 +0.4
	baz=42							
S22A	4UR Ranch, Cre	42.33	88	P		P		19 06 16.6 +0.8
	baz=42							
W18A	Petrified Fore	42.37	93	P		P		19 06 14.7 -1.3
MJAR	Matsushiro Arr	42.41	270	P		P		19 06 15.2 -0.9
	comp=Z,1.7nm,0.7s,baz=13,slow=4.0,SNR=11							
MJAR					LR	LR		19 22 07.0
	comp=Z,103nm,21.9s,baz=70,slow=34							
MJAR	Matsushiro Arr	42.41	270	P		P		19 06 15.2 -0.9
MJAR					pmax	pmax		
	comp=Z,2.0nm,0.7s							
MJAR					MLR	MLR		
	comp=Z,103nm,22.0s							
MAJO	Matsushiro	42.41	270	iP		P		19 06 15.1 -1.0
MAJO	Matsushiro	42.41	270	eP		P		19 06 15.3 -0.9
	comp=Z,7.8nm,0.8s							
MAT	Matsushiro	42.41	270	P		P		19 06 15.5 -0.6
N26A	Koester Ranch,	42.48	82	P		P		19 06 18.4 +1.6
	baz=42							
Q24A	Divide	42.53	85	P		P		19 06 18.5 +1.1
	baz=42							
214A	Organ Pipe Nat	42.77	99	P		P		19 06 20.1 +0.9
	baz=43,SNR=6.4							
214A	Organ Pipe Nat	42.77	99	eP		P		19 06 19.1 0.0
	comp=Z,11nm,1.0s							
O26A	Horse Wrangler	42.80	82	P		P		19 06 19.9 +0.6
	baz=43							
N27A	Anderson Farm,	42.90	81	P		P		19 06 20.9 +0.8
	baz=43							
J30A	Dallas	43.11	76	P		P		19 06 22.3 +0.5
	baz=43							
SDCO	Great Sand Dun	43.12	87	P		P		19 06 22.3 +0.1
	baz=43							
SDCO	Great Sand Dun	43.12	87	eP		P		19 06 21.9 -0.2
	comp=Z,2.4nm,0.5s							
P26A	Davis Ranch, A	43.21	83	P		P		19 06 24.0 +1.3
	baz=43,SNR=5.2							
BOD	Bodaibo	43.27	310	eP		P		19 06 21.4 -1.4
BOD					pmax	pmax		
	comp=Z,3.0nm,2.1s							
O27A	Beecher Island	43.32	82	P		P		19 06 24.3 +0.7
	baz=43							
K30A	Basset	43.44	77	P		P		19 06 25.4 +1.0
	baz=43							
Q26A	Hugo	43.52	84	P		P		19 06 26.2 +1.0
	baz=43							
R26A	Arlington	43.97	85	P		P		19 06 28.9 +0.1
	baz=44,SNR=6.9							
T25A	Trinidad	44.17	87	P		P		19 06 30.9 +0.4
	baz=44,SNR=9.8							
R27A	Eads	44.37	84	P		P		19 06 32.4 +0.4
	baz=44							
S26A	Kim	44.41	85	P		P		19 06 32.0 -0.3
	baz=44,SNR=9.6							
ANMO	Albuquerque	44.44	90	P		P		19 06 32.2 -0.5
	comp=Z,1.8nm,1.0s,baz=313,slow=8.3,SNR=5.4							
ANMO	Albuquerque	44.44	90	P		P		19 06 32.2 -0.5
ANMO					pmax	pmax		
	comp=Z,2.0nm,1.0s							
ANMO	Albuquerque	44.44	90	eP		P		19 06 32.0 -0.7
	comp=Z,2.0nm,0.9s							
ECSD	EROS Data Cent	44.52	74	P		P		19 06 32.8 -0.2
	baz=44,SNR=6.7							
ECSD	EROS Data Cent	44.52	74	eP		P		19 06 31.9 -1.1
	comp=Z,5.0nm,0.6s							
T26A	Comanche Natio	44.63	86	P		P		19 06 34.1 -0.1
	baz=44							
M31A	Lambtecht Ranc	44.64	78	P		P		19 06 34.8 +0.7
	baz=44							
R28A	Tribune	44.91	83	P		P		19 06 36.9 +0.5
	baz=45							
Q29A	Oakley	45.05	82	P		P		19 06 37.9 +0.5
	baz=45							
P30A	Selden	45.05	81	P		P		19 06 38.0 +0.7
	baz=45							
BGNE	Belgrade	45.08	77	P		P		19 06 37.9 +0.4
	baz=45							
O31A	Woolen Ranch,	45.20	80	P		P		19 06 39.5 +1.0
	baz=45							
T27A	Campo	45.23	85	P		P		19 06 39.6 +0.8
	baz=45							
R29A	Marienthal	45.26	83	P		P		19 06 39.9 +0.8
	baz=45							
121A	Cookes Peak, D	45.33	94	P		P		19 06 39.7 -0.2
	baz=45							
S28A	Manter	45.36	84	P		P		19 06 40.1 +0.2
	baz=45							
M33A	Taylor Creek F	45.53	77	P		P		19 06 41.4 +0.3
	baz=45							
T28A	Walsh	45.55	85	P		P		19 06 41.3 -0.1
	baz=45							
P31A	Stockton	45.58	80	P		P		19 06 41.4 -0.1
	baz=45							
U27A	Thompson Grove	45.59	86	P		P		19 06 41.7 -0.1
	baz=46							
L34A	Svendsen Farm,	45.76	76	P		P		19 06 42.8 -0.1
	baz=46							
R30A	Dighton	45.86	82	P		P		19 06 44.3 +0.6
	baz=46							
N33A	J Bar K, Exete	45.92	78	P		P		19 06 44.2 +0.1
	baz=46							
R31A	Burdett	46.30	82	P		P		19 06 47.3 +0.1
	baz=46							
Q32A	Meitler Ranch,	46.40	80	P		P		19 06 48.1 +0.1
	baz=46							
R32A	Long Quarter,	46.69	81	P		P		19 06 50.4 +0.2
	baz=46							
O34A	Beatrice	46.72	78	P		P		19 06 50.4 0.0
	baz=46							
W28A	Vega	46.75	87	P		P		19 06 51.3 +0.4
	baz=47							
S31A	Mullinville	46.77	82	P		P		19 06 50.8 -0.1
	baz=47							
Q33A	Connelly Farm,	46.83	80	P		P		19 06 51.5 +0.2
	baz=47							
JCJ	Chichijima	46.83	257	LR		LR		19 22 33.6
	comp=Z,112nm,21.1s,baz=38,slow=31							
N35A	Tabor	46.89	76	P		P		19 06 52.1 +0.3
	baz=47							
T31A	Randall Ranch,	47.00	83	P		P		19 06 52.7 0.0
	baz=47							
R33A	Olander Ranch,	47.19	81	P		P		19 06 54.5 +0.3
	baz=47							
X28A	Dimmitt	47.27	88	P		P		19 06 55.1 +0.2
	baz=47							
MSTX	Muleshoe	47.31	89	P		P		19 06 55.1 -0.1
	baz=47							
MSTX	Muleshoe	47.31	89	eP		P		19 06 54.9 -0.4
	comp=Z,12nm,1.0s							
AMTX	Amarillo	47.32	87	P		P		19 06 55.4 +0.1
	baz=47							
AMTX	Amarillo	47.32	87	eP		P		19 06 54.7 -0.7
	comp=Z,15nm,

DAG pmax pmax
comp=Z,3.0nm,0.8s
S34A Willow Spring 48.11 81 P **P** 19 07 00.5 -0.8
baz=48
U33A Lingo Farm, Me 48.38 83 P **P** 19 07 02.6 -0.8
baz=48
128A Castleberry Fa 48.42 90 P **P** 19 07 03.9 +0.1
baz=48,SNR=20
Z29A Hungry Hill Ra 48.44 88 P **P** 19 07 03.5 -0.5
baz=48,SNR=10
Y30A Stafford Cattl 48.49 87 P **P** 19 07 04.5 +0.2
baz=48
X31A McDonald Ranch 48.51 86 P **P** 19 07 04.8 +0.4
baz=48
T34A McClaskey Farm 48.52 81 P **P** 19 07 04.0 -0.5
baz=48,SNR=7.5
S35A Otter Creek Ra 48.59 80 P **P** 19 07 04.4 -0.6
baz=48,SNR=13
R36A Gordon, Harris 48.63 79 P **P** 19 07 05.0 -0.3
baz=48
U34A Anderson Ranch 48.72 82 P **P** 19 07 05.1 -0.9
baz=49
228A UT Block 9, Go 48.72 90 P **P** 19 07 05.7 -0.5
baz=49
SUMG Summit 48.74 19 *i* P P 19 07 10.4 +4.3
SUMG Summit 48.74 19 *i* P P 19 07 10.4 +4.3
SUMG Summit 48.74 19 *e* P **P** 19 07 07.5 +1.4
comp=Z,11nm,0.9s
Z30A Sanderson Ranc 48.76 88 P **P** 19 07 05.9 -0.5
baz=49,SNR=8.6
129A Stewart Farms, 48.78 89 P **P** 19 07 06.2 -0.4
baz=49,SNR=6.7
S36A Lake Cedric, C 48.99 79 P **P** 19 07 06.9 -1.1
baz=49
T35A Sooner Cattle 48.99 81 P **P** 19 07 06.9 -1.2
baz=49
R37A Teagarden Farm 49.04 78 P **P** 19 07 07.6 -0.8
baz=49
JNU Nakatsue 49.13 272 P **P** 19 07 09.0 -0.2
comp=Z,8.5nm,0.8s,baz=311,slow=20,SNR=3.3
JNU LR LR 19 26 24.2
comp=Z,105nm,21.9s,baz=96,slow=34
V34A Guthrie 49.14 83 P **P** 19 07 08.0 -1.2
baz=49
WMOK Wichita Mounta 49.15 85 *e*P **P** 19 07 08.4 -0.9
comp=Z,8.9nm,0.9s
T36A Boggs Farm, Ca 49.27 80 P **P** 19 07 09.5 -0.7
baz=49
Z31A Sharp Cattle R 49.33 87 P **P** 19 07 09.8 -0.9
baz=49
130A Snyder 49.35 88 P **P** 19 07 10.6 -0.3
baz=49
S37A Fort Scott 49.41 79 P **P** 19 07 09.9 -1.3
baz=49,SNR=8.2
329A Wagon Wheel Ra 49.53 90 P **P** 19 07 12.0 -0.3
baz=49
V35A Meyer Ranch, C 49.59 82 P **P** 19 07 11.8 -0.8
baz=49
131A Roby 49.63 88 P **P** 19 07 12.8 -0.3
baz=50,SNR=6.4
Z32A Haskell 49.73 87 P **P** 19 07 13.0 -0.8
baz=50,SNR=8.4
230A Sterling City 49.76 89 P **P** 19 07 14.3 +0.2
baz=50,SNR=5.4
T37A Cheneyville 18 49.79 80 P **P** 19 07 12.7 -1.4
baz=50,SNR=9.8
W35A Tecumseh 49.99 83 P **P** 19 07 15.4 -0.3
baz=50
330A Mertzon 50.07 90 P **P** 19 07 16.5 +0.1
baz=50,SNR=5.1
TXAR Lajitas Array 50.08 94 P **P** 19 07 16.3 -0.3
comp=Z,5.1nm,0.5s,baz=301,slow=5.5,SNR=77
TXAR LR LR 19 26 59.7
comp=Z,92nm,19.1s,baz=0.0,slow=34
TXAR Lajitas Array 50.08 94 P **P** 19 07 16.3 -0.3
TXAR pmax pmax
comp=Z,5.0nm,0.5s
TXAR MLR MLR
comp=Z,92nm,19.1s
ABTX Abilene, Hawle 50.11 87 P **P** 19 07 16.5 -0.2
baz=50
ABTX Abilene, Hawle 50.11 87 *e*P **P** 19 07 16.2 -0.5
comp=Z,16nm,1.2s
U37A Salina 50.16 80 P **P** 19 07 16.4 -0.6
baz=50
Z33A Whitaker Ranch 50.17 86 P **P** 19 07 16.6 -0.5
baz=50
231A Bronte 50.20 88 P **P** 19 07 17.1 -0.3
baz=50
Y34A Reagan Ranch, 50.30 85 P **P** 19 07 17.6 -0.5
baz=50
W36A Wetumka 50.38 82 P **P** 19 07 17.8 -0.9
baz=50
X35A Drake 50.45 84 P **P** 19 07 18.7 -0.5
baz=50
430A Baggett Ranch, 50.48 90 P **P** 19 07 19.0 -0.5
baz=50,SNR=7.1
V37A Hulbert 50.50 81 P **P** 19 07 18.4 -1.2
baz=50
133A Hamilton Ranch 50.56 87 P **P** 19 07 20.0 -0.1
baz=50,SNR=5.6
U38A Gravette 50.57 80 P **P** 19 07 18.4 -1.6
baz=50
331A San Angelo 50.58 89 P **P** 19 07 19.3 -1.0
baz=50
Z34A Collier Ranch, 50.61 85 P **P** 19 07 19.0 -1.4
baz=50
232A Coleman 50.63 88 P **P** 19 07 19.4 -1.2
baz=50
X36A Centrahoma 50.70 83 P **P** 19 07 20.8 -0.2
baz=50
HDIL Hopedale 50.73 72 P **P** 19 07 20.6 -0.6
baz=50
W37A Quinton 50.85 82 P **P** 19 07 21.6 -0.6
baz=51,SNR=7.2
530A J-C Ranch, Com 50.88 91 P **P** 19 07 22.2 -0.3
baz=51,SNR=8.9
431A Sonora 50.92 90 P **P** 19 07 22.3 -0.6
baz=51,SNR=13
332A Millersview 50.94 89 P **P** 19 07 21.8 -1.1
baz=51
V38A Canehill 50.95 80 P **P** 19 07 21.6 -1.3
baz=51
233A Rising Star 50.98 87 P **P** 19 07 22.9 -0.4
baz=51,SNR=8.3
134A White-Moore Ra 51.08 86 P **P** 19 07 24.7 +0.8
baz=51
Y36A Durant 51.21 84 P **P** 19 07 25.0 +0.2
baz=51
X37A Clayton 51.27 82 P **P** 19 07 25.3 0.0
baz=51,SNR=13
432A Menard 51.27 89 P **P** 19 07 24.9 -0.6
baz=51,SNR=7.3
531A Rocksprings 51.34 90 P **P** 19 07 25.5 -0.5
baz=51,SNR=7.1
333A Richland Sprin 51.43 88 P **P** 19 07 25.9 -0.8
baz=51,SNR=5.7
W38A Poteau 51.43 81 P **P** 19 07 25.6 -1.0
baz=51,SNR=8.4
234A Clairette 51.45 87 P **P** 19 07 26.6 -0.1
baz=51
135A Vickery Place, 51.49 86 P **P** 19 07 27.2 +0.2
baz=51
X38A Whitesboro 51.53 82 P **P** 19 07 27.4 +0.1
baz=51
Y37A Hugo 51.55 83 P **P** 19 07 27.7 +0.3
baz=51
JCT Junction City 51.55 89 P **P** 19 07 27.3 -0.2
baz=51
JCT Junction City 51.55 89 *e*P **P** 19 07 25.7 -1.9
comp=Z,13nm,0.8s
Z36A Blue Ridge 51.56 84 P **P** 19 07 27.3 -0.2
baz=51
532A Rocksprings 51.74 90 P **P** 19 07 28.5 -0.5
baz=52
433A Art 51.78 89 P **P** 19 07 28.1 -1.1
baz=52,SNR=7.7
WHTX Lake Whitney 51.86 86 P **P** 19 07 30.1 +0.3
baz=52
WHTX Lake Whitney 51.86 86 *e*P **P** 19 07 29.3 -0.5
comp=Z,25nm,1.0s
631A Perdido Creek 51.86 91 P **P** 19 07 29.7 -0.2
baz=52
334A Lometa 51.87 87 P **P** 19 07 29.3 -0.6
baz=52,SNR=9.1
136A Ennis 52.07 85 P **P** 19 07 31.6 +0.3
baz=52
SFIN Scholer Farm 52.09 71 P **P** 19 07 30.9 -0.4
baz=52
434A Burnet 52.22 88 P **P** 19 07 32.3 -0.2
baz=52,SNR=9.0
632A Uvalde 52.27 90 P **P** 19 07 32.1 -0.7
baz=52
MIAR Mount Ida 52.35 81 P **P** 19 07 32.2 -1.2
baz=52,SNR=6.8
MIAR Mount Ida 52.35 81 *e*P **P** 19 07 32.1 -1.3
comp=Z,11nm,1.0s
SCHQ Schefferville 52.63 46 P **P** 19 07 34.7 -0.5
comp=Z,2.5nm,0.7s,baz=358,slow=11,SNR=4.2
SCHQ LR LR 19 31 18.1
comp=Z,67nm,18.2s,baz=314,slow=38
336A Riesel 52.66 86 P **P** 19 07 35.8 +0.1
baz=52
633A Saathoff Ranch 52.66 90 P **P** 19 07 35.5 -0.3
baz=52
534A Blanco 52.67 89 P **P** 19 07 35.4 -0.4
baz=52
732A Laxson Ranch, 52.72 91 P **P** 19 07 36.1 -0.1
baz=53,SNR=7.1
ZAK Zakamensk 52.76 307 *e*P **P** 19 07 34.2 -2.1
ZAK pmax pmax
comp=Z,1.0nm,1.6s
SONM Songino Array 52.92 302 P **P** 19 07 37.1 -0.5
comp=Z,3.2nm,1.0s,baz=41,slow=6.7,SNR=7.2
SONM LR LR 19 30 06.8
comp=Z,82nm,21.1s,baz=46,slow=36
SONM Songino Array 52.92 302 P **P** 19 07 37.1 -0.5
SONM pmax pmax
comp=Z,3.0nm,1.0s
SONM MLR MLR
comp=Z,82nm,21.1s
BJI Beijing 52.93 289 P **P** 19 07 37.2 -0.4
BJI PMZ
comp=Z,6.0nm,0.6s
BJI PMZ
comp=Z,82nm,4.0s
BJI LN
comp=Z,120nm,19.5s
BJI LE
comp=Z,140nm,18.9s
832A Faith Ranch, C 53.05 91 P **P** 19 07 38.3 -0.3
baz=53,SNR=12
733A Divot King Ran 53.13 90 P **P** 19 07 39.3 +0.1
baz=53
833A Chaparral WMA, 53.36 91 P **P** 19 07 41.1 +0.1
baz=53,SNR=5.7
USIN University of 53.41 74 P **P** 19 07 39.8 -1.4
635A Leesville 53.55 89 P **P** 19 07 42.4 +0.2
baz=53
HKT Hockley 54.30 87 *i* P **P** 19 07 48.6 +1.0
WVT Waverly 54.59 75 *e*P **P** 19 07 47.9 -1.9
comp=Z,17nm,0.6s
OXF Oxford 54.82 78 *e*P **P** 19 07 50.1 -1.4
comp=Z,76nm,1.0s
HHC Hu-ho-hao-te 54.94 293 *e*P **P** 19 07 53.7 +1.3
HHC pP **pP** 19 08 03.9 +1.3
HHC sP **sP** 19 08 07.8 +1.3
HHC PP **PP** 19 09 58.0 +2.8
HHC S **S** 19 15 30.5 -1.2
HHC sS **sS** 19 15 47.9 -0.5
HHC ScS **ScS** 19 17 36.9 -1.9
HHC PMZ
comp=Z,12nm,0.6s
HHC PMZ
comp=Z,44nm,6.3s
HHC LN
comp=Z,120nm,16.9s
HHC LE
comp=Z,120nm,17.9s
HHC LZ
comp=Z,74nm,16.7s
ARCES ARCESS Array B 56.90 356 P **P** 19 08 05.0 -0.9
comp=Z,2.6nm,0.8s,baz=9.4,slow=8.4,SNR=8.1
ARCES LR LR 19 35 34.7
comp=Z,66nm,18.1s,baz=24,slow=39
ARCES ARCESS Array B 56.90 356 P **P** 19 08 05.0 -0.9
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES MLR MLR
comp=Z,66nm,18.1s
NJ2 Nanjing 57.00 280 *e*P **P** 19 08 07.4 +0.3
NJ2 PMZ
comp=Z,20nm,0.8s
LRAL Lakeview Retre 57.27 78 *e*P **P** 19 08 06.2 -2.8
comp=Z,4.1nm,0.7s
ZALV Zalesovo Beam 58.26 319 LR LR 19 34 42.2
comp=Z,142nm,20.8s,baz=70,slow=38
WHN Wuhan 60.73 283 P P 19 08 38.8 +5.8
XAN Xi'an 61.27 289 P **P** 19 08 38.2 +1.5
XAN PMZ
comp=Z,3.0nm,0.6s
GTA Gaotai 62.25 299 *e*P **P** 19 08 42.5 -0.8
GTA pP **pP** 19 08 52.7 -0.9
GTA sP **sP** 19 08 56.8 -0.7
GTA S **S** 19 17 03.3 -3.5
GTA sS **sS** 19 17 19.9 -3.9
GTA SS **SS** 19 21 07.2 -2.4
GTA PMZ
comp=Z,2.0nm,1.1s
GTA PMZ
comp=Z,37nm,4.3s
GTA LN
comp=Z,130nm,20.4s
GTA LE
comp=Z,160nm,19.5s
GTA LZ
comp=Z,130nm,20.0s
LZH Lanzhou 62.57 294 *e*P P 19 08 49.4 +3.8
LZH pP pP 19 09 00.9 +5.1
LZH sP sP 19 09 04.8 +5.0
LZH PMZ
comp=Z,18nm,1.2s
BRVK Borovoye 64.19 327⇑ *e*P **P** 19 08 56.6 +0.8
BRVK pmax pmax
comp=Z,3.0nm,1.7s
ARU Arti 64.66 335 *c i*P **P** 19 09 01.2 +2.4
ARU 19 11 17.3
ARU S **S** 19 17 40.1 +4.1
ARU SS **SS** 19 21 43.9 -2.1
ARU pmax pmax
comp=Z,5.0nm,1.7s
WMQ Urumqi 64.81 310 P **P** 19 09 03.2 +3.1
WMQ pP **pP** 19 09 13.9 +3.4
WMQ sP **sP** 19 09 16.3 +1.9
WMQ PcP **PcP** 19 09 36.2 +2.8
WMQ S **S** 19 17 37.4 -1.1
WMQ ScS **SKSac** 19 18 51.5 -0.5
WMQ PMZ
comp=Z,11nm,0.8s
WMQ PMZ
comp=Z,82nm,3.8s
WMQ LN
comp=Z,100nm,20.0s
WMQ LE
comp=Z,77nm,23.0s
WMQ LZ
comp=Z,61nm,18.0s
MKAR Makanchi Array 64.83 316 P **P** 19 08 59.0 -1.2
comp=Z,0.3nm,0.4s,baz=43,slow=6.4,SNR=5.2
MKAR LR LR 19 38 40.3
comp=Z,134nm,21.1s,baz=22,slow=37
MKAR Makanchi Array 64.83 316 *i* P **P** 19 09 01.2 +1.0
FINES FINESS Array B 64.93 354 P **P** 19 08 59.5 -1.0
comp=Z,2.9nm,0.6s,baz=19,slow=7.2,SNR=22
FINES FINESS Array B 64.93 354 P **P** 19 08 59.5 -1.0
FINES pmax pmax
comp=Z,3.0nm,0.6s
NB2 NORSAR Subarra 65.62 2 P **P** 19 09 02.7 -2.4
comp=Z,1.9nm,0.8s,baz=1.1,slow=6.9
NOA NORSAR Array B 65.62 2 P **P** 19 09 03.2 -1.8
comp=Z,0.9nm,0.7s,baz=359,slow=6.6,SNR=5.2
NOA LR LR 19 38 56.6
comp=Z,29nm,19.1s,baz=355,slow=37
NOA NORSAR Array B 65.62 2 P **P** 19 09 03.2 -1.8
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA MLR MLR
comp=Z,29nm,19.1s
CD2 Chengdu 66.50 290 P **P** 19 09 10.1 -1.0
CD2 pP **pP** 19 09 20.7 -0.8
CD2 sP **sP** 19 09 25.1 -0.3
CD2 PP **PP** 19 11 36.3 -1.1
CD2 S **S** 19 17 58.0 -1.4
CD2 sS **sS** 19 18 16.1 -0.3
CD2 SS **SS** 19 22 15.9 -0.1
CD2 PMZ
comp=Z,10.0nm,0.7s
CD2 PMZ
comp=Z,90nm,6.9s
CD2 LN
comp=Z,190nm,7.6s
CD2 LZ
comp=Z,140nm,6.3s
VSU Vasula 67.85 353 *d i*P **P** 19 09 18.7 -0.5
PMOR Pomariorio Ree 69.91 162 *e*T T 20 25 33.9
comp=Z,19nm,0.2s
OBN Obninsk 70.17 347⇑ *e*P **P** 19 09 32.6 -1.0
OBN *e* 19 09 56.5
OBN pmax pmax
comp=Z,12nm,1.0s
OBN MLR MLR
comp=Z,83nm,23.0s
ABKAR Akbulak array 70.70 331 *e*P **P** 19 09 36.3 -0.7
comp=Z,0.8nm,0.6s
KMI Kunming 71.51 287 P **P** 19 09 42.5 -0.1
KMI pP **pP** 19 09 53.0 0.0
KMI sP **sP** 19 09 58.7 +1.8
KMI PMZ
comp=Z,7.0nm,1.2s
KMI LN
comp=Z,97nm,17.7s
KMI LE
comp=Z,83nm,16.3s
KMI LZ
comp=Z,98nm,18.5s
PPT Papeete 72.14 165 LR LR 19 34 51.7
comp=Z,147nm,21.4s,baz=358,slow=30
PPT2 Papeete2 72.16 165 *e*LR LR 19 31 43.5
comp=Z,192nm,23.0s
KKAR Karatay Array 72.57 321 *e*P **P** 19 09 47.7 -0.7
comp=Z,2.2nm,0.6s
KSH Kashi 73.44 315 P **P** 19 09 56.4 +2.7
KSH pP **PcP** 19 10 08.1 -1.7
KSH PcP pP 19 10 14.0 +10
KSH PP PP 19 12 44.0 +7.0
KSH S **S** 19 19 20.9 +0.3
KSH sS sS 19 19 43.4 +5.6
KSH PMZ
comp=Z,160nm,4.6s
KSH LN
comp=Z,100nm,5.7s
KSH LE
comp=Z,91nm,4.0s
KSH LZ
comp=Z,140nm,6.5s
VSR Storozhevoye 73.58 344⇑ *e*P **P** 19 09 54.6 +0.5
VSR pmax pmax
comp=Z,8.0nm,1.0s
LSA Lhasa 74.26 299 *e*P **P** 19 09 58.6 -0.5
comp=Z,5.9nm,0.9s
AKASG Malin Array Be 75.35 351 P **P** 19 10 03.0 -1.5
comp=Z,4.6nm,0.7s,baz=10.0,slow=5.6,SNR=6.6
AKASG LR LR 19 48 03.4
comp=Z,38nm,18.1s,baz=25,slow=40
AKASG Malin Array Be 75.35 351 P **P** 19 10 03.0 -1.5
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG MLR MLR
comp=Z,38nm,18.1s
KIEV Kiev 75.36 351 *d i*P **P** 19 10 03.2 -1.3
KIEV Kiev 75.36 351 *e*P **P** 19 10 02.7 -1.8
comp=Z,5.9nm,0.8s
SIJI Sorong 75.49 248 P **P** 19 10 05.6 -0.2
comp=Z,6.9nm,0.8s,baz=62,slow=4.0,SNR=7.6
DPC Dobruska-Polom 76.37 359 *e*P **P** 19 10 10.5 +0.1
DPC *ex* x 19 10 27.9
DPC Dobruska-Polom 76.37 359 *e*P **P** 19 10 10.5 +0.1
DPC *e* 19 10 27.9
KRLC Kraliky 76.64 359 *e*P **P** 19 10 09.1 -2.8
KRLC Kraliky 76.64 359 *e*P **P** 19 10 09.1 -2.8
STHS Stebnicka Huta 77.18 356 *e*P **P** 19 10 15.9 +1.0
STHS pmax pmax
comp=Z,5.0nm,0.7s
STHS Stebnicka Huta 77.18 356 *e*P **P** 19 10 15.9 +1.0
KHC Kasperske Hory 77.59 1 *e*P **P** 19 10 17.2 -0.1
KHC *ex* x 19 10 34.6
KHC Kasperske Hory 77.59 1 *e*P **P** 19 10 17.2 -0.1
KHC *e* 19 10 34.6
KOLS Kolonicke sedl 77.62 355 *e*P **P** 19 10 18.2 +0.8
KOLS *e* 19 10 22.4
KOLS pmax pmax
comp=Z,4.0nm,1.0s
KOLS Kolonicke sedl 77.62 355 *e*P **P** 19 10 18.2 +0.8
KOLS *e* 19 10 22.4
TBI Tubuai 77.83 165 *e*LR LR 19 34 27.2
comp=Z,192nm,26.8s
GERES GERESS Array B 77.88 1 P **P** 19 10 18.9 -0.1
comp=Z,0.9nm,0.7s,baz=15,slow=5.5,SNR=6.5
GERES LR LR 19 49 09.3
comp=Z,19nm,18.4s,baz=22,slow=39
GERES GERESS Array B 77.88 1 P **P** 19 10 18.9 -0.1
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES MLR MLR
comp=Z,19nm,18.4s
KECS Kecovo 78.14 356 *e*P **P** 19 10 20.4 +0.1
KECS pmax pmax
comp=Z,2.0nm,0.8s
KECS Kecovo 78.14 356 *e*P **P** 19 10 20.4 +0.1
GOF Gofitskoye 78.81 340 *e*P P 19 10 31.6 +7.6
CMAR Chiang Mai Arr 78.91 286 P **P** 19 10 24.5 -0.5
comp=Z,1.3nm,1.0s,baz=21,slow=6.9,SNR=5.2
CMAR LR LR 19 47 55.1
comp=Z,36nm,19.0s,baz=56,slow=38
CMAR Chiang Mai Arr 78.91 286 P **P** 19 10 24.5 -0.5
CMAR pmax pmax
comp=Z,1.0nm,1.0s
CMAR MLR MLR
comp=Z,36nm,19.0s
DAVOX Davos/Dischmat 79.85 4 P **P** 19 10 31.8 +1.9
comp=Z,1.4nm,0.5s,baz=342,slow=9.6,SNR=1.9
DAVOX Davos/Dischmat 79.85 4 P **P** 19 10 31.8 +1.9
DAVOX pmax pmax
comp=Z,1.0nm,0.5s
KIV Kislovodsk 79.94 340⇓ *e*P **P** 19 10 30.3 0.0
KIV *e* 19 10 39.8
KIV *e* 19 13 31.6
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,104nm,25.0s
KIV Kislovodsk 79.94 340 *e*P **P** 19 10 30.0 -0.3
comp=Z,7.8nm,0.8s
KBZ Khabaz 80.11 340 P **P** 19 10 31.8 +0.7
comp=Z,4.6nm,0.9s,baz=244,slow=1.4,SNR=4.2
KBZ LR LR 19 48 54.5
comp=Z,86nm,22.0s,baz=26,slow=38
KBZ Khabaz 80.11 340 P **P** 19 10 31.8 +0.7
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ MLR MLR
comp=Z,86nm,22.0s
GEYT Alibeck 81.51 327 P **P** 19 10 38.2 -0.6
comp=Z,1.8nm,0.7s,baz=33,slow=5.7,SNR=5.5
GEYT LR LR 19 51 30.6
comp=Z,87nm,18.0s,baz=340,slow=39
ESDC Sonseca Array 85.61 15 P **P** 19 11 00.5 +0.8
comp=Z,0.2nm,0.4s,baz=331,slow=6.9,SNR=3.8
BRTR Keskin Array B 85.63 346 P **P** 19 10 58.6 -1.4
comp=Z,0.9nm,0.8s,baz=47,slow=2.5,SNR=7.5
BRTR LR LR 19 53 24.2
comp=Z,39nm,19.7s,baz=5.0,slow=39
BRTR Keskin Array B 85.63 346 *i* P **P** 19 11 02.5 +2.5
BRTR pmax pmax
comp=Z,3.0nm,1.0s
ROSC El Rosal 86.47 87 LR LR 19 53 21.6
comp=Z,11nm,18.2s,baz=224,slow=38
WRA Warramunga Arr 89.93 235 P **P** 19 11 21.4 +0.9
comp=Z,0.6nm,1.1s,baz=35,slow=5.9,SNR=2.7
WRA Warramunga Arr 89.93 235 P **P** 19 11 21.4 +0.9
WRA pmax pmax
comp=Z,1.0nm,1.1s
ASAR Alice Springs 93.30 234 P **P** 19 11 36.7 +0.6
comp=Z,0.2nm,0.9s,baz=31,slow=5.2,SNR=2.9

IDC 10 18:59:51.9±1.8, 7.01S×128.75E, h0km, mb3.6/1, mb1 3.3/3, mb1mx3.2/29, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=59.1km s-min=29.3km az=78.0, Banda

Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.60**	**22**	Pn	Pn	19 01 31.8	+1.5
	baz=198,slow=20						
SIJI				Sn	Sn	19 02 35.9	-10
	0.5nm,0.3s,baz=225,slow=19,SNR=4.7						
WRA	**Warramunga Arr**	**13.95**	**158**	Pn	Pn	19 03 10.9	-0.1
	0.1nm,0.3s,baz=338,slow=13,SNR=10						
WRA				Sn	Sn	19 05 33.4	-14
	0.2nm,0.3s,baz=344,slow=24,SNR=7.8						
ASAR	**Alice Springs**	**17.29**	**164**	P	Pn	19 03 55.3	+0.4
	0.1nm,0.3s,baz=350,slow=12,SNR=5.4						
ASAR				S	Sn	19 06 56.0	-12
	0.0nm,0.3s,baz=342,slow=24,SNR=3.8						
MKAR	**Makanchi Array**	**67.56**	**327**	P	P	19 10 49.9	-0.4
	0.4nm,0.5s,baz=110,slow=7.9,SNR=3.3						

IDC ***10*** *19:04:58.5±1.5,0.°72N×121.°67E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.2/38,mbtmp3.3/3, Error ellipse: s-maj=209.9km s-min=24.5km az=61.0*
ISCJB ***10*** *19:05:10.0±1.1,0.°7N±0.°1×121.°6E±0.°1,h113km,mb3.2/3, Error ellipse: s-maj=18.2km s-min=15.0km az=23.6*
DJA ***10*** *19:05:15.5±0.5,0.°N±9.°9×12.°1E±.°, h25km±13km,M3.4/7, MLv3.4/7*

ISC 10 19:05:11.9±1.2, 0.°7N±0.°1×121.°45E±0.°07, h113km, n10, σ1§64/10, mb3.4/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.52**	**110**	P	**Pn**	**19 05 27.1**	**-2.1**
APSI	**Ampana**	**1.57**	**173**	P	**Pn**	**19 05 38.7**	**-1.0**
MPSI	**Mapaga**	**1.58**	**258**	P	**Pn**	**19 05 40.6**	**+0.7**
LUWI	**Luwuk**	**2.14**	**142**	P	**Pn**	**19 05 48.4**	**+1.6**
PCI	**Palu**	**2.24**	**226**	P	**Pn**	**19 05 47.8**	**-0.3**
KMSI	**Cibinong**	**2.53**	**92**	P	**Sn**	**19 06 24.9**	**+2.4**
TTSI	**Tana Toraja**	**4.02**	**204**	P	**Pn**	**19 06 11.8**	**+0.2**
WRA	**Warramunga Arr**	**24.06**	**149**	P	**P**	**19 10 14.9**	**-1.9**
	0.9nm,0.5s,baz=326,slow=11,SNR=31						
ASAR	**Alice Springs**	**27.04**	**154**	P	**P**	**19 10 42.8**	**-1.0**
	0.2nm,0.5s,baz=330,slow=9.0,SNR=6.2						
MKAR	**Makanchi Array**	**57.25**	**329**	P	**P**	**19 14 48.0**	**+0.4**
	0.3nm,0.8s,baz=127,slow=7.3,SNR=3.2						

CSEM ***10*** *19:20:59.5±0.2,36.°55N×2.°33W,h2km,ML3.5/11, Error ellipse: s-maj=3.7km s-min=2.6km az=161.0*
SFS ***10*** *19:21:00.0,36.°50N×2.°30W,h0km,ML3.7*
CRAAG ***10*** *19:21:00.8,36.°55N×2.°32W,Ml3.3*
IGIL ***10*** *19:21:00.9,36.°55N×2.°32W,h0km*
MDD ***10*** *19:21:01.2±0.3,36.°56N×2.°35W,h3km±2km,mbLg3.2/25, Error ellipse: s-maj=3.4km s-min=2.2km az=167.0, PRXIMO*
INMG ***10*** *19:21:01.1±1.4,36.°56N×2.°34W,h0km,ML3.2,Error ellipse: s-maj=3.1km s-min=3.1km az=45.0*
LDG ***10*** *19:21:01.6±0.2,36.°56N×2.°34W,h2km,Ml3.3/7,Error ellipse: s-maj=3.3km s-min=2.6km az=175.0*
CNRM ***10*** *19:21:08.4,36.°46N×2.°55W,h14km,MD3.5*

ISC 10 19:21:01.0±1.1, 36.°62N±0.°02×2.°34W±0.°02, h18km±8km, n180, σ1§61/266, 4C-2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENIJ	**Nijar**	**0.37**	**17**	⇑Pg	**Pg**	**19 21 08.8**	**0.0**
	137nm,0.1s,SNR=18						
ENIJ	**Nijar**	**0.37**	**17**	Pg	**Pg**	**19 21 08.8**	**0.0**
	137nm,0.1s,SNR=18						
EBER	**Berja**	**0.52**	**303**	Pg	**Pg**	**19 21 10.6**	**-1.0**
	62nm,0.2s,SNR=176						
EBER				Lg	Lg	19 21 18.2	
	2μm,0.4s,SNR=7.9						
EBER	**Berja**	**0.52**	**303**	Pg	**Pg**	**19 21 10.6**	**-1.0**
	62nm,0.2s,SNR=176						
EBER				Lg	Lg	19 21 18.2	
	2μm,0.4s,SNR=7.9						
GORA	**Gorafe**	**1.03**	**327**	Pg	**Pb**	**19 21 20.9**	**+0.6**
	71nm,0.2s,SNR=7.9						
GORA				Lg	Lg	19 21 34.9	
	343nm,0.3s,SNR=7.9						
GORA	**Gorafe**	**1.03**	**327**	Pg	**Pb**	**19 21 20.9**	**+0.6**
	71nm,0.2s,SNR=7.9						
GORA				Lg	Lg	19 21 34.9	
	343nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**1.06**	**304**	⇓Pg	**Pb**	**19 21 21.3**	**+0.4**
	21nm,0.2s,SNR=18						
EQUE				Lg	Lg	19 21 33.3	
	166nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**1.06**	**304**	Pg	**Pb**	**19 21 21.3**	**+0.4**
	21nm,0.2s,SNR=18						
EQUE				Lg	Lg	19 21 33.3	
	166nm,0.3s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.18**	**304**	⇑Pg	**Pb**	**19 21 23.6**	**+0.6**
	79nm,0.3s,SNR=18						
ECOG				Lg	Lg	19 21 39.2	
	264nm,0.4s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.18**	**304**	Pg	**Pb**	**19 21 23.6**	**+0.6**
	79nm,0.3s,SNR=18						
ECOG				Lg	Lg	19 21 39.2	
	264nm,0.4s,SNR=7.9						
SELV	**Sierra Elvira**	**1.27**	**300**	⇓Pg	**Pb**	**19 21 25.4**	**+0.9**
	24nm,0.3s,SNR=18						
SELV				Lg	Lg	19 21 44.2	
	120nm,0.5s,SNR=7.9						
SELV	**Sierra Elvira**	**1.27**	**300**	Pg	**Pb**	**19 21 25.4**	**+0.9**
	24nm,0.3s,SNR=18						
SELV				Lg	Lg	19 21 44.2	
	120nm,0.5s,SNR=7.9						
EQES	**Quesada**	**1.32**	**334**	⇑Pg	**Pg**	**19 21 26.9**	**+0.4**
	130nm,0.5s,SNR=18						
EQES				Lg	Lg	19 21 44.8	
	48nm,0.2s,SNR=8.5						
EQES	**Quesada**	**1.32**	**334**	Pg	**Pg**	**19 21 26.9**	**+0.4**
	130nm,0.5s,SNR=18						
EQES				Lg	Lg	19 21 44.8	
	48nm,0.2s,SNR=8.5						
EMLI	**Melilla**	**1.40**	**201**	Pg	**Pn**	**19 21 25.8**	**+0.1**
	92nm,0.3s,SNR=10						
EMLI				Lg	Lg	19 21 42.2	
	296nm,0.5s,SNR=5.9						
EMEL	**Melilla**	**1.41**	**201**	Pg	**Pn**	**19 21 25.8**	**+0.1**
	92nm,0.3s,SNR=10						
EMEL				Lg	Lg	19 21 42.2	
	296nm,0.5s,SNR=5.9						
CART	**Cartagena**	**1.44**	**47**	*e*P	**Pn**	**19 21 25.2**	**-1.0**
CART				*e*S	**Sb**	**19 21 47.1**	**+1.7**
EMUR	**La Murta**	**1.51**	**35**	⇑Pn	**Pn**	**19 21 26.9**	**-0.3**
	13nm,0.5s,SNR=18						
EMUR				Pg	**Pb**	**19 21 29.2**	**+0.7**
	22nm,0.2s,SNR=7.9						
EMUR				Sn	**Sb**	**19 21 49.1**	**+1.8**
	147nm,0.5s,SNR=11						
EMUR	**La Murta**	**1.51**	**35**	Pn	**Pn**	**19 21 26.9**	**-0.3**
	13nm,0.5s,SNR=18						
EMUR	**La Murta**	**1.51**	**35**	Pg	**Pb**	**19 21 29.2**	**+0.7**
	22nm,0.2s,SNR=7.9						
EMUR				Sn	**Sb**	**19 21 49.1**	**+1.8**
	147nm,0.5s,SNR=11						
SESP	**Santiago Espad**	**1.51**	**354**	Pn	**Pb**	**19 21 28.9**	**+0.3**
	58nm,0.4s,SNR=7.9						
SESP				Sn	**Sg**	**19 21 49.3**	**-0.5**
	511nm,0.5s,SNR=7.9						
SESP	**Santiago Espad**	**1.51**	**354**	Pn	**Pb**	**19 21 28.9**	**+0.3**
	58nm,0.4s,SNR=7.9						
SESP				Sn	**Sg**	**19 21 49.3**	**-0.5**
	511nm,0.5s,SNR=7.9						
ZAI	**Zaio**	**1.68**	**191**	Pg	**Pb**	**19 21 33.0**	**+1.6**
ZAI				Lg	Lg	19 21 52.0	
ZAI	**Zaio**	**1.68**	**191**	*i* P	**Pb**	**19 21 33.0**	**+1.6**
ZAI				*i* S	**Sn**	**19 21 52.0**	**+1.4**
EMAL	**Malaga-Limoner**	**1.68**	**276**	*e*P	**Pn**	**19 21 29.1**	**-0.4**
EMAL				*e*S	**Sb**	**19 21 53.7**	**+1.4**
USTO	**Oran**	**1.70**	**121**	P	**Pn**	**19 21 30.0**	**+0.3**
USTO	**Oran**	**1.70**	**121**	Pn	**Pn**	**19 21 30.0**	**+0.3**
USTO	**Oran**	**1.70**	**121**	P	**Pn**	**19 21 30.0**	**+0.3**
EMIJ	**Mijas**	**1.96**	**269**	Pn	**Pn**	**19 21 31.5**	**-1.8**
	22nm,0.2s,SNR=55						
EMIJ				Sn	**Sn**	**19 21 54.0**	**-3.5**
	SNR=7.9						
EMIJ	**Mijas**	**1.96**	**269**	Pn	**Pn**	**19 21 31.5**	**-1.8**
	22nm,0.2s,SNR=55						
TOU	**Touzarine**	**2.01**	**215**	Pg	**Pb**	**19 21 37.0**	**-0.1**
TOU				Sn	**Sn**	**19 21 59.0**	**+0.1**
TOU	**Touzarine**	**2.01**	**215**	*e*P	**Pb**	**19 21 37.0**	**-0.1**
TOU				*e*S	**Sn**	**19 21 59.0**	**+0.1**
EVIA	**Vianos**	**2.02**	**356**	Pn	**Pn**	**19 21 35.4**	**+1.1**
	11nm,0.2s,SNR=7.9						
EVIA				Pg	**Pg**	**19 21 40.0**	**+0.1**
	788nm,0.7s,SNR=241						
EVIA				Sn	**Sb**	**19 22 04.6**	**+2.4**
	610nm,0.4s,SNR=7.9						
EVIA	**Vianos**	**2.02**	**356**	Pn	**Pn**	**19 21 35.4**	**+1.1**
	11nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**2.02**	**356**	Pg	**Pg**	**19 21 40.0**	**+0.1**
	788nm,0.7s,SNR=241						
ETOB	**Tobarra**	**2.12**	**17**	Pn	**Pn**	**19 21 36.7**	**+1.0**
	6.3nm,0.1s,SNR=62						
ETOB				Pg	**Pg**	**19 21 41.7**	**0.0**
	87nm,0.5s,SNR=7.9						
ETOB				Sn	**Sb**	**19 22 05.0**	**0.0**
	212nm,0.6s,SNR=6.6						
ETOB	**Tobarra**	**2.12**	**17**	Pn	**Pn**	**19 21 36.7**	**+1.0**
	6.3nm,0.1s,SNR=62						
ETOB	**Tobarra**	**2.12**	**17**	Pg	**Pg**	**19 21 41.7**	**0.0**
	87nm,0.5s,SNR=7.9						
ETOB				Sn	**Sb**	**19 22 05.0**	**0.0**
	212nm,0.6s,SNR=6.6						
ODJA	**Bouhanifia**	**2.19**	**125**	P	**Pn**	**19 21 38.0**	**+1.4**
ODJA	**Bouhanifia**	**2.19**	**125**	Pn	**Pn**	**19 21 38.0**	**+1.4**
ODJA	**Bouhanifia**	**2.19**	**125**	P	**Pn**	**19 21 38.0**	**+1.4**
EADA	**Adamuz**	**2.36**	**312**	Pn	**Pn**	**19 21 40.6**	**+1.7**
	0.6nm,0.2s,SNR=27						
EADA				Pg	**Pb**	**19 21 44.2**	**+1.2**
	1.5nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**19 22 08.8**	**+1.4**
	12nm,0.3s,SNR=7.9						
EADA				Lg	Lg	19 22 17.2	
	151nm,0.5s,SNR=7.9						
EADA	**Adamuz**	**2.36**	**312**	Pn	**Pn**	**19 21 40.6**	**+1.7**
	0.6nm,0.2s,SNR=27						
LIJA	**Lijar**	**2.48**	**278**	*e*P	**Pb**	**19 21 44.0**	**-1.0**
OKGL	**Djebel Kef Gue**	**2.48**	**103**	Pn	**Pn**	**19 21 41.3**	**+0.8**
	14nm,0.2s,SNR=7.9						
OKGL				Sn	**Sn**	**19 22 09.9**	**-0.4**
	SNR=7.9						
OKGL	**Djebel Kef Gue**	**2.48**	**103**	Pn	**Pn**	**19 21 41.3**	**+0.8**
	14nm,0.2s,SNR=7.9						
OKGL				Sn	**Sn**	**19 22 09.9**	**-0.4**
	SNR=7.9						
CEU	**Ceuta**	**2.55**	**255**	*e*P	**Pn**	**19 21 40.3**	**-1.2**
EBEN	**Beniarda**	**2.68**	**38**	Pn	**Pn**	**19 21 42.8**	**-0.5**
	1.4nm,0.3s,SNR=7.9						
EBEN				Pg	**Pg**	**19 21 52.0**	**-0.3**
	18nm,0.6s,SNR=7.9						
EBEN				Sn	**Sn**	**19 22 17.8**	**+2.5**
	24nm,0.5s,SNR=7.9						
EBEN	**Beniarda**	**2.68**	**38**	Pn	**Pn**	**19 21 42.8**	**-0.5**
	1.4nm,0.3s,SNR=7.9						
DKH	**Dar Kharkhour**	**2.69**	**246**	Pn	**Pb**	**19 21 47.0**	**-1.7**
DKH				Sn	**Sn**	**19 22 16.0**	**+0.2**
DKH	**Dar Kharkhour**	**2.69**	**246**	*e*S	**Sn**	**19 22 16.0**	**+0.2**
ESPR	**Espera**	**2.83**	**276**	Pn	**Pn**	**19 21 47.7**	**+2.3**
	7.6nm,0.4s,SNR=7.8						
ESPR	**Espera**	**2.83**	**276**	Pn	**Pn**	**19 21 47.7**	**+2.3**
	7.6nm,0.4s,SNR=7.8						
ECAB	**El Cabril**	**2.85**	**302**	Pn	**Pn**	**19 21 46.3**	**+0.6**
	2.8nm,0.2s,SNR=26						
ECAB				Pg	**Pg**	**19 21 54.1**	**-1.6**
	21nm,0.4s,SNR=7.9						
ECAB				Sn	**Sn**	**19 22 20.0**	**+0.4**
	2.7nm,0.1s,SNR=7.9						
ECAB				Lg	Lg	19 22 32.2	
	15nm,0.2s,SNR=7.6						
ECAB	**El Cabril**	**2.85**	**302**	Pn	**Pn**	**19 21 46.3**	**+0.6**
	2.8nm,0.2s,SNR=26						
ECAB	**El Cabril**	**2.85**	**302**	Pg	**Pg**	**19 21 54.1**	**-1.6**
	21nm,0.4s,SNR=7.9						
ECAB				Sn	**Sn**	**19 22 20.0**	**+0.4**
	2.7nm,0.1s,SNR=7.9						
ECAB				Lg	Lg	19 22 32.2	
	15nm,0.2s,SNR=7.6						
EANR	**'Ain N'Sour**	**2.86**	**102**	P	**Pn**	**19 21 43.7**	**-2.1**
EANR	**'Ain N'Sour**	**2.86**	**102**	Pn	**Pn**	**19 21 43.7**	**-2.1**
EANR	**'Ain N'Sour**	**2.86**	**102**	P	**Pn**	**19 21 43.7**	**-2.1**
EBNR	**Beni Rached**	**3.14**	**95**	P	Pg	19 22 20.0	+19
ETRT	**Tiaret**	**3.20**	**111**	P	Pg	19 22 25.0	+23
ETRT	**Tiaret**	**3.20**	**111**	Sn	**Sn**	**19 22 25.0**	**-3.2**
ESDC	**Sonseca Array**	**3.31**	**338**	Pn	**Pn**	**19 21 53.8**	**+1.8**
	12nm,1.1s,baz=153,slow=12,SNR=16						
ESDC				Pg	**Pg**	**19 22 02.9**	**-1.5**
	1.6nm,0.3s,baz=156,slow=16,SNR=7.9						
ESDC				Lg	Lg	19 22 47.4	
	53nm,0.4s,baz=155,slow=29,SNR=7.9						
ESDC	**Sonseca Array**	**3.31**	**338**	Pn	**Pn**	**19 21 53.8**	**+1.8**
	12nm,1.1s,SNR=16						
ESDC	**Sonseca Array**	**3.31**	**338**	Pg	**Pg**	**19 22 02.9**	**-1.5**
	1.6nm,0.3s,SNR=7.9						
ESDC				Lg	Lg	19 22 47.4	
	53nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.64**	**290**	Pn	**Pn**	**19 21 56.6**	**+0.1**
	4.0nm,0.4s,SNR=14						
EMIN				Pg	**Pg**	**19 22 09.4**	**-1.4**
	5.4nm,0.4s,SNR=7.9						
EMIN				Sn	**Sn**	**19 22 39.5**	**+0.5**
	6.4nm,0.3s,SNR=7.9						
EMIN				Lg	Lg	19 22 58.6	
	SNR=7.9						
EMIN	**Mina Concepcio**	**3.64**	**290**	Pn	**Pn**	**19 21 56.6**	**+0.1**
	4.0nm,0.4s,SNR=14						
EIBI	**Ibiza**	**3.78**	**49**	Pn	**Pn**	**19 21 59.0**	**+0.6**
	14nm,0.4s,SNR=25						
EIBI				Sn	**Sn**	**19 22 41.0**	**-1.4**
	39nm,0.4s,SNR=7.9						
EIBI	**Ibiza**	**3.78**	**49**	Pn	**Pn**	**19 21 59.0**	**+0.6**
	14nm,0.4s,SNR=25						
MIF	**Mishlifen**	**3.98**	**217**	Pn	**Pn**	**19 22 04.0**	**+2.6**
MIF				Sn	**Sn**	**19 22 46.0**	**-1.7**
MIF	**Mishlifen**	**3.98**	**217**	*i* S	**Sn**	**19 22 46.0**	**-1.7**
EMOS	**Mosqueruela**	**4.02**	**21**	Pn	**Pn**	**19 22 00.2**	**-1.7**
	SNR=7.9						
EMOS				Pg	**Pg**	**19 22 17.4**	**-0.6**
	22nm,0.5s,SNR=7.9						
EMOS				Lg	Lg	19 23 12.3	
	72nm,1.0s,SNR=7.9						
PBAR	**Barrancos**	**4.05**	**294**	*e*Pn	**Pn**	**19 22 03.4**	**+1.3**
PBAR				*e*Sg	**Sg**	**19 23 11.0**	**-0.1**
PBAR				A	A	19 23 34.4	
	39nm,0.7s						
PBAR	**Barrancos**	**4.05**	**294**	Pn	**Pn**	**19 22 03.4**	**+1.3**
PBAR				Lg	Lg	19 23 11.0	
	39nm,0.7s						
PBAR	**Barrancos**	**4.05**	**294**	Pn	**Pn**	**19 22 03.4**	**+1.3**
PBAR				Lg	Lg	19 23 11.0	
	39nm,0.7s						
ETOR	**Torete**	**4.20**	**3**	Pn	**Pn**	**19 22 06.2**	**+1.9**
	12nm,0.3s,SNR=9.8						
ETOR				Pg	**Pg**	**19 22 20.1**	**-1.4**
	81nm,0.4s,SNR=7.9						
ETOR				Lg	Lg	19 23 15.7	
	89nm,0.5s,SNR=5.6						
ETOR	**Torete**	**4.20**	**3**	Pn	**Pn**	**19 22 06.2**	**+1.9**
	12nm,0.3s,SNR=9.8						
CZD	**Col de Zad**	**4.21**	**213**	Pn	Pn	19 22 09.0	+4.5
CZD				Sn	**Sn**	**19 22 52.0**	**-1.4**
CZD	**Col de Zad**	**4.21**	**213**	*i* S	**Sn**	**19 22 52.0**	**-1.4**
EGRO	**El Granado**	**4.21**	**284**	Pn	**Pn**	**19 22 05.2**	**+0.9**
	3.7nm,0.3s,SNR=9.3						
EGRO				Sn	**Sn**	**19 22 51.7**	**-1.3**
	8.3nm,0.3s,SNR=7.9						
EGRO				Lg	Lg	19 23 21.5	
	25nm,0.7s,SNR=7.9						
EGRO	**El Granado**	**4.21**	**284**	Pn	**Pn**	**19 22 05.2**	**+0.9**
	3.7nm,0.3s,SNR=9.3						
EGRO				Lg	Lg	19 23 21.5	
	25nm,0.7s,SNR=7.9						
GUD	**Guadarrama**	**4.26**	**341**	Pn	**Pn**	**19 22 06.8**	**+1.6**
	3.8nm,0.5s,SNR=7.9						
GUD				Pg	**Pg**	**19 22 21.2**	**-1.4**
	10nm,0.5s,SNR=7.9						
GUD				Lg	Lg	19 23 18.4	
	73nm,0.8s,SNR=7.9						
GUD	**Guadarrama**	**4.26**	**341**	Pn	**Pn**	**19 22 06.8**	**+1.6**
	3.8nm,0.5s,SNR=7.9						
EMHD	**Djebel Mahouad**	**4.29**	**94**	P	Pg	19 22 41.9	+19
PVAQ	**Vaqueiros**	**4.37**	**282**	*e*Pn	**Pn**	**19 22 06.7**	**+0.2**
PVAQ				*e*Sn	**Sn**	**19 22 56.1**	**-0.9**
PVAQ	**Vaqueiros**	**4.37**	**282**	Pn	**Pn**	**19 22 06.7**	**+0.2**
PVAQ				Sn	**Sn**	**19 22 56.1**	**-0.9**
PVAQ	**Vaqueiros**	**4.37**	**282**	Pn	**Pn**	**19 22 06.7**	**+0.2**
PBDV	**Barranco-do-Ve**	**4.52**	**280**	*e*Pn	**Pn**	**19 22 10.1**	**+1.5**
PBDV				*e*Sn	**Sn**	**19 23 01.5**	**+0.8**
PBDV				A	A	19 23 48.0	
	17nm,0.8s						
PBDV	**Barranco-do-Ve**	**4.52**	**280**	Pn	**Pn**	**19 22 10.1**	**+1.5**
PBDV				Sn	**Sn**	**19 23 01.5**	**+0.8**
	17nm,0.8s						
PBDV	**Barranco-do-Ve**	**4.52**	**280**	Pn	**Pn**	**19 22 10.1**	**+1.5**
PBDV				Sn	**Sn**	**19 23 01.5**	**+0.8**
	17nm,0.8s						
EPLA	**Plasencia**	**4.53**	**321**	Pn	**Pn**	**19 22 10.3**	**+1.6**
	4.7nm,0.4s,SNR=15						
EPLA				Lg	Lg	19 23 24.9	
	56nm,0.7s,SNR=8.8						
EPLA	**Plasencia**	**4.53**	**321**	Pn	**Pn**	**19 22 10.3**	**+1.6**
	4.7nm,0.4s,SNR=15						
EPLA				Lg	Lg	19 23 24.9	
	56nm,0.7s,SNR=8.8						
PCVE	**Castro Verde**	**4.67**	**284**	*e*Pn	**Pn**	**19 22 11.3**	**+0.8**
PCVE				*e*Sg	**Sg**	**19 23 33.5**	**+2.8**
PCVE				A	A	19 23 35.5	
	1.7nm,0.7s						
PCVE	**Castro Verde**	**4.67**	**284**	Pn	**Pn**	**19 22 11.3**	**+0.8**
PCVE				Lg	Lg	19 23 33.5	
	1.7nm,0.7s						
PCVE	**Castro Verde**	**4.67**	**284**	Pn	**Pn**	**19 22 11.3**	**+0.8**
PCVE				Lg	Lg	19 23 33.5	
	1.7nm,0.7s						
PESTR	**Estremoz**	**4.73**	**300**	*e*Pn	**Pn**	**19 22 12.6**	**+1.2**
PESTR				*e*Sg	**Sg**	**19 23 34.0**	**+1.2**
PESTR				A	A	19 23 43.8	
	27nm,0.7s						
ERTA	**Horta de San J**	**4.81**	**25**	Pn	**Pn**	**19 22 15.3**	**+2.7**
	0.8nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**4.81**	**25**	Pn	**Pn**	**19 22 15.3**	**+2.7**
	0.8nm,0.2s,SNR=7.9						
MESJ	**Messejana**	**4.85**	**286**	*e*P	**Pn**	**19 22 13.3**	**+0.3**
MESJ	**Messejana**	**4.85**	**286**	*e*Pn	**Pn**	**19 22 13.5**	**+0.5**
MESJ				*e*Sg	**Sg**	**19 23 38.0**	**+1.4**
MESJ				A	A	19 23 48.7	
	14nm,0.6s						
MESJ	**Messejana**	**4.85**	**286**	Pn	**Pn**	**19 22 13.5**	**+0.5**
MESJ				Lg	Lg	19 23 38.0	
	14nm,0.6s						
MESJ	**Messejana**	**4.85**	**286**	Pn	**Pn**	**19 22 13.5**	**+0.5**
MESJ				Lg	Lg	19 23 38.0	
	14nm,0.6s						
PMRV	**Marv??o**	**4.88**	**307**	*e*Pn	**Pn**	**19 22 15.4**	**+1.9**
PMRV				*e*Sg	**Sg**	**19 23 33.4**	**-4.1**
PMRV				A	A	19 23 45.3	
	45nm,0.5s						
PMRV	**Marv??o**	**4.88**	**307**	Pn	**Pn**	**19 22 15.4**	**+1.9**
PMRV				Lg	Lg	19 23 33.4	
	45nm,0.5s						
PMRV	**Marv??o**	**4.88**	**307**	Pn	**Pn**	**19 22 15.4**	**+1.9**
PMRV				Lg	Lg	19 23 33.4	
	45nm,0.5s						
EVO	**Evora**	**4.89**	**295**	*e*Pn	**Pn**	**19 22 15.2**	**+1.5**
EVO				*e*Sn	**Sn**	**19 23 10.2**	**+0.3**
EVO				*e*Sg	**Sg**	**19 23 38.1**	**0.0**
	50nm,0.6s						
EVO	**Evora**	**4.89**	**295**	*e*Sn	**Sn**	**19 23 09.2**	**-0.7**
EVO				A	A	19 23 43.1	
	20nm,0.5s						
EVO	**Evora**	**4.89**	**295**	Sn	**Sn**	**19 23 09.2**	**-0.7**
	20nm,0.5s						
EVOP	**Sao Brissos**	**4.97**	**294**	*e*Pn	**Pn**	**19 22 15.2**	**+0.4**
EVOP				*e*Sg	**Sg**	**19 23 38.1**	**-2.5**
	25nm,0.6s						
MORF	**Marmelete**	**5.10**	**280**	*e*Pn	**Pn**	**19 22 17.7**	**+1.1**
MORF				*e*Sn	**Sn**	**19 23 17.2**	**+2.2**
MORF				A	A	19 24 02.3	
	9.7nm,0.7s						
MORF	**Marmelete**	**5.10**	**280**	Pn	**Pn**	**19 22 17.7**	**+1.1**
MORF				Sn	**Sn**	**19 23 17.2**	**+2.2**
	9.7nm,0.7s						
MORF	**Marmelete**	**5.10**	**280**	Pn	**Pn**	**19 22 17.7**	**+1.1**
MORF				Sn	**Sn**	**19 23 17.2**	**+2.2**
	9.7nm,0.7s						
ETOS	**Mallorca**	**5.14**	**51**	Pn	**Pn**	**19 22 18.2**	**+1.2**
	10nm,0.5s,SNR=14						
ETOS				Sn	**Sn**	**19 23 15.6**	**-0.3**
	8.7nm,0.4s,SNR=7.9						
ETOS	**Mallorca**	**5.14**	**51**	Pn	**Pn**	**19 22 18.2**	**+1.2**
	10nm,0.5s,SNR=14						
ETOS				Sn	**Sn**	**19 23 15.6**	**-0.3**
	8.7nm,0.4s,SNR=7.9						
PNCL	**Nicolau / Gran**	**5.15**	**289**	*e*Pn	**Pn**	**19 22 17.5**	**+0.3**
PCBR	**Castelo Branco**	**5.17**	**310**	*e*Pn	**Pn**	**19 22 19.3**	**+1.9**
PCBR				*e*Sn	**Sn**	**19 23 15.4**	**-1.2**
PCBR				*e*Sg	**Sg**	**19 23 47.8**	**+1.0**
PCBR				A	A	19 23 54.1	
	29nm,0.7s						
PCBR	**Castelo Branco**	**5.17**	**310**	Pn	**Pn**	**19 22 19.3**	**+1.9**
PCBR				Sn	**Sn**	**19 23 15.4**	**-1.2**
PCBR				Lg	Lg	19 23 47.8	
	14nm,0.7s						
PCBR	**Castelo Branco**	**5.17**	**310**	Pn	**Pn**	**19 22 19.3**	**+1.9**
PCBR				Lg	Lg	19 23 47.8	
	14nm,0.7s						
PTEO	**

PVIS	**Viseu**	**5.97**	**315**	*e*Pn	**Pn**	**19 22 30.3**	**+1.8**
PVIS				*e*Sg	**Sg**	**19 24 12.5**	**0.0**
PVIS				A	A	19 24 19.8	
	14nm,0.8s						
PVIS	**Viseu**	**5.97**	**315**	Pn	**Pn**	**19 22 30.3**	**+1.8**
PVIS				Lg	Lg	19 24 12.5	
	6.9nm,0.8s						
PVIS	**Viseu**	**5.97**	**315**	Pn	**Pn**	**19 22 30.3**	**+1.8**
PVIS				Lg	Lg	19 24 12.5	
	6.9nm,0.8s						
PBRG	**Braganca**	**6.21**	**328**	*e*Pn	**Pn**	**19 22 34.7**	**+3.0**
PBRG				*e*Sg	**Sg**	**19 24 20.0**	**-0.1**
PBRG	**Braganca**	**6.21**	**328**	Pn	**Pn**	**19 22 34.7**	**+3.0**
PBRG				Lg	Lg	19 24 20.0	
PBRG	**Braganca**	**6.21**	**328**	Pn	**Pn**	**19 22 34.7**	**+3.0**
PBRG				Lg	Lg	19 24 20.0	
PVRL	**Vila Real**	**6.26**	**320**	*e*Pn	**Pn**	**19 22 34.2**	**+1.7**
PVRL				*e*Sn	**Sn**	**19 23 42.5**	**-1.1**
PVRL				*e*Sg	**Sg**	**19 24 23.7**	**+1.9**
PVRL	**Vila Real**	**6.26**	**320**	Pn	**Pn**	**19 22 34.2**	**+1.7**
PVRL				Sn	**Sn**	**19 23 42.5**	**-1.1**
PVRL				Lg	Lg	19 24 23.7	
PVRL	**Vila Real**	**6.26**	**320**	Pn	**Pn**	**19 22 34.2**	**+1.7**
PVRL				Lg	Lg	19 24 23.7	
ECAL	**Calabor**	**6.32**	**329**	Pn	**Pn**	**19 22 36.3**	**+3.0**
	2.7nm,0.4s,SNR=7.9						
ECAL				Lg	Lg	19 24 22.7	
	89nm,1.1s,SNR=7.9						
ECAL	**Calabor**	**6.32**	**329**	Pn	**Pn**	**19 22 36.3**	**+3.0**
	2.7nm,0.4s,SNR=7.9						
ECAL				Lg	Lg	19 24 22.7	
	89nm,1.1s,SNR=7.9						
CFON	**Fontmartina**	**6.34**	**34**	Pn	**Pn**	**19 22 36.3**	**+2.7**
	0.8nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**6.34**	**34**	Pn	**Pn**	**19 22 36.3**	**+2.7**
	0.8nm,0.2s,SNR=7.9						
CSOR	**Sort**	**6.35**	**24**	Pn	**Pn**	**19 22 36.2**	**+2.4**
	1.1nm,0.3s,SNR=7.9						
CSOR	**Sort**	**6.35**	**24**	Pn	**Pn**	**19 22 36.2**	**+2.4**
	1.1nm,0.3s,SNR=7.9						
POLO	**Lamas de Olo**	**6.37**	**320**	*e*Pn	**Pn**	**19 22 35.8**	**+1.7**
POLO				*e*Sn	**Sn**	**19 23 45.2**	**-1.2**
POLO				*e*Sg	**Sg**	**19 24 24.9**	**-0.5**
POLO				A	A	19 24 35.4	
	12nm,0.7s						
ETSF	**Etsaut**	**6.42**	**12**	*e*Pn	**Pn**	**19 22 35.5**	**+0.8**
ETSF				*e*Sg	**Sg**	**19 24 24.5**	**-2.5**
	52nm,1.3s						
ETSF	**Etsaut**	**6.42**	**12**	Pn	**Pn**	**19 22 35.5**	**+0.8**
ETSF				Lg	Lg	19 24 24.5	
	26nm,1.3s						
ETSF	**Etsaut**	**6.42**	**12**	Pn	**Pn**	**19 22 35.5**	**+0.8**
ETSF				Lg	Lg	19 24 24.5	
	26nm,1.3s						
SJPF	**Ste Jean**	**6.54**	**7**	*e*Pn	**Pn**	**19 22 37.2**	**+0.8**
SJPF				*e*Sg	**Sg**	**19 24 28.1**	**-2.9**
	30nm,0.9s						
SJPF	**Ste Jean**	**6.54**	**7**	Pn	**Pn**	**19 22 37.2**	**+0.8**
SJPF				Lg	Lg	19 24 28.1	
	15nm,0.9s						
SJPF	**Ste Jean**	**6.54**	**7**	Pn	**Pn**	**19 22 37.2**	**+0.8**
SJPF				Lg	Lg	19 24 28.1	
	15nm,0.9s						
EALK	**Alkurruntz**	**6.63**	**5**	Pn	**Pn**	**19 22 40.1**	**+2.7**
	SNR=7.9						
EALK	**Alkurruntz**	**6.63**	**5**	Pn	**Pn**	**19 22 40.1**	**+2.7**
	SNR=7.9						
ELAN	**Lanestosa**	**6.66**	**353**	Pn	Pn	19 22 41.9	+4.0
	0.4nm,0.2s,SNR=7.9						
ELAN				Lg	Lg	19 24 32.6	
	SNR=7.9						
EPF	**Esparros**	**6.73**	**17**	*e*Pn	**Pn**	**19 22 39.9**	**+1.0**
EPF				*e*Sn	**Sn**	**19 23 53.0**	**-2.2**
	2.6nm,0.3s						
EPF	**Esparros**	**6.73**	**17**	Pn	**Pn**	**19 22 39.9**	**+1.0**
EPF				Sn	**Sn**	**19 23 53.0**	**-2.2**
	1.3nm,0.3s						
EPF	**Esparros**	**6.73**	**17**	Pn	**Pn**	**19 22 39.9**	**+1.0**
PCAB	**Cabril**	**6.74**	**321**	*e*Pn	**Pn**	**19 22 41.0**	**+2.0**
PCAB				*e*Sn	**Sn**	**19 23 51.9**	**-3.4**
PCAB				*e*Sg	**Sg**	**19 24 33.0**	**-4.1**
PCAB				A	A	19 24 44.3	
	16nm,0.6s						
PCAB	**Cabril**	**6.74**	**321**	Pn	**Pn**	**19 22 41.0**	**+2.0**
PCAB				Sn	**Sn**	**19 23 51.9**	**-3.4**
PCAB				Lg	Lg	19 24 33.0	
	8.0nm,0.6s						
PCAB	**Cabril**	**6.74**	**321**	Pn	**Pn**	**19 22 41.0**	**+2.0**
PCAB				Lg	Lg	19 24 33.0	
	8.0nm,0.6s						
ELOB	**Lobios**	**6.87**	**322**	Pn	**Pn**	**19 22 43.8**	**+2.9**
	5.1nm,0.5s,SNR=12						
ELOB				Sn	**Sn**	**19 23 55.4**	**-3.2**
	7.2nm,0.5s,SNR=7.9						
ELOB				Lg	Lg	19 24 40.4	
	64nm,1.0s,SNR=7.9						
ELOB	**Lobios**	**6.87**	**322**	Pn	**Pn**	**19 22 43.8**	**+2.9**
	5.1nm,0.5s,SNR=12						
ELOB				Lg	Lg	19 24 40.4	
	64nm,1.0s,SNR=7.9						
EARI	**Arriondas**	**7.03**	**343**	Pn	**Pn**	**19 22 45.2**	**+2.1**
	0.2nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**7.03**	**343**	Pn	**Pn**	**19 22 45.2**	**+2.1**
	0.2nm,0.1s,SNR=7.9						
PGAV	**Gavieira, Arco**	**7.05**	**321**	*e*Pn	**Pn**	**19 22 45.8**	**+2.5**
PGAV				*e*Sn	**Sn**	**19 24 02.2**	**-0.8**
PGAV				*e*Sg	**Sg**	**19 24 45.9**	**-1.1**
PGAV				A	A	19 24 55.4	
	16nm,0.8s						
MTLF	**Montolieu**	**7.57**	**26**	*e*Pn	**Pn**	**19 22 51.3**	**+0.8**
MTLF				*e*Sn	**Sn**	**19 24 13.2**	**-2.6**
	1.2nm,0.5s						
MTLF	**Montolieu**	**7.57**	**26**	Pn	**Pn**	**19 22 51.3**	**+0.8**
MTLF				Sn	**Sn**	**19 24 13.2**	**-2.6**
	0.6nm,0.5s						
MTLF	**Montolieu**	**7.57**	**26**	Pn	**Pn**	**19 22 51.3**	**+0.8**
CAF	**Calviac**	**8.95**	**21**	*e*Pn	**Pn**	**19 23 10.0**	**+0.7**
CAF				*e*Sn	**Sn**	**19 24 46.0**	**-3.6**
	1.7nm,0.3s						
CAF	**Calviac**	**8.95**	**21**	Pn	**Pn**	**19 23 10.0**	**+0.7**
CAF				Sn	**Sn**	**19 24 46.0**	**-3.6**
	0.9nm,0.3s						
CAF	**Calviac**	**8.95**	**21**	Pn	**Pn**	**19 23 10.0**	**+0.7**

*THE **10** 19:25:40.2,34°.70N×23°.85E, h6km±2km, ML2.8/2, Error ellipse: s-maj=3.2km s-min=1.0km az=17.0*
*ATH **10** 19:25:41.0, 34°.82N×23°.89E, h3km±2km, MD3.6/1.1*
*CSEM **10** 19:25:41.5±0.9, 34°.83N×23°.88E, h2km, MD3.6, Error ellipse: s-maj=20.5km s-min=7.2km az=22.0*

ISC 10 19:25:41.6±1.3, 34°.86N±0°.07×23°.89E±0°.04, h9km±7km, n43, σ1§25/60, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.16**	**97**	*e*PG	**Pg**	**19 25 44.8**	**-0.3**
GVD				*e*SG	**Sg**	**19 25 47.2**	**-0.3**
GVD	**Gavdhos**	**0.16**	**97**	P	**Pg**	**19 25 44.8**	**-0.3**
GVD				*e*Sg	**Sg**	**19 25 47.2**	**-0.3**
GVD				S	**Sg**	**19 25 48.9**	**+1.4**
GVD	**Gavdhos**	**0.16**	**97**	P	**Pg**	**19 25 44.8**	**-0.3**
GVD				S	**Sg**	**19 25 48.9**	**+1.4**
VAM	**Vamos**	**0.60**	**25**	*e*PG	**Pg**	**19 25 53.6**	**+0.3**
VAM				*e*SG	**Sb**	**19 26 03.1**	**+0.2**
VAM	**Vamos**	**0.60**	**25**	*e*Pg	**Pg**	**19 25 53.6**	**+0.3**
VAM				*e*Sg	**Sb**	**19 26 03.1**	**+0.2**
SIVA	**Sivas**	**0.77**	**78**	*e*PB	**Pg**	**19 25 56.1**	**-0.4**
SIVA				*e*SG	**Sg**	**19 26 06.5**	**0.0**
SIVA	**Sivas**	**0.77**	**78**	P	**Pg**	**19 25 56.1**	**-0.4**
SIVA				*e*Sg	**Sg**	**19 26 06.5**	**0.0**
SIVA				S	**Sn**	**19 26 09.2**	**-1.1**
SIVA	**Sivas**	**0.77**	**78**	P	**Pg**	**19 25 56.1**	**-0.4**
SIVA				S	**Sn**	**19 26 09.2**	**-1.1**
ANKY	**Antikythira Is**	**1.11**	**334**	*e*PG	**Pb**	**19 26 02.4**	**-0.7**
ANKY				*e*SB	**Sn**	**19 26 18.4**	**-0.5**
ANKY	**Antikythira Is**	**1.11**	**334**	*e*Pg	**Pb**	**19 26 02.4**	**-0.7**
ANKY				*e*Sb	**Sn**	**19 26 18.4**	**-0.5**
ANKY				S	**Sn**	**19 26 20.4**	**+1.5**
ANKY	**Antikythira Is**	**1.11**	**334**	P	**Pb**	**19 26 02.2**	**-0.9**
ANKY				S	**Sn**	**19 26 20.4**	**+1.5**
LAST	**Lasithi**	**1.34**	**77**	*e*PB	**Pn**	**19 26 06.3**	**-0.2**
LAST				*e*SB	**Sn**	**19 26 24.8**	**+0.3**
LAST	**Lasithi**	**1.34**	**77**	P	**Pn**	**19 26 05.5**	**-1.0**
LAST	**Lasithi**	**1.34**	**77**	*e*Pb	**Pn**	**19 26 06.3**	**-0.2**
LAST				S	**Sn**	**19 26 24.7**	**+0.3**
LAST	**Lasithi**	**1.34**	**77**	P	**Pn**	**19 26 05.5**	**-1.0**
LAST				S	**Sn**	**19 26 24.7**	**+0.3**
NPS	**Neapolis**	**1.47**	**74**	*e*PN	**Pb**	**19 26 08.7**	**-0.4**
NPS	**Neapolis**	**1.47**	**74**	*e*Pn	**Pb**	**19 26 08.7**	**-0.4**
KYTH	**Kithira**	**1.58**	**334**	*e*PG	**Pb**	**19 26 11.1**	**+0.1**
KYTH	**Kithira**	**1.58**	**334**	P	**Pb**	**19 26 10.5**	**-0.5**
KYTH	**Kithira**	**1.58**	**334**	*e*Pg	**Pb**	**19 26 11.1**	**+0.1**
KYTH	**Kithira**	**1.58**	**334**	P	**Pb**	**19 26 10.5**	**-0.5**
MHLO	**Agia Marina, M**	**1.87**	**13**	*e*PN	**Pg**	**19 26 17.2**	**-0.3**
MHLO	**Agia Marina, M**	**1.87**	**13**	*e*Pn	**Pg**	**19 26 17.2**	**-0.3**
VLI	**Veliai**	**2.01**	**338**	*e*PN	**Pb**	**19 26 18.6**	**+0.3**
VLI	**Veliai**	**2.01**	**338**	P	**Pb**	**19 26 18.2**	**-0.1**
VLI	**Veliai**	**2.01**	**338**	*e*Pn	**Pb**	**19 26 18.6**	**+0.3**
VLI				S	**Sb**	**19 26 43.1**	**-0.4**
VLI	**Veliai**	**2.01**	**338**	P	**Pb**	**19 26 18.2**	**-0.1**
VLI				S	**Sb**	**19 26 43.1**	**-0.4**
APE	**Apeiranthos**	**2.57**	**31**	*e*PB	**Pb**	**19 26 26.2**	**-1.8**
APE	**Apeiranthos**	**2.57**	**31**	*e*Pb	**Pb**	**19 26 26.2**	**-1.8**
PYL	**PYLOS**	**2.68**	**320**	*e*PB	**Pb**	**19 26 28.4**	**-1.3**
PYL	**PYLOS**	**2.68**	**320**	*e*Pb	**Pb**	**19 26 28.4**	**-1.3**
DID	**Didima**	**2.69**	**349**	*e*PN	**Pb**	**19 26 27.5**	**-2.5**
DID	**Didima**	**2.69**	**349**	*e*Pn	**Pb**	**19 26 27.5**	**-2.5**
KARP	**Karpathos**	**2.76**	**75**	*e*PN	**Pn**	**19 26 28.5**	**+2.4**
KARP	**Karpathos**	**2.76**	**75**	*e*Pn	**Pn**	**19 26 28.5**	**+2.4**
VLX	**Vlachokerasia**	**2.79**	**334**	*e*PN	**Pb**	**19 26 29.5**	**-2.2**
VLX	**Vlachokerasia**	**2.79**	**334**	*e*Pn	**Pb**	**19 26 29.5**	**-2.2**
ITM	**Ithomi**	**2.81**	**326**	*e*PB	**Pb**	**19 26 30.0**	**-2.0**
ITM	**Ithomi**	**2.81**	**326**	*e*Pb	**Pb**	**19 26 30.0**	**-2.0**
GUR	**Goura**	**3.31**	**338**	*e*PN	Pn	19 26 36.8	+3.0
GUR	**Goura**	**3.31**	**338**	*e*Pn	Pn	19 26 36.8	+3.0
ARG	**Arkhangelos**	**3.71**	**67**	*e*PN	**Pn**	**19 26 42.0**	**+2.9**
ARG	**Arkhangelos**	**3.71**	**67**	*e*Pn	**Pn**	**19 26 42.0**	**+2.9**

*IDC **10** 19:31:25.3±4.8, 7°.66S×127°.29E, h133km±51km, mb3.3/5, mb1 3.6/8, mb1mx3.4/29, mbtmp3.9/8, Error ellipse: s-maj=53.5km s-min=16.2km az=76.0*
*ISCJB **10** 19:31:26.1±0.6, 7°.64S±0°.05×127°.4E±0°.1, h162km, mb3.5/5, Error ellipse: s-maj=14.9km s-min=7.3km az=178.2*

ISC 10 19:31:28.3±0.8, 7°.62S±0°.08×127°.6E±0°.1, h162km, n13, σ1§38/14, mb3.4/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**3.94**	**237**	P	**Pn**	**19 32 29.8**	**+1.6**
	baz=3.5,SNR=4.5						
KDU	**Kakadu**	**6.93**	**137**	P	**Pn**	**19 33 07.4**	**-0.1**
	baz=6.3,SNR=82						
SIJI	**Sorong**	**7.62**	**29**	P	**Pn**	**19 33 16.9**	**+0.2**
	1.2nm,0.3s,baz=194,slow=20,SNR=16						
SIJI				S	**Sn**	**19 34 43.6**	**+1.5**
	0.3nm,0.3s,baz=253,slow=19,SNR=3.6						
KNRA	**Kununurra**	**8.08**	**172**	P	**Pn**	**19 33 21.5**	**-1.3**
	baz=7.2,SNR=41						
WRA	**Warramunga Arr**	**13.87**	**153**	P	**Pn**	**19 34 36.0**	**-2.1**
	1.1nm,0.3s,baz=334,slow=9.4,SNR=45						
WRA				S	Sn	19 36 59.8	-12
	2.0nm,0.3s,baz=322,slow=25,SNR=13						
ASAR	**Alice Springs**	**17.05**	**160**	P	**Pn**	**19 35 16.9**	**-0.3**
	1.8nm,0.3s,baz=339,slow=11,SNR=235						
ASAR				S	S	19 38 13.9	-12
	0.2nm,0.3s,baz=331,slow=17,SNR=3.7						
QIS	**Mount Isa**	**17.31**	**139**	P	**Pn**	**19 35 22.0**	**+1.7**
	baz=17,SNR=4.4						
WRKA	**Wararrunga**	**17.33**	**178**	P	**Pn**	**19 35 20.7**	**+0.2**
	baz=16,SNR=11						
STKA	**Stephens Creek**	**27.42**	**154**	P	**P**	**19 37 00.2**	**+1.3**
	4.5nm,1.0s,baz=330,slow=9.9,SNR=5.2						
CMAR	**Chiang Mai Arr**	**38.37**	**313**	P	**P**	**19 38 32.4**	**-1.6**
	0.6nm,0.8s,baz=131,slow=6.9,SNR=4.9						
SONM	**Songino Array**	**58.32**	**343**	P	**P**	**19 41 06.4**	**+0.1**
	0.1nm,0.4s,baz=152,slow=6.5,SNR=3.1						
MKAR	**Makanchi Array**	**67.48**	**328**	P	**P**	**19 42 05.2**	**-1.6**
	0.4nm,0.6s,baz=113,slow=8.2,SNR=5.2						
ZALV	**Zelesovo Beam**	**71.12**	**335**	P	**P**	**19 42 28.1**	**-0.8**
	0.7nm,0.5s,baz=124,slow=6.3,SNR=3.7						

SJA 10 19:45:40.7±1.1, 31°.87S×67°.18W, h103km±9km, ML3.7, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACHE	**Chepes**	**0.83**	**32**	*i* P	Pn	19 46 01.5	+1.7
ACHE				*i* S	Sn	19 46 15.5	+1.4
CFAA	**Coronel Fontan**	**0.94**	**286**	*i* P	Pn	19 46 02.1	+1.4
CFAA				*i* P	Pn	19 46 02.1	+1.4
CFAA				*i* S	Sn	19 46 16.9	+1.0
RTCV	**Cerro Valdivia**	**1.16**	**270**	*i* P	Pn	19 46 04.7	+1.5
RTCV				*i* S	Sn	19 46 21.1	+0.9
AVFE	**Valle Fertil**	**1.23**	**349**	*i* P	Pn	19 46 05.2	+1.2
AVFE				*i* S	Sn	19 46 23.2	+1.6
AVFE				AML	AML	19 46 24.7	
	comp=Z,1μm,0.5s						
RTLL	**Cerro Villicun**	**1.23**	**296**	*i* P	Pn	19 46 05.2	+1.2
RTLL				*i* S	Sn	19 46 22.3	+0.7
AMOG	**MOGNA**	**1.46**	**309**	*i* P	Pn	19 46 07.7	+0.9
AMOG				*i* S	Sn	19 46 27.7	+1.2
APLL	**PUNTA DE LOS L**	**1.57**	**21**	*i* P	Pn	19 46 09.0	+0.9
APLL				*i* S	Sn	19 46 30.2	+1.3
ASAL	**Salagasta**	**1.58**	**242**	*i* P	Pn	19 46 09.8	+1.6
ASAL				*i* S	Sn	19 46 30.3	+1.2
ARCO	**CERRO ARCO**	**1.77**	**236**	*i* P	Pn	19 46 12.3	+1.6
ARCO				AML	AML	19 46 40.5	
	comp=Z,523nm,0.2s						
RTLS	**Leoncito**	**1.81**	**272**	*i* P	Pn	19 46 12.5	+1.3
RTLS				*i* S	Sn	19 46 35.7	+1.2
AAGR	**Agrelo**	**1.85**	**229**	*i* P	Pn	19 46 13.2	+1.6
AAGR				*i* S	Sn	19 46 36.4	+1.3
AUSP	**Uspallata**	**1.91**	**259**	*i* P	Pn	19 46 13.9	+1.2
AUSP				*i* S	Sn	19 46 38.5	+1.6
TCA	**Tanti**	**2.27**	**77**	*i* P	Pn	19 46 17.6	+0.7
TCA				*i* S	Sn	19 46 45.2	+0.5

*DDA **10** 19:53:07.2, 37°.62N×35°.94E, h7km, MD2.6*

ISC 10 19:53:07.2±1.4, 37°.5N±0°.2×35°.97E±0°.05, h15km, n4, σ0§93/7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.12**	**270**	*e*PG	**Pg**	**19 53 10.6**	**-0.2**
KOZT				*e*SG	**Sg**	**19 53 12.9**	**-0.1**
ANDN	**Andirin**	**0.31**	**71**	*i* P	**Pg**	**19 53 13.8**	**+0.1**
ANDN				*i* S	**Sg**	**19 53 18.8**	**+0.5**
KMRS	**Kahramanmaras**	**0.74**	**88**	*e*PG	**Pg**	**19 53 19.9**	**-1.6**
HCB	**Kahramanmara¯**	**0.76**	**100**	*i* P	**Pg**	**19 53 22.1**	**+0.2**
HCB				*i* S	**Sn**	**19 53 35.3**	**+0.7**

*BJI **10** 20:02:11.5, 4°.48S×140°.69E, h95km, mb4.7/19, mB4.9/10*
*ISCJB **10** 20:02:20.9±0.3, 3°.37S±0°.03×139°.93E±0°.03, h100km, mb4.3/24, Error ellipse: s-maj=4.7km s-min=3.9km az=161.7*
*NEIC **10** 20:02:21.9±0.6, 3°.23S×139°.97E, h110km±6km, mb4.8/15, Error ellipse: s-maj=6.8km s-min=5.0km az=64.0*
*IDC **10** 20:02:21.9±0.8, 3°.25S×139°.96E, h109km±8km, mb3.8/15, mb1 4.0/18, mb1mx3.9/24, mbtmp4.2/18, MS3.2/6, Ms1 3.2/6, ms1mx2.9/25, Error ellipse: s-maj=16.7km s-min=11.0km az=80.0*
*DJA **10** 20:02:24.1±0.3, 3°.S±6°×14°.0E±°, h77km±9km, M4.7/14, mb4.7/14, mB4.9/3, ML4.8/4, Mw(mB)4.2/3*

ISC 10 20:02:22.0±0.3, 3°.33S±0°.04×139°.95E±0°.04, h100km, n109, σ1§56/114, mb4.2/24, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.76**	**16**	P	**Pn**	**20 02 41.4**	**+1.4**
GENI				S	**Sn**	**20 02 55.6**	**+2.1**
JAY	**Jayapura**	**1.10**	**43**	P	**Pn**	**20 02 44.6**	**+1.0**
JAY	**Jayapura**	**1.10**	**43**	P	**Pn**	**20 02 43.7**	**0.0**
	148nm,0.3s,baz=158,slow=8.7,SNR=714						
JAY				LR	LR	20 02 59.8	
	comp=Z,376nm,19.1s,baz=248,slow=36						
JAY				S	**Sn**	**20 03 00.0**	**+0.1**
	302nm,0.3s,baz=285,slow=20,SNR=16						
JAY	**Jayapura**	**1.10**	**43**	P	**Pn**	**20 02 43.6**	**0.0**
	baz=1.2,SNR=487						
JAY	**Jayapura**	**1.10**	**43**	P	**Pn**	**20 02 43.7**	**0.0**
JAY					S	**Sn**	**20 03 00.0**	**+0.1**
SMPI	**Sarmi**	**1.82**	**317**		P	**Pn**	**20 02 54.2**	**+2.0**
SRPI	**Serui, Papua**	**3.98**	**291**		P	**Pn**	**20 03 22.5**	**+1.6**
BAKI	**Biak**	**4.39**	**299**		P	Pn	20 03 31.0	+4.5
RKPI	**Ransiki, Papua**	**6.05**	**287**		P	**Pn**	**20 03 50.0**	**+1.1**
	74nm,0.7s,1μm							
FAKI	**Fak Fak**	**7.70**	**273**		P	**Pn**	**20 04 13.0**	**+1.5**
	40nm,2.0s							
FAKI	**Fak Fak**	**7.70**	**273**		P	**Pn**	**20 04 12.9**	**+1.4**
	baz=7.7,SNR=6.0							
FAKI	**Fak Fak**	**7.70**	**273**	*e*Pn		**Pn**	**20 04 12.6**	**+1.2**
FAKI				*e*Sn		**Sn**	**20 05 36.6**	**-0.6**
SIJI	**Sorong**	**9.02**	**286**	P		**Pn**	**20 04 29.4**	**0.0**
	0.8nm,0.3s,baz=197,slow=20,SNR=7.3							
SIJI				S		**Sn**	**20 06 05.7**	**-3.6**
	0.6nm,0.3s,baz=108,slow=19,SNR=4.5							
SWI	**Sorong**	**9.03**	**286**	P		**Pn**	**20 04 32.0**	**+2.5**
	25nm,0.7s,475nm							
SWI	**Sorong**	**9.03**	**286**	P		**Pn**	**20 04 32.1**	**+2.6**
	baz=9.0,SNR=4.4							
PMG	**Port Moresby**	**9.37**	**130**	P		**Pn**	**20 04 35.7**	**+1.7**
	baz=9.3,SNR=9.0							
PMG				P		**Pn**	**20 04 35.7**	**+1.7**
	baz=9.3,SNR=9.0							
PMG				P		**Pn**	**20 04 35.7**	**+1.7**
	baz=9.3,SNR=9.0							
PMG	**Port Moresby**	**9.37**	**130**	*e*Pn		**Pn**	**20 04 35.6**	**+1.5**
PMG				*e*Sn		Sn	20 06 07.6	-10
SAUI	**Saumlaki**	**9.77**	**241**	*e*Pn		**Pn**	**20 04 38.5**	**-1.2**
COEN	**Coen**	**11.03**	**163**	P		**Pn**	**20 04 56.6**	**-0.1**
	baz=11,SNR=34							
COEN	**Coen**	**11.03**	**163**	*e*Pn		**Pn**	**20 04 56.2**	**-0.5**
COEN				*e*Sn		Sn	20 06 50.8	-7.4
KDU	**Kakadu**	**11.88**	**218**	P		**Pn**	**20 05 06.8**	**-1.4**
	baz=12,SNR=186							
PALU	**Palau**	**11.93**	**333**	P		**Pn**	**20 05 10.6**	**+1.8**
	baz=12,SNR=5.8							
MTSU	**Mount Surprise**	**15.32**	**164**	P		**Pn**	**20 05 53.0**	**+0.2**
	baz=15,SNR=37							
KNRA	**Kununurra**	**16.49**	**221**	P		**Pn**	**20 06 07.9**	**+0.5**
	baz=16,SNR=34							
SOEI	**Soe**	**16.83**	**247**	P		**P**	**20 06 14.3**	**+2.0**
	82nm,1.2s							
SOEI	**Soe**	**16.83**	**247**	P		**P**	**20 06 14.1**	**+1.8**
	baz=17,SNR=4.5							
SOEI	**Soe**	**16.83**	**247**	*e*Pn		**P**	**20 06 13.5**	**+1.3**
	65nm,0.9s							
SOEI				*e*Sn		Sn	20 09 13.1	-5.8
QIS	**Mount Isa**	**17.13**	**181**	P		**Pn**	**20 06 13.6**	**-1.6**
	baz=17,SNR=26							
LUWI	**Luwuk**	**17.32**	**277**	P		**Pn**	**20 06 18.8**	**+1.2**
	37nm,1.0s							
LUWI	**Luwuk**	**17.32**	**277**	*e*Pn		**Pn**	**20 06 18.0**	**+0.4**
	29nm,0.9s							
WRAB	**Tennant Creek**	**17.38**	**198**	*e*Pn		**P**	**20 06 17.5**	**-0.7**
	56nm,0.8s							
WRAB				*e*Sn		Sn	20 09 17.2	-15
WRA	**Warramunga Arr**	**17.40**	**198**	P		**P**	**20 06 18.5**	**+0.1**
	2.7nm,0.3s,baz=14,slow=12,SNR=200							
WRA				S		Sn	20 09 17.2	-15
	1.4nm,0.3s,baz=9.0,slow=22,SNR=4.6							
GUMO	**Guam**	**17.50**	**16**	LR		LR	20 13 34.7	
	comp=Z,36nm,18.2s,baz=193,slow=39							
CTA	**Charters Tower**	**17.75**	**160**	P		**P**	**20 06 22.9**	**+0.6**
	1.2nm,0.3s,baz=338,slow=12,SNR=14							
CTAO	**Charters Tower**	**17.75**	**160**	*e*P		**P**	**20 06 22.5**	**+0.2**
MRSI	**Marisa**	**18.39**	**282**	P		**Pn**	**20 06 30.9**	**+0.3**
	24nm,0.6s							
APSI	**Ampana**	**18.45**	**277**	P		**Pn**	**20 06 31.8**	**+0.6**
	60nm,1.0s							
KAPI	**Kappang**	**20.21**	**265**	P		**P**	**20 06 49.6**	**+0.4**
	4.9nm,0.8s,baz=141,slow=13,SNR=2.3							
PCI	**Palu**	**20.24**	**276**	P		Pn	20 06 54.5	+2.2
	42nm,1.0s,653nm							
MPSI	**Mapaga**	**20.37**	**280**	P		Pn	20 06 54.1	+0.3
HNR	**Honiara**	**20.77**	**108**	*e*P		**P**	**20 06 53.9**	**-1.2**
	136nm,0.8s							
AS01	**Alice Springs**	**21.03**	**195**	*e*P		**P**	**20 06 57.5**	**-0.4**
ASAR	**Alice Springs**	**21.05**	**196**	P		**P**	**20 06 57.9**	**-0.2**
	13nm,0.8s,baz=24,slow=11,SNR=144							
ASAR				S		S	20 10 41.2	-5.7
	6.1nm,0.7s,baz=20,slow=21,SNR=6.8							
MYLDM	**Lahad Datu**	**23

WHN	**Wuhan**	**41.62**	**326**	P	P	20 10 03.1	+2.7
KSAR	**Wonju Array Be**	**42.09**	**346**	P	**P**	**20 10 02.8**	**-1.2**
KSRS	**Korea Array**	**42.09**	**346**	P	**P**	**20 10 02.8**	**-1.2**
	1.5nm,0.7s,baz=158,slow=8.6,SNR=5.3						
KSRS				LR	LR	20 28 23.0	
	comp=Z,17nm,18.3s,baz=0.0,slow=37						
GYA	**Guiyang**	**43.73**	**315**	*e*P	P	20 10 22.0	+4.3
GYA				pP	pP	20 10 44.8	+3.6
GYA				sP	sP	20 10 55.6	+3.1
GYA				PP	**PcP**	**20 12 06.2**	**+3.1**
GYA				S	**S**	**20 16 45.5**	**+4.6**
GYA				PMZ			
	10.0nm,1.0s						
ENH	**Enshi**	**44.32**	**321**	P	**P**	**20 10 20.8**	**-1.4**
CM01	**Chiang Mai Arr**	**45.79**	**300**	*e*P	**P**	**20 10 33.0**	**-1.1**
CMAR	**Chiang Mai Arr**	**45.82**	**300**	P	**P**	**20 10 33.3**	**-1.0**
	1.3nm,0.9s,baz=134,slow=5.2,SNR=7.8						
KMI	**Kunming**	**45.86**	**310**	P	**P**	**20 10 34.9**	**+0.1**
KMI				PMZ			
	5.0nm,1.0s						
CHTO	**Chiang Mai**	**45.96**	**300**	P	**P**	**20 10 34.1**	**-1.4**
	2.4nm,1.0s						
XAN	**Xi'an**	**47.30**	**324**	P	P	20 10 49.4	+3.8
XAN				PMZ			
	3.0nm,1.0s						
USRK	**Ussuriysk Ar.**	**47.85**	**352**	P	**P**	**20 10 49.1**	**-0.5**
	1.6nm,0.7s,baz=168,slow=8.1,SNR=4.4						
CD2	**Chengdu**	**48.47**	**317**	P	**P**	**20 10 57.2**	**+2.4**
CD2				pP	**pP**	**20 11 19.9**	**+1.3**
CD2				sP	**sP**	**20 11 30.8**	**+1.0**
CD2				PP	**PP**	**20 12 51.0**	**+2.5**
CD2				S	**S**	**20 17 52.7**	**+4.2**
CD2				SS	**SS**	**20 21 25.6**	**+5.8**
CD2				PMZ			
	20nm,0.5s						
CD2				PMZ			
	110nm,5.5s						
CD2				LN			
	170nm,6.3s						
CD2				LZ			
	170nm,6.3s						
RPZ	**Rata Peaks**	**48.73**	**150**	P	**P**	**20 10 54.9**	**-1.6**
	23nm,0.9s,baz=278,slow=3.8,SNR=7.3						
YSS	**Yuzh-Sakhalins**	**50.13**	**3**	*e*P	**P**	**20 11 05.6**	**-1.4**
	9.2nm,0.7s						
HHC	**Hu-ho-hao-te**	**51.05**	**332**	*e*P	P	20 11 19.2	+5.0
HHC				pP	pP	20 11 42.6	+4.4
HHC				sP	sP	20 11 54.0	+4.6
HHC				PP	PP	20 13 18.5	+6.7
HHC				S	S	20 18 29.6	+5.4
HHC				sS	sS	20 19 10.7	+5.3
HHC				ScS	**ScS**	**20 20 55.6**	**+0.4**
HHC				PMZ			
	8.0nm,0.7s						
HHC				PMZ			
	61nm,6.2s						
HHC				LN			
	75nm,17.1s						
HHC				LE			
	84nm,16.7s						
HHC				LZ			
	53nm,18.8s						
GTA	**Gaotai**	**56.30**	**323**	*e*P	**P**	**20 11 52.4**	**-0.2**
GTA				pP	**pP**	**20 12 16.2**	**-0.8**
GTA				sP	**sP**	**20 12 27.7**	**-0.4**
GTA				PMZ			
	4.0nm,1.0s						
SONM	**Songino Array**	**58.81**	**334**	P	**P**	**20 12 08.6**	**-1.5**
	0.3nm,0.7s,baz=136,slow=9.3,SNR=2.6						
CASY	**Casey**	**66.14**	**193**	*e*P	**P**	**20 12 57.5**	**-0.7**
	6.4nm,1.1s						
WMQ	**Urumqi**	**66.26**	**321**	P	P	20 13 03.2	+3.5
WMQ				pP	**PcP**	**20 13 28.2**	**-0.8**
WMQ				sP	sP	20 13 38.2	+2.5
WMQ				PMZ			
	9.0nm,1.2s						
WMQ				PMZ			
	76nm,4.0s						
WMQ				LN			
	22nm,14.0s						
WMQ				LZ			
	18nm,24.8s						
MK31	**Makanchi Array**	**71.03**	**322**	P	**P**	**20 13 28.0**	**-1.2**
MKAR	**Makanchi Array**	**71.03**	**322**	P	**P**	**20 13 27.1**	**-2.1**
	0.9nm,0.8s,baz=97,slow=9.6,SNR=7.2						
ZALV	**Zalesovo Beam**	**73.09**	**330**	P	**P**	**20 13 39.2**	**-2.0**
	0.4nm,0.5s,baz=114,slow=6.5,SNR=2.4						
KURK	**Kurchatov**	**74.93**	**325**	*e*P	**P**	**20 13 50.5**	**-1.5**
	3.1nm,1.1s						
VNDA	**Vanda**	**75.06**	**175**	P	**P**	**20 13 51.5**	**-0.9**
	3.1nm,0.8s,baz=319,slow=5.6,SNR=14						
VNDA				LR	LR	20 48 00.4	
	comp=Z,38nm,18.5s,baz=318,slow=36						
ILAR	**Eielson Array**	**85.88**	**24**	P	**P**	**20 14 48.0**	**-2.3**
	1.0nm,0.8s,baz=254,slow=4.6,SNR=8.4						
LPAZ	**La Paz**	**146.09**	**126**	PKPbc	**PKPbc**	**20 21 52.1**	**-0.1**
	3.9nm,0.8s,baz=236,slow=2.5,SNR=16						
CPUP	**Villa Florida**	**146.10**	**151**	PKPbc	**PKPdf**	**20 21 50.5**	**+0.3**
	1.5nm,0.9s,baz=123,slow=1.2,SNR=3.4						
SDV	**Santo Domingo**	**149.10**	**78**	*e*PKPbc	**PKPbc**	**20 21 58.0**	**-2.1**

ARO **10** *20:03:36.2,* 15˚N±107˚×4˚3E±10˚0, *h15*km±*99*km, *ML3.6*
CSEM **10** *20:03:44.5,* 14˚.30N×43˚.63E, *h19*km, *ML3.5*
DHMR **10** *20:03:44.5*±*0.9,* 14˚.30N×43˚.63E, *h19*km±*4*km, *ML3.5*

ISC 10 20:03:43.6±2.0, **14˚.28N**±0˚.05×**43˚.60E**±0˚.06, **h13**km±20km, **n13**, σ0°**66**/22, **5C-2D**, **Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHBB	**Dhamar BB**	**0.82**	**70**	⇑*i*P	**Pb**	**20 03 59.7**	**-0.3**
DHBB				*i* S	**Sb**	**20 04 11.0**	**-0.1**
DHBB				AML	AML	20 04 17.2	
	comp=N,2μm,0.8s						
DHBB	**Dhamar BB**	**0.82**	**70**	⇑*i*P	**Pb**	**20 03 59.7**	**-0.3**
DHBB				*i* S	**Sb**	**20 04 11.0**	**-0.1**
SANA	**San'a**	**1.25**	**28**	*i* P	**Pn**	**20 04 07.0**	**-0.1**
SANA				*i* S	**Sg**	**20 04 24.1**	**+0.2**
SANA				AML	AML	20 04 32.1	
	comp=N,685nm,0.6s						
HAJJ	**Hajjah**	**1.41**	**0**	⇓*i*P	**Pn**	**20 04 09.1**	**-0.1**
HAJJ				*i* S	**Sg**	**20 04 29.3**	**+0.2**
HAJJ				AML	AML	20 04 31.2	
	comp=E,674nm,0.5s						
HAJJ	**Hajjah**	**1.41**	**0**	⇓*i*P	**Pn**	**20 04 09.1**	**-0.1**
HAJJ				*i* S	**Sg**	**20 04 29.3**	**+0.2**
LBOS		**1.66**	**104**	⇑*i*P	**Pn**	**20 04 13.0**	**+0.3**
LBOS				*i* S	**Sb**	**20 04 35.8**	**+0.7**
BDHA	**Al Bayda'**	**1.94**	**99**	⇑*i*P	**Pb**	**20 04 18.3**	**-0.7**
BDHA				*i* S	**Sb**	**20 04 43.7**	**+0.5**
BDHA				AML	AML	20 04 47.8	
	comp=N,923nm,0.4s						
BDHA	**Al Bayda'**	**1.94**	**99**	⇑*i*P	**Pb**	**20 04 18.3**	**-0.7**
BDHA				*i* S	**Sb**	**20 04 43.7**	**+0.5**
OBO	**Obock**	**2.30**	**187**	*e*P	**Pn**	**20 04 20.3**	**-1.0**
TDD	**Tadjoura Ara**	**2.55**	**195**	*e*P	**Pn**	**20 04 23.8**	**-1.0**
MCAD	**Moucha**	**2.56**	**188**	*e*P	**Pn**	**20 04 24.6**	**-0.3**
ATD	**Arta Tunnel**	**2.83**	**195**	*e*P	**Pn**	**20 04 28.1**	**-0.6**
ATD				*e*S	**Sb**	**20 05 10.4**	**+1.6**
ATA	**Atar**	**2.84**	**188**	*e*P	**Pn**	**20 04 29.4**	**+0.8**

MEX 10 20:03:52.4±0.5, **15˚.38N**×**94˚.62W**, **h20**km, **MD4.1**, **Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.39**	**76**	*e*P	Pn	20 04 13.4	-3.3
PCIG				*i* S	Sn	20 04 30.7	-3.9
TGIG		**2.01**	**46**	*e*P	Pn	20 04 22.4	-2.9
TGIG				*i* S	Sn	20 04 45.9	-4.0
CCIG	**Comitan**	**2.56**	**69**	*e*P	Pn	20 04 30.8	-2.2
CCIG				*i* S	Sn	20 04 59.8	-3.9

ISCJB **10** *20:19:49.2*±*1.1,* 32˚.81N±0˚.10×142˚.4E±0˚.2, *h31*km, *mb3.6/3, Error ellipse: s-maj=29.1km s-min=7.4km az=155.7*
JMA **10** *20:19:49.7*±*0.5,* 32˚.92N×142˚.54E, *h40*km, *M3.4*
IDC **10** *20:19:52.6*±*3.1,* 32˚.23N×140˚.89E, *h0*km, *mb3.5/3, mb1 3.5/5, mb1mx3.3/27, mbtmp3.5/5, ML3.5/2, Error ellipse: s-maj=119.4km s-min=19.6km az=69.0*

ISC 10 20:19:49.4±1.5, **32˚.82N**±0˚.08×**142˚.6E**±0˚.2, **h31**km, **n15**, σ2°**04**/19, **mb3.6/3**, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.27**	**324**	P	**Pn**	**20 20 24.3**	**0.0**
BSO1				S	**Sn**	**20 20 49.8**	**-1.2**
BSO3	**Boso 3**	**2.63**	**319**	P	**Pn**	**20 20 30.0**	**+0.5**
BSO4	**Boso 4**	**2.87**	**320**	P	**Pn**	**20 20 34.1**	**+1.2**
JOD2	**Odawara 2**	**3.80**	**311**	P	**Pn**	**20 20 44.8**	**-1.0**
JHU	**Hanno**	**4.08**	**319**	P	**Pn**	**20 20 50.3**	**+0.6**
JHU				S	**Sn**	**20 21 34.4**	**-2.0**
JHO	**Hitachi**	**4.13**	**337**	P	**Pn**	**20 20 49.4**	**-1.0**
JHO				S	**Sn**	**20 21 33.8**	**-3.9**
JYN	**Shimoh**	**4.29**	**310**	P	**Pn**	**20 20 51.4**	**-1.2**
JNY	**Yasuok**	**4.67**	**304**	P	Pn	20 21 00.1	+2.2
JFK	**Kawauchi**	**4.75**	**343**	S	Sn	20 21 45.9	-7.0
JFT	**Otama**	**5.04**	**339**	P	**Pn**	**20 21 04.0**	**+1.1**
JFT				S	**Sn**	**20 21 56.1**	**-3.9**
MJAR	**Matsushiro Arr**	**5.18**	**317**	Pn	**Pn**	**20 21 05.4**	**+0.6**
	1.1nm,0.3s,baz=155,slow=11,SNR=17						
MJAR				Sn	**Sn**	**20 22 03.3**	**-0.3**
	0.4nm,0.3s,baz=158,slow=17,SNR=4.0						
JCJ	**Chichijima**	**5.72**	**184**	Pn	**Pn**	**20 21 12.3**	**+0.1**
	2.9nm,0.3s,baz=297,slow=22,SNR=7.0						
JCJ				Sn	**Sn**	**20 22 13.4**	**-3.4**
	3.9nm,0.3s,baz=314,slow=18,SNR=2.9						
MKAR	**Makanchi Array**	**47.27**	**306**	P	**P**	**20 28 22.1**	**+2.3**
	0.5nm,0.8s,baz=65,slow=9.5,SNR=4.8						
KURBB	**Kurchatov Arra**	**49.43**	**311**	P	**P**	**20 28 38.2**	**+1.9**
	0.7nm,0.7s,baz=84,slow=7.2,SNR=11						
WRA	**Warramunga Arr**	**53.06**	**190**	P	**P**	**20 29 05.5**	**+1.8**
	0.4nm,0.8s,baz=7.0,slow=7.6,SNR=4.4						

IDC **10** *20:30:00.8*±*3.2,* 36˚.28N×70˚.93E, *h164*km±*29*km, *mb3.4/12, mb1 3.5/17, mb1mx3.3/49, mbtmp3.9/17, Error ellipse: s-maj=19.6km s-min=14.3km az=9.0*
ISCJB **10** *20:30:02.3*±*0.6,* 36˚.43N±0˚.06×70˚.90E±0˚.06, *h188*km, *mb3.6/11, Error ellipse: s-maj=9.0km s-min=6.9km az=161.7*
NNC **10** *20:30:11.3*±*2.3,* 37˚.08N×70˚.96E, *h219*km±*31*km, *mb2.9, mpv3.9, Error ellipse: s-maj=22.5km s-min=14.6km az=26.0*

ISC 10 20:30:04.0±0.8, **36˚.59N**±0˚.08×**70˚.86E**±0˚.07, **h188**km, **n30**, σ1°**60**/35, **mb3.6**/11, **6C-3D**, **Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.96**	**21**	P	**Pn**	**20 31 32.3**	**+1.4**
	SNR=34						
UCH	**Uchtor**	**6.30**	**26**	P	**Pn**	**20 31 36.8**	**+1.3**
	SNR=30						
EKS2	**Erkin-Say**	**6.47**	**19**	P	**Pn**	**20 31 38.7**	**+1.4**
	SNR=30						
KK31	**Karatay Array**	**6.51**	**358**	⇑P	**Pn**	**20 31 39.3**	**+1.5**
	1.4nm,0.3s,baz=184,slow=12,SNR=38						
KK31				⇑S	**Sn**	**20 32 49.5**	**-2.4**
	10nm,0.5s,baz=201,slow=26,SNR=17						
AAK	**Ala-Archa**	**6.66**	**24**	⇑P	**Pn**	**20 31 41.4**	**+1.6**
	3.9nm,0.4s						
AAK				⇓S	**Sn**	**20 32 53.8**	**-1.8**
	17nm,0.6s						
KBK	**Karagaybulak**	**6.83**	**26**	P	**Pn**	**20 31 43.8**	**+1.7**
	SNR=6.0						
CHMS	**Chumysh**	**7.07**	**24**	P	**Pn**	**20 31 46.6**	**+1.6**
	SNR=5.2						
USP	**Osenenovka**	**7.24**	**22**	P	**Pn**	**20 31 48.2**	**+1.0**
	SNR=6.8						
TKM2	**Tokmak 2**	**7.30**	**29**	P	**Pn**	**20 31 49.2**	**+0.9**
	SNR=27						
TKM2	**Tokmak 2**	**7.30**	**29**	⇓P	**Pn**	**20 31 49.2**	**+0.9**
	22nm,0.7s						
TKM2				⇑S	**Sn**	**20 33 08.3**	**-2.6**
	7.6nm,0.9s						
GEYT	**Alibeck**	**10.24**	**281**	P	**Pn**	**20 32 25.3**	**-1.3**
	0.6nm,0.3s,baz=89,slow=12,SNR=4.9						
GEYT				S	**Sn**	**20 34 20.8**	**0.0**
	0.7nm,0.3s,baz=106,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**13.29**	**36**	P	**Pn**	**20 33 05.5**	**+0.1**
	0.1nm,0.3s,baz=224,slow=11,SNR=6.7						
AB31	**Akbulak array**	**14.95**	**331**	⇓P	**Pn**	**20 33 26.8**	**+0.8**
	0.8nm,0.5s						
AB31				⇑S	**Sn**	**20 36 08.4**	**-4.6**
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**15.08**	**19**	P	**P**	**20 33 28.7**	**+0.4**
	0.1nm,0.3s,baz=208,slow=8.1,SNR=7.2						
BVAR	**Borovoye Array**	**16.44**	**359**	P	**Pn**	**20 33 45.2**	**+1.2**
	0.5nm,0.3s,baz=165,slow=12,SNR=12						
AKTO	**Aktyubinsk**	**16.65**	**330**	⇑P	**Pn**	**20 33 48.1**	**+1.6**
	8.9nm,0.9s						
AKTO	**Aktyubinsk**	**16.65**	**330**	P	**Pn**	**20 33 46.8**	**+0.3**
	1.0nm,0.3s,baz=138,slow=11,SNR=23						
ZALV	**Zalesovo Beam**	**19.89**	**25**	P	**P**	**20 34 20.6**	**-0.2**
	1.2nm,0.4s,baz=223,slow=12,SNR=11						
SONM	**Songino Array**	**28.38**	**55**	P	**P**	**20 35 41.6**	**+0.9**
	0.2nm,0.6s,baz=264,slow=7.2,SNR=2.4						
AKASG	**Malin Array Be**	**32.80**	**309**	P	**P**	**20 36 20.6**	**+1.3**
	1.3nm,0.4s,baz=83,slow=7.6,SNR=3.2						
FINES	**FINESS Array B**	**37.35**	**326**	P	**P**	**20 36 59.5**	**+1.5**
	1.0nm,0.5s,baz=134,slow=8.3,SNR=12						
ARCES	**ARCESS Array B**	**41.02**	**338**	P	**P**	**20 37 30.3**	**+2.0**
	2.9nm,0.8s,baz=115,slow=8.4,SNR=14						
NB2	**NORSAR Subarra**	**44.24**	**323**	P	**P**	**20 37 55.5**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.24**	**323**	P	**P**	**20 37 55.3**	**+0.9**
	comp=Z,1.7nm,0.8s,baz=96,slow=7.8,SNR=8.6						
TORD	**Torodi Ar. Bea**	**65.60**	**269**	P	**P**	**20 40 27.3**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=50,slow=5.2,SNR=7.3						
ILAR	**Eielson Array**	**74.73**	**16**	P	**P**	**20 41 23.1**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=321,slow=4.2,SNR=4.2						
YKA	**Yellowknife Ar**	**81.17**	**3**	P	**P**	**20 41 58.8**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=350,slow=5.4,SNR=3.8						
WRA	**Warramunga Arr**	**82.13**	**122**	P	**P**	**20 42 02.3**	**-1.6**
	comp=Z,1.5nm,1.1s,baz=324,slow=4.9,SNR=18						
ASAR	**Alice Springs**	**84.40**	**125**	P	**P**	**20 42 13.7**	**-1.7**
	comp=Z,0.6nm,0.6s,baz=310,slow=5.2,SNR=9.2						
STKA	**Stephens Creek**	**94.93**	**126**	P	**P**	**20 43 03.2**	**-1.6**
	comp=Z,2.3nm,0.9s,baz=275,slow=19,SNR=2.7						

IDC 10 20:30:52.8±6.7, **8˚.29S**×**159˚.55E**, **h0**km, **mb3.5**/3, **mb1 3.7**/3, **mb1mx3.5**/19, **mbtmp3.5**/3, **MS3.3**/1, **Ms1 3.2**/1, **ms1mx2.5**/17, **Error ellipse: s-maj=183.1km s-min=38.6km az=112.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.00**	**242**	P	P	20 36 36.6	-0.2
	0.3nm,0.3s,baz=70,slow=9.0,SNR=7.5						
H11S2	**WAKE ISLAND Hy**	**27.53**	**15**	T	T	21 05 16.4	
	baz=198,slow=76,SNR=232						
H11S3	**WAKE ISLAND Hy**	**27.53**	**15**	T	T	21 05 16.4	
	baz=198,slow=76,SNR=170						
H11S1	**WAKE ISLAND Hy**	**27.55**	**15**	T	T	21 05 16.4	
	baz=198,slow=76,SNR=121						
H11N1	**WAKE ISLAND Hy**	**28.75**	**15**	T	T	21 06 50.2	
	baz=196,slow=76,SNR=78						
H11N3	**WAKE ISLAND Hy**	**28.76**	**15**	T	T	21 06 51.0	
	baz=196,slow=76,SNR=102						
H11N2	**WAKE ISLAND Hy**	**28.77**	**15**	T	T	21 06 53.4	
	baz=196,slow=76,SNR=96						
STKA	**Stephens Creek**	**28.80**	**213**	LR	LR	20 48 26.6	
	comp=Z,56nm,18.1s,baz=205,slow=37						
ASAR	**Alice Springs**	**28.93**	**235**	P	P	20 36 54.0	+0.1
	0.3nm,0.8s,baz=62,slow=9.8,SNR=3.1						
SONM	**Songino Array**	**72.90**	**326**	P	P	20 42 24.0	+0.1
	0.6nm,0.7s,baz=138,slow=5.9,SNR=6.7						

BJI **10** *20:38:06.8, 52˚.25N×175˚.28W, h42*km, *mb4.8/25, mB4.9/12, Ms4.3/9, Ms7 3.9/10*
MOS **10** *20:38:07.6*±*1.0,* 51˚.85N×175˚.28W, *h44*km, *mb4.7/28, Error ellipse: s-maj=10.6km s-min=7.9km az=59.4*
ISCJB **10** *20:38:09.4*±*0.3,* 51˚.74N±0˚.05×175˚.25W±0˚.03, *h63*km±*3*km, *mb4.5/81, Error ellipse: s-maj=7.8km s-min=2.5km az=171.9*
IDC **10** *20:38:09.3*±*2.5,* 51˚.78N×175˚.32W, *h46*km±*23*km, *mb3.9/27, mb1 4.1/29, mb1mx4.0/43, mbtmp4.1/29, ML5.0/1, MS3.3/18, Ms1 3.4/18, ms1mx3.3/34, Error ellipse: s-maj=15.7km s-min=8.6km az=152.0*
NEIC **10** *20:38:10.7*±*0.3,* 51˚.75N×175˚.31W, *h60*km±*3*km, *mb4.5/60, ML4.6(AEIC), Error ellipse: s-maj=6.9km s-min=2.5km az=166.0*

ISC 10 20:38:09.5±0.5, **51˚.66N**±0˚.07×**175˚.23W**±0˚.04, **h51**km±3km, **h50**km:**pP-P**, **n434**, σ1°**02**/446, **mb4.5**/81, **MS3.4**/19, **7C-5D**, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSMY	**Great Sitkin M**	**0.65**	**307**	P	**Pn**	**20 38 22.1**	**-0.5**
GSTR	**Great Sitkin T**	**0.68**	**311**	*e*Pn	**Pn**	**20 38 22.8**	**-0.2**
GSCK	**Great Sitkin C**	**0.68**	**302**	P	**Pn**	**20 38 22.5**	**-0.5**
GSTD	**Great Sitkin T**	**0.70**	**306**	P	**Pn**	**20 38 22.8**	**-0.5**
ETKA	**Kagalaska Isla**	**0.76**	**286**	P	**Pn**	**20 38 23.4**	**-0.6**
ADAG	**Mount Adagdak**	**0.91**	**291**	P	**Pn**	**20 38 26.5**	**+0.4**
KIRH	**Kanaga Island**	**1.19**	**283**	P	**Pn**	**20 38 29.5**	**-0.2**
KIKV	**Kanaga Island**	**1.23**	**281**	P	**Pn**	**20 38 29.9**	**-0.4**
KICM	**Kanaga Island**	**1.25**	**283**	P	**Pn**	**20 38 30.4**	**-0.2**
TAFP	**Tanaga Falls P**	**1.73**	**279**	P	**Pn**	**20 38 37.3**	**+0.2**
TASE	**Tanaga Southea**	**1.76**	**277**	P	**Pn**	**20 38 37.8**	**+0.2**
TANO	**Tanaga North**	**1.82**	**279**	P	**Pn**	**20 38 38.8**	**+0.5**
GAEA	**Gareloi East**	**2.19**	**275**	P	**Pn**	**20 38 44.2**	**+0.8**
GALAA	**Gareloi Lava P**	**2.21**	**274**	P	**Pn**	**20 38 44.9**	**+1.2**
GANE	**Gareloi Northe**	**2.21**	**276**	P	**Pn**	**20 38 44.6**	**+0.9**
CERAA	**Semis' Rag'd T**	**3.17**	**277**	P	**Pn**	**20 38 58.1**	**+1.3**
CEAP	**Semis' Anvil P**	**3.24**	**278**	P	**Pn**	**20 38 59.1**	**+1.3**
CESW	**Semis' Southwe**	**3.25**	**276**	P	**Pn**	**20 38 58.9**	**+1.0**
AMKA	**Amchitka**	**3.43**	**268**	P	**Pn**	**20 39 01.2**	**+0.9**
AMKA				S	**Sn**	**20 39 44.8**	**+5.0**
LSPA	**Little Sitkin**	**3.86**	**277**	P	**Pn**	**20 39 07.7**	**+1.4**
LSPA				S	**Sn**	**20 39 53.2**	**+2.8**
LSNW	**Little Sitkin**	**3.90**	**277**	P	**Pn**	**20 39 08.0**	**+1.2**
LSSA	**Little Sitkin**	**3.90**	**277**	P	**Pn**	**20 39 09.2**	**+2.4**
NIKH	**Nikolski High**	**4.13**	**69**	P	**Pn**	**20 39 10.8**	**+0.8**
OKTU	**Okmok Mt. Tuli**	**4.72**	**66**	P	**Pn**	**20 39 20.1**	**+2.0**
OKFG	**Magazine Ridge**	**4.80**	**66**	P	**Pn**	**20 39 20.8**	**+1.7**
MCIR	**Makushin Cirqu**	**5.55**	**62**	P	**Pn**	**20 39 30.8**	**+1.3**
MSW	**Makushin Switc**	**5.60**	**63**	P	**Pn**	**20 39 31.4**	**+1.2**
UNV	**Unalaska Valle**	**5.74**	**64**	P	**Pn**	**20 39 33.3**	**+1.3**
UNV				S	**Sn**	**20 40 39.1**	**+2.8**
ZRO	**Akutan Zero**	**6.11**	**63**	P	**Pn**	**20 39 38.1**	**+1.4**
AKGG	**Akutan Green G**	**6.14**	**62**	P	**Pn**	**20 39 38.9**	**+1.4**
AKUT	**Akutan**	**6.24**	**63**	P	**Pn**	**20 39 41.3**	**+2.5**
SPIA	**Saint Paul Isl**	**6.25**	**26**	P	**Pn**	**20 39 41.5**	**+2.5**
SMY	**Shemya**	**6.65**	**283**	*e*P	**Pn**	**20 39 43.8**	**-0.7**
SMY	**Shemya**	**6.65**	**283**	*e*Pn	**Pn**	**20 39 43.8**	**-0.7**
FALS	**False Pass**	**7.78**	**61**	*e*Pn	Pn	20 40 04.7	+4.9
FALS				*e*Sn	**Sn**	**20 41 30.4**	**+4.1**
SDPT	**Sand Point**	**9.53**	**61**	*e*Pn	**Pn**	**20 40 22.8**	**-1.1**
OHAK	**Old Harbor**	**13.90**	**58**	*e*Pn	Pn	20 41 18.8	-4.6
SVW2	**Sparrevohn**	**14.36**	**41**	*e*Pn	**Pn**	**20 41 31.7**	**+2.1**
KDAK	**Kodiak Island**	**14.41**	**56**	*e*P	**Pn**	**20 41 28.3**	**-2.0**
KDAK	**Kodiak Island**	**14.41**	**56**	*e*Pn	**Pn**	**20 41 28.3**	**-2.0**
PETK	**Petropavlovsk-**	**16.56**	**286**	P	**Pn**	**20 41 57.4**	**-0.6**
	0.3nm,0.3s,baz=82,slow=16,SNR=3.3						
PETK				LR	LR	20 47 55.4	
	comp=Z,82nm,21.1s,baz=97,slow=36						
PPLA	**Purkeypile**	**16.68**	**39**	*e*P	**P**	**20 42 02.4**	**+1.2**
CAST	**Castle Rocks**	**17.00**	**37**	*e*Pn	**P**	**20 42 05.7**	**+1.1**
	15nm,0.7s						
TRF	**Thorofare Moun**	**17.70**	**39**	*e*Pn	**Pn**	**20 42 11.2**	**-0.9**
	21nm,0.9s						
BPAW	**Bear Paw Mtn.**	**17.78**	**36**	*e*P	**P**	**20 42 14.3**	**+1.1**
	5.5nm,0.6s						
IM04	**Indian Mountai**	**17.99**	**29**	*e*P	**Pn**	**20 42 17.1**	**+1.5**
SCM	**Sheep Creek Mo**	**18.23**	**45**	*e*P	**P**	**20 42 17.0**	**-1.2**
SCM				pmax	pmax		
	comp=Z,15nm,0.8s						
SCM	**Sheep Creek Mo**	**18.23**	**45**	*e*P	**P**	**20 42 17.0**	**-1.2**
	comp=Z,15nm,0.8s						
RND	**Reindeer**	**18.24**	**40**	*e*P	**P**	**20 42 17.6**	**-0.8**
RND				pmax	pmax		
	comp=Z,23nm,0.9s						
RND	**Reindeer**	**18.24**	**40**	*e*P	**P**	**20 42 17.6**	**-0.8**
	comp=Z,23nm,0.9s						
MCK	**McKinley**	**18.36**	**39**	*e*P	**P**	**20 42 17.7**	**-1.9**
MCK				pmax	pmax		
	comp=Z,24nm,0.8s						
MCK	**McKinley**	**18.36**	**39**	*e*P	**P**	**20 42 17.7**	**-1.9**
	comp=Z,24nm,0.8s						
MLY	**Manley**	**18.39**	**34**	*e*P	**Pn**	**20 42 21.1**	**+0.6**
	comp=Z,16nm,0.8s						
BILL	**Bilibino**	**18.73**	**338**	*c i*P	**Pn**	**20 42 25.5**	**+1.0**
BILL				pmax	pmax		
	comp=Z,29nm,1.0s						
BILL	**Bilibino**	**18.73**	**338**	*e*P	**Pn**	**20 42 25.3**	**+0.8**
	comp=Z,23nm,0.9s						
WRH	**Wood River Hil**	**19.05**	**37**	*e*P	**P**	**20 42

NEW pmax pmax
comp=Z,8.0nm,0.6s
NEW Newport 36.69 72 P **P** **20 45 12.2 +1.1**
baz=37,SNR=6.6
NEW Newport 36.69 72 *e*P **P** **20 45 11.6 +0.4**
comp=Z,7.8nm,0.6s
EDM Edmonton 36.72 63 *e*P **P** **20 45 11.9 +0.5**
EDM Edmonton 36.72 63 *e*P **P** **20 45 11.9 +0.5**
G08A Pilot Rock 37.03 77 *e*P **P** **20 45 15.1 +0.8**
comp=Z,23nm,2.2s
K05A Summer Lake 37.20 82 *e*pP pP 20 45 23.2 -5.9
WALA Waterton Lakes 38.20 69 *e*P **P** **20 45 24.8 +0.8**
comp=Z,168nm,0.7s
BSMT Bassoo Peak 38.26 71 *e*P **P** **20 45 25.9 +1.3**
BMO Blue Mountains 38.26 77 *e*P **P** **20 45 23.6 -1.1**
comp=Z,1.7nm,0.7s
BLMT Blacktail Moun 38.43 71 *e*P **P** **20 45 27.1 +1.0**
MSO Missoula 39.27 72 P **P** **20 45 33.6 +0.6**
baz=39,SNR=9.2
MSO Missoula 39.27 72 *e*P **P** **20 45 33.3 +0.3**
comp=Z,5.2nm,0.7s
BOD Bodaibo 39.59 308 *e*P **P** **20 45 34.6 -0.8**
BOD pmax pmax
comp=Z,3.0nm,1.1s
CHMT Chamberlain Mo 39.63 72 *e*P **P** **20 45 36.3 +0.2**
CBIJ Chichi jima 40.25 249 P **P** **20 45 42.0 +0.8**
JCJ Chichijima 40.25 249 P **P** **20 45 42.0 +0.8**
comp=Z,44nm,0.6s,baz=49,slow=14,SNR=6.8
JCJ LR LR 20 59 29.0
comp=Z,34nm,21.1s,baz=82,slow=32
HLID Hailey 40.71 77 P **P** **20 45 45.9 +0.8**
baz=41
HLID Hailey 40.71 77 *e*P **P** **20 45 45.7 +0.6**
comp=Z,3.3nm,0.6s
MCMT McKenzie Canyo 40.96 74 *e*P **P** **20 45 47.6 +0.3**
EGMT Eagleton 41.11 68 P **P** **20 45 49.1 +0.8**
baz=41
EGMT Eagleton 41.11 68 *e*P **P** **20 45 49.4 +1.2**
comp=Z,7.2nm,0.8s
A19A Klindworth Far 41.24 67 P **P** **20 45 50.0 +0.7**
baz=41
BOZ Bozeman (W) 41.25 72 *e*P **P** **20 45 50.0 +0.5**
BOZ pmax pmax
comp=Z,6.0nm,0.6s
BOZ Bozeman (W) 41.25 72 P **P** **20 45 50.6 +1.1**
baz=41,SNR=14
BOZ Bozeman (W) 41.25 72 *e*P **P** **20 45 50.0 +0.5**
comp=Z,6.1nm,0.6s
NVAR Mina Array Bea 41.30 86 P **P** **20 45 51.3 +1.2**
comp=Z,0.8nm,0.8s,baz=290,slow=10,SNR=4.1
NVAR PcP **PcP** **20 47 48.6 +0.8**
comp=Z,0.9nm,0.8s,baz=315,slow=3.5,SNR=3.8
B19A Brinkman Farms 41.36 67 P **P** **20 45 51.0 +0.7**
baz=41,SNR=12
KSRS Korea Array 41.86 273 P **P** **20 45 55.5 +1.2**
comp=Z,4.1nm,0.7s,baz=56,slow=7.8,SNR=17
KSRS LR LR 21 03 02.6
comp=Z,18nm,18.4s,baz=66,slow=36
KSRS Korea Array 41.86 273 P **P** **20 45 55.6 +1.2**
KSRS pmax pmax
comp=Z,4.0nm,0.7s
KSRS MLR MLR
comp=Z,18nm,18.4s
KS01 Wonju Array Si 41.86 273 *e*P **P** **20 45 55.4 +1.1**
KSAR Wonju Array Be 41.89 273 P **P** **20 45 55.6 +1.0**
KSAR Wonju Array Be 41.89 273 P **P** **20 45 55.5 +1.0**
C20A Veseth Ranch, 42.28 68 P **P** **20 45 58.7 +0.9**
baz=42,SNR=5.7
B21A Ellsworth Farm 42.48 66 P **P** **20 46 00.5 +1.2**
baz=42
H17A Grant Village 42.56 73 *e*P **P** **20 46 01.5 +1.2**
comp=Z,5.5nm,0.6s
HVU Hansel Valley 42.72 78 *e*P **P** **20 46 02.5 +1.0**
HVU pmax pmax
comp=Z,3.0nm,0.6s
HVU Hansel Valley 42.72 78 *e*P **P** **20 46 02.5 +1.0**
comp=Z,3.4nm,0.6s
C21A Desert Coulee 42.75 67 P **P** **20 46 02.4 +0.8**
baz=43
A22A Carney Farms, 42.81 65 P **P** **20 46 02.8 +0.7**
baz=43
JNU Nakatsue 42.82 266 LR LR 21 02 37.4
comp=Z,39nm,21.5s,baz=232,slow=34
RLMT Red Lodge 42.93 72 P **P** **20 46 04.5 +1.2**
baz=43,SNR=10
RLMT Red Lodge 42.93 72 *e*P **P** **20 46 04.0 +0.7**
comp=Z,6.4nm,0.6s
R11A Troy Canyon, C 43.04 84 P **P** **20 46 04.9 +0.8**
baz=43,SNR=5.5
R11A Troy Canyon, C 43.04 84 *e*P **P** **20 46 04.7 +0.5**
comp=Z,2.6nm,0.6s
B22A Reddig Ranch S 43.13 66 P **P** **20 46 05.3 +0.7**
baz=43
H19A Powell 43.35 72 P **P** **20 46 07.8 +1.3**
baz=43
OSI Osito Adit 43.46 90 P **P** **20 46 08.8 +1.3**
baz=43
TPNV Topopah Spring 43.50 86 *e*P **P** **20 46 10.0 +2.1**
TPNV pmax pmax
comp=Z,7.0nm,0.8s
TPNV Topopah Spring 43.50 86 P **P** **20 46 08.9 +1.0**
baz=43,SNR=6.9
TPNV Topopah Spring 43.50 86 *e*P **P** **20 46 09.9 +2.1**
comp=Z,6.6nm,0.8s
G20A Bridger 43.50 71 P **P** **20 46 08.1 +0.3**
baz=43,SNR=10
BLG Laguna Peak 43.58 91 P **P** **20 46 10.2 +1.8**
baz=44
B23A Brockton 43.61 65 P **P** **20 46 09.2 +0.7**
baz=43,SNR=10.0
DUG Dugway 43.63 80 *e*P **P** **20 46 10.1 +1.2**
DUG pmax pmax
comp=Z,5.0nm,0.8s
DUG Dugway 43.63 80 P **P** **20 46 10.6 +1.8**
baz=44
DUG Dugway 43.63 80 *e*P **P** **20 46 10.1 +1.2**
comp=Z,4.7nm,0.8s
D22A Cohagen 43.63 67 P **P** **20 46 09.8 +1.1**
baz=44
I19A Meeteetse 43.70 73 P **P** **20 46 10.5 +1.0**
baz=44
F21A Absaloka Mine, 43.81 70 P **P** **20 46 11.0 +0.9**
baz=44
C23A Lambert 43.85 66 P **P** **20 46 11.9 +1.4**
baz=44,SNR=8.3
A24A Westby 43.93 64 P **P** **20 46 11.9 +0.9**
baz=44,SNR=10
DGMT Dagmar 44.06 65 P **P** **20 46 12.9 +0.8**
baz=44
DGMT Dagmar 44.06 65 *e*P **P** **20 46 12.0 -0.1**
comp=Z,17nm,1.1s
BW06 Boulder Array 44.09 75 *e*P **P** **20 46 13.1 +0.5**
PDAR Pinedale Array 44.09 75 P **P** **20 46 13.2 +0.6**
comp=Z,8.8nm,0.6s,baz=329,slow=4.7,SNR=80
PDAR PcP **PcP** **20 47 57.0 0.0**
comp=Z,1.0nm,0.8s,baz=333,slow=1.0,SNR=3.0
PDAR LR LR 21 02 18.0
comp=Z,44nm,20.9s,baz=294,slow=33
G21A Lodge Grass 44.09 70 P **P** **20 46 12.8 +0.3**
baz=44
J19A Crowheart 44.11 74 P **P** **20 46 13.9 +1.2**
baz=44
GSC Goldstone 44.20 88 *e*P P 20 46 20.7 +7.2
GSC Goldstone 44.20 88 *e*P P 20 46 20.7 +7.2
I20A Worland 44.27 72 P **P** **20 46 14.6 +0.8**
baz=44
FMP Fort Macarthur 44.32 91 P **P** **20 46 15.8 +1.6**
baz=44
F22A Rosebud 44.34 69 P **P** **20 46 14.6 +0.3**
baz=44
A25A Svangstu Ranch 44.42 64 P **P** **20 46 15.9 +1.0**
baz=44,SNR=8.8
C24A Savage 44.43 66 P **P** **20 46 16.2 +1.1**
baz=44
E23A Ismay 44.49 68 P **P** **20 46 16.5 +0.9**
baz=44,SNR=6.0
H21A Big Horn, Sher 44.52 71 P **P** **20 46 16.8 +0.8**
baz=44
G22A Birney 44.63 70 P **P** **20 46 17.1 +0.3**
baz=44
D24A Glendive 44.72 67 P **P** **20 46 18.5 +1.2**
baz=44
B25A Knox Farm, Ray 44.75 65 P **P** **20 46 18.2 +0.7**
baz=45
I21A Big Trails, Te 44.84 72 P **P** **20 46 18.9 +0.4**
baz=45
H22A Clearmont 44.95 71 P **P** **20 46 19.4 +0.1**
baz=45
MVU Marysvale 45.02 81 *e*P **P** **20 46 21.8 +1.6**
comp=Z,1.8nm,0.7s
A26A Wade Farm, Ken 45.04 63 P **P** **20 46 20.0 +0.1**
baz=45
MSU Marysvale 45.04 81 *e*P **P** **20 46 21.3 +1.0**
MSU pmax pmax
comp=Z,2.0nm,0.7s
MSU Marysvale 45.04 81 *e*P **P** **20 46 21.3 +1.0**
comp=Z,2.3nm,0.7s
F24A Ekalaka 45.35 68 P **P** **20 46 23.0 +0.5**
baz=45
A27A Ledoux Ranch, 45.45 63 P **P** **20 46 23.0 -0.1**
baz=45
G24A Alzada 45.66 69 P **P** **20 46 25.2 +0.3**
baz=46
SRU San Rafael 45.69 79 *e*P **P** **20 46 26.3 +1.0**
SRU pmax pmax
comp=Z,7.0nm,0.7s
SRU San Rafael 45.69 79 *e*P **P** **20 46 26.3 +1.0**
comp=Z,7.1nm,0.7s
B27A Peters Farms, 45.74 63 P **P** **20 46 25.9 +0.5**
baz=46
BORC Borrego Spring 45.78 90 *e*P **P** **20 46 26.3 +0.4**
D26A Manning 45.84 66 P **P** **20 46 26.8 +0.6**
baz=46
H24A Dirks Ranch, A 45.91 69 P **P** **20 46 26.7 -0.2**
baz=46
K22A Casper 45.97 73 P **P** **20 46 27.6 +0.1**
baz=46
A28A Rude Farm, Bot 46.01 62 P **P** **20 46 27.8 +0.2**
baz=46
CBKC Canebrake 46.13 90 *e*P **P** **20 46 29.9 +1.2**
E26A Carlson Angus 46.14 66 P **P** **20 46 29.3 +0.6**
baz=46,SNR=5.8
B28A Dugan Ranch, T 46.21 63 P **P** **20 46 29.6 +0.5**
baz=46
D27A Center 46.31 65 P **P** **20 46 30.6 +0.7**
baz=46
F26A Lodgepole 46.37 67 P **P** **20 46 31.6 +1.2**
baz=46
O20A White River Ci 46.45 77 P **P** **20 46 32.2 +0.9**
baz=46
O20A White River Ci 46.45 77 *e*P **P** **20 46 32.1 +0.7**
comp=Z,8.7nm,0.8s
A29A Manning Farm, 46.57 62 P **P** **20 46 32.4 +0.4**
baz=46
RSSD Black Hills 46.58 70 *e*P **P** **20 46 32.3 0.0**
RSSD pmax pmax
comp=Z,4.0nm,0.4s
RSSD Black Hills 46.58 70 *e*P **P** **20 46 32.3 0.0**
comp=Z,4.3nm,0.4s
F27A Lemmon 46.73 67 P **P** **20 46 33.8 +0.5**
baz=47
G26A Maurine 46.73 68 P **P** **20 46 33.7 +0.4**
baz=47
B29A Wagenman Farm, 46.76 62 P **P** **20 46 34.2 +0.8**
baz=47
D28A Regan 46.80 64 P **P** **20 46 34.6 +0.9**
baz=47
I25A Rochford 46.81 70 P **P** **20 46 34.3 +0.2**
baz=47
MDND Maddock 46.97 63 P **P** **20 46 36.0 +1.0**
baz=47,SNR=5.2
MDND Maddock 46.97 63 *e*P **P** **20 46 35.6 +0.6**
comp=Z,145nm,0.8s
H26A Fairpoint 47.02 69 P **P** **20 46 37.1 +1.5**
baz=47
PV10 Paradox Valley 47.05 79 *e*P **P** **20 46 37.4 +1.3**
G27A Dupree 47.07 67 P **P** **20 46 36.5 +0.7**
baz=47
A30A Hoffart Farm, 47.07 61 P **P** **20 46 36.4 +0.5**
baz=47
E28A Huff 47.08 65 P **P** **20 46 36.5 +0.6**
baz=47
PV04 Paradox Valley 47.12 79 *e*P **P** **20 46 36.2 -0.3**
B30A Myrvik Farm, E 47.34 62 P **P** **20 46 38.2 +0.3**
baz=47,SNR=7.2
F28A McLaughlin 47.44 66 P **P** **20 46 39.3 +0.6**
baz=47
BJI Beijing 47.49 284 P **P** **20 46 37.9 -1.2**
BJI PP **PP** **20 48 28.7 -1.9**
BJI S **S** **20 53 30.0 +0.1**
BJI PMZ
comp=Z,6.0nm,0.8s
BJI LN
comp=Z,95nm,27.0s
BJI LE
comp=Z,93nm,29.5s
PV01 Paradox Valley 47.49 79 *e*P **P** **20 46 39.6 +0.1**
I27A Quinn 47.77 69 P **P** **20 46 42.4 +1.1**
baz=48
G28A Parade 47.83 67 P **P** **20 46 42.6 +0.9**
baz=48
D30A Buchanan 47.86 64 P **P** **20 46 41.9 -0.1**
baz=48,SNR=8.0
H28A Mission Ridge 48.00 67 P **P** **20 46 43.8 +0.7**
baz=48
E30A Jud 48.13 64 P **P** **20 46 44.0 -0.1**
baz=48
M25A Palm-Egli Farm 48.17 73 P **P** **20 46 45.1 +0.5**
baz=48
ISCO Idaho Springs 48.25 75 *e*P **P** **20 46 45.8 +0.4**
ISCO pmax pmax
comp=Z,3.0nm,1.0s
ISCO Idaho Springs 48.25 75 P **P** **20 46 46.3 +0.9**
baz=48
ISCO Idaho Springs 48.25 75 *e*P **P** **20 46 45.8 +0.4**
comp=Z,2.8nm,1.0s
I28A Midland 48.32 68 P **P** **20 46 45.9 +0.4**
baz=48
G29A Hoven 48.33 66 P **P** **20 46 45.2 -0.4**
baz=48
L26A Underwood Farm 48.38 72 P **P** **20 46 45.2 -1.0**
baz=48
F30A Leola 48.46 65 P **P** **20 46 46.3 -0.3**
baz=48
H29A Onida 48.50 67 P **P** **20 46 47.4 +0.5**
baz=48
SONM Songino Array 48.50 298 P **P** **20 46 45.4 -1.6**
comp=Z,0.2nm,0.4s,baz=53,slow=8.6,SNR=3.0
SONM PcP **PcP** **20 48 11.4 -1.0**
comp=Z,2.1nm,0.7s,baz=52,slow=2.3,SNR=12
SONM ScP **ScP** **20 52 02.8 +0.3**
comp=Z,0.3nm,0.3s,baz=57,slow=2.7,SNR=5.7
SONM LR LR 21 07 28.1
comp=Z,64nm,20.3s,baz=66,slow=36
J28A Allard Ranch, 48.62 69 P **P** **20 46 48.6 +0.6**
baz=48
AGMN Agassiz Nation 48.77 61 P **P** **20 46 49.1 +0.1**
baz=49,SNR=7.2
AGMN Agassiz Nation 48.77 61 *e*P **P** **20 46 48.3 -0.6**
comp=Z,15nm,1.1s
S22A 4UR Ranch, Cre 48.80 78 P **P** **20 46 49.6 -0.1**
baz=49
I29A Vivian Onida 48.80 68 P **P** **20 46 49.6 +0.2**
baz=49
G30A Faulkton 48.81 66 P **P** **20 46 49.3 0.0**
baz=49
N26A Koester Ranch, 49.04 73 P **P** **20 46 51.4 +0.1**
baz=49
Q24A Divide 49.05 76 P **P** **20 46 52.6 +1.0**
baz=49
J29A Okreek 49.16 68 P **P** **20 46 52.7 +0.7**
baz=49
TIA Tai'an 49.33 280 ⇑P **P** **20 46 53.8 +0.4**
TIA PMZ
comp=Z,20nm,0.6s
N27A Anderson Farm, 49.46 72 P **P** **20 46 55.0 +0.5**
baz=49
SDCO Great Sand Dun 49.61 78 P **P** **20 46 56.7 +0.8**
baz=50
SDCO Great Sand Dun 49.61 78 *e*P **P** **20 46 56.6 +0.8**
comp=Z,2.7nm,0.8s
GUMO Guam 49.66 235 P **P** **20 46 55.7 -0.3**
comp=Z,9.3nm,0.3s,baz=66,slow=20,SNR=3.1
J30A Dallas 49.70 68 P **P** **20 46 56.9 +0.8**
baz=50
HHC Hu-ho-hao-te 49.74 288 *e*P **P** **20 46 56.2 -0.4**
HHC pP **pP** **20 47 11.8 +1.5**
HHC PP **PP** **20 48 51.9 +0.6**
HHC S **S** **20 53 59.0 -3.0**
HHC ScS **ScS** **20 56 39.4 -4.1**
HHC PMZ
comp=Z,10.0nm,0.6s
HHC PMZ
comp=Z,66nm,6.3s
HHC LN
comp=Z,130nm,13.5s
HHC LE
comp=Z,110nm,14.1s
HHC LZ
comp=Z,51nm,15.6s
P26A Davis Ranch, A 49.76 74 P **P** **20 46 57.8 +1.0**
baz=50,SNR=5.2
M28A Bar X Bar Ranc 49.79 71 P **P** **20 46 57.6 +0.7**
baz=50
O27A Beecher Island 49.88 73 P **P** **20 46 58.2 +0.5**
baz=50
TUC Tucson 49.93 87 *e*P P 20 47 03.8 +5.7
TUC pmax pmax
comp=Z,3.0nm,0.9s
TUC Tucson 49.93 87 *e*P P 20 47 03.8 +5.7
comp=Z,2.6nm,0.9s
K30A Basset 50.02 69 P **P** **20 46 59.0 +0.3**
baz=50
L30A Spencer Herefo 50.41 70 P **P** **20 47 02.6 +1.0**
baz=50
R26A Arlington 50.50 76 P **P** **20 47 03.1 +0.8**
baz=50
KSCO Kaye Shedlock' 50.54 74 P **P** **20 47 04.0 +1.4**
baz=50
T25A Trinidad 50.66 77 P **P** **20 47 05.2 +1.4**
baz=50,SNR=9.3
T25A Trinidad 50.66 77 *e*P **P** **20 47 04.7 +1.0**
comp=Z,7.9nm,0.9s
ANMO Albuquerque 50.85 81⇑*e*P **P** **20 47 07.6 +2.5**
ANMO pmax pmax
comp=Z,9.0nm,1.2s
S26A Kim 50.92 76 P **P** **20 47 06.2 +0.7**
baz=51,SNR=6.2
ECSD EROS Data Cent 51.09 66 P **P** **20 47 06.2 -0.4**
baz=51,SNR=7.8
ECSD EROS Data Cent 51.09 66 *e*P **P** **20 47 05.8 -0.8**
comp=Z,12nm,1.2s
T26A Comanche Natio 51.14 77 P **P** **20 47 06.9 -0.4**
baz=51
P29A Atwood 51.17 73 P **P** **20 47 08.4 +1.0**
baz=51
EYMN Ely 51.33 59 P **P** **20 47 08.6 +0.2**
baz=51
EYMN Ely 51.33 59 *e*P **P** **20 47 08.5 +0.2**
comp=Z,9.5nm,1.1s
Q29A Oakley 51.60 73 P **P** **20 47 11.2 +0.6**
baz=51
P30A Selden 51.62 72 P **P** **20 47 11.6 +0.9**
baz=52
S28A Manter 51.89 75 P **P** **20 47 13.9 +1.1**
baz=52,SNR=5.2
T28A Walsh 52.07 76 P **P** **20 47 14.5 +0.4**
baz=52
U27A Thompson Grove 52.10 77 P **P** **20 47 15.0 +0.7**
baz=52
P31A Stockton 52.15 72 P **P** **20 47 13.7 -0.9**
baz=52
SPMN St. Paul 52.30 62 P **P** **20 47 15.5 -0.1**
baz=52
L34A Svendsen Farm, 52.34 68 P **P** **20 47 16.5 +0.6**
baz=52
R30A Dighton 52.41 74 P **P** **20 47 17.4 +0.8**
baz=52,SNR=6.8
S30A Montezuma 52.72 74 P **P** **20 47 19.5 +0.6**
baz=53
Q32A Meitler Ranch, 52.98 72 P **P** **20 47 21.1 +0.4**
baz=53
M35A Neola 53.05 68 P **P** **20 47 21.7 +0.5**
baz=53
T30A Plains 53.07 75 P **P** **20 47 21.9 +0.4**
baz=53
U30A WK&E Inc. Balk 53.34 75 P **P** **20 47 23.9 +0.4**
baz=53
Q33A Connelly Farm, 53.40 71 P **P** **20 47 24.0 +0.2**
baz=53
N35A Tabor 53.47 68 P **P** **20 47 24.8 +0.5**
baz=53
T31A Randall Ranch, 53.55 74 P **P** **20 47 25.6 +0.6**
baz=53
COWI Conover 53.74 59 *e*P **P** **20 47 25.9 -0.3**
comp=Z,14nm,1.3s
R33A Olander Ranch, 53.76 72 P **P** **20 47 26.6 +0.1**
baz=54
AMTX Amarillo 53.81 78 P **P** **20 47 28.1 +1.2**
baz=54
U31A Nine Bar Ranch 53.93 75 P **P** **20 47 28.7 +1.0**
baz=54
T32A Huddler Ranch, 53.95 74 P **P** **20 47 27.7 -0.2**
baz=54
Q34A Chapman 53.98 71 P **P** **20 47 27.7 -0.3**
baz=54
X29A Tulia 54.09 78 P **P** **20 47 29.4 +0.3**
baz=54
R34A Isabella, Hill 54.20 72 P **P** **20 47 29.7 0.0**
baz=54
Z28A Tucker Farm, M 54.46 80 P **P** **20 47 31.7 -0.1**
baz=54
P36A Good Intent, A 54.53 69 P **P** **20 47 31.9 -0.1**
baz=54
128A Castleberry Fa 54.85 80 P **P** **20 47 33.3 -1.3**
baz=55
WHN Wuhan 54.86 276 ⇑P **P** **20 47 35.3 +0.8**
Y30A Stafford Cattl 54.97 78 P **P** **20 47 35.9 +0.6**
baz=55
X31A McDonald Ranch 55.02 77 P **P** **20 47 36.1 +0.5**
baz=55
T34A McClaskey Farm 55.09 73 P **P** **20 47 35.8 -0.3**
baz=55,SNR=5.6
228A UT Block 9, Go 55.13 81 P **P** **20 47 36.7 +0.1**
baz=55
S35A Otter Creek Ra 55.16 72 P **P** **20 47 36.5 -0.1**
baz=55
JFWS Jewell Farm 55.20 63 *e*P **P** **20 47 35.9 -0.9**
JFWS pmax pmax
comp=Z,12nm,0.8s
JFWS Jewell Farm 55.20 63 *e*P **P** **20 47 35.9 -0.9**
comp=Z,12nm,0.8s
R36A Gordon, Harris 55.22 70 P **P** **20 47 36.8 -0.2**
baz=55
Z30A Sanderson Ranc 55.23 79 P **P** **20 47 37.4 +0.2**
baz=55
U34A Anderson Ranch 55.27 73 P **P** **20 47 37.7 +0.3**
baz=55
Y31A Rekieta Farm, 55.30 78 P **P** **20 47 38.0 +0.3**
baz=55
ZALV Zalesovo Beam 55.44 315 PcP **PcP** **20 48 38.3 +0.3**
comp=Z,1.6nm,0.7s,baz=43,slow=4.0,SNR=6.4
ZALV LR LR 21 13 00.8
comp=Z,59nm,19.4s,baz=70,slow=38
X32A Elmer 55.58 76 P **P** **20 47 40.0 +0.3**
baz=55
WMOK Wichita Mounta 55.67 76 *e*P **P** **20 47 40.9 +0.6**
WMOK pmax pmax
comp=Z,5.0nm,0.8s
WMOK Wichita Mounta 55.67 76 *e*P **P** **20 47 40.9 +0.6**
comp=Z,4.9nm,0.8s
Y32A R-V Farms, Ver 55.77 77 P **P** **20 47 41.9 +0.8**
baz=56,SNR=6.7
XAN Xi'an 55.78 283 P **P** **20 47 40.5 -0.7**
XAN PMZ
comp=Z,4.0nm,0.5s
S37A Fort Scott 55.99 71 P **P** **20 47 42.0 -0.5**
baz=56
230A Sterling City 56.20 80 P **P** **20 47 44.3 +0.1**
baz=56
Z32A Haskell 56.22 78 P **P** **20 47 44.4 +0.1**
baz=56,SNR=8.1
Y33A Hilltop Ranch, 56.26 76 P **P** **20 47 44.7 +0.2**
baz=56
T37A Cheneyville 18 56.36 71 P **P** **20 47 44.9 -0.3**
baz=56
TX31 Lajitas Ar. Si 56.40 84 *e*P **P** **20 47 45.7 -0.1**
TXAR Lajitas Array 56.40 84 P **P** **20 47 45.8 0.0**
comp=Z,0.6nm,0.4s,baz=300,slow=6.2,SNR=18
TXAR LR LR 21 10 47.5
comp=Z,26nm,18.9s,baz=0.0,slow=35
W35A Tecumseh 56.53 74 P **P** **20 47 47.1 +0.6**
baz=56
ABTX Abilene, Hawle 56.59 78 P **P** **20 47 47.6 +0.6**
baz=56
V36A Jenks 56.66 73 P **P** **20 47 47.4 +0.1**
baz=56
U37A Salina 56.73 72 P **P** **20 47 47.8 -0.1**
baz=57
Y34A Reagan Ranch, 56.82 76 P **P** **20 47 49.5 +0.9**
baz=57,SNR=6.9
430A Baggett Ranch, 56.89 81 P **P** **20 47 49.1 0.0**

baz=57,SNR=5.5
W36A Wetumka 56.93 74 P **P** **20 47 49.7 +0.4**
baz=57
X35A Drake 56.99 75 P **P** **20 47 50.1 +0.4**
baz=57
331A San Angelo 57.02 80 P **P** **20 47 50.2 +0.1**
baz=57
133A Hamilton Ranch 57.05 78 P **P** **20 47 51.1 +1.0**
baz=57
V37A Hulbert 57.07 72 P **P** **20 47 49.9 -0.4**
baz=57
232A Coleman 57.10 79 P **P** **20 47 50.5 -0.1**
baz=57
Z34A Collier Ranch, 57.13 76 P **P** **20 47 51.0 +0.3**
baz=57
X36A Centrahoma 57.24 74 P **P** **20 47 52.1 +0.6**
baz=57,SNR=7.1
530A J-C Ranch, Com 57.27 82 P **P** **20 47 51.9 +0.1**
baz=57
Y35A Marietta 57.29 75 P **P** **20 47 51.9 +0.1**
baz=57
HDIL Hopedale 57.30 65 P **P** **20 47 51.5 -0.3**
baz=57
431A Sonora 57.35 81 P **P** **20 47 52.4 +0.1**
baz=57
332A Millersview 57.39 79 P **P** **20 47 53.0 +0.4**
baz=57
W37A Quinton 57.41 73 P **P** **20 47 52.9 +0.3**
baz=57
LZH Lanzhou 57.43 288 *e*P **P** **20 47 51.6 -1.4**
LZH pP **pP** **20 48 05.8 -1.2**
LZH sP **sP** **20 48 11.4 -1.4**
LZH PMZ
comp=Z,18nm,1.0s
V38A Canehill 57.52 72 P **P** **20 47 53.5 +0.1**
baz=57
134A White-Moore Ra 57.58 77 P **P** **20 47 54.4 +0.5**
baz=57
432A Menard 57.71 80 P **P** **20 47 55.1 +0.2**
baz=58
Y36A Durant 57.75 75 P **P** **20 47 54.9 -0.1**
baz=58
531A Rocksprings 57.75 81 P **P** **20 47 55.0 -0.2**
baz=58
X37A Clayton 57.82 74 P **P** **20 47 55.9 +0.3**
baz=58,SNR=6.0
333A Richland Sprin 57.89 79 P **P** **20 47 56.3 +0.2**
baz=58
234A Clairette 57.94 78 P **P** **20 47 57.1 +0.7**
baz=58
JCT Junction City 57.98 80 P **P** **20 47 57.5 +0.7**
baz=58
W38A Poteau 58.00 73 P **P** **20 47 57.3 +0.5**
baz=58
X38A Whitesboro 58.09 73 P **P** **20 47 57.9 +0.5**
baz=58
Y37A Hugo 58.09 74 P **P** **20 47 58.0 +0.6**
baz=58
532A Rocksprings 58.17 81 P **P** **20 47 58.4 +0.3**
baz=58
ARCES ARCESS Array B 58.17 352 P **P** **20 47 56.2 -1.3**
comp=Z,1.0nm,0.5s,baz=15,slow=8.3,SNR=7.1
ARCES PcP **PcP** **20 48 47.4 -1.0**
comp=Z,1.2nm,0.5s,baz=16,slow=5.5,SNR=6.4
ARCES LR LR 21 17 09.2
comp=Z,28nm,18.3s,baz=29,slow=40
433A Art 58.23 79 P **P** **20 47 58.9 +0.4**
baz=58
334A Lometa 58.34 78 P **P** **20 47 59.8 +0.5**
baz=58,SNR=8.9
WHTX Lake Whitney 58.36 77 P **P** **20 47 59.9 +0.6**
baz=58
SCHQ Schefferville 58.38 40 P **P** **20 47 58.5 -0.7**
comp=Z,1.6nm,0.6s,baz=332,slow=11,SNR=4.3
SCHQ LR LR 21 15 38.2
comp=Z,26nm,19.1s,baz=314,slow=39
Z37A Pogue Cattle C 58.63 75 P **P** **20 48 01.7 +0.5**
baz=58
SFIN Scholer Farm 58.65 63 P **P** **20 48 01.5 +0.3**
baz=58,SNR=5.1
SFIN Scholer Farm 58.65 63 *e*P **P** **20 48 01.4 +0.3**
comp=Z,16nm,0.6s
632A Uvalde 58.68 81 P **P** **20 48 02.2 +0.6**
baz=59
434A Burnet 58.69 79 P **P** **20 48 02.0 +0.3**
baz=59
MIAR Mount Ida 58.92 72 *e*P **P** **20 48 03.5 +0.3**
MIAR pmax pmax
comp=Z,7.0nm,0.7s
MIAR Mount Ida 58.92 72 P **P** **20 48 03.5 +0.3**
baz=59
MIAR Mount Ida 58.92 72 *e*P **P** **20 48 03.5 +0.3**
comp=Z,6.6nm,0.7s
OLIL Olney 59.21 65 *e*P **P** **20 48 05.2 0.0**
comp=Z,32nm,1.3s
832A Faith Ranch, C 59.43 82 P **P** **20 48 07.1 +0.3**
baz=59
934A Benavides 60.81 82 P **P** **20 48 17.5 +1.2**
baz=61
340A Bronson 60.92 75 P **P** **20 48 17.2 +0.2**
baz=61
WMQ Urumqi 61.04 305 P **P** **20 48 19.2 +1.5**
WMQ PMZ
comp=Z,7.0nm,0.8s
WMQ PMZ
comp=Z,140nm,4.6s
WMQ LN
comp=Z,51nm,22.0s
WMQ LE
comp=Z,31nm,21.2s
WMQ LZ
comp=Z,53nm,25.0s
CD2 Chengdu 61.09 284 P **P** **20 48 17.1 -1.1**
CD2 pP **pP** **20 48 31.6 -0.7**
CD2 sP **sP** **20 48 38.0 0.0**
CD2 PP **PP** **20 50 31.5 -1.3**
CD2 S **S** **20 56 31.3 -2.1**
CD2 sS **sS** **20 56 56.6 -0.4**
CD2 SS **SS** **21 00 32.4 -0.9**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,130nm,5.1s
CD2 LN
comp=Z,160nm,5.9s
CD2 LZ
comp=Z,130nm,8.0s
MK31 Makanchi Array 61.58 310 *e*P **P** **20 48 19.9 -1.4**
MK31 Makanchi Array 61.58 310 *e*P **P** **20 48 19.9 -1.4**
MKAR Makanchi Array 61.58 310 P **P** **20 48 19.8 -1.5**
comp=Z,0.8nm,0.3s,baz=46,slow=6.3,SNR=26
MKAR LR LR 21 15 35.1
comp=Z,50nm,20.4s,baz=30,slow=36
MK01 Makanchi Array 61.60 310 *e*P **P** **20 48 19.4 -1.9**
MMNY Mt. Morris Dam 61.94 56 *e*P **P** **20 48 23.4 -0.3**
comp=Z,39nm,1.0s
BRVK Borovoye 62.11 322 *ce*P **P** **20 48 25.6 +1.0**
BRVK pmax pmax
comp=Z,8.0nm,2.5s
SSPA Standing Stone 63.45 58 *e*P **P** **20 48 33.7 -0.1**
comp=Z,20nm,0.9s
ARU Arti 63.51 330 *d i*P **P** **20 48 34.6 +0.7**
ARU 20 51 00.0
ARU S **S** **20 57 06.8 +3.7**
ARU SS **SS** **21 01 11.6 +1.8**
ARU pmax pmax
comp=Z,2.0nm,0.6s
BLA Blacksburg 64.57 62 *e*P **P** **20 48 39.7 -1.6**
BLA pmax pmax
comp=Z,12nm,0.9s
BLA Blacksburg 64.57 62 *e*P **P** **20 48 39.7 -1.6**
comp=Z,12nm,0.9s
ODNJ Ogdensburg 64.83 55 *e*P **P** **20 48 43.0 +0.1**
comp=Z,13nm,0.9s
KMSC Kings Mountain 65.57 64 *e*P **P** **20 48 48.1 +0.4**
comp=Z,8.8nm,0.9s
JSRW J. Sargeant Re 65.60 60 *e*P **P** **20 48 48.4 +0.6**
KMI Kunming 65.89 280 P **P** **20 48 50.8 +0.7**
KMI pP **pP** **20 49 04.4 +0.1**
KMI sP **sP** **20 49 11.2 +1.1**
KMI PMZ
comp=Z,13nm,0.7s
KMI LZ
comp=Z,39nm,22.9s
FINES FINESS Array B 65.97 349 P **P** **20 48 48.7 -1.1**
comp=Z,0.7nm,0.7s,baz=9.7,slow=4.7,SNR=6.4
FINES LR LR 21 21 10.9
comp=Z,30nm,19.2s,baz=5.5,slow=39
FINES FINESS Array B 65.97 349 *i* P **P** **20 48 52.4 +2.6**
FINES pmax pmax
comp=Z,1.0nm,0.6s
NB2 NORSAR Subarra 67.54 357 P **P** **20 48 58.9 -1.0**
comp=Z,0.8nm,0.7s,baz=2.9,slow=6.2
NOA NORSAR Array B 67.54 357 P **P** **20 48 59.1 -0.8**
comp=Z,1.2nm,0.8s,baz=2.2,slow=6.1,SNR=6.2
NOA LR LR 21 18 30.6
comp=Z,18nm,20.6s,baz=355,slow=36
SIJI Sorong 68.98 239 P **P** **20 49 10.3 +0.9**
comp=Z,30nm,0.8s,baz=30,slow=7.1,SNR=22
ABKAR Akbulak array 69.03 325 *e*P **P** **20 49 10.2 +0.9**
KKAR Karatay Array 69.81 315 *e*P **P** **20 49 13.7 -0.6**
KKAR Karatay Array 69.81 315 *e*P **P** **20 49 13.7 -0.6**
OBN Obninsk 70.36 341⇑ *e*P **P** **20 49 16.5 -0.9**
OBN *i* *PP **pP** **20 49 31.9 +0.2**
OBN *e* 20 51 52.6
OBN pmax pmax
comp=Z,3.0nm,0.4s
OBN MLR MLR
comp=Z,38nm,20.0s
PMOR Pomariorio Ree 70.52 152 *e*T T 22 06 31.1
comp=Z,14nm,0.2s
PPT2 Papeete2 72.50 154 *e*LR LR 21 11 48.1
comp=Z,103nm,21.8s
PPT2 Papeete2 72.50 154 *e*T T 22 09 00.7
comp=Z,16nm,0.3s
PAE Paea 72.57 154 *e*T T 22 09 05.5
comp=Z,3.5nm,0.3s
TVO Taravao 72.77 154 *e*T T 22 09 20.8
comp=Z,1.5nm,0.3s
CHTO Chiang Mai 72.92 279 *e*P **P** **20 49 34.1 +0.7**
CHTO pmax pmax
comp=Z,8.0nm,1.2s
CHTO Chiang Mai 72.92 279 *e*P **P** **20 49 34.1 +0.7**
comp=Z,7.7nm,1.2s
TAPN Taplejung 73.18 293 *e*P **P** **20 49 35.6 +0.4**
comp=Z,20nm,0.7s
CMAR Chiang Mai Arr 73.19 279 P **P** **20 49 35.6 +0.6**
comp=Z,3.4nm,0.8s,baz=24,slow=6.9,SNR=23
CMAR LR LR 21 24 32.6
comp=Z,22nm,18.7s,baz=164,slow=38
CMAR Chiang Mai Arr 73.19 279 *ce*P **P** **20 49 35.5 +0.6**
CMAR pmax pmax
comp=Z,4.0nm,0.9s
CM01 Chiang Mai Arr 73.21 278 *e*P **P** **20 49 35.6 +0.5**
VSR Storozhevoye 73.45 338⇓ *e*P **P** **20 49 35.8 -0.2**
VSR pmax pmax
comp=Z,10.0nm,0.8s
GUN Gumba 73.80 294 *e*P **P** **20 49 39.8 +0.9**
comp=Z,22nm,0.4s
LUWI Luwuk 73.84 247 *e*P **P** **20 49 38.8 0.0**
comp=Z,30nm,0.9s
RAMN Ramite 74.12 293 *e*P **P** **20 49 40.8 +0.1**
comp=Z,18nm,0.4s
KKN Kakani 74.23 295 *e*P **P** **20 49 41.9 +0.7**
PKI Pulchoki 74.33 295 *e*P **P** **20 49 42.4 +0.5**
PKIN Phulchoki 74.33 295 *e*P **P** **20 49 42.5 +0.6**
GKN Gorkha 74.43 295 *e*P **P** **20 49 42.9 +0.6**
comp=Z,20nm,0.7s
DMN Daman 74.47 295 *e*P **P** **20 49 43.4 +0.7**
DANN Dangsing 74.66 296 *e*P **P** **20 49 44.8 +1.0**
KOLN Koldanda 75.19 296 *e*P **P** **20 49 46.6 -0.2**
comp=Z,5.2nm,0.5s
AKASG Malin Array Be 75.93 344 P **P** **20 49 49.3 -1.1**
comp=Z,0.6nm,0.3s,baz=26,slow=6.5,SNR=3.1
AKASG LR LR 21 29 38.2
comp=Z,28nm,18.5s,baz=305,slow=41
SBUM Sibu 77.30 258 *e*P **P** **20 49 59.3 +0.7**
comp=Z,2.3nm,0.7s
TBI Tubuai 78.03 156 *e*T T 22 15 55.0
comp=Z,9.4nm,0.3s
KIV Kislovodsk 79.27 333 *e*P **P** **20 50 09.4 +0.1**
KIV *e* 20 50 16.9
KIV *e* 20 53 05.4
KIV pmax pmax
comp=Z,3.0nm,0.8s
KIV MLR MLR
comp=Z,35nm,21.0s
GEYT Alibeck 79.35 320 P **P** **20 50 09.6 -0.2**
comp=Z,1.4nm,0.6s,baz=12,slow=7.4,SNR=3.8
BUR04 Bucovina Ar. S 79.56 346 *e*P **P** **20 50 10.5 -0.3**
GERES GERESS Array B 79.59 354 P **P** **20 50 10.2 -0.7**
comp=Z,0.3nm,0.7s,baz=352,slow=5.4,SNR=4.7
RKT Rikitea 82.40 143 *e*T T 22 21 20.0
comp=Z,4.1nm,0.2s
WRA Warramunga Arr 83.80 227 P **P** **20 50 32.9 -0.3**
comp=Z,1.5nm,0.5s,baz=34,slow=5.9,SNR=29
PSI Prapat 85.24 268 P **P** **20 50 41.0 +0.1**
comp=Z,4.6nm,0.5s,baz=356,slow=6.6,SNR=6.1
PSI Prapat 85.24 268 *e*P **P** **20 50 41.5 +0.6**
PSI pmax pmax
comp=Z,10.0nm,1.0s
PSI Prapat 85.24 268 *e*P **P** **20 50 41.5 +0.6**
comp=Z,10nm,1.0s
BRTR Keskin Array B 85.57 338 P **P** **20 50 42.3 +0.1**
comp=Z,0.4nm,0.5s,baz=15,slow=6.0,SNR=3.3
BRTR LR LR 21 32 41.6
comp=Z,10nm,21.4s,baz=17,slow=38
AS01 Alice Springs 87.21 225 *e*P **P** **20 50 50.5 +0.4**
ASAR Alice Springs 87.24 225 P **P** **20 50 50.9 +0.6**
comp=Z,3.3nm,0.8s,baz=23,slow=5.9,SNR=26
ESDC Sonseca Array 88.73 7 P **P** **20 50 56.5 -0.9**
comp=Z,0.2nm,0.4s,baz=342,slow=3.6,SNR=3.9
STKA Stephens Creek 91.41 216 P **P** **20 51 10.4 +0.8**
comp=Z,2.9nm,0.7s,baz=307,slow=2.7,SNR=5.5
TORD Torodi Ar. Bea 115.41 3 PKP **PKPdf** **20 56 44.0 -1.6**
comp=Z,0.4nm,0.5s,baz=335,slow=2.9,SNR=10.0
DBIC Dimbokro 121.32 11 PKP **PKPdf** **20 56 56.5 -0.6**
comp=Z,4.5nm,0.9s,baz=338,slow=1.4,SNR=5.9
MAW Mawson 148.07 218 PKPbc **PKPbc** **20 57 47.6 -0.2**
comp=Z,7.3nm,0.6s,baz=28,slow=1.9,SNR=7.5
BOSA Boshof 152.35 318 PKPbc **PKPbc** **20 57 59.9 +0.4**
comp=Z,7.4nm,0.5s,baz=14,slow=1.9,SNR=43

IDC ***10*** *20:48:08.4±1.4, 8.°42S×157.°55E, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/18, mbtmp3.8/5, Error ellipse: s-maj=77.3km s-min=26.0km az=138.0*
ISCJB ***10*** *20:48:09.4±0.9, 8.°6S±0.°2×157.°56E±0.°08, h16km, mb3.7/5, Error ellipse: s-maj=25.5km s-min=11.1km az=11.3*
ISC 10 20:48:10.5±1.0, 8.°6S±0.°2×157.°7E±0.°1, h16km, n6, σ1§11/7, mb3.8/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.34**	**110**	*e*P		Pn		20 48 45.0	-3.3
HNR				*i* S		**Sb**		**20 49 21.0**	**0.0**
WRA	**Warramunga Arr**	**25.26**	**241**	P		**P**		**20 53 36.1**	**-0.1**
	1.6nm,0.7s,baz=66,slow=8.9,SNR=12								
WRA				PcP		**PcP**		**20 57 10.7**	**+1.1**
	0.5nm,1.1s,baz=62,slow=3.3,SNR=3.2								
ASAR	**Alice Springs**	**27.27**	**234**	P		**P**		**20 53 53.4**	**-1.0**
	0.7nm,0.9s,baz=62,slow=9.3,SNR=4.9								
ILAR	**Eielson Array**	**83.91**	**21**	P		**P**		**21 00 38.0**	**-1.4**
	0.5nm,0.7s,baz=244,slow=5.3,SNR=4.7								
MKAR	**Makanchi Array**	**86.41**	**318**	P		**P**		**21 00 53.0**	**+0.6**
	0.3nm,0.5s,baz=106,slow=5.2,SNR=4.4								
NVAR	**Mina Array Bea**	**90.61**	**51**	P		**P**		**21 01 13.4**	**+0.6**
	1.1nm,0.8s,baz=235,slow=7.2,SNR=7.1								

IDC 10 21:00:52.2±8.3, 17.°42S×177.°43W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.5/27, mbtmp3.7/2, Error ellipse: s-maj=351.7km s-min=61.5km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.64**	**259**	P		P	P	21 09 14.3	-0.6
	0.3nm,0.9s,baz=93,slow=7.2,SNR=8.7								
ASAR	**Alice Springs**	**45.83**	**254**	P		P	P	21 09 16.5	+0.2
	1.5nm,0.5s,baz=89,slow=8.4,SNR=36								
BRTR	**Keskin Array B**	**145.09**	**316**	PKPbc		PKPbc	PKPbc	21 20 30.9	-0.7
	0.2nm,0.6s,baz=20,slow=4.7,SNR=2.4								

IDC 10 21:10:48.0±8.5, 16.°72S×175.°45W, h365km, 86km, mb3.1/4, mb1 3.3/5, mb1mx3.0/19, mbtmp3.9/5, Error ellipse: s-maj=44.3km s-min=38.9km az=34.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.88**	**250**	P		P	P	21 14 33.1	0.0

0.9nm,0.3s,baz=90,slow=24,SNR=21
URZ Urewera 22.43 195 P P 21 15 17.1 +0.1
3.6nm,0.5s,baz=38,slow=19,SNR=4.1
WRA Warramunga Arr 47.63 258 P P 21 18 49.4 +0.2
0.5nm,0.4s,baz=97,slow=7.7,SNR=22
ASAR Alice Springs 47.83 253 P P 21 18 50.1 -0.5
1.3nm,0.7s,baz=90,slow=8.6,SNR=19
ILAR Eielson Array 84.12 12 P P 21 22 38.1 -0.2
0.2nm,0.5s,baz=217,slow=6.6,SNR=3.7

IDC ***10*** *21:22:45.1±0.7, 30.°34S×177.°68W, h0km, mb4.5/12, mb1 4.6/15, mb1mx4.6/19, mbtmp4.4/15, ML3.8/3, MS3.6/3, Ms1 3.6/3, ms1mx3.0/26, Error ellipse: s-maj=23.1km s-min=16.4km az=121.0*
NEIC ***10*** *21:22:46.5±0.5, 30.°28S×177.°59W, h10km, mb4.9/2, Error ellipse: s-maj=16.4km s-min=10.4km az=121.0*
ISCJB ***10*** *21:22:49.0±0.6, 30.°52S±0.°04×177.°7W±0.°1, h33km, mb4.5/14, MS3.7/1, Error ellipse: s-maj=12.8km s-min=4.8km az=11.9*
ISC 10 21:22:50.1±0.6, 30.°33S±0.°06×177.°7W±0.°1, h33km, n91, σ1§55/77, mb4.6/13, 1C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.10**	**348**	Pn		**Pn**	**Pn**	**21 23 08.1**	**-1.1**
	2μm,0.3s,baz=93,slow=9.1,SNR=72								
RAO				Sn		**Sn**	**Sn**	**21 23 20.1**	**-3.2**
	9μm,0.3s,baz=197,slow=19,SNR=36								
RAO	**Raoul Island**	**1.10**	**348**	*e*Pn		**Pn**	**Pn**	**21 23 07.9**	**-1.3**
RAO				*e*Sb		**Sn**	**Sn**	**21 23 21.8**	**-1.5**
WMGZ	**Waiomatatini S**	**8.14**	**202**	*e*PN		**Pn**	**Pn**	**21 24 46.1**	**+0.1**
HAZ	**Te Kaha**	**8.31**	**206**	*e*SN		**Sn**	**Sn**	**21 26 23.3**	**+2.3**
PUZ	**Puketiti**	**8.42**	**203**	*e*PN		**Pn**	**Pn**	**21 24 49.1**	**-0.8**
PUZ				*e*SN		**Sn**	**Sn**	**21 26 21.1**	**-2.7**
CNGZ	**Carnagh Statio**	**8.81**	**202**	*e*PN		**Pn**	**Pn**	**21 24 54.4**	**-0.8**
OUZ	**Omahuta**	**8.82**	**234**	PN		Pn	Pn	21 25 03.4	+8.1
OUZ	**Omahuta**	**8.82**	**234**	*e*Pn		Pn	Pn	21 24 59.0	+3.7
MWZ	**Matawai**	**8.91**	**205**	*e*PN		**Pn**	**Pn**	**21 24 55.0**	**-1.6**
MWZ				*e*SN		**Sn**	**Sn**	**21 26 34.9**	**-1.0**
URZ	**Urewera**	**9.01**	**207**	Pn		**Pn**	**Pn**	**21 24 56.0**	**-1.8**
	0.6nm,0.3s,baz=323,slow=18,SNR=11								
URZ				Sn		**Sn**	**Sn**	**21 26 36.6**	**-1.6**
	11nm,0.3s,baz=323,slow=20,SNR=17								
URZ	**Urewera**	**9.01**	**207**	*e*PN		**Pn**	**Pn**	**21 24 56.1**	**-1.8**
URZ				*e*SN		**Sn**	**Sn**	**21 26 36.5**	**-1.6**
RAGZ	**Rawiri**	**9.10**	**205**	*e*PN		**Pn**	**Pn**	**21 24 57.2**	**-1.9**
RAGZ				*e*SN		**Sn**	**Sn**	**21 26 38.7**	**-1.8**
BFZ	**Birch Farm**	**11.45**	**204**	*e*SN		Sn	Sn	21 27 30.7	-7.3
MRZ	**Mangatainoka R**	**11.68**	**206**	*e*SN		Sn	Sn	21 27 34.8	-8.7
TCW	**Tory Channel**	**12.67**	**209**	*e*SN		Sn	Sn	21 27 58.4	-9.3
THZ	**Tophouse**	**13.71**	**211**	*e*PN		**Pn**	**Pn**	**21 25 59.1**	**-3.1**
THZ				*e*SN		Sn	Sn	21 28 24.8	-8.5
OXZ	**Oxford**	**15.35**	**210**	*e*PN		**Pn**	**Pn**	**21 26 22.8**	**-1.4**
OXZ				*e*SN		Sn	Sn	21 28 57.2	-16
RPZ	**Rata Peaks**	**16.09**	**211**	Pn		**Pn**	**Pn**	**21 26 32.6**	**-1.2**
	1.0nm,0.3s,baz=23,slow=1.6,SNR=6.8								
RPZ				Sn		Sn	Sn	21 29 16.3	-15
	1.8nm,0.3s,baz=333,slow=16,SNR=6.7								
RPZ				LR		LR	LR	21 32 28.7	
	comp=Z,222nm,20.9s,baz=9.0,slow=36								
DZM	**Mont Dzumac**	**16.45**	**296**	*e*LR		LR	LR	21 29 54.7	
	720nm,27.1s								
JCZ	**Jackson Bay**	**17.43**	**214**	*e*PN		**Pn**	**Pn**	**21 26 48.5**	**-2.2**
RAR	**Rarotonga**	**18.48**	**65**	P		**P**	**P**	**21 27 01.6**	**-1.7**
	1.6nm,0.3s,baz=204,slow=12,SNR=2.5								
RAR				LR		LR	LR	21 34 23.5	
	comp=Z,123nm,18.9s,baz=260,slow=38								
TBI	**Tubuai**	**26.07**	**81**	*e*LR		LR	LR	21 34 46.8	
	252nm,30.2s								
TBI	**Tubuai**	**26.07**	**81**	*e*T		T	T	21 55 33.0	
	30nm,0.3s								
ARMA	**Armidale**	**26.45**	**262**	P		**P**	**P**	**21 28 27.8**	**+3.5**
	baz=27,SNR=16								
EIDS	**Eidsvold**	**28.02**	**272**	P		**P**	**P**	**21 28 40.0**	**+1.8**
	baz=28,SNR=5.2								
CNB	**Canberra Magne**	**28.07**	**251**	P		P	P	21 28 41.7	+3.0
	baz=28,SNR=7.5								
MILA	**Mila**	**28.31**	**247**	P		P	P	21 28 43.5	+2.7
	baz=29,SNR=6.8								
PAE	**Paea**	**28.50**	**70**	*e*T		T	T	21 58 25.9	
	8.2nm,0.3s								
PPT2	**Papeete2**	**28.54**	**70**	*e*LR		LR	LR	21 35 51.8	
	244nm,27.8s								
PPT2	**Papeete2**	**28.54**	**70**	*e*T		T	T	21 58 29.6	
	6.9nm,0.3s								
TVO	**Taravao**	**28.71**	**71**	*e*T		T	T	21 58 42.0	
	1.5nm,0.3s								
YNG	**Young**	**28.87**	**253**	P		P	P	21 28 49.4	+3.6
	baz=29,SNR=5.5								
RMQ	**Roma**	**29.72**	**269**	P		**P**	**P**	**21 28 56.0**	**+2.7**
	baz=30,SNR=20								
TOO	**Toolangi**	**31.25**	**247**	P		P	P	21 29 09.9	+3.0
	baz=32,SNR=7.4								
CMSA	**Cobar Meteorol**	**31.36**	**258**	P		**P**	**P**	**21 29 09.9**	**+2.1**
	baz=32,SNR=13								
VAH	**Vaihoa**	**31.38**	**68**	*e*T		T	T	22 01 59.3	
	39nm,0.2s								
QLP	**Quilpie**	**33.60**	**267**	P		**P**	**P**	**21 29 28.8**	**+1.3**
	baz=34,SNR=7.6								
CTAO	**Charters Tower**	**34.07**	**279**	*e*P		**P**	**P**	**21 29 32.8**	**+1.1**
STKA	**Stephens Creek**	**34.77**	**257**	P		**P**	**P**	**21 29 39.0**	**+1.4**
	23nm,0.7s,baz=99,slow=10,SNR=49								
STKA				LR		LR	LR	21 42 35.2	
	comp=Z,124nm,18.5s,baz=48,slow=34								
STKA	**Stephens Creek**	**34.77**	**257**	P		**P**	**P**	**21 29 39.5**	**+1.8**
	baz=35,SNR=42								
MTSU	**Mount Surprise**	**36.57**	**281**	P		**P**	**P**	**21 29 54.6**	**+1.5**
	baz=37,SNR=11								
HTT	**Hallett**	**36.80**	**254**	P		**P**	**P**	**21 29 56.6**	**+1.6**
	baz=37,SNR=14								
RKT	**Rikitea**	**38.63**	**90**	*e*T		T	T	22 11 20.5	
	1.8nm,0.3s								
BBOO	**Buckleboo**	**39.26**	**254**	P		**P**	**P**	**21 30 17.1**	**+1.4**
	baz=40,SNR=7.1								
COEN	**Coen**	**39.53**	**286**	P		**P**	**P**	**21 30 19.5**	**+1.4**
	baz=40,SNR=6.4								
QIS	**Mount Isa**	**39.60**	**274**	P		**P**	**P**	**21 30 19.4**	**+0.8**
	baz=40,SNR=5.3								
ASAR	**Alice Springs**	**43.40**	**267**	P		**P**	**P**	**21 30 49.5**	**-0.4**
	8.9nm,0.6s,baz=105,slow=7.1,SNR=134								
ASAR				PcP		**PcP**	**PcP**	**21 32 37.3**	**-0.7**
	1.1nm,0.6s,baz=124,slow=4.6,SNR=4.1								
ASAR				ScP		**ScP**	**ScP**	**21 36 31.4**	**+4.5**
	0.6nm,0.7s,baz=107,slow=4.5,SNR=4.3								
WRAB	**Tennant Creek**	**44.38**	**272**	*e*P		**P**	**P**	**21 30 56.5**	**-1.2**
	13nm,0.5s								
WRA	**Warramunga Arr**	**44.38**	**272**	P		**P**	**P**	**21 30 57.0**	**-0.8**
	13nm,0.3s,baz=110,slow=8.2,SNR=375								
WRKA	**Warakurna**	**47.77**	**263**	P		**P**	**P**	**21 31 23.1**	**-1.3**
	baz=48,SNR=17								
SBA	**Scott Base**	**48.12**	**184**	*e*P		P	P	21 31 31.4	+5.0
	5.5nm,0.7s								
KDU	**Kakadu**	**49.19**	**280**	P		**P**	**P**	**21 31 35.6**	**+0.2**
	baz=49,SNR=3.6								
KNRA	**Kununurra**	**50.99**	**274**	P		**P**	**P**	**21 31 48.3**	**-0.7**
	baz=51,SNR=13								
KLBR	**Kellerberrin**	**54.64**	**251**	P		**P**	**P**	**21 32 15.7**	**-0.2**
	baz=55,SNR=6.9								
CASY	**Casey**	**55.33**	**208**	*e*P		**P**	**P**	**21 32 21.1**	**+0.8**
MEEK	**Meekatharra**	**55.48**	**257**	P		**P**	**P**	**21 32 20.7**	**-1.3**
	baz=55,SNR=4.0								
MORW	**Morawa**	**56.83**	**253**	P		**P**	**P**	**21 32 30.7**	**-0.9**
	baz=57,SNR=3.7								
QSPA	**South Pole Qui**	**59.77**	**180**	*e*P		P	P	21 32 54.5	+2.7
MAW	**Mawson**	**72.47**	**200**	P		**P**	**P**	**21 34 13.2**	**+0.3**
	4.7nm,0.8s,baz=123,slow=3.3,SNR=6.2								
KSM	**Kuching**	**75.29**	**281**	P		**P**	**P**	**21 34 29.7**	**-0.7**
	baz=76,SNR=5.4								
SYO	**Syowa Base**	**77.24**	**193**⇑	*e*P		**P**	**P**	**21 34 41.0**	**+0.5**
MJAR	**Matsushiro Arr**	**78.35**	**325**	P		**P**	**P**	**21 34 45.6**	**-1.5**
	1.0nm,0.6s,baz=166,slow=5.2,SNR=6.9								
KSRS	**Korea Array**	**84.48**	**319**	P		**P**	**P**	**21 35 20.0**	**+0.5**
	1.4nm,0.9s,baz=142,slow=2.9,SNR=3.8								
KSAR	**Wonju Array Be**	**84.50**	**319**	P		**P**	**P**	**21 35 20.0**	**+0.4**
PETK	**Petropavlovsk-**	**85.82**	**345**	P		**P**	**P**	**21 35 28.0**	**+2.1**
	3.9nm,0.6s,baz=130,slow=7.0,SNR=6.1								
USRK	**Ussuriysk Ar.**	**87.27**	**326**	P		**P**	**P**	**21 35 32.9**	**-0.2**
	1.3nm,0.6s,baz=150,slow=4.2,SNR=4.7								
NVAR	**Mina Array Bea**	**88.00**	**43**	P		**P**	**P**	**21 35 38.6**	**+1.5**
	1.8nm,0.7s,baz=226,slow=9.3,SNR=14								
TXAR	**Lajitas Array**	**92.11**	**57**	P		**P**	**P**	**21 35 58.1**	**+1.7**
	0.3nm,0.8s,baz=207,slow=8.0,SNR=3.7								
CMAR	**Chiang Mai Arr**	**93.65**	**289**	P		**P**	**P**	**21 36 05.3**	**+1.7**
	0.5nm,0.6s,baz=134,slow=5.2,SNR=3.0								

PDAR Pinedale Array 95.89 43 PKKPbc PKKPbc 21 53 03.2 -0.1
0.4nm,0.6s,baz=55,slow=6.0,SNR=3.7
ILAR Eielson Array 97.80 13 P Pdif 21 36 21.3 -0.2
0.4nm,0.8s,baz=210,slow=5.2,SNR=3.4
MK31 Makanchi Array 117.95 310 *e*PKPdf **PKPdf 21 41 31.8 -1.3**
MKAR Makanchi Array 117.95 310 PKP **PKPdf 21 41 32.0 -1.1**
0.8nm,0.7s,baz=96,slow=1.2,SNR=6.7
ZALV Zalesovo Beam 118.17 318 PKP **PKPdf 21 41 31.0 -2.3**
0.5nm,0.5s,baz=182,slow=1.1,SNR=4.2
KURK Kurchatov 121.21 314 *e*PKPdf **PKPdf 21 41 38.0 -1.1**
GEYT Alibeck 133.79 295 PKP **PKPdf 21 42 04.6 +0.9**
1.9nm,0.7s,baz=92,slow=10,SNR=4.8
ARCES ARCESS Array B 138.59 348 PKhKP PKPpre 21 42 02.6
1.5nm,0.8s,baz=29,slow=2.8,SNR=4.3
FINES FINESS Array B 145.18 340 PKPbc **PKPbc 21 42 22.4 -0.7**
23nm,0.6s,baz=88,slow=2.8,SNR=203
KBZ Khabaz 145.31 304 PKPbc **PKPab 21 42 24.3 0.0**
3.4nm,0.8s,baz=96,slow=3.3,SNR=4.3
NB2 NORSAR Subarra148.73 352 PKP **PKPbc 21 42 33.1 -0.3**
comp=Z,6.2nm,0.7s,baz=14,slow=2.8
NOA NORSAR Array B 148.73 352 PKPbc **PKPbc 21 42 33.4 -0.1**
comp=Z,8.0nm,0.9s,baz=15,slow=4.3,SNR=25
NACGM Naroch 149.86 332 *e* **PKPbc 21 42 35.0 -1.3**
KONO Kongsberg 150.28 353 *e*PKPbc **PKPbc 21 42 37.1 -0.1**
AKASG Malin Array Be 151.42 323 PKPbc **PKPbc 21 42 39.8 -0.4**
comp=Z,7.7nm,0.6s,baz=48,slow=2.7,SNR=26
KIEV Kiev 151.43 323 *e*PKPbc **PKPbc 21 42 39.6 -0.5**
BRTR Keskin Array B 152.82 299 PKPbc **PKPbc 21 42 43.3 -0.6**
comp=Z,2.0nm,0.8s,baz=145,slow=5.8,SNR=9.1
CSS Prodhromos 153.55 288 *e*PKPbc **PKPbc 21 42 44.8 -0.7**
CLL Collm 157.59 342 *i* PKPab **PKPab 21 43 13.8 -0.9**
comp=Z,4.0nm,0.6s
BRG Berggiesshubel 157.72 340 *e*PKP **PKPab 21 43 14.4 -0.9**
comp=Z,2.4nm,0.8s
BRG *e* 21 43 18.5
comp=Z,2.3nm,0.7s
GERES GERESS Array B 159.59 338 PKPab **PKPab 21 43 23.1 -0.5**
comp=Z,0.5nm,0.6s,baz=46,slow=3.9,SNR=5.7
TORD Torodi Ar. Bo 162.89 178 PKPab **PKPab 21 43 38.1 -0.4**
comp=Z,3.6nm,0.9s,baz=184,slow=3.8,SNR=14

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*NEIC **10** 21:35:58.0±1.4, 15°.17S×173°.43W, h0km±4km, mb4.9/63, Error ellipse: s-maj=19.3km s-min=12.3km az=141.0*
*IDC **10** 21:35:58.1±0.5, 15°.20S×173°.44W, h0km, mb4.5/21, mb1 4.7/21, mb1mx4.6/31, mbtmp4.5/21, MS3.8/19, Ms1 3.8/19, ms1mx3.8/24, Error ellipse: s-maj=18.4km s-min=13.0km az=126.0*
*ISCJB **10** 21:36:01.2±0.2, 15°.16S±0°.06×173°.64W±0°.04, h30km, mb4.7/78, MS3.9/18, Error ellipse: s-maj=9.3km s-min=4.4km az=150.5*

ISC 10 21:36:02.8±0.4, 15°.17S±0°.09×173°.57W±0°.09, h30km, n398, σ0.9°77/375, mb4.8/78, MS3.9/18, 23C-7D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.14**	**54**	*e*Pn		Pn	21 36 28.4	-8.2
AFI				*e*Sn		Sn	21 36 52.2	-10
NIUE	**Niue**	**5.22**	**139**	P		Pn	21 37 12.8	-6.0
baz=5.0,SNR=21								
MSVF	**Nonsavu**	**8.43**	**251**	*e*Pn		**Pn**	**21 38 01.6**	**-1.4**
RAR	**Rarotonga**	**14.42**	**117**	Pn		Pn	21 39 16.6	-8.3
1.9nm,0.3s,baz=258,slow=12,SNR=4.8								
RAR				LR		LR	21 43 32.0	
comp=Z,340nm,19.6s,baz=301,slow=32								
RAR	**Rarotonga**	**14.42**	**117**	*e*Pn		Pn	21 39 17.8	-7.1
DZM	**Mont Dzumac**	**20.13**	**247**	P		**P**	**21 40 34.9**	**+0.2**
12nm,1.0s,baz=90,slow=24,SNR=13								
PPT	**Papeete**	**23.14**	**99**	LR		LR	21 47 21.5	
comp=Z,210nm,20.7s,baz=218,slow=30								
PAE	**Paea**	**23.14**	**99**	*e*T		T	22 04 19.2	
4.5nm,0.3s								
PPT2	**Papeete2**	**23.14**	**99**	*e*LR		LR	21 46 29.6	
501nm,24.5s								
PPT2	**Papeete2**	**23.14**	**99**	*e*T		T	22 04 20.4	
6.0nm,0.3s								
TVO	**Taravao**	**23.46**	**100**	*e*T		T	22 04 41.5	
2.3nm,0.3s								
TBI	**Tubuai**	**24.15**	**113**	*e*LR		LR	21 46 50.5	
673nm,26.5s								
TBI	**Tubuai**	**24.15**	**113**	*e*T		T	22 05 29.2	
19nm,0.3s								
URZ	**Urewera**	**24.43**	**198**	P		**P**	**21 41 17.9**	**-1.0**
6.6nm,0.6s,baz=59,slow=3.6,SNR=8.0								
PMOR	**Pomariorio Ree**	**24.79**	**93**	*e*T		T	22 06 26.2	
14nm,0.2s								
RPZ	**Rata Peaks**	**31.33**	**202**	P		**P**	**21 42 20.2**	**-0.4**
5.4nm,0.8s,baz=30,slow=14,SNR=3.1								
TAOE	**Nuku Hiva Isla**	**33.26**	**83**	*e*T		T	22 17 05.1	
206nm,0.3s								
ARMA	**Armidale**	**35.32**	**239**	P		**P**	**21 42 55.8**	**+0.2**
baz=36,SNR=5.6								
ARMA	**Armidale**	**35.32**	**239**	*e*P		**P**	**21 42 55.6**	**0.0**
82nm,2.1s								
RKT	**Rikitea**	**37.22**	**108**	*e*LR		LR	21 53 04.6	
296nm,24.5s,baz=292								
RKT	**Rikitea**	**37.22**	**108**	*e*T		T	22 21 50.6	
9.2nm,0.3s								
H11S2	**WAKE ISLAND Hy**	**38.68**	**329**	T		T	22 24 29.1	
baz=148,slow=76,SNR=37								
H11S3	**WAKE ISLAND Hy**	**38.70**	**329**	T		T	22 24 30.1	
baz=148,slow=76,SNR=19								
H11S1	**WAKE ISLAND Hy**	**38.70**	**329**	T		T	22 24 30.4	
baz=148,slow=76,SNR=21								
CNB	**Canberra Magne**	**38.76**	**232**	P		**P**	**21 43 24.8**	**+0.1**
baz=39,SNR=4.4								
H11N3	**WAKE ISLAND Hy**	**39.63**	**330**	T		T	22 26 04.5	
baz=150,slow=76,SNR=24								
H11N1	**WAKE ISLAND Hy**	**39.64**	**330**	T		T	22 26 04.1	
baz=150,slow=76,SNR=32								
H11N2	**WAKE ISLAND Hy**	**39.65**	**330**	T		T	22 26 06.6	
baz=150,slow=76,SNR=22								
MTSU	**Mount Surprise**	**40.39**	**260**	P		**P**	**21 43 39.4**	**+0.9**
baz=41,SNR=6.7								
CMSA	**Cobar Meteorol**	**40.53**	**239**	P		**P**	**21 43 39.4**	**-0.1**
baz=41,SNR=16								
TOO	**Toolangi**	**42.48**	**230**	P		**P**	**21 43 55.4**	**0.0**
baz=43,SNR=4.3								
STKA	**Stephens Creek**	**44.01**	**240**	P		**P**	**21 44 08.3**	**+0.5**
16nm,0.9s,baz=99,slow=9.1,SNR=17								
STKA				LR		LR	21 59 42.3	
comp=Z,146nm,18.0s,baz=48,slow=32								
STKA	**Stephens Creek**	**44.01**	**240**	P		**P**	**21 44 08.3**	**+0.5**
baz=44,SNR=8.7								
STKA	**Stephens Creek**	**44.01**	**240**	*e*P		**P**	**21 44 07.5**	**-0.3**
4.4nm,1.1s								
HTT	**Hallett**	**46.52**	**238**	P		**P**	**21 44 28.0**	**+0.2**
baz=47,SNR=4.1								
WRA	**Warramunga Arr**	**49.73**	**257**	P		**P**	**21 44 52.8**	**0.0**
2.4nm,0.6s,baz=92,slow=6.8,SNR=40								
WRA				PcP		**PcP**	**21 46 14.1**	**+0.4**
1.4nm,0.7s,baz=90,slow=3.6,SNR=4.7								
AS01	**Alice Springs**	**49.98**	**252**	*e*P		**P**	**21 44 53.4**	**-1.3**
AS12	**Alice Springs**	**50.02**	**252**	*e*P		**P**	**21 44 55.0**	**0.0**
ASAR	**Alice Springs**	**50.02**	**252**	P		**P**	**21 44 55.0**	**0.0**
12nm,0.5s,baz=87,slow=8.4,SNR=213								
ASAR				PcP		**PcP**	**21 46 14.8**	**+0.1**
1.3nm,0.8s,baz=105,slow=3.7,SNR=2.1								
ASAR				LR		LR	22 04 09.6	
comp=Z,279nm,21.5s,baz=96,slow=34								
GUMO	**Guam**	**50.07**	**303**	P		**P**	**21 44 55.8**	**+0.5**
15nm,0.3s,baz=160,slow=18,SNR=3.5								
GUMO				LR		LR	22 04 14.7	
comp=Z,38nm,18.6s,baz=94,slow=34								
WRKA	**Warakurna**	**55.12**	**250**	P		**P**	**21 45 32.7**	**0.0**
baz=56,SNR=19								
SIJI	**Sorong**	**56.26**	**279**	P		**P**	**21 45 42.5**	**+1.5**
5.5nm,0.7s,baz=51,slow=9.7,SNR=7.3								
JCJ	**Chichijima**	**60.08**	**314**	LR		LR	22 07 07.3	
comp=Z,87nm,21.2s,baz=96,slow=31								
SBA	**Scott Base**	**63.46**	**185**	*e*P		**P**	**21 46 29.9**	**+0.5**
19nm,1.1s								
VNDA	**Vanda**	**63.59**	**186**	P		**P**	**21 46 31.6**	**+1.4**
6.0nm,1.0s,baz=7.8,slow=6.5,SNR=15								
VNDA				PcP		**PcP**	**21 47 07.2**	**+0.7**
5.1nm,0.9s,baz=339,slow=3.8,SNR=7.0								
VNDA				LR		LR	22 13 34.3	
comp=Z,55nm,18.0s,baz=3.5,slow=36								
VNDA	**Vanda**	**63.59**	**186**	*e*P		**P**	**21 46 30.8**	**+0.6**
16nm,1.3s								
KLBR	**Kellerberrin**	**64.20**	**242**	P		**P**	**21 46 36.0**	**+0.9**
baz=65,SNR=4.9								
MJAR	**Matsushiro Arr**	**68.66**	**320**	P		**P**	**21 47 04.5**	**+1.0**
0.7nm,0.6s,baz=168,slow=5.4,SNR=4.9								
MJAR				LR		LR	22 11 38.1	
comp=Z,88nm,21.9s,baz=120,slow=31								
MAJO	**Matsushiro**	**68.66**	**320**	*e*P		**P**	**21 47 04.5**	**+1.0**
20nm,1.7s								
JOW	**Kunigami**	**70.22**	**306**	*e*P		**P**	**21 47 12.6**	**-0.6**
102nm,0.5s								
CASY	**Casey**	**70.55**	**205**	*e*P		**P**	**21 47 14.0**	**-0.6**
119nm,2.5s								
JNU	**Nakatsue**	**71.52**	**313**	LR		LR	22 12 36.8	
comp=Z,58nm,21.5s,baz=248,slow=31								
PEA2	**Petropavlovsk-**	**72.36**	**342**	*e*P		**P**	**21 47 26.2**	**+0.5**
PETK	**Petropavlovsk-**	**72.36**	**342**	P		**P**	**21 47 26.2**	**+0.5**
3.4nm,0.7s,baz=145,slow=8.8,SNR=4.8								
PETK				LR		LR	22 14 50.9	
comp=Z,31nm,20.5s,baz=136,slow=32								
M02C	**Callahan**	**73.22**	**37**	P		**P**	**21 47 32.6**	**+1.4**
baz=73								
BELC	**Belle Mtn. Jos**	**73.42**	**47**	P		**P**	**21 47 33.8**	**+1.2**
baz=74								
MPMC	**Manual Prospec**	**73.49**	**45**	P		**P**	**21 47 34.6**	**+1.6**
baz=74								
YBH	**Yreka Blue Hor**	**73.52**	**37**	*e*P		**P**	**21 47 33.4**	**+0.5**
7.1nm,0.8s								
GSC	**Goldstone**	**73.55**	**46**	P		**P**	**21 47 34.1**	**+0.9**
baz=74								
GSC	**Goldstone**	**73.55**	**46**	*e*P		**P**	**21 47 32.5**	**-0.7**
7.7nm,1.3s								
HEC	**Hector,Ludlow**	**73.62**	**46**	P		**P**	**21 47 34.5**	**+0.9**
baz=74								
BC3	**Big Chuckawall**	**73.62**	**48**	P		**P**	**21 47 34.5**	**+0.8**
baz=74								
HUMO	**Hull Mountain**	**73.92**	**36**	*e*P		**P**	**21 47 35.4**	**+0.2**
98nm,2.5s								
M04C	**Macdoel**	**74.06**	**38**	P		**P**	**21 47 37.4**	**+1.3**
baz=74								
GMRC	**Granite Mounta**	**74.06**	**46**	P		**P**	**21 47 37.4**	**+1.1**
baz=74								
IRM	**Iron Mountain**	**74.10**	**47**	P		**P**	**21 47 37.3**	**+0.8**
baz=74								
NV01	**Mina Array Sit**	**74.27**	**42**	*e*P		**P**	**21 47 36.5**	**-1.0**
NVAR	**Mina Array Bea**	**74.27**	**42**	P		**P**	**21 47 37.5**	**-0.1**
1.9nm,0.7s,baz=227,slow=8.0,SNR=17								
I03D	**Drain, OR**	**74.39**	**35**	P		**P**	**21 47 39.3**	**+1.5**
baz=75								
TPH	**Tonopah**	**74.78**	**43**	*e*P		**P**	**21 47 39.8**	**-0.6**
6.5nm,1.0s								
J04D	**Umpqua Nationa**	**74.81**	**36**	P		**P**	**21 47 41.4**	**+0.8**
baz=75								
I04A	**Tendick Farm,**	**74.98**	**36**	P		**P**	**21 47 42.4**	**+1.1**
baz=75								
K05A	**Summer Lake**	**75.19**	**37**	*e*P		**P**	**21 47 42.5**	**-0.2**
21nm,1.0s								
SHPR	**Sheep Range**	**75.32**	**45**	*e*P		**P**	**21 47 43.2**	**-0.4**
J05D	**Fort Rock, OR**	**75.33**	**37**	P		**P**	**21 47 44.5**	**+1.0**
baz=76								
KSRS	**Korea Array**	**75.88**	**316**	P		**P**	**21 47 46.5**	**0.0**
1.9nm,0.8s,baz=128,slow=7.3,SNR=6.7								
KSRS				LR		LR	22 15 13.0	
comp=Z,40nm,21.1s,baz=82,slow=31								
KS15	**Wonju Array Si**	**75.90**	**316**	*e*P		**P**	**21 47 46.5**	**-0.1**
I05D	**Terrebonne, OR**	**75.92**	**36**	P		**P**	**21 47 47.7**	**+1.0**
baz=76								
R11A	**Troy Canyon, C**	**76.01**	**43**	P		**P**	**21 47 47.9**	**+0.4**
baz=76								
R11A	**Troy Canyon, C**	**76.01**	**43**	*e*P		**P**	**21 47 46.2**	**-1.3**
25nm,2.4s								
TUC	**Tucson**	**76.38**	**51**	*e*P		**P**	**21 47 49.2**	**-0.4**
6.7nm,0.8s								
CCUT	**Cedar City**	**77.09**	**45**	*e*P		**P**	**21 47 53.4**	**-0.3**
3.2nm,1.0s								
USRK	**Ussuriysk Ar.**	**77.10**	**323**	P		**P**	**21 47 53.9**	**+0.6**
1.3nm,0.9s,baz=145,slow=7.0,SNR=5.1								
USRK				LR		LR	22 15 50.3	
comp=Z,124nm,21.4s,baz=112,slow=31								
KNB	**Kanah**	**77.19**	**46**	*e*P		**P**	**21 47 52.9**	**-1.3**
27nm,1.8s								
WUAZ	**Wupatki**	**77.47**	**48**	P		**P**	**21 47 56.5**	**+0.7**
baz=78								
WUAZ	**Wupatki**	**77.47**	**48**	*e*P		**P**	**21 47 55.0**	**-0.8**
7.2nm,1.1s								
G08A	**Pilot Rock**	**77.85**	**36**	*e*P		**P**	**21 47 57.2**	**-0.4**
8.8nm,0.9s								
MVU	**Marysvale**	**78.35**	**45**	*e*P		**P**	**21 48 00.3**	**-0.5**
6.5nm,1.0s								
MSU	**Marysvale**	**78.38**	**45**	*e*P		**P**	**21 48 00.4**	**-0.5**
W18A	**Petrified Fore**	**78.46**	**49**	P		**P**	**21 48 01.9**	**+0.5**
baz=79								
MFID	**Camas Ranch**	**78.61**	**39**	*e*P		**P**	**21 48 01.3**	**-0.6**
8.6nm,0.9s								
121A	**Cookes Peak, D**	**78.74**	**52**	P		**P**	**21 48 03.6**	**+0.7**
baz=79								
DUG	**Dugway**	**78.81**	**43**	P		**P**	**21 48 03.7**	**+0.6**
baz=79								
DUG	**Dugway**	**78.81**	**43**	*e*P		**P**	**21 48 01.1**	**-2.0**
6.0nm,0.9s								
D08A	**Wollman Farm,**	**78.92**	**35**	*e*P		**P**	**21 48 02.4**	**-1.0**
6.9nm,0.8s								
BGU	**Big Grassy Mou**	**79.04**	**42**	*e*P		**P**	**21 48 04.0**	**-0.4**
2.9nm,1.0s								
DIV	**Divide**	**79.21**	**13**	*e*P		**P**	**21 48 04.4**	**-0.3**
13nm,0.8s								
F10A	**Beach Ranch, E**	**79.23**	**36**	*e*P		**P**	**21 48 04.0**	**-1.2**
8.3nm,0.8s								
TMUT	**Trail Mountain**	**79.43**	**44**	*e*P		**P**	**21 48 05.7**	**-1.0**
20nm,1.1s								
B08A	**Colville Reser**	**79.48**	**33**	*e*P		**P**	**21 48 05.2**	**-1.2**
4.7nm,0.9s								
HLID	**Hailey**	**79.56**	**39**	P		**P**	**21 48 08.0**	**+0.8**
baz=80,SNR=27								
HLID	**Hailey**	**79.56**	**39**	*e*P		**P**	**21 48 07.0**	**-0.2**
14nm,0.9s								
HVU	**Hansel Valley**	**79.65**	**42**	*e*P		**P**	**21 48 07.3**	**-0.4**
8.6nm,0.7s								
C09A	**Chrisman Ranch**	**79.72**	**34**	*e*P		**P**	**21 48 07.2**	**-0.5**
4.3nm,0.8s								
SRU	**San Rafael**	**79.80**	**45**	*e*P		**P**	**21 48 08.3**	**-0.3**
7.6nm,1.1s								
NJ2	**Nanjing**	**79.89**	**307**	*e*P		**P**	**21 48 07.6**	**-1.4**
NJ2					PMZ			
40nm,1.2s								
CAST	**Castle Rocks**	**80.10**	**10**	*e*P		**P**	**21 48 09.1**	**-0.4**
4.9nm,0.8s								
PV05	**Paradox Valley**	**80.29**	**46**	*e*P		**P**	**21 48 11.2**	**-0.2**
BNM	**Barren Site**	**80.31**	**51**	*e*P		**P**	**21 48 11.2**	**-0.4**
LPM	**Los Pinos Moun**	**80.38**	**51**	*e*P		**P**	**21 48 11.8**	**0.0**
PV09	**Paradox Valley**	**80.46**	**46**	*e*P		**P**	**21 48 12.0**	**-0.3**
PV10	**Paradox Valley**	**80.47**	**46**	*e*P		**P**	**21 48 11.7**	**-0.7**
PV04	**Paradox Valley**	**80.57**	**46**	*e*P		**P**	**21 48 12.0**	**-0.8**
NEW	**Newport**	**80.61**	**34**	P		**P**	**21 48 12.7**	**+0.1**
baz=81								
TX31	**Lajitas Ar. Si**	**80.62**	**56**	*e*P		**P**	**21 48 12.7**	**-0.5**
LTX	**Lajitas**	**80.62**	**56**	*e*P		**P**	**21 48 13.1**	**0.0**
TXAR	**Lajitas Array**	**80.62**	**56**	P		**P**	**21 48 13.1**	**0.0**
4.7nm,1.0s,baz=230,slow=4.7,SNR=30								
TXAR				LR		LR	22 17 56.1	
comp=Z,83nm,18.6s,baz=0.0,slow=31								
RND	**Reindeer**	**80.65**	**11**	*e*P		**P**	**21 48 12.0**	**-0.4**
8.6nm,0.9s								
PV01	**Paradox Valley**	**80.69**	**46**	*e*P		**P**	**21 48 13.1**	**-0.4**
ANMO	**Albuquerque**	**80.78**	**50**	*e*P		**P**	**21 48 13.2**	**-0.8**
4.8nm,0.8s								
MCK	**McKinley**	**80.93**	**11**	*e*P		**P**	**21 48 13.5**	**-0.4**
15nm,0.8s								
HYT	**Haines Junctio**	**81.04**	**17**	*e*P		**P**	**21 48 13.8**	**-0.9**
MCMT	**McKenzie Canyo**	**81.18**	**39**	*e*P		**P**	**21 48 15.4**	**-0.5**
MSO	**Missoula**	**81.60**	**37**	P		**P**	**21 48 17.7**	**-0.2**
baz=82,SNR=7.2								
MSO	**Missoula**	**81.60**	**37**	*e*P		**P**	**21 48 16.8**	**-1.1**
11nm,1.1s								
BSMT	**Bassoo Peak**	**81.67**	**36**	*e*P		**P**	**21 48 17.9**	**-0.6**
S22A	**4UR Ranch, Cre**	**81.74**	**47**	P		**P**	**21 48 20.1**	**+0.9**
baz=82								
S22A	**4UR Ranch, Cre**	**81.74**	**47**	*e*P		**P**	**21 48 18.6**	**-0.5**
9.4nm,0.9s								
WRH	**Wood River Hil**	**81.76**	**11**	*e*P		**P**	**21 48 17.9**	**-0.3**
12nm,0.8s								
HDA	**Harding Lake**	**81.91**	**11**	*e*P		**P**	**21 48 18.7**	**-0.3**
9.9nm,0.8s								
LRM	**Limekiln Ridge**	**81.94**	**38**	*e*P		**P**	**21 48 19.1**	**-0.9**
CCB	**Clear Creek Bu**	**81.97**	**11**	*e*P		**P**	**21 48 18.9**	**-0.4**
16nm,0.8s								
CHMT	**Chamberlain Mo**	**82.04**	**37**	*e*P		**P**	**21 48 19.3**	**-1.1**
529A	**Stev Forest Ra**	**82.09**	**56**	P		**P**	**21 48 21.2**	**+0.3**
baz=82								
COLA	**College**	**82.17**	**11**	*e*P		**P**	**21 48 20.2**	**-0.1**
21nm,0.7s								
MDM	**Murphy Dome**	**82.18**	**11**	*e*P		**P**	**21 48 20.5**	**0.0**
6.6nm,1.0s								
BW06	**Boulder Array**	**82.21**	**42**	*e*P		**P**	**21 48 20.4**	**-1.0**
74nm,2.4s								
PD31	**Pinedale Array**	**82.21**	**42**	*e*P		**P**	**21 48 21.0**	**-0.4**
PDAR	**Pinedale Array**	**82.21**	**42**	P		**P**	**21 48 21.0**	**-0.4**
4.1nm,0.8s,baz=227,slow=1.8,SNR=32								
PDAR				LR		LR	22 20 20.9	
comp=Z,70nm,18.2s,baz=242,slow=32								
IL1	**Eielson Array**	**82.25**	**11**	*e*P		**P**	**21 48 20.1**	**-0.8**
ILAR	**Eielson Array**	**82.25**	**11**	P		**P**	**21 48 20.6**	**-0.2**
2.3nm,0.8s,baz=203,slow=5.7,SNR=19								
ILAR				LR		LR	22 17 43.0	
comp=Z,52nm,21.8s,baz=234,slow=30								
ILB	**Eielson Array**	**82.25**	**11**	*e*P		**P**	**21 48 20.6**	**-0.2**
BOZ	**Bozeman (W)**	**82.34**	**39**	P		**P**	**21 48 22.3**	**+0.4**
baz=82,SNR=7.3								
228A	**UT Block 9, Go**	**82.56**	**54**	P		**P**	**21 48 23.2**	**-0.1**
baz=83								
SDCO	**Great Sand Dun**	**82.69**	**48**	P		**P**	**21 48 24.3**	**+0.2**
baz=83,SNR=7.3								
SDCO	**Great Sand Dun**	**82.69**	**48**	*e*P		**P**	**21 48 23.8**	**-0.3**
56nm,2.5s								
HRY	**Holter Researc**	**82.77**	**38**	*e*P		**P**	**21 48 23.6**	**-0.5**
J19A	**Crowheart**	**82.77**	**42**	P		**P**	**21 48 24.3**	**+0.1**
baz=83,SNR=9.6								
329A	**Wagon Wheel Ra**	**82.80**	**55**	P		**P**	**21 48 24.5**	**0.0**
baz=83,SNR=8.3								
530A	**J-C Ranch, Com**	**82.81**	**56**	P		**P**	**21 48 24.8**	**+0.2**
baz=83								
WALA	**Waterton Lakes**	**82.82**	**35**	*e*P		**P**	**21 48 23.4**	**-0.9**
3.8nm,0.7s								
WHN	**Wuhan**	**82.83**	**304**	P		P	21 48 30.8	+6.2
128A	**Castleberry Fa**	**82.84**	**54**	P		**P**	**21 48 24.9**	**+0.1**
baz=83,SNR=13								
229A	**Bryant Ranch,**	**83.12**	**54**	P		**P**	**21 48 26.6**	**+0.4**
baz=83								
430A	**Baggett Ranch,**	**83.13**	**56**	P		**P**	**21 48 26.5**	**+0.3**
baz=83								
631A	**Perdido Creek**	**83.15**	**57**	P		**P**	**21 48 26.2**	**-0.1**
baz=83,SNR=5.8								
MSTX	**Muleshoe**	**83.15**	**52**	P		**P**	**21 48 26.5**	**+0.1**
baz=83,SNR=5.7								
MSTX	**Muleshoe**	**83.15**	**52**	*e*P		**P**	**21 48 25.4**	**-0.9**
22nm,1.1s								
I19A	**Meeteetse**	**83.18**	**41**	P		**P**	**21 48 26.7**	**+0.3**
baz=83,SNR=5.0								
Z28A	**Tucker Farm, M**	**83.18**	**53**	P		**P**	**21 48 26.3**	**-0.2**
baz=83								
T25A	**Trinidad**	**83.22**	**49**	P		**P**	**21 48 26.9**	**+0.2**
baz=83,SNR=6.5								
T25A	**Trinidad**	**83.22**	**49**	*e*P		**P**	**21 48 26.2**	**-0.6**
8.0nm,0.9s								
832A	**Faith Ranch, C**	**83.23**	**58**	P		**P**	**21 48 26.5**	**-0.2**
baz=83,SNR=8.0								
DAWY	**Dawson**	**83.24**	**14**	*e*P		**P**	**21 48 25.8**	**-0.3**
7.6nm,1.0s								
129A	**Stewart Farms,**	**83.33**	**54**	P		**P**	**21 48 27.3**	**0.0**
baz=84								
732A	**Laxson Ranch,**	**83.39**	**58**	P		**P**	**21 48 27.7**	**+0.1**
baz=84								
330A	**Mertzon**	**83.41**	**55**	P		**P**	**21 48 27.5**	**-0.2**
baz=84								
J20A	**Shoshoni**	**83.44**	**42**	P		**P**	**21 48 27.5**	**-0.1**
baz=84								
EGAK	**Eagle**	**83.44**	**13**	*e*P		**P**	**21 48 26.8**	**-0.2**
4.6nm,0.9s								
531A	**Rocksprings**	**83.45**	**56**	P		**P**	**21 48 27.8**	**-0.1**
baz=84,SNR=17								
Q24A	**Divide**	**83.46**	**47**	P		**P**	**21 48 28.6**	**+0.5**
baz=84,SNR=6.8								
Q24A	**Divide**	**83.46**	**47**	*e*P		**P**	**21 48 27.4**	**-0.7**
18nm,1.2s								
H19A	**Powell**	**83.48**	**40**	P		**P**	**21 48 28.7**	**+0.8**
baz=84,SNR=13								
ISCO	**Idaho Springs**	**83.49**	**46**	P		**P**	**21 48 27.8**	**-0.4**
baz=84,SNR=5.7								
ISCO	**Idaho Springs**	**83.49**	**46**	*e*P		**P**	**21 48 26.7**	**-1.6**
22nm,1.9s								
RLMT	**Red Lodge**	**83.53**	**40**	P		**P**	**21 48 28.7**	**+0.6**
baz=84,SNR=9.5								
Y28A	**McKinney Farm,**	**83.53**	**52**	P		**P**	**21 48 28.0**	**-0.3**
baz=84								
933A	**Laredo**	**83.57**	**59**	P		**P**	**21 48 28.4**	**-0.1**
baz=84								
431A	**Sonora**	**83.59**	**56**	P		**P**	**21 48 28.8**	**+0.2**
baz=84								
GCMT	**Greycliff**	**83.61**	**39**	*e*P

533A	**Kerrville**	**84.64**	**57**	P		**P**	**21 48 33.9**	**0.0**
	baz=85,SNR=8.3								
EGMT	**Eagleton**	**84.65**	**37**	P		**P**	**21 48 33.6**	**0.0**
	baz=85								
EGMT	**Eagleton**	**84.65**	**37**	*e*P		**P**	**21 48 32.9**	**-0.8**
	6.9nm,0.8s								
H21A	**Big Horn, Sher**	**84.69**	**41**	P		**P**	**21 48 34.2**	**+0.2**
	baz=85,SNR=7.1								
I22A	**9 Mile Ranch,**	**84.72**	**42**	P		**P**	**21 48 34.3**	**+0.1**
	baz=85,SNR=6.2								
K23A	**Bowen Ranch, D**	**84.77**	**43**	P		**P**	**21 48 34.6**	**+0.1**
	baz=85								
X30A	**Coker Ranch, T**	**84.78**	**52**	P		**P**	**21 48 34.5**	**-0.2**
	baz=85								
232A	**Coleman**	**84.80**	**55**	P		**P**	**21 48 34.5**	**-0.2**
	baz=85,SNR=11								
433A	**Art**	**84.83**	**56**	P		**P**	**21 48 34.4**	**-0.5**
	baz=85,SNR=11								
R27A	**Eads**	**84.85**	**48**	P		**P**	**21 48 34.8**	**-0.1**
	baz=85								
G21A	**Lodge Grass**	**84.86**	**41**	P		**P**	**21 48 34.8**	**0.0**
	baz=85								
T28A	**Walsh**	**84.89**	**50**	P		**P**	**21 48 35.0**	**-0.1**
	baz=85								
Z31A	**Sharp Cattle R**	**84.93**	**54**	P		**P**	**21 48 35.0**	**-0.3**
	baz=85,SNR=14								
ABTX	**Abilene, Hawle**	**85.06**	**54**	P		**P**	**21 48 35.6**	**-0.4**
	baz=85,SNR=17								
ABTX	**Abilene, Hawle**	**85.06**	**54**	*e*P		**P**	**21 48 35.2**	**-0.8**
	44nm,0.9s								
534A	**Blanco**	**85.07**	**57**	P		**P**	**21 48 35.8**	**-0.3**
	baz=85,SNR=13								
Y31A	**Rekieta Farm,**	**85.08**	**53**	P		**P**	**21 48 35.9**	**-0.2**
	baz=85,SNR=8.3								
333A	**Richland Sprin**	**85.12**	**56**	P		**P**	**21 48 36.2**	**-0.1**
	baz=85								
F21A	**Absaloka Mine,**	**85.19**	**40**	P		**P**	**21 48 37.2**	**+0.7**
	baz=85								
BJI	**Beijing**	**85.19**	**314**	P		**P**	**21 48 34.3**	**-2.1**
BJI				sP		sP	21 49 50.2	+61
BJI				PMZ					
	6.0nm,0.8s								
BJI				PMZ					
	120nm,4.5s								
735A	**Kenedy**	**85.21**	**59**	P		**P**	**21 48 37.7**	**+0.9**
	baz=85								
S28A	**Manter**	**85.23**	**49**	P		**P**	**21 48 37.4**	**+0.6**
	baz=85								
B19A	**Brinkman Farms**	**85.33**	**37**	P		**P**	**21 48 37.4**	**+0.4**
	baz=86								
V30A	**Spur Ranch, Mi**	**85.42**	**51**	P		**P**	**21 48 38.2**	**+0.4**
	baz=86								
635A	**Leesville**	**85.42**	**58**	P		**P**	**21 48 37.8**	**0.0**
	baz=86								
233A	**Rising Star**	**85.43**	**55**	P		**P**	**21 48 37.7**	**-0.3**
	baz=86								
Z32A	**Haskell**	**85.44**	**54**	P		**P**	**21 48 37.9**	**0.0**
	baz=86,SNR=43								
434A	**Burnet**	**85.52**	**57**	P		**P**	**21 48 38.3**	**0.0**
	baz=86,SNR=6.1								
C20A	**Veseth Ranch,**	**85.53**	**38**	P		**P**	**21 48 38.4**	**+0.4**
	baz=86								
X31A	**McDonald Ranch**	**85.54**	**53**	P		**P**	**21 48 37.9**	**-0.5**
	baz=86								
R28A	**Tribune**	**85.59**	**49**	P		**P**	**21 48 38.9**	**+0.3**
	baz=86								
133A	**Hamilton Ranch**	**85.63**	**55**	P		**P**	**21 48 39.1**	**+0.3**
	baz=86,SNR=6.2								
J24A	**Dixon Ranch, L**	**85.66**	**43**	P		**P**	**21 48 39.0**	**+0.1**
	baz=86								
A19A	**Klindworth Far**	**85.68**	**37**	P		**P**	**21 48 39.1**	**+0.3**
	baz=86								
F22A	**Rosebud**	**85.71**	**40**	P		**P**	**21 48 39.5**	**+0.5**
	baz=86								
334A	**Lometa**	**85.72**	**56**	P		**P**	**21 48 39.2**	**-0.2**
	baz=86,SNR=12								
Y32A	**R-V Farms, Ver**	**85.72**	**53**	P		**P**	**21 48 39.3**	**0.0**
	baz=86,SNR=12								
W31A	**Holland Ranch,**	**85.77**	**52**	P		**P**	**21 48 39.3**	**-0.2**
	baz=86,SNR=5.9								
736A	**Circle Diamond**	**85.86**	**59**	P		**P**	**21 48 41.0**	**+1.0**
	baz=86								
B20A	**Solberg Farm,**	**85.86**	**37**	P		**P**	**21 48 40.0**	**+0.3**
	baz=86								
Z33A	**Whitaker Ranch**	**85.99**	**54**	P		**P**	**21 48 40.3**	**-0.3**
	baz=86,SNR=11								
X32A	**Elmer**	**86.00**	**53**	P		**P**	**21 48 40.4**	**-0.2**
	baz=86,SNR=12								
G23A	**Biddle**	**86.00**	**41**	P		**P**	**21 48 40.8**	**+0.3**
	baz=86								
234A	**Clairette**	**86.04**	**56**	P		**P**	**21 48 40.9**	**+0.1**
	baz=86,SNR=6.0								
636A	**Smothers Creek**	**86.04**	**58**	P		**P**	**21 48 41.0**	**+0.1**
	baz=86								
435B	**Jarrell**	**86.06**	**57**	P		**P**	**21 48 41.0**	**0.0**
	baz=86								
C21A	**Desert Coulee**	**86.13**	**38**	P		**P**	**21 48 41.3**	**+0.3**
	baz=86								
A20A	**Cobblestone Ra**	**86.13**	**37**	P		**P**	**21 48 40.7**	**-0.3**
	baz=86								
F23A	**Volborg**	**86.22**	**41**	P		**P**	**21 48 42.4**	**+0.8**
	baz=86								
536A	**Bastrop**	**86.24**	**58**	P		**P**	**21 48 42.7**	**+0.8**
	baz=86								
134A	**White-Moore Ra**	**86.28**	**55**	P		**P**	**21 48 43.0**	**+1.0**
	baz=86								
W32A	**Sentinel**	**86.28**	**52**	P		**P**	**21 48 42.4**	**+0.4**
	baz=86,SNR=8.6								
H24A	**Dirks Ranch, A**	**86.34**	**42**	P		**P**	**21 48 42.1**	**-0.1**
	baz=86,SNR=6.7								
335A	**Moody**	**86.35**	**56**	P		**P**	**21 48 42.2**	**-0.2**
	baz=86,SNR=6.7								
Y33A	**Hilltop Ranch,**	**86.36**	**53**	P		**P**	**21 48 42.3**	**-0.1**
	baz=86								
RSSD	**Black Hills**	**86.41**	**43**	*e*P		**P**	**21 48 41.9**	**-0.8**
	4.9nm,0.8s								
B21A	**Ellsworth Farm**	**86.45**	**38**	P		**P**	**21 48 42.3**	**-0.2**
	baz=87								
WMOK	**Wichita Mounta**	**86.50**	**53**	*e*P		**P**	**21 48 41.8**	**-1.3**
	4.7nm,1.3s								
I25A	**Rochford**	**86.56**	**43**	P		**P**	**21 48 43.7**	**+0.3**
	baz=87								
WHTX	**Lake Whitney**	**86.57**	**56**	P		**P**	**21 48 43.3**	**-0.2**
	baz=87								
E23A	**Ismay**	**86.62**	**40**	P		**P**	**21 48 43.5**	**0.0**
	baz=87								
X33A	**Lawton**	**86.64**	**53**	P		**P**	**21 48 43.7**	**-0.1**
	baz=87								
Z34A	**Collier Ranch,**	**86.69**	**54**	P		**P**	**21 48 44.2**	**+0.2**
	baz=87								
135A	**Vickery Place,**	**86.81**	**55**	P		**P**	**21 48 45.0**	**+0.3**
	baz=87								
U32A	**Winter Ranch,**	**86.92**	**51**	P		**P**	**21 48 44.8**	**-0.3**
	baz=87								
Q30A	**Quinter**	**86.98**	**48**	P		**P**	**21 48 45.2**	**-0.2**
	baz=87								
B22A	**Reddig Ranch S**	**87.00**	**38**	P		**P**	**21 48 45.1**	**-0.2**
	baz=87								
Y34A	**Reagan Ranch,**	**87.02**	**54**	P		**P**	**21 48 45.2**	**-0.4**
	baz=87								
Z35A	**Perchaven, San**	**87.19**	**55**	P		**P**	**21 48 46.9**	**+0.4**
	baz=87								
HKT	**Hockley**	**87.20**	**58**	*e*P		**P**	**21 48 46.2**	**-0.3**
	40nm,2.1s								
437A	**Phantom Ranch,**	**87.24**	**57**	P		**P**	**21 48 47.5**	**+0.8**
	baz=87								
236A	**Katherine and**	**87.32**	**56**	P		**P**	**21 48 47.0**	**-0.1**
	baz=88								
136A	**Ennis**	**87.48**	**56**	P		**P**	**21 48 48.0**	**+0.1**
	baz=88								
Y35A	**Marietta**	**87.56**	**54**	P		**P**	**21 48 48.4**	**+0.2**
	baz=88								
538A	**Harpers Horsep**	**87.57**	**58**	P		**P**	**21 48 49.7**	**+1.4**
	baz=88								
B23A	**Brockton**	**87.67**	**38**	P		**P**	**21 48 48.8**	**+0.3**
	baz=88								
X35A	**Drake**	**87.78**	**54**	P		**P**	**21 48 49.6**	**+0.3**
	baz=88								
GYA	**Guiyang**	**87.79**	**298**	*e*P		**P**	**21 48 47.2**	**-2.5**
GYA				pP		pP	21 49 42.8	+43
GYA				sP		sP	21 50 07.0	+64
GYA				PP		**PP**	**21 52 17.4**	**+1.5**
GYA				SKS		SKSac	21 58 50.2	-26
GYA				S		SKKSac	21 59 05.6	-20
GYA				sS		sS	22 00 44.0	+57
GYA				PMZ				
	10.0nm,1.0s								
R32A	**Long Quarter,**	**87.87**	**49**	P		**P**	**21 48 49.7**	**0.0**
	baz=88								
MAW	**Mawson**	**87.95**	**199**	P		**P**	**21 48 49.2**	**-0.3**
	12nm,0.7s,baz=130,slow=8.3,SNR=13								
MAW				LR		LR	22 25 54.7		
	comp=Z,162nm,19.7s,baz=67,slow=34								
MAW	**Mawson**	**87.95**	**199**	P		**P**	**21 48 50.6**	**+1.1**
	baz=88,SNR=8.2								
XAN	**Xi'an**	**88.36**	**306**	P		**P**	**21 48 51.4**	**-0.7**
XAN				PMZ					
	2.0nm,0.6s								
HHC	**Hu-ho-hao-te**	**88.75**	**313**	*e*P		**P**	**21 48 51.6**	**-2.3**
HHC				pP		pP	21 49 46.2	+43
HHC				sP		sP	21 50 08.7	+62
HHC				PP		**PP**	**21 52 25.7**	**+2.4**
HHC				SKS		SKSac	21 58 56.8	-25
HHC				S		SKKSac	21 59 15.8	-17
HHC				sS		sS	22 00 51.2	+56
HHC				PMZ					
	16nm,0.7s								
HHC				PMZ					
	75nm,6.2s								
X38A	**Whitesboro**	**89.54**	**54**	P		**P**	**21 48 58.2**	**+0.6**
	baz=90								
S36A	**Lake Cedric, C**	**89.94**	**51**	P		**P**	**21 49 00.4**	**+1.0**
	baz=90								
YKA	**Yellowknife Ar**	**89.95**	**23**	P		**P**	**21 48 58.9**	**+0.1**
	1.6nm,0.8s,baz=237,slow=4.2,SNR=5.7								
YKB5	**Yellowknife Ar**	**89.95**	**23**	*e*P		**P**	**21 48 58.1**	**-0.7**
V38A	**Canehill**	**90.24**	**53**	P		**P**	**21 49 00.8**	**-0.1**
	baz=90								
T37A	**Cheneyville 18**	**90.26**	**52**	P		**P**	**21 49 00.8**	**-0.1**
	baz=90								
KMI	**Kunming**	**90.78**	**296**	P		**P**	**21 49 04.1**	**+0.2**
KMI				PMZ					
	4.0nm,1.2s								
CD2	**Chengdu**	**91.55**	**301**	P		P	21 49 02.6	-4.5
CD2				pP		pP	21 49 58.7	+42
CD2				sP		sP	21 50 23.0	+63
CD2				PP		**PP**	**21 52 42.5**	**-3.2**
CD2				SKS		SKSac	21 59 11.8	-26
CD2				S		SKKSac	21 59 40.5	-13
CD2				sS		sS	22 01 19.8	+58
CD2				SS		SS	22 05 51.8	-21
CD2				PMZ					
	10.0nm,0.5s								
CD2				PMZ					
	100nm,7.2s								
CM31	**Chiang Mai Arr**	**92.39**	**288**	*e*P		**P**	**21 49 12.5**	**+1.3**
CMAR	**Chiang Mai Arr**	**92.39**	**288**	P		**P**	**21 49 12.5**	**+1.3**
	0.2nm,0.4s,baz=90,slow=1.8,SNR=3.3								
CMAR				LR		LR	22 24 34.2		
	comp=Z,31nm,22.0s,baz=145,slow=32								
LZH	**Lanzhou**	**92.95**	**306**	*e*P		**P**	**21 49 11.3**	**-2.3**
LZH				pP		pP	21 50 05.1	+42
LZH				sP		sP	21 50 28.4	+62
LZH				PMZ					
	23nm,1.0s								
LZH				PMZ					
	100nm,5.0s								
VNA1	**Neumayer--Stat**	**93.79**	**175**	P		**P**	**21 49 17.5**	**+0.9**
SONA0	**Songino Array**	**94.56**	**318**	*e*P		**P**	**21 49 22.1**	**+1.4**
SONM	**Songino Array**	**94.56**	**318**	P		**P**	**21 49 22.1**	**+1.4**
	0.3nm,0.6s,baz=87,slow=3.0,SNR=2.9								
SONM				PP		**PP**	**21 53 06.1**	**-2.9**
	0.2nm,0.5s,baz=123,slow=5.3,SNR=2.4								
SONM				LR		LR	22 26 54.6		
	comp=Z,43nm,21.2s,baz=108,slow=32								
GTA	**Gaotai**	**96.91**	**309**	*e*P		**P**	**21 49 30.4**	**-1.2**
GTA				pP		pP	21 50 25.3	+44
GTA				sP		sP	21 50 48.9	+64
GTA				PMZ					
	2.0nm,0.7s								
LPAZ	**La Paz**	**100.05**	**110**	LR		LR	22 25 23.2		
	comp=Z,23nm,21.4s,baz=214,slow=30								
MKAR	**Makanchi Array**	**110.55**	**315**	PKiKP		**PKiKP**	**21 54 31.6**	**-0.9**
	0.3nm,0.6s,baz=17,slow=0.7,SNR=3.2								
ARCES	**ARCESS Array B**	**124.36**	**352**	PKP		**PKPdf**	**21 54 58.6**	**+0.3**
	1.1nm,0.5s,baz=16,slow=1.5,SNR=20								
FINES	**FINESS Array B**	**131.68**	**348**	PKP		**PKPdf**	**21 55 12.4**	**0.0**
	0.9nm,0.7s,baz=39,slow=9.0,SNR=3.5								
AKASG	**Malin Array Be**	**140.06**	**337**	PKP		**PKPdf**	**21 55 28.1**	**-0.3**
	0.3nm,0.3s,baz=14,slow=1.1,SNR=5.5								
CLL	**Collm**	**143.57**	**353**	*e*PKPdf		PKPbc	21 55 32.2	+0.3
CLL	**Collm**	**143.57**	**353**	*i* PKPdf		PKPbc	21 55 32.1	+0.2
	comp=Z,3.0nm,0.9s								
STHS	**Stebnicka Huta**	**143.76**	**344**	*e*PKP		**PKPdf**	**21 55 34.8**	**-0.2**
BRG	**Berggiesshubel**	**143.88**	**352**	*e*P		**PKPdf**	**21 55 36.7**	**+1.6**
	comp=Z,0.9nm,0.6s								
BRG				*e*			21 55 46.0		
	comp=Z,3.2nm,0.9s								
KOLS	**Kolonicke sedl**	**143.91**	**342**	*e*PKP		**PKPdf**	**21 55 34.7**	**-0.6**
UPC	**Upice**	**143.91**	**350**	*e*PKP		PKPbc	21 55 33.8	+0.8
DPC	**Dobruska-Polom**	**144.01**	**349**	*e*PKP		**PKPdf**	**21 55 34.7**	**-0.8**
DPC				*ex*		x	21 55 44.6		
DPC				*ex*		x	21 55 53.0		
BUR04	**Bucovina Ar. S**	**144.09**	**338**	*e*PKPdf		PKPbc	21 55 34.1	+0.3
BURAR	**Bucovina Array**	**144.09**	**338**	*i*P		**PKPdf**	**21 55 34.9**	**-0.9**
OKC	**Ostrava-Krasne**	**144.13**	**347**	*e*PKP		PKPbc	21 55 34.5	+0.8
OKC				*ex*		x	21 55 53.1		
KRLC	**Kraliky**	**144.18**	**349**	*e*PKP		**PKPab**	**21 55 33.3**	**-0.2**
KRLC				*ex*		x	21 55 54.0		
MORC	**Moravsky Berou**	**144.32**	**348**	*i*P		**PKPdf**	**21 55 35.6**	**-0.4**
MORC	**Moravsky Berou**	**144.32**	**348**	*e*PKPdf		PKPbc	21 55 35.1	+0.8
PRA	**Prague**	**144.59**	**351**	*e*PKP		**PKPdf**	**21 55 36.7**	**+0.3**
PRA				*ex*		x	21 55 47.8		
BMR	**Baia Mare**	**144.64**	**340**	*i*P		**PKPab**	**21 55 33.0**	**-2.2**
MEM	**Membach**	**144.65**	**0**	PKP		**PKPdf**	**21 55 36.0**	**-0.5**
PRU	**Pruhonice**	**144.65**	**351**	*e*PKP		**PKPdf**	**21 55 36.4**	**-0.1**
PRU				*ex*		x	21 55 46.2		
GOPC	**GO Pecny, Ondr**	**144.69**	**351**	*e*PKP		**PKPdf**	**21 55 37.1**	**+0.5**
GOPC				*ex*		x	21 55 46.7		
NKC	**Novy Kostel**	**144.69**	**353**	*e*PKP		**PKPdf**	**21 55 36.6**	**0.0**
SNF	**Seneffe**	**144.71**	**2**	PKP		**PKPdf**	**21 55 36.3**	**-0.3**
KECS	**Kecovo**	**144.82**	**344**	*e*PKP		**PKPdf**	**21 55 36.8**	**-0.1**
CFR	**Carcaliu**	**144.92**	**333**	*i*P		**PKPdf**	**21 55 38.2**	**+1.1**
VRAC	**Vranov**	**144.95**	**348**	*i*P		**PKPdf**	**21 55 37.3**	**+0.2**
VRI	**Vrincioaia**	**144.97**	**335**	*i*P		**PKPdf**	**21 55 38.0**	**+0.8**
PLOR	**Plostina**	**145.01**	**335**	*i*P		**PKPdf**	**21 55 37.9**	**+0.6**
DOU	**Dourbes**	**145.13**	**2**	PKP		**PKPab**	**21 55 37.1**	**+0.2**
TREC	**Trest**	**145.17**	**350**	*e*PKP		**PKPdf**	**21 55 37.5**	**0.0**
GRFO	**Grafenberg**	**145.35**	**355**	*e*PKPbc		**PKPdf**	**21 55 38.2**	**+0.5**
TIRR	**Tirgusor**	**145.36**	**332**	*i*P		**PKPab**	**21 55 39.3**	**+1.4**
HARR	**Harsova**	**145.39**	**333**	*i*P		**PKPab**	**21 55 39.7**	**+1.7**
DOPR	**Dopca**	**145.42**	**336**	*i*P		**PKPab**	**21 55 39.7**	**+1.6**
CJR	**Cluj-Napoca**	**145.44**	**339**	*i*P		**PKPab**	**21 55 39.5**	**+1.3**
KMBO	**Kilima Mbogo**	**145.48**	**245**	PKPbc		**PKPbc**	**21 55 39.5**	**0.0**
	comp=Z,1.1nm,0.5s,baz=53,slow=3.5,SNR=5.7								
KMBO	**Kilima Mbogo**	**145.48**	**245**	*e*PKPdf		**PKPdf**	**21 55 36.7**	**-2.7**
PSZ	**Piszkesteto**	**145.50**	**344**	*i*P		**PKPab**	**21 55 38.4**	**0.0**
MLR	**Muntele Rosu**	**145.59**	**335**	*i*P		**PKPab**	**21 55 40.1**	**+1.2**
WLF	**Walferdange**	**145.60**	**0**	PKP		**PKPab**	**21 55 39.7**	**+1.1**
WLF	**Walferdange**	**145.60**	**0**	*e*PKPdf		**PKPab**	**21 55 36.5**	**-1.7**
KHC	**Kasperske Hory**	**145.63**	**352**	*e*PKP		**PKPab**	**21 55 39.3**	**+0.5**
KHC				*ex*		x	21 55 58.3		
KHC	**Kasperske Hory**	**145.63**	**352**	*e*PKPdf		**PKPdf**	**21 55 38.1**	**-0.2**
ISR	**Istrita**	**145.65**	**334**	*i*P		**PKPab**	**21 55 40.1**	**+1.0**
DRGR		**145.67**	**340**	*i*P		**PKPab**	**21 55 39.4**	**+0.3**
BRTR	**Keskin Array B**	**145.88**	**321**	PKPbc		**PKPab**	**21 55 40.8**	**+0.5**
	comp=Z,8.1nm,0.8s,baz=117,slow=1.6,SNR=48								
GERES	**GERESS Array B**	**145.89**	**351**	PKPbc		**PKPab**	**21 55 40.0**	**+0.1**
	comp=Z,3.0nm,0.7s,baz=22,slow=3.3,SNR=39								
VOIR		**145.99**	**336**	*i*P		**PKPab**	**21 55 41.7**	**+1.3**
PSN	**Preselentsi**	**146.06**	**331**	*i*P		**PKPab**	**21 55 41.4**	**+0.8**
ANTO	**Ankara**	**146.29**	**322**	*e*PKPdf		**PKPdf**	**21 55 40.2**	**+0.5**
CONA	**Conrad Observa**	**146.42**	**349**	*i* PKiKP		**PKPab**	**21 55 42.4**	**+0.5**
	comp=Z,28nm,1.8s,SNR=9.6								
LOT	**Lotru**	**146.46**	**338**	*i*P		**PKPbc**	**21 55 41.6**	**+0.3**
MOA	**Molln**	**146.78**	**350**	*i*PKPab		**PKPbc**	**21 55 42.6**	**+0.6**
	comp=Z,10nm,1.2s								
GZR	**Gura Zlata**	**146.87**	**339**	*i*P		**PKPab**	**21 55 43.3**	**-0.4**
BFO	**Black Forest**	**146.90**	**358**	*e*PKPdf		**PKPdf**	**21 55 40.3**	**-0.1**
BZS	**Buzias**	**147.06**	**340**	*i*P		**PKPbc**	**21 55 43.5**	**+0.7**
ARSA	**Arzberg**	**147.13**	**349**	*i*PKPab		**PKPbc**	**21 55 43.5**	**+0.5**
	comp=Z,8.7nm,1.1s								
PKSM	**Morągy**	**147.40**	**344**	*i*P		**PKPdf**	**21 55 42.2**	**+0.9**
WTTA	**Wattenberg**	**147.71**	**353**	*i*PKPab		**PKPbc**	**21 55 44.9**	**0.0**
	comp=Z,7.4nm,0.6s,SNR=7.3								
SOKA	**Soboth**	**147.78**	**349**	*i*PKPab		**PKPbc**	**21 55 45.1**	**+0.2**
	comp=Z,9.0nm,1.1s,SNR=6.1								
PERS	**Pernice**	**147.80**	**349**	*e*PKPbc		**PKPbc**	**21 55 44.9**	**0.0**
FETA	**Feichten**	**148.04**	**354**	*i*PKPbc		**PKPbc**	**21 55 45.6**	**-0.1**
	comp=Z,7.5nm,1.2s								
ABTA	**Abfaltersbach**	**148.11**	**352**	*i*PKiKP		**PKPbc**	**21 55 46.0**	**+0.2**
	comp=Z,11nm,1.0s,SNR=6.2								
MPEP	**Malo Peshtene**	**148.24**	**336**	*e*P		**PKPbc**	**21 55 47.1**	**+0.9**
LJU	**Ljubljana**	**148.48**	**349**	*e*PKPbc		**PKPbc**	**21 55 46.9**	**+0.2**
FUORN	**Ofenpass-Fuorn**	**148.48**	**355**	*e*PKPbc		**PKPbc**	**21 55 47.3**	**+0.3**
SENIN	**Lac Senin/Sane**	**148.89**	**359**	*e*PKPdf		**PKPdf**	**21 55 42.4**	**-1.7**
DIVS	**Divibare**	**148.94**	**341**	*i*P		**PKPbc**	**21 55 49.2**	**+1.2**
VTS	**Vitosha**	**149.10**	**335**	*i*P		**PKPbc**	**21 55 49.4**	**+0.8**
VTS	**Vitosha**	**149.10**	**335**	*e*P		**PKPbc**	**21 55 49.7**	**+1.1**
MMB	**Musomiste**	**149.72**	**334**	*i*P		**PKPbc**	**21 55 50.6**	**+0.6**
MMB	**Musomiste**	**149.72**	**334**	*e*P		**PKPbc**	**21 55 50.5**	**+0.6**
KKB	**Krupnik**	**149.75**	**335**	*e*P		**PKPbc**	**21 55 50.2**	**+0.2**
BNI	**Bardonecchia**	**150.21**	**360**	*e*PKPbc		**PKPbc**	**21 55 51.4**	**+0.2**
ESDC	**Sonseca Array**	**153.95**	**18**	PKPbc		**PKPbc**	**21 55 59.7**	**0.0**
	comp=Z,0.2nm,0.4s,baz=327,slow=3.3,SNR=4.0								
ESDC				PKPab		**PKPab**	**21 56 12.5**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=327,slow=3.5,SNR=6.3								
KEST	**Kesra**	**159.36**	**353**	PKPab		**PKPab**	**21 56 35.9**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=324,slow=6.9,SNR=5.3								
TORD	**Torodi Ar. Bea**	**174.99**	**113**	PKP		**PKPdf**	**21 56 09.0**	**-1.7**
	comp=Z,2.0nm,1.1s,baz=298,slow=1.6,SNR=6.5								
TORD				PKPab		**PKPab**	**21 57 43.3**	**-2.6**
	comp=Z,1.2nm,1.0s,baz=252,slow=4.3,SNR=3.3								

GUC 10 21:39:42.4±0.5, 35°.14S×72°.06W, h35km±3km, ML3.7, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.43**	**126**	*e*P		Pn	21 39 52.2	+0.1
TALC				*e*S		Sn	21 39 59.0	+0.2
NICH	**Los Niches**	**0.69**	**79**	*e*P		Pn	21 39 55.8	+0.1
NICH				*e*S		Sn	21 40 05.7	+0.4
NICH				AMP			21 40 06.4	
	comp=N,8μm,0.3s							
LNCH	**Linares**	**0.80**	**152**	*e*P		Pn	21 39 57.4	+0.3
LNCH				*e*S		Sn	21 40 08.4	+0.6
COCH	**Cobquecura**	**1.15**	**211**	*e*P		Pn	21 40 02.5	+0.5
LNV	**Longovilo**	**1.30**	**25**	*e*P		Pn	21 40 05.0	+1.0
CHCH	**Chadas Angostu**	**1.67**	**44**	*e*P		Pn	21 40 10.6	+1.3
CHCH				*e*S		Sn	21 40 32.1	+2.6
SAN	**Santiago**	**2.04**	**35**	*e*S		Sn	21 40 41.4	+2.7
SAN				AML	AML		21 40 47.0	
	comp=E,595nm,0.4s							
CLCH	**Cerro Calan**	**2.15**	**36**	*e*P		Pn	21 40 17.0	+1.2
CLCH				AML	AML		21 40 51.2	
	comp=E,645nm,1.5s							
PEL	**Peldehue**	**2.30**	**30**	*e*P		Pn	21 40 19.3	+1.5
PEL				*e*S		Sn	21 40 47.4	+2.4
PEL				AML	AML		21 40 58.5	
	comp=N,849nm,0.5s							

IDC 10 21:59:35.6±7.1, 30°.73S×178°.36W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/21, mbtmp3.7/2, Error ellipse: s-maj=289.8km s-min=60.8km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.78**	**267**	P	P	22 07 34.3	-0.9
	0.4nm,0.4s,baz=105,slow=7.5,SNR=7.1						
WRA	**Warramunga Arr**	**43.80**	**273**	P	P	22 07 43.9	+0.5
	0.4nm,0.3s,baz=111,slow=8.1,SNR=23						
FINES	**FINESS Array B**	**145.35**	**340**	PKPbc	PKPbc	22 19 13.7	-0.8
	1.2nm,0.9s,baz=29,slow=3.2,SNR=3.7						

*IDC **10** 22:15:03.0±4.8, 35°.96N×70°.49E, h92km±44km, mb3.2/4, mb1 3.2/6, mb1mx3.0/39, mbtmp3.5/6, Error ellipse: s-maj=38.1km s-min=24.3km az=166.0*
*NNC **10** 22:15:08.6±5.7, 36°.63N×70°.25E, h139km±100km, mb3.0, mpv3.6, Error ellipse: s-maj=48.2km s-min=35.6km az=37.0*

**ISC 10 22:15:04.4±1.3, 36°.2

EIDS	Eidsvold	19.30 170	P		Pn	22 33 30.4	0.0	
	baz=19,SNR=6.6							
GUMO	Guam	19.89 352	LR		LR	22 39 42.4		
	comp=Z,88nm,20.3s,baz=156,slow=32							
RMQ	Roma	20.16 177	P		Pn	22 33 42.5	+2.1	
	baz=20,SNR=5.1							
QLP	Quilpie	20.48 189	P		P	22 33 42.3	+0.9	
	baz=21,SNR=16							
KNRA	Kununurra	20.73 242	P		P	22 33 43.4	-0.8	
	baz=21,SNR=15							
ASAR	Alice Springs	21.77 216	P		P	22 33 55.0	-0.3	
	7.1nm,0.4s,baz=54,slow=8.5,SNR=50							
ASAR				PcP	PcP	22 37 54.5	+1.3	
	2.1nm,0.9s,baz=72,slow=1.7,SNR=5.2							
ASAR				LR	LR	22 43 49.3		
	comp=Z,163nm,20.2s,baz=36,slow=40							
ARMA	Armidale	24.34 172	P		P	22 34 22.1	+1.5	
	baz=24,SNR=6.3							
LUWI	Luwuk	25.32 281	eP		P	22 34 29.1	-0.5	
	28nm,0.8s							
STKA	Stephens Creek	26.11 192	P		P	22 34 36.4	-0.1	
	5.9nm,0.8s,baz=6.1,slow=7.1,SNR=10.0							
STKA	Stephens Creek	26.11 192	P		P	22 34 39.5	+2.9	
	baz=26,SNR=5.1							
WRKA	Warakurna	26.30 223	P		P	22 34 39.8	+1.5	
	baz=26,SNR=7.1							
HTT	Hallett	28.23 196	P		P	22 35 01.9	+6.3	
	baz=28,SNR=5.4							
JCJ	Chichijima	33.56 351	P		P	22 35 41.4	-1.0	
	21nm,0.6s,baz=118,slow=13,SNR=4.1							
JCJ				LR	LR	22 47 31.7		
	comp=Z,44nm,21.4s,baz=144,slow=33							
CBIJ	Chichi jima	33.56 351	P		P	22 35 41.4	-1.0	
MEEK	Meekatharra	34.27 230	P		P	22 35 49.1	+0.4	
	baz=34,SNR=12							
KLBR	Kellerberrin	37.62 224	P		P	22 36 19.5	+2.2	
	baz=38,SNR=5.2							
JNU	Nakatsue	42.26 339	LR		LR	22 53 11.8		
	comp=Z,30nm,18.5s,baz=262,slow=34							
MJAR	Matsushiro Arr	43.47 349	P		P	22 37 04.1	-1.3	
	3.0nm,0.8s,baz=172,slow=9.3,SNR=11							
KSRS	Korea Array	47.20 339	P		P	22 37 34.7	-0.1	
	0.7nm,0.5s,baz=160,slow=8.8,SNR=4.1							
KSRS				LR	LR	22 56 01.8		
	comp=Z,44nm,21.3s,baz=150,slow=34							
KSAR	Wonju Array Be	47.21 339	P		P	22 37 34.7	-0.1	
USRK	Ussuriysk Ar.	52.16 346	P		P	22 38 12.3	0.0	
	1.9nm,0.7s,baz=105,slow=6.8,SNR=4.2							
PETK	Petropavlovsk-	59.74 7	P		P	22 39 05.9	-0.5	
	5.2nm,0.8s,baz=163,slow=11,SNR=4.3							
PETK				LR	LR	23 00 39.1		
	comp=Z,22nm,21.9s,baz=191,slow=32							
SONM	Songino Array	64.92 331	P		P	22 39 40.4	-0.9	
	2.2nm,1.0s,baz=129,slow=1.5,SNR=9.5							
SONM				LR	LR	23 05 23.2		
	comp=Z,16nm,22.0s,baz=127,slow=34							
VNDA	Vanda	71.63 177	P		P	22 40 23.7	+1.2	
	0.7nm,0.4s,baz=333,slow=8.2,SNR=4.1							
MK31	Makanchi Array	78.08 320	P		P	22 41 03.9	+3.6	
	baz=78,SNR=3.3							
MKAR	Makanchi Array	78.08 320	P		P	22 40 59.6	-0.8	
	0.6nm,0.3s,baz=97,slow=8.2,SNR=15							
ZALV	Zalesovo Beam	79.55 328	P		P	22 41 06.1	-2.0	
	2.1nm,0.6s,baz=113,slow=5.5,SNR=7.8							
ZALV				LR	LR	23 15 57.7		
	comp=Z,15nm,20.7s,baz=70,slow=35							
KURK	Kurchatov	81.78 323	eP		P	22 41 18.9	-1.2	
QSPA	South Pole Qui	83.72 180	eP		P	22 41 30.8	+0.6	
	7.5nm,1.1s							
ILAR	Eielson Array	85.46 23	P		P	22 41 36.9	-1.8	
	0.5nm,0.6s,baz=235,slow=4.1,SNR=5.9							
GERES	GERESS Array B	122.46 326	PKP		PKPdf	22 47 55.9	-0.6	
	0.3nm,0.4s,baz=96,slow=1.3,SNR=5.4							
LPAZ	La Paz	138.13 123	PKP		PKPdf	22 48 29.9	+2.3	
	0.9nm,0.4s,baz=222,slow=1.6,SNR=6.2							
CPUP	Villa Florida	139.57 144	PKP		PKPdf	22 48 31.1	+1.9	
	2.2nm,1.1s,baz=246,slow=8.5,SNR=3.0							
TORD	Torodi Ar. Bea	145.75 284	PKPbc		PKPbc	22 48 40.9	-0.1	
	4.9nm,0.6s,baz=76,slow=3.2,SNR=39							
SAML	Samuel	145.78 116	ePKPdf		PKPab	22 48 41.3	-0.4	
DBIC	Dimbokro	152.65 272	PKPbc		PKPbc	22 48 59.1	+0.5	
	6.4nm,0.9s,baz=85,slow=3.5,SNR=7.5							
BDFB	Brasilia	153.30 145	PKPbc		PKPbc	22 49 01.4	+1.2	
	3.4nm,0.8s,baz=193,slow=3.7,SNR=6.9							

IDC 10 22:48:40.4±2.2, 56.30S×26.80W, h0km, mb3.8/1, mb1 3.8/1, mb1mx3.5/15, mbtmp3.8/1, Error ellipse: s-maj=116.8km s-min=74.6km az=131.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	73.17	29	P	P	23 00 12.7	0.0
	0.5nm,0.5s,baz=201,slow=6.2,SNR=12						
ILAR	Eielson Array	150.45	311	PKPbc	PKPbc	23 08 31.9	-0.3
	0.3nm,0.5s,baz=120,slow=3.0,SNR=4.2						
SONM	Songino Array	150.52	87	PKPbc	PKPbc	23 08 32.8	-0.4
	0.3nm,0.4s,baz=220,slow=1.9,SNR=3.8						

*CSEM **10** 22:52:23.0, 38.78N×23.02E, h7km, ML1.3/4*
THE 10 22:52:23.0, 38.78N×23.02E, h7km±2km, ML1.3/4, Error ellipse: s-maj=2.1km s-min=0.4km az=157.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAL	Atalanti	0.09	180	P	Pg	22 52 25.3	+0.2
ATAL				S	Sg	22 52 26.6	0.0
ATAL	Atalanti	0.09	180	P	Pg	22 52 25.3	+0.2
ATAL				S	Sg	22 52 26.6	0.0
LKR	Lokris	0.13	187	P	Pg	22 52 25.9	+0.1
LKR				S	Sg	22 52 28.2	+0.5
LKR	Lokris	0.13	187	P	Pg	22 52 25.9	+0.1
LKR				S	Sg	22 52 28.2	+0.5
SMIA	Simia	0.18	56	P	Pg	22 52 26.6	-0.1
SMIA				S	Sg	22 52 29.1	0.0
SMIA	Simia	0.18	56	P	Pg	22 52 26.6	-0.1
SMIA				S	Sg	22 52 29.1	0.0
AXAR	Agios Charalam	0.28	267	P	Pg	22 52 28.6	0.0
AXAR				S	Sg	22 52 33.0	+0.5
AXAR	Agios Charalam	0.28	267	P	Pg	22 52 28.6	0.0
AXAR				S	Sg	22 52 33.0	+0.5
MRKA	Markates	0.45	100	P	Pg	22 52 31.9	+0.1
MRKA				S	Sg	22 52 38.1	+0.4
MRKA	Markates	0.45	100	P	Pg	22 52 31.9	+0.1
MRKA				S	Sg	22 52 38.1	+0.4
DSF	Desfina	0.54	226	P	Pg	22 52 32.8	-0.6
DSF				S	Sg	22 52 40.8	+0.3
DSF	Desfina	0.54	226	P	Pg	22 52 32.8	-0.6
DSF				S	Sg	22 52 40.8	+0.3

*ISCJB **10** 23:04:21.0±0.3, 30.70S±0.03×179.94E±0.03, h395km±3km, mb5.0/142, Error ellipse: s-maj=4.9km s-min=3.5km az=144.4*
*MOS **10** 23:04:21.9±0.8, 30.55S×179.98E, h402km, mb5.3/35, Error ellipse: s-maj=10.4km s-min=8.4km az=77.3*
*BJI **10** 23:04:21.2, 30.60S×180.00E, h400km, mb5.1/37, mB5.1/21*
*GCMT **10** 23:04:22.6±0.4, 30.69S×179.84W, h412km±2km, MW5.2/70, Moment Tensor Solution. s70,c101; Duration: 1ś0 Moment tensor: Scale 10^17 Nm; Mrr-0.77±.03; Mθθ-0.12±.07; Mϕϕ0.89±.05; Mrθ-0.30±.05; Mθϕ-0.00±.05; Mϕr0.20±.06; Best double couple: M0 0.91100×10^17 NP1:ϕs160.00000°, δ55.00000°, λ-115.00000°. NP2:ϕs20.00000°, δ42.00000°, λ-59.00000°. Principal axes: T 0.9160, Plg7.0000°, Azm268.0000°; N -0.0110, Plg20.0000°, Azm175.0000°; P -0.9050, Plg68.0000°, Azm16.0000°; nsta1 refers to body waves, cutoff=40s.*
*NEIC **10** 23:04:22.6±1.5, 30.58S×179.94W, h406km±4km, mb5.1/116 Error ellipse: s-maj=13.9km s-min=5.7km az=120.0*
*IDC **10** 23:04:22.4±0.5, 30.51S×179.93W, h399km±5km, mb4.5/22, mb1 4.6/25, mb1mx4.6/30, mbtmp5.2/25, Error ellipse: s-maj=9.9km s-min=9.6km az=91.0*
ISC 10 23:04:22.3±0.3, 30.69S±0.04×179.89W±0.04, h403km±2km, h403km:pP-P, n928, σ19 27/1064, mb5.1/136, 46C-71D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.23	51	P	P	23 05 20.0	-0.1
	486nm,0.3s,baz=183,slow=2.7,SNR=17						
RAO				S	S	23 06 05.4	-1.4
	755nm,0.3s,baz=287,slow=23,SNR=9.0						
RAO	Raoul Island	2.23	51	P	P	23 05 20.0	-0.1
RAO				S	S	23 06 05.4	-1.4
RAO				pmax	pmax		
	comp=Z,486nm,0.3s						
RAO				smax	smax		
	comp=N,755nm,0.3s						
RAO	Raoul Island	2.23	51	ePn	P	23 05 19.8	-0.3
RAO				eS	S	23 06 03.1	-3.8
MXZ	Matakaoa Point	7.02	192	PN	P	23 06 05.0	-1.6
MXZ				SN	S	23 07 29.1	-2.0
OUZ	Omahuta	7.10	229	ePn	P	23 06 10.8	+3.2
OUZ				eS	S	23 07 36.0	+3.3
WMGZ	Waiomatatini S	7.25	191	ePN	P	23 06 08.3	-0.9
WMGZ				eSN	S	23 07 30.1	-5.7
HAZ	Te Kaha	7.31	195	PN	P	23 06 07.8	-2.1
HAZ				eSN	S	23 07 31.5	-5.5
PUZ	Puketiti	7.53	191	ePN	P	23 06 10.1	-2.2
PUZ				SN	S	23 07 36.9	-4.6
TWGZ	Tauwhareparae	7.67	193	ePN	P	23 06 12.3	-1.7
OPRZ	Ohinepanea	7.72	201	PN	P	23 06 14.6	+0.2
WTAZ	Waiatarua	7.75	215	ePN	P	23 06 18.9	+4.1
MARZ	Manawahe	7.81	200	PN	P	23 06 16.9	+1.4
EDRZ	Edgecumbe	7.91	200	PN	P	23 06 19.3	+2.7
MWZ	Matawai	7.92	195	ePN	P	23 06 14.6	-2.2
MWZ				SN	S	23 07 46.6	-3.2
CNGZ	Carnagh Statio	7.94	191	ePN	P	23 06 15.3	-1.5
URZ	Urewera	7.95	197	P	P	23 06 17.0	+0.1
	comp=N,81nm,0.3s,baz=275,slow=3.3,SNR=85						
URZ	Urewera	7.95	197	PN	P	23 06 14.6	-2.4
URZ				eSN	S	23 07 45.8	-4.5
URZ	Urewera	7.95	197	ePn	P	23 06 17.7	+0.7
URZ				eS	S	23 07 51.1	+0.8
TKGZ	Te Karaka	7.95	193	ePN	P	23 06 14.9	-2.1
OMRZ	Omania	8.02	202	ePN	P	23 06 20.4	+2.6
TARZ	Mount Tarawera	8.10	201	ePN	P	23 06 18.9	+0.2
RAGZ	Rawiri	8.10	195	PN	P	23 06 16.8	-2.0
HLRZ	Highlands Stat	8.16	201	ePN	P	23 06 20.6	+1.3
RIGZ	Rimuhau	8.23	193	PN	P	23 06 19.5	-0.6
HRRZ	Handcock Road	8.31	201	ePN	P	23 06 22.4	+1.4
SNGZ	Shannon Statio	8.39	195	ePN	P	23 06 19.7	-2.2
SNGZ				eSN	S	23 07 56.9	-2.7
PRGZ	Paritu Road	8.42	192	PN	P	23 06 22.2	0.0
ALRZ	Allen Road	8.45	201	ePN	P	23 06 22.8	+0.3
TLZ	Tolley Road	8.50	205	ePN	P	23 06 25.8	+2.7
KUTZ	Kaahu Road	8.54	203	ePN	P	23 06 26.2	+2.6
KNZ	Kokohu	8.55	193	ePN	P	23 06 21.4	-2.2
KNZ				eSN	S	23 07 56.7	-6.2
RAHZ	Arahi	8.58	196	ePN	P	23 06 21.7	-2.2
WHHZ	Waihua	8.70	195	ePN	P	23 06 25.9	+0.6
HIZ	Hauiti	8.93	208	ePN	P	23 06 29.9	+2.1
BKZ	Black Stump Fm	8.96	198	ePN	P	23 06 26.6	-1.7
BKZ				eSN	S	23 07 04.2	-7.5
BKZ	Black Stump Fm	8.96	198	eP	P	23 06 28.6	+0.3
BKZ				eS	S	23 08 03.5	-8.3
KATZ	Kakaramea	9.03	202	ePN	P	23 06 31.3	+2.2
KRVZ	Karewarewa	9.15	202	ePN	P	23 06 31.5	+1.0
MCHZ	McNeill Hill	9.17	197	ePN	P	23 06 30.0	-0.5
KWHZ	Kaweka Forest	9.22	198	ePN	P	23 06 29.5	-1.7
WPVZ	Whakapapa	9.29	203	ePN	P	23 06 32.3	+0.4
TUVZ	Tukino	9.31	202	ePN	P	23 06 32.3	+0.1
FWVZ	Far West T-bar	9.33	202	ePN	P	23 06 31.7	-0.8
KAHZ	Kahuranaki	9.46	195	ePN	P	23 06 31.8	-2.0
PXZ	Pawanui	9.69	195	PN	P	23 06 32.6	-3.7
PXZ				eSN	S	23 08 18.1	-8.6
TSZ	Takapari Road	9.94	199	ePN	P	23 06 37.0	-2.1
TSZ				eSN	S	23 08 24.3	-7.6
PRHZ	Porangahau	9.97	196	ePN	P	23 06 38.8	-0.5
WAZ	Wanganui	9.97	203	ePN	P	23 06 39.1	-0.3
WAZ				eSN	S	23 08 28.7	-3.7
ANWZ	Angora Road	10.19	196	ePN	P	23 06 41.0	-0.7
BFZ	Birch Farm	10.45	196	eP	P	23 06 45.4	+0.6
BFZ				eS	S	23 08 39.0	-3.2
MRZ	Mangatainoka R	10.61	199	ePN	P	23 06 43.6	-2.8
MRZ				eSN	S	23 08 37.5	-7.9
NFK	Norfolk Island	10.69	276	P	P	23 06 51.2	+3.7
	baz=11,SNR=3.3						
OGWZ	Otaki Gorge	10.87	200	ePN	P	23 06 47.3	-2.0
OGWZ				eSN	S	23 08 43.1	-7.6
CAW	Cannon Point	11.17	200	ePN	P	23 06 51.2	-1.4
DUWZ	D'Urville Isla	11.27	205	ePN	P	23 06 52.6	-1.2
SNZO	South Karori	11.46	201	eP	P	23 06 55.6	-0.3
SNZO				eS	S	23 09 00.4	-2.2
TCW	Tory Channel	11.51	203	ePN	P	23 06 55.0	-1.4
NNZ	Nelson	11.83	206	ePN	P	23 06 57.8	-2.1
THZ	Tophouse	12.48	206	ePN	P	23 07 06.4	-0.8
THZ				eSN	S	23 09 17.9	-5.5
KHZ	Kahutara	12.84	202	ePN	P	23 07 10.0	-0.9
KHZ				eSN	S	23 09 24.7	-5.6
KHZ				PcP	PcP	23 12 12.6	+0.3
KHZ	Kahutara	12.84	202	eP	P	23 07 10.4	-0.5
KHZ				eS	S	23 09 24.5	-5.9
DSZ	Denniston Nort	12.90	209	ePN	P	23 07 10.9	-0.9
DSZ				eSN	S	23 09 25.7	-6.1
MSVF	Nonsavu	13.03	351	P	P	23 07 13.8	+0.3
	comp=N,1µm,0.7s,SNR=9.4						
MSVF	Nonsavu	13.03	351	eP	P	23 07 13.2	-0.3
MSVF	Nonsavu	13.03	351	eP	P	23 07 13.2	-0.3
LTZ	Lake Taylor	13.60	205	ePN	P	23 07 18.0	-1.4
OXZ	Oxford	14.16	205	ePN	P	23 07 23.9	-1.5
OXZ				eSN	S	23 09 50.7	-6.1
MQZ	McQueen's Vall	14.28	202	ePN	P	23 07 26.1	-0.6
MQZ				PcP	PcP	23 12 14.0	-0.2
WVZ	Waitaha Valley	14.45	209	PcP	PcP	23 12 13.9	-0.6
RPZ	Rata Peaks	14.86	206	P	P	23 07 31.8	-1.2
	comp=N,2.6nm,0.3s,baz=302,slow=1.0,SNR=12						
RPZ				S	S	23 10 08.4	-2.4
	comp=N,6.7nm,0.3s,baz=218,slow=18,SNR=10						
RPZ	Rata Peaks	14.86	206	ePN	P	23 07 31.7	-1.2
RPZ				PcP	PcP	23 12 14.7	-0.4
RPZ	Rata Peaks	14.86	206	eP	P	23 07 33.1	+0.1
RPZ				eS	S	23 10 01.9	-8.9
DZM	Mont Dzumac	14.94	302	eP	P	23 07 36.4	+2.1
	comp=N,640nm,1.3s						
DZM	Mont Dzumac	14.94	302	P	P	23 07 31.6	-2.7
	baz=90,slow=20						
NOUC	Port Laguerre	15.03	301	eP	P	23 07 35.0	-0.1
FOZ	Fox Glacier	15.29	210	ePN	P	23 07 35.9	-1.7
FOZ				PcP	PcP	23 12 15.3	-0.3
JCZ	Jackson Bay	16.10	211	ePN	P	23 07 43.8	-2.6
JCZ				PcP	PcP	23 12 17.6	+0.7
EAZ	Earnscleugh	16.81	207	PcP	PcP	23 12 19.0	+1.1
WHZ	Wether Hill Ro	17.90	209	eP	P	23 08 06.9	+1.5
	comp=N,504nm,2.8s						
WHZ				eS	S	23 11 12.8	+2.7
LHI	Lord Howe Isla	18.04	262	P	P	23 08 10.5	+3.3
	baz=18,SNR=9.0						
AFI	Afiamalu	18.30	26	eP	P	23 08 09.9	-0.2
AFI				pmax	pmax		
	comp=Z,173nm,0.6s						
AFI	Afiamalu	18.30	26	eP	P	23 08 09.9	-0.2
	comp=Z,173nm,0.6s						
RAR	Rarotonga	20.38	67	P	P	23 08 30.3	+0.2
	comp=Z,43nm,1.0s,baz=282,slow=8.6,SNR=4.1						
RAR	Rarotonga	20.38	67	eP	P	23 08 30.6	+0.5
RAR				pmax	pmax		
	comp=Z,638nm,2.3s						
RAR	Rarotonga	20.38	67	eP	P	23 08 30.6	+0.5
	comp=Z,638nm,2.3s						
ARMA	Armidale	24.50	263	P	P	23 09 10.5	+3.0
	baz=25,SNR=15						
ARMA	Armidale	24.50	263	eP	P	23 09 09.5	+2.1
	comp=Z,17nm,0.8s						
EIDS	Eidsvold	26.12	275	P	P	23 09 22.8	+1.0
	baz=26,SNR=7.8						
EIDS	Eidsvold	26.12	275	eP	P	23 09 22.4	+0.6
	comp=Z,24nm,0.9s						
CNB	Canberra Magne	26.14	252	P	P	23 09 24.8	+2.9
	baz=26,SNR=9.6						
MILA	Mila	26.40	248	P	P	23 09 27.0	+2.8
	baz=26,SNR=9.0						
YNG	Young	26.93	254	P	P	23 09 32.0	+3.2
	baz=27,SNR=8.9						
RMQ	Roma	27.79	271	P	P	23 09 39.0	+2.4
	baz=28,SNR=16						
TBI	Tubuai	28.02	82	eS	S	23 13 52.7	-0.5
	comp=Z,251nm,31.6s						
TBI	Tubuai	28.02	82	eT	T	23 37 36.6	
	comp=Z,20nm,0.4s						
MCQ	Macquarie Isla	28.22	206	P	P	23 09 45.0	+5.1
	baz=28,SNR=3.3						
TOO	Toolangi	29.35	247	P	P	23 09 52.3	+2.2
	baz=30,SNR=20						
CMSA	Cobar Meteorol	29.41	259	P	P	23 09 52.3	+1.6
	baz=30,SNR=36						
PAE	Paea	30.44	72	eT	T	23 40 48.4	
	comp=Z,3.6nm,0.3s						
PPT2	Papeete2	30.48	72	eS	S	23 14 31.3	-0.4
	comp=Z,154nm,28.2s						
PPT2	Papeete2	30.48	72	eT	T	23 41 02.7	
	comp=Z,4.5nm,0.3s						
QLP	Quilpie	31.66	268	P	P	23 10 11.1	+0.7
	baz=32,SNR=18						
CTA	Charters Tower	32.24	281	ScP	ScP	23 15 58.2	+0.9
	comp=Z,25nm,0.9s,baz=152,slow=1.6,SNR=12						
CTAO	Charters Tower	32.24	281	eP	P	23 10 16.0	+0.6
CTAO				pmax	pmax		
	comp=Z,78nm,1.2s						
CTAO	Charters Tower	32.24	281	eP	P	23 10 16.0	+0.6
	comp=Z,78nm,1.2s						
ARPS	Mount Arapiles	32.25	249	P	P	23 10 17.3	+2.0
	baz=32,SNR=13						
TARA	Tarawa	32.59	347	eP	P	23 10 17.5	-0.9
	comp=Z,144nm,0.8s						
STKA	Stephens Creek	32.82	258	P	P	23 10 22.0	+1.7
	comp=Z,26nm,0.5s,baz=113,slow=6.4,SNR=62						
STKA				ScP	ScP	23 15 58.9	-0.3
	comp=Z,4.3nm,0.7s,baz=48,slow=6.5,SNR=3.0						
STKA	Stephens Creek	32.82	258	eP	P	23 10 21.5	+1.2
STKA				pmax	pmax		
	comp=Z,19nm,1.3s						
STKA	Stephens Creek	32.82	258	P	P	23 10 21.9	+1.7
	baz=33,SNR=34						
STKA	Stephens Creek	32.82	258	eP	P	23 10 21.5	+1.2
	comp=Z,19nm,1.3s						
VAH	Vaihoa	33.30	70	eT	T	23 45 02.2	
	comp=Z,11nm,0.2s						
MTSU	Mount Surprise	34.75	283	P	P	23 10 38.1	+1.2
	baz=35,SNR=28						
HTT	Hallett	34.85	254	P	P	23 10 38.8	+1.2
	baz=35,SNR=43						
RABL	Rabaul	37.26	309	P	P	23 10 57.8	-0.1
	baz=37,SNR=8.3						
PMG	Port Moresby	37.27	298	dePn	P	23 10 58.1	+0.2
PMG				pmax	pmax		
	comp=Z,296nm,1.1s						
PMG	Port Moresby	37.27	298	eP	P	23 10 57.9	0.0
	comp=Z,327nm,1.1s						
BBOO	Buckleboo	37.32	255	P	P	23 10 58.2	+0.1
	baz=37,SNR=16						
BBOO	Buckleboo	37.32	255	eP	P	23 10 58.1	-0.1
	comp=Z,98nm,1.0s						
QIS	Mount Isa	37.71	276	P	P	23 11 01.6	+0.1
	baz=38,SNR=8.9						
COEN	Coen	37.79	288	P	P	23 11 03.1	+0.9
	baz=38,SNR=8.4						
COEN	Coen	37.79	288	eP	P	23 11 02.5	+0.3
	comp=Z,29nm,0.9s						
RKT	Rikitea	40.55	90	eS	S	23 17 03.8	+0.3
	comp=Z,194nm,33.5s						
AS01	Alice Springs	41.42	268	eP	P	23 11 31.2	-0.5
AS01				eScP	ScP	23 16 31.1	-0.6
AS12	Alice Springs	41.46	268	eP	P	23 11 31.9	-0.1
AS12				ePP	PcP	23 13 20.9	-0.1
AS12				eScP	ScP	23 16 32.4	+0.5
AS12				eS	S	23 17 14.4	-2.5
ASAR	Alice Springs	41.46	268	P	P	23 11 31.9	-0.1
	comp=Z,16nm,0.4s,baz=104,slow=7.4,SNR=295						
ASAR				PcP	PcP	23 13 20.9	-0.1
	comp=Z,8.6nm,0.5s,baz=114,slow=5.3,SNR=7.5						
ASAR				ScP	ScP	23 16 32.4	+0.5
	comp=Z,11nm,0.9s,baz=121,slow=4.3,SNR=11						
ASAR				S	S	23 17 14.4	-2.5
	comp=Z,6.1nm,0.8s,baz=111,slow=15,SNR=7.9						
ASAR	Alice Springs	41.46	268	P	P	23 11 32.0	-0.1
ASAR						23 13 21.0	
ASAR				S	S	23 17 14.5	-2.5
ASAR				pmax	pmax		
	comp=Z,16nm,0.4s						
ASAR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ASAR				pmax	pmax		
	comp=N,11nm,0.9s						
ASAR				smax	smax		
	comp=N,6.0nm,0.8s						
WRAB	Tennant Creek	42.47	274	P	P	23 11 39.2	-0.9
	comp=N,623nm,0.8s,SNR=94						
WRAB	Tennant Creek	42.47	274	eP	P	23 11 39.7	-0.4
WRAB				eS	S	23 17 28.9	-2.7
WRAB				pmax	pmax		
	comp=Z,66nm,0.8s						
WRAB	Tennant Creek	42.47	274	eP	P	23 11 39.7	-0.4
	comp=Z,66nm,0.8s						
WRAB				eScP	ScP	23 16 36.4	+0.4
WRAB				eS	S	23 17 28.9	-2.7
WRA	Warramunga Arr	42.48	273	P	P	23 11 39.9	-0.3
	comp=Z,42nm,0.4s,baz=111,slow=7.9,SNR=1027						
WRA				PcP	PcP	23 13 24.0	-0.4
	comp=Z,15nm,0.8s,baz=121,slow=3.0,SNR=10						
WRA				ScP	ScP	23 16 36.5	+0.5
	comp=Z,6.5nm,0.8s,baz=108,slow=4.3,SNR=8.1						
WRA				S	S	23 17 27.8	-3.9
	comp=Z,37nm,1.1s,baz=115,slow=13,SNR=18						
FORT	Forrest	44.39	256	P	P	23 11 54.9	-0.2
	baz=44,SNR=39						
FORT	Forrest	44.39	256	eP	P	23 11 54.6	-0.4
	comp=Z,125nm,0.7s						
FORT				eS	S	23 17 57.3	-1.6
WRKA	Warakurna	45.82	264	P	P	23 12 05.4	-1.0
	baz=46,SNR=29						
JAY	Jayapura	46.59	299	ScP	ScP	23 16 53.7	+0.6
	comp=Z,13nm,1.1s,baz=243,slow=4.3,SNR=6.3						
JAY	Jayapura	46.59	299	P	P	23 12 12.2	-0.2
	baz=47,SNR=12						
KDU	Kakadu	47.36	281	P	P	23 12 17.5	-0.6
	baz=47,SNR=15						

GIRL Giralia 58.69 261 P P 23 13 40.5 +0.9
baz=59,SNR=4.0
QSPA South Pole Qui 59.42 180 P P 23 13 46.4 +2.4
comp=Z,137nm,0.8s,baz=344,slow=0.5,SNR=502
BKSI Bulukumba 61.58 281 P P 23 13 58.7 -0.4
comp=Z,46nm,0.9s,comp=Z,461nm
LUWI Luwuk 61.70 287 P P 23 13 51.7 -8.1
baz=62,SNR=3.6
LUWI Luwuk 61.70 287 eP P 23 13 59.0 -0.9
comp=Z,118nm,1.4s
KAPI Kappang 62.06 281 eP P 23 14 01.6 -0.6
comp=Z,27nm,0.9s
SPSI Sidrap Palu 62.60 282 P P 23 14 04.7 -1.1
comp=Z,22nm,0.9s
MPSI Mapaga 64.85 287 P P 23 14 19.8 -0.4
CBI Chichi jima 67.92 324 eP P 23 14 38.0 -1.2
CBIJ Chichi jima 67.93 324 eP P 23 14 37.8 -1.4
comp=Z,161nm,1.2s
JCJ Chichijima 67.93 324 P P 23 14 38.0 -1.3
comp=Z,35nm,0.4s,baz=275,slow=15,SNR=11
UGM Wanagama 68.46 274 P P 23 14 43.1 +0.2
baz=68,SNR=4.0
KKM Kota Kinabalu 71.10 289 eP P 23 14 57.8 -1.0
comp=Z,27nm,0.7s
MAW Mawson 71.46 201 P P 23 15 00.6 +0.7
comp=Z,5.3nm,0.6s,baz=141,slow=6.7,SNR=7.2
MAW Mawson 71.46 201 P P 23 15 00.8 +0.9
baz=72,SNR=5.3
SBUM Sibu 72.39 284 eP P 23 15 06.3 0.0
comp=Z,18nm,0.8s
KSM Kuching 73.47 282 P P 23 15 12.7 +0.1
baz=74,SNR=14
KSM Kuching 73.47 282 eP P 23 15 12.2 -0.4
comp=Z,36nm,0.8s
SYO Syowa Base 76.46 194⇑ iP P 23 15 27.2 -1.3
MNAI Manna 76.74 273 P P 23 15 31.1 0.0
baz=77,SNR=3.1
MJAR Matsushiro Arr 77.56 327 P P 23 15 34.2 -0.8
comp=Z,20nm,0.9s,baz=169,slow=5.8,SNR=52
MJAR Matsushiro Arr 77.56 327 P P 23 15 34.2 -0.8
MJAR pmax pmax
comp=Z,20nm,0.9s
MAJO Matsushiro 77.56 327 dP P 23 15 34.2 -0.8
MAJO pmax pmax
comp=Z,331nm,1.2s
MAJO Matsushiro 77.56 327 eP P 23 15 33.9 -1.1
comp=Z,58nm,1.3s
MAT Matsushiro 77.56 327 P P 23 15 34.3 -0.7
MAT S S 23 24 51.4 -0.9
TWG Pinlang 77.69 306 eP P 23 15 33.9 -2.1
comp=Z,124nm,0.7s
YULB Yu-li 77.91 307 eP P 23 15 34.7 -2.5
comp=Z,18nm,0.8s
TPUB Ta-pu 78.31 306 eP P 23 15 37.3 -2.1
comp=Z,51nm,0.7s
SSLB Suanglung 78.41 307 eP P 23 15 37.8 -2.1
comp=Z,36nm,0.7s
NVL N'lazarevskaya 78.49 184 iP P 23 15 39.6 +0.1
NVL pmax pmax
comp=Z,47nm,0.9s
JNU Nakatsue 78.70 320 P P 23 15 41.0 -0.2
comp=Z,63nm,0.9s,baz=93,slow=4.1,SNR=14
JNU Nakatsue 78.70 320 eP P 23 15 40.6 -0.7
comp=Z,68nm,0.9s
VNA1 Neumayer--Stat 78.77 177 P P 23 15 42.4 +1.3
MYKOM Kota Tinggi 79.12 279 eP P 23 15 43.3 -0.7
comp=Z,20nm,0.7s
ERM Erimo 79.95 333 dP P 23 15 49.1 +1.4
ERM pmax pmax
comp=Z,117nm,1.7s
ERM Erimo 79.95 333 eP P 23 15 47.8 +0.2
comp=Z,52nm,0.9s
DLV T Lat 80.71 290 eP P 23 15 51.3 -1.2
QZH Quanzhou 80.79 306⇓ iP P 23 15 53.7 +1.2
QZH S S 23 25 25.3 -1.1
QZH PMZ
comp=Z,100nm,1.0s
ASAJ Asahikawa 81.96 334 eP P 23 15 58.3 +0.3
comp=Z,399nm,2.2s
ATKA Atka Island 82.69 4 eP P 23 16 00.0 -1.5
comp=Z,16nm,0.7s
IPM Ipoh 82.92 279 eP P 23 16 02.5 -1.2
comp=Z,44nm,1.0s
TJN Taejon 83.05 320 dP P 23 16 03.9 +0.1
EFI East Falkland 83.43 148 P P 23 16 06.0 +0.4
comp=Z,234nm,0.5s,SNR=5.9
EFI East Falkland 83.43 148⇑ eP P 23 16 06.4 +0.8
EFI pmax pmax
comp=Z,61nm,0.7s
KSRS Korea Array 83.52 321 P P 23 16 06.9 +0.7
comp=Z,15nm,0.9s,baz=140,slow=5.7,SNR=38
KSRS Korea Array 83.52 321 P P 23 16 06.9 +0.7
KSRS pmax pmax
comp=Z,15nm,0.9s
KS15 Wonju Array Si 83.53 321 eP P 23 16 06.9 +0.7
KS01 Wonju Array Si 83.55 321 eP P 23 16 06.3 0.0
QIZ Qiongzhong 83.65 296 P P 23 16 08.4 +1.1
QIZ pP pP 23 17 37.7 -1.1
QIZ S S 23 25 57.7 +2.3
QIZ PMZ
comp=Z,23nm,0.9s
QIZ PMZ
comp=Z,110nm,3.3s
KULM Kulim 83.66 280 eP P 23 16 06.9 -0.6
comp=Z,52nm,1.2s
PSI Prapat 83.84 277 eP P 23 16 06.6 -2.0
PSI pmax pmax
comp=Z,45nm,1.3s
PSI Prapat 83.84 277 P P 23 16 07.4 -1.2
baz=84,SNR=7.2
PSI Prapat 83.84 277 eP P 23 16 06.6 -2.0
comp=Z,45nm,1.3s
GSI Gunungsitoli 84.23 275 eP P 23 16 10.4 0.0
comp=Z,134nm,0.6s
YSS Yuzh-Sakhalins 84.31 335⇑ iP P 23 16 10.3 +0.4
YSS pmax pmax
comp=E,50nm,0.9s
YSS pmax pmax
comp=Z,110nm,0.9s
YSS Yuzh-Sakhalins 84.31 335 eP P 23 16 10.2 +0.3
comp=Z,134nm,1.0s
UBPT Khong Chiam 84.99 291 P P 23 16 14.9 +0.9
comp=Z,43nm,0.8s,comp=Z,1μm
NJ2 Nanjing 85.20 312 eP P 23 16 15.9 +1.3
NJ2 PMZ
comp=Z,50nm,0.7s
PET Petropavlovsk 85.43 347 eP P 23 16 15.3 +0.1
PET pmax pmax
comp=Z,49nm,0.6s
PET Petropavlovsk 85.43 347 eP P 23 16 14.9 -0.3
comp=Z,30nm,0.7s
PEA2 Petropavlovsk- 85.70 347 eP P 23 16 17.0 +0.5
PEA0 Petropavlovsk- 85.70 347 eP P 23 16 16.4 -0.2
PETK Petropavlovsk- 85.70 347 P P 23 16 17.0 +0.4
comp=Z,33nm,0.7s,baz=126,slow=6.6,SNR=37
PETK Petropavlovsk- 85.70 347 P P 23 16 17.0 +0.4
PETK pmax pmax
comp=Z,33nm,0.7s
TRTT Trang 85.79 282 P P 23 16 18.6 +0.6
comp=Z,64nm,0.8s
BSC Santa Cruz Isl 85.85 46 P P 23 16 19.8 +2.0
baz=86
SCI San Clemente I 85.87 48 P P 23 16 19.8 +1.9
baz=86
SLBS Sierra La Lagu 86.11 60 eP P 23 16 18.7 -0.7
comp=Z,33nm,1.0s
CIS Catalina Islan 86.23 47 P P 23 16 21.2 +1.5
baz=86
BLG Laguna Peak 86.28 47 P P 23 16 21.6 +1.7
baz=86
PKM Peak Mountain 86.33 46 P P 23 16 22.4 +2.1
baz=86
SMMC Simmler 86.49 45 P P 23 16 22.8 +1.9
baz=87
FMP Fort Macarthur 86.50 47 P P 23 16 23.1 +2.2
baz=87
USRK Ussuriysk Ar. 86.51 328 P P 23 16 21.5 +0.8
comp=Z,29nm,0.9s,baz=139,slow=3.4,SNR=61
LRV Little Rabbit 86.62 44 eP P 23 16 22.2 +0.8
109C Camp Elliot, M 86.73 49 P P 23 16 23.8 +1.8
baz=87
OSI Osito Adit 86.82 46 P P 23 16 24.8 +2.3
baz=87,SNR=5.1
OSI Osito Adit 86.82 46 eP P 23 16 23.0 +0.5
comp=Z,53nm,1.0s
DECC Green Verdugo 86.83 47 P P 23 16 23.9 +1.4
baz=87
PASC Pasadena Art C 86.87 47 eP P 23 16 23.4 +0.8
comp=Z,24nm,1.0s
BAR Barrett 86.88 49 eP P 23 16 23.6 +0.8
comp=Z,41nm,1.3s
MWC Mount Wilson 86.98 47 eP P 23 16 24.1 +0.6
MWC pmax pmax
comp=Z,76nm,1.4s
MWC Mount Wilson 86.98 47 eP P 23 16 24.1 +0.6
comp=Z,76nm,1.4s
ARVC Arvin 87.09 46 P P 23 16 25.6 +2.0
baz=87,SNR=6.5
SKNT Sakolnakorn 87.11 292 P P 23 16 24.9 +0.7
comp=Z,75nm,0.8s
NSHM Saint Helena R 87.12 41 eP P 23 16 24.6 +0.9
MURC Murrieta 87.13 48 P P 23 16 25.7 +1.8
baz=87,SNR=9.5
MONP Monument Peak 87.18 49 P P 23 16 26.5 +2.1
baz=87,SNR=30
WHN Wuhan 87.23 308 ⇓P P 23 16 24.6 +0.2
WHN S S 23 26 28.1 -1.3
WHN PMZ
comp=Z,44nm,1.2s
IBP Imperial Bould 87.25 49 P P 23 16 26.9 +2.3
baz=87
BFSC Mount Baldy Ra 87.25 47 P P 23 16 26.0 +1.4
baz=87,SNR=31
VES Vestal, Richgr 87.40 45 P P 23 16 26.4 +1.3
baz=88,SNR=7.2
EDW2 Edwards Air Fo 87.45 47 P P 23 16 27.5 +2.0
baz=88,SNR=21
PATY Pattaya 87.48 287 P P 23 16 28.0 +2.1
comp=Z,20nm,0.8s,comp=Z,910nm
KIPM Iron Peak 87.52 40 eP P 23 16 26.6 +0.8
PFO Pinyon Flat Ob 87.61 48 P P 23 16 28.3 +1.9
comp=Z,177nm,0.9s,SNR=14
PFO Pinyon Flat Ob 87.61 48 eP P 23 16 27.3 +1.0
PFO pmax pmax
comp=Z,28nm,0.9s
PFO Pinyon Flat Ob 87.61 48 P P 23 16 28.2 +1.9
baz=88,SNR=24
PFO Pinyon Flat Ob 87.61 48 eP P 23 16 27.3 +1.0
comp=Z,28nm,0.9s
SWSC Sam W. Stewart 87.61 49 P P 23 16 28.3 +2.1
baz=88,SNR=15
ISA Isabella 87.66 46 eP P 23 16 27.6 +1.2
ISA pmax pmax
comp=Z,45nm,0.9s
ISA Isabella 87.66 46 P P 23 16 28.5 +2.0
baz=88,SNR=28
ISA Isabella 87.66 46 eP P 23 16 27.6 +1.2
comp=Z,46nm,0.9s
KMRM Mail Ridge 87.68 40 eP P 23 16 26.7 +0.2
comp=Z,279nm,2.0s
MDJ Mudanjiang 87.95 327 P P 23 16 28.6 +1.1
MDJ PMZ
comp=Z,28nm,0.8s
MDJ PMZ
comp=Z,42nm,5.5s
MDJ Mudanjiang 87.95 327 eP P 23 16 27.6 +0.2
comp=Z,43nm,1.1s
LRMC Laurel Mountai 88.03 46 P P 23 16 30.5 +2.2
baz=88
CMB Columbia Colle 88.07 43 eP P 23 16 28.9 +0.6
CMB pmax pmax
comp=Z,25nm,0.9s
CMB Columbia Colle 88.07 43 eP P 23 16 28.9 +0.6
comp=Z,25nm,0.9s
KHMM Horse Mountain 88.12 39 eP P 23 16 28.6 0.0
comp=Z,32nm,0.9s
BELC Belle Mtn. Jos 88.15 48 P P 23 16 30.9 +2.0
baz=88,SNR=38
BC3 Big Chuckawall 88.29 49 P P 23 16 31.7 +2.2
baz=88,SNR=28
GLA Glamis 88.32 50 eP P 23 16 31.4 +1.8
GLA pmax pmax
comp=Z,85nm,0.8s
GLA Glamis 88.32 50 P P 23 16 31.8 +2.2
baz=88,SNR=16
GLA Glamis 88.32 50 eP P 23 16 31.4 +1.8
comp=Z,85nm,0.8s
CWC Cottonwood Cre 88.41 45 P P 23 16 31.6 +1.5
baz=89,SNR=7.4
GSC Goldstone 88.47 47 eP P 23 16 30.8 +0.5
GSC pmax pmax
comp=Z,31nm,1.0s
GSC Goldstone 88.47 47 P P 23 16 31.9 +1.6
baz=89,SNR=24
GSC Goldstone 88.47 47 eP P 23 16 30.8 +0.5
comp=Z,31nm,1.0s
HEC Hector,Ludlow 88.47 47 P P 23 16 32.0 +1.8
baz=89,SNR=29
HABR Khabarovsk 88.51 332 dP P 23 16 30.9 +0.9
HABR e*PP pP 23 18 01.7 -1.1
HABR e*SP sP 23 18 43.6 -0.8
HABR e 23 20 03.9
HABR ePPP PPP 23 22 02.3
HABR e 23 26 44.3
HABR eSS SS 23 32 42.5 -0.7
HABR MLR MLR
comp=Z,36nm,19.0s
MPMC Manual Prospec 88.53 46 P P 23 16 32.3 +1.7
baz=89,SNR=19
CHGN Chignik 88.55 12 eP P 23 16 29.9 -0.1
WDC Whiskeytown Da 88.57 40 eP P 23 16 31.7 +1.2
WDC pmax pmax
comp=Z,41nm,1.1s
WDC Whiskeytown Da 88.57 40 eP P 23 16 31.6 +1.2
comp=Z,40nm,1.1s
DAC Darwin (Calif) 88.60 46 eP P 23 16 29.6 -1.4
DAC pmax pmax
comp=Z,8.0nm,0.8s
DAC Darwin (Calif) 88.60 46 eP P 23 16 29.6 -1.4
comp=Z,7.8nm,0.8s
MTUM Tungsten Hills 88.71 44 eP P 23 16 32.9 +1.4
TIN Tinemaha 88.72 45 P P 23 16 33.5 +2.1
baz=89
MLAC Mammoth Lakes 88.73 44 P P 23 16 33.4 +1.8
baz=89
N02D Trinity Center 88.75 40 P P 23 16 33.9 +2.4
baz=89,SNR=12
IRM Iron Mountain 88.80 49 P P 23 16 33.8 +2.0
baz=89,SNR=29
GMRC Granite Mounta 88.86 48 P P 23 16 33.9 +1.7
baz=89,SNR=18
WAKR Walker 88.94 43 eP P 23 16 33.6 +1.1
Y12C Blythe 88.95 49 P P 23 16 34.4 +2.0
baz=89,SNR=12
M02C Callahan 88.96 39 P P 23 16 34.4 +2.0
baz=89,SNR=15
TIA Tai'an 88.98 314 ⇓P P 23 16 33.5 +1.0
TIA PMZ
comp=Z,50nm,1.1s
214A Organ Pipe Nat 88.99 52 P P 23 16 35.2 +2.5
baz=89
L02D Cave Junction, 89.09 38 P P 23 16 35.5 +2.6
baz=89
SHOC Shoshone 89.18 47 P P 23 16 35.2 +1.7
baz=89,SNR=5.5
FURC Furnace Creek, 89.18 46 P P 23 16 34.9 +1.6
baz=89,SNR=11
KEBM Edson Butte 89.20 37 eP P 23 16 34.8 +1.3
comp=Z,104nm,1.0s
GRAC Grapevine Rang 89.20 45 P P 23 16 35.4 +1.8
baz=89,SNR=46
YBH Yreka Blue Hor 89.27 39 eP P 23 16 35.0 +1.1
YBH pmax pmax
comp=Z,27nm,1.0s
YBH Yreka Blue Hor 89.27 39 eP P 23 16 35.0 +1.1
comp=Z,27nm,1.0s
PBKT Sadao Pong 89.33 290 P P 23 16 35.9 +1.4
comp=Z,23nm,1.3s,comp=Z,1μm
CN2 Changchun 89.39 324 eP P 23 16 34.6 +0.4
CN2 PMZ
comp=Z,70nm,0.9s
LDFC Landfair 89.40 48 eP P 23 16 36.3 +1.7
comp=Z,57nm,0.9s
PDMCI Parker Dam,Lak 89.54 49 P P 23 16 36.9 +1.8
baz=90
NV01 Mina Array Sit 89.57 44 eP P 23 16 35.9 +0.5
NVAR Mina Array Bea 89.57 44 P P 23 16 36.5 +1.0
comp=Z,16nm,0.8s,baz=219,slow=8.0,SNR=84
NVAR PKKPbc PKKPbc 23 34 09.2 +0.9
comp=Z,0.5nm,0.5s,baz=70,slow=4.0,SNR=5.1
SRDT SRDT 89.67 287 P P 23 16 37.8 +1.6
comp=Z,107nm,0.9s
HUMO Hull Mountain 89.75 38 eP P 23 16 37.1 +1.2
comp=Z,115nm,1.5s
M04C Macdoel 89.78 39 P P 23 16 38.0 +1.7
baz=90,SNR=13
TPNV Topopah Spring 89.86 46 eP P 23 16 37.8 +1.0
TPNV pmax pmax
comp=Z,23nm,0.8s
TPNV Topopah Spring 89.86 46 P P 23 16 38.5 +1.7
baz=90,SNR=27
TPNV Topopah Spring 89.86 46 eP P 23 16 37.8 +1.0
comp=Z,22nm,0.8s
TPH Tonopah 89.98 45 eP P 23 16 38.0 +0.6
TPH pmax pmax
comp=Z,32nm,0.8s
TPH Tonopah 89.98 45 eP P 23 16 38.0 +0.6
comp=Z,32nm,0.8s
UTHA Uthaitani 90.03 288 P P 23 16 39.2 +1.3
comp=Z,11nm,0.9s,comp=Z,86nm
LCO Las Campanas 90.17 124 eP P 23 16 39.2 +0.4
comp=Z,59nm,1.2s
SHPR Sheep Range 90.26 47 eP P 23 16 39.9 +1.3
UTTA Uttaradit 90.28 290 P P 23 16 40.3 +1.3
comp=Z,4.2nm,0.8s,comp=Z,51nm
GYA Guiyang 90.28 301 P P 23 16 40.0 +1.0
GYA pP pP 23 18 13.2 +1.2
GYA sP sP 23 18 53.4 -0.1
GYA PP PP 23 20 23.8 +3.8
GYA SKS SKSac 23 26 31.0 0.0
GYA S S 23 26 57.6 -0.5
GYA sS sS 23 29 41.2 -2.7
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.4s
I03D Drain, OR 90.29 37 P P 23 16 40.2 +1.8
baz=90,SNR=12
CFAA Coronel Fontan 90.37 128 P P 23 16 40.8 +1.4
comp=Z,2.7nm,0.8s,baz=272,slow=3.5,SNR=20
TRQA Tornquist 90.38 136 eP P 23 16 40.3 +1.0
comp=Z,68nm,1.6s
K04D Chiloquin, OR 90.40 39 P P 23 16 41.0 +1.8
baz=91
ENH Enshi 90.42 305 eP P 23 16 39.4 -0.1
comp=Z,32nm,1.0s
TUC Tucson 90.57 52 eP P 23 16 41.7 +1.6
TUC pmax pmax
comp=Z,30nm,0.9s
TUC Tucson 90.57 52 eP P 23 16 41.7 +1.6
comp=Z,30nm,0.9s
J04D Umpqua Nationa 90.63 38 P P 23 16 41.6 +1.3
baz=91,SNR=18
I04A Tendick Farm, 90.85 38 P P 23 16 42.4 +1.3
baz=91,SNR=16
K05A Summer Lake 90.94 39 eP P 23 16 42.4 +0.7
comp=Z,64nm,0.9s
KDAK Kodiak Island 91.08 14 ceP P 23 16 42.2 +0.6
J05D Fort Rock, OR 91.13 39 P P 23 16 43.9 +1.4
baz=91,SNR=20
R11A Troy Canyon, C 91.15 45 P P 23 16 44.3 +1.5
baz=91,SNR=19
R11A Troy Canyon, C 91.15 45 eP P 23 16 42.8 0.0
comp=Z,4.9nm,0.8s
G03D McMinnville, O 91.39 36 P P 23 16 45.0 +1.6
baz=92
LAMP Lampang 91.44 291 P P 23 16 46.3 +2.0
comp=Z,7.1nm,0.7s
BMN Battle Mountai 91.50 43 eP P 23 16 44.0 -0.3
BMN pmax pmax
comp=Z,23nm,0.9s
BMN Battle Mountai 91.50 43 eP P 23 16 44.0 -0.3
comp=Z,23nm,0.9s
H04A Detroit Lake 91.58 37 eP P 23 16 44.7 +0.3
comp=Z,108nm,2.0s
CRAI Chiangrai 91.74 292 P P 23 16 44.8 -0.9
comp=Z,31nm,0.7s,comp=Z,3μm
I05D Terrebonne, OR 91.79 38 P P 23 16 47.0 +1.6
baz=92,SNR=13
CM01 Chiang Mai Arr 91.93 290 eP P 23 16 46.8 +0.2
CM31 Chiang Mai Arr 91.96 290 eP P 23 16 47.5 +0.8
CM31 ePP PP 23 20 30.8 -2.3
CM31 ePKiKP PKiKP 23 21 34.8 +0.2
CMAR Chiang Mai Arr 91.96 290 P P 23 16 47.5 +0.8
comp=Z,2.4nm,0.4s,baz=144,slow=3.3,SNR=24
CMAR PP PP 23 20 30.8 -2.3
comp=Z,0.8nm,0.4s,baz=145,slow=5.5,SNR=5.9
CMAR PKiKP PKiKP 23 21 34.8 +0.2
comp=Z,0.6nm,0.3s,baz=37,slow=0.2,SNR=4.1
CMAR PKKPbc PKKPbc 23 34 03.2 +2.2
comp=Z,2.5nm,0.5s,baz=287,slow=4.2,SNR=8.4
CMAR Chiang Mai Arr 91.96 290 ceP P 23 16 48.0 +1.3
CMAR pmax pmax
comp=Z,2.0nm,0.4s
BJT Baijiatuau 91.98 316 eP P 23 16 46.1 -0.2
BJT pmax pmax
comp=Z,29nm,1.0s
BJT Baijiatuau 91.98 316 eP P 23 16 46.1 -0.2
comp=Z,29nm,1.0s
WVOR Wild Horse Val 91.99 41 eP P 23 16 46.7 +0.2
WVOR pmax pmax
comp=Z,32nm,1.3s
WVOR Wild Horse Val 91.99 41 eP P 23 16 46.7 +0.2
comp=Z,32nm,1.3s
BJI Beijing 91.99 316 P P 23 16 47.0 +0.7
BJI pP pP 23 18 18.2 -1.2
BJI S S 23 27 16.3 +3.9
BJI PMZ
comp=Z,28nm,0.9s
CCUT Cedar City 92.03 47 eP P 23 16 47.7 +0.8
comp=Z,6.7nm,0.9s
KNB Kanab 92.05 48 eP P 23 16 47.6 +0.6
KNB pmax pmax
comp=Z,12nm,0.7s
KNB Kanab 92.05 48 eP P 23 16 47.5 +0.6
comp=Z,12nm,0.7s
WUAZ Wupatki 92.08 49 P P 23 16 49.0 +1.8
baz=92
WUAZ Wupatki 92.08 49 eP P 23 16 47.5 +0.3
comp=Z,17nm,1.0s
CMMT Chiang Mai 92.14 291 P P 23 16 48.9 +1.3
comp=Z,12nm,1.1s
CHTO Chiang Mai 92.14 291 P P 23 16 48.9 +1.3
comp=Z,41nm,1.2s
CHTO Chiang Mai 92.14 291 eP P 23 16 47.7 +0.1
CHTO pmax pmax
comp=Z,10.0nm,1.0s
CHTO Chiang Mai 92.14 291 eP P 23 16 47.7 +0.1
comp=Z,10nm,1.0s
G05D Wamic, OR 92.41 37 P P 23 16 49.7 +1.5
baz=93
KMI Kunming 92.50 298 P P 23 16 50.5 +1.1
KMI PMZ
comp=Z,15nm,1.1s
CMAI Chiengmai2 92.64 292 P P 23 16 51.4 +1.3
comp=Z,14nm,1.6s
G06A Carlson Farm, 92.76 37 eP P 23 16 49.6 -0.3
comp=Z,33nm,1.4s
121A Cookes Peak, D 92.77 54 P P 23 16 52.7 +2.3
baz=93
ELK Elko 92.86 43 eP P 23 16 50.7 0.0
ELK pmax pmax
comp=Z,9.0nm,0.8s
ELK Elko 92.86 43 eP P 23 16 50.7 0.0
comp=Z,9.4nm,0.8s
W18A Petrified Fore 92.93 51 P P 23 16 52.9 +1.8
baz=93
XAN Xi'an 92.99 308 P P 23 16 52.3 +1.1
XAN PMZ
comp=Z,7.0nm,0.7s
MA2 Magadan 93.15 346 eP P 23 16 51.7 +0.5
LON Longmire 93.18 36 eP P 23 16 51.1 -0.6
LON pmax pmax
comp=Z,4.0nm,1.0s
LON Longmire 93.18 36 eP P 23 16 51.1 -0.6
comp=Z,3.7nm,1.0s
MVU Marysvale 93.33 47 eP P 23 16 52.1 -0.8
comp=Z,13nm,1.4s
MSU Marysvale 93.36 47 eP P 23 16 52.4 -0.6
MSU Marysvale 93.36 47 eP P 23 16 52.4 -0.6
D05A Enumclaw 93.39 35 eP P 23 16 52.9 +0.3
comp=Z,20nm,0.9s
G08A Pilot Rock 93.69 38 eP P 23 16 54.6 +0.5
comp=Z,36nm,1.5s
LTX Lajitas 93.92 58 eP P 23 16 56.7 +1.0
LTX Lajitas 93.92 58 eP P 23 16 56.6 +1.0
TX31 Lajitas Ar. Si 93.92 58 eP P 23 16 56.0 +0.3
TXAR Lajitas Array 93.92 58 P P 23 16 56.6 +1.0
comp=Z,2.0nm,0.9s,baz=212,slow=7.5,SNR=18
TXAR PKKPbc PKKPbc 23 33 58.0 +1.4

comp=Z,0.3nm,0.6s,baz=98,slow=2.5,SNR=5.4
TXAR Lajitas Array 93.92 58 P P 23 16 56.7 +1.0
TXAR 23 33 58.0
TXAR pmax pmax
comp=E,2.0nm,0.9s
DUG Dugway 93.98 45 *e*P **P 23 16 55.5 -0.2**
DUG pmax pmax
comp=Z,11nm,1.4s
DUG Dugway 93.98 45 P **P 23 16 57.4 +1.7**
baz=94
DUG Dugway 93.98 45 *e*P **P 23 16 55.5 -0.2**
comp=Z,11nm,1.4s
LTY Liberty 94.10 36 *e*P **P 23 16 55.7 -0.3**
comp=Z,11nm,1.4s
HAWA Hanford 94.11 37 *e*P **P 23 16 56.3 +0.4**
comp=Z,8.7nm,0.8s
MFID Camas Ranch 94.20 41 *e*P **P 23 16 56.6 +0.1**
comp=Z,15nm,0.9s
LAZ Ladron 94.27 52 *e*P **P 23 16 57.7 +0.5**
BGU Big Grassy Mou 94.30 44 *e*P **P 23 16 56.8 -0.3**
comp=Z,24nm,1.9s
CMIG Matias Romero 94.40 73 P **P 23 16 58.8 +0.8**
comp=Z,2.8nm,0.7s,baz=237,slow=4.4,SNR=5.2
TMUT Trail Mountain 94.44 46 *e*P **P 23 16 58.1 +0.1**
comp=Z,13nm,0.8s
SRU San Rafael 94.75 47 *e*P **P 23 16 59.5 +0.2**
SRU pmax pmax
comp=E,6.0nm,0.6s
SRU San Rafael 94.75 47 *e*P **P 23 16 59.5 +0.2**
comp=Z,6.3nm,0.6s
D08A Wollman Farm, 94.86 37 *e*P **P 23 17 00.0 +0.6**
comp=Z,14nm,0.8s
CD2 Chengdu 94.86 303 P **P 23 17 00.5 +0.7**
CD2 pP **pP 23 18 33.1 0.0**
CD2 sP **sP 23 19 14.6 0.0**
CD2 PP **PP 23 20 55.5 0.0**
CD2 SKS **SKSac 23 26 56.3 +0.5**
CD2 S **ScS 23 27 38.7 +0.1**
CD2 sS **sS 23 30 25.3 -0.1**
CD2 SS **SS 23 34 15.8 +1.2**
CD2 PMZ
comp=Z,20nm,0.6s
CD2 PMZ
comp=Z,50nm,5.5s
E09A Wood Farm, Sta 94.91 38 *e*P **P 23 16 59.0 -0.6**
comp=Z,11nm,0.9s
HVU Hansel Valley 94.97 44 *e*P **P 23 17 00.6 +0.4**
HVU pmax pmax
comp=Z,17nm,0.7s
HVU Hansel Valley 94.97 44 *e*P **P 23 17 00.6 +0.4**
comp=Z,17nm,0.7s
ANMO Albuquerque 95.04 52 *e*P **P 23 17 01.8 +1.1**
ANMO pmax pmax
comp=Z,21nm,1.0s
ANMO Albuquerque 95.04 52 *e*P **P 23 17 00.6 -0.1**
comp=Z,7.4nm,1.3s
F10A Beach Ranch, E 95.05 38 *e*P **P 23 17 00.1 -0.3**
comp=Z,12nm,0.9s
HLID Hailey 95.10 42 P **P 23 17 02.4 +1.7**
baz=95
HLID Hailey 95.10 42 *e*P **P 23 17 01.0 +0.3**
comp=Z,6.1nm,0.8s
LVC Limon Verde 95.22 120 P **P 23 17 02.8 +0.8**
comp=Z,20nm,1.0s,baz=302,slow=4.9,SNR=3.7
LVC PKKPbc **PKKPbc 23 33 54.3 +1.6**
comp=Z,2.0nm,0.4s,baz=66,slow=3.0,SNR=3.8
HHC Hu-ho-hao-te 95.27 315 *e*P **P 23 17 02.0 +0.5**
HHC pP **pP 23 18 37.9 +3.1**
HHC sP **sP 23 19 20.4 +4.1**
HHC PP **PP 23 20 59.0 +0.6**
HHC SKS **SKSac 23 26 56.4 -1.2**
HHC S **S 23 27 38.5 -2.7**
HHC sS **sS 23 30 29.0 +0.4**
HHC PMZ
comp=Z,10.0nm,0.7s
HHC PMZ
comp=Z,66nm,6.1s
PV09 Paradox Valley 95.28 48 *e*P **P 23 17 02.1 +0.2**
PV01 Paradox Valley 95.44 49 *e*P **P 23 17 02.2 -0.3**
B08A Colville Reser 95.51 36 *e*P **P 23 17 02.2 -0.1**
comp=Z,3.0nm,0.6s
C09A Chrisman Ranch 95.68 37 *e*P **P 23 17 02.8 -0.2**
comp=Z,5.5nm,0.8s
SEY Seymchan 95.89 348 *e*P **P 23 17 03.5 -0.1**
530A J-C Ranch, Com 96.07 59 P **P 23 17 06.7 +1.4**
baz=96
631A Perdido Creek 96.25 60 P **P 23 17 07.5 +1.4**
baz=96
933A Laredo 96.29 62 P **P 23 17 08.4 +2.1**
baz=96
732A Laxson Ranch, 96.34 60 P **P 23 17 08.0 +1.5**
baz=96
S22A 4UR Ranch, Cre 96.35 50 *e*P **P 23 17 06.4 -0.4**
comp=Z,3.9nm,1.1s
CAST Castle Rocks 96.36 12 *e*P **P 23 17 04.4 -1.4**
comp=Z,7.2nm,0.9s
034A Hebbronville 96.46 62 P **P 23 17 09.3 +2.3**
baz=97
AHID Auburn Hatcher 96.55 44 *e*P **P 23 17 06.4 -1.0**
comp=Z,7.6nm,0.8s
531A Rocksprings 96.66 59 P **P 23 17 09.2 +1.3**
baz=97
TRF Thorofare Moun 96.72 13 *e*P **P 23 17 07.0 -0.6**
comp=Z,8.8nm,0.8s
MCMT McKenzie Canyo 96.76 41 *e*P **P 23 17 08.3 0.0**
330A Mertzon 96.85 58 P **P 23 17 10.1 +1.3**
baz=97
632A Uvalde 96.88 60 P **P 23 17 11.0 +2.1**
baz=97
431A Sonora 96.89 58 P **P 23 17 11.1 +2.1**
baz=97
RND Reindeer 96.97 14 *e*P **P 23 17 08.4 -0.2**
RND pmax pmax
comp=Z,140nm,2.9s
RND Reindeer 96.97 14 *e*P **P 23 17 08.4 -0.2**
comp=Z,140nm,2.9s
129A Stewart Farms, 96.99 56 P **P 23 17 10.4 +1.0**
baz=97
SMCO Snowmass 97.06 48 *e*P **P 23 17 09.3 -0.7**
comp=Z,7.7nm,1.4s
MSTX Muleshoe 97.06 55 P Pdif 23 17 10.5 +0.7
baz=97
834A Tilden 97.10 62 P Pdif 23 17 12.1 +2.2
baz=97
FXWY Fox Creek 97.11 43 *e*P Pdif 23 17 10.4 +0.4
comp=Z,3.0nm,0.9s
532A Rocksprings 97.11 59 P Pdif 23 17 11.1 +1.0
baz=97
230A Sterling City 97.14 57 P Pdif 23 17 11.8 +1.7
baz=97
SNOW Snow King Moun 97.16 43 *e*P Pdif 23 17 10.7 +0.5
comp=Z,7.8nm,0.8s
SDCO Great Sand Dun 97.23 50 P Pdif 23 17 12.9 +2.3
baz=97
MSO Missoula 97.36 39 P Pdif 23 17 12.1 +1.3
baz=98
JCT Junction City 97.37 59 P Pdif 23 17 12.6 +1.5
baz=98
Z29A Hungry Hill Ra 97.44 56 P Pdif 23 17 12.3 +0.9
baz=98
BW06 Boulder Array 97.47 44 *e*P **P 23 17 11.1 -0.5**
comp=Z,24nm,2.2s
PD31 Pinedale Array 97.47 44 *e*P **P 23 17 11.6 0.0**
PD31 *e*PP **PP 23 21 17.2 +1.8**
PD31 *e*PKiKP **PKiKP 23 21 46.0 +2.2**
PDAR Pinedale Array 97.47 44 P **P 23 17 11.6 0.0**
comp=Z,2.3nm,0.7s,baz=210,slow=1.6,SNR=18
PDAR PP **PP 23 21 17.2 +1.8**
comp=Z,0.6nm,0.9s,baz=204,slow=3.3,SNR=4.2
PDAR PKiKP **PKiKP 23 21 46.0 +2.2**
comp=Z,0.3nm,0.6s,baz=147,slow=3.8,SNR=2.2
PDAR PKKPbc **PKKPbc 23 33 47.1 -0.7**
comp=Z,2.1nm,0.7s,baz=61,slow=5.6,SNR=20
LZH Lanzhou 97.59 307 *e*P Pdif 23 17 15.3 +3.1
LZH pP pP 23 18 49.0 +3.4
LZH sP sP 23 19 31.1 +4.0
LZH PP PP 23 21 22.4 +6.1
LZH SKS **SKSac 23 27 11.1 +1.2**
LZH *e*S **S 23 27 59.3 -2.0**
LZH sS sS 23 30 48.1 -1.1
LZH SS **SS 23 34 55.1 +2.2**
LZH PMZ
comp=Z,18nm,1.0s
LZH PMZ
comp=Z,60nm,4.0s
T25A Trinidad 97.63 51 P Pdif 23 17 13.6 +1.2
baz=98
231A Bronte 97.75 58 P Pdif 23 17 13.1 +0.3
baz=98
Y29A Porterfield Fa 97.78 55 P Pdif 23 17 13.7 +0.8
baz=98
Z30A Sanderson Ranc 97.86 56 P Pdif 23 17 14.5 +1.2
baz=98
332A Millersview 97.88 58 P Pdif 23 17 14.7 +1.3
baz=98
BOZ Bozeman (W) 97.94 41 P Pdif 23 17 15.6 +2.1
baz=98
433A Art 98.04 59 P **P 23 17 15.3 +1.2**
baz=98
WRH Wood River Hil 98.07 13 *e*P **P 23 17 13.3 0.0**
comp=Z,19nm,1.6s
MLY Manley 98.07 12 *e*P Pdif 23 17 12.2 -1.3
comp=Z,39nm,2.4s
CCB Clear Creek Bu 98.28 13 *e*P Pdif 23 17 13.9 -0.4
comp=Z,3.0nm,0.7s
AMTX Amarillo 98.31 54 P **P 23 17 16.1 +0.8**
baz=98
U27A Thompson Grove 98.32 53 P **P 23 17 16.6 +1.3**
baz=98
COLA College 98.48 13 *e*P **P 23 17 16.0 +0.9**
COLA pmax pmax
comp=Z,21nm,1.0s
I19A Meeteetse 98.54 44 P **P 23 17 17.8 +1.6**
baz=99
ILAR Eielson Array 98.58 14 P Pdif 23 17 14.0 -1.7
comp=Z,2.1nm,0.7s,baz=217,slow=5.5,SNR=15
ILAR PP **PP 23 21 20.8 -2.2**
comp=Z,1.1nm,0.8s,baz=213,slow=8.4,SNR=4.6
ILAR PKiKP **PKiKP 23 21 44.6 -0.2**
comp=Z,1.0nm,0.6s,baz=300,slow=2.8,SNR=9.4
ILAR PKKPbc **PKKPbc 23 33 43.0 -2.4**
comp=Z,1.3nm,0.5s,baz=32,slow=2.7,SNR=11
ILB Eielson Array 98.58 14 *e*Pdif Pdif 23 17 13.9 -1.7
ILB *e*PP **PP 23 21 20.8 -2.2**
ILB *e*PKiKP **PKiKP 23 21 44.6 -0.2**
J20A Shoshoni 98.70 45 P **P 23 17 18.5 +1.6**
baz=99
H19A Powell 98.90 43 P **P 23 17 20.1 +2.3**
baz=99
Z32A Haskell 99.06 57 P **Pdif 23 17 20.1 +1.5**
baz=99
J21A Lysite 99.08 45 P **Pdif 23 17 19.8 +1.2**
baz=99
I21A Big Trails, Te 99.43 44 P **Pdif 23 17 21.2 +1.0**
baz=100
LPAZ La Paz 99.51 115 P **Pdif 23 17 23.2 +1.4**
comp=Z,1.3nm,0.6s,baz=259,slow=1.1,SNR=9.3
LPAZ La Paz 99.51 115 P **Pdif 23 17 23.2 +1.4**
LPAZ pmax pmax
comp=Z,1.0nm,0.6s
LPAZ La Paz 99.51 115 P **Pdif 23 17 24.8 +3.1**
baz=99,SNR=4.7
K23A Bowen Ranch, D 99.87 46 P **Pdif 23 17 23.4 +1.3**
baz=100
I22A 9 Mile Ranch, 99.96 45 P **Pdif 23 17 24.2 +1.7**
baz=100
CPUP Villa Florida 101.08 130 PKKPbc PKKPbc 23 33 35.4 -1.2
comp=Z,1.9nm,0.7s,baz=6.8,slow=5.1,SNR=5.2
H24A Dirks Ranch, A 101.59 45 P **Pdif 23 17 31.2 +1.5**
baz=102
I25A Rochford 101.71 46 P **Pdif 23 17 31.4 +1.1**
baz=102
Z37A Pogue Cattle C 101.81 58 P **Pdif 23 17 32.3 +1.5**
baz=102
GTA Gaotai 102.04 309 *e*P **Pdif 23 17 38.7 +6.9**
GTA pP 23 17 44.0
GTA sP 23 17 46.7
GTA pmax pmax
comp=Z,4.0nm,1.2s
SONA0 Songino Array 102.27 319 *e*Pdif **Pdif 23 17 32.3 -0.3**
SONA0 *e*PP **PKiKP 23 21 52.0 -0.1**
SONM Songino Array 102.27 319 P **Pdif 23 17 32.3 -0.3**
comp=Z,1.3nm,1.0s,baz=134,slow=4.2,SNR=6.0
SONM PKiKP **PKiKP 23 21 52.0 -0.1**
comp=Z,0.9nm,0.6s,baz=114,slow=0.3,SNR=5.6
SONM PKKPbc **PKKPbc 23 33 35.1 +0.8**
comp=Z,1.8nm,0.5s,baz=273,slow=3.2,SNR=14
SONM PKKPab PKKPdf 23 33 58.8 +18
comp=Z,0.9nm,0.8s,baz=305,slow=5.2,SNR=4.6
YKA Yellowknife Ar 106.41 26 PKiKP **PKiKP 23 21 58.4 -0.7**
comp=Z,1.2nm,0.4s,baz=222,slow=1.6,SNR=15
YKA PKKPab **PKKPab 23 33 38.2 +2.8**
comp=Z,1.0nm,0.8s,baz=46,slow=5.4,SNR=4.1
YKB5 Yellowknife Ar 106.41 26 *e*PKiKP **PKiKP 23 21 58.3 -0.8**
TKL Tuckaleechee C 111.69 61 PKiKP **PKiKP 23 22 09.7 -0.2**
comp=Z,3.8nm,0.5s,baz=179,slow=6.4,SNR=10
TKL Tuckaleechee C 111.69 61 *i* PKiKP **PKiKP 23 22 09.7 -0.2**
TKL pmax pmax
comp=Z,4.0nm,0.5s
WMQ Urumqi 112.12 309 *e*PKP **PKiKP 23 22 09.4 -1.1**
SUR Sutherland 114.28 199 PKP PKPdf 23 22 15.7 +0.4
comp=Z,24nm,0.7s,baz=174,slow=1.5,SNR=20
BDFB Brasilia 114.71 128 PKP PKPdf 23 22 16.5 +0.1
comp=Z,2.7nm,0.4s,baz=60,slow=0.9,SNR=5.9
BDFB PKKPab **PKKPab 23 33 02.5 -1.5**
comp=Z,2.9nm,0.8s,baz=202,slow=12,SNR=3.8
BDFB Brasilia 114.71 128 PKiKP PKPdf 23 22 16.5 +0.1
BDFB 23 33 02.5
BDFB pmax pmax
comp=Z,3.0nm,0.4s
BDFB pmax pmax
comp=Z,3.0nm,0.8s
BDFB Brasilia 114.71 128 *e*PKiKP **PKiKP 23 22 14.8 -1.7**
PTGA Pitinga 115.05 107 PKP **PKPdf 23 22 16.9 -0.1**
comp=Z,2.5nm,0.8s,baz=202,slow=1.4,SNR=4.1
BOSA Boshof 116.34 205 PKP **PKPdf 23 22 19.4 +0.1**
comp=Z,7.8nm,0.7s,baz=142,slow=2.1,SNR=17
BOSA PKKPbc **PKKPbc 23 32 48.5 -0.8**
comp=Z,1.3nm,0.4s,baz=354,slow=4.3,SNR=7.4
MK01 Makanchi Array 116.69 310 *e*PKPdf **PKPdf 23 22 17.8 -1.3**
MK32 Makanchi Array 116.71 310 *e*PKPdf **PKPdf 23 22 18.2 -0.9**
MK32 *e*PKKPbc **PKKPbc 23 32 48.7 +0.9**
MKAR Makanchi Array 116.71 310 PKP **PKPdf 23 22 18.2 -0.9**
comp=Z,8.4nm,0.6s,baz=196,slow=0.6,SNR=102
MKAR PKKPbc **PKKPbc 23 32 48.7 +0.9**
comp=Z,4.1nm,0.6s,baz=274,slow=3.3,SNR=54
MKAR Makanchi Array 116.71 310 *e*PKPdf **PKPdf 23 22 17.9 -1.3**
ZAA0 Zalesovo Array 117.16 319 *e*PKPdf **PKPdf 23 22 18.5 -1.3**
ZALV Zalesovo Beam 117.16 319 PKP **PKPdf 23 22 18.5 -1.2**
comp=Z,2.8nm,0.4s,baz=154,slow=2.0,SNR=18
ZALV Zalesovo Beam 117.16 319 PKiKP **PKPdf 23 22 18.5 -1.2**
ZALV pmax pmax
comp=Z,3.0nm,0.4s
ZAA1 Zalesovo Array 117.16 319 *e*PKPdf **PKPdf 23 22 18.5 -1.2**
RES Resolute Bay 118.01 17 *e*PKiKP **PKPdf 23 22 20.2 -0.6**
RES Resolute Bay 118.01 17 *e*PKPdf **PKPdf 23 22 20.1 -0.6**
NVS Novosibirsk 118.28 319 *i* PKiKP **PKPdf 23 22 20.8 -1.1**
NVS pmax pmax
comp=Z,19nm,1.4s
NVS pmax pmax
comp=N,7.0nm,1.5s
NVS pmax pmax
comp=E,10.0nm,1.5s
KSH Kashi 118.98 301 PKP **PKPdf 23 22 24.1 +0.2**
KSH sPKP 23 24 45.2
KSH PKS **PKSdf 23 25 59.2 -1.5**
KSH SKS **SKSdf 23 28 55.2 -1.8**
KSH SKKS **SKKSac 23 30 04.1 -3.7**
KSH SS **SKKSdf 23 39 41.4 -1.3**
KSH PPMZ
comp=E,120nm,3.4s
KSH LN
comp=E,78nm,4.7s
KSH LE
comp=E,61nm,4.1s
KSH LZ
comp=E,190nm,5.5s
SJG San Juan 119.13 85 *e*PKiKP **PKPdf 23 22 23.6 -1.0**
SJG San Juan 119.13 85 *e*PKPdf **PKPdf 23 22 23.6 -1.0**
HUMP Col San Antoni 119.40 85 *e*PKPdf **PKPdf 23 22 24.4 -0.7**
LBTB Lobatse 119.47 207 PKKPbc PKKPbc 23 32 37.8 -0.4
comp=E,5.3nm,0.9s,baz=292,slow=4.3,SNR=8.2
ULHL Ulahol 119.57 304 P **PKPdf 23 22 25.5 +0.4**
SNR=9.3
KURK Kurchatov 120.07 314 *e*PKiKP **PKPdf 23 22 24.3 -1.1**
KURK Kurchatov 120.07 314 *e*PKPdf **PKPdf 23 22 24.3 -1.1**
KURK *e*PKKPbc **PKKPbc 23 32 36.9 +1.0**
KURBB Kurchatov Arra 120.10 314 PKKPbc PKKPbc 23 32 36.9 +1.1
comp=E,2.1nm,0.8s,baz=282,slow=4.8,SNR=19
TKM2 Tokmak 2 120.21 305 P **PKPdf 23 22 25.8 -0.5**
SNR=24
TKM2 Tokmak 2 120.21 305 *e*PKiKP **PKPdf 23 22 25.1 -1.2**
TKM2 Tokmak 2 120.21 305 *e*PKPdf **PKPdf 23 22 25.1 -1.2**
KZA Kyzart 120.23 304 P **PKPdf 23 22 26.9 +0.2**
SNR=10
KBK Karagaybulak 120.60 304 P **PKPdf 23 22 26.7 -0.3**
SNR=18
PAL Palisades 120.76 58 *e*PKiKP **PKPdf 23 22 26.5 -0.6**
PAL Palisades 120.76 58 *e*PKPdf **PKPdf 23 22 26.5 -0.6**
UCH Uchtor 120.80 304 P **PKPdf 23 22 28.0 +0.2**
SNR=32
CHMS Chumnysh 120.83 305 P **PKPdf 23 22 26.8 -0.4**
SNR=16
FRU Bishkek 120.88 304 *i* PKiKP **PKPdf 23 22 27.0 -0.4**
FRU pmax pmax
comp=Z,40nm,2.0s
AAK Ala-Archa 120.92 304 P **PKPdf 23 22 27.5 -0.1**
SNR=7.2
AAK Ala-Archa 120.92 304 *e*PKiKP **PKPdf 23 22 27.2 -0.4**
AAK Ala-Archa 120.92 304 *e*PKPdf **PKPdf 23 22 27.2 -0.4**
USP Ospenovka 121.07 305 P **PKPdf 23 22 27.3 -0.5**
SNR=21
LONY Lake Ozonia 121.19 54 *e*PKPdf **PKPdf 23 22 26.9 -1.0**
NCB Newcomb 121.29 54 *e*PKPdf **PKPdf 23 22 27.3 -0.7**
AML Almayashu 121.36 303 P **PKPdf 23 22 29.2 +0.4**
SNR=16
EKS2 Erkin-Say 121.44 304 P **PKPdf 23 22 28.3 -0.3**
SNR=25
EKS2 Erkin-Say 121.44 304 *e*PKiKP **PKPdf 23 22 28.1 -0.4**
EKS2 Erkin-Say 121.44 304 *e*PKPdf **PKPdf 23 22 28.1 -0.4**
MDV Middlebury 122.03 55 *e*PKPdf **PKPdf 23 22 28.8 -0.7**
KBL Kabul 122.83 294 *e*PKiKP **PKPdf 23 22 31.1 -0.5**
KBL Kabul 122.83 294 *e*PKPdf **PKPdf 23 22 31.1 -0.5**
KKAR Karatay Array 123.87 304 *e*PKiKP **PKPdf 23 22 32.3 -0.8**
KKAR Karatay Array 123.87 304 *e*PKPdf **PKPdf 23 22 32.3 -0.8**
WVL Waterville 124.62 55 *e*PKPdf **PKPdf 23 22 33.6 -0.8**
PKME Peaks-Kenny Pk 125.00 54 *e*PKPdf **PKPdf 23 22 34.1 -1.0**
BVAR Borovoye Array 125.47 316 PKP **PKPdf 23 22 35.3 -0.5**
comp=Z,15nm,0.4s,baz=105,slow=1.6,SNR=99
BVAR Borovoye Array 125.47 316 PKiKP **PKPdf 23 22 35.3 -0.5**
BVAR pmax pmax
comp=Z,15nm,0.4s
BRVK Borovoye 125.53 316 *i* PKiKP **PKPdf 23 22 34.9 -1.0**
BRVK pmax pmax
comp=Z,39nm,1.2s
BRVK Borovoye 125.53 316 *e*PKPdf **PKPdf 23 22 35.0 -0.8**
LSZ Lusaka 126.91 215 PKKPbc PKKPbc 23 32 11.2 +1.4
comp=Z,2.0nm,0.6s,baz=12,slow=8.3,SNR=4.9
LSZ Lusaka 126.91 215 *e*PKiKP **PKPdf 23 22 40.1 +0.2**
LSZ Lusaka 126.91 215 *e*PKPdf **PKPdf 23 22 40.1 +0.2**
LSZ *e*Sdif Sdif 23 32 11.2 +4.3
SCHQ Schefferville 127.55 42 PKP **PKPdf 23 22 38.9 -0.8**
comp=Z,12nm,0.8s,baz=273,slow=1.7,SNR=13
TSUM Tsumeb 127.63 201 PKP **PKPdf 23 22 41.7 +0.6**
comp=Z,4.2nm,0.3s,baz=147,slow=4.5,SNR=47
RCBR Riachuelo 129.95 130 PKP **PKPdf 23 22 45.7 +0.1**
comp=Z,24nm,1.1s,baz=343,slow=0.6,SNR=4.4
SVE Sverdlovsk 131.08 321 *e*PKiKP **PKPdf 23 22 46.5 +0.2**
SVE pmax pmax
comp=Z,14nm,0.8s
ABKAR Akbulak array 131.85 310 *e*PKPdf **PKPdf 23 22 47.7 -0.3**
SPA0 Spitsbergen Ar 131.87 356 *e*P **PKPdf 23 22 47.4 +0.1**
SPA0 Spitsbergen Ar 131.87 356 *e*PKPdf **PKPdf 23 22 47.1 -0.1**
SPA0 *e*SKPbc **SKPbc 23 25 34.2 -0.5**
SPITS Spitsbergen Ar 131.87 356 PKP **PKPdf 23 22 47.1 -0.1**
comp=Z,11nm,0.6s,baz=92,slow=5.8,SNR=15
SPITS SKPbc **SKPbc 23 25 34.2 -0.5**
comp=Z,8.2nm,0.9s,baz=90,slow=3.3,SNR=4.0
SPITS Spitsbergen Ar 131.87 356 PKiKP **PKPdf 23 22 47.2 -0.1**
SPITS pmax pmax
comp=Z,11nm,0.6s
SPITS pmax pmax
comp=N,8.0nm,0.9s
GEYT Alibeck 132.20 295 PKP **PKPdf 23 22 48.9 -0.3**
comp=N,19nm,0.8s,baz=263,slow=1.2,SNR=29
GEYT SKPbc **SKPbc 23 25 37.3 +0.2**
comp=N,9.5nm,0.8s,baz=124,slow=1.1,SNR=14
ARU Arti 132.27 320 *i* PKiKP **PKPdf 23 22 47.9 -0.7**
ARU 23 25 17.3
ARU SS SS 23 42 21.6 -0.9
ARU Arti 132.27 320 *e*PKPdf **PKPdf 23 22 48.2 -0.3**
KMBO Kilima Mbogo 132.58 235 PKP **PKPdf 23 22 51.5 +0.6**
comp=N,6.8nm,1.0s,baz=51,slow=1.9,SNR=13
KMBO SKPbc **SKPbc 23 25 40.1 +0.7**
comp=N,5.3nm,0.7s,baz=94,slow=3.5,SNR=15
KMBO Kilima Mbogo 132.58 235 PKiKP **PKPdf 23 22 51.5 +0.6**
KMBO pmax pmax
comp=Z,7.0nm,1.0s
KMBO pmax pmax
comp=N,5.0nm,0.7s
KMBO Kilima Mbogo 132.58 235 *e*PKPdf **PKPdf 23 22 49.6 -1.3**
SFJD Kangerlussuaq 132.94 25 *i* P **PKPdf 23 22 49.6 +0.1**
comp=N,10nm,0.7s
SFJD Kangerlussuaq 132.94 25 *e*PKiKP **PKPdf 23 22 49.6 +0.1**
SFJD pmax pmax
comp=Z,10.0nm,0.7s
DAG Danmarks Havn 133.00 6 *i* P **PKPdf 23 22 47.9 -1.5**
comp=Z,4.3nm,0.8s
DAG Danmarks Havn 133.00 6 *i* PKiKP **PKPdf 23 22 47.9 -1.5**
DAG pmax pmax
comp=Z,3.0nm,0.8s
AKTO Aktyubinsk 133.08 312 PKP **PKPdf 23 22 50.0 -0.3**
comp=Z,14nm,0.6s,baz=98,slow=4.4,SNR=36
AKTO SKPbc **SKPbc 23 25 39.5 -0.2**
comp=Z,2.2nm,0.7s,baz=50,slow=3.6,SNR=5.8
SUMG Summit 133.41 15 *i* P **PKPdf 23 22 52.2 +1.4**
comp=Z,19nm,1.0s
SUMG Summit 133.41 15 *i* PKiKP **PKPdf 23 22 52.2 +1.4**
SUMG pmax pmax
comp=Z,19nm,1.0s
SUMG Summit 133.41 15 *e*PKPdf **PKPdf 23 22 51.0 +0.1**
PRGR Permogore 137.26 330 *e*PKiKP PKPpre 23 22 52.2
PRGR pmax pmax
comp=Z,7.0nm,0.4s
MBAR Mbarara 137.38 229 *e*PKiKP **PKPdf 23 22 59.0 -0.7**
MBAR Mbarara 137.38 229 *e*PKPdf **PKPdf 23 22 59.0 -0.7**
LVZ Lovozero 137.61 341 *e*PKiKP **PKPdf 23 22 57.0 -1.3**
LVZ Lovozero 137.61 341 *e*PKPdf **PKPdf 23 22 57.0 -1.3**
SCO Scoresbysund 138.30 11 *i* P **PKPdf 23 23 01.8 +2.4**
comp=Z,9.9nm,0.9s
SCO Scoresbysund 138.30 11 *i* PKiKP **PKPdf 23 23 01.8 +2.4**
SCO pmax pmax
comp=Z,10.0nm,0.9s
ARA0 ARCESS Array S 138.51 347 *e*PKPpre PKPpre 23 22 51.6
ARA0 *e*PKPdf **PKPdf 23 23 00.0 +0.2**
ARCES ARCESS Array B 138.51 347 PKhKP PKPpre 23 22 51.6
comp=Z,4.7nm,0.5s,baz=23,slow=1.4,SNR=30
ARCES PKP **PKPdf 23 23 00.0 +0.2**
comp=Z,19nm,0.7s,baz=52,slow=1.5,SNR=16
ARCES PKKP **PKKPdf 23 32 30.4 -1.5**
comp=Z,0.5nm,0.6s,baz=222,slow=1.6,SNR=4.6
ARCES SKKPbc SKKPbc 23 34 38.9 -2.6
comp=Z,1.1nm,0.8s,baz=198,slow=5.7,SNR=3.8
ARE0 ARCESS Array S 138.51 347 *e* PKPpre 23 22 52.1
TMCR Tamitsa 138.96 336 *e*PKHKP PKPpre 23 22 53.9
TMCR pmax pmax
comp=Z,16nm,1.2s
RAYN Ar Rayn 139.18 271 *e*PKPdf **PKPdf 23 23 01.4 -1.1**
KTK1 Kautokeino 139.39 347 *e* PKPpre 23 22 54.4
TRO Tromso 139.56 350 *e* PKPpre 23 22 52.3
STEI Steigen 141.67 351 *e*P PKPpre 23 23 01.2
LOF Lofoten 141.70 352 *e*P PKPpre 23 23 00.8
DGRG David-gareji 142.25 299 P **PKPdf 23 23 04.7 -2.8**
TBLG Delisi 142.71 300 P **PKPdf 23 23 05.5 -2.8**
DUS Dusheti 142.72 300 P **PKPdf 23 23 06.5 -1.9**
GNI Garni 142.75 297 PKP **PKPdf 23 23 06.2 -2.4**
comp=Z,6.8nm,0.4s,baz=1.3,slow=1.7,SNR=16
GNI Garni 142.75 297 *i* PKPdf **PKPdf 23 23 05.5 -3.1**
KONS Konsvik 143.30 351 *e*P PKPbc 23 23 06.2 -0.1
BORG Borgarnes 143.39 15 PKP PKPbc 23 23 07.4 +0.8
comp=Z,11nm,0.9s,baz=98,slow=0.3,SNR=5.4
BORG Borgarnes 143.39 15 *e*PKiKP **PKPdf 23 23 07.9 -0.8**
BORG Borgarnes 143.39 15 *e*PKPdf **PKPdf 23 23 07.9 -0.8**
FLOS Flostrand 143.42 351 *e*P PKPab 23 23 06.2 -0.2
MOR8 Moi Rana 143.43 350 *i* P PKPab 23 23 05.2 -1.4
MOR8 IAmb IAmb 23 23 06.6
comp=Z,40nm,0.9s
STOK Stokkvaagen 143.47 351 *e*P PKPbc 23 23 06.8 -0.1
ONI Oni 143.61 301 P PKPbc 23 23 09.0 +0.8
MOS Moscow 143.63 324 *e*PKHKP PKPpre 23 23 05.9
MOS pmax pmax
comp=Z,200nm,1.2s
MOS pmax pmax
comp=Z,119nm,1.0s
GOF Gofitskoye 143.63 305 *i* PKiKP PKPbc 23 23 08.4 +0.3
GOF pmax pmax
comp=Z,130nm,1.3s

AKH Akhalkalaki 143.66 299 P PKPdf 23 23 09.5 -0.6
AKH Akhalkalaki 143.66 299 ⇓PKIKP PKPdf 23 23 09.4 -0.8
AKH Akhalkalaki 143.66 299 ⇓iP PKPdf 23 23 09.4 -0.8
KBZ Khabaz 143.91 303 PKP PKPab 23 23 09.0 +0.1
comp=Z,35nm,0.7s,baz=90,slow=2.6,SNR=72
KIV Kislovodsk 144.03 304 *d* iPKIKP PKPbc 23 23 09.1 -0.4
KIV *i* 23 26 26.6
KIV pmax pmax
comp=Z,65nm,1.5s
KIV Kislovodsk 144.03 304 ⇓PKPbc PKPbc 23 23 09.3 -0.2
KIV Kislovodsk 144.03 304 ePKPdf PKPbc 23 23 09.3 -0.2
OBN Obninsk 144.46 324 PKP PKPbc 23 23 10.2 -0.2
comp=Z,274nm,0.5s,baz=40,slow=1.0,SNR=97
OBN Obninsk 144.46 324 *d* iPKIKP PKPbc 23 23 10.0 -0.4
OBN pmax pmax
comp=Z,170nm,0.9s
PUL Pulkovo 144.56 334 *d* iPKIKP PKPbc 23 23 10.3 -0.3
CHVG Ch'k'valeri 144.61 302 P PKPab 23 23 12.1 +0.5
VSR Storozhevoye 144.64 317 *d* iPKIKP PKPbc 23 23 10.7 -0.4
FIA0 FINESS Array S 144.83 339 *e*PKIKP PKPdf 23 23 10.9 -0.4
FIA0 FINESS Array S 144.83 339 *e*PKPbc PKPdf 23 23 10.9 -0.4
FINES FINESS Array B 144.83 339 PKP PKPdf 23 23 10.9 -0.4
comp=Z,564nm,1.0s,baz=73,slow=3.6,SNR=141?
FINES FINESS Array B 144.83 339 PKIKP PKPdf 23 23 10.9 -0.4
FINES pmax pmax
comp=Z,564nm,1.0s
NSS Namsos 145.33 351 ⇓iP PKPdf 23 23 12.1 +0.1
SOC Sochi 146.22 304 *e*PKIKP PKPdf 23 23 14.0 -0.2
SOC *e* 23 24 48.0
SOC *e* 23 26 48.0
SOC *e*PPP PPP 23 29 43.5
SOC pmax pmax
comp=Z,66nm,1.0s
TBLU Trondheim 146.78 352 *e*P PKPbc 23 23 16.0 -1.0
VSU Vasula 146.80 335 *de*PKIKP PKPbc 23 23 16.3 -0.9
ANN Anapa 147.60 306 *d* iPKP2 PKPbc 23 23 19.5 -0.3
ANN pmax pmax
comp=Z,145nm,1.1s
MALT Malatya 147.69 294 ⇓PKP2 PKPbc 23 23 21.1 +0.7
MALT Malatya 147.69 294 ⇓iP PKPbc 23 23 21.1 +0.7
MOL Molde 147.74 354 ⇓iP PKPbc 23 23 19.5 -0.1
AKN Aaknes 148.18 354 ⇓iP PKPbc 23 23 20.9 +0.1
ASF Jabal al Asfar 148.67 282 PKPbc PKPbc 23 23 22.9 -0.1
comp=Z,41nm,0.9s,baz=183,slow=5.8,SNR=3.7
NB2 NORSAR Subarra1 148.76 350 PKP PKPbc 23 23 21.6 -0.7
comp=Z,41nm,0.6s,baz=17,slow=2.6
NB2 NORSAR Subarra1 148.76 350 PKP PKPbc 23 23 21.6 -0.7
baz=17,slow=2.6
NB200 NORSAR Array S 148.76 350 *e*PKPbc PKPbc 23 23 21.8 -0.5
NOA NORSAR Array B 148.76 350 PKPbc PKPbc 23 23 21.8 -0.5
comp=Z,46nm,0.7s,baz=13,slow=4.1,SNR=118
NBO02 NORSAR Array S 148.81 350 *e*PKPdf PKPdf 23 23 17.2 -0.7
NBO02 *e*PKPbc PKPbc 23 23 22.0 -0.3
IZAR Zarasai 148.88 331 *e*P PKPbc 23 23 22.9 +0.2
IZAR IAmb IAmb 23 23 28.6
comp=Z,49nm,0.5s
FOO Floro 148.91 355 ⇓*i*P PKPbc 23 23 22.4 -0.1
IDID Didziasalis 148.97 330 *e*P PKPbc 23 23 23.1 +0.2
IDID IAmb IAmb 23 23 28.9
comp=Z,27nm,0.6s
MICGM Minsk 148.99 328 ⇓*e*P PKPbc 23 23 22.0 -1.0
NC602 NORSAR Array S 149.00 349 ⇓*e*P PKPbc 23 23 22.3 -0.5
NC602 ⇓*e*PP PKPbc 23 23 22.3 -0.5
MNK Minsk 149.01 328 ⇓*e*PKHKP PKPbc 23 23 22.0 -1.0
MNK pmax pmax
comp=Z,120nm,1.5s
ISAL Salakas 149.05 331 *e*P PKPbc 23 23 23.2 +0.2
ISAL IAmb IAmb 23 23 30.2
comp=Z,43nm,0.9s
IIGN Ignalina 149.16 331 *e*P PKPbc 23 23 23.7 +0.3
IIGN IAmb IAmb 23 23 29.7
comp=Z,49nm,0.5s
HFS Hagfors 149.17 347 PKP PKPdf 23 23 17.7 -0.8
comp=Z,38nm,0.5s,baz=211,slow=1.7,SNR=10
HFS PKPbc PKPbc 23 23 22.4 -0.8
comp=Z,39nm,0.5s,baz=132,slow=2.2,SNR=259
NACGM Naroch 149.22 330 *e*P PKPdf 23 23 21.0 +2.2
HYA Hoyanger 149.25 354 ⇓iP PKPbc 23 23 23.2 -0.2
SUE Sulen 149.47 356 ⇓iP PKPbc 23 23 23.9 0.0
HWQ Hawqa 149.65 286 *e*P PKPbc 23 23 25.4 0.0
RCY Rachaya 149.69 285 *e*P PKPbc 23 23 26.1 +0.5
BHL Bhannes 149.87 286 *e*P PKPbc 23 23 26.4 +0.4
OSL Oslo 149.89 349 *e*P PKPbc 23 23 25.0 +0.1
DQRL Deir Qamar 149.93 285 *e*P PKPbc 23 23 26.9 +0.9
EIL Elat 149.93 277 PKP PKPdf 23 23 20.5 -0.2
comp=Z,8.1nm,1.0s,baz=75,slow=3.8,SNR=4.0
EIL PKPbc PKiKP 23 23 26.6 -0.2
comp=Z,82nm,0.7s,baz=146,slow=0.4,SNR=64
MMAI Mount Meron Ar 150.01 284 PKPbc PKPbc 23 23 27.1 +0.9
comp=Z,94nm,0.6s,baz=83,slow=7.6,SNR=252
RUND Rundenannen 150.06 355 *e*P PKPbc 23 23 24.6 -0.9
BER Bergen 150.09 355 *e*P PKPbc 23 23 25.4 0.0
BER IAmb IAmb 23 23 26.7
comp=Z,106nm,1.1s
YEL1 Yell 150.12 1 *e*P PKPbc 23 23 25.2 -0.3
KONO Kongsberg 150.34 350 ⇓iP PKPbc 23 23 25.6 -0.4
KONO Kongsberg 150.34 350 *e*PKIKP PKPbc 23 23 25.4 -0.6
KONO Kongsberg 150.34 350 *e*PKPbc PKPbc 23 23 25.4 -0.6
WAL1 Walls 150.41 2 *e*P PKPbc 23 23 25.7 -0.5
ODD1 Odda 150.44 353 ⇓iP PKPbc 23 23 26.6 +0.3
ODD1 IAmb IAmb 23 23 27.7
comp=Z,126nm,0.9s
AKASG Malin Array Be 150.52 321 PKP PKPdf 23 23 20.1 -0.8
comp=Z,0.3nm,0.3s,baz=55,slow=1.4,SNR=8.5
AKASG PKPbc PKPbc 23 23 26.2 -0.5
comp=Z,24nm,0.4s,baz=46,slow=3.3,SNR=82
AKBB Malin Array Si 150.52 321 *e*PKIKP PKPdf 23 23 20.1 -0.8
AKBB Malin Array Si 150.52 321 *e*PKPdf PKPdf 23 23 20.1 -0.8
AKBB *e*PKPbc PKPbc 23 23 26.2 -0.5
KIEV Kiev 150.53 321 *e*PKIKP PKPdf 23 23 20.6 -0.3
KIEV *e* 23 23 34.6
KIEV Kiev 150.53 321 *e*PKPdf PKPdf 23 23 20.6 -0.3
KIEV *e*PKPbc PKPbc 23 23 26.6 -0.1
KIEV *e*PKPab PKPab 23 23 34.6 -0.5
LRW Lerwick 150.54 1 *e*P PKPbc 23 23 26.1 -0.3
AK11 Malin Array Si 150.56 321 *e*PKPdf PKPdf 23 23 20.5 -0.5
AK11 *e*PKPbc PKPbc 23 23 26.2 -0.6
AK11 *e*PKPab PKPab 23 23 34.8 -0.5
BLS5 Blasjo 150.94 353 ⇓iP PKPbc 23 23 27.8 +0.3
BLS5 IAmb IAmb 23 23 29.3
comp=Z,44nm,0.8s
PHNC Paralimni 151.26 288 P PKPbc 23 23 29.7 +0.7
KMY Karmoy 151.26 354 ⇓iP PKPbc 23 23 28.3 +0.1
KMY IAmb IAmb 23 23 29.5
comp=Z,134nm,1.2s
BR101 Keskin Array S 151.29 298 *e*PKPdf PKPdf 23 23 21.6 -1.1
BR101 *e*PKPbc PKPbc 23 23 28.8 -0.4
BR101 *e*PKPab PKPab 23 23 38.8 -0.2
BRTR Keskin Array B 151.29 298 PKP PKPdf 23 23 21.6 -1.1
comp=Z,1.7nm,1.0s,baz=129,slow=4.0,SNR=9.0
BRTR PKPbc PKPbc 23 23 28.8 -0.4
comp=Z,31nm,0.6s,baz=136,slow=4.4,SNR=150
BRTR PKPab PKPab 23 23 38.8 -0.2
comp=Z,4.2nm,0.6s,baz=140,slow=1.0,SNR=6.9
BRTR Keskin Array B 151.29 298 PKIKP PKPdf 23 23 21.6 -1.1
BRTR 23 23 38.8
BRTR pmax pmax
comp=Z,31nm,0.6s
BRTR pmax pmax
comp=Z,4.0nm,0.6s
SUW Suwalki 151.37 331 *e*PKPdf PKPpre 23 23 15.7
SUW *e*PKPbc PKPbc 23 23 28.3 -0.3
SUW *e*PKPab PKPab 23 23 37.6 -0.9
SUW Suwalki 151.37 331 *e*PKIKP PKPpre 23 23 15.8
HOMB Homborsund 151.82 351 ⇓iP PKPbc 23 23 29.4 0.0
CSS Prodhromos 151.83 288 P PKPbc 23 23 30.7 +0.4
CSS Prodhromos 151.83 288 *e*PKPdf PKPdf 23 23 22.5 -1.0
CSS *e*PKPbc PKPbc 23 23 30.0 -0.3
ANTO Ankara 151.91 298 *e*PKIKP PKPdf 23 23 22.7 -0.8
ANTO Ankara 151.91 298 ⇓iP PKPbc 23 23 30.7 +0.3
ANTO Ankara 151.91 298 *e*PKPdf PKPdf 23 23 22.7 -0.8
ANTO *e*PKPbc PKPbc 23 23 30.5 +0.1
SNART Snartemo 151.92 352 ⇓iP PKPbc 23 23 29.9 +0.2
MAMC Mammari 151.93 288 P PKPbc 23 23 31.2 +0.7
BR231 Keskin MP Arra 151.93 298 *e*PKPdf PKPdf 23 23 22.9 -0.7
BR231 *e*PKPbc PKPbc 23 23 29.4 -1.1
BR231 *e*PKPab PKPab 23 23 39.5 -2.1
BIGH Upper Bighouse 152.06 5 *e*P PKPbc 23 23 29.0 -1.0
SZAC Souni-Zanaja 152.20 287 P PKPbc 23 23 31.5 +0.4
MLA1 Latheron 152.28 4 *e*P PKPbc 23 23 30.1 -0.4
ALFC Alevga 152.43 288 P PKPbc 23 23 31.5 -0.2
MVH1 Achvaich 152.61 5 *e*P PKPbc 23 23 30.9 -0.3
PPCY Paphos 152.64 287 P PKPbc 23 23 31.7 -0.3

AKMC Akamas 152.65 288 P PKPbc 23 23 31.7 -0.4
KAC Achnashellach 152.93 6 *e*P PKPbc 23 23 31.3 -0.7
MCD Coleburn Disti 153.01 4 *e*P PKPbc 23 23 31.2 -0.9
KPL Plockton 153.05 7 *e*P PKPbc 23 23 31.4 -0.7
MDO Dochfour 153.07 5 *e*P PKPbc 23 23 31.4 -0.9
MME1 Meikle Cairn 153.29 4 *e*P PKPbc 23 23 31.7 -1.1
BSD Bornholm Skovb 153.40 341 ⇓iP PKPbc 23 23 32.8 -0.2
BSD *i* 23 23 46.4
BSD Bornholm Skovb 153.40 341 ⇓iPKIKP PKPbc 23 23 32.8 -0.2
BSD *i* 23 23 46.4
MUD Monsted U'grnd 153.46 349 ⇓iP PKPbc 23 23 32.9 -0.2
MUD *i* 23 23 47.2
MUD Monsted U'grnd 153.46 349 ⇓iPKIKP PKPbc 23 23 32.9 -0.2
MUD *i* 23 23 47.2
COP Copenhagen 153.53 344 ⇓*i*P PKPbc 23 23 33.4 +0.2
comp=Z,18nm,0.6s
COP *i* 23 23 47.2
COP Copenhagen 153.53 344 ⇓iPKIKP PKPbc 23 23 33.4 +0.2
COP *i* 23 23 47.2
COP pmax pmax
comp=Z,18nm,0.6s
DRUM Mains of Drumt 153.72 3 *e*P PKPbc 23 23 33.2 -0.4
CFR Carcaliu 153.74 311 ⇓PKIKP PKPbc 23 23 34.2 +0.1
CFR Carcaliu 153.74 311 ⇓iP PKPbc 23 23 34.2 +0.1
LVV L'vov 153.76 324 *e*PKIKP PKPdf 23 23 24.2 -1.6
LLD Lille Linde 153.90 344 *i* P PKPbc 23 23 34.4 +0.3
LLD Lille Linde 153.90 344 *i* PKIKP PKPbc 23 23 34.4 +0.3
BEL Belsk 153.93 330 *e*PKPbc PKPbc 23 23 34.8 +0.5
BEL *e*PKPab PKPab 23 23 49.7 +0.2
BEL Belsk 153.93 330 *e*PKP2 PKPab 23 23 49.7 +0.2
TESR Tescani 154.09 315 ⇓iP PKPbc 23 23 34.7 -0.1
GKP Gorka Klasztor 154.22 336 *e*PKPdf PKPdf 23 23 26.4 +0.2
GKP *e*PKPbc PKiKP 23 23 35.0 +0.2
GKP *e*PKPab PKPab 23 23 50.6 -0.1
GKP Gorka Klasztor 154.22 336 *e*PKIKP PKPdf 23 23 26.5 +0.2
VRI Vrincioaia 154.34 314 ⇓PKIKP PKPbc 23 23 35.8 +0.4
VRI Vrincioaia 154.34 314 ⇓iP PKPbc 23 23 35.8 +0.4
BURAR Bucovina Array 154.38 318 ⇑PKP2 PKPab 23 23 52.4 +0.6
BURAR Bucovina Array 154.38 318 ⇑iP PKPab 23 23 52.4 +0.6
BUR04 Bucovina Ar. S 154.38 318 *e*PKPdf PKPdf 23 23 27.2 +0.3
BUR04 *e*PKPbc PKPbc 23 23 36.2 +0.7
BUR04 *e*PKPab PKPab 23 23 52.0 +0.2
PLOR Plostina 154.40 314 ⇓PKIKP PKPbc 23 23 36.0 +0.5
PLOR Plostina 154.40 314 ⇓iP PKPbc 23 23 36.0 +0.5
GRER 154.40 313 ⇑iP PKPab 23 23 53.9 +2.1
KWP Kalwaria Pacla 154.55 324 *e*PKPdf PKPdf 23 23 26.6 -0.3
KWP *e*PKPbc PKPbc 23 23 35.8 +0.1
KWP *e*PKPab PKPab 23 23 52.5 +0.2
KWP Kalwaria Pacla 154.55 324 *e*PKIKP PKPdf 23 23 26.7 -0.2
ISR Istrita 154.79 312 ⇑PKIKP PKPbc 23 23 36.2 -0.2
ISR Istrita 154.79 312 ⇑iP PKPbc 23 23 36.2 -0.2
MLR Muntele Rosu 155.00 313 PKP PKPdf 23 23 27.3 -0.5
comp=Z,0.6nm,0.8s,baz=287,slow=2.6,SNR=4.3
MLR PKPbc PKPbc 23 23 36.2
comp=Z,1.1nm,0.9s,baz=144,slow=8.3,SNR=3.9
MLR PKPab PKPab 23 23 54.5 0.0
comp=Z,1.9nm,0.7s,baz=39,slow=3.1,SNR=9.4
MLR Muntele Rosu 155.00 313 ⇓PKIKP PKPdf 23 23 27.0 -0.8
MLR Muntele Rosu 155.00 313 ⇓iP PKPdf 23 23 27.0 -0.8
DOPR Dopca 155.12 315 ⇑iP PKPdf 23 23 37.9 +10
SULR 155.17 312 ⇑iP PKPab 23 23 56.1 +1.1
LIC Lamto 155.19 168 *e*PKIKP PKPdf 23 23 29.1 +0.3
comp=Z,87nm,1.3s
KOLS Kolonicke sedl 155.21 324 *e*PKIKP PKPdf 23 23 27.6 -0.2
KOLS *e* 23 23 55.2
KOLS Kolonicke sedl 155.21 324 *e*PKP PKPdf 23 23 27.6 -0.2
KOLS *e* 23 23 38.0
KOLS *e* 23 23 55.2
EKA Eskdalemuir Ar 155.25 4 PKP PKPdf 23 23 26.9 -0.8
comp=Z,1.0nm,0.6s,baz=283,slow=1.4,SNR=8.1
EKA PKPbc PKPbc 23 23 36.5
comp=Z,1.8nm,0.5s,baz=304,slow=1.9,SNR=9.2
EKA PKPab PKPab 23 23 54.4 -0.7
comp=Z,4.9nm,0.6s,baz=333,slow=2.8,SNR=11
BMR Baia Mare 155.32 320 ⇑PKP2 PKPab 23 23 54.2 -1.4
BMR Baia Mare 155.32 320 ⇑iP PKPab 23 23 54.2 -1.4
KIC Kosan Boka 155.38 168 *e*PKIKP PKPdf 23 23 29.5 +0.4
comp=Z,49nm,0.9s
UZH Uzhgorod 155.39 323 *e*PKIKP PKPdf 23 23 37.6 +10
UZH *i* 23 23 53.4
STHS Stebnicka Huta 155.41 326 *e*PKIKP PKPdf 23 23 28.8 +0.7
STHS Stebnicka Huta 155.41 326 *e*PKP PKPdf 23 23 28.8 +0.7
STHS *e* 23 23 43.8
STHS *e* 23 23 56.8
OJC Ojcow 155.53 328 *e*PKPdf PKPdf 23 23 27.9 -0.2
OJC *e*PKPbc PKPbc 23 23 37.7
OJC *e*PKPab PKPab 23 23 56.3 -0.2
OJC Ojcow 155.53 328 *e*PKIKP PKPdf 23 23 28.0 -0.2
OJC Ojcow 155.53 328 *e*PKPdf PKPdf 23 23 27.4 -0.7
OJC *e*PKPab PKPab 23 23 56.1 -0.3
VOIR 155.58 314 ⇑PKIKP PKPdf 23 23 39.4 +11
VOIR 155.58 314 ⇑iP PKPdf 23 23 39.4 +11
TIC Toumodi 155.60 168 *e*PKIKP PKPdf 23 23 29.8 +0.4
BSEG Bad Segeberg 155.62 345 *e*PKP PKPab 23 23 56.3 -0.3
DBIC Dimbokro 155.66 168 PKP PKPdf 23 23 30.0 +0.6
comp=Z,18nm,0.8s,baz=129,slow=1.3,SNR=20
DBIC PKPbc PKPbc 23 23 39.5
comp=Z,6.3nm,0.3s,baz=157,slow=2.3,SNR=21
DBIC PKPab PKPab 23 23 58.9 +1.1
comp=Z,14nm,0.7s,baz=165,slow=5.9,SNR=6.6
DBIC Dimbokro 155.66 168 PKIKP PKPdf 23 23 30.0 +0.6
DBIC 23 23 39.6
DBIC 23 23 58.9
DBIC pmax pmax
comp=Z,18nm,0.8s
DBIC pmax pmax
comp=Z,6.0nm,0.3s
DBIC pmax pmax
comp=Z,14nm,0.7s
DBIC Dimbokro 155.66 168 *e*PKPdf PKPdf 23 23 29.7 +0.2
DBIC *e*PKPab PKPab 23 23 58.4 +0.6
CJR Cluj-Napoca 155.80 318 ⇑PKIKP PKPdf 23 23 38.9 +10
CJR Cluj-Napoca 155.80 318 ⇑iP PKPdf 23 23 38.9 +10
JMB Yambol 155.81 306 ⇑PKP2 PKPab 23 23 58.4 +0.5
JMB Yambol 155.81 306 ⇑iP PKPab 23 23 58.4 +0.5
NIE Niedzica 155.86 327 *e*PKP PKPdf 23 23 28.5 -0.2
NIE *e*PKPbc PKPbc 23 23 39.0
NIE *e*PKPab PKPab 23 23 57.8 -0.1
NIE Niedzica 155.86 327 *e*PKIKP PKPdf 23 23 28.5 -0.2
ARR Arges 155.88 314 ⇓iP PKPab 23 23 56.6 -1.6
SZH Strazhica 155.96 309 *e*P PKPab 23 23 57.8 -0.7
HUMR Humele 156.05 312 ⇑iP PKPab 23 23 59.0 +0.1
DRGR 156.26 319 ⇑PKP2 PKPab 23 24 00.4 +0.6
DRGR 156.26 319 ⇑iP PKPab 23 24 00.4 +0.6
LOT Lotru 156.36 315 ⇓iP PKPab 23 24 01.2 +0.8
KECS Kecovo 156.40 325 *e*PKIKP PKPdf 23 23 32.7 +3.3
KECS Kecovo 156.40 325 *e* PKPdf 23 23 32.7 +3.3
KECS Kecovo 156.40 325 *e*PKP PKPab 23 24 00.6 +0.3
KSP Ksiaz 156.52 334 *e*PKPbc PKPdf 23 23 40.4 +11
KSP *e*PKPab PKPab 23 24 00.8 +0.1
KSP Ksiaz 156.52 334 *e*PKP2 PKPab 23 24 00.9 +0.2
OKC Ostrava-Krasne 156.54 330 *e*PKPDF PKPdf 23 23 29.2 -0.3
OKC *ex* x 23 23 40.1
OKC *e*PKPAB PKPab 23 24 00.6 -0.2
OKC Ostrava-Krasne 156.54 330 *e*PKIKP PKPdf 23 23 29.2 -0.3
MORC Moravsky Berou 156.85 330 ⇑PKIKP PKPdf 23 23 29.7 -0.3
MORC Moravsky Berou 156.85 330 ⇑iP PKPdf 23 23 29.7 -0.3
MORC Moravsky Berou 156.85 330 *e*PKPdf PKPdf 23 23 28.8 -1.2
MORC *e*PKPab PKPab 23 24 01.7 -0.5
UPC Upice 156.90 334 *e*PKPDF PKPdf 23 23 30.6 +0.7
UPC *ex* x 23 23 40.7
UPC *e*PKPAB PKPab 23 24 02.7 +0.4
UPC Upice 156.90 334 *e*PKIKP PKPdf 23 23 30.6 +0.7
KDZ Kurdzhali 156.90 305 ⇑PKIKP PKPdf 23 23 32.5 +2.2
KDZ Kurdzhali 156.90 305 ⇑iP PKPdf 23 23 32.5 +2.2
DPC Dobruska-Polom 156.90 333 *e*PKPDF PKPdf 23 23 30.0 0.0
DPC *ex* x 23 23 40.5
DPC *e*PKPAB PKPab 23 24 02.4 0.0
DPC Dobruska-Polom 156.90 333 *e*PKIKP PKPdf 23 23 30.0 0.0
KRLC Kraliky 156.94 332 *e*PKPDF PKPdf 23 23 29.7 -0.4
KRLC *ex* x 23 23 40.8
KRLC *e*PKPAB PKPab 23 24 02.5 -0.1
KRLC Kraliky 156.94 332 *e*PKIKP PKPdf 23 23 29.7 -0.4
GZR Gura Zlata 156.99 316 ⇓PKIKP PKPdf 23 23 30.2 -0.1
GZR Gura Zlata 156.99 316 ⇓iP PKPdf 23 23 30.2 -0.1
PSZ Piszkesteto 157.07 324 *e*PKIKP PKPdf 23 23 29.0 -1.3
PSZ Piszkesteto 157.07 324 *e*PKPdf PKPdf 23 23 29.0 -1.3
PSZ *e*PKPab PKPab 23 24 03.0 -0.2
PSZ Piszkesteto 157.07 324 ⇑*e*PKPdf PKPab 23 24 04.0 +0.7
CLL Collm 157.28 339 *e*PKP PKPab 23 24 03.5 -0.4
CLL Collm 157.28 339 *i* PKIKP PKPdf 23 23 29.5 -0.9

CLL pmax pmax
comp=Z,16nm,1.7s
CLL Collm 157.28 339 *e*PKPdf PKPdf 23 23 29.9 -0.4
CLL *e*PKPab PKPab 23 24 02.6 -1.3
CLL Collm 157.28 339 *i* PKPdf PKPdf 23 23 29.5 -0.9
comp=Z,16nm,1.7s
CLL *i* PKPdif PKPab 23 23 41.1 -23
comp=Z,9.0nm,1.1s
CLL *i* 23 23 51.4
CLL ⇓*i*PKPab PKPab 23 24 03.5 -0.4
comp=Z,58nm,1.1s
BRG Berggiesshubel 157.35 337 *e*PKP PKPdf 23 23 30.2 -0.3
comp=Z,32nm,2.1s
BRG Berggiesshubel 157.35 337 *i* PKP PKPab 23 24 04.4 +0.1
comp=Z,40nm,1.0s
BRG Berggiesshubel 157.35 337 *e*PKP PKPab 23 24 04.1 -0.1
BRG Berggiesshubel 157.35 337 *e*PKIKP PKPdf 23 23 30.2 -0.3
BRG pmax pmax
comp=Z,33nm,2.1s
MPEP Malo Peshtene 157.37 311 *e*P PKPab 23 24 06.1 +1.4
PVCC Panska Ves 157.42 335 *e*PKPAB PKPab 23 24 05.1 +0.6
PVCC Panska Ves 157.42 335 *e*PKP2 PKPab 23 24 05.1 +0.6
BZS Buzias 157.55 318 ⇓PKP2 PKPab 23 24 05.2 -0.1
BZS Buzias 157.55 318 ⇓iP PKPab 23 24 05.2 -0.1
VRAC Vranov 157.61 331 PKP PKPdf 23 23 30.6 -0.3
comp=Z,1.2nm,0.6s,baz=132,slow=2.5,SNR=5.8
VRAC PKPab PKPab 23 24 05.8 +0.4
comp=Z,14nm,0.6s,baz=39,slow=3.8,SNR=28
VRAC Vranov 157.61 331 ⇓PKP2 PKPab 23 24 05.6 +0.2
VRAC Vranov 157.61 331 ⇓*i*P PKPab 23 24 05.6 +0.2
IBBN Ibbenburen 157.68 348 *e*PKP PKPab 23 24 05.2 -0.4
SMOL Smolenice 157.84 328 *e*PKP2 PKPab 23 24 07.3 +0.8
SMOL Smolenice 157.84 328 *e*PKP PKPab 23 24 07.2 +0.8
GOPC GO Pecny, Ondr 157.84 334 *e*PKPDF PKPdf 23 23 29.8 -1.4
GOPC *e*PKPAB PKPab 23 24 06.5 0.0
GOPC *e*PP PP 23 27 49.2 +1.8
PRA Prague 157.85 335 *e*PKPAB PKPab 23 24 06.6 +0.2
PRA Prague 157.85 335 *e*PKP2 PKPab 23 24 06.6 +0.2
PRU Pruhonice 157.87 335 *e*PKPDF PKPdf 23 23 30.4 -0.8
PRU *e*PKPAB PKPab 23 24 06.4 -0.1
PRU *e*PP PP 23 27 46.6 -0.9
PRU Pruhonice 157.87 335 *e*PKIKP PKPdf 23 23 30.4 -0.8
PRU *e* 23 24 06.4
PRU *e* 23 27 46.6
VTS Vitosha 158.06 309 ⇑PKP2 PKPab 23 24 08.6 +0.7
VTS Vitosha 158.06 309 ⇑*i*P PKPab 23 24 08.6 +0.7
VTS Vitosha 158.06 309 *e*P PKPab 23 24 07.4 -0.5
TREC Trest 158.07 332 *e*PKPDF PKPdf 23 23 29.3 -2.2
TREC *e*PKPAB PKPab 23 24 07.3 -0.2
TREC Trest 158.07 332 *e*PKIKP PKPdf 23 23 29.3 -2.2
TREC *e* 23 24 07.3
MMB Musomiste 158.11 306 ⇑PKIKP PKPdf 23 23 43.1 +11
MMB Musomiste 158.11 306 ⇑*i*P PKPdf 23 23 43.1 +11
MMB Musomiste 158.11 306 *e*P PKPab 23 24 07.6 -0.4
WTSB Winterswijk 158.17 349 *e*PKPdf PKPab 23 24 07.3 -0.4
comp=Z,15nm,0.6s
PKSG 158.18 325 ⇑*e*PKPdf PKPab 23 24 08.1 +0.1
TANN Tannenbergstha 158.23 338 *e*PKP PKPab 23 24 08.2 +0.1
CSKK Cs˘˙kako 158.26 325 ⇑*e*PKPdf PKPab 23 24 08.0 -0.4
MOX Moxa 158.28 340 *e*PKP PKPab 23 24 08.1 -0.2
KKB Krupnik 158.44 307 *e*P PKPab 23 24 09.2 -0.2
PKST T˘˙s 158.45 325 ⇑*e*PKPdf PKPab 23 24 09.0 -0.2
UBBA Unterbreizbach 158.57 343 *e*PKP PKPab 23 24 09.1 -0.3
BUG Bochum--Univer 158.59 348 *e*PKP PKPab 23 24 08.7 -0.9
PKSM Moragy 158.84 322 ⇑PKIKP PKPdf 23 23 31.5 -0.9
PKSM Moragy 158.84 322 ⇑*i*P PKPdf 23 23 31.5 -0.9
SOP Sopron 158.84 328 ⇑*e*PKPdf PKPab 23 24 11.6 +0.7
ROTZ Rotzenmuhle 158.87 338 *e*PKP PKPab 23 24 11.4 +0.5
KHC Kasperske Hory 158.94 335 *e*PKPDF PKPdf 23 23 30.6 -1.9
KHC *ex* x 23 23 43.5
KHC *e*PKPAB PKPab 23 24 11.5 +0.2
KHC *e*PP PP 23 27 51.1 -2.2
KHC Kasperske Hory 158.94 335 *e*PKIKP PKPdf 23 23 30.6 -1.9
KHC *e* 23 24 11.5
KHC *e* 23 27 51.1
KHC Kasperske Hory 158.94 335 *e*PKPdf PKPdf 23 23 31.4 -1.1
KHC *e*PKPab PKPab 23 24 11.2 0.0
CONA Conrad Observa 158.97 329 ⇑*i*PKPdf PKPdf 23 23 31.2 -1.4
comp=Z,8.7nm,1.5s
CONA *i* PKPab PKPab 23 24 11.9 +0.3
comp=Z,28nm,0.8s,SNR=14
GEC2 GERESS Array S 159.13 334 *e*PKP PKPab 23 24 11.8 -0.4
GEC2 GERESS Array S 159.13 334 *e*PKIKP PKPdf 23 23 32.0 -0.8
GEC2 *e* 23 24 12.1
GEC2 GERESS Array S 159.13 334 *e*PKPdf PKPdf 23 23 31.9 -0.8
GEC2 *e*PKPab PKPab 23 24 12.1 -0.1
GERES GERESS Array B 159.13 334 PKP PKPdf 23 23 31.9 -0.8
comp=Z,1.5nm,1.0s,baz=68,slow=0.7,SNR=11
GERES PKPab PKPab 23 24 12.1 -0.1
comp=Z,8.5nm,0.8s,baz=36,slow=5.0,SNR=31
GERES GERESS Array B 159.13 334 PKIKP PKPdf 23 23 32.0 -0.8
GERES 23 24 12.1
GERES pmax pmax
comp=Z,2.0nm,1.0s
GERES pmax pmax
comp=Z,9.0nm,0.8s
WET Wettzell 159.18 336 *e*PKP PKPab 23 24 12.5 +0.2
GRF Grafenberg Arr 159.25 339 *e*PKP PKPab 23 24 12.9 +0.4
GRFO Grafenberg 159.25 339 *e*PKIKP PKPdf 23 23 31.8 -1.0
GRFO *e* 23 24 13.0
GRFO Grafenberg 159.25 339 *e*PKPdf PKPdf 23 23 31.8 -1.0
GRFO *e*PKPab PKPab 23 24 13.0 +0.5
DIVS Divibare 159.36 316 ⇓*i*P PKPdf 23 23 33.0 -0.2
HGN Heimansgroeve 159.48 349 *e*PKPdf PKPab 23 24 12.9 -0.5
comp=Z,41nm,0.8s
BEBN Eben Emael 159.48 350 PKPab PKPab 23 24 13.2 -0.3
TNS Taunus Mts 159.50 345 *e*PKP PKPab 23 24 13.2 -0.5
MEM Membach 159.61 349 *e*PKIKP PKPdf 23 23 32.8 -0.4
MEM *e* 23 24 13.5
MEM Membach 159.61 349 *e*PKPdf PKPdf 23 23 32.8 -0.4
MEM *e*PKPab PKPab 23 24 13.4 -0.6
ARSA Arzberg 159.64 329 ⇓*i*PKPdf PKPdf 23 23 31.8 -1.6
comp=Z,4.2nm,0.9s
ARSA *i* PKPab PKPab 23 24 14.5 +0.1
comp=Z,9.3nm,0.7s,SNR=8.3
UCC Uccle 159.66 352 PKPab PKPab 23 24 13.8 -0.4
UCC Uccle 159.66 352 *e*PKIKP PKPdf 23 23 32.3 -0.9
UCC *e* 23 24 12.8
UCC Uccle 159.66 352 *e*PKPdf PKPdf 23 23 32.3 -0.9
UCC *e*PKPab PKPab 23 24 12.8 -1.4
MOA Molln 159.71 332 ⇑*i*PKPdf PKPdf 23 23 32.2 -1.2
comp=Z,3.7nm,1.0s
MOA *i* PKPab PKPab 23 24 15.0 +0.4
comp=Z,14nm,0.9s,SNR=8.0
SNF Seneffe 159.95 352 PKPab PKPab 23 24 15.2 -0.3
PERS Pernice 160.28 328 *e*PKPdf PKPdf 23 23 32.1 -2.0
PERS *e*PKPab PKPab 23 24 16.9 -0.4
SOKA Soboth 160.29 328 *i* PKPdf PKPdf 23 23 33.2 -1.0
comp=Z,7.8nm,1.1s,SNR=6.8
SOKA *i* PKPab PKPab 23 24 17.0 -0.3
comp=Z,24nm,1.3s,SNR=9.6
DOU Dourbes 160.32 351 PKPab PKPab 23 24 16.7 -0.5
RJOB Jochberg 160.38 334 *e*PKP PKPab 23 24 17.7 +0.1
WLF Walferdange 160.50 348 PKPab PKPab 23 24 18.1 +0.1
WLF Walferdange 160.50 348 *e*PKP PKPab 23 24 17.9 -0.1
WLF Walferdange 160.50 348 *e*PKIKP PKPdf 23 23 34.1 -0.1
WLF *e* 23 24 17.8
WLF Walferdange 160.50 348 *e*PKPdf PKPdf 23 23 34.1 -0.1
WLF *e*PKPab PKPab 23 24 17.8 -0.2
FUR Furstenfeldbru 160.56 337 *e*PKP PKPab 23 24 18.6 +0.2
STU Stuttgart 160.66 342 *e*PKP PKPab 23 24 18.4 -0.3
STU Stuttgart 160.66 342 *e*PKIKP PKPdf 23 23 32.8 -1.6
STU *e* 23 24 18.1
STU Stuttgart 160.66 342 *e*PKPdf PKPdf 23 23 32.8 -1.6
STU *e*PKPab PKPab 23 24 18.1 -0.6
MYKA Terra Mystica 160.94 330 ⇓*i*PKPdf PKPdf 23 23 34.2 -0.7
comp=Z,25nm,2.7s
MYKA *i* PKPab PKPab 23 24 19.4 -0.7
comp=Z,12nm,0.5s,SNR=7.7
LJU Ljubljana 161.00 328 *e*PKPdf PKPdf 23 23 34.5 -0.4
LJU *e*PKPab PKPab 23 24 19.7 -0.6
BOJS Bojanci 161.05 326 *e*PKPdf PKPdf 23 23 33.8 -1.1
BOJS *e*PKPab PKPab 23 24 20.2 -0.4
WTTA Wattenberg 161.21 335 ⇓*i*PKPdf PKPdf 23 23 33.6 -1.7
comp=Z,11nm,1.3s
WTTA *i* PKPab PKPab 23 24 21.6 +0.2
comp=Z,26nm,1.3s,SNR=6.1
BFO Black For

ABTA	**Abfaltersbach**	**161.31**	**333**	*i* PKPdf		**PKPdf**	**23**	**23**	**34.0**	**-1.3**
	comp=Z,9.6nm,1.0s,SNR=7.3									
ABTA				*i* PKPab		**PKPab**	**23**	**24**	**20.8**	**-0.9**
	comp=Z,21nm,0.8s,SNR=10									
RETA	**Reutte**	**161.33**	**337**	*i* PKPab		**PKPab**	**23**	**24**	**22.2**	**+0.4**
	comp=Z,37nm,1.1s,SNR=13									
MOTA	**Moosalm**	**161.33**	**336**	⇑*i* PKPdf		**PKPdf**	**23**	**23**	**34.6**	**-0.8**
	comp=Z,7.9nm,1.0s,SNR=5.1									
MOTA				*i* PKPab		**PKPab**	**23**	**24**	**22.0**	**+0.1**
	comp=Z,16nm,0.8s,SNR=11									
FETA	**Feichten**	**161.74**	**336**	⇑*i* PKPdf		**PKPdf**	**23**	**23**	**35.2**	**-0.6**
	comp=Z,10nm,1.1s									
FETA				⇓*i* PKPab		**PKPab**	**23**	**24**	**23.5**	**-0.2**
	comp=Z,27nm,1.0s,SNR=10									
DAVA	**Damuels**	**161.79**	**338**	⇑*i* PKPdf		**PKPdf**	**23**	**23**	**35.1**	**-0.7**
	comp=Z,6.2nm,1.2s									
DAVA				*i* PKPab		**PKPab**	**23**	**24**	**24.2**	**+0.3**
	comp=Z,42nm,1.2s,SNR=12									
DAVOX	**Davos/Dischmat**	**162.24**	**338**	PKP		**PKPdf**	**23**	**23**	**35.8**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=248,slow=0.5,SNR=5.9									
DAVOX				PKPab		**PKPab**	**23**	**24**	**26.4**	**+0.4**
	comp=Z,18nm,0.9s,baz=9.5,slow=3.8,SNR=17									
FUORN	**Ofenpass-Fuorn**	**162.25**	**337**	*e*PKPdf		**PKPdf**	**23**	**23**	**35.4**	**-1.0**
FUORN				*e*PKPab		**PKPab**	**23**	**24**	**26.1**	**+0.1**
TOB3	**Torodi Ar. Sit**	**162.47**	**185**	*e*PKIKP		**PKPdf**	**23**	**23**	**37.2**	**-0.1**
TOA0	**Torodi Ar. Sit**	**162.48**	**185**	*e*PKPdf		**PKPdf**	**23**	**23**	**37.1**	**-0.1**
TOA0				*e*PKPab		**PKPab**	**23**	**24**	**27.8**	**+0.4**
TOA0				*e*PP		**PP**	**23**	**28**	**14.1**	**+2.5**
TORD	**Torodi Ar. Bea**	**162.48**	**185**	PKP		**PKPdf**	**23**	**23**	**37.1**	**-0.1**
	comp=Z,16nm,1.0s,baz=301,slow=0.9,SNR=53									
TORD				PKPab		**PKPab**	**23**	**24**	**27.8**	**+0.4**
	comp=Z,20nm,0.7s,baz=168,slow=4.0,SNR=11									
TORD				PP		**PP**	**23**	**28**	**14.1**	**+2.5**
	comp=Z,2.0nm,0.9s,baz=145,slow=5.4,SNR=4.1									
SENIN	**Lac Senin/Sane**	**163.38**	**342**	*e*PKPdf		**PKPdf**	**23**	**23**	**35.6**	**-1.9**
SENIN				*e*PKPab		**PKPab**	**23**	**24**	**30.0**	**-0.9**
TIP	**Timpagrande**	**163.95**	**306**	*e*PKPdf		**PKPdf**	**23**	**23**	**37.5**	**-0.5**
TIP				*e*PKPab		**PKPab**	**23**	**24**	**33.2**	**-0.5**
CUC	**Castrocucco**	**164.19**	**310**	*e*PKPdf		**PKPdf**	**23**	**23**	**39.0**	**+0.8**
CUC				*e*PKPab		**PKPab**	**23**	**24**	**33.1**	**-1.6**
AQU	**L'Aquila**	**164.22**	**321**	⇓PKP2		**PKPab**	**23**	**24**	**35.4**	**+0.7**
AQU	**L'Aquila**	**164.22**	**321**	⇓*i*P		**PKPab**	**23**	**24**	**35.4**	**+0.7**
AQU	**L'Aquila**	**164.22**	**321**	*e*PKPdf		**PKPdf**	**23**	**23**	**37.6**	**-0.5**
AQU				*e*PKPab		**PKPab**	**23**	**24**	**34.4**	**-0.3**
BNI	**Bardonecchia**	**164.76**	**342**	*e*PKIKP		**PKPdf**	**23**	**23**	**37.6**	**-1.1**
BNI				*e*			23	24	36.4	
BNI	**Bardonecchia**	**164.76**	**342**	*e*PKPdf		**PKPdf**	**23**	**23**	**37.6**	**-1.1**
BNI				*e*PKPab		**PKPab**	**23**	**24**	**36.4**	**-0.6**
PGAV	**Gavieira, Arco**	**166.88**	**29**	*e*PKPdf		**PKPdf**	**23**	**23**	**38.6**	**-1.8**
PCAB	**Cabril**	**167.20**	**29**	*e*PKPdf		**PKPdf**	**23**	**23**	**41.8**	**+1.2**
PCAB	**Cabril**	**167.20**	**29**	*e*PKPab		**PKPab**	**23**	**24**	**47.8**	**0.0**
POLO	**Lamas de Olo**	**167.57**	**29**	*e*PKPdf		**PKPdf**	**23**	**23**	**41.8**	**+0.9**
POLO	**Lamas de Olo**	**167.57**	**29**	*e*PKPab		**PKPab**	**23**	**24**	**49.5**	**0.0**
PBRG	**Braganca**	**167.61**	**25**	*e*PKPdf		**PKPdf**	**23**	**23**	**41.4**	**+0.5**
PBRG	**Braganca**	**167.61**	**25**	*e*PKPab		**PKPab**	**23**	**24**	**49.7**	**+0.1**
PVRL	**Vila Real**	**167.69**	**29**	*e*PKPdf		**PKPdf**	**23**	**23**	**42.0**	**+1.1**
PVRL	**Vila Real**	**167.69**	**29**	*e*PKPab		**PKPab**	**23**	**24**	**50.0**	**0.0**
MVO	**Moncorvo**	**168.06**	**27**	*e*PKPdf		**PKPdf**	**23**	**23**	**42.1**	**+0.9**
MVO	**Moncorvo**	**168.06**	**27**	*e*PKPab		**PKPab**	**23**	**24**	**51.6**	**0.0**
PVIS	**Viseu**	**168.07**	**31**	*e*PKPdf		**PKPdf**	**23**	**23**	**41.9**	**+0.7**
PVIS	**Viseu**	**168.07**	**31**	*e*PKPab		**PKPab**	**23**	**24**	**51.9**	**+0.2**
PCAS	**Casmilo, Conde**	**168.32**	**35**	*e*PKPab		**PKPab**	**23**	**24**	**52.8**	**0.0**
VSL	**Villasalto**	**168.39**	**322**	*e*PKPdf		**PKPdf**	**23**	**23**	**40.2**	**-1.2**
MTE	**Manteigas**	**168.49**	**31**	*e*PKPdf		**PKPdf**	**23**	**23**	**42.3**	**+0.8**
MTE	**Manteigas**	**168.49**	**31**	*e*PKPab		**PKPab**	**23**	**24**	**53.6**	**0.0**
MTE	**Manteigas**	**168.49**	**31**	*e*PKPdf		**PKPdf**	**23**	**23**	**41.5**	**0.0**
MTE				*e*PKPab		**PKPab**	**23**	**24**	**52.9**	**-0.6**
PTOM	**Tomar**	**168.69**	**36**	*e*PKPdf		**PKPdf**	**23**	**23**	**42.6**	**+1.0**
PTOM	**Tomar**	**168.69**	**36**	*e*PKPab		**PKPab**	**23**	**24**	**54.3**	**-0.1**
PCBR	**Castelo Branco**	**168.97**	**32**	*e*PKPdf		**PKPdf**	**23**	**23**	**42.8**	**+1.1**
PCBR	**Castelo Branco**	**168.97**	**32**	*e*PKPab		**PKPab**	**23**	**24**	**54.9**	**-0.7**
PMTG	**Montargil**	**169.20**	**37**	*e*PKPab		**PKPab**	**23**	**24**	**56.5**	**-0.2**
PMRV	**Marv??o**	**169.34**	**33**	*e*PKPdf		**PKPdf**	**23**	**23**	**41.7**	**-0.3**
PMRV	**Marv??o**	**169.34**	**33**	*e*PKPab		**PKPab**	**23**	**24**	**56.9**	**-0.4**
EVO	**Evora**	**169.71**	**38**	*e*PKPdf		**PKPdf**	**23**	**23**	**43.3**	**+1.1**
PNCL	**Nicolau / Gran**	**169.72**	**42**	*e*PKPdf		**PKPdf**	**23**	**23**	**43.2**	**+0.9**
PNCL	**Nicolau / Gran**	**169.72**	**42**	*e*PKPab		**PKPab**	**23**	**24**	**59.2**	**+0.1**
MESJ	**Messejana**	**170.09**	**42**	*e*PKPab		**PKPab**	**23**	**25**	**00.7**	**0.0**
MORF	**Marmelete**	**170.18**	**45**	*e*PKPdf		**PKPdf**	**23**	**23**	**43.9**	**+1.3**
PCVE	**Castro Verde**	**170.33**	**42**	*e*PKPdf		**PKPdf**	**23**	**23**	**44.0**	**+1.4**
PCVE	**Castro Verde**	**170.33**	**42**	*e*PKPab		**PKPab**	**23**	**25**	**01.9**	**+0.1**
ES19	**SONSECA Array**	**170.43**	**19**	*e*PKPdf		**PKPdf**	**23**	**23**	**42.3**	**-0.4**
ES19				*e*PKPab		**PKPab**	**23**	**25**	**01.2**	**-0.9**
ESDC	**Sonseca Array**	**170.44**	**19**	PKP		**PKPdf**	**23**	**23**	**43.3**	**+0.6**
	comp=Z,6.3nm,0.9s,baz=349,slow=2.7,SNR=40									
ESDC				PKPab		**PKPab**	**23**	**25**	**02.2**	**0.0**
	comp=Z,6.3nm,1.0s,baz=336,slow=4.1,SNR=18									
ESDC				PP		**PP**	**23**	**28**	**54.3**	**+1.8**
	comp=Z,1.0nm,1.0s,baz=338,slow=4.0,SNR=5.9									
PAB	**San Pablo**	**170.44**	**21**	*e*PKIKP		**PKPdf**	**23**	**23**	**42.0**	**-0.8**
PAB				*e*			23	25	00.2	
PAB	**San Pablo**	**170.44**	**21**	*e*PKPdf		**PKPdf**	**23**	**23**	**42.0**	**-0.8**
PAB				*e*PKPab		**PKPab**	**23**	**25**	**00.2**	**-2.0**
PBAR	**Barrancos**	**170.48**	**36**	*e*PKPdf		**PKPdf**	**23**	**23**	**43.5**	**+0.8**
PBAR	**Barrancos**	**170.48**	**36**	*e*PKPab		**PKPab**	**23**	**25**	**01.9**	**-0.5**
PBDV	**Barranco-do-Ve**	**170.66**	**43**	*e*PKPdf		**PKPdf**	**23**	**23**	**44.5**	**+1.6**
KEST	**Kesra**	**170.77**	**305**	PKP		**PKPdf**	**23**	**23**	**43.3**	**+0.2**
	comp=Z,2.8nm,1.0s,baz=256,slow=7.0,SNR=7.6									
KEST				PKPab		**PKPab**	**23**	**25**	**04.7**	**+0.7**
	comp=Z,2.6nm,0.9s,baz=80,slow=3.3,SNR=6.2									
KEST	**Kesra**	**170.77**	**305**	*e*PKPdf		**PKPdf**	**23**	**23**	**41.6**	**-1.4**
KEST				*e*PKPab		**PKPab**	**23**	**25**	**03.8**	**-0.2**
MDT	**Midelt**	**175.45**	**61**	PKP		**PKPdf**	**23**	**23**	**46.4**	**+1.4**
	comp=Z,8.4nm,0.9s,baz=48,slow=2.6,SNR=13									
MDT				PKPab		**PKPab**	**23**	**25**	**22.8**	**-2.2**
	comp=Z,2.7nm,0.9s,baz=300,slow=4.1,SNR=3.1									

*IDC **10**23:17:38.4±2.5,22.°47S×177.°27W,h211km±22km, mb4.0/16,mb1 4.2/17,mb1mx4.0/38,mbtmp4.6/17,Error ellipse: s-maj=20.4km s-min=13.0km az=152.0*
*BJI **10**23:17:43.5,22.°89S×177.°17W,h285km,mb4.6/6,mB4.7/5*
*ISCJB **10**23:17:44.7±1.6,22.°61S±0.°07×177.°36W±0.°07, h285km±14km,mb4.5/57,Error ellipse: s-maj=14.2km s-min=7.9km az=138.8*
*NEIC **10**23:17:45.8±1.3,22.°69S×177.°42W,h290km±4km,mb4.6/43, Error ellipse: s-maj=20.0km s-min=16.9km az=94.0*

ISC 10 23:17:46.0±0.6,22.73S±0.°08×177.37W±0.°09, h289km±4km,h291km;pP-P,n158,σ1§13/187,mb4.5/57, 21C-9D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
MSVF	**Nonsavu**	**6.57**	**318**	*e*Pn		Pn	23	19	18.6	-3.6
MSVF				*e*S		**S**	**23**	**20**	**37.0**	**-2.6**
URZ	**Urewera**	**16.19**	**196**	P		**P**	**23**	**21**	**14.6**	**-1.9**
	6.3nm,0.3s,baz=302,slow=2.1,SNR=30									
URZ				S		**S**	**23**	**24**	**05.7**	**-5.8**
	1.9nm,0.3s,baz=220,slow=21,SNR=9.8									
URZ	**Urewera**	**16.19**	**196**	*e*P		**P**	**23**	**21**	**14.8**	**-1.8**
URZ				*e*S		**S**	**23**	**24**	**10.5**	**-0.9**
RPZ	**Rata Peaks**	**23.02**	**202**	P		**P**	**23**	**22**	**27.7**	**+1.7**
	8.0nm,0.5s,baz=319,slow=0.5,SNR=6.6									
TARA	**Tarawa**	**25.74**	**337**	*e*P		**P**	**23**	**22**	**48.6**	**-2.2**
	101nm,0.9s									
ARMA	**Armidale**	**28.70**	**248**	P		**P**	**23**	**23**	**19.3**	**+2.2**
	baz=30,SNR=6.1									
ARMA	**Armidale**	**28.70**	**248**	*e*P		**P**	**23**	**23**	**17.3**	**+0.2**
	17nm,1.0s									
RMQ	**Roma**	**30.98**	**256**	P		**P**	**23**	**23**	**39.4**	**+2.4**
	baz=32,SNR=7.1									
CMSA	**Cobar Meteorol**	**33.90**	**247**	P		**P**	**23**	**24**	**03.7**	**+1.4**
	baz=35,SNR=18									
CTA	**Charters Tower**	**33.92**	**267**	P		**P**	**23**	**24**	**03.8**	**+1.2**
	25nm,0.7s,baz=95,slow=11,SNR=35									
QLP	**Quilpie**	**35.02**	**256**	P		**P**	**23**	**24**	**12.6**	**+0.7**
	baz=36,SNR=8.3									
MTSU	**Mount Surprise**	**36.13**	**270**	P		**P**	**23**	**24**	**22.5**	**+1.1**
	baz=37,SNR=6.7									
STKA	**Stephens Creek**	**37.41**	**247**	P		**P**	**23**	**24**	**33.6**	**+1.6**
	6.5nm,0.9s,baz=87,slow=12,SNR=7.7									
STKA	**Stephens Creek**	**37.41**	**247**	P		**P**	**23**	**24**	**34.0**	**+2.1**
	baz=38,SNR=7.4									
STKA	**Stephens Creek**	**37.41**	**247**	*e*P		**P**	**23**	**24**	**32.3**	**+0.3**
	43nm,3.0s									
AS01	**Alice Springs**	**44.58**	**259**	*e*P		**P**	**23**	**25**	**29.8**	**-0.4**
AS12	**Alice Springs**	**44.63**	**259**	*e*P		**P**	**23**	**25**	**30.7**	**+0.1**
AS12				*e*PcP		**PcP**	**23**	**27**	**08.2**	**+0.2**
ASAR	**Alice Springs**	**44.63**	**259**	P		**P**	**23**	**25**	**30.7**	**+0.1**
	3.7nm,0.7s,baz=104,slow=7.1,SNR=38									
ASAR				PcP		**PcP**	**23**	**27**	**08.2**	**+0.2**
	1.6nm,0.8s,baz=100,slow=4.0,SNR=5.9									
WRA	**Warramunga Arr**	**44.92**	**264**	P		**P**	**23**	**25**	**32.3**	**-0.6**
	2.9nm,0.6s,baz=96,slow=8.2,SNR=94									
JAY	**Jayapura**	**45.33**	**290**	P		**P**	**23**	**25**	**35.9**	**-0.3**
	6.5nm,0.6s,baz=90,slow=7.1,SNR=5.1									
WRKA	**Warakurna**	**49.46**	**256**	P		**P**	**23**	**26**	**07.7**	**0.0**
	baz=50,SNR=33									
KNRA	**Kununurra**	**51.13**	**268**	P		**P**	**23**	**26**	**20.7**	**+0.5**
	baz=52,SNR=7.2									
SIJI	**Sorong**	**54.40**	**286**	P		**P**	**23**	**26**	**43.6**	**-0.5**
	4.5nm,0.7s,baz=41,slow=4.5,SNR=4.9									
MJAR	**Matsushiro Arr**	**72.34**	**324**	P		**P**	**23**	**28**	**38.8**	**-1.8**
	1.5nm,0.8s,baz=161,slow=6.0,SNR=8.1									
MAJO	**Matsushiro**	**72.35**	**324**	*e*P		**P**	**23**	**28**	**38.8**	**-1.8**
	66nm,2.4s									
PEA2	**Petropavlovsk-**	**78.56**	**345**	*e*P		**P**	**23**	**29**	**14.0**	**-1.4**
PETK	**Petropavlovsk-**	**78.56**	**345**	P		**P**	**23**	**29**	**14.0**	**-1.4**
	4.0nm,0.8s,baz=111,slow=8.1,SNR=3.6									
KMRM	**Mail Ridge**	**80.10**	**39**	*e*P		**P**	**23**	**29**	**23.9**	**-0.2**
	33nm,1.0s									
PFO	**Pinyon Flat Ob**	**80.62**	**48**	P		**P**	**23**	**29**	**26.6**	**-0.4**
	4.2nm,1.1s,baz=233,slow=2.4,SNR=4.9									
PFO	**Pinyon Flat Ob**	**80.62**	**48**	*e*P		**P**	**23**	**29**	**26.8**	**-0.3**
	6.3nm,1.1s									
CMB	**Columbia Colle**	**80.70**	**42**	*e*P		**P**	**23**	**29**	**26.4**	**-0.9**
	6.0nm,1.3s									
USRK	**Ussuriysk Ar.**	**81.13**	**326**	P		**P**	**23**	**29**	**30.3**	**+1.0**
	3.8nm,0.8s,baz=102,slow=6.2,SNR=8.4									
GSC	**Goldstone**	**81.36**	**46**	*e*P		**P**	**23**	**29**	**30.4**	**-0.4**
	9.9nm,1.3s									
WAKR	**Walker**	**81.58**	**42**	*e*P		**P**	**23**	**29**	**31.4**	**-0.7**
YBH	**Yreka Blue Hor**	**81.66**	**38**	*e*P		**P**	**23**	**29**	**32.4**	**+0.1**
	9.9nm,1.1s									
NJ2	**Nanjing**	**81.75**	**310**	*e*P		**P**	**23**	**29**	**33.6**	**+0.8**
NJ2				PMZ						
	30nm,0.7s									
NVAR	**Mina Array Bea**	**82.24**	**43**	P		**P**	**23**	**29**	**35.4**	**-0.1**
	1.7nm,0.7s,baz=214,slow=7.6,SNR=12									
TPNV	**Topopah Spring**	**82.68**	**45**	*e*P		**P**	**23**	**29**	**37.0**	**-0.8**
	7.3nm,1.2s									
SHPR	**Sheep Range**	**83.15**	**46**	*e*P		**P**	**23**	**29**	**40.0**	**-0.2**
K05A	**Summer Lake**	**83.33**	**38**	*e*P		**P**	**23**	**29**	**40.4**	**-0.6**
	23nm,1.1s									
TUC	**Tucson**	**83.89**	**51**	*e*P		**P**	**23**	**29**	**44.2**	**+0.3**
	14nm,1.2s									
R11A	**Troy Canyon, C**	**83.92**	**44**	*e*P		**P**	**23**	**29**	**43.5**	**-0.6**
	3.5nm,1.3s									
BMN	**Battle Mountai**	**84.11**	**42**	*e*P		**P**	**23**	**29**	**44.5**	**-0.4**
	8.1nm,1.0s									
E03A	**Lebam**	**84.35**	**34**	*e*P		**P**	**23**	**29**	**45.8**	**0.0**
	27nm,1.0s									
WVOR	**Wild Horse Val**	**84.46**	**39**	*e*P		**P**	**23**	**29**	**46.2**	**-0.4**
	8.6nm,1.0s									
NLWA	**Neilton Lookou**	**84.76**	**33**	*e*P		**P**	**23**	**29**	**48.2**	**+0.4**
	19nm,1.3s									
CCUT	**Cedar City**	**84.92**	**46**	*e*P		**P**	**23**	**29**	**49.5**	**+0.3**
	5.2nm,1.0s									
KNB	**Kanab**	**84.99**	**47**	*e*P		**P**	**23**	**29**	**49.7**	**+0.3**
	9.7nm,1.2s									
G08A	**Pilot Rock**	**86.02**	**37**	*e*P		**P**	**23**	**29**	**54.0**	**-0.2**
	7.8nm,1.1s									
MSU	**Marysvale**	**86.23**	**46**	*e*P		**P**	**23**	**29**	**55.8**	**+0.3**
D08A	**Wollman Farm,**	**87.13**	**36**	*e*P		**P**	**23**	**29**	**59.8**	**+0.4**
	11nm,1.0s									
F10A	**Beach Ranch, E**	**87.40**	**37**	*e*P		**P**	**23**	**30**	**00.3**	**-0.5**
	11nm,0.9s									
SRU	**San Rafael**	**87.64**	**46**	*e*P		**P**	**23**	**30**	**01.8**	**-0.4**
	9.9nm,0.9s									
B08A	**Colville Reser**	**87.72**	**34**	*e*P		**P**	**23**	**30**	**01.5**	**-0.7**
	6.3nm,0.8s									
LTX	**Lajitas**	**87.76**	**57**	*e*P		**P**	**23**	**30**	**03.4**	**+0.6**
TXAR	**Lajitas Array**	**87.76**	**57**	P		**P**	**23**	**30**	**03.4**	**+0.6**
	1.9nm,0.9s,baz=222,slow=6.7,SNR=15									
BNM	**Barren Site**	**87.83**	**52**	*e*P		**P**	**23**	**30**	**03.0**	**-0.2**
C09A	**Chrisman Ranch**	**87.94**	**35**	*e*P		**P**	**23**	**30**	**03.1**	**0.0**
	7.6nm,0.8s									
CAST	**Castle Rocks**	**88.14**	**11**	*e*P		**P**	**23**	**30**	**02.1**	**-1.6**
	14nm,1.1s									
TRF	**Thorofare Moun**	**88.50**	**12**	*e*P		**P**	**23**	**30**	**04.7**	**-0.9**
	20nm,0.8s									
RND	**Reindeer**	**88.73**	**12**	*e*P		**P**	**23**	**30**	**06.1**	**-0.4**
	33nm,1.0s									
MCK	**McKinley**	**89.01**	**12**	*e*P		**P**	**23**	**30**	**07.1**	**-0.7**
	15nm,0.9s									
MCMT	**McKenzie Canyo**	**89.27**	**40**	*e*P		**P**	**23**	**30**	**09.9**	**+0.1**
S22A	**4UR Ranch, Cre**	**89.44**	**48**	*e*P		**P**	**23**	**30**	**10.5**	**-0.3**
	5.0nm,0.4s									
DLMT	**Dillon**	**89.71**	**40**	*e*P		**P**	**23**	**30**	**11.5**	**-0.2**
	5.5nm,0.9s									
FXWY	**Fox Creek**	**89.72**	**42**	*e*P		**P**	**23**	**30**	**11.4**	**-0.5**
	4.9nm,1.2s									
MSO	**Missoula**	**89.75**	**38**	*e*P		**P**	**23**	**30**	**10.6**	**-1.1**
	8.2nm,1.5s									
MLY	**Manley**	**89.86**	**11**	*e*P		**P**	**23**	**30**	**10.6**	**-1.2**
	6.3nm,1.0s									
DLBC	**Dease Lake**	**89.86**	**23**	*e*P		**P**	**23**	**30**	**11.8**	**-0.1**
	8.9nm,1.1s									
PD31	**Pinedale Array**	**90.18**	**43**	*e*P		**P**	**23**	**30**	**13.8**	**-0.2**
PDAR	**Pinedale Array**	**90.18**	**43**	P		**P**	**23**	**30**	**13.8**	**-0.2**
	2.9nm,1.0s,baz=180,slow=1.5,SNR=14									
IM04	**Indian Mountai**	**90.23**	**9**	*e*P		**P**	**23**	**30**	**12.9**	**-0.5**
ILAR	**Eielson Array**	**90.35**	**13**	P		**P**	**23**	**30**	**13.1**	**-0.9**
	5.1nm,1.0s,baz=226,slow=5.5,SNR=25									
ILB	**Eielson Array**	**90.35**	**13**	*e*P		**P**	**23**	**30**	**13.1**	**-0.9**
SDCO	**Great Sand Dun**	**90.36**	**49**	*e*P		**P**	**23**	**30**	**14.2**	**-0.9**
	9.5nm,1.5s									
MSTX	**Muleshoe**	**90.56**	**53**	*e*P		**P**	**23**	**30**	**14.7**	**-1.2**
	29nm,1.8s									
KMI	**Kunming**	**90.88**	**297**	P		**P**	**23**	**30**	**18.5**	**+0.8**
HHC	**Hu-ho-hao-te**	**91.32**	**314**	*e*P		**P**	**23**	**30**	**19.7**	**+0.5**
HHC				pP		**pP**	**23**	**31**	**28.7**	**+0.4**
HHC				sP		**sP**	**23**	**31**	**57.8**	**-0.6**
HHC				PP		**PP**	**23**	**34**	**04.2**	**+2.8**
HHC				SKS		**SKSac**	**23**	**40**	**22.8**	**-0.6**
HHC				S		**S**	**23**	**40**	**50.9**	**-1.8**
HHC				sS		**sS**	**23**	**42**	**52.6**	**-2.5**
HHC				PMZ						
	12nm,0.6s									
HHC				PMZ						
	84nm,6.1s									
CM31	**Chiang Mai Arr**	**91.41**	**289**	*e*P		**P**	**23**	**30**	**21.1**	**+1.2**
CMAR	**Chiang Mai Arr**	**91.41**	**289**	P		**P**	**23**	**30**	**21.1**	**+1.2**
	0.9nm,0.4s,baz=122,slow=3.7,SNR=6.6									
DAWY	**Dawson**	**91.43**	**16**	*e*P		**P**	**23**	**30**	**18.7**	**-0.4**
	8.0nm,1.1s									
EGAK	**Eagle**	**91.60**	**15**	*e*P		**P**	**23**	**30**	**19.5**	**-0.3**
	6.9nm,1.0s									
COLD	**Coldfoot**	**91.95**	**10**	*e*P		**P**	**23**	**30**	**20.9**	**-0.5**
	14nm,1.2s									
CD2	**Chengdu**	**92.48**	**302**	P		**P**	**23**	**30**	**24.4**	**-0.3**
CD2				pmax		pmax				
	comp=Z,10.0nm,0.5s									
RSSD	**Black Hills**	**94.34**	**44**	*e*P		**P**	**23**	**30**	**32.8**	**-0.4**
	comp=Z,6.0nm,0.9s									
LZH	**Lanzhou**	**94.58**	**307**	*e*P		**P**	**23**	**30**	**36.4**	**+2.0**
LZH				pP		**pP**	**23**	**31**	**45.2**	**+1.6**
GTA	**Gaotai**	**98.83**	**309**	*e*P		**P**	**23**	**30**	**55.2**	**+1.7**
GTA				pP		**pP**	**23**	**32**	**04.6**	**+1.7**
GTA				sP		**sP**	**23**	**32**	**33.4**	**+0.6**
GTA				pmax		pmax				
	comp=Z,4.0nm,1.3s									
KURBB	**Kurchatov Arra**	**116.07**	**317**	PKP		**PKPdf**	**23**	**35**	**54.0**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=89,slow=1.9,SNR=4.3									
BVAR	**Borovoye Array**	**121.15**	**319**	PKP		**PKPdf**	**23**	**36**	**04.2**	**0.0**
	comp=Z,0.8nm,0.4s,baz=115,slow=2.5,SNR=9.4									
ARCES	**ARCESS Array B**	**131.21**	**350**	PKhKP		PKPpre	23	36	13.8	
	comp=Z,1.1nm,0.8s,baz=114,slow=1.1,SNR=5.5									
ARCES				PKP		**PKPdf**	**23**	**36**	**23.2**	**+0.3**
	comp=Z,1.3nm,0.4s,baz=10,slow=1.6,SNR=18									
ARCES				SKPbc		**SKiKP**	**23**	**39**	**27.9**	**-4.1**
	comp=Z,6.2nm,1.0s,baz=14,slow=5.6,SNR=8.0									
FINES	**FINESS Array B**	**138.06**	**343**	PKhKP		PKPpre	23	36	25.4	
	comp=Z,0.6nm,0.6s,baz=59,slow=3.1,SNR=7.5									
FINES				PKP		**PKPdf**	**23**	**36**	**35.2**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=67,slow=1.6,SNR=5.7									
NB2	**NORSAR Subarra**	**141.25**	**353**	PKP		PKPpre	23	36	36.2	
	comp=Z,0.5nm,0.5s,baz=12,slow=3.1									
NOA	**NORSAR Array B**	**141.25**	**353**	PKhKP		PKPpre	23	36	35.8	
	comp=Z,1.2nm,0.8s,baz=16,slow=4.7,SNR=5.6									
HFS	**Hagfors**	**141.82**	**351**	PKhKP		PKPpre	23	36	37.4	
	baz=17,slow=1.5									
NACGM	**Naroch**	**143.15**	**337**	*e*		PKPab	23	36	41.0	-0.6
SUW	**Suwalki**	**145.12**	**339**	*e*PKP		**PKPbc**	**23**	**36**	**49.0**	**+0.1**
AKASG	**Malin Array Be**	**145.23**	**330**	PKPbc		**PKPdf**	**23**	**36**	**49.0**	**0.0**
	comp=Z,5.6nm,0.3s,baz=41,slow=4.0,SNR=41									
MALT	**Malatya**	**145.72**	**305**	⇑*i* P		**PKPab**	**23**	**36**	**53.3**	**+1.0**
MUD	**Monsted U'grnd**	**145.97**	**354**	*i* P		**PKPbc**	**23**	**36**	**51.9**	**+0.5**
	comp=Z,25nm,1.0s									
BSD	**Bornholm Skovb**	**146.38**	**347**	*i* P		**PKPbc**	**23**	**36**	**52.6**	**0.0**
	comp=Z,24nm,1.0s									
LLD	**Lille Linde**	**146.66**	**350**	*i* P		**PKPab**	**23**	**36**	**55.1**	**-0.1**
EKA	**Eskdalemuir Ar**	**147.15**	**6**	PKPbc		**PKPbc**	**23**	**36**	**54.8**	**0.0**
	comp=Z,2.0nm,0.6s,baz=347,slow=1.3,SNR=6.9									
**GKP

WRA Warramunga Arr 150.70 242 PKPbc **PKPbc 23 40 29.1 -3.0**
0.6nm,0.6s,baz=106,slow=2.9,SNR=16

*CSEM **10** 23:21:06.8, 51.42N×16.17E, h0km*
PRU 10 23:21:05.0, 51.47N×16.18E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UPC	**Upice**	**0.97**	**186**	*e*PG	Pg	23 21 23.1	-0.5
UPC				*e*SG	Sg	23 21 36.0	-0.2
	comp=Z,1.6nm,0.3s						
UPC	**Upice**	**0.97**	**186**	Pg	Pg	23 21 23.1	-0.5
UPC				Sg	Sg	23 21 36.0	-0.2
	1.6nm,0.3s						
DPC	**Dobruska-Polom**	**1.12**	**175**	*e*PG	Pg	23 21 26.0	-0.7
DPC				*e*SG	Sg	23 21 40.9	-0.4
	comp=Z,1.1nm,0.4s						
DPC	**Dobruska-Polom**	**1.12**	**175**	Pg	Pg	23 21 26.0	-0.7
DPC				Sg	Sg	23 21 40.9	-0.4
	1.1nm,0.4s						
PVCC	**Panska Ves**	**1.39**	**228**	*e*PG	Pg	23 21 31.0	-0.6
PVCC				*e*SG	Sg	23 21 49.4	-0.2
	comp=Z,3.8nm,0.3s						
PVCC	**Panska Ves**	**1.39**	**228**	Pg	Pg	23 21 31.0	-0.6
PVCC				Sg	Sg	23 21 49.4	-0.2
	3.8nm,0.3s						
KRLC	**Kraliky**	**1.45**	**164**	*e*PG	Pn	23 21 31.8	-0.7
KRLC				*e*SG	Sg	23 21 51.1	-0.6
KRLC	**Kraliky**	**1.45**	**164**	Pg	Pn	23 21 31.8	-0.7
KRLC				Sg	Sg	23 21 51.1	-0.6
BRG	**Berggiesshubel**	**1.53**	**248**	SG	Sn	23 21 53.9	-0.3
	1.3nm,0.5s						
PRU	**Pruhonice**	**1.81**	**216**	*e*PG	Pb	23 21 38.5	-0.6
PRU				*e*SG	Sg	23 22 02.8	-0.5
	comp=Z,1.0nm,0.4s						
PRU	**Pruhonice**	**1.81**	**216**	Pg	Pb	23 21 38.5	-0.6
PRU				Sg	Sg	23 22 02.8	-0.5
	1.0nm,0.4s						
NKC	**Novy Kostel**	**2.67**	**244**	*e*SG	Sg	23 22 30.5	-0.4
	comp=Z,1.2nm,0.3s						
NKC	**Novy Kostel**	**2.67**	**244**	Sg	Sg	23 22 30.5	-0.4
	1.2nm,0.3s						

NNC 10 23:25:06.1±3.3, 38.34N×71.42E, h0km, mb3.7, mpv3.4, 2C-2D, Error ellipse: s-maj=25.2km s-min=22.7km az=15.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.81**	**352**	Pn	Pn	23 26 23.0	+3.2
	2.1nm,0.3s,baz=165,slow=12,SNR=66						
KK31				⇑Sn	Sn	23 27 22.9	+6.7
	1.8nm,0.3s,baz=170,slow=22,SNR=11						
AAK	**Ala-Archa**	**4.88**	**28**	⇓Pn	Pn	23 26 20.2	-0.9
	2.1nm,0.3s						
AAK				⇓Sn	Sn	23 27 19.4	+0.9
	8.0nm,0.6s						
AB31	**Akbulak array**	**13.68**	**327**	⇑Pn	Pn	23 28 20.6	-0.6
	0.4nm,0.4s,baz=130,slow=15,SNR=8.3						
AB31				Sn	Sn	23 30 50.7	-3.2
	0.9nm,0.5s,baz=159,slow=23,SNR=6.4						

*UPP **10** 23:25:36.8, 67.85N×20.20E, h0km, ML0.9, Mining explosion.*
*HEL **10** 23:25:37.4±0.1, 67.86N×20.21E, h0km, ML1.5, ML0.9(UPP), Explosion*
CSEM 10 23:25:36.7±0.3, 67.88N×20.30E, h2km, ML0.9, Error ellipse: s-maj=6.9km s-min=6.4km az=101.0, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.07**	**11**	*i* P	Pg	23 25 39.2	+1.1
KUA				*i* S	Sg	23 25 40.9	+1.7
KUA	**Kurravaara**	**0.07**	**11**	P	Pg	23 25 39.2	+1.0
KUA				S	Sg	23 25 40.8	+1.6
NIKU	**Nikkaluokta**	**0.48**	**269**	*i* P	Pg	23 25 45.3	-0.6
NIKU	**Nikkaluokta**	**0.48**	**269**	P	Pg	23 25 45.3	-0.6
LANU	**Lannavaara**	**0.66**	**75**	*e*P	Pg	23 25 50.1	+0.7
	baz=245						
LANU	**Lannavaara**	**0.66**	**75**	P	Pg	23 25 50.1	+0.7
MASU	**Masugnsbyn**	**0.78**	**123**	*i* P	Pg	23 25 51.7	+0.1
MASU	**Masugnsbyn**	**0.78**	**123**	P	Pg	23 25 51.7	+0.1
KIF	**Kilpisjarvi**	**1.14**	**9**	*e*PN	Pn	23 26 00.4	+0.7
	baz=186						
KIF				*e*SB	Sn	23 26 15.1	-0.7
KIF	**Kilpisjarvi**	**1.14**	**9**	Pn	Pn	23 26 00.3	+0.7
KIF				Sb	Sn	23 26 15.1	-0.7
HEF	**Hetta**	**1.36**	**66**	*e*PG	Pb	23 26 02.9	0.0
	baz=249						
HEF				MSG		23 26 19.1	
	comp=Z,4.0nm,0.2s						
HEF				*e*SN	Sn	23 26 25.5	+4.1
HEF	**Hetta**	**1.36**	**66**	Sn	Sn	23 26 25.5	+4.1
HEF	**Hetta**	**1.36**	**66**	Pg	Pb	23 26 02.9	0.0
PAJU	**Pajala**	**1.39**	**127**	*e*P	Pn	23 26 02.0	-1.1
PAJU	**Pajala**	**1.39**	**127**	P	Pn	23 26 02.0	-1.1
ERTU	**Ertsjaerv**	**1.52**	**150**	*e*PN	Pn	23 26 05.2	+0.3
ERTU				*e*SN	Sg	23 26 27.9	+2.3
ERTU	**Ertsjaerv**	**1.52**	**150**	Sn	Sg	23 26 27.9	+2.2
ERTU	**Ertsjaerv**	**1.52**	**150**	P	Pn	23 26 04.8	-0.1
ERTU	**Ertsjaerv**	**1.52**	**150**	Pn	Pn	23 26 05.2	+0.3
HARU	**Harads**	**1.75**	**171**	*e*P	Pn	23 26 08.4	+0.4
HARU	**Harads**	**1.75**	**171**	P	Pn	23 26 08.3	+0.3
ARE0	**ARCESS Array S**	**2.52**	**46**	*e*PG	Pb	23 26 23.4	+0.7
ARE0				*e*SG	Sb	23 26 53.8	-0.3
ARE0	**ARCESS Array S**	**2.52**	**46**	Sb	Sb	23 26 53.8	-0.3
ARE0	**ARCESS Array S**	**2.52**	**46**	Pg	Pb	23 26 23.4	+0.7
RNF	**Rovaniemi**	**2.56**	**117**	*e*PB	Pb	23 26 21.9	-1.4
	baz=309						
RNF				*e*SG	Sb	23 26 55.8	+0.6
RNF	**Rovaniemi**	**2.56**	**117**	Pb	Pb	23 26 21.9	-1.4

*UPP **10** 23:25:52.0, 67.79N×20.59E, h0km, ML1.2, Mining explosion.*
CSEM 10 23:25:43.9±0.5, 67.81N×21.69E, h1km, ML1.2, Error ellipse: s-maj=19.8km s-min=13.2km az=27.0, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.53**	**287**	P	Pg	23 25 54.1	0.0
KUA				S	Sg	23 25 55.7	-5.3

*ISCJB **10** 23:29:31.7±0.8, 10.3S±0.2×66.5E±0.1, h14km, mb4.2/20, MS3.5/8, Error ellipse: s-maj=23.9km s-min=13.4km az=22.9*
*IDC **10** 23:29:31.4±0.9, 10.34S×66.51E, h0km, mb4.1/15, mb1 4.2/15, mb1mx4.0/30, mbtmp4.1/15, MS3.5/8, Ms1 3.5/8, ms1mx3.1/38, Error ellipse: s-maj=29.9km s-min=18.6km az=28.0*
*NEIC **10** 23:29:33.1±0.5, 10.30S×66.52E, h10km, mb4.5/3, Error ellipse: s-maj=16.1km s-min=11.1km az=207.0*
ISC 10 23:29:33.6±1.0, 10.4S±0.2×66.5E±0.2, h14km, n53, σ0s68/44, mb4.3/20, MS3.4/8, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08N3	**Diego Garcia H**	**5.95**	**48**	T	T	23 37 21.1	
	baz=227,slow=75,SNR=3296						
H08N1	**Diego Carcia H**	**5.96**	**48**	T	T	23 37 22.5	
	baz=227,slow=75,SNR=3695						
H08N2	**Diego Carcia H**	**5.97**	**48**	T	T	23 37 22.6	
	baz=227,slow=75,SNR=1817						
H08S1	**Diego Carcia H**	**6.46**	**66**	T	T	23 37 55.2	
	baz=245,slow=75,SNR=666						
H08S3	**Diego Garcia H**	**6.48**	**66**	T	T	23 37 56.2	
	baz=245,slow=75,SNR=553						
H08S2	**Diego Garcia H**	**6.48**	**66**	T	T	23 37 56.5	
	baz=245,slow=75,SNR=552						
PALK	**Pallekele**	**22.49**	**39**	LR	LR	23 41 12.4	
	comp=Z,90nm,18.5s,baz=261,slow=31						
KMBO	**Kilima Mbogo**	**30.50**	**286**	LR	LR	23 46 49.5	
	comp=Z,39nm,18.6s,baz=217,slow=34						
BOSA	**Boshof**	**42.67**	**239**	LR	LR	23 53 57.5	
	comp=Z,103nm,18.2s,baz=8.5,slow=34						
CMAR	**Chiang Mai Arr**	**42.93**	**48**	P	**P**	**23 37 33.6**	**+1.4**
	0.9nm,0.4s,baz=243,slow=9.6,SNR=9.4						
CMAR				LR	LR	23 53 35.6	
	comp=Z,41nm,19.1s,baz=135,slow=34						
CHTO	**Chiang Mai**	**43.15**	**48**	*e*P	**P**	**23 37 33.9**	**-0.2**
	7.0nm,1.4s						
GEYT	**Alibeck**	**48.66**	**351**	LR	LR	23 58 03.5	
	comp=Z,26nm,18.3s,baz=280,slow=35						
H01W3	**Cape Leeuwin H**	**49.69**	**127**	T	T	00 31 39.9	
	baz=288,slow=74,SNR=23						
H01W2	**Cape Leeuwin H**	**49.69**	**127**	T	T	00 31 36.0	
	baz=288,slow=74,SNR=21						
H01W1	**Cape Leeuwin H**	**49.71**	**127**	T	T	00 31 37.8	
	baz=288,slow=74,SNR=18						
BRTR	**Keskin Array B**	**58.42**	**331**	P	**P**	**23 39 29.3**	**+0.2**
	1.5nm,1.0s,baz=155,slow=9.1,SNR=7.1						
MKAR	**Makanchi Array**	**58.61**	**13**	P	**P**	**23 39 29.9**	**-0.1**
	0.6nm,0.7s,baz=202,slow=9.2,SNR=6.6						
ABKAR	**Akbulak array**	**59.63**	**355**	*e*P	**P**	**23 39 36.6**	**-0.5**
	4.0nm,1.0s						
KURBB	**Kurchatov Arra**	**61.61**	**9**	P	**P**	**23 39 50.5**	**0.0**
	2.7nm,0.9s,baz=206,slow=6.9,SNR=12						
KURK	**Kurchatov**	**61.72**	**9**	*e*P	**P**	**23 39 50.7**	**-0.5**
	4.0nm,0.9s						
BVAR	**Borovoye Array**	**63.21**	**3**	P	**P**	**23 40 01.1**	**-0.1**
	2.1nm,0.9s,baz=161,slow=6.3,SNR=12						
ASAR	**Alice Springs**	**65.28**	**111**	P	**P**	**23 40 14.7**	**-0.8**
	2.5nm,1.1s,baz=268,slow=5.8,SNR=9.2						
WRA	**Warramunga Arr**	**65.79**	**107**	P	**P**	**23 40 19.6**	**+0.7**
	3.6nm,1.2s,baz=277,slow=6.1,SNR=13						
WRAB	**Tennant Creek**	**65.80**	**107**	*e*P	**P**	**23 40 19.2**	**+0.2**
ZALV	**Zalesovo Beam**	**65.91**	**12**	P	**P**	**23 40 18.4**	**-0.4**
	2.3nm,0.8s,baz=219,slow=6.9,SNR=9.8						
SONM	**Songino Array**	**67.86**	**28**	P	**P**	**23 40 30.8**	**-0.8**
	2.2nm,1.0s,baz=213,slow=6.1,SNR=11						
SONM				LR	LR	00 09 25.4	
	comp=Z,95nm,19.1s,baz=232,slow=35						
TORD	**Torodi Ar. Bea**	**68.45**	**289**	P	**P**	**23 40 35.4**	**-0.4**
	1.8nm,1.0s,baz=84,slow=3.9,SNR=6.5						
AKASG	**Malin Array Be**	**68.90**	**336**	P	**P**	**23 40 37.5**	**-0.3**
	0.8nm,0.3s,baz=143,slow=4.9,SNR=5.5						
DBIC	**Dimbokro**	**73.05**	**280**	LR	LR	00 11 58.0	
	comp=Z,26nm,19.0s,baz=90,slow=35						
KRLC	**Kraliky**	**74.15**	**329**	*e*P	**P**	**23 41 09.3**	**-0.3**
TREC	**Trest**	**74.33**	**328**	*e*P	**P**	**23 41 09.7**	**-0.9**
TREC				*e*pP	**pP**	**23 41 15.7**	**+0.4**
KSRS	**Korea Array**	**74.53**	**46**	LR	LR	00 13 55.9	
	comp=Z,26nm,18.9s,baz=145,slow=36						
DPC	**Dobruska-Polom**	**74.55**	**329**	*e*P	**P**	**23 41 11.5**	**-0.4**
GERES	**GERESS Array B**	**75.00**	**327**	P	**P**	**23 41 14.7**	**0.0**
	0.8nm,0.9s,baz=140,slow=6.9,SNR=6.5						
KHC	**Kasperske Hory**	**75.23**	**327**	*e*P	**P**	**23 41 15.3**	**-0.6**
KHC				*e*pP	**pP**	**23 41 21.2**	**+0.7**
PRU	**Pruhonice**	**75.23**	**328**	*e*P	**P**	**23 41 15.1**	**-0.8**
PRU				*e*pP	**pP**	**23 41 21.4**	**+0.9**
PRA	**Prague**	**75.34**	**328**	*e*P	**P**	**23 41 16.3**	**-0.1**
PVCC	**Panska Ves**	**75.55**	**329**	*e*P	**P**	**23 41 17.3**	**-0.3**
PVCC				*e*pP	**pP**	**23 41 23.6**	**+1.4**
BRG	**Berggiesshubel**	**76.07**	**329**	*e*P	**P**	**23 41 21.6**	**+1.1**
	7.8nm,1.4s						
BRG	**Berggiesshubel**	**76.07**	**329**	*e*P	**P**	**23 41 21.7**	**+1.1**
	7.9nm,1.4s						
CLL	**Colln**	**76.81**	**329**	*i* P	**P**	**23 41 25.8**	**+1.0**
	comp=Z,6.0nm,1.3s						
MJAR	**Matsushiro Arr**	**81.77**	**51**	P	**P**	**23 41 51.9**	**-0.3**
	comp=Z,1.5nm,1.0s,baz=248,slow=6.6,SNR=5.9						
HFS	**Hagfors**	**81.78**	**336**	P	**P**	**23 41 51.2**	**-0.6**
	comp=Z,3.4nm,0.9s,baz=125,slow=7.2,SNR=4.7						
ESDC	**Sonseca Array**	**81.94**	**313**	P	**P**	**23 41 53.6**	**+0.5**
	comp=Z,2.1nm,1.0s,baz=88,slow=4.1,SNR=12						
RLMT	**Red Lodge**	**145.16**	**355**	*e*PKPdf	**PKPdf**	**23 49 11.8**	**+0.5**
RSSD	**Black Hills**	**145.37**	**348**	*e*PKPdf	**PKPbc**	**23 49 11.1**	**-0.4**
MCMT	**McKenzie Canyo**	**145.64**	**359**	*e*PKPdf	**PKPab**	**23 49 13.2**	**+0.6**
LRAL	**Lakeview Retre**	**146.79**	**317**	*e*PKPdf	**PKPbc**	**23 49 15.8**	**-0.1**
PDAR	**Pinedale Array**	**147.53**	**355**	PKPbc	**PKPbc**	**23 49 18.2**	**+0.3**
	comp=Z,1.8nm,1.0s,baz=29,slow=3.4,SNR=9.5						
MIAR	**Mount Ida**	**149.82**	**326**	*e*PKPdf	**PKPdf**	**23 49 17.7**	**-1.3**
MIAR				*e*PKPbc	**PKPbc**	**23 49 24.0**	**+0.2**
MIAR				*e*PKPab	**PKPab**	**23 49 29.2**	**+0.1**
DUG	**Dugway**	**150.27**	**359**	*e*PKPbc	**PKPbc**	**23 49 25.4**	**+0.5**
NVAR	**Mina Array Bea**	**151.71**	**8**	PKPbc	**PKPbc**	**23 49 29.8**	**+1.3**
	comp=Z,3.0nm,1.0s,baz=299,slow=1.4,SNR=8.3						
TXAR	**Lajitas Array**	**159.00**	**335**	PKPab	**PKPab**	**23 50 08.0**	**-0.2**
	comp=Z,0.8nm,1.0s,baz=60,slow=2.6,SNR=7.2						

*ISCJB **10** 23:38:21.9±1.6, 10.3S±0.3×66.3E±0.2, h14km, mb3.8/10, MS3.0/1, Error ellipse: s-maj=42.6km s-min=25.3km az=28.7*
*IDC **10** 23:38:21.9±1.5, 10.32S×66.31E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.7/50, mbtmp3.8/9, MS3.1/1, Ms1 3.1/1, ms1mx2.5/35, Error ellipse: s-maj=44.1km s-min=28.2km az=30.0*
*NEIC **10** 23:38:23.4±1.1, 10.32S×66.29E, h10km, mb4.4/1, Error ellipse: s-maj=32.5km s-min=22.1km az=204.0*
ISC 10 23:38:24.0±1.6, 10.3S±0.3×66.3E±0.2, h14km, n23, σ1s01/13, mb3.9/10, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08N3	**Diego Garcia H**	**6.12**	**50**	T	T	23 46 16.0	
	baz=227,slow=75,SNR=517						
H08N1	**Diego Carcia H**	**6.14**	**50**	T	T	23 46 17.4	
	baz=227,slow=75,SNR=561						
H08N2	**Diego Carcia H**	**6.14**	**50**	T	T	23 46 17.5	
	baz=227,slow=75,SNR=457						
H08S1	**Diego Carcia H**	**6.68**	**67**	T	T	23 46 55.8	
	baz=245,slow=76,SNR=121						
H08S3	**Diego Garcia H**	**6.69**	**67**	T	T	23 46 54.3	
	baz=245,slow=76,SNR=75						
H08S2	**Diego Garcia H**	**6.69**	**67**	T	T	23 46 48.2	
	baz=245,slow=76,SNR=102						
PALK	**Pallekele**	**22.63**	**40**	LR	LR	23 50 04.5	
	comp=Z,5nm,19.9s,baz=200,slow=31						
CMAR	**Chiang Mai Arr**	**43.09**	**49**	P	**P**	**23 46 25.5**	**+1.4**
	0.9nm,0.3s,baz=239,slow=9.1,SNR=4.7						
H01W3	**Cape Leeuwin H**	**49.89**	**127**	T	T	00 40 26.5	
	baz=288,slow=74,SNR=5.3						
H01W2	**Cape Leeuwin H**	**49.89**	**127**	T	T	00 40 29.1	
	baz=288,slow=74,SNR=4.7						
H01W1	**Cape Leeuwin H**	**49.91**	**127**	T	T	00 40 39.8	
	baz=288,slow=74,SNR=3.2						
BRTR	**Keskin Array B**	**58.29**	**331**	P	**P**	**23 48 18.0**	**-0.6**
	0.7nm,0.8s,baz=150,slow=10.0,SNR=5.0						
MKAR	**Makanchi Array**	**58.64**	**13**	P	**P**	**23 48 19.6**	**-1.1**
	0.5nm,0.9s,baz=191,slow=8.3,SNR=3.4						
KURK	**Kurchatov**	**61.73**	**9**	*e*P	**P**	**23 48 41.4**	**-0.5**
	2.9nm,1.1s						
BVAR	**Borovoye Array**	**63.20**	**3**	P	**P**	**23 48 52.5**	**+0.9**
	0.9nm,0.8s,baz=168,slow=7.4,SNR=5.0						
ZALV	**Zalesovo Beam**	**65.94**	**12**	P	**P**	**23 49 09.3**	**-0.1**
	0.5nm,0.6s,baz=232,slow=7.3,SNR=4.7						
WRA	**Warramunga Arr**	**66.03**	**107**	P	**P**	**23 49 10.1**	**-0.7**
	1.2nm,0.9s,baz=277,slow=5.8,SNR=6.5						
SONM	**Songino Array**	**67.95**	**28**	P	**P**	**23 49 22.0**	**-0.6**
	0.4nm,0.6s,baz=243,slow=4.7,SNR=4.0						
AKASG	**Malin Array Be**	**68.79**	**336**	P	**P**	**23 49 26.5**	**-1.0**
	0.8nm,0.6s,baz=132,slow=5.1,SNR=4.4						
ESDC	**Sonseca Array**	**81.75**	**313**	P	**P**	**23 50 43.8**	**+1.2**
	0.7nm,0.9s,baz=101,slow=4.1,SNR=4.4						
PDAR	**Pinedale Array**	**147.49**	**354**	PKPbc	**PKPbc**	**23 58 07.5**	**-0.7**
	0.8nm,1.0s,baz=54,slow=2.6,SNR=5.5						
NVAR	**Mina Array Bea**	**151.72**	**8**	PKPbc	**PKPbc**	**23 58 19.7**	**+0.8**
	1.5nm,0.9s,baz=97,slow=2.5,SNR=5.3						
TXAR	**Lajitas Array**	**158.88**	**335**	PKPab	**PKPab**	**23 58 59.2**	**+1.0**
	0.4nm,0.9s,baz=90,slow=1.8,SNR=4.0						

IDC 10 23:40:48.3±3.1, 18.53S×73.57W, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/17, mbtmp3.9/5, ML4.1/1, Error ellipse: s-maj=106.1km s-min=37.5km az=17.0, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**5.65**	**68**	Pn	Pn	23 42 14.7	+0.2
	2.9nm,0.3s,baz=246,slow=17,SNR=73						
TXAR	**Lajitas Array**	**55.75**	**328**	P	P	23 50 27.5	+0.3
	0.1nm,0.6s,baz=154,slow=11,SNR=3.2						
DBIC	**Dimbokro**	**72.20**	**76**	P	P	23 52 15.9	+0.2
	1.5nm,0.5s,baz=254,slow=7.2,SNR=4.6						
TORD	**Torodi Ar. Bea**	**80.58**	**73**	P	P	23 53 03.5	+0.3
	3.1nm,0.8s,baz=257,slow=5.1,SNR=39						
ESDC	**Sonseca Array**	**86.89**	**46**	P	P	23 53 34.3	-0.9
	0.3nm,0.4s,baz=260,slow=5.4,SNR=6.1						

*ISCJB **10** 23:41:31.0±1.1, 9.98N±0.05×126.18E±0.09, h65km±9km,*
mb3.7/9, Error ellipse: s-maj=15.4km s-min=7.4km az=170.4
*MAN **10** 23:41:32, 9.92N×126.10E, h25km, mb4.6, ML3.5, MS3.5 MAN INTENSITY III - BURGOS & SAN BENITO SIARGAO ISLAND; INTENSITY II - LORETO.*
*IDC **10** 23:41:42.8±9.4, 9.79N×126.00E, h161km±89km, mb3.4/9, mb1 3.5/9, mb1mx3.2/50, mbtmp3.8/9, MS2.7/1, Ms1 2.7/1, ms1mx2.3/17, Error ellipse: s-maj=51.5km s-min=17.9km az=66.0*
ISC 10 23:41:31.2±1.9, 9.99N±0.06×126.2E±0.1, h54km±16km, n26, σ1s18/27, mb3.8/9, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.74**	**254**	⇓*i* P	**Pn**	**23 41 45.5**	**-0.2**
SCPH				*i* S	**Sn**	**23 41 55.3**	**-1.0**
BUTP	**Butuan**	**1.17**	**210**	*e*P	**Pn**	**23 41 50.7**	**-0.6**
BUTP				*e*S	**Sn**	**23 42 06.4**	**+0.2**
MSLP	**Maasin**	**1.34**	**276**	*e*P	**Pn**	**23 41 53.8**	**+0.2**
MSLP				*e*S	**Sn**	**23 42 11.3**	**+0.8**
PLP	**Palo**	**1.69**	**314**	⇓*e*P	**Pn**	**23 41 59.2**	**+0.9**
PLP				*e*S	**Sn**	**23 42 16.9**	**-1.9**
OCLP	**Ormoc**	**1.90**	**304**	*e*P	**Pn**	**23 42 03.0**	**+1.7**
CGP	**Cagayan de Oro**	**2.14**	**225**	*e*P	**Pn**	**23 42 04.3**	**-0.2**
CGP				*i* S	**Sn**	**23 42 30.0**	**+0.1**
BUKP	**Musuan**	**2.38**	**209**	*e*P	**Pn**	**23 42 09.4**	**+1.6**
MATI	**Mati**	**3.02**	**179**	*e*P	Pn	23 42 21.5	+4.9
DCPH	**Dipolog City**	**3.15**	**244**	⇑*e*P	**Pn**	**23 42 19.1**	**+0.8**
DCPH				*e*S	**Sn**	**23 42 54.5**	**-0.2**
CTBH	**Cotabato--PC H**	**3.37**	**215**	⇑*i*P	**Pn**	**23 42 23.1**	**+1.8**
PAGZ	**Pagadian**	**3.51**	**233**	*e*P	**Pn**	**23 42 24.5**	**+1.1**
GUIM	**Jordan**	**3.62**	**280**	*e*P	**Pn**	**23 42 26.5**	**+1.7**
MJAR	**Matsushiro Arr**	**28.59**	**20**	LR	LR	23 56 56.3	
	comp=Z,17nm,21.9s,baz=245,slow=32						
WRA	**Warramunga Arr**	**30.80**	**165**	P	**P**	**23 47 41.9**	**0.0**
	0.6nm,0.7s,baz=348,slow=8.5,SNR=4.3						
ASAR	**Alice Springs**	**34.28**	**167**	P	**P**	**23 48 12.6**	**+0.2**
	1.2nm,0.9s,baz=354,slow=7.0,SNR=7.8						
H11N1	**WAKE ISLAND Hy 40.40**	**71**		T	T	00 32 26.6	
	baz=264,slow=74,SNR=56						
H11N2	**WAKE ISLAND Hy 40.40**	**71**		T	T	00 32 23.3	
	baz=264,slow=74,SNR=58						
H11N3	**WAKE ISLAND Hy 40.41**	**71**		T	T	00 32 25.8	
	baz=264,slow=74,SNR=62						
STKA	**Stephens Creek**	**44.15**	**161**	P	**P**	**23 49 34.9**	**+0.3**
	2.5nm,0.8s,baz=344,slow=6.3,SNR=6.3						
MKAR	**Makanchi Array**	**52.22**	**323**	P	**P**	**23 50 36.5**	**-0.3**
	0.6nm,0.6s,baz=128,slow=7.7,SNR=8.0						
ZALV	**Zalesovo Beam**	**54.85**	**331**	P	**P**	**23 50 58.0**	**+2.1**
	0.6nm,0.3s,baz=101,slow=6.0,SNR=2.2						
ILAR	**Eielson Array**	**79.72**	**26**	P	**P**	**23 53 33.8**	**+0.7**
	0.6nm,0.8s,baz=241,slow=6.9,SNR=6.0						
ARCES	**ARCESS Array B**	**84.44**	**340**	P	**P**	**23 53 56.4**	**-1.3**
	0.7nm,0.7s,baz=70,slow=8.2,SNR=4.0						
BRTR	**Keskin Array B**	**85.67**	**309**	P	**P**	**23 54 03.6**	**-1.1**
	0.4nm,0.8s,baz=104,slow=6.1,SNR=3.8						
FINES	**FINESS Array B**	**86.11**	**332**	P	**P**	**23 54 05.8**	**-0.3**
	2.7nm,1.1s,baz=94,slow=3.9,SNR=8.6						
TORD	**Torodi Ar. Bea**	**120.32**	**292**	PKP	**PKPdf**	**00 00 15.5**	**-2.0**
	0.5nm,1.0s,baz=186,slow=4.3,SNR=2.8						

*IDC **10** 23:42:37.5±1.5, 3.03S×147.95E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.9/20, mbtmp3.9/8, MS3.0/2, Ms1 3.0/2, ms1mx2.6/23, Error ellipse: s-maj=55.4km s-min=21.4km az=112.0*
*ISCJB **10** 23:42:39.2±1.2, 3.05S±0.2×147.9E±0.3, h22km, mb3.9/8, MS3.0/1, Error ellipse: s-maj=44.8km s-min=15.9km az=22.0*
ISC 10 23:42:40.9±1.5, 3.1S±0.2×147.9E±0.3, h22km, n16, σ0s55/9, mb3.9/8, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**16.82**	**350**	LR	LR	23 53 07.2	
	comp=Z,50nm,19.4s,baz=208,slow=38						
WRA	**Warramunga Arr**	**21.39**	**217**	P	**P**	**23 47 27.4**	**+0.1**
	4.0nm,0.6s,baz=42,slow=10,SNR=34						
ASAR	**Alice Springs**	**24.57**	**212**	P	**P**	**23 47 59.9**	**+0.5**
	1.6nm,0.5s,baz=43,slow=7.3,SNR=27						
H11S3	**WAKE ISLAND Hy 28.28**	**40**		T	T	00 18 08.3	
	baz=222,slow=76,SNR=283						
H11S2	**WAKE ISLAND Hy 28.29**	**40**		T	T	00 18 04.6	
	baz=222,slow=76,SNR=119						
H11S1	**WAKE ISLAND Hy 28.30**	**40**		T	T	00 18 05.3	
	baz=222,slow=76,SNR=104						
H11N1	**WAKE ISLAND Hy 29.31**	**39**		T	T	00 19 24.3	
	baz=221,slow=76,SNR=34						

WRA	**Warramunga Arr**	**65.89**	**107**	P	**P**	**00 34 00.2**	**-0.1**
	2.1nm,1.0s,baz=273,slow=6.0,SNR=7.1							
ZALV	**Zalesovo Beam**	**65.95**	**12**	P	**P**	**00 33 58.7**	**-1.2**
	0.9nm,0.7s,baz=205,slow=6.6,SNR=6.8							
SONM	**Songino Array**	**67.93**	**28**	P	**P**	**00 34 13.5**	**+0.7**
	1.1nm,1.0s,baz=208,slow=6.6,SNR=8.2							
SONM				LR	LR	01 03 05.8		
	comp=Z,76nm,20.7s,baz=219,slow=35							
TORD	**Torodi Ar. Bea**	**68.36**	**289**	P	**P**	**00 34 16.1**	**+0.1**
	1.1nm,1.1s,baz=124,slow=9.4,SNR=4.1							
AKASG	**Malin Array Be**	**68.88**	**336**	P	**P**	**00 34 17.0**	**-1.5**
	0.7nm,0.3s,baz=146,slow=5.1,SNR=5.7							
KSRS	**Korea Array**	**74.62**	**47**	LR	LR	01 05 54.5		
	comp=Z,29nm,21.6s,baz=230,slow=34							
GERES	**GERESS Array B**	**74.96**	**327**	P	**P**	**00 34 53.9**	**-1.4**
	0.2nm,0.6s,baz=116,slow=3.1,SNR=3.7							
BRG	**Berggiesshubel**	**76.03**	**329**	*eP*	**P**	**00 35 02.3**	**+1.1**
	9.2nm,1.6s							
FINES	**FINESS Array B**	**78.26**	**341**	LR	LR	01 09 35.2		
	comp=Z,15nm,18.4s,baz=65,slow=36							
MJAR	**Matsushiro Arr**	**81.86**	**51**	P	**P**	**00 35 33.9**	**+0.4**
	0.3nm,0.4s,baz=242,slow=7.9,SNR=4.6							
ESDC	**Sonseca Array**	**81.88**	**313**	P	**P**	**00 35 33.7**	**+0.1**
	0.9nm,0.9s,baz=95,slow=5.9,SNR=7.8							
SEY	**Seymchan**	**97.32**	**27**	LR	LR	01 21 23.6		
	comp=Z,62nm,19.2s,baz=138,slow=36							
PDAR	**Pinedale Array**	**147.54**	**354**	PKPbc	**PKPbc**	**00 42 59.2**	**+0.4**
	0.9nm,0.9s,baz=5.7,slow=4.5,SNR=6.6							
NVAR	**Mina Array Bea**	**151.74**	**8**	PKPbc	**PKPbc**	**00 43 10.6**	**+1.3**
	1.4nm,0.7s,baz=251,slow=2.6,SNR=7.8							
TXAR	**Lajitas Array**	**158.98**	**335**	PKPab	**PKPab**	**00 43 49.2**	**+0.3**
	0.4nm,0.8s,baz=27,slow=5.9,SNR=4.4							

MAN ***11*** *00:24:10, 7.°19N×126.°21E, h44km, mb4.7, ML3.6, MS3.6*
ISCJB ***11*** *00:24:11.0±1.1, 7.°2N±0.°1×126.°2E±0.°1, h53km, mb3.3/3, MS2.9/2, Error ellipse: s-maj=21.3km s-min=7.5km az=139.0*
IDC ***11*** *00:24:11.4±2.8, 7.°03N×125.°68E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/34, mbtmpb3.4/3, MS2.7/3, Ms1 2.7/3, ms1mx2.4/25, Error ellipse: s-maj=243.7km s-min=28.1km az=65.0*

ISC 11 00:24:11.0±1.7, 7.°24N±0.°09×126.°2E±0.°1, h53km, n11, σ1f10/9, mb3.4/3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.30**	**172**	*eP*	**Pn**	**00 24 20.6**	**+0.2**
MATI				*eS*	**Sn**	**00 24 26.5**	**-0.6**
BUKP	**Musuan**	**1.31**	**299**	*eP*	**Pn**	**00 24 32.5**	**-0.5**
BUKP				*eS*	**Sn**	**00 24 47.8**	**-1.7**
BUTP	**Butuan**	**1.81**	**341**	*eP*	**Pn**	**00 24 40.4**	**+0.6**
CGP	**Cagayan de Oro**	**1.93**	**309**	*eP*	**Pn**	**00 24 41.2**	**-0.2**
CGP				*i* S	**Sn**	**00 25 05.8**	**+1.2**
CTBH	**Cotabato--PC H**	**1.95**	**269**	⇑*i*P	**Pn**	**00 24 43.1**	**+1.4**
PAGZ	**Pagadian**	**2.87**	**282**	*eP*	**Pn**	**00 24 54.2**	**-0.2**
GUMO	**Guam**	**19.39**	**70**	LR	LR	00 38 00.5	
	comp=Z,6.5nm,18.1s,baz=82,slow=42						
WRA	**Warramunga Arr**	**28.17**	**164**	P	P	00 30 05.2	+6.5
	0.3nm,0.8s,baz=342,slow=10,SNR=3.3						
KSRS	**Korea Array**	**30.11**	**3**	LR	LR	00 42 43.9	
	comp=Z,11nm,21.6s,baz=235,slow=37						
ASAR	**Alice Springs**	**31.63**	**166**	P	P	00 30 36.0	+6.8
	0.3nm,0.4s,baz=340,slow=7.6,SNR=4.7						
MKAR	**Makanchi Array**	**54.41**	**324**	P	P	00 33 39.3	+6.5
	0.4nm,0.6s,baz=124,slow=7.3,SNR=4.2						
MKAR				LR	LR	00 58 50.1	
	comp=Z,23nm,18.4s,baz=248,slow=38						

WEL 11 00:40:32.8±0.6, 38.°32S×178.°95E, h22km±3km, ML3.5/4, 3C, Error ellipse: s-maj=5.1km s-min=2.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**0.60**	**294**	P*	Pb	00 40 44.1	-0.7
PUZ				S*	Sb	00 40 53.2	+0.3
PUZ				AML	AML	00 40 54.4	
WMGZ	**Waiomatatini S**	**0.66**	**320**	⇑P*	Pb	00 40 45.6	0.0
WMGZ				S*	Sb	00 40 55.1	+0.7
TWGZ	**Tauwhareparae**	**0.78**	**280**	⇑P*	Pb	00 40 47.5	-0.3
TWGZ				S*	Sn	00 40 59.0	-0.7
TKGZ	**Te Karaka**	**0.88**	**262**	P*	Pb	00 40 49.2	-0.2
MXZ	**Matakaoa Point**	**0.91**	**326**	P*	Pb	00 40 49.7	-0.3
MXZ				AML	AML	00 41 02.5	
MXZ				AML	AML	00 41 02.6	
MXZ				AML	AML	00 41 04.3	
MXZ				AML	AML	00 41 04.3	
RIGZ	**Rimuhau**	**1.01**	**247**	PN	Pb	00 40 51.3	-0.5
PRGZ	**Paritu Road**	**1.03**	**234**	PN	Pn	00 40 51.8	-0.2
HAZ	**Te Kaha**	**1.08**	**301**	PN	Pn	00 40 51.5	-1.2
MWZ	**Matawai**	**1.12**	**269**	⇑PN	Pn	00 40 52.4	-0.8
MWZ				SN	Sb	00 41 06.3	-1.5
MWZ				AML	AML	00 41 06.9	
MWZ				AML	AML	00 41 06.9	
MWZ				AML	AML	00 41 06.9	
RAGZ	**Rawiri**	**1.22**	**261**	PN	Pn	00 40 54.2	-0.5
URZ	**Urewera**	**1.45**	**272**	PN	Pn	00 40 57.8	+0.1
URZ				AML	AML	00 41 20.9	
URZ				AML	AML	00 41 21.1	
NMHZ	**Naumai**	**1.85**	**245**	PN	Pn	00 41 03.6	+0.2
MCHZ	**McNeill Hill**	**2.09**	**237**	PN	Pn	00 41 06.8	+0.3
BKZ	**Black Stump Fm**	**2.10**	**246**	PN	Pn	00 41 06.8	0.0
KWHZ	**Kaweka Forest**	**2.26**	**240**	PN	Pn	00 41 08.8	-0.2
BHHZ	**Black Hill Sta**	**2.54**	**242**	PN	Pn	00 41 12.2	-0.5
MRZ	**Mangatainoka R**	**3.50**	**227**	PN	Pn	00 41 23.8	-2.2

MEX 11 00:41:52.6±0.6, 14.°20N×93.°39W, h16km±74km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.51**	**6**	*i* P	Pn	00 42 15.0	-4.0
PCIG				*i* S	Sn	00 42 33.3	-5.0
CCIG	**Comitan**	**2.40**	**30**	*i* P	Pn	00 42 29.1	-2.4
CCIG				*i* S	Sn	00 42 57.0	-3.7

IDC 11 00:55:30.3±48.0, 17.°39S×173.°01W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/19, mbtmpb4.1/3, Error ellipse: s-maj=918.9km s-min=179.4km az=80.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.40**	**242**	P	P	01 03 35.7	+0.8
	2.5nm,0.9s,baz=94,slow=14,SNR=3.2						
WRA	**Warramunga Arr**	**49.78**	**258**	P	P	01 04 24.9	-0.4
	1.0nm,0.3s,baz=98,slow=7.3,SNR=5.8						
ASAR	**Alice Springs**	**49.88**	**253**	P	P	01 04 25.5	-0.4
	1.9nm,0.7s,baz=89,slow=8.0,SNR=24						

NNC ***11*** *00:56:28.6±4.5, 36.°89N×70.°19E, h186km±62km, mb2.6, mpv3.7, Error ellipse: s-maj=41.1km s-min=28.6km az=10.0*

ISC 11 00:56:25.6±4.1, 36.°7N±0.°2×70.°2E±0.°2, h100km, n11, σ0f88/12, 4C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.10**	**25**	P	**Pn**	**00 57 54.5**	**+0.9**
	SNR=32						
KK31	**Karatay Array**	**6.45**	**2**	P	**Pn**	**00 57 58.5**	**+0.4**
	1.9nm,0.4s,baz=202,slow=15,SNR=70						
KK31				⇓S	**Sn**	**00 59 09.8**	**-0.4**
	1.7nm,0.5s,baz=190,slow=22,SNR=3.7						
UCH	**Uchtor**	**6.49**	**29**	P	**Pn**	**00 57 59.4**	**+0.6**
	SNR=9.3						
EKS2	**Erkin-Say**	**6.60**	**23**	P	**Pn**	**00 58 01.2**	**+1.1**
	SNR=9.8						
KZA	**Kyzart**	**6.67**	**34**	P	**Pn**	**00 58 01.5**	**+0.1**
	SNR=9.1						
AAK	**Ala-Archa**	**6.83**	**28**	⇓P	**Pn**	**00 58 04.8**	**+1.6**
	2.7nm,0.4s						
AAK				⇑S	**Sn**	**00 59 19.9**	**+0.5**
	16nm,0.8s						
TKM2	**Tokmak 2**	**7.51**	**32**	P	**Pn**	**00 58 12.3**	**-0.2**
	SNR=5.6						
TKM2	**Tokmak 2**	**7.51**	**32**	⇑P	**Pn**	**00 58 12.0**	**-0.5**
	7.2nm,0.9s						
TKM2				⇑S	**Sn**	**00 59 35.4**	**-0.7**
	7.7nm,0.8s						

AB31	**Akbulak array**	**14.66**	**332**	⇓P	Pn	00 59 43.8	-4.1
	0.7nm,0.5s,baz=145,slow=12,SNR=17							
AKTO	**Aktyubinsk**	**16.35**	**331**	⇑P	Pn	01 00 02.5	-6.5
	1.7nm,0.6s							
BVA0	**Borovoye Array**	**16.38**	**0**	P	**Pn**	**01 00 08.5**	**-0.9**
	0.1nm,0.6s,baz=169,slow=10,SNR=6.5							

IDC 11 00:59:05.1±3.6, 29.°18S×177.°63W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.6/16, mbtmpb3.4/3, Error ellipse: s-maj=92.9km s-min=45.0km az=44.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.51**	**265**	P	P	01 07 10.5	-0.1
	0.2nm,0.5s,baz=106,slow=7.0,SNR=4.8						
WRA	**Warramunga Arr**	**44.39**	**271**	P	P	01 07 17.4	-0.2
	0.2nm,0.4s,baz=110,slow=8.1,SNR=6.0						
VNDA	**Vanda**	**49.34**	**186**	P	P	01 07 55.5	-0.1
	0.3nm,0.4s,baz=38,slow=3.7,SNR=3.3						
FINES	**FINESS Array B**	**144.11**	**341**	PKP	PKPdf	01 18 41.4	-0.7
	2.1nm,1.1s,baz=104,slow=5.9,SNR=5.5						

MAN 11 00:59:09, 8.°42N×122.°23E, h32km, mb4.1, ML3.0, MS2.7, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPIL	**Ipil**	**0.72**	**152**	*eP*	Pb	00 59 23.7	+0.6
IPIL				*eS*	Sn	00 59 34.1	+1.3
PAGZ	**Pagadian**	**1.28**	**116**	*eP*	Pn	00 59 29.8	-0.9
PAGZ				*eS*	Sn	00 59 47.2	+0.5
CTBH	**Cotabato--PC H**	**2.33**	**121**	⇑*i*P	Pn	00 59 47.1	+2.0
CUYO	**Cuyo Island**	**2.69**	**334**	*eP*	Pn	00 59 51.2	+1.1
BUKP	**Musuan**	**2.86**	**101**	*eP*	Pb	00 59 56.8	-2.6
ENPP	**El Nido**	**3.91**	**315**	*eP*	Pn	01 00 08.9	+2.0

IDC ***11*** *01:12:27.0±0.9, 11.°08N×146.°13E, h0km, mb4.0/9, mb1 4.2/10, mb1mx4.0/34, mbtmpb4.0/10, ML4.8/1, MS3.1/5, Ms1 3.1/5, ms1mx2.8/35, Error ellipse: s-maj=34.5km s-min=17.3km az=87.0*
NEIC ***11*** *01:12:28.5±0.5, 11.°05N×146.°08E, h10km, mb4.6/9, Error ellipse: s-maj=16.4km s-min=7.7km az=86.0*
ISCJB ***11*** *01:12:30.1±0.6, 11.°07N±0.°05×146.°0E±0.°1, h33km, mb4.2/18, MS3.0/4, Error ellipse: s-maj=19.2km s-min=7.0km az=169.4*

ISC 11 01:12:32.2±0.7, 11.°12N±0.°08×146.°0E±0.°2, h35km, n30, σ1f33/25, mb4.3/18, MS2.8/4, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.69**	**336**	*eP*	**Pn**	**01 13 11.3**	**-1.7**
	138nm,0.3s,baz=142,slow=1.9,SNR=80						
GUMO					**Sn**	**01 13 44.1**	**-0.3**
	96nm,0.3s,baz=46,slow=23,SNR=6.0						
GUMO				LR	LR	01 14 24.5	
	comp=Z,322nm,21.6s,baz=196,slow=42						
GUMO	**Guam**	**2.69**	**336**	*eP*	**Sn**	**01 13 41.2**	**-3.3**
GUMO					**Sn**	**01 13 44.1**	**-0.3**
H11S3	**WAKE ISLAND Hy**	**21.29**	**67**	T	T	01 39 06.2	
	baz=252,slow=75,SNR=64						
H11S1	**WAKE ISLAND Hy**	**21.31**	**67**	T	T	01 39 09.2	
	baz=252,slow=75,SNR=67						
H11S2	**WAKE ISLAND Hy**	**21.31**	**67**	T	T	01 39 07.4	
	baz=252,slow=75,SNR=228						
H11N1	**WAKE ISLAND Hy**	**21.86**	**64**	T	T	01 39 51.7	
	baz=249,slow=75,SNR=43						
H11N2	**WAKE ISLAND Hy**	**21.87**	**64**	T	T	01 39 50.6	
	baz=249,slow=75,SNR=35						
H11N3	**WAKE ISLAND Hy**	**21.88**	**64**	T	T	01 39 53.5	
	baz=249,slow=75,SNR=78						
COEN	**Coen**	**25.07**	**186**	*eP*	**P**	**01 17 53.2**	**-0.4**
JNU	**Nakatsue**	**25.93**	**330**	P	**P**	**01 18 01.7**	**+0.3**
	12nm,0.8s,baz=139,slow=4.4,SNR=3.7						
JNU				LR	LR	01 26 12.8	
	comp=Z,27nm,21.6s,baz=244,slow=32						
LUWI	**Luwuk**	**26.06**	**244**	*eP*	**P**	**01 18 02.4**	**-0.3**
	19nm,0.8s						
MJAR	**Matsushiro Arr**	**26.27**	**346**	P	**P**	**01 18 03.0**	**-1.4**
	1.1nm,0.8s,baz=169,slow=12,SNR=4.2						
MJAR				LR	LR	01 28 04.8	
	comp=Z,31nm,18.7s,baz=190,slow=36						
MAJO	**Matsushiro**	**26.27**	**346**	*eP*	**P**	**01 18 04.2**	**-0.2**
	4.0nm,0.8s						
KAPI	**Kappang**	**30.64**	**240**	*eP*	**P**	**01 18 43.6**	**0.0**
	3.7nm,0.6s						
CTAO	**Charters Tower**	**31.01**	**180**	*eP*	**P**	**01 18 45.3**	**-1.4**
	18nm,1.2s						
WRAB	**Tennant Creek**	**32.92**	**200**	*eP*	**P**	**01 19 02.2**	**-1.2**
	6.7nm,1.1s						
WRA	**Warramunga Arr**	**32.93**	**200**	P	**P**	**01 19 02.7**	**-0.8**
	1.8nm,0.8s,baz=29,slow=9.8,SNR=13						
WRA				PcP	**PcP**	**01 21 48.6**	**+1.0**
	0.6nm,1.0s,baz=15,slow=3.1,SNR=3.7						
ASAR	**Alice Springs**	**36.54**	**199**	P	**P**	**01 19 34.0**	**-0.8**
	1.6nm,1.0s,baz=21,slow=7.3,SNR=8.7						
DZM	**Mont Dzumac**	**38.60**	**149**	*eP*	**P**	**01 19 51.7**	**-0.6**
	15nm,0.9s						
BJT	**Baijiatuan**	**39.05**	**323**	*eP*	**P**	**01 19 56.8**	**+1.0**
	9.1nm,0.5s						
LEM	**Lembang**	**42.15**	**247**	LR	LR	01 37 06.7	
	comp=Z,94nm,18.1s,slow=35						
CMAR	**Chiang Mai Arr**	**45.97**	**285**	LR	LR	01 39 00.8	
	comp=Z,10nm,20.8s,baz=210,slow=35						
SONM	**Songino Array**	**49.38**	**326**	P	**P**	**01 21 20.2**	**+1.7**
	2.2nm,1.0s,baz=140,slow=8.0,SNR=14						
MKAR	**Makanchi Array**	**64.03**	**317**	P	**P**	**01 23 03.9**	**+1.4**
	1.7nm,0.6s,baz=105,slow=7.7,SNR=17						
ZALV	**Zalesovo Beam**	**64.26**	**325**	P	**P**	**01 23 05.2**	**+1.4**
	0.5nm,0.4s,baz=116,slow=6.6,SNR=3.9						
KURK	**Kurchatov**	**67.17**	**320**	*eP*	**P**	**01 23 24.0**	**+1.3**
	4.4nm,0.6s						
ILAR	**Eielson Array**	**70.33**	**25**	P	**P**	**01 23 40.7**	**-1.3**
	0.3nm,0.6s,baz=254,slow=5.1,SNR=3.9						
BRVK	**Borovoye**	**72.61**	**322**	*eP*	**P**	**01 23 56.9**	**+0.8**
	3.1nm,0.7s						
ABKAR	**Akbulak array**	**79.11**	**318**	*eP*	**P**	**01 24 34.5**	**+1.3**
NVAR	**Mina Array Bea**	**87.59**	**51**	P	**P**	**01 25 19.0**	**+1.5**
	0.5nm,0.7s,baz=260,slow=5.4,SNR=3.2						

IDC ***11*** *01:26:32.9±1.2, 29.°96N×79.°55E, h0km, mb3.4/8, mb1 3.5/9, mb1mx3.3/48, mbtmpb3.4/9, ML3.0/1, Error ellipse: s-maj=31.3km s-min=24.4km az=68.0*
ISCJB ***11*** *01:26:34.5±0.8, 30.°20N±0.°06×79.°85E±0.°05, h10km, mb3.4/7, Error ellipse: s-maj=9.5km s-min=6.2km az=160.6*
NDI ***11*** *01:26:44.0±2.5, 30.°36N×79.°44E, h10km, ML3.5*

ISC 11 01:26:35.8±0.8, 30.°17N±0.°05×79.°71E±0.°06, h10km, n17, σ1f89/22, mb3.3/7, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KALG	**Kalgarh**	**1.06**	**232**	*eP*	Pb	01 26 52.8	-3.4
KALG				*eS*	**Sg**	**01 27 05.5**	**-4.4**
KALG				AML	AML	01 27 10.1	
	comp=E,768nm,0.2s						
DDI	**Dehra Dun**	**1.44**	**277**	*eS*	**Sn**	**01 27 22.1**	**+1.2**
DDI				AML	AML	01 27 23.2	
	comp=N,2μm,0.2s						
DDI				AML	AML	01 27 24.4	
	comp=E,2μm,0.1s						
SMLA	**Simla**	**2.39**	**294**	*i* P	**Pb**	**01 27 18.7**	**-0.2**
SMLA				*i* S	**Sn**	**01 27 46.5**	**+2.2**
SMLA				AML	AML	01 27 48.2	
	comp=E,4μm,0.3s						
SMLA				AML	AML	01 27 50.2	
	comp=N,4μm,0.2s						
KKR	**Kurukshetra**	**2.51**	**266**	*eP*	**Pb**	**01 27 23.1**	**+2.1**
KKR				*eS*	**Sb**	**01 27 51.3**	**-0.6**
BISR	**Bishrakh**	**2.54**	**232**	*eP*	**Pn**	**01 27 19.2**	**+2.1**
BISR				*eS*	**Sn**	**01 27 49.9**	**+1.8**
AGRA	**Agra**	**3.31**	**208**	*eP*	**Pb**	**01 27 36.5**	**+1.9**
AGRA				*eS*	**Sb**	**01 28 15.8**	**+0.9**
AGRA				AML	AML	01 28 22.4	
	comp=N,184nm,0.4s						
AGRA				AML	AML	01 28 22.8	
	comp=E,139nm,0.3s						
DHRM	**DHARAMSHALA**	**3.58**	**306**	*eP*	**Pn**	**01 27 34.1**	**+2.5**
DHRM				*eS*	**Sn**	**01 28 14.5**	**+0.4**
DHRM				AML	AML	01 28 31.0	
	comp=E,110nm,0.4s						
DHRM				AML	AML	01 28 31.3	
	comp=N,102nm,0.4s						
KHET	**Khetri**	**4.00**	**240**	*eP*	**Pb**	**01 27 45.2**	**-1.1**
KHET				*ex*	Sn	01 28 32.6	+8.5
KHET				AML	AML	01 28 44.2	
	comp=E,58nm,0.2s						
KHET				AML	AML	01 28 44.3	
	comp=N,38nm,0.3s						
MKAR	**Makanchi Array**	**16.72**	**6**	Pn	**Pn**	**01 30 27.6**	**-2.5**
	comp=N,0.1nm,0.3s,baz=187,slow=12,SNR=2.3						
KURBB	**Kurchatov Arra**	**20.45**	**358**	P	**P**	**01 31 13.8**	**+0.5**
	comp=N,0.6nm,0.6s,baz=187,slow=9.5,SNR=6.6						
BVAR	**Borovoye Array**	**23.84**	**346**	P	**P**	**01 31 49.1**	**+0.2**
	comp=N,0.3nm,0.4s,baz=144,slow=15,SNR=3.2						
ZALV	**Zalesovo Beam**	**24.05**	**7**	P	**P**	**01 31 50.2**	**-0.7**
	comp=N,0.4nm,0.4s,baz=204,slow=11,SNR=4.1						
SONM	**Songino Array**	**27.02**	**42**	P	**P**	**01 32 19.9**	**+1.7**
	comp=N,0.2nm,0.3s,baz=226,slow=10,SNR=4.7						
FINES	**FINESS Array B**	**46.74**	**328**	P	**P**	**01 35 04.6**	**-0.2**
	comp=N,0.6nm,0.7s,baz=124,slow=10,SNR=4.1						
ARCES	**ARCESS Array B**	**49.74**	**338**	P	**P**	**01 35 28.8**	**+0.9**
	comp=N,2.0nm,1.0s,baz=98,slow=6.5,SNR=3.7						
WRA	**Warramunga Arr**	**72.42**	**126**	P	**P**	**01 38 01.2**	**-1.4**
	comp=N,0.2nm,0.8s,baz=321,slow=6.0,SNR=3.1						
TORD	**Torodi Ar. Bea**	**73.25**	**276**	P	**P**	**01 38 05.5**	**-2.1**
	comp=N,0.3nm,1.0s,baz=77,slow=4.0,SNR=2.6						

IDC ***11*** *01:31:06.2±0.7, 16.°51S×173.°24W, h0km, mb4.4/12, mb1 4.6/13, mb1mx4.3/23, mbtmpb4.4/13, ML3.5/1, MS3.5/5, Ms1 3.5/5, ms1mx3.1/28, Error ellipse: s-maj=29.0km s-min=16.5km az=145.0*
NEIC ***11*** *01:31:07.3±0.3, 16.°50S×173.°16W, h10km, mb4.7/7, Error ellipse: s-maj=12.0km s-min=7.6km az=147.0*
ISCJB ***11*** *01:31:09.6±0.7, 16.°5S±0.°1×173.°3W±0.°1, h33km, mb4.4/19, MS3.4/3, Error ellipse: s-maj=23.8km s-min=10.9km az=141.5*

ISC 11 01:31:10.6±0.5, 16.°6S±0.°1×173.°15W±0.°09, h32km, n54, σ1f92/46, mb4.5/19, MS3.4/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.01**	**26**	*e*P	Pn	01 31 51.3	-4.8
AFI				*e*S	Sn	01 32 21.9	-9.2
RAR	**Rarotonga**	**13.45**	**112**	Pn	**Pn**	**01 34 18.1**	**-1.2**
	2.4nm,0.3s,baz=259,slow=10,SNR=3.6						
RAR				LR	LR	01 38 48.8	
	comp=Z,169nm,18.3s,baz=290,slow=34						
DZM	**Mont Dzumac**	**19.99**	**251**	*e*LR	LR	01 40 35.1	
	357nm,25.5s						
DZM	**Mont Dzumac**	**19.99**	**251**	LR	LR	01 42 02.2	
	comp=Z,310nm,18.2s,baz=359,slow=33						
DZM	**Mont Dzumac**	**19.99**	**251**	*e*P	**P**	**01 35 40.3**	**-0.3**
	17nm,1.0s						
PAE	**Paea**	**22.55**	**96**	*e*T	T	01 59 12.1	
	2.9nm,0.4s						
PPT2	**Papeete2**	**22.55**	**96**	*e*LR	LR	01 41 35.9	
	170nm,24.2s						
PPT2	**Papeete2**	**22.55**	**96**	*e*T	T	01 59 12.7	
	4.5nm,0.3s						
PPT	**Papeete**	**22.55**	**96**	LR	LR	01 42 17.5	
	comp=Z,97nm,21.7s,baz=354,slow=30						
TVO	**Taravao**	**22.86**	**96**	*e*T	T	01 59 35.6	
	1.9nm,0.3s						
URZ	**Urewera**	**23.19**	**200**	P	**P**	**01 36 15.7**	**+1.1**
	3.6nm,0.4s,baz=18,slow=7.7,SNR=8.0						
TBI	**Tubuai**	**23.23**	**111**	*e*LR	LR	01 41 51.7	
	232nm,26.5s						
TBI	**Tubuai**	**23.23**	**111**	*e*T	T	02 00 13.3	
	16nm,0.3s						
RKT	**Rikitea**	**36.40**	**106**	*e*T	T	02 16 37.4	
	4.7nm,0.3s						
H11N3	**WAKE ISLAND Hy**	**41.09**	**331**	T	T	02 22 22.3	
	baz=150,slow=76,SNR=2.3						
H11N1	**WAKE ISLAND Hy**	**41.09**	**331**	T	T	02 22 21.8	
	baz=150,slow=76,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**41.11**	**331**	T	T	02 22 25.5	
	baz=150,slow=76,SNR=2.3						
COEN	**Coen**	**42.15**	**267**	*e*P	**P**	**01 38 60.0**	**-0.5**
STKA	**Stephens Creek**	**43.65**	**241**	P	**P**	**01 39 12.3**	**0.0**
	5.3nm,0.7s,baz=84,slow=14,SNR=6.4						
JAY	**Jayapura**	**47.47**	**282**	P	**P**	**01 39 42.7**	**-0.2**
	5.5nm,0.8s,baz=68,slow=5.4,SNR=4.1						
WRAB	**Tennant Creek**	**49.80**	**258**	*e*P	**P**	**01 40 00.5**	**-0.2**
	4.5nm,0.9s						
WRA	**Warramunga Arr**	**49.81**	**258**	P	**P**	**01 39 59.4**	**-1.4**
	0.6nm,0.4s,baz=84,slow=6.0,SNR=17						
WRA				PcP	**PcP**	**01 41 22.3**	**+0.9**
	0.9nm,0.9s,baz=87,slow=3.5,SNR=4.6						
ASAR	**Alice Springs**	**49.97**	**253**	P	**P**	**01 40 00.8**	**-1.2**
	9.3nm,0.6s,baz=89,slow=8.4,SNR=108						
ASAR				LR	LR	01 59 21.5	
	comp=Z,40nm,18.8s,baz=87,slow=34						
SIJI	**Sorong**	**56.90**	**280**	P	**P**	**01 40 52.9**	**-0.1**
	13nm,0.6s,baz=66,slow=10.0,SNR=15						
SOEI	**Soe**	**61.12**	**268**	*e*P	**P**	**01 41 22.6**	**+0.2**
	21nm,0.5s						
PETK	**Petropavlovsk-**	**73.86**	**342**	P	**P**	**01 42 42.0**	**0.0**
	5.6nm,0.8s,baz=128,slow=9.6,SNR=5.1						
YSS	**Yuzh-Sakhalins**	**74.66**	**330**	*e*P	**P**	**01 42 46.5**	**-0.2**

mb4.4/62,MS3.5/13,Error ellipse: s-maj=5.3km s-min=4.8km az=150.9

BJI ***11*** *02:00:01.1,36.27N×141.24E,h34km,mb4.7/36,mB4.6/21, Ms4.2/17,Ms7 3.8/15*

MOS ***11*** *02:00:02.1±1.1,36.40N×141.17E,h33km,mb4.8/34,Error ellipse: s-maj=8.9km s-min=5.9km az=108.6*

NEIC ***11*** *02:00:04.3±0.7,36.36N×141.12E,h37km±6km,mb4.6/29, MW4.3(NIED),Error ellipse: s-maj=5.8km s-min=5.0km az=99.0*

NEIC Recorded [2 JMA] in Ibaraki and [1 JMA] in Chiba, Fukushima and Tochigi.

JMA ***11*** *02:00:04.5±0.1,36.38N×141.04E,h46km±2km,M4.1 Broadband fault plane solution: P waves. NP1: φs10.00000°,δ67.00000°,λ84.00000°. NP2:φs206.00000°, δ23.00000°,λ105.00000°. Principal axes: T Plg67.0000°, Azm269.0000°; N Plg6.0000°, Azm13.0000°; P Plg22.0000°, Azm105.0000°;*

JMA Felt II J1.

ISC 11 02:00:04.1±0.4,36.37N±0.05×141.18E±0.04,h37km±1km, h37km:pP-P,n173,σ1§36/215,mb4.4/62,MS3.5/13,13C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
JHO	**Hitachi**	**0.55**	**296**	⇓P		**Pn**	**02 00 14.5**	**-1.0**
JHO				S		**Sn**	**02 00 21.4**	**-2.0**
ONAJ	**Iwakimizuishiy**	**0.79**	**337**	⇓P		**Pn**	**02 00 18.3**	**-0.5**
ONAJ				S		**Sn**	**02 00 27.9**	**-1.5**
JYT	**Yasato**	**0.81**	**260**	⇓P		**Pn**	**02 00 17.9**	**-1.1**
JYT				S		**Sn**	**02 00 27.1**	**-2.7**
MJAR	**Matsushiro Arr**	**2.40**	**275**	Pn		**Pn**	**02 00 41.0**	**+0.1**
	64nm,0.3s,baz=115,slow=8.3,SNR=777							
MJAR				Sn		**Sn**	**02 01 11.6**	**+2.5**
	28nm,0.3s,baz=81,slow=19,SNR=5.2							
MJAR				LR		LR	02 01 42.9	
	comp=Z,782nm,21.7s,baz=85,slow=46							
MAJO	**Matsushiro**	**2.40**	**275**	*e*P		**Pn**	**02 00 41.5**	**+0.6**
MAJO	**Matsushiro**	**2.40**	**275**	*e*Pn		**Pn**	**02 00 41.5**	**+0.6**
MAT	**Matsushiro**	**2.40**	**275**	P		**Pn**	**02 00 41.2**	**+0.3**
MAT				*e*S		**Sn**	**02 01 08.3**	**-0.8**
ERM	**Erimo**	**5.84**	**15**	⇑*e*P		**Pn**	**02 01 28.1**	**0.0**
ASAJ	**Asahikawa**	**7.81**	**8**	Pn		**Pn**	**02 01 54.3**	**-0.8**
	baz=209,slow=13							
ASAJ				Sn		**Sn**	**02 03 22.9**	**+0.7**
	1.8nm,0.3s,baz=137,slow=19,SNR=3.3							
ASAJ	**Asahikawa**	**7.81**	**8**	P		**Pn**	**02 01 54.3**	**-0.8**
ASAJ							02 03 22.9	
ASAJ				smax		smax		
	comp=N,2.0nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**8.45**	**24**	*e*P		**Pn**	**02 02 02.2**	**-1.7**
YUK				*i* S		**Sn**	**02 03 32.0**	**-5.9**
YUK				pmax		pmax		
	comp=N,11nm,0.2s							
YUK				pmax		pmax		
	comp=E,9.0nm,0.2s							
YUK				pmax		pmax		
	comp=Z,34nm,0.2s							
JNU	**Nakatsue**	**9.07**	**252**	Pn		**Pn**	**02 02 11.9**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=72,slow=7.5,SNR=2.1							
CBIJ	**Chichi jima**	**9.29**	**174**	Pn		**Pn**	**02 02 14.6**	**-0.9**
CBIJ				Sn		Sn	02 03 51.4	-7.3
JCJ	**Chichijima**	**9.29**	**174**	Pn		**Pn**	**02 02 14.6**	**-0.9**
	comp=Z,12nm,0.3s,baz=295,slow=19,SNR=8.4							
JCJ				Sn		Sn	02 03 51.4	-7.3
	comp=Z,5.0nm,0.3s,baz=287,slow=19,SNR=2.2							
KUR	**Kuril'sk**	**10.20**	**28**	*e*P		**Pn**	**02 02 27.6**	**-0.2**
KUR				*i* S		**Sn**	**02 04 15.9**	**-4.8**
KUR				pmax		pmax		
	comp=N,5.0nm,0.1s							
KUR				pmax		pmax		
	comp=E,5.0nm,0.1s							
KUR				pmax		pmax		
	comp=Z,7.0nm,0.1s							
USRK	**Ussuriysk Ar.**	**10.50**	**321**	Pn		Pn	02 02 35.5	+3.5
	comp=Z,0.6nm,0.3s,baz=131,slow=13,SNR=10							
USRK				LR		LR	02 06 26.7	
	comp=Z,233nm,18.4s,baz=122,slow=37							
KSRS	**Korea Array**	**10.67**	**280**	Pn		**Pn**	**02 02 35.7**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=92,slow=15,SNR=11							
KSRS				LR		LR	02 06 27.7	
	comp=Z,249nm,19.8s,baz=76,slow=37							
KSAR	**Wonju Array Be**	**10.70**	**280**	P		**Pn**	**02 02 35.7**	**+0.9**
KSAR	**Wonju Array Be**	**10.70**	**280**	Pn		**Pn**	**02 02 35.7**	**+0.9**
MDJ	**Mudanjiang**	**12.06**	**317**	P		**Pn**	**02 02 54.8**	**+1.5**
MDJ				S		**Sn**	**02 05 09.7**	**+3.4**
MDJ				PcP		**PcP**	**02 08 36.9**	**+0.4**
MDJ				ScP		**ScP**	**02 12 10.6**	**+4.1**
MDJ				ScS		**ScS**	**02 15 41.5**	**-0.7**
MDJ				PMZ				
	comp=Z,7.0nm,0.4s							
MDJ				PMZ				
	comp=Z,43nm,4.1s							
HABR	**Khabarovsk**	**12.90**	**341**	*e*P		**Pn**	**02 03 02.2**	**-2.6**
HABR				*e*S		**Sn**	**02 05 24.7**	**-2.3**
HABR				pmax		pmax		
	comp=Z,9.0nm,1.8s							
HABR				MLR		MLR		
	comp=Z,87nm,16.0s							
CN2	**Changchun**	**14.13**	**306**	*e*P		**Pn**	**02 03 22.0**	**+0.4**
CN2				*es*P			02 03 34.2	
CN2				*e*S		**Sn**	**02 05 58.2**	**+1.2**
CN2				LN				
	comp=Z,90nm,13.0s							
CN2				LE				
	comp=Z,140nm,13.0s							
CN2				LZ				
	comp=Z,300nm,14.0s							
KLR	**Kul'dur**	**14.58**	**335**	*e*P		Pn	02 03 21.0	-6.6
NJ2	**Nanjing**	**18.95**	**263**	*e*P		**P**	**02 04 22.1**	**+0.1**
NJ2				S		**Sn**	**02 07 53.0**	**-1.0**
NJ2				PMZ				
	comp=Z,40nm,0.8s							
NJ2				LN				
	comp=Z,420nm,21.6s							
NJ2				LE				
	comp=Z,320nm,16.9s							
NJ2				LZ				
	comp=Z,490nm,17.2s							
TIA	**Tai'an**	**19.38**	**277**	⇑P		**P**	**02 04 25.4**	**-1.4**
TIA				PMZ				
	comp=Z,20nm,0.8s							
TIA				PMZ				
	comp=Z,220nm,3.4s							
BJI	**Beijing**	**19.97**	**288**	P		**P**	**02 04 32.8**	**-0.2**
BJI				S		**S**	**02 08 15.5**	**0.0**
BJI				PMZ				
	comp=Z,11nm,0.6s							
BJI				PMZ				
	comp=Z,33nm,3.5s							
BJI				LN				
	comp=Z,110nm,12.7s							
BJI				LE				
	comp=Z,140nm,13.5s							
PETK	**Petropavlovsk-**	**20.35**	**30**	LR		LR	02 12 04.7	
	comp=Z,26nm,20.6s,baz=223,slow=36							
WHN	**Wuhan**	**23.09**	**263**	P		**P**	**02 05 05.7**	**-0.8**
HHC	**Hu-ho-hao-te**	**23.51**	**290**	*e*P		**P**	**02 05 09.6**	**-1.2**
HHC				PP		**PnPn**	**02 05 41.5**	**+3.3**
HHC				S		**S**	**02 09 16.7**	**-5.3**
HHC				sS		sS	02 09 31.9	-7.5
HHC				SS		**SnSn**	**02 10 04.5**	**+4.6**
HHC				PMZ				
	comp=Z,45nm,1.2s							
HHC				PMZ				
	comp=Z,76nm,5.1s							
HHC				LN				
	comp=Z,86nm,9.2s							
HHC				LE				
	comp=Z,82nm,10.0s							
HHC				LZ				
	comp=Z,120nm,10.4s							
YAK	**Yakutsk**	**26.67**	**348**	*e*P		**P**	**02 05 37.7**	**-1.5**
YAK				pmax		pmax		
	comp=Z,31nm,1.1s							
YAK				pmax		pmax		
	comp=N,18nm,1.3s							
YAK				pmax		pmax		
	comp=E,6.0nm,1.3s							
YAK	**Yakutsk**	**26.67**	**348**	*e*P		**P**	**02 05 37.9**	**-1.4**
	comp=E,42nm,1.2s							
SEY	**Seymchan**	**27.47**	**11**	P		**P**	**02 05 47.1**	**+0.7**
	comp=E,4.1nm,0.8s,baz=190,slow=6.8,SNR=13							
SEY	**Seymchan**	**27.47**	**11**	⇓*e*P		**P**	**02 05 47.3**	**+0.9**
H11N2	**WAKE ISLAND Hy**	**27.98**	**119**	T		T	02 35 32.1	
	baz=312,slow=75,SNR=70							
H11N1	**WAKE ISLAND Hy**	**27.99**	**119**	T		T	02 35 32.7	
	baz=312,slow=75,SNR=102							
BOD	**Bodaibo**	**27.99**	**329**	*e*P		**P**	**02 05 50.0**	**-1.1**
BOD				pmax		pmax		
	comp=Z,7.0nm,0.9s							
H11N3	**WAKE ISLAND Hy**	**28.00**	**119**	T		T	02 35 31.8	
	baz=312,slow=75,SNR=94							
SONM	**Songino Array**	**28.00**	**305**	P		**P**	**02 05 50.8**	**-0.7**
	comp=Z,4.9nm,0.8s,baz=106,slow=8.7,SNR=32							
SONM				LR		LR	02 17 04.2	
	comp=Z,74nm,20.5s,baz=98,slow=37							
H11S1	**WAKE ISLAND Hy**	**28.67**	**122**	T		T	02 36 16.6	
	baz=314,slow=76,SNR=230							
H11S3	**WAKE ISLAND Hy**	**28.67**	**122**	T		T	02 36 22.4	
	baz=314,slow=76,SNR=94							
H11S2	**WAKE ISLAND Hy**	**28.68**	**122**	T		T	02 36 09.5	
	baz=314,slow=76,SNR=125							
LZH	**Lanzhou**	**30.00**	**281**	*e*P		**P**	**02 06 12.0**	**+2.6**
LZH				pP		**pP**	**02 06 20.0**	**+0.1**
LZH				sP		**sP**	**02 06 24.2**	**-0.2**
LZH				PMZ				
	comp=Z,9.0nm,1.0s							
LZH				PMZ				
	comp=Z,60nm,4.0s							
LZH				LN				
	comp=Z,140nm,10.7s							
LZH				LE				
	comp=Z,170nm,12.0s							
LZH				LZ				
	comp=Z,240nm,16.8s							
ZAK	**Zakamensk**	**30.54**	**309**	*e*P		**P**	**02 06 13.5**	**-0.4**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.1s							
TLY	**Talaya**	**30.62**	**312**	*e*P		**P**	**02 06 15.2**	**+0.6**
TLY				pmax		pmax		
	comp=Z,5.0nm,0.8s							
TLY				MLR		MLR		
	comp=Z,64nm,14.0s							
TLY	**Talaya**	**30.62**	**312**	*e*P		**P**	**02 06 15.0**	**+0.4**
	comp=Z,5.3nm,0.8s							
GYA	**Guiyang**	**30.93**	**261**	⇑*i*P		**P**	**02 06 15.6**	**-2.0**
GYA				pP		**pP**	**02 06 28.2**	**0.0**
GYA				PP		**PnPn**	**02 07 21.6**	**+2.6**
GYA				S		**S**	**02 11 19.0**	**-0.6**
GYA				sS		**sS**	**02 11 35.5**	**-1.6**
GYA				ScP		**ScP**	**02 12 54.2**	**+0.9**
GYA				SS		**SnSn**	**02 13 04.0**	**+2.7**
GYA				PMZ				
	comp=Z,10.0nm,1.0s							
GYA				PMZ				
	comp=Z,90nm,4.9s							
GYA				LN				
	comp=Z,420nm,17.8s							
GYA				LE				
	comp=Z,480nm,18.0s							
GYA				LZ				
	comp=Z,460nm,17.2s							
CD2	**Chengdu**	**31.49**	**271**	P		**P**	**02 06 20.9**	**-1.6**
CD2				pP		**pP**	**02 06 30.2**	**-2.8**
CD2				sP		**sP**	**02 06 34.4**	**-3.1**
CD2				PP		**PP**	**02 07 32.1**	**-1.8**
CD2				S		**S**	**02 11 27.1**	**-1.1**
CD2				sS		**sS**	**02 11 43.1**	**-2.6**
CD2				PMZ				
	comp=Z,20nm,0.6s							
CD2				PMZ				
	comp=Z,100nm,5.7s							
CD2				LN				
	comp=Z,140nm,7.8s							
CD2				LZ				
	comp=Z,140nm,15.0s							
GTA	**Gaotai**	**32.58**	**288**	*e*P		**P**	**02 06 32.5**	**+0.4**
GTA				pP		**pP**	**02 06 42.0**	**-0.7**
GTA				sP		**sP**	**02 06 46.0**	**-1.2**
GTA				PP		**PnPn**	**02 07 41.2**	**+1.0**
GTA				PcP		**PcP**	**02 09 18.8**	**+1.0**
GTA				S		**S**	**02 11 44.4**	**-0.8**
GTA				sS		**sS**	**02 12 00.1**	**-2.6**
GTA				SS		**SnSn**	**02 13 40.3**	**-0.9**
GTA				PMZ				
	comp=Z,5.0nm,1.1s							
GTA				PMZ				
	comp=Z,60nm,5.7s							
GTA				LN				
	comp=Z,97nm,16.6s							
GTA				LE				
	comp=Z,97nm,15.7s							
GTA				LZ				
	comp=Z,130nm,14.3s							
KMI	**Kunming**	**34.68**	**262**	P		**P**	**02 06 50.6**	**+0.1**
KMI				pP		**pP**	**02 07 00.7**	**-0.5**
KMI				sP		**sP**	**02 07 05.6**	**-0.1**
KMI				S		**S**	**02 12 20.7**	**+2.6**
KMI				PMZ				
	comp=Z,10.0nm,0.7s							
KMI				PMZ				
	comp=Z,72nm,4.9s							
KMI				LN				
	comp=Z,100nm,18.6s							
KMI				LE				
	comp=Z,100nm,15.4s							
KMI				LZ				
	comp=Z,130nm,16.1s							
BILL	**Bilibino**	**34.71**	**16**	⇑*e*P		**P**	**02 06 51.0**	**+0.9**
BILL				pmax		pmax		
	comp=Z,3.0nm,1.2s							
BILL				MLR		MLR		
	comp=Z,669nm,18.0s							
WMQ	**Urumqi**	**40.97**	**297**	P		**P**	**02 07 44.2**	**+0.9**
WMQ				pP		**pP**	**02 07 53.7**	**-0.4**
WMQ				sP		**sP**	**02 07 58.5**	**0.0**
WMQ				PMZ				
	comp=Z,19nm,0.8s							
WMQ				PMZ				
	comp=Z,61nm,3.8s							
CMAR	**Chiang Mai Arr**	**41.15**	**256**	P		**P**	**02 07 45.0**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=46,slow=6.2,SNR=5.2							
CMAR				LR		LR	02 27 08.4	
	comp=Z,49nm,18.1s,baz=50,slow=40							
ZALV	**Zalesovo Beam**	**42.22**	**313**	P		**P**	**02 07 52.7**	**-0.6**
	comp=Z,14nm,0.8s,baz=92,slow=6.9,SNR=44							
ZALV				PcP		**PcP**	**02 09 46.7**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=101,slow=2.4,SNR=4.0							
ZALV				LR		LR	02 26 22.5	
	comp=Z,43nm,18.3s,baz=70,slow=38							
ZALV	**Zalesovo Beam**	**42.22**	**313**	*i* P		**P**	**02 07 53.2**	**-0.1**
ZALV				pmax		pmax		
	comp=Z,14nm,0.8s							
NVS	**Novosibirsk**	**43.16**	**314**	⇑*i*P		**P**	**02 08 00.5**	**-0.4**
NVS				pmax		pmax		
	comp=N,3.0nm,1.0s							
NVS				pmax		pmax		
	comp=E,9.0nm,1.0s							
NVS				pmax		pmax		
	comp=Z,13nm,1.0s							
MK31	**Makanchi Array**	**44.31**	**303**	*e*P		**P**	**02 08 10.3**	**0.0**
MK31	**Makanchi Array**	**44.31**	**303**	*e*P		**P**	**02 08 10.2**	**0.0**
MKAR	**Makanchi Array**	**44.31**	**303**	P		**P**	**02 08 10.0**	**-0.4**
	comp=Z,4.7nm,0.8s,baz=82,slow=8.9,SNR=21							
MKAR				PcP		**PP**	**02 09 53.7**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=95,slow=3.0,SNR=2.9							
MKAR				LR		LR	02 27 21.4	
	comp=Z,56nm,20.3s,baz=66,slow=37							
MKAR	**Makanchi Array**	**44.31**	**303**	*ce*P		**P**	**02 08 10.3**	**0.0**
MKAR				pmax		pmax		
	comp=Z,5.0nm,0.8s							
KAPI	**Kappang**	**45.80**	**211**	*e*P		**P**	**02 08 22.5**	**+0.2**
PMG	**Port Moresby**	**45.88**	**172**	*ce*P		**P**	**02 08 22.4**	**-0.5**
PMG	**Port Moresby**	**45.88**	**172**	*e*P		**P**	**02 08 22.1**	**-0.8**
	comp=Z,37nm,1.2s							
KULM	**Kulim**	**48.32**	**240**	*e*P		**P**	**02 08 42.3**	**+0.2**
IPM	**Ipoh**	**48.64**	**239**	*e*P		**P**	**02 08 44.3**	**-0.2**
	comp=Z,11nm,0.9s							
TKM2	**Tokmak 2**	**49.78**	**299**	*e*P		**P**	**02 08 53.8**	**+0.5**
TKM2				pmax		pmax		
	comp=Z,6.0nm,0.5s							
TKM2	**Tokmak 2**	**49.78**	**299**	*e*P		**P**	**02 08 53.8**	**+0.5**
	comp=Z,6.1nm,0.5s							
COEN	**Coen**	**50.09**	**177**	*e*P		**P**	**02 08 54.3**	**-1.2**
ILAR	**Eielson Array**	**50.15**	**32**	P		**P**	**02 08 56.9**	**+1.4**
	comp=Z,3.4nm,0.7s,baz=270,slow=6.3,SNR=42							
KSH	**Kashi**	**50.51**	**294**	P		P	02 09 02.7	+4.0
KSH				PMZ				
	comp=Z,140nm,6.3s							
BRVK	**Borovoye**	**50.94**	**313**	*c i*P		**P**	**02 09 01.3**	**-0.2**
BRVK				pmax		pmax		
	comp=Z,8.0nm,0.7s							
BRVK	**Borovoye**	**50.94**	**313**	*e*P		**P**	**02 09 01.8**	**+0.2**
EKS2	**Erkin-Say**	**51.14**	**299**	*e*P		**P**	**02 09 03.3**	**-0.1**
EKS2				pmax		pmax		
	comp=Z,3.0nm,0.8s							
EKS2	**Erkin-Say**	**51.14**	**299**	*e*P		**P**	**02 09 03.3**	**-0.1**
	comp=Z,2.9nm,0.8s							
PSI	**Prapat**	**51.29**	**239**	P		**P**	**02 09 04.4**	**-0.4**
	comp=Z,5.9nm,0.7s,baz=38,slow=3.2,SNR=7.0							
PSI	**Prapat**	**51.29**	**239**	P		**P**	**02 09 04.4**	**-0.4**
PSI				pmax		pmax		
	comp=Z,6.0nm,0.7s							
PSI	**Prapat**	**51.29**	**239**	*e*P		**P**	**02 09 05.2**	**+0.3**
KKAR	**Karatay Array**	**53.29**	**300**	*e*P		**P**	**02 09 19.5**	**+0.2**
KKAR				pmax		pmax		
	comp=Z,13nm,1.0s							
KKAR	**Karatay Array**	**53.29**	**300**	*e*P		**P**	**02 09 19.5**	**+0.2**
	comp=Z,13nm,1.0s							
GSI	**Gunungsitoli**	**53.30**	**239**	*e*P		**P**	**02 09 20.2**	**+0.6**
	comp=Z,50nm,1.0s							
INK	**Inuvik**	**55.06**	**27**	P		**P**	**02 09 32.5**	**+0.8**
	comp=Z,3.6nm,0.7s,baz=290,slow=7.7,SNR=3.6							
INK	**Inuvik**	**55.06**	**27**	*e*P		**P**	**02 09 30.7**	**-1.0**
INK				pmax		pmax		
	comp=Z,3.0nm,0.6s							
INK	**Inuvik**	**55.06**	**27**	*e*P		**P**	**02 09 30.7**	**-1.0**
	comp=Z,3.3nm,0.6s							
SVE	**Sverdlovsk**	**55.52**	**319**	⇓*e*P		**P**	**02 09 35.2**	**0.0**
SVE				pmax		pmax		
	comp=Z,14nm,1.0s							
WRAB	**Tennant Creek**	**56.37**	**188**	*e*P		**P**	**02 09 41.5**	**-0.1**
WRAB				pmax		pmax		
	comp=Z,7.0nm,1.0s							
WRAB	**Tennant Creek**	**56.37**	**188**	*e*P		**P**	**02 09 41.5**	**-0.1**
	comp=Z,7.4nm,1.0s							
WRA	**Warramunga Arr**	**56.38**	**188**	P		**P**	**02 09 41.4**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=6.9,slow=7.4,SNR=25							
ARU	**Arti**	**56.73**	**319**	*c i*P		**P**	**02 09 43.6**	**-0.2**
ARU							02 11 46.3	
ARU				S		**S**	**02 17 34.7**	**+1.0**
ARU				pmax		pmax		
	comp=Z,15nm,1.0s							
ARU	**Arti**	**56.73**	**319**	*e*P		**P**	**02 09 43.8**	**0.0**
	comp=Z,11nm,0.7s							
ABKAR	**Akbulak array**	**58.22**	**310**	*e*P		**P**	**02 09 54.1**	**-0.3**
ASAR	**Alice Springs**	**60.11**	**188**	P		**P**	**02 10 07.3**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=16,slow=7.1,SNR=12							
GEYT	**Alibeck**	**63.99**	**299**	P		**P**	**02 10 33.4**	**-0.4**
	comp=Z,1.5nm,0.3s,baz=72,slow=4.8,SNR=6.3							
YKA	**Yellowknife Ar**	**64.47**	**30**	P		**P**	**02 10 36.0**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=275,slow=7.3,SNR=4.6							
YKA	**Yellowknife Ar**	**64.47**	**30**	P		**P**	**02 10 36.0**	**-0.5**
ARCES	**ARCESS Array B**	**64.55**	**339**	P		**P**	**02 10 37.0**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=39,slow=7.8,SNR=6.9							
ARCES				LR		LR	02 43 07.2	
	comp=Z,29nm,18.4s,baz=34,slow=40							
FORT	**Forrest**	**67.92**	**192**	*e*P		**P**	**02 10 59.2**	**+0.4**
	comp=Z,40nm,1.0s							
OBN	**Obninsk**	**68.51**	**323**	*e*P		**P**	**02 11 01.3**	**-1.1**
OBN				pmax		pmax		
	comp=Z,4.0nm,1.0s							
OBN				MLR		MLR		
	comp=Z,30nm,19.0s							
VSR	**Storozhevoye**	**69.30**	**319**	*e*P		**P**	**02 11 06.8**	**-0.6**
VSR				pmax		pmax		
	comp=E,6.0nm,0.9s							
VSR				pmax		pmax		
	comp=Z,7.0nm,0.9s							
VSR				pmax		pmax		
	comp=N,5.0nm,0.6s							
FINES	**FINESS Array B**	**69.31**	**332**	P		**P**	**02 11 07.1**	**-0.1**
	comp=N,4.0nm,0.8s,baz=60,slow=8.2,SNR=16							
FINES				LR		LR	02 43 51.0	
	comp=N,35nm,18.5s,baz=50,slow=38							
FINES	**FINESS Array B**	**69.31**	**332**	*i* P		**P**	**02 11 07.3**	**+0.1**
FINES				pmax		pmax		
	comp=Z,4.0nm,0.8s							
GOF	**Gofitskoye**	**70.39**	**312**	*e*P		P	02 11 22.0	+7.8
VSU	**Vasula**	**70.93**	**330**	*ce*P		**P**	**02 11 17.9**	**+0.7**
VSU				pmax		pmax		
	comp=Z,20nm,0.8s							
KBZ	**Khabaz**	**71.19**	**311**	P		**P**	**02 11 19.3**	**+0.2**
	comp=Z,3.3nm,0.7s,baz=58,slow=3.4,SNR=9.6							
KIV	**Kislovodsk**	**71.20**	**311**	*ce*P		**P**	**02 11 20.6**	**+1.4**
KIV				*e*			02 11 36.9	
KIV				pmax		pmax		
	comp=Z,7.0nm,0.8s							
KIV	**Kislovodsk**	**71.20**	**311**	*e*P		**P**	**02 11 20.2**	**+0.9**
	comp=Z,7.9nm,0.8s							
SUMG	**Summit**	**71.34**	**360**	*e*P		**P**	**02 11 21.6**	**+1.6**
SUMG	**Summit**	**71.34**	**360**	*e*P		**P**	**02 11 21.6**	**+1.6**
GNI	**Garni**	**71.95**	**307**	⇑*e*P		**P**	**02 11 23.1**	**-0.8**
GNI				pmax		pmax		
	comp=Z,7.0nm,1.2s							
AKASG	**Malin Array Be**	**74.70**	**322**	P		**P**	**02 11 39.4**	**-0.3**
	comp=Z,1.9nm,0.5s,baz=45,slow=5.4,SNR=12							
AKASG				LR		LR	02 46 57.1	
	comp=Z,47nm,20.2s,baz=75,slow=38							
AKBB	**Malin Array Si**	**74.70**	**322**	*e*P		**P**	**02 11 39.4**	**-0.3**
AKBB	**Malin Array Si**	**74.70**	**322**	*e*P		**P**	**02 11 39.4**	**-0.3**
KIEV	**Kiev**	**74.72**	**322**	*e*P		**P**	**02 11 39.4**	**-0.4**
KIEV				pmax		pmax		
	comp=Z,5.0nm,0.6s							
KIEV	**Kiev**	**74.72**	**322**	*e*P		**P**	**02 11 39.4**	**-0.4**
	comp=Z,5.2nm,0.6s							
NB2	**NORSAR Subarra**	**74.72**	**337**	P		**P**	**02 11 39.8**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=41,slow=5.9							
NOA	**NORSAR Array B**	**74.72**	**337**	P		**P**	**02 11 39.8**	**+0.1**
	comp=Z,3.2nm,0.8s,baz=39,slow=5.8,SNR=18							
NOA				LR		LR	02 47 39.4	
	comp=Z,34nm,19.6s,baz=20,slow=38							
BOZ	**Bozeman (W)**	**75.32**	**44**	*e*P		**P**	**02 11 45.4**	**+1.8**
BOZ				pmax		pmax		
	comp=Z,3.0nm,0.7s							
BOZ	**Bozeman (W)**	**75.32**	**44**	*e*P		**P**	**02 11 45.4**	**+1.8**
	comp=Z,2.6nm,0.7s							
NVAR	**Mina Array Bea**	**75.54**	**53**	P		**P**	**02 11 47.2**	**+2.1**
	comp=Z,0.7nm,0.7s,baz=293,slow=5.4,SNR=5.6							
ELK	**Elko**	**76.12**	**50**	*e*P		**P**	**02 11 49.5**	**+1.1**
ELK				pmax		pmax		
	comp=Z,2.0nm,1.1s							
ELK	**Elko**	**76.12**	**50**	*e*P		**P**	**02 11 49.5**	**+1.1**
	comp=Z,2.5nm,1.1s							
MOOW	**Moose Ponds**	**76.97**	**45**	*e*P		**P**	**02 11 54.1**	**+0.9**
	comp=Z,1.8nm,0.8s							
HWUT	**Hardware Ranch**	**77.82**	**47**	*e*P		**P**	**02 11 59.0**	**+1.1**
	comp=Z,3.1nm,1.1s							
DUG	**Dugway**	**77.93**	**49**	*e*P		**P**	**02 11 59.6**	**+1.1**
DUG				pmax		pmax		

UPC	**Upice**	**80.93**	**328**	*e*P		**P**	**02 12 15.0**	**+0.6**
UPC				*e*			02 12 30.3	
PSZ	**Piszkesteto**	**81.08**	**324**	*e*P		**P**	**02 12 13.4**	**-2.0**
PSZ				pmax	pmax			
	comp=Z,7.0nm,1.2s							
PSZ	**Piszkesteto**	**81.08**	**324**	*e*P		**P**	**02 12 13.4**	**-2.0**
	comp=Z,7.4nm,1.2s							
BRG	**Berggiesshubel**	**81.52**	**329**	*e*P		**P**	**02 12 18.1**	**+0.6**
	comp=Z,3.8nm,1.1s							
BRG				*e*			02 42 47.0	
	comp=Z,2.7nm,1.0s							
BRG	**Berggiesshubel**	**81.52**	**329**	*e*P		**P**	**02 12 18.1**	**+0.6**
BRG				pmax	pmax			
	comp=Z,4.0nm,1.1s							
PVCC	**Panska Ves**	**81.53**	**329**	*e*P		**P**	**02 12 18.1**	**+0.5**
PVCC	**Panska Ves**	**81.53**	**329**	*e*P		**P**	**02 12 18.1**	**+0.5**
CLL	**Collm**	**81.57**	**330**	*e*P		**P**	**02 12 17.6**	**-0.2**
CLL				pmax	pmax			
	comp=Z,8.0nm,1.0s							
CLL	**Collm**	**81.57**	**330**	*e*P		**P**	**02 12 17.6**	**-0.2**
	comp=Z,7.6nm,1.0s							
CLL	**Collm**	**81.57**	**330**	*i* P		**P**	**02 12 17.6**	**-0.2**
	comp=Z,6.0nm,0.9s							
GOPC	**GO Pecny, Ondr**	**81.90**	**328**	*e*P		**P**	**02 12 19.7**	**+0.1**
PRU	**Pruhonice**	**81.95**	**328**	*e*P		**P**	**02 12 19.6**	**-0.2**
PRU	**Pruhonice**	**81.95**	**328**	*e*P		**P**	**02 12 19.6**	**-0.2**
TREC	**Trest**	**82.06**	**328**	*e*P		**P**	**02 12 20.7**	**+0.2**
TREC				*es*P		**sP**	**02 12 37.1**	**+0.8**
TREC	**Trest**	**82.06**	**328**	*e*P		**P**	**02 12 20.7**	**+0.2**
TREC				*e*			02 12 37.1	
CSS	**Prodhromos**	**82.32**	**308**	*e*P		**P**	**02 12 21.5**	**-0.6**
	comp=Z,1.1nm,0.8s							
NKC	**Novy Kostel**	**82.63**	**330**	*e*P		**P**	**02 12 22.9**	**-0.5**
NKC				*ep*P		**pP**	**02 12 37.1**	**+2.1**
NKC	**Novy Kostel**	**82.63**	**330**	*e*P		**P**	**02 12 22.9**	**-0.5**
NKC				*e*			02 12 37.1	
KHC	**Kasperske Hory**	**83.01**	**328**	*e*P		**P**	**02 12 25.0**	**-0.3**
KHC				*ep*P		**pP**	**02 12 40.3**	**+3.3**
KHC	**Kasperske Hory**	**83.01**	**328**	*e*P		**P**	**02 12 25.1**	**-0.3**
KHC				pmax	pmax			
	comp=Z,1.0nm,0.9s							
KHC	**Kasperske Hory**	**83.01**	**328**	*e*P		**P**	**02 12 25.1**	**-0.3**
	comp=Z,0.9nm,0.9s							
GERES	**GERESS Array B**	**83.17**	**328**	P		**P**	**02 12 26.2**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=29,slow=5.8,SNR=13							
GERES				LR		LR	02 53 34.1	
	comp=Z,21nm,18.8s,baz=50,slow=39							
SDCO	**Great Sand Dun**	**83.88**	**47**	*e*P		**P**	**02 12 32.1**	**+1.7**
	comp=Z,1.8nm,1.0s							
STU	**Stuttgart**	**85.09**	**330**	*e*P		**P**	**02 12 35.8**	**-0.1**
STU				pmax	pmax			
	comp=Z,9.0nm,0.8s							
STU	**Stuttgart**	**85.09**	**330**	*e*P		**P**	**02 12 35.8**	**-0.1**
	comp=Z,8.8nm,0.8s							
ANMO	**Albuquerque**	**85.16**	**50**	*e*P		**P**	**02 12 38.1**	**+1.3**
ANMO				pmax	pmax			
	comp=Z,6.0nm,1.2s							
ANMO	**Albuquerque**	**85.16**	**50**	*e*P		**P**	**02 12 36.5**	**-0.4**
	comp=Z,1.1nm,0.9s							
BFO	**Black Forest**	**85.79**	**331**	*i* P		**P**	**02 12 40.0**	**+0.5**
AQU	**L'Aquila**	**88.29**	**324**	*e*P		**P**	**02 12 51.8**	**0.0**
AQU				pmax	pmax			
	comp=Z,7.0nm,1.0s							
AQU	**L'Aquila**	**88.29**	**324**	*e*P		**P**	**02 12 51.8**	**0.0**
	comp=Z,6.8nm,1.0s							
TXAR	**Lajitas Array**	**90.67**	**52**	P		**P**	**02 13 04.7**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=290,slow=2.7,SNR=5.7							
TORD	**Torodi Ar. Bea**	**117.66**	**314**	PKP		**PKPdf**	**02 18 46.0**	**-0.8**
	comp=Z,0.9nm,1.2s,baz=9.4,slow=1.1,SNR=5.8							
TSUM	**Tsumeb**	**127.96**	**273**	*e*PKPdf		**PKPdf**	**02 19 07.2**	**+0.7**
LPAZ	**La Paz**	**147.19**	**60**	PKPbc		**PKPbc**	**02 19 44.9**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=284,slow=4.2,SNR=8.1							

*ISCJB **11** 02:16:18.9±0.8, 43°.34N±0°.04×126°.90W±0°.07, h14km, mb3.5/5, Error ellipse: s-maj=8.4km s-min=4.6km az=145.7*

*NEIC **11** 02:16:18.7±0.9, 43°.28N×127°.03W, h10km, mb3.6/6, Error ellipse: s-maj=10.9km s-min=6.2km az=60.0*

*IDC **11** 02:16:18.9±2.3, 43°.44N×126°.67W, h0km, mb3.0/2, mb1 3.6/4, mb1mx3.3/34, mbtmp3.1/4, ML2.9/2, Error ellipse: s-maj=53.6km s-min=20.4km az=46.0*

ISC 11 02:16:20.0±1.4, 43°.34N±0°.06×126°.9W±0°.1, h14km, n71, σ1§08/74, mb3.6/5, 3C, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.95**	**103**	*e*Pn	**Pn**	**02 16 50.5**	**-2.2**
KEBM				*e*Sn	**Sn**	**02 17 15.5**	**-1.5**
RNO	**Roman Nose**	**2.38**	**75**	⇑P	**Pn**	**02 16 57.8**	**-0.8**
I03D	**Drain, OR**	**2.62**	**81**	P	**Pn**	**02 17 01.0**	**-0.9**
	baz=2.7,SNR=36						
I03D				S	**Sn**	**02 17 33.5**	**+0.1**
	baz=2.7						
DBO	**Dodson Butte**	**2.70**	**93**	P	**Pn**	**02 17 02.0**	**-1.0**
MPOR	**Mary's Peak**	**2.70**	**63**	⇑P	**Pn**	**02 17 02.2**	**-0.8**
L02D	**Cave Junction,**	**2.71**	**115**	P	**Pn**	**02 17 02.9**	**-0.2**
	baz=2.8,SNR=12						
L02D				S	**Sn**	**02 17 35.7**	**0.0**
	baz=2.8						
HSO	**Harness Mounta**	**2.80**	**85**	⇑P	**Pn**	**02 17 03.6**	**-0.7**
COR	**Corvallis**	**2.90**	**63**	*e*Pn	**Pn**	**02 17 04.9**	**-0.7**
HUMO	**Hull Mountain**	**3.00**	**103**	*e*Pn	**Pn**	**02 17 06.1**	**-1.0**
HUMO				*e*Sn	**Sn**	**02 17 41.8**	**-1.0**
BBOR	**Butler Butte**	**3.14**	**97**	P	**Pn**	**02 17 08.9**	**-0.2**
G03D	**McMinnville, O**	**3.23**	**53**	P	**Pn**	**02 17 10.2**	**+0.1**
	baz=3.3,SNR=13						
G03D				S	**Sn**	**02 17 48.9**	**+0.5**
	baz=3.3						
I04A	**Tendick Farm,**	**3.31**	**81**	P	**Pn**	**02 17 11.5**	**+0.2**
	baz=3.4,SNR=25						
I04A				S	**Sn**	**02 17 50.3**	**-0.2**
	baz=3.4						
YBH	**Yreka Blue Hor**	**3.50**	**116**	*e*Pn	**Pn**	**02 17 14.8**	**+0.8**
YBH				*e*Sn	**Sn**	**02 17 56.3**	**+1.0**
H04A	**Detroit Lake**	**3.67**	**67**	P	**Pn**	**02 17 16.8**	**+0.5**
G04A	**Mulino**	**3.70**	**58**	P	**Pn**	**02 17 17.2**	**+0.6**
GT2	**Goat Mountain**	**3.80**	**60**	P	**Pn**	**02 17 19.4**	**+1.3**
F04D	**Rainier, OR**	**3.91**	**44**	P	**Pn**	**02 17 19.8**	**+0.2**
	baz=4.0						
E03A	**Lebam**	**4.00**	**35**	*e*Pn	**Pn**	**02 17 20.5**	**-0.3**
RVW	**Rose Valley**	**4.09**	**45**	P	**Pn**	**02 17 22.5**	**+0.4**
F04A	**Amboy**	**4.13**	**50**	P	**Pn**	**02 17 23.3**	**+0.7**
VLMM	**Larch Mountain**	**4.13**	**56**	P	**Pn**	**02 17 23.6**	**+0.9**
J05D	**Fort Rock, OR**	**4.15**	**89**	P	**Pn**	**02 17 23.1**	**+0.1**
	baz=4.2						
I05D	**Terrebonne, OR**	**4.16**	**74**	P	**Pn**	**02 17 23.4**	**+0.4**
	baz=4.2,SNR=10						
TDH	**Tom, Dick, Har**	**4.17**	**60**	P	**Pn**	**02 17 24.3**	**+1.0**
ON2	**Olympics--Nort**	**4.18**	**31**	P	**Pn**	**02 17 23.1**	**-0.2**
VBEM	**Beaver Butte**	**4.20**	**64**	P	**Pn**	**02 17 24.5**	**+0.8**
VLL	**Laurance Lake**	**4.32**	**59**	P	**Pn**	**02 17 26.4**	**+1.2**
FL2	**Flat Top 2**	**4.33**	**47**	P	**Pn**	**02 17 26.3**	**+0.8**
VFP	**Flag Point**	**4.39**	**61**	P	**Pn**	**02 17 27.2**	**+0.9**
SHW	**Mount Saint He**	**4.39**	**48**	P	**Pn**	**02 17 27.5**	**+1.2**
STD	**Studebaker Rid**	**4.43**	**47**	P	**Pn**	**02 17 27.9**	**+1.1**
G05D	**Wamic, OR**	**4.45**	**63**	P	**Pn**	**02 17 27.8**	**+0.8**
	baz=4.5,SNR=18						
TDL	**Tradedollar La**	**4.50**	**46**	P	**Pn**	**02 17 28.6**	**+0.8**
CROR	**Criterion Ridg**	**4.57**	**67**	P	**Pn**	**02 17 28.9**	**+0.1**
NLWA	**Neilton Lookou**	**4.59**	**27**	*e*Pn	**Pn**	**02 17 28.5**	**-0.4**
NLWA				*e*Sn	**Sn**	**02 18 19.5**	**-2.6**
LON	**Longmire**	**4.98**	**45**	*e*Pn	**Pn**	**02 17 35.0**	**+0.7**
	18nm,0.5s						
REMR	**Mount Rainier-**	**5.01**	**44**	P	**Pn**	**02 17 35.9**	**+1.1**
RCM	**Mount Rainier-**	**5.07**	**45**	P	**Pn**	**02 17 36.8**	**+0.9**
RCS	**Mount Rainier-**	**5.10**	**44**	P	**Pn**	**02 17 37.2**	**+1.0**
D05A	**Enumclaw**	**5.19**	**40**	*e*Pn	**Pn**	**02 17 38.6**	**+1.5**
TRW	**Toppenish Ridg**	**5.41**	**55**	P	**Pn**	**02 17 41.5**	**+1.2**
PGC	**Sidney**	**5.84**	**23**	*e*Pn	**Pn**	**02 17 46.0**	**0.0**
PGC				*e*Sn	**Sn**	**02 18 51.2**	**-1.5**
G08A	**Pilot Rock**	**6.04**	**68**	*e*Pn	**Pn**	**02 17 49.3**	**+0.4**
RSW	**Rattlesnake Hi**	**6.04**	**57**	P	**Pn**	**02 17 49.7**	**+0.8**
HAWA	**Hanford**	**6.07**	**57**	*e*Pn	**Pn**	**02 17 49.9**	**+0.6**
	5.6nm,0.5s						
WVOR	**Wild Horse Val**	**6.15**	**96**	*e*Pn	**Pn**	**02 17 49.4**	**-1.1**
D08A	**Wollman Farm,**	**6.76**	**54**	*e*Pn	**Pn**	**02 18 00.3**	**+1.5**
BMO	**Blue Mountains**	**7.09**	**74**	*e*Pn	**Pn**	**02 18 03.0**	**-0.3**
	3.2nm,0.7s						
NVAR	**Mina Array Bea**	**8.16**	**124**	Pn	**Pn**	**02 18 18.8**	**+0.6**
	0.1nm,0.3s,baz=289,slow=14,SNR=3.7						
NEW	**Newport**	**8.43**	**51**	P	**Pn**	**02 18 22.5**	**+0.8**
	baz=8.5						
NEW	**Newport**	**8.43**	**51**	*e*Pn	**Pn**	**02 18 22.3**	**+0.6**
HLID	**Hailey**	**9.10**	**84**	*e*Pn	**Pn**	**02 18 31.4**	**+0.4**
MSO	**Missoula**	**9.82**	**65**	*e*Pn	**Pn**	**02 18 41.6**	**+0.8**
MCMT	**McKenzie Canyo**	**10.24**	**77**	*e*Pn	**Pn**	**02 18 49.4**	**+2.8**
BOZ	**Bozeman (W)**	**11.17**	**73**	*e*Pn	**Pn**	**02 18 59.8**	**+0.5**
TPAW	**Teton Pass**	**11.62**	**84**	*e*Pn	**Pn**	**02 19 04.4**	**-1.1**
PDAR	**Pinedale Array**	**12.72**	**87**	Pn	**Pn**	**02 19 22.9**	**+2.4**
	0.0nm,0.3s,baz=286,slow=15,SNR=5.4						
SDCO	**Great Sand Dun**	**17.19**	**102**	*e*Pn	**Pn**	**02 20 20.7**	**+0.7**
	1.3nm,0.9s						
ANMO	**Albuquerque**	**17.92**	**111**	*e*Pn	**Pn**	**02 20 29.4**	**+0.5**
	1.1nm,0s						
FFC	**Flin Flon**	**19.81**	**46**	*e*P	**P**	**02 20 50.9**	**+1.0**
	4.0nm,1.0s						
TXAR	**Lajitas Array**	**23.27**	**119**	P	**P**	**02 21 28.7**	**+1.5**
	0.2nm,0.8s,baz=306,slow=8.6,SNR=3.5						
ILAR	**Eielson Array**	**24.25**	**339**	P	**P**	**02 21 36.8**	**+0.6**
	0.7nm,0.7s,baz=147,slow=8.6,SNR=11						
BPAW	**Bear Paw Mtn.**	**24.91**	**335**	*e*P	**P**	**02 21 42.5**	**+0.2**
	2.6nm,1.6s						
INK	**Inuvik**	**25.27**	**354**	*e*P	**P**	**02 21 42.5**	**-2.8**
	4.2nm,0.9s						
FCC	**Fort Churchill**	**25.43**	**41**	*e*P	**P**	**02 21 44.8**	**-2.1**
	13nm,0.9s						
H11N3	**WAKE ISLAND Hy**	**59.53**	**269**	T	T	03 30 33.2	
	baz=50,slow=75,SNR=28						
H11N2	**WAKE ISLAND Hy**	**59.53**	**269**	T	T	03 30 35.5	
	baz=50,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**59.55**	**269**	T	T	03 30 39.1	
	baz=50,slow=75,SNR=30						
H11S1	**WAKE ISLAND Hy**	**60.45**	**268**	T	T	03 31 53.5	
	baz=50,slow=75,SNR=145						
H11S2	**WAKE ISLAND Hy**	**60.46**	**268**	T	T	03 31 54.2	
	baz=50,slow=75,SNR=130						
H11S3	**WAKE ISLAND Hy**	**60.47**	**268**	T	T	03 31 49.5	
	baz=50,slow=75,SNR=114						

*IDC **11** 02:24:04.0±0.4, 61°.99S×46°.60E, h0km, mb4.7/20, mb1 4.8/21, mb1mx4.8/22, mbtmp4.7/21, ML5.3/1, MS3.9/12, Ms1 3.9/12, ms1mx3.8/22, Error ellipse: s-maj=15.8km s-min=12.9km az=39.0*

*ISCJB **11** 02:24:04.5±0.2, 62°.04S±0°.05×46°.5E±0°.1, h10km, mb4.9/41, MS4.0/11, Error ellipse: s-maj=8.3km s-min=7.1km az=39.2*

*MOS **11** 02:24:05.2±1.2, 61°.98S×46°.76E, h10km, mb5.1/18, Error ellipse: s-maj=26.3km s-min=11.1km az=98.0*

*NEIC **11** 02:24:05.9±0.1, 61°.95S×46°.45E, h10km, mb5.1/28, Error ellipse: s-maj=7.0km s-min=6.9km az=182.0*

*GCMT **11** 02:24:05.9±0.3, 62°.03S×46°.65E, h20km, MW5.0/73, Moment Tensor Solution. s32,c37; s73,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.19±.21; $M_{\theta\theta}$-3.36±.15; $M_{\phi\phi}$-0.82±.15; $M_{r\theta}$0.9±.27; $M_{r\phi}$0.63±.10; $M_{\theta\phi}$1.24±.33; Best double couple: M_o4.08700×10^{16} NP1:ϕ_s88.00000°,δ52.00000°,λ71.00000°. NP2: ϕ_s296.00000°,δ42.00000°,λ112.00000°. Principal axes: T 4.6130, Plg74.0000°, Azm299.0000°; N -1.0500, Plg15.0000°, Azm100.0000°; P -3.5600, Plg5.0000°, Azm191.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*AWI **11** 02:24:06.0, 61°.97S×46°.35E*

ISC 11 02:24:06.0±0.2, 62°.07S±0°.06×46°.36E±0°.06, h10km, n557, σ1§24/612, mb5.0/41, MS4.0/11, 10C-5D, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYO	**Syowa Base**	**7.51**	**199**	⇑*e*X	**Pn**	**02 25 53.8**	**-1.5**
MAW	**Mawson**	**8.94**	**135**	Pn	**Pn**	**02 26 13.9**	**-1.0**
	32nm,0.3s,baz=308,slow=13,SNR=177						
MAW				Sn	Sn	02 27 45.6	-10
	32nm,0.3s,baz=328,slow=19,SNR=4.4						
MAW				LR	LR	02 29 04.9	
	comp=Z,375nm,21.0s,baz=358,slow=34						
NVL	**N'lazarevskaya**	**16.07**	**223**	⇓*i*P	**Pn**	**02 27 49.1**	**-2.5**
NVL				pmax	pmax		
	comp=Z,31nm,0.5s						
PAF	**Port-aux-Franc**	**18.37**	**57**	P	**Pn**	**02 28 18.0**	**-2.5**
PAF				S	**S**	**02 31 48.0**	**-2.1**
PAF				R		02 32 00.0	
MIR	**Mirnyy**	**20.31**	**123**	⇑*e*P	Pn	02 28 52.0	+8.4
MIR				pmax	pmax		
	comp=Z,140nm,1.5s						
SNAA	**Sanae**	**20.90**	**222**	P	Pn	02 28 50.1	-0.4
	comp=Z,13nm,0.9s,baz=115,slow=16,SNR=13						
SNAA				S	S	02 32 29.7	-11
	comp=Z,7.9nm,0.6s,baz=52,slow=19,SNR=6.6						
SNAA				LR	LR	02 35 18.9	
	comp=Z,99nm,20.7s,baz=122,slow=32						
VNA1	**Neumayer--Stat**	**22.69**	**225**	P	**P**	**02 29 09.2**	**+2.1**
VNA1				S	**S**	**02 33 18.1**	**+3.1**
QSPA	**South Pole Qui**	**28.10**	**180**	P	**P**	**02 29 58.4**	**+0.8**
	comp=Z,17nm,1.1s,baz=262,slow=3.2,SNR=24						
QSPA				LR	LR	02 41 18.1	
	comp=Z,1μm,18.0s,baz=232,slow=37						
QSPA	**South Pole Qui**	**28.10**	**180**	*e*P	**P**	**02 29 58.1**	**+0.5**
	comp=Z,68nm,1.0s						
VNDA	**Vanda**	**35.21**	**160**	P	**P**	**02 31 00.6**	**+0.9**
	comp=Z,2.1nm,0.6s,baz=252,slow=7.8,SNR=13						
VNDA				LR	LR	02 45 25.2	
	comp=Z,475nm,18.6s,baz=226,slow=36						
VNDA	**Vanda**	**35.21**	**160**	P	**P**	**02 31 00.6**	**+0.9**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
VNDA				MLR	MLR		
	comp=Z,475nm,18.6s						
VNDA	**Vanda**	**35.21**	**160**	*e*P	**P**	**02 31 00.8**	**+1.2**
	comp=Z,7.6nm,0.9s						
SBA	**Scott Base**	**35.73**	**162**	*e*P	**P**	**02 31 06.7**	**+2.6**
SBA				pmax	pmax		
	comp=Z,29nm,1.0s						
SBA	**Scott Base**	**35.73**	**162**	*e*P	**P**	**02 31 06.7**	**+2.6**
	comp=Z,29nm,1.0s						
BOSA	**Boshof**	**36.24**	**328**	P	**P**	**02 31 09.1**	**0.0**
	comp=Z,6.3nm,0.8s,baz=161,slow=7.6,SNR=9.5						
BOSA				LR	LR	02 43 27.4	
	comp=Z,244nm,19.3s,baz=143,slow=32						
BOSA	**Boshof**	**36.24**	**328**	*e*P	**P**	**02 31 08.9**	**-0.2**
	comp=Z,8.2nm,0.8s						
LBTB	**Lobatse**	**39.61**	**330**	P	**P**	**02 31 36.9**	**-0.6**
	comp=Z,6.4nm,0.8s,baz=174,slow=6.2,SNR=11						
LBTB	**Lobatse**	**39.61**	**330**	P	**P**	**02 31 36.9**	**-0.6**
LBTB				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LBTB	**Lobatse**	**39.61**	**330**	*e*P	**P**	**02 31 35.6**	**-1.9**
	comp=Z,23nm,1.3s						
PMSA	**Palmer Station**	**43.39**	**216**	*e*P	**P**	**02 32 06.6**	**-1.3**
	comp=Z,50nm,1.0s						
TSUM	**Tsumeb**	**47.28**	**322**	*e*P	**P**	**02 32 39.4**	**0.0**
	comp=Z,10nm,0.9s						
LSZ	**Lusaka**	**48.49**	**336**	*e*P	**P**	**02 32 48.4**	**-0.4**
LSZ				pmax	pmax		
	comp=Z,26nm,1.0s						
LSZ	**Lusaka**	**48.49**	**336**	*e*P	**P**	**02 32 48.4**	**-0.4**
	comp=Z,26nm,1.0s						
H01W2	**Cape Leeuwin H**	**49.54**	**90**	T	T	03 26 39.7	
	baz=214,slow=75						
H01W3	**Cape Leeuwin H**	**49.56**	**90**	T	T	03 26 32.0	
	baz=214,slow=75						
H01W1	**Cape Leeuwin H**	**49.56**	**90**	T	T	03 26 42.3	
	baz=214						
EFI	**East Falkland**	**51.88**	**230**	⇓*e*P	**P**	**02 33 13.5**	**-0.5**
KMBO	**Kilima Mbogo**	**61.18**	**350**	P	**P**	**02 34 21.9**	**+1.1**
	comp=Z,1.5nm,0.4s,baz=191,slow=6.9,SNR=6.5						
KMBO				LR	LR	02 57 54.8	
	comp=Z,170nm,18.1s,baz=178,slow=33						
KMBO	**Kilima Mbogo**	**61.18**	**350**	*i* P	**P**	**02 34 22.7**	**+1.9**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.4s						
STKA	**Stephens Creek**	**64.72**	**110**	P	**P**	**02 34 44.5**	**+0.5**
	comp=Z,12nm,1.0s,baz=227,slow=7.3,SNR=5.9						
STKA	**Stephens Creek**	**64.72**	**110**	P	**P**	**02 34 44.5**	**+0.5**
STKA				pmax	pmax		
	comp=Z,12nm,1.0s						
STKA	**Stephens Creek**	**64.72**	**110**	*e*P	**P**	**02 34 45.2**	**+1.2**
	comp=Z,6.9nm,1.3s						
TRQA	**Tornquist**	**64.88**	**236**	*e*P	**P**	**02 34 45.4**	**+0.4**
	comp=Z,11nm,0.9s						
ASAR	**Alice Springs**	**68.24**	**99**	P	**P**	**02 35 06.0**	**-0.7**
	comp=Z,3.7nm,0.6s,baz=205,slow=6.2,SNR=21						
ASAR	**Alice Springs**	**68.24**	**99**	P	**P**	**02 35 06.0**	**-0.7**
MDSI	**Maura Dua**	**71.42**	**63**	P	**P**	**02 35 28.8**	**+2.6**
	comp=Z,12nm,1.1s						
KSI	**Kapahiang**	**71.52**	**61**	P	P	02 35 31.6	+4.7
WRA	**Warramunga Arr**	**71.65**	**98**	P	**P**	**02 35 26.8**	**-0.8**
	comp=Z,15nm,1.0s,baz=206,slow=5.5,SNR=40						
WRAB	**Tennant Creek**	**71.67**	**98**	P	**P**	**02 35 27.2**	**-0.5**
	comp=Z,119nm,1.0s,SNR=6.8						
WRAB	**Tennant Creek**	**71.67**	**98**	*d* /P	**P**	**02 35 26.8**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,81nm,1.2s						
WRAB	**Tennant Creek**	**71.67**	**98**	*e*P	**P**	**02 35 27.3**	**-0.5**
	comp=Z,27nm,1.1s						
URZ	**Urewera**	**72.42**	**141**	P	**P**	**02 35 32.0**	**0.0**
	comp=Z,7.6nm,0.9s,baz=238,slow=4.8,SNR=4.2						
CPUP	**Villa Florida**	**73.19**	**246**	P	**P**	**02 35 36.6**	**-0.1**
	comp=Z,15nm,1.1s,baz=140,slow=5.5,SNR=18						
CPUP				LR	LR	03 04 36.2	
	comp=Z,69nm,19.9s,baz=163,slow=33						
CPUP	**Villa Florida**	**73.19**	**246**	*e*P	**P**	**02 35 36.4**	**-0.3**
	comp=Z,1.7nm,1.4s						
PALK	**Pallekele**	**74.05**	**36**	*e*P	**P**	**02 35 41.4**	**-0.5**
PALK				pmax	pmax		
	comp=Z,27nm,1.2s						
PALK	**Pallekele**	**74.05**	**36**	*e*P	**P**	**02 35 41.4**	**-0.5**
	comp=Z,27nm,1.2s						
MNSI	**Mandailing Nat**	**74.35**	**56**	P	**P**	**02 35 44.2**	**+0.6**
	comp=Z,14nm,0.7s						
PSI	**Prapat**	**75.93**	**55**	*e*P	**P**	**02 35 52.9**	**+0.1**
PSI	**Prapat**	**75.93**	**55**	*e*P	**P**	**02 35 52.9**	**+0.1**
LCO	**Las Campanas**	**76.23**	**233**	*e*P	**P**	**02 35 55.7**	**+1.0**
CTA	**Charters Tower**	**76.99**	**108**	P	**P**	**02 35 57.8**	**-0.9**
	comp=Z,3.2nm,0.7s,baz=258,slow=12,SNR=2.8						
CTAO	**Charters Tower**	**76.99**	**108**	*e*P	**P**	**02 35 58.6**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,44nm,1.5s						
CTAO	**Charters Tower**	**76.99**	**108**	*e*P	**P**	**02 35 58.5**	**-0.1**
	comp=Z,44nm,1.5s						
KAPI	**Kappang**	**77.84**	**78**	P	**P**	**02 36 01.1**	**-2.4**
	comp=Z,9.7nm,0.9s,baz=60,slow=5.5,SNR=3.6						
KAPI	**Kappang**	**77.84**	**78**	*e*P	**P**	**02 36 02.6**	**-0.8**
	comp=Z,27nm,1.3s						
IPM	**Ipoh**	**78.28**	**56**	*e*P	**P**	**02 36 06.0**	**+0.1**
BDFB	**Brasilia**	**78.36**	**259**	P	**P**	**02 36 06.5**	**-0.1**
	comp=Z,12nm,1.1s,baz=137,slow=7.4,SNR=11						
BDFB				LR	LR	03 06 53.9	
	comp=Z,85nm,18.9s,baz=212,slow=33						
KULM	**Kulim**	**78.88**	**55**	*e*P	**P**	**02 36 09.3**	**+0.1**
	comp=Z,63nm,1.2s						
DBIC	**Dimbokro**	**78.98**	**308**	P	**P**	**02 36 09.6**	**-0.1**
	comp=Z,12nm,0.8s,baz=137,slow=8.1,SNR=5.8						
DBIC				LR	LR	03 07 45.8	
	comp=Z,50nm,18.0s,baz=124,slow=33						
KSM	**Kuching**	**79.39**	**66**	*e*P	**P**	**02 36 12.3**	**+0.4**
	comp=Z,12nm,1.0s						
SKHT	**Srikalahasti**	**79.98**	**33**	⇑*e*P	**P**	**02 36 13.2**	**-1.8**
URV	**Uravakonda**	**80.54**	**30**	*e*P	**P**	**02 36 17.7**	**-0.4**
COEN	**Coen**	**80.95**	**103**	*e*P	**P**	**02 36 19.6**	**-0.9**
	comp=Z,36nm,1.3s						
SBUM	**Sibu**	**81.09**	**67**	*e*P	**P**	**02 36 21.1**	**0.0**
LVC	**Limon Verde**	**81.29**	**238**	*e*P	**P**	**02 36 23.7**	**+1.2**
	comp=Z,36nm,0.9s						
RCLA	**Racherla**	**81.44**	**32**	*e*P	**P**	**02 36 23.8**	**+0.9**
SRLM	**Srisailam**	**82.04**	**31**	*e*P	**P**	**02 36 24.8**	**-1.3**
ADKI	**Addanki**	**82.06**	**33**	*e*P	**P**	**02 36 24.1**	**-2.1**
NJS	**Nagarjunasagar**	**82.58**	**32**	*e*P	**P**	**02 36 28.0**	**-0.8**
TORD	**Torodi Ar. Bea**	**82.72**	**316**	P	**P**	**02 36 30.5**	**+0.9**
	comp=Z,8.8nm,0.8s,baz=165,slow=4.6,SNR=38						
TORD				LR	LR	03 09 12.7	
	comp=Z,21nm,21.7s,baz=140,slow=33						
HYB	**Hyderabad**	**83.22**	**31**	*i* P	**P**	**02 36 31.5**	**-0.7**
HYBB	**Hyderabad (bro**	**83.23**	**31**	*e*P	**P**	**02 36 31.7**	**-0.5**
PVM	**Polavaram**	**83.83**	**34**	*e*P	**P**	**02 36 35.0**	**-0.3**
SRSP	**Sriramsagar**	**84.63**	**30**	*e*P

AQU L'Aquila 107.42 335 ePKP PKiKP 02 42 29.8 -1.9
WMQ Urumqi 110.66 31 ePKP PKiKP 02 42 38.8 +1.0
WMQ LN
comp=Z,36nm,28.0s
WMQ LZ
comp=Z,45nm,18.6s
BNI Bardonecchia 111.43 331 ePKIKP PKiKP 02 42 37.2 -2.1
BNI Bardonecchia 111.43 331 ePKP PKiKP 02 42 37.2 -2.1
KECS Kecovo 112.13 342 eP Pdif 02 38 50.1 +5.9
KECS Kecovo 112.13 342 e Pdif 02 38 50.1 +5.9
MKAR Makanchi Array 112.27 26 PKiKP PKiKP 02 42 39.0 -1.7
comp=Z,0.3nm,0.5s,baz=194,slow=0.6,SNR=4.9
MKAR Makanchi Array 112.27 26 PKIKP PKiKP 02 42 39.0 -1.7
STHS Stebnicka Huta 112.93 342 eP Pdif 02 38 52.1 +4.4
STHS Stebnicka Huta 112.93 342 e Pdif 02 38 52.1 +4.4
KIEV Kiev 113.24 348 i/PKIKP PKiKP 02 42 40.9 -1.4
GERES GERESS Array B 113.61 337 PKiKP PKiKP 02 42 42.3 -1.0
comp=Z,0.3nm,0.5s,baz=147,slow=2.0,SNR=6.3
MORC Moravsky Berou 113.84 340 ePKIKP PKiKP 02 42 41.8 -1.8
MORC Moravsky Berou 113.84 340 ePKP PKiKP 02 42 41.8 -1.8
DPC Dobruska-Polom 114.60 339 ePKP PKPdf 02 42 44.5 -0.6
DPC ex x 02 42 53.7
DPC ex x 02 42 56.5
DPC Dobruska-Polom 114.60 339 ePKIKP PKPdf 02 42 44.5 -0.6
HHC Hu-ho-hao-te 115.15 50 ePKP PKPdf 02 42 49.6 +3.1
HHC PP PP 02 43 57.1 +10
HHC SKS SKSdf 02 50 00.6 +2.3
HHC SS SS 02 59 47.7 +3.5
HHC PPMZ
comp=Z,26nm,5.5s
HHC LN
comp=Z,98nm,20.0s
HHC LE
comp=Z,97nm,18.2s
HHC LZ
comp=Z,34nm,18.4s
CLL Collm 116.10 337 i PKIKP PKPdf 02 42 48.5 +0.7
CLL pmax pmax
comp=Z,4.0nm,1.1s
CLL Collm 116.10 337 i PKiKP PKPdf 02 42 48.5 +0.7
comp=Z,4.0nm,1.1s
BRVK Borovoye 116.33 16 d/i PKIKP PKPdf 02 42 48.0 -0.2
BRVK Borovoye 116.33 16 ePKPdf PKPdf 02 42 48.2 0.0
ARU Arti 118.55 8 i PKIKP PKPdf 02 42 52.3 -0.1
ARU 02 44 10.5
ARU Arti 118.55 8 ePKPdf PKPdf 02 42 52.0 -0.4
SONM Songino Array 119.57 42 PKP PKPdf 02 42 53.5 -1.3
comp=Z,0.8nm,1.0s,baz=208,slow=1.5,SNR=6.1
SONM PP PP 02 44 12.8 -5.3
comp=Z,0.2nm,0.3s,baz=212,slow=5.1,SNR=3.8
ZALV Zalesovo Beam 119.58 25 PKP PKPdf 02 42 52.8 -1.7
comp=Z,2.0nm,0.9s,baz=201,slow=2.9,SNR=6.7
ZAK Zakamensk 120.88 39⇑ i/PKIKP PKPdf 02 42 56.6 -0.6
ZAK pmax pmax
comp=Z,3.0nm,1.3s
VSU Vasula 121.16 348⇑ ePKIKP PKPdf 02 42 56.2 -1.1
MAJO Matsushiro 122.36 72 ePKIKP PKPdf 02 43 00.3 -0.1
MAJO Matsushiro 122.36 72 ePKPdf PKPdf 02 43 00.3 -0.1
MJAR Matsushiro Arr 122.36 72 PKP PKPdf 02 43 00.0 -0.4
comp=Z,1.7nm,0.9s,baz=216,slow=6.9,SNR=6.8
MJAR Matsushiro Arr 122.36 72 PKIKP PKPdf 02 43 00.0 -0.4
MJAR pmax pmax
comp=Z,2.0nm,0.9s
ESK Eskdalemuir 123.32 329 ePKIKP PKPdf 02 43 00.2 -1.4
ESK Eskdalemuir 123.32 329 ePKPdf PKPdf 02 43 00.2 -1.4
FINES FINESS Array B 124.16 348 PKP PKPdf 02 43 02.2 -0.7
comp=Z,1.5nm,0.6s,baz=185,slow=2.0,SNR=16
NAO01 NORSAR Array S 125.55 340 ePKPdf PKPdf 02 43 05.3 -0.5
NB2 NORSAR Subarra125.68 340 PKPdf PKPdf 02 43 04.7 -1.3
comp=Z,5.7nm,1.0s,baz=160,slow=2.0
NB2 NORSAR Subarra125.68 340 PKPdf PKPdf 02 43 04.7 -1.3
baz=160,slow=2.0
NOA NORSAR Array B 125.68 340 PKP PKPdf 02 43 04.7 -1.3
comp=Z,3.2nm,0.9s,baz=138,slow=2.3,SNR=15
NOA PP PP 02 45 05.4 +6.2
comp=Z,0.3nm,0.7s,baz=157,slow=6.3,SNR=3.2
BOD Bodaibo 130.50 41 ePKIKP PKPdf 02 43 14.2 -1.0
BOD pmax pmax
comp=Z,3.0nm,1.7s
TIGA Tifton 135.75 250 P PKPdf 02 43 26.8 +0.8
baz=136
035Z Hargill 137.25 230 P PKPdf 02 43 29.8 +0.9
baz=137
035A Encino 137.70 230 P PKPdf 02 43 31.9 +2.2
baz=138
034A Hebbronville 138.02 230 P PKPdf 02 43 32.1 +1.7
baz=138
934A Benavides 138.45 230 P PKPdf 02 43 33.2 +2.1
baz=139
933A Laredo 138.73 229 P PKPdf 02 43 33.1 +1.4
baz=139
834A Tilden 138.94 231 P PKPdf 02 43 33.7 +1.7
baz=139
540A Vidor 139.07 237 P PKPdf 02 43 32.5 +0.4
baz=139
637A Eagle Lake 139.30 234 P PKPdf 02 43 35.6 +3.0
baz=140
833A Chaparral WMA, 139.42 230 P PKPdf 02 43 34.9 +2.1
baz=140
832A Faith Ranch, C 139.60 229 P PKPdf 02 43 34.9 +1.7
baz=140
636A Smothers Creek 139.61 233 P PKPdf 02 43 35.2 +2.1
baz=140
733A Divot King Ran 139.75 230 P PKPdf 02 43 34.9 +1.4
baz=140
635A Leesville 139.79 232 P PKPdf 02 43 35.2 +1.7
baz=140
537A Green Hill Far 139.86 235 P PKPdf 02 43 37.2 +3.6
baz=140
SWET Sewanee 139.99 250 ePKPpre PKPpre 02 43 25.4
SWET ePKPdf PKPdf 02 43 34.2 +0.5
732A Laxson Ranch, 140.00 229 P PKPdf 02 43 37.4 +3.5
baz=140
340A Bronson 140.10 238 P PKPdf 02 43 35.5 +1.5
baz=140
438A Sam Houston St 140.13 236 P PKPdf 02 43 36.5 +2.4
baz=140
536A Bastrop 140.15 234 P PKPdf 02 43 36.4 +2.3
baz=140
339A Huntington 140.29 238 P PKPdf 02 43 36.9 +2.6
baz=140
633A Saathoff Ranch 140.38 231 P PKPdf 02 43 36.1 +1.5
baz=140
338A Crockett 140.61 237 P PKPdf 02 43 36.2 +1.3
baz=141
534A Blanco 140.63 232 P PKPdf 02 43 36.1 +1.1
baz=141
632A Uvalde 140.64 230 P PKPdf 02 43 37.3 +2.2
baz=141
NATX Nacogdoches 140.71 238 P PKPdf 02 43 37.1 +2.0
baz=141
631A Perdido Creek 140.84 229 P PKPdf 02 43 36.6 +1.1
baz=141
239A Gary 140.86 238 P PKPdf 02 43 37.6 +2.3
baz=141
533A Kerrville 140.88 231 P PKPdf 02 43 36.8 +1.2
baz=141
435B Jarrell 140.98 234 P PKPdf 02 43 37.2 +1.6
baz=141
238A Jacksonville 141.10 237 P PKPdf 02 43 37.3 +1.5
baz=141
336A Riesel 141.23 235 P PKPdf 02 43 37.3 +1.2
baz=141
532A Rocksprings 141.25 230 P PKPdf 02 43 33.3 -2.9
baz=141
434A Burnet 141.26 233 P PKPdf 02 43 36.5 +0.3
baz=141
531A Rocksprings 141.51 229 P PKPdf 02 43 35.8 -0.9
baz=142
433A Art 141.51 232 P PKPdf 02 43 34.6 -2.0
baz=142
JCT Junction City 141.53 231 ePKHKP PKPpre 02 43 31.5
JCT e 02 43 37.9
JCT Junction City 141.53 231 P PKPdf 02 43 34.5 -2.2
baz=142
JCT Junction City 141.53 231 ePKPpre PKPpre 02 43 31.5
JCT ePKPdf PKPdf 02 43 37.9 +1.2
WVT Waverly 141.59 249 ePKHKP PKPpre 02 43 29.9
WVT e 02 43 36.4
WVT Waverly 141.59 249 ePKPpre PKPpre 02 43 29.9
WVT ePKPdf PKPdf 02 43 36.4 -0.2
334A Lometa 141.72 233 P PKPdf 02 43 36.2 -0.8
baz=142
530A J-C Ranch, Com 141.78 228 P PKPdf 02 43 36.1 -1.0
baz=142
TXAR Lajitas Array 141.83 225 PKhKP PKPpre 02 43 33.3
comp=Z,2.0nm,0.8s,baz=166,slow=6.0,SNR=12
TXAR PKP PKPdf 02 43 37.0 -0.4
comp=Z,3.0nm,1.0s,baz=167,slow=4.4,SNR=15
432A Menard 141.88 231 P PKPdf 02 43 33.5 -3.8
baz=142
333A Richland Sprin 141.99 232 P PKPdf 02 43 33.8 -3.7
baz=142
431A Sonora 142.00 230 P PKPdf 02 43 33.2 -4.4
baz=142
136A Ennis 142.08 236 P PKPdf 02 43 34.3 -3.2
baz=142
Z38A Mt. Pleasant 142.15 239 P PKPdf 02 43 36.7 -0.9
baz=142
LONY Lake Ozonia 142.23 271 ePKPdf PKPdf 02 43 37.4 0.0
332A Millersview 142.32 231 P PKPdf 02 43 35.2 -2.9
baz=142
430A Baggett Ranch, 142.32 229 P PKPdf 02 43 35.5 -2.7
baz=142
331A San Angelo 142.50 230 P PKPdf 02 43 35.7 -2.7
baz=143
233A Rising Star 142.58 233 P PKPdf 02 43 35.0 -3.5
baz=143
MIAR Mount Ida 142.70 241 ePKHKP PKPpre 02 43 33.4
MIAR Mount Ida 142.70 241 P PKPdf 02 43 35.0 -3.5
baz=143,SNR=7.1
MIAR Mount Ida 142.70 241 ePKPpre PKPpre 02 43 33.4
232A Coleman 142.74 232 P PKPdf 02 43 35.6 -3.2
baz=143
Z36A Blue Ridge 142.74 237 P PKPdf 02 43 36.2 -2.5
baz=143
ACSO Alum Creek Sta 142.76 258 ePKPpre PKPpre 02 43 32.8
ACSO ePKPdf PKPdf 02 43 38.9 +0.4
134A White-Moore Ra 142.76 234 P PKPdf 02 43 36.5 -2.2
baz=143
330A Mertzon 142.86 229 P PKPdf 02 43 36.5 -2.6
baz=143,SNR=12
231A Bronte 143.03 231 P PKPbc 02 43 37.1 +0.9
baz=143
Y37A Hugo 143.04 238 P PKPdf 02 43 38.8 -0.4
baz=143
133A Hamilton Ranch 143.11 233 P PKPbc 02 43 37.6 +1.3
baz=143
Z35A Perchaven, San 143.11 236 P PKPbc 02 43 37.0 +0.8
baz=143
329A Wagon Wheel Ra 143.22 228 P PKPbc 02 43 37.2 +0.5
baz=143
230A Sterling City 143.27 230 P PKPbc 02 43 37.6 +0.8
baz=143
X38A Whitesboro 143.32 240 P PKPdf 02 43 39.3 -0.4
baz=144
ABTX Abilene, Hawle 143.40 232 P PKPbc 02 43 38.5 +1.4
baz=144
ABTX Abilene, Hawle 143.40 232 ePKPdf PKPbc 02 43 37.7 +0.5
Z34A Collier Ranch, 143.41 235 P PKPdf 02 43 39.0 -0.9
baz=144
X37A Clayton 143.47 239 P PKPbc 02 43 38.2 +1.0
baz=144
BLO Bloomington 143.52 253 ePKHKP PKPpre 02 43 35.9
BLO Bloomington 143.52 253 ePKPpre PKPpre 02 43 35.9
W38A Poteau 143.54 241 P PKPbc 02 43 38.0 +0.6
baz=144
229A Bryant Ranch, 143.59 229 P PKPbc 02 43 38.4 +0.6
baz=144,SNR=5.3
Z33A Whitaker Ranch 143.66 234 P PKPbc 02 43 38.5 +0.7
baz=144
131A Roby 143.72 231 P PKPdf 02 43 40.8 +0.3
baz=144
PETK Petropavlovsk- 143.82 72 PKP PKPbc 02 43 37.5 -0.2
comp=Z,3.6nm,0.8s,baz=142,slow=15,SNR=3.6
X36A Centrahoma 143.85 238 P PKPdf 02 43 40.6 0.0
baz=144
130A Snyder 143.86 231 P PKPbc 02 43 39.3 +0.8
baz=144,SNR=6.0
Y34A Reagan Ranch, 143.86 236 P PKPbc 02 43 38.9 +0.5
baz=144
Z32A Haskell 143.94 233 P PKPbc 02 43 39.2 +0.5
baz=144
W37A Quinton 143.97 240 P PKPbc 02 43 38.8 +0.1
baz=144
228A UT Block 9, Go 144.01 228 P PKPbc 02 43 39.9 +0.9
baz=144
V38A Canehill 144.18 241 P PKPbc 02 43 39.1 -0.2
baz=144
Z31A Sharp Cattle R 144.20 232 P PKPdf 02 43 40.8 -0.5
baz=144
129A Stewart Farms, 144.22 229 P PKPbc 02 43 40.1 +0.5
baz=144
W36A Wetumka 144.29 239 P PKPbc 02 43 39.9 +0.2
baz=144,SNR=7.7
DAG Danmarks Havn 144.36 339⇑ i/P PKPab 02 43 37.9 -0.5
comp=Z,23nm,1.4s
DAG Danmarks Havn 144.36 339⇑ i/PKIKP PKPab 02 43 37.9 -0.5
DAG pmax pmax
comp=Z,53nm,1.4s
128A Castleberry Fa 144.43 229 P PKPbc 02 43 40.8 +0.5
baz=145,SNR=17
X34A Smith Ranch, M 144.46 236 P PKPdf 02 43 41.1 -0.6
baz=145
SADO Sadowa 144.49 267 PKP PKPab 02 43 38.9 -0.9
comp=Z,3.4nm,0.4s,baz=172,slow=2.4,SNR=7.6
V37A Hulbert 144.50 241 P PKPab 02 43 39.3 -0.7
baz=145,SNR=7.9
Z30A Sanderson Ranc 144.54 231 P PKPab 02 43 40.3 -0.1
baz=145,SNR=5.8
Y32A R-V Farms, Ver 144.55 234 P PKPab 02 43 40.4 +0.1
baz=145
W35A Tecumseh 144.56 238 P PKPbc 02 43 40.7 +0.1
baz=145
CLNB Carlsbad 144.59 227 ePKPdf PKPbc 02 43 41.1 +0.3
U38A Gravette 144.66 242 P PKPab 02 43 40.4 -0.3
baz=145
X33A Lawton 144.67 235 P PKPdf 02 43 41.6 -0.4
baz=145
AAM Ann Arbor 144.71 260 ePKIKP PKPab 02 43 39.7 -1.0
AAM Ann Arbor 144.71 260 ePKPdf PKPab 02 43 39.7 -1.0
Z29A Hungry Hill Ra 144.72 230 P PKPbc 02 43 41.2 0.0
baz=145
SLM Saint Louis 144.74 249 ePKIKP PKPab 02 43 40.5 -0.4
SLM Saint Louis 144.74 249 ePKPdf PKPab 02 43 40.5 -0.4
V36A Jenks 144.74 239 P PKPab 02 43 40.8 -0.2
baz=145,SNR=5.7
SFIN Scholer Farm 144.76 254 P PKPab 02 43 39.5 -1.4
baz=145,SNR=7.9
SFIN Scholer Farm 144.76 254 ePKPdf PKPab 02 43 39.1 -1.8
TUL1 Tulsa 144.79 240 P PKPab 02 43 40.4 -0.7
baz=145
TUL1 Tulsa 144.79 240 ePKPdf PKPab 02 43 40.4 -0.7
Y31A Rekieta Farm, 144.82 233 P PKPab 02 43 41.2 -0.1
baz=145,SNR=23
X32A Elmer 144.86 234 P PKPbc 02 43 41.7 +0.1
baz=145,SNR=7.5
U37A Salina 144.94 241 P PKPab 02 43 40.9 -0.8
baz=145
WMOK Wichita Mounta 144.95 235 ePKP2 PKPab 02 43 41.4 -0.4
WMOK Wichita Mounta 144.95 235 ePKPbc PKPab 02 43 41.4 -0.4
Y30A Stafford Cattl 144.98 232 P PKPab 02 43 41.9 -0.2
baz=145,SNR=5.4
W34A Bridge Creek, 144.99 237 P PKPbc 02 43 41.8 -0.2
baz=145,SNR=5.8
W34A Bridge Creek, 144.99 237 ePKPbc PKPbc 02 43 41.8 -0.1
Z28A Tucker Farm, M 145.00 229 P PKPab 02 43 42.2 +0.1
baz=145,SNR=21
V35A Meyer Ranch, C 145.08 238 P PKPbc 02 43 42.1 -0.1
baz=145,SNR=13
U36A Ooliogah 145.18 240 P PKPbc 02 43 42.2 -0.3
baz=145
W33A Caddo, Fort Co 145.19 236 P PKPab 02 43 42.7 0.0
baz=145,SNR=11
Y29A Porterfield Fa 145.25 231 P PKPdf 02 43 43.2 0.0
baz=145,SNR=24
X31A McDonald Ranch 145.31 233 P PKPab 02 43 43.1 0.0
baz=146,SNR=15
V34A Guthrie 145.41 238 P PKPdf 02 43 43.3 0.0
baz=146,SNR=20
V34A Guthrie 145.41 238 ePKPbc PKPbc 02 43 42.8 -0.5
T37A Cheneyville 18 145.47 242 P PKPdf 02 43 42.8 -0.5
baz=146
W32A Sentinel 145.47 235 P PKPbc 02 43 43.5 0.0
baz=146,SNR=20
X30A Coker Ranch, T 145.48 232 P PKPab 02 43 43.8 -0.1
baz=146,SNR=10
Y28A McKinney Farm, 145.50 230 P PKPab 02 43 44.1 +0.1
baz=146,SNR=36
U35A Pawnee 145.56 239 P PKPbc 02 43 43.8 +0.1
baz=146,SNR=5.7
V33A Lossen Ranch, 145.71 237 P PKPbc 02 43 44.4 +0.2
baz=146,SNR=21
MSTX Muleshoe 145.75 229 P PKPab 02 43 44.9 0.0
baz=146,SNR=20
MSTX Muleshoe 145.75 229 ePKPbc PKPdf 02 43 44.1 +0.1
SCHQ Schefferville 145.78 289 PKPbc PKPdf 02 43 42.9 -0.4
comp=Z,27nm,0.8s,baz=140,slow=4.0,SNR=28
X29A Tulia 145.79 231 P PKPab 02 43 45.2 +0.2
baz=146,SNR=8.0
W31A Holland Ranch, 145.79 234 P PKPab 02 43 44.8 -0.1
baz=146,SNR=9.2
T36A Boggs Farm, Ca 145.81 241 P PKPbc 02 43 44.3 -0.1
baz=146,SNR=16
HDIL Hopedale 145.89 252 P PKPbc 02 43 44.6 0.0
baz=146,SNR=14
HDIL Hopedale 145.89 252 ePKPbc PKPdf 02 43 44.2 +0.3
V32A Arapaho 145.91 236 P PKPab 02 43 45.7 +0.3
baz=146,SNR=11
SUMG Summit 145.94 328⇑ i/P PKPab 02 43 44.6 -0.3
comp=Z,48nm,1.1s
SUMG Summit 145.94 328⇑ i/PKP2 PKPab 02 43 44.6 -0.3
SUMG pmax pmax
comp=Z,48nm,1.1s
SUMG Summit 145.94 328 ePKPbc PKPbc 02 43 44.3 -0.1
U34A Anderson Ranch 145.94 238 P PKPbc 02 43 45.1 +0.1
baz=146
T35A Sooner Cattle 145.94 240 P PKPbc 02 43 44.8 -0.1
baz=146,SNR=17
S37A Fort Scott 145.97 243 P PKPdf 02 43 44.5 +0.3
baz=146,SNR=25
W30A Crocket Farms 146.03 233 P PKPab 02 43 46.3 +0.4
baz=146
X28A Dimmitt 146.03 230 P PKPab 02 43 45.7 -0.3
baz=146,SNR=16
121A Cookes Peak, D 146.11 221 P PKPab 02 43 47.2 +0.8
baz=146
121A Cookes Peak, D 146.11 221 ePKPbc PKPab 02 43 46.7 +0.3
U33A Lingo Farm, Me 146.17 237 P PKPbc 02 43 45.8 +0.2
baz=146,SNR=9.8
AMTX Amarillo 146.17 231 P PKPab 02 43 46.6 +0.2
baz=146
AMTX Amarillo 146.17 231 ePKPbc PKPbc 02 43 46.1 +0.3
S36A Lake Cedric, C 146.26 242 P PKPbc 02 43 45.4 -0.4
baz=146,SNR=12
V31A Spring Creek L 146.27 235 P PKPab 02 43 46.7 0.0
baz=146,SNR=7.4
T34A McClaskey Farm 146.31 239 P PKPbc 02 43 46.2 +0.2
baz=146,SNR=7.1
W29A Amraillo 146.37 232 P PKPab 02 43 47.1 -0.2
baz=146,SNR=13
R37A Teagarden Farm 146.44 243 P PKPdf 02 43 45.5 +0.5
baz=147,SNR=13
U32A Winter Ranch, 146.47 236 P PKPab 02 43 47.0 -0.5
baz=147
SFJD Kangerlussuaq 146.48 315 i P PKPdf 02 43 44.6 +0.6
SFJD Kangerlussuaq 146.48 315 i PKP2 PKPdf 02 43 44.6 +0.6
SFJD Kangerlussuaq 146.48 315 ePKPbc PKPdf 02 43 44.6 +0.6
S35A Otter Creek Ra 146.52 241 P PKPbc 02 43 46.6 0.0
baz=147,SNR=9.5
V30A Spur Ranch, Mi 146.58 233 P PKPab 02 43 47.6 -0.4
baz=147,SNR=17
W28A Vega 146.70 231 P PKPbc 02 43 47.9 +0.6
baz=147
R36A Gordon, Harris 146.73 242 P PKPbc 02 43 47.2 0.0
baz=147,SNR=9.2
Q37A Longview Farm, 146.75 244 P PKPdf 02 43 45.8 +0.3
baz=147
T33A Patterson Ranc 146.79 238 P PKPbc 02 43 47.5 +0.1
baz=147,SNR=5.5
TUC Tucson 146.79 217 ePKP2 PKPbc 02 43 47.0 -0.7
TUC Tucson 146.79 217 ePKPdf PKPbc 02 43 47.0 -0.7
TUC ePKPbc PKPab 02 43 48.8 -0.1
S34A Willow Spring 146.86 240 P PKPbc 02 43 47.6 0.0
baz=147,SNR=10.0
214A Organ Pipe Nat 147.01 214 P PKPab 02 43 49.7 0.0
baz=147
214A Organ Pipe Nat 147.01 214 ePKPdf PKPdf 02 43 46.8 +0.6
214A ePKPbc PKPab 02 43 49.4 -0.3
R35A Emporia Munici 147.02 241 P PKPbc 02 43 48.5 +0.5
baz=147
GLMI Grayling 147.09 261 ePKPbc PKPbc 02 43 47.1 -0.9
S33A Kaszmaul Farm, 147.13 239 P PKPbc 02 43 48.7 +0.4
baz=147
T32A Huddler Ranch, 147.14 237 P PKPbc 02 43 48.9 +0.5
baz=147,SNR=7.5
V28A Channing 147.14 231 P PKPbc 02 43 48.9 +0.4
baz=147
U30A WK&E Inc. Balk 147.24 234 P PKPbc 02 43 48.6 -0.2
baz=147,SNR=10
Q36A Arnold C. Orve 147.25 243 P PKPbc 02 43 47.5 -1.1
baz=147,SNR=5.5
Y22D IRIS PASSCAL I 147.26 224 P PKPdf 02 43 47.7 +1.0
baz=147
LENM Lemitar 147.36 224 ePKPbc PKPab 02 43 50.6 -0.6
T31A Randall Ranch, 147.36 236 P PKPbc 02 43 48.6 -0.4
baz=148
V27A Dan Oppiter Fa 147.37 231 P PKPbc 02 43 49.1 -0.1
baz=148
LPM Los Pinos Moun 147.38 224 ePKPbc PKPbc 02 43 49.8 +0.5
Q35A Mercer Eighty, 147.41 242 P PKPbc 02 43 48.0 -1.1
baz=148,SNR=12
R34A Isabella, Hill 147.43 240 P PKPbc 02 43 49.4 +0.2
baz=148,SNR=30
S32A Newby Ranch, P 147.59 237 P PKPbc 02 43 48.9 -0.7
baz=148,SNR=14
LAZ Ladron 147.63 224 ePKPdf PKPdf 02 43 48.5 +1.2
LAZ ePKPbc PKPbc 02 43 51.0 +0.9
T30A Plains 147.65 235 P PKPbc 02 43 49.2 -0.7
baz=148
P36A Good Intent, A 147.70 244 P PKPbc 02 43 48.8 -1.1
baz=148,SNR=8.2
U28A Mallet 147.70 232 P PKPbc 02 43 50.2 +0.1
baz=148
R33A Olander Ranch, 147.74 239 P PKPbc 02 43 50.1 +0.1
baz=148,SNR=8.5
S31A Mullinville 147.74 237 P PKPbc 02 43 50.5 +0.4
baz=148,SNR=10
ILULI Ilulissat 147.77 318 i P PKPdf 02 43 47.3 +1.2
ILULI i 02 43 59.1
Q34A Chapman 147.83 241 P PKPbc 02 43 50.1 -0.2
baz=148
KSU1 Kansas State U 147.85 242 P PKPbc 02 43 49.7 -0.6
baz=148
ANMO Albuquerque 147.90 225 ePKIKP PKPdf 02 43 48.1 +0.3
ANMO e 02 43 51.2
ANMO e 02 43 54.5
ANMO Albuquerque 147.90 225 ePKPdf PKPdf 02 43 48.1 +0.3
ANMO ePKPbc PKPbc 02 43 51.2 +0.4
ANMO ePKPab PKPab 02 43 54.5 +1.1
U27A Thompson Grove 147.96 231 P PKPbc 02 43 50.7 -0.2
baz=148,SNR=24
P35A Duane Minner, 147.96 243 P PKPbc 02 43 50.0 -0.5
baz=148,SNR=14
O36A Bolckow 148.02 245 P PKPbc 02 43 49.8 -0.8
baz=148
T29A Hugoton 148.04 234 P PKPbc 02 43 51.0 +0.1
baz=148,SNR=5.7
R32A Long Quarter, 148.13 238 P PKPbc 02 43 51.2 +0.2
baz=148,SNR=9.3
S30A Montezuma 148.14 235 P PKPbc 02 43 51.6 +0.4
baz=148,SNR=5.1
JFWS Jewell Farm 148.20 253 ePKIKP PKPdf 02 43 47.9 +0.1
JFWS e 02 43 50.6
JFWS Jewell Farm 148.20 253 ePKPdf PKPdf 02 43 47.9 +0.1
JFWS ePKPbc PKPbc 02 43 50.5 -0.5
Q33A Connelly Farm, 148.26 240 P PKPbc 02 43 51.3 -0.1
baz=148,SNR=12
P34A Walnut Farm, R 148.31 242 P PKPbc 02 43 51.5 +0.1
baz=148
O35A Humboldt 148.53 244 P PKPbc 02 43 51.9 -0.1
baz=149
Q32A Meitler Ranch, 148.55 239 P PKPbc 02 43 52.5 +0.3
baz=149
GLA Glamis 148.56 211 ePKP2 PKPbc 02 43 53.1 +0.7
GLA Glamis 148.56 211 P PKPbc 02 43 53.5 +1.1
baz=149,SNR=5.1
GLA Glamis 148.56 211 ePKPbc PKPbc 02 43 53.1 +0.7
GLA ePKPab PKPab 02 43 57.1 +1.3
P33A Williams Farm, 148.58 241 P PKPbc 02 43 52.6 +0.4
baz=149
S28A Manter 148.65 233 P PKPbc 02 43 52.9 +0.4
baz=149,SNR=10.0
SWSC Sam W. Stewart 148.69 210 P PKPbc 02 43 52.7 +0.1
baz=149
SCIA State Center 148.72 249 ePKPbc PKPbc 02 43 52.8 +0.4
SCIA ePKPab PKPab 02 43 56.8 +0.6
MONP Monument Peak 148.78 209 P PKPdf 02 43 51.2 +1.9
baz=149

O34A	Beatrice baz=149	148.79 243	P	PKPbc	02 43 52.3	-0.4
CBKS	Cedar Bluff baz=149	148.87 237	P	PKPbc	02 43 51.4	-1.6
Q31A	Ellis baz=149	148.90 238	P	PKPbc	02 43 51.2	-1.9
T26A	Comanche Natio baz=149,SNR=42	148.91 231	P	PKPdf	02 43 51.2	+1.8
N35A	Tabor baz=149	148.91 245	P	PKPdf	02 43 50.2	+1.3
109C	Camp Elliot, M baz=149	148.93 208	P	PKPbc	02 43 54.2	+1.0
O33A	Hebron baz=149	149.07 241	P	PKPdf	02 43 50.8	+1.5
R29A	Marienthal baz=149	149.09 235	P	PKPbc	02 43 53.9	+0.3
W18A	Petrified Fore baz=149	149.11 220	P	PKPbc	02 43 54.6	+0.7
W18A	Petrified Fore	149.11 220	ePKPbc	PKPbc	02 43 54.2	+0.4
W18A			ePKPab	PKPab	02 43 59.3	+1.1
P32A	Huiting Farm, baz=149	149.11 240	P	PKPbc	02 43 53.8	+0.3
Y12C	Blythe baz=149,SNR=13	149.15 212	P	PKPbc	02 43 52.4	-1.4
T25A	Trinidad baz=149,SNR=12	149.17 230	P	PKPbc	02 43 52.3	-1.8
Q30A	Quinter baz=149	149.21 237	P	PKPbc	02 43 53.7	-0.1
N34A	Lincoln baz=149	149.26 244	P	PKPbc	02 43 53.7	-0.1
S26A	Kim baz=149,SNR=31	149.26 231	P	PKPbc	02 43 54.7	+0.5
R28A	Tribune baz=149,SNR=13	149.27 234	P	PKPbc	02 43 54.6	+0.5
BC3	Big Chuckawall baz=149,SNR=7.4	149.29 211	P	PKPbc	02 43 55.6	+1.3
P31A	Stockton baz=150	149.34 239	P	PKPbc	02 43 54.3	+0.2
Q29A	Oakley baz=150,SNR=8.2	149.43 236	P	PKPbc	02 43 54.8	+0.4
M35A	Neola baz=150	149.44 245	P	PKPbc	02 43 54.5	+0.2
PFO	Pinyon Flat Ob	149.48 209	ePKHKP	PKPpre	02 43 50.5	
PFO			e		02 43 55.7	
PFO	Pinyon Flat Ob baz=150,SNR=6.0	149.48 209	P	PKPbc	02 43 55.8	+1.0
PFO	Pinyon Flat Ob	149.48 209	ePKPdf	PKPdf	02 43 50.5	+0.2
PFO			ePKPbc	PKiKP	02 43 55.6	-0.2
PFO			ePKPab	PKPab	02 44 01.4	+1.7
O32A	Brockman Farm, baz=150	149.51 241	P	PKPbc	02 43 54.5	-0.1
N33A	J Bar K, Exete baz=150	149.57 242	P	PKPbc	02 43 54.7	0.0
PDMCI	Parker Dam,Lak baz=150,SNR=12	149.58 213	P	PKPbc	02 43 56.5	+1.7
R27A	Eads baz=150,SNR=10.0	149.60 233	P	PKPbc	02 43 55.8	+0.9
MURC	Murrieta baz=150	149.64 208	P	PKPbc	02 43 56.5	+1.4
IRM	Iron Mountain baz=150,SNR=12	149.70 211	P	PKPbc	02 43 56.3	+1.2
P30A	Selden baz=150	149.70 238	P	PKPbc	02 43 55.7	+0.7
CIS	Catalina Islan baz=150	149.71 206	P	PKPbc	02 43 56.7	+1.5
BELC	Belle Mtn. Jos baz=150,SNR=11	149.75 210	P	PKPbc	02 43 57.2	+1.7
M34A	Aspy Farms, Fr baz=150	149.84 244	P	PKPbc	02 43 56.1	+0.8
O31A	Woolen Ranch, baz=150	149.85 239	P	PKPbc	02 43 55.6	+0.2
R26A	Arlington baz=150,SNR=35	149.85 232	P	PKPbc	02 43 56.2	+0.7
L35A	Bielow Farm, R baz=150	149.90 246	P	PKPbc	02 43 55.6	+0.2
Q28A	Sharon Springs baz=150	149.91 235	P	PKPbc	02 43 55.5	-0.2
N32A	Stulken Farm, baz=150	149.95 241	P	PKPbc	02 43 56.1	+0.6
WUAZ	Wupatki baz=150,SNR=11	149.97 218	P	PKPbc	02 43 57.2	+1.2
WUAZ	Wupatki	149.97 218	ePKPdf	PKPdf	02 43 52.3	+1.3
WUAZ			ePKPbc	PKiKP	02 43 56.5	-0.4
WUAZ			ePKPab	PKPab	02 44 02.8	+1.1
P29A	Atwood baz=150	150.02 237	P	PKPbc	02 43 56.5	+0.7
SDCO	Great Sand Dun baz=150,SNR=36	150.10 229	P	PKPbc	02 43 57.4	+1.0
SDCO	Great Sand Dun	150.10 229	ePKPdf	PKPdf	02 43 52.6	+1.2
SDCO			ePKPbc	PKiKP	02 43 56.9	-0.4
L34A	Svendsen Farm, baz=150	150.14 245	P	PKPbc	02 43 56.5	+0.6
NEE2	Needles Airpor baz=150	150.14 213	P	PKPbc	02 43 56.9	+0.7
COWI	Conover	150.15 258	ePKPdf	PKPdf	02 43 50.7	0.0
COWI			ePKPbc	PKPbc	02 43 55.8	-0.1
COWI			ePKPab	PKPab	02 44 02.7	+0.7
M33A	Taylor Creek F baz=150	150.16 244	P	PKPbc	02 43 56.4	+0.3
KSCO	Kaye Shedlock'	150.17 234	P	PKPbc	02 43 56.8	+0.5
KSCO	Kaye Shedlock'	150.17 234	ePKPbc	PKPbc	02 43 57.0	+0.7
O30A	MW Ranch, Wils baz=150	150.17 238	P	PKPbc	02 43 56.7	+0.6
P28A	Saint Francis baz=150	150.32 236	P	PKPbc	02 43 57.7	+1.1
BFSC	Mount Baldy Ra baz=150	150.35 207	P	PKPbc	02 43 58.0	+1.1
PASC	Pasadena Art C	150.40 207	ePKPbc	PKPbc	02 43 57.9	+1.1
GMRC	Granite Mounta baz=151,SNR=24	150.41 211	P	PKPbc	02 43 58.1	+1.0
O29A	4D Ranch, Culb baz=151	150.42 237	P	PKPbc	02 43 58.1	+1.3
BGNE	Belgrade baz=151	150.42 242	P	PKPbc	02 43 57.3	+0.7
BGNE	Belgrade	150.42 242	ePKPbc	PKPbc	02 43 57.0	+0.4
BGNE			ePKPab	PKPab	02 44 04.5	+1.3
MWC	Mount Wilson	150.43 207	ePKIKP	PKPbc	02 43 57.9	+0.8
MWC	Mount Wilson	150.43 207	ePKPbc	PKPbc	02 43 57.9	+0.8
Q26A	Hugo baz=151,SNR=9.8	150.43 232	P	PKPbc	02 43 57.9	+1.0
DECC	Green Verdugo baz=151	150.51 206	P	PKPbc	02 43 56.9	-0.2
LDFC	Landfair	150.56 212	ePKPbc	PKPbc	02 44 05.3	+1.2
LDFC			ePKPab	PKPab	02 44 05.3	+1.2
S22A	4UR Ranch, Cre baz=151,SNR=42	150.57 227	P	PKPbc	02 43 57.9	+0.4
HEC	Hector,Ludlow baz=151	150.62 210	P	PKPbc	02 43 59.1	+1.7
P27A	Ficken Ranch, baz=151	150.62 234	P	PKPbc	02 43 58.4	+1.1
MVCO	Mesa Verde baz=151,SNR=9.7	150.64 224	P	PKPbc	02 43 58.0	+0.4
MVCO	Mesa Verde	150.64 224	ePKPdf	PKPdf	02 43 53.0	+0.9
MVCO			ePKPbc	PKiKP	02 43 58.2	-0.1
MVCO			ePKPab	PKPab	02 44 04.8	+0.3
L33A	Hoskins baz=151	150.68 244	P	PKPbc	02 43 57.4	+0.1
O28A	Krutsinger Ran baz=151	150.80 236	P	PKPbc	02 43 58.2	+0.5
P26A	Davis Ranch, A baz=151	150.92 233	P	PKPbc	02 43 58.7	+0.7
N29A	Votaw Ranch, W baz=151	150.94 238	P	PKPbc	02 43 58.8	+0.9
OSI	Osito Adit baz=151	150.94 206	P	PKPbc	02 43 59.7	+1.5
OSI	Osito Adit	150.94 206	ePKPbc	PKPbc	02 43 59.0	+0.8
OSI			ePKPab	PKPab	02 44 06.9	+1.3
SBC	Santa Barbara baz=151	150.97 204	P	PKPbc	02 43 58.2	+0.1
EDW2	Edwards Air Fo baz=151	151.04 207	P	PKPbc	02 43 59.7	+1.3
Q24A	Divide baz=151,SNR=10	151.06 230	P	PKPbc	02 43 59.3	+0.6
TUQ	Turquoise Moun baz=151,SNR=5.7	151.10 211	P	PKPbc	02 43 59.8	+1.2
O27A	Beecher Island baz=151	151.13 235	P	PKPbc	02 43 59.3	+0.8
SPMN	St. Paul baz=151	151.16 253	P	PKPbc	02 43 58.7	+0.4
SPMN	St. Paul	151.16 253	ePKPbc	PKPbc	02 43 58.1	-0.1
GSC	Goldstone	151.18 209	ePKIKP	PKPdf	02 43 53.6	+0.8
GSC			e		02 43 59.8	
GSC	Goldstone baz=151	151.18 209	P	PKPbc	02 43 60.0	+1.2
GSC	Goldstone	151.18 209	ePKPdf	PKPdf	02 43 53.6	+0.8
GSC			ePKPbc	PKiKP	02 43 59.8	+0.5
N28A	Pribbeno Ranch baz=151	151.19 237	P	PKPbc	02 43 59.2	+0.6
L31A	Butterfield Fa baz=152	151.35 242	P	PKPbc	02 43 59.2	+0.4
PKM	Peak Mountain baz=152	151.43 204	P	PKPbc	02 44 01.0	+1.5
ARVC	Arvin baz=152	151.46 206	P	PKPbc	02 44 00.9	+1.7
M29A	Burnside Ranch baz=152	151.50 239	P	PKPbc	02 44 00.4	+1.1
O26A	Horse Wrangler baz=152	151.50 234	P	PKPbc	02 44 00.6	+1.2
PV01	Paradox Valley	151.50 224	ePKPdf	PKPdf	02 43 54.1	+0.6
PV01			ePKPbc	PKiKP	02 43 60.0	-0.1
PV01			ePKPab	PKPab	02 44 08.5	+0.5
L30A	Spencer Herefo baz=152	151.52 241	P	PKPbc	02 44 00.2	+0.9
LRMC	Laurel Mountai baz=152	151.55 208	P	PKPbc	02 44 00.9	+1.2
OGNE	Ogallala baz=152	151.61 237	P	PKPbc	02 44 00.4	+0.9
OGNE	Ogallala	151.61 237	ePKPbc	PKPbc	02 43 59.3	-0.2
OGNE			ePKPab	PKPab	02 44 08.6	+0.4
SHOC	Shoshone baz=152	151.63 211	P	PKPbc	02 44 01.3	+1.6
ECSD	EROS Data Cent baz=152	151.67 247	P	PKPbc	02 43 59.7	+0.2
ECSD	EROS Data Cent	151.67 247	ePKPdf	PKPdf	02 43 53.5	+0.3
ECSD			ePKPbc	PKPbc	02 43 59.5	0.0
ECSD			ePKPab	PKPab	02 44 10.3	+1.9
N27A	Anderson Farm, baz=152	151.69 236	P	PKPbc	02 44 00.5	+0.7
M28A	Bar X Bar Ranc baz=152	151.73 238	P	PKPbc	02 44 01.0	+1.2
PV04	Paradox Valley	151.85 224	ePKPdf	PKPdf	02 43 54.9	+1.0
PV04			ePKPbc	PKiKP	02 44 00.7	0.0
PV04			ePKPab	PKPab	02 44 09.3	-0.1
SMMC	Simmler baz=152	151.87 204	P	PKPbc	02 44 02.2	+2.0
SMCO	Snowmass	151.90 228	ePKPdf	PKPdf	02 43 54.7	+0.4
SMCO			ePKPbc	PKiKP	02 44 01.8	+0.7
SMCO			ePKPab	PKPab	02 44 10.9	+1.0
ISA	Isabella	151.90 207	ePKIKP	PKPdf	02 43 55.4	+1.5
ISA			e		02 44 01.7	
ISA	Isabella baz=152	151.90 207	P	PKPbc	02 44 01.9	+1.5
ISA	Isabella	151.90 207	ePKPdf	PKPdf	02 43 55.4	+1.5
ISA			ePKPbc	PKiKP	02 44 01.7	+1.0
SHPR	Sheep Range	151.93 213	ePKPdf	PKPdf	02 43 55.7	+1.6
SHPR			ePKPbc	PKiKP	02 44 01.5	+0.7
SHPR			ePKPab	PKPab	02 44 11.6	+1.8
ISCO	Idaho Springs	151.97 230	ePKIKP	PKPdf	02 43 55.2	+1.0
ISCO			e		02 44 01.2	
ISCO			e		02 44 11.4	
ISCO	Idaho Springs baz=152	151.97 230	P	PKPbc	02 44 01.5	+0.8
ISCO	Idaho Springs	151.97 230	ePKPdf	PKPdf	02 43 55.2	+1.0
ISCO			ePKPbc	PKiKP	02 44 01.2	+0.2
ISCO			ePKPab	PKPab	02 44 11.4	+1.4
MPMC	Manual Prospec baz=152	152.07 209	P	PKPbc	02 44 01.9	+1.0
K30A	Basset baz=152	152.08 242	P	PKPbc	02 44 01.2	+0.7
VES	Vestal, Richgr baz=152	152.20 206	P	PKPbc	02 44 01.3	+0.3
DAC	Darwin (Calif)	152.30 209	ePKIKP	PKPdf	02 43 56.1	+1.5
DAC			e		02 44 02.2	
DAC	Darwin (Calif)	152.30 209	ePKPdf	PKPdf	02 43 56.1	+1.5
DAC			ePKPbc	PKiKP	02 44 02.2	+0.5
DAC			ePKPab	PKPab	02 44 13.2	+1.9
FURC	Furnace Creek, baz=152	152.31 210	P	PKPbc	02 44 02.7	+1.5
CCUT	Cedar City	152.43 217	ePKPdf	PKPdf	02 43 55.8	+0.9
CCUT			ePKPbc	PKiKP	02 44 02.8	+0.8
CCUT			ePKPab	PKPab	02 44 13.7	+1.7
CCUT			eSKPdf	SKPdf	02 47 27.6	-0.1
CWC	Cottonwood Cre baz=153	152.56 208	P	PKPbc	02 44 03.5	+1.5
J30A	Dallas baz=153	152.57 243	P	PKPbc	02 44 01.7	+0.1
EYMN	Ely	152.60 259	ePKPdf	PKPdf	02 43 53.5	-0.9
EYMN			ePKPbc	PKPbc	02 44 00.6	-0.9
EYMN			ePKPab	PKPab	02 44 11.1	-1.0
TPNV	Topopah Spring baz=153	152.62 211	P	PKPbc	02 44 03.9	+1.8
GRAC	Grapevine Rang baz=153	152.94 210	P	PKPbc	02 44 04.5	+1.8
MSU	Marysvale	152.98 219	ePKIKP	PKPdf	02 43 56.4	+0.8
MSU			e		02 44 03.6	
MSU			e		02 44 15.0	
MSU	Marysvale	152.98 219	ePKPdf	PKPdf	02 44 56.4	+0.8
MSU			ePKPbc	PKiKP	02 44 03.6	+0.6
MSU			ePKPab	PKPab	02 44 15.0	+0.7
MVU	Marysvale	152.98 219	ePKPdf	PKPdf	02 43 57.0	+1.3
MVU			ePKPbc	PKiKP	02 44 04.3	+1.2
MVU			ePKPab	PKPab	02 44 14.4	+0.1
SRU	San Rafael	153.02 222	ePKIKP	PKPdf	02 43 55.8	+0.2
SRU			e		02 44 03.3	
SRU			e		02 44 14.5	
SRU	San Rafael	153.02 222	ePKPdf	PKPdf	02 43 55.8	+0.2
SRU			ePKPbc	PKiKP	02 44 03.3	+0.2
SRU			ePKPab	PKPab	02 44 14.5	+0.1
N23A	Red Feather La baz=153	153.05 231	P	PKPbc	02 44 03.9	+0.8
TIN	Tinemaha baz=153	153.19 208	P	PKPbc	02 44 04.7	+1.5
O20A	White River Ci	153.19 227	ePKPdf	PKPdf	02 43 56.7	+0.9
O20A			ePKPbc	PKiKP	02 44 03.7	+0.3
O20A			ePKPab	PKPab	02 44 15.0	-0.1
PHWY	Pilot Hill	153.22 232	ePKPdf	PKPdf	02 43 56.0	0.0
PHWY			ePKPbc	PKPbc	02 44 03.0	-0.4
PHWY			ePKPab	PKPab	02 44 14.6	-0.7
J28A	Allard Ranch, baz=154	153.37 241	P	PKPbc	02 44 04.4	+1.0
L25A	Engebretsen Ra baz=154	153.39 235	P	PKPbc	02 44 04.8	+1.3
I29A	Vivian Onida baz=154	153.47 243	P	PKPbc	02 44 04.5	+0.9
K26A	Motz Farm, Whi baz=154	153.55 237	P	PKPbc	02 44 04.3	+0.5
R11A	Troy Canyon, C baz=154	153.78 213	P	PKPbc	02 44 06.1	+1.5
R11A	Troy Canyon, C	153.78 213	ePKPdf	PKPdf	02 43 57.3	+0.6
R11A			ePKPbc	PKiKP	02 44 05.5	+0.8
R11A			ePKPab	PKPab	02 44 17.0	-0.5
G30A	Faulkton baz=154	153.88 246	P	PKPbc	02 44 04.8	+0.5
H29A	Onida baz=154	153.93 243	P	PKPbc	02 44 05.5	+1.0
TPH	Tonopah	153.93 210	ePKIKP	PKPdf	02 43 58.4	+1.5
TPH			e		02 44 05.7	
TPH			e		02 44 19.2	
TPH	Tonopah	153.93 210	ePKPdf	PKPdf	02 43 58.4	+1.5
TPH			ePKPbc	PKiKP	02 44 05.7	+0.7
TPH			ePKPab	PKPab	02 44 19.2	+1.0
K24A	Anderson Ranch baz=154	154.21 235	P	PKPbc	02 44 05.6	+0.3
NLU	North Lily Min	154.28 221	ePKPdf	PKPdf	02 43 58.2	+0.8
NLU			ePKPbc	PKiKP	02 44 06.1	+0.4
F30A	Leola baz=155	154.38 247	P	PKPbc	02 44 06.0	+0.6
NVAR	Mina Array Bea	154.52 209	PKP	PKPdf	02 43 58.8	+1.0
	comp=Z,1.1nm,0.8s,baz=175,slow=2.5,SNR=9.9					
NVAR			PKPbc	PKiKP	02 44 07.7	+1.4
	comp=Z,9.3nm,0.9s,baz=183,slow=3.6,SNR=31					
NVAR			PKPab	PKPab	02 44 19.2	-1.5
	comp=Z,8.9nm,0.8s,baz=188,slow=3.6,SNR=16					
CMB	Columbia Colle	154.58 205	ePKIKP	PKPdf	02 43 58.0	+0.3
CMB			e		02 44 22.1	
CMB	Columbia Colle	154.58 205	ePKPdf	PKPdf	02 43 58.0	+0.3
CMB			ePKPbc	PKiKP	02 44 06.8	+0.7
CMB			ePKPab	PKPab	02 44 22.1	+1.2
H27A	Howes baz=155	154.71 241	P	PKPbc	02 44 07.2	+1.0
DUG	Dugway	154.72 220	ePKIKP	PKPdf	02 43 58.9	+1.0
DUG			e		02 44 06.9	
DUG	Dugway	154.72 220	ePKPdf	PKPdf	02 43 58.9	+1.0
DUG			ePKPbc	PKiKP	02 44 06.9	+0.4
K22A	Casper	154.79 232	ePKPdf	PKPdf	02 43 58.5	+0.5
K22A			ePKPbc	PKiKP	02 44 06.8	+0.2
K22A			ePKPab	PKPab	02 44 21.8	0.0
WAKR	Walker	154.84 207	ePKPbc	PKPbc	02 44 07.6	+0.7
WAKR			ePKPab	PKPab	02 44 23.9	+1.8
AGMN	Agassiz Nation	154.85 254	ePKPdf	PKPdf	02 43 57.0	-0.7
AGMN			ePKPbc	PKPbc	02 44 05.5	-0.7
AGMN			ePKPab	PKPab	02 44 21.0	-0.6
BILL	Bilibino	154.92 50	i PKIKP	PKPbc	02 44 06.2	+0.4
BILL			pmax	pmax		
	comp=Z,4.0nm,1.1s					
RSSD	Black Hills	155.08 238	ePKIKP	PKPdf	02 43 58.2	-0.2
RSSD	Black Hills	155.08 238	ePKPdf	PKPdf	02 43 58.2	-0.2
RSSD			ePKPbc	PKPbc	02 44 07.0	
TCUT	Toone Canyon	155.13 223	ePKPdf	PKPdf	02 43 59.4	+0.8
TCUT			ePKPbc	PKPbc	02 44 08.7	
BGU	Big Grassy Mou	155.46 220	ePKPdf	PKPdf	02 43 59.6	+0.6
BGU			ePKPbc	PKPbc	02 44 08.9	
HWUT	Hardware Ranch	155.62 223	ePKPdf	PKPdf	02 43 58.9	-0.2
HWUT			ePKPab	PKPab	02 44 25.3	0.0
ELK	Elko	155.93 216	ePKIKP	PKPdf	02 44 00.0	+0.3
ELK			e		02 44 26.9	
ELK	Elko	155.93 216	ePKPdf	PKPdf	02 43 60.0	+0.3
ELK			ePKPab	PKPab	02 44 26.9	+0.2
PDAR	Pinedale Array	155.98 228	PKP	PKPdf	02 43 59.5	-0.2
	comp=Z,1.1nm,1.0s,baz=180,slow=0.8,SNR=8.9					
PDAR			PKPab	PKPab	02 44 26.3	-0.6
	comp=Z,3.2nm,1.0s,baz=106,slow=5.3,SNR=9.3					
MDND	Maddock	156.19 249	ePKPab	PKPab	02 44 27.3	-0.1
AHID	Auburn Hatcher	156.51 225	ePKPdf	PKPdf	02 44 00.8	+0.5
AHID			ePKPab	PKPab	02 44 29.0	-0.2
F23A	Volborg baz=157	156.95 238	P	PKPab	02 44 30.0	-0.8
REDW	Red Top Meadow	156.95 226	ePKPdf	PKPdf	02 44 01.0	+0.1
REDW			ePKPab	PKPab	02 44 31.1	0.0
B28A	Dugan Ranch, T baz=157	156.98 249	P	PKPab	02 44 30.9	+0.1
LOHW	Long Hollow	157.09 227	ePKPdf	PKPdf	02 44 01.2	+0.1
LOHW			ePKPbc	PKPbc	02 44 12.2	
LOHW			ePKPab	PKPab	02 44 31.6	-0.1
TPAW	Teton Pass	157.10 226	ePKPdf	PKPdf	02 44 01.3	+0.1
TPAW			ePKPab	PKPab	02 44 31.8	0.0
D25A	Fairfield baz=157	157.25 243	P	PKPab	02 44 32.6	+0.5
MOOW	Moose Ponds	157.26 227	ePKPdf	PKPdf	02 44 01.6	+0.3
MOOW			ePKPab	PKPab	02 44 31.7	-0.7
A28A	Rude Farm, Bot baz=157	157.28 250	P	PKPab	02 44 32.3	+0.2
IMW	Indian Meadow	157.46 227	ePKPdf	PKPdf	02 44 01.7	+0.1
IMW			ePKPab	PKPab	02 44 33.3	0.0
FLWY	Flagg Ranch	157.54 227	ePKPdf	PKPdf	02 44 02.4	+0.8
FLWY			ePKPab	PKPab	02 44 34.1	+0.5
G20A	Bridger baz=158	157.62 233	P	PKPab	02 44 32.8	-1.0
C25A	Freed Ranch, W baz=158	157.66 244	P	PKPab	02 44 34.1	+0.3
C24A	Savage baz=158	158.01 242	P	PKPab	02 44 35.8	+0.4
D23A	Lindsay baz=158	158.05 240	P	PKPab	02 44 35.9	+0.4
HLID	Hailey	158.28 220	ePKPdf	PKPdf	02 44 02.4	-0.1
HLID			ePKPab	PKPab	02 44 36.9	+0.1
QLMT	Earthquake Lak	158.44 227	ePKPdf	PKPdf	02 44 02.8	+0.1
QLMT			ePKPab	PKPab	02 44 37.9	+0.4
A25A	Svangstu Ranch baz=159	158.54 246	P	PKPab	02 44 38.0	+0.4
MCMT	McKenzie Canyo	158.92 225	ePKPdf	PKPdf	02 44 03.4	+0.1
MCMT			ePKPab	PKPab	02 44 39.6	0.0
DLMT	Dillon	159.31 226	ePKPdf	PKPdf	02 44 03.8	+0.2
DLMT			ePKPab	PKPab	02 44 41.6	+0.5
LRM	Limekiln Ridge	159.66 227	ePKPdf	PKPdf	02 44 02.7	-1.4
LRM			ePKPab	PKPab	02 44 43.2	+0.4
BSMT	Bassoo Peak	162.22 225	ePKPdf	PKPdf	02 44 04.9	-1.8
BSMT			ePKPab	PKPab	02 44 54.0	+0.2
WALA	Waterton Lakes	162.95 229	ePKPdf	PKPdf	02 44 06.1	-1.2
WALA			ePKPab	PKPab	02 44 56.8	-0.2
YKA	Yellowknife Ar	171.12 281	PKPab	PKPab	02 45 31.4	-1.1
	comp=Z,1.8nm,0.9s,baz=90,slow=5.6,SNR=4.5					
ILAR	Eielson Array	173.47 60	PKP	PKPdf	02 44 13.2	-0.5
	comp=Z,1.3nm,1.1s,baz=304,slow=2.6,SNR=6.8					
ILAR			PKPab	PKPab	02 45 41.1	-1.8
	comp=Z,0.7nm,1.0s,baz=283,slow=5.3,SNR=5.2					
INK	Inuvik	173.74 360	ePKIKP	PKPdf	02 44 14.0	+0.3
INK			e		02 45 43.7	
INK	Inuvik	173.74 360	ePKPdf	PKPdf	02 44 14.0	+0.3
INK			ePKPab	PKPab	02 45 43.7	-0.2

MOS ***11*** *03:00:01.9±1.0,30.˚73S×178.˚34W,h33km,mb5.2/22, Error ellipse: s-maj=11.9km s-min=10.3km az=82.5*
BJI ***11*** *03:00:02.3,30.˚80S×178.˚30W,h37km,mb5.4/19, mB5.4/13,Ms5.1/11,Ms7 4.7/9*
ISCJB ***11*** *03:00:03.6±0.2,31.˚25S±0.˚03×178.˚29W±0.˚04,h56km, mb5.0/64,MS3.9/16,Error ellipse: s-maj=6.1km s-min=3.6km az=35.6*
NEIC ***11*** *03:00:05.5±0.9,30.˚81S×178.˚27W,h60km±7km,mb4.9/38, Error ellipse: s-maj=7.9km s-min=6.1km az=137.0*
GCMT ***11*** *03:00:05.5±0.5,30.˚78S×177.˚79W,h58km±2km,MW5.0/50, Moment Tensor Solution. s35,c42; s50,c63; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.28±.25; Mθθ0.31±.20; Mϕϕ-3.59±.17; Mrθ0.77±.14; Mθϕ-0.67±.16; Mϕr1.07±.15; Best double couple: Mo3.73800×10¹⁶ NP1:ϕs19.00000°,δ55.00000°,λ102.00000°. NP2: ϕs179.00000°,δ37.00000°,λ73.00000°. Principal axes: T 3.5780, Plg76.0000°, Azm328.0000°; N 0.3190, Plg10.0000°, Azm192.0000°; P -3.8980, Plg9.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***11*** *03:00:06.1±0.5,30.˚66S×178.˚20W,h62km±4km,mb4.5/24, mb1 4.6/24,mb1mx4.6/26,mbtmp4.8/24,MS3.8/17, Ms1 3.9/17,ms1mx3.8/20 Error ellipse: s-maj=14.0km s-min=6.7km az=99.0*

ISC 11 03:00:04.3±0.4,30.˚90S±0.˚05×178.˚31W±0.˚06,h47km±2km, h46km:pP-P,n408,σ1§66/427,mb5.0/63,MS3.9/16, 26C-23D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	1.68	12	P	Pn	03 00 29.2	-2.0
	2μm,0.3s,baz=88,slow=4.3,SNR=34						
RAO				LR	LR	03 00 39.4	
	comp=Z,975nm,19.6s,baz=168,slow=23						
RAO				S	Sn	03 00 47.3	-4.2
	7μm,0.3s,baz=90,slow=20,SNR=20						
MXZ	Matakaoa Point	7.21	202	PN	Pn	03 01 44.6	-2.4
MXZ				SN	Sn	03 03 08.0	+0.4
WMGZ	Waiomatatini S	7.41	201	ePN	Pn	03 01 47.3	-2.5
HAZ	Te Kaha	7.56	204	PN	Pn	03 01 50.2	-1.6
PUZ	Puketiti	7.69	201	PN	Pn	03 01 53.0	-3.7
PUZ				SN	Sn	03 03 17.3	-2.2
TWGZ	Tauwhareparae	7.87	202	PN	Pn	03 01 53.5	-2.7
WCZ	Waipu Caves	7.93	229	ePN	Pn	03 02 03.7	+6.8
OUZ	Omahuta	8.04	235	ePN	Pn	03 02 05.6	+7.2
OUZ	Omahuta	8.04	235	ePn	Pn	03 02 05.6	+7.2
CNGZ	Carnagh Statio	8.09	200	PN	Pn	03 01 56.5	-2.6
TKGZ	Te Karaka	8.16	202	PN	Pn	03 01 56.6	-3.4
MWZ	Matawai	8.17	204	PN	Pn	03 01 56.5	-3.8
URZ	Urewera	8.25	206	P	Pn	03 01 58.9	-2.4
	3.9nm,0.3s,baz=272,slow=3.9,SNR=32						
URZ				S	Sn	03 03 30.9	-2.2
	20nm,0.3s,baz=210,slow=20,SNR=13						
URZ				LR	LR	03 05 13.5	
	comp=Z,416nm,18.4s,baz=36,slow=36						
URZ	Urewera	8.25	206	PN	Pn	03 01 58.7	-2.6
URZ				SN	Sn	03 03 32.5	-0.6
URZ	Urewera	8.25	206	ePn	Pn	03 01 58.5	-2.8
	48nm,0.5s						
URZ				S	Sn	03 03 30.9	-2.2
RIGZ	Rimuhau	8.43	201	PN	Pn	03 02 01.4	-2.4
NMHZ	Naumai	9.10	205	PN	Pn	03 02 09.8	-3.3
BKZ	Black Stump Fm	9.28	206	ePN	Pn	03 02 11.5	-3.9
BKZ

THZ Tophouse 12.94 211 *e*PN Pn 03 02 57.0 -8.4
THZ *e*SN Sn 03 05 19.5 -8.4
MSVF Nonsavu 13.52 345 *e*P **Pn** **03 03 15.0 +1.4**
MSVF Nonsavu 13.52 345 *e*Pn **Pn** **03 03 15.0 +1.4**
MQZ McQueen's Vall 14.65 207 *e*SN Sn 03 05 54.0 -16
RPZ Rata Peaks 15.32 210 P **Pn** **03 03 34.5 -2.8**
2.9nm,0.3s,baz=315,slow=4.3,SNR=10
RPZ S Sn 03 06 12.8 -13
3.0nm,0.3s,baz=286,slow=20,SNR=8.6
RPZ Rata Peaks 15.32 210 *e*Pn **Pn** **03 03 39.1 +1.8**
262nm,2.4s
RPZ S Sn 03 06 12.8 -13
DZM Mont Dzumac 16.22 299 *e*LR LR 03 07 43.9
3µm,25.6s
DZM Mont Dzumac 16.22 299 LR LR 03 08 58.0
comp=Z,1µm,20.4s,slow=33
JCZ Jackson Bay 16.65 214 PN **Pn** **03 03 50.2 -4.2**
RAR Rarotonga 19.23 64 LR LR 03 10 55.0
comp=Z,339nm,19.5s,baz=266,slow=34
ARMA Armidale 25.83 263 ⇓P **P** **03 05 35.2 +3.8**
baz=27,SNR=18
ARMA Armidale 25.83 263 *e*P **P** **03 05 36.0 +4.6**
28nm,0.8s
MGCD Mangrove Creek 25.98 257 ⇑P **P** **03 05 36.3 +3.8**
baz=27,SNR=6.2
TBI Tubuai 26.71 81 *e*S **S** **03 10 11.4 -0.2**
234nm,31.2s
TBI *e*LR LR 03 12 24.9
1µm,27.8s,baz=246
TBI Tubuai 26.71 81 *e*T T 03 32 56.5
240nm,0.4s
CNB Canberra Magne 27.36 252 ⇓P **P** **03 05 48.1 +3.0**
baz=28,SNR=7.4
EIDS Eidsvold 27.50 274 ⇑P **P** **03 05 48.8 +2.4**
baz=28,SNR=5.1
EIDS Eidsvold 27.50 274 *e*P **P** **03 05 48.8 +2.4**
24nm,0.8s
CAN Canberra 27.66 252 ⇓P **P** **03 05 48.2 +0.4**
baz=28
YNG Young 28.18 254 P P 03 05 56.7 +4.3
baz=29,SNR=5.2
RMQ Roma 29.16 270 ⇑P P 03 06 04.7 +3.6
baz=30,SNR=14
PAE Paea 29.22 70 *e*T T 03 35 53.6
49nm,0.3s
PPT2 Papeete2 29.26 70 *e*S **S** **03 10 55.4 +3.3**
157nm,30.1s
PPT2 *e*LR LR 03 13 30.5
838nm,26.5s,baz=239
PPT2 Papeete2 29.26 70 *e*T T 03 35 57.5
31nm,0.3s
TVO Taravao 29.42 70 *e*T T 03 36 09.6
12nm,0.3s
TIAR Tiarei 29.47 70 *e*T T 03 36 12.0
11nm,0.3s
MEH Mehetia 30.34 72 *e*T T 03 37 19.5
63nm,0.2s
TOO Toolangi 30.52 248 P **P** **03 06 16.0 +2.9**
baz=31,SNR=5.7
CMSA Cobar Meteorol 30.70 259 ⇑P **P** **03 06 17.5 +2.7**
baz=31,SNR=8.5
PMOR Pomariorio Ree 32.03 67 *e*T T 03 39 21.7
7.0nm,0.2s
VAH Vaihoa 32.11 68 *e*T T 03 39 28.1
317nm,0.3s
QLP Quilpie 33.02 268 P **P** **03 06 37.4 +2.3**
baz=34,SNR=14
CTA Charters Tower 33.62 280 P **P** **03 06 42.9 +2.5**
33nm,0.6s,baz=105,slow=13,SNR=37
CTAO Charters Tower 33.62 280 *e*P **P** **03 06 42.6 +2.2**
CTAO Charters Tower 33.62 280 *e*P **P** **03 06 42.6 +2.2**
STKA Stephens Creek 34.10 258 P **P** **03 06 47.3 +2.7**
31nm,0.4s,baz=103,slow=9.4,SNR=147
STKA LR LR 03 18 54.1
comp=Z,368nm,20.4s,baz=61,slow=33
STKA Stephens Creek 34.10 258 P **P** **03 06 47.2 +2.7**
baz=35,SNR=146
STKA Stephens Creek 34.10 258 *e*P **P** **03 06 47.1 +2.6**
14nm,0.9s
HTT Hallett 36.10 254 ⇑P **P** **03 07 03.6 +1.7**
baz=37,SNR=26
MTSU Mount Surprise 36.13 282 P **P** **03 07 04.5 +2.4**
baz=37,SNR=30
BBOO Buckleboo 38.57 255 ⇑P **P** **03 07 23.3 +0.6**
baz=39,SNR=38
BBOO Buckleboo 38.57 255 *e*P **P** **03 07 23.7 +1.0**
PMG Port Moresby 38.58 296 *e*P **P** **03 07 23.9 +1.0**
PMG pmax pmax
comp=Z,25nm,0.8s
PMG Port Moresby 38.58 296 ⇓P **P** **03 07 24.3 +1.4**
baz=39
PMG ⇓P **P** **03 07 24.3 +1.4**
baz=39
PMG ⇓P **P** **03 07 24.3 +1.4**
baz=39
PMG Port Moresby 38.58 296 *e*P **P** **03 07 23.9 +1.0**
comp=Z,25nm,0.8s
QIS Mount Isa 39.08 275 P **P** **03 07 28.2 +1.1**
baz=40,SNR=11
COEN Coen 39.15 287 P **P** **03 07 29.9 +2.2**
baz=40,SNR=11
COEN Coen 39.15 287 *e*P **P** **03 07 29.3 +1.6**
RKT Rikitea 39.19 89 *e*LR LR 03 18 16.1
comp=Z,697nm,27.2s,baz=240
RKT Rikitea 39.19 89 *e*T T 03 48 41.6
comp=Z,5.4nm,0.3s
AS31 Alice Springs 42.81 268 *e*P **P** **03 07 58.3 +0.5**
ASAR Alice Springs 42.81 268 P **P** **03 07 58.5 +0.7**
comp=Z,30nm,0.6s,baz=103,slow=7.3,SNR=214
ASAR PcP **PcP** **03 09 49.4 +0.9**
comp=Z,1.9nm,0.6s,baz=127,slow=4.3,SNR=3.3
ASAR ScP **ScP** **03 13 33.4 -2.2**
comp=Z,0.9nm,0.6s,baz=112,slow=3.6,SNR=5.4
ASAR PKiKP **PKiKP** **03 16 50.6 -1.9**
comp=Z,0.3nm,0.6s,baz=81,slow=1.7,SNR=4.1
ASAR LR LR 03 25 38.4
comp=Z,336nm,18.3s,baz=116,slow=36
WRAB Tennant Creek 43.84 273 P **P** **03 08 06.6 +0.5**
comp=Z,337nm,0.9s,SNR=56
WRAB Tennant Creek 43.84 273 *e*P **P** **03 08 06.1 0.0**
WRAB pmax pmax
comp=Z,39nm,0.8s
WRAB Tennant Creek 43.84 273 *e*P **P** **03 08 06.0 0.0**
comp=Z,39nm,0.8s
WRA Warramunga Arr 43.85 273 P **P** **03 08 06.7 +0.5**
comp=Z,53nm,0.8s,baz=111,slow=8.1,SNR=228
WRA ScP **ScP** **03 13 39.0 -0.9**
comp=Z,0.5nm,0.9s,baz=113,slow=3.6,SNR=3.7
WRA PKiKP **PKiKP** **03 16 51.8 -1.7**
comp=Z,0.3nm,0.6s,baz=63,slow=0.4,SNR=6.2
WRA LR LR 03 26 08.2
comp=Z,326nm,18.2s,baz=110,slow=36
FORT Forrest 45.66 256 ⇑P **P** **03 08 20.4 0.0**
baz=46,SNR=21
FORT Forrest 45.66 256 *e*P **P** **03 08 20.7 +0.3**
comp=Z,53nm,0.7s
WRKA Warakurna 47.15 263 P **P** **03 08 32.0 -0.2**
baz=48,SNR=19
SBA Scott Base 47.52 184 *e*P P 03 08 37.7 +3.4
SBA pmax pmax
comp=Z,20nm,1.1s
SBA Scott Base 47.52 184 *e*P P 03 08 37.6 +3.4
comp=Z,20nm,1.1s
VNDA Vanda 47.57 186 P **P** **03 08 37.1 +2.4**
comp=Z,1.8nm,0.9s,baz=15,slow=7.6,SNR=8.8
VNDA LR LR 03 25 31.6
comp=Z,57nm,21.7s,baz=16,slow=32
VNDA Vanda 47.57 186 *e*P **P** **03 08 36.6 +1.8**
comp=Z,3.7nm,0.6s
JAY Jayapura 47.89 298 P **P** **03 08 38.3 +0.3**
comp=Z,16nm,0.7s,baz=144,slow=9.7,SNR=10
KDU Kakadu 48.74 281 ⇓P **P** **03 08 44.6 0.0**
baz=50,SNR=4.3
KNRA Kununurra 50.48 275 P **P** **03 08 58.6 +0.9**
baz=51,SNR=17
KMBL Kambalda 50.62 253 ⇓P **P** **03 08 58.3 -0.4**
baz=51,SNR=5.3
KLBR Kellerberrin 53.93 252 ⇓P **P** **03 09 22.7 -0.7**
baz=55
FAKI Fak Fak 54.26 291 *e*P **P** **03 09 25.4 -0.4**
comp=Z,16nm,0.8s
CASY Casey 54.57 208 *e*P **P** **03 09 26.7 -0.7**
comp=Z,38nm,0.8s
MEEK Meekatharra 54.81 258 ⇑P **P** **03 09 28.9 -0.9**
baz=56,SNR=9.3
MBWA Marble Bar 55.90 264 *e*P **P** **03 09 36.4 -1.2**
comp=Z,7.3nm,0.7s
MORW Morawa 56.13 254 P **P** **03 09 38.8 -0.4**
baz=57,SNR=4.3
SIJI Sorong 56.27 292 P **P** **03 09 40.2 -0.1**
comp=Z,4.9nm,0.5s,baz=136,slow=17,SNR=4.5
SOEI Soe 57.16 279 ⇓P **P** **03 09 48.3 +1.4**
baz=58
SOEI Soe 57.16 279 *e*P **P** **03 09 47.6 +0.7**
comp=Z,36nm,0.9s
QSPA South Pole Qui 59.21 180 P **P** **03 10 02.3 +1.9**
comp=Z,30nm,0.6s,baz=35,slow=3.8,SNR=96
QSPA South Pole Qui 59.21 180 *e*P **P** **03 10 01.9 +1.5**
comp=Z,46nm,0.8s
MMRI Maumere 59.45 279 *e*P **P** **03 10 03.0 +0.3**
GIRL Giralia 59.99 260 ⇓P **P** **03 10 06.7 +0.3**
baz=61,SNR=5.0
BLJI Banyuglugur 67.28 275 P **P** **03 10 54.8 +0.3**
comp=Z,38nm,0.7s
JCJ Chichijima 68.92 323 LR LR 03 36 01.3
comp=Z,81nm,21.3s,baz=120,slow=31
MAW Mawson 71.75 201 P **P** **03 11 21.4 +0.2**
comp=Z,14nm,0.8s,baz=123,slow=6.2,SNR=14
MAW LR LR 03 41 19.9
comp=Z,152nm,20.2s,baz=64,slow=34
KKM Kota Kinabalu 72.46 288 *e*P **P** **03 11 25.7 -0.7**
comp=Z,10nm,0.8s
LEM Lembang 72.86 272 P **P** **03 11 28.6 -0.4**
comp=Z,19nm,0.5s,baz=22,slow=14,SNR=3.9
KSM Kupang 74.85 281 *e*P **P** **03 11 39.9 -0.5**
comp=Z,5.9nm,0.6s
SYO Syowa Base 76.57 193 ⇓*i*P **P** **03 11 48.0 -1.2**
MDSI Maura Dua 76.99 273 P **P** **03 11 51.0 -1.6**
comp=Z,33nm,0.8s
NVL N'lazarevskaya 78.36 183 *e*P P 03 12 02.4 +3.2
NVL pmax pmax
comp=Z,13nm,0.8s
VNA1 Neumayer--Stat 78.49 177 P **P** **03 12 00.4 +0.5**
MJAR Matsushiro Arr 78.50 326 P **P** **03 11 58.3 -2.1**
comp=Z,2.0nm,0.7s,baz=163,slow=4.7,SNR=7.6
MJAR LR LR 03 41 44.0
comp=Z,29nm,21.8s,baz=195,slow=32
MAJO Matsushiro 78.50 326 *e*P **P** **03 11 59.4 -1.0**
MAJO pmax pmax
comp=Z,4.0nm,0.7s
MAJO Matsushiro 78.50 326 *e*P **P** **03 11 59.4 -1.0**
comp=Z,4.1nm,0.7s
DSRI Dabo 78.70 276 P **P** **03 11 59.7 -2.3**
comp=Z,2µm,0.7s,comp=Z,92µmcomp=Z,813µm
TPRI Tanjung Pinang 79.46 277 P **P** **03 12 08.5 +2.3**
comp=Z,156nm,0.3s,comp=Z,29µm
ASAJ Asahikawa 82.76 333 P **P** **03 12 23.4 +0.5**
comp=Z,8.0nm,0.9s,baz=320,slow=7.9
ASAJ Asahikawa 82.76 333 P **P** **03 12 23.5 +0.5**
ASAJ pmax pmax
comp=Z,8.0nm,0.9s
IPM Ipoh 84.29 279 *e*P **P** **03 12 31.0 -0.7**
comp=Z,11nm,0.8s
KSRS Korea Array 84.55 320 P **P** **03 12 32.3 0.0**
comp=Z,2.5nm,0.7s,baz=138,slow=5.3,SNR=7.5
KSRS LR LR 03 46 22.3
comp=Z,18nm,18.4s,baz=156,slow=33
KSAR Wonju Array Be 84.57 320 P **P** **03 12 32.3 -0.1**
KSAR Wonju Array Be 84.57 320 P **P** **03 12 32.3 -0.1**
KULM Kulim 85.03 279 *e*P **P** **03 12 33.9 -1.5**
comp=Z,19nm,1.0s
GSI Gunungsitoli 85.61 274 P **P** **03 12 37.6 -0.6**
comp=Z,56nm,0.8s
GSI Gunungsitoli 85.61 274 *e*P **P** **03 12 38.2 0.0**
comp=Z,20nm,0.6s
PETK Petropavlovsk- 86.23 346 P **P** **03 12 39.6 -0.7**
comp=Z,12nm,0.6s,baz=126,slow=6.8,SNR=21
PETK LR LR 03 45 01.7
comp=Z,26nm,21.9s,baz=163,slow=31
MURC Murrieta 86.27 47 P **P** **03 12 41.6 +0.5**
baz=86
ARVC Arvin 86.27 45 P **P** **03 12 41.9 +0.9**
baz=86
MONP Monument Peak 86.30 48 P **P** **03 12 42.0 +0.6**
baz=86
NJ2 Nanjing 86.36 311 *e*P **P** **03 12 43.0 +1.5**
NJ2 PMZ
comp=Z,10.0nm,1.1s
BFSC Mount Baldy Ra 86.40 46 P **P** **03 12 42.2 +0.4**
baz=86
VES Vestal, Richgr 86.59 44 P **P** **03 12 42.1 -0.5**
baz=87
EDW2 Edwards Air Fo 86.62 46 P **P** **03 12 43.2 +0.4**
baz=87
PFO Pinyon Flat Ob 86.75 47 P **P** **03 12 43.3 -0.2**
comp=Z,3.1nm,0.8s,baz=256,slow=5.5,SNR=5.6
PFO pP **pP** **03 13 00.4 +3.1**
comp=Z,5.1nm,0.8s,baz=297,slow=4.7,SNR=6.1
PFO Pinyon Flat Ob 86.75 47 P **P** **03 12 44.3 +0.7**
baz=87
ISA Isabella 86.84 45 *e*P **P** **03 12 43.8 -0.1**
ISA pmax pmax
comp=Z,8.0nm,1.1s
ISA Isabella 86.84 45 P **P** **03 12 44.5 +0.6**
baz=87
ISA Isabella 86.84 45 *e*P **P** **03 12 43.8 -0.1**
comp=Z,7.6nm,1.1s
LRMC Laurel Mountai 87.20 45 P **P** **03 12 46.5 +0.8**
baz=87
BELC Belle Mtn. Jos 87.29 47 P **P** **03 12 46.9 +0.7**
baz=87
CMB Columbia Colle 87.31 42 *e*P **P** **03 12 45.4 -0.7**
CMB pmax pmax
comp=Z,2.0nm,0.7s
CMB Columbia Colle 87.31 42 *e*P **P** **03 12 45.4 -0.7**
comp=Z,1.9nm,0.7s
BC3 Big Chuckawall 87.41 48 P **P** **03 12 47.7 +1.0**
baz=88
GLA Glamis 87.43 49 *e*P **P** **03 12 47.7 +1.0**
GLA pmax pmax
comp=Z,6.0nm,0.7s
GLA Glamis 87.43 49 P **P** **03 12 47.7 +1.0**
baz=88
GLA Glamis 87.43 49 *e*P **P** **03 12 47.6 +1.0**
comp=Z,5.6nm,0.7s
USRK Ussuriysk Ar. 87.43 327 P **P** **03 12 46.0 -0.3**
comp=Z,3.7nm,0.8s,baz=126,slow=4.6,SNR=7.5
CWC Cottonwood Cre 87.60 44 P **P** **03 12 48.2 +0.6**
baz=88
GSC Goldstone 87.63 46 *e*P **P** **03 12 48.1 +0.4**
GSC *e*PP **pP** **03 13 04.6 +3.1**
GSC pmax pmax
comp=Z,9.0nm,1.1s
GSC Goldstone 87.63 46 P **P** **03 12 48.5 +0.8**
baz=88
GSC Goldstone 87.63 46 *e*P **P** **03 12 48.1 +0.4**
comp=Z,9.3nm,1.1s
GSC *e*pP **pP** **03 13 04.6 +3.1**
MPMC Manual Prospec 87.70 45 P **P** **03 12 48.6 +0.4**
baz=88
IRM Iron Mountain 87.93 48 P **P** **03 12 50.1 +1.0**
baz=88
GMRC Granite Mounta 88.00 47 P **P** **03 12 50.6 +1.0**
baz=88
214A Organ Pipe Nat 88.06 51 P **P** **03 12 50.9 +1.1**
baz=88
WAKR Walker 88.18 42 *e*P **P** **03 12 50.6 +0.2**
comp=Z,5.6nm,1.1s
GRAC Grapevine Rang 88.40 44 P **P** **03 12 52.2 +1.0**
baz=88
WHN Wuhan 88.43 307 P P 03 12 56.6 +5.1
LDFC Landfair 88.54 47 *e*P **P** **03 12 52.9 +0.8**
comp=Z,24nm,0.8s
LDFC *e*pP **pP** **03 13 09.8 +3.9**
YBH Yreka Blue Hor 88.59 38 P **P** **03 12 51.7 -0.4**
comp=Z,2.0nm,0.9s,baz=209,slow=10,SNR=3.1
YBH pP **pP** **03 13 08.8 +2.8**
comp=Z,3.3nm,0.7s,baz=258,slow=5.4,SNR=4.2
PDMCI Parker Dam,Lak 88.66 48 P **P** **03 12 53.5 +1.0**
baz=89
NVAR Mina Array Bea 88.79 43 P **P** **03 12 53.4 +0.1**
comp=Z,3.3nm,0.7s,baz=221,slow=8.3,SNR=33
NVAR pP **pP** **03 13 09.8 +2.6**
comp=Z,6.5nm,0.8s,baz=223,slow=7.5,SNR=18
MDJ Mudanjiang 88.89 326 P **P** **03 12 56.1 +2.8**
MDJ pP **pP** **03 13 05.6 -1.5**
MDJ sP **sP** **03 13 09.3 -3.0**
MDJ PP **PP** **03 16 24.8 +1.2**
MDJ S **S** **03 23 34.8 -2.5**
MDJ SS **SS** **03 29 31.7 +0.4**
MDJ PMZ
comp=Z,6.0nm,0.5s
MDJ PMZ
comp=Z,42nm,5.4s
MDJ LN
comp=Z,48nm,25.5s
MDJ LE
LCO Las Campanas 88.93 123 *e*P **P** **03 12 54.3 -0.2**
comp=Z,9.2nm,0.8s
TPNV Topopah Spring 89.04 45 P **P** **03 12 55.3 +0.9**
baz=89
TPH Tonopah 89.19 44 *e*P **P** **03 12 55.2 0.0**
TPH *e*PP **pP** **03 13 11.7 +2.7**
TPH pmax pmax
comp=Z,7.0nm,0.8s
TPH Tonopah 89.19 44 *e*P **P** **03 12 55.2 0.0**
comp=Z,7.4nm,0.8s
TPH *e*pP **pP** **03 13 11.7 +2.7**
HABR Khabarovsk 89.35 331 *e*P **P** **03 12 55.1 -0.2**
HABR *e**PP pP 03 13 04.3 -4.9
HABR *e* 03 16 24.0
HABR *e*PPP PPP 03 18 21.0
HABR *e*S **SKSac** **03 23 20.4 -0.8**
HABR *e* 03 23 44.7
HABR *e*SS **SS** **03 29 35.6 -2.3**
HABR *e*SSS SSS 03 33 11.0
HABR pmax pmax
comp=Z,20nm,1.4s
HABR MLR MLR
comp=Z,90nm,20.0s
SHPR Sheep Range 89.42 46 *e*P **P** **03 12 56.2 -0.1**
comp=Z,8.6nm,1.5s
SHPR *e*pP **pP** **03 13 13.4 +3.3**
TUC Tucson 89.64 51 *e*P **P** **03 12 58.0 +0.8**
TUC pmax pmax
comp=Z,7.0nm,1.0s
TUC Tucson 89.64 51 *e*P **P** **03 12 58.0 +0.8**
comp=Z,7.4nm,1.0s
R11A Troy Canyon, C 90.35 44 P **P** **03 13 00.8 +0.2**
baz=90
CN2 Changchun 90.38 323 *e*P **P** **03 12 59.9 -0.4**
CN2 *e*pP **pP** **03 13 10.8 -3.3**
CN2 *e*S **S** **03 23 50.7 -0.5**
CN2 PMZ
comp=Z,20nm,0.8s
CN2 PMZ
comp=Z,100nm,3.0s
J05D Fort Rock, OR 90.46 38 P **P** **03 13 01.5 +0.6**
baz=91
PBKT Sadao Pong 90.68 289 P **P** **03 13 04.4 +2.1**
WUAZ Wupatki 91.20 49 P **P** **03 13 05.3 +0.8**
baz=91
WUAZ Wupatki 91.20 49 *e*P **P** **03 13 04.9 +0.3**
comp=Z,7.2nm,1.0s
WUAZ *e*pP **pP** **03 13 21.8 +3.4**
WVOR Wild Horse Val 91.28 40 *e*P **P** **03 13 05.0 +0.3**
WVOR pmax pmax
comp=Z,3.0nm,0.9s
WVOR Wild Horse Val 91.28 40 *e*P **P** **03 13 05.0 +0.3**
comp=Z,3.4nm,0.9s
KLR Kul'dur 91.33 330 *e*P P 03 13 00.0 -4.6
GYA Guiyang 91.56 300 P **P** **03 13 09.0 +2.6**
GYA pP **pP** **03 13 20.2 -0.1**
GYA SKS **SKSac** **03 23 37.0 +1.6**
GYA S **ScS** **03 24 04.7 -1.1**
GYA sS **sS** **03 24 22.9 -3.5**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.2s
GYA LN
comp=Z,790nm,20.6s
GYA LE
comp=Z,680nm,21.2s
GYA LZ
comp=Z,720nm,20.4s
MSU Marysvale 92.53 46 *e*P **P** **03 13 11.7 +1.0**
MSU *e**PP **pP** **03 13 27.9 +3.3**
MSU pmax pmax
comp=Z,6.0nm,1.5s
MSU Marysvale 92.53 46 *e*P **P** **03 13 11.7 +1.0**
comp=Z,5.8nm,1.5s
MSU *e*pP **pP** **03 13 27.9 +3.3**
TXAR Lajitas Array 92.89 57 P **P** **03 13 12.7 +0.3**
comp=Z,1.6nm,1.0s,baz=210,slow=7.2,SNR=13
TXAR pP **pP** **03 13 28.9 +2.6**
comp=Z,0.3nm,0.9s,baz=231,slow=32,SNR=2.9
TXAR sP **sP** **03 13 36.1 +4.7**
comp=Z,0.5nm,0.9s,baz=205,slow=5.5,SNR=2.8
TXAR LR LR 03 48 09.5
comp=Z,39nm,19.7s,baz=0.0,slow=31
CMAR Chiang Mai Arr 93.31 289 P **P** **03 13 15.7 +1.2**
comp=Z,1.4nm,0.3s,baz=131,slow=3.7,SNR=3.6
CMAR LR LR 03 56 27.5
comp=Z,38nm,20.8s,baz=170,slow=36
KMI Kunming 93.81 297 P P 03 13 21.9 +5.0
KMI pP pP 03 13 31.8 +1.0
KMI sP sP 03 13 35.9 0.0
KMI PMZ
comp=Z,9.0nm,0.8s
LVC Limon Verde 93.93 119 *e*P **P** **03 13 15.6 -2.1**
comp=Z,7.2nm,0.3s
ANMO Albuquerque 94.10 52 ⇓*i*P **P** **03 13 18.1 +0.1**
ANMO pmax pmax
comp=Z,11nm,1.0s
HVU Hansel Valley 94.19 43 *e*P **P** **03 13 18.0 -0.2**
HVU *e**PP **pP** **03 13 34.9 +2.8**
HVU pmax pmax
comp=Z,2.0nm,0.7s
HVU Hansel Valley 94.19 43 *e*P **P** **03 13 18.0 -0.2**
comp=Z,2.3nm,0.7s
HVU *e*pP **pP** **03 13 34.9 +2.8**
HLID Hailey 94.36 41 P **P** **03 13 19.4 +0.4**
baz=94
HLID Hailey 94.36 41 *e*P **P** **03 13 19.0 0.0**
comp=Z,1.9nm,0.9s
HLID *e*pP **pP** **03 13 35.6 +2.8**
S22A 4UR Ranch, Cre 95.46 49 P **P** **03 13 24.7 +0.4**
baz=96
531A Rocksprings 95.61 58 P **P** **03 13 25.2 +0.3**
baz=96
MSTX Muleshoe 96.08 54 P **P** **03 13 26.8 -0.1**
baz=96
CD2 Chengdu 96.12 302 P **P** **03 13 28.7 +1.5**
CD2 pP **pP** **03 13 40.2 -0.8**
CD2 sP **sP** **03 13 44.6 -1.6**
CD2 PP **PP** **03 17 22.3 +1.4**
CD2 SKS **SKSac** **03 24 02.0 +2.1**
CD2 S **ScS** **03 24 45.8 +2.4**
CD2 sS **sS** **03 25 05.5 -0.8**
CD2 SS **SS** **03 31 20.4 +4.5**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,90nm,6.6s
CD2 LN
comp=Z,180nm,7.2s
CD2 LZ
comp=Z,120nm,8.4s
HHC Hu-ho-hao-te 96.39 314 *e*P P 03 13 31.7 +3.5
HHC PP PP 03 17 28.8 +6.0
HHC SKS **SKSac** **03 24 04.6 +3.6**
HHC S **ScS** **03 24 46.9 +1.6**
HHC PMZ
comp=Z,20nm,1.1s
HHC PMZ
comp=Z,65nm,5.7s
HHC LN
comp=Z,70nm,16.1s
HHC LE
comp=Z,100nm,15.7s
HHC LZ
comp=Z,47nm,15.7s
SEY Seymchan 96.40 347 P **P** **03 13 26.6 -0.9**
comp=Z,2.7nm,0.7s,baz=144,slow=2.7,SNR=6.9
SEY Seymchan 96.40 347 ⇓*e*P **P** **03 13 28.5 +1.0**
PDAR Pinedale Array 96.68 44 P **P** **03 13 28.8 -0.9**
comp=Z,0.2nm,0.4s,baz=242,slow=1.9,SNR=3.2
PDAR pP **pP** **03 13 45.4 +1.9**
comp=Z,0.5nm,0.6s,baz=174,slow=1.8,SNR=4.9
PDAR PKKPbc **PKKPbc** **03 30 11.9 -1.6**
comp=Z,0.6nm,0.7s,baz=19,slow=5.8,SNR=5.6
PDAR LR LR 03 49 32.9
comp=Z,48nm,21.8s,baz=256,slow=31
MCK McKinley 97.14 13 *e*P **P** **03 13 30.5 -0.5**
MCK pmax pmax
comp=Z,8.0nm,1.1s
MCK McKinley 97.14 13 *e*P **P** **03 13 30.5 -0.5**
comp=Z,7.9nm,1.1s
LPAZ La Paz 98.19 114 P Pdif 03 13 38.1 +0.5

comp=Z,0.6nm,0.6s,baz=276,slow=5.2,SNR=3.0
LPAZ pP pP 03 13 55.0 +3.5
comp=Z,1.5nm,0.7s,baz=242,slow=5.0,SNR=5.6
LPAZ LR LR 03 47 46.0
comp=Z,36nm,21.4s,baz=207,slow=29
COLA College 98.38 13⇑*eP* Pdif 03 13 37.7 +1.3
COLA pmax pmax
comp=Z,46nm,2.5s
COLA College 98.38 13 *eP* **P 03 13 35.6 -0.8**
comp=Z,4.8nm,1.0s
ILAR Eielson Array 98.47 13 P **P 03 13 35.4 -1.5**
comp=Z,0.4nm,0.7s,baz=218,slow=5.2,SNR=8.9
ILAR PKiKP **PKiKP 03 18 07.0 -1.6**
comp=Z,0.4nm,0.6s,baz=300,slow=2.4,SNR=8.1
ILAR PKKPbc PKKPbc 03 30 02.8 -6.3
comp=Z,0.3nm,0.6s,baz=337,slow=2.8,SNR=6.6
LZH Lanzhou 98.80 307 *eP* Pdif 03 13 42.5 +3.2
LZH pP pP 03 13 52.1 -1.1
LZH sP sP 03 13 58.1 -0.2
LZH PMZ
comp=Z,11nm,1.0s
CPUP Villa Florida 99.89 129 LR LR 03 50 40.7
comp=Z,35nm,20.9s,baz=228,slow=30
SONM Songino Array 103.33 318 PKKPbc PKKPbc 03 29 53.7 -0.8
comp=Z,0.2nm,0.4s,baz=302,slow=2.7,SNR=4.1
YKA Yellowknife Ar 106.01 26 PKiKP **PKiKP 03 18 21.1 -1.1**
comp=Z,0.5nm,0.7s,baz=266,slow=1.6,SNR=4.8
YKA PKKPbc **PKKPbc 03 29 43.1 -3.5**
comp=Z,2.8nm,0.9s,baz=42,slow=3.1,SNR=6.1
WMQ Urumqi 113.32 308 PKP **PKiKP 03 18 38.3 +1.5**
WMQ LN
comp=Z,39nm,22.0s
BOSA Boshof 116.69 203 PKP **PKPdf 03 18 43.8 -0.2**
comp=Z,5.2nm,1.0s,baz=189,slow=2.5,SNR=6.3
BOSA Boshof 116.69 203 PKiKP **PKPdf 03 18 43.8 -0.2**
BOSA pmax pmax
comp=Z,5.0nm,1.0s
BOSA Boshof 116.69 203 *e*PKPdf **PKPdf 03 18 44.3 +0.3**
MK31 Makanchi Array 117.89 310 *e*PKiKP **PKPdf 03 18 43.6 -1.8**
MK31 Makanchi Array 117.89 310 *e*PKPdf **PKPdf 03 18 43.6 -1.8**
MKAR Makanchi Array 117.89 310 PKP **PKPdf 03 18 43.7 -1.7**
comp=Z,1.5nm,0.5s,baz=112,slow=1.6,SNR=18
MKAR PKKP PKKPdf 03 29 25.8 -10
comp=Z,0.4nm,0.6s,baz=298,slow=3.1,SNR=4.6
ZALV Zalesovo Beam 118.23 318 PKP **PKPdf 03 18 43.6 -2.1**
comp=Z,0.8nm,0.4s,baz=100,slow=1.2,SNR=5.9
NVS Novosibirsk 119.34 319 *e*PKiKP **PKPdf 03 18 45.8 -2.0**
KURK Kurchatov 121.20 314 PKiKP **PKPdf 03 18 49.9 -1.7**
KURK Kurchatov 121.20 314 PKP **PKPdf 03 18 49.9 -1.7**
KURBB Kurchatov Arra 121.24 313 PKP **PKPdf 03 18 49.9 -1.8**
comp=Z,5.4nm,0.6s,baz=111,slow=1.8
TKM2 Tokmak 2 121.45 304 *e*PKiKP **PKPdf 03 18 51.1 -1.5**
TKM2 Tokmak 2 121.45 304 *e*PKPdf **PKPdf 03 18 51.1 -1.5**
EKS2 Erkin-Say 122.69 303 *e*PKiKP **PKPdf 03 18 53.8 -1.1**
EKS2 Erkin-Say 122.69 303 *e*PKPdf **PKPdf 03 18 53.8 -1.1**
KKAR Karatay Array 125.12 303 *e*PKiKP **PKPdf 03 18 58.2 -1.2**
KKAR Karatay Array 125.12 303 *e*PKPdf **PKPdf 03 18 58.2 -1.2**
BVAR Borovoye Array 126.57 316 PKP **PKPdf 03 19 00.8 -1.0**
comp=Z,3.3nm,0.4s,baz=108,slow=3.2,SNR=12
BRVK Borovoye 126.64 316 *de*PKiKP **PKPdf 03 19 01.0 -0.9**
BRVK Borovoye 126.64 316 *e*PKPdf **PKPdf 03 19 00.6 -1.4**
SCHQ Schefferville 126.79 42 PKP **PKPdf 03 19 00.8 -1.4**
comp=Z,6.6nm,0.9s,baz=76,slow=4.2,SNR=7.0
LSZ Lusaka 127.49 213 *e*PKiKP **PKPdf 03 19 05.3 +0.4**
LSZ Lusaka 127.49 213 *e*PKPdf **PKPdf 03 19 05.3 +0.4**
TSUM Tsumeb 127.89 199 *e*PKPdf **PKPdf 03 19 06.1 +0.4**
SPITS Spitsbergen Ar 132.18 356 PKP **PKPdf 03 19 12.1 +0.2**
comp=Z,8.5nm,0.8s,baz=55,slow=5.5,SNR=6.6
ABKAR Akbulak array 133.03 310 *e*PKPdf **PKPdf 03 19 13.2 -0.9**
DAG Danmarks Havn 133.07 6 *i* P **PKPdf 03 19 11.2 -2.3**
comp=Z,3.4nm,1.0s
DAG Danmarks Havn 133.07 6 *i* PKiKP **PKPdf 03 19 11.2 -2.3**
DAG pmax pmax
comp=Z,3.0nm,1.0s
SUMG Summit 133.25 15 *i* P **PKPdf 03 19 14.7 +0.2**
comp=Z,2.8nm,0.7s
SUMG Summit 133.25 15 *i* PKiKP **PKPdf 03 19 14.7 +0.2**
SUMG pmax pmax
comp=Z,3.0nm,0.7s
ARU Arti 133.30 320 *i* PKiKP **PKPdf 03 19 13.4 -1.1**
ARU Arti 133.30 320 *e*PKPdf **PKPdf 03 19 13.2 -1.2**
GEYT Alibeck 133.52 295 PKP **PKPdf 03 19 16.3 +0.7**
comp=Z,2.7nm,0.8s,baz=226,slow=6.0,SNR=4.7
KMBO Kilima Mbogo 133.56 233 PKP **PKPdf 03 19 17.7 +1.1**
comp=Z,0.8nm,0.4s,baz=226,slow=2.4,SNR=4.7
KMBO Kilima Mbogo 133.56 233 *i* PKiKP **PKPdf 03 19 18.7 +2.1**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
KMBO Kilima Mbogo 133.56 233 *e*PKPdf **PKPdf 03 19 17.3 +0.7**
AKTO Aktyubinsk 134.24 312 PKP **PKPdf 03 19 15.4 -1.0**
comp=Z,3.3nm,0.6s,baz=94,slow=5.6,SNR=14
PRGR Permogore 138.12 330 *e*PKiKP **PKPdf 03 19 20.8 -2.5**
PRGR pmax pmax
comp=Z,7.0nm,0.7s
ARCES ARCESS Array B 139.02 347 PKhKP PKPpre 03 19 14.7
comp=Z,2.8nm,0.6s,baz=46,slow=2.6,SNR=26
ARCES PKP **PKPdf 03 19 24.6 -0.2**
comp=Z,5.6nm,0.6s,baz=48,slow=1.3,SNR=15
TMCR Tamitsa 139.70 336 *e*PKHKP PKPpre 03 19 14.9
TMCR pmax pmax
comp=Z,50nm,0.3s
DGRG David-gareji 143.54 299 P PKPbc 03 19 30.9 -0.3
GNI Garni 144.06 297 *e*PKiKP **PKPdf 03 19 34.5 -0.4**
GNI Garni 144.06 297 *e*PKPdf **PKPdf 03 19 34.5 -0.4**
GOF Gofitskoye 144.86 306 *e*PKiKP **PKPab 03 19 33.8 -1.3**
ONI Oni 144.89 301 P PKPbc 03 19 35.4 0.0
KBZ Khabaz 145.16 303 PKPbc **PKPbc 03 19 35.4 -0.7**
comp=Z,6.2nm,0.9s,baz=122,slow=1.2,SNR=9.6
KIV Kislovodsk 145.28 304 *e*PKiKP **PKPbc 03 19 36.1 -0.5**
KIV *e* 03 22 56.1
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV Kislovodsk 145.28 304 *e*PKPbc **PKPbc 03 19 35.6 -1.0**
OBN Obninsk 145.43 325 PKPbc **PKPdf 03 19 35.4 -1.1**
comp=Z,67nm,0.5s,baz=281,slow=1.2,SNR=17
OBN Obninsk 145.43 325*c* *i* PKP2 **PKPdf 03 19 35.4 -1.1**
OBN pmax pmax
comp=Z,34nm,0.7s
OBN MLR MLR
comp=Z,41nm,23.0s
OBN Obninsk 145.43 325 *e*PKPbc **PKPdf 03 19 35.3 -1.2**
FINES FINESS Array B 145.52 339 PKPbc **PKPdf 03 19 35.3 -1.2**
comp=Z,76nm,0.6s,baz=80,slow=2.9,SNR=545
VSR Storozhevoye 145.72 317 *e*PKiKP **PKPdf 03 19 36.3 -0.8**
VSR pmax pmax
comp=N,9.0nm,0.7s
VSR pmax pmax
comp=E,9.0nm,0.7s
VSR pmax pmax
comp=Z,60nm,0.7s
NSS Namsos 145.74 352 *e*PKPdf **PKPdf 03 19 35.9 -0.8**
NSS IAmb IAmb 03 19 36.5
comp=Z,111nm,1.3s
TBLU Trondheim 147.17 353 *e*PKPdf **PKPdf 03 19 39.8 +0.6**
VSU Vasula 147.57 335*c* *i* PKP2 **PKPbc 03 19 41.5 -1.2**
MOL Molde 148.09 355 *e*PKPdf **PKPdf 03 19 41.8 +1.0**
MOL *e*PKPdf **PKPbc 03 19 42.1 -1.9**
AKN Aaknes 148.52 355 *e*PKPdf **PKPbc 03 19 43.6 -1.6**
AKN IAmb IAmb 03 19 48.4
comp=Z,32nm,0.7s
MALT Malatya 149.02 294⇑PKP2 **PKPbc 03 19 46.2 -1.2**
MALT Malatya 149.02 294⇑*i*P **PKPbc 03 19 46.2 -1.2**
NB2 NORSAR Subarra 149.20 351 PKP **PKPbc 03 19 45.9 -1.1**
comp=Z,70nm,1.4s,baz=15,slow=2.6
NB2 NORSAR Subarra 149.20 351 PKP **PKPbc 03 19 45.9 -1.1**
baz=15,slow=2.6
NOA NORSAR Array B 149.20 351 PKP **PKPdf 03 19 41.3 -1.4**
comp=Z,14nm,0.7s,baz=14,slow=4.1,SNR=27
NOA PKPbc **PKPbc 03 19 45.5 -1.5**
comp=Z,9.9nm,0.7s,baz=13,slow=4.1,SNR=33
FOO Floro 149.22 357 *e*PKPdf **PKPbc 03 19 46.0 -0.8**
FOO *e*PKPdf **PKiKP 03 19 47.5 -0.5**
NC602 NORSAR Array S 149.45 350 *e*PPKdf 03 19 45.2
NC602 IAmb IAmb 03 19 46.9
comp=Z,17nm,0.7s
HFS Hagfors 149.68 348 PKP **PKPdf 03 19 42.6 -0.8**
comp=Z,14nm,0.6s,baz=132,slow=2.1,SNR=12
HFS PKPbc **PKPbc 03 19 46.5 -1.6**
comp=Z,16nm,0.6s,baz=90,slow=1.7,SNR=103
IZAR Zarasai 149.72 332 *e*P **PKPbc 03 19 47.8 -0.6**
IZAR IAmb IAmb 03 19 52.6
comp=Z,16nm,0.7s
SUE Sulen 149.77 357 *e*PKPdf **PKPbc 03 19 47.3 -1.0**
IDID Didziasalis 149.82 331 *e*P **PKPbc 03 19 47.9 -0.7**
IDID IAmb IAmb 03 19 53.8
comp=Z,7.7nm,0.6s
ISAL Salakas 149.89 332 *e*P **PKPbc 03 19 48.0 -0.7**
ISAL IAmb IAmb 03 19 53.0
comp=Z,9.8nm,0.7s
IIGN Ignalina 150.01 332 *e*P **PKPbc 03 19 48.4 -0.6**
IIGN IAmb IAmb 03 19 53.3
comp=Z,13nm,0.7s
NACGM Naroch 150.08 331 *e* **PKPbc 03 19 47.0 -2.2**
OSL Oslo 150.33 351 *e*PKPdf **PKPbc 03 19 48.8 -0.9**
RUND Rundenannen 150.38 356 *e*PKPdf **PKPbc 03 19 47.7 -2.2**
BER Bergen 150.41 356 *e*PKPdf **PKPbc 03 19 49.2 -0.6**
KONO Kongsberg 150.76 352 *e*PKPdf **PKPbc 03 19 49.2 -1.5**
KONO IAmb IAmb 03 19 50.4
comp=Z,24nm,0.8s
KONO Kongsberg 150.76 352 *e*PKiKP **PKPbc 03 19 49.7 -1.0**
KONO Kongsberg 150.76 352 *e*PKPbc **PKPbc 03 19 49.7 -1.0**
ODD1 Odda 150.80 355 *e*PKPdf **PKPbc 03 19 50.6 -0.3**
SIM Simferopol' 151.04 308 *i* PKiKP **PKPbc 03 19 51.5 -0.4**
SIM *i* 04 19 59.0
SIM pmax pmax
comp=Z,12nm,0.6s
BLS5 Blasjo 151.30 355 *e*PKPdf **PKPbc 03 19 52.3 +0.2**
AKASG Malin Array Be 151.53 322 PKPbc **PKPbc 03 19 51.2 -1.6**
comp=Z,10nm,0.5s,baz=48,slow=2.9,SNR=43
AKBB Malin Array Si 151.53 322 *e*PKiKP **PKPbc 03 19 51.9 -0.9**
AKBB Malin Array Si 151.53 322 *e*PKPbc **PKPbc 03 19 51.9 -0.9**
KIEV Kiev 151.54 322 *e*PKiKP **PKPbc 03 19 51.5 -1.3**
KIEV Kiev 151.54 322 *e*PKPbc **PKPbc 03 19 51.5 -1.3**
KMY Karmoy 151.59 356 *e*PKPdf **PKPbc 03 19 51.4 -1.2**
KMY IAmb IAmb 03 19 56.9
comp=Z,30nm,0.9s
SUW Suwalki 152.20 332 *e*PKP **PKPbc 03 19 53.2 -0.9**
SUW Suwalki 152.20 332 *e*PKiKP **PKPbc 03 19 53.3 -0.9**
HOMB Homborsund 152.24 352 *e*PKPdf **PKPbc 03 19 53.3 -0.8**
SNART Snartemo 152.31 354 *e*PKPdf **PKPbc 03 19 53.2 -1.0**
BR131 Keskin Array S 152.59 298 *e*PKPbc **PKPbc 03 19 54.5 -1.2**
BRTR Keskin Array B 152.59 298 PKPbc **PKPbc 03 19 54.6 -1.2**
comp=Z,5.0nm,0.7s,baz=116,slow=3.4,SNR=21
CSS Prodhromos 153.19 287 *e*PKPbc **PKPbc 03 19 56.0 -1.1**
BSD Bornholm Skovb 154.03 343⇑*i*P **PKPbc 03 19 57.2 -1.0**
comp=Z,9.8nm,0.5s
BSD Bornholm Skovb 154.03 343⇑*i*PKiKP **PKPbc 03 19 57.2 -1.0**
BSD pmax pmax
comp=Z,10.0nm,0.5s
BEL Belsk 154.78 332 *e*PKP **PKPbc 03 19 58.9 -1.0**
BEL Belsk 154.78 332 *e*PKiKP **PKPbc 03 19 58.9 -1.0**
GKP Gorka Klasztor 154.95 338 *e*PKP **PKPbc 03 19 59.5 -0.7**
GKP Gorka Klasztor 154.95 338 *e*PKiKP **PKPbc 03 19 59.5 -0.7**
DBIC Dimbokro 155.12 164 PKP **PKPdf 03 19 52.7 -0.2**
comp=Z,8.0nm,1.1s,baz=146,slow=3.6,SNR=2.4
TESR Tescani 155.20 316⇓*i*P **PKPab 03 20 16.3 -0.8**
EKA Eskdalemuir Ar 155.34 7 PKPbc PKPdf 03 19 58.8 +6.9
comp=Z,0.5nm,0.4s,baz=334,slow=2.1,SNR=3.7
EKA PKPab **PKPab 03 20 15.9 -1.4**
comp=Z,3.8nm,0.7s,baz=337,slow=3.3,SNR=8.5
VRI Vrincioaia 155.47 315⇑PKP2 **PKPab 03 20 19.7 +1.4**
VRI Vrincioaia 155.47 315⇑*i*P **PKPab 03 20 19.7 +1.4**
KWP Kalwaria Pacla 155.50 326 *e*PKP PKPdf 03 20 05.0 +13
KWP *e* 03 20 17.1
KWP Kalwaria Pacla 155.50 326 *e*PKiKP PKPdf 03 20 05.1 +13
KWP *e* 03 20 17.1
BSEG Bad Segeberg 156.15 347 *e*PKP **PKPab 03 20 19.9 -0.9**
KOLS Kolonicke sedl 156.18 325 *e*PKiKP **PKPdf 03 19 57.0 +3.7**
KOLS *e* 03 20 21.4
KOLS Kolonicke sedl 156.18 325 *e* **PKPdf 03 19 57.0 +3.7**
KOLS Kolonicke sedl 156.18 325 *e*PKP **PKPab 03 20 21.4 +0.2**
STHS Stebnicka Huta 156.34 327 *e*PKiKP **PKPdf 03 19 56.3 +2.8**
STHS *e* 03 20 21.3
STHS Stebnicka Huta 156.34 327 *e* **PKPdf 03 19 56.3 +2.8**
STHS Stebnicka Huta 156.34 327 *e*PKP **PKPab 03 20 21.3 -0.6**
UZH Uzhgorod 156.37 324 *e*PKiKP PKPdf 03 20 01.7 +8.2
UZH *e* 03 20 17.1
DRGR 157.31 320⇓⇓PKP2 **PKPab 03 20 25.3 -0.9**
DRGR 157.31 320⇓⇓*i*P **PKPab 03 20 25.3 -0.9**
KECS Kecovo 157.35 326 *e*PKP2 **PKPab 03 20 25.1 -1.1**
KECS Kecovo 157.35 326 *e*PKP **PKPab 03 20 25.1 -1.1**
LOT Lotru 157.47 316⇑*i*P **PKPab 03 20 25.2 -1.8**
UPC Upice 157.68 335 *e*PKPDF **PKPdf 03 19 58.6 +3.5**
UPC *e*PKPAB **PKPab 03 20 26.8 -0.8**
UPC *ex* x 03 20 34.5
UPC *e*PKP pPKP 03 20 41.8
UPC Upice 157.68 335 *e*PKiKP **PKPdf 03 19 58.6 +3.5**
MORC Moravsky Berou 157.69 332 *e*PKiKP **PKPdf 03 19 53.4 -1.8**
MORC Moravsky Berou 157.69 332 *e*PKPdf **PKPdf 03 19 53.4 -1.8**
MORC *e*PKPab **PKPab 03 20 27.4 -0.4**
DPC Dobruska-Polom 157.70 335 *e*PKPDF **PKPdf 03 19 55.6 +0.4**
DPC *ex* x 03 20 09.1
DPC *ep*PKP **pPKPdf 03 20 13.0 +3.4**
DPC *e*PKPAB **PKPab 03 20 26.7 -1.0**
DPC *ex* x 03 20 31.0
DPC *ex* x 03 20 41.5
DPC Dobruska-Polom 157.70 335 *e*PKiKP **PKPdf 03 19 55.6 +0.4**
DPC *e* 03 20 09.1
KRLC Kraliky 157.75 334 *e*PKPAB **PKPab 03 20 26.8 -1.1**
KRLC *ex* x 03 20 39.3
KRLC Kraliky 157.75 334 *e*PKP2 **PKPab 03 20 26.8 -1.1**
CLL Collm 157.95 341⇓*i*PKiKP **PKPdf 03 19 56.9 +1.5**
CLL *i* 03 20 27.5
CLL pmax pmax
comp=Z,12nm,0.7s
CLL Collm 157.95 341 *i* PKPdf **PKPdf 03 19 56.9 +1.5**
CLL *i* PKPdif PKPdf 03 20 06.1 +11
comp=Z,4.0nm,1.2s
CLL ⇓*i*PKPab **PKPab 03 20 27.5 -1.2**
comp=Z,12nm,0.7s
CLL *i* 03 20 31.1
PSZ Piszkesteto 158.03 326 *e*PKP2 **PKPab 03 20 27.6 -1.7**
PSZ Piszkesteto 158.03 326 *e*PKPab **PKPab 03 20 27.6 -1.7**
BRG Berggiesshubel 158.06 339 *e*PKP **PKPdf 03 19 55.6 +0.1**
comp=Z,1.7nm,0.7s
BRG *i* 03 20 28.1
comp=Z,11nm,1.2s
BRG Berggiesshubel 158.06 339 *e*PKiKP **PKPdf 03 19 55.7 +0.1**
BRG *i* 03 20 28.1
BRG pmax pmax
comp=Z,2.0nm,0.7s
BRG pmax pmax
comp=Z,11nm,1.2s
IBBN Ibbenburen 158.15 350 *e*PKP **PKPab 03 20 28.5 -1.0**
PVCC Panska Ves 158.16 338 *e*PKPAB **PKPab 03 20 32.0 +2.4**
PVCC *ex* x 03 20 35.7
PVCC Panska Ves 158.16 338 *e*PKP2 **PKPab 03 20 32.0 +2.4**
PRA Prague 158.59 337 *e*PKPAB **PKPab 03 20 30.5 -1.0**
PRA Prague 158.59 337 *e*PKP2 **PKPab 03 20 30.5 -1.0**
GOPC GO Pecny, Ondr 158.61 336 *e*PKPDF **PKPdf 03 19 59.6 +3.3**
GOPC *ep*PKP **pPKPdf 03 20 16.5 +5.8**
GOPC *e*PKPAB **PKPab 03 20 32.1 +0.5**
WTSB Winterswijk 158.62 351 *e*PKPdf **PKPab 03 20 30.1 -1.4**
comp=Z,6.3nm,0.6s
PRU Pruhonice 158.63 337 *e*PKPDF **PKPdf 03 19 58.5 +2.2**
PRU *e*PKPAB **PKPab 03 20 31.0 -0.7**
PRU Pruhonice 158.63 337 *e*PKiKP **PKPdf 03 19 58.5 +2.2**
PRU *e* 03 20 31.0
TREC Trest 158.87 334 *e*PKPAB **PKPab 03 20 30.6 -2.2**
TREC Trest 158.87 334 *e*PKP2 **PKPab 03 20 30.6 -2.2**
MOX Moxa 158.93 342 *e*PKP **PKPab 03 20 31.6 -1.4**
NKC Novy Kostel 159.07 340 *e*PKPAB **PKPab 03 20 32.5 -1.1**
NKC *ex* x 03 20 38.0
NKC Novy Kostel 159.07 340 *e*PKP2 **PKPab 03 20 32.5 -1.1**
VTS Vitosha 159.24 310⇓⇓PKP2 **PKPab 03 20 34.8 -0.1**
VTS Vitosha 159.24 310⇓⇓*i*P **PKPab 03 20 34.8 -0.1**
MMB Musomiste 159.32 307⇑⇑PKP2 **PKPab 03 20 33.9 -1.2**
MMB Musomiste 159.32 307⇑⇑*i*P **PKPab 03 20 33.9 -1.2**
KHC Kasperske Hory 159.69 337 *e*PKPDF **PKPdf 03 20 01.1 +3.5**
KHC *ep*PKP **pPKPdf 03 20 17.5 +5.5**
KHC *e*PKPAB **PKPab 03 20 35.3 -1.1**
KHC *ex* x 03 20 51.4
KHC Kasperske Hory 159.69 337 *e*PKiKP **PKPdf 03 20 01.1 +3.5**
KHC *e* 03 20 17.5
KHC *e* 03 20 35.3
PKSM Moragy 159.83 324⇑PKiKP **PKPdf 03 19 56.0 -1.8**
PKSM Moragy 159.83 324⇑*i*P **PKPdf 03 19 56.0 -1.8**
CONA Conrad Observa 159.83 331⇑*i*PKPab **PKPab 03 20 36.3 -0.8**
comp=Z,3.3nm,0.8s
GERES GERESS Array B 159.89 336 PKP **PKPdf 03 19 57.0 -0.9**
comp=Z,0.9nm,0.9s,baz=48,slow=1.5,SNR=7.1
GERES PKPab **PKPab 03 20 36.0 -1.4**
comp=Z,1.4nm,0.7s,baz=30,slow=4.5,SNR=9.9
GERES GERESS Array B 159.89 336 PKiKP **PKPdf 03 19 57.0 -0.9**
GERES 03 20 36.0
TNS Taunus Mts 160.04 347 *e*PKP **PKPab 03 20 36.5 -1.4**
DIVS Divibare 160.45 317⇑*i*P **PKPab 03 20 39.2 -0.8**
GVD Gavdhos 160.79 288 *e*PKPab **PKPab 03 20 40.6 -1.1**
WLF Walferdange 160.96 351 *e*PKiKP **PKPdf 03 19 57.7 -1.3**
WLF Walferdange 160.96 351 *e*PKPdf **PKPdf 03 19 57.6 -1.3**
RJOB Jochberg 161.15 336 *e*PKP **PKPab 03 20 42.1 -0.7**
STU Stuttgart 161.26 344 *e*PKP **PKPab 03 20 42.0 -1.2**
STU Stuttgart 161.26 344 *e*PKiKP **PKPdf 03 19 57.3 -2.0**
STU *e* 03 20 42.0
STU Stuttgart 161.26 344 *e*PKPdf **PKPdf 03 19 57.3 -2.0**
STU *e*PKPab **PKPab 03 20 42.0 -1.2**
RETA Reutte 162.03 340⇑*i*PKPab **PKPab 03 20 45.3 -1.3**
comp=Z,5.3nm,0.8s
MOTA Moosalm 162.05 339⇓*i*PKPab **PKPab 03 20 46.0 -0.9**
comp=Z,8.1nm,1.1s
TORD Torodi Ar. Bea 162.33 180 PKP **PKPdf 03 20 01.2 -0.2**
comp=Z,3.6nm,0.9s,baz=202,slow=1.6,SNR=13
TORD PKPab **PKPab 03 20 48.5 -0.1**
comp=Z,6.4nm,0.7s,baz=172,slow=3.8,SNR=19
DAVA Damuels 162.46 341⇑*i*PKPab **PKPab 03 20 47.6 -1.1**
comp=Z,7.0nm,0.7s
DAVOX Davos/Dischmat 162.93 341 PKPab **PKPab 03 20 49.9 -0.9**
comp=Z,7.3nm,0.6s,baz=345,slow=0.3,SNR=14
DAVOX Davos/Dischmat 162.93 341 PKP2 **PKPab 03 20 49.9 -0.9**
DAVOX pmax pmax
comp=Z,7.0nm,0.6s
TIP Timpagrande 165.16 308 *e*PKPdf **PKPdf 03 20 01.9 -1.5**
BNI Bardonecchia 165.34 346 *e*PKP2 **PKPab 03 21 00.3 -1.0**
BNI Bardonecchia 165.34 346 *e*PKPab **PKPab 03 21 00.3 -1.0**
PCAB Cabril 166.68 33 *e*PKPdf **PKPdf 03 20 05.4 +0.9**
POLO Lamas de Olo 167.05 34 *e*PKPdf **PKPdf 03 20 04.9 0.0**
PVRL Vila Real 167.16 34 *e*PKPdf **PKPdf 03 20 04.3 -0.6**
PTOM Tomar 168.02 41 *e*PKPdf **PKPdf 03 20 06.2 +0.7**
PCBR Castelo Branco 168.37 37 *e*PKPdf **PKPdf 03 20 06.4 +0.7**
PESTR Estremoz 169.00 41 *e*PKPdf **PKPdf 03 20 07.8 +1.6**
PBAR Barrancos 169.79 42 *e*PKPdf **PKPdf 03 20 07.7 +1.0**
ESDC Sonseca Array 170.11 26 PKP **PKPdf 03 20 07.0 +0.1**
comp=Z,1.9nm,0.8s,baz=354,slow=1.9,SNR=14
ESDC PKPab **PKPab 03 21 21.0 -1.5**
comp=Z,0.6nm,0.7s,baz=321,slow=3.1,SNR=5.0
TAM Tamanrasset 171.23 204 *e*PKiKP **PKPdf 03 20 08.1 0.0**
TAM Tamanrasset 171.23 204 *e*PKPdf **PKPdf 03 20 08.1 0.0**
KEST Kesra 171.98 309 PKP **PKPdf 03 20 08.1 +0.1**
comp=Z,0.8nm,0.9s,baz=180,slow=4.0,SNR=3.7
KEST Kesra 171.98 309 *e*PKPdf **PKPdf 03 20 06.8 -1.3**
KEST PKP 03 20 08.1

ISCJB ***11*** *03:00:55.7±0.5, 31°.25N±0°.06×130°.5E±0°.1, h183km±4km, mb3.6/11, Error ellipse: s-maj=18.8km s-min=9.0km az=14.1*
JMA ***11*** *03:00:58.1±0.1, 31°.26N×130°.40E, h170km±1km, M3.7*
IDC ***11*** *03:00:59.3±4.3, 31°.53N×130°.53E, h194km±21km, mb3.4/10, mb1 3.5/10, mb1mx3.3/26, mbtmp3.9/10, Error ellipse: s-maj=63.9km s-min=47.3km az=168.0*
ISC 11 03:00:56.6±0.8, 31°.24N±0°.07×130°.5E±0°.1, h180km±6km, n20, σ0°.973/28, mb3.7/11, 6C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JSU	**Suzuyama**	**0.27**	**348**	⇑P		**Pn**	**03 01 21.0**	**+0.4**
JSU					S	**Sn**	**03 01 38.7**	**-0.6**
JTSR	**Tashiro 2**	**0.35**	**102**	⇑P		**Pn**	**03 01 21.7**	**+0.8**
JTSR					S	**Sn**	**03 01 39.1**	**-0.4**
JTN	**Tanegashima 3**	**0.71**	**146**	⇑P		**Pn**	**03 01 23.4**	**+1.0**
JTN					S	**Sn**	**03 01 42.3**	**0.0**
JTZ	**Takazaki**	**0.82**	**36**	⇑P		**Pn**	**03 01 24.0**	**+1.0**
JTZ					S	**Sn**	**03 01 42.8**	**-0.7**
JYAK	**Yakushimahirau**	**1.00**	**180**	P		**Pn**	**03 01 24.6**	**+0.3**
JYAK					S	**Sn**	**03 01 44.5**	**-1.2**
JIU2	**Izumi 2**	**1.32**	**11**	⇑P		**Pn**	**03 01 27.8**	**+0.9**
JIU2					S	**Sn**	**03 01 49.8**	**-0.7**
JNU	**Nakatsue**	**1.90**	**9**	P		**Pn**	**03 01 33.1**	**+0.5**
	4.1nm,0.3s,baz=227,slow=2.9,SNR=37							
JNU					S	**Sn**	**03 02 00.6**	**-0.1**
	7.9nm,0.3s,baz=195,slow=4.6,SNR=7.3							
JTO	**Tosashimizu**	**2.52**	**50**	⇑P		**Pn**	**03 01 40.1**	**+0.6**
JTO					S	**Sn**	**03 02 11.6**	**-1.3**
SONM	**Songino Array**	**24.76**	**319**	P		**P**	**03 06 01.2**	**-0.5**
	0.3nm,0.3s,baz=138,slow=11,SNR=4.7							
MKAR	**Makanchi Array**	**39.91**	**307**	P		**P**	**03 08 12.8**	**-0.2**
	0.4nm,0.8s,baz=82,slow=10,SNR=2.9							
KURBB	**Kurchatov Arra**	**42.79**	**312**	P		**P**	**03 08 35.9**	**-0.3**
	0.4nm,0.4s,baz=96,slow=9.0,SNR=7.9							
ARCES	**ARCESS Array B**	**66.10**	**338**	P		**P**	**03 11 23.7**	**-0.2**
	0.6nm,0.4s,baz=61,slow=7.4,SNR=8.7							
KBZ	**Khabaz**	**67.59**	**308**	P		**P**	**03 11 34.3**	**+0.6**
	2.1nm,0.6s,baz=115,slow=1.8,SNR=6.5							
FINES	**FINESS Array B**	**69.51**	**330**	P		**P**	**03 11 45.1**	**-0.1**
	2.6nm,0.5s,baz=80,slow=5.3,SNR=41							
AKASG	**Malin Array Be**	**73.04**	**319**	P		**P**	**03 12 06.4**	**-0.2**
	1.1nm,0.4s,baz=54,slow=6.1,SNR=4.4							
BRTR	**Keskin Array B**	**75.56**	**308**	P		**P**	**03 12 22.2**	**+0.6**
	1.7nm,0.7s,baz=110,slow=5.2,SNR=12							
NB2	**NORSAR Subarra**	**75.71**	**334**	P		**P**	**03 12 21.4**	**-0.5**
	comp=Z,0.1nm,0.6s,baz=54,slow=5.9							
NOA	**NORSAR Array B**	**75.71**	**334**	P		**P**	**03 12 20.9**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=49,slow=5.7,SNR=4.8							
BRG	**Berggiesshubel**	**80.99**	**325**	*e*(P)		**P**	**03 12 51.9**	**+0.9**
	comp=Z,1.5nm,0.7s							
GERES	**GERESS Array B**	**82.40**	**324**	P		**P**	**03 12 59.2**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=51,slow=7.0,SNR=4.5							

CSEM ***11*** *03:03:59.6±0.1, 37°.90N×22°.07E, h15km, MD2.8, Error ellipse: s-maj=1.7km s-min=1.4km az=62.0*
ATH ***11*** *03:03:59.5, 37°.90N×22°.08E, h22km±1km, MD2.8/15*
THE 11 03:03:59.8, 37°.91N×22°.08E, h17km, ML1.7/12, Error ellipse: s-maj=0.8km s-min=0.4km az=329.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KLV	**Kalavryta, Ach**	**0.15**	**24**	*e*PB		Pg	03 04 03.9	-0.1
KLV				*e*SB		Sg	03 04 07.1	0.0
KLV	**Kalavryta, Ach**	**0.15**	**24**	P		Pg	03 04 03.9	-0.1
KLV				*e*Sb		Sg	03 04 07.1	0.0
KLV	**Kalavryta, Ach**	**0.15**	**24**	P		Pg	03 04 03.9	-0.1
KLV				S		Sg	03 04 06.9	0.0
GUR	**Goura**	**0.21**	**83**	*e*PB		Pg	03 04 04.9	-0.1
GUR				*e*SB		Sg	03 04 08.7	+0.1
GUR	**Goura**	**0.21**	**83**	P		Pg	03 04 04.9	-0.1
GUR				S		Sg	03 04 08.5	-0.1
GUR	**Goura**	**0.21**	**83**	P		Pg	03 04 04.9	-0.1
GUR				S		Sg	03 04 08.5	-0.1
DRO	**Drossia**	**0.29**	**278**	*e*PB		Pg	03 04 06.1	-0.1
DRO				*e*SB		Sb	03 04 11.6	+0.4
DRO	**Drossia**	**0.

SERG				S	Sb	03 04 17.5	+0.2	
SERG	**Sergoula**	**0.50**	**358**	P	Pg	03 04 09.7	-0.3	
SERG				S	Sb	03 04 17.5	+0.2	
RLS	**Riolos of Patr**	**0.50**	**287**	*e*PN	Pg	03 04 09.6	-0.3	
RLS				*e*SN	Sb	03 04 18.0	+0.8	
RLS	**Riolos of Patr**	**0.50**	**287**	P	Pg	03 04 08.8	-1.1	
RLS	**Riolos of Patr**	**0.50**	**287**	*e*Pn	Pg	03 04 09.6	-0.3	
RLS				S	Sb	03 04 17.0	-0.2	
RLS				*e*Sn	Sg	03 04 18.0	+1.3	
RLS	**Riolos of Patr**	**0.50**	**287**	P	Pg	03 04 08.8	-1.1	
RLS				S	Sb	03 04 17.0	-0.2	
EFP	**Efpalio**	**0.53**	**345**	*e*PN	Pg	03 04 10.1	-0.4	
EFP				*e*SN	Sb	03 04 19.0	+0.9	
EFP	**Efpalio**	**0.53**	**345**	P	Pg	03 04 09.5	-1.0	
EFP	**Efpalio**	**0.53**	**345**	*e*Pn	Pg	03 04 10.1	-0.4	
EFP				S	Sb	03 04 18.8	+0.7	
EFP	**Efpalio**	**0.53**	**345**	P	Pg	03 04 09.5	-1.0	
EFP				S	Sb	03 04 18.8	+0.7	
VLX	**Vlachokerasia**	**0.59**	**156**	*e*PN	Pg	03 04 10.8	-0.9	
VLX	**Vlachokerasia**	**0.59**	**156**	P	Pg	03 04 10.8	-0.9	
VLX				S	Sb	03 04 20.0	0.0	
VLX	**Vlachokerasia**	**0.59**	**156**	P	Pg	03 04 10.8	-0.9	
VLX				S	Sb	03 04 20.0	0.0	
DSF	**Desfina**	**0.61**	**35**	*e*PN	Pg	03 04 11.8	-0.3	
DSF	**Desfina**	**0.61**	**35**	P	Pg	03 04 11.8	-0.3	
DSF				S	Sb	03 04 20.7	+0.1	
DSF	**Desfina**	**0.61**	**35**	P	Pg	03 04 11.8	-0.3	
DSF				S	Sb	03 04 20.7	+0.1	
LTK	**Loutraki**	**0.71**	**81**	*e*PN	Pb	03 04 13.7	-0.1	
LTK				*e*SN	Sg	03 04 23.9	+0.5	
LTK	**Loutraki**	**0.71**	**81**	P	Pb	03 04 13.6	-0.2	
LTK				S	Sb	03 04 23.3	0.0	
LTK	**Loutraki**	**0.71**	**81**	P	Pb	03 04 13.6	-0.2	
LTK				S	Sb	03 04 23.3	0.0	
ITM	**Ithomi**	**0.74**	**189**	*e*PN	Pb	03 04 13.4	-0.8	
ITM				*e*SN	Sg	03 04 24.5	+0.3	
ITM	**Ithomi**	**0.74**	**189**	P	Pb	03 04 13.4	-0.8	
ITM				S	Sb	03 04 24.0	0.0	
ITM	**Ithomi**	**0.74**	**189**	P	Pb	03 04 13.4	-0.8	
ITM				S	Sb	03 04 24.0	0.0	
PDO	**Prodromos**	**0.98**	**315**	*e*PN	Pb	03 04 18.0	-0.4	
PDO				*e*SN	Sn	03 04 33.4	+1.1	
PDO	**Prodromos**	**0.98**	**315**	P	Pb	03 04 18.1	-0.3	
PDO				S	Sg	03 04 31.9	0.0	
PDO				*e*Sn	Sn	03 04 33.4	+1.1	
PDO	**Prodromos**	**0.98**	**315**	P	Pb	03 04 18.1	-0.3	
PDO				S	Sg	03 04 31.9	0.0	
KRND	**KRANIDI**	**1.00**	**121**	P	Pb	03 04 18.5	-0.2	
KRND				S	Sn	03 04 32.9	+0.2	
KRND	**KRANIDI**	**1.00**	**121**	P	Pb	03 04 18.5	-0.2	
KRND				S	Sn	03 04 32.9	+0.2	
DID	**Didima**	**1.00**	**113**	*e*PN	Pn	03 04 19.2	+0.1	
DID	**Didima**	**1.00**	**113**	P	Pb	03 04 18.8	0.0	
DID	**Didima**	**1.00**	**113**	*e*Pn	Pn	03 04 19.2	+0.1	
DID				S	Sg	03 04 32.3	-0.3	
DID	**Didima**	**1.00**	**113**	P	Pb	03 04 18.8	0.0	
DID				S	Sg	03 04 32.3	-0.3	
PYL	**PYLOS**	**1.05**	**195**	*e*PN	Pb	03 04 19.0	-0.5	
PYL	**PYLOS**	**1.05**	**195**	*e*Pn	Pb	03 04 19.0	-0.5	

DJA 11 03:14:30.5±0.7,9°S±5′×11°5E±°, h21km±6km, M4.1/12, mb4.7/1, mB5.1/1, MLv3.8/12, Mw(mB)4.4/1, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGBI	**Denpasar**	**0.60**	**43**	P	Pb	03 14 42.3	-0.1
IGBI				S	Sb	03 14 50.5	0.0
DNP	**Denpasar**	**0.75**	**39**	P	Pb	03 14 44.7	-0.1
DNP				S	Sn	03 14 55.8	-0.8
JAGI	**Jajag, Banyuwa**	**0.97**	**324**	P	Pb	03 14 47.6	-1.0
JAGI				S	Sb	03 15 00.2	-0.8
SRBI	**Singaraja**	**1.26**	**22**	P	Pn	03 14 52.4	-0.5
ABJI	**Asem Bagus**	**1.54**	**341**	P	Pb	03 14 57.8	-0.5
BLJI	**Banyuglugur**	**1.88**	**323**	P	Pn	03 15 02.2	+0.8
KMMI	**Kalianget**	**2.32**	**341**	P	Pn	03 15 06.2	-1.3
PWJI	**Pagerwojo**	**3.14**	**293**	P	Pn	03 15 19.0	+0.2
PWJI				S	Sn	03 15 53.7	-2.0
PCJI	**Pacitan**	**3.67**	**286**	P	Pn	03 15 26.6	+0.6
UGM	**Wanagama**	**4.37**	**288**	P	Pn	03 15 36.0	+0.2

*MOS **11** 03:34:50.0±0.9, 17°.47S×178°.76W, h534km, mb4.7/29, Error ellipse: s-maj=12.6km s-min=9.2km az=52.0*
*IDC **11** 03:34:50.0±1.2, 17°.94S×178°.66W, h541km±12km, mb4.1/15, mb1 4.4/16, mb1rmx4.3/19, mbtmp5.0/16, Error ellipse: s-maj=13.7km s-min=9.2km az=137.0*
*ISCJB **11** 03:34:52.6±0.1, 17°.83S±0°.05×178°.79W±0°.04, h579km, mb4.5/120, Error ellipse: s-maj=7.8km s-min=2.9km az=152.9*
*NEIC **11** 03:34:52.3±0.5, 17°.87S×178°.68W, h568km±6km, mb4.6/103, Error ellipse: s-maj=7.1km s-min=3.9km az=149.0*

ISC 11 03:34:53.2±0.3, 17°.93S±0°.06×178°.66W±0°.06, h579km, n676, σ0.90/702, mb4.6/120, 42C-24D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.14**	**273**	*e*P	**P**	**03 36 09.9**	**-1.7**
AFI	**Afiamalu**	**7.74**	**60**	*e*P	P	03 36 43.7	-5.8
DZM	**Mont Dzumac**	**14.59**	**251**	P	**P**	**03 37 56.3**	**-1.9**
	12nm,0.3s,baz=87,slow=20,SNR=26						
DZM	**Mont Dzumac**	**14.59**	**251**	*e*P	**P**	**03 37 55.7**	**-2.6**
DZM	**Mont Dzumac**	**14.59**	**251**	*e*P	**P**	**03 37 56.3**	**-1.9**
	86nm,0.6s						
NOUC	**Port Laguerre**	**14.73**	**251**	*e*P	**P**	**03 37 56.8**	**-2.6**
OUZ	**Omahuta**	**18.55**	**200**	*e*P	**P**	**03 38 35.5**	**+0.9**
	96nm,1.5s						
URZ	**Urewera**	**20.59**	**190**	P	**P**	**03 38 50.1**	**-3.0**
	17nm,0.7s,baz=14,slow=0.6,SNR=13						
URZ				S	S	03 41 58.3	-8.5
	1.7nm,0.3s,baz=305,slow=18,SNR=1.6						
URZ	**Urewera**	**20.59**	**190**	*e*P	**P**	**03 38 50.9**	**-2.1**
	22nm,0.8s						
URZ				S	S	03 41 58.3	-8.5
TARA	**Tarawa**	**20.88**	**336**	*e*P	**P**	**03 38 54.8**	**-1.2**
LHI	**Lord Howe Isla**	**24.28**	**232**	⇓P	**P**	**03 39 26.8**	**+0.8**
	baz=24						
RPZ	**Rata Peaks**	**27.13**	**196**	P	**P**	**03 39 48.6**	**-2.4**
	6.7nm,0.6s,baz=224,slow=2.3,SNR=8.9						
EIDS	**Eidsvold**	**29.03**	**250**	P	**P**	**03 40 07.5**	**-0.4**
	baz=29,SNR=20						
EIDS	**Eidsvold**	**29.03**	**250**	*e*P	**P**	**03 40 07.5**	**-0.4**
	56nm,0.8s						
ARMA	**Armidale**	**29.72**	**240**	P	**P**	**03 40 14.7**	**+0.8**
	baz=30,SNR=70						
ARMA	**Armidale**	**29.72**	**240**	*e*P	**P**	**03 40 14.6**	**+0.8**
	58nm,0.7s						
WHZ	**Wether Hill Ro**	**30.02**	**199**	*e*P	**P**	**03 40 16.1**	**+0.1**
	36nm,0.9s						
MGCD	**Mangrove Creek**	**31.08**	**235**	P	**P**	**03 40 26.4**	**+1.0**
	baz=31,SNR=24						
RMQ	**Roma**	**31.27**	**248**	P	**P**	**03 40 27.7**	**+0.7**
	baz=32,SNR=29						
CTA	**Charters Tower**	**33.20**	**261**	P	**P**	**03 40 43.1**	**-0.4**
	30nm,0.6s,baz=92,slow=12,SNR=15						
CTA	**Charters Tower**	**33.20**	**261**	P	**P**	**03 40 43.1**	**-0.4**
CTA				pmax	pmax		
	comp=Z,30nm,0.6s						
CTAO	**Charters Tower**	**33.20**	**261**	*e*P	**P**	**03 40 42.8**	**-0.7**
	comp=Z,32nm,0.8s						
CNB	**Canberra Magne**	**33.22**	**232**	P	**P**	**03 40 44.4**	**+0.9**
	baz=33,SNR=80						
CAN	**Canberra**	**33.50**	**232**	⇓P	**P**	**03 40 46.1**	**+0.2**
	baz=34						
CAN	**Canberra**	**33.50**	**232**	*e*P	**P**	**03 40 46.0**	**+0.2**
	comp=Z,69nm,1.2s						
YNG	**Young**	**33.58**	**234**	⇑P	**P**	**03 40 47.3**	**+0.8**
	baz=34,SNR=5.4						
MILA	**Mila**	**34.09**	**229**	P	**P**	**03 40 51.4**	**+0.7**
	baz=34,SNR=9.5						
PMG	**Port Moresby**	**34.23**	**280**	*de*P	**P**	**03 40 52.6**	**+0.5**
PMG	**Port Moresby**	**34.23**	**280**	P	**P**	**03 40 52.9**	**+0.8**
	baz=34,SNR=3.6						
PMG				P	**P**	**03 40 52.9**	**+0.8**
	baz=34,SNR=3.6						
PMG				P	**P**	**03 40 52.9**	**+0.8**
	baz=34,SNR=3.6						
PMG	**Port Moresby**	**34.23**	**280**	*e*P	**P**	**03 40 53.0**	**+0.9**
	comp=Z,19nm,0.9s						
CMSA	**Cobar Meteorol**	**34.93**	**240**	P	**P**	**03 40 58.1**	**+0.4**
	baz=35,SNR=110						
MTSU	**Mount Surprise**	**35.17**	**264**	P	**P**	**03 40 59.7**	**-0.3**
	baz=35,SNR=14						
QLP	**Quilpie**	**35.30**	**249**	P	**P**	**03 41 00.8**	**-0.1**
	baz=36,SNR=77						
COEN	**Coen**	**36.87**	**271**	P	**P**	**03 41 14.2**	**+0.3**
	baz=37,SNR=30						
COEN	**Coen**	**36.87**	**271**	*e*P	**P**	**03 41 14.3**	**+0.3**
	comp=Z,8.2nm,0.8s						
TOO	**Toolangi**	**36.97**	**231**	P	**P**	**03 41 15.2**	**+0.7**
	baz=37,SNR=63						
MOO	**Moorlands**	**37.91**	**223**	⇓P	**P**	**03 41 22.1**	**0.0**
	baz=38						
STKA	**Stephens Creek**	**38.41**	**241**	P	**P**	**03 41 27.1**	**+0.8**
	comp=Z,67nm,0.8s,baz=91,slow=9.7,SNR=139						
STKA	**Stephens Creek**	**38.41**	**241**	P	**P**	**03 41 27.1**	**+0.8**
STKA				pmax	pmax		
	comp=Z,67nm,0.8s						
STKA	**Stephens Creek**	**38.41**	**241**	P	**P**	**03 41 27.1**	**+0.8**
	baz=39,SNR=107						
STKA	**Stephens Creek**	**38.41**	**241**	*e*P	**P**	**03 41 26.9**	**+0.7**
QIS	**Mount Isa**	**39.41**	**259**	P	**P**	**03 41 34.0**	**-0.6**
	baz=40,SNR=6.6						
ARPS	**Mount Arapiles**	**39.44**	**234**	P	**P**	**03 41 34.8**	**+0.3**
	baz=40,SNR=11						
HTT	**Hallett**	**40.93**	**239**	P	**P**	**03 41 47.1**	**+0.7**
	baz=41,SNR=43						
JAY	**Jayapura**	**42.68**	**286**	P	**P**	**03 42 00.9**	**+0.4**
	baz=43,SNR=14						
BBOO	**Buckleboo**	**43.18**	**241**	P	**P**	**03 42 04.5**	**+0.4**
	baz=43,SNR=114						
BBOO	**Buckleboo**	**43.18**	**241**	*e*P	**P**	**03 42 04.5**	**+0.4**
	comp=Z,8.8nm,0.8s						
WRAB	**Tennant Creek**	**44.38**	**260**	*d i*P	**P**	**03 42 12.2**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,80nm,0.8s						
WRAB	**Tennant Creek**	**44.38**	**260**	*e*P	**P**	**03 42 12.7**	**-0.8**
	comp=Z,30nm,0.6s						
WRA	**Warramunga Arr**	**44.39**	**260**	P	**P**	**03 42 12.7**	**-1.0**
	comp=Z,27nm,0.7s,baz=95,slow=7.0,SNR=156						
WRA				ScP	**ScP**	**03 46 45.8**	**+3.6**
	comp=Z,2.1nm,1.1s,baz=94,slow=4.0,SNR=4.0						
WRA				S	**S**	**03 48 06.3**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=96,slow=13,SNR=5.6						
WRA	**Warramunga Arr**	**44.39**	**260**	P	**P**	**03 42 12.7**	**-1.0**
WRA				S	**S**	**03 48 06.3**	**-0.8**
WRA				pmax	pmax		
	comp=Z,27nm,0.7s						
WRA				pmax	pmax		
	comp=N,2.0nm,1.1s						
WRA				smax	smax		
	comp=N,1.0nm,0.7s						
AS31	**Alice Springs**	**44.55**	**254**	*e*P	**P**	**03 42 14.6**	**-0.3**
ASAR	**Alice Springs**	**44.55**	**254**	P	**P**	**03 42 14.8**	**-0.1**
	comp=N,268nm,0.6s,baz=89,slow=8.2,SNR=2290						
ASAR				ScP	**ScP**	**03 46 47.5**	**+4.7**
	comp=N,3.4nm,0.9s,baz=104,slow=4.6,SNR=7.3						
ASAR				S	**S**	**03 48 08.8**	**-0.5**
	comp=N,3.9nm,0.9s,baz=88,slow=15,SNR=14						
KDU	**Kakadu**	**47.32**	**269**	P	**P**	**03 42 35.6**	**-0.2**
	baz=48,SNR=22						
WRKA	**Warakurna**	**49.61**	**252**	P	**P**	**03 42 52.9**	**+0.1**
	baz=50,SNR=216						
FORT	**Forrest**	**49.78**	**245**	P	**P**	**03 42 53.5**	**-0.3**
	baz=50,SNR=60						
FORT	**Forrest**	**49.78**	**245**	*e*P	**P**	**03 42 53.4**	**-0.5**
	comp=N,90nm,0.6s						
KNRA	**Kununurra**	**50.25**	**264**	P	**P**	**03 42 57.1**	**-0.4**
	baz=50,SNR=27						
FAKI	**Fak Fak**	**50.35**	**281**	P	**P**	**03 42 58.1**	**-0.2**
	baz=51,SNR=5.9						
FAKI	**Fak Fak**	**50.35**	**281**	*e*P	**P**	**03 42 57.7**	**-0.5**
KMBL	**Kambalda**	**55.09**	**244**	P	**P**	**03 43 31.1**	**-0.6**
	baz=55,SNR=9.4						
SOEI	**Soe**	**55.83**	**270**	P	**P**	**03 43 39.0**	**+1.7**
	baz=56,SNR=3.0						
SOEI	**Soe**	**55.83**	**270**	*e*P	**P**	**03 43 38.5**	**+1.2**
	comp=N,40nm,0.6s						
MBWA	**Marble Bar**	**57.84**	**256**	*e*P	**P**	**03 43 50.4**	**-0.4**
	comp=N,151nm,1.5s						
MMRI	**Maumere**	**58.06**	**271**	*e*P	**P**	**03 43 51.7**	**-0.7**
MEEK	**Meekatharra**	**58.20**	**249**	P	**P**	**03 43 52.7**	**-0.4**
	baz=58,SNR=12						
KLBR	**Kellerberrin**	**58.60**	**244**	P	**P**	**03 43 55.5**	**-0.2**
	baz=59,SNR=13						
NWAO	**Nagqin (SRO)**	**58.99**	**242**	⇑P	**P**	**03 43 58.1**	**-0.2**
	baz=59						
NWAO				⇑P	**P**	**03 43 58.1**	**-0.2**
	baz=59						
BLDU	**Ballidu**	**59.55**	**245**	P	**P**	**03 44 01.9**	**-0.2**
	baz=60,SNR=12						
LUWI	**Luwuk**	**59.87**	**279**	*e*P	**P**	**03 44 05.1**	**+0.7**
MORW	**Morawa**	**60.25**	**246**	P	**P**	**03 44 06.7**	**-0.1**
	baz=60,SNR=3.9						
VNDA	**Vanda**	**60.40**	**185**	P	**P**	**03 44 08.1**	**+1.3**
	comp=N,0.7nm,0.6s,baz=357,slow=6.8,SNR=4.1						
VNDA				ScP	**ScP**	**03 47 54.7**	**+4.2**
	comp=N,0.6nm,0.8s,baz=359,slow=3.7,SNR=5.5						
KAPI	**Kappang**	**61.45**	**274**	*e*P	**P**	**03 44 14.7**	**-0.1**
	comp=N,4.6nm,0.5s						
GIRL	**Giralia**	**62.66**	**253**	P	**P**	**03 44 23.8**	**+1.3**
	baz=63,SNR=4.8						
MJAR	**Matsushiro Arr**	**67.78**	**324**	P	**P**	**03 44 53.7**	**-0.5**
	comp=N,111nm,0.6s,baz=163,slow=6.5,SNR=21						
MAJO	**Matsushiro**	**67.78**	**324**	*c i*P	**P**	**03 44 53.2**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,68nm,0.7s						
MAJO	**Matsushiro**	**67.78**	**324**	*e*P	**P**	**03 44 53.7**	**-0.6**
	comp=Z,11nm,0.8s						
MAT	**Matsushiro**	**67.78**	**324**	P	**P**	**03 44 53.6**	**-0.7**
KKM	**Kota Kinabalu**	**68.52**	**284**	*e*P	**P**	**03 44 59.3**	**0.0**
	comp=Z,6.1nm,0.5s						
ERM	**Erimo**	**69.29**	**330**	⇑*e*P	**P**	**03 45 04.3**	**+1.1**
ERM				pmax	pmax		
	comp=Z,23nm,1.2s						
UGM	**Wanagama**	**69.41**	**268**	P	**P**	**03 45 04.7**	**+0.2**
	baz=70,SNR=4.4						
UNV	**Unalaska Valle**	**72.25**	**8**	*e*P	**P**	**03 45 18.5**	**-1.7**
	comp=Z,23nm,0.7s						
KSM	**Kuching**	**72.45**	**277**	*e*P	**P**	**03 45 22.9**	**+0.6**
	comp=Z,9.9nm,0.8s						
YSS	**Yuzh-Sakhalins**	**73.33**	**334**	*e*P	**P**	**03 45 25.1**	**-1.5**
YSS	**Yuzh-Sakhalins**	**73.33**	**334**	*e*P	**P**	**03 45 27.3**	**+0.7**
PETK	**Petropavlovsk-**	**73.64**	**345**	P	**P**	**03 45 27.8**	**-0.4**
	comp=Z,22nm,0.6s,baz=142,slow=8.8,SNR=27						
KSRS	**Korea Array**	**74.56**	**318**	P	**P**	**03 45 34.6**	**+0.9**
	comp=Z,1.4nm,0.5s,baz=132,slow=6.7,SNR=8.4						
KSRS	**Korea Array**	**74.56**	**318**	P	**P**	**03 45 34.7**	**+0.9**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KSAR	**Wonju Array Be**	**74.58**	**318**	P	**P**	**03 45 34.7**	**+0.8**
KSAR	**Wonju Array Be**	**74.58**	**318**	P	**P**	**03 45 34.6**	**+0.8**
BSC	**Santa Cruz Isl**	**76.31**	**47**	P	**P**	**03 45 44.3**	**+0.7**
	baz=76						
SBC	**Santa Barbara**	**76.49**	**47**	P	**P**	**03 45 45.6**	**+1.0**
	baz=77						
USRK	**Ussuriysk Ar.**	**76.50**	**326**	P	**P**	**03 45 45.8**	**+1.4**
	comp=Z,3.0nm,0.5s,baz=128,slow=4.0,SNR=7.8						
SCI	**San Clemente I**	**76.53**	**49**	P	**P**	**03 45 45.7**	**+0.8**
	baz=77						
PKM	**Peak Mountain**	**76.67**	**46**	P	**P**	**03 45 46.4**	**+0.7**
	baz=77						
SMMC	**Simmler**	**76.77**	**46**	P	**P**	**03 45 47.1**	**+1.0**
	baz=77						
CIS	**Catalina Islan**	**76.86**	**48**	P	**P**	**03 45 47.3**	**+0.7**
	baz=77						
OSI	**Osito Adit**	**77.27**	**47**	P	**P**	**03 45 49.5**	**+0.6**
	baz=77						
DECC	**Green Verdugo**	**77.36**	**48**	P	**P**	**03 45 50.6**	**+1.3**
	baz=78						
PASC	**Pasadena Art C**	**77.42**	**48**	*e*P	**P**	**03 45 49.5**	**-0.1**
	comp=Z,11nm,0.8s						
ARVC	**Arvin**	**77.47**	**47**	P	**P**	**03 45 50.8**	**+0.9**
	baz=78						
109C	**Camp Elliot, M**	**77.52**	**49**	P	**P**	**03 45 50.7**	**+0.5**
	baz=78						
MWC	**Mount Wilson**	**77.53**	**48**	*e*P	**P**	**03 45 50.2**	**-0.3**
MWC				pmax	pmax		
	comp=Z,17nm,0.9s						
MWC	**Mount Wilson**	**77.53**	**48**	*e*P	**P**	**03 45 50.1**	**-0.3**
	comp=Z,17nm,0.9s						
VES	**Vestal, Richgr**	**77.68**	**46**	P	**P**	**03 45 50.6**	**-0.4**
	baz=78						
MURC	**Murrieta**	**77.82**	**49**	P	**P**	**03 45 52.3**	**+0.4**
	baz=78						
BFSC	**Mount Baldy Ra**	**77.82**	**48**	P	**P**	**03 45 52.3**	**+0.3**
	baz=78						
RCTC	**Rector, Farmer**	**77.83**	**45**	P	**P**	**03 45 52.3**	**+0.6**
	baz=78						
HABR	**Khabarovsk**	**77.92**	**331**	*e*P	**P**	**03 45 50.5**	**-1.4**
HABR				*e*		03 45 57.5	
HABR				*e*		03 48 55.9	
HABR				*e*S	**S**	**03 54 55.7**	**-2.7**
HABR				*e*		03 55 15.6	
HABR				SS	**SS**	**04 00 15.1**	**-1.7**
HABR				*e*SSS	SSS	04 03 43.8	
HABR				pmax	pmax		
	comp=Z,26nm,1.1s						
HABR				MLR	MLR		
	comp=Z,44nm,21.0s						
EDW2	**Edwards Air Fo**	**77.93**	**47**	P	**P**	**03 45 53.0**	**+0.6**
	baz=78						
ISA	**Isabella**	**78.01**	**46**	*e*P	**P**	**03 45 53.1**	**+0.2**
ISA				pmax	pmax		
	comp=Z,22nm,0.9s						
ISA	**Isabella**	**78.01**	**46**	P	**P**	**03 45 53.7**	**+0.8**
	baz=78						
ISA	**Isabella**	**78.01**	**46**	*e*P	**P**	**03 45 53.1**	**+0.2**
	comp=Z,22nm,0.9s						
MONP	**Monument Peak**	**78.01**	**50**	P	**P**	**03 45 54.1**	**+1.0**
	baz=78						
CMB	**Columbia Colle**	**78.02**	**43**	*e*P	**P**	**03 45 52.8**	**-0.1**
CMB				pmax	pmax		
	comp=Z,20nm,1.0s						
CMB	**Columbia Colle**	**78.02**	**43**	*e*P	**P**	**03 45 52.8**	**-0.1**
	comp=Z,20nm,1.0s						
MDJ	**Mudanjiang**	**78.07**	**325**	P	**P**	**03 45 54.2**	**+1.3**
MDJ				pP	**pP**	**03 47 52.7**	**-1.7**
MDJ				sP	**sP**	**03 48 52.4**	**-1.0**
MDJ				S	**S**	**03 55 01.4**	**+1.2**
MDJ				sS	**sS**	**03 58 35.8**	**-1.0**
MDJ				SS	**SS**	**04 00 22.3**	**+3.0**
MDJ				PMZ			
	comp=Z,23nm,0.8s						
MDJ				PMZ			
	comp=Z,36nm,3.7s						
MDJ	**Mudanjiang**	**78.07**	**325**	*e*P	**P**	**03 45 53.9**	**+1.1**
	comp=Z,13nm,0.9s						
N02D	**Trinity Center**	**78.25**	**40**	P	**P**	**03 45 54.8**	**+0.7**
	baz=78						
PFO	**Pinyon Flat Ob**	**78.35**	**49**	*e*P	**P**	**03 45 55.0**	**+0.2**
PFO				pmax	pmax		
	comp=Z,4.0nm,1.1s						
PFO	**Pinyon Flat Ob**	**78.35**	**49**	P	**P**	**03 45 55.7**	**+0.9**
	baz=78						
PFO	**Pinyon Flat Ob**	**78.35**	**49**	*e*P	**P**	**03 45 55.0**	**+0.2**
	comp=Z,4.0nm,1.1s						
M02C	**Callahan**	**78.41**	**39**	P	**P**	**03 45 56.2**	**+1.4**
	baz=79						
L02D	**Cave Junction,**	**78.42**	**38**	P	**P**	**03 45 55.7**	**+0.8**
	baz=79						
LRMC	**Laurel Mountai**	**78.45**	**47**	P	**P**	**03 45 55.9**	**+0.6**
	baz=79						
KDAK	**Kodiak Island**	**78.48**	**14**	*i*P	**P**	**03 45 54.1**	**-0.6**
SWSC	**Sam W. Stewart**	**78.49**	**50**	P	**P**	**03 45 56.1**	**+0.7**
	baz=79						
CWC	**Cottonwood Cre**	**78.69**	**46**	P	**P**	**03 45 57.1**	**+0.5**
	baz=79						
YBH	**Yreka Blue Hor**	**78.69**	**39**	*e*P	**P**	**03 45 56.8**	**+0.4**
YBH				pmax	pmax		
	comp=Z,26nm,1.3s						
YBH	**Yreka Blue Hor**	**78.69**	**39**	*e*P	**P**	**03 45 56.8**	**+0.4**
	comp=Z,26nm,1.3s						
MLAC	**Mammoth Lakes**	**78.82**	**44**	P	**P**	**03 45 58.4**	**+1.0**
	baz=79						
BELC	**Belle Mtn. Jos**	**78.88**	**49**	P	**P**	**03 45 58.4**	**+0.8**
	baz=79						
MPMC	**Manual Prospec**	**78.89**	**46**	P	**P**	**03 45 58.3**	**+0.5**
	baz=79						
WAKR	**Walker**	**78.90**	**43**	*e*P	**P**	**03 45 57.6**	**-0.1**
	comp=Z,21nm,0.9s						
TIN	**Tinemaha**	**78.92**	**45**	P	**P**	**03 45 58.6**	**+0.9**
	baz=79						
DAC	**Darwin (Calif)**	**78.94**	**46**	*e*P	**P**	**03 45 57.6**	**-0.3**
DAC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
DAC	**Darwin (Calif)**	**78.94**	**46**	*e*P	**P**	**03 45 57.6**	**-0.3**
	comp=Z,3.0nm,0.8s						
GSC	**Goldstone**	**78.97**	**47**	*e*P	**P**	**03 45 58.1**	**+0.1**
GSC				pmax	pmax		
	comp=Z,21nm,1.4s						
GSC	**Goldstone**	**78.97**	**47**	P	**P**	**03 45 59.0**	**+0.9**
	baz=79						
GSC	**Goldstone**	**78.97**	**47**	*e*P	**P**	**03 45 58.1**	**+0.1**
	comp=Z,21nm,1.4s						
HEC	**Hector,Ludlow**	**79.07**	**48**	P	**P**	**03 45 59.0**	**+0.4**
	baz=79						
HUMO	**Hull Mountain**	**79.07**	**38**	*e*P	**P**	**03 45 58.7**	**+0.4**
	comp=Z,18nm,1.0s						
BC3	**Big Chuckawall**	**79.10**	**49**	P	**P**	**03 45 59.6**	**+0.8**
	baz=79						
M04C	**Macdoel**	**79.25**	**40**	P	**P**	**03 46 00.1**	**+0.7**
	baz=79						
GLA	**Glamis**	**79.25**	**50**	*e*P	**P**	**03 46 00.4**	**+0.9**
GLA				pmax	pmax		
	comp=Z,21nm,1.1s						
GLA	**Glamis**	**79.25**	**50**	P	**P**	**03 46 00.6**	**+1.1**
	baz=79						
GLA	**Glamis**	**79.25**	**50**	*e*P	**P**	**03 46 00.4**	**+0.9**
	comp

WVOR	Wild Horse Val	81.58	40	*e*P		P	03 46 11.7	+0.2
WVOR				pmax		pmax			
	comp=Z,32nm,1.0s								
WVOR	Wild Horse Val	81.58	40	*e*P		P	03 46 11.7	+0.2
	comp=Z,32nm,1.0s								
G05D	Wamic, OR	81.58	37	P		P	03 46 11.6	+0.3
	baz=82								
TUC	Tucson	81.91	52	*e*P		P	03 46 14.1	+0.8
TUC				pmax		pmax			
	comp=Z,20nm,1.1s								
TUC	Tucson	81.91	52	*e*P		P	03 46 14.1	+0.8
	comp=Z,20nm,1.1s								
RC01	Rabbit Creek A	82.10	14	*e*P		P	03 46 12.5	-1.0
	comp=Z,33nm,1.0s								
IPM	Ipoh	82.19	277	*e*P		P	03 46 15.3	+0.2
LON	Longmire	82.20	36	*e*P		P	03 46 13.8	-0.6
LON				pmax		pmax			
	comp=Z,7.0nm,1.1s								
LON	Longmire	82.20	36	*e*P		P	03 46 13.8	-0.6
	comp=Z,6.8nm,1.1s								
CCUT	Cedar City	82.50	47	*e*P		P	03 46 16.8	+0.4
	comp=Z,15nm,0.9s								
PMR	Palmer	82.68	14	*e*P		P	03 46 15.2	-1.2
PMR				pmax		pmax			
	comp=Z,10.0nm,0.5s								
PMR	Palmer	82.68	14	*e*P		P	03 46 15.2	-1.2
	comp=Z,9.6nm,0.5s								
ELK	Elko	82.84	43	*e*P		P	03 46 18.1	+0.1
ELK				pmax		pmax			
	comp=Z,13nm,1.0s								
ELK	Elko	82.84	43	*e*P		P	03 46 18.1	+0.1
	comp=Z,13nm,1.0s								
WUAZ	Wupatki	82.94	49	P		P	03 46 19.5	+1.0
	baz=83								
WUAZ	Wupatki	82.94	49	*e*P		P	03 46 19.1	+0.5
	comp=Z,23nm,1.0s								
SML	Sawmill	83.06	14	*e*P		P	03 46 17.2	-1.1
SML				pmax		pmax			
	comp=Z,2.0nm,0.8s								
SML	Sawmill	83.06	14	*e*P		P	03 46 17.1	-1.1
	comp=Z,2.2nm,0.8s								
DIV	Divide	83.08	15	*e*P		P	03 46 17.8	-0.7
	comp=Z,30nm,0.7s								
PPLA	Purkeypile	83.21	12	*e*P		P	03 46 17.1	-2.1
	comp=Z,6.1nm,0.6s								
BMRM	Bremner River	83.25	16	*e*P		P	03 46 18.4	-0.9
	comp=Z,9.8nm,0.4s								
HAWA	Hanford	83.27	37	*e*P		P	03 46 19.5	-0.2
	comp=Z,43nm,1.4s								
WRAK	Wrangell Islan	83.63	24	*e*P		P	03 46 21.0	-0.2
	comp=Z,36nm,1.3s								
BMO	Blue Mountains	83.71	39	*e*P		P	03 46 21.6	-0.4
	comp=Z,7.4nm,0.9s								
SEY	Seymchan	83.75	347	*c i*P		P	03 46 21.0	-0.6
MVU	Marysvale	83.76	46	*e*P		P	03 46 23.2	+0.6
	comp=Z,16nm,1.2s								
MSU	Marysvale	83.79	46	*e*P		P	03 46 23.4	+0.6
MSU				pmax		pmax			
	comp=Z,18nm,1.2s								
MSU	Marysvale	83.79	46	*e*P		P	03 46 23.4	+0.6
	comp=Z,18nm,1.2s								
MFID	Camas Ranch	83.85	41	*e*P		P	03 46 22.9	+0.1
	comp=Z,24nm,1.1s								
TRF	Thorofare Moun	84.09	12	*e*P		P	03 46 22.0	-1.6
	comp=Z,42nm,0.7s								
DUG	Dugway	84.17	45	P		P	03 46 25.0	+0.5
	baz=84								
121A	Cookes Peak, D	84.28	53	P		P	03 46 25.0	-0.2
	baz=84								
121A	Cookes Peak, D	84.28	53	*e*P		P	03 46 25.9	+0.6
	comp=Z,7.3nm,0.8s								
BPAW	Bear Paw Mtn.	84.53	12	*e*P		P	03 46 23.3	-2.2
	comp=Z,1.4nm,0.8s								
NLU	North Lily Min	84.55	45	*e*P		P	03 46 26.2	-0.2
	comp=Z,4.2nm,1.3s								
MCK	McKinley	84.62	13	*e*P		P	03 46 24.7	-1.3
MCK				pmax		pmax			
	comp=Z,28nm,0.9s								
MCK	McKinley	84.62	13	*e*P		P	03 46 24.7	-1.3
	comp=Z,28nm,0.9s								
HLID	Hailey	84.81	41	P		P	03 46 28.4	+0.8
	baz=85								
HLID	Hailey	84.81	41	*e*P		P	03 46 27.8	+0.2
	comp=Z,13nm,0.8s								
TMUT	Trail Mountain	84.82	46	*e*P		P	03 46 28.4	+0.5
	comp=Z,15nm,1.0s								
GYA	Guiyang	84.84	300	*e*P		P	03 46 28.0	0.0
GYA				pP		pP	03 48 32.2	0.0
GYA				sP		sP	03 49 29.0	-1.6
GYA				PP		PP	03 49 56.8	+1.1
GYA				SKS		SKSac	03 55 56.4	-1.6
GYA				S		S	03 56 09.6	+0.4
GYA				sS		sS	03 59 47.2	-3.3
GYA				PMZ					
	comp=Z,10.0nm,1.0s								
HVU	Hansel Valley	84.96	43	*e*P		P	03 46 28.4	0.0
HVU				pmax		pmax			
	comp=Z,19nm,1.5s								
HVU	Hansel Valley	84.96	43	*e*P		P	03 46 28.4	0.0
	comp=Z,19nm,1.5s								
SRU	San Rafael	85.21	46	*e*P		P	03 46 29.1	-0.5
SRU				pmax		pmax			
	comp=Z,9.0nm,0.7s								
SRU	San Rafael	85.21	46	*e*P		P	03 46 29.1	-0.5
	comp=Z,9.5nm,0.7s								
JLU	Jordanelle	85.28	45	*e*P		P	03 46 29.9	-0.1
	comp=Z,5.3nm,1.0s								
TCUT	Toone Canyon	85.55	44	*e*P		P	03 46 31.4	+0.1
	comp=Z,9.0nm,0.6s								
LAZ	Ladron	85.56	52	*e*P		P	03 46 31.7	+0.2
	comp=Z,0.7nm,0.7s								
NEW	Newport	85.67	36	*e*P		P	03 46 30.9	-0.6
NEW				pmax		pmax			
	comp=Z,11nm,1.1s								
NEW	Newport	85.67	36	P		P	03 46 31.4	0.0
	baz=86								
NEW	Newport	85.67	36	*e*P		P	03 46 30.9	-0.6
	comp=Z,12nm,1.1s								
HWUT	Hardware Ranch	85.67	44	*e*P		P	03 46 31.4	-0.4
	comp=Z,4.0nm,0.7s								
COLA	College	85.85	13	*c i*P		P	03 46 30.4	-1.4
COLA				pmax		pmax			
	comp=Z,90nm,1.0s								
COLA	College	85.85	13	*e*P		P	03 46 30.2	-1.6
	comp=Z,15nm,0.8s								
DLBC	Dease Lake	85.95	23	*e*P		P	03 46 32.1	-0.4
ILAR	Eielson Array	85.97	13	P		P	03 46 30.9	-1.5
	comp=Z,6.2nm,0.4s,baz=221,slow=5.1,SNR=190								
XAN	Xi'an	86.08	307	P		P	03 46 34.9	+1.2
XAN				PMZ					
	comp=Z,4.0nm,1.0s								
PV01	Paradox Valley	86.13	48	*e*P		P	03 46 34.1	-0.1
TXAR	Lajitas Array	86.21	58	P		P	03 46 35.8	+1.2
	comp=Z,14nm,0.8s,baz=219,slow=5.9,SNR=189								
ANMO	Albuquerque	86.30	52	*c i*P		P	03 46 34.8	-0.1
ANMO				pmax		pmax			
	comp=Z,41nm,1.2s								
ANMO	Albuquerque	86.30	52	*e*P		P	03 46 34.9	0.0
	comp=Z,9.8nm,1.1s								
MCMT	McKenzie Canyo	86.41	41	*e*P		P	03 46 35.4	+0.1
	comp=Z,12nm,1.1s								
BILL	Bilibino	86.43	354	*d i*P		P	03 46 34.3	-0.2
BILL				pmax		pmax			
	comp=Z,23nm,1.4s								
BILL	Bilibino	86.43	354	*e*P		P	03 46 34.6	+0.1
	comp=Z,18nm,0.9s								
MSO	Missoula	86.75	38	P		P	03 46 36.6	0.0
	baz=87								
BSMT	Bassoo Peak	86.78	37	*e*P		P	03 46 36.1	-0.8
	comp=Z,8.5nm,0.8s								
DLMT	Dillon	86.83	40	*e*P		P	03 46 37.3	+0.2
	comp=Z,21nm,1.2s								
TPAW	Teton Pass	86.97	42	*e*P		P	03 46 37.9	0.0
	comp=Z,17nm,1.2s								
REDW	Red Top Meadow	86.97	43	*e*P		P	03 46 38.0	+0.1
	comp=Z,25nm,1.1s								
SWMT	Swartz Lake	87.06	38	*e*P		P	03 46 37.1	-1.0
	comp=Z,2.0nm,0.7s								
SNOW	Snow King Moun	87.08	42	*e*P		P	03 46 38.5	0.0
	comp=Z,23nm,1.0s								
HHC	Hu-ho-hao-te	87.12	315	*e*P		P	03 46 41.6	+3.1
HHC				PP		PP	03 50 17.8	+4.4
HHC				SKS		SKSac	03 56 16.6	+5.4
HHC				S		ScS	03 56 35.0	+0.2
HHC				sS		sS	04 00 04.9	-8.2
HHC				SS		SS	04 02 38.5	+6.5
HHC				PMZ					
	comp=Z,31nm,1.3s								
HHC				PMZ					
	comp=Z,75nm,5.6s								
LRM	Limekiln Ridge	87.15	40	*e*P		P	03 46 38.3	-0.4
	comp=Z,67nm,1.0s								
IMW	Indian Meadow	87.17	42	*e*P		P	03 46 39.4	+0.5
	comp=Z,28nm,1.1s								
DAWY	Dawson	87.18	16	*e*P		P	03 46 37.3	-0.9
S22A	4UR Ranch, Cre	87.20	49	P		P	03 46 39.9	+0.7
	baz=87								
MOOW	Moose Ponds	87.22	42	*e*P		P	03 46 39.0	-0.1
	comp=Z,5.7nm,0.8s								
O20A	White River Ci	87.24	46	P		P	03 46 39.6	+0.3
	baz=87								
O20A	White River Ci	87.24	46	*e*P		P	03 46 39.4	+0.1
	comp=Z,8.4nm,0.9s								
LOHW	Long Hollow	87.25	42	*e*P		P	03 46 39.3	+0.1
	comp=Z,4.0nm,0.6s								
QLMT	Earthquake Lak	87.30	41	*e*P		P	03 46 39.9	+0.5
	comp=Z,1.0nm,0.5s								
EGAK	Eagle	87.30	15	*e*P		P	03 46 37.8	-0.9
	comp=Z,34nm,0.1s								
FLWY	Flagg Ranch	87.41	42	*e*P		P	03 46 40.6	+0.6
	comp=Z,22nm,1.0s								
COLD	Coldfoot	87.48	11	*e*P		P	03 46 39.1	-0.3
	comp=Z,17nm,1.1s								
YFT	Old Faithful	87.49	42	*e*P		P	03 46 42.4	+2.0
	comp=Z,17nm,1.1s								
BW06	Boulder Array	87.53	44	*e*P		P	03 46 40.3	-0.3
	comp=Z,4.7nm,0.5s								
PDAR	Pinedale Array	87.53	44	P		P	03 46 40.4	-0.2
	comp=Z,8.1nm,0.6s,baz=230,slow=1.3,SNR=88								
BOZ	Bozeman (W)	87.56	40	P		P	03 46 41.5	+0.9
	baz=88								
H17A	Grant Village	87.63	42	*e*P		P	03 46 42.8	+1.7
	comp=Z,8.7nm,0.9s								
KMI	Kunming	87.63	297	P		P	03 46 42.8	+1.4
KMI				PMZ					
	comp=Z,9.0nm,0.9s								
SMCO	Snowmass	87.71	48	*e*P		P	03 46 41.7	0.0
	comp=Z,5.8nm,0.9s								
J19A	Crowheart	88.09	43	P		P	03 46 43.8	+0.7
	baz=88,SNR=9.9								
228A	UT Block 9, Go	88.13	55	P		P	03 46 44.3	+0.8
	baz=88								
SDCO	Great Sand Dun	88.16	49	P		P	03 46 44.1	+0.4
	baz=88								
SDCO	Great Sand Dun	88.16	49	*e*P		P	03 46 43.2	-0.5
	comp=Z,2.5nm,1.0s								
329A	Wagon Wheel Ra	88.38	56	P		P	03 46 45.3	+0.7
	baz=88								
530A	J-C Ranch, Com	88.39	58	P		P	03 46 45.5	+0.9
	baz=88,SNR=9.4								
128A	Castleberry Fa	88.41	55	P		P	03 46 45.4	+0.7
	baz=88								
I19A	Meeteetse	88.48	43	P		P	03 46 45.4	+0.5
	baz=89,SNR=7.9								
229A	Bryant Ranch,	88.69	56	P		P	03 46 46.6	+0.5
	baz=89								
MSTX	Muleshoe	88.70	54	P		P	03 46 46.4	+0.3
	baz=89								
MSTX	Muleshoe	88.70	54	*e*P		P	03 46 45.7	-0.4
	comp=Z,12nm,0.9s								
T25A	Trindad	88.71	50	P		P	03 46 46.6	+0.4
	baz=89								
430A	Baggett Ranch,	88.71	57	P		P	03 46 46.8	+0.7
	baz=89,SNR=8.8								
Z28A	Tucker Farm, M	88.74	54	P		P	03 46 46.4	+0.2
	baz=89								
631A	Perdido Creek	88.74	59	P		P	03 46 47.0	+0.8
	baz=89,SNR=21								
J20A	Shoshoni	88.76	43	P		P	03 46 46.9	+0.7
	baz=89,SNR=18								
H19A	Powell	88.77	42	P		P	03 46 47.3	+1.1
	baz=89,SNR=12								
RLMT	Red Lodge	88.79	42	P		P	03 46 47.3	+1.0
	baz=89,SNR=7.5								
832A	Faith Ranch, C	88.83	60	P		P	03 46 47.6	+1.0
	baz=89,SNR=28								
129A	Stewart Farms,	88.89	55	P		P	03 46 47.3	+0.4
	baz=89								
Q24A	Divide	88.91	48	P		P	03 46 48.2	+1.0
	baz=89								
ISCO	Idaho Springs	88.93	47	*e*P		P	03 46 47.5	+0.2
ISCO				pmax		pmax			
	comp=Z,6.0nm,1.3s								
ISCO	Idaho Springs	88.93	47	P		P	03 46 47.7	+0.5
	baz=89								
ISCO	Idaho Springs	88.93	47	*e*P		P	03 46 47.5	+0.2
	comp=Z,5.7nm,1.3s								
330A	Mertzon	88.99	57	P		P	03 46 47.4	0.0
	baz=89								
732A	Laxson Ranch,	88.99	59	P		P	03 46 48.1	+0.7
	baz=89,SNR=10								
I20A	Worland	89.00	43	P		P	03 46 47.7	+0.5
	baz=89,SNR=11								
531A	Rocksprings	89.04	58	P		P	03 46 48.4	+0.8
	baz=89,SNR=21								
Y28A	McKinney Farm,	89.08	54	P		P	03 46 47.8	0.0
	baz=89								
N23A	Red Feather La	89.15	46	P		P	03 46 49.0	+0.8
	baz=89,SNR=11								
933A	Laredo	89.17	61	P		P	03 46 49.3	+1.0
	baz=89								
431A	Sonora	89.17	57	P		P	03 46 48.2	0.0
	baz=89								
J21A	Lysite	89.18	44	P		P	03 46 48.5	+0.3
	baz=89,SNR=15								
230A	Sterling City	89.21	56	P		P	03 46 48.6	+0.2
	baz=89								
Z29A	Hungry Hill Ra	89.25	55	P		P	03 46 48.4	-0.3
	baz=89								
H20A	Greybull	89.32	42	P		P	03 46 48.6	-0.1
	baz=90,SNR=8.3								
833A	Chaparral WMA,	89.32	60	P		P	03 46 49.4	+0.5
	baz=89								
X28A	Dimmitt	89.35	53	P		P	03 46 49.1	0.0
	baz=90,SNR=5.5								
632A	Uvalde	89.42	59	P		P	03 46 50.5	+1.1
	baz=90,SNR=16								
034A	Hebbronville	89.47	61	P		P	03 46 50.2	+0.6
	baz=90								
I21A	Big Trails, Te	89.48	43	P		P	03 46 49.5	0.0
	baz=90,SNR=15								
K22A	Casper	89.49	45	P		P	03 46 49.7	+0.1
	baz=90								
G20A	Bridger	89.50	42	P		P	03 46 50.2	+0.6
	baz=90								
Y29A	Porterfield Fa	89.51	54	P		P	03 46 49.8	0.0
	baz=90,SNR=16								
YAK	Yakutsk	89.51	338	*e*P		P	03 46 47.2	-1.8
YAK				pmax		pmax			
	comp=Z,11nm,0.9s								
532A	Rocksprings	89.54	58	P		P	03 46 50.6	+0.6
	baz=90,SNR=11								
733A	Divot King Ran	89.54	60	P		P	03 46 50.6	+0.7
	baz=90								
331A	San Angelo	89.55	57	P		P	03 46 50.2	+0.3
	baz=90,SNR=9.8								
S26A	Kim	89.59	50	P		P	03 46 51.0	+0.9
	baz=90								
130A	Snyder	89.59	56	P		P	03 46 50.4	+0.2
	baz=90								
U27A	Thompson Grove	89.60	51	P		P	03 46 51.3	+1.0
	baz=90								
PHWY	Pilot Hill	89.65	46	*e*P		P	03 46 50.1	-0.5
	comp=Z,8.0nm,0.9s								
X29A	Tulia	89.70	54	P		P	03 46 50.9	+0.2
	baz=90,SNR=7.5								
Z30A	Sanderson Ranc	89.71	55	P		P	03 46 51.0	+0.3
	baz=90								
JCT	Junction City	89.75	58	*e*P		P	03 46 50.8	-0.2
JCT				pmax		pmax			
	comp=Z,8.0nm,0.7s								
JCT	Junction City	89.75	58	P		P	03 46 51.0	0.0
	baz=90,SNR=6.6								
JCT	Junction City	89.75	58	*e*P		P	03 46 50.8	-0.2
	comp=Z,7.9nm,0.7s								
035Z	Hargill	89.78	62	P		P	03 46 51.0	-0.1
	baz=90								
934A	Benavides	89.79	61	P		P	03 46 52.0	+0.8
	baz=90								
V28A	Channing	89.79	52	P		P	03 46 51.0	-0.2
	baz=90								
F20A	Billings	89.80	41	P		P	03 46 51.9	+1.0
	baz=90								
EGMT	Eagleton	89.82	39	P		P	03 46 51.0	+0.1
	baz=90								
231A	Bronte	89.86	56	P		P	03 46 51.3	-0.1
	baz=90,SNR=21								
R26A	Arlington	89.87	50	P		P	03 46 52.2	+0.7
	baz=90,SNR=5.3								
AMTX	Amarillo	89.88	53	P		P	03 46 51.3	-0.2
	baz=90								
432A	Menard	89.90	58	P		P	03 46 52.0	+0.4
	baz=90,SNR=22								
633A	Saathoff Ranch	89.90	59	P		P	03 46 52.7	+1.1
	baz=90,SNR=8.1								
035A	Encino	89.91	62	P		P	03 46 52.7	+1.0
	baz=90								
T27A	Campo	89.92	51	P		P	03 46 52.7	+1.0
	baz=90								
834A	Tilden	89.95	60	P		P	03 46 52.9	+1.1
	baz=90								
H21A	Big Horn, Sher	89.99	43	P		P	03 46 52.8	+0.9
	baz=90								
W29A	Amarillo	89.99	53	P		P	03 46 52.5	+0.5
	baz=90								
I22A	9 Mile Ranch,	90.04	43	P		P	03 46 52.4	+0.3
	baz=90,SNR=7.9								
Q26A	Hugo	90.06	49	P		P	03 46 52.9	+0.5
	baz=90								
131A	Roby	90.07	56	P		P	03 46 52.6	+0.2
	baz=90,SNR=8.9								
Y30A	Stafford Cattl	90.11	54	P		P	03 46 52.7	+0.1
	baz=90,SNR=7.5								
332A	Millersview	90.12	57	P		P	03 46 52.9	+0.3
	baz=90,SNR=39								
K23A	Bowen Ranch, D	90.14	45	P		P	03 46 53.1	+0.5
	baz=90								
734A	La Parita Cree	90.19	60	P		P	03 46 53.9	+0.9
	baz=90								
533A	Kerrville	90.23	59	P		P	03 46 53.7	+0.6
	baz=90,SNR=7.7								
EDM	Edmonton	90.31	33	*e*P		P	03 46 52.0	-1.0
EDM	Edmonton	90.31	33	*e*P		P	03 46 52.0	-1.0
232A	Coleman	90.38	57	P		P	03 46 54.1	+0.2
	baz=90,SNR=9.7								
433A	Art	90.42	58	P		P	03 46 54.4	+0.4
	baz=90,SNR=32								
H22A	Clearmont	90.43	43	P		P	03 46 53.8	0.0
	baz=91								
P26A	Davis Ranch, A	90.43	48	P		P	03 46 53.7	-0.3
	baz=91,SNR=5.8								
Z31A	Sharp Cattle R	90.49	55	P		P	03 46 54.3	0.0
	baz=91								
B19A	Brinkman Farms	90.50	39	P		P	03 46 54.5	+0.5
	baz=91								
835A	Beeville	90.60	61	P		P	03 46 55.0	+0.2
	baz=91								
Y31A	Rekieta Farm,	90.63	55	P		P	03 46 55.0	+0.1
	baz=91								
ABTX	Abilene, Hawle	90.64	56	P		P	03 46 55.3	+0.3
	baz=91,SNR=12								
ABTX	Abilene, Hawle	90.64	56	*e*P		P	03 46 54.6	-0.4
	comp=Z,32nm,1.2s								
534A	Blanco	90.67	59	P		P	03 46 55.7	+0.5
	baz=91,SNR=21								
M25A	Palm-Egli Farm	90.67	46	P		P	03 46 55.4	+0.3
	baz=91								
333A	Richland Sprin	90.71	57	P		P	03 46 55.4	+0.1
	baz=91,SNR=8.6								
LZH	Lanzhou	90.72	308	*e*P		P	03 46 57.1	+1.7
LZH				pP		pP	03 49 01.6	+0.1
LZH				sP		sP	03 49 56.8	-2.4
LZH				PMZ					
	comp=Z,21nm,1.0s								
LZH				PMZ					
	comp=Z,90nm,4.3s								
G22A	Birney	90.73	42	P		P	03 46 55.9	+0.7
	baz=91								
C20A	Veseth Ranch,	90.73	40	P		P	03 46 55.7	+0.6
	baz=91								
735A	Kenedy	90.81	60	P		P	03 46 56.0	+0.2
	baz=91								
A19A	Klindworth Far	90.83	38	P		P	03 46 55.8	+0.3
	baz=91								
P27A	Ficken Ranch,	90.98	49	P		P	03 46 57.3	+0.8
	baz=91								
Z32A	Haskell	91.01	55	P		P	03 46 56.9	+0.2
	baz=91,SNR=14								
233A	Rising Star	91.02	57	P		P	03 46 57.0	+0.2
	baz=91,SNR=9.8								
L25A	Engebretsen Ra	91.02	46	P		P	03 46 57.7	+1.1
	baz=91								
635A	Leesville	91.02	60	P		P	03 46 57.2	+0.4
	baz=91								
R28A	Tribune	91.08	50	P		P	03 46 57.4	+0.5
	baz=91,SNR=6.5								
X31A	McDonald Ranch	91.09	54	P		P	03 46 57.0	0.0
	baz=91								
434A	Burnet	91.11	58	P		P	03 46 57.5	+0.3
	baz=91,SNR=10.0								
133A	Hamilton Ranch	91.21	56	P		P	03 46 58.1	+0.5
	baz=91								
Y32A	R-V Farms, Ver	91.28	55	P		P	03 46 58.1	+0.1
	baz=91								
A20A	Cobblestone Ra	91.29	39	P		P	03 46 58.5	+0.8
	baz=91								
O27A	Beecher Island	91.29	48	P		P	03 46 58.3	+0.4
	baz=91								
G23A	Biddle	91.30	43	P		P	03 46 58.4	+0.6
	baz=91								
334A	Lometa	91.31	58	P		P	03 46 58.4	+0.3
	baz=91,SNR=17								
W31A	Holland Ranch,	91.32	53	P		P	03 46 58.2	+0.1
	baz=91,SNR=8.0								
C21A	Desert Coulee	91.33	40	P		P	03 46 58.4	+0.5
	baz=92								
VNA1	Neumayer--Stat	91.39	177	P		P	03 46 58.7	+1.0
F23A	Volborg	91.50	42	P		P	03 46 59.3	+0.6
	baz=92								
X32A	Elmer	91.55	54	P		P	03 46 59.4	+0.2
	baz=92,SNR=6.1								
Z33A	Whitaker Ranch	91.56	56	P		P	03 46 59.4	+0.2
	baz=92,SNR=5.3								
V31A	Spring Creek L	91.60	53	P		P	03 47 00.3	+0.9
	baz=92,SNR=8.8								
D22A	Cohagen	91.61	41	P		P	03 46 60.0	+0.9
	baz=92								
234A	Clairette	91.62	57	P		P	03 47 00.0	+0.5
	baz=92,SNR=7.9								
636A	Smothers Creek	91.64	60	P		P	03 47 00.1	+0.5
	baz=92								
435B	Jarrell	91.65	58	P		P	03 47 00.2	+0.6
	baz=92								
H24A	Dirks Ranch, A	91.66	43	P		P	03 46 59.5	0.0
	baz=92								
RSSD	Black Hills	91.75	44	*e*P		P	03 47 00.0	-0.1
RSSD				pmax		pmax			
	comp=Z,8.0nm,0.9s								
RSSD	Black Hills	91.75	44	*e*P		P	03 46 60.0	-0.1
	comp=Z,7.9nm,0.9s								
K26A	Motz Farm, Whi	91.77	46	P		P	03 46 60.0	-0.1
	baz=92								
U31A	Nine Bar Ranch	91.81	52	P		P	03

T31A	Randall Ranch, baz=92	92.20	52	P		P	03 47 02.5	+0.5		
B22A	Reddig Ranch S baz=92	92.20	40	P		P	03 47 02.3	+0.5		
X33A	Lawton baz=92	92.20	54	P		P	03 47 02.0	-0.1		
D23A	Lindsay baz=92	92.22	41	P		P	03 47 02.5	+0.5		
H25A	Fruitdale baz=92	92.23	44	P		P	03 47 02.6	+0.5		
Z34A	Collier Ranch, baz=92	92.26	56	P		P	03 47 03.4	+1.0		
436A	Wall Ranch, Ga baz=92	92.28	59	P		P	03 47 03.2	+0.7		
135A	Vickery Place, baz=92	92.39	57	P		P	03 47 03.2	+0.2		
K27A	Flueckinger Fa baz=92	92.41	46	P		P	03 47 04.1	+1.1		
W33A	Caddo, Fort Co baz=93	92.44	54	P		P	03 47 03.2	0.0		
U32A	Winter Ranch, baz=93	92.45	53	P		P	03 47 03.6	+0.3		
Q30A	Quinter baz=93,SNR=5.1	92.47	50	P		P	03 47 03.8	+0.5		
C23A	Lambert baz=93	92.49	40	P		P	03 47 04.5	+1.3		
S31A	Mullinville baz=93,SNR=7.1	92.53	51	P		P	03 47 04.0	+0.4		
A22A	Carney Farms, baz=93	92.54	39	P		P	03 47 03.2	-0.1		
G25A	Newell baz=93	92.58	43	P		P	03 47 03.7	+0.1		
Y34A	Reagan Ranch, baz=93	92.58	55	P		P	03 47 04.6	+0.8		
P30A	Selden baz=93	92.65	49	P		P	03 47 04.4	+0.3		
R31A	Burdett baz=93	92.73	51	P		P	03 47 04.7	+0.2		
X34A	Smith Ranch, M baz=93	92.74	55	P		P	03 47 05.4	+0.8		
D24A	Glendive baz=93	92.75	41	P		P	03 47 05.5	+1.1		
J27A	Elkhorn Farm, baz=93	92.77	45	P		P	03 47 05.6	+1.0		
H26A	Fairpoint baz=93	92.78	44	P		P	03 47 04.8	+0.3		
T32A	Huddler Ranch, baz=93	92.79	52	P		P	03 47 05.6	+0.8		
V33A	Lossen Ranch, baz=93	92.81	53	P		P	03 47 05.8	+1.0		
F25A	Bowman baz=93	92.83	43	P		P	03 47 05.7	+0.9		
C24A	Savage baz=93	92.85	41	P		P	03 47 05.8	+1.0		
B23A	Brockton baz=93	92.88	40	P		P	03 47 06.0	+1.0		
S32A	Newby Ranch, P baz=93	92.96	51	P		P	03 47 06.4	+0.8		
136A	Ennis baz=93	93.06	57	P		P	03 47 06.6	+0.5		
G26A	Maurine baz=93	93.15	43	P		P	03 47 06.5	+0.3		
P31A	Stockton baz=93	93.27	50	P		P	03 47 07.8	+0.8		
F26A	Lodgepole baz=93	93.31	43	P		P	03 47 07.5	+0.5		
J28A	Allard Ranch, baz=94	93.36	45	P		P	03 47 08.0	+0.8		
DGMT	Dagmar baz=94	93.37	40	P		P	03 47 08.0	+0.9		
DGMT	Dagmar comp=Z,40nm,1.2s	93.37	40	*e*P		P	03 47 07.6	+0.4		
R32A	Long Quarter, baz=94,SNR=8.7	93.38	51	P		P	03 47 08.2	+0.7		
L29A	Maesberg Ranch baz=94	93.39	47	P		P	03 47 08.4	+1.0		
D25A	Fairfield baz=94	93.39	41	P		P	03 47 08.2	+0.9		
Z36A	Blue Ridge baz=94	93.39	56	P		P	03 47 08.5	+0.9		
V34A	Guthrie baz=94	93.40	54	P		P	03 47 07.9	+0.3		
SONM	Songino Array comp=Z,0.6nm,0.5s,baz=128,slow=3.4,SNR=6.7	93.41	319	P		P	03 47 07.7	+0.2		
U34A	Anderson Ranch baz=94	93.58	53	P		P	03 47 09.0	+0.6		
G27A	Dupree baz=94	93.62	43	P		P	03 47 08.6	+0.2		
C25A	Freed Ranch, W baz=94	93.65	41	P		P	03 47 09.3	+0.8		
W35A	Tecumseh baz=94	93.67	54	P		P	03 47 09.1	+0.3		
Q32A	Meitler Ranch, baz=94	93.68	50	P		P	03 47 09.6	+0.8		
Y36A	Durant baz=94	93.72	56	P		P	03 47 09.8	+0.7		
R33A	Olander Ranch, baz=94,SNR=7.0	93.88	51	P		P	03 47 10.5	+0.8		
X36A	Centrahoma baz=94	93.88	55	P		P	03 47 10.2	+0.5		
D26A	Manning baz=94	93.91	42	P		P	03 47 10.1	+0.5		
A25A	Svangstu Ranch baz=94	94.21	40	P		P	03 47 11.7	+0.7		
Q33A	Connelly Farm, baz=94	94.22	50	P		P	03 47 11.9	+0.6		
E27A	Carson baz=94	94.24	43	P		P	03 47 11.6	+0.5		
O32A	Brockman Farm, baz=94	94.32	49	P		P	03 47 12.2	+0.6		
R34A	Isabella, Hill baz=94	94.42	51	P		P	03 47 12.6	+0.4		
YKA	Yellowknife Ar comp=Z,3.9nm,0.8s,baz=243,slow=4.5,SNR=12	94.45	25	P		P	03 47 10.8	-0.8		
YKA	Yellowknife Ar comp=Z,4.0nm,0.8s	94.45	25	P		P	03 47 10.8	-0.8		
				pmax		pmax				
O33A	Hebron baz=95	94.76	50	P		P	03 47 14.0	+0.4		
P35A	Duane Minner, baz=96	95.72	50	P		P	03 47 18.9	+0.8		
N34A	Lincoln baz=96	95.79	49	P		P	03 47 18.5	+0.2		
A28A	Rude Farm, Bot baz=96	95.95	41	P		P	03 47 19.4	+0.6		
Q36A	Arnold C. Orve baz=96	95.96	51	P		P	03 47 19.6	+0.6		
P36A	Good Intent, A baz=96	96.35	51	P		P	03 47 21.6	+0.8		
A29A	Manning Farm, baz=97	96.59	41	P		P	03 47 21.8	+0.1		
ECSD	EROS Data Cent baz=97	96.62	46	P		P	03 47 21.5	-0.5		
Q37A	Longview Farm, baz=97	96.68	51	P		P	03 47 22.7	+0.4		
O36A	Bolckow baz=97	96.68	50	P		P	03 47 23.3	+1.0		
ZALV	Zalesovo Beam comp=Z,1.6nm,0.6s,baz=108,slow=1.8,SNR=7.7	108.10	322	PKiKP		PKiKP	03 52 14.4	-1.3		
MKAR	Makanchi Array comp=Z,1.3nm,0.5s,baz=215,slow=0.8,SNR=13	108.98	314	PKiKP		PKiKP	03 52 16.7	-1.0		
TKM2	Tokmak 2	113.42	310	*e*PKiKP		PKiKP	03 52 25.4	-1.1		
TKM2	Tokmak 2	113.42	310	*e*PKP		PKiKP	03 52 25.4	-1.1		
EKS2	Erkin-Say	114.74	309	*e*PKiKP		PKPdf	03 52 28.7	-0.2		
EKS2	Erkin-Say	114.74	309	*e*PKP		PKPdf	03 52 28.7	-0.2		
BRVK	Borovoye	116.77	321	*d i* PKiKP		PKPdf	03 52 31.7	-0.6		
BRVK	Borovoye comp=Z,2.0nm,0.5s			pmax		pmax				
BRVK	Borovoye	116.77	321	*e*PKPdf		PKPdf	03 52 31.6	-0.7		
ARU	Arti	122.74	326	*i* PKiKP		PKPdf	03 52 43.1	-0.6		
ARU							03 54 30.4			
ARU				SS		SS	04 10 32.5	+2.4		
ARU	Arti	122.74	326	*e*PKPdf		PKPdf	03 52 43.0	-0.6		
ABKAR	Akbulak array	123.79	318	*e*PKPdf		PKPdf	03 52 45.5	-0.4		
ARCES	ARCESS Array B comp=Z,3.9nm,0.6s,baz=91,slow=0.9,SNR=18	126.30	350	PKP		PKPdf	03 52 49.5	-0.7		
GEYT	Alibeck comp=Z,2.3nm,0.7s,baz=72,slow=4.7,SNR=3.8	126.86	304	PKP		PKPdf	03 52 52.5	+0.3		
FINES	FINESS Array B comp=Z,2.0nm,1.0s,baz=70,slow=4.6,SNR=3.7	133.15	344	PKhKP		PKPpre	03 52 47.0			
FINES				PKP		PKPdf	03 53 03.1	-0.2		
FINES	comp=Z,2.0nm,0.6s,baz=54,slow=2.4,SNR=14			SKPbc		SKPab	03 55 41.3	+0.9		
VSR	comp=Z,1.2nm,0.6s,baz=68,slow=0.7,SNR=6.9 Storozhevoye	135.31	327	*e*PKiKP		PKPdf	03 53 06.7	-0.9		
VSR	comp=N,6.0nm,0.9s			pmax		pmax				
VSR				pmax		pmax				
	comp=E,7.0nm,0.9s									
VSR				pmax		pmax				
	comp=Z,7.0nm,0.9s									
NB2	NORSAR Subarra1 comp=Z,0.9nm,0.7s,baz=17,slow=2.6	136.37	353	PKP		PKPpre	03 52 57.6			
NOA	NORSAR Array B comp=Z,0.3nm,0.6s,baz=18,slow=4.5,SNR=3.6	136.37	353	PKhKP		PKPpre	03 52 56.7			
NOA				PKP		PKPdf	03 53 08.8	-0.6		
NOA	comp=Z,1.1nm,0.7s,baz=13,slow=4.1,SNR=8.9			SKPbc		SKiKP	03 55 51.9	-1.0		
KBZ	comp=Z,1.1nm,0.9s,baz=15,slow=4.7,SNR=4.7 Khabaz	136.66	316	PKP		PKPdf	03 53 11.2	+0.9		
LSZ	comp=Z,2.0nm,0.9s,baz=45,slow=5.7,SNR=4.3 Lusaka	137.70	220	*e*PKiKP		PKPdf	03 53 14.3	+1.0		
LSZ	Lusaka	137.70	220	*e*PKPdf		PKPdf	03 53 14.3	+1.0		
ANN	Anapa	139.69	320	*i* PKiKP		PKPdf	03 53 18.1	+2.2		
ANN	comp=Z,38nm,1.4s			pmax		pmax				
SUW	Suwalki	140.23	340	*e*PKP		PKPdf	03 53 16.1	-0.4		
SUW	Suwalki	140.23	340	*e*PKiKP		PKPdf	03 53 16.2	-0.3		
AKASG	Malin Array Be comp=Z,1.3nm,0.4s,baz=43,slow=3.8,SNR=7.2	140.47	332	PKhKP		PKPpre	03 53 10.2			
AKASG				PKP		PKiKP	03 53 18.7	-1.1		
BSD	comp=Z,1.7nm,0.4s,baz=43,slow=2.8,SNR=7.0 Bornholm Skovb comp=Z,7.3nm,0.7s	141.46	348	⇓ *i* P		PKPdf	03 53 13.3	-5.4		
BSD	Bornholm Skovb comp=Z,7.0nm,0.7s	141.46	348	⇓ *i* PKHKP		PKPdf	03 53 13.3	-5.4		
BSD				pmax		pmax				
GKP	Gorka Klasztor	142.62	344	*e*PKP		PKPdf	03 53 18.7	-2.1		
GKP	Gorka Klasztor	142.62	344	*e*PKiKP		PKPdf	03 53 18.8	-2.1		
BEL	Belsk	142.84	340	*e*PKP		PKPdf	03 53 18.7	-2.6		
LCP	Cassop	143.20	3	*e*P		PKPab	03 53 19.5	-0.4		
HPK	Haverah Park	143.97	3	*e*P		PKPbc	03 53 22.2	-0.4		
KWP	Kalwaria Pacla	144.00	336	*i* PKPc		PKPbc	03 53 23.0	+0.1		
KWP	Kalwaria Pacla	144.00	336	⇑ *i* PKiKP		PKPab	03 53 23.0	-0.1		
RUE	Ruedersdorf	144.17	347	*e*PKPdf		PKPbc	03 53 23.0	-0.2		
LHO	Holmfirth	144.37	3	*e*P		PKPbc	03 53 23.2	-0.7		
BUR08	Bucovina Ar. S	144.51	332	*e*PKPdf		PKPab	03 53 25.4	+0.1		
BURAR	Bucovina Array	144.52	332	⇓ PKiKP		PKPab	03 53 25.8	+0.5		
BURAR	Bucovina Array	144.52	332	⇓ *i* P		PKPab	03 53 25.8	+0.5		
LMK	Market Rasen	144.52	2	*e*P		PKPdf	03 53 24.0	-0.2		
OJC	Ojcow	144.55	339	*e*PKP		PKPbc	03 53 24.7	+0.1		
OJC	Ojcow	144.55	339	*e*PKiKP		PKPbc	03 53 24.7	+0.1		
BRTR	Keskin Array B comp=Z,5.9nm,0.5s,baz=61,slow=2.2,SNR=45	144.63	315	*c i* PKiKP		PKPbc	03 53 25.4	0.0		
BRTR	Keskin Array B comp=Z,6.0nm,0.5s	144.63	315	*c i* PKiKP		PKPbc	03 53 25.2	-0.1		
BRTR				pmax		pmax				
TESR	Tescani	144.66	329	⇑ *i* P		PKPbc	03 53 25.2	+0.2		
KBI1	Birley Grange	144.68	3	*e*P		PKPab	03 53 27.4	+1.9		
STHS	Stebnicka Huta	144.72	337	*e*PKiKP		PKPab	03 53 25.5	-0.4		
STHS	Stebnicka Huta	144.72	337	*e*PKP		PKPab	03 53 25.5	-0.4		
KOLS	Kolonicke sedl	144.73	336	*e*PKiKP		PKPab	03 53 25.7	-0.2		
KOLS	Kolonicke sedl	144.73	336	*e*PKP		PKPab	03 53 25.7	-0.2		
STNC	Stoke	144.80	4	*e*P		PKPbc	03 53 25.1	-0.1		
FOEL	Foel Wylfa	144.94	5	*e*P		PKPbc	03 53 25.5	-0.2		
UZH	Uzhgorod	144.97	336	⇓ *i* PKiKP		PKPbc	03 53 26.0	+0.2		
NIE	Niedzica	145.05	336	*i* PKPc		PKPab	03 53 26.8	-0.4		
NIE	Niedzica	145.05	338	⇑ *i* PKiKP		PKPab	03 53 26.8	-0.4		
KSP	Ksiaz	145.06	343	*i* PKPc		PKPab	03 53 26.7	-0.5		
KSP	Ksiaz	145.06	343	⇑ *i* PKiKP		PKPab	03 53 26.7	-0.5		
VRI	Vrincioaia	145.07	328	⇓ PKiKP		PKPab	03 53 26.9	-0.5		
VRI	Vrincioaia	145.07	328	⇓ *i* P		PKPab	03 53 26.9	-0.5		
TIRR	Tirgusor	145.15	325	⇑ *i* P		PKPdf	03 53 23.7	-1.8		
CWF	Charnwood Fore	145.21	3	*e*P		PKPdf	03 53 25.7	+0.4		
HLM1	Long Mynd	145.33	5	*e*P		PKPbc	03 53 26.3	-0.5		
OKC	Ostrava-Krasne	145.42	341	*e*PKP		PKPbc	03 53 27.3	+0.2		
OKC				*ex*		x	03 53 29.0			
OKC	Ostrava-Krasne	145.42	341	*e*PKiKP		PKPbc	03 53 27.3	+0.2		
CLL	Collm	145.43	347	⇑ *i* PKiKP		PKPbc	03 53 27.1	0.0		
CLL	comp=Z,47nm,1.0s			pmax		pmax				
CLL	Collm comp=Z,47nm,1.0s	145.43	347	⇑ *i* PKPbc		PKPbc	03 53 27.1	0.0		
CLL				*i*			03 53 31.0			
UPC	Upice	145.44	343	*e*PKP		PKPdf	03 53 25.3	-0.6		
UPC				*ex*		x	03 53 27.8			
UPC	Upice	145.44	343	*e*PKiKP		PKPdf	03 53 25.3	-0.6		
DPC	Dobruska-Polom	145.50	343	*e*PKP		PKPdf	03 53 26.3	+0.3		
DPC				*ex*		x	03 53 28.2			
DPC				*ex*		x	03 53 29.8			
DPC	Dobruska-Polom	145.50	343	*e*PKiKP		PKPdf	03 53 26.3	+0.3		
LANS	Liptovska Anna	145.58	339	*e*PKP2		PKPab	03 53 29.2	-0.1		
LANS	Liptovska Anna	145.58	339	*e*PKP		PKPab	03 53 29.2	-0.1		
KRLC	Kraliky	145.62	342	*e*PKP		PKPbc	03 53 28.2	+0.4		
KRLC				*ex*		x	03 53 29.8			
KRLC	Kraliky	145.62	342	*e*PKP2		PKPbc	03 53 28.2	+0.4		
LPW	Lampeter	145.63	6	*e*P		PKPdf	03 53 26.7	+0.6		
BRG	Berggiesshubel comp=Z,18nm,0.8s	145.63	346	*e*PKP		PKPbc	03 53 27.9	+0.2		
BRG	Berggiesshubel comp=Z,18nm,0.8s	145.63	346	*e*PKiKP		PKPbc	03 53 27.9	+0.2		
BRG				pmax		pmax				
MORC	Moravsky Berou	145.66	341	*e*PKiKP		PKPdf	03 53 26.4	+0.1		
MORC	Moravsky Berou	145.66	341	⇑ *i* P		PKPbc	03 53 28.2	+0.3		
MORC	Moravsky Berou	145.66	341	*e*PKPdf		PKPdf	03 53 26.4	+0.1		
MORC				*e*PKPbc		PKPbc	03 53 28.1	+0.2		
MLR	Muntele Rosu	145.73	329	⇑⇑ PKiKP		PKPbc	03 53 28.2	-0.2		
MLR	Muntele Rosu	145.73	329	⇑ *i* P		PKPbc	03 53 28.2	-0.2		
WTSB	Winterswijk comp=Z,51nm,1.0s	145.77	354	*e*PKPdf		PKPbc	03 53 27.9	-0.1		
KECS	Kecovo	145.78	337	*e*PKP2		PKPbc	03 53 28.5	+0.3		
KECS	Kecovo	145.78	337	*e*PKP		PKPbc	03 53 28.5	+0.3		
PVCC	Panska Ves	145.80	345	*e*PKP		PKPbc	03 53 28.7	+0.5		
PVCC				*ex*		x	03 53 30.6			
PVCC	Panska Ves	145.80	345	*e*PKP2		PKPbc	03 53 28.7	+0.5		
MCH1	Michaelchurch	145.84	5	*e*P		PKPbc	03 53 27.5	-0.7		
CJR	Cluj-Napoca	145.93	332	⇑⇑ PKP2		PKPbc	03 53 29.3	+0.5		
CJR	Cluj-Napoca	145.93	332	⇑ *i* P		PKPbc	03 53 29.3	+0.5		
MONM	Monmouth	146.01	5	*e*P		PKPbc	03 53 28.2	-0.5		
PRA	Prague	146.26	345	*e*PKP		PKPbc	03 53 29.9	+0.4		
PRA				*ex*		x	03 53 32.2			
PRA	Prague	146.26	345	*e*PKP2		PKPbc	03 53 29.9	+0.4		
PRU	Pruhonice	146.31	345	*e*PKP		PKPdf	03 53 28.0	+0.7		
PRU				*ex*		x	03 53 29.9			
PRU				*ex*		x	03 53 32.3			
PRU	Pruhonice	146.31	345	*e*PKiKP		PKPdf	03 53 28.0	+0.7		
PRU				*e*			03 53 32.3			
GOPC	GO Pecny, Ondr	146.31	344	*e*PKP		PKPbc	03 53 29.9	+0.2		
GOPC				*ex*		x	03 53 32.6			
VRAC	Vranov	146.36	342	⇓⇓ PKP2		PKPbc	03 53 30.6	+0.8		
VRAC	Vranov	146.36	342	⇓ *i* P		PKPbc	03 53 30.6	+0.8		
SWN1	Swindon	146.40	4	*e*P		PKPbc	03 53 29.6	-0.2		
BATH	Bath	146.44	4	*e*P		PKPbc	03 53 29.3	-0.6		
ARR	Arges	146.46	330	⇓⇓ *i* P		PKPab	03 53 31.6	-1.3		
PSZ	Piszkesteto	146.47	337	*e*PKiKP		PKPbc	03 53 30.1	-0.2		
PSZ	Piszkesteto	146.47	337	⇑ *i* P		PKPbc	03 53 30.4	+0.2		
PSZ	Piszkesteto	146.47	337	*e*PKPbc		PKPbc	03 53 30.1	-0.2		
PSZ	Piszkesteto	146.47	337	⇑ *e*		PKPbc	03 53 30.7	+0.5		
NKC	Novy Kostel	146.57	347	*e*PKP		PKPdf	03 53 28.4	+0.6		
NKC				*ex*		x	03 53 30.5			
NKC				*ex*		x	03 53 33.2			
NKC	Novy Kostel	146.57	347	*e*PKiKP		PKPdf	03 53 28.4	+0.6		
NKC				*e*			03 53 33.2			
WOL	Wolverton	146.63	3	*e*P		PKPbc	03 53 29.9	-0.6		
TREC	Trest	146.69	343	*e*PKP		PKPdf	03 53 28.2	+0.2		
TREC				*ex*		x	03 53 30.8			
TREC				*ex*		x	03 53 33.8			
TREC	Trest	146.69	343	*e*PKiKP		PKPdf	03 53 28.2	+0.2		
TREC				*e*			03 53 33.8			
SMOL	Smolenice	146.81	340	*e*PKP2		PKPbc	03 53 31.8	+0.8		
SMOL	Smolenice	146.81	340	*e*PKP		PKPbc	03 53 31.8	+0.8		
ELSH	Elham, Standar	146.86	0	*e*P		PKPbc	03 53 31.0	-0.1		
CSS	Prodhromos	146.90	307	*e*PKPbc		PKPbc	03 53 31.7	0.0		
CSS				*e*PKPab		PKPab	03 53 35.0	-0.1		
BEBN	Eben Emael	147.03	355	PKPbc		PKPbc	03 53 32.7	+1.1		
HGN	Heimansgroeve comp=Z,17nm,0.9s	147.04	355	*e*PKPdf		PKPbc	03 53 31.6	+0.1		
HMNX	Herstmonceux	147.13	1	*e*P		PKPbc	03 53 31.9	+0.1		
BUD	Budapest	147.15	338	⇑ *e*		PKPbc	03 53 32.4	+0.4		
MEM	Membach	147.19	355	PKPbc		PKPbc	03 53 32.0	0.0		
SZH	Strazhica	147.28	326	*i* P		PKPbc	03 53 32.6	+0.1		
GRFO	Grafenberg	147.33	348	*e*PKP2		PKPbc	03 53 32.7	+0.3		
GRFO	Grafenberg	147.33	348	*e*PKPbc		PKPbc	03 53 32.7	+0.3		
GRFO				*e*PKPab		PKPab	03 53 36.0	-0.2		
KHC	Kasperske Hory	147.34	345	*e*PKP		PKPdf	03 53 29.5	+0.4		
KHC				*ex*		x	03 53 32.7			
KHC				*ex*		x	03 53 36.1			
KHC	Kasperske Hory	147.34	345	*e*PKiKP		PKPdf	03 53 29.2	+0.1		
KHC				*e*			03 53 36.2			
KHC	Kasperske Hory	147.34	345	*e*PKPdf		PKPdf	03 53 29.2	+0.1		
KHC				*e*PKPbc		PKPbc	03 53 32.7	+0.2		
KHC				*e*PKPab		PKPbc	03 53 36.2	-0.1		
SNF	Seneffe	147.41	357	PKPbc		PKPbc	03 53 32.7	+0.1		
SNF				PKPab		PKPab	03 53 36.2	-0.3		
PKSG		147.45	338	⇑ *e*		PKPbc	03 53 32.9	+0.1		
CSKK	Cs̈tkako	147.52	338	⇑ *e*		PKPbc	03 53 32.6	-0.4		
GERES	GERESS Array B comp=Z,17nm,0.7s,baz=23,slow=3.2,SNR=165	147.57	345	PKPbc		PKPbc	03 53 33.3	+0.1		
PKST	T̈s	147.69	339	⇑ *e*		PKPbc	03 53 33.4	0.0		
DOU	Dourbes	147.81	356	PKPbc		PKPbc	03 53 33.8	+0.2		
CONA	Conrad Observa comp=Z,17nm,0.6s,SNR=16	147.81	342	⇑ *i* PKiKP		PKPbc	03 53 34.1	+0.3		
SOP	Sopron	147.81	341	⇑ *e*		PKPbc	03 53 34.4	+0.7		
WLF	Walferdange	148.11	354	PKPbc		PKPbc	03 53 35.2	+0.9		
WLF	Walferdange	148.11	354	*e*PKP2		PKPbc	03 53 34.8	+0.5		
WLF	Walferdange	148.11	354	*e*PKPbc		PKPbc	03 53 34.8	+0.5		
PKS9	Tamasi	148.18	338	⇑ *e*		PKPdf	03 53 28.4	-2.1		
MOA	Molln comp=Z,9.2nm,0.8s,SNR=7.5	148.34	343	⇑ *i* PKPbc		PKPbc	03 53 35.0	0.0		
MPEP	Malo Peshtene	148.36	328	*i* P		PKPbc	03 53 35.6	+0.4		
PKSM	Moragy	148.36	337	⇓ *i* P		PKPbc	03 53 34.4	-0.7		
PKSM	Moragy	148.36	337	⇑ *e*		PKPbc	03 53 35.2	+0.1		
ARSA	Arzberg comp=Z,9.4nm,1.3s,SNR=5.8	148.52	341	⇑ *i* PKPbc		PKPbc	03 53 35.2	-0.3		
STU	Stuttgart	148.58	350	*e*PKPdf		PKPdf	03 53 31.3	+0.2		
STU				*e*PKPbc		PKPbc	03 53 35.6	+0.1		
STU				*e*PKPab		PKPab	03 53 40.9	-0.5		
KDZ	Kurdzhali	148.65	324	⇑ *i* P		PKPbc	03 53 36.2	+0.2		
KDZ	Kurdzhali	148.65	324	*i* P		PKPbc	03 53 36.1	+0.1		
JSA	Saint Aubin	148.69	4	*e*P		PKPbc	03 53 35.4	-0.4		
BEHE	Becsehely	148.81	339	⇑ *e*		PKPbc	03 53 36.5	+0.3		
BFO	Black Forest	149.15	351	*e*PKPbc		PKPbc	03 53 37.0	0.0		
BFO				*e*PKPab		PKPab	03 53 42.5	-1.3		
VTS	Vitosha	149.18	328	⇓ *i* P		PKPbc	03 53 37.9	+0.5		
VTS	Vitosha	149.18	328	*i* P		PKPbc	03 53 37.6	+0.2		
SOKA	Soboth comp=Z,16nm,1.1s,SNR=12	149.18	341	⇓ *i* PKPbc		PKPbc	03 53 36.7	-0.5		
PERS	Pernice	149.19	341	*i* PKPbc		PKPbc	03 53 36.8	-0.4		
PERS				*i*			03 53 43.7			
KBA	Koelnbreinsper comp=Z,11nm,0.5s,SNR=7.1	149.30	344	⇓ *i* PKPbc		PKPbc	03 53 36.9	-0.6		
OBKA	Obir comp=Z,6.3nm,1.0s	149.48	342	⇑ *i* PKPbc		PKPbc	03 53 37.2	-0.7		
WATA	Walderalm comp=Z,9.3nm,0.5s,SNR=12	149.49	346	⇑ *i* PKPbc		PKPbc	03 53 37.7	-0.3		
DOBS	Dobrina	149.52	340	*e*PKPbc		PKPbc	03 53 37.6	-0.3		
RETA	Reutte comp=Z,7.6nm,0.5s,SNR=7.9	149.53	347	⇑ *i* PKiKP		PKPbc	03 53 37.9	-0.1		
WTTA	Wattenberg comp=Z,32nm,0.6s,SNR=16	149.55	346	⇑ *i* PKiKP		PKPbc	03 53 38.2	0.0		
DIVS	Divibare	149.55	333	⇑ *i* P		PKPbc	03 53 38.3	+0.1		
MOTA	Moosalm comp=Z,24nm,1.1s,SNR=14	149.59	347	⇑ *i* PKPbc		PKPbc	03 53 38.0	-0.3		
MMB	Musomiste	149.62	326	*i* P		PKPbc	03 53 38.1	-0.3		
MYKA	Terra Mystica comp=Z,13nm,0.5s,SNR=9.2	149.63	343	⇓ *i* PKPbc		PKPbc	03 53 37.5	-0.7		
KKB	Krupnik	149.77	327	*i* P		PKPbc	03 53 38.7	0.0		
ABTA	Abfaltersbach comp=Z,25nm,0.6s,SNR=16	149.82	345	⇓ *i* PKPbc		PKPbc	03 53 38.1	-0.6		
DAVA	Damuels comp=Z,27nm,1.2s,SNR=11	149.89	348	⇓ *i* PKiKP		PKPbc	03 53 39.0	0.0		
LJU	Ljubljana	149.91	342	*i* PKPbc		PKPbc	03 53 38.8	0.0		
FETA	Feichten comp=Z,23nm,1.1s,SNR=7.4	149.98	347	⇑ *i* PKiKP		PKPbc	03 53 39.2	0.0		
BOJS	Bojanci	150.16	340	*e*PKPbc		PKPbc	03 53 39.6	+0.2		
CEY	Cerknica	150.21	341	*i* PKPbc		PKPbc	03 53 39.4	-0.2		
UDBI	Udbina	150.85	339	P		PKPbc	03 53 41.2	0.0		
NVLJ	Novalja	151.12	340	P		PKPbc	03 53

	comp=Z,0.4nm,0.0s							
NVLJ	**Novalja**	**1.65**	**174**	*e*Pn	Pb	03 52 56.7	+0.5	
NVLJ				Sn	Sg	03 53 18.6	-0.5	
NVLJ	**Novalja**	**1.65**	**174**	*e*Pn	Pb	03 52 56.7	+0.4	
NVLJ				Sn	Sg	03 53 18.6	-0.5	

IDC 11 04:09:52.1±5.5, 38.99N×110.74E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.2/41, mbtmp3.3/4, ML2.7/1, Error ellipse: s-maj=116.3km s-min=24.6km az=85.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**9.39**	**342**	Pn	Pn	04 12 09.7	+0.9
	0.1nm,0.3s,baz=154,slow=13,SNR=16						
SONM				Lg	Lg	04 14 51.3	
	0.1nm,0.3s,baz=153,slow=26,SNR=7.1						
MKAR	**Makanchi Array**	**22.17**	**300**	P	P	04 14 49.3	-0.3
	0.4nm,0.7s,baz=104,slow=11,SNR=4.5						
CMAR	**Chiang Mai Arr**	**22.88**	**210**	P	P	04 14 57.5	+0.2
	1.3nm,0.5s,baz=9.0,slow=10,SNR=9.2						
KURBB	**Kurchatov Arra**	**25.44**	**308**	P	P	04 15 21.0	-0.4
	0.1nm,0.3s,baz=107,slow=9.2,SNR=2.7						

NEIC 11 04:20:29.3±0.9, 13.08N×143.99E, h108km±8km, mb4.4/10, Error ellipse: s-maj=11.6km s-min=6.9km az=91.0
IDC 11 04:20:29.3±0.8, 13.12N×144.04E, h107km±8km, mb3.9/18, mb1 4.0/19, mb1mx3.9/30, mbtmp4.2/19, MS2.8/4, Ms1 2.8/4, ms1mx2.6/34, Error ellipse: s-maj=18.3km s-min=11.1km az=90.0

ISC 11 04:20:32.1±0.5, 13.09N±0.08×144.2E±0.1, h138km, n50, σ1s49/48, mb4.2/28, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.81**	**52**	P	Pn	04 20 50.2	-3.9
	570nm,0.3s,baz=123,slow=0.4,SNR=422						
GUMO				S	**Sn**	**04 21 05.4**	**-5.5**
	398nm,0.3s,baz=131,slow=20,SNR=18						
JAY	**Jayapura**	**15.88**	**193**	LR	LR	04 29 18.9	
	comp=Z,44nm,18.6s,baz=274,slow=33						
SIJI	**Sorong**	**18.90**	**224**	P	**P**	**04 24 41.0**	**-1.1**
	1.0nm,0.3s,baz=64,slow=9.0,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**22.27**	**73**	T	T	04 48 35.0	
	baz=258,slow=75,SNR=5.5						
H11S1	**WAKE ISLAND Hy**	**22.29**	**73**	T	T	04 48 46.9	
	baz=258,slow=75,SNR=3.2						
H11S2	**WAKE ISLAND Hy**	**22.29**	**73**	T	T	04 48 38.3	
	baz=258,slow=75,SNR=5.1						
H11N1	**WAKE ISLAND Hy**	**22.72**	**70**	T	T	04 49 13.5	
	baz=256,slow=75,SNR=14						
H11N2	**WAKE ISLAND Hy**	**22.73**	**70**	T	T	04 49 15.8	
	baz=256,slow=75,SNR=9.5						
H11N3	**WAKE ISLAND Hy**	**22.73**	**70**	T	T	04 49 17.9	
	baz=256,slow=75,SNR=11						
JNU	**Nakatsue**	**23.37**	**331**	P	**P**	**04 25 27.8**	**-0.6**
	11nm,0.7s,baz=29,slow=10,SNR=3.7						
MJAR	**Matsushiro Arr**	**23.97**	**348**	P	**P**	**04 25 32.8**	**-1.0**
	11nm,1.1s,baz=176,slow=9.5,SNR=21						
MAJO	**Matsushiro**	**23.97**	**348**	*e*P	**P**	**04 25 32.6**	**-1.2**
	21nm,1.1s						
MAT	**Matsushiro**	**23.97**	**348**	P	**P**	**04 25 32.5**	**-1.3**
COEN	**Coen**	**26.89**	**182**	*e*P	**P**	**04 26 00.2**	**-0.1**
KSRS	**Korea Array**	**28.30**	**332**	P	**P**	**04 26 12.6**	**-0.1**
	3.4nm,0.8s,baz=138,slow=9.5,SNR=8.5						
KSRS				LR	LR	04 35 16.6	
	comp=Z,23nm,20.3s,baz=137,slow=32						
KSAR	**Wonju Array Be**	**28.31**	**332**	P	**P**	**04 26 12.6**	**-0.2**
USRK	**Ussuriysk Ar.**	**32.73**	**344**	P	**P**	**04 26 51.8**	**+0.2**
	1.7nm,0.6s,baz=120,slow=7.7,SNR=4.1						
WRAB	**Tennant Creek**	**34.22**	**197**	*e*P	**P**	**04 27 04.0**	**-0.7**
	8.1nm,0.8s						
WRA	**Warramunga Arr**	**34.23**	**197**	P	**P**	**04 27 04.4**	**-0.4**
	5.4nm,0.8s,baz=22,slow=9.5,SNR=46						
WRA				PcP	**PcP**	**04 29 39.4**	**+0.9**
	0.4nm,0.6s,baz=10,slow=3.8,SNR=3.4						
WRA				ScP	**ScP**	**04 33 13.8**	**+2.9**
	0.4nm,0.9s,baz=8.7,slow=3.6,SNR=4.8						
ASAR	**Alice Springs**	**37.89**	**195**	P	**P**	**04 27 35.9**	**-0.1**
	4.9nm,0.5s,baz=20,slow=13,SNR=100						
ASAR				PcP	**PcP**	**04 29 50.9**	**+1.4**
	0.6nm,0.7s,baz=46,slow=2.7,SNR=3.5						
PETK	**Petropavlovsk-**	**41.35**	**12**	P	**P**	**04 28 04.9**	**+0.6**
	1.6nm,0.8s,baz=275,slow=7.3,SNR=5.1						
PETK				LR	LR	04 43 38.3	
	comp=Z,8.8nm,20.5s,baz=187,slow=34						
MBWA	**Marble Bar**	**41.67**	**216**	*e*P	**P**	**04 28 05.7**	**-1.5**
CMAR	**Chiang Mai Arr**	**43.81**	**283**	LR	LR	04 45 35.5	
	comp=Z,9.0nm,20.8s,baz=110,slow=34						
STKA	**Stephens Creek**	**44.77**	**183**	P	**P**	**04 28 32.0**	**0.0**
	1.4nm,0.6s,baz=358,slow=8.8,SNR=3.9						
SONM	**Songino Array**	**46.78**	**325**	P	**P**	**04 28 48.4**	**+0.7**
	2.3nm,0.6s,baz=144,slow=7.2,SNR=24						
SEY	**Seymchan**	**50.12**	**5**	P	**P**	**04 29 13.2**	**+0.3**
	0.6nm,0.3s,baz=63,slow=6.8,SNR=5.1						
MK31	**Makanchi Array**	**61.41**	**316**	*e*P	**P**	**04 30 34.2**	**+0.4**
MKAR	**Makanchi Array**	**61.41**	**316**	P	**P**	**04 30 33.6**	**-0.1**
	1.7nm,0.6s,baz=92,slow=8.5,SNR=13						
ZALV	**Zalesovo Beam**	**61.66**	**325**	P	**P**	**04 30 34.8**	**-0.5**
	1.2nm,0.4s,baz=112,slow=6.9,SNR=5.8						
KURK	**Kurchatov**	**64.56**	**320**	*e*P	**P**	**04 30 53.6**	**-0.8**
	10.0nm,1.0s						
KURBB	**Kurchatov Arra**	**64.60**	**320**	P	**P**	**04 30 53.9**	**-0.8**
	2.9nm,0.7s,baz=99,slow=6.9,SNR=25						
EKS2	**Erkin-Say**	**66.89**	**311**	*e*P	**P**	**04 31 09.2**	**-0.5**
	0.7nm,0.4s						
MCK	**McKinley**	**68.17**	**26**	*e*P	**P**	**04 31 17.4**	**+0.2**
	3.2nm,0.7s						
ILAR	**Eielson Array**	**69.29**	**25**	P	**P**	**04 31 23.2**	**-0.9**
	0.4nm,0.5s,baz=253,slow=5.8,SNR=7.0						
BVAR	**Borovoye Array**	**69.93**	**322**	P	**P**	**04 31 27.5**	**-0.7**
	2.0nm,0.5s,baz=110,slow=7.4,SNR=14						
BRVK	**Borovoye**	**69.99**	**322**	*e*P	**P**	**04 31 29.1**	**+0.5**
	2.7nm,0.7s						
ARU	**Arti**	**76.82**	**325**	*e*P	**P**	**04 32 08.2**	**-0.3**
	2.1nm,0.5s						
YKA	**Yellowknife Ar**	**83.60**	**27**	P	**P**	**04 32 45.9**	**+1.2**
	0.7nm,0.5s,baz=286,slow=5.1,SNR=7.8						
BMO	**Blue Mountains**	**86.79**	**45**	*e*P	**P**	**04 33 02.9**	**+1.7**
	6.7nm,1.3s						
NVAR	**Mina Array Bea**	**87.73**	**51**	P	**P**	**04 33 08.6**	**+2.6**
	3.5nm,0.9s,baz=265,slow=6.8,SNR=20						
MFID	**Camas Ranch**	**88.21**	**46**	*e*P	**P**	**04 33 10.3**	**+2.3**
TPH	**Tonopah**	**88.64**	**51**	*e*P	**P**	**04 33 12.8**	**+2.6**
	4.4nm,1.1s						
HLID	**Hailey**	**89.15**	**45**	*e*P	**P**	**04 33 14.6**	**+2.1**
	2.4nm,1.4s						
FINES	**FINESS Array B**	**91.35**	**335**	P	**P**	**04 33 20.9**	**-1.2**
	0.4nm,0.4s,baz=64,slow=4.4,SNR=9.1						
TXAR	**Lajitas Array**	**102.16**	**56**	P	**Pdif**	**04 34 12.0**	**+0.1**
	0.2nm,0.7s,baz=309,slow=5.7,SNR=2.7						
TORD	**Torodi Ar. Bea**	**134.62**	**304**	PKP	**PKPdf**	**04 39 33.6**	**-1.6**
	0.3nm,0.8s,baz=49,slow=2.3,SNR=3.6						
LCO	**Las Campanas**	**143.94**	**122**	*e*PKPdf	**PKPdf**	**04 39 52.5**	**+0.4**
LPAZ	**La Paz**	**148.57**	**100**	PKPbc	**PKPab**	**04 40 06.9**	**-1.5**
	2.9nm,0.7s,baz=354,slow=3.9,SNR=14						
LPAZ	**La Paz**	**148.57**	**100**	*e*PKPdf	**PKPdf**	**04 40 02.0**	**+1.3**
LPAZ				*e*PKPbc	**PKPab**	**04 40 06.8**	**-1.5**
LPAZ				PKPbc	**PKPab**	**04 40 06.9**	**-1.5**
SAML	**Samuel**	**152.80**	**84**	*e*PKPdf	**PKPdf**	**04 40 08.4**	**+1.8**
SAML				*e*PKPbc	**PKiKP**	**04 40 15.0**	**+1.0**

ISCJB 11 04:58:15.3±0.4, 64.82N±0.02×87.99W±0.06, h10km, mb3.4/2, Error ellipse: s-maj=3.8km s-min=3.5km az=168.0
IDC 11 04:58:20.3±1.0, 64.98N×87.91W, h0km, mb3.4/2, mb1 3.9/6, mb1mx3.4/51, mbtmp3.8/6, ML3.3/4, Error ellipse: s-maj=22.2km s-min=10.0km az=4.0
OTT 11 04:58:21.5±0.2, 64.92N×88.25W, h18km, MN3.8/21, Boothia Ungava Seismic Zone. 202km southwest from Repulse Bay, Nu

ISC 11 04:58:19.1±0.7, 64.92N±0.04×87.95W±0.05, h10km, n29, σ2s21/39, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WAGN	**Wager Bay**	**1.15**	**328**	PG	**Pn**	**04 58 42.0**	**+0.9**
WAGN				SG	**Sn**	**04 58 56.7**	**-0.2**
WAGN				Trac		04 58 58.9	
	comp=Z,1μm,0.2s						
NUNN	**Nunuq Camp, NU**	**1.36**	**284**	PG	**Pn**	**04 58 44.5**	**+0.4**
NUNN				SG	**Sb**	**04 59 00.1**	**-1.8**
NUNN				Trac		04 59 02.5	
	comp=Z,328nm,0.1s						
QILN	**Qililugaq Expl**	**1.86**	**20**	PN	**Pb**	**04 58 52.9**	**-0.1**
QILN				SG	**Sg**	**04 59 20.4**	**+1.7**
QILN				Trac		04 59 21.3	
	comp=Z,276nm,0.2s						
SEDN	**First Sedna Si**	**2.21**	**222**	PN	**Pn**	**04 58 56.8**	**+1.1**
SEDN				SN	**Sn**	**04 59 22.1**	**-0.9**
SEDN				Trac		04 59 28.8	
	comp=Z,121nm,0.1s						
BULN	**Bullion Camp,**	**2.60**	**307**	PN	**Pn**	**04 59 01.9**	**+0.7**
BULN				SN	**Sn**	**04 59 30.5**	**-2.4**
BULN				LG	Lg	04 59 41.2	
BULN				Trac		04 59 45.4	
	comp=Z,56nm,0.1s						
LAIN	**Lailor River,**	**4.55**	**20**	PN	**Pn**	**04 59 28.9**	**+1.0**
LAIN				SN	**Sn**	**05 00 19.8**	**-0.9**
LAIN				LG	Lg	05 00 41.9	
LAIN				Trac		05 00 43.2	
	comp=Z,116nm,0.3s						
ARVN	**Arviat, NU**	**4.75**	**219**	SN	**Sn**	**05 00 22.5**	**-3.1**
ARVN				Trac		05 00 45.5	
	comp=Z,88nm,0.2s						
AP3N	**Apex site 3 Nu**	**4.75**	**15**	PN	**Pn**	**04 59 32.2**	**+1.4**
AP3N				SN	**Sn**	**05 00 26.7**	**+0.9**
AP3N				LG	Lg	05 00 48.5	
ILON	**Igloolik, Nuna**	**5.06**	**25**	PN	**Pn**	**04 59 35.6**	**+0.6**
ILON				SN	**Sn**	**05 00 32.6**	**-0.7**
ILON				LG	Lg	05 01 02.4	
ILON				Trac		05 01 03.2	
	comp=Z,157nm,0.3s						
GIFN	**Gifford Fjord,**	**5.64**	**23**	PN	**Pn**	**04 59 43.4**	**+0.5**
GIFN				SN	**Sn**	**05 00 44.5**	**-3.1**
GIFN				LG	Lg	05 01 16.5	
GIFN				Trac		05 01 19.4	
	comp=Z,54nm,0.3s						
AKVQ	**Akulivik**	**6.08**	**128**	PN	**Pn**	**04 59 50.7**	**+1.8**
AKVQ				SN	**Sn**	**05 00 57.2**	**-1.2**
AKVQ				LG	Lg	05 01 31.6	
AKVQ				Trac		05 01 32.7	
	comp=Z,38nm,0.4s						
FCC	**Fort Churchill**	**6.83**	**208**	PN	**Pn**	**04 59 59.6**	**+0.5**
FCC				SN	Sn	05 01 12.3	-4.5
FCC				LG	Lg	05 01 48.6	
FCC				Trac		05 01 59.7	
	comp=Z,27nm,0.3s						
CB31	**Cambridge Bay**	**7.91**	**310**	PN	**Pn**	**05 00 13.4**	**-0.5**
CB31				SN	Sn	05 01 35.9	-7.4
CB31				LG	Lg	05 02 18.4	
CB31				Trac		05 02 29.9	
	comp=Z,36nm,0.4s						
INUQ	**Inukjuak**	**7.99**	**140**	PN	**Pn**	**05 00 16.3**	**+1.2**
INUQ				SN	**Sn**	**05 01 42.6**	**-2.8**
INUQ				Trac		05 02 32.3	
	comp=Z,17nm,0.3s						
FRB	**Frobisher Bay**	**8.50**	**89**	Pn	**Pn**	**05 00 22.8**	**+0.8**
	1.0nm,0.3s,baz=286,slow=15,SNR=10						
FRB				Sn	Sn	05 01 51.2	-6.6
	2.2nm,0.3s,baz=198,slow=20,SNR=5.0						
FRB				Lg	Lg	05 02 43.1	
	6.3nm,0.3s,baz=13,slow=20,SNR=17						
FRB	**Frobisher Bay**	**8.50**	**89**	PN	**Pn**	**05 00 23.3**	**+1.3**
FRB				SN	**Sn**	**05 01 54.9**	**-3.0**
FRB				Trac		05 02 52.1	
	comp=Z,26nm,0.4s						
GDLN	**Gardenia Lake,**	**8.57**	**258**	PN	**Pn**	**05 00 22.1**	**-1.0**
GDLN				SN	Sn	05 01 50.0	-10
GDLN				Trac		05 02 03.0	
	comp=Z,12nm,0.1s						
SNLN	**Sandy Lake, NW**	**8.91**	**265**	PN	**Pn**	**05 00 26.9**	**-0.8**
SNLN				SN	Sn	05 01 58.4	-10
SNLN				Trac		05 02 07.3	
	comp=Z,6.4nm,0.1s						
COKN	**Cook Lake**	**9.24**	**269**	PN	**Pn**	**05 00 32.2**	**-0.1**
COKN				Trac		05 03 11.9	
	comp=Z,25nm,0.5s						
CMBN	**Cumberland Cam**	**9.85**	**75**	PN	**Pn**	**05 00 43.3**	**+2.8**
CMBN				SN	**Sn**	**05 02 25.4**	**-5.5**
CMBN				Trac		05 03 30.6	
	comp=Z,66nm,0.6s						
RES	**Resolute Bay**	**10.09**	**349**	Pn	**Pn**	**05 00 44.2**	**+0.4**
	0.6nm,0.3s,baz=166,slow=11,SNR=15						
RES				Sn	**Sn**	**05 02 31.4**	**-5.4**
	0.7nm,0.3s,baz=108,slow=20,SNR=2.9						
RES				Lg	Lg	05 03 28.9	
	1.7nm,0.3s,baz=249,slow=20,SNR=7.6						
RES	**Resolute Bay**	**10.09**	**349**	PN	**Pn**	**05 00 45.1**	**+1.4**
RES				SN	Sn	05 02 30.1	-6.7
KUQ	**Kuujjuuaa**	**11.52**	**117**	SN	**Sn**	**05 03 08.1**	**-3.8**
KUQ				LG	Lg	05 04 18.1	
YKW3	**Yellowknife Ar**	**12.00**	**271**	PN	Pn	05 01 07.2	-2.7
YKW3				PN		05 01 08.3	
YKW3				SN	Sn	05 03 09.9	-14
YKW3				SN		05 03 10.2	
YKW3				Trac		05 04 28.2	
	comp=Z,9.0nm,0.4s						
YKW3				Trac		05 04 29.6	
	comp=Z,14nm,0.5s						
YKA	**Yellowknife Ar**	**12.02**	**271**	Pn	Pn	05 01 07.3	-2.9
	0.4nm,0.3s,baz=61,slow=11,SNR=13						
YKA				Sn	Sn	05 03 10.7	-13
	1.0nm,0.3s,baz=65,slow=21,SNR=9.2						
YKA				Lg	Lg	05 04 24.6	
	0.7nm,0.3s,baz=67,slow=29,SNR=11						
LG4Q	**La Grande 4**	**13.31**	**142**	PN	Pn	05 01 25.5	-2.5
LG4Q				SN	Sn	05 03 46.8	-9.1
LG4Q				Trac		05 05 28.9	
	comp=Z,11nm,0.4s						
SCHQ	**Schefferville**	**14.56**	**124**	Pn	Pn	05 01 42.1	-2.9
	0.4nm,0.3s,baz=329,slow=11,SNR=7.2						
SCHQ				Sn	Sn	05 04 14.1	-12
	0.5nm,0.3s,baz=53,slow=20,SNR=2.9						
SCHQ				Lg	Lg	05 05 48.7	
	0.8nm,0.3s,baz=52,slow=19,SNR=4.1						
PDAR	**Pinedale Array**	**25.34**	**219**	P	**P**	**05 03 50.4**	**+4.3**
	0.4nm,0.8s,baz=33,slow=7.5,SNR=3.5						
FINES	**FINESS Array B**	**44.77**	**39**	P	**P**	**05 06 34.4**	**+2.3**
	1.2nm,0.9s,baz=336,slow=9.1,SNR=2.2						

IDC 11 05:06:01.8±0.8, 42.94N×80.39E, h0km, mb3.8/12, mb1 3.9/19, mb1mx3.8/44, mbtmp3.8/19, ML3.4/6, MS3.2/6, Ms1 3.2/6, ms1mx2.8/39, Error ellipse: s-maj=14.1km s-min=10.4km az=100.0
KRNET 11 05:06:04.9±0.1, 43.13N×80.33E, mb4.4
BJI 11 05:06:04.8, 43.16N×80.20E, h8km, mb3.9/3, mB4.2/2, ML3.8/10
MOS 11 05:06:06.3±1.8, 43.10N×80.55E, h33km, mb4.1/12, Error ellipse: s-maj=11.9km s-min=7.5km az=99.7
NNC 11 05:06:10.8±1.4, 43.54N×79.98E, h4km±7km, mb4.3, mpv3.9, Error ellipse: s-maj=14.3km s-min=5.0km az=139.0

ISC 11 05:06:06.2±0.4, 43.10N±0.04×80.28E±0.03, h18km, n76, σ2s16/88, mb3.8/16, MS3.2/4, 12C-18D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANVS	**Anan'yevo**	**1.95**	**261**	⇓*i*P	**Pb**	**05 06 41.5**	**+0.2**
	baz=261						
ANVS				⇓*e*S	**Sg**	**05 07 08.8**	**-0.2**
	baz=261						
KNDC	**Almaty**	**2.43**	**274**	⇓Pn	**Pn**	**05 06 47.4**	**+2.3**
	230nm,0.7s						
KNDC				⇑Lg	Lg	05 07 22.4	
	2μm,0.8s						
AAA	**Alma-Ata**	**2.45**	**275**	*e*PN	**Pb**	**05 06 50.4**	**+0.7**
AAA				*e*S	**Sg**	**05 07 23.2**	**-1.7**
AAA				pmax	pmax		
	comp=Z,289nm,0.3s						
AAA				smax	smax		
	comp=N,2μm,0.6s						
KDJ	**Kajisay**	**2.49**	**248**	*e*P	**Pb**	**05 06 49.3**	**-1.2**
	baz=248						
KDJ				*e*S	**Sg**	**05 07 25.0**	**-1.2**
	baz=248						
ULHL	**Ulahol**	**3.10**	**255**	P	**Pn**	**05 06 56.0**	**+1.6**
	SNR=40						
TKM2	**Tokmak 2**	**3.44**	**269**	P	**Pn**	**05 07 01.9**	**+2.7**
	SNR=14						
TKM2	**Tokmak 2**	**3.44**	**269**	⇑Pn	**Pn**	**05 07 02.2**	**+3.1**
	comp=N,6.4nm,0.3s						
TKM2				⇑Pg	**Pg**	**05 07 11.5**	**-0.7**
	comp=N,28nm,0.4s						
TKM2				⇑Lg	Lg	05 07 52.0	
	comp=N,433nm,0.9s						
TKM2	**Tokmak 2**	**3.44**	**269**	PN	**Pn**	**05 07 02.2**	**+3.1**
TKM2						05 07 51.9	
TKM2				pmax	pmax		
	comp=Z,28nm,0.4s						
TKM2				pmax	pmax		
	comp=N,433nm,1.0s						
NRN	**Naryn**	**3.59**	**244**	*e*P	**Pb**	**05 07 07.4**	**-2.0**
	baz=244						
NRN				*e*S	**Sb**	**05 07 56.2**	**+3.5**
	baz=244						
KZA	**Kyzart**	**3.85**	**256**	P	**Pn**	**05 07 07.2**	**+2.2**
	SNR=9.4						
KBK	**Karagaybulak**	**3.95**	**265**	P	Pb	05 07 11.4	-3.9
	SNR=6.3						
MK31	**Makanchi Array**	**3.96**	**20**	⇓Pn	**Pn**	**05 07 08.7**	**+2.7**
	comp=N,3.8nm,0.2s,baz=202,slow=14,SNR=839						
MK31				⇓Pg	**Pb**	**05 07 16.8**	**+1.4**
	comp=N,11nm,0.5s,baz=206,slow=16,SNR=11						
MK31				⇓Sn	**Sn**	**05 07 53.3**	**+1.3**
	comp=N,25nm,0.6s,baz=201,slow=18,SNR=3.7						
MK31				⇑Lg	Lg	05 08 07.6	
	comp=N,29nm,0.2s,baz=199,slow=28,SNR=9.0						
MK31	**Makanchi Array**	**3.96**	**20**	PN	**Pn**	**05 07 08.7**	**+2.7**
MK31						05 08 10.3	
MK31				pmax	pmax		
	comp=Z,24nm,0.2s						
MKAR	**Makanchi Array**	**3.96**	**20**	Pn	**Pn**	**05 07 07.8**	**+1.8**
	comp=Z,6.7nm,0.3s,baz=199,slow=12,SNR=607						
MKAR				Pg	**Pb**	**05 07 16.2**	**+0.8**
	comp=Z,4.9nm,0.3s,baz=198,slow=15,SNR=24						
MKAR				Sn	**Sn**	**05 07 54.7**	**+2.7**
	comp=Z,7.2nm,0.3s,baz=198,slow=23,SNR=8.5						
MKAR				Lg	Lg	05 08 10.9	
	comp=Z,12nm,0.3s,baz=202,slow=26,SNR=7.0						
MKAR				LR	LR	05 08 43.3	
	comp=Z,118nm,21.9s,baz=161,slow=40						
MKAR	**Makanchi Array**	**3.96**	**20**	PN	**Pn**	**05 07 07.8**	**+1.8**
MKAR						05 07 16.3	
MKAR						05 07 54.7	
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
MKAR				smax	smax		
	comp=N,7.0nm,0.3s						
MKAR				MLR	MLR		
	comp=Z,118nm,22.0s						
FRU	**Bishkek**	**4.17**	**268**	*e*PN	**Pb**	**05 07 21.0**	**+2.0**
FRU				*i* S	**Sb**	**05 08 14.0**	**+5.0**
FRU				pmax	pmax		
	comp=Z,80nm,1.8s						
FRU				smax	smax		
	comp=N,740nm,2.1s						
USP	**Ospenovka**	**4.23**	**274**	P	**Pn**	**05 07 11.4**	**+1.6**
	SNR=5.8						
AAK	**Ala-Archa**	**4.28**	**266**	P	Pg	05 07 25.4	-2.8
	SNR=19						
AAK	**Ala-Archa**	**4.28**	**266**	⇓Pn	Pb	05 07 17.2	-3.8
	comp=N,3.1nm,0.4s						
AAK				⇓Pg	Pg	05 07 25.4	-2.8
	comp=N,53nm,0.7s						
AAK				⇑Lg	Lg	05 08 21.2	
	comp=N,110nm,0.5s						
AAK	**Ala-Archa**	**4.28**	**266**	PN	**Pb**	**05 07 21.4**	**+0.4**
AAK						05 08 17.6	
AAK				pmax	pmax		
	comp=Z,53nm,0.7s						
UCH	**Uchtor**	**4.34**	**260**	P	**Pn**	**05 07 14.3**	**+2.6**
	SNR=14						
EKS2	**Erkin-Say**	**4.80**	**267**	P	**Pb**	**05 07 30.3**	**+0.4**
	SNR=11						
KSH	**Kashi**	**4.83**	**224**	Pg	Pg	05 07 43.0	+4.2
KSH				Sg	**Sg**	**05 08 45.4**	**+4.0**
KSH				SMN			
	comp=Z,74nm,0.9s						
KSH				SME			
	comp=Z,110nm,1.0s						
WMQ	**Urumqi**	**5.44**	**80**	Pg	**Pb**	**05 07 41.5**	**+0.7**
WMQ				Sg	Sg	05 08 53.6	-7.2
WMQ				SMN			
	comp=Z,100nm,0.9s						
WMQ				SME			
	comp=Z,91nm,1.0s						
KK31	**Karatay Array**	**7.15**	**273**	⇓Pg	Pg	05 08 17.8	-5.3
	comp=Z,5.1nm,0.6s,baz=82,slow=15,SNR=12						
KK31				⇓Lg	Lg	05 09 50.5	
	comp=Z,18nm,0.6s,baz=92,slow=25,SNR=11						
KURBB	**Kurchatov Arra**	**7.62**	**352**	⇓Pn	**Pn**	**05 07 55.7**	**-0.5**
	comp=Z,5.3nm,0.7s						
KURBB				⇓Pg	Pb	05 08 21.7	+4.0
	comp=Z,14nm,0.7s						
KURBB				⇑Lg	Lg	05 09 58.7	
	comp=Z,152nm,0.7s						
KURBB	**Kurchatov Arra**	**7.62**	**352**	Pn	**Pn**	**05 07 55.8**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=173,slow=12,SNR=5.5						
KURBB				Pg	**Pb**	**05 08 16.8**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=172,slow=15,SNR=12						
KURBB				Sn	**Sn**	**05 09 25.1**	**+3.1**
	comp=Z,0.3nm,0.3s,baz=150,slow=25,SNR=4.2						
KURBB				Lg	Lg	05 10 06.9	
	comp=Z,1.3nm,0.3s,baz=174,slow=33,SNR=9.1						
KURK	**Kurchatov**	**7.70**	**352**	⇓Pn	**Pn**	**05 07 55.3**	**-2.1**
	comp=Z,3.8nm,0.9s						
KURK				⇓Pg	**Pb**	**05 08 20.8**	**+1.7**
	comp=Z,14nm,1.0s						
KURK				⇓Lg	Lg	05 10 01.2	
	comp=Z,86nm,0.9s						
KURK	**Kurchatov**	**7.70**	**352**	P	**Pn**	**05 07 55.8**	**-1.6**
KURK						05 09 25.1	
ZALV	**Zalesovo Beam**	**11.26**	**14**	Pn	**Pn**	**05 08 45.6**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=192,slow=13,SNR=8.2						
ZALV				Sn	Sn	05 10 44.5	-6.9
	comp=Z,0.9nm,0.3s,baz=207,slow=28,SNR=9.4						
ZALV				Lg	Lg	05 11 53.7	
	comp=Z,0.1nm,0.3s,baz=206,slow=26,SNR=2.6						
ZALV	

ARU	**Arti**	**19.25**	**321**	*e*P		**Pn**	05 10 30.5	**+0.1**
ARU				S		**S**	05 14 07.0	**+0.5**
HHC	**Hu-ho-hao-te**	**23.30**	**85**	*e*P		**P**	05 11 14.2	**+1.1**
HHC				PP		**PnPn**	05 11 44.9	**+6.0**
HHC				S		**S**	05 15 21.4	**-3.3**
HHC				SS		**SnSn**	05 16 07.0	**+7.8**
HHC				PMZ				
	comp=Z,30nm,1.2s							
HHC				PMZ				
	comp=Z,78nm,5.7s							
BOD	**Bodaibo**	**25.69**	**43**	*e*P		**P**	05 11 32.6	**-2.3**
BOD				pmax	pmax			
	comp=Z,3.0nm,1.7s							
GOF	**Gofitskoye**	**26.67**	**287**	*e*P		P	05 11 57.1	+13
KIV	**Kislovodsk**	**27.12**	**285**	*e*P		**P**	05 11 52.6	**+4.4**
KIV				pmax	pmax			
	comp=Z,3.0nm,0.9s							
KIV				MLR	MLR			
	comp=Z,43nm,19.0s							
OBN	**Obninsk**	**30.52**	**309**	*e*P		**P**	05 12 20.1	**+2.0**
OBN				*e*			05 13 21.1	
OBN				pmax	pmax			
	comp=Z,3.0nm,0.7s							
OBN				MLR	MLR			
	comp=Z,50nm,20.0s							
YAK	**Yakutsk**	**34.40**	**39**	LR		LR	05 27 31.6	
	comp=Z,39nm,19.0s,baz=310,slow=37							
QIZ	**Qiongzhong**	**34.58**	**125**	P		**P**	05 12 54.2	**+0.2**
QIZ				S		**S**	05 18 21.7	**-0.6**
BRTR	**Keskin Array B**	**34.80**	**281**	P		**P**	05 12 56.2	**+0.3**
	comp=Z,0.3nm,0.3s,baz=108,slow=12,SNR=4.1							
BRTR	**Keskin Array B**	**34.80**	**281**	*i* P		**P**	05 12 58.0	**+2.1**
AKASG	**Malin Array Be**	**35.10**	**301**	P		**P**	05 12 58.6	**+0.4**
	comp=Z,0.3nm,0.4s,baz=76,slow=7.7,SNR=2.7							
FINES	**FINESS Array B**	**36.59**	**319**	P		**P**	05 13 11.1	**+0.3**
	comp=Z,0.8nm,0.8s,baz=113,slow=11,SNR=3.4							
FINES	**FINESS Array B**	**36.59**	**319**	*e*P		**P**	05 13 12.8	**+2.0**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.8s							
USRK	**Ussuriysk Ar.**	**36.92**	**70**	LR		LR	05 30 10.6	
	comp=Z,41nm,20.0s,baz=299,slow=39							
ARCES	**ARCESS Array B**	**38.19**	**332**	P		**P**	05 13 24.5	**+0.2**
	comp=Z,1.9nm,0.8s,baz=95,slow=6.4,SNR=4.3							
ARCES	**ARCESS Array B**	**38.19**	**332**	*e*P		**P**	05 13 25.4	**+1.1**
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
NB2	**NORSAR Subarra**	**43.77**	**319**	P		**P**	05 14 09.8	**-0.6**
	comp=Z,0.7nm,0.7s,baz=81,slow=7.9							
NOA	**NORSAR Array B**	**43.77**	**319**	P		**P**	05 14 10.2	**-0.2**
	comp=Z,1.2nm,0.8s,baz=83,slow=7.2,SNR=6.2							
NOA	**NORSAR Array B**	**43.77**	**319**	P		**P**	05 14 10.2	**-0.2**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
GERES	**GERESS Array B**	**45.30**	**301**	P		**P**	05 14 21.9	**-0.9**
	comp=Z,0.3nm,0.7s,baz=72,slow=4.2,SNR=3.3							
BILL	**Bilibino**	**49.45**	**30**	*e*P		**P**	05 14 55.8	**+1.1**
BILL				*e*			05 16 52.7	
BILL				pmax	pmax			
	comp=Z,3.0nm,1.2s							
KMBO	**Kilima Mbogo**	**58.53**	**233**	*i* P		**P**	05 16 02.7	**+0.7**
KMBO				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ESDC	**Sonseca Array**	**60.69**	**298**	P		**P**	05 16 15.9	**-0.5**
	comp=Z,0.7nm,0.6s,baz=57,slow=7.0,SNR=9.7							
ILAR	**Eielson Array**	**66.31**	**20**	P		**P**	05 16 52.0	**-1.1**
	comp=Z,1.2nm,0.8s,baz=315,slow=5.0,SNR=18							
ILAR	**Eielson Array**	**66.31**	**20**	*e*P		**P**	05 16 52.0	**-1.1**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**72.84**	**272**	P		**P**	05 17 32.5	**-1.6**
	comp=Z,1.8nm,0.7s,baz=42,slow=5.5,SNR=16							
YKA	**Yellowknife Ar**	**74.08**	**7**	P		**P**	05 17 39.0	**-1.6**
	comp=Z,0.9nm,0.7s,baz=346,slow=5.4,SNR=4.1							
YKA	**Yellowknife Ar**	**74.08**	**7**	P		**P**	05 17 39.0	**-1.6**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
WRA	**Warramunga Arr**	**80.00**	**129**	P		**P**	05 18 12.2	**-2.3**
	comp=Z,0.5nm,0.8s,baz=332,slow=5.3,SNR=4.4							
WRA	**Warramunga Arr**	**80.00**	**129**	P		**P**	05 18 12.2	**-2.3**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ASAR	**Alice Springs**	**82.73**	**132**	P		**P**	05 18 26.9	**-2.0**
	comp=Z,0.6nm,0.9s,baz=339,slow=5.0,SNR=4.6							
ASAR	**Alice Springs**	**82.73**	**132**	P		**P**	05 18 26.9	**-2.0**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							

IDC 11 05:09:58.1±3.5,**5.38S**×**151.84E**, **h0**km, **mb3.5**/2, **mb1 3.9**/2, **mb1mx3.3**/32, **mbtmp3.6**/2, **Error ellipse: s-maj=136.6km s-min=47.0km az=118.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.34**	**228**	P	P	05 14 57.1	-0.7
	1.3nm,0.7s,baz=52,slow=9.8,SNR=21						
ASAR	**Alice Springs**	**25.08**	**222**	P	P	05 15 25.2	+0.5
	1.0nm,0.7s,baz=60,slow=8.6,SNR=17						
TORD	**Torodi Ar. Bea**	**149.56**	**287**	PKPbc	PKPbc	05 29 50.1	-0.6
	0.2nm,0.6s,baz=76,slow=2.2,SNR=3.3						

IDC ***11*** *05:18:53.5*±*1.1,3.26S*×*100.28E, h0*km*, mb4.0/12, mb1 4.1/14, mb1mx3.9/28, mbtmp4.0/14, ML4.3/1, MS3.5/8, Ms1 3.5/8, ms1mx3.2/31, Error ellipse: s-maj=41.9km s-min=14.6km az=49.0*

ISCJB ***11*** *05:18:56.8*±*0.5,3.04S*±*0.06*×*100.42E*±*0.06, h28*km*, mb4.1/18, MS3.5/6, Error ellipse: s-maj=12.0km s-min=4.3km az=136.6*

NEIC ***11*** *05:18:59.0*±*0.6,3.16S*×*100.44E, h35*km*, mb4.4/6, Error ellipse: s-maj=19.8km s-min=7.2km az=48.0*

DJA ***11*** *05:18:59.1*±*0.5,3.5*±*6*×*10*^*0E*±*0*^*, h57*km*±6*km*, M4.4/15, mb5.0/5, mB6.1/1, MLv4.2/9, MLv4.3/15, Mw(mB)5.8/1*

ISC 11 05:18:58.8±0.6,**2.98S**±0.07×**100.49E**±0.05, **h28**km, **n50, s**σ**172/42, mb4.2**/18, **MS3.4/6, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.52**	**294**	P	**Pn**	05 19 09.6	**-0.8**
PPSI				S	**Sn**	05 19 22.7	**+4.3**
MASI	**Maura Aman, Be**	**1.76**	**95**	P	**Sb**	05 19 47.5	**-4.7**
PDSI	**Padang**	**2.05**	**359**	P	**Pb**	05 19 34.8	**-0.7**
SISI	**Saibi**	**2.15**	**320**	P	**Pn**	05 19 30.9	**-2.0**
SISI				S	**Sn**	05 19 58.2	**-0.5**
PPI	**Padang Panjang**	**2.50**	**358**	P	**Pb**	05 19 41.9	**-1.3**
MNAI	**Manna**	**2.82**	**119**	P	**Pn**	05 19 44.6	**+2.5**
MNAI	**Manna**	**2.82**	**119**	*e*Pn	**Pn**	05 19 40.3	**-1.8**
LHSI	**Lahat**	**3.15**	**106**	P	**Pn**	05 19 48.3	**+1.7**
BKNI	**Bangkinang**	**3.33**	**10**	*e*Pn	**Pn**	05 19 50.9	**+1.9**
BKNI				*e*Sn	**Sn**	05 20 28.0	**+0.2**
PBSI	**Pulau Batu**	**3.65**	**323**	P	**Pn**	05 19 52.2	**-1.3**
PBSI				S	**Sn**	05 20 35.4	**-0.2**
MNSI	**Mandailing Nat**	**3.86**	**346**	P	Pb	05 20 09.5	+3.3
MDSI	**Maura Dua**	**3.98**	**112**	P	**Pn**	05 19 57.9	**-0.1**
LWLI	**Liwa**	**4.10**	**120**	P	**Pn**	05 20 01.9	**+2.1**
KASI	**Kota Agung**	**4.73**	**122**	P	Pn	05 20 13.3	+4.9
CGJI	**Cibinong**	**6.32**	**125**	P	**Pn**	05 20 29.3	**-0.9**
	63nm,0.9s,0.3nm						
CNJI	**Cibinong**	**7.89**	**123**	P	**Pn**	05 20 53.4	**+1.6**
	144nm,1.0s						
LEM	**Lembang**	**8.07**	**119**	P	**Pn**	05 20 56.8	**+2.4**
	83nm,1.1s						
LEM	**Lembang**	**8.07**	**119**	Pn	**Pn**	05 20 54.4	**0.0**
	4.0nm,0.3s,baz=139,slow=19,SNR=2.7						
LEM				LR	LR	05 23 36.4	
	comp=Z,140nm,18.2s,baz=230,slow=35						
CISI	**Cisompet, Garu**	**8.60**	**122**	P	Pn	05 21 05.6	+4.0
KAPI	**Kappang**	**19.32**	**97**	P	**P**	05 23 22.1	**0.0**
	baz=174,slow=18,SNR=3.2						
KAPI				LR	LR	05 32 08.3	
	comp=Z,119nm,20.5s,baz=279,slow=41						
KAPI	**Kappang**	**19.32**	**97**	P	**P**	05 23 22.1	**0.0**
	6.5nm,1.1s						
CMAR	**Chiang Mai Arr**	**21.35**	**356**	P	**P**	05 23 46.4	**+2.3**
	2.7nm,0.8s,baz=187,slow=9.9,SNR=15						
CMAR				LR	LR	05 33 12.1	
	comp=Z,136nm,18.1s,baz=185,slow=40						
PALK	**Pallekele**	**22.21**	**297**	LR	LR	05 31 59.2	
	comp=Z,126nm,18.1s,baz=119,slow=36						
H08S2	**Diego Garcia H**	**28.25**	**259**	T	T	05 54 25.6	
	baz=70,slow=76,SNR=508						
H08S3	**Diego Garcia H**	**28.25**	**259**	T	T	05 54 25.5	
	baz=70,slow=76,SNR=620						
H08S1	**Diego Carcia H**	**28.27**	**259**	T	T	05 54 29.7	
	baz=70,slow=76,SNR=190						
ENH	**Enshi**	**34.16**	**14**	*e*P	**P**	05 25 42.9	**+1.1**
	37nm,0.6s						
H01W3	**Cape Leeuwin H**	**34.19**	**160**	T	T	06 01 28.5	
	baz=336,slow=76,SNR=49						
H01W2	**Cape Leeuwin H**	**34.20**	**160**	T	T	06 01 25.0	
	baz=336,slow=76,SNR=39						
H01W1	**Cape Leeuwin H**	**34.20**	**160**	T	T	06 01 29.4	
	baz=336,slow=76,SNR=38						
WRA	**Warramunga Arr**	**37.09**	**120**	P	**P**	05 26 04.7	**-2.4**
	0.8nm,0.5s,baz=289,slow=7.9,SNR=24						
WRAB	**Tennant Creek**	**37.09**	**120**	*e*P	**P**	05 26 04.8	**-2.4**
	2.8nm,0.8s						
ASAR	**Alice Springs**	**38.29**	**125**	P	**P**	05 26 16.4	**-0.8**
	0.9nm,0.4s,baz=300,slow=7.9,SNR=28						
STKA	**Stephens Creek**	**48.14**	**131**	P	**P**	05 27 36.3	**-0.4**
	1.5nm,0.6s,baz=341,slow=4.4,SNR=3.4						
STKA				LR	LR	05 49 20.9	
	comp=Z,103nm,19.5s,baz=308,slow=38						
SONM	**Songino Array**	**50.87**	**5**	P	**P**	05 27 59.2	**+1.9**
	3.1nm,1.1s,baz=193,slow=8.0,SNR=13						
TKM2	**Tokmak 2**	**50.92**	**337**	*e*P	**P**	05 27 57.6	**-0.3**
	6.2nm,1.0s						
EKS2	**Erkin-Say**	**51.45**	**335**	*e*P	**P**	05 28 01.5	**-0.3**
	3.2nm,0.8s						
MKAR	**Makanchi Array**	**52.09**	**344**	P	**P**	05 28 06.2	**-0.2**
	1.4nm,0.8s,baz=149,slow=7.6,SNR=11						
MKAR				LR	LR	05 52 57.7	
	comp=Z,26nm,18.0s,baz=156,slow=39						
USRK	**Ussuriysk Ar.**	**54.79**	**27**	P	**P**	05 28 28.0	**+1.8**
	2.2nm,0.6s,baz=224,slow=7.7,SNR=5.0						
KURK	**Kurchatov**	**56.68**	**344**	*e*P	**P**	05 28 39.0	**-0.6**
	2.1nm,0.9s						
ZALV	**Zalesovo Beam**	**58.21**	**349**	P	**P**	05 28 49.8	**-0.6**
	2.9nm,0.7s,baz=163,slow=5.7,SNR=17						
ZALV				LR	LR	05 56 52.9	
	comp=Z,28nm,19.6s,baz=72,slow=39						
ABKAR	**Akbulak array**	**62.73**	**331**	*e*P	**P**	05 29 19.1	**-2.2**
	2.9nm,0.7s						
AKTO	**Aktyubinsk**	**64.44**	**331**	P	**P**	05 29 31.5	**-1.2**
	0.9nm,0.7s,baz=122,slow=11,SNR=2.8						
BRTR	**Keskin Array B**	**74.34**	**313**	P	**P**	05 30 33.7	**-0.5**
	0.7nm,0.9s,baz=142,slow=5.4,SNR=2.8						
FINES	**FINESS Array B**	**85.20**	**332**	P	**P**	05 31 34.0	**+1.6**
	1.3nm,1.0s,baz=104,slow=5.9,SNR=2.9						
ARCES	**ARCESS Array B**	**87.55**	**340**	LR	LR	06 14 40.4	
	comp=Z,51nm,20.9s,baz=99,slow=38						
GERES	**GERESS Array B**	**90.10**	**319**	P	**P**	05 31 57.4	**+0.9**
	0.3nm,0.8s,baz=74,slow=5.5,SNR=3.4						
WMOK	**Wichita Mounta**	**143.67**	**27**	*e*PKPdf	PKPab	05 38 26.9	-1.6
TXAR	**Lajitas Array**	**145.17**	**39**	PKPbc	**PKPbc**	05 38 33.5	**-0.7**
	0.5nm,0.5s,baz=236,slow=0.8,SNR=11						
JCT	**Junction City**	**146.58**	**33**	*e*PKPdf	**PKPdf**	05 38 37.0	**0.0**

IDC 11 05:19:35.5±2.7,**54.19N**×**86.49E, h0**km, **mb1 2.9**/2, **mb1mx2.8**/30, **mbtmp2.9**/2, **ML2.7**/2, **Error ellipse: s-maj=21.5km s-min=13.5km az=55.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.02**	**257**	*i*		05 25 50.0	
	baz=78,slow=325,SNR=1.1						
ZALV	**Zalesovo Beam**	**1.02**	**257**	Pg	Pg	05 19 53.5	-1.4
	1.2nm,0.3s,baz=75,slow=17,SNR=13						
ZALV				Lg	Lg	05 20 09.2	
	2.5nm,0.3s,baz=75,slow=28,SNR=14						
KURBB	**Kurchatov Arra**	**6.04**	**237**	Pn	Pn	05 21 06.8	+0.9
	0.1nm,0.3s,baz=54,slow=13,SNR=6.4						
KURBB				Lg	Lg	05 22 49.3	
	0.0nm,0.3s,baz=55,slow=32,SNR=4.3						
MKAR	**Makanchi Array**	**7.87**	**202**	Pn	Pn	05 21 32.2	+1.1
	0.2nm,0.3s,baz=24,slow=13,SNR=7.6						
MKAR				Lg	Lg	05 23 46.4	
	0.1nm,0.3s,baz=24,slow=29,SNR=5.6						

BJI 11 05:24:37.3,30.57N×**104.54E, h25**km, **ML3.5**/17, **Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.75**	**297**	Pg	Pb	05 24 49.8	-2.1
CD2				Sg	Sb	05 25 00.6	-1.2
CD2				SMN			
	3μm,0.6s						
CD2				SME			
	2μm,0.7s						
GYA	**Guiyang**	**4.50**	**155**	Pn	Pn	05 25 49.3	+5.2
GYA				Sn	Sn	05 26 38.7	+2.9
GYA				Sg	Sb	05 26 58.1	+8.3
GYA				SMN			
	170nm,0.9s						
GYA				SME			
	180nm,0.8s						
XAN	**Xi'an**	**5.07**	**46**	Pn	Pn	05 25 49.2	-2.6
XAN				Pg	Pb	05 26 03.0	-2.4
XAN				Sn	Sn	05 26 56.0	+6.3
XAN				Sg	Sb	05 27 13.0	+7.0
XAN				SMN			
	140nm,0.8s						
XAN				SME			
	120nm,0.8s						
GTA	**Gaotai**	**9.63**	**338**	*e*P	Pn	05 26 52.8	-1.7
GTA				pP		05 26 57.4	
GTA				sP		05 26 59.8	
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						

THR 11 05:25:47.8±0.6,**28.47N**×**57.48E, h14**km±7km, **ML3.5, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.57**	**228**	*e*Pg	Pb	05 26 16.6	-0.3
BNDS				*e*Sg	Sb	05 26 37.8	+1.0
BNDS				AML	AML	05 26 39.0	
	comp=E,409nm,0.4s						
BNDS				AML	AML	05 26 41.2	
	comp=N,631nm,0.3s						
KRBR	**Kerman**	**1.64**	**338**	*e*Pg	Pb	05 26 17.9	-0.2
KRBR				*e*Sg	Sb	05 26 39.9	+1.0
KRBR				AML	AML	05 26 41.1	
	comp=N,510nm,0.3s						
GHIR	**Ghir-Karzin**	**3.96**	**268**	*e*Pn	Pn	05 26 50.6	+2.3
GHIR				AML	AML	05 27 34.9	
	comp=E,82nm,0.2s						

NIED ***11*** *05:48:00,39.30N*×*143.90E, h11*km*, Mw3.9 Best double couple: M0 8.35000*×*10^14 NP1:*φ*s3.00000°, δ43.00000°, λ50.00000°. NP2:*φ*s232.00000°, δ59.00000°, λ121.00000°.*

ISCJB ***11*** *05:48:11.7*±*0.5,39.39N*±*0.04*×*143.78E*±*0.06, h11*km*, mb3.6/17, MS3.2/2, Error ellipse: s-maj=7.6km s-min=3.6km az=41.4*

IDC ***11*** *05:48:11.5*±*0.7,39.27N*×*143.84E, h0*km*, mb3.7/16, mb1 3.9/19, mb1mx3.8/32, mbtmp3.7/19, ML3.3/2, MS3.2/2, Ms1 3.2/2, ms1mx2.5/34, Error ellipse: s-maj=18.9km s-min=15.8km az=121.0*

JMA ***11*** *05:48:12.4*±*0.1,39.32N*×*143.87E, h33*km*, M4.1*

MOS ***11*** *05:48:14.4*±*1.1,39.34N*×*143.80E, h33*km*, mb4.1/9, Error ellipse: s-maj=15.7km s-min=9.8km az=82.6*

ISC 11 05:48:13.6±0.7,**39.41N**±0.07×**143.76E**±0.08, **h11**km, **n54,** σ**1§34/56, mb3.7**/17, **1D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.51**	**277**	P	**Pn**	05 48 39.5	**-1.1**
JTH	**Tanohata**	**1.56**	**291**	P	**Pn**	05 48 40.3	**-0.9**
OFUJ	**Ofunato**	**1.66**	**259**	P	**Pn**	05 48 41.2	**-1.4**
OFUJ				*e*S	**Sn**	05 49 02.0	**-1.8**
JOM	**Ohasama**	**1.91**	**273**	P	**Pn**	05 48 45.6	**-0.5**
JOM				*e*S	**Sn**	05 49 09.6	**-0.5**
JMK	**Ichinoseki**	**2.02**	**258**	P	**Pn**	05 48 46.7	**-0.9**
JMK				*e*S	**Sn**	05 49 11.6	**-1.3**
JYK	**Kaneyama**	**2.69**	**261**	P	**Pn**	05 48 56.3	**-0.5**
JNBK	**Urakawa-nobuka**	**2.97**	**345**	P	**Pn**	05 49 01.8	**+1.1**
JNBK				*e*S	**Sn**	05 49 37.6	**+1.3**
JCH	**Churui**	**3.22**	**355**	P	**Pn**	05 49 03.9	**-0.2**
JCH				*e*S	**Sn**	05 49 40.8	**-1.6**
JFT	**Otama**	**3.28**	**236**	P	**Pn**	05 49 03.6	**-1.3**
JFT				*e*S	**Sn**	05 49 41.0	**-3.0**
JAW	**Awa shima**	**3.64**	**256**	P	**Pn**	05 49 09.8	**-0.1**
JAK	**Akkeshi**	**3.66**	**11**	P	**Pn**	05 49 08.9	**-1.2**
JAK				*e*S	**Sn**	05 49 51.7	**-1.4**
JAR	**Ashorobuto**	**3.89**	**0**	P	**Pn**	05 49 12.4	**-0.9**
JAR				*e*S	**Sn**	05 49 56.7	**-2.2**
ASAJ	**Asahikawa**	**4.79**	**350**	Pn	**Pn**	05 49 26.9	**+1.3**
	baz=38,slow=17						
YUK	**Yuzh-Kuril'sk**	**4.89**	**18**	*e*P	**Pn**	05 49 27.1	**+0.2**
YUK				*i* S	**Sn**	05 50 20.0	**-3.4**
YUK				pmax	pmax		
	comp=N,13nm,0.1s						
YUK				pmax	pmax		
	comp=E,18nm,0.1s						
YUK				pmax	pmax		
	comp=Z,51nm,0.3s						
YUK				smax	smax		
	comp=N,128nm,0.5s						
YUK				smax	smax		
	comp=E,147nm,0.5s						
MJAR	**Matsushiro Arr**	**5.23**	**239**	Pn	**Pn**	05 49 32.1	**+0.3**
	comp=E,4.9nm,0.3s,baz=53,slow=10,SNR=79						
MJAR	**Matsushiro Arr**	**5.23**	**239**	P	**Pn**	05 49 32.1	**+0.3**
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MAT	**Matsushiro**	**5.24**	**239**	P	**Pn**	05 49 31.8	**0.0**
MAT				*e*S	**Sn**	05 50 32.1	**-0.1**
KUR	**Kuril'sk**	**6.57**	**26**	*d* iP	**Pn**	05 49 48.9	**-1.2**
KUR				*i* S	**Sn**	05 50 59.7	**-5.2**
KUR				pmax	pmax		
	comp=N,6.0nm,0.1s						
KUR				pmax	pmax		
	comp=E,8.0nm,0.1s						
KUR				pmax	pmax		
	comp=Z,10.0nm,0.1s						
KUR				smax	smax		
	comp=N,25nm,0.2s						
KUR				smax	smax		
	comp=E,17nm,0.2s						
USRK	**Ussuriysk Ar.**	**10.01**	**302**	Pn	Pn	05 50 39.6	+2.4
	comp=E,0.5nm,0.3s,baz=101,slow=12,SNR=13						
KSRS	**Korea Array**	**12.57**	**266**	Pn	**Pn**	05 51 13.5	**+1.2**
	baz=75,slow=14,SNR=3.2						
KLR	**Kul'dur**	**13.04**	**323**	*e*P	**P**	05 51 26.8	**-2.3**
SEY	**Seymchan**	**24.13**	**10**	P	**P**	05 53 30.7	**+1.5**
	comp=E,2.2nm,0.8s,baz=192,slow=3.3,SNR=7.0						
SEY	**Seymchan**	**24.13**	**10**	P	**P**	05 53 30.7	**+1.5**
SEY				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BOD	**Bodaibo**	**26.61**	**324**	*e*P	**P**	05 53 51.7	**0.0**
BOD				pmax	pmax		
	comp=Z,2.0nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**27.96**	**128**	T	T	06 23 36.2	
	baz=319						
H11N1	**WAKE ISLAND Hy**	**27.97**	**128**	T	T	06 23 27.0	
	baz=319						
H11N3	**WAKE ISLAND Hy**	**27.97**	**128**	T	T	06 23 27.2	
	baz=319						
SONM	**Songino Array**	**28.10**	**300**	P	**P**	05 54 05.8	**+0.4**
	comp=Z,1.0nm,0.7s,baz=90,slow=10,SNR=6.6						
SONM	**Songino Array**	**28.10**	**300**	P	**P**	05 54 05.8	**+0.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**28.77**	**130**	T	T	06 24 24.7	
	baz=322						
H11S3	**WAKE ISLAND Hy**	**28.78**	**130**	T	T	06 24 28.8	
	baz=322						
H11S2	**WAKE ISLAND Hy**	**28.79**	**130**	T	T	06 24 30.2	
	baz=322						
ZALV	**Zalesovo Beam**	**41.73**	**310**	P	**P**	05 56 02.8	**+0.4**
	comp=Z,2.5nm,0.7s,baz=91,slow=8.5,SNR=7.7						
ZALV	**Zalesovo Beam**	**41.73**	**310**	P	**P**	05 56 02.8	**+0.4**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**43.89**	**255**	P	**P**	05 56 20.5	**+0.2**
	comp=Z,0.5nm,0.4s,baz=54,slow=8.0,SNR=3.6						
CMAR	**Chiang Mai Arr**	**43.89**	**255**	P	**P**	05 56 20.5	**+0.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**44.47**	**300**	P	**P**	05 56 25.0	**+0.3**
	comp=Z,1.1nm,0.8s,baz=81,slow=9.0,SNR=12						
MKAR				LR	LR	06 15 40.9	
	comp=Z,18nm,18.9s,baz=181,slow=37						
MKAR	**Makanchi Array**	**44.47**	**300**	P	**P**	05 56 25.0	**+0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,18nm,18.9s						
ILAR	**Eielson Array**	**46.50**	**34**	P	**P**	05 56 41.2	**+0.8**
	comp=Z,0.2nm,0.5s,baz=255,slow=5.5,SNR=4.4						
AKTO	**Aktyubinsk**	**58.48**	**312**	LR	LR	06 24 33.0	
	comp=Z,22nm,18.2s,slow=37						
WRA	**Warramunga Arr**	**59.69**	**190**	P	P	05 58 15.5	-2.5
	comp=Z,0.4nm,0.4s,baz=9.1,slow=7.0,SNR=14						
YKA	**Yellowknife Ar**	**60.83**	**31**	P	**P**	05 58 26.1	**+0.7**
	comp=Z,0.3nm,0.5s,baz=302,slow=6.7,SNR=3.4						
ASAR	**Alice Springs**	**63.42**	**190**	P	**P**	05 58 43.4	**+0.1**
	comp=Z,0.2nm,0.7s,baz=358,slow=4.9,SNR=3.2						
GEYT	**Alibeck**	**64.31**	**299**	P	**P**	05 58 49.0	**-0.2**
	comp=Z,1.2nm,0.4s,baz=292,slow=24,SNR=3.4						
FINES	**FINESS Array B**	**67.57**	**333**	P	**P**	05 59 09.4	**-0.3**
	comp=Z,1.1nm,0.8s,baz=17,slow=5.8,SNR=6.0						
FINES	**FINESS Array B**	**67.57**	**333**	P	**P**	05 59 09.4	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KBZ	**Khabaz**	**70.75**	**311**	P	**P**	05 59 30.6	**+0.9**
	comp=Z,1.0nm,0.4s,baz=56,slow=3.6,SNR=4.6						
KBZ	**

MEX 11 06:10:33.9±0.5, 15°98N × 97°72W, h16km ± 8km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.57**	**316**	*i* P	Pg	06 10 42.9	-2.3
PNIG				*i* S	Sg	06 10 50.5	-2.3
OXBJ	**Oaxaca**	**1.44**	**41**	*e*P	Pn	06 10 55.4	-4.2
OXX	**Oaxaca**	**1.45**	**41**	*e*P	Pn	06 10 53.2	-6.6
OXX				*e*S	Sn	06 11 09.6	-9.1
HUIG	**Huatulco**	**1.56**	**98**	*e*P	Pn	06 10 57.2	-3.8
HUIG				*e*S	Sn	06 11 16.2	-4.8
TLIG	**Tlapa**	**1.77**	**333**	*e*P	Pn	06 11 01.1	-3.0
TLIG				*e*S	Sn	06 11 21.6	-4.8
ACX	**Acapulco**	**2.24**	**293**	*e*P	Pn	06 11 09.7	-0.6
ACX				*i* S	Sn	06 11 36.8	-0.9
CAIG	**El Cayaco**	**2.67**	**294**	*e*P	Pn	06 11 13.9	-2.3
CAIG				*i* S	Sn	06 11 44.5	-3.7
PLIG	**Platanillo**	**2.94**	**325**	*e*P	Pn	06 11 17.1	-3.1
PLIG				*i* S	Sn	06 11 51.1	-4.2
YAIG	**Yautepec**	**3.14**	**336**	*e*P	Pn	06 11 20.5	-2.5
YAIG				*i* S	Sn	06 11 56.0	-4.3

BJI ***11*** *06:22:02.3, 50°.40N × 129°.80W, h10km, mb4.6/1*
NEIC ***11*** *06:22:03.9, 50°.04N × 130°.26W, h10km, mb4.1/27, MW3.9(OTT), After OTT.*
PGC ***11*** *06:22:03.9±2.3, 50°.04N × 130°.26W, h10km, MLSn3.3/29, Mw3.9/29, 214km Wsw of Pt. Hardy, Bc Vancouver Island Region*
IDC ***11*** *06:22:08.4±1.3, 50°.20N × 129°.60W, h0km, mb3.7/4, mb1 3.8/11, mb1mx3.6/45, mbtmp3.6/11, ML3.4/5, MS3.3/15, Ms1 3.3/15, ms1mx3.1/42, Error ellipse: s-maj=22.0km s-min=11.7km az=70.0*

ISC 11 06:22:05.0±0.6, 50°.17N ± 0°.06 × 130°.13W ± 0°.06, h10km, n308, σ2°04/240, mb4.0/13, MS3.3/8, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.36**	**69**	Pn	**Pn**	**06 22 28.5**	**-1.6**
HOLB				Sn	**Sn**	**06 22 45.8**	**-2.5**
BPBC	**Brooks Peninsu**	**1.52**	**89**	Pn	**Pn**	**06 22 29.6**	**-2.7**
PHC	**Port Hardy**	**1.81**	**72**	Pn	**Pn**	**06 22 34.1**	**-2.0**
PHC				Sn	**Sn**	**06 22 55.9**	**-3.3**
MAYB	**Maynard**	**1.91**	**82**	Pn	**Pn**	**06 22 35.7**	**-2.0**
FHRB	**Fair Harbour**	**1.94**	**92**	Pn	**Pn**	**06 22 35.2**	**-2.8**
EDB	**Eliza Dome**	**1.96**	**97**	Pn	**Pn**	**06 22 35.8**	**-2.5**
TLCB	**Telegraph Cove**	**2.15**	**79**	Pn	**Pn**	**06 22 39.6**	**-1.2**
TLCB				Sn	**Sn**	**06 23 04.6**	**-2.9**
WOSB	**Woss**	**2.29**	**89**	Pn	**Pn**	**06 22 41.5**	**-1.4**
BBB	**Bella Bella** baz=226,slow=14	**2.39**	**31**	Pn	**Pn**	**06 22 44.1**	**0.0**
BBB	138nm,0.3s,baz=127,slow=20,SNR=15			Sn	**Sn**	**06 23 11.5**	**-1.9**
BBB	comp=Z,95nm,18.6s,baz=0.5,slow=34			LR	LR	06 23 22.0	
BBB	**Bella Bella**	**2.39**	**31**	Pn	**Pn**	**06 22 44.1**	**0.0**
BBB				Sn	**Sn**	**06 23 11.6**	**-1.8**
BNB	**Barry Inlet**	**2.62**	**338**	Pn	**Pn**	**06 22 45.2**	**-2.2**
NCRB	**Newcastle Ridg**	**2.62**	**83**	Pn	**Pn**	**06 22 46.6**	**-0.9**
BCBC	**Bella Coola**	**3.06**	**43**	Pn	**Pn**	**06 22 54.5**	**+1.1**
BCBC				Sn	**Sn**	**06 23 29.8**	**-0.2**
BTB	**Buttle Lake**	**3.07**	**101**	Pn	**Pn**	**06 22 51.6**	**-2.0**
CBB	**Campbell River**	**3.07**	**91**	Pn	**Pn**	**06 22 52.3**	**-1.3**
CBB				Sn	**Sn**	**06 23 28.7**	**-1.6**
MOBC	**Moresby Island**	**3.19**	**340**	Pn	**Pn**	**06 22 53.8**	**-1.5**
OZB	**Mount Ozzard**	**3.25**	**110**	Pn	**Pn**	**06 22 55.5**	**-0.5**
OZB				Sn	**Sn**	**06 23 31.1**	**-3.7**
DIB	**Dawson Inlet,**	**3.37**	**335**	Pn	**Pn**	**06 22 55.8**	**-1.8**
VIB	**Van Inlet**	**3.43**	**335**	Pn	**Pn**	**06 22 56.7**	**-1.9**
ALB	**Alberni**	**3.55**	**103**	Pn	**Pn**	**06 22 59.8**	**-0.4**
B927	**Port Alberni**	**3.58**	**103**	Pn	**Pn**	**06 22 59.6**	**-0.9**
TXB	**Texada**	**3.71**	**95**	Pn	**Pn**	**06 23 01.1**	**-1.2**
MGB	**Mount Grey**	**3.73**	**106**	Pn	**Pn**	**06 23 01.7**	**-1.0**
GHNB	**Nanoose**	**3.92**	**100**	Pn	**Pn**	**06 23 05.0**	**-0.1**
YOUB	**Youbou, Lake C**	**4.03**	**106**	Pn	**Pn**	**06 23 05.8**	**-0.9**
PFB	**Port Renfrew**	**4.05**	**111**	Pn	**Pn**	**06 23 06.1**	**-0.9**
OCP	**Olym-Cheeka Pk**	**4.06**	**115**	Pn	**Pn**	**06 23 06.5**	**-0.7**
SHB	**Sechelt**	**4.08**	**96**	Pn	**Pn**	**06 23 06.7**	**-0.9**
SHB				Sn	**Sn**	**06 23 54.8**	**-0.7**
NLLB	**Nanaimo Lost L**	**4.10**	**101**	Pn	**Pn**	**06 23 07.7**	**+0.1**
OFR	**Olym-F Res Ctr**	**4.38**	**118**	Pn	**Pn**	**06 23 10.8**	**-0.8**
LZB	**Mount Lazard**	**4.40**	**108**	Pn	**Pn**	**06 23 10.3**	**-1.6**
BIB	**Bowen Island**	**4.49**	**97**	Pn	**Pn**	**06 23 11.7**	**-1.3**
WPB	**Watts Point**	**4.50**	**94**	Pn	**Pn**	**06 23 12.0**	**-1.2**
PGC	**Sidney**	**4.62**	**107**	*e*Pn	**Pn**	**06 23 14.9**	**+0.1**
UBRB	**Upper Baezaeko**	**4.66**	**52**	Pn	**Pn**	**06 23 16.5**	**+1.1**
UBRB				Sn	**Sn**	**06 24 10.2**	**+0.6**
HNB	**Haney**	**4.98**	**97**	Pn	**Pn**	**06 23 20.2**	**+0.4**
NLWA	**Neilton Lookou**	**4.98**	**121**	*e*Pn	**Pn**	**06 23 21.8**	**+1.9**
LLLB	**Lillooet**	**5.30**	**82**	Pn	**Pn**	**06 23 24.1**	**-0.1**
VDB	**Vedder Mountai**	**5.34**	**99**	Pn	**Pn**	**06 23 24.7**	**-0.1**
A05A	**Maple Falls**	**5.36**	**100**	Pn	**Pn**	**06 23 24.9**	**-0.1**
CMW	**Cultus Mountai**	**5.52**	**105**	Pn	**Pn**	**06 23 27.2**	**-0.2**
MBW	**Mount Baker**	**5.54**	**101**	Pn	**Pn**	**06 23 28.1**	**+0.5**
JCW	**Jim Creek**	**5.73**	**107**	Pn	**Pn**	**06 23 31.2**	**+1.1**
RPW	**Rockport**	**5.89**	**104**	Pn	**Pn**	**06 23 32.2**	**-0.1**
D05A	**Enumclaw**	**6.16**	**116**	Pn	**Pn**	**06 23 37.3**	**+1.3**
D05A	**Enumclaw**	**6.16**	**116**	*e*Pn	Pn	06 23 38.5	+2.5
RVW	**Rose Valley**	**6.37**	**126**	P	Pn	06 23 41.1	+2.2
ERK	**Elk Rock**	**6.48**	**124**	P	Pn	06 23 42.9	+2.4
FMW	**Mount Fremont**	**6.48**	**117**	Pn	**Pn**	**06 23 41.7**	**+1.2**
LON	**Longmire**	**6.50**	**119**	Pn	**Pn**	**06 23 42.5**	**+1.8**
LON	**Longmire**	**6.50**	**119**	*e*Pn	Pn	06 23 43.8	+3.0
TDL	**Tradedollar La**	**6.52**	**123**	P	Pn	06 23 43.6	+2.6
FL2	**Flat Top 2**	**6.54**	**124**	P	Pn	06 23 43.9	+2.5
LVP	**Lakeview Peak**	**6.60**	**125**	P	Pn	06 23 44.6	+2.5
PNT	**Penticton**	**6.87**	**93**	Pn	**Pn**	**06 23 45.8**	**0.0**
LTY	**Liberty**	**6.90**	**111**	Pn	**Pn**	**06 23 47.4**	**+1.2**
EBG	**Ellensburg**	**7.13**	**114**	P	**Pn**	**06 23 51.4**	**+1.9**
B08A	**Colville Reser**	**7.29**	**100**	Pn	**Pn**	**06 23 51.5**	**-0.1**
B08A	**Colville Reser**	**7.29**	**100**	*e*Pn	**Pn**	**06 23 52.0**	**+0.4**
G05D	**Wamic, OR** baz=7.7	**7.72**	**126**	P	Pn	06 24 00.2	+2.8
OD2	**Odessa Site #2**	**8.04**	**106**	P	**Pn**	**06 24 02.1**	**+0.3**
D08A	**Wollman Farm,**	**8.05**	**108**	*e*Pn	**Pn**	**06 24 02.0**	**0.0**
DLBC	**Dease Lake** 0.5nm,0.3s,baz=169,slow=10,SNR=3.1	**8.29**	**0**	Pn	**Pn**	**06 24 04.2**	**-1.1**
DLBC	comp=Z,212nm,18.4s,baz=264,slow=37			LR	LR	06 27 16.0	
DLBC	**Dease Lake**	**8.29**	**0**	Pn	**Pn**	**06 24 04.4**	**-0.8**
DLBC	**Dease Lake**	**8.29**	**0**	*e*Pn	**Pn**	**06 24 04.3**	**-0.9**
I05D	**Terrebonne, OR** baz=8.3	**8.35**	**131**	P	Pn	06 24 11.1	+5.0
NEW	**Newport** 0.4nm,0.3s,baz=289,slow=14,SNR=9.3	**8.73**	**98**	Pn	**Pn**	**06 24 11.8**	**+0.6**
NEW	comp=Z,515nm,18.5s,baz=288,slow=38			LR	LR	06 27 31.6	
NEW	**Newport** baz=8.8,SNR=6.2	**8.73**	**98**	P	**Pn**	**06 24 12.3**	**+1.1**
NEW	**Newport**	**8.73**	**98**	*e*Pn	**Pn**	**06 24 12.1**	**+0.9**
FNBB	**Fort Nelson**	**9.66**	**23**	Pn	**Pn**	**06 24 24.9**	**+0.9**
YBH	**Yreka Blue Hor** comp=Z,198nm,18.1s,baz=330,slow=35	**9.89**	**146**	LR	LR	06 27 49.8	
BMO	**Blue Mountains** 6.3nm,1.3s	**10.17**	**117**	*e*Pn	Pn	06 24 34.2	+3.1
EDM	**Edmonton**	**10.85**	**67**	*e*Pn	**Pn**	**06 24 41.2**	**+0.8**
SWMT	**Swartz Lake** 1.6nm,0.6s	**10.96**	**98**	*e*Pn	**Pn**	**06 24 42.7**	**+0.8**
WVOR	**Wild Horse Val** 8.1nm,1.2s	**11.08**	**130**	*e*Pn	Pn	06 24 47.0	+3.5
MSO	**Missoula** baz=11	**11.25**	**101**	P	**Pn**	**06 24 46.8**	**+1.0**
MSO	**Missoula**	**11.25**	**101**	*e*Pn	**Pn**	**06 24 46.9**	**+1.0**
SLMT	**Seeley Lake** 4.0nm,0.8s	**11.38**	**99**	*e*Pn	**Pn**	**06 24 48.0**	**+0.4**
CHMT	**Chamberlain Mo** 2.0nm,0.9s	**11.65**	**100**	*e*Pn	**Pn**	**06 24 53.2**	**+1.8**
HLID	**Hailey** baz=13	**12.61**	**116**	P	Pn	06 25 07.7	+3.2
HLID	**Hailey**	**12.61**	**116**	*e*Pn	Pn	06 25 07.9	+3.4
DLMT	**Dillon**	**12.73**	**105**	*e*Pn	**Pn**	**06 25 06.9**	**+0.8**
BOZ	**Bozeman (W)** baz=13	**13.20**	**103**	P	**Pn**	**06 25 14.7**	**+2.2**
EGMT	**Eagleton** baz=14	**13.52**	**91**	P	**Pn**	**06 25 19.1**	**+2.3**
EGMT	**Eagleton** 12nm,0.9s	**13.52**	**91**	*e*Pn	**Pn**	**06 25 18.7**	**+1.9**
B19A	**Brinkman Farms** baz=14	**13.92**	**89**	P	**Pn**	**06 25 23.3**	**+1.0**
A19A	**Klindworth Far** baz=14	**13.94**	**87**	P	**Pn**	**06 25 22.5**	**0.0**
ELK	**Elko** 0.1nm,0.3s,baz=289,slow=9.9,SNR=2.1	**14.05**	**126**	Pn	P	06 25 27.1	-5.0
ELK	comp=Z,109nm,19.9s,baz=302,slow=38			LR	LR	06 30 51.9	
NVAR	**Mina Array Bea** baz=308,slow=8.9,SNR=3.6	**14.45**	**140**	Pn	**P**	**06 25 33.6**	**-3.0**
IMW	**Indian Meadow**	**14.49**	**108**	*e*Pn	P	06 25 33.8	-3.4
FLWY	**Flagg Ranch** 8.3nm,1.1s	**14.54**	**107**	*e*Pn	**Pn**	**06 25 32.2**	**+1.2**
FXWY	**Fox Creek**	**14.58**	**109**	*e*Pn	P	06 25 34.8	-3.2
HVU	**Hansel Valley**	**14.67**	**118**	*e*Pn	**P**	**06 25 36.7**	**-2.3**
MOOW	**Moose Ponds**	**14.69**	**108**	*e*Pn	**P**	**06 25 36.5**	**-2.8**
TPAW	**Teton Pass**	**14.71**	**110**	*e*P	P	06 25 43.5	+4.0
C20A	**Veseth Ranch,** baz=15	**14.74**	**91**	P	**Pn**	**06 25 35.3**	**+1.9**
REDW	**Red Top Meadow**	**14.84**	**110**	*e*P	P	06 25 44.2	+3.3
SNOW	**Snow King Moun**	**14.84**	**109**	*e*P	P	06 25 45.0	+4.0
LOHW	**Long Hollow** 6.8nm,0.9s	**14.85**	**109**	*e*Pn	**Pn**	**06 25 37.3**	**+2.1**
RLMT	**Red Lodge** baz=15,SNR=5.7	**14.92**	**102**	P	**P**	**06 25 38.8**	**-3.1**
RLMT	**Red Lodge**	**14.92**	**102**	*e*Pn	**P**	**06 25 38.7**	**-3.1**
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=213,slow=13,SNR=9.5	**15.00**	**29**	Pn	**Pn**	**06 25 36.0**	**-0.7**
AHID	**Auburn Hatcher** 18nm,1.0s	**15.03**	**112**	*e*P	**P**	**06 25 46.5**	**+3.5**
BGU	**Big Grassy Mou** 6.8nm,1.3s	**15.10**	**121**	*e*Pn	**P**	**06 25 42.8**	**-0.9**
SPUT	**South Promonto** 31nm,1.9s	**15.16**	**119**	*e*Pn	**P**	**06 25 42.5**	**-2.0**
TPH	**Tonopah** 5.9nm,0.9s	**15.20**	**138**	*e*Pn	**P**	**06 25 44.1**	**-0.8**
H19A	**Powell** baz=15	**15.31**	**103**	P	**P**	**06 25 45.5**	**-0.6**
F20A	**Billings** baz=15	**15.34**	**98**	P	**P**	**06 25 44.2**	**-2.0**
HWUT	**Hardware Ranch** 48nm,2.3s	**15.47**	**116**	*e*Pn	**P**	**06 25 47.3**	**-0.6**
G20A	**Bridger** baz=16	**15.54**	**100**	P	**P**	**06 25 48.4**	**-0.2**
I19A	**Meeteetse** baz=16	**15.62**	**105**	P	**P**	**06 25 49.8**	**+0.2**
R11A	**Troy Canyon, C** baz=16	**15.72**	**133**	P	**P**	**06 25 50.7**	**0.0**
R11A	**Troy Canyon, C** 13nm,1.9s	**15.72**	**133**	*e*Pn	**P**	**06 25 50.7**	**0.0**
DUG	**Dugway** baz=16,SNR=8.2	**15.73**	**123**	P	**P**	**06 25 53.2**	**+2.5**
DUG	**Dugway** 11nm,1.2s	**15.73**	**123**	*e*Pn	**P**	**06 25 50.8**	**+0.1**
E21A	**Keefer Ranch,** baz=16	**15.73**	**94**	P	**P**	**06 25 49.6**	**-1.0**
A22A	**Carney Farms,** baz=16	**15.74**	**85**	P	**P**	**06 25 49.5**	**-1.2**
B22A	**Reddig Ranch S** baz=16	**15.86**	**87**	P	**P**	**06 25 50.8**	**-1.2**
BW06	**Boulder Array** 12nm,1.3s	**15.96**	**110**	*e*Pn	**P**	**06 25 53.3**	**-0.1**
PDAR	**Pinedale Array** 0.0nm,0.3s,baz=321,slow=12,SNR=24	**15.96**	**110**	Pn	**P**	**06 25 52.4**	**-1.0**
PDAR	comp=Z,93nm,21.4s,baz=316,slow=38			LR	LR	06 32 06.8	
J19A	**Crowheart** baz=16	**15.99**	**107**	P	**P**	**06 25 53.7**	**+0.1**
H20A	**Greybull** baz=16	**16.02**	**102**	P	**P**	**06 25 52.4**	**-1.4**
C22A	**Vida** baz=16	**16.09**	**89**	P	**P**	**06 25 53.7**	**-0.9**
D22A	**Cohagen** baz=16	**16.09**	**92**	P	**P**	**06 25 53.9**	**-0.6**
JLU	**Jordanelle** 9.2nm,1.3s	**16.20**	**119**	*e*Pn	**P**	**06 25 55.9**	**-0.2**
I20A	**Worland** baz=16	**16.20**	**104**	P	**P**	**06 25 55.6**	**-0.3**
NLU	**North Lily Min** 8.3nm,1.1s	**16.30**	**122**	*e*Pn	**P**	**06 25 58.4**	**+1.3**
B23A	**Brockton** baz=16	**16.46**	**86**	P	**P**	**06 25 58.2**	**-0.4**
C23A	**Lambert** baz=16	**16.52**	**89**	P	**P**	**06 25 59.5**	**+0.2**
F22A	**Rosebud** baz=17	**16.55**	**96**	P	**P**	**06 25 59.0**	**-0.7**
H21A	**Big Horn, Sher** baz=17	**16.55**	**101**	P	**P**	**06 25 59.4**	**-0.4**
TPNV	**Topopah Spring** baz=16,SNR=6.5	**16.57**	**138**	P	P	06 26 04.3	+4.3
SMMC	**Simmler** baz=16	**16.58**	**150**	P	P	06 26 04.0	+3.9
D23A	**Lindsay** baz=17	**16.71**	**91**	P	**P**	**06 26 01.5**	**+0.1**
ISA	**Isabella** baz=17	**16.79**	**145**	P	P	06 26 06.3	+3.9
I21A	**Big Trails, Te** baz=17	**16.79**	**103**	P	**P**	**06 26 02.7**	**+0.2**
MPMC	**Manual Prospec** baz=17	**16.82**	**142**	P	P	06 26 07.2	+4.4
E23A	**Ismay** baz=17	**16.88**	**93**	P	**P**	**06 26 03.2**	**-0.1**
J21A	**Lysite** baz=17	**16.94**	**105**	P	**P**	**06 26 07.0**	**+2.9**
DGMT	**Dagmar** baz=17	**16.97**	**86**	P	**P**	**06 26 05.7**	**+1.4**
DGMT	**Dagmar** 57nm,1.6s	**16.97**	**86**	*e*P	**P**	**06 26 04.5**	**+0.3**
A24A	**Westby** baz=17	**16.98**	**84**	P	**P**	**06 26 06.0**	**+1.6**
H22A	**Clearmont** baz=17	**17.01**	**100**	P	**P**	**06 26 05.3**	**+0.5**
C24A	**Savage** baz=17	**17.10**	**89**	P	**P**	**06 26 06.3**	**+0.7**
ILAR	**Eielson Array** 0.0nm,0.3s,baz=150,slow=11,SNR=6.8	**17.10**	**335**	P	**P**	**06 26 10.0**	**+4.4**
ILAR	comp=Z,38nm,18.4s,baz=162,slow=33			LR	LR	06 31 33.7	
F23A	**Volborg** baz=17	**17.12**	**96**	P	**P**	**06 26 07.2**	**+1.2**
ARVC	**Arvin** baz=17	**17.14**	**147**	P	P	06 26 12.1	+5.9
I22A	**9 Mile Ranch,** baz=17	**17.26**	**102**	P	**P**	**06 26 10.0**	**+2.4**
MVU	**Marysvale** 5.1nm,1.1s	**17.27**	**126**	*e*Pn	**P**	**06 26 09.7**	**+1.7**
MSU	**Marysvale** 9.6nm,1.4s	**17.29**	**126**	*e*Pn	**P**	**06 26 10.2**	**+2.1**
D24A	**Glendive** baz=17	**17.30**	**90**	P	**P**	**06 26 09.1**	**+1.2**
G23A	**Biddle** baz=17	**17.35**	**97**	P	**P**	**06 26 10.8**	**+2.3**
P17A	**Butcher Ranch,**	**17.37**	**121**	*e*P	**P**	**06 26 12.3**	**+3.4**
E24A	**Baker** baz=18	**17.50**	**92**	P	**P**	**06 26 11.6**	**+1.4**
A25A	**Svangstu Ranch** baz=18	**17.54**	**84**	P	**P**	**06 26 12.0**	**+1.4**
F24A	**Ekalaka** baz=18	**17.69**	**94**	P	**P**	**06 26 13.4**	**+1.1**
FFC	**Flin Flon** 5.6nm,0.6s	**17.69**	**64**	*e*Pn	**Pn**	**06 26 10.5**	**-0.8**
SRU	**San Rafael** 9.6nm,1.0s	**17.74**	**121**	*e*P	**P**	**06 26 16.2**	**+3.2**
G24A	**Alzada** baz=18	**17.92**	**96**	P	**P**	**06 26 15.2**	**+0.4**
D25A	**Fairfield** baz=18	**17.93**	**89**	P	**P**	**06 26 16.6**	**+1.7**
H24A	**Dirks Ranch, A** baz=18,SNR=8.3	**18.08**	**98**	P	**P**	**06 26 17.3**	**+0.6**
E25A	**Miller Ranch,** baz=18	**18.11**	**91**	P	**P**	**06 26 18.9**	**+2.1**
INK	**Inuvik** comp=Z,101nm,19.5s,baz=234,slow=36	**18.27**	**356**	LR	LR	06 32 57.9	
F25A	**Bowman** baz=18	**18.29**	**93**	P	**P**	**06 26 19.7**	**+0.8**
O20A	**White River Ci** baz=18	**18.35**	**115**	P	**P**	**06 26 22.3**	**+2.6**
O20A	**White River Ci** 7.9nm,0.9s	**18.35**	**115**	*e*Pn	**P**	**06 26 22.4**	**+2.6**
K23A	**Bowen Ranch, D** baz=18	**18.38**	**104**	P	**Pn**	**06 26 21.3**	**+1.3**
D26A	**Manning** baz=19	**18.54**	**89**	P	**Pn**	**06 26 23.6**	**+1.8**
G25A	**Newell** baz=19	**18.61**	**95**	P	**Pn**	**06 26 23.9**	**+1.2**
GMRC	**Granite Mounta** baz=19	**18.66**	**140**	P	Pn	06 26 30.3	+6.8
E26A	**Carlson Angus** baz=19	**18.72**	**91**	P	**Pn**	**06 26 25.9**	**+1.9**
F26A	**Lodgepole** baz=19	**18.82**	**93**	P	**Pn**	**06 26 27.2**	**+1.9**
B27A	**Peters Farms,** baz=19	**18.87**	**84**	P	**Pn**	**06 26 27.4**	**+1.6**
I25A	**Rochford** baz=19,SNR=7.5	**18.94**	**99**	P	**Pn**	**06 26 28.9**	**+2.1**
G26A	**Maurine** baz=19	**19.09**	**94**	P	**Pn**	**06 26 30.7**	**+2.2**
PV04	**Paradox Valley**	**19.14**	**120**	*e*P	**Pn**	**06 26 31.4**	**+2.1**
BELC	**Belle Mtn. Jos** baz=19	**19.21**	**142**	P	Pn	06 26 34.3	+4.3
F27A	**Lemmon** baz=19	**19.23**	**92**	P	**Pn**	**06 26 31.1**	**+0.9**
N23A	**Red Feather La** baz=19	**19.24**	**110**	P	**Pn**	**06 26 33.2**	**+2.6**
H26A	**Fairpoint** baz=19	**19.27**	**96**	P	**Pn**	**06 26 31.9**	**+1.2**
PHWY	**Pilot Hill** 4.7nm,1.0s	**19.30**	**108**	*e*P	**Pn**	**06 26 31.7**	**+0.5**
E27A	**Carson** baz=19	**19.31**	**90**	P	**Pn**	**06 26 32.5**	**+1.3**
PFO	**Pinyon Flat Ob** baz=19	**19.37**	**144**	P	Pn	06 26 37.0	+5.0
B28A	**Dugan Ranch, T** baz=20	**19.43**	**84**	P	**Pn**	**06 26 34.8**	**+2.3**
G27A	**Dupree** baz=20	**19.49**	**93**	P	**Pn**	**06 26 35.3**	**+2.0**
PV01	**Paradox Valley** 854nm,1.0s	**19.52**	**120**	*e*P	**Pn**	**06 26 35.1**	**+1.3**
C28A	**Hausauer Farms** baz=20	**19.63**	**86**	P	**Pn**	**06 26 37.9**	**+3.0**
D28A	**Regan** baz=20	**19.68**	**87**	P	**Pn**	**06 26 38.4**	**+2.9**
J26A	**Sides Ranch, S** baz=20	**19.70**	**100**	P	**Pn**	**06 26 36.9**	**+1.1**
SMCO	**Snowmass** 8.0nm,1.0s	**19.71**	**115**	*e*P	**Pn**	**06 26 36.7**	**+0.4**
H27A	**Howes** baz=20	**19.71**	**95**	P	**Pn**	**06 26 36.5**	**+0.5**
K26A	**Motz Farm, Whi** baz=20	**19.94**	**102**	P	Pn	06 26 39.7	+1.0
IM04	**Indian Mountai**	**19.98**	**331**	*e*Pn	Pn	06 26 37.7	-1.1
I27A	**Quinn** baz=20,SNR=5.4	**19.98**	**97**	P	Pn	06 26 40.3	+1.1
WUAZ	**Wupatki** baz=20	**20.00**	**130**	P	**Pn**	**06 26 42.8**	**+3.2**
WUAZ	**Wupatki** 49nm,2.5s	**20.00**	**130**	*e*P	**Pn**	**06 26 41.1**	**+1.6**
A29A	**Manning Farm,** baz=20	**20.02**	**82**	P	Pn	06 26 41.3	+1.8
F28A	**McLaughlin** baz=20	**20.03**	**91**	P	Pn	06 26 40.4	+0.8
MONP	**Monument Peak** baz=20	**20.03**	**144**	P	Pn	06 26 46.5	+6.6
B29A	**Wagenman Farm,** baz=20	**20.07**	**83**	P	Pn	06 26 41.8	+1.7
M25A	**Palm-Egli Farm** baz=20	**20.08**	**106**	P	Pn	06 26 40.7	+0.2
ISCO	**Idaho Springs** baz=20	**20.11**	**112**	P	Pn	06 26 42.5	+1.4
ISCO	**Idaho Springs** 43nm,2.6s	**20.11**	**112**	*e*Pn	Pn	06 26 42.3	+1.2
MVCO	**Mesa Verde** baz=20	**20.22**	**122**	P	Pn	06 26 42.8	+0.6
J27A	**Elkhorn Farm,** baz=20	**20.41**	**99**	P	Pn	06 26 47.6	+3.4
E29A	**Napoleon** baz=20	**20.50**	**88**	P	**P**	**06 26 43.5**	**+0.5**
K27A	**Flueckinger Fa** baz=20	**20.54**	**101**	P	Pn	06 26 45.1	-0.6
I28A	**Midland** baz=21	**20.58**	**96**	P	Pn	06 26 46.1	-0.1
A30A	**Hoffart Farm,** baz=21	**20.61**	**81**	P	Pn	06 26 47.6	+1.2
B30A	**Myrvik Farm, E** baz=21	**20.73**	**82**	P	Pn	06 26 46.9	-0.9
S22A	**4UR Ranch, Cre** baz=21,SNR=11	**20.77**	**118**	P	Pn	06 26 49.1	+0.3
J28A	**Allard Ranch,** baz=21	**20.81**	**98**	P	Pn	06 26 48.5	-0.4
D30A	**Buchanan** baz=21	**20.88**	**86**	P	Pn	06 26 48.8	-0.7
M27A	**Reverse DX Ran** baz=21	**21.07**	**104**	P	P	06 26 54.3	+5.0
K28A	**Ten Mile Ranch** baz=21	**21.08**	**100**	P	**P**	**06 26 52.5**	**+3.1**
I29A	**Vivian Onida** baz=21	**21.13**	**95**	P	**P**	**06 26 52.3**	**+2.5**
W18A	**Petrified Fore** baz=21	**21.14**	**128**	P	P	06 26 55.5	+5.3
G30A	**Faulkton** baz=21	**21.38**	**92**	P	**P**	**06 26 55.3**	**+2.7**
J29A	**Okreek** baz=21,SNR=6.2	**21.40**	**97**	P	P	06 26 57.6	+4.9
SDCO	**Great Sand Dun** baz=22,SNR=11	**21.53**	**116**	P	**P**	**06 26 57.0**	**+2.5**
SDCO	**Great Sand Dun** 4.2nm,0.9s	**21.53**	**116**	*e*P	**P**	**06 26 57.0**	**+2.5**
OGNE	**Ogallala** baz=22	**21.62**	**104**	P	**P**	**06 26 56.5**	**+1.3**
P26A	**Davis Ranch, A** baz=22	**21.63**	**109**	P	**P**	**06 26 57.7**	**+2.4**
K29A	**Lazy Trails An** baz=22	**21.72**	**98**	P	**P**	**06 27 00.2**	**+3.9**
Q26A	**Hugo** baz=22	**21.93**	**111**	P	P	06 27 03.4	+4.9
L29A	**Maesberg Ranch** baz=22	**21.98**	**100**	P	**P**	**06 27 02.2**	**+3.2**
P27A	**Ficken Ranch,** baz=22	**22.10**	**108**	P	**P**	**06 27 04.4**	**+4.0**
M29A	**Burnside Ranch** baz=22	**22.18**	**102**	P	P	06 27 06.3	+5.1
K30A	**Basset** baz=22	**22.22**	**98**	P	P	06 27 07.3	+5.8
AGMN	**Agassiz Nation** baz=22	**22.34**	**82**	P	P	06 27 08.2	+5.4
AGMN	**Agassiz Nation** 23nm,1.5s	**22.34**	**82**	*e*P	**P**	**06 27 03.1**	**+0.3**
R26A	**Arlington** baz=22	**22.37**	**112**	P	**P**	**06 27 05.8**	**+2.5**
KSCO	**Kaye Shedlock'** baz=22,SNR=6.9	**22.41**	**109**	P	**P**	**06 27 06.4**	**+2.6**
KSCO	**Kaye Shedlock'** 19nm,0.9s	**22.41**	**109**	*e*P	**P**	**06 27 06.0**	**+2.3**
T25A	**Trinidad** baz=23	**22.58**	**115**	P	P	06 27 10.5	+4.9
P28A	**Saint Francis** baz=23	**22.60**	**107**	P	**P**	**06 27 08.9**	**+3.3**
S26A	**Kim** baz=23	**22.80**	**113**	P	P	06 27 15.9	+8.0
Q28A	**Sharon Springs** baz=23	**22.86**	**108**	P	**P**	**06 27 11.2**	**+2.7**
TUC	**Tucson** 7.3nm,1.3s	**22.90**	**134**	*e*P	P	06 27 14.7	+5.7
ANMO	**Albuquerque** 2.1nm,1.0s,baz=314,slow=10,SNR=7.4	**23.00**	**122**	P	**P**	**06 27 12.9**	**+2.8**

T29A	**Hugoton** baz=24	**24.41**	**111**	P		**P**	**06 27 26.6 +3.0**
P32A	**Huiting Farm,** baz=24	**24.52**	**103**	P		**P**	**06 27 27.0 +2.4**
S30A	**Montezuma** baz=25	**24.59**	**109**	P		**P**	**06 27 28.6 +3.3**
R31A	**Burdett** baz=25	**24.75**	**107**	P		**P**	**06 27 29.4 +2.7**
P33A	**Williams Farm,** baz=25	**25.20**	**103**	P		**P**	**06 27 33.1 +2.5**
EYMN	**Ely** baz=25	**25.23**	**80**	P		**P**	**06 27 32.9 +2.0**
EYMN	**Ely** 15nm,1.2s	**25.23**	**80**	*e*P		**P**	**06 27 32.5 +1.7**
Q33A	**Connelly Farm,** baz=25	**25.37**	**104**	P		**P**	**06 27 35.6 +3.4**
O34A	**Beatrice** baz=25,SNR=7.1	**25.40**	**100**	P		**P**	**06 27 35.3 +2.8**
N35A	**Tabor** baz=26	**25.70**	**98**	P		**P**	**06 27 38.1 +3.0**
AMTX	**Amarillo** 11nm,0.9s	**25.73**	**116**	*e*P		**P**	**06 27 37.7 +2.2**
MSTX	**Muleshoe** baz=26	**25.77**	**119**	P		P	06 27 40.2 +4.3
X29A	**Tulia** baz=26	**26.03**	**116**	P		P	06 27 42.7 +4.4
Y28A	**McKinney Farm,** baz=26	**26.11**	**118**	P		**P**	**06 27 42.5 +3.5**
R34A	**Isabella, Hill** baz=26	**26.16**	**104**	P		**P**	**06 27 43.0 +3.6**
P35A	**Duane Minner,** baz=26	**26.20**	**101**	P		**P**	**06 27 43.1 +3.4**
U32A	**Winter Ranch,** baz=26	**26.30**	**110**	P		P	06 27 46.0 +5.3
Y29A	**Porterfield Fa** baz=26	**26.47**	**117**	P		**P**	**06 27 44.2 +1.9**
U33A	**Lingo Farm, Me** baz=27	**26.80**	**109**	P		**P**	**06 27 47.8 +2.6**
X31A	**McDonald Ranch** baz=27	**26.91**	**114**	P		P	06 27 50.3 +4.2
W32A	**Sentinel** baz=27	**27.00**	**112**	P		**P**	**06 27 50.5 +3.6**
S35A	**Otter Creek Ra** baz=27	**27.12**	**104**	P		**P**	**06 27 52.0 +4.0**
R36A	**Gordon, Harris** baz=27	**27.24**	**102**	P		P	06 27 53.5 +4.4
T35A	**Sooner Cattle** baz=28	**27.48**	**106**	P		**P**	**06 27 53.9 +2.7**
S36A	**Lake Cedric, C** baz=28	**27.55**	**104**	P		**P**	**06 27 54.2 +2.4**
Y32A	**R-V Farms, Ver** baz=28	**27.66**	**114**	P		**P**	**06 27 56.2 +3.3**
Z31A	**Sharp Cattle R** baz=28	**27.74**	**116**	P		**P**	**06 27 56.8 +3.2**
T36A	**Boggs Farm, Ca** baz=28	**27.78**	**105**	P		**P**	**06 27 56.6 +2.7**
W34A	**Bridge Creek,** baz=28	**27.81**	**110**	P		**P**	**06 27 57.6 +3.4**
S37A	**Fort Scott** baz=28	**28.00**	**103**	P		P	06 27 59.7 +3.8
TUL1	**Tulsa** baz=28	**28.57**	**107**	P		P	06 28 04.6 +3.7
RES	**Resolute Bay** comp=Z,935nm,21.6s,baz=85,slow=37	**28.61**	**19**	LR		LR	06 39 29.2
231A	**Bronte** baz=29	**28.66**	**118**	P		P	06 28 04.5 +2.7
TXAR	**Lajitas Array** 0.5nm,0.8s,baz=329,slow=8.8,SNR=6.6	**28.84**	**126**	P		P	06 28 06.4 +2.9
V37A	**Hulbert** baz=29	**28.99**	**106**	P		**P**	**06 28 07.1 +2.5**
SCHQ	**Schefferville** comp=Z,56nm,21.6s,baz=357,slow=35	**37.65**	**58**	LR		LR	06 43 47.1
PETK	**Petropavlovsk-** comp=Z,24nm,20.2s,baz=63,slow=33	**43.14**	**303**	LR		LR	06 46 05.2
H11N2	**WAKE ISLAND Hy** baz=42,slow=75,SNR=82	**57.84**	**262**	T		T	07 34 36.9
H11N3	**WAKE ISLAND Hy** baz=42,slow=75,SNR=46	**57.84**	**262**	T		T	07 34 38.5
H11N1	**WAKE ISLAND Hy** baz=42,slow=75,SNR=67	**57.86**	**262**	T		T	07 34 38.2
H11S1	**WAKE ISLAND Hy** baz=47,slow=74,SNR=12	**58.87**	**262**	T		T	07 35 52.6
H11S2	**WAKE ISLAND Hy** baz=47,slow=74,SNR=7.9	**58.87**	**262**	T		T	07 35 54.8
H11S3	**WAKE ISLAND Hy** baz=47,slow=74,SNR=10	**58.88**	**262**	T		T	07 35 56.5
ARCES	**ARCESS Array B** comp=Z,19nm,21.0s,baz=90,slow=36	**59.28**	**10**	LR		LR	06 58 01.0
NOA	**NORSAR Array B** comp=Z,13nm,18.4s,baz=15,slow=36	**64.88**	**20**	LR		LR	07 00 40.5
FINES	**FINESS Array B** comp=Z,21nm,18.5s,baz=352,slow=37	**67.12**	**12**	LR		LR	07 03 11.9
ZALV	**Zalesovo Beam** 0.7nm,0.5s,baz=28,slow=6.5,SNR=3.6	**72.17**	**339**	P		P	06 33 35.0 +5.4
HHC	**Hu-ho-hao-te**	**74.48**	**316**	*e*P		**P**	**06 33 42.8 -0.7**
HHC				PP		**PP**	**06 36 29.7 +0.5**
HHC				S		**S**	**06 43 13.5 -4.8**
HHC				SKS		**SKSac**	**06 43 44.8 -6.8**
HHC				SS		**SS**	**06 48 00.3 -3.4**
MKAR	**Makanchi Array** 0.5nm,0.8s,baz=24,slow=3.9,SNR=4.9	**79.43**	**338**	P		P	06 34 17.1 +5.9
WMQ	**Urumqi**	**80.75**	**333**	*e*P		**P**	**06 34 18.6 +0.2**
WMQ				pP		**PcP**	**06 34 23.6 -1.5**
WMQ				sP		**sP**	**06 34 26.9 +4.0**
CD2	**Chengdu**	**86.23**	**316**	P		**P**	**06 34 45.2 -1.6**
CPUP	**Villa Florida** comp=Z,86nm,21.5s,baz=138,slow=37	**99.62**	**120**	LR		LR	07 23 18.7

IDC 11 06:32:41.4±1.6, 13°.16S×165°.78E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/33, mbtmp3.7/5, ML3.1/1, Error ellipse: s-maj=48.8km s-min=29.3km az=126.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 0.2nm,0.3s,baz=270,slow=20,SNR=3.2	**8.89**	**176**	Pn	Pn	06 34 50.9	-0.4
DZM	baz=270,slow=20			Sn	Sn	06 36 25.7	-6.6
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=85,slow=9.3,SNR=3.9	**30.85**	**253**	P	P	06 38 59.7	+0.1
ASAR	**Alice Springs** 0.2nm,0.6s,baz=70,slow=9.6,SNR=5.5	**31.93**	**246**	P	P	06 39 09.3	+0.1
ILAR	**Eielson Array** 1.7nm,0.8s,baz=234,slow=6.4,SNR=17	**85.49**	**18**	P	P	06 45 21.1	+0.2
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=123,slow=5.3,SNR=3.2	**95.08**	**317**	P	P	06 46 05.8	-0.7

IDC 11 06:37:28.6±7.3, 16°.39N×95°.62W, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.4/29, mbtmp3.3/4, MS3.3/2, Ms1 3.3/2, ms1mx2.8/15, Error ellipse: s-maj=182.4km s-min=117.7km az=46.0

NEIC 11 06:37:38.2, 15°.98N×97°.69W, h16km, MD4.3(MEX), After MEX.

MEX 11 06:37:38.1±0.7, 15°.98N×97°.69W, h15km±7km, MD4.3

ISC 11 06:37:35.2±1.3, 15°.99N±0°.06×97°.64W±0°.03, h25km±11km, n31, σ1°.04/49, mb3.3/3, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.62**	**311**	*i* P	**Pb**	**06 37 47.7**	**+0.3**
PNIG				*e*S	**Sb**	**06 37 55.0**	**-0.7**
PNIG	**Pinotepa**	**0.62**	**311**	*i* P	**Pb**	**06 37 47.7**	**+0.3**
PNIG				*e*S	**Sb**	**06 37 55.0**	**-0.7**
PANG	**Puerto Angel**	**1.17**	**106**	*i* P	**Pn**	**06 37 56.7**	**+0.7**
PANG				*e*S	**Sb**	**06 38 10.9**	**-0.7**
VHO	**Vista Hermosa**	**1.39**	**39**	*e*P	**Pn**	**06 37 59.8**	**+0.6**
VHO				*e*S	**Sn**	**06 38 16.9**	**0.0**
VHO	**Vista Hermosa**	**1.39**	**39**	*e*P	**Pn**	**06 37 59.8**	**+0.6**
VHO				*e*S	**Sn**	**06 38 16.9**	**0.0**
OXBJ	**Oaxaca**	**1.39**	**39**	*e*P	**Pn**	**06 37 59.9**	**+0.6**
OXBJ				*i* S	**Sn**	**06 38 17.3**	**+0.3**
OXX	**Oaxaca**	**1.40**	**39**	*i* P	**Pn**	**06 38 00.0**	**+0.6**
OXX	**Oaxaca**	**1.40**	**39**	*i* P	**Pn**	**06 38 00.0**	**+0.6**
HUIG	**Huatulco**	**1.49**	**98**	*e*P	**Pn**	**06 38 01.2**	**+0.7**
HUIG				*e*S	**Sn**	**06 38 19.7**	**+0.5**
HUIG	**Huatulco**	**1.49**	**98**	*e*P	**Pn**	**06 38 01.2**	**+0.7**
HUIG				*e*S	**Sn**	**06 38 19.7**	**+0.5**
TLIG	**Tlapa**	**1.80**	**331**	*e*P	**Pn**	**06 38 05.8**	**+1.0**
TLIG				*i* S	**Sn**	**06 38 26.3**	**-0.7**
HMTT	**Tlapaneco**	**2.00**	**334**	*e*P	**Pb**	**06 38 11.0**	**0.0**
ACX	**Acapulco**	**2.30**	**293**	*e*P	**Pn**	**06 38 13.2**	**+1.5**
ACX	**Acapulco**	**2.30**	**293**	*e*P	**Pn**	**06 38 13.2**	**+1.5**
ACP2	**Acapulco**	**2.33**	**293**	*e*P	**Pn**	**06 38 12.3**	**+0.3**
MEIG	**Mezcala**	**2.70**	**316**	*e*P	**Pn**	**06 38 18.4**	**+1.2**
MEIG				*i* S	**Sn**	**06 38 49.1**	**-0.1**
MEIG	**Mezcala**	**2.70**	**316**	*e*P	**Pn**	**06 38 18.4**	**+1.2**
MEIG				*i* S	**Sn**	**06 38 49.1**	**-0.1**
CAIG	**El Cayaco**	**2.73**	**293**	*e*P	**Pn**	**06 38 18.8**	**+1.3**
CAIG				*i* S	**Sn**	**06 38 49.7**	**-0.1**
CAIG	**El Cayaco**	**2.73**	**293**	*e*P	**Pn**	**06 38 18.8**	**+1.3**
CAIG				*i* S	**Sn**	**06 38 49.7**	**-0.1**
CMIG	**Matias Romero**	**2.87**	**67**	*e*P	**Pn**	**06 38 20.4**	**+1.0**
CMIG				*i* S	**Sn**	**06 38 55.8**	**+2.7**
CMIG	**Matias Romero**	**2.87**	**67**	*e*P	**Pn**	**06 38 20.1**	**+0.7**
CMIG				*e*S	**Sn**	**06 38 53.1**	**0.0**
PLIG	**Platanillo**	**2.98**	**324**	*e*P	**Pn**	**06 38 22.8**	**+1.8**
PLIG				*e*S	**Sn**	**06 38 56.1**	**0.0**
PLIG	**Platanillo**	**2.98**	**324**	*e*P	**Pn**	**06 38 22.8**	**+1.8**
PLIG				*e*S	**Sn**	**06 38 56.1**	**0.0**
YAIG	**Yautepec**	**3.17**	**335**	*e*P	**Pn**	**06 38 25.2**	**+1.5**
YAIG				*e*S	**Sn**	**06 39 01.0**	**+0.2**
YAIG	**Yautepec**	**3.17**	**335**	*e*P	**Pn**	**06 38 26.6**	**+2.9**
YAIG				*e*S	**Sn**	**06 39 01.0**	**+0.2**
ARIG	**Puente Sto Nin**	**3.45**	**312**	*e*P	**Pn**	**06 38 29.2**	**+1.8**
ARIG				*i* S	**Sn**	**06 39 07.3**	**-0.2**
TXAR	**Lajitas Array** baz=150,slow=15,SNR=2.6	**14.40**	**338**	Pn	**P**	**06 41 03.0**	**-1.4**
TXAR	comp=Z,138nm,19.0s,baz=0.0,slow=39			LR	LR	06 47 07.8	
PDAR	**Pinedale Array** 0.2nm,0.7s,baz=150,slow=7.3,SNR=2.3	**28.58**	**341**	P	**P**	**06 43 29.4**	**-0.2**
NVAR	**Mina Array Bea** 0.5nm,0.7s,baz=139,slow=8.4,SNR=4.7	**28.81**	**325**	P	P	06 43 36.0	+4.4
INK	**Inuvik** comp=Z,16nm,18.5s,baz=276,slow=42	**57.06**	**345**	LR	LR	07 17 04.4	
ILAR	**Eielson Array** 0.5nm,1.0s,baz=137,slow=6.0,SNR=3.3	**58.91**	**338**	P	**P**	**06 47 31.6**	**-0.4**

ISCJB 11 06:38:05.8±1.0, 20°.39S±0°.07×68°.7W±0°.1, h110km, mb3.5/3, Error ellipse: s-maj=19.0km s-min=9.1km az=16.1

IDC 11 06:38:07.7±1.3, 20°.51S×68°.63W, h113km±14km, mb3.2/4, mb1 3.4/8, mb1mx3.3/20, mbtmp3.7/8, Error ellipse: s-maj=25.9km s-min=13.6km az=109.0

ISC 11 06:38:07.6±0.9, 20°.52S±0°.07×68°.6W±0°.1, h110km, n11, σ0°.99/11, mb3.6/3, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde** 592nm,0.3s,baz=6.4,slow=12,SNR=111	**2.10**	**188**	P	**Pn**	**06 38 42.4**	**+0.3**
LVC	2µm,0.3s,baz=31,slow=23,SNR=29			S	**Sn**	**06 39 09.6**	**+1.1**
LPAZ	**La Paz** 1.0nm,0.3s,baz=174,slow=11,SNR=32	**4.24**	**6**	P	**Pn**	**06 39 12.2**	**+1.5**
SIV	**San Ignacio** 2.7nm,0.3s,baz=258,slow=12,SNR=33	**8.46**	**59**	P	**Pn**	**06 40 07.6**	**+0.3**
CPUP	**Villa Florida** 0.1nm,0.3s,baz=297,slow=12,SNR=3.3	**11.85**	**121**	P	**Pn**	**06 40 53.8**	**+0.7**
BDFB	**Brasilia** 0.7nm,0.3s,baz=259,slow=9.8,SNR=3.8	**20.16**	**79**	P	**P**	**06 42 33.2**	**-0.3**
PTGA	**Pitinga** 0.9nm,0.3s,baz=44,slow=14,SNR=5.2	**21.41**	**24**	P	**P**	**06 42 45.1**	**-1.6**
TXAR	**Lajitas Array** 0.2nm,0.8s,baz=159,slow=7.7,SNR=2.7	**60.00**	**325**	P	**P**	**06 48 02.1**	**-0.8**
TORD	**Torodi Ar. Bea** 0.4nm,0.4s,baz=250,slow=5.5,SNR=14	**76.76**	**70**	P	**P**	**06 49 47.9**	**+0.4**
WRA	**Warramunga Arr** 0.2nm,0.6s,baz=150,slow=1.7,SNR=4.1	**133.94**	**211**	PKP	**PKPdf**	**06 57 12.5**	**-0.2**
MKAR	**Makanchi Array** 0.7nm,0.8s,baz=314,slow=4.2,SNR=4.8	**144.68**	**35**	PKP	PKPbc	06 57 30.6	+0.1
SONM	**Songino Array** 0.3nm,0.5s,baz=347,slow=2.8,SNR=3.2	**152.45**	**7**	PKPbc	**PKPbc**	**06 57 50.7**	**-0.3**

ISCJB 11 06:41:00.5±0.2, 6°.83S±0°.03×127°.10E±0°.03, h407km, mb4.0/16, Error ellipse: s-maj=4.7km s-min=3.8km az=157.8

NEIC 11 06:41:01.8±0.4, 6°.79S×127°.02E, h428km±6km, mb4.7/3, Error ellipse: s-maj=9.0km s-min=6.5km az=52.0

DJA 11 06:41:02.1±0.5, 7°.S±4°.×12°.7E±°, h429km±9km, M4.7/23, mb4.5/23, mB5.1/10, MLv4.9/16, MLv4.9/19, Mw(mB)4.5/10

IDC 11 06:41:02.4±1.4, 6°.81S×127°.02E, h431km±17km, mb3.6/11, mb1 3.8/16, mb1mx3.6/34, mbtmp4.6/16, Error ellipse: s-maj=14.5km s-min=9.2km az=70.0

ISC 11 06:41:01.2±0.4, 6°.89S±0°.04×127°.11E±0°.06, h407km, n84, σ1°.92/106, mb4.1/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.36**	**19**	P	**P**	**06 42 10.9**	**+3.0**
AAI	**Ambon** baz=3.4,SNR=8.5	**3.36**	**19**	P	**P**	**06 42 11.1**	**+3.2**
NLAI	**Namlea**	**3.62**	**360**	P	**P**	**06 42 13.1**	**+2.9**
BNDI	**Bandanaira**	**3.64**	**50**	P	**P**	**06 42 13.4**	**+3.0**
SOEI	**Soe**	**4.00**	**224**	P	**P**	**06 42 16.1**	**+2.4**
SOEI				S	**S**	**06 43 15.3**	**+2.4**
SOEI	**Soe** baz=4.0,SNR=132	**4.00**	**224**	P	**P**	**06 42 16.2**	**+2.4**
SOEI	**Soe**	**4.00**	**224**	*e*P	**P**	**06 42 16.2**	**+2.4**
SOEI				*e*S	**S**	**06 43 13.8**	**+0.9**
SAUI	**Saumlaki**	**4.29**	**105**	P	P	06 42 20.0	+3.6
SAUI	**Saumlaki**	**4.29**	**105**	*e*P	P	06 42 19.7	+3.3
SAUI				*e*S	**S**	**06 43 17.2**	**-0.5**
SANI	**Sanana**	**4.94**	**347**	P	**P**	**06 42 23.5**	**+0.7**
MMRI	**Maumere** 110nm,0.5s,4µm0.5nm	**5.13**	**250**	P	**P**	**06 42 27.1**	**+2.3**
MMRI	**Maumere**	**5.13**	**250**	*e*P	**P**	**06 42 25.1**	**+0.3**
MMRI				*e*S	**S**	**06 43 33.5**	**+0.4**
LBMI	**Labuha** 174nm,1.0s,1µm0.6nm	**6.22**	**4**	P	**P**	**06 42 37.7**	**+1.4**
FAKI	**Fak Fak** 163nm,0.7s,2µm0.8nm0.8nm	**6.46**	**53**	P	**P**	**06 42 39.5**	**+0.6**
FAKI	**Fak Fak** baz=6.5,SNR=17	**6.46**	**53**	P	**P**	**06 42 39.8**	**+0.9**
FAKI	**Fak Fak**	**6.46**	**53**	*e*P	**P**	**06 42 39.5**	**+0.6**
FAKI				*e*S	S	06 43 51.8	-7.3
BSSI	**Bau Bau, Buton** 75nm,1.1s,0.3nm0.3nm	**6.62**	**276**	P	**P**	**06 42 42.2**	**+0.8**
BKSI	**Bulukumba** 41nm,0.6s,0.2nm0.2nm	**7.12**	**282**	P	**P**	**06 42 47.2**	**+0.2**
LUWI	**Luwuk** 208nm,0.8s,4µm0.9nm0.9nm	**7.24**	**323**	P	**P**	**06 42 48.8**	**+0.5**
LUWI	**Luwuk** baz=7.2,SNR=7.9	**7.24**	**323**	P	**P**	**06 42 48.7**	**+0.5**
LUWI	**Luwuk**	**7.24**	**323**	*e*P	**P**	**06 42 48.2**	**-0.1**
LUWI				*e*S	**S**	**06 44 14.8**	**-0.2**
BASI	**Baing, Sumba** 214nm,1.0s,1.8nm	**7.26**	**242**	P	**P**	**06 42 48.5**	**0.0**
SIJI	**Sorong** 13nm,0.3s,baz=206,slow=7.7,SNR=42	**7.27**	**35**	P	**P**	**06 42 49.6**	**+1.0**
SIJI				S	**S**	**06 44 11.9**	**-3.7**
SWI	**Sorong** 4.5nm,0.3s,baz=288,slow=20,SNR=5.9	**7.28**	**35**	P	**P**	**06 42 50.2**	**+1.5**
SWI	**Sorong** 162nm,0.6s,2µm0.6nm0.6nm	**7.28**	**35**	P	**P**	**06 42 50.0**	**+1.4**
KAPI	**Kappang** baz=7.3,SNR=9.0	**7.55**	**284**	P	**P**	**06 42 51.8**	**0.0**
KAPI	**Kappang** 4.5nm,0.3s,baz=116,slow=7.7,SNR=12	**7.55**	**284**	*e*P	**P**	**06 42 51.5**	**-0.3**
KDU	**Kakadu** baz=7.9,SNR=27	**7.82**	**138**	P	**P**	**06 42 56.8**	**+2.1**
SPSI	**Sidrap Palu** 26nm,0.8s,0.1nm0.1nm	**7.87**	**291**	P	**P**	**06 42 55.5**	**+0.3**
APSI	**Ampana** 46nm,1.0s	**8.06**	**317**	P	**P**	**06 42 58.2**	**+1.0**
TTSI	**Tana Toraja** 30nm,1.0s,2µm	**8.21**	**297**	P	**P**	**06 43 00.6**	**+1.7**
RKPI	**Ransiki, Papua** 136nm,0.9s,8µm	**8.84**	**53**	P	**P**	**06 43 08.8**	**+2.9**
KNRA	**Kununurra** baz=9.0,SNR=215	**8.88**	**170**	P	**P**	**06 43 08.6**	**+2.3**
MRSI	**Marisa** 88nm,0.7s,4µm	**8.95**	**325**	P	**P**	**06 43 06.8**	**-0.4**
MPSI	**Mapaga** 11nm,0.6s	**10.16**	**315**	P	**P**	**06 43 21.5**	**+0.9**
BAKI	**Biak**	**10.61**	**58**	P	P	06 43 29.1	+3.6
KBKI	**Kotabaru**	**11.47**	**288**	P	P	06 43 28.6	-6.4
BBKI	**Banjar Baru** 283nm,0.8s,5µm	**12.68**	**285**	P	**P**	**06 43 50.2**	**+1.8**
JAGI	**Jajag, Banyuwa** baz=13,SNR=4.4	**12.94**	**262**	P	**P**	**06 43 48.5**	**-2.7**
BLJI	**Banyuglugur**	**13.44**	**266**	P	**P**	**06 43 58.0**	**+1.4**
WRAB	**Tennant Creek**	**14.75**	**152**	*e*P	**P**	**06 44 12.2**	**+1.3**
WRAB				*e*S	**S**	**06 46 46.6**	**-1.2**
MYLDM	**Lahad Datu**	**14.75**	**324**	*e*P	**P**	**06 44 10.4**	**-0.5**
WRA	**Warramunga Arr** 5.7nm,0.3s,baz=329,slow=11,SNR=394	**14.75**	**152**	P	**P**	**06 44 12.3**	**+1.4**
WRA	1.4nm,0.3s,baz=330,slow=17,SNR=16			S	**S**	**06 46 46.5**	**-1.3**
MBWA	**Marble Bar** 56nm,1.4s	**15.88**	**206**	*e*P	**P**	**06 44 23.5**	**+0.5**
MBWA				*e*S	**S**	**06 47 08.0**	**-2.1**
PALU	**Palau** baz=16,SNR=8.6	**15.93**	**28**	P	**P**	**06 44 23.3**	**-0.3**
SBUM	**Sibu** 15nm,0.8s	**17.52**	**301**	*e*P	**P**	**06 44 42.0**	**+1.4**
ASAR	**Alice Springs** 4.0nm,0.3s,baz=347,slow=13,SNR=252	**17.91**	**159**	P	**P**	**06 44 45.8**	**+1.1**
ASAR	0.6nm,0.3s,baz=344,slow=19,SNR=16			S	**S**	**06 47 50.9**	**+1.5**
AS01	**Alice Springs**	**17.93**	**159**	*e*P	**P**	**06 44 45.6**	**+0.8**
WRKA	**Warakurna** baz=18,SNR=70	**18.08**	**177**	P	**P**	**06 44 47.5**	**+1.1**
QIS	**Mount Isa** baz=18,SNR=19	**18.20**	**140**	P	**P**	**06 44 48.8**	**+1.1**
KSM	**Kuching**	**18.71**	**296**	*e*P	**P**	**06 44 50.6**	**-2.5**
CISI	**Cisompet, Garu** 209nm,0.7s	**19.16**	**267**	*e*P	**P**	**06 44 55.2**	**-2.4**
LEM	**Lembang** 4.6nm,0.3s,baz=111,slow=14,SNR=6.4	**19.36**	**269**	P	**P**	**06 44 58.5**	**-1.1**
FORT	**Forrest** 32nm,1.0s	**23.79**	**178**	*e*P	**P**	**06 45 39.2**	**-0.4**
BBOO	**Buckleboo** 4.9nm,0.5s	**27.10**	**163**	*e*P	**P**	**06 46 10.2**	**+1.2**
STKA	**Stephens Creek** 5.7nm,0.7s,baz=316,slow=8.4,SNR=5.7	**28.30**	**153**	P	**P**	**06 46 19.8**	**+0.1**
STKA	**Stephens Creek** 5.0nm,1.1s	**28.30**	**153**	*e*P	**P**	**06 46 20.5**	**+0.9**
PSI	**Prapat** 42nm,0.8s,baz=133,slow=5.0,SNR=36	**29.74**	**288**	P	**P**	**06 46 30.7**	**-1.9**
PSI	**Prapat**	**29.74**	**288**	*e*P	**P**	**06 46 30.5**	**-2.2**
CMAR	**Chiang Mai Arr** 1.1nm,0.3s,baz=150,slow=6.7,SNR=4.2	**37.50**	**313**	P	**P**	**06 47 37.0**	**-1.5**
GYA	**Guiyang**	**38.63**	**330**	P	**P**	**06 47 48.0**	**+0.2**
GYA				pP	**pP**	**06 49 09.4**	**+4.5**
GYA				sP	sP	06 49 56.8	+5.3
GYA				ScP	**ScP**	**06 52 56.5**	**-2.7**
GYA				S	**S**	**06 53 14.2**	**+0.3**
GYA				sS	**sS**	**06 55 39.0**	**+4.9**
GYA	20nm,1.0s			PMZ			
GYA	110nm,4.9s			PMZ			
WHN	**Wuhan**	**39.18**	**342**	P	**P**	**06 47 50.8**	**-1.3**
NJ2	**Nanjing**	**39.52**	**349**	*e*P	**P**	**06 47 53.0**	**-1.8**
NJ2	20nm,0.7s			PMZ			
KMI	**Kunming** 7.0nm,0.9s	**39.69**	**324**	P	**P**	**06 47 58.6**	**+2.0**
KMI				PMZ			
CD2	**Chengdu**	**43.73**	**330**	P	**P**	**06 48 27.0**	**-1.6**
CD2				pP	**pP**	**06 49 49.4**	**+1.5**
CD2				PP	**PP**	**06 50 18.2**	**-1.3**
CD2				sP	**sP**	**06 50 38.1**	**+4.3**
CD2				S	**S**	**06 54 25.9**	**-2.1**
CD2				sS	**sS**	**06 56 55.8**	**+4.6**
CD2	10.0nm,0.5s			PMZ			
CD2	60nm,6.0s			PMZ			
KSRS	**Korea Array** 2.2nm,0.7s,baz=180,slow=9.5,SNR=8.3	**44.12**	**1**	P	**P**	**06 48 30.4**	**-1.0**
MJAR	**Matsushiro Arr** 7.5nm,0.7s,baz=192,slow=9.7,SNR=29	**44.44**	**13**	P	**P**	**06 48 32.1**	**-1.9**
MAJO	**Matsushiro** 11nm,0.8s	**44.44**	**13**	*e*P	**P**	**06 48 31.5**	**-2.5**
MAT	**Matsushiro**	**44.44**	**13**	P	**P**	**06 48 31.7**	**-2.3**
LZH	**Lanzhou**	**48.01**	**335**	*e*P	**P**	**06 49 02.1**	**+0.5**
LZH				pP	**pP**	**06 50 25.2**	**+2.5**
LZH				sP	**sP**	**06 51 12.4**	**+4.3**
LZH	16nm,1.0s			PMZ			
LZH	60nm,4.0s			PMZ			
PALK	**Pallekele** 8.1nm,0.7s,baz=93,slow=8.3,SNR=5.7	**48.38**	**286**	P	**P**	**06 49 03.3**	**-1.4**
HHC	**Hu-ho-hao-te**	**49.61**	**345**	*e*P	**P**	**06 49 15.0**	**+1.6**
HHC				PP	**PP**	**06 51 16.2**	**+3.4**
HHC				S	**S**	**06 55 51.3**	**+1.1**
HHC				sS	**sS**	**06 58 18.1**	**+1.2**
HHC				SS	**SS**	**06 59 29.2**	**+0.3**
HHC	17nm,1.1s			PMZ			
HHC	79nm,5.4s			PMZ			
CN2	**Changchun**	**50.47**	**358**	*e*P	**P**	**06 49 20.1**	**+0.5**
CN2				*e*pP	**pP**	**06 50 43.4**	**+1.7**
USRK	**Ussuriysk Ar.** 3.2nm,0.6s,baz=197,slow=6.3,SNR=6.5	**51.04**	**5**	P	**P**	**06 49 22.7**	**-1.1**
SONM	**Songino Array** 0.5nm,0.5s,baz=162,slow=6.2,SNR=4.3	**57.48**	**344**	P	**P**	**06 50 08.4**	**-1.3**
WMQ	**Urumqi**	**61.77**	**329**	*e*P	**P**	**06 50 37.6**	**-1.0**
WMQ	12nm,0.8s			PMZ			
WMQ	85nm,3.8s			PMZ			
PETK	**Petropavlovsk-** 3.7nm,0.6s,baz=190,slow=7.0,SNR=5.7	**65.15**	**20**	P	**P**	**06 50 59.4**	**-0.7**
MKAR	**Makanchi Array** 0.4nm,0.4s,baz=124,slow=7.6,SNR=7.8	**66.59**	**328**	P	**P**	**06 51 07.8**	**-1.6**
ZALV	**Zalesovo Beam** 1.2nm,0.6s,baz=129,slow=5.4,SNR=5.6	**70.24**	**335**	P	**P**	**06 51 28.6**	**-2.9**
KURK	**Kurchatov** 4.6nm,1.0s	**70.95**	**330**	*e*P	**P**	**06 51 33.9**	**-2.0**
RAYN	**Ar Rayn** 3.2nm,0.8s	**85.08**	**294**	*e*P	**P**	**06 52 51.4**	**-1.9**
GERES	**GERESS Array B** 0.3nm,0.6s,baz=19,slow=4.2,SNR=3.0	**110.49**	**320**	PKiKP	**PKiKP**	**06 58 44.3**	**-2.0**
TORD	**Torodi Ar. Bea** 1.0nm,0.7s,baz=82,slow=1.5,SNR=5.5	**125.97**	**281**	PKP	**PKPdf**	**06 59 14.3**	**-2.5**
CPUP	**Villa Florida** 3.5nm,0.9s,baz=173,slow=2.3,SNR=7.2	**146.70**	**173**	PKPbc	**PKPdf**	**06 59 55.3**	**+0.8**

NEIC 11 06:41:30.7, 15°.99N×97°.69W, h16km, MD4.0(MEX), After MEX.

MEX 11 06:41:30.7±0.6, 15°.99N×97°.69W, h16km±11km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.57**	**314**	*i* P	Pg	06 41 40.0	-2.1
PNIG				*i* S	Sg	06 41 47.3	-2.6
PNIG	**Pinotepa**	**0.57**	**314**	*i* P	Pg	06 41 40.0	-2.1
PNIG				*i* S	Sg	06 41 47.3	-2.6
VHO	**Vista Hermosa**	**1.41**	**41**	*e

VSM	**San Miguel**	**0.95**	**25**	*e*P	Pn	06 47 06.8	-0.1
SNVI	**San Vicente**	**1.05**	**352**	*e*P	Pn	06 47 08.0	-0.2
CNCH	**Conchagua**	**1.09**	**49**	*e*P	Pn	06 47 08.1	-0.5
LFRS	**El Faro**	**1.12**	**341**	*e*P	Pn	06 47 08.7	-0.4
LFRS				*e*S	Sn	06 47 24.0	+0.6
LBRS	**Las Brisas**	**1.22**	**343**	*e*P	Pn	06 47 10.4	-0.1
SNET	**Serv Nac Est T**	**1.24**	**334**	*e*P	Pn	06 47 10.1	-0.6
SNET				AML	AML	06 47 31.4	
	comp=Z,396nm,0.3s						
LFU	**La Fuente**	**1.25**	**340**	*e*P	Pn	06 47 10.7	-0.2
CAHU	**Cacacuatique**	**1.29**	**21**	*e*P	Pn	06 47 11.6	+0.2
CAHU				*e*S	Sb	06 47 29.5	-0.5
BOQS	**Boqueron**	**1.30**	**333**	*e*P	Pn	06 47 12.1	+0.4
SBLS	**San Blas**	**1.57**	**324**	*e*P	Pn	06 47 14.7	-0.7
SBLS				*e*S	Sn	06 47 36.1	+1.4
SNJE	**San Jose**	**1.58**	**325**	*e*P	Pn	06 47 15.7	+0.1
SNJE				*e*S	Sn	06 47 35.7	+0.7
RTR	**El Retiro**	**1.63**	**325**	*e*P	Pn	06 47 16.5	+0.4
RBDL	**Robledal**	**1.83**	**328**	*e*P	Pn	06 47 19.2	+0.3
TGUH	**Tegucigalpa,Un**	**2.02**	**43**	*e*P	Pn	06 47 22.1	+0.8
JCR	**Jicaral**	**4.42**	**127**	*e*P	Pn	06 47 55.6	+1.2
JCR				*e*S	Sn	06 48 39.2	-5.5
URSC	**Urasca**	**5.52**	**119**	*e*P	Pn	06 48 13.5	+3.8
URSC				*e*S	Sn	06 49 11.9	-0.3
BUS	**Buena Vista**	**5.68**	**121**⇑	*e*P	Pn	06 48 14.6	+2.3
BUS				*e*S	Sn	06 49 14.1	-2.6

IDC ***11*** *06:58:20.2±0.5, 11°.38N×141°.52E, h0km, mb4.2/18, mb1 4.4/20, mb1mx4.2/42, mbtmp4.2/20, ML4.7/2, MS3.5/17, Ms1 3.5/17, ms1mx3.3/33, Error ellipse: s-maj=21.3km s-min=12.8km az=96.0*

ISCJB ***11*** *06:58:22.4±0.4, 11°.35N±0°.06×141°.45E±0°.08, h27km, mb4.2/21, MS3.5/14, Error ellipse: s-maj=11.5km s-min=7.5km az=30.1*

NEIC ***11*** *06:58:25.4±0.3, 11°.36N×141°.54E, h35km, mb4.4/3, Error ellipse: s-maj=12.0km s-min=6.7km az=99.0*

ISC 11 06:58:24.4±0.5, 11°.38N±0°.08×141°.46E±0°.10, h27km, n34, σ0s79/31, mb4.3/21, MS3.5/14, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.99**	**56**	Pn	**Pn**	**06 59 22.3**	**-1.4**
	50nm,0.3s,baz=216,slow=4.8,SNR=31						
GUMO				Sn	**Sn**	**07 00 11.2**	**+1.6**
	54nm,0.3s,baz=210,slow=20,SNR=3.3						
JAY	**Jayapura**	**13.82**	**183**	Pn	**Pn**	**07 01 38.9**	**+0.2**
	3.1nm,0.3s,baz=298,slow=2.8,SNR=11						
JAY				LR	LR	07 05 41.1	
	comp=Z,350nm,20.9s,baz=332,slow=32						
JCJ	**Chichijima**	**15.65**	**2**	LR	LR	07 07 10.9	
	comp=Z,73nm,20.6s,baz=160,slow=34						
SIJI	**Sorong**	**15.84**	**220**	LR	LR	07 06 42.4	
	comp=Z,131nm,21.3s,baz=46,slow=32						
JNU	**Nakatsue**	**23.72**	**337**	LR	LR	07 11 27.3	
	comp=Z,79nm,20.1s,baz=98,slow=33						
MJAR	**Matsushiro Arr**	**25.22**	**354**	P	**P**	**07 03 47.3**	**-0.7**
	3.2nm,0.8s,baz=179,slow=12,SNR=11						
MJAR				LR	LR	07 13 06.6	
	comp=Z,38nm,19.9s,baz=170,slow=35						
MAJO	**Matsushiro**	**25.22**	**354**	*e*P	**P**	**07 03 47.5**	**-0.6**
	10.0nm,0.8s						
KAPI	**Kappang**	**27.05**	**234**	LR	LR	07 15 16.9	
	comp=Z,83nm,18.4s,baz=74,slow=38						
KSRS	**Korea Array**	**28.67**	**337**	LR	LR	07 14 21.7	
	comp=Z,100nm,22.0s,baz=154,slow=34						
WRAB	**Tennant Creek**	**31.89**	**193**	*e*P	**P**	**07 04 46.9**	**-0.8**
	3.1nm,0.5s						
WRA	**Warramunga Arr**	**31.91**	**193**	P	**P**	**07 04 47.0**	**-0.7**
	8.7nm,1.2s,baz=15,slow=9.7,SNR=27						
WRA				PcP	**PcP**	**07 07 38.3**	**+0.2**
	0.9nm,0.9s,baz=16,slow=2.6,SNR=3.5						
USRK	**Ussuriysk Ar.**	**33.71**	**348**	P	**P**	**07 05 03.3**	**+0.1**
	5.6nm,0.7s,baz=164,slow=8.0,SNR=14						
USRK				LR	LR	07 17 46.5	
	comp=Z,38nm,18.8s,baz=137,slow=35						
ASAR	**Alice Springs**	**35.61**	**192**	P	**P**	**07 05 19.4**	**-0.5**
	1.0nm,0.7s,baz=19,slow=12,SNR=22						
ASAR				PcP	**PcP**	**07 07 48.6**	**+0.1**
	0.7nm,0.7s,baz=34,slow=3.1,SNR=5.0						
ASAR				LR	LR	07 19 58.3	
	comp=Z,87nm,18.9s,baz=360,slow=36						
CMAR	**Chiang Mai Arr**	**41.61**	**285**	P	**P**	**07 06 11.3**	**+0.9**
	1.4nm,0.4s,baz=88,slow=6.5,SNR=6.7						
STKA	**Stephens Creek**	**43.01**	**180**	P	**P**	**07 06 21.4**	**-0.2**
	2.1nm,0.8s,baz=24,slow=10.0,SNR=3.1						
STKA				LR	LR	07 24 59.6	
	comp=Z,273nm,18.5s,baz=20,slow=37						
PETK	**Petropavlovsk-**	**43.61**	**14**	LR	LR	07 22 23.6	
	comp=Z,46nm,20.0s,baz=183,slow=33						
SONM	**Songino Array**	**46.72**	**328**	P	**P**	**07 06 51.8**	**+0.7**
	0.9nm,0.4s,baz=136,slow=7.8,SNR=7.0						
SONM				PcP	**PcP**	**07 08 24.7**	**+0.2**
	0.4nm,0.6s,baz=116,slow=3.4,SNR=1.9						
SONM				PP	**PP**	**07 08 39.7**	**-1.6**
	0.8nm,0.5s,baz=142,slow=5.2,SNR=4.4						
SONM				LR	LR	07 27 29.9	
	comp=Z,75nm,18.9s,baz=110,slow=37						
YAK	**Yakutsk**	**51.28**	**353**	P	**P**	**07 07 25.5**	**-0.3**
	1.8nm,0.4s,baz=280,slow=17,SNR=2.4						
YAK	**Yakutsk**	**51.28**	**353**	*e*P	**P**	**07 07 25.6**	**-0.1**
SEY	**Seymchan**	**52.06**	**6**	P	**P**	**07 07 31.4**	**-0.2**
	0.6nm,0.5s,baz=120,slow=3.5,SNR=2.7						
MKAR	**Makanchi Array**	**60.81**	**317**	P	**P**	**07 08 34.6**	**+0.4**
	1.1nm,0.9s,baz=98,slow=8.9,SNR=7.1						
ZALV	**Zalesovo Beam**	**61.52**	**326**	P	**P**	**07 08 39.0**	**+0.2**
	0.6nm,0.5s,baz=101,slow=7.5,SNR=4.5						
ILAR	**Eielson Array**	**71.97**	**25**	P	**P**	**07 09 44.3**	**-1.1**
	2.7nm,0.6s,baz=253,slow=6.2,SNR=22						
ILAR				LR	LR	07 39 25.8	
	comp=Z,40nm,20.3s,baz=261,slow=34						
INK	**Inuvik**	**77.66**	**22**	P	**P**	**07 10 18.4**	**+0.3**
	2.1nm,0.6s,baz=262,slow=4.5,SNR=3.1						
DLBC	**Dease Lake**	**79.62**	**32**	P	**P**	**07 10 29.7**	**+0.4**
	1.4nm,0.6s,baz=243,slow=6.8,SNR=4.3						
YKA	**Yellowknife Ar**	**86.33**	**27**	P	**P**	**07 11 03.8**	**0.0**
	1.2nm,0.5s,baz=290,slow=4.9,SNR=9.0						
ARCES	**ARCESS Array B**	**88.13**	**342**	P	**P**	**07 11 12.5**	**+0.1**
	1.0nm,0.6s,baz=56,slow=6.5,SNR=7.5						
ARCES				LR	LR	07 54 38.4	
	comp=Z,39nm,19.3s,baz=98,slow=38						
BMO	**Blue Mountains**	**89.89**	**44**	*e*P	**P**	**07 11 22.4**	**+1.1**
	2.1nm,1.0s						
NVAR	**Mina Array Bea**	**90.89**	**51**	P	**P**	**07 11 26.3**	**0.0**
	0.8nm,0.7s,baz=274,slow=5.3,SNR=9.4						
FINES	**FINESS Array B**	**91.72**	**334**	P	**P**	**07 11 28.4**	**-0.9**
	2.1nm,0.4s,baz=79,slow=4.6,SNR=20						
FINES				LR	LR	07 54 25.4	
	comp=Z,24nm,20.4s,baz=54,slow=37						
AKASG	**Malin Array Be**	**94.86**	**324**	LR	LR	07 58 09.2	
	comp=Z,29nm,18.5s,baz=35,slow=38						
NOA	**NORSAR Array B**	**97.88**	**338**	LR	LR	07 59 37.6	
	comp=Z,14nm,20.4s,baz=60,slow=38						
TORD	**Torodi Ar. Bea**	**133.23**	**300**	PKP	**PKPdf**	**07 17 40.5**	**+1.7**
	0.2nm,0.5s,baz=67,slow=2.1,SNR=4.9						
LPAZ	**La Paz**	**150.87**	**103**	PKPbc	**PKPbc**	**07 18 16.7**	**+0.4**
	5.1nm,0.8s,baz=291,slow=3.0,SNR=18						

IDC ***11*** *07:07:17.4±1.3, 56°.15N×154°.11W, h0km, mb3.9/11, mb1 4.1/12, mb1mx3.8/42, mbtmp3.9/12, ML4.4/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/35, Error ellipse: s-maj=29.8km s-min=19.2km az=15.0*

ISCJB ***11*** *07:07:23.2±0.5, 56°.76N±0°.04×153°.67W±0°.06, h24km, mb3.8/11, MS2.9/1, Error ellipse: s-maj=7.0km s-min=3.4km az=147.2*

NEIC ***11*** *07:07:29.2, 56°.98N×154°.00W, h39km, ML3.6(AEIC), After AEIC.*

ISC 11 07:07:23.9±0.8, 56°.74N±0°.07×154°.01W±0°.05, h24km, n77, σ1s23/76, mb4.0/11, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**0.62**	**39**	P	**Pn**	**07 07 38.8**	**+1.6**
OHAK				S	**Sn**	**07 07 46.2**	**-0.2**
KDAK	**Kodiak Island**	**1.30**	**36**	P	**Pn**	**07 07 47.2**	**+0.8**
KDAK				S	**Sn**	**07 08 02.1**	**-0.9**
KABR	**Katmai Barrier**	**1.49**	**340**	P	**Pn**	**07 07 49.6**	**+0.5**
PLK3	**Peulik 3**	**1.55**	**309**	P	**Pb**	**07 07 52.1**	**+0.2**
PLK4	**Peulik 4**	**1.56**	**306**	P	**Pb**	**07 07 52.0**	**-0.1**
KCE	**Katmai Mt Cerb**	**1.63**	**338**	P	**Pn**	**07 07 52.1**	**+0.9**
KAKN	**Katmai Knife C**	**1.66**	**340**	P	**Pn**	**07 07 52.1**	**+0.5**
KAKN				S	**Sn**	**07 08 09.9**	**-2.2**
KBM	**Katmai Bkd Mtn**	**1.67**	**338**	P	**Pn**	**07 07 52.5**	**+1.0**
PLK1	**Peulik 1**	**1.77**	**308**	P	**Pb**	**07 07 55.0**	**-0.5**
KVTA	**Katmai Vly 10**	**1.78**	**338**	P	**Pn**	**07 07 54.0**	**+0.8**
KELA	**Mount Kelaz**	**1.94**	**332**	P	**Pn**	**07 07 56.2**	**+0.8**
ANNE	**Aniakchak Nort**	**2.23**	**276**	P	**Pb**	**07 08 03.4**	**-0.1**
ANNW	**Aniakchak Nort**	**2.32**	**277**	P	**Pb**	**07 08 04.5**	**-0.6**
MCNL	**McNeil River**	**2.46**	**356**	P	**Pn**	**07 08 03.3**	**+0.9**
CHGN	**Chignik**	**2.48**	**262**	*e*Pn	**Pb**	**07 08 06.5**	**-1.2**
AUI	**Augustine Isla**	**2.62**	**7**	P	**Pn**	**07 08 06.0**	**+1.3**
AUI				S	**Sn**	**07 08 33.4**	**-2.2**
AUH	**Augustine H**	**2.65**	**6**	P	**Pn**	**07 08 06.6**	**+1.5**
VNSG	**Veniaminof 6**	**2.89**	**260**	P	**Pb**	**07 08 13.0**	**-1.7**
VNHG	**Veniaminof 1**	**2.91**	**262**	P	**Pb**	**07 08 13.4**	**-1.6**
OPT	**Oil Point**	**2.95**	**8**	P	**Pn**	**07 08 10.6**	**+1.4**
HOM	**Homer**	**3.18**	**22**	P	**Pn**	**07 08 13.6**	**+1.3**
HOM				S	**Sn**	**07 08 47.1**	**-2.4**
ILIM	**Iliamna**	**3.39**	**9**	P	**Pn**	**07 08 16.1**	**+0.8**
BRLK	**Bradley Lake**	**3.45**	**27**	P	**Pn**	**07 08 16.5**	**+0.4**
BRLK				S	**Sn**	**07 08 51.0**	**-5.2**
RSO	**Redoubt South**	**3.79**	**9**	P	**Pn**	**07 08 21.8**	**+0.9**
RDWB	**Redoubt West**	**3.81**	**9**	P	**Pn**	**07 08 21.9**	**+0.8**
NCT	**North Crescent**	**3.87**	**8**	P	**Pn**	**07 08 22.9**	**+1.0**
SDPT	**Sand Point**	**3.89**	**252**	P	Pn	07 08 26.1	+4.1
SLKM	**Skilak Lake**	**4.26**	**26**	P	**Pn**	**07 08 27.3**	**+0.1**
SVW2	**Sparrevohn**	**4.44**	**350**	P	**Pn**	**07 08 30.4**	**+0.7**
CKL	**Chakachamna La**	**4.55**	**10**	P	**Pn**	**07 08 32.0**	**+0.8**
SPBG	**Spurr Blockage**	**4.61**	**10**	P	**Pn**	**07 08 32.8**	**+0.8**
BGL	**Barrier Glacie**	**4.61**	**10**	P	**Pn**	**07 08 33.0**	**+0.9**
PN7A	**Pavlof North-7**	**4.66**	**257**	P	Pn	07 08 37.4	+4.6
MID	**Middleton Isla**	**4.88**	**53**	P	**Pn**	**07 08 35.1**	**-0.5**
RC01	**Rabbit Creek A**	**4.89**	**25**	P	**Pn**	**07 08 36.1**	**+0.3**
STLK	**Strandline Lak**	**4.90**	**12**	P	**Pn**	**07 08 36.5**	**+0.5**
DTNA	**Duton South F**	**4.90**	**254**	P	Pn	07 08 39.7	+3.7
SKT	**Skwentna**	**5.40**	**13**	P	**Pn**	**07 08 42.8**	**-0.1**
PMR	**Palmer**	**5.47**	**25**	P	**Pn**	**07 08 43.3**	**-0.5**
GLI	**Glacier Island**	**5.49**	**38**	P	**Pn**	**07 08 43.5**	**-0.5**
FALS	**False Pass**	**5.63**	**254**	P	Pn	07 08 50.3	+4.3
EYAK	**Cordova Ski Ar**	**5.76**	**45**	P	**Pn**	**07 08 47.6**	**-0.1**
JPK	**Jack Peak**	**5.78**	**39**	P	**Pn**	**07 08 48.1**	**0.0**
SML	**Sawmill**	**5.85**	**27**	P	**Pn**	**07 08 49.2**	**+0.1**
VLZ	**Valdez**	**5.93**	**39**	P	**Pn**	**07 08 50.5**	**+0.5**
SSBA	**Shishaldin**	**6.04**	**255**	P	**Pn**	**07 08 54.8**	**+3.1**
DIV	**Divide**	**6.12**	**41**	P	**Pn**	**07 08 53.1**	**+0.3**
SCM	**Sheep Creek Mo**	**6.14**	**31**	P	**Pn**	**07 08 53.6**	**+0.5**
BERG	**Berg Lake**	**6.51**	**52**	P	**Pn**	**07 08 58.5**	**+0.4**
TRF	**Thorofare Moun**	**6.98**	**14**	P	**Pn**	**07 09 04.6**	**0.0**
BARK	**Barkley Ridge**	**7.05**	**54**	P	**Pn**	**07 09 06.0**	**+0.5**
TGL	**Tana Glacier**	**7.07**	**51**	P	**Pn**	**07 09 06.1**	**+0.3**
RND	**Reindeer**	**7.16**	**19**	P	**Pn**	**07 09 06.8**	**-0.2**
MCARA	**McCarthy VSAT**	**7.33**	**46**	P	**Pn**	**07 09 10.0**	**+0.8**
PTPK	**Patty Peak**	**7.44**	**48**	P	**Pn**	**07 09 11.7**	**+0.7**
PAX	**Paxson**	**7.58**	**31**	P	**Pn**	**07 09 12.8**	**0.0**
UNV	**Unalaska Valle**	**7.70**	**253**	P	Pn	07 09 17.5	+3.2
LOGN	**Logan Glacier**	**7.89**	**53**	P	**Pn**	**07 09 17.9**	**+0.7**
WRH	**Wood River Hil**	**8.28**	**18**	P	**Pn**	**07 09 21.4**	**-0.8**
CCB	**Clear Creek Bu**	**8.49**	**18**	P	**Pn**	**07 09 24.4**	**-0.7**
IL1	**Eielson Array**	**8.77**	**20**	P	**Pn**	**07 09 28.8**	**-0.2**
ILAR	**Eielson Array**	**8.77**	**20**	Pn	**Pn**	**07 09 27.5**	**-1.5**
	1.3nm,0.3s,baz=200,slow=14,SNR=43						
ILAR				Sn	Sn	07 10 56.2	-11
	0.5nm,0.3s,baz=212,slow=24,SNR=3.1						
EGAK	**Eagle**	**10.20**	**33**	*e*Pn	**Pn**	**07 09 49.9**	**+1.4**
	4.8nm,0.5s						
YKA	**Yellowknife Ar**	**20.48**	**57**	P	**P**	**07 12 00.4**	**+0.9**
	2.6nm,0.8s,baz=270,slow=9.3,SNR=5.0						
NEW	**Newport**	**23.75**	**95**	LR	LR	07 20 22.0	
	comp=Z,37nm,18.5s,baz=294,slow=33						
SEY	**Seymchan**	**26.92**	**306**	P	**P**	**07 13 02.4**	**-0.3**
	0.9nm,0.6s,baz=76,slow=9.2,SNR=4.4						
PDAR	**Pinedale Array**	**31.32**	**97**	P	**P**	**07 13 39.6**	**-2.7**
	0.2nm,0.7s,baz=321,slow=8.5,SNR=2.2						
TXAR	**Lajitas Array**	**44.46**	**106**	P	P	07 15 29.1	-3.9
	0.1nm,0.7s,baz=330,slow=10,SNR=3.4						
ARCES	**ARCESS Array B**	**54.02**	**0**	P	**P**	**07 16 45.7**	**+0.3**
	1.5nm,0.9s,baz=8.9,slow=6.4,SNR=5.6						
SONM	**Songino Array**	**56.30**	**307**	P	**P**	**07 17 02.3**	**0.0**
	3.2nm,0.8s,baz=46,slow=6.5,SNR=17						
ZALV	**Zalesovo Beam**	**59.70**	**324**	P	**P**	**07 17 26.3**	**+0.4**
	2.0nm,0.6s,baz=36,slow=6.3,SNR=10						
NB2	**NORSAR Subarra**	**61.98**	**8**	P	**P**	**07 17 44.1**	**+2.8**
	comp=Z,0.7nm,0.6s,baz=354,slow=6.9						
NOA	**NORSAR Array B**	**61.98**	**8**	P	**P**	**07 17 42.5**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=353,slow=6.8,SNR=6.8						
FINES	**FINESS Array B**	**62.15**	**360**	P	**P**	**07 17 42.9**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=18,slow=8.6,SNR=10						
MKAR	**Makanchi Array**	**66.65**	**321**	P	**P**	**07 18 12.6**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=42,slow=6.8,SNR=9.1						
AKASG	**Malin Array Be**	**72.89**	**358**	P	**P**	**07 18 50.9**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=1.0,slow=5.4,SNR=2.8						
GERES	**GERESS Array B**	**74.28**	**8**	P	**P**	**07 18 59.7**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=355,slow=4.2,SNR=4.1						

IDC ***11*** *07:09:38.3±0.6, 3°.44N×126°.39E, h0km, mb4.1/12, mb1 4.3/14, mb1mx4.1/26, mbtmp4.1/14, ML4.1/2, MS3.2/2, Ms1 3.2/2, ms1mx2.7/31, Error ellipse: s-maj=37.7km s-min=14.0km az=71.0*

DJA ***11*** *07:09:42.3±0.8, 4°N±8°×12°7E±°, h10km, M4.5/7, mb4.5/6, mB5.2/3, MLv4.6/7, Mw(mB)4.6/3*

NEIC ***11*** *07:09:43.4±0.3, 3°.40N×126°.30E, h35km, mb4.7/3, Error ellipse: s-maj=15.8km s-min=6.5km az=81.0*

ISC 11 07:09:40.2±2.5, 3°.42N±0°.07×126°.41E±0°.09, h14km±16km, n31, σ0s91/33, mb4.2/14, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**0.92**	**287**	P	Pn	07 10 07.0	+8.3
SGSI				S	Sn	07 10 28.4	+17
KMSI	**Cibinong**	**3.73**	**221**	P	**Pg**	**07 10 52.6**	**+1.0**
LBMI	**Labuha**	**4.18**	**165**	P	**Pb**	**07 10 53.6**	**+0.1**
CTBH	**Cotabato--PC H**	**4.35**	**330**	⇑*i*P	**Pb**	**07 10 54.0**	**-2.5**
MRSI	**Marisa**	**5.34**	**237**	P	**Pb**	**07 11 13.0**	**-0.3**
	59nm,0.6s,2µm0.2nm						
SANI	**Sanana**	**5.45**	**184**	P	**Pb**	**07 11 14.1**	**-1.1**
APSI	**Ampana**	**6.41**	**228**	P	**Pb**	**07 11 30.6**	**-1.1**
	73nm,0.9s,805nm0.2nm						
SIJI	**Sorong**	**6.46**	**131**	Pn	**Pn**	**07 11 15.1**	**+0.1**
	3.7nm,0.3s,baz=339,slow=15,SNR=12						
SIJI				Sn	**Sn**	**07 12 26.3**	**-2.3**
	0.6nm,0.3s,baz=217,slow=20,SNR=4.7						
TTSI	**Tana Toraja**	**9.20**	**226**	P	Pn	07 12 11.0	+18
	13nm,1.0s,2µm						
KAPI	**Kapgang**	**10.70**	**218**	Pn	**Pn**	**07 12 12.1**	**-1.0**
	1.3nm,0.3s,baz=172,slow=7.1,SNR=5.5						
KAPI	**Kappang**	**10.70**	**218**	*e*Pn	**Pn**	**07 12 12.5**	**-0.6**
JAY	**Jayapura**	**15.46**	**112**	LR	LR	07 18 27.5	
	comp=Z,78nm,18.6s,baz=320,slow=34						
TPUB	**Ta-pu**	**20.54**	**345**	*e*P	**P**	**07 14 18.0**	**-0.4**
	12nm,0.6s						
WRAB	**Tennant Creek**	**24.48**	**162**	*e*P	**P**	**07 14 59.7**	**+0.5**
	16nm,0.8s						
WRA	**Warramunga Arr**	**24.49**	**162**	P	**P**	**07 14 59.4**	**+0.2**
	5.8nm,0.9s,baz=343,slow=9.7,SNR=38						
WRA				PcP	**PcP**	**07 18 38.7**	**+0.8**
	0.2nm,0.5s,baz=332,slow=2.4,SNR=2.9						
PSI	**Prapat**	**27.45**	**269**	LR	LR	07 27 18.0	
	comp=Z,50nm,20.5s,baz=220,slow=39						
ASAR	**Alice Springs**	**27.89**	**165**	P	**P**	**07 15 30.4**	**+0.4**
	0.8nm,0.4s,baz=345,slow=7.3,SNR=16						
ASAR				PcP	**PcP**	**07 18 46.2**	**+0.5**
	0.3nm,0.7s,baz=360,slow=2.0,SNR=3.3						
KSAR	**Wonju Array Be**	**33.89**	**2**	P	**P**	**07 16 22.1**	**-0.5**
KSRS	**Korea Array**	**33.90**	**2**	P	**P**	**07 16 22.1**	**-0.6**
	2.0nm,0.7s,baz=180,slow=9.0,SNR=6.5						
BJT	**Baijiatuan**	**37.59**	**347**	*e*P	**P**	**07 16 55.5**	**+1.1**
	50nm,1.1s						
BJT				*e*PcP	**PcP**	**07 19 11.0**	**-1.2**
STKA	**Stephens Creek**	**37.96**	**159**	P	**P**	**07 16 58.1**	**+0.5**
	4.3nm,0.6s,baz=332,slow=10,SNR=8.1						
SONM	**Songino Array**	**47.49**	**342**	P	**P**	**07 18 15.2**	**+0.2**
	1.3nm,0.6s,baz=155,slow=8.2,SNR=9.2						
SONM				PcP	**PcP**	**07 19 46.1**	**+1.0**
	0.8nm,0.8s,baz=154,slow=4.7,SNR=3.8						
MKAR	**Makanchi Array**	**57.63**	**326**	P	**P**	**07 19 30.1**	**+0.1**
	2.3nm,0.5s,baz=117,slow=6.4,SNR=32						
MKAR				PcP	**PcP**	**07 20 23.4**	**+0.3**
	0.6nm,0.7s,baz=127,slow=5.8,SNR=1.8						
ZALV	**Zalesovo Beam**	**60.72**	**333**	P	**P**	**07 19 51.3**	**0.0**
	0.4nm,0.4s,baz=111,slow=6.3,SNR=3.5						
ILAR	**Eielson Array**	**85.52**	**25**	P	**P**	**07 22 17.9**	**+0.3**
	0.3nm,0.8s,baz=246,slow=6.6,SNR=3.8						
BRTR	**Keskin Array B**	**89.97**	**310**	P	**P**	**07 22 40.3**	**+0.5**
	0.8nm,0.8s,baz=129,slow=1.8,SNR=4.7						
ARCES	**ARCESS Array B**	**90.63**	**340**	P	**P**	**07 22 42.1**	**+0.1**
	2.1nm,0.7s,baz=64,slow=5.6,SNR=8.2						
FINES	**FINESS Array B**	**91.95**	**332**	P	**P**	**07 22 47.9**	**-0.3**
	1.1nm,0.9s,baz=66,slow=4.6,SNR=4.4						
NOA	**NORSAR Array B**	**98.92**	**334**	P	**P**	**07 23 19.4**	**-0.8**
	0.3nm,0.7s,baz=66,slow=4.5,SNR=3.2						
TXAR	**Lajitas Array**	**122.04**	**52**	PKP	**PKPdf**	**07 28 35.5**	**+0.2**
	0.2nm,0.8s,baz=252,slow=1.7,SNR=3.9						
TORD	**Torodi Ar. Bea**	**122.71**	**288**	PKP	**PKPdf**	**07 28 37.3**	**+0.5**
	0.2nm,0.3s,baz=64,slow=1.5,SNR=5.1						

MAN 11 07:38:19.9±25.5N×125°.53E, h10km, mb4.6, ML3.5, MS3.4, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.29**	**163**	*e*P	Pg	07 38 25.1	+0.2
SCPH	**Surigao**	**0.53**	**355**⇑	*i*P	Pb	07 38 30.5	0.0
SCPH				*i*S	Sb	07 38 38.6	+0.4
MSLP	**Maasin**	**1.10**	**323**	*e*P	Pb	07 38 38.9	-1.3
MSLP				*e*S	Sn	07 38 59.4	+3.6
CGP	**Cagayan de Oro**	**1.14**	**226**	*e*P	Pb	07 38 39.3	-1.6
CGP				*e*S	Sn	07 38 56.8	-0.1
BIPH	**Bislig**	**1.34**	**142**⇑	*e*P	Pn	07 38 42.6	-1.1
BIPH				*e*S	Sb	07 38 59.0	-2.4
BUKP	**Musuan**	**1.44**	**199**	*e*P	Pn	07 38 45.4	+0.1
BUKP				*e*S	Sn	07 39 01.2	-3.0
BUKP	**Musuan**	**1.44**	**199**⇓	*i*P	Sb	07 39 03.5	-0.9
TBP	**Tagbilaran**	**1.71**	**285**	*e*P	Pn	07 38 47.1	-1.7
TBP				*e*S	Sb	07 39 11.5	-0.6
PLP	**Palo**	**1.98**	**344**⇓	*e*P	Pn	07 38 53.0	+0.3
PLP				*e*S	Sn	07 39 17.6	0.0
PAGZ	**Pagadian**	**2.54**	**237**	*e*P	Pn	07 39 01.6	+1.3
CNP	**Catarman**	**3.35**	**345**	*e*P	Pn	07 39 13.3	+1.9

KRSC 11 07:59:15.6±2.4, 49°.07N×156°.79E, h6km±5km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.67**	**345**	*e*P	Pb	07 59 46.1	-0.6
SKR				*e*S	Sn	08 00 06.6	-0.4
PAU	**Pauzhetka**	**2.40**	**0**	*e*S	Sb	08 00 28.1	-0.8
MIPR	**Malaya Ipel'ka**	**3.21**	**360**	*e*P	Pn	08 00 07.8	+1.3
ASAK	**Asacha**	**3.39**	**12**	*e*P	Pb	08 00 13.6	-2.5
RUS	**Russkaya**	**3.54**	**17**	*e*P	Pn	08 00 13.5	+2.5
AVH	**Avacha**	**4.37**	**16**	*e*P	Pn	08 00 26.7	+4.1
KOK	**Koryaka**	**4.38**	**15**	*e*P	Pn	08 00 27.4	+4.7
KRER	**Koryak

KURBB Sn **Sn** **08 10 03.1 +1.1**
0.1nm,0.3s,baz=185,slow=17,SNR=4.7
KURBB Lg Lg 08 10 54.4
0.2nm,0.3s,baz=185,slow=30,SNR=6.5
KURK Kurchatov 8.40 4 ⇑Lg Lg 08 10 55.3
4.9nm,0.7s
BVA0 Borovoye Array 11.78 338 ⇑Lg Lg 08 12 44.5
3.8nm,0.8s,baz=138,slow=26,SNR=3.6
BRVK Borovoye 11.84 337 ⇑Lg Lg 08 12 45.7
11nm,0.9s
ZALV Zalesovo Beam 12.52 20 Pn **Pn** **08 09 26.2 +0.2**
0.5nm,0.3s,baz=204,slow=14,SNR=5.8
SONM Songino Array 20.87 65 P **P** **08 11 07.2 -3.0**
0.5nm,0.8s,baz=263,slow=12,SNR=3.1
HHC Hu-ho-hao-te 25.22 82 *e*P **P** **08 11 52.5 -1.4**
HHC PP **PnPn** **08 12 29.7 +1.8**
HHC S **S** **08 16 14.6 -4.8**
HHC SS **SnSn** **08 17 12.7 +3.2**
HHC pmax pmax
comp=Z,10.0nm,1.3s
HHC pmax pmax
comp=Z,46nm,5.9s
HHC LR LR
comp=N,68nm,13.3s
HHC LR LR
comp=E,63nm,12.8s
HHC LR LR
comp=Z,30nm,13.9s

MEX 11 08:16:05.4±0.8, 19°.89N×99°.93W, h16km±6km, MD3.6, Central Mexico

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TOVM	**TOLUCA**	**0.65**	**158**	*i* P		Pg	08 16 15.8	-2.7
TOVM				*i* S		Sg	08 16 24.0	-3.5
PTVM	**Pico Tres Padr**	**0.82**	**110**	*e*P		Pb	08 16 18.1	-3.6
PTVM				*i* S		Sb	08 16 28.5	-4.4
DEIG	**Demacu**	**0.94**	**64**	*e*P		Pb	08 16 20.1	-3.5
DEIG				*i* S		Sb	08 16 31.4	-4.7
MZVM		**0.96**	**136**	*i* P		Pb	08 16 20.6	-3.0
MZVM				*i* S		Sb	08 16 32.6	-3.4
MAVM	**Malinalco, Edo**	**1.01**	**156**	*e*P		Pb	08 16 22.2	-2.7
MAVM				*e*S		Sb	08 16 34.2	-3.9
VTVM	**Tizayuca**	**1.10**	**96**	*e*P		Pb	08 16 23.4	-3.0
VTVM				*e*S		Sb	08 16 35.6	-5.2
IIO	**Organos**	**1.18**	**104**	*e*P		Pn	08 16 24.5	-3.2
IIO				*e*S		Sb	08 16 38.5	-4.6
AMVM	**AMECAMECA**	**1.31**	**125**	*e*P		Pn	08 16 27.3	-2.3

IDC ***11*** *08:17:31.7±1.2, 24°.20S×66°.83W, h181km±12km, mb3.2/2, mb1 3.4/6, mb1mx3.2/22, mbtmp3.8/6, Error ellipse: s-maj=21.0km s-min=15.9km az=33.0*
ISCJB ***11*** *08:17:32.1±0.6, 24°.14S±0°.05×66°.89W±0°.08, h181km, mb3.4/2, Error ellipse: s-maj=10.8km s-min=5.9km az=147.8*
SJA ***11*** *08:17:33.6±1.1, 24°.28S×66°.87W, h186km±21km, ML2.8*
ISC 11 08:17:32.2±0.9, 24°.15S±0°.07×66°.87W±0°.08, h181km, n15, σ1§83/20, Salta Province

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.37**	**115**	*i* P		**Pn**	**08 18 06.1**	**+2.8**
SLA				*i* S		**Sn**	**08 18 28.9**	**+1.6**
SLA					AML	AML	08 18 32.5	
comp=Z,62nm,0.6s								
HJA	**Humahuaca**	**1.63**	**55**	*i* P		**Pn**	**08 18 09.1**	**+3.1**
HJA				*i* P		**Pn**	**08 18 09.1**	**+3.1**
AZAP	**Zapla**	**1.65**	**93**	*i* P		**Pn**	**08 18 08.5**	**+2.5**
FSA	**Cafayete**	**2.09**	**158**	*i* P		**Pn**	**08 18 12.3**	**+1.8**
FSA				*i* S		**Sn**	**08 18 40.0**	**-0.4**
LVC	**Limon Verde**	**2.42**	**309**	P		**Pn**	**08 18 15.7**	**+1.4**
comp=Z,2μm,0.3s,baz=125,slow=9.2,SNR=1214								
LVC				S		**Sn**	**08 18 47.7**	**+0.7**
comp=Z,2μm,0.3s,baz=72,slow=20,SNR=6.3								
ALOL	**LOMAS DE OLMED**	**2.67**	**83**	*i* P		**Pn**	**08 18 19.2**	**+2.2**
CFAA	**Coronel Fontan**	**7.53**	**189**	P		**Pn**	**08 19 17.8**	**-1.5**
comp=Z,0.1nm,0.3s,baz=20,slow=14,SNR=16								
CFAA				S		Sn	08 20 37.0	-7.1
comp=Z,0.2nm,0.3s,baz=120,slow=20,SNR=11								
LPAZ	**La Paz**	**7.91**	**351**	P		**Pn**	**08 19 25.4**	**+0.5**
comp=Z,1.1nm,0.3s,baz=156,slow=8.0,SNR=24								
LPAZ				S		**Sn**	**08 20 52.0**	**-2.1**
comp=Z,0.2nm,0.3s,baz=328,slow=15,SNR=4.4								
CPUP	**Villa Florida**	**8.91**	**106**	P		**Pn**	**08 19 36.9**	**-0.6**
comp=Z,0.1nm,0.3s,baz=278,slow=8.9,SNR=3.7								
SIV	**San Ignacio**	**9.77**	**35**	P		**Pn**	**08 19 48.2**	**-0.7**
comp=Z,0.5nm,0.3s,baz=225,slow=11,SNR=7.6								
BDFB	**Brasilia**	**19.63**	**68**	P		**P**	**08 21 46.7**	**-0.5**
comp=Z,1.3nm,0.3s,baz=234,slow=11,SNR=23								
TXAR	**Lajitas Array**	**63.87**	**324**	P		**P**	**08 27 45.6**	**-0.1**
comp=Z,0.3nm,0.7s,baz=156,slow=6.8,SNR=4.6								
TORD	**Torodi Ar. Bea**	**76.51**	**69**	P		**P**	**08 29 01.8**	**-1.0**
comp=Z,0.8nm,0.5s,baz=254,slow=5.9,SNR=15								
WRA	**Warramunga Array**	**131.55**	**207**	PKP		**PKPdf**	**08 36 23.3**	**-0.8**
comp=Z,0.8nm,1.1s,baz=154,slow=1.7,SNR=4.7								
MKAR	**Makanchi Array**	**146.56**	**40**	PKPbc		**PKPbc**	**08 36 51.4**	**-0.9**
comp=Z,0.5nm,0.6s,baz=301,slow=3.0,SNR=6.1								

NIED ***11*** *08:21:00, 46°.70N×152°.50E, h35km, Mw3.9 Best double couple: M0 9.33000×10^14 NP1:φ⊕233.00000°, δ56.00000°, λ142.00000°. NP2:φ⊕347.00000°, δ59.00000°, λ41.00000°.*
JMA ***11*** *08:21:12.7±0.6, 46°.68N×152°.54E, h30km, M4.7*
ISCJB ***11*** *08:21:13.1±0.5, 46°.43N±0°.05×152°.44E±0°.07, h52km, mb3.8/21, MS3.1/8, Error ellipse: s-maj=9.3km s-min=3.3km az=137.5*
MOS ***11*** *08:21:15.6±1.0, 46°.59N×152°.25E, h70km, mb4.2/15, Error ellipse: s-maj=11.8km s-min=10.1km az=60.3*
SKHL ***11*** *08:21:15.4±6.1, 46°.29N×152°.58E, h80km±5km, mb4.5/9, Ms3.4/2*
IDC ***11*** *08:21:17.8±3.1, 46°.63N×152°.27E, h75km±27km, mb3.6/20, mb1 3.8/23, mb1mx3.7/33, mbtmp3.9/23, MS3.0/10, Ms1 3.0/10, ms1mx2.8/35, Error ellipse: s-maj=19.2km s-min=14.1km az=143.0*
ISC 11 08:21:14.9±0.6, 46°.38N±0°.07×152°.46E±0°.07, h52km, n110, σ1§55/112, mb3.9/21, MS3.2/8, 3C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.41**	**252**	⇓*i*P		**Pn**	**08 22 06.7**	**+1.2**
KUR				*i* S		**Sn**	**08 22 46.3**	**+1.7**
KUR					pmax	pmax		
comp=N,45nm,0.5s								
KUR					pmax	pmax		
comp=Z,52nm,0.5s								
KUR					pmax	pmax		
comp=E,22nm,0.3s								
KUR					smax	smax		
comp=N,190nm,0.4s								
KUR					smax	smax		
comp=E,101nm,0.4s								
KUR	**Kuril'sk**	**3.41**	**252**	⇑*i*P		**Pn**	**08 22 07.3**	**+1.8**
KUR					AMB	AMB	08 22 11.8	
comp=E,20nm,0.4s								
KUR					AMB	AMB	08 22 11.8	
comp=E,50nm,0.4s								
KUR				*e*S		**Sn**	**08 22 46.2**	**+1.7**
KUR					A	A	08 22 59.6	
comp=E,120nm,0.3s								
SHO	**Shikotan**	**4.70**	**240**	*e*P		**Pn**	**08 22 24.0**	**+0.7**
SHO					AMB	AMB	08 22 27.5	
comp=E,20nm,1.0s								
SHO					AMB	AMB	08 22 55.3	
comp=E,500nm,6.0s								
SHO				*e*S		**Sn**	**08 23 16.8**	**+0.3**
SHO					A	A	08 23 36.0	
comp=E,40nm,0.5s								
SHO					AMS	AMS	08 24 18.4	
comp=E,200nm,21.0s								
SHO					AMS	AMS	08 24 18.4	
comp=E,100nm,21.0s								
SKR	**Severo-Kuril's**	**4.95**	**28**	*e*PN		Pn	08 22 17.0	-10
SKR					pmax	pmax		
comp=Z,40nm,0.5s								
SKR	**Severo-Kuril's**	**4.95**	**28**	*e*P		**Pn**	**08 22 27.0**	**+0.5**
SKR					AMB	AMB	08 22 31.3	
comp=Z,40nm,0.5s								
SKR					AMB	AMB	08 22 42.6	
comp=Z,200nm,10.0s								
SKR				*e*S		**Sn**	**08 23 22.4**	**0.0**
SKR					A	A	08 23 47.3	
comp=Z,80nm,0.5s								
SKR					A	A	08 24 13.9	
comp=Z,500nm,13.0s								
YUK	**Yuzh-Kuril'sk**	**5.21**	**246**	*e*PN		**Pn**	**08 22 32.6**	**+2.3**
YUK				*i* S		**Sn**	**08 23 31.0**	**+2.0**
YUK					pmax	pmax		
comp=N,48nm,0.3s								
YUK					pmax	pmax		
comp=E,56nm,0.3s								
YUK					pmax	pmax		
comp=Z,64μm,0.3s								
YUK					smax	smax		
comp=N,131nm,0.6s								
YUK					smax	smax		
comp=E,153nm,0.6s								
YUK	**Yuzh-Kuril'sk**	**5.21**	**246**	*e*P		**Pn**	**08 22 32.6**	**+2.3**
YUK					AMB	AMB	08 22 35.1	
comp=E,50nm,0.3s								
YUK					AMB	AMB	08 22 35.1	
comp=E,60nm,0.3s								
YUK				*i* S		**Sn**	**08 23 31.1**	**+2.0**
YUK					A	A	08 23 48.7	
comp=E,130nm,0.6s								
YUK					A	A	08 23 48.7	
comp=E,150nm,0.6s								
YUK					A	A	08 23 51.0	
comp=E,200nm,1.0s								
NEM2	**Nemuro 2**	**5.64**	**240**	P		**Pn**	**08 22 36.4**	**+0.3**
NEM2				*e*S		**Sn**	**08 23 38.4**	**-1.1**
JRA	**Rausu**	**5.73**	**247**	P		**Pn**	**08 22 40.2**	**+2.9**
PAU	**Pauzhetka**	**5.84**	**28**	*e*S		**Sn**	**08 23 43.9**	**-0.6**
PAU					A	A	08 23 45.8	
comp=E,210nm,1.0s								
PAU					A	A	08 24 22.5	
comp=E,700nm,9.0s								
PAU					AMS	AMS	08 28 35.7	
comp=E,800nm,21.0s								
PAU					AMS	AMS	08 28 35.7	
comp=E,200nm,21.0s								
JNK	**Nakash**	**6.16**	**246**	P		**Pn**	**08 22 45.2**	**+2.0**
JAK	**Akkeshi**	**6.48**	**241**	P		**Pn**	**08 22 47.6**	**0.0**
JAK				*e*S		**Sn**	**08 23 57.9**	**-2.3**
JTKR	**Abashiri--Toko**	**6.50**	**251**	P		**Pn**	**08 22 50.8**	**+2.9**
YSS	**Yuzh-Sakhalins**	**6.70**	**278**	⇑*e*PN		**Pn**	**08 22 53.0**	**+2.4**
YSS				*e*S		**Sn**	**08 24 04.0**	**-1.5**
YSS					pmax	pmax		
comp=Z,20nm,0.8s								
YSS					pmax	pmax		
comp=E,20nm,0.9s								
YSS					smax	smax		
comp=N,20nm,0.8s								
YSS					smax	smax		
comp=E,20nm,0.8s								
YSS	**Yuzh-Sakhalins**	**6.70**	**278**	⇑*e*P		**Pn**	**08 22 53.0**	**+2.4**
YSS					AMB	AMB	08 22 55.7	
comp=E,20nm,0.8s								
YSS					AMB	AMB	08 23 11.3	
comp=E,200nm,4.0s								
YSS				*e*S		**Sn**	**08 24 07.0**	**+1.5**
YSS					A	A	08 24 09.8	
comp=E,20nm,0.8s								
JMP	**Maruseppu**	**6.85**	**253**	P		Pn	08 22 56.0	+3.3
JAR	**Ashorobuto**	**6.90**	**247**	P		**Pn**	**08 22 55.4**	**+2.0**
JOB	**Onbets**	**7.06**	**244**	P		**Pn**	**08 22 56.3**	**+0.7**
JOB				*e*S		**Sn**	**08 24 13.2**	**-1.2**
HRK	**Horoka**	**7.23**	**250**	*e*P		**Pn**	**08 23 00.5**	**+2.5**
JKK2	**Kamakawa 2**	**7.31**	**253**	P		Pn	08 23 02.2	+3.2
ASAJ	**Asahikawa**	**7.32**	**256**	P		Pn	08 23 02.8	+3.7
UGL	**Uglegorsk**	**7.51**	**295**	PN		**Pn**	**08 23 01.0**	**-0.6**
UGL	**Uglegorsk**	**7.51**	**295**	*e*P		Pn	08 23 04.7	+3.1
UGL					AMB	AMB	08 23 05.2	
comp=E,70nm,0.7s								
JCH	**Churui**	**7.51**	**243**	P		**Pn**	**08 23 01.7**	**0.0**
JCH				*e*S		**Sn**	**08 24 21.8**	**-3.6**
PETK	**Petropavlovsk-**	**7.54**	**25**	P		**Pn**	**08 23 03.4**	**+1.3**
comp=E,0.8nm,0.3s,baz=190,slow=13,SNR=14								
PETK					LR	LR	08 25 45.9	
comp=E,40nm,21.4s,baz=128,slow=36								
PETK	**Petropavlovsk-**	**7.54**	**25**	PN		**Pn**	**08 23 03.4**	**+1.3**
PETK					pmax	pmax		
comp=Z,1.0nm,0.3s								
PETK					MLR	MLR		
comp=Z,40nm,21.4s								
JFR	**Furan**	**7.72**	**249**	P		**Pn**	**08 23 06.9**	**+2.3**
MYR	**Moyori**	**7.74**	**241**	*e*P		**Pn**	**08 23 05.0**	**+0.2**
MYR				*e*S		**Sn**	**08 24 28.2**	**-2.8**
ERM	**Erimo**	**7.98**	**240**	*e*PN		**Pn**	**08 23 09.7**	**+1.6**
ERM	**Erimo**	**7.98**	**240**	*e*P		**Pn**	**08 23 09.7**	**+1.6**
JNBK	**Urakawa-nobuka**	**8.07**	**243**	P		**Pn**	**08 23 09.2**	**-0.2**
JEW	**Eniwo**	**8.61**	**250**	P		**Pn**	**08 23 18.8**	**+2.0**
JNB	**Noboribetsu**	**9.05**	**249**	P		**Pn**	**08 23 23.8**	**+0.9**
JNB				*e*S		**Sn**	**08 25 02.0**	**-1.3**
JKB	**Kayabe**	**9.36**	**245**	P		**Pn**	**08 23 26.4**	**-0.6**
JKB				*e*S		Sn	08 25 05.4	-5.3
JSH	**Shimam**	**9.62**	**252**	P		**Pn**	**08 23 32.3**	**+1.7**
JSR	**Shiriuchi**	**9.94**	**245**	P		**Pn**	**08 23 34.1**	**-0.8**
JANG	**Nango**	**9.97**	**237**	*e*S		Sn	08 25 17.7	-8.0
JTM	**Tenmabayashi**	**9.97**	**240**	P		**Pn**	**08 23 34.2**	**-1.2**
JTM				*e*S		Sn	08 25 18.3	-7.4
NKL	**Nikolayevsk**	**10.19**	**316**	*e*P		**Pn**	**08 23 40.0**	**+1.7**
NKL					AMB	AMB	08 23 41.2	
comp=Z,20nm,1.0s								
JOSM	**Okushiri--Mats**	**10.26**	**250**	P		**Pn**	**08 23 39.5**	**+0.2**
JRG	**Rokugo**	**11.12**	**235**	P		**Pn**	**08 23 50.6**	**-0.6**
JRG				*e*S		Sn	08 25 47.1	-6.9
TEY	**Ternei**	**11.17**	**269**	*e*P		Pn	08 23 57.0	+5.3
JIO	**Ouri**	**11.40**	**230**	P		**Pn**	**08 23 53.1**	**-1.8**
JIO				*e*S		Sn	08 25 52.8	-7.8
HABR	**Khabarovsk**	**11.97**	**286**	PN		**Pn**	**08 24 01.6**	**-1.1**
HABR					pmax	pmax		
comp=Z,14nm,1.7s								
HABR					MLR	MLR		
comp=Z,44nm,18.0s								
HABR	**Khabarovsk**	**11.97**	**286**	*e*P		**Pn**	**08 24 01.6**	**-1.1**
HABR					AMB	AMB	08 24 23.9	
comp=Z,10.0nm,1.7s								
HABR					AMS	AMS	08 29 03.9	
comp=Z,100nm,18.0s								
KLR	**Kul'dur**	**14.20**	**289**	*e*P		**Pn**	**08 24 35.0**	**+2.0**
KLR	**Kul'dur**	**14.20**	**289**	*e*P		**Pn**	**08 24 35.0**	**+2.0**
EKMR	**Ekimchan**	**14.26**	**305**	*e*P		**P**	**08 24 38.2**	**-1.5**
EKMR					AMB	AMB	08 24 43.1	
comp=Z,4.0nm,0.6s								
MJA0	**Matsu Arr-Jizo**	**14.47**	**232**	*e*P		**P**	**08 24 44.6**	**+2.4**
MJA0					pmax	pmax		
comp=Z,1.0nm,0.3s								
MAJO	**Matsushiro**	**14.49**	**232**	*e*P		**P**	**08 24 44.2**	**+1.8**
MAT	**Matsushiro**	**14.49**	**232**	P		**P**	**08 24 44.6**	**+2.2**
MJAR	**Matsushiro Arr**	**14.49**	**232**	P		**Pn**	**08 24 39.1**	**+2.2**
comp=Z,0.1nm,0.3s,baz=46,slow=8.1,SNR=3.7								
MJAR					LR	LR	08 29 40.7	
comp=Z,43nm,21.9s,baz=90,slow=35								
USRK	**Ussuriysk Ar.**	**14.57**	**269**	P		**Pn**	**08 24 38.3**	**+0.4**
comp=Z,0.4nm,0.3s,baz=68,slow=13,SNR=4.0								
BMKR	**Bomnak**	**17.10**	**308**	*e*P		**P**	**08 25 13.5**	**+2.4**
BMKR					AMB	AMB	08 25 15.2	
comp=Z,10.0nm,0.5s								
YASR	**Yasnyy**	**17.18**	**303**	*e*P		**Pn**	**08 25 09.4**	**-1.7**
KSRS	**Korea Array**	**20.25**	**253**	P		**P**	**08 25 47.3**	**+1.6**
comp=Z,4.3nm,0.6s,baz=62,slow=12,SNR=6.4								
KSRS					LR	LR	08 32 22.1	
comp=Z,23nm,21.4s,baz=110,slow=33								
KSRS	**Korea Array**	**20.25**	**253**	P		**P**	**08 25 47.3**	**+1.6**
KSRS					pmax	pmax		
comp=Z,4.0nm,0.6s								
KSRS					MLR	MLR		
comp=Z,23nm,21.4s								
YAK	**Yakutsk**	**20.39**	**328**	LR		LR	08 33 33.5	
comp=Z,41nm,18.4s,baz=132,slow=37								
JCJ	**Chichijima**	**20.90**	**206**	LR		LR	08 35 46.0	
comp=Z,10nm,18.8s,baz=163,slow=41								
BILL	**Bilibino**	**22.86**	**13**	*e*P		**P**	**08 26 14.8**	**+1.4**
BILL					pmax	pmax		
comp=Z,3.0nm,1.2s								
BILL	**Bilibino**	**22.86**	**13**	*e*P		**P**	**08 26 14.8**	**+1.4**
H11N2	**WAKE ISLAND Hy**	**29.11**	**151**	T		T	08 58 31.7	
baz=339,slow=75,SNR=1134								
H11N1	**WAKE ISLAND Hy**	**29.12**	**151**	T		T	08 58 35.7	
baz=339,slow=75,SNR=844								
H11N3	**WAKE ISLAND Hy**	**29.12**	**151**	T		T	08 58 35.9	
baz=339,slow=75,SNR=635								
H11S1	**WAKE ISLAND Hy**	**30.18**	**152**	T		T	08 59 53.6	
baz=340,slow=76,SNR=627								
H11S3	**WAKE ISLAND Hy**	**30.19**	**152**	T		T	08 59 54.7	
baz=340,slow=76,SNR=391								
H11S2	**WAKE ISLAND Hy**	**30.20**	**152**	T		T	08 59 57.1	
baz=340,slow=76,SNR=398								
ILAR	**Eielson Array**	**37.12**	**38**	P		**P**	**08 28 19.7**	**-0.3**
comp=Z,0.2nm,0.5s,baz=256,slow=6.3,SNR=3.9								
INK	**Inuvik**	**42.21**	**32**	P		**P**	**08 29 01.5**	**-0.6**
comp=Z,1.4nm,0.7s,baz=258,slow=4.8,SNR=3.3								
INK	**Inuvik**	**42.21**	**32**	P		**P**	**08 29 01.5**	**-0.6**
INK					pmax	pmax		
comp=Z,1.0nm,0.7s								
ZALV	**Zalesovo Beam**	**42.46**	**306**	P		**P**	**08 29 03.6**	**-0.8**
comp=Z,0.3nm,0.3s,baz=54,slow=13,SNR=2.3								
ZALV					PcP	**PcP**	**08 30 56.2**	**-0.2**
comp=Z,0.9nm,0.7s,baz=72,slow=5.0,SNR=3.5								
ZALV					LR	LR	08 47 58.0	
comp=Z,63nm,18.3s,baz=66,slow=38								
ZALV	**Zalesovo Beam**	**42.46**	**306**	P		**P**	**08 29 03.6**	**-0.8**
ZALV							08 30 56.2	
ZALV					pmax	pmax		
comp=Z,1.0nm,0.7s								
ZALV					MLR	MLR		
comp=Z,63nm,18.3s								
MKAR	**Makanchi Array**	**46.71**	**297**	P		**P**	**08 29 36.9**	**-1.5**
comp=Z,1.4nm,0.7s,baz=70,slow=7.0,SNR=12								
MKAR					PcP	**PcP**	**08 31 10.7**	**-0.5**
comp=Z,0.6nm,0.6s,baz=60,slow=3.8,SNR=5.4								
MKAR					LR	LR	08 50 22.3	
comp=Z,44nm,18.6s,baz=48,slow=38								
MKAR	**Makanchi Array**	**46.71**	**297**	*e*P		**P**	**08 29 37.1**	**-1.3**
MKAR					pmax	pmax		
comp=Z,1.0nm,0.7s								
MKAR	**Makanchi Array**	**46.71**	**297**	*e*P		**P**	**08 29 37.1**	**-1.3**
KURK	**Kurchatov**	**47.19**	**304**	P		**P**	**08 29 39.7**	**-2.3**
KURK					pmax	pmax		
comp=Z,1.0nm,0.8s								
KURK	**Kurchatov**	**47.19**	**304**	*e*P		**P**	**08 29 39.7**	**-2.3**
KURBB	**Kurchatov Arra**	**47.28**	**304**	P		**P**	**08 29 39.7**	**-3.0**
comp=Z,1.0nm,0.8s,baz=72,slow=8.7,SNR=5.5								
BVAR	**Borovoye Array**	**50.74**	**309**	P		**P**	**08 30 07.3**	**-1.9**
comp=Z,0.9nm,0.5s,baz=40,slow=7.8,SNR=5.6								
BVAR					PcP	**PcP**	**08 31 25.8**	**+0.2**
comp=Z,0.5nm,0.5s,baz=126,slow=1.7,SNR=3.7								
BVAR	**Borovoye Array**	**50.74**	**309**	P		**P**	**08 30 07.3**	**-1.9**
BVAR							08 31 25.8	
BVAR					pmax	pmax		
comp=Z,1.0nm,0.5s								
CMAR	**Chiang Mai Arr**	**51.84**	**256**	P		**P**	**08 30 18.5**	**+0.6**
comp=Z,1.6nm,0.3s,baz=32,slow=8.5,SNR=6.5								
CMAR	**Chiang Mai Arr**	**51.84**	**256**	P		**P**	**08 30 18.5**	**+0.6**
CMAR					pmax	pmax		
comp=Z,2.0nm,0.3s								
FINES	**FINESS Array B**	**64.18**	**335**	P		**P**	**08 31 41.6**	**-2.0**
comp=Z,0.6nm,0.4s,baz=42,slow=5.8,SNR=12								
FINES					LR	LR	09 02 19.1	
comp=Z,23nm,18.9s,baz=358,slow=38								
FINES	**FINESS Array B**	**64.18**	**335**	*e*P		**P**	**08 31 42.6**	**-1.0**
FINES					pmax	pmax		
comp=Z,1.0nm,0.4s								
FINES	**FINESS Array B**	**64.18**	**335**	*e*P		**P**	**08 31 42.6**	**-1.0**
PDAR	**Pinedale Array**	**65.33**	**53**	P		**P**	**08 31 50.9**	**-0.8**
comp=Z,0.4nm,0.4s,baz=321,slow=2.1,SNR=5.0								
WRA	**Warramunga Arr**	**68.02**	**198**	P		**P**	**08 32 09.4**	**+0.8**
comp=Z,0.5nm,0.8s,baz=20,slow=6.8,SNR=3.8								
WRA	**Warramunga Arr**	**68.02**	**198**	P		**P**	**08 32 09.4**	**+0.8**
WRA					pmax	pmax		
comp=Z,1.0nm,0.8s								
NB2	**NORSAR Subarra**	**68.43**	**341**	P		**P**	**08 32 10.1**	**-0.8**
comp=Z,1.4nm,0.6s,baz=27,slow=6.5								
NOA	**NORSAR Array B**	**68.43**	**341**	P		**P**	**08 32 09.3**	**-1.5**
comp=Z,0.9nm,0.5s,baz=28,slow=6.5,SNR=8.3								
NOA					LR	LR	09 06 02.8	
comp=Z,11nm,18.3s,baz=320,slow=39								
NOA	**NORSAR Array B**	**68.43**	**341**	P		**P**	**08 32 09.3**	**-1.5**
NOA					pmax	pmax		
comp=Z,1.0nm,0.5s								
NOA					MLR	MLR		
comp=Z,11nm,18.3s								
HFS	**Hagfors**	**68.64**	**339**	P		**P**	**08 32 10.1**	**-2.0**
comp=Z,2.8nm,0.6s,baz=53,slow=5.6,SNR=17								
HFS	**Hagfors**	**68.64**	**339**	P		**P**	**08 32 10.1**	**-2.0**
HFS					pmax	pmax		
comp=Z,3.0nm,0.6s								
KBZ	**Khabaz**	**70.79**	**314**	P		**P**	**08 32 24.2**	**-1.4**
comp=Z,2.2nm,0.8s,baz=39,slow=5.3,SNR=6.0								
KBZ	**Khabaz**	**70.79**	**314**	P		**P**	**08 32 24.2**	**-1.4**
KBZ					pmax	pmax		
comp=Z,2.0nm,0.8s								
AKASG	**Malin Array Be**	**71.60**	**326**	P		**P**	**08 32 29.4**	**-1.0**
comp=Z,0.5nm,0.3s,baz=35,slow=6.2,SNR=3.1								
AKASG					LR	LR	09 06 13.4	
comp=Z,21nm,18.9s,baz=10.0,slow=38								
AKASG	**Malin Array Be**	**71.60**	**326**	P		**P**	**08 32 29.4**	**-1.0**
AKASG					pmax	pmax		
comp=Z,1.0nm,0.3s								
AKASG					MLR	MLR		
comp=Z,21nm,18.9s								
ASAR	**Alice Springs**	**71.71**	**198**	P		**P**	**08 32 32.6**	**+1.3**
comp=Z,0.5nm,0.9s,baz=17,slow=5.4,SNR=5.6								
ASAR	**Alice Springs**	**71.71**	**198**	P		**P**	**08 32 32.6**	**+1.3**
ASAR					pmax	pmax		
comp=Z,1.0nm,0.9s								
EKA	**Eskdalemuir Ar**	**76.59**	**346**	P		**P**	**08 32 58.5**	**-0.9**
comp=Z,2.7nm,0.9s,baz=20,slow=4.8,SNR=2.8								
EKA	**Eskdalemuir Ar**	**76.59**	**346**	P		**P**	**08 32 58.5**	**-0.9**
EKA					pmax	pmax		
comp=Z,3.0nm,0.9s								
TXAR	**Lajitas Array**	**78.07**	**60**	P		**P**	**08 33 09.1**	**+0.8**
comp=Z,0.3nm,0.5s,baz=300,slow=5.1,SNR=10								
BRTR	**Keskin Array B**	**78.35**	**316**	P		**P**	**08 33 09.5**	**-0.2**
comp=Z,1.3nm,0.8s,baz=54,slow=6.4,SNR=6.2

SAN	**Santiago**	**1.17**	**82**	*e*P	Pn	08 32 28.0	+1.7
SAN				*e*S	Sn	08 32 44.3	+3.2
CHCH	**Chadas Angostu**	**1.21**	**105**	*e*P	Pn	08 32 28.4	+1.6
CHCH				*e*S	Sn	08 32 45.2	+3.3
PEL	**Peldehue**	**1.24**	**68**	*e*P	Pn	08 32 29.5	+2.2
PEL				AML	AML	08 32 55.7	
	comp=E,2µm,0.6s						
LACH	**Col Las Americ**	**1.28**	**83**	*e*P	Pn	08 32 29.4	+1.6
LACH				*e*S	Sn	08 32 47.4	+3.6
PCH	**Pirque**	**1.28**	**90**	*e*P	Pn	08 32 29.8	+1.9
PCH				*e*S	Sn	08 32 47.4	+3.5
CLCH	**Cerro Calan**	**1.28**	**80**	*e*P	Pn	08 32 29.7	+1.8
CLCH				*e*S	Sn	08 32 47.1	+3.1
CLCH				AML	AML	08 32 57.6	
	comp=N,1µm,0.7s						
NICH	**Los Niches**	**1.54**	**154**	*e*P	Pn	08 32 33.7	+2.4
NICH				*e*S	Sn	08 32 54.4	+4.4
NICH				AML	AML	08 32 58.6	
	comp=E,2µm,0.8s						
TALC	**Talca**	**1.81**	**169**	*e*P	Pn	08 32 37.3	+2.3
TALC				*e*S	Sn	08 33 01.1	+4.5
LNCH	**Linares**	**2.25**	**171**	*e*P	Pn	08 32 43.7	+2.6

ISCJB ***11*** *08:36:28.2±0.2, 15°.07S±0°.05×73°.33W±0°.05, h108km, mb4.7/103, Error ellipse: s-maj=8.9km s-min=3.4km az=136.6*

NEIC ***11*** *08:36:28.3±0.6, 14°.97S×73°.21W, h90km±5km, mb4.7/78, Error ellipse: s-maj=7.2km s-min=4.1km az=52.0*

IDC ***11*** *08:36:29.4±0.5, 14°.98S×73°.25W, h104km±4km, mb4.3/14, mb1 4.5/18, mb1mx4.4/22, mbtmp4.7/18, MS3.4/6, Ms1 3.4/6, ms1mx3.2/23, Error ellipse: s-maj=17.3km s-min=12.0km az=34.0*

GUC ***11*** *08:36:30.4±0.4, 15°.65S×72°.86W, h282km±20km, ML6.6*

ISC 11 08:36:28.9±0.4, 15°.13S±0°.06×73°.41W±0°.07, h103km±3km, h102km:pP-P, n538, σ1°08/569, mb4.8/102, 1C-1D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**2.27**	**126**	*i*P	**Pn**	**08 37 05.5**	**+0.2**
ARE				*e*S	**Sn**	**08 37 33.4**	**+0.2**
NNA	**Nana**	**4.58**	**313**	P	Pn	08 37 33.1	-2.9
	23nm,0.3s,baz=141,slow=12,SNR=23						
NNA				S	**Sn**	**08 38 25.4**	**-2.7**
	71nm,0.3s,baz=71,slow=9.6,SNR=4.7						
NNA	**Nana**	**4.58**	**313**	*e*Pn	**Pn**	**08 37 34.9**	**-1.1**
NNA				*e*Sn	**Sn**	**08 38 23.8**	**-4.3**
LPAZ	**La Paz**	**5.21**	**103**	P	**Pn**	**08 37 43.6**	**-1.4**
	17nm,0.3s,baz=278,slow=12,SNR=195						
LPAZ				LR	LR	08 39 47.0	
	comp=Z,560nm,21.2s,baz=311,slow=39						
LPAZ	**La Paz**	**5.21**	**103**	*e*P	**Pn**	**08 37 46.6**	**+1.6**
LPAZ	**La Paz**	**5.21**	**103**	*e*Pn	**Pn**	**08 37 46.2**	**+1.2**
MNMC	**Minimini**	**5.39**	**138**	*e*P	**Pn**	**08 37 46.2**	**-1.0**
MNMC				*e*S	**Sn**	**08 38 44.0**	**-4.2**
PB01	**IPOC Station P**	**6.96**	**148**	*e*P	**Pn**	**08 38 06.2**	**-2.1**
PB01				*e*S	Sn	08 39 18.9	-7.2
PB01				AML	AML	08 39 24.3	
	comp=N,696nm,0.2s						
PB07	**IPOC Station P**	**7.36**	**154**	*e*P	**Pn**	**08 38 11.8**	**-2.1**
PB07				*e*S	Sn	08 39 28.7	-7.2
PB07				AML	AML	08 39 39.3	
	comp=E,541nm,0.2s						
PB04	**IPOC Station P**	**8.01**	**153**	*e*P	Pn	08 38 17.5	-4.9
PB04				*e*S	Sn	08 39 39.5	-12
PB04				AML	AML	08 39 45.7	
	comp=E,298nm,0.3s						
PB06	**IPOC Station P**	**8.36**	**155**	*e*P	**Pn**	**08 38 25.0**	**-2.5**
PB06				*e*S	Sn	08 39 51.7	-8.6
PB06				AML	AML	08 39 60.0	
	comp=N,209nm,0.3s						
LVC	**Limon Verde**	**8.57**	**151**	P	**Pn**	**08 38 29.2**	**-1.2**
	comp=N,398nm,0.3s,baz=326,slow=11,SNR=105						
LVC				S	**Sn**	**08 40 01.2**	**-4.3**
	comp=N,1µm,0.3s,baz=232,slow=19,SNR=13						
LVC				LR	LR	08 41 55.6	
	comp=N,294nm,19.0s,baz=346,slow=38						
LVC	**Limon Verde**	**8.57**	**151**	*e*Pn	**Pn**	**08 38 29.4**	**-0.9**
LVC				*e*Sn	**Sn**	**08 40 02.1**	**-3.4**
ATAH	**Atahualpa**	**9.33**	**328**	P	**Pn**	**08 38 38.0**	**-2.9**
	comp=N,0.9nm,0.3s,baz=203,slow=7.7,SNR=3.8						
SAML	**Samuel**	**11.73**	**60**	*e*Pn	Pn	08 39 07.8	-5.3
SIV	**San Ignacio**	**11.92**	**96**	P	**Pn**	**08 39 12.4**	**-3.1**
	comp=N,4.4nm,0.3s,baz=290,slow=11,SNR=61						
OTAV	**Otavalo**	**16.07**	**341**	*e*P	**P**	**08 40 10.3**	**-0.6**
	comp=N,10.0nm,1.1s						
CFAA	**Coronel Fontan**	**17.07**	**165**	P	**P**	**08 40 22.0**	**+0.7**
	comp=N,0.1nm,0.3s,baz=332,slow=11,SNR=6.3						
CPUP	**Villa Florida**	**18.69**	**129**	P	**P**	**08 40 38.7**	**-0.5**
	comp=N,0.7nm,0.3s,baz=312,slow=11,SNR=18						
CPUP	**Villa Florida**	**18.69**	**129**	*e*P	**Pn**	**08 40 40.2**	**-0.6**
PTGA	**Pitinga**	**19.52**	**44**	P	**P**	**08 40 46.4**	**-1.9**
	comp=N,7.7nm,0.3s,baz=216,slow=12,SNR=33						
PTGA				S	S	08 44 12.2	-11
	comp=N,0.8nm,0.3s,baz=131,slow=20,SNR=4.9						
PTGA	**Pitinga**	**19.52**	**44**	*e*P	**P**	**08 40 47.2**	**-1.1**
	comp=N,78nm,0.8s						
PTGA				S	S	08 44 12.2	-11
ROSC	**El Rosal**	**19.88**	**357**	P	**Pn**	**08 40 54.9**	**-0.2**
	comp=N,4.6nm,0.3s,baz=120,slow=7.8,SNR=35						
ROSC	**El Rosal**	**19.88**	**357**	*e*P	**Pn**	**08 40 54.7**	**-0.4**
SDV	**Santo Domingo**	**24.02**	**7**	*e*P	**P**	**08 41 33.4**	**-1.2**
	comp=N,13nm,0.7s						
BB16B	**Bebedouro**	**24.30**	**108**	*e*P	**P**	**08 41 35.4**	**-1.6**
BB16B				*i*		08 41 36.5	
BB16B				*i*		08 41 38.4	
BB16B				*i*		08 41 43.9	
BB16B				*i*		08 41 47.6	
BB16B				*i*		08 41 54.6	
BDFB	**Brasilia**	**24.48**	**95**	P	**P**	**08 41 38.3**	**-0.5**
	comp=N,9.9nm,0.6s,baz=264,slow=11,SNR=23						
BDFB	**Brasilia**	**24.48**	**95**	*e*P	**P**	**08 41 38.1**	**-0.7**
PCRV	**Puerto La Cruz**	**26.60**	**20**	P	**P**	**08 41 56.8**	**-1.1**
	comp=N,4.5nm,0.7s,baz=199,slow=11,SNR=3.3						
035Z	**Hargill**	**47.80**	**330**	P	**P**	**08 44 57.5**	**+1.4**
	baz=48						
034A	**Hebbronville**	**48.60**	**329**	P	**P**	**08 45 03.5**	**+1.3**
	baz=49						
934A	**Benavides**	**48.97**	**330**	P	**P**	**08 45 06.5**	**+1.5**
	baz=49						
835A	**Beeville**	**49.22**	**331**	P	**P**	**08 45 08.4**	**+1.5**
	baz=49						
933A	**Laredo**	**49.34**	**329**	P	**P**	**08 45 08.9**	**+1.0**
	baz=50,SNR=6.5						
834A	**Tilden**	**49.42**	**330**	P	**P**	**08 45 09.9**	**+1.4**
	baz=50						
736A	**Circle Diamond**	**49.44**	**332**	P	**P**	**08 45 10.1**	**+1.5**
	baz=50						
LRAL	**Lakeview Retre**	**49.63**	**345**	*e*P	**P**	**08 45 08.8**	**-1.2**
	comp=N,18nm,1.3s						
735A	**Kenedy**	**49.69**	**332**	P	**P**	**08 45 11.7**	**+1.2**
	baz=50						
440A	**Kirbyville**	**49.72**	**337**	P	**P**	**08 45 11.9**	**+1.2**
	baz=50						
HKT	**Hockley**	**49.76**	**334**	*e*P	**P**	**08 45 11.6**	**+0.6**
	comp=N,74nm,2.5s						
VBMS	**Vicksburg**	**49.85**	**341**	P	**P**	**08 45 12.9**	**+1.2**
	baz=50						
538A	**Harpers Horsep**	**49.86**	**335**	P	**P**	**08 45 13.0**	**+1.2**
	baz=50						
636A	**Smothers Creek**	**49.88**	**333**	P	**P**	**08 45 13.3**	**+1.3**
	baz=50,SNR=5.1						
833A	**Chaparral WMA,**	**49.99**	**330**	P	**P**	**08 45 13.6**	**+0.8**
	baz=50,SNR=13						
734A	**La Parita Cree**	**50.03**	**331**	P	**P**	**08 45 14.3**	**+1.2**
	baz=50						
439A	**Center Grove,**	**50.07**	**336**	P	**P**	**08 45 14.7**	**+1.3**
	baz=50						
537A	**Green Hill Far**	**50.08**	**334**	P	**P**	**08 45 14.7**	**+1.3**
	baz=50						
635A	**Leesville**	**50.12**	**332**	P	**P**	**08 45 14.5**	**+0.7**
	baz=50						
832A	**Faith Ranch, C**	**50.24**	**329**	P	**P**	**08 45 15.6**	**+0.8**
	baz=50						
733A	**Divot King Ran**	**50.27**	**330**	P	**P**	**08 45 15.7**	**+0.7**
	baz=50						
340A	**Bronson**	**50.29**	**337**	P	**P**	**08 45 16.0**	**+1.0**
	baz=50						
634A	**China Grove, S**	**50.38**	**331**	P	**P**	**08 45 17.4**	**+1.6**
	baz=51						
536A	**Bastrop**	**50.40**	**333**	P	**P**	**08 45 16.8**	**+0.9**
	baz=51						
339A	**Huntington**	**50.47**	**336**	P	**P**	**08 45 17.5**	**+1.1**
	baz=51						
535A	**Dale**	**50.58**	**333**	P	**P**	**08 45 18.1**	**+0.8**
	baz=51						
732A	**Laxson Ranch,**	**50.61**	**329**	P	**P**	**08 45 18.1**	**+0.6**
	baz=51,SNR=6.9						
338A	**Crockett**	**50.78**	**336**	P	**P**	**08 45 20.0**	**+1.3**
	baz=51						
633A	**Sasthoff Ranch**	**50.84**	**331**	P	**P**	**08 45 20.0**	**+0.8**
	baz=51,SNR=29						
436A	**Wall Ranch, Ga**	**50.88**	**334**	P	**P**	**08 45 20.8**	**+1.4**
	baz=51						
NATX	**Nacogdoches**	**50.89**	**337**	P	**P**	**08 45 20.9**	**+1.3**
	baz=51						
534A	**Blanco**	**50.99**	**332**	P	**P**	**08 45 20.5**	**+0.2**
	baz=51						
239A	**Gary**	**51.05**	**337**	P	**P**	**08 45 22.0**	**+1.3**
	baz=51						
632A	**Uvalde**	**51.16**	**330**	P	**P**	**08 45 22.5**	**+0.8**
	baz=51,SNR=13						
435B	**Jarrell**	**51.23**	**333**	P	**P**	**08 45 22.9**	**+0.7**
	baz=51						
238A	**Jacksonville**	**51.28**	**336**	P	**P**	**08 45 23.5**	**+1.1**
	baz=52						
533A	**Kerrville**	**51.28**	**331**	P	**P**	**08 45 23.3**	**+0.8**
	baz=52,SNR=5.9						
336A	**Riesel**	**51.44**	**334**	P	**P**	**08 45 24.5**	**+0.8**
	baz=52						
SWET	**Sewanee**	**51.46**	**347**	*e*P	**P**	**08 45 22.9**	**-0.9**
631A	**Perdido Creek**	**51.47**	**329**	P	**P**	**08 45 24.7**	**+0.8**
	baz=52,SNR=9.5						
237A	**Washetta, Mont**	**51.55**	**336**	P	**P**	**08 45 25.5**	**+1.1**
	baz=52						
434A	**Burnet**	**51.56**	**332**	P	**P**	**08 45 25.5**	**+0.9**
	baz=52						
335A	**Moody**	**51.60**	**334**	P	**P**	**08 45 25.6**	**+0.8**
	baz=52						
OXF	**Oxford**	**51.66**	**343**	*e*P	**P**	**08 45 23.5**	**-1.7**
	comp=N,24nm,1.3s						
532A	**Rocksprings**	**51.74**	**331**	P	**P**	**08 45 26.7**	**+0.7**
	baz=52						
236A	**Katherine and**	**51.84**	**335**	P	**P**	**08 45 27.6**	**+0.9**
	baz=52						
138A	**Matatall Enter**	**51.85**	**337**	P	**P**	**08 45 27.7**	**+1.0**
	baz=52						
433A	**Art**	**51.88**	**332**	P	**P**	**08 45 27.2**	**+0.2**
	baz=52,SNR=9.0						
JCT	**Junction City**	**51.98**	**331**	P	**P**	**08 45 28.6**	**+0.8**
	baz=52						
JCT	**Junction City**	**51.98**	**331**	*e*P	**P**	**08 45 28.0**	**+0.2**
	comp=N,11nm,1.4s						
334A	**Lometa**	**51.99**	**333**	P	**P**	**08 45 28.2**	**+0.4**
	baz=52						
Z39A	**Irene McRaven,**	**52.03**	**338**	P	**P**	**08 45 29.6**	**+1.5**
	baz=52						
137A	**Heron Place, G**	**52.06**	**336**	P	**P**	**08 45 30.0**	**+1.8**
	baz=52						
531A	**Rocksprings**	**52.08**	**330**	P	**P**	**08 45 29.6**	**+1.1**
	baz=52,SNR=9.5						
WHTX	**Lake Whitney**	**52.22**	**334**	P	**P**	**08 45 30.2**	**+0.8**
	baz=52						
WHTX	**Lake Whitney**	**52.22**	**334**	*e*P	**P**	**08 45 29.4**	**-0.1**
	comp=N,30nm,1.4s						
136A	**Ennis**	**52.26**	**335**	P	**P**	**08 45 29.5**	**-0.2**
	baz=52						
432A	**Menard**	**52.31**	**331**	P	**P**	**08 45 30.5**	**+0.3**
	baz=52,SNR=18						
333A	**Richland Sprin**	**52.32**	**332**	P	**P**	**08 45 30.9**	**+0.7**
	baz=52						
Z38A	**Mt. Pleasant**	**52.34**	**337**	P	**P**	**08 45 30.9**	**+0.7**
	baz=52						
530A	**J-C Ranch, Com**	**52.45**	**329**	P	**P**	**08 45 31.8**	**+0.5**
	baz=53,SNR=7.3						
234A	**Clairette**	**52.52**	**333**	P	**P**	**08 45 32.4**	**+0.7**
	baz=53,SNR=8.0						
431A	**Sonora**	**52.53**	**330**	P	**P**	**08 45 32.5**	**+0.6**
	baz=53,SNR=11						
Z37A	**Pogue Cattle C**	**52.54**	**336**	P	**P**	**08 45 32.8**	**+1.1**
	baz=53						
Y39A	**Lockesburg**	**52.63**	**338**	P	**P**	**08 45 33.0**	**+0.6**
	baz=53						
332A	**Millersview**	**52.71**	**332**	P	**P**	**08 45 33.7**	**+0.6**
	baz=53,SNR=18						
WVT	**Waverly**	**52.78**	**345**	*e*P	**P**	**08 45 31.3**	**-2.1**
	comp=N,7.2nm,1.1s						
UALR	**University of**	**52.79**	**340**	*e*P	**P**	**08 45 33.3**	**-0.3**
	comp=N,17nm,1.1s						
Y38A	**Idabel**	**52.85**	**338**	P	**P**	**08 45 35.5**	**+1.5**
	baz=53						
233A	**Rising Star**	**52.87**	**333**	P	**P**	**08 45 34.7**	**+0.4**
	baz=53,SNR=7.3						
529A	**Stev Forest Ra**	**52.87**	**328**	P	**P**	**08 45 35.3**	**+0.9**
	baz=53						
Z36A	**Blue Ridge**	**52.92**	**336**	P	**P**	**08 45 35.2**	**+0.7**
	baz=53,SNR=5.2						
430A	**Baggett Ranch,**	**52.92**	**330**	P	**P**	**08 45 35.4**	**+0.6**
	baz=53,SNR=8.1						
331A	**San Angelo**	**52.97**	**331**	P	**P**	**08 45 35.4**	**+0.3**
	baz=53,SNR=6.6						
134A	**White-Moore Ra**	**52.99**	**334**	P	**P**	**08 45 35.6**	**+0.5**
	baz=53,SNR=7.9						
TXAR	**Lajitas Array**	**52.99**	**327**	P	**P**	**08 45 34.9**	**-0.4**
	comp=N,2.4nm,0.8s,baz=148,slow=8.4,SNR=36						
TXAR				pP	**pP**	**08 46 00.5**	**+0.5**
	comp=N,3.1nm,0.8s,baz=151,slow=8.6,SNR=8.0						
TX31	**Lajitas Ar. Si**	**52.99**	**327**	*e*P	**P**	**08 45 35.2**	**-0.1**
MIAR	**Mount Ida**	**52.99**	**339**	P	**P**	**08 45 35.2**	**+0.1**
	baz=53,SNR=11						
MIAR	**Mount Ida**	**52.99**	**339**	*e*P	**P**	**08 45 34.9**	**-0.2**
	comp=N,19nm,1.1s						
232A	**Coleman**	**53.09**	**332**	P	**P**	**08 45 36.3**	**+0.4**
	baz=53,SNR=17						
Y37A	**Hugo**	**53.23**	**337**	P	**P**	**08 45 38.0**	**+1.2**
	baz=53,SNR=16						
Z35A	**Perchaven, San**	**53.30**	**335**	P	**P**	**08 45 38.2**	**+0.9**
	baz=54,SNR=7.0						
133A	**Hamilton Ranch**	**53.38**	**333**	P	**P**	**08 45 38.6**	**+0.6**
	baz=54,SNR=6.1						
330A	**Mertzon**	**53.41**	**330**	P	**P**	**08 45 39.1**	**+0.9**
	baz=54						
Y36A	**Durant**	**53.41**	**336**	P	**P**	**08 45 39.7**	**+1.6**
	baz=54						
231A	**Bronte**	**53.44**	**331**	P	**P**	**08 45 39.8**	**+1.3**
	baz=54						
X38A	**Whitesboro**	**53.55**	**338**	P	**P**	**08 45 40.0**	**+0.8**
	baz=54,SNR=5.7						
Z34A	**Collier Ranch,**	**53.61**	**334**	P	**P**	**08 45 40.2**	**+0.6**
	baz=54						
X37A	**Clayton**	**53.68**	**337**	P	**P**	**08 45 40.7**	**+0.6**
	baz=54,SNR=10						
ABTX	**Abilene, Hawle**	**53.71**	**332**	P	**P**	**08 45 41.1**	**+0.6**
	baz=54						
ABTX	**Abilene, Hawle**	**53.71**	**332**	*e*P	**P**	**08 45 40.5**	**0.0**
	comp=N,32nm,1.2s						
Y35A	**Marietta**	**53.71**	**336**	P	**P**	**08 45 41.3**	**+0.9**
	baz=54						
W38A	**Poteau**	**53.80**	**339**	P	**P**	**08 45 41.7**	**+0.7**
	baz=54,SNR=7.9						
329A	**Wagon Wheel Ra**	**53.86**	**330**	P	**P**	**08 45 42.7**	**+1.1**
	baz=54						
Z33A	**Whitaker Ranch**	**53.89**	**334**	P	**P**	**08 45 42.3**	**+0.6**
	baz=54,SNR=9.7						
X36A	**Centrahoma**	**54.03**	**337**	P	**P**	**08 45 43.4**	**+0.8**
	baz=54						
Y34A	**Reagan Ranch,**	**54.05**	**335**	P	**P**	**08 45 43.4**	**+0.6**
	baz=54,SNR=6.0						
PBMO	**Poplar Bluff**	**54.07**	**343**	*e*P	**P**	**08 45 41.3**	**-1.7**
	comp=N,9.4nm,0.6s						
131A	**Roby**	**54.09**	**332**	P	**P**	**08 45 43.8**	**+0.6**
	baz=54						
X35A	**Drake**	**54.12**	**336**	P	**P**	**08 45 44.0**	**+0.6**
	baz=54						
229A	**Bryant Ranch,**	**54.17**	**330**	P	**P**	**08 45 44.1**	**+0.3**
	baz=54						
W37A	**Quinton**	**54.19**	**338**	P	**P**	**08 45 44.1**	**+0.3**
	baz=54,SNR=7.0						
Z32A	**Haskell**	**54.22**	**333**	P	**P**	**08 45 44.4**	**+0.2**
	baz=54						
130A	**Snyder**	**54.29**	**331**	P	**P**	**08 45 44.9**	**+0.1**
	baz=54						
Y33A	**Hilltop Ranch,**	**54.45**	**334**	P	**P**	**08 45 46.3**	**+0.5**
	baz=55,SNR=5.3						
V38A	**Canehill**	**54.48**	**339**	P	**P**	**08 45 46.1**	**+0.1**
	baz=55						
W36A	**Watumka**	**54.48**	**337**	P	**P**	**08 45 46.3**	**+0.3**
	baz=55						
USIN	**University of**	**54.49**	**346**	*e*P	**P**	**08 45 45.0**	**-0.9**
	comp=N,28nm,0.9s						
Z31A	**Sharp Cattle R**	**54.52**	**332**	P	**P**	**08 45 46.7**	**+0.4**
	baz=55						
SIUC	**Southern Illin**	**54.63**	**345**	*e*P	**P**	**08 45 46.2**	**-0.7**
	comp=N,24nm,0.9s						
SIUC				*e*pP	**pP**	**08 46 13.5**	**+1.7**
X34A	**Smith Ranch, M**	**54.64**	**335**	P	**P**	**08 45 47.6**	**+0.5**
	baz=55,SNR=6.5						
228A	**UT Block 9, Go**	**54.68**	**330**	P	**P**	**08 45 47.6**	**0.0**
	baz=55						
W35A	**Tecumseh**	**54.74**	**336**	P	**P**	**08 45 48.0**	**+0.2**
	baz=55						
129A	**Stewart Farms,**	**54.74**	**330**	P	**P**	**08 45 48.2**	**+0.2**
	baz=55,SNR=5.5						
V37A	**Hulbert**	**54.75**	**338**	P	**P**	**08 45 48.1**	**+0.3**
	baz=55,SNR=5.9						
Y32A	**R-V Farms, Ver**	**54.80**	**333**	P	**P**	**08 45 48.6**	**+0.4**
	baz=55,SNR=6.7						
X33A	**Lawton**	**54.86**	**335**	P	**P**	**08 45 49.0**	**+0.3**
	baz=55						
Z30A	**Sanderson Ranc**	**54.94**	**332**	P	**P**	**08 45 49.9**	**+0.5**
	baz=55,SNR=9.4						
V36A	**Jenks**	**54.95**	**338**	P	**P**	**08 45 49.3**	**-0.1**
	baz=55,SNR=7.9						
U38A	**Gravette**	**54.99**	**339**	P	**P**	**08 45 49.3**	**-0.3**
	baz=55						
TUL1	**Tulsa**	**55.01**	**338**	P	**P**	**08 45 49.9**	**+0.2**
	baz=55,SNR=7.0						
TUL1	**Tulsa**	**55.01**	**338**	*e*P	**P**	**08 45 49.8**	**0.0**
	comp=N,30nm,1.3s						
128A	**Castleberry Fa**	**55.03**	**330**	P	**P**	**08 45 50.1**	**0.0**
	baz=55						
X32A	**Elmer**	**55.09**	**334**	P	**P**	**08 45 50.8**	**+0.4**
	baz=55						
Y31A	**Rekieta Farm,**	**55.12**	**333**	P	**P**	**08 45 51.3**	**+0.7**
	baz=55,SNR=8.4						
WMOK	**Wichita Mounta**	**55.15**	**335**	*e*P	**P**	**08 45 49.7**	**-1.1**
WMOK				*e*PcP	**PcP**	**08 46 51.7**	**+0.8**
W34A	**Bridge Creek,**	**55.17**	**336**	P	**P**	**08 45 52.0**	**+1.0**
	baz=55						
Z29A	**Hungry Hill Ra**	**55.19**	**331**	P	**P**	**08 45 51.3**	**+0.1**
	baz=55						
U37A	**Salina**	**55.21**	**339**	P	**P**	**08 45 51.6**	**+0.4**
	baz=55						
V35A	**Meyer Ranch, C**	**55.27**	**337**	P	**P**	**08 45 51.0**	**-0.6**
	baz=55						
OLIL	**Olney**	**55.32**	**346**	*e*P	**P**	**08 45 50.7**	**-1.2**
	comp=N,11nm,0.8s						
W33A	**Caddo, Fort Co**	**55.38**	**335**	P	**P**	**08 45 53.1**	**+0.7**
	baz=56,SNR=5.4						
Z28A	**Tucker Farm, M**	**55.53**	**331**	P	**P**	**08 45 53.4**	**-0.3**
	baz=56						
X31A	**McDonald Ranch**	**55.56**	**333**	P	**P**	**08 45 53.7**	**-0.1**
	baz=56,SNR=8.0						
V34A	**Guthrie**	**55.59**	**336**	P	**P**	**08 45 53.5**	**-0.4**
	baz=56,SNR=5.9						
V34A	**Guthrie**	**55.59**	**336**	*e*P	**P**	**08 45 53.5**	**-0.4**
	comp=N,46nm,1.7s						
Y29A	**Porterfield Fa**	**55.67**	**331**	P	**P**	**08 45 54.6**	**-0.1**
	baz=56						
W32A	**Sentinel**	**55.67**	**334**	P	**P**	**08 45 54.3**	**-0.2**
	baz=56,SNR=8.4						
U35A	**Pawnee**	**55.77**	**337**	P	**P**	**08 45 55.4**	**+0.2**
	baz=56,SNR=9.6						
T37A	**Cheneyville 18**	**55.79**	**339**	P	**P**	**08 45 55.4**	**+0.1**
	baz=56,SNR=14						
X30A	**Coker Ranch, T**	**55.80**	**333**	P	**P**	**08 45 55.2**	**-0.3**
	baz=56						
V33A	**Lossen Ranch,**	**55.88**	**336**	P	**P**	**08 45 56.2**	**+0.2**
	baz=56						
Y28A	**McKinney Farm,**	**55.98**	**331**	P	**P**	**08 45 57.2**	**+0.3**
	baz=56						
W31A	**Holland Ranch,**	**56.02**	**334**	P	**P**	**08 45 56.6**	**-0.5**
	baz=56						
T36A	**Boggs Farm, Ca**	**56.07**	**338**	P	**P**	**08 45 57.2**	**-0.1**
	baz=56,SNR=7.2						
V32A	**Arapaho**	**56.10**	**335**	P	**P**	**08 45 58.1**	**+0.5**
	baz=56						
U34A	**Anderson Ranch**	**56.13**	**337**	P	**P**	**08 45 57.4**	**-0.3**
	baz=56						
T35A	**Sooner Cattle**	**56.17**	**338**	P	**P**	**08 45 58.3**	**+0.3**
	baz=56,SNR=5.7						
X29A	**Tulia**	**56.17**	**332**	P	**P**	**08 45 58.0**	**-0.2**
	baz=56						
MSTX	**Muleshoe**	**56.27**	**331**	P	**P**	**08 45 59.2**	**+0.2**
	baz=56						
MSTX	**Muleshoe**	**56.27**	**331**	*e*P	**P**	**08 45 58.9**	**-0.1**
	comp=N,17nm,1.4s						
W30A	**Crocket Farms**	**56.29**	**333**	P	**P**	**08 45 59.5**	**+0.5**
	baz=56						
S37A	**Fort Scott**	**56.33**	**340**	P	**P**	**08 45 58.8**	**-0.4**
	baz=56,SNR=12						
U33A	**Lingo Farm, Me**	**56.35**	**336**	P	**P**	**08 45 58.9**	**-0.4**
	baz=56						
X28A	**Dimmitt**	**56.46**	**332**	P	**P**	**08 45 59.8**	**-0.5**
	baz=57						
V31A	**Spring Creek L**	**56.48**	**334**	P	**P**	**08 46 00.5**	**+0.1**
	baz=57						
T34A	**McClaskey Farm**	**56.51**	**337**	P	**P**	**08 46 00.4**	**0.0**
	baz=57,SNR=7.5						
AMTX	**Amarillo**	**56.53**	**332**	P	**P**	**08 46 01.3**	**+0.6**
	baz=57						
S36A	**Lake Cedric, C**	**56.56**	**339**	P	**P**	**08 46 00.4**	**-0.4**
	baz=57,SNR=9.4						
U32A	**Winter Ranch,**	**56.65**	**335**	P	**P**	**08 46 01.5**	**0.0**
	baz=57						
SFIN	**Scholer Farm**	**56.67**	**348**	P	**P**	**08 46 01.9**	**+0.4**
	baz=57						
W29A	**Amraillo**	**56.71**	**332**	P	**P**	**08 46 02.8**	**+0.7**
	baz=57						
S35A	**Otter Creek Ra**	**56.78**	**338**	P	**P**	**08 46 02.3**	**0.0**
	baz=57,SNR=7.0						
R37A	**Teagarden Farm**	**56.83**	**340**	P	**P**	**08 46 02.6**	**-0.1**
	baz=57						
R36A	**Gordon, Harris**	**57.07**	**339**	P	**P**	**08 46 04.2**	**-0.2**
	baz=57						
S34A	**

ANMO ePcP PcP 08 47 00.7 -4.9
S28A Manter 58.89 334 P P 08 46 18.3 +1.0
baz=59
CBKS Cedar Bluff 59.05 336 P P 08 46 18.5 +0.2
baz=59
Q31A Ellis 59.08 337 P P 08 46 18.8 +0.3
baz=59
TUC Tucson 59.21 323 eP P 08 46 20.2 +0.7
comp=N,3.0nm,1.0s
T26A Comanche Natio 59.29 332 P P 08 46 20.7 +0.5
baz=60
P32A Huiting Farm, 59.32 338 P P 08 46 19.8 -0.3
baz=60
O33A Hebron 59.36 339 P P 08 46 20.1 -0.2
baz=60,SNR=7.3
Q30A Quinter 59.38 336 P P 08 46 20.8 +0.3
baz=60
N35A Tabor 59.41 341 P P 08 46 19.8 -0.8
baz=60
R28A Tribune 59.49 334 P P 08 46 21.7 +0.4
baz=60
P31A Stockton 59.53 337 P P 08 46 21.4 -0.1
baz=60
S26A Kim 59.60 333 P P 08 46 22.7 +0.5
baz=60,SNR=5.8
Q29A Oakley 59.61 335 P P 08 46 22.9 +0.8
baz=60
T25A Trinidad 59.62 332 P P 08 46 23.7 +1.2
baz=60
T25A Trinidad 59.63 332 eP P 08 46 23.3 +0.8
T25A ePcP PcP 08 47 06.8 -1.9
O32A Brockman Farm, 59.77 338 P P 08 46 23.3 +0.2
baz=60
R27A Eads 59.86 333 P P 08 46 24.6 +0.7
baz=60
P30A Selden 59.88 336 P P 08 46 24.0 +0.1
baz=60
N33A J Bar K, Exete 59.90 339 P P 08 46 24.6 +0.6
baz=60
M35A Neola 59.97 341 P P 08 46 24.8 +0.3
baz=60
Q28A Sharon Springs 60.10 335 P P 08 46 26.6 +1.0
baz=60
214A Organ Pipe Nat 60.15 322 P P 08 46 26.8 +0.9
baz=60
R26A Arlington 60.16 333 P P 08 46 26.1 +0.1
baz=60
P29A Atwood 60.20 336 P P 08 46 27.5 +1.3
baz=60
O30A MW Ranch, Wils 60.36 337 P P 08 46 27.7 +0.5
baz=60
KSCO Kaye Shedlock' 60.39 334 P P 08 46 28.2 +0.6
baz=61
KSCO Kaye Shedlock' 60.39 334 eP P 08 46 28.1 +0.5
comp=N,27nm,1.4s
N31A Bailey Ranch, 60.51 338 P P 08 46 29.0 +0.8
baz=61
M33A Taylor Creek F 60.56 340 P P 08 46 28.2 -0.3
baz=61
O29A 4D Ranch, Culb 60.60 336 P P 08 46 30.3 +1.4
baz=61
SDCO Great Sand Dun 60.63 331 P P 08 46 30.1 +0.7
baz=61,SNR=12
SDCO Great Sand Dun 60.63 331 eP P 08 46 29.9 +0.5
comp=N,6.9nm,0.8s
L34A Svendsen Farm, 60.64 340 P P 08 46 28.8 -0.2
baz=61
Q26A Hugo 60.70 333 P P 08 46 30.8 +1.1
baz=61
W18A Petrified Fore 60.71 326 P P 08 46 31.1 +1.3
baz=61
W18A Petrified Fore 60.71 326 eP P 08 46 30.1 +0.3
comp=N,12nm,1.1s
BGNE Belgrade 60.74 339 P P 08 46 29.9 +0.2
baz=61
P27A Ficken Ranch, 60.83 334 P P 08 46 31.3 +0.8
baz=61
N30A Hueftle Ranch, 60.91 337 P P 08 46 31.5 +0.6
baz=61
M31A Lambtecht Ranc 60.97 338 P P 08 46 32.2 +0.9
baz=61
O28A Krutsinger Ran 60.98 335 P P 08 46 33.0 +1.5
baz=61
L33A Hoskins 61.11 340 P P 08 46 32.9 +0.7
baz=61
N29A Votaw Ranch, W 61.13 337 P P 08 46 33.0 +0.5
baz=61
P26A Davis Ranch, A 61.16 334 P P 08 46 33.6 +0.8
baz=61
S22A 4UR Ranch, Cre 61.26 330 P P 08 46 34.2 +0.5
baz=61
S22A 4UR Ranch, Cre 61.26 330 eP P 08 46 33.7 0.0
S22A epP pP 08 47 01.2 +2.1
O27A Beecher Island 61.33 335 P P 08 46 35.2 +1.4
baz=62
N28A Pribbeno Ranch 61.37 336 P P 08 46 35.2 +1.1
baz=62
Q24A Divide 61.46 332 P P 08 46 36.0 +0.9
baz=62
M30A Dale-Ortello V 61.47 338 P P 08 46 35.5 +0.8
baz=62
L31A Butterfield Fa 61.66 339 P P 08 46 36.4 +0.4
baz=62,SNR=7.6
MVCO Mesa Verde 61.66 329 P P 08 46 37.1 +0.8
baz=62
MVCO Mesa Verde 61.66 329 eP P 08 46 36.6 +0.3
comp=N,26nm,1.8s
O26A Horse Wrangler 61.71 334 P P 08 46 37.2 +0.7
baz=62
L30A Spencer Herefo 61.77 338 P P 08 46 37.8 +1.1
baz=62
WUAZ Wupatki 61.90 325 P P 08 46 39.4 +1.5
baz=62,SNR=7.3
WUAZ Wupatki 61.90 325 eP P 08 46 38.3 +0.5
comp=N,11nm,1.1s
WUAZ esP sP 08 47 06.3 -8.2
WUAZ ePcP PcP 08 47 19.2 +1.4
M28A Bar X Bar Ranc 61.91 336 P P 08 46 38.5 +0.8
baz=62
ECSD EROS Data Cent 62.31 341 P P 08 46 39.7 -0.5
baz=62,SNR=11
ECSD EROS Data Cent 62.31 341 eP P 08 46 39.8 -0.5
comp=N,14nm,1.1s
ISCO Idaho Springs 62.34 332 P P 08 46 41.2 +0.2
baz=62
ISCO Idaho Springs 62.34 332 eP P 08 46 41.4 +0.5
comp=N,1.9nm,0.7s
K30A Basset 62.37 338 P P 08 46 41.0 +0.4
baz=62
PV01 Paradox Valley 62.41 329 eP P 08 46 42.2 +0.9
M27A Reverse DX Ran 62.42 336 P P 08 46 41.9 +0.8
baz=63
SMCO Snowmass 62.47 331 eP P 08 46 42.5 +0.6
SMCO epP pP 08 47 12.1 +4.8
SPMN St. Paul 62.60 345 P P 08 46 41.7 -0.4
baz=63
SPMN St. Paul 62.60 345 eP P 08 46 41.3 -0.8
SPMN epP pP 08 47 08.2 +0.7
PV05 Paradox Valley 62.63 329 eP P 08 46 43.3 +0.5
K29A Lazy Trails An 62.70 338 P P 08 46 43.7 +0.8
baz=63
J30A Dallas 62.89 339 P P 08 46 44.3 +0.2
baz=63
BC3 Big Chuckawall 62.93 321 P P 08 46 46.0 +1.3
baz=63
K28A Ten Mile Ranch 63.04 337 P P 08 46 46.3 +1.1
baz=63
J29A Okreek 63.26 338 P P 08 46 46.7 +0.1
baz=63,SNR=13
K27A Flueckinger Fa 63.36 337 P P 08 46 48.1 +0.8
baz=64,SNR=5.2
N23A Red Feather La 63.38 333 P P 08 46 49.2 +1.5
baz=64
BELC Belle Mtn. Jos 63.50 321 P P 08 46 49.5 +1.0
baz=64
PFO Pinyon Flat Ob 63.51 320 P P 08 46 49.5 +1.0
baz=64
PFO Pinyon Flat Ob 63.51 320 eP P 08 46 49.8 +1.3
PFO ePcP PcP 08 47 31.9 +7.6
J28A Allard Ranch, 63.60 338 P P 08 46 50.1 +1.2
baz=64,SNR=6.6
K26A Motz Farm, Whi 63.73 336 P P 08 46 51.3 +1.6
baz=64
J27A Elkhorn Farm, 63.74 337 P P 08 46 51.5 +1.7
baz=64,SNR=5.9
KNB Kanab 63.79 325 eP P 08 46 52.1 +1.7
comp=N,11nm,1.2s
KNB e 08 47 20.8

O20A White River Ci 63.82 331 P P 08 46 51.4 +0.9
baz=64
O20A White River Ci 63.82 331 eP P 08 46 51.5 +0.9
comp=N,20nm,1.6s
I28A Midland 64.08 338 P P 08 46 52.9 +1.0
baz=64
SRU San Rafael 64.14 329 eP P 08 46 53.2 +0.5
comp=N,4.9nm,0.9s
J26A Sides Ranch, S 64.20 336 P P 08 46 54.3 +1.5
baz=64
H29A Onida 64.28 339 P P 08 46 52.9 -0.3
baz=64
G30A Faulkton 64.37 340 P P 08 46 54.1 +0.4
baz=64
I27A Quinn 64.46 337 P P 08 46 55.3 +0.8
baz=65,SNR=7.2
CCUT Cedar City 64.47 326 eP P 08 46 55.1 +0.2
CCUT epP PcP 08 47 25.9 -2.4
MSU Marysvale 64.54 327 eP P 08 46 56.5 +1.1
MSU esP sP 08 47 25.2 -6.9
MVU Marysvale 64.56 327 eP P 08 46 57.0 +1.6
comp=N,10nm,1.2s
H28A Mission Ridge 64.61 339 P P 08 46 55.9 +0.5
baz=65
SHPR Sheep Range 64.73 324 eP P 08 46 58.0 +1.4
EYMN Ely 64.84 347 P P 08 46 56.6 -0.2
baz=65
EYMN Ely 64.84 347 eP P 08 46 55.9 -0.9
comp=N,8.1nm,1.0s
J24A Dixon Ranch, L 64.84 335 P P 08 46 58.3 +1.3
baz=65
G28A Parade 64.92 339 P P 08 46 57.8 +0.4
baz=65
H27A Howes 64.95 338 P P 08 46 58.9 +1.3
baz=65
F30A Leola 64.95 341 P P 08 46 58.5 +0.9
baz=65
I25A Rochford 65.06 336 P P 08 46 59.8 +1.3
baz=65,SNR=14
K22A Casper 65.06 334 P P 08 46 59.4 +0.8
baz=65
H26A Fairpoint 65.20 337 P P 08 46 60.0 +0.7
baz=65
F29A Eureka 65.22 340 P P 08 46 59.7 +0.4
baz=65
RSSD Black Hills 65.26 336 eP P 08 47 00.2 +0.3
comp=N,19nm,1.6s
I24A Kuemmerle Ranc 65.27 336 P P 08 47 00.7 +0.9
baz=66
EDW2 Edwards Air Fo 65.30 321 P P 08 47 00.7 +0.6
baz=66
MPU Maple Canyon 65.39 328 eP P 08 47 00.1 -0.7
comp=N,29nm,1.4s
E30A Jud 65.51 341 P P 08 47 01.8 +0.7
baz=66
H25A Fruitdale 65.51 337 P P 08 47 02.6 +1.3
baz=66
G27A Dupree 65.54 338 P P 08 47 01.9 +0.5
baz=66
F28A McLaughlin 65.56 339 P P 08 47 02.0 +0.5
baz=66
NLU North Lily Min 65.56 328 eP P 08 47 03.1 +1.1
comp=N,12nm,1.6s
TPNV Topopah Spring 65.67 323 P P 08 47 04.2 +1.7
baz=66,SNR=5.2
TPNV Topopah Spring 65.67 323 eP P 08 47 04.3 +1.7
TPNV epP PcP 08 47 33.8 +0.6
FURC Furnace Creek, 65.69 323 P P 08 47 04.1 +1.6
baz=66,SNR=6.2
G26A Maurine 65.71 338 P P 08 47 02.4 -0.1
baz=66
MPMC Manual Prospec 65.79 322 P P 08 47 04.1 +0.7
baz=66
E29A Napoleon 65.80 340 P P 08 47 03.5 +0.4
baz=66
H24A Dirks Ranch, A 65.98 336 P P 08 47 04.7 +0.3
baz=66
F27A Lemmon 66.00 339 P P 08 47 04.8 +0.4
baz=66
D30A Buchanan 66.00 341 P P 08 47 04.7 +0.4
baz=66
J21A Lysite 66.02 333 P P 08 47 05.4 +0.6
baz=66,SNR=7.2
I22A 9 Mile Ranch, 66.06 334 P P 08 47 05.4 +0.5
baz=66,SNR=5.9
DUG Dugway 66.12 328 P P 08 47 06.9 +1.5
baz=66,SNR=14
DUG Dugway 66.12 328 eP P 08 47 06.4 +1.0
comp=N,13nm,1.1s
F26A Lodgepole 66.21 338 P P 08 47 06.7 +1.0
baz=66
D29A Pettibone, Tap 66.22 341 P P 08 47 06.3 +0.6
baz=66
AGMN Agassiz Nation 66.24 344 P P 08 47 05.3 -0.5
baz=66,SNR=8.7
AGMN Agassiz Nation 66.24 344 eP P 08 47 05.3 -0.5
comp=N,12nm,0.8s
AGMN epP pP 08 47 31.3 -0.2
R11A Troy Canyon, C 66.27 325 P P 08 47 07.9 +1.5
baz=66,SNR=9.0
R11A Troy Canyon, C 66.27 325 eP P 08 47 08.1 +1.7
comp=N,4.1nm,1.0s
R11A epP pP 08 47 29.5 -2.6
E27A Carson 66.32 339 P P 08 47 07.4 +0.9
baz=66
I21A Big Trails, Te 66.33 334 P P 08 47 07.2 +0.5
baz=66,SNR=9.7
G24A Alzada 66.42 337 P P 08 47 07.9 +0.8
baz=67
PKM Peak Mountain 66.45 319 P P 08 47 08.9 +1.3
baz=67
C30A Mose, Pekin 66.45 342 P P 08 47 08.1 +0.9
baz=67
BW06 Boulder Array 66.50 332 eP P 08 47 08.2 +0.3
PDAR Pinedale Array 66.50 332 P P 08 47 07.5 -0.3
comp=N,0.6nm,0.5s,baz=141,slow=7.3,SNR=9.7
PDAR pP pP 08 47 32.9 -0.7
comp=N,0.8nm,0.6s,baz=120,slow=5.3,SNR=3.1
PDAR LR LR 09 17 09.8
comp=N,18nm,18.8s,baz=124,slow=37
HWUT Hardware Ranch 66.56 330 eP P 08 47 08.6 +0.4
comp=N,9.1nm,1.2s
F25A Bowman 66.56 338 P P 08 47 09.1 +1.1
baz=67
H22A Clearmont 66.58 335 P P 08 47 09.2 +1.0
baz=67
VES Vestal, Richgr 66.61 321 P P 08 47 09.6 +1.2
baz=67
D28A Regan 66.66 340 P P 08 47 09.5 +1.0
baz=67
J19A Crowheart 66.66 332 P P 08 47 10.0 +1.2
baz=67,SNR=6.8
E26A Carlson Angus 66.67 339 P P 08 47 09.0 +0.3
baz=67
G23A Biddle 66.69 336 P P 08 47 09.2 +0.4
baz=67
SPUT South Promonto 66.77 329 eP P 08 47 10.3 +0.8
comp=N,6.6nm,1.0s
I20A Worland 66.80 333 P P 08 47 10.3 +0.7
baz=67
F24A Ekalaka 66.86 337 P P 08 47 10.4 +0.4
baz=67
H21A Big Horn, Sher 66.89 335 P P 08 47 10.7 +0.5
baz=67
D27A Center 66.90 340 P P 08 47 11.1 +1.0
baz=67
MDND Maddock 66.92 341 P P 08 47 10.9 +0.7
baz=67
MDND Maddock 66.92 341 eP P 08 47 10.7 +0.5
comp=N,275nm,0.9s
TPH Topah 67.00 324 eP P 08 47 12.6 +1.4
comp=N,5.3nm,1.0s
TPH epP PcP 08 47 39.3 +0.5
E25A Miller Ranch, 67.03 338 P P 08 47 11.7 +0.7
baz=67
C28A Hausauer Farms 67.06 341 P P 08 47 11.6 +0.6
baz=67
G22A Birney 67.06 335 P P 08 47 11.7 +0.4
baz=67
B30A Myrvik Farm, E 67.08 342 P P 08 47 11.7 +0.6
baz=67
F23A Volborg 67.13 336 P P 08 47 13.2 +1.6
baz=67
D26A Manning 67.14 339 P P 08 47 12.3 +0.7
baz=67
H20A Greybull 67.18 334 P P 08 47 12.4 +0.5
baz=67
I19A Meeteetse 67.25 333 P P 08 47 13.5 +0.9
baz=67,SNR=6.0
HVU Hansel Valley 67.28 329 eP P 08 47 13.1 +0.3
comp=N,5.5nm,1.0s
B29A Wagenman Farm, 67.39 342 P P 08 47 13.7 +0.6
baz=68
E24A Baker 67.42 337 P P 08 47 14.2 +0.8
baz=68
G21A Lodge Grass 67.44 335 P P 08 47 14.6 +1.0
baz=68
A30A Hoffart Farm, 67.51 343 P P 08 47 13.9 +0.1
baz=68
D25A Fairfield 67.56 338 P P 08 47 15.6 +1.3
baz=68
REDW Red Top Meadow 67.56 331 eP P 08 47 15.1 +0.5
comp=N,19nm,1.6s
SNOW Snow King Moun 67.59 331 eP P 08 47 15.1 +0.3
comp=N,7.7nm,1.4s
LOHW Long Hollow 67.64 332 eP P 08 47 15.1 0.0
comp=N,3.7nm,1.0s
VNA1 Neumayer--Stat 67.67 161 P P 08 47 16.7 +2.2
B28A Dugan Ranch, T 67.69 341 P P 08 47 15.8 +0.8
baz=68
TPAW Teton Pass 67.70 331 eP P 08 47 16.2 +0.7
comp=N,7.7nm,1.4s
C26A Wahner Farm, P 67.71 340 P P 08 47 16.5 +1.3
baz=68
A29A Manning Farm, 67.77 342 P P 08 47 15.6 +0.2
baz=68
FXWY Fox Creek 67.85 331 eP P 08 47 17.1 +0.6
comp=N,4.6nm,1.0s
G20A Bridger 67.86 334 P P 08 47 16.4 +0.1
baz=68
NV01 Mina Array Sit 67.87 323 eP P 08 47 17.4 +0.8
NV01 epP pP 08 47 43.1 +0.7
NVAR Mina Array Bea 67.87 323 P P 08 47 17.0 +0.4
comp=N,1.5nm,0.9s,baz=142,slow=7.3,SNR=12
NVAR pP PcP 08 47 42.3 -0.2
comp=N,1.4nm,0.8s,baz=152,slow=4.7,SNR=6.6
D24A Glendive 67.89 338 P P 08 47 17.5 +1.2
baz=68
F21A Absaloka Mine, 67.90 335 P P 08 47 17.4 +1.0
baz=68
E22A Miles City 67.94 336 P P 08 47 17.2 +0.6
baz=68
B27A Peters Farms, 67.94 340 P P 08 47 17.3 +0.8
baz=68
IMW Indian Meadow 68.01 332 eP P 08 47 17.9 +0.5
comp=N,5.4nm,0.9s
C25A Freed Ranch, W 68.02 339 P P 08 47 18.0 +1.0
baz=68
FLWY Flagg Ranch 68.05 332 eP P 08 47 18.5 +0.9
comp=N,12nm,0.9s
A28A Rude Farm, Bot 68.07 341 P P 08 47 18.3 +0.9
baz=68
RLMT Red Lodge 68.23 333 P P 08 47 19.6 +0.9
baz=68,SNR=7.4
RLMT Red Lodge 68.23 333 eP P 08 47 18.9 +0.2
comp=N,11nm,1.1s
H17A Grant Village 68.23 332 eP P 08 47 20.1 +1.3
B26A Jensen Ranch, 68.24 340 P P 08 47 19.3 +0.9
baz=68
D23A Lindsay 68.27 337 P P 08 47 19.8 +1.2
baz=68
C24A Savage 68.28 338 P P 08 47 19.8 +1.1
baz=68
F20A Billings 68.30 335 P P 08 47 19.6 +0.6
baz=68
A27A Ledoux Ranch, 68.42 341 P P 08 47 20.9 +1.4
baz=69
E21A Keefer Ranch, 68.46 336 P P 08 47 21.2 +1.3
baz=69
D22A Cohagen 68.61 337 P P 08 47 22.5 +1.6
baz=69
A26A Wade Farm, Ken 68.62 340 P P 08 47 21.9 +1.1
baz=69
C23A Lambert 68.78 338 P P 08 47 22.4 +0.5
baz=69
GCMT Greycliff 68.93 334 eP P 08 47 23.8 +0.8
DGMT Dagmar 68.99 339 P P 08 47 24.3 +1.2
baz=69
DGMT Dagmar 68.99 339 eP P 08 47 24.0 +0.9
comp=N,32nm,1.1s
C22A Vida 69.00 337 P P 08 47 24.4 +1.2
baz=69
A25A Svangstu Ranch 69.02 340 P P 08 47 24.6 +1.4
baz=69
B23A Brockton 69.27 338 P P 08 47 25.8 +1.0
baz=69
A24A Westby 69.31 339 P P 08 47 26.4 +1.4
baz=70
HLID Hailey 69.41 329 P P 08 47 27.3 +1.3
baz=70
HLID Hailey 69.41 329 eP P 08 47 26.7 +0.7
comp=N,3.6nm,0.9s
B22A Reddig Ranch S 69.50 337 P P 08 47 27.6 +1.2
baz=70
C21A Desert Coulee 69.52 336 P P 08 47 27.6 +1.2
baz=70
MCMT McKenzie Canyo 69.61 331 eP P 08 47 27.7 +0.4
A23A Redstone 69.65 338 P P 08 47 28.2 +1.1
baz=70
BOZ Bozeman (W) 69.68 332 P P 08 47 28.1 +0.6
baz=70,SNR=9.6
BOZ Bozeman (W) 69.68 332 eP P 08 47 28.0 +0.4
comp=N,7.3nm,1.3s
B21A Ellsworth Farm 69.99 337 P P 08 47 30.4 +1.1
baz=70
MFID Camas Ranch 70.01 328 eP P 08 47 31.0 +1.4
comp=N,17nm,0.9s
A22A Carney Farms, 70.05 338 P P 08 47 30.8 +1.2
baz=70
B20A Solberg Farm, 70.38 336 P P 08 47 32.7 +1.0
baz=71
A21A Bergtoll Ranch 70.42 337 P P 08 47 32.9 +1.0
baz=71
EGMT Eagleton 70.74 335 P P 08 47 35.0 +1.1
baz=71,SNR=6.7
EGMT Eagleton 70.74 335 eP P 08 47 34.6 +0.7
comp=N,11nm,0.9s
B19A Brinkman Farms 70.76 336 P P 08 47 35.1 +1.1
baz=71
A19A Klindworth Far 71.06 336 P P 08 47 36.9 +1.1
baz=71
TIC Toumodi 71.12 77 eP P 08 47 37.6 +0.7
DBIC Dimbokro 71.28 77 P P 08 47 36.8 -1.0
comp=N,17nm,0.6s,baz=232,slow=6.0,SNR=22
DBIC LR LR 09 16 17.8
comp=N,33nm,20.6s,baz=186,slow=34
KIC Kosan Boka 71.30 78 eP P 08 47 36.7 -1.2
comp=N,35nm,0.6s
MOD Modoc 71.34 325 eP P 08 47 38.9 +1.2
comp=N,12nm,1.1s
CHMT Chamberlain Mo 71.37 332 eP P 08 47 38.7 +0.8
MSO Missoula 71.62 332 P P 08 47 40.6 +1.3
baz=72,SNR=10
MSO Missoula 71.62 332 eP P 08 47 40.6 +1.3
comp=N,11nm,1.3s
SLMT Seeley Lake 71.73 332 eP P 08 47 41.1 +1.1
BMO Blue Mountains 71.78 329 eP P 08 47 41.0 +0.7
comp=N,3.1nm,0.8s
N02D Trinity Center 72.10 323 P P 08 47 43.8 +1.6
baz=72
M04C Macdoel 72.12 324 P P 08 47 43.6 +1.2
baz=72
SWMT Swartz Lake 72.15 332 eP P 08 47 43.6 +1.2
K05A Summer Lake 72.21 325 eP P 08 47 44.0 +1.0
comp=N,77nm,2.0s
F10A Beach Ranch, E 72.54 330 eP P 08 47 45.7 +0.9
comp=N,8.4nm,0.9s
BSMT Bassoo Peak 72.76 332 eP P 08 47 47.6 +1.5
J05D Fort Rock, OR 72.77 325 P P 08 47 47.7 +1.4
baz=73,SNR=6.2
G08A Pilot Rock 72.92 328 eP P 08 47 48.3 +1.2
comp=N,4.4nm,0.9s
J04D Umpqua Nationa 73.22 325 P P 08 47 49.9 +0.9
baz=73
E09A Wood Farm, Sta 73.37 330 eP P 08 47 50.5 +1.0
comp=N,6.6nm,0.8s
I05D Terrebonne, OR 73.52 326 P P 08 47 52.6 +2.0
baz=74,SNR=8.2
I04A Tendick Farm, 73.75 325 P P 08 47 52.8 +0.9
baz=74
HAWA Hanford 73.98 329 eP P 08 47 54.5 +1.4
comp=N,7.5nm,0.8s
G05D Wamic, OR 74.11 327 P P 08 47 55.2 +1.3
baz=74
NEW Newport 74.13 331 P P 08 47 55.2 +1.2
baz=74

NEW	**Newport**	**74.13**	**331**	*e*P		**P**	**08 47 54.8**	**+0.7**
	comp=N,9.5nm,1.4s								
D08A	**Wollman Farm,**	**74.13**	**330**	*e*P		**P**	**08 47 55.2**	**+1.2**
	comp=N,29nm,1.9s								
I03D	**Drain, OR**	**74.20**	**325**	P		**P**	**08 47 56.1**	**+1.6**
	baz=74								
H04A	**Detroit Lake**	**74.21**	**326**	*e*P		**P**	**08 47 55.4**	**+0.8**
	comp=N,8.3nm,0.8s								
C09A	**Chrisman Ranch**	**74.34**	**330**	*e*P		**P**	**08 47 56.6**	**+1.4**
	comp=N,7.4nm,1.0s								
QSPA	**South Pole Qui**	**75.02**	**180**	*e*P		**P**	**08 48 01.3**	**+2.2**
	comp=N,13nm,0.7s								
F04A	**Amboy**	**75.15**	**327**	*e*P		**P**	**08 48 01.4**	**+1.5**
	comp=N,20nm,0.8s								
B08A	**Colville Reser**	**75.24**	**330**	*e*P		**P**	**08 48 01.1**	**+0.7**
	comp=N,6.6nm,1.0s								
D05A	**Enumclaw**	**75.76**	**328**	*e*P		**P**	**08 48 04.4**	**+1.0**
	comp=N,19nm,0.8s								
EDM	**Edmonton**	**76.23**	**337**	*e*P		**P**	**08 48 05.8**	**-0.2**
NLWA	**Neilton Lookou**	**76.86**	**327**	*e*P		**P**	**08 48 10.9**	**+1.3**
	comp=N,15nm,0.8s								
TOB4	**Torodi Ar. Sit**	**79.43**	**73**	*e*P		**P**	**08 48 23.2**	**-1.3**
TORD	**Torodi Ar. Bea**	**79.44**	**73**	P		**P**	**08 48 23.9**	**-0.7**
	comp=N,12nm,0.7s,baz=259,slow=5.1,SNR=53								
TORD				pP		**pP**	**08 48 50.7**	**-0.3**
	comp=N,3.0nm,0.6s,baz=262,slow=5.8,SNR=2.8								
PNCL	**Nicolau / Gran**	**80.56**	**46**	*e*P		**P**	**08 48 31.1**	**+1.0**
	comp=N,26nm,1.7s								
PCVE	**Castro Verde**	**80.69**	**47**	*e*P		**P**	**08 48 31.9**	**+1.2**
	comp=N,35nm,1.7s								
EVO	**Evora**	**81.11**	**46**	*e*P		**P**	**08 48 34.2**	**+1.2**
	comp=N,21nm,2.1s								
PMTG	**Montargil**	**81.21**	**46**	*e*P		**P**	**08 48 34.6**	**+1.1**
	comp=N,15nm,1.7s								
PTOM	**Tomar**	**81.34**	**45**	*e*P		**P**	**08 48 35.2**	**+1.0**
	comp=N,27nm,1.8s								
PBAR	**Barrancos**	**81.64**	**47**	*e*P		**P**	**08 48 36.6**	**+0.8**
	comp=N,37nm,1.5s								
MTE	**Manteigas**	**82.29**	**45**	*e*P		**P**	**08 48 40.1**	**+0.9**
	comp=N,16nm,1.4s								
VNDA	**Vanda**	**82.33**	**190**	P		**P**	**08 48 40.5**	**+1.7**
	comp=N,2.9nm,0.9s,baz=141,slow=4.0,SNR=8.4								
VNDA	**Vanda**	**82.33**	**190**	*e*P		**P**	**08 48 41.6**	**+2.8**
	comp=N,3.8nm,1.0s								
POLO	**Lamas de Olo**	**82.57**	**44**	*e*P		**P**	**08 48 42.0**	**+1.3**
	comp=N,6.3nm,1.6s								
PCAB	**Cabril**	**82.57**	**43**	*e*P		**P**	**08 48 41.0**	**+0.4**
	comp=N,24nm,1.8s								
PVRL	**Vila Real**	**82.58**	**44**	*e*P		**P**	**08 48 42.0**	**+1.3**
	comp=N,19nm,2.4s								
MVO	**Moncorvo**	**82.99**	**44**	*e*P		**P**	**08 48 43.8**	**+1.0**
	comp=N,16nm,1.2s								
PBRG	**Braganca**	**83.47**	**44**	*e*P		**P**	**08 48 46.0**	**+0.7**
	comp=N,21nm,1.4s								
YKA	**Yellowknife Ar**	**83.82**	**342**	P		**P**	**08 48 46.2**	**-0.2**
	comp=N,10nm,0.7s,baz=135,slow=5.1,SNR=46								
YKA				pP		**pP**	**08 49 13.3**	**+0.1**
	comp=N,3.4nm,0.8s,baz=137,slow=5.3,SNR=3.0								
PAB	**San Pablo**	**84.12**	**47**	*e*P		**P**	**08 48 49.5**	**+0.8**
	comp=N,19nm,0.9s								
ESDC	**Sonseca Array**	**84.45**	**47**	P		**P**	**08 48 50.6**	**+0.3**
	comp=N,8.2nm,0.7s,baz=257,slow=5.0,SNR=58								
ESDC				pP		**pP**	**08 49 17.6**	**+0.5**
	comp=N,2.0nm,0.8s,baz=250,slow=5.2,SNR=3.2								
ES19	**SONSECA Array**	**84.50**	**47**	*e*P		**P**	**08 48 50.6**	**0.0**
DLBC	**Dease Lake**	**86.63**	**334**	*e*P		**P**	**08 49 02.2**	**+1.5**
	comp=N,12nm,1.0s								
BORG	**Borgarnes**	**88.84**	**20**	LR		LR	09 26 12.0		
	comp=N,9.3nm,19.3s,baz=115,slow=34								
BOSA	**Boshof**	**90.25**	**120**	LR		LR	09 28 25.9		
	comp=N,39nm,18.9s,baz=300,slow=35								
SUMG	**Summit**	**90.51**	**10**	⇓*i*P		**P**	**08 49 19.9**	**+0.7**
	comp=N,29nm,0.8s								
SUMG	**Summit**	**90.51**	**10**	*e*P		**P**	**08 49 19.3**	**+0.2**
	comp=N,26nm,0.8s								
MAW	**Mawson**	**91.59**	**165**	P		**P**	**08 49 24.5**	**+0.6**
	comp=N,2.0nm,0.6s,baz=219,slow=8.4,SNR=6.7								
DAWY	**Dawson**	**93.45**	**336**	*e*P		**P**	**08 49 32.6**	**+0.1**
INK	**Inuvik**	**93.55**	**341**	*e*P		**P**	**08 49 33.2**	**+0.4**
DAVOX	**Davos/Dischmat**	**96.36**	**43**	P		**P**	**08 49 46.0**	**-0.4**
	comp=N,2.5nm,0.8s,baz=325,slow=21,SNR=4.4								
ILAR	**Eielson Array**	**96.70**	**336**	P		**P**	**08 49 47.0**	**-0.3**
	comp=N,1.4nm,0.9s,baz=103,slow=4.1,SNR=12								
COLA	**College**	**97.12**	**336**	*e*P		**P**	**08 49 49.0**	**-0.1**
	comp=N,7.4nm,0.8s								
GERES	**GERESS Array B**	**99.36**	**42**	P		**Pdif**	**08 49 59.2**	**-0.5**
	comp=N,1.0nm,0.8s,baz=251,slow=4.1,SNR=9.1								
IM04	**Indian Mountai**	**99.82**	**336**	*e*Pdif		**Pdif**	**08 50 01.1**	**-0.2**
KBZ	**Khabaz**	**119.27**	**48**	PKP		**PKPdf**	**08 55 07.1**	**+1.0**
	comp=N,2.3nm,0.7s,baz=262,slow=3.0,SNR=7.1								
STKA	**Stephens Creek**	**122.46**	**215**	PKP		**PKPdf**	**08 55 13.4**	**+0.6**
	comp=N,3.4nm,0.8s,baz=206,slow=2.6,SNR=5.0								
ABKAR	**Akbulak array**	**129.07**	**38**	*e*PKPdf		**PKPdf**	**08 55 26.2**	**+1.4**
ASAR	**Alice Springs**	**133.10**	**215**	PKP		**PKPdf**	**08 55 33.7**	**+0.3**
	comp=N,1.6nm,0.6s,baz=133,slow=2.1,SNR=36								
ASAR				pPKP		**pPKPdf**	**08 56 02.5**	**+1.0**
	comp=N,1.5nm,0.7s,baz=131,slow=2.1,SNR=5.2								
WRA	**Warramunga Arr**	**135.74**	**219**	PKP		**PKPdf**	**08 55 38.8**	**+0.5**
	comp=N,5.0nm,0.7s,baz=139,slow=1.8,SNR=39								
WRA				pPKP		**pPKPdf**	**08 56 07.0**	**+0.5**
	comp=N,1.5nm,0.6s,baz=133,slow=1.8,SNR=5.6								
ZALV	**Zalesovo Beam**	**137.68**	**19**	PKhKP	PKPpre		08 55 36.3		
	comp=N,1.5nm,0.5s,baz=347,slow=1.2,SNR=7.0								
ZALV				PKP		**PKPdf**	**08 55 40.8**	**-0.1**
	comp=N,12nm,0.7s,baz=304,slow=2.1,SNR=28								
ZALV				pPKP	pPKPdf		08 56 09.0	0.0	
	comp=N,12nm,1.1s,baz=274,slow=2.4,SNR=4.0								
EKS2	**Erkin-Say**	**140.70**	**39**	*e*PKPdf		**PKPdf**	**08 55 49.2**	**+2.3**
MKAR	**Makanchi Array**	**142.49**	**28**	PKhKP	PKPpre		08 55 44.4		
	comp=N,2.3nm,0.7s,baz=322,slow=3.9,SNR=19								
MKAR				PKP		**PKPdf**	**08 55 50.5**	**+0.7**
	comp=N,2.0nm,0.7s,baz=4.8,slow=1.7,SNR=10								
USRK	**Ussurisk Ar.**	**143.88**	**328**	PKP	PKPbc		08 55 51.0	+0.7	
	comp=N,3.2nm,0.6s,baz=36,slow=2.7,SNR=11								
MJAR	**Matsushiro Arr**	**144.70**	**313**	PKP		**PKPab**	**08 55 53.0**	**0.0**
	comp=N,10.0nm,0.8s,baz=134,slow=1.6,SNR=32								
MAJO	**Matsushiro**	**144.70**	**313**	*e*PKPdf		**PKPab**	**08 55 53.1**	**+0.1**
MAT	**Matsushiro**	**144.70**	**313**	PKP		**PKPab**	**08 55 53.0**	**0.0**
WMQ	**Urumqi**	**147.18**	**26**	P		**PKPab**	**08 56 01.5**	**-0.8**
WMQ	**Urumqi**	**147.18**	**26**	*e*PKPbc		**PKPdf**	**08 55 56.0**	**-2.1**
WMQ				LN					
	comp=N,51nm,23.0s								
WMQ				LZ					
	comp=N,23nm,19.0s								
SONM	**Songino Array**	**147.39**	**0**	PKPbc		**PKPbc**	**08 56 00.1**	**-0.9**
	comp=N,15nm,0.6s,baz=332,slow=2.4,SNR=46								
KSRS	**Korea Array**	**150.81**	**324**	PKP		**PKPdf**	**08 56 04.4**	**+0.4**
	comp=N,3.7nm,0.8s,baz=27,slow=1.0,SNR=8.5								
KSRS				PKPbc		**PKiKP**	**08 56 10.1**	**-0.2**
	comp=N,10.0nm,0.9s,baz=356,slow=1.8,SNR=18								
KSRS				pPKPbc		**pPKPbc**	**08 56 39.2**	**+1.5**
	comp=N,2.6nm,0.8s,baz=6.0,slow=2.7,SNR=2.9								
KSAR	**Wonju Array Be**	**150.84**	**324**	PKP		**PKPdf**	**08 56 04.4**	**+0.3**
KSAR				PKPbc		**PKPbc**	**08 56 10.1**	**+0.3**
KSAR				pPKPbc		**pPKPbc**	**08 56 39.2**	**+1.5**
SIJI	**Sorong**	**150.88**	**239**	PKPbc		**PKPbc**	**08 56 11.3**	**+0.7**
	comp=N,2.5nm,0.3s,baz=112,slow=3.4,SNR=4.0								
HHC	**Hu-ho-hao-te**	**154.01**	**351**	*e*PKPbc		**PKPdf**	**08 56 06.4**	**-2.4**
HHC				PP		**PP**	**09 00 05.8**	**+1.4**
HHC				SKS		**SKSdf**	**09 03 01.8**	**-4.7**
HHC				SS		**SS**	**09 19 32.4**	**-1.1**
HHC				PPMZ					
	comp=N,31nm,5.6s								
HHC				LN					
	comp=N,98nm,19.6s								
HHC				LE					
	comp=N,89nm,20.2s								
HHC				LZ					
	comp=N,57nm,20.8s								
GTA	**Gaotai**	**155.09**	**13**	*e*PKPbc		**PKPdf**	**08 56 12.2**	**+1.8**
GTA				pPKP		**PKPab**	**08 56 35.3**	**+0.1**
GTA				sPKP			08 56 45.8		
CD2	**Chengdu**	**164.08**	**9**	PKP		**PKPdf**	**08 56 19.8**	**-1.0**
CMAR	**Chiang Mai Arr**	**171.96**	**65**	PKP		**PKPdf**	**08 56 26.5**	**+0.1**
	comp=N,0.6nm,0.3s,baz=236,slow=1.0,SNR=4.2								

IDC **11** *08:44:30.5±1.3, 6°.44S×112°.44E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/29, mbtmp3.8/5, ML3.7/1, Error ellipse: s-maj=44.4km s-min=20.9km az=31.0*
ISCJB **11** *08:44:31.6±0.6, 6°.93S±0°.04×111°.80E±0°.03, h11km±5km, mb3.7/4, Error ellipse: s-maj=6.4km s-min=4.3km az=160.0*
DJA **11** *08:44:32.4±0.2, 7°S±2°×11°2E±°, h10km, M3.8/20, MLv3.8/20*

ISC 11 08:44:31.2±0.9, 6°.93S±0°.04×111°.78E±0°.03, h13km±6km, n21, σ0 96/29, mb3.8/4, Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
TBJI	**Tambak Boyo**	**0.13**	**33**	P		**Pg**	**08 44 34.3**	**-0.4**
TBJI				S		**Sg**	**08 44 37.0**	**-0.1**
NGJI	**Ngawi**	**0.54**	**216**	P		**Pn**	**08 44 43.7**	**-0.8**
GRJI	**Gresik**	**0.70**	**89**	P		**Pb**	**08 44 45.2**	**0.0**
GRJI				S		**Sn**	**08 44 55.7**	**-1.7**
UWJI	**Ujung Watu**	**0.97**	**302**	P		**Pb**	**08 44 48.4**	**-1.4**
UWJI				S		**Sb**	**08 45 03.6**	**+1.1**
PWJI	**Pagerwojo**	**1.09**	**179**	P		**Pn**	**08 44 52.3**	**+0.2**
WOJI	**Wonogiri, Jawa**	**1.24**	**223**	P		**Pn**	**08 44 53.9**	**-0.3**
SMRI	**Semarang**	**1.33**	**265**	P		**Pn**	**08 44 55.9**	**+0.4**
SMRI				S		**Sg**	**08 45 15.1**	**+0.9**
BWJI	**Bawean**	**1.39**	**39**	P		**Pb**	**08 44 56.9**	**0.0**
BWJI				S		**Sg**	**08 45 15.6**	**-0.3**
PCJI	**Pacitan**	**1.39**	**205**	P		**Pb**	**08 44 57.0**	**0.0**
PCJI				S		**Sg**	**08 45 16.0**	**-0.1**
UGM	**Wanagama**	**1.58**	**232**	P		**Pb**	**08 45 00.2**	**-0.1**
UGM				S		**Sg**	**08 45 22.2**	**0.0**
BLJI	**Banyuglugur**	**1.98**	**114**	P		**Pn**	**08 45 05.4**	**+1.0**
KMMI	**Kalianget**	**2.18**	**93**	P		**Pn**	**08 45 07.9**	**+0.8**
ABJI	**Asem Bagus**	**2.59**	**110**	P		**Pn**	**08 45 14.2**	**+1.5**
JAGI	**Jajag, Banyuwa**	**2.81**	**123**	P		**Pn**	**08 45 17.2**	**+1.4**
KPJI	**Karang Pucung**	**2.85**	**262**	P		**Pn**	**08 45 18.0**	**+1.6**
SRBI	**Singaraja**	**3.60**	**109**	P		**Pn**	**08 45 28.0**	**+1.4**
LEM	**Lembang**	**4.13**	**271**	Pn		**Pb**	**08 45 45.5**	**+1.6**
	3.2nm,0.3s,baz=92,slow=16,SNR=2.7							
LEM				Sn		**Sg**	**08 46 43.5**	**-0.5**
	3.9nm,0.3s,baz=142,slow=20,SNR=2.5							
WRA	**Warramunga Arr**	**25.43**	**123**	P		**P**	**08 49 57.7**	**-1.1**
	1.3nm,0.6s,baz=294,slow=11,SNR=12							
ASAR	**Alice Springs**	**26.99**	**130**	P		**P**	**08 50 12.9**	**-0.2**
	1.0nm,0.5s,baz=305,slow=9.0,SNR=17							
STKA	**Stephens Creek**	**37.27**	**136**	P		**P**	**08 51 43.3**	**+0.4**
	1.1nm,0.5s,baz=307,slow=8.9,SNR=6.0							
MKAR	**Makanchi Array**	**59.56**	**337**	P		**P**	**08 54 33.9**	**-0.5**
	0.6nm,0.6s,baz=150,slow=7.5,SNR=4.9							

DJA 11 08:49:00.0±0.4, 1°S±3°×10°0E±°, h39km±5km, M3.7/9, MLv3.7/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PDSI	**Padang**	**0.44**	**9**	P		Pn	08 49 10.9	+1.0
PDSI				S		Sn	08 49 20.0	+3.1
PPI	**Padang Panjang**	**0.89**	**0**	P		Pn	08 49 16.0	0.0
PPI				S		Sn	08 49 28.4	+0.7
SDSI	**Sungai Dareh**	**1.12**	**68**	P		Pn	08 49 19.5	+0.4
SISI	**Saibi**	**1.30**	**271**	P		Pn	08 49 21.2	-0.5
SISI				S		Sn	08 49 39.4	+1.6
PPSI	**Pulau Pagai**	**1.45**	**195**	P		Pn	08 49 23.5	-0.3
PPSI				S		Sn	08 49 42.4	+0.8
BKNI	**Bangkinang**	**1.79**	**21**	P		Sn	08 49 46.7	-3.2
MNSI	**Mandailing Nat**	**2.28**	**339**	P		Pn	08 49 35.1	0.0
PBSI	**Pulau Batu**	**2.47**	**301**	P		Pn	08 49 37.9	+0.1
PBSI				S		Sn	08 50 05.1	-1.6
GSI	**Gunungsitoli**	**3.86**	**313**	P		Pn	08 49 57.1	+0.3

IDC 11 08:52:24.0±4.7, 19°.25S×174°.07W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/23, mbtmp4.0/4, Error ellipse: s-maj=197.5km s-min=36.8km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
STKA	**Stephens Creek**	**41.66**	**243**	P		P	09 00 13.6	-0.8
	9.4nm,1.3s,baz=110,slow=15,SNR=2.6							
ASAR	**Alice Springs**	**48.41**	**255**	P		P	09 01 08.7	+0.4
	1.9nm,0.9s,baz=85,slow=9.2,SNR=14							
WRA	**Warramunga Arr**	**48.45**	**260**	P		P	09 01 08.8	+0.1
	0.4nm,0.4s,baz=97,slow=8.4,SNR=17							
ILAR	**Eielson Array**	**86.33**	**11**	P		P	09 05 07.3	-0.2
	0.8nm,1.1s,baz=224,slow=4.8,SNR=4.2							

CSEM **11** *09:01:34.4±0.2, 39°.78N×20°.73E, h8km, ML1.8, Error ellipse: s-maj=4.6km s-min=3.0km az=164.0*
ATH **11** *09:01:34.5, 39°.81N×20°.72E, h7km, MD3.0/4*
THE 11 09:01:34.7, 39°.77N×20°.72E, h6km±1km, ML1.8/5, Error ellipse: s-maj=2.0km s-min=0.6km az=213.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
JAN	**Janina**	**0.15**	**137**	*e*PG		Pg	09 01 38.0	+0.2
JAN				*e*SG		Sg	09 01 40.8	+0.9
JAN	**Janina**	**0.15**	**137**	P		Pg	09 01 38.0	+0.2
JAN				S		Sg	09 01 40.8	+0.9
JAN	**Janina**	**0.15**	**137**	P		Pg	09 01 38.0	+0.2
JAN				S		Sg	09 01 40.8	+0.9
IGT	**Igoumenitsa**	**0.38**	**232**	*e*PG		Pg	09 01 42.0	-0.1
IGT				*e*SB		Sg	09 01 48.4	+1.3
IGT	**Igoumenitsa**	**0.38**	**232**	*e*Pg		Pg	09 01 42.0	-0.1
IGT				S		Sg	09 01 47.8	+0.7
IGT				*e*Sb		Sb	09 01 48.4	-1.7
IGT	**Igoumenitsa**	**0.38**	**232**	P		Pg	09 01 41.9	-0.2
IGT				S		Sg	09 01 47.8	+0.7
MEV	**Metsovon**	**0.39**	**87**	P		Pg	09 01 42.0	-0.6
MEV	**Metsovon**	**0.39**	**87**	P		Pg	09 01 42.0	-0.6
SGD	**Sagiada**	**0.41**	**248**	P		Pg	09 01 42.6	+0.1
SGD				S		Sg	09 01 48.4	+0.5
SGD	**Sagiada**	**0.41**	**248**	P		Pg	09 01 42.6	+0.1
SGD				S		Sg	09 01 48.4	+0.5
SRN	**Sarande**	**0.56**	**282**	P		Pg	09 01 46.0	+0.4
SRN				S		Sg	09 01 54.1	+1.2
SRN	**Sarande**	**0.56**	**282**	P		Pg	09 01 46.0	+0.4
SRN				S		Sg	09 01 54.1	+1.2
NEST	**Nestorio**	**0.69**	**21**	P		Pg	09 01 47.1	-1.1
NEST				S		Sg	09 01 58.0	+0.6
NEST	**Nestorio**	**0.69**	**21**	P		Pg	09 01 47.1	-1.1
NEST				S		Sg	09 01 58.0	+0.6
DSL	**Palaion Diasel**	**0.70**	**155**	P		Pg	09 01 47.1	-1.1
DSL				S		Sg	09 01 57.7	+0.4
DSL	**Palaion Diasel**	**0.70**	**155**	P		Pg	09 01 47.1	-1.1
DSL				S		Sg	09 01 57.7	+0.4
KEK	**Kerkira**	**0.71**	**266**	*e*PB		Pg	09 01 47.7	-0.7
KEK				*e*SB		Sb	09 01 59.0	-0.6
KEK	**Kerkira**	**0.71**	**266**	*e*Pb		Pg	09 01 47.7	-0.7
KEK				S		Sg	09 01 58.1	+0.4
KEK				*e*Sb		Sb	09 01 59.0	-0.6
KEK	**Kerkira**	**0.71**	**266**	P		Pg	09 01 47.6	-0.8
KEK				S		Sg	09 01 58.1	+0.4
PDO	**Prodromos**	**1.22**	**163**	*e*PB		Pn	09 01 58.8	+0.5
PDO	**Prodromos**	**1.22**	**163**	*e*Pb		Pn	09 01 58.8	+0.5
LIT	**Litokhoron**	**1.40**	**76**	*e*PB		Pn	09 02 00.7	-0.2
LIT	**Litokhoron**	**1.40**	**76**	P		Pn	09 02 00.1	-0.8
LIT	**Litokhoron**	**1.40**	**76**	*e*Pb		Pn	09 02 00.7	-0.2
LIT				S		Sg	09 02 19.9	0.0
LIT	**Litokhoron**	**1.40**	**76**	P		Pn	09 02 00.1	-0.8
LIT				S		Sg	09 02 19.9	0.0

IDC 11 09:13:25.5±22.0, 25°.86S×178°.96E, h616km±219km, mb3.2/5, mb1 3.3/5, mb1mx3.0/26, mbtmp4.3/5, Error ellipse: s-maj=168.7km s-min=55.3km az=95.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
CTA	**Charters Tower**	**30.61**	**274**	P		P	09 18 51.8	+0.1
	10nm,0.9s,baz=98,slow=9.4,SNR=6.2							
STKA	**Stephens Creek**	**33.16**	**251**	P		P	09 19 13.3	+0.2
	1.2nm,0.5s,baz=100,slow=9.9,SNR=5.2							
ASAR	**Alice Springs**	**40.83**	**263**	P		P	09 20 15.6	-0.1
	3.6nm,0.9s,baz=108,slow=8.4,SNR=24							
WRA	**Warramunga Arr**	**41.38**	**269**	P		P	09 20 19.9	-0.2
	2.7nm,0.7s,baz=100,slow=7.6,SNR=38							
MJAR	**Matsushiro Arr**	**72.99**	**327**	P		P	09 23 54.0	-0.1
	2.0nm,0.8s,baz=165,slow=5.5,SNR=5.6							
NB2	**NORSAR Subarra**	**143.85**	**350**	PKP		PKPbc	09 31 50.0	-0.7
	comp=Z,1.0nm,0.7s,baz=21,slow=4.0							
NOA	**NORSAR Array B**	**143.85**	**350**	PKP		PKPbc	09 31 50.1	-0.5
	comp=Z,1.4nm,0.7s,baz=20,slow=2.5,SNR=7.6							
HFS	**Hagfors**	**144.26**	**347**	PKP		PKPbc	09 31 51.1	-0.8
	comp=Z,1.7nm,0.7s,baz=2.6,slow=6.3,SNR=5.9							
AKASG	**Malin Array Be**	**146.06**	**325**	PKPbc		PKPbc	09 31 57.2	-0.3
	comp=Z,0.4nm,0.3s,baz=43,slow=3.7,SNR=6.4							

CRAAG **11** *09:26:01.4, 35°.90N×5°.48E, Ml4.8*
MDD **11** *09:26:03.9±0.3, 35°.68N×5°.83E, h43km±12km, mb4.6/39, Error ellipse: s-maj=4.4km s-min=1.3km az=132.0, PRXIMO*
CSEM **11** *09:26:04.8±0.3, 36°.08N×5°.50E, h15km, ML4.8, Error ellipse: s-maj=6.8km s-min=4.1km az=155.0*
LDG **11** *09:26:06.6±0.3, 36°.00N×5°.26E, h30km, Ml3.5/11, ms2.8, Error ellipse: s-maj=6.5km s-min=3.4km az=154.0*
IDC **11** *09:26:06.2±3.0, 35°.85N×5°.47E, h35km±28km, mb3.5/10, mb1 3.7/15, mb1mx3.5/43, mbtmp3.6/15, ML3.6/5, MS3.2/6, Ms1 3.3/6, ms1mx2.9/26, Error ellipse: s-maj=20.8km s-min=15.7km az=156.0*
ISC 11 09:26:04.5±1.0, 36°.00N±0°.04×5°.44E±0°.03, h14km±6km, n249, σ1§74/275, mb3.8/10, MS3.2/5, 8C-4D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
CKHR	**Kef el Ahmar**	**0.06**	**78**	P		Pg	09 26 04.0	-3.5
CKHR	**Kef el Ahmar**	**0.06**	**78**	P		Pg	09 26 04.0	-3.5
CKHR	**Kef el Ahmar**	**0.06**	**78**	P		Pg	09 26 04.0	-3.5
SET	**Setif**	**0.20**	**352**	P		**Pg**	**09 26 09.0**	**-0.1**
SET	**Setif**	**0.20**	**352**	P		**Pg**	**09 26 09.0**	**-0.1**
SET	**Setif**	**0.20**	**352**	P		**Pg**	**09 26 09.0**	**-0.1**
DFRA	**Djebel Bou Aff**	**0.65**	**33**	P		**Pb**	**09 26 18.1**	**+0.5**
DFRA	**Djebel Bou Aff**	**0.65**	**33**	P		**Pb**	**09 26 18.1**	**+0.5**
DFRA	**Djebel Bou Aff**	**0.65**	**33**	P		**Pb**	**09 26 18.1**	**+0.5**
CTEI	**Djebel Teioual**	**0.79**	**85**	P		**Pg**	**09 26 18.7**	**-1.1**
CTEI	**Djebel Teioual**	**0.79**	**85**	P		**Pg**	**09 26 18.7**	**-1.1**
CTEI	**Djebel Teioual**	**0.79**	**85**	P		**Pg**	**09 26 18.7**	**-1.1**
CASM	**Ain Smara**	**0.89**	**73**	P		**Pb**	**09 26 20.9**	**-0.9**
CASM	**Ain Smara**	**0.89**	**73**	P		**Pb**	**09 26 20.9**	**-0.9**
CASM	**Ain Smara**	**0.89**	**73**	P		**Pb**	**09 26 20.9**	**-0.9**
ATAF	**Djebel Tarf**	**0.95**	**262**	P		**Pb**	**09 26 21.3**	**-1.5**
ATAF	**Djebel Tarf**	**0.95**	**262**	P		**Pb**	**09 26 21.3**	**-1.5**
ATAF	**Djebel Tarf**	**0.95**	**262**	P		**Pb**	**09 26 21.3**	**-1.5**
CKFL	**Kef-Lekhel**	**1.11**	**69**	P		**Pb**	**09 26 25.3**	**-0.3**
CKFL	**Kef-Lekhel**	**1.11**	**69**	P		**Pb**	**09 26 25.3**	**-0.3**
CKFL	**Kef-Lekhel**	**1.11**	**69**	P		**Pb**	**09 26 25.3**	**-0.3**
ABSA	**Djebel Ababsia**	**1.68**	**80**	P		**Pg**	**09 26 38.0**	**+1.3**
CABS	**Djebel Ababsia**	**1.68**	**80**	P		**Pg**	**09 26 38.0**	**+1.3**
CMAH	**Djebel Manchou**	**1.72**	**68**	P		**Pg**	**09 26 37.2**	**-0.3**
CMAH	**Djebel Manchou**	**1.72**	**68**	P		**Pg**	**09 26 37.2**	**-0.3**
CMAH	**Djebel Manchou**	**1.72**	**68**	P		**Pg**	**09 26 37.2**	**-0.3**
EMHD	**Djebel Mahouad**	**2.02**	**276**	P		**Pn**	**09 26 39.9**	**+1.7**
EMHD	**Djebel Mahouad**	**2.02**	**276**	P		**Pn**	**09 26 39.9**	**+1.7**
EMHD	**Djebel Mahouad**	**2.02**	**276**	P		**Pn**	**09 26 39.9**	**+1.7**
EBNR	**Beni Rached**	**3.17**	**276**	P		**Pn**	**09 26 52.2**	**-1.8**
EBNR	**Beni Rached**	**3.17**	**276**	P		**Pn**	**09 26 52.2**	**-1.8**
KEST	**Kesra**	**3.19**	**94**	Pn		**Pn**	**09 26 54.2**	**0.0**
	0.9nm,0.3s,baz=238,slow=2.3,SNR=53							
ECHA	**Ech Chlef**	**3.30**	**274**	P		**Pn**	**09 26 58.1**	**+2.4**

1.6nm,0.4s,SNR=7.9
EJON La Jonquera 6.73 344 P **Pn** 09 27 43.3 +0.4
3.0nm,0.3s,SNR=13
EJON S **Sn** 09 28 58.8 -0.6
1.6nm,0.4s,SNR=7.9
SJAF Saint Jean de 6.77 344 P **Pn** 09 27 44.1 +0.7
1.7nm,0.3s,SNR=7.9
SJAF S **Sn** 09 28 59.9 -0.3
4.4nm,0.5s,SNR=7.9
SJAF Saint Jean de 6.77 344 P **Pn** 09 27 44.1 +0.7
1.7nm,0.3s,SNR=7.9
SJAF S **Sn** 09 28 59.9 -0.3
4.4nm,0.5s,SNR=7.9
EBER Berja 6.77 280 P **Pn** 09 27 44.0 +0.4
15nm,0.3s,SNR=30
EBER S **Sn** 09 28 59.8 -0.7
14nm,0.5s,SNR=5.1
EBER Berja 6.77 280 P **Pn** 09 27 44.0 +0.4
15nm,0.3s,SNR=30
EBER S **Sn** 09 28 59.8 -0.7
14nm,0.5s,SNR=5.1
EVIA Vianos 6.85 295 P **Pn** 09 27 47.3 +2.7
12nm,0.5s,SNR=8.3
EVIA Vianos 6.85 295 P **Pn** 09 27 47.3 +2.7
12nm,0.5s,SNR=8.3
CLLI Livia 7.00 339 P **Pn** 09 27 48.7 +2.0
23nm,0.8s,SNR=23
CLLI S **Sn** 09 29 08.1 +1.9
3.7nm,0.4s,SNR=8.0
EQES Quesada 7.05 287 P **Pn** 09 27 48.7 +1.4
8.0nm,0.3s,SNR=28
EQES S **Sn** 09 29 09.0 +1.7
16nm,0.4s,SNR=5.7
EQES Quesada 7.05 287 P **Pn** 09 27 48.7 +1.4
8.0nm,0.3s,SNR=28
EQES S **Sn** 09 29 09.0 +1.7
16nm,0.4s,SNR=5.7
PGF Pioggiola 7.09 22 *e*Pn **Pn** 09 27 47.2 -0.7
PGF *e*Sn **Sn** 09 29 02.8 -5.6
14nm,0.7s
PGF Pioggiola 7.09 22 P **Pn** 09 27 47.2 -0.7
PGF S **Sn** 09 29 02.8 -5.6
7.0nm,0.7s
PGF Pioggiola 7.09 22 P **Pn** 09 27 47.2 -0.7
PGF S **Sn** 09 29 02.8 -5.6
7.0nm,0.7s
CSOR Sort 7.18 334 P **Pn** 09 27 51.9 +2.7
25nm,0.8s,SNR=30
CSOR S **Sn** 09 29 08.1 -2.5
6.7nm,0.3s,SNR=6.1
EQUE Quentar 7.24 282 P **Pn** 09 27 50.5 +0.6
10nm,0.3s,SNR=64
EQUE S **Sn** 09 29 12.0 0.0
3.4nm,0.4s,SNR=6.6
EQUE Quentar 7.24 282 P **Pn** 09 27 50.5 +0.6
10nm,0.3s,SNR=64
EQUE S **Sn** 09 29 12.0 0.0
3.4nm,0.4s,SNR=6.6
LRDF Laroque-de-Fa 7.28 343 P **Pn** 09 27 51.3 +0.9
ESAC San Caprasio 7.33 323 P **Pn** 09 27 54.1 +2.9
16nm,0.3s,SNR=11
ESAC S **Sn** 09 29 14.8 +0.6
10nm,0.3s,SNR=9.2
ESAC San Caprasio 7.33 323 S **Sn** 09 29 14.8 +0.6
10nm,0.3s,SNR=9.2
ECOG Cogollos-Vega 7.35 283 P **Pn** 09 27 53.9 +2.4
10.0nm,0.4s,SNR=14
ECOG S **Sn** 09 29 16.5 +1.8
4.6nm,0.4s,SNR=6.2
ECOG Cogollos-Vega 7.35 283 P **Pn** 09 27 53.9 +2.4
10.0nm,0.4s,SNR=14
ECOG S **Sn** 09 29 16.5 +1.8
4.6nm,0.4s,SNR=6.2
LMR La Mourre 7.37 6 *e*Pn **Pn** 09 27 50.2 -1.4
LMR *e*Sn Sn 09 29 08.4 -6.5
26nm,1.0s
LMR La Mourre 7.37 6 P **Pn** 09 27 50.2 -1.4
LMR S Sn 09 29 08.4 -6.5
13nm,1.0s
LMR La Mourre 7.37 6 P **Pn** 09 27 50.2 -1.4
SELV Sierra Elvira 7.47 282 P **Pn** 09 27 55.7 +2.6
5.5nm,0.5s,SNR=7.9
SELV S **Sn** 09 29 19.5 +1.9
3.5nm,0.6s,SNR=7.9
SELV Sierra Elvira 7.47 282 P **Pn** 09 27 55.7 +2.6
5.5nm,0.5s,SNR=7.9
SELV S **Sn** 09 29 19.5 +1.9
3.5nm,0.6s,SNR=7.9
ETOR Torete 7.59 312 P Pn 09 27 58.3 +3.5
13nm,0.3s,SNR=4.0
ETOR S **Sn** 09 29 21.9 +1.2
6.5nm,0.4s,SNR=7.8
FRF La Foret Royal 7.61 7 *e*Pn **Pn** 09 27 53.7 -1.1
FRF *e*Sn Sn 09 29 14.0 -6.8
18nm,1.1s
FRF La Foret Royal 7.61 7 P **Pn** 09 27 53.7 -1.1
FRF S Sn 09 29 14.0 -6.8
9.2nm,1.1s
FRF La Foret Royal 7.61 7 P **Pn** 09 27 53.7 -1.1
MTLF Montolieu 7.74 342 *e*Pn **Pn** 09 27 55.6 -1.0
MTLF *e*Sn Sn 09 29 15.7 -8.3
5.9nm,0.7s
MTLF Montolieu 7.74 342 P **Pn** 09 27 55.6 -1.0
MTLF S Sn 09 29 15.7 -8.3
3.0nm,0.7s
MTLF Montolieu 7.74 342 P **Pn** 09 27 55.6 -1.0
SMRF Simiane la Rot 7.96 1 *e*Pn **Pn** 09 27 58.4 -1.4
SMRF Simiane la Rot 7.96 1 P **Pn** 09 27 58.4 -1.4
SMRF Simiane la Rot 7.96 1 P **Pn** 09 27 58.4 -1.4
SBF Sospel 8.00 10 *e*Pn **Pn** 09 27 59.0 -1.3
SBF Sospel 8.00 10 P **Pn** 09 27 59.0 -1.3
SBF Sospel 8.00 10 P **Pn** 09 27 59.0 -1.3
EPF Esparros 8.04 332 *e*P **Pn** 09 28 03.3 +2.4
EPF *e*Sn Sn 09 29 22.7 -9.0
7.4nm,0.5s
EPF Esparros 8.04 332 P **Pn** 09 28 03.3 +2.4
EPF S Sn 09 29 22.7 -9.0
3.7nm,0.5s
LASF Ste Croix 8.15 352 *e*Pn **Pn** 09 28 00.7 -1.7
LASF *e*Sn Sn 09 29 26.3 -8.0
8.0nm,0.6s
LASF Ste Croix 8.15 352 P **Pn** 09 28 00.7 -1.7
LASF S Sn 09 29 26.3 -8.0
4.0nm,0.6s
LASF Ste Croix 8.15 352 P **Pn** 09 28 00.7 -1.7
EMIJ Mijas 8.26 277 P **Pn** 09 28 04.1 +0.2
2.6nm,0.4s,SNR=4.5
EMIJ S **Sn** 09 29 32.3 -4.7
2.8nm,0.4s,SNR=7.9
EMIJ Mijas 8.26 277 P **Pn** 09 28 04.1 +0.2
2.6nm,0.4s,SNR=4.5
EADA Adamuz 8.29 288 P **Pn** 09 28 05.3 +1.0
0.1nm,0.5s,SNR=12
EADA S **Sn** 09 29 38.5 +0.8
3.4nm,0.5s,SNR=6.0
EADA Adamuz 8.29 288 P **Pn** 09 28 05.3 +1.0
0.1nm,0.5s,SNR=12
EADA S **Sn** 09 29 38.5 +0.8
3.4nm,0.5s,SNR=6.0
ESDC Sonseca Array 8.29 299 Pn **Pn** 09 28 05.5 +1.2
1.3nm,0.3s,baz=109,slow=13,SNR=12
ESDC LR LR 09 31 19.2
comp=Z,154nm,19.1s,baz=110,slow=37
ESDC Sonseca Array 8.29 299 P **Pn** 09 28 07.0 +2.8
0.7nm,0.2s,baz=109,slow=14,SNR=9.1
ESDC S **Sn** 09 29 37.3 -0.4
0.9nm,0.6s,baz=112,slow=24,SNR=3.7
ESDC Sonseca Array 8.29 299 S **Sn** 09 29 37.3 -0.4
0.9nm,0.6s,SNR=3.7
ETSF Etsaut 8.30 328 *e*Pn **Pn** 09 28 01.9 -2.5
ETSF Etsaut 8.30 328 P **Pn** 09 28 01.9 -2.5
ETSF Etsaut 8.30 328 *e*Pn **Pn** 09 28 01.9 -2.5
ATE Arette 8.51 328 P Pn 09 28 11.1 +3.8
2.4nm,0.4s,SNR=7.9
ATE S **Sn** 09 29 41.3 -1.8
2.0nm,0.8s,SNR=7.9
SJPF Ste Jean 8.76 326 *e*Pn **Pn** 09 28 08.0 -2.8
SJPF Ste Jean 8.76 326 P **Pn** 09 28 08.0 -2.8
SJPF Ste Jean 8.76 326 *e*Pn **Pn** 09 28 08.0 -2.8
MBDF Montbardon 8.77 6 *e*Pn **Pn** 09 28 09.6 -1.4
MBDF *e*Sn Sn 09 29 42.1 -7.6
9.9nm,0.8s
MBDF Montbardon 8.77 6 P **Pn** 09 28 09.6 -1.4
MBDF S Sn 09 29 42.1 -7.6
4.9nm,0.8s
MBDF Montbardon 8.77 6 P **Pn** 09 28 09.6 -1.4
GUD Guadarrama 8.84 304 P Pn 09 28 15.5 +3.5
1.7nm,0.5s,SNR=6.3
VIVF Saint-Julien-l 8.86 356 *e*Pn **Pn** 09 28 10.4 -1.7
VIVF *e*Sn Sn 09 29 43.5 -8.2
10nm,0.7s
VIVF Saint-Julien-l 8.86 356 P **Pn** 09 28 10.4 -1.7
VIVF S Sn 09 29 43.5 -8.2
5.2nm,0.7s
VIVF Saint-Julien-l 8.86 356 P **Pn** 09 28 10.4 -1.7
MDT Midelt 8.89 252 Pn **Pn** 09 28 11.5 -1.2
0.3nm,0.3s,baz=46,slow=18,SNR=9.1
MDT Lg Lg 09 30 49.7
0.9nm,0.3s,baz=322,slow=7.7,SNR=6.8
ORIF Oris-en-Rattie 8.91 2 *e*Pn **Pn** 09 28 11.5 -1.3
ORIF *e*Sn Sn 09 29 45.1 -7.9
1.6nm,0.4s
ORIF *e*R
92nm,19.2s
ORIF Oris-en-Rattie 8.91 2 P **Pn** 09 28 11.5 -1.3
ORIF S Sn 09 29 45.1 -7.9
0.8nm,0.4s
ORIF Oris-en-Rattie 8.91 2 P **Pn** 09 28 11.5 -1.3
ECAB El Cabril 8.92 287 P **Pn** 09 28 13.0 +0.1
2.3nm,0.4s,SNR=15
ECAB S **Sn** 09 29 50.3 -2.9
1.2nm,0.3s,SNR=13
ECAB El Cabril 8.92 287 P **Pn** 09 28 13.0 +0.1
2.3nm,0.4s,SNR=15
ELIZ Elizondo 8.94 325 P Pn 09 28 17.0 +3.8
2.6nm,0.4s,SNR=7.9
ELIZ S **Sn** 09 29 51.4 -2.3
1.5nm,0.4s,SNR=7.9
EALK Alkurruntz 8.98 326 P Pn 09 28 17.4 +3.8
11nm,0.7s,SNR=10
EALK S **Sn** 09 29 53.3 -1.2
8.0nm,0.4s,SNR=4.6
ZFT Errachidia 9.04 247 P **Pn** 09 28 16.0 +1.3
ZFT S **Sn** 09 29 52.0 -4.4
ZFT Errachidia 9.04 247 P **Pn** 09 28 16.0 +1.3
CZD Col de Zad 9.14 254 P **Pn** 09 28 18.0 +1.8
CZD S **Sn** 09 29 56.0 -3.0
CZD Col de Zad 9.14 254 P **Pn** 09 28 18.0 +1.8
CAF Calviac 9.27 345 *e*Pn **Pn** 09 28 15.6 -2.2
CAF Calviac 9.27 345 Pn **Pn** 09 28 15.6 -2.2
CAF Calviac 9.27 345 *e*Pn **Pn** 09 28 15.6 -2.2
LPG La Plagne 9.54 6 *e*Pn **Pn** 09 28 20.1 -1.5
LPG La Plagne 9.54 6 Pn **Pn** 09 28 20.1 -1.5
LPG La Plagne 9.54 6 *e*Pn **Pn** 09 28 20.1 -1.5
LPL La Plagne 9.55 6 *e*Pn **Pn** 09 28 20.4 -1.4
LPL La Plagne 9.55 6 Pn **Pn** 09 28 20.4 -1.4
LPL La Plagne 9.55 6 *e*Pn **Pn** 09 28 20.4 -1.4
LFF La Frestale 9.61 340 *e*Pn **Pn** 09 28 19.9 -2.5
LFF La Frestale 9.61 340 Pn **Pn** 09 28 19.9 -2.5
LFF La Frestale 9.61 340 *e*Pn **Pn** 09 28 19.9 -2.5
RJF Les Rejaudoux 9.75 343 *e*Pn **Pn** 09 28 22.1 -2.2
RJF *e*R
161nm,20.0s
RJF Les Rejaudoux 9.75 343 Pn **Pn** 09 28 22.1 -2.2
RJF Les Rejaudoux 9.75 343 *e*Pn **Pn** 09 28 22.1 -2.2
EMIN Mina Concepcio 9.86 284 P **Pn** 09 28 26.8 +1.0
2.8nm,0.4s,SNR=11
EMIN Mina Concepcio 9.86 284 P **Pn** 09 28 26.8 +1.0
2.8nm,0.4s,SNR=11
ELAN Lanestosa 9.94 319 P Pn 09 28 31.0 +4.2
0.5nm,0.2s,SNR=7.9
PBAR Barrancos 10.20 286 *e*P **Pn** 09 28 32.1 +1.7
47nm,1.9s
PBAR Barrancos 10.20 286 P **Pn** 09 28 32.1 +1.7
47nm,1.9s
PBAR Barrancos 10.20 286 P **Pn** 09 28 32.1 +1.7
47nm,1.9s
EGRO El Granado 10.48 282 P **Pn** 09 28 34.6 +0.4
2.1nm,0.5s,SNR=4.7
EGRO El Granado 10.48 282 P **Pn** 09 28 34.6 +0.4
2.1nm,0.5s,SNR=4.7
PVAQ Vaqueiros 10.65 281 *e*P **Pn** 09 28 37.3 +0.7
43nm,2.0s
PVAQ Vaqueiros 10.65 281 P **Pn** 09 28 37.3 +0.7
43nm,2.0s
PVAQ Vaqueiros 10.65 281 P **Pn** 09 28 37.3 +0.7
43nm,2.0s
PESTR Estremoz 10.74 289 *e*P **Pn** 09 28 39.0 +1.1
16nm,1.6s
PBDV Barranco-do-Ve 10.81 281 *e*P **Pn** 09 28 40.9 +2.0
62nm,1.8s
PBDV Barranco-do-Ve 10.81 281 P **Pn** 09 28 40.9 +2.0
62nm,1.8s
PBDV Barranco-do-Ve 10.81 281 P **Pn** 09 28 40.9 +2.0
62nm,1.8s
PCBR Castelo Branco 10.89 294 *e*P Pn 09 28 44.1 +4.2
13nm,1.9s
PCBR Castelo Branco 10.89 294 P Pn 09 28 44.1 +4.2
6.6nm,1.9s
EARI Arriondas 10.97 315 P Pn 09 28 44.3 +3.3
1.4nm,0.5s,SNR=8.0
EVO Evora 11.01 287 *e*P **Pn** 09 28 41.3 -0.2
EVO Evora 11.01 287 *e*P **Pn** 09 28 42.0 +0.5
19nm,1.8s
EVO Evora 11.01 287 P **Pn** 09 28 42.0 +0.5
19nm,1.8s
EVO Evora 11.01 287 P **Pn** 09 28 42.0 +0.5
19nm,1.8s
MVO Moncorvo 11.03 302 *e*P **Pn** 09 28 43.7 +1.9
17nm,1.7s
MVO Moncorvo 11.03 302 P Pn 09 28 46.1 +4.2
1.0nm,0.2s,SNR=5.9
MESJ Messejana 11.09 284 *e*P **Pn** 09 28 43.6 +1.1
34nm,1.5s
MESJ Messejana 11.09 284 P **Pn** 09 28 43.6 +1.1
34nm,1.5s
MESJ Messejana 11.09 284 P **Pn** 09 28 43.6 +1.1
34nm,1.5s
EVOP Sao Brissos 11.10 287 *e*P **Pn** 09 28 41.3 -1.4
PBRG Braganca 11.11 305 *e*P Pn 09 28 47.7 +4.8
18nm,1.7s
PBRG Braganca 11.11 305 P Pn 09 28 47.7 +4.8
9.1nm,1.7s
ECAL Calabor 11.17 306 P **Pn** 09 28 45.4 +1.6
2.4nm,0.4s,SNR=8.3
ECAL Calabor 11.17 306 P **Pn** 09 28 45.4 +1.6
2.4nm,0.4s,SNR=8.3
DAVOX Davos/Dischmat 11.27 16 LR LR 09 32 41.6
comp=Z,58nm,20.8s,baz=252,slow=35
PNCL Nicolau / Gran 11.36 285 *e*P **Pn** 09 28 47.5 +1.3
31nm,1.5s
MFF Saint Martin d 11.39 340 *e*Pn **Pn** 09 28 44.1 -2.5
MFF Saint Martin d 11.39 340 P **Pn** 09 28 44.1 -2.5
MFF Saint Martin d 11.39 340 P **Pn** 09 28 44.1 -2.5
MORF Marmelete 11.39 281 *e*P **Pn** 09 28 44.8 -2.0
63nm,1.5s
MORF Marmelete 11.39 281 P **Pn** 09 28 44.8 -2.0
63nm,1.5s
POLO Lamas de Olo 11.64 301 *e*P **Pn** 09 28 52.3 +2.1
9.3nm,1.9s
ELOB Lobios 12.03 303 P Pn 09 28 59.3 +3.9
1.1nm,0.4s,SNR=4.0
PMAFR Mafra 12.06 289 *e*P **Pn** 09 28 57.0 +1.1
88nm,1.6s
GERES GERESS Array B 14.20 23 Pn **Pn** 09 29 26.4 +1.3
0.1nm,0.3s,baz=212,slow=13,SNR=3.1
KHC Kasperske Hory 14.41 22 *e*P **P** 09 29 36.9 +2.0
KHC *ex* x 09 29 43.1
KHC AMS AMS 09 36 00.0
comp=Z,100nm,11.5s
TREC Trest 15.18 26 AMS AMS 09 36 20.0
comp=Z,100nm,11.6s
PRU Pruhonice 15.46 23 AMS AMS 09 37 30.0
comp=Z,100nm,10.9s
GOPC GO Pecny, Ondr 15.48 23 AMS AMS 09 36 50.0
comp=Z,100nm,15.3s
VRAC Vranov 15.60 28 Pn **P** 09 29 50.3 +2.3
baz=213,slow=10,SNR=4.0
VRAC Vranov 15.60 28⇑*i*P **P** 09 29 48.5 +0.5
VRAC Vranov 15.60 28⇑*i*P **P** 09 29 48.5 +0.5
MORC Moravsky Berou 16.34 29⇑*i*P **P** 09 29 56.6 +0.3
MORC Moravsky Berou 16.34 29⇑*i*P **P** 09 29 56.6 +0.3
DPC Dobruska-Polom 16.36 25 *e*P **P** 09 29 56.4 -0.1
DPC *ep*P **pP** 09 30 01.6 +1.1
DPC AMS AMS 09 37 10.0
comp=Z,100nm,13.5s
DPC Dobruska-Polom 16.36 25 P **P** 09 29 56.4 -0.1
UPC Upice 16.39 25 AMS AMS 09 37 50.0
comp=Z,100nm,9.9s
OKC Ostrava-Krasne 16.63 30 AMS AMS 09 38 50.0
comp=Z,100nm,11.7s
KECS Kecovo 16.68 37 *e*P **P** 09 30 01.5 +1.5
LOT Lotru 16.76 50⇓*i*P Pn 09 29 53.3 -5.6
DRGR 16.82 45⇓*i*P **P** 09 30 04.9 +3.3
ARR Arges 17.27 51⇑*i*P **P** 09 30 09.3 +2.7
VOIR 17.56 52⇑*i*P **P** 09 30 13.1 +3.2
STHS Stebnicka Huta 17.69 36 *e*P **P** 09 30 15.1 +3.9
KOLS Kolonicke sedl 17.87 38 *e*P **P** 09 30 16.3 +3.1
MLR Muntele Rosu 18.16 52 P **P** 09 30 16.8 +0.3
0.0nm,0.3s,baz=174,slow=9.2,SNR=6.1
MLR Muntele Rosu 18.16 52⇑*i*P **P** 09 30 20.0 +3.5
BURAR Bucovina Array 18.70 46⇑*i*P **Pn** 09 30 27.0 +4.2
EKA Eskdalemuir Ar 20.21 346 P Pn 09 30 39.6 -1.1
3.0nm,0.8s,baz=154,slow=9.7,SNR=5.2
BRTR Keskin Array B 22.53 72 P **P** 09 31 02.6 -1.5
1.0nm,0.6s,baz=253,slow=8.4,SNR=6.4
AKASG Malin Array Be 22.56 42 P **P** 09 31 04.1 +0.1
5.0nm,0.7s,baz=238,slow=10,SNR=5.1
TORD Torodi Ar. Bea 23.01 189 P **P** 09 31 06.4 -2.6
3.3nm,0.8s,baz=2.1,slow=9.5,SNR=16
TORD LR LR 09 40 18.0
comp=Z,90nm,18.2s,baz=345,slow=37
HFS Hagfors 24.73 10 P **P** 09 31 24.9 -0.2
0.9nm,0.6s,baz=206,slow=9.6,SNR=2.4
NOA NORSAR Array B 25.32 7 P **P** 09 31 31.1 +0.6
1.2nm,0.9s,baz=193,slow=9.7,SNR=3.3
NOA LR LR 09 41 42.1
comp=Z,28nm,19.1s,baz=195,slow=37
MALT Malatya 26.32 75⇓*i*P **P** 09 31 41.3 +1.4
ZALV Zalesovo Beam 55.92 45 P **P** 09 35 40.7 -1.0
0.3nm,0.4s,baz=268,slow=4.3,SNR=2.2
ZALV LR LR 10 00 42.2
comp=Z,19nm,18.9s,baz=72,slow=37
MKAR Makanchi Array 56.50 53 P **P** 09 35 45.4 -0.7
0.7nm,0.6s,baz=288,slow=5.9,SNR=8.3
BOSA Boshof 66.93 161 LR LR 10 08 38.0
comp=Z,60nm,18.6s,baz=348,slow=38
YKA Yellowknife Ar 70.74 335 P **P** 09 37 18.8 -0.9
0.7nm,0.7s,baz=56,slow=4.6,SNR=3.2
HHC Hu-ho-hao-te 77.85 48 *e*P **P** 09 38 04.2 +2.5
HHC PP **PP** 09 41 01.4 +4.5
HHC S **S** 09 47 56.1 +1.8
HHC Hu-ho-hao-te 77.85 48 SS SS 09 52 58.6 +4.6
HHC pmax pmax
comp=Z,33nm,1.2s
HHC pmax pmax
comp=Z,88nm,5.7s
HHC LR LR
comp=N,51nm,14.3s
HHC LR LR
comp=E,96nm,14.3s
HHC LR LR
comp=Z,47nm,14.7s
PDAR Pinedale Array 81.74 318 P **P** 09 38 22.7 -0.3
comp=Z,0.6nm,0.8s,baz=59,slow=8.8,SNR=4.8

*JMA **11** 09:30:26.7±0.5,31°.20N×141°.65E,h0km,M3.6*
*IDC **11** 09:30:29.4±7.9,31°.45N×142°.36E,h33km±52km,mb3.3/4, mb1 3.4/6,mb1mx3.3/36,mbtmp3.5/6,ML3.3/2,Error ellipse: s-maj=149.4km s-min=19.6km az=71.0*
ISC 11 09:30:28.4±1.4,31°.46N±0°.09×142°.2E±0°.2,h29km,n12, σ2s02/12,mb3.6/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.62**	**308**	*e*S			**Sn**	**09 31 40.2**	**+0.5**
JHJ2	**Mitsune**	**2.63**	**309**	P			**Pn**	**09 31 09.0**	**0.0**
BSO1	**Boso 1**	**3.36**	**342**	*e*S			**Sb**	**09 32 06.0**	**-1.1**
BSO2	**Boso 2**	**3.51**	**340**	*e*S			**Sb**	**09 32 09.4**	**-2.4**
BSO3	**Boso 3**	**3.63**	**337**	P			Pb	09 31 26.8	-5.0
BSO3				*e*S			**Sb**	**09 32 11.7**	**-3.7**
JCJ	**Chichijima**	**4.35**	**181**	Pn			**Pn**	**09 31 32.5**	**-0.1**
	3.5nm,0.3s,baz=5.3,slow=20,SNR=6.3								
JCJ						Sn	**Sn**	**09 32 19.5**	**-2.9**
	4.4nm,0.3s,baz=186,slow=19,SNR=3.7								
JOD2	**Odawara 2**	**4.62**	**326**	P			Pn	09 31 41.5	+5.2
MJAR	**Matsushiro Arr**	**6.08**	**328**	Pn			**Pn**	**09 31 58.0**	**+1.7**
	0.4nm,0.3s,baz=151,slow=10,SNR=4.8								
ZALV	**Zalesovo Beam**	**46.30**	**316**	P			**P**	**09 38 51.0**	**-0.3**
	0.6nm,0.5s,baz=86,slow=7.4,SNR=2.6								
MKAR	**Makanchi Array**	**47.83**	**307**	P			**P**	**09 39 05.5**	**+2.1**
	0.3nm,0.6s,baz=81,slow=8.9,SNR=3.3								
WRA	**Warramunga Arr**	**51.67**	**189**	P			**P**	**09 39 33.4**	**+0.7**
	0.3nm,0.4s,baz=6.5,slow=7.7,SNR=9.9								
ASAR	**Alice Springs**	**55.39**	**189**	P			**P**	**09 40 00.3**	**+0.2**
	0.2nm,0.4s,baz=1.7,slow=4.8,SNR=6.7								

*MOS **11** 09:31:32.8±3.1,41°.48N×48°.03E,h8km,mb4.1/1,Error ellipse: s-maj=18.7km s-min=6.9km az=113.6*
*AZER **11** 09:31:32.5±0.1,41°.65N×47°.96E,h4km,Error ellipse: s-maj=1.3km s-min=0.4km az=23.0*
*TIF **11** 09:31:33.4,41°.64N×48°.13E,h12km±2km*
*CSEM **11** 09:31:35.2±0.2,41°.68N×47°.98E,h2km,mb4.1,Error ellipse: s-maj=5.4km s-min=2.9km az=55.0*
ISC 11 09:31:34.6±1.0,41°.65N±0°.02×48°.02E±0°.02,h4km±9km, n57,σ0s90/98,19C-12D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSMR	**Kasumkent**	**0.10**	**119**	*i* PG			**Pg**	**09 31 36.0**	**-0.6**
KSMR						pmax	pmax		
	comp=Z,3μm,0.1s								
KSMR	**Kasumkent**	**0.10**	**119**	*i* Pg			**Pg**	**09 31 36.0**	**-0.6**
	comp=Z,3μm,0.1s								
AKT	**Akhty**	**0.27**	**232**	*i* PG			**Pg**	**09 31 40.0**	**+0.1**
AKT				*i* S			**Sg**	**09 31 44.0**	**+0.5**
AKT						pmax	pmax		
	comp=Z,325nm,0.1s								
AKT	**Akhty**	**0.27**	**232**	*i* Pg			**Pg**	**09 31 40.0**	**+0.1**
	comp=Z,325nm,0.1s								
AKT				*i* Sg			**Sg**	**09 31 44.0**	**+0.5**
QUBA	**Quba, Azerbaij**	**0.46**	**129**	⇑P			**Pb**	**09 31 44.4**	**-1.0**
	SNR=59								
QUBA				⇓S			**Sb**	**09 31 53.0**	**+0.4**
QUBA	**Quba, Azerbaij**	**0.46**	**129**	P			**Pb**	**09 31 44.4**	**-1.0**
	SNR=59								
QUBA				S			**Sb**	**09 31 53.0**	**+0.4**
URKR	**Urkarakh**	**0.59**	**331**	*i* PG			**Pg**	**09 31 46.0**	**0.0**
URKR				*i* S			**Sg**	**09 31 55.0**	**+1.4**
URKR						pmax	pmax		
	comp=Z,334nm,0.2s								
URKR	**Urkarakh**	**0.59**	**331**	*i* Pg			**Pg**	**09 31 46.0**	**0.0**
	comp=Z,334nm,0.2s								
URKR				*i* Sg			**Sg**	**09 31 55.0**	**+1.4**
SEKA	**Sheki**	**0.76**	**235**	⇓P			**Pg**	**09 31 49.0**	**-0.1**
	SNR=96								
SEKA				⇑S			**Sg**	**09 31 59.4**	**+0.5**
SEKA	**Sheki**	**0.76**	**235**	P			**Pg**	**09 31 49.0**	**-0.1**
	SNR=96								
SEKA				S			**Sg**	**09 31 59.4**	**+0.5**
KMKR	**Kumukh**	**0.84**	**305**	⇑*i*PG			**Pg**	**09 31 50.0**	**-0.7**
KMKR				*i* S			**Sb**	**09 32 03.0**	**-0.6**
KMKR						pmax	pmax		
	comp=Z,193nm,0.3s								
KMKR	**Kumukh**	**0.84**	**305**	*i* Pg			**Pg**	**09 31 50.0**	**-0.7**
	comp=Z,193nm,0.3s								
KMKR				*i* Sg			**Sb**	**09 32 03.0**	**-0.6**
SGKR	**Sergokala**	**0.85**	**342**	*e*PG			**Pg**	**09 31 51.0**	**0.0**
SGKR				*i* S			**Sn**	**09 32 06.5**	**0.0**
SGKR						pmax	pmax		
	comp=Z,223nm,0.2s								
SGKR	**Sergokala**	**0.85**	**342**	*e*Pg			**Pg**	**09 31 51.0**	**0.0**
	comp=Z,223nm,0.2s								
IML	**Ismayilli**	**0.86**	**172**	⇑P			**Pb**	**09 31 52.0**	**-0.2**
	SNR=6.0								
IML				⇓S			**Sn**	**09 32 05.4**	**-1.4**
IML	**Ismayilli**	**0.86**	**172**	P			**Pb**	**09 31 52.0**	**-0.2**
	SNR=6.0								
IML				S			**Sn**	**09 32 05.4**	**-1.4**
SIZA	**Siyzn**	**0.88**	**130**	⇑P			**Pb**	**09 31 52.3**	**-0.2**
	SNR=22								
SIZA				⇓S			**Sn**	**09 32 06.9**	**-0.2**
SIZA	**Siyzn**	**0.88**	**130**	P			**Pb**	**09 31 52.3**	**-0.2**
	SNR=22								
SIZA				S			**Sn**	**09 32 06.9**	**-0.2**
PQL	**Pirkuli**	**0.96**	**153**	⇑P			**Pn**	**09 31 54.4**	**-0.7**
	SNR=12								
PQL				⇑S			**Sn**	**09 32 09.1**	**-0.2**
PQL	**Pirkuli**	**0.96**	**153**	P			**Pn**	**09 31 54.4**	**-0.7**
	SNR=12								
PQL				S			**Sn**	**09 32 09.1**	**-0.2**
ZKTA	**Zakatala**	**1.04**	**270**	⇑P			**Pg**	**09 31 54.0**	**-0.7**
	SNR=13								
ZKTA				⇑S			**Sn**	**09 32 10.0**	**-1.1**
ATGJ	**Altiaghaj**	**1.05**	**138**	⇓P			**Pn**	**09 31 55.9**	**-0.3**

SNR=9.9
ATGJ ⇑S Sn 09 32 12.7 +1.3
ATGJ Altiaghaj 1.05 138 P **Pn** 09 31 55.9 -0.3
SNR=9.9
ATGJ S Sn 09 32 12.7 +1.3
GNBR Gunib 1.08 314⇑ *i*PG **Pg** 09 31 54.8 -0.5
GNBR *i* S **Sn** 09 32 11.8 -0.3
GNBR Gunib 1.08 314 *i* Pg **Pg** 09 31 54.8 -0.5
MNGR Mingechevir, A 1.12 219 ⇓P **Pg** 09 31 55.3 -0.8
SNR=3.7
MNGR ⇓S **Sb** 09 32 11.0 -0.5
MNGR Mingechevir, A 1.12 219 P **Pg** 09 31 55.3 -0.8
SNR=3.7
MNGR S **Sb** 09 32 11.0 -0.5
ARKR Arakani 1.22 322 *e*PG **Pg** 09 31 57.0 -1.0
ARKR *e*S **Sn** 09 32 15.0 -0.5
ARKR pmax pmax
comp=Z,63nm,0.3s
ARKR Arakani 1.22 322 *e*Pg **Pg** 09 31 57.0 -1.0
comp=Z,63nm,0.3s
ARKR *e*Sg **Sn** 09 32 15.0 -0.5
XNZR Khunzakh 1.32 313 *e*PG **Pb** 09 32 00.0 -0.1
XNZR *e*S **Sn** 09 32 21.0 +2.8
XNZR pmax pmax
comp=Z,99nm,0.2s
XNZR Khunzakh 1.32 313 *e*Pg **Pb** 09 32 00.0 -0.1
comp=Z,99nm,0.2s
MAK Makhachkala 1.36 344 *e*PG Pg 09 32 09.8 +9.0
MAK *e*S **Sn** 09 32 20.3 +1.3
MAK smax smax
comp=E,900nm,0.5s
MAK Makhachkala 1.36 344 *e*Sg **Sn** 09 32 20.3 +1.3
KRNR Karanay 1.44 325 *e*PG **Pn** 09 32 00.0 -1.6
KRNR *i* S **Sg** 09 32 21.0 +0.2
KRNR pmax pmax
comp=Z,57nm,0.2s
KRNR Karanay 1.44 325 *e*Pg **Pn** 09 32 00.0 -1.6
comp=Z,57nm,0.2s
KRNR *i* Sg **Sg** 09 32 21.0 +0.2
BRDA Brd 1.52 205 ⇓Pn **Pg** 09 32 03.5 -0.3
SNR=5.3
BRDA Brd 1.52 205 Pn **Pg** 09 32 03.5 -0.3
SNR=5.3
GANJ Ganja 1.62 232 ⇓Pn **Pn** 09 32 04.2 +0.1
SNR=17
GANJ ⇓Sn **Sg** 09 32 26.7 -0.1
GANJ Ganja 1.62 232 Pn **Pn** 09 32 04.2 +0.1
SNR=17
GANJ Sn **Sg** 09 32 26.7 -0.1
DBC Dubki 1.63 328⇑ *i*PN **Pb** 09 32 04.8 -0.5
DBC Dubki 1.63 328 *i* Pn **Pb** 09 32 04.8 -0.5
BTLR Botlikh 1.68 308 *e*PN **Pn** 09 32 04.9 +0.1
BTLR *e*S **Sg** 09 32 29.5 +1.1
BTLR Botlikh 1.68 308 *e*Pn **Pn** 09 32 04.9 +0.1
BTLR *e*Sg **Sg** 09 32 29.5 +1.1
DLMR Dylym 1.75 325 PN **Pb** 09 32 06.5 -0.9
DLMR Dylym 1.75 325 Pn **Pb** 09 32 06.5 -0.9
ALIB Äli-Bayra 1.85 156⇑Pn **Pg** 09 32 09.6 -0.4
SNR=3.7
ALIB Äli-Bayra 1.85 156 Pn **Pg** 09 32 09.6 -0.4
SNR=3.7
DGRG David-gareji 1.99 265 P **Pb** 09 32 11.6 +0.1
DGRG S **Sg** 09 32 40.9 +2.3
DGRG David-gareji 1.99 265 P **Pb** 09 32 11.6 +0.1
QZX Qazax, Azerbai 2.08 254⇑Pn **Pb** 09 32 11.6 -1.3
SNR=8.4
QZX ⇑Sn **Sb** 09 32 39.4 +0.4
QZX Qazax, Azerbai 2.08 254 Pn **Pb** 09 32 11.6 -1.3
SNR=8.4
QZX Sn **Sb** 09 32 39.4 +0.4
GLBA Clilabad 2.42 173⇑Pn **Pb** 09 32 18.2 -0.5
SNR=3.5
GLBA ⇓Sn **Sb** 09 32 49.5 +0.6
GLBA Clilabad 2.42 173 Pn **Pb** 09 32 18.2 -0.5
SNR=3.5
GLBA Sn **Sb** 09 32 49.5 +0.6
LKRN Lenkeran, Azer 2.99 168⇑Pn **Pn** 09 32 24.8 +2.0
LKRN ⇑Sn **Sb** 09 33 05.3 -0.1
LKRN Lenkeran, Azer 2.99 168 Pn **Pn** 09 32 24.8 +2.0
LKRN Sn **Sb** 09 33 05.3 -0.1
LRK Lerik 3.01 175 ⇓Pn **Pn** 09 32 25.6 +2.3
SNR=4.3
LRK ⇑Sn **Sb** 09 33 05.0 -1.1
LRK Lerik 3.01 175 Pn **Pn** 09 32 25.6 +2.3
SNR=4.3
LRK Sn **Sb** 09 33 05.0 -1.1

*IDC **11** 09:41:37.6±2.7, 17°.27S×167°.81E, h0km, mb4.2/6, mb1 4.4/7, mb1mx4.0/31, mbtmp4.2/7, ML4.2/1, Error ellipse: s-maj=62.8km s-min=27.1km az=109.0*
*ISCJB **11** 09:41:40.4±1.4, 17°.49S±0°.08×167°.8E±0°.2, h27km, mb4.3/8, Error ellipse: s-maj=28.6km s-min=11.2km az=180.0*
*NEIC **11** 09:41:42.6±1.1, 17°.35S×167°.90E, h35km, mb4.5/5, Error ellipse: s-maj=25.1km s-min=16.6km az=99.0*
ISC 11 09:41:41.6±1.4, 17.44S±0°.10×167.9E±0°.2, h27km, n14, σ1§11/14, mb4.2/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.80**	**196**	Pn	**Pn**	**09 42 52.0**	**-0.2**
DZM	9.1nm,0.3s,baz=90,slow=24,SNR=54			Sn	**Sn**	**09 43 45.1**	**-2.0**
	3.1nm,0.3s,baz=103,slow=23,SNR=3.8						
DZM	**Mont Dzumac**	**4.80**	**196**	*e*Pn	**Pn**	**09 42 51.8**	**-0.4**
ARMA	**Armidale**	**19.65**	**226**	*e*P	**Pn**	**09 46 11.6**	**+1.6**
	14nm,1.2s						
CTA	**Charters Tower**	**20.64**	**259**	P	Pn	09 46 20.3	-1.4
	12nm,1.0s,baz=95,slow=14,SNR=3.9						
STKA	**Stephens Creek**	**27.78**	**234**	P	**P**	**09 47 29.1**	**+0.7**
	3.8nm,0.7s,baz=69,slow=8.5,SNR=13						
STKA	**Stephens Creek**	**27.78**	**234**	*e*P	**P**	**09 47 29.4**	**+1.0**
	0.8nm,0.6s						
WRAB	**Tennant Creek**	**31.82**	**260**	*e*P	**P**	**09 48 04.2**	**-0.2**
	27nm,1.8s						
WRA	**Warramunga Arr**	**31.83**	**260**	P	**P**	**09 48 03.3**	**-1.2**
	0.5nm,0.4s,baz=88,slow=9.2,SNR=18						
ASAR	**Alice Springs**	**32.35**	**253**	P	**P**	**09 48 08.7**	**-0.3**
	2.9nm,0.8s,baz=76,slow=8.6,SNR=30						
MBWA	**Marble Bar**	**45.45**	**257**	*e*P	**P**	**09 49 59.3**	**+0.6**
	32nm,1.3s						
MJAR	**Matsushiro Ar**	**60.56**	**333**	P	**P**	**09 51 48.6**	**-1.2**
	2.1nm,1.0s,baz=166,slow=9.7,SNR=4.7						
QSPA	**South Pole Qui**	**72.60**	**180**	*e*P	**P**	**09 53 07.8**	**+1.4**
	7.7nm,1.2s						
SONM	**Songino Array**	**85.01**	**324**	P	**P**	**09 54 14.6**	**-0.2**
	0.7nm,0.7s,baz=126,slow=5.5,SNR=5.4						
BFO	**Black Forest**	**144.96**	**336**	*e*PKPdf	**PKPdf**	**10 01 15.9**	**-0.4**

*IDC **11** 09:45:42.0±1.4, 25°.30S×175°.48W, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.2/24, mbtmp4.1/11, MS3.4/6, Ms1 3.4/6, ms1mx3.1/24, Error ellipse: s-maj=61.0km s-min=20.9km az=156.0*
*ISCJB **11** 09:45:45.6±0.7, 25°.2S±0°.1×175°.6W±0°.1, h27km, mb4.2/13, MS3.5/4, Error ellipse: s-maj=19.0km s-min=16.2km az=158.0*
*NEIC **11** 09:45:47.6±0.7, 25°.20S×175°.54W, h35km, mb4.7/2, Error ellipse: s-maj=21.9km s-min=18.3km az=160.0*
ISC 11 09:45:46.9±0.8, 25°.2S±0°.2×175°.5W±0°.1, h27km, n24, σ1§31/17, mb4.0/13, MS3.6/4, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**9.54**	**320**	*e*Pn	**Pn**	**09 48 04.0**	**+1.4**
	20nm,0.8s						
URZ	**Urewera**	**14.46**	**204**	LR	LR	09 52 56.7	
	comp=Z,27nm,19.9s,baz=356,slow=30						
RAR	**Rarotonga**	**14.99**	**78**	LR	LR	09 54 38.5	
	comp=Z,213nm,18.7s,baz=306,slow=36						
TBI	**Tubuai**	**23.80**	**91**	*e*LR	LR	09 56 26.4	
	117nm,27.2s						
PPT2	**Papeete2**	**25.26**	**78**	*e*LR	LR	09 57 03.0	
	146nm,27.0s						
PPT	**Papeete**	**25.27**	**78**	LR	LR	09 59 15.6	
	comp=Z,61nm,18.4s,baz=263,slow=32						
STKA	**Stephens Creek**	**38.09**	**250**	P	**P**	**09 53 03.7**	**+0.2**
	2.5nm,1.0s,baz=97,slow=12,SNR=3.0						
STKA				LR	LR	10 06 50.0	
	comp=Z,101nm,18.8s,baz=27,slow=33						
ASAR	**Alice Springs**	**45.88**	**261**	P	**P**	**09 54 06.2**	**-1.0**
	0.6nm,0.4s,baz=89,slow=7.2,SNR=12						
WRAB	**Tennant Creek**	**46.40**	**266**	*e*P	**P**	**09 54 09.4**	**-2.0**
	16nm,1.6s						
WRA	**Warramunga Arr**	**46.41**	**266**	P	**P**	**09 54 09.5**	**-2.0**
	0.8nm,0.5s,baz=104,slow=7.9,SNR=16						
QSPA	**South Pole Qui**	**64.91**	**180**	*e*P	**P**	**09 56 25.4**	**+1.7**
	7.9nm,1.2s						
MJAR	**Matsushiro Arr**	**75.33**	**323**	P	**P**	**09 57 27.8**	**0.0**
	1.0nm,0.6s,baz=158,slow=14,SNR=5.1						
PETK	**Petropavlovsk-**	**81.38**	**344**	P	**P**	**09 57 59.9**	**-0.9**
	6.2nm,1.0s,baz=128,slow=17,SNR=3.6						
NVAR	**Mina Array Bea**	**82.90**	**42**	P	**P**	**09 58 09.6**	**+0.1**
	1.0nm,0.7s,baz=224,slow=8.9,SNR=9.7						
USRK	**Ussuriysk Ar.**	**84.11**	**325**	P	**P**	**09 58 16.1**	**+0.9**
	2.4nm,0.9s,baz=135,slow=3.8,SNR=5.6						
TXAR	**Lajitas Array**	**87.68**	**56**	P	**P**	**09 58 33.2**	**-0.2**
	0.7nm,0.9s,baz=218,slow=7.9,SNR=8.6						
TXAR				LR	LR	10 33 20.3	
	comp=Z,22nm,18.0s,baz=0.0,slow=33						
PDAR	**Pinedale Array**	**90.82**	**42**	P	**P**	**09 58 48.4**	**+0.4**
	0.3nm,0.8s,baz=294,slow=0.9,SNR=3.3						
PDAR				LR	LR	10 34 08.1	
	comp=Z,27nm,18.5s,baz=272,slow=32						
ILAR	**Eielson Array**	**92.38**	**12**	P	**P**	**09 58 53.8**	**-0.6**
	0.5nm,0.7s,baz=217,slow=5.6,SNR=6.9						
CMAR	**Chiang Mai Arr**	**93.82**	**288**	P	**P**	**09 59 03.6**	**+1.5**
	1.4nm,0.3s,baz=117,slow=4.4,SNR=4.4						
FINES	**FINESS Array B**	**140.90**	**344**	PKhKP	PKPpre	10 05 07.5	
	1.5nm,1.0s,baz=348,slow=2.4,SNR=2.8						
NB2	**NORSAR Subarra**	**143.87**	**354**	PKP	PKPab	10 05 16.4	+0.1
	comp=Z,0.7nm,0.7s,baz=7.4,slow=3.5						
NOA	**NORSAR Array B**	**143.87**	**354**	PKP	PKPab	10 05 16.4	+0.1
	comp=Z,1.4nm,0.9s,baz=3.0,slow=2.2,SNR=4.5						
AKASG	**Malin Array Be**	**148.21**	**330**	PKPbc	**PKPbc**	**10 05 29.3**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=39,slow=4.1,SNR=3.2						
BRTR	**Keskin Array B**	**151.61**	**308**	PKPbc	**PKPbc**	**10 05 36.7**	**-2.3**
	comp=Z,0.3nm,0.4s,baz=42,slow=2.7,SNR=2.7						
BRTR				PKPab	**PKPab**	**10 05 47.8**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=113,slow=5.6,SNR=5.2						

*IDC **11** 10:29:34.3±9.1, 23°.55S×179°.68W, h473km±86km, mb3.5/5, mb1 3.6/6, mb1mx3.2/32, mbtmp4.3/6, Error ellipse: s-maj=68.2km s-min=20.4km az=45.0*
*ISCJB **11** 10:29:35.4±3.1, 23°.6S±0°.3×179°.7W±0°.4, h500km, mb4.0/5, Error ellipse: s-maj=59.3km s-min=17.8km az=141.4*
ISC 11 10:29:37.2±1.1, 23.7S±0°.2×179.8W±0°.2, h500km, n23, σ1§01/21, mb4.2/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.72**	**190**	P	**P**	**10 32 43.9**	**-0.5**
	1.8nm,0.3s,baz=45,slow=3.1,SNR=13						
RPZ	**Rata Peaks**	**21.32**	**199**	P	**P**	**10 33 47.7**	**+0.1**
	2.9nm,0.5s,baz=35,slow=6.0,SNR=4.5						
ARMA	**Armidale**	**26.29**	**249**	P	**P**	**10 34 33.9**	**+1.6**
	baz=28,SNR=5.5						
CMSA	**Cobar Meteorol**	**31.48**	**248**	P	**P**	**10 35 17.7**	**+0.3**
	baz=34,SNR=7.5						
MTSU	**Mount Surprise**	**33.96**	**273**	P	**P**	**10 35 39.3**	**+0.7**
	baz=36,SNR=7.0						
STKA	**Stephens Creek**	**34.99**	**248**	P	**P**	**10 35 47.2**	**+0.1**
	1.2nm,0.4s,baz=107,slow=11,SNR=5.8						
STKA	**Stephens Creek**	**34.99**	**248**	P	**P**	**10 35 47.5**	**+0.4**
	baz=37,SNR=4.9						
ASAR	**Alice Springs**	**42.28**	**260**	P	**P**	**10 36 46.2**	**-0.3**
	3.0nm,0.4s,baz=99,slow=7.3,SNR=51						
WRA	**Warramunga Arr**	**42.64**	**266**	P	P	10 36 48.5	-0.8
	5.9nm,0.5s,baz=94,slow=8.5,SNR=228						
KDU	**Kakadu**	**46.50**	**275**	P	P	10 37 18.5	-0.7
	baz=49,SNR=5.0						
FORT	**Forrest**	**46.58**	**249**	P	**P**	**10 37 18.8**	**-0.8**
	baz=49,SNR=12						
WRKA	**Warakurna**	**47.09**	**257**	P	**P**	**10 37 22.8**	**-0.8**
	baz=49,SNR=6.9						
KNRA	**Kununurra**	**48.91**	**270**	P	**P**	**10 37 37.0**	**-0.3**
	baz=51,SNR=19						
MEEK	**Meekatharra**	**55.38**	**253**	P	**P**	**10 38 23.2**	**-0.6**
	baz=58,SNR=3.6						
MORW	**Morawa**	**57.14**	**250**	P	**P**	**10 38 35.4**	**-0.5**
	baz=59,SNR=3.9						
QSPA	**South Pole Qui**	**66.34**	**180**	P	**P**	**10 39 36.6**	**+1.0**
	2.0nm,1.0s,baz=259,slow=0.7,SNR=11						
MKAR	**Makanchi Array**	**112.21**	**313**	PKiKP	**PKiKP**	**10 47 14.8**	**-0.7**
	0.1nm,0.4s,baz=222,slow=1.6,SNR=3.1						
KURBB	**Kurchatov Arra**	**115.28**	**316**	PKP	**PKPdf**	**10 47 20.3**	**-1.0**
	0.2nm,0.4s,baz=96,slow=1.9,SNR=3.5						
BVAR	**Borovoye Array**	**120.47**	**319**	PKP	**PKPdf**	**10 47 30.3**	**-0.9**
	0.4nm,0.4s,baz=73,slow=4.8,SNR=3.1						
FINES	**FINESS Array B**	**138.36**	**342**	PKP	**PKPdf**	**10 48 04.6**	**-0.1**
	0.3nm,0.4s,baz=123,slow=5.1,SNR=3.0						
AKASG	**Malin Array Be**	**144.96**	**328**	PKP	**PKPdf**	**10 48 16.1**	**-0.7**
	0.3nm,0.3s,baz=37,slow=4.3,SNR=3.5						
BRTR	**Keskin Array B**	**147.66**	**307**	PKPbc	**PKPdf**	**10 48 24.9**	**+2.9**
	0.6nm,0.6s,baz=79,slow=2.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**169.38**	**188**	PKPab	**PKPab**	**10 50 02.8**	**-0.7**
	0.5nm,0.6s,baz=180,slow=2.2,SNR=2.6						

*ISCJB **11** 10:37:47.8±0.6, 6°.23N±0°.08×77°.58W±0°.07, h17km, mb4.0/20, MS2.8/3, Error ellipse: s-maj=12.9km s-min=9.5km az=28.4*
*BJI **11** 10:37:51.5, 6°.20N×77°.70W, h35km, mB4.9/1*
*NEIC **11** 10:37:52.5±0.7, 6°.24N×77°.72W, h35km, mb4.3/9, Error ellipse: s-maj=14.6km s-min=10.7km az=41.0*
*IDC **11** 10:37:54.2±2.8, 6°.20N×77°.52W, h60km±24km, mb3.5/11, mb1 3.8/13, mb1mx3.6/24, mbtmp3.8/13, ML2.5/2, MS2.8/4, Ms1 2.9/4, ms1mx2.7/14, Error ellipse: s-maj=33.2km s-min=17.8km az=24.0*
ISC 11 10:37:49.3±0.6, 6°.25N±0°.08×77°.75W±0°.08, h17km, n38, σ1§52/38, mb4.1/20, MS2.8/3, 1C, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCIP	**Isla Barro Col**	**3.57**	**325**	*e*Pn	**Pn**	**10 38 42.6**	**-1.2**
ROSC	**El Rosal**	**3.67**	**112**	P	**Pn**	**10 38 45.9**	**+0.3**
	6.1nm,0.3s,baz=301,slow=19,SNR=8.8						
ROSC				S	**Sb**	**10 39 38.9**	**+0.5**
	5.5nm,0.3s,baz=277,slow=21,SNR=4.7						
ROSC	**El Rosal**	**3.67**	**112**	*e*Pn	**Pn**	**10 38 48.1**	**+2.5**
OTAV	**Otavalo**	**3.01**	**187**	*e*Pn	**Pn**	**10 39 18.4**	**+0.5**
SDV	**Santo Domingo**	**7.52**	**69**	*e*Pn	**Pn**	**10 39 37.8**	**-0.7**
JTS	**JuntasAbangare**	**8.19**	**300**	P	Pn	10 39 53.0	+5.6
	0.1nm,0.3s,baz=48,slow=20,SNR=2.3						
JTS				LR	LR	10 42 44.4	
	comp=Z,40nm,18.7s,baz=108,slow=34						
SDDR	**Presa de Saban**	**14.13**	**26**	*e*Pn	**Pn**	**10 41 11.3**	**+2.4**
LPAZ	**La Paz**	**24.33**	**157**	LR	LR	10 53 55.1	
	comp=Z,29nm,19.0s,baz=100,slow=40						
TXAR	**Lajitas Array**	**33.55**	**316**	P	**P**	**10 44 29.9**	**+1.4**
	0.4nm,1.0s,baz=134,slow=7.7,SNR=3.6						
MSTX	**Muleshoe**	**36.03**	**323**	*e*P	**P**	**10 44 50.7**	**+0.8**
	8.0nm,1.0s						
ANMO	**Albuquerque**	**38.93**	**321**	*e*P	**P**	**10 45 15.7**	**+1.1**
	2.9nm,0.9s						
SDCO	**Great Sand Dun**	**40.24**	**325**	*e*P	**P**	**10 45 27.9**	**+2.2**
	2.6nm,0.6s						
PV01	**Paradox Valley**	**42.30**	**323**	*e*P	**P**	**10 45 44.0**	**+1.5**
PV04	**Paradox Valley**	**42.66**	**323**	*e*P	**P**	**10 45 46.1**	**+0.7**
SRU	**San Rafael**	**44.09**	**323**	*e*P	**P**	**10 45 58.8**	**+1.8**
	13nm,1.7s						
RSSD	**Black Hills**	**44.20**	**333**	*e*P	**P**	**10 45 58.2**	**+0.5**
	3.7nm,1.1s						
P17A	**Butcher Ranch,**	**44.45**	**323**	*e*P	**P**	**10 46 02.0**	**+2.2**
PDAR	**Pinedale Array**	**45.95**	**327**	P	**P**	**10 46 13.2**	**+1.4**
	1.1nm,1.0s,baz=116,slow=10,SNR=7.6						
PDAR				LR	LR	11 07 27.3	
	comp=Z,11nm,20.7s,baz=22,slow=38						
REDW	**Red Top Meadow**	**47.06**	**327**	*e*P	**P**	**10 46 21.6**	**+1.3**
	11nm,1.6s						
SNOW	**Snow King Moun**	**47.07**	**327**	*e*P	**P**	**10 46 21.3**	**+0.8**
	2.2nm,1.1s						
NVAR	**Mina Array Bea**	**48.69**	**317**	P	**P**	**10 46 35.1**	**+2.0**
	0.8nm,0.7s,baz=130,slow=7.0,SNR=9.6						
BOZ	**Bozeman (W)**	**49.01**	**329**	*e*P	**P**	**10 46 36.3**	**+0.9**
	1.7nm,0.9s						
SCHQ	**Schefferville**	**49.24**	**8**	P	**P**	**10 46 36.8**	**0.0**
	1.7nm,0.8s,baz=161,slow=5.8,SNR=4.4						
YKA	**Yellowknife Ar**	**62.29**	**342**	P	**P**	**10 48 09.6**	**-0.6**
	1.7nm,0.8s,baz=129,slow=7.4,SNR=5.1						
SUMG	**Summit**	**70.44**	**12**	⇑P	**P**	**10 49 02.3**	**-0.5**
	5.0nm,0.8s						
SUMG	**Summit**	**70.44**	**12**	*e*P	**P**	**10 49 02.1**	**-0.7**
	4.1nm,0.8s						
ESDC	**Sonseca Array**	**73.56**	**51**	P	**P**	**10 49 20.2**	**-1.5**
	0.1nm,0.4s,baz=262,slow=6.0,SNR=4.7						
ILAR	**Eielson Array**	**75.56**	**336**	P	**P**	**10 49 32.3**	**-0.5**
	0.2nm,0.6s,baz=126,slow=4.6,SNR=4.1						
TORD	**Torodi Ar. Bea**	**78.35**	**78**	P	**P**	**10 49 47.6**	**-1.8**
	0.3nm,0.5s,baz=283,slow=6.7,SNR=4.8						
NOA	**NORSAR Array B**	**84.08**	**29**	LR	LR	11 24 56.6	
	comp=Z,5.1nm,18.2s,baz=60,slow=34						
GERES	**GERESS Array B**	**86.30**	**41**	P	**P**	**10 50 29.9**	**-0.7**
	0.6nm,0.7s,baz=246,slow=5.7,SNR=5.0						
ARCES	**ARCESS Array B**	**88.80**	**20**	P	**P**	**10 50 41.2**	**-0.8**
	1.8nm,0.8s,baz=350,slow=6.4,SNR=4.4						
FINES	**FINESS Array B**	**91.11**	**28**	P	**P**	**10 50 51.2**	**-1.7**
	0.9nm,0.8s,baz=84,slow=5.7,SNR=2.5						
WMQ	**Urumqi**	**128.46**	**13**	PKP	**PKPdf**	**10 56 55.7**	**0.0**
HHC	**Hu-ho-hao-te**	**132.36**	**350**	*e*PKP	**PKPdf**	**10 57 02.8**	**-0.4**
HHC				PP	**PP**	**10 59 29.2**	**+4.6**
HHC				PKS	**PKSdf**	**11 00 37.7**	**-2.1**
HHC				SKKS		11 06 16.1	
HHC				SS	**SS**	**11 17 02.2**	**+0.3**
HHC				PPMZ			
	38nm,5.8s						
CD2	**Chengdu**	**143.03**	**358**	PKP	PKPbc	10 57 21.1	+1.4
ASAR	**Alice Springs**	**144.99**	**237**	PKPbc	**PKPbc**	**10 57 24.6**	**-1.3**
	0.4nm,0.8s,baz=107,slow=3.8,SNR=3.2						
WRA	**Warramunga Arr**	**146.00**	**243**	PKPbc	**PKPdf**	**10 57 27.9**	**-0.5**
	0.8nm,0.9s,baz=101,slow=3.8,SNR=6.8						

PGC 11 10:54:26.9±4.5, 50°.06N×130°.21W, h10km, MLSn2.9/16, Mw3.5/16, 210km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.45**	**66**	Pn	Pn	10 54 51.0	-2.3
HOLB				Sn	Sn	10 55 08.1	-4.4
BPBC	**Brooks Peninsu**	**1.58**	**86**	Pn	Pn	10 54 52.3	-2.7
BPBC				Sn	Sn	10 55 11.2	-4.3
PHC	**Port Hardy**	**1.89**	**69**	Pn	Pn	10 54 57.5	-1.8
PHC				Sn	Sn	10 55 19.1	-4.0
MAYB	**Maynard**	**1.98**	**79**	Pn	Pn	10 54 58.3	-2.4
FHRB	**Fair Harbour**	**2.00**	**89**	Pn	Pn	10 54 58.5	-2.1
FHRB				Sn	Sn	10 55 20.4	-5.2
TLCB	**Telegraph Cove**	**2.22**	**76**	Pn	Pn	10 55 02.2	-1.5
TLCB				Sn	Sn	10 55 27.7	-3.5
WOSB	**Woss**	**2.35**	**86**	Pn	Pn	10 55 04.2	-1.5
BBB	**Bella Bella**	**2.50**	**31**	Pn	Pn	10 55 06.7	-1.0
BBB				Sn	Sn	10 55 34.2	-4.0
NCRB	**Newcastle Ridg**	**2.69**	**81**	Pn	Pn	10 55 09.2	-1.3
CBB	**Campbell River**	**3.13**	**89**	Pn	Pn	10 55 14.5	-1.7
CBB				Sn	Sn	10 55 51.7	-1.9
BCBC	**Bella Coola**	**3.17**	**42**	Sn	Sn	10 55 53.8	-1.0
OZB	**Mount Ozzard**	**3.27**	**108**	Pn	Pn	10 55 17.9	-0.3
DIB	**Dawson Inlet,**	**3.45**	**337**	Pn	Pn	10 55 19.2	-1.4
VIB	**Van Inlet**	**3.51**	**337**	Pn	Pn	10 55 19.6	-2.0
TXB	**Texada**	**3.75**	**93**	Pn	Pn	10 55 24.5	-0.5
SHB	**Sechelt**	**4.13**	**94**	Pn	Pn	10 55 29.8	-0.4
SHB				Sn	Sn	10 56 18.0	-0.6
UBRB	**Upper Baezaeko**	**4.76**	**51**	Pn	Pn	10 55 39.6	+0.7
UBRB				Sn	Sn	10 56 34.5	+0.2
FSB	**Fort Saint Jam**	**5.71**	**37**	Pn	Pn	10 55 51.8	0.0

IDC 11 11:24:01.9±1.2, 56°.56S×27°.05W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/15, mbtmp3.9/4, Error ellipse: s-maj=52.5km s-min=37.7km az=32.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**37.21**	**312**	P	P	11 31 14.2	-0.5
	0.8nm,0.5s,baz=158,slow=5.2,SNR=3.2						
LPAZ	**La Paz**	**50.74**	**305**	P	P	11 33 04.0	-0.1
	1.2nm,0.4s,baz=175,slow=3.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**73.46**	**29**	P	P	11 35 35.8	-0.2
	0.5nm,0.4s,baz=198,slow=6.2,SNR=7.7						
ASAR	**Alice Springs**	**98.48**	**162**	P	P	11 37 41.4	-0.8
	0.3nm,0.9s,baz=190,slow=4.2,SNR=3.7						
FINES	**FINESS Array B**	**124.80**	**28**	PKP	PKPdf	11 43 02.1	+0.2
	0.5nm,0.4s,baz=228,slow=2.3,SNR=8.1						
YKA	**Yellowknife Ar**	**136.60**	**318**	PKP	PKPdf	11 43 23.4	-1.0
	0.6nm,0.7s,baz=97,slow=2.7,SNR=3.0						
ILAR	**Eielson Array**	**150.51**	**311**	PKPbc	PKPbc	11 43 54.0	+0.2
	1.5nm,0.8s,baz=141,slow=2.1,SNR=17						

JMA 11 11:44:30.3±0.1, 32°.08N×139°.18E, h8km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**2.15**	**322**	S	Sb	11 45 34.5	-1.1
TK02	**Tokai 2**	**2.21**	**328**	P	Pn	11 45 08.1	+1.1
TK02				*e*S	Sb	11 45 37.2	-0.4
JNIO	**Niijimaoohara**	**2.27**	**2**	P	Pn	11 45 08.9	+0.8
TK03	**Tokai 3**	**2.32**	**334**	S	Sb	11 45 39.1	-1.7
TTO1	**TONANKAI O.B.S**	**2.54**	**308**	P	Pn	11 45 12.7	+1.3
TTO1				S	Sn	11 45 43.9	+1.7
JHMK	**Hamakita**	**2.98**	**337**	P	Pn	11 45 17.9	+0.2
JHMK				*e*S	Sn	11 45 53.7	+0.2
HMMJ	**Hamamatsu 2**	**3.02**	**337**	*e*S	Sn	11 45 56.7	+1.8
JIE	**Ise**	**3.10**	**319**	P	Pn	11 45 20.3	+0.8
JKN2	**Miekihoku**	**3.25**	**312**	P	Pn	11 45 22.6	+1.0
JKN2				S	Sn	11 46 00.4	-0.1
JWZ	**Kozaga**	**3.26**	**297**	*e*S	Sn

BSO3	Boso 3	4.28	341	P	Pn	12 02 14.4	+0.3	
BSO4	Boso 4	4.50	340	P	Pn	12 02 17.3	0.0	
JOD2	Odawara 2	5.20	331	P	Pn	12 02 26.8	-0.2	
JOD2				eS	Sn	12 03 27.0	+0.7	
JHU	Hanno	5.64	335	P	Pn	12 02 32.8	-0.3	
JYT	Yasato	5.71	343	P	Pn	12 02 33.8	-0.2	
JYT				eS	Sn	12 03 37.6	-1.1	
JRY	Ryogami san	5.93	333	P	Pn	12 02 36.9	-0.1	
JRY				S	Sn	12 03 43.5	-0.7	
JHO	Hitachi	6.00	347	P	Pn	12 02 36.7	-1.2	
JHO				eS	Sn	12 03 40.5	-5.3	
MJAR	Matsushiro Arr	6.66	331	Pn	Pn	12 02 47.1	0.0	
	1.9nm,0.3s,baz=158,slow=11,SNR=20							
MJAR				Sn	Sn	12 04 02.4	+0.1	
	0.3nm,0.3s,baz=126,slow=27,SNR=2.8							
MAT	Matsushiro	6.67	331	P	Pn	12 02 47.3	+0.2	
MAT				eS	Sn	12 04 03.7	+1.4	
JFK	Kawauchi	6.69	351	P	Pn	12 02 45.9	-1.5	
JFK				eS	Sn	12 03 55.8	-7.0	
JNU	Nakatsue	9.91	287	LR	LR	12 07 00.8		
	comp=Z,50nm,20.6s,baz=70,slow=36							
KSRS	Korea Array	13.59	303	LR	LR	12 08 55.1		
	comp=Z,33nm,21.8s,baz=111,slow=34							
GUMO	Guam	17.26	171	LR	LR	12 10 02.1		
	comp=Z,12nm,21.8s,baz=16,slow=31							
SONM	Songino Array	32.18	312	P	P	12 07 36.4	-0.3	
	0.2nm,0.4s,baz=114,slow=6.8,SNR=3.0							
SEY	Seymchan	32.85	9	P	P	12 07 43.0	+0.7	
	0.8nm,0.7s,baz=260,slow=5.6,SNR=2.2							
ZALV	Zalesovo Beam	46.79	317	P	P	12 09 37.4	-0.7	
	0.3nm,0.3s,baz=116,slow=6.6,SNR=2.1							
MKAR	Makanchi Array	48.23	307	P	P	12 09 49.0	-0.5	
	0.3nm,0.7s,baz=90,slow=10,SNR=3.6							
WRA	Warramunga Arr	50.97	190	P	P	12 10 09.3	-1.2	
	0.4nm,0.3s,baz=6.6,slow=7.7,SNR=26							
ILAR	Eielson Array	54.52	30	P	P	12 10 37.0	+0.7	
	0.4nm,0.8s,baz=250,slow=7.3,SNR=4.3							
ASAR	Alice Springs	54.70	189	P	P	12 10 37.4	-0.6	
	0.1nm,0.3s,baz=86,slow=8.8,SNR=4.9							
FINES	FINESS Array B	74.69	333	P	P	12 12 48.6	+0.7	
	0.9nm,0.8s,baz=72,slow=6.2,SNR=4.7							
NVAR	Mina Array Bea	78.25	52	P	P	12 13 10.3	+1.3	
	0.3nm,0.7s,baz=286,slow=6.5,SNR=3.3							
TXAR	Lajitas Array	93.39	53	P	P	12 14 25.9	+1.5	
	0.1nm,0.6s,baz=316,slow=3.8,SNR=2.7							

NEIC ***11*** *12:07:50.3,53˚.52N×164˚.80W,h26km,mb4.2/11, ML4.0(AEIC),After AEIC.*
IDC ***11*** *12:07:52.4±5.6,53˚.76N×164˚.95W,h33km±41km,mb3.6/18, mb1 3.9/20,mb1mx3.7/50,mbtmp3.8/20,ML3.9/2,MS3.2/5, Ms1 3.2/5,ms1mx2.8/30,Error ellipse: s-maj=24.7km s-min=14.5km az=19.0*

ISC 11 12:07:49.6±1.0,53˚.59N±0˚.06×164˚.89W±0˚.03,h15km±5km, n237,σ0=84/230,mb4.2/31,MS3.4/6,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	Akutan Strait	0.73	319	P	Pn	12 08 05.2	-0.1
AKUT	Akutan	0.76	316	P	Pn	12 08 05.1	+0.1
AKUT				S	Sn	12 08 17.1	+0.3
ZRO	Akutan Zero	0.82	308	P	Pn	12 08 06.7	+0.1
AKRB	Akutan Reef Bi	0.88	308	P	Pn	12 08 07.8	+0.4
AKRB				S	Sn	12 08 20.6	+0.6
AKGG	Akutan Green G	0.89	313	P	Pn	12 08 07.6	0.0
AKGG				S	Sn	12 08 20.9	+0.6
WESP	Westdahl Peak	0.91	6	P	Pn	12 08 07.9	0.0
WESP				S	Sn	12 08 21.0	+0.3
WESN	West Dahl Nort	0.99	10	P	Pn	12 08 09.1	+0.1
UNV	Unalaska Valle	0.99	285	P	Pb	12 08 08.5	0.0
UNV				S	Sg	12 08 22.2	+0.4
MSW	Makushin Switc	1.17	287	P	Pn	12 08 11.4	0.0
MCIR	Makushin Cirqu	1.24	288	P	Pb	12 08 12.9	+0.1
SSBA	Shishaldin	1.26	20	P	Pn	12 08 12.4	-0.4
SSBA				S	Sn	12 08 29.7	+0.2
SSLW	Shishaldin Wes	1.26	20	P	Pn	12 08 12.7	0.0
SSLN	Shishaldin Nor	1.33	23	P	Pn	12 08 13.5	-0.1
ISNN	Isanotski Nort	1.40	27	P	Pn	12 08 14.7	0.0
FALS	False Pass	1.53	34	P	Pn	12 08 15.6	-0.7
FALS				S	Sb	12 08 38.0	+1.1
OKFG	Magazine Ridge	1.82	265	P	Pn	12 08 20.6	+0.3
OKTU	Okmok Mt. Tuli	1.90	265	P	Pn	12 08 22.1	+0.6
OKCE	Okmok Cone E	1.97	266	P	Pn	12 08 23.2	+0.8
DRIA	Deer Island	2.06	47	P	Pn	12 08 23.8	+0.1
DTNA	Dutton South F	2.19	44	P	Pn	12 08 26.2	+0.7
NIKH	Nikolski High	2.46	257	P	Pn	12 08 29.6	+0.5
SDPT	Sand Point	3.12	54	P	Pn	12 08 38.5	+0.4
CHGN	Chignik	4.61	51	ePn	Pn	12 08 59.5	+0.8
CHGN				eSn	Sn	12 09 56.6	+4.8
SPIA	Saint Paul Isl	4.72	322	P	Pn	12 09 02.4	+2.3
ATKA	Atka Island	5.80	260	P	Pn	12 09 17.1	+2.1
GSTR	Great Sitkin T	6.94	262	ePn	Pn	12 09 34.1	+3.5
	22nm,0.2s						
GSCK	Great Sitkin C	7.02	261	P	Pn	12 09 34.0	+2.2
ADAG	Mount Adagdak	7.29	262	P	Pn	12 09 38.8	+3.4
OHAK	Old Harbor	7.54	57	ePn	Pn	12 09 38.4	-0.3
KDAK	Kodiak Island	8.12	54	ePn	Pn	12 09 46.5	-0.2
RSO	Redoubt South	9.53	39	ePn	Pn	12 10 12.1	+5.8
	29nm,0.7s						
AMKA	Amchitka	9.90	263	ePn	Pn	12 10 12.0	+0.9
GAMB	Gambell	10.80	344	ePn	Pn	12 10 28.5	+5.0
RC01	Rabbit Creek A	11.09	41	ePn	Pn	12 10 30.7	+3.3
PPLA	Purkeypile	11.45	30	ePn	Pn	12 10 36.5	+3.9
PMR	Palmer	11.62	40	ePn	Pn	12 10 39.9	+5.2
SCM	Sheep Creek Mo	12.46	42	ePn	Pn	12 10 46.3	0.0
PAX	Paxson	13.82	39	ePn	Pn	12 11 04.2	-0.5
ILAR	Eielson Array	14.44	32	Pn	Pn	12 11 10.7	-2.5
	0.1nm,0.3s,baz=225,slow=12,SNR=7.4						
COLD	Coldfoot	15.41	22	eP	P	12 11 30.2	-0.4
EGAK	Eagle	16.40	38	eP	P	12 11 42.1	+0.5
	5.3nm,0.8s						
DAWY	Dawson	16.72	41	eP	P	12 11 44.9	-0.3
DLBC	Dease Lake	19.92	62	P	P	12 12 21.1	+0.5
	0.2nm,0.3s,baz=284,slow=9.2,SNR=9.2						
DLBC	Dease Lake	19.92	62	eP	P	12 12 20.8	+0.3
INK	Inuvik	20.84	33	P	P	12 12 30.2	0.0
	1.7nm,0.5s,baz=226,slow=12,SNR=8.3						
INK	Inuvik	20.84	33	eP	Pn	12 12 32.2	-0.5
	7.0nm,0.8s						
PETK	Petropavlovsk-	22.18	284	P	P	12 12 44.1	-0.7
	1.5nm,0.5s,baz=94,slow=13,SNR=7.1						
PETK				LR	LR	12 21 52.5	
	comp=Z,22nm,18.1s,baz=83,slow=38						
YKA	Yellowknife Ar	27.38	51	P	P	12 13 34.9	+1.1
	0.9nm,0.5s,baz=274,slow=8.6,SNR=4.8						
YBH	Yreka Blue Hor	30.33	96	P	P	12 14 01.5	+1.0
	0.6nm,0.2s,baz=38,slow=3.8,SNR=15						
WVOR	Wild Horse Val	32.33	91	eP	P	12 14 18.2	+0.1
	3.0nm,0.8s						
NV01	Mina Array Sit	35.04	96	eP	P	12 14 42.4	+0.6
NVAR	Mina Array Bea	35.04	96	P	P	12 14 42.8	+1.0
	3.0nm,0.9s,baz=297,slow=7.6,SNR=17						
B20A	Solberg Farm,	35.31	75	P	P	12 14 44.0	+0.1
	baz=35						
C20A	Veseth Ranch,	35.70	76	P	P	12 14 47.3	+0.2
	baz=36						
TPH	Tonopah	35.91	96	eP	P	12 14 49.4	+0.2
	5.1nm,1.0s						
SMMC	Simmler	36.15	102	P	P	12 14 51.2	+0.1
	baz=36						
C21A	Desert Coulee	36.16	75	P	P	12 14 51.1	0.0
	baz=36						
VES	Vestal, Richgr	36.32	100	P	P	12 14 51.4	-1.1
	baz=36,SNR=5.6						
R11A	Troy Canyon, C	36.70	94	P	P	12 14 56.5	+0.6
	baz=36,SNR=8.6						
R11A	Troy Canyon, C	36.70	94	eP	P	12 14 56.3	+0.3
	4.9nm,1.0s						
ISA	Isabella	36.80	100	P	P	12 14 57.2	+0.5
	baz=37						
C22A	Vida	36.90	74	P	P	12 14 57.9	+0.6
	baz=37						
SBC	Santa Barbara	36.93	103	P	P	12 14 58.2	+0.5
	baz=37						
ARVC	Arvin	36.97	101	P	P	12 14 58.6	+0.6
	baz=37						
D22A	Cohagen	37.05	75	P	P	12 14 59.0	+0.4
	baz=37						
MPMC	Manual Prospec	37.11	99	P	P	12 14 59.1	-0.3
	baz=37,SNR=7.0						
DUG	Dugway	37.17	90	P	P	12 15 00.2	+0.3
	baz=37						
TPNV	Topopah Spring	37.24	96	P	P	12 15 00.7	+0.2
	baz=37,SNR=10						
C23A	Lambert	37.27	74	P	P	12 15 00.6	+0.1
	baz=37						
A24A	Westby	37.36	72	P	P	12 15 01.4	+0.1
	baz=37						
LRMC	Laurel Mountai	37.39	100	P	P	12 15 01.7	-0.1
	baz=37						
H20A	Greybull	37.46	80	P	P	12 15 02.1	-0.1
	baz=37						
G21A	Lodge Grass	37.50	79	P	P	12 15 02.7	+0.1
	baz=37						
PDAR	Pinedale Array	37.54	84	P	P	12 15 01.6	-1.5
	0.5nm,0.9s,baz=328,slow=5.3,SNR=4.1						
J19A	Crowheart	37.54	83	P	P	12 15 02.6	-0.5
	baz=37						
BLG	Laguna Peak	37.55	102	P	P	12 15 03.3	+0.4
	baz=37						
E22A	Miles City	37.56	76	P	P	12 15 02.8	-0.2
	baz=37						
D23A	Lindsay	37.59	75	P	P	12 15 03.7	+0.4
	baz=37						
EDW2	Edwards Air Fo	37.63	101	P	P	12 15 04.1	+0.4
	baz=38						
I20A	Worland	37.69	81	P	P	12 15 04.7	+0.5
	baz=38						
F22A	Rosebud	37.75	77	P	P	12 15 05.0	+0.4
	baz=38						
C24A	Savage	37.85	74	P	P	12 15 05.9	+0.4
	baz=38						
A25A	Svangstu Ranch	37.86	71	P	P	12 15 05.8	+0.3
	baz=38						
DECC	Green Verdugo	37.88	102	P	P	12 15 06.4	+0.7
	baz=38						
E23A	Ismay	37.90	76	P	P	12 15 06.0	+0.1
	baz=38						
SHOC	Shoshone	37.93	98	P	P	12 15 06.8	+0.6
	baz=38						
H21A	Big Horn, Sher	37.94	79	P	P	12 15 06.7	+0.4
	baz=38						
GSC	Goldstone	38.03	99	eP	P	12 15 07.8	+0.6
	6.2nm,1.0s						
G22A	Birney	38.04	78	P	P	12 15 07.5	+0.4
	baz=38						
J20A	Shoshoni	38.06	82	P	P	12 15 07.8	+0.4
	baz=38						
D24A	Glendive	38.13	74	P	P	12 15 08.5	+0.7
	baz=38						
B25A	Knox Farm, Ray	38.18	72	P	P	12 15 08.8	+0.6
	baz=38						
RRX	Edison Barstow	38.21	100	P	P	12 15 09.3	+0.7
	baz=38						
I21A	Big Trails, Te	38.26	81	P	P	12 15 09.3	+0.2
	baz=38						
BFSC	Mount Baldy Ra	38.27	101	P	P	12 15 09.4	+0.2
	baz=38						
F23A	Volborg	38.28	77	P	P	12 15 09.1	0.0
	baz=38						
C25A	Freed Ranch, W	38.42	73	P	P	12 15 10.4	+0.1
	baz=38						
CIS	Catalina Islan	38.43	103	P	P	12 15 10.7	+0.2
	baz=38						
E24A	Baker	38.45	75	P	P	12 15 10.6	+0.1
	baz=38						
J21A	Lysite	38.45	81	P	P	12 15 10.0	-0.7
	baz=38						
TUQ	Turquoise Moun	38.46	98	P	P	12 15 11.3	+0.5
	baz=38						
A26A	Wade Farm, Ken	38.48	71	P	P	12 15 10.3	-0.4
	baz=38						
G23A	Biddle	38.58	78	P	P	12 15 11.3	-0.3
	baz=38						
HEC	Hecor,Ludlow	38.64	99	P	P	12 15 12.7	+0.5
	baz=38						
F24A	Ekalaka	38.76	76	P	P	12 15 13.0	-0.2
	baz=39						
A27A	Ledoux Ranch,	38.90	70	P	P	12 15 14.2	0.0
	baz=39						
E25A	Miller Ranch,	39.00	75	P	P	12 15 15.1	0.0
	baz=39						
GMRC	Granite Mounta	39.07	98	P	P	12 15 16.3	+0.4
	baz=39						
BELC	Belle Mtn. Jos	39.42	100	P	P	12 15 19.1	+0.2
	baz=39						
NEE2	Needles Airpor	39.69	98	P	P	12 15 20.7	-0.2
	baz=40						
G25A	Newell	39.73	76	P	P	12 15 20.9	-0.4
	baz=40						
IRM	Iron Mountain	39.80	99	P	P	12 15 21.6	-0.4
	baz=40						
O20A	White River Ci	39.93	86	P	P	12 15 22.9	-0.2
	baz=40,SNR=5.8						
O20A	White River Ci	39.93	86	eP	P	12 15 22.6	-0.6
	2.5nm,0.6s						
H25A	Fruitdale	39.95	77	P	P	12 15 22.9	-0.2
	baz=40						
MONP	Monument Peak	39.96	101	P	P	12 15 23.5	0.0
	baz=40						
E27A	Carson	40.09	74	P	P	12 15 23.9	-0.3
	baz=40						
H11N2	WAKE ISLAND Hy	40.16	224	T	T	12 58 12.6	
	baz=25,slow=76,SNR=105						
H11N3	WAKE ISLAND Hy	40.17	224	T	T	12 58 13.1	
	baz=25,slow=76,SNR=111						
H11N1	WAKE ISLAND Hy	40.18	224	T	T	12 58 17.4	
	baz=25,slow=76,SNR=72						
G27A	Dupree	40.48	75	P	P	12 15 27.6	+0.1
	baz=40						
GLA	Glamis	40.78	100	P	P	12 15 30.1	+0.1
	baz=41						
B30A	Myrvik Farm, E	40.80	69	P	P	12 15 29.5	-0.5
	baz=41						
PV01	Paradox Valley	41.02	89	eP	P	12 15 31.9	-0.3
	152nm,0.7s						
WUAZ	Wupatki	41.10	94	P	P	12 15 32.9	+0.1
	baz=41						
WUAZ	Wupatki	41.10	94	eP	P	12 15 33.4	+0.6
	1.4nm,0.5s						
D30A	Buchanan	41.31	71	P	P	12 15 33.9	-0.3
	baz=41						
H11S1	WAKE ISLAND Hy	41.34	223	T	T	12 59 38.5	
	baz=25,slow=76,SNR=102						
H11S2	WAKE ISLAND Hy	41.35	223	T	T	12 59 40.2	
	baz=25,slow=76,SNR=68						
H11S3	WAKE ISLAND Hy	41.35	223	T	T	12 59 39.7	
	baz=25,slow=76,SNR=82						
MVCO	Mesa Verde	41.67	90	P	P	12 15 37.1	-0.5
	baz=42						
H29A	Onida	41.91	75	P	P	12 15 39.2	0.0
	baz=42						
G30A	Faulkton	42.23	74	P	P	12 15 41.4	-0.3
	baz=42						
S22A	4UR Ranch, Cre	42.31	88	P	P	12 15 42.5	-0.4
	baz=42						
J29A	Okreek	42.58	77	P	P	12 15 44.5	-0.1
	baz=42						
SDCO	Great Sand Dun	43.10	87	P	P	12 15 48.8	-0.5
	baz=43						
J30A	Dallas	43.11	76	P	P	12 15 48.6	-0.4
	baz=43						
P26A	Davis Ranch, A	43.20	83	P	P	12 15 49.9	0.0
	baz=43						
R26A	Arlington	43.96	85	P	P	12 15 56.0	0.0
	baz=44						
T25A	Trinidad	44.16	87	P	P	12 15 57.5	-0.2
	baz=44						
T25A	Trinidad	44.16	87	eP	P	12 15 58.4	+0.7
	3.2nm,0.9s						
R27A	Eads	44.36	84	P	P	12 15 58.5	-0.7
	baz=44						
LAZ	Ladron	44.39	92	eP	P	12 16 00.4	+0.9
	0.6nm,0.8s						
S26A	Kim	44.39	85	P	P	12 15 59.1	-0.3
	baz=44						
R29A	Marienthal	45.25	83	P	P	12 16 06.1	-0.1
	baz=45						
121A	Cookes Peak, D	45.31	94	P	P	12 16 07.0	+0.1
	baz=45						
P32A	Huiting Farm,	45.96	80	P	P	12 16 11.3	-0.5
	baz=46						
O33A	Hebron	46.26	78	P	P	12 16 13.5	-0.6
	baz=46						
Q32A	Meitler Ranch,	46.40	80	P	P	12 16 14.8	-0.4
	baz=46						
R32A	Long Quarter,	46.68	81	P	P	12 16 16.8	-0.6
	baz=46						
O34A	Beatrice	46.71	78	P	P	12 16 17.0	-0.6
	baz=46						
Q33A	Connelly Farm,	46.82	80	P	P	12 16 17.8	-0.7
	baz=47						
N35A	Tabor	46.88	76	P	P	12 16 18.5	-0.5
	baz=47						
X28A	Dimmitt	47.25	87	P	P	12 16 21.6	-0.4
	baz=47						
Y28A	McKinney Farm,	47.65	88	P	P	12 16 24.7	-0.4
	baz=48						
Z28A	Tucker Farm, M	48.00	89	P	P	12 16 27.1	-0.7
	baz=48						
Y29A	Porterfield Fa	48.02	88	P	P	12 16 27.8	-0.2
	baz=48						
128A	Castleberry Fa	48.41	90	P	P	12 16 30.9	-0.1
	baz=48,SNR=5.4						
Z29A	Hungry Hill Ra	48.42	88	P	P	12 16 30.0	-1.1
	baz=48						
T34A	McClaskey Farm	48.51	81	P	P	12 16 30.7	-0.9
	baz=48						
S35A	Otter Creek Ra	48.58	80	P	P	12 16 31.1	-1.1
	baz=48,SNR=6.7						
W32A	Sentinel	48.59	85	P	P	12 16 31.1	-1.1
	baz=48						
U34A	Anderson Ranch	48.71	82	P	P	12 16 32.5	-0.7
	baz=48						
Z30A	Sanderson Ranc	48.75	88	P	P	12 16 33.0	-0.6
	baz=49						
129A	Stewart Farms,	48.77	89	P	P	12 16 33.4	-0.3
	baz=49						
Y31A	Rekieta Farm,	48.79	87	P	P	12 16 33.5	-0.3
	baz=49						
S36A	Lake Cedric, C	48.98	79	P	P	12 16 34.2	-1.0
	baz=49						
T35A	Sooner Cattle	48.98	81	P	P	12 16 34.3	-0.9
	baz=49						
W33A	Caddo, Fort Co	49.03	84	P	P	12 16 35.7	+0.1
	baz=49						
Y32A	R-V Farms, Ver	49.25	86	P	P	12 16 36.9	-0.4
	baz=49						
Z31A	Sharp Cattle R	49.31	87	P	P	12 16 37.2	-0.7
	baz=49						
X33A	Lawton	49.44	85	P	P	12 16 38.8	+0.1
	baz=49						
131A	Roby	49.62	88	P	P	12 16 39.8	-0.4
	baz=49						
Z32A	Haskell	49.72	87	P	P	12 16 40.3	-0.6
	baz=50						
230A	Sterling City	49.74	89	P	P	12 16 40.0	-1.2
	baz=50						
T37A	Cheneyville 18	49.78	80	P	P	12 16 39.7	-1.6
	baz=50						
W35A	Tecumseh	49.98	83	P	P	12 16 42.1	-0.8
	baz=50						
330A	Mertzon	50.05	90	P	P	12 16 43.0	-0.5
	baz=50						
TXAR	Lajitas Array	50.06	94	P	P	12 16 43.2	-0.5
	4.0nm,0.7s,baz=301,slow=5.4,SNR=59						
V36A	Jenks	50.09	82	P	P	12 16 42.6	-1.1
	baz=50						
TUL1	Tulsa	50.09	81	P	P	12 16 42.9	-0.8
	baz=50						
ABTX	Abilene, Hawle	50.10	87	P	P	12 16 43.2	-0.7
	baz=50						
W36A	Wetumka	50.37	82	P	P	12 16 45.5	-0.3
	baz=50						
430A	Baggett Ranch,	50.46	90	P	P	12 16 46.1	-0.5
	baz=50						
133A	Hamilton Ranch	50.54	87	P	P	12 16 46.7	-0.5
	baz=50						
U38A	Gravette	50.56	80	P	P	12 16 45.5	-1.8
	baz=50						
331A	San Angelo	50.57	89	P	P	12 16 46.7	-0.7
	baz=50						
232A	Coleman	50.62	88	P	P	12 16 47.3	-0.5
	baz=50						
X36A	Centrahoma	50.69	83	P	P	12 16 47.7	-0.5
	baz=50						
HDIL	Hopedale	50.73	72	P	P	12 16 47.7	-0.7
	baz=50						
Y35A	Marietta	50.75	84	P	P	12 16 48.3	-0.4
	baz=51						
W37A	Quinton	50.84	82	P	P	12 16 49.0	-0.4
	baz=51						
530A	J-C Ranch, Com	50.86	91	P	P	12 16 49.3	-0.4
	baz=51,SNR=6.0						
431A	Sonora	50.91	90	P	P	12 16 49.5	-0.5
	baz=51,SNR=8.9						
332A	Millersview	50.92	89	P	P	12 16 49.6	-0.5
	baz=51						
233A	Rising Star	50.97	87	P	P	12 16 50.1	-0.4
	baz=51						
Y36A	Durant	51.20	84	P	P	12 16 51.6	-0.5
	baz=51						
432A	Menard	51.26	89	P	P	12 16 51.7	-0.9
	baz=51						
X37A	Clayton	51.26	82	P	P	12 16 52.1	-0.4
	baz=51						
531A	Rocksprings	51.32	90	P	P	12 16 51.9	-1.2
	baz=51,SNR=5.5						
333A	Richland Sprin	51.41	88	P	P	12 16 52.9	-0.8
	baz=51						
W38A	Poteau	51.42	81	P	P	12 16 53.1	-0.7
	baz=51						
234A	Clairette	51.44	87	P	P	12 16 53.6	-0.3
	baz=51						
X38A	Whitesboro	51.52	82	P	P	12 16 54.2	-0.3
	baz=51						
JCT	Junction City	51.53	89	P	P	12 16 53.7	-1.0
	baz=51						
JCT	Junction City	51.53	89	eP	P	12 16 53.6	-1.1
	3.9nm,0.8s						
Z36A	Blue Ridge	51.55	84	P	P	12 16 53.9	-0.9
	baz=51						
433A	Art	51.76	89	P	P	12 16 55.4	-0.9
	baz=52,SNR=5.3						
631A	Perdido Creek	51.85	91	P	P	12 16 55.5	-1.5
	baz=52						
334A	Lometa	51.85	87	P	P	12 16 56.4	-0.7
	baz=52						
SFIN	Scholer Farm	52.09	71	P	P	12 16 57.5	-1.1
	baz=52						
434A	Burnet	52.21	88	P	P	12 16 58.9	-0.8
	baz=52						
632A	Uvalde	52.25	90	P	P	12 16 58.4	-1.6
	baz=52						
MIAR	Mount Ida	52.35	81	P	P	12 16 59.3	-1.4
	baz=52						
534A	Blanco	52.65	89	P	P	12 17 02.3	-0.7
	baz=52						
SCHQ	Schefferville	52.66	46	P	P	12 17 02.2	-0.5
	1.4nm,0.7s,baz=300,slow=8.1,SNR=3.7						
732A	Laxson Ranch,	52.71	91	P	P	12 17 02.6	-0.7
	baz=52						
SONM	Songino Array	52.97	302	P	P	12 17 04.2	-1.1
	0.3nm,0.5s,baz=28,slow=7.2,SNR=3.2						
832A	Faith Ranch, C	53.03	91	P	P	12 17 05.4	-0.4
	baz=53						
JMIC	Jan Mayen	54.58	9	LR	LR	12 40 25.7	
	comp=Z,12nm,20.6s,baz=42,slow=36						
OXF	Oxford	54.81	78	eP	P	12 17 17.0	-1.7
	43nm,1.0s						
HHC	Hu-ho-hao-te	54.98	293	eP	P	12 17 22.7	+2.7
HHC				PP	PP	12 19 27.0	+4.3
HHC				S	S	12 25 01.4	+0.2
HHC				sS	sS	12 25 09.0	-0.2
HHC	Hu-ho-hao-te	54.98	293	SS	SS	12 28 44.2	0.0
HHC				pmax	pmax		
	comp=Z,22nm,1.1s						
HHC				pmax	pmax		
	comp=Z,47nm,5.7s						
HHC				LR	LR		
	comp=N

MKAR				LR	LR	12 49 40.7				
	comp=Z,20nm,18.3s,baz=26,slow=39									
FINES	**FINESS Array B**	**64.98**	**354**	P	**P**	**12 18 26.7**	**-1.4**			
	comp=Z,1.4nm,0.6s,baz=21,slow=8.9,SNR=18									
NB2	**NORSAR Subarra**	**65.67**	**2**	P	**P**	**12 18 31.6**	**-1.1**			
	comp=Z,1.3nm,0.9s,baz=360,slow=6.9									
NOA	**NORSAR Array B**	**65.67**	**2**	P	**P**	**12 18 32.5**	**-0.2**			
	comp=Z,0.7nm,0.7s,baz=360,slow=6.6,SNR=4.3									
CD2	**Chengdu**	**66.53**	**290**	P	**P**	**12 18 38.5**	**-0.2**			
CD2				pmax	pmax					
	comp=Z,10.0nm,0.5s									
AKASG	**Malin Array Be**	**75.40**	**351**	P	**P**	**12 19 30.3**	**-1.9**			
	comp=Z,1.4nm,0.7s,baz=10,slow=5.6,SNR=2.7									
GERES	**GERESS Array B**	**77.93**	**1**	P	**P**	**12 19 46.8**	**+0.2**			
	comp=Z,0.4nm,0.7s,baz=352,slow=5.0,SNR=2.9									
ESDC	**Sonseca Array**	**85.66**	**15**	P	**P**	**12 20 27.2**	**-0.2**			
	comp=Z,0.1nm,0.3s,baz=344,slow=3.4,SNR=2.9									
BRTR	**Keskin Array B**	**85.69**	**346**	P	**P**	**12 20 27.2**	**-0.5**			
	comp=Z,0.7nm,0.9s,baz=19,slow=4.9,SNR=2.7									
WRA	**Warramunga Arr**	**89.91**	**235**	P	**P**	**12 20 49.5**	**+1.6**			
	comp=Z,0.2nm,0.9s,baz=36,slow=6.3,SNR=2.6									

CSEM ***11*** *12:09:03.3±0.9, 40.18N×28.70E, h15km, MD2.6, Error ellipse: s-maj=18.6km s-min=10.0km az=134.0*
DDA ***11*** *12:09:05.6, 40.05N×28.85E, h6km, MD2.6*

ISC 11 12:09:04.0±2.8, 40.1N±0.1×28.7E±0.1, h17km±7km, n10, σ0§50/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ORLT	**Orhaneli**	**0.15**	**126**			PG	**Pg**	**12 09 08.3**	**+0.1**
ORLT						SG	**Sg**	**12 09 10.8**	**-0.2**
ORLT	**Orhaneli**	**0.15**	**126**	*i*	Pg	**Pg**	**Pg**	**12 09 08.3**	**+0.1**
ORLT				*i*	Sg	**Sg**	**Sg**	**12 09 10.8**	**-0.2**
ULDT	**Uludag**	**0.31**	**89**	*i*	P	**Pg**	**Pg**	**12 09 10.8**	**+0.2**
ULDT				*i*	S	**Sg**	**Sg**	**12 09 15.3**	**+0.1**
ULDT	**Uludag**	**0.31**	**89**	*i*	P	**Pg**	**Pg**	**12 09 10.8**	**+0.2**
ULDT				*i*	S	**Sg**	**Sg**	**12 09 15.3**	**+0.1**
DEMI	**Demirci**	**1.09**	**181**	*i*	P	**Pg**	**Pg**	**12 09 25.1**	**0.0**
DEMI				*i*	S	**Sg**	**Sg**	**12 09 40.4**	**+1.0**
DEMI	**Demirci**	**1.09**	**181**	*i*	P	**Pg**	**Pg**	**12 09 25.1**	**0.0**
DEMI				*i*	S	**Sg**	**Sg**	**12 09 40.4**	**+1.0**
GDZ	**Gediz**	**1.19**	**151**	*i*	P	**Pn**	**Pn**	**12 09 25.1**	**-0.9**
GDZ				*i*	P	**Sb**	**Sb**	**12 09 41.3**	**-0.1**
GDZ	**Gediz**	**1.19**	**151**	*i*	P	**Pn**	**Pn**	**12 09 25.1**	**-0.9**
GDZ				*i*	S	**Sb**	**Sb**	**12 09 41.3**	**-0.1**
BORA	**Eskisehir**	**1.34**	**100**	*i*	P	**Pn**	**Pn**	**12 09 28.2**	**+0.2**
BORA				*i*	S	**Sg**	**Sg**	**12 09 47.7**	**+0.3**
BORA	**Eskisehir**	**1.34**	**100**	*i*	P	**Pn**	**Pn**	**12 09 28.2**	**+0.2**
BORA				*i*	S	**Sg**	**Sg**	**12 09 47.7**	**+0.3**

IDC 11 12:15:10.5±2.7, 19.31S×179.40E, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.5/27, mbtmp3.4/3, Error ellipse: s-maj=283.9km s-min=35.1km az=161.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.35**	**261**	P		P	P	12 23 06.6	-0.2
	0.5nm,1.1s,baz=96,slow=7.6,SNR=10								
ASAR	**Alice Springs**	**42.43**	**256**	P		P	P	12 23 07.3	-0.1
	0.5nm,0.6s,baz=93,slow=7.9,SNR=6.2								
TXAR	**Lajitas Array**	**88.49**	**58**	P		P	P	12 28 05.3	0.0
	0.1nm,0.4s,baz=219,slow=4.8,SNR=3.9								

IDC 11 12:20:06.0±50.0, 16.83S×178.88W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/29, mbtmp3.8/3, Error ellipse: s-maj=908.7km s-min=165.0km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.77**	**240**	P		P	P	12 27 33.0	+0.5
	1.4nm,0.7s,baz=88,slow=9.1,SNR=2.9								
WRA	**Warramunga Arr**	**44.40**	**259**	P		P	P	12 28 18.3	-0.5
	0.3nm,0.7s,baz=94,slow=8.0,SNR=7.0								
ASAR	**Alice Springs**	**44.66**	**253**	P		P	P	12 28 20.7	-0.2
	1.7nm,0.5s,baz=89,slow=8.1,SNR=38								

MEX 11 12:21:51.2±0.5, 19.23N×104.55W, h24km±26km, MD3.9, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**1.48**	**129**	*i*	P	Pn		12 22 14.0	-2.3
MMIG				*i*	S	Sn		12 22 31.0	-3.9
ZIIG	**Zihuatanejo**	**3.35**	**118**	*i*	P	Pn		12 22 40.1	-1.9
ZIIG				*i*	S	Sn		12 23 17.7	-3.3
ARIG	**Puente Sto Nin**	**4.09**	**103**	*e*	P	Pn		12 22 50.2	-2.2
ARIG				*i*	S	Sn		12 23 37.5	-2.0

ISCJB ***11*** *13:22:34.9±0.4, 66.53N±0.03×135.42W±0.07, h10km, mb3.3/3, Error ellipse: s-maj=4.9km s-min=4.1km az=148.4*
IDC ***11*** *13:22:37.5±0.9, 66.81N×135.84W, h0km, mb3.4/4, mb1 3.8/7, mb1mx3.4/43, mbtmp3.4/7, ML3.6/3, Error ellipse: s-maj=12.3km s-min=9.4km az=119.0*
NEIC ***11*** *13:22:39.2, 66.81N×135.63W, h20km, ML4.1(OTT), After OTT.*
PGC ***11*** *13:22:39.2±1.1, 66.81N×135.63W, h20km, ML4.1/2, 87km Wsw of Fort McPherson, Nt Northern Yukon Territory, Canada*

ISC 11 13:22:36.6±0.8, 66.69N±0.04×135.59W±0.05, h10km, n56, σ1§53/62, mb3.2/3, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**1.81**	**25**	Pn			**Pn**	**13 23 08.3**	**+0.5**
	125nm,0.3s,baz=210,slow=17,SNR=1019								
INK				Lg			Lg	13 23 32.8	
	192nm,0.3s,baz=278,slow=30,SNR=5.3								
INK	**Inuvik**	**1.81**	**25**	Pn			**Pn**	**13 23 08.3**	**+0.5**
INK				Sn			**Sn**	**13 23 28.8**	**-2.0**
INK	**Inuvik**	**1.81**	**25**	*e*	Pn		**Pn**	**13 23 08.3**	**+0.5**
INK				*e*	Pb		**Pb**	**13 23 10.5**	**+0.7**
INK				*e*	Sn		**Sn**	**13 23 30.3**	**-0.5**
EGAK	**Eagle**	**2.99**	**233**	*e*	Pn		**Pn**	**13 23 24.1**	**0.0**
DAWY	**Dawson**	**3.08**	**213**		Pn		**Pn**	**13 23 27.3**	**+2.0**
DAWY					Sn		**Sn**	**13 24 04.0**	**+1.9**
DAWY	**Dawson**	**3.08**	**213**	*e*	Pn		**Pn**	**13 23 27.4**	**+2.1**
ILAR	**Eielson Array**	**5.04**	**253**		Pn		**Pn**	**13 23 52.4**	**+0.2**
	0.5nm,0.3s,baz=59,slow=12,SNR=20								
ILAR					Sn		**Sn**	**13 24 48.0**	**-2.4**
	4.0nm,0.3s,baz=54,slow=25,SNR=6.3								
ILAR					Lg		Lg	13 25 17.4	
	9.8nm,0.3s,baz=64,slow=29,SNR=12								
MENT	**Mentasta**	**5.12**	**226**	*e*	Pn		**Pn**	**13 23 53.8**	**+0.5**
COLA	**College**	**5.37**	**256**	*e*	Pn		**Pn**	**13 23 56.8**	**+0.2**
PAX	**Paxson**	**5.63**	**233**	*e*	Pn		**Pn**	**13 24 02.0**	**+1.7**
COLD	**Coldfoot**	**5.76**	**282**	*e*	Pn		**Pn**	**13 24 01.7**	**-0.4**
COLD				*e*	Sn		**Sn**	**13 25 03.8**	**-4.3**
HYT	**Haines Junctio**	**5.95**	**189**		Pn		**Pn**	**13 24 09.3**	**+4.5**
HYT					Sg		**Sg**	**13 25 47.4**	**+0.1**
HYT	**Haines Junctio**	**5.95**	**189**		Pn		**Pn**	**13 24 09.3**	**+4.5**
HYT					Sg		**Sg**	**13 25 47.4**	**+0.1**
WHY	**Whitehorse**	**6.06**	**177**		Pn		**Pn**	**13 24 09.5**	**+3.2**
WHY					Sg		**Sg**	**13 25 51.9**	**+0.9**
WHY	**Whitehorse**	**6.06**	**177**		Pn		**Pn**	**13 24 09.5**	**+3.2**
WHY					Sg		**Sg**	**13 25 51.9**	**+0.9**
MCK	**McKinley**	**6.34**	**248**	*e*	Pn		**Pn**	**13 24 09.8**	**-0.3**
PLBC	**Pleasant Camp**	**7.27**	**183**		Sg		**Sg**	**13 26 29.0**	**-0.6**
ROMN	**Roman Lake**	**7.67**	**100**		Pn		**Pn**	**13 24 28.1**	**-0.2**
ROMN					Sn		**Sn**	**13 25 50.2**	**-5.0**
ROMN	**Roman Lake**	**7.67**	**100**		Pn		**Pn**	**13 24 28.1**	**-0.2**
ROMN					Sn		**Sn**	**13 25 50.2**	**-5.0**
DLBC	**Dease Lake**	**8.67**	**160**		Pn		Pn	13 24 44.8	+2.8
	0.4nm,0.3s,baz=189,slow=13,SNR=17								
DLBC					Lg		Lg	13 27 16.8	
	0.9nm,0.3s,baz=129,slow=18,SNR=7.9								
DLBC	**Dease Lake**	**8.67**	**160**		Pn		Pn	13 24 45.8	+3.9
DLBC					Sg		**Sg**	**13 27 12.5**	**-1.9**
DLBC	**Dease Lake**	**8.67**	**160**		Pn		Pn	13 24 45.8	+3.9
DLBC					Sg		**Sg**	**13 27 12.5**	**-1.9**
FNBB	**Fort Nelson**	**9.70**	**138**		Sn		**Sn**	**13 26 41.0**	**-3.8**
YKR1	**Yellowknife Ar**	**9.79**	**106**		Pn		**Pn**	**13 24 57.2**	**0.0**
YKR1					Sn		Sn	13 26 40.0	-7.1
YKR1	**Yellowknife Ar**	**9.79**	**106**		Pn		**Pn**	**13 24 57.2**	**0.0**
YKR2	**Yellowknife Ar**	**9.81**	**106**		Pn		**Pn**	**13 24 57.5**	**0.0**
YKR2					Sn		Sn	13 26 40.7	-6.9
YKR2	**Yellowknife Ar**	**9.81**	**106**		Pn		**Pn**	**13 24 57.5**	**0.0**
YKR2					Sn		Sn	13 26 40.7	-6.9
YKR3	**Yellowknife Ar**	**9.83**	**106**		Pn		**Pn**	**13 24 57.7**	**-0.1**
YKR4	**Yellowknife Ar**	**9.85**	**106**		Pn		**Pn**	**13 24 57.9**	**-0.2**
YKB0	**Yellowknife Ar**	**9.86**	**105**		Pn		**Pn**	**13 24 58.2**	**0.0**
YKB9	**Yellowknife Ar**	**9.87**	**105**		Pn		**Pn**	**13 24 58.5**	**+0.1**
YKW3	**Yellowknife Ar**	**9.88**	**105**		Pn		**Pn**	**13 24 58.7**	**+0.3**
YKB8	**Yellowknife Ar**	**9.88**	**105**		Pn		**Pn**	**13 24 58.6**	**0.0**
YKB7	**Yellowknife Ar**	**9.90**	**105**		Pn		**Pn**	**13 24 58.8**	**+0.1**
YKR7	**Yellowknife Ar**	**9.90**	**105**		Pn		**Pn**	**13 24 58.9**	**+0.1**
YKB6	**Yellowknife Ar**	**9.91**	**105**		Pn		**Pn**	**13 24 58.8**	**0.0**
YKA	**Yellowknife Ar**	**9.92**	**105**		Pn		**Pn**	**13 24 59.2**	**+0.2**
	1.3nm,0.3s,baz=303,slow=13,SNR=40								
YKA					Sn		**Sn**	**13 26 49.6**	**-0.7**
	3.4nm,0.3s,baz=307,slow=22,SNR=9.5								
YKA					Lg		Lg	13 27 49.4	
	0.8nm,0.3s,baz=303,slow=32,SNR=4.5								
YKR8	**Yellowknife Ar**	**9.92**	**105**		Pn		**Pn**	**13 24 59.0**	**-0.1**
YKB4	**Yellowknife Ar**	**9.94**	**105**		Pn		**Pn**	**13 24 59.2**	**0.0**
YKR9	**Yellowknife Ar**	**9.94**	**105**		Pn		**Pn**	**13 24 59.3**	**0.0**
YKB3	**Yellowknife Ar**	**9.95**	**105**		Pn		**Pn**	**13 24 59.4**	**0.0**
YKB2	**Yellowknife Ar**	**9.96**	**106**		Pn		**Pn**	**13 24 59.7**	**+0.1**
YKB1	**Yellowknife Ar**	**9.97**	**106**		Pn		**Pn**	**13 24 59.7**	**0.0**
YKB5	**Yellowknife Ar**	**9.97**	**105**		Pn		**Pn**	**13 24 59.7**	**0.0**
HILA	**High Level**	**11.76**	**125**		Pn		**Pn**	**13 25 24.1**	**-0.2**
HILA	**High Level**	**11.76**	**125**		Pn		**Pn**	**13 25 24.1**	**-0.2**
SNLN	**Sandy Lake, NW**	**12.48**	**95**		Pn		**Pn**	**13 25 33.4**	**-0.6**
SNLN	**Sandy Lake, NW**	**12.48**	**95**		Pn		**Pn**	**13 25 33.4**	**-0.6**
MANA	**Manning**	**12.95**	**131**		Pn		**Pn**	**13 25 40.4**	**-0.2**
MANA	**Manning**	**12.95**	**131**		Pn		**Pn**	**13 25 40.4**	**-0.2**
GDLN	**Gardenia Lake,**	**13.55**	**96**		Pn		**Pn**	**13 25 48.4**	**-0.2**
GDLN	**Gardenia Lake,**	**13.55**	**96**		Pn		**Pn**	**13 25 48.4**	**-0.2**
NEW	**Newport**	**20.81**	**143**	P			Pn	13 27 21.2	+0.9
	0.9nm,0.7s,baz=339,slow=11,SNR=2.4								
PDAR	**Pinedale Array**	**27.87**	**136**	P			**P**	**13 28 30.1**	**+3.6**
	0.2nm,0.4s,baz=342,slow=8.1,SNR=2.6								
NVAR	**Mina Array Bea**	**29.97**	**152**	P			P	13 28 49.2	+4.1
	0.2nm,0.5s,baz=329,slow=8.4,SNR=2.6								
FINES	**FINESS Array B**	**51.46**	**11**	P			**P**	**13 31 43.4**	**+2.1**
	1.0nm,0.8s,baz=347,slow=4.4,SNR=4.1								

BJI ***11*** *13:23:34.9, 38.90S×177.10E, h10km, mb5.5/17, mB5.6/14, Ms5.0/12, Ms7 4.6/13*
MOS ***11*** *13:23:38.5±1.1, 38.93S×177.09E, h33km, mb5.1/6, Error ellipse: s-maj=15.9km s-min=14.0km az=70.2*
ISCJB ***11*** *13:23:39.3±0.2, 39.02S±0.02×177.32E±0.03, h40km±2km, mb4.9/26, MS4.2/17, Error ellipse: s-maj=3.7km s-min=2.6km az=31.6*
NEIC ***11*** *13:23:40.2, 38.97S×177.35E, h38km, mb5.0/10, ML5.3(WEL), After WEL.*
NEIC Felt widely in the Gisborne-Hawke's Bay area.
GCMT ***11*** *13:23:40.2±0.2, 38.96S×177.42E, h33km±1km, MW5.1/89, Moment Tensor Solution. s48,c66; s89,c133; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.85±.19; Mθθ-0.75±.17; Mφφ2.60±.15; Mrθ-1.26±.22; Mrφ4.81±.11; Mθφ1.62±.19; Best double couple: Mo5.68100×10^16 NP1:φs175.00000°, δ73.00000°, λ-155.00000°. NP2: φs77.00000°, δ66.00000°, λ-19.00000°. Principal axes: T 6.0660, Plg4.0000°, Azm305.0000°; N -0.7650, Plg60.0000°, Azm207.0000°; P -5.2970, Plg30.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
WEL ***11*** *13:23:40.3±0.1, 38.96S×177.36E, h33km, ML5.3/65 Error ellipse: s-maj=0.9km s-min=0.6km az=90.0*
WEL Felt Bay of Plenty to Hawke Bay, Waikato to Gisborne, max intensity MM 6.
IDC ***11*** *13:23:41.8±1.0, 38.78S×177.05E, h53km±7km, mb4.6/15, mb1 4.7/15, mb1mx4.6/25, mbtmp4.8/15, MS4.2/17, Ms1 4.2/17, ms1mx4.2/19, Error ellipse: s-maj=16.4km s-min=12.5km az=28.0*

ISC 11 13:23:39.7±0.7, 38.98S±0.02×177.34E±0.02, h34km±2km, n373, σ1§63/363, mb5.0/22, MS4.2/17, 29C-44D, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WHHZ	**Waihua**	**0.13**	**221**			⇓P*	**Pb**	**13 23 46.3**	**+0.6**
WHHZ						S*	**Sb**	**13 23 52.9**	**+3.0**
SNGZ	**Shannon Statio**	**0.20**	**359**			⇓P*	**Pb**	**13 23 46.2**	**-0.2**
SNGZ						S*	**Sb**	**13 23 52.0**	**+1.1**
RAHZ	**Arahi**	**0.21**	**287**			⇑P*	**Pb**	**13 23 46.5**	**0.0**
RAHZ						S*	**Sb**	**13 23 52.2**	**+1.0**
RAHZ	**Arahi**	**0.21**	**287**			Pn	**Pb**	**13 23 46.5**	**0.0**
RAHZ						Sn	**Sb**	**13 23 52.2**	**+1.0**
KNZ	**Kokohu**	**0.26**	**99**			P*	**Pb**	**13 23 47.7**	**+0.7**
KNZ	**Kokohu**	**0.26**	**99**			Pn	**Pb**	**13 23 47.7**	**+0.7**
ARHZ	**Aropaoanui**	**0.39**	**224**			⇓Pn	**Pn**	**13 23 49.7**	**+0.7**
ARHZ						SN	**Sn**	**13 23 58.8**	**+3.8**
PRGZ	**Paritu Road**	**0.42**	**82**			⇑Pn	**Pn**	**13 23 49.9**	**+0.4**
PRGZ						SN	**Sn**	**13 23 58.4**	**+2.3**
PRGZ	**Paritu Road**	**0.42**	**82**			Pn	**Pn**	**13 23 49.9**	**+0.4**
PRGZ						Sn	**Sn**	**13 23 58.4**	**+2.3**
RIGZ	**Rimuhau**	**0.43**	**50**			⇓Pn	**Pn**	**13 23 49.7**	**+0.1**
RIGZ						SN	**Sn**	**13 23 57.9**	**+1.8**
NMHZ	**Naumai**	**0.43**	**254**			⇓Pn	**Pn**	**13 23 49.8**	**+0.2**
NMHZ	**Naumai**	**0.43**	**254**			Pn	**Pn**	**13 23 49.8**	**+0.2**
RAGZ	**Rawiri**	**0.49**	**7**			⇓Pn	**Pn**	**13 23 49.8**	**-0.4**
RAGZ						SN	**Sn**	**13 23 57.8**	**+0.1**
MWZ	**Matawai**	**0.66**	**13**			⇓Pn	**Pn**	**13 23 52.4**	**-0.2**
MWZ						SN	**Sb**	**13 24 02.4**	**+0.5**
MWZ						AML	AML	13 24 03.9	
MWZ						AML	AML	13 24 04.1	
MWZ						AML	AML	13 24 04.1	
TKGZ	**Te Karaka**	**0.67**	**36**			⇓Pn	**Pn**	**13 23 52.7**	**0.0**
MCHZ	**McNeill Hill**	**0.68**	**227**			⇓Pn	**Pb**	**13 23 54.0**	**+0.8**
MCHZ	**McNeill Hill**	**0.68**	**227**			Pn	**Pb**	**13 23 54.0**	**+0.8**
BKZ	**Black Stump Fm**	**0.69**	**254**			⇓Pn	**Pb**	**13 23 53.5**	**+0.1**
BKZ						SN	**Sb**	**13 24 03.9**	**+1.2**
BKZ						AML	AML	13 24 05.4	
BKZ						AML	AML	13 24 05.4	
BKZ						AML	AML	13 24 05.6	
BKZ	**Black Stump Fm**	**0.69**	**254**			Pn	**Pn**	**13 23 52.8**	**-0.2**
CKHZ	**Cape Kidnapper**	**0.71**	**197**			⇑Pn	**Pb**	**13 23 53.9**	**+0.2**
CKHZ	**Cape Kidnapper**	**0.71**	**197**			Pn	**Pb**	**13 23 53.9**	**+0.2**
URZ	**Urewera**	**0.74**	**346**			PN	**Pn**	**13 23 53.2**	**-0.5**
URZ						AML	AML	13 24 05.1	
URZ						AML	AML	13 24 05.9	
URZ	**Urewera**	**0.74**	**346**			P	**Pn**	**13 23 53.3**	**-0.5**
	2μm,0.3s,baz=234,slow=4.9,SNR=2049								
URZ						S	**Sb**	**13 24 04.4**	**+0.3**
	9μm,0.3s,baz=333,slow=18,SNR=124								
CNGZ	**Carnagh Statio**	**0.84**	**54**			PN	**Pn**	**13 23 54.9**	**-0.1**
KWHZ	**Kaweka Forest**	**0.84**	**238**			⇓PN	**Pb**	**13 23 55.8**	**-0.1**
PRRZ	**Plateau Road**	**0.89**	**303**			⇑PN	**Pn**	**13 23 55.6**	**-0.1**
PRRZ	**Plateau Road**	**0.89**	**303**			Pn	**Pn**	**13 23 55.6**	**-0.1**
ALRZ	**Allen Road**	**0.89**	**298**			⇑PN	**Pn**	**13 23 55.7**	**0.0**
ALRZ	**Allen Road**	**0.89**	**298**			Pn	**Pn**	**13 23 55.8**	**0.0**
KAHZ	**Kahuranaki**	**0.89**	**204**			PN	**Pn**	**13 23 56.2**	**+0.3**
KAHZ	**Kahuranaki**	**0.89**	**204**			Pn	**Pb**	**13 23 56.4**	**-0.4**
RRRZ	**Republican Roa**	**0.91**	**314**			PN	**Pn**	**13 23 55.8**	**-0.3**
RRRZ	**Republican Roa**	**0.91**	**314**			Pn	**Pn**	**13 23 55.9**	**-0.2**
TWGZ	**Tauwhareparae**	**0.95**	**32**			⇓PN	**Pn**	**13 23 56.5**	**-0.1**
HATZ	**Hinemaiaia**	**0.98**	**275**			PN	**Pn**	**13 23 57.3**	**+0.2**
HATZ						AML	AML	13 24 13.2	
HATZ						AML	AML	13 24 14.5	
HATZ	**Hinemaiaia**	**0.98**	**275**			Pn	**Pn**	**13 23 57.4**	**+0.3**
TARZ	**Mount Tarawera**	**0.99**	**318**			PN	**Pn**	**13 23 57.2**	**-0.1**
EDRZ	**Edgecumbe**	**0.99**	**331**			PN	**Pn**	**13 23 56.9**	**-0.4**
EDRZ						AML	AML	13 24 27.6	
EDRZ						AML	AML	13 24 29.0	
KRHZ	**Kereru**	**1.00**	**228**			⇓PN	**Pn**	**13 23 57.7**	**+0.3**
HRRZ	**Handcock Road**	**1.02**	**305**			PN	**Pn**	**13 23 57.2**	**-0.3**
HRRZ	**Handcock Road**	**1.02**	**305**			Pn	**Pn**	**13 23 57.3**	**-0.3**
WPRZ	**Whakapapataran**	**1.03**	**296**			Pn	**Pn**	**13 23 57.4**	**-0.3**
HLRZ	**Highlands Stat**	**1.06**	**313**			⇑Pn	**Pn**	**13 23 58.1**	**-0.1**
MKRZ	**Makatiti**	**1.08**	**320**			PN	**Pn**	**13 23 59.0**	**+0.5**
MKRZ						AML	AML	13 24 28.3	
MKRZ						AML	AML	13 24 28.5	
MKRZ	**Makatiti**	**1.08**	**320**			Pn	**Pn**	**13 23 59.0**	**+0.5**
HSRZ	**Hossack Road**	**1.09**	**308**			⇑Pn	**Pn**	**13 23 58.4**	**-0.2**
PXZ	**Pawanui**	**1.11**	**199**			⇑Pn	**Pn**	**13 23 58.5**	**-0.4**
PXZ						AML	AML	13 24 37.2	
PXZ						AML	AML	13 24 37.2	
PXZ						AML	AML	13 24 38.2	
PXZ						AML	AML	13 24 38.2	
PXZ	**Pawanui**	**1.11**	**199**			Pn	**Pn**	**13 23 58.5**	**-0.4**
BHHZ	**Black Hill Sta**	**1.12**	**243**			⇓PN	**Pn**	**13 23 59.5**	**+0.5**
BHHZ	**Black Hill Sta**	**1.12**	**243**			Pn	**Pn**	**13 23 59.5**	**+0.5**
MARZ	**Manawahe**	**1.12**	**332**			PN	**Pn**	**13 23 58.6**	**-0.5**
WHTZ	**Whakaora**	**1.13**	**286**			⇑PN	**Pn**	**13 23 59.4**	**+0.3**
WHTZ	**Whakaora**	**1.13**	**286**			Pn	**Pn**	**13 23 59.5**	**+0.3**
GRRZ	**Galatos Road**	**1.15**	**303**			PN	**Pn**	**13 23 59.5**	**+0.1**
PUZ	**Puketiti**	**1.16**	**39**			⇓PN	**Pn**	**13 23 58.8**	**-0.7**
PUZ						AML	AML	13 24 27.2	
PUZ						AML	AML	13 24 32.5	
PUZ	**Puketiti**	**1.16**	**39**			Pn	**Pn**	**13 23 58.8**	**-0.7**
RITZ	**Rihia Road**	**1.16**	**270**			PN	**Pb**	**13 24 00.2**	**-0.9**
RITZ						AML	AML	13 24 23.2	
RITZ						AML	AML	13 24 34.4	
RITZ	**Rihia Road**	**1.16**	**270**			Pn	**Pb**	**13 24 00.2**	**-0.9**
OMRZ	**Omania**	**1.16**	**319**			⇑PN	**Pn**	**13 23 59.1**	**-0.4**
OMRZ	**Omania**	**1.16**	**319**			Pn	**Pn**	**13 23 59.1**	**-0.4**
UTU	**Utuhina**	**1.21**	**311**			⇑PN	**Pn**	**13 24 00.2**	**0.0**
UTU						AML	AML	13 24 27.3	
UTU						AML	AML	13 24 27.8	
UTU	**Utuhina**	**1.21**	**311**			Pn	**Pn**	**13 24 00.2**	**0.0**
LIRZ	**Lichensteins R**	**1.23**	**322**			PN	**Pn**	**13 24 00.2**	**-0.3**
LIRZ	**Lichensteins R**	**1.23**	**322**			Pn	**Pn**	**13 24 00.2**	**-0.3**
RATZ	**Rangitukua**	**1.23**	**275**			PN	**Pn**	**13 24 00.8**	**+0.3**
RATZ						AML	AML	13 24 27.7	
RATZ						AML	AML	13 24 27.9	
RATZ	**Rangitukua**	**1.23**	**275**			Pn	**Pn**	**13 24 00.8**	**+0.3**
HAZ	**Te Kaha**	**1.27**	**16**			PN	**Pn**	**13 24 00.7**	**-0.3**
KATZ	**Kakaramea**	**1.28**	**270**			⇓PN	**Pn**	**13 24 01.9**	**+0.6**
KATZ						AML	AML	13 24 28.6	
KATZ						AML	AML	13 24 30.6	
KATZ	**Kakaramea**	**1.28**	**270**			Pn	**Pn**	**13 24 01.9**	**+0.6**
KUTZ	**Kaahu Road**	**1.29**	**292**			⇑PN	**Pn**	**13 24 01.2**	**-0.1**
PNHZ	**Pukenui**	**1.29**	**223**			⇓PN	**Pn**	**13 24 01.2**	**-0.1**
WATZ	**Wairara**	**1.29**	**282**			⇑PN	**Pn**	**13 24 01.6**	**+0.3**
WATZ						AML	AML	13 24 26.2	
WATZ						AML	AML	13 24 38.1	
WATZ	**Wairara**	**1.29**	**282**			Pn	**Pn**	**13 24 01.6**	**+0.3**
KARZ	**Kaharoa**	**1.29**	**318**			PN	**Pn**	**13 24 00.6**	**-0.7**
KARZ	**Kaharoa**	**1.29**	**318**			Pn	**Pn**	**13 24 00.7**	**-0.7**
WPHZ	**Waipukurau**	**1.29**	**213**			⇓PN	**Pn**	**13 24 01.2**	**-0.1**
WPHZ	**Waipukurau**	**1.29**	**213**			Pn	**Pn**	**13 24 01.2**	**-0.1**
OPRZ	**Ohinepanea**	**1.29**	**331**			⇓PN	**Pn**	**13 24 00.5**	**-0.8**
MOVZ	**Moawhango**	**1.31**	**250**			PN	**Pn**	**13 24 02.0**	**+0.4**
MOVZ						AML	AML	13 24 28.1	
MO

KIW	**Kapiti Island**	**2.65**	**224**	⇓PN		**Pn**	**13 24 18.5**	**-1.5**
KIW				AML		AML	13 24 53.5	
KIW				AML		AML	13 25 40.9	
KBAZ	**Karaka Road Bo**	**2.70**	**313**	*e*PN		**Pn**	**13 24 21.2**	**+0.5**
NWEZ	**Newall Road**	**2.72**	**263**	PN		**Pn**	**13 24 22.5**	**+1.6**
NMEZ	**Namu Road**	**2.73**	**260**	PN		**Pn**	**13 24 22.8**	**+1.7**
TRWZ	**Traveller**	**2.73**	**207**	⇓PN		**Pn**	**13 24 18.7**	**-2.4**
TRWZ				AML		AML	13 25 27.0	
TRWZ				AML		AML	13 25 38.0	
TRWZ	**Traveller**	**2.73**	**207**	Pn		**Pn**	**13 24 18.7**	**-2.4**
CAW	**Cannon Point**	**2.75**	**219**	PN		**Pn**	**13 24 19.1**	**-2.2**
CAW				AML		AML	13 25 22.6	
CAW				AML		AML	13 25 33.4	
CAW	**Cannon Point**	**2.75**	**219**	Pn		**Pn**	**13 24 19.1**	**-2.2**
ETAZ	**East Tamaki Re**	**2.78**	**316**	⇑PN		**Pn**	**13 24 21.9**	**+0.1**
PAWZ	**Paruwai Farm**	**2.81**	**211**	PN		**Pn**	**13 24 19.9**	**-2.3**
PAWZ				AML		AML	13 25 44.4	
PAWZ				AML		AML	13 25 53.1	
MSWZ	**Moikau Station**	**2.91**	**213**	PN		**Pn**	**13 24 20.9**	**-2.7**
MSWZ				AML		AML	13 25 42.5	
MSWZ				AML		AML	13 25 54.0	
MTAZ	**Motutapu**	**2.92**	**318**	PN		**Pn**	**13 24 24.0**	**+0.4**
HBAZ	**Herne Bay Bore**	**2.97**	**315**	PN		**Pn**	**13 24 25.1**	**+0.8**
WTAZ	**Waiatarua**	**2.99**	**312**	PN		**Pn**	**13 24 25.2**	**+0.5**
WTAZ	**Waiatarua**	**2.99**	**312**	Pn		**Pn**	**13 24 25.2**	**+0.5**
WEL	**Wellington**	**3.03**	**220**	PN		**Pn**	**13 24 22.7**	**-2.5**
WEL				AML		AML	13 25 00.7	
WEL				AML		AML	13 25 05.0	
WEL	**Wellington**	**3.03**	**220**	P		**Pn**	**13 24 22.8**	**-2.5**
WEL	**Wellington**	**3.03**	**220**	Pn		**Pn**	**13 24 22.8**	**-2.4**
PLWZ	**Palliser**	**3.04**	**211**	PN		**Pn**	**13 24 22.5**	**-2.9**
BHW	**Baring Head**	**3.08**	**217**	⇑PN		**Pn**	**13 24 23.0**	**-2.8**
BHW				AML		AML	13 25 01.5	
BHW				AML		AML	13 25 50.6	
SNZO	**South Karori**	**3.08**	**220**	*e*P		**Pn**	**13 24 23.4**	**-2.5**
ABAZ	**Army Bay**	**3.10**	**319**	PN		**Pn**	**13 24 26.7**	**+0.5**
RVAZ	**Riverhead Bore**	**3.11**	**314**	PN		**Pn**	**13 24 26.6**	**+0.3**
GRZ	**Great Barrier**	**3.11**	**331**	PN		**Pn**	**13 24 26.2**	**-0.1**
DUWZ	**D'Urville Isla**	**3.20**	**234**	PN		**Pn**	**13 24 26.2**	**-1.3**
DUWZ				AML		AML	13 25 44.5	
DUWZ				AML		AML	13 25 52.0	
TCW	**Tory Channel**	**3.24**	**226**	PN		**Pn**	**13 24 25.7**	**-2.4**
TCW				AML		AML	13 25 06.0	
TCW				AML		AML	13 25 06.1	
TUWZ	**Tuamarina**	**3.57**	**226**	⇑PN		**Pn**	**13 24 29.8**	**-2.8**
TUWZ				AML		AML	13 25 12.5	
TUWZ				AML		AML	13 25 13.6	
CMWZ	**Cape Campbell**	**3.66**	**220**	PN		**Pn**	**13 24 31.4**	**-2.4**
CMWZ				AML		AML	13 26 07.3	
CMWZ				AML		AML	13 26 15.4	
CMWZ	**Cape Campbell**	**3.66**	**220**	Pn		**Pn**	**13 24 31.4**	**-2.4**
NNZ	**Nelson**	**3.77**	**232**	PN		**Pn**	**13 24 33.3**	**-2.1**
NNZ	**Nelson**	**3.77**	**232**	Pn		**Pn**	**13 24 33.3**	**-2.1**
BSWZ	**Blackbirch Sta**	**3.80**	**223**	PN		**Pn**	**13 24 32.9**	**-2.9**
BSWZ				AML		AML	13 26 09.8	
BSWZ				AML		AML	13 26 10.6	
BSWZ	**Blackbirch Sta**	**3.80**	**223**	Pn		**Pn**	**13 24 33.0**	**-2.9**
WCZ	**Waipu Caves**	**3.86**	**321**	PN		**Pn**	**13 24 36.7**	**+0.1**
QRZ	**Quartz Range**	**4.14**	**242**	PN		**Pn**	**13 24 37.8**	**-2.6**
THZ	**Tophouse**	**4.38**	**229**	PN		Pn	13 24 40.7	-3.2
THZ				AML		AML	13 26 23.3	
THZ				AML		AML	13 26 25.6	
KHZ	**Kahutara**	**4.49**	**219**	AML		AML	13 25 34.3	
KHZ				AML		AML	13 25 38.0	
OUZ	**Omahuta**	**4.80**	**320**	PN		**Pn**	**13 24 50.1**	**+0.6**
OUZ	**Omahuta**	**4.80**	**320**	Pn		**Pn**	**13 24 50.1**	**+0.6**
DSZ	**Denniston Nort**	**5.05**	**235**	⇓PN		**Pn**	**13 24 50.1**	**-3.0**
DSZ	**Denniston Nort**	**5.05**	**235**	Pn		**Pn**	**13 24 50.1**	**-3.0**
LTZ	**Lake Taylor**	**5.40**	**224**	PN		Pn	13 24 53.4	-4.5
LTZ				AML		AML	13 26 36.4	
LTZ				AML		AML	13 26 45.1	
CRLZ	**Canterbury Las**	**5.81**	**216**	PN		Pn	13 24 58.8	-4.5
CRLZ				AML		AML	13 26 05.6	
CRLZ				AML		AML	13 27 25.1	
CRLZ	**Canterbury Las**	**5.81**	**216**	Pn		Pn	13 24 58.8	-4.5
MQZ	**McQueen's Vall**	**5.89**	**215**	⇑PN		Pn	13 24 59.3	-5.2
MQZ	**McQueen's Vall**	**5.89**	**215**	Pn		Pn	13 24 59.4	-5.2
OXZ	**Oxford**	**5.90**	**221**	PN		Pn	13 24 59.3	-5.4
WVZ	**Waitaha Valley**	**6.46**	**229**	PN		Pn	13 25 07.8	-4.5
WVZ				AML		AML	13 27 33.0	
WVZ	**Waitaha Valley**	**6.46**	**229**	Pn		Pn	13 25 07.8	-4.5
CTZ	**Chatham Island**	**6.57**	**138**	PN		**Pn**	**13 25 13.0**	**-0.8**
CTZ	**Chatham Island**	**6.57**	**138**	Pn		**Pn**	**13 25 13.1**	**-0.7**
RPZ	**Rata Peaks**	**6.69**	**223**	PN		Pn	13 25 11.4	-4.1
RPZ				AML		AML	13 26 26.4	
RPZ				AML		AML	13 27 20.6	
RPZ	**Rata Peaks**	**6.69**	**223**	P		Pn	13 25 12.0	-3.5
	10nm,0.3s,baz=251,slow=0.9,SNR=65							
RPZ				S		Sn	13 26 22.8	-7.8
	37nm,0.3s,baz=350,slow=21,SNR=21							
RPZ				LR		LR	13 28 40.7	
	comp=Z,5μm,20.0s,baz=4.0,slow=45							
RPZ	**Rata Peaks**	**6.69**	**223**	Pn		Pn	13 25 11.4	-4.1
RPZ				S		Sn	13 26 22.8	-7.8
I36NZ	**CHATHAM INFRAS**	**6.77**	**139**	*i*			14 03 50.0	
	baz=323,slow=310,SNR=0.3							
FOZ	**Fox Glacier**	**7.36**	**229**	PN		Pn	13 25 18.6	-6.1
FOZ				AML		AML	13 26 41.9	
FOZ				AML		AML	13 26 44.6	
FOZ				AML		AML	13 27 35.9	
FOZ				AML		AML	13 27 58.1	
FOZ	**Fox Glacier**	**7.36**	**229**	Pn		Pn	13 25 18.6	-6.1
LBZ	**Lake Benmore**	**7.61**	**222**	PN		Pn	13 25 23.0	-5.0
LBZ				AML		AML	13 27 32.4	
LBZ				AML		AML	13 28 11.3	
JCZ	**Jackson Bay**	**8.21**	**229**	PN		Pn	13 25 30.7	-5.6
JCZ				AML		AML	13 27 02.5	
JCZ				AML		AML	13 27 32.6	
JCZ	**Jackson Bay**	**8.21**	**229**	Pn		Pn	13 25 30.7	-5.6
HHSZ	**Highcliff Hill**	**8.51**	**214**	PN		Pn	13 25 36.2	-4.3
HHSZ	**Highcliff Hill**	**8.51**	**214**	Pn		Pn	13 25 36.2	-4.3
WKZ	**Wanaka**	**8.52**	**224**	PN		Pn	13 25 35.3	-5.3
WKZ				AML		AML	13 29 05.4	
WKZ				AML		AML	13 29 08.1	
WKZ	**Wanaka**	**8.52**	**224**	Pn		Pn	13 25 35.3	-5.3
EAZ	**Earnscleugh**	**8.64**	**221**	PN		Pn	13 25 37.8	-4.4
EAZ				AML		AML	13 27 13.0	
EAZ				AML		AML	13 27 13.1	
EAZ				AML		AML	13 27 25.3	
EAZ				AML		AML	13 27 26.9	
TUZ	**Tuapeka**	**9.00**	**217**	PN		Pn	13 25 43.2	-3.9
TUZ	**Tuapeka**	**9.00**	**217**	Pn		Pn	13 25 43.2	-3.9
MSZ	**Milford Sound**	**9.04**	**228**	AML		AML	13 27 40.5	
MSZ				AML		AML	13 27 56.0	
MLZ	**Mavora Lakes**	**9.31**	**224**	PN		Pn	13 25 46.5	-5.0
MLZ				AML		AML	13 27 32.4	
MLZ	**Mavora Lakes**	**9.31**	**224**	Pn		Pn	13 25 46.5	-5.0
SYZ	**Scrubby Hill**	**9.66**	**216**	AML		AML	13 27 44.2	
SYZ				AML		AML	13 28 31.9	
WHZ	**Wether Hill Ro**	**9.79**	**222**	PN		Pn	13 25 52.3	-5.7
WHZ	**Wether Hill Ro**	**9.79**	**222**	Pn		Pn	13 25 52.2	-5.7
DCZ	**Deep Cove**	**9.96**	**226**	AML		AML	13 28 21.8	
DCZ				AML		AML	13 28 36.2	
DZM	**Mont Dzumac**	**19.27**	**328**	*e*P		**Pn**	**13 28 03.2**	**+0.6**
	24nm,0.7s							
DZM				*e*LR		LR	13 32 50.8	
	2μm,24.8s							
DZM	**Mont Dzumac**	**19.27**	**328**	P		**Pn**	**13 28 03.0**	**+0.4**
	1.0nm,0.3s,baz=270,slow=24,SNR=6.9							
MSVF	**Nonsavu**	**21.18**	**2**	*e*P		**P**	**13 28 20.6**	**-1.7**
MSVF				pmax		pmax		
	comp=Z,56nm,0.9s							
MSVF	**Nonsavu**	**21.18**	**2**	*e*P		**P**	**13 28 20.6**	**-1.7**
	comp=Z,56nm,0.9s							
ARMA	**Armidale**	**22.75**	**284**	⇑P		**P**	**13 28 40.4**	**+1.4**
	baz=23,SNR=5.0							
MOO	**Moorlands**	**23.06**	**252**	P		**P**	**13 28 43.5**	**+1.5**
	baz=23,SNR=3.9							
TOO	**Toolangi**	**24.98**	**263**	P		**P**	**13 29 01.1**	**+0.9**
	baz=25,SNR=6.8							
EIDS	**Eidsvold**	**25.93**	**294**	⇑P		**P**	**13 29 09.9**	**+1.1**
	baz=26							
EIDS	**Eidsvold**	**25.93**	**294**	*e*P		**P**	**13 29 10.0**	**+1.1**
RAR	**Rarotonga**	**26.44**	**55**	P		**P**	**13 29 14.7**	**+1.3**
	comp=Z,63nm,0.9s,baz=246,slow=2.4,SNR=5.7							
RAR				LR		LR	13 37 28.0	
	comp=Z,497nm,21.8s,baz=226,slow=31							
CMSA	**Cobar Meteorol**	**26.80**	**276**	P		**P**	**13 29 17.7**	**+1.1**
	baz=27,SNR=5.9							
STKA	**Stephens Creek**	**29.84**	**273**	P		**P**	**13 29 44.5**	**+0.8**
	comp=Z,6.9nm,1.0s,baz=119,slow=12,SNR=6.2							
STKA				LR		LR	13 41 21.6	
	comp=Z,726nm,19.7s,baz=111,slow=36							
STKA	**Stephens Creek**	**29.84**	**273**	⇓P		**P**	**13 29 44.1**	**+0.4**
	baz=30							
QLP	**Quilpie**	**30.29**	**284**	P		**P**	**13 29 49.0**	**+1.3**
	baz=31,SNR=8.7							
HTT	**Hallett**	**31.33**	**268**	P		**P**	**13 29 57.5**	**+0.5**
	baz=32,SNR=3.7							
TBI	**Tubuai**	**32.19**	**71**	*e*LR		LR	13 38 45.2	
	comp=Z,693nm,27.0s,baz=228							
TBI	**Tubuai**	**32.19**	**71**	*e*T		T	14 02 02.5	
	comp=Z,14nm,0.3s							
CTAO	**Charters Tower**	**32.73**	**296**	*e*P		**P**	**13 30 09.7**	**+0.5**
CTAO	**Charters Tower**	**32.73**	**296**	*e*P		**P**	**13 30 09.7**	**+0.5**
MTSU	**Mount Surprise**	**35.39**	**296**	P		**P**	**13 30 33.3**	**+1.0**
	baz=36,SNR=9.3							
PAE	**Paea**	**35.74**	**63**	*e*T		T	14 07 39.4	
	comp=Z,9.0nm,0.3s							
PPT2	**Papeete2**	**35.80**	**63**	*e*LR		LR	13 40 20.2	
	comp=Z,913nm,24.5s,baz=227							
PPT2	**Papeete2**	**35.80**	**63**	*e*T		T	14 07 44.1	
	comp=Z,4.5nm,0.3s							
PPT	**Papeete**	**35.81**	**63**	LR		LR	13 40 49.5	
	comp=Z,392nm,20.9s,baz=226,slow=29							
TVO	**Taravao**	**35.89**	**63**	*e*T		T	14 07 50.7	
	comp=Z,1.6nm,0.3s							
QIS	**Mount Isa**	**37.22**	**289**	P		**P**	**13 30 49.7**	**+1.7**
	baz=38,SNR=3.6							
COEN	**Coen**	**39.08**	**300**	P		**P**	**13 31 03.3**	**-0.5**
	baz=40,SNR=7.0							
COEN	**Coen**	**39.08**	**300**	*e*P		**P**	**13 31 03.2**	**-0.5**
	comp=Z,31nm,1.1s							
VNDA	**Vanda**	**39.20**	**185**	LR		LR	13 44 20.3	
	comp=Z,186nm,20.6s,baz=32,slow=31							
AS31	**Alice Springs**	**39.74**	**280**	*e*P		**P**	**13 31 08.1**	**-1.0**
ASAR	**Alice Springs**	**39.74**	**280**	P		**P**	**13 31 08.6**	**-0.6**
	comp=Z,50nm,0.9s,baz=130,slow=9.1,SNR=294							
ASAR				ScP		**ScP**	**13 36 57.0**	**-4.4**
	comp=Z,1.5nm,0.9s,baz=135,slow=4.1,SNR=5.3							
ASAR				S		**S**	**13 37 06.2**	**-4.7**
	comp=Z,4.9nm,1.1s,baz=112,slow=12,SNR=6.8							
ASAR				LR		LR	13 47 59.7	
	comp=Z,1μm,19.1s,baz=123,slow=37							
ASPA	**Alice Springs**	**39.74**	**280**	⇓P		**P**	**13 31 08.7**	**-0.5**
	baz=40							
WRAB	**Tennant Creek**	**41.52**	**285**	P		**P**	**13 31 22.8**	**-1.2**
	comp=Z,75nm,0.9s,SNR=6.0							
WRAB	**Tennant Creek**	**41.52**	**285**	*e*P		**P**	**13 31 22.7**	**-1.2**
WRAB				pmax		pmax		
	comp=Z,12nm,0.8s							
WRAB	**Tennant Creek**	**41.52**	**285**	*e*P		**P**	**13 31 22.7**	**-1.2**
	comp=Z,12nm,0.8s							
WRA	**Warramunga Arr**	**41.53**	**285**	P		**P**	**13 31 22.9**	**-1.0**
	comp=Z,12nm,0.9s,baz=128,slow=7.3,SNR=77							
WRA				ScP		**ScP**	**13 37 04.0**	**-4.5**
	comp=Z,0.9nm,0.8s,baz=127,slow=4.0,SNR=6.2							
WRA				S		**S**	**13 37 31.9**	**-5.6**
	comp=Z,1.5nm,1.0s,baz=122,slow=14,SNR=3.7							
WRA				LR		LR	13 48 58.5	
	comp=Z,1μm,19.2s,baz=140,slow=37							
RKT	**Rikitea**	**43.31**	**83**	*e*LQ		LQ	13 41 53.9	
	comp=Z,774nm,34.5s							
RKT				*e*LR		LR	13 43 45.2	
	comp=Z,621nm,26.5s,baz=243							
WRKA	**Warakurna**	**43.36**	**274**	P		**P**	**13 31 37.2**	**-1.6**
	baz=44,SNR=20							
CASY	**Casey**	**45.80**	**211**	*e*P		**P**	**13 31 57.9**	**+0.2**
	comp=Z,40nm,1.1s							
KNRA	**Kununurra**	**48.32**	**285**	P		**P**	**13 32 17.3**	**-0.7**
	baz=49,SNR=19							
KLBR	**Kellerberrin**	**48.45**	**260**	P		**P**	**13 32 18.2**	**-0.7**
	baz=49,SNR=5.0							
MEEK	**Meekatharra**	**50.09**	**266**	P		**P**	**13 32 30.3**	**-1.3**
	baz=50,SNR=9.6							
QSPA	**South Pole Qui**	**51.15**	**180**	P		**P**	**13 32 41.2**	**+2.1**
	comp=Z,10nm,0.9s,baz=41,slow=0.3,SNR=24							
QSPA	**South Pole Qui**	**51.15**	**180**	*e*P		**P**	**13 32 41.3**	**+2.3**
MBWA	**Marble Bar**	**52.08**	**272**	*e*P		**P**	**13 32 44.8**	**-1.6**
	comp=Z,19nm,1.0s							
GUMO	**Guam**	**60.46**	**323**	LR		LR	13 57 46.0	
	comp=Z,142nm,21.5s,baz=145,slow=34							
LUWI	**Luwuk**	**62.41**	**293**	⇑P		**P**	**13 33 59.3**	**-0.1**
	baz=63							
LUWI	**Luwuk**	**62.41**	**293**	*e*P		**P**	**13 33 58.4**	**-1.0**
	comp=Z,97nm,1.3s							
MAW	**Mawson**	**62.94**	**203**	P		**P**	**13 34 02.2**	**0.0**
	comp=Z,1.5nm,0.4s,baz=107,slow=9.4,SNR=4.2							
MAW				LR		LR	13 59 49.8	
	comp=Z,197nm,20.7s,baz=81,slow=34							
SYO	**Syowa Base**	**67.88**	**195**	*e*P		**P**	**13 34 33.2**	**-0.9**
VNA1	**Neumayer--Stat**	**70.60**	**178**	P		**P**	**13 34 52.0**	**+1.0**
MJAR	**Matsushiro Arr**	**83.37**	**329**	P		**P**	**13 36 01.0**	**-2.1**
	comp=Z,5.0nm,0.8s,baz=173,slow=6.1,SNR=16							
MJAR				LR		LR	14 10 13.1	
	comp=Z,52nm,21.9s,baz=130,slow=34							
JNU	**Nakatsue**	**83.70**	**322**	P		**P**	**13 36 03.6**	**-1.2**
	comp=Z,21nm,1.0s,baz=66,slow=16,SNR=4.1							
JNU				LR		LR	14 11 53.5	
	comp=Z,51nm,18.1s,baz=213,slow=35							
QIZ	**Qiongzhong**	**85.46**	**299**	P		**P**	**13 36 14.8**	**+0.7**
QIZ				pP		**PcP**	**13 36 17.9**	**+0.9**
QIZ				sP		sP	13 36 19.1	-10
QIZ				S		**SKKSac**	**13 46 46.2**	**+2.6**
QIZ				PMZ				
	comp=Z,12nm,2.1s							
QIZ				LZ				
	comp=Z,190nm,20.2s							
KSRS	**Korea Array**	**88.62**	**323**	P		**P**	**13 36 28.9**	**0.0**
	comp=Z,13nm,0.9s,baz=144,slow=5.8,SNR=36							
KSRS				LR		LR	14 12 00.1	
	comp=Z,99nm,21.8s,baz=148,slow=33							
KSAR	**Wonju Array Be**	**88.63**	**323**	P		**P**	**13 36 28.9**	**-0.1**
KSAR	**Wonju Array Be**	**88.63**	**323**	P		**P**	**13 36 28.9**	**-0.1**
NJ2	**Nanjing**	**89.14**	**314**	*e*P		**P**	**13 36 31.9**	**+0.4**
NJ2				PMZ				
	comp=Z,40nm,0.6s							
YSS	**Yuzh-Sakhalins**	**90.97**	**337**	⇑*i*P		**P**	**13 36 39.3**	**-0.3**
YSS				*e*			13 36 52.2	
YSS				pmax		pmax		
	comp=Z,20nm,0.9s							
YSS	**Yuzh-Sakhalins**	**90.97**	**337**	*e*P		**P**	**13 36 39.4**	**-0.2**
	comp=Z,15nm,0.8s							
SKR	**Severo-Kuril's**	**91.22**	**347**	*e*P		P	13 36 30.0	-11
USRK	**Ussuriysk Ar.**	**92.37**	**329**	P		**P**	**13 36 45.7**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=122,slow=2.2,SNR=4.7							
USRK				LR		LR	14 14 36.7	
	comp=Z,52nm,21.3s,baz=143,slow=33							
GYA	**Guiyang**	**92.66**	**302**	P		**P**	**13 36 50.0**	**+1.8**
GYA				PP		**PP**	**13 40 34.2**	**+3.6**
GYA				SKS		**SKSac**	**13 47 22.8**	**+3.4**
GYA				S		**ScS**	**13 47 52.0**	**-0.7**
GYA				SS		**SS**	**13 54 07.5**	**+3.2**
GYA				PMZ				
	comp=Z,20nm,1.0s							
GYA				PMZ				
	comp=Z,120nm,5.2s							
GYA				LN				
	comp=Z,640nm,20.8s							
GYA				LE				
	comp=Z,580nm,21.4s							
GYA				LZ				
	comp=Z,620nm,20.2s							
CM10	**Chiang Mai Arr**	**92.71**	**291**	⇑P		**P**	**13 36 48.1**	**-0.4**
	baz=93							
CMAR	**Chiang Mai Arr**	**92.77**	**291**	P		**P**	**13 36 48.4**	**-0.4**
	comp=Z,4.9nm,0.7s,baz=147,slow=3.3,SNR=28							
CMAR				LR		LR	14 23 21.0	
	comp=Z,123nm,18.8s,baz=150,slow=39							
CHTO	**Chiang Mai**	**93.00**	**292**	*e*P		**P**	**13 36 48.1**	**-1.7**
CHTO				pmax		pmax		
	comp=Z,4.0nm,0.9s							
CHTO	**Chiang Mai**	**93.00**	**292**	*e*P		**P**	**13 36 48.0**	**-1.7**
	comp=Z,4.1nm,0.9s							
PETK	**Petropavlovsk-**	**93.28**	**348**	LR		LR	14 14 58.7	
	comp=Z,71nm,19.4s,baz=162,slow=33							
MDJ	**Mudanjiang**	**93.69**	**328**	P		**P**	**13 36 53.0**	**+0.7**
MDJ				pP		**PcP**	**13 36 56.3**	**+3.5**
MDJ				sP		sP	13 36 57.5	-9.4
MDJ				PP		**PP**	**13 40 34.5**	**-3.7**
MDJ				S		**ScS**	**13 48 05.1**	**+5.0**
MDJ				SS		**SS**	**13 54 16.8**	**-1.3**
MDJ				PMZ				
	comp=Z,5.0nm,0.9s							
MDJ				PMZ				
	comp=Z,41nm,3.7s							
MDJ				LN				
	comp=Z,84nm,23.8s							
MDJ				LE				
	comp=Z,55nm,24.2s							
MDJ				LZ				
	comp=Z,130nm,24.9s							
BAR	**Barrett**	**93.97**	**51**	*e*P		**P**	**13 36 55.3**	**+1.3**
	comp=Z,16nm,1.5s							
MONP	**Monument Peak**	**94.26**	**51**	P		**P**	**13 36 57.6**	**+2.0**
	baz=94							
MURC	**Murrieta**	**94.30**	**50**	P		**P**	**13 36 57.2**	**+1.7**
	baz=94							
KMI	**Kunming**	**94.41**	**299**	P		**P**	**13 36 56.7**	**+0.2**
KMI				pP		**PcP**	**13 37 01.3**	**+4.5**
KMI				PMZ				
	comp=Z,8.0nm,0.5s							
KMI				PMZ				
	comp=Z,100nm,7.4s							
KMI				LN				
	comp=Z,88nm,19.1s							
KMI				LE				
	comp=Z,96nm,20.5s							
KMI				LZ				
	comp=Z,170nm,26.0s							
BFSC	**Mount Baldy Ra**	**94.47**	**49**	P		**P**	**13 36 58.1**	**+1.7**
	baz=95							
EDW2	**Edwards Air Fo**	**94.73**	**48**	P		**P**	**13 36 59.0**	**+1.5**
	baz=95							
PFO	**Pinyon Flat Ob**	**94.75**	**50**	P		**P**	**13 36 59.4**	**+1.7**
	comp=Z,3.0nm,0.8s,baz=245,slow=1.4,SNR=6.7							
PFO	**Pinyon Flat Ob**	**94.75**	**50**	P		**P**	**13 36 59.4**	**+1.7**
PFO				pmax		pmax		
	comp=Z,3.0nm,0.8s							
PFO	**Pinyon Flat Ob**	**94.75**	**50**	*e*P		**P**	**13 36 59.8**	**+2.2**
CN2	**Changchun**	**94.81**	**325**	*e*P		P	13 36 53.6	-3.9
CN2				PP		**PP**	**13 40 44.9**	**-2.1**
CN2				PMZ				
	comp=Z,10.0nm,0.8s							
ISA	**Isabella**	**95.00**	**47**	P		**P**	**13 37 00.3**	**+1.6**
	baz=95							
BELC	**Belle Mtn. Jos**	**95.29**	**50**	P		**P**	**13 37 02.1**	**+2.0**
	baz=96							
GLA	**Glamis**	**95.34**	**51**	*e*P		**P**	**13 37 02.7**	**+2.4**
GLA	**Glamis**	**95.34**	**51**	P		**P**	**13 37 02.4**	**+2.1**
	baz=96							
GLA	**Glamis**	**95.34**	**51**	*e*P		**P**	**13 37 02.7**	**+2.4**
BC3	**Big Chuckawall**	**95.38**	**51**	P		**P**	**13 37 02.8**	**+2.3**
	baz=96							
GSC	**Goldstone**	**95.72**	**49**	*e*P		**P**	**13 37 03.7**	**+1.7**
GSC				pmax		pmax		
	comp=Z,3.0nm,1.0s							
GSC	**Goldstone**	**95.72**	**49**	P		**P**	**13 37 03.9**	**+1.8**
	baz=96							
GSC	**Goldstone**	**95.72**	**49**	*e*P		**P**	**13 37 03.7**	**+1.7**
	comp=Z,2.8nm,1.0s							
IRM	**Iron Mountain**	**95.91**	**50**	P		**P**	**13 37 05.2**	**+2.4**
	baz=96							
GMRC	**Granite Mounta**	**96.03**	**50**	P		**P**	**13 37 05.3**	**+1.8**
	baz=96							
BJI	**Beijing**	**96.48**	**317**	P		**P**	**13 37 06.9**	**+1.7**
BJI				S		**S**	**13 48 27.8**	**+4.7**
BJI				PMZ				
	comp=Z,9.0nm,0.5s							
BJI				PMZ				
	comp=Z,110nm,4.9s							
BJI				LN				
	comp=Z,140nm,28.1s							
BJI				LE				
	comp=Z,130nm,24.9s							
BJI				LZ				
	comp=Z,100nm,22.7s							
GRAC	**Grapevine Rang**	**96.58**	**47**	P		**P**	**13 37 07.6**	**+1.7**
	baz=97							
NVAR	**Mina Array Bea**	**97.06**	**46**	P		Pdif	13 37 09.5	+1.2
	comp=Z,1.4nm,0.9s,baz=221,slow=7.4,SNR=9.0							
YBH	**Yreka Blue Hor**	**97.08**	**41**	P		Pdif	13 37 09.7	+1.5
	comp=Z,3.1nm,0.9s,baz=163,slow=7.2,SNR=4.7							
TPNV	**Topopah Spring**	**97.19**	**48**	P		Pdif	13 37 11.3	+2.5
	baz=97							
CPUP	**Villa Florida**	**97.36**	**132**	P		Pdif	13 37 10.1	+0.3
	comp=Z,1.8nm,0.8s,baz=252,slow=8.6,SNR=4.4							
CPUP				LR		LR	14 16 06.5	
	comp=Z,102nm,18.5s,baz=215,slow=32							
CD2	**Chengdu**	**97.52**	**304**	P		**P**	**13 37 10.2**	**-0.1**
CD2				pP		Pdif	13 37 13.6	+3.3
CD2				sP		sP	13 37 14.8	-10
CD2				PP		**PP**	**13 41 07.5**	**-0.8**
CD2

KIV	**Kislovodsk**	**145.99**	**293**	*e*PKP2	**PKPdf**	**13 43 14.3**	**-0.5**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KBSD	**Kabsdagh**	**146.13**	**280**	*e*P	PKPdf	13 43 07.8	-7.4
SFNV	**Sufian**	**146.29**	**279**	*e*P	**PKPdf**	**13 43 14.7**	**-0.8**
MNKR	**ALMNKUR**	**146.79**	**278**	*e*P	PKPdf	13 43 09.7	-6.6
ZALF	**Zalf**	**147.26**	**272**	*e*P	**PKPbc**	**13 43 18.8**	**-0.7**
LIC	**Lamto**	**147.32**	**176**	*e*PKP2	**PKPbc**	**13 43 19.4**	**-0.8**
	comp=Z,94nm,1.3s						
KIC	**Kosan Boka**	**147.47**	**176**	*e*PKP2	**PKPbc**	**13 43 20.7**	**+0.1**
	comp=Z,146nm,1.5s						
SALA	**Sala**	**147.65**	**271**	*e*P	**PKPab**	**13 43 23.7**	**+0.6**
TIC	**Toumodi**	**147.74**	**176**	*e*PKP2	**PKPbc**	**13 43 20.7**	**-0.6**
ROOS	**tl_alroos**	**147.75**	**274**	*e*P	**PKPdf**	**13 43 19.4**	**+1.3**
RABH	**Abou Rabah**	**147.90**	**274**	*e*P	**PKPbc**	**13 43 19.9**	**-1.4**
QASN	**Qassioun**	**148.31**	**272**	*e*P	**PKPab**	**13 43 27.8**	**+2.2**
BRBR	**Barbar**	**148.52**	**272**	*e*P	**PKPbc**	**13 43 21.8**	**-1.3**
BIDA	**Albida**	**148.78**	**275**	*e*P	**PKPdf**	**13 43 16.6**	**-3.1**
WRDH	**Warideh**	**148.87**	**276**	*e*P	**PKPdf**	**13 43 21.6**	**+1.8**
BTCH	**Batrach**	**148.99**	**277**	*e*P	**PKPbc**	**13 43 22.1**	**-1.9**
SLNF	**Slenfeh**	**149.04**	**276**	*e*P	**PKPdf**	**13 43 18.8**	**-1.4**
OBN	**Obninsk**	**149.28**	**315**	*e*PKIKP	**PKPdf**	**13 43 20.5**	**+0.9**
OBN				pmax	pmax		
	comp=Z,15nm,1.2s						
OBN				MLR	MLR		
	comp=Z,102nm,23.0s						
OBN	**Obninsk**	**149.28**	**315**	PKPdf	**PKPbc**	**13 43 22.5**	**-1.5**
CSS	**Prodhromos**	**151.09**	**273**	*e*PKPbc	**PKPbc**	**13 43 27.1**	**-2.0**
FINES	**FINESS Array B**	**151.38**	**331**	PKPbc	**PKPbc**	**13 43 26.8**	**-2.0**
	comp=Z,11nm,0.8s,baz=60,slow=3.1,SNR=28						
BRTR	**Keskin Array B**	**152.04**	**283**	PKPbc	**PKPbc**	**13 43 29.4**	**-1.9**
	comp=Z,7.6nm,0.8s,baz=142,slow=4.7,SNR=37						
BRTR				PKPab	**PKPab**	**13 43 39.1**	**-1.8**
	comp=Z,5.7nm,0.8s,baz=127,slow=3.3,SNR=6.0						
TOB4	**Torodi Ar. Sit**	**153.97**	**190**	*e*PKP2	**PKPdf**	**13 43 27.2**	**-0.8**
TORD	**Torodi Ar. Bea**	**153.98**	**190**	PKP	**PKPdf**	**13 43 28.1**	**0.0**
	comp=Z,2.1nm,1.1s,baz=172,slow=0.4,SNR=6.8						
TORD				PKPbc	**PKPbc**	**13 43 35.7**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=142,slow=3.0,SNR=7.8						
TORD				PKPab	**PKPab**	**13 43 50.2**	**+0.9**
	comp=Z,10nm,1.0s,baz=173,slow=2.9,SNR=15						
NACGM	**Naroch**	**154.62**	**319**	*e*	**PKPab**	**13 43 47.0**	**-4.1**
AKASG	**Malin Array Be**	**154.74**	**308**	PKP	**PKPdf**	**13 43 28.6**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=59,slow=1.3,SNR=4.2						
AKASG				PKPbc	**PKPbc**	**13 43 34.5**	**-2.1**
	comp=Z,0.8nm,0.6s,baz=64,slow=2.8,SNR=4.9						
AKASG				PKPab	**PKPab**	**13 43 49.4**	**-2.3**
	comp=Z,4.5nm,0.8s,baz=61,slow=4.2,SNR=13						
NOA	**NORSAR Array B**	**156.29**	**343**	PKPab	**PKPab**	**13 43 55.4**	**-2.7**
	comp=Z,1.3nm,0.7s,baz=28,slow=3.1,SNR=4.8						
KOLS	**Kolonicke sedl**	**159.56**	**307**	*e*PKP2	**PKPab**	**13 44 17.6**	**+4.9**
KOLS	**Kolonicke sedl**	**159.56**	**307**	*e*	**PKPab**	**13 44 17.6**	**+4.9**
BRG	**Berggiesshubel**	**163.33**	**321**	*e*PKP	**PKPdf**	**13 43 36.3**	**-1.8**
	comp=Z,6.8nm,1.5s						
BRG				*e*		13 44 27.0	
	comp=Z,8.1nm,1.1s						
BRG	**Berggiesshubel**	**163.33**	**321**	*e*PKIKP	**PKPdf**	**13 43 36.3**	**-1.8**
BRG				*e*		13 44 27.0	
BRG				pmax	pmax		
	comp=Z,7.0nm,1.5s						
BRG				pmax	pmax		
	comp=Z,8.0nm,1.1s						
CLL	**Collm**	**163.49**	**323**	⇑*i*PKP2	**PKPab**	**13 44 27.8**	**-1.9**
CLL				pmax	pmax		
	comp=Z,11nm,1.1s						
CLL	**Collm**	**163.49**	**323**	⇑*i*PKPab	**PKPab**	**13 44 27.8**	**-1.9**
	comp=Z,11nm,1.1s						
CLL				*e*pPKPab	**pPKPab**	**13 44 39.0**	**-1.5**
GERES	**GERESS Array B**	**164.66**	**315**	PKP	**PKPdf**	**13 43 37.8**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=337,slow=5.8,SNR=4.1						
GERES				PKPab	**PKPab**	**13 44 32.8**	**-2.3**
	comp=Z,1.0nm,0.7s,baz=57,slow=4.9,SNR=8.1						
KEST	**Kesra**	**169.91**	**255**	PKPab	**PKPab**	**13 44 58.8**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=352,slow=7.1,SNR=2.7						
POLO	**Lamas de Olo**	**175.40**	**57**	*e*PKPab	**PKPab**	**13 45 23.8**	**+0.9**
PBRG	**Braganca**	**175.80**	**47**	*e*PKPab	**PKPab**	**13 45 25.0**	**+0.5**
MTE	**Manteigas**	**175.97**	**68**	*e*PKPab	**PKPab**	**13 45 28.4**	**+2.9**
MVO	**Moncorvo**	**176.00**	**56**	*e*PKPab	**PKPab**	**13 45 26.2**	**+0.7**
ESDC	**Sonseca Array**	**178.77**	**55**	PKP	**PKPdf**	**13 43 47.4**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=44,slow=1.1,SNR=6.5						
ESDC				PKPab		13 45 37.9	
	comp=Z,1.0nm,0.7s,baz=295,slow=4.7,SNR=9.6						

IDC 11 13:53:31.1±48.0, 16°87'S×176°54'W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.8/31, mbtmp4.3/3, Error ellipse: s-maj=897.7km s-min=157.9km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.69**	**241**	P	P	14 01 14.1	+0.5
	12nm,1.4s,baz=108,slow=11,SNR=6.8						
WRA	**Warramunga Arr**	**46.58**	**258**	P	P	14 02 00.7	-0.5
	0.7nm,0.5s,baz=96,slow=7.5,SNR=29						
ASAR	**Alice Springs**	**46.79**	**253**	P	P	14 02 02.5	-0.3
	5.4nm,0.6s,baz=88,slow=8.4,SNR=120						

*ISCJB **11** 14:11:37.5±0.7, 17°.11N±0°.07×147°.2E±0°.1, h48km, mb3.8/15, MS2.9/1, Error ellipse: s-maj=20.0km s-min=7.7km az=20.6*

*IDC **11** 14:11:39.4±3.4, 17°.05N×147°.21E, h53km±32km, mb3.6/16, mb1 3.8/17, mb1mx3.6/51, mbtmp3.9/17, ML3.9/1, MS3.0/2, Ms1 3.1/2, ms1mx2.6/33, Error ellipse: s-maj=24.5km s-min=14.3km az=95.0*

ISC 11 14:11:38.9±0.8, 17°07'N±0°.10×147°3E±0°.2, h48km, n17, σ0s87/18, mb3.9/15, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.16**	**214**	P	**Pn**	**14 12 40.4**	**+0.6**
	6.9nm,0.3s,baz=53,slow=10,SNR=11						
GUMO				S	**Sn**	**14 13 27.3**	**+0.2**
	11nm,0.3s,baz=3.6,slow=18,SNR=4.7						
GUMO				LR	LR	14 14 23.3	
	comp=Z,195nm,18.8s,baz=46,slow=40						
MJAR	**Matsushiro Arr**	**20.98**	**339**	P	**P**	**14 16 17.8**	**-0.3**
	1.6nm,0.7s,baz=176,slow=11,SNR=10						
SIJI	**Sorong**	**23.79**	**223**	P	**P**	**14 16 46.3**	**-1.2**
	7.8nm,0.8s,baz=30,slow=12,SNR=5.7						
KSRS	**Korea Array**	**26.50**	**324**	P	**P**	**14 17 10.8**	**-0.9**
	0.9nm,0.6s,baz=145,slow=9.0,SNR=6.2						
ASAJ	**Asahikawa**	**27.25**	**353**	P	**P**	**14 17 19.1**	**+0.6**
	3.6nm,0.9s,baz=168,slow=9.6						
WRA	**Warramunga Arr**	**38.91**	**200**	P	**P**	**14 18 59.7**	**-0.4**
	2.1nm,0.7s,baz=24,slow=9.0,SNR=20						
ASAR	**Alice Springs**	**42.54**	**198**	P	**P**	**14 19 29.6**	**-0.4**
	0.4nm,0.8s,baz=19,slow=9.9,SNR=8.3						
SONM	**Songino Array**	**45.33**	**322**	P	**P**	**14 19 53.2**	**+0.9**
	0.5nm,0.6s,baz=137,slow=8.7,SNR=4.7						
CMAR	**Chiang Mai Arr**	**45.92**	**279**	P	**P**	**14 19 58.2**	**+0.9**
	1.3nm,0.8s,baz=68,slow=7.2,SNR=9.0						
CMAR				LR	LR	14 39 23.1	
	comp=Z,13nm,18.3s,baz=210,slow=36						
ZALV	**Zalesovo Beam**	**60.20**	**323**	P	**P**	**14 21 41.2**	**-0.6**
	0.6nm,0.7s,baz=113,slow=3.3,SNR=2.6						
MKAR	**Makanchi Array**	**60.65**	**314**	P	**P**	**14 21 45.1**	**0.0**
	0.7nm,0.9s,baz=96,slow=8.7,SNR=4.8						
ILAR	**Eielson Array**	**64.45**	**26**	P	**P**	**14 22 10.2**	**+0.1**
	0.9nm,0.6s,baz=252,slow=6.1,SNR=17						
YKA	**Yellowknife Ar**	**78.73**	**28**	P	**P**	**14 23 34.9**	**-1.1**
	0.8nm,0.6s,baz=285,slow=5.9,SNR=3.2						
NVAR	**Mina Array Bea**	**82.97**	**52**	P	**P**	**14 24 01.2**	**+1.8**
	0.6nm,0.6s,baz=276,slow=5.7,SNR=5.9						
PDAR	**Pinedale Array**	**87.90**	**46**	P	**P**	**14 24 24.5**	**+0.5**
	0.3nm,0.5s,baz=262,slow=4.1,SNR=3.0						
FINES	**FINESS Array B**	**88.97**	**336**	P	**P**	**14 24 27.5**	**-0.8**
	0.5nm,0.6s,baz=101,slow=6.0,SNR=4.6						
NOA	**NORSAR Array B**	**94.60**	**340**	P	**P**	**14 24 53.7**	**-0.7**
	0.6nm,1.0s,baz=22,slow=3.4,SNR=3.3						

*CRAAG **11** 14:15:32.7, 35°.93N×5°.49E, Ml4.5*

*SFS **11** 14:15:33.0, 35°.80N×5°.50E, h0km, ML4.7*

*CSEM **11** 14:15:34.9±0.2, 35°.93N×5°.47E, h10km, mb4.3/6, Error ellipse: s-maj=4.5km s-min=2.7km az=170.0*

*NEIC **11** 14:15:34.3±1.0, 35°.88N×5°.46E, h10km±6km, mb4.4/6, Error ellipse: s-maj=7.8km s-min=5.0km az=168.0*

*MDD **11** 14:15:35.1±0.2, 35°.72N×5°.73E, h18km±7km, mb4.7/49, Error ellipse: s-maj=3.5km s-min=0.8km az=137.0, PRXIMO*

*IDC **11** 14:15:37.9±2.9, 35°.87N×5°.41E, h34km±24km, mb3.7/17, mb1 3.9/22, mb1mx3.8/44, mbtmp3.9/22, ML3.8/4, MS3.3/16, Ms1 3.4/16, ms1mx3.2/42, Error ellipse: s-maj=17.6km s-min=13.7km az=167.0*

*IGIL **11** 14:15:37.1, 35°.87N×5°.58E, h0km*

*LDG **11** 14:15:39.2±0.3, 36°.19N×4°.82E, h2km, Ml3.8/19, ms3.2/5, Error ellipse: s-maj=5.6km s-min=2.9km az=151.0*

*STR **11** 14:15:47.7±0.3, 36°.75N×5°.22E, h10km, Ml3.8, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

*CNRM **11** 14:15:49.7, 35°.53N×5°.60E, h21km, MD4.6*

ISC 11 14:15:34.9±0.5, 35°91N±0°.04×5°42E±0°.03, h10km, n471, σ1s57/489, mb4.0/25, MS3.5/12, 29C-19D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHR	**Kef el Ahmar**	**0.13**	**35**	P	Pg	14 15 35.6	-2.5
CKHR	**Kef el Ahmar**	**0.13**	**35**	P	Pg	14 15 35.6	-2.5
CKHR	**Kef el Ahmar**	**0.13**	**35**	P	**Pg**	**14 15 36.0**	**-2.0**
CKHR	**Kef el Ahmar**	**0.13**	**35**	P	**Pg**	**14 15 36.0**	**-2.0**
SET	**Setif**	**0.29**	**357**	P	**Pg**	**14 15 40.0**	**-0.8**
SET	**Setif**	**0.29**	**357**	P	**Pg**	**14 15 40.0**	**-0.8**
SET	**Setif**	**0.29**	**357**	P	**Pg**	**14 15 40.0**	**-0.8**
DFRA	**Djebel Bou Aff**	**0.73**	**30**	P	**Pg**	**14 15 49.0**	**-0.1**
DFRA	**Djebel Bou Aff**	**0.73**	**30**	P	**Pg**	**14 15 49.0**	**-0.1**
DFRA	**Djebel Bou Aff**	**0.73**	**30**	P	**Pg**	**14 15 49.0**	**-0.1**
CTEI	**Djebel Teioual**	**0.81**	**79**	P	**Pg**	**14 15 50.0**	**-0.6**
CTEI	**Djebel Teioual**	**0.81**	**79**	P	**Pg**	**14 15 50.0**	**-0.6**
CTEI	**Djebel Teioual**	**0.81**	**79**	P	**Pg**	**14 15 49.4**	**-1.2**
CTEI	**Djebel Teioual**	**0.81**	**79**	P	**Pg**	**14 15 49.4**	**-1.2**
ATAF	**Djebel Tarf**	**0.93**	**268**	P	**Pg**	**14 15 52.3**	**-0.4**
ATAF	**Djebel Tarf**	**0.93**	**268**	P	**Pg**	**14 15 52.3**	**-0.4**
ATAF	**Djebel Tarf**	**0.93**	**268**	P	**Pg**	**14 15 52.3**	**-0.4**
CASM	**Ain Smara**	**0.94**	**68**	P	**Pg**	**14 15 52.4**	**-0.5**
CASM	**Ain Smara**	**0.94**	**68**	P	**Pg**	**14 15 52.4**	**-0.5**
CASM	**Ain Smara**	**0.94**	**68**	P	**Pg**	**14 15 52.4**	**-0.5**
CKFL	**Kef-Lekhel**	**1.16**	**65**	P	**Pb**	**14 15 56.4**	**-0.7**
CKFL	**Kef-Lekhel**	**1.16**	**65**	P	**Pb**	**14 15 56.4**	**-0.7**
CKFL	**Kef-Lekhel**	**1.16**	**65**	P	**Pb**	**14 15 56.4**	**-0.7**
CKFL	**Kef-Lekhel**	**1.16**	**65**	P	**Pb**	**14 15 56.5**	**-0.7**
ABSA	**Djebel Ababsia**	**1.71**	**77**	P	**Pn**	**14 16 04.1**	**-0.7**
ABSA	**Djebel Ababsia**	**1.71**	**77**	P	**Pn**	**14 16 04.1**	**-0.7**
CABS	**Djebel Ababsia**	**1.71**	**77**	P	**Pn**	**14 16 04.1**	**-0.7**
CABS	**Djebel Ababsia**	**1.71**	**77**	P	**Pn**	**14 16 04.1**	**-0.7**
CMAH	**Djebel Manchou**	**1.77**	**66**	P	**Pn**	**14 16 04.5**	**-1.1**
CMAH	**Djebel Manchou**	**1.77**	**66**	P	**Pn**	**14 16 04.5**	**-1.1**
CMAH	**Djebel Manchou**	**1.77**	**66**	P	**Pn**	**14 16 04.5**	**-1.1**
EMHD	**Djebel Mahouad**	**2.02**	**279**	P	**Pn**	**14 16 09.4**	**+0.3**
EMHD	**Djebel Mahouad**	**2.02**	**279**	P	**Pn**	**14 16 09.4**	**+0.3**
EMHD	**Djebel Mahouad**	**2.02**	**279**	P	**Pn**	**14 16 09.4**	**+0.3**
EMHD	**Djebel Mahouad**	**2.02**	**279**	P	**Pn**	**14 16 09.4**	**+0.3**
EBNR	**Beni Rached**	**3.17**	**278**	P	**Pn**	**14 16 25.4**	**+0.5**
EBNR	**Beni Rached**	**3.17**	**278**	P	**Pn**	**14 16 25.4**	**+0.5**
EBNR	**Beni Rached**	**3.17**	**278**	P	**Pn**	**14 16 25.4**	**+0.5**
KEST	**Kesra**	**3.20**	**92**	Pn	**Pn**	**14 16 25.2**	**0.0**
	1.3nm,0.3s,baz=224,slow=7.8,SNR=53						
KEST				Sn	**Sn**	**14 17 07.4**	**+4.0**
	2.4nm,0.3s,baz=211,slow=10,SNR=4.1						
KEST				LR	LR	14 17 46.4	
	comp=Z,111nm,20.4s,baz=320,slow=40						
ECHA	**Ech Chlef**	**3.29**	**275**	P	**Pn**	**14 16 28.1**	**+1.6**
ECHA	**Ech Chlef**	**3.29**	**275**	P	**Pn**	**14 16 28.1**	**+1.6**
ECHF	**Ech Chlef**	**3.31**	**275**	P	**Pn**	**14 16 28.1**	**+1.3**
ECHF	**Ech Chlef**	**3.31**	**275**	P	**Pn**	**14 16 28.1**	**+1.3**
ETRT	**Tiaret**	**3.39**	**262**	P	**Pn**	**14 16 27.8**	**-0.2**
ETRT	**Tiaret**	**3.39**	**262**	P	**Pn**	**14 16 27.8**	**-0.2**
ETRT	**Tiaret**	**3.39**	**262**	P	**Pn**	**14 16 27.8**	**-0.2**
ETRT	**Tiaret**	**3.39**	**262**	P	**Pn**	**14 16 27.8**	**-0.2**
EANR	**'Ain N'Sour**	**3.50**	**272**	P	**Pn**	**14 16 30.1**	**+0.6**
EANR	**'Ain N'Sour**	**3.50**	**272**	P	**Pn**	**14 16 30.1**	**+0.6**
EANR	**'Ain N'Sour**	**3.50**	**272**	P	**Pn**	**14 16 30.1**	**+0.6**
EANR	**'Ain N'Sour**	**3.50**	**272**	P	**Pn**	**14 16 30.1**	**+0.6**
OJGS	**Djebel Guires**	**3.82**	**265**	P	Pn	14 16 32.0	-1.8
OJGS	**Djebel Guires**	**3.82**	**265**	P	Pn	14 16 32.0	-1.8
OJGS	**Djebel Guires**	**3.82**	**265**	P	Pn	14 16 32.0	-1.8
OKGL	**Djebel Kef Gue**	**3.88**	**273**	P	Pn	14 16 30.0	-4.5
OKGL	**Djebel Kef Gue**	**3.88**	**273**	⇑P	**Pn**	**14 16 34.5**	**-0.1**
	467nm,0.3s,SNR=18						
OKGL				S	**Sn**	**14 17 19.9**	**-0.3**
	1µm,1.1s,SNR=4.0						
OKGL	**Djebel Kef Gue**	**3.88**	**273**	P	**Pn**	**14 16 34.5**	**-0.1**
	467nm,0.3s,SNR=18						
OKGL				S	**Sn**	**14 17 19.9**	**-0.3**
	1um,1.1s,SNR=4.0						
OKGL	**Djebel Kef Gue**	**3.88**	**273**	P	**Pn**	**14 16 34.4**	**-0.1**
MAHO	**Mahon**	**4.08**	**347**	*e*P	**Pn**	**14 16 36.2**	**-1.1**
ETOS	**Mallorca**	**4.37**	**333**	⇓P	**Pn**	**14 16 41.5**	**+0.2**
	152nm,0.5s,SNR=18						
ETOS				S	**Sn**	**14 17 31.9**	**-0.4**
	27nm,0.7s						
ETOS	**Mallorca**	**4.37**	**333**	P	**Pn**	**14 16 41.5**	**+0.2**
	152nm,0.5s,SNR=18						
ETOS				S	**Sn**	**14 17 31.9**	**-0.4**
	27nm,0.7s						
ETOS	**Mallorca**	**4.37**	**333**	P	**Pn**	**14 16 41.7**	**+0.4**
ETOS				S	Sg	14 18 09.0	+14
EIBI	**Ibiza**	**4.49**	**315**	⇑P	**Pn**	**14 16 43.4**	**+0.4**
	107nm,0.6s,SNR=18						
EIBI				S	**Sn**	**14 17 35.1**	**-0.2**
	26nm,0.6s						
EIBI	**Ibiza**	**4.49**	**315**	P	**Pn**	**14 16 43.4**	**+0.4**
	107nm,0.6s,SNR=18						
EIBI				S	**Sn**	**14 17 35.1**	**-0.2**
	26nm,0.6s						
EIBI	**Ibiza**	**4.49**	**315**	P	**Pn**	**14 16 43.5**	**+0.5**
EIBI				S	**Sg**	**14 18 04.2**	**+5.1**
ODJA	**Bouhanifia**	**4.57**	**264**	P	Pn	14 16 34.0	-10
ODJA	**Bouhanifia**	**4.57**	**264**	P	Pn	14 16 34.0	-10
VSL	**Villasalto**	**4.76**	**40**	*e*P	**Pn**	**14 16 45.4**	**-1.3**
VSL	**Villasalto**	**4.76**	**40**	*e*P	**Pn**	**14 16 45.4**	**-1.3**
USTO	**Oran**	**4.85**	**270**	P	Pn	14 16 40.0	-7.9
USTO	**Oran**	**4.85**	**270**	P	Pn	14 16 40.0	-7.9
EBEN	**Beniarda**	**5.29**	**303**	P	**Pn**	**14 16 54.8**	**+0.8**
	14nm,1.2s,SNR=24						
EBEN				S	**Sn**	**14 17 53.2**	**-1.9**
	20nm,0.8s,SNR=13						
EBEN	**Beniarda**	**5.29**	**303**	P	**Pn**	**14 16 54.8**	**+0.8**
	14nm,1.2s,SNR=24						
EBEN				S	**Sn**	**14 17 53.2**	**-1.9**
	20nm,0.8s,SNR=13						
CART	**Cartagena**	**5.42**	**290**	*e*P	**Pn**	**14 16 55.5**	**-0.2**
EMUR	**La Murta**	**5.68**	**292**	⇓P	**Pn**	**14 16 59.4**	**+0.1**
	62nm,0.3s,SNR=18						
EMUR				S	**Sn**	**14 18 03.1**	**-1.4**
	46nm,0.4s,SNR=16						
EMUR	**La Murta**	**5.68**	**292**	P	**Pn**	**14 16 59.4**	**+0.1**
	62nm,0.3s,SNR=18						
EMUR				S	**Sn**	**14 18 03.1**	**-1.4**
	46nm,0.4s,SNR=16						
ETOB	**Tobarra**	**6.19**	**298**	⇓P	**Pn**	**14 17 07.7**	**+1.3**
	14nm,0.3s,SNR=18						
ETOB				S	**Sn**	**14 18 15.8**	**-1.4**
	17nm,0.3s,SNR=12						
ETOB	**Tobarra**	**6.19**	**298**	P	**Pn**	**14 17 07.7**	**+1.3**
	14nm,0.3s,SNR=18						
ETOB				S	**Sn**	**14 18 15.8**	**-1.4**
	17nm,0.3s,SNR=12						
ENIJ	**Nijar**	**6.24**	**282**	⇑P	**Pn**	**14 17 07.2**	**+0.2**
	67nm,0.4s,SNR=18						
ENIJ				S	**Sn**	**14 18 16.5**	**-1.9**
	143nm,1.4s,SNR=7.9						
ENIJ	**Nijar**	**6.24**	**282**	P	**Pn**	**14 17 07.2**	**+0.2**
	67nm,0.4s,SNR=18						
ENIJ				S	**Sn**	**14 18 16.5**	**-1.9**
	143nm,1.4s,SNR=7.9						
EBR	**Ebro Roquetas**	**6.25**	**323**	P	**Pn**	**14 17 07.2**	**+0.2**
	3.2nm,0.1s,SNR=7.9						
EBR				S	**Sn**	**14 18 15.5**	**-3.0**
	78nm,2.6s,SNR=7.9						
EBR	**Ebro Roquetas**	**6.25**	**323**	P	**Pn**	**14 17 07.2**	**+0.2**
	3.2nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**6.29**	**339**	P	**Pn**	**14 17 07.3**	**-0.4**
	21nm,0.4s,SNR=42						
CFON				S	**Sn**	**14 18 16.5**	**-3.2**
	18nm,0.4s,SNR=11						
CFON	**Fontmartina**	**6.29**	**339**	P	**Pn**	**14 17 07.3**	**-0.4**
	21nm,0.4s,SNR=42						
EPOB	**Poblet**	**6.41**	**329**	P	**Pn**	**14 17 10.0**	**+0.7**
	8.2nm,0.4s,SNR=12						
EPOB				S	**Sn**	**14 18 18.6**	**-4.0**
	13nm,0.6s,SNR=9.6						
EPOB	**Poblet**	**6.41**	**329**	P	**Pn**	**14 17 10.0**	**+0.7**
	8.2nm,0.4s,SNR=12						
ERTA	**Horta de San J**	**6.43**	**323**	P	**Pn**	**14 17 10.2**	**+0.6**
	17nm,0.6s,SNR=9.8						
ERTA				S	**Sn**	**14 18 20.7**	**-2.3**
	17nm,0.6s,SNR=8.4						
ERTA	**Horta de San J**	**6.43**	**323**	P	**Pn**	**14 17 10.2**	**+0.6**
	17nm,0.6s,SNR=9.8						
ERTA				S	**Sn**	**14 18 20.7**	**-2.3**
	17nm,0.6s,SNR=8.4						
EMOS	**Mosqueruela**	**6.43**	**316**	P	**Pn**	**14 17 09.9**	**+0.2**
	0.3nm,0.2s,SNR=18						
EMOS				S	**Sn**	**14 18 21.2**	**-2.0**
	22nm,0.5s,SNR=5.8						
EMOS	**Mosqueruela**	**6.43**	**316**	P	**Pn**	**14 17 09.9**	**+0.2**
	0.3nm,0.2s,SNR=18						
EMOS				S	**Sn**	**14 18 21.2**	**-2.0**
	22nm,0.5s,SNR=5.8						
CLTB	**Caltabellotta**	**6.48**	**73**	*e*P	**Pn**	**14 17 09.4**	**-0.9**
	8.2nm,0.6s						
CLTB	**Caltabellotta**	**6.48**	**73**	*e*P	**Pn**	**14 17 09.4**	**-0.9**
	8.2nm,0.6s						
EMIR	**Miracle**	**6.72**	**334**	⇑P	**Pn**	**14 17 14.7**	**+1.1**
	91nm,0.4s,SNR=18						
EMIR				S	**Sn**	**14 18 27.2**	**-3.0**
	35nm,0.4s,SNR=7.4						
EMIR	**Miracle**	**6.72**	**334**	P	**Pn**	**14 17 14.7**	**+1.1**
	91nm,0.4s,SNR=18						
SESP	**Santiago Espad**	**6.74**	**291**	⇓P	**Pn**	**14 17 15.5**	**+1.5**
	30nm,0.4s,SNR=18						
SESP				S	**Sn**	**14 18 29.1**	**-1.9**
	194nm,1.7s,SNR=7.9						
SESP	**Santiago Espad**	**6.74**	**291**	P	**Pn**	**14 17 15.5**	**+1.5**
	30nm,0.4s,SNR=18						
SESP				S	**Sn**	**14 18 29.1**	**-1.9**
	194nm,1.7s,SNR=7.9						
EBER	**Berja**	**6.77**	**281**	⇓P	**Pn**	**14 17 13.6**	**-0.9**
	39nm,0.4s,SNR=18						
EBER				S	**Sn**	**14 18 29.0**	**-2.8**
	29nm,0.4s,SNR=10						
EBER	**Berja**	**6.77**	**281**	P	**Pn**	**14 17 13.6**	**-0.9**
	39nm,0.4s,SNR=18						
EJON	**La Jonquera**	**6.82**	**344**	P	**Pn**	**14 17 13.8**	**-1.1**
	9.1nm,0.3s,SNR=28						
EJON				S	**Sn**	**14 18 28.9**	**-3.7**
	9.2nm,0.3s,SNR=8.1						
EJON	**La Jonquera**	**6.82**	**344**	P	**Pn**	**14 17 13.8**	**-1.1**
	9.1nm,0.3s,SNR=28						
SJAF	**Saint Jean de**	**6.85**	**344**	⇑P	**Pn**	**14 17 15.2**	**-0.2**
	7.0nm,0.4s,SNR=18						
SJAF				S	**Sn**	**14 18 29.6**	**-3.9**
	1.7nm,1.1s,SNR=7.9						
SJAF	**Saint Jean de**	**6.85**	**344**	P	**Pn**	**14 17 15.2**	**-0.2**
	7.0nm,0.4s,SNR=18						
EVIA	**Vianos**	**6.88**	**296**	⇓P	**Pn**	**14 17 16.7**	**+0.8**
	17nm,0.3s,SNR=18						
EVIA				S	**Sn**	**14 18 32.6**	**-1.6**
	80nm,0.6s,SNR=15						
EVIA	**Vianos**	**6.88**	**296**	P	**Pn**	**14 17 16.7**	**+0.8**
	17nm,0.3s,SNR=18						
EVIA				S	**Sn**	**14 18 32.6**	**-1.6**
	80nm,0.6s,SNR=15						
GORA	**Gorafe**	**6.97**	**285**	P	Pn	14 17 20.6	+3.4
	9.3nm,0.2s,SNR=7.9						
GORA				S	**Sn**	**14 18 40.4

SMRF Simiane la Rot 8.06 1 P Pn 14 17 31.3 -0.7
SBF Sospel 8.09 10 ePn Pn 14 17 33.0 +0.5
SBF eSn Sn 14 18 57.9 -6.1
22nm,0.6s
SBF Sospel 8.09 10 P Pn 14 17 33.0 +0.5
SBF S Sn 14 18 57.9 -6.1
11nm,0.6s
SBF Sospel 8.09 10 ePn Pn 14 17 33.0 +0.5
VIEF Viey 8.12 331 P Pn 14 17 34.9 +2.1
VIEF Viey 8.12 331 P Pn 14 17 34.9 +2.1
EPF Esparros 8.12 333 eP Pn 14 17 34.5 +1.6
EPF eSn Sn 14 18 51.7 -13
10nm,0.4s
EPF Esparros 8.12 333 P Pn 14 17 34.5 +1.6
EPF S Sn 14 18 51.7 -13
5.1nm,0.4s
EPF Esparros 8.12 333 eP Pn 14 17 34.5 +1.6
LASF Ste Croix 8.24 352 ePn Pn 14 17 32.8 -1.7
LASF eSn Sn 14 18 57.3 -10
9.0nm,0.4s
LASF Ste Croix 8.24 352 P Pn 14 17 32.8 -1.7
LASF S Sn 14 18 57.3 -10
4.5nm,0.4s
LASF Ste Croix 8.24 352 P Pn 14 17 32.8 -1.7
EMIJ Mijas 8.26 278 P Pn 14 17 33.8 -1.0
9.5nm,0.6s,SNR=7.9
EMIJ S Sn 14 19 04.5 -3.6
8.9nm,0.6s,SNR=8.5
EMIJ Mijas 8.26 278 P Pn 14 17 33.8 -1.0
9.5nm,0.6s,SNR=7.9
EADA Adamuz 8.30 289 ⇓P Pn 14 17 35.3 -0.1
33nm,2.6s,SNR=18
EADA S Sn 14 19 05.4 -3.8
10nm,0.7s,SNR=5.9
EADA Adamuz 8.30 289 P Pn 14 17 35.3 -0.1
33nm,2.6s,SNR=18
ESDC Sonseca Array 8.32 300 Pn Pn 14 17 35.0 -0.6
1.2nm,0.3s,baz=116,slow=14,SNR=22
ESDC Sn Sn 14 19 21.4 +12
0.9nm,0.3s,baz=116,slow=26,SNR=4.1
ESDC LR LR 14 20 40.6
comp=Z,226nm,18.1s,baz=135,slow=36
ESDC Sonseca Array 8.32 300 P Pn 14 17 35.9 +0.3
1.5nm,0.4s,baz=112,slow=13,SNR=13
ESDC S Sn 14 19 06.7 -3.0
1.9nm,0.4s,baz=109,slow=24,SNR=9.3
ESDC Sonseca Array 8.32 300 P Pn 14 17 35.9 +0.3
1.5nm,0.4s,SNR=13
ETSF Etsaut 8.37 328 eP Pn 14 17 37.7 +1.4
ETSF eSn Sn 14 18 56.7 -14
13nm,0.6s
ETSF Etsaut 8.37 328 P Pn 14 17 37.7 +1.4
ETSF S Sn 14 18 56.7 -14
6.4nm,0.6s
ETSF Etsaut 8.37 328 eP Pn 14 17 37.7 +1.4
REYF Montagne du Re 8.44 330 P Pn 14 17 38.6 +1.3
REYF Montagne du Re 8.44 330 P Pn 14 17 38.6 +1.3
PAB San Pablo 8.55 298 eP Pn 14 17 39.4 +0.7
7.6nm,0.6s
PAB San Pablo 8.55 298 eP Pn 14 17 39.4 +0.7
7.6nm,0.6s
ATE Arette 8.58 328 P Pn 14 17 40.8 +1.6
ATE S Sn 14 19 15.5 -0.5
ATE Arette 8.58 328 P Pn 14 17 40.2 +1.0
1.7nm,0.2s,SNR=7.9
ATE S Sn 14 19 10.9 -5.2
25nm,0.9s,SNR=7.9
ATE Arette 8.58 328 P Pn 14 17 40.2 +1.0
1.7nm,0.2s,SNR=7.9
ATE S Sn 14 19 15.5 -0.5
LARF Larrau 8.67 327 P Pn 14 17 41.8 +1.4
LARF Larrau 8.67 327 P Pn 14 17 41.8 +1.4
EARA Aranguren 8.73 324 P Pn 14 17 42.3 +1.0
0.7nm,0.1s,SNR=4.0
EARA Aranguren 8.73 324 P Pn 14 17 42.3 +1.0
0.7nm,0.1s,SNR=4.0
LIJA Lijar 8.78 280 eP Pn 14 17 44.0 +2.0
SJPF Ste Jean 8.84 327 eP Pn 14 17 44.0 +1.4
SJPF eSn Sn 14 19 07.8 -14
8.7nm,0.5s
SJPF Ste Jean 8.84 327 P Pn 14 17 44.0 +1.4
SJPF S Sn 14 19 07.8 -14
4.3nm,0.5s
SJPF Ste Jean 8.84 327 eP Pn 14 17 44.0 +1.4
MDT Midelt 8.85 252 Pn Pn 14 17 43.0 +0.1
0.5nm,0.3s,baz=57,slow=15,SNR=18
MDT Lg Lg 14 20 19.6
1.1nm,0.3s,baz=279,slow=19,SNR=5.3
MDT LR LR 14 21 08.0
comp=Z,163nm,18.6s,baz=58,slow=37
MDT Midelt 8.85 252 Pn Pn 14 17 43.0 +0.1
MBDF Montbardon 8.87 6 ePn Pn 14 17 43.1 -0.1
MBDF eSn Sn 14 19 15.6 -7.6
19nm,0.7s
MBDF Montbardon 8.87 6 P Pn 14 17 43.1 -0.1
MBDF S Sn 14 19 15.6 -7.6
9.5nm,0.7s
MBDF Montbardon 8.87 6 P Pn 14 17 43.1 -0.1
GUD Guadarrama 8.89 305 P Pn 14 17 45.0 +1.6
7.2nm,0.7s,SNR=8.8
GUD Guadarrama 8.89 305 P Pn 14 17 45.0 +1.6
7.2nm,0.7s,SNR=8.8
ECAB El Cabril 8.94 287 ⇑P Pn 14 17 43.5 -0.5
8.8nm,0.4s,SNR=18
ECAB S Sn 14 19 21.3 -3.5
11nm,0.6s,SNR=12
ECAB El Cabril 8.94 287 P Pn 14 17 43.5 -0.5
8.8nm,0.4s,SNR=18
VIVF Saint-Julien-l 8.95 357 ePn Pn 14 17 42.9 -1.3
VIVF eSn Sn 14 19 15.5 -10
15nm,0.5s
VIVF Saint-Julien-l 8.95 357 P Pn 14 17 42.9 -1.3
VIVF S Sn 14 19 15.5 -10
7.6nm,0.5s
VIVF Saint-Julien-l 8.95 357 P Pn 14 17 42.9 -1.3
OSSF Osses 8.96 327 P Pn 14 17 45.4 +1.1
OSSF Osses 8.96 327 P Pn 14 17 45.4 +1.1
ZFT Errachidia 8.99 247 P Pn 14 17 59.0 +14
ZFT S Sn 14 19 33.0 +6.7
ZFT Errachidia 8.99 247 *i* P Pn 14 17 59.0 +14
ZFT *i* S Sn 14 19 33.0 +6.7
ORIF Oris-en-Rattie 9.01 2 ePn Pn 14 17 44.3 -0.7
ORIF eSn Sn 14 19 18.0 -8.5
9.0nm,0.7s
ORIF eR
261nm,20.5s
ORIF Oris-en-Rattie 9.01 2 P Pn 14 17 44.3 -0.7
ORIF S Sn 14 19 18.0 -8.5
4.5nm,0.7s
ORIF Oris-en-Rattie 9.01 2 P Pn 14 17 44.3 -0.7
ELIZ Elizondo 9.01 326 P Pn 14 17 45.5 +0.5
15nm,0.7s,SNR=9.3
ELIZ S Sn 14 19 22.5 -4.1
3.3nm,0.8s,SNR=7.9
ELIZ Elizondo 9.01 326 P Pn 14 17 45.5 +0.5
15nm,0.7s,SNR=9.3
EALK Alkurruntz 9.05 326 P Pn 14 17 46.1 +0.7
4.4nm,0.3s,SNR=7.9
EALK S Sn 14 19 22.7 -4.6
10nm,0.4s,SNR=11
EALK Alkurruntz 9.05 326 P Pn 14 17 46.1 +0.7
4.4nm,0.3s,SNR=7.9
CZD Col de Zad 9.10 255 P Pn 14 18 00.0 +13
CZD S Sn 14 19 38.0 +8.8
CZD Col de Zad 9.10 255 *i* P Pn 14 18 00.0 +13
CZD *i* S Sn 14 19 38.0 +8.8
MIF Mishlifen 9.12 257 P Pn 14 18 01.0 +14
MIF S Sn 14 19 40.0 +10
MIF Mishlifen 9.12 257 eP Pn 14 18 01.0 +14
MIF eS Sn 14 19 40.0 +10
ESPR Espera 9.14 279 P Pn 14 17 48.9 +2.1
0.3nm,0.2s,SNR=7.9
ESPR Espera 9.14 279 P Pn 14 17 48.9 +2.1
0.3nm,0.2s,SNR=7.9
CUC Castrocucco 9.17 60 eP Pn 14 17 45.9 -1.3
CUC Castrocucco 9.17 60 eP Pn 14 17 45.9 -1.3
CAF Calviac 9.36 345 ePn Pn 14 17 49.4 -0.4
CAF eSn Sn 14 19 23.2 -12
5.7nm,0.6s
CAF Calviac 9.36 345 P Pn 14 17 49.4 -0.4
CAF S Sn 14 19 23.2 -12
2.8nm,0.6s
CAF Calviac 9.36 345 P Pn 14 17 49.4 -0.4
SSB Saint Sauveur 9.38 356 eP Pn 14 17 49.4 -0.7
5.0nm,0.6s
SSB Saint Sauveur 9.38 356 *e*P Pn 14 17 49.4 -0.7
5.0nm,0.6s
TIP Timpagrande 9.58 67 eP Pn 14 17 54.2 +1.4
15nm,1.4s
TIP Timpagrande 9.58 67 *e*P Pn 14 17 54.2 +1.4
15nm,1.4s
LPG La Plagne 9.63 6 ePn Pn 14 17 53.6 -0.2
LPG eSn Sn 14 19 33.8 -8.3
16nm,0.9s
LPG La Plagne 9.63 6 P Pn 14 17 53.6 -0.2
LPG S Sn 14 19 33.8 -8.3
8.1nm,0.9s
LPG La Plagne 9.63 6 P Pn 14 17 53.6 -0.2
LPL La Plagne 9.65 6 ePn Pn 14 17 53.6 -0.3
LPL eSn Sn 14 19 34.5 -8.0
11nm,0.6s
LPL La Plagne 9.65 6 P Pn 14 17 53.6 -0.3
LPL S Sn 14 19 34.5 -8.0
5.6nm,0.6s
LPL La Plagne 9.65 6 P Pn 14 17 53.6 -0.3
LFF La Frestale 9.70 340 ePn Pn 14 17 53.5 -0.9
LFF La Frestale 9.70 340 P Pn 14 17 53.5 -0.9
LFF La Frestale 9.70 340 P Pn 14 17 53.5 -0.9
RJF Les Rejaudoux 9.84 344 ePn Pn 14 17 55.8 -0.6
RJF eR
303nm,17.0s
RJF Les Rejaudoux 9.84 344 P Pn 14 17 55.8 -0.6
RJF Les Rejaudoux 9.84 344 P Pn 14 17 55.8 -0.6
EMIN Mina Concepcio 9.87 284 P Pn 14 17 57.3 +0.5
1.5nm,0.3s,SNR=7.9
EMIN S Sn 14 19 43.2 -4.4
8.1nm,1.6s,SNR=7.9
EMIN Mina Concepcio 9.87 284 P Pn 14 17 57.3 +0.5
1.5nm,0.3s,SNR=7.9
EPLA Plasencia 9.98 298 P Pn 14 17 59.8 +1.5
0.7nm,0.3s,SNR=7.9
EPLA Plasencia 9.98 298 P Pn 14 17 59.8 +1.5
0.7nm,0.3s,SNR=7.9
ELAN Lanestosa 10.00 320 P Pn 14 17 59.6 +1.1
0.9nm,0.3s,SNR=7.9
ELAN S Sn 14 19 45.5 -5.3
2.5nm,3.4s,SNR=4.0
ELAN Lanestosa 10.00 320 P Pn 14 17 59.7 +1.1
0.9nm,0.3s,SNR=7.9
PBAR Barrancos 10.21 286 eP Pn 14 18 01.6 +0.1
46nm,1.8s
PBAR Barrancos 10.21 286 P Pn 14 18 01.6 +0.1
46nm,1.8s
PBAR Barrancos 10.21 286 P Pn 14 18 01.6 +0.1
46nm,1.8s
EGRO El Granado 10.48 283 P Pn 14 18 05.5 +0.3
5.7nm,0.3s,SNR=7.9
EGRO S Sn 14 19 57.4 -5.2
43nm,1.9s,SNR=4.0
EGRO El Granado 10.48 283 P Pn 14 18 05.5 +0.3
5.7nm,0.3s,SNR=7.9
TCF Toulx Ste Croi 10.65 348 ePn Pn 14 18 04.9 -2.5
TCF Toulx Ste Croi 10.65 348 P Pn 14 18 04.9 -2.5
TCF Toulx Ste Croi 10.65 348 ePn Pn 14 18 04.9 -2.5
PVAQ Vaqueiros 10.66 282 eP Pn 14 18 07.7 +0.1
49nm,1.8s
PVAQ Vaqueiros 10.66 282 P Pn 14 18 07.7 +0.1
49nm,1.8s
PVAQ Vaqueiros 10.66 282 P Pn 14 18 07.7 +0.1
49nm,1.8s
CABF La Chapelle 10.70 2 ePn Pn 14 18 07.5 -0.8
CABF La Chapelle 10.70 2 P Pn 14 18 07.5 -0.8
CABF La Chapelle 10.70 2 P Pn 14 18 07.5 -0.8
PMRV Marv??o 10.74 293 eP Pn 14 18 10.3 +1.5
22nm,1.8s
PMRV Marv??o 10.74 293 P Pn 14 18 10.3 +1.5
22nm,1.8s
PMRV Marv??o 10.74 293 P Pn 14 18 10.3 +1.5
22nm,1.8s
PESTR Estremoz 10.76 290 eP Pn 14 18 08.9 -0.1
13nm,1.5s
SMF Signal de Mont 10.79 354 ePn Pn 14 18 07.7 -1.7
SMF Signal de Mont 10.79 354 P Pn 14 18 07.7 -1.7
SMF Signal de Mont 10.79 354 P Pn 14 18 07.7 -1.7
BGF Bois d'Agland 10.81 350 ePn Pn 14 18 07.5 -2.2
BGF Bois d'Agland 10.81 350 P Pn 14 18 07.5 -2.2
BGF Bois d'Agland 10.81 350 P Pn 14 18 07.5 -2.2
PBDV Barranco-do-Ve 10.82 281 eP Pn 14 18 10.6 +0.8
49nm,1.8s
PBDV Barranco-do-Ve 10.82 281 P Pn 14 18 10.6 +0.8
49nm,1.8s
PBDV Barranco-do-Ve 10.82 281 P Pn 14 18 10.6 +0.8
49nm,1.8s
PCBR Castelo Branco 10.92 295 eP Pn 14 18 13.1 +1.9
20nm,1.9s
PCBR Castelo Branco 10.92 295 P Pn 14 18 13.1 +1.9
9.9nm,1.9s
PCBR Castelo Branco 10.92 295 P Pn 14 18 13.1 +1.9
9.9nm,1.9s
PCVE Castro Verde 10.93 283 eP Pn 14 18 11.1 -0.2
8.6nm,1.7s
PCVE Castro Verde 10.93 283 P Pn 14 18 11.1 -0.2
8.6nm,1.7s
PCVE Castro Verde 10.93 283 P Pn 14 18 11.1 -0.2
8.6nm,1.7s
AVF Avril sur Loir 10.98 353 ePn Pn 14 18 10.0 -1.9
AVF Avril sur Loir 10.98 353 P Pn 14 18 10.0 -1.9
AVF Avril sur Loir 10.98 353 P Pn 14 18 10.0 -1.9
EARI Arriondas 11.03 315 P Pn 14 18 14.1 +1.5
0.1nm,0.2s,SNR=7.9
EARI S Sn 14 20 10.0 -6.0
8.8nm,0.7s,SNR=9.2
EARI Arriondas 11.03 315 P Pn 14 18 14.1 +1.5
0.1nm,0.2s,SNR=7.9
EVO Evora 11.03 288 eP Pn 14 18 14.2 +1.6
EVO eR
152nm,16.4s
EVO Evora 11.03 288 eP Pn 14 18 13.5 +0.9
19nm,2.0s
EVO Evora 11.03 288 P Pn 14 18 13.5 +0.9
19nm,2.0s
EVO Evora 11.03 288 P Pn 14 18 13.5 +0.9
19nm,2.0s
MVO Moncorvo 11.07 302 eP Pn 14 18 13.8 +0.6
27nm,1.8s
MVO Moncorvo 11.07 302 P Pn 14 18 14.0 +0.8
0.4nm,0.2s,SNR=7.9
MVO Moncorvo 11.07 302 P Pn 14 18 14.0 +0.8
0.4nm,0.2s,SNR=7.9
MESJ Messejana 11.10 284 eP Pn 14 18 13.2 -0.3
MESJ Messejana 11.10 284 eP Pn 14 18 13.5 0.0
4.6nm,0.6s
MESJ Messejana 11.10 284 P Pn 14 18 13.2 -0.3
MESJ Messejana 11.10 284 P Pn 14 18 13.2 -0.3
EVOP Sao Brissos 11.11 288 eP Pn 14 18 14.2 +0.4
MTE Manteigas 11.14 298 eP Pn 14 18 16.7 +2.4
19nm,1.4s
MTE Manteigas 11.14 298 P Pn 14 18 16.7 +2.4
9.5nm,1.4s
MTE Manteigas 11.14 298 P Pn 14 18 16.7 +2.4
9.5nm,1.4s
PBRG Braganca 11.15 306 eP Pn 14 18 16.6 +2.2
22nm,1.8s
PBRG Braganca 11.15 306 P Pn 14 18 16.6 +2.2
11nm,1.8s
PBRG Braganca 11.15 306 P Pn 14 18 16.6 +2.2
11nm,1.8s
ECAL Calabor 11.22 306 P Pn 14 18 16.4 +1.1
2.7nm,0.3s,SNR=7.9
ECAL Calabor 11.22 306 P Pn 14 18 16.4 +1.1
2.7nm,0.3s,SNR=7.9
SSF Saint Saulge 11.23 353 ePn Pn 14 18 13.6 -1.8
SSF Saint Saulge 11.23 353 P Pn 14 18 13.6 -1.8
SSF Saint Saulge 11.23 353 P Pn 14 18 13.6 -1.8
PMTG Montargil 11.29 290 eP Pn 14 18 15.7 -0.5
20nm,2.1s
DAVOX Davos/Dischmat 11.36 16 LR LR 14 22 12.0
comp=Z,80nm,19.9s,baz=64,slow=35
PNCL Nicolau / Gran 11.37 285 eP Pn 14 18 17.3 0.0
27nm,1.8s
LOR Lormes 11.41 355 ePn Pn 14 18 16.1 -1.7
LOR eR
151nm,22.8s
LOR Lormes 11.41 355 P Pn 14 18 16.1 -1.7
LOR Lormes 11.41 355 P Pn 14 18 16.1 -1.7
PTEO Sao Teotonio 11.47 282 eP Pn 14 18 19.6 +0.9
55nm,2.2s
PTEO Sao Teotonio 11.47 282 P Pn 14 18 19.6 +0.9
28nm,2.2s
PTEO Sao Teotonio 11.47 282 P Pn 14 18 19.6 +0.9
28nm,2.2s
MFF Saint Martin d 11.47 340 ePn Pn 14 18 19.6 +1.0
MFF Saint Martin d 11.47 340 P Pn 14 18 19.6 +1.0
MFF Saint Martin d 11.47 340 P Pn 14 18 19.6 +1.0
PVIS Viseu 11.50 299 eP Pn 14 18 21.3 +2.1
18nm,1.5s
PVIS Viseu 11.50 299 P Pn 14 18 21.3 +2.1
9.0nm,1.5s
PVIS Viseu 11.50 299 P Pn 14 18 21.3 +2.1
9.0nm,1.5s
PTOM Tomar 11.55 293 eP Pn 14 18 21.8 +2.0
22nm,1.5s
PTOM Tomar 11.55 293 P Pn 14 18 21.8 +2.0
11nm,1.5s
PTOM Tomar 11.55 293 P Pn 14 18 21.8 +2.0
11nm,1.5s
PVRL Vila Real 11.59 301 eP Pn 14 18 22.6 +2.3
18nm,1.5s
PVRL Vila Real 11.59 301 P Pn 14 18 22.6 +2.3
8.9nm,1.5s
PVRL Vila Real 11.59 301 P Pn 14 18 22.6 +2.3
8.9nm,1.5s
POLO Lamas de Olo 11.68 302 eP Pn 14 18 23.2 +1.6
11nm,1.5s
PCAS Casmilo, Conde 11.73 295 eP Pn 14 18 23.7 +1.4
28nm,1.6s
HINF Hinteralfeld 11.95 5 ePn Pn 14 18 24.6 -0.6
HINF Hinteralfeld 11.95 5 P Pn 14 18 24.6 -0.6
HINF Hinteralfeld 11.95 5 P Pn 14 18 24.6 -0.6
ELOB Lobios 12.06 304 P Pn 14 18 27.4 +0.5
0.5nm,0.3s,SNR=7.9
ELOB Lobios 12.06 304 P Pn 14 18 27.4 +0.5
0.5nm,0.3s,SNR=7.9
PMAFR Mafra 12.08 289 P Pn 14 18 27.3 +0.3
2.2nm,0.2s,SNR=4.0
PMAFR S Sn 14 20 35.5 -6.2
38nm,1.9s,SNR=7.9
PMAFR Mafra 12.08 289 P Pn 14 18 27.3 +0.3
2.2nm,0.2s,SNR=4.0
HAU Haudompre 12.11 3 ePn Pn 14 18 26.6 -0.8
HAU eR
346nm,17.2s
HAU Haudompre 12.11 3 P Pn 14 18 26.6 -0.8
HAU Haudompre 12.11 3 P Pn 14 18 26.6 -0.8
EPON Pontenova 12.19 311 P Pn 14 18 29.8 +1.3
1.4nm,0.4s,SNR=7.9
EPON Pontenova 12.19 311 P Pn 14 18 29.8 +1.3
1.4nm,0.4s,SNR=7.9
SFTF Sexfontaines 12.29 359 ePn Pn 14 18 28.6 -1.3
baz=175
SFTF Sexfontaines 12.29 359 P Pn 14 18 28.6 -1.3
SFTF Sexfontaines 12.29 359 P Pn 14 18 28.6 -1.3
EAGO Agolada(Pontev 12.51 307 P Pn 14 18 34.4 +1.5
0.3nm,0.2s,SNR=7.9
EAGO Agolada(Pontev 12.51 307 P Pn 14 18 34.4 +1.5
0.3nm,0.2s,SNR=7.9
CDF Champ du Feu 12.57 6 ePn Pn 14 18 33.4 -0.3
CDF Champ du Feu 12.57 6 P Pn 14 18 33.4 -0.3
CDF Champ du Feu 12.57 6 P Pn 14 18 33.4 -0.3
MEZF Maizieres J'vi 12.59 359 ePn Pn 14 18 32.5 -1.4
MEZF Maizieres J'vi 12.59 359 P Pn 14 18 32.5 -1.4
MEZF Maizieres J'vi 12.59 359 P Pn 14 18 32.5 -1.4
PAGF Fort de Pagny 12.64 1 ePn Pn 14 18 33.6 -1.0
PAGF Fort de Pagny 12.64 1 ePn Pn 14 18 33.6 -1.0
TAM Tamanrasset 13.07 180 eP Pn 14 18 39.8 -1.0
3.8nm,0.5s
TAM Tamanrasset 13.07 180 eP Pn 14 18 39.8 -1.0
3.8nm,0.5s
GRR Gorron 13.30 342 ePn Pn 14 18 40.5 -3.2
GRR Gorron 13.30 342 P Pn 14 18 40.5 -3.2
LDF La Druitiere 13.32 344 ePn Pn 14 18 40.9 -3.0
FLN La Foliniere 13.56 343 ePn Pn 14 18 44.2 -2.9
FLN eR
166nm,19.5s
FLN La Foliniere 13.56 343 P Pn 14 18 44.2 -2.9
QUIF Quistinic 13.58 335 ePn Pn 14 18 43.8 -3.7
QUIF Quistinic 13.58 335 P Pn 14 18 43.8 -3.7
SGMF Saint Gilles 13.67 337 ePn Pn 14 18 45.2 -3.5
SGMF Saint Gilles 13.67 337 P Pn 14 18 45.2 -3.5
ROSF Rostrenen 13.98 335 eP Pn 14 18 53.9 +1.0
ROSF Rostrenen 13.98 335 P Pn 14 18 53.9 +1.0
ROSF Rostrenen 13.98 335 eP Pn 14 18 53.9 +1.0
BAIF Baives 14.17 357 ePn Pn 14 18 53.8 -1.7
BAIF Baives 14.17 357 P Pn 14 18 53.8 -1.7
BAIF Baives 14.17 357 ePn Pn 14 18 53.8 -1.7
GIVF Givet 14.19 358 ePn Pn 14 18 54.5 -1.3
GIVF Givet 14.19 358 P Pn 14 18 54.5 -1.3
GIVF Givet 14.19 358 ePn Pn 14 18 54.5 -1.3
GERES GERESS Array B 14.29 23 Pn Pn 14 18 57.4 +0.2
baz=203,slow=12,SNR=4.3
PKSM Moragy 14.31 40 ⇑*i*P P 14 19 02.2 -2.5
PKSM Moragy 14.31 40 ⇑*i*P P 14 19 02.2 -2.5
KHC Kasperske Hory 14.50 22 eP Pn 14 19 02.0 +1.8
KHC epP P 14 19 08.9 +2.0
KHC AMS AMS 14 26 40.0
comp=Z,100nm,13.2s
KHC Kasperske Hory 14.50 22 Pn Pn 14 19 01.9 +1.8
1.3nm,0.8s
KHC Kasperske Hory 14.50 22 Pn Pn 14 19 01.9 +1.8
1.3nm,0.8s
TREC Trest 15.27 26 AMS AMS 14 25 50.0
comp=Z,200nm,14.1s
VTS Vitosha 15.30 59 ⇑*i*P P 14 19 15.5 -0.3
VTS Vitosha 15.30 59 ⇑*i*P P 14 19 15.5 -0.3
MMB Musomiste 15.36 63 ⇑*i*P P 14 19 16.1 -0.3
MMB Musomiste 15.36 63 ⇑*i*P P 14 19 16.1 -0.3
PRU Pruhonice 15.56 22 eP P 14 19 21.9 +3.4
PRU *ex* x 14 19 27.3
PRU AMS AMS 14 27 00.0
comp=Z,100nm,10.8s
GOPC GO Pecny, Ondr 15.57 23 AMS AMS 14 26 20.0
comp=Z,200nm,10.2s
VRAC Vranov 15.69 28 Pn P 14 19 21.5 +1.5
0.6nm,0.3s,baz=238,slow=9.6,SNR=6.7
VRAC LR LR 14 25 48.6
comp=Z,59nm,20.2s,baz=213,slow=39
VRAC Vranov 15.69 28 ⇑*i*P P 14 19 19.4 -0.6
VRAC Vranov 15.69 28 ⇑*i*P P 14 19 19.4 -0.6
IDI Anoyia 15.85 87 Pn P 14 19 23.6 +1.6
1.0nm,0.3s,baz=323,slow=9.3,SNR=9.5
BRG Berggiesshubel 16.17 20 eP P 14 19 25.4 +0.2
2.5nm,1.1s
BRG *e* 14 19 37.7
3.0nm,1.0s
GZR Gura Zlata 16.20 49 ⇓*i*P P 14 19 26.9 +1.2
GZR Gura Zlata 16.20 49 ⇓*i*P P 14 19 26.9 +1.2
CLL Collm 16.33 17 ePP P 14 19 30.0 +3.0
KRLC Kraliky 16.39 27 eP P 14 19 30.2 +2.4
KRLC epP pP 14 19 32.5 +1.9
KRLC *ex* x 14 19 37.9
MORC Moravsky Berou 16.43 29 ⇓*i*P P 14 19 29.4 +1.1
MORC Moravsky Berou 16.43 29 ⇓*i*P P 14 19 29.4 +1.1
DPC Dobruska-Polom 16.45 25 eP P 14 19 30.3 +1.8
DPC epP pP 14 19 34.6 +3.3
DPC *ex* x 14 19 38.5
DPC AMS AMS 14 26 40.0
comp=Z,200nm,11.9s
DPC Dobruska-Polom 16.45 25 P P 14 19 30.3 +1.8
UPC Upice 16.48 24 eP P 14 19 30.0 +1.3
UPC epP pP 14 19 33.0 +1.4
UPC *ex* x 14 19 34.7
UPC AMS AMS 14 27 10.0
comp=Z,100nm,11.0s
UPC Upice 16.48 24 P P 14 19 30.0 +1.3
KDZ Kurdzhali 16.60 64 ⇑*i*P P 14 19 31.4 +1.3
KDZ Kurdzhali 16.60 64 ⇑*i*P P 14 19 31.4 +1.3
OKC Ostrava-Krasne 16.72 30 eP P 14 19 33.6 +2.2
OKC AMS AMS 14 28 30.0
comp=Z,100nm,11.2s
KECS Kecovo 16.77 37 eP P 14 19 33.3 +1.4
KECS Kecovo 16.77 37 eP P 14 19 33.3 +1.4
LOT Lotru 16.84 50 ⇑*i*P P 14 19 34.7 +1.9
DRGR 16.89 45 ⇓*i*P P 14 19 35.1 +1.7
DRGR 16.89 45 ⇓*i*P P 14 19 35.1 +1.7
ARR Arges 17.34 51 ⇓*i*P P 14 19 40.1 +1.7
ARR Arges 17.34 51 ⇓*i*P P 14 19 40.1 +1.7
VOIR 17.63 51 ⇑*i*P P 14 19 43.9 +2.3
STHS Stebnicka Huta 17.77 36 *e* P 14 19 49.6 +6.5
KOLS Kolonicke sedl 17.95 38 eP P 14 19 47.4 +2.4
DOPR Dopca 18.08 50 ⇑*i*P P 14 19 49.0 +2.5
MLR Muntele Rosu 18.23 52 P P 14 19 50.2 +2.0
0.1nm,0.3s,baz=139,slow=17,SNR=13
MLR Muntele Rosu 18.23 52 ⇑*i*P P 14 19 50.7 +2.5
ISR Istrita 18.46 54 ⇑*i*P Pn 14 19 53.3 +2.5
BURAR Bucovina Array 18.78 45 ⇓*i*P Pn 14 19 58.1 +3.4

PLOR	Plostina	18.83	52	∥	iP	Pn	14 19 59.2	+4.0
VRI	Vrincioaia	18.88	52	∥	iP	Pn	14 19 58.0	+2.1
MSAB	Monastry St. A	18.97	58	∥	iP	Pn	14 19 59.2	+2.3
PSN	Preselentsi	19.10	59	∥	iP	Pn	14 20 01.2	+2.7
TIRR	Tirgusor	19.48	57	∥	iP	Pn	14 20 04.9	+1.8
CFR	Carcaliu	19.54	55	∥	iP	P	14 20 01.3	-1.1
CFR	Carcaliu	19.54	55	∥	iP	P	14 20 01.3	-1.1
EKA	Eskdalemuir Ar	20.30	346		P	P	14 20 12.2	+1.5
	6.3nm,0.6s,baz=156,slow=10,SNR=15							
BRTR	Keskin Array B	22.58	72		P	P	14 20 37.2	+1.7
	2.6nm,0.7s,baz=259,slow=8.5,SNR=13							
BRTR					LR	LR	14 32 05.7	
	comp=Z,28nm,18.2s,baz=246,slow=44							
KIEV	Kiev	22.62	42		eP	P	14 20 34.3	-1.4
	10nm,0.8s							
KIEV	Kiev	22.62	42		eP	P	14 20 34.3	-1.4
	10nm,0.8s							
AKASG	Malin Array Be	22.64	42		P	P	14 20 33.3	-2.5
	3.9nm,0.6s,baz=238,slow=10,SNR=10							
AKASG					LR	LR	14 30 01.1	
	comp=Z,78nm,20.0s,baz=245,slow=38							
TOA0	Torodi Ar. Sit	22.91	189		eP	P	14 20 38.4	-0.6
TOA0	Torodi Ar. Sit	22.91	189		eP	P	14 20 38.4	-0.6
TORD	Torodi Ar. Bea	22.91	189		P	P	14 20 39.0	0.0
	5.4nm,0.9s,baz=9.3,slow=11,SNR=15							
TORD					LR	LR	14 29 49.3	
	comp=Z,134nm,19.7s,baz=340,slow=37							
HFS	Hagfors	24.82	10		P	P	14 20 56.8	-0.2
	1.4nm,0.5s,baz=187,slow=12,SNR=9.9							
HFS					LR	LR	14 31 42.5	
	comp=Z,56nm,18.4s,baz=206,slow=39							
NB2	NORSAR Subarra	25.42	7		P	P	14 21 01.3	-1.1
	comp=Z,1.7nm,0.8s,baz=191,slow=9.3							
NB2	NORSAR Subarra	25.42	7		P	P	14 21 01.3	-1.1
	comp=Z,1.7nm,0.8s,SNR=7.1							
NOA	NORSAR Array B	25.42	7		P	P	14 21 02.1	-0.3
	comp=Z,1.5nm,0.8s,baz=193,slow=9.7,SNR=7.6							
NOA					LR	LR	14 31 04.7	
	comp=Z,53nm,20.3s,baz=180,slow=36							
MALT	Malatya	26.36	75	∥	iP	P	14 21 12.2	+1.0
MALT	Malatya	26.36	75	∥	iP	P	14 21 12.2	+1.0
FINES	FINESS Array B	28.71	21		P	P	14 21 32.6	+0.7
	comp=Z,0.5nm,0.7s,baz=221,slow=8.8,SNR=3.2							
ARCES	ARCESS Array B	35.44	12		P	P	14 22 30.4	-0.4
	comp=Z,2.4nm,1.0s,baz=206,slow=9.9,SNR=3.8							
ARU	Arti	40.88	43		eP	P	14 23 15.6	-1.2
	comp=Z,7.0nm,0.9s							
ARU	Arti	40.88	43		eP	P	14 23 15.6	-1.2
	comp=Z,7.0nm,0.9s							
ABKAR	Akbulak array	41.42	54		P	P	14 23 17.8	-3.6
	comp=Z,1.3nm,0.8s							
GEYT	Alibeck	41.72	71		P	P	14 23 24.4	+0.4
	comp=Z,1.0nm,0.4s,baz=269,slow=10,SNR=3.1							
KMBO	Kilima Mbogo	47.30	134		LR	LR	14 44 07.9	
	comp=Z,73nm,19.1s,baz=67,slow=36							
BRVK	Borovoye	47.65	48		P	P	14 24 09.6	-1.5
	comp=Z,4.2nm,0.9s							
BRVK	Borovoye	47.65	48		P	P	14 24 09.6	-1.5
	comp=Z,4.2nm,0.9s							
SCHQ	Schefferville	51.72	315		P	P	14 24 41.7	-0.4
	comp=Z,3.7nm,0.8s,baz=113,slow=3.7,SNR=4.2							
KURK	Kurchatov	53.14	50		eP	P	14 24 51.2	-1.4
	comp=Z,5.6nm,1.0s							
KURK	Kurchatov	53.14	50		eP	P	14 24 51.2	-1.4
	comp=Z,5.6nm,1.0s							
ZALV	Zalesovo Beam	55.99	44		P	P	14 25 11.9	-1.4
	comp=Z,1.1nm,0.6s,baz=280,slow=8.3,SNR=5.6							
MKAR	Makanchi Array	56.57	53		P	P	14 25 16.5	-1.1
	comp=Z,2.4nm,0.6s,baz=295,slow=5.0,SNR=18							
CNNC	Cliffs of the	65.62	297		P	P	14 26 16.2	-2.9
	comp=Z,20nm,0.6s							
BOSA	Boshof	66.85	161		LR	LR	14 56 24.7	
	comp=Z,79nm,19.5s,baz=347,slow=37							
YKA	Yellowknife Ar	70.82	335		P	P	14 26 49.6	-1.7
	comp=Z,1.0nm,0.6s,baz=46,slow=5.3,SNR=3.8							
ILAR	Eielson Array	77.32	348		P	P	14 27 29.5	+0.3
	comp=Z,0.4nm,0.6s,baz=15,slow=5.5,SNR=11							
HHC	Hu-ho-hao-te	77.92	48		eP	P	14 27 33.6	+0.4
HHC					PP	PP	14 30 31.4	+2.8
HHC					S	S	14 37 25.0	-1.6
HHC	Hu-ho-hao-te	77.92	48		SKS	SKSac	14 37 41.9	-5.5
HHC	Hu-ho-hao-te	77.92	48		SS	SS	14 42 28.6	+2.1
HHC					pmax	pmax		
	comp=Z,22nm,1.2s							
HHC					pmax	pmax		
	comp=Z,100nm,5.7s							
HHC					LR	LR		
	comp=N,120nm,15.9s							
HHC					LR	LR		
	comp=E,120nm,15.9s							
HHC					LR	LR		
	comp=Z,50nm,15.3s							
PDAR	Pinedale Array	81.80	318		P	P	14 27 54.0	-0.4
	comp=Z,0.7nm,0.8s,baz=36,slow=6.0,SNR=6.4							
PDAR					LR	LR	15 01 36.7	
	comp=Z,25nm,18.7s,baz=53,slow=34							
PDAR	Pinedale Array	81.80	318		P	P	14 27 54.0	-0.4
CMAR	Chiang Mai Arr	82.16	73		P	P	14 27 55.0	-1.3
	comp=Z,0.4nm,0.4s,baz=287,slow=4.6,SNR=4.0							
CMAR					LR	LR	15 11 03.0	
	comp=Z,12nm,18.3s,baz=295,slow=40							
MFID	Camas Ranch	84.66	321		eP	P	14 28 09.9	+1.0
	comp=Z,1.8nm,0.8s							
MFID	Camas Ranch	84.66	321		eP	P	14 28 09.9	+1.0
	comp=Z,1.8nm,0.8s							
CPUP	Villa Florida	85.64	233		LR	LR	15 04 26.1	
	comp=Z,62nm,21.7s,baz=18,slow=34							
LPAZ	La Paz	86.67	247		LR	LR	15 06 55.9	
	comp=Z,19nm,19.8s,baz=146,slow=36							
TXAR	Lajitas Array	86.97	304		P	P	14 28 20.8	+0.2
	comp=Z,0.1nm,0.4s,baz=67,slow=6.9,SNR=1.9							
NVAR	Mina Array Bea	89.57	319		P	P	14 28 32.9	-0.1
	comp=Z,0.4nm,0.6s,baz=19,slow=3.1,SNR=3.1							
WRA	Warramunga Arr	132.67	85		PKP	PKPdf	14 34 47.9	-2.4
	comp=Z,0.3nm,0.9s,baz=317,slow=2.8,SNR=2.6							
ASAR	Alice Springs	134.13	89		PKP	PKPdf	14 34 50.4	-2.6
	comp=Z,0.6nm,1.1s,baz=316,slow=2.6,SNR=3.5							

IDC ***11*** *14:42:31.7±0.7,26.68S×176.29W,h0km,mb4.0/9, mb1 4.2/10,mb1mx4.1/23,mbtmp4.1/10,ML3.8/1,MS3.2/1, Ms1 3.2/1,ms1mx2.6/24,Error ellipse: s-maj=24.5km s-min=23.6km az=102.0*

ISCJB ***11*** *14:42:34.4±0.7,26.7S±0.1×176.3W±0.1,h29km,mb4.1/10, Error ellipse: s-maj=18.9km s-min=14.3km az=0.5*

NEIC ***11*** *14:42:37.0±2.2,26.72S×176.26W,h38km±19km,mb4.4/2, Error ellipse: s-maj=20.5km s-min=14.5km az=187.0*

ISC 11 14:42:36.0±0.7,26.7S±0.1×176.2W±0.1,h29km,n24,
σ1§18/25,mb4.1/10,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	Nonsavu	10.40	328	eP		Pn	14 45 04.1	+0.8
RAR	Rarotonga	16.00	73	Pn		Pn	14 46 19.0	-0.1
	4.0nm,0.3s,baz=138,slow=6.9,SNR=5.1							
RPZ	Rata Peaks	19.84	208	LR		LR	14 53 43.3	
	comp=Z,77nm,19.8s,baz=58,slow=34							
ASAR	Alice Springs	45.00	262	P		P	14 50 48.9	-0.3
	0.6nm,0.4s,baz=99,slow=7.7,SNR=20							
WRAB	Tennant Creek	45.66	268	P		P	14 50 53.0	-1.4
	3.4nm,0.8s							
WRA	Warramunga Arr	45.66	268	P		P	14 50 53.1	-1.4
	1.5nm,0.7s,baz=108,slow=7.6,SNR=18							
QSPA	South Pole Qui	63.37	180	P		P	14 53 03.9	+1.4
	2.9nm,0.9s,baz=311,slow=1.0,SNR=7.4							
QSPA	South Pole Qui	63.37	180	eP		P	14 53 03.4	+0.8
	3.5nm,1.0s							
MJAR	Matsushiro Arr	76.17	324	P		P	14 54 19.9	-1.5
	1.4nm,0.8s,baz=163,slow=6.3,SNR=4.5							
ASAJ	Asahikawa	79.95	331	P		P	14 54 43.0	+0.9
	4.0nm,0.9s,baz=72,slow=9.6							
KSRS	Korea Array	82.61	318	P		P	14 54 56.7	+0.3
	1.2nm,0.8s,baz=137,slow=6.0,SNR=3.9							
KSAR	Wonju Array Be	82.62	318	P		P	14 54 56.7	+0.2
PETK	Petropavlovsk-	82.68	345	eP		P	14 54 57.7	+1.3
	1.2nm,0.7s,baz=159,slow=3.5,SNR=2.4							
USRK	Ussuriysk Ar.	85.00	325	P		P	14 55 10.0	+1.5
	1.4nm,0.7s,baz=137,slow=5.0,SNR=3.4							
TXAR	Lajitas Array	89.08	56	P		P	14 55 27.9	-1.0
	0.2nm,0.8s,baz=232,slow=4.4,SNR=2.8							
MKAR	Makanchi Array	116.57	311	PKP		PKPdf	15 01 15.5	-1.6
	0.3nm,0.7s,baz=82,slow=2.2,SNR=2.4							
BOSA	Boshof	121.24	202	PKP		PKPdf	15 01 27.1	+0.2
	4.0nm,1.0s,baz=71,slow=4.8,SNR=4.2							
NB2	NORSAR Subarra	145.32	354	PKP		PKPbc	15 02 08.1	-2.2
	comp=Z,1.9nm,1.1s,baz=10,slow=3.2							
NOA	NORSAR Array B	145.32	354	PKPbc		PKPbc	15 02 08.8	-1.5
	comp=Z,0.8nm,0.7s,baz=2.2,slow=2.4,SNR=3.3							
HFS	Hagfors	145.91	351	PKPbc		PKPdf	15 02 10.4	-1.0
	comp=Z,2.7nm,0.9s,baz=0.0,slow=4.5,SNR=3.1							
EKA	Eskdalemuir Ar	150.97	8	PKPbc		PKPbc	15 02 27.5	+1.9
	comp=Z,3.2nm,0.9s,baz=348,slow=3.4,SNR=3.4							
EKA				PKPab		PKPab	15 02 32.9	-0.1
	comp=Z,1.2nm,0.9s,baz=331,slow=5.0,SNR=3.0							
BRTR	Keskin Array B	151.99	305	PKPbc		PKPbc	15 02 28.2	-0.4
	comp=Z,0.3nm,0.4s,baz=48,slow=2.1,SNR=2.4							
BRTR				PKPab		PKPab	15 02 38.2	+0.2
	comp=Z,0.6nm,0.5s,baz=77,slow=3.3,SNR=4.6							
CLL	Collm	154.47	346	ePKPbc		PKPbc	15 02 34.0	+0.5
TORD	Torodi Ar. Bea	166.35	171	PKPab		PKPab	15 03 40.8	+0.4
	comp=Z,0.6nm,0.8s,baz=191,slow=4.1,SNR=2.9							

MEX 11 14:47:31.8±0.3,18.15N×100.88W,h53km±5km,MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ARIG	Puente Sto Nin	0.52	76	eP		Pn	14 47 42.1	-1.4
ARIG				eS		Sn	14 47 50.1	-1.9
ZIIG	Zihuatanejo	0.78	226	eP		Pn	14 47 45.2	-1.5
MEIG	Mezcala	1.22	101	iP		Pn	14 47 51.2	-1.4
MEIG				iS		Sn	14 48 06.0	-2.2
PLIG	Platanillo	1.33	80	eP		Pn	14 47 52.8	-1.4
PLIG				eS		Sn	14 48 08.7	-2.2
YAIG	Yautepec	1.86	67	eP		Pn	14 47 59.8	-1.6
YAIG				eS		Sn	14 48 21.7	-2.2
MMIG	Aquila	2.35	274	eP		Pn	14 48 06.0	-2.0
MMIG				eS		Sn	14 48 33.8	-1.8

ISCJB ***11*** *14:57:40.9±1.1,48.8N±0.1×155.5E±0.2,h51km, Error ellipse: s-maj=21.2km s-min=7.8km az=40.1*

MOS ***11*** *14:57:42.2±3.1,48.83N×156.33E,h47km,mb4.5/1, Error ellipse: s-maj=38.9km s-min=7.4km az=77.5*

KRSC ***11*** *14:57:42.3±1.6,48.83N×156.33E,h47km±24km,ML4.3*

SKHL ***11*** *14:57:43.2±1.6,48.84N×155.45E,h70km±4km,mb3.7/1*

ISC 11 14:57:42.4±2.2,48.8N±0.2×155.5E±0.1,h51km,n39,
σ1§30/45,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	Severo-Kuril's	1.92	12	eP		Pn	14 58 12.8	+0.3
SKR				eS		Sn	14 58 35.4	0.0
SKR	Severo-Kuril's	1.92	12	ePN		Pn	14 58 02.0	-10
SKR				pmax		pmax		
	comp=E,30nm,0.4s							
SKR				pmax		pmax		
	comp=Z,30nm,0.4s							
SKR	Severo-Kuril's	1.92	12	eP		Pn	14 58 13.0	+0.5
SKR				AMB		AMB	14 58 14.8	
	comp=Z,30nm,0.4s							
SKR				eS		Sn	14 58 34.0	-1.4
SKR				A		A	14 58 39.0	
	comp=Z,300nm,0.2s							
SKR				A		A	14 58 39.0	
	comp=Z,200nm,0.2s							
PAU	Pauzhetka	2.79	17	eP		Pn	14 58 25.7	+1.2
PAU				eS		Sn	14 58 58.4	+1.5
PAU	Pauzhetka	2.79	17	PN		Pn	14 58 25.7	+1.2
PAU				S		Sn	14 58 58.4	+1.5
MIPR	Malaya Ipel'ka	3.56	13	eP		Pn	14 58 36.0	+1.0
ASAK	Asacha	3.89	22	eP		Pn	14 58 41.5	+1.9
RUS	Russkaya	4.11	27	eP		Pn	14 58 42.6	+0.1
RUS				S		Sn	14 59 27.6	-1.6
RUS	Russkaya	4.11	27	PN		Pn	14 58 42.6	+0.1
RUS				S		Sn	14 59 27.6	-1.6
RUS	Russkaya	4.11	27	eP		Pn	14 58 42.6	+0.1
RUS				eS		Sn	14 59 27.6	-1.6
PET	Petropavlovsk	4.67	24	P		Pn	14 58 50.6	+0.4
PET				S		Sn	14 59 42.0	-1.0
PET	Petropavlovsk	4.67	24	PN		Pn	14 58 50.6	+0.4
PET				S		Sn	14 59 42.0	-1.0
PET	Petropavlovsk	4.67	24	eP		Pn	14 58 50.6	+0.4
PET				eS		Sn	14 59 42.0	-1.0
PET				A		A	14 59 47.8	
	comp=Z,10.0nm,0.6s							
UGLR	Uglovaya	4.88	24	eP		Pn	14 58 54.9	+1.7
KOK	Koryaka	4.91	23	eP		Pn	14 58 55.7	+2.2
KOK	Koryaka	4.91	23	PN		Pn	14 58 55.7	+2.2
KOK	Koryaka	4.91	23	eP		Pn	14 58 55.7	+2.2
AVH	Avacha	4.91	23	eP		Pn	14 58 54.7	+1.1
AVH	Avacha	4.91	23	PN		Pn	14 58 54.7	+1.1
AVH	Avacha	4.91	23	eP		Pn	14 58 54.7	+1.1
SMAR	Somma	4.92	24	eP		Pn	14 58 55.5	+1.6
SMAR	Somma	4.92	24	PN		Pn	14 58 55.5	+1.6
KRER	Koryakskii	4.95	23	eP		Pn	14 58 55.5	+1.3
SDLR	Sedlovina	4.96	24	eP		Pn	14 58 55.4	+1.1
SDLR	Sedlovina	4.96	24	PN		Pn	14 58 55.4	+1.1
KRX	Arik	4.97	22	eP		Pn	14 58 55.4	+0.9
GNL	Ganaly	5.13	17	eP		Pn	14 58 58.4	+1.8
GNL	Ganaly	5.13	17	PN		Pn	14 58 58.4	+1.8
SPN	Mys Shipunski	5.16	32	eP		Pn	14 58 57.6	+0.7
SPN	Mys Shipunski	5.16	32	PN		Pn	14 58 57.6	+0.7
SPN	Mys Shipunski	5.16	32	eP		Pn	14 58 57.6	+0.7
KUR	Kuril'sk	6.32	238	eP		Pn	14 59 12.6	-0.2
MKZ	Mys Kozlova	6.94	32	eP		Pn	14 59 20.8	-0.4
MKZ	Mys Kozlova	6.94	32	PN		Pn	14 59 20.8	-0.4
MKZ	Mys Kozlova	6.94	32	eP		Pn	14 59 20.8	-0.4
TYV	Tymovskoe	8.54	289	eS		Sn	15 01 14.0	-4.2
TYV				AMS		AMS	15 08 20.0	
	comp=Z,500nm,12.0s							
KBTR	Krutoberegovo	8.65	28	eP		Pn	14 59 45.9	+1.2
KBTR	Krutoberegovo	8.65	28	PN		Pn	14 59 45.9	+1.2
EKMR	Ekimchan	14.81	295	eP		Pn	15 01 08.5	0.0

IDC ***11*** *14:59:28.5±0.7,30.94N×141.98E,h0km,mb3.8/13, mb1 4.0/16,mb1mx3.8/48,mbtmp3.8/16,ML3.8/2,MS2.6/3, Ms1 2.6/3,ms1mx2.4/27,Error ellipse: s-maj=23.2km s-min=15.4km az=77.0*

NEIC ***11*** *14:59:29.9±0.6,31.00N×142.16E,h10km,mb4.2/1, Error ellipse: s-maj=16.6km s-min=9.9km az=76.0*

ISCJB ***11*** *14:59:30.0±0.4,30.96N±0.04×141.9E±0.1,h24km, mb3.8/14,MS2.2/1,Error ellipse: s-maj=13.4km s-min=4.0km az=163.5*

JMA ***11*** *14:59:33.8±0.4,31.47N×141.95E,h0km,M4.0*

ISC 11 14:59:31.9±0.6,31.02N±0.06×142.1E±0.1,h24km,n37,
σ1§76/43,mb3.9/14,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHJ2	Mitsune	2.87	317	eS		Sn	15 00 46.3	-3.6
CBIJ	Chichi jima	3.91	179	Pn		Pn	15 00 29.6	-1.0
CBIJ				Sn		Sn	15 01 13.3	-2.4
JCJ	Chichijima	3.91	179	Pn		Pn	15 00 29.6	-1.0
	11nm,0.3s,baz=280,slow=23,SNR=17							
JCJ				Sn		Sn	15 01 13.3	-2.4
	9.9nm,0.3s,baz=294,slow=23,SNR=6.0							
JOD2	Odawara 2	4.94	330	P		Pn	15 00 45.3	+0.6
JHU	Hanno	5.38	334	P		Pn	15 00 50.8	+0.2
JHU				eS		Sn	15 01 48.9	-2.9
JRY	Ryogami san	5.67	332	P		Pn	15 00 55.0	+0.4
JRY				eS		Sn	15 01 56.3	-2.7
JHO	Hitachi	5.73	347	P		Pn	15 00 54.7	-0.7
JHO				eS		Sn	15 01 56.9	-3.5
JAG	Ashikaga	5.83	338	P		Pn	15 00 56.3	-0.6
MJAR	Matsushiro Arr	6.40	330	Pn		Pn	15 01 05.3	+0.6
	1.3nm,0.3s,baz=158,slow=11,SNR=23							
MJAR				Sn		Sn	15 02 18.7	+1.6
	0.6nm,0.3s,baz=158,slow=15,SNR=4.3							
MJAR				LR		LR	15 03 47.0	
	comp=Z,66nm,18.3s,baz=160,slow=40							
MAJO	Matsushiro	6.40	330	eP		Pn	15 01 05.7	+1.0
	9.3nm,0.6s							
MAT	Matsushiro	6.40	330	P		Pn	15 01 04.9	+0.1
MAT				eS		Sn	15 02 15.6	-1.5
JMK	Ichinoseki	7.95	355	P		Pn	15 01 24.6	-1.3
JMK				eS		Sn	15 02 47.4	-7.7
ERM	Erimo	11.00	4	ePn		Pn	15 02 05.0	-2.8
ASAJ	Asahikawa	13.08	1	Pn		Pn	15 02 36.8	+0.7
	baz=324,slow=17							
ASAJ	Asahikawa	13.08	1	Pn		Pn	15 02 35.4	-0.7
KSRS	Korea Array	13.39	302	Pn		Pn	15 02 42.9	+2.6
	0.1nm,0.3s,baz=110,slow=14,SNR=3.2							
KSRS				LR		LR	15 07 29.8	
	comp=Z,39nm,19.6s,baz=110,slow=36							
KSRS	Korea Array	13.39	302	P		Pn	15 02 42.9	+2.5
KSAR	Korea Array	13.39	302	eP		Pn	15 02 42.9	+2.5
KSAR	Wonju Array Be	13.41	302	P		Pn	15 02 42.9	+2.2
KSAR	Wonju Array Be	13.41	302	eP		Pn	15 02 42.9	+2.2
KSAR	Wonju Array Be	13.41	302	Pn		Pn	15 02 42.9	+2.2
PETK	Petropavlovsk-	24.81	23	LR		LR	15 13 46.2	
	comp=Z,9.1nm,22.0s,baz=92,slow=34							
SONM	Songino Array	31.96	312	P		P	15 05 57.1	+1.0
	0.4nm,0.5s,baz=128,slow=9.3,SNR=2.6							
ZALV	Zalesovo Beam	46.55	317	P		P	15 07 56.4	-1.1
	0.6nm,0.5s,baz=90,slow=8.1,SNR=3.8							
MKAR	Makanchi Array	48.02	307	P		P	15 08 08.1	-0.9
	1.2nm,0.9s,baz=94,slow=8.7,SNR=8.7							
WRA	Warramunga Arr	51.22	189	P		P	15 08 32.9	-0.7
	2.8nm,0.8s,baz=5.6,slow=7.6,SNR=51							
ILAR	Eielson Array	54.32	30	P		P	15 08 56.9	+0.8
	0.6nm,0.7s,baz=265,slow=6.3,SNR=10							
ASAR	Alice Springs	54.95	189	P		P	15 09 00.3	-0.7
	0.9nm,0.5s,baz=4.1,slow=6.0,SNR=25							
ABKAR	Akbulak array	62.37	313	P		P	15 09 50.8	-1.7
	0.7nm,0.4s							
FINES	FINESS Array B	74.42	333	P		P	15 11 09.3	+1.7
	0.9nm,0.7s,baz=54,slow=5.7,SNR=3.9							
NVAR	Mina Array Bea	78.15	52	P		P	15 11 30.6	+1.0
	0.8nm,0.8s,baz=289,slow=5.3,SNR=6.0							
AKASG	Malin Array Be	79.44	323	P		P	15 11 35.9	-0.2
	0.4nm,0.4s,baz=47,slow=5.8,SNR=3.5							
NOA	NORSAR Array B	79.96	338	P		P	15 11 38.7	-0.1
	0.4nm,0.7s,baz=46,slow=4.6,SNR=2.9							
PDAR	Pinedale Array	81.47	45	P		P	15 11 48.6	+1.1
	0.4nm,0.8s,baz=293,slow=7.7,SNR=3.6							
BRTR	Keskin Array B	83.32	313	P		P	15 11 57.6	+0.6
	0.4nm,0.4s,baz=143,slow=4.3,SNR=4.1							
TXAR	Lajitas Array	93.29	53	P		P	15 12 46.9	+1.7
	0.5nm,0.8s,baz=282,slow=3.3,SNR=7.8							
LPAZ	La Paz	148.76	69	PKPbc		PKPbc	15 19 20.3	+1.6
	1.3nm,0.8s,baz=86,slow=2.3,SNR=4.2							

BKK ***11*** *15:04:20.3±1.0,24°N±11°×9°5E±1°0,h10km,M4.6/8, mB5.2/6,mb4.3/8,MLv4.8/7,Mw(mB)4.5/6*

IDC ***11*** *15:04:44.0±1.6,22.66N×95.85E,h0km,mb3.6/2, mb1 3.7/3,mb1mx3.3/39,mbtmp3.5/3,ML3.7/1,Error ellipse: s-maj=37.1km s-min=18.7km az=60.0*

ISC 11 15:04:44.4±1.0,22.8N±0.1×96.1E±0.1,h10km,n17,
σ1§62/23,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAI	Chiengmai2	3.94	136	P		Pn	15 05 46.2	+1.1
	31nm,0.7s,10μm0.3nm							
CMAI				S		Sg	15 06 49.7	-1.2
	31nm,0.7s,10μm0.3nm							
CMAI	Chiengmai2	3.94	136	P		Pn	15 05 46.0	+0.9
CRAI	Chiangrai	4.70	122	P		Pn	15 05 56.1	+0.7
	17nm,0.8s,0.2nm							
CRAI				S		Sb	15 07 13.8	+10
	17nm,0.8s,0.2nm							
CHTO	Chiang Mai	4.76	146	P		Pn	15 05 57.1	+0.9
	66nm,1.0s,3μm1.1nm							
CHTO				S		Sg	15 07 16.6	-0.7
	66nm,1.0s,3μm1.1nm							
CHTO	Chiang Mai	4.76	146	P		Pn	15 05 56.9	+0.7
SHL	Shillong	4.76	306	eP		Pn	15 05 57.0	+0.6
SHL				eS		Sn	15 06 48.0	-3.7
CMMT	Chiang Mai	4.76	146	P		Pn	15 05 57.0	+0.7
	19nm,1.0s,856nm0.3nm							
CMMT				S		Sg	15 07 16.8	-0.6
	19nm,1.0s,856nm0.3nm							
CMMT	Chiang Mai	4.76	146	P		Pn	15 05 56.9	+0.7
MHMT	Maesarieng	4.90	160	P		Pn	15 06 00.1	+1.9
	33nm,0.8s,558nm0.3nm							
MHMT				S		Sg	15 07 22.9	+1.0
	33nm,0.8s,558nm0.3nm							
MHMT	Maesarieng	4.90	160	P		Pg	15 06 16.4	-1.9
CMAR	Chiang Mai Arr	5.06	148	Pn		Pn	15 06 01.1	+0.8
	0.7nm,0.3s,baz=322,slow=13,SNR=19							
CMAR				Pg		Pg	15 06 17.9	-3.4
	2.9nm,0.3s,baz=320,slow=18,SNR=32							
CMAR				Lg		Lg	15 07 26.8	
	2.9nm,0.3s,baz=320,slow=29,SNR=9.7					

GUC ***11*** *15:41:14.8±0.4,33.°34S×71.°67W,h35km±3km, ML3.8*
ISC 11 15:41:14.9±1.5,**33.°36S**±0.°03×**71.°60W**±0.°05,**h4**km±10km, **n29,**σ1°70/52,**2C-3D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.34**	**354**	⇓*i* P	**Pg**	**15 41 21.5**	**0.0**
LNV	**Longovilo**	**0.61**	**165**	⇑*i* P	**Pg**	**15 41 26.7**	**+0.1**
LNV				*i* S	**Sb**	**15 41 35.8**	**-1.3**
TACH	**Talagante**	**0.62**	**118**	⇓*i* P	**Pg**	**15 41 27.7**	**+0.8**
TACH				*i* S	**Sb**	**15 41 37.0**	**-0.5**
SAN	**Santiago**	**0.79**	**97**	*eP*	**Pg**	**15 41 30.0**	**0.0**
SAN				*eP*	**Pg**	**15 41 30.1**	**0.0**
SAN				*eS*	**Sg**	**15 41 41.7**	**+1.4**
PEL	**Peldehue**	**0.79**	**74**	⇑*i* P	**Pg**	**15 41 30.2**	**+0.1**
PEL				*i* S	**Sg**	**15 41 41.9**	**+1.4**
PEL				AML	AML	15 41 47.8	
	comp=E,9μm,0.3s						
CLCH	**Cerro Calan**	**0.89**	**92**	⇓*i* P	**Pg**	**15 41 31.8**	**-0.1**
CLCH				*i* S	**Sg**	**15 41 44.7**	**+1.2**
CLCH				AML	AML	15 41 51.7	
	comp=E,5μm,0.6s						
LACH	**Col Las Americ**	**0.90**	**96**	*eP*	**Pg**	**15 41 31.3**	**-0.8**
LACH				*i* S	**Sg**	**15 41 44.6**	**+0.9**
FSR	**Penalolen**	**0.90**	**98**	*eP*	**Pg**	**15 41 31.8**	**-0.4**
FSR				*eS*	**Sg**	**15 41 44.5**	**+0.6**
PCH	**Pirque**	**0.94**	**106**	*eP*	**Pg**	**15 41 32.9**	**0.0**
PCH				*i* S	**Sg**	**15 41 46.4**	**+1.3**
CHCH	**Chadas Angostu**	**0.97**	**126**	*eP*	**Pg**	**15 41 33.2**	**-0.3**
CHCH				*i* S	**Sg**	**15 41 46.6**	**+0.5**
AUSP	**Uspallata**	**2.18**	**59**	*i* P	**Pn**	**15 41 53.1**	**+0.8**
AUSP				*eS*	**Sb**	**15 42 22.6**	**0.0**
ARCO	**CERRO ARCO**	**2.30**	**78**	*eP*	**Pb**	**15 41 56.4**	**-0.7**
ARCO				*i* S	**Sb**	**15 42 28.2**	**+2.4**
ARCO				AML	AML	15 42 30.3	
	comp=Z,248nm,0.3s						
AAGR	**Agrelo**	**2.34**	**84**	*i* P	**Pb**	**15 41 56.4**	**-1.3**
ASAL	**Salagasta**	**2.44**	**72**	*eP*	**Pb**	**15 41 57.7**	**-1.9**
ASAL				*eS*	**Sg**	**15 42 33.1**	**-0.4**
RTLS	**Leoncito**	**2.49**	**52**	*i* P	**Pn**	**15 41 57.0**	**+0.5**
RTLS				*eS*	**Sb**	**15 42 30.0**	**-1.6**
RTCV	**Cerro Valdivia**	**2.98**	**61**	*i* P	**Pn**	**15 42 03.6**	**+0.5**
SJA	**San Juan**	**3.15**	**55**	*eS*	**Sb**	**15 42 51.5**	**+1.0**
RTLL	**Cerro Villicun**	**3.33**	**53**	*i* P	**Pn**	**15 42 08.3**	**+0.4**
RTLL				*eS*	**Sb**	**15 42 53.3**	**-2.2**
CFAA	**Coronel Fontan**	**3.34**	**59**	*eP*	**Pn**	**15 42 08.5**	**+0.5**
CFAA				*i* S	**Sb**	**15 42 51.8**	**-3.9**
AMOG	**MOGNA**	**3.57**	**48**	*i* P	**Pn**	**15 42 11.4**	**+0.1**
AMOG				*i* S	**Sn**	**15 42 56.7**	**+2.7**
ACAN	**Cantantal**	**3.87**	**75**	*eP*	**Pn**	**15 42 15.3**	**+0.1**
ACAN				*eS*	**Sn**	**15 43 04.5**	**+3.3**
LCO	**Las Campanas**	**4.41**	**10**	*eP*	**Sn**	**15 42 22.9**	**0.0**
LCO				*eS*	**Sn**	**15 43 19.6**	**+4.8**
AVFE	**Valle Fertil**	**4.43**	**54**	*eP*	**Pn**	**15 42 22.6**	**-0.5**
AVFE				*eS*	**Sn**	**15 43 14.7**	**-0.4**
ACHE	**Chepes**	**4.72**	**64**	*eP*	**Pn**	**15 42 25.9**	**-1.1**
ACHE				*eS*	**Sn**	**15 43 26.1**	**+3.8**
VCA	**Vinchina**	**5.45**	**33**	*eP*	Pn	15 42 39.9	+2.7
VCA				*eS*	Sn	15 43 45.8	+5.3
ACLC	**CERRO LA CRUZ**	**5.58**	**47**	*eP*	**Pn**	**15 42 39.3**	**+0.3**
ACLC				*eS*	**Sn**	**15 43 41.0**	**-2.7**
TCA	**Tanti**	**6.26**	**73**	*eP*	**Pn**	**15 42 47.8**	**-0.4**
TCA				*eS*	**Sn**	**15 43 58.1**	**-2.1**
CYA	**Choya**	**6.99**	**47**	*eP*	**Pn**	**15 42 59.2**	**+1.1**
CYA				*eS*	**Sn**	**15 44 20.9**	**+2.8**
FSA	**Cafayete**	**8.72**	**35**	*eP*	Pn	15 43 25.1	+3.0
FSA				*eS*	**Sn**	**15 44 57.6**	**-3.4**

IDC 11 15:46:29.7±1.5,**19.°37S**×**68.°78W,h86**km±18**km,mb3.4/2, mb1 3.4/5,mb1mx3.2/32,mbtmp3.6/5,MS3.0/1,Ms1 3.0/1, ms1mx2.3/10,Error ellipse: s-maj=49.7km s-min=8.1km az=98.0,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.13**	**12**	P	Pn	15 47 17.5	-0.2
	1.1nm,0.3s,baz=198,slow=5.6,SNR=19						
LPAZ				S	Sn	15 47 54.9	+0.1
	0.8nm,0.3s,baz=73,slow=19,SNR=2.9						
LVC	**Limon Verde**	**3.23**	**182**	P	Pn	15 47 18.7	+0.2
	60nm,0.3s,baz=17,slow=8.5,SNR=21						
LVC				S	Sn	15 47 56.5	+0.3
	275nm,0.3s,baz=292,slow=22,SNR=18						
LVC				LR	LR	15 49 12.4	
	comp=Z,233nm,18.8s,baz=162,slow=50						
SIV	**San Ignacio**	**8.08**	**67**	P	Pn	15 48 23.8	-0.6
	0.4nm,0.3s,baz=253,slow=13,SNR=4.7						
BDFB	**Brasilia**	**20.15**	**83**	P	P	15 50 58.0	+0.7
	1.7nm,0.5s,baz=274,slow=11,SNR=4.2						
TORD	**Torodi Ar. Bea**	**76.54**	**71**	P	P	15 58 11.0	-0.1
	0.4nm,0.5s,baz=246,slow=5.1,SNR=7.7						

ISCJB ***11*** *16:05:21.3±0.5,7.°63S×0.°10×13.°41W±0.°07,h10km, mb4.0/13,MS3.7/24,Error ellipse: s-maj=16.4km s-min=5.5km az=146.3*
IDC ***11*** *16:05:21.4±0.7,7.°58S×13.°54W,h0km,mb3.9/11, mb1 4.1/12,mb1mx3.9/33,mbtmp4.0/12,ML3.4/1,MS3.6/25, Ms1 3.6/25,ms1mx3.6/34,Error ellipse: s-maj=26.7km s-min=10.2km az=137.0*
NEIC ***11*** *16:05:23.1±0.7,7.°63S×13.°47W,h10km,mb4.6/2,Error ellipse: s-maj=22.6km s-min=8.3km az=148.0*
ISC 11 16:05:22.9±0.7,**7.°6S**±0.°1×**13.°51W**±0.°09,**h10**km,**n40,** σ0°77/24,**mb4.1**/13,**MS3.6**/24,**Ascension Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**0.91**	**249**	*eP*	**Pn**	**16 05 41.1**	**-0.7**
ASCN				*eS*	**Sb**	**16 05 52.8**	**-0.2**
H10N1	**ASCENSION HYDR**	**1.00**	**256**	Pn	**Pb**	**16 05 42.2**	**+0.1**
H10N1				T	T	16 07 03.8	
	baz=60						
H10N2	**ASCENSION HYDR**	**1.00**	**257**	Pn	**Pn**	**16 05 42.3**	**-0.4**
H10N2				T	T	16 07 03.4	
	baz=60,slow=74						
H10N3	**ASCENSION HYDR**	**1.01**	**256**	Pn	**Pn**	**16 05 42.6**	**-0.4**
H10N3				T	T	16 06 57.9	
	baz=60,slow=74						
H10S1	**ASCENSION HYDR**	**1.75**	**220**	Pn	**Pn**	**16 05 53.1**	**0.0**
	SNR=180						
H10S1				T	T	16 08 04.0	
	baz=43,slow=75,SNR=2812						
H10S2	**ASCENSION HYDR**	**1.76**	**220**	Pn	**Pn**	**16 05 52.5**	**-0.7**
H10S2				T	T	16 08 09.5	
	baz=43,slow=75,SNR=2591						
H10S3	**ASCENSION HYDR**	**1.76**	**220**	Pn	**Pn**	**16 05 52.5**	**-0.8**
H10S3				T	T	16 07 59.2	
	baz=43,slow=75,SNR=3481						
DBIC	**Dimbokro**	**16.60**	**32**	Pn	**P**	**16 09 17.6**	**-0.8**
	0.1nm,0.3s,baz=171,slow=13,SNR=2.9						
DBIC				LR	LR	16 14 10.1	
	comp=Z,281nm,20.1s,baz=200,slow=32						
RCBR	**Riachuelo**	**22.31**	**273**	*eP*	**P**	**16 10 23.0**	**+2.1**
TORD	**Torodi Ar. Bea**	**25.55**	**36**	P	**P**	**16 10 51.4**	**-0.8**
	7.2nm,1.1s,baz=215,slow=7.0,SNR=30						
TORD				LR	LR	16 19 20.9	
	comp=Z,170nm,21.4s,baz=220,slow=33						
BOSA	**Boshof**	**42.08**	**125**	LR	LR	16 28 01.0	
	comp=Z,235nm,20.4s,baz=286,slow=32						
CPUP	**Villa Florida**	**45.59**	**240**	LR	LR	16 31 27.5	
	comp=Z,44nm,18.7s,baz=94,slow=34						
PTGA	**Pitinga**	**46.81**	**276**	LR	LR	16 31 44.3	
	comp=Z,84nm,19.3s,baz=106,slow=34						
ESDC	**Sonseca Array**	**47.86**	**10**	P	**P**	**16 14 01.7**	**+0.5**
	0.1nm,0.4s,baz=204,slow=5.3,SNR=3.2						
KEST	**Kesra**	**48.18**	**25**	LR	LR	16 34 17.7	
	comp=Z,68nm,18.4s,baz=243,slow=36						
KMBO	**Kilima Mbogo**	**50.98**	**85**	LR	LR	16 34 11.3	
	comp=Z,96nm,18.4s,baz=88,slow=34						
PCRV	**Puerto La Cruz**	**53.89**	**288**	LR	LR	16 35 55.1	
	comp=Z,59nm,20.0s,slow=34						
LPAZ	**La Paz**	**54.00**	**255**	LR	LR	16 38 14.5	
	comp=Z,42nm,19.4s,baz=112,slow=37						
CFAA	**Coronel Fontan**	**56.16**	**237**	LR	LR	16 33 57.8	
	comp=Z,14nm,21.9s,slow=31						
GERES	**GERESS Array B**	**61.07**	**20**	P	**P**	**16 15 36.5**	**-0.6**
	1.0nm,0.7s,baz=191,slow=5.4,SNR=9.9						
GERES				LR	LR	16 42 28.2	
	comp=Z,84nm,19.4s,baz=219,slow=36						
ROSC	**El Rosal**	**61.93**	**280**	LR	LR	16 40 58.1	
	comp=Z,104nm,19.2s,baz=142,slow=34						
NNA	**Nana**	**62.46**	**260**	LR	LR	16 42 48.1	
	comp=Z,36nm,19.0s,baz=56,slow=36						
BR131	**Keskin Array S**	**64.13**	**39**	P	**P**	**16 15 58.4**	**+0.6**
BRTR	**Keskin Array B**	**64.13**	**39**	P	**P**	**16 15 58.8**	**+1.0**
	1.4nm,0.9s,baz=191,slow=5.9,SNR=7.4						
BRTR				LR	LR	16 45 35.9	
	comp=Z,16nm,20.8s,baz=206,slow=38						
ATAH	**Atahualpa**	**64.30**	**266**	LR	LR	16 44 11.1	
	comp=Z,89nm,18.3s,baz=99,slow=36						
SNAA	**Sanae**	**64.35**	**176**	P	**P**	**16 15 58.9**	**+0.3**
	0.5nm,0.9s,baz=299,slow=19,SNR=3.7						
KIEV	**Kiev**	**68.79**	**28**	*eP*	**P**	**16 16 26.7**	**-0.4**
	5.3nm,1.1s						
AKASG	**Malin Array Be**	**68.80**	**28**	P	**P**	**16 16 26.8**	**-0.5**
	0.2nm,0.2s,baz=227,slow=6.9,SNR=8.0						
AKASG				LR	LR	16 48 17.5	
	comp=Z,30nm,19.5s,baz=240,slow=37						
NOA	**NORSAR Array B**	**71.13**	**12**	LR	LR	16 49 48.0	
	comp=Z,32nm,18.3s,baz=215,slow=38						
KBZ	**Khabaz**	**72.11**	**39**	P	**P**	**16 16 48.3**	**+0.6**
	0.9nm,0.5s,baz=214,slow=7.3,SNR=2.7						
FINES	**FINESS Array B**	**75.41**	**18**	P	**P**	**16 17 06.8**	**+0.2**
	1.2nm,0.5s,baz=204,slow=5.0,SNR=15						
FINES				LR	LR	16 52 14.1	
	comp=Z,77nm,19.1s,baz=181,slow=37						
SCHQ	**Schefferville**	**76.39**	**331**	LR	LR	16 47 09.1	
	comp=Z,50nm,19.1s,baz=266,slow=33						
MAW	**Mawson**	**77.83**	**158**	LR	LR	16 46 31.6	
	comp=Z,41nm,18.4s,baz=230,slow=32						
GEYT	**Alibeck**	**80.40**	**50**	P	**P**	**16 17 35.8**	**+0.8**
	1.6nm,0.7s,baz=134,slow=6.4,SNR=4.8						
ARCES	**ARCESS Array B**	**81.50**	**13**	P	**P**	**16 17 40.4**	**+0.2**
	1.9nm,0.8s,baz=212,slow=4.3,SNR=5.1						
ARCES				LR	LR	16 55 29.0	
	comp=Z,22nm,18.5s,baz=272,slow=37						
WVT	**Waverly**	**81.97**	**308**	*eP*	**P**	**16 17 42.8**	**-0.5**
	6.5nm,1.0s						
TXAR	**Lajitas Array**	**93.81**	**299**	P	**P**	**16 18 40.2**	**-0.8**
	0.5nm,0.8s,baz=124,slow=6.7,SNR=5.6						
TXAR				LR	LR	16 59 27.8	
	comp=Z,8.2nm,19.9s,baz=0.0,slow=35						
VNDA	**Vanda**	**94.97**	**179**	LR	LR	16 59 10.2	
	comp=Z,56nm,20.9s,baz=188,slow=34						
MKAR	**Makanchi Array**	**99.45**	**44**	LR	LR	17 09 51.2	
	comp=Z,18nm,18.0s,baz=262,slow=39						
PDAR	**Pinedale Array**	**99.55**	**312**	LR	LR	16 58 56.8	
	comp=Z,57nm,18.5s,baz=104,slow=32						

ISCJB ***11*** *16:16:55.3±1.0,5.°1N±0.°1×94.°5E±0.°2,h35km,mb3.7/8, Error ellipse: s-maj=29.7km s-min=12.7km az=143.6*
IDC ***11*** *16:17:01.6±5.2,5.°27N×94.°87E,h70km±44km,mb3.5/8, mb1 3.5/10,mb1mx3.3/33,mbtmp3.7/10,ML3.4/2,Error ellipse: s-maj=64.1km s-min=16.6km az=60.0*
ISC 11 16:16:57.1±1.2,**5.°0N**±0.°2×**94.°4E**±0.°2,**h35**km,**n13,**σ0°79/8, **mb3.7/8,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.01**	**116**	P	**Pn**	**16 18 10.6**	**+0.7**
	0.6nm,0.3s,baz=327,slow=17,SNR=4.7						
CMAR	**Chiang Mai Ar**	**14.10**	**18**	P	**Pn**	**16 20 14.6**	**+0.1**
	0.1nm,0.3s,baz=209,slow=14,SNR=2.7						
H08S3	**Diego Garcia H**	**25.20**	**240**	T	T	16 49 37.3	
	baz=60,slow=76,SNR=40						
H08S2	**Diego Garcia H**	**25.21**	**240**	T	T	16 49 31.8	
	baz=60,slow=76,SNR=37						
H08S1	**Diego Carcia H**	**25.22**	**240**	T	T	16 49 40.4	
	baz=60,slow=76,SNR=27						
MKAR	**Makanchi Array**	**42.95**	**348**	P	**P**	**16 24 51.9**	**-0.8**
	0.7nm,0.4s,baz=168,slow=7.3,SNR=13						
SONM	**Songino Array**	**43.91**	**12**	P	P	16 24 57.7	-2.9
	0.3nm,0.3s,baz=195,slow=6.9,SNR=2.9						
WRA	**Warramunga Arr**	**46.42**	**124**	P	**P**	**16 25 19.9**	**-0.9**
	0.9nm,0.6s,baz=302,slow=9.7,SNR=12						
ASAR	**Alice Springs**	**47.90**	**128**	P	**P**	**16 25 31.6**	**-0.7**
	0.4nm,0.6s,baz=299,slow=7.8,SNR=12						
ZALV	**Zalesovo Beam**	**49.43**	**353**	P	P	16 25 42.4	-1.1
	1.5nm,0.3s,baz=179,slow=7.2,SNR=13						
FINES	**FINESS Array B**	**75.37**	**333**	P	**P**	**16 28 37.5**	**+0.6**
	0.6nm,0.7s,baz=138,slow=5.1,SNR=3.2						
ARCES	**ARCESS Array B**	**78.05**	**340**	P	**P**	**16 28 51.9**	**0.0**
	1.3nm,0.8s,baz=93,slow=6.0,SNR=5.3						
GERES	**GERESS Array B**	**80.14**	**319**	P	**P**	**16 29 04.5**	**+0.6**
	0.2nm,0.5s,baz=97,slow=5.6,SNR=3.7						

JMA 11 16:22:04.1±0.1,**28.°05N**×**140.°40E,h533**km,**M3.8,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.85**	**121**	P	P	16 23 11.9	+0.3
CBIJ				S	S	16 24 05.7	-0.7
JHHJ	**Haha-jima-NKT**	**2.12**	**131**	S	S	16 24 08.3	-0.4
BSO1	**Boso 1**	**6.60**	**4**	S	S	16 25 12.8	+1.9
JIE	**Ise**	**7.07**	**334**	P	P	16 23 53.1	+1.2
JRY	**Ryogami san**	**8.04**	**351**	P	P	16 24 03.2	+1.5
JHO	**Hitachi**	**8.54**	**1**	P	P	16 24 07.8	+1.2
JHO				S	S	16 25 46.1	-1.1

WEL 11 16:25:38.3±0.2,**38.°32S**×**176.°27E,h116**km±1**km,ML3.7**/17, **20C-15D,Error ellipse: s-maj=0.9km s-min=0.9km az=90.0,North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSRZ	**Hossack Road**	**0.02**	**289**	⇑PN	Pn	16 25 54.1	-0.1
HRRZ	**Handcock Road**	**0.07**	**172**	⇑PN	Pn	16 25 54.0	-0.3
UTU	**Utuhina**	**0.15**	**336**	⇑PN	Pn	16 25 54.5	+0.1
RRRZ	**Republican Roa**	**0.19**	**97**	⇑PN	Pn	16 25 54.1	-0.3
RRRZ				SN	Sn	16 26 06.5	-0.1
TARZ	**Mount Tarawera**	**0.20**	**66**	PN	Pn	16 25 54.4	-0.3
PRRZ	**Plateau Road**	**0.20**	**152**	PN	Pn	16 25 54.1	-0.4
PRRZ				SN	Sn	16 26 06.4	-0.3
WPRZ	**Whakapapatarin**	**0.22**	**203**	PN	Pn	16 25 54.4	-0.2
OMRZ	**Omania**	**0.23**	**21**	⇑PN	Pn	16 25 54.5	-0.1
ALRZ	**Allen Road**	**0.25**	**167**	PN	Pn	16 25 54.3	-0.3
KARZ	**Kaharoa**	**0.30**	**356**	⇑PN	Pn	16 25 54.8	-0.1
KUTZ	**Kaahu Road**	**0.39**	**244**	⇑PN	Pn	16 25 55.2	-0.1
EDRZ	**Edgecumbe**	**0.42**	**60**	⇓PN	Pn	16 25 55.2	-0.3
OPRZ	**Ohinepanea**	**0.52**	**25**	⇑PN	Pn	16 25 55.9	-0.1
OPRZ				SN	Sn	16 26 09.1	-0.1
WATZ	**Wairara**	**0.57**	**227**	PN	Pn	16 25 56.3	-0.1
TLZ	**Tolley Road**	**0.58**	**269**	⇑PN	Pn	16 25 56.5	+0.1
TLZ				SN	Sn	16 26 10.1	0.0
TGRZ	**Tauranga**	**0.59**	**359**	PN	Pn	16 25 56.5	+0.1
URZ	**Urewera**	**0.66**	**85**	PN	Pn	16 25 56.1	-0.8
URZ				AML	AML	16 26 10.2	
URZ				AML	AML	16 26 11.4	
RATZ	**Rangitukua**	**0.68**	**215**	PN	Pn	16 25 57.0	-0.2
RITZ	**Rihia Road**	**0.73**	**206**	⇓PN	Pn	16 25 58.0	+0.4
KATZ	**Kakaramea**	**0.80**	**214**	PN	Pn	16 25 58.1	-0.1
TOZ	**Tahuroa Road**	**0.84**	**314**	⇑PN	Pn	16 25 58.9	+0.4
BKZ	**Black Stump Fm**	**0.86**	**169**	⇑PN	Pn	16 25 58.5	-0.3
BKZ				SN	Sn	16 26 13.2	-1.1
BKZ				AML	AML	16 26 14.4	
RAHZ	**Arahi**	**0.88**	**133**	PN	Pn	16 25 59.0	+0.2
NMHZ	**Naumai**	**0.88**	**152**	PN	Pn	16 25 59.6	+0.6
RAGZ	**Rawiri**	**0.92**	**101**	PN	Pn	16 25 59.1	-0.2
KRVZ	**Karewarewa**	**0.92**	**212**	⇓PN	Pn	16 25 59.2	-0.1
SNGZ	**Shannon Statio**	**0.96**	**119**	PN	Pn	16 25 59.7	+0.1
WTVZ	**West Tongariro**	**0.96**	**214**	⇓PN	Pn	16 25 59.6	-0.2
OTVZ	**Oturere**	**0.97**	**209**	PN	Pn	16 25 59.9	0.0
MWZ	**Matawai**	**0.99**	**91**	PN	Pn	16 25 59.5	-0.5
MWZ				AML	AML	16 26 20.2	
MWZ				AML	AML	16 26 22.7	
MWZ				AML	AML	16 26 22.7	
TWVZ	**Taurewa**	**1.00**	**221**	PN	Pn	16 25 59.9	-0.1
NGZ	**Ngauruhoe**	**1.00**	**211**	PN	Pn	16 26 00.1	-0.1
COVZ	**Chateau Observ**	**1.05**	**213**	⇓PN	Pn	16 26 00.6	-0.1
WPVZ	**Whakapapa**	**1.05**	**212**	PN	Pn	16 26 00.6	-0.1
TUVZ	**Tukino**	**1.06**	**207**	PN	Pn	16 26 00.8	0.0
WHHZ	**Waihua**	**1.07**	**135**	PN	Pn	16 26 00.9	+0.2
FWVZ	**Far West T-bar**	**1.09**	**211**	PN	Pn	16 26 01.0	-0.2
ARHZ	**Aropaoanui**	**1.10**	**149**	PN	Pn	16 26 01.3	+0.3
WHVZ	**Whangaehu Hut**	**1.10**	**209**	⇓PN	Pn	16 26 01.3	-0.1
DRZ	**Dome Shelter**	**1.10**	**210**	PN	Pn	16 26 01.6	+0.1
KWHZ	**Kaweka Forest**	**1.11**	**174**	⇓PN	Pn	16 26 01.2	-0.1
HIZ	**Hauiti**	**1.13**	**260**	PN	Pn	16 26 01.5	+0.2
TRVZ	**Turoa**	**1.13**	**210**	PN	Pn	16 26 01.7	0.0
WNVZ	**Wahianoa**	**1.14**	**207**	⇓PN	Pn	16 26 01.5	-0.2
MOVZ	**Moawhango**	**1.16**	**200**	PN	Pn	16 26 01.4	-0.4
MCHZ	**McNeill Hill**	**1.17**	**164**	⇓PN	Pn	16 26 02.2	+0.4
BHHZ	**Black Hill Sta**	**1.18**	**188**	⇓PN	Pn	16 26 01.5	-0.5
PKVZ	**Pokaka**	**1.21**	**216**	⇓PN	Pn	16 26 02.3	0.0
RIGZ	**Rimuhau**	**1.23**	**109**	PN	Pn	16 26 02.5	0.0
MTVZ	**Mangateitei**	**1.24**	**210**	⇓PN	Pn	16 26 02.6	0.0
TKGZ	**Te Karaka**	**1.25**	**96**	⇑PN	Pn	16 26 02.7	+0.2
KNZ	**Kokohu**	**1.30**	**123**	⇑PN	Pn	16 26 03.0	-0.2
HAZ	**Te Kaha**	**1.32**	**65**	⇑PN	Pn	16 26 02.6	-0.8
KRHZ	**Kereru**	**1.33**	**177**	PN	Pn	16 26 03.0	-0.5
TWGZ	**Tauwhareparae**	**1.35**	**85**	⇑PN	Pn	16 26 04.2	+0.4
PRGZ	**Paritu Road**	**1.40**	**116**	⇑PN	Pn	16 26 04.2	-0.2
VRZ	**Vera Road**	**1.43**	**235**	PN	Pn	16 26 04.7	0.0
CKHZ	**Cape Kidnapper**	**1.48**	**155**	PN	Pn	16 26 05.2	0.0
MKAZ	**Moumakai**	**1.49**	**324**	PN	Pn	16 26 05.6	+0.3
CNGZ	**Carnagh Statio**	**1.53**	**97**	⇓PN	Pn	16 26 06.0	+0.2
KAHZ	**Kahuranaki**	**1.55**	**162**	PN	Pn	16 26 05.9	-0.2
PUZ	**Puketiti**	**1.58**	**82**	PN	Pn	16 26 06.1	-0.5
PUZ				AML	AML	16 26 28.9	
PUZ				AML	AML	16 26 36.4	
PNHZ	**Pukenui**	**1.59**	**182**	PN	Pn	16 26 05.7	-1.0
KBAZ	**Karaka Road Bo**	**1.64**	**318**	⇓PN	Pn	16 26 07.8	+0.7
ETAZ	**East Tamaki Re**	**1.73**	**322**	⇑PN	Pn	16 26 08.8	+0.6
WPHZ	**Waipukurau**	**1.75**	**176**	PN	Pn	16 26 07.5	-1.0
WAZ	**Wanganui**	**1.75**	**214**	⇓PN	Pn	16 26 08.4	-0.2
TSZ	**Takapari Road**	**1.76**	**188**	PN	Pn	16 26 07.6	-1.0
TSZ				AML	AML	16 26 34.8	
TSZ				AML	AML	16 26 38.5	
WMGZ	**Waiomatatini S**	**1.76**	**74**	⇑PN	Pn	16 26 08.4	-0.3
PXZ	**Pawanui**	**1.77**	**165**	PN	Pn	16 26 07.9	-0.8
PXZ				AML	AML	16 26 31.6	
PXZ				AML	AML	16 26 32.1	
PXZ				AML	AML	16 26 33.4	
MXZ	**Matakaoa Point**	**1.78**	**66**	PN	Pn	16 26 09.2	+0.4
MXZ				AML	AML	16 26 12.5	
MXZ				AML	AML	16 26 13.6	
PREZ	**Palmer Road**	**1.94**	**238**	PN	Pn	16 26 12.0	+1.1
NEZ	**North Egmont**	**1.95**	**240**	PN	Pn	16 26 11.8	+0.8
PRHZ	**Porangahau**	**1.97**	**172**	PN	Pn	16 26 10.0	-1.2
DVHZ	**Dannevirke**	**1.98**	**182**	PN	Pn	16 26 09.7	-1.6
PKE	**Pukeiti**	**1.99**	**243**	PN	Pn	16 26 11.0	-0.4
KHEZ	**Kahui Hut**	**2.01**	**240**	PN	Pn	16 26 12.4	+0.5
POWZ	**Post Office Ro**	**2.11**	**191**	PN	Pn	16 26 11.7	-1.2
ANWZ	**Angora Road**	**2.15**	**176**	PN	Pn	16 26 12.2	-1.2
PRWZ	**Pori Road**	**2.25**	**186**	PN	Pn	16 26 13.4	-1.3
BFZ	**Birch Farm**	**2.36**	**180**	PN	Pn	16 26 14.3	-1.8
MRZ	**Mangatainoka R**	**2.40**	**193**	⇑PN	Pn	16 26 14.6	-2.1
MRZ				AML	AML	16 26 42.7	
MRZ				AML	AML	16 26 44.5	
TIWZ	**Tintock**	**2.47**	**187**	PN	Pn	16 26 15.7	-2.0
TIWZ				AML	AML	16 26 47.0	
TIWZ				AML	AML	16 26 49.2	
CPWZ	**Castlepoint**	**2.59**	**181**	PN	Pn	16 26 17.8	-1.3
OGWZ	**Otaki Gorge**	**2.64**	**198**	PN	Pn	16 26 17.5	-2.2
HOWZ	**Holdsworth Sta**	**2.64**	**193**	PN	Pn	16 26 17.3	-2.5
KIW	**Kapiti Island**	**2.75**	**202**	PN	Pn	16 26 18.8	-2.4
KIW				AML	AML	16 26 50.9	
KIW				AML	AML	16 26 51.0	
TMWZ	**Te Maipa**	**2.80**	**186**	PN	Pn	16 26 19.6	-2.3
MTW	**Mount Morrison**	**2.90**	**192**	PN	Pn	16 26 20.3	-2.8
MTW				AML	AML	16 26 55.0	
CAW	**Cannon Point**	**2.94**	**198**	PN	Pn	16 26 20.8	-2.8
CAW				AML	AML	16 26 55.2	
CAW				AML	AML	16 26 56.

comp=Z,0.3nm,0.3s,baz=236,slow=18,SNR=6.2
CPUP Villa Florida 10.88 110 P **Pn** 16 30 48.6 **+0.4**
comp=Z,0.1nm,0.3s,baz=293,slow=11,SNR=5.0
CPUP Villa Florida 10.88 110 *e*Pn **Pn** 16 30 47.0 **-1.1**
comp=Z,0.1nm,0.8s
SAML Samuel 14.86 22 P **Pn** 16 31 38.0 **-2.3**
comp=Z,1.8nm,0.6s
TRQA Tornquist 16.15 161 *e*P **P** 16 31 59.2 **+1.6**
comp=Z,5.7nm,0.5s
BDFB Brasilia 20.80 73 P **P** 16 32 48.2 **-0.4**
comp=Z,8.8nm,0.6s,baz=245,slow=12,SNR=18
BDFB LR LR 16 42 22.8
comp=Z,46nm,18.0s,baz=216,slow=41
PTGA Pitinga 23.63 22 P **P** 16 33 16.2 **-0.9**
comp=Z,6.4nm,0.4s,baz=204,slow=14,SNR=12
QSPA South Pole Qui 67.28 180 *e*P **P** 16 39 01.1 **+2.5**
comp=Z,6.9nm,0.5s
DBIC Dimbokro 68.95 73 P **P** 16 39 10.2 **+0.6**
comp=Z,9.5nm,1.1s,baz=223,slow=8.6,SNR=5.2
ELK Elko 76.70 325 P **P** 16 39 55.0 **-0.2**
comp=Z,0.7nm,0.7s,baz=76,slow=5.9,SNR=3.7
TORD Torodi Ar. Bea 77.65 70 P **P** 16 40 01.2 **+0.5**
comp=Z,4.7nm,0.7s,baz=253,slow=5.3,SNR=46
TORD pP **pP** 16 40 29.0 **+0.9**
comp=Z,3.4nm,0.5s,baz=253,slow=5.3,SNR=5.2
ASAR Alice Springs 128.75 207 PKP **PKPdf** 16 47 12.0 **+0.9**
comp=Z,0.8nm,0.8s,baz=122,slow=2.0,SNR=12
ASAR pPKP **pPKPdf** 16 47 40.0 **-0.4**
comp=Z,0.3nm,0.7s,baz=126,slow=1.3,SNR=2.0
WRA Warramunga Arr 131.83 210 PKP **PKPdf** 16 47 18.4 **+1.5**
comp=Z,0.8nm,0.6s,baz=150,slow=1.6,SNR=18
WRA pPKP **pPKPdf** 16 47 46.7 **+0.4**
comp=Z,0.6nm,1.0s,baz=156,slow=1.6,SNR=2.1
ZALV Zalesovo Beam 143.14 26 PKP **PKPdf** 16 47 36.0 **-0.7**
comp=Z,0.9nm,0.6s,baz=279,slow=2.9,SNR=4.3
MK31 Makanchi Array 146.65 37 *e*PKPbc **PKPbc** 16 47 44.7 **-0.1**
MKAR Makanchi Array 146.65 37 PKPbc **PKPbc** 16 47 44.8 **0.0**
comp=Z,0.8nm,0.7s,baz=289,slow=2.7,SNR=5.4
MKAR pPKPbc pPKPbc 16 48 13.4 -0.3
comp=Z,1.9nm,0.9s,baz=336,slow=2.7,SNR=6.2
LEM Lembang 150.22 173 PKPbc **PKPbc** 16 47 56.9 **+1.7**
comp=Z,16nm,0.6s,baz=163,slow=22,SNR=5.1

NEIC ***11*** *16:58:38.5, 37.13S×176.70E, h333km, MG4.1(WEL), After WEL.*
WEL 11 16:58:39.1±0.4, 37.15S×176.72E, h328km±2km, ML4.1/11, 9C-6D, Error ellipse: s-maj=4.5km s-min=3.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.71**	**190**	PN	Pn	16 59 21.3	0.0
OPRZ	**Ohinepanea**	**0.71**	**190**	Pn	Pn	16 59 21.3	0.0
HAZ	**Te Kaha**	**1.05**	**126**	⇑PN	Pn	16 59 22.5	-0.1
HAZ				SN	S	16 59 56.7	-0.6
TOZ	**Tahuroa Road**	**1.13**	**238**	PN	Pn	16 59 23.6	+0.7
TOZ	**Tahuroa Road**	**1.13**	**238**	Pn	Pn	16 59 23.6	+0.7
URZ	**Urewera**	**1.16**	**164**	⇑PN	Pn	16 59 22.7	-0.4
URZ				SN	S	16 59 57.2	-1.0
URZ				AML	AML	16 59 59.9	
URZ	**Urewera**	**1.16**	**164**	Pn	Pn	16 59 22.7	-0.4
URZ				Sn	S	16 59 57.2	-1.0
RRRZ	**Republican Roa**	**1.21**	**188**	PN	Pn	16 59 23.2	-0.2
RRRZ	**Republican Roa**	**1.21**	**188**	Pn	Pn	16 59 23.2	-0.2
MXZ	**Matakaoa Point**	**1.33**	**109**	PN	Pn	16 59 24.0	0.0
MXZ				SN	S	16 59 59.5	-0.4
MXZ				AML	AML	17 00 03.9	
MXZ	**Matakaoa Point**	**1.33**	**109**	Pn	Pn	16 59 24.0	0.0
MWZ	**Matawai**	**1.35**	**152**	PN	Pn	16 59 24.1	0.0
MWZ				SN	S	16 59 59.9	-0.3
MWZ				AML	AML	17 00 04.1	
MWZ				AML	AML	17 00 04.1	
MWZ	**Matawai**	**1.35**	**152**	Pn	Pn	16 59 24.1	0.0
MWZ				Sn	S	16 59 59.9	-0.3
TWGZ	**Tauwhareparae**	**1.44**	**136**	PN	Pn	16 59 25.2	+0.5
TWGZ				SN	S	17 00 02.2	+1.1
RAGZ	**Rawiri**	**1.46**	**158**	PN	Pn	16 59 25.1	+0.3
WMGZ	**Waiomatatini S**	**1.51**	**117**	PN	Pn	16 59 25.2	+0.2
PUZ	**Puketiti**	**1.54**	**128**	PN	Pn	16 59 25.2	0.0
PUZ				AML	AML	17 00 05.1	
PUZ	**Puketiti**	**1.54**	**128**	Pn	Pn	16 59 25.2	0.0
TKGZ	**Te Karaka**	**1.57**	**146**	PN	Pn	16 59 25.6	+0.3
SNGZ	**Shannon Statio**	**1.71**	**163**	PN	Pn	16 59 26.4	+0.1
RIGZ	**Rimuhau**	**1.77**	**152**	PN	Pn	16 59 27.0	+0.3
CNGZ	**Carnagh Statio**	**1.79**	**139**	PN	Pn	16 59 27.4	+0.6
CNGZ	**Carnagh Statio**	**1.79**	**139**	Pn	Pn	16 59 27.4	+0.6
RAHZ	**Arahi**	**1.79**	**171**	PN	Pn	16 59 27.1	+0.2
RAHZ	**Arahi**	**1.79**	**171**	Pn	Pn	16 59 27.1	+0.2
NMHZ	**Naumai**	**1.95**	**178**	PN	Pn	16 59 28.3	+0.3
NMHZ	**Naumai**	**1.95**	**178**	Pn	Pn	16 59 28.3	+0.3
RITZ	**Rihia Road**	**1.95**	**200**	PN	Pn	16 59 28.0	0.0
RITZ	**Rihia Road**	**1.95**	**200**	Pn	Pn	16 59 28.0	0.0
WHHZ	**Waihua**	**1.97**	**168**	PN	Pn	16 59 28.2	+0.2
KATZ	**Kakaramea**	**2.00**	**203**	PN	Pn	16 59 27.6	-0.8
PRGZ	**Paritu Road**	**2.00**	**153**	PN	Pn	16 59 28.8	+0.4
PRGZ	**Paritu Road**	**2.00**	**153**	Pn	Pn	16 59 28.8	+0.5
HIZ	**Hauiti**	**2.01**	**227**	PN	Pn	16 59 28.7	+0.3
HIZ	**Hauiti**	**2.01**	**227**	Pn	Pn	16 59 28.7	+0.3
KNZ	**Kokohu**	**2.02**	**158**	PN	Pn	16 59 28.5	+0.1
KNZ	**Kokohu**	**2.02**	**158**	Pn	Pn	16 59 28.5	+0.1
BKZ	**Black Stump Fm**	**2.03**	**185**	⇑PN	Pn	16 59 27.9	-0.6
BKZ				AML	AML	17 00 10.5	
BKZ				AML	AML	17 00 11.7	
BKZ	**Black Stump Fm**	**2.03**	**185**	Pn	Pn	16 59 27.9	-0.6
KRVZ	**Karewarewa**	**2.12**	**203**	PN	Pn	16 59 28.9	-0.4
KRVZ	**Karewarewa**	**2.12**	**203**	Pn	Pn	16 59 28.9	-0.4
ARHZ	**Aropaoanui**	**2.13**	**174**	PN	Pn	16 59 29.3	+0.1
WTVZ	**West Tongariro**	**2.16**	**204**	⇓PN	Pn	16 59 29.3	-0.4
WTVZ	**West Tongariro**	**2.16**	**204**	Pn	Pn	16 59 29.3	-0.4
TWVZ	**Taurewa**	**2.17**	**207**	PN	Pn	16 59 29.3	-0.4
TWVZ	**Taurewa**	**2.17**	**207**	Pn	Pn	16 59 29.3	-0.4
OTVZ	**Oturere**	**2.18**	**202**	⇑PN	Pn	16 59 29.6	-0.3
OTVZ	**Oturere**	**2.18**	**202**	Pn	Pn	16 59 29.6	-0.3
NGZ	**Ngauruhoe**	**2.21**	**203**	PN	Pn	16 59 29.8	-0.3
NGZ	**Ngauruhoe**	**2.21**	**203**	Pn	Pn	16 59 29.8	-0.3
COVZ	**Chateau Observ**	**2.25**	**204**	⇑PN	Pn	16 59 29.8	-0.5
WPVZ	**Whakapapa**	**2.25**	**204**	PN	Pn	16 59 30.0	-0.4
WPVZ	**Whakapapa**	**2.25**	**204**	Pn	Pn	16 59 30.0	-0.4
TUVZ	**Tukino**	**2.28**	**201**	PN	Pn	16 59 30.0	-0.6
TUVZ	**Tukino**	**2.28**	**201**	Pn	Pn	16 59 30.0	-0.6
KWHZ	**Kaweka Forest**	**2.29**	**186**	PN	Pn	16 59 30.1	-0.5
MCHZ	**McNeill Hill**	**2.30**	**180**	PN	Pn	16 59 30.5	0.0
MCHZ	**McNeill Hill**	**2.30**	**180**	Pn	Pn	16 59 30.6	0.0
FWVZ	**Far West T-bar**	**2.30**	**203**	PN	Pn	16 59 30.4	-0.5
FWVZ	**Far West T-bar**	**2.30**	**203**	Pn	Pn	16 59 30.4	-0.5
WHVZ	**Whangaehu Hut**	**2.31**	**202**	⇑PN	Pn	16 59 30.3	-0.7
TRVZ	**Turoa**	**2.34**	**203**	PN	Pn	16 59 30.6	-0.6
TRVZ	**Turoa**	**2.34**	**203**	Pn	Pn	16 59 29.7	-1.5
WNVZ	**Wahianoa**	**2.35**	**202**	⇑PN	Pn	16 59 30.4	-0.8
WNVZ	**Wahianoa**	**2.35**	**202**	Pn	Pn	16 59 30.4	-0.8
MOVZ	**Moawhango**	**2.38**	**198**	PN	Pn	16 59 30.3	-1.0
MOVZ	**Moawhango**	**2.38**	**198**	Pn	Pn	16 59 30.4	-1.0
BHHZ	**Black Hill Sta**	**2.40**	**192**	PN	Pn	16 59 30.7	-0.7
BHHZ	**Black Hill Sta**	**2.40**	**192**	Pn	Pn	16 59 30.7	-0.7
PKVZ	**Pokaka**	**2.40**	**206**	PN	Pn	16 59 30.5	-1.0
PKVZ	**Pokaka**	**2.40**	**206**	Pn	Pn	16 59 30.5	-1.0
MTVZ	**Mangateitei**	**2.44**	**203**	PN	Pn	16 59 31.3	-0.6
MTVZ	**Mangateitei**	**2.44**	**203**	Pn	Pn	16 59 31.3	-0.6
VRZ	**Vera Road**	**2.51**	**217**	PN	Pn	16 59 32.2	-0.1
VRZ	**Vera Road**	**2.51**	**217**	Pn	Pn	16 59 32.2	-0.1
KRHZ	**Kereru**	**2.51**	**186**	⇓PN	Pn	16 59 31.6	-0.8
CKHZ	**Cape Kidnapper**	**2.53**	**174**	PN	Pn	16 59 32.5	+0.1
CKHZ	**Cape Kidnapper**	**2.53**	**174**	Pn	Pn	16 59 32.5	+0.1
KAHZ	**Kahuranaki**	**2.65**	**177**	PN	Pn	16 59 33.5	-0.1
KAHZ	**Kahuranaki**	**2.65**	**177**	Pn	Pn	16 59 33.5	-0.1
PNHZ	**Pukenui**	**2.79**	**188**	PN	Pn	16 59 33.9	-1.0
PNHZ	**Pukenui**	**2.79**	**188**	Pn	Pn	16 59 33.9	-1.0
PXZ	**Pawanui**	**2.89**	**178**	PN	Pn	16 59 35.3	-0.3
PXZ				AML	AML	17 00 24.4	
PXZ	**Pawanui**	**2.89**	**178**	Pn	Pn	16 59 35.3	-0.3
WPHZ	**Waipukurau**	**2.92**	**184**	PN	Pn	16 59 35.2	-0.8
WPHZ	**Waipukurau**	**2.92**	**184**	Pn	Pn	16 59 35.2	-0.8
WAZ	**Wanganui**	**2.94**	**207**	PN	Pn	16 59 35.1	-1.1
WAZ	**Wanganui**	**2.94**	**207**	Pn	Pn	16 59 35.1	-1.1
NEZ	**North Egmont**	**2.96**	**223**	PN	Pn	16 59 36.5	0.0
NEZ	**North Egmont**	**2.96**	**223**	Pn	Pn	16 59 36.5	0.0
TSZ	**Takapari Road**	**2.97**	**191**	PN	Pn	16 59 35.1	-1.4
TSZ	**Takapari Road**	**2.97**	**191**	Pn	Pn	16 59 35.1	-1.4
KHEZ	**Kahui Hut**	**3.02**	**224**	PN	Pn	16 59 37.0	-0.1
NWEZ	**Newall Road**	**3.09**	**226**	*e*PN	Pn	16 59 37.6	0.0
NWEZ	**Newall Road**	**3.09**	**226**	*e*Pn	Pn	16 59 34.6	-3.0
PRHZ	**Porangahau**	**3.12**	**181**	PN	Pn	16 59 37.2	-0.7
PRHZ	**Porangahau**	**3.12**	**181**	Pn	Pn	16 59 37.2	-0.7
DVHZ	**Dannevirke**	**3.18**	**188**	PN	Pn	16 59 37.4	-1.1
DVHZ	**Dannevirke**	**3.18**	**188**	Pn	Pn	16 59 37.4	-1.1
ANWZ	**Angora Road**	**3.32**	**183**	⇑PN	Pn	16 59 39.1	-0.6
POWZ	**Post Office Ro**	**3.33**	**193**	PN	Pn	16 59 38.6	-1.3
POWZ	**Post Office Ro**	**3.33**	**193**	Pn	Pn	16 59 38.6	-1.3
PRWZ	**Pori Road**	**3.46**	**189**	PN	Pn	16 59 40.3	-0.9
BFZ	**Birch Farm**	**3.55**	**186**	PN	Pn	16 59 40.8	-1.2
BFZ	**Birch Farm**	**3.55**	**186**	Pn	Pn	16 59 40.8	-1.2
MRZ	**Mangatainoka R**	**3.62**	**194**	⇑PN	Pn	16 59 40.9	-2.0
MRZ				AML	AML	17 00 35.3	
MRZ				AML	AML	17 00 36.1	
MRZ	**Mangatainoka R**	**3.62**	**194**	Pn	Pn	16 59 40.9	-2.0
TIWZ	**Tintock**	**3.69**	**190**	PN	Pn	16 59 42.0	-1.5
TIWZ				AML	AML	17 00 37.2	
TIWZ	**Tintock**	**3.69**	**190**	Pn	Pn	16 59 42.0	-1.5
OGWZ	**Otaki Gorge**	**3.86**	**198**	PN	Pn	16 59 43.2	-2.0
OGWZ	**Otaki Gorge**	**3.86**	**198**	Pn	Pn	16 59 43.2	-2.0
HOWZ	**Holdsworth Sta**	**3.86**	**194**	PN	Pn	16 59 43.4	-1.9
HOWZ	**Holdsworth Sta**	**3.86**	**194**	Pn	Pn	16 59 43.4	-1.9
KIW	**Kapiti Island**	**3.97**	**200**	PN	Pn	16 59 44.2	-2.3
KIW	**Kapiti Island**	**3.97**	**200**	Pn	Pn	16 59 44.2	-2.3
TMWZ	**Te Maipa**	**4.01**	**189**	PN	Pn	16 59 45.6	-1.3
TMWZ	**Te Maipa**	**4.01**	**189**	Pn	Pn	16 59 45.6	-1.3
MTW	**Mount Morrison**	**4.12**	**193**	PN	Pn	16 59 45.7	-2.3
MTW	**Mount Morrison**	**4.12**	**193**	Pn	Pn	16 59 45.7	-2.3
CAW	**Cannon Point**	**4.16**	**197**	PN	Pn	16 59 46.1	-2.3
CAW				AML	AML	17 00 45.0	
CAW				AML	AML	17 00 46.9	
CAW	**Cannon Point**	**4.16**	**197**	Pn	Pn	16 59 46.1	-2.3
DUWZ	**D'Urville Isla**	**4.25**	**210**	PN	Pn	16 59 46.9	-2.5
DUWZ	**D'Urville Isla**	**4.25**	**210**	Pn	Pn	16 59 46.9	-2.5
TRWZ	**Traveller**	**4.32**	**190**	PN	Pn	16 59 48.6	-1.6
TRWZ	**Traveller**	**4.32**	**190**	Pn	Pn	16 59 48.6	-1.6
PAWZ	**Paruwai Farm**	**4.35**	**193**	PN	Pn	16 59 48.3	-2.1
PAWZ	**Paruwai Farm**	**4.35**	**193**	Pn	Pn	16 59 48.3	-2.1
WEL	**Wellington**	**4.40**	**199**	PN	Pn	16 59 48.6	-2.4
WEL	**Wellington**	**4.40**	**199**	Pn	Pn	16 59 48.6	-2.4
MSWZ	**Moikau Station**	**4.41**	**194**	PN	Pn	16 59 48.8	-2.3
MSWZ	**Moikau Station**	**4.41**	**194**	Pn	Pn	16 59 48.8	-2.3
TCW	**Tory Channel**	**4.48**	**204**	PN	Pn	16 59 49.7	-2.2
TCW				AML	AML	17 00 50.1	
TCW				AML	AML	17 00 50.3	
TCW	**Tory Channel**	**4.48**	**204**	Pn	Pn	16 59 49.7	-2.2
BHW	**Baring Head**	**4.49**	**198**	PN	Pn	16 59 49.3	-2.6
PLWZ	**Palliser**	**4.56**	**194**	PN	Pn	16 59 50.4	-2.4
PLWZ	**Palliser**	**4.56**	**194**	Pn	Pn	16 59 50.4	-2.4
TUWZ	**Tuamarina**	**4.79**	**206**	PN	Pn	16 59 52.5	-2.7
TUWZ				AML	AML	17 00 54.0	
TUWZ				AML	AML	17 00 54.1	
TUWZ	**Tuamarina**	**4.79**	**206**	Pn	Pn	16 59 52.5	-2.7
NNZ	**Nelson**	**4.82**	**211**	⇓PN	Pn	16 59 52.4	-3.3
NNZ	**Nelson**	**4.82**	**211**	Pn	Pn	16 59 52.4	-3.3
QRZ	**Quartz Range**	**4.92**	**220**	⇓PN	Pn	16 59 52.8	-3.9
QRZ	**Quartz Range**	**4.92**	**220**	Pn	Pn	16 59 52.8	-3.9
BSWZ	**Blackbirch Sta**	**5.07**	**205**	PN	Pn	16 59 56.1	-2.3
BSWZ	**Blackbirch Sta**	**5.07**	**205**	Pn	Pn	16 59 56.1	-2.3
THZ	**Tophouse**	**5.47**	**211**	PN	Pn	16 59 59.5	-3.6
THZ	**Tophouse**	**5.47**	**211**	Pn	Pn	16 59 59.5	-3.7
KHZ	**Kahutara**	**5.81**	**204**	PN	Pn	17 00 04.2	-2.6
KHZ	**Kahutara**	**5.81**	**204**	Pn	Pn	17 00 04.2	-2.6
DSZ	**Denniston Nort**	**5.96**	**218**	⇓PN	Pn	17 00 04.5	-4.2
DSZ	**Denniston Nort**	**5.96**	**218**	Pn	Pn	17 00 04.5	-4.2
LTZ	**Lake Taylor**	**6.58**	**210**	PN	Pn	17 00 12.2	-3.8
LTZ	**Lake Taylor**	**6.58**	**210**	Pn	Pn	17 00 11.0	-5.0
OXZ	**Oxford**	**7.13**	**209**	PN	Pn	17 00 18.2	-4.3
CRLZ	**Canterbury Las**	**7.14**	**205**	PN	Pn	17 00 18.5	-4.0
CRLZ	**Canterbury Las**	**7.14**	**205**	Pn	Pn	17 00 18.5	-4.0
MQZ	**McQueen's Vall**	**7.25**	**204**	⇓PN	Pn	17 00 19.8	-4.0
MQZ	**McQueen's Vall**	**7.25**	**204**	Pn	Pn	17 00 19.8	-4.0
WVZ	**Waitaha Valley**	**7.49**	**216**	PN	Pn	17 00 22.1	-4.5
WVZ	**Waitaha Valley**	**7.49**	**216**	Pn	Pn	17 00 22.1	-4.5
RPZ	**Rata Peaks**	**7.86**	**212**	PN	Pn	17 00 26.8	-4.3
RPZ	**Rata Peaks**	**7.86**	**212**	Pn	Pn	17 00 26.8	-4.3
FOZ	**Fox Glacier**	**8.36**	**218**	PN	Pn	17 00 31.5	-5.6
FOZ	**Fox Glacier**	**8.36**	**218**	Pn	Pn	17 00 31.5	-5.6
LBZ	**Lake Benmore**	**8.77**	**212**	PN	Pn	17 00 38.2	-3.9
LBZ	**Lake Benmore**	**8.77**	**212**	Pn	Pn	17 00 38.2	-3.9
ODZ	**Otahua Downs**	**9.12**	**208**	PN	Pn	17 00 43.9	-2.4
JCZ	**Jackson Bay**	**9.19**	**219**	PN	Pn	17 00 42.8	-4.5
JCZ	**Jackson Bay**	**9.19**	**219**	Pn	Pn	17 00 42.8	-4.5
WKZ	**Wanaka**	**9.63**	**215**	PN	Pn	17 00 47.6	-5.0
WKZ	**Wanaka**	**9.63**	**215**	Pn	Pn	17 00 47.6	-5.0
EAZ	**Earnscleugh**	**9.82**	**212**	PN	Pn	17 00 50.2	-4.5
EAZ	**Earnscleugh**	**9.82**	**212**	Pn	Pn	17 00 50.2	-4.5
TUZ	**Tuapeka**	**10.28**	**209**	PN	Pn	17 00 58.4	-1.9
TUZ	**Tuapeka**	**10.28**	**209**	Pn	Pn	17 00 58.4	-1.9

IDC ***11*** *17:25:56.5±1.9, 1.04S×127.36E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.5/28, mbtmp3.7/3, ML3.8/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/22, Error ellipse: s-maj=157.2km s-min=23.7km az=66.0*
DJA ***11*** *17:26:07.0±0.5, 1.15S×12.8E±°, h81km±14km, M4.1/9, mb4.4/3, mB4.9/2, MLv4.0/9, Mw(mB)4.2/2*
ISC 11 17:26:05.5±1.2, 1.36S±0.08×127.44E±0.08, h25km, n12, σ1§81/10, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.72**	**5**	P	**Pn**	**17 26 21.6**	**+1.5**
SANI	**Sanana**	**1.61**	**245**	P	**Pb**	**17 26 35.7**	**+1.2**
NLAI	**Namlea**	**1.90**	**190**	P	**Pb**	**17 26 41.8**	**+2.4**
KMSI	**Cibinong**	**3.96**	**299**	P	**Sn**	**17 27 49.2**	**-1.2**
LUWI	**Luwuk**	**4.68**	**274**	P	**Pn**	**17 27 15.5**	**+0.9**
FAKI	**Fak Fak**	**5.04**	**108**	P	**Pn**	**17 27 19.7**	**+0.1**
	23nm,1.3s,0.1nm						
MRSI	**Marisa**	**5.80**	**288**	P	**Pn**	**17 27 29.0**	**-1.0**
	12nm,0.6s,778nm0.1nm						
APSI	**Ampana**	**5.81**	**274**	P	**Pn**	**17 27 31.7**	**+1.6**
WRA	**Warramunga Arr**	**19.66**	**160**	P	**P**	**17 30 30.6**	**-2.1**
	0.3nm,0.3s,baz=339,slow=12,SNR=20						
ASAR	**Alice Springs**	**23.04**	**165**	P	**P**	**17 31 07.1**	**-2.0**
	0.5nm,0.3s,baz=345,slow=12,SNR=17						
JCJ	**Chichijima**	**31.66**	**26**	LR	LR	17 45 01.4	
	comp=Z,15nm,18.0s,baz=101,slow=36						
MKAR	**Makanchi Array**	**62.15**	**327**	P	P	17 36 17.4	-7.3
	0.7nm,0.4s,baz=115,slow=8.3,SNR=18						

CSEM ***11*** *17:52:01.8±1.0, 35.40N×2.01E, h5km, ML2.9, Error ellipse: s-maj=24.0km s-min=9.8km az=174.0*
CRAAG ***11*** *17:52:02.4, 36.36N×2.00E, Ml2.9*
MDD ***11*** *17:52:04.0±0.9, 35.26N×2.04E, h4km±9km, mb3.5/10, Error ellipse: s-maj=13.9km s-min=4.8km az=163.0, PRXIMO*
ISC 11 17:51:59.6±2.2, 35.3N±0.1×1.93E±0.06, h10km, n26, σ1§57/30, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EANR	**'Ain N'Sour**	**0.96**	**316**	P	**Pn**	**17 52 20.1**	**+0.9**
EANR	**'Ain N'Sour**	**0.96**	**316**	P	**Pn**	**17 52 20.1**	**+0.9**
EANR	**'Ain N'Sour**	**0.96**	**316**	P	**Pn**	**17 52 20.1**	**+0.9**
OKGL	**Djebel Kef Gue**	**1.30**	**307**	P	**Pn**	**17 52 25.2**	**+1.3**
	17nm,0.1s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**1.30**	**307**	P	**Pn**	**17 52 25.2**	**+1.3**
	17nm,0.1s,SNR=7.9						
ADJB	**Djebel Djouab**	**1.52**	**54**	P	**Pb**	**17 52 27.5**	**-0.4**
ADJB	**Djebel Djouab**	**1.52**	**54**	P	**Pb**	**17 52 27.5**	**-0.4**
ADJB	**Djebel Djouab**	**1.52**	**54**	P	**Pb**	**17 52 27.5**	**-0.4**
EMUR	**La Murta**	**3.62**	**316**	P	**Pn**	**17 52 57.8**	**+2.0**
	0.5nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**3.62**	**316**	P	**Pn**	**17 52 57.8**	**+2.0**
	0.5nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.79**	**353**	P	**Pn**	**17 52 59.6**	**+1.6**
	1.0nm,0.1s,SNR=12						
EIBI				S	**Sn**	**17 53 41.7**	**-0.9**
	1.5nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**3.79**	**353**	P	**Pn**	**17 52 59.6**	**+1.6**
	1.0nm,0.1s,SNR=12						
EIBI				S	**Sn**	**17 53 41.7**	**-0.9**
	1.5nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**3.84**	**334**	P	**Pn**	**17 53 01.0**	**+2.1**
	0.2nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**3.84**	**334**	P	**Pn**	**17 53 01.0**	**+2.1**
	0.2nm,0.2s,SNR=7.9						
EBER	**Berja**	**4.23**	**294**	P	**Pn**	**17 53 05.9**	**+1.6**
	0.4nm,0.1s,SNR=5.2						
EBER	**Berja**	**4.23**	**294**	P	**Pn**	**17 53 05.9**	**+1.6**
	0.4nm,0.1s,SNR=5.2						
ETOB	**Tobarra**	**4.38**	**321**	P	**Pn**	**17 53 09.2**	**+3.0**
	1.1nm,0.3s,SNR=13						
ETOB				S	**Sn**	**17 53 57.4**	**+0.1**
	0.2nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**4.38**	**321**	P	**Pn**	**17 53 09.1**	**+3.0**
	1.1nm,0.3s,SNR=13						
ETOB				S	**Sn**	**17 53 57.4**	**+0.1**
	0.2nm,0.1s,SNR=7.9						
EQES	**Quesada**	**4.76**	**304**	P	Pn	17 53 15.5	+4.0
	0.6nm,0.2s,SNR=9.3						
EQES				S	**Sn**	**17 54 05.9**	**-0.9**
	0.5nm,0.2s						
EQES	**Quesada**	**4.76**	**304**	P	Pn	17 53 15.5	+4.0
	0.6nm,0.2s,SNR=9.3						
EQES				S	**Sn**	**17 54 05.9**	**-0.9**
	0.5nm,0.2s						
EMOS	**Mosqueruela**	**5.43**	**340**	P	**Pn**	**17 53 22.7**	**+1.9**
	0.4nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**5.43**	**340**	P	**Pn**	**17 53 22.7**	**+1.9**
	0.4nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**6.43**	**315**	P	Pn	**17 53 32.8**	**-1.6**
	0.2nm,0.2s,baz=126,slow=12,SNR=3.8						
ESDC	**Sonseca Array**	**6.43**	**315**	P	Pn	**17 53 32.8**	**-1.6**
	0.2nm,0.2s,SNR=3.8						
EJON	**La Jonquera**	**7.21**	**6**	P	**Pn**	**17 53 45.3**	**+0.2**
	0.1nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**7.21**	**6**	P	**Pn**	**17 53 45.3**	**+0.2**
	0.1nm,0.1s,SNR=7.9						

NIED ***11*** *18:09:00, 35.30N×135.30E, h11km, Mw3.6 Best double couple: M₀2.54000×10¹⁴ NP1:φ₈20.00000°, δ48.00000°, λ143.00000°. NP2:φ₈136.00000°, δ63.00000°, λ48.00000°.*
ISCJB ***11*** *18:09:02.0±0.5, 35.27N±0.03×135.28E±0.04, h12km±3km, mb3.3/5, MS3.4/1, Error ellipse: s-maj=5.8km s-min=4.9km az=19.1*
IDC ***11*** *18:09:02.4±0.9, 35.33N×135.18E, h0km, mb3.4/5, mb1 3.4/8, mb1mx3.3/39, mbtmp3.3/8, ML3.2/3, MS2.7/2, Ms1 2.7/2, ms1mx2.1/25, Error ellipse: s-maj=20.5km s-min=12.7km az=160.0*
JMA ***11*** *18:09:02.6, 35.28N×135.30E, h8km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φ₈127.00000°, δ72.00000°, λ36.00000°. NP2:φ₈24.00000°, δ56.00000°, λ158.00000°. Principal axes: T Plg38.0000°, Azm350.0000°; N Plg50.0000°, Azm150.0000°; P Plg10.0000°, Azm252.0000°;*
JMA Felt II J1.
ISC 11 18:09:02.1±1.3, 35.32N±0.05×135.27E±0.03, h1km±11km, n15, σ0§79/22, mb3.5/5, 1C-3D, Western Honshu

| Code | Station Name | Δ° | AZ° | Phase ID

MTVR	**Mutnovka**	**0.98**	**253**	*e*P	**Pn**	**18 09 54.9**	**+1.0**
MTVR				*e*S	**Sn**	**18 10 07.6**	**+0.8**
GRL	**Gorelyy**	**1.03**	**258**	*e*P	**Pn**	**18 09 55.9**	**+1.4**
GRL				*e*S	**Sn**	**18 10 08.9**	**+1.0**
GRL	**Gorelyy**	**1.03**	**258**	PN	**Pn**	**18 09 55.9**	**+1.4**
GRL				S	**Sn**	**18 10 08.9**	**+1.0**
ASAK	**Asacha**	**1.18**	**251**	*e*P	**Pn**	**18 09 58.0**	**+1.5**
ASAK				*e*S	**Sn**	**18 10 13.0**	**+1.5**
KII	**Karymskiy**	**1.27**	**353**	*e*P	**Pn**	**18 09 58.4**	**+0.7**
KII				*e*S	**Sn**	**18 10 13.9**	**+0.3**
KII	**Karymskiy**	**1.27**	**353**	PN	**Pn**	**18 09 58.4**	**+0.7**
KII				S	**Sn**	**18 10 13.9**	**+0.3**
PETK	**Petropavlovsk-**	**1.27**	**286**	P	**Pn**	**18 09 59.0**	**+1.5**
	comp=E,256nm,0.3s,baz=98,slow=18,SNR=3595						
PETK				S	**Sn**	**18 10 14.7**	**+1.2**
	comp=E,316nm,0.3s,baz=60,slow=17,SNR=40						
PETK				LR	LR	18 10 32.3	
	comp=E,206nm,19.0s,baz=83,slow=54						
PETK	**Petropavlovsk-**	**1.27**	**286**	PN	**Pn**	**18 09 59.1**	**+1.5**
PETK				S	**Sn**	**18 10 14.7**	**+1.2**
PETK				pmax	pmax		
	comp=Z,256nm,0.3s						
PETK				smax	smax		
	comp=N,317nm,0.3s						
PETK				MLR	MLR		
	comp=Z,206nm,19.0s						
GNL	**Ganaly**	**1.41**	**311**	*e*P	**Pn**	**18 10 00.5**	**+0.9**
GNL				*e*S	**Sn**	**18 10 17.8**	**+0.7**
GNL	**Ganaly**	**1.41**	**311**	PN	**Pn**	**18 10 00.5**	**+0.9**
GNL				S	**Sn**	**18 10 17.8**	**+0.7**
APC	**Apacha**	**1.56**	**276**	*e*P	**Pn**	**18 10 03.2**	**+1.6**
APC				*e*S	**Sn**	**18 10 22.6**	**+2.0**
APC	**Apacha**	**1.56**	**276**	PN	**Pn**	**18 10 03.2**	**+1.6**
APC				S	**Sn**	**18 10 22.6**	**+2.0**
MIPR	**Malaya Ipel'ka**	**1.88**	**256**	*e*P	**Pn**	**18 10 08.0**	**+2.1**
MIPR				*e*S	**Sn**	**18 10 30.5**	**+2.0**
MKZ	**Mys Kozlova**	**2.14**	**33**	*e*P	**Pn**	**18 10 09.6**	**+0.1**
MKZ				*e*S	**Sn**	**18 10 32.9**	**-1.9**
MKZ	**Mys Kozlova**	**2.14**	**33**	PN	**Pn**	**18 10 09.6**	**+0.1**
MKZ				S	**Sn**	**18 10 32.9**	**-1.9**
PAU	**Pauzhetka**	**2.23**	**235**	*e*P	**Pn**	**18 10 13.0**	**+2.4**
PAU				*e*S	**Sn**	**18 10 40.4**	**+3.5**
PAU	**Pauzhetka**	**2.23**	**235**	PN	**Pn**	**18 10 13.0**	**+2.4**
PAU				S	**Sn**	**18 10 40.4**	**+3.5**
KZV	**Kizimen**	**2.36**	**8**	*e*P	**Pn**	**18 10 14.1**	**+1.4**
KZV				*e*S	**Sn**	**18 10 41.7**	**+1.2**
TUMR	**Tumrok**	**2.52**	**5**	*e*P	**Pn**	**18 10 16.7**	**+1.9**
TUMR				*e*S	**Sn**	**18 10 46.4**	**+2.1**
TUMR	**Tumrok**	**2.52**	**5**	PN	**Pn**	**18 10 16.7**	**+1.9**
TUMR				S	**Sn**	**18 10 46.4**	**+2.1**
KMNR	**Kamenistaya**	**3.00**	**6**	*e*P	**Pn**	**18 10 24.3**	**+3.0**
KMNR				*e*S	**Sn**	**18 10 59.6**	**+3.6**
KMNR	**Kamenistaya**	**3.00**	**6**	PN	**Pn**	**18 10 24.3**	**+3.0**
KMNR				S	**Sn**	**18 10 59.6**	**+3.6**
SKR	**Severo-Kuril's**	**3.07**	**228**	*e*P	**Pn**	**18 10 24.1**	**+1.9**
SKR				*e*S	**Sn**	**18 10 59.2**	**+1.5**
SKR	**Severo-Kuril's**	**3.07**	**228**	*e*PN	Pn	18 10 12.2	-10
SKR				pmax	pmax		
	comp=Z,30nm,0.5s						
ESO	**Esso**	**3.21**	**350**	*e*P	**Pn**	**18 10 25.7**	**+1.6**
ESO	**Esso**	**3.21**	**350**	PN	**Pn**	**18 10 25.7**	**+1.6**
KOZ	**Kozyrevsk**	**3.29**	**1**	*e*P	**Pn**	**18 10 27.6**	**+2.4**
KOZ	**Kozyrevsk**	**3.29**	**1**	PN	**Pn**	**18 10 27.6**	**+2.4**
SRDR	**Sredinnyy**	**3.54**	**360**	*e*P	**Pn**	**18 10 30.5**	**+1.7**
SRDR				*e*S	**Sn**	**18 11 09.9**	**+0.5**
SRDR	**Sredinnyy**	**3.54**	**360**	PN	**Pn**	**18 10 30.5**	**+1.7**
KLY	**Klyuchi**	**3.58**	**8**	*e*P	**Pn**	**18 10 31.8**	**+2.6**
KLY				*e*S	**Sn**	**18 11 12.5**	**+2.3**
KBTR	**Krutoberegovo**	**3.88**	**26**	*e*P	**Pn**	**18 10 35.1**	**+1.8**
KBTR				*e*S	**Sn**	**18 11 22.9**	**+5.3**
KBTR	**Krutoberegovo**	**3.88**	**26**	PN	**Pn**	**18 10 35.1**	**+1.8**
KBTR				S	**Sn**	**18 11 22.9**	**+5.3**
BDR	**Baidarnaya**	**3.89**	**12**	*e*P	Pn	18 10 38.5	+4.9
BDR				*e*S	Sn	18 11 24.3	+6.3
SMKR	**Semkarok**	**3.94**	**14**	*e*P	**Pn**	**18 10 36.6**	**+2.4**
SMKR				*e*S	**Sn**	**18 11 21.0**	**+1.8**
SMKR	**Semkarok**	**3.94**	**14**	PN	**Pn**	**18 10 36.6**	**+2.4**
SMKR				S	**Sn**	**18 11 21.0**	**+1.8**
SRKR	**Sorokina**	**3.97**	**12**	*e*P	**Pn**	**18 10 37.5**	**+2.9**
SRKR				*e*S	**Sn**	**18 11 22.9**	**+3.0**
SRKR	**Sorokina**	**3.97**	**12**	PN	**Pn**	**18 10 37.5**	**+2.9**
SRKR				S	**Sn**	**18 11 22.9**	**+3.0**
BKI	**Bering**	**4.42**	**54**	*e*P	**Pn**	**18 10 41.6**	**+1.0**
BKI				*e*S	**Sn**	**18 11 27.2**	**-3.5**
BKI	**Bering**	**4.42**	**54**	PN	**Pn**	**18 10 41.6**	**+1.0**
SEY	**Seymchan**	**10.90**	**342**	LR	LR	18 16 41.6	
	comp=Z,38nm,21.2s,baz=121,slow=40						
ERM	**Erimo**	**15.51**	**233**	*e*P	**Pn**	**18 13 09.6**	**-1.9**
BILL	**Bilibino**	**15.63**	**9**	*e*P	**Pn**	**18 13 14.6**	**+1.6**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
YAK	**Yakutsk**	**18.48**	**312**	*e*P	**P**	**18 13 47.0**	**-0.8**
YAK				pmax	pmax		
	comp=E,10.0nm,1.2s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,19nm,0.8s						
USRK	**Ussuriysk Ar.**	**20.18**	**256**	P	**P**	**18 14 05.4**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=107,slow=13,SNR=2.5						
MJA0	**Matsu Arr-Jizo**	**22.16**	**231**	*e*P	**P**	**18 14 28.8**	**+0.9**
MAJO	**Matsushiro**	**22.18**	**231**	*e*P	**P**	**18 14 27.5**	**-0.6**
MJAR	**Matsushiro Arr**	**22.18**	**231**	P	**P**	**18 14 28.1**	**0.0**
	comp=Z,1.2nm,0.6s,baz=18,slow=10,SNR=6.5						
KSRS	**Korea Array**	**26.89**	**248**	P	**P**	**18 15 12.4**	**0.0**
	comp=Z,0.8nm,0.7s,baz=40,slow=9.8,SNR=3.3						
KSRS				LR	LR	18 25 07.5	
	comp=Z,18nm,18.1s,baz=138,slow=35						
ILAR	**Eielson Array**	**29.20**	**45**	P	**P**	**18 15 33.0**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=274,slow=9.4,SNR=4.2						
ILAR	**Eielson Array**	**29.20**	**45**	*e*P	**P**	**18 15 35.0**	**+2.3**
H11N2	**WAKE ISLAND Hy**	**33.45**	**168**	T	T	18 51 58.2	
	baz=352,slow=76,SNR=212						
H11N3	**WAKE ISLAND Hy**	**33.47**	**168**	T	T	18 51 59.3	
	baz=352,slow=76,SNR=50						
H11N1	**WAKE ISLAND Hy**	**33.47**	**168**	T	T	18 52 03.2	
	baz=352,slow=76,SNR=136						
SONM	**Songino Array**	**33.76**	**283**	P	**P**	**18 16 11.4**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=72,slow=9.3,SNR=3.4						
H11S1	**WAKE ISLAND Hy**	**34.63**	**168**	T	T	18 53 29.0	
	baz=352,slow=76,SNR=32						
H11S3	**WAKE ISLAND Hy**	**34.65**	**168**	T	T	18 53 24.3	
	baz=352,slow=76,SNR=61						
H11S2	**WAKE ISLAND Hy**	**34.65**	**168**	T	T	18 53 28.7	
	baz=352,slow=76,SNR=22						
ZALV	**Zalesovo Beam**	**42.76**	**303**	LR	LR	18 35 08.4	
	comp=Z,20nm,21.4s,baz=70,slow=36						
KURK	**Kurchatov**	**47.71**	**302**	P	**P**	**18 18 05.4**	**-2.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURBB	**Kurchatov Arra**	**47.81**	**302**	P	**P**	**18 18 05.4**	**-3.1**
	comp=Z,1.9nm,0.8s,baz=58,slow=7.7,SNR=14						
MKAR	**Makanchi Array**	**48.09**	**296**	P	**P**	**18 18 07.9**	**-2.9**
	comp=Z,0.8nm,0.5s,baz=56,slow=7.0,SNR=20						
MKAR	**Makanchi Array**	**48.09**	**296**	P	**P**	**18 18 07.9**	**-2.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NVAR	**Mina Array Bea**	**56.06**	**70**	P	**P**	**18 19 12.4**	**+2.0**
	comp=Z,0.4nm,0.7s,baz=298,slow=7.0,SNR=3.8						
PDAR	**Pinedale Array**	**57.87**	**60**	P	**P**	**18 19 24.1**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=61,slow=3.7,SNR=3.6						
FINES	**FINESS Array B**	**60.32**	**336**	P	**P**	**18 19 37.5**	**-2.0**
	comp=Z,0.9nm,0.6s,baz=43,slow=8.6,SNR=4.9						
FINES	**FINESS Array B**	**60.32**	**336**	*e*P	**P**	**18 19 37.9**	**-1.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**63.78**	**344**	P	P	18 19 59.5	-3.2
	comp=Z,0.4nm,0.7s,baz=20,slow=6.7,SNR=2.7						
TXAR	**Lajitas Array**	**70.97**	**67**	P	**P**	**18 20 50.0**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=314,slow=5.2,SNR=5.3						
TXAR	**Lajitas Array**	**70.97**	**67**	P	**P**	**18 20 50.0**	**+1.3**
CLL	**Collm**	**72.57**	**339**	*i* P	**P**	**18 20 57.2**	**-0.6**
CLL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CLL	**Collm**	**72.57**	**339**	*i* P	**P**	**18 20 57.2**	**-0.6**
	comp=Z,3.0nm,0.9s						
KHC	**Kasperske Hory**	**74.48**	**338**	*e*P	**P**	**18 21 08.2**	**-1.0**
KHC	**Kasperske Hory**	**74.48**	**338**	*e*P	**P**	**18 21 08.2**	**-1.0**
GERES	**GERESS Array B**	**74.72**	**337**	P	**P**	**18 21 09.3**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=9.9,slow=3.1,SNR=6.4						
GERES	**GERESS Array B**	**74.72**	**337**	*e*P	**P**	**18 21 09.8**	**-0.8**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**75.70**	**205**	P	**P**	**18 21 16.1**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=17,slow=5.8,SNR=6.1						
WRA	**Warramunga Arr**	**75.70**	**205**	*e*P	**P**	**18 21 16.7**	**+0.3**
ASAR	**Alice Springs**	**79.38**	**204**	P	**P**	**18 21 37.4**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=14,slow=4.7,SNR=7.4						

WEL 11 18:16:42.9±0.3, 37.06S×176.45E, h227km±3km, ML3.5/6, 3C-2D, Error ellipse: s-maj=4.9km s-min=4.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**1.27**	**124**	⇓P	Pn	18 17 17.4	+0.2
HAZ				SN	S	18 17 43.5	-0.6
URZ	**Urewera**	**1.31**	**157**	⇑P	Pn	18 17 17.7	+0.2
URZ				SN	S	18 17 44.4	-0.3
MWZ	**Matawai**	**1.53**	**146**	⇑P	Pn	18 17 19.2	-0.1
MXZ	**Matakaoa Point**	**1.56**	**109**	Pn	Pn	18 17 19.6	+0.1
TWGZ	**Tauwhareparae**	**1.65**	**133**	Pn	Pn	18 17 20.7	+0.4
TWGZ				SN	S	18 17 49.8	+0.2
WMGZ	**Waiomatatini S**	**1.74**	**116**	PN	Pn	18 17 21.2	+0.1
WMGZ				SN	S	18 17 49.8	-1.0
PUZ	**Puketiti**	**1.75**	**126**	⇑PN	Pn	18 17 21.0	-0.3
SNGZ	**Shannon Statio**	**1.85**	**158**	PN	Pn	18 17 22.2	0.0
RIGZ	**Rimuhau**	**1.94**	**148**	Pn	Pn	18 17 22.7	-0.3
CNGZ	**Carnagh Statio**	**1.99**	**136**	Pn	Pn	18 17 23.3	-0.1
NMHZ	**Naumai**	**2.05**	**172**	Pn	Pn	18 17 24.4	+0.4
BKZ	**Black Stump Fm**	**2.10**	**179**	Pn	Pn	18 17 24.1	-0.5
KNZ	**Kokohu**	**2.18**	**154**	Pn	Pn	18 17 24.2	-1.0
ARHZ	**Aropaoanui**	**2.24**	**169**	Pn	Pn	18 17 25.5	-0.3
TUVZ	**Tukino**	**2.29**	**196**	Pn	Pn	18 17 26.9	+0.4
WHVZ	**Whangaehu Hut**	**2.32**	**197**	Pn	Pn	18 17 27.2	+0.3
KWHZ	**Kaweka Forest**	**2.36**	**181**	Pn	Pn	18 17 26.6	-0.5
WNVZ	**Wahianoa**	**2.36**	**196**	⇓PN	Pn	18 17 27.4	+0.1
MCHZ	**McNeill Hill**	**2.39**	**175**	Pn	Pn	18 17 26.9	-0.4
BHHZ	**Black Hill Sta**	**2.44**	**187**	Pn	Pn	18 17 27.4	-0.6
KAHZ	**Kahuranaki**	**2.75**	**173**	Pn	Pn	18 17 30.0	-1.2
PXZ	**Pawanui**	**2.98**	**174**	Pn	Pn	18 17 31.9	-1.9
BFZ	**Birch Farm**	**3.62**	**182**	PN	Pn	18 17 38.7	-2.4
MRZ	**Mangatainoka R**	**3.66**	**190**	PN	Pn	18 17 39.5	-2.1

IDC 11 18:20:33.3±1.9, 32.64N×139.77E, h0km, mb3.9/3, mb1 4.0/5, mb1mx3.6/36, mbtmp3.9/5, ML3.8/2, Error ellipse: s-maj=74.0km s-min=19.8km az=71.0
ISCJB 11 18:20:35.3±0.8, 33.07N±0.04×140.90E±0.08, h62km±10km, mb3.9/3, Error ellipse: s-maj=10.8km s-min=6.6km az=3.2
JMA 11 18:20:36.6±0.1, 33.13N×140.87E, h48km, M3.6

ISC 11 18:20:34.8±1.6, 33.00N±0.06×141.00E±0.08, h42km±19km, n17, σ1°57/28, mb4.0/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.00**	**277**	P	**Pn**	**18 20 53.1**	**+0.7**
JHJ2				S	**Sn**	**18 21 04.7**	**-0.7**
JHCJ	**Hachijojimakas**	**1.01**	**274**	P	**Pn**	**18 20 53.2**	**+0.6**
JHCJ				S	**Sn**	**18 21 04.0**	**-1.7**
BSO1	**Boso 1**	**1.65**	**359**	P	**Pn**	**18 21 01.5**	**+0.7**
BSO1				S	**Sn**	**18 21 20.3**	**-0.3**
BSO3	**Boso 3**	**1.84**	**347**	P	**Pn**	**18 21 04.2**	**+0.4**
BSO3				S	**Sn**	**18 21 24.8**	**-0.9**
JNIO	**Niijimaoohara**	**1.98**	**314**	S	**Sn**	**18 21 28.5**	**-0.9**
BSO4	**Boso 4**	**2.06**	**345**	P	**Pn**	**18 21 07.5**	**+0.6**
BSO4				S	**Sn**	**18 21 31.1**	**-0.2**
JIM2	**Oshima 3**	**2.16**	**323**	P	**Pn**	**18 21 08.7**	**+0.4**
JIM2				S	**Sn**	**18 21 30.4**	**-3.4**
JIZS	**Izushimoda**	**2.46**	**315**	P	**Pn**	**18 21 13.6**	**+1.1**
JIZS				S	**Sn**	**18 21 39.6**	**-1.7**
JOD2	**Odawara 2**	**2.76**	**325**	P	**Pn**	**18 21 17.2**	**+0.6**
JOD2				S	**Sn**	**18 21 45.9**	**-2.8**
TK02	**Tokai 2**	**2.87**	**290**	P	**Pn**	**18 21 19.8**	**+1.9**
TK04	**Tokai 4**	**2.95**	**299**	P	**Pn**	**18 21 21.1**	**+2.0**
MJAR	**Matsushiro Arr**	**4.22**	**328**	Pn	**Pn**	**18 21 38.8**	**+2.2**
	3.3nm,0.3s,baz=161,slow=13,SNR=37						
MJAR				Sn	**Sn**	**18 22 24.7**	**+0.1**
	1.9nm,0.3s,baz=156,slow=24,SNR=5.8						
MAT	**Matsushiro**	**4.22**	**328**	P	**Pn**	**18 21 39.1**	**+2.5**
MAT				S	**Sn**	**18 22 24.7**	**+0.1**
JCJ	**Chichijima**	**5.97**	**170**	Pn	**Pn**	**18 22 02.5**	**+1.7**
	3.8nm,0.3s,baz=358,slow=21,SNR=9.2						
JCJ				Sn	**Sn**	**18 23 06.2**	**-1.7**
	2.7nm,0.3s,baz=266,slow=19,SNR=2.5						
MKAR	**Makanchi Array**	**46.08**	**305**	P	**P**	**18 28 53.2**	**-1.4**
	0.4nm,0.7s,baz=79,slow=11,SNR=2.8						
WRA	**Warramunga Arr**	**53.63**	**188**	P	**P**	**18 29 48.5**	**+0.8**
	2.0nm,0.5s,baz=4.8,slow=7.6,SNR=47						
ASAR	**Alice Springs**	**56.76**	**188**	P	**P**	**18 30 15.7**	**+1.0**
	0.6nm,0.4s,baz=6.8,slow=6.9,SNR=25						

IDC 11 18:22:31.7±1.4, 11.18N×146.40E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/32, mbtmp3.6/5, MS2.6/1, Ms1 2.6/1, ms1mx2.2/24, Error ellipse: s-maj=51.6km s-min=20.8km az=89.0
ISCJB 11 18:22:35.0±1.1, 11.2N±0.1×146.2E±0.2, h33km, mb3.6/5, Error ellipse: s-maj=36.2km s-min=10.6km az=163.3

ISC 11 18:22:37.2±1.3, 11.2N±0.1×146.2E±0.3, h35km, n9, σ1°02/7, mb3.6/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.68**	**331**	Pn	**Pn**	**18 23 17.1**	**-0.8**
	baz=166,slow=8.3						
GUMO				Sn	**Sn**	**18 23 49.3**	**0.0**
	156nm,0.3s,baz=56,slow=22,SNR=7.1						
GUMO				LR	LR	18 24 31.2	
	comp=Z,123nm,21.5s,baz=196,slow=42						
H11S3	**WAKE ISLAND Hy**	**21.07**	**68**	T	T	18 49 15.2	
	baz=253,slow=75,SNR=75						
H11S2	**WAKE ISLAND Hy**	**21.08**	**68**	T	T	18 49 18.4	
	baz=253,slow=75,SNR=40						
H11S1	**WAKE ISLAND Hy**	**21.08**	**68**	T	T	18 49 20.6	
	baz=253,slow=75,SNR=54						
WRA	**Warramunga Arr**	**33.10**	**201**	P	**P**	**18 29 10.5**	**+0.4**
	0.6nm,0.8s,baz=27,slow=9.3,SNR=8.3						
ASAR	**Alice Springs**	**36.70**	**199**	P	**P**	**18 29 40.0**	**-1.1**
	0.3nm,0.5s,baz=28,slow=7.4,SNR=9.7						
MKAR	**Makanchi Array**	**64.09**	**317**	P	**P**	**18 33 09.1**	**+1.2**
	0.5nm,0.6s,baz=105,slow=6.3,SNR=6.4						
ZALV	**Zalesovo Beam**	**64.29**	**325**	P	**P**	**18 33 09.7**	**+0.7**
	0.4nm,0.5s,baz=106,slow=4.7,SNR=2.5						
ILAR	**Eielson Array**	**70.14**	**25**	P	**P**	**18 33 45.9**	**-0.1**
	0.4nm,0.6s,baz=252,slow=5.6,SNR=4.2						

IDC 11 18:50:10.5±2.2, 3.96N×127.29E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/35, mbtmp3.3/3, Error ellipse: s-maj=166.9km s-min=27.3km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.74**	**164**	P	P	18 55 33.2	-0.7
	0.6nm,0.7s,baz=344,slow=10,SNR=6.4						
ASAR	**Alice Springs**	**28.20**	**167**	P	P	18 56 05.9	+0.7
	0.2nm,0.8s,baz=346,slow=9.5,SNR=5.3						
MKAR	**Makanchi Array**	**57.69**	**325**	P	P	19 00 02.9	-0.1
	0.4nm,0.6s,baz=119,slow=7.0,SNR=5.4						

ISCJB 11 18:53:04.0±0.7, 20.9S±0.2×178.4W±0.1, h579km, mb3.8/9, Error ellipse: s-maj=24.2km s-min=13.0km az=155.4
IDC 11 18:53:06.4±2.5, 20.96S×178.40W, h600km±32km, mb3.2/9, mb1 3.5/11, mb1mx3.2/31, mbtmp4.2/11, Error ellipse: s-maj=31.8km s-min=14.2km az=163.0

ISC 11 18:53:04.6±0.9, 20.9S±0.2×178.4W±0.1, h579km, n15, σ1°06/15, mb4.0/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.16**	**262**	P	**P**	**18 56 05.1**	**-0.4**
	0.8nm,0.3s,baz=270,slow=20,SNR=7.9						
URZ	**Urewera**	**17.75**	**192**	P	**P**	**18 56 37.8**	**-0.8**
	0.8nm,0.3s,baz=90,slow=3.0,SNR=5.1						
CTA	**Charters Tower**	**33.08**	**265**	P	**P**	**18 58 53.5**	**-0.4**
	3.0nm,0.5s,baz=346,slow=4.2,SNR=3.0						
STKA	**Stephens Creek**	**37.29**	**245**	P	**P**	**18 59 29.9**	**+1.4**
	3.9nm,0.9s,baz=84,slow=10,SNR=8.6						
JAY	**Jayapura**	**43.81**	**289**	P	**P**	**19 00 21.4**	**+0.8**
	4.4nm,0.5s,baz=188,slow=2.8,SNR=6.2						
ASAR	**Alice Springs**	**44.07**	**257**	P	**P**	**19 00 23.1**	**+0.6**
	2.8nm,0.5s,baz=92,slow=8.3,SNR=148						
WRA	**Warramunga Arr**	**44.18**	**263**	P	**P**	**19 00 23.2**	**-0.1**
	3.6nm,0.7s,baz=97,slow=7.3,SNR=86						
WRA				S	**S**	**19 06 14.8**	**-0.6**
	0.2nm,0.8s,baz=96,slow=12,SNR=3.9						
NVAR	**Mina Array Bea**	**81.56**	**43**	P	**P**	**19 04 23.7**	**+0.8**
	0.5nm,0.5s,baz=229,slow=9.5,SNR=4.9						
TXAR	**Lajitas Array**	**87.58**	**57**	P	**P**	**19 04 53.4**	**+1.1**
	0.5nm,0.8s,baz=210,slow=6.4,SNR=6.5						
ILAR	**Eielson Array**	**88.77**	**13**	P	**P**	**19 04 55.8**	**-1.0**
	0.4nm,0.5s,baz=234,slow=6.5,SNR=4.0						
PDAR	**Pinedale Array**	**89.50**	**43**	P	**P**	**19 05 01.4**	**+0.3**
	0.7nm,0.7s,baz=211,slow=2.6,SNR=6.9						
ARCES	**ARCESS Array B**	**129.23**	**349**	PKP	**PKPdf**	**19 11 04.5**	**-2.4**
	1.2nm,0.9s,baz=90,slow=1.2,SNR=4.3						
AKASG	**Malin Array Be**	**143.16**	**331**	PKP	PKPab	19 11 30.6	-0.6
	2.2nm,0.3s,baz=43,slow=4.3,SNR=6.7						
BRTR	**Keskin Array B**	**146.82**	**312**	PKPbc	**PKPbc**	**19 11 42.6**	**-0.2**
	0.4nm,0.5s,baz=151,slow=5.4,SNR=4.1						
GERES	**GERESS Array B**	**150.46**	**344**	PKPbc	**PKPbc**	**19 11 51.2**	**-0.2**
	0.5nm,0.6s,baz=34,slow=3.6,SNR=7.1						

ISCJB 11 19:13:35.1±0.8, 5.15S±0.06×129.75E±0.1, h182km, mb3.0/3, Error ellipse: s-maj=20.5km s-min=7.9km az=177.8
IDC 11 19:13:35.7±3.7, 5.11S×129.37E, h165km±48km, mb2.9/3, mb1 2.9/6, mb1mx2.8/42, mbtmp3.3/6, Error ellipse: s-maj=64.3km s-min=17.5km az=81.0

ISC 11 19:13:35.8±1.0, 5.25S±0.08×129.7E±0.2, h182km, n6, σ2°41/8, mb3.0/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.62**	**20**	P	**Pn**	**19 14 46.4**	**+1.5**
	1.0nm,0.3s,baz=271,slow=24,SNR=28						
SIJI				S	**Sn**	**19 15 37.4**	**-1.8**
	1.4nm,0.3s,baz=258,slow=23,SNR=17						
WRA	**Warramunga Arr**	**15.29**	**163**	P	**P**	**19 17 05.8**	**+2.7**
	0.1nm,0.3s,baz=337,slow=13,SNR=5.3						
WRA				S	**Sn**	**19 19 49.5**	**-3.8**
	0.2nm,0.3s,baz=349,slow=24,SNR=8.3						
ASAR	**Alice Springs**	**18.75**	**168**	P	**Pn**	**19 17 44.4**	**+0.7**
	0.1nm,0.3s,baz=349,slow=11,SNR=7.1						
CMAR	**Chiang Mai Arr**	**38.41**	**309**	P	**P**	**19 20 39.7**	**-0.2**
	0.2nm,0.4s,baz=140,slow=6.6,SNR=4.0						
MKAR	**Makanchi Array**	**66.61**	**327**	P	**P**	**19 24 05.8**	**-0.8**
	0.1nm,0.4s,baz=119,slow=7.5,SNR=4.2						
KURBB	**Kurchatov Arra**	**70.88**	**328**	P	**P**	**19 24 32.0**	**-0.8**
	0.1nm,0.4s,baz=136,slow=5.9,SNR=4.1						

NEIC 11 19:15:33.3, 54.00N×165.13W, h92km, MG3.5(AEIC), **After AEIC., Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKSA	**Akutan Strait**	**0.36**	**292**	P	Pn	19 15 47.1	-0.1
AKSA				S	Sn	19 15 58.6	+1.0
AKUT	**Akutan**	**0.40**	**289**	P	Pn	19 15 47.7	+0.3
AKUT				S	Sn	19 15 59.6	+1.6
ZRO	**Akutan Zero**	**0.51**	**280**	P	Pn	19 15 48.8	+0.5
AKGG	**Akutan Green G**	**0.54**	**291**	P	Pn	19 15 49.8	+1.2
AKGG				S	Sn	19 16 03.1	+3.1
WESP	**Westdahl Peak**	**0.55**	**26**	P	Pn	19 15 49.1	+0.4
WESP				S	Sn	19 16 01.9	+1.6
AKRB	**Akutan Reef Bi**	**0.57**	**283**	P	Pn	19 15 49.7	+0.9
AKRB				S	Sn	19 16 03.3	+2.9
UNV	**Unalaska Valle**	**0.82**	**260**	P	Pn	19 15 50.7	-0.4
UNV				S	Sn	19 16 04.7	+0.1
MTBL	**Makushin Table**	**0

OFUJ	**Ofunato**	**1.10**	**202**	⇓P		**Pn**	**19 17 21.4**	**+0.3**
JTM	**Tenmabayashi**	**1.10**	**309**	⇓P		**Pb**	**19 17 22.0**	**-0.4**
JTM				S		**Sn**	**19 17 35.1**	**-0.1**
JAH	**Hinai**	**1.21**	**275**	⇑P		**Pn**	**19 17 22.9**	**+0.4**
JAH				S		**Sn**	**19 17 37.4**	**-0.3**
JMK	**Ichinoseki**	**1.38**	**214**	P		**Pn**	**19 17 25.5**	**+0.6**
JMK				S		**Sn**	**19 17 41.7**	**-0.3**
JRG	**Rokugo**	**1.40**	**240**	⇑P		**Pn**	**19 17 25.9**	**+0.7**
JRG				*e*S		**Sn**	**19 17 43.2**	**+0.6**
ASAJ	**Asahikawa**	**4.02**	**4**	Pn		Pn	19 17 53.0	-8.3
	baz=187,slow=8.1							
MAT	**Matsushiro**	**4.74**	**223**	P		**Pn**	**19 18 13.7**	**+2.5**
MAT				*e*S		**Sn**	**19 19 02.7**	**-2.4**
MJAR	**Matsushiro Arr**	**4.74**	**223**	Pn		Pn	19 18 14.5	+3.3
	0.9nm,0.3s,baz=36,slow=12,SNR=17							
MJAR				Sn		**Sb**	**19 19 21.6**	**+0.7**
	baz=12,slow=25,SNR=3.5							
MJAR				LR		LR	19 20 21.4	
	comp=Z,69nm,18.5s,baz=65,slow=39							
KSRS	**Korea Array**	**11.46**	**261**	Pn		Pn	19 19 48.0	+4.8
	0.2nm,0.3s,baz=68,slow=14,SNR=3.8							
KSRS				LR		LR	19 23 38.4	
	comp=Z,44nm,19.4s,baz=51,slow=33							
SONM	**Songino Array**	**26.72**	**299**	P		**P**	**19 22 38.9**	**+0.6**
	0.2nm,0.5s,baz=94,slow=10,SNR=3.0							
H11N2	**WAKE ISLAND Hy**	**29.33**	**127**	T		T	19 53 46.6	
	baz=318,slow=75,SNR=208							
H11N1	**WAKE ISLAND Hy**	**29.34**	**127**	T		T	19 53 47.3	
	baz=318,slow=75,SNR=208							
H11N3	**WAKE ISLAND Hy**	**29.35**	**127**	T		T	19 53 47.9	
	baz=318,slow=75,SNR=166							
H11S1	**WAKE ISLAND Hy**	**30.14**	**128**	T		T	19 54 57.2	
	baz=321,slow=76,SNR=60							
H11S3	**WAKE ISLAND Hy**	**30.15**	**128**	T		T	19 54 52.3	
	baz=321,slow=76,SNR=54							
H11S2	**WAKE ISLAND Hy**	**30.16**	**128**	T		T	19 54 56.8	
	baz=321,slow=76,SNR=60							
ZALV	**Zalesovo Beam**	**40.37**	**310**	P		**P**	**19 24 35.6**	**-0.8**
	0.3nm,0.4s,baz=95,slow=7.4,SNR=2.6							
MKAR	**Makanchi Array**	**43.08**	**299**	P		**P**	**19 24 58.4**	**-0.4**
	0.5nm,0.7s,baz=92,slow=13,SNR=4.9							
KURBB	**Kurchatov Arra**	**44.66**	**306**	P		**P**	**19 25 10.9**	**-0.4**
	0.5nm,0.3s,baz=79,slow=8.6,SNR=7.8							
ILAR	**Eielson Array**	**46.59**	**34**	P		P	19 25 19.2	-7.2
	0.4nm,0.9s,baz=247,slow=7.8,SNR=4.4							
BVAR	**Borovoye Array**	**49.01**	**311**	P		**P**	**19 25 45.7**	**+0.4**
	0.2nm,0.4s,baz=70,slow=5.8,SNR=3.4							
WRA	**Warramunga Arr**	**60.18**	**189**	P		**P**	**19 27 06.4**	**-0.2**
	0.5nm,0.8s,baz=7.8,slow=7.1,SNR=4.1							
ASAR	**Alice Springs**	**63.91**	**189**	P		**P**	**19 27 30.7**	**-0.9**
	0.3nm,0.7s,baz=4.5,slow=7.3,SNR=6.0							
FINES	**FINESS Array B**	**66.40**	**332**	P		**P**	**19 27 47.5**	**+0.1**
	1.5nm,0.8s,baz=67,slow=7.3,SNR=8.7							

JMA 11 19:17:06.1±0.3, 41°.62N×144°.27E, h34km±2km, M3.7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**0.92**	**296**	P	Pb	19 17 23.2	-0.4
JCH	**Churui**	**1.20**	**326**	P	Pn	19 17 26.9	+0.4
JCH				*e*S	Sb	19 17 42.7	-0.9
JNBK	**Urakawa-nobuka**	**1.31**	**301**	P	Pb	19 17 29.3	-0.9
JOB	**Onbets**	**1.32**	**346**	P	Pb	19 17 29.3	-1.1
JAK	**Akkeshi**	**1.41**	**13**	P	Pn	19 17 29.8	+0.4
JAR	**Ashorobuto**	**1.72**	**348**	P	Pn	19 17 33.8	+0.2

*IDC **11** 19:22:40.7±3.8, 36°.29N×71°.23E, h76km±34km, mb3.5/9, mb1 3.6/14, mb1mx3.3/42, mbtmp3.8/14, MS3.7/2, Ms1 3.7/2, ms1mx2.6/32, Error ellipse: s-maj=25.6km s-min=18.7km az=7.0*

*ISCJB **11** 19:22:42.3±0.5, 36°.36N±0°.04×71°.20E±0°.07, h114km, mb3.5/8, Error ellipse: s-maj=8.8km s-min=3.8km az=152.2*

*NNC **11** 19:22:52.3±2.8, 37°.10N×71°.13E, h173km±33km, mb3.2, mpv4.2, Error ellipse: s-maj=24.7km s-min=17.3km az=30.0*

ISC 11 19:22:44.5±0.7, 36°.50N±0°.06×71°.36E±0°.09, h114km, n47, σ1s67/48, mb3.7/8, 5C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**5.48**	**135**	*e*P	**Pn**	**19 24 06.0**	**+1.9**
DLH				*e*S	**Sn**	**19 25 07.0**	**+1.0**
AML	**Almayashu**	**5.90**	**17**	P	**Pn**	**19 24 11.1**	**+1.2**
	SNR=56						
UCH	**Uchtor**	**6.22**	**22**	P	**Pn**	**19 24 15.4**	**+1.2**
	SNR=16						
KZA	**Kyzart**	**6.33**	**27**	P	**Pn**	**19 24 16.8**	**+1.1**
	SNR=15						
EKS2	**Erkin-Say**	**6.43**	**16**	P	**Pn**	**19 24 18.2**	**+1.5**
	SNR=21						
AAK	**Ala-Archa**	**6.58**	**21**	P	**Pn**	**19 24 20.8**	**+1.9**
	SNR=25						
AAK	**Ala-Archa**	**6.58**	**21**	⇓P	**Pn**	**19 24 20.4**	**+1.5**
	9.3nm,0.3s						
AAK				⇑S	**Sn**	**19 25 31.1**	**-1.4**
	25nm,0.6s						
KK31	**Karatay Array**	**6.63**	**355**	P	**Pn**	**19 24 19.5**	**+0.2**
	12nm,0.5s,baz=180,slow=13,SNR=370						
KK31				S	**Sn**	**19 25 28.8**	**-4.6**
	5.1nm,0.3s,baz=184,slow=20,SNR=6.7						
KBK	**Karagaybulak**	**6.74**	**23**	P	**Pn**	**19 24 23.4**	**+2.4**
	SNR=6.0						
SDNR	**Sundarnagar**	**6.82**	**135**	*e*P	**Pn**	**19 24 23.0**	**+0.9**
SDNR				*e*S	**Sn**	**19 25 35.5**	**-2.8**
CHMS	**Chumysh**	**6.99**	**21**	P	**Pn**	**19 24 25.8**	**+1.5**
	SNR=8.5						
USP	**Ospenovka**	**7.17**	**19**	P	**Pn**	**19 24 28.2**	**+1.5**
	SNR=7.8						
TKM2	**Tokmak 2**	**7.19**	**26**	P	**Pn**	**19 24 29.4**	**+2.2**
	SNR=11						
TKM2	**Tokmak 2**	**7.19**	**26**	⇑P	**Pn**	**19 24 28.6**	**+1.4**
	5.5nm,0.5s						
TKM2				⇑S	**Sn**	**19 25 45.4**	**-1.9**
	5.1nm,0.6s						
SMLA	**Simla**	**7.21**	**136**	*i* P	**Pn**	**19 24 28.2**	**+0.9**
SMLA				*i* S	Sn	19 25 43.9	-3.7
SMLA				*i* S	**Sn**	**19 25 44.8**	**-2.9**
SMLA				AML	AML	19 25 48.9	
	comp=N,764nm,0.3s						
SMLA				AML	AML	19 25 49.5	
	comp=E,1μm,0.2s						
JOSI	**Joshimath**	**9.05**	**129**	*e*P	**Pn**	**19 24 50.7**	**-1.7**
JOSI				*ex*	x	19 26 08.8	
JOSI				AML	AML	19 26 30.1	
	comp=E,111nm,0.4s						
JOSI				AML	AML	19 26 30.9	
	comp=N,95nm,0.5s						
KHET	**Khetri**	**9.20**	**155**	*e*P	Pn	19 24 50.5	-3.8
KHET				*e*S	Sn	19 26 27.6	-8.5
KHET				AML	AML	19 26 30.1	
	comp=E,58nm,0.0s						
KUDL	**Kundal**	**9.39**	**151**	*e*P	**Pn**	**19 24 55.7**	**-1.1**
KUDL				*e*S	Sn	19 26 31.4	-9.2
GEYT	**Alibeck**	**10.66**	**282**	P	Pn	19 25 09.7	-4.3
	comp=E,1.0nm,0.3s,baz=106,slow=9.4,SNR=5.9						
GEYT				S	Sn	19 27 02.4	-9.0
	comp=E,2.4nm,0.3s,baz=294,slow=29,SNR=7.6						
MKAR	**Makanchi Array**	**13.12**	**35**	P	**Pn**	**19 25 47.2**	**+0.8**
	comp=E,0.1nm,0.3s,baz=212,slow=9.4,SNR=3.6						
KOLN	**Koldanda**	**13.53**	**127**	*e*P	Pn	19 25 49.8	-2.2
GKN	**Gorkha**	**14.06**	**123**	*e*P	**Pn**	**19 25 57.1**	**-1.7**
DMN	**Daman**	**14.63**	**123**	*e*P	**Pn**	**19 26 04.7**	**-1.5**
KKN	**Kakani**	**14.63**	**122**	*e*P	**Pn**	**19 26 04.7**	**-1.4**
PKIN	**Phulchoki**	**14.85**	**123**	*e*P	**Pn**	**19 26 07.1**	**-1.8**
PKI	**Pulchoki**	**14.86**	**123**	*e*P	**Pn**	**19 26 07.7**	**-1.4**
KURBB	**Kurchatov Arra**	**15.03**	**18**	P	**P**	**19 26 12.1**	**-1.2**
	comp=E,0.1nm,0.3s,baz=205,slow=11,SNR=7.8						
AB31	**Akbulak array**	**15.22**	**330**	P	**Pn**	**19 26 11.7**	**-1.5**
	comp=E,1.5nm,0.5s,baz=138,slow=12,SNR=71						
AB31				⇓S	Sn	19 28 49.4	-12
	comp=E,2.7nm,0.7s,baz=147,slow=24,SNR=6.9						
RAMN	**Ramite**	**16.07**	**122**	*e*P	**Pn**	**19 26 23.4**	**-0.7**
BVA0	**Borovoye Array**	**16.54**	**358**	⇓P	**Pn**	**19 26 26.8**	**-2.6**
	comp=E,2.7nm,1.2s,baz=158,slow=9.8,SNR=8.9						
BVAR	**Borovoye Array**	**16.54**	**358**	P	**P**	**19 26 30.6**	**+0.5**
	comp=E,0.5nm,0.3s,baz=155,slow=11,SNR=8.5						
TAPN	**Taplejung**	**16.59**	**119**	*e*P	**Pn**	**19 26 29.7**	**-0.9**
ODAN	**Odare**	**16.67**	**121**	*e*P	**Pn**	**19 26 30.3**	**-1.2**
	comp=E,16nm,0.5s						
AKTO	**Aktyubinsk**	**16.93**	**330**	⇑P	**Pn**	**19 26 32.5**	**-1.7**
	comp=E,3.9nm,0.8s						
AKTO				⇑S	Sn	19 29 33.7	-8.8
	comp=E,2.7nm,0.9s						
AKTO	**Aktyubinsk**	**16.93**	**330**	P	**Pn**	**19 26 33.6**	**-0.6**
	comp=E,0.5nm,0.3s,baz=150,slow=12,SNR=8.7						
AKTO				S	Sn	19 29 29.6	-13
	comp=E,0.1nm,0.3s,baz=345,slow=20,SNR=3.7						
ZALV	**Zalesovo Beam**	**19.79**	**24**	P	**P**	**19 27 06.4**	**+0.8**
	comp=E,2.9nm,0.4s,baz=215,slow=10,SNR=19						
SONM	**Songino Array**	**28.09**	**55**	P	**P**	**19 28 27.4**	**+2.0**
	comp=E,0.2nm,0.4s,baz=271,slow=7.7,SNR=2.4						
FINES	**FINESS Array B**	**37.65**	**326**	P	**P**	**19 29 49.5**	**+1.4**
	comp=E,0.3nm,0.3s,baz=116,slow=13,SNR=8.9						
ARCES	**ARCESS Array B**	**41.26**	**337**	P	**P**	**19 30 19.1**	**+1.1**
	comp=E,1.7nm,0.8s,baz=116,slow=9.6,SNR=10						
NB2	**NORSAR Subarra**	**44.55**	**323**	P	**P**	**19 30 45.3**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.55**	**323**	P	**P**	**19 30 45.6**	**+0.9**
	comp=Z,1.3nm,0.5s,baz=96,slow=7.7,SNR=9.4						
TGY	**Tagaytay City**	**49.43**	**104**	LR	LR	19 54 48.8	
	comp=Z,222nm,18.2s,baz=276,slow=39						
TORD	**Torodi Ar. Bea**	**66.01**	**269**	P	**P**	**19 33 18.6**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=51,slow=5.7,SNR=7.5						
ILAR	**Eielson Array**	**74.70**	**16**	LR	LR	20 14 42.9	
	comp=Z,17nm,19.3s,baz=310,slow=42						
YKA	**Yellowknife Ar**	**81.23**	**3**	P	**P**	**19 34 48.5**	**+1.2**
	comp=Z,0.7nm,0.4s,baz=355,slow=5.5,SNR=4.3						
WRA	**Warramunga Arr**	**81.74**	**122**	P	**P**	**19 34 50.4**	**-0.3**
	comp=Z,0.4nm,0.9s,baz=326,slow=5.0,SNR=2.7						
ASAR	**Alice Springs**	**84.02**	**125**	P	**P**	**19 35 04.0**	**+1.7**
	comp=Z,0.4nm,0.9s,baz=314,slow=5.0,SNR=4.7						

*AWI **11** 19:32:27.1, 56°.24S×29°.05W*

*ISCJB **11** 19:33:13.3±0.4, 58°.77S±0°.06×27°.8W±0°.2, h300km, mb4.6/21, Error ellipse: s-maj=11.5km s-min=7.1km az=153.0*

*NEIC **11** 19:33:14.5±1.9, 58°.76S×27°.80W, h300km±19km, mb4.5/6, Error ellipse: s-maj=11.9km s-min=7.0km az=52.0*

*IDC **11** 19:33:14.6±1.2, 58°.77S×27°.77W, h299km±10km, mb4.4/13, mb1 4.4/15, mb1mx4.2/21, mbtmp5.0/15, Error ellipse: s-maj=12.8km s-min=9.5km az=68.0*

ISC 11 19:33:14.5±0.4, 58°.77S±0°.08×27°.79W±0°.10, h300km, n40, σ0s70/46, mb4.6/21, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**14.44**	**153**	P	**P**	**19 36 24.6**	**-0.4**
SNAA	**Sanae**	**16.43**	**152**	P	**P**	**19 36 46.1**	**-0.7**
	2.1nm,0.3s,baz=317,slow=12,SNR=352						
SNAA				S	**S**	**19 39 41.8**	**-1.3**
	0.0nm,0.3s,baz=234,slow=17,SNR=3.4						
PMSA	**Palmer Station**	**17.96**	**235**	P	**P**	**19 37 03.3**	**0.0**
	8.7nm,0.3s,baz=70,slow=6.2,SNR=38						
USHA	**Ushuaia**	**22.34**	**262**	P	**P**	**19 37 47.1**	**-0.2**
	15nm,0.8s,baz=104,slow=9.6,SNR=6.5						
TRQA	**Tornquist**	**30.21**	**298**	*e*P	**P**	**19 38 57.5**	**-0.1**
	23nm,0.6s						
QSPA	**South Pole Qui**	**31.47**	**180**	P	**P**	**19 39 09.1**	**+0.7**
	46nm,0.5s,baz=216,slow=0.8,SNR=556						
QSPA				ScP	**ScP**	**19 45 07.6**	**+0.8**
	9.4nm,0.5s,baz=128,slow=0.4,SNR=32						
MAW	**Mawson**	**38.18**	**142**	P	**P**	**19 40 05.3**	**+0.2**
	13nm,0.5s,baz=236,slow=7.9,SNR=33						
CPUP	**Villa Florida**	**38.43**	**315**	P	**P**	**19 40 07.3**	**-0.4**
	6.1nm,0.6s,baz=154,slow=6.7,SNR=23						
CPUP				ScP	**ScP**	**19 45 33.4**	**+0.9**
	3.0nm,0.6s,baz=178,slow=3.0,SNR=8.1						
LCO	**Las Campanas**	**41.75**	**296**	*e*P	**P**	**19 40 34.4**	**-0.7**
	17nm,0.6s						
SBA	**Scott Base**	**43.33**	**184**	*e*P	**P**	**19 40 47.3**	**+0.5**
	10nm,0.7s						
VNDA	**Vanda**	**43.83**	**183**	P	**P**	**19 40 51.7**	**+1.0**
	18nm,0.6s,baz=185,slow=7.0,SNR=102						
VNDA				ScP	**ScP**	**19 45 54.2**	**+1.0**
	3.1nm,0.9s,baz=210,slow=2.8,SNR=5.1						
BDFB	**Brasilia**	**45.60**	**332**	P	**P**	**19 41 06.0**	**+0.5**
	3.8nm,0.4s,baz=153,slow=5.9,SNR=8.8						
BDFB				PcP	**PcP**	**19 42 37.8**	**-0.4**
	2.9nm,0.5s,baz=246,slow=2.3,SNR=4.0						
LVC	**Limon Verde**	**46.45**	**303**	*e*P	**P**	**19 41 12.8**	**+0.6**
	16nm,0.5s						
BOSA	**Boshof**	**47.00**	**74**	P	**P**	**19 41 16.0**	**-0.2**
	5.7nm,0.7s,baz=212,slow=6.4,SNR=19						
LPAZ	**La Paz**	**51.74**	**308**	P	**P**	**19 41 53.0**	**+0.5**
	13nm,0.5s,baz=125,slow=5.0,SNR=63						
SAML	**Samuel**	**56.53**	**317**	*e*P	**P**	**19 42 25.4**	**-0.7**
	15nm,0.8s						
LIC	**Lamto**	**67.31**	**25**	*e*P	**P**	**19 43 37.7**	**+0.3**
	34nm,0.4s						
KIC	**Kosan Boka**	**67.51**	**25**	*e*P	**P**	**19 43 38.9**	**+0.3**
	198nm,1.9s						
TIC	**Toumodi**	**67.72**	**25**	*e*P	**P**	**19 43 40.3**	**+0.3**
DBIC	**Dimbokro**	**67.78**	**25**	P	**P**	**19 43 40.7**	**+0.4**
	11nm,0.5s,baz=173,slow=6.8,SNR=24						
OTAV	**Otavalo**	**70.93**	**305**	*e*P	**P**	**19 43 59.1**	**-1.0**
	11nm,1.3s						
TORD	**Torodi Ar. Bea**	**75.59**	**30**	P	**P**	**19 44 27.4**	**+0.9**
	36nm,0.4s,baz=197,slow=6.3,SNR=582						
TOB5	**Torodi Ar. Sit**	**75.59**	**30**	*e*P	**P**	**19 44 26.9**	**+0.4**
RPZ	**Rata Peaks**	**76.69**	**194**	P	**P**	**19 44 32.8**	**+0.4**
	10nm,0.8s,baz=170,slow=8.1,SNR=3.9						
STKA	**Stephens Creek**	**89.26**	**171**	P	**P**	**19 45 37.1**	**+0.5**
	4.1nm,0.7s,baz=155,slow=5.8,SNR=13						
ASAR	**Alice Springs**	**96.48**	**163**	P	**P**	**19 46 09.0**	**-0.9**
	3.8nm,0.6s,baz=181,slow=4.0,SNR=95						
WRA	**Warramunga Arr**	**100.20**	**163**	P	**Pdif**	**19 46 25.5**	**-1.1**
	1.1nm,0.9s,baz=194,slow=4.3,SNR=15						
NOA	**NORSAR Array B**	**123.27**	**21**	PKP	**PKPdf**	**19 51 34.2**	**0.0**
	0.7nm,0.5s,baz=108,slow=0.9,SNR=5.5						
FINES	**FINESS Array B**	**126.94**	**29**	PKP	**PKPdf**	**19 51 40.9**	**-0.3**
	2.1nm,0.5s,baz=178,slow=2.3,SNR=25						
NEW	**Newport**	**129.12**	**301**	SKPbc	SKPbc	19 54 39.6	+1.7
	1.5nm,0.6s,baz=206,slow=4.6,SNR=6.6						
ARCES	**ARCESS Array B**	**133.59**	**23**	PKP	**PKPdf**	**19 51 53.4**	**-0.2**
	2.1nm,0.3s,baz=247,slow=2.5,SNR=4.4						
ARCES				SKPbc	**SKPbc**	**19 54 52.3**	**-0.9**
	3.8nm,0.5s,baz=210,slow=3.2,SNR=34						
YKA	**Yellowknife Ar**	**137.95**	**316**	SKPbc	**SKPbc**	**19 55 05.5**	**-1.2**
	2.4nm,0.6s,baz=130,slow=3.2,SNR=6.8						
MKAR	**Makanchi Array**	**138.00**	**75**	PKP	**PKPdf**	**19 52 04.3**	**+1.8**
	0.1nm,0.3s,baz=184,slow=0.1,SNR=5.1						
MKAR				SKPbc	**SKPbc**	**19 55 06.7**	**-0.8**
	1.8nm,0.7s,baz=238,slow=2.2,SNR=15						
KURBB	**Kurchatov Arra**	**138.70**	**68**	SKPbc	**SKPbc**	**19 55 08.9**	**-0.3**
	1.6nm,0.6s,baz=231,slow=3.1,SNR=13						
ZALV	**Zalesovo Beam**	**143.79**	**67**	PKP	PKPab	19 52 10.6	0.0
	3.9nm,0.5s,baz=236,slow=3.7,SNR=20						
ZALV				SKPbc	**SKPbc**	**19 55 21.1**	**-0.9**
	3.1nm,0.7s,baz=238,slow=4.9,SNR=12						
INK	**Inuvik**	**147.66**	**318**	PKPbc	**PKPbc**	**19 52 21.8**	**-0.2**
	6.1nm,0.5s,baz=133,slow=3.4,SNR=11						
SONM	**Songino Array**	**151.09**	**92**	PKPbc	**PKPbc**	**19 52 31.1**	**-0.1**
	0.6nm,0.5s,baz=208,slow=3.5,SNR=8.2						
ILAR	**Eielson Array**	**151.62**	**308**	PKPbc	**PKPbc**	**19 52 31.6**	**-0.1**
	3.0nm,0.6s,baz=151,slow=3.2,SNR=36						
KSAR	**Wonju Array Be**	**153.46**	**133**	PKPab	**PKPab**	**19 52 49.9**	**-0.4**
KSRS	**Korea Array**	**153.48**	**133**	PKPab	**PKPab**	**19 52 49.9**	**-0.5**
	1.9nm,0.7s,baz=205,slow=2.9,SNR=5.4						

*CSEM **11** 19:45:18.8±1.4, 37°.71N×3°.43E, h20km, ML1.4, Error ellipse: s-maj=100.4km s-min=25.6km az=84.0*

*CRAAG **11** 19:45:32.6, 36°.71N×3°.23E, Ml4.8*

MDD 11 19:45:22.6±0.7, 37°.62N×3°.36E, h40km, mbLg1.4/1, Error ellipse: s-maj=28.2km s-min=4.0km az=85.0, PRXIMO SIN SOLUCIN, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABA	**Alger-Bouzarea**	**0.85**	**198**	P	Pn	19 45 37.2	-1.0
ABA	**Alger-Bouzarea**	**0.85**	**198**	P	Pn	19 45 37.2	-1.0
ABA	**Alger-Bouzarea**	**0.85**	**198**	P	Pn	19 45 37.2	-1.0
ABMS	**Boumerdes**	**0.87**	**173**	P	Pn	19 45 37.6	-0.8
ABMS	**Boumerdes**	**0.87**	**173**	P	Pn	19 45 37.6	-0.8
ABMS	**Boumerdes**	**0.87**	**173**	P	Pn	19 45 37.6	-0.8
EMHD	**Djebel Mahouad**	**1.45**	**193**	P	Pn	19 45 44.6	-1.9
EMHD	**Djebel Mahouad**	**1.45**	**193**	P	Pn	19 45 44.6	-1.9
EMHD	**Djebel Mahouad**	**1.45**	**193**	P	Pn	19 45 44.6	-1.9
ADJB	**Djebel Djouab**	**1.46**	**177**	P	Pn	19 45 44.4	-2.2
ADJB	**Djebel Djouab**	**1.46**	**177**	P	Pn	19 45 44.4	-2.2
ADJB	**Djebel Djouab**	**1.46**	**177**	P	Pn	19 45 44.4	-2.2
ETOS	**Mallorca**	**2.19**	**349**	S	Sn	19 46 19.1	-3.4
	0.5nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**2.19**	**349**	S	Sn	19 46 19.1	-3.3
	0.5nm,0.1s,SNR=7.9						

*ISCJB **11** 19:53:58.8±0.4, 13°.69N±0°.04×120°.90E±0°.09, h100km, mb4.3/21, Error ellipse: s-maj=12.5km s-min=5.9km az=169.6*

*BJI **11** 19:54:00.7, 13°.63N×120°.99E, h135km, mb4.5/14, mB4.6/6*

*NEIC **11** 19:54:02.6±0.7, 13°.70N×120°.77E, h125km±6km, mb4.0/3, Error ellipse: s-maj=15.0km s-min=6.8km az=71.0*

*IDC **11** 19:54:02.1±0.6, 13°.71N×120°.77E, h117km±5km, mb3.8/13, mb1 3.9/13, mb1mx3.6/39, mbtmp4.2/13, MS2.8/2, Ms1 2.8/2, ms1mx2.4/30, Error ellipse: s-maj=21.9km s-min=13.0km az=68.0*

*MAN **11** 19:54:04, 13°.64N×120°.59E, h91km, mb4.7, ML3.6, MS3.5*

*DJA **11** 19:54:06.0±1.4, 14°.N±8°×12°.1E±°, h176km±13km, M4.5/15, mb4.4/15, mB5.2/4, Mw(mB)4.6/4*

ISC 11 19:54:00.9±0.6, 13°.80N±0°.05×120°.9E±0°.1, h100km, n42, σ2s21/40, mb4.2/21, 4C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.31**	**17**	P	Pn	19 54 20.4	+4.7
	baz=270,slow=1.1						
TGY				S	Sn	19 54 33.9	+7.3
	baz=90,slow=20						
TGY	**Tagaytay City**	**0.31**	**17**	⇑*i*P	Pn	19 54 21.0	+5.4
TGY				*i* S	Sn	19 54 34.3	+7.7
PGP	**Puerto Galera**	**0.32**	**161**	⇑*i*P	Pn	19 54 19.7	+4.1
PGP				*i* S	**Sn**	**19 54 31.9**	**+5.3**
LQP	**Lukban**	**0.74**	**65**	⇑*i*P	Pn	19 54 27.5	+8.6
GQP	**Guinayangan**	**1.56**	**86**	⇓*e*P	Pn	19 54 34.8	+6.9
BCPH	**Baguio City Da**	**2.58**	**354**	⇑*i*P	**Pn**	**19 54 41.8**	**+0.7**
BCPH				*i* S	**Sn**	**19 55 15.2**	**+3.1**
PVCP	**Virac**	**3.22**	**93**	⇓*i*P	Pn	19 54 56.7	+7.1
SZP	**Santa**	**3.75**	**354**	*e*Pn	Pn	19 55 00.3	+3.7
PPR	**Puerto Princes**	**4.50**	**208**	⇓*i*P	**Pn**	**19 55 08.5**	**+1.6**
KAPI	**Kappang**	**18.73**	**183**	*e*P	**P**	**19 58 10.1**	**-1.7**
BAKI	**Biak**	**21.23**	**133**	P	**P**	**19 58 36.7**	**-2.2**
	50nm,0.7s,1μm						
CMAR	**Chiang Mai Arr**	**21.54**	**285**	P	**P**	**19 58 43.0**	**+0.7**
	3.6nm,0.9s,baz=98,slow=7.7,SNR=24						
CMAR				PcP	**PcP**	**20 02 41.0**	**0.0**
	0.6nm,0.6s,baz=62,slow=1.5,SNR=4.9						
XAN	**Xi'an**	**22.87**	**334**	P	**P**	**19 58 55.7**	**-0.2**
XAN				PMZ			
	15nm,0.7s						
XAN				PMZ			
	24nm,4.2s						
JMBI	**JAMBI**	**22.93**	**229**	P	**P**	**19 59 00.6**	**+3.9**
	120nm,0.7s						
JCJ	**Chichijima**	**23.92**	**53**	LR	LR	20 07 44.9	
	comp=Z,21nm,20.8s,baz=152,slow=34						
PSI	**Prapat**	**24.26**	**245**	P	**P**	**19 59 08.3**	**-0.6**
	6.6nm,0.7s,baz=345,slow=4.6,SNR=6.1						
KSRS	**Korea Array**	**24.39**	**14**	LR	LR	20 09 17.5	
	comp=Z,19nm,18.4s,baz=197,slow=37						
LHSI	**Lahat**	**24.54**	**226**	P	**P**	**19 59 13.3**	**+1.9**
	60nm,0.8s						
MNSI	**Mandailing Nat**	**24.70**	**240**	P	**P**	**19 59 12.3**	**-0.5**
	18nm,0.9s						
PPI	**Padang Panjang**	**24.72**	**237**	P	**P**	**19 59 13.4**	**+0.4**
HHC	**Hu-ho-hao-te**	**28.14**	**345**	*e*P	**P**	**19 59 45.8**	**+2.1**
HHC				PP	**PnPn**	**20 00 42.1**	**+5.0**
HHC				S	**S**	**20 04 18.9**	**-2.8**
HHC				sS	sS	20 05 11.1	+11
HHC				SS	**SnSn**	**20 05 53.5**	**+4.8**
HHC				PMZ			
	11nm,1.2s						
HHC				PMZ			
	43nm,5.8s						
GTA	**Gaotai**	**31.53**	**328**	*e*P	**P**

BNB				Sn	Sn	19 59 55.9	-3.4		
GDR	**Gold River**	**2.63**	**98**	Pn	Pn	19 59 26.4	-1.6		
BCBC	**Bella Coola**	**2.98**	**43**	Sn	Sb	20 00 10.4	-4.6		
CBB	**Campbell River**	**3.02**	**92**	Pn	Pn	19 59 32.6	-0.7		
CBB				Sn	Sn	20 00 08.4	-1.7		
BTB	**Buttle Lake**	**3.03**	**103**	Pn	Pn	19 59 33.4	-0.2		
MOBC	**Moresby Island**	**3.15**	**338**	Pn	Pn	19 59 33.7	-1.5		
MOBC				Sn	Sn	20 00 11.8	-1.6		
OZB	**Mount Ozzard**	**3.23**	**112**	Pn	Pn	19 59 34.3	-1.9		
OZB				Sn	Sn	20 00 11.2	-4.0		
DIB	**Dawson Inlet,**	**3.34**	**334**	Pn	Pn	19 59 35.7	-1.9		
DIB				Sn	Sn	20 00 15.6	-2.2		
H02S1	**DAWSON INLET T**	**3.34**	**334**	Pn	Pn	19 59 35.7	-1.9		
H02S1				Sn	Sn	20 00 14.5	-3.4		
H02N1	**VAN INLET T-PH**	**3.40**	**334**	Pn	Pn	19 59 36.9	-1.7		
H02N1				Sn	Sn	20 00 16.3	-3.2		
VIB	**Van Inlet**	**3.40**	**334**	Pn	Pn	19 59 36.4	-2.2		
TXB	**Texada**	**3.66**	**96**	Pn	Pn	19 59 42.3	+0.1		
MGB	**Mount Grey**	**3.69**	**107**	Pn	Pn	19 59 42.3	-0.4		
PFB	**Port Renfrew**	**4.02**	**112**	Pn	Pn	19 59 46.0	-1.1		
SHB	**Sechelt**	**4.04**	**97**	Pn	Pn	19 59 47.1	-0.4		
UBRB	**Upper Baezaeko**	**4.58**	**52**	Pn	Pn	19 59 56.9	+2.1		
UBRB				Sn	Sn	20 00 50.2	+1.6		
FSB	**Fort Saint Jam**	**5.51**	**37**	Pn	Pn	20 00 08.8	+1.3		
DLBC	**Dease Lake**	**8.22**	**0**	Pn	Pn	20 00 44.9	+0.1		
	0.3nm,0.3s,baz=200,slow=13,SNR=5.5								
DLBC				LR	LR	20 03 46.7			
	comp=Z,127nm,21.7s,baz=272,slow=37								
NEW	**Newport**	**8.68**	**98**	Pn	Pn	20 00 51.4	+0.3		
	0.3nm,0.3s,baz=304,slow=17,SNR=3.4								
NEW				LR	LR	20 04 11.3			
	comp=Z,225nm,18.6s,baz=284,slow=38								
NVAR	**Mina Array Bea**	**14.46**	**140**	Pn	Pn	20 02 13.3	+2.9		
	0.1nm,0.3s,baz=324,slow=13,SNR=3.2								
PDAR				LR	LR	20 08 46.4			
	comp=Z,38nm,21.1s,baz=326,slow=38								
C22A	**Vida**	**16.04**	**90**	P	P	20 02 33.5	-1.1		
	baz=16								
D22A	**Cohagen**	**16.04**	**92**	P	P	20 02 33.4	-1.2		
	baz=16								
C23A	**Lambert**	**16.47**	**89**	P	P	20 02 39.1	-0.3		
	baz=16								
D23A	**Lindsay**	**16.66**	**91**	P	P	20 02 41.1	-0.4		
	baz=17								
DGMT	**Dagmar**	**16.91**	**86**	P	P	20 02 45.0	+0.7		
	baz=17								
A24A	**Westby**	**16.92**	**84**	P	P	20 02 45.5	+1.2		
	baz=17								
C24A	**Savage**	**17.04**	**89**	P	P	20 02 46.2	+0.4		
	baz=17								
ILAR	**Eielson Array**	**17.06**	**335**	P	P	20 02 47.7	+1.9		
	0.1nm,0.3s,baz=152,slow=11,SNR=5.6								
F23A	**Volborg**	**17.07**	**96**	P	P	20 02 45.9	-0.3		
	baz=17								
G23A	**Biddle**	**17.30**	**97**	P	P	20 02 48.6	-0.1		
	baz=17								
A25A	**Svangstu Ranch**	**17.48**	**84**	P	P	20 02 51.8	+1.2		
	baz=18								
F24A	**Ekalaka**	**17.64**	**95**	P	P	20 02 52.6	+0.2		
	baz=18								
H24A	**Dirks Ranch, A**	**18.04**	**98**	P	Pn	20 02 56.3	+0.1		
	baz=18								
E25A	**Miller Ranch,**	**18.05**	**92**	P	P	20 02 57.6	+0.6		
	baz=18								
INK	**Inuvik**	**18.21**	**356**	LR	LR	20 09 58.8			
	comp=Z,50nm,19.8s,baz=176,slow=37								
G25A	**Newell**	**18.57**	**95**	P	P	20 03 02.5	-0.1		
	baz=19								
E26A	**Carlson Angus**	**18.67**	**91**	P	Pn	20 03 04.5	+0.6		
	baz=19								
H25A	**Fruitdale**	**18.70**	**97**	P	Pn	20 03 04.7	+0.3		
	baz=19								
I25A	**Rochford**	**18.90**	**99**	P	Pn	20 03 07.3	+0.5		
	baz=19								
J25A	**Sunshine Ranch**	**19.16**	**101**	P	Pn	20 03 11.8	+1.9		
	baz=19								
H26A	**Fairpoint**	**19.23**	**96**	P	Pn	20 03 12.4	+1.7		
	baz=19								
A28A	**Rude Farm, Bot**	**19.30**	**82**	P	Pn	20 03 11.9	+0.3		
	baz=19								
H28A	**Mission Ridge**	**20.32**	**95**	P	Pn	20 03 24.8	+1.0		
	baz=20								
B30A	**Myrvik Farm, E**	**20.67**	**83**	P	Pn	20 03 29.2	+1.5		
	baz=21								
S22A	**4UR Ranch, Cre**	**20.75**	**118**	P	Pn	20 03 28.5	-0.6		
	baz=21								
SDCO	**Great Sand Dun**	**21.51**	**116**	P	P	20 03 35.9	+1.0		
	baz=22								
ANMO	**Albuquerque**	**22.99**	**123**	LR	LR	20 13 21.0			
	comp=Z,19nm,20.9s,baz=268,slow=38								
P34A	**Walnut Farm, R**	**25.64**	**102**	P	P	20 04 17.4	+2.0		
	baz=26								
AMTX	**Amarillo**	**25.71**	**116**	P	P	20 04 17.9	+1.8		
	baz=26								
TXAR	**Lajitas Array**	**28.84**	**126**	P	P	20 04 46.4	+2.2		
	0.4nm,0.9s,baz=339,slow=6.7,SNR=4.2								
TXAR				LR	LR	20 16 31.4			
	comp=Z,41nm,19.2s,baz=0.0,slow=37								
SCHQ	**Schefferville**	**37.57**	**58**	LR	LR	20 20 56.2			
	comp=Z,42nm,20.0s,baz=96,slow=36								
H11N2	**WAKE ISLAND Hy**	**57.90**	**262**	T	T	21 11 18.1			
	baz=42,slow=75,SNR=32								
H11N3	**WAKE ISLAND Hy**	**57.90**	**262**	T	T	21 11 11.2			
	baz=42,slow=75,SNR=34								
H11N1	**WAKE ISLAND Hy**	**57.92**	**262**	T	T	21 11 19.4			
	baz=42,slow=75,SNR=24								
SONM	**Songino Array**	**70.90**	**324**	P	P	20 10 06.1	+3.2		
	0.7nm,1.1s,baz=46,slow=4.2,SNR=3.7								

***IDC* 11 20:07:29.3±20.0, 20.63S×177.50W, h520km±226km, mb3.5/7, mb1 3.6/7, mb1mx3.1/35, mbtmp4.4/7, Error ellipse: s-maj=87.3km s-min=57.5km az=91.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.95**	**264**	P	P	20 13 29.2	-0.1
	3.7nm,0.4s,baz=95,slow=11,SNR=9.9						
JAY	**Jayapura**	**44.53**	**288**	P	P	20 14 54.9	0.0
	9.9nm,0.7s,baz=138,slow=16,SNR=7.5						
ASAR	**Alice Springs**	**44.95**	**257**	P	P	20 14 58.2	+0.2
	3.9nm,0.9s,baz=95,slow=7.9,SNR=36						
WRA	**Warramunga Arr**	**45.05**	**262**	P	P	20 14 58.2	-0.6
	2.2nm,0.5s,baz=97,slow=8.1,SNR=66						
SIJI	**Sorong**	**53.73**	**285**	P	P	20 16 03.0	+0.1
	7.9nm,0.6s,baz=90,slow=19,SNR=6.9						
MJAR	**Matsushiro Arr**	**70.59**	**323**	P	P	20 17 51.9	-0.2
	1.5nm,0.5s,baz=152,slow=5.8,SNR=11						
ILAR	**Eielson Array**	**88.34**	**13**	P	P	20 19 24.9	-0.1
	0.2nm,0.4s,baz=219,slow=5.2,SNR=3.9						

***IDC* 11 20:22:44.6±2.2, 2.13N×127.41E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/35, mbtmp3.5/3, Error ellipse: s-maj=180.9km s-min=24.1km az=67.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.96**	**163**	P	P	20 27 51.1	+0.2
	0.5nm,0.3s,baz=341,slow=10,SNR=12						
ASAR	**Alice Springs**	**26.41**	**167**	P	P	20 28 22.7	-0.4
	0.3nm,0.6s,baz=354,slow=7.8,SNR=5.9						
MKAR	**Makanchi Array**	**59.25**	**325**	P	P	20 32 48.1	+0.1
	0.3nm,0.3s,baz=110,slow=8.6,SNR=12						

ISCJB ***11*** *20:26:24.0±0.7, 18.6S±0.2×174.71W±0.10, h100km, mb3.8/5, Error ellipse: s-maj=25.3km s-min=12.1km az=169.5*

IDC ***11*** *20:26:28.3±10.0, 18.57S×174.84W, h123km±98km, mb3.6/6, mb1 3.9/6, mb1mx3.5/31, mbtmp4.0/6, Error ellipse: s-maj=52.3km s-min=22.5km az=165.0*

ISC 11 20:26:26.0±1.0, 18.7S±0.2×174.7W±0.2, h100km, n13, σ1§39/13, mb4.2/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.51**	**96**	P	Pn	20 27 31.2	-0.9
	baz=5.0,SNR=11						
URZ	**Urewera**	**20.79**	**198**	P	P	20 31 00.0	+0.9
	6.1nm,0.6s,baz=16,slow=16,SNR=4.4						
ARMA	**Armidale**	**32.69**	**243**	P	P	20 32 50.4	+1.4
	baz=32,SNR=3.8						
CTA	**Charters Tower**	**36.83**	**261**	P	P	20 33 24.4	-0.4
	4.0nm,0.6s,baz=97,slow=8.8,SNR=4.7						
QLP	**Quilpie**	**38.61**	**251**	P	P	20 33 39.5	-0.1
	baz=38,SNR=3.5						
WRA	**Warramunga Arr**	**47.98**	**260**	P	P	20 34 53.5	-1.7
	1.5nm,0.4s,baz=96,slow=8.0,SNR=53						
WRA				PcP	PcP	20 36 20.3	-1.6
	0.4nm,0.8s,baz=93,slow=3.1,SNR=2.6						
ASAR	**Alice Springs**	**48.01**	**255**	P	P	20 34 54.1	-1.2
	5.4nm,0.7s,baz=89,slow=8.4,SNR=74						
ASAR				PcP	PcP	20 36 21.1	-0.9
	0.3nm,0.6s,baz=104,slow=3.8,SNR=4.6						
WRKA	**Warakurna**	**52.99**	**252**	P	P	20 35 31.6	-1.2
	baz=53,SNR=13						
KNRA	**Kununurra**	**53.94**	**264**	P	P	20 35 38.4	-1.3
	baz=54,SNR=11						
PALU	**Palau**	**56.41**	**293**	P	P	20 35 59.9	+2.4
	baz=56,SNR=5.1						
NVAR	**Mina Array Bea**	**77.56**	**42**	P	P	20 38 11.1	-0.3
	0.2nm,0.5s,baz=231,slow=5.7,SNR=2.2						
TXAR	**Lajitas Array**	**83.44**	**56**	P	P	20 38 43.2	+0.3
	0.1nm,0.5s,baz=197,slow=8.3,SNR=2.8						
PPI	**Padang Panjang**	**85.05**	**271**	P	P	20 38 48.5	-2.7
	baz=85,SNR=5.1						

IDC ***11*** *20:44:31.3±0.8, 7.67N×91.99E, h0km, mb3.9/11, mb1 4.0/14, mb1mx3.8/39, mbtmp3.9/14, ML4.2/3, MS3.4/8, Ms1 3.4/8, ms1mx3.1/44, Error ellipse: s-maj=30.1km s-min=14.7km az=49.0*

NEIC ***11*** *20:44:36.6±0.6, 7.61N×91.90E, h35km, mb4.8/8, Error ellipse: s-maj=17.6km s-min=10.7km az=48.0*

ISC 11 20:44:35.0±0.7, 7.5N±0.1×91.8E±0.1, h24km, n40, σ1§65/30, mb4.2/19, MS3.5/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.45**	**123**	Pn	Pn	20 46 37.4	+1.3
	0.8nm,0.3s,baz=289,slow=12,SNR=4.1						
PSI				Sn	Sn	20 48 08.7	-2.1
	0.6nm,0.3s,baz=206,slow=17,SNR=2.6						
PSI				LR	LR	20 49 53.0	
	comp=Z,162nm,21.0s,baz=285,slow=38						
PALK	**Pallekele**	**11.04**	**270**	Pn	Pn	20 47 10.9	-0.8
	2.8nm,0.3s,baz=85,slow=12,SNR=23						
PALK				Sn	Sn	20 49 02.6	-12
	6.9nm,0.3s,baz=161,slow=19,SNR=9.4						
PALK				LR	LR	20 51 14.9	
	comp=Z,292nm,19.2s,baz=82,slow=36						
CMAR	**Chiang Mai Arr**	**12.93**	**32**	Pn	Pn	20 47 33.7	-3.7
	0.6nm,0.3s,baz=226,slow=14,SNR=15						
CMAR				LR	LR	20 52 44.2	
	comp=Z,142nm,20.6s,baz=215,slow=39						
HYB	**Hyderabad**	**16.30**	**309**	*i* P	P	20 48 35.0	+10
ODAN	**Odare**	**19.74**	**348**	*e*P	**Pn**	**20 49 07.9**	**+2.9**
	36nm,0.7s						
RAMN	**Ramite**	**20.00**	**346**	*e*P	Pn	20 49 10.7	+2.5
	32nm,0.7s						
TAPN	**Taplejung**	**20.16**	**349**	*e*P	Pn	20 49 10.6	+0.5
	71nm,0.9s						
PKI	**Pulchoki**	**20.90**	**344**	*e*P	Pn	20 49 18.4	-0.4
	132nm,1.5s						
PKIN	**Phulchoki**	**20.91**	**344**	*e*P	Pn	20 49 18.4	-0.4
	62nm,1.2s						
DMN	**Daman**	**21.02**	**343**	*e*P	**P**	**20 49 19.9**	**+2.5**
	37nm,0.8s						
GUN	**Gumba**	**21.10**	**345**	*e*P	**P**	**20 49 20.1**	**+1.8**
	95nm,0.8s						
KKN	**Kakani**	**21.14**	**344**	*e*P	**P**	**20 49 20.6**	**+2.0**
	40nm,0.9s						
GKN	**Gorkha**	**21.53**	**342**	*e*P	**P**	**20 49 24.5**	**+1.8**
	80nm,1.1s						
KOLN	**Koldanda**	**21.65**	**340**	*e*P	**P**	**20 49 25.7**	**+1.7**
	45nm,0.7s						
LSA	**Lhasa**	**22.12**	**358**	P	**P**	**20 49 29.7**	**+0.3**
	36nm,0.8s						
H08S3	**Diego Garcia H**	**24.44**	**233**	T	T	21 16 04.0	
	baz=52,slow=76,SNR=28						
H08S2	**Diego Garcia H**	**24.44**	**233**	T	T	21 16 04.3	
	baz=52,slow=76,SNR=22						
H08S1	**Diego Carcia H**	**24.46**	**233**	T	T	21 16 05.0	
	baz=52,slow=76,SNR=22						
TKM2	**Tokmak 2**	**38.10**	**341**	*e*P	**P**	**20 51 52.5**	**+0.2**
	8.3nm,0.8s						
EKS2	**Erkin-Say**	**38.50**	**338**	P	**P**	**20 51 56.9**	**+1.4**
	17nm,0.8s						
MKAR	**Makanchi Array**	**40.03**	**350**	P	**P**	**20 52 06.2**	**-2.0**
	1.5nm,0.8s,baz=178,slow=8.1,SNR=8.9						
MKAR				LR	LR	21 11 35.3	
	comp=Z,37nm,19.5s,baz=157,slow=41						
KKAR	**Karatay Array**	**40.14**	**336**	*e*P	**P**	**20 52 07.8**	**-1.3**
	9.5nm,0.8s						
SONM	**Songino Array**	**42.09**	**15**	P	**P**	**20 52 23.1**	**-2.1**
	2.1nm,0.7s,baz=194,slow=8.4,SNR=22						
SONM				LR	LR	21 12 23.8	
	comp=Z,96nm,20.7s,baz=196,slow=40						
GEYT	**Alibeck**	**43.01**	**320**	P	**P**	**20 52 32.4**	**-0.3**
	1.2nm,0.8s,baz=126,slow=7.3,SNR=2.3						
KSRS	**Korea Array**	**44.28**	**42**	LR	LR	21 11 36.8	
	comp=Z,40nm,20.5s,baz=250,slow=37						
KURK	**Kurchatov**	**44.49**	**348**	*e*P	**P**	**20 52 44.7**	**+0.3**
	25nm,1.1s						
ZALV	**Zalesovo Beam**	**46.69**	**354**	P	**P**	**20 53 00.1**	**-1.6**
	1.0nm,0.7s,baz=195,slow=4.5,SNR=4.1						
ZALV				LR	LR	21 15 48.0	
	comp=Z,53nm,20.3s,baz=250,slow=40						
BVAR	**Borovoye Array**	**48.67**	**343**	P	**P**	**20 53 14.8**	**-2.3**
	1.2nm,0.8s,baz=142,slow=7.3,SNR=3.4						
BRVK	**Borovoye**	**48.73**	**343**	*e*P	**P**	**20 53 16.3**	**-1.3**
	7.9nm,0.6s						
ABKAR	**Akbulak array**	**49.52**	**333**	P	**P**	**20 53 22.3**	**-1.4**
	6.9nm,0.7s						
WRA	**Warramunga Arr**	**49.91**	**124**	P	**P**	**20 53 25.7**	**-1.5**
	1.6nm,0.7s,baz=308,slow=8.1,SNR=24						
WRAB	**Tennant Creek**	**49.92**	**124**	*e*P	**P**	**20 53 30.0**	**+2.8**
MJAR	**Matsushiro Arr**	**51.13**	**48**	LR	LR	21 16 24.0	
	comp=Z,44nm,19.6s,baz=240,slow=38						
ASAR	**Alice Springs**	**51.44**	**128**	P	**P**	**20 53 37.9**	**-0.8**
	1.4nm,0.9s,baz=298,slow=7.8,SNR=9.6						
ARU	**Arti**	**55.39**	**338**	P	**P**	**20 54 07.5**	**+0.4**
	12nm,1.6s						
BRTR	**Keskin Array B**	**60.97**	**311**	P	**P**	**20 54 46.8**	**+0.1**
	0.4nm,0.7s,baz=125,slow=7.1,SNR=2.7						
STKA	**Stephens Creek**	**61.50**	**132**	P	**P**	**20 54 52.0**	**+1.8**
	1.8nm,0.6s,baz=332,slow=2.6,SNR=5.4						
FINES	**FINESS Array B**	**72.01**	**333**	P	**P**	**20 55 56.5**	**-0.1**
	1.5nm,0.9s,baz=123,slow=9.4,SNR=4.0						
GERES	**GERESS Array B**	**76.61**	**318**	P	**P**	**20 56 24.6**	**+0.8**
	0.6nm,0.8s,baz=90,slow=5.9,SNR=2.7						
NVAR	**Mina Array Bea**	**126.41**	**29**	PKP	**PKPdf**	**21 03 36.1**	**-0.7**
	0.4nm,0.7s,baz=288,slow=0.9,SNR=2.8						

MEX 11 20:52:29.7±0.4, 13.89N×91.88W, h10km, MD3.7, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**2.22**	**324**	*e*P	Pn	20 53 03.7	-2.9
PCIG				*i* S	Sn	20 53 29.9	-4.3
CCIG	**Comitan**	**2.39**	**354**	*e*P	Pn	20 53 06.7	-2.5
CCIG				*i* S	Sn	20 53 34.2	-4.5

CSEM ***11*** *20:56:14.0, 38.50N×30.44W, h10km, ML3.3*

PDA 11 20:56:14.0±0.7, 38.50N×30.44W, h10km, MD3.6, ML3.3, Error ellipse: s-maj=6.1km s-min=1.5km az=33.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07S1	**FLORES T-PHASE**	**1.06**	**326**	*i* P	Pg	20 56 30.0	-4.4
H07S1				*e*S	Sg	20 56 42.3	-5.9
H07N1	**FLORES T-PHASE**	**1.30**	**336**	*e*P	Pn	20 56 34.0	-4.3
H07N1				*e*S	Sb	20 56 48.2	-7.1
CALA	**Caldeira**	**1.37**	**86**	*e*S	Sb	20 56 49.8	-7.6
CALA	**Caldeira**	**1.37**	**86**	*e*S	Sb	20 56 49.8	-7.6
PCED	**Cedros**	**1.37**	**84**	*e*P	Pn	20 56 34.5	-4.7
PCED				*e*S	Sb	20 56 49.9	-7.4
PCED				A	A	20 56 52.5	
	190nm,0.3s						
PCED	**Cedros**	**1.37**	**84**	*e*P	Pn	20 56 34.5	-4.7
PCED				*e*S	Sb	20 56 49.9	-7.4
HOR	**Horta**	**1.42**	**89**	*e*S	Sn	20 56 51.2	-7.4
HOR	**Horta**	**1.42**	**89**	*e*S	Sn	20 56 51.2	-7.4
PCAN	**Candelaria**	**1.54**	**91**	*e*P	Pn	20 56 37.1	-4.4
PCAN				*e*S	Sn	20 56 53.6	-7.9
PCAN				A	A	20 56 54.9	
	61nm,0.3s						
PCAN	**Candelaria**	**1.54**	**91**	*e*P	Pn	20 56 37.1	-4.4
PCAN				*e*S	Sn	20 56 53.6	-7.9
PPNO	**Prainha do Nor**	**1.71**	**90**	*e*P	Pn	20 56 39.3	-4.6
PPNO				*e*S	Sn	20 56 58.6	-7.3
PPNO				A	A	20 57 02.7	
	120nm,0.3s						
PPNO	**Prainha do Nor**	**1.71**	**90**	*e*P	Pn	20 56 39.3	-4.6
PPNO				*e*S	Sn	20 56 58.6	-7.3
ROSA	**Rosais**	**1.74**	**82**	*e*P	Pn	20 56 39.6	-4.6
ROSA				*e*S	Sn	20 56 58.9	-7.6
ROSA				A	A	20 57 01.4	
	158nm,0.3s						
ROSA	**Rosais**	**1.74**	**82**	*e*P	Pn	20 56 39.6	-4.6
ROSA				*e*S	Sn	20 56 58.9	-7.6
PMAN	**Manadas**	**1.85**	**85**	*e*S	Sn	20 57 01.7	-7.5
PMAN				A	A	20 57 04.8	
	70nm,0.2s						
PMAN	**Manadas**	**1.85**	**85**	*e*S	Sn	20 57 01.7	-7.5
ADH	**Angra Heroismo**	**2.52**	**86**	*e*S	Sn	20 57 18.2	-7.5
ADH				A	A	20 57 19.6	
	35nm,0.3s						
ADH	**Angra Heroismo**	**2.52**	**86**	*e*S	Sn	20 57 18.2	-7.5
PSET	**Sete Cidades**	**3.78**	**99**	*e*P	Pn	20 57 08.2	-4.2
PSET	**Sete Cidades**	**3.78**	**99**	*e*P	Pn	20 57 08.2	-4.2
BART	**Pico Bartolome**	**4.22**	**98**	*e*P	Pn	20 57 14.1	-4.4
BART	**Pico Bartolome**	**4.22**	**98**	*e*P	Pn	20 57 14.1	-4.4
PSMA	**Santa Maria**	**4.47**	**108**	*e*P	Pn	20 57 16.4	-5.4
PSMN	**Pico do Norte,**	**4.52**	**108**	*e*P	Pn	20 57 16.6	-5.9
PSMN	**Pico do Norte,**	**4.52**	**108**	*e*P	Pn	20 57 16.6	-5.9

IDC ***11*** *21:06:54.6±0.6, 7.64N×91.90E, h0km, mb4.1/14, mb1 4.2/17, mb1mx4.0/41, mbtmp4.1/17, ML3.9/3, Error ellipse: s-maj=23.0km s-min=14.0km az=51.0*

ISCJB ***11*** *21:06:55.6±0.4, 7.52N±0.05×91.93E±0.05, h24km, mb4.5/23, Error ellipse: s-maj=9.0km s-min=4.8km az=40.1*

NEIC ***11*** *21:06:56.9±2.8, 7.57N×91.89E, h18km±18km, mb4.9/10, Error ellipse: s-maj=8.8km s-min=5.7km az=57.0*

ISC 11 21:06:57.8±0.5, 7.51N±0.08×91.93E±0.06, h24km, n68, σ1§07/66, mb4.3/23, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**5.48**	**114**	*e*Pn	**Pn**	**21 08 19.6**	**+1.5**
LHMI	**Lhok Sumawe**	**5.48**	**114**	*e*Sn	**Sn**	**21 09 21.1**	**+0.7**
GSI	**Gunungsitoli**	**8.35**	**137**	*e*Pn	**Pn**	**21 08 56.0**	**-1.5**
PSI	**Prapat**	**8.40**	**124**	Pn	**Pn**	**21 08 59.3**	**+1.1**
	1.0nm,0.3s,baz=297,slow=9.0,SNR=3.9						
KULM	**Kulim**	**8.95**	**104**	*e*Pn	**Pn**	**21 09 07.0**	**+1.3**
IPM	**Ipoh**	**9.54**	**108**	*e*Pn	**Pn**	**21 09 13.9**	**+0.1**
PALK	**Pallekele**	**11.13**	**269**	Pn	**Pn**	**21 09 34.8**	**-0.9**
	2.5nm,0.3s,baz=88,slow=13,SNR=22						
PALK				Sn	Sn	21 11 25.1	-14
	4.9nm,0.3s,baz=180,slow=20,SNR=2.8						
PALK	**Pallekele**	**11.13**	**269**	*e*Pn	**Pn**	**21 09 35.9**	**+0.2**
PALK				Sn	Sn	21 11 25.1	-14
PALK	**Pallekele**	**11.13**	**269**	*e*Sn	Sn	21 11 25.1	-15
CM01	**Chiang Mai Arr**	**12.82**	**32**	*e*Pn	**Pn**	**21 09 58.3**	**-0.4**
CM31	**Chiang Mai Arr**	**12.84**	**31**	*e*Pn	**Pn**	**21 09 57.4**	**-1.7**
CMAR	**Chiang Mai Arr**	**12.84**	**31**	Pn	**Pn**	**21 09 57.4**	**-1.7**
	0.2nm,0.3s,baz=228,slow=13,SNR=21						
CHTO	**Chiang Mai**	**13.14**	**31**	*e*Pn	**Pn**	**21 10 02.9**	**-0.2**
HYB	**Hyderabad**	**16.34**	**308**	*i* P	**P**	**21 10 51.0**	**+2.4**
SLVN	**Son La**	**17.96**	**39**	*e*Pn	**P**	**21 11 06.9**	**+0.3**
	12nm,1.1s						
ODAN	**Odare**	**19.72**	**348**	*e*P	**Pn**	**21 11 29.1**	**+1.6**
	30nm,0.7s						
RAMN	**Ramite**	**19.98**	**346**	*e*P	**Pn**	**21 11 31.4**	**+0.7**
	30nm,0.6s						
TAPN	**Taplejung**	**20.13**	**349**	*e*P	**P**	**21 11 31.0**	**+0.4**
	51nm,0.8s						
SBUM	**Sibu**	**20.83**	**103**	*e*P	**P**	**21 11 34.5**	**-3.4**
	8.1nm,1.0s						
PKI	**Pulchoki**	**20.88**	**344**	*e*P	**P**	**21 11 39.3**	**+0.5**
	150nm,1.5s						
PKIN	**Phulchoki**	**20.89**	**344**	*e*P	**P**	**21 11 39.1**	**+0.3**
DMN	**Daman**	**21.00**	**343**	*e*P	**P**	**21 11 40.5**	**+0.5**
GUN	**Gumba**	**21.08**	**345**	*e*P	**P**	**21 11 41.2**	**+0.3**
	169nm,1.3s						
KKN	**Kakani**	**21.13**	**343**	*e*P	**P**	**21 11 41.6**	**+0.3**
	37nm,1.0s						
GKN	**Gorkha**	**21.52**	**342**	*e*P	**P**	**21 11 44.7**	**-0.7**
KOLN	**Koldanda**	**21.64**	**340**	*e*P	**P**	**21 11 47.1**	**+0.4**
	63nm,0.9s						
LSA	**Lhasa**	**22.08**	**358**	*e*P	**P**	**21 11 53.0**	**+1.2**
	195nm,2.2s						
TWG	**Pinlang**	**31.89**	**58**	*e*P	**P**	**21 13 20.4**	**-1.1**
	49nm,1.0s						
KBL	**Kabul**	**34.17**	**325**	*e*P	**P**	**21 13 40.9**	**-0.7**
	3.8nm,1.0s						
YOJ	**Yonaguni jima**	**34.18**	**57**	*e*P	**P**	**21 13 41.9**	**+0.4**
	130nm,1.1s						
**T

IDC ***11*** *21:07:59.7±0.8, 7°.62N×91°.85E, h0km, mb3.9/12, mb1 4.1/14, mb1mx3.8/39, mbtmp4.0/14, ML4.2/1, Error ellipse: s-maj=26.1km s-min=16.4km az=53.0*

ISCJB ***11*** *21:08:01.2±0.6, 7°.58N±0°.10×91°.82E±0°.09, h24km, mb3.9/13, Error ellipse: s-maj=14.4km s-min=13.0km az=27.6*

ISC 11 21:08:03.4±0.7, 7°.6N±0°.1×91°.8E±0°.1, h24km, n17, σ1§09/19, mb4.0/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.03**	**269**	Pn	**Pn**	**21 10 39.7**	**-0.1**
	1.6nm,0.3s,baz=95,slow=15,SNR=2.5						
PALK				Sn	Sn	21 12 29.5	-13
	baz=164,slow=20,SNR=2.6						
CMAR	**Chiang Mai Arr**	**12.86**	**32**	Pn	**Pn**	**21 11 03.8**	**-1.1**
	baz=228,slow=13,SNR=2.7						
GTA	**Gaotai**	**32.52**	**12**	*e*P	**P**	**21 14 32.9**	**+0.3**
GTA				pP	**pP**	**21 14 41.5**	**+1.7**
GTA				sP	**sP**	**21 14 45.8**	**+3.1**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MKAR	**Makanchi Array**	**39.94**	**350**	P	**P**	**21 15 35.5**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=169,slow=8.8,SNR=2.0						
SONM	**Songino Array**	**42.01**	**15**	P	**P**	**21 15 52.2**	**-0.7**
	comp=Z,1.8nm,0.9s,baz=191,slow=7.4,SNR=2.3						
GEYT	**Alibeck**	**42.92**	**320**	P	**P**	**21 15 59.2**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=152,slow=6.5,SNR=2.6						
KURBB	**Kurchatov Arra**	**44.33**	**348**	P	**P**	**21 16 11.6**	**+0.2**
	comp=Z,2.4nm,0.9s,baz=170,slow=6.8,SNR=2.7						
BVAR	**Borovoye Array**	**48.57**	**343**	P	**P**	**21 16 44.6**	**-0.2**
	comp=Z,2.1nm,0.9s,baz=140,slow=7.6,SNR=2.8						
WRA	**Warramunga Arr**	**49.98**	**124**	P	**P**	**21 16 55.6**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=308,slow=7.7,SNR=9.2						
ASAR	**Alice Springs**	**51.51**	**128**	P	**P**	**21 17 07.5**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=298,slow=6.8,SNR=4.0						
KMBO	**Kilima Mbogo**	**55.10**	**263**	P	**P**	**21 17 35.0**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=26,slow=9.2,SNR=3.1						
STKA	**Stephens Creek**	**61.58**	**132**	P	**P**	**21 18 19.5**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=299,slow=8.8,SNR=5.7						
FINES	**FINESS Array B**	**71.92**	**333**	P	**P**	**21 19 23.7**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=123,slow=9.1,SNR=2.8						
ARCES	**ARCESS Array B**	**74.78**	**341**	P	**P**	**21 19 41.5**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=104,slow=7.5,SNR=2.6						
GERES	**GERESS Array B**	**76.52**	**318**	P	**P**	**21 19 52.1**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=77,slow=6.0,SNR=3.5						
TXAR	**Lajitas Array**	**140.40**	**21**	PKP	**PKPdf**	**21 27 30.2**	**-1.2**
	comp=Z,0.1nm,0.7s,baz=238,slow=0.9,SNR=2.2						
CPUP	**Villa Florida**	**145.23**	**234**	PKPbc	**PKPdf**	**21 27 39.9**	**0.0**
	comp=Z,2.7nm,0.9s,baz=91,slow=7.8,SNR=3.3						

SZGRF ***11*** *21:08:19.0, 7°.22N×92°.05E, h10km, mb5.2, MS4.0, Nicobar Islands, India, region*

IDC ***11*** *21:08:19.3±0.5, 7°.64N×91°.88E, h0km, mb4.4/23, mb1 4.6/26, mb1mx4.4/38, mbtmp4.5/26, ML4.5/3, MS4.1/2, Ms1 4.1/2, ms1mx3.5/14, Error ellipse: s-maj=16.8km s-min=11.6km az=48.0*

ISCJB ***11*** *21:08:20.8±0.8, 7°.59N±0°.03×91°.88E±0°.02, h20km±6km, mb4.9/85, MS4.3/8, Error ellipse: s-maj=4.9km s-min=3.0km az=37.9*

MOS ***11*** *21:08:22.4±1.4, 7°.58N×91°.99E, h33km, mb5.3/29, Error ellipse: s-maj=8.9km s-min=5.3km az=110.3*

BJI ***11*** *21:08:22.0, 7°.71N×91°.91E, h23km, mb4.8/60, mB4.9/36, Ms4.5/51, Ms7 4.1/48*

NEIC ***11*** *21:08:25.4±1.7, 7°.60N×91°.90E, h43km±15km, mb5.2/42, Error ellipse: s-maj=7.8km s-min=4.7km az=54.0*

DJA ***11*** *21:08:28.4±0.6, 8°.N±4°×9°.E±°, h95km±9km, M4.8/23, mb5.1/23, mB5.2/5, Mw(mB)4.6/5*

ISC 11 21:08:23.6±0.3, 7°.51N±0°.04×91°.85E±0°.04, h27km±1km, h27km:pP-P, n387, σ1§61/415, mb5.0/86, MS4.1/14, 28C-20D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMBY	**CAMPBELL BAY**	**2.12**	**103**	*e*P	**Pn**	**21 08 58.1**	**+0.8**
PBA	**Port Blair**	**4.21**	**12**	*e*P	Pn	21 09 25.0	-1.0
PBA				*e*S	Sn	21 10 08.4	-6.0
LHMI	**Lhok Sumawe**	**5.55**	**114**	P	**Pn**	**21 09 45.0**	**+0.5**
LHMI	**Lhok Sumawe**	**5.55**	**114**	⇓P	**Pn**	**21 09 43.2**	**-1.3**
	baz=5.3						
LHMI	**Lhok Sumawe**	**5.55**	**114**	*e*Pn	**Pn**	**21 09 43.4**	**-1.1**
LHMI				*e*Lg	Lg	21 09 58.4	
LHMI				*e*Pg	Pb	21 10 05.1	+5.3
DGPR	**DIGLIPUR**	**5.73**	**11**	*e*P	**Pn**	**21 09 47.0**	**+0.1**
DGPR				*ex*	x	21 10 40.1	
PKDT	**Phuket**	**6.44**	**86**	P	Pb	21 10 08.8	-6.2
TRTT	**Trang**	**7.78**	**87**	P	**Pn**	**21 10 17.4**	**+2.3**
	54nm,1.0s,812nm0.3nm						
GSI	**Gunungsitoli**	**8.40**	**137**	P	**Pn**	**21 10 24.2**	**+0.6**
GSI	**Gunungsitoli**	**8.40**	**137**	⇓P	**Pn**	**21 10 23.2**	**-0.4**
	baz=8.2						
GSI	**Gunungsitoli**	**8.40**	**137**	*e*Pn	**Pn**	**21 10 21.8**	**-1.9**
GSI				*e*Sn	**Sn**	**21 11 52.6**	**-5.1**
PSI	**Prapat**	**8.46**	**123**	Pn	**Pn**	**21 10 24.4**	**-0.1**
	1.8nm,0.3s,baz=310,slow=9.7,SNR=8.9						
PSI				Sn	**Sn**	**21 11 57.4**	**-1.8**
	1.9nm,0.3s,baz=330,slow=20,SNR=5.0						
PSI				LR	LR	21 14 18.9	
	comp=Z,2μm,20.3s,baz=288,slow=42						
PSI	**Prapat**	**8.46**	**123**	⇑P	**Pn**	**21 10 24.7**	**+0.2**
	baz=8.3,SNR=4.7						
PSI	**Prapat**	**8.46**	**123**	*e*Pn	**Pn**	**21 10 24.5**	**-0.1**
PSI				*e*Sn	**Sn**	**21 11 56.1**	**-3.1**
PSI				*e*Sn	**Sn**	**21 11 57.4**	**-1.8**
KULM	**Kulim**	**9.02**	**104**	*e*Pn	**Pn**	**21 10 30.8**	**-1.3**
KULM				*e*Sn	Sn	21 12 00.6	-12
IPM	**Ipoh**	**9.61**	**108**	*e*Pn	**Pn**	**21 10 40.2**	**-0.1**
MNSI	**Mandailing Nat**	**10.19**	**131**	P	**Pn**	**21 10 47.3**	**-0.9**
PATY	**Pattaya**	**10.37**	**58**	P	**Pn**	**21 10 51.9**	**+1.2**
	19nm,0.5s						
PALK	**Pallekele**	**11.06**	**269**	Pn	**Pn**	**21 11 00.7**	**+0.5**
	7.9nm,0.3s,baz=91,slow=16,SNR=7.6						
PALK				Sn	Sn	21 12 49.3	-14
	7.2nm,0.3s,baz=176,slow=19,SNR=4.8						
PALK	**Pallekele**	**11.06**	**269**	*e*Pn	**Pn**	**21 11 00.2**	**0.0**
PALK				*e*Sn	Sn	21 12 56.0	-7.0
PPI	**Padang Panjang**	**11.63**	**133**	P	Pn	21 11 16.3	+8.4
MHMT	**Maesarieng**	**12.14**	**29**	P	**Pn**	**21 11 14.9**	**0.0**
	29nm,1.0s,300nm						
PBKT	**Sadao Pong**	**12.67**	**44**	P	**Pn**	**21 11 21.9**	**-0.2**
	37nm,0.8s,2μm						
CM01	**Chiang Mai Arr**	**12.86**	**32**	*e*Pn	**Pn**	**21 11 24.6**	**-0.2**
CM31	**Chiang Mai Arr**	**12.88**	**32**	*e*Pn	**Pn**	**21 11 23.1**	**-2.0**
CMAR	**Chiang Mai Arr**	**12.88**	**32**	Pn	**Pn**	**21 11 23.1**	**-2.0**
	1.2nm,0.3s,baz=227,slow=13,SNR=22						
VIS	**Vishakhapatnam**	**13.12**	**322**	*e*P	**Pn**	**21 11 26.1**	**-2.1**
VIS				AMB	AMB	21 11 47.4	
	comp=Z,38nm,1.6s						
VIS				*e*S	Sn	21 13 38.2	-15
CHTO	**Chiang Mai**	**13.18**	**31**	P	**Pn**	**21 11 27.4**	**-1.8**
	comp=Z,190nm,1.2s,comp=Z,2μm						
CHTO	**Chiang Mai**	**13.18**	**31**	*e*P	**Pn**	**21 11 27.3**	**-1.9**
CHTO	**Chiang Mai**	**13.18**	**31**	*e*Pn	**Pn**	**21 11 27.3**	**-1.9**
CMMT	**Chiang Mai**	**13.19**	**31**	P	**Pn**	**21 11 27.4**	**-1.8**
	comp=Z,56nm,1.2s,comp=Z,717nm						
MYKOM	**Kota Tinggi**	**13.24**	**115**	*e*Pn	**Pn**	**21 11 28.1**	**-1.8**
UTTA	**Uttaradit**	**13.24**	**39**	P	**Pn**	**21 11 30.9**	**+0.9**
	comp=Z,13nm,1.0s,comp=Z,127nm						
CHLP	**Challavanipeta**	**13.30**	**326**	*e*Pn	**Pn**	**21 11 28.4**	**-2.3**
CHLP				*e*		21 13 41.5	
CHLP				*e*Sn	**Sn**	**21 13 55.1**	**-2.7**
LAMP	**Lampang**	**13.31**	**34**	P	**Pn**	**21 11 31.4**	**+0.5**
	comp=Z,16nm,1.0s,comp=Z,117nm						
SKHT	**Srikalahasti**	**13.44**	**298**	*e*Pn	**Pn**	**21 11 31.2**	**-1.4**
SKHT				*e*		21 13 44.8	
SKHT				Sn	**Sn**	**21 13 59.6**	**-1.6**
PVM	**Polavaram**	**13.90**	**315**	*e*Pn	**Pn**	**21 11 39.6**	**+0.7**
PVM				*e*		21 13 57.6	
CMAI	**Chiengmai2**	**14.18**	**29**	P	**Pn**	**21 11 41.7**	**-1.3**
	comp=Z,213nm,1.1s,comp=Z,23μm						
ADKI	**Addanki**	**14.28**	**307**	*e*P	**P**	**21 11 48.6**	**-2.5**
JMBI	**JAMBI**	**14.86**	**127**	P	P	21 12 00.8	+3.2
RCLA	**Racherla**	**14.89**	**303**	*e*Pn	**Pn**	**21 11 52.8**	**+0.3**
RCLA				*e*		21 14 19.4	
RCLA				*e*Sn	**Sn**	**21 14 36.6**	**-0.1**
CRAI	**Chiangrai**	**15.10**	**32**	P	**Pn**	**21 11 52.1**	**-3.1**
	comp=Z,47nm,1.1s,comp=Z,2μm						
SKNT	**Sakolnakorn**	**15.12**	**50**	P	**Pn**	**21 11 55.5**	**-0.1**
	comp=Z,44nm,1.1s						
NJS	**Nagarjunasagar**	**15.20**	**307**	*e*Pn	**Pn**	**21 11 57.6**	**+1.0**
NJS				*e*		21 14 25.3	
NJS				Sn	**Sn**	**21 14 42.0**	**-2.1**
SRLM	**Srisailam**	**15.28**	**305**	*e*Pn	**P**	**21 12 00.1**	**-2.1**
SRLM				*e*		21 14 27.8	
SRLM				Sn	**Sn**	**21 14 44.9**	**-1.4**
UBPT	**Khong Chiam**	**15.41**	**59**	P	**P**	**21 12 02.9**	**-0.8**
	comp=Z,102nm,0.8s,comp=Z,789nm						
KSI	**Kapahiang**	**15.42**	**136**	P	**P**	**21 12 06.2**	**+2.3**
URV	**Uravakonda**	**16.10**	**299**	*e*Pn	**Pn**	**21 12 09.4**	**+1.1**
URV				*e*		21 14 49.3	
URV				*e*S	**S**	**21 15 16.8**	**-2.3**
MNAI	**Manna**	**16.18**	**136**	P	**P**	**21 12 13.6**	**+1.4**
	comp=Z,400nm,1.1s						
MNAI	**Manna**	**16.18**	**136**	*e*Pn	**Pn**	**21 12 09.9**	**+0.6**
	comp=Z,252nm,0.8s						
HYB	**Hyderabad**	**16.28**	**308**	*i* P	**P**	**21 12 15.0**	**+1.6**
HYB				*e*S	**Sn**	**21 15 10.0**	**-0.6**
HYB	**Hyderabad**	**16.28**	**308**	*e*P	**Pn**	**21 12 10.3**	**-0.3**
HYBB	**Hyderabad (bro**	**16.29**	**308**	*e*P	**P**	**21 12 14.9**	**+1.5**
PMBI	**Palembang**	**16.55**	**128**	P	**P**	**21 12 18.1**	**+1.8**
	comp=Z,319nm,1.0s						
RPR	**Rampur**	**16.62**	**314**	*e*Pn	**Pn**	**21 12 15.6**	**+0.8**
MDSI	**Maura Dua**	**17.13**	**134**	P	**Pn**	**21 12 19.7**	**-1.5**
BOK	**Bokaro**	**17.17**	**341**	*e*P	**Pn**	**21 12 21.3**	**-0.4**
BOK				AMB	AMB	21 12 30.9	
	comp=Z,73nm,2.2s						
PPBI	**Pangkal Pinang**	**17.19**	**123**	P	**P**	**21 12 24.2**	**+0.8**
	comp=Z,61nm,1.2s						
SRSP	**Sriramsagar**	**17.35**	**312**	*e*P	**P**	**21 12 24.7**	**-0.5**
SRSP				*e*		21 15 22.6	
SRSP				*e*Sn	**Sn**	**21 15 35.0**	**-1.5**
LWLI	**Liwa**	**17.41**	**135**	P	**P**	**21 12 28.7**	**+2.7**
	comp=Z,125nm,0.7s						
SHL	**Shillong**	**17.96**	**0**	*e*P	**Pn**	**21 12 30.1**	**-1.5**
SLVN	**Son La**	**18.01**	**39**	*e*Pn	**Pn**	**21 12 31.0**	**-1.2**
	comp=Z,67nm,1.1s						
KASI	**Kota Agung**	**18.08**	**135**	P	**P**	**21 12 34.8**	**+1.6**
	comp=Z,103nm,1.0s						
KLRI	**Killari**	**18.19**	**307**	*e*P	**P**	**21 12 35.4**	**+0.9**
KLRI				*e*		21 15 47.1	
KSM	**Kuching**	**19.35**	**107**	⇓P	**Pn**	**21 12 47.9**	**-0.4**
	baz=19						
KSM	**Kuching**	**19.35**	**107**	*e*P	**Pn**	**21 12 48.0**	**-0.4**
	comp=Z,20nm,1.0s						
CGJI	**Cibinong**	**19.68**	**135**	P	**P**	**21 12 50.4**	**-0.5**
	comp=Z,85nm,0.7s						
ODAN	**Odare**	**19.71**	**348**	*e*P	**Pn**	**21 12 52.6**	**-0.2**
	comp=Z,262nm,1.0s						
RAMN	**Ramite**	**19.97**	**346**	*e*P	**Pn**	**21 12 55.2**	**-0.7**
	comp=Z,338nm,1.1s						
TAPN	**Taplejung**	**20.12**	**349**	*e*P	**P**	**21 12 56.3**	**+0.5**
	comp=Z,256nm,0.8s						
COCO	**West Island**	**20.19**	**166**	*e*P	**P**	**21 12 54.6**	**-1.7**
COCO				pmax	pmax		
	comp=Z,216nm,1.1s						
COCO	**West Island**	**20.19**	**166**	*e*P	**P**	**21 12 54.6**	**-1.7**
	comp=Z,216nm,1.1s						
KMI	**Kunming**	**20.37**	**29**	P	**P**	**21 12 58.1**	**-0.4**
KMI				pP	**pP**	**21 13 09.6**	**+3.7**
KMI				PP	**PnPn**	**21 13 20.5**	**+4.5**
KMI				S	**S**	**21 16 44.1**	**-1.6**
KMI				PMZ			
	comp=Z,65nm,1.1s						
KMI				PMZ			
	comp=Z,150nm,4.1s						
KMI				LN			
	comp=Z,440nm,20.7s						
KMI				LE			
	comp=Z,400nm,19.6s						
KMI				LZ			
	comp=Z,510nm,32.0s						
PKI	**Pulchoki**	**20.87**	**344**	*e*P	**P**	**21 13 04.2**	**+0.2**
	comp=Z,210nm,1.1s						
PKIN	**Phulchoki**	**20.88**	**344**	*e*P	**P**	**21 13 04.2**	**+0.2**
QIZ	**Qiongzhong**	**20.90**	**55**	P	**P**	**21 13 04.7**	**+0.7**
QIZ				S	**S**	**21 16 58.2**	**+2.4**
QIZ				PMZ			
	comp=Z,71nm,1.4s						
QIZ				PMZ			
	comp=Z,180nm,7.8s						
QIZ				LN			
	comp=Z,1μm,13.0s						
QIZ				LZ			
	comp=Z,670nm,22.1s						
QIZ	**Qiongzhong**	**20.90**	**55**	*e*P	**P**	**21 13 04.3**	**+0.3**
	comp=Z,71nm,1.0s						
BHPL	**Bhopal**	**20.90**	**320**	*e*P	**P**	**21 13 03.4**	**-0.7**
BHPL				AMB	AMB	21 13 15.3	
	comp=Z,48nm,0.4s						
SBUM	**Sibu**	**20.90**	**103**	*e*P	**P**	**21 13 00.4**	**-3.7**
	comp=Z,21nm,0.8s						
STKI	**Sintang**	**20.92**	**110**	P	**P**	**21 13 05.1**	**+0.8**
	comp=Z,76nm,1.1s						
DMN	**Daman**	**20.99**	**343**	*e*P	**P**	**21 13 04.6**	**-0.6**
	comp=Z,141nm,0.9s						
GUN	**Gumba**	**21.06**	**345**	*e*P	**P**	**21 13 06.1**	**0.0**
	comp=Z,385nm,0.8s						
KKN	**Kakani**	**21.11**	**344**	*e*P	**P**	**21 13 06.1**	**-0.4**
	comp=Z,149nm,0.9s						
GKN	**Gorkha**	**21.50**	**342**	*e*P	**P**	**21 13 10.4**	**-0.2**
	comp=Z,307nm,1.0s						
KOLN	**Koldanda**	**21.61**	**340**	*e*P	**P**	**21 13 12.1**	**+0.2**
	comp=Z,219nm,0.7s						
LSA	**Lhasa**	**22.08**	**358**	*e*P	**P**	**21 13 16.0**	**-1.2**
LSA				pmax	pmax		
	comp=Z,119nm,0.8s						
LSA	**Lhasa**	**22.08**	**358**	*e*P	**P**	**21 13 16.0**	**-1.2**
	comp=Z,119nm,0.8s						
DANN	**Dangsing**	**22.09**	**341**	*e*P	**P**	**21 13 17.2**	**+0.1**
SMRI	**Semarang**	**23.51**	**128**	P	**P**	**21 13 32.3**	**+0.6**
	comp=Z,99nm,1.3s						
SMRI	**Semarang**	**23.51**	**128**	⇓P	**P**	**21 13 32.7**	**+1.0**
	baz=23						
SMRI	**Semarang**	**23.51**	**128**	*e*P	**P**	**21 13 32.5**	**+0.9**
	comp=Z,77nm,0.8s						
GYA	**Guiyang**	**23.53**	**35**	⇑*i*P	**P**	**21 13 30.0**	**-1.9**
GYA				pP	**pP**	**21 13 40.8**	**+1.2**
GYA				PP	**PnPn**	**21 14 05.6**	**+6.5**
GYA				PcP	**PcP**	**21 17 18.0**	**+0.9**
GYA				S	**S**	**21 17 41.9**	**-2.5**
GYA				PMZ			
	comp=Z,50nm,0.9s						
GYA				PMZ			
	comp=Z,120nm,4.2s						
GYA				LN			
	comp=Z,840nm,15.8s						
GYA				LE			
	comp=Z,780nm,16.4s						
GYA				LZ			
	comp=Z,820nm,15.2s						
UWJI	**Ujung Watu**	**23.54**	**126**	P	**P**	**21 13 34.1**	**+2.1**
	comp=Z,217nm,1.1s						
UGM	**Wanagama**	**24.11**	**129**	*e*P	P	21 13 31.9	-5.4
	comp=Z,778nm,1.7s						
H08S3	**Diego Garcia H**	**24.48**	**233**	T	T	21 39 47.1	
	baz=52,slow=76,SNR=220						
H08S2	**Diego Garcia H**	**24.48**	**232**	T	T	21 39 47.1	
	baz=52,slow=76,SNR=177						
H08S1	**Diego Carcia H**	**24.49**	**232**	T	T	21 39 47.1	
	baz=52,slow=76,SNR=150						
CD2	**Chengdu**	**25.81**	**24**	P	**P**	**21 13 51.0**	**-1.7**
CD2				pP	**pP**	**21 13 59.4**	**-1.2**
CD2				sP	**sP**	**21 14 03.3**	**-0.7**
CD2				PP	**PnPn**	**21 14 34.1**	**+3.9**
CD2				S	**S**	**21 18 17.5**	**-3.1**
CD2				PMZ			
	comp=Z,90nm,1.0s						
CD2				PMZ			
	comp=Z,240nm,5.1s						
CD2				LN			
	comp=Z,560nm,11.4s						
CD2				LZ			
	comp=Z,390nm,15.0s						
DDI	**Dehra Dun**	**26.12**	**332**	*e*P	**P**	**21 13 55.0**	**-0.5**
DDI				AMB	AMB	21 14 07.8	
	comp=Z,131nm,1.1s						
MYLDM	**Lahad Datu**	**26.58**	**93**	*e*P	**P**	**21 14 00.9**	**+1.1**
	comp=Z,41nm,1.0s						
ABJI	**Asem Bagus**	**27.00**	**124**	P	**P**	**21 14 05.2**	**+1.6**
	comp=Z,115nm,1.0s						
SRBI	**Singaraja**	**27.97**	**123**	P	**P**	**21 14 13.3**	**+1.1**
	comp=Z,55nm,0.8s						
ENH	**Enshi**	**28.04**	**34**	*e*P	**P**	**21 14 10.6**	**-2.2**
	comp=Z,23nm,1.1s						
DHRM	**DHARAMSHALA**	**28.55**	**332**	*e*P	**P**	**21 14 16.7**	**-0.8**
MPSI	**Mapaga**	**28.86**	**103**	P	**P**	**21 14 20.8**	**+0.6**
LZH	**Lanzhou**	**30.48**	**19**	*e*P	**P**	**21 14 33.8**	**-0.7**
LZH				pP	**pP**	**21 14 42.9**	**+0.3**
LZH				sP	**sP**	**21 14 46.6**	**+0.7**
LZH				PP	**PnPn**	**21 15 34.3**	**+0.5**
LZH				S	**S**	**21 19 32.1**	**-2.3**
LZH				sS	**sS**	**21 19 46.2**	**-1.4**
LZH				SS	**SnSn**	**21 21 12.3**	**+0.7**
LZH				PMZ			
	comp=Z,38nm,1.1s						
LZH				PMZ			
	comp=Z,150nm,4.0s						
LZH				LN			
	comp=Z,440nm,16.7s						
LZH				LE			
	comp=Z,350nm,14.5s						
LZH				LZ			
	comp=Z,510nm,16.6s						
XAN	**Xi'an**	**30.75**	**28**	P	**P**	**21 14 33.7**	**-3.0**
XAN				pP	**pP**	**21 14 41.7**	**-3.1**
XAN				sP	**sP**	**21 14 44.7**	**-3.4**
XAN				PP	**PnPn**	**21 15 32.7**	**-4.5**
XAN				S	S	21 19 30.3	-8.0
XAN				PMZ			
	comp=Z,7.0nm,0.8s						
XAN				PMZ			
	comp=Z,57nm,5.5s						
XAN				LN			
	comp=Z,350nm,17.3s						
XAN				LE			
	comp=Z,440nm,18.7s						
XAN				LZ			
	comp=Z,460nm,14.7s						
WHN	**Wuhan**	**31.13**	**40**	⇓P	**P**	**21 14 39.5**	**-0.6**
WHN				pP	**pP**	**21 14 47.6**	**-0.5**
WHN				PMZ			
	comp=Z,24nm,0.8s						
WHN				LN			
	comp=Z,2μm,19.1s						
WHN				LE			
	comp=Z,420nm,9.5s						
WHN				LZ			
	comp=Z,680nm,16.2s						
LUWI	**Luwuk**	**31.99**	**104**	P	**P**	**21 14 48.3**	**+0.4**
	baz=32,SNR=3.6						
LUWI	**Luwuk**	**31.99**	**104**	*e*P	**P**	**21 14 46.8**	**-1.1**
	comp=Z,81nm,1.3s						
SSLB	**Suanglung**	**32.25**	**57**	*e*P	**P**	**21 14 50.4**	**+0.2**
	comp=Z,13nm,0.9s						
YULB	**Yu-li**	**32.37**	**58**	*e*P	**P**	**21 14 50.1**	**-1.1**
	comp=Z,23nm,0.9s						
CGP	**Cagayan de Oro**	**32.53**	**86**	*e*P	**P**	**21 14 54.6**	**+2.0**
CGP				*e*S	**sP**	**21 15 01.8**	**-2.2**
GTA	**Gaotai**	**32.56**	**12**	⇑P	**P**	**21 14 52.3**	**-0.4**
GTA				pP	**pP**	**21 15 01.3**	**+0.6**
GTA				sP	**sP**	**21 15 05.3**	**+1.2**
GTA				PP	**PnPn**	**21 16 02.7**	**+2.1**
GTA				S	**S**	**21 20 06.1**	**-0.5**
GTA				sS	**sS**	**21 20 22.0**	**+2.1**
GTA				PMZ			
	comp=Z,64nm,0.9s						
GTA				PMZ			
	comp=Z,190nm,4.7s						
GTA				LN			
	comp=Z,170nm,22.3s						
GTA				LE			
	comp=Z,170nm,21.4s						
GTA				LZ			
	comp=Z,190nm,22.8s						
YHNB	**Yeheng**	**32.98**	**55**	*e*P	**P**	**21 14 54.8**	**-1.8**
	comp=Z,65nm,1.6s						
KBL	**Kabul**	**34.13**	**325**	*e*P	**P**	**21 15 08.2**	**+1.6**
KBL				pmax	pmax		
	comp=Z,15nm,0.9s						
KBL	**Kabul**	**34.13**	**325**	*e*P	**P**	**21 15 08.2**	**+1.6**
	comp=Z,15nm,0.9s						
KSH	**Kashi**	**34.91**	**338**	P	**P**	**21 15 11.9**	**-1.3**
KSH				pP	**pP**	**21 15 19.7**	**-1.6**
KSH				PcP	**PcP**	**21 17 46.1**	**+0.5**
KSH				S	**S**	**21 20 38.0**	**-5.1**
KSH				PMZ			
	comp=Z,26nm,0.9s						
KSH				LN			
	comp=Z,1μm,12.0s						
KSH				LE			
	comp=Z,490nm,9.5s						
KSH				LZ			
	comp=Z,270nm,10.7s						
NJ2	**Nanjing**	**35.04**	**42**	*e*P	**P**	**21 15 14.4**	**+0.2**
NJ2				pP	**pP**	**21 15 21.1**	**-1.2**
NJ2				sP	**sP**	**21 15 24.1**	**-1.5**
NJ2				PP	**PP**	**21 16 35.0**	**+1.0**
NJ2				S	**S**	**21 20 46.0**	**+1.0**
NJ2				sS	**sS**	**21 20 57.0**	**-1.3**
NJ2				PMZ			
	comp=Z,70nm,0.8s						
NJ2				PMZ			
	comp=Z,110nm,7.0s						
NJ2				LN			
	comp=Z,390nm,21.0s						
NJ2				LE			
	comp=Z,610nm,21.1s						
NJ2				LZ			
	comp=Z,640nm,21.4s						
WMQ	**Urumqi**	**36.35**	**355**	P	**P**	**21 15 25.6**	**+0.2**
WMQ				pP	**pP**	**21 15 34.1**	**+0.6**
WMQ				sP	**sP**	**21 15 41.8**	**+5.0**
WMQ				PP	**PnPn**	**21 16 46.6**	**-1.3**
WMQ				S	**S**	**21 21 04.2**	**-0.7**
WMQ				ScS	**ScS**	**21 25 39.7**	**-0.9**
WMQ				PMZ			
	comp=Z,33nm,0.9s						
WMQ				PMZ			
	comp=Z,140nm,3.8s						
WMQ				LN			
	comp=Z,180nm,24.0s						
WMQ				LE			
	comp=Z,350nm,21.6s						
WMQ				LZ			
	comp=Z,200nm,23.4s						
ULHL	**Ulahol**	**37.25**	**341**	P	P	21 15 42.1	+8.9
	SNR=5.8						
HHC	**Hu-ho-hao-te**	**37.56**	**25**	*e*P	**P**	**21 15 38.3**	**+2.5**
HHC				P

BJI Beijing 39.03 30 P **P** 21 15 49.5 +1.5
BJI S **S** 21 21 49.5 +4.0
BJI PMZ
comp=Z,10.0nm,1.1s
BJI PMZ
comp=Z,100nm,5.0s
BJI LN
comp=Z,240nm,21.5s
BJI LE
comp=Z,350nm,21.5s
BJI LZ
comp=Z,280nm,28.4s
MBWA Marble Bar 39.51 137 *e*P **P** 21 15 52.4 +0.1
comp=Z,124nm,2.1s
MK01 Makanchi Array 39.97 350 *e*P **P** 21 15 54.7 -1.1
MK32 Makanchi Array 39.99 350 *e*P **P** 21 15 55.1 -0.9
MKAR Makanchi Array 39.99 350 P **P** 21 15 55.1 -0.9
comp=Z,11nm,0.8s,baz=163,slow=8.6,SNR=14
MKAR Makanchi Array 39.99 350 P **P** 21 15 55.1 -0.9
MKAR pmax pmax
comp=Z,11nm,0.8s
MKAR Makanchi Array 39.99 350 *e*P **P** 21 15 55.4 -0.6
KKAR Karatay Array 40.11 336 *e*P **P** 21 15 57.1 +0.1
KKAR Karatay Array 40.11 336 *e*P **P** 21 15 57.1 +0.1
FAKI Fak Fak 41.62 103 *e*P **P** 21 16 08.6 -1.3
comp=Z,40nm,1.3s
SONA0 Songino Array 42.05 15 *e*P **P** 21 16 12.1 -0.9
SONM Songino Array 42.05 15 P **P** 21 16 12.1 -0.9
comp=Z,16nm,0.9s,baz=194,slow=8.3,SNR=22
SONA1 Songino Array 42.06 15 *e*P **P** 21 16 12.7 -0.5
MEEK Meekatharra 42.73 144 P **P** 21 16 20.4 +1.7
baz=43,SNR=4.6
GEYT Alibeck 42.98 320 P **P** 21 16 21.0 +0.3
comp=Z,16nm,1.0s,baz=143,slow=5.4,SNR=8.8
ISAD Sadrabad 43.01 310 *e*P **P** 21 16 24.2 +3.0
KNRA Kununurra 43.21 122 ⇓P **P** 21 16 22.3 -0.4
baz=43,SNR=4.8
MTN Manton Dam 43.96 117 ⇓P **P** 21 16 28.0 -0.8
baz=44
KS15 Wonju Array Si 44.21 42 *e*P **P** 21 16 29.1 -1.4
KSAR Wonju Array Be 44.21 42 P **P** 21 16 29.1 -1.4
KSAR Wonju Array Be 44.21 42 P **P** 21 16 29.1 -1.4
KS01 Wonju Array Si 44.23 42 *e*P **P** 21 16 30.4 -0.3
KSRS Korea Array 44.24 42 P **P** 21 16 29.1 -1.7
comp=Z,2.0nm,0.9s,baz=234,slow=8.4,SNR=5.2
KURBB Kurchatov Arra 44.38 348 P **P** 21 16 31.1 -0.6
KURBB PcP **PcP** 21 18 14.0 -1.2
comp=Z,25nm,1.0s,baz=170,slow=6.9,SNR=18
KURBB PcP **PcP** 21 18 14.0 -1.2
comp=Z,2.5nm,0.8s,baz=164,slow=2.7,SNR=3.1
KURK Kurchatov 44.45 348 P **P** 21 16 32.5 +0.3
comp=Z,455nm,1.3s,SNR=9.2
KURK Kurchatov 44.45 348 *e*P **P** 21 16 31.1 -1.1
KURK *e* 21 18 14.0
KURK Kurchatov 44.45 348 *e*P **P** 21 16 31.1 -1.1
KURK *e*PcP **PcP** 21 18 14.0 -1.5
MOY Mondy 44.66 8 *e*P P 21 16 41.6 +7.6
IGLO Ghaloghah 45.07 315 *e*P P 21 16 46.3 +8.6
TLY Talaya 45.10 10 *e*P **P** 21 16 37.1 -0.3
TLY pmax pmax
comp=Z,26nm,1.6s
TLY MLR MLR
comp=Z,104nm,18.0s
TLY Talaya 45.10 10 *e*P **P** 21 16 38.6 +1.2
comp=Z,16nm,1.0s
IALA Alasht 45.58 314 *e*P P 21 16 50.9 +9.1
IRK Irkutsk 45.75 11 *e*P **P** 21 16 44.5 +2.0
IRK pmax pmax
comp=N,50nm,1.4s
CN2 Changchun 46.56 33 *e*P **P** 21 16 48.1 -1.0
CN2 *es*P **sP** 21 16 58.9 -1.7
CN2 PP **PP** 21 18 37.7 -1.1
CN2 *e*S **S** 21 23 34.6 -1.6
CN2 PMZ
comp=N,10.0nm,1.2s
CN2 PMZ
comp=N,100nm,3.0s
CN2 LN
comp=N,200nm,19.0s
CN2 LE
comp=N,200nm,19.0s
CN2 LZ
comp=N,200nm,21.0s
ZAA0 Zalesovo Array 46.65 354 *e*P **P** 21 16 48.6 -0.9
ZALV Zalesovo Beam 46.65 354 P **P** 21 16 48.7 -0.9
comp=N,16nm,1.0s,baz=170,slow=9.0,SNR=12
ZAA1 Zalesovo Array 46.66 354 *e*P **P** 21 16 48.7 -0.9
NWAO Narrogin (SRO) 46.91 150 P **P** 21 16 52.6 +0.8
comp=N,14nm,0.9s,baz=330,slow=9.9,SNR=5.2
RAYN Ar Rayn 47.17 295 *e*P **P** 21 16 55.6 +1.3
comp=N,21nm,0.8s
WRKA Warakurna 48.02 134 ⇓P **P** 21 17 01.5 +0.8
baz=48,SNR=6.5
KRAR Krasnoyarsk 48.38 1⇓*e*P **P** 21 17 02.1 -0.8
KRAR pmax pmax
comp=Z,20nm,1.1s
BVAR Borovoye Array 48.63 343 P **P** 21 17 04.5 -0.5
comp=Z,10nm,0.8s,baz=142,slow=7.5,SNR=12
BRVK Borovoye 48.69 343 *e*P **P** 21 17 04.6 -0.9
BRVK pmax pmax
comp=Z,44nm,0.8s
BRVK Borovoye 48.69 343 *e*P **P** 21 17 04.5 -0.9
comp=Z,44nm,0.8s
MDJ Mudanjiang 49.39 35 P **P** 21 17 12.1 +1.1
MDJ pP **pP** 21 17 18.4 -0.9
MDJ sP **sP** 21 17 21.1 -1.4
MDJ PcP **PcP** 21 18 33.5 +0.4
MDJ PP **PP** 21 19 06.2 +1.0
MDJ ScP **ScP** 21 22 29.8 +3.0
MDJ S **S** 21 24 16.1 -0.2
MDJ ScS **ScS** 21 27 00.7 -0.4
MDJ PMZ
comp=Z,6.0nm,0.6s
MDJ PMZ
comp=Z,57nm,3.5s
MDJ LN
comp=Z,130nm,13.1s
MDJ LE
comp=Z,200nm,15.2s
MDJ LZ
comp=Z,180nm,17.1s
ABKAR Akbulak array 49.49 333 *e*P **P** 21 17 11.8 +0.2
WB9 Warramunga Arr 49.89 124 ⇓P **P** 21 17 15.4 +0.3
baz=50
WC1 Warramunga Arr 49.91 124 ⇓P **P** 21 17 15.7 +0.3
baz=50
WRA Warramunga Arr 49.92 124 P **P** 21 17 15.4 0.0
comp=Z,8.7nm,0.7s,baz=307,slow=8.2,SNR=16
WRA PcP **PcP** 21 18 36.0 +0.4
comp=Z,4.0nm,0.9s,baz=310,slow=2.6,SNR=4.8
WRAB Tennant Creek 49.93 124⇑*i*P **P** 21 17 15.2 -0.2
WRAB pmax pmax
comp=Z,38nm,1.2s
WRAB Tennant Creek 49.93 124 *e*P **P** 21 17 15.9 +0.5
comp=Z,18nm,0.9s
USRK Ussuriysk Ar. 50.55 37 P **P** 21 17 18.6 -1.2
comp=Z,2.8nm,0.9s,baz=237,slow=5.7,SNR=6.4
MAJO Matsushiro 51.09 48 *e*P **P** 21 17 23.7 -0.3
MAJO *e* 21 18 39.6
MAJO Matsushiro 51.09 48 *e*P **P** 21 17 23.7 -0.3
MAJO *e*PcP **PcP** 21 18 39.5 0.0
MJAR Matsushiro Arr 51.09 48 P **P** 21 17 23.7 -0.3
comp=Z,0.7nm,0.5s,baz=241,slow=7.4,SNR=3.4
MJAR PcP **PcP** 21 18 39.5 -0.1
comp=Z,2.5nm,0.7s,baz=232,slow=3.6,SNR=5.1
AS12 Alice Springs 51.45 128 *e*P **P** 21 17 26.4 -0.5
AS12 *e*PcP **PcP** 21 18 41.9 +0.8
ASAR Alice Springs 51.45 128 P **P** 21 17 26.4 -0.5
comp=Z,6.7nm,0.9s,baz=309,slow=7.3,SNR=15
ASAR PcP **PcP** 21 18 41.9 +0.8
comp=Z,2.8nm,0.6s,baz=312,slow=3.7,SNR=9.0
AS01 Alice Springs 51.48 128 *e*P **P** 21 17 26.0 -1.1
AS07 Alice Springs 51.50 128 ⇑P **P** 21 17 27.6 +0.4
baz=51
BOD Bodaibo 53.05 15 *e*P **P** 21 17 37.6 -0.5
BOD pmax pmax
comp=Z,52nm,1.4s
GNI Garni 53.08 315⇓*i*P **P** 21 17 42.0 +3.0
GNI pmax pmax
comp=Z,37nm,1.3s
DGRG David-gareji 53.21 317 P P 21 17 48.6 +8.9
KLR Kul'dur 53.37 32 *e*P **P** 21 17 37.8 -2.9
TBLG Delisi 53.76 317 P P 21 17 52.1 +8.3
TBLG Delisi 53.76 317 P P 21 17 52.0 +8.3
SVE Sverdlovsk 54.92 340 *e*P **P** 21 17 52.1 +0.2
SVE pmax pmax
comp=Z,63nm,1.3s
ONI Oni 54.99 318 P P 21 17 58.5 +5.8
KMBO Kilima Mbogo 55.13 263 P **P** 21 17 56.1 +1.7
comp=Z,2.6nm,0.9s,baz=54,slow=12,SNR=6.8
KMBO Kilima Mbogo 55.13 263*ce*P P 21 17 58.5 +4.1
KMBO pmax pmax
comp=Z,3.0nm,0.9s
KMBO Kilima Mbogo 55.13 263 *e*P **P** 21 17 56.1 +1.7
comp=Z,32nm,1.2s
ARU Arti 55.36 338*d i*P **P** 21 17 55.5 +0.5
ARU 21 18 50.8
ARU 21 20 03.7
ARU PPP PPP 21 21 16.3
ARU S **S** 21 25 39.3 +1.7
ARU SS **SS** 21 29 27.4 +5.1
ARU pmax pmax
comp=Z,26nm,1.2s
ARU MLR MLR
comp=Z,280nm,19.0s
ARU Arti 55.36 338 *e*P **P** 21 17 54.7 -0.3
comp=Z,63nm,1.0s
KBZ Khabaz 55.84 319 P **P** 21 18 00.8 +2.0
comp=Z,3.3nm,0.8s,baz=215,slow=2.9,SNR=5.0
KIV Kislovodsk 56.08 319*ce*P **P** 21 18 02.2 +1.6
KIV *i* *PP **pP** 21 18 08.6 -0.4
KIV *e* 21 20 07.9
KIV pmax pmax
comp=Z,37nm,1.3s
KIV Kislovodsk 56.08 319 *e*P **P** 21 18 03.1 +2.6
comp=Z,27nm,1.0s
GOF Gofitskoye 56.33 320 *e*P P 21 18 10.0 +7.8
EIL Elat 57.64 300 ⇑P P 21 18 16.6 +4.8
baz=58,SNR=4.0
SOKR Solikamsk 58.36 340*c i*P P 21 18 24.4 +8.2
SOKR pmax pmax
comp=Z,90nm,1.1s
YSS Yuzh-Sakhalins 58.47 39 *e*P **P** 21 18 16.0 -1.2
YSS *e* 21 18 25.0
NKL Nikolayevsk 60.21 31 *e*P **P** 21 18 28.0 -1.1
BR101 Keskin Array S 60.96 311 *e*P **P** 21 18 33.0 -1.7
BRTR Keskin Array B 60.96 311 P **P** 21 18 33.0 -1.7
comp=Z,1.4nm,0.9s,baz=122,slow=5.4,SNR=3.4
BRTR Keskin Array B 60.96 311*ce*P **P** 21 18 37.0 +2.3
QLP Quilpie 61.04 126 ⇑P **P** 21 18 37.5 +2.2
baz=61,SNR=4.4
YAK Yakutsk 61.07 19 *e*P **P** 21 18 32.2 -2.6
YAK pmax pmax
comp=Z,40nm,1.0s
YAK pmax pmax
comp=N,17nm,1.3s
YAK pmax pmax
comp=E,19nm,1.4s
YAK Yakutsk 61.07 19 *e*P **P** 21 18 33.0 -1.9
comp=E,32nm,0.8s
VSR Storozhevoye 61.38 325 *e*P **P** 21 18 39.6 +2.4
VSR pmax pmax
comp=N,8.0nm,1.3s
VSR pmax pmax
comp=E,10.0nm,1.3s
VSR pmax pmax
comp=Z,10.0nm,1.3s
STKA Stephens Creek 61.52 132 P **P** 21 18 39.0 +0.6
comp=Z,16nm,0.9s,baz=311,slow=4.3,SNR=23
STKA Stephens Creek 61.52 132 P **P** 21 18 39.0 +0.6
STKA pmax pmax
comp=Z,16nm,0.9s
STKA Stephens Creek 61.52 132 P **P** 21 18 39.5 +1.1
baz=61,SNR=13
STKA Stephens Creek 61.52 132 *e*P **P** 21 18 39.5 +1.1
comp=Z,3.2nm,0.8s
BR231 Keskin MP Arra 61.63 311 *e*P **P** 21 18 37.6 -1.6
PRGR Permogore 63.79 337 P **P** 21 18 50.5 -2.5
PRGR pmax pmax
comp=Z,12nm,0.6s
MOS Moscow 64.22 329 *e*P P 21 19 02.5 +6.5
MOS pmax pmax
comp=Z,69nm,1.3s
CMSA Cobar Meteorol 64.41 130 ⇓P **P** 21 18 59.3 +1.7
baz=64,SNR=13
OBN Obninsk 64.49 328⇑*e*P **P** 21 18 57.2 -0.5
OBN *i* *PP **pP** 21 19 05.1 -1.1
OBN pmax pmax
comp=Z,17nm,1.4s
OBN MLR MLR
comp=Z,222nm,20.0s
RMQ Roma 64.69 124 P **P** 21 19 02.2 +2.7
baz=64,SNR=10
PSN Preselentsi 65.89 315⇑*i*P P 21 19 14.8 +7.7
PSN Preselentsi 65.89 315 *e*P P 21 19 14.6 +7.5
PSN Preselentsi 65.89 315 *e*P P 21 19 14.6 +7.5
TIRR Tirgusor 65.91 315⇓*i*P P 21 19 15.3 +8.1
AKASG Malin Array Be 67.04 322 P **P** 21 19 11.8 -2.4
comp=Z,0.9nm,0.7s,baz=89,slow=4.3,SNR=6.2
AKASG PP **PP** 21 21 39.2 -2.9
comp=Z,0.2nm,0.4s,baz=93,slow=9.0,SNR=4.2
AKBB Malin Array Si 67.04 322 *e*P **P** 21 19 11.9 -2.4
AKBB *e* 21 21 39.2
AKBB Malin Array Si 67.04 322 *e*P **P** 21 19 11.8 -2.4
AKBB *e*PP **PP** 21 21 39.2 -2.9
KIEV Kiev 67.05 322 *i* P **P** 21 19 14.6 +0.3
TOO Toolangi 67.16 136 ⇓P **P** 21 19 17.8 +2.5
baz=67,SNR=3.8
VRI Vrincioaia 67.40 317⇑*i*P P 21 19 25.3 +8.6
PLOR Plostina 67.45 317⇑*i*P P 21 19 26.2 +9.1
TESR Tescani 67.60 317⇑*i*P P 21 19 26.0 +8.1
MLR Muntele Rosu 67.85 316⇑*i*P P 21 19 28.7 +9.0
TMCR Tamitsa 68.09 338 *e*P **P** 21 19 19.8 -0.8
TMCR *e* 21 21 52.1
TMCR pmax pmax
comp=Z,20nm,0.8s
DOPR Dopca 68.33 317⇑*i*P P 21 19 31.2 +8.6
ARMA Armidale 68.55 127 ⇑P **P** 21 19 27.0 +2.7
baz=68,SNR=7.6
ARMA Armidale 68.55 127 *e*P **P** 21 19 27.2 +2.9
comp=Z,18nm,0.8s
CAN Canberra 68.58 132 ⇓P **P** 21 19 26.1 +1.7
baz=68
MMB Musomiste 68.72 312⇑*i*P P 21 19 33.2 +8.1
MMB Musomiste 68.72 312 *e*P P 21 19 31.6 +6.5
MMB Musomiste 68.72 312 *e*P P 21 19 31.6 +6.5
ARR Arti 68.73 316⇓*i*P P 21 19 33.0 +7.8
BURAR Bucovina Array 68.80 318⇑*i*P P 21 19 34.4 +8.8
BUR04 Bucovina Ar. S 68.80 318 *e*P **P** 21 19 24.1 -1.5
CNB Canberra Magne 68.85 132 ⇑P **P** 21 19 27.5 +1.5
baz=69,SNR=6.2
MICGM Minsk 68.94 326 *e* P 21 19 32.0 +5.8
MNK Minsk 68.97 326 *e*P P 21 19 32.0 +5.6
MPEP Malo Peshtene 69.00 314 *e*P P 21 19 34.7 +7.9
MPEP Malo Peshtene 69.00 314 *e*P P 21 19 34.7 +7.9
KKB Krupnik 69.23 312 *e*P **P** 21 19 28.3 0.0
KKB Krupnik 69.23 312 *e*P **P** 21 19 28.3 0.0
VTS Vitosha 69.25 313⇑*i*P P 21 19 37.0 +8.4
VTS Vitosha 69.25 313 *e*P **P** 21 19 26.9 -1.7
VTS Vitosha 69.25 313 *e*P **P** 21 19 26.9 -1.7
NACGM Naroch 69.67 326 *e* **P** 21 19 28.0 -2.7
SEY Seymchan 70.21 25⇑*e*P **P** 21 19 34.6 +0.8
DRGR 70.31 317⇑*i*P P 21 19 43.8 +8.9
KWP Kalwaria Pacla 70.84 320 *e*P **P** 21 19 37.4 -0.6
KWP *e* 21 19 45.8
KWP Kalwaria Pacla 70.84 320 *e*P **P** 21 19 37.4 -0.6
KWP *e* 21 19 45.8
BZS Buzias 70.86 316⇓*i*P P 21 19 45.9 +7.7
UZH Uzhgorod 70.92 319 *e*P P 21 19 42.7 +4.2
UZH *e* 21 19 53.3
KOLS Kolonicke sedl 70.99 319 *e*P P 21 19 47.0 +8.1
KOLS pmax pmax
comp=Z,7.0nm,1.2s
KOLS Kolonicke sedl 70.99 319 *e* P 21 19 47.0 +8.1
LVZ Lovozero 71.13 340 *e*P **P** 21 19 38.4 -1.0
LVZ pmax pmax
comp=Z,197nm,2.1s
LVZ Lovozero 71.13 340 *e*P **P** 21 19 38.4 -1.0
comp=Z,197nm,2.1s
APA Apatity 71.40 340⇓*i*P **P** 21 19 43.5 +2.5
APA pmax pmax
comp=Z,14nm,0.8s
APA MLR MLR
comp=Z,900nm,22.0s
SUW Suwalki 71.48 325 *e*P **P** 21 19 40.0 -1.7
SUW *e* 21 19 48.7
SUW Suwalki 71.48 325 *e*P **P** 21 19 40.1 -1.7
SUW *e* 21 19 48.7
STHS Stebnicka Huta 71.74 320 *e*P P 21 19 52.1 +8.7
STHS pmax pmax
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta 71.74 320 *e* P 21 19 52.1 +8.7
FIA0 FINESS Array S 71.98 333 *e*P **P** 21 19 43.1 -1.5
FIA0 FINESS Array S 71.98 333 *e*P **P** 21 19 43.1 -1.5
FINES FINESS Array B 71.98 333 P **P** 21 19 43.1 -1.5
comp=Z,4.2nm,0.8s,baz=107,slow=6.4,SNR=9.9
KECS Kecovo 72.08 319 *e*P P 21 19 53.4 +7.9
KECS pmax pmax
comp=Z,7.0nm,1.6s
KECS Kecovo 72.08 319 *e* P 21 19 53.4 +7.9
OJC Ojcow 72.80 320 *e*P **P** 21 19 48.5 -1.2
OJC *e* 21 19 57.6
OJC Ojcow 72.80 320 *e*P **P** 21 19 48.6 -1.2
OJC pmax pmax
comp=Z,12nm,0.9s
OJC Ojcow 72.80 320 *e*P **P** 21 19 48.6 -1.1
comp=Z,12nm,0.9s
TIP Timpagrande 73.74 309 *e*P **P** 21 19 58.0 +2.4
comp=Z,7.7nm,0.9s
OKC Ostrava-Krasne 73.79 320 *e*P **P** 21 19 56.8 +1.2
OKC *ex* x 21 20 03.6
OKC *ep*P **PcP** 21 20 08.9 -2.2
OKC Ostrava-Krasne 73.79 320 *e*P **P** 21 19 56.8 +1.2
OKC *e* 21 20 03.6
OKC *e* 21 20 08.9
MORC Moravsky Berou 74.17 320 *e*P **P** 21 19 58.1 +0.2
MORC pmax pmax
comp=Z,58nm,1.2s
MORC Moravsky Berou 74.17 320⇑*i*P P 21 20 06.9 +9.0
MORC Moravsky Berou 74.17 320 *e*P **P** 21 19 58.1 +0.2
comp=Z,58nm,1.2s
KEV Kevo 74.43 341 *e*P **P** 21 19 57.2 -1.7
KEV pmax pmax
comp=Z,85nm,1.8s
KEV Kevo 74.43 341 *e*P **P** 21 19 57.2 -1.7
comp=Z,85nm,1.8s
CUC Castrocucco 74.52 309 *e*P P 21 20 03.7 +3.6
comp=Z,6.7nm,1.1s
KRLC Kraliky 74.70 320 *e*P **P** 21 20 00.1 -0.8
KRLC *ex* x 21 20 03.4
KRLC *ep*P **pP** 21 20 09.2 -0.4
KRLC *ex* x 21 20 14.8
KRLC Kraliky 74.70 320 *e*P **P** 21 20 00.1 -0.8
KRLC *e* 21 20 09.2
KRLC *e* 21 20 14.8
VRAC Vranov 74.73 319 LR LR 21 58 43.7
comp=Z,65nm,18.7s,baz=90,slow=40
ARA0 ARCESS Array S 74.84 341 *e*P **P** 21 20 00.8 -0.6
ARCES ARCESS Array B 74.84 341 P **P** 21 20 00.8 -0.6
comp=Z,3.3nm,0.8s,baz=82,slow=8.7,SNR=6.3
CASY Casey 74.86 172 *e*P **P** 21 20 00.9 -0.4
comp=Z,174nm,2.1s
DPC Dobruska-Polom 75.02 320 *e*P **P** 21 20 02.5 -0.3
DPC *ex* x 21 20 05.1
DPC *ep*P **pP** 21 20 11.5 0.0
DPC *es*P **sP** 21 20 17.1 +2.4
DPC Dobruska-Polom 75.02 320 *e*P **P** 21 20 02.5 -0.3
DPC *e* 21 20 11.5
DPC *e* 21 20 17.1
KSP Ksiaz 75.10 321 *e*P **P** 21 20 02.9 -0.2
KSP *e* 21 20 11.6
KSP Ksiaz 75.10 321 *e*P **P** 21 20 03.0 -0.2
KSP *e* 21 20 11.6
UPC Upice 75.24 320 *e*P **P** 21 20 03.3 -0.7
UPC *ep*P **pP** 21 20 12.9 +0.2
UPC *es*P **sP** 21 20 18.5 +2.6
UPC Upice 75.24 320 *e*P **P** 21 20 03.3 -0.7
UPC *e* 21 20 12.9
UPC *e* 21 20 18.5
TREC Trest 75.45 319 *e*P **P** 21 20 03.7 -1.6
TREC *ex* x 21 20 18.9
TREC Trest 75.45 319 *e*P **P** 21 20 03.7 -1.6
TREC *e* 21 20 12.9
TREC *e* 21 20 18.9
GOPC GO Pecny, Ondr 75.96 320 *e*P **P** 21 20 07.5 -0.7
PRU Pruhonice 76.13 320 *e*P **P** 21 20 08.9 -0.2
PRU *ex* x 21 20 11.6
PRU *ex* x 21 20 17.4
PRU *ex* x 21 20 22.9
PRU AMS AMS 22 05 00.0
comp=Z,100nm,21.5s
PRU Pruhonice 76.13 320 *e*P **P** 21 20 08.9 -0.2
PRU *e* 21 20 17.4
PRU *e* 21 20 22.9
PRU MLR MLR
comp=Z,100nm,21.5s
PVCC Panska Ves 76.16 320 *e*P **P** 21 20 09.0 -0.2
PVCC *ep*P **pP** 21 20 17.9 0.0
PVCC *ex* x 21 20 24.7
PVCC Panska Ves 76.16 320 *e*P **P** 21 20 09.0 -0.2
PVCC *e* 21 20 17.9
PVCC *e* 21 20 24.7
PRA Prague 76.20 320 *ep*P **pP** 21 20 18.1 -0.1
PRA *ex* x 21 20 23.6
BRG Berggiesshubel 76.58 320 *e*P **P** 21 20 11.0 -0.6
comp=Z,4.5nm,1.1s
BRG *e* 21 20 19.8
comp=Z,40nm,1.6s
BRG Berggiesshubel 76.58 320 *e*P **P** 21 20 11.2 -0.4
BRG Berggiesshubel 76.58 320 *e*P **P** 21 20 11.0 -0.6
BRG *e* 21 20 19.8
BRG pmax pmax
comp=Z,5.0nm,1.1s
BRG MLR MLR
comp=N,87nm,18.4s
BRG MLR MLR
comp=E,99nm,16.5s
BRG MLR MLR
comp=Z,111nm,18.9s
GEC2 GERESS Array S 76.59 318 *e*P **P** 21 20 11.4 -0.4
comp=Z,65nm,2.0s
GEC2 *e*L L 21 53 05.9
comp=Z,51nm,21.8s
GEC2 GERESS Array S 76.59 318 *e*P **P** 21 20 11.2 -0.6
GEC2 GERESS Array S 76.59 318 *e*P **P** 21 20 11.2 -0.6
GERES GERESS Array B 76.59 318 P **P** 21 20 11.2 -0.6
comp=Z,2.1nm,0.8s,baz=90,slow=5.3,SNR=9.7
KHC Kasperske Hory 76.69 319 *e*P **P** 21 20 11.8 -0.5
KHC *ex* x 21 20 20.4
KHC *ep*P **PcP** 21 20 26.0 +2.3
KHC Kasperske Hory 76.69 319 *e*P **P** 21 20 11.8 -0.5
KHC *e* 21 20 20.4
KHC *e* 21 20 26.0
KHC Kasperske Hory 76.69 319 *e*P **P** 21 20 15.2 +2.8
comp=Z,2.2nm,0.9s
RJOB Jochberg 77.12 317 *e*P **P** 21 20 13.7 -1.2
WET Wettzell 77.15 319 *e*P **P** 21 20 14.5 -0.4
comp=Z,23nm,1.6s
WET *e*L L 21 55 43.6
comp=Z,54nm,22.0s
CLL Collm 77.21 321 *e*P **P** 21 20 14.2 -0.9
CLL *e*L L 21 59 01.9
comp=Z,110nm,18.9s
CLL Collm 77.21 321 *e*P **P** 21 20 16.0 +0.9
CLL *i* 21 20 23.1
CLL pmax pmax
comp=Z,17nm,1.3s
CLL Collm 77.21 321 *e*P **P** 21 20 15.0 -0.1
comp=Z,9.0nm,1.4s
CLL ⇑*i*(PcP) **pP** 21 20 23.1 -0.7
comp=Z,18nm,1.3s
CLL Lm MLR 21 59 00.0
comp=N,100nm,20.1s
CLL Lm MLR 21 59 00.0
comp=E,100nm,19.3s
CLL Lm MLR 21 59 00.0
comp=Z,100nm,18.9s
BILL Bilibino 77.26 22 *e*P **P** 21 20 15.3 +0.2
BILL *e* 21 20 22.6
BILL pmax pmax
comp=Z,5.0nm,1.2s
BILL MLR MLR
comp=Z,369nm,22.0s
NKC Novy Kostel 77.49 320 *e*P **P** 21 20 16.7 -0.1
NKC *ex* x 21 20 19.3
NKC *ep*P **pP** 21 20 25.2 -0.3
NKC Novy Kostel 77.49 320 *e*P **P** 21 20 16.7 -0.1
NKC *e* 21 20 25.2
TANN Tannenbergstha 77.49 320 *e*P **P** 21 20 16.3 -0.6
ROTZ Rotzenmuhle 77.62 319 *e*P **P** 21 20 17.6 +0.1
TSUM Tsumeb 77.78 249 *e*P **P** 21 20 17.9 -1.3
comp=Z,188nm,3.0s
MOX Moxa 78.04 320 *e*P **P** 21 20 19.3 -0.6

	comp=Z,31nm,1.6s							
MOX				*e*L		L	21 59 32.8	
	comp=Z,85nm,19.7s							
FUR	**Furstenfeldbru**	**78.16**	**318**	*e*P		**P**	**21 20 19.7**	**-0.9**
GRF	**Grafenberg Arr**	**78.25**	**319**	*e*P		**P**	**21 20 21.0**	**-0.1**
	comp=Z,31nm,1.1s							
GRF				*e*L		L	22 01 47.6	
	comp=Z,60nm,18.1s							
GRFO	**Grafenberg**	**78.25**	**319**	*e*P		P	21 20 25.0	+3.9
GRFO				pmax		pmax		
	comp=Z,23nm,1.0s							
GRFO	**Grafenberg**	**78.25**	**319**	*e*P		P	21 20 24.9	+3.9
	comp=Z,23nm,1.0s							
NB2	**NORSAR Subarra**	**78.93**	**331**	P		**P**	**21 20 22.9**	**-1.7**
	comp=Z,16nm,1.1s,baz=94,slow=5.9							
NB200	**NORSAR Array S**	**78.93**	**331**	*e*P		**P**	**21 20 23.5**	**-1.1**
NOA	**NORSAR Array B**	**78.93**	**331**	P		**P**	**21 20 23.5**	**-1.1**
	comp=Z,4.7nm,1.1s,baz=94,slow=5.7,SNR=4.3							
BSEG	**Bad Segeberg**	**78.99**	**323**	*e*P		**P**	**21 20 24.4**	**-0.5**
UBBA	**Unterbreizbach**	**79.07**	**320**	*e*P		**P**	**21 20 25.0**	**-0.4**
DAVA	**Damuels**	**79.08**	**317**	⇑*i*P		**P**	**21 20 24.7**	**-1.2**
	comp=Z,22nm,0.9s							
TUE	**Stuetta**	**79.44**	**316**	*e*P		**P**	**21 20 30.7**	**+2.8**
	comp=Z,90nm,2.3s							
STU	**Stuttgart**	**79.56**	**318**	*e*P		**P**	**21 20 27.5**	**-0.7**
KEST	**Kesra**	**79.59**	**305**	P		**P**	**21 20 28.5**	**-0.3**
	comp=Z,1.4nm,0.9s,baz=153,slow=2.3,SNR=3.4							
TNS	**Taunus Mts**	**80.06**	**320**	*e*P		**P**	**21 20 30.5**	**-0.5**
BFO	**Black Forest**	**80.13**	**318**	*e*P		**P**	**21 20 30.5**	**-0.9**
	comp=Z,11nm,1.2s							
BFO				*e*L		L	22 04 24.0	
	comp=Z,49nm,18.4s							
BFO	**Black Forest**	**80.13**	**318**	*e*P		**P**	**21 20 34.5**	**+3.1**
BFO				pmax		pmax		
	comp=Z,10.0nm,1.1s							
BFO	**Black Forest**	**80.13**	**318**	*e*P		**P**	**21 20 34.5**	**+3.1**
	comp=Z,10nm,1.1s							
IBBN	**Ibbenburen**	**80.50**	**322**	*e*P		**P**	**21 20 32.6**	**-0.6**
BUG	**Bochum--Univer**	**80.80**	**321**	*e*P		**P**	**21 20 34.3**	**-0.5**
SENIN	**Lac Senin/Sane**	**80.86**	**316**	*e*P		**P**	**21 20 35.5**	**0.0**
WLF	**Walferdange**	**81.55**	**319**	*e*P		**P**	**21 20 38.8**	**-0.1**
DAG	**Danmarks Havn**	**87.34**	**348**	*i*P		**P**	**21 21 04.9**	**-2.8**
	comp=Z,4.4nm,0.9s							
DAG	**Danmarks Havn**	**87.34**	**348**	*i*P		**P**	**21 21 04.9**	**-2.8**
DAG				pmax		pmax		
	comp=Z,4.0nm,0.9s							
TOA0	**Torodi Ar. Sit**	**88.47**	**283**	*e*P		**P**	**21 21 14.1**	**-0.2**
TORD	**Torodi Ar. Bea**	**88.47**	**283**	P		**P**	**21 21 14.1**	**-0.2**
	comp=Z,0.8nm,0.9s,baz=81,slow=3.8,SNR=2.1							
ES19	**SONSECA Array**	**89.66**	**310**	*e*P		**P**	**21 21 20.3**	**+0.8**
ESDC	**Sonseca Array**	**89.71**	**310**	P		**P**	**21 21 19.6**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=59,slow=4.8,SNR=7.7							
SUMG	**Summit**	**93.98**	**347**	*i*P		P	21 21 47.1	+7.9
	comp=Z,3.5nm,0.8s							
SUMG	**Summit**	**93.98**	**347**	*i*P		P	21 21 47.1	+7.9
SUMG				pmax		pmax		
	comp=Z,4.0nm,0.8s							
ILAR	**Eielson Array**	**95.92**	**22**	PP		PP	21 25 38.7	-1.0
	comp=Z,1.0nm,1.1s,baz=297,slow=5.6,SNR=4.4							
ILB	**Eielson Array**	**95.92**	**22**	*e*PP		PP	21 25 38.7	-1.0
BW06	**Boulder Array**	**126.29**	**19**	*e*PKPdf		**PKPdf**	**21 27 24.0**	**-0.5**
PD31	**Pinedale Array**	**126.29**	**19**	*e*PKPdf		**PKPdf**	**21 27 23.9**	**-0.5**
PD31				PP		**PP**	**21 29 23.0**	**+4.8**
PDAR	**Pinedale Array**	**126.29**	**19**	PKP		**PKPdf**	**21 27 23.9**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=66,slow=3.6,SNR=5.2							
PDAR				PP		**PP**	**21 29 23.0**	**+4.8**
	comp=Z,0.7nm,0.9s,baz=354,slow=7.7,SNR=4.0							
NV01	**Mina Array Sit**	**126.37**	**29**	*e*PKPdf		**PKPdf**	**21 27 25.6**	**+0.9**
NVAR	**Mina Array Bea**	**126.37**	**29**	PKP		**PKPdf**	**21 27 25.2**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=222,slow=1.7,SNR=6.6							
R11A	**Troy Canyon, C**	**127.71**	**27**	*e*PKPdf		**PKPdf**	**21 27 28.6**	**+1.3**
LTX	**Lajitas**	**140.44**	**22**	*e*PKIKP		**PKPdf**	**21 27 50.9**	**-0.3**
LTX				*e*			21 30 51.2	
LTX	**Lajitas**	**140.44**	**22**	*e*PKPdf		**PKPdf**	**21 27 50.9**	**-0.3**
LTX				*e*PP		**PP**	**21 30 51.2**	**+2.8**
TXAR	**Lajitas Array**	**140.44**	**22**	PKP		**PKPdf**	**21 27 50.9**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=241,slow=0.9,SNR=3.0							
TXAR				PP		**PP**	**21 30 51.2**	**+2.8**
	comp=Z,0.5nm,0.9s,baz=27,slow=5.9,SNR=3.9							
CPUP	**Villa Florida**	**145.23**	**234**	PKPbc		**PKPbc**	**21 27 59.2**	**0.0**
	comp=Z,10nm,1.0s,baz=82,slow=4.2,SNR=9.4							
CPUP	**Villa Florida**	**145.23**	**234**	PKIKP		**PKPbc**	**21 27 59.2**	**0.0**
CPUP				pmax		pmax		
	comp=Z,10.0nm,1.0s							
CPUP	**Villa Florida**	**145.23**	**234**	*e*PKPbc		**PKPdf**	**21 27 59.8**	**+0.3**
LPAZ	**La Paz**	**158.57**	**244**	PKPab		**PKPab**	**21 28 56.0**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=75,slow=3.4,SNR=3.3							
LPAZ	**La Paz**	**158.57**	**244**	*e*PKP2		**PKPab**	**21 28 56.0**	**+0.4**

IDC 11 21:28:29.4±1.9, 17.78S×171.94W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/28, mbtmp3.7/4, Error ellipse: s-maj=65.7km s-min=31.6km az=121.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**22.54**	**203**	P	P	21 33 30.8	-0.3
	2.8nm,0.3s,baz=0.0,slow=17,SNR=5.7						
WRA	**Warramunga Arr**	**50.70**	**259**	P	P	21 37 30.3	-1.0
	0.3nm,0.8s,baz=96,slow=6.5,SNR=7.0						
ASAR	**Alice Springs**	**50.75**	**254**	P	P	21 37 31.9	+0.3
	0.9nm,0.6s,baz=90,slow=7.8,SNR=12						
ILAR	**Eielson Array**	**84.51**	**11**	P	P	21 41 02.8	-1.0
	0.3nm,0.6s,baz=230,slow=7.0,SNR=4.2						
BRTR	**Keskin Array B**	**148.87**	**320**	PKPbc	PKPbc	21 48 20.6	+1.0
	0.7nm,0.8s,baz=70,slow=4.7,SNR=5.2						

IDC 11 22:10:27.8±2.4, 15.31S×171.87W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/31, mbtmp4.1/4, MS3.8/2, Ms1 3.8/2, ms1mx2.9/28, Error ellipse: s-maj=184.4km s-min=28.3km az=148.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**45.36**	**240**	P	P	22 18 48.8	+0.7
	1.1nm,0.3s,baz=92,slow=13,SNR=8.8						
WRA	**Warramunga Arr**	**51.30**	**257**	P	P	22 19 33.3	-0.9
	0.5nm,0.4s,baz=97,slow=7.2,SNR=19						
GUMO	**Guam**	**51.54**	**302**	LR	LR	22 38 44.6	
	comp=Z,158nm,20.5s,baz=68,slow=33						
ASAR	**Alice Springs**	**51.54**	**252**	P	P	22 19 36.0	0.0
	5.2nm,0.6s,baz=89,slow=8.0,SNR=70						
YBH	**Yreka Blue Hor**	**72.64**	**36**	LR	LR	22 47 12.5	
	comp=Z,34nm,21.0s,baz=354,slow=30						
PDAR	**Pinedale Array**	**81.22**	**41**	P	P	22 22 46.0	0.0
	0.4nm,0.4s,baz=226,slow=4.9,SNR=3.0						

IDC ***11*** *22:22:27.7±2.3, 23.85S×179.96E, h510km±23km, mb3.3/7, mb1 3.6/8, mb1mx3.3/29, mbtmp4.2/8, Error ellipse: s-maj=39.2km s-min=19.6km az=162.0*

ISCJB ***11*** *22:22:28.4±0.9, 23.93S±0.1°×179.9E±0.2, h526km, mb3.8/7, Error ellipse: s-maj=20.0km s-min=13.0km az=4.1*

ISC 11 22:22:29.2±0.9, 24.1S±0.1°×179.9E±0.2, h526km, n9, σ1s18/12, mb3.8/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.36**	**189**	P	P	**22 25 33.3**	**+1.2**
	0.6nm,0.3s,baz=17,slow=14,SNR=3.2						
URZ				S	S	**22 28 01.3**	**-1.7**
	0.3nm,0.3s,baz=205,slow=19,SNR=2.1						
STKA	**Stephens Creek**	**34.62**	**248**	P	P	**22 28 34.3**	**0.0**
	0.9nm,0.5s,baz=83,slow=8.1,SNR=3.4						
ASAR	**Alice Springs**	**41.96**	**261**	P	P	**22 29 34.4**	**+0.2**
	3.7nm,0.8s,baz=98,slow=7.8,SNR=31						
ASAR				ScP	ScP	**22 34 18.8**	**+1.1**
	0.8nm,0.9s,baz=117,slow=4.8,SNR=5.6						
WRA	**Warramunga Arr**	**42.34**	**266**	P	P	**22 29 36.3**	**-0.9**
	6.7nm,0.6s,baz=96,slow=8.4,SNR=94						
WRA				ScP	ScP	**22 34 20.6**	**+1.4**
	0.3nm,0.7s,baz=94,slow=3.7,SNR=3.4						
JAY	**Jayapura**	**43.53**	**293**	P	P	**22 29 45.6**	**-0.9**
	5.2nm,0.5s,baz=135,slow=8.6,SNR=6.1						
NVAR	**Mina Array Bea**	**84.90**	**44**	P	P	**22 34 08.2**	**-0.7**
	0.4nm,0.6s,baz=232,slow=5.6,SNR=3.5						
CMAR	**Chiang Mai Arr**	**89.53**	**290**	P	P	**22 34 31.4**	**+0.5**
	0.4nm,0.3s,baz=97,slow=3.6,SNR=3.0						
TXAR	**Lajitas Array**	**90.56**	**58**	P	P	**22 34 35.0**	**-0.5**
	0.4nm,0.7s,baz=210,slow=6.1,SNR=7.6						
BRTR	**Keskin Array B**	**147.63**	**307**	PKPbc	**PKPdf**	**22 41 12.8**	**+1.5**
	0.3nm,0.5s,baz=62,slow=4.7,SNR=3.0						

NNC 11 22:36:42.3±2.2, 42.10N×80.75E, h0km, mb3.6, mpv3.2, 7C-5D, Error ellipse: s-maj=19.7km s-min=6.3km az=150.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**3.01**	**293**	⇓Pg	Pb	22 37 36.2	-0.6
	19nm,0.8s						
KNDC				⇓Lg	Lg	22 38 18.4	
	30nm,0.5s						
TKM2	**Tokmak 2**	**3.90**	**284**	⇑Pg	Pb	22 37 52.6	+0.3
	3.2nm,0.6s						
TKM2				⇑Lg	Lg	22 38 47.9	
	19nm,0.6s						
AAK	**Ala-Archa**	**4.67**	**279**	⇑Pg	Pg	22 38 09.0	-3.0
	4.5nm,0.7s						
AAK				⇓Lg	Lg	22 39 11.3	
	10nm,0.7s						
MK31	**Makanchi Array**	**4.82**	**13**	⇑Pn	Pn	22 37 56.4	+0.3
	0.4nm,0.3s,baz=205,slow=14,SNR=48						
MK31				⇓Sn	Sn	22 38 54.3	+1.5
	1.8nm,0.4s,baz=206,slow=17,SNR=6.3						
MK31				⇑Lg	Lg	22 39 12.9	
	4.5nm,0.5s,baz=188,slow=31,SNR=6.6						
KK31	**Karatay Array**	**7.62**	**281**	⇑Lg	Lg	22 40 45.7	
	1.6nm,0.6s,baz=92,slow=25,SNR=5.3						
KURBB	**Kurchatov Arra**	**8.66**	**351**	⇓Lg	Lg	22 41 15.9	
	14nm,0.9s						
KURK	**Kurchatov**	**8.74**	**351**	⇑Lg	Lg	22 41 19.1	
	3.6nm,1.0s						

KRSC 11 23:12:24.0±3.1, 49.15N×158.10E, h15km±7km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.00**	**321**	*e*P	Pn	23 12 56.5	-0.7
SKR				*e*S	Sn	23 13 22.8	+0.9
PAU	**Pauzhetka**	**2.47**	**341**	*e*S	Sn	23 13 35.5	+2.1
ASAK	**Asacha**	**3.24**	**358**	*e*P	Pn	23 13 16.7	+2.3
RUS	**Russkaya**	**3.30**	**4**	*e*P	Pn	23 13 18.2	+3.2
SPN	**Mys Shipunski**	**4.14**	**16**	*e*P	Pn	23 13 30.6	+4.1
AVH	**Avacha**	**4.14**	**5**	*e*P	Pb	23 13 31.8	-4.8
SMAR	**Somma**	**4.15**	**6**	*e*P	Pn	23 13 31.1	+4.2
KOK	**Koryaka**	**4.17**	**4**	*e*P	Pn	23 13 31.9	+4.9
SDLR	**Sedlovina**	**4.17**	**6**	*e*P	Pn	23 13 30.3	+3.2
KRER	**Koryakskii**	**4.18**	**5**	*e*P	Pb	23 13 32.5	-5.0
KRX	**Arik**	**4.23**	**4**	*e*P	Pn	23 13 32.4	+4.4
GNL	**Ganaly**	**4.56**	**359**	*e*P	Pn	23 13 37.9	+5.5
MKZ	**Mys Kozlova**	**5.87**	**21**	*e*P	Pn	23 13 53.3	+3.1
TUMR	**Tumrok**	**6.27**	**11**	*e*P	Pn	23 14 00.9	+4.9

MEX 11 23:46:00.3±0.4, 18.04N×100.42W, h50km±5km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.25**	**16**	*e*P	Pn	23 46 07.7	-1.4
ARIG				*i* S	Sn	23 46 13.5	-1.9
PLIG	**Platanillo**	**0.94**	**68**	*i* P	Pn	23 46 16.0	-1.3
PLIG				*e*S	Sn	23 46 28.2	-1.8
CAIG	**El Cayaco**	**0.99**	**172**	*e*P	Pn	23 46 16.1	-1.9
CAIG				*i* S	Sn	23 46 28.6	-2.5
ZIIG	**Zihuatanejo**	**1.08**	**247**	*i* P	Pn	23 46 17.0	-2.1
ZIIG				*i* S	Sn	23 46 31.6	-1.5
YAIG	**Yautepec**	**1.52**	**57**	*i* P	Pn	23 46 23.8	-1.5
YAIG				*i* S	Sn	23 46 41.5	-2.7
TLIG	**Tlapa**	**1.83**	**105**	*i* P	Pn	23 46 27.3	-2.2
TLIG				*i* S	Sn	23 46 49.4	-2.3

WEL 12 00:10:06.9±0.2, 38.81S×176.19E, h100km±2km, ML4.0/18, 37C-18D, Error ellipse: s-maj=1.1km s-min=0.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATZ	**Hinemaiaia**	**0.11**	**222**	PN	Pn	00 10 20.6	-0.3
HATZ				SN	Sn	00 10 30.3	-1.1
ALRZ	**Allen Road**	**0.28**	**26**	PN	Pn	00 10 21.1	-0.3
RITZ	**Rihia Road**	**0.31**	**237**	PN	Pn	00 10 21.7	+0.1
RATZ	**Rangitukua**	**0.33**	**260**	⇑PN	Pn	00 10 21.5	-0.2
PRRZ	**Plateau Road**	**0.35**	**28**	PN	Pn	00 10 20.8	-1.0
WATZ	**Wairara**	**0.37**	**286**	PN	Pn	00 10 21.6	-0.3
WATZ				SN	Sn	00 10 33.1	0.0
KATZ	**Kakaramea**	**0.42**	**247**	⇑PN	Pn	00 10 22.3	0.0
HRRZ	**Handcock Road**	**0.42**	**10**	⇓PN	Pn	00 10 22.2	0.0
BKZ	**Black Stump Fm**	**0.43**	**146**	⇑PN	Pn	00 10 22.1	-0.2
BKZ				*e*SN	Sn	00 10 32.9	-0.9
BKZ				AML	AML	00 10 33.2	
KUTZ	**Kaahu Road**	**0.43**	**318**	PN	Pn	00 10 22.3	+0.1
HSRZ	**Hossack Road**	**0.50**	**5**	PN	Pn	00 10 22.7	-0.1
KRVZ	**Karewarewa**	**0.51**	**236**	⇑PN	Pn	00 10 22.8	-0.1
RRRZ	**Republican Roa**	**0.54**	**29**	⇓PN	Pn	00 10 22.8	-0.2
OTVZ	**Oturere**	**0.54**	**229**	⇑PN	Pn	00 10 23.2	+0.1
WTVZ	**West Tongariro**	**0.56**	**236**	⇑PN	Pn	00 10 23.1	-0.1
NMHZ	**Naumai**	**0.56**	**121**	PN	Pn	00 10 24.0	+0.7
HLRZ	**Highlands Stat**	**0.57**	**13**	PN	Pn	00 10 23.8	+0.5
NGZ	**Ngauruhoe**	**0.58**	**231**	⇑PN	Pn	00 10 23.4	-0.1
TUVZ	**Tukino**	**0.62**	**222**	⇑PN	Pn	00 10 23.9	0.0
TARZ	**Mount Tarawera**	**0.63**	**24**	⇓PN	Pn	00 10 23.8	-0.1
UTU	**Utuhina**	**0.63**	**0**	PN	Pn	00 10 24.1	+0.3
COVZ	**Chateau Observ**	**0.63**	**232**	⇑PN	Pn	00 10 23.6	-0.3
WPVZ	**Whakapapa**	**0.64**	**231**	⇑PN	Pn	00 10 23.7	-0.2
KWHZ	**Kaweka Forest**	**0.64**	**163**	⇑PN	Pn	00 10 23.9	0.0
TWVZ	**Taurewa**	**0.64**	**246**	⇑PN	Pn	00 10 23.8	-0.1
WHVZ	**Whangaehu Hut**	**0.66**	**224**	PN	Pn	00 10 24.2	-0.1
FWVZ	**Far West T-bar**	**0.67**	**228**	PN	Pn	00 10 23.9	-0.4
DRZ	**Dome Shelter**	**0.67**	**226**	PN	Pn	00 10 24.4	0.0
BHHZ	**Black Hill Sta**	**0.68**	**188**	⇑PN	Pn	00 10 24.2	-0.1
MOVZ	**Moawhango**	**0.69**	**209**	⇑PN	Pn	00 10 24.0	-0.3
WNVZ	**Wahianoa**	**0.69**	**221**	⇑PN	Pn	00 10 24.4	-0.1
TLZ	**Tolley Road**	**0.70**	**313**	PN	Pn	00 10 24.4	+0.2
RAHZ	**Arahi**	**0.71**	**99**	PN	Pn	00 10 24.9	+0.4
OMRZ	**Omania**	**0.72**	**12**	⇓PN	Pn	00 10 24.5	0.0
MCHZ	**McNeill Hill**	**0.75**	**148**	⇑PN	Pn	00 10 25.5	+0.8
ARHZ	**Aropaoanui**	**0.78**	**126**	⇓PN	Pn	00 10 25.6	+0.6
MTVZ	**Mangateitei**	**0.80**	**224**	⇑PN	Pn	00 10 25.5	+0.1
PKVZ	**Pokaka**	**0.81**	**233**	⇑PN	Pn	00 10 25.5	+0.1
EDRZ	**Edgecumbe**	**0.82**	**32**	⇓PN	Pn	00 10 25.2	-0.4
KRHZ	**Kereru**	**0.84**	**170**	⇑PN	Pn	00 10 25.8	0.0
WHHZ	**Waihua**	**0.86**	**108**	PN	Pn	00 10 26.3	+0.5
SNGZ	**Shannon Statio**	**0.90**	**89**	PN	Pn	00 10 26.6	+0.3
MARZ	**Manawahe**	**0.91**	**25**	⇓PN	Pn	00 10 26.2	-0.2
URZ	**Urewera**	**0.91**	**53**	PN	Pn	00 10 25.9	-0.4
URZ				SN	Sn	00 10 39.6	-1.3
URZ				AML	AML	00 10 40.5	
OPRZ	**Ohinepanea**	**1.01**	**17**	⇓PN	Pn	00 10 27.2	-0.2
RAGZ	**Rawiri**	**1.01**	**72**	PN	Pn	00 10 27.5	-0.1
HIZ	**Hauiti**	**1.08**	**285**	⇓PN	Pn	00 10 28.4	+0.4
CKHZ	**Cape Kidnapper**	**1.09**	**141**	PN	Pn	00 10 28.7	+0.4
PNHZ	**Pukenui**	**1.10**	**179**	⇑PN	Pn	00 10 28.1	-0.4
KAHZ	**Kahuranaki**	**1.12**	**152**	⇑PN	Pn	00 10 29.0	+0.2
MWZ	**Matawai**	**1.15**	**66**	⇓PN	Pn	00 10 28.9	-0.2
MWZ				AML	AML	00 10 45.7	
MWZ				AML	AML	00 10 46.0	
MWZ				AML	AML	00 10 52.2	
MWZ				AML	AML	00 12 16.7	
VRZ	**Vera Road**	**1.16**	**254**	PN	Pn	00 10 29.4	+0.3
KNZ	**Kokohu**	**1.18**	**101**	PN	Pn	00 10 29.2	-0.1
TOZ	**Tahuroa Road**	**1.21**	**333**	PN	Pn	00 10 30.1	+0.4
RIGZ	**Rimuhau**	**1.24**	**86**	PN	Pn	00 10 30.1	+0.1
TSZ	**Takapari Road**	**1.26**	**188**	⇑PN	Pn	00 10 29.8	-0.5
TSZ				AML	AML	00 10 49.7	
TSZ				AML	AML	00 10 52.6	
WPHZ	**Waipukurau**	**1.27**	**171**	⇑PN	Pn	00 10 30.1	-0.4
WAZ	**Wanganui**	**1.33**	**224**	⇑PN	Pn	00 10 31.4	+0.3
PXZ	**Pawanui**	**1.33**	**157**	⇑PN	Pn	00 10 31.0	-0.3
PXZ				AML	AML	00 10 49.2	
PXZ				AML	AML	00 10 49.2	
PXZ				AML	AML	00 10 49.9	
PXZ				AML	AML	00 10 50.0	
PRGZ	**Paritu Road**	**1.33**	**95**	⇓PN	Pn	00 10 31.1	-0.1
TKGZ	**Te Karaka**	**1.35**	**75**	⇓PN	Pn	00 10 31.7	+0.3
DVHZ	**Dannevirke**	**1.49**	**181**	⇑PN	Pn	00 10 32.2	-0.9
PRHZ	**Porangahau**	**1.50**	**167**	⇑PN	Pn	00 10 32.6	-0.5
TWGZ	**Tauwhareparae**	**1.54**	**66**	⇓PN	Pn	00 10 33.9	+0.1
POWZ	**Post Office Ro**	**1.61**	**191**	PN	Pn	00 10 33.6	-1.0
CNGZ	**Carnagh Statio**	**1.62**	**79**	⇑PN	Pn	00 10 34.9	+0.3
HAZ	**Te Kaha**	**1.64**	**51**	PN	Pn	00 10 33.9	-1.0
ANWZ	**Angora Road**	**1.66**	**172**	⇑PN	Pn	00 10 34.6	-0.5
NEZ	**North Egmont**	**1.69**	**254**	⇓PN	Pn	00 10 36.5	+0.8
PRWZ	**Pori Road**	**1.75**	**185**	PN	Pn	00 10 35.6	-0.8
PKE	**Pukeiti**	**1.76**	**257**	PN	Pn	00 10 36.9	+0.5
KHEZ	**Kahui Hut**	**1.76**	**253**	⇑PN	Pn	00 10 37.3	+0.8
PUZ	**Puketiti**	**1.79**	**66**	PN	Pn	00 10 36.2	-0.6
PUZ				AML	AML	00 10 59.0	
PUZ				AML	AML	00 10 59.8	
BFZ	**Birch Farm**	**1.87**	**179**	PN	Pn	00 10 36.6	-1.2
MRZ	**Mangatainoka R**	**1.91**	**194**	PN	Pn	00 10 36.8	-1.5
MRZ				AML	AML	00 11 01.1	
MRZ				AML	AML	00 11 01.2	
TIWZ	**Tintock**	**1.98**	**187**	⇑PN	Pn	00 10 38.0	-1.3
TIWZ				AML	AML	00 11 04.7	
TIWZ				AML	AML	00 11 05.2	
WMGZ	**Waiomatatini S**	**2.01**	**61**	PN	Pn	00 10 39.2	-0.5
MXZ	**Matakaoa Point**	**2.08**	**54**	PN	Pn	00 10 40.5	0.0
MXZ				AML	AML	00 11 08.4	
MXZ				AML	AML	00 11 09.0	
CPWZ	**Castlepoint**	**2.10**	**180**	⇑PN	Pn	00 10 40.0	-0.7
HOWZ	**Holdsworth Sta**	**2.15**	**194**	⇑PN	Pn	00 10 39.6	-1.9
OGWZ	**Otaki Gorge**	**2.15**	**201**	⇑PN	Pn	00 10 39.9	-1.5
KIW	**Kapiti Island**	**2.27**	**205**	PN	Pn	00 10 41.2	-1.8
KIW				AML	AML	00 11 09.0	
KIW				AML	AML	00 11 09.2	
TMWZ	**Te Maipa**	**2.31**	**186**	⇑PN	Pn	00 10 41.7	-1.8
MTW	**Mount Morrison**	**2.40**	**192**	⇑PN	Pn	00 10 42.6	-2.2
MTW				AML	AML	00 11 11.6	
MTW				AML	AML	00 11 11.8	
CAW	**Cannon Point**	**2.45**	**200**	⇓PN	Pn	00 10 43.3	-2.1
CAW				AML	AML	00 11 13.1	
CAW				AML	AML	00 11 13.2	
TRWZ	**Traveller**	**2.61**	**188**	PN	Pn	00 10 45.4	-2.2
TRWZ				AML	AML	00 11 16.7	
TRWZ				AML	AML	00 11 17.0	
PAWZ	**Paruwai Farm**	**2.63**	**193**	⇑PN	Pn	00 10 45.3	-2.5
PAWZ				AML	AML	00 11 16.7	
PAWZ				AML	AML	00 11 16.7	
DUWZ	**D'Urville Isla**	**2.65**	**221**	PN	Pn	00 10 46.1	-1.9
MSWZ	**Moikau Station**	**2.70**	**195**	⇓PN	Pn	00 10 46.1	-2.6
MSWZ				AML	AML	00 11 17.9	
MSWZ				AML	AML	00 11 18.0	
BHW	**Baring Head**	**2.78**	**201**	PN	Pn	00 10 47.0	-2.7
BHW				AML	AML	00 11 20.3	
BHW				AML	AML	00 11 21.3	
TCW	**Tory Channel**	**2.81**	**211**	⇓PN	Pn	00 10 47.7	-2.4
TCW				AML	AML	00 11 21.5	
TCW				AML	AML	00 11 21.6	
PLWZ	**Palliser**	**2.85**	**194**	PN	Pn	00 10 47.9	-2.8
TUWZ	**Tuamarina**	**3.13**	**213**	⇓PN	Pn	00 10 51.8	-2.6
TUWZ				AML	AML	00 11 27.5	
TUWZ				AML	AML	00 11 29.0	
NNZ	**Nelson**	**3.23**	**221**	PN	Pn	00 10 53.9	-1.8
BSWZ	**Blackbirch Sta**	**3.40**	**211**	PN	Pn	00 10 55.1	-2.9
QRZ	**Quartz Range**	**3.46**	**233**	PN	Pn	00 10 56.7	-2.2
THZ	**Tophouse**	**3.87**	**219**	PN	Pn	00 11 01.7	-2.7
KHZ	**Kahutara**	**4.13**	**208**	PN	Pn	00 11 04.3	-3.4
MQZ	**McQueen's Vall**	**5.57**	**207**	PN	Pn	00 11 22.0	-5.3
MQZ				SN	Sn	00 12 19.8	-10
CTZ	**Chatham Island**	**7.32

HJA Humahuaca 2.84 110 *i* P Pn 00 12 08.1 +3.8
SLA San Lorenzo 3.54 134 *i* P **Pn** **00 12 15.9 +2.4**
SLA AML AML 00 12 21.8
comp=Z,5μm,0.7s
SLA *i* S **Sn** **00 12 59.5 +4.7**
ALOL LOMAS DE OLMED 4.28 112 *i* P **Pn** **00 12 24.9 +1.6**
FSA Cafayete 4.34 151 *i* P **Pn** **00 12 26.1 +2.0**
LPAZ La Paz 5.96 2 P **Pn** **00 12 48.3 +1.7**
comp=Z,135nm,0.3s,baz=203,slow=2.3,SNR=1027
LPAZ La Paz 5.96 2 P **Pn** **00 12 48.3 +1.7**
LPAZ pmax pmax
comp=Z,135nm,0.3s
LPAZ La Paz 5.96 2 *e*Pn **Pn** **00 12 48.2 +1.7**
LPAZ *e*Sn Sn 00 13 37.1 -17
ARE Arequipa 6.52 332 *e*P Pn 00 12 50.0 -3.7
ARE *e*S Sn 00 13 54.0 -13
ARE Arequipa 6.52 332 *e*P Pn 00 12 50.0 -3.7
ARE *e*S Sn 00 13 54.0 -13
LCO Las Campanas 7.04 197 *e*Pn Pn 00 12 54.3 -6.4
LCO *e*Sn **Sn** **00 14 16.7 -2.7**
SIV San Ignacio 9.27 49 P **Pn** **00 13 29.1 -1.8**
comp=Z,114nm,0.3s,baz=247,slow=8.2,SNR=372
SIV S **Sn** **00 15 08.2 -5.3**
comp=Z,69nm,0.3s,baz=202,slow=14,SNR=4.9
CFAA Coronel Fontan 9.29 180 P Pn 00 13 26.9 -4.1
comp=Z,15nm,0.3s,baz=360,slow=14,SNR=311
CFAA S Sn 00 15 05.3 -8.4
comp=Z,4.0nm,0.3s,baz=347,slow=17,SNR=2.4
CFAA LR LR 00 16 43.7
comp=Z,3μm,19.7s,baz=350,slow=35
CPUP Villa Florida 10.80 114 P **Pn** **00 13 50.6 -0.9**
comp=Z,2.8nm,0.3s,baz=293,slow=12,SNR=142
CPUP LR LR 00 18 50.3
comp=Z,38μm,19.8s,baz=307,slow=42
CPUP Villa Florida 10.80 114 P **Pn** **00 13 50.6 -0.9**
CPUP pmax pmax
comp=Z,3.0nm,0.3s
CPUP MLR MLR
comp=Z,38μm,19.8s
CPUP Villa Florida 10.80 114 *e*Pn **Pn** **00 13 50.5 -1.1**
CPUP *e*Sn **Sn** **00 15 50.9 +0.5**
NNA Nana 13.08 320 P **P** **00 14 29.8 +1.9**
comp=Z,2μm,0.9s,SNR=11
NNA Nana 13.08 320 P **Pn** **00 14 21.9 +0.1**
comp=Z,2.7nm,0.3s,baz=123,slow=7.6,SNR=8.6
NNA S Sn 00 16 36.5 -9.3
comp=Z,6.2nm,0.3s,baz=167,slow=11,SNR=3.5
NNA Nana 13.08 320 *e*P **Pn** **00 14 20.6 -1.2**
SAML Samuel 14.14 21 *e*Pn **Pn** **00 14 32.7 -2.8**
SAML *e*Sn Sn 00 17 04.0 -7.6
TRQA Tornquist 16.64 162 *e*Pn **Pn** **00 15 02.9 -3.9**
comp=Z,10μm,1.6s
TRQA *e*Sn **Sn** **00 18 08.3 -3.4**
ATAH Atahualpa 17.92 326 P **P** **00 15 22.3 +0.4**
comp=Z,1.7nm,0.3s,baz=158,slow=9.2,SNR=25
BB16B Bebedouro 18.38 90 *i* P **P** **00 15 27.0 +0.4**
BB16B *i* 00 15 30.5
BB16B *i* 00 15 36.3
BB16B *i* 00 15 54.5
BB16B *i* 00 16 08.2
BB16B *i* 00 18 50.1
BB16B *i* 00 18 59.4
BB16B *i* 00 19 03.4
BB16B *i* 00 19 18.1
BB16B *i* 00 19 33.6
BB16B *i* 00 20 35.8
BDFB Brasilia 20.29 75 P **P** **00 15 47.3 -0.2**
comp=Z,553nm,0.8s,baz=249,slow=12,SNR=349
BDFB S **S** **00 19 27.9 -1.4**
comp=Z,124nm,0.9s,baz=343,slow=19,SNR=2.4
PTGA Pitinga 22.91 22 P **P** **00 16 12.9 -1.8**
comp=Z,254nm,0.5s,baz=203,slow=11,SNR=222
PTGA S **S** **00 20 12.5 -3.9**
comp=Z,264nm,1.2s,baz=193,slow=18,SNR=5.9
PTGA LR LR 00 26 55.6
comp=Z,18μm,18.6s,baz=204,slow=41
PTGA Pitinga 22.91 22 *e*P **P** **00 16 12.6 -2.2**
comp=Z,504nm,0.9s
PTGA *e*S S 00 20 07.6 -8.8
OTAV Otavalo 24.46 335 *e*P **P** **00 16 30.4 +0.9**
comp=Z,230nm,0.9s
OTAV *e*S **S** **00 20 40.4 -1.8**
ROSC El Rosal 27.60 347 P **P** **00 16 57.7 0.0**
comp=Z,52nm,1.1s,baz=125,slow=7.0,SNR=18
ROSC LR LR 00 29 55.6
comp=Z,10μm,21.1s,baz=184,slow=41
ROSC El Rosal 27.60 347 *e*P **P** **00 16 58.1 +0.4**
ROSC *e*S S 00 20 53.5 -38
PAYG Puerto Ayora 30.31 312 *e*P **P** **00 17 23.0 +1.6**
comp=Z,73nm,0.9s
EFI East Falkland 30.40 167 P **P** **00 17 20.5 -1.2**
comp=Z,2μm,0.8s,SNR=16
EFI East Falkland 30.40 167 *d i*P **P** **00 17 21.2 -0.5**
EFI pmax pmax
comp=Z,2μm,2.2s
EFI MLR MLR
comp=Z,19μm,18.0s
EFI East Falkland 30.40 167 *e*P **P** **00 17 20.9 -0.8**
comp=Z,321nm,0.8s
SDV Santo Domingo 31.05 356 *e*P **P** **00 17 26.5 -1.5**
comp=Z,220nm,1.1s
SDV *e*S S 00 22 16.4 -9.1
PCRV Puerto La Cruz 32.45 7 P **P** **00 17 39.9 -0.2**
comp=Z,95nm,0.7s,baz=165,slow=4.0,SNR=21
PCRV S **S** **00 22 48.8 +1.8**
comp=Z,71nm,1.1s,baz=209,slow=16,SNR=4.6
PCRV LR LR 00 32 01.7
comp=Z,15μm,20.5s,baz=178,slow=38
USHA Ushuaia 32.51 180 P **P** **00 17 39.5 -0.6**
comp=Z,156nm,0.8s,baz=349,slow=5.7,SNR=43
BCIP Isla Barro Col 33.23 339 *e*P **P** **00 17 47.6 +0.8**
comp=Z,1μm,2.0s
BCIP *e*S S 00 22 51.3 -7.7
GRGR Grenville 34.82 11 *e*P **P** **00 18 00.1 -0.4**
comp=Z,615nm,0.8s
GRGR *e*S **S** **00 23 24.9 +1.4**
RCBR Riachuelo 35.32 67 P **P** **00 18 04.7 -0.4**
comp=Z,806nm,0.9s,baz=230,slow=9.8,SNR=191
RCBR S **S** **00 23 32.0 +0.6**
comp=Z,36nm,1.1s,baz=163,slow=20,SNR=4.9
BBGH Gun Hill 36.23 15 *e*P P 00 18 16.8 +4.1
comp=Z,3μm,1.3s
JTS JuntasAbangare 36.25 332 P **P** **00 18 14.0 +1.1**
comp=Z,1μm,1.3s,SNR=18
JTS JuntasAbangare 36.25 332 P **P** **00 18 14.0 +1.1**
comp=Z,99nm,1.1s,baz=155,slow=6.5,SNR=38
JTS S **S** **00 23 49.9 +4.5**
comp=Z,5.3nm,1.0s,baz=119,slow=19,SNR=1.8
JTS JuntasAbangare 36.25 332 *d i*P **P** **00 18 14.4 +1.5**
JTS pmax pmax
comp=Z,791nm,1.6s
JTS JuntasAbangare 36.25 332 *e*P **P** **00 18 15.1 +2.2**
comp=Z,538nm,1.4s
JTS *e*S **S** **00 23 43.5 -1.9**
TRMF Trois Ilets 37.27 12 *e*P **P** **00 18 19.6 -1.9**
ZAM Aeronautique 37.31 12 *e*P **P** **00 18 20.6 -1.2**
MVM Montagne Vaucl 37.32 12 *e*P **P** **00 18 20.6 -1.3**
LPMF Morne Lapointe 37.33 12 *e*P **P** **00 18 21.4 -0.5**
FDF Fort de France 37.45 11 *e*P **P** **00 18 21.8 -1.2**
FDF Fort de France 37.45 11 *e*P **P** **00 18 21.0 -2.0**
FDF pmax pmax
comp=Z,484nm,0.7s
FDF Fort de France 37.45 11 *e*P **P** **00 18 21.0 -2.0**
comp=Z,484nm,0.7s
H05N1 Guadeloupe/Mar 39.01 11 P P 00 18 32.3 -3.7
SNR=26
HOPE Hope Point 39.93 151 P **P** **00 18 44.1 +0.8**
comp=Z,9μm,1.0s,SNR=55
HOPE Hope Point 39.93 151 *e*pP **pP** **00 19 10.5 +2.3**
HOPE *e*pP pP 00 19 10.5 +2.3
ICMP Isla Caja de M 39.96 3 *e*P **P** **00 18 42.6 -1.2**
ICMP *e* 00 19 10.9
ICMP *e*PP PP 00 20 10.4 -7.7
SABA Saba 39.96 8 *e*P **P** **00 18 42.2 -1.8**
comp=Z,257nm,1.1s
SABA *e*PP **PP** **00 20 13.3 -4.8**
CRPR Cabo Rojo, PR 40.05 2 *e*P **P** **00 18 42.7 -2.0**
comp=Z,277nm,0.9s
CRPR *e* 00 19 10.5
OBIP Obispado Ponce 40.11 3 *e*P **P** **00 18 43.1 -2.1**
comp=Z,564nm,1.3s
OBIP *e* 00 19 11.9
OBIP *e*S **S** **00 24 46.3 +2.8**
CPD Cerro la Pandu 40.14 4 *e*P **P** **00 18 44.1 -1.3**
CPD pmax pmax
comp=Z,16nm,0.5s
CPD Cerro la Pandu 40.14 4 *e*P **P** **00 18 44.1 -1.3**
comp=Z,16nm,0.5s
CELP Cerrillos 40.14 3 *e*P **P** **00 18 43.1 -2.3**
CELP *e* 00 19 10.0
CELP *e*S **S** **00 24 44.2 +0.2**
SJG San Juan 40.20 3 *e*P **P** **00 18 43.3 -2.6**
SJG *e*PP pP 00 19 05.5 -5.4
SJG *e*S **S** **00 24 42.4 -2.4**
SJG pmax pmax
comp=Z,2μm,0.9s
SJG San Juan 40.20 3 *e*P **P** **00 18 43.3 -2.6**
comp=Z,2μm,0.9s
SJG *e*pP pP 00 19 05.5 -5.4
SJG *e*S **S** **00 24 42.4 -2.4**
ANWB Willy Bob 40.21 10 *e*P **P** **00 18 43.0 -3.0**
comp=Z,279nm,0.8s
LSP Las Mesas 40.22 2 *e*P **P** **00 18 44.2 -1.9**
LSP *e* 00 19 12.6
MPR Mayaguez 40.26 2 *e*P **P** **00 18 44.1 -2.3**
comp=Z,112nm,0.9s
AOPR Arecibo Observ 40.41 2 *e*P **P** **00 18 45.5 -2.2**
comp=Z,176nm,0.9s
SMRT St. Maarten 40.41 8 *e*P **P** **00 18 44.9 -2.8**
comp=Z,441nm,1.4s
AGP Aguadilla 40.45 2 *e*P **P** **00 18 48.7 +0.7**
comp=Z,307nm,1.1s
AGPR Aguadilla, PR 40.51 2 *e*P **P** **00 18 45.5 -2.9**
STVI Saint Thomas 40.52 5 *e*P **P** **00 18 46.7 -1.8**
comp=Z,54nm,0.8s
TBVI Tortola 40.61 5 *e*P **P** **00 18 46.4 -2.8**
SDDR Presa de Saban 41.11 356 *e*P **P** **00 18 52.3 -1.1**
comp=Z,68nm,1.0s
SNET Serv Nac Est T 41.21 328 *e*P **P** **00 18 56.2 +1.8**
comp=Z,1μm,1.5s
SMN1 Samana, DR 41.22 359 *e*P **P** **00 18 52.9 -1.5**
SMN1 *e*pP **pP** **00 19 20.4 +1.0**
MTDJ Mount Denham 41.25 347 *e*P **P** **00 18 54.3 -0.4**
MTDJ *e*pP **pP** **00 19 22.4 +2.6**
GTBY Guantanamo Bay 42.47 351 *e*P **P** **00 19 03.3 -1.1**
comp=Z,75nm,1.1s
PMSA Palmer Station 42.58 177 P **P** **00 19 04.8 0.0**
comp=Z,264nm,0.8s,baz=5.4,slow=6.9,SNR=47
PMSA Palmer Station 42.58 177 *e*P **P** **00 19 05.3 +0.6**
GRTK Grand Turk 43.61 356 *e*P **P** **00 19 12.9 -0.7**
GRTK *e*pP **pP** **00 19 40.0 +1.1**
CMIG Matias Romero 46.98 324 P **P** **00 19 40.3 -0.1**
comp=Z,138nm,1.0s,baz=132,slow=5.7,SNR=98
CMIG S **S** **00 26 24.6 +0.9**
comp=Z,0.7nm,0.4s,baz=73,slow=20,SNR=2.5
TRIS Tristan da Cun 50.17 120 *e*P **P** **00 20 05.7 +1.1**
comp=Z,346nm,0.8s
H10N3 ASCENSION HYDR 53.64 83 P **P** **00 20 27.4 -2.9**
baz=218,slow=7.6,SNR=3.3
H10N1 ASCENSION HYDR 53.66 83 P **P** **00 20 27.8 -2.7**
baz=218,slow=7.6,SNR=6.5
H10N2 ASCENSION HYDR 53.66 83 P **P** **00 20 27.3 -3.2**
baz=218,slow=7.6,SNR=2.7
BBSR BB Station 54.45 4 *e*P **P** **00 20 35.9 -0.2**
comp=Z,110nm,0.8s
TIGA Tifton 55.38 344 P **P** **00 20 42.2 -0.7**
baz=56,SNR=16
TIGA Tifton 55.38 344 *e*P **P** **00 20 42.3 -0.6**
comp=Z,245nm,1.1s
RGRS Roger Stewart 56.04 348 *e*P **P** **00 20 47.8 +0.3**
CSU Charleston Sou 56.09 348 *e*P **P** **00 20 48.2 +0.3**
CSU *e*pP **pP** **00 21 18.8 +4.5**
PTCN Pitcairn Islan 56.22 254 *e*P **P** **00 20 51.2 +2.0**
comp=Z,1μm,1.0s
035Z Hargill 56.37 328 P **P** **00 20 50.1 +0.1**
baz=57,SNR=15
035A Encino 56.78 328 P **P** **00 20 52.9 -0.1**
baz=57,SNR=26
034A Hebbronville 57.18 328 P **P** **00 20 55.8 +0.1**
baz=57,SNR=76
GOGA Godfrey 57.23 345 *e*P **P** **00 20 55.0 -1.0**
GOGA pmax pmax
comp=Z,164nm,1.3s
GOGA Godfrey 57.23 345 *e*P **P** **00 20 55.0 -1.0**
comp=Z,164nm,1.3s
738A Farr-Stevens R 57.25 331 P **P** **00 20 57.1 +0.9**
baz=57
SACV Santiago Islan 57.35 54 P **P** **00 20 55.7 -1.5**
comp=Z,1μm,0.9s,SNR=17
SACV Santiago Islan 57.35 54 *e*P **P** **00 20 56.4 -0.8**
comp=Z,208nm,0.9s
934A Benavides 57.54 328 P **P** **00 20 58.6 +0.3**
baz=58,SNR=44
934A S **S** **00 28 48.8 +1.2**
baz=58
JSC Jenkinsville 57.58 347 *e*P **P** **00 20 58.1 -0.3**
JSC *e*S **S** **00 28 48.9 +1.1**
JSC pmax pmax
comp=Z,212nm,1.1s
JSC Jenkinsville 57.58 347 *e*P **P** **00 20 58.1 -0.3**
comp=Z,212nm,1.1s
JSC *e*S **S** **00 28 48.9 +1.1**
540A Vidor 57.72 334 P **P** **00 21 00.6 +1.1**
baz=58,SNR=12
835A Beeville 57.78 329 P **P** **00 21 00.6 +0.7**
baz=58,SNR=25
LRAL Lakeview Retre 57.82 341 *e*P **P** **00 20 58.8 -1.4**
comp=Z,222nm,1.1s
CNNC Cliffs of the 57.92 351 *e*P **P** **00 21 00.6 -0.1**
comp=Z,268nm,1.3s
933A Laredo 57.92 327 P **P** **00 21 00.8 -0.2**
baz=58,SNR=164
539A Cross D Ranch, 57.95 333 P **P** **00 21 01.9 +0.8**
baz=58,SNR=12
736A Circle Diamond 57.99 330 P **P** **00 21 02.3 +0.9**
baz=58,SNR=174
834A Tilden 57.99 328 P **P** **00 21 01.8 +0.4**
baz=58,SNR=137
637A Eagle Lake 58.07 331 P **P** **00 21 02.4 +0.6**
baz=58,SNR=33
440A Kirbyville 58.19 334 P **P** **00 21 03.2 +0.5**
baz=58,SNR=22
VBMS Vicksburg 58.20 338 P **P** **00 21 02.0 -0.7**
baz=58,SNR=5.4
VBMS Vicksburg 58.20 338 *e*P **P** **00 21 03.2 +0.4**
comp=Z,543nm,1.4s
735A Kenedy 58.25 329 P **P** **00 21 03.3 +0.1**
baz=58,SNR=16
HKT Hockley 58.28 332 *e*P **P** **00 21 03.2 -0.1**
HKT pmax pmax
comp=Z,590nm,1.3s
HKT Hockley 58.28 332 *e*P **P** **00 21 03.2 -0.1**
comp=Z,590nm,1.3s
538A Harpers Horsep 58.37 332 P **P** **00 21 04.7 +0.7**
baz=59,SNR=14
KMSC Kings Mountain 58.43 347 P **P** **00 21 04.1 -0.2**
baz=59,SNR=67
KMSC Kings Mountain 58.43 347 *e*P **P** **00 21 04.0 -0.3**
comp=Z,287nm,1.1s
636A Smothers Creek 58.43 331 P **P** **00 21 04.8 +0.4**
baz=59,SNR=77
439A Center Grove, 58.56 333 P **P** **00 21 05.8 +0.5**
baz=59,SNR=60
833A Chaparral WMA, 58.57 328 P **P** **00 21 05.6 +0.1**
baz=59,SNR=203
734A La Parita Cree 58.60 329 P **P** **00 21 05.4 -0.1**
baz=59,SNR=173
537A Green Hill Far 58.61 332 P **P** **00 21 05.9 +0.3**
baz=59,SNR=48
635A Leesville 58.68 330 P **P** **00 21 05.6 -0.5**
baz=59,SNR=68
340A Bronson 58.75 334 P **P** **00 21 07.0 +0.4**
baz=59,SNR=89
438A Sam Houston St 58.82 333 P **P** **00 21 07.5 +0.4**
baz=59,SNR=33
832A Faith Ranch, C 58.83 327 P **P** **00 21 06.9 -0.3**
baz=59,SNR=283
733A Divot King Ran 58.85 328 P **P** **00 21 07.0 -0.4**
baz=59,SNR=140
536A Bastrop 58.94 331 P **P** **00 21 07.7 -0.2**
baz=59,SNR=32
339A Huntington 58.95 334 P **P** **00 21 08.1 +0.1**
baz=59,SNR=48
634A China Grove, S 58.95 329 P **P** **00 21 07.5 -0.5**
baz=59,SNR=17
535A Dale 59.13 330 P **P** **00 21 08.6 -0.7**
baz=59,SNR=40
437A Phantom Ranch, 59.17 332 P **P** **00 21 09.7 +0.1**
baz=59,SNR=22
732A Laxson Ranch, 59.19 328 P **P** **00 21 09.2 -0.5**
baz=59,SNR=259
338A Crockett 59.28 333 P **P** **00 21 10.8 +0.6**
baz=60,SNR=81
NATX Nacogdoches 59.36 334 P **P** **00 21 11.3 +0.5**
baz=60,SNR=71
VNA1 Neumayer--Stat 59.37 160 P **P** **00 21 11.0 +0.6**
633A Saathoff Ranch 59.40 329 P **P** **00 21 10.8 -0.4**
baz=60,SNR=155
436A Wall Ranch, Ga 59.41 332 P **P** **00 21 11.3 +0.1**
baz=60,SNR=36
CPCT Cooper Cave 59.43 345 *e*P **P** **00 21 10.4 -0.9**
TKL Tuckaleechee C 59.45 345 P **P** **00 21 10.4 -1.0**
comp=Z,159nm,0.9s,baz=164,slow=7.6,SNR=124
TKL S **S** **00 29 10.6 -1.5**
comp=Z,0.8nm,0.3s,baz=162,slow=19,SNR=5.7
239A Gary 59.51 334 P **P** **00 21 12.3 +0.4**
baz=60,SNR=104
534A Blanco 59.55 330 P **P** **00 21 11.1 -1.1**
baz=60,SNR=110
SWET Sewanee 59.57 343 *e*P **P** **00 21 11.1 -1.1**
SWET *e*pP pP 00 21 32.2 -6.7
632A Uvalde 59.74 328 P **P** **00 21 13.3 -0.2**
baz=60,SNR=179
238A Jacksonville 59.76 334 P **P** **00 21 13.9 +0.3**
baz=60,SNR=64
435B Jarrell 59.77 331 P **P** **00 21 13.1 -0.6**
baz=60,SNR=48
533A Kerrville 59.85 329 P **P** **00 21 13.6 -0.7**
baz=60,SNR=122
OXF Oxford 59.93 340 *e*P **P** **00 21 13.3 -1.4**
OXF *e**PP **pP** **00 21 40.0 -1.4**
OXF pmax pmax
comp=Z,555nm,1.0s
OXF Oxford 59.93 340 *e*P **P** **00 21 13.3 -1.4**
comp=Z,556nm,1.0s
OXF *e*pP **pP** **00 21 40.0 -1.4**
336A Riesel 59.96 332 P **P** **00 21 14.7 -0.2**
baz=60,SNR=84
237A Washetta, Mont 60.05 333 P **P** **00 21 15.8 +0.3**
baz=60,SNR=54
631A Perdido Creek 60.05 327 P **P** **00 21 14.8 -0.8**
baz=60,SNR=279
139A Bunkhouse Ranc 60.06 335 P **P** **00 21 15.7 +0.1**
baz=60,SNR=16
434A Burnet 60.11 330 P **P** **00 21 15.1 -0.9**
baz=60,SNR=163
335A Moody 60.13 331 P **P** **00 21 15.7 -0.4**
baz=60,SNR=114
URVA University of 60.16 352 *e*P **P** **00 21 15.9 -0.2**
VWCC Virginia Weste 60.22 349 *e*P **P** **00 21 16.6 +0.1**
VWCC *e*S **S** **00 29 24.3 +2.4**
TZTN Tazewell 60.25 346 *e*P **P** **00 21 15.8 -1.1**
comp=Z,243nm,1.3s
BLA Blacksburg 60.26 349 *e*P **P** **00 21 17.1 +0.2**
BLA pmax pmax
comp=Z,2μm,2.0s
BLA Blacksburg 60.26 349 *e*P **P** **00 21 17.1 +0.2**
comp=Z,2μm,2.0s
532A Rocksprings 60.31 329 P **P** **00 21 17.0 -0.4**
baz=60,SNR=313
138A Matatall Enter 60.32 334 P **P** **00 21 17.8 +0.4**
baz=60,SNR=89
JSRW J. Sargeant Re 60.33 351 *e*P **P** **00 21 17.0 -0.2**
236A Katherine and 60.35 332 P **P** **00 21 17.5 -0.1**
baz=60,SNR=80
433A Art 60.44 330 P **P** **00 21 17.5 -0.8**
baz=61,SNR=504
Z39A Irene McRaven, 60.48 335 P **P** **00 21 18.7 +0.3**
baz=61,SNR=5.0
334A Lometa 60.53 331 P **P** **00 21 18.3 -0.6**
baz=61,SNR=176
137A Heron Place, G 60.54 333 P **P** **00 21 19.3 +0.5**
baz=61,SNR=108
JCT Junction City 60.55 329 *e*P **P** **00 21 18.3 -0.8**
JCT pmax pmax
comp=Z,523nm,0.8s
JCT Junction City 60.55 329 P **P** **00 21 18.4 -0.7**
baz=61,SNR=278
JCT Junction City 60.55 329 *e*P **P** **00 21 18.3 -0.7**
comp=Z,524nm,0.8s
531A Rocksprings 60.65 328 P **P** **00 21 19.6 -0.2**
baz=61,SNR=519
MET Memphis--Engin 60.66 340 *e*P **P** **00 21 20.0 +0.4**
comp=Z,538nm,0.9s
WHTX Lake Whitney 60.74 332 P **P** **00 21 19.7 -0.5**
baz=61,SNR=46
WHTX Lake Whitney 60.74 332 *e*P **P** **00 21 19.8 -0.5**
comp=Z,536nm,0.9s
136A Ennis 60.76 333 P **P** **00 21 20.2 -0.2**
baz=61,SNR=48
CBN Corbin 60.76 352 *e*P **P** **00 21 20.5 +0.3**
comp=Z,193nm,0.9s
Z38A Mt. Pleasant 60.80 334 P **P** **00 21 20.7 +0.1**
baz=61,SNR=34
333A Richland Sprin 60.87 330 P **P** **00 21 20.4 -0.8**
baz=61,SNR=278
432A Menard 60.88 329 P **P** **00 21 20.7 -0.6**
baz=61,SNR=364
WVT Waverly 60.95 342 *e*P **P** **00 21 19.8 -1.8**
WVT pmax pmax
comp=Z,395nm,1.0s
WVT Waverly 60.95 342 *e*P **P** **00 21 19.8 -1.8**
comp=Z,395nm,1.0s
RKT Rikitea 60.98 255 *i*P **P** **00 21 23.4 +1.2**
comp=Z,235nm,1.0s
RKT Rikitea 60.98 255 *e*PP PP 00 23 35.0 -2.7
comp=Z,945nm,28.8s
RKT *e*S S 00 29 26.1 -6.3
comp=Z,17μm,25.0s
RKT *e*LQ LQ 00 36 40.8
comp=Z,4μm,32.0s
RKT *e*LR LR 00 39 16.2
comp=Z,12μm,34.0s,baz=102
Z37A Pogue Cattle C 61.01 334 P **P** **00 21 21.9 -0.2**
baz=61,SNR=20
530A J-C Ranch, Com 61.03 327 P **P** **00 21 22.0 -0.4**
baz=61,SNR=384
SLBS Sierra La Lagu 61.05 316 *e*P **P** **00 21 23.9 +1.3**
comp=Z,642nm,1.4s
Y39A Lockesburg 61.06 336 P **P** **00 21 22.1 -0.3**
baz=61,SNR=69
234A Clairette 61.06 331 P **P** **00 21 21.8 -0.6**
baz=61,SNR=108
431A Sonora 61.11 328 P **P** **00 21 22.3 -0.6**
baz=61,SNR=268
UALR University of 61.16 338 *e*P **P** **00 21 22.0 -1.0**
comp=Z,336nm,1.1s
HALT Halls 61.20 341 *e*P **P** **00 21 23.3 +0.1**
HALT *e*pP **pP** **00 21 51.6 +1.5**
135A Vickery Place, 61.21 332 P **P** **00 21 22.8 -0.7**
baz=61,SNR=56
332A Millersview 61.27 329 P **P** **00 21 23.3 -0.6**
baz=62,SNR=469
HBAR Harrisburg 61.29 339 *e*P **P** **00 21 24.4 +0.5**
Y38A Idabel 61.29 335 P **P** **00 21 23.4 -0.6**
baz=62,SNR=28
SNAA Sanae 61.37 161 P **P** **00 21 24.0 -0.1**
comp=Z,148nm,0.8s,baz=285,slow=6.1,SNR=774
SNAA PKP2bc 00 50 42.4
baz=70,slow=1.4
SNAA Sanae 61.37 161 *e*P **P** **00 21 24.0 -0.1**
MIAR Mount Ida 61.40 336 *e*P **P** **00 21 23.7 -0.9**
MIAR pmax pmax
comp=Z,452nm,1.1s
MIAR Mount Ida 61.40 336 P **P** **00 21 24.0 -0.6**
baz=62,SNR=228
MIAR Mount Ida 61.40 336 *e*P **P** **00 21 23.7 -0.9**
comp=Z,452nm,1.1s
Z36A Blue Ridge 61.41 333 P **P** **00 21 24.4 -0.3**
baz=62,SNR=157
233A Rising Star 61.41 331 P **P** **00 21 24.0 -0.8**
baz=62,SNR=274
UTMT University of 61.45 341 *e*P **P** **00 21 23.9 -1.0**
comp=Z,790nm,1.2s
UTMT *e*pP **pP** **00 21 53.0 +1.2**
529A Stev Forest Ra 61.46 327 P **P** **00 21 25.1 -0.1**
baz=62
GNAR Gosnell 61.46 340 *e*P **P** **00 21 25.6 +0.6**
430A Baggett Ranch, 61.50 328 P **P** **00 21 24.8 -0.7**
baz=62,SNR=223
134A White-Moore Ra 61.52 332 P **P** **00 21 24.9 -0.6**
baz=62,SNR=73
GLAT Glass 61.52 341 *e*P **P** **00 21 25.9 +0.5**
331A San Angelo 61.54 329 P **P** **00 21 25.0 -0.7**
baz=62,SNR=228
LPIG La Paz 61.57 316 P **P** **00 21 26.5 +0.5**
comp=Z,46nm,0.4s,baz=213,slow=0.5,SNR=25
LTX Lajitas 61.58 325 *e*P **P** **00 21 25.5 -0.6**
LTX *e*S **S** **00 29 40.2 +0.5**

LTX Lajitas 61.58 325 *e*P P 00 21 25.4 -0.6
LTX *e*S S 00 29 40.2 +0.5
TXAR Lajitas Array 61.58 325 P P 00 21 25.4 -0.7
comp=Z,58nm,1.0s,baz=146,slow=6.5,SNR=258
TXAR S S 00 29 40.2 +0.4
comp=Z,1.4nm,1.2s,baz=126,slow=28,SNR=2.2
TXAR PKKP PKKPdf 00 42 18.3 -2.4
comp=Z,0.7nm,0.9s,baz=329,slow=0.7,SNR=4.2
TXAR PKPPKP P'P'df 00 50 35.9 -0.4
comp=Z,2.4nm,0.9s,baz=298,slow=1.2,SNR=9.8
TXAR P4KPbc 00 58 27.3
comp=Z,1.1nm,0.9s,baz=144,slow=8.8,SNR=11
TX31 Lajitas Ar. Si 61.58 325 *e*P P 00 21 24.7 -1.4
232A Coleman 61.65 330 P P 00 21 25.9 -0.5
baz=62,SNR=529
Y37A Hugo 61.69 334 P P 00 21 27.0 +0.4
baz=62,SNR=43
PVMO Portageville 61.77 340 *e*P P 00 21 27.3 +0.2
comp=Z,1µm,1.2s
Z35A Perchaven, San 61.80 333 P P 00 21 27.1 -0.3
baz=62,SNR=100
Y36A Durant 61.89 334 P P 00 21 27.7 -0.3
baz=62,SNR=35
133A Hamilton Ranch 61.92 331 P P 00 21 27.7 -0.5
baz=62,SNR=90
330A Mertzon 61.98 328 P P 00 21 27.8 -0.9
baz=62,SNR=90
X38A Whitesboro 61.98 335 P P 00 21 28.6 +0.1
baz=62,SNR=316
231A Bronte 62.00 329 P P 00 21 27.9 -0.9
baz=62,SNR=90
PARMO Parma 62.02 341 *e*P P 00 21 28.5 -0.3
Z34A Collier Ranch, 62.12 332 P P 00 21 29.1 -0.5
baz=62,SNR=181
X37A Clayton 62.13 335 P P 00 21 29.2 -0.3
baz=62,SNR=251
Y35A Marietta 62.21 333 P P 00 21 29.9 -0.2
baz=62,SNR=129
W38A Poteau 62.22 336 P P 00 21 30.1 0.0
baz=62,SNR=63
ABTX Abilene, Hawle 62.26 330 P P 00 21 29.7 -0.8
baz=62,SNR=171
ABTX Abilene, Hawle 62.26 330 *e*P P 00 21 29.8 -0.8
comp=Z,658nm,1.1s
PBMO Poplar Bluff 62.34 340 *e*P P 00 21 29.7 -1.2
comp=Z,351nm,1.1s
230A Sterling City 62.34 329 P P 00 21 30.2 -0.9
baz=62,SNR=70
MVL Millersville 62.41 353 *e*P P 00 21 31.3 +0.1
comp=Z,181nm,0.9s
Z33A Whitaker Ranch 62.42 331 P P 00 21 31.0 -0.6
baz=63,SNR=240
329A Wagon Wheel Ra 62.44 328 P P 00 21 31.1 -0.7
baz=63,SNR=303
X36A Centrahoma 62.50 334 P P 00 21 31.0 -1.0
baz=63,SNR=52
Y34A Reagan Ranch, 62.56 333 P P 00 21 31.6 -0.8
baz=63,SNR=233
X35A Drake 62.61 333 P P 00 21 31.6 -1.1
baz=63,SNR=157
USIN University of 62.62 343 *e*P P 00 21 31.0 -1.7
comp=Z,332nm,1.1s
W37A Quinton 62.63 335 P P 00 21 32.4 -0.5
baz=63,SNR=132
131A Roby 62.65 330 P P 00 21 32.5 -0.6
baz=63,SNR=140
229A Bryant Ranch, 62.75 328 P P 00 21 32.9 -0.9
baz=63,SNR=52
Z32A Haskell 62.76 331 P P 00 21 33.1 -0.7
baz=63,SNR=125
SIUC Southern Illin 62.83 341 *e*P P 00 21 32.9 -1.3
comp=Z,495nm,1.3s
130A Snyder 62.86 329 P P 00 21 33.9 -0.6
baz=63,SNR=176
V38A Canehill 62.88 336 P P 00 21 33.8 -0.8
baz=63,SNR=270
LUPA Lehigh Univers 62.90 354 *e*P P 00 21 35.0 +0.4
comp=Z,17nm,1.0s
BRNJ Basking Ridge 62.91 355 *e*P P 00 21 33.8 -0.7
comp=Z,61nm,0.9s
W36A Wetumka 62.95 334 P P 00 21 33.8 -1.2
baz=63,SNR=140
Y33A Hilltop Ranch, 62.97 332 P P 00 21 34.7 -0.5
baz=63,SNR=137
Z31A Sharp Cattle R 63.07 330 P P 00 21 35.3 -0.6
baz=63,SNR=314
X34A Smith Ranch, M 63.14 333 P P 00 21 35.8 -0.5
baz=63,SNR=134
PAL Palisades 63.17 355 *e*P P 00 21 36.1 -0.2
PAL pmax pmax
comp=Z,166nm,1.1s
PAL Palisades 63.17 355 *e*P P 00 21 36.1 -0.2
comp=Z,166nm,1.1s
V37A Hulbert 63.17 336 P P 00 21 35.7 -0.7
baz=63,SNR=183
W35A Tecumseh 63.22 334 P P 00 21 35.4 -1.4
baz=63,SNR=66
228A UT Block 9, Go 63.25 328 P P 00 21 36.3 -0.9
baz=63,SNR=78
ODNJ Ogdensburg 63.31 355 *e*P P 00 21 37.1 -0.1
comp=Z,124nm,1.1s
129A Stewart Farms, 63.32 329 P P 00 21 37.0 -0.6
baz=64,SNR=199
Y32A R-V Farms, Ver 63.33 331 P P 00 21 36.9 -0.6
baz=64,SNR=155
X33A Lawton 63.37 332 P P 00 21 36.6 -1.2
baz=64,SNR=36
U38A Gravette 63.38 337 P P 00 21 36.9 -1.0
baz=64,SNR=68
V36A Jenks 63.40 335 P P 00 21 37.1 -0.8
baz=64,SNR=193
YLE Yale 63.41 356 *e*P P 00 21 38.2 +0.3
comp=Z,281nm,1.0s
YLE *e*pP PcP 00 22 09.6 -4.2
TUL1 Tulsa 63.45 335 P P 00 21 37.5 -0.8
baz=64,SNR=88
TUL1 Tulsa 63.45 335 *e*P P 00 21 37.5 -0.8
comp=Z,541nm,1.1s
BLO Bloomington 63.46 344 *e*P P 00 21 36.8 -1.5
BLO pmax pmax
comp=Z,236nm,1.1s
BLO Bloomington 63.46 344 *e*P P 00 21 36.8 -1.5
comp=Z,236nm,1.1s
Z30A Sanderson Ranc 63.50 330 P P 00 21 38.0 -0.8
baz=64,SNR=384
128A Castleberry Fa 63.61 328 P P 00 21 38.7 -0.8
baz=64,SNR=110
X32A Elmer 63.61 332 P P 00 21 38.5 -0.9
baz=64,SNR=106
U37A Salina 63.63 336 P P 00 21 38.8 -0.6
baz=64,SNR=138
W34A Bridge Creek, 63.66 333 P P 00 21 38.8 -0.9
baz=64,SNR=36
W34A Bridge Creek, 63.66 333 *e*P P 00 21 38.6 -1.1
comp=Z,454nm,1.4s
WMOK Wichita Mounta 63.66 332 *e*P P 00 21 38.2 -1.5
WMOK pmax pmax
comp=Z,587nm,1.9s
WMOK Wichita Mounta 63.66 332 *e*P P 00 21 38.2 -1.5
comp=Z,587nm,1.9s
Y31A Rekieta Farm, 63.66 331 P P 00 21 39.2 -0.5
baz=64,SNR=303
ACSO Alum Creek Sta 63.67 348 *e*P P 00 21 38.8 -0.9
comp=Z,268nm,1.0s
V35A Meyer Ranch, C 63.73 334 P P 00 21 39.0 -1.1
baz=64,SNR=113
Z29A Hungry Hill Ra 63.75 329 P P 00 21 39.2 -1.3
baz=64,SNR=190
U36A Oologah 63.85 336 P P 00 21 40.0 -0.9
baz=64,SNR=14
W33A Caddo, Fort Co 63.88 333 P P 00 21 40.8 -0.3
baz=64,SNR=173
Y30A Stafford Cattl 63.88 330 P P 00 21 40.3 -1.0
baz=64,SNR=9.4
KSPA Keystone Colle 63.89 354 *e*P P 00 21 41.4 +0.3
comp=Z,168nm,0.9s
BRYW Bryant College 63.94 357 *e*P P 00 21 41.6 +0.3
comp=Z,261nm,0.9s
SLM Saint Louis 63.99 341 *e*P P 00 21 41.1 -0.6
SLM pmax pmax
comp=Z,218nm,1.2s
SLM Saint Louis 63.99 341 *e*P P 00 21 41.1 -0.6
comp=Z,218nm,1.2s
V34A Guthrie 64.07 334 P P 00 21 41.4 -1.0
baz=64,SNR=71
V34A Guthrie 64.07 334 *e*P P 00 21 41.4 -1.0
comp=Z,478nm,0.9s
X31A McDonald Ranch 64.10 331 P P 00 21 41.8 -0.8
baz=64,SNR=266
Z28A Tucker Farm, M 64.10 329 P P 00 21 41.6 -1.2
baz=64,SNR=100
T37A Cheneyville 18 64.19 337 P P 00 21 42.3 -0.7
baz=64,SNR=440
W32A Sentinel 64.19 332 P P 00 21 42.4 -0.8
baz=64,SNR=380
U35A Pawnee 64.22 335 P P 00 21 42.8 -0.5
baz=64,SNR=343
Y29A Porterfield Fa 64.23 329 P P 00 21 42.4 -1.2
baz=64,SNR=148
QUA2 Belchertown 64.34 357 *e*P P 00 21 44.2 +0.3
comp=Z,130nm,1.3s
X30A Coker Ranch, T 64.35 330 P P 00 21 43.1 -1.1
baz=64,SNR=117
V33A Lossen Ranch, 64.38 333 P P 00 21 43.6 -0.7
baz=65,SNR=74
T36A Boggs Farm, Ca 64.49 336 P P 00 21 44.3 -0.7
baz=65,SNR=166
HRV Adam Dziewonsk 64.53 357 *e*P P 00 21 45.4 +0.2
HRV pmax pmax
comp=Z,168nm,1.0s
HRV Adam Dziewonsk 64.53 357 *e*P P 00 21 45.4 +0.2
comp=Z,168nm,1.0s
ALLY Alegheny Colle 64.54 350 *e*P P 00 21 43.8 -1.5
Y28A McKinney Farm, 64.54 329 P P 00 21 44.6 -1.0
baz=65,SNR=48
W31A Holland Ranch, 64.55 332 P P 00 21 44.3 -1.2
baz=65,SNR=50
U34A Anderson Ranch 64.60 334 P P 00 21 45.0 -0.8
baz=65,SNR=124
U34A Anderson Ranch 64.60 334 *e*P P 00 21 45.0 -0.8
comp=Z,531nm,0.9s
T35A Sooner Cattle 64.61 335 P P 00 21 45.2 -0.6
baz=65,SNR=120
V32A Arapaho 64.61 333 P P 00 21 45.5 -0.4
baz=65,SNR=57
S37A Fort Scott 64.72 337 P P 00 21 45.8 -0.7
baz=65,SNR=111
X29A Tulia 64.73 330 P P 00 21 45.7 -1.1
baz=65,SNR=113
SFIN Scholer Farm 64.75 344 P P 00 21 44.7 -2.0
baz=65,SNR=48
SFIN Scholer Farm 64.75 344 *e*P P 00 21 44.6 -2.0
comp=Z,188nm,1.0s
W30A Crocket Farms 64.83 331 P P 00 21 46.6 -0.8
baz=65,SNR=11
U33A Lingo Farm, Me 64.83 334 P P 00 21 46.3 -1.0
baz=65,SNR=74
MSTX Muleshoe 64.84 329 P P 00 21 46.7 -0.9
baz=65,SNR=335
MSTX Muleshoe 64.84 329 *e*P P 00 21 46.7 -0.9
comp=Z,1µm,1.0s
MSTX *e*pP pP 00 22 14.4 -0.3
TRY Troy 64.87 356 *e*P P 00 21 48.0 +0.6
comp=Z,271nm,0.9s
TRY *e*pP PcP 00 22 18.4 -1.3
T34A McClaskey Farm 64.97 335 P P 00 21 47.6 -0.6
baz=65,SNR=154
S36A Lake Cedric, C 64.97 336 P P 00 21 47.5 -0.6
baz=65,SNR=182
V31A Spring Creek L 65.00 332 P P 00 21 48.4 -0.1
baz=65,SNR=33
X28A Dimmitt 65.02 329 P P 00 21 47.8 -0.9
baz=65,SNR=53
AMTX Amarillo 65.08 330 P P 00 21 48.2 -0.9
baz=65
AMTX Amarillo 65.08 330 *e*P P 00 21 48.2 -0.9
comp=Z,438nm,1.3s
U32A Winter Ranch, 65.15 333 P P 00 21 48.8 -0.6
baz=65,SNR=70
S35A Otter Creek Ra 65.20 336 P P 00 21 48.9 -0.8
baz=65,SNR=173
R37A Teagarden Farm 65.21 337 P P 00 21 48.9 -0.8
baz=65,SNR=168
W29A Amraillo 65.26 330 P P 00 21 49.2 -1.0
baz=66,SNR=14
MMNY Mt. Morris Dam 65.29 352 *e*P P 00 21 49.9 -0.2
comp=Z,645nm,1.2s
V30A Spur Ranch, Mi 65.36 331 P P 00 21 50.7 -0.1
baz=66,SNR=94
T33A Patterson Ranc 65.44 334 P P 00 21 50.8 -0.4
baz=66,SNR=321
R36A Gordon, Harris 65.47 337 P P 00 21 50.5 -0.8
baz=66,SNR=53
HDIL Hopedale 65.49 343 P P 00 21 49.8 -1.7
baz=66,SNR=27
HDIL Hopedale 65.49 343 *e*P P 00 21 49.7 -1.7
comp=Z,18nm,1.1s
U31A Nine Bar Ranch 65.50 332 P P 00 21 51.2 -0.5
baz=66,SNR=9.2
ACCN Adirondack Com 65.52 356 *e*P P 00 21 52.0 +0.4
comp=Z,526nm,1.8s
S34A Willow Spring 65.53 335 P P 00 21 51.0 -0.8
baz=66,SNR=28
Q37A Longview Farm, 65.58 338 P P 00 21 51.0 -1.0
baz=66,SNR=55
W28A Vega 65.63 330 P P 00 21 52.1 -0.5
baz=66,SNR=72
R35A Emporia Munici 65.72 336 P P 00 21 52.3 -0.7
baz=66,SNR=30
HNH Hanover 65.76 357 *e*P P 00 21 54.1 +1.1
comp=Z,530nm,1.6s
S33A Kaszmaul Farm, 65.78 334 P P 00 21 52.9 -0.5
baz=66,SNR=25
AAM Ann Arbor 65.80 348 *e*P P 00 21 53.3 -0.1
AAM *e**PP PcP 00 22 23.4 -0.2
AAM Ann Arbor 65.80 348 *e*P P 00 21 53.3 -0.1
AAM *e*pP PcP 00 22 23.4 -0.2
T32A Huddler Ranch, 65.80 334 P P 00 21 53.4 -0.2
baz=66,SNR=57
V29A Stinnett 65.83 331 P P 00 21 53.3 -0.6
baz=66,SNR=14
NVL N'lazarevskaya 65.91 159 *i*P P 00 21 52.5 -1.3
NVL *e* 00 22 22.4
NVL pmax pmax
comp=Z,694nm,1.1s
U30A WK&E Inc. Balk 65.99 332 P P 00 21 54.6 -0.3
baz=66,SNR=49
Q36A Arnold C. Orve 66.01 337 P P 00 21 53.7 -1.2
baz=66,SNR=49
V28A Channing 66.04 330 P P 00 21 54.9 -0.4
baz=66,SNR=90
R34A Isabella, Hill 66.10 335 P P 00 21 54.9 -0.6
baz=66,SNR=64
MDV Middlebury 66.10 356 *e*P P 00 21 55.5 +0.2
MDV *e*pP PcP 00 22 24.6 -0.3
Q35A Mercer Eighty, 66.13 337 P P 00 21 54.7 -0.9
baz=66,SNR=72
NCB Newcomb 66.14 355 *e*P P 00 21 55.8 +0.2
comp=Z,373nm,1.5s
U29A Oasis Ranch, S 66.19 331 P P 00 21 56.0 -0.2
baz=66,SNR=46
S32A Newby Ranch, P 66.25 334 P P 00 21 56.3 -0.2
baz=66,SNR=46
121A Cookes Peak, D 66.28 324 P P 00 21 57.8 +0.8
baz=66,SNR=212
V27A Dan Oppiter Fa 66.33 330 P P 00 21 56.9 -0.3
baz=66,SNR=83
T30A Plains 66.37 332 P P 00 21 56.9 -0.4
baz=67,SNR=21
R33A Olander Ranch, 66.39 335 P P 00 21 56.7 -0.6
baz=67,SNR=60
S31A Mullinville 66.41 333 P P 00 21 57.2 -0.3
baz=67,SNR=33
P36A Good Intent, A 66.51 338 P P 00 21 56.8 -1.2
baz=67,SNR=35
Q34A Chapman 66.52 336 P P 00 21 57.3 -0.8
baz=67,SNR=24
WVL Waterville 66.53 359 *e*P P 00 21 58.5 +0.5
comp=Z,196nm,1.1s
KSU1 Kansas State U 66.56 336 P P 00 21 57.3 -1.1
baz=67,SNR=19
KSU1 Kansas State U 66.56 336 *e*P P 00 21 58.5 +0.1
comp=Z,320nm,1.0s
U28A Mallet 66.56 331 P P 00 21 57.9 -0.7
baz=67,SNR=75
EMMW East Machias 66.67 1 *e*P P 00 21 59.3 +0.4
comp=Z,220nm,0.9s
P35A Duane Minner, 66.72 337 P P 00 21 58.2 -1.2
baz=67,SNR=84
R32A Long Quarter, 66.78 334 P P 00 21 59.4 -0.4
baz=67,SNR=140
T29A Hugoton 66.79 332 P P 00 21 59.8 -0.2
baz=67,SNR=42
LONY Lake Ozonia 66.82 355 *e*P P 00 22 00.0 +0.1
comp=Z,279nm,1.0s
S30A Montezuma 66.84 333 P P 00 22 00.1 -0.2
baz=67,SNR=117
U27A Thompson Grove 66.87 330 P P 00 22 00.0 -0.6
baz=67,SNR=33
O36A Bolckow 66.88 338 P P 00 21 58.9 -1.4
baz=67,SNR=45
BNM Barren Site 66.92 326 *e*P P 00 22 01.3 +0.3
Q33A Connelly Farm, 66.93 335 P P 00 22 00.2 -0.5
baz=67,SNR=74
R31A Burdett 67.00 334 P P 00 22 00.8 -0.4
baz=67,SNR=55
Y22D IRIS PASSCAL I 67.01 326 P P 00 22 02.3 +0.8
baz=67
P34A Walnut Farm, R 67.03 336 P P 00 22 00.7 -0.6
baz=67,SNR=82
LPM Los Pinos Moun 67.04 326 *e*P P 00 22 02.1 +0.3
S29A Ulysses 67.10 332 P P 00 22 02.0 0.0
baz=67,SNR=140
LENM Lemitar 67.11 326 *e*P P 00 22 03.7 +1.5
T28A Walsh 67.12 331 P P 00 22 01.4 -0.7
baz=67,SNR=79
Q32A Meitler Ranch, 67.21 335 P P 00 22 02.0 -0.5
baz=67,SNR=94
PKME Peaks-Kenny Pk 67.22 359 *e*P P 00 22 02.7 +0.3
comp=Z,150nm,0.8s
P33A Williams Farm, 67.26 336 P P 00 22 02.3 -0.5
baz=68,SNR=21
R30A Dighton 67.30 333 P P 00 22 02.9 -0.2
baz=68,SNR=66
O35A Humboldt 67.33 337 P P 00 22 01.6 -1.6
baz=68,SNR=18
T27A Campo 67.35 331 P P 00 22 03.2 -0.4
baz=68,SNR=54
LAZ Ladron 67.38 326 *e*P P 00 22 04.4 +0.5
S28A Manter 67.42 332 P P 00 22 03.5 -0.5
baz=68,SNR=392
ANMO Albuquerque 67.45 327 P P 00 22 04.6 +0.2
comp=Z,244nm,0.9s,baz=142,slow=8.1,SNR=466
ANMO Albuquerque 67.45 327 P P 00 22 04.6 +0.2
ANMO pmax pmax
comp=Z,244nm,0.9s
ANMO Albuquerque 67.45 327 *e*P P 00 22 04.5 +0.2
comp=Z,427nm,1.0s
SADO Sadowa 67.45 352 P P 00 22 03.2 -0.6
comp=Z,97nm,0.9s,baz=190,slow=5.5,SNR=82
SADO S S 00 30 49.0 -2.1
comp=Z,0.8nm,0.3s,baz=106,slow=23,SNR=7.8
CBKS Cedar Bluff 67.53 334 P P 00 22 04.4 -0.2
baz=68,SNR=47
O34A Beatrice 67.54 337 P P 00 22 03.5 -1.0
baz=68,SNR=75
Q31A Ellis 67.55 334 P P 00 22 04.6 -0.1
baz=68,SNR=43
N35A Tabor 67.76 338 P P 00 22 04.8 -1.1
baz=68,SNR=42
P32A Huiting Farm, 67.77 335 P P 00 22 05.5 -0.5
baz=68,SNR=21
O33A Hebron 67.77 336 P P 00 22 05.0 -1.0
baz=68
R29A Marienthal 67.78 333 P P 00 22 05.9 -0.3
baz=68,SNR=131
TUC Tucson 67.79 322 *e*P P 00 22 06.6 +0.2
TUC *e**PP pP 00 22 33.6 0.0
TUC pmax pmax
comp=Z,503nm,1.4s
TUC Tucson 67.79 322 *e*P P 00 22 06.6 +0.2
comp=Z,503nm,1.4s
TUC *e*pP pP 00 22 33.6 0.0
T26A Comanche Natio 67.84 330 P P 00 22 06.7 -0.1
baz=68,SNR=402
Q30A Quinter 67.87 334 P P 00 22 06.8 +0.1
baz=68,SNR=273
SCIA State Center 67.89 340 *e*P P 00 22 05.9 -0.9
comp=Z,330nm,1.0s
S27A Las Animas 67.94 331 P P 00 22 06.8 -0.5
baz=68,SNR=6.4
JFWS Jewell Farm 67.95 343 *e*P P 00 22 06.0 -1.0
JFWS pmax pmax
comp=Z,311nm,1.0s
JFWS Jewell Farm 67.95 343 *e*P P 00 22 06.0 -1.0
comp=Z,311nm,1.0s
P31A Stockton 67.99 335 P P 00 22 07.1 -0.3
baz=68,SNR=140
R28A Tribune 68.00 332 P P 00 22 07.2 -0.4
baz=68,SNR=125
N34A Lincoln 68.04 337 P P 00 22 06.4 -1.3
baz=68,SNR=66
LIC Lamto 68.08 73 *e*P P 00 22 08.5 0.0
comp=Z,242nm,0.8s
Q29A Oakley 68.11 333 P P 00 22 07.7 -0.5
baz=68,SNR=135
S26A Kim 68.15 330 P P 00 22 08.8 +0.3
baz=68,SNR=581
T25A Trinidad 68.19 330 P P 00 22 09.2 +0.3
baz=68,SNR=107
T25A Trinidad 68.19 330 *e*P P 00 22 09.2 +0.3
comp=Z,507nm,1.2s
O32A Brockman Farm, 68.20 336 P P 00 22 08.0 -0.7
baz=68,SNR=13
TIC Toumodi 68.28 73 *e*P P 00 22 09.9 +0.2
N33A J Bar K, Exete 68.30 337 P P 00 22 08.7 -0.6
baz=68,SNR=20
M35A Neola 68.32 338 P P 00 22 08.4 -1.0
baz=68,SNR=15
P30A Selden 68.36 334 P P 00 22 09.5 -0.2
baz=69,SNR=35
R27A Eads 68.39 331 P P 00 22 09.6 -0.5
baz=69,SNR=97
KIC Kosan Boka 68.39 73 *i*P P 00 22 10.7 +0.2
comp=Z,722nm,0.8s
GLMI Grayling 68.42 348 *e*P P 00 22 09.5 -0.5
comp=Z,238nm,0.9s
DBIC Dimbokro 68.43 73 P P 00 22 11.0 +0.3
comp=Z,386nm,0.8s,baz=219,slow=6.5,SNR=282
DBIC sP sP 00 22 41.3 -8.5
comp=Z,306nm,1.0s,baz=210,slow=4.6,SNR=7.1
DBIC S S 00 31 02.3 -1.8
comp=Z,60nm,1.2s,baz=327,slow=23,SNR=21
DBIC LR LR 00 51 20.2
comp=Z,2µm,20.2s,baz=234,slow=35
DBIC Dimbokro 68.43 73 *e*P P 00 22 11.2 +0.5
DBIC *e*S S 00 31 04.9 +0.9
DBIC pmax pmax
comp=Z,344nm,0.8s
DBIC Dimbokro 68.43 73 *e*P P 00 22 11.2 +0.5
comp=Z,344nm,0.8s
DBIC *e*S S 00 31 04.9 +0.9
O31A Woolen Ranch, 68.51 335 P P 00 22 10.2 -0.4
baz=69,SNR=11
Q28A Sharon Springs 68.61 333 P P 00 22 11.5 +0.1
baz=69,SNR=14
PQI Presque Isle 68.62 0 *e*P P 00 22 11.4 +0.3
comp=Z,273nm,0.9s
N32A Stulken Farm, 68.64 336 P P 00 22 10.8 -0.7
baz=69,SNR=14
M34A Aspy Farms, Fr 68.66 338 P P 00 22 10.8 -0.7
baz=69,SNR=10.0
P29A Atwood 68.69 333 P P 00 22 11.9 +0.1
baz=69,SNR=49
R26A Arlington 68.69 331 P P 00 22 12.1 +0.1
baz=69,SNR=293
214A Organ Pipe Nat 68.71 320 P P 00 22 13.1 +1.0
baz=69,SNR=102
O30A MW Ranch, Wils 68.82 334 P P 00 22 12.6 0.0
baz=69,SNR=50
L35A Bielow Farm, R 68.84 339 P P 00 22 11.9 -0.7
baz=69,SNR=19
KSCO Kaye Shedlock' 68.92 332 P P 00 22 13.6 +0.3
baz=69,SNR=31
KSCO Kaye Shedlock' 68.92 332 *e*P P 00 22 13.7 +0.3
comp=Z,670nm,1.0s
KSCO *e*PcP PcP 00 22 35.2 -1.7
M33A Taylor Creek F 68.94 337 P P 00 22 12.1 -1.1
baz=69,SNR=40
N31A Bailey Ranch, 68.94 336 P P 00 22 12.7 -0.6
baz=69,SNR=16
L34A Svendsen Farm, 69.00 338 P P 00 22 12.6 -1.0
baz=69,SNR=55
P28A Saint Francis 69.01 333 P P 00 22 14.0 +0.1
baz=69,SNR=18
O29A 4D Ranch, Culb 69.08 334 P P 00 22 14.2 0.0
baz=69,SNR=26
BGNE Belgrade 69.14 336 P P 00 22 14.2 -0.3
baz=69,SNR=75
BGNE Belgrade 69.14 336 *e*P P 00 22 14.1 -0.5
comp=Z,2µm,1.0s
SDCO Great Sand Dun 69.19 329 P P 00 22 15.7 +0.5
baz=69,SNR=779
SDCO Great Sand Dun 69.19 329 *e*P P 00 22 15.6 +0.3

	comp=Z,682nm,1.1s						
Q26A	Hugo	69.24	331	P	P	00 22 15.7	+0.3
	baz=69,SNR=65						
W18A	Petrified Fore	69.30	325	P	P	00 22 16.4	+0.6
	baz=70,SNR=45						
W18A	Petrified Fore	69.30	325	eP	P	00 22 17.4	+1.6
	comp=Z,654nm,1.2s						
P27A	Ficken Ranch,	69.35	332	P	P	00 22 16.3	+0.4
	baz=70,SNR=25						
N30A	Hueftle Ranch,	69.36	335	P	P	00 22 15.8	-0.1
	baz=70,SNR=7.3						
M31A	Lambtecht Ranc	69.40	336	P	P	00 22 16.2	0.0
	baz=70,SNR=30						
O28A	Krutsinger Ran	69.48	333	P	P	00 22 17.0	+0.2
	baz=70,SNR=44						
L33A	Hoskins	69.49	337	P	P	00 22 15.7	-0.9
	baz=70,SNR=8.8						
N29A	Votaw Ranch, W	69.59	334	P	P	00 22 17.4	0.0
	baz=70,SNR=14						
P26A	Davis Ranch, A	69.68	332	P	P	00 22 18.3	+0.2
	baz=70,SNR=75						
O27A	Beecher Island	69.83	333	P	P	00 22 19.3	+0.4
	baz=70,SNR=175						
S22A	4UR Ranch, Cre	69.83	328	P	P	00 22 19.6	+0.4
	baz=70,SNR=117						
S22A	4UR Ranch, Cre	69.83	328	eP	P	00 22 19.4	+0.2
	comp=Z,196nm,1.1s						
N28A	Pribbeno Ranch	69.85	334	P	P	00 22 19.1	+0.1
	baz=70,SNR=25						
M30A	Dale-Ortello V	69.91	335	P	P	00 22 19.1	-0.2
	baz=70,SNR=11						
TAOE	Nuku Hiva Isla	69.94	268	eP	P	00 22 21.5	+1.4
	comp=Z,913nm,1.3s						
Q24A	Divide	70.01	330	P	P	00 22 20.6	+0.4
	baz=70,SNR=313						
Q24A	Divide	70.01	330	eP	P	00 22 20.4	+0.1
	comp=Z,728nm,1.1s						
Q24A				epP	pP	00 22 46.1	-1.6
L31A	Butterfield Fa	70.07	336	P	P	00 22 20.1	-0.1
	baz=70,SNR=29						
M29A	Burnside Ranch	70.15	335	P	P	00 22 20.9	+0.1
	baz=70,SNR=12						
L30A	Spencer Herefo	70.20	336	P	P	00 22 21.3	+0.2
	baz=70,SNR=16						
O26A	Horse Wrangler	70.23	332	P	P	00 22 21.9	+0.5
	baz=70,SNR=70						
MVCO	Mesa Verde	70.25	327	P	P	00 22 22.2	+0.6
	baz=70,SNR=115						
MVCO	Mesa Verde	70.25	327	eP	P	00 22 19.0	-2.7
	comp=Z,713nm,1.1s						
OGNE	Ogallala	70.27	333	P	P	00 22 21.7	+0.1
	baz=70,SNR=18						
N27A	Anderson Farm,	70.37	333	P	P	00 22 22.4	+0.2
	baz=71,SNR=11						
M28A	Bar X Bar Ranc	70.38	334	P	P	00 22 22.6	+0.4
	baz=71,SNR=29						
H07S1	FLORES T-PHASE	70.47	30	eP	P	00 22 25.2	+2.5
WUAZ	Wupatki	70.48	324	P	P	00 22 24.1	+1.0
	baz=71,SNR=308						
WUAZ	Wupatki	70.48	324	eP	P	00 22 23.9	+0.8
	comp=Z,544nm,1.0s						
L29A	Maesberg Ranch	70.59	335	P	P	00 22 23.6	+0.2
	baz=71,SNR=24						
COWI	Conover	70.63	345	eP	P	00 22 22.6	-0.9
	comp=Z,285nm,1.3s						
ECSD	EROS Data Cent	70.64	339	P	P	00 22 22.9	-0.8
	baz=71,SNR=149						
ECSD	EROS Data Cent	70.64	339	eP	P	00 22 22.5	-1.1
	comp=Z,390nm,1.4s						
ECSD				eS	S	00 31 29.2	+0.4
N26A	Koester Ranch,	70.68	333	P	P	00 22 24.7	+0.6
	baz=71,SNR=32						
GLA	Glamis	70.69	320	eP	P	00 22 25.9	+1.7
GLA				e		00 22 43.9	
GLA				pmax	pmax		
	comp=Z,1μm,2.3s						
GLA	Glamis	70.69	320	P	P	00 22 24.9	+0.7
	baz=71,SNR=21						
GLA	Glamis	70.69	320	eP	P	00 22 25.9	+1.7
	comp=Z,1μm,2.3s						
GLA				ePcP	PcP	00 22 43.9	-0.6
H07N1	FLORES T-PHASE	70.76	30	eP	P	00 22 30.3	+5.8
K30A	Basset	70.78	336	P	P	00 22 24.3	-0.3
	baz=71,SNR=38						
SPMN	St. Paul	70.79	342	P	P	00 22 23.4	-1.1
	baz=71,SNR=42						
SPMN	St. Paul	70.79	342	eP	P	00 22 23.3	-1.1
	comp=Z,294nm,1.1s						
ISCO	Idaho Springs	70.89	330	eP	P	00 22 25.9	+0.2
ISCO				pmax	pmax		
	comp=Z,353nm,1.1s						
ISCO	Idaho Springs	70.89	330	P	P	00 22 26.1	+0.5
	baz=71,SNR=322						
ISCO	Idaho Springs	70.89	330	eP	P	00 22 25.9	+0.2
	comp=Z,353nm,1.1s						
M27A	Reverse DX Ran	70.91	334	P	P	00 22 25.9	+0.5
	baz=71,SNR=15						
L28A	Connealy Angus	70.96	334	P	P	00 22 26.0	+0.3
	baz=71,SNR=36						
PV01	Paradox Valley	71.00	327	eP	P	00 22 26.8	+0.5
Y12C	Blythe	71.00	320	P	P	00 22 27.0	+1.0
	baz=71,SNR=90						
SMCO	Snowmass	71.03	329	eP	P	00 22 27.2	+0.6
	comp=Z,398nm,1.0s						
PCAN	Candelaria	71.04	32	eP	P	00 22 26.1	-0.1
	comp=Z,175nm,1.1s						
PCED	Cedros	71.06	32	eP	P	00 22 29.4	+3.1
	comp=Z,131nm,1.3s						
PV15	Paradox Valley	71.11	328	eP	P	00 22 27.5	+0.6
K29A	Lazy Trails An	71.13	336	P	P	00 22 26.8	+0.1
	baz=71,SNR=54						
PDMCI	Parker Dam,Lak	71.16	321	P	P	00 22 27.7	+0.7
	baz=71,SNR=22						
M26A	McRoberts Ranc	71.17	333	P	P	00 22 27.5	+0.5
	baz=71,SNR=18						
IBP	Imperial Bould	71.18	319	P	P	00 22 28.1	+0.9
	baz=71,SNR=14						
SWSC	Sam W. Stewart	71.19	319	P	P	00 22 28.1	+0.9
	baz=71,SNR=24						
PV05	Paradox Valley	71.22	327	eP	P	00 22 27.6	+0.1
J30A	Dallas	71.30	336	P	P	00 22 27.2	-0.5
	baz=72,SNR=54						
L27A	T5 Ranch, Ells	71.34	334	P	P	00 22 28.6	+0.5
	baz=72						
PV04	Paradox Valley	71.36	327	eP	P	00 22 28.9	+0.5
PMAN	Manadas	71.37	32	eP	P	00 22 31.7	+3.6
	comp=Z,94nm,1.0s						
PV10	Paradox Valley	71.42	327	eP	P	00 22 28.5	-0.2
BC3	Big Chuckawall	71.48	320	P	P	00 22 29.6	+0.6
	baz=72,SNR=151						
K28A	Ten Mile Ranch	71.49	335	P	P	00 22 29.7	+0.8
	baz=72,SNR=57						
M25A	Palm-Egli Farm	71.53	332	P	P	00 22 29.8	+0.6
	baz=72,SNR=15						
MONP	Monument Peak	71.54	319	P	P	00 22 30.3	+0.8
	baz=72,SNR=48						
BAR	Barrett	71.55	318	eP	P	00 22 29.9	+0.5
	comp=Z,258nm,1.1s						
PV09	Paradox Valley	71.56	327	eP	P	00 22 30.1	+0.5
L26A	Underwood Farm	71.62	333	P	P	00 22 30.3	+0.6
	baz=72,SNR=28						
PSMA	Santa Maria	71.65	35	eP	P	00 22 32.0	+2.2
	comp=Z,148nm,1.2s						
IRM	Iron Mountain	71.65	320	P	P	00 22 30.7	+0.7
	baz=72,SNR=128						
J29A	Okreek	71.68	336	P	P	00 22 29.8	-0.2
	baz=72,SNR=63						
PGRA	Graciosa	71.73	32	eP	P	00 22 36.2	+5.9
	comp=Z,170nm,1.3s						
NEE2	Needles Airpor	71.77	321	P	P	00 22 31.3	+0.7
	baz=72,SNR=13						
I30A	Oacoma	71.78	337	P	P	00 22 29.8	-0.8
	baz=72,SNR=14						
ADH	Angra Heroismo	71.81	33	eP	P	00 22 31.1	+0.3
	comp=Z,99nm,1.4s						
K27A	Flueckinger Fa	71.83	334	P	P	00 22 31.4	+0.5
	baz=72,SNR=54						
DRLN	Deer Lake	71.86	7	eP	P	00 22 30.6	-0.3
	comp=Z,184nm,0.9s						
N23A	Red Feather La	71.92	331	P	P	00 22 32.2	+0.5
	baz=72,SNR=253						
N23A	Red Feather La	71.92	331	eP	P	00 22 32.1	+0.3
	comp=Z,379nm,1.0s						
PDA	Ponta Delgada	71.93	34	eP	P	00 22 39.1	+7.6
	comp=Z,108nm,1.3s						
109C	Camp Elliot, M	71.96	318	P	P	00 22 32.5	+0.7
	baz=72,SNR=13						
PHWY	Pilot Hill	72.03	331	eP	P	00 22 32.5	+0.1
	comp=Z,501nm,1.3s						
J28A	Allard Ranch,	72.04	335	P	P	00 22 32.4	+0.2
	baz=72,SNR=131						
BELC	Belle Mtn. Jos	72.05	320	P	P	00 22 33.2	+0.7
	baz=72,SNR=83						
PFO	Pinyon Flat Ob	72.05	319	P	P	00 22 33.3	+0.8
	comp=Z,672nm,1.2s,SNR=33						
PFO	Pinyon Flat Ob	72.05	319	P	P	00 22 33.3	+0.8
	comp=Z,66nm,1.0s,baz=127,slow=6.3,SNR=96						
PFO				sP	sP	00 23 02.9	-9.0
	comp=Z,63nm,1.0s,baz=121,slow=6.2,SNR=3.8						
PFO				S	S	00 31 49.6	+3.9
	comp=Z,0.9nm,0.5s,baz=99,slow=19,SNR=2.9						
PFO	Pinyon Flat Ob	72.05	319	P	P	00 22 33.3	+0.8
PFO				*SP	sP	00 23 02.9	-9.0
PFO				S	S	00 31 49.6	+3.9
PFO				pmax	pmax		
	comp=Z,67nm,1.0s						
PFO				smax	smax		
	comp=N,1.0nm,0.5s						
PFO	Pinyon Flat Ob	72.05	319	P	P	00 22 33.6	+1.1
	baz=72,SNR=52						
PFO	Pinyon Flat Ob	72.05	319	eP	P	00 22 33.1	+0.6
	comp=N,211nm,1.3s						
PFO				eS	S	00 31 49.6	+3.9
L25A	Engebretsen Ra	72.08	333	P	P	00 22 33.2	+0.7
	baz=72,SNR=45						
I29A	Vivian Onida	72.20	336	P	P	00 22 32.3	-0.7
	baz=72,SNR=45						
J27A	Elkhorn Farm,	72.20	335	P	P	00 22 33.9	+0.7
	baz=72,SNR=125						
BART	Pico Bartolome	72.21	35	eP	P	00 22 36.2	+2.9
	comp=N,77nm,1.1s						
K26A	Motz Farm, Whi	72.21	334	P	P	00 22 33.9	+0.7
	baz=72,SNR=31						
EKU	East Kanab	72.24	324	eP	P	00 22 34.9	+1.2
LDFC	Landfair	72.28	321	eP	P	00 22 34.0	+0.2
	comp=N,326nm,1.1s						
LDFC				epP	pP	00 23 02.9	+1.6
KNB	Kanab	72.38	324	eP	P	00 22 35.5	+1.1
KNB				pmax	pmax		
	comp=Z,993nm,1.2s						
KNB	Kanab	72.38	324	eP	P	00 22 35.5	+1.1
	comp=Z,993nm,1.2s						
GMRC	Granite Mounta	72.39	321	P	P	00 22 35.5	+1.0
	baz=73,SNR=231						
O20A	White River Ci	72.39	329	P	P	00 22 35.1	+0.6
	baz=73,SNR=323						
O20A	White River Ci	72.39	329	eP	P	00 22 35.0	+0.6
	comp=Z,698nm,1.0s						
K25A	Mack Ranch, Ha	72.42	333	P	P	00 22 35.4	+0.8
	baz=73,SNR=28						
MMU	Miners Mountai	72.44	326	eP	P	00 22 35.0	+0.1
MURC	Murrieta	72.50	319	P	P	00 22 35.9	+0.9
	baz=73,SNR=32						
I28A	Midland	72.51	336	P	P	00 22 34.7	-0.2
	baz=73,SNR=58						
J26A	Sides Ranch, S	72.68	334	P	P	00 22 36.7	+0.8
	baz=73,SNR=124						
H29A	Onida	72.68	337	P	P	00 22 35.2	-0.6
	baz=73,SNR=50						
SRU	San Rafael	72.73	327	eP	P	00 22 36.8	+0.3
SRU				pmax	pmax		
	comp=Z,425nm,1.0s						
SRU	San Rafael	72.73	327	eP	P	00 22 36.8	+0.3
	comp=Z,425nm,1.0s						
G30A	Faulkton	72.73	338	P	P	00 22 35.5	-0.7
	baz=73,SNR=17						
BBRC	Big Bear Solar	72.78	319	P	P	00 22 38.0	+1.0
	baz=73						
HEC	Hector,Ludlow	72.82	320	P	P	00 22 38.0	+1.0
	baz=73,SNR=27						
I27A	Quinn	72.90	335	P	P	00 22 37.5	+0.2
	baz=73,SNR=56						
K24A	Anderson Ranch	72.91	333	P	P	00 22 38.2	+0.8
	baz=73,SNR=18						
SCI	San Clemente I	72.91	317	P	P	00 22 38.2	+0.7
	baz=73,SNR=10						
EYMN	Ely	72.94	344	P	P	00 22 36.2	-1.0
	baz=73,SNR=47						
EYMN	Ely	72.94	344	eP	P	00 22 36.1	-1.1
	comp=Z,214nm,1.0s						
TUQ	Turquoise Moun	73.00	321	P	P	00 22 39.0	+0.9
	baz=73,SNR=6.9						
H28A	Mission Ridge	73.03	336	P	P	00 22 37.7	-0.2
	baz=73,SNR=19						
J25A	Sunshine Ranch	73.04	334	P	P	00 22 38.8	+0.7
	baz=73,SNR=70						
CCUT	Cedar City	73.06	324	eP	P	00 22 39.8	+1.3
	comp=Z,478nm,1.0s						
ROA	Roan Cliffs	73.06	327	eP	P	00 22 39.4	+0.7
G29A	Hoven	73.07	337	P	P	00 22 37.6	-0.5
	baz=73,SNR=17						
CIS	Catalina Islan	73.11	318	P	P	00 22 39.2	+0.6
	baz=73,SNR=10						
MSU	Marysvale	73.13	325	eP	P	00 22 39.7	+0.8
MSU	Marysvale	73.13	325	eP	P	00 22 39.7	+0.8
MVU	Marysvale	73.14	325	eP	P	00 22 40.0	+1.0
	comp=Z,404nm,1.0s						
I26A	New Underwood	73.19	335	P	P	00 22 39.3	+0.3
	baz=73,SNR=34						
BFSC	Mount Baldy Ra	73.21	319	P	P	00 22 39.9	+0.5
	baz=73,SNR=81						
TMUT	Trail Mountain	73.21	327	eP	P	00 22 40.2	+0.7
	comp=Z,2μm,2.4s						
TMUT				epP	pP	00 23 10.0	+2.9
FMP	Fort Macarthur	73.25	318	P	P	00 22 40.0	+0.6
	baz=73						
RRX	Edison Barstow	73.25	320	P	P	00 22 40.4	+1.0
	baz=73,SNR=7.6						
DWU	Dry Willow Pea	73.27	325	eP	P	00 22 40.6	+0.9
ARGU	Argyle Ridge	73.28	327	eP	P	00 22 40.5	+0.7
F30A	Leola	73.31	338	P	P	00 22 39.0	-0.5
	baz=74,SNR=21						
SHPR	Sheep Range	73.31	322	eP	P	00 22 40.6	+0.7
G28A	Parade	73.33	337	P	P	00 22 39.8	+0.1
	baz=74,SNR=48						
J24A	Dixon Ranch, L	73.34	333	P	P	00 22 40.9	+1.0
	baz=74,SNR=100						
SGU	Sterling	73.35	326	eP	P	00 22 41.4	+1.2
PMOZ	Porto Moniz, M	73.37	43	eP	P	00 22 41.0	+0.7
PMOZ				pP	pP	00 23 10.2	+2.3
PMOZ				eS	SKiKP	00 32 03.8	+3.0
PMOZ	Porto Moniz, M	73.37	43	eLR	LR	00 46 20.5	
	comp=Z,2μm,20.0s						
H27A	Howes	73.39	336	P	P	00 22 40.1	0.0
	baz=74,SNR=60						
SNO	Snow College	73.40	326	eP	P	00 22 41.5	+1.0
GSC	Goldstone	73.43	320	eP	P	00 22 41.2	+0.7
GSC				pmax	pmax		
	comp=Z,407nm,1.4s						
GSC	Goldstone	73.43	320	P	P	00 22 41.5	+0.9
	baz=74,SNR=107						
GSC	Goldstone	73.43	320	eP	P	00 22 41.2	+0.7
	comp=Z,407nm,1.4s						
MWC	Mount Wilson	73.44	319	eP	P	00 22 41.4	+0.6
MWC				pmax	pmax		
	comp=Z,418nm,1.4s						
MWC	Mount Wilson	73.44	319	eP	P	00 22 41.4	+0.6
	comp=Z,418nm,1.4s						
FUL	Funchal	73.45	43	eP	P	00 22 42.6	+2.0
FUL				pP	pP	00 23 11.1	+2.9
PMAR	Madeira	73.48	43	pP	pP	00 23 11.9	+3.2
PASC	Pasadena Art C	73.49	319	eP	P	00 22 42.3	+1.4
	comp=Z,347nm,1.3s						
I25A	Rochford	73.53	334	P	P	00 22 41.8	+0.7
	baz=74,SNR=503						
SHOC	Shoshone	73.53	321	P	P	00 22 41.9	+0.8
	baz=74,SNR=13						
F29A	Eureka	73.59	338	P	P	00 22 40.7	-0.4
	baz=74,SNR=38						
K22A	Casper	73.59	332	P	P	00 22 41.8	+0.4
	baz=74,SNR=153						
K22A	Casper	73.59	332	eP	P	00 22 41.7	+0.3
	comp=Z,513nm,1.2s						
DECC	Green Verdugo	73.63	319	P	P	00 22 42.4	+0.7
	baz=74,SNR=16						
H26A	Fairpoint	73.64	335	P	P	00 22 41.3	-0.2
	baz=74,SNR=30						
LEVU	Levan	73.68	326	eP	P	00 22 42.7	+0.6
RSSD	Black Hills	73.73	334	eP	P	00 22 42.4	+0.1
RSSD				pmax	pmax		
	comp=Z,354nm,1.1s						
RSSD	Black Hills	73.73	334	eP	P	00 22 42.4	+0.1
	comp=Z,354nm,1.1s						
I24A	Kuemmerle Ranc	73.76	334	P	P	00 22 42.9	+0.5
	baz=74,SNR=78						
TBI	Tubuai	73.76	251	⇓iP	P	00 22 44.4	+1.6
	comp=Z,829nm,1.2s						
TBI				eS	SKiKP	00 31 59.9	-1.7
	comp=Z,4μm,27.5s						
TBI	Tubuai	73.76	251	eLQ	LQ	00 42 04.0	
	comp=Z,2μm,25.2s						
TBI				eLR	LR	00 45 10.8	
	comp=Z,4μm,38.0s,baz=114						
FLU	Fool Peak	73.77	326	eP	P	00 22 43.5	+0.8
J23A	Dilts Ranch, B	73.78	333	P	P	00 22 43.1	+0.6
	baz=74,SNR=8.5						
EDW2	Edwards Air Fo	73.85	319	P	P	00 22 43.3	+0.3
	baz=74,SNR=57						
E30A	Jud	73.85	339	P	P	00 22 42.3	-0.4
	baz=74,SNR=53						
F28A	McLaughlin	73.95	337	P	P	00 22 43.2	0.0
	baz=74,SNR=37						
G27A	Dupree	73.96	336	P	P	00 22 43.2	-0.2
	baz=74,SNR=64						
MPU	Maple Canyon	73.97	327	eP	P	00 22 44.4	+0.6
	comp=Z,1μm,1.2s						
H25A	Fruitdale	73.97	335	P	P	00 22 43.7	+0.2
	baz=74,SNR=41						
BLG	Laguna Peak	73.99	318	P	P	00 22 44.4	+0.6
	baz=74,SNR=16						
WSHM	Spangler Hills	74.04	320	eP	P	00 22 44.5	+0.4
LRMC	Laurel Mountai	74.07	320	P	P	00 22 45.1	+0.7
	baz=74,SNR=14						
DAU	Daniels Canyon	74.08	327	eP	P	00 22 45.2	+0.7
DAU	Daniels Canyon	74.08	327	eP	P	00 22 45.2	+0.7
PMPST	Porto Santo, M	74.09	43	eP	P	00 22 45.2	+0.9
	comp=Z,265nm,2.0s						
PMPST				epP	pP	00 23 13.9	+1.9
OSI	Osito Adit	74.11	319	P	P	00 22 45.0	+0.4
	baz=74,SNR=15						
OSI	Osito Adit	74.11	319	eP	P	00 22 45.1	+0.5
	comp=Z,213nm,1.1s						
WMUT	West Mountain	74.12	327	eP	P	00 22 45.3	+0.6
G26A	Maurine	74.14	336	P	P	00 22 44.0	-0.5
	baz=74,SNR=127						
NLU	North Lily Min	74.15	326	eP	P	00 22 45.5	+0.7
	comp=Z,526nm,1.4s						
E29A	Napoleon	74.16	338	P	P	00 22 44.0	-0.5
	baz=74,SNR=17						
I23A	Meade Ranch, G	74.19	333	P	P	00 22 45.0	+0.1
	baz=74,SNR=6.3						
MEH	Mehetia	74.22	257	⇓iP	P	00 22 47.0	+1.5
	comp=Z,80nm,1.0s						
TPNV	Topopah Spring	74.24	322	eP	P	00 22 45.6	+0.2
TPNV				pmax	pmax		
	comp=Z,348nm,1.2s						
TPNV	Topopah Spring	74.24	322	P	P	00 22 46.6	+1.2
	baz=74,SNR=161						
TPNV	Topopah Spring	74.24	322	eP	P	00 22 45.6	+0.2
	comp=Z,348nm,1.2s						
HTU	Hoyt Peak	74.26	327	eP	P	00 22 46.2	+0.7
FURC	Furnace Creek,	74.26	321	P	P	00 22 46.4	+1.2
	baz=74,SNR=147						
BSC	Santa Cruz Isl	74.27	318	P	P	00 22 45.8	+0.4
	baz=74,SNR=16						
HLJ	Hailstone	74.30	327	eP	P	00 22 46.4	+0.7
JLU	Jordanelle	74.32	327	eP	P	00 22 46.5	+0.6
	comp=Z,464nm,1.2s						
D30A	Buchanan	74.33	339	P	P	00 22 45.1	-0.3
	baz=74,SNR=106						
MPMC	Manual Prospec	74.35	320	P	P	00 22 46.3	+0.2
	baz=74,SNR=126						
G25A	Newell	74.38	335	P	P	00 22 46.0	+0.1
	baz=75,SNR=56						
F27A	Lemmon	74.42	336	P	P	00 22 46.1	+0.1
	baz=75,SNR=87						
H24A	Dirks Ranch, A	74.46	334	P	P	00 22 46.3	-0.1
	baz=75,SNR=250						
AGMN	Agassiz Nation	74.47	341	P	P	00 22 45.4	-0.8
	baz=75,SNR=87						
AGMN	Agassiz Nation	74.47	341	eP	P	00 22 45.4	-0.8
	comp=Z,236nm,1.0s						
ARVC	Arvin	74.52	319	P	P	00 22 47.4	+0.6
	baz=75,SNR=22						
E28A	Huff	74.53	337	P	P	00 22 46.9	+0.2
	baz=75,SNR=68						
CTU	Camp Tracy	74.54	327	eP	P	00 22 47.8	+0.8
	comp=Z,119nm,1.2s						
J21A	Lysite	74.55	331	P	P	00 22 47.5	+0.4
	baz=75,SNR=224						
DAC	Darwin (Calif)	74.56	321	eP	P	00 22 47.6	+0.3
DAC				pmax	pmax		
	comp=Z,187nm,1.0s						
DAC	Darwin (Calif)	74.56	321	eP	P	00 22 47.6	+0.3
	comp=Z,186nm,1.0s						
D29A	Pettibone, Tap	74.57	338	P	P	00 22 46.4	-0.4
	baz=75,SNR=23						
I22A	9 Mile Ranch,	74.57	332	P	P	00 22 47.2	+0.1
	baz=75,SNR=279						
SBC	Santa Barbara	74.61	318	P	P	00 22 47.7	+0.3
	baz=75						
RBU	Red Butte Cany	74.63	327	eP	P	00 22 47.8	+0.3
F26A	Lodgepole	74.64	336	P	P	00 22 47.3	0.0
	baz=75,SNR=200						
H23A	Clabaugh Cattl	74.66	333	P	P	00 22 47.6	0.0
	baz=75,SNR=18						
FSU	Fish Springs	74.66	326	eP	P	00 22 48.8	+1.0
ISA	Isabella	74.67	320	eP	P	00 22 48.5	+0.7
ISA				pmax	pmax		
	comp=Z,209nm,1.0s						
ISA	Isabella	74.67	320	P	P	00 22 48.6	+0.9
	baz=75,SNR=106						
ISA	Isabella	74.67	320	eP	P	00 22 48.5	+0.7
	comp=Z,209nm,1.0s						
VAH	Vaihoa	74.68	260	⇓iP	P	00 22 49.8	+1.6
	comp=Z,301nm,1.1s						
DUG	Dugway	74.71	326	eP	P	00 22 48.5	+0.5
DUG				pmax	pmax		
	comp=Z,341nm,1.1s						
DUG	Dugway	74.71	326	P	P	00 22 48.7	+0.7
	baz=75,SNR=244						
DUG	Dugway	74.71	326	eP	P	00 22 48.5	+0.5
	comp=Z,341nm,1.1s						
E27A	Carson	74.72	337	P	P	00 22 47.9	+0.2
	baz=75,SNR=13						
C30A	Mose, Pekin	74.75	339	P	P	00 22 47.9	0.0
	baz=75,SNR=76						
FPU	Francis Peak	74.83	327	eP	P	00 22 49.3	+0.4
J20A	Shoshoni	74.84	331	P	P	00 22 49.5	+0.8
	baz=75,SNR=74						
R11A	Troy Canyon, C	74.86	323	P	P	00 22 50.0	+1.1
	baz=75,SNR=267						
R11A	Troy Canyon, C	74.86	323	eP	P	00 22 49.8	+0.9
	comp=Z,388nm,1.4s						
I21A	Big Trails, Te	74.86	332	P	P	00 22 48.7	0.0
	baz=75,SNR=478						
SAIU	Southern Antel	74.88	327	eP	P	00 22 49.1	+0.2
G24A	Alzada	74.88	334	P	P	00 22 49.0	+0.2
	baz=75,SNR=62						
GRAC	Grapevine Rang	74.92	321	P	P	00 22 50.2	+1.0
	baz=75,SNR=54						
CWC	Cottonwood Cre	74.96	320	P	P	00 22 50.2	+0.7
	baz=75,SNR=60						
PKM	Peak Mountain	74.97	318	P	P	00 22 50.3	+0.7
	baz=75,SNR=176						
MCU	Monte Cristo P	74.99	328	eP	P	00 22 49.9	+0.1
PMOR	Pomariorio Ree	75.00	260	⇓iP	P	00 22 51.7	+1.7
	comp=Z,801nm,1.4s						
PMOR				epP	pP	00 23 23.4	+5.7
	comp=Z,187nm,1.2s						
F25A	Bowman	75.00	335	P	P	00 22 49.6	+0.1
	baz=75,SNR=72						
D28A	Regan	75.02	338	P	P	00 22 49.6	+0.1
	baz=75,SNR=43						
NAIU	Northern Antel	75.02	327	eP	P	00 22 49.8	0.0
BW06	Boulder Array	75.06	330	eP	P	00 22 49.7	-0.4
PD31	Pinedale Array	75.06	330	eP	P	00 22 49.6	-0.4
PD31				eS	S	00 32 18.4	-1.0
PDAR	Pinedale Array	75.06	330	P	P	00 22 49.6	-0.4
	comp=Z,56nm,1.0s,baz=123,slow=6.2,SNR=252						
PDAR				S	S	00 32 18.4	-1.0
	comp=Z,1.2nm,1.1s,baz=65,slow=13,SNR=2.3						
PDAR				PKKP	PKKPdf	00 42 03.6	+2.1
	comp=Z,1.1nm,1.0s,baz=64,slow=3.4,SNR=4.1						
PDAR				PKP2bc		00 50 03.4	
	comp=Z,0.8nm,0.9s,baz=90,slow=3.0,SNR=4.7						
PDAR				PKPPKP	P'P'df	00 50 15.6	+2.4
	comp=Z,1.7nm,1.0s,baz=355,slow=3.7,SNR=5.1						
PDAR				LR	LR	00 58 08.8	
	comp=Z,935nm,20.6s,baz=144,slow=38						
SNUT	Stansbury Nort	75.06	327	eP	P	00 22 50.2	+0.2
H22A	Clearmont	75.08	333	P	P	00 22 50.0	+0.1

baz=75,SNR=102
E26A Carlson Angus 75.08 336 P P 00 22 49.9 +0.1
baz=75,SNR=79
HWUT Hardware Ranch 75.13 328 eP P 00 22 50.5 0.0
comp=Z,353nm,1.1s
VES Vestal, Richgr 75.15 319 P P 00 22 48.1 -2.3
baz=75,SNR=94
SBA Scott Base 75.16 190 eP P 00 22 51.1 +1.2
SBA pmax pmax
comp=Z,474nm,1.2s
SBA Scott Base 75.16 190 eP P 00 22 51.0 +1.2
comp=Z,474nm,1.2s
G23A Biddle 75.17 334 P P 00 22 50.5 +0.1
baz=75,SNR=191
GZU Grizzly Peak 75.20 328 eP P 00 22 50.9 -0.1
J19A Crowheart 75.21 330 P P 00 22 51.0 +0.2
baz=75,SNR=342
BMUT Black Mountain 75.24 328 eP P 00 22 51.1 0.0
MDND Maddock 75.25 339 P P 00 22 50.9 +0.1
baz=76,SNR=56
MDND Maddock 75.25 339 eP P 00 22 50.6 -0.2
comp=Z,1µm,1.0s
D27A Center 75.28 337 P P 00 22 51.3 +0.3
baz=76,SNR=25
TVO Taravao 75.32 257⇓ iP P 00 22 53.6 +1.7
comp=Z,107nm,1.3s
F24A Ekalaka 75.32 335 P P 00 22 51.2 -0.1
baz=76,SNR=225
I20A Worland 75.33 331 P P 00 22 51.8 +0.3
baz=76,SNR=135
SPUT South Promonto 75.35 327 eP P 00 22 52.0 +0.3
comp=Z,490nm,1.1s
BGU Big Grassy Mou 75.36 327 eP P 00 22 51.9 +0.2
comp=Z,325nm,1.2s
SMMC Simmler 75.36 318 P P 00 22 52.5 +0.8
baz=76,SNR=52
B30A Myrvik Farm, E 75.36 340 P P 00 22 50.9 -0.4
baz=76,SNR=122
HDU Hyde Park 75.38 328 eP P 00 22 51.8 0.0
EPU East Promontor 75.39 327 eP P 00 22 52.0 +0.2
H21A Big Horn, Sher 75.40 333 P P 00 22 51.6 -0.2
baz=76,SNR=80
C28A Hausauer Farms 75.40 338 P P 00 22 51.7 +0.1
baz=76
LTU Little Mountai 75.46 327 eP P 00 22 52.3 +0.1
E25A Miller Ranch, 75.46 336 P P 00 22 52.3 +0.3
baz=76,SNR=71
TIN Tinemaha 75.46 321 P P 00 22 53.1 +0.7
baz=76
TIAR Tiarei 75.48 257 eP P 00 22 54.1 +1.3
comp=Z,29nm,0.9s
D26A Manning 75.55 337 P P 00 22 52.6 +0.1
baz=76,SNR=52
G22A Birney 75.56 333 P P 00 22 52.4 -0.3
baz=76,SNR=72
RCTC Rector, Farmer 75.56 320 P P 00 22 52.6 -0.2
baz=76,SNR=22
SYO Syowa Base 75.58 159⇑ iP P 00 22 51.2 -1.2
TPH Tonopah 75.58 322 eP P 00 22 53.5 +0.4
TPH pmax pmax
comp=Z,245nm,1.1s
TPH Tonopah 75.58 322 eP P 00 22 53.5 +0.4
comp=Z,245nm,1.1s
F23A Volborg 75.60 334 P P 00 22 52.9 0.0
baz=76,SNR=288
BEI Bear River Ran 75.62 328 eP P 00 22 53.7 +0.4
MTUT Morton Thiokol 75.65 327 eP P 00 22 53.2 -0.1
PAE Paea 75.65 257 eP P 00 22 55.1 +1.3
comp=Z,75nm,1.1s
PPT2 Papeete2 75.67 257⇓ iP P 00 22 55.7 +1.7
comp=Z,359nm,1.2s
PPT2 Papeete2 75.67 257 ePP PP 00 25 42.9 -2.1
PPT2 eS S 00 32 19.4 -7.6
comp=Z,20µm,25.5s
PPT2 Papeete2 75.67 257 eLQ LQ 00 42 54.3
comp=Z,4µm,24.2s
PPT2 eLR LR 00 46 00.9
comp=Z,13µm,36.2s,baz=108
PPT Papeete 75.68 257 P P 00 22 54.8 +0.9
comp=Z,252nm,1.0s,baz=165,slow=1.0,SNR=14
PPT Papeete 75.68 257 P P 00 22 54.8 +0.9
PPT pmax pmax
comp=Z,252nm,1.0s
PPT Papeete 75.68 257 eP P 00 22 56.2 +2.3
H20A Greybull 75.70 332 P P 00 22 53.2 -0.3
baz=76,SNR=359
B29A Wagenman Farm, 75.71 339 P P 00 22 53.3 0.0
baz=76,SNR=132
MLI Malad Range 75.72 328 eP P 00 22 54.0 +0.2
PTU Portage 75.75 328 eP P 00 22 54.0 0.0
A30A Hoffart Farm, 75.78 340 P P 00 22 53.2 -0.6
baz=76,SNR=57
AHID Auburn Hatcher 75.78 329 eP P 00 22 54.2 +0.1
comp=Z,546nm,1.0s
I19A Meeteetse 75.79 331 P P 00 22 54.6 +0.4
baz=76,SNR=266
C27A Sayler Ranch, 75.79 338 P P 00 22 54.2 +0.4
baz=76,SNR=67
E24A Baker 75.86 335 P P 00 22 54.8 +0.5
baz=76,SNR=137
HVU Hansel Valley 75.86 327 eP P 00 22 54.6 0.0
HVU pmax pmax
comp=Z,329nm,1.1s
HVU Hansel Valley 75.86 327 eP P 00 22 54.5 0.0
comp=Z,329nm,1.1s
MTUM Tungsten Hills 75.86 321 eP P 00 22 55.1 +0.4
G21A Lodge Grass 75.95 333 P P 00 22 55.0 +0.1
baz=76,SNR=149
D25A Fairfield 75.98 336 P P 00 22 55.5 +0.5
baz=76,SNR=91
F22A Rosebud 76.00 334 P P 00 22 55.2 +0.1
baz=76,SNR=161
NPI North Pocatell 76.01 328 eP P 00 22 55.4 0.0
B28A Dugan Ranch, T 76.03 339 P P 00 22 55.1 0.0
baz=76,SNR=104
A29A Manning Farm, 76.07 340 P P 00 22 54.7 -0.7
baz=76,SNR=110
C26A Wahner Farm, P 76.10 337 P P 00 22 55.8 +0.2
baz=76,SNR=158
REDW Red Top Meadow 76.12 329 eP P 00 22 56.4 +0.3
comp=Z,416nm,1.1s
SNOW Snow King Moun 76.15 330 eP P 00 22 56.7 +0.4
comp=Z,303nm,1.0s
VNDA Vanda 76.18 190 P P 00 22 56.8 +1.0
comp=Z,105nm,1.0s,baz=132,slow=5.2,SNR=234
VNDA S S 00 32 33.3 +2.8
comp=Z,0.7nm,1.0s,baz=135,slow=2.9,SNR=1.9
VNDA PKKP PKKPdf 00 42 01.2 +4.9
comp=Z,1.8nm,1.2s,baz=171,slow=5.1,SNR=3.1
VNDA PKKPbc PKKPbc 00 42 07.2 -4.1
comp=Z,0.6nm,0.7s,baz=288,slow=4.3,SNR=4.6
VNDA PKP2ab 00 50 04.2
comp=Z,1.8nm,1.1s,baz=4.6,slow=0.9,SNR=4.3
VNDA PKPPKP P'P'df 00 50 14.3 +1.5
comp=Z,3.2nm,1.0s,baz=283,slow=6.3,SNR=6.7
VNDA LR LR 00 56 36.7
comp=Z,1µm,19.3s,baz=136,slow=36
VNDA Vanda 76.18 190 eP P 00 22 56.5 +0.8
comp=Z,2µm,2.5s
VNDA eS S 00 32 33.3 +2.8
LOHW Long Hollow 76.20 330 eP P 00 22 56.9 +0.3
comp=Z,346nm,1.1s
E23A Ismay 76.20 335 P P 00 22 56.0 -0.2
baz=76,SNR=133
MLAC Mammoth Lakes 76.21 321 P P 00 22 57.5 +0.8
baz=76
TPAW Teton Pass 76.27 330 eP P 00 22 57.4 +0.4
comp=Z,377nm,1.1s
H19A Powell 76.28 331 P P 00 22 57.2 +0.3
baz=76,SNR=131
B27A Peters Farms, 76.30 338 P P 00 22 56.8 +0.1
baz=76,SNR=11
D24A Glendive 76.33 336 P P 00 22 57.4 +0.5
baz=76,SNR=96
MOOW Moose Ponds 76.37 330 eP P 00 22 57.7 +0.2
comp=Z,941nm,1.9s
ELK Elko 76.38 325 P P 00 22 57.7 +0.2
comp=Z,95nm,0.9s,baz=126,slow=4.9,SNR=213
ELK S S 00 32 36.2 +2.2
comp=Z,0.2nm,0.3s,baz=198,slow=20,SNR=3.1
ELK Elko 76.38 325 eP P 00 22 57.8 +0.2
ELK eS S 00 32 36.2 +2.2
ELK pmax pmax
comp=Z,152nm,1.0s
ELK Elko 76.38 325 eP P 00 22 57.8 +0.2
comp=Z,152nm,1.0s
ELK eS S 00 32 36.2 +2.2
G20A Bridger 76.38 332 P P 00 22 57.4 0.0
baz=77,SNR=100
F21A Absaloka Mine, 76.39 333 P P 00 22 57.6 +0.2
baz=77,SNR=27
A28A Rude Farm, Bot 76.39 339 P P 00 22 57.0 -0.3
baz=77,SNR=35
E22A Miles City 76.41 334 P P 00 22 57.2 -0.2
baz=77,SNR=48
FXWY Fox Creek 76.41 330 eP P 00 22 57.9 +0.1
comp=Z,217nm,1.1s
C25A Freed Ranch, W 76.42 337 P P 00 22 57.9 +0.5
baz=77,SNR=50
NV01 Mina Array Sit 76.44 322 eP P 00 22 57.5 -0.5
NV01 eS S 00 32 37.3 +2.5
NVAR Mina Array Bea 76.44 322 P P 00 22 58.3 +0.3
comp=Z,62nm,0.9s,baz=149,slow=5.6,SNR=261
NVAR S S 00 32 37.3 +2.5
comp=Z,0.1nm,0.3s,baz=107,slow=3.1,SNR=1.8
NVAR PKP2bc 00 50 06.5
comp=Z,0.4nm,0.4s,baz=242,slow=3.2,SNR=5.1
IMW Indian Meadow 76.57 330 eP P 00 22 59.2 +0.5
comp=Z,423nm,1.1s
FLWY Flagg Ranch 76.60 330 eP P 00 22 59.5 +0.7
comp=Z,690nm,1.0s
B26A Jensen Ranch, 76.61 338 P P 00 22 58.7 +0.2
baz=77,SNR=22
YTP The Promontory 76.65 330 eP P 00 23 00.1 +1.0
C24A Savage 76.71 336 P P 00 22 59.5 +0.4
baz=77,SNR=185
LRV Little Rabbit 76.71 319 eP P 00 23 00.4 +1.0
D23A Lindsay 76.72 335 P P 00 22 59.8 +0.7
baz=77,SNR=118
RLMT Red Lodge 76.76 332 P P 00 23 00.2 +0.5
baz=77,SNR=211
A27A Ledoux Ranch, 76.76 338 P P 00 22 59.7 +0.4
baz=77,SNR=25
H17A Grant Village 76.78 330 P P 00 23 01.2 +1.4
baz=77
H17A Grant Village 76.78 330 eP P 00 23 01.9 +2.1
comp=Z,324nm,1.5s
SCHQ Schefferville 76.81 1 P P 00 22 59.1 -0.3
comp=Z,118nm,0.8s,baz=190,slow=3.9,SNR=127
SCHQ S S 00 32 36.6 -1.1
comp=Z,2.4nm,1.0s,baz=346,slow=15,SNR=7.3
SCHQ PKP2bc 00 49 54.4
comp=Z,2.0nm,0.8s,baz=6.3,slow=9.2,SNR=3.4
SCHQ PKPPKP P'P'df 00 50 07.1 -1.7
comp=Z,2.7nm,0.9s,baz=35,slow=5.8,SNR=3.6
SCHQ LR LR 00 58 50.5
comp=Z,722nm,19.1s,baz=186,slow=37
SCHQ Schefferville 76.81 1 eP P 00 22 59.1 -0.3
comp=Z,210nm,0.9s
SCHQ eS S 00 32 36.6 -1.1
F20A Billings 76.81 333 P P 00 22 59.9 +0.2
baz=77,SNR=81
LKWY Lake 76.83 331 eP P 00 23 02.8 +2.7
LKWY pmax pmax
comp=Z,425nm,1.1s
LKWY Lake 76.83 331 eP P 00 23 02.8 +2.7
comp=Z,425nm,1.1s
B25A Knox Farm, Ray 76.86 337 P P 00 23 00.7 +0.8
baz=77,SNR=68
YMP Mirror Lake Pl 76.86 331 eP P 00 23 01.0 +0.7
MCID Moose Creek 76.91 330 eP P 00 23 01.4 +0.9
YFT Old Faithful 76.95 330 eP P 00 23 03.1 +2.3
comp=Z,291nm,1.1s
E21A Keefer Ranch, 76.95 334 P P 00 23 00.8 +0.4
baz=77,SNR=112
A26A Wade Farm, Ken 76.99 338 P P 00 23 00.8 +0.2
baz=77,SNR=59
YNR Norris Junctio 77.08 330 eP P 00 23 03.8 +2.4
comp=Z,296nm,1.4s
D22A Cohagen 77.08 335 P P 00 23 01.8 +0.7
baz=77,SNR=150
TOB5 Torodi Ar. Sit 77.09 70 eP P 00 23 01.6 -0.3
TOA0 Torodi Ar. Sit 77.10 70 eP P 00 23 01.9 -0.1
TOA0 eS S 00 32 38.7 -3.8
TORD Torodi Ar. Bea 77.10 70 P P 00 23 01.9 -0.1
comp=Z,284nm,0.8s,baz=257,slow=5.4,SNR=1062
TORD sP sP 00 23 33.2 -8.3
comp=Z,230nm,0.8s,baz=249,slow=5.0,SNR=6.0
TORD S S 00 32 38.7 -3.8
comp=Z,50nm,1.1s,baz=249,slow=5.9,SNR=21
TORD PKKPbc PKKPbc 00 42 08.6 +0.4
comp=Z,0.5nm,0.6s,baz=60,slow=2.0,SNR=7.0
TORD PKP2ab 00 49 53.6
comp=Z,1.1nm,0.9s,baz=66,slow=3.2,SNR=4.0
TORD PKPPKP P'P'df 00 50 07.0 -5.0
comp=Z,0.9nm,0.8s,baz=54,slow=3.8,SNR=3.6
YPM Purple Mountai 77.12 330 eP P 00 23 03.2 +1.4
WAKR Walker 77.15 321 eP P 00 23 02.8 +0.8
YMR Madison River 77.17 330 eP P 00 23 03.8 +1.8
comp=Z,935nm,1.2s
YHH Holmes Hill 77.21 330 eP P 00 23 03.3 +1.0
BMN Battle Mountai 77.22 324 eP P 00 23 02.8 +0.6
BMN pmax pmax
comp=Z,93nm,1.2s
BMN Battle Mountai 77.22 324 eP P 00 23 02.8 +0.6
comp=Z,93nm,1.2s
C23A Lambert 77.22 335 P P 00 23 02.5 +0.5
baz=77,SNR=52
YMC Maple Creek 77.26 330 eP P 00 23 03.2 +0.8
YHB Horse Butte 77.34 330 eP P 00 23 03.9 +1.0
CMB Columbia Colle 77.39 320 eP P 00 23 03.1 0.0
CMB pmax pmax
comp=Z,854nm,2.5s
CMB Columbia Colle 77.39 320 eP P 00 23 03.1 0.0
comp=Z,854nm,2.5s
A25A Svangstu Ranch 77.40 337 P P 00 23 03.3 +0.4
baz=78,SNR=27
DGMT Dagmar 77.40 336 P P 00 23 03.5 +0.6
baz=78,SNR=145
DGMT Dagmar 77.40 336 eP P 00 23 03.3 +0.4
comp=Z,854nm,1.1s
C22A Vida 77.45 335 P P 00 23 03.4 +0.2
baz=78
GCMT Greycliff 77.46 332 eP P 00 23 03.7 +0.2
QLMT Earthquake Lak 77.51 330 eP P 00 23 04.8 +1.0
B23A Brockton 77.69 336 P P 00 23 05.1 +0.5
baz=78,SNR=81
A24A Westby 77.71 337 P P 00 23 05.3 +0.7
baz=78,SNR=120
SUR Sutherland 77.71 120 P P 00 23 06.9 +1.5
comp=Z,3µm,1.0s,SNR=34
SUR Sutherland 77.71 120 P P 00 23 08.4 +3.0
SNR=16
SUR Sutherland 77.71 120 eP P 00 23 06.8 +1.4
comp=Z,4µm,1.8s
B22A Reddig Ranch S 77.94 335 P P 00 23 06.4 +0.4
baz=78,SNR=108
C21A Desert Coulee 77.99 334 P P 00 23 06.3 +0.1
baz=78,SNR=148
HLID Hailey 77.99 328 P P 00 23 07.3 +0.8
baz=78,SNR=723
HLID Hailey 77.99 328 eP P 00 23 07.3 +0.8
comp=Z,446nm,1.0s
A23A Redstone 78.06 336 P P 00 23 06.9 +0.3
baz=78,SNR=16
MCMT McKenzie Canyo 78.17 329 eP P 00 23 08.4 +0.8
BOZ Bozeman (W) 78.22 331 eP P 00 23 07.7 0.0
BOZ Bozeman (W) 78.22 331 P P 00 23 07.7 0.0
baz=78,SNR=186
BOZ Bozeman (W) 78.22 331 eP P 00 23 07.7 0.0
C20A Veseth Ranch, 78.27 334 P P 00 23 07.5 -0.2
baz=78,SNR=93
SAC San Andreas 78.31 319 eP P 00 23 09.6 +1.4
SAC San Andreas 78.31 319 eP P 00 23 09.6 +1.4
B21A Ellsworth Farm 78.44 335 P P 00 23 09.2 +0.5
baz=79,SNR=105
DLMT Dillon 78.45 330 eP P 00 23 09.5 +0.6
comp=Z,428nm,1.3s
A22A Carney Farms, 78.48 336 P P 00 23 09.2 +0.3
baz=79,SNR=118
MFID Camas Ranch 78.59 327 eP P 00 23 10.3 +0.5
comp=Z,682nm,1.4s
LRM Limekiln Ridge 78.73 330 eP P 00 23 10.9 +0.3
B20A Solberg Farm, 78.85 334 P P 00 23 11.0 0.0
baz=79,SNR=153
A21A Bergtoll Ranch 78.86 335 P P 00 23 11.0 0.0
baz=79,SNR=5.8
OHCM Honcut 78.89 321 eP P 00 23 11.5 +0.2
OHCM epP pP 00 23 41.6 +2.3
MCCM Marconi Confer 78.95 319 eP P 00 23 12.4 +0.7
comp=Z,371nm,1.1s
NSHM Saint Helena R 79.03 320 eP P 00 23 12.5 +0.4
HRY Holter Researc 79.12 331 eP P 00 23 14.2 +1.7
HRY epP pP 00 23 42.8 +2.2
A20A Cobblestone Ra 79.17 335 P P 00 23 12.6 -0.1
baz=79,SNR=94
EGMT Eagleton 79.24 333 P P 00 23 13.0 -0.1
baz=79,SNR=103
EGMT Eagleton 79.24 333 eP P 00 23 12.8 -0.3
comp=Z,455nm,1.2s
B19A Brinkman Farms 79.24 334 P P 00 23 13.0 -0.1
baz=79,SNR=63
TSUM Tsumeb 79.29 106 eP P 00 23 15.1 +0.9
comp=Z,662nm,0.9s
TSUM epP pP 00 23 44.6 +2.5
WVOR Wild Horse Val 79.37 325 eP P 00 23 14.6 +0.6
WVOR pmax pmax
comp=Z,1µm,2.6s
WVOR Wild Horse Val 79.37 325 eP P 00 23 14.6 +0.6
comp=Z,1µm,2.6s
A19A Klindworth Far 79.53 334 P P 00 23 14.5 -0.2
baz=80,SNR=41
CHMT Chamberlain Mo 79.92 331 eP P 00 23 17.2 +0.2
CHMT eS S 00 33 17.2 +5.5
MSO Missoula 80.17 330 P P 00 23 18.9 +0.6
baz=80,SNR=68
MSO Missoula 80.17 330 eP P 00 23 18.9 +0.6
comp=Z,391nm,1.5s
SLMT Seeley Lake 80.27 331 eP P 00 23 18.9 +0.1
WDC Whiskeytown Da 80.32 321 eP P 00 23 17.7 -1.3
WDC pmax pmax
comp=Z,136nm,0.9s
WDC Whiskeytown Da 80.32 321 eP P 00 23 17.7 -1.3
comp=Z,136nm,0.9s
KCPM Cahto Peak 80.36 320 eP P 00 23 20.7 +1.3
comp=Z,218nm,1.2s
KIPM Iron Peak 80.38 320 eP P 00 23 20.2 +0.7
N02D Trinity Center 80.67 321 P P 00 23 20.3 -0.7
baz=81,SNR=74
M04C Macdoel 80.70 322 P P 00 23 21.4 +0.2
baz=81,SNR=109
SWMT Swartz Lake 80.70 331 eP P 00 23 21.3 +0.2
KMRM Mail Ridge 80.77 320 eP P 00 23 22.8 +1.3
comp=Z,489nm,1.2s
K05A Summer Lake 80.80 324 eP P 00 23 22.5 +0.7
comp=Z,756nm,1.1s
YBMT Yellow Bay 80.97 331 eP P 00 23 22.8 +0.3
JTMT Jette 81.00 331 eP P 00 23 23.0 +0.3
M02C Callahan 81.02 322 P P 00 23 22.3 -0.5
baz=81,SNR=26
F10A Beach Ranch, E 81.12 328 eP P 00 23 23.5 +0.2
comp=Z,356nm,1.1s
YBH Yreka Blue Hor 81.16 322 P P 00 23 22.3 -1.3
comp=Z,70nm,0.9s,baz=112,slow=4.1,SNR=87
YBH S S 00 33 22.6 -2.0
comp=Z,0.7nm,0.4s,baz=108,slow=3.2,SNR=2.6
YBH PKKPbc PKKPbc 00 42 01.5 +0.5
comp=Z,1.0nm,0.3s,baz=19,slow=2.5,SNR=8.1
YBH Yreka Blue Hor 81.16 322 eP P 00 23 23.0 -0.6
YBH eS S 00 33 22.6 -2.0
YBH pmax pmax
comp=Z,94nm,1.0s
YBH Yreka Blue Hor 81.16 322 eP P 00 23 23.0 -0.6
comp=Z,94nm,1.0s
YBH eS S 00 33 22.6 -2.0
KHMM Horse Mountain 81.20 321 eP P 00 23 24.1 +0.2
comp=Z,255nm,1.1s
K04D Chiloquin, OR 81.20 323 P P 00 23 24.0 +0.2
baz=81,SNR=17
BLMT Blacktail Moun 81.24 331 eP P 00 23 24.3 +0.3
BSMT Bassoo Peak 81.31 330 eP P 00 23 24.6 +0.3
J05D Fort Rock, OR 81.36 324 P P 00 23 25.2 +0.6
baz=82,SNR=141
PFVI Vila Bisbo 81.42 44 eP P 00 23 25.8 +0.9
comp=Z,291nm,1.4s
PFVI pP pP 00 23 54.9 +1.9
PFVI eS S 00 33 29.0 +1.7
G08A Pilot Rock 81.51 327 eP P 00 23 25.5 +0.1
comp=Z,194nm,1.2s
MORF Marmelete 81.63 44 eP P 00 23 26.1 -0.1
MORF eS S 00 33 30.4 +0.8
MORF AMS AMS 00 59 01.1
comp=Z,2µm,20.1s
MORF Marmelete 81.63 44 eP P 00 23 27.1 +1.0
comp=Z,235nm,1.5s
MORF pP pP 00 23 57.0 +2.8
MORF eS S 00 33 31.4 +1.8
MORF Marmelete 81.63 44 eP P 00 23 26.0 -0.1
MORF eS S 00 33 30.4 +0.8
PTEO Sao Teotonio 81.73 44 eP P 00 23 28.0 +1.5
comp=Z,521nm,1.4s
PTEO pP pP 00 23 58.6 +4.0
J04D Umpqua Nationa 81.81 323 P P 00 23 27.2 +0.1
baz=82
MDT Midelt 81.82 50 P P 00 23 28.1 +0.8
comp=Z,89nm,0.9s,baz=244,slow=5.1,SNR=146
MDT S S 00 33 32.9 +1.0
comp=Z,1.5nm,1.0s,baz=108,slow=17,SNR=2.4
HUMO Hull Mountain 81.87 323 eP P 00 23 26.9 -0.3
comp=Z,105nm,1.1s
FFC Flin Flon 81.94 341 P P 00 23 26.6 -0.7
comp=Z,781nm,1.2s,SNR=58
L02D Cave Junction, 81.94 322 P P 00 23 28.1 +0.5
baz=82,SNR=32
E09A Wood Farm, Sta 81.95 328 eP P 00 23 27.2 -0.3
comp=Z,589nm,1.9s
PBDV Barranco-do-Ve 82.06 44 eP P 00 23 29.8 +1.5
comp=Z,220nm,1.4s
PBDV pP pP 00 23 58.7 +2.2
PBDV Barranco-do-Ve 82.06 44 ePP PP 00 26 37.4 -0.7
I05D Terrebonne, OR 82.11 325 P P 00 23 29.1 +0.6
baz=82,SNR=174
PMST Lisbon--Monsan 82.14 43 eP P 00 23 30.1 +1.4
comp=Z,258nm,1.3s
PMST pP pP 00 23 59.1 +2.3
LIS Lisbon 82.15 43 eP P 00 23 28.4 -0.4
LIS eS S 00 33 35.7 +0.9
LIS AMS AMS 00 59 58.5
comp=Z,3µm,15.1s
LIS Lisbon 82.15 43 eP P 00 23 30.1 +1.4
comp=Z,313nm,1.5s
LIS pP pP 00 23 59.3 +2.4
LIS Lisbon 82.15 43 eP P 00 23 28.3 -0.4
LIS eS S 00 33 35.6 +0.9
PNCL Nicolau / Gran 82.18 43 iP P 00 23 29.9 +1.0
comp=Z,150nm,2.0s
PNCL pP pP 00 23 58.6 +1.5
PMAFR Mafra 82.21 42 iP P 00 23 29.6 +0.5
comp=Z,222nm,1.3s
PMAFR pP pP 00 23 58.4 +1.2
PCVE Castro Verde 82.22 44 iP P 00 23 30.3 +1.2
comp=Z,36nm,1.6s
PCVE pP pP 00 23 59.2 +1.9
PCVE Castro Verde 82.22 44 ePP PP 00 26 38.7 -0.6
MESJ Messejana 82.22 44 eP P 00 23 28.7 -0.5
MESJ eS S 00 33 36.3 +0.7
MESJ AMS AMS 00 59 27.2
comp=Z,2µm,19.8s
MESJ Messejana 82.22 44 iP P 00 23 30.3 +1.2
comp=Z,163nm,1.2s
MESJ pP pP 00 24 00.1 +2.8
MESJ Messejana 82.22 44 ePP PP 00 26 38.4 -0.9
MESJ Messejana 82.22 44 eP P 00 23 28.6 -0.5
MESJ eS S 00 33 36.2 +0.7
PVAQ Vaqueiros 82.29 44 iP P 00 23 30.5 +1.0
comp=Z,175nm,1.8s
PVAQ pP pP 00 24 00.1 +2.4
PVAQ Vaqueiros 82.29 44 ePP PP 00 26 39.0 -0.9
PVAQ eS S 00 33 37.8 +1.5
PVAQ Vaqueiros 82.29 44 eLR LR 00 50 44.2
comp=Z,2µm,20.0s
I04A Tendick Farm, 82.33 324 P P 00 23 29.3 -0.4
baz=82,SNR=67
KBO Bosley Butte 82.34 322 eP P 00 23 31.6 +1.8
comp=Z,642nm,1.4s
G06A Carlson Farm, 82.34 326 eP P 00 23 30.1 +0.5
comp=Z,281nm,1.2s
PACT Alcochete 82.38 43 iP P 00 23 30.9 +1.0
comp=Z,367nm,1.8s
PACT pP pP 00 23 59.8 +1.7
HAWA Hanford 82.56 327 eP P 00 23 31.0 +0.3
comp=Z,312nm,1.0s
RSW Rattlesnake Hi 82.59 327 eP P 00 23 31.4 +0.4
BOSA Boshof 82.60 118 P P 00 23 31.7 +0.1
comp=Z,279nm,0.8s,baz=252,slow=4.5,SNR=240
BOSA S S 00 33 39.8 -0.5
comp=Z,10.0nm,1.1s,baz=216,slow=18,SNR=4.3
BOSA PKKPbc PKKPbc 00 41 56.3 +0.6
comp=Z,2.0nm,0.8s,baz=132,slow=1.9,SNR=4.7

BOSA LR LR 00 57 47.2
comp=Z,2µm,19.7s,baz=239,slow=34
NEW Newport 82.69 330 P **P 00 23 30.6 -0.7**
comp=Z,51nm,1.0s,baz=132,slow=5.6,SNR=90
NEW S **S 00 33 39.4 -0.6**
comp=Z,0.9nm,0.8s,baz=43,slow=19,SNR=5.1
NEW Newport 82.69 330 *e*P **P 00 23 30.7 -0.7**
NEW *e*S **S 00 33 39.4 -0.6**
NEW pmax pmax
comp=Z,165nm,1.3s
NEW Newport 82.69 330 P **P 00 23 30.9 -0.5**
baz=83,SNR=54
NEW Newport 82.69 330 *e*P **P 00 23 30.7 -0.7**
comp=Z,165nm,1.3s
NEW *e*S **S 00 33 39.4 -0.6**
G05D Wamic, OR 82.70 325 P **P 00 23 32.3 +0.8**
baz=83
D08A Wollman Farm, 82.71 328 *e*P **P 00 23 31.6 +0.1**
comp=Z,349nm,1.3s
EVO Evora 82.76 43 *i* P **P 00 23 32.6 +0.7**
comp=Z,172nm,1.9s
EVO pP **pP 00 24 01.7 +1.6**
I03D Drain, OR 82.79 323 P **P 00 23 32.1 +0.2**
baz=83,SNR=45
H04A Detroit Lake 82.80 324 *e*P **P 00 23 32.1 +0.1**
comp=Z,184nm,0.9s
KEBM Edson Butte 82.82 322 *e*P **P 00 23 33.8 +1.6**
comp=Z,532nm,1.1s
E07A Sunnyside 82.83 327 *e*P **P 00 23 33.7 +1.5**
comp=Z,1µm,2.4s
C09A Chrisman Ranch 82.92 329 *e*P **P 00 23 32.7 +0.2**
comp=Z,445nm,0.8s
PMTG Montargil 82.94 43 *i* P **P 00 23 33.8 +1.0**
comp=Z,416nm,1.5s
PMTG pP **pP 00 24 02.9 +1.9**
PMTG Montargil 82.94 43 *e*PP PP 00 26 43.5 -1.7
RNO Roman Nose 83.14 323 *e*P **P 00 23 34.2 +0.4**
PTOM Tomar 83.15 42 *i* P **P 00 23 34.8 +0.9**
comp=Z,376nm,1.9s
PTOM pP **pP 00 24 05.1 +3.0**
YA2 Yakima 83.16 327 *e*P **P 00 23 35.3 +1.5**
PBAR Barrancos 83.18 44 *i* P **P 00 23 35.1 +1.0**
comp=Z,289nm,1.9s
PBAR pP **pP 00 24 04.4 +2.1**
PESTR Estremoz 83.22 43 *i* P **P 00 23 35.3 +1.0**
comp=Z,299nm,1.9s
PESTR pP **pP 00 24 04.8 +2.3**
COR Corvallis 83.34 324 *e*P **P 00 23 35.4 +0.7**
COR pmax pmax
comp=Z,624nm,1.1s
COR Corvallis 83.34 324 *e*P **P 00 23 35.4 +0.7**
comp=Z,624nm,1.1s
PCAS Casmilo, Conde 83.35 42 *i* P **P 00 23 35.9 +1.0**
comp=Z,283nm,1.8s
PCAS pP **pP 00 24 04.4 +1.3**
MAW Mawson 83.43 163 P **P 00 23 35.2 +0.3**
comp=Z,190nm,0.7s,baz=218,slow=6.1,SNR=342
MAW S **S 00 33 47.2 +0.3**
comp=Z,2.4nm,1.1s,baz=319,slow=9.3,SNR=2.1
MAW PKKPbc **PKKPbc 00 41 52.8 -2.1**
comp=Z,10nm,0.8s,baz=351,slow=3.2,SNR=15
MAW LR LR 01 02 59.8
comp=Z,2µm,18.8s,baz=215,slow=37
RAR Rarotonga 83.48 250 *e*P **P 00 23 37.0 +0.9**
RAR pmax pmax
comp=Z,1µm,2.1s
RAR Rarotonga 83.48 250 *e*P **P 00 23 37.0 +0.9**
comp=Z,1µm,2.1s
FCC Fort Churchill 83.51 347 *e*P **P 00 23 35.2 0.0**
FCC pmax pmax
comp=Z,311nm,1.0s
FCC Fort Churchill 83.51 347 *e*P **P 00 23 35.2 0.0**
comp=Z,311nm,1.0s
PMRV Marv??o 83.67 43 *i* P **P 00 23 36.9 +0.3**
comp=Z,127nm,1.5s
PMRV pP **pP 00 24 06.7 +1.8**
PMRV Marv??o 83.67 43 *e*PP PP 00 26 50.1 -1.1
PMRV *e*S **S 00 33 52.1 +1.9**
PMRV Marv??o 83.67 43 *e*LQ LQ 00 45 50.9
PMRV *e*LR LR 00 51 11.2
comp=Z,2µm,18.0s
G03D McMinnville, O 83.72 324 P **P 00 23 37.1 +0.5**
baz=84,SNR=23
LTY Liberty 83.72 327 *e*P **P 00 23 36.5 -0.2**
comp=Z,280nm,1.1s
F04A Amboy 83.74 325 *e*P **P 00 23 36.4 -0.3**
comp=Z,358nm,1.0s
B08A Colville Reser 83.81 329 *e*P **P 00 23 36.5 -0.6**
comp=Z,246nm,1.3s
PCBR Castelo Branco 83.86 43 *e*P **P 00 23 38.0 +0.5**
comp=Z,167nm,2.2s
PCBR pP **pP 00 24 08.8 +3.0**
PTO Porto 83.93 41 *e*P **P 00 23 39.3 +1.5**
comp=Z,375nm,1.6s
PTO pP **pP 00 24 09.0 +2.9**
LON Longmire 83.96 326 *e*P **P 00 23 37.7 -0.2**
LON pmax pmax
comp=Z,699nm,2.4s
LON Longmire 83.96 326 *e*P **P 00 23 37.7 -0.2**
comp=Z,699nm,2.4s
NLW Nelson Butte 84.11 328 *e*P **P 00 23 38.2 -0.6**
PVIS Viseu 84.11 42 *i* P **P 00 23 39.5 +0.6**
comp=Z,270nm,1.8s
PVIS pP **pP 00 24 09.8 +2.7**
PVIS Viseu 84.11 42 *e*PP PP 00 26 54.1 -0.7
MTE Manteigas 84.14 42 *i* P **P 00 23 39.7 +0.7**
comp=Z,256nm,1.4s
MTE pP **pP 00 24 08.1 +0.8**
MTE *e*S **S 00 33 53.6 -1.4**
MTE Manteigas 84.14 42 *e*LR LR 00 51 30.6
comp=Z,3µm,18.0s
MTE Manteigas 84.14 42 *e*P **P 00 23 39.5 +0.5**
comp=Z,188nm,1.1s
F04D Rainier, OR 84.15 325 P **P 00 23 39.3 +0.5**
baz=84
LBTB Lobatse 84.19 115 *e*P **P 00 23 40.1 +0.2**
LBTB *e*S **S 00 33 58.8 +2.4**
LBTB pmax pmax
comp=Z,553nm,0.9s
LBTB Lobatse 84.19 115 *e*P **P 00 23 40.0 +0.2**
comp=Z,553nm,0.9s
LBTB *e*S **S 00 33 58.8 +2.4**
F03A Seaside 84.34 325 *e*P **P 00 23 41.1 +1.3**
comp=Z,250nm,1.1s
D05A Enumclaw 84.34 326 *e*P **P 00 23 40.0 +0.2**
comp=Z,342nm,1.0s
BMW Boistfort Moun 84.52 325 *e*P **P 00 23 40.7 -0.1**
BMW Boistfort Moun 84.52 325 *e*P **P 00 23 40.7 -0.1**
PVRL Vila Real 84.55 41 *e*P **P 00 23 41.6 +0.6**
comp=Z,325nm,1.9s
PVRL pP **pP 00 24 12.1 +2.8**
POLO Lamas de Olo 84.56 41 *i* P **P 00 23 41.6 +0.4**
comp=Z,131nm,1.8s
POLO pP **pP 00 24 10.4 +1.0**
POLO Lamas de Olo 84.56 41 *e*PP PP 00 26 58.2 -0.3
PCAB Cabril 84.61 41 *e*P **P 00 23 41.7 +0.3**
comp=Z,262nm,1.7s
PGAV Gavieira, Arco 84.62 40 *i* P **P 00 23 41.7 +0.3**
comp=Z,271nm,1.9s
PGAV pP **pP 00 24 11.4 +1.7**
PGAV *e*S **S 00 33 57.9 -1.8**
PGAV Gavieira, Arco 84.62 40 *e*LR LR 00 51 16.7
comp=Z,4µm,20.0s
EDM Edmonton 84.70 335 *e*P **P 00 23 40.1 -1.4**
EDM pmax pmax
comp=Z,588nm,1.2s
EDM Edmonton 84.70 335 *e*P **P 00 23 40.1 -1.4**
comp=Z,588nm,1.2s
E03A Lebam 84.74 325 *e*P **P 00 23 42.3 +0.5**
comp=Z,321nm,1.1s
MVO Moncorvo 84.91 42 *i* P **P 00 23 43.6 +0.7**
comp=Z,344nm,1.8s
MVO pP **pP 00 24 12.3 +1.1**
MVO *e*S S 00 33 54.7 -7.8
MVO Moncorvo 84.91 42 *e*LR LR 00 51 48.7
comp=Z,2µm,18.0s
B06A Marblemount 84.97 328 *e*P **P 00 23 42.4 -0.5**
comp=Z,297nm,1.0s
NLWA Neilton Lookou 85.45 326 *e*P **P 00 23 46.3 +1.0**
comp=Z,280nm,1.1s
PBRG Braganca 85.45 41 *i* P **P 00 23 46.2 +0.7**
comp=Z,251nm,1.8s
PBRG pP **pP 00 24 15.6 +1.7**
PBRG Braganca 85.45 41 *e*PP PP 00 27 04.1 -1.6
A05A Maple Falls 85.59 328 *e*P **P 00 23 45.7 -0.3**
comp=Z,398nm,1.0s

PAB San Pablo 85.68 44 *e*P **P 00 23 47.3 +0.5**
PAB pmax pmax
comp=Z,251nm,1.0s
PAB San Pablo 85.68 44 *e*P **P 00 23 47.3 +0.5**
comp=Z,251nm,1.0s
ESDC Sonseca Array 86.00 44 P **P 00 23 49.0 +0.6**
comp=Z,48nm,1.0s,baz=244,slow=3.7,SNR=165
ESDC pP pP 00 24 11.0 -5.7
comp=Z,17nm,0.9s,baz=231,slow=5.4,SNR=3.6
ESDC sP sP 00 24 19.9 -8.5
comp=Z,39nm,1.1s,baz=232,slow=5.1,SNR=3.2
ESDC S **SKSac 00 34 06.5 +2.3**
comp=Z,0.1nm,0.3s,baz=259,slow=25,SNR=2.8
ESDC PKKPbc **PKKPbc 00 41 48.3 -1.0**
comp=Z,0.9nm,0.7s,baz=31,slow=2.6,SNR=7.2
ESDC PKPPKP **P'P'df 00 49 49.1 -4.9**
comp=Z,0.9nm,0.8s,baz=28,slow=3.8,SNR=4.9
ESDC LR LR 01 01 09.3
comp=Z,1µm,19.2s,baz=250,slow=35
PGC Sidney 86.04 327 *e*P **P 00 23 49.3 +1.1**
comp=Z,413nm,1.1s
ES19 SONSECA Array 86.06 44 *e*P **P 00 23 48.9 +0.3**
ETRT Tiaret 87.35 50 P **P 00 23 57.3 +2.2**
EANR 'Ain N'Sour 87.48 49 P **P 00 23 56.6 +1.0**
ECHA Ech Chlef 87.77 49 P **P 00 23 58.0 +1.1**
EBNR Beni Rached 87.95 49 P **P 00 23 59.2 +1.4**
DRV Dumont d'Urvil 88.80 191 P P 00 23 36.0 -25
DRV PP PP 00 27 25.0 -6.0
DRV S **S 00 34 41.0 +1.8**
DRV SS SS 00 40 19.0 -13
DRV L L 00 47 00.0
DRV R 00 51 00.0
EMHD Djebel Mahouad 88.92 50 P **P 00 24 03.5 +1.0**
XMAS Kiritimati 89.96 272 *e*P **P 00 24 10.2 +2.5**
comp=Z,449nm,1.2s
SFJD Kangerlussuaq 89.99 7⇓ *i*P **P 00 24 06.4 -0.1**
comp=Z,115nm,1.4s
SFJD *i* pP **pP 00 24 35.7 +0.6**
SFJD Kangerlussuaq 89.99 7 P **P 00 24 06.2 -0.4**
comp=Z,26nm,1.0s,baz=206,slow=6.4,SNR=11
SFJD Kangerlussuaq 89.99 7⇓ *i*P **P 00 24 06.4 -0.1**
SFJD *i* *PP **pP 00 24 35.7 +0.6**
SFJD pmax pmax
comp=Z,120nm,1.4s
LSZ Lusaka 90.15 106 *e*P **P 00 24 10.9 +2.1**
LSZ *e*S **S 00 34 58.6 +4.8**
LSZ pmax pmax
comp=Z,86nm,1.0s
LSZ Lusaka 90.15 106 P **P 00 24 11.3 +2.5**
SNR=39
LSZ Lusaka 90.15 106 *e*P **P 00 24 10.9 +2.1**
comp=Z,86nm,1.0s
LSZ *e*S **S 00 34 58.6 +4.8**
MIR Mirnyy 90.33 173⇑ *e*P P 00 24 12.0 +3.6
MIR pmax pmax
comp=Z,320nm,1.0s
SET Setif 90.66 51 P **P 00 24 13.0 +2.4**
CCA1 Carnmenellis 91.10 35 *e*P **P 00 24 11.9 -0.2**
CASY Casey 91.71 180 *e*P **P 00 24 16.2 +1.3**
comp=Z,712nm,0.9s
DYA Yadsworthy 91.93 35 *e*P **P 00 24 15.5 -0.5**
DYA Yadsworthy 91.93 35 *e*P **P 00 24 16.4 +0.4**
comp=Z,123nm,1.3s
HTL Hartland 91.95 35 *e*P **P 00 24 15.8 -0.2**
ILULI Ilulissat 92.08 6⇓ *i*P **P 00 24 16.2 0.0**
comp=Z,208nm,1.1s
ILULI *i* pP **pP 00 24 45.1 +0.3**
YKA Yellowknife Ar 92.10 340 P **P 00 24 16.0 -0.4**
comp=Z,142nm,0.8s,baz=134,slow=4.6,SNR=216
YKA pP **pP 00 24 40.3 -4.8**
comp=Z,22nm,0.9s,baz=133,slow=4.2,SNR=1.9
YKA PKKPbc **PKKPdf 00 41 32.8 +0.2**
comp=Z,2.4nm,0.8s,baz=341,slow=2.8,SNR=4.0
YKA Yellowknife Ar 92.10 340 P **P 00 24 16.0 -0.4**
YKA *PP **pP 00 24 40.3 -4.8**
YKA 00 41 32.8
YKA pmax pmax
comp=Z,142nm,0.8s
YKB5 Yellowknife Ar 92.10 340 *e*P **P 00 24 15.2 -1.2**
YKB5 *e*pP **pP 00 24 40.3 -4.8**
YKB5 *e*PKKPdf **PKKPdf 00 41 32.9 +0.2**
DSB Dublin 92.26 32 *e*P **P 00 24 17.3 -0.1**
comp=Z,183nm,1.7s
HEX Exmoor 92.35 35 *e*P **P 00 24 17.7 -0.2**
LPW Lampeter 92.78 34 *e*P **P 00 24 19.5 -0.4**
CRZF Crozet Islands 92.86 143 P P 00 23 52.0 -29
CRZF Crozet Islands 92.86 143 S S 00 34 22.0 -55
CRZF SS SS 00 41 07.0 -25
CRZF L L 00 47 00.0
CRZF R 00 55 00.0
GMM Mts of Mourne 93.04 31 *e*P **P 00 24 21.4 +0.4**
YRE Yr Eifl 93.08 33 *e*P **P 00 24 21.6 +0.4**
MCH1 Michaelchurch 93.28 34 *e*P **P 00 24 21.3 -0.8**
MCH1 AMB AMB 00 24 22.5
comp=Z,100nm,1.7s
MONM Monmouth 93.29 34 *e*P **P 00 24 21.6 -0.6**
BFZ Birch Farm 93.31 223 *e*P **P 00 24 25.4 +2.6**
comp=Z,1µm,2.4s
KEST Kesra 93.33 53 P **P 00 24 23.7 +0.7**
comp=Z,24nm,0.9s,baz=215,slow=1.6,SNR=74
KEST pP **pP 00 28 07.2 -1.5**
comp=Z,6.1nm,1.0s,baz=231,slow=3.9,SNR=4.0
KEST S **SKSac 00 34 49.1 +1.8**
comp=Z,0.7nm,0.9s,baz=311,slow=19,SNR=4.8
KEST PKKPbc **PKKPdf 00 41 30.1 +0.6**
comp=Z,3.0nm,0.8s,baz=282,slow=3.5,SNR=11
KEST LR LR 01 08 28.2
comp=Z,1µm,19.8s,baz=210,slow=37
KEST Kesra 93.33 53 *e*P **P 00 24 24.3 +1.3**
KEST *e*PP **PP 00 28 07.2 -1.5**
WPM1 Penmaenmawr 93.50 33 *e*P **P 00 24 23.2 +0.1**
STRD Stroud 93.59 35 *e*P **P 00 24 23.2 -0.5**
HLM1 Long Mynd 93.62 34 *e*P **P 00 24 23.1 -0.6**
HLM1 AMB AMB 00 24 23.7
comp=Z,87nm,2.5s
FOEL Foel Wylfa 93.65 33 *e*P **P 00 24 23.3 -0.6**
FOEL AMB AMB 00 24 25.3
comp=Z,121nm,2.6s
BKZ Black Stump Fm 93.98 225 *e*P **P 00 24 28.9 +2.9**
comp=Z,367nm,1.6s
BORG Borgarnes 93.98 18 P **P 00 24 26.7 +1.6**
comp=Z,433nm,1.7s,SNR=7.1
BORG Borgarnes 93.98 18 P **P 00 24 26.9 +1.9**
comp=Z,29nm,0.8s,baz=259,slow=3.0,SNR=17
BORG Borgarnes 93.98 18 *e*P **P 00 24 27.0 +1.9**
BORG pmax pmax
comp=Z,534nm,1.8s
BORG Borgarnes 93.98 18 *e*P **P 00 24 27.0 +2.0**
comp=Z,534nm,1.8s
GAL1 Galloway 93.99 31 *e*P **P 00 24 24.9 -0.4**
GAL1 AMB AMB 00 24 26.0
comp=Z,77nm,1.4s
KHZ Kahutara 94.03 221 *e*P **P 00 24 28.3 +2.3**
comp=Z,346nm,1.6s
URZ Urewera 94.06 226 PKKPbc PKKPbc 00 41 26.6 -1.5
comp=Z,11nm,0.8s,baz=272,slow=8.2,SNR=4.5
URZ Urewera 94.06 226 *e*P **P 00 24 28.3 +2.0**
comp=Z,169nm,1.4s
STNC Stoke 94.27 34 *e*P **P 00 24 26.6 -0.1**
GCD Castle Douglas 94.36 32 *e*P **P 00 24 27.3 +0.3**
CWF Charnwood Fore 94.55 34 *e*P **P 00 24 27.2 -0.7**
PGBU Glenifferbraes 94.62 31 *e*P **P 00 24 28.0 -0.3**
PGBU AMB AMB 00 24 28.5
comp=Z,148nm,2.5s
LHO Holmfirth 94.69 33 *e*P **P 00 24 29.2 +0.6**
KBI1 Birley Grange 94.70 34 *e*P P 00 24 31.9 +3.2
RPZ Rata Peaks 94.74 219 PKKPbc PKKPbc 00 41 26.2 -0.4
comp=Z,8.0nm,1.0s,baz=52,slow=22,SNR=3.0
RPZ Rata Peaks 94.74 219 *e*P **P 00 24 30.9 +1.6**
comp=Z,286nm,1.9s
POHA Pohakuloa 94.84 289 *e*P **P 00 24 32.9 +2.5**
comp=Z,135nm,1.0s
ECK Cauldkaine Hil 94.92 32 *e*P **P 00 24 29.1 -0.6**
VSL Villasalto 94.94 49 *e*P **P 00 24 30.6 +0.4**
comp=Z,70nm,1.0s
VSL *e*PP **PP 00 28 18.4 -2.5**
KPL Plockton 94.94 29 *e*P **P 00 24 29.3 -0.3**
ESK Eskdalemuir 94.96 31 *e*P **P 00 24 29.0 -0.8**
ESK AMB AMB 00 24 31.1
comp=Z,83nm,1.9s
ESK Eskdalemuir 94.96 31 *e*P **P 00 24 30.3 +0.5**
ESK pmax pmax
comp=Z,101nm,1.3s
ESK Eskdalemuir 94.96 31 *e*P **P 00 24 30.3 +0.5**
comp=Z,101nm,1.3s

EKA Eskdalemuir Ar 94.99 31 P **P 00 24 29.8 -0.1**
comp=Z,24nm,0.9s,baz=234,slow=4.0,SNR=35
EKA sP sP 00 25 00.6 -9.5
comp=Z,18nm,1.1s,baz=237,slow=4.6,SNR=5.6
EKA PP **PP 00 28 17.7 -3.2**
comp=Z,10.0nm,1.1s,baz=236,slow=5.9,SNR=5.5
HPK Haverah Park 95.02 33 *e*P **P 00 24 30.6 +0.5**
DLBC Dease Lake 95.15 332 *e*P **P 00 24 30.6 -0.1**
comp=Z,133nm,1.1s
DLBC *e*PP **PP 00 28 22.0 -0.1**
KAC Achnashellach 95.19 29 *e*P **P 00 24 30.0 -0.8**
LMK Market Rasen 95.42 34 *e*P **P 00 24 32.5 +0.5**
LMK AMB AMB 00 24 33.6
comp=Z,242nm,2.1s
LCP Cassop 95.50 32 *e*P **P 00 24 32.8 +0.5**
ESY Stoneypath 95.56 31 *e*P **P 00 24 32.2 -0.4**
MDO Dochfour 95.58 29 *e*P **P 00 24 32.2 -0.3**
EDU Dundee 95.71 30 *e*P **P 00 24 33.9 +0.7**
MCD Coleburn Disti 96.16 29 *e*P **P 00 24 35.4 +0.2**
SENIN Lac Senin/Sane 96.46 42 *e*P **P 00 24 38.5 +1.3**
DOU Dourbes 96.49 38 P **P 00 24 36.7 -0.2**
DOU AP **pP 00 25 07.1 +1.6**
SNF Seneffe 96.50 38 P **P 00 24 36.0 -0.9**
SNF AP **pP 00 25 07.6 +2.1**
UCC Uccle 96.68 38 P **P 00 24 37.4 -0.3**
UCC AP **pP 00 25 06.3 0.0**
UCC Uccle 96.68 38 *e*P **P 00 24 37.8 +0.1**
UCC pmax pmax
comp=Z,51nm,1.0s
UCC Uccle 96.68 38 *e*P **P 00 24 37.8 +0.1**
comp=Z,51nm,1.0s
SUMG Summit 96.74 9⇓ *i*P **P 00 24 38.6 +0.5**
comp=Z,20nm,0.8s
SUMG *i* pP **pP 00 25 08.0 +1.3**
SUMG Summit 96.74 9⇓ *i*P **P 00 24 38.6 +0.5**
SUMG *i* *PP **pP 00 25 08.0 +1.3**
SUMG pmax pmax
comp=Z,20nm,0.8s
SUMG Summit 96.74 9 *e*P **P 00 24 38.2 +0.1**
comp=Z,1µm,2.8s
KULLO Kullorsuaq 96.89 3 *i* P **P 00 24 37.5 -0.7**
comp=Z,52nm,1.0s
KULLO *i* pP **pP 00 25 05.9 -0.9**
CLTB Caltabellotta 96.92 52 *e*P **P 00 24 40.4 +1.1**
CLTB *e*PP **PP 00 28 32.0 -4.4**
BCLA Clavier 97.04 38 P Pdif 00 24 39.5 0.0
WLF Walferdange 97.20 39 P **P 00 24 40.0 -0.1**
comp=Z,74nm,1.7s
WLF AP **pP 00 25 11.8 +3.0**
WLF Walferdange 97.20 39 *e*P Pdif 00 24 41.3 +1.1
WLF Walferdange 97.20 39 *e*P Pdif 00 24 40.3 +0.1
WLF pmax pmax
comp=Z,87nm,1.1s
WLF Walferdange 97.20 39 *e*P Pdif 00 24 40.3 +0.1
comp=Z,87nm,1.1s
BEBN Eben Emael 97.42 38 P Pdif 00 24 41.1 0.0
BEBN AP pP 00 25 12.1 +2.3
MEM Membach 97.53 38 P **P 00 24 41.1 -0.5**
MEM AP **pP 00 25 10.9 +0.6**
MEM Membach 97.53 38 *e*P Pdif 00 24 42.2 +0.6
MEM pmax pmax
comp=Z,36nm,1.0s
MEM Membach 97.53 38 *e*P Pdif 00 24 42.2 +0.6
comp=Z,36nm,1.0s
VLC Villacollemand 97.53 45 *e*P **P 00 24 41.1 -0.7**
comp=Z,41nm,1.0s
HGN Heimansgroeve 97.56 38 *e*P **P 00 24 41.3 -0.3**
comp=Z,110nm,1.8s
HGN *e*pP **pP 00 25 10.6 +0.2**
HGN *e*PP **PP 00 28 42.2 +1.4**
HGN *e*SKS **SKSac 00 35 11.9 +3.2**
HGN *e*ScSP **SP 00 37 25.3 +4.9**
HGN *e*SS SS 00 42 52.8 +13
TUE Stuetta 97.80 43 *e*P **P 00 24 43.0 -0.1**
comp=Z,56nm,1.2s
BFO Black Forest 97.93 41 *e*P Pdif 00 24 44.1 +0.6
BFO Black Forest 97.93 41 P Pdif 00 24 43.8 +0.3
comp=Z,74nm,1.0s,SNR=7.4
BFO Black Forest 97.93 41 *e*P Pdif 00 24 43.5 0.0
BFO pmax pmax
comp=Z,234nm,2.7s
BFO Black Forest 97.93 41 *e*P Pdif 00 24 43.5 0.0
comp=Z,234nm,2.7s
SCO Scoresbysund 98.06 14⇓ *i*P Pdif 00 24 44.2 +0.7
comp=Z,24nm,1.0s
SCO *i* pP pP 00 25 14.9 +2.7
SCO Scoresbysund 98.06 14⇓ *i*P Pdif 00 24 44.2 +0.7
SCO *i* *PP pP 00 25 14.9 +2.7
SCO pmax pmax
comp=Z,24nm,1.0s
MBAR Mbarara 98.15 94 *e*P Pdif 00 24 48.1 +2.5
MBAR pmax pmax
comp=Z,148nm,2.9s
MBAR Mbarara 98.15 94 *e*P Pdif 00 24 48.1 +2.5
comp=Z,148nm,2.9s
DAVOX Davos/Dischmat 98.26 43 P Pdif 00 24 45.5 +0.3
comp=Z,25nm,0.8s,baz=260,slow=2.7,SNR=45
DAVOX PP **PP 00 28 42.3 -4.3**
comp=Z,35nm,1.0s,baz=230,slow=5.6,SNR=11
FUORN Ofenpass-Fuorn 98.44 43 *e*P **P 00 24 46.1 0.0**
comp=Z,49nm,1.1s
FUORN *e*PP **PP 00 28 44.6 -3.4**
DAVA Damuels 98.46 42⇓ *i*Pdiff Pdif 00 24 46.5 +0.4
comp=Z,36nm,1.1s,SNR=14
WTSB Winterswijk 98.56 37 *e*P **P 00 24 46.0 -0.2**
comp=Z,80nm,1.1s
BUG Bochum--Univer 98.61 38 *e*P Pdif 00 24 47.3 +0.9
STU Stuttgart 98.64 41 *e*P Pdif 00 24 47.5 +0.9
STU Stuttgart 98.64 41 *e*P Pdif 00 24 47.6 +1.0
STU pmax pmax
comp=Z,47nm,1.1s
STU Stuttgart 98.64 41 *e*P Pdif 00 24 47.6 +1.0
comp=Z,47nm,1.1s
TNS Taunus Mts 98.78 39 *e*P Pdif 00 24 48.4 +1.1
AQU L'Aquila 98.87 48 *e*P Pdif 00 24 49.0 +1.1
AQU pmax pmax
comp=Z,69nm,1.1s
AQU L'Aquila 98.87 48⇓ *i*P Pdif 00 24 48.4 +0.5
AQU L'Aquila 98.87 48 *e*P Pdif 00 24 49.0 +1.1
comp=Z,69nm,1.1s
FETA Feichten 98.89 43⇓ *i*Pdiff Pdif 00 24 48.4 +0.4
comp=Z,44nm,1.1s,SNR=24
RETA Reutte 99.09 42⇓ *i*Pdiff **Pdif 00 24 48.9 +0.1**
comp=Z,35nm,1.1s,SNR=19
IBBN Ibbenburen 99.24 37 *e*P **Pdif 00 24 50.4 +1.2**
MOTA Moosalm 99.25 43⇓ *i*Pdiff **Pdif 00 24 49.5 -0.1**
comp=Z,40nm,1.1s,SNR=28
WATA Walderalm 99.54 43⇓ *i*Pdiff **Pdif 00 24 50.9 0.0**
comp=Z,36nm,0.9s,SNR=12
WTTA Wattenberg 99.55 43 *i* Pdiff **Pdif 00 24 51.8 +0.8**
comp=Z,92nm,0.9s,SNR=36
HYT Haines Junctio 99.63 332 *e*Pdif **Pdif 00 24 52.9 +2.0**
HYT *e*PP **PP 00 28 59.2 +2.6**
FUR Furstenfeldbru 99.67 42 *e*P **Pdif 00 24 52.4 +1.1**
PAF Port-aux-Franc 99.71 154 Pdif Pdif 00 24 31.0 -21
PAF Port-aux-Franc 99.71 154 S S 00 35 50.0 -26
PAF SS **SS 00 43 01.0 -6.9**
PAF L L 00 52 00.0
PAF R 01 00 00.0
ABTA Abfaltersbach 99.91 44 *i* Pdiff **Pdif 00 24 52.6 +0.1**
comp=Z,54nm,1.4s,SNR=27
UBBA Unterbreizbach 99.93 39 *e*P **Pdif 00 24 53.3 +1.1**
GRFO Grafenberg 100.22 40 *e*P **Pdif 00 24 54.4 +0.7**
GRFO Grafenberg 100.22 40 *e*Pdif **Pdif 00 24 54.4 +0.7**
GRF Grafenberg Arr 100.22 40 *e*P **Pdif 00 24 55.0 +1.3**
TRI Trieste 100.34 45 *e*P **Pdif 00 24 54.1 -0.2**
TRI *e* 00 28 56.2
TRI Trieste 100.34 45 *e*Pdif **Pdif 00 24 54.1 -0.2**
TRI *e*PP **PP 00 28 56.2 -6.0**
RJOB Jochberg 100.46 43 *e*P **Pdif 00 24 55.7 +0.9**
RJOB *e*PP **PP 00 29 00.6 -2.5**
KBA Koelnbreinsper 100.56 43 *i* Pdiff **Pdif 00 24 55.8 +0.3**
comp=Z,29nm,1.3s,SNR=8.4
MYKA Terra Mystica 100.59 44 *i* Pdiff **Pdif 00 24 55.9 +0.4**
comp=Z,31nm,0.8s,SNR=20
MOX Moxa 100.81 40 *e*P **Pdif 00 24 57.7 +1.4**
ROTZ Rotzenmuhle 100.84 41 *e*P **Pdif 00 24 58.0 +1.6**
LJU Ljubljana 100.96 45 *e*Pdiff **Pdif 00 24 57.5 +0.5**
LJU *e*SKSac **SKSac 00 35 28.0 +2.1**
LJU *e*Sdiff **Sdif 00 36 30.2 +4.2**
LJU *e*SS **SS 00 43 23.6 -3.9**
WET Wettzell 101.02 41 *e*P **Pdif 00 24 58.5 +1.2**
OBKA Obir 101.14 44 *i* Pdiff **Pdif 00 24 58.4 +0.5**
comp=Z,28nm,0.8s,SNR=36

NKC	**Novy Kostel**	**101.16**	**40**	*e*PDIFF	**Pdif**	**00 24 59.5**	**+1.7**
NKC				*e*pP	pP	00 25 29.5	+2.9
NKC				*e*PP	**PP**	**00 29 06.1**	**-2.2**
NKC				*e*SKS		00 35 32.7	
NKC				*e*SKKS	**SKKSac**	**00 36 05.4**	**+2.2**
NKC				*e*SDIF	**Sdif**	**00 36 21.3**	**-6.2**
NKC				*e*SP	**SP**	**00 37 56.3**	**-2.8**
NKC				*e*PKKP	**PKKPbc**	**00 41 08.1**	**-1.6**
NKC				*ex*	x	00 41 33.7	
NKC				*e*SS	**SS**	**00 43 27.0**	**-3.0**
NKC				*e*PKPPKP	**P'P'df**	**00 49 20.8**	**-4.4**
NKC				AMS	AMS	01 09 20.0	
	comp=Z,2µm,17.0s						
NKC	**Novy Kostel**	**101.16**	**40**	*e*P	**Pdif**	**00 24 59.5**	**+1.7**
NKC				*e*		00 29 06.1	
NKC				*e*		00 35 32.7	
NKC				*e*		00 36 21.3	
NKC				*e*SP	SP	00 37 56.3	-2.9
NKC				*e*SS	**SS**	**00 43 27.0**	**-3.0**
NKC				MLR	MLR		
	comp=Z,2µm,17.0s						
TANN	**Tannenbergstha**	**101.23**	**40**	*e*P	**Pdif**	**00 24 59.4**	**+1.2**
BOJS	**Bojanci**	**101.25**	**45**	*e*Pdiff	**Pdif**	**00 24 58.8**	**+0.5**
BOJS				*ep*Pdiff	pP	00 25 28.5	+1.3
BOJS				*e*PP	**PP**	**00 29 04.9**	**-4.1**
BOJS				*e*SKSac	**SKSac**	**00 35 29.5**	**+2.2**
BOJS				*e*		00 37 57.5	
BSEG	**Bad Segeberg**	**101.31**	**36**	*e*P	**Pdif**	**00 24 59.4**	**+1.1**
BSEG				*e*PP	**PP**	**00 29 06.7**	**-2.5**
BER	**Bergen**	**101.40**	**29**	*e*P	**Pdif**	**00 25 00.3**	**+1.7**
BER				*e*SKSac	**SKSac**	**00 35 30.7**	**+3.4**
GEC2	**GERESS Array S**	**101.42**	**42**	*e*P	**Pdif**	**00 25 00.1**	**+1.0**
GEC2	**GERESS Array S**	**101.42**	**42**	*e*P	**Pdif**	**00 24 58.9**	**-0.3**
GEC2				*e*		00 35 29.0	
GEC2	**GERESS Array S**	**101.42**	**42**	*e*Pdif	**Pdif**	**00 24 58.9**	**-0.3**
GEC2				*e*PP	PP	00 29 00.0	-10
GEC2				*e*SKSac	**SKSac**	**00 35 29.0**	**+0.8**
GEC2				*e*PKKPbc	**PKKPbc**	**00 41 04.7**	**-4.2**
GERES	**GERESS Array B**	**101.42**	**42**	P	**Pdif**	**00 24 58.9**	**-0.3**
	comp=Z,4.1nm,0.8s,baz=242,slow=2.9,SNR=36						
GERES				PP	PP	00 29 00.0	-10
	comp=Z,3.6nm,1.1s,baz=228,slow=7.0,SNR=3.7						
GERES				S	**SKSac**	**00 35 29.0**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=264,slow=2.7,SNR=2.5						
GERES				PKKPbc	**PKKPbc**	**00 41 04.7**	**-4.2**
	comp=Z,1.8nm,0.7s,baz=90,slow=2.7,SNR=10						
GERES				PKKPab	PKKPdf	00 41 31.9	+17
	comp=Z,7.7nm,1.2s,baz=64,slow=6.2,SNR=13						
GERES				PKPPKP	P'P'df	00 49 17.9	-7.0
	comp=Z,0.5nm,0.8s,baz=75,slow=1.5,SNR=4.8						
MOA	**Molln**	**101.42**	**43**	*i* Pdiff	**Pdif**	**00 24 58.9**	**-0.2**
	comp=Z,37nm,1.9s,SNR=18						
SUE	**Sulen**	**101.43**	**28**	*e*P	**Pdif**	**00 24 59.2**	**+0.5**
SUE				*e*		00 38 02.4	
KHC	**Kasperske Hory**	**101.45**	**42**	*e*PDIFF	**Pdif**	**00 24 59.1**	**-0.1**
KHC				*ep*P	pP	00 25 30.7	+2.7
KHC				*e*SP		00 25 42.5	
KHC				*e*PP	PP	00 29 05.1	-5.4
KHC				*e*SKS	**SKSac**	**00 35 27.1**	**-1.1**
KHC				*e*SKKS	**SKKSac**	**00 36 04.9**	**-0.4**
KHC				*e*SDIF	**Sdif**	**00 36 20.8**	**-9.2**
KHC				*e*SP	**SP**	**00 37 59.2**	**-3.1**
KHC				*e*PKKP	**PKKPbc**	**00 41 05.3**	**-3.5**
KHC				*e*SS	**SS**	**00 43 29.0**	**-5.2**
KHC				*e*PKPPKP	**P'P'df**	**00 49 23.1**	**-1.7**
KHC				AMS	AMS	01 10 00.0	
	comp=Z,1µm,18.3s						
KHC	**Kasperske Hory**	**101.45**	**42**	*e*P	**Pdif**	**00 24 59.1**	**-0.1**
KHC				*e*		00 29 05.1	
KHC				*e*		00 35 27.1	
KHC				*e*		00 36 20.8	
KHC				*e*SP	SP	00 37 59.2	-3.1
KHC				*e*SS	**SS**	**00 43 29.0**	**-5.2**
KHC				MLR	MLR		
	comp=Z,1µm,18.3s						
KHC	**Kasperske Hory**	**101.45**	**42**	*e*Pdif	**Pdif**	**00 24 59.0**	**-0.2**
SOKA	**Soboth**	**101.51**	**44**⇓	*i*Pdiff	**Pdif**	**00 24 59.7**	**+0.2**
	comp=Z,16nm,1.2s,SNR=15						
BLS5	**Blasjo**	**101.51**	**30**	*e*	**Pdif**	**00 24 58.2**	**-0.9**
MUD	**Monsted U'grnd**	**101.66**	**34**⇓	*i*P	**Pdif**	**00 25 01.1**	**+1.3**
MUD	**Monsted U'grnd**	**101.66**	**34**⇓	*i*P	**Pdif**	**00 25 01.1**	**+1.3**
JMIC	**Jan Mayen**	**101.74**	**17**	*e*P	**Pdif**	**00 24 55.8**	**-4.1**
JMIC				*e*PP	PP	00 28 50.0	-22
JMIC				*e*SKSac	SKSac	00 35 35.9	+7.4
INK	**Inuvik**	**101.86**	**340**	*e*P	**Pdif**	**00 25 00.9**	**+0.5**
INK	**Inuvik**	**101.86**	**340**	*e*Pdif	**Pdif**	**00 25 00.9**	**+0.5**
CLL	**Collm**	**101.87**	**39**	*e*P	**Pdif**	**00 25 02.3**	**+1.3**
CLL				*e*PP	**PP**	**00 29 10.2**	**-3.3**
CLL	**Collm**	**101.87**	**39**	*i* P	**Pdif**	**00 25 02.2**	**+1.3**
CLL				*i*		00 29 09.9	
CLL				*e*		00 35 35.0	
CLL				*e*S	**Sdif**	**00 36 33.0**	**-0.3**
CLL				pmax	pmax		
	comp=Z,84nm,2.2s						
CLL				pmax	pmax		
	comp=Z,124nm,2.0s						
CLL	**Collm**	**101.87**	**39**	*e*Pdif	**Pdif**	**00 25 01.6**	**+0.7**
CLL				*e*PP	**PP**	**00 29 10.7**	**-2.8**
CLL	**Collm**	**101.87**	**39**⇑	*i*Pdif	**Pdif**	**00 25 02.2**	**+1.3**
	comp=Z,84nm,2.2s						
CLL				*ep*Pdif	pP	00 25 31.0	+1.1
CLL				*e*sPdif	sPdif	00 25 45.0	+3.9
CLL				*e*		00 28 46.0	
CLL				*i* PP	**PP**	**00 29 09.9**	**-3.6**
	comp=Z,124nm,2.0s						
CLL				*ep*PP		00 29 45.0	
CLL				*e*PPP	PPP	00 31 28.0	
CLL				*es*PPP		00 32 00.0	
CLL				*e*SKSac	**SKSac**	**00 35 35.0**	**+5.0**
CLL				*e*Sdif	**Sdif**	**00 36 33.0**	**-0.3**
CLL				*e*SP	**SP**	**00 38 11.0**	**+4.4**
CLL				*e*PPS	PPS	00 39 09.0	
CLL				*i* PKKPbc	**PKKPbc**	**00 41 06.5**	**-1.1**
CLL				*i*		00 41 29.5	
	comp=Z,97nm,2.7s						
CLL				*e*SS	**SS**	**00 43 41.0**	**+1.2**
CLL				*e*		00 49 06.0	
CLL				*e*PKPPKPd	**P'P'df**	**00 49 25.0**	**+1.3**
	comp=Z,45nm,2.2s						
DAWY	**Dawson**	**101.91**	**335**	*e*Pdif	**Pdif**	**00 25 01.1**	**+0.1**
ARSA	**Arzberg**	**102.02**	**44**	*i* Pdiff	**Pdif**	**00 25 02.3**	**+0.6**
	comp=Z,21nm,1.4s,SNR=15						
KOGS	**Kog**	**102.22**	**45**	*e*Pdiff	**Pdif**	**00 25 03.2**	**+0.6**
KOGS				*ep*Pdiff	**pPdif**	**00 25 32.7**	**+1.5**
BRG	**Berggiesshubel**	**102.27**	**40**	*e*P	**Pdif**	**00 25 03.8**	**+1.1**
	comp=Z,38nm,2.0s						
BRG				sP		00 25 36.0	
BRG				PP	PP	00 28 58.0	-19
BRG				SKS	**SKSac**	**00 35 35.0**	**+3.0**
BRG				S	**Sdif**	**00 36 31.0**	**-5.7**
BRG				*e*PKKP	PKKPdf	00 41 27.7	+14
	comp=Z,40nm,1.6s						
BRG				SS	SS	00 43 24.0	-21
BRG				*e*PKPPKP	**P'P'df**	**00 49 22.5**	**-0.5**
	comp=Z,25nm,1.8s						
	comp=N,715nm,21.5s						
	comp=E,1µm,21.4s						
	comp=Z,2µm,19.4s						
BRG	**Berggiesshubel**	**102.27**	**40**	*e*P	**Pdif**	**00 25 04.0**	**+1.3**
BRG				*e*PP	**PP**	**00 29 13.4**	**-3.2**
BRG	**Berggiesshubel**	**102.27**	**40**	*e*P	**Pdif**	**00 25 03.8**	**+1.1**
BRG						00 35 35.0	
BRG				S	**Sdif**	**00 36 31.0**	**-5.7**
BRG				pmax	pmax		
	comp=Z,38nm,2.0s						
BRG				MLR	MLR		
	comp=N,715nm,21.5s						
BRG				MLR	MLR		
	comp=E,1µm,21.4s						
BRG				MLR	MLR		
	comp=Z,2µm,19.4s						
PRA	**Prague**	**102.29**	**41**	*e*PDIFF	**Pdif**	**00 25 02.9**	**+0.1**
PRA				*e*PP	**PP**	**00 29 12.2**	**-4.6**
PRA				*ex*	x	00 29 40.8	
PRA				*e*SKS		00 35 34.0	
PRA				*e*SKKS	**SKKSac**	**00 36 11.6**	**+0.4**
PRA				*e*SDIF	**Sdif**	**00 36 27.1**	**-10**
PRA				*e*SP	**SP**	**00 38 08.6**	**-2.6**
PRA				*e*PKKP	**PKKPbc**	**00 41 05.1**	**-1.2**
PRA				*ex*	x	00 41 28.1	
PRA				*e*SS	**SS**	**00 43 41.2**	**-4.5**
PRA				*e*PKPPKP	**P'P'df**	**00 49 21.9**	**-1.1**
PRA				AMS	AMS	01 10 10.0	
	comp=Z,2µm,20.9s						
PRA	**Prague**	**102.29**	**41**	*e*P	**Pdif**	**00 25 02.9**	**+0.1**
PRA				*e*		00 29 12.2	
PRA				*e*		00 35 34.0	
PRA				*e*		00 36 27.1	
PRA				*e*SP	SP	00 38 08.6	-2.6
PRA				*e*SS	**SS**	**00 43 41.2**	**-4.5**
PRA				MLR	MLR		
	comp=Z,2µm,20.9s						
PRU	**Pruhonice**	**102.33**	**41**	*e*PDIFF	**Pdif**	**00 25 03.5**	**+0.5**
PRU				*ep*P		00 25 34.3	
PRU				*es*P		00 25 46.3	
PRU				*e*PP	**PP**	**00 29 12.2**	**-4.9**
PRU				*e*SKS	**SKSac**	**00 35 37.1**	**+4.8**
PRU				*e*SKKS	**SKKSac**	**00 36 14.3**	**+2.8**
PRU				*e*SP	**SP**	**00 38 08.4**	**-3.2**
PRU				*e*PKKP	**PKKPbc**	**00 41 03.3**	**-2.9**
PRU				*ex*	x	00 41 27.5	
PRU				*e*SS	**SS**	**00 43 40.2**	**-6.1**
PRU				*e*PKPPKP	**P'P'df**	**00 49 22.1**	**-0.9**
PRU				AMS	AMS	01 10 20.0	
	comp=Z,2µm,19.4s						
PRU	**Pruhonice**	**102.33**	**41**	*e*P	**Pdif**	**00 25 03.5**	**+0.5**
PRU				*e*		00 29 12.2	
PRU				*e*		00 35 37.1	
PRU				*e*SP	SP	00 38 08.4	-3.2
PRU				*e*SS	**SS**	**00 43 40.2**	**-6.1**
PRU				MLR	MLR		
	comp=Z,2µm,19.4s						
GOPC	**GO Pecny, Ondr**	**102.45**	**41**	*e*PDIFF	**Pdif**	**00 25 04.6**	**+1.0**
GOPC				*ep*P		00 25 34.4	
GOPC				*e*PP	**PP**	**00 29 14.4**	**-3.6**
GOPC				*e*SKS		00 35 36.3	
GOPC				*e*SKKS	**SKKSac**	**00 36 14.8**	**+2.3**
GOPC				*ex*	x	00 36 28.3	
GOPC				*e*SP	**SP**	**00 38 10.0**	**-2.9**
GOPC				*e*PKKP	**PKKPbc**	**00 41 05.3**	**-0.5**
GOPC				*ex*	x	00 41 27.9	
GOPC				*e*SS	**SS**	**00 43 42.8**	**-5.2**
GOPC				*e*PKPPKP	**P'P'df**	**00 49 21.8**	**-1.0**
GOPC				AMS	AMS	01 10 30.0	
	comp=Z,1µm,18.3s						
CONA	**Conrad Observa**	**102.46**	**43**⇓	*i*Pdiff	**Pdif**	**00 25 03.9**	**+0.1**
	comp=Z,28nm,1.8s,SNR=15						
KEK	**Kerkira**	**102.50**	**52**	P	**PP**	**00 29 16.2**	**-2.4**
PVCC	**Panska Ves**	**102.53**	**40**	*e*PDIFF	**Pdif**	**00 25 05.3**	**+1.4**
PVCC				*ep*P		00 25 34.7	
PVCC				*e*PP	**PP**	**00 29 13.8**	**-4.7**
PVCC				*ex*	x	00 29 34.2	
PVCC				*e*SKS		00 35 37.4	
PVCC				*e*SDIF	**Sdif**	**00 36 31.5**	**-7.4**
PVCC				*e*SP	**SP**	**00 38 10.5**	**-3.2**
PVCC				*e*PKKP	**PKKPbc**	**00 41 05.1**	**-0.5**
PVCC				*ex*	x	00 41 27.1	
PVCC				*e*SS	**SS**	**00 43 45.2**	**-3.8**
PVCC				*e*PKPPKP	**P'P'df**	**00 49 22.1**	**-0.5**
PVCC				AMS	AMS	01 10 10.0	
	comp=Z,2µm,17.8s						
PVCC	**Panska Ves**	**102.53**	**40**	*e*P	**Pdif**	**00 25 05.3**	**+1.4**
PVCC				*e*		00 29 13.8	
PVCC				*e*		00 35 37.4	
PVCC				*e*		00 36 31.5	
PVCC				*e*SP	SP	00 38 10.5	-3.2
PVCC				*e*SS	**SS**	**00 43 45.2**	**-3.8**
PVCC				MLR	MLR		
	comp=Z,2µm,17.8s						
BEHE	**Becsehely**	**102.57**	**45**⇓	*e*Pdiff	**Pdif**	**00 25 05.4**	**+1.2**
BEHE	**Becsehely**	**102.57**	**45**⇑	*e*PP	PP	00 29 17.2	-1.8
ZKS	**Zakynthos**	**102.59**	**54**	P	**PP**	**00 29 16.2**	**-3.2**
VLS	**Valsamata**	**102.60**	**54**	*e*P	**PKiKP**	**00 29 25.7**	**+0.6**
VLS	**Valsamata**	**102.60**	**54**	P	**PP**	**00 29 16.6**	**-2.8**
TREC	**Trest**	**102.68**	**42**	*e*PDIFF	**Pdif**	**00 25 05.1**	**+0.5**
TREC				*ep*P		00 25 36.0	
TREC				*e*PP	PP	00 29 12.1	-7.6
TREC				*e*SKS		00 35 36.6	
TREC				*e*SKKS	**SKKSac**	**00 36 14.8**	**+0.7**
TREC				*ex*	x	00 36 29.8	
TREC				*ex*	x	00 38 04.6	
TREC				*e*PKKP	**PKKPbc**	**00 41 02.0**	**-3.2**
TREC				*e*SS	**SS**	**00 43 44.5**	**-6.6**
TREC				*e*PKPPKP	**P'P'df**	**00 49 21.1**	**-1.3**
TREC				AMS	AMS	01 16 40.0	
	comp=Z,1µm,17.4s						
TREC	**Trest**	**102.68**	**42**	*e*P	**Pdif**	**00 25 05.1**	**+0.5**
TREC				*e*		00 35 36.6	
TREC				*e*		00 36 29.8	
TREC				*e*SS	SS	00 43 44.5	-6.7
TREC				MLR	MLR		
	comp=Z,1µm,17.4s						
SRN	**Sarande**	**102.70**	**52**	P	**PP**	**00 29 17.9**	**-2.1**
EXG	**Exogi**	**102.72**	**54**	P	**PP**	**00 29 17.8**	**-2.5**
SGD	**Sagiada**	**102.78**	**52**	*e*P	**PP**	**00 29 17.7**	**-3.0**
SGD	**Sagiada**	**102.78**	**52**	P	**PP**	**00 29 18.4**	**-2.3**
SOP	**Sopron**	**102.82**	**44**⇓	*e*Pdiff	**Pdif**	**00 25 05.6**	**+0.3**
SOP	**Sopron**	**102.82**	**44**⇑	*e*PP	PP	00 29 18.1	-2.7
IGT	**Igoumenitsa**	**102.83**	**52**	P	**PP**	**00 29 18.8**	**-2.3**
AKN	**Aaknes**	**102.87**	**28**	*e*P	**Pdif**	**00 25 05.2**	**+0.1**
AKN				*e*		00 38 16.9	
EGAK	**Eagle**	**102.92**	**335**	*e*Pdif	**Pdif**	**00 25 05.2**	**0.0**
PDG	**Podgorica**	**102.96**	**49**	P	**PP**	**00 29 19.4**	**-2.6**
KONO	**Kongsberg**	**103.08**	**31**	*e*P	**Pdif**	**00 25 07.4**	**+1.3**
KONO				*e*SKSac	**SKSac**	**00 35 37.4**	**+2.1**
KONO				*e*		00 38 14.5	
COP	**Copenhagen**	**103.08**	**35**⇓	*i*P	**Pdif**	**00 25 07.2**	**+1.0**
COP				*i* pP		00 25 35.8	
COP	**Copenhagen**	**103.08**	**35**⇓	*i*P	**Pdif**	**00 25 07.2**	**+1.0**
PDO	**Prodromos**	**103.17**	**54**	*e*P	**PP**	**00 29 19.6**	**-4.1**
PDO	**Prodromos**	**103.17**	**54**	P	**PP**	**00 29 20.5**	**-3.2**
DAG	**Danmarks Havn**	**103.22**	**10**⇓	*i*P	**Pdif**	**00 25 05.6**	**-0.8**
	comp=Z,7.3nm,1.0s						
DAG				*i* pP		00 25 34.9	
DAG	**Danmarks Havn**	**103.22**	**10**	*i* P	**PKKPbc**	**00 41 00.9**	**-3.4**
	comp=Z,16nm,0.8s						
DAG				*i*		00 41 20.9	
DAG	**Danmarks Havn**	**103.22**	**10**⇓	*i*P	**Pdif**	**00 25 05.6**	**-0.8**
DAG				pmax	pmax		
	comp=Z,7.0nm,1.0s						
AMT	**Artemida-Makis**	**103.24**	**55**	P	**PP**	**00 29 21.8**	**-2.4**
JAN	**Janina**	**103.25**	**52**	*e*P	**PP**	**00 29 21.8**	**-2.5**
JAN	**Janina**	**103.25**	**52**	P	**PP**	**00 29 22.1**	**-2.2**
DSL	**Palaion Diasel**	**103.27**	**53**	P	**PP**	**00 29 21.7**	**-2.7**
ITM	**Ithomi**	**103.29**	**55**	*e*P	**PP**	**00 29 23.2**	**-1.4**
ITM	**Ithomi**	**103.29**	**55**	P	**PP**	**00 29 22.1**	**-2.5**
DRO	**Drossia**	**103.37**	**54**	*e*P	PP	00 29 18.1	-7.1
DRO	**Drossia**	**103.37**	**54**	P	**PP**	**00 29 23.1**	**-2.1**
VRAC	**Vranov**	**103.37**	**42**	Pdiff	**Pdif**	**00 25 08.5**	**+0.8**
	comp=Z,5.2nm,0.8s,baz=251,slow=5.3,SNR=12						
VRAC				PP	PP	00 29 12.0	-13
	comp=Z,15nm,1.1s,baz=254,slow=6.0,SNR=5.1						
VRAC	**Vranov**	**103.37**	**42**⇓	*i*P	**Pdif**	**00 25 08.3**	**+0.6**
VRAC	**Vranov**	**103.37**	**42**⇑	*i*P	**PKKPbc**	**00 41 02.9**	**-0.2**
UPC	**Upice**	**103.39**	**41**	*e*PDIFF	**Pdif**	**00 25 09.0**	**+1.3**
UPC				*ep*P		00 25 39.4	
UPC				*e*PP	**PP**	**00 29 20.9**	**-4.1**
UPC				*ex*	x	00 29 37.9	
UPC				*e*SKS		00 35 40.7	
UPC				*e*SKKS	SKKSac	00 36 09.4	-10
UPC				*ex*	x	00 38 11.7	
UPC				*e*PKKP	**PKKPbc**	**00 41 02.4**	**-0.6**
UPC				*ex*	x	00 41 22.9	
UPC				*e*SS	**SS**	**00 44 02.7**	**+1.8**
UPC				*e*PKPPKP	**P'P'df**	**00 49 17.9**	**-3.1**
UPC				AMS	AMS	01 10 40.0	
	comp=Z,2µm,18.5s						
UPC	**Upice**	**103.39**	**41**	*e*P	**Pdif**	**00 25 09.0**	**+1.3**
UPC				*e*		00 29 20.9	
UPC				*e*		00 35 40.7	
UPC				*e*SS	SS	00 44 02.7	+1.8
UPC				MLR	MLR		
	comp=Z,2µm,18.5s						
DIV	**Divide**	**103.41**	**331**	*e*Pdif	**Pdif**	**00 25 08.0**	**+0.3**
KBN	**Korca**	**103.50**	**52**	P	**PP**	**00 29 24.8**	**-1.4**
DPC	**Dobruska-Polom**	**103.53**	**41**	*e*PDIFF	**Pdif**	**00 25 09.1**	**+0.7**
DPC				*ep*P		00 25 39.7	
DPC				*es*P		00 25 50.6	
DPC				*e*PP	PP	00 29 20.5	-5.6
DPC				*ex*	x	00 29 52.0	
DPC				*e*SKS	**SKSac**	**00 35 42.4**	**+4.4**
DPC				*e*SKKS	**SKKSac**	**00 36 22.3**	**+2.1**
DPC				*e*SP	**SP**	**00 38 19.1**	**-5.2**
DPC				*e*PKKP	**PKKPbc**	**00 41 00.3**	**-2.4**
DPC				*e*SS	**SS**	**00 44 00.5**	**-2.4**
DPC				*e*PKPPKP	**P'P'df**	**00 49 20.4**	**-0.4**
DPC				AMS	AMS	01 11 00.0	
	comp=Z,1µm,20.7s						
DPC	**Dobruska-Polom**	**103.53**	**41**	*e*P	**Pdif**	**00 25 09.1**	**+0.7**
DPC				*e*		00 35 42.4	
DPC				*e*		00 36 22.3	
DPC				*e*SP	SP	00 38 19.1	-5.2
DPC				*e*SS	**SS**	**00 44 00.5**	**-2.4**
DPC				MLR	MLR		
	comp=Z,1µm,20.7s						
PHP	**Peshkopia**	**103.57**	**50**	P	**PP**	**00 29 25.0**	**-1.6**
NEST	**Nestorio**	**103.63**	**52**	P	**PP**	**00 29 25.8**	**-1.3**
PKST	**T"'s**	**103.64**	**44**⇑	*e*Pdiff	**Pdif**	**00 25 10.7**	**+1.8**
PKST	**T"'s**	**103.64**	**44**	*e*PP	PP	00 29 24.3	-2.6
SMOL	**Smolenice**	**103.64**	**43**	*e*P	**Pdif**	**00 25 10.1**	**+1.2**
SMOL	**Smolenice**	**103.64**	**43**	PDIF	**Pdif**	**00 25 10.1**	**+1.2**
LAKA	**Lakka**	**103.66**	**54**	*e*P	**PP**	**00 29 22.7**	**-4.6**
LAKA	**Lakka**	**103.66**	**54**	P	**PP**	**00 29 25.1**	**-2.2**
EFP	**Efpalio**	**103.66**	**54**	*e*P	**PP**	**00 29 24.8**	**-2.5**
EFP	**Efpalio**	**103.66**	**54**	P	**PP**	**00 29 24.5**	**-2.8**
KSP	**Ksiaz**	**103.67**	**41**	*e*Pdiff	**Pdif**	**00 25 09.8**	**+0.8**
KSP				*ep*P		00 25 38.7	
KSP				*e*PKiKP	**PKiKP**	**00 29 23.1**	**-3.6**
KSP				*e*SKSac	**SKSac**	**00 35 42.4**	**+3.9**
KSP				*e*SKKSac	**SKKSac**	**00 36 21.8**	**+0.8**
KSP				*e*SP	**SP**	**00 38 22.9**	**-2.8**
KSP				*e*SS	SS	00 44 12.8	+8.2
KSP				LMZ	LR	01 05 02.9	
KSP	**Ksiaz**	**103.67**	**41**	*e*P	**Pdif**	**00 25 09.8**	**+0.8**
VLX	**Vlachokerasia**	**103.70**	**55**	*e*P	**PP**	**00 29 23.7**	**-4.0**
VLX	**Vlachokerasia**	**103.70**	**55**	P	**PKiKP**	**00 29 26.2**	**-1.1**
OSL	**Oslo**	**103.71**	**31**	*e*	**SP**	**00 38 21.7**	**-3.8**
PKSM	**Moragy**	**103.72**	**46**⇑	P	**Pdif**	**00 25 10.4**	**+1.1**
PKSM	**Moragy**	**103.72**	**46**⇑	*i*P	**Pdif**	**00 25 10.4**	**+1.1**
PKSM	**Moragy**	**103.72**	**46**⇓	*i*P	**PKKPbc**	**00 41 01.4**	**-0.5**
PKSM	**Moragy**	**103.72**	**46**⇓	*e*Pdiff	**Pdif**	**00 25 10.0**	**+0.8**
PKSM	**Moragy**	**103.72**	**46**⇑	*e*PP	PP	00 29 24.9	-2.6
KRLC	**Kraliky**	**103.72**	**41**	*e*PDIFF	**Pdif**	**00 25 09.9**	**+0.6**
KRLC				*ep*P		00 25 41.6	
KRLC				*es*P		00 25 52.1	
KRLC				*e*PP	PKiKP	00 29 20.3	-6.6
KRLC				*e*PKKP	**PKKPbc**	**00 41 01.1**	**-1.0**
KRLC				*ex*	x	00 41 21.8	
KRLC				*e*PKPPKP	**P'P'df**	**00 49 19.4**	**-1.0**
KRLC	**Kraliky**	**103.72**	**41**	*e*P	**Pdif**	**00 25 09.9**	**+0.6**
KLV	**Kalavryta, Ach**	**103.73**	**54**	P	**PKiKP**	**00 29 25.5**	**-1.8**
EVR	**Evrytania**	**103.73**	**53**	P	**PKiKP**	**00 29 24.6**	**-2.7**
TRIZ	**Trizonia**	**103.76**	**54**	*e*P	**PKiKP**	**00 29 25.3**	**-1.9**
SERG	**Sergoula**	**103.77**	**54**	P	**PKiKP**	**00 29 25.8**	**-1.5**
CSKK	**Cs‡kako**	**103.82**	**44**⇑	*e*Pdiff	**Pdif**	**00 25 10.8**	**+1.1**
KALE	**Kalithea**	**103.82**	**54**	P	**PKiKP**	**00 29 26.4**	**-1.0**
GUR	**Goura**	**103.84**	**55**	*e*P	**PKiKP**	**00 29 24.0**	**-3.5**
GUR	**Goura**	**103.84**	**55**	P	**PKiKP**	**00 29 26.9**	**-0.6**
PKSG		**103.91**	**44**⇑	*e*Pdiff	**Pdif**	**00 25 11.7**	**+1.6**
PKSG		**103.91**	**44**	*e*PP	PP	00 29 26.2	-2.7
VLI	**Veliai**	**103.93**	**56**	P	**PKiKP**	**00 29 27.9**	**+0.3**
KMBO	**Kilima Mbogo**	**103.96**	**97**	Pdiff	**Pdif**	**00 25 13.0**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=204,slow=8.7,SNR=4.0						
PAX	**Paxson**	**103.96**	**333**	*e*PKiKP	**PKiKP**	**00 29 28.5**	**+1.6**
FNA	**Florina**	**103.97**	**51**	*e*P	PKiKP	00 29 21.2	-6.4
FNA	**Florina**	**103.97**	**51**	P	**PKiKP**	**00 29 27.2**	**-0.4**
DIVS	**Divibare**	**103.99**	**48**⇓	*i*P	**Pdif**	**00 25 12.1**	**+1.4**
DIVS	**Divibare**	**103.99**	**48**⇓	*i*P	PKKPbc	00 40 53.0	-8.1
DIVS	**Divibare**	**103.99**	**48**	P	**PKiKP**	**00 29 23.6**	**-4.0**
MAKR	**Makrakomi, Fth**	**104.00**	**53**	*e*P	**PKiKP**	**00 29 27.5**	**-0.2**
MAKR	**Makrakomi, Fth**	**104.00**	**53**	P	**PKiKP**	**00 29 28.1**	**+0.4**
THL	**Klokotos Trika**	**104.08**	**53**	*e*P	**PKiKP**	**00 29 26.6**	**-1.2**
THL	**Klokotos Trika**	**104.08**	**53**	P	**PKiKP**	**00 29 27.9**	**+0.1**
MORC	**Moravsky Berou**	**104.10**	**42**	*e*P	**Pdif**	**00 25 11.7**	**+0.7**
MORC	**Moravsky Berou**	**104.10**	**42**⇑	*i*P	**Pdif**	**00 25 12.2**	**+1.2**
MORC	**Moravsky Berou**	**104.10**	**42**⇑	*i*P	**PKiKP**	**00 29 24.1**	**-3.5**
MORC	**Moravsky Berou**	**104.10**	**42**⇑	*i*P	**PKKPbc**	**00 40 59.0**	**-1.9**
MORC	**Moravsky Berou**	**

IDI	**Anoyia**	**105.02**	**58**	PP	PP	00 29 28.8	-8.8
	comp=Z,14nm,1.0s,baz=258,slow=1.4,SNR=4.1						
IDI				Sdiff		00 35 45.9	
	comp=Z,3.5nm,0.8s,baz=252,slow=20,SNR=2.9						
PSZ	**Piszkesteto**	**105.04**	**44**	⇓*i*P	**PP**	**00 29 35.8**	**-1.6**
PSZ	**Piszkesteto**	**105.04**	**44**	*e*PKiKP	**PKiKP**	**00 29 32.5**	**+3.2**
PSZ	**Piszkesteto**	**105.04**	**44**	⇓*e*Pdif	**Pdif**	**00 25 15.9**	**+0.7**
PSZ	**Piszkesteto**	**105.04**	**44**	⇓*e*PKiKP	PKiKP	00 29 34.6	+5.2
THE	**Thessaloniki**	**105.09**	**52**	*e*P	**PKiKP**	**00 29 30.1**	**+0.5**
PMR	**Palmer**	**105.09**	**331**	*e*PKiKP	**PKiKP**	**00 29 31.5**	**+2.6**
LANS	**Liptovska Anna**	**105.12**	**43**	*e*PP	PP	00 29 36.1	+0.2
HORT	**Hortiatis**	**105.17**	**52**	*e*P	**PKiKP**	**00 29 30.0**	**+0.1**
EREA	**Eretria**	**105.18**	**54**	P	**PP**	**00 29 36.0**	**-2.6**
HFS	**Hagfors**	**105.18**	**31**	Pdiff	**Pdif**	**00 25 14.2**	**-1.3**
	comp=Z,2.6nm,0.8s,baz=339,slow=3.8,SNR=3.7						
ILAR	**Eielson Array**	**105.18**	**334**	Pdiff	**Pdif**	**00 25 14.7**	**-0.7**
	comp=Z,3.0nm,0.9s,baz=147,slow=3.0,SNR=18						
ILAR				PP	**PP**	**00 29 36.0**	**-1.9**
	comp=Z,10nm,1.1s,baz=92,slow=4.7,SNR=5.0						
ILAR				Sdiff		00 35 45.6	
	comp=Z,0.3nm,0.6s,baz=87,slow=4.6,SNR=3.3						
ILAR				PKKPbc	**PKKPbc**	**00 40 55.3**	**-2.8**
	comp=Z,5.1nm,0.8s,baz=283,slow=2.9,SNR=16						
ILB	**Eielson Array**	**105.18**	**334**	*e*Pdif	**Pdif**	**00 25 14.7**	**-0.7**
ILB				*e*PP	**PP**	**00 29 36.0**	**-1.9**
ILB				*e*SKSac	**SKSac**	**00 35 45.6**	**+0.8**
ILB				*e*PKKPbc	**PKKPbc**	**00 40 55.3**	**-2.8**
RC01	**Rabbit Creek A**	**105.21**	**330**	*e*PKiKP	**PKiKP**	**00 29 33.1**	**+3.9**
AOS	**Alonnisos**	**105.35**	**54**	*e*P	**PKiKP**	**00 29 28.1**	**-2.0**
AOS	**Alonnisos**	**105.35**	**54**	P	**PP**	**00 29 36.7**	**-3.1**
AOS	**Alonnisos**	**105.35**	**54**	P	**PP**	**00 29 36.7**	**-3.1**
PLG	**Polygyros**	**105.36**	**52**	*e*P	**PKiKP**	**00 29 30.6**	**+0.4**
PAIG	**Paliouri**	**105.41**	**53**	*e*P	**PKiKP**	**00 29 28.3**	**-1.9**
PAIG	**Paliouri**	**105.41**	**53**	P	**PP**	**00 29 37.1**	**-3.2**
PAIG	**Paliouri**	**105.41**	**53**	P	**PP**	**00 29 37.1**	**-3.2**
SOH	**Sokhos**	**105.42**	**52**	P	PKiKP	00 29 20.5	-10
KARY	**Karystos**	**105.45**	**46**	P	**PP**	**00 29 38.2**	**-2.4**
CCB	**Clear Creek Bu**	**105.51**	**334**	*e*PKiKP	**PKiKP**	**00 29 33.6**	**+4.0**
KKB	**Krupnik**	**105.52**	**51**	*e*P	**PKiKP**	**00 29 31.4**	**+1.0**
BZS	**Buzias**	**105.53**	**47**	⇑P	**Pdif**	**00 25 19.3**	**+1.9**
BZS	**Buzias**	**105.53**	**47**	⇑*i*P	**Pdif**	**00 25 19.3**	**+1.9**
BZS	**Buzias**	**105.53**	**47**	⇓*i*P	**PKiKP**	**00 29 31.1**	**+0.9**
RND	**Reindeer**	**105.55**	**333**	*e*P	**Pdif**	**00 25 17.6**	**+0.5**
RND	**Reindeer**	**105.55**	**333**	*e*Pdif	**Pdif**	**00 25 17.6**	**+0.5**
WRH	**Wood River Hil**	**105.57**	**334**	*e*Pdif	**Pdif**	**00 25 17.7**	**+0.6**
KECS	**Kecovo**	**105.58**	**44**	*e*P	**Pdif**	**00 25 18.1**	**+0.6**
KECS				*e*		00 29 38.7	
KECS	**Kecovo**	**105.58**	**44**	PDIF	**Pdif**	**00 25 18.1**	**+0.6**
KECS				*e*PP	**PP**	**00 29 38.7**	**-2.5**
OJC	**Ojcow**	**105.62**	**42**	*e*Pdiff	**Pdif**	**00 25 18.0**	**+0.4**
OJC				*e*pP		00 25 48.2	
OJC				*e*PKiKP	**PKiKP**	**00 29 31.5**	**+1.2**
OJC				*e*PP	**PP**	**00 29 40.5**	**-1.0**
OJC				*e*SKSac	**SKSac**	**00 35 50.0**	**+2.6**
OJC				*e*SKKSac	**SKKSac**	**00 36 37.5**	**+2.6**
OJC				*e*SP	**SP**	**00 38 43.9**	**-2.1**
OJC				*e*SS	**SS**	**00 44 34.2**	**+2.8**
OJC				LMZ	LR	01 02 23.6	
OJC	**Ojcow**	**105.62**	**42**	*e*P	**Pdif**	**00 25 18.1**	**+0.4**
MCK	**McKinley**	**105.69**	**333**	*e*P	**Pdif**	**00 25 17.8**	**+0.1**
MCK	**McKinley**	**105.69**	**333**	*e*Pdif	**Pdif**	**00 25 17.8**	**+0.1**
MCK				*e*PKiKP	**PKiKP**	**00 29 31.3**	**+1.3**
NIE	**Niedzica**	**105.72**	**43**	*e*Pdiff	**Pdif**	**00 25 19.6**	**+1.4**
NIE				*e*pP		00 25 49.3	
NIE				*e*PP	**PP**	**00 29 41.1**	**-1.2**
NIE				*e*SKSac	**SKSac**	**00 35 51.2**	**+3.2**
NIE				*e*SKKSac	**SKKSac**	**00 36 38.4**	**+2.7**
NIE				*e*SP	**SP**	**00 38 43.5**	**-3.6**
NIE				*e*SS	**SS**	**00 44 35.0**	**+2.2**
NIE				LMZ	LR	01 07 59.3	
NIE	**Niedzica**	**105.72**	**43**	*e*P	**Pdif**	**00 25 19.6**	**+1.4**
NIE				*e*		00 29 41.1	
NIE				*e*		00 35 51.3	
NIE				*e*SP	SP	00 38 43.6	-3.6
NIE				*e*SS	**SS**	**00 44 35.1**	**+2.2**
SIRR	**Siria**	**105.74**	**46**	⇑*i*P	**Pdif**	**00 25 20.5**	**+2.2**
SIRR	**Siria**	**105.74**	**46**	⇓*i*P	**PKKPbc**	**00 40 55.2**	**-0.6**
OUR	**Ouranopolis**	**105.75**	**53**	P	PP	00 29 36.6	-6.1
OUR	**Ouranopolis**	**105.75**	**53**	P	PP	00 29 36.6	-6.1
VTS	**Vitosha**	**105.81**	**50**	⇑*i*P	**PKKPbc**	**00 40 50.6**	**-5.0**
VTS	**Vitosha**	**105.81**	**50**	*e*P	**PKiKP**	**00 29 31.1**	**0.0**
MMB	**Musomiste**	**105.91**	**51**	⇑P	**Pdif**	**00 25 20.2**	**+1.0**
MMB	**Musomiste**	**105.91**	**51**	⇑*i*P	**Pdif**	**00 25 20.2**	**+1.0**
MMB	**Musomiste**	**105.91**	**51**	⇓*i*P	PKKPbc	00 40 46.4	-8.7
MMB	**Musomiste**	**105.91**	**51**	*e*P	**PKiKP**	**00 29 30.8**	**-0.3**
APE	**Apeiranthos**	**106.02**	**56**	*e*P	**PKiKP**	**00 29 32.0**	**+0.5**
GZR	**Gura Zlata**	**106.25**	**47**	⇑P	**Pdif**	**00 25 22.1**	**+1.4**
GZR	**Gura Zlata**	**106.25**	**47**	⇑*i*P	**Pdif**	**00 25 22.7**	**+2.0**
GZR	**Gura Zlata**	**106.25**	**47**	⇑*i*P	**PKKPbc**	**00 40 53.0**	**-1.2**
DRGR		**106.58**	**46**	⇓P	**Pdif**	**00 25 23.5**	**+1.4**
DRGR		**106.58**	**46**	⇓*i*P	**Pdif**	**00 25 23.5**	**+1.4**
BPAW	**Bear Paw Mtn.**	**106.66**	**333**	*e*Pdif	**Pdif**	**00 25 21.9**	**-0.1**
BPAW				*e*PKiKP	**PKiKP**	**00 29 32.6**	**+0.8**
CHOS	**Chios island**	**106.77**	**55**	*e*P	PKiKP	00 29 22.5	-10
CHOS	**Chios island**	**106.77**	**55**	P	**PP**	**00 29 48.1**	**-2.3**
UZH	**Uzhgorod**	**106.77**	**44**	*e*P	**Pdif**	**00 25 30.9**	**+8.1**
UZH				*e*		00 35 55.9	
UZH				*e*SS	SS	00 44 53.3	+6.2
UZH				MLR	MLR		
	comp=N,600nm,17.0s						
UZH				MLR	MLR		
	comp=E,1μm,17.0s						
UZH				MLR	MLR		
	comp=Z,500nm,17.0s						
KOLS	**Kolonicke sedl**	**106.84**	**44**	*e*P	**Pdif**	**00 25 24.5**	**+1.4**
KOLS				*e*		00 29 48.3	
KOLS	**Kolonicke sedl**	**106.84**	**44**	PDIF	**Pdif**	**00 25 24.5**	**+1.4**
KOLS				*e*		00 28 56.6	
KOLS				*e*PP	**PP**	**00 29 48.3**	**-2.2**
PPLA	**Purkeypile**	**106.84**	**332**	*e*Pdif	**Pdif**	**00 25 23.4**	**+0.4**
PPLA				*e*PP	**PP**	**00 29 45.9**	**-4.4**
LOT	**Lotru**	**106.94**	**47**	⇓*i*P	**PKKPbc**	**00 40 51.0**	**-1.1**
RDO	**Rodhopi**	**107.10**	**52**	*e*PP	PP	00 29 49.7	-3.0
KDZ	**Kurdzhali**	**107.14**	**52**	⇓*i*P	**PKiKP**	**00 29 33.5**	**+0.1**
KDZ	**Kurdzhali**	**107.14**	**52**	*e*P	**PKiKP**	**00 29 33.2**	**-0.2**
PRK	**Paraskevi**	**107.16**	**54**	*e*P	**PKiKP**	**00 29 34.2**	**+0.7**
COLD	**Coldfoot**	**107.24**	**336**	*e*Pdif	**Pdif**	**00 25 25.7**	**+1.3**
COLD				*e*PKiKP	**PKiKP**	**00 29 34.3**	**+1.5**
KWP	**Kalwaria Pacla**	**107.29**	**43**	*e*Pdif	**Pdif**	**00 25 26.3**	**+1.2**
KWP				*e*PKiKP	**PKiKP**	**00 29 33.9**	**+0.5**
KWP				*e*SKSac	**SKSac**	**00 35 56.5**	**+1.7**
KWP				*e*SKKSac	**SKKSac**	**00 36 46.9**	**+0.3**
KWP				*e*SP	**SP**	**00 39 03.8**	**+0.7**
KWP				*e*SS	**SS**	**00 44 53.8**	**-0.2**
KWP				LMZ	LR	01 09 13.1	
KWP	**Kalwaria Pacla**	**107.29**	**43**	*e*P	**Pdif**	**00 25 26.3**	**+1.2**
DIM	**Dimitrovgrad**	**107.33**	**51**	*e*P	**PKiKP**	**00 29 34.5**	**+0.8**
ARR	**Arges**	**107.52**	**48**	⇓*i*P	**Pdif**	**00 25 28.6**	**+2.3**
ARR	**Arges**	**107.52**	**48**	⇓*i*P	**PKKPbc**	**00 40 50.5**	**+0.2**
ARCR	**ARCALIA**	**107.74**	**46**	⇑*i*P	**PKKPbc**	**00 40 48.4**	**-1.2**
VOIR		**107.82**	**48**	⇑P	**Pdif**	**00 25 29.8**	**+2.2**
VOIR		**107.82**	**48**	⇑*i*P	**Pdif**	**00 25 29.8**	**+2.2**
SZH	**Strazhica**	**107.91**	**50**	*e*P	**PKiKP**	**00 29 34.2**	**-0.6**
LVV	**L'vov**	**108.17**	**43**	*e*P	**Pdif**	**00 25 31.5**	**+2.5**
LVV				*e*		00 29 58.7	
LVV				*e*		00 35 54.7	
LVV				*e*PS	PS	00 39 07.9	-18
LVV				*e*SS	SS	00 45 05.9	+0.1
LVV				MLR	MLR		
	comp=E,700nm,21.0s						
LVV				MLR	MLR		
	comp=N,600nm,22.0s						
LVV				MLR	MLR		
	comp=Z,900nm,22.0s						
DOPR	**Dopca**	**108.17**	**47**	⇑*i*P	**Pdif**	**00 25 30.6**	**+1.5**
DOPR	**Dopca**	**108.17**	**47**	⇓*i*P	PKKPbc	00 40 42.8	-5.4
IM04	**Indian Mountai**	**108.30**	**335**	*e*Pdif	**Pdif**	**00 25 28.5**	**-0.7**
IM04				*e*PKiKP	**PKiKP**	**00 29 35.5**	**+0.7**
BUR04	**Bucovina Ar. S**	**108.43**	**45**	*e*Pdif	**Pdif**	**00 25 31.7**	**+1.3**
BUR04				*e*PKKPbc	**PKKPbc**	**00 40 47.8**	**+0.3**
BURAR	**Bucovina Array**	**108.43**	**45**	⇓P	**Pdif**	**00 25 31.8**	**+1.4**
BURAR	**Bucovina Array**	**108.43**	**45**	⇓*i*P	**Pdif**	**00 25 31.8**	**+1.4**
MLR	**Muntele Rosu**	**108.44**	**48**	Pdiff	**Pdif**	**00 25 30.6**	**+0.1**
	baz=170,slow=3.8						
MLR				PKiKP	**PKiKP**	**00 29 36.4**	**+0.5**
	comp=Z,4.0nm,1.1s,baz=19,slow=2.0,SNR=12						
MLR				Sdiff		00 35 59.1	
	comp=Z,0.4nm,0.8s,baz=233,slow=15,SNR=5.3						
MLR				PKKPbc	**PKKPbc**	**00 40 45.8**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=257,slow=2.6,SNR=6.6						
MLR				PKKPab	**PKKPab**	**00 40 57.9**	**-0.4**
	comp=Z,2.8nm,0.9s,baz=146,slow=2.1,SNR=11						
MLR	**Muntele Rosu**	**108.44**	**48**	⇑*i*P	**Pdif**	**00 25 34.5**	**+4.0**
MLR	**Muntele Rosu**	**108.44**	**48**	⇑*i*P	**PKiKP**	**00 29 36.3**	**+0.5**
MLR	**Muntele Rosu**	**108.44**	**48**	⇑*i*P	**PKKPbc**	**00 40 47.0**	**-0.4**
SULR		**108.47**	**49**	⇓*i*P	**PKKPbc**	**00 40 47.9**	**+0.8**
SUW	**Suwalki**	**108.58**	**38**	*e*PKiKP	**PKiKP**	**00 29 36.4**	**+0.8**
SUW				*e*PP	**PP**	**00 30 02.3**	**-0.7**
SUW				*e*SKSac	**SKSac**	**00 36 00.3**	**+0.3**
SUW				*e*SKKSac	**SKKSac**	**00 36 54.5**	**-0.8**
SUW				LMZ	LR	01 06 21.5	
PRD	**Provadia**	**108.94**	**50**	⇓*i*P	**PKKPbc**	**00 40 45.2**	**-0.3**
PLOR	**Plostina**	**109.00**	**47**	⇓*i*P	**PKiKP**	**00 29 36.5**	**-0.3**
PLOR	**Plostina**	**109.00**	**47**	⇑*i*P	**PKKPdf**	**00 40 58.0**	**-2.8**
VRI	**Vrincioaia**	**109.06**	**47**	⇑*i*P	**PKiKP**	**00 29 37.6**	**+0.8**
GRER		**109.12**	**48**	⇓*i*P	**PKKPdf**	**00 40 59.2**	**-1.3**
TESR	**Tescani**	**109.14**	**47**	⇑*i*P	**PKKPbc**	**00 40 44.9**	**-0.2**
MSAB	**Monastry St. A**	**109.44**	**49**	⇑*i*P	**PKKPab**	**00 40 53.7**	**-0.1**
PSN	**Preselentsi**	**109.60**	**50**	*e*P	**PKiKP**	**00 29 37.0**	**-0.9**
HARR	**Harsova**	**109.64**	**49**	⇓*i*P	**PKKPbc**	**00 40 42.5**	**-0.9**
TRO	**Tromso**	**109.72**	**22**	*e*SKSac	**SKSac**	**00 36 05.5**	**+1.3**
TRO				*e*		00 39 19.6	
KBS	**Kingsbay**	**109.85**	**12**	*e*SKSac	**SKSac**	**00 36 09.5**	**+5.0**
KBS				*e*		00 39 26.8	
CFR	**Carcaliu**	**109.88**	**48**	⇑*i*P	**PKiKP**	**00 29 37.5**	**-0.8**
CFR	**Carcaliu**	**109.88**	**48**	⇓*i*P	**PKKPbc**	**00 40 42.1**	**-0.5**
TIRR	**Tirgusor**	**109.93**	**49**	⇑*i*P	**PKiKP**	**00 29 39.5**	**+1.0**
TIRR	**Tirgusor**	**109.93**	**49**	⇑*i*P	**PKKPbc**	**00 40 43.0**	**+0.6**
TIRR	**Tirgusor**	**109.93**	**49**	*e*PKiKP	**PKiKP**	**00 29 39.0**	**+0.6**
ISP	**Isparta**	**110.05**	**56**	*e*PKiKP	**PKiKP**	**00 29 39.9**	**+0.8**
ISP				*e*PP	**PP**	**00 30 11.3**	**-3.1**
HSPB	**Hornsund (broa**	**110.16**	**14**	*e*	**SP**	**00 39 34.0**	**+3.5**
ISAL	**Salakas**	**110.55**	**37**	*e*P	**PKiKP**	**00 29 38.9**	**-0.3**
ISAL				IAmb	IAmb	00 29 40.9	
	comp=Z,13nm,1.0s						
IIGN	**Ignalina**	**110.56**	**37**	*e*P	**PKiKP**	**00 29 39.6**	**+0.3**
IIGN				IAmb	IAmb	00 29 40.9	
	comp=Z,8.6nm,0.9s						
IZAR	**Zarasai**	**110.64**	**37**	*e*P	**PKiKP**	**00 29 38.6**	**-0.9**
IZAR				IAmb	IAmb	00 29 43.2	
	comp=Z,8.6nm,0.8s						
KIS	**Kishinev**	**110.70**	**47**	*e*PKP	**PKiKP**	**00 29 39.0**	**-0.9**
KIS				*e*pPKP	**PP**	**00 30 16.0**	**-2.6**
KIS	**Kishinev**	**110.70**	**47**	*e*PP	PP	00 30 44.0	+25
KIS				*i* SKKS		00 36 08.0	
KIS				*i* S	SKKSac	00 37 03.0	-7.3
KIS				*e*sS		00 37 50.0	
KIS	**Kishinev**	**110.70**	**47**	*e*PKIKP	**PKiKP**	**00 29 39.0**	**-0.9**
KIS				*e*		00 30 16.0	
KIS				*e*		00 32 42.0	
KIS				*i*		00 36 08.0	
KIS				*e*		00 39 42.0	
DZM	**Mont Dzumac**	**110.79**	**234**	*e*PP	PP	00 30 17.7	-1.5
	comp=Z,1μm,27.8s						
DZM	**Mont Dzumac**	**110.79**	**234**	*e*PS	PS	00 39 47.3	-4.4
	comp=Z,2μm,28.6s						
DZM				*e*SS	SS	00 45 43.9	+2.8
	comp=Z,3μm,23.1s						
DZM	**Mont Dzumac**	**110.79**	**234**	*e*LR	LR	01 02 18.3	
	comp=Z,4μm,35.5s						
NACGM	**Naroch**	**110.81**	**38**	*e*PKP	**PKiKP**	**00 29 38.0**	**-1.8**
NACGM	**Naroch**	**110.81**	**38**	*e*	**PKKPbc**	**00 40 37.0**	**-2.9**
IDID	**Didziasalis**	**110.85**	**38**	*e*P	**PKiKP**	**00 29 40.5**	**+0.6**
IDID				IAmb	IAmb	00 29 41.2	
	comp=Z,8.3nm,0.9s						
VSU	**Vasula**	**111.32**	**34**	*c i*PKIKP	**PKiKP**	**00 29 41.4**	**+0.8**
MNK	**Minsk**	**111.35**	**39**	*e*PKIKP	**PKiKP**	**00 29 40.0**	**-0.8**
MNK				*e*		00 30 10.0	
MNK				*e*		00 36 11.0	
MNK				pmax	pmax		
	comp=Z,120nm,2.0s						
MNK				MLR	MLR		
	comp=Z,4μm,18.0s						
MICGM	**Minsk**	**111.38**	**39**	⇑*e*PKP	**PKiKP**	**00 29 40.0**	**-0.9**
FIA0	**FINESS Array S**	**111.39**	**31**	*e*PKIKP	**PKiKP**	**00 29 40.6**	**-0.1**
FIA0				*e*		00 30 13.6	
FIA0				*e*		00 36 11.5	
FIA0	**FINESS Array S**	**111.39**	**31**	*e*PKiKP	**PKiKP**	**00 29 40.6**	**-0.1**
FIA0				*e*PP	PP	00 30 13.6	-9.5
FIA0				*e*SKSac	**SKSac**	**00 36 11.5**	**+0.1**
FIA0				*e*PKKPbc	**PKKPbc**	**00 40 36.4**	**-1.9**
FIA0				*e*PKKPab	**PKKPab**	**00 40 43.2**	**-1.2**
FINES	**FINESS Array B**	**111.39**	**31**	PKiKP	**PKiKP**	**00 29 40.6**	**-0.1**
	comp=Z,6.0nm,0.8s,baz=221,slow=1.8,SNR=12						
FINES				PP	PP	00 30 13.6	-9.5
	comp=Z,3.6nm,0.8s,baz=197,slow=2.0,SNR=4.4						
FINES				Sdiff		00 36 11.5	
	comp=Z,1.0nm,0.9s,baz=277,slow=12,SNR=2.4						
FINES				PKKPbc	**PKKPbc**	**00 40 36.4**	**-1.9**
	comp=Z,7.0nm,0.7s,baz=104,slow=6.1,SNR=17						
FINES				PKKPab	**PKKPab**	**00 40 43.2**	**-1.2**
	comp=Z,6.4nm,0.7s,baz=92,slow=4.4,SNR=9.9						
FINES				PKPPKP	**P'P'df**	**00 49 02.7**	**-2.2**
	comp=Z,3.3nm,1.0s,baz=225,slow=0.8,SNR=6.9						
AK11	**Malin Array Si**	**111.56**	**43**	*e*PKKPbc	PKKPbc	00 40 36.7	-0.6
KIEV	**Kiev**	**111.59**	**43**	*c i*PKIKP	**PKiKP**	**00 29 41.7**	**+0.3**
KIEV	**Kiev**	**111.59**	**43**	*e*PKiKP	**PKiKP**	**00 29 40.5**	**-1.0**
AKASG	**Malin Array Be**	**111.60**	**43**	PKiKP	**PKiKP**	**00 29 40.8**	**-0.7**
	comp=Z,1.9nm,0.3s,baz=264,slow=3.1,SNR=17						
AKASG				PP	**PP**	**00 30 21.7**	**-3.3**
	comp=Z,11nm,1.0s,baz=258,slow=8.0,SNR=6.0						
AKASG				PKKPbc	**PKKPbc**	**00 40 35.8**	**-1.4**
	comp=Z,9.4nm,0.8s,baz=68,slow=3.5,SNR=11						
AKASG				PKKPab	**PKKPab**	**00 40 45.9**	**+2.0**
	comp=Z,1.1nm,0.5s,baz=66,slow=5.0,SNR=9.2						
AKBB	**Malin Array Si**	**111.60**	**43**	*e*PKiKP	**PKiKP**	**00 29 40.8**	**-0.7**
AKBB				*e*		00 30 21.7	
AKBB	**Malin Array Si**	**111.60**	**43**	*e*PKiKP	**PKiKP**	**00 29 40.8**	**-0.7**
AKBB				*e*PP	**PP**	**00 30 21.6**	**-3.3**
AKBB				*e*PKKPbc	**PKKPbc**	**00 40 35.8**	**-1.4**
AKBB				*e*PKKPab	**PKKPab**	**00 40 45.9**	**+2.0**
CSS	**Prodhromos**	**111.63**	**60**	*e*PKiKP	**PKiKP**	**00 29 42.7**	**+0.7**
CSS	**Prodhromos**	**111.63**	**60**	P	**PKiKP**	**00 29 43.3**	**+1.2**
EIL	**Elat**	**111.75**	**66**	PKiKP	**PKiKP**	**00 29 42.9**	**+0.5**
	comp=Z,12nm,0.8s,baz=337,slow=4.2,SNR=7.4						
EIL				PP	**PP**	**00 30 22.2**	**-4.4**
	comp=Z,8.1nm,0.8s,baz=7.1,slow=3.9,SNR=4.4						
EIL				PKKPab	**PKKPab**	**00 40 43.4**	**-0.9**
	comp=Z,8.0nm,0.9s,baz=12,slow=3.4,SNR=6.3						
ARA0	**ARCESS Array S**	**112.00**	**22**	*e*PKiKP	**PKiKP**	**00 29 42.0**	**+0.3**
ARA0				*e*PKKPbc	**PKKPbc**	**00 40 33.4**	**-3.1**
ARA0				*e*PKKPbc	PKKPab	00 40 33.7	-7.9
ARA0				*e*PKKPab	**PKKPab**	**00 40 42.5**	**+0.9**
ARA0				*e*PKKPab	**PKKPab**	**00 40 42.6**	**+1.1**
ARCES	**ARCESS Array B**	**112.00**	**22**	PKiKP	**PKiKP**	**00 29 42.0**	**+0.3**
	comp=Z,4.2nm,0.8s,baz=217,slow=0.6,SNR=7.1						
ARCES				PKKPbc	**PKKPbc**	**00 40 33.4**	**-3.1**
	comp=Z,7.4nm,0.7s,baz=89,slow=3.2,SNR=20						
ARCES				PKKPab	**PKKPab**	**00 40 42.6**	**+1.1**
	comp=Z,3.9nm,0.7s,baz=101,slow=2.5,SNR=3.6						
ARCES				PKPPKP	**P'P'df**	**00 49 03.1**	**-0.2**
	comp=Z,4.6nm,0.9s,baz=359,slow=4.9,SNR=6.2						
ARCES	**ARCESS Array B**	**112.00**	**22**	PKiKP	**PKiKP**	**00 29 42.0**	**+0.3**
ARE0	**ARCESS Array S**	**112.00**	**22**	*e*SKSac	**SKSac**	**00 36 14.3**	**+0.6**
HOPEN	**Hopen**	**112.27**	**15**	*e*	**SP**	**00 39 45.6**	**-4.3**
UNV	**Unalaska Valle**	**112.44**	**321**	*e*PP	PP	00 30 33.4	+2.6
BR101	**Keskin Array S**	**112.83**	**55**	*e*Pdif	**Pdif**	**00 25 55.3**	**+5.2**
BR101				*e*PKiKP	**PKiKP**	**00 29 44.4**	**0.0**
BR101				*e*PP	**PP**	**00 30 31.4**	**-2.8**
BR101				*e*PKKPbc	**PKKPbc**	**00 40 31.3**	**-1.6**
BR101				*e*PKKPab	**PKKPab**	**00 40 39.8**	**+0.6**
BRTR	**Keskin Array B**	**112.83**	**55**	Pdiff	**Pdif**	**00 25 55.3**	**+5.2**
	comp=Z,0.3nm,0.8s,baz=258,slow=1.3,SNR=3.4						
BRTR				PKiKP	**PKiKP**	**00 29 44.4**	**0.0**
	comp=Z,18nm,0.8s,baz=184,slow=2.6,SNR=55						
BRTR				PP	**PP**	**00 30 31.4**	**-2.8**
	comp=Z,14nm,1.1s,baz=243,slow=5.0,SNR=8.0						
BRTR				PKKPbc	**PKKPbc**	**00 40 31.3**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=173,slow=6.3,SNR=5.1						
BRTR				PKKPab	**PKKPab**	**00 40 39.8**	**+0.6**
	comp=Z,2.2nm,0.9s,baz=76,slow=5.2,SNR=6.6						
MMAI	**Mount Meron Ar**	**112.89**	**62**	PKiKP	**PKiKP**	**00 29 44.9**	**+0.3**
	comp=Z,10nm,0.6s,baz=289,slow=2.6,SNR=18						
MMAI				PP	**PP**	**00 30 37.0**	**+2.2**
	comp=Z,16nm,1.1s,baz=294,slow=4.1,SNR=5.0						
TCHB	**Talchebab**	**113.28**	**63**	*e*P	**PKiKP**	**00 29 44.6**	**-0.7**
BRBR	**Barbar**	**113.42**	**62**	*e*P	**PKiKP**	**00 29 47.0**	**+1.2**
TOTH	**TOTAH**	**113.80**	**62**	*e*P	**PKiKP**	**00 29 47.9**	**+1.6**
SALA	**Sala**	**113.92**	**63**	*e*P	**PKiKP**	**00 29 50.0**	**+3.3**
ARNB	**Al Arnab**	**113.92**	**59**	*e*P	**PKiKP**	**00 29 47.0**	**+0.5**
ASF	**Jabal al Asfar**	**113.94**	**64**	PKiKP	**PKiKP**	**00 29 47.1**	**+0.4**
	comp=Z,24nm,0.9s,baz=276,slow=0.1,SNR=26						
ASF				PP	**PP**	**00 30 39.5**	**-2.8**
	comp=Z,5.4nm,1.0s,baz=116,slow=8.6,SNR=3.4						
ASF				PKKPbc	**PKKPbc**	**00 40 27.2**	**-1.6**
	comp=Z,1.5nm,0.6s,baz=162,slow=3.2,SNR=2.8						
ASF				PKKPab	**PKKPab**	**00 40 35.1**	**+0.5**
	comp=Z,9.3nm,0.9s,baz=35,slow=0.5,SNR=16						
SIM	**Simferopol'**	**114.02**	**49**	*e*P	**Pdif**	**00 25 49.3**	**-5.8**
SIM				*i*		00 29 46.0	
SIM						00 30 42.0	
SIM				PPP	PPP	00 33 06.0	
SIM				*i*		00 36 24.0	
SIM				SS	SS	00 46 24.0	-0.1
SIM				pmax	pmax		
	comp=Z,60nm,9.6s						
SIM				pmax	pmax		
	comp=Z,35nm,0.9s						
SIM				pmax	pmax		
	comp=Z,150nm,10.4s						
SIM				MLR	MLR		
	comp=Z,550nm,18.8s						
WRDH	**Warideh**	**114.21**	**60**	*e*P	PKPdf	00 29 47.5	+0.5
ROOS	**tl_alroos**	**114.67**	**61**	*e*P	PKPdf	00 29 48.8	+0.9
APA	**Apatity**	**114.85**	**24**	⇑*i*PKIKP	PKPdf	00 29 48.0	+0.8
APA				*i* *PP	x	00 30 13.0	
APA				*i*		00 30 46.0	
APA				*i*		00 36 18.0	
APA				*i* PS	**SP**	**00 40 14.0**	**+0.1**
APA				*i* SS	**SS**	**00 46 36.0**	**+2.3**
APA				MLR	MLR		
	comp=Z,1μm,20.0s						
LVZ	**Lovozero**	**115.31**	**24**	⇑*i*PKIKP	**PKPdf**	**00 29 48.1**	**0.0**
LVZ				pmax	pmax		

MAK	**Makhachkala**	**123.51**	**52**	*i* P		**Pdif**	**00 26 39.0**	**+1.6**
MAK				*i*			00 30 05.2	
MAK				*e*			00 30 28.8	
MAK				*e*			00 30 37.6	
MAK				*e*			00 31 55.3	
MAK				*e*PPP	PPP		00 34 27.7	
MAK				*e*			00 36 58.9	
MAK				*e*			00 37 07.5	
MAK				*e*SP	SP		00 41 34.0	+0.9
MAK				*e*PS	**PS**		**00 41 46.4**	**+0.1**
MAK				pmax	pmax			
	comp=Z,161nm,1.1s							
NWAO	**Narrogin (SRO)**	**124.85**	**186**	PKP		**PKPdf**	**00 30 07.0**	**-0.6**
	comp=Z,57nm,0.8s,baz=146,slow=6.8							
FORT	**Forrest**	**124.95**	**197**	*e*PKPdf		**PKPdf**	**00 30 07.3**	**-0.5**
IGZV	**Ghazvin**	**125.43**	**60**	*e*P		**PKPdf**	**00 30 09.0**	**+0.2**
IPIR	**Pirpir**	**125.71**	**65**	*e*P		**PKPdf**	**00 30 07.7**	**-1.8**
CTA	**Charters Tower**	**126.03**	**221**	PKP		**PKPdf**	**00 30 09.7**	**-0.5**
	comp=Z,44nm,0.9s,baz=153,slow=1.4,SNR=14							
CTAO	**Charters Tower**	**126.03**	**221**	*e*PKIKP		**PKPdf**	**00 30 10.1**	**-0.1**
CTAO	**Charters Tower**	**126.03**	**221**	*e*PKPdf		**PKPdf**	**00 30 10.1**	**-0.1**
IR3	**Iran Long-Peri**	**126.03**	**62**	*e*P		**PKPdf**	**00 30 10.3**	**+0.5**
IKAZ	**Kazeroun**	**126.21**	**69**	*e*P		**PKPdf**	**00 30 10.9**	**+0.3**
IKLH	**Kolahrood**	**126.34**	**64**	*e*P		**PKPdf**	**00 30 10.2**	**-0.4**
SOKR	**Solikamsk**	**126.55**	**31**⇓	*i*PKIKP		**PKPdf**	**00 30 10.1**	**+0.3**
SOKR							00 32 13.1	
SOKR							00 37 06.4	
SOKR				SP	SP		00 41 56.5	-1.9
SOKR				pmax	pmax			
	comp=Z,140nm,1.3s							
IVRN	**Varamin**	**126.58**	**62**	*e*P		**PKPdf**	**00 30 10.7**	**-0.1**
IDMV	**Damavand**	**126.86**	**62**	*e*P		**PKPdf**	**00 30 11.8**	**+0.2**
IZEF	**Zefreh**	**126.94**	**65**	*e*P		**PKPdf**	**00 30 11.2**	**-0.7**
IPRN	**Peran**	**127.13**	**61**	*e*P		**PKPdf**	**00 30 12.2**	**+0.3**
ISRV	**Sarvestan**	**127.27**	**69**	*e*P		**PKPdf**	**00 30 13.0**	**+0.4**
IALA	**Alasht**	**127.51**	**61**	*e*P		**PKPdf**	**00 30 12.9**	**+0.1**
ILAS	**Lasjerd**	**127.60**	**62**	*e*P		**PKPdf**	**00 30 13.4**	**+0.4**
ISHM	**Shahmirzad**	**127.89**	**61**	*e*P		**PKPdf**	**00 30 15.3**	**+1.7**
ISAD	**Sadrabad**	**128.01**	**66**	*e*P		**PKPdf**	**00 30 14.0**	**+0.1**
IGLO	**Ghaloghah**	**128.34**	**60**	*e*P		**PKPdf**	**00 30 15.0**	**+0.7**
ARU	**Arti**	**128.48**	**35**	*i*PKIKP		**PKPdf**	**00 30 13.9**	**+0.3**
ARU							00 32 16.2	
ARU				PPP	PPP		00 35 03.7	
ARU				PS	**SP**		**00 42 10.2**	**-5.3**
ARU				SSS	SSS		00 54 16.0	
ARU	**Arti**	**128.48**	**35**	*e*PKPdf		**PKPdf**	**00 30 12.4**	**-1.3**
H11S2	**WAKE ISLAND Hyl**	**128.52**	**276**	T	T		02 50 41.4	
	baz=102,slow=74,SNR=332							
H11S1	**WAKE ISLAND Hyl**	**128.53**	**276**	T	T		02 50 38.0	
	baz=102,slow=74,SNR=296							
H11S3	**WAKE ISLAND Hyl**	**128.53**	**276**	T	T		02 50 35.6	
	baz=102,slow=74,SNR=180							
ASUD	**Al Ashush, Dub**	**128.55**	**76**	PKPdf		**PKPdf**	**00 30 15.6**	**+0.8**
	SNR=18							
ASUD	**Al Ashush, Dub**	**128.55**	**76**	*i*PKIKP		**PKiKP**	**00 30 15.3**	**-0.2**
	SNR=44							
H11N3	**WAKE ISLAND Hyl**	**128.62**	**278**	T	T		02 50 50.7	
	baz=104,slow=75,SNR=338							
H11N2	**WAKE ISLAND Hyl**	**128.63**	**278**	T	T		02 50 45.0	
	baz=104,slow=75,SNR=278							
H11N1	**WAKE ISLAND Hyl**	**128.63**	**278**	T	T		02 50 49.4	
	baz=104,slow=75,SNR=291							
ICHK	**Chekchek**	**128.64**	**66**	*e*P		**PKPdf**	**00 30 14.5**	**-0.5**
WAKE	**Wake Island**	**128.75**	**277**	*e*PKPdf		**PKPdf**	**00 30 16.2**	**+1.0**
IMEH	**Mehriz**	**128.75**	**67**	*e*P		**PKPdf**	**00 30 14.3**	**-1.0**
FAQ	**Al Faqa, Dubai**	**128.81**	**76**⇓	*i*PKIKP		**PKPdf**	**00 30 15.2**	**0.0**
	SNR=47							
NAZ	**Nazwa, Dubai**	**128.91**	**75**	PKPdf		**PKPdf**	**00 30 15.7**	**+0.2**
	SNR=16							
NAZ	**Nazwa, Dubai**	**128.91**	**75**⇑	*i*PKIKP		**PKPdf**	**00 30 15.4**	**-0.1**
	SNR=12							
ASHO	**Ashiyiah**	**129.22**	**76**	PKPdf		**PKPdf**	**00 30 16.4**	**+0.3**
	SNR=17							
ASHO	**Ashiyiah**	**129.22**	**76**	*i*PKIKP		**PKiKP**	**00 30 16.7**	**-0.1**
	SNR=16							
HATD	**Hatta, Dubai**	**129.31**	**76**	PKPdf		**PKPdf**	**00 30 16.7**	**+0.5**
	SNR=19							
HATD	**Hatta, Dubai**	**129.31**	**76**	*i*PKIKP		**PKiKP**	**00 30 17.1**	**+0.1**
	SNR=13							
ARQ	**Araqi**	**129.41**	**78**	PKPdf		**PKPdf**	**00 30 17.1**	**+0.6**
	SNR=10							
SVE	**Sverdlovsk**	**129.42**	**34**⇑	*i*PKIKP		**PKPdf**	**00 30 16.1**	**+0.7**
SVE				pmax	pmax			
	comp=Z,152nm,1.6s							
AS01	**Alice Springs**	**129.46**	**207**	*e*PKPdf		**PKPdf**	**00 30 16.0**	**-0.7**
AS12	**Alice Springs**	**129.47**	**207**	*e*PKPdf		**PKPdf**	**00 30 15.9**	**-0.8**
ASAR	**Alice Springs**	**129.47**	**207**	PKP		**PKPdf**	**00 30 15.9**	**-0.8**
	comp=Z,140nm,0.8s,baz=148,slow=2.2,SNR=153							
ASAR				PKKP		**PKKPdf**	**00 40 20.1**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=335,slow=1.6,SNR=6.4							
ASAR				SKKPbc	SKKPbc		00 43 08.2	-3.5
	comp=Z,1.3nm,0.7s,baz=329,slow=5.6,SNR=4.1							
ASAR	**Alice Springs**	**129.47**	**207**	PKIKP		**PKPdf**	**00 30 16.0**	**-0.8**
BANOM	**Banah**	**129.62**	**74**	PKPdf		**PKPdf**	**00 30 17.9**	**+1.1**
	SNR=8.9							
BANOM	**Banah**	**129.62**	**74**⇓	*i*PKIKP		**PKPdf**	**00 30 16.8**	**0.0**
	SNR=21							
AKTO	**Aktyubinsk**	**129.85**	**42**	PKP		**PKPdf**	**00 30 16.7**	**+0.3**
	comp=Z,61nm,0.9s,baz=212,slow=0.9,SNR=137							
AKTO				SKPbc	SKPbc		00 33 30.3	+1.3
	comp=Z,50nm,1.2s,baz=295,slow=2.7,SNR=15							
AKTO				SKKPbc	SKKPbc		00 43 03.1	-11
	comp=Z,2.5nm,0.8s,baz=202,slow=0.7,SNR=4.6							
AKTO	**Aktyubinsk**	**129.85**	**42**	PKIKP		**PKPdf**	**00 30 17.0**	**+0.5**
AKTO				pmax	pmax			
	comp=Z,167nm,1.1s							
IBND	**Bandar-abas**	**130.04**	**72**	*e*P		**PKPdf**	**00 30 19.1**	**+1.6**
IBND				*e*P		**PKiKP**	**00 30 20.4**	**+2.0**
HOQ	**Hoqain**	**130.16**	**77**	PKPdf		**PKPdf**	**00 30 17.5**	**-0.4**
	SNR=9.4							
JMDO	**Jabal Madar**	**130.67**	**79**	PKPdf		**PKPdf**	**00 30 19.3**	**+0.4**
	SNR=7.3							
SMDO	**Samad**	**130.74**	**78**	PKPdf		**PKPdf**	**00 30 19.4**	**+0.3**
	SNR=24							
SEY	**Seymchan**	**131.03**	**337**	PP	PP		00 32 35.2	-1.1
	comp=Z,17nm,1.0s,baz=74,slow=7.2,SNR=6.0							
SEY				SKPbc	**SKPab**		**00 33 34.1**	**+0.9**
	comp=Z,22nm,1.1s,baz=102,slow=2.0,SNR=4.5							
SEY	**Seymchan**	**131.03**	**337**	*d*PKIKP		**PKPdf**	**00 30 19.5**	**+1.2**
AB31	**Akbulak array**	**131.34**	**43**	*i*PKIKP		**PKPdf**	**00 30 19.6**	**+0.3**
AB31				pmax	pmax			
	comp=Z,363nm,1.2s							
ISHV	**Shirvan**	**131.43**	**59**	*e*P		**PKPdf**	**00 30 21.4**	**+1.2**
WBK	**Wadi Bani Khal**	**131.50**	**79**	PKPdf		**PKPdf**	**00 30 22.5**	**+2.0**
	SNR=13							
ISFR	**Sfrayin**	**131.68**	**60**	*e*P		**PKPdf**	**00 30 22.7**	**+2.0**
GEYT	**Alibeck**	**131.74**	**58**	PKhKP	PKPpre		00 29 60.0	
	comp=Z,0.2nm,0.3s,baz=272,slow=8.5,SNR=2.2							
GEYT				PKP		**PKPdf**	**00 30 20.7**	**+0.2**
	comp=Z,38nm,0.8s,baz=270,slow=5.9,SNR=77							
GEYT				PP		**PP**	**00 32 40.7**	**-1.5**
	comp=Z,11nm,1.0s,baz=289,slow=9.0,SNR=3.8							
GEYT				SKPbc		**SKPab**	**00 33 38.2**	**+1.0**
	comp=Z,26nm,1.1s,baz=272,slow=5.6,SNR=11							
GEYT				SKKPbc		**SKKPbc**	**00 43 01.9**	**-4.3**
	comp=Z,7.2nm,1.2s,baz=20,slow=4.9,SNR=4.2							
IAKL	**Akhelmad**	**132.31**	**60**	*e*P		**PKPdf**	**00 30 22.8**	**+0.9**
ITEG	**Tejag**	**132.33**	**65**	*e*P		**PKPdf**	**00 30 21.7**	**-0.3**
IKOO	**Kooshah**	**132.54**	**66**	*e*P		**PKPdf**	**00 30 22.9**	**+0.4**
WRA	**Warramunga Arr**	**132.56**	**209**	PKhKP	PKPpre		00 30 02.7	
	comp=Z,3.6nm,0.7s,baz=180,slow=1.8,SNR=17							
WRA				PKP		**PKPdf**	**00 30 22.0**	**-0.6**
	comp=Z,97nm,0.8s,baz=161,slow=1.6,SNR=90							
WRA				PP		**PP**	**00 32 43.9**	**-2.3**
	comp=Z,13nm,1.1s,baz=154,slow=4.7,SNR=8.6							
WRA				SKPbc		**SKPab**	**00 33 41.9**	**+0.7**
	comp=Z,10nm,1.0s,baz=162,slow=3.3,SNR=4.1							
WRA				SKKPbc	SKKPbc		00 42 50.6	-10
	comp=Z,5.6nm,1.1s,baz=332,slow=5.2,SNR=5.0							
WRA	**Warramunga Arr**	**132.56**	**209**	PKHKP	PKPpre		00 30 02.7	
WRA							00 30 22.0	
WRA							00 32 43.9	
WRA							00 42 50.6	
WRA				pmax	pmax			
	comp=Z,4.0nm,0.7s							
WRA				pmax	pmax			
	comp=Z,97nm,0.8s							
WRA				pmax	pmax			
	comp=Z,13nm,1.1s							
WRAB	**Tennant Creek**	**132.56**	**209**	*d*PKIKP		**PKPdf**	**00 30 22.1**	**-0.5**
WRAB				pmax	pmax			
	comp=Z,962nm,1.7s							
WRAB	**Tennant Creek**	**132.56**	**209**	*e*PKPdf		**PKPdf**	**00 30 21.1**	**-1.5**
COEN	**Coen**	**132.57**	**224**	*e*PKPdf		**PKPdf**	**00 30 24.0**	**+1.3**
PET	**Petropavlovsk**	**133.02**	**323**	*e*PKIKP		**PKPdf**	**00 30 23.1**	**+0.8**
PET	**Petropavlovsk**	**133.02**	**323**	*e*PKPdf		**PKPdf**	**00 30 23.1**	**+0.8**
PMG	**Port Moresby**	**133.09**	**232**	*d*PKIKP		**PKPdf**	**00 30 24.9**	**+1.2**
PMG				pmax	pmax			
	comp=Z,2μm,2.5s							
PMG	**Port Moresby**	**133.09**	**232**	*e*PKPdf		**PKPdf**	**00 30 25.1**	**+1.4**
PEA2	**Petropavlovsk-**	**133.51**	**323**	*e*PKPpre	PKPpre		00 30 12.4	
PEA2				*e*PKPdf		**PKPdf**	**00 30 23.4**	**+0.1**
PEA0	**Petropavlovsk-**	**133.51**	**323**	*e*PKPdf		**PKPdf**	**00 30 23.6**	**+0.3**
PETK	**Petropavlovsk-**	**133.51**	**323**	PKhKP	PKPpre		00 30 12.4	
	comp=Z,30nm,0.9s,baz=106,slow=5.3,SNR=17							
PETK				PKP		**PKPdf**	**00 30 23.4**	**+0.1**
	comp=Z,38nm,1.0s,baz=108,slow=4.8,SNR=16							
SKR	**Severo-Kuril's**	**135.36**	**321**	PKHKP	PKPpre		00 30 16.0	
SKR				pmax	pmax			
	comp=Z,1μm,4.0s							
BRVK	**Borovoye**	**136.04**	**35***d*	*i*PKIKP		**PKPdf**	**00 30 29.4**	**+1.4**
BRVK				pmax	pmax			
	comp=Z,225nm,2.5s							
BRVK	**Borovoye**	**136.04**	**35**	PKPdf		**PKPdf**	**00 30 29.1**	**+1.0**
	SNR=40							
BVA0	**Borovoye Array**	**136.12**	**35**	*i*PKIKP		**PKPdf**	**00 30 28.2**	**0.0**
BVA0				pmax	pmax			
	comp=Z,89nm,1.0s							
BVAR	**Borovoye Array**	**136.12**	**35**	PKhKP	PKPpre		00 30 20.7	
	comp=Z,2.0nm,0.7s,baz=251,slow=4.5,SNR=11							
BVAR				PKP		**PKPdf**	**00 30 28.4**	**+0.2**
	comp=Z,54nm,0.8s,baz=279,slow=1.9,SNR=115							
MBWA	**Marble Bar**	**136.12**	**191**	PKPdf		**PKPdf**	**00 30 30.3**	**+1.1**
	SNR=6.9							
MBWA	**Marble Bar**	**136.12**	**191**	*e*PKPdf		**PKPdf**	**00 30 27.6**	**-1.6**
YAK	**Yakutsk**	**138.39**	**347**	*e*PKHKP	PKPpre		00 30 24.4	
YAK				*e*			00 30 31.3	
YAK				*e*			00 31 01.0	
YAK				pmax	pmax			
	comp=Z,88nm,0.9s							
YAK				pmax	pmax			
	comp=N,9.0nm,0.9s							
YAK				pmax	pmax			
	comp=E,3.0nm,0.9s							
KK31	**Karatay Array**	**140.11**	**49**	*i*PKIKP		**PKPdf**	**00 30 36.1**	**+0.2**
KK31				pmax	pmax			
	comp=Z,31nm,0.9s							
KBL	**Kabul**	**140.82**	**62**	*e*PKIKP	PKPpre		00 30 33.6	
KBL	**Kabul**	**140.82**	**62**	*e*PKPpre	PKPpre		00 30 33.6	
NVS	**Novosibirsk**	**141.13**	**26**	*e*PKHKP	PKPpre		00 30 30.8	
NVS				*i*			00 33 36.7	
NVS				pmax	pmax			
	comp=Z,394nm,1.6s							
NVS				pmax	pmax			
	comp=N,20nm,1.1s							
NVS				pmax	pmax			
	comp=E,94nm,1.5s							
NVS				pmax	pmax			
	comp=Z,322nm,2.8s							
NVS				pmax	pmax			
	comp=N,33nm,1.8s							
NVS				pmax	pmax			
	comp=E,58nm,1.8s							
BHJ	**Bhuj**	**141.33**	**80**	*e*P		**PKPdf**	**00 30 36.3**	**-2.3**
BHJ				AMS	AMS		01 32 52.5	
	comp=Z,2μm,12.2s							
KURK	**Kurchatov**	**141.67**	**34**	PKHKP	PKPpre		00 30 33.6	
KURK				pmax	pmax			
	comp=Z,54nm,1.2s							
KURK	**Kurchatov**	**141.67**	**34**	PKPdf		**PKPdf**	**00 30 35.3**	**-3.1**
	SNR=32							
KURK	**Kurchatov**	**141.67**	**34**	*e*PKPpre	PKPpre		00 30 33.8	
KURK				*e*PP	PP		00 33 50.9	+7.7
KURBB	**Kurchatov Arra**	**141.68**	**34**	PP	PP		00 33 50.9	+7.6
	comp=Z,13nm,0.9s,baz=295,slow=6.9,SNR=5.4							
KURBB				SKKPbc	SKKPbc		00 42 16.1	-13
	comp=Z,6.3nm,1.1s,baz=125,slow=5.2,SNR=5.0							
NKL	**Nikolayevsk**	**142.08**	**332**	*i*PKHKP	PKPpre		00 30 33.2	
NKL				pmax	pmax			
	comp=E,20nm,1.0s							
NKL				pmax	pmax			
	comp=Z,140nm,1.0s							
ZAA1	**Zalesovo Array**	**142.41**	**26**	*e*PKPpre	PKPpre		00 30 35.7	
ZALV	**Zalesovo Beam**	**142.41**	**26**	PKhKP	PKPpre		00 30 35.7	
	comp=Z,40nm,0.7s,baz=316,slow=4.8,SNR=102							
ZALV				SKKPab	SKKPab		00 42 12.2	-13
	comp=Z,3.1nm,0.9s,baz=131,slow=4.1,SNR=3.7							
EKS2	**Erkin-Say**	**142.52**	**48**	P		**PKPdf**	**00 30 37.4**	**-3.0**
	SNR=21							
AML	**Almayashu**	**142.65**	**49**	P		**PKPdf**	**00 30 38.3**	**-2.7**
	SNR=14							
KUR	**Kuril'sk**	**142.65**	**317**	*i*PKHKP	PKPpre		00 30 35.5	
KUR				SS	SS		00 52 18.3	+0.8
USP	**Ospenovka**	**142.79**	**47**	P		**PKPdf**	**00 30 37.8**	**-2.9**
	SNR=13							
AAK	**Ala-Archa**	**143.03**	**48**	P	PKPbc		00 30 39.4	+0.9
	SNR=42							
AAK	**Ala-Archa**	**143.03**	**48**	PKIKP	PKPbc		00 30 38.8	+0.4
AAK				pmax	pmax			
	comp=Z,266nm,1.3s							
AAK	**Ala-Archa**	**143.03**	**48**	*e*PKPdf	PKPbc		00 30 39.2	+0.8
FRU	**Bishkek**	**143.03**	**48**⇓	*i*PKIKP	PKPbc		00 30 38.5	+0.2
FRU				*e*SS	SS		00 52 22.0	-0.4
FRU				pmax	pmax			
	comp=Z,590nm,2.4s							
CHMS	**Chumysh**	**143.06**	**47**	P	PKPbc		00 30 39.7	+1.3
	SNR=18							
UCH	**Uchtor**	**143.19**	**48**	P	PKPbc		00 30 39.8	+0.5
	SNR=39							
KBK	**Karagaybulak**	**143.33**	**48**	P	PKPbc		00 30 40.0	+0.8
	SNR=56							
GOA	**Goa**	**143.62**	**94**	*e*P	PKPbc		00 30 41.0	+0.5
TKM2	**Tokmak 2**	**143.67**	**47**	P	PKPbc		00 30 40.5	+0.2
	SNR=54							
TKM2	**Tokmak 2**	**143.67**	**47**	PKIKP	PKPbc		00 30 40.4	+0.1
TKM2				pmax	pmax			
	comp=Z,230nm,1.3s							
TKM2	**Tokmak 2**	**143.67**	**47**	*e*PKPdf	PKPbc		00 30 40.6	+0.3
KZA	**Kyzart**	**143.75**	**48**	P		**PKPdf**	**00 30 42.0**	**-1.0**
	SNR=84							
TRD	**Trivandrum**	**143.94**	**107**	*e*P		**PKPdf**	**00 30 42.7**	**-0.8**
TRD				⇓*i*P	PKPbc		00 30 44.2	+2.6
CLNS	**Chul'man**	**144.15**	**348**	*e*PKIKP		**PKPab**	**00 30 40.4**	**-0.1**
CLNS				pmax	pmax			
	comp=Z,265nm,0.9s							
CLNS				pmax	pmax			
	comp=N,86nm,1.0s							
CLNS				pmax	pmax			
	comp=E,65nm,1.1s							
SAUI	**Saumlaki**	**144.31**	**215**	*e*PKPdf		**PKPdf**	**00 30 44.2**	**0.0**
ULHL	**Ulahol**	**144.37**	**48**	P		**PKPdf**	**00 30 44.4**	**+0.6**
	SNR=10.0							
POO	**Poona**	**144.40**	**89**⇑	*i*P		**PKPab**	**00 30 42.0**	**-0.7**
POO				*e*P	PKPbc		00 30 43.0	+0.1
BOD	**Bodaibo**	**144.46**	**358**⇑	*i*PKIKP		**PKPab**	**00 30 40.8**	**-0.8**
BOD				pmax	pmax			
	comp=Z,655nm,1.0s							
YUK	**Yuzh-Kuril'sk**	**144.47**	**316**	*i*PKIKP		**PKPab**	**00 30 41.4**	**-0.7**
YUK				MLR	MLR			
	comp=N,2μm,21.0s							
YUK				MLR	MLR			
	comp=E,2μm,21.0s							
YUK				MLR	MLR			
	comp=Z,666nm,21.0s							
YSS	**Yuzh-Sakhalins**	**144.89**	**322**⇓	*e*PKIKP	PKPbc		00 30 43.0	-0.6
YSS				*e*			00 31 13.1	
YSS				*e*			00 33 58.2	
YSS				*e*SS	SS		00 53 28.0	+45
YSS				pmax	pmax			
	comp=E,340nm,1.0s							
YSS				pmax	pmax			
	comp=Z,740nm,1.0s							
YSS				pmax	pmax			
	comp=Z,1μm,2.0s							
YSS	**Yuzh-Sakhalins**	**144.89**	**322**	*e*PKPbc		**PKPab**	**00 30 43.8**	**+0.2**
KSH	**Kashi**	**145.15**	**52**⇓	*i*PKPbc		**PKPbc**	**00 30 44.8**	**0.0**
KSH				pPKP		**pPKPdf**	**00 31 10.6**	**-4.3**
KSH				PKS		**PKSdf**	**00 34 17.0**	**-3.6**
KSH				SKS		**SKSdf**	**00 37 41.2**	**-3.2**
KSH				SKKS		**SKKSac**	**00 40 44.1**	**-2.9**
KSH				PPMZ				
	comp=Z,2μm,4.3s							
KSH				LN				
	comp=Z,1μm,14.4s							
KSH				LE				
	comp=Z,2μm,19.6s							
KSH				LZ				
	comp=Z,6μm,27.3s							
SOEI	**Soe**	**145.86**	**202**	*e*PKPdf		**PKPdf**	**00 30 44.3**	**-2.7**
MK31	**Makanchi Array**	**145.93**	**37**	*i*PKP2		**PKPbc**	**00 30 46.5**	**-0.4**
MK31				pmax	pmax			
	comp=Z,438nm,0.9s							
MK32	**Makanchi Array**	**145.93**	**37**	*e*PKPdf		**PKPbc**	**00 30 46.8**	**-0.1**
MKAR	**Makanchi Array**	**145.93**	**37**	PKPbc		**PKPbc**	**00 30 46.8**	**-0.1**
	comp=Z,392nm,0.8s,baz=326,slow=1.7,SNR=651							
MKAR				SKKPab	SKKPab		00 41 50.8	-19
	comp=Z,3.3nm,0.9s,baz=120,slow=7.2,SNR=4.8							
MKAR	**Makanchi Array**	**145.93**	**37**	*e*PKPdf		**PKPdf**	**00 30 46.2**	**+0.2**
MK01	**Makanchi Array**	**145.95**	**37**	*e*PKPdf		**PKPdf**	**00 30 45.2**	**-0.8**
ASAJ	**Asahikawa**	**146.50**	**318**	PKPbc		**PKPbc**	**00 30 48.6**	**0.0**
	comp=Z,531nm,0.9s,baz=20,slow=1.4,SNR=19							
ASAJ	**Asahikawa**	**146.50**	**318**	PKP2		**PKPbc**	**00 30 48.6**	**0.0**
ASAJ				pmax	pmax			
	comp=Z,531nm,0.9s							
ASAJ	**Asahikawa**	**146.50**	**318**	*e*PKPdf		**PKPbc**	**00 30 48.0**	**-0.6**
URV	**Uravakonda**	**146.63**	**97**	*e*PKPbc		**PKPdf**	**00 30 48.6**	**+0.5**
URV				*e*PKPab		**PKPbc**	**00 30 50.0**	**+0.2**
URV				*e*PKiKP		**PKiKP**	**00 30 52.3**	**-0.2**
URV				*ep*PKPbc	pPKPbc		00 31 19.0	-0.3
URV				*ep*PKPab	pPKPab		00 31 20.5	+0.3
PALK	**Pallekele**	**146.64**	**112**	PKPbc		**PKPbc**	**00 30 49.3**	**-0.6**
	comp=Z,162nm,1.1s,baz=255,slow=3.6,SNR=25							
PALK	**Pallekele**	**146.64**	**112**	PKP2		**PKPbc**	**00 30 49.3**	**-0.6**
PALK				pmax	pmax			
	comp=Z,163nm,1.1s							
PALK	**Pallekele**	**146.64**	**112**	PKPdf		**PKPbc**	**00 30 50.3**	**+0.3**
	SNR=12							
PALK	**Pallekele**	**146.64**	**112**⇑	*i*PKPab		**PKPbc**	**00 30 49.3**	**-0.6**
	SNR=22							
PALK	**Pallekele**	**146.64**	**112**	*e*PKPdf		**PKPbc**	**00 30 49.6**	**-0.4**
DLH	**Dalhousie**	**146.82**	**64**	*e*P		**PKPbc**	**00 30 50.0**	**-0.2**
KLRI	**Killari**	**146.85**	**91**	*e*PKPbc		**PKPdf**	**00 30 48.3**	**-0.1**
KLRI				*e*PKPab		**PKPbc**	**00 30 50.7**	**+0.3**
KLRI				*ep*PKPab	pPKPab		00 31 21.4	+0.4
KHET	**Khetri**	**147.10**	**72**	*e*P		**PKPdf**	**00 30 48.7**	**+0.2**
DHRM	**DHARAMSHALA**	**147.15**	**65**	*e*P		**PKPdf**	**00 30 49.9**	**+1.1**
ERM	**Erimo**	**147.15**	**314***c*	*i*PKP2		**PKPbc**	**00 30 51.1**	**+0.6**
ERM				pmax	pmax			
	comp=Z,1μm,1.7s							
ERM	**Erimo**	**147.15**	**314**	*e*PKPdf		**PKPbc**	**00 30 49.6**	**-0.9**
GUMO	**Guam**	**147.33**	**260**	*e*PKIKP		**PKPdf**	**00 30 49.8**	**+0.6**
GUMO	**Guam**	**147.33**	**260**	*e*PKPdf		**PKPdf**	**00 30 49.8**	**+0.6**
BHK	**Bhakra**	**147.36**	**66**	*ex*		**PKPab**	**00 30 52.7**	**-0.9**
MMRI	**Maumere**	**147.58**	**200**	*e*PKPdf		**PKPdf**	**00 30 49.8**	**0.0**
KUDL	**Kundal**	**147.70**	**72**	*e*P		**PKPdf**	**00 30 50.0**	**+0.5**
AKL	**Akola**	**147.74**	**86**	*e*P		**PKPdf**	**00 30 49.2**	**-0.6**
SDNR	**Sundarnagar**	**147.82**	**66**	*e*P		**PKPdf**	**00 30 50.6**	**+0.9**
FAKI	**Fak Fak**	**147.89**	**221**	*e*PKPdf		**PKPdf**	**00 30 51.5**	**+1.2**
HABR	**Khabarovsk**	**147.91**	**330**	*d*PKIKP		**PKPdf**	**00 30 49.1**	**-0.1**
HABR				*e*			00 31 17.0	
HABR				*e*			00 34 24.2	
HABR				*e*PPP	PPP		00 37 38.9	
HABR				*e*			00 37 49.4	
HABR				*e*			00 46 49.4	
HABR				*e*SS	SS		00 53 20.0	+3.5
HABR				*e*SSS	SSS		00 58 55.8	
HABR				pmax	pmax			
	comp=Z,473nm,2.8s							
HABR				pmax	pmax			
	comp=N,75nm,2.8s							
HABR				pmax	pmax			
	comp=E,60nm,2.8s							
SMLA	**Simla**	**148.03**	**67**	*i*P		**PKPdf**	**00 30 50.9**	**+1.0**
BHGR	**Bahadurgarh**	**148.07**	**71**	*e*P

comp=Z,2µm,25.8s
WMQ LE
comp=Z,2µm,24.4s
WMQ LZ
comp=Z,2µm,25.0s
LEM Lembang 150.80 172 PKP **PKPdf 00 30 55.9 +0.7**
comp=Z,131nm,1.0s,baz=154,slow=2.8,SNR=19
LEM PKPbc **PKiKP 00 31 01.6 +0.2**
comp=Z,2µm,0.7s,baz=138,slow=1.1,SNR=145
LEM PP **PP 00 34 36.6 0.0**
comp=Z,57nm,0.7s,baz=185,slow=6.2,SNR=8.2
SMRI Semarang 150.83 177 *e*PKPdf **PKPdf 00 30 56.8 +1.8**
PTH Pithoragarh 150.85 69 *ex* **PKPdf 00 30 59.4 +4.6**
LGTI Lohaghat 150.89 69 *ex* **PKPdf 00 30 57.2 +2.7**
ZAK Zakamensk 151.19 11 *i*PKIKP **PKPdf 00 30 55.6 +1.1**
ZAK *e* 00 34 39.0
ZAK pmax pmax
comp=Z,149nm,1.7s
PVM Polavaram 151.30 95 *e*PKPdf **PKPdf 00 30 55.7 +0.2**
PVM *e*PKiKP **PKiKP 00 31 02.0 -0.1**
PVM *e*PKPab **PKPab 00 31 08.8 -1.2**
KAPI Kappang 151.75 197 PKP **PKPdf 00 30 56.5 +0.1**
comp=Z,54nm,0.9s,baz=271,slow=1.2,SNR=19
KAPI PKPbc **PKiKP 00 31 03.2 0.0**
comp=Z,430nm,0.9s,baz=199,slow=3.8,SNR=73
KAPI Kappang 151.75 197 PKPdf **PKPdf 00 30 58.4 +2.0**
SNR=52
KAPI Kappang 151.75 197 *e*PKPdf **PKPdf 00 30 56.5 +0.1**
KAPI *e*PKPdf **PKPdf 00 30 57.3 +0.9**
KAPI *e*PKPbc **PKiKP 00 31 03.2 0.0**
CBI Chichi jima 151.91 286 *e*PKPbc **PKPbc 00 31 02.0 -0.7**
CBI *e*PKPab **PKPab 00 31 11.8 -0.6**
CBIJ Chichi jima 151.91 286 *e*PKPbc **PKPbc 00 31 02.3 -0.5**
JCJ Chichijima 151.91 286 PKPbc **PKPbc 00 31 02.0 -0.7**
comp=Z,341nm,0.9s,baz=120,slow=3.4,SNR=12
JCJ PKPab **PKPab 00 31 11.8 -0.6**
comp=Z,293nm,0.9s,baz=97,slow=1.8,SNR=7.5
MNAI Manna 152.18 161 *e*PKPbc **PKPbc 00 31 04.5 +0.7**
HIA Hailar 152.32 349 *e*PKIKP **PKPdf 00 30 57.0 +0.8**
HIA *e* 00 34 43.8
HIA Hailar 152.32 349 *e*PKPdf **PKPdf 00 30 57.0 +0.8**
HIA *e*PP **PP 00 34 43.8 -1.4**
USRK Ussuriysk Ar. 152.46 327 PKP **PKPdf 00 30 57.5 +1.0**
comp=Z,41nm,1.0s,baz=14,slow=0.6,SNR=78
USRK PKPbc **PKiKP 00 31 04.3 +0.6**
comp=Z,123nm,0.9s,baz=355,slow=1.6,SNR=55
USRK PKPab **PKPab 00 31 13.4 -0.6**
comp=Z,34nm,0.8s,baz=64,slow=4.4,SNR=8.9
JHJ2 Mitsune 152.93 300 *e*PKPbc **PKPbc 00 31 05.0 +0.2**
MJAR Matsushiro Arr 152.98 308 PKP **PKPdf 00 30 57.9 +0.4**
comp=Z,7.6nm,0.8s,baz=228,slow=2.2,SNR=15
MJAR PKPbc **PKiKP 00 31 05.3 +0.3**
comp=Z,121nm,1.0s,baz=94,slow=1.4,SNR=64
MJAR PKPab **PKPab 00 31 16.9 +0.3**
comp=Z,89nm,1.0s,baz=55,slow=1.0,SNR=13
MAJO Matsushiro 152.98 308 *e*PKIKP **PKPdf 00 30 58.7 +1.1**
MAJO *e* 00 31 16.9
MAJO *e* 00 34 49.6
MAJO Matsushiro 152.98 308 *e*PKPdf **PKPdf 00 30 58.7 +1.1**
MAJO *e*PKPbc **PKiKP 00 31 05.3 +0.3**
MAJO *e*PKPab **PKPab 00 31 16.9 +0.3**
MAJO *e*PP **PP 00 34 49.6 -0.7**
MAT Matsushiro 152.98 308 PKP **PKPdf 00 30 57.3 -0.2**
VIS Vishakhapatnam 152.99 95 *e*P **PKPdf 00 30 59.4 +1.3**
MDJ Mudanjiang 153.29 331 PKPbc **PKPdf 00 30 57.2 -0.5**
MDJ PKS **PKSdf 00 34 30.3 -1.6**
MDJ PP **PP 00 34 52.1 +1.0**
MDJ SS SS 00 54 13.1 -3.0
MDJ PPMZ
comp=Z,850nm,14.9s
MDJ LN
comp=Z,650nm,38.7s
MDJ LE
comp=Z,1µm,35.7s
MDJ LZ
comp=Z,1µm,47.6s
MDJ Mudanjiang 153.29 331 *e*PKPdf **PKPdf 00 30 58.4 +0.7**
TNTI Ternate 153.73 218 *e*PKPdf **PKPdf 00 30 59.6 +0.3**
CHLP Challavanipeta 153.85 93 *e*PKPdf **PKPdf 00 30 59.6 +0.4**
CHLP *e*PKPbc **PKiKP 00 31 07.2 0.0**
CHLP *e*PKPab **PKPab 00 31 20.4 -0.4**
CHLP *ep*PKPdf **pPKPdf 00 31 28.6 -0.5**
CHLP *es*PKPdf **sPKPdf 00 31 41.2 +0.8**
CHLP *es*PKiKP **sPKiKP 00 31 51.6 +3.2**
KOLN Koldanda 154.00 72 *e*P **PKPdf 00 30 59.2 -0.3**
comp=Z,139nm,1.0s
DANN Dangsing 154.08 71 *e*P **PKPdf 00 30 59.9 +0.2**
comp=Z,84nm,0.9s
SONA1 Songino Array 154.14 8 *e*PKPdf **PKPdf 00 30 57.9 -1.1**
SONA0 Songino Array 154.15 8 *e*PKPdf **PKPdf 00 30 59.5 +0.5**
SONA0 *e*PKPbc **PKiKP 00 31 08.5 +1.2**
SONA0 *e*PKPab **PKPab 00 31 22.8 +1.5**
SONM Songino Array 154.15 8 PKP **PKPdf 00 30 59.5 +0.5**
comp=Z,62nm,0.8s,baz=295,slow=0.6,SNR=264
SONM PKPbc **PKiKP 00 31 08.5 +1.2**
comp=Z,81nm,1.1s,baz=317,slow=1.1,SNR=24
SONM PKPab **PKPab 00 31 22.8 +1.5**
comp=Z,46nm,0.8s,baz=327,slow=4.9,SNR=11
LUWI Luwuk 154.42 206 *e*PKPdf **PKPdf 00 31 02.0 +1.8**
GKN Gorkha 154.89 71 *e*P **PKPdf 00 31 00.2 -0.5**
comp=Z,280nm,1.2s
GSI Gunungsitoli 155.04 145 *e*PKPdf **PKPdf 00 31 02.8 +1.7**
DMN Daman 155.35 72 *e*P **PKPdf 00 31 01.2 -0.2**
comp=Z,325nm,1.3s
KKN Kakani 155.48 72 *e*P **PKPdf 00 31 01.3 -0.3**
comp=Z,139nm,1.0s
PKIN Phulchoki 155.61 72 *e*P **PKPdf 00 31 01.2 -0.6**
comp=Z,578nm,2.0s
PKI Pulchoki 155.62 72 *e*P **PKPdf 00 31 01.3 -0.6**
comp=Z,682nm,2.0s
CN2 Changchun 155.70 335 PKP **PKPdf 00 31 00.0 -1.1**
CN2 pPKP **PKPab 00 31 26.7 -1.1**
CN2 PP **PP 00 35 02.8 -1.6**
CN2 *es*S SS 00 54 42.1 +0.1
CN2 PPMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,500nm,20.0s
CN2 LE
comp=Z,600nm,20.0s
CN2 LZ
comp=Z,500nm,20.0s
BKNI Bangkinang 155.84 153 *e*PKPdf **PKPdf 00 31 02.3 +0.1**
BKNI *e*PKPab **PKPab 00 31 28.9 -0.3**
GUN Gumba 155.99 71 *e*P **PKPdf 00 31 02.0 -0.4**
comp=Z,586nm,1.3s
BOK Bokaro 156.22 81 *e*P **PKPdf 00 31 03.1 +0.7**
RAMN Ramite 156.74 73 *e*P **PKPdf 00 31 03.2 -0.1**
comp=Z,1µm,1.9s
PSI Prapat 157.01 146 PKP **PKPdf 00 31 03.1 -0.7**
comp=Z,43nm,1.0s,baz=199,slow=1.8,SNR=29
PSI PKPab **PKPab 00 31 34.7 +0.3**
comp=Z,132nm,0.8s,baz=211,slow=2.4,SNR=36
PSI PP **PP 00 35 09.6 -2.6**
comp=Z,9.4nm,0.9s,baz=192,slow=8.2,SNR=4.7
PSI Prapat 157.01 146 *e*PKIKP **PKPdf 00 31 03.1 -0.7**
PSI *e* 00 31 34.7
PSI *e* 00 35 10.0
PSI Prapat 157.01 146 *e*PKPdf **PKPdf 00 31 03.1 -0.7**
PSI *e*PKPdf **PKPdf 00 31 04.4 +0.5**
PSI *e*PKPab **PKPab 00 31 34.7 +0.3**
PSI *e*PP **PP 00 35 09.6 -2.6**
PSI *e*PP PP 00 35 10.0 -2.1
CMBY CAMPBELL BAY 157.12 129 *ex* **PKPab 00 31 36.0 +1.3**
ODAN Odare 157.45 73 *e*P **PKPdf 00 31 04.1 -0.1**
comp=Z,279nm,1.0s
TAPN Taplejung 157.68 72 *e*P **PKPdf 00 31 04.5 0.0**
comp=Z,191nm,1.1s
LHMI Lhok Sumawe 157.85 138 *e*PKPdf **PKPdf 00 31 04.5 -0.3**
LHMI *e*PKPab **PKPab 00 31 39.2 +1.4**
SNY Shenyang 158.10 336 ⇓PKP **PKPdf 00 31 04.7 +0.5**
SNY PPMZ
comp=Z,2µm,7.5s
SNY LN
comp=Z,800nm,25.1s
SNY LE
comp=Z,570nm,27.0s
SNY LZ
comp=Z,1µm,48.6s
MYKOM Kota Tinggi 158.26 158 *e*PKPdf **PKPdf 00 31 06.0 +0.7**
MYKOM *e*PKPab **PKPab 00 31 39.6 +0.1**
MYKOM *e*PP **PP 00 35 20.8 +2.4**
KSSKC Sokcho 158.47 322 P **PKPdf 00 31 07.2 +2.4**
SNR=5.5
SEHB SEOHWA 158.64 322 P **PKPdf 00 31 06.6 +1.6**
SNR=11
SEHB SEOHWA 158.64 322 P **PKPdf 00 31 06.6 +1.6**
SNR=11
KSDGY Daegwallycong 158.78 320 P **PKPab 00 31 42.7 +1.2**
SNR=6.7
KSDGY Daegwallycong 158.78 320 P **PKPab 00 31 42.7 +1.2**
SNR=6.7
KSIJA INJE 158.91 322 P **PKPab 00 31 43.1 +1.2**
SNR=6.2
KSIJA INJE 158.91 322 P **PKPab 00 31 43.1 +1.2**
SNR=6.2
KSJES JEONGSEON 158.96 320 P **PKPab 00 31 43.2 +1.1**
SNR=6.8
KSJES JEONGSEON 158.96 320 P **PKPab 00 31 43.2 +1.1**
SNR=6.8
KSULJ Uljin 158.97 317 P **PKPab 00 31 43.2 +1.0**
SNR=8.0
KSULJ Uljin 158.97 317 P **PKPab 00 31 43.2 +1.0**
SNR=8.0
KSTBA Taebaek 158.98 319 P **PKPab 00 31 43.5 +1.2**
SNR=5.7
KSTBA Taebaek 158.98 319 P **PKPab 00 31 43.5 +1.2**
SNR=5.7
PBA Port Blair 159.05 117 *e*P PKPdf 00 31 05.5 -0.6
KSCWO Cheorwon 159.18 323 P **PKPdf 00 31 06.7 +1.1**
SNR=7.0
KSCWO Cheorwon 159.18 323 P **PKPdf 00 31 06.7 +1.1**
SNR=7.0
KSCHC Chuncheon 159.22 322 P **PKPab 00 31 44.8 +1.5**
SNR=13
KSM Kuching 159.28 176 *ep*PKPdf **pPKPdf 00 31 38.1 +1.7**
KSM *ep*PP **PP 00 35 23.2 -0.4**
KSRS Korea Array 159.38 321 PKP **PKPdf 00 31 05.9 +0.1**
comp=Z,74nm,1.0s,baz=64,slow=0.9,SNR=154
KSRS PKPab **PKPab 00 31 44.2 +0.3**
comp=Z,42nm,0.9s,baz=62,slow=4.2,SNR=20
KSRS Korea Array 159.38 321 PKIKP **PKPdf 00 31 05.9 +0.1**
KSRS 00 31 44.2
KSRS pmax pmax
comp=Z,74nm,1.0s
KSRS pmax pmax
comp=Z,42nm,0.9s
KS01 Wonju Array Si 159.38 321 *e*PKPdf **PKPdf 00 31 05.4 -0.5**
KS01 *e*PP **PP 00 35 28.0 +2.9**
KS15 Wonju Array Si 159.41 321 *e*PKPdf **PKPdf 00 31 05.9 0.0**
KS15 *e*PKPab **PKPab 00 31 44.2 +0.1**
KSAR Wonju Array Be 159.41 321 PKIKP **PKPdf 00 31 05.9 0.0**
KSAR Wonju Array Be 159.41 321 PKP **PKPdf 00 31 05.9 0.0**
IPM Ipoh 159.51 148 *e*PKPdf **PKPdf 00 31 07.3 +0.6**
YNCB YEONCHEON 159.54 324 P **PKPdf 00 31 07.0 +1.0**
SNR=13
YNCB YEONCHEON 159.54 324 P **PKPdf 00 31 07.0 +1.0**
SNR=13
KSDDC Dongducheon 159.57 323 P **PKPab 00 31 45.9 +1.1**
SNR=6.3
KSDDC Dongducheon 159.57 323 P **PKPab 00 31 45.9 +1.1**
SNR=6.3
KSCHJ Chungju 159.74 319 P **PKPab 00 31 46.3 +0.8**
SNR=6.5
KSMUS Musan 159.74 324 P **PKPdf 00 31 07.4 +1.2**
SNR=7.9
KSMUS Musan 159.74 324 P **PKPdf 00 31 07.4 +1.2**
SNR=7.9
KSMUS Musan 159.74 324 P **PKPab 00 31 46.6 +1.2**
SNR=7.3
KSICN Icheon 159.79 321 P **PKPab 00 31 47.1 +1.3**
SNR=6.6
KSICN Icheon 159.79 321 P **PKPab 00 31 47.1 +1.3**
SNR=6.6
JNU Nakatsue 159.90 307 PKPab **PKPab 00 31 46.2 -0.2**
comp=Z,38nm,1.0s,baz=86,slow=3.5,SNR=4.6
KSSEO Seoul 159.94 322 P **PKPab 00 31 47.1 +0.8**
SNR=11
KSSEO Seoul 159.94 322 P **PKPab 00 31 47.1 +0.8**
SNR=11
DGPR DIGLIPUR 159.99 114 *e*P **PKPdf 00 31 06.1 -1.0**
KULM Kulim 160.02 146 *e*PKPdf **PKPdf 00 31 08.2 +0.9**
KULM *e*PKPab **PKPab 00 31 47.2 0.0**
KULM *e*PP **PP 00 35 26.5 -1.9**
KSBUS Busan 160.03 314 P **PKPab 00 31 48.1 +1.2**
SNR=8.1
KSGAH Ganghwa 160.04 324 P **PKPdf 00 31 07.2 +0.7**
SNR=13
KSGAH Ganghwa 160.04 324 P **PKPdf 00 31 07.2 +0.7**
SNR=13
KSGAH Ganghwa 160.04 324 P **PKPab 00 31 47.2 +0.4**
SNR=8.4
KSSWO Suwon 160.06 322 P **PKPab 00 31 48.3 +1.4**
SNR=6.6
INCN Inchon 160.10 323 PKPdf **PKPdf 00 31 07.7 +1.0**
SNR=6.7
INCN Inchon 160.10 323 *e*PKPdf **PKPdf 00 31 07.5 +0.8**
INCN *e*PKPab **PKPab 00 31 47.9 +0.8**
LSA Lhasa 160.13 64 *e*PKIKP **PKPdf 00 31 08.4 +0.8**
LSA Lhasa 160.13 64 *e*PKPdf **PKPdf 00 31 08.4 +0.8**
GTA Gaotai 160.15 28 ⇓PKP **PKPdf 00 31 07.5 +0.7**
GTA PKPab **PKPab 00 31 47.9 +0.5**
GTA PP **PP 00 35 29.7 +0.6**
GTA SKS **SKSdf 00 38 01.4 -0.9**
GTA SKKS **SKKSac 00 42 08.4 +0.2**
GTA SS **SS 00 55 26.2 -3.6**
GTA PPMZ
comp=Z,500nm,7.6s
GTA LN
comp=Z,620nm,27.1s
GTA LE
comp=Z,710nm,26.1s
GTA LZ
comp=Z,1µm,28.0s
KSCEA Cheonan 160.20 321 P **PKPab 00 31 48.8 +1.3**
SNR=8.2
SBUM Sibu 160.28 182 *e*PKPdf **PKPdf 00 31 08.4 +0.8**
SBUM *e*PKPab **PKPab 00 31 48.4 +0.1**
SBUM *e*PP **PP 00 35 26.2 -2.9**
KSKOJ Gongju 160.51 320 P **PKPab 00 31 50.6 +1.7**
SNR=7.6
KSSES Seosan 160.69 322 P **PKPab 00 31 51.1 +1.5**
SNR=7.6
KSBAR Backryungdo 160.75 327 P **PKPdf 00 31 08.3 +0.9**
SNR=16
KSBAR Backryungdo 160.75 327 P **PKPdf 00 31 08.3 +0.9**
SNR=16
KSJIN Jinju 160.79 315 P **PKPab 00 31 51.0 +0.8**
SNR=6.5
TSM Tawau 161.14 199 ⇑P **PKPdf 00 31 10.3 +1.8**
KSJEU Jeongeup 161.28 318 P **PKPdf 00 31 08.6 +0.6**
SNR=14
KSJEU Jeongeup 161.28 318 P **PKPab 00 31 53.0 +0.7**
SNR=5.8
KSKWJ Gwangju 161.46 317 P **PKPab 00 31 53.8 +0.7**
SNR=8.9
HHC Hu-ho-hao-te 161.49 0 ⇓PKP **PKPdf 00 31 09.0 +0.8**
HHC pPKP **pPKPdf 00 31 39.4 +1.2**
HHC sPKP 00 31 53.0
HHC PP **PP 00 35 36.0 +0.3**
HHC SKKS 00 42 16.2
HHC SS **SS 00 55 45.3 +2.5**
HHC PPMZ
comp=Z,800nm,7.5s
HHC LN
comp=Z,740nm,18.7s
HHC LE
comp=Z,910nm,18.7s
HHC LZ
comp=Z,1µm,18.7s
SHL Shillong 161.61 76 *i*P **PKPdf 00 31 08.0 -0.9**
SHL *i*x x 00 31 56.0
SHL Shillong 161.61 76 *e*P **PP 00 35 42.0 +3.4**
SHL *es*S **SKKSac 00 42 15.0 -1.8**
BTO Baotou 161.67 4 *e*PKP **PKPdf 00 31 08.4 0.0**
MYLDM Lahad Datu 161.77 202 *e*PKPdf **PKPdf 00 31 11.4 +2.2**
BJI Beijing 161.89 349 PKP **PKPdf 00 31 08.8 +0.3**
BJI PP **PP 00 35 42.5 +4.7**
BJI SS SS 00 55 45.1 -1.8
BJI LN
comp=Z,570nm,27.8s
BJI LE
comp=Z,750nm,23.0s
BJI LZ
comp=Z,1µm,41.0s
BJT Baijiatuan 161.91 349 *e*PKIKP **PKPdf 00 31 08.2 -0.3**
BJT Baijiatuan 161.91 349 *e*PKPdf **PKPdf 00 31 08.2 -0.3**
KSJDO Jindo 162.32 317 P **PKPdf 00 31 10.4 +1.2**
SNR=8.9
KSJDO Jindo 162.32 317 P **PKPdf 00 31 10.4 +1.2**
SNR=8.9
TIY Taiyuan 164.60 358 *e*PKP **PKPdf 00 31 11.9 +0.6**
TIY PKPab **PKPab 00 32 08.8 +2.0**
TIY PP PP 00 35 57.4 +5.3
TIY SS SS 00 56 18.1 +3.1
TIY PPMZ
comp=Z,2µm,6.0s
LZH Lanzhou 164.64 25 ⇓PKP **PKPdf 00 31 12.8 +1.3**
LZH pPKP **pPKPdf 00 31 39.6 -1.9**
LZH sPKP 00 31 49.0
LZH PKPab **PKPab 00 32 09.3 +2.1**
LZH PP **PP 00 35 56.1 +3.3**
LZH SKKS 00 42 32.1
LZH SS **SS 00 56 18.5 +2.2**
LZH PPMZ
comp=Z,720nm,8.4s
LZH LN
comp=Z,730nm,18.4s
LZH LZ
comp=Z,2µm,20.3s
TIA Tai'an 165.33 342 PKP **PKPdf 00 31 12.2 +0.4**
TIA PP **PP 00 35 55.1 -0.9**
TIA SS SS 00 56 25.9 +3.3
TIA PPMZ
comp=Z,2µm,5.3s
TIA LN
comp=Z,770nm,20.5s
TIA LE
comp=Z,860nm,22.7s
TIA LZ
comp=Z,2µm,25.7s
MHMT Maesarieng 166.46 105 P **PP 00 36 06.4 +2.6**
comp=Z,53nm,0.7s
UTHA Uthaitani 166.63 118 P **PP 00 36 05.6 +1.3**
comp=Z,16nm,1.1s
CM31 Chiang Mai Arr 167.46 105 *e*PKPdf **PKPdf 00 31 13.9 0.0**
CM31 *e*PKPab **PKPab 00 32 20.2 +0.1**
CM31 *e*PP **PP 00 36 09.1 +0.1**
CMAR Chiang Mai Arr 167.46 105 PKP **PKPdf 00 31 13.9 0.0**
comp=Z,35nm,0.9s,baz=273,slow=2.0,SNR=143
CMAR PKPab **PKPab 00 32 20.2 +0.1**
comp=Z,36nm,0.8s,baz=252,slow=5.5,SNR=31
CMAR PP **PP 00 36 09.1 +0.2**
comp=Z,49nm,1.3s,baz=249,slow=5.8,SNR=13
CMAR Chiang Mai Arr 167.46 105 PKIKP **PKPdf 00 31 14.0 0.0**
CM01 Chiang Mai Arr 167.46 106 *e*PKPdf **PKPdf 00 31 13.3 -0.7**
CM01 *e*PP **PP 00 36 09.1 +0.1**
CHTO Chiang Mai 167.58 104 *e*PKIKP **PKPdf 00 31 13.9 -0.2**
CHTO *e* 00 32 21.4
CHTO *e* 00 36 10.7
CHTO Chiang Mai 167.58 104 PKPdf **PKPdf 00 31 14.1 +0.1**
SNR=38
CHTO Chiang Mai 167.58 104 *e*PKPdf **PKPdf 00 31 13.9 -0.2**
CHTO *e*PKPab **PKPab 00 32 21.4 +0.8**
CHTO *e*PP **PP 00 36 10.7 +1.2**
SSE Sheshan 167.79 318 ⇓PKP **PKPdf 00 31 14.2 +0.4**
CMAI Chiengmai2 167.97 99 P **PP 00 36 15.8 +3.9**
comp=Z,59nm,1.4s
XAN Xi'an 168.03 11 PKP **PKPdf 00 31 14.3 +0.3**
XAN pPKP **pPKPdf 00 31 40.3 -3.7**
XAN sPKP 00 31 51.5
XAN PKPab **PKPab 00 32 21.4 -0.6**
XAN PKS **PKSdf 00 34 45.2 -1.5**
XAN PP **PP 00 36 10.0 +0.1**
XAN SKS **SKSdf 00 38 06.8 -1.2**
XAN SKKS **SKKSac 00 42 46.2 -1.7**
XAN SS **SS 00 56 45.3 -4.5**
XAN PPMZ
comp=Z,1µm,15.3s
XAN LN
comp=Z,600nm,25.4s
XAN LE
comp=Z,710nm,23.7s
XAN LZ
comp=Z,1µm,24.6s
LAMP Lampang 168.10 106 P **PP 00 36 14.6 +2.4**
comp=Z,14nm,1.5s
NJ2 Nanjing 168.37 328 *e*PKP **PKPdf 00 31 15.6 +1.4**
NJ2 PKPab **PKPab 00 32 23.9 +0.4**
NJ2 PP **PP 00 36 13.0 +1.0**
NJ2 PPMZ
comp=Z,3µm,11.4s
NJ2 LN
comp=Z,4µm,29.9s
NJ2 LE
comp=Z,1µm,27.5s
NJ2 LZ
comp=Z,1µm,26.7s
PBKT Sadao Pong 168.41 117 P **PP 00 36 15.9 +2.5**
comp=Z,113nm,0.7s
UTTA Uttaradit 168.61 111 P **PP 00 36 16.4 +1.8**
comp=Z,12nm,1.8s
CD2 Chengdu 168.86 38 PKP **PKPdf 00 31 14.7 0.0**
CD2 pPKP **pPKPdf 00 31 40.2 -4.5**
CD2 sPKP 00 31 50.0
CD2 PP **PP 00 36 15.4 +0.6**
CD2 SKKS 00 42 53.3
CD2 SS **SS 00 57 02.0 +2.5**
CD2 PPMZ
comp=Z,2µm,12.0s
CD2 LN
comp=Z,930nm,24.0s
CD2 LZ
comp=Z,2µm,45.1s
DLV T Lat 169.28 163 *e*PKPdf **PKPdf 00 31 16.1 +0.6**
DLV *e*PKPab **PKPab 00 32 29.7 +1.7**
SZP Santa 170.50 242 *e*PKPdf **PKPdf 00 31 18.2 +2.3**
UBPT Khong Chiam 170.89 139 P PP 00 36 32.2 +7.2
SKNT Sakolnakorn 171.03 125 P **PP 00 36 27.7 +1.4**
comp=Z,107nm,2.2s
TWG Pinlang 171.31 275 *e*PKPdf **PKPdf 00 31 16.6 +0.4**
KMI Kunming 171.33 69 PKP **PKPdf 00 31 16.7 +0.3**
KMI pPKP **pPKPdf 00 31 46.0 -0.5**
SSLB Suanglung 171.33 282 *e*PKPdf **PKPdf 00 31 16.5 +0.3**
WHN Wuhan 171.43 344 *i*PKP **PKPdf 00 31 16.2 +0.2**
WHN pPKP **pPKPdf 00 31 46.4 +0.4**
WHN PKPab **PKPab 00 32 37.1 +0.1**
WHN PP **PP 00 36 23.7 -3.2**
WHN LN
comp=Z,3µm,20.4s
WHN LE
comp=Z,1µm,18.1s
WHN LZ
comp=Z,2µm,19.6s
ENH Enshi 171.80 13 *e*PKPdf **PKPdf 00 31 16.7 +0.5**
SLVN Son La 172.71 96 *e*PKPdf **PKPdf 00 31 18.6 +1.6**
QZH Quanzhou 173.13 294 *i*PKP **PKPdf 00 31 18.3 +1.4**
QZH pPKP **pPKPdf 00 31 48.3 +1.3**
QZH PKPab **PKPab 00 32 46.0 +1.0**
QZH PP **PP 00 36 35.6 -1.4**
QZH SKKS 00 43 12.1
QZH PPMZ
comp=Z,4µm,4.8s
QZH LN
comp=Z,2µm,19.2s
QZH LE
comp=Z,4µm,15.8s
QZH LZ
comp=Z,3µm,17.6s
GYA Guiyang 173.81 47 *i*PKP **PKPdf 00 31 18.2 +0.9**
GYA pPKP **pPKPdf 00 31 42.0 -5.4**
GYA PKPab **PKPab 00 32 48.6 +0.5**
GYA PKS **PKSdf 00 34 47.2 -2.6**
GYA PP **PP 00 36 41.8 +1.9**
GYA SKKS 00 43 17.6
GYA SS **SS 00 57 47.9 -1.0**
GYA PPMZ
comp=Z,190nm,8.0s
GYA LN
comp=Z,1µm,17.0s
GYA LE
comp=Z,920nm,17.4s
GYA LZ
comp=Z,1µm,17.6s
QIZ Qiongzhong 176.34 152 PKP **PKPdf 00 31 18.7 +0.6**
QIZ PKPab **PKPab 00 32 56.8 -2.3**
QIZ PP **PP 00 36 49.6 -1.4**
QIZ SS SS 00 58 13.6 +2.2
QIZ PPMZ
comp=Z,2µm,17.0s
QIZ LZ
comp=Z,1µm,34.8s
QIZ Qiongzhong 176.34 152 *e*PKPdf **PKPdf 00 31 19.9 +1.8**
QIZ *e*PKPab **PKPab 00 32 59.6 +0.5**

HKC	**Hong Kong Obse**	**177.69**	**271**	∥PKPdf	**PKPdf**	**00 31 21.0**	**+2.8**
GZH	**Guangzhou**	**178.27**	**298**	*e*PKP	**PKPdf**	**00 31 18.7**	**+0.5**
GZH				pPKP	**pPKPdf**	**00 31 50.4**	**+2.1**
GZH				PKPab		00 33 01.3	
GZH				SKKS		00 43 38.4	
GZH				LN			
	comp=Z,1μm,21.6s						
GZH				LE			
	comp=Z,1μm,22.9s						

MOS ***12*** *00:11:41.5±1.8, 49.°63N×157.°11E, h15km, mb4.2/1, Error ellipse: s-maj=42.8km s-min=8.2km az=84.1*

KRSC 12 00:11:41.5±2.2, 49.°64N×157.°11E, h15km±7km, ML4.1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.23**	**329**	*e*P	Pn	00 12 02.7	-1.4
SKR				eS	Sb	00 12 17.7	-2.4
SKR	**Severo-Kuril's**	**1.23**	**329**	*e*PN	Pn	00 11 51.0	-13
SKR				pmax	pmax		
	comp=Z,80nm,0.2s						
PAU	**Pauzhetka**	**1.84**	**354**	*e*P	Pb	00 12 14.1	-0.8
PAU				eS	Sb	00 12 37.7	-0.1
PAU	**Pauzhetka**	**1.84**	**354**	PN	Pb	00 12 14.1	-0.8
PAU				S	Sb	00 12 37.7	-0.1
MIPR	**Malaya Ipel'ka**	**2.65**	**355**	*e*P	Pn	00 12 25.0	+1.3
ASAK	**Asacha**	**2.80**	**10**	*e*P	Pb	00 12 29.1	-2.2
MTVR	**Mutnovka**	**2.93**	**13**	*e*P	Pb	00 12 30.8	-2.8
MTVR				eS	Sb	00 13 07.0	-2.4
RUS	**Russkaya**	**2.94**	**17**	*e*P	Pn	00 12 30.4	+2.8
RUS	**Russkaya**	**2.94**	**17**	PN	Pn	00 12 30.4	+2.8
APC	**Apacha**	**3.29**	**0**	*e*P	Pn	00 12 35.5	+3.0
APC	**Apacha**	**3.29**	**0**	PN	Pn	00 12 35.5	+3.0
UGLR	**Uglovaya**	**3.74**	**16**	*e*P	Pn	00 12 42.0	+3.3
AVH	**Avacha**	**3.77**	**15**	*e*P	Pb	00 12 44.2	-3.7
AVH	**Avacha**	**3.77**	**15**	PN	Pb	00 12 44.2	-3.7
KOK	**Koryaka**	**3.78**	**14**	*e*P	Pb	00 12 43.9	-4.2
KOK	**Koryaka**	**3.78**	**14**	PN	Pb	00 12 43.9	-4.2
SDLR	**Sedlovina**	**3.81**	**16**	*e*P	Pn	00 12 42.2	+2.4
SDLR	**Sedlovina**	**3.81**	**16**	PN	Pn	00 12 42.2	+2.4
KRER	**Koryakskii**	**3.81**	**15**	*e*P	Pn	00 12 43.8	+3.9
KRX	**Arik**	**3.85**	**14**	*e*P	Pn	00 12 44.2	+3.8
SPN	**Mys Shipunski**	**3.92**	**27**	*e*P	Pn	00 12 44.6	+3.5
SPN				eS	Sn	00 13 31.0	+4.3
SPN	**Mys Shipunski**	**3.92**	**27**	PN	Pn	00 12 44.6	+3.5
SPN				S	Sn	00 13 31.0	+4.3
GNL	**Ganaly**	**4.10**	**7**	*e*P	Pn	00 12 47.1	+3.4
GNL	**Ganaly**	**4.10**	**7**	PN	Pn	00 12 47.1	+3.4
MKZ	**Mys Kozlova**	**5.69**	**28**	*e*P	Pn	00 13 08.1	+2.7
MKZ	**Mys Kozlova**	**5.69**	**28**	PN	Pn	00 13 08.1	+2.7
KZV	**Kizimen**	**5.82**	**18**	*e*P	Pn	00 13 12.8	+5.4
TUMR	**Tumrok**	**5.95**	**17**	*e*P	Pn	00 13 13.6	+4.4
TUMR	**Tumrok**	**5.95**	**17**	PN	Pn	00 13 13.6	+4.4

IDC ***12*** *00:16:24.7±1.6, 38.°55N×22.°14E, h0km, mb3.1/2, mb1 3.1/4, mb1mx3.0/28, mbtmp3.0/4, ML3.1/2, Error ellipse: s-maj=28.6km s-min=18.5km az=90.0*
SKO ***12*** *00:16:24.9, 38.°76N×21.°97E, h0km, M2.1, ML2.6*
CSEM ***12*** *00:16:25.9±0.1, 38.°84N×21.°74E, h2km, MD2.8, Error ellipse: s-maj=2.3km s-min=1.8km az=73.0*
BEO ***12*** *00:16:26.5±1.1, 38.°84N×21.°86E, h0km, ML2.8/3*
ATH ***12*** *00:16:26.0, 38.°88N×21.°77E, h19km±1km, MD2.8/26, ML2.9*
THE ***12*** *00:16:26.1, 38.°85N×21.°73E, h1km±1km, ML3.2/8, Error ellipse: s-maj=1.6km s-min=0.4km az=235.0*
ISCJB ***12*** *00:16:26.0±0.4, 38.°84N±0.°01×21.°72E±0.°02, h13km±3km, mb3.2/2, Error ellipse: s-maj=2.8km s-min=2.2km az=172.3*

ISC 12 00:16:26.4±0.8, 38.°85N±0.°01×21.°77E±0.°02, h12km±5km, n172, σ0.99/222, 3C-4D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.07**	**28**	*e*PB	**Pg**	**00 16 28.7**	**-0.4**
EVR				*e*SB	**Sg**	**00 16 31.5**	**+0.5**
EVR	**Evrytania**	**0.07**	**28**	P	**Pg**	**00 16 28.5**	**-0.6**
EVR	**Evrytania**	**0.07**	**28**	P	**Pg**	**00 16 28.5**	**-0.6**
PVO	**Paravola**	**0.30**	**219**	P	**Pg**	**00 16 31.8**	**-0.8**
PVO	**Paravola**	**0.30**	**219**	P	**Pg**	**00 16 31.8**	**-0.8**
MAKR	**Makrakomi, Fth**	**0.33**	**61**	*e*PB	**Pb**	**00 16 33.2**	**-1.1**
MAKR				*e*SB	**Sg**	**00 16 37.7**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.33**	**61**	P	**Pb**	**00 16 33.2**	**-1.1**
MAKR				*e*Sb	**Sg**	**00 16 37.7**	**+0.2**
MAKR				S	**Sb**	**00 16 38.1**	**-1.4**
MAKR	**Makrakomi, Fth**	**0.33**	**61**	P	**Pb**	**00 16 33.2**	**-1.1**
MAKR				S	**Sb**	**00 16 38.1**	**-1.4**
EFP	**Efpalio**	**0.44**	**166**	*e*PB	**Pg**	**00 16 34.5**	**-0.6**
EFP				*e*SB	**Sb**	**00 16 42.5**	**-0.2**
EFP	**Efpalio**	**0.44**	**166**	P	**Pg**	**00 16 34.5**	**-0.6**
EFP				S	**Sg**	**00 16 41.0**	**+0.1**
EFP				*e*Sb	**Sb**	**00 16 42.5**	**-0.2**
EFP	**Efpalio**	**0.44**	**166**	P	**Pg**	**00 16 34.5**	**-0.6**
EFP				S	**Sg**	**00 16 41.0**	**+0.1**
SERG	**Sergoula**	**0.49**	**153**	P	**Pg**	**00 16 35.5**	**-0.6**
SERG	**Sergoula**	**0.49**	**153**	P	**Pg**	**00 16 35.5**	**-0.6**
PDO	**Prodromos**	**0.52**	**241**	*e*PN	**Pg**	**00 16 35.9**	**-0.7**
PDO				*e*SN	**Sb**	**00 16 45.2**	**+0.1**
PDO	**Prodromos**	**0.52**	**241**	P	**Pg**	**00 16 35.4**	**-1.2**
PDO	**Prodromos**	**0.52**	**241**	*e*Pn	**Pg**	**00 16 35.9**	**-0.7**
PDO				S	**Sg**	**00 16 42.6**	**-1.0**
PDO	**Prodromos**	**0.52**	**241**	P	**Pg**	**00 16 35.4**	**-1.2**
PDO				S	**Sg**	**00 16 42.6**	**-1.0**
TRIZ	**Trizonia**	**0.54**	**154**	*e*PN	**Pg**	**00 16 36.2**	**-0.8**
TRIZ				*e*SN	**Sb**	**00 16 45.7**	**0.0**
TRIZ	**Trizonia**	**0.54**	**154**	P	**Pg**	**00 16 36.2**	**-0.8**
TRIZ				*e*Sn	**Sb**	**00 16 45.7**	**0.0**
TRIZ	**Trizonia**	**0.54**	**154**	P	**Pg**	**00 16 36.2**	**-0.8**
KALE	**Kalithea**	**0.55**	**148**	*e*PN	**Pg**	**00 16 36.4**	**-0.7**
KALE				*e*SN	**Sb**	**00 16 45.9**	**0.0**
KALE	**Kalithea**	**0.55**	**148**	*e*Pn	**Pg**	**00 16 36.4**	**-0.7**
KALE				S	**Sb**	**00 16 44.7**	**-1.2**
KALE				*e*Sn	**Sb**	**00 16 45.9**	**0.0**
KALE	**Kalithea**	**0.55**	**148**	P	**Pg**	**00 16 36.3**	**-0.8**
KALE				S	**Sb**	**00 16 44.7**	**-1.2**
DSL	**Palaion Diasel**	**0.59**	**298**	*e*PN	**Pg**	**00 16 36.8**	**-1.2**
DSL				*e*SN	**Sg**	**00 16 46.5**	**+0.7**
DSL	**Palaion Diasel**	**0.59**	**298**	P	**Pg**	**00 16 36.8**	**-1.2**
DSL				*e*Sn	**Sg**	**00 16 46.5**	**+0.7**
DSL	**Palaion Diasel**	**0.59**	**298**	P	**Pg**	**00 16 36.8**	**-1.2**
LAKA	**Lakka**	**0.63**	**165**	*e*PB	**Pg**	**00 16 38.0**	**-0.8**
LAKA				*e*SN	**Sb**	**00 16 48.8**	**+0.4**
LAKA	**Lakka**	**0.63**	**165**	*e*Pb	**Pg**	**00 16 38.0**	**-0.8**
LAKA				*e*Sn	**Sb**	**00 16 48.8**	**+0.4**
LAKA	**Lakka**	**0.63**	**165**	P	**Pg**	**00 16 37.8**	**-1.0**
AXAR	**Agios Charalam**	**0.70**	**97**	*e*PN	**Pb**	**00 16 40.2**	**-0.5**
AXAR				*e*SN	**Sb**	**00 16 49.6**	**-0.7**
AXAR	**Agios Charalam**	**0.70**	**97**	P	**Pg**	**00 16 39.4**	**-0.7**
AXAR	**Agios Charalam**	**0.70**	**97**	*e*Pn	**Pb**	**00 16 40.2**	**-0.5**
AXAR				*e*Sn	**Sb**	**00 16 49.6**	**-0.7**
AXAR				S	**Sb**	**00 16 50.7**	**+0.4**
AXAR	**Agios Charalam**	**0.70**	**97**	P	**Pg**	**00 16 39.4**	**-0.7**
AXAR				S	**Sb**	**00 16 50.7**	**+0.4**
THL	**Klokotos Trika**	**0.74**	**15**	P	**Pg**	**00 16 39.8**	**-0.9**
THL				S	**Sb**	**00 16 51.3**	**0.0**
THL	**Klokotos Trika**	**0.74**	**15**	P	**Pg**	**00 16 39.8**	**-0.9**
THL				S	**Sb**	**00 16 51.3**	**0.0**
DSF	**Desfina**	**0.74**	**126**	*e*PB	**Pg**	**00 16 39.7**	**-1.1**
DSF				*e*SN	**Sb**	**00 16 51.5**	**0.0**
DSF	**Desfina**	**0.74**	**126**	*e*Pb	**Pg**	**00 16 39.7**	**-1.1**
DSF				*e*Sn	**Sb**	**00 16 51.5**	**0.0**
RLS	**Riolos of Patr**	**0.83**	**197**	P	**Pg**	**00 16 42.0**	**-0.4**
RLS	**Riolos of Patr**	**0.83**	**197**	P	**Pg**	**00 16 42.0**	**-0.4**
KLV	**Kalavryta, Ach**	**0.86**	**159**	*e*PB	**Pg**	**00 16 42.5**	**-0.6**
KLV				*e*SN	**Sb**	**00 16 56.0**	**+1.0**
KLV	**Kalavryta, Ach**	**0.86**	**159**	P	**Pg**	**00 16 41.8**	**-1.3**
KLV	**Kalavryta, Ach**	**0.86**	**159**	*e*Pb	**Pg**	**00 16 42.5**	**-0.6**
KLV				*e*Sn	**Sb**	**00 16 56.0**	**+1.0**
KLV	**Kalavryta, Ach**	**0.86**	**159**	P	**Pg**	**00 16 41.8**	**-1.3**
DRO	**Drossia**	**0.90**	**183**	*e*PB	**Pg**	**00 16 42.9**	**-0.9**
DRO				*e*SN	**Sb**	**00 16 57.2**	**+1.2**
DRO	**Drossia**	**0.90**	**183**	P	**Pg**	**00 16 43.1**	**-0.7**
DRO				S	**Sb**	**00 16 56.1**	**+0.1**
DRO				*e*Sn	**Sb**	**00 16 57.2**	**+1.2**
DRO	**Drossia**	**0.90**	**183**	P	**Pg**	**00 16 43.1**	**-0.7**
DRO				S	**Sb**	**00 16 56.1**	**+0.1**
EXG	**Exogi**	**0.97**	**247**	P	**Pg**	**00 16 43.9**	**-1.2**
EXG	**Exogi**	**0.97**	**247**	P	**Pg**	**00 16 43.9**	**-1.2**
LKR	**Lokris**	**0.98**	**101**	P	**Pb**	**00 16 45.0**	**-0.5**
LKR				S	**Sn**	**00 17 00.0**	**0.0**
LKR	**Lokris**	**0.98**	**101**	P	**Pb**	**00 16 45.0**	**-0.5**
LKR				S	**Sn**	**00 17 00.0**	**0.0**
ATAL	**Atalanti**	**0.99**	**99**	P	**Pb**	**00 16 45.1**	**-0.5**
ATAL	**Atalanti**	**0.99**	**99**	P	**Pb**	**00 16 45.1**	**-0.5**
GUR	**Goura**	**1.02**	**154**	*e*PB	**Pg**	**00 16 45.0**	**-1.1**
GUR				*e*SN	**Sn**	**00 17 00.9**	**-0.2**
GUR	**Goura**	**1.02**	**154**	P	**Pg**	**00 16 44.6**	**-1.5**
GUR	**Goura**	**1.02**	**154**	*e*Pb	**Pg**	**00 16 45.0**	**-1.1**
GUR				*e*Sn	**Sn**	**00 17 00.9**	**-0.2**
GUR	**Goura**	**1.02**	**154**	P	**Pg**	**00 16 44.6**	**-1.5**
FYTO	**Fytoko, Volos**	**1.07**	**58**	P	**Pn**	**00 16 47.2**	**-0.1**
FYTO	**Fytoko, Volos**	**1.07**	**58**	P	**Pn**	**00 16 47.2**	**-0.1**
KFL	**Anninata**	**1.07**	**226**	P	**Pg**	**00 16 45.3**	**-1.7**
KFL	**Anninata**	**1.07**	**226**	P	**Pg**	**00 16 45.3**	**-1.7**
JAN	**Janina**	**1.07**	**319**	*e*PN	**Pg**	**00 16 45.8**	**-1.3**
JAN	**Janina**	**1.07**	**319**	*e*Pn	**Pg**	**00 16 45.8**	**-1.3**
JAN	**Janina**	**1.07**	**319**	P	**Pg**	**00 16 46.3**	**-0.8**
JAN	**Janina**	**1.07**	**319**	P	**Pg**	**00 16 46.3**	**-0.8**
THAL	**Thalero**	**1.08**	**139**	P	**Pb**	**00 16 46.6**	**-0.4**
THAL	**Thalero**	**1.08**	**139**	P	**Pb**	**00 16 46.6**	**-0.4**
SMIA	**Simia**	**1.13**	**88**	P	**Pb**	**00 16 47.8**	**-0.1**
SMIA	**Simia**	**1.13**	**88**	P	**Pb**	**00 16 47.8**	**-0.1**
VLS	**Valsamata**	**1.14**	**234**	P	**Pg**	**00 16 46.4**	**-2.0**
VLS	**Valsamata**	**1.14**	**234**	P	**Pg**	**00 16 46.4**	**-2.0**
NEO	**Neokhori**	**1.22**	**68**	P	**Pn**	**00 16 49.5**	**+0.1**
NEO	**Neokhori**	**1.22**	**68**	P	**Pn**	**00 16 49.5**	**+0.1**
XOR	**Xorichti**	**1.22**	**65**	*e*PN	**Pn**	**00 16 49.4**	**0.0**
XOR				*e*SN	**Sn**	**00 17 06.2**	**+0.3**
XOR	**Xorichti**	**1.22**	**65**	P	**Pn**	**00 16 49.4**	**0.0**
XOR				*e*Sn	**Sn**	**00 17 06.2**	**+0.3**
XOR	**Xorichti**	**1.22**	**65**	P	**Pn**	**00 16 49.5**	**0.0**
LTK	**Loutraki**	**1.25**	**131**	*e*PN	**Pn**	**00 16 50.2**	**+0.3**
LTK	**Loutraki**	**1.25**	**131**	P	**Pn**	**00 16 50.1**	**+0.2**
LTK	**Loutraki**	**1.25**	**131**	P	**Pn**	**00 16 50.1**	**+0.2**
LOUT	**Loutraki**	**1.28**	**132**	*e*PN	**Pn**	**00 16 50.7**	**+0.5**
LOUT	**Loutraki**	**1.28**	**132**	*e*Pn	**Pn**	**00 16 50.7**	**+0.5**
ACOR	**Acrocorinthos**	**1.29**	**138**	P	**Pn**	**00 16 51.2**	**+0.8**
IGT	**Igoumenitsa**	**1.30**	**302**	*e*PN	**Pn**	**00 16 50.5**	**0.0**
IGT	**Igoumenitsa**	**1.30**	**302**	P	**Pn**	**00 16 50.2**	**-0.3**
IGT	**Igoumenitsa**	**1.30**	**302**	*e*Pn	**Pn**	**00 16 50.5**	**0.0**
IGT	**Igoumenitsa**	**1.30**	**302**	P	**Pn**	**00 16 50.2**	**-0.3**
AMT	**Artemida-Makis**	**1.32**	**182**	*e*PN	**Pb**	**00 16 51.9**	**+0.7**
AMT	**Artemida-Makis**	**1.32**	**182**	P	**Pn**	**00 16 50.6**	**-0.2**
AMT	**Artemida-Makis**	**1.32**	**182**	*e*Pn	**Pb**	**00 16 51.9**	**+0.7**
AMT	**Artemida-Makis**	**1.32**	**182**	P	**Pn**	**00 16 50.6**	**-0.2**
VIL2	**Platees**	**1.34**	**118**	*e*PN	**Pb**	**00 16 53.0**	**+1.5**
LIT	**Litokhoron**	**1.37**	**24**	*e*PN	**Pn**	**00 16 51.0**	**-0.4**
LIT	**Litokhoron**	**1.37**	**24**	*e*Pn	**Pn**	**00 16 51.0**	**-0.4**
LIT	**Litokhoron**	**1.37**	**24**	P	**Pn**	**00 16 51.3**	**-0.1**
LIT				S	**Sn**	**00 17 11.5**	**+2.0**
LIT	**Litokhoron**	**1.37**	**24**	P	**Pn**	**00 16 51.3**	**-0.1**
LIT				S	**Sn**	**00 17 11.5**	**+2.0**
ZKS	**Zakynthos**	**1.39**	**214**	P	**Pn**	**00 16 51.1**	**-0.6**
ZKS	**Zakynthos**	**1.39**	**214**	P	**Pn**	**00 16 51.1**	**-0.6**
VILL	**Villia**	**1.39**	**119**	P	**Pg**	**00 16 52.7**	**-0.5**
VILL	**Villia**	**1.39**	**119**	*e*Pn	**Pg**	**00 16 53.0**	**-0.2**
VILL	**Villia**	**1.39**	**119**	P	**Pg**	**00 16 52.7**	**-0.5**
SGD	**Sagiada**	**1.41**	**303**	*e*PN	**Pn**	**00 16 52.6**	**+0.6**
SGD	**Sagiada**	**1.41**	**303**	P	**Pn**	**00 16 52.6**	**+0.6**
SGD	**Sagiada**	**1.41**	**303**	P	**Pn**	**00 16 52.6**	**+0.6**
MRKA	**Markates**	**1.43**	**95**	P	**Pb**	**00 16 52.8**	**-0.3**
MRKA	**Markates**	**1.43**	**95**	P	**Pb**	**00 16 52.8**	**-0.3**
KZN	**Kozani**	**1.45**	**0**	P	**Pn**	**00 16 52.4**	**-0.2**
KZN	**Kozani**	**1.45**	**0**	P	**Pn**	**00 16 52.4**	**-0.2**
VLX	**Vlachokerasia**	**1.56**	**162**	*e*PN	**Pg**	**00 16 55.6**	**-0.7**
VLX	**Vlachokerasia**	**1.56**	**162**	*e*Pn	**Pn**	**00 16 55.6**	**-0.7**
AOS	**Alonnisos**	**1.68**	**78**	*e*PN	**Pn**	**00 16 55.5**	**-0.1**
AOS	**Alonnisos**	**1.68**	**78**	P	**Pn**	**00 16 55.5**	**-0.1**
AOS	**Alonnisos**	**1.68**	**78**	P	**Pn**	**00 16 55.5**	**-0.1**
EREA	**Eretria**	**1.75**	**104**	P	**Pb**	**00 16 57.6**	**-0.9**
EREA	**Eretria**	**1.75**	**104**	P	**Pb**	**00 16 57.6**	**-0.9**
ATH	**Athens Observa**	**1.77**	**119**	*e*PB	**Pn**	**00 16 57.1**	**+0.2**
ATH				*e*SN	**Sn**	**00 17 20.1**	**+0.8**
DID	**Didima**	**1.77**	**139**	*e*PN	**Pb**	**00 16 58.2**	**-0.8**
DID	**Didima**	**1.77**	**139**	P	**Pb**	**00 16 58.0**	**-1.0**
DID	**Didima**	**1.77**	**139**	P	**Pb**	**00 16 58.0**	**-1.0**
KRND	**KRANIDI**	**1.83**	**143**	P	**Pn**	**00 16 58.7**	**+1.0**
KRND	**KRANIDI**	**1.83**	**143**	P	**Pn**	**00 16 58.7**	**+1.0**
FNA	**Florina**	**1.95**	**351**	*e*PN	**Pn**	**00 17 00.3**	**+0.8**
FNA	**Florina**	**1.95**	**351**	*e*Pn	**Pn**	**00 17 00.3**	**+0.8**
FNA	**Florina**	**1.95**	**351**	P	**Pn**	**00 17 00.4**	**+0.9**
PLG	**Polygyros**	**2.00**	**40**	P	**Pn**	**00 16 59.7**	**-0.4**
PLG	**Polygyros**	**2.00**	**40**	P	**Pn**	**00 16 59.7**	**-0.4**
GRG	**Griva**	**2.16**	**13**	P	**Pn**	**00 17 02.3**	**0.0**
GRG	**Griva**	**2.16**	**13**	P	**Pn**	**00 17 02.3**	**0.0**
OUR	**Ouranopolis**	**2.26**	**48**	P	**Pn**	**00 17 03.8**	**+0.1**
OUR	**Ouranopolis**	**2.26**	**48**	P	**Pn**	**00 17 03.8**	**+0.1**
SOH	**Sokhos**	**2.31**	**31**	P	**Pn**	**00 17 04.8**	**+0.3**
SOH	**Sokhos**	**2.31**	**31**	P	**Pn**	**00 17 04.8**	**+0.3**
VLI	**Veliai**	**2.32**	**156**	P	**Pn**	**00 17 05.3**	**+0.7**
VLI	**Veliai**	**2.32**	**156**	P	**Pn**	**00 17 05.3**	**+0.7**
KNT	**Kendrikon**	**2.46**	**20**	P	**Pn**	**00 17 07.3**	**+0.8**
KNT	**Kendrikon**	**2.46**	**20**	P	**Pn**	**00 17 07.3**	**+0.8**
VAY	**Valandovo**	**2.54**	**14**	*e*Pn	**Pn**	**00 17 09.6**	**+2.0**
VAY				*e*Sn	**Sn**	**00 17 40.8**	**+2.4**
VAY				*e*Lg	Lg	00 17 44.4	
	comp=E,14nm,0.5s						
VAY				*e*Lg	Lg	00 17 45.5	
	comp=N,21nm,0.7s						
VAY	**Valandovo**	**2.54**	**14**	*e*Sn	**Sb**	**00 17 41.6**	**-1.6**
VAY	**Valandovo**	**2.54**	**14**	*e*Pn	**Pn**	**00 17 09.5**	**+2.0**
VAY				*e*Sn	**Sn**	**00 17 40.8**	**+2.4**
VAY				*e*Lg	Lg	00 17 45.5	
	comp=N,21nm,0.7s						
SRS	**Serrai**	**2.66**	**31**	P	**Pn**	**00 17 09.3**	**+0.1**
SRS	**Serrai**	**2.66**	**31**	P	**Pn**	**00 17 09.3**	**+0.1**
TIR	**Tirane**	**2.89**	**330**	*e*Pn	**Pn**	**00 17 14.9**	**+2.6**
TIR	**Tirane**	**2.89**	**330**	*e*Pn	**Pn**	**00 17 14.9**	**+2.6**
NVR	**Nevrokopi**	**2.97**	**32**	P	**Pn**	**00 17 13.9**	**+0.5**
NVR	**Nevrokopi**	**2.97**	**32**	P	**Pn**	**00 17 13.9**	**+0.5**
MMB	**Musomiste**	**3.12**	**28**	∥*i*P	**Pb**	**00 17 20.3**	**-1.6**
MMB	**Musomiste**	**3.12**	**28**	∥*i*P	**Pb**	**00 17 20.3**	**-1.6**
VTS	**Vitosha**	**3.89**	**16**	*e*Pn	**Pn**	**00 17 26.9**	**+0.7**
VTS				*e*Sn	**Sn**	**00 18 12.6**	**+0.6**
VTS	**Vitosha**	**3.89**	**16**	⇑*i*P	**Pn**	**00 17 28.5**	**+2.3**
VTS	**Vitosha**	**3.89**	**16**	S	**Sn**	**00 18 12.7**	**+0.7**
VTS	**Vitosha**	**3.89**	**16**	*e*Pn	**Pn**	**00 17 26.9**	**+0.7**
VTS	**Vitosha**	**3.89**	**16**	⇑*i*P	**Pn**	**00 17 28.5**	**+2.3**
VTS				*e*Sn	**Sn**	**00 18 12.6**	**+0.6**
PDG	**Podgorica**	**4.05**	**333**	*e*Pn	**Pn**	**00 17 30.7**	**+2.4**
PDG				*e*Sn	**Sn**	**00 18 16.7**	**+1.1**
PDG	**Podgorica**	**4.05**	**333**	*e*Pn	**Pn**	**00 17 30.7**	**+2.4**
PDG				*e*Sn	**Sn**	**00 18 16.7**	**+1.1**
IDI	**Anoyia**	**4.35**	**144**	Pg	Pn	00 17 36.1	+3.7
	comp=N,0.2nm,0.3s,baz=304,slow=11,SNR=2.3						
IDI				Lg	Lg	00 18 27.9	
	comp=N,0.4nm,0.3s,baz=278,slow=14,SNR=2.5						
SELS	**Selova**	**4.39**	**354**	*e*Pn	**Pn**	**00 17 33.3**	**+0.3**
ZAPS	**Zavoj**	**4.46**	**8**	*e*Pn	**Pn**	**00 17 35.3**	**+1.3**
SJES	**Sjenica**	**4.61**	**343**	*e*Pn	**Pn**	**00 17 38.6**	**+2.6**
GRUS	**Gruza**	**5.09**	**351**	*e*Pn	**Pn**	**00 17 43.5**	**+0.9**
GRUS	**Gruza**	**5.09**	**351**	*e*Pn	**Pn**	**00 17 43.5**	**+0.9**
DIVS	**Divibare**	**5.41**	**346**	*e*Pn	**Pn**	**00 17 48.4**	**+1.4**
DIVS	**Divibare**	**5.41**	**346**	⇑*i*P	Pn	00 17 52.6	+5.6
DIVS	**Divibare**	**5.41**	**346**	*e*Pn	**Pn**	**00 17 48.4**	**+1.4**
TRUS	**Trudelj**	**5.46**	**350**	*e*Pn	**Pn**	**00 17 48.4**	**+0.7**
TRUS	**Trudelj**	**5.46**	**350**	*e*Pn	**Pn**	**00 17 48.4**	**+0.7**
UDBI	**Udbina**	**7.23**	**324**	*e*Pn	**Pn**	**00 18 13.3**	**+1.3**
UDBI				Sn	**Sn**	**00 19 32.0**	**-2.1**
MLR	**Muntele Rosu**	**7.32**	**24**	Pn	**Pn**	**00 18 15.3**	**+2.0**
	comp=N,0.1nm,0.3s,baz=270,slow=7.1,SNR=10						
MLR	**Muntele Rosu**	**7.32**	**24**	∥*i*P	**Pn**	**00 18 15.6**	**+2.3**
MLR	**Muntele Rosu**	**7.32**	**24**	∥*i*P	**Pn**	**00 18 15.6**	**+2.3**
NVLJ	**Novalja**	**7.69**	**320**	*i* Pn	**Pn**	**00 18 19.5**	**+1.2**
NVLJ				Sn	Sn	00 19 40.5	-4.7
NVLJ	**Novalja**	**7.69**	**320**	*i* Pn	**Pn**	**00 18 19.4**	**+1.2**
BRTR	**Keskin Array B**	**9.25**	**81**	Pn	**Pn**	**00 18 39.6**	**-0.2**
	comp=N,0.1nm,0.3s,baz=264,slow=13,SNR=5.4						
TORD	**Torodi Ar. Bea**	**31.17**	**220**	P	**P**	**00 22 45.2**	**-0.2**
	comp=N,0.4nm,1.0s,baz=26,slow=9.5,SNR=4.2						
MKAR	**Makanchi Array**	**44.12**	**59**	P	**P**	**00 24 35.0**	**+0.4**
	comp=N,0.2nm,0.5s,baz=282,slow=7.2,SNR=4.3						

THE ***12*** *00:25:42.0, 38.°59N×20.°66E, h2km±23km, ML1.7/4, Error ellipse: s-maj=23.4km s-min=0.4km az=0.0*
ATH ***12*** *00:25:42.5, 38.°55N×20.°68E, h5km, MD2.8/7*

CSEM 12 00:25:42.1±0.2, 38.°57N×20.°67E, h2km, ML1.7, Error ellipse: s-maj=3.9km s-min=3.0km az=103.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EXG	**Exogi**	**0.11**	**194**	P	**Pg**	**00 25 44.6**	**+0.3**
EXG				S	**Sg**	**00 25 46.5**	**+0.7**
EXG	**Exogi**	**0.11**	**194**	P	**Pg**	**00 25 44.6**	**+0.3**
EXG				S	**Sg**	**00 25 46.5**	**+0.7**
VLS	**Valsamata**	**0.40**	**189**	*e*PG	**Pg**	**00 25 49.7**	**-0.1**
VLS				*e*SB	**Sb**	**00 25 56.9**	**-1.6**
VLS	**Valsamata**	**0.40**	**189**	P	**Pg**	**00 25 49.7**	**-0.1**
VLS				*e*Sb	**Sb**	**00 25 56.9**	**-1.6**
VLS	**Valsamata**	**0.40**	**189**	P	**Pg**	**00 25 49.7**	**-0.1**
PDO	**Prodromos**	**0.41**	**86**	*e*PG	**Pg**	**00 25 50.0**	**+0.1**
PDO				*e*SB	**Sg**	**00 25 56.4**	**+1.2**
PDO	**Prodromos**	**0.41**	**86**	P	**Pg**	**00 25 49.5**	**-0.4**
PDO	**Prodromos**	**0.41**	**86**	*e*Pg	**Pg**	**00 25 50.0**	**+0.1**
PDO				S	**Sg**	**00 25 55.9**	**+0.7**
PDO				*e*Sb	**Sb**	**00 25 56.4**	**-2.3**
PDO	**Prodromos**	**0.41**	**86**	P	**Pg**	**00 25 49.5**	**-0.4**
PDO				S	**Sg**	**00 25 55.9**	**+0.7**
KFL	**Anninata**	**0.47**	**168**	P	**Pg**	**00 25 51.2**	**+0.1**
KFL	**Anninata**	**0.47**	**168**	P	**Pg**	**00 25 51.2**	**+0.1**
DSL	**Palaion Diasel**	**0.66**	**31**	*e*PB	**Pg**	**00 25 54.4**	**-0.4**
DSL				*e*SB	**Sb**	**00 26 05.3**	**-0.7**
DSL	**Palaion Diasel**	**0.66**	**31**	P	**Pg**	**00 25 54.3**	**-0.5**
DSL				S	**Sg**	**00 26 03.5**	**+0.2**
DSL				*e*Sb	**Sb**	**00 26 05.3**	**-0.7**
DSL	**Palaion Diasel**	**0.66**	**31**	P	**Pg**	**00 25 54.3**	**-0.5**
DSL				S

VOIR		3.12	41	⇑i P	Pn	00 28 12.5	+1.6
SIRR	Siria	3.16	354	⇑i P	Pn	00 28 10.9	-0.4
SIRR	Siria	3.16	354	S	Sg	00 29 04.8	+2.6
SIRR	Siria	3.16	354	⇑i P	Pn	00 28 10.9	-0.4
PAIG	Paliouri	3.40	159	eP	Pn	00 28 13.9	-0.7
MLR	Muntele Rosu	3.62	48	⇑i P	Pn	00 28 16.6	-1.2
MLR	Muntele Rosu	3.62	48	⇑i P	Pn	00 28 16.6	-1.2
MLR				S	Sn	00 28 55.2	-5.9
ALN	Alexandroupoli	3.67	126	eP	Pn	00 28 19.2	+0.8
PKSM	Moragy	3.96	322	⇓i P	Pn	00 28 21.8	-0.5
PKSM	Moragy	3.96	322	S	Sb	00 29 22.7	+3.3
PKSM	Moragy	3.96	322	⇓i P	Pn	00 28 21.8	-0.5
UDBI	Udbina	4.81	289	ePn	Pn	00 28 34.2	+0.1
UDBI				Sn	Sn	00 29 27.0	-3.3
UDBI	Udbina	4.81	289	ePn	Pn	00 28 34.1	+0.1
UDBI				Sn	Sn	00 29 26.9	-3.3
ZST	Bratislava	6.17	327	ePP	Pg	00 29 18.2	-0.7
PYL	PYLOS	6.23	183	eP	Pg	00 29 18.2	-1.8
PYL	PYLOS	6.23	183	P	Pg	00 29 20.3	+0.3
VLI	Veliai	6.43	174	eP	Pg	00 29 25.2	+1.4
VRAC	Vranov	7.28	330	⇑i P	Pn	00 29 12.6	+4.8
ANKY	Antikythira Is	7.31	172	P	Pb	00 29 27.8	-0.3

DJA 12 01:04:01.2±1.7**, 8°S**±15°×**10°7E**±°**, h19**km±12km**, M4.1**/10**, MLv4.1**/10**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.74	47	P	Pb	01 04 14.8	-0.8
CNJI	Cibinong	0.77	350	P	Pb	01 04 15.5	-0.5
CMJI	Cimerak	1.20	76	P	Pn	01 04 21.9	-1.1
SKJI	Sukabumi	1.27	326	P	Pn	01 04 23.6	-0.4
LEM	Lembang	1.28	16	P	Pn	01 04 22.9	-1.4
CGJI	Cibinong	2.13	313	P	Pn	01 04 35.1	-0.7
UGM	Wanagama	3.23	87	P	Pn	01 04 50.8	-0.1
PCJI	Pacitan	3.87	92	P	Pn	01 05 00.1	+0.4
PWJI	Pagerwojo	4.49	90	P	Pn	01 05 08.6	+0.3

*NSSC **12** 01:04:23.4±1.4, 39°.85N×36°.44E, h0km±36km, MD2.5, ML2.7*
*ISK **12** 01:04:33.7, 39°.08N×36°.65E, h5km, ML3.7*
*DDA **12** 01:04:34.2, 39°.05N×36°.59E, h17km, ML3.8*
*CSEM **12** 01:04:35.1±0.1, 39°.07N×36°.63E, h2km, ML3.8, Error ellipse: s-maj=2.9km s-min=2.7km az=170.0*
ISC 12 01:04:34.2±0.8**, 39°.06N**±0°.02×**36°.58E**±0°.01**, h10**km±8km**, n108, σ1§43**/136**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINB	Pinarbasi	0.41	200	i P	Pg	01 04 42.4	+0.1
PINB				i S	Sg	01 04 48.3	+0.6
PINB	Pinarbasi	0.41	200	i P	Pg	01 04 42.4	+0.1
PINB				i S	Sg	01 04 48.3	+0.6
CUGUR	Gurin_S˜VAS	0.64	122	i P	Pg	01 04 46.2	-0.4
CUGUR				i S	Sb	01 04 55.7	-0.9
DARE	Darende-Malaty	0.86	125	ePG	Pb	01 04 50.5	-0.8
DARE				eSG	Sg	01 05 02.8	+0.9
DARE	Darende-Malaty	0.86	125	ePg	Pb	01 04 50.5	-0.8
DARE				eSg	Sg	01 05 02.8	+0.9
SCER	sogukcermik	0.90	28	i P	Pg	01 04 52.4	+0.7
SCER				i S	Sn	01 05 06.7	+0.3
SCER	sogukcermik	0.90	28	i P	Pg	01 04 52.4	+0.7
SVSK	Karacayir	0.91	21	ePG	Pb	01 04 51.5	-0.7
SVSK				eSG	Sn	01 05 05.8	-0.6
SVSK	Karacayir	0.91	21	ePg	Pb	01 04 51.5	-0.7
SVSK				eSg	Sn	01 05 05.8	-0.6
YOZ	Yozgat	1.14	301	ePN	Pg	01 04 56.8	+0.7
YOZ	Yozgat	1.14	301	ePn	Pg	01 04 56.8	+0.7
TOKT	Tokat	1.26	359	ePN	Pb	01 04 57.8	-0.3
TOKT	Tokat	1.26	359	ePn	Pb	01 04 57.8	-0.3
TOKA	Tokat	1.26	356	i P	Pb	01 04 58.0	-0.2
TOKA				i S	Sg	01 05 16.8	+1.9
TOKA	Tokat	1.26	356	i P	Pb	01 04 58.0	-0.2
TOKA				i S	Sg	01 05 16.8	+1.9
AKCD	Akcadag	1.30	126	i P	Pg	01 04 59.6	+0.4
AKCD				i S	Sg	01 05 16.2	+0.2
AKCD	Akcadag	1.30	126	i P	Pg	01 04 59.6	+0.4
AKCD				i S	Sg	01 05 16.2	+0.2
AVNT	Avonos	1.38	259	i P	Pg	01 05 00.5	-0.1
AVNT				i S	Sg	01 05 19.2	+0.7
AVNT	Avonos	1.38	259	i P	Pg	01 05 00.5	-0.1
AVNT				i S	Sg	01 05 19.2	+0.7
RSDY	Resadiye-TOKAT	1.45	23	ePN	Pb	01 05 01.8	+0.3
RSDY	Resadiye-TOKAT	1.45	23	ePn	Pb	01 05 01.8	+0.3
ANDN	Andirin	1.49	187	i P	Pg	01 05 02.6	-0.3
ANDN				i S	Sg	01 05 23.5	+1.3
ANDN	Andirin	1.49	187	i P	Pg	01 05 02.6	-0.3
ANDN				i S	Sg	01 05 23.5	+1.3
KEMA	Kemaliye	1.50	81	i P	Pn	01 05 00.8	-0.5
KEMA				i S	Sb	01 05 21.6	+0.2
KEMA	Kemaliye	1.50	81	i P	Pn	01 05 00.8	-0.5
KEMA				i S	Sb	01 05 21.6	+0.2
ILIC	ilic-Erzincan	1.59	75	ePN	Pb	01 05 03.1	-0.7
ILIC	ilic-Erzincan	1.59	75	ePn	Pb	01 05 03.1	-0.7
ERBA	Erbaa	1.62	5	i P	Pb	01 05 04.9	+0.5
ERBA	Erbaa	1.62	5	i P	Pb	01 05 04.9	+0.5
MALT	Malatya	1.63	117	ePN	Pb	01 05 04.0	-0.4
MALT	Malatya	1.63	117	ePn	Pb	01 05 04.1	-0.4
KOZT	Kozan	1.69	201	ePN	Pg	01 05 06.8	+0.2
KOZT	Kozan	1.69	201	ePn	Pg	01 05 06.8	+0.2
SUSE	Susehri	1.70	47	i P	Pb	01 05 05.5	-0.1
SUSE				i S	Sg	01 05 30.3	+1.4
SUSE	Susehri	1.70	47	i P	Pb	01 05 05.5	-0.1
HCB	Kahramanmara¯	1.73	171	i P	Pb	01 05 06.0	-0.2
HCB				i S	Sg	01 05 29.3	-0.7
CDAG	Cicekdag	1.80	289	i P	Pb	01 05 07.7	+0.2
CDAG				i S	Sg	01 05 32.1	-0.1
CDAG	Cicekdag	1.80	289	i P	Pb	01 05 07.7	+0.2
CDAG				i S	Sg	01 05 32.1	-0.1
NIG	Nigde	1.81	239	ePN	Pb	01 05 07.8	+0.1
NIG	Nigde	1.81	239	ePn	Pb	01 05 07.8	+0.1
KAMA	Osmaniye	1.87	178	i P	Pb	01 05 07.8	-0.8
KAMA				i S	Sb	01 05 32.5	+0.3
ELZG	Elazig	1.96	106	i P	Pb	01 05 09.1	-1.1
ELZG				i S	Sb	01 05 35.3	+0.6
ELZG	Elazig	1.96	106	i P	Pb	01 05 09.1	-1.1
ELZG				i S	Sb	01 05 35.3	+0.6
GULA	Gulagac	1.97	249	ePN	Pb	01 05 10.7	+0.4
GULA	Gulagac	1.97	249	ePn	Pb	01 05 10.7	+0.4
KVT	Kavak	2.06	349	ePN	Pb	01 05 11.1	-0.6
KVT	Kavak	2.06	349	ePn	Pb	01 05 11.1	-0.6
HAVZ	Havza	2.12	342	i P	Pb	01 05 12.4	-0.3
HAVZ				i S	Sb	01 05 37.3	-1.8
HAVZ	Havza	2.12	342	i P	Pb	01 05 12.4	-0.3
HAVZ				i S	Sb	01 05 37.3	-1.8
CEYT	Ceyhan	2.15	198	ePN	Pb	01 05 12.6	-0.7
CEYT	Ceyhan	2.15	198	ePn	Pb	01 05 12.6	-0.7
KARA	Karaisali	2.16	214	ePN	Pb	01 05 13.3	-0.2
KARA	Karaisali	2.16	214	ePn	Pb	01 05 13.3	-0.2
KAMT	Kaman	2.25	279	ePN	Pb	01 05 13.9	-1.1
KAMT	Kaman	2.25	279	ePn	Pb	01 05 13.9	-1.1
EZC	Erzincan	2.25	71	ePn	Pg	01 05 16.3	-1.2
KELT	Kelkit	2.33	61	i P	Pb	01 05 14.4	-2.2
KELT	Kelkit	2.33	61	i P	Pb	01 05 14.4	-2.2
SERE	Sereflikochisa	2.35	268	ePN	Pb	01 05 15.4	-1.4
SERE	Sereflikochisa	2.35	268	ePn	Pb	01 05 15.4	-1.4
URFA	Urfa	2.39	132	ePN	Pb	01 05 15.1	-2.4
URFA	Urfa	2.39	132	ePn	Pb	01 05 15.1	-2.4
ERZN	Erzincan	2.49	77	ePN	Pn	01 05 16.3	+1.2
EUZM	Uzumlu	2.50	74	i P	Pb	01 05 17.1	-2.2
EUZM				i S	Sg	01 05 53.8	-0.8
EUZM	Uzumlu	2.50	74	i P	Pb	01 05 17.1	-2.2
SULT	Sultanhani-AKS	2.55	251	ePN	Pb	01 05 18.5	-1.7
SULT	Sultanhani-AKS	2.55	251	ePn	Pb	01 05 18.5	-1.7
YESY	Yesilyurt	2.57	241	ePN	Pb	01 05 18.8	-1.7
YESY	Yesilyurt	2.57	241	ePn	Pb	01 05 18.8	-1.7
GUMT	Gumushane	2.63	57	ePN	Pn	01 05 18.0	+1.0
GUMT	Gumushane	2.63	57	ePn	Pn	01 05 18.0	+1.0
TAHT	Tahtakopru-Hat	2.70	187	ePN	Pb	01 05 19.4	-3.3
TAHT	Tahtakopru-Hat	2.70	187	ePn	Pb	01 05 19.4	-3.3
BBAL	Bala	2.73	281	i P	Pb	01 05 21.0	-2.2
BBAL				i S	Sg	01 06 01.3	-0.5
BBAL	Bala	2.73	281	i P	Pb	01 05 21.0	-2.2
AFSR	Af¯ar-Bala (A	2.75	279	ePN	Pb	01 05 21.2	-2.4
AFSR	Af¯ar-Bala (A	2.75	279	ePn	Pb	01 05 21.2	-2.4
CANT	Cankiri	2.75	305	ePN	Pb	01 05 21.2	-2.4
BYBT	Boyabat	2.78	331	ePN	Pb	01 05 21.1	-2.8
BYBT	Boyabat	2.78	331	ePn	Pb	01 05 21.1	-2.8
DIKM	Dikmen	2.78	339	ePN	Pn	01 05 20.9	+2.1
DIKM	Dikmen	2.78	339	ePn	Pn	01 05 20.9	+2.1
TOS	Tosya	2.78	316	ePN	Pb	01 05 21.8	-2.3
TOS	Tosya	2.78	316	ePn	Pb	01 05 21.8	-2.3
KULU	Kulu	2.79	271	ePN	Pb	01 05 22.6	-1.6
KULU	Kulu	2.79	271	ePn	Pb	01 05 22.6	-1.6
ILGA	Ilgaz	2.96	313	i P	Pb	01 05 24.4	-2.9
ILGA				i S	Sg	01 06 08.6	-0.9
ILGA	Ilgaz	2.96	313	i P	Pb	01 05 24.4	-2.9
SLMH	Al Salmeh	3.04	159	eP	Pn	01 05 23.6	+1.1
SLMH				eS	Sb	01 06 07.2	+1.6
SLMH				AML	AML	01 06 59.6	
	comp=Z,71nm,0.7s						
BAYT	Ayd˜–ntepe-Bay	3.05	63	ePN	Pn	01 05 24.2	+1.5
BAYT	Ayd˜–ntepe-Bay	3.05	63	ePn	Pn	01 05 24.2	+1.5
BINT	Bingol	3.05	92	ePn	Pb	01 05 26.2	-2.5
LOD	Lodumlu	3.07	287	ePN	Pn	01 05 25.4	+2.5
LOD	Lodumlu	3.07	287	ePn	Pn	01 05 25.4	+2.5
KTUT	Trabzon	3.11	51	ePN	Pn	01 05 24.4	+1.0
KTUT	Trabzon	3.11	51	ePn	Pn	01 05 24.4	+1.0
BNGB	Bingˆ¶l	3.19	90	ePN	Pn	01 05 26.2	+1.5
ARNB	Al Arnab	3.23	189	eP	Pn	01 05 26.8	+1.7
ARNB				eS	Sb	01 06 13.0	+1.8
ARNB				AML	AML	01 06 21.8	
	comp=Z,88nm,0.6s						
ARNB				AML	AML	01 06 27.1	
	comp=N,30nm,0.6s						
ARNB				AML	AML	01 06 29.0	
	comp=E,54nm,0.8s						
BZK	Bozkurt	3.50	327	ePN	Pn	01 05 31.9	+3.2
BZK	Bozkurt	3.50	327	ePn	Pn	01 05 31.9	+3.2
KBSD	Kabsdagh	3.74	122	eP	Pn	01 05 31.0	-1.1
KBSD				AML	AML	01 06 49.9	
	comp=Z,47nm,0.7s						
MNKR	ALMNKUR	3.78	145	eP	Pn	01 05 32.9	+0.3
MNKR				eS	Sb	01 06 23.8	-3.1
MNKR				AML	AML	01 06 41.9	
	comp=Z,47nm,0.9s						
SFNV	Sufian	3.85	132	eP	Pn	01 05 33.8	+0.2
SFNV				eS	Sb	01 06 23.8	-5.1
SFNV				AML	AML	01 06 48.0	
	comp=Z,64nm,0.5s						
MZRK	Al-Mazaregh	4.57	134	eP	Pn	01 05 42.3	-1.2
MZRK				eS	Sn	01 06 40.9	+4.1
MZRK				AML	AML	01 07 08.4	
	comp=Z,50nm,0.7s						
ROOS	tl_alroos	4.92	173	eP	Pn	01 05 50.3	+2.0
ROOS				eS	Sb	01 06 53.3	-6.4
ROOS				AML	AML	01 07 20.2	
	comp=E,44nm,0.6s						
ROOS				AML	AML	01 07 27.7	
	comp=N,38nm,0.6s						
ROOS				AML	AML	01 07 34.8	
	comp=Z,41nm,0.7s						
BRBR	Barbar	5.66	185	eP	Pn	01 06 00.2	+1.5
BRBR				eS	Sn	01 07 10.1	+6.2
BRBR				AML	AML	01 07 43.1	
	comp=N,8.9nm,0.6s						
BRBR				AML	AML	01 07 58.8	
	comp=E,7.6nm,0.5s						
BRBR				AML	AML	01 07 59.5	
	comp=Z,6.0nm,0.6s						
ZALF	Zalf	6.16	174	eP	Pn	01 06 06.9	+1.6
ZALF				eS	Sn	01 07 23.0	+7.1
ZALF				AML	AML	01 08 01.1	
	comp=Z,7.7nm,0.6s						
ZALF				AML	AML	01 08 02.7	
	comp=E,10nm,0.7s						
ZALF				AML	AML	01 08 05.9	
	comp=N,10nm,0.7s						
SALA	Sala	6.34	179	eP	Pn	01 06 10.3	+2.4
SALA				eS	Sn	01 07 26.6	+6.1
SALA				AML	AML	01 08 08.6	
	comp=Z,9.2nm,0.6s						
SALA				AML	AML	01 08 14.7	
	comp=E,0.8nm,0.5s						
SALA				AML	AML	01 08 20.9	
	comp=N,6.5nm,0.6s						

*SJA **12** 01:27:14.4±0.6, 37°.67S×75°.76W, h33km, ML6.2*
*GUC **12** 01:27:35.4±0.6, 36°.94S×74°.11W, h34km±3km, ML4.9*
*IDC **12** 01:27:35.4±0.7, 36°.90S×73°.76W, h0km, mb4.1/11, mb1 4.2/14, mb1mx4.1/26, mbtmp4.1/14, ML3.4/2, Error ellipse: s-maj=27.2km s-min=16.7km az=91.0*
*ISCJB **12** 01:27:38.4±0.6, 36°.85S±0°.05×73°.87W±0°.06, h33km, mb4.2/13, Error ellipse: s-maj=7.7km s-min=6.1km az=31.3*
*NEIC **12** 01:27:40.7±0.4, 36°.81S×73°.78W, h35km, mb4.5/3, Error ellipse: s-maj=11.9km s-min=8.5km az=97.0*
ISC 12 01:27:40.2±0.6**, 36°.91S**±0°.06×**73°.88W**±0°.08**, h35**km**, n44, σ1§24**/49**, mb4.2**/13**, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.62	84	eP	Pn	01 27 50.5	-2.0
CCSP				eS	Sn	01 28 01.5	+0.3
U14B	Concepcin	0.64	86	eP	Pn	01 27 50.7	-2.2
U14B				eS	Sn	01 28 02.0	+0.2
U14B				AML	AML	01 28 09.6	
	comp=N,51μm,0.5s						
COCH	Cobquecura	1.17	49	eP	Pn	01 27 58.1	-2.0
LNCH	Linares	2.12	61	eP	Pn	01 28 12.5	-0.7
TALC	Talca	2.36	51	eP	Pn	01 28 15.2	-1.3
TALC				AML	AML	01 29 16.9	
	comp=E,4μm,0.6s						
VLCH	Valdivia	2.93	170	eS	Sn	01 28 55.7	-2.7
CLCH	Cerro Calan	4.45	39	eP	Pn	01 28 43.8	-1.5
CLCH				eS	Sn	01 29 35.7	-0.1
CLCH				AML	AML	01 30 10.3	
	comp=E,703nm,0.8s						
PEL	Peldehue	4.58	36	eP	Pn	01 28 45.7	-1.4
PEL				eS	Sn	01 29 39.3	+0.2
PEL				AML	AML	01 30 22.9	
	comp=E,522nm,2.6s						
AAGR	Agrelo	5.63	49	eP	Pn	01 28 59.7	-1.9
ARCO	CERRO ARCO	5.74	46	eP	Pn	01 29 03.1	-0.1
ARCO				AML	AML	01 30 50.4	
	comp=Z,28nm,0.8s						
AUSP	Uspallata	5.96	40	eP	Pn	01 29 06.3	0.0
ASAL	Salagasta	5.98	45	eP	Pn	01 29 06.6	+0.2
ASAL				i S	Sn	01 30 28.8	+15
RTLS	Leoncito	6.35	38	eP	Pn	01 29 11.5	-0.1
RTCV	Cerro Valdivia	6.69	43	eP	Pn	01 29 15.2	-0.9
CFAA	Coronel Fontan	7.06	43	Pn	Pn	01 29 19.4	-1.6
	comp=Z,0.3nm,0.3s,baz=211,slow=13,SNR=36						
CFAA				Lg	Lg	01 31 06.7	
	comp=Z,0.1nm,0.3s,baz=300,slow=6.6,SNR=3.9						
CFAA	Coronel Fontan	7.06	43	eP	Pn	01 29 19.3	-1.8
RTLL	Cerro Villicun	7.14	40	eP	Pn	01 29 21.3	-1.0
RTLL				AML	AML	01 29 29.2	
	comp=Z,130μm,0.4s						
AMOG	MOGNA	7.45	38	i P	Pn	01 29 24.3	-2.2
AVFE	Valle Fertil	8.21	42	eP	Pn	01 29 34.8	-2.2
LCO	Las Campanas	8.32	20	ePn	Pn	01 29 35.2	-3.4
LCO				eS	Sn	01 31 14.7	+3.3
ACLC	CERRO LA CRUZ	9.45	40	eP	Pn	01 29 50.6	-3.5
TCA	Tanti	9.49	57	eP	Pn	01 29 53.8	-0.7
TRQA	Tornquist	9.53	100	ePn	Pn	01 29 55.6	+0.6
LVC	Limon Verde	14.88	18	Pn	Pn	01 31 07.7	-0.6
	comp=Z,8.0nm,0.3s,baz=120,slow=20,SNR=2.5						
LVC	Limon Verde	14.88	18	ePn	Pn	01 31 06.8	-1.5
CPUP	Villa Florida	17.58	58	P	P	01 31 42.3	-0.9
	comp=Z,0.0nm,0.3s,baz=222,slow=15,SNR=2.7						
LPAZ	La Paz	21.16	15	P	P	01 32 22.8	-0.3
	comp=Z,5.7nm,1.0s,baz=198,slow=8.3,SNR=13						
LPAZ				Lg	Lg	01 38 49.0	
	comp=Z,0.6nm,0.5s,baz=172,slow=8.3,SNR=2.4						
LPAZ	La Paz	21.16	15	P	P	01 32 22.8	-0.3
LPAZ				eP	pP	01 32 23.6	-8.8
LPAZ				Lg	Lg	01 38 49.0	
SIV	San Ignacio	23.73	32	P	P	01 32 48.1	-1.2
	comp=Z,4.2nm,0.7s,baz=226,slow=11,SNR=12						
SNAA	Sanae	49.48	157	P	P	01 36 27.3	+0.5
	comp=Z,1.4nm,0.8s,baz=279,slow=6.6,SNR=12						
QSPA	South Pole Qui	53.33	180	P	P	01 36 55.9	+0.2
	comp=Z,2.5nm,0.8s,baz=170,slow=5.8,SNR=6.4						
MAW	Mawson	70.81	164	P	P	01 38 53.3	+0.6
	comp=Z,1.6nm,0.5s,baz=222,slow=9.5,SNR=4.5						
TXAR	Lajitas Array	71.58	333	P	P	01 38 58.8	+0.9
	comp=Z,0.9nm,0.6s,baz=155,slow=8.8,SNR=16						
SWET	Sewanee	72.63	350	eP	P	01 39 04.2	+0.2
	comp=Z,7.3nm,0.7s						
DBIC	Dimbokro	77.52	72	P	P	01 39 32.4	-0.2
	comp=Z,4.3nm,0.7s,baz=184,slow=3.7,SNR=7.5						
BOSA	Boshof	80.04	118	P	P	01 39 47.1	+0.6
	comp=Z,4.9nm,1.0s,baz=184,slow=15,SNR=3.1						
ECSD	EROS Data Cent	82.88	344	eP	P	01 40 01.2	+0.4
	comp=Z,2.8nm,0.6s						
NVAR	Mina Array Bea	85.44	327	P	P	01 40 15.6	+1.4
	comp=Z,0.7nm,0.8s,baz=170,slow=6.8,SNR=4.6						
PDAR	Pinedale Array	85.71	334	P	P	01 40 16.2	+0.8
	comp=Z,0.5nm,0.8s,baz=151,slow=6.8,SNR=3.6						
TORD	Torodi Ar. Bea	86.60	71	P	P	01 40 20.2	0.0
	comp=Z,0.7nm,0.5s,baz=216,slow=5.2,SNR=15						
ABKAR	Akbulak array	144.62	55	ePKPdf	PKPdf	01 47 11.4	-1.1
BVAR	Borovoye Array	150.41	46	PKPbc	PKPbc	01 47 27.7	+0.4
	comp=Z,0.3nm,0.3s,baz=276,slow=4.2,SNR=3.9						
ZALV	Zalesovo Beam	157.48	34	PKP	PKPdf	01 47 32.4	+0.4
	comp=Z,0.7nm,0.6s,baz=300,slow=2.8,SNR=3.2						
ZALV				PKPab	PKPab	01 48 03.9	0.0
	comp=Z,0.5nm,0.6s,baz=298,slow=3.1,SNR=2.5						
MKAR	Makanchi Array	159.76	53	PKP	PKPdf	01 47 34.4	-0.6
	comp=Z,0.3nm,0.7s,baz=7.6,slow=3.1,SNR=3.2						
MKAR				PKPab	PKPab	01 48 13.4	-0.6
	comp=Z,0.5nm,0.8s,baz=308,slow=3.3,SNR=3.6						

SJA 12 01:47:48.2±0.6**, 31°.34S**×**69°.11W, h96**km±6km**, ML4.7, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	Cerro Villicun	0.55	89	i P	Pn	01 48 06.5	+2.6
RTLL				eS	Sn	01 48 17.1	+1.3
AMOG	MOGNA	0.67	53	i P	Pn	01 48 05.5	+0.5
AMOG				i S	Sn	01 48 18.8	+1.3
RTCV	Cerro Valdivia	0.71	137	i P	Pn	01 48 06.4	+1.0
CFAA	Coronel Fontan	0.79	110	i P	Pn	01 48 08.7	+2.5
CFAA				eS	Sn	01 48 20.7	+1.0
CFAA				AML	AML	01 48 22.3	
	comp=Z,15μm,0.2s						
AVFE	Valle Fertil	1.58	65	i P	Pn	01 48 16.6	+1.3

KRSC 12 03:23:07.0±1.3**, 52°.19N**×**160°.04E, h40**km±18km**, ML3.7, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.91	359	eP	Pn	03 23 25.4	+2.1
SPN				eS	Sn	03 23 38.0	+2.7
RUS	Russkaya	0.97	285	eP	Pn	03 23 23.3	-0.8
NLC	Nalytchevo	1.07	337	eP	Pn	03 23 26.7	+1.2
NLC				eS	Sn	03 23 40.1	+1.0
MTVR	Mutnovka	1.18	285	eP	Pn	03 23 28.0	+0.9
MTVR				eS	Sn	03 23 42.4	+0.3
PET	Petropavlovsk	1.19	315	eP	Pn	03 23 28.5	+1.4
PET				eS	Sn	03 23 42.5	+0.5
UGLR	Uglovaya	1.26	325	eP	Pn	03 23 29.9	+1.6
UGLR				eS	Sn	03 23 45.5	+1.4
SDLR	Sedlovina	1.30	328	eP	Pn	03 23 30.1	+1.3
SDLR				eS	Sn	03 23 45.8	+0.7
SMAR	Somma	1.31	326	eP	Pn	03 23 30.3	+1.2
SMAR				eS	Sn	03 23 46.5	+0.8
ASAK	Asacha	1.33	279	eP	Pn	03 23 30.6	+1.5
ASAK				eS	Sn	03 23 47.0	+1.3
AVH	Avacha	1.34	324	eP	Pn	03 23 31.3	+2.0
AVH				eS	Sn	03 23 48.3	+2.4
KRER	Koryakskii	1.37	325	eP	Pn	03 23 31.6	+1.8
KRER				eS	Sn	03 23 48.3	+1.4
KOK	Koryaka	1.40	323	eP	Pn	03 23 31.9	+1.8
KOK				eS	Sn	03 23 49.3	+1.9
KRX	Arik	1.45	325	eP	Pn	03 23 32.5	+1.7
KRX				eS	Sn	03 23 50.0	+1.3
APC	Apacha	1.91	294	eP	Pn	03 23 39.9	+3.0
APC				eS	Sn	03 24 03.1	+3.4
GNL	Ganaly	1.97	321	eP	Pn	03 23 41.1	+3.1
MIPR	Malaya Ipel'ka	2.02	274	eP	Pn	03 23 41.7	+3.2
MIPR				eS	Sn	03 24 06.3	+3.8
PAU	Pauzhetka	2.13	251	eP	Pn	03 23 43.9	+3.9
MKZ	Mys Kozlova	2.58	22	eP	Pn	03 23 48.5	+2.3
MKZ				eS	Sn	03 24 17.3	+1.0
SKR	Severo-Kuril's	2.88	240	eP	Pn	03 23 53.2	+2.9
SKR				eS	Sn	03 24 26.3	+2.7
KZV	Kizimen	2.94	3	eP	Pn	03 23 54.8	+3.5
KZV				eS	Sn	03 24 29.1	+3.7
TUMR	Tumrok	3.10	1	eP	Pn	03 23 57.5	+4.0
TUMR				eS	Sn	03 24 34.4	+4.9
KBTR	Krutoberegovo	4.35	21	eP	Pn	03 24 14.2	+3.8

IDC 12 03:54:25.0±2.1**, 15°.98S**×**174°.06W, h0**km**, mb3.5**/6**, mb1 3.9**/6**, mb1mx3.8**/17**, mbtmp3.5**/6**, MS3.4**/1**, Ms1 3.4**/1**, ms1mx2.7**/23**, Error ellipse: s-maj=139.0km s-min=24.2km az=151.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.09	257	P	P	04 03 14.1	-0.6
	0.3nm,0.7s,baz=92,slow=8.3,SNR=8.1						
ASAR	Alice Springs	49.33	252	P	P	04 03 16.3	-0.1
	1.2nm,0.7s,baz=88,slow=8.1,SNR=11						
ASAR				LR	LR	04 22 52.2	
	comp=Z,40nm,18.2s,baz=216,slow=35						
NVAR	Mina Array Bea	75.18	42	P	P	04 06 10.4	+0.7
	0.4nm,0.8s,baz=212,slow=8.5,SNR=2.9						
TXAR	Lajitas Array	81.46	56	P	P	04 06 45.3	+0.7
	0.3nm,1.0s,baz=213,slow=6.3,SNR=2.8						
PDAR	Pinedale Array	83.12	42	P	P	04 06 51.5	-1.7
	0.3nm,0.8s,baz=224,slow=2.5,SNR=3.9						
ILAR	Eielson Array	83.13	11	P	P	04 06 52.0	-0.4
	0.2nm,0.4s,baz=235,slow=4.3,SNR=2.9						
BRTR	Keskin Array B	146.19	320	PKPbc	PKPab	04 14 08.7	+0.2
	0.5nm,0.7s,baz=4.8,slow=1.7,SNR=3.0						

*NIED **12** 04:21:00, 25°.00N×125°.50E, h5km, Mw3.9 Best double couple: $M_0$8.98000×10^{14} NP1:ϕ_s0.00000°, δ43.00000°, λ-30.00000°. NP2:ϕ_s113.00000°, δ70.00000°, λ-129.00000°.*
*IDC **12** 04:21:01.5±1.0, 25°.09N×125°.47E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/24, mbtmp3.8/8, MS2.7/2, Ms1 2.7/2, ms1mx2.4/35, Error ellipse: s-maj=50.0km s-min=20.8km az=67.0*
*ISCJB **12** 04:21:03.7±0.5, 24°.97N±0°.06×125°.49E±0°.04, h23km±3km, mb3.7/8, Error ellipse: s-maj=11.9km s-min=4.6km az=153.4*
*JMA **12** 04:21:03.4±0.1, 24°.96N×125°.51E, h23km±1km, M4.4*
JMA Felt II J1.
ISC 12 04:21:03.8±0.9**, 24°.95N**±0°.08×**125°.50E**±0°.04**, h18**km±3km**, n29, σ1§19**/38**, mb3.8**/8**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	Gusukube	0.21	205	P	Pg	04 21 08.9	0.0
JOGS				S	Sg	04 21 13.0	+0.7
JIKM	Ikemajima	0.23	264	P	Pb	04 21 09.3	+0.1
JIKM				S	Sb	04 21 13.2	+0.4
JMJ	Miyako jima 2	0.23	235	P	Pg	04 21 09.3	0.0
JMJ				S	Sg	04 21 13.6	+0.6
JIRB	Irabujima	0.32	248	P	Pg	04 21 10.5	-0.3
JIRB				S	Sg	04 21 15.6	+0.1
JTJ	Tarama	0.79	247	P	Pg	04 21 18.6	-0.7
JTJ				eS	Sg	04 21 28.9	-0.9
JISG	Ishigakijimahi	1.14	252	P	Pb	04 21 23.8	-1.2
JISG				eS	Sb	04 21 39.2	-0.3
JIJ	Ishigaki jima	1.37	245	P	Pn	04 21 27.7	-0.3
JIJ				eS	Sn	04 21 44.4	-1.2
JKRS	Kuro-shima	1.53	243	P	Pn	04 21 30.8	+0.6
JKRS				eS	Sn	04 21 50.6	+0.9
IRIF	Iriomote-Funau	1.72	250	P	Pn	04 21 32.7	-0.2
IRIF				eS	Sn	04 21 54.9	+0.5
HATJ	Hateruma jima	1.78	240	P	Pn	04 21 34.7	+1.0
JKE	Kume jima 2	1.79	40	P	Pb	04 21 34.9	-1.3
JAGN	Aguni-jima	2.27	43	P	Pn	04 21 40.7	+0.4
YOJ	Yonaguni jima	2.32	258	P	Pn	04 21 41.0	0.0
JYNG	Yonagunijimaku	2.38	258	P	Pn	04 21 42.0	+0.1
JYNG				eS	Sn	04 22 10.4	-0.2
JNTH	Nagotoyohara	2.76	55	P	Pb	04 21 52.9	+0.3
JIH	Iheya	3.04	46	P	Pn	04 21 53.2	+2.2
JOW	Kunigami	3.12	53	P	Pn	04 21 54.7	+2.5
JAMN	Amaminishikomi	4.64	44	P	Pn	04 22 14.6	+1.5
JMZ	Minamidaito 2	5.25	79	P	Pn	04 22 20.8	-0.5
JMZ				eS	Sn	04 23 17.2	-4.1

JNU	**Nakatsue**	**9.40**	**29**	LR	LR	04 26 55.6		
	comp=Z,51nm,18.8s,baz=342,slow=38							
MJAR	**Matsushiro Arr**	**15.88**	**40**	LR	LR	04 31 13.3		
	comp=Z,30nm,21.2s,baz=190,slow=39							
MKAR	**Makanchi Array**	**40.59**	**314**	P	**P**	**04 28 41.4**	**-0.9**	
	0.8nm,0.5s,baz=103,slow=9.5,SNR=7.1							
ZALV	**Zalesovo Beam**	**41.82**	**325**	P	**P**	**04 28 51.6**	**-0.7**	
	1.3nm,0.6s,baz=114,slow=6.5,SNR=3.8							
WRA	**Warramunga Arr**	**45.44**	**168**	P	**P**	**04 29 23.6**	**+1.7**	
	2.6nm,1.0s,baz=350,slow=8.6,SNR=10							
ASAR	**Alice Springs**	**49.01**	**170**	P	**P**	**04 29 50.6**	**+1.0**	
	0.6nm,0.8s,baz=359,slow=9.3,SNR=3.8							
ILAR	**Eielson Array**	**66.72**	**28**	P	**P**	**04 31 53.5**	**0.0**	
	0.2nm,0.8s,baz=309,slow=5.7,SNR=4.2							
FINES	**FINESS Array B**	**72.75**	**330**	P	**P**	**04 32 29.7**	**-1.0**	
	0.8nm,0.8s,baz=9.8,slow=9.0,SNR=2.8							
BRTR	**Keskin Array B**	**75.86**	**307**	P	**P**	**04 32 50.0**	**+0.6**	
	0.6nm,0.5s,baz=93,slow=6.3,SNR=5.2							
GERES	**GERESS Array B**	**84.71**	**322**	P	**P**	**04 33 37.4**	**+0.6**	
	0.3nm,0.4s,baz=52,slow=6.4,SNR=2.6							

MEX 12 04:21:17.5±0.4, 16°02'N×97°70'W, h10km±7km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.55**	**312**	*e*P	Pg	04 21 27.3	-1.1
PNIG				*e*S	Sg	04 21 35.1	-0.6
VHO	**Vista Hermosa**	**1.40**	**41**	*e*P	Pn	04 21 39.7	-3.6
VHO				*e*S	Sn	04 21 56.8	-5.3
HUIG	**Huatulco**	**1.55**	**99**	*i* P	Pn	04 21 41.4	-3.8
HUIG				*i* S	Sn	04 22 00.8	-4.6

*IDC **12** 04:32:11.9±7.4, 5°09'S×145°39'E, h160km±60km, mb3.4/4, mb1 3.5/7, mb1mx3.3/32, mbtmp3.9/7, Error ellipse: s-maj=82.7km s-min=18.3km az=82.0*

ISC 12 04:32:06.7±2.6, 5°3S±0°2'×145°7E±0°3, h86km, n20, σ1§56/13, mb3.6/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.31**	**160**	P	**Sn**	**04 33 58.6**	**-0.4**
	baz=6.3,SNR=6.0						
PMG				P	**Sn**	**04 33 58.6**	**-0.4**
	baz=6.3,SNR=6.0						
PMG				P	**Sn**	**04 33 58.6**	**-0.4**
	baz=6.3,SNR=6.0						
JAY	**Jayapura**	**5.68**	**299**	P	**Pn**	**04 33 30.3**	**+1.6**
	1.2nm,0.3s,baz=153,slow=9.8,SNR=5.7						
SIJI	**Sorong**	**15.04**	**287**	P	**Pn**	**04 35 32.0**	**-2.7**
	1.5nm,0.3s,baz=140,slow=13,SNR=2.7						
WRA	**Warramunga Arr**	**18.22**	**216**	P	**Pn**	**04 36 13.4**	**-0.6**
	0.5nm,0.3s,baz=40,slow=12,SNR=14						
QLP	**Quilpie**	**21.17**	**184**	P	**P**	**04 36 48.3**	**+3.2**
	baz=23,SNR=4.4						
RMQ	**Roma**	**21.24**	**172**	P	P	04 36 50.0	+4.1
	baz=23,SNR=5.3						
ASAR	**Alice Springs**	**21.46**	**211**	P	**P**	**04 36 48.9**	**+0.6**
	1.3nm,0.6s,baz=39,slow=7.7,SNR=14						
CMSA	**Cobar Meteorol**	**26.07**	**180**	P	**P**	**04 37 33.0**	**+0.8**
	baz=28,SNR=7.9						
STKA	**Stephens Creek**	**26.68**	**188**	P	**P**	**04 37 37.2**	**-0.5**
	3.5nm,0.7s,baz=13,slow=8.5,SNR=7.6						
STKA	**Stephens Creek**	**26.68**	**188**	P	**P**	**04 37 38.4**	**+0.7**
	baz=29,SNR=5.2						
HTT	**Hallett**	**28.65**	**192**	P	**P**	**04 37 56.1**	**+0.7**
	baz=31,SNR=3.5						
H11S3	**WAKE ISLAND Hy**	**31.48**	**41**	T	T	05 08 52.5	
	baz=222,slow=76,SNR=38						
H11S2	**WAKE ISLAND Hy**	**31.48**	**41**	T	T	05 08 51.7	
	baz=222,slow=76,SNR=23						
H11S1	**WAKE ISLAND Hy**	**31.49**	**41**	T	T	05 08 56.5	
	baz=222,slow=76,SNR=22						
H11N1	**WAKE ISLAND Hy**	**32.50**	**39**	T	T	05 10 10.6	
	baz=221,slow=76,SNR=7.7						
H11N3	**WAKE ISLAND Hy**	**32.51**	**39**	T	T	05 10 11.1	
	baz=221,slow=76,SNR=14						
H11N2	**WAKE ISLAND Hy**	**32.51**	**39**	T	T	05 10 13.9	
	baz=221,slow=76,SNR=12						
SONM	**Songino Array**	**63.18**	**331**	P	P	04 42 20.5	-5.4
	0.2nm,0.4s,baz=119,slow=5.1,SNR=2.5						
VNDA	**Vanda**	**72.65**	**176**	P	**P**	**04 43 23.6**	**-1.0**
	0.8nm,0.6s,baz=334,slow=5.7,SNR=4.9						
TORD	**Torodi Ar. Bea**	**143.63**	**285**	PKP	PKPbc	04 51 29.2	-1.1
	0.4nm,0.7s,baz=62,slow=3.6,SNR=5.0						

JMA 12 04:46:20.1±0.2, 26°06N×128°49E, h42km±4km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.62**	**317**	P	Pn	04 46 32.3	-0.2
JNTH				*e*S	Sn	04 46 41.3	-0.1
JJT2	**Tamagusuku 2**	**0.67**	**277**	P	Pn	04 46 33.4	+0.2
JJT2				*e*S	Sn	04 46 43.0	+0.4
JOW	**Kunigami**	**0.79**	**346**	P	Pn	04 46 35.1	+0.2
JOW				*e*S	Sn	04 46 45.4	-0.2
JIH	**Iheya**	**1.08**	**334**	P	Pn	04 46 39.6	+0.9
JIH				*e*S	Sn	04 46 54.2	+1.7
JAGN	**Aguni-jima**	**1.24**	**295**	P	Pn	04 46 41.8	+0.9
JOKE	**Okinoerabujima**	**1.30**	**3**	P	Pn	04 46 42.2	+0.4
JOKE				S	Sn	04 46 58.5	+0.5
JKE	**Kume jima 2**	**1.55**	**280**	P	Pn	04 46 45.3	0.0
JKE				*e*S	Sn	04 47 04.4	+0.2
JTK	**Tokunoshima**	**1.77**	**13**	P	Pn	04 46 48.4	+0.2
JTK				*e*S	Sn	04 47 09.2	-0.3
JAMN	**Amaminishikomi**	**2.26**	**16**	P	Pn	04 46 55.0	+0.1
JMZ	**Minamidaito 2**	**2.47**	**95**	P	Pn	04 46 54.8	-3.1
JMZ				*e*S	Sn	04 47 20.3	-6.5
JAM	**Amami Oshima**	**2.54**	**23**	P	Pn	04 46 58.4	-0.5
JAM				*e*S	Sn	04 47 28.4	-0.2
JZK	**Kikaishima**	**2.60**	**30**	P	Pn	04 47 00.4	+0.7
JZK				*e*S	Sn	04 47 31.0	+0.9
JIRB	**Irabujima**	**3.24**	**248**	P	Pn	04 47 07.8	-0.6
JIRB				*e*S	Sn	04 47 44.7	-1.1
JTJ	**Tarama**	**3.71**	**248**	P	Pn	04 47 14.0	-0.9
JISG	**Ishigakijimahi**	**4.06**	**250**	P	Pn	04 47 18.2	-1.5

*IDC **12** 04:48:35.2±1.6, 10°49N×92°73E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.5/37, mbtmp3.7/6, ML4.1/1, Error ellipse: s-maj=59.3km s-min=25.3km az=56.0*

*ISCJB **12** 04:48:41.0±1.3, 10°7N±0°2'×93°0E±0°2', h53km, mb3.7/5, Error ellipse: s-maj=29.5km s-min=23.4km az=153.3*

ISC 12 04:48:42.7±1.6, 10°6N±0°2'×92°9E±0°2', h53km, n9, σ0§33/5, mb3.8/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.72**	**36**	Pn	**Pn**	**04 51 00.0**	**+0.1**
	0.5nm,0.3s,baz=230,slow=16,SNR=4.3						
H08S3	**Diego Garcia H**	**27.26**	**229**	T	T	05 21 43.9	
	baz=50						
H08S2	**Diego Garcia H**	**27.26**	**229**	T	T	05 21 42.8	
	baz=50						
H08S1	**Diego Carcia H**	**27.28**	**229**	T	T	05 21 42.3	
	baz=50						
MKAR	**Makanchi Array**	**37.16**	**348**	P	**P**	**04 55 48.3**	**-0.1**
	0.2nm,0.5s,baz=169,slow=8.4,SNR=2.5						
ZALV	**Zalesovo Beam**	**43.69**	**353**	P	**P**	**04 56 41.9**	**-0.4**
	0.6nm,0.3s,baz=186,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**50.84**	**127**	P	**P**	**04 57 38.4**	**0.0**
	0.6nm,0.3s,baz=301,slow=10,SNR=14						
FINES	**FINESS Array B**	**69.73**	**332**	P	**P**	**04 59 47.1**	**+0.3**
	0.7nm,0.7s,baz=149,slow=13,SNR=3.4						
ARCES	**ARCESS Array B**	**72.28**	**340**	P	P	05 00 03.0	+0.8
	1.3nm,0.8s,baz=87,slow=6.2,SNR=3.8						

*ISCJB **12** 05:22:03.6±0.4, 38°33N±0°03'×26°50E±0°04, h9km±3km, Error ellipse: s-maj=6.3km s-min=4.1km az=145.7*

*CSEM **12** 05:22:03.5±0.1, 38°32N×26°50E, h10km, MD2.8, Error ellipse: s-maj=4.7km s-min=3.0km az=49.0*

*THE **12** 05:22:03.4, 38°34N×26°51E, h1km±2km, ML2.6/3, Error ellipse: s-maj=2.0km s-min=0.6km az=130.0*

*DDA **12** 05:22:03.9, 38°31N×26°53E, h7km, MD2.7*

*ISK **12** 05:22:03.2, 38°34N×26°50E, h11km, MD2.8*

ISC 12 05:22:03.4±0.8, 38°33N±0°03'×26°50E±0°03, h10km±5km, n31, σ0§52/45, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.08**	**68**	*i* P	**Pg**	**05 22 05.7**	**-0.1**
URLA				*i* S	**Sg**	**05 22 07.5**	**0.0**
URLA	**Izmir**	**0.08**	**68**	*i* P	**Pg**	**05 22 05.7**	**-0.1**
URLA				*i* S	**Sg**	**05 22 07.5**	**0.0**
ZEY	**¯zmir**	**0.09**	**179**	*i* P	**Pg**	**05 22 05.8**	**0.0**
ZEY				*i* S	**Sg**	**05 22 07.8**	**+0.1**
CHOS	**Chios island**	**0.36**	**279**	*e*PG	**Pg**	**05 22 10.7**	**+0.3**
CHOS				*e*SG	**Sg**	**05 22 16.4**	**+1.2**
CHOS	**Chios island**	**0.36**	**279**	P	**Pg**	**05 22 10.8**	**+0.3**
CHOS				*e*Sg	**Sg**	**05 22 16.4**	**+1.2**
CHOS	**Chios island**	**0.36**	**279**	P	**Pg**	**05 22 10.8**	**+0.3**
CHOS				S	**Sb**	**05 22 16.7**	**-0.8**
IZM	**Izmir**	**0.60**	**83**	*e*PG	**Pg**	**05 22 15.4**	**+0.3**
IZM	**Izmir**	**0.60**	**83**	*e*Pg	**Pg**	**05 22 15.4**	**+0.3**
SMG	**Samos**	**0.68**	**157**	P	**Pb**	**05 22 17.0**	**-0.2**
SMG				S	**Sb**	**05 22 27.3**	**+0.7**
SMG	**Samos**	**0.68**	**157**	P	**Pb**	**05 22 17.0**	**-0.2**
SMG				S	**Sb**	**05 22 27.3**	**+0.7**
PRK	**Paraskevi**	**0.93**	**349**	P	**Pg**	**05 22 21.0**	**-0.3**
PRK				S	**Sn**	**05 22 35.0**	**-0.9**
PRK	**Paraskevi**	**0.93**	**349**	P	**Pg**	**05 22 21.0**	**-0.3**
PRK				S	**Sn**	**05 22 35.0**	**-0.9**
SIGR	**SIGRI**	**1.01**	**330**	*e*PG	**Pb**	**05 22 23.0**	**0.0**
SIGR				*e*SG	**Sb**	**05 22 36.9**	**+0.5**
SIGR	**SIGRI**	**1.01**	**330**	P	**Pb**	**05 22 23.0**	**0.0**
SIGR				*e*Sg	**Sb**	**05 22 36.9**	**+0.5**
SIGR	**SIGRI**	**1.01**	**330**	P	**Pb**	**05 22 23.0**	**0.0**
SIGR				S	**Sn**	**05 22 37.4**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.16**	**109**	*e*PN	**Pb**	**05 22 25.6**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.16**	**109**	*e*Pn	**Pb**	**05 22 25.6**	**0.0**
AKS	**Akhisar**	**1.16**	**62**	*e*PN	**Pn**	**05 22 26.5**	**+0.8**
AKS	**Akhisar**	**1.16**	**62**	*e*Pn	**Pn**	**05 22 26.5**	**+0.8**
BODT	**Bodrum**	**1.42**	**153**	*e*PN	**Pn**	**05 22 29.5**	**+0.3**
BODT	**Bodrum**	**1.42**	**153**	*e*Pn	**Pn**	**05 22 29.5**	**+0.3**
APE	**Apeiranthos**	**1.48**	**212**	P	**Pn**	**05 22 29.3**	**-0.7**
APE	**Apeiranthos**	**1.48**	**212**	P	**Pn**	**05 22 29.3**	**-0.7**
EZN	**Ezine**	**1.50**	**355**	*e*PN	**Pn**	**05 22 30.2**	**-0.1**
EZN	**Ezine**	**1.50**	**355**	*e*Pn	**Pn**	**05 22 30.2**	**-0.1**
KULA	**Kula-Manisa**	**1.71**	**83**	*e*PN	**Pb**	**05 22 34.3**	**-0.6**
KULA	**Kula-Manisa**	**1.71**	**83**	*e*Pn	**Pb**	**05 22 34.3**	**-0.6**
YER	**Yerkesik**	**1.85**	**130**	*e*PN	**Pn**	**05 22 35.0**	**-0.2**
YER	**Yerkesik**	**1.85**	**130**	*e*Pn	**Pn**	**05 22 35.0**	**-0.2**
LIA	**Limnos Island**	**1.87**	**327**	P	**Pn**	**05 22 35.5**	**+0.1**
LIA	**Limnos Island**	**1.87**	**327**	P	**Pn**	**05 22 35.5**	**+0.1**

IDC 12 05:30:57.5±2.1, 1°17N×127°66E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/22, mbtmp3.8/3, MS2.8/1, Ms1 2.8/1, ms1mx2.2/30, Error ellipse: s-maj=167.0km s-min=24.4km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**21.04**	**53**	LR	LR	05 42 11.3	
	comp=Z,27nm,20.4s,baz=22,slow=32						
WRA	**Warramunga Arr**	**21.98**	**163**	P	P	05 35 53.2	-0.1
	2.2nm,0.9s,baz=342,slow=11,SNR=9.5						
ASAR	**Alice Springs**	**25.42**	**167**	P	P	05 36 27.1	+0.1
	2.2nm,1.0s,baz=347,slow=7.6,SNR=6.5						
MKAR	**Makanchi Array**	**60.18**	**326**	P	P	05 41 07.2	-0.1
	1.3nm,0.7s,baz=127,slow=7.9,SNR=12						

SJA 12 05:31:55.4±1.5, 31°34S×71°51W, h40km±999km, ML3.8, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**1.94**	**104**	*e*P	Pn	05 32 26.5	+0.3
RTLS				*i* S	Sn	05 32 53.0	+3.3
AUSP	**Uspallata**	**2.01**	**117**	*e*P	Pn	05 32 27.6	+0.4
AUSP				*i* S	Sn	05 32 54.0	+2.6
LCO	**Las Campanas**	**2.42**	**17**	*e*P	Pn	05 32 25.4	-7.5
RTCV	**Cerro Valdivia**	**2.58**	**102**	*e*P	Pn	05 32 37.9	+3.1
ASAL	**Salagasta**	**2.59**	**120**	*e*P	Pn	05 32 39.6	+4.6
RTLL	**Cerro Villicun**	**2.59**	**91**	*e*P	Pn	05 32 38.5	+3.5
AMOG	**MOGNA**	**2.61**	**82**	*e*P	Pn	05 32 37.1	+1.8
ARCO	**CERRO ARCO**	**2.65**	**125**	*i* P	Pn	05 32 38.7	+2.8
ARCO				AML	AML	05 33 26.8	
	comp=Z,228nm,0.7s						
CFAA	**Coronel Fontan**	**2.80**	**96**	*e*P	Pn	05 32 41.5	+3.7
AAGR	**Agrelo**	**2.86**	**128**	*i* P	Pn	05 32 41.3	+2.6
AVFE	**Valle Fertil**	**3.54**	**80**	*e*P	Pn	05 32 45.1	-2.9
AVFE				AML	AML	05 33 53.2	
	comp=Z,323nm,0.6s						
ACAN	**Cantantal**	**3.79**	**105**	*e*P	Pn	05 32 55.4	+4.0
VCA	**Vinchina**	**3.86**	**49**	*e*P	Pn	05 32 52.2	-0.3
CYA	**Choya**	**5.73**	**61**	*e*P	Pn	05 33 20.5	+2.5

GUC 12 06:34:09.9±0.5, 36°60S×73°00W, h23km±2km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.26**	**200**	*e*P	Pb	06 34 16.0	-0.3
CCSP				*e*S	Sb	06 34 20.9	+0.3
COCH	**Cobquecura**	**0.49**	**20**	*e*P	Pb	06 34 19.7	-0.2
COCH				*e*S	Sb	06 34 26.7	0.0
LNCH	**Linares**	**1.35**	**57**	*e*P	Pn	06 34 32.9	-0.5
LNCH				*e*S	Sn	06 34 51.0	+0.4
LNCH				AML	AML	06 34 58.4	
	comp=N,894nm,0.9s						
TALC	**Talca**	**1.63**	**43**	*e*P	Pn	06 34 36.3	-0.8
TALC				*e*S	Sn	06 34 56.8	-0.6
NICH	**Los Niches**	**2.14**	**43**	*e*P	Pn	06 34 45.1	+0.9
NICH				*e*S	Sb	06 35 12.4	-1.8
NICH				AML	AML	06 35 18.8	
	comp=N,601nm,0.4s						
CLCH	**Cerro Calan**	**3.78**	**33**	*e*P	Pn	06 35 08.2	+1.4
CLCH				AML	AML	06 36 11.3	
	comp=N,172nm,0.8s						
PEL	**Peldehue**	**3.93**	**30**	*e*P	Pn	06 35 10.2	+1.3
PEL				*e*S	Sn	06 35 55.8	+1.4
PEL				AML	AML	06 36 12.1	
	comp=E,130nm,1.3s						

GUC 12 06:59:41.4±0.4, 36°21S×73°41W, h26km±3km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.51**	**82**	*e*P	Pb	06 59 51.9	+0.2
COCH				*e*S	Sn	06 59 59.8	-1.0
COCH				AML	AML	07 00 01.4	
	comp=N,4μm,0.3s						
CCSP	**San Pedro de C**	**0.68**	**159**	*e*P	Pb	06 59 54.6	-0.1
CCSP				*e*S	Sn	07 00 04.9	-0.2
U14B	**Concepcin**	**0.70**	**158**	*e*P	Pb	06 59 54.9	-0.2
U14B				*e*S	Sn	07 00 05.4	-0.2
LNCH	**Linares**	**1.51**	**77**	*e*P	Pb	07 00 08.1	-0.6
LNCH				*e*S	Sb	07 00 27.9	+0.5
LNCH				AML	AML	07 00 36.9	
	comp=N,1μm,0.4s						
TALC	**Talca**	**1.65**	**61**	*e*P	Pb	07 00 10.2	-1.0
TALC				*e*S	Sb	07 00 32.3	+0.8
TALC				AML	AML	07 00 36.0	
	comp=E,3μm,0.5s						
NICH	**Los Niches**	**2.14**	**57**	*e*P	Pb	07 00 18.1	-1.4
NICH				*e*S	Sb	07 00 46.0	+0.3
NICH				AML	AML	07 00 58.7	
	comp=E,1μm,0.6s						

*DJA **12** 07:07:28.9±2.6, 1°N±15°×13°0E±2°8, h10km, M5.3/4, MLv5.3/4*

*ISCJB **12** 07:07:31.5±0.5, 3°20N±0°07×128°0E±0°1, h100km, mb4.1/11, Error ellipse: s-maj=16.8km s-min=6.7km az=154.5*

*IDC **12** 07:07:32.4±3.7, 3°16N×128°04E, h89km±36km, mb4.0/10, mb1 4.2/11, mb1mx3.9/26, mbtmp4.4/11, MS2.9/2, Ms1 2.9/2, ms1mx2.4/34, Error ellipse: s-maj=51.5km s-min=12.3km az=75.0*

ISC 12 07:07:33.0±0.6, 3°20N±0°08×128°00E±0°08, h100km, n30, σ1§10/25, mb4.1/11, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.51**	**281**	P	**Sn**	**07 08 41.7**	**-0.7**
SWI	**Sorong**	**5.19**	**141**	P	**Pn**	**07 08 48.8**	**+0.4**
	baz=2.9,SNR=13						
SIJI	**Sorong**	**5.20**	**141**	P	**Pn**	**07 08 48.9**	**+0.3**
	43nm,0.3s,baz=331,slow=19,SNR=49						
SIJI				S	**Sn**	**07 09 44.9**	**-2.4**
	15nm,0.3s,baz=199,slow=22,SNR=13						
CTBH	**Cotabato--PC H**	**5.47**	**317**	*i* P	**Pn**	**07 08 50.7**	**-1.4**
SANI	**Sanana**	**5.59**	**201**	P	**Pn**	**07 08 53.0**	**-0.8**
FAKI	**Fak Fak**	**7.42**	**145**	P	Pn	07 09 12.3	-6.4
	baz=4.1,SNR=3.5						
PALU	**Palau**	**7.65**	**57**	P	Sn	07 10 39.4	-7.5
	baz=11,SNR=4.5						
JAY	**Jayapura**	**13.91**	**114**	P	**P**	**07 10 50.8**	**-0.1**
	0.8nm,0.3s,baz=276,slow=9.9,SNR=5.1						
WRA	**Warramunga Arr**	**23.83**	**165**	P	**P**	**07 12 37.4**	**+0.3**
	4.5nm,0.5s,baz=345,slow=9.7,SNR=24						
QIS	**Mount Isa**	**26.21**	**155**	P	**P**	**07 12 58.8**	**+0.1**
	baz=22,SNR=6.7						
ASAR	**Alice Springs**	**27.32**	**168**	P	**P**	**07 13 06.7**	**-2.0**
	4.6nm,0.8s,baz=350,slow=11,SNR=17						
WRKA	**Warakurna**	**28.07**	**179**	P	**P**	**07 13 15.6**	**+0.3**
	baz=24,SNR=7.4						
JNU	**Nakatsue**	**29.89**	**5**	LR	LR	07 24 55.9	
	comp=Z,22nm,19.0s,baz=96,slow=35						
MEEK	**Meekatharra**	**31.02**	**196**	P	**P**	**07 13 41.7**	**+0.3**
	baz=27,SNR=3.7						
KSRS	**Korea Array**	**34.09**	**360**	P	**P**	**07 14 08.7**	**+0.7**
	4.2nm,0.8s,baz=176,slow=9.7,SNR=14						
MJAR	**Matsushiro Arr**	**34.49**	**15**	P	**P**	**07 14 09.1**	**-2.4**
	1.3nm,0.5s,baz=190,slow=11,SNR=3.7						
MJAR				LR	LR	07 26 25.5	
	comp=Z,18nm,21.8s,baz=260,slow=33						
STKA	**Stephens Creek**	**37.20**	**161**	P	**P**	**07 14 35.1**	**+0.4**
	7.8nm,0.6s,baz=328,slow=7.2,SNR=20						
STKA	**Stephens Creek**	**37.20**	**161**	P	**P**	**07 14 35.2**	**+0.4**
	baz=33,SNR=18						
ARMA	**Armidale**	**40.34**	**148**	P	**P**	**07 15 02.3**	**+1.2**
	baz=36,SNR=5.0						
H11S3	**WAKE ISLAND Hy**	**40.79**	**65**	T	T	07 58 25.8	
	baz=248,slow=74						
H11S2	**WAKE ISLAND Hy**	**40.81**	**65**	T	T	07 58 27.2	
	baz=248,slow=74						
H11S1	**WAKE ISLAND Hy**	**40.81**	**65**	T	T	07 58 25.4	
	baz=248						
USRK	**Ussuriysk Ar.**	**40.98**	**4**	P	**P**	**07 15 06.0**	**0.0**
	1.5nm,0.7s,baz=192,slow=7.2,SNR=7.5						
SONM	**Songino Array**	**48.20**	**341**	P	**P**	**07 16 04.2**	**+0.6**
	0.7nm,0.6s,baz=151,slow=6.5,SNR=5.1						
MKAR	**Makanchi Array**	**58.71**	**325**	P	**P**	**07 17 21.6**	**+1.3**
	1.6nm,0.4s,baz=112,slow=8.1,SNR=34						
KURBB	**Kurchatov Arra**	**62.86**	**327**	P	**P**	**07 17 49.1**	**+0.8**
	1.4nm,0.4s,baz=129,slow=6.0,SNR=8.6						
BVAR	**Borovoye Array**	**68.45**	**327**	P	**P**	**07 18 25.1**	**+0.8**
	0.8nm,0.4s,baz=127,slow=7.6,SNR=6.6						
VNDA	**Vanda**	**82.75**	**173**	P	**P**	**07 19 46.5**	**+1.1**
	1.6nm,0.7s,baz=320,slow=5.4,SNR=8.7						
TXAR	**Lajitas Array**	**120.91**	**53**	PKP	**PKPdf**	**07 26 15.6**	**+1.0**
	0.2nm,0.8s,baz=197,slow=0.9,SNR=3.2						
TORD	**Torodi Ar. Bea**	**124.28**	**288**	PKP	**PKPdf**	**07 26 21.3**	**0.0**
	0.2nm,0.5s,baz=312,slow=0.8,SNR=2.8						

IDC 12 07:11:47.5±2.6, 54°06N×86°48E, h0km, mb1 3.3/2, mb1mx3.1/46, mbtmp3.3/2, ML2.6/2, Error ellipse: s-maj=21.8km s-min=13.8km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.99**	**264**	*i*		07 18 10.0	
	baz=81,slow=317,SNR=2.3						
ZALV	**Zalesovo Beam**	**0.99**	**264**	Pg	Pg	07 12 04.8	-1.7
	0.7nm,0.3s,baz=85,slow=18,SNR=8.2						
ZALV				Lg	Lg	07 12 20.9	
	1.3nm,0.3s,baz=86,slow=32,SNR=8.0						
KURBB	**Kurchatov Arra**	**5.97**	**238**	Pn	Pn	07 13 17.9	+0.9
	0.1nm,0.3s,baz=56,slow=14,SNR=7.3						
KURBB				Lg	Lg	07 14 57.9	
	0.1nm,0.3s,baz=79,slow=5.1,SNR=5.2						
MKAR	**Makanchi Array**	**7.75**	**202**	Pn	Pn	07 13 42.6	+1.0
	0.1nm,0.3s,baz=24,slow=14,SNR=7.6						

*ISCJB **12** 07:14:59.8±1.1, 1°2N±0°1×125°62E±0°05, h79km, mb4.0/5, Error ellipse: s-maj=15.1km s-min=6.5km az=7.9*

*NEIC **12** 07:14:59.5±1.5, 1°30N×125°61E, h74km±14km, mb4.3/1, Error ellipse: s-maj=18.4km s-min=15.9km az=195.0*

*DJA **12** 07:14:59.9±0.3, 1°N±3°×12°6E±°, h10km, M4.5/3, MLv4.5/3*

*IDC **12** 07:15:00.1±3.9, 1°25N×125°66E, h75km±33km, mb3.8/4, mb1 4.0/5, mb1mx3.5/43, mbtmp4.1/5, Error ellipse: s-maj=38.2km s-min=15.2km az=68.0*

ISC 12 07:15:01.2±0.9, 1°19N±0°09×125°63E±0°05, h79km, n17, σ1§69/23, mb4.2/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.76**	**250**	P	**Pn**	**07 15 28.4**	**-1.5**
KMSI				S	**Sn**	**07 15 53.9**	**+2.2**
TNTI	**Ternate**	**1.78**	**103**	*e*Pn	**Pn**	**07 15 29.3**	**-0.8**
TNTI				*e*Sn	**Sn**	**07 15 57.2**	**+5.1**
LBMI	**Labuha**	**2.60**	**134**	P	**Pn**	**07 15 40.9**	**-0.2**
LBMI				S	**Sn**	**07 16 13.4**	**+1.6**
SANI	**Sanana**	**3.23**	**174**	P	**Pn**	**07 15 47.9**	**-1.8**

PDAR Pinedale Array 92.85 44 P **P** **07 36 41.6 -1.0**
0.3nm,0.7s,baz=11,slow=1.5,SNR=3.4

NEIC ***12*** *07:53:18.9,8.˚11N×82.˚95W,h20km,mb4.2/14, MD4.4(CASC),After CASC.*

IDC ***12*** *07:53:18.3±1.1,8.˚99N×82.˚23W,h0km,mb3.6/8, mb1 3.9/10,mb1mx3.8/22,mbtmp3.7/10,ML4.2/2,MS3.5/11, Ms1 3.5/11,ms1mx3.3/24,Error ellipse: s-maj=43.3km s-min=17.8km az=39.0*

ISC 12 07:53:16.1±1.8,7.94N±0.˚06×83.˚05W±0.˚05,h8km±10km, n51,σ1⁄36/51,mb4.1/21,MS3.3/8,4C,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.72**	**351**	*e*P	**Pg**	**07 53 29.6**	**-0.4**
ACR				*e*S	**Sg**	**07 53 38.7**	**-0.7**
BUS	**Buena Vista**	**1.75**	**336**	*e*P	**Pn**	**07 53 47.1**	**0.0**
BUS				*e*S	**Sn**	**07 54 08.8**	**-1.1**
URSC	**Urasca**	**2.02**	**339**	*e*P	**Pn**	**07 53 50.9**	**+0.3**
CGA2	**Cerro Gallo 2**	**2.49**	**326**	*e*P	**Pn**	**07 53 58.0**	**+0.9**
CGA2				*e*S	**Sn**	**07 54 28.6**	**+0.9**
CAO	**Cobano**	**2.68**	**311**	*e*P	**Pn**	**07 53 59.5**	**-0.1**
AZU	**Azuero**	**2.75**	**93**	*e*P	**Pn**	**07 54 00.8**	**+0.2**
AZU				*e*S	**Sn**	**07 54 33.3**	**-0.7**
JCR	**Jicaral**	**2.78**	**313**	*e*P	**Pn**	**07 54 02.7**	**+1.7**
JTS	**JuntasAbangare** 73nm,0.3s,baz=162,slow=8.2,SNR=103	**3.00**	**321**	Pn	**Pn**	**07 54 06.2**	**+2.2**
JTS				Sn	**Sb**	**07 54 46.0**	**-0.6**
	125nm,0.3s,baz=317,slow=20,SNR=9.6						
JTS				LR	LR	07 55 23.8	
	comp=Z,1μm,18.3s,baz=60,slow=42						
JTS	**JuntasAbangare**	**3.00**	**321**	*e*Pn	**Pn**	**07 54 04.5**	**+0.5**
JTS				*e*Sn	**Sn**	**07 54 40.3**	**+0.2**
VCR	**Vista de Mar**	**3.35**	**311**	*e*P	**Pn**	**07 54 10.0**	**+1.1**
BCIP	**Isla Barro Col**	**3.40**	**69**	*e*Pn	**Pn**	**07 54 09.9**	**+0.5**
BCIP				*e*Sn	**Sn**	**07 54 51.9**	**+1.8**
UPA	**Univ. de Panam**	**3.63**	**73**	*e*P	Pn	07 54 16.0	+3.4
UPA				*e*S	**Sn**	**07 54 56.4**	**+0.8**
OTAV	**Otavalo** 9.6nm,1.2s	**8.92**	**149**	*e*Pn	**Pn**	**07 55 26.6**	**+0.9**
OTAV				*e*Sn	**Sn**	**07 57 05.1**	**-1.6**
ROSC	**El Rosal** 0.7nm,0.3s,baz=274,slow=13,SNR=7.5	**9.19**	**109**	Pn	Pn	07 55 34.2	+4.8
ROSC				LR	LR	07 58 44.8	
	comp=Z,273nm,21.6s,baz=284,slow=37						
ROSC	**El Rosal**	**9.19**	**109**	Pn	**Pn**	**07 55 29.6**	**+0.2**
ROSC				*e*Sn	**Sn**	**07 57 08.7**	**-4.5**
MTDJ	**Mount Denham**	**11.55**	**27**	*e*Pn	**Pn**	**07 56 01.8**	**+0.3**
MTDJ				*e*Sn	**Sn**	**07 58 09.2**	**-1.5**
CMIG	**Matias Romero** 0.4nm,0.3s,baz=126,slow=12,SNR=6.6	**14.70**	**309**	Pn	**P**	**07 56 48.8**	**-1.9**
ATAH	**Atahualpa** comp=Z,178nm,19.7s,baz=337,slow=33	**15.68**	**163**	LR	LR	08 02 27.0	
PCRV	**Puerto La Cruz** comp=Z,172nm,18.3s,baz=254,slow=48	**18.32**	**82**	LR	LR	08 07 24.0	
CELP	**Cerrillos**	**18.93**	**56**	*e*P	**Pn**	**07 57 40.1**	**+1.9**
NNA	**Nana** 17nm,1.1s,baz=314,slow=9.2,SNR=2.3	**20.74**	**163**	P	Pn	07 58 10.2	+10
PTGA	**Pitinga** 3.6nm,0.9s,baz=336,slow=9.1,SNR=5.3	**24.57**	**109**	P	**P**	**07 58 36.4**	**-0.4**
PTGA				LR	LR	08 08 19.4	
	comp=Z,72nm,21.2s,baz=298,slow=37						
LRAL	**Lakeview Retre** 14nm,1.0s	**25.24**	**352**	*e*P	**P**	**07 58 43.1**	**+0.5**
GOGA	**Godfrey** 8.7nm,0.9s	**25.35**	**359**	*e*P	**P**	**07 58 43.1**	**-0.5**
SAML	**Samuel** 4.3nm,1.0s	**25.95**	**130**	*e*P	**P**	**07 58 49.8**	**+0.6**
TKL	**Tuckaleechee C** comp=Z,62nm,19.3s,baz=196,slow=37	**27.60**	**359**	LR	LR	08 09 51.2	
MIAR	**Mount Ida** 2.2nm,0.7s	**28.20**	**341**	*e*P	**P**	**07 59 10.5**	**+1.3**
LPAZ	**La Paz** comp=Z,90nm,18.9s,baz=332,slow=37	**28.24**	**148**	LR	LR	08 10 54.0	
WVT	**Waverly** 4.1nm,1.0s	**28.40**	**352**	*e*P	**P**	**07 59 09.3**	**-1.7**
TXAR	**Lajitas Array** 0.2nm,0.9s,baz=160,slow=8.4,SNR=2.2	**28.79**	**320**	P	**P**	**07 59 15.9**	**+1.1**
SFIN	**Scholer Farm** 2.6nm,0.5s	**32.50**	**354**	*e*P	**P**	**07 59 46.8**	**-0.4**
SRU	**San Rafael** 2.0nm,1.0s	**39.65**	**326**	P	**P**	**08 00 48.4**	**-0.3**
AGMN	**Agassiz Nation** 4.3nm,1.0s	**41.66**	**347**	*e*P	**P**	**08 01 04.9**	**0.0**
PDAR	**Pinedale Array** 0.2nm,0.7s,baz=170,slow=6.4,SNR=3.2	**41.79**	**330**	P	**P**	**08 01 05.5**	**-0.9**
PDAR				LR	LR	08 20 24.4	
	comp=Z,34nm,18.1s,baz=138,slow=39						
BDFB	**Brasilia** comp=Z,74nm,19.0s,baz=279,slow=36	**41.87**	**124**	LR	LR	08 18 18.3	
HWUT	**Hardware Ranch** 4.3nm,1.1s	**41.97**	**328**	*e*P	**P**	**08 01 09.5**	**+1.6**
MDND	**Maddock** 23nm,1.1s	**42.19**	**343**	*e*P	**P**	**08 01 10.5**	**+1.2**
CPUP	**Villa Florida** comp=Z,39nm,20.3s,baz=330,slow=36	**42.24**	**145**	LR	LR	08 19 04.2	
NVAR	**Mina Array Bea** 0.2nm,0.5s,baz=145,slow=5.3,SNR=4.9	**43.93**	**319**	P	**P**	**08 01 25.0**	**+1.2**
BMN	**Battle Mountai** 2.6nm,0.7s	**44.42**	**322**	*e*P	**P**	**08 01 27.8**	**+0.1**
HLID	**Hailey** 2.0nm,1.0s	**44.84**	**328**	*e*P	**P**	**08 01 32.3**	**+1.3**
MFID	**Camas Ranch** 3.1nm,1.1s	**45.51**	**326**	P	**P**	**08 01 37.1**	**+0.9**
WVOR	**Wild Horse Val** 3.2nm,0.8s	**46.48**	**324**	*e*P	**P**	**08 01 43.8**	**-0.1**
YBH	**Yreka Blue Hor** comp=Z,63nm,18.5s,baz=158,slow=38	**48.56**	**320**	LR	LR	08 24 01.8	
YKA	**Yellowknife Ar** 0.6nm,0.6s,baz=141,slow=7.0,SNR=3.5	**59.11**	**344**	P	**P**	**08 03 15.7**	**-1.1**
ILAR	**Eielson Array** 0.5nm,0.8s,baz=113,slow=4.9,SNR=7.0	**71.87**	**336**	P	**P**	**08 04 39.4**	**+0.1**
TORD	**Torodi Ar. Bea** 0.8nm,1.0s,baz=291,slow=5.3,SNR=2.4	**83.14**	**78**	P	**P**	**08 05 41.7**	**-1.6**
HHC	**Hu-ho-hao-te**	**129.62**	**346**	*e*PKP	PKPdf	08 12 31.6	+5.3
HHC				PP	PP	08 14 44.7	+10
HHC				PKS	**PKSdf**	**08 16 06.7**	**+3.8**
HHC	**Hu-ho-hao-te**	**129.62**	**346**	SS	SS	08 32 03.5	+5.9
HHC				AMB	AMB		
	comp=Z,42nm,5.9s						
HHC				LR	LR		
	comp=N,120nm,17.1s						
HHC				LR	LR		
	comp=E,120nm,17.5s						
HHC				LR	LR		
	comp=Z,44nm,17.3s						
ASAR	**Alice Springs**	**141.31**	**242**	PKhKP	PKPpre	08 12 44.8	
ASAR	comp=Z,0.4nm,0.9s,baz=120,slow=3.7,SNR=3.0			PKP	**PKiKP**	**08 12 52.0**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=107,slow=3.1,SNR=4.2						
WRA	**Warramunga Arr** comp=Z,0.7nm,0.8s,baz=104,slow=3.4,SNR=3.5	**141.90**	**248**	PKhKP	PKPpre	08 12 46.6	
WRA				PKP	**PKiKP**	**08 12 52.7**	**+0.3**
	comp=Z,1.2nm,1.1s,baz=111,slow=3.1,SNR=4.9						

NIED ***12*** *08:15:00,27.˚00N×127.˚90E,h59km,Mw4.5 Best double couple: M0 6.98000×10^15 NP1:φs 43.00000°,δ 18.00000°, λ -96.00000°. NP2:φs 229.00000°,δ 72.00000°, λ -88.00000°.*

BJI ***12*** *08:15:50.4,26.˚62N×128.˚06E,h55km,mb4.7/52,mB4.5/34, ML4.0/1,Ms4.0/33,Ms7 3.6/33*

MOS ***12*** *08:15:53.3±1.0,27.˚02N×127.˚75E,h52km,mb5.1/32,Error ellipse: s-maj=9.6km s-min=6.1km az=113.5*

ISCJB ***12*** *08:15:54.8±0.2,26.˚98N±0.˚02×127.˚83E±0.˚02,h63km±2km, mb4.8/107,Error ellipse: s-maj=4.6km s-min=2.3km az=141.9*

JMA ***12*** *08:15:55.8±0.2,27.˚03N×127.˚87E,h61km±2km,M4.4*
JMA Felt III J1.

IDC ***12*** *08:15:56.0±0.8,27.˚02N×127.˚78E,h64km±6km,mb4.4/27, mb1 4.5/29,mb1mx4.5/34,mbtmp4.6/29,MS3.4/16, Ms1 3.5/16,ms1mx3.3/36,Error ellipse: s-maj=14.2km s-min=9.6km az=70.0*

NEIC ***12*** *08:15:56.3±0.5,26.˚95N×127.˚73E,h64km±4km,mb4.7/48, MW4.5(NIED),Error ellipse: s-maj=5.9km s-min=4.3km az=149.0*

NEIC Felt [III] at Gushikawa, Ishikawa, Naha, Nishihara, Urasoe and Yomitan; [II] at Chatan, Ginowan and Okinawa, Okinawa. Also felt at Nago. Recorded [3 JMA] on Okinawa; [2 JMA] in the Kerema-retto and on Yoron-jima; [1 JMA] on Aguni-jima, Iheya-shima, Izena-shima, Kume-jima, Okino-erabu-shima and Tonaki-jima.

SZGRF ***12*** *08:16:04.0,28.˚36N×126.˚32E,h33km,mb5.2,MS4.0, Northwest of Ryukyu Islands, Japan*

ISC 12 08:15:55.8±0.4,26.97N±0.˚03×127.86E±0.˚03,h62km±2km, h62km:pP-P,n302,σ1⁄61/366,mb4.8/117,24C-13D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.12**	**55**	P	**Pn**	**08 16 05.0**	**-0.2**
JIH				S	**Sn**	**08 16 11.3**	**-0.7**
JOW	**Kunigami**	**0.40**	**110**	P	**Pn**	**08 16 06.9**	**-0.1**
JOW				S	**Sn**	**08 16 14.6**	**-0.5**
JOW	**Kunigami**	**0.40**	**110**	*e*Pn	**Pn**	**08 16 07.1**	**+0.1**
JOW				*e*Sn	**Sn**	**08 16 14.7**	**-0.5**
JNTH	**Nagotoyohara**	**0.47**	**162**	P	**Pn**	**08 16 08.2**	**+0.5**
JNTH				S	**Sn**	**08 16 16.9**	**+0.6**
JAGN	**Aguni-jima**	**0.67**	**236**	P	**Pn**	**08 16 10.1**	**+0.3**
JAGN				S	**Sn**	**08 16 20.7**	**+0.7**
JOKE	**Okinoerabujima**	**0.75**	**58**	P	**Pn**	**08 16 10.2**	**-0.6**
JOKE				S	**Sn**	**08 16 20.1**	**-1.7**
JJT2	**Tamagusuku 2**	**0.83**	**187**	P	**Pn**	**08 16 13.2**	**+1.4**
JJT2				S	**Sn**	**08 16 26.9**	**+3.3**
JKE	**Kume jima 2**	**1.15**	**237**	P	**Pn**	**08 16 16.3**	**+0.4**
JTK	**Tokunoshima**	**1.27**	**50**	P	**Pn**	**08 16 16.9**	**-0.6**
JTK				*e*S	**Sn**	**08 16 32.5**	**-1.2**
JAMN	**Amaminishikomi**	**1.73**	**42**	P	**Pn**	**08 16 23.0**	**-0.6**
JAMN				*e*S	**Sn**	**08 16 42.9**	**-1.8**
JAM	**Amami Oshima**	**2.12**	**47**	P	**Pn**	**08 16 29.1**	**+0.2**
JAM				*e*S	**Sn**	**08 16 52.9**	**-1.2**
JZK	**Kikaishima**	**2.31**	**54**	P	**Pn**	**08 16 31.8**	**+0.3**
JZK				*e*S	**Sn**	**08 16 57.3**	**-1.5**
JTAJ	**Takarajima**	**2.48**	**28**	P	**Pn**	**08 16 33.8**	**-0.1**
JTAJ				*e*S	**Sn**	**08 17 02.1**	**-0.9**
JIKM	**Ikemajima**	**3.11**	**230**	P	**Pn**	**08 16 43.6**	**+1.2**
JIKM				*e*S	**Sn**	**08 17 20.1**	**+1.7**
JOGS	**Gusukube**	**3.12**	**226**	P	**Pn**	**08 16 43.7**	**+1.2**
JMJ	**Miyako jima 2**	**3.15**	**228**	P	**Pn**	**08 16 44.0**	**+1.0**
JIRB	**Irabujima**	**3.22**	**229**	P	**Pn**	**08 16 43.9**	**-0.1**
JMZ	**Minamidaito 2**	**3.23**	**110**	P	**Pn**	**08 16 42.4**	**-1.6**
JMZ				*e*S	**Sn**	**08 17 17.0**	**-4.2**
JNN	**Nakanoshima**	**3.37**	**31**	P	**Pn**	**08 16 46.3**	**+0.3**
JNN				*e*S	**Sn**	**08 17 24.1**	**-0.7**
JTJ	**Tarama**	**3.67**	**232**	P	**Pn**	**08 16 50.9**	**+0.8**
JTJ				*e*S	**Sn**	**08 17 34.4**	**+2.3**
JISG	**Ishigakijimahi**	**3.98**	**234**	P	**Pn**	**08 16 53.6**	**-0.7**
JISG				*e*S	**Sn**	**08 17 38.3**	**-1.5**
JIJ	**Ishigaki jima**	**4.24**	**233**	P	**Pn**	**08 16 57.1**	**-0.8**
JIJ				*e*S	**Sn**	**08 17 44.6**	**-1.5**
JKRS	**Kuro-shima**	**4.41**	**233**	P	**Pn**	**08 16 59.9**	**-0.3**
JKRS				*e*S	**Sn**	**08 17 51.3**	**+1.0**
IRIF	**Iriomote-Funau**	**4.55**	**236**	P	**Pn**	**08 17 01.8**	**-0.4**
IRIF				*e*S	**Sn**	**08 17 52.0**	**-1.9**
HATJ	**Hateruma jima**	**4.67**	**233**	P	**Pn**	**08 17 04.9**	**+1.1**
HATJ				*e*S	**Sn**	**08 17 58.6**	**+1.9**
YOJ	**Yonaguni jima**	**5.03**	**241**	P	**Pn**	**08 17 08.8**	**0.0**
YOJ				*e*S	**Sn**	**08 18 06.1**	**+0.5**
YOJ	**Yonaguni jima**	**5.03**	**241**	*e*P	**Pn**	**08 17 07.9**	**-0.9**
YOJ				*e*		08 18 00.3	
YOJ	**Yonaguni jima**	**5.03**	**241**	*e*Pn	**Pn**	**08 17 07.9**	**-0.9**
YOJ				*e*Sn	**Sn**	**08 18 00.3**	**-5.3**
JYNG	**Yonagunijimaku**	**5.09**	**242**	P	**Pn**	**08 17 09.8**	**+0.3**
JYNG				*e*S	**Sn**	**08 18 09.5**	**+2.5**
TATO	**Taipei**	**6.07**	**252**	*e*Pn	**Pn**	**08 17 23.5**	**+0.6**
TATO				*e*Sn	Sn	08 18 24.1	-6.9
YHNB	**Yeheng** 144nm,0.8s	**6.27**	**250**	*e*Pn	**Pn**	**08 17 27.3**	**+1.4**
YHNB				*e*Sn	**Sn**	**08 18 31.3**	**-4.9**
NACB	**Ninganchiao** 46nm,0.4s	**6.30**	**245**	*e*Pn	**Pn**	**08 17 25.4**	**-0.8**
NACB				*e*Sn	**Sn**	**08 18 34.0**	**-2.8**
JNU	**Nakatsue** 4.3nm,0.3s,baz=194,slow=6.6,SNR=15	**6.67**	**22**	P	**Pn**	**08 17 33.0**	**+1.9**
JNU	**Nakatsue**	**6.67**	**22**	*e*Pn	**Pn**	**08 17 33.5**	**+2.3**
JNU				*e*Sn	**Sn**	**08 18 50.9**	**+5.2**
YULB	**Yu-li** 43nm,0.3s	**6.93**	**241**	*e*Pn	**Pn**	**08 17 32.0**	**-2.7**
YULB				*e*Sn	**Sn**	**08 18 49.4**	**-2.7**
SSLB	**Suanglung**	**7.00**	**245**	*e*Pn	**Pn**	**08 17 34.4**	**-1.3**
SSLB				*e*Sn	**Sn**	**08 18 50.5**	**-3.4**
TWG	**Pinlang** 164nm,0.4s	**7.42**	**238**	*e*Pn	**Pn**	**08 17 38.4**	**-3.0**
TWG				*e*Sn	**Sn**	**08 18 59.2**	**-4.9**
TPUB	**Ta-pu** 65nm,0.5s	**7.50**	**242**	*e*Pn	**Pn**	**08 17 41.7**	**-0.9**
TPUB				*e*Sn	**Sn**	**08 19 05.1**	**-1.1**
NJ2	**Nanjing**	**9.34**	**305**	*e*P	**Pn**	**08 18 10.6**	**+3.0**
NJ2				S	**Sn**	**08 19 51.5**	**+0.4**
NJ2				PMZ			
	30nm,0.7s						
NJ2				LN			
	1μm,17.9s						
NJ2				LE			
	1μm,10.4s						
NJ2				LZ			
	2μm,13.4s						
KSAR	**Wonju Array Be**	**10.45**	**0**	P	**Pn**	**08 18 25.4**	**+2.7**
KSAR	**Wonju Array Be**	**10.45**	**0**	P	**Pn**	**08 18 25.4**	**+2.7**
KSRS	**Korea Array** 0.6nm,0.3s,baz=180,slow=14,SNR=28	**10.46**	**0**	P	**Pn**	**08 18 25.4**	**+2.5**
KSRS				LR	LR	08 22 31.2	
	comp=Z,187nm,19.9s,baz=177,slow=38						
KSRS	**Korea Array**	**10.46**	**0**	P	**Pn**	**08 18 25.4**	**+2.5**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,187nm,20.0s						
WHN	**Wuhan**	**12.38**	**290**	P	**Pn**	**08 18 51.2**	**+2.1**
WHN				S	**Sn**	**08 21 10.1**	**+4.8**
WHN				LN			
	comp=Z,430nm,4.4s						
WHN				LE			
	comp=Z,350nm,5.6s						
WHN				LZ			
	comp=Z,430nm,18.4s						
JCJ	**Chichijima** comp=Z,77nm,20.0s,baz=240,slow=34	**12.77**	**86**	LR	LR	08 23 08.3	
TIA	**Tai'an**	**12.98**	**318**	‖P	**Pn**	**08 18 59.6**	**+2.3**
TIA				S	Sn	08 21 28.5	+8.5
TIA				LN			
	comp=Z,240nm,20.9s						
TIA				LE			
	comp=Z,380nm,24.8s						
TIA				LZ			
	comp=Z,280nm,18.4s						
MAJO	**Matsushiro**	**12.98**	**40**	*e*P	**Pn**	**08 18 57.8**	**+0.4**
MAJO				*e*		08 21 22.1	
MAJO	**Matsushiro**	**12.98**	**40**	*e*Pn	**Pn**	**08 18 57.8**	**+0.4**
MAJO				*e*Sn	**Sn**	**08 21 22.1**	**+2.0**
MAT	**Matsushiro**	**12.98**	**40**	P	**P**	**08 19 07.0**	**+1.2**
MJAR	**Matsushiro Arr** comp=Z,0.4nm,0.3s,baz=235,slow=12,SNR=4.3	**12.98**	**40**	P	**P**	**08 19 07.6**	**+1.8**
SNY	**Shenyang**	**15.24**	**348**	‖P	**P**	**08 19 32.2**	**+1.4**
SNY				S	**Sn**	**08 22 16.6**	**+1.8**
SNY				PMZ			
	comp=Z,17nm,0.5s						
SNY				PMZ			
	comp=Z,170nm,3.1s						
SNY				LN			
	comp=Z,270nm,17.0s						
SNY				LZ			
	comp=Z,190nm,20.8s						
BJI	**Beijing**	**16.26**	**326**	P	**Pn**	**08 19 40.7**	**+0.6**
BJI				S	**Sn**	**08 22 40.5**	**+1.0**
BJI				PMZ			
	comp=Z,68nm,0.7s						
BJI				PMZ			
	comp=Z,140nm,4.7s						
BJI				LN			
	comp=Z,160nm,30.2s						
BJI				LE			
	comp=Z,160nm,26.3s						
BJI				LZ			
	comp=Z,220nm,29.9s						
ENH	**Enshi** comp=Z,17nm,0.9s	**16.46**	**286**	P	**Pn**	**08 19 43.4**	**+0.6**
CN2	**Changchun**	**16.91**	**354**	*e*P	**P**	**08 19 50.5**	**+1.2**
CN2				*e*pP	**pP**	**08 20 03.5**	**+1.0**
CN2				*e*S	**Sn**	**08 22 56.2**	**+0.9**
CN2				PMZ			
	comp=Z,20nm,0.8s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USRK	**Ussuriysk Ar.** comp=Z,0.5nm,0.3s,baz=188,slow=8.7,SNR=6.3	**17.52**	**10**	P	**P**	**08 19 56.3**	**+0.2**
USRK				LR	LR	08 26 22.9	
	comp=Z,78nm,19.6s,baz=203,slow=36						
XAN	**Xi'an**	**17.76**	**298**	P	**P**	**08 19 59.4**	**+0.5**
XAN				PMZ			
	comp=Z,44nm,0.5s						
XAN				PMZ			
	comp=Z,48nm,6.3s						
QIZ	**Qiongzhong**	**18.36**	**248**	P	**P**	**08 20 05.4**	**-0.1**
QIZ				S	**Sn**	**08 23 28.8**	**-1.8**
QIZ				PMZ			
	comp=Z,16nm,1.7s						
GYA	**Guiyang**	**18.94**	**273**	P	**Pn**	**08 20 12.7**	**-0.5**
GYA				pP	**pP**	**08 20 24.5**	**-0.8**
GYA				sP	**sP**	**08 20 33.0**	**-0.2**
GYA				S	**S**	**08 23 37.6**	**-6.4**
GYA				sS	Sn	08 23 54.4	+10
GYA				SS	**SnSn**	**08 24 02.8**	**+3.2**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
GYA				PMZ			
	comp=Z,110nm,4.6s						
GYA				LN			
	comp=Z,520nm,14.5s						
GYA				LE			
	comp=Z,480nm,15.0s						
GYA				LZ			
	comp=Z,540nm,14.6s						
HHC	**Hu-ho-hao-te**	**19.31**	**320**	*e*P	**Pn**	**08 20 17.2**	**-0.3**
HHC				pP	**pP**	**08 20 31.5**	**+2.3**
HHC				S	**Sn**	**08 23 52.9**	**-0.5**
HHC				PMZ			
	comp=Z,26nm,1.1s						
HHC				PMZ			
	comp=Z,78nm,6.2s						
HHC				LN			
	comp=Z,150nm,16.1s						
HHC				LE			
	comp=Z,170nm,12.4s						
HHC				LZ			
	comp=Z,190nm,14.9s						
GUMO	**Guam** comp=Z,60nm,0.8s,baz=131,slow=12,SNR=3.9	**20.74**	**127**	P	**P**	**08 20 32.0**	**+0.5**
GUMO				LR	LR	08 26 55.8	
	comp=Z,75nm,19.6s,baz=312,slow=32						
CD2	**Chengdu**	**21.44**	**286**	P	**P**	**08 20 37.2**	**-1.7**
CD2				pP	**pP**	**08 20 49.9**	**-2.6**
CD2				sP	**sP**	**08 20 57.4**	**-2.9**
CD2				PP	**PnPn**	**08 21 04.9**	**+3.4**
CD2				S	**S**	**08 24 31.6**	**-2.0**
CD2				sS	**sS**	**08 24 53.1**	**-2.5**
CD2				SS	**SnSn**	**08 25 05.2**	**+4.5**
CD2				PMZ			
	comp=Z,20nm,0.5s						
CD2				PMZ			
	comp=Z,80nm,4.7s						
CD2				LN			
	comp=Z,170nm,8.4s						
CD2				LZ			
	comp=Z,200nm,9.0s						
HABR	**Khabarovsk**	**22.19**	**13**	*e*P	**P**	**08 20 45.2**	**-1.5**
HABR				*e**PP	**pP**	**08 20 58.3**	**-2.0**
HABR				*e**SP	**sP**	**08 21 06.3**	**-1.8**
HABR				*e*		08 24 39.3	
HABR				*e*S	**S**	**08 24 46.6**	**-0.6**
HABR				*e**SS	**sS**	**08 25 09.4**	**-0.5**
HABR				SS	**SnSn**	**08 25 19.4**	**+0.6**
HABR				*e*		08 31 56.4	
HABR				pmax	pmax		
	comp=Z,24nm,1.6s						
HABR				MLR	MLR		
	comp=Z,60nm,17.0s						
LZH	**Lanzhou**	**22.35**	**300**	*e*P	**P**	**08 20 49.4**	**+0.6**
LZH				pP	**pP**	**08 21 02.3**	**-0.1**
LZH				sP	**sP**	**08 21 11.1**	**+0.9**
LZH				PP	**PnPn**	**08 21 18.5**	**+4.5**
LZH				S	**S**	**08 24 45.1**	**-5.5**
LZH				sS	Sn	08 25 08.1	+1.5
LZH				SS	**SnSn**	**08 25 31.0**	**+7.9**
LZH				PMZ			
	comp=Z,31nm,1.0s						
LZH				PMZ			
	comp=Z,91nm,4.0s						
KLR	**Kul'dur**	**22.43**	**7**	*e*P	P	08 21 03.3	+14
KMI	**Kunming**	**22.63**	**271**	P	**P**	**08 20 53.4**	**+1.4**
KMI				PMZ			
	comp=Z,12nm,1.0s						
KMI				LN			
	comp=Z,140nm,8.3s						
KMI				LE			
	comp=Z,84nm,5.5s						
KMI				LZ			
	comp=Z,70nm,23.9s						
UBPT	**Khong Chiam** comp=Z,12nm,1.0s	**23.86**	**245**	P	**P**	**08 21 06.6**	**+3.0**
SKNT	**Sakolnakorn** comp=Z,31nm,1.0s,comp=Z,5μm	**24.23**	**251**	P	**P**	**08 21 08.7**	**+1.7**
GTA	**Gaotai**	**26.43**	**305**	*e*P	**P**	**08 21 25.7**	**-1.2**
GTA				pP	**pP**	**08 21 39.3**	**-2.8**
GTA				sP	**sP**	**08 21 45.4**	**-4.1**
GTA				S	**S**	**08 25 53.3**	**-2.9**
GTA				sS	**sS**	**08 26 18.0**	**-4.2**
GTA				SS	**SnSn**	**08 27 06.5**	**+3.8**
GTA				PMZ			
	comp=Z,30nm,0.8s						
GTA				PMZ			
	comp=Z,45nm,5.9s						
GTA				LN			
	comp=Z,420nm,21.4s						
GTA				LE			
	comp=Z,580nm,20.9s						
GTA				LZ			
	comp=Z,160nm,19.0s						
SONM	**Songino Array** comp=Z,13nm,0.5s,baz=136,slow=12,SNR=66	**26.76**	**327**	P	**P**	**08 21 28.7**	**-1.0**
SONM				LR	LR	08 33 23.1	
	comp=Z,96nm,20.7s,baz=86,slow=39						
UTTA	**Uttaradit** comp=Z,6.3nm,0.8s,comp=Z,56nm	**26.82**	**256**	P	**P**	**08 21 31.5**	**+1.1**
PBKT	**Sadao Pong** comp=Z,36nm,0.9s	**26.97**	**253**	P	**P**	**08 21 33.1**	**+1.3**
CMAI	**Chiengmai2** comp=Z,27nm,1.0s,comp=Z,2μm	**27.30**	**261**	P	**P**	**08 21 39.0**	**+4.0**
LAMP	**Lampang** comp=Z,15nm,0.8s,comp=Z,112nm	**27.31**	**258**	P	**P**	**08 21 36.1**	**+1.3**
CMMT	**Chiang Mai** comp=Z,23nm,0.8s	**27.79**	**259**	P	**P**	**08 21 40.0**	**+0.8**
CHTO	**Chiang Mai** comp=Z,79nm,0.8s	**27.80**	**259**	P	**P**	**08 21 40.1**	**+0.9**
CHTO	**Chiang Mai**	**27.80**	**259**	*e*P	**P**	**08 21 37.6**	**-1.6**
CHTO				pmax	pmax		
	comp=Z,12nm,0.7s						
CHTO	**Chiang Mai** comp=Z,12nm,0.7s	**27.80**	**259**	*e*P	**P**	**08 21 37.6**	**-1.6**
SIJI	**Sorong** comp=Z,90nm,19.4s,baz=102,slow=32	**27.87**	**173**	LR	LR	08 30 49.0	
CMAR	**Chiang Mai Arr** comp=Z,3.6nm,0.7s,baz=57,slow=7.6,SNR=18	**27.93**	**258**	P	**P**	**08 21 40.9**	**+0.5**
CMAR				LR	LR	08 32 34.6	
	comp=Z,60nm,18.8s,baz=76,slow=36						
SBUM	**

comp=N,73nm,4.0s
WMQ LN
comp=N,99nm,25.2s
WMQ LE
comp=N,73nm,28.0s
WMQ LZ
comp=N,42nm,23.2s
H11N1 WAKE ISLAND Hy 36.45 93 T T 09 01 09.0
baz=290,slow=74,SNR=7.0
H11N2 WAKE ISLAND Hy 36.45 93 T T 09 01 12.3
baz=290,slow=74,SNR=7.0
H11N3 WAKE ISLAND Hy 36.47 93 T T 09 01 14.7
baz=290,slow=74,SNR=7.7
H11S3 WAKE ISLAND Hy 36.68 95 T T 09 01 38.6
baz=290,slow=75,SNR=11
H11S1 WAKE ISLAND Hy 36.68 95 T T 09 01 32.6
baz=290,slow=75,SNR=9.5
H11S2 WAKE ISLAND Hy 36.69 95 T T 09 01 35.8
baz=290,slow=75,SNR=7.3
GUN Gumba 37.14 281 *e*P **P 08 23 02.1 +1.0**
comp=N,36nm,0.6s
PKI Pulchoki 37.60 281 *e*P **P 08 23 04.5 -0.5**
comp=N,25nm,0.6s
PKIN Phulchoki 37.61 281 *e*P **P 08 23 04.8 -0.2**
KKN Kakani 37.68 281 *e*P **P 08 23 05.6 +0.1**
comp=N,19nm,0.5s
DMN Daman 37.86 281 *e*P **P 08 23 06.7 -0.4**
comp=N,20nm,0.8s
GKN Gorkha 38.21 282 *e*P **P 08 23 09.5 -0.4**
comp=N,25nm,0.6s
KOLN Koldanda 39.15 282 *e*P **P 08 23 16.9 -1.0**
comp=N,19nm,0.7s
SEY Seymchan 39.42 17 P **P 08 23 18.8 -0.5**
comp=N,1.4nm,0.5s,baz=223,slow=14,SNR=6.2
MK31 Makanchi Array 40.80 311 *i* P **P 08 23 29.6 -1.4**
MK31 pmax pmax
comp=Z,4.0nm,0.5s
MKAR Makanchi Array 40.80 311 P **P 08 23 30.0 -1.1**
comp=Z,9.0nm,0.6s,baz=99,slow=10,SNR=96
MKAR PcP **PcP 08 25 30.9 -0.2**
comp=Z,0.7nm,0.5s,baz=111,slow=5.2,SNR=4.1
MKAR ScP **ScP 08 29 14.2 -1.1**
comp=Z,1.0nm,0.7s,baz=93,slow=5.1,SNR=5.0
MKAR LR LR 08 41 46.3
comp=Z,30nm,21.5s,baz=95,slow=38
ZALV Zalesovo Beam 41.46 322 P **P 08 23 35.9 -0.4**
comp=Z,6.3nm,0.4s,baz=114,slow=8.5,SNR=19
ZALV ScP **ScP 08 29 16.7 -1.0**
comp=Z,2.0nm,0.7s,baz=96,slow=1.4,SNR=3.6
ZALV LR LR 08 42 31.8
comp=Z,92nm,18.9s,baz=72,slow=39
KURK Kurchatov 44.06 316 *e*P **P 08 23 56.6 -0.8**
KURK pmax pmax
comp=Z,22nm,1.0s
KURK Kurchatov 44.06 316 *e*P **P 08 23 56.6 -0.8**
comp=Z,22nm,1.0s
KURBB Kurchatov Arra 44.09 316 P **P 08 23 56.8 -0.9**
comp=Z,5.9nm,0.5s,baz=104,slow=8.4,SNR=31
KSH Kashi 44.60 300 P P 08 24 06.1 +4.0
KSH pP pP 08 24 21.0 +3.0
KSH PcP **PP 08 25 47.2 +0.1**
KSH PP PcP 08 25 52.1 +8.0
KSH S S **08 30 38.0 +4.3**
KSH sS sS 08 31 04.1 +3.5
KSH SS **ScS 08 33 51.1 -3.2**
KSH PMZ
comp=Z,17nm,0.6s
KSH PMZ
comp=Z,110nm,4.0s
KSH LN
comp=Z,270nm,6.0s
KSH LE
comp=Z,240nm,6.5s
KSH LZ
comp=Z,230nm,6.3s
TKM2 Tokmak 2 44.98 305 *e*P **P 08 24 05.5 +0.3**
TKM2 pmax pmax
comp=Z,15nm,0.7s
TKM2 Tokmak 2 44.98 305 *e*P **P 08 24 05.5 +0.3**
comp=Z,15nm,0.7s
WRAB Tennant Creek 47.05 172 *d* P **P 08 24 21.5 +0.2**
WRAB pmax pmax
comp=Z,112nm,1.2s
WRAB Tennant Creek 47.05 172 *e*P **P 08 24 21.7 +0.5**
comp=Z,29nm,0.8s
WRA Warramunga Arr 47.05 172 P **P 08 24 21.1 -0.2**
comp=Z,24nm,0.7s,baz=354,slow=8.4,SNR=124
WRA pP **pP 08 24 37.9 +0.5**
comp=Z,2.2nm,0.5s,baz=351,slow=8.4,SNR=3.1
OTUK Ortayu 47.68 312 P **P 08 24 25.2 -0.9**
OTUK pmax pmax
comp=Z,7.0nm,0.7s
KK31 Karatay Array 48.72 305 *i* P **P 08 24 33.9 -0.2**
KK31 pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 48.72 305 *e*P **P 08 24 34.4 +0.3**
KKAR pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 48.72 305 *e*P **P 08 24 34.4 +0.3**
comp=Z,2.3nm,0.5s
BVA0 Borovoye Array 49.51 318 *i* P **P 08 24 40.3 +0.4**
BVA0 pmax pmax
comp=Z,9.0nm,0.8s
BVAR Borovoye Array 49.51 318 P **P 08 24 39.3 -0.7**
comp=Z,5.1nm,0.5s,baz=94,slow=8.9,SNR=36
BVAR PcP **PcP 08 26 01.1 +0.1**
comp=Z,2.5nm,0.5s,baz=110,slow=3.0,SNR=6.5
BRVK Borovoye 49.57 318 *e*P **P 08 24 40.0 -0.4**
BRVK pmax pmax
comp=Z,19nm,1.0s
BRVK Borovoye 49.57 318 *e*P **P 08 24 40.0 -0.4**
comp=Z,19nm,1.0s
CTA Charters Tower 50.06 157 P **P 08 24 45.1 +0.6**
comp=Z,12nm,0.8s,baz=342,slow=9.6,SNR=11
DZET Dzherino 50.18 299 P **P 08 24 45.4 0.0**
DZET pmax pmax
comp=Z,41nm,0.6s
ASAR Alice Springs 50.67 173 P **P 08 24 49.6 +0.6**
comp=Z,13nm,0.8s,baz=1.2,slow=14,SNR=93
ASAR PcP **PcP 08 26 05.9 +0.2**
comp=Z,1.7nm,0.8s,baz=1.3,slow=4.2,SNR=2.5
AB31 Akbulak array 55.90 313 *e*P **P 08 25 25.9 -1.3**
AB31 pmax pmax
comp=Z,4.0nm,0.3s
ABKAR Akbulak array 55.90 313 *e*P **P 08 25 25.9 -1.3**
ARU Arti 56.61 322 *d* P **P 08 25 31.2 -0.9**
ARU S S **08 33 19.0 -0.3**
ARU SS **SS 08 37 01.1 -6.1**
ARU pmax pmax
comp=Z,6.0nm,1.0s
ARU MLR MLR
comp=Z,104nm,17.0s
AKTO Aktyubinsk 57.08 314 P **P 08 25 34.6 -0.9**
comp=Z,2.7nm,0.6s,baz=46,slow=4.4,SNR=9.4
GEYT Alibeck 58.63 300 P **P 08 25 46.1 -0.6**
comp=Z,7.0nm,0.7s,baz=42,slow=4.6,SNR=9.4
STKA Stephens Creek 59.96 167 P **P 08 25 55.9 +0.2**
comp=Z,3.7nm,0.6s,baz=351,slow=5.8,SNR=24
IM04 Indian Mountai 60.97 27 *e*P **P 08 26 02.9 +0.7**
RSO Redoubt South 61.76 34 *e*P **P 08 26 08.5 +0.7**
comp=Z,42nm,0.9s
PPLA Purkeypile 61.82 31 *e*P **P 08 26 09.7 +1.5**
comp=Z,82nm,2.3s
KDAK Kodiak Island 62.13 37 *e*P **P 08 26 10.4 +0.3**
KDAK Kodiak Island 62.13 37 *e*P **P 08 26 10.4 +0.3**
comp=Z,564nm,3.0s
COLD Coldfoot 62.34 26 *e*P **P 08 26 13.1 +1.7**
comp=Z,17nm,1.7s
COLA College 63.53 28 *de*P **P 08 26 20.5 +1.2**
COLA pmax pmax
comp=Z,19nm,0.7s
CCB Clear Creek Bu 63.58 29 *e*P **P 08 26 20.1 +0.5**
comp=Z,66nm,3.0s
ILAR Eielson Array 63.95 28 P **P 08 26 21.4 -0.7**
comp=Z,1.3nm,0.6s,baz=271,slow=3.6,SNR=26
ILAR pP **pP 08 26 39.0 +0.2**
comp=Z,0.8nm,0.6s,baz=278,slow=9.9,SNR=4.4
HDA Harding Lake 63.97 29 *e*P **P 08 26 22.2 0.0**
comp=Z,33nm,1.4s
PAX Paxson 64.86 30 *e*P **P 08 26 29.0 +0.8**
PAX pmax pmax
comp=Z,6.0nm,0.8s
PAX Paxson 64.86 30 *e*P **P 08 26 29.0 +0.8**
comp=Z,5.8nm,0.8s
MENT Mentasta 65.65 30 *e*P **P 08 26 34.2 +1.0**
TMCR Tamitsa 66.00 331 *e*P **P 08 26 35.4 0.0**
TMCR pmax pmax
comp=Z,32nm,1.0s
EGAK Eagle 66.36 28 *e*P **P 08 26 38.3 +0.6**
comp=Z,51nm,2.5s
DAWY Dawson 67.28 28 *e*P **P 08 26 44.7 +1.1**
GNI Garni 68.18 305 ⇓ *e*P **P 08 26 51.5 +1.6**
GNI pmax pmax
comp=Z,8.0nm,1.2s
INK Inuvik 68.35 23 P **P 08 26 50.7 +0.6**
comp=Z,4.9nm,0.5s,baz=310,slow=11,SNR=8.7
INK Inuvik 68.35 23 P **P 08 26 50.7 +0.6**
INK pmax pmax
comp=Z,5.0nm,0.5s
INK Inuvik 68.35 23 *e*P **P 08 26 51.0 +0.8**
KBZ Khabaz 68.44 309 P **P 08 26 51.2 0.0**
comp=Z,12nm,0.8s,baz=103,slow=6.2,SNR=22
KIV Kislovodsk 68.52 309 *d* P **P 08 26 52.1 +0.3**
KIV *i* 08 27 14.0
KIV *i* 08 29 22.3
KIV pmax pmax
comp=Z,17nm,1.0s
KIV MLR MLR
comp=Z,46nm,23.0s
HYT Haines Junctio 69.03 32 *e*P **P 08 26 57.1 +2.4**
comp=Z,5.9nm,0.9s
ARCES ARCESS Array B 69.20 338 P **P 08 26 54.4 -1.1**
comp=Z,0.9nm,0.4s,baz=62,slow=8.3,SNR=12
ARCES LR LR 09 02 13.8
comp=Z,26nm,18.9s,baz=173,slow=40
AFI Afiamalu 71.29 117 *e*P P 08 27 13.8 +4.7
AFI pmax pmax
comp=Z,7.0nm,0.7s
AFI Afiamalu 71.29 117 *e*P P 08 27 13.8 +4.7
comp=Z,7.1nm,0.7s
FINES FINESS Array B 72.06 330 P **P 08 27 12.1 -0.9**
comp=Z,5.1nm,0.3s,baz=69,slow=5.1,SNR=73
VSU Vasula 72.95 327 P **P 08 27 18.0 -0.3**
VSU pmax pmax
comp=Z,41nm,0.8s
RAYN Ar Rayn 73.26 288 *e*P **P 08 27 20.6 -0.2**
comp=Z,6.0nm,0.9s
MALT Malatya 73.41 305 ⇓ *i*P **P 08 27 22.4 +0.8**
DAG Danmarks Havn 74.48 352 *i* P **P 08 27 26.4 -0.6**
comp=Z,11nm,0.8s
DAG Danmarks Havn 74.48 352 *i* P **P 08 27 26.4 -0.6**
DAG pmax pmax
comp=Z,8.0nm,0.8s
AKASG Malin Array Be 74.76 319 P **P 08 27 27.6 -1.4**
comp=Z,1.1nm,0.3s,baz=62,slow=6.3,SNR=4.6
AKASG LR LR 09 02 47.2
comp=Z,89nm,20.4s,baz=65,slow=38
AKBB Malin Array Si 74.76 319 *e*P **P 08 27 28.1 -0.9**
AKBB Malin Array Si 74.76 319 *e*P **P 08 27 28.1 -0.9**
AK01 Malin Array Si 74.77 319 *e*P **P 08 27 27.9 -1.2**
KIEV Kiev 74.77 319 *e*P **P 08 27 28.0 -1.1**
KIEV pmax pmax
comp=Z,4.0nm,0.4s
KIEV Kiev 74.77 319 *e*P **P 08 27 28.0 -1.1**
comp=Z,3.9nm,0.4s
AK02 Malin Array Si 74.79 319 *e*P **P 08 27 28.1 -1.1**
BRTR Keskin Array B 76.32 308 P **P 08 27 36.3 -2.2**
comp=Z,41nm,0.6s,baz=94,slow=4.3,SNR=2.8
YKA Yellowknife Ar 78.00 25 P **P 08 27 47.3 +0.1**
comp=Z,3.0nm,0.5s,baz=305,slow=5.8,SNR=18
YKA pP **pP 08 28 04.7 +0.3**
comp=Z,2.1nm,0.6s,baz=307,slow=5.9,SNR=3.8
TESR Tescani 78.09 316 ⇑ *i*P **P 08 27 47.7 -0.3**
VRI Vrincioaia 78.33 316 ⇑ *i*P **P 08 27 50.0 +0.6**
MSAB Monastry St. A 78.42 314 ⇑ *i*P **P 08 27 48.1 -1.8**
BURAR Bucovina Array 78.46 318 ⇑ *i*P **P 08 27 50.2 0.0**
CSS Prodhromos 78.50 303 *e*P **P 08 27 49.8 -0.7**
comp=Z,6.0nm,0.6s
NB2 NORSAR Subarra 78.51 334 P **P 08 27 48.7 -1.4**
comp=Z,10nm,0.8s,baz=52,slow=5.6
NOA NORSAR Array B 78.51 334 P **P 08 27 48.9 -1.2**
comp=Z,6.9nm,0.6s,baz=52,slow=5.7,SNR=24
NOA LR LR 09 06 48.9
comp=Z,42nm,19.8s,baz=65,slow=39
KWP Kalwaria Pacla 78.99 320 *e*P **P 08 27 53.3 +0.4**
KWP Kalwaria Pacla 78.99 320 *e*P **P 08 27 53.3 +0.4**
MLR Muntele Rosu 78.99 315 ⇓ *i*P **P 08 27 54.2 +1.1**
DOPR Dopca 79.12 316 ⇑ *i*P **P 08 27 53.8 +0.1**
VOIR 79.57 316 ⇑ *i*P P 08 28 00.9 +4.6
KOLS Kolonicke sedl 79.57 320 *e*P **P 08 27 56.1 0.0**
KOLS Kolonicke sedl 79.57 320 *e*P **P 08 27 56.1 0.0**
ARR Arges 79.86 316 ⇓ *i*P **P 08 27 58.7 +0.9**
STHS Stebnicka Huta 79.92 321 *e*P **P 08 27 58.9 +0.9**
STHS Stebnicka Huta 79.92 321 *e*P **P 08 27 58.9 +0.9**
BSD Bornholm Skovb 80.25 328 *i* P **P 08 27 59.3 -0.3**
comp=Z,15nm,0.7s
BSD Bornholm Skovb 80.25 328 *e*P **P 08 27 59.3 -0.3**
BSD pmax pmax
comp=Z,15nm,0.7s
SUMG Summit 80.28 356 *i* P **P 08 28 00.9 +0.9**
comp=Z,8.3nm,0.5s
SUMG Summit 80.28 356 *e*P **P 08 28 00.9 +0.9**
SUMG pmax pmax
comp=Z,25nm,1.2s
SUMG Summit 80.28 356 *e*P **P 08 28 00.8 +0.9**
comp=Z,25nm,1.2s
OJC Ojcow 80.33 322 *e*P **P 08 27 59.7 -0.5**
OJC Ojcow 80.33 322 *e*P **P 08 27 59.5 -0.7**
OJC pmax pmax
comp=Z,17nm,0.9s
OJC Ojcow 80.33 322 *e*P **P 08 27 59.5 -0.7**
comp=Z,17nm,0.9s
DRGR 80.36 318 ⇓ *i*P **P 08 28 00.8 +0.3**
LOT Lotru 80.36 316 ⇓ *i*P **P 08 28 02.0 +1.4**
NIE Niedzica 80.45 321 *e*P **P 08 28 01.5 +0.7**
NIE Niedzica 80.45 321 *e*P **P 08 28 01.6 +0.7**
RPZ Rata Peaks 80.73 150 P **P 08 28 02.1 -0.1**
comp=Z,8.5nm,0.8s,baz=320,slow=9.9,SNR=3.6
KECS Kecovo 80.83 320 *e*P **P 08 28 02.3 -0.5**
KECS Kecovo 80.83 320 *e*P **P 08 28 02.3 -0.5**
GZR Gura Zlata 81.00 316 ⇑ *i*P **P 08 28 04.7 +0.8**
SIRR Siria 81.25 318 ⇓ *i*P **P 08 28 05.0 -0.2**
OKC Ostrava-Krasne 81.44 322 AMS AMS 09 06 40.0
comp=Z,100nm,13.1s
MORC Moravsky Berou 81.81 322 *e*P **P 08 28 08.4 +0.3**
MORC pmax pmax
comp=Z,27nm,1.0s
MORC Moravsky Berou 81.81 322 ⇑ *i*P **P 08 28 08.3 +0.3**
MORC Moravsky Berou 81.81 322 *e*P **P 08 28 08.4 +0.3**
comp=Z,27nm,1.0s
KSP Ksiaz 81.90 323 *e*P **P 08 28 08.8 +0.3**
KSP Ksiaz 81.90 323 *e*P **P 08 28 08.9 +0.4**
VTS Vitosha 82.10 314 ⇑ *i*P **P 08 28 11.1 +1.2**
DPC Dobruska-Polom 82.16 323 *e*P **P 08 28 10.5 +0.6**
DPC *ex* x 08 28 21.5
DPC Dobruska-Polom 82.16 323 *e*P **P 08 28 10.5 +0.6**
DPC *e* 08 28 21.5
UPC Upice 82.24 323 *e*P **P 08 28 10.5 +0.2**
UPC Upice 82.24 323 *e*P **P 08 28 10.5 +0.2**
MMB Musomiste 82.25 313 ⇑ *i*P **P 08 28 11.1 +0.5**
VRAC Vranov 82.58 322 ⇑ *i*P **P 08 28 12.7 +0.6**
PVCC Panska Ves 82.99 324 *e*P **P 08 28 14.7 +0.5**
PVCC Panska Ves 82.99 324 *e*P **P 08 28 14.7 +0.5**
PKSM Moragy 83.07 319 ⇑ *i*P **P 08 28 14.3 -0.4**
BSEG Bad Segeberg 83.12 328 *e*P **P 08 28 15.5 +0.8**
comp=Z,18nm,0.9s
BRG Berggiesshubel 83.12 324 *e*P **P 08 28 14.8 0.0**
comp=Z,6.0nm,1.0s
TREC Trest 83.19 322 *e*P **P 08 28 15.6 +0.3**
TREC AMS AMS 09 08 00.0
TREC Trest 83.19 322 *e*P **P 08 28 15.6 +0.3**
GOPC GO Pecny, Ondr 83.22 323 *e*P **P 08 28 15.8 +0.4**
GOPC AMS AMS 09 08 00.0
PRU Pruhonice 83.31 323 *e*P **P 08 28 15.8 0.0**
PRU Pruhonice 83.31 323 *e*P **P 08 28 15.8 0.0**
CLL Collm 83.36 325 *e*P **P 08 28 15.9 -0.1**
comp=Z,14nm,0.8s
CLL Collm 83.36 325 *i* P **P 08 28 15.9 -0.1**
CLL pmax pmax
comp=Z,14nm,0.8s
CLL Collm 83.36 325 *e*P **P 08 28 15.6 -0.4**
comp=Z,15nm,0.8s
CLL Collm 83.36 325 *i* P **P 08 28 15.9 -0.1**
comp=Z,14nm,0.8s
CLL *e*(sP) **sP 08 28 45.0 +4.7**
CLL Lm MLR 09 09 00.0
comp=Z,100nm,18.6s
DIVS Divibare 83.37 316 ⇑ *i*P **P 08 28 15.8 -0.6**
CONA Conrad Observa 83.74 321 ⇑ *i*PcP **P 08 28 19.1 +0.9**
comp=Z,13nm,1.0s
B08A Colville Reser 83.95 38 *e*P **P 08 28 20.0 +0.8**
comp=Z,7.8nm,1.0s
NKC Novy Kostel 84.27 324 *e*P **P 08 28 21.1 +0.3**
NKC *ex* x 08 28 33.5
NKC Novy Kostel 84.27 324 *e*P **P 08 28 21.1 +0.3**
NKC *e* 08 28 33.5
KHC Kasperske Hory 84.31 323 *e*P **P 08 28 21.3 +0.3**
KHC *ex* x 08 28 32.3
KHC AMS AMS 09 08 50.0
comp=Z,100nm,14.4s
KHC Kasperske Hory 84.31 323 *e*P **P 08 28 21.3 +0.3**
KHC *e* 08 28 32.3
KHC MLR MLR
comp=Z,100nm,14.4s
KHC Kasperske Hory 84.31 323 *e*P **P 08 28 21.6 +0.5**
CLZ Clausthal 84.36 326 *e*P **P 08 28 22.4 +1.2**
comp=Z,43nm,1.1s
GEC2 GERESS Array S 84.41 323 *e*P **P 08 28 21.7 +0.1**
comp=Z,7.0nm,1.0s
GEC2 *e*L L 09 09 03.1
comp=Z,84nm,19.1s
GERES GERESS Array B 84.41 323 P **P 08 28 21.7 +0.1**
comp=Z,4.5nm,0.9s,baz=55,slow=5.1,SNR=20
GERES LR LR 09 09 13.7
comp=Z,84nm,19.3s,baz=92,slow=38
MOX Moxa 84.46 325 *e*P **P 08 28 22.3 +0.6**
comp=Z,10.0nm,0.9s
MOX *e*L L 09 09 46.4
comp=Z,73nm,19.7s
ROTZ Rotzenmuhle 84.67 324 *e*P **P 08 28 23.7 +0.9**
comp=Z,21nm,1.0s
MOA Molln 84.67 322 ⇑ *i*PcP **P 08 28 23.4 +0.5**
comp=Z,8.7nm,0.9s
WET Wettzell 84.68 323 *e*P **P 08 28 23.7 +0.8**
SOKA Soboth 84.91 320 ⇑ *i*P **P 08 28 24.3 +0.2**
comp=Z,8.4nm,1.1s,SNR=6.6
D08A Wollman Farm, 84.92 39 *e*P **P 08 28 25.1 +1.0**
comp=Z,5.9nm,0.8s
NEW Newport 85.22 37 *e*P **P 08 28 26.3 +0.7**
NEW pmax pmax
comp=Z,6.0nm,0.9s
NEW Newport 85.22 37 *e*P **P 08 28 26.3 +0.7**
comp=Z,5.8nm,0.9s
GRF Grafenberg Arr 85.23 324 *e*P **P 08 28 26.7 +1.1**
comp=Z,24nm,1.1s
GRF *e*L L 09 09 59.4
comp=Z,59nm,20.5s
PDKS Podkum 85.28 320 *i* P **P 08 28 26.0 +0.1**
OBKA Obir 85.28 320 ⇑ *i*PcP **P 08 28 26.3 +0.3**
comp=Z,8.9nm,0.8s,SNR=5.3
IBBN Ibbenburen 85.34 328 *e*P **P 08 28 26.8 +0.8**
RJOB Jochberg 85.55 322 *e*P **P 08 28 28.2 +0.9**
comp=Z,18nm,1.0s
KBA Koelnbreinsper 85.63 321 ⇑ *i*PcP **P 08 28 27.8 -0.1**
comp=Z,11nm,0.7s,SNR=8.0
MYKA Terra Mystica 85.72 321 ⇑ *i*P **P 08 28 28.0 -0.2**
comp=Z,6.5nm,0.6s
CADS Cadrg 85.90 321 *i* P **P 08 28 28.4 -0.6**
FUR Furstenfeldbru 86.12 323 *e*P **P 08 28 31.1 +1.1**
comp=Z,45nm,0.6s
K05A Summer Lake 86.18 43 *e*P **P 08 28 32.5 +1.8**
ABTA Abfaltersbach 86.29 321 ⇑ *i*P **P 08 28 30.6 -0.4**
comp=Z,12nm,0.7s,SNR=7.7
TNS Taunus Mts 86.32 326 *e*L L 09 11 32.5
comp=Z,56nm,18.3s
WTTA Wattenberg 86.46 322 ⇑ *i*PcP **P 08 28 32.6 +0.6**
comp=Z,22nm,1.2s,SNR=6.2
MOTA Moosalm 86.70 323 ⇑ *i*PcP **P 08 28 33.2 +0.1**
comp=Z,17nm,1.0s,SNR=5.7
BSMT Bassoo Peak 86.72 37 *e*P **P 08 28 32.8 -0.4**
comp=Z,3.8nm,0.9s
MOD Modoc 87.00 44 *e*P **P 08 28 35.5 +0.8**
comp=Z,5.3nm,0.9s
FETA Feichten 87.10 322 ⇑ *i*PcP **P 08 28 35.4 +0.3**
comp=Z,11nm,1.1s
SWMT Swartz Lake 87.35 37 *e*P **P 08 28 37.0 +0.8**
comp=Z,1.2nm,0.6s
DAVA Damuels 87.40 323 ⇓ *i*PcP **P 08 28 36.0 -0.5**
comp=Z,10nm,0.6s,SNR=6.4
BFO Black Forest 87.57 324 *e*P **P 08 28 37.5 +0.4**
comp=Z,8.0nm,1.1s
BFO *e*L L 09 11 37.2
comp=Z,69nm,19.6s
BFO Black Forest 87.57 324 *e*P **P 08 28 37.8 +0.7**
BFO pmax pmax
comp=Z,7.0nm,1.1s
BFO Black Forest 87.57 324 *e*P **P 08 28 37.8 +0.7**
comp=Z,6.9nm,1.1s
FUORN Ofenpass-Fuorn 87.60 322 *e*P **P 08 28 38.4 +0.8**
comp=Z,19nm,0.9s
SLMT Seeley Lake 87.79 37 *e*P **P 08 28 38.9 +0.6**
comp=Z,4.2nm,0.8s
FFC Flin Flon 88.08 26 *e*P **P 08 28 39.5 +0.1**
FFC pmax pmax
comp=Z,14nm,0.8s
FFC Flin Flon 88.08 26 *e*P **P 08 28 39.5 +0.1**
comp=Z,14nm,0.8s
TUE Stuetta 88.19 323 *e*P **P 08 28 40.8 +0.5**
comp=Z,9.8nm,0.8s
MFID Camas Ranch 88.82 41 *e*P **P 08 28 44.2 +1.0**
comp=Z,3.7nm,1.0s
CMB Columbia Colle 89.11 47 *e*P **P 08 28 45.5 +0.9**
CMB pmax pmax
comp=Z,2.0nm,0.9s
CMB Columbia Colle 89.11 47 *e*P **P 08 28 45.5 +0.9**
comp=Z,2.0nm,0.9s
EGMT Eagleton 89.23 35 *e*P **P 08 28 45.7 +0.6**
comp=Z,3.8nm,0.8s
DLMT Dillon 89.45 38 *e*P **P 08 28 46.3 +0.1**
comp=Z,2.3nm,0.7s
HLID Hailey 89.55 40 *e*P **P 08 28 48.3 +1.6**
comp=Z,2.6nm,0.8s
BOZ Bozeman (W) 89.79 37 *e*P **P 08 28 49.4 +1.6**
BOZ pmax pmax
comp=Z,4.0nm,1.3s
BOZ Bozeman (W) 89.79 37 *e*P **P 08 28 49.4 +1.6**
comp=Z,4.1nm,1.3s
NVAR Mina Array Bea 90.23 46 P **P 08 28 51.3 +1.2**
comp=Z,1.1nm,0.7s,baz=296,slow=4.1,SNR=8.9
IMW Indian Meadow 91.30 38 *e*P **P 08 28 57.3 +2.3**
comp=Z,3.3nm,1.2s
FLWY Flagg Ranch 91.31 38 *e*P **P 08 28 57.0 +2.1**
comp=Z,3.0nm,0.8s
FXWY Fox Creek 91.41 38 *e*P **P 08 28 57.6 +2.1**
comp=Z,2.6nm,1.1s
HVU Hansel Valley 91.60 41 *e*P **P 08 28 57.7 +1.4**
HVU Hansel Valley 91.60 41 *e*P **P 08 28 57.7 +1.4**
comp=Z,43µm,0.9s
LAO LASA Array 91.91 34 *e*P **P 08 28 58.9 +1.4**
comp=Z,4.8nm,1.1s
R11A Troy Canyon, C 92.01 45 *e*P **P 08 28 59.4 +1.1**
HWUT Hardware Ranch 92.41 40 *e*P **P 08 29 01.4 +1.3**
comp=Z,3.6nm,0.9s
PDAR Pinedale Array 92.80 38 P **P 08 29 01.9 0.0**
comp=Z,1.6nm,0.9s,baz=352,slow=2.6,SNR=13
GSC Goldstone 93.03 48 *e*P **P 08 29 04.1 +1.2**
GSC pmax pmax
comp=Z,6.0nm,1.0s
GSC Goldstone 93.03 48 *e*P **P 08 29 04.1 +1.2**
comp=Z,5.9nm,1.0s
P17A Butcher Ranch, 94.26 41 *e*P **P 08 29 10.8 +2.2**
SRU San Rafael 94.62 42 *e*P **P 08 29 12.0 +1.7**
SRU pmax pmax
comp=Z,2.0nm,0.8s
SRU San Rafael 94.62 42 *e*P **P 08 29 12.0 +1.7**
comp=Z,2.4nm,0.8s
ESDC Sonseca Array 99.93 324 LR LR 09 19 59.3
comp=Z,38nm,18.1s,baz=125,slow=38
TORD Torodi Ar. Bea 114.27 300 PKP PKPdf 08 34 28.4 -0.7
comp=Z,0.5nm,0.7s,baz=31,slow=2.3,SNR=3.9

TIF **12** *08:20:07.8, 43.˚41N×45.˚58E, h14km*
MOS **12** *08:20:08.7±0.9, 43.˚30N×45.˚49E, h13km, mb3.9/1, Error ellipse: s-maj=13.4km s-min=7.0km az=24.6*
CSEM **12** *08:20:08.1, 43.˚30N×45.˚49E, h13km, mb3.9*
ISCJB **12** *08:20:09.0±0.4, 43.˚27N±0.˚04×45.˚53E±0.˚03, h13km±5km, Error ellipse: s-maj=7.2km s-min=2.5km az=20.1*

ISC 12 08:20:08.9±0.9, 43.˚31N±0.˚04×45.˚49E±0.˚02, h16km±7km, n34, σ0.˚82/68, 3C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GRO	**Groznyy**	**0.19**	**86**	⇓ *i* PG		**Pb**	**08 20 13.8**	**-0.2**
GRO				*e*S		**Sg**	**08 20 17.7**	**+1.1**
GRO	**Groznyy**	**0.19**	**86**	*i* Pg		**Pb**	**08 20 13.8**	**-0.2**
GRO				*e*Sg		**Sg**	**08 20 17.7**	**+1.1**
VLKR	**Vladikavkaz**	**0.65**	**247**	*e*PG		**Pb**	**08 20 22.4**	**+0.5**

VLKR				*e*S		**Sn**	**08 20 33.5**	**0.0**	
VLKR	**Vladikavkaz**	**0.65**	**247**	*e*Pg		**Pb**	**08 20 22.4**	**+0.5**	
VLKR				*e*Sg		**Sn**	**08 20 33.5**	**0.0**	
TRKR	**Terskaya**	**0.69**	**307**	*e*PG		**Pn**	**08 20 24.3**	**+0.3**	
TRKR				*e*S		**Sn**	**08 20 34.5**	**+0.1**	
TRKR	**Terskaya**	**0.69**	**307**	*e*Pg		**Pn**	**08 20 24.3**	**+0.3**	
TRKR				*e*Sg		**Sn**	**08 20 34.5**	**+0.1**	
BTKR	**Batakoyurt**	**0.70**	**276**	*e*PG		**Pb**	**08 20 22.9**	**+0.2**	
BTKR				*e*S		**Sn**	**08 20 34.1**	**-0.5**	
BTKR	**Batakoyurt**	**0.70**	**276**	*e*Pg		**Pb**	**08 20 22.9**	**+0.2**	
BTKR				*e*Sg		**Sn**	**08 20 34.1**	**-0.5**	
BTLR	**Botlikh**	**0.84**	**140**	*e*PG		**Pg**	**08 20 24.4**	**-0.8**	
BTLR				*e*S		**Sb**	**08 20 36.4**	**+0.3**	
BTLR	**Botlikh**	**0.84**	**140**	*e*Pg		**Pg**	**08 20 24.4**	**-0.8**	
BTLR				*e*Sg		**Sb**	**08 20 36.4**	**+0.3**	
ARNR	**Ardon**	**0.89**	**262**	*e*PG		**Pn**	**08 20 26.5**	**-0.3**	
ARNR				*e*S		**Sn**	**08 20 40.8**	**+1.4**	
ARNR	**Ardon**	**0.89**	**262**	*e*Pg		**Pn**	**08 20 26.5**	**-0.3**	
ARNR				*e*Sg		**Sn**	**08 20 40.8**	**+1.4**	
PRTR	**Priterechnaya**	**0.99**	**297**	*e*PG		**Pb**	**08 20 27.4**	**-0.2**	
PRTR				*e*S		**Sn**	**08 20 41.7**	**+0.1**	
PRTR	**Priterechnaya**	**0.99**	**297**	*e*Pg		**Pb**	**08 20 27.4**	**-0.2**	
PRTR				*e*Sg		**Sn**	**08 20 41.7**	**+0.1**	
DBC	**Dubki**	**1.02**	**106**	⇑*i*PG		**Pb**	**08 20 27.2**	**-1.0**	
DBC				*i* S		**Sn**	**08 20 43.7**	**+1.1**	
DBC	**Dubki**	**1.02**	**106**	*i* Pg		**Pb**	**08 20 27.2**	**-1.0**	
DBC				*i* Sg		**Sn**	**08 20 43.7**	**+1.1**	
KORR	**Kora**	**1.07**	**258**	⇑*i*PG		**Pg**	**08 20 29.0**	**-0.6**	
KORR				*e*S		**Sn**	**08 20 45.5**	**+1.8**	
KORR	**Kora**	**1.07**	**258**	*i* Pg		**Pg**	**08 20 29.0**	**-0.6**	
KORR				*e*Sg		**Sn**	**08 20 45.5**	**+1.8**	
UNCR	**Uncukul**	**1.12**	**121**	*i* PG		**Pb**	**08 20 29.0**	**-1.0**	
UNCR				*i* S		**Sn**	**08 20 46.0**	**+0.9**	
UNCR				pmax	pmax				
	comp=Z,40nm,0.1s								
UNCR	**Uncukul**	**1.12**	**121**	*i* Pg		**Pb**	**08 20 29.0**	**-1.0**	
	comp=Z,40nm,0.1s								
UNCR				*i* Sg		**Sn**	**08 20 46.0**	**+0.9**	
KRNR	**Karanay**	**1.14**	**114**	*i* PG		**Pb**	**08 20 30.0**	**-0.3**	
KRNR				*i* S		**Sn**	**08 20 47.2**	**+1.5**	
KRNR				pmax	pmax				
	comp=Z,40nm,0.2s								
KRNR	**Karanay**	**1.14**	**114**	*i* Pg		**Pb**	**08 20 30.0**	**-0.3**	
	comp=Z,40nm,0.2s								
KRNR				*i* Sg		**Sn**	**08 20 47.2**	**+1.5**	
XNZR	**Khunzakh**	**1.17**	**130**	*i* PG		**Pb**	**08 20 30.5**	**-0.4**	
XNZR				*i* S		**Sn**	**08 20 47.5**	**+1.0**	
XNZR				pmax	pmax				
	comp=Z,73nm,0.1s								
XNZR	**Khunzakh**	**1.17**	**130**	*i* Pg		**Pb**	**08 20 30.5**	**-0.4**	
	comp=Z,73nm,0.1s								
XNZR				*i* Sg		**Sn**	**08 20 47.5**	**+1.0**	
LSNR	**Lesken**	**1.22**	**269**	*e*PG		**Pn**	**08 20 29.7**	**-1.6**	
LSNR				*e*S		**Sn**	**08 20 48.1**	**+0.7**	
LSNR	**Lesken**	**1.22**	**269**	*e*Pg		**Pn**	**08 20 29.7**	**-1.6**	
LSNR				*e*Sg		**Sn**	**08 20 48.1**	**+0.7**	
ARKR	**Arakani**	**1.31**	**122**	*e*PG		**Pn**	**08 20 32.5**	**0.0**	
ARKR				*e*S		**Sn**	**08 20 50.5**	**+0.8**	
ARKR	**Arakani**	**1.31**	**122**	*e*Pg		**Pn**	**08 20 32.5**	**0.0**	
ARKR				*e*Sg		**Sn**	**08 20 50.5**	**+0.8**	
GNBR	**Gunib**	**1.42**	**130**	⇑*i*PG		**Pg**	**08 20 35.8**	**-0.5**	
GNBR				*i* S		**Sg**	**08 20 55.1**	**+0.3**	
GNBR	**Gunib**	**1.42**	**130**	*i* Pg		**Pg**	**08 20 35.8**	**-0.5**	
GNBR				*i* Sg		**Sg**	**08 20 55.1**	**+0.3**	
DIGR	**Digorskoe uzhe**	**1.46**	**254**	*e*PG		**Pn**	**08 20 33.9**	**-0.9**	
DIGR				*e*S		**Sb**	**08 20 54.8**	**+0.6**	
DIGR	**Digorskoe uzhe**	**1.46**	**254**	*e*Pg		**Pn**	**08 20 33.9**	**-0.9**	
DIGR				*e*Sg		**Sb**	**08 20 54.8**	**+0.6**	
KMKR	**Kumukh**	**1.67**	**134**	*e*PN		**Pb**	**08 20 39.5**	**+0.1**	
KMKR				*i* S		**Sg**	**08 21 02.0**	**-0.7**	
KMKR	**Kumukh**	**1.67**	**134**	*e*Pn		**Pb**	**08 20 39.5**	**+0.1**	
KMKR				*i* Sg		**Sg**	**08 21 02.0**	**-0.7**	

ISCJB ***12*** *08:29:41.7±0.5,22.°86S±0.′07×69.°26E±0.′09, h14km, mb4.0/18, MS4.0/18, Error ellipse: s-maj=12.4km s-min=8.9km az=20.3*

IDC ***12*** *08:29:41.1±0.6,22.°91S×69.°24E, h0km, mb4.1/14, mb1 4.2/14, mb1mx4.0/42, mbtmp4.1/14, MS3.9/18, Ms1 3.9/18, ms1mx3.7/33, Error ellipse: s-maj=19.4km s-min=16.8km az=172.0*

NEIC ***12*** *08:29:43.2±0.4,22.°80S×69.°23E, h10km, mb4.3/3, Error ellipse: s-maj=11.7km s-min=10.6km az=131.0*

ISC 12 08:29:43.8±0.6,**22.°81S**±0.′09×**69.°2E**±0.′1,**h14**km,**n43,**
σ1≤**05/29,mb4.2/18,MS3.9/18,Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**15.40**	**12**	T	T	08 48 57.2	
	baz=192,slow=76,SNR=853						
H08S2	**Diego Carcia H**	**15.41**	**12**	T	T	08 48 58.9	
	baz=192,slow=76,SNR=214						
H08S3	**Diego Carcia H**	**15.42**	**12**	T	T	08 48 58.6	
	baz=192,slow=76,SNR=1033						
DGAR	**Diego Garcia**	**15.63**	**12**	*e*Pn	**Pn**	**08 33 23.9**	**+0.1**
	211nm,0.4s						
DGAR				*e*Sn	**Sn**	**08 36 17.7**	**+0.9**
H08N3	**Diego Garcia H**	**16.46**	**6**	T	T	08 50 25.2	
	baz=214,slow=77,SNR=13						
H08N1	**Diego Garcia H**	**16.47**	**6**	T	T	08 50 26.1	
	baz=214,slow=77,SNR=11						
H08N2	**Diego Garcia H**	**16.48**	**6**	T	T	08 50 29.2	
	baz=214,slow=77,SNR=12						
OPO	**Ambohidratompo**	**21.02**	**278**	P	**P**	**08 34 28.4**	**+0.9**
	7.5nm,1.1s,baz=77,slow=7.8,SNR=5.3						
OPO				LR	LR	08 40 21.2	
	comp=Z,710nm,20.7s,baz=94,slow=30						
PALK	**Pallekele**	**31.95**	**22**	LR	LR	08 45 53.0	
	comp=Z,291nm,20.2s,baz=190,slow=30						
KMBO	**Kilima Mbogo**	**37.79**	**300**	P	**P**	**08 37 00.7**	**+0.5**
	0.9nm,0.3s,baz=134,slow=8.9,SNR=3.7						
KMBO				LR	LR	08 49 16.1	
	comp=Z,136nm,20.7s,baz=154,slow=31						
KMBO	**Kilima Mbogo**	**37.79**	**300**	*e*P	**P**	**08 37 00.8**	**+0.6**
LBTB	**Lobatse**	**39.81**	**258**	P	**P**	**08 37 16.1**	**-0.8**
	2.8nm,0.8s,baz=128,slow=6.1,SNR=3.3						
BOSA	**Boshof**	**39.85**	**252**	P	**P**	**08 37 16.9**	**-0.3**
	2.0nm,0.9s,baz=93,slow=10.0,SNR=3.1						
BOSA				LR	LR	08 50 34.1	
	comp=Z,209nm,18.6s,baz=107,slow=31						
H01W2	**Cape Leeuwin H**	**40.84**	**117**	T	T	09 20 48.6	
	baz=274,slow=75,SNR=103						
H01W3	**Cape Leeuwin H**	**40.84**	**117**	T	T	09 20 49.0	
	baz=274,slow=75,SNR=95						
H01W1	**Cape Leeuwin H**	**40.85**	**117**	T	T	09 20 50.2	
	baz=274,slow=75,SNR=114						
MAW	**Mawson**	**44.97**	**183**	P	**P**	**08 38 00.6**	**+2.5**
	1.6nm,0.7s,baz=353,slow=8.1,SNR=2.9						
MAW				LR	LR	08 53 04.4	
	comp=Z,115nm,19.1s,baz=58,slow=31						
TSUM	**Tsumeb**	**48.14**	**264**	LR	LR	08 56 09.5	
	comp=Z,300nm,20.0s,baz=120,slow=33						
CMAR	**Chiang Mai Arr**	**50.27**	**38**	P	**P**	**08 38 40.4**	**+0.5**
	1.4nm,0.6s,baz=237,slow=6.9,SNR=5.6						
CMAR				LR	LR	08 59 13.9	
	comp=Z,40nm,18.9s,baz=190,slow=35						
ASAR	**Alice Springs**	**58.97**	**105**	P	**P**	**08 39 42.4**	**-0.8**
	1.1nm,0.8s,baz=261,slow=6.3,SNR=10						
ASAR				LR	LR	09 01 41.0	
	comp=Z,339nm,20.6s,baz=276,slow=33						
WRA	**Warramunga Arr**	**60.28**	**101**	P	**P**	**08 39 51.7**	**-0.6**
	1.6nm,0.9s,baz=256,slow=6.6,SNR=14						
WRA				LR	LR	09 04 16.3	
	comp=Z,174nm,19.0s,baz=260,slow=34						
WRAB	**Tennant Creek**	**60.29**	**101**	*e*P	**P**	**08 39 52.1**	**-0.2**
	2.6nm,0.5s						
GEYT	**Alibeck**	**61.31**	**350**	LR	LR	09 02 53.5	
	comp=Z,74nm,21.6s,baz=300,slow=32						
SNAA	**Sanae**	**62.89**	**200**	LR	LR	09 04 18.1	
	comp=Z,24nm,18.3s,baz=93,slow=33						
STKA	**Stephens Creek**	**63.88**	**115**	LR	LR	09 04 43.6	
	comp=Z,224nm,19.5s,baz=215,slow=33						
QSPA	**South Pole Qui**	**67.31**	**180**	P	**P**	**08 40 36.9**	**-1.1**
	2.5nm,0.8s,baz=266,slow=2.1,SNR=10						
QSPA	**South Pole Qui**	**67.31**	**180**	*e*P	**P**	**08 40 37.8**	**-0.2**
VNDA	**Vanda**	**68.47**	**166**	P	**P**	**08 40 44.0**	**-0.9**
	2.6nm,1.0s,baz=267,slow=7.2,SNR=10						
MK31	**Makanchi Array**	**70.28**	**10**	*e*P	**P**	**08 40 57.2**	**+0.7**
MKAR	**Makanchi Array**	**70.28**	**10**	P	**P**	**08 40 57.3**	**+0.8**
	1.2nm,0.7s,baz=190,slow=6.2,SNR=9.8						
MKAR				LR	LR	09 10 33.9	
	comp=Z,59nm,20.9s,baz=222,slow=35						
ABKAR	**Akbulak array**	**72.22**	**354**	*e*P	**P**	**08 41 06.8**	**-1.3**
	1.1nm,0.5s						
KURK	**Kurchatov**	**73.67**	**6**	*e*P	**P**	**08 41 16.4**	**-0.3**
	1.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**75.13**	**291**	P	**P**	**08 41 25.3**	**-0.7**
	0.5nm,0.7s,baz=103,slow=6.1,SNR=3.7						
TORD				LR	LR	09 13 50.0	
	comp=Z,123nm,18.1s,baz=100,slow=35						
ZALV	**Zalesovo Beam**	**77.62**	**9**	P	**P**	**08 41 38.4**	**-0.9**
	1.0nm,0.5s,baz=193,slow=6.1,SNR=4.3						
ZALV				LR	LR	09 13 12.3	
	comp=Z,46nm,20.7s,baz=252,slow=34						
SONM	**Songino Array**	**77.85**	**25**	P	**P**	**08 41 40.5**	**-0.4**
	2.2nm,0.9s,baz=222,slow=4.0,SNR=9.5						
DBIC	**Dimbokro**	**78.05**	**282**	LR	LR	09 14 11.8	
	comp=Z,164nm,19.2s,baz=106,slow=34						
KEST	**Kesra**	**81.21**	**315**	LR	LR	09 16 23.5	
	comp=Z,30nm,20.5s,baz=299,slow=34						
KSAR	**Wonju Array Be**	**81.46**	**43**	P	**P**	**08 42 00.9**	**+0.4**
KSRS	**Korea Array**	**81.50**	**43**	P	**P**	**08 42 00.9**	**+0.2**
	1.1nm,0.6s,baz=234,slow=5.5,SNR=5.1						
ARCES	**ARCESS Array B**	**97.25**	**346**	LR	LR	09 26 47.4	
	comp=Z,28nm,20.8s,baz=186,slow=35						
EDM	**Edmonton**	**149.58**	**3**	*e*PKPbc	**PKPbc**	**08 49 32.6**	**0.0**
EDM				*e*PKPab	**PKPab**	**08 49 38.3**	**+0.7**
COWI	**Conover**	**150.88**	**328**	*e*PKPbc	**PKPbc**	**08 49 35.5**	**-0.4**
COWI				*e*PKPab	**PKPab**	**08 49 41.1**	**-2.1**
NVAR	**Mina Array Bea**	**163.16**	**21**	PKP	**PKPdf**	**08 49 48.9**	**+2.5**
	0.4nm,0.8s,baz=228,slow=1.1,SNR=2.5						

BJI ***12*** *08:38:15.9,8.°80S×119.°20E, h123km, mb4.8/32, mB4.8/22*

NEIC ***12*** *08:38:17.4±0.2,8.°62S×119.°25E, mb4.7/18, Error ellipse: s-maj=7.2km s-min=4.6km az=213.0*

ISCJB ***12*** *08:38:17.8±0.3,8.°70S±0.′03×119.°29E±0.′02, h135km±3km, mb4.4/38, Error ellipse: s-maj=4.7km s-min=3.5km az=27.5*

IDC ***12*** *08:38:19.1±1.1,8.°56S×119.°25E, h132km±9km, mb4.2/25, mb1 4.3/29, mb1mx4.2/42, mbtmp4.6/29, MS2.9/1, Ms1 2.9/1, ms1mx2.5/33, Error ellipse: s-maj=12.3km s-min=7.4km az=70.0*

DJA ***12*** *08:38:19.7±0.2,9.°5S±2.′×11.°9E±.°, h90km±6km, M5.1/32, mb5.1/32, mB5.5/16, MLv5.2/22, Mw(mB)5.0/16*

KLM ***12*** *08:38:21.5,8.°66S×119.°54E, h109km, mb4.6, ML4.6, MS5.7*

ISC 12 08:38:18.1±0.3,**8.°72S**±0.′04×**119.°28E**±0.′04,**h123**km±2km,
h123km:**pP-P,n192,**σ1≤**58**/237,**mb4.5**/37,**1C-2D,Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.38**	**133**	P	**Pn**	**08 38 43.7**	**-0.6**
BASI	**Baing, Sumba**	**1.97**	**139**	P	**Pn**	**08 38 51.2**	**-0.1**
BSSI	**Bau Bau, Buton**	**2.83**	**25**	P	**Pn**	**08 39 02.5**	**+0.3**
MMRI	**Maumere**	**2.93**	**89**	P	**Pn**	**08 39 05.2**	**+1.7**
MMRI	**Maumere**	**2.93**	**89**	*e*Pn	**Pn**	**08 39 03.8**	**+0.3**
BKSI	**Bulukumba**	**3.47**	**14**	P	**Pn**	**08 39 11.5**	**+0.8**
KAPI	**Kappang**	**3.71**	**7**	P	**Pn**	**08 39 14.0**	**+0.2**
	16nm,0.3s,baz=211,slow=6.5,SNR=59						
KAPI				S	**Sn**	**08 39 56.8**	**-0.2**
	118nm,0.3s,baz=197,slow=16,SNR=19						
KAPI				LR	LR	08 40 42.9	
	comp=Z,165nm,20.0s,baz=271,slow=40						
DNP	**Denpasar**	**4.02**	**270**	P	**Pn**	**08 39 18.4**	**+0.4**
SRBI	**Singaraja**	**4.07**	**279**	P	**Pn**	**08 39 17.7**	**-0.9**
IGBI	**Denpasar**	**4.09**	**268**	P	**Pn**	**08 39 19.0**	**+0.2**
SPSI	**Sidrap Palu**	**4.75**	**6**	P	Pn	08 39 31.5	+3.8
SOEI	**Soe**	**5.03**	**102**	P	**Pn**	**08 39 32.8**	**+1.2**
	377nm,0.7s,6μm5.3nm						
SOEI	**Soe**	**5.03**	**102**	P	**Pn**	**08 39 32.1**	**+0.4**
	baz=5.1,SNR=15						
SOEI	**Soe**	**5.03**	**102**	*e*Pn	**Pn**	**08 39 32.0**	**+0.4**
SOEI				*e*Sn	**Sn**	**08 40 28.6**	**-0.3**
ABJI	**Asem Bagus**	**5.08**	**280**	P	**Pn**	**08 39 33.1**	**+1.0**
	248nm,0.7s,6μm2.4nm						
JAGI	**Jajag, Banyuwa**	**5.08**	**272**	P	**Pn**	**08 39 30.3**	**-1.8**
	491nm,0.6s,14μm3.7nm						
JAGI	**Jajag, Banyuwa**	**5.08**	**272**	P	**Pn**	**08 39 30.2**	**-1.9**
	baz=5.1,SNR=57						
JAGI	**Jajag, Banyuwa**	**5.08**	**272**	*e*Pn	**Pn**	**08 39 29.9**	**-2.2**
	518nm,0.4s						
JAGI				*e*Sn	**Sn**	**08 40 27.6**	**-2.1**
KMMI	**Kalianget**	**5.52**	**287**	P	**Pn**	**08 39 40.1**	**+2.1**
	186nm,0.7s,1.0nm						
TTSI	**Tana Toraja**	**5.66**	**5**	P	Pn	08 39 43.8	+3.8
	107nm,0.9s,2μm0.5nm						
BLJI	**Banyuglugur**	**5.71**	**279**	P	**Pn**	**08 39 40.5**	**-0.1**
KBKI	**Kotabaru**	**6.21**	**330**	P	**Pn**	**08 39 50.1**	**+2.8**
	100nm,0.8s,2μm0.5nm						
BBKI	**Banjar Baru**	**6.83**	**320**	P	**Pn**	**08 39 59.0**	**+3.2**
	772nm,1.1s,2.2nm						
GRJI	**Gresik**	**6.97**	**284**	P	Pn	08 40 02.2	+4.6
PWJI	**Pagerwojo**	**7.43**	**275**	P	**Pn**	**08 40 05.2**	**+1.4**
	124nm,0.8s						
BKB	**Balikpapan**	**7.78**	**342**	P	Pn	08 40 14.4	+5.8
PCI	**Palu**	**7.78**	**4**	P	Pn	08 40 12.0	+3.4
	80nm,1.3s,870nm0.3nm						
NGJI	**Ngawi**	**7.86**	**279**	P	**Pn**	**08 40 10.7**	**+1.1**
APSI	**Ampana**	**8.11**	**17**	P	**Pn**	**08 40 15.9**	**+2.9**
	68nm,0.9s						
UGM	**Wanagama**	**8.70**	**275**	P	**Pn**	**08 40 21.6**	**+0.5**
	baz=8.7,SNR=14						
SMRI	**Semarang**	**8.91**	**280**	P	**Pn**	**08 40 25.7**	**+1.8**
SMRI	**Semarang**	**8.91**	**280**	*e*Pn	**Pn**	**08 40 23.5**	**-0.4**
	106nm,0.8s						
SMRI				*e*Sn	**Sn**	**08 42 02.2**	**-0.4**
SANI	**Sanana**	**9.40**	**46**	P	**Pn**	**08 40 32.5**	**+2.0**
	129nm,1.6s,2μm						
NLAI	**Namlea**	**9.49**	**55**	P	Pn	08 40 35.4	+3.7
MRSI	**Marisa**	**9.51**	**16**	P	**Pn**	**08 40 34.2**	**+2.2**
	42nm,1.2s						
PBKI	**Pangkalan Bun**	**9.64**	**308**	P	**Pn**	**08 40 36.9**	**+3.2**
	644nm,1.1s,5μm						
KPJI	**Karang Pucung**	**10.34**	**277**	P	Pn	08 40 47.8	+4.7
CISI	**Cisompet, Garu**	**11.41**	**275**	P	Pn	08 40 54.4	-3.1
	baz=11,SNR=6.9						
CISI	**Cisompet, Garu**	**11.41**	**275**	*e*Pn	**Pn**	**08 40 56.0**	**-1.6**
	70nm,0.5s						
LBMI	**Labuha**	**11.46**	**46**	P	**P**	**08 41 04.9**	**-2.0**
STKI	**Sintang**	**11.68**	**318**	P	**Pn**	**08 41 03.1**	**+2.0**
	52nm,1.1s,16μm						
LEM	**Lembang**	**11.71**	**278**	P	**P**	**08 41 12.8**	**+3.1**
LEM	**Lembang**	**11.71**	**278**	P	**Pn**	**08 41 01.6**	**+0.1**
	8.7nm,0.3s,baz=100,slow=21,SNR=5.2						
LEM				S	**Sn**	**08 43 14.2**	**+3.7**
	5.2nm,0.3s,baz=270,slow=20,SNR=3.6						
MTN	**Manton Dam**	**12.35**	**110**	P	**Pn**	**08 41 07.1**	**-2.7**
	baz=12,SNR=72						
MBWA	**Marble Bar**	**12.38**	**178**	*e*Pn	**Pn**	**08 41 07.2**	**-3.0**
CBJI	**Citeko**	**12.53**	**280**	P	**Pn**	**08 41 10.2**	**-2.0**
	269nm,0.8s						
SBUM	**Sibu**	**13.13**	**327**	⇓P	**P**	**08 41 25.1**	**-0.5**
SBUM	**Sibu**	**13.13**	**327**	*e*Pn	**Pn**	**08 41 20.2**	**+0.1**
KSM	**Kuching**	**13.50**	**318**	P	**Pn**	**08 41 27.1**	**+2.3**
	baz=14,SNR=3.4						
KSM	**Kuching**	**13.50**	**318**	⇑P	**P**	**08 41 31.6**	**+1.9**
KSM	**Kuching**	**13.50**	**318**	*e*Pn	**Pn**	**08 41 23.0**	**-1.9**
	30nm,1.0s						
KDU	**Kakadu**	**13.55**	**108**	P	**Pn**	**08 41 23.2**	**-2.2**
	baz=14,SNR=26						
CGJI	**Cibinong**	**13.62**	**278**	P	**P**	**08 41 29.9**	**-1.1**
FAKI	**Fak Fak**	**14.13**	**67**	P	**Pn**	**08 41 31.4**	**-1.4**
FAKI	**Fak Fak**	**14.13**	**67**	P	**Pn**	**08 41 30.9**	**-1.9**
	baz=14,SNR=23						
FAKI	**Fak Fak**	**14.13**	**67**	*e*Pn	**Pn**	**08 41 31.6**	**-1.3**
SWI	**Sorong**	**14.26**	**57**	P	**Pn**	**08 41 35.8**	**+1.3**
	69nm,1.1s,914nm						
SWI	**Sorong**	**14.26**	**57**	P	**P**	**08 41 39.9**	**+1.9**
	baz=14,SNR=3.6						
SIJI	**Sorong**	**14.26**	**57**	P	**Pn**	**08 41 32.7**	**-1.8**
	2.9nm,0.3s,baz=235,slow=5.9,SNR=6.3						
SDKM	**Sandakan**	**14.41**	**352**	⇓P	**P**	**08 41 42.6**	**+2.8**
PPBI	**Pangkal Pinang**	**14.61**	**296**	P	**P**	**08 41 41.6**	**-0.3**
	53nm,0.8s,16μm						
GIRL	**Giralia**	**14.67**	**199**	P	**Pn**	**08 41 39.8**	**+0.2**
	baz=15,SNR=18						
KLI	**Kotabumi**	**14.82**	**284**	P	**P**	**08 41 44.7**	**+0.4**
	115nm,0.9s,10μm						
KASI	**Kota Agung**	**15.01**	**281**	P	**P**	**08 41 45.6**	**-0.8**
	244nm,1.0s,2μm						
LWLI	**Liwa**	**15.55**	**283**	P	P	08 42 01.1	+8.6
MDSI	**Maura Dua**	**15.57**	**285**	P	**P**	**08 41 52.8**	**+0.1**
	22nm,0.9s						
LHSI	**Lahat**	**16.39**	**286**	P	**Pn**	**08 42 01.4**	**+0.3**
	127nm,0.9s						

RKPI	**Ransiki, Papua**	**16.47**	**65**	P		**P**	**08 42 02.3**	**-0.3**	
DSRI	**Dabo**	**16.77**	**298**	P		**P**	**08 42 09.2**	**+3.3**	
	121nm,1.1s								
MNAI	**Manna**	**16.78**	**284**	P		**Pn**	**08 42 05.3**	**-0.6**	
	338nm,0.6s								
MNAI	**Manna**	**16.78**	**284**	P		**Pn**	**08 42 04.6**	**-1.3**	
	baz=17,SNR=11								
KSI	**Kapahiang**	**17.33**	**286**	P		**P**	**08 42 11.1**	**-1.1**	
MASI	**Maura Arman, Be**	**17.82**	**287**	P		**Pn**	**08 42 23.1**	**+4.6**	
MEEK	**Meekatharra**	**17.84**	**182**	P		**Pn**	**08 42 18.9**	**+0.3**	
	baz=18,SNR=27								
BAKI	**Biak**	**18.35**	**67**	P		**Pn**	**08 42 25.1**	**+0.4**	
	92nm,1.1s								
WRA	**Warramunga Arr**	**18.35**	**129**	P		**P**	**08 42 23.2**	**-0.1**	
	2.5nm,0.3s,baz=300,slow=12,SNR=86								
WRA				S		S	08 45 37.8	-9.1	
	2.0nm,0.3s,baz=306,slow=23,SNR=10								
WRA				ScP		**ScP**	**08 50 12.7**	**-1.3**	
	baz=314,slow=2.0,SNR=5.6								
WRAB	**Tennant Creek**	**18.36**	**129**	*e*Pn		**P**	**08 42 24.1**	**+0.7**	
	30nm,0.7s								
WRKA	**Warakurna**	**18.37**	**153**	P		**Pn**	**08 42 24.9**	**0.0**	
	baz=18,SNR=42								
MYKOM	**Kota Tinggi**	**18.59**	**303**	*e*Pn		**Pn**	**08 42 27.2**	**-0.4**	
	33nm,1.1s								
ASAR	**Alice Springs**	**20.42**	**138**	P		**P**	**08 42 46.1**	**+0.4**	
	12nm,0.7s,baz=320,slow=12,SNR=106								
ASAR				S		**S**	**08 46 31.8**	**+3.9**	
	16nm,0.9s,baz=315,slow=24,SNR=6.3								
ASAR				ScP		**ScP**	**08 50 17.6**	**-1.1**	
	3.4nm,0.6s,baz=341,slow=2.1,SNR=6.1								
MORW	**Morawa**	**20.47**	**188**	P		Pn	08 42 50.0	+0.5	
	baz=21,SNR=7.8								
GENI	**Genyem**	**21.65**	**75**	P		**P**	**08 42 58.3**	**-0.6**	
BLDU	**Ballidu**	**21.92**	**186**	P		**P**	**08 43 01.8**	**+0.2**	
	baz=22,SNR=10								
TGY	**Tagaytay City**	**22.73**	**4**	P		**P**	**08 43 09.4**	**-0.5**	
	129nm,0.4s,baz=180,slow=20								
KLBR	**Kellerberrin**	**22.81**	**183**	P		**P**	**08 43 10.8**	**+0.3**	
	baz=23,SNR=11								
QIS	**Mount Isa**	**22.89**	**123**	P		**P**	**08 43 11.5**	**+0.1**	
	baz=23,SNR=18								
PSI	**Prapat**	**23.30**	**299**	P		**P**	**08 43 12.8**	**-2.5**	
	9.2nm,0.4s,baz=132,slow=6.2,SNR=11								
PSI	**Prapat**	**23.30**	**299**	P		**P**	**08 43 13.8**	**-1.6**	
	baz=23,SNR=6.4								
PSI	**Prapat**	**23.30**	**299**	*e*P		**P**	**08 43 12.9**	**-2.5**	
	26nm,1.1s								
FORT	**Forrest**	**23.43**	**161**	P		**P**	**08 43 17.1**	**+0.8**	
	baz=24,SNR=8.5								
COEN	**Coen**	**23.99**	**105**	P		**P**	**08 43 22.0**	**+0.4**	
	baz=24,SNR=27								
COEN	**Coen**	**23.99**	**105**	*e*P		**P**	**08 43 22.0**	**+0.4**	
	13nm,0.6s								
NWAO	**Narrogin (SRO)**	**24.17**	**184**	P		**P**	**08 43 24.3**	**+1.3**	
	11nm,0.6s,baz=326,slow=4.6,SNR=9.9								
MTSU	**Mount Surprise**	**26.06**	**114**	P		**P**	**08 43 41.4**	**+1.1**	
	baz=26,SNR=21								
PATY	**Pattaya**	**28.23**	**319**	P		**P**	**08 44 00.3**	**+0.7**	
	14nm,0.5s								
CTA	**Charters Tower**	**28.42**	**116**	P		**P**	**08 44 02.0**	**+0.6**	
	7.9nm,0.8s,baz=284,slow

GTA				pP	**pP**	08 47 35.5	-2.1
GTA				sP	**sP**	08 47 48.2	-3.1
GTA				PcP	**PcP**	08 48 23.0	+0.3
GTA				ScP	**ScP**	08 52 07.9	0.0
GTA				PcS	**PcS**	08 52 17.8	-2.8
GTA				S	**S**	08 54 18.1	+0.2
GTA				sS	**sS**	08 55 04.4	-3.1
GTA				SS	**SS**	08 57 51.4	-3.7
GTA				PMZ			
	10.0nm,1.1s						
GTA				PMZ			
	70nm,5.9s						
GTA				LN			
	370nm,20.4s						
GTA				LE			
	480nm,20.9s						
GTA				LZ			
	97nm,16.6s						
CN2	**Changchun**	**52.57**	**6**	*e*P	P	08 47 23.9	+5.0
USRK	**Ussuriysk Ar.**	**53.91**	**11**	P	**P**	**08 47 27.6**	**-1.1**
	4.6nm,0.5s,baz=184,slow=5.9,SNR=18						
SONM	**Songino Array**	**57.45**	**350**	P	**P**	**08 47 53.5**	**-0.6**
	11nm,0.6s,baz=167,slow=8.0,SNR=90						
SONM				ScP	**ScP**	08 52 32.5	-2.6
	0.5nm,0.7s,baz=130,slow=2.3,SNR=4.0						
BKZ	**Black Stump Fm**	**59.28**	**131**	*e*P	**P**	**08 48 08.2**	**+1.1**
	17nm,1.0s						
WMQ	**Urumqi**	**59.62**	**334**	P	**P**	**08 48 08.8**	**-0.4**
WMQ				pP	**pP**	**08 48 35.8**	**-3.0**
WMQ				PcP	**PcP**	**08 48 55.5**	**+0.3**
WMQ				*e*S	**S**	**08 56 08.4**	**-1.6**
WMQ				SS	**SS**	**09 00 03.8**	**-4.1**
WMQ				PMZ			
	22nm,1.2s						
WMQ				PMZ			
	93nm,3.9s						
WMQ				LN			
	130nm,20.0s						
WMQ				LE			
	160nm,24.4s						
WMQ				LZ			
	98nm,20.8s						
KSH	**Kashi**	**62.54**	**323**	P	**P**	**08 48 27.5**	**-1.6**
KSH				pP	**pP**	**08 49 00.4**	**+1.5**
KSH				PcP	**PcP**	**08 49 10.3**	**+3.1**
KSH				PP	PP	08 50 54.2	+5.9
KSH				S	S	08 56 38.6	-8.7
KSH				sS	**sS**	**08 57 39.1**	**+0.5**
KSH				PMZ			
	16nm,0.5s						
KSH				PMZ			
	220nm,5.1s						
KSH				LN			
	87nm,4.7s						
KSH				LE			
	110nm,4.3s						
KSH				LZ			
	170nm,7.1s						
KBL	**Kabul**	**64.08**	**315**	*e*P	**P**	**08 48 37.6**	**-1.9**
	5.9nm,0.5s						
MK31	**Makanchi Array**	**64.33**	**333**	P	**P**	**08 48 39.4**	**-1.2**
	baz=64,SNR=18						
MKAR	**Makanchi Array**	**64.33**	**333**	P	**P**	**08 48 39.3**	**-1.3**
	14nm,0.7s,baz=139,slow=7.9,SNR=109						
MKAR				PcP	**PcP**	**08 49 13.3**	**-0.8**
	3.0nm,0.6s,baz=129,slow=6.8,SNR=3.7						
EKS2	**Erkin-Say**	**65.83**	**325**	*e*P	**P**	**08 48 49.0**	**-1.6**
	5.2nm,0.9s						
KURBB	**Kurchatov Arra**	**68.84**	**334**	P	**P**	**08 49 07.5**	**-1.6**
	6.2nm,0.7s,baz=145,slow=5.6,SNR=63						
KURBB				PcP	**PcP**	**08 49 31.8**	**-1.0**
	2.9nm,0.7s,baz=138,slow=3.6,SNR=8.5						
KURK	**Kurchatov**	**68.86**	**334**	P	**P**	**08 49 07.5**	**-1.7**
KURK				PcP	**PcP**	**08 49 31.8**	**-1.1**
ZAA0	**Zalesovo Array**	**68.88**	**339**	P	**P**	**08 49 07.2**	**-2.1**
	baz=69,SNR=8.2						
ZALV	**Zalesovo Beam**	**68.88**	**339**	P	**P**	**08 49 07.1**	**-2.2**
	17nm,0.6s,baz=145,slow=4.6,SNR=60						
MAW	**Mawson**	**69.59**	**200**	P	**P**	**08 49 15.1**	**+1.6**
	2.1nm,0.8s,baz=78,slow=9.3,SNR=3.5						
MAW				pP	**pP**	**08 49 44.3**	**+0.5**
	9.6nm,1.1s,baz=53,slow=6.6,SNR=7.7						
OPO	**Ambohidratompo**	**70.36**	**253**	P	**P**	**08 49 20.4**	**+1.0**
	7.3nm,0.8s,baz=66,slow=2.2,SNR=7.6						
VNDA	**Vanda**	**72.22**	**171**	P	**P**	**08 49 31.3**	**+2.0**
	0.9nm,0.5s,baz=311,slow=7.1,SNR=11						
VNDA				pP	**pP**	**08 50 00.0**	**+0.2**
	1.2nm,0.6s,baz=296,slow=5.2,SNR=4.0						
GEYT	**Alibeck**	**73.44**	**314**	P	**P**	**08 49 36.1**	**-1.2**
	3.8nm,0.6s,baz=132,slow=4.2,SNR=10						
BVAR	**Borovoye Array**	**74.18**	**332**	P	**P**	**08 49 39.6**	**-1.6**
	3.6nm,0.8s,baz=134,slow=8.5,SNR=22						
BRVK	**Borovoye**	**74.25**	**332**	*e*P	**P**	**08 49 40.1**	**-1.4**
	14nm,1.4s						
SEY	**Seymchan**	**75.82**	**15**	P	**P**	**08 49 49.5**	**-0.9**
	11nm,0.7s,baz=221,slow=5.2,SNR=31						
ISHM	**Shahmirzad**	**76.15**	**310**	*e*P	**P**	**08 49 52.1**	**-1.1**
IPIR	**Pirpir**	**76.93**	**306**	*e*P	**P**	**08 49 54.5**	**-3.1**
RAYN	**Ar Rayn**	**78.83**	**296**	*e*P	**P**	**08 50 06.5**	**-1.6**
	8.3nm,1.1s						
QSPA	**South Pole Qui**	**81.28**	**180**	*e*P	**P**	**08 50 21.9**	**+1.4**
	25nm,1.7s						
KMBO	**Kilima Mbogo**	**81.95**	**270**	P	**P**	**08 50 25.2**	**0.0**
	6.3nm,0.9s,baz=52,slow=7.1,SNR=14						
KMBO	**Kilima Mbogo**	**81.95**	**270**	P	**P**	**08 50 26.0**	**+0.7**
	baz=82,SNR=3.3						
KMBO	**Kilima Mbogo**	**81.95**	**270**	*e*P	**P**	**08 50 24.7**	**-0.5**
	1.5nm,0.9s						
KBZ	**Khabaz**	**86.27**	**315**	P	**P**	**08 50 45.1**	**-1.0**
	3.1nm,0.7s,baz=180,slow=5.0,SNR=8.9						
BOSA	**Boshof**	**89.38**	**241**	P	**P**	**08 51 02.3**	**+0.8**
	2.2nm,0.9s,baz=63,slow=2.3,SNR=3.4						
SNAA	**Sanae**	**91.35**	**196**	P	**P**	**08 51 10.9**	**+1.2**
	0.2nm,0.6s,baz=172,slow=12,SNR=10.0						
SNAA				pP	**pP**	**08 51 42.8**	**+1.4**
	1.2nm,0.7s,baz=330,slow=21,SNR=8.5						
BRTR	**Keskin Array B**	**92.17**	**310**	P	**P**	**08 51 11.9**	**-2.4**
	0.5nm,0.6s,baz=122,slow=6.1,SNR=4.3						
FINES	**FINESS Array B**	**99.12**	**331**	P	**Pdif**	**08 51 43.2**	**-1.9**
	1.6nm,0.6s,baz=111,slow=8.4,SNR=7.5						
YKA	**Yellowknife Ar**	**113.82**	**24**	PKiKP	**PKiKP**	**08 56 40.7**	**-1.3**
	1.0nm,0.5s,baz=296,slow=2.3,SNR=7.7						
TORD	**Torodi Ar. Bea**	**118.68**	**280**	PKP	**PKPdf**	**08 56 51.9**	**-0.8**
	1.8nm,0.6s,baz=39,slow=2.2,SNR=24						
EDM	**Edmonton**	**118.76**	**33**	*e*PKPdf	**PKPdf**	**08 56 51.3**	**-0.5**
BSMT	**Bassoo Peak**	**120.14**	**39**	*e*PKPdf	**PKPdf**	**08 56 53.8**	**-1.0**
NVAR	**Mina Array Bea**	**120.63**	**50**	PKP	**PKPdf**	**08 56 56.5**	**+0.4**
	0.6nm,0.6s,baz=242,slow=1.9,SNR=7.4						
NVAR				pPKP	**pPKPdf**	**08 57 31.4**	**+2.2**
	0.5nm,0.7s,baz=255,slow=2.7,SNR=3.3						
MFID	**Camas Ranch**	**121.01**	**44**	*e*PKPdf	**PKPdf**	**08 56 57.3**	**+0.7**
MSO	**Missoula**	**121.06**	**40**	*e*PKPdf	**PKPdf**	**08 56 55.9**	**-0.7**
HLID	**Hailey**	**121.93**	**44**	*e*PKPdf	**PKPdf**	**08 56 59.1**	**+0.7**
HVU	**Hansel Valley**	**123.68**	**45**	*e*PKPdf	**PKPdf**	**08 57 02.4**	**+0.6**
FXWY	**Fox Creek**	**124.19**	**42**	*e*PKPdf	**PKPdf**	**08 57 03.5**	**+0.6**
DUG	**Dugway**	**124.20**	**47**	*e*PKPdf	**PKPdf**	**08 57 03.6**	**+0.7**
MSU	**Marysvale**	**125.21**	**49**	*e*PKPdf	**PKPdf**	**08 57 06.0**	**+1.1**
PDAR	**Pinedale Array**	**125.52**	**43**	PKP	**PKPdf**	**08 57 05.0**	**-0.4**
	0.4nm,0.7s,baz=321,slow=2.1,SNR=3.8						
LAO	**LASA Array**	**125.89**	**37**	*e*PKPdf	**PKPdf**	**08 57 06.0**	**+0.2**
O20A	**White River Ci**	**127.48**	**45**	*e*PKPdf	**PKPdf**	**08 57 10.1**	**+0.9**
RSSD	**Black Hills**	**128.50**	**39**	*e*PKPdf	**PKPdf**	**08 57 10.9**	**-0.1**
ECSD	**EROS Data Cent**	**133.18**	**36**	*e*PKPdf	**PKPdf**	**08 57 19.0**	**-0.6**
SCHQ	**Schefferville**	**133.75**	**5**	PKP	**PKPdf**	**08 57 19.6**	**-0.7**
	2.1nm,0.6s,baz=220,slow=2.6,SNR=4.0						
SCHQ				SKPbc	**SKPbc**	**09 00 36.5**	**-1.6**
	5.2nm,0.9s,baz=11,slow=1.9,SNR=5.4						
TXAR	**Lajitas Array**	**134.85**	**57**	SKPbc	**SKPbc**	**09 00 41.0**	**-1.6**
	0.5nm,0.8s,baz=250,slow=1.3,SNR=5.0						
JCT	**Junction City**	**137.60**	**54**	*e*PKPdf	**PKPdf**	**08 57 30.2**	**+1.9**
MIAR	**Mount Ida**	**140.40**	**45**	*e*PKPdf	**PKPdf**	**08 57 36.2**	**+3.0**
WVT	**Waverly**	**143.21**	**38**	*e*PKPdf	PKPab	08 57 34.4	+0.3
SSPA	**Standing Stone**	**144.74**	**23**	*e*PKPdf	**PKPab**	**08 57 39.0**	**-0.8**
CPUP	**Villa Florida**	**145.01**	**185**	PKPbc	**PKPbc**	**08 57 41.1**	**-0.1**
	7.0nm,1.0s,baz=193,slow=3.5,SNR=5.3						
CPUP				pPKP	**pPKPdf**	**08 58 14.7**	**-0.1**
	12nm,0.9s,baz=162,slow=3.2,SNR=8.5						
TZTN	**Tazewell**	**145.39**	**33**	*e*PKPdf	**PKPdf**	**08 57 41.4**	**-0.6**
CPCT	**Cooper Cave**	**145.63**	**36**	*e*PKPbc	**PKPdf**	**08 57 42.3**	**-0.1**
LRAL	**Lakeview Retre**	**145.72**	**41**	*e*PKPbc	**PKPdf**	**08 57 42.5**	**-0.1**
PAL	**Palisades**	**145.78**	**18**	*e*PKPdf	**PKPdf**	**08 57 42.7**	**+0.2**
BRAL	**Brewton**	**146.92**	**44**	*e*PKPbc	**PKPbc**	**08 57 46.2**	**-0.6**
KMSC	**Kings Mountain**	**147.63**	**33**	*e*PKPdf	**PKPbc**	**08 57 48.0**	**-0.7**
GOGA	**Godfrey**	**147.68**	**37**	*e*PKPdf	**PKPdf**	**08 57 45.7**	**-0.2**
GOGA				*e*PKPbc	**PKPbc**	**08 57 48.5**	**-0.3**
GOGA				*e*PKPab	**PKiKP**	**08 57 50.7**	**-0.1**
LVC	**Limon Verde**	**147.85**	**166**	pPKP	pPKPdf	08 58 24.0	+4.0
	19nm,0.8s,baz=163,slow=5.3,SNR=3.7						
TIGA	**Tifton**	**148.95**	**40**	*e*PKPdf	**PKPdf**	**08 57 47.9**	**-0.2**
TIGA				*e*PKPbc	**PKPbc**	**08 57 51.9**	**-0.3**
TIGA				*e*PKPab	**PKPab**	**08 57 56.5**	**0.0**
CNNC	**Cliffs of the**	**149.28**	**28**	*e*PKPbc	**PKPbc**	**08 57 52.3**	**-0.6**
CNNC				*e*PKPab	**PKPab**	**08 57 57.0**	**-0.7**

NIED ***12*** *08:44:00, 45.˚80N×152.˚70E, h29km, Mw4.1 Best double couple: M0 1.66000×10^15 NP1:φs 58.00000°, δ 23.00000°, λ -104.00000°. NP2:φs 253.00000°, δ 68.00000°, λ -84.00000°.*

IDC ***12*** *08:44:47.4±0.8, 45.˚55N×152.˚75E, h0km, mb3.9/19, mb1 4.1/22, mb1mx4.0/30, mbtmp3.9/22, ML3.4/3, MS2.6/3, Ms1 2.6/3, ms1mx2.4/37, Error ellipse: s-maj=21.1km s-min=15.0km az=156.0*

BJI ***12*** *08:44:48.4, 46.˚14N×153.˚11E, h31km, mb4.6/4, mB4.6/1, Ms4.0/1*

JMA ***12*** *08:44:49.3±0.7, 45.˚82N×152.˚68E, h30km, M4.5*

NEIC ***12*** *08:44:49.2±3.8, 45.˚53N×152.˚76E, h12km±23km, mb4.4/2, Error ellipse: s-maj=13.3km s-min=8.2km az=141.0*

SKHL ***12*** *08:44:52.2±6.0, 45.˚60N×152.˚71E, h57km±5km, mb4.7/6*

MOS ***12*** *08:44:53.1±1.2, 45.˚49N×152.˚47E, h50km, mb4.7/4, Error ellipse: s-maj=12.7km s-min=10.9km az=173.0*

ISCJB ***12*** *08:44:53.3±0.5, 45.˚33N±0.˚07×152.˚41E±0.˚06, h55km, mb4.0/23, MS3.2/3, Error ellipse: s-maj=10.4km s-min=4.1km az=152.9*

ISC 12 08:44:54.5±0.7, **45.˚41N**±0.˚08×**152.˚54E**±0.˚06, **h55**km, **n100,** σ1°**60**/92, **mb4.2**/23, **MS3.4**/3, **10C-1D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.30**	**269**	⇑*i*P		**Pn**		**08 45 43.6**	**-0.1**
KUR				*i*	S	**Sn**		**08 46 22.0**	**+0.3**
KUR					pmax	pmax			
	comp=N,22nm,0.1s								
KUR					pmax	pmax			
	comp=E,15nm,0.1s								
KUR					pmax	pmax			
	comp=Z,33nm,0.1s								
KUR					smax	smax			
	comp=E,68nm,0.4s								
KUR					smax	smax			
	comp=N,173nm,0.5s								
KUR	**Kuril'sk**	**3.30**	**269**	⇑*i*P		**Pn**		**08 45 43.5**	**-0.1**
KUR					AMB	AMB		08 45 47.1	
	comp=N,20nm,0.1s								
KUR					AMB	AMB		08 45 47.1	
	comp=N,30nm,0.1s								
KUR				*i*	S	**Sn**		**08 46 22.0**	**+0.3**
KUR					A	A		08 46 24.7	
	comp=N,170nm,0.5s								
KUR					A	A		08 46 24.7	
	comp=N,60nm,0.5s								
SHO	**Shikotan**	**4.36**	**251**	*e*P		**Pn**		**08 45 58.7**	**+0.6**
SHO					AMB	AMB		08 46 01.2	
	comp=N,210nm,1.0s								
SHO				*e*S		**Sn**		**08 46 46.4**	**-1.2**
SHO					A	A		08 46 48.4	
	comp=N,2μm,0.8s								
YUK	**Yuzh-Kuril'sk**	**4.95**	**256**	*c*P		**Pn**		**08 46 06.2**	**-0.1**
YUK				*i*	S	**Sn**		**08 47 02.4**	**+0.1**
YUK					pmax	pmax			
	comp=N,39nm,0.5s								
YUK					pmax	pmax			
	comp=E,79nm,0.5s								
YUK					pmax	pmax			
	comp=Z,65nm,0.5s								
YUK					smax	smax			
	comp=N,19nm,0.3s								
YUK					smax	smax			
	comp=E,55nm,0.6s								
YUK	**Yuzh-Kuril'sk**	**4.95**	**256**	⇑*i*P		**Pn**		**08 46 06.2**	**-0.1**
YUK					AMB	AMB		08 46 09.0	
	comp=E,70nm,0.5s								
YUK				*i*	S	**Sn**		**08 47 02.4**	**+0.1**
YUK					A	A		08 47 03.1	
	comp=E,190nm,0.3s								
YUK					A	A		08 47 03.1	
	comp=E,60nm,0.3s								
YUK					A	A		08 47 03.1	
	comp=E,100nm,0.6s								
NEM2	**Nemuro 2**	**5.28**	**250**	P		**Pn**		**08 46 08.8**	**-2.0**
NEM2				*e*S		**Sn**		**08 47 07.2**	**-3.1**
JRA	**Rausu**	**5.49**	**257**	P		**Pn**		**08 46 13.6**	**-0.1**
SKR	**Severo-Kuril's**	**5.79**	**23**	*e*PN		Pn		08 46 01.2	-17
SKR					pmax	pmax			
	comp=N,50nm,0.5s								
SKR					pmax	pmax			
	comp=Z,60nm,0.5s								
SKR	**Severo-Kuril's**	**5.79**	**23**	*e*P		Pn		08 46 11.8	-6.0
SKR					AMB	AMB		08 46 13.2	
	comp=Z,50nm,0.5s								
SKR					AMB	AMB		08 46 13.2	
	comp=Z,60nm,0.5s								
SKR				*e*S		Sn		08 47 10.9	-12
SKR					A	A		08 47 12.9	
	comp=Z,70nm,0.3s								
SKR					A	A		08 47 12.9	
	comp=Z,110nm,0.3s								
JNK	**Nakash**	**5.88**	**255**	P		**Pn**		**08 46 18.4**	**-0.7**
JAK	**Akkeshi**	**6.13**	**250**	P		**Pn**		**08 46 20.4**	**-2.1**
JAK				*e*S		**Sn**		**08 47 28.1**	**-3.1**
JTKR	**Abashiri--Toko**	**6.32**	**260**	P		**Pn**		**08 46 25.2**	**+0.2**
JAR	**Ashorobuto**	**6.63**	**255**	P		**Pn**		**08 46 28.9**	**-0.4**
JMP	**Maruseppu**	**6.69**	**261**	P		**Pn**		**08 46 30.7**	**+0.5**
PAU	**Pauzhetka**	**6.69**	**24**	*e*P		Pn		08 46 25.9	-4.2
PAU					AMB	AMB		08 46 27.8	
	comp=Z,130nm,1.0s								
PAU				*e*S		Sn		08 47 34.5	-10
PAU					A	A		08 47 37.6	
	comp=Z,410nm,1.0s								
JOB	**Onbets**	**6.74**	**251**	P		**Pn**		**08 46 30.6**	**-0.2**
JOB				*e*S		**Sn**		**08 47 44.1**	**-2.1**
YSS	**Yuzh-Sakhalins**	**6.97**	**286**	*e*PN		**Pn**		**08 46 32.6**	**-1.3**
YSS				*e*				08 47 55.9	
YSS	**Yuzh-Sakhalins**	**6.97**	**286**	*e*P		**Pn**		**08 46 32.6**	**-1.3**
YSS				*e*S		**Sn**		**08 47 51.0**	**-0.7**
YSS	**Yuzh-Sakhalins**	**6.97**	**286**	*e*Pn		**Pn**		**08 46 32.6**	**-1.3**
YSS				*e*Sn		**Sn**		**08 47 55.9**	**+4.2**
JKK2	**Kamakawa 2**	**7.15**	**261**	P		**Pn**		**08 46 37.4**	**+0.9**
JCH	**Churui**	**7.18**	**250**	P		**Pn**		**08 46 35.8**	**-1.1**
JCH				*e*S		**Sn**		**08 47 53.2**	**-3.8**
JKA	**Kamikawa-asahi**	**7.19**	**263**	*e*P		**Pn**		**08 46 38.0**	**+1.0**
ASAJ	**Asahikawa**	**7.20**	**263**	Pn		Pn		**08 46 38.0**	**+1.0**
	comp=Z,2.6nm,0.3s,baz=68,slow=27,SNR=13								
ASAJ	**Asahikawa**	**7.20**	**263**	PN		**Pn**		**08 46 38.0**	**+1.0**
ASAJ					pmax	pmax			
	comp=Z,3.0nm,0.3s								
ASAJ	**Asahikawa**	**7.20**	**263**	*e*Pn		**Pn**		**08 46 38.1**	**+1.0**
ASAJ				*e*Sn		**Sn**		**08 47 55.9**	**-1.5**
MYR	**Moyori**	**7.38**	**248**	*e*P		**Pn**		**08 46 38.4**	**-1.2**
JEM	**Erimo**	**7.60**	**247**	*e*S		**Sn**		**08 48 04.4**	**-2.8**
ERM	**Erimo**	**7.60**	**247**	PN		Pn		08 46 45.0	+2.5
ERM	**Erimo**	**7.60**	**247**	*e*P		Pn		08 46 45.0	+2.5
JNBK	**Urakawa-nobuka**	**7.74**	**250**	*e*S		**Sn**		**08 48 06.4**	**-4.2**
UGL	**Uglegorsk**	**8.02**	**301**	*e*P		**Pn**		**08 46 46.0**	**-2.2**
PETK	**Petropavlovsk-**	**8.41**	**22**	Pn		Pn		08 46 48.3	-5.3
	comp=Z,1.1nm,0.3s,baz=174,slow=14,SNR=16								
PETK					Sn	**Sn**		**08 48 23.3**	**-3.7**
	comp=Z,0.7nm,0.3s,baz=173,slow=28,SNR=2.7								
PETK					LR	LR		08 50 00.3	
	comp=Z,30nm,18.1s,baz=245,slow=38								
PET	**Petropavlovsk**	**8.60**	**25**	*e*S		Sn		08 49 05.7	+34
PET					AMS	AMS		08 52 24.5	
	comp=Z,100nm,14.0s								
JKB	**Kayabe**	**9.05**	**251**	*e*S		Sn		08 48 36.0	-6.9
JANG	**Nango**	**9.53**	**242**	P		Pn		08 47 04.7	-4.3
JANG				*e*S		Sn		08 48 46.1	-8.4
JTH	**Tanohata**	**9.57**	**239**	*e*S		Sn		08 48 47.4	-8.2
JTM	**Tenmabayashi**	**9.58**	**245**	*e*S		Sn		08 48 47.6	-8.1
OFUJ	**Ofunato**	**10.24**	**236**	P		Pn		08 47 15.2	-3.5
OFUJ				*e*S		Sn		08 49 02.6	-9.4
JIO	**Ouri**	**10.85**	**234**	*e*S		Sn		08 49 16.2	-11
MAJO	**Matsushiro**	**13.97**	**236**	P		**Pn**		**08 48 08.1**	**-1.5**
MAJO				*e*				08 50 47.5	
MAJO	**Matsushiro**	**13.97**	**236**	*e*P		**Pn**		**08 48 08.1**	**-1.5**
MAJO	**Matsushiro**	**13.97**	**236**	Pn		**Pn**		**08 48 08.1**	**-1.5**
MAJO				*e*Sn		**Sn**		**08 50 47.5**	**+4.4**
MJAR	**Matsushiro Arr**	**13.97**	**236**	LR		LR		08 55 43.9	
	comp=Z,19nm,20.3s,baz=150,slow=46								
USRK	**Ussuriysk Ar.**	**14.64**	**273**	Pn		**Pn**		**08 48 17.4**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=83,slow=12,SNR=3.7								
EKMR	**Ekimchan**	**14.88**	**308**	*e*P		**Pn**		**08 48 22.1**	**+0.6**
EKMR					AMB	AMB		08 48 26.4	
	comp=Z,2.0nm,0.4s								
KSRS	**Korea Array**	**20.04**	**255**	P		Pn		08 49 25.3	+0.2
	comp=Z,0.8nm,0.5s,baz=54,slow=12,SNR=3.6								
KSAR	**Wonju Array Be**	**20.07**	**255**	P		Pn		08 49 25.3	-0.2
KSAR	**Wonju Array Be**	**20.07**	**255**	P		Pn		08 49 25.3	-0.2
JNU	**Nakatsue**	**20.71**	**241**	LR		LR		08 59 12.4	
	comp=Z,32nm,18.7s,baz=259,slow=41								
H11N2	**WAKE ISLAND Hy**	**28.23**	**150**	T		T		09 20 13.7	
	baz=334								
H11N1	**WAKE ISLAND Hy**	**28.25**	**150**	T		T		09 20 12.0	
	baz=334								
H11N3	**WAKE ISLAND Hy**	**28.25**	**150**	T		T		09 20 12.9	
	baz=334								
H11S1	**WAKE ISLAND Hy**	**29.30**	**152**	T		T		09 21 32.0	
	baz=339								
H11S3	**WAKE ISLAND Hy**	**29.31**	**152**	T		T		09 21 34.4	
	baz=339								
H11S2	**WAKE ISLAND Hy**	**29.32**	**152**	T		T		09 21 34.5	
	baz=339								
HHC	**Hu-ho-hao-te**	**30.01**	**276**	*e*P		**P**		**08 50 58.9**	**+0.8**
HHC				PP		**PnPn**		**08 51 56.4**	**-0.1**
HHC				S		**S**		**08 55 52.0**	**-0.2**
HHC				sS		sS		08 56 07.9	-7.8
HHC				ScS		**ScS**		**09 01 33.9**	**+2.1**
HHC				PMZ					
	comp=Z,30nm,1.3s								
HHC				PMZ					
	comp=Z,56nm,5.6s								
HHC				LN					
	comp=Z,100nm,12.2s								
HHC				LE					
	comp=Z,120nm,12.6s								
SONM	**Songino Array**	**31.43**	**291**	P		P		**08 51 11.3**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=95,slow=8.0,SNR=3.8								
ILAR	**Eielson Array**	**37.85**	**37**	P		**P**		**08 52 03.5**	**-2.0**
	comp=Z,0.4nm,1.0s,baz=261,slow=9.0,SNR=4.5								
ILAR	**Eielson Array**	**37.85**	**37**	*e*P		**P**		**08 52 07.4**	**+1.9**
ILAR	**Eielson Array**	**37.85**	**37**	*e*P		**P**		**08 52 07.4**	**+1.9**
GTA	**Gaotai**	**38.80**	**280**	*e*P		P		08 52 16.7	+2.7
GTA				pP		pP		08 52 22.5	-5.6
GTA				sP		sP		08 52 25.4	-9.1
GTA				PMZ					
	comp=Z,6.0nm,1.1s								
MKAR	**Makanchi Array**	**47.21**	**298**	P		P		**08 53 21.6**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=71,slow=8.0,SNR=12								
KURK	**Kurchatov**	**47.78**	**304**	P		**P**		**08 53 25.6**	**-0.4**
KURK				pmax		pmax			
	comp=Z,2.0nm,0.7s								
KURK	**Kurchatov**	**47.78**	**304**	*e*P		**P**		**08 53 25.6**	**-0.4**
KURK	**Kurchatov**	**47.78**	**304**	*e*P		**P**		**08 53 25.0**	**-1.0**
	comp=Z,2.6nm,0.8s								
KURBB	**Kurchatov Arra**	**47.87**	**304**	P		**P**		**08 53 25.6**	**-1.1**
	comp=Z,2.0nm,0.7s,baz=69,slow=8.4,SNR=8.5								
BVAR	**Borovoye Array**	**51.41**	**310**	P		**P**		**08 53 53.0**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=46,slow=6.4,SNR=4.2								
BVAR	**Borovoye Array**	**51.41**	**310**	P		**P**		**08 53 53.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**51.67**	**257**	P		**P**		**08 53 57.6**	**+1.7**
	comp=Z,0.8nm,0.3s,baz=26,slow=7.9,SNR=4.9								
ABKAR	**Akbulak array**	**58.98**	**310**	*e*P		**P**		**08 54 48.0**	**-0.1**
	comp=Z,1.3nm,0.4s								
ARCES	**ARCESS Array B**	**58.99**	**341**	P		**P**		**08 54 48.9**	**+1.0**
	comp=Z,2.0nm,0.8s,baz=35,slow=5.0,SNR=3.8								
ARCES	**ARCESS Array B**	**58.99**	**341**	*e*P		**P**		**08 54 49.4**	**+1.5**
ARCES					pmax	pmax			
	comp=Z,2.0nm,0.8s								
ARCES	**ARCESS Array B**	**58.99**	**341**	*e*P		**P**		**08 54 49.4**	**+1.5**
NVAR	**Mina Array Bea**	**63.42**	**61**	P		P		**08 55 18.2**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=301,slow=7.3,SNR=6.2								
FINES	**FINESS Array B**	**65.08**	**335**	P		**P**		**08 55 28.0**	**-0.7**
	comp=Z,3.9nm,0.8s,baz=42,slow=5.3,SNR=10								
FINES	**FINESS

comp=Z,43nm,21.5s,baz=238,slow=30
SNAA Sanae 32.01 202 P **P** 09 08 03.8 +0.3
0.4nm,1.1s,baz=88,slow=11,SNR=3.7
QSPA South Pole Qui 44.88 180 P **P** 09 09 50.4 -1.3
1.3nm,0.6s,baz=264,slow=0.7,SNR=19
VNDA Vanda 53.10 167 P **P** 09 10 54.0 -0.3
1.0nm,1.1s,baz=263,slow=7.5,SNR=3.8
VNDA LR LR 09 31 38.4
comp=Z,86nm,19.4s,baz=230,slow=34
H10S2 ASCENSION HYDR 56.06 294 T T 10 12 04.0
baz=139,slow=75,SNR=64
H10S1 ASCENSION HYDR 56.08 294 T T 10 12 05.2
baz=139,slow=75,SNR=64
H10S3 ASCENSION HYDR 56.08 294 T T 10 12 05.2
baz=139,slow=75,SNR=50
DBIC Dimbokro 63.01 314 LR LR 09 33 52.2
comp=Z,25nm,21.9s,baz=154,slow=31
TORD Torodi Ar. Bea 65.66 324 P **P** 09 12 22.6 +0.8
1.3nm,0.5s,baz=159,slow=6.9,SNR=30
STKA Stephens Creek 78.23 123 P **P** 09 13 36.1 -1.1
2.7nm,0.9s,baz=228,slow=10,SNR=3.3
ASAR Alice Springs 79.28 113 P **P** 09 13 42.9 -0.3
0.3nm,0.5s,baz=227,slow=5.0,SNR=6.7
WRA Warramunga Arr 82.19 110 P **P** 09 13 58.3 -0.5
1.3nm,1.2s,baz=220,slow=4.2,SNR=3.2
ESDC Sonseca Array 91.67 331 LR LR 09 56 05.2
comp=Z,26nm,19.1s,baz=280,slow=36
TXAR Lajitas Array 144.09 258 PKP **PKPdf** 09 21 13.1 -0.1
0.4nm,0.7s,baz=152,slow=5.1,SNR=5.3

*IDC **12** 09:08:46.6±0.7, 19°.62N×66°.21W, h0km, mb3.9/11, mb1 4.2/13, mb1mx3.9/36, mbtmp4.0/13, ML3.4/2, Error ellipse: s-maj=23.3km s-min=16.1km az=63.0*
*ISCJB **12** 09:08:48.5±0.3, 19°.46N±0°.03×66°.31W±0°.04, h19km, mb4.1/32, Error ellipse: s-maj=5.2km s-min=3.1km az=154.3*
*NEIC **12** 09:08:51.3, 19°.49N×66°.34W, h18km, mb4.3/25, After RSPR.*
*RSPR **12** 09:08:51.3, 19°.49N×66°.34W, h18km±9km, MD3.3/5*
ISC 12 09:08:49.6±0.5, 19°.42N±0°.04×66°.33W±0°.04, h19km, n86, σ0s92/87, mb4.2/31, 25C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
AOPR	**Arecibo Observ**	**1.14**	**201**	*i*P		**Pn**	**09 09 10.3**	**-0.3**
AOPR	**Arecibo Observ**	**1.14**	**201**	*i*P		**Pn**	**09 09 10.3**	**-0.3**
AGPR	**Aguadilla, PR**	**1.20**	**218**	*i*P		**Pn**	**09 09 11.1**	**-0.3**
AGPR	**Aguadilla, PR**	**1.20**	**218**	*i*P		**Pn**	**09 09 11.1**	**-0.3**
SJG	**San Juan**	**1.31**	**173**	*i*P		**Pn**	**09 09 12.4**	**-0.5**
SJG	**San Juan**	**1.31**	**173**	*i*P		**Pn**	**09 09 12.4**	**-0.5**
HUMP	**Col San Antoni**	**1.34**	**160**	*i*P		**Pn**	**09 09 12.8**	**-0.6**
HUMP	**Col San Antoni**	**1.34**	**160**	*e*S		**Sb**	**09 09 30.7**	**-0.3**
HUMP	**Col San Antoni**	**1.34**	**160**	*i*P		**Pn**	**09 09 12.8**	**-0.6**
HUMP				*e*S		**Sb**	**09 09 30.7**	**-0.3**
CELP	**Cerrillos**	**1.35**	**190**	*i*P		**Pn**	**09 09 13.2**	**-0.3**
CELP				*e*S		**Sn**	**09 09 30.1**	**-0.9**
CELP	**Cerrillos**	**1.35**	**190**	*i*P		**Pn**	**09 09 13.2**	**-0.3**
CELP				*e*S		**Sn**	**09 09 30.1**	**-0.9**
OBIP	**Obispado Ponce**	**1.39**	**191**	*i*P		**Pn**	**09 09 14.0**	**0.0**
OBIP	**Obispado Ponce**	**1.39**	**191**	*e*S		**Sb**	**09 09 32.6**	**+0.2**
OBIP	**Obispado Ponce**	**1.39**	**191**	*i*P		**Pn**	**09 09 14.0**	**0.0**
OBIP				*e*S		**Sb**	**09 09 32.6**	**+0.2**
MPR	**Mayaguez**	**1.42**	**213**	*i*P		**Pn**	**09 09 14.5**	**0.0**
MPR	**Mayaguez**	**1.42**	**213**	*i*P		**Pn**	**09 09 14.5**	**0.0**
LSP	**Las Mesas**	**1.43**	**210**	*i*P		**Pn**	**09 09 14.7**	**+0.1**
LSP	**Las Mesas**	**1.43**	**210**	*i*P		**Pn**	**09 09 14.7**	**+0.1**
IDE	**Isla Desecheo**	**1.49**	**227**	*i*P		**Pn**	**09 09 15.7**	**+0.3**
IDE	**Isla Desecheo**	**1.49**	**227**	*i*P		**Pn**	**09 09 15.7**	**+0.3**
ICM	**Isla Caja Muer**	**1.53**	**187**	*i*P		**Pn**	**09 09 16.2**	**+0.3**
ICMP	**Isla Caja de M**	**1.53**	**187**	*i*P		**Pn**	**09 09 16.2**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.59**	**208**	*i*P		**Pn**	**09 09 17.1**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.59**	**208**	*i*P		**Pn**	**09 09 17.1**	**+0.4**
STVI	**Saint Thomas**	**1.68**	**129**	*i*P		**Pn**	**09 09 18.3**	**+0.4**
STVI	**Saint Thomas**	**1.68**	**129**	*e*S		**Sn**	**09 09 38.3**	**-0.6**
STVI	**Saint Thomas**	**1.68**	**129**	*i*P		**Pn**	**09 09 18.3**	**+0.4**
STVI				*e*S		**Sn**	**09 09 38.3**	**-0.6**
TBVI	**Tortola**	**1.90**	**121**	*i*P		**Pn**	**09 09 21.2**	**+0.2**
TBVI	**Tortola**	**1.90**	**121**	*i*P		**Pn**	**09 09 21.2**	**+0.2**
ABV	**Anegada**	**2.00**	**110**	*i*P		**Pn**	**09 09 21.9**	**-0.6**
ABVI	**Anegada Island**	**2.00**	**110**	*i*P		**Pn**	**09 09 21.9**	**-0.6**
PCDR	**Punta Cana, DR**	**2.14**	**246**	*e*Pn		**Pn**	**09 09 24.7**	**+0.4**
CDVI	**St. Croix**	**2.22**	**138**	*i*P		**Pn**	**09 09 26.5**	**+1.1**
CDVI	**St. Croix**	**2.22**	**138**	*e*S		**Sn**	**09 09 53.2**	**+0.8**
CDVI	**St. Croix**	**2.22**	**138**	*i*P		**Pn**	**09 09 26.5**	**+1.1**
CDVI				*e*S		**Sn**	**09 09 53.2**	**+0.8**
SMN1	**Samana, DR**	**2.79**	**266**	*i*P		**Pn**	**09 09 32.4**	**-0.9**
SDDR	**Presa de Saban**	**4.71**	**266**	*e*Pn		**Pn**	**09 10 01.0**	**+1.2**
LGNH	**LØogne**	**6.01**	**262**	*e*Pn		**Pn**	**09 10 20.0**	**+2.5**
WSYH	**La Gonave Hosp**	**6.21**	**266**	*e*Pn		**Pn**	**09 10 20.2**	**-0.1**
PCRV	**Puerto La Cruz**	**9.33**	**170**	Pn		**Pn**	**09 11 06.3**	**+3.1**
	0.8nm,0.3s,baz=294,slow=10.0,SNR=4.3							
SDV	**Santo Domingo**	**11.27**	**202**	*e*Pn		Pn	09 11 39.5	+10
ROSC	**El Rosal**	**16.44**	**209**	Pn		**P**	**09 12 41.4**	**-1.1**
	1.4nm,0.3s,baz=90,slow=10.0,SNR=7.5							
BCIP	**Isla Barro Col**	**16.58**	**234**	*e*Pn		**Pn**	**09 12 39.4**	**-1.7**
NHSC	**New Hope**	**18.42**	**321**	*e*P		**Pn**	**09 13 06.2**	**+2.3**
	54nm,0.6s							
JSC	**Jenkinsville**	**19.88**	**321**	*e*P		Pn	09 13 27.2	+5.7
	16nm,0.7s							
JTS	**JuntasAbangare**	**20.14**	**246**	P		Pn	09 13 24.6	-0.2
	13nm,1.0s,baz=0.0,slow=12,SNR=3.4							
KMSC	**Kings Mountain**	**20.53**	**323**	*e*P		Pn	09 13 29.4	+0.2
	12nm,0.6s							
GOGA	**Godfrey**	**20.69**	**316**	P		**P**	**09 13 29.1**	**+0.4**
	15nm,1.3s							
JSRW	**J. Sargeant Re**	**20.81**	**333**	*e*Pn		**P**	**09 13 30.4**	**+0.4**
PTGA	**Pitinga**	**20.97**	**162**	P		**P**	**09 13 30.2**	**-1.6**
	6.2nm,0.6s,baz=348,slow=14,SNR=23							
VWCC	**Virginia Weste**	**21.40**	**329**	*e*P		**P**	**09 13 37.3**	**+1.0**
VWCC				*e*			09 13 48.7	
BLA	**Blacksburg**	**21.59**	**328**	*e*P		**P**	**09 13 39.4**	**+1.0**
	33nm,0.6s							
TKL	**Tuckaleechee C**	**22.33**	**320**	P		**P**	**09 13 46.9**	**+0.7**
	2.4nm,0.9s,baz=107,slow=12,SNR=4.1							
OTAV	**Otavalo**	**22.46**	**213**	*e*P		**P**	**09 13 48.3**	**0.0**
	11nm,0.9s							
CPCT	**Cooper Cave**	**22.65**	**319**	*e*P		**P**	**09 13 50.6**	**+0.9**
CPCT				*e*			09 14 05.0	
WVT	**Waverly**	**25.19**	**316**	*e*P		**P**	**09 14 14.0**	**0.0**
	3.0nm,0.7s							
JFWS	**Jewell Farm**	**30.91**	**325**	*e*P		P	09 15 02.3	-2.8
	11nm,1.1s							
ABTX	**Abilene, Hawle**	**32.56**	**301**	*e*P		**P**	**09 15 18.8**	**-1.0**
	5.1nm,0.6s							
ECSD	**EROS Data Cent**	**35.08**	**320**	*e*P		**P**	**09 15 41.7**	**+0.2**
	5.6nm,0.8s							
TXAR	**Lajitas Array**	**35.29**	**294**	P		**P**	**09 15 43.5**	**-0.2**
	1.6nm,0.6s,baz=114,slow=9.6,SNR=30							
LPAZ	**La Paz**	**35.52**	**183**	P		**P**	**09 15 48.3**	**+2.1**
	1.4nm,0.8s,baz=28,slow=6.5,SNR=4.3							
SDCO	**Great Sand Dun**	**38.61**	**307**	*e*P		**P**	**09 16 12.2**	**+0.2**
	3.6nm,0.8s							
ISCO	**Idaho Springs**	**39.34**	**310**	*e*P		**P**	**09 16 18.5**	**+0.4**
	3.0nm,0.9s							
PV01	**Paradox Valley**	**41.05**	**306**	*e*P		**P**	**09 16 33.5**	**+1.3**
WUAZ	**Wupatki**	**42.69**	**302**	*e*P		**P**	**09 16 47.0**	**+1.4**
	4.1nm,0.9s							
PDAR	**Pinedale Array**	**43.12**	**312**	P		**P**	**09 16 49.2**	**+0.2**
	0.9nm,0.9s,baz=75,slow=11,SNR=7.1							
CTU	**Camp Tracy**	**44.09**	**309**	*e*P		**P**	**09 16 57.9**	**+1.1**
	4.1nm,0.9s							
LOHW	**Long Hollow**	**44.12**	**313**	*e*P		**P**	**09 16 57.4**	**+0.3**
	5.7nm,0.9s							
SNOW	**Snow King Moun**	**44.17**	**313**	*e*P		**P**	**09 16 58.2**	**+0.6**
	3.6nm,0.8s							
HWUT	**Hardware Ranch**	**44.19**	**310**	*e*P		**P**	**09 16 57.8**	**+0.1**
	2.5nm,0.6s							
REDW	**Red Top Meadow**	**44.21**	**313**	*e*P		**P**	**09 16 58.2**	**+0.4**
	4.5nm,0.9s							
MOOW	**Moose Ponds**	**44.26**	**313**	*e*P		**P**	**09 16 58.2**	**0.0**
	4.1nm,0.8s							
TPAW	**Teton Pass**	**44.32**	**313**	*e*P		**P**	**09 16 59.2**	**+0.5**
	1.9nm,0.8s							
FXWY	**Fox Creek**	**44.41**	**313**	*e*P		**P**	**09 17 01.1**	**+1.6**
	2.2nm,0.9s							
IMW	**Indian Meadow**	**44.44**	**314**	*e*P		**P**	**09 16 59.8**	**0.0**
	2.5nm,0.7s							
DLMT	**Dillon**	**46.03**	**315**	*e*P		**P**	**09 17 13.1**	**+1.0**
	5.6nm,1.0s							
CPUP	**Villa Florida**	**46.30**	**169**	P		**P**	**09 17 16.1**	**+1.9**
	1.5nm,0.8s,baz=34,slow=3.6,SNR=2.0							
MFID	**Camas Ranch**	**47.70**	**311**	*e*P		**P**	**09 17 26.1**	**+0.8**
	4.1nm,0.9s							
NVAR	**Mina Array Bea**	**48.61**	**304**	P		**P**	**09 17 31.2**	**-1.3**
	1.3nm,0.7s,baz=106,slow=5.8,SNR=12							
NEW	**Newport**	**49.88**	**317**	*e*P		**P**	**09 17 42.2**	**+0.4**
	4.5nm,0.6s							
YKA	**Yellowknife Ar**	**54.25**	**335**	P		**P**	**09 18 13.1**	**-0.9**
	1.0nm,0.6s,baz=113,slow=7.5,SNR=3.4							
TORD	**Torodi Ar. Bea**	**65.24**	**84**	P		**P**	**09 19 30.4**	**-0.1**
	0.4nm,0.6s,baz=282,slow=6.3,SNR=4.5							
ILAR	**Eielson Array**	**68.60**	**333**	P		**P**	**09 19 50.8**	**-0.3**
	1.4nm,0.6s,baz=106,slow=4.0,SNR=28							
BRTR	**Keskin Array B**	**85.16**	**50**	P		**P**	**09 21 22.8**	**-2.3**
	0.3nm,0.4s,baz=318,slow=1.9,SNR=2.6							
STKA	**Stephens Creek**	**152.03**	**238**	PKPbc		**PKPbc**	**09 28 44.3**	**+0.2**
	3.9nm,1.0s,baz=101,slow=10,SNR=4.2							
ASAR	**Alice Springs**	**160.72**	**254**	PKPab		**PKPab**	**09 29 30.7**	**-0.4**
	0.4nm,0.7s,baz=107,slow=4.9,SNR=5.9							

*IDC **12** 09:09:59.2±0.9, 19°.69N×66°.23W, h0km, mb3.9/6, mb1 4.2/8, mb1mx3.9/35, mbtmp4.0/8, ML3.4/2, MS3.3/2, Ms1 3.2/2, ms1mx2.9/24, Error ellipse: s-maj=32.4km s-min=19.4km az=27.0*
*ISCJB **12** 09:10:00.1±0.6, 19°.51N±0°.04×66°.37W±0°.06, h19km, mb4.1/8, MS3.2/2, Error ellipse: s-maj=7.8km s-min=5.9km az=160.1*
*NEIC **12** 09:10:02.2, 19°.57N×66°.42W, h43km, MD3.6(RSPR), After RSPR.*
*RSPR **12** 09:10:02.2, 19°.57N×66°.42W, h43km±25km, MD3.6/5*
ISC 12 09:10:01.1±0.7, 19°.45N±0°.06×66°.36W±0°.05, h19km, n38, σ0s84/40, mb4.0/8, 24C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
AOPR	**Arecibo Observ**	**1.16**	**199**	*i*P		**Pn**	**09 10 21.9**	**-0.4**
AOPR	**Arecibo Observ**	**1.16**	**199**	*i*P		**Pn**	**09 10 21.9**	**-0.4**
AGPR	**Aguadilla, PR**	**1.21**	**216**	*i*P		**Pn**	**09 10 22.5**	**-0.5**
AGPR	**Aguadilla, PR**	**1.21**	**216**	*i*P		**Pn**	**09 10 22.5**	**-0.5**
SJG	**San Juan**	**1.35**	**171**	*i*P		**Pn**	**09 10 24.8**	**-0.2**
SJG				*e*S		**Sb**	**09 10 43.7**	**+1.1**
SJG	**San Juan**	**1.35**	**171**	*i*P		**Pn**	**09 10 24.8**	**-0.2**
SJG				*e*S		**Sb**	**09 10 43.7**	**+1.1**
HUMP	**Col San Antoni**	**1.39**	**159**	*i*P		**Pn**	**09 10 25.2**	**-0.2**
HUMP	**Col San Antoni**	**1.39**	**159**	*i*P		**Pn**	**09 10 25.2**	**-0.2**
OBIP	**Obispado Ponce**	**1.42**	**189**	*i*P		**Pn**	**09 10 26.0**	**+0.1**
OBIP	**Obispado Ponce**	**1.42**	**189**	*i*P		**Pn**	**09 10 26.0**	**+0.1**
LSP	**Las Mesas**	**1.44**	**208**	*i*P		**Pn**	**09 10 26.6**	**+0.3**
LSP	**Las Mesas**	**1.44**	**208**	*i*P		**Pn**	**09 10 26.6**	**+0.3**
IDE	**Isla Desecheo**	**1.49**	**225**	*i*P		**Pn**	**09 10 26.3**	**-0.6**
IDE	**Isla Desecheo**	**1.49**	**225**	*i*P		**Pn**	**09 10 26.3**	**-0.6**
ICM	**Isla Caja Muer**	**1.56**	**186**	*i*P		**Pn**	**09 10 28.2**	**+0.5**
ICM	**Isla Caja Muer**	**1.56**	**186**	*e*S		**Sn**	**09 10 47.6**	**+0.2**
ICMP	**Isla Caja de M**	**1.56**	**186**	*i*P		**Pn**	**09 10 28.2**	**+0.3**
ICMP				*e*S		**Sn**	**09 10 47.6**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.60**	**206**	*i*P		**Pn**	**09 10 28.5**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.60**	**206**	*i*P		**Pn**	**09 10 28.5**	**+0.1**
STVI	**Saint Thomas**	**1.73**	**129**	*i*P		**Pn**	**09 10 29.8**	**-0.3**
STVI	**Saint Thomas**	**1.73**	**129**	*e*S		**Sb**	**09 10 52.9**	**-0.7**
STVI	**Saint Thomas**	**1.73**	**129**	*i*P		**Pn**	**09 10 29.8**	**-0.3**
STVI				*e*S		**Sb**	**09 10 52.9**	**-0.7**
PCDR	**Punta Cana, DR**	**2.12**	**244**	*i*P		**Pn**	**09 10 34.7**	**-0.9**
PCDR	**Punta Cana, DR**	**2.12**	**244**	*i*P		**Pn**	**09 10 34.7**	**-0.9**
CDVI	**St. Croix**	**2.27**	**138**	*i*P		**Pn**	**09 10 38.7**	**+1.1**
CDVI	**St. Croix**	**2.27**	**138**	*i*P		**Pn**	**09 10 38.7**	**+1.1**
PCRV	**Puerto La Cruz**	**9.37**	**169**	Pn		Pn	09 12 20.8	+5.5
	0.8nm,0.3s,baz=319,slow=9.3,SNR=3.5							
ROSC	**El Rosal**	**16.45**	**209**	Pn		**P**	**09 13 54.1**	**0.0**
	1.3nm,0.3s,baz=88,slow=14,SNR=2.5							
PTGA	**Pitinga**	**21.02**	**162**	P		**P**	**09 14 42.5**	**-1.3**
	4.4nm,0.5s,baz=352,slow=15,SNR=3.5							
CMIG	**Matias Romero**	**27.17**	**270**	LR		LR	09 28 28.1	
	comp=Z,67nm,18.9s,baz=323,slow=41							
TXAR	**Lajitas Array**	**35.24**	**299**	P		**P**	**09 16 55.8**	**+1.0**
	1.0nm,0.4s,baz=111,slow=9.9,SNR=11							
TXAR				LR		LR	09 34 12.2	
	comp=Z,36nm,21.4s,baz=0.0,slow=41							
RCBR	**Riachuelo**	**39.12**	**127**	P		**P**	**09 17 24.6**	**-3.1**
	36nm,1.2s,baz=312,slow=2.4,SNR=4.0							
PDAR	**Pinedale Array**	**43.07**	**312**	P		**P**	**09 18 01.1**	**+1.0**
	0.5nm,0.7s,baz=96,slow=9.2,SNR=3.0							
NVAR	**Mina Array Bea**	**48.56**	**304**	P		**P**	**09 18 44.7**	**+1.0**
	0.8nm,0.6s,baz=92,slow=7.8,SNR=6.1							
DBIC	**Dimbokro**	**60.97**	**93**	P		**P**	**09 20 14.6**	**+0.9**
	4.3nm,0.8s,baz=293,slow=7.7,SNR=2.6							
TORD	**Torodi Ar. Bea**	**65.27**	**84**	P		**P**	**09 20 42.0**	**-0.3**
	0.9nm,0.8s,baz=287,slow=6.2,SNR=8.2							
ILAR	**Eielson Array**	**68.55**	**333**	P		**P**	**09 21 02.4**	**+0.1**
	0.8nm,0.6s,baz=102,slow=3.9,SNR=6.1							
STKA	**Stephens Creek**	**152.01**	**238**	PKPbc		**PKPbc**	**09 29 56.7**	**+1.1**
	1.6nm,0.7s,baz=82,slow=7.1,SNR=1.6							

*CSEM **12** 09:26:20.3, 12°.08N×43°.79E, h5km, ML3.9*
DHMR 12 09:26:20.3±1.6, 12°.08N×43°.79E, h5km±26km, ML3.9, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
LBOS		**2.28**	**39**	*i*P		Pb	09 27 01.2	-1.1
LBOS				*i*S		Sb	09 27 31.4	+0.4
DHBB	**Dhamar BB**	**2.54**	**13**	*i*P		Pn	09 27 04.0	+1.4
DHBB				*i*S		Sb	09 27 39.9	+1.2
BDHA	**Al Bayda'**	**2.56**	**42**	*i*P		Pn	09 27 04.4	+1.7
BDHA				*i*S		Sb	09 27 40.1	+1.2
BDHA				AML		AML	09 27 46.1	
	comp=N,708nm,0.4s							
BDHA	**Al Bayda'**	**2.56**	**42**	*i*P		Pn	09 27 04.4	+1.7
BDHA				*i*S		Sb	09 27 40.2	+1.2
	comp=N,354nm,0.4s							
HAJJ	**Hajjah**	**3.60**	**357**	*i*P		Pn	09 27 20.1	+3.1
HAJJ				*i*S		Sb	09 28 05.2	-3.7
HAJJ				AML		AML	09 28 23.7	
	comp=Z,503nm,1.0s							
HAJJ	**Hajjah**	**3.60**	**357**	*i*P		Pn	09 27 20.1	+3.1
HAJJ				*i*S		Sb	09 28 05.2	-3.7
	comp=Z,251nm,1.0s							

*DHMR **12** 09:33:38.6±1.1, 12°.03N×43°.92E, h8km±17km, ML4.1*
*ISCJB **12** 09:33:40.3±1.0, 11°.96N±0°.08×43°.96E±0°.08, h4km, Error ellipse: s-maj=14.8km s-min=4.1km az=135.2*
*ARO **12** 09:33:43.8, 12°.N±3°.×4°.E±°., h3km±.4km, ML3.8*
ISC 12 09:33:40.5±1.3, 12°.00N±0°.08×43°.90E±0°.08, h4km, n11, σ1s14/16, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
OBO	**Obock**	**0.59**	**268**	*e*P		**Pb**	**09 33 53.8**	**+0.3**
MCAD	**Moucha**	**0.73**	**248**	*e*P		**Pb**	**09 33 56.1**	**+0.4**
ATA	**Atar**	**0.87**	**231**	*e*P		**Pb**	**09 33 58.6**	**+0.4**
TDD	**Tadjoura Ara**	**0.99**	**259**	*e*P		**Pn**	**09 34 00.7**	**-0.6**
ATD	**Arta Tunnel**	**1.13**	**246**	*e*P		**Pb**	**09 34 02.8**	**0.0**
ATD				*e*S		**Sn**	**09 34 18.4**	**-0.9**
SGH	**Sud-Ghoubbet**	**1.36**	**246**	*e*P		**Pn**	**09 34 06.6**	**+0.2**
GBR	**Grand-Bara**	**1.64**	**239**	*e*P		**Pn**	**09 34 10.5**	**+0.2**
LBOS		**2.28**	**35**	*i*P		Pn	09 34 18.2	-0.9
LBOS				*i*S		**Sn**	**09 34 49.4**	**+1.6**
BDHA	**Al Bayda'**	**2.55**	**39**	*i*P		**Pn**	**09 34 22.1**	**-0.8**
BDHA				*i*S		**Sn**	**09 34 56.1**	**+1.6**
BDHA				AML		AML	09 35 03.9	
	comp=N,1μm,0.5s							
DHBB	**Dhamar BB**	**2.60**	**11**	*i*P		**Pn**	**09 34 22.8**	**-0.8**
DHBB				*i*S		**Sb**	**09 34 58.2**	**-2.1**
HAJJ	**Hajjah**	**3.69**	**355**	*i*P		**Pn**	**09 34 38.8**	**+0.3**
HAJJ				*i*S		**Sn**	**09 35 24.4**	**+1.9**
HAJJ				AML		AML	09 35 43.4	
	comp=Z,788nm,0.7s							

*ATH **12** 09:46:44.3, 37°.42N×20°.32E, h15km±1km, MD3.5/19*
*CSEM **12** 09:46:46.0±0.3, 37°.45N×20°.43E, h5km, ML3.0, Error ellipse: s-maj=6.3km s-min=3.5km az=62.0*
*THE **12** 09:46:48.0, 37°.53N×20°.52E, h0km±3km, ML3.0/5, Error ellipse: s-maj=3.7km s-min=1.1km az=226.0*
ISC 12 09:46:45.5±1.5, 37°.45N±0°.03×20°.40E±0°.05, h5km±10km, n87, σ0s66/116, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
ZKS	**Zakynthos**	**0.39**	**51**	P		**Pg**	**09 46 52.9**	**-0.2**
ZKS				S		**Sg**	**09 46 58.3**	**+0.1**
ZKS	**Zakynthos**	**0.39**	**51**	P		**Pg**	**09 46 52.8**	**-0.3**
ZKS				S		**Sg**	**09 46 57.4**	**-0.8**
SFD	**Strofades**	**0.53**	**112**	*e*PN		**Pg**	**09 46 56.2**	**+0.6**
SFD				*e*SN		**Sg**	**09 47 03.8**	**+1.3**
SFD	**Strofades**	**0.53**	**112**	*e*Pn		**Pg**	**09 46 56.2**	**+0.6**
SFD				*e*Sn		**Sg**	**09 47 03.8**	**+1.3**
KFL	**Anninata**	**0.73**	**25**	S		**Sg**	**09 47 09.1**	**+0.2**
KFL	**Anninata**	**0.73**	**25**	P		**Pg**	**09 46 58.6**	**-0.9**
KFL				S		**Sg**	**09 47 09.1**	**+0.2**
VLS	**Valsamata**	**0.74**	**11**	*e*PN		**Pg**	**09 46 59.4**	**-0.4**
VLS				*e*SN		**Sb**	**09 47 10.8**	**-0.6**
VLS	**Valsamata**	**0.74**	**11**	P		**Pg**	**09 46 59.2**	**-0.6**
VLS				S		**Sg**	**09 47 10.2**	**+0.8**
VLS	**Valsamata**	**0.74**	**11**	P		**Pg**	**09 46 59.2**	**-0.6**
VLS				S		**Sg**	**09 47 10.2**	**+0.8**
EXG	**Exogi**	**1.03**	**10**	P		**Pg**	**09 47 05.5**	**+0.3**
EXG				S		**Sb**	**09 47 19.7**	**+0.1**
EXG	**Exogi**	**1.03**	**10**	P		**Pg**	**09 47 05.5**	**+0.3**
EXG				S		**Sb**	**09 47 19.7**	**+0.1**
RLS	**Riolos of Patr**	**1.04**	**54**	*e*PN		**Pg**	**09 47 05.0**	**-0.4**
RLS				*e*SN		**Sb**	**09 47 20.5**	**+0.6**
RLS	**Riolos of Patr**	**1.04**	**54**	P		**Pg**	**09 47 05.0**	**-0.4**
RLS				S		**Sg**	**09 47 18.4**	**-0.5**
RLS				*e*SN		**Sb**	**09 47 20.5**	**+0.6**
RLS	**Riolos of Patr**	**1.04**	**54**	P		**Pg**	**09 47 05.0**	**-0.4**
RLS				S		**Sg**	**09 47 18.4**	**-0.5**
AMT	**Artemida-Makis**	**1.04**	**85**	*e*PN		**Pb**	**09 47 06.2**	**+0.1**
AMT				*e*SN		**Sb**	**09 47 20.6**	**+0.6**
AMT	**Artemida-Makis**	**1.04**	**85**	*e*Pn		**Pb**	**09 47 06.2**	**+0.1**
AMT	**Artemida-Makis**	**1.04**	**85**	P		**Pn**	**09 47 06.7**	**-0.1**
AMT				*e*Sn		**Sb**	**09 47 20.6**	**+0.6**
AMT	**Artemida-Makis**	**1.04**	**85**	P		**Pn**	**09 47 06.7**	**-0.1**
AMT				S		**Sb**	**09 47 20.4**	**+0.4**
DRO	**Drossia**	**1.15**	**64**	P		**Pg**	**09 47 07.2**	**-0.4**
DRO				S		**Sg**	**09 47 22.7**	**+0.1**
DRO	**Drossia**	**1.15**	**64**	P		**Pg**	**09 47 07.2**	**-0.4**
DRO				S		**Sg**	**09 47 22.7**	**+0.1**
PYL	**PYLOS**	**1.20**	**117**	*e*PN		**Pg**	**09 47 07.6**	**-1.0**
PYL				*e*SN		**Sn**	**09 47 25.5**	**-0.2**
PYL	**PYLOS**	**1.20**	**117**	*e*Pn		**Pg**	**09 47 07.6**	**-1.0**
PYL				*e*Sn		**Sn**	**09 47 25.5**	**-0.2**
ITM	**Ithomi**	**1.24**	**102**	*e*PN		**Pg**	**09 47 08.6**	**-0.8**
ITM	**Ithomi**	**1.24**	**102**	*e*Pn		**Pg**	**09 47 08.6**	**-0.8**
PDO	**Prodromos**	**1.30**	**28**	*e*PN		**Pb**	**09 47 10.6**	**0.0**
PDO	**Prodromos**	**1.30**	**28**	P		**Pb**	**09 47 10.5**	**0.0**
PDO				S		**Sn**	**09 47 28.1**	**-0.1**
PDO	**Prodromos**	**1.30**	**28**	P		**Pb**	**09 47 10.5**	**0.0**
PDO				S		**Sn**	**09 47 28.1**	**-0.1**
LAKA	**Lakka**	**1.48**	**57**	*e*PN		**Pn**	**09 47 13.2**	**+0.4**
LAKA	**Lakka**	**1.48**	**57**	P		**Pn**	**09 47 12.8**	**0.0**
LAKA	**Lakka**	**1.48**	**57**	*e*Pn		**Pn**	**09 47 13.2**	**+0.4**
LAKA	**Lakka**	**1.48**	**57**	P		**Pn

Ms1 3.8/34, ms1mx3.7/47, Error ellipse: s-maj=11.2km s-min=10.4km az=65.0

*NEIC **12** 10:06:45.8±2.1, 72.°94N×123.°31E, h29km±15km, mb4.9/74, Error ellipse: s-maj=5.4km s-min=3.2km az=158.0*

ISC 12 10:06:43.6±0.4**, 72.°98N**±0.°04×**123.°79E**±0.°04**, h13**km±2km**, h13km:pP-P, n561, σ1.s05**/593**, mb4.8**/131**, MS3.9**/44**, 11C-8D, Northern and central Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DEPR	Deputatskiy	6.32	117	eP	Pb	10 08 29.0	-4.3
DEPR				Pm		10 08 29.0	
	comp=Z,19nm,0.3s						
DEPR				eS	Sg	10 10 06.4	+0.3
DEPR				Sm		10 10 06.4	
	comp=E,233nm,0.7s						
BTGS	Batagay	6.48	140	eP	Pb	10 08 31.9	-4.0
BTGS				Pm		10 08 31.9	
	comp=Z,17nm,0.3s						
BTGS				eS	Sn	10 09 30.2	-1.8
BTGS				eS	Sg	10 10 11.1	0.0
BTGS				Sm		10 10 11.1	
	comp=N,288nm,0.5s						
MOMR	Moma	9.34	125	eP	Pn	10 09 22.3	+25
MOMR				eS	Sn	10 10 37.4	-4.9
MOMR				eS		10 11 40.9	
MOMR				Sm		10 11 40.9	
	comp=E,126nm,0.8s						
UNR	Ust'-Nera	10.92	131	eP	Pn	10 09 50.0	+31
UNR				Pm		10 09 50.0	
	comp=Z,3.0nm,0.2s						
UNR				eS	Sn	10 11 16.9	-4.2
UNR				eS		10 12 30.0	
UNR				Sm		10 12 30.0	
	comp=E,319nm,0.5s						
YAK	Yakutsk	11.22	166	Pn	Pn	10 09 21.6	-1.8
	comp=E,0.0nm,0.3s,baz=343,slow=19,SNR=13						
YAK				Sn	Sn	10 11 22.9	-5.4
	comp=E,0.0nm,0.3s,baz=90,slow=20,SNR=4.4						
YAK				LR	LR	10 13 50.8	
	comp=E,414nm,19.4s,baz=358,slow=38						
YAK	Yakutsk	11.22	166	eP	Pn	10 09 22.4	-0.9
YAK				e		10 11 29.1	
YAK				pmax	pmax		
	comp=Z,33nm,0.9s						
YAK				pmax	pmax		
	comp=N,31nm,1.0s						
YAK				pmax	pmax		
	comp=E,11nm,1.2s						
YAK				smax	smax		
	comp=E,44nm,1.0s						
YAK				smax	smax		
	comp=N,31nm,0.5s						
YAK				MLR	MLR		
	comp=Z,780nm,12.0s						
YAK	Yakutsk	11.22	166	eS	Sn	10 11 22.3	-6.1
YAK				eS		10 12 37.1	
YAK				Sm		10 12 37.1	
	comp=E,155nm,0.3s						
YAK	Yakutsk	11.22	166	ePn	Pn	10 09 22.9	-0.5
	comp=E,40nm,0.5s						
YAK				Sn	Sn	10 11 22.9	-5.4
TBGR	Tabaga	11.42	166	eS	Sn	10 11 26.6	-6.8
TBGR				eS		10 12 43.3	
TBGR				Sm		10 12 43.3	
	comp=N,104nm,0.4s						
USMR	Ust'-Maya	13.27	156	eP	P	10 10 33.7	+33
USMR				eS	S	10 13 42.6	+60
USMR				Sm		10 13 42.6	
	comp=N,260nm,0.8s						
SEY	Seymchan	14.51	119	Pn	Pn	10 10 09.7	+1.3
	comp=N,0.2nm,0.3s,baz=314,slow=8.3,SNR=8.6						
SEY				LR	LR	10 16 17.3	
	comp=N,233nm,18.6s,baz=304,slow=39						
SEY	Seymchan	14.51	119	P	P	10 10 12.0	-2.9
CGD	Chagda	14.54	166	eS	S	10 14 21.6	+73
CGD				Sm		10 14 21.6	
	comp=N,6.0nm,0.4s						
BILL	Bilibino	14.72	88c	iP	P	10 10 15.8	-1.5
BILL				i S	Sn	10 13 02.9	+9.1
BILL				pmax	pmax		
	comp=Z,30nm,2.5s						
BILL				MLR	MLR		
	comp=Z,821nm,20.0s						
BILL	Bilibino	14.72	88	Pn	Pn	10 10 13.6	+2.4
BOD	Bodaibo	15.72	200	eP	Pn	10 10 16.8	-7.6
BOD				pmax	pmax		
	comp=Z,53nm,1.4s						
CLNS	Chul'man	16.22	178	eP	Pn	10 10 29.0	-1.8
CLNS				pmax	pmax		
	comp=N,25nm,0.8s						
CLNS				pmax	pmax		
	comp=E,21nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,21nm,1.0s						
CLNS				MLR	MLR		
	comp=E,2µm,14.0s						
CLNS				MLR	MLR		
	comp=Z,847nm,12.0s						
CLNS				MLR	MLR		
	comp=N,575nm,13.0s						
KRAR	Krasnoyarsk	21.15	233	i P	P	10 11 27.2	-0.7
KRAR				pmax	pmax		
	comp=Z,140nm,1.2s						
NKL	Nikolayevsk	21.16	151	eP	P	10 11 29.0	+1.0
NKL				i		10 11 32.6	
NKL				e		10 15 26.0	
NKL				pmax	pmax		
	comp=N,22nm,1.0s						
NKL				pmax	pmax		
	comp=E,13nm,1.0s						
NKL				MLR	MLR		
	comp=N,1µm,10.0s						
NKL				MLR	MLR		
	comp=E,1µm,10.0s						
NKL				MLR	MLR		
	comp=Z,2µm,10.0s						
IRK	Irkutsk	22.43	213	eP	P	10 11 41.9	+0.2
IRK				eS	S	10 15 35.1	-12
IRK				pmax	pmax		
	comp=Z,95nm,0.9s						
SPITS	Spitsbergen Ar	23.52	330	P	P	10 11 51.8	-0.9
	comp=Z,1.5nm,0.5s,baz=65,slow=10,SNR=4.3						
SPITS				LR	LR	10 22 10.4	
	comp=Z,234nm,18.1s,baz=25,slow=40						
MOY	Mondy	23.54	217	eP	P	10 11 54.9	+1.6
KBS	Kingsbay	23.59	333	eP	P	10 11 53.6	+0.2
KBS				pmax	pmax		
	comp=Z,14nm,1.0s						
KBS	Kingsbay	23.59	333	eP	P	10 11 53.6	+0.2
	comp=Z,14nm,1.0s						
KLR	Kul'dur	24.09	167	eP	P	10 11 54.7	-3.7
KLR				e		10 16 09.0	
KLR				MLR	MLR		
	comp=Z,2µm,11.0s						
ZAK	Zakamensk	24.39	213	eP	P	10 12 01.2	-0.1
ZAK				e		10 16 20.8	
ZAK				pmax	pmax		
	comp=Z,13nm,1.4s						
PETK	Petropavlovsk-	24.52	126	P	P	10 12 02.2	-0.1
	comp=Z,8.4nm,0.6s,baz=32,slow=6.0,SNR=15						
NVS	Novosibirsk	24.64	244	eP	P	10 12 01.0	-2.3
NVS				pmax	pmax		
	comp=Z,43nm,1.3s						
NVS				pmax	pmax		
	comp=N,26nm,1.4s						
NVS				pmax	pmax		
	comp=E,13nm,1.0s						
PET	Petropavlovsk	24.83	125	eP	P	10 12 09.1	+4.1
PET				eS	S	10 16 26.2	-0.8
PET				pmax	pmax		
	comp=Z,32nm,1.0s						
PET				MLR	MLR		
	comp=Z,400nm,14.0s						
ZALV	Zalesovo Beam	25.02	242	P	P	10 12 06.0	-0.7
	comp=Z,22nm,0.7s,baz=19,slow=8.2,SNR=16						
HABR	Khabarovsk	25.10	162d	eP	P	10 12 07.0	-0.6
HABR				e*PP	pP	10 12 10.0	-1.6
HABR				e*SP	sP	10 12 11.4	-1.8
HABR				ePPP	PPP	10 12 48.6	
HABR				eS	S	10 16 32.5	+1.1
HABR				e*SS	sS	10 16 37.9	-0.2
HABR				eSS	SnSn	10 17 23.8	+3.1
HABR				e		10 23 08.4	
HABR				pmax	pmax		
	comp=E,13nm,0.9s						
HABR				pmax	pmax		
	comp=N,22nm,1.7s						
HABR				pmax	pmax		
	comp=Z,36nm,0.9s						
HABR				MLR	MLR		
	comp=Z,473nm,16.0s						
HVS	Khovu-Aksy	25.49	227⇓	eP	P	10 12 11.6	+0.4
HVS				pmax	pmax		
	comp=Z,103nm,1.0s						
SONM	Songino Array	26.42	207	P	P	10 12 19.9	+0.2
	comp=Z,14nm,1.0s,baz=8.1,slow=9.2,SNR=56						
SONM				LR	LR	10 23 23.7	
	comp=Z,361nm,21.9s,baz=281,slow=38						
COLD	Coldfoot	27.35	58	eP	P	10 12 29.2	+1.5
	comp=Z,11nm,1.1s						
LVZ	Lovozero	27.59	305⇑	eP	P	10 12 28.5	-1.5
LVZ				pmax	pmax		
	comp=Z,37nm,1.5s						
ARCES	ARCESS Array B	28.40	313	P	P	10 12 34.5	-2.5
	comp=Z,2.9nm,0.9s,baz=44,slow=21,SNR=2.5						
ARCES				LR	LR	10 25 09.6	
	comp=Z,105nm,21.1s,baz=11,slow=39						
MDJ	Mudanjiang	28.58	171	P	P	10 12 39.7	+0.8
MDJ				pP	pP	10 12 43.0	+0.1
MDJ				sP	sP	10 12 44.5	-0.1
MDJ				S	S	10 17 30.2	+3.9
MDJ				PcS	PcS	10 19 32.4	+0.5
MDJ				PMZ			
	comp=Z,20nm,1.0s						
MDJ				PMZ			
	comp=Z,45nm,4.9s						
MDJ				LN			
	comp=Z,190nm,18.6s						
MDJ				LE			
	comp=Z,880nm,21.1s						
MDJ				LZ			
	comp=Z,680nm,15.2s						
USRK	Ussuriysk Ar.	29.12	168	P	P	10 12 43.8	+0.1
	comp=Z,5.7nm,0.9s,baz=339,slow=8.6,SNR=7.8						
USRK				LR	LR	10 25 28.3	
	comp=Z,268nm,19.0s,baz=341,slow=39						
CN2	Changchun	29.27	178	eP	P	10 12 45.1	+0.1
CN2				epP	pP	10 12 48.2	-0.9
CN2				eS	S	10 17 36.2	-1.1
CN2				PMZ			
	comp=Z,10.0nm,1.2s						
CN2				LN			
	comp=Z,2µm,13.0s						
CN2				LE			
	comp=Z,600nm,13.0s						
CN2				LZ			
	comp=Z,600nm,14.0s						
SVE	Sverdlovsk	29.38	271⇓	eP	P	10 12 46.2	+0.3
SVE				pmax	pmax		
	comp=Z,21nm,1.1s						
KURK	Kurchatov	29.58	246	P	P	10 12 46.9	-0.8
KURK	Kurchatov	29.58	246	P	P	10 12 46.9	-0.8
KURBB	Kurchatov Arra	29.69	246	P	P	10 12 46.9	-1.8
	comp=Z,4.7nm,0.8s,baz=29,slow=8.3,SNR=4.7						
TMCR	Tamitsa	29.71	298	eP	P	10 12 44.2	-4.5
TMCR				e		10 13 39.3	
TMCR				pmax	pmax		
	comp=Z,15nm,0.5s						
PRGR	Permogore	29.72	289	eP	P	10 12 47.6	-1.2
PRGR				pmax	pmax		
	comp=Z,12nm,0.8s						
COLA	College	29.80	59⇓	eP	P	10 12 51.3	+1.8
COLA				pmax	pmax		
	comp=Z,35nm,1.8s						
BVAR	Borovoye Array	29.81	257	P	P	10 12 48.1	-1.7
	comp=Z,1.5nm,0.6s,baz=25,slow=7.9,SNR=3.7						
BVAR				LR	LR	10 26 12.0	
	comp=Z,195nm,21.5s,baz=39,slow=39						
BRVK	Borovoye	29.81	257⇑	eP	P	10 12 51.9	+2.2
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CCB	Clear Creek Bu	30.00	59	eP	P	10 12 53.2	+2.0
	comp=Z,18nm,1.4s						
ILAR	Eielson Array	30.13	59	P	P	10 12 54.0	+1.6
	comp=Z,4.2nm,1.0s,baz=323,slow=9.1,SNR=45						
ILAR				PcP	PcP	10 15 52.1	-1.1
	comp=Z,1.5nm,1.1s,baz=328,slow=3.2,SNR=5.3						
ILAR				LR	LR	10 28 43.9	
	comp=Z,182nm,19.8s,baz=338,slow=44						
ARU	Arti	30.33	273d	iP	P	10 12 53.5	-0.7
ARU						10 13 49.7	
ARU				S	S	10 17 55.0	+1.4
ARU				SS	SnSn	10 19 26.1	-1.8
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ARU				MLR	MLR		
	comp=Z,254nm,16.0s						
ARU	Arti	30.33	273	eP	P	10 12 53.3	-0.9
MCK	McKinley	30.45	61	eP	P	10 12 57.2	+1.9
MCK				pmax	pmax		
	comp=Z,24nm,1.5s						
MCK	McKinley	30.45	61	eP	P	10 12 57.2	+1.9
	comp=Z,24nm,1.5s						
PAX	Paxson	31.97	60	eP	P	10 13 11.1	+2.3
PAX				pmax	pmax		
	comp=Z,13nm,1.3s						
PAX	Paxson	31.97	60	eP	P	10 13 11.1	+2.3
	comp=Z,13nm,1.3s						
MKAR	Makanchi Array	32.23	239	P	P	10 13 09.8	-1.4
	comp=Z,1.9nm,0.6s,baz=47,slow=4.5,SNR=15						
MKAR				PcP	PcP	10 15 57.3	-1.8
	comp=Z,1.8nm,0.8s,baz=39,slow=7.6,SNR=2.4						
MKAR				LR	LR	10 26 55.3	
	comp=Z,529nm,18.9s,baz=14,slow=38						
RC01	Rabbit Creek A	32.43	65	eP	P	10 13 13.1	+0.3
	comp=Z,26nm,1.3s						
DAWY	Dawson	32.55	54	eP	P	10 13 15.7	+1.9
HHC	Hu-ho-hao-te	32.75	197	eP	P	10 13 17.1	+1.2
HHC				PP	PnPn	10 14 25.5	+1.6
HHC				S	S	10 18 33.0	+1.0
HHC				PMZ			
	comp=Z,18nm,1.1s						
HHC				PMZ			
	comp=Z,100nm,3.7s						
HHC				LN			
	comp=Z,2µm,9.9s						
HHC				LE			
	comp=Z,680nm,10.0s						
HHC				LZ			
	comp=Z,1µm,8.7s						
BJI	Beijing	33.23	191	P	P	10 13 20.9	+1.0
BJI				S	S	10 18 40.1	+1.0
BJI				PMZ			
	comp=Z,52nm,0.9s						
BJI				PMZ			
	comp=Z,130nm,3.5s						
BJI				LN			
	comp=Z,850nm,10.8s						
BJI				LE			
	comp=Z,530nm,11.8s						
WMQ	Urumqi	33.73	230	P	P	10 13 26.7	+2.4
WMQ				pP	pP	10 13 30.5	+2.1
WMQ				sP	sP	10 13 33.5	+3.4
WMQ				PcP	PcP	10 16 06.7	+3.3
WMQ				S	S	10 18 48.3	+1.3
WMQ				ScS	ScS	10 23 49.7	+1.1
WMQ				PMZ			
	comp=Z,31nm,0.6s						
WMQ				PMZ			
	comp=Z,93nm,4.0s						
WMQ				LN			
	comp=Z,1µm,14.0s						
WMQ				LE			
	comp=Z,380nm,15.0s						
WMQ				LZ			
	comp=Z,540nm,17.6s						
BMRM	Bremner River	33.88	61	eP	P	10 13 27.3	+1.8
	comp=Z,21nm,1.0s						
SUMG	Summit	34.23	351	eP	P	10 13 29.6	+0.8
SUMG				pmax	pmax		
	comp=Z,19nm,1.2s						
SUMG	Summit	34.23	351	eP	P	10 13 29.6	+0.8
	comp=Z,19nm,1.2s						
FINES	FINESS Array B	35.01	304	P	P	10 13 34.5	-0.6
	comp=Z,1.6nm,0.4s,baz=32,slow=9.3,SNR=13						
FINES				LR	LR	10 29 59.4	
	comp=Z,138nm,19.9s,baz=26,slow=40						
GTA	Gaotai	35.63	213	eP	P	10 13 41.5	+0.6
GTA				pP	pP	10 13 45.9	+0.9
GTA				sP	sP	10 13 48.6	+2.0
GTA				PcP	PcP	10 16 09.0	-0.1
GTA				S	S	10 19 16.3	-0.2
GTA				PMZ			
	comp=Z,10.0nm,1.3s						
GTA				PMZ			
	comp=Z,74nm,4.3s						
GTA				LN			
	comp=Z,2µm,10.5s						
GTA				LE			
	comp=Z,1µm,11.4s						
GTA				LZ			
	comp=Z,2µm,10.9s						
KSRS	Korea Array	35.66	174	P	P	10 13 40.5	-0.4
	comp=Z,3.2nm,0.6s,baz=1.2,slow=8.0,SNR=20						
KSRS				LR	LR	10 28 31.3	
	comp=Z,133nm,20.6s,baz=4.5,slow=37						
KSRS	Korea Array	35.66	174	P	P	10 13 40.5	-0.4
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KSRS				MLR	MLR		
	comp=Z,133nm,20.6s						
KSAR	Wonju Array Be	35.67	174	P	P	10 13 40.5	-0.5
KSAR	Wonju Array Be	35.67	174	P	P	10 13 40.5	-0.5
AKTO	Aktyubinsk	35.71	268	P	P	10 13 40.3	-1.0
	comp=Z,4.4nm,0.6s,baz=349,slow=12,SNR=15						
AKTO				LR	LR	10 30 19.2	
	comp=Z,268nm,18.3s,baz=21,slow=40						
ABKAR	Akbulak array	36.20	265	eP	P	10 13 44.2	-1.2
TJN	Taejon	36.72	175	P	P	10 13 52.0	+2.0
TIA	Tai'an	37.00	189	⇑P	P	10 13 52.9	+0.5
TIA				PMZ			
	comp=Z,30nm,0.9s						
TIA				LN			
	comp=Z,780nm,11.7s						
TIA				LE			
	comp=Z,630nm,10.9s						
TIA				LZ			
	comp=Z,1µm,11.4s						
MJAR	Matsushiro Arr	37.23	161	P	P	10 13 54.8	+0.4
	comp=Z,4.2nm,0.9s,baz=346,slow=8.2,SNR=9.9						
MJAR				LR	LR	10 29 11.1	
	comp=Z,225nm,20.2s,baz=10.0,slow=36						
VSU	Vasula	37.44	301⇑	iP	P	10 13 54.6	-1.3
VSU				pmax	pmax		
	comp=Z,44nm,1.5s						
TKM2	Tokmak 2	37.56	244	eP	P	10 13 55.9	-1.5
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TKM2	Tokmak 2	37.56	244	eP	P	10 13 55.9	-1.5
	comp=Z,3.0nm,0.6s						
OBN	Obninsk	37.78	290	LR	LR	10 31 39.7	
	comp=Z,298nm,19.2s,baz=71,slow=40						
OBN	Obninsk	37.78	290c	eP	P	10 13 59.8	+1.0
OBN				e		10 15 27.5	
OBN				e		10 16 15.8	
OBN				eS	S	10 19 41.8	-6.8
OBN				eSS	SS	10 22 58.0	+24
OBN				pmax	pmax		
	comp=Z,17nm,1.9s						
OBN				MLR	MLR		
	comp=Z,339nm,17.0s						
LZH	Lanzhou	38.31	206	⇑P	P	10 14 04.9	+1.2
LZH				pP	pP	10 14 08.5	+0.7
LZH				sP	sP	10 14 11.3	+1.9
LZH				PP	PnPn	10 15 36.0	+3.2
LZH				eS	S	10 20 00.1	+2.7
LZH				sS	ScP	10 20 05.6	+1.4
LZH				PMZ			
	comp=Z,65nm,1.5s						
LZH				PMZ			
	comp=Z,180nm,5.3s						
LZH				LN			
	comp=Z,1µm,14.8s						
LZH				LE			
	comp=Z,1µm,15.1s						
LZH				LZ			
	comp=Z,1µm,15.4s						
NB2	NORSAR Subarra	38.76	314	P	P	10 14 06.1	-0.9
	comp=Z,7.3nm,1.0s,baz=27,slow=8.6						
NOA	NORSAR Array B	38.76	314	P	P	10 14 06.1	-0.9
	comp=Z,2.8nm,0.8s,baz=28,slow=8.2,SNR=5.0						
NOA				LR	LR	10 32 26.0	
	comp=Z,83nm,20.4s,baz=40,slow=40						
YKA	Yellowknife Ar	39.22	39	P	P	10 14 11.1	+0.3
	comp=Z,3.7nm,0.9s,baz=340,slow=7.5,SNR=7.0						
YKA	Yellowknife Ar	39.22	39	P	P	10 14 11.1	+0.3
YKA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
XAN	Xi'an	39.75	199	P	P	10 14 13.2	-2.4
XAN				pP	pP	10 14 17.2	-2.5
XAN				sP	sP	10 14 20.0	-1.4
XAN				PP	PP	10 15 47.0	+0.3
XAN				PMZ			
	comp=Z,3.0nm,0.9s						
XAN				PMZ			
	comp=Z,19nm,4.0s						
XAN				LN			
	comp=Z,810nm,12.1s						
XAN				LE			
	comp=Z,560nm,10.7s						
XAN				LZ			
	comp=Z,1µm,11.2s						
VSR	Storozhevoye	40.51	285⇓	iP	P	10 14 21.6	0.0
VSR				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2	Nanjing	41.07	186	eP	P	10 14 27.9	+1.4
NJ2				S	S	10 20 40.0	+1.5
NJ2				PMZ			
	comp=Z,90nm,1.3s						
NJ2				LN			
	comp=Z,1µm,22.2s						
NJ2				LE			
	comp=Z,1µm,11.2s						
NJ2				LZ			
	comp=Z,1µm,12.8s						
WHN	Wuhan	42.79	192	P	P	10 14 40.2	-0.3
WHN				S	S	10 21 02.5	-1.3
WHN				LN			
	comp=Z,1µm,9.1s						
WHN				LE			
	comp=Z,530nm,10.6s						
WHN				LZ			
	comp=Z,950nm,12.8s						
CD2	Chengdu	43.42	205	P	P	10 14 45.4	-0.3
CD2				pP	pP	10 14 48.5	-1.4
CD2				sP	sP	10 14 49.9	-1.6
CD2				PP	PP	10 16 26.4	-0.1
CD2				S	S	10 21 14.2	+0.9
CD2				SS	SS	10 24 29.4	+2.4
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,50nm,4.3s						
CD2				LN			
	comp=Z,750nm,9.0s						
CD2				LZ			
	comp=Z,500nm,12.6s						
AKASG	Malin Array Be	43.73	294	P	P	10 14 46.5	-1.4
	comp=Z,1.2nm,0.4s,baz=26,slow=8.8,SNR=4.2						
AKASG				LR	LR	10 36 13.2	
	comp=Z,192nm,19.3s,baz=25,slow=41						
KIEV	Kiev	43.74	294	P	P	10 14 48.0	0.0
KIV	Kislovodsk	46.06	278d	iP	P	10 15 06.9	+0.2
KIV				e		10 16 44.3	
KIV				e		10 16 57.3	
KIV				eS	S	10 22 02.9	+11
KIV				eSS	SS	10 25 12.8	-3.0
KIV				pmax	pmax		
	comp=Z,42nm,1.0s						
KIV				MLR	MLR		
	comp=Z,123nm,15.0s						
KIV	Kislovodsk	46.06	278	eP	P	10 15 07.3	+0.7
	comp=Z,30nm,0.8s						
KBZ	Khabaz	46.21	277	P	P	10 15 07.9	+0.3
	comp=Z,12nm,0.9s,baz=40,slow=6.6,SNR=22						
NEY	Neytrino	46.70	277	P	P	10 15 13.0	+1.2
NEY				pmax	pmax		
	comp=Z,2.0nm,0.8s						
JCJ	Chichijima	46.99	157	LR	LR	10 37 11.6	
	comp=Z,52nm,19.5s,baz=101,slow=39						
STHS	Stebnicka Huta	47.01	299	eP	P	10 15 14.4	+0.5
STHS				pmax	pmax		
	comp=Z,4.0nm,1.2s						
STHS	Stebnicka Huta	47.01	299	eP	P	10 15 14.4	+0.5
GEYT	Alibeck	47.09	260	P	P	10 15 12.9	-1.8
	comp=Z,1.8nm,0.4s,baz=1.9,slow=13,SNR=4.9						

GEYT LR LR 10 38 16.8
comp=Z,314nm,20.7s,baz=25,slow=40
ONI Oni 47.09 276 P **P 10 15 15.9 +1.2**
KOLS Kolonicke sedl 47.19 298 *e*P **P 10 15 15.5 +0.2**
KOLS Kolonicke sedl 47.19 298 *e*P **P 10 15 15.5 +0.2**
CLL Collm 47.29 307 *e*P **P 10 15 15.0 -1.0**
CLL pmax pmax
comp=Z,11nm,1.3s
CLL Collm 47.29 307 *e*P **P 10 15 15.0 -1.0**
comp=Z,11nm,1.3s
CLL *e*SS SS 10 25 48.0 +13
UPC Upice 47.31 304 AMS AMS 10 40 00.0
comp=Z,200nm,13.6s
DPC Dobruska-Polom 47.38 304 *e*P **P 10 15 16.5 -0.3**
DPC *ex* x 10 15 20.4
DPC AMS AMS 10 42 30.0
comp=Z,200nm,16.1s
DPC Dobruska-Polom 47.38 304 *e*P **P 10 15 16.5 -0.3**
DPC *e* 10 15 20.4
DPC MLR MLR
comp=Z,200nm,16.1s
OKC Ostrava-Krasne 47.40 302 *e*P **P 10 15 16.6 -0.4**
OKC AMS AMS 10 41 40.0
comp=Z,200nm,12.9s
OKC Ostrava-Krasne 47.40 302 *e*P **P 10 15 16.6 -0.4**
OKC MLR MLR
comp=Z,200nm,12.9s
GYA Guiyang 47.48 201 *e*P **P 10 15 20.0 +2.0**
GYA PP **PP 10 17 11.2 +2.0**
GYA ScP **ScP 10 20 43.4 +2.2**
GYA S **S 10 22 14.0 +1.9**
GYA SS **SS 10 25 35.6 -3.9**
GYA PMZ
comp=Z,10.0nm,1.0s
GYA PMZ
comp=Z,110nm,5.0s
GYA LN
comp=Z,460nm,18.6s
GYA LE
comp=Z,380nm,19.0s
GYA LZ
comp=Z,440nm,18.4s
KRLC Kraliky 47.52 303 *e*P **P 10 15 17.2 -0.7**
KRLC *ex* x 10 15 21.0
KRLC Kraliky 47.52 303 *e*P **P 10 15 17.2 -0.7**
KRLC *e* 10 15 21.0
DGRG David-gareji 47.57 274 P **P 10 15 20.4 +2.0**
MORC Moravsky Berou 47.61 303 *e*P **P 10 15 18.7 +0.1**
MORC pmax pmax
comp=Z,22nm,1.1s
MORC Moravsky Berou 47.61 303 *e*P **P 10 15 18.7 +0.1**
comp=Z,22nm,1.1s
KECS Kecovo 48.06 299 *e*P **P 10 15 21.5 -0.6**
KECS pmax pmax
comp=Z,2.0nm,1.2s
KECS Kecovo 48.06 299 *e*P **P 10 15 21.5 -0.6**
EDM Edmonton 48.13 43 *e*P **P 10 15 23.6 +1.0**
EDM Edmonton 48.13 43 *e*P **P 10 15 23.6 +1.0**
PRU Pruhonice 48.15 305 *e*P **P 10 15 22.3 -0.4**
PRU *ex* x 10 15 25.7
PRU AMS AMS 10 40 40.0
comp=Z,200nm,12.5s
PRU Pruhonice 48.15 305 *e*P **P 10 15 22.3 -0.4**
PRU *e* 10 15 25.7
PRU MLR MLR
comp=Z,200nm,12.5s
GOPC GO Pecny, Ondr 48.16 305 AMS AMS 10 40 40.0
comp=Z,200nm,9.1s
VRAC Vranov 48.28 303 LR LR 10 39 49.5
comp=Z,73nm,18.5s,baz=2.0,slow=41
NKC Novy Kostel 48.42 307 *e*P **P 10 15 24.9 0.0**
NKC *ex* x 10 15 28.6
NKC Novy Kostel 48.42 307 *e*P **P 10 15 24.9 0.0**
NKC *e* 10 15 28.6
TREC Trest 48.56 304 AMS AMS 10 40 10.0
comp=Z,200nm,14.8s
GNI Garni 48.95 274 LR LR 10 40 30.0
comp=Z,90nm,19.1s,baz=14,slow=42
GNI Garni 48.95 274 P **P 10 15 31.0 +1.7**
GNI pmax pmax
comp=Z,14nm,1.6s
KHC Kasperske Hory 49.17 305 *e*P **P 10 15 30.6 -0.1**
KHC *ex* x 10 15 35.2
KHC AMS AMS 10 40 00.0
comp=Z,200nm,11.6s
KHC Kasperske Hory 49.17 305 *e*P **P 10 15 30.6 -0.1**
KHC *e* 10 15 35.2
KHC MLR MLR
comp=Z,200nm,11.6s
KMI Kunming 49.26 205 P **P 10 15 34.2 +2.4**
KMI PMZ
comp=Z,5.0nm,0.7s
KMI LN
comp=Z,710nm,10.3s
KMI LE
comp=Z,350nm,9.2s
KMI LZ
comp=Z,640nm,10.3s
MLR Muntele Rosu 49.38 293 LR LR 10 37 30.6
comp=Z,19nm,21.4s,baz=27,slow=38
GUN Gumba 49.41 226 *e*P **P 10 15 33.4 +0.3**
comp=Z,56nm,0.7s
GERES GERESS Array B 49.41 305 P **P 10 15 30.5 -2.1**
comp=Z,3.1nm,0.9s,baz=38,slow=7.4,SNR=18
GERES LR LR 10 39 09.9
comp=Z,130nm,19.2s,baz=360,slow=40
TAPN Taplejung 49.58 223 *e*P **P 10 15 35.0 +0.7**
comp=Z,72nm,1.2s
GKN Gorkha 49.59 227 *e*P **P 10 15 33.8 -0.4**
comp=Z,33nm,0.5s
KKN Kakani 49.66 226 *e*P **P 10 15 34.7 -0.1**
comp=Z,41nm,0.7s
PKIN Phulchoki 49.84 226 *e*P **P 10 15 35.7 -0.6**
comp=Z,61nm,1.3s
PKI Pulchoki 49.84 226 *e*P **P 10 15 35.8 -0.5**
comp=Z,81nm,1.4s
DMN Daman 49.87 227 *e*P **P 10 15 36.1 -0.4**
comp=Z,150nm,1.4s
ODAN Odare 50.12 224 *e*P **P 10 15 38.6 +0.3**
comp=Z,138nm,0.8s
RAMN Ramite 50.19 225 *e*P **P 10 15 39.2 +0.3**
comp=Z,54nm,1.2s
KBA Koelnbreinsper 51.15 305⇑ *i*P **P 10 15 46.6 +0.7**
comp=Z,14nm,1.1s
BFO Black Forest 51.15 309 *i* P **P 10 15 46.8 +1.1**
WTTA Wattenberg 51.38 306⇑ *i*P **P 10 15 47.9 +0.3**
comp=Z,9.7nm,0.9s
B08A Colville Reser 51.45 50 *e*P **P 10 15 49.0 +1.0**
comp=Z,9.0nm,0.9s
FETA Feichten 51.83 307⇑ *i*P **P 10 15 51.5 +0.6**
comp=Z,7.6nm,1.2s
NEW Newport 52.02 48 P **P 10 15 53.1 +0.9**
baz=52
DAVOX Davos/Dischmat 52.25 307 LR LR 10 39 18.8
comp=Z,59nm,21.9s,baz=64,slow=38
SCHQ Schefferville 52.27 8 P **P 10 15 52.5 -1.3**
comp=Z,5.2nm,0.9s,baz=4.4,slow=9.4,SNR=5.1
SCHQ LR LR 10 37 23.6
comp=Z,49nm,21.2s,baz=2.0,slow=35
LON Longmire 52.40 52 *e*P **P 10 15 56.0 +1.0**
LON pmax pmax
comp=Z,9.0nm,1.1s
LON Longmire 52.40 52 *e*P **P 10 15 56.0 +1.0**
comp=Z,8.5nm,1.1s
BRTR Keskin Array B 52.57 284 P **P 10 15 54.9 -1.7**
comp=Z,1.4nm,0.9s,baz=48,slow=5.5,SNR=8.5
BRTR LR LR 10 41 51.9
comp=Z,33nm,20.8s,baz=0.0,slow=40
TUE Stuetta 52.67 308 *e*P **P 10 15 56.9 -0.3**
comp=Z,12nm,1.1s
F04D Rainier, OR 52.74 53 P **P 10 15 58.7 +1.2**
baz=53
D08A Wollman Farm, 52.77 50 *e*P **P 10 15 58.6 +0.9**
comp=Z,12nm,1.2s
BSMT Bassoo Peak 52.92 46 *e*P **P 10 16 00.1 +1.0**
comp=Z,5.7nm,1.0s
A19A Klindworth Far 53.12 41 P **P 10 16 00.5 +0.2**
baz=53,SNR=7.2
JTMT Jette 53.12 46 *e*P **P 10 16 01.8 +1.3**
A20A Cobblestone Ra 53.32 40 P **P 10 16 02.4 +0.5**
baz=53,SNR=6.5
A21A Bergtoll Ranch 53.40 39 P **P 10 16 02.6 +0.2**
baz=53
SWMT Swartz Lake 53.41 46 *e*P **P 10 16 02.5 0.0**
comp=Z,23nm,1.8s
G03D McMinnville, O 53.50 54 P **P 10 16 03.8 +0.7**
baz=53
B19A Brinkman Farms 53.53 41 P **P 10 16 04.2 +0.8**
baz=53
A22A Carney Farms, 53.59 39 P **P 10 16 03.9 +0.1**
baz=53
B20A Solberg Farm, 53.72 40 P **P 10 16 04.6 -0.2**
baz=54
SLMT Seeley Lake 53.77 45 *e*P **P 10 16 06.1 +0.8**
comp=Z,3.8nm,1.0s
EGMT Eagleton 53.78 42 P **P 10 16 05.6 +0.3**
baz=54
A23A Redstone 53.81 38 P **P 10 16 05.4 0.0**
baz=54
B21A Ellsworth Farm 53.92 40 P **P 10 16 06.4 +0.2**
baz=54
A24A Westby 54.00 37 P **P 10 16 07.5 +0.8**
baz=54,SNR=7.4
MSO Missoula 54.07 46 P **P 10 16 08.1 +0.7**
baz=54,SNR=6.9
MSO Missoula 54.07 46 *e*P **P 10 16 08.2 +0.9**
comp=Z,20nm,1.5s
A25A Svangstu Ranch 54.14 36 P **P 10 16 08.2 +0.4**
baz=54
B22A Reddig Ranch S 54.24 39 P **P 10 16 08.1 -0.5**
baz=54
B23A Brockton 54.26 38 P **P 10 16 09.0 +0.3**
baz=54,SNR=8.5
A26A Wade Farm, Ken 54.37 36 P **P 10 16 09.8 +0.4**
baz=54
DGMT Dagmar 54.40 37 P **P 10 16 10.0 +0.3**
baz=54
DGMT Dagmar 54.40 37 *e*P **P 10 16 11.1 +1.4**
comp=Z,23nm,1.0s
C20A Veseth Ranch, 54.42 41 P **P 10 16 10.2 +0.3**
baz=54,SNR=12
A27A Ledoux Ranch, 54.45 35 P **P 10 16 10.6 +0.6**
baz=54
C21A Desert Coulee 54.49 40 P **P 10 16 10.5 +0.2**
baz=54
QIZ Qiongzhong 54.54 196 P **P 10 16 12.3 +1.4**
QIZ S **S 10 23 51.7 +2.1**
QIZ PMZ
comp=Z,13nm,1.7s
QIZ LZ
comp=Z,540nm,12.3s
A28A Rude Farm, Bot 54.66 34 P **P 10 16 11.6 +0.1**
baz=54
B25A Knox Farm, Ray 54.78 37 P **P 10 16 12.7 +0.3**
baz=55
A29A Manning Farm, 54.81 33 P **P 10 16 12.5 -0.1**
baz=55,SNR=9.6
C23A Lambert 54.87 38 P **P 10 16 13.8 +0.7**
baz=55,SNR=9.2
A30A Hoffart Farm, 54.94 33 P **P 10 16 13.7 +0.1**
baz=55,SNR=13
B27A Peters Farms, 54.98 35 P **P 10 16 14.5 +0.6**
baz=55
B28A Dugan Ranch, T 55.09 34 P **P 10 16 14.7 +0.1**
baz=55
BMO Blue Mountains 55.22 49 *e*P **P 10 16 16.6 +0.9**
comp=Z,16nm,1.3s
B29A Wagenman Farm, 55.24 34 P **P 10 16 15.6 -0.1**
baz=55
C24A Sagge 55.27 38 P **P 10 16 16.3 +0.3**
baz=55
C25A Freed Ranch, W 55.30 37 P **P 10 16 16.5 +0.3**
baz=55
D22A Cohagen 55.31 39 P **P 10 16 17.2 +0.9**
baz=55
C26A Wahner Farm, P 55.39 36 P **P 10 16 17.3 +0.4**
baz=55
B30A Myrvik Farm, E 55.41 33 P **P 10 16 17.0 0.0**
baz=55,SNR=15
D23A Lindsay 55.47 39 P **P 10 16 17.7 +0.3**
baz=55
BOZ Bozeman (W) 55.68 44 *e*P **P 10 16 20.0 +0.9**
BOZ pmax pmax
comp=Z,30nm,2.0s
BOZ Bozeman (W) 55.68 44 P **P 10 16 20.0 +0.9**
baz=56,SNR=10
BOZ Bozeman (W) 55.68 44 *e*P **P 10 16 20.0 +0.9**
comp=Z,30nm,2.0s
D24A Glendive 55.69 38 P **P 10 16 20.0 +1.0**
baz=56,SNR=9.6
E21A Keefer Ranch, 55.73 40 P **P 10 16 19.8 +0.5**
baz=56
DLMT Dillon 55.75 45 *e*P **P 10 16 20.9 +1.3**
comp=Z,8.9nm,1.3s
C28A Hausauer Farms 55.79 35 P **P 10 16 20.6 +0.9**
baz=56
MDND Maddock 55.79 34 P **P 10 16 20.2 +0.5**
baz=56
MDND Maddock 55.79 34 *e*P **P 10 16 20.8 +1.1**
comp=Z,124nm,1.1s
J05D Fort Rock, OR 55.80 53 P **P 10 16 20.4 +0.4**
baz=56
D25A Fairfield 55.83 37 P **P 10 16 20.2 +0.1**
baz=56
GCMT Greycliff 55.94 43 *e*P **P 10 16 21.5 +0.5**
comp=Z,11nm,1.5s
AGMN Agassiz Nation 55.95 31 P **P 10 16 20.3 -0.5**
baz=56
AGMN Agassiz Nation 55.95 31 *e*P **P 10 16 20.8 0.0**
comp=Z,22nm,1.1s
E22A Miles City 56.04 40 P **P 10 16 22.2 +0.7**
baz=56,SNR=6.6
E23A Ismay 56.10 39 P **P 10 16 22.4 +0.4**
baz=56
D26A Manning 56.10 37 P **P 10 16 22.4 +0.4**
baz=56
C30A Moses, Pekin 56.12 33 P **P 10 16 21.8 -0.3**
baz=56
D27A Center 56.19 36 P **P 10 16 22.6 0.0**
baz=56
MCMT McKenzie Canyo 56.21 46 *e*P **P 10 16 24.2 +1.2**
F20A Billings 56.23 41 P **P 10 16 23.4 +0.4**
baz=56
L02D Cave Junction, 56.30 56 P **P 10 16 24.1 +0.6**
baz=56
CMAR Chiang Mai Arr 56.33 209 P **P 10 16 22.4 -1.4**
comp=Z,2.1nm,0.3s,baz=3.2,slow=7.1,SNR=4.8
CMAR PcP **PcP 10 17 19.2 -1.8**
comp=Z,0.7nm,0.3s,baz=358,slow=8.6,SNR=4.2
CMAR LR LR 10 42 58.0
comp=Z,87nm,18.2s,baz=24,slow=39
K05A Summer Lake 56.41 53 *e*P **P 10 16 26.0 +1.5**
comp=Z,59nm,2.0s
QLMT Earthquake Lak 56.50 44 *e*P **P 10 16 26.3 +1.3**
comp=Z,1.0nm,1.0s
D29A Pettibone, Tap 56.56 34 P **P 10 16 25.1 -0.1**
baz=56
F22A Rosebud 56.62 40 P **P 10 16 25.9 +0.2**
baz=56
E26A Carlson Angus 56.64 37 P **P 10 16 26.1 +0.3**
baz=56
D30A Buchanan 56.65 34 P **P 10 16 25.5 -0.4**
baz=56,SNR=5.8
RLMT Red Lodge 56.66 43 P **P 10 16 27.2 +0.9**
baz=56,SNR=7.8
RLMT Red Lodge 56.66 43 *e*P **P 10 16 27.7 +1.5**
comp=Z,31nm,1.6s
G20A Bridger 56.77 42 P **P 10 16 26.7 -0.2**
baz=57,SNR=8.8
F23A Volborg 56.83 39 P **P 10 16 27.4 +0.2**
baz=57,SNR=7.9
E27A Carson 56.84 36 P **P 10 16 27.9 +0.6**
baz=57
E28A Huff 56.85 35 P **P 10 16 27.8 +0.5**
baz=57
F24A Ekalaka 56.89 38 P **P 10 16 28.3 +0.6**
baz=57,SNR=14
EYMN Ely 56.92 28 P **P 10 16 27.0 -0.7**
baz=57,SNR=9.2
G21A Lodge Grass 56.97 41 P **P 10 16 28.4 +0.2**
baz=57
LKWY Lake 56.97 44 *e*P **P 10 16 30.3 +1.8**
LKWY Lake 56.97 44 *e*P **P 10 16 30.3 +1.8**
YFT Old Faithful 56.99 44 *e*P **P 10 16 30.0 +1.4**
F25A Bowman 56.99 38 P **P 10 16 28.1 -0.2**
baz=57
E29A Napoleon 57.03 34 P **P 10 16 28.2 -0.4**
baz=57
HLID Hailey 57.08 47 P **P 10 16 28.7 -0.5**
baz=57
HLID Hailey 57.08 47 *e*P **P 10 16 29.6 +0.5**
comp=Z,23nm,2.4s
H17A Grant Village 57.09 44 P **P 10 16 29.5 +0.2**
baz=57,SNR=5.2
H17A Grant Village 57.09 44 *e*P **P 10 16 32.2 +2.9**
comp=Z,8.7nm,1.1s
G22A Birney 57.15 40 P **P 10 16 29.7 +0.2**
baz=57
H19A Powell 57.15 43 P **P 10 16 30.0 +0.4**
baz=57
F26A Lodgepole 57.20 37 P **P 10 16 29.7 -0.1**
baz=57
WVOR Wild Horse Val 57.21 51 *e*P **P 10 16 30.9 +0.9**
WVOR pmax pmax
comp=Z,8.0nm,1.3s
WVOR Wild Horse Val 57.21 51 *e*P **P 10 16 30.9 +0.9**
comp=Z,8.2nm,1.3s
E30A Jud 57.21 34 P **P 10 16 29.6 -0.2**
baz=57
F27A Lemmon 57.30 37 P **P 10 16 31.3 +0.8**
baz=57,SNR=5.5
MOD Modoc 57.33 53 *e*P **P 10 16 32.4 +1.5**
comp=Z,10.0nm,1.2s
G23A Biddle 57.34 39 P **P 10 16 31.0 +0.2**
baz=57,SNR=5.2
FLWY Flagg Ranch 57.37 44 *e*P **P 10 16 33.0 +1.8**
comp=Z,10nm,1.3s
G24A Alzada 57.39 39 P **P 10 16 31.6 +0.4**
baz=57
IMW Indian Meadow 57.50 44 *e*P **P 10 16 33.6 +1.3**
comp=Z,6.5nm,1.1s
H20A Greybull 57.52 42 P **P 10 16 32.4 +0.2**
baz=57
F28A McLaughlin 57.53 36 P **P 10 16 32.4 +0.3**
baz=57
H21A Big Horn, Sher 57.57 41 P **P 10 16 33.0 +0.4**
baz=57
N02D Trinity Center 57.64 55 P **P 10 16 33.3 +0.3**
baz=58
MOOW Moose Ponds 57.68 44 *e*P **P 10 16 35.0 +1.6**
comp=Z,16nm,1.7s
F29A Eureka 57.71 35 P **P 10 16 33.3 -0.1**
baz=58
FXWY Fox Creek 57.73 45 *e*P **P 10 16 35.3 +1.5**
comp=Z,4.8nm,1.2s
G26A Maurine 57.76 37 P **P 10 16 33.5 -0.2**
baz=58
I19A Meeteetse 57.76 43 P **P 10 16 33.9 0.0**
baz=58
G27A Dupree 57.79 37 P **P 10 16 34.5 +0.5**
baz=58
H24A Dirks Ranch, A 57.93 39 P **P 10 16 34.3 -0.7**
baz=58,SNR=5.4
I20A Worland 58.01 42 P **P 10 16 35.6 0.0**
baz=58
REDW Red Top Meadow 58.03 45 *e*P **P 10 16 38.0 +2.1**
comp=Z,16nm,1.6s
H25A Fruitdale 58.23 38 P **P 10 16 37.2 +0.2**
baz=58,SNR=7.2
G28A Parade 58.26 36 P **P 10 16 37.4 +0.2**
baz=58
I21A Big Trails, Te 58.31 41 P **P 10 16 37.9 +0.1**
baz=58,SNR=13
G29A Hoven 58.32 35 P **P 10 16 37.7 +0.1**
baz=58
H26A Fairpoint 58.38 38 P **P 10 16 38.4 +0.3**
baz=58,SNR=11
I22A 9 Mile Ranch, 58.39 41 P **P 10 16 38.3 0.0**
baz=58,SNR=5.6
H27A Howes 58.49 37 P **P 10 16 38.7 -0.2**
baz=58
J19A Crowheart 58.49 43 P **P 10 16 39.3 +0.3**
baz=58
G30A Faulkton 58.51 34 P **P 10 16 38.6 -0.3**
baz=58,SNR=6.3
J20A Shoshoni 58.60 42 P **P 10 16 39.7 -0.1**
baz=58
RSSD Black Hills 58.63 39 *e*P **P 10 16 40.0 -0.1**
RSSD pmax pmax
comp=Z,6.0nm,1.2s
RSSD Black Hills 58.63 39 *e*P **P 10 16 40.0 -0.1**
comp=Z,5.6nm,1.2s
H28A Mission Ridge 58.63 36 P **P 10 16 39.5 -0.3**
baz=58
J21A Lysite 58.73 42 P **P 10 16 41.0 +0.2**
baz=59,SNR=5.5
I24A Kuemmerle Ranc 58.77 39 P **P 10 16 40.5 -0.5**
baz=59
H29A Onida 58.82 35 P **P 10 16 41.1 -0.1**
baz=59
PDAR Pinedale Array 58.86 44 P **P 10 16 41.0 -0.7**
comp=Z,1.5nm,0.9s,baz=18,slow=5.7,SNR=10
PDAR LR LR 10 45 25.1
comp=Z,43nm,19.0s,baz=3.0,slow=40
I27A Quinn 59.04 37 P **P 10 16 43.0 +0.3**
baz=59,SNR=5.8
COWI Conover 59.05 26 *e*P **P 10 16 41.5 -1.1**
comp=Z,12nm,1.1s
HVU Hansel Valley 59.14 47 *e*P **P 10 16 44.6 +1.0**
HVU Hansel Valley 59.14 47 *e*P **P 10 16 44.6 +1.0**
I28A Midland 59.26 36 P **P 10 16 44.4 +0.2**
baz=59,SNR=11
J24A Dixon Ranch, L 59.28 39 P **P 10 16 44.4 -0.1**
baz=59
J25A Sunshine Ranch 59.38 39 P **P 10 16 44.9 -0.2**
baz=59
I29A Vivian Onida 59.39 36 P **P 10 16 45.3 +0.2**
baz=59
SPMN St. Paul 59.40 29 P **P 10 16 44.6 -0.5**
baz=59
SPMN St. Paul 59.40 29 *e*P **P 10 16 45.1 -0.1**
comp=Z,12nm,1.0s
K22A Casper 59.58 41 P **P 10 16 46.4 -0.2**
baz=59
K22A Casper 59.58 41 *e*P **P 10 16 46.3 -0.3**
comp=Z,8.2nm,1.2s
J26A Sides Ranch, S 59.59 38 P **P 10 16 47.0 +0.5**
baz=59
ELK Elko 59.59 49 *e*P **P 10 16 47.9 +1.1**
ELK pmax pmax
comp=Z,3.0nm,1.0s
ELK Elko 59.59 49 *e*P **P 10 16 47.9 +1.1**
comp=Z,3.1nm,1.0s
I30A Oacoma 59.64 35 P **P 10 16 46.6 -0.3**
baz=60
K23A Bowen Ranch, D 59.65 40 P **P 10 16 47.0 -0.1**
baz=60
J28A Allard Ranch, 59.81 37 P **P 10 16 48.4 +0.3**
baz=60,SNR=7.5
J27A Elkhorn Farm, 59.84 37 P **P 10 16 48.4 +0.2**
baz=60,SNR=6.4
J29A Okreek 59.98 36 P **P 10 16 49.0 -0.2**
baz=60
K25A Mack Ranch, Ha 60.12 39 P **P 10 16 50.2 -0.1**
baz=60
K26A Motz Farm, Whi 60.16 38 P **P 10 16 50.5 0.0**
baz=60
ECSD EROS Data Cent 60.28 33 P **P 10 16 50.9 -0.3**
baz=60,SNR=10
ECSD EROS Data Cent 60.28 33 *e*P **P 10 16 51.2 0.0**
comp=Z,15nm,1.1s
K27A Flueckinger Fa 60.33 38 P **P 10 16 51.3 -0.3**
baz=60
L25A Engebretsen Ra 60.54 39 P **P 10 16 53.7 +0.6**
baz=60
JLU Jordanelle 60.55 46 *e*P **P 10 16 54.9 +1.5**
comp=Z,26nm,1.9s
K29A Lazy Trails An 60.61 36 P **P 10 16 53.6 +0.1**
baz=60
DUG Dugway 60.65 47 *e*P **P 10 16 55.2 +1.2**
DUG pmax pmax
comp=Z,14nm,1.4s
DUG Dugway 60.65 47 P **P 10 16 54.5 +0.6**
baz=60,SNR=8.7
DUG Dugway 60.65 47 *e*P **P 10 16 55.2 +1.2**
comp=Z,14nm,1.4s
WAKR Walker 60.76 53 *e*P **P 10 16 56.3 +1.5**
K30A Basset 60.82 35 P **P 10 16 55.5 +0.6**
baz=61
NLU North Lily Min 61.04 47 *e*P **P 10 16 57.7 +1.0**
comp=Z,5.9nm,1.2s
NVAR Mina Array Bea 61.10 52 P **P 10 16 56.5 -0.7**
comp=Z,0.5nm,0.5s,baz=337,slow=4.7,SNR=10
N23A Red Feather La 61.38 41 P **P 10 16 59.0 0.0**
baz=61
L31A Butterfield Fa 61.43 35 P **P 10 16 59.7 +0.6**
baz=61
O20A White River Ci 61.66 43 P **P 10 17 01.0 +0.1**
baz=62
P17A Butcher Ranch, 61.78 46 *e*P **P 10 17 02.7 +1.1**
R11A Troy Canyon, C 61.80 50 P **P 10 17 02.1 +0.3**
baz=62,SNR=10

R11A	**Troy Canyon, C**	**61.80**	**50**	*e*P	**P**	**10 17 02.0**	**+0.3**
	comp=Z,4.7nm,1.0s						
M29A	**Burnside Ranch**	**61.83**	**37**	P	**P**	**10 17 02.0**	**+0.2**
	baz=62						
JFWS	**Jewell Farm**	**62.03**	**28**	*e*P	**P**	**10 17 02.6**	**-0.5**
JFWS				pmax	pmax		
	comp=Z,28nm,1.1s						
JFWS	**Jewell Farm**	**62.03**	**28**	*e*P	**P**	**10 17 02.6**	**-0.5**
	comp=Z,28nm,1.1s						
ESDC	**Sonseca Array**	**62.06**	**316**	P	**P**	**10 17 02.2**	**-1.2**
	comp=Z,3.4nm,0.8s,baz=14,slow=7.0,SNR=18						
ESDC				LR	LR	10 48 41.4	
	comp=Z,38nm,18.4s,baz=30,slow=41						
OGNE	**Ogallala**	**62.07**	**38**	P	**P**	**10 17 04.0**	**+0.5**
	baz=62						
N27A	**Anderson Farm,**	**62.11**	**38**	P	**P**	**10 17 04.0**	**+0.2**
	baz=62						
SRU	**San Rafael**	**62.18**	**46**	*e*P	**P**	**10 17 05.0**	**+0.6**
SRU				pmax	pmax		
	comp=Z,9.0nm,1.3s						
SRU	**San Rafael**	**62.18**	**46**	*e*P	**P**	**10 17 05.0**	**+0.6**
	comp=Z,9.3nm,1.3s						
PAB	**San Pablo**	**62.26**	**317**	*e*P	**P**	**10 17 04.8**	**0.0**
PAB				pmax	pmax		
	comp=Z,14nm,1.1s						
PAB	**San Pablo**	**62.26**	**317**	*e*P	**P**	**10 17 04.8**	**0.0**
	comp=Z,14nm,1.1s						
M33A	**Taylor Creek F**	**62.29**	**34**	P	**P**	**10 17 05.1**	**+0.2**
	baz=62						
MSU	**Marysvale**	**62.40**	**47**	*e*P	**P**	**10 17 06.7**	**+0.8**
MSU				pmax	pmax		
	comp=Z,7.0nm,1.4s						
MSU	**Marysvale**	**62.40**	**47**	*e*P	**P**	**10 17 06.7**	**+0.8**
	comp=Z,6.9nm,1.4s						
N28A	**Pribbeno Ranch**	**62.41**	**38**	P	**P**	**10 17 06.4**	**+0.6**
	baz=62						
ISCO	**Idaho Springs**	**62.51**	**41**	*e*P	**P**	**10 17 08.5**	**+1.8**
ISCO	**Idaho Springs**	**62.51**	**41**	P	**P**	**10 17 07.4**	**+0.7**
	baz=62						
ISCO	**Idaho Springs**	**62.51**	**41**	*e*P	**P**	**10 17 08.5**	**+1.8**
O26A	**Horse Wrangler**	**62.52**	**39**	P	**P**	**10 17 06.8**	**+0.2**
	baz=62						
SCIA	**State Center**	**62.59**	**30**	*e*P	**P**	**10 17 07.4**	**+0.6**
	comp=Z,34nm,1.3s						
M35A	**Neola**	**62.64**	**33**	P	**P**	**10 17 06.9**	**-0.2**
	baz=62						
GRAC	**Grapevine Rang**	**62.68**	**52**	P	**P**	**10 17 08.3**	**+0.7**
	baz=63,SNR=6.5						
O27A	**Beecher Island**	**62.72**	**39**	P	**P**	**10 17 08.5**	**+0.6**
	baz=63						
N31A	**Bailey Ranch,**	**62.73**	**35**	P	**P**	**10 17 08.2**	**+0.4**
	baz=63						
KEST	**Kesra**	**62.84**	**304**	P	**P**	**10 17 08.8**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=135,slow=2.9,SNR=3.3						
N32A	**Stulken Farm,**	**62.90**	**35**	P	**P**	**10 17 09.5**	**+0.5**
	baz=63						
RCTC	**Rector, Farmer**	**62.90**	**54**	P	**P**	**10 17 09.6**	**+0.7**
	baz=63						
O28A	**Krutsinger Ran**	**62.91**	**38**	P	**P**	**10 17 09.4**	**+0.3**
	baz=63						
TPNV	**Topopah Spring**	**62.99**	**51**	P	**P**	**10 17 10.1**	**+0.4**
	baz=63						
N33A	**J Bar K, Exete**	**63.07**	**34**	P	**P**	**10 17 10.3**	**+0.3**
	baz=63						
N34A	**Lincoln**	**63.12**	**33**	P	**P**	**10 17 10.8**	**+0.4**
	baz=63						
O30A	**MW Ranch, Wils**	**63.17**	**36**	P	**P**	**10 17 10.9**	**+0.2**
	baz=63						
P26A	**Davis Ranch, A**	**63.17**	**39**	P	**P**	**10 17 11.0**	**+0.1**
	baz=63						
N35A	**Tabor**	**63.24**	**33**	P	**P**	**10 17 11.2**	**0.0**
	baz=63						
P27A	**Ficken Ranch,**	**63.32**	**39**	P	**P**	**10 17 12.0**	**+0.1**
	baz=63						
O31A	**Woolen Ranch,**	**63.32**	**36**	P	**P**	**10 17 11.8**	**+0.1**
	baz=63						
Q24A	**Divide**	**63.41**	**41**	P	**P**	**10 17 12.5**	**-0.2**
	baz=63						
P28A	**Saint Francis**	**63.45**	**38**	P	**P**	**10 17 12.7**	**0.0**
	baz=63						
PV01	**Paradox Valley**	**63.52**	**44**	*e*P	**P**	**10 17 13.9**	**+0.5**
	comp=Z,1µm,1.3s						
MPMC	**Manual Prospec**	**63.55**	**53**	P	**P**	**10 17 14.1**	**+0.5**
	baz=63,SNR=5.7						
P29A	**Atwood**	**63.57**	**37**	P	**P**	**10 17 13.3**	**-0.2**
	baz=63,SNR=6.2						
SHPR	**Sheep Range**	**63.66**	**50**	*e*P	**P**	**10 17 15.4**	**+1.2**
O33A	**Hebron**	**63.69**	**34**	P	**P**	**10 17 14.2**	**+0.1**
	baz=64						
ISA	**Isabella**	**63.70**	**54**	P	**P**	**10 17 15.1**	**+0.7**
	baz=64						
O34A	**Beatrice**	**63.73**	**34**	P	**P**	**10 17 13.5**	**-0.9**
	baz=64,SNR=9.7						
P30A	**Selden**	**63.75**	**37**	P	**P**	**10 17 14.4**	**-0.2**
	baz=64						
O35A	**Humboldt**	**63.78**	**33**	P	**P**	**10 17 14.3**	**-0.4**
	baz=64						
KSCO	**Kaye Shedlock'**	**63.84**	**39**	P	**P**	**10 17 15.4**	**+0.1**
	baz=64						
KSCO	**Kaye Shedlock'**	**63.84**	**39**	*e*P	**P**	**10 17 15.9**	**+0.6**
	comp=Z,29nm,1.4s						
P31A	**Stockton**	**63.92**	**36**	P	**P**	**10 17 15.6**	**-0.2**
	baz=64						
Q28A	**Sharon Springs**	**63.93**	**38**	P	**P**	**10 17 15.8**	**-0.1**
	baz=64						
P32A	**Huiting Farm,**	**63.96**	**35**	P	**P**	**10 17 15.9**	**-0.1**
	baz=64						
O36A	**Bolckow**	**64.06**	**32**	P	**P**	**10 17 16.2**	**-0.3**
	baz=64						
ARVC	**Arvin**	**64.13**	**54**	P	**P**	**10 17 17.6**	**+0.6**
	baz=64						
S22A	**4UR Ranch, Cre**	**64.25**	**43**	P	**P**	**10 17 18.6**	**+0.4**
	baz=64						
Q29A	**Oakley**	**64.25**	**38**	P	**P**	**10 17 18.2**	**+0.2**
	baz=64						
RAYN	**Ar Rayn**	**64.27**	**266**	*e*P	**P**	**10 17 17.5**	**-0.7**
	comp=Z,16nm,1.5s						
P33A	**Williams Farm,**	**64.30**	**35**	P	**P**	**10 17 18.2**	**+0.1**
	baz=64						
P34A	**Walnut Farm, R**	**64.33**	**34**	P	**P**	**10 17 18.6**	**+0.2**
	baz=64						
R26A	**Arlington**	**64.37**	**40**	P	**P**	**10 17 19.1**	**+0.3**
	baz=64						
Q31A	**Ellis**	**64.42**	**36**	P	**P**	**10 17 19.7**	**+0.7**
	baz=64						
MVCO	**Mesa Verde**	**64.43**	**44**	P	**P**	**10 17 19.4**	**0.0**
	baz=64						
MVCO	**Mesa Verde**	**64.43**	**44**	*e*P	**P**	**10 17 19.9**	**+0.6**
	comp=Z,16nm,1.6s						
GSC	**Goldstone**	**64.44**	**52**	P	**P**	**10 17 19.6**	**+0.4**
	baz=64						
P35A	**Duane Minner,**	**64.48**	**33**	P	**P**	**10 17 19.4**	**+0.1**
	baz=64						
R27A	**Eads**	**64.51**	**39**	P	**P**	**10 17 20.0**	**+0.3**
	baz=64						
SDCO	**Great Sand Dun**	**64.52**	**42**	P	**P**	**10 17 19.7**	**-0.2**
	baz=64,SNR=7.4						
P36A	**Good Intent, A**	**64.52**	**33**	P	**P**	**10 17 19.7**	**+0.1**
	baz=64						
CBKS	**Cedar Bluff**	**64.55**	**37**	*e*P	**P**	**10 17 20.4**	**+0.5**
CBKS				pmax	pmax		
	comp=Z,18nm,1.1s						
CBKS	**Cedar Bluff**	**64.55**	**37**	P	**P**	**10 17 20.3**	**+0.5**
	baz=64						
CBKS	**Cedar Bluff**	**64.55**	**37**	*e*P	**P**	**10 17 20.4**	**+0.5**
	comp=Z,18nm,1.1s						
EDW2	**Edwards Air Fo**	**64.56**	**53**	P	**P**	**10 17 19.9**	**-0.2**
	baz=64						
SBC	**Santa Barbara**	**64.57**	**55**	P	**P**	**10 17 20.6**	**+0.6**
	baz=64						
Q32A	**Meitler Ranch,**	**64.58**	**36**	P	**P**	**10 17 19.0**	**-1.0**
	baz=64,SNR=6.5						
R28A	**Tribune**	**64.64**	**38**	P	**P**	**10 17 19.9**	**-0.6**
	baz=64,SNR=7.5						
R29A	**Marienthal**	**64.68**	**38**	P	**P**	**10 17 21.2**	**+0.5**
	baz=64						
Q33A	**Connelly Farm,**	**64.70**	**35**	P	**P**	**10 17 21.0**	**+0.2**
	baz=64						
RRX	**Edison Barstow**	**64.80**	**52**	P	**P**	**10 17 22.1**	**+0.7**
	baz=65						
SFIN	**Scholer Farm**	**64.94**	**26**	P	**P**	**10 17 22.1**	**-0.2**
	baz=65						
SFIN	**Scholer Farm**	**64.94**	**26**	*e*P	**P**	**10 17 22.0**	**-0.3**
	comp=Z,14nm,1.1s						
R30A	**Dighton**	**64.97**	**37**	P	**P**	**10 17 22.7**	**+0.1**
	baz=65						
BSC	**Santa Cruz Isl**	**65.02**	**55**	P	**P**	**10 17 23.9**	**+0.9**
	baz=65						
S26A	**Kim**	**65.03**	**40**	P	**P**	**10 17 22.9**	**-0.2**
	baz=65						
R31A	**Burdett**	**65.10**	**37**	P	**P**	**10 17 23.5**	**+0.1**
	baz=65						
Q35A	**Mercer Eighty,**	**65.13**	**33**	P	**P**	**10 17 23.3**	**-0.3**
	baz=65						
GMRC	**Granite Mounta**	**65.20**	**51**	P	**P**	**10 17 24.8**	**+0.6**
	baz=65						
BFSC	**Mount Baldy Ra**	**65.25**	**53**	P	**P**	**10 17 25.0**	**+0.4**
	baz=65						
T25A	**Trinidad**	**65.31**	**41**	P	**P**	**10 17 24.9**	**-0.1**
	baz=65						
R33A	**Olander Ranch,**	**65.35**	**35**	P	**P**	**10 17 25.0**	**0.0**
	baz=65						
Q37A	**Longview Farm,**	**65.37**	**32**	P	**P**	**10 17 25.1**	**0.0**
	baz=65						
T26A	**Comanche Natio**	**65.44**	**40**	P	**P**	**10 17 25.6**	**-0.2**
	baz=65						
S29A	**Ulysses**	**65.47**	**38**	P	**P**	**10 17 26.0**	**+0.1**
	baz=65						
R34A	**Isabella, Hill**	**65.48**	**35**	P	**P**	**10 17 25.6**	**-0.3**
	baz=65						
ACSO	**Alum Creek Sta**	**65.58**	**22**	*e*P	**P**	**10 17 26.2**	**-0.2**
	comp=Z,44nm,1.2s						
SSPA	**Standing Stone**	**65.69**	**18**	*e*P	**P**	**10 17 26.4**	**-0.8**
	comp=Z,11nm,0.9s						
T27A	**Campo**	**65.71**	**40**	P	**P**	**10 17 27.5**	**0.0**
	baz=66						
R36A	**Gordon, Harris**	**65.74**	**33**	P	**P**	**10 17 27.4**	**-0.1**
	baz=66						
S31A	**Mullinville**	**65.76**	**37**	P	**P**	**10 17 27.7**	**0.0**
	baz=66						
T28A	**Walsh**	**65.77**	**39**	P	**P**	**10 17 27.8**	**0.0**
	baz=66						
R37A	**Teagarden Farm**	**65.86**	**33**	P	**P**	**10 17 28.3**	**0.0**
	baz=66						
BELC	**Belle Mtn. Jos**	**65.87**	**52**	P	**P**	**10 17 29.0**	**+0.4**
	baz=66						
IRM	**Iron Mountain**	**65.91**	**51**	P	**P**	**10 17 29.6**	**+0.9**
	baz=66						
PFO	**Pinyon Flat Ob**	**66.14**	**52**	P	**P**	**10 17 30.6**	**+0.3**
	baz=66						
S35A	**Otter Creek Ra**	**66.23**	**34**	P	**P**	**10 17 30.7**	**0.0**
	baz=66						
T32A	**Huddler Ranch,**	**66.28**	**36**	P	**P**	**10 17 31.0**	**-0.1**
	baz=66						
S36A	**Lake Cedric, C**	**66.31**	**33**	P	**P**	**10 17 31.0**	**-0.2**
	baz=66						
BC3	**Big Chuckawall**	**66.33**	**52**	P	**P**	**10 17 31.8**	**+0.3**
	baz=66						
S37A	**Fort Scott**	**66.40**	**33**	P	**P**	**10 17 31.5**	**-0.3**
	baz=66						
U30A	**WK&E Inc. Balk**	**66.61**	**38**	P	**P**	**10 17 33.6**	**+0.4**
	baz=66						
T34A	**McClaskey Farm**	**66.73**	**35**	P	**P**	**10 17 33.5**	**-0.5**
	baz=67,SNR=7.5						
MONP	**Monument Peak**	**66.84**	**53**	P	**P**	**10 17 35.5**	**+0.6**
	baz=67						
T36A	**Boggs Farm, Ca**	**66.91**	**34**	P	**P**	**10 17 35.0**	**-0.1**
	baz=67						
T35A	**Sooner Cattle**	**66.95**	**34**	P	**P**	**10 17 34.8**	**-0.5**
	baz=67,SNR=6.4						
T37A	**Cheneyville 18**	**67.01**	**33**	P	**P**	**10 17 35.1**	**-0.6**
	baz=67,SNR=9.7						
ANMO	**Albuquerque**	**67.03**	**43**⇓	*e*P	**P**	**10 17 35.9**	**-0.2**
ANMO				pmax	pmax		
	comp=Z,31nm,2.4s						
ANMO	**Albuquerque**	**67.03**	**43**	*e*P	**P**	**10 17 35.7**	**-0.4**
U33A	**Lingo Farm, Me**	**67.15**	**36**	P	**P**	**10 17 36.4**	**-0.2**
	baz=67						
SIUC	**Southern Illin**	**67.28**	**28**	*e*P	**P**	**10 17 36.4**	**-0.9**
	comp=Z,17nm,0.9s						
U35A	**Pawnee**	**67.45**	**35**	P	**P**	**10 17 38.4**	**-0.1**
	baz=67						
V31A	**Spring Creek L**	**67.49**	**37**	P	**P**	**10 17 38.6**	**-0.2**
	baz=67						
U37A	**Salina**	**67.68**	**33**	P	**P**	**10 17 40.0**	**0.0**
	baz=68						
V33A	**Lossen Ranch,**	**67.72**	**36**	P	**P**	**10 17 40.3**	**+0.1**
	baz=68						
U38A	**Gravette**	**67.76**	**33**	P	**P**	**10 17 40.2**	**-0.2**
	baz=68						
V34A	**Guthrie**	**67.84**	**35**	P	**P**	**10 17 40.5**	**-0.4**
	baz=68,SNR=5.3						
V34A	**Guthrie**	**67.84**	**35**	*e*P	**P**	**10 17 40.5**	**-0.4**
	comp=Z,52nm,1.8s						
AMTX	**Amarillo**	**68.02**	**39**	P	**P**	**10 17 41.8**	**-0.4**
	baz=68						
AMTX	**Amarillo**	**68.02**	**39**	*e*P	**P**	**10 17 42.2**	**0.0**
	comp=Z,19nm,1.3s						
TUL1	**Tulsa**	**68.05**	**34**	P	**P**	**10 17 42.0**	**-0.3**
	baz=68						
TUL1	**Tulsa**	**68.05**	**34**	*e*P	**P**	**10 17 42.5**	**+0.2**
	comp=Z,16nm,1.1s						
V36A	**Jenks**	**68.15**	**34**	P	**P**	**10 17 42.6**	**-0.3**
	baz=68						
V37A	**Hulbert**	**68.19**	**33**	P	**P**	**10 17 42.7**	**-0.4**
	baz=68						
W32A	**Sentinel**	**68.23**	**37**	P	**P**	**10 17 44.0**	**+0.6**
	baz=68						
V38A	**Canehill**	**68.32**	**33**	P	**P**	**10 17 43.3**	**-0.7**
	baz=68,SNR=8.0						
W33A	**Caddo, Fort Co**	**68.34**	**36**	P	**P**	**10 17 44.3**	**+0.2**
	baz=68						
W34A	**Bridge Creek,**	**68.38**	**36**	P	**P**	**10 17 44.4**	**+0.1**
	baz=68						
W34A	**Bridge Creek,**	**68.38**	**36**	*e*P	**P**	**10 17 44.7**	**+0.3**
	comp=Z,8.1nm,0.8s						
X29A	**Tulia**	**68.44**	**39**	P	**P**	**10 17 44.6**	**-0.3**
	baz=68						
X31A	**McDonald Ranch**	**68.58**	**38**	P	**P**	**10 17 46.1**	**+0.5**
	baz=68						
JSRW	**J. Sargeant Re**	**68.61**	**18**	*e*P	**P**	**10 17 45.8**	**+0.1**
W35A	**Tecumseh**	**68.61**	**35**	P	**P**	**10 17 46.6**	**+0.8**
	baz=68						
WMOK	**Wichita Mounta**	**68.69**	**37**	*e*P	**P**	**10 17 46.2**	**-0.1**
WMOK				pmax	pmax		
	comp=Z,15nm,1.2s						
WMOK	**Wichita Mounta**	**68.69**	**37**	*e*P	**P**	**10 17 46.2**	**-0.1**
	comp=Z,15nm,1.2s						
MSTX	**Muleshoe**	**68.70**	**40**	P	**P**	**10 17 46.0**	**-0.5**
	baz=69						
MSTX	**Muleshoe**	**68.70**	**40**	*e*P	**P**	**10 17 46.6**	**+0.1**
	comp=Z,8.6nm,1.3s						
W36A	**Wetumka**	**68.73**	**34**	P	**P**	**10 17 46.3**	**-0.3**
	baz=69						
BLA	**Blacksburg**	**68.84**	**21**	*e*P	**P**	**10 17 47.0**	**-0.2**
BLA				pmax	pmax		
	comp=Z,14nm,1.0s						
BLA	**Blacksburg**	**68.84**	**21**	*e*P	**P**	**10 17 47.0**	**-0.2**
	comp=Z,14nm,1.0s						
Y28A	**McKinney Farm,**	**68.86**	**40**	P	**P**	**10 17 47.3**	**-0.2**
	baz=69						
W37A	**Quinton**	**68.87**	**34**	P	**P**	**10 17 46.8**	**-0.5**
	baz=69						
X33A	**Lawton**	**68.93**	**37**	P	**P**	**10 17 48.0**	**+0.3**
	baz=69						
X34A	**Smith Ranch, M**	**68.99**	**36**	P	**P**	**10 17 47.9**	**-0.3**
	baz=69						
Y29A	**Porterfield Fa**	**69.02**	**39**	P	**P**	**10 17 48.2**	**-0.3**
	baz=69						
WVT	**Waverly**	**69.03**	**27**	*e*P	**P**	**10 17 47.9**	**-0.5**
WVT				pmax	pmax		
	comp=Z,17nm,1.0s						
WVT	**Waverly**	**69.03**	**27**	*e*P	**P**	**10 17 47.9**	**-0.5**
	comp=Z,17nm,1.0s						
W38A	**Poteau**	**69.08**	**33**	P	**P**	**10 17 48.3**	**-0.4**
	baz=69,SNR=7.3						
121A	**Cookes Peak, D**	**69.09**	**45**	P	**P**	**10 17 49.2**	**+0.1**
	baz=69						
TZTN	**Tazewell**	**69.15**	**23**	*e*P	**P**	**10 17 49.5**	**+0.4**
	comp=Z,13nm,1.1s						
Y31A	**Rekieta Farm,**	**69.18**	**38**	P	**P**	**10 17 49.0**	**-0.4**
	baz=69						
X36A	**Centrahoma**	**69.27**	**35**	P	**P**	**10 17 49.6**	**-0.2**
	baz=69,SNR=5.7						
Y32A	**R-V Farms, Ver**	**69.29**	**37**	P	**P**	**10 17 50.0**	**0.0**
	baz=69						
X35A	**Drake**	**69.33**	**35**	P	**P**	**10 17 50.0**	**-0.2**
	baz=69						
X37A	**Clayton**	**69.41**	**34**	P	**P**	**10 17 50.6**	**-0.1**
	baz=69						
X38A	**Whitesboro**	**69.42**	**33**	P	**P**	**10 17 50.7**	**-0.1**
	baz=69						
Y33A	**Hilltop Ranch,**	**69.43**	**37**	P	**P**	**10 17 50.5**	**-0.3**
	baz=69						
Z28A	**Tucker Farm, M**	**69.44**	**40**	P	**P**	**10 17 50.9**	**-0.1**
	baz=69						
Z29A	**Hungry Hill Ra**	**69.59**	**40**	P	**P**	**10 17 51.9**	**-0.1**
	baz=69						
Y34A	**Reagan Ranch,**	**69.63**	**36**	P	**P**	**10 17 51.9**	**-0.2**
	baz=70						
Z30A	**Sanderson Ranc**	**69.68**	**39**	P	**P**	**10 17 52.4**	**-0.1**
	baz=70						
MIAR	**Mount Ida**	**69.74**	**32**	*e*P	**P**	**10 17 53.1**	**+0.3**
MIAR				pmax	pmax		
	comp=Z,12nm,1.3s						
MIAR	**Mount Ida**	**69.74**	**32**	P	**P**	**10 17 53.1**	**+0.3**
	baz=70						
MIAR	**Mount Ida**	**69.74**	**32**	*e*P	**P**	**10 17 53.1**	**+0.3**
	comp=Z,12nm,1.3s						
Y35A	**Marietta**	**69.80**	**35**	P	**P**	**10 17 53.2**	**0.0**
	baz=70						
Z31A	**Sharp Cattle R**	**69.83**	**38**	P	**P**	**10 17 53.2**	**-0.2**
	baz=70						
Y36A	**Durant**	**69.94**	**35**	P	**P**	**10 17 54.3**	**+0.3**
	baz=70						
Z32A	**Haskell**	**69.96**	**38**	P	**P**	**10 17 54.0**	**-0.2**
	baz=70,SNR=7.8						
Y37A	**Hugo**	**69.97**	**34**	P	**P**	**10 17 54.6**	**+0.4**
	baz=70						
128A	**Castleberry Fa**	**70.07**	**40**	P	**P**	**10 17 55.1**	**+0.2**
	baz=70						
Z33A	**Whitaker Ranch**	**70.11**	**37**	P	**P**	**10 17 54.9**	**-0.2**
	baz=70						
Z35A	**Perchaven, San**	**70.33**	**36**	P	**P**	**10 17 56.7**	**+0.3**
	baz=70						
131A	**Roby**	**70.41**	**39**	P	**P**	**10 17 57.3**	**+0.3**
	baz=70						
Z36A	**Blue Ridge**	**70.53**	**35**	P	**P**	**10 17 58.3**	**+0.7**
	baz=70						
ABTX	**Abilene, Hawle**	**70.59**	**38**	P	**P**	**10 17 58.0**	**0.0**
	baz=70						
ABTX	**Abilene, Hawle**	**70.59**	**38**	*e*P	**P**	**10 17 58.0**	**0.0**
	comp=Z,14nm,1.3s						
133A	**Hamilton Ranch**	**70.74**	**37**	P	**P**	**10 17 59.0**	**+0.1**
	baz=71						
KMSC	**Kings Mountain**	**70.79**	**22**	P	**P**	**10 17 59.1**	**-0.1**
	baz=71						
KMSC	**Kings Mountain**	**70.79**	**22**	*e*P	**P**	**10 17 59.2**	**+0.1**
	comp=Z,12nm,1.2s						
231A	**Bronte**	**71.14**	**39**	P	**P**	**10 18 00.9**	**-0.5**
	baz=71,SNR=5.6						
329A	**Wagon Wheel Ra**	**71.27**	**40**	P	**P**	**10 18 02.1**	**-0.2**
	baz=71						
232A	**Coleman**	**71.31**	**38**	P	**P**	**10 18 02.5**	**+0.1**
	baz=71						
233A	**Rising Star**	**71.32**	**37**	P	**P**	**10 18 02.3**	**-0.2**
	baz=71						
330A	**Mertzon**	**71.50**	**40**	P	**P**	**10 18 03.6**	**0.0**
	baz=71						
WHTX	**Lake Whitney**	**71.60**	**36**	P	**P**	**10 18 04.1**	**0.0**
	baz=71						
331A	**San Angelo**	**71.73**	**39**	P	**P**	**10 18 05.0**	**0.0**
	baz=72						
332A	**Millersview**	**71.78**	**38**	P	**P**	**10 18 05.2**	**-0.1**
	baz=72						
333A	**Richland Sprin**	**71.98**	**38**	P	**P**	**10 18 06.1**	**-0.4**
	baz=72,SNR=7.6						
430A	**Baggett Ranch,**	**72.09**	**40**	P	**P**	**10 18 07.4**	**+0.2**
	baz=72						
334A	**Lometa**	**72.10**	**37**	P	**P**	**10 18 06.9**	**-0.3**
	baz=72						
GOGA	**Godfrey**	**72.26**	**24**	*e*P	**P**	**10 18 08.1**	**0.0**
GOGA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GOGA	**Godfrey**	**72.26**	**24**	*e*P	**P**	**10 18 08.1**	**0.0**
	comp=Z,7.8nm,1.0s						
432A	**Menard**	**72.27**	**38**	P	**P**	**10 18 08.1**	**-0.1**
	baz=72						
431A	**Sonora**	**72.31**	**39**	P	**P**	**10 18 08.5**	**0.0**
	baz=72,SNR=6.2						
433A	**Art**	**72.52**	**38**	P	**P**	**10 18 10.1**	**+0.4**
	baz=72						
338A	**Crockett**	**72.58**	**34**	P	**P**	**10 18 10.4**	**+0.4**
	baz=72						
434A	**Burnet**	**72.60**	**37**	P	**P**	**10 18 10.0**	**-0.3**
	baz=72						
JCT	**Junction City**	**72.65**	**39**	*e*P	P	10 18 06.3	-4.2
JCT				pmax	pmax		
	comp=Z,19nm,1.2s						
JCT	**Junction City**	**72.65**	**39**	P	**P**	**10 18 10.8**	**+0.2**
	baz=72						
JCT	**Junction City**	**72.65**	**39**	*e*P	P	10 18 06.3	-4.2
	comp=Z,19nm,1.2s						
530A	**J-C Ranch, Com**	**72.69**	**40**	P	**P**	**10 18 10.7**	**-0.1**
	baz=73						
531A	**Rocksprings**	**72.82**	**39**	P	**P**	**10 18 11.7**	**+0.1**
	baz=73						
532A	**Rocksprings**	**72.98**	**39**	P	**P**	**10 18 11.7**	**-0.8**
	baz=73,SNR=12						
TXAR	**Lajitas Array**	**73.03**	**42**	P	**P**	**10 18 13.1**	**+0.2**
	comp=Z,3.6nm,0.8s,baz=13,slow=3.9,SNR=44						
TXAR				LR	LR	10 56 07.4	
	comp=Z,16nm,18.1s,baz=0.0,slow=41						
533A	**Kerrville**	**73.19**	**38**	P	**P**	**10 18 13.6**	**-0.1**
	baz=73						
534A	**Blanco**	**73.33**	**38**	P	**P**	**10 18 14.3**	**-0.2**
	baz=73						
631A	**Perdido Creek**	**73.55**	**40**	P	**P**	**10 18 15.8**	**0.0**
	baz=73						
632A	**Uvalde**	**73.60**	**39**	P	**P**	**10 18 16.2**	**+0.1**
	baz=74						
SIJI	**Sorong**	**73.88**	**172**	LR	LR	10 50 36.3	
	comp=Z,30nm,20.5s,slow=36						
732A	**Laxson Ranch,**	**74.33**	**39**	P	**P**	**10 18 21.0**	**+0.6**
	baz=74						
733A	**Divot King Ran**	**74.46**	**39**	P	**P**	**10 18 21.5**	**+0.4**
	baz=74						
736A	**Circle Diamond**	**74.63**	**36**	P	**P**	**10 18 23.3**	**+1.2**
	baz=74						
832A	**Faith Ranch, C**	**74.76**	**39**	P	**P**	**10 18 23.5**	**+0.6**
	baz=75						
833A	**Chaparral WMA,**	**74.83**	**39**	P	**P**	**10 18 23.5**	**+0.3**
	baz=75						
835A	**Beeville**	**75.15**	**37**	P	**P**	**10 18 26.0**	**+0.9**
	baz=75						
034A	**Hebbronville**	**76.19**	**38**	P	**P**	**10 18 32.0**	**+0.9**
	baz=76						
LEM	**Lembang**	**80.33**	**196**	LR	LR	10 56 17.2	
	comp=Z,104nm,18.1s,baz=4.5,slow=37						
TORD	**Torodi Ar. Bea**	**86.36**	**304**	P	**P**	**10 19 23.4**	**-1.7**
	comp=Z,2.0nm,0.6s,baz=12,slow=4.2,SNR=18						
TORD				LR	LR	11 05 39.8	
	comp=Z,41nm,18.4s,baz=350,slow=41						
KMBO	**Kilima Mbogo**	**90.05**	**266**	LR	LR	11 05 43.2	
	comp=Z,59nm,18.1s,baz=90,slow=39						
WRA	**Warramunga Arr**	**92.96**	**170**	P	**P**	**10 19 54.6**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=354,slow=5.2,SNR=29						
DBIC	**Dimbokro**	**94.15**	**309**	LR	LR	11 06 20.9	
	comp=Z,28nm,18.8s,baz=18,slow=38						
ASAR	**Alice Springs**	**96.64**	**171**	P	**P**	**10 20 12.2**	**-0.5**
	comp=Z,0.3nm,0.9s,baz=1.8,slow=5.9,SNR=3.8						
MAW	**Mawson**	**145.88**	**217**	PKPbc	**PKPdf**	**10 26 19.8**	**0.0**
	comp=Z,2.2nm,0.6s,baz=329,slow=4.0,SNR=5.2						
SYO	**Syowa Base**	**151.73**	**229**⇑	*e*P	**PKPbc**	**10 26 33.0**	**-2.6**
VNDA	**Vanda**	**151.92**	**163**	PKPbc	**PKPbc**	**10 26 35.8**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=323,slow=4.8,SNR=16						

NNC ***12*** *10:08:15.2±7.1, 53°.37N×87°.69E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=55.9km s-min=39.3km az=23.0*

IDC 12 10:08:15.0±2.9**, 53°.52N×87°.70E, h0km, mb1 3.2**/2**, mb1mx3.1**/30**, mbtmp3.2**/2**, ML2.9**/2**, 4C-5D, Error ellipse: s-maj=24.4km s-min=14.6km az=59.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.77**	**285**	*i*		10 20 00.0	
	baz=99,slow=318,SNR=5.6						
ZALV	**Zalesovo Beam**	**1.77**	**285**	Pg	Pn	10 08 46.4	-0.5
	6.6nm,0.3s,baz=102,slow=15,SNR=52						
ZALV				Lg	Lg	10 09 11.7	
	9.9nm,0.3s,baz=88,slow=24,SNR=20						
KURK	**Kurchatov**	**6.26**	**247**	⇑Pn	Pn	10 09 49.4	+0.9
	1.0nm,0.6s						
KURK				⇑Sn	Sn	10 10 59.4	-1.3
	0.5nm,0.5s						
KURK				⇓Lg	Lg	10 11 34.8	
	1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**6.35**	**247**	⇑Pn	Pn	10 09 50.5	+0.7
	1.6nm,0.3s						
KURBB				⇓Sn	Sn	10 11 02.0	-1.0
	4.1nm,0.5s						
KURBB				⇓Lg	Lg	10 11 36.4	

	5.1nm,0.7s								
KURBB	**Kurchatov Arra**	**6.35**	**247**	Pn	Pn	10 09 50.8	+0.9		
	0.3nm,0.3s,baz=60,slow=14,SNR=19								
KURBB				Sn	Sn	10 11 00.8	-2.2		
	0.1nm,0.3s,baz=60,slow=26,SNR=3.8								
KURBB				Lg	Lg	10 11 36.1			
	0.1nm,0.3s,baz=63,slow=32,SNR=7.0								
MK31	**Makanchi Array**	**7.57**	**209**	⇓Pn	Pn	10 10 01.8	-4.8		
	0.9nm,0.8s,baz=30,slow=14,SNR=12								
MK31				⇓Sn	Sn	10 11 32.9	-0.3		
	0.2nm,0.4s,baz=30,slow=26								
MK31				⇑Lg	Lg	10 12 13.3			
	0.6nm,0.5s,baz=22,slow=30								
MKAR	**Makanchi Array**	**7.57**	**209**	Pn	Pn	10 10 07.7	+1.1		
	0.2nm,0.3s,baz=28,slow=13,SNR=6.7								
MKAR				Sn	Sn	10 11 33.9	+0.7		
	0.1nm,0.3s,baz=30,slow=26,SNR=3.6								
MKAR				Lg	Lg	10 12 12.1			
	0.3nm,0.3s,baz=29,slow=30,SNR=3.8								

NNC ***12*** *10:34:57.4±7.9, 53°.34N×87°.48E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=62.3km s-min=46.2km az=20.0*
IDC 12 10:34:55.5±2.5, 53°.53N×87°.63E, h0km, mb1 3.6/3, mb1mx3.2/31, mbtmp3.6/3, ML3.2/3, 4C-5D, Error ellipse: s-maj=22.1km s-min=12.6km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.72**	**285**	*i*		10 45 36.7	
	baz=98,slow=318,SNR=5.2						
ZALV	**Zalesovo Beam**	**1.72**	**285**	Pg	Pn	10 35 25.7	-1.0
	9.6nm,0.3s,baz=103,slow=14,SNR=90						
ZALV				Lg	Lg	10 35 49.8	
	11nm,0.3s,baz=112,slow=25,SNR=13						
KURK	**Kurchatov**	**6.22**	**247**	⇑Pn	Pn	10 36 28.6	+0.1
	2.0nm,0.7s						
KURK				⇓Sn	Sn	10 37 37.4	-2.9
	1.3nm,0.6s						
KURK				⇑Lg	Lg	10 38 12.3	
	9.1nm,0.8s						
KURBB	**Kurchatov Arra**	**6.32**	**246**	⇑Pn	Pn	10 36 29.9	+0.1
	8.3nm,0.7s						
KURBB				⇑Sn	Sn	10 37 40.2	-2.5
	9.4nm,0.6s						
KURBB				⇓Lg	Lg	10 38 17.8	
	24nm,0.7s						
KURBB	**Kurchatov Arra**	**6.32**	**246**	Pn	Pn	10 36 30.6	+0.7
	0.3nm,0.3s,baz=62,slow=14,SNR=37						
KURBB				Sn	Sn	10 37 41.8	-0.9
	0.1nm,0.3s,baz=58,slow=21,SNR=3.6						
KURBB				Lg	Lg	10 38 15.5	
	0.2nm,0.3s,baz=61,slow=32,SNR=11						
MK31	**Makanchi Array**	**7.56**	**209**	⇓Pn	Pn	10 36 47.3	+0.3
	0.9nm,0.6s,baz=25,slow=13,SNR=16						
MK31				⇓Sn	Sn	10 38 12.9	-0.5
	5.1nm,1.0s,baz=32,slow=27,SNR=5.7						
MK31				⇓Lg	Lg	10 38 52.5	
	5.4nm,0.8s,baz=36,slow=28,SNR=6.5						
MKAR	**Makanchi Array**	**7.56**	**209**	Pn	Pn	10 36 47.9	+0.9
	0.4nm,0.3s,baz=22,slow=11,SNR=19						
MKAR				Sn	Sn	10 38 12.8	-0.6
	0.3nm,0.3s,baz=31,slow=25,SNR=8.8						
MKAR				Lg	Lg	10 38 55.0	
	0.3nm,0.3s,baz=34,slow=29,SNR=8.1						
BVAR	**Borovoye Array**	**10.34**	**274**	Pn	Pn	10 37 24.7	-0.3
	0.4nm,0.3s,baz=66,slow=14,SNR=5.0						
BVAR				Sn	Sn	10 39 16.7	-4.8
	0.4nm,0.3s,baz=93,slow=25,SNR=3.4						

ISCJB ***12*** *10:44:03.7±0.5, 35°.80N±0°.02×9°.79W±0°.04, h10km, Error ellipse: s-maj=5.0km s-min=3.2km az=177.0*
CSEM ***12*** *10:44:06.0±0.2, 35°.73N×10°.02W, h30km, mb4.1, Error ellipse: s-maj=5.7km s-min=3.9km az=110.0*
IGIL ***12*** *10:44:07.7, 35°.73N×10°.06W, h31km, ML3.0*
SFS ***12*** *10:44:07.0, 35°.92N×9°.80W, h0km, ML3.3*
MDD ***12*** *10:44:08.1±0.1, 35°.73N×10°.05W, h68km±4km, mb4.1/23, Error ellipse: s-maj=1.4km s-min=1.0km az=82.0, PRXIMO*
INMG ***12*** *10:44:08.1±1.2, 35°.72N×10°.05W, h31km±7km, MD2.9, ML3.0, Error ellipse: s-maj=3.6km s-min=2.2km az=114.0*
LDG ***12*** *10:44:08.8±0.2, 35°.82N×9°.90W, h15km, Ml3.4/4, Error ellipse: s-maj=3.6km s-min=2.9km az=48.0*
CNRM ***12*** *10:44:08.7, 35°.60N×9°.90W, h30km, MD3.3*
ISC 12 10:44:02.6±1.4, 35°.74N±0°.05×9°.99W±0°.06, h10km, n157, σ2s 04/219, 5C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.68**	**34**	*e*Pn	**Pn**	**10 44 34.3**	**+2.3**
PFVI				*e*Sn	**Sn**	**10 44 53.8**	**+0.2**
PFVI				A	A	10 44 55.2	
	102nm,0.1s						
PFVI	**Vila Bisbo**	**1.68**	**34**	⇑P	**Pn**	**10 44 34.3**	**+2.3**
	32nm,0.1s,SNR=18						
PFVI				S	**Sn**	**10 44 53.2**	**-0.4**
	124nm,0.1s,SNR=6.4						
PFVI	**Vila Bisbo**	**1.68**	**34**	P	**Pn**	**10 44 34.3**	**+2.3**
	32nm,0.1s,SNR=18						
PFVI				S	**Sn**	**10 44 53.2**	**-0.4**
	124nm,0.1s,SNR=6.4						
MORF	**Marmelete**	**1.90**	**34**	*e*P	**Pn**	**10 44 37.4**	**+2.3**
MORF				*e*S	**Sn**	**10 44 58.6**	**-0.6**
MORF				AML	AML	10 44 60.0	
	comp=N,165nm,0.3s						
MORF	**Marmelete**	**1.90**	**34**	*e*Pn	**Pn**	**10 44 37.5**	**+2.3**
MORF				*e*Sn	**Sn**	**10 44 59.6**	**+0.4**
MORF				A	A	10 45 00.5	
	comp=N,134nm,0.1s						
MORF	**Marmelete**	**1.90**	**34**	P	**Pn**	**10 44 37.5**	**+2.3**
MORF				S	**Sn**	**10 44 59.6**	**+0.4**
	comp=N,134nm,0.1s						
MORF	**Marmelete**	**1.90**	**34**	P	**Pn**	**10 44 37.5**	**+2.3**
MORF				S	**Sn**	**10 44 59.6**	**+0.4**
	comp=N,134nm,0.1s						
PTEO	**Sao Teotonio**	**2.07**	**29**	*e*Pn	**Pn**	**10 44 39.7**	**+2.2**
PTEO				*e*Sn	**Sn**	**10 45 03.0**	**-0.3**
PTEO				A	A	10 45 04.8	
	comp=N,146nm,0.2s						
PTEO	**Sao Teotonio**	**2.07**	**29**	P	**Pn**	**10 44 39.7**	**+2.2**
PTEO				S	**Sn**	**10 45 03.0**	**-0.3**
	comp=N,73nm,0.2s						
PTEO	**Sao Teotonio**	**2.07**	**29**	P	**Pn**	**10 44 39.7**	**+2.2**
PTEO				S	**Sn**	**10 45 03.0**	**-0.3**
	comp=N,73nm,0.2s						
PBDV	**Barranco-do-Ve**	**2.24**	**47**	*e*Pn	**Pn**	**10 44 42.4**	**+2.6**
PBDV				*e*Sn	**Sn**	**10 45 07.3**	**-0.2**
PBDV				A	A	10 45 13.5	
	comp=N,26nm,0.1s						
PBDV	**Barranco-do-Ve**	**2.24**	**47**	P	**Pn**	**10 44 42.4**	**+2.6**
PBDV				S	**Sn**	**10 45 07.3**	**-0.2**
	comp=N,26nm,0.1s						
PBDV	**Barranco-do-Ve**	**2.24**	**47**	P	**Pn**	**10 44 42.4**	**+2.6**
PBDV				S	**Sn**	**10 45 07.3**	**-0.2**
	comp=N,26nm,0.1s						
PCVE	**Castro Verde**	**2.46**	**39**	*e*Pn	**Pn**	**10 44 45.4**	**+2.6**
PCVE				*e*Sn	**Sn**	**10 45 12.4**	**-0.4**
PCVE				A	A	10 45 15.6	
	comp=N,32nm,0.2s						
PCVE	**Castro Verde**	**2.46**	**39**	⇑P	**Pn**	**10 44 45.4**	**+2.6**
PCVE				S	**Sn**	**10 45 12.4**	**-0.4**
	comp=N,32nm,0.2s						
PCVE	**Castro Verde**	**2.46**	**39**	P	**Pn**	**10 44 45.4**	**+2.6**
PCVE				S	**Sn**	**10 45 12.4**	**-0.4**
	comp=N,32nm,0.2s						
PVAQ	**Vaqueiros**	**2.47**	**47**	*e*Pn	**Pn**	**10 44 45.5**	**+2.5**
PVAQ				*e*Sn	**Sn**	**10 45 12.5**	**-0.7**
PVAQ				A	A	10 45 16.0	
	comp=N,39nm,0.2s						
PVAQ	**Vaqueiros**	**2.47**	**47**	P	**Pn**	**10 44 45.5**	**+2.5**
PVAQ				S	**Sn**	**10 45 12.5**	**-0.7**
	comp=N,39nm,0.2s						
PVAQ	**Vaqueiros**	**2.47**	**47**	P	**Pn**	**10 44 45.5**	**+2.5**
PVAQ				S	**Sn**	**10 45 12.5**	**-0.7**
	comp=N,39nm,0.2s						
MESJ	**Messejana**	**2.53**	**34**	*e*P	**Pn**	**10 44 46.1**	**+2.4**
MESJ				*e*S	**Sn**	**10 45 14.0**	**-0.7**
MESJ				AML	AML	10 45 15.7	
	comp=N,38nm,0.1s						
MESJ	**Messejana**	**2.53**	**34**	*e*Pn	**Pn**	**10 44 46.2**	**+2.4**
MESJ				*e*Sn	**Sn**	**10 45 14.7**	**0.0**
MESJ				A	A	10 45 16.3	
	comp=N,28nm,0.1s						
MESJ	**Messejana**	**2.53**	**34**	P	**Pn**	**10 44 46.2**	**+2.4**
MESJ				S	**Sn**	**10 45 14.7**	**0.0**
	comp=N,28nm,0.1s						
PNCL	**Nicolau / Gran**	**2.64**	**26**	*e*Pn	**Pn**	**10 44 47.2**	**+1.9**
PNCL				*e*Sn	**Sn**	**10 45 16.8**	**-0.6**
PNCL				A	A	10 45 20.4	
	comp=N,37nm,0.1s						
EGRO	**El Granado**	**2.70**	**48**	P	**Pn**	**10 44 48.6**	**+2.5**
	comp=N,11nm,0.1s,SNR=70						
EGRO				S	**Sn**	**10 45 17.9**	**-0.8**
	comp=N,41nm,0.1s,SNR=9.8						
EGRO	**El Granado**	**2.70**	**48**	P	**Pn**	**10 44 48.6**	**+2.5**
	comp=N,11nm,0.1s,SNR=70						
EGRO				S	**Sn**	**10 45 18.0**	**-0.8**
	comp=N,41nm,0.1s,SNR=9.8						
PMST	**Lisbon--Monsan**	**3.06**	**12**	*e*Sn	**Sn**	**10 45 26.3**	**-1.4**
PMST				A	A	10 45 28.9	
	comp=N,46nm,0.1s						
EVOP	**Sao Brissos**	**3.16**	**28**	*e*Pn	**Pn**	**10 44 54.3**	**+1.9**
EVOP				*e*Sn	**Sn**	**10 45 28.3**	**-1.8**
	comp=N,15nm,0.2s						
PACT	**Alcochete**	**3.16**	**17**	*e*Pn	**Pn**	**10 44 53.9**	**+1.5**
PACT				*e*Sn	**Sn**	**10 45 28.8**	**-1.4**
EVO	**Evora**	**3.20**	**29**	*e*Pn	**Pn**	**10 44 54.3**	**+1.2**
EVO				*e*Sn	**Sn**	**10 45 28.3**	**-3.0**
	comp=N,30nm,0.2s						
EVO	**Evora**	**3.20**	**29**	*e*Pn	**Pn**	**10 44 55.2**	**+2.1**
EVO				*e*Sn	**Sn**	**10 45 31.1**	**-0.2**
EVO				A	A	10 45 31.6	
	comp=N,76nm,0.1s						
EVO	**Evora**	**3.20**	**29**	P	**Pn**	**10 44 55.2**	**+2.1**
EVO				S	**Sn**	**10 45 31.1**	**-0.2**
	comp=N,76nm,0.1s						
EVO	**Evora**	**3.20**	**29**	P	**Pn**	**10 44 55.2**	**+2.1**
EVO				S	**Sn**	**10 45 31.1**	**-0.2**
	comp=N,76nm,0.1s						
PMAFR	**Mafra**	**3.26**	**10**	*e*Pn	**Pn**	**10 44 55.8**	**+2.0**
PMAFR				*e*Sn	**Sn**	**10 45 31.4**	**-1.3**
PMAFR				A	A	10 45 34.7	
	comp=N,74nm,0.2s						
PMAFR	**Mafra**	**3.26**	**10**	⇑P	**Pn**	**10 44 55.8**	**+2.0**
	comp=N,5.8nm,0.1s,SNR=18						
PMAFR				S	**Sn**	**10 45 31.1**	**-1.6**
	comp=N,105nm,0.2s,SNR=12						
PMAFR	**Mafra**	**3.26**	**10**	P	**Pn**	**10 44 55.8**	**+2.0**
	comp=N,5.8nm,0.1s,SNR=18						
PMAFR				S	**Sn**	**10 45 31.1**	**-1.6**
	comp=N,105nm,0.2s,SNR=12						
EMIN	**Mina Concepcio**	**3.35**	**52**	⇑P	**Pn**	**10 44 57.1**	**+2.1**
	comp=N,3.7nm,0.1s,SNR=18						
EMIN				S	**Sn**	**10 45 32.5**	**-2.3**
	comp=N,20nm,0.1s,SNR=9.9						
EMIN	**Mina Concepcio**	**3.35**	**52**	P	**Pn**	**10 44 57.1**	**+2.1**
	comp=N,3.7nm,0.1s,SNR=18						
EMIN				S	**Sn**	**10 45 32.5**	**-2.3**
	comp=N,20nm,0.1s,SNR=9.9						
PBAR	**Barrancos**	**3.39**	**43**	*e*Pn	**Pn**	**10 44 57.8**	**+2.2**
PBAR				*e*Sn	**Sn**	**10 45 34.6**	**-1.3**
PBAR				A	A	10 45 36.6	
	comp=N,45nm,0.3s						
PBAR	**Barrancos**	**3.39**	**43**	P	**Pn**	**10 44 57.8**	**+2.2**
PBAR				S	**Sn**	**10 45 34.6**	**-1.3**
	comp=N,45nm,0.3s						
PBAR	**Barrancos**	**3.39**	**43**	P	**Pn**	**10 44 57.8**	**+2.2**
PBAR				S	**Sn**	**10 45 34.6**	**-1.3**
	comp=N,45nm,0.3s						
ESPR	**Espera**	**3.52**	**70**	⇑P	**Pn**	**10 44 59.7**	**+2.2**
	comp=N,8.4nm,0.1s,SNR=18						
ESPR				S	**Sn**	**10 45 37.6**	**-1.6**
	comp=N,68nm,0.2s,SNR=6.7						
ESPR	**Espera**	**3.52**	**70**	P	**Pn**	**10 44 59.7**	**+2.2**
	comp=N,8.4nm,0.1s,SNR=18						
ESPR				S	**Sn**	**10 45 37.6**	**-1.6**
	comp=N,68nm,0.2s,SNR=6.7						
PMTG	**Montargil**	**3.61**	**22**	*e*Pn	**Pn**	**10 45 00.3**	**+1.7**
PMTG				*e*Sn	**Sn**	**10 45 39.6**	**-1.7**
PMTG				A	A	10 45 42.0	
	comp=N,24nm,0.1s						
PESTR	**Estremoz**	**3.66**	**31**	*e*Pn	**Pn**	**10 45 01.1**	**+1.7**
PESTR				*e*Sn	**Sn**	**10 45 41.0**	**-1.6**
PESTR				A	A	10 45 43.8	
	comp=N,12nm,0.3s						
LIJA	**Lijar**	**3.88**	**71**	*e*P	**Pn**	**10 45 02.0**	**-0.5**
LIJA				*e*S	Sn	10 45 44.0	-4.2
PTOM	**Tomar**	**4.07**	**17**	*e*Pn	**Pn**	**10 45 06.8**	**+1.9**
PTOM				*e*Sn	**Sn**	**10 45 50.3**	**-2.3**
PTOM				A	A	10 45 57.6	
	comp=N,20nm,0.1s						
PTOM	**Tomar**	**4.07**	**17**	P	**Pn**	**10 45 06.8**	**+1.9**
PTOM				S	**Sn**	**10 45 50.3**	**-2.3**
	comp=N,9.9nm,0.1s						
PTOM	**Tomar**	**4.07**	**17**	P	**Pn**	**10 45 06.8**	**+1.9**
PTOM				S	**Sn**	**10 45 50.3**	**-2.3**
	comp=N,9.9nm,0.1s						
PMRV	**Marv??o**	**4.22**	**29**	*e*Pn	**Pn**	**10 45 08.8**	**+1.7**
PMRV				*e*Sn	**Sn**	**10 45 54.4**	**-2.0**
PMRV				A	A	10 45 56.4	
	comp=N,37nm,0.2s						
PMRV	**Marv??o**	**4.22**	**29**	P	**Pn**	**10 45 08.8**	**+1.7**
PMRV				S	**Sn**	**10 45 54.4**	**-2.0**
	comp=N,37nm,0.2s						
PMRV	**Marv??o**	**4.22**	**29**	P	**Pn**	**10 45 08.8**	**+1.7**
PMRV				S	**Sn**	**10 45 54.4**	**-2.0**
	comp=N,37nm,0.2s						
CIA	**Chichaoua**	**4.29**	**166**	P	**Pn**	**10 45 09.0**	**+1.0**
CIA				S	Sn	10 45 53.0	-5.1
CIA	**Chichaoua**	**4.29**	**166**	P	**Pn**	**10 45 09.0**	**+1.0**
CIA				S	Sn	10 45 53.0	-5.1
EMIJ	**Mijas**	**4.30**	**77**	P	**Pn**	**10 45 09.6**	**+1.4**
	comp=N,1.0nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**10 45 56.2**	**-2.2**
	comp=N,4.7nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**4.30**	**77**	P	**Pn**	**10 45 09.6**	**+1.4**
	comp=N,1.0nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**10 45 56.2**	**-2.2**
	comp=N,4.7nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**4.34**	**56**	P	**Pn**	**10 45 10.9**	**+2.1**
	comp=N,4.1nm,0.1s,SNR=60						
ECAB				S	**Sn**	**10 45 56.0**	**-3.4**
	comp=N,16nm,0.1s,SNR=10						
ECAB	**El Cabril**	**4.34**	**56**	P	**Pn**	**10 45 10.9**	**+2.1**
	comp=N,4.1nm,0.1s,SNR=60						
ECAB				S	**Sn**	**10 45 56.0**	**-3.4**
	comp=N,16nm,0.1s,SNR=10						
TGT	**Taghat**	**4.38**	**111**	P	**Pn**	**10 45 11.0**	**+1.6**
TGT				S	Sn	10 45 56.0	-4.6
TGT	**Taghat**	**4.38**	**111**	P	**Pn**	**10 45 11.0**	**+1.6**
TGT				S	Sn	10 45 56.0	-4.6
PCAS	**Casmilo, Conde**	**4.46**	**15**	*e*Sn	**Sn**	**10 46 00.3**	**-2.1**
PCAS				A	A	10 46 03.4	
	comp=N,7.6nm,0.3s						
KIB	**El Ksiba**	**4.55**	**133**	P	**Pn**	**10 45 13.0**	**+1.4**
KIB				S	Sn	10 46 00.0	-4.6
KIB	**El Ksiba**	**4.55**	**133**	P	**Pn**	**10 45 13.0**	**+1.4**
KIB				*i* S	Sn	10 46 00.0	-4.6
PCBR	**Castelo Branco**	**4.55**	**25**	*e*Sn	**Sn**	**10 46 02.6**	**-1.9**
PCBR				A	A	10 46 06.2	
	comp=N,8.4nm,0.2s						
PCBR	**Castelo Branco**	**4.55**	**25**	S	**Sn**	**10 46 02.6**	**-1.9**
	comp=N,4.2nm,0.2s						
PCBR	**Castelo Branco**	**4.55**	**25**	S	**Sn**	**10 46 02.6**	**-1.9**
	comp=N,4.2nm,0.2s						
MIF	**Mishlifen**	**4.56**	**119**	P	**Pn**	**10 45 14.0**	**+2.0**
MIF				S	**Sn**	**10 46 02.0**	**-3.2**
MIF	**Mishlifen**	**4.56**	**119**	P	**Pn**	**10 45 14.0**	**+2.0**
MIF				S	**Sn**	**10 46 02.0**	**-3.2**
TZC	**Tazercounte**	**4.62**	**140**	P	**Pn**	**10 45 14.0**	**+1.4**
TZC				S	Sn	10 46 02.0	-4.4
TZC	**Tazercounte**	**4.62**	**140**	P	**Pn**	**10 45 14.0**	**+1.4**
TZC				*i* S	Sn	10 46 02.0	-4.4
OUK	**Oukaimeden**	**4.86**	**158**	P	**Pn**	**10 45 17.0**	**+0.9**
OUK				S	Sn	10 46 08.0	-4.5
OUK	**Oukaimeden**	**4.86**	**158**	P	**Pn**	**10 45 17.0**	**+0.9**
OUK				S	Sn	10 46 08.0	-4.5
CZD	**Col de Zad**	**4.90**	**122**	P	**Pn**	**10 45 17.0**	**+0.3**
CZD				S	Sn	10 46 09.0	-4.6
CZD	**Col de Zad**	**4.90**	**122**	P	**Pn**	**10 45 17.0**	**+0.3**
CZD				*i* S	Sn	10 46 09.0	-4.6
EADA	**Adamuz**	**4.97**	**59**	P	**Pn**	**10 45 19.5**	**+2.2**
	comp=N,7.7nm,0.2s,SNR=39						
EADA				S	**Sn**	**10 46 11.2**	**-3.6**
	comp=N,37nm,0.1s,SNR=15						
EADA	**Adamuz**	**4.97**	**59**	P	**Pn**	**10 45 19.5**	**+2.2**
	comp=N,7.7nm,0.2s,SNR=39						
EADA				S	**Sn**	**10 46 11.2**	**-3.6**
	comp=N,37nm,0.1s,SNR=15						
MTE	**Manteigas**	**5.04**	**22**	*e*Sn	**Sn**	**10 46 14.4**	**-2.2**
MTE				A	A	10 46 17.8	
	comp=N,12nm,0.2s						
MTE	**Manteigas**	**5.04**	**22**	S	**Sn**	**10 46 14.4**	**-2.2**
	comp=N,6.2nm,0.2s						
MTE	**Manteigas**	**5.04**	**22**	S	**Sn**	**10 46 14.4**	**-2.2**
	comp=N,6.2nm,0.2s						
PVIS	**Viseu**	**5.24**	**18**	*e*Sn	**Sn**	**10 46 18.7**	**-2.7**
PVIS	**Viseu**	**5.24**	**18**	S	**Sn**	**10 46 18.7**	**-2.7**
PVIS	**Viseu**	**5.24**	**18**	S	**Sn**	**10 46 18.7**	**-2.7**
SELV	**Sierra Elvira**	**5.26**	**72**	S	**Sn**	**10 46 20.6**	**-1.5**
	comp=N,6.8nm,0.3s,SNR=7.9						
SELV	**Sierra Elvira**	**5.26**	**72**	S	**Sn**	**10 46 20.6**	**-1.5**
	comp=N,6.8nm,0.3s,SNR=7.9						
EPLA	**Plasencia**	**5.31**	**34**	P	**Pn**	**10 45 24.1**	**+2.1**
	comp=N,2.4nm,0.2s,SNR=6.1						
EPLA				S	**Sn**	**10 46 20.8**	**-2.5**
	comp=N,12nm,0.1s,SNR=13						
EPLA	**Plasencia**	**5.31**	**34**	P	**Pn**	**10 45 24.1**	**+2.1**
	comp=N,2.4nm,0.2s,SNR=6.1						
EPLA				S	**Sn**	**10 46 20.8**	**-2.5**
	comp=N,12nm,0.1s,SNR=13						
EQUE	**Quentar**	**5.48**	**73**	P	**Pn**	**10 45 27.1**	**+2.7**
	comp=N,0.9nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**10 46 24.9**	**-2.6**
	comp=N,5.5nm,0.2s,SNR=5.9						
EQUE	**Quentar**	**5.48**	**73**	P	**Pn**	**10 45 27.1**	**+2.7**
	comp=N,0.9nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**10 46 24.9**	**-2.6**
	comp=N,5.5nm,0.2s,SNR=5.9						
PVRL	**Vila Real**	**5.81**	**17**	*e*Sn	**Sn**	**10 46 32.8**	**-2.8**
PVRL				A	A	10 46 36.7	
	comp=N,21nm,0.1s						
PVRL	**Vila Real**	**5.81**	**17**	S	**Sn**	**10 46 32.8**	**-2.8**
	comp=N,10nm,0.1s						
PVRL	**Vila Real**	**5.81**	**17**	S	**Sn**	**10 46 32.8**	**-2.8**
	comp=N,10nm,0.1s						
EBER	**Berja**	**5.85**	**77**	P	**Pn**	**10 45 32.0**	**+2.4**
	comp=N,0.3nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**10 46 34.5**	**-2.3**
	comp=N,3.6nm,0.2s,SNR=7.9						
EBER	**Berja**	**5.85**	**77**	P	**Pn**	**10 45 32.0**	**+2.4**
	comp=N,0.3nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**10 46 34.5**	**-2.3**
	comp=N,3.6nm,0.2s,SNR=7.9						
GORA	**Gorafe**	**5.86**	**71**	S	**Sn**	**10 46 34.0**	**-2.8**
	comp=N,17nm,0.2s,SNR=7.9						
GORA	**Gorafe**	**5.86**	**71**	S	**Sn**	**10 46 34.0**	**-2.8**
	comp=N,17nm,0.2s,SNR=7.9						
PMPST	**Porto Santo, M**	**5.88**	**245**	*e*Pn	**Pn**	**10 45 29.4**	**-0.4**
PMPST				*e*Sn	Sn	10 46 30.6	-6.6
PMPST				A	A	10 46 33.3	
	comp=N,18nm,0.4s						
POLO	**Lamas de Olo**	**5.88**	**16**	*e*Pn	**Pn**	**10 45 31.5**	**+1.6**
POLO				*e*Sn	Sn	10 46 33.4	-4.1
POLO				A	A	10 46 36.2	
	comp=N,2.9nm,0.7s						
PMPS	**Porto Santo**	**5.89**	**245**	*e*Pn	**Pn**	**10 45 29.4**	**-0.5**
PMPS				*e*Sn	Sn	10 46 32.0	-5.4
PMPS	**Porto Santo**	**5.89**	**245**	P	**Pn**	**10 45 29.4**	**-0.5**
PMPS				S	Sn	10 46 32.0	-5.4
PMPS	**Porto Santo**	**5.89**	**245**	P	**Pn**	**10 45 29.4**	**-0.5**
PMPS				S	Sn	10 46 32.0	-5.4
MVO	**Moncorvo**	**5.89**	**22**	*e*Pn	**Pn**	**10 45 31.8**	**+1.7**
MVO				*e*Sn	**Sn**	**10 46 34.7**	**-3.0**
MVO				A	A	10 46 38.2	
	comp=N,7.6nm,0.2s						
MVO	**Moncorvo**	**5.89**	**22**	P	**Pn**	**10 45 31.7**	**+1.7**
	comp=N,1.9nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**10 46 34.2**	**-3.5**
	comp=N,7.4nm,0.1s,SNR=6.4						
MVO	**Moncorvo**	**5.89**	**22**	P	**Pn**	**10 45 31.7**	**+1.7**
	comp=N,1.9nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**10 46 34.2**	**-3.5**
	comp=N,7.4nm,0.1s,SNR=6.4						
EQES	**Quesada**	**5.92**	**68**	P	**Pn**	**10 45 32.9**	**+2.4**
	comp=N,0.3nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**10 46 35.3**	**-3.2**
	comp=N,4.8nm,0.1s,SNR=4.9						
EQES	**Quesada**	**5.92**	**68**	P	**Pn**	**10 45 32.9**	**+2.4**
	comp=N,0.3nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**10 46 35.3**	**-3.2**
	comp=N,4.8nm,0.1s,SNR=4.9						
PCAB	**Cabril**	**6.16**	**14**	*e*Pn	**Pn**	**10 45 35.4**	**+1.8**
PCAB				*e*Sn	Sn	10 46 39.7	-4.4
PCAB				A	A	10 46 45.3	
	comp=N,6.7nm,0.1s						
PCAB	**Cabril**	**6.16**	**14**	P	**Pn**	**10 45 35.4**	**+1.8**
PCAB				S	Sn	10 46 39.7	-4.4
	comp=N,3.3nm,0.1s						
PCAB	**Cabril**	**6.16**	**14**	P	**Pn**	**10 45 35.4**	**+1.8**
PCAB				S	Sn	10 46 39.7	-4.4
	comp=N,3.3nm,0.1s						
ESDC	**Sonseca Array**	**6.18**	**49**	P	**Pn**	**10 45 36.5**	**+2.4**
	com

ETOB	**Tobarra**	**7.34**	**64**	P	**Pn**	**10 45 51.1**	**+1.2**
	comp=N,1.3nm,0.1s,SNR=9.1						
ETOB				S	Sn	10 47 08.4	-4.9
	comp=N,3.2nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**7.34**	**64**	P	**Pn**	**10 45 51.1**	**+1.2**
	comp=N,1.3nm,0.1s,SNR=9.1						
ETOB				S	Sn	10 47 08.4	-4.9
	comp=N,3.2nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**7.89**	**15**	S	**Sn**	**10 47 23.0**	**-3.7**
	comp=N,0.6nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**7.89**	**15**	S	**Sn**	**10 47 23.0**	**-3.7**
	comp=N,0.6nm,0.1s,SNR=7.9						
ETOR	**Torete**	**8.04**	**49**	P	**Pn**	**10 46 02.3**	**+2.8**
	comp=N,17nm,0.2s,SNR=11						
ETOR				S	Sn	10 47 25.8	-4.8
	comp=N,20nm,0.2s,SNR=7.9						
ETOR	**Torete**	**8.04**	**49**	P	**Pn**	**10 46 02.3**	**+2.8**
	comp=N,17nm,0.2s,SNR=11						
ETOR				S	Sn	10 47 25.8	-4.8
	comp=N,20nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**8.33**	**66**	S	Sn	10 47 31.9	-5.8
	comp=N,1.6nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**8.33**	**66**	S	Sn	10 47 31.9	-5.8
	comp=N,1.6nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**8.40**	**25**	S	Sn	10 47 34.4	-5.1
	comp=N,0.3nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**8.40**	**25**	S	Sn	10 47 34.4	-5.1
	comp=N,0.3nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**8.81**	**56**	P	**Pn**	**10 46 13.1**	**+2.9**
	comp=N,0.3nm,0.1s,SNR=6.6						
EMOS				S	Sn	10 47 43.3	-6.4
	comp=N,2.9nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**8.81**	**56**	P	**Pn**	**10 46 13.1**	**+2.9**
	comp=N,0.3nm,0.1s,SNR=6.6						
EMOS				S	Sn	10 47 43.3	-6.4
	comp=N,2.9nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**10.01**	**40**	*e*Pn	**Pn**	**10 46 28.9**	**+2.5**
SJPF				*e*Sn	Sn	10 48 12.4	-6.3
	comp=N,1.2nm,0.3s						
SJPF	**Ste Jean**	**10.01**	**40**	P	**Pn**	**10 46 28.9**	**+2.5**
SJPF				S	Sn	10 48 12.4	-6.3
	comp=N,0.6nm,0.3s						
SJPF	**Ste Jean**	**10.01**	**40**	P	**Pn**	**10 46 28.9**	**+2.5**
SJPF				S	Sn	10 48 12.4	-6.3
	comp=N,0.6nm,0.3s						
ETSF	**Etsaut**	**10.22**	**43**	*e*Pn	**Pn**	**10 46 30.6**	**+1.2**
ETSF				*e*Sn	Sn	10 48 17.1	-6.9
	comp=N,1.1nm,0.3s						
ETSF	**Etsaut**	**10.22**	**43**	P	**Pn**	**10 46 30.6**	**+1.2**
ETSF				S	Sn	10 48 17.1	-6.9
	comp=N,0.6nm,0.3s						
ETSF	**Etsaut**	**10.22**	**43**	P	**Pn**	**10 46 30.6**	**+1.2**
ETSF				S	Sn	10 48 17.1	-6.9
	comp=N,0.6nm,0.3s						
ATE	**Arette**	**10.27**	**42**	P	**Pn**	**10 46 32.0**	**+2.0**
	comp=N,0.3nm,0.1s,SNR=7.9						
ATE	**Arette**	**10.27**	**42**	P	**Pn**	**10 46 32.0**	**+2.0**
	comp=N,0.3nm,0.1s,SNR=7.9						
EPF	**Esparros**	**10.81**	**45**	*e*Pn	**Pn**	**10 46 39.2**	**+1.8**
EPF				*e*Sn	Sn	10 48 31.9	-6.5
	comp=N,1.2nm,0.3s						
EPF	**Esparros**	**10.81**	**45**	P	**Pn**	**10 46 39.2**	**+1.8**
EPF				S	Sn	10 48 31.9	-6.5
	comp=N,0.6nm,0.3s						
EPF	**Esparros**	**10.81**	**45**	P	**Pn**	**10 46 39.2**	**+1.8**
EPF				S	Sn	10 48 31.9	-6.5
	comp=N,0.6nm,0.3s						

*IDC **12** 10:49:41.8±2.2,9°.21S×118°.09E,h0km,mb3.1/2, mb1 3.3/4,mb1mx3.2/37,mbtmp3.2/4,ML3.4/2,Error ellipse: s-maj=68.0km s-min=26.9km az=60.0*
*DJA **12** 10:49:58.3±1.1,9°.5±7°.1×11°.9E±°,h108km±18km,M3.9/8, mb4.1/1,MLv3.8/8*
ISC 12 10:49:47.1±1.8,9°.2S±0°.1×118°.5E±0°.2,h35km,n8,σ2§56/8, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.87**	**105**	P	Pn	10 50 23.8	+7.3
BSSI	**Bau Bau, Buton**	**3.62**	**34**	P	**Pn**	**10 50 42.8**	**+2.1**
MMRI	**Maumere**	**3.76**	**82**	P	**Pn**	**10 50 43.6**	**+1.0**
BKSI	**Bulukumba**	**4.17**	**23**	P	**Pn**	**10 50 51.3**	**+3.1**
KAPI	**Kappang**	**4.33**	**17**	Pn	**Pn**	**10 50 52.3**	**+1.9**
	1.4nm,0.3s,baz=184,slow=3.8,SNR=7.1						
KAPI				Sn	**Sn**	**10 51 36.3**	**-3.4**
	3.7nm,0.3s,baz=298,slow=23,SNR=6.9						
WRA	**Warramunga Arr**	**18.70**	**127**	P	**Pn**	**10 54 03.8**	**+0.6**
	0.1nm,0.3s,baz=302,slow=13,SNR=13						
WRA				S	Sn	10 57 16.4	-15
	0.1nm,0.3s,baz=296,slow=25,SNR=2.0						
ASAR	**Alice Springs**	**20.62**	**136**	P	Pn	10 54 26.7	+0.7
	0.2nm,0.5s,baz=320,slow=10,SNR=6.8						
ASAR				S	**S**	**10 58 11.6**	**-0.9**
	0.3nm,0.7s,baz=305,slow=22,SNR=1.9						
MKAR	**Makanchi Array**	**64.38**	**333**	P	**P**	**11 00 18.2**	**-1.3**
	0.5nm,0.8s,baz=142,slow=4.9,SNR=3.0						

*NEIC **12** 10:59:14.2,40°.86S×172°.83E,h220km,MG4.2(WEL), After WEL.*
WEL 12 10:59:14.4±0.3,40°.87S×172°.86E,h218km±2km,ML4.2/17, 12C-31D,Error ellipse: s-maj=2.7km s-min=1.3km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.25**	**279**	PN	Pn	10 59 43.0	0.0
QRZ				SN	S	11 00 04.1	-1.2
QRZ	**Quartz Range**	**0.25**	**279**	Pn	Pn	10 59 43.0	0.0
QRZ				Sn	S	11 00 04.1	-1.2
NNZ	**Nelson**	**0.53**	**132**	PN	Pn	10 59 43.9	+0.2
NNZ				SN	S	11 00 05.7	-0.9
NNZ	**Nelson**	**0.53**	**132**	Pn	Pn	10 59 43.9	+0.2
DUWZ	**D'Urville Isla**	**0.81**	**86**	PN	Pn	10 59 45.5	+0.5
DUWZ	**D'Urville Isla**	**0.81**	**86**	Pn	Pn	10 59 45.5	+0.5
THZ	**Tophouse**	**0.90**	**178**	↑PN	Pn	10 59 45.8	+0.3
THZ	**Tophouse**	**0.90**	**178**	Pn	Pn	10 59 45.8	+0.3
TUWZ	**Tuamarina**	**0.99**	**125**	↑PN	Pn	10 59 46.3	+0.4
TUWZ				AML	AML	11 00 10.4	
TUWZ				AML	AML	11 00 10.8	
TUWZ	**Tuamarina**	**0.99**	**125**	Pn	Pn	10 59 46.3	+0.4
TCW	**Tory Channel**	**1.12**	**108**	↑PN	Pn	10 59 47.2	+0.4
TCW				SN	S	11 00 11.1	-0.9
TCW				AML	AML	11 00 12.9	
TCW	**Tory Channel**	**1.12**	**108**	Pn	Pn	10 59 47.2	+0.4
BSWZ	**Blackbirch Sta**	**1.14**	**138**	PN	Pn	10 59 47.2	+0.2
BSWZ				AML	AML	11 00 12.9	
BSWZ				AML	AML	11 00 15.6	
BSWZ	**Blackbirch Sta**	**1.14**	**138**	Pn	Pn	10 59 47.2	+0.2
DSZ	**Denniston Nort**	**1.19**	**222**	PN	Pn	10 59 46.8	-0.5
DSZ	**Denniston Nort**	**1.19**	**222**	Pn	Pn	10 59 46.8	-0.5
CMWZ	**Cape Campbell**	**1.35**	**131**	Pn	Pn	10 59 48.9	+0.4
CMWZ				AML	AML	11 00 16.2	
CMWZ	**Cape Campbell**	**1.35**	**131**	Pn	Pn	10 59 48.9	+0.4
WEL	**Wellington**	**1.50**	**107**	↑PN	Pn	10 59 49.8	0.0
WEL				AML	AML	11 00 17.0	
WEL				AML	AML	11 00 18.3	
WEL	**Wellington**	**1.50**	**107**	Pn	Pn	10 59 49.8	+0.1
KIW	**Kapiti Island**	**1.56**	**90**	⇓PN	Pn	10 59 50.3	+0.1
KIW				AML	AML	11 00 17.2	
KIW				AML	AML	11 00 18.3	
KIW	**Kapiti Island**	**1.56**	**90**	Pn	Pn	10 59 50.3	+0.1
BHW	**Baring Head**	**1.61**	**110**	PN	Pn	10 59 50.5	-0.1
BHW				AML	AML	11 00 19.6	
BHW				AML	AML	11 00 19.7	
BHW	**Baring Head**	**1.61**	**110**	Pn	Pn	10 59 50.5	-0.1
KHZ	**Kahutara**	**1.63**	**162**	PN	Pn	10 59 50.4	-0.4
KHZ				SN	S	11 00 17.8	-1.3
KHZ				AML	AML	11 00 19.1	
KHZ	**Kahutara**	**1.63**	**162**	Pn	Pn	10 59 50.4	-0.4
NMEZ	**Namu Road**	**1.65**	**29**	⇓PN	Pn	10 59 51.0	-0.1
CAW	**Cannon Point**	**1.69**	**99**	PN	Pn	10 59 51.5	+0.1
CAW				AML	AML	11 00 22.1	
CAW				AML	AML	11 00 22.3	
CAW	**Cannon Point**	**1.69**	**99**	Pn	Pn	10 59 51.5	+0.1
OGWZ	**Otaki Gorge**	**1.75**	**89**	⇓PN	Pn	10 59 52.2	+0.2
OGWZ	**Otaki Gorge**	**1.75**	**89**	Pn	Pn	10 59 52.2	+0.2
NWEZ	**Newall Road**	**1.77**	**26**	PN	Pn	10 59 52.0	-0.1
NWEZ	**Newall Road**	**1.77**	**26**	Pn	Pn	10 59 52.0	-0.1
KHEZ	**Kahui Hut**	**1.81**	**30**	⇓PN	Pn	10 59 52.3	-0.3
PREZ	**Palmer Road**	**1.82**	**34**	PN	Pn	10 59 52.3	-0.4
LREZ	**Lake Rotokare**	**1.84**	**41**	PN	Pn	10 59 52.9	+0.1
NEZ	**North Egmont**	**1.86**	**31**	⇓PN	Pn	10 59 52.4	-0.7
NEZ	**North Egmont**	**1.86**	**31**	Pn	Pn	10 59 52.4	-0.7
PKE	**Pukeiti**	**1.88**	**28**	⇓PN	Pn	10 59 52.9	-0.4
PKE	**Pukeiti**	**1.88**	**28**	Pn	Pn	10 59 52.9	-0.4
MSWZ	**Moikau Station**	**1.89**	**108**	PN	Pn	10 59 53.1	-0.1
MSWZ				AML	AML	11 00 24.1	
MSWZ				AML	AML	11 00 24.3	
MSWZ	**Moikau Station**	**1.89**	**108**	Pn	Pn	10 59 53.1	-0.1
PLWZ	**Palliser**	**1.94**	**112**	⇑PN	Pn	10 59 53.6	-0.2
PLWZ	**Palliser**	**1.94**	**112**	Pn	Pn	10 59 53.6	-0.2
LTZ	**Lake Taylor**	**1.96**	**193**	Pn	Pn	10 59 53.4	-0.6
LTZ	**Lake Taylor**	**1.96**	**193**	Pn	Pn	10 59 53.4	-0.6
WAZ	**Wanganui**	**1.97**	**56**	⇓PN	Pn	10 59 54.3	+0.2
WAZ	**Wanganui**	**1.97**	**56**	Pn	Pn	10 59 54.3	+0.2
PAWZ	**Paruwai Farm**	**2.01**	**106**	PN	Pn	10 59 54.3	0.0
PAWZ				AML	AML	11 00 26.1	
PAWZ				AML	AML	11 00 27.6	
PAWZ	**Paruwai Farm**	**2.01**	**106**	Pn	Pn	10 59 54.3	0.0
HOWZ	**Holdsworth Sta**	**2.01**	**92**	⇓PN	Pn	10 59 54.5	0.0
HOWZ	**Holdsworth Sta**	**2.01**	**92**	Pn	Pn	10 59 54.5	0.0
MTW	**Mount Morrison**	**2.02**	**99**	⇓PN	Pn	10 59 54.5	0.0
MTW				AML	AML	11 00 26.4	
MTW				AML	AML	11 00 26.8	
MTW	**Mount Morrison**	**2.02**	**99**	Pn	Pn	10 59 54.5	0.0
MRZ	**Mangatainoka R**	**2.08**	**85**	⇓PN	Pn	10 59 55.0	-0.1
MRZ				AML	AML	11 00 27.8	
MRZ				AML	AML	11 00 27.8	
MRZ	**Mangatainoka R**	**2.08**	**85**	Pn	Pn	10 59 55.0	-0.1
MHEZ	**Mangahewa**	**2.11**	**33**	Pn	Pn	10 59 55.3	-0.2
TRWZ	**Traveller**	**2.20**	**105**	PN	Pn	10 59 56.6	+0.2
TRWZ				AML	AML	11 00 29.7	
TRWZ				AML	AML	11 00 30.4	
TRWZ	**Traveller**	**2.20**	**105**	Pn	Pn	10 59 56.6	+0.2
POWZ	**Post Office Ro**	**2.26**	**79**	PN	Pn	10 59 57.0	0.0
POWZ	**Post Office Ro**	**2.26**	**79**	Pn	Pn	10 59 57.0	0.0
VRZ	**Vera Road**	**2.27**	**41**	PN	Pn	10 59 56.0	-1.1
VRZ	**Vera Road**	**2.27**	**41**	Pn	Pn	10 59 56.0	-1.1
TIWZ	**Tintock**	**2.30**	**89**	⇓PN	Pn	10 59 57.4	0.0
TIWZ				AML	AML	11 00 31.4	
TIWZ				AML	AML	11 00 31.8	
TIWZ	**Tintock**	**2.30**	**89**	Pn	Pn	10 59 57.4	0.0
TMWZ	**Te Maipa**	**2.31**	**97**	PN	Pn	10 59 57.5	+0.1
TMWZ	**Te Maipa**	**2.31**	**97**	Pn	Pn	10 59 57.5	+0.1
PRWZ	**Pori Road**	**2.38**	**83**	⇓PN	Pn	10 59 58.5	+0.3
PKVZ	**Pokaka**	**2.47**	**51**	⇓PN	Pn	10 59 58.6	-0.7
PKVZ	**Pokaka**	**2.47**	**51**	Pn	Pn	10 59 58.6	-0.7
MTVZ	**Mangateitei**	**2.49**	**54**	↑PN	Pn	10 59 58.8	-0.6
MTVZ	**Mangateitei**	**2.49**	**54**	Pn	Pn	10 59 58.9	-0.6
TSZ	**Takapari Road**	**2.50**	**72**	PN	Pn	10 59 59.4	-0.1
TSZ				AML	AML	11 00 35.0	
TSZ				AML	AML	11 00 36.9	
TSZ	**Takapari Road**	**2.50**	**72**	Pn	Pn	10 59 59.4	-0.1
OXZ	**Oxford**	**2.53**	**194**	⇑PN	Pn	10 59 58.5	-1.3
CPWZ	**Castlepoint**	**2.53**	**92**	PN	Pn	10 59 59.9	+0.1
BFZ	**Birch Farm**	**2.58**	**87**	⇓PN	Pn	11 00 00.3	-0.1
BFZ	**Birch Farm**	**2.58**	**87**	Pn	Pn	11 00 00.3	-0.1
DVHZ	**Dannevirke**	**2.58**	**78**	⇓PN	Pn	11 00 00.2	-0.2
DVHZ	**Dannevirke**	**2.58**	**78**	Pn	Pn	11 00 00.2	-0.2
TRVZ	**Turoa**	**2.59**	**54**	PN	Pn	10 59 59.8	-1.0
TRVZ	**Turoa**	**2.59**	**54**	Pn	Pn	10 59 59.8	-1.0
WNVZ	**Wahianoa**	**2.60**	**55**	⇓PN	Pn	10 59 60.0	-0.9
WNVZ	**Wahianoa**	**2.60**	**55**	Pn	Pn	10 59 60.0	-0.9
FWVZ	**Far West T-bar**	**2.62**	**53**	⇓PN	Pn	11 00 00.0	-1.1
FWVZ	**Far West T-bar**	**2.62**	**53**	Pn	Pn	11 00 00.0	-1.1
WHVZ	**Whangaehu Hut**	**2.63**	**54**	⇓PN	Pn	11 00 00.1	-1.1
WPVZ	**Whakapapa**	**2.65**	**52**	⇓PN	Pn	11 00 00.2	-1.0
WPVZ	**Whakapapa**	**2.65**	**52**	Pn	Pn	11 00 00.2	-1.0
COVZ	**Chateau Observ**	**2.65**	**52**	PN	Pn	11 00 00.2	-1.1
MOVZ	**Moawhango**	**2.65**	**58**	⇓PN	Pn	11 00 00.2	-1.1
MOVZ	**Moawhango**	**2.65**	**58**	Pn	Pn	11 00 00.2	-1.1
TWVZ	**Taurewa**	**2.67**	**49**	⇓PN	Pn	11 00 00.2	-1.3
TWVZ	**Taurewa**	**2.67**	**49**	Pn	Pn	11 00 00.2	-1.3
TUVZ	**Tukino**	**2.67**	**54**	PN	Pn	11 00 00.8	-0.8
TUVZ	**Tukino**	**2.67**	**54**	Pn	Pn	11 00 00.8	-0.8
NGZ	**Ngauruhoe**	**2.70**	**52**	PN	Pn	11 00 00.8	-1.1
NGZ	**Ngauruhoe**	**2.70**	**52**	Pn	Pn	11 00 00.8	-1.1
CRLZ	**Canterbury Las**	**2.71**	**184**	PN	Pn	11 00 00.4	-1.3
CRLZ	**Canterbury Las**	**2.71**	**184**	Pn	Pn	11 00 00.4	-1.3
WVZ	**Waitaha Valley**	**2.71**	**215**	⇑PN	Pn	11 00 00.4	-1.4
WVZ	**Waitaha Valley**	**2.71**	**215**	Pn	Pn	11 00 00.4	-1.4
PNHZ	**Pukenui**	**2.72**	**71**	⇑PN	Pn	11 00 01.9	-0.1
PNHZ	**Pukenui**	**2.72**	**71**	Pn	Pn	11 00 01.9	-0.1
WTVZ	**West Tongariro**	**2.73**	**51**	⇓PN	Pn	11 00 01.0	-1.2
WTVZ	**West Tongariro**	**2.73**	**51**	Pn	Pn	11 00 01.0	-1.2
OTVZ	**Oturere**	**2.75**	**53**	PN	Pn	11 00 01.4	-1.2
OTVZ	**Oturere**	**2.75**	**53**	Pn	Pn	11 00 01.4	-1.2
KRVZ	**Karewarewa**	**2.77**	**51**	PN	Pn	11 00 01.5	-1.2
KRVZ	**Karewarewa**	**2.77**	**51**	Pn	Pn	11 00 01.5	-1.2
ANWZ	**Angora Road**	**2.78**	**83**	⇓PN	Pn	11 00 02.6	+0.1
HIZ	**Hauiti**	**2.81**	**34**	⇓PN	Pn	11 00 01.6	-1.4
HIZ	**Hauiti**	**2.81**	**34**	Pn	Pn	11 00 01.6	-1.4
BHHZ	**Black Hill Sta**	**2.81**	**62**	PN	Pn	11 00 02.1	-0.9
BHHZ	**Black Hill Sta**	**2.81**	**62**	Pn	Pn	11 00 02.1	-0.9
MQZ	**McQueen's Vall**	**2.84**	**183**	PN	Pn	11 00 01.2	-1.9
MQZ	**McQueen's Vall**	**2.84**	**183**	Pn	Pn	11 00 01.2	-1.9
WPHZ	**Waipukurau**	**2.85**	**75**	⇓PN	Pn	11 00 03.4	+0.1
WPHZ	**Waipukurau**	**2.85**	**75**	Pn	Pn	11 00 03.4	+0.1
KATZ	**Kakaramea**	**2.88**	**50**	PN	Pn	11 00 02.9	-1.0
KATZ	**Kakaramea**	**2.88**	**50**	Pn	Pn	11 00 02.9	-1.0
PRHZ	**Porangahau**	**2.94**	**79**	PN	Pn	11 00 04.4	+0.1
PRHZ	**Porangahau**	**2.94**	**79**	Pn	Pn	11 00 04.4	+0.1
KRHZ	**Kereru**	**2.95**	**67**	⇓PN	Pn	11 00 04.1	-0.5
RATZ	**Rangitukua**	**3.00**	**49**	⇓PN	Pn	11 00 04.5	-0.7
RATZ	**Rangitukua**	**3.00**	**49**	Pn	Pn	11 00 04.5	-0.7
KWHZ	**Kaweka Forest**	**3.09**	**63**	⇓PN	Pn	11 00 05.5	-0.7
WATZ	**Wairara**	**3.09**	**47**	PN	Pn	11 00 05.3	-0.9
WATZ	**Wairara**	**3.09**	**47**	Pn	Pn	11 00 05.3	-0.9
RPZ	**Rata Peaks**	**3.15**	**205**	PN	Pn	11 00 05.3	-1.4
RPZ	**Rata Peaks**	**3.15**	**205**	Pn	Pn	11 00 05.3	-1.4
PXZ	**Pawanui**	**3.17**	**76**	⇓PN	Pn	11 00 06.9	0.0
PXZ				AML	AML	11 00 49.5	
PXZ				AML	AML	11 00 49.6	
PXZ				AML	AML	11 00 54.2	
PXZ				AML	AML	11 00 54.2	
PXZ	**Pawanui**	**3.17**	**76**	Pn	Pn	11 00 06.9	0.0
KAHZ	**Kahuranaki**	**3.25**	**72**	⇑PN	Pn	11 00 08.2	+0.2
KAHZ	**Kahuranaki**	**3.25**	**72**	Pn	Pn	11 00 08.2	+0.2
BKZ	**Black Stump Fm**	**3.27**	**60**	PN	Pn	11 00 06.9	-1.3
BKZ	**Black Stump Fm**	**3.27**	**60**	Pn	Pn	11 00 06.9	-1.3
MCHZ	**McNeill Hill**	**3.27**	**65**	⇓PN	Pn	11 00 08.0	-0.2
MCHZ	**McNeill Hill**	**3.27**	**65**	Pn	Pn	11 00 08.0	-0.2
TLZ	**Tolley Road**	**3.27**	**40**	PN	Pn	11 00 06.4	-1.9
NMHZ	**Naumai**	**3.51**	**61**	PN	Pn	11 00 10.9	-0.2
NMHZ	**Naumai**	**3.51**	**61**	Pn	Pn	11 00 10.9	-0.2
ARHZ	**Aropaoanui**	**3.56**	**65**	PN	Pn	11 00 11.1	-0.5
FOZ	**Fox Glacier**	**3.58**	**220**	⇓PN	Pn	11 00 08.8	-2.9
FOZ	**Fox Glacier**	**3.58**	**220**	Pn	Pn	11 00 08.8	-2.9
RAHZ	**Arahi**	**3.79**	**60**	PN	Pn	11 00 13.6	-0.8
RAHZ	**Arahi**	**3.79**	**60**	Pn	Pn	11 00 13.6	-0.8
WHHZ	**Waihua**	**3.81**	**63**	PN	Pn	11 00 14.1	-0.5
SNGZ	**Shannon Statio**	**4.03**	**60**	PN	Pn	11 00 16.3	-1.0
LBZ	**Lake Benmore**	**4.03**	**208**	PN	Pn	11 00 15.1	-2.2
LBZ	**Lake Benmore**	**4.03**	**208**	Pn	Pn	11 00 15.1	-2.1
KNZ	**Kokohu**	**4.13**	**65**	PN	Pn	11 00 17.5	-1.0
KNZ	**Kokohu**	**4.13**	**65**	Pn	Pn	11 00 17.5	-1.0
URZ	**Urewera**	**4.19**	**53**	⇑PN	Pn	11 00 16.9	-2.3
URZ	**Urewera**	**4.19**	**53**	Pn	Pn	11 00 16.9	-2.3
PRGZ	**Paritu Road**	**4.32**	**65**	PN	Pn	11 00 19.4	-1.0
PRGZ	**Paritu Road**	**4.32**	**65**	Pn	Pn	11 00 19.9	-1.0
RIGZ	**Rimuhau**	**4.35**	**62**	PN	Pn	11 00 20.1	-1.2
MWZ	**Matawai**	**4.40**	**56**	PN	Pn	11 00 20.0	-1.9
MWZ	**Matawai**	**4.40**	**56**	Pn	Pn	11 00 20.0	-1.9
JCZ	**Jackson Bay**	**4.41**	**222**	PN	Pn	11 00 19.6	-2.4
JCZ	**Jackson Bay**	**4.41**	**222**	Pn	Pn	11 00 19.6	-2.4
TKGZ	**Te Karaka**	**4.55**	**59**	PN	Pn	11 00 22.5	-1.2
CNGZ	**Carnagh Statio**	**4.76**	**62**	PN	Pn	11 00 25.6	-0.8
CNGZ	**Carnagh Statio**	**4.76**	**62**	Pn	Pn	11 00 25.6	-0.8
TWGZ	**Tauwhareparae**	**4.79**	**57**	PN	Pn	11 00 25.0	-1.7
WKZ	**Wanaka**	**4.86**	**214**	PN	Pn	11 00 24.5	-3.0
WKZ	**Wanaka**	**4.86**	**214**	Pn	Pn	11 00 24.5	-3.0
HAZ	**Te Kaha**	**4.92**	**52**	PN	Pn	11 00 25.3	-3.1
PUZ	**Puketiti**	**5.02**	**58**	PN	Pn	11 00 27.5	-2.1
PUZ	**Puketiti**	**5.02**	**58**	Pn	Pn	11 00 27.5	-2.1
EAZ	**Earnscleugh**	**5.08**	**210**	⇑PN	Pn	11 00 27.1	-3.0
EAZ	**Earnscleugh**	**5.08**	**210**	Pn	Pn	11 00 27.1	-3.0
MSZ	**Milford Sound**	**5.26**	**222**	PN	Pn	11 00 29.7	-2.7
MSZ	**Milford Sound**	**5.26**	**222**	Pn	Pn	11 00 29.8	-2.6
WMGZ	**Waiomatatini S**	**5.27**	**57**	PN	Pn	11 00 30.5	-2.3
MXZ	**Matakaoa Point**	**5.36**	**54**	PN	Pn	11 00 31.8	-2.1
MXZ	**Matakaoa Point**	**5.36**	**54**	Pn	Pn	11 00 31.8	-2.1
TUZ	**Tuapeka**	**5.60**	**204**	PN	Pn	11 00 34.6	-2.2
TUZ	**Tuapeka**	**5.60**	**204**	Pn	Pn	11 00 34.6	-2.2
MLZ	**Mavora Lakes**	**5.64**	**216**	PN	Pn	11 00 35.5	-1.9
MLZ	**Mavora Lakes**	**5.64**	**216**	Pn	Pn	11 00 35.5	-1.9
WHZ	**Wether Hill Ro**	**6.17**	**214**	PN	Pn	11 00 40.7	-3.3
WHZ	**Wether Hill Ro**	**6.17**	**214**	Pn	Pn	11 00 40.7	-3.3
SYZ	**Scrubby Hill**	**6.28**	**204**	PN	Pn	11 00 43.3	-2.0
SYZ	**Scrubby Hill**	**6.28**	**204**	Pn	Pn	11 00 43.3	-2.0

IDC 12 11:05:56.2±1.9,1°.59N×126°.75E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.4/22,mbtmp3.5/4,MS3.9/1,Ms1 3.9/1, ms1mx2.5/25,Error ellipse: s-maj=174.6km s-min=23.5km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.66**	**161**	P	P	11 10 59.9	+0.6
	1.3nm,0.9s,baz=340,slow=10,SNR=6.1						
ASAR	**Alice Springs**	**26.05**	**165**	P	P	11 11 30.9	-0.6
	0.2nm,0.8s,baz=338,slow=6.7,SNR=5.4						
STKA	**Stephens Creek**	**36.14**	**158**	P	P	11 13 00.1	-0.3
	1.5nm,0.6s,baz=350,slow=10,SNR=5.8						
ASAJ	**Asahikawa**	**44.62**	**16**	LR	LR	11 34 40.2	
	comp=Z,126nm,18.5s,baz=232,slow=39						
MKAR	**Makanchi Array**	**59.32**	**326**	P	P	11 16 00.2	+0.1
	0.3nm,0.5s,baz=142,slow=7.3,SNR=3.1						

*IDC **12** 11:18:35.5±1.4,34°.52N×27°.26E,h0km,mb3.7/4, mb1 3.6/6,mb1mx3.5/25,mbtmp3.6/6,ML2.9/2,MS2.8/3, Ms1 2.8/3,ms1mx2.3/40,Error ellipse: s-maj=50.6km s-min=20.6km az=155.0*
*ISCJB **12** 11:18:36.6±1.0,34°.70N±0°.05×27°.01E±0°.04,h16km±8km, mb3.7/4,MS2.8/2,Error ellipse: s-maj=9.0km s-min=4.8km az=166.6*
*CSEM **12** 11:18:37.4±0.6,34°.72N×26°.95E,h10km,MD3.7,Error ellipse: s-maj=15.5km s-min=5.7km az=165.0*
*DDA **12** 11:18:37.1,34°.74N×26°.90E,h25km,MD3.7*
*ATH **12** 11:18:38.0,34°.74N×26°.94E,h28km±2km,MD3.7/13*
ISC 12 11:18:38.7±1.6,34°.72N±0°.05×27°.01E±0°.03,h20km±4km, n63,σ1§31/81,mb3.7/4,Eastern Mediterranean Sea

| Code | Station Name | Δ° | AZ° | Phase ID Op

MAN 12 11:30:51.7±0.90N×124°29.E, h39km, mb4.3, ML3.2, MS3.0, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.68**	**184**	⇑*iP*	Pn	11 31 05.7	+1.6
CTBH				*i* S	Sn	11 31 16.0	+2.5
CGP	**Cagayan de Oro**	**0.68**	**36**	*eP*	Pn	11 31 05.5	+1.3
CGP				*i* S	Sn	11 31 16.3	+2.6
DCPH	**Dipolog City**	**1.15**	**306**	⇓*eP*	Pn	11 31 11.3	+0.7
DCPH				*eS*	Sn	11 31 26.5	+1.4

*NNC **12** 11:42:32.7±13.0, 54.15N×86.35E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=111.4km s-min=82.3km az=3.0*
IDC 12 11:42:32.4±2.4, 54.30N×86.13E, h0km, mb1 3.5/2, mb1mx3.1/32, mbtmp3.5/2, ML3.0/2, 5C-3D, Error ellipse: s-maj=19.2km s-min=12.8km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.85**	**246**	*i*		11 47 47.8	
	baz=66,slow=314,SNR=3.3						
ZALV	**Zalesovo Beam**	**0.85**	**246**	Pg	Pg	11 42 47.0	-1.7
	1.9nm,0.3s,baz=63,slow=15,SNR=10						
ZALV				Lg	Lg	11 43 01.1	
	16nm,0.3s,baz=64,slow=26,SNR=31						
KURK	**Kurchatov**	**5.82**	**235**	⇑Pn	Pn	11 44 00.9	+1.0
	1.2nm,0.7s						
KURK				⇓Sn	Sn	11 45 07.5	+0.2
	0.4nm,0.7s						
KURK				⇑Lg	Lg	11 45 40.5	
	1.9nm,0.7s						
KURBB	**Kurchatov Arra**	**5.92**	**235**	⇓Pn	Pn	11 44 02.4	+1.0
	3.6nm,0.6s						
KURBB				⇑Sn	Sn	11 45 08.7	-1.3
	2.1nm,0.7s						
KURBB				⇑Lg	Lg	11 45 42.2	
	5.1nm,0.6s						
KURBB	**Kurchatov Arra**	**5.92**	**235**	Pn	Pn	11 44 02.9	+1.5
	0.2nm,0.3s,baz=52,slow=14,SNR=30						
KURBB				Lg	Lg	11 45 40.4	
	0.1nm,0.3s,baz=43,slow=28,SNR=4.4						
MK31	**Makanchi Array**	**7.90**	**200**	Pn	Pn	11 44 29.9	+1.3
	1.4nm,0.6s,baz=24,slow=13,SNR=12						
MK31				⇑Sn	Sn	11 46 02.5	+3.8
	0.2nm,0.4s						
MK31				⇓Lg	Lg	11 46 42.3	
	1.4nm,0.7s,baz=28,slow=29						
MKAR	**Makanchi Array**	**7.90**	**200**	Pn	Pn	11 44 29.0	+0.5
	0.5nm,0.3s,baz=18,slow=12,SNR=15						
MKAR				Lg	Lg	11 46 43.2	
	baz=9.7,slow=26,SNR=5.0						

*IDC **12** 11:52:43.0±2.8, 27.95N×52.68E, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.5/28, mbtmp3.7/6, ML3.7/2, MS3.3/2, Ms1 3.3/2, ms1mx2.6/35, Error ellipse: s-maj=59.7km s-min=27.9km az=143.0*
*TEH **12** 11:52:45.4, 28.11N×52.31E, h2km, ML3.6*
*CSEM **12** 11:52:45.4, 28.11N×52.31E, h2km, ML3.6*
*ISCJB **12** 11:52:46.1±1.0, 28.24N±0.06×52.33E±0.08, h15km, mb3.7/4, MS3.8/1, Error ellipse: s-maj=11.1km s-min=7.0km az=36.1*
ISC 12 11:52:46.8±1.4, 28.14N±0.10×52.37E±0.08, h15km, n17, σ0.60/24, mb3.9/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISRV	**Sarvestan**	**1.40**	**28**	*ePg*	**Pn**	**11 53 11.3**	**-0.8**
ISRV				*eSg*	**Sb**	**11 53 31.1**	**+0.5**
ISRV				*e*		11 53 38.0	
	comp=Z,7μm,0.2s						
ISRV	**Sarvestan**	**1.40**	**28**	*ePg*	**Pn**	**11 53 11.3**	**-0.8**
ISRV				*eSg*	**Sb**	**11 53 31.1**	**+0.5**
IKAZ	**Kazeroun**	**1.70**	**344**	*ePn*	**Pn**	**11 53 16.5**	**+0.3**
IKAZ				*eSg*	**Sb**	**11 53 39.0**	**-0.3**
IKAZ				*e*		11 53 47.7	
	comp=Z,14μm,0.3s						
IKAZ	**Kazeroun**	**1.70**	**344**	*ePn*	**Pn**	**11 53 16.5**	**+0.3**
IKAZ				*eSg*	**Sb**	**11 53 39.0**	**-0.3**
IPAR	**Pars**	**1.79**	**19**	*ePn*	**Pn**	**11 53 18.4**	**+0.8**
IPAR				*eSg*	**Sb**	**11 53 42.8**	**+0.7**
IPAR				*e*		11 53 46.8	
	comp=Z,13μm,0.5s						
IPAR	**Pars**	**1.79**	**19**	*ePn*	**Pn**	**11 53 18.4**	**+0.8**
IPAR				*eSg*	**Sb**	**11 53 42.8**	**+0.7**
IMEH	**Mehriz**	**3.78**	**31**	*ePn*	**Pn**	**11 53 45.2**	**+0.4**
IMEH				*eSn*	**Sn**	**11 54 28.8**	**-0.3**
IMEH				*e*		11 54 36.0	
	comp=Z,762nm,0.5s						
IMEH	**Mehriz**	**3.78**	**31**	*ePn*	**Pn**	**11 53 45.2**	**+0.4**
IMEH				*eSn*	**Sn**	**11 54 28.8**	**-0.3**
IBAF	**Bafgh**	**4.42**	**38**	*ePn*	**Pn**	**11 53 53.8**	**+0.3**
IBAF				*e*		11 54 47.7	
	comp=Z,192nm,0.2s						
IBAF	**Bafgh**	**4.42**	**38**	*ePn*	**Pn**	**11 53 53.8**	**+0.3**
GEYT	**Alibeck**	**10.88**	**25**	Pn	**Pn**	**11 55 22.8**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=201,slow=16,SNR=3.2						
GEYT				LR	LR	12 00 02.0	
	comp=Z,60nm,18.3s,baz=15,slow=40						
BRTR	**Keskin Array B**	**19.32**	**312**	P	**Pn**	**11 57 12.4**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=138,slow=12,SNR=6.3						
AKTO	**Aktyubinsk**	**22.67**	**9**	P	**P**	**11 57 47.2**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=194,slow=17,SNR=2.9						
ZALV	**Zalesovo Beam**	**35.02**	**34**	P	**P**	**11 59 37.8**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=249,slow=11,SNR=2.9						
FINES	**FINESS Array B**	**37.64**	**340**	P	**P**	**12 00 00.6**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=156,slow=9.8,SNR=6.0						
TORD	**Torodi Ar. Bea**	**49.37**	**263**	P	**P**	**12 01 37.0**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=60,slow=7.9,SNR=8.0						
MAW	**Mawson**	**95.78**	**176**	LR	LR	12 41 37.8	
	comp=Z,38nm,21.8s,baz=66,slow=31						

MAN 12 11:55:50.7±1.91N×124.28E, h30km, mb4.0, ML2.7, MS2.4, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.68**	**182**	⇑*iP*	Pn	11 56 04.2	+0.5
CTBH				*i* S	Sn	11 56 14.5	+1.3
CGP	**Cagayan de Oro**	**0.69**	**37**	*eP*	Pn	11 56 04.0	+0.3
CGP				*i* S	Sn	11 56 14.7	+1.4
DCPH	**Dipolog City**	**1.14**	**306**	⇑*eP*	Pn	11 56 10.1	+0.2

*NEIC **12** 12:00:31.3±0.4, 30.20S×177.73W, h10km, mb4.9/8, Error ellipse: s-maj=13.1km s-min=8.9km az=118.0*
*ISCJB **12** 12:00:32.8±0.5, 30.66S±0.04×177.56W±0.09, h33km, mb4.5/22, MS3.6/9, Error ellipse: s-maj=11.0km s-min=4.1km az=18.7*
*IDC **12** 12:00:37.2±0.6, 30.10S×177.88W, h50km±5km, mb4.2/14, mb1 4.3/14, mb1mx4.3/19, mbtmp4.4/14, MS3.5/10, Ms1 3.5/10, ms1mx3.4/26, Error ellipse: s-maj=19.3km s-min=9.3km az=91.0*
ISC 12 12:00:35.2±0.5, 30.48S±0.07×177.7W±0.1, h33km, n98, σ1.81/85, mb4.5/22, MS3.7/9, 2C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.24**	**351**	P	Pn	12 00 52.0	-4.1
	910nm,0.3s,baz=81,slow=21,SNR=31						
RAO				S	Sn	12 01 05.5	-6.3
	5μm,0.3s,baz=72,slow=20,SNR=29						
WMGZ	**Waiomatatini S**	**7.99**	**203**	*ePN*	**Pn**	**12 02 28.8**	**-0.2**
HAZ	**Te Kaha**	**8.16**	**206**	*ePN*	**Pn**	**12 02 30.1**	**-1.2**
HAZ				*eSN*	**Sn**	**12 04 03.9**	**+1.6**
PUZ	**Puketiti**	**8.27**	**203**	*ePN*	**Pn**	**12 02 30.3**	**-2.6**
PUZ				*eSN*	**Sn**	**12 04 03.5**	**-1.7**
TWGZ	**Tauwhareparae**	**8.46**	**204**	*ePN*	**Pn**	**12 02 32.8**	**-2.7**
OUZ	**Omahuta**	**8.71**	**235**	*ePN*	Pn	12 02 46.5	+7.7
OUZ	**Omahuta**	**8.71**	**235**	*ePn*	**Pn**	**12 02 38.2**	**-0.6**
MWZ	**Matawai**	**8.77**	**205**	*ePN*	**Pn**	**12 02 36.9**	**-2.7**
MWZ				*eSN*	**Sn**	**12 04 18.1**	**+0.9**
URZ	**Urewera**	**8.86**	**207**	P	**Pn**	**12 02 40.1**	**-0.8**
	2.8nm,0.3s,baz=302,slow=4.9,SNR=16						
URZ				S	**Sn**	**12 04 19.5**	**0.0**
	16nm,0.3s,baz=207,slow=21,SNR=8.6						
URZ	**Urewera**	**8.86**	**207**	*ePN*	**Pn**	**12 02 38.2**	**-2.6**
URZ				*eSN*	**Sn**	**12 04 19.9**	**+0.4**
RIGZ	**Rimuhau**	**9.01**	**203**	*ePN*	**Pn**	**12 02 41.3**	**-1.7**
RIGZ				*eSN*	**Sn**	**12 04 23.1**	**-0.2**
SNGZ	**Shannon Statio**	**9.23**	**205**	*ePN*	**Pn**	**12 02 43.4**	**-2.6**
SNGZ				*eSN*	**Sn**	**12 04 28.6**	**0.0**
KNZ	**Kokohu**	**9.32**	**203**	*eSN*	**Sn**	**12 04 27.3**	**-3.6**
WHHZ	**Waihua**	**9.53**	**204**	*eSN*	**Sn**	**12 04 34.7**	**-1.2**
PXZ	**Pawanui**	**10.51**	**203**	*ePN*	Pn	12 02 59.6	-3.9
PXZ				*eSN*	Sn	12 04 52.5	-7.4
BFZ	**Birch Farm**	**11.30**	**204**	*ePN*	**Pn**	**12 03 11.8**	**-2.5**
BFZ				*eSN*	Sn	12 05 12.8	-6.5
MRZ	**Mangatainoka R**	**11.53**	**206**	*ePN*	Pn	12 03 11.7	-5.7
MRZ				*eSN*	Sn	12 05 18.0	-7.0
CTZ	**Chatham Island**	**13.26**	**177**	*eSN*	Sn	12 05 55.2	-12
THZ	**Tophouse**	**13.56**	**211**	*ePN*	**Pn**	**12 03 43.1**	**-2.2**
THZ				*eSN*	Sn	12 06 05.5	-9.3
OXZ	**Oxford**	**15.20**	**210**	*ePN*	Pn	12 04 02.1	-5.3
OXZ				*eSN*	Sn	12 06 40.7	-14
WVZ	**Waitaha Valley**	**15.59**	**213**	*ePN*	**Pn**	**12 04 09.8**	**-2.6**
RPZ	**Rata Peaks**	**15.94**	**211**	P	**Pn**	**12 04 16.8**	**-0.2**
	1.5nm,0.3s,baz=282,slow=2.1,SNR=10.0						
RPZ				S	Sn	12 06 58.1	-15
	0.4nm,0.3s,baz=63,slow=19,SNR=3.2						
RPZ	**Rata Peaks**	**15.94**	**211**	*ePn*	**Pn**	**12 04 18.1**	**+1.2**
RPZ				S	Sn	12 06 58.1	-15
DZM	**Mont Dzumac**	**16.48**	**297**	*ePn*	P	12 04 36.7	+10
	48nm,0.7s						
DZM				*eLR*	LR	12 08 19.5	
	743nm,24.6s						
JCZ	**Jackson Bay**	**17.29**	**215**	*ePN*	**Pn**	**12 04 32.2**	**-1.9**
RAR	**Rarotonga**	**18.57**	**64**	LR	LR	12 09 21.2	
	comp=Z,161nm,21.8s,baz=250,slow=28						
TBI	**Tubuai**	**26.12**	**81**	*eS*	S	12 10 46.2	+10
	82nm,26.5s						
TBI				*eLR*	LR	12 12 40.5	
	407nm,26.8s,baz=249						
TBI	**Tubuai**	**26.12**	**81**	*eT*	T	12 32 52.3	
	19nm,0.4s						
ARMA	**Armidale**	**26.40**	**262**	P	**P**	**12 06 12.3**	**+3.5**
	baz=27,SNR=9.5						
ARMA	**Armidale**	**26.40**	**262**	*eP*	**P**	**12 06 11.1**	**+2.3**
	30nm,1.4s						
CNB	**Canberra Magne**	**27.99**	**251**	P	P	12 06 26.5	+3.5
	baz=29,SNR=5.7						
EIDS	**Eidsvold**	**27.99**	**273**	P	**P**	**12 06 24.5**	**+1.5**
	baz=29,SNR=5.1						
EIDS	**Eidsvold**	**27.99**	**273**	*eP*	**P**	**12 06 22.4**	**-0.6**
	6.0nm,0.7s						
MILA	**Mila**	**28.22**	**248**	P	P	12 06 28.4	+3.3
	baz=29,SNR=9.5						
PAE	**Paea**	**28.59**	**70**	*eT*	T	12 35 45.8	
	5.7nm,0.3s						
PPT2	**Papeete2**	**28.63**	**70**	*eLR*	LR	12 13 44.8	
	374nm,26.2s,baz=232						
PPT	**Papeete**	**28.64**	**70**	LR	LR	12 16 32.1	
	comp=Z,47nm,19.6s,baz=224,slow=33						
RMQ	**Roma**	**29.68**	**269**	P	**P**	**12 06 40.7**	**+2.6**
	baz=30,SNR=15						
TOO	**Toolangi**	**31.16**	**247**	P	**P**	**12 06 53.6**	**+2.5**
	baz=32,SNR=9.7						
CMSA	**Cobar Meteorol**	**31.30**	**259**	P	**P**	**12 06 54.6**	**+2.3**
	baz=32,SNR=11						
VAH	**Vaihoa**	**31.47**	**68**	*eT*	T	12 39 19.4	
	13nm,0.2s						
QLP	**Quilpie**	**33.56**	**267**	P	**P**	**12 07 12.3**	**+0.2**
	baz=34,SNR=6.4						
CTAO	**Charters Tower**	**34.06**	**279**	*eP*	**P**	**12 07 17.4**	**+0.8**
	38nm,0.8s						
ARPS	**Mount Arapiles**	**34.08**	**248**	P	**P**	**12 07 18.6**	**+2.0**
	baz=35,SNR=6.0						
STKA	**Stephens Creek**	**34.70**	**257**	P	**P**	**12 07 23.4**	**+1.4**
	21nm,0.9s,baz=103,slow=11,SNR=36						
STKA				LR	LR	12 20 14.1	
	comp=Z,126nm,19.6s,baz=33,slow=34						
STKA	**Stephens Creek**	**34.70**	**257**	P	**P**	**12 07 23.9**	**+1.8**
	baz=36,SNR=20						
MTSU	**Mount Surprise**	**36.56**	**281**	P	**P**	**12 07 39.7**	**+1.6**
	baz=37,SNR=9.6						
HTT	**Hallett**	**36.72**	**254**	P	**P**	**12 07 41.1**	**+1.7**
	baz=38,SNR=16						
RKT	**Rikitea**	**38.66**	**90**	*eLR*	LR	12 18 44.4	
	235nm,25.0s						
RKT	**Rikitea**	**38.66**	**90**	*eT*	T	12 48 40.8	
	0.9nm,0.3s						
BBOO	**Buckleboo**	**39.19**	**254**	P	**P**	**12 08 01.2**	**+1.0**
	baz=40,SNR=15						
QIS	**Mount Isa**	**39.57**	**274**	P	**P**	**12 08 03.9**	**+0.4**
	baz=40,SNR=5.0						
ASAR	**Alice Springs**	**43.36**	**267**	P	**P**	**12 08 33.8**	**-0.8**
	5.1nm,0.5s,baz=104,slow=7.5,SNR=143						
WRAB	**Tennant Creek**	**44.35**	**272**	*eP*	**P**	**12 08 41.3**	**-1.2**
	22nm,0.8s						
WRA	**Warramunga Arr**	**44.35**	**272**	P	**P**	**12 08 41.5**	**-1.1**
	18nm,0.6s,baz=111,slow=7.9,SNR=176						
WRKA	**Warakurna**	**47.72**	**263**	P	**P**	**12 09 07.9**	**-1.2**
	baz=49,SNR=4.0						
SBA	**Scott Base**	**47.97**	**184**	*eP*	P	12 09 14.8	+4.5
	19nm,1.1s						
VNDA	**Vanda**	**48.04**	**186**	P	P	12 09 14.3	+3.6
	1.3nm,0.6s,baz=19,slow=6.9,SNR=3.2						
VNDA				LR	LR	12 27 39.5	
	comp=Z,26nm,18.4s,baz=350,slow=34						
QSPA	**South Pole Qui**	**59.63**	**180**	P	**P**	**12 10 38.7**	**+2.9**
	6.0nm,0.9s,baz=23,slow=1.5,SNR=15						
QSPA	**South Pole Qui**	**59.63**	**180**	*eP*	**P**	**12 10 38.1**	**+2.3**
	24nm,0.8s						
MAW	**Mawson**	**72.32**	**201**	P	P	12 11 57.8	+0.8
	5.3nm,0.8s,baz=126,slow=8.1,SNR=7.3						
MAW	**Mawson**	**72.32**	**201**	P	**P**	**12 11 59.0**	**+1.9**
	baz=73,SNR=4.8						
SYO	**Syowa Base**	**77.09**	**193**	⇑*eP*	P	12 12 20.1	-4.6
SYO	**Syowa Base**	**77.09**	**193**	⇑*eP*	**P**	**12 12 24.6**	**-0.1**
MJAR	**Matsushiro Arr**	**78.45**	**325**	P	P	12 12 29.8	-2.9
	1.9nm,0.8s,baz=164,slow=6.6,SNR=5.9						
MJAR				LR	LR	12 42 01.5	
	comp=Z,15nm,21.9s,baz=105,slow=32						
VNA1	**Neumayer--Stat**	**78.87**	**176**	P	**P**	**12 12 36.1**	**+1.5**
KSRS	**Korea Array**	**84.57**	**319**	P	P	12 13 01.9	-3.0
	1.2nm,0.7s,baz=130,slow=6.3,SNR=3.8						
KSRS				LR	LR	12 49 55.7	
	comp=Z,29nm,19.0s,baz=156,slow=35						
KSAR	**Wonju Array Be**	**84.59**	**319**	P	P	12 13 01.9	-3.1
PETK	**Petropavlovsk-**	**85.95**	**345**	P	P	12 13 08.7	-2.8
	8.7nm,0.8s,baz=121,slow=7.6,SNR=6.8						
GSC	**Goldstone**	**86.96**	**46**	*eP*	**P**	**12 13 17.1**	**+0.1**
	1.9nm,0.8s						
YBH	**Yreka Blue Hor**	**87.94**	**38**	LR	LR	12 43 40.1	
	comp=Z,25nm,20.8s,baz=232,slow=29						
NVAR	**Mina Array Bea**	**88.13**	**43**	P	**P**	**12 13 22.7**	**0.0**
	1.4nm,0.7s,baz=222,slow=8.7,SNR=16						
NVAR				pP	**pP**	**12 13 37.4**	**+4.1**
	2.2nm,0.9s,baz=225,slow=8.0,SNR=8.7						
TPH	**Tonopah**	**88.53**	**43**	*eP*	**P**	**12 13 24.5**	**-0.2**
	1.2nm,0.8s						
TXAR	**Lajitas Array**	**92.22**	**57**	P	**P**	**12 13 41.8**	**-0.1**
	0.6nm,1.0s,baz=214,slow=7.2,SNR=4.3						
TXAR				pP	**pP**	**12 13 56.6**	**+4.1**
	0.5nm,0.9s,baz=238,slow=8.4,SNR=4.2						
TXAR				LR	LR	12 50 48.2	
	comp=Z,29nm,18.4s,baz=0.0,slow=33						
PDAR	**Pinedale Array**	**96.02**	**43**	P	**P**	**12 13 58.5**	**-0.7**
	0.3nm,0.8s,baz=261,slow=6.0,SNR=2.9						
PDAR				LR	LR	12 56 20.1	
	comp=Z,28nm,18.0s,baz=256,slow=35						
SEY	**Seymchan**	**96.11**	**347**	P	**P**	**12 13 57.2**	**-1.6**
	1.5nm,0.7s,baz=160,slow=4.4,SNR=8.1						
LPAZ	**La Paz**	**97.88**	**114**	P	**P**	**12 14 07.6**	**-1.2**
	0.6nm,0.4s,baz=276,slow=10.0,SNR=5.2						
LPAZ				LR	LR	12 48 21.7	
	comp=Z,60nm,20.2s,baz=346,slow=29						
ILAR	**Eielson Array**	**97.95**	**13**	P	**P**	**12 14 04.9**	**-2.2**
	0.1nm,0.6s,baz=248,slow=4.8,SNR=3.4						
MKAR	**Makanchi Array**	**118.02**	**310**	PKP	**PKPdf**	**12 19 16.5**	**-1.8**
	1.0nm,0.6s,baz=148,slow=1.6,SNR=10						
ZALV	**Zalesovo Beam**	**118.26**	**318**	PKP	**PKPdf**	**12 19 17.0**	**-1.5**
	0.3nm,0.3s,baz=52,slow=2.4,SNR=2.7						
KURK	**Kurchatov**	**121.29**	**314**	*ePKPdf*	**PKPdf**	**12 19 22.5**	**-1.9**
KKAR	**Karatay Array**	**125.33**	**304**	*ePKPdf*	**PKPdf**	**12 19 31.2**	**-1.2**
ABKAR	**Akbulak array**	**133.15**	**311**	*ePKPdf*	**PKPdf**	**12 19 46.3**	**-0.8**
GEYT	**Alibeck**	**133.82**	**295**	PKP	**PKPdf**	**12 19 48.3**	**-0.4**
	2.2nm,0.4s,baz=191,slow=4.4,SNR=2.7						
AKTO	**Aktyubinsk**	**134.34**	**312**	PKP	**PKPdf**	**12 19 48.7**	**-0.6**
	0.0nm,0.3s,baz=18,slow=1.2,SNR=1.5						
ARCES	**ARCESS Array B**	**138.72**	**348**	PKhKP	PKPpre	12 19 50.1	
	2.4nm,0.9s,baz=357,slow=14,SNR=3.4						
ARCES				PKP	**PKPdf**	**12 19 55.4**	**-1.4**
	1.9nm,0.6s,baz=42,slow=2.0,SNR=9.5						
FINES	**FINESS Array B**	**145.31**	**340**	PKP	**PKPbc**	**12 20 06.8**	**-1.8**
	32nm,0.7s,baz=83,slow=3.1,SNR=121						
FINES				pPKP	**pPKPdf**	**12 20 21.3**	**+1.6**
	9.8nm,0.6s,baz=86,slow=5.9,SNR=6.0						
KBZ	**Khabaz**	**145.37**	**304**	PKPbc	**PKPdf**	**12 20 08.4**	**-1.0**
	2.1nm,0.7s,baz=50,slow=1.0,SNR=3.3						
KBZ				pPKP	**pPKPdf**	**12 20 22.8**	**+2.5**
	1.9nm,0.7s,baz=108,slow=6.4,SNR=2.3						
OBN	**Obninsk**	**145.38**	**325**	PKP	**PKPdf**	**12 20 07.8**	**-1.3**
	18nm,0.4s,baz=229,slow=23,SNR=6.1						
NB2	**NORSAR Subarra**	**148.87**	**352**	PKP	**PKPdf**	**12 20 17.2**	**+2.4**
	comp=Z,10nm,1.0s,baz=12,slow=2.6						
NOA	**NORSAR Array B**	**148.87**	**352**	PKPbc	**PKPdf**	**12 20 17.4**	**+2.6**
	comp=Z,3.5nm,0.6s,baz=14,slow=4.3,SNR=11						
NOA				pPKPbc	**pPKPbc**	**12 20 31.9**	**+2.4**
	comp=Z,3.6nm,0.8s,baz=14,slow=4.3,SNR=4.6						
AKASG	**Malin Array Be**	**151.52**	**323**	PKPbc	**PKPbc**	**12 20 24.0**	**-1.4**
	comp=Z,11nm,0.7s,baz=49,slow=2.7,SNR=24						
KIEV	**Kiev**	**151.53**	**323**	*ePKPdf*	**PKPdf**	**12 20 18.4**	**-0.8**
KIEV				*ePKPbc*	**PKPbc**	**12 20 24.1**	**-1.4**
BRTR	**Keskin Array B**	**152.86**	**298**	PKPbc	**PKPbc**	**12 20 27.9**	**-1.2**
	comp=Z,2.3nm,0.6s,baz=138,slow=4.5,SNR=12						
CLL	**Collm**	**157.72**	**342**	*i* PKPab	**PKPab**	**12 20 58.7**	**-1.6**
	comp=Z,8.0nm,1.0s						
BRG	**Berggiesshubel**	**157.85**	**340**	*eP*	**PKPab**	**12 20 59.3**	**-1.6**
	comp=Z,4.8nm,0.7s						
GERES	**GERESS Array B**	**159.71**	**338**	PKPab	**PKPab**	**12 21 07.5**	**-1.6**
	comp=Z,0.7nm,0.7s,baz=46,slow=7.6,SNR=5.7						
TORD	**Torodi Ar. Bea**	**162.74**	**178**	PKPab	**PKPab**	**12 21 24.0**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=174,slow=4.0,SNR=7.8						

MEX 12 12:02:46.8±0.4, 17.06N×95.53W, h102km±6km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.61**	**87**	*iP*	Pn	12 03 02.5	-1.1
CMIG				*eS*	Sn	12 03 14.5	-1.8
VHO	**Vista Hermosa**	**1.16**	**271**	*eP*	Pn	12 03 08.4	-0.9
VHO				*eS*	Sn	12 03 24.6	-1.8
HUIG	**Huatulco**	**1.40**	**204**	*eP*	Pn	12 03 10.6	-1.4
HUIG				*eS*	Sn	12 03 29.5	-1.5

*NNC **12** 12:06:44.0±4.3, 49.98N×73.00E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=49.2km s-min=12.2km az=25.0*
*IDC **12** 12:06:50.2±1.2, 50.93N×73.81E, h0km, mb3.2/1, mb1 3.1/5, mb1mx3.0/38, mbtmp2.9/5, ML2.3/4, Error ellipse: s-maj=28.4km s-min=8.5km az=34.0*
ISC 12 12:06:50.3±1.7, 50.9N±0.2×73.8E±0.1, h10km, n9, σ1.66/12, 3C-5D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BVA0	**Borovoye Array**	**2.99**	**316**	⇑Pn	**Pb**	**12 07 41.1**	**-2.6**
	4.7nm,0.6s,baz=132,slow=16,SNR=4.7						
BVA0				⇑Sn	**Sb**	**12 08 21.4**	**+1.2**
	21nm,0.6s,baz=125,slow=28,SNR=16						
BVAR	**Borovoye Array**	**2.99**	**316**	Pn	**Pn**	**12 07 39.5**	**+1.7**
	1.6nm,0.3s,baz=134,slow=20,SNR=13						
BVAR				Lg	Lg	12 08 22.3	
	2.9nm,0.3s,baz=132,slow=30,SNR=12						
KURBB	**Kurchatov Arra**	**3.02**	**94**	⇓Pn	**Pn**	**12 07 39.6**	**+1.5**
	11nm,0.5s						
KURBB				⇓Sn	**Sg**	**12 08 26.1**	**-1.0**
	73nm,0.7s						
KURBB	**Kurchatov Arra**	**3.02**	**94**	Pn	**Pn**	**12 07 39.6**	**+1.5**
	0.2nm,0.3s,baz=279,slow=14,SNR=62						
KURBB				Lg	Lg	12 08 24.2	
	0.4nm,0.3s,baz=277,slow=30,SNR=9.7						
KURK	**Kurchatov**	**3.06**	**92**	⇑Pn	**Pn**	**12 07 39.9**	**+1.2**
	3.3nm,0.6s						
KURK				⇓Sn	**Sg**	**12 08 27.7**	**-0.9**
	16nm,0.7s						
MK31	**Makanchi Array**	**6.95**	**123**	⇓Pg	Pb	12 08 54.4	+3.3
	0.7nm,0.6s,baz=293,slow=14,SNR=4.1						
MK31				⇓Lg	Lg	12 10 30.6	
	4.4nm,0.7s,baz=309,slow=24,SNR=7.0						
MKAR	**Makanchi Array**	**6.95**	**123**	Pn	**Pn**	**12 08 31.2**	**-1.0**
	0.1nm,0.3s,baz=310,slow=14,SNR=2.8						
MKAR				Sn	**Sn**	**12 09 52.7**	**+1.4**
	0.1nm,0.3s,baz=328,slow=27,SNR=3.0						
MKAR				Lg	Lg	12 10 30.8	
	0.5nm,0.3s,baz=310,slow=26,SNR=10						

CFAA	Coronel Fontan	14.46	173	eP		Pn	12 48 05.7	-3.3	
RTLS	Leoncito	14.56	177	eP		Pn	12 48 08.7	-1.8	
RTCV	Cerro Valdivia	14.68	174	eP		Pn	12 48 08.9	-2.9	
CPUP	Villa Florida	15.05	129	P		Pn	12 48 11.8	-4.6	
	comp=Z,0.1nm,0.3s,baz=320,slow=15,SNR=3.1								
ACAN	Cantantal	15.26	170	eP		Pn	12 48 16.4	-2.6	
OTAV	Otavalo	19.11	334	eP		P	12 49 04.5	+0.5	
	comp=Z,37nm,0.6s								
PTGA	Pitinga	19.26	33	P		P	12 49 03.4	-1.6	
	comp=Z,19nm,0.3s,baz=213,slow=13,SNR=154								
BDFB	Brasilia	21.40	89	P		P	12 49 27.4	-0.9	
	comp=Z,18nm,0.5s,baz=253,slow=13,SNR=19								
ROSC	El Rosal	22.28	349	P		P	12 49 37.6	-0.1	
	comp=Z,7.1nm,0.4s,baz=271,slow=24,SNR=3.8								
ROSC				LR		LR	13 00 05.6		
	comp=Z,54nm,21.8s,baz=183,slow=41								
PCRV	Puerto La Cruz	27.77	12	P		P	12 50 26.0	-1.3	
	comp=Z,14nm,0.4s,baz=287,slow=1.4,SNR=14								
GRGR	Grenville	30.37	17	eP		P	12 50 48.7	-1.6	
CRPR	Cabo Rojo, PR	35.13	5	eP		P	12 51 28.9	-2.7	
	comp=Z,34nm,0.5s								
OBIP	Obispado Ponce	35.21	6	eP		P	12 51 29.7	-2.7	
	comp=Z,59nm,0.5s								
CELP	Cerrillos	35.24	6	eP		P	12 51 30.0	-2.7	
LSP	Las Mesas	35.30	5	eP		P	12 51 30.6	-2.5	
SJG	San Juan	35.33	7	P		P	12 51 30.6	-2.8	
	comp=Z,34nm,0.5s								
RCBR	Riachuelo	35.45	76	eP		P	12 51 34.6	-0.1	
	comp=Z,26nm,0.7s								
ANWB	Willy Bob	35.65	14	eP		P	12 51 31.6	-4.5	
	comp=Z,118nm,0.6s								
STVI	Saint Thomas	35.72	9	eP		P	12 51 34.7	-2.0	
	comp=Z,46nm,0.4s								
SMRT	St. Maarten	35.74	12	eP		P	12 51 33.2	-3.8	
	comp=Z,239nm,0.4s								
USHA	Ushuaia	37.58	178	P		P	12 51 53.9	+1.7	
	comp=Z,16nm,0.7s,baz=347,slow=7.8,SNR=8.0								
TEIG	Tepich	41.19	334	eP		P	12 52 22.1	-0.3	
CMIG	Matias Romero	41.83	323	P		P	12 52 29.4	+1.6	
	comp=Z,3.0nm,0.6s,baz=79,slow=6.8,SNR=5.6								
TIGA	Tifton	50.03	345	P		P	12 53 31.0	-0.8	
NHSC	New Hope	50.92	349	eP		P	12 53 38.1	-0.3	
	comp=Z,49nm,1.0s								
GOGA	Godfrey	51.88	346	eP		P	12 53 44.4	-1.3	
	comp=Z,12nm,1.1s								
034A	Hebbronville	51.93	327	P		P	12 53 46.9	+0.7	
	baz=52								
LRAL	Lakeview Retre	52.45	342	eP		P	12 53 48.6	-1.3	
	comp=Z,12nm,0.8s								
835A	Beeville	52.51	329	P		P	12 53 52.4	+2.0	
	baz=53								
CNNC	Cliffs of the	52.65	352	P		P	12 53 51.5	+0.2	
	comp=Z,173nm,0.3s								
736A	Circle Diamond	52.69	330	P		P	12 53 54.0	+2.3	
	baz=53								
834A	Tilden	52.73	328	P		P	12 53 54.3	+2.3	
	baz=53								
KMSC	Kings Mountain	53.11	349	P		P	12 53 52.4	-2.3	
	baz=53								
KMSC	Kings Mountain	53.11	349	eP		P	12 53 53.7	-1.0	
	comp=Z,9.9nm,0.8s								
636A	Smothers Creek	53.13	331	P		P	12 53 57.3	+2.4	
	baz=53								
439A	Center Grove,	53.22	334	P		P	12 53 57.1	+1.5	
	baz=53								
833A	Chaparral WMA,	53.32	328	P		P	12 53 57.5	+1.1	
	baz=54								
733A	Divot King Ran	53.59	328	P		P	12 53 59.5	+1.1	
	baz=54								
536A	Bastrop	53.63	331	P		P	12 53 59.5	+0.9	
	baz=54								
732A	Laxson Ranch,	53.94	327	P		P	12 54 02.0	+1.1	
	baz=54								
NATX	Nacogdoches	54.02	334	P		P	12 54 01.7	+0.3	
	baz=54								
CPCT	Cooper Cave	54.08	346	eP		P	12 53 60.0	-1.9	
436A	Wall Ranch, Ga	54.10	332	P		P	12 54 03.0	+1.0	
	baz=54								
633A	Saathoff Ranch	54.13	329	P		P	12 54 02.7	+0.4	
	baz=54,SNR=13								
SWET	Sewanee	54.21	344	eP		P	12 54 01.2	-1.6	
	comp=Z,18nm,0.7s								
534A	Blanco	54.26	330	P		P	12 54 04.1	+0.9	
	baz=54								
435B	Jarrell	54.47	331	P		P	12 54 05.0	+0.3	
	baz=55								
632A	Uvalde	54.48	328	P		P	12 54 05.2	+0.4	
	baz=55,SNR=9.2								
533A	Kerrville	54.57	329	P		P	12 54 06.2	+0.7	
	baz=55								
139A	Bunkhouse Ranc	54.71	335	P		P	12 54 04.9	-1.4	
	baz=55								
631A	Perdido Creek	54.81	327	P		P	12 54 07.6	+0.4	
	baz=55								
335A	Moody	54.81	331	P		P	12 54 07.6	+0.4	
	baz=55								
434A	Burnet	54.81	330	P		P	12 54 07.7	+0.5	
	baz=55								
138A	Matatall Enter	54.98	334	P		P	12 54 08.0	-0.4	
	baz=55								
236A	Katherine and	55.02	333	P		P	12 54 08.7	0.0	
	baz=55								
532A	Rocksprings	55.04	328	P		P	12 54 09.6	+0.6	
	baz=55,SNR=8.8								
433A	Art	55.16	330	P		P	12 54 10.3	+0.5	
	baz=55,SNR=19								
137A	Heron Place, G	55.20	334	P		P	12 54 09.3	-0.6	
	baz=55								
334A	Lometa	55.23	331	P		P	12 54 10.3	+0.1	
	baz=55,SNR=7.2								
JCT	Junction City	55.28	329	P		P	12 54 10.8	+0.2	
	baz=56								
JCT	Junction City	55.28	329	eP		P	12 54 13.2	+2.6	
	comp=Z,12nm,0.6s								
531A	Rocksprings	55.40	328	P		P	12 54 11.9	+0.4	
	baz=56,SNR=9.1								
WHTX	Lake Whitney	55.43	332	P		P	12 54 11.1	-0.5	
	baz=56								
WHTX	Lake Whitney	55.43	332	eP		P	12 54 14.3	+2.7	
	comp=Z,24nm,0.9s								
136A	Ennis	55.43	333	P		P	12 54 10.7	-0.9	
	baz=56								
Z38A	Mt. Pleasant	55.45	335	P		P	12 54 10.7	-1.0	
	baz=56								
333A	Richland Sprin	55.58	330	P		P	12 54 12.9	+0.2	
	baz=56,SNR=7.4								
WVT	Waverly	55.59	343	eP		P	12 54 10.6	-2.1	
	comp=Z,29nm,0.5s								
432A	Menard	55.60	329	P		P	12 54 13.3	+0.4	
	baz=56,SNR=14								
Y39A	Lockesburg	55.70	336	P		P	12 54 12.7	-0.8	
	baz=56								
234A	Clairette	55.75	331	P		P	12 54 14.6	+0.7	
	baz=56,SNR=9.6								
530A	J-C Ranch, Com	55.79	327	P		P	12 54 14.8	+0.5	
	baz=56,SNR=10								
431A	Sonora	55.85	328	P		P	12 54 15.2	+0.5	
	baz=56,SNR=12								
135A	Vickery Place,	55.89	332	P		P	12 54 14.0	-0.9	
	baz=56								
332A	Millersview	55.99	329	P		P	12 54 16.2	+0.6	
	baz=56,SNR=42								
MIAR	Mount Ida	56.04	337	P		P	12 54 15.1	-0.8	
	baz=56,SNR=9.4								
MIAR	Mount Ida	56.04	337	eP		P	12 54 15.5	-0.4	
Z36A	Blue Ridge	56.07	334	P		P	12 54 15.5	-0.7	
	baz=56								
233A	Rising Star	56.11	331	P		P	12 54 16.7	+0.2	
	baz=56,SNR=6.6								
134A	White-Moore Ra	56.20	332	P		P	12 54 17.4	+0.3	
	baz=56								
529A	Stev Forest Ra	56.23	327	P		P	12 54 17.2	-0.2	
	baz=56,SNR=5.1								
430A	Baggett Ranch,	56.25	328	P		P	12 54 17.8	+0.3	
	baz=56,SNR=7.7								
331A	San Angelo	56.27	329	P		P	12 54 18.1	+0.4	
	baz=56,SNR=5.6								
232A	Coleman	56.36	330	P		P	12 54 19.8	+1.6	
	baz=57,SNR=35								
TXAR	Lajitas Array	56.39	325	P		P	12 54 18.3	-0.3	
	comp=Z,1.7nm,0.5s,baz=154,slow=9.0,SNR=32								
TXAR				PcP		PcP	12 55 15.0	+0.7	
	comp=Z,0.6nm,0.5s,baz=99,slow=5.7,SNR=2.6								
Z35A	Perchaven, San	56.47	333	P		P	12 54 19.0	-0.1	
	baz=57								
Y36A	Durant	56.55	334	P		P	12 54 19.1	-0.4	
	baz=57								
133A	Hamilton Ranch	56.61	331	P		P	12 54 19.6	-0.4	
	baz=57,SNR=5.4								
X38A	Whitesboro	56.63	336	P		P	12 54 20.1	0.0	
	baz=57,SNR=16								
330A	Mertzon	56.72	328	P		P	12 54 21.2	+0.3	
	baz=57								
231A	Bronte	56.72	329	P		P	12 54 21.1	+0.2	
	baz=57								
X37A	Clayton	56.77	335	P		P	12 54 21.1	0.0	
	baz=57,SNR=9.8								
Z34A	Collier Ranch,	56.80	332	P		P	12 54 21.5	+0.1	
	baz=57								
W38A	Poteau	56.86	336	P		P	12 54 21.6	-0.1	
	baz=57,SNR=5.7								
Y35A	Marietta	56.87	333	P		P	12 54 21.7	-0.1	
	baz=57								
ABTX	Abilene, Hawle	56.97	330	P		P	12 54 22.1	-0.4	
	baz=57,SNR=6.0								
ABTX	Abilene, Hawle	56.97	330	eP		P	12 54 23.1	+0.6	
	comp=Z,21nm,0.9s								
PBMO	Poplar Bluff	56.97	341	eP		P	12 54 21.2	-1.2	
	comp=Z,37nm,0.6s								
Z33A	Whitaker Ranch	57.11	332	P		P	12 54 23.6	+0.1	
	baz=57,SNR=12								
X36A	Centrahoma	57.16	334	P		P	12 54 23.2	-0.6	
	baz=57								
329A	Wagon Wheel Ra	57.19	328	P		P	12 54 24.6	+0.4	
	baz=57								
Y34A	Reagan Ranch,	57.23	333	P		P	12 54 24.7	+0.4	
	baz=57,SNR=5.8								
X35A	Drake	57.27	334	P		P	12 54 24.9	+0.3	
	baz=58,SNR=5.8								
W37A	Quinton	57.27	336	P		P	12 54 24.8	+0.1	
	baz=58,SNR=7.8								
131A	Roby	57.36	330	P		P	12 54 26.5	+1.2	
	baz=58,SNR=7.0								
Z32A	Haskell	57.45	331	P		P	12 54 26.1	+0.1	
	baz=58								
SIUC	Southern Illin	57.46	342	eP		P	12 54 25.0	-0.9	
	comp=Z,155nm,0.6s								
229A	Bryant Ranch,	57.49	328	P		P	12 54 27.1	+0.8	
	baz=58								
V38A	Canehill	57.52	337	P		P	12 54 25.2	-1.1	
	baz=58,SNR=9.5								
W36A	Wetumka	57.60	335	P		P	12 54 26.7	-0.2	
	baz=58,SNR=7.4								
Y33A	Hilltop Ranch,	57.65	332	P		P	12 54 27.2	-0.1	
	baz=58,SNR=6.1								
Z31A	Sharp Cattle R	57.77	330	P		P	12 54 29.1	+0.9	
	baz=58,SNR=18								
X34A	Smith Ranch, M	57.81	333	P		P	12 54 28.2	-0.1	
	baz=58								
V37A	Hulbert	57.81	336	P		P	12 54 27.8	-0.6	
	baz=58,SNR=9.3								
W35A	Tecumseh	57.87	334	P		P	12 54 28.2	-0.6	
	baz=58								
228A	UT Block 9, Go	58.01	328	P		P	12 54 30.6	+0.7	
	baz=58								
Y32A	R-V Farms, Ver	58.02	331	P		P	12 54 30.3	+0.4	
	baz=58,SNR=6.5								
U38A	Gravette	58.02	337	P		P	12 54 28.8	-1.0	
	baz=58								
V36A	Jenks	58.04	335	P		P	12 54 29.0	-1.0	
	baz=58,SNR=6.2								
X33A	Lawton	58.05	333	P		P	12 54 30.6	+0.6	
	baz=58								
129A	Stewart Farms,	58.05	329	P		P	12 54 30.4	+0.2	
	baz=58,SNR=7.0								
TUL1	Tulsa	58.09	336	P		P	12 54 29.9	-0.4	
	baz=58								
TUL1	Tulsa	58.09	336	eP		P	12 54 30.3	0.0	
	comp=Z,11nm,0.9s								
OLIL	Olney	58.10	344	P		P	12 54 28.5	-1.7	
Z30A	Sanderson Ranc	58.22	330	P		P	12 54 31.9	+0.6	
	baz=58,SNR=15								
X32A	Elmer	58.30	332	P		P	12 54 32.1	+0.3	
	baz=58								
W34A	Bridge Creek,	58.32	334	P		P	12 54 32.2	+0.2	
	baz=58								
WMOK	Wichita Mounta	58.34	332	eP		P	12 54 32.1	+0.1	
	comp=Z,6.6nm,0.5s								
128A	Castleberry Fa	58.35	328	P		P	12 54 33.5	+1.2	
	baz=58,SNR=9.4								
ACSO	Alum Creek Sta	58.35	349	eP		P	12 54 30.4	-1.7	
	comp=Z,16nm,1.0s								
Y31A	Rekieta Farm,	58.36	331	P		P	12 54 33.0	+0.8	
	baz=59,SNR=11								
V35A	Meyer Ranch, C	58.38	335	P		P	12 54 31.9	-0.5	
	baz=59								
Z29A	Hungry Hill Ra	58.48	329	P		P	12 54 33.6	+0.4	
	baz=59,SNR=5.0								
W33A	Caddo, Fort Co	58.55	333	P		P	12 54 34.3	+0.8	
	baz=59,SNR=7.8								
Y30A	Stafford Cattl	58.59	330	P		P	12 54 34.3	+0.4	
	baz=59								
V34A	Guthrie	58.73	334	P		P	12 54 34.7	-0.1	
	baz=59,SNR=9.8								
V34A	Guthrie	58.73	334	eP		P	12 54 34.2	-0.5	
	comp=Z,30nm,0.4s								
X31A	McDonald Ranch	58.78	331	P		P	12 54 35.1	-0.1	
	baz=59,SNR=12								
T37A	Cheneyville 18	58.82	337	P		P	12 54 35.3	-0.1	
	baz=59,SNR=15								
Z28A	Tucker Farm, M	58.84	329	P		P	12 54 35.8	+0.2	
	baz=59								
W32A	Sentinel	58.87	332	P		P	12 54 36.0	+0.3	
	baz=59,SNR=34								
U35A	Pawnee	58.87	335	P		P	12 54 34.1	-1.6	
	baz=59								
Y29A	Porterfield Fa	58.95	330	P		P	12 54 36.4	-0.1	
	baz=59								
V33A	Lossen Ranch,	59.04	334	P		P	12 54 37.1	+0.2	
	baz=59								
X30A	Coker Ranch, T	59.05	331	P		P	12 54 37.9	+0.9	
	baz=59,SNR=8.7								
T36A	Boggs Farm, Ca	59.13	336	P		P	12 54 36.8	-0.7	
	baz=59,SNR=7.4								
W31A	Holland Ranch,	59.23	332	P		P	12 54 37.9	-0.4	
	baz=59								
T35A	Sooner Cattle	59.25	336	P		P	12 54 37.2	-1.2	
	baz=59								
Y28A	McKinney Farm,	59.27	329	P		P	12 54 38.4	-0.2	
	baz=60								
V32A	Arapaho	59.28	333	P		P	12 54 38.6	0.0	
	baz=60								
S37A	Fort Scott	59.35	337	P		P	12 54 38.2	-0.8	
	baz=60,SNR=6.4								
SFIN	Scholer Farm	59.39	345	P		P	12 54 36.4	-2.8	
	baz=60,SNR=9.0								
SFIN	Scholer Farm	59.39	345	eP		P	12 54 36.5	-2.7	
	comp=Z,26nm,0.5s								
X29A	Tulia	59.44	330	P		P	12 54 41.0	+1.2	
	baz=60,SNR=6.2								
MSTX	Muleshoe	59.58	329	P		P	12 54 41.2	+0.4	
	baz=60,SNR=5.9								
MSTX	Muleshoe	59.58	329	eP		P	12 54 41.6	+0.8	
	comp=Z,23nm,1.1s								
MSTX				epP		PcP	12 55 26.3	-0.5	
S36A	Lake Cedric, C	59.60	337	P		P	12 54 39.8	-0.9	
	baz=60								
T34A	McClaskey Farm	59.61	335	P		P	12 54 40.9	0.0	
	baz=60								
V31A	Spring Creek L	59.67	332	P		P	12 54 41.3	0.0	
	baz=60								
X28A	Dimmitt	59.73	330	P		P	12 54 43.4	+1.6	
	baz=60,SNR=6.2								
AMTX	Amarillo	59.78	330	P		P	12 54 42.8	+0.7	
	baz=60								
AMTX	Amarillo	59.78	330	eP		P	12 54 43.5	+1.4	
U32A	Winter Ranch,	59.82	333	P		P	12 54 42.6	+0.4	
	baz=60								
R37A	Teagarden Farm	59.84	338	P		P	12 54 41.0	-1.4	
	baz=60								
S35A	Otter Creek Ra	59.84	336	P		P	12 54 42.2	-0.2	
	baz=60,SNR=12								
W29A	Amraillo	59.96	330	P		P	12 54 43.1	-0.2	
	baz=60								
V30A	Spur Ranch, Mi	60.05	332	P		P	12 54 44.2	+0.3	
	baz=60								
R36A	Gordon, Harris	60.10	337	P		P	12 54 42.6	-1.5	
	baz=60,SNR=6.9								
HDIL	Hopedale	60.13	343	P		P	12 54 42.3	-1.9	
	baz=60,SNR=6.0								
HDIL	Hopedale	60.13	343	eP		P	12 54 42.5	-1.8	
	comp=Z,504nm,0.6s								
S34A	Willow Spring	60.17	336	P		P	12 54 44.0	-0.6	
	baz=60								
W28A	Vega	60.34	330	P		P	12 54 46.1	+0.2	
	baz=60								
R35A	Emporia Munici	60.36	337	P		P	12 54 45.4	-0.5	
	baz=61								
S33A	Kaszmaul Farm,	60.43	335	P		P	12 54 46.4	0.0	
	baz=61								
T32A	Huddler Ranch,	60.46	334	P		P	12 54 48.3	+1.7	
	baz=61,SNR=5.1								
V29A	Stinnett	60.52	331	P		P	12 54 46.9	-0.2	
	baz=61								
R34A	Isabella, Hill	60.74	336	P		P	12 54 48.1	-0.4	
	baz=61,SNR=7.7								
V28A	Channing	60.75	330	P		P	12 54 48.7	-0.1	
	baz=61								
Q35A	Mercer Eighty,	60.77	337	P		P	12 54 47.9	-0.8	
	baz=61								
S32A	Newby Ranch, P	60.91	334	P		P	12 54 49.5	-0.2	
	baz=61								
P36A	Good Intent, A	61.14	338	P		P	12 54 50.0	-1.1	
	baz=61								
Q34A	Chapman	61.16	336	P		P	12 54 50.9	-0.4	
	baz=61								
KSU1	Kansas State U	61.19	337	P		P	12 54 50.7	-0.8	
	baz=61								
U28A	Mallet	61.26	331	P		P	12 54 51.7	-0.4	
	baz=62								
P35A	Duane Minner,	61.35	337	P		P	12 54 51.1	-1.5	
	baz=62								
T29A	Hugoton	61.47	332	P		P	12 54 53.5	0.0	
	baz=62								
Q33A	Connelly Farm,	61.58	336	P		P	12 54 54.2	+0.1	
	baz=62								
U27A	Thompson Grove	61.58	330	P		P	12 54 55.5	+1.2	
	baz=62,SNR=5.6								
P34A	Walnut Farm, R	61.66	337	P		P	12 54 54.3	-0.4	
	baz=62,SNR=8.2								
S29A	Ulysses	61.78	332	P		P	12 54 56.1	+0.6	
	baz=62								
LPM	Los Pinos Moun	61.83	326	eP		P	12 54 56.4	+0.3	
	comp=Z,4.5nm,0.6s								
Q32A	Meitler Ranch,	61.86	335	P		P	12 54 55.6	-0.4	
	baz=62,SNR=6.6								
P33A	Williams Farm,	61.90	336	P		P	12 54 56.0	-0.3	
	baz=62								
O35A	Humboldt	61.96	338	P		P	12 54 56.0	-0.6	
	baz=62								
T27A	Campo	62.05	331	P		P	12 54 58.3	+0.8	
	baz=62,SNR=8.8								
S28A	Manter	62.10	332	P		P	12 54 58.0	+0.3	
	baz=62								
LAZ	Ladron	62.17	326	eP		P	12 54 59.0	+0.6	
	comp=Z,1.0nm,0.4s								
O34A	Beatrice	62.17	337	P		P	12 54 57.3	-0.8	
	baz=62								
CBKS	Cedar Bluff	62.19	334	P		P	12 54 58.4	+0.1	
	baz=62								
CBKS	Cedar Bluff	62.19	334	eP		P	12 54 58.3	+0.1	
	comp=Z,14nm,1.0s								
ANMO	Albuquerque	62.22	327	eP		P	12 54 60.0	+1.2	
N35A	Tabor	62.39	338	P		P	12 54 58.6	-0.9	
	baz=63								
O33A	Hebron	62.41	337	P		P	12 54 59.6	-0.1	
	baz=63,SNR=5.5								
P32A	Huiting Farm,	62.41	336	P		P	12 54 59.6	-0.1	
	baz=63								
R29A	Marienthal	62.45	333	P		P	12 55 00.4	+0.3	
	baz=63								
Q30A	Quinter	62.53	334	P		P	12 55 01.2	+0.7	
	baz=63,SNR=7.0								
T26A	Comanche Natio	62.55	330	P		P	12 55 02.1	+1.3	
	baz=63,SNR=11								
JFWS	Jewell Farm	62.58	344	eP		P	12 54 59.6	-1.1	
	comp=Z,51nm,0.5s								
P31A	Stockton	62.64	335	P		P	12 55 01.1	-0.1	
	baz=63								
N34A	Lincoln	62.68	338	P		P	12 55 01.1	-0.3	
	baz=63								
R28A	Tribune	62.68	332	P		P	12 55 02.3	+0.7	
	baz=63								
Q29A	Oakley	62.77	333	P		P	12 55 02.1	-0.1	
	baz=63								
O32A	Brockman Farm,	62.84	336	P		P	12 55 02.6	+0.1	
	baz=63								
S26A	Kim	62.85	331	P		P	12 55 03.5	+0.7	
	baz=63,SNR=25								
T25A	Trinidad	62.91	330	P		P	12 55 03.9	+0.7	
	baz=63								
N33A	J Bar K, Exete	62.94	337	P		P	12 55 02.8	-0.3	
	baz=63								
M35A	Neola	62.95	339	P		P	12 55 02.9	-0.3	
	baz=63								
R27A	Eads	63.08	332	P		P	12 55 04.3	+0.1	
	baz=63								
Q28A	Sharon Springs	63.28	333	P		P	12 55 05.8	+0.2	
	baz=64								
R26A	Arlington	63.39	331	P		P	12 55 06.8	+0.5	
	baz=64,SNR=11								
L35A	Bielow Farm, R	63.47	339	P		P	12 55 06.1	-0.5	
	baz=64,SNR=8.3								
O30A	MW Ranch, Wils	63.47	335	P		P	12 55 06.8	+0.1	
	baz=64								
M33A	Taylor Creek F	63.57	338	P		P	12 55 06.8	-0.5	
	baz=64								
P28A	Saint Francis	63.68	333	P		P	12 55 07.9	-0.3	
	baz=64								
BGNE	Belgrade	63.78	337	P		P	12 55 08.5	-0.2	
	baz=64,SNR=6.8								
BGNE	Belgrade	63.78	337	eP		P	12 55 08.6	-0.1	
	comp=Z,82nm,1.0s								
SDCO	Great Sand Dun	63.92	329	P		P	12 55 11.6	+1.5	
	baz=64,SNR=27								
SDCO	Great Sand Dun	63.92	329	eP		P	12 55 10.8	+0.8	
	comp=Z,8.1nm,0.6s								
SDCO				epP		sP	12 55 56.3	+1.5	
Q26A	Hugo	63.92	332	P		P	12 55 11.1	+1.2	
	baz=64,SNR=5.6								
M31A	Lambtecht Ranc	64.04	336	P		P	12 55 09.2	-1.2	
	baz=64								
L33A	Hoskins	64.12	338	P		P	12 55 10.4	-0.5	
	baz=64								
O27A	Beecher Island	64.50	333	P		P	12 55 14.5	+1.0	
	baz=65								
S22A	4UR Ranch, Cre	64.57	328	P		P	12 55 15.1	+0.8	
	baz=65								
L31A	Butterfield Fa	64.70	337	P		P	12 55 14.2	-0.6	
	baz=65								
Q24A	Divide	64.71	330	P		P	12 55 15.6	+0.4	
	baz=65								
VNA1	Neumayer--Stat	64.74	161	P		P	12 55 16.3	+1.8	
L30A	Spencer Herefo	64

	baz=67							
IRM	**Iron Mountain**	66.59	320	P		P	12 55 28.4	+1.4
	baz=67							
N23A	**Red Feather La**	66.62	331	P		P	12 55 27.4	0.0
	baz=67							
J28A	**Allard Ranch,**	66.69	336	P		P	12 55 28.6	+1.1
	baz=67,SNR=13							
I29A	**Vivian Onida**	66.84	337	P		P	12 55 28.7	+0.3
	baz=67							
J27A	**Elkhorn Farm,**	66.85	335	P		P	12 55 30.4	+1.9
	baz=67,SNR=5.3							
BELC	**Belle Mtn. Jos**	67.00	320	P		P	12 55 31.5	+1.7
	baz=67							
O20A	**White River Ci**	67.11	329	P		P	12 55 31.5	+1.1
	baz=67							
I28A	**Midland**	67.15	336	P		P	12 55 31.0	+0.7
	baz=67							
H29A	**Onida**	67.32	337	P		P	12 55 31.8	+0.5
	baz=68							
GMRC	**Granite Mounta**	67.32	321	P		P	12 55 32.7	+0.9
	baz=68							
J26A	**Sides Ranch, S**	67.33	335	P		P	12 55 33.2	+1.6
	baz=68,SNR=6.3							
G30A	**Faulkton**	67.37	338	P		P	12 55 31.8	+0.1
	baz=68							
SRU	**San Rafael**	67.49	327	*e*P		P	12 55 34.6	+1.8
	comp=Z,9.0nm,1.3s							
I27A	**Quinn**	67.55	336	P		P	12 55 33.5	+0.6
	baz=68							
EYMN	**Ely**	67.58	345	P		P	12 55 32.5	-0.4
	baz=68,SNR=14							
EYMN	**Ely**	67.58	345	*e*P		P	12 55 32.3	-0.6
	comp=Z,20nm,0.9s							
H28A	**Mission Ridge**	67.66	337	P		P	12 55 33.3	-0.3
	baz=68,SNR=6.2							
CCUT	**Cedar City**	67.89	324	*e*P		P	12 55 37.0	+1.6
	comp=Z,3.8nm,0.8s							
MSU	**Marysvale**	67.93	326	*e*P		P	12 55 36.3	+0.6
	comp=Z,14nm,1.3s							
F30A	**Leola**	67.94	339	P		P	12 55 35.3	+0.1
	baz=68							
MVU	**Marysvale**	67.94	326	*e*P		P	12 55 36.7	+1.0
	comp=Z,3.8nm,0.8s							
K23A	**Bowen Ranch, D**	67.96	333	P		P	12 55 36.8	+1.2
	baz=68							
G28A	**Parade**	67.96	337	P		P	12 55 35.7	+0.2
	baz=68							
J24A	**Dixon Ranch, L**	68.00	334	P		P	12 55 37.3	+1.4
	baz=68							
H27A	**Howes**	68.03	336	P		P	12 55 36.9	+1.0
	baz=68							
I25A	**Rochford**	68.18	335	P		P	12 55 39.1	+2.1
	baz=68,SNR=44							
SHPR	**Sheep Range**	68.19	322	*e*P		P	12 55 38.6	+1.3
F29A	**Eureka**	68.22	338	P		P	12 55 36.9	-0.1
	baz=68							
K22A	**Casper**	68.27	332	P		P	12 55 39.0	+1.4
	baz=68							
K22A	**Casper**	68.27	332	*e*P		P	12 55 38.5	+0.9
	comp=Z,14nm,1.4s							
GSC	**Goldstone**	68.37	320	P		P	12 55 40.0	+1.8
	baz=69							
GSC	**Goldstone**	68.37	320	*e*P		P	12 55 40.0	+1.8
	comp=Z,2.7nm,0.8s							
RSSD	**Black Hills**	68.39	334	*e*P		P	12 55 39.9	+1.5
	comp=Z,5.4nm,0.5s							
I24A	**Kuemmerle Ranc**	68.42	334	P		P	12 55 39.7	+1.3
	baz=69							
LIC	**Lamto**	68.51	76	*e*P		P	12 55 39.3	-0.2
	comp=Z,74nm,1.1s							
F28A	**McLaughlin**	68.58	338	P		P	12 55 38.4	-0.9
	baz=69							
G27A	**Dupree**	68.60	337	P		P	12 55 40.5	+1.1
	baz=69							
H25A	**Fruitdale**	68.62	335	P		P	12 55 40.5	+0.8
	baz=69							
TIC	**Toumodi**	68.67	76	*e*P		P	12 55 39.6	-0.9
E29A	**Napoleon**	68.79	339	P		P	12 55 40.0	-0.5
	baz=69							
G26A	**Maurine**	68.79	336	P		P	12 55 41.4	+0.8
	baz=69							
EDW2	**Edwards Air Fo**	68.82	319	P		P	12 55 42.0	+1.0
	baz=69							
KIC	**Kosan Boka**	68.83	76	*e*P		P	12 55 40.8	-0.7
	comp=Z,56nm,0.6s							
DBIC	**Dimbokro**	68.83	76	P		P	12 55 41.0	-0.5
	comp=Z,20nm,0.6s,baz=227,slow=6.7,SNR=43							
NLU	**North Lily Min**	68.92	327	*e*P		P	12 55 43.5	+1.7
	comp=Z,4.9nm,1.1s							
D30A	**Buchanan**	68.95	340	P		P	12 55 41.6	+0.1
	baz=69							
G25A	**Newell**	69.02	336	P		P	12 55 42.6	+0.6
	baz=69							
F27A	**Lemmon**	69.05	337	P		P	12 55 42.4	+0.2
	baz=69							
JLU	**Jordanelle**	69.07	328	*e*P		P	12 55 44.5	+1.7
	comp=Z,3.8nm,0.6s							
AGMN	**Agassiz Nation**	69.10	342	P		P	12 55 42.0	-0.4
	baz=69,SNR=10							
TPNV	**Topopah Spring**	69.14	322	P		P	12 55 44.1	+1.0
	baz=69,SNR=8.3							
E28A	**Huff**	69.16	338	P		P	12 55 42.9	+0.1
	baz=69,SNR=5.5							
FURC	**Furnace Creek,**	69.18	321	P		P	12 55 44.9	+1.8
	baz=69							
J21A	**Lysite**	69.24	332	P		P	12 55 44.5	+0.9
	baz=69							
I22A	**9 Mile Ranch,**	69.24	333	P		P	12 55 44.3	+0.8
	baz=69							
F26A	**Lodgepole**	69.28	336	P		P	12 55 43.7	+0.1
	baz=70,SNR=8.1							
MPMC	**Manual Prospec**	69.28	321	P		P	12 55 45.2	+1.2
	baz=70							
C30A	**Mose, Pekin**	69.38	340	P		P	12 55 44.5	+0.4
	baz=70,SNR=9.6							
DUG	**Dugway**	69.49	326	P		P	12 55 46.6	+1.5
	baz=70							
DUG	**Dugway**	69.49	326	*e*P		P	12 55 46.6	+1.5
	comp=Z,4.3nm,1.0s							
DAC	**Darwin (Calif)**	69.49	321	*e*P		P	12 55 46.4	+1.0
	comp=Z,3.2nm,0.9s							
I21A	**Big Trails, Te**	69.53	332	P		P	12 55 45.8	+0.4
	baz=70,SNR=15							
ISA	**Isabella**	69.63	320	P		P	12 55 47.5	+1.4
	baz=70							
ISA	**Isabella**	69.63	320	*e*P		P	12 55 47.8	+1.8
	comp=Z,4.1nm,0.8s							
F25A	**Bowman**	69.65	336	P		P	12 55 46.5	+0.6
	baz=70							
R11A	**Troy Canyon, C**	69.71	323	P		P	12 55 47.9	+1.3
	baz=70							
R11A	**Troy Canyon, C**	69.71	323	*e*P		P	12 55 48.1	+1.5
	comp=Z,2.6nm,0.8s							
E26A	**Carlson Angus**	69.72	337	P		P	12 55 46.8	+0.4
	baz=70,SNR=7.0							
PDAR	**Pinedale Array**	69.77	330	P		P	12 55 46.8	-0.1
	comp=Z,1.7nm,0.5s,baz=117,slow=8.2,SNR=18							
BW06	**Boulder Array**	69.77	330	*e*P		P	12 55 47.3	+0.4
	comp=Z,2.3nm,0.6s							
G23A	**Biddle**	69.83	334	P		P	12 55 48.0	+0.9
	baz=70,SNR=10							
GRAC	**Grapevine Rang**	69.84	321	P		P	12 55 49.0	+1.8
	baz=70							
HWUT	**Hardware Ranch**	69.88	328	*e*P		P	12 55 48.6	+1.0
	comp=Z,4.5nm,0.8s							
MDND	**Maddock**	69.88	339	P		P	12 55 47.7	+0.5
	baz=70							
MDND	**Maddock**	69.88	339	*e*P		P	12 55 49.8	+2.6
J19A	**Crowheart**	69.91	331	P		P	12 55 48.0	+0.3
	baz=70,SNR=6.3							
D27A	**Center**	69.92	338	P		P	12 55 47.6	+0.2
	baz=70							
F24A	**Ekalaka**	69.97	335	P		P	12 55 48.2	+0.3
	baz=70,SNR=7.0							
PKM	**Peak Mountain**	69.98	318	P		P	12 55 50.4	+2.0
	baz=70							
B30A	**Myrvik Farm, E**	69.99	341	P		P	12 55 47.9	0.0
	baz=70,SNR=6.3							
I20A	**Worland**	70.02	332	P		P	12 55 48.4	+0.1
	baz=70,SNR=5.6							
H21A	**Big Horn, Sher**	70.07	333	P		P	12 55 49.7	+1.1
	baz=70							
E25A	**Miller Ranch,**	70.10	336	P		P	12 55 49.3	+0.7
	baz=70,SNR=5.2							
SPUT	**South Promonto**	70.11	327	*e*P		P	12 55 49.4	+0.5
	comp=Z,3.0nm,0.6s							
BGU	**Big Grassy Mou**	70.13	327	*e*P		P	12 55 49.1	+0.1
	comp=Z,2.8nm,0.9s							
D26A	**Manning**	70.18	337	P		P	12 55 49.9	+0.8
	baz=70							
G22A	**Birney**	70.22	334	P		P	12 55 50.7	+1.3
	baz=70,SNR=5.2							
F23A	**Volborg**	70.26	335	P		P	12 55 50.9	+1.3
	baz=70,SNR=8.1							
H20A	**Greybull**	70.38	332	P		P	12 55 51.0	+0.6
	baz=71							
A30A	**Hoffart Farm,**	70.41	341	P		P	12 55 50.6	+0.2
	baz=71							
TPH	**Tonopah**	70.47	322	*e*P		P	12 55 52.5	+1.2
	comp=Z,3.2nm,0.8s							
I19A	**Meeteetse**	70.48	331	P		P	12 55 52.2	+1.1
	baz=71							
E24A	**Baker**	70.50	336	P		P	12 55 52.4	+1.3
	baz=71,SNR=5.6							
D25A	**Fairfield**	70.61	337	P		P	12 55 52.7	+0.9
	baz=71							
G21A	**Lodge Grass**	70.61	333	P		P	12 55 52.6	+0.7
	baz=71							
HVU	**Hansel Valley**	70.62	328	*e*P		P	12 55 52.8	+0.8
	comp=Z,65µm,0.6s							
B28A	**Dugan Ranch, T**	70.66	339	P		P	12 55 52.8	+0.8
	baz=71							
F22A	**Rosebud**	70.66	334	P		P	12 55 52.5	+0.5
	baz=71							
A29A	**Manning Farm,**	70.69	340	P		P	12 55 52.1	0.0
	baz=71,SNR=14							
REDW	**Red Top Meadow**	70.83	330	*e*P		P	12 55 54.4	+1.0
	comp=Z,31nm,2.1s							
E23A	**Ismay**	70.85	335	P		P	12 55 54.0	+0.8
	baz=71,SNR=8.1							
LOHW	**Long Hollow**	70.91	330	*e*P		P	12 55 53.9	+0.1
	comp=Z,3.0nm,0.6s							
D24A	**Glendive**	70.97	336	P		P	12 55 55.3	+1.4
	baz=71							
TPAW	**Teton Pass**	70.98	330	*e*P		P	12 55 55.5	+1.1
	comp=Z,5.2nm,1.0s							
A28A	**Rude Farm, Bot**	71.02	340	P		P	12 55 54.6	+0.4
	baz=71							
G20A	**Bridger**	71.05	333	P		P	12 55 55.5	+0.9
	baz=71							
C25A	**Freed Ranch, W**	71.06	337	P		P	12 55 55.3	+0.9
	baz=71							
E22A	**Miles City**	71.06	335	P		P	12 55 54.9	+0.4
	baz=71							
MOOW	**Moose Ponds**	71.08	330	*e*P		P	12 55 57.6	+2.8
	comp=Z,2.1nm,0.8s							
FXWY	**Fox Creek**	71.13	330	*e*P		P	12 55 56.4	+1.2
	comp=Z,2.9nm,0.8s							
IMW	**Indian Meadow**	71.28	330	*e*P		P	12 55 57.1	+1.0
	comp=Z,5.7nm,0.6s							
FLWY	**Flagg Ranch**	71.31	330	*e*P		P	12 55 56.9	+0.7
	comp=Z,10nm,0.8s							
NVAR	**Mina Array Bea**	71.34	322	P		P	12 55 58.0	+1.4
	comp=Z,1.9nm,0.8s,baz=159,slow=6.6,SNR=15							
NVAR				pP		pP	12 56 27.5	-0.5
	comp=Z,0.5nm,0.6s,baz=127,slow=7.1,SNR=2.0							
C24A	**Savage**	71.35	336	P		P	12 55 57.4	+1.3
	baz=72							
D23A	**Lindsay**	71.36	336	P		P	12 55 58.6	+2.3
	baz=72,SNR=5.4							
A27A	**Ledoux Ranch,**	71.39	339	P		P	12 55 57.4	+1.0
	baz=72							
RLMT	**Red Lodge**	71.44	332	P		P	12 55 57.7	+0.7
	baz=72							
RLMT	**Red Lodge**	71.44	332	*e*P		P	12 55 59.1	+2.1
	comp=Z,4.3nm,0.9s							
F20A	**Billings**	71.48	333	P		P	12 55 57.9	+0.8
	baz=72							
H17A	**Grant Village**	71.48	331	P		P	12 55 59.9	+2.6
	baz=72							
H17A	**Grant Village**	71.48	331	*e*P		P	12 56 03.3	+6.0
	comp=Z,4.3nm,0.8s							
E21A	**Keefer Ranch,**	71.61	334	P		P	12 55 59.3	+1.6
	baz=72,SNR=5.8							
A26A	**Wade Farm, Ken**	71.62	339	P		P	12 55 57.6	-0.1
	baz=72							
D22A	**Cohagen**	71.73	335	P		P	12 56 00.2	+1.7
	baz=72,SNR=8.8							
SCHQ	**Schefferville**	71.81	2	P		P	12 55 57.5	-1.1
	comp=Z,2.2nm,0.4s,baz=220,slow=6.1,SNR=4.6							
C23A	**Lambert**	71.86	336	P		P	12 55 59.7	+0.5
	baz=72							
A25A	**Svangstu Ranch**	72.03	338	P		P	12 56 01.3	+1.1
	baz=72							
DGMT	**Dagmar**	72.04	337	P		P	12 56 02.0	+1.8
	baz=72							
DGMT	**Dagmar**	72.04	337	*e*P		P	12 56 02.9	+2.6
	comp=Z,16nm,1.0s							
WAKR	**Wer**	72.06	321	*e*P		P	12 56 01.9	+1.0
	comp=Z,4.6nm,1.1s							
QLMT	**Earthquake Lak**	72.21	331	*e*P		P	12 56 03.5	+1.9
	comp=Z,0.5nm,0.6s							
B23A	**Brockton**	72.33	337	P		P	12 56 03.6	+1.6
	baz=72,SNR=6.6							
A24A	**Westby**	72.34	337	P		P	12 56 03.7	+1.6
	baz=72							
B22A	**Reddig Ranch S**	72.59	336	P		P	12 56 05.6	+2.0
	baz=73							
C21A	**Desert Coulee**	72.64	335	P		P	12 56 06.3	+2.5
	baz=73,SNR=6.3							
HLID	**Hailey**	72.74	328	P		P	12 56 05.9	+1.1
	baz=73,SNR=9.8							
HLID	**Hailey**	72.74	328	*e*P		P	12 56 06.2	+1.5
	comp=Z,5.3nm,1.0s							
MCMT	**McKenzie Canyo**	72.89	330	*e*P		P	12 56 07.5	+1.9
BOZ	**Bozeman (W)**	72.92	331	P		P	12 56 06.6	+0.9
	baz=73							
BOZ	**Bozeman (W)**	72.92	331	*e*P		P	12 56 06.8	+1.1
	comp=Z,9.2nm,1.4s							
C20A	**Veseth Ranch,**	72.92	334	P		P	12 56 06.4	+0.8
	baz=73,SNR=5.1							
QSPA	**South Pole Qui**	72.96	180	*e*P		P	12 56 07.3	+1.6
	comp=Z,15nm,0.6s							
B21A	**Ellsworth Farm**	73.09	335	P		P	12 56 07.6	+1.1
	baz=73							
A22A	**Carney Farms,**	73.12	336	P		P	12 56 06.8	+0.1
	baz=73							
DLMT	**Dillon**	73.16	330	*e*P		P	12 56 10.1	+3.0
	comp=Z,8.4nm,1.4s							
MFID	**Camas Ranch**	73.36	327	*e*P		P	12 56 10.0	+1.6
	comp=Z,7.2nm,0.9s							
LRM	**Limekiln Ridge**	73.43	331	*e*P		P	12 56 09.5	+0.6
	comp=Z,14nm,0.6s							
B20A	**Solberg Farm,**	73.50	335	P		P	12 56 10.2	+1.2
	baz=74,SNR=8.6							
A20A	**Cobblestone Ra**	73.82	335	P		P	12 56 11.9	+1.2
	baz=74							
B19A	**Brinkman Farms**	73.90	334	P		P	12 56 12.0	+0.7
	baz=74,SNR=6.1							
EGMT	**Eagleton**	73.90	334	P		P	12 56 12.1	+0.8
	baz=74,SNR=7.7							
EGMT	**Eagleton**	73.90	334	*e*P		P	12 56 11.9	+0.6
	comp=Z,7.0nm,0.6s							
A19A	**Klindworth Far**	74.19	335	P		P	12 56 13.8	+0.8
	baz=74							
MOD	**Modoc**	74.77	324	*e*P		P	12 56 18.1	+1.6
MSO	**Missoula**	74.87	331	P		P	12 56 18.2	+1.2
	baz=75							
MSO	**Missoula**	74.87	331	*e*P		P	12 56 21.1	+4.1
	comp=Z,8.3nm,1.5s							
N02D	**Trinity Center**	75.57	322	P		P	12 56 21.9	+0.8
	baz=76							
M04C	**Macdoel**	75.57	323	P		P	12 56 21.9	+0.8
	baz=76							
K05A	**Summer Lake**	75.64	324	*e*P		P	12 56 23.5	+1.9
M02C	**Callahan**	75.92	322	P		P	12 56 24.0	+0.9
	baz=76							
J05D	**Fort Rock, OR**	76.19	324	P		P	12 56 25.6	+1.0
	baz=76							
G08A	**Pilot Rock**	76.28	327	*e*P		P	12 56 26.5	+1.4
J04D	**Umpqua Nationa**	76.65	324	P		P	12 56 28.5	+1.2
	baz=77							
I05D	**Terrebonne, OR**	76.93	325	P		P	12 56 30.2	+1.6
	baz=77							
TOB4	**Torodi Ar. Sit**	77.17	72	*e*P		P	12 56 29.9	-0.7
I04A	**Tendick Farm,**	77.17	324	P		P	12 56 31.0	+0.9
	baz=77							
TORD	**Torodi Ar. Bea**	77.18	72	P		P	12 56 29.9	-0.7
	comp=Z,17nm,0.5s,baz=262,slow=5.5,SNR=249							
TORD				pP		pP	12 57 02.7	+0.1
	comp=Z,11nm,1.1s,baz=250,slow=5.2,SNR=2.8							
TORD				S		S	13 06 05.2	-4.9
	comp=Z,1.7nm,1.1s,baz=244,slow=9.2,SNR=4.3							
G05D	**Wamic, OR**	77.50	326	P		P	12 56 33.6	+1.8
	baz=78							
I03D	**Drain, OR**	77.64	324	P		P	12 56 34.2	+1.7
	baz=78							
EDM	**Edmonton**	79.35	335	*e*P		P	12 56 41.8	0.0
MORF	**Marmelete**	79.35	46	*e*P		P	12 56 43.2	+1.0
	comp=Z,49nm,1.7s							
PTEO	**Sao Teotonio**	79.42	45	*e*P		P	12 56 41.2	-1.3
	comp=Z,45nm,1.7s							
PNCL	**Nicolau / Gran**	79.85	45	*e*P		P	12 56 45.4	+0.7
	comp=Z,20nm,1.6s							
PCVE	**Castro Verde**	79.93	46	*e*P		P	12 56 45.7	+0.5
	comp=Z,26nm,1.4s							
PVAQ	**Vaqueiros**	80.03	46	*e*P		P	12 56 46.3	+0.5
	comp=Z,32nm,1.7s							
PMTG	**Montargil**	80.54	44	*e*P		P	12 56 48.9	+0.4
	comp=Z,22nm,1.8s							
VNDA	**Vanda**	80.84	190	P		P	12 56 51.9	+2.4
	comp=Z,4.1nm,0.7s,baz=160,slow=3.6,SNR=14							
VNDA				pP		pP	12 57 23.1	+1.4
	comp=Z,1.7nm,0.7s,baz=39,slow=1.9,SNR=2.6							
PBAR	**Barrancos**	80.89	45	*e*P		P	12 56 50.9	+0.6
	comp=Z,42nm,1.8s							
SYO	**Syowa Base**	80.95	160	*e*P		P	12 56 50.1	-0.1
PCBR	**Castelo Branco**	81.44	44	*e*P		P	12 56 53.1	-0.1
MTE	**Manteigas**	81.68	43	*e*P		P	12 56 55.0	+0.4
	comp=Z,22nm,1.8s							
POLO	**Lamas de Olo**	82.02	42	*e*P		P	12 56 56.6	+0.3
	comp=Z,11nm,1.7s							
MVO	**Moncorvo**	82.41	43	*e*P		P	12 56 58.6	+0.3
PAB	**San Pablo**	83.39	45	*e*P		P	12 57 03.6	+0.1
	comp=Z,6.8nm,0.7s							
ESDC	**Sonseca Array**	83.71	45	P		P	12 57 05.5	+0.4
	comp=Z,4.6nm,0.7s,baz=251,slow=5.3,SNR=27							
ESDC				pP		pP	12 57 38.7	+1.2
	comp=Z,0.5nm,0.5s,baz=281,slow=6.0,SNR=1.3							
TAM	**Tamanrasset**	84.07	64	P		P	12 57 08.3	+0.9
	comp=Z,3.3nm,0.9s							
BOSA	**Boshof**	86.61	119	P		P	12 57 20.1	+0.2
	comp=Z,1.1nm,0.6s,baz=250,slow=7.0,SNR=3.4							
YKA	**Yellowknife Ar**	86.73	341	P		P	12 57 19.5	+0.1
	comp=Z,4.5nm,0.5s,baz=134,slow=5.1,SNR=38							
YKA				pP		pP	12 57 52.7	+0.7
	comp=Z,1.1nm,0.7s,baz=133,slow=4.8,SNR=1.4							
MAW	**Mawson**	88.79	164	P		P	12 57 30.4	+1.1
	comp=Z,11nm,0.6s,baz=210,slow=5.9,SNR=29							
KEST	**Kesra**	91.76	53	P		P	12 57 44.0	+0.1
	comp=Z,0.9nm,0.5s,baz=225,slow=1.4,SNR=3.2							
SUMG	**Summit**	92.04	9	*e*P		P	12 57 45.1	+0.3
	comp=Z,8.3nm,0.8s							
CASY	**Casey**	96.77	180	*e*P		P	12 58 08.9	+2.8
	comp=Z,35nm,0.9s							
GERES	**GERESS Array B**	98.88	42	P		P	12 58 14.2	-1.8
	comp=Z,0.2nm,0.3s,baz=265,slow=3.5,SNR=4.4							
ILAR	**Eielson Array**	99.83	335	PP		PP	13 02 18.6	-7.6
	comp=Z,0.3nm,0.7s,baz=95,slow=8.7,SNR=3.6							
ARCES	**ARCESS Array B**	108.00	22	PKKPbc		PKKPbc	13 14 15.7	-2.1
	comp=Z,1.6nm,0.9s,baz=76,slow=3.8,SNR=6.1							
STKA	**Stephens Creek**	122.42	212	PKP		**PKPdf**	13 03 31.6	+0.5
	comp=Z,1.6nm,0.5s,baz=114,slow=2.2,SNR=6.0							
ARU	**Arti**	125.27	32	*e*PKPdf		**PKPdf**	13 03 36.0	+0.4
PETK	**Petropavlovsk-**	128.34	325	PKP		**PKPdf**	13 03 41.7	0.0
	comp=Z,3.1nm,0.7s,baz=151,slow=3.4,SNR=4.5							
ABKAR	**Akbulak array**	128.78	40	*e*PKPdf		**PKPdf**	13 03 43.5	+1.0
GEYT	**Alibeck**	130.49	55	SKPab		**SKPab**	13 06 59.2	+1.0
	comp=Z,2.6nm,0.4s,baz=240,slow=4.8,SNR=4.3							
ASAR	**Alice Springs**	133.01	211	PKhKP		PKPpre	13 03 35.5	
	comp=Z,0.3nm,0.5s,baz=136,slow=2.5,SNR=7.5							
ASAR				PKP		**PKPdf**	13 03 51.2	-0.3
	comp=Z,1.4nm,0.6s,baz=137,slow=1.7,SNR=6.1							
ASAR				pPKP		pPKPdf	13 04 26.0	+0.2
	comp=Z,0.4nm,0.6s,baz=100,slow=1.2,SNR=1.8							
ASAR				SKPab		**SKPbc**	13 07 07.8	+0.1
	comp=Z,0.4nm,0.8s,baz=142,slow=4.7,SNR=3.3							
WRA	**Warramunga Arr**	135.88	214	PKhKP		PKPpre	13 03 42.5	
	comp=Z,0.4nm,0.5s,baz=142,slow=3.1,SNR=17							
WRA				PKP		**PKPdf**	13 03 57.2	+0.3
	comp=Z,2.4nm,0.4s,baz=150,slow=1.8,SNR=24							
WRA				pPKP		pPKPdf	13 04 32.0	+0.8
	comp=Z,0.7nm,0.6s,baz=151,slow=1.9,SNR=2.2							
WRA				SKPbc		**SKPbc**	13 07 17.5	+0.5
	comp=Z,0.7nm,0.9s,baz=160,slow=2.1,SNR=3.1							
ZALV	**Zalesovo Beam**	138.55	22	PKhKP		PKPpre	13 03 56.0	
	comp=Z,0.7nm,0.4s,baz=343,slow=4.5,SNR=1.4							
ZALV				PKP		**PKPdf**	13 03 59.6	-1.1
	comp=Z,3.9nm,0.6s,baz=275,slow=2.8,SNR=5.6							
ZALV				pPKP		pPKPdf	13 04 36.5	+1.5
	comp=Z,1.3nm,0.7s,baz=254,slow=2.6,SNR=1.3							
ZALV				SKPbc		**SKPbc**	13 07 21.1	-2.5
	comp=Z,1.3nm,0.7s,baz=316,slow=1.9,SNR=3.8							
ZALV				SKPab		**SKPab**	13 07 33.5	+0.8
	comp=Z,1.2nm,0.5s,baz=341,slow=4.2,SNR=4.8							
MKAR	**Makanchi Array**	142.79	32	PKP		**PKPdf**	13 04 06.8	-1.9
	comp=Z,0.7nm,0.4s,baz=336,slow=3.2,SNR=7.2							
MKAR				pPKP		**pPKPdf**	13 04 44.6	+1.6
	comp=Z,0.4nm,0.6s,baz=319,slow=4.2,SNR=1.6							
JAY	**Jayapura**	143.70	240	PKP		PKPbc	13 04 10.1	+0.9
	comp=Z,16nm,1.0s,baz=206,slow=3.7,SNR=4.3							
USRK	**Ussuriysk Ar.**	147.19	330	PKPbc		**PKPbc**	13 04 19.6	+0.9
	comp=Z,8.8nm,0.7s,baz=59,slow=3.5,SNR=14							
USRK	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.41**	**124**	Pn	**Pn**	**13 18 28.6**	**+1.9**
	1.4nm,0.3s,baz=319,slow=8.9,SNR=7.7						
PSI				Sn	**Sn**	**13 19 59.2**	**-1.9**
	3.5nm,0.3s,baz=187,slow=20,SNR=7.1						
PSI				LR	LR	13 22 03.0	
	comp=Z,171nm,18.0s,baz=250,slow=40						
PALK	**Pallekele**	**11.17**	**269**	Pn	**Pn**	**13 19 04.5**	**-0.1**
	6.3nm,0.3s,baz=84,slow=13,SNR=25						
PALK				Sn	Sn	13 20 57.4	-11
	6.2nm,0.3s,baz=176,slow=20,SNR=14						
PALK				LR	LR	13 22 51.2	
	comp=Z,109nm,19.3s,baz=83,slow=35						
CMAR	**Chiang Mai Arr**	**12.75**	**32**	Pn	**Pn**	**13 19 26.0**	**-0.1**
	0.2nm,0.3s,baz=232,slow=14,SNR=19						
CMAR				LR	LR	13 24 43.7	
	comp=Z,65nm,18.4s,baz=45,slow=40						
CHTO	**Chiang Mai**	**13.05**	**31**	*eP*	**Pn**	**13 19 30.3**	**+0.1**
SHL	**Shillong**	**17.87**	**360**	*ex*	Pn	13 20 25.0	-8.4
KSM	**Kuching**	**19.27**	**108**	*eP*	**Pn**	**13 20 50.8**	**+0.5**
	4.6nm,0.9s						
ODAN	**Odare**	**19.64**	**348**	*eP*	**Pn**	**13 20 57.5**	**+2.5**
	72nm,0.4s						
RAMN	**Ramite**	**19.91**	**346**	*eP*	**Pn**	**13 21 01.7**	**+3.6**
	193nm,0.4s						
TAPN	**Taplejung**	**20.05**	**349**	*eP*	Pn	13 21 02.3	+2.3
	66nm,0.5s						
PKI	**Pulchoki**	**20.81**	**343**	*eP*	Pn	13 21 14.5	+5.6
	106nm,0.4s						
PKIN	**Phulchoki**	**20.82**	**343**	*eP*	Pn	13 21 14.7	+5.8
DMN	**Daman**	**20.94**	**343**	*eP*	Pn	13 21 15.8	+5.6
	71nm,0.5s						
GUN	**Gumba**	**21.01**	**345**	*eP*	P	13 21 16.3	+7.9
	67nm,0.8s						
KKN	**Kakani**	**21.06**	**343**	*eP*	P	13 21 16.5	+7.7
	37nm,0.6s						
GKN	**Gorkha**	**21.45**	**342**	*eP*	P	13 21 22.6	+10
	77nm,0.4s						
KOLN	**Koldanda**	**21.57**	**339**	*eP*	P	13 21 25.0	+11
	41nm,0.5s						
LSA	**Lhasa**	**22.00**	**358**	P	**P**	**13 21 18.9**	**-0.3**
	12nm,0.6s						
H08S3	**Diego Garcia H**	**24.62**	**233**	T	T	13 47 58.9	
	baz=52,slow=75,SNR=22						
H08S2	**Diego Garcia H**	**24.62**	**232**	T	T	13 48 09.8	
	baz=52,slow=75,SNR=24						
H08S1	**Diego Garcia H**	**24.64**	**232**	T	T	13 48 00.3	
	baz=52,slow=75,SNR=28						
MKAR	**Makanchi Array**	**39.92**	**350**	P	**P**	**13 23 57.2**	**-1.2**
	0.6nm,0.6s,baz=154,slow=7.2,SNR=4.9						
SONM	**Songino Array**	**41.93**	**15**	P	**P**	**13 24 13.4**	**-1.6**
	0.6nm,0.7s,baz=188,slow=7.9,SNR=4.5						
KURBB	**Kurchatov Arra**	**44.32**	**348**	P	**P**	**13 24 33.6**	**-0.6**
	0.5nm,0.4s,baz=169,slow=7.1,SNR=7.0						
KURK	**Kurchatov**	**44.39**	**348**	P	**P**	**13 24 33.6**	**-1.1**
BVAR	**Borovoye Array**	**48.58**	**343**	P	**P**	**13 25 06.0**	**-1.6**
	0.4nm,0.4s,baz=114,slow=9.7,SNR=3.3						
ABKAR	**Akbulak array**	**49.46**	**333**	*eP*	**P**	**13 25 13.7**	**-0.7**
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**49.88**	**124**	P	**P**	**13 25 18.3**	**+0.3**
	1.9nm,0.8s,baz=305,slow=8.5,SNR=19						
WRAB	**Tennant Creek**	**49.88**	**124**	*eP*	**P**	**13 25 17.9**	**-0.1**
	3.5nm,0.7s						
ASAR	**Alice Springs**	**51.42**	**128**	P	**P**	**13 25 30.2**	**+0.6**
	0.9nm,0.6s,baz=301,slow=8.2,SNR=16						
ASAR				PcP	**PcP**	**13 26 44.8**	**+0.7**
	2.2nm,1.2s,baz=306,slow=3.3,SNR=4.8						
STKA	**Stephens Creek**	**61.50**	**132**	P	**P**	**13 26 40.5**	**-0.8**
	1.8nm,0.8s,baz=226,slow=7.4,SNR=8.0						
NOA	**NORSAR Array B**	**78.91**	**331**	LR	LR	14 05 41.0	
	comp=Z,12nm,18.4s,baz=175,slow=38						

WEL ***12*** *13:28:17.8±0.5,36.85N×178.81E,h12km,ML3.8/6,Error ellipse: s-maj=5.5km s-min=3.3km az=90.0*
IDC ***12*** *13:28:21.7±3.1,36.73S×178.27E,h0km,mb3.9/2, mb1 4.2/2,mb1mx3.8/15,mbtmp3.9/2,Error ellipse: s-maj=58.4km s-min=30.0km az=88.0*
NEIC ***12*** *13:28:25.6±5.9,37.23S×178.54E,h47km±31km,mb4.2/2, Error ellipse: s-maj=76.3km s-min=19.1km az=66.0*

ISC 12 13:28:18.2±1.6,37.07S±0.08×179.03E±0.09,h10km,n47, σ1s07/47,mb3.9/4,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.76**	**229**	P*	**Pg**	**13 28 32.5**	**-0.3**
MXZ				*eS**	**Sg**	**13 28 43.8**	**+1.0**
MXZ				AML	AML	13 28 50.4	
MXZ				AML	AML	13 28 57.2	
MXZ				AML	AML	13 28 57.2	
WMGZ	**Waiomatatini S**	**0.89**	**213**	P*	**Pg**	**13 28 36.7**	**+1.3**
PUZ	**Puketiti**	**1.17**	**211**	PN	**Pn**	**13 28 40.9**	**+0.1**
PUZ				*eS*N	**Sb**	**13 28 58.1**	**+2.2**
PUZ				AML	AML	13 29 08.6	
HAZ	**Te Kaha**	**1.20**	**235**	P*	**Pn**	**13 28 39.6**	**-1.5**
TWGZ	**Tauwhareparae**	**1.38**	**217**	PN	**Pn**	**13 28 44.2**	**+0.5**
CNGZ	**Carnagh Statio**	**1.56**	**204**	*e*PN	**Pn**	**13 28 46.6**	**+0.6**
TKGZ	**Te Karaka**	**1.66**	**214**	PN	**Pn**	**13 28 47.4**	**+0.1**
MWZ	**Matawai**	**1.73**	**223**	*e*PN	**Pn**	**13 28 48.1**	**-0.4**
MWZ				AML	AML	13 29 31.2	
MWZ				AML	AML	13 29 33.0	
RAGZ	**Rawiri**	**1.91**	**221**	*e*PN	**Pn**	**13 28 51.5**	**+0.5**
RIGZ	**Rimuhau**	**1.92**	**211**	PN	**Pn**	**13 28 50.9**	**-0.1**
URZ	**Urewera**	**1.93**	**231**	*e*PN	**Pn**	**13 28 51.7**	**+0.6**
URZ				*e*SN	**Sb**	**13 29 17.9**	**+0.3**
URZ				AML	AML	13 29 22.8	
URZ	**Urewera**	**1.93**	**231**	Pn	**Pb**	**13 28 53.0**	**-0.5**
	24nm,0.3s,baz=272,slow=1.5,SNR=176						
URZ				Sn	**Sb**	**13 29 18.7**	**+1.1**
	13nm,0.3s,baz=130,slow=22,SNR=5.1						
URZ	**Urewera**	**1.93**	**231**	*e*P	**Pb**	**13 28 52.5**	**-1.0**
URZ				Pn	**Pb**	**13 28 53.0**	**-0.5**
URZ				Sn	**Sb**	**13 29 18.7**	**+1.1**
PRGZ	**Paritu Road**	**2.06**	**206**	*e*PN	**Pn**	**13 28 52.4**	**-0.5**
SNGZ	**Shannon Statio**	**2.17**	**217**	PN	**Pn**	**13 28 54.4**	**0.0**
KNZ	**Kokohu**	**2.22**	**208**	*e*PN	**Pn**	**13 28 54.6**	**-0.5**
RAHZ	**Arahi**	**2.40**	**219**	*e*PN	**Pn**	**13 28 57.7**	**+0.1**
KUZ	**Kuaotunu**	**2.67**	**276**	*e*PN	Pb	13 29 00.4	-5.7
KUZ				AML	AML	13 29 14.6	
KUZ				AML	AML	13 30 08.5	
NMHZ	**Naumai**	**2.68**	**220**	PN	**Pn**	**13 29 02.0**	**+0.6**
ARHZ	**Aropaoanui**	**2.71**	**216**	PN	**Pn**	**13 29 01.9**	**0.0**
BKZ	**Black Stump Fm**	**2.89**	**223**	PN	**Pn**	**13 29 04.4**	**0.0**
BKZ				AML	AML	13 29 43.1	
MCHZ	**McNeill Hill**	**3.00**	**217**	PN	**Pn**	**13 29 05.2**	**-0.6**
MKAZ	**Moumakai**	**3.09**	**268**	*e*PN	**Pn**	**13 29 06.6**	**-0.4**
KWHZ	**Kaweka Forest**	**3.12**	**220**	*e*PN	**Pn**	**13 29 06.9**	**-0.6**
KAHZ	**Kahuranaki**	**3.20**	**211**	PN	**Pn**	**13 29 07.1**	**-1.6**
KRHZ	**Kereru**	**3.31**	**218**	*e*PN	**Pn**	**13 29 09.7**	**-0.5**
BHHZ	**Black Hill Sta**	**3.36**	**223**	PN	**Pn**	**13 29 10.6**	**-0.2**
PXZ	**Pawanui**	**3.41**	**209**	PN	**Pn**	**13 29 09.7**	**-1.8**
NGZ	**Ngauruhoe**	**3.42**	**231**	PN	**Pn**	**13 29 12.4**	**+0.6**
WHVZ	**Whangaehu Hut**	**3.50**	**230**	PN	**Pn**	**13 29 13.0**	**+0.2**
WNVZ	**Wahianoa**	**3.52**	**229**	*e*PN	**Pn**	**13 29 13.3**	**+0.2**
HIZ	**Hauiti**	**3.60**	**245**	*e*PN	**Pn**	**13 29 15.1**	**+1.0**
TSZ	**Takapari Road**	**3.83**	**218**	*e*PN	**Pn**	**13 29 15.4**	**-1.9**
WCZ	**Waipu Caves**	**3.94**	**285**	PN	Pn	13 29 19.1	+0.4
WAZ	**Wanganui**	**4.16**	**229**	*e*PN	**Pn**	**13 29 21.9**	**+0.2**
BFZ	**Birch Farm**	**4.21**	**210**	PN	Pn	13 29 19.3	-3.2
MRZ	**Mangatainoka R**	**4.48**	**216**	PN	Pn	13 29 23.4	-2.9
MRZ				*e*SN	**Sn**	**13 30 14.8**	**-3.6**
OUZ	**Omahuta**	**4.77**	**291**	*e*P	Pn	13 29 30.6	+0.5
QRZ	**Quartz Range**	**6.30**	**231**	*e*PN	**Pn**	**13 29 50.7**	**-0.5**
THZ	**Tophouse**	**6.67**	**223**	*e*PN	Pn	13 29 52.9	-3.4
KHZ	**Kahutara**	**6.81**	**217**	*e*P	**Pn**	**13 29 55.8**	**-2.4**
AS31	**Alice Springs**	**40.80**	**276**	*e*P	**P**	**13 35 59.7**	**-0.3**
ASAR	**Alice Springs**	**40.80**	**276**	P	**P**	**13 35 59.8**	**-0.2**
	1.2nm,0.5s,baz=118,slow=7.9,SNR=41						
WRAB	**Tennant Creek**	**42.40**	**281**	*e*P	**P**	**13 36 12.7**	**-0.4**
	1.6nm,0.5s						
WRA	**Warramunga Arr**	**42.40**	**281**	P	**P**	**13 36 12.5**	**-0.6**
	0.8nm,0.5s,baz=121,slow=8.0,SNR=19						
QSPA	**South Pole Qui**	**53.05**	**180**	*e*P	**P**	**13 37 37.1**	**+1.8**
	6.3nm,1.4s						
TORD	**Torodi Ar. Bea**	**156.06**	**186**	PKPab	PKPab	13 48 46.3	+5.8
	0.2nm,0.6s,baz=194,slow=3.7,SNR=3.0						

IDC 12 14:02:46.4±2.3,32.62S×80.22E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.5/21,mbtmp3.6/4,Error ellipse: s-maj=156.6km s-min=32.6km az=14.0,Broken Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**25.87**	**342**	T	T	14 35 48.2	
	baz=166,slow=75,SNR=51						
H08S1	**Diego Garcia H**	**25.87**	**342**	T	T	14 35 48.4	
	baz=166,slow=75,SNR=53						
H08S3	**Diego Garcia H**	**25.89**	**342**	T	T	14 35 49.5	
	baz=166,slow=75,SNR=70						
H08N1	**Diego Garcia H**	**27.52**	**340**	T	T	14 38 09.9	
	baz=112						
H08N3	**Diego Garcia H**	**27.52**	**340**	T	T	14 38 18.3	
	baz=112,slow=74						
H08N2	**Diego Garcia H**	**27.54**	**340**	T	T	14 38 15.6	
	baz=112,slow=74						
H01W2	**Cape Leeuwin H**	**28.21**	**104**	T	T	14 37 54.7	
	baz=264,slow=74,SNR=16						
H01W3	**Cape Leeuwin H**	**28.21**	**104**	T	T	14 37 39.3	
	baz=264,slow=74,SNR=7.8						
H01W1	**Cape Leeuwin H**	**28.23**	**104**	T	T	14 37 51.2	
	baz=264,slow=74,SNR=6.9						
ASAR	**Alice Springs**	**47.75**	**94**	P	P	14 11 27.0	+1.6
	0.9nm,1.1s,baz=243,slow=6.9,SNR=3.1						
WRA	**Warramunga Arr**	**49.67**	**89**	P	P	14 11 38.5	-1.8
	0.9nm,1.0s,baz=246,slow=7.9,SNR=3.6						
BRTR	**Keskin Array B**	**83.92**	**326**	P	P	14 15 19.0	+0.7
	0.5nm,0.7s,baz=131,slow=5.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**87.58**	**287**	P	P	14 15 36.1	-0.7
	0.3nm,0.6s,baz=104,slow=6.1,SNR=3.6						

CSEM ***12*** *14:22:36.0,43.09N×22.09E,h0km,ML1.8*
BEO 12 14:22:36.0±0.3,43.09N×22.09E,h0km,ML1.8/9, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARS	**Barje**	**0.34**	**217**	*e*Pg	Pg	14 22 42.4	-0.2
BARS	**Barje**	**0.34**	**217**	*e*Pg	Pg	14 22 42.4	-0.2
ZAPS	**Zavoj**	**0.44**	**65**	*e*Pg	Pg	14 22 43.8	-0.7
ZAPS				*e*Sg	Sg	14 22 49.6	-0.7
ZAPS	**Zavoj**	**0.44**	**65**	*e*Pg	Pg	14 22 43.8	-0.7
ZAPS				*e*Sg	Sg	14 22 49.6	-0.7
SELS	**Selova**	**0.72**	**281**	*e*Pg	Pg	14 22 49.0	-0.9
SELS				*e*Sg	Sg	14 22 59.8	+0.4
SELS	**Selova**	**0.72**	**281**	*e*Pg	Pg	14 22 49.0	-0.9
SELS				*e*Sg	Sg	14 22 59.8	+0.4
VTS	**Vitosha**	**0.96**	**121**	*e*Pg	Pg	14 22 53.9	-0.8
VTS				*e*Sg	Sg	14 23 05.9	-1.4
VTS	**Vitosha**	**0.96**	**121**	*e*Pg	Pg	14 22 53.9	-0.8
VTS				*e*Sg	Sg	14 23 05.9	-1.4
GRUS	**Gruza**	**1.28**	**309**	*e*Pg	Pg	14 22 59.7	-0.9
GRUS				*e*Sg	Sg	14 23 17.1	-0.1
GRUS	**Gruza**	**1.28**	**309**	*e*Pg	Pg	14 22 59.7	-0.9
GRUS				*e*Sg	Sg	14 23 17.1	-0.1
SJES	**Sjenica**	**1.56**	**277**	*e*Pg	Pn	14 23 03.8	-1.3
SJES				*e*Sg	Sn	14 23 24.7	-1.5
VAY	**Valandovo**	**1.80**	**168**	*e*Pn	Pn	14 23 09.0	+0.7
VAY				*e*Sg	Sn	14 23 32.4	+0.5
VAY	**Valandovo**	**1.80**	**168**	*e*Pn	Pn	14 23 09.0	+0.7
VAY				*e*Sg	Sn	14 23 32.4	+0.5
DIVS	**Divibare**	**1.83**	**304**	*e*Sg	Sb	14 23 33.8	-0.2
DIVS	**Divibare**	**1.83**	**304**	*e*Sg	Sb	14 23 33.8	-0.2
BBLS	**Lazići**	**2.10**	**293**	*e*Sg	Sb	14 23 42.0	+0.1
BBLS	**Lazići**	**2.10**	**293**	*e*Sg	Sb	14 23 42.0	+0.1

ISCJB ***12*** *14:35:14.5±0.6,28.83N±0.07×66.49E±0.06,h8km, mb3.9/19,MS3.0/5,Error ellipse: s-maj=10.5km s-min=6.9km az=162.3*
IDC ***12*** *14:35:14.8±0.9,28.76N×66.53E,h0km,mb3.9/16, mb1 4.0/17,mb1mx3.8/34,mbtmp3.9/17,ML3.4/1,MS3.1/5, Ms1 3.1/5,ms1mx2.7/41,Error ellipse: s-maj=20.8km s-min=16.5km az=9.0*
NEIC ***12*** *14:35:15.6±7.1,28.88N×66.50E,h2km±43km,mb4.1/5, Error ellipse: s-maj=18.0km s-min=11.1km az=173.0*

ISC 12 14:35:16.5±0.8,28.82N±0.10×66.51E±0.06,h8km,n34, σ1s43/36,mb4.0/19,MS3.0/5,1C,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**6.00**	**47**	⇑P	**Pn**	**14 36 46.2**	**+0.6**
KBL	**Kabul**	**6.10**	**20**	*e*P	**Pn**	**14 36 46.8**	**-0.4**
	15nm,0.5s						
CEP	**Cherat**	**6.80**	**41**	P	**Pn**	**14 36 57.2**	**+0.5**
CEP				S	**Sn**	**14 38 16.0**	**+1.6**
NDI	**New Delhi**	**9.40**	**88**	*e*P	**Pn**	**14 37 34.0**	**+1.7**
NDI				*e*S	Sn	14 39 25.0	+6.8
SMLA	**Simla**	**9.53**	**73**	*i* P	**Pn**	**14 37 35.7**	**+1.7**
SMLA				*i* S	**Sn**	**14 39 18.8**	**-2.4**
SMLA				*i* S	**Sn**	**14 39 18.8**	**-2.4**
SMLA				AML	AML	14 39 21.2	
	comp=N,215nm,0.4s						
SMLA				AML	AML	14 39 22.0	
	comp=E,246nm,0.3s						
GEYT	**Alibeck**	**11.47**	**325**	Pn	**Pn**	**14 38 02.1**	**+1.4**
	comp=E,0.3nm,0.3s,baz=260,slow=22,SNR=2.4						
KKAR	**Karatay Array**	**14.62**	**12**	*e*Pn	**Pn**	**14 38 44.5**	**+0.9**
	comp=E,6.6nm,0.7s						
EKS2	**Erkin-Say**	**15.01**	**21**	*e*Pn	**Pn**	**14 38 46.4**	**-2.7**
	comp=E,5.6nm,0.7s						
TKM2	**Tokmak 2**	**15.87**	**25**	*e*P	**Pn**	**14 38 57.7**	**-2.7**
	comp=E,5.3nm,0.6s						
RAYN	**Ar Rayn**	**19.57**	**259**	*e*P	**P**	**14 39 44.0**	**-1.0**
	comp=E,9.4nm,0.9s						
ABKAR	**Akbulak array**	**21.02**	**348**	*e*P	**P**	**14 39 59.6**	**-0.9**
	comp=E,4.9nm,0.8s						
LSA	**Lhasa**	**21.51**	**82**	*e*P	**P**	**14 40 09.5**	**+3.1**
MK31	**Makanchi Array**	**21.78**	**30**	*e*P	**P**	**14 40 07.5**	**-1.2**
MKAR	**Makanchi Array**	**21.78**	**30**	P	**P**	**14 40 07.9**	**-0.8**
	comp=E,1.3nm,0.5s,baz=206,slow=10,SNR=19						
MKAR				LR	LR	14 50 22.6	
	comp=E,84nm,20.9s,baz=218,slow=42						
AKTO	**Aktyubinsk**	**22.53**	**346**	P	**P**	**14 40 17.3**	**+0.6**
	comp=E,2.6nm,0.6s,baz=147,slow=14,SNR=13						
KURBB	**Kurchatov Arra**	**23.60**	**19**	P	**P**	**14 40 26.6**	**-1.1**
	comp=E,1.6nm,0.7s,baz=210,slow=9.2,SNR=5.3						
KURK	**Kurchatov**	**23.71**	**19**	P	**P**	**14 40 26.6**	**-2.1**
BVAR	**Borovoye Array**	**24.36**	**6**	P	**P**	**14 40 34.1**	**-0.7**
	comp=E,5.7nm,0.8s,baz=172,slow=9.3,SNR=22						
BRVK	**Borovoye**	**24.38**	**6**	*e*P	**P**	**14 40 33.8**	**-1.2**
	comp=E,7.0nm,0.9s						
ASF	**Jabal al Asfar**	**25.70**	**285**	P	**P**	**14 40 47.2**	**-0.1**
	comp=E,3.3nm,0.8s,baz=25,slow=1.9,SNR=5.9						
ZALV	**Zalesovo Beam**	**28.45**	**23**	P	**P**	**14 41 11.4**	**-0.3**
	comp=E,0.5nm,0.3s,baz=224,slow=8.1,SNR=3.8						
OBN	**Obninsk**	**33.97**	**329**	LR	LR	14 59 54.6	
	comp=E,21nm,18.5s,baz=92,slow=44						
AKASG	**Malin Array Be**	**35.51**	**318**	P	**P**	**14 42 13.6**	**0.0**
	comp=E,0.5nm,0.4s,baz=110,slow=8.0,SNR=2.5						
AKASG				LR	LR	14 57 46.8	
	comp=E,12nm,20.0s,baz=145,slow=38						
SONM	**Songino Array**	**36.10**	**47**	P	**P**	**14 42 19.5**	**+0.6**
	comp=E,1.1nm,0.6s,baz=246,slow=9.6,SNR=7.4						
SONM				LR	LR	14 59 02.8	
	comp=E,69nm,18.4s,baz=250,slow=40						
FINES	**FINESS Array B**	**42.14**	**332**	P	**P**	**14 43 08.0**	**-1.0**
	comp=E,2.4nm,0.8s,baz=134,slow=11,SNR=9.3						
CUC	**Castrocucco**	**42.78**	**299**	*e*P	**P**	**14 43 15.3**	**+0.7**
	comp=E,5.6nm,0.8s						
GERES	**GERESS Array B**	**44.73**	**312**	P	**P**	**14 43 31.4**	**+1.1**
	comp=E,0.8nm,0.6s,baz=99,slow=8.8,SNR=6.8						
ARCES	**ARCESS Array B**	**47.02**	**342**	P	**P**	**14 43 49.4**	**+1.4**
	comp=E,2.0nm,0.8s,baz=115,slow=5.8,SNR=5.8						
ARCES				LR	LR	15 07 07.3	
	comp=E,16nm,18.3s,baz=105,slow=41						
KSAR	**Wonju Array Be**	**51.32**	**63**	P	**P**	**14 44 21.1**	**-0.3**
KSRS	**Korea Array**	**51.35**	**63**	P	**P**	**14 44 21.1**	**-0.5**
	comp=E,2.5nm,0.7s,baz=272,slow=7.7,SNR=16						
TORD	**Torodi Ar. Bea**	**61.83**	**270**	P	**P**	**14 45 35.2**	**-1.3**
	comp=E,2.3nm,0.8s,baz=56,slow=6.3,SNR=13						
SEY	**Seymchan**	**62.91**	**31**	P	**P**	**14 45 42.4**	**-0.6**
	comp=E,1.0nm,0.7s,baz=75,slow=20,SNR=5.5						
WRA	**Warramunga Arr**	**81.43**	**118**	P	**P**	**14 47 34.1**	**-0.4**
	comp=E,0.5nm,0.7s,baz=320,slow=4.7,SNR=4.3						
ASAR	**Alice Springs**	**83.23**	**122**	P	**P**	**14 47 43.6**	**-0.2**
	comp=E,0.7nm,0.5s,baz=305,slow=5.3,SNR=20						

IDC 12 14:37:32.1±6.1,21.15S×13.09W,h0km,mb3.9/4, mb1 4.0/4,mb1mx3.7/34,mbtmp3.9/4,MS3.2/5,Ms1 3.1/5, ms1mx2.9/22,Error ellipse: s-maj=260.3km s-min=131.5km az=107.0,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**12.21**	**353**	T	T	14 53 46.4	
	baz=186						
H10S3	**ASCENSION HYDR**	**12.22**	**353**	T	T	14 53 49.0	
	baz=186,slow=74						
H10S1	**ASCENSION HYDR**	**12.23**	**353**	T	T	14 53 38.5	
	baz=186,slow=74						
H10N1	**ASCENSION HYDR**	**13.29**	**354**	T	T	14 55 49.0	
	baz=205,slow=74						
H10N3	**ASCENSION HYDR**	**13.30**	**354**	T	T	14 55 40.7	
	baz=205,slow=74						
H10N2	**ASCENSION HYDR**	**13.31**	**354**	T	T	14 55 42.1	
	baz=205,slow=74						
DBIC	**Dimbokro**	**28.80**	**17**	LR	LR	14 52 09.9	
	comp=Z,13nm,20.3s,baz=138,slow=30						
BDFB	**Brasilia**	**33.54**	**273**	LR	LR	14 56 16.2	
	comp=Z,32nm,20.1s,baz=106,slow=34						
BOSA	**Boshof**	**35.46**	**110**	LR	LR	14 56 19.3	
	comp=Z,37nm,19.4s,baz=306,slow=32						
TORD	**Torodi Ar. Bea**	**37.05**	**24**	P	P	14 44 43.8	-0.2
	1.2nm,0.7s,baz=202,slow=8.6,SNR=9.0						
CPUP	**Villa Florida**	**40.67**	**254**	LR	LR	14 59 48.4	
	comp=Z,58nm,19.7s,baz=77,slow=33						
LPAZ	**La Paz**	**52.15**	**265**	LR	LR	15 08 43.8	
	comp=Z,36nm,18.8s,baz=107,slow=36						
GERES	**GERESS Array B**	**73.67**	**18**	P	P	14 49 07.8	+0.3
	0.2nm,0.2s,baz=148,slow=5.8,SNR=4.0						
BRTR	**Keskin Array B**	**74.62**	**36**	P	P	14 49 13.6	+0.3
	1.3nm,1.1s,baz=209,slow=7.4,SNR=5.6						
AKASG	**Malin Array Be**	**80.67**	**26**	P	P	14 49 46.2	-0.4
	0.3nm,0.3s,baz=226,slow=6.4,SNR=4.3						

CSEM ***12*** *14:45:28.0,38.75N×26.70W,h0km,ML2.5*
PDA 12 14:45:28.0±1.2,38.75N×26.70W,h0km±6km,MD3.5, ML2.5,Error ellipse: s-maj=9.1km s-min=2.2km az=27.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADH	**Angra Heroismo**	**0.43**	**257**	*e*P	Pg	14 45 35.3	-0.9
ADH				*e*S	Sg	14 45 41.0	-0.7
ADH				A	A	14 45 41.8	
	139nm,0.2s						
ADH	**Angra Heroismo**	**0.43**	**257**	*e*P	Pg	14 45 35.3	-0.9
ADH				*e*S	Sg	14 45 41.0	-0.7
PGRA	**Graciosa**	**1.03**	**286**	*e*P	Pg	14 45 44.9	-3.0
PGRA				*e*S	Sg	14 45 57.5	-3.8
PGRA				A	A	14 46 00.5	
	23nm,0.2s						
PGRA	**Graciosa**	**1.03**	**286**	*e*P	Pg	14 45 44.9	-3.0
PGRA				*e*S	Sg	14 45 57.5	-3.8
PMAN	**Manadas**	**1.09**	**264**	*e*P	Pg	14 45 45.3	-3.6
PMAN				*e*S	Sg	14 45 58.9	-4.2
PMAN				A	A	14 46 00.9	
	43nm,0.1s						
PMAN	**Manadas**	**1.09**	**264**	*e*P	Pg	14 45 45.3	-3.6
PMAN				*e*S	Sg	14 45 58.9	-4.2
ROSA	**Rosais**	**1.20**	**269**	*e*P	Pg	14 45 47.2	-3.9
ROSA				*e*S	Sg	14 46 01.8	-4.9
ROSA				A	A	14 46 02.8	
	42nm,0.2s						
ROSA	**Rosais**	**1.20**	**269**	*e*P	Pg	14 45 47.2	-3.9
ROSA				*e*S	Sg	14 46 01.8	-4.9
PSET	**Sete Cidades**	**1.21**	**140**	*e*S	Sg	14 46 01.9	-4.9
PSET				A	A	14 46 05.3	
	38nm,0.3s						
PSET	**Sete Cidades**	**1.21**	**140**	*e*S	Sg	14 46 01.9	-4.9
PPNO	**Prainha do Nor**	**1.25**	**258**	*e*P	Pg	14 45 47.9	-4.2
PPNO				*e*S	Sg	14 46 02.6	-5.9
PPNO				A	A	14 46 05.3	
	64nm,0.1s						
PPNO	**Prainha do Nor**	**1.25**	**258**	*e*P	Pg	14 45 47.9	-4.2
PPNO				*e*S	Sg	14 46 02.6	-5.9
PDA	**Ponta Delgada**	**1.29**	**140**	*e*S	Sg	14 46 03.8	-5.7
PDA				A	A	14 46 07.0	
	57nm,0.1s						
PDA	**Ponta Delgada**	**1.29**	**140**	*e*S	Sg	14 46 03.8	-5.7
PICO	**Pico**	**1.37**	**260**	*e*P	Pg	14 45 49.3	-5.1

Error ellipse: s-maj=6.9km s-min=5.8km az=58.0
*THE **12** 14:53:02.3,45°.26N×26°.00E,h115$^{km}_{\pm 8}$,ML3.5/1,Error ellipse: s-maj=8.6km s-min=1.1km az=192.0*
*BEO **12** 14:53:11.5±0.4,45°.38N×24°.19E,h0^{km},ML3.2/8*
ISC 12 14:52:57.7±0.6,**45°.68N**±0°.02×**26°.54E**±0°.02,**h112**$^{km}_{\pm 4}$,**n311**,σ1=**28**/**392**,**mb3.6**/7,**83C-59D**,**Romania**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
PLOR	**Plostina**	**0.19**	**24**	⇑*i*P		**Pn**	**14 53 13.0**	**-0.4**
PLOR	**Plostina**	**0.19**	**24**	⇓*i*P		**Pn**	**14 53 13.0**	**-0.4**
PLOR				*i* S		**Sn**	**14 53 23.7**	**-1.4**
PLOR	**Plostina**	**0.19**	**24**	⇑*i*P		**Pn**	**14 53 13.0**	**-0.4**
PLOR				*i* S		**Sn**	**14 53 23.7**	**-1.4**
VRI	**Vrincioaia**	**0.23**	**35**	⇑*i*P		**Pn**	**14 53 13.2**	**-0.3**
VRI	**Vrincioaia**	**0.23**	**35**	⇑*i*P		**Pn**	**14 53 13.2**	**-0.3**
VRI				*i* S		**Sn**	**14 53 24.1**	**-1.2**
VRI	**Vrincioaia**	**0.23**	**35**	⇑*i*P		**Pn**	**14 53 13.2**	**-0.3**
VRI				*i* S		**Sn**	**14 53 24.1**	**-1.2**
ODBI	**Odobesti**	**0.37**	**76**	⇓*i*P		**Pn**	**14 53 14.9**	**+0.9**
ODBI	**Odobesti**	**0.37**	**76**	⇓*i*P		**Pn**	**14 53 14.9**	**+0.9**
ODBI	**Odobesti**	**0.37**	**76**	⇓*i*P		**Pn**	**14 53 14.9**	**+0.9**
GRER		**0.43**	**134**	⇑*i*P		**Pn**	**14 53 15.1**	**+0.8**
GRER		**0.43**	**134**	⇑*i*P		**Pn**	**14 53 15.1**	**+0.8**
GRER		**0.43**	**134**	⇑*i*P		**Pn**	**14 53 15.1**	**+0.8**
MLR	**Muntele Rosu**	**0.46**	**246**	P		**Pn**	**14 53 14.5**	**-0.2**
	60nm,0.3s,baz=92,slow=3.2,SNR=1340							
MLR				LR		LR	14 53 20.2	
	comp=Z,7.0nm,19.2s,baz=131,slow=55							
MLR				S		**Sn**	**14 53 26.2**	**-1.1**
	367nm,0.3s,baz=213,slow=18,SNR=105							
MLR	**Muntele Rosu**	**0.46**	**246**	⇑*i*P		**Pn**	**14 53 14.6**	**0.0**
MLR	**Muntele Rosu**	**0.46**	**246**	⇑*i*P		**Pn**	**14 53 14.6**	**0.0**
MLR				*i* S		**Sn**	**14 53 26.0**	**-1.4**
PETR	**Petresti**	**0.49**	**84**	⇑*i*P		**Pn**	**14 53 15.1**	**+0.5**
PETR	**Petresti**	**0.49**	**84**	⇑*i*P		**Pn**	**14 53 15.1**	**+0.5**
PETR				*i* S		**Sn**	**14 53 27.4**	**+0.1**
PETR	**Petresti**	**0.49**	**84**	⇑*i*P		**Pn**	**14 53 15.1**	**+0.5**
PETR				*i* S		**Sn**	**14 53 27.4**	**+0.1**
ISR	**Istrita**	**0.56**	**180**	⇑*i*P		**Pn**	**14 53 15.4**	**+0.2**
ISR	**Istrita**	**0.56**	**180**	⇑*i*P		**Pn**	**14 53 15.4**	**+0.2**
ISR	**Istrita**	**0.56**	**180**	⇑*i*P		**Pn**	**14 53 15.4**	**+0.2**
SECR		**0.72**	**208**	⇑*i*P		**Pn**	**14 53 17.0**	**+0.5**
SECR		**0.72**	**208**	⇑*i*P		**Pn**	**14 53 17.0**	**+0.5**
SECR				*i* S		**Sn**	**14 53 30.9**	**+0.4**
SECR		**0.72**	**208**	⇑*i*P		**Pn**	**14 53 17.0**	**+0.5**
SECR				*i* S		**Sn**	**14 53 30.9**	**+0.4**
TESR	**Tescani**	**0.84**	**5**	⇑*i*P		**Pn**	**14 53 17.3**	**-0.2**
TESR	**Tescani**	**0.84**	**5**	⇑*i*P		**Pn**	**14 53 17.3**	**-0.2**
TESR				*i* S		**Sn**	**14 53 31.0**	**-1.4**
TESR	**Tescani**	**0.84**	**5**	⇑*i*P		**Pn**	**14 53 17.3**	**-0.2**
TESR				*i* S		**Sn**	**14 53 31.0**	**-1.4**
PLAR	**PLOIESTI**	**0.84**	**206**	⇓*i*P		**Pn**	**14 53 18.0**	**+0.5**
PLAR	**PLOIESTI**	**0.84**	**206**	⇓*i*P		**Pn**	**14 53 18.0**	**+0.5**
PLAR				*i* S		**Sn**	**14 53 33.3**	**+0.9**
PLAR	**PLOIESTI**	**0.84**	**206**	⇓*i*P		**Pn**	**14 53 18.0**	**+0.5**
PLAR				*i* S		**Sn**	**14 53 33.3**	**+0.9**
DOPR	**Dopca**	**0.85**	**290**	⇓*i*P		**Pn**	**14 53 17.3**	**-0.3**
DOPR	**Dopca**	**0.85**	**290**	⇓*i*P		**Pn**	**14 53 17.3**	**-0.3**
DOPR				*i* S		**Sn**	**14 53 31.2**	**-1.5**
DOPR	**Dopca**	**0.85**	**290**	⇓*i*P		**Pn**	**14 53 17.3**	**-0.3**
DOPR				*i* S		**Sn**	**14 53 31.2**	**-1.5**
SULR		**1.02**	**191**	⇑*i*P		**Pn**	**14 53 19.6**	**+0.4**
SULR		**1.02**	**191**	⇑*i*P		**Pn**	**14 53 19.6**	**+0.4**
SULR				*i* S		**Sn**	**14 53 35.8**	**+0.4**
SULR		**1.02**	**191**	⇑*i*P		**Pn**	**14 53 19.6**	**+0.4**
SULR				*i* S		**Sn**	**14 53 35.8**	**+0.4**
VOIR		**1.07**	**258**	⇓*i*P		**Pn**	**14 53 19.4**	**-0.5**
VOIR		**1.07**	**258**	⇓*i*P		**Pn**	**14 53 19.4**	**-0.5**
VOIR				*i* S		**Sn**	**14 53 35.1**	**-1.5**
VOIR		**1.07**	**258**	⇓*i*P		**Pn**	**14 53 19.4**	**-0.5**
VOIR				*i* S		**Sn**	**14 53 35.1**	**-1.5**
MTUR	**Matau**	**1.13**	**247**	⇑*i*P		**Pn**	**14 53 21.1**	**+0.6**
MTUR	**Matau**	**1.13**	**247**	⇑*i*P		**Pn**	**14 53 21.1**	**+0.6**
MTUR	**Matau**	**1.13**	**247**	⇑*i*P		**Pn**	**14 53 21.1**	**+0.6**
AMRR	**Amara**	**1.21**	**152**	⇑*i*P		**Pn**	**14 53 21.6**	**+0.4**
AMRR	**Amara**	**1.21**	**152**	⇑*i*P		**Pn**	**14 53 21.6**	**+0.4**
AMRR				*i* S		**Sn**	**14 53 39.1**	**+0.1**
AMRR	**Amara**	**1.21**	**152**	⇑*i*P		**Pn**	**14 53 21.6**	**+0.4**
AMRR				*i* S		**Sn**	**14 53 39.1**	**+0.1**
CFR	**Carcaliu**	**1.23**	**113**	⇑*i*P		**Pn**	**14 53 21.3**	**-0.2**
CFR	**Carcaliu**	**1.23**	**113**	⇑*i*P		**Pn**	**14 53 21.3**	**-0.2**
CFR				*i* S		**Sn**	**14 53 37.9**	**-1.5**
CFR	**Carcaliu**	**1.23**	**113**	⇑*i*P		**Pn**	**14 53 21.3**	**-0.2**
CFR				*i* S		**Sn**	**14 53 37.9**	**-1.5**
BUC	**Bucharest**	**1.30**	**194**	⇑*i*P		**Pn**	**14 53 22.5**	**+0.2**
BUC	**Bucharest**	**1.30**	**194**	⇑*i*P		**Pn**	**14 53 22.5**	**+0.2**
BUC				*i* S		**Sn**	**14 53 40.4**	**-0.5**
BUC	**Bucharest**	**1.30**	**194**	⇑*i*P		**Pn**	**14 53 22.5**	**+0.2**
BUC				*i* S		**Sn**	**14 53 40.4**	**-0.5**
ARG	**Arges**	**1.38**	**258**	⇓*i*P		**Pn**	**14 53 23.2**	**0.0**
ARR	**Arges**	**1.38**	**258**	⇓*i*P		**Pn**	**14 53 23.2**	**0.0**
ARR				*i* S		**Sn**	**14 53 40.9**	**-1.6**
ARR	**Arges**	**1.38**	**258**	⇓*i*P		**Pn**	**14 53 23.2**	**0.0**
ARR				*i* S		**Sn**	**14 53 40.9**	**-1.6**
GOLR		**1.39**	**234**	⇑*i*P		**Pn**	**14 53 23.9**	**+0.6**
GOLR		**1.39**	**234**	⇑*i*P		**Pn**	**14 53 23.9**	**+0.6**
GOLR				*i* S		**Sn**	**14 53 42.5**	**-0.3**
GOLR		**1.39**	**234**	⇑*i*P		**Pn**	**14 53 23.9**	**+0.6**
GOLR				*i* S		**Sn**	**14 53 42.5**	**-0.3**
HARR	**Harsova**	**1.39**	**135**	⇑*i*P		**Pn**	**14 53 23.5**	**+0.2**
HARR	**Harsova**	**1.39**	**135**	⇑*i*P		**Pn**	**14 53 23.5**	**+0.2**
HARR	**Harsova**	**1.39**	**135**	⇑*i*P		**Pn**	**14 53 23.5**	**+0.2**
MDB	**Medias**	**1.58**	**288**	⇑*i*P		**Pn**	**14 53 25.6**	**+0.1**
MDB	**Medias**	**1.58**	**288**	⇑*i*P		**Pn**	**14 53 25.6**	**+0.1**
MDB	**Medias**	**1.58**	**288**	⇑*i*P		**Pn**	**14 53 25.6**	**+0.1**
HUMR	**Humele**	**1.59**	**224**	⇓*i*P		**Pn**	**14 53 25.5**	**-0.2**
HUMR	**Humele**	**1.59**	**224**	⇓*i*P		**Pn**	**14 53 25.5**	**-0.2**
HUMR				*i* S		**Sn**	**14 53 45.8**	**-1.2**
HUMR	**Humele**	**1.59**	**224**	⇓*i*P		**Pn**	**14 53 25.5**	**-0.2**
HUMR				*i* S		**Sn**	**14 53 45.8**	**-1.2**
IAS	**Iasi**	**1.67**	**25**	⇑*i*P		**Pn**	**14 53 26.9**	**+0.2**
IAS	**Iasi**	**1.67**	**25**	⇑*i*P		**Pn**	**14 53 26.9**	**+0.2**
IAS				*i* S		**Sn**	**14 53 47.3**	**-1.4**
IAS	**Iasi**	**1.67**	**25**	⇑*i*P		**Pn**	**14 53 26.9**	**+0.2**
IAS				*i* S		**Sn**	**14 53 47.3**	**-1.4**
TLCR		**1.68**	**106**	⇑*i*P		**Pn**	**14 53 27.6**	**+0.9**
TLCR		**1.68**	**106**	⇑*i*P		**Pn**	**14 53 27.6**	**+0.9**
TLCR				*i* S		**Sn**	**14 53 48.9**	**+0.1**
TLCR		**1.68**	**106**	⇑*i*P		**Pn**	**14 53 27.6**	**+0.9**
TLCR				*i* S		**Sn**	**14 53 48.9**	**+0.1**
PRAR	**RASCA**	**1.70**	**353**	⇓*i*P		**Pn**	**14 53 27.7**	**+0.7**
PRAR	**RASCA**	**1.70**	**353**	⇓*i*P		**Pn**	**14 53 27.7**	**+0.7**
PRAR	**RASCA**	**1.70**	**353**	⇓*i*P		**Pn**	**14 53 27.7**	**+0.7**
CVD	**Cernavoda**	**1.73**	**142**	⇑*i*P		**Pn**	**14 53 27.3**	**0.0**
CVD	**Cernavoda**	**1.73**	**142**	⇑*i*P		**Pn**	**14 53 27.3**	**0.0**
CVD				*i* S		**Sn**	**14 53 48.4**	**-1.5**
CVD	**Cernavoda**	**1.73**	**142**	⇑*i*P		**Pn**	**14 53 27.3**	**0.0**
CVD				*i* S		**Sn**	**14 53 48.4**	**-1.5**
TIRR	**Tirgusor**	**1.80**	**132**	*eP*		**Pn**	**14 53 28.4**	**+0.2**
TIRR	**Tirgusor**	**1.80**	**132**	⇑*i*P		**Pn**	**14 53 28.5**	**+0.2**
TIRR	**Tirgusor**	**1.80**	**132**	⇑*i*P		**Pn**	**14 53 28.5**	**+0.2**
TIRR				*i* S		**Sn**	**14 53 49.9**	**-1.6**
TIRR	**Tirgusor**	**1.80**	**132**	⇑*i*P		**Pn**	**14 53 28.5**	**+0.2**
TIRR				*i* S		**Sn**	**14 53 49.9**	**-1.6**
MSAB	**Monastry St. A**	**1.83**	**150**	⇓*i*P		**Pn**	**14 53 29.1**	**+0.5**
MSAB	**Monastry St. A**	**1.83**	**150**	⇓*i*P		**Pn**	**14 53 29.1**	**+0.5**
MSAB				*i* S		**Sn**	**14 53 51.2**	**-1.0**
MSAB	**Monastry St. A**	**1.83**	**150**	⇓*i*P		**Pn**	**14 53 29.1**	**+0.5**
MSAB				*i* S		**Sn**	**14 53 51.2**	**-1.0**
LOT	**Lotru**	**1.96**	**264**	⇓*i*P		**Pn**	**14 53 29.9**	**-0.4**
LOT	**Lotru**	**1.96**	**264**	⇓*i*P		**Pn**	**14 53 29.9**	**-0.4**
LOT	**Lotru**	**1.96**	**264**	⇓*i*P		**Pn**	**14 53 29.9**	**-0.4**
KIS	**Kishinev**	**2.06**	**49**	⇑*i*P		**Pn**	**14 53 31.5**	**0.0**
	1μm,0.5s							
KIS				*i* S		**Sn**	**14 53 55.0**	**-2.3**
	3μm,0.4s							
KIS	**Kishinev**	**2.06**	**49**	⇑*i*P		**Pn**	**14 53 31.5**	**0.0**
KIS				*i* S		**Sn**	**14 53 55.0**	**-2.3**
KIS				pmax	pmax			
	comp=Z,1μm,0.5s							
KIS				smax	smax			
	comp=N,3μm,0.4s							
KIS				smax	smax			
	comp=E,6μm,0.4s							
KIS	**Kishinev**	**2.06**	**49**	*i* P		**Pn**	**14 53 31.5**	**0.0**
	comp=E,1μm,0.5s							
KIS				*i* S		**Sn**	**14 53 55.0**	**-2.3**
KIS	**Kishinev**	**2.06**	**49**	*i* P		**Pn**	**14 53 31.5**	**0.0**
KIS				Pm			14 53 32.0	
KIS				*i* S		**Sn**	**14 53 55.0**	**-2.3**
KIS				Sm			14 53 55.5	
ARCR	**ARCALIA**	**2.07**	**314**	⇓*i*P		**Pn**	**14 53 31.4**	**-0.2**
ARCR	**ARCALIA**	**2.07**	**314**	⇓*i*P		**Pn**	**14 53 31.4**	**-0.2**
ARCR	**ARCALIA**	**2.07**	**314**	⇓*i*P		**Pn**	**14 53 31.4**	**-0.2**
BURAR	**Bucovina Array**	**2.14**	**335**	⇑*i*P		**Pn**	**14 53 34.0**	**+1.4**
BURAR	**Bucovina Array**	**2.14**	**335**	⇑*i*P		**Pn**	**14 53 34.0**	**+1.4**
BURAR	**Bucovina Array**	**2.14**	**335**	⇑*i*P		**Pn**	**14 53 34.0**	**+1.4**
EFOR	**EFORIE**	**2.18**	**136**	⇓*i*P		**Pn**	**14 53 33.3**	**+0.2**
EFOR	**EFORIE**	**2.18**	**136**	⇓*i*P		**Pn**	**14 53 33.3**	**+0.2**
EFOR				*i* S		**Sn**	**14 53 59.6**	**-0.5**
EFOR	**EFORIE**	**2.18**	**136**	⇓*i*P		**Pn**	**14 53 33.3**	**+0.2**
EFOR				*i* S		**Sn**	**14 53 59.6**	**-0.5**
ZIMR		**2.19**	**203**	S		**Sn**	**14 53 58.8**	**-1.4**
ZIMR		**2.19**	**203**	*i* S		**Sn**	**14 53 58.8**	**-1.4**
CJR	**Cluj-Napoca**	**2.29**	**298**	⇓*i*P		**Pn**	**14 53 34.5**	**0.0**
CJR	**Cluj-Napoca**	**2.29**	**298**	⇓*i*P		**Pn**	**14 53 34.5**	**0.0**
CJR	**Cluj-Napoca**	**2.29**	**298**	⇓*i*P		**Pn**	**14 53 34.5**	**0.0**
PSN	**Preselentsi**	**2.31**	**149**	⇓*i*P		**Pn**	**14 53 35.7**	**+0.9**
PSN	**Preselentsi**	**2.31**	**149**	⇓*i*P		**Pn**	**14 53 35.7**	**+0.9**
PSN				*i* S		**Sn**	**14 54 03.4**	**+0.3**
PSN	**Preselentsi**	**2.31**	**149**	⇓*i*P		**Pn**	**14 53 35.7**	**+0.9**
PSN				*i* S		**Sn**	**14 54 03.4**	**+0.3**
MANR	**Mangalia**	**2.36**	**141**	⇓*i*P		**Pn**	**14 53 36.0**	**+0.6**
MANR	**Mangalia**	**2.36**	**141**	⇓*i*P		**Pn**	**14 53 36.0**	**+0.6**
MANR				*i* S		**Sn**	**14 54 03.4**	**-0.9**
MANR	**Mangalia**	**2.36**	**141**	⇓*i*P		**Pn**	**14 53 36.0**	**+0.6**
MANR				*i* S		**Sn**	**14 54 03.4**	**-0.9**
CRAR	**CRAIOVA**	**2.37**	**236**	⇓*i*P		**Pn**	**14 53 35.3**	**-0.1**
CRAR	**CRAIOVA**	**2.37**	**236**	⇓*i*P		**Pn**	**14 53 35.3**	**-0.1**
CRAR				*i* S		**Sn**	**14 54 02.9**	**-1.5**
CRAR	**CRAIOVA**	**2.37**	**236**	⇓*i*P		**Pn**	**14 53 35.3**	**-0.1**
CRAR				*i* S		**Sn**	**14 54 02.9**	**-1.5**
PRD	**Provadia**	**2.55**	**166**	⇓*i*P		**Pn**	**14 53 39.0**	**+1.2**
PRD	**Provadia**	**2.55**	**166**	⇓*i*P		**Pn**	**14 53 39.0**	**+1.2**
PRD				*i* S		**Sn**	**14 54 08.6**	**0.0**
PRD	**Provadia**	**2.55**	**166**	⇓*i*P		**Pn**	**14 53 39.0**	**+1.2**
PRD				*i* S		**Sn**	**14 54 08.6**	**0.0**
DEV	**Deva**	**2.55**	**276**	⇑*i*P		**Pn**	**14 53 38.8**	**+1.0**
DEV	**Deva**	**2.55**	**276**	⇑*i*P		**Pn**	**14 53 38.8**	**+1.0**
DEV	**Deva**	**2.55**	**276**	⇑*i*P		**Pn**	**14 53 38.8**	**+1.0**
SRE	**Strehaia**	**2.57**	**248**	⇑*i*P		**Pn**	**14 53 37.7**	**-0.3**
SRE	**Strehaia**	**2.57**	**248**	⇑*i*P		**Pn**	**14 53 37.7**	**-0.3**
SRE				*i* S		**Sn**	**14 54 06.8**	**-2.2**
SRE	**Strehaia**	**2.57**	**248**	⇑*i*P		**Pn**	**14 53 37.7**	**-0.3**
SRE				*i* S		**Sn**	**14 54 06.8**	**-2.2**
CHRU	**Chernivtsi**	**2.66**	**351**	*i* P		**Pn**	**14 53 39.3**	**+0.1**
CHRU				*i* S		**Sn**	**14 54 11.1**	**0.0**
GZR	**Gura Zlata**	**2.66**	**265**	⇑*i*P		**Pn**	**14 53 39.6**	**+0.3**
GZR	**Gura Zlata**	**2.66**	**265**	⇑*i*P		**Pn**	**14 53 39.6**	**+0.3**
GZR	**Gura Zlata**	**2.66**	**265**	⇑*i*P		**Pn**	**14 53 39.6**	**+0.3**
SORM	**Soroca**	**2.75**	**26**	⇑*i*P		**Pn**	**14 53 40.2**	**-0.2**
SORM	**Soroca**	**2.75**	**26**	⇑*i*P		**Pn**	**14 53 40.2**	**-0.2**
SORM				*i* S		**Sn**	**14 54 11.1**	**-2.3**
SORM	**Soroca**	**2.75**	**26**	⇑*i*P		**Pn**	**14 53 40.2**	**-0.2**
SORM				*i* S		**Sn**	**14 54 11.1**	**-2.3**
KSV	**Kosov**	**2.83**	**340**	*i* P		**Pn**	**14 53 42.3**	**+0.9**
KSV				Pm			14 53 44.1	
KSV				*i* S		**Sn**	**14 54 15.5**	**+0.4**
KSV				Sm			14 54 16.3	
RAK	**Rakhov**	**2.87**	**327**	*i* P		**Pn**	**14 53 42.0**	**0.0**
RAK				Pm			14 53 44.3	
RAK				*eS*		**Sn**	**14 54 15.2**	**-0.9**
RAK				Sm			14 54 20.0	
DRGR		**2.88**	**294**	*ePn*		**Pn**	**14 53 41.5**	**-0.7**
DRGR		**2.88**	**294**	⇓*i*P		**Pn**	**14 53 41.7**	**-0.5**
DRGR		**2.88**	**294**	⇓*i*P		**Pn**	**14 53 41.7**	**-0.5**
DRGR		**2.88**	**294**	*ePn*		**Pn**	**14 53 41.5**	**-0.7**
DRGR		**2.88**	**294**	⇓*i*P		**Pn**	**14 53 41.7**	**-0.5**
KMPD	**K-Podol'skiy**	**2.89**	**359**	*i* P		**Pn**	**14 53 41.8**	**-0.4**
KMPD				*i* S		**Sn**	**14 54 14.7**	**-1.8**
NSLU	**Nyzhne Selyshc**	**2.90**	**331**	*i* P		Pn	14 53 48.0	+5.7
NSLU				*eS*		Sn	14 54 27.2	+10
RMGR	**Halanga-Turnu**	**2.90**	**251**	S		**Sn**	**14 54 15.1**	**-1.8**
RMGR	**Halanga-Turnu**	**2.90**	**251**	*i* S		**Sn**	**14 54 15.1**	**-1.8**
RMGR	**Halanga-Turnu**	**2.90**	**251**	*i* S		**Sn**	**14 54 15.1**	**-1.8**
JMB	**Yambol**	**3.21**	**179**	⇓*i*P		**Pn**	**14 53 46.5**	**0.0**
JMB	**Yambol**	**3.21**	**179**	⇓*i*P		**Pn**	**14 53 46.5**	**0.0**
JMB				*i* S		**Sn**	**14 54 21.4**	**-2.8**
JMB	**Yambol**	**3.21**	**179**	⇓*i*P		**Pn**	**14 53 46.5**	**0.0**
JMB				S		**Sn**	**14 54 21.3**	**-2.9**
JMB	**Yambol**	**3.21**	**179**	P		**Pn**	**14 53 46.5**	**0.0**
JMB				S		**Sn**	**14 54 21.3**	**-2.9**
KORU	**Korolevo**	**3.41**	**318**	*i* P		**Pn**	**14 53 49.1**	**0.0**
KORU				*eS*		**Sn**	**14 54 20.3**	**-1.3**
TRSU	**Trosnyk**	**3.45**	**316**	*i* P		**Pn**	**14 53 50.9**	**+1.3**
BZS	**Buzias**	**3.45**	**271**	*ePn*		Pn	14 53 45.1	-4.6
BZS	**Buzias**	**3.45**	**271**	*ePn*		Pn	14 53 45.1	-4.6
SIRR	**Siria**	**3.45**	**282**	⇑*i*P		**Pn**	**14 53 50.4**	**+0.7**
SIRR	**Siria**	**3.45**	**282**	⇑*i*P		**Pn**	**14 53 50.4**	**+0.7**
SIRR	**Siria**	**3.45**	**282**	⇑*i*P		**Pn**	**14 53 50.4**	**+0.7**
MEZ	**Mezhgor'ye**	**3.51**	**325**	*i* P		**Pn**	**14 53 51.3**	**+0.8**
MEZ				*eS*		**Sn**	**14 54 32.5**	**+1.2**
BRIU	**Brid**	**3.59**	**319**	*i* P		**Pn**	**14 53 51.2**	**-0.3**
BRIU				*eS*		**Sn**	**14 54 33.8**	**+0.7**
ZAPS	**Zavoj**	**3.69**	**231**	*ePn*		**Pn**	**14 53 52.6**	**-0.3**
ZAPS				*eSg*		Sn	14 54 28.4	-7.2
ZAPS	**Zavoj**	**3.69**	**231**	*ePn*		**Pn**	**14 53 52.6**	**-0.3**
BERU	**Beregovo**	**3.69**	**315**	*eP*		**Pn**	**14 53 52.3**	**-0.6**
BOLS	**Boljevac**	**3.75**	**242**	*ePn*		**Pn**	**14 53 51.1**	**-2.6**
BOLS				*eSg*		Sn	14 54 21.8	-15
BOLS	**Boljevac**	**3.75**	**242**	*ePn*		**Pn**	**14 53 51.1**	**-2.6**
PLD	**Plovdiv**	**3.81**	**201**	*ePn*		Pn	14 53 53.4	+8.9
MUKU	**Mukachevo**	**3.83**	**318**	*i* P		**Pn**	**14 53 54.6**	**-0.1**
MUKU				*eS*		**Sn**	**14 54 40.0**	**+1.2**
EDRB	**Edirne**	**3.83**	**178**	*eP*		**Pn**	**14 53 55.3**	**+0.4**
EDRB	**Edirne**	**3.83**	**178**	P		**Pn**	**14 53 55.2**	**+0.4**
EDRB				S		**Sn**	**14 54 36.7**	**-2.3**
EDRB	**Edirne**	**3.83**	**178**	P		**Pn**	**14 53 55.2**	**+0.4**
EDRB				S		**Sn**	**14 54 36.7**	**-2.3**
MORU	**Morshyn**	**3.89**	**333**	*i* P		**Pn**	**14 53 57.1**	**+1.5**
MORU				*eS*		**Sn**	**14 54 41.3**	**+0.9**
VTS	**Vitosha**	**3.91**	**219**	*ePn*		**Pn**	**14 53 58.5**	**+2.5**
VTS	**Vitosha**	**3.91**	**219**	*ePn*		**Pn**	**14 53 58.5**	**+2.5**
KDZ	**Kurdzhali**	**4.11**	**192**	⇑*i*P		**Pn**	**14 53 58.8**	**+0.3**
KDZ	**Kurdzhali**	**4.11**	**192**	⇑*i*P		**Pn**	**14 53 58.8**	**+0.3**
KDZ	**Kurdzhali**	**4.11**	**192**	⇑*i*P		**Pn**	**14 53 58.8**	**+0.3**
PHSR	**Pinarhisar**	**4.11**	**170**	*eP*		**Pn**	**14 53 59.2**	**+0.7**
PHSR	**Pinarhisar**	**4.11**	**170**	*eP*		**Pn**	**14 53 59.2**	**+0.7**
UZH	**Uzhgorod**	**4.14**	**317**	⇓*i*P		**Pn**	**14 53 57.7**	**-1.1**
UZH				*eS*		**Sn**	**14 54 45.7**	**-0.6**
UZH	**Uzhgorod**	**4.14**	**317**	*i* P		**Pn**	**14 53 57.7**	**-1.1**
UZH				*eS*		**Sn**	**14 54 45.7**	**-0.6**
UZH	**Uzhgorod**	**4.14**	**317**	*eP*		**Pn**	**14 53 59.3**	**+0.5**
UZH				Pm			14 54 00.3	
UZH				*eS*		**Sn**	**14 54 47.1**	**+0.8**
UZH				Sm			14 55 05.9	
KOLS	**Kolonicke sedl**	**4.36**	**320**	*eP*		**Pn**	**14 54 02.8**	**+0.9**
KOLS	**Kolonicke sedl**	**4.36**	**320**	*eP*		**Pn**	**14 54 02.8**	**+0.9**
KOLS	**Kolonicke sedl**	**4.36**	**320**	*eP*		**Pn**	**14 54 02.8**	**+0.9**
BARS	**Barje**	**4.44**	**232**	*ePn*		**Pn**	**14 54 00.6**	**-2.4**
BARS				*eSg*		**Sn**	**14 54 48.5**	**-5.1**
BARS	**Barje**	**4.44**	**232**	*ePn*		**Pn**	**14 54 00.6**	**-2.4**
LVV	**L'vov**	**4.48**	**339**	*eP*		**Pn**	**14 54 04.0**	**+0.6**
LVV				*eS*		**Sn**	**14 54 54.0**	**-0.4**
LVV	**L'vov**	**4.48**	**339**	*eP*		**Pn**	**14 54 04.0**	**+0.6**
LVV				*eS*		**Sn**	**14 54 54.0**	**-0.4**
LVV	**L'vov**	**4.48**	**339**	*i* P		**Pn**	**14 54 04.3**	**+0.9**
LVV				Pm			14 54 06.1	
LVV				*eS*		**Sn**	**14 54 54.1**	**-0.4**
LVV				Sm			14 55 13.9	
GRUS	**Gruza**	**4.51**	**249**	*ePn*		Pn	14 53 57.6	-6.4
GRUS				*eSg*		Sn	14 54 43.3	-12
RDO	**Rodhopi**	**4.59**	**190**	*eP*		**Pn**	**14 54 05.0**	**0.0**
RDO	**Rodhopi**	**4.59**	**190**	P		**Pn**	**14 54 04.8**	**-0.2**
RDO	**Rodhopi**	**4.59**	**190**	P		**Pn**	**14 54 04.8**	**-0.2**
TRUS	**Trudelj**	**4.59**	**254**	*eSg*		Sn	14 54 43.9	-13
SELS	**Selova**	**4.59**	**240**	*ePn*		Pn	14 54 01.7	-3.4
SLVT	**Silivri**	**4.61**	**164**	*eP*		**Pn**	**14 54 05.6**	**+0.3**
SLVT	**Silivri**	**4.61**	**164**	*eP*		**Pn**	**14 54 05.6**	**+0.3**
CTKS	**Kestanelik-??a**	**4.66**	**161**	*eP*		**Pn**	**14 54 05.7**	**-0.3**
CTKS	**Kestanelik-??a**	**4.66**	**161**	*eP*		**Pn**	**14 54 05.7**	**-0.3**
KWP	**Kalwaria Pacla**	**4.73**	**328**	*eP*		**Pn**	**14 54 08.5**	**+1.8**
KWP	**Kalwaria Pacla**	**4.73**	**328**	*eP*		**Pn**	**14 54 08.6**	**+1.8**
KWP	**Kalwaria Pacla**	**4.73**	**328**	*eP*		**Pn**	**14 54 08.6**	**+1.8**
NVR	**Nevrokopi**	**4.74**	**205**	*eP*		**Pn**	**14 54 07.5**	**+0.4**
KLYT	**Kilyos**	**4.78**	**157**	*eP*		**Pn**	**14 54 08.1**	**+0.5**
KLYT	**Kilyos**	**4.78**	**157**	*eP*		**Pn**	**14 54 08.1**	**+0.5**
ALN	**Alexandroupoli**	**4.79**	**184**	*eP*		**Pn**	**14 54 07.8**	**+0.1**
ALN	**Alexandroupoli**	**4.79**	**184**	P		**Pn**	**14 54 07.8**	**+0.1**
ALN				S		**Sn**	**14 54 58.8**	**-3.3**
ALN	**Alexandroupoli**	**4.79**	**184**	P		**Pn**	**14 54 07.8**	**+0.1**
ALN				S		**Sn**	**14 54 58.8**	**-3.3**
KAVA	**Kavala**	**4

LOUT	Loutraki	8.13	200	*e*P		Pn	14 54 47.5	-5.4
DPC	Dobruska-Polom	8.29	308	*e*P		**Pn**	**14 54 56.5**	**+1.5**
DPC				*ex*	x		14 55 02.1	
DPC				*ex*	x		14 55 11.5	
DPC				*ex*	x		14 55 15.4	
DPC	**Dobruska-Polom**	**8.29**	**308**	*e*P		**Pn**	**14 54 56.5**	**+1.5**
DPC	**Dobruska-Polom**	**8.29**	**308**	*e*P		**Pn**	**14 54 56.5**	**+1.5**
GERES	**GERESS Array B**	**9.29**	**295**	P		**Pn**	**14 55 07.9**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=95,slow=11,SNR=4.2							
VSR	**Storozhevoye**	**10.05**	**52**	*e*P		**Pn**	**14 55 19.2**	**+0.4**
VSR				*e*S		Sn	14 57 03.1	-6.4
VSR				pmax	pmax			
	comp=N,3.0nm,0.4s							
VSR				pmax	pmax			
	comp=Z,6.0nm,0.4s							
VSR				pmax	pmax			
	comp=E,2.0nm,0.3s							
VSR				smax	smax			
	comp=N,20nm,0.4s							
VSR				smax	smax			
	comp=E,50nm,0.4s							
VSR				smax	smax			
	comp=Z,20nm,0.4s							
VSR	**Storozhevoye**	**10.05**	**52**	*e*P		**Pn**	**14 55 19.2**	**+0.4**
FINES	**FINESS Array B**	**15.80**	**359**	P		**Pn**	**14 56 29.1**	**-4.4**
	comp=Z,0.2nm,0.3s,baz=172,slow=14,SNR=7.4							
FINES				S		Sn	14 59 19.9	-8.5
	comp=Z,0.2nm,0.3s,baz=166,slow=24,SNR=4.7							
HFS	**Hagfors**	**16.37**	**337**	P		**Pn**	**14 56 40.1**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=143,slow=12,SNR=5.0							
NOA	**NORSAR Array B**	**17.89**	**335**	P		**P**	**14 56 57.4**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=141,slow=11,SNR=2.9							
EKA	**Eskdalemuir Ar**	**21.07**	**308**	P		**P**	**14 57 32.3**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=109,slow=11,SNR=3.2							
AKTO	**Aktyubinsk**	**21.48**	**66**	pP		pP	14 57 57.1	-1.0
	comp=Z,1.3nm,0.5s,baz=283,slow=9.4,SNR=4.8							
ESDC	**Sonseca Array**	**23.13**	**266**	P		**P**	**14 57 53.5**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=62,slow=9.3,SNR=7.3							
ARCES	**ARCESS Array B**	**23.93**	**359**	P		**P**	**14 58 02.1**	**+1.1**
	comp=Z,3.4nm,1.0s,baz=190,slow=9.7,SNR=3.8							
ARCES	**ARCESS Array B**	**23.93**	**359**	P		**P**	**14 58 02.1**	**+1.1**
ARCES				pmax	pmax			
	comp=Z,3.0nm,1.0s							
KURK	**Kurchatov**	**34.48**	**62**	*i* P		**P**	**14 59 36.5**	**+1.9**
KURK				pmax	pmax			
	comp=Z,1.0nm,1.1s							
KURK	**Kurchatov**	**34.48**	**62**	*i* P		**P**	**14 59 36.5**	**+1.9**
	comp=Z,1.0nm,1.1s							
ZALV	**Zalesovo Beam**	**37.53**	**56**	pP		pP	15 00 26.4	+0.8
	comp=Z,1.7nm,0.6s,baz=276,slow=9.6,SNR=4.2							
MKAR	**Makanchi Array**	**37.89**	**68**	P		**P**	**15 00 05.0**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=275,slow=7.3,SNR=3.7							
MKAR				pP		**pP**	**15 00 28.8**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=264,slow=9.4,SNR=4.9							
MKAR	**Makanchi Array**	**37.89**	**68**	P		**P**	**15 00 05.0**	**+1.3**
TORD	**Torodi Ar. Bea**	**38.66**	**221**	P		**P**	**15 00 11.7**	**+1.3**
	comp=Z,1.5nm,0.4s,baz=33,slow=8.6,SNR=31							
TORD				pP		**pP**	**15 00 36.1**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=26,slow=9.0,SNR=2.3							
DBIC	**Dimbokro**	**47.41**	**225**	P		**P**	**15 01 21.2**	**+0.3**
	comp=Z,3.3nm,0.3s,baz=14,slow=8.1,SNR=17							
DBIC	**Dimbokro**	**47.41**	**225**	P		**P**	**15 01 21.2**	**+0.3**
DBIC				pmax	pmax			
	comp=Z,3.0nm,0.3s							

IDC 12 15:03:10.2±4.3, 22.18S×70.23W, h0km, mb4.0/1, mb1 3.7/2, mb1mx3.5/16, mbtmp3.7/2, ML3.3/1, Error ellipse: s-maj=134.4km s-min=61.9km az=90.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**6.19**	**19**	Pn	**Pn**	15 04 43.5	-0.2
	0.4nm,0.3s,baz=198,slow=7.5,SNR=8.9						
TORD	**Torodi Ar. Bea**	**78.74**	**71**	P	P	15 15 15.2	0.0
	0.5nm,0.4s,baz=250,slow=5.6,SNR=12						
H11S2	**WAKE ISLAND Hyd**	**126.74**	**277**	T	T	17 42 24.1	
	baz=101						
H11S1	**WAKE ISLAND Hyd**	**126.75**	**277**	T	T	17 42 29.3	
	baz=101						
H11S3	**WAKE ISLAND Hyd**	**126.76**	**277**	T	T	17 42 31.9	
	baz=101						
MKAR	**Makanchi Array**	**146.90**	**35**	PKPbc	**PKPbc**	15 22 53.8	-0.8
	0.3nm,0.6s,baz=336,slow=3.2,SNR=4.0						

*IDC **12** 15:04:26.3±0.7, 21.49N×143.82E, h0km, mb4.0/13, mb1 4.2/14, mb1mx4.0/27, mbtmp4.0/14, ML4.2/1, MS3.0/5, Ms1 3.0/5, ms1mx2.8/22, Error ellipse: s-maj=24.1km s-min=17.5km az=87.0*

*ISCJB **12** 15:04:29.7±0.5, 21.48N±0.05×143.7E±0.1, h33km, mb4.1/16, MS2.9/4, Error ellipse: s-maj=17.9km s-min=6.8km az=171.5*

*NEIC **12** 15:04:32.2±1.3, 21.48N×143.78E, h40km±11km, mb4.2/4, Error ellipse: s-maj=11.2km s-min=7.0km az=90.0*

ISC 12 15:04:31.3±0.7, 21.45N±0.08×143.8E±0.2, h33km, n33, σ0.47/26, mb4.1/17, MS3.1/4, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.81**	**345**	Pn	**Pn**	**15 05 55.2**	**0.0**
CBIJ					Sn	**Sn**	**15 07 01.0**	**+0.3**
JCJ	**Chichijima**	**5.81**	**345**	Pn	**Pn**	**15 05 55.2**	**0.0**
	7.1nm,0.3s,baz=279,slow=23,SNR=14						
JCJ					Sn	**Sn**	**15 07 01.0**	**+0.3**
	8.8nm,0.3s,baz=143,slow=20,SNR=3.6						
GUMO	**Guam**	**7.88**	**173**	LR	LR	15 08 58.1	
	comp=Z,144nm,19.5s,baz=355,slow=34						
KSRS	**Korea Array**	**21.06**	**323**	P	**P**	**15 09 13.1**	**+0.5**
	1.0nm,0.6s,baz=142,slow=8.1,SNR=6.3						
KSRS				LR	LR	15 17 16.4	
	comp=Z,11nm,19.9s,baz=146,slow=37						
KSAR	**Wonju Array Be**	**21.08**	**323**	P	**P**	**15 09 13.1**	**+0.3**
H11N1	**WAKE ISLAND Hyd**	**21.67**	**90**	T	T	15 31 39.9	
	baz=278,slow=75,SNR=18						
H11N2	**WAKE ISLAND Hyd**	**21.67**	**90**	T	T	15 31 42.9	
	baz=278,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hyd**	**21.69**	**90**	T	T	15 31 38.4	
	baz=278,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hyd**	**21.69**	**94**	T	T	15 31 39.8	
	baz=281,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hyd**	**21.70**	**94**	T	T	15 31 43.7	
	baz=281,slow=75,SNR=17						
H11S2	**WAKE ISLAND Hyd**	**21.71**	**94**	T	T	15 31 39.1	
	baz=281,slow=75,SNR=17						
PETK	**Petropavlovsk-**	**33.35**	**15**	LR	LR	15 23 50.2	
	comp=Z,23nm,19.1s,baz=219,slow=35						
SEY	**Seymchan**	**41.86**	**6**	P	**P**	**15 12 18.0**	**-0.1**
	1.5nm,0.9s,baz=233,slow=20,SNR=3.2						
WRAB	**Tennant Creek**	**42.16**	**193**	P	**P**	**15 12 21.3**	**+0.4**
	1.6nm,0.4s						
WRA	**Warramunga Arr**	**42.17**	**193**	P	**P**	**15 12 21.5**	**+0.5**
	0.8nm,0.4s,baz=17,slow=9.0,SNR=20						
CMAR	**Chiang Mai Arr**	**42.18**	**274**	P	**P**	**15 12 21.9**	**+0.7**
	0.5nm,0.6s,baz=68,slow=7.0,SNR=4.2						
AS31	**Alice Springs**	**45.87**	**193**	*e*P	**P**	**15 12 50.8**	**+0.1**
STKA	**Stephens Creek**	**53.07**	**182**	P	**P**	**15 13 45.1**	**-0.4**
	1.7nm,0.9s,baz=338,slow=19,SNR=2.7						
ZALV	**Zalesovo Beam**	**54.77**	**322**	P	**P**	**15 13 57.3**	**-0.3**
	0.5nm,0.4s,baz=128,slow=9.5,SNR=2.8						
MK31	**Makanchi Array**	**55.29**	**313**	*e*P	**P**	**15 14 01.8**	**+0.2**
MKAR	**Makanchi Array**	**55.29**	**313**	P	**P**	**15 14 01.7**	**0.0**
	0.7nm,0.6s,baz=92,slow=9.6,SNR=8.4						
KURK	**Kurchatov**	**58.05**	**317**	*e*P	**P**	**15 14 20.6**	**-0.5**
	1.1nm,0.6s						
ILAR	**Eielson Array**	**61.99**	**27**	P	**P**	**15 14 47.6**	**-0.3**
	1.4nm,0.8s,baz=258,slow=5.8,SNR=17						
ABKAR	**Akbulak array**	**70.13**	**316**	*e*P	**P**	**15 15 39.9**	**-0.5**
	2.2nm,0.6s						
YKA	**Yellowknife Ar**	**76.40**	**28**	P	**P**	**15 16 17.5**	**+0.4**
	1.4nm,0.6s,baz=290,slow=5.7,SNR=6.1						
ARCES	**ARCESS Array B**	**79.34**	**342**	P	**P**	**15 16 32.9**	**-0.5**
	1.5nm,0.6s,baz=72,slow=7.8,SNR=11						
ARCES				LR	LR	15 56 54.8	
	comp=Z,13nm,18.1s,baz=276,slow=40						
NVAR	**Mina Array Bea**	**82.83**	**52**	P	**P**	**15 16 53.5**	**+0.6**
	2.3nm,0.7s,baz=284,slow=5.4,SNR=15						
KBZ	**Khabaz**	**82.96**	**314**	P	**P**	**15 16 53.0**	**-0.1**
	3.2nm,0.7s,baz=80,slow=6.1,SNR=7.6						
FINES	**FINESS Array B**	**83.65**	**335**	P	**P**	**15 16 55.3**	**-1.1**
	2.3nm,0.5s,baz=85,slow=4.1,SNR=17						
HWUT	**Hardware Ranch**	**86.32**	**47**	*e*P	**P**	**15 17 11.0**	**+0.5**
	8.7nm,1.5s						
NOA	**NORSAR Array B**	**89.38**	**339**	LR	LR	16 00 30.8	
	comp=Z,11nm,21.1s,baz=300,slow=38						

TORD	**Torodi Ar. Bea**	**129.35**	**309**	PKP	**PKPdf**		**15 23 36.8**	**-0.6**
	0.3nm,0.8s,baz=25,slow=3.1,SNR=2.4							
LPAZ	**La Paz**	**149.37**	**86**	PKPbc	**PKPbc**		**15 24 18.9**	**+0.4**
	1.8nm,0.6s,baz=356,slow=2.3,SNR=9.8							

*NEIC **12** 15:15:12.8, 40.68N×124.61W, h24km, ML3.1(NCEDC), After NCEDC.*

NEIC Felt [III] at Ferndale and [II] at Arcata and Eureka. Also felt at Albion, Bayside, Kneeland, McKinleyville and Samoa.

ISC 12 15:15:12.3±1.8, 40.68N±0.06×124.57W±0.09, h25km, n19, σ1.916/26, 1D, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHMM	**Horse Mountain**	**0.67**	**73**	*e*Pg	**Pb**	**15 15 25.4**	**0.0**
KHMM				*e*Sg	**Sb**	**15 15 34.0**	**-0.4**
KIPM	**Iron Peak**	**1.21**	**136**	*e*Pn	**Pn**	**15 15 33.1**	**-0.6**
KCPM	**Cahto Peak**	**1.25**	**142**	*e*Pn	**Pn**	**15 15 34.0**	**-0.3**
KSXB	**Camp Six Broad**	**1.26**	**24**	⇓P	**Pn**	**15 15 33.2**	**-1.3**
N02D	**Trinity Center**	**1.45**	**78**	P	**Pn**	**15 15 36.5**	**-0.4**
	baz=1.5,SNR=124						
N02D				Sn	**Sn**	**15 15 55.7**	**+0.5**
	baz=1.5						
M02C	**Callahan**	**1.48**	**61**	P	**Pn**	**15 15 36.7**	**-0.8**
	baz=1.5,SNR=177						
M02C				Sn	**Sn**	**15 15 54.2**	**-1.9**
	baz=1.5						
KTRM	**Thompson Ridge**	**1.52**	**36**	P	**Pn**	**15 15 37.1**	**-0.9**
WDC	**Whiskeytown Da**	**1.55**	**93**	*e*Pn	**Pn**	**15 15 38.2**	**-0.1**
KBO	**Bosley Butte**	**1.55**	**10**	*e*Pn	**Pn**	**15 15 36.3**	**-2.1**
KBO				*e*Pg	**Pb**	**15 15 42.7**	**+2.3**
L02D	**Cave Junction,**	**1.65**	**26**	P	**Pn**	**15 15 38.8**	**-0.8**
	baz=1.7,SNR=338						
L02D				Sn	**Sn**	**15 15 58.1**	**-1.9**
	baz=1.7						
YBH	**Yreka Blue Hor**	**1.75**	**53**	*e*Pn	**Pn**	**15 15 40.8**	**-0.4**
HUMO	**Hull Mountain**	**2.27**	**32**	*e*Pn	**Pn**	**15 15 47.8**	**-0.5**
HUMO				*e*Pg	**Pb**	**15 15 53.9**	**+1.2**
M04C	**Macdoel**	**2.34**	**61**	P	**Pn**	**15 15 50.0**	**+0.7**
	baz=2.4,SNR=21						
K04D	**Chiloquin, OR**	**2.87**	**46**	P	**Pn**	**15 15 57.3**	**+0.7**
	baz=2.9,SNR=8.5						
I03D	**Drain, OR**	**3.15**	**16**	P	**Pn**	**15 16 00.6**	**+0.3**
	baz=3.2,SNR=9.4						
I03D				S	**Sn**	**15 16 35.5**	**-1.5**
	baz=3.2						
J04D	**Umpqua Nationa**	**3.15**	**35**	P	**Pn**	**15 16 01.8**	**+1.3**
	baz=3.2,SNR=7.4						
MOD	**Modoc**	**3.44**	**68**	Pn	**Pn**	**15 16 05.4**	**+0.9**
I04A	**Tendick Farm,**	**3.50**	**27**	P	**Pn**	**15 16 06.1**	**+0.9**
	baz=3.5						
J05D	**Fort Rock, OR**	**3.60**	**43**	P	**Pn**	**15 16 07.6**	**+1.0**
	baz=3.6						

*ISCJB **12** 15:48:43.1±0.3, 3.00N±0.04×124.43E±0.04, h350km, mb3.6/17, Error ellipse: s-maj=6.4km s-min=5.1km az=36.4*

*KLM **12** 15:48:43.0, 3.18N×124.54E, h310km, mb4.4, ML4.3, MS5.4*

*IDC **12** 15:48:46.1±1.4, 2.99N×124.44E, h366km±14km, mb3.5/17, mb1 3.6/20, mb1mx3.5/30, mbtmp4.3/20, Error ellipse: s-maj=13.3km s-min=7.6km az=74.0*

*DJA **12** 15:48:46.7±0.4, 3.7N±5×12.4E±, h301km±7km, M4.6/14, mb4.5/14, mB5.1/5, MLv4.5/11, MLv4.7/14, Mw(mB)4.4/5*

ISC 12 15:48:44.7±0.5, 3.01N±0.06×124.40E±0.07, h350km, n50, σ1.938/54, mb3.7/17, 4C-5D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**2.45**	**190**	P	**Pn**	**15 49 37.3**	**-2.1**
MRSI	**Marisa**	**3.51**	**224**	P	**Pn**	**15 49 47.0**	**-1.9**
TNTI	**Ternate**	**3.71**	**127**	P	**Pn**	**15 49 49.0**	**-1.8**
LUWI	**Luwuk**	**4.34**	**202**	P	Pn	15 49 54.1	-3.1
LUWI	**Luwuk**	**4.34**	**202**	P	**Pn**	**15 49 54.4**	**-2.9**
	baz=4.3,SNR=23						
APSI	**Ampana**	**4.76**	**215**	P	**Pn**	**15 50 00.0**	**-1.8**
LBMI	**Labuha**	**4.77**	**139**	P	**Pn**	**15 49 59.4**	**-2.4**
MPSI	**Mapaga**	**5.22**	**240**	P	**Pn**	**15 50 06.5**	**-0.2**
	9.8nm,1.2s,962nm0.1nm						
SANI	**Sanana**	**5.27**	**162**	P	Pn	15 50 03.3	-4.0
	138nm,0.9s,8μm1.6nm						
SANI				S	S	15 51 01.4	-13
	138nm,0.9s,8μm1.6nm						
BIPH	**Bislig**	**5.50**	**21**	⇑*e*P	**Pn**	**15 50 07.8**	**-2.1**
BIPH				*e*S	S	15 51 12.6	-6.3
MYLDM	**Lahad Datu**	**6.26**	**290**	⇓P	**Pn**	**15 50 17.9**	**-0.6**
NLAI	**Namlea**	**6.77**	**156**	P	**Pn**	**15 50 21.9**	**-2.5**
	38nm,0.6s,1μm1.7nm						
NLAI				S	S	15 51 38.6	-6.8
	38nm,0.6s,1μm1.7nm						
SDKM	**Sandakan**	**7.64**	**290**	⇑P	**Pn**	**15 50 32.7**	**-1.9**
SWI	**Sorong**	**7.87**	**119**	P	**Pn**	**15 50 39.3**	**+2.0**
	30nm,0.8s,0.1nm						
SWI	**Sorong**	**7.87**	**119**	P	**Pn**	**15 50 37.6**	**+0.3**
	baz=7.9,SNR=5.1						
SIJI	**Sorong**	**7.88**	**119**	P	**Pn**	**15 50 37.5**	**+0.1**
	2.3nm,0.3s,baz=337,slow=22,SNR=8.7						
KKM	**Kota Kinabalu**	**8.69**	**291**	P	**Pn**	**15 50 45.1**	**-2.1**
	baz=8.7,SNR=5.6						
KKM	**Kota Kinabalu**	**8.69**	**291**	⇑P	**Pn**	**15 50 45.4**	**-1.8**
BNDI	**Bandanaira**	**9.29**	**144**	P	**Pn**	**15 50 54.8**	**+0.6**
	215nm,1.1s						
FAKI	**Fak Fak**	**9.81**	**127**	P	**Pn**	**15 51 00.1**	**-0.4**
	baz=9.8,SNR=15						
KBKI	**Kotabaru**	**10.34**	**233**	P	**P**	**15 51 08.5**	**+0.6**
	31nm,0.9s						
RKPI	**Ransiki, Papua**	**10.76**	**115**	P	**P**	**15 51 14.8**	**+2.1**
	46nm,0.9s						
BTM	**Bintulu**	**11.30**	**271**	⇓P	**P**	**15 51 19.7**	**+1.1**
BBKI	**Banjar Baru**	**11.51**	**236**	P	**Pn**	**15 51 20.2**	**-0.5**
	50nm,1.0s						
SBUM	**Sibu**	**12.17**	**268**	⇓P	**Pn**	**15 51 28.8**	**+0.2**
BAKI	**Biak**	**12.43**	**109**	P	**Pn**	**15 51 33.3**	**+1.7**
	46nm,0.9s						
STKI	**Sintang**	**13.24**	**257**	P	**Pn**	**15 51 42.1**	**+0.9**
KSM	**Kuching**	**14.16**	**264**	⇑P	**Pn**	**15 51 52.0**	**+0.1**
JAY	**Jayapura**	**17.20**	**108**	P	**P**	**15 52 23.6**	**+0.3**
	1.4nm,0.3s,baz=232,slow=10,SNR=9.8						
LEM	**Lembang**	**19.39**	**240**	P	**P**	**15 52 48.3**	**+1.6**
	1.8nm,0.3s,baz=11,slow=6.9,SNR=9.3						
MYKOM	**Kota Tinggi**	**20.56**	**267**	⇓P	**P**	**15 53 00.1**	**+2.1**
KGM	**Kluang**	**21.08**	**268**	⇓P	**P**	**15 53 04.7**	**+2.0**
WRA	**Warramunga Arr**	**24.81**	**157**	P	**P**	**15 53 35.9**	**-0.6**
	4.6nm,0.3s,baz=336,slow=10,SNR=165						
WRA				PcP	**PcP**	**15 57 02.6**	**+0.3**
	0.8nm,0.4s,baz=325,slow=2.3,SNR=6.3						
WRA				S	**S**	**15 57 30.1**	**-2.8**
	0.9nm,0.5s,baz=336,slow=16,SNR=4.6						
PSI	**Prapat**	**25.44**	**270**	P	**P**	**15 53 41.7**	**-0.5**
	1.5nm,0.4s,baz=129,slow=3.4,SNR=4.0						
ASAR	**Alice Springs**	**28.09**	**161**	P	**P**	**15 54 05.3**	**-0.2**
	1.4nm,0.6s,baz=342,slow=7.7,SNR=54						
ASAR				PcP	**PcP**	**15 57 10.0**	**0.0**
	0.4nm,0.3s,baz=341,slow=2.2,SNR=4.2						
ASAR				S	**S**	**15 58 23.1**	**-1.3**
	1.4nm,0.8s,baz=337,slow=14,SNR=8.2						
CMAR	**Chiang Mai Arr**	**29.27**	**303**	P	**P**	**15 54 17.0**	**+1.0**
	0.3nm,0.4s,baz=126,slow=7.6,SNR=5.7						
MJAR	**Matsushiro Arr**	**35.72**	**19**	P	**P**	**15 55 10.7**	**-0.6**
	2.4nm,0.6s,baz=196,slow=9.9,SNR=8.6						
NWAO	**Narrogin (SRO)**	**36.38**	**190**	P	**P**	**15 55 16.3**	**-0.6**
	19nm,1.0s,baz=331,slow=3.5,SNR=9.0						
STKA	**Stephens Creek**	**38.35**	**156**	P	**P**	**15 55 34.2**	**+1.0**
	3.7nm,0.6s,baz=334,slow=7.0,SNR=10						
USRK	**Ussuriysk Ar.**	**41.57**	**8**	P	**P**	**15 55 59.8**	**+0.5**
	1.0nm,0.6s,baz=214,slow=6.7,SNR=3.8						
ASAJ	**Asahikawa**	**43.99**	**19**	P	**P**	**15 56 18.8**	**+0.2**
	5.8nm,0.7s,baz=248,slow=11						
SONM	**Songino Array**	**47.28**	**344**	P	**P**	**15 56 44.1**	**-0.1**
	0.3nm,0.4s,baz=153,slow=7.5,SNR=4.1						
MKAR	**Makanchi Array**	**56.84**	**327**	P	**P**	**15 57 53.4**	**-0.4**
	1.1nm,0.3s,baz=122,slow=7.6,SNR=45						
MKAR				PcP	**PcP**	**15 58 44.4**	**-0.6**
	1.0nm,0.7s,baz=132,slow=3.9,SNR=6.8						
MKAR				ScP	**ScP**	**16 02 10.4**	**+0.1**
	0.5nm,0.6s,baz=135,slow=4.3,SNR=4.4						
PETK	**Petropavlovsk-**	**56.99**	**23**	P	**P**	**15 57 55.5**	**+0.8**
	6.5nm,1.1s,baz=181,slow=5.9,SNR=3.5						
MAW	**Mawson**	**82.28**	**200**	P	**P**	**16 00 27.4**	**+0.1**
	1.5nm,0.5s,baz=345,slow=2.5,SNR=3.8						
VNDA	**Vanda**	**83.02**	**172**	P	**P**	**16 00 31.3**	**+0.3**
	0.5nm,0.4s,baz=329,slow=5.6,SNR=5.5						
ILAR	**Eielson Array**	**86.75**	**25**	P	**P**	**16 00 48.6**	**-1.1**
	0.3nm,0.5s,baz=258,slow=4.6,SNR=5.5						
ARCES	**ARCESS Array B**	**90.31**	**340**	P	**P**	**16 01 04.9**	**-1.3**
	1.1nm,0.8s,baz=83,slow=5.6,SNR=5.3						
FINES	**FINESS Array B**	**91.36**	**332**	P	**P**	**16 01 09.6**	**-1.6**
	1.0nm,0.6s,baz=64,slow=4.4,SNR=5.1						
TORD	**Torodi Ar. Bea**	**120.92**	**287**	PKP	**PKPdf**	**16 06 56.1**	**-0.7**
	0.7nm,0.3s,baz=84,slow=1.5,SNR=13						

KMA 12 16:00:24.1, 38.24N×128.89E, h0km, North Korea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSSKC	**Sokcho**	**0.29**	**280**	P	Pg	16 00 30.2	+0.4
	SNR=12						
KSSKC	**Sokcho**	**0.29**	**280**	P	Pg	16 00 30.2	+0.4
	SNR=12						
KSJMJ	**Jumunjin**	**0.37**	**197**	P	Pg	16 00 31.3	+0.1
	SNR=76						
KSJMJ	**Jumunjin**	**0.37**	**197**	P	Pg	16 00 31.3	+0.1
	SNR=76						
SEHB	**SEOHWA**	**0.50**	**274**	P	Pg	16 00 33.9	+0.1
	SNR=72						
SEHB	**SEOHWA**	**0.50**	**274**	P	Pg	16 00 33.9	+0.1
	SNR=72						
KSDGY	**Daegwallycong**	**0.57**	**198**	P	Pg	16 00 34.9	-0.2
	SNR=21						
KSDGY	**Daegwallycong**	**0.57**	**198**	P	Pg	16 00 34.9	-0.2
	SNR=21						
KSIJA	**INJE**	**0.66**	**248**	P	Pg	16 00 36.7	-0.1
	SNR=11						
KSIJA	**INJE**	**0.66**	**248**	P	Pg	16 00 36.7	-0.1
	SNR=11						
KSCHC	**Chuncheon**	**0.97**	**242**	P	Pg	16 00 42.3	-0.3
	SNR=65						
KSCWO	**Cheorwon**	**1.09**	**262**	P	Pg	16 00 45.2	+0.1
	SNR=15						
KSTBA	**Taebaek**	**1.11**	**177**	P	Pg	16 00 44.8	-0.8
	SNR=18						
YNCB	**YEONCHEON**	**1.56**	**263**	P	Pb	16 00 53.6	-0.3
	SNR=9.7						
KSULJ	**Uljin**	**1.59**	**165**	P	Pn	16 00 53.1	-0.3
	SNR=5.4						
KSMUS	**Musan**	**1.72**	**259**	P	Pg	16 00 56.8	-0.2
	SNR=17						
KSCEA	**Cheonan**	**1.92**	**223**	P	Pb	16 00 59.3	-0.7
	SNR=7.3						
KSBON	**Boeun**	**1.94**	**207**	P	Pb	16 00 59.5	-0.8
	SNR=6.8						

GUC 12 16:08:25.7±0.6, 36.87S×73.29W, h28km±3km, ML4.3, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.15**	**79**	⇓*i*P	Pb	16 08 31.1	0.0
CCSP				*i* S	Sb	16 08 34.9	+0.1
CCSP				AML	AML	16 08 35.9	
	comp=E,36μm,0.3s						
U14B	**Concepcin**	**0.17**	**85**	*e*P	Pb	16 08 30.8	-0.5
U14B				*i* S	Sb	16 08 35.2	+0.2
U14B				AML	AML	16 08 36.8	
	comp=N,128μm,0.4s						
LNCH	**Linares**	**1.70**	**54**	*e*P	Pn	16 08 54.8	+1.2
LNCH				*i* S	Sb	16 09 16.6	-0.7
TALC	**Talca**	**1.99**	**43**	⇑*i*P	Pn	16 08 58.6	+1.1
TALC				*i* S	Sn	16 09 23.4	+1.9

*ISCJB **12** 16:14:52.3±1.6, 41.36N±0.06×81.1E±0.2, h10km, Error ellipse: s-maj=23.1km s-min=8.9km az=4.3*

*NNC **12** 16:14:57.3±3.3, 41.75N×81.03E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=25.3km s-min=18.6km az=152.0*

ISC 12 16:14:54.1±1.7, 41.47N±0.10×81.2E±0.1, h10km, n9, σ1.964/8, 5C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**2.23**	**327**	⇑Pn	**Pn**	**16 15 32.5**	**+1.4**
	17nm,0.2s						
PDGK				⇑Sn	**Sn**	**16 15 58.6**	**-0.2**
	106nm,0.3s						
TKM2	**Tokmak 2**	**4.38**	**291**	⇓Pn	**Pn**	**16 16 01.4**	**+0.5**
	1.7nm,0.2s						
TKM2				⇓Lg	Lg	16 17 05.7	
	19nm,0.5s						
AAK	**

TUMR	**Tumrok**	**6.07**	**17**	PN	Pn	16 16 37.3	+6.2
KBTR	**Krutoberegovo**	**7.54**	**25**	*e*P	Pn	16 16 55.4	+4.3
KBTR	**Krutoberegovo**	**7.54**	**25**	PN	Pn	16 16 55.4	+4.3

NNC ***12*** *16:20:02.2±2.0, 37.˙33N×71.˙31E, h148km±20km, mb2.7, mpv3.7, Error ellipse: s-maj=19.3km s-min=7.0km az=162.0*

ISC 12 16:20:02.5±3.3, 37.˙3N±0.˙2×71.˙39E±0.˙08, h109km±n11, σ1§04/15, 4C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.54**	**308**	⇓P		**Pn**	**16 20 42.5**	**0.0**
	19nm,0.3s							
DZET				⇓S		**Sn**	**16 21 14.7**	**+1.6**
	60nm,0.2s							
SFK	**Sufi-Kurgan**	**3.20**	**31**	⇓P		**Pn**	**16 20 51.6**	**+0.3**
	8.1nm,0.3s							
SFK				⇑S		**Sn**	**16 21 31.7**	**+2.7**
	12nm,0.2s							
AML	**Almayashu**	**5.17**	**19**	P		**Pn**	**16 21 17.7**	**-0.2**
	SNR=9.5							
UCH	**Uchtor**	**5.51**	**25**	P		**Pn**	**16 21 22.2**	**-0.3**
	SNR=5.4							
KZA	**Kyzart**	**5.65**	**31**	P		**Pn**	**16 21 23.8**	**-0.6**
	SNR=11							
EKS2	**Erkin-Say**	**5.69**	**18**	P		**Pn**	**16 21 25.2**	**+0.5**
	SNR=14							
AAK	**Ala-Archa**	**5.86**	**23**	P		**Pn**	**16 21 27.3**	**+0.2**
	SNR=5.8							
AAK	**Ala-Archa**	**5.86**	**23**	⇓P		**Pn**	**16 21 26.9**	**-0.2**
	3.0nm,0.3s							
AAK				⇑S		**Sn**	**16 22 32.7**	**-0.4**
	4.9nm,0.5s							
KK31	**Karatay Array**	**5.86**	**354**	⇑P		**Pn**	**16 21 27.4**	**+0.5**
	1.7nm,0.2s,baz=176,slow=11,SNR=78							
KK31				⇑S		**Sn**	**16 22 31.8**	**-1.1**
	2.4nm,0.4s,baz=166,slow=22,SNR=9.0							
CHMS	**Chumysh**	**6.28**	**23**	P		**Pn**	**16 21 32.5**	**-0.1**
	SNR=5.2							
AB31	**Akbulak array**	**14.57**	**329**	P		**Pn**	**16 23 22.3**	**-0.9**
	0.2nm,0.3s,baz=166,slow=11,SNR=8.5							

IDC ***12*** *16:32:52.4±1.2, 35.˙80N×4.˙20E, h0km, mb3.4/4, mb1 3.6/8, mb1mx3.4/38, mbtmp3.5/8, ML3.6/4, MS2.6/2, Ms1 2.6/2, ms1mx2.1/25, Error ellipse: s-maj=24.7km s-min=17.4km az=157.0*

CRAAG ***12*** *16:32:52.9, 36.˙01N×4.˙06E, Ml4.5*

ISCJB ***12*** *16:32:53.6±0.6, 36.˙12N±0.˙03×4.˙06E±0.˙02, h23km±6km, mb3.4/4, MS2.5/1, Error ellipse: s-maj=4.8km s-min=3.3km az=174.8*

CSEM ***12*** *16:32:53.3±0.2, 36.˙12N×4.˙04E, h5km, mb4.2, Error ellipse: s-maj=5.9km s-min=3.6km az=177.0*

LDG ***12*** *16:32:55.9±0.3, 36.˙04N×3.˙90E, h30km, Ml3.3/8, Error ellipse: s-maj=6.2km s-min=2.8km az=153.0*

MDD ***12*** *16:32:56.2±0.6, 35.˙86N×4.˙10E, h60km, mb4.2/22, Error ellipse: s-maj=10.4km s-min=5.3km az=4.0, PRXIMO*

CNRM ***12*** *16:33:02.4, 35.˙39N×4.˙49E, h18km, MD2.9*

ISC 12 16:32:54.3±0.7, 36.˙02N±0.˙05×4.˙09E±0.˙03, h20km±7km, n143, σ1§49/165, mb3.5/4, 1C-1D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AKET	**Djebel Ketaf**	**0.17**	**278**	P		Pb	16 32 56.8	-3.3
AKET	**Djebel Ketaf**	**0.17**	**278**	P		Pb	16 32 56.8	-3.3
AKET	**Djebel Ketaf**	**0.17**	**278**	P		Pb	16 32 56.8	-3.3
ATAF	**Djebel Tarf**	**0.21**	**134**	P		Pb	16 32 55.8	-4.4
ATAF	**Djebel Tarf**	**0.21**	**134**	P		Pb	16 32 55.8	-4.4
ATAF	**Djebel Tarf**	**0.21**	**134**	P		Pb	16 32 55.8	-4.4
EMHD	**Djebel Mahouad**	**0.94**	**281**	P		**Pb**	**16 33 11.0**	**-1.0**
EMHD	**Djebel Mahouad**	**0.94**	**281**	P		**Pb**	**16 33 11.0**	**-1.0**
EMHD	**Djebel Mahouad**	**0.94**	**281**	P		**Pb**	**16 33 11.0**	**-1.0**
SET	**Setif**	**1.08**	**80**	P		**Pb**	**16 33 15.0**	**+0.7**
SET	**Setif**	**1.08**	**80**	P		**Pb**	**16 33 15.0**	**+0.7**
SET	**Setif**	**1.08**	**80**	P		**Pb**	**16 33 15.0**	**+0.7**
CKHR	**Kef el Ahmar**	**1.15**	**90**	P		**Pn**	**16 33 15.2**	**-0.2**
CKHR	**Kef el Ahmar**	**1.15**	**90**	P		**Pn**	**16 33 15.2**	**-0.2**
CKHR	**Kef el Ahmar**	**1.15**	**90**	P		**Pn**	**16 33 15.2**	**-0.2**
DFRA	**Djebel Bou Aff**	**1.54**	**70**	P		**Pb**	**16 33 24.2**	**+2.0**
DFRA	**Djebel Bou Aff**	**1.54**	**70**	P		**Pb**	**16 33 24.2**	**+2.0**
DFRA	**Djebel Bou Aff**	**1.54**	**70**	P		**Pb**	**16 33 24.2**	**+2.0**
CTEI	**Djebel Teioual**	**1.88**	**88**	P		**Pb**	**16 33 27.6**	**-0.4**
CTEI	**Djebel Teioual**	**1.88**	**88**	P		**Pb**	**16 33 27.6**	**-0.4**
CTEI	**Djebel Teioual**	**1.88**	**88**	P		**Pb**	**16 33 27.6**	**-0.4**
CASM	**Ain Smara**	**1.96**	**82**	P		**Pn**	**16 33 27.8**	**+1.4**
CASM	**Ain Smara**	**1.96**	**82**	P		**Pn**	**16 33 27.8**	**+1.4**
CASM	**Ain Smara**	**1.96**	**82**	P		**Pn**	**16 33 27.8**	**+1.4**
EBNR	**Beni Rached**	**2.09**	**278**	P		**Pb**	**16 33 28.7**	**+0.5**
EBNR	**Beni Rached**	**2.09**	**278**	P		**Pb**	**16 33 28.7**	**+0.5**
CKFL	**Kef-Lekhel**	**2.16**	**79**	P		**Pb**	**16 33 32.3**	**-0.5**
CKFL	**Kef-Lekhel**	**2.16**	**79**	P		**Pb**	**16 33 32.3**	**-0.5**
CKFL	**Kef-Lekhel**	**2.16**	**79**	P		**Pb**	**16 33 32.3**	**-0.5**
ECHA	**Ech Chlef**	**2.21**	**274**	P		**Pn**	**16 33 29.5**	**-0.3**
ECHA	**Ech Chlef**	**2.21**	**274**	P		**Pn**	**16 33 29.5**	**-0.3**
ECHF	**Ech Chlef**	**2.23**	**274**	P		**Pn**	**16 33 29.5**	**-0.6**
ECHF	**Ech Chlef**	**2.23**	**274**	P		**Pn**	**16 33 29.5**	**-0.6**
ETRT	**Tiaret**	**2.36**	**255**	P		**Pn**	**16 33 32.0**	**0.0**
ETRT	**Tiaret**	**2.36**	**255**	P		**Pn**	**16 33 32.0**	**0.0**
ETRT	**Tiaret**	**2.36**	**255**	P		**Pn**	**16 33 32.0**	**0.0**
EANR	**'Ain N'Sour**	**2.42**	**269**	P		**Pn**	**16 33 32.6**	**-0.3**
EANR	**'Ain N'Sour**	**2.42**	**269**	P		**Pn**	**16 33 32.6**	**-0.3**
EANR	**'Ain N'Sour**	**2.42**	**269**	P		**Pn**	**16 33 32.6**	**-0.3**
ABSA	**Djebel Ababsia**	**2.75**	**84**	P		**Pn**	**16 33 37.3**	**-0.1**
ABSA	**Djebel Ababsia**	**2.75**	**84**	P		**Pn**	**16 33 37.3**	**-0.1**
CABS	**Djebel Ababsia**	**2.75**	**84**	P		**Pn**	**16 33 37.3**	**-0.1**
CABS	**Djebel Ababsia**	**2.75**	**84**	P		**Pn**	**16 33 37.3**	**-0.1**
CMAH	**Djebel Manchou**	**2.76**	**76**	P		**Pn**	**16 33 38.4**	**+1.0**
CMAH	**Djebel Manchou**	**2.76**	**76**	P		**Pn**	**16 33 38.4**	**+1.0**
CMAH	**Djebel Manchou**	**2.76**	**76**	P		**Pn**	**16 33 38.4**	**+1.0**
OKGL	**Djebel Kef Gue**	**2.79**	**271**	P		**Pn**	**16 33 37.6**	**-0.3**
	39nm,0.4s,SNR=7.9							
OKGL				S		**Sn**	**16 34 13.0**	**+2.0**
	2µm,1.0s,SNR=7.9							
OKGL	**Djebel Kef Gue**	**2.79**	**271**	P		**Pn**	**16 33 37.6**	**-0.3**
	39nm,0.4s,SNR=7.9							
OKGL				S		**Sn**	**16 34 13.0**	**+2.0**
	2µm,1.0s,SNR=7.9							
EIBI	**Ibiza**	**3.71**	**325**	⇑P		**Pn**	**16 33 52.0**	**+1.6**
	22nm,0.5s,SNR=18							
EIBI				S		**Sn**	**16 34 34.0**	**+0.5**
	64nm,1.0s,SNR=8.6							
ETOS	**Mallorca**	**3.87**	**345**	P		**Pn**	**16 33 53.8**	**+1.1**
	12nm,0.8s,SNR=15							
ETOS				S		**Sn**	**16 34 38.2**	**+0.6**
	49nm,1.3s,SNR=17							
ETOS	**Mallorca**	**3.87**	**345**	P		**Pn**	**16 33 53.8**	**+1.1**
	12nm,0.8s,SNR=15							
ETOS				S		**Sn**	**16 34 38.2**	**+0.6**
	49nm,1.3s,SNR=17							
KEST	**Kesra**	**4.28**	**92**	Pn		Pn	**16 33 59.1**	**+0.8**
	0.7nm,0.3s,baz=260,slow=2.2,SNR=22							
KEST				Sn		**Sn**	**16 34 50.0**	**+2.2**
	0.5nm,0.3s,baz=323,slow=20,SNR=3.8							
EBEN	**Beniarda**	**4.36**	**309**	P		**Pn**	**16 34 01.3**	**+2.0**
	2.9nm,0.5s,SNR=7.9							
EBEN				S		**Sn**	**16 34 49.0**	**-0.5**
	16nm,0.9s,SNR=7.9							
EMUR	**La Murta**	**4.64**	**295**	⇓P		**Pn**	**16 34 04.2**	**+0.9**
	24nm,0.5s,SNR=18							
EMUR				S		**Sn**	**16 34 55.1**	**-1.5**
	6.3nm,0.5s,SNR=6.9							
EMUR	**La Murta**	**4.64**	**295**	P		**Pn**	**16 34 04.2**	**+0.9**
	24nm,0.5s,SNR=18							
EMUR				S		**Sn**	**16 34 55.1**	**-1.5**
	6.3nm,0.5s,SNR=6.9							
ENIJ	**Nijar**	**5.16**	**282**	P		**Pn**	**16 34 10.1**	**-0.3**
	11nm,0.4s,SNR=7.9							
ENIJ	**Nijar**	**5.16**	**282**	P		**Pn**	**16 34 10.1**	**-0.3**
	11nm,0.4s,SNR=7.9							
ETOB	**Tobarra**	**5.20**	**302**	P		**Pn**	**16 34 13.0**	**+2.0**
	11nm,0.6s,SNR=8.5							
ETOB				S		**Sn**	**16 35 07.4**	**-2.9**
	4.1nm,0.5s,SNR=11							
EMOS	**Mosqueruela**	**5.63**	**322**	P		**Pn**	**16 34 19.0**	**+2.0**
	5.5nm,0.5s,SNR=5.9							
EMOS				S		**Sn**	**16 35 20.6**	**-0.5**
	40nm,1.7s,SNR=6.3							
EBER	**Berja**	**5.69**	**281**	P		**Pn**	**16 34 17.6**	**-0.3**
	9.3nm,0.4s,SNR=15							
EBER				S		**Sn**	**16 35 20.3**	**-2.4**
	26nm,1.2s							
EBER	**Berja**	**5.69**	**281**	P		**Pn**	**16 34 17.6**	**-0.3**
	9.3nm,0.4s,SNR=15							
EBER				S		**Sn**	**16 35 20.3**	**-2.4**
	26nm,1.2s							
SESP	**Santiago Espad**	**5.70**	**293**	P		**Pn**	**16 34 20.0**	**+2.0**
	39nm,0.7s,SNR=7.9							
SESP				S		**Sn**	**16 35 19.5**	**-3.4**
	14nm,1.3s,SNR=7.9							
ERTA	**Horta de San J**	**5.74**	**330**	P		**Pn**	**16 34 20.9**	**+2.6**
	5.6nm,0.6s,SNR=4.0							
ERTA				S		**Sn**	**16 35 23.3**	**-0.3**
	21nm,1.3s,SNR=7.9							
EPOB	**Poblet**	**5.82**	**337**	P		**Pn**	**16 34 21.1**	**+1.6**
	4.8nm,0.7s,SNR=7.9							
EPOB				S		**Sn**	**16 35 24.5**	**-1.1**
	1.7nm,1.2s,SNR=7.9							
CFON	**Fontmartina**	**5.87**	**348**	P		**Pn**	**16 34 21.1**	**+0.9**
	4.3nm,0.3s,SNR=7.7							
CFON				S		**Sn**	**16 35 27.8**	**+0.8**
	13nm,1.7s,SNR=7.9							
CFON	**Fontmartina**	**5.87**	**348**	P		**Pn**	**16 34 21.1**	**+0.9**
	4.3nm,0.3s,SNR=7.7							
CFON				S		**Sn**	**16 35 27.8**	**+0.8**
	13nm,1.7s,SNR=7.9							
GORA	**Gorafe**	**5.91**	**286**	P		**Pn**	**16 34 21.5**	**+0.8**
	7.0nm,0.1s,SNR=7.9							
GORA				S		**Sn**	**16 35 28.0**	**+0.2**
	8.6nm,1.2s,SNR=7.9							
GORA	**Gorafe**	**5.91**	**286**	P		**Pn**	**16 34 21.5**	**+0.8**
	7.0nm,0.1s,SNR=7.9							
GORA				S		**Sn**	**16 35 28.0**	**+0.2**
	8.6nm,1.2s,SNR=7.9							
EQES	**Quesada**	**6.00**	**289**	P		**Pn**	**16 34 25.0**	**+2.9**
	9.9nm,0.3s,SNR=19							
EQES				S		**Sn**	**16 35 31.1**	**+0.8**
	15nm,1.1s,SNR=11							
EQUE	**Quentar**	**6.17**	**283**	P		**Pn**	**16 34 25.2**	**+0.9**
	11nm,0.5s,SNR=17							
EQUE				S		**Sn**	**16 35 30.2**	**-4.1**
	6.1nm,0.6s,SNR=8.4							
EQUE	**Quentar**	**6.17**	**283**	P		**Pn**	**16 34 25.2**	**+0.9**
	11nm,0.5s,SNR=17							
EMIR	**Miracle**	**6.21**	**342**	P		**Pn**	**16 34 27.4**	**+2.5**
	9.9nm,0.4s,SNR=5.8							
EMIR				S		**Sn**	**16 35 35.9**	**+0.6**
	18nm,0.8s,SNR=7.9							
EJON	**La Jonquera**	**6.48**	**352**	P		**Pn**	**16 34 31.0**	**+2.4**
	3.5nm,0.5s,SNR=7.9							
SJAF	**Saint Jean de**	**6.52**	**352**	P		**Pn**	**16 34 29.7**	**+0.6**
	4.1nm,0.6s,SNR=7.9							
SJAF				S		**Sn**	**16 35 42.1**	**-0.7**
	48nm,1.6s,SNR=7.9							
SJAF	**Saint Jean de**	**6.52**	**352**	P		**Pn**	**16 34 29.7**	**+0.6**
	4.1nm,0.6s,SNR=7.9							
SJAF				S		**Sn**	**16 35 42.1**	**-0.7**
	48nm,1.6s,SNR=7.9							
CSOR	**Sort**	**6.75**	**341**	P		**Pn**	**16 34 33.1**	**+0.8**
	6.7nm,0.7s,SNR=4.0							
CSOR				S		**Sn**	**16 35 49.6**	**+1.1**
	33nm,1.7s,SNR=7.9							
CSOR	**Sort**	**6.75**	**341**	P		**Pn**	**16 34 33.1**	**+0.8**
	6.7nm,0.7s,SNR=4.0							
EMIJ	**Mijas**	**7.18**	**277**	P		**Pn**	**16 34 37.7**	**-0.4**
	3.1nm,0.5s,SNR=7.9							
EMIJ	**Mijas**	**7.18**	**277**	P		**Pn**	**16 34 37.7**	**-0.4**
	3.1nm,0.5s,SNR=7.9							
EADA	**Adamuz**	**7.25**	**290**	P		**Pn**	**16 34 40.1**	**+1.0**
	5.3nm,0.9s,SNR=7.9							
EADA				S		**Sn**	**16 35 59.7**	**-1.1**
	19nm,2.2s,SNR=7.9							
EADA	**Adamuz**	**7.25**	**290**	P		**Pn**	**16 34 40.1**	**+1.0**
	5.3nm,0.9s,SNR=7.9							
EADA				S		**Sn**	**16 35 59.7**	**-1.1**
	19nm,2.2s,SNR=7.9							
ESDC	**Sonseca Array**	**7.34**	**302**	Pn		Pn	**16 34 41.5**	**+1.1**
	1.0nm,0.3s,baz=121,slow=14,SNR=12							
ESDC				Sn		**Sn**	16 36 15.5	+12
	0.6nm,0.3s,baz=118,slow=27,SNR=4.2							
ESDC	**Sonseca Array**	**7.34**	**302**	P		**Pn**	**16 34 41.8**	**+1.4**
	2.4nm,0.6s,baz=119,slow=13,SNR=6.5							
ESDC	**Sonseca Array**	**7.34**	**302**	P		**Pn**	**16 34 41.8**	**+1.4**
	2.4nm,0.6s,SNR=6.5							
MTLF	**Montolieu**	**7.45**	**349**	*e*Pn		**Pn**	**16 34 40.0**	**-1.8**
MTLF				*e*Sn		Sn	16 35 57.3	-8.4
	8.4nm,0.9s							
MTLF	**Montolieu**	**7.45**	**349**	P		**Pn**	**16 34 40.0**	**-1.8**
MTLF				S		Sn	16 35 57.3	-8.4
	4.2nm,0.9s							
MTLF	**Montolieu**	**7.45**	**349**	P		**Pn**	**16 34 40.0**	**-1.8**
LMR	**La Mourre**	**7.54**	**14**	*e*Pn		**Pn**	**16 34 42.2**	**-0.8**
LMR	**La Mourre**	**7.54**	**14**	P		**Pn**	**16 34 42.2**	**-0.8**
LMR	**La Mourre**	**7.54**	**14**	*e*Pn		**Pn**	**16 34 42.2**	**-0.8**
PGF	**Pioggiola**	**7.54**	**29**	*e*Pn		**Pn**	**16 34 43.3**	**+0.1**
PGF				*e*Sn		**Sn**	**16 36 03.2**	**-5.0**
	8.1nm,0.7s							
PGF	**Pioggiola**	**7.54**	**29**	P		**Pn**	**16 34 43.3**	**+0.1**
PGF				S		**Sn**	**16 36 03.2**	**-5.0**
	4.1nm,0.7s							
PGF	**Pioggiola**	**7.54**	**29**	P		**Pn**	**16 34 43.3**	**+0.1**
EPF	**Esparros**	**7.57**	**339**	*e*Pn		**Pn**	**16 34 41.4**	**-2.2**
EPF				*e*Sn		Sn	16 35 59.6	-9.2
	6.3nm,0.6s							
EPF	**Esparros**	**7.57**	**339**	P		**Pn**	**16 34 41.4**	**-2.2**
EPF				S		Sn	16 35 59.6	-9.2
	3.2nm,0.6s							
EPF	**Esparros**	**7.57**	**339**	P		**Pn**	**16 34 41.4**	**-2.2**
ETSF	**Etsaut**	**7.75**	**334**	*e*Pn		**Pn**	**16 34 43.5**	**-2.5**
ETSF	**Etsaut**	**7.75**	**334**	P		**Pn**	**16 34 43.5**	**-2.5**
ETSF	**Etsaut**	**7.75**	**334**	P		**Pn**	**16 34 43.5**	**-2.5**
FRF	**La Foret Royal**	**7.78**	**14**	*e*Pn		**Pn**	**16 34 45.4**	**-0.9**
FRF	**La Foret Royal**	**7.78**	**14**	P		**Pn**	**16 34 45.4**	**-0.9**
FRF	**La Foret Royal**	**7.78**	**14**	P		**Pn**	**16 34 45.4**	**-0.9**
MDT	**Midelt**	**7.87**	**249**	Pn		**Pn**	**16 34 48.3**	**+0.5**
	0.3nm,0.3s,baz=75,slow=14,SNR=6.8							
MDT				Lg		Lg	16 37 04.8	
	0.7nm,0.3s,baz=319,slow=10,SNR=6.1							
ECAB	**El Cabril**	**7.87**	**288**	P		**Pn**	**16 34 48.1**	**+0.5**
	5.9nm,0.6s,SNR=7.9							
ECAB	**El Cabril**	**7.87**	**288**	P		**Pn**	**16 34 48.2**	**+0.5**
	5.9nm,0.6s,SNR=7.9							
SMRF	**Simiane la Rot**	**8.02**	**8**	*e*Pn		**Pn**	**16 34 48.6**	**-1.1**
SMRF	**Simiane la Rot**	**8.02**	**8**	P		**Pn**	**16 34 48.6**	**-1.1**
SMRF	**Simiane la Rot**	**8.02**	**8**	P		**Pn**	**16 34 48.6**	**-1.1**
LASF	**Ste Croix**	**8.04**	**359**	*e*Pn		**Pn**	**16 34 48.3**	**-1.7**
LASF				*e*Sn		Sn	16 36 12.9	-7.4
	1.7nm,0.4s							
LASF	**Ste Croix**	**8.04**	**359**	P		**Pn**	**16 34 48.3**	**-1.7**
LASF				S		Sn	16 36 12.9	-7.4
	0.9nm,0.4s							
LASF	**Ste Croix**	**8.04**	**359**	P		**Pn**	**16 34 48.3**	**-1.7**
ZFT	**Errachidia**	**8.06**	**243**	P		Pn	16 34 58.0	+7.6
ZFT				S		**Sn**	**16 36 23.0**	**+2.0**
MIF	**Mishlifen**	**8.10**	**254**	P		Pn	16 35 00.0	+9.0
MIF				S		**Sn**	**16 36 27.0**	**+4.9**
SJPF	**Ste Jean**	**8.18**	**332**	*e*Pn		**Pn**	**16 34 51.0**	**-0.9**
SJPF	**Ste Jean**	**8.18**	**332**	P		**Pn**	**16 34 51.0**	**-0.9**
SJPF	**Ste Jean**	**8.18**	**332**	*e*Pn		**Pn**	**16 34 51.0**	**-0.9**
SBF	**Sospel**	**8.24**	**17**	*e*Pn		**Pn**	**16 34 52.5**	**-0.2**
SBF	**Sospel**	**8.24**	**17**	P		**Pn**	**16 34 52.5**	**-0.2**
SBF	**Sospel**	**8.24**	**17**	P		**Pn**	**16 34 52.5**	**-0.2**
VIVF	**Saint-Julien-l**	**8.83**	**3**	*e*Pn		**Pn**	**16 34 59.2**	**-1.6**
VIVF				*e*Sn		Sn	16 36 31.9	-7.8
	2.0nm,0.5s							
VIVF	**Saint-Julien-l**	**8.83**	**3**	P		**Pn**	**16 34 59.2**	**-1.6**
VIVF				S		Sn	16 36 31.9	-7.8
	1.0nm,0.5s							
VIVF	**Saint-Julien-l**	**8.83**	**3**	P		**Pn**	**16 34 59.2**	**-1.6**
MBDF	**Montbardon**	**8.93**	**12**	*e*Pn		**Pn**	**16 35 01.3**	**-1.0**
MBDF				*e*Sn		Sn	16 36 35.1	-7.2
	5.6nm,0.8s							
MBDF	**Montbardon**	**8.93**	**12**	P		**Pn**	**16 35 01.3**	**-1.0**
MBDF				S		Sn	16 36 35.1	-7.2
	2.8nm,0.8s							
MBDF	**Montbardon**	**8.93**	**12**	P		**Pn**	**16 35 01.3**	**-1.0**
ORIF	**Oris-en-Rattie**	**8.99**	**8**	*e*Pn		**Pn**	**16 35 02.0**	**-1.0**
ORIF	**Oris-en-Rattie**	**8.99**	**8**	P		**Pn**	**16 35 02.0**	**-1.0**
ORIF	**Oris-en-Rattie**	**8.99**	**8**	P		**Pn**	**16 35 02.0**	**-1.0**
LPG	**La Plagne**	**9.68**	**11**	*e*Pn		**Pn**	**16 35 11.7**	**-0.9**
LPG	**La Plagne**	**9.68**	**11**	P		**Pn**	**16 35 11.7**	**-0.9**
LPG	**La Plagne**	**9.68**	**11**	P		**Pn**	**16 35 11.7**	**-0.9**
LPL	**La Plagne**	**9.69**	**11**	*e*Pn		**Pn**	**16 35 11.7**	**-1.1**
LPL	**La Plagne**	**9.69**	**11**	P		**Pn**	**16 35 11.7**	**-1.1**
LPL	**La Plagne**	**9.69**	**11**	P		**Pn**	**16 35 11.7**	**-1.1**
EARI	**Arriondas**	**10.20**	**318**	P		**Pn**	**16 35 21.7**	**+2.1**
	11nm,1.0s,SNR=5.7							
DAVOX	**Davos/Dischmat**	**11.59**	**20**	LR		LR	16 39 50.0	
	comp=Z,24nm,18.6s,baz=224,slow=36							
GERES	**GERESS Array B**	**14.63**	**26**	Pn		**P**	**16 36 24.6**	**-1.8**
	0.1nm,0.3s,baz=184,slow=9.8,SNR=3.6							
EKA	**Eskdalemuir Ar**	**19.94**	**348**	P		**Pn**	**16 37 30.2**	**+3.7**
	0.6nm,0.7s,baz=162,slow=12,SNR=2.5							
TORD	**Torodi Ar. Bea**	**22.88**	**186**	P		**P**	**16 37 55.7**	**-1.0**
	2.5nm,1.0s,baz=358,slow=9.8,SNR=10							
AKASG	**Malin Array Be**	**23.28**	**43**	P		**P**	**16 37 59.0**	**-1.5**
	0.3nm,0.4s,baz=240,slow=11,SNR=2.6							
BRTR	**Keskin Array B**	**23.57**	**72**	P		**P**	**16 38 04.2**	**+0.6**
	0.2nm,0.3s,baz=232,slow=14,SNR=3.1							
HFS	**Hagfors**	**24.91**	**11**	LR		LR	16 48 03.8	
	comp=Z,15nm,21.1s,baz=244,slow=36							
MKAR	**Makanchi Array**	**57.36**	**53**	P		**P**	**16 42 41.6**	**+0.6**
	0.8nm,0.6s,baz=286,slow=6.0,SNR=13							

BJI ***12*** *16:53:00.1, 6.˙01N×123.˙64E, h605km, mb5.2/70, mB5.1/41*

KLM ***12*** *16:53:05.7, 6.˙61N×123.˙54E, h629km, mb5.3, ML5.2, MS6.1*

GCMT ***12*** *16:53:06.8±0.5, 6.˙73N×123.˙45E, h615km±5km, MW5.3/58, Moment Tensor Solution. s58,c101; Duration: 1ŝ2 Moment tensor: Scale 10^17 Nm; Mrr 0.03±.05; Mθθ 0.10±.07; Mϕϕ -0.12±.10; Mrθ -0.59±.07; Mrϕ 0.01±.07; Mθϕ -1.18±.07; Best double couple: M0 1.32400×10^17 NP1:ϕs 207.00000°, δ 89.00000°, λ 94.00000°. NP2:ϕs 312.00000°, δ 4.00000°, λ 15.00000°. Principal axes: T 1.3020, Plg46.0000°, Azm121.0000°; N 0.0440, Plg4.0000°, Azm27.0000°; P -1.3460, Plg44.0000°, Azm293.0000°; nsta1 refers to body waves, cutoff=40s.*

MOS ***12*** *16:53:06.0±0.9, 6.˙63N×123.˙41E, h625km, mb4.9/36 Error ellipse: s-maj=9.9km s-min=4.9km az=119.4*

NEIC ***12*** *16:53:06.8±0.2, 6.˙62N×123.˙40E, mb5.3/48, Error ellipse: s-maj=5.6km s-min=3.6km az=63.0*

ISCJB ***12*** *16:53:06.3±0.1, 6.˙64N±0.˙02×123.˙42E±0.˙02, h625km±2km, mb5.0/124, Error ellipse: s-maj=3.7km s-min=2.8km az=157.1*

MAN ***12*** *16:53:06, 6.˙62N×123.˙26E, h616km, mb5.1, ML4.1, MS4.2*

IDC ***12*** *16:53:07.5±0.5, 6.˙62N×123.˙41E, h625km±6km, mb4.2/35, mb1 4.2/38, mb1mx4.2/43, mbtmp5.2/38, Error ellipse: s-maj=8.5km s-min=5.2km az=63.0*

DJA ***12*** *16:53:08.2±0.2, 7.˙N±3.˙×12.˙3E±.˙, h622km±3km, M4.9/85, mB5.4/56, mb5.1/85, MLv5.6/7, Mw(mB)4.8/56*

ISC 12 16:53:06.8±0.3, 6.˙63N±0.˙03×123.˙42E±0.˙04, h616km±2km, h617km:pP-P, n420, σ1§33/562, mb5.1/135, 39C-44D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**1.01**	**54**	⇓*i*P		**P**	**16 54 20.0**	**+0.4**
PAGZ	**Pagadian**	**1.21**	**358**	*e*P		**P**	**16 54 20.2**	**+0.1**
IPIL	**Ipil**	**1.43**	**324**	⇑*i*P		**P**	**16 54 20.8**	**+0.1**
GSPH	**General Santos**	**1.61**	**109**	⇑*e*P		**P**	**16 54 21.8**	**+0.4**
DCPH	**Dipolog City**	**1.94**	**358**	⇑*e*P		**P**	**16 54 22.4**	**+0.1**
DCPH				*e*S		**S**	**16 55 22.5**	**-1.3**
DAV	**Davao City (W)**	**2.19**	**78**	P		**P**	**16 54 24.9**	**+1.5**
	SNR=10.0	

DLV T Lat 15.65 291 *e*P P 16 56 21.2 +0.7
242nm,1.4s
TWG Pinlang 16.26 352 P P 16 56 26.2 +0.5
197nm,0.3s
SOEI Soe 16.30 177 P P 16 56 26.6 +0.2
172nm,0.8s,2µm
SOEI Soe 16.30 177 ⇑P P 16 56 26.1 -0.3
baz=16,SNR=21
SOEI Soe 16.30 177 *e*P P 16 56 25.4 -1.0
102nm,0.6s
SOEI *e*S S 16 59 08.0 -0.9
TPUB Ta-pu 16.79 351 *e*P P 16 56 31.2 +0.5
122nm,0.3s
TPUB *e*S S 16 59 14.2 -2.4
YULB Yu-li 16.79 353 *e*P P 16 56 29.4 -1.3
32nm,0.3s
SSLB Suanglung 17.23 352 *e*P P 16 56 34.3 -0.3
54nm,0.7s
SSLB *e*S S 16 59 17.1 -6.5
SMPI Sarmi 17.50 119 P P 16 56 39.0 +1.7
132nm,1.0s
YHNB Yeheng 18.05 354 *e*P P 16 56 41.9 -0.3
20nm,0.4s
QIZ Qiongzhong 18.07 314 P P 16 56 43.1 +0.7
QIZ S S 16 59 39.0 +1.7
QIZ PMZ
54nm,1.0s
QIZ PMZ
160nm,7.7s
GENI Genyem 19.06 118 P P 16 56 52.7 +1.2
532nm,1.1s,5µm
JAY Jayapura 19.50 117 P P 16 56 56.4 +0.9
94nm,0.8s,2µm
JAY Jayapura 19.50 117 P P 16 56 55.9 +0.4
9.8nm,0.3s,baz=274,slow=6.0,SNR=61
JAY Jayapura 19.50 117 ⇓P P 16 56 55.9 +0.4
baz=20,SNR=24
UBPT Khong Chiam 19.59 298 P P 16 56 57.1 +0.9
94nm,1.4s,1µm
TPRI Tanjung Pinang 19.68 254 P P 16 56 59.6 +2.5
53nm,0.9s,3µm
MYKOM **Kota Tinggi** 20.10 257 ⇑P P 16 57 00.8 -0.1
MYKOM **Kota Tinggi** 20.10 257 ⇓P P 16 57 02.2 +1.4
KTGM Kuala Trenggan 20.22 267 ⇑P P 16 57 02.4 +0.5
BTDF Bukit Timah Da 20.28 256 ⇑P P 16 57 02.8 +0.3
baz=20
BTDF ⇑P P 16 57 02.8 +0.3
baz=20
KGM Kluang 20.56 258 ⇑P P 16 57 04.6 -0.4
LEM Lembang 20.67 230 P P 16 57 06.5 +0.3
9.1nm,0.4s,baz=129,slow=18,SNR=4.6
MTN Manton Dam 20.81 158 ⇓P P 16 57 06.7 -0.5
baz=21,SNR=98
CISI Cisompet, Garu 21.00 228 ⇑P P 16 57 08.6 -0.4
baz=21,SNR=4.2
CBJI Citeko 21.01 232 P P 16 57 11.5 +2.5
129nm,1.2s
KDU Kakadu 21.19 155 ⇑P P 16 57 09.9 -0.7
baz=21,SNR=57
JMBI JAMBI 21.38 248 P P 16 57 14.8 +2.5
485nm,1.1s,5µm
SKNT Sakolnakorn 21.61 300 P P 16 57 15.0 +0.7
KLI Kotabumi 21.77 239 P P 16 57 17.1 +1.3
138nm,1.1s
FRIM Kepong 21.97 262 ⇑P P 16 57 17.1 -0.5
MDSI Maura Dua 22.16 241 P P 16 57 19.8 +0.6
52nm,1.1s
GUMO Guam 22.20 70 P P 16 57 18.8 -0.9
35nm,0.3s,baz=214,slow=1.3,SNR=13
IPM Ipoh 22.39 266 ⇑P P 16 57 20.3 -1.1
LHSI Lahat 22.42 243 P P 16 57 23.3 +1.8
36nm,1.8s
KASI Kota Agung 22.42 238 P P 16 57 22.4 +0.9
102nm,1.3s
LWLI Liwa 22.53 240 P P 16 57 23.4 +0.7
195nm,0.9s
SKLT Songkhla 22.64 273 P P 16 57 24.5 +0.9
85nm,0.9s,934nm
KULM Kulim 22.69 268 ⇑P P 16 57 23.8 -0.1
KULM Kulim 22.69 268 *e*P P 16 57 24.1 +0.1
76nm,1.4s
MNAI Manna 23.16 242 ⇑P P 16 57 27.9 -0.3
baz=23,SNR=4.6
BKNI Bangkinang 23.19 255 *e*P P 16 57 28.0 -0.5
TRTT Trang 23.57 274 P P 16 57 32.8 +1.0
57nm,1.3s,825nm
SLVN Son La 23.88 310 *e*P P 16 57 36.0 +1.5
50nm,1.1s
PPI Padang Panjang 24.03 254 P P 16 57 35.8 -0.1
105nm,0.8s,1µm
PBKT Sadao Pong 24.08 296 P P 16 57 37.1 +0.9
157nm,1.1s,2µm
PHET Kaeng Krachan 24.25 287 P P 16 57 39.0 +1.2
59nm,0.9s,560nm
MNSI Mandailing Nat 24.48 257 P P 16 57 39.6 -0.2
37nm,0.9s
SURT Suratani 24.51 277 P P 16 57 41.3 +1.2
29nm,1.2s,325nm
PSI Prapat 24.70 262 P P 16 57 41.9 -0.1
58nm,0.8s,baz=76,slow=3.9,SNR=66
PSI ScP ScP 17 03 37.2 -1.5
24nm,0.9s,baz=168,slow=2.0,SNR=18
PSI Prapat 24.70 262 ⇓P P 16 57 42.2 +0.2
baz=25,SNR=42
UTTA Uttaradit 24.90 298 P P 16 57 45.1 +1.7
29nm,0.9s,244nm
PKDT Phuket 24.92 274 P P 16 57 44.3 +0.6
110nm,1.0s
WHN Wuhan 25.27 341 ⇓*i*P P 16 57 48.3 +1.8
WHN S S 17 01 32.4 +1.8
WHN PMZ
80nm,0.8s
WHN PMZ
460nm,4.1s
GYA Guiyang 25.37 323 ⇑*i*P P 16 57 49.4 +1.7
GYA sP sP 17 00 32.3 -0.8
GYA PcP PcP 17 01 00.2 +1.8
GYA S S 17 01 36.0 +3.4
GYA ScP ScP 17 03 41.6 +1.2
GYA ScS ScS 17 07 31.0 +0.3
GYA PMZ
50nm,0.9s
GYA PMZ
130nm,5.0s
MANU Manus Island 25.41 109 ⇓P P 16 57 49.6 +1.6
baz=25,SNR=4.7
SISI Saibi 25.54 253 P P 16 57 48.7 -0.5
168nm,0.7s,3µm
NJ2 Nanjing 25.65 351 *e*P P 16 57 52.1 +2.3
NJ2 S S 17 01 38.0 +1.5
NJ2 PMZ
20nm,0.8s
KHLT Khaolaem Dam 25.69 290 P P 16 57 51.9 +1.4
42nm,1.1s,462nm
LAMP Lampang 26.01 299 P P 16 57 54.5 +1.2
36nm,1.0s,279nm
CRAI Chiangrai 26.13 303 P P 16 57 53.5 -0.8
56nm,1.0s,3µm
GSI Gunungsitoli 26.31 260 P P 16 57 54.9 -1.0
304nm,0.9s,4µm
GSI Gunungsitoli 26.31 260 ⇓P P 16 57 55.0 -1.0
baz=26
GSI Gunungsitoli 26.31 260 *e*P P 16 57 54.7 -1.2
184nm,0.6s
LHMI Lhok Sumawe 26.37 268 ⇓P P 16 57 57.4 +1.0
baz=26,SNR=3.2
CM10 Chiang Mai Arr 26.52 298 ⇓P P 16 57 59.0 +1.3
baz=27
CMAR Chiang Mai Arr 26.59 298 P P 16 57 59.2 +0.9
38nm,0.7s,baz=114,slow=7.1,SNR=251
CMAR PcP PcP 17 01 02.6 +1.4
2.8nm,0.8s,baz=130,slow=1.3,SNR=6.9
CMAR ScP ScP 17 03 44.2 +0.2
4.3nm,0.9s,baz=119,slow=1.3,SNR=18
CM07 Chiang Mai Arr 26.59 298 ⇓P P 16 57 59.4 +1.1
baz=27
CMMT Chiang Mai 26.72 299 P P 16 58 00.2 +0.7
156nm,1.5s,2µm
CHTO Chiang Mai 26.73 299 P P 16 58 00.2 +0.7
525nm,1.5s,5µm
CHTO Chiang Mai 26.73 299 *e*P P 16 58 00.2 +0.7
CHTO pmax pmax
comp=Z,61nm,0.6s
CHTO Chiang Mai 26.73 299 P P 16 58 00.5 +1.0
SNR=31
CHTO Chiang Mai 26.73 299 *e*P P 16 58 00.2 +0.7
comp=Z,61nm,0.6s
CHTO *e*ScP ScP 17 03 43.7 -0.7
ENH Enshi 26.92 333 *e*P P 16 58 01.0 -0.1
comp=Z,79nm,0.8s
KMI Kunming 27.01 315 P P 16 58 03.7 +1.5
KMI S S 17 01 59.6 +1.1
KMI ScP ScP 17 03 45.5 0.0
KMI ScS ScS 17 07 36.9 -1.3
KMI PMZ
comp=Z,77nm,1.3s
KMI PMZ
comp=Z,300nm,3.1s
JCJ Chichijima 27.06 39 P P 16 58 01.8 -0.6
comp=Z,43nm,0.3s,baz=207,slow=8.1,SNR=48
JCJ S S 17 01 54.9 -3.9
comp=Z,70nm,0.4s,baz=289,slow=23,SNR=19
CBIJ Chichi jima 27.07 39 P P 16 58 01.8 -0.6
CBIJ S S 17 01 54.9 -3.9
CMAI Chiengmai2 27.11 302 P P 16 58 04.3 +1.3
comp=Z,72nm,1.3s
MHMT Maesarieng 27.37 297 P P 16 58 06.8 +1.7
comp=Z,108nm,1.0s,comp=Z,1µm
MBWA Marble Bar 27.85 187 *e*P P 16 58 08.1 -1.2
comp=Z,40nm,0.6s
COEN Coen 28.33 136 ⇓P P 16 58 12.5 -1.0
baz=28,SNR=138
COEN Coen 28.33 136 *e*P P 16 58 12.1 -1.5
comp=Z,116nm,0.6s
COEN *e*ScP ScP 17 03 48.9 -0.5
WB9 Warramunga Arr 28.39 158 ⇓P P 16 58 13.4 -0.5
baz=28
WB7 Warramunga Arr 28.43 158 ⇑P P 16 58 13.8 -0.5
baz=28
WRAB Tennant Creek 28.50 158 P P 16 58 14.0 -0.9
comp=Z,3µm,0.6s
WRAB Tennant Creek 28.50 158 *c i*P P 16 58 14.3 -0.6
WRAB Tennant Creek 28.50 158 *e*P P 16 58 14.2 -0.6
comp=Z,304nm,0.6s
WRAB *e*S S 17 02 16.2 -5.0
WRA Warramunga Arr 28.51 158 P P 16 58 14.3 -0.7
comp=Z,194nm,0.4s,baz=332,slow=10,SNR=1983
WRA PcP PcP 17 01 05.9 0.0
comp=Z,6.0nm,0.8s,baz=336,slow=3.4,SNR=4.9
WRA S S 17 02 16.1 -5.2
comp=Z,44nm,0.8s,baz=338,slow=15,SNR=25
WRA ScP ScP 17 03 48.3 -1.6
comp=Z,4.1nm,0.6s,baz=333,slow=3.4,SNR=7.9
WRA Warramunga Arr 28.51 158 *i*P P 16 58 14.1 -0.9
PMG Port Moresby 28.52 124 ⇓*e*P P 16 58 15.4 +0.3
TJN Taejon 29.83 6 P P 16 58 28.0 +1.9
TIA Tai'an 30.00 350 ⇑P P 16 58 28.8 +1.2
TIA PMZ
comp=Z,50nm,1.1s
TIA PMZ
comp=Z,250nm,4.7s
CD2 Chengdu 30.39 325 P P 16 58 31.3 +0.3
CD2 sP sP 17 01 18.9 -1.3
CD2 S S 17 02 51.3 +1.3
CD2 SS SS 17 06 01.6 +2.2
CD2 PMZ
comp=Z,100nm,1.3s
CD2 PMZ
comp=Z,250nm,4.2s
XAN Xi'an 30.40 336 P P 16 58 31.3 +0.2
XAN sP sP 17 01 16.5 -3.7
XAN S S 17 02 47.8 -2.3
XAN PMZ
comp=Z,89nm,0.9s
XAN PMZ
comp=Z,120nm,4.2s
KSAR Wonju Array Be 30.94 7 P P 16 58 36.9 +1.4
KSAR 17 01 13.2
KSAR Wonju Array Be 30.94 7 P P 16 58 36.9 +1.4
KSAR PcP PcP 17 01 13.2 +1.2
KSAR ScP ScP 17 03 57.3 -0.2
KSRS Korea Array 30.96 7 P P 16 58 36.9 +1.3
comp=Z,9.2nm,0.9s,baz=188,slow=9.5,SNR=42
KSRS PcP PcP 17 01 13.2 +1.1
comp=Z,0.8nm,0.3s,baz=189,slow=3.9,SNR=5.3
KSRS ScP ScP 17 03 57.3 -0.3
comp=Z,2.5nm,0.8s,baz=193,slow=4.0,SNR=10
QIS Mount Isa 31.35 150 ⇓P P 16 58 39.5 +0.2
baz=31,SNR=135
ASPA Alice Springs 31.80 162 ⇓P P 16 58 43.4 +0.2
baz=32
ASAR Alice Springs 31.80 162 P P 16 58 43.4 +0.3
comp=Z,139nm,0.4s,baz=342,slow=6.7,SNR=6555
ASAR PcP PcP 17 01 14.3 -0.5
comp=Z,1.6nm,0.6s,baz=347,slow=2.9,SNR=4.2
ASAR S S 17 03 09.7 -2.1
comp=Z,25nm,0.9s,baz=350,slow=19,SNR=26
ASAR ScP ScP 17 03 59.1 -1.7
comp=Z,9.2nm,0.7s,baz=342,slow=2.9,SNR=8.4
WRKA Warakurna 31.83 172 ⇓P P 16 58 43.7 +0.4
baz=32,SNR=239
MTSU Mount Surprise 32.11 140 P P 16 58 45.9 +0.2
baz=32,SNR=34
DL2 Dalian 32.17 357 P P 16 58 44.0 -2.0
DL2 S S 17 03 16.3 -0.6
DL2 ScS ScS 17 08 01.3 -1.1
DL2 PMZ
comp=Z,84nm,0.7s
DL2 PMZ
comp=Z,85nm,4.9s
TIY Taiyuan 32.52 344 *e*P P 16 58 49.6 +0.6
TIY S S 17 03 24.4 +2.1
TIY ScS ScS 17 08 04.3 -0.2
TIY PMZ
comp=Z,50nm,0.6s
TIY PMZ
comp=Z,210nm,2.9s
MJAR Matsushiro Arr 32.70 22 P P 16 58 50.5 0.0
comp=Z,4.7nm,0.7s,baz=199,slow=9.5,SNR=18
MJAR ScP ScP 17 04 03.5 -0.2
comp=Z,2.2nm,1.0s,baz=207,slow=6.4,SNR=4.4
BJI Beijing 33.90 350 P P 16 59 01.2 +0.8
BJI S S 17 03 43.0 +0.1
BJI PMZ
comp=Z,96nm,1.4s
BJI PMZ
comp=Z,190nm,3.6s
LZH Lanzhou 34.37 331 ⇑P P 16 59 06.9 +2.2
LZH pP pP 17 00 46.4 +1.7
LZH sP sP 17 01 54.0 -1.6
LZH *e*S S 17 03 52.2 +1.7
LZH ScP ScP 17 04 10.0 +0.1
LZH SS SS 17 06 59.0 -6.8
LZH PMZ
comp=Z,150nm,1.0s
LZH PMZ
comp=Z,550nm,4.0s
CTA Charters Tower 34.78 140 P P 16 59 08.7 +0.6
comp=Z,77nm,0.8s,baz=322,slow=11,SNR=71
CTAO Charters Tower 34.78 140 *e*P P 16 59 08.1 +0.1
CTAO pmax pmax
comp=Z,316nm,1.5s
CTAO Charters Tower 34.78 140 *e*P P 16 59 08.1 +0.1
comp=Z,316nm,1.5s
CTAO *e*ScP ScP 17 04 11.1 -0.3
SHL Shillong 35.52 306 *i*P P 16 59 16.0 +1.7
SHL *e*S S 17 04 08.0 0.0
HHC Hu-ho-hao-te 35.69 345 ⇓P P 16 59 17.0 +1.6
HHC PP PP 17 01 01.4 +1.0
HHC S S 17 04 16.6 +6.7
HHC sS sS 17 07 15.7 -1.0
HHC SS SS 17 07 23.1 -4.5
HHC PMZ
comp=Z,38nm,1.3s
HHC PMZ
comp=Z,94nm,6.2s
CN2 Changchun 37.07 2 *e*P P 16 59 29.7 +3.2
FORT Forrest 37.46 173 *e*P P 16 59 29.8 -0.1
comp=Z,269nm,0.7s
LSA Lhasa 38.06 311 *e*P P 16 59 36.7 +1.3
LSA pmax pmax
comp=Z,58nm,0.6s
LSA Lhasa 38.06 311 *e*P P 16 59 36.7 +1.3
comp=Z,58nm,0.6s
USRK Ussuriysk Ar. 38.17 10 P P 16 59 36.2 +0.8
comp=Z,4.0nm,0.5s,baz=191,slow=7.1,SNR=15
USRK PcP PcP 17 01 33.9 +0.5
comp=Z,2.1nm,0.5s,baz=220,slow=3.8,SNR=4.0
MDJ Mudanjiang 38.22 7 P P 16 59 37.1 +1.3
MDJ S S 17 04 50.9 +4.0
MDJ ScS ScS 17 08 38.3 +2.4
MDJ PMZ
comp=Z,24nm,1.2s
MDJ PMZ
comp=Z,84nm,6.9s
GTA Gaotai 38.95 330 ⇓P P 16 59 42.9 +1.0
GTA pP PP 17 01 28.9 -1.5
GTA PcP PcP 17 01 37.2 +1.0
GTA sP sP 17 02 34.1 -1.1
GTA S S 17 04 58.3 +0.3
GTA ScS ScS 17 08 38.9 -1.9
GTA PMZ
GTA comp=Z,96nm,1.4s PMZ
comp=Z,360nm,8.1s
TAPN Taplejung 39.66 306 *e*P P 16 59 48.2 +0.2
comp=Z,391nm,1.0s
ODAN Odare 39.72 305 *e*P P 16 59 48.7 +0.3
comp=Z,262nm,0.7s
HNR Honiara 39.74 113 *e*P P 16 59 48.5 0.0
HNR pmax pmax
comp=Z,148nm,0.8s
HNR Honiara 39.74 113 *e*P P 16 59 48.5 0.0
comp=Z,148nm,0.8s
NWAO Narrogin (SRO) 39.77 188 P P 16 59 48.8 +0.4
comp=Z,47nm,0.5s,baz=329,slow=4.9,SNR=28
CHLP Challavanipeta 40.09 291 *e*P P 16 59 52.1 +0.8
CHLP IAmb IAmb 16 59 53.5
comp=Z,123nm,1.0s
CHLP *e*pP pP 17 01 35.6 +0.2
CHLP *e*ScP ScP 17 04 30.5 -1.2
RAMN Ramite 40.40 304 *e*P P 16 59 54.5 +0.6
comp=Z,643nm,1.2s
ASAJ Asahikawa 40.94 21 P P 16 59 58.8 +1.2
comp=Z,9.0nm,0.3s,baz=216,slow=7.9,SNR=14
ASAJ Asahikawa 40.94 21 P P 16 59 58.8 +1.2
ASAJ pmax pmax
comp=Z,9.0nm,0.3s
BBOO Buckleboo 41.02 164 *e*P P 16 59 58.2 -0.1
comp=Z,208nm,0.7s
GUN Gumba 41.37 305 *e*P P 17 00 01.9 +0.3
comp=Z,295nm,0.4s
PKI Pulchoki 41.62 305 *e*P P 17 00 03.7 +0.2
comp=Z,210nm,1.1s
PKIN Phulchoki 41.63 305 *e*P P 17 00 03.6 0.0
comp=Z,51nm,0.4s
EIDS Eidsvold 41.66 141 *e*P P 17 00 03.0 -0.5
comp=Z,89nm,0.8s
KKN Kakani 41.81 305 *e*P P 17 00 05.0 +0.1
comp=Z,127nm,0.4s
DMN Daman 41.88 304 *e*P P 17 00 05.9 +0.4
comp=Z,322nm,1.1s
STKA Stephens Creek 42.04 157 P P 17 00 06.5 +0.3
comp=Z,110nm,0.6s,baz=337,slow=7.1,SNR=276
STKA ScP ScP 17 04 37.7 -1.5
comp=Z,9.6nm,0.8s,baz=335,slow=4.9,SNR=4.9
PVM Polavaram 42.14 288 *e*P P 17 00 07.9 +0.5
PVM IAmb IAmb 17 00 09.3
comp=Z,47nm,0.7s
PVM *e*PcP PcP 17 01 46.5 -0.6
PVM *e*ScP ScP 17 04 38.9 -1.0
PALK Pallekele 42.40 274 P P 17 00 10.1 +0.6
comp=Z,19nm,0.9s,baz=149,slow=5.7,SNR=12
GKN Gorkha 42.41 305 *e*P P 17 00 09.4 -0.2
comp=Z,112nm,0.5s
HTT Hallett 42.47 161 ⇑P P 17 00 10.4 +0.7
baz=43,SNR=80
HIA Hailar 42.60 356 P P 17 00 11.1 +0.6
HIA pmax pmax
comp=Z,12nm,0.6s
HIA Hailar 42.60 356 P P 17 00 11.1 +0.6
comp=Z,12nm,0.6s
HABR Khabarovsk 42.85 11 *de*P P 17 00 11.9 -0.5
HABR *e* 17 01 47.6
HABR *e**PP pP 17 01 56.9 -1.7
HABR *e* 17 02 05.0
HABR *e**SP sP 17 03 05.5 -2.2
HABR *e*S S 17 05 54.4 +0.9
HABR *e* 17 09 04.2
HABR *e**SS sS 17 09 07.1 -0.4
HABR pmax pmax
comp=Z,6.0nm,0.8s
HABR pmax pmax
comp=N,16nm,0.8s
HABR pmax pmax
comp=E,14nm,0.8s
HABR MLR MLR
comp=Z,49nm,16.0s
KLR Kul'dur 43.03 8 *e*P P 17 00 10.7 -3.1
KOLN Koldanda 43.18 304 *e*P P 17 00 16.0 +0.4
comp=Z,181nm,0.3s
DANN Dangsing 43.26 305 *e*P P 17 00 16.7 +0.4
ADKI Addanki 43.51 286 *e*P P 17 00 17.6 -0.5
ADKI IAmb IAmb 17 00 20.0
comp=Z,57nm,1.0s
ADKI *e*PcP PcP 17 01 50.8 -1.0
ADKI *e*pP pP 17 02 02.5 -2.3
ADKI *e*sP sP 17 03 10.2 -3.4
ADKI *e*ScP ScP 17 04 43.9 -1.7
SKHT Srikalahasti 43.55 283 *e*P P 17 00 18.8 +0.5
SKHT IAmb IAmb 17 00 20.1
comp=Z,63nm,0.8s
SKHT *e*PcP PcP 17 01 51.3 -0.6
SONM Songino Array 43.55 343 P P 17 00 18.8 +0.8
comp=Z,34nm,0.9s,baz=161,slow=8.5,SNR=122
SONM PcP PcP 17 01 51.7 +0.2
comp=Z,5.3nm,0.8s,baz=171,slow=4.6,SNR=4.9
SONM ScP ScP 17 04 44.5 -0.8
comp=Z,5.2nm,0.9s,baz=157,slow=4.1,SNR=11
NJS Nagarjunasagar 44.23 287 *e*P P 17 00 23.1 -0.5
NJS IAmb IAmb 17 00 25.0
comp=Z,60nm,0.9s
NJS *e*PcP PcP 17 01 53.7 -0.6
NJS *e*sP sP 17 03 22.0 +2.4
NJS *e*ScP ScP 17 04 47.0 -1.5
RCLA Racherla 44.44 285 *e*P P 17 00 25.0 -0.2
RCLA IAmb IAmb 17 00 26.5
comp=Z,60nm,0.8s
RCLA *e*PcP PcP 17 01 54.4 -0.6
RCLA *e*ScP ScP 17 04 47.8 -1.7
SRLM Srisailam 44.57 286 *e*P P 17 00 26.0 -0.2
SRLM IAmb IAmb 17 00 27.5
comp=Z,58nm,0.9s
SRLM *e*PcP PcP 17 01 54.8 -0.8
SRLM *e*ScP ScP 17 04 48.0 -2.0
RPR Rampur 44.59 290 *e*P P 17 00 26.6 +0.2
RPR IAmb IAmb 17 00 27.9
comp=Z,101nm,0.8s
RPR *e*PcP PcP 17 01 54.6 -0.9
RPR *e*ScP ScP 17 04 48.0 -2.0
HYB Hyderabad 45.07 288 *i*P P 17 00 30.0 0.0
HYB *e*ScP ScP 17 04 50.0 -2.0
HYBB Hyderabad (bro 45.07 288 *e*P P 17 00 29.5 -0.5
HYBB *e* 17 00 30.8
HYBB IAmb IAmb 17 00 31.2
comp=Z,72nm,1.0s
HYBB *e*PcP PcP 17 01 57.0 -0.2
HYBB *e*ScP ScP 17 04 49.6 -2.4
SRSP Sriramsagar 45.49 290 *e*P P 17 00 32.7 -0.5
SRSP IAmb IAmb 17 00 34.5
comp=Z,91nm,0.8s
SRSP *e*PcP PcP 17 01 57.9 -0.9
SRSP *e*ScP ScP 17 04 51.5 -2.3
ARMA Armidale 45.70 145 *e*P P 17 00 35.9 +1.3
comp=Z,184nm,1.0s
CIT Chita 45.98 352 *e*P P 17 00 37.1 +0.8
CIT pmax pmax
comp=Z,148nm,1.6s
URV Uravakonda 46.02 284 *e*P P 17 00 36.7 -0.5
URV IAmb IAmb 17 00 38.2
comp=Z,61nm,1.0s
URV *e*PcP PcP 17 02 00.1 -0.5
URV *e*ScP ScP 17 04 55.0 -1.1
LGTI Lohaghat 46.53 305 *e*P P 17 00 40.1 -0.7
ZAK Zakamensk 46.75 342 *e*P P 17 00 41.7 -0.5
ZAK *e* 17 02 01.9
ZAK pmax pmax
comp=Z,16nm,1.5s
KLRI Killari 47.00 288 *e*P P 17 00 44.1 -0.4
KLRI IAmb IAmb 17 00 45.6
comp=Z,110nm,0.8s
KLRI *e*pP pP 17 02 34.5 +0.4
KLRI *e*ScP ScP 17 04 58.2 -2.0
YNG Young 47.06 151 ⇑P P 17 00 45.4 +0.7
baz=47,SNR=8.5
IRK Irkutsk 48.13 344 *e*P P 17 00 53.3 +1.0
IRK pmax pmax

	comp=Z,78nm,1.9s									
CAN	**Canberra**	**48.18**	**152**	*e*P		**P**	**17 00 54.6**	**+1.5**
CAN				pmax		pmax				
	comp=Z,213nm,1.3s									
CAN	**Canberra**	**48.18**	**152**	*e*P		**P**	**17 00 54.5**	**+1.5**
	comp=Z,213nm,1.3s									
WMQ	**Urumqi**	**48.48**	**326**	P		**P**	**17 00 57.0**	**+1.8**
WMQ				pP		**pP**	**17 02 47.2**	**+1.5**
WMQ				sP		**sP**	**17 03 53.8**	**+0.4**
WMQ				S		**S**	**17 07 14.8**	**+2.6**
WMQ				ScS		**ScS**	**17 09 38.0**	**-3.8**
WMQ				sS		**sS**	**17 10 30.0**	**-2.2**
WMQ				PMZ				
	comp=Z,110nm,1.0s									
WMQ				PMZ						
	comp=Z,440nm,3.7s									
TOO	**Toolangi**	**48.56**	**157**	⇑P		**P**	**17 00 56.7**	**+0.9**
	baz=49,SNR=63									
NDI	**New Delhi**	**48.79**	**303**	*e*P		**P**	**17 00 57.0**	**-0.6**
SMLA	**Simla**	**49.61**	**306**	*i* P		**P**	**17 01 04.5**	**+0.9**
TARA	**Tarawa**	**49.63**	**94**	*e*P		**P**	**17 01 06.2**	**+2.1**
	comp=Z,116nm,1.1s									
POO	**Poona**	**49.65**	**289**	*e*P		**P**	**17 01 03.0**	**-1.2**
HVS	**Khovu-Aksy**	**50.76**	**336**	*d i*P		**P**	**17 01 13.8**	**+2.1**
DZM	**Mont Dzumac**	**50.89**	**125**	P		**P**	**17 01 14.4**	**+1.3**
	comp=Z,26nm,0.5s,baz=182,slow=5.4,SNR=48									
DZM				PcP		**PcP**	**17 02 18.5**	**0.0**
	comp=Z,7.9nm,0.9s,baz=270,slow=24,SNR=23									
DZM	**Mont Dzumac**	**50.89**	**125**	*e*P		**P**	**17 01 14.0**	**+0.8**
DLH	**Dalhousie**	**51.04**	**307**	*e*P		**P**	**17 01 13.0**	**-1.3**
BOD	**Bodaibo**	**51.59**	**354**	*e*P		**P**	**17 01 17.8**	**+0.4**
BOD				pmax		pmax				
	comp=Z,29nm,1.3s									
PDGK	**Podgornoye**	**53.10**	**321**	P		**P**	**17 01 28.5**	**+0.1**
PDGK				pmax		pmax				
	comp=Z,105nm,0.9s									
MK31	**Makanchi Array**	**53.31**	**326**	P		**P**	**17 01 30.3**	**+0.3**
MK31				pmax		pmax				
	comp=Z,56nm,0.4s									
MKAR	**Makanchi Array**	**53.31**	**326**	P		**P**	**17 01 30.7**	**+0.7**
	comp=Z,76nm,0.4s,baz=120,slow=7.7,SNR=1321									
MKAR				PcP		**PcP**	**17 02 27.4**	**+0.1**
	comp=Z,8.3nm,0.5s,baz=126,slow=5.0,SNR=7.4									
MKAR				ScP		**ScP**	**17 05 25.3**	**-1.5**
	comp=Z,24nm,0.8s,baz=116,slow=5.5,SNR=30									
MKAR				S		**S**	**17 08 16.6**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=114,slow=18,SNR=3.8									
MKAR	**Makanchi Array**	**53.31**	**326**	*i* P		**P**	**17 01 30.2**	**+0.2**
MKAR				pmax		pmax				
	comp=Z,77nm,0.4s									
KSH	**Kashi**	**53.68**	**315**	⇓ *i* P		**P**	**17 01 34.3**	**+1.5**
KSH				pP		**pP**	**17 03 29.1**	**+2.1**
KSH				PP		PP	17 03 49.1	+6.0
KSH				S		**S**	**17 08 20.7**	**-1.2**
KSH				ScS		**ScS**	**17 10 21.5**	**+3.0**
KSH				sS		**sS**	**17 11 47.2**	**-0.1**
KSH				PMZ						
	comp=Z,260nm,1.3s									
PETK	**Petropavlovsk-**	**54.10**	**25**	P		**P**	**17 01 35.2**	**-0.1**
	comp=Z,4.3nm,0.7s,baz=229,slow=4.3,SNR=5.2									
ULHL	**Ulahol**	**54.68**	**318**	P		**P**	**17 01 41.0**	**+1.1**
	SNR=15									
KRAR	**Krasnoyarsk**	**54.88**	**340**	⇑ *i* P		**P**	**17 01 41.5**	**+0.9**
KRAR				pmax		pmax				
	comp=Z,55nm,1.4s									
KZA	**Kyzart**	**55.27**	**318**	P		**P**	**17 01 45.5**	**+1.4**
	SNR=31									
TKM2	**Tokmak 2**	**55.41**	**319**	P		**P**	**17 01 46.0**	**+1.2**
	SNR=39									
TKM2	**Tokmak 2**	**55.41**	**319**	P		**P**	**17 01 44.6**	**-0.3**
TKM2				pmax		pmax				
	comp=Z,91nm,1.1s									
TKM2	**Tokmak 2**	**55.41**	**319**	*e*P		**P**	**17 01 45.1**	**+0.2**
	comp=Z,51nm,0.7s									
YAK	**Yakutsk**	**55.48**	**4**	*d i*P		**P**	**17 01 44.7**	**0.0**
YAK				*e*			17 02 34.2			
YAK				*e**PP		**pP**	**17 03 38.6**	**-1.5**
YAK				*e*			17 03 56.9			
YAK				*e*S		**S**	**17 08 42.6**	**-1.6**
YAK				*e*			17 10 25.5			
YAK				pmax		pmax				
	comp=Z,41nm,0.9s									
YAK				pmax		pmax				
	comp=N,11nm,1.0s									
YAK				pmax		pmax				
	comp=E,3.0nm,1.0s									
YAK				pmax		pmax				
	comp=Z,34nm,2.2s									
YAK				pmax		pmax				
	comp=N,33nm,1.9s									
YAK				pmax		pmax				
	comp=E,43nm,2.7s									
YAK				smax		smax				
	comp=E,156nm,2.2s									
YAK				smax		smax				
	comp=N,100nm,2.0s									
YAK	**Yakutsk**	**55.48**	**4**	*e*P		**P**	**17 01 44.5**	**-0.2**
	comp=N,68nm,0.8s									
SFK	**Sufi-Kurgan**	**55.62**	**315**	P		**P**	**17 01 47.0**	**+0.6**
SFK				pmax		pmax				
	comp=Z,72nm,0.8s									
KBK	**Karagaybulak**	**55.72**	**318**	P		**P**	**17 01 48.6**	**+1.6**
	SNR=12									
UCH	**Uchtor**	**55.82**	**317**	P		**P**	**17 01 49.7**	**+1.6**
	SNR=6.9									
CHMS	**Chumysh**	**56.00**	**318**	P		**P**	**17 01 49.7**	**+1.0**
	SNR=23									
AAK	**Ala-Archa**	**56.01**	**318**	P		**P**	**17 01 50.5**	**+1.5**
	SNR=12									
AAK	**Ala-Archa**	**56.01**	**318**	P		**P**	**17 01 50.0**	**+1.0**
AAK				pmax		pmax				
	comp=Z,28nm,1.1s									
FRU	**Bishkek**	**56.02**	**318**	*e*P		**P**	**17 01 48.0**	**-0.8**
FRU				pmax		pmax				
	comp=Z,90nm,2.0s									
USP	**Ospenovka**	**56.28**	**319**	P		**P**	**17 01 51.6**	**+1.0**
	SNR=46									
AML	**Almayashu**	**56.34**	**317**	P		**P**	**17 01 53.1**	**+1.6**
	SNR=50									
EKS2	**Erkin-Say**	**56.50**	**318**	P		**P**	**17 01 53.9**	**+1.6**
	SNR=47									
EKS2	**Erkin-Say**	**56.50**	**318**	*e*P		**P**	**17 01 52.9**	**+0.6**
EKS2				pmax		pmax				
	comp=Z,61nm,0.8s									
EKS2	**Erkin-Say**	**56.50**	**318**	*e*P		**P**	**17 01 52.9**	**+0.6**
	comp=Z,61nm,0.8s									
ZALV	**Zalesovo Beam**	**56.54**	**334**	P		**P**	**17 01 51.6**	**-0.5**
	comp=Z,26nm,0.8s,baz=122,slow=6.1,SNR=89									
ZALV				PcP		**PcP**	**17 02 38.7**	**-0.9**
	comp=Z,2.5nm,0.4s,baz=123,slow=5.3,SNR=3.6									
ZALV				PP		**PP**	**17 04 08.9**	**+1.0**
	comp=Z,4.0nm,0.9s,baz=140,slow=9.5,SNR=4.4									
ZALV				S		**S**	**17 08 56.9**	**-1.2**
	comp=Z,1.5nm,0.8s,baz=129,slow=11,SNR=6.7									
KBL	**Kabul**	**57.16**	**307**	⇓P		**P**	**17 01 57.4**	**+0.4**
	baz=57,SNR=7.7									
KURBB	**Kurchatov Arra**	**57.54**	**328**	P		**P**	**17 01 59.2**	**+0.2**
	comp=Z,99nm,0.8s,baz=126,slow=6.2,SNR=661									
KURBB				pP		**pP**	**17 03 57.3**	**+1.6**
	comp=Z,5.2nm,1.0s,baz=135,slow=6.5,SNR=3.5									
KURBB				ScP		**ScP**	**17 05 43.5**	**-1.8**
	comp=Z,3.0nm,1.0s,baz=130,slow=3.3,SNR=5.2									
KURBB				S		**S**	**17 09 11.3**	**+0.3**
	comp=Z,0.4nm,0.9s,baz=112,slow=10,SNR=5.5									
KURK	**Kurchatov**	**57.55**	**328**	P		**P**	**17 01 59.0**	**0.0**
	comp=Z,2μm,0.6s									
KURK	**Kurchatov**	**57.55**	**328**	P		**P**	**17 01 59.2**	**+0.2**
KURK				*PP		**pP**	**17 03 57.3**	**+1.6**
KURK				S		**S**	**17 09 11.3**	**+0.3**
KURK				pmax		pmax				
	comp=Z,99nm,0.8s									
KURK	**Kurchatov**	**57.55**	**328**	P		**P**	**17 01 59.1**	**0.0**
	SNR=70									
KURK	**Kurchatov**	**57.55**	**328**	*e*P		**P**	**17 01 59.0**	**0.0**
	comp=Z,231nm,0.8s									
KURK				pP		**pP**	**17 03 57.3**	**+1.6**
KURK				ScP		**ScP**	**17 05 43.5**	**-1.8**
KURK				S		**S**	**17 09 11.3**	**+0.3**
NVS	**Novosibirsk**	**57.82**	**334**	⇓ *i* P		**P**	**17 01 59.8**	**-1.0**
NVS				*i* S		**S**	**17 09 12.4**	**-2.0**
NVS				pmax		pmax				
	comp=Z,118nm,1.6s									
NVS				pmax		pmax				
	comp=N,58nm,1.5s									
NVS				pmax		pmax				
	comp=E,58nm,1.5s									
NVS				smax		smax				
	comp=N,35nm,1.5s									
NVS				smax		smax				
	comp=E,54nm,1.5s									
DZET	**Dzherino**	**58.58**	**312**	P		**P**	**17 02 06.0**	**-0.4**
DZET				pmax		pmax				
	comp=Z,75nm,0.6s									
KK31	**Karatay Array**	**58.88**	**317**	P		**P**	**17 02 08.2**	**0.0**
KK31				pmax		pmax				
	comp=Z,55nm,0.9s									
KKAR	**Karatay Array**	**58.88**	**317**	*e*P		**P**	**17 02 08.2**	**0.0**
KKAR				pmax		pmax				
	comp=Z,46nm,0.8s									
KKAR	**Karatay Array**	**58.88**	**317**	*e*P		**P**	**17 02 08.2**	**0.0**
	comp=Z,46nm,0.8s									
MSVF	**Nonsavu**	**59.11**	**115**	P		**P**	**17 02 12.6**	**+2.4**
	comp=Z,256nm,0.8s,SNR=6.3									
MSVF	**Nonsavu**	**59.11**	**115**	*e*P		**P**	**17 02 12.0**	**+1.8**
MSVF				pmax		pmax				
	comp=Z,43nm,0.9s									
MSVF	**Nonsavu**	**59.11**	**115**	*e*P		**P**	**17 02 12.0**	**+1.8**
	comp=Z,42nm,0.9s									
OTUK	**Ortayu**	**59.84**	**323**	P		**P**	**17 02 14.8**	**+0.3**
OTUK				pmax		pmax				
	comp=Z,90nm,1.1s									
SEY	**Seymchan**	**60.03**	**15**	ScP		**ScP**	**17 05 54.0**	**-2.0**
	comp=Z,2.6nm,0.9s,baz=194,slow=4.2,SNR=3.7									
SEY	**Seymchan**	**60.03**	**15**	*d* iP		**P**	**17 02 16.6**	**+1.3**
BVA0	**Borovoye Array**	**63.11**	**327**	*i* P		**P**	**17 02 35.6**	**0.0**
BVA0				pmax		pmax				
	comp=Z,169nm,1.4s									
BVAR	**Borovoye Array**	**63.11**	**327**	P		**P**	**17 02 35.5**	**-0.1**
	comp=Z,44nm,0.9s,baz=125,slow=7.4,SNR=180									
BVAR				PcP		**PcP**	**17 03 06.1**	**-0.2**
	comp=Z,4.1nm,0.7s,baz=172,slow=2.9,SNR=3.7									
BVAR				S		**S**	**17 10 19.6**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=114,slow=13,SNR=4.5									
BRVK	**Borovoye**	**63.18**	**327**	P		**P**	**17 02 36.6**	**+0.6**
	comp=Z,458nm,1.3s,SNR=44									
BRVK	**Borovoye**	**63.18**	**327**	*d* iP		**P**	**17 02 35.8**	**-0.2**
BRVK				pmax		pmax				
	comp=Z,98nm,1.1s									
BRVK	**Borovoye**	**63.18**	**327**	P		**P**	**17 02 36.1**	**+0.1**
	SNR=43									
BRVK	**Borovoye**	**63.18**	**327**	*e*P		**P**	**17 02 35.6**	**-0.4**
	comp=Z,98nm,1.0s									
BRVK				*e*pP		**pP**	**17 04 36.0**	**-0.1**
IMYA	**Miami**	**64.67**	**307**	*e*P		**P**	**17 02 46.5**	**+0.4**
ITEG	**Tejag**	**65.20**	**303**	*e*P		**P**	**17 02 51.1**	**+1.7**
IMOG	**Moghan**	**65.23**	**307**	*e*P		**P**	**17 02 50.6**	**+0.9**
IPAY	**Payeh**	**65.57**	**307**	*e*P		**P**	**17 02 52.6**	**+0.9**
IAKL	**Akhelmad**	**65.79**	**307**	*e*P		**P**	**17 02 54.1**	**+1.0**
IKRD	**Kardeh**	**66.01**	**307**	*e*P		P	17 02 50.3	-4.2
RPZ	**Rata Peaks**	**66.02**	**144**	*e*P		**P**	**17 02 54.4**	**+0.4**
	comp=Z,68nm,0.9s									
GEYT	**Alibeck**	**66.52**	**308**	P		**P**	**17 02 58.3**	**+1.0**
	comp=Z,31nm,1.0s,baz=116,slow=3.4,SNR=62									
GEYT				PcP		**PcP**	**17 03 21.2**	**+0.3**
	comp=Z,2.4nm,0.4s,baz=188,slow=2.9,SNR=2.8									
BANOM	**Banah**	**66.57**	**295**	⇓P		P	17 02 54.2	-3.6
HATD	**Hatta, Dubai**	**66.65**	**294**	⇑P		**P**	**17 02 57.4**	**-0.9**
ASHO	**Ashiyiah**	**66.71**	**294**	⇓P		**P**	**17 02 58.0**	**-0.7**
URZ	**Urewera**	**66.90**	**136**	*e*P		**P**	**17 02 59.0**	**-0.5**
	comp=Z,76nm,1.2s									
ASUD	**Al Ashush, Dub**	**67.37**	**294**	*i* P		**P**	**17 03 03.8**	**+1.1**
	SNR=6.0									
BILL	**Bilibino**	**67.65**	**16**	⇓ *i* P		**P**	**17 03 04.4**	**+0.9**
BILL				pmax		pmax				
	comp=Z,18nm,2.5s									
IBAF	**Bafgh**	**67.71**	**301**	*e*P		**P**	**17 03 05.3**	**+0.5**
AB31	**Akbulak array**	**67.83**	**321**	P		**P**	**17 03 04.6**	**-0.4**
AB31				pmax		pmax				
	comp=Z,12nm,0.4s									
ABKAR	**Akbulak array**	**67.83**	**321**	*e*P		**P**	**17 03 04.4**	**-0.6**
	comp=Z,28nm,0.7s									
AKTO	**Aktyubinsk**	**69.36**	**322**	P		**P**	**17 03 14.2**	**+0.1**
	comp=Z,17nm,0.4s,baz=103,slow=7.4,SNR=89									
AKTO	**Aktyubinsk**	**69.36**	**322**	P		**P**	**17 03 13.7**	**-0.4**
AKTO				pmax		pmax				
	comp=Z,68nm,1.0s									
IGLO	**Ghaloghah**	**69.69**	**306**	*e*P		**P**	**17 03 17.6**	**+0.9**
SVE	**Sverdlovsk**	**69.78**	**329**	*ce*P		**P**	**17 03 16.3**	**-0.2**
SVE				pmax		pmax				
	comp=Z,69nm,1.3s									
IFIR	**Firoozkooh**	**70.46**	**305**	*e*P		**P**	**17 03 21.9**	**+0.6**
IALA	**Alasht**	**70.47**	**306**	*e*P		**P**	**17 03 22.4**	**+1.0**
ARU	**Arti**	**70.74**	**328**	*d i*P		**P**	**17 03 21.4**	**-0.8**
ARU				*e*			17 06 08.7			
ARU				S		**S**	**17 11 49.4**	**+0.7**
ARU				SS		**SS**	**17 16 36.7**	**-1.5**
ARU				pmax		pmax				
	comp=Z,84nm,1.7s									
ARU	**Arti**	**70.74**	**328**	P		**P**	**17 03 21.3**	**-0.9**
	comp=Z,356nm,0.6s,SNR=18									
ARU	**Arti**	**70.74**	**328**	*e*P		**P**	**17 03 21.0**	**-1.2**
	comp=Z,32nm,0.6s									
IDMV	**Damavand**	**71.04**	**305**	*e*P		**P**	**17 03 24.3**	**-0.5**
IKLH	**Kolahrood**	**71.22**	**303**	*e*P		**P**	**17 03 26.8**	**+1.0**
IVRN	**Varamin**	**71.24**	**305**	*e*P		**P**	**17 03 26.3**	**+0.6**
IPIR	**Pirpir**	**71.75**	**302**	*e*P		**P**	**17 03 27.9**	**-1.1**
SOKR	**Solikamsk**	**72.59**	**331**	*d i*P		**P**	**17 03 32.2**	**-0.6**
SOKR				pmax		pmax				
	comp=Z,20nm,1.2s									
IDHR	**Dehrash**	**75.60**	**304**	*e*P		**P**	**17 03 49.5**	**-1.0**
RAYN	**Ar Rayn**	**76.33**	**293**	P		**P**	**17 03 54.4**	**-0.2**
	comp=Z,252nm,0.7s,SNR=11									
RAYN	**Ar Rayn**	**76.33**	**293**	*e*P		**P**	**17 03 53.1**	**-1.4**
	comp=Z,56nm,1.1s									
DGRG	**David-gareji**	**76.69**	**311**	P		**P**	**17 03 57.6**	**+1.4**
GNI	**Garni**	**77.11**	**310**	P		**P**	**17 03 59.0**	**+0.3**
	comp=Z,1.5nm,0.3s,baz=258,slow=4.8,SNR=4.3									
GNI	**Garni**	**77.11**	**310**	*de*P		**P**	**17 03 59.7**	**+1.1**
GNI				pmax		pmax				
	comp=Z,39nm,1.5s									
TBLG	**Delisi**	**77.18**	**311**	P		**P**	**17 03 59.5**	**+0.7**
TBLG	**Delisi**	**77.18**	**311**	P		**P**	**17 03 59.4**	**+0.7**
NCK	**Nalchik**	**78.09**	**313**	⇑ *e*P		**P**	**17 04 03.7**	**+0.1**
AKH	**Akhalkalaki**	**78.10**	**311**	P		**P**	**17 04 05.0**	**+1.1**
ONI	**Oni**	**78.16**	**312**	P		**P**	**17 04 05.1**	**+1.0**
PRGR	**Permogore**	**78.40**	**332**	*e*P		**P**	**17 04 03.3**	**-1.5**
PRGR				*e*			17 04 09.6			
PRGR				S		**S**	**17 13 10.3**	**-0.9**
PRGR				pmax		pmax				
	comp=Z,32nm,0.6s									
NEY	**Neytrino**	**78.72**	**313**	⇓ *i* P		**P**	**17 04 08.8**	**+1.6**
NEY				pmax		pmax				
	comp=Z,11nm,2.2s									
KIV	**Kislovodsk**	**78.77**	**313**	*d i*P		**P**	**17 04 06.2**	**-1.1**
KIV				*i*			17 04 13.5			
KIV				*e**PP		**pP**	**17 06 15.2**	**-0.1**
KIV				*e*			17 07 23.3			
KIV				*i* S		**S**	**17 13 15.8**	**-0.2**
KIV				pmax		pmax				
	comp=Z,31nm,1.5s									
KIV	**Kislovodsk**	**78.77**	**313**	P		**P**	**17 04 07.9**	**+0.6**
	SNR=6.8									
KIV	**Kislovodsk**	**78.77**	**313**	*e*P		**P**	**17 04 07.3**	**0.0**
	comp=Z,7.8nm,0.8s									
CHVG	**Ch'k'valeri**	**79.18**	**312**	P		**P**	**17 04 09.6**	**+0.2**
SFNV	**Sufian**	**80.73**	**306**	*e*P		**P**	**17 04 18.5**	**+0.8**
KDAK	**Kodiak Island**	**81.23**	**33**	*i* P		**P**	**17 04 21.0**	**+1.4**
VSR	**Storozhevoye**	**81.28**	**321**	*d i*P		**P**	**17 04 19.5**	**-0.5**
VSR				pmax		pmax				
	comp=Z,99nm,1.2s									
TMCR	**Tamitsa**	**82.06**	**334**	*e*P		**P**	**17 04 21.6**	**-2.1**
TMCR				pmax		pmax				
	comp=Z,21nm,0.4s									
BPAW	**Bear Paw Mtn.**	**82.15**	**26**	*e*P		**P**	**17 04 25.1**	**+0.9**
	comp=Z,4.2nm,1.5s									
MOS	**Moscow**	**82.20**	**325**	*e*P		**P**	**17 04 21.9**	**-2.7**
MOS				*e*			17 06 36.2			
MOS				pmax		pmax				
	comp=Z,107nm,1.2s									
ANN	**Anapa**	**82.53**	**314**	*e*P		**P**	**17 04 25.8**	**-0.7**
ANN				pmax		pmax				
	comp=Z,72nm,1.1s									
OBN	**Obninsk**	**82.81**	**325**	P		**P**	**17 04 27.2**	**-0.5**
	comp=Z,50nm,0.5s,baz=97,slow=2.0,SNR=22									
OBN	**Obninsk**	**82.81**	**325**	*c i*P		**P**	**17 04 27.5**	**-0.2**
OBN				*e**PP		**pP**	**17 06 40.8**	**+3.4**
OBN				*e*			17 07 53.3			
OBN				pmax		pmax				
	comp=Z,191nm,1.8s									
OBN	**Obninsk**	**82.81**	**325**	P		**P**	**17 04 27.1**	**-0.6**
	comp=Z,690nm,0.5s,SNR=5.6									
OBN	**Obninsk**	**82.81**	**325**	*e*P		**P**	**17 04 26.9**	**-0.8**
	comp=Z,186nm,1.3s									
ROOS	**tl_alroos**	**83.13**	**304**	*e*P		**P**	**17 04 30.9**	**+1.0**
ZALF	**Zalf**	**83.16**	**302**	*e*P		**P**	**17 04 31.0**	**+1.0**
TOTH	**TOTAH**	**83.89**	**303**	*e*P		**P**	**17 04 35.3**	**+1.7**
ILAR	**Eielson Array**	**83.92**	**26**	P		**P**	**17 04 32.4**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=243,slow=4.8,SNR=8.7									
ARNB	**Al Arnab**	**84.10**	**305**	*e*P		P	17 04 39.1	+4.4
TCHB	**Talchebab**	**84.33**	**302**	*e*P		**P**	**17 04 37.0**	**+1.2**
MAW	**Mawson**	**85.34**	**200**	P		**P**	**17 04 39.0**	**-0.7**
	comp=Z,4.5nm,0.8s,baz=48,slow=3.4,SNR=5.5									
BR131	**Keskin Array S**	**85.65**	**309**	P		**P**	**17 04 40.9**	**-1.2**
	baz=86,SNR=8.6									
BRTR	**Keskin Array B**	**85.65**	**309**	P		**P**	**17 04 40.7**	**-1.4**
	comp=Z,4.4nm,0.4s,baz=128,slow=3.6,SNR=41									
BRTR				pP		**pP**	**17 06 55.4**	**+2.3**
	comp=Z,1.1nm,0.9s,baz=101,slow=6.0,SNR=4.5									
BRTR				PP		**PP**	**17 08 12.4**	**-0.4**
	comp=Z,1.7nm,0.9s,baz=123,slow=6.3,SNR=3.6									
PUL	**Pulkovo**	**85.89**	**330**	⇓ *e*P		**P**	**17 04 42.9**	**+0.3**
PUL				pmax		pmax				
	comp=Z,43nm,0.8s									
KMBO	**Kilima Mbogo**	**86.32**	**268**	P		**P**	**17 04 45.8**	**-0.1**
	comp=Z,7.6nm,0.8s,baz=55,slow=6.1,SNR=15									
KMBO				pP		**pP**	**17 06 57.6**	**+0.4**
	comp=Z,0.7nm,0.2s,baz=98,slow=2.4,SNR=1.7									
KMBO	**Kilima Mbogo**	**86.32**	**268**	*i* P		**P**	**17 04 46.7**	**+0.8**
KMBO				pmax		pmax				
	comp=Z,8.0nm,0.8s									
KMBO	**Kilima Mbogo**	**86.32**	**268**	P		**P**	**17 04 46.1**	**+0.1**
	SNR=5.9									
KMBO	**Kilima Mbogo**	**86.32**	**268**	*e*P		**P**	**17 04 45.5**	**-0.4**
	comp=Z,28nm,1.4s									
KMBO				pP		**pP**	**17 06 57.6**	**+0.4**
ARCES	**ARCESS Array B**	**86.60**	**340**	P		**P**	**17 04 44.3**	**-1.5**
	comp=Z,8.3nm,0.8s,baz=83,slow=6.3,SNR=31									
VNDA	**Vanda**	**86.71**	**172**	P		**P**	**17 04 46.4**	**+0.4**
	comp=Z,14nm,0.8s,baz=318,slow=6.4,SNR=79									
SPITS	**Spitsbergen Ar**	**87.01**	**349**	P		**P**	**17 04 46.9**	**-0.7**
	comp=Z,7.7nm,0.4s,baz=91,slow=8.5,SNR=49									
AKASG	**Malin Array Be**	**87.58**	**321**	P		**P**	**17 04 49.6**	**-1.1**
	comp=Z,3.2nm,0.4s,baz=69,slow=4.2,SNR=24									
AKASG				PP		**PP**	**17 08 27.6**	**+0.1**
	comp=Z,3.1nm,0.9s,baz=70,slow=7.1,SNR=5.4									
KIEV	**Kiev**	**87.59**	**321**	*e*P		**P**	**17 04 49.3**	**-1.4**
KIEV				pmax		pmax				
	comp=Z,13nm,1.2s									
KIEV	**Kiev**	**87.59**	**321**	*e*P		**P**	**17 04 49.3**	**-1.4**
	comp=Z,13nm,1.2s									
FINES	**FINESS Array B**	**87.73**	**332**	P		**P**	**17 04 49.7**	**-1.5**
	comp=Z,7.5nm,0.5s,baz=72,slow=4.1,SNR=62									
FINES	**FINESS Array B**	**87.73**	**332**	*i* P		**P**	**17 04 50.5**	**-0.7**
FINES				pmax		pmax				
	comp=Z,7.0nm,0.5s									
VSU	**Vasula**	**87.89**	**329**	*c i*P		**P**	**17 04 51.3**	**-0.7**
VSU				pmax		pmax				
	comp=Z,61nm,1.0s									
BURAR	**Bucovina Array**	**90.66**	**318**	⇓ *i* P		**P**	**17 05 05.4**	**+0.2**
SUW	**Suwalki**	**90.67**	**324**	*e*P		**P**	**17 05 04.4**	**-0.5**
SUW	**Suwalki**	**90.67**	**324**	*e*P		**P**	**17 05 04.5**	**-0.5**
KWP	**Kalwaria Pacla**	**91.89**	**320**	*e*P		**P**	**17 05 11.2**	**+0.5**
KWP	**Kalwaria Pacla**	**91.89**	**320**	*e*P		**P**	**17 05 11.3**	**+0.5**
KOLS	**Kolonicke sedl**	**92.32**	**320**	*e*P		**P**	**17 05 12.8**	**+0.1**
KOLS				pmax		pmax				
	comp=Z,12nm,1.6s									
KOLS	**Kolonicke sedl**	**92.32**	**320**	*e*P		**P**	**17 05 12.8**	**+0.1**
UZH	**Uzhgorod**	**92.37**	**319**	*e*P		**P**	**17 05 11.5**	**-1.4**
STHS	**Stebnicka Huta**	**92.87**	**320**	*e*P		**P**	**17 05 15.4**	**+0.2**
STHS				pmax		pmax				
	comp=Z,8.0nm,1.4s									
STHS	**Stebnicka Huta**	**92.87**	**320**	*e*P		**P**	**17 05 15.4**	**+0.2**
NIE	**Niedzica**	**93.46**	**320**	*e*P		**P**	**17 05 18.6**	**+0.7**
NIE	**Niedzica**	**93.46**	**320**	*e*P		**P**	**17 05 18.6**

ULDT			*i* S	**Sg**	**17 04 34.4**	**-0.2**
ULDT	**Uludag**	**0.22 354**	*i* P	**Pg**	**17 04 31.3**	**-0.3**
ULDT			*i* S	**Sg**	**17 04 34.4**	**-0.2**
IZI	**Iznik**	**0.48 29**	*e*PG	**Pg**	**17 04 36.3**	**-0.1**
IZI			*e*SG	**Sg**	**17 04 42.7**	**0.0**
IZI	**Iznik**	**0.48 29**	*e*Pg	**Pg**	**17 04 36.3**	**-0.1**
IZI			*e*Sg	**Sg**	**17 04 42.7**	**0.0**
TVSB	**Tavsanli**	**0.52 154**	*e*PG	**Pg**	**17 04 36.3**	**-1.0**
TVSB			*e*SG	**Sg**	**17 04 45.0**	**+0.9**
TVSB	**Tavsanli**	**0.52 154**	*e*Pg	**Pg**	**17 04 36.3**	**-1.0**
TVSB			*e*Sg	**Sg**	**17 04 45.0**	**+0.9**
DURS	**Dursunbey**	**0.62 239**	*i* P	**Pg**	**17 04 38.7**	**-0.5**
DURS			*i* S	**Sg**	**17 04 47.7**	**+0.4**
DURS	**Dursunbey**	**0.62 239**	*i* P	**Pg**	**17 04 38.7**	**-0.5**
DURS			*i* S	**Sg**	**17 04 47.7**	**+0.4**
ARMT	**Armutlu**	**0.68 340**	*e*PG	**Pg**	**17 04 40.0**	**-0.4**
ARMT	**Armutlu**	**0.68 340**	*e*Pg	**Pg**	**17 04 40.0**	**-0.4**
KCTX	**Karacabey (Bur**	**0.71 299**	*e*PG	**Pg**	**17 04 40.9**	**0.0**
KCTX	**Karacabey (Bur**	**0.71 299**	*e*Pg	**Pg**	**17 04 40.9**	**0.0**
GDZ	**Gediz**	**0.87 164**	*i* P	**Pg**	**17 04 44.1**	**+0.3**
GDZ			*i* S	**Sn**	**17 04 58.8**	**-0.7**
GDZ	**Gediz**	**0.87 164**	*i* P	**Pg**	**17 04 44.1**	**+0.3**
HRT	**Hereke**	**0.98 23**	*e*PG	**Pg**	**17 04 46.0**	**0.0**
HRT	**Hereke**	**0.98 23**	*e*Pg	**Pg**	**17 04 46.0**	**0.0**
KLYT	**Kilyos**	**1.33 356**	*e*PN	**Pb**	**17 04 53.0**	**+0.2**
KLYT	**Kilyos**	**1.33 356**	*e*Pn	**Pb**	**17 04 53.0**	**+0.2**
MRMT	**Marmara Adasi**	**1.38 300**	*e*PN	**Pn**	**17 04 53.1**	**-0.2**
MRMT	**Marmara Adasi**	**1.38 300**	*e*Pn	**Pn**	**17 04 53.2**	**-0.2**
CTKS	**Kestanelik-??a**	**1.41 339**	*e*PN	**Pg**	**17 04 54.3**	**+0.1**
CTKS	**Kestanelik-??a**	**1.41 339**	*e*Pn	**Pg**	**17 04 54.3**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.70 297**	*e*PN	**Pn**	**17 04 58.0**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.70 297**	*e*Pn	**Pn**	**17 04 58.0**	**+0.2**

KRNET ***12*** *17:30:52.9±0.1, 39°.11N×77°.22E, mb4.5*
IDC ***12*** *17:30:56.2±0.7, 39°.34N×77°.45E, h0km, mb3.8/13, mb1 3.9/19, mb1mx3.8/41, mbtmp3.7/19, ML3.2/6, Error ellipse: s-maj=15.3km s-min=13.4km az=79.0*
ISCJB ***12*** *17:30:57.6±0.3, 39°.28N±0°.02×77°.69E±0°.05, h17km, mb3.7/14, Error ellipse: s-maj=5.5km s-min=3.1km az=168.5*
BJI ***12*** *17:30:59.6, 39°.42N×77°.51E, h10km, mb4.0/2, ML4.0/9, Ms3.5/2, Ms7 3.2/1*
MOS ***12*** *17:31:00.0±1.6, 39°.40N×77°.53E, h33km, mb4.1/6, Error ellipse: s-maj=11.9km s-min=6.3km az=101.3*
NNC ***12*** *17:31:00.6±1.6, 39°.52N×77°.34E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=15.9km s-min=7.7km az=144.0*

ISC 12 17:30:59.4±0.5, 39°.35N±0°.04×77°.44E±0°.04, h17km, n85, σ1§87/96, mb3.9/14, 17C-15D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.15**	**279**	Pg	Pg	17 31 26.2	+4.5
KSH				Sg	Sg	17 31 44.7	+7.9
KSH				SMN			
	4μm,0.4s						
KSH				SME			
	2μm,0.4s						
NRN	**Naryn**	**2.35**	**333**	⇓*i*P	**Pn**	**17 31 37.3**	**-0.3**
	baz=338						
NRN				⇓*e*S	**Sb**	**17 32 09.9**	**-0.6**
	baz=338						
KDJ	**Kajisay**	**2.78**	**356**	*e*P	**Pn**	**17 31 44.4**	**+1.0**
	baz=360						
KDJ				*e*S	**Sb**	**17 32 21.4**	**-1.3**
	baz=360						
ULHL	**Ulahol**	**3.03**	**343**	P	**Pn**	**17 31 48.6**	**+1.8**
	SNR=16						
SFK	**Sufi-Kurgan**	**3.11**	**283**	⇑Pn	**Pn**	**17 31 49.8**	**+1.8**
	20nm,0.4s						
SFK				⇓Pg	**Pb**	**17 31 56.4**	**+2.0**
	58nm,0.5s						
SFK				⇓Lg	Lg	17 32 35.0	
	360nm,0.4s						
SFK	**Sufi-Kurgan**	**3.11**	**283**	PN	**Pn**	**17 31 49.7**	**+1.8**
SFK						17 31 56.4	
SFK						17 32 34.5	
SFK				pmax	pmax		
	comp=Z,81nm,0.4s						
KZA	**Kyzart**	**3.19**	**329**	P	**Pn**	**17 31 51.2**	**+2.0**
	SNR=32						
ANVS	**Anan'yevo**	**3.43**	**3**	*i* P	**Pn**	**17 31 54.1**	**+1.8**
	baz=5.0						
ANVS				*e*S	**Sb**	**17 32 43.1**	**+1.7**
	baz=5.0						
UCH	**Uchtor**	**3.63**	**323**	P	**Pn**	**17 31 56.9**	**+1.6**
	SNR=25						
KBK	**Karagaybulak**	**3.80**	**331**	P	**Pn**	**17 31 59.9**	**+2.5**
	SNR=17						
TKM2	**Tokmak 2**	**3.83**	**339**	P	**Pn**	**17 31 59.9**	**+2.1**
	SNR=18						
TKM2	**Tokmak 2**	**3.83**	**339**	⇑Pn	**Pn**	**17 31 59.4**	**+1.6**
	comp=Z,9.7nm,0.4s						
TKM2				⇑Pg	**Pb**	**17 32 06.7**	**0.0**
	comp=Z,55nm,0.6s						
TKM2				⇑Lg	Lg	17 32 56.0	
	comp=Z,154nm,0.7s						
TKM2	**Tokmak 2**	**3.83**	**339**	PN	**Pn**	**17 31 59.3**	**+1.6**
TKM2						17 32 55.8	
TKM2				pmax	pmax		
	comp=Z,55nm,0.6s						
KNDC	**Almaty**	**3.88**	**355**	⇓Pg	**Pb**	**17 32 07.3**	**-0.1**
	comp=Z,147nm,0.6s						
KNDC				⇓Lg	Lg	17 32 58.0	
	comp=Z,623nm,0.6s						
AAA	**Alma-Ata**	**3.93**	**355**	*i* PN	**Pb**	**17 32 07.4**	**-1.0**
AAA				*i* S	**Sb**	**17 32 57.4**	**+1.7**
AAA				pmax	pmax		
	comp=Z,330nm,0.5s						
AAA				smax	smax		
	comp=E,555nm,0.4s						
AAK	**Ala-Archa**	**3.96**	**327**	P	**Pn**	**17 32 01.9**	**+2.2**
	SNR=12						
AAK	**Ala-Archa**	**3.96**	**327**	⇑Pn	**Pn**	**17 32 01.7**	**+2.1**
	comp=E,6.4nm,0.4s						
AAK				⇑Pg	**Pb**	**17 32 08.4**	**-0.5**
	comp=E,29nm,0.3s						
AAK				⇑Lg	Lg	17 32 59.8	
	comp=E,132nm,0.6s						
AAK	**Ala-Archa**	**3.96**	**327**	PN	**Pn**	**17 32 01.7**	**+2.1**
AAK						17 32 59.7	
AAK				pmax	pmax		
	comp=Z,29nm,0.4s						
AML	**Almayashu**	**3.98**	**315**	P	**Pn**	**17 32 01.7**	**+1.7**
	SNR=30						
FRU	**Bishkek**	**4.08**	**329**	*e*PN	**Pn**	**17 32 04.0**	**+2.9**
FRU				*i*		17 32 12.0	
FRU				*i* S	**Sb**	**17 33 04.0**	**+4.1**
FRU				pmax	pmax		
	comp=Z,200nm,1.2s						
FRU				smax	smax		
	comp=N,880nm,1.4s						
FRU				MLR	MLR		
	comp=N,1μm,6.0s						
CHMS	**Chumysh**	**4.17**	**332**	P	**Pn**	**17 32 04.5**	**+2.1**
	SNR=8.3						
PDGK	**Podgornoye**	**4.26**	**21**	⇑Pn	**Pn**	**17 32 04.7**	**+1.2**
	comp=N,4.0nm,0.4s						
PDGK				⇓Pg	**Pb**	**17 32 15.3**	**+1.5**
	comp=N,35nm,0.5s						
PDGK				⇑Lg	Lg	17 33 10.7	
	comp=N,200nm,0.7s						
PDGK	**Podgornoye**	**4.26**	**21**	PN	**Pn**	**17 32 04.6**	**+1.2**
PDGK						17 32 14.9	
PDGK						17 33 10.3	
PDGK				pmax	pmax		
	comp=Z,57nm,0.7s						
EKS2	**Erkin-Say**	**4.31**	**321**	P	**Pn**	**17 32 06.8**	**+2.4**
	SNR=18						
KK31	**Karatay Array**	**6.43**	**308**	⇑Pn	**Pn**	**17 32 35.0**	**+1.7**
	comp=Z,0.3nm,0.2s						
KK31				⇓Pg	Pb	17 32 54.8	+4.0
	comp=Z,3.5nm,0.4s						
KK31				⇑Lg	Lg	17 34 17.5	
	comp=Z,9.4nm,0.5s						
KK31	**Karatay Array**	**6.43**	**308**	PN	**Pn**	**17 32 35.0**	**+1.7**
KK31						17 32 54.6	
KK31						17 34 17.3	
KK31				pmax	pmax		
	comp=Z,7.0nm,0.4s						
CHCP	**Chirah Chowk**	**6.60**	**212**	P	Pn	17 32 40.4	+4.6
DZET	**Dzherino**	**6.72**	**268**	⇑Pn	**Pn**	**17 32 38.0**	**+0.4**
	comp=Z,28nm,0.5s						
DZET				⇑Sn	**Sn**	**17 33 54.8**	**+1.0**
	comp=Z,36nm,0.4s						
DZET	**Dzherino**	**6.72**	**268**	PN	**Pn**	**17 32 37.9**	**+0.4**
DZET				pmax	pmax		
	comp=Z,28nm,0.5s						
DLH	**Dalhousie**	**6.90**	**190**	*e*P	**Pn**	**17 32 43.0**	**+3.0**
DLH				*e*S	**Sn**	**17 34 00.0**	**+1.7**
CEP	**Cherat**	**7.09**	**221**	P	Pn	17 32 46.4	+3.9
CEP				S	**Sn**	**17 34 06.0**	**+3.2**
THW	**Thamme Wali**	**8.01**	**217**	P	**Pn**	**17 32 58.1**	**+3.1**
SMLA	**Simla**	**8.21**	**182**	*i* P	**Pn**	**17 32 59.6**	**+1.9**
SMLA				*i* S	**Sn**	**17 34 28.4**	**-1.7**
SMLA				*i* S	**Sn**	**17 34 28.8**	**-1.3**
SMLA				AML	AML	17 34 37.6	
	comp=N,970nm,0.3s						
SMLA				AML	AML	17 34 37.7	
	comp=E,617nm,0.3s						
MK31	**Makanchi Array**	**8.24**	**24**	⇓Pn	**Pn**	**17 32 57.5**	**-0.6**
	comp=E,0.2nm,0.3s,baz=202,slow=12,SNR=8.8						
MK31				⇓Pg	**Pb**	**17 33 24.1**	**+2.4**
	comp=E,0.6nm,0.3s,baz=196,slow=15,SNR=4.9						
MK31				⇓Lg	Lg	17 35 19.9	
	comp=E,8.0nm,0.7s,baz=211,slow=27,SNR=4.3						
MK31	**Makanchi Array**	**8.24**	**24**	P	**Pn**	**17 32 57.5**	**-0.6**
MKAR	**Makanchi Array**	**8.24**	**24**	P	**Pn**	**17 32 57.4**	**-0.7**
	comp=E,0.2nm,0.3s,baz=202,slow=12,SNR=19						
MKAR				P	**Sn**	**17 34 32.2**	**+1.4**
	comp=E,0.3nm,0.3s,baz=196,slow=28,SNR=1.9						
MKAR				Lg	Lg	17 35 18.3	
	comp=E,0.6nm,0.3s,baz=172,slow=23,SNR=3.9						
MKAR	**Makanchi Array**	**8.24**	**24**	*i* P	**Pn**	**17 32 57.7**	**-0.5**
KURBB	**Kurchatov Arra**	**11.30**	**4**	⇓Lg	Lg	17 36 58.6	
	comp=E,26nm,0.8s						
KURBB	**Kurchatov Arra**	**11.30**	**4**	Pn	**Pn**	**17 33 39.3**	**-0.7**
	comp=E,0.1nm,0.3s,baz=188,slow=12,SNR=7.1						
KURBB				Sn	**Sn**	**17 35 42.7**	**-3.0**
	comp=E,0.0nm,0.3s,baz=3.4,slow=8.8,SNR=2.7						
KURBB				Lg	Lg	17 36 47.6	
	comp=E,0.1nm,0.3s,baz=191,slow=30,SNR=5.6						
KURK	**Kurchatov**	**11.39**	**4**	⇑Lg	Lg	17 36 59.0	
	comp=E,18nm,1.2s						
KURK	**Kurchatov**	**11.39**	**4**	P	**Pn**	**17 33 39.3**	**-2.0**
KURK						17 35 42.7	
KOLN	**Koldanda**	**12.64**	**154**	*e*P	**Pn**	**17 33 57.2**	**-1.4**
	comp=E,20nm,0.4s						
GKN	**Gorkha**	**12.80**	**150**	*e*P	**Pn**	**17 33 59.3**	**-1.5**
	comp=E,13nm,0.3s						
KKN	**Kakani**	**13.25**	**148**	*e*P	**Pn**	**17 34 05.5**	**-1.4**
	comp=E,13nm,0.5s						
DMN	**Daman**	**13.34**	**149**	*e*P	**Pn**	**17 34 06.7**	**-1.5**
	comp=E,7.0nm,0.3s						
GUN	**Gumba**	**13.39**	**146**	*e*P	**Pn**	**17 34 07.2**	**-1.9**
	comp=E,14nm,0.3s						
PKIN	**Phulchoki**	**13.48**	**148**	*e*P	**Pn**	**17 34 08.3**	**-1.9**
	comp=E,11nm,0.3s						
PKI	**Pulchoki**	**13.49**	**148**	*e*P	**Pn**	**17 34 08.0**	**-2.4**
	comp=E,11nm,0.3s						
BVA0	**Borovoye Array**	**14.51**	**343**	⇑Pn	**P**	**17 34 29.4**	**-1.1**
	comp=E,4.9nm,1.0s,baz=146,slow=11,SNR=6.4						
BVA0				⇓Lg	Lg	17 38 34.0	
	comp=E,20nm,1.4s,baz=147,slow=29,SNR=5.2						
BVAR	**Borovoye Array**	**14.51**	**343**	Pn	**Pn**	**17 34 21.9**	**-2.0**
	comp=E,0.2nm,0.3s,baz=153,slow=13,SNR=6.7						
BVAR				Lg	Lg	17 38 31.6	
	comp=E,0.1nm,0.3s,baz=142,slow=24,SNR=6.6						
RAMN	**Ramite**	**14.54**	**146**	*e*P	Pn	17 34 21.0	-3.7
	comp=E,19nm,0.5s						
BRVK	**Borovoye**	**14.56**	**343**	⇓Pn	**P**	**17 34 30.1**	**-0.9**
	comp=E,9.8nm,0.9s						
BRVK				⇑Lg	Lg	17 38 31.5	
	comp=E,25nm,1.2s						
BRVK	**Borovoye**	**14.56**	**343**	P	**Pn**	**17 34 24.0**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ODAN	**Odare**	**14.97**	**143**	*e*P	Pn	17 34 26.9	-3.7
	comp=Z,9.5nm,0.4s						
GEYT	**Alibeck**	**15.17**	**271**	Pn	**Pn**	**17 34 30.2**	**-2.7**
	comp=Z,0.6nm,0.3s,baz=116,slow=8.2,SNR=3.6						
GEYT				Sn	**Sn**	**17 37 14.4**	**-6.1**
	comp=Z,0.4nm,0.3s,baz=184,slow=38,SNR=1.8						
ZALV	**Zalesovo Beam**	**15.44**	**17**	Pn	**Pn**	**17 34 33.9**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=207,slow=13,SNR=2.0						
ZALV				Lg	Lg	17 38 52.4	
	comp=Z,0.1nm,0.3s,baz=190,slow=23,SNR=2.3						
AB31	**Akbulak array**	**15.93**	**314**	⇓Pn	**Pn**	**17 34 44.2**	**+1.5**
	comp=Z,1.1nm,0.6s,baz=131,slow=11,SNR=18						
NVS	**Novosibirsk**	**15.98**	**12**	*e*P	**P**	**17 34 46.1**	**-0.6**
GTA	**Gaotai**	**17.29**	**83**	*e*P	P	17 35 08.4	+6.8
GTA				pP	pP	17 35 11.8	+5.5
GTA				sP	sP	17 35 14.5	+5.9
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKTO	**Aktyubinsk**	**17.61**	**315**	⇑Pn	**P**	**17 35 05.5**	**+0.7**
	comp=Z,2.5nm,1.0s						
AKTO	**Aktyubinsk**	**17.61**	**315**	P	**Pn**	**17 35 02.6**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=122,slow=9.5,SNR=3.0						
ARU	**Arti**	**21.14**	**330**	*e*P	**P**	**17 35 46.9**	**+3.6**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SONM	**Songino Array**	**22.51**	**58**	P	**P**	**17 35 57.6**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=254,slow=10.0,SNR=6.1						
SONM	**Songino Array**	**22.51**	**58**	P	**P**	**17 35 57.6**	**-0.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**26.05**	**76**	*e*P	**P**	**17 36 36.6**	**+4.7**
HHC				PP	PnPn	17 37 17.4	+7.4
HHC				S	**S**	**17 41 06.0**	**+3.7**
HHC				SS	SnSn	17 42 11.4	+11
HHC				PMZ			
	comp=Z,12nm,1.2s						
HHC				LN			
	comp=Z,62nm,12.4s						
HHC				LE			
	comp=Z,63nm,12.8s						
HHC				LZ			
	comp=Z,46nm,13.1s						
CMAR	**Chiang Mai Arr**	**27.93**	**132**	P	**P**	**17 36 49.2**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=330,slow=10,SNR=2.7						
BRTR	**Keskin Array B**	**33.53**	**285**	P	**P**	**17 37 39.0**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=93,slow=7.7,SNR=6.9						
BRTR	**Keskin Array B**	**33.53**	**285**	*i* P	**P**	**17 37 40.7**	**+2.4**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**38.14**	**323**	P	**P**	**17 38 16.9**	**-0.5**
	comp=Z,1.9nm,0.5s,baz=115,slow=9.5,SNR=18						
FINES	**FINESS Array B**	**38.14**	**323**	*i* P	**P**	**17 38 16.8**	**-0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES	**ARCESS Array B**	**40.60**	**335**	P	**P**	**17 38 37.4**	**-0.4**
	comp=Z,3.4nm,0.6s,baz=101,slow=8.2,SNR=19						
ARCES	**ARCESS Array B**	**40.60**	**335**	P	**P**	**17 38 37.4**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NB2	**NORSAR Subarra**	**45.27**	**321**	P	**P**	**17 39 14.7**	**-1.0**
	comp=Z,1.4nm,0.5s,baz=88,slow=7.9						
NOA	**NORSAR Array B**	**45.27**	**321**	P	**P**	**17 39 15.0**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=83,slow=9.0,SNR=5.1						
NOA	**NORSAR Array B**	**45.27**	**321**	P	**P**	**17 39 15.0**	**-0.8**
GERES	**GERESS Array B**	**45.51**	**304**	P	**P**	**17 39 18.1**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=64,slow=6.5,SNR=9.6						
GERES	**GERESS Array B**	**45.51**	**304**	P	**P**	**17 39 18.1**	**+0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SEY	**Seymchan**	**49.17**	**36**	*e*P	**P**	**17 39 47.6**	**+1.5**
ESDC	**Sonseca Array**	**60.59**	**299**	P	**P**	**17 41 08.1**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=58,slow=6.0,SNR=5.5						
ILAR	**Eielson Array**	**70.56**	**19**	P	**P**	**17 42 11.8**	**-1.2**
	comp=Z,0.3nm,0.8s,baz=338,slow=6.8,SNR=3.8						
TORD	**Torodi Ar. Bea**	**70.81**	**271**	P	**P**	**17 42 14.3**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=49,slow=5.5,SNR=12						
YKA	**Yellowknife Ar**	**78.04**	**6**	P	**P**	**17 42 55.4**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=350,slow=5.2,SNR=4.0						
YKA	**Yellowknife Ar**	**78.04**	**6**	P	**P**	**17 42 55.4**	**-1.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**79.38**	**127**	P	**P**	**17 43 04.5**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=331,slow=5.8,SNR=7.0						
ASAR	**Alice Springs**	**81.91**	**129**	P	**P**	**17 43 17.8**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=324,slow=5.6,SNR=8.4						

MEX 12 17:43:22.5±0.8, 16°.88N×95°.12W, h116km±8km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.30**	**47**	*e*P	Pn	17 43 38.0	-1.0
CMIG				*i* S	Sn	17 43 49.0	-2.4
HUIG	**Huatulco**	**1.46**	**221**	*e*P	Pn	17 43 47.8	-1.4
HUIG				*e*S	Sn	17 44 08.2	-1.3
VHO	**Vista Hermosa**	**1.56**	**277**	*i* P	Pn	17 43 50.1	-0.6
VHO				*e*S	Sn	17 44 10.2	-1.8
PCIG		**2.17**	**122**	*i* P	Pn	17 43 56.7	-1.2
PCIG				*i* S	Sn	17 44 23.1	-1.8
PNIG	**Pinotepa**	**2.93**	**261**	*e*P	Pn	17 44 05.9	-1.9
PNIG				*i* S	Sn	17 44 40.4	-2.2

IDC 12 17:46:30.2±11.0, 25°.80S×177°.19W, h440km±135km, mb3.3/4, mb1 3.5/5, mb1mx3.1/35, mbtmp4.2/5, Error ellipse: s-maj=222.0km s-min=65.6km az=84.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**13.33**	**200**	P	P	17 49 23.6	+0.2
	0.4nm,0.3s,baz=272,slow=4.8,SNR=14						
URZ				S	S	17 51 43.6	-2.8
	0.7nm,0.3s,baz=253,slow=23,SNR=1.6						
CTA	**Charters Tower**	**34.07**	**272**	P	P	17 52 36.3	0.0
	3.9nm,0.7s,baz=89,slow=15,SNR=3.0						
STKA	**Stephens Creek**	**36.45**	**251**	P	P	17 52 56.8	+0.6
	1.1nm,0.5s,baz=101,slow=9.2,SNR=4.0						
ASAR	**Alice Springs**	**44.27**	**262**	P	P	17 53 59.3	-0.1
	1.4nm,0.4s,baz=94,slow=7.3,SNR=98						
WRA	**Warramunga Arr**	**44.85**	**267**	P	P	17 54 03.2	-0.6
	1.4nm,0.3s,baz=103,slow=8.1,SNR=63						

IDC 12 17:52:59.4±6.9, 13°.39S×170°.17E, h579km±74km, mb3.0/2, mb1 3.2/3, mb1mx2.7/37, mbtmp4.0/3, Error ellipse: s-maj=110.3km s-min=42.5km az=178.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.34**	**202**	P	P	17 55 11.0	-0.2
	0.7nm,0.3s,baz=54,slow=19,SNR=6.2						
WRA	**Warramunga Arr**	**34.89**	**254**	P	P	17 59 04.0	+0.2
	0.9nm,0.4s,baz=85,slow=8.5,SNR=26						
ASAR	**Alice Springs**	**35.78**	**248**	P	P	17 59 10.9	-0.3
	1.2nm,0.4s,baz=74,slow=9.7,SNR=94						
ASAR				PcP	PcP	18 01 21.5	-1.2
	0.2nm,0.7s,baz=89,slow=3.0,SNR=3.2						
ARCES	**ARCESS Array B**	**119.64**	**346**	PKP	PKPdf	18 10 43.9	+0.2
	2.9nm,1.0s,baz=61,slow=3.2,SNR=7.3						

CASC ***12*** *17:57:34.9±1.6, 10°.24N×86°.70W, h15km±7km, MD4.1*
ISCJB ***12*** *17:57:35.2±0.4, 10°.31N±0°.05×86°.71W±0°.02, h23km, mb4.2/31, MS3.8/8, Error ellipse: s-maj=7.4km s-min=2.2km az=18.3*
NEIC ***12*** *17:57:37.0±3.1, 10°.34N×86°.60W, h25km±22km, mb4.4/19, Error ellipse: s-maj=14.1km s-min=6.5km az=224.0*
IDC ***12*** *17:57:36.9±0.8, 10°.41N×86°.54W, h21km±4km, mb4.0/12, mb1 4.2/13, mb1mx4.0/38, mbtmp4.1/13, ML4.0/1, MS3.4/9, Ms1 3.4/9, ms1mx3.2/19, Error ellipse: s-maj=27.6km s-min=11.3km az=40.0*

ISC 12 17:57:36.7±0.5, 10°.29N±0°.07×86°.66W±0°.04, h23km, n167, σ1§13/177, mb4.3/31, MS3.7/8, 2C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VCR	**Vista de Mar**	**1.03**	**99**	⇑*i*P	**Pn**	**17 57 53.8**	**-2.0**
VCR				*e*S	**Sb**	**17 58 08.1**	**-0.9**
NY14	**Universidad de**	**1.17**	**72**	*i* P	**Pn**	**17 57 57.1**	**-0.5**
NY14				*i* S	**Sn**	**17 58 14.4**	**+1.6**
GBS3	**Finca Las Im¯¡**	**1.28**	**67**	*i* P	**Pn**	**17 57 58.0**	**-1.3**
LAPC	**Finca la Perla**	**1.30**	**68**	*i* P	**Pn**	**17 57 58.4**	**-1.1**
LAPC				*i* S	**Sb**	**17 58 16.0**	**-0.8**
GBS2	**Las Lilas**	**1.31**	**65**	*i* P	**Pn**	**17 57 58.6**	**-1.0**
BUEV	**Buena Vista**	**1.33**	**68**	*i* P	**Pn**	**17 57 59.2**	**-0.7**
GB1A	**Borinquen Arri**	**1.35**	**67**	*i* P	**Pn**	**17 57 59.3**	**-0.9**
GB1A				*i* S	**Sb**	**17 58 18.9**	**+0.6**
GPS2	**Hotel Rinc˜‡n**	**1.37**	**70**	*i* P	**Pn**	**17 57 59.7**	**-0.8**
GPS1	**Guardaparques**	**1.38**	**69**	*i* P	**Pn**	**17 58 00.0**	**-0.6**
GPS1				*i* S	**Sb**	**17 58 19.5**	**+0.5**
LIM1	**Limonal**	**1.45**	**74**	*i* P	**Pn**	**17 58 00.7**	**-0.8**
COLC	**Colonia**	**1.48**	**75**	*i* P	**Pn**	**17 58 01.1**	**-0.9**
MESS	**Mesas**	**1.51**	**73**	*i* P	**Pn**	**17 58 01.8**	**-0.6**
CUI	**Cuipilapa**	**1.52**	**76**	*i* P	**Pn**	**17 58 01.6**	**-1.0**
HORNC	**Hornillas**	**1.52**	**74**	*i* P	**Pn**	**17 58 01.3**	**-1.2**
JCR	**Jicaral**	**1.59**	**106**	*e*P	**Pn**	**17 58 01.7**	**-1.7**
AMAS	**Alto Masis**	**1.67**	**79**	*i* P	**Pn**	**17 58 03.7**	**-0.9**
AMAS				*i* S	**Sb**	**17 58 27.0**	**-0.6**
JTS	**JuntasAbangare**	**1.68**	**90**	Pn	**Pn**	**17 58 03.5**	**-1.2**
	40nm,0.3s,baz=312,slow=8.8,SNR=18						
JTS				LR	LR	17 58 21.1	
	comp=Z,281nm,18.5s,baz=247,slow=28						
JTS				Sn	**Sn**	**17 58 25.6**	**0.0**
	142nm,0.3s,baz=283,slow=21,SNR=9.9						
CEDE	**Laguna Cede˜–o**	**1.94**	**84**

433A	Art	23.42	332	P	P	18 02 43.0	-1.2	
	baz=24							
236A	Katherine and	23.46	339	P	P	18 02 44.2	-0.3	
	baz=24							
JCT	Junction City	23.52	331	P	P	18 02 44.0	-1.3	
	baz=24							
334A	Lometa	23.53	335	P	P	18 02 44.4	-0.9	
	baz=24							
531A	Rocksprings	23.64	329	P	P	18 02 45.4	-1.0	
	baz=24							
432A	Menard	23.85	331	P	P	18 02 47.2	-1.2	
	baz=24							
333A	Richland Sprin	23.85	333	P	P	18 02 47.0	-1.4	
	baz=24							
530A	J-C Ranch, Com	24.04	327	P	P	18 02 49.2	-0.9	
	baz=24,SNR=8.1							
431A	Sonora	24.09	329	P	P	18 02 49.8	-0.8	
	baz=24,SNR=9.3							
332A	Millersview	24.25	332	P	P	18 02 50.8	-1.3	
	baz=24,SNR=12							
135A	Vickery Place,	24.28	337	P	P	18 02 52.2	-0.2	
	baz=24							
430A	Baggett Ranch,	24.49	329	P	P	18 02 53.9	-0.5	
	baz=25							
331A	San Angelo	24.51	331	P	P	18 02 54.1	-0.4	
	baz=25							
Z36A	Blue Ridge	24.58	340	P	P	18 02 55.2	+0.2	
	baz=25							
232A	Coleman	24.63	333	P	P	18 02 54.0	-1.5	
	baz=25,SNR=8.9							
TXAR	Lajitas Array	24.74	322	P	P	18 02 57.1	+0.5	
	1.2nm,0.5s,baz=138,slow=9.6,SNR=5.7							
SWET	Sewanee	24.82	1	eP	P	18 02 57.7	+0.4	
	9.2nm,0.7s							
133A	Hamilton Ranch	24.93	335	P	P	18 02 56.7	-1.5	
	baz=25							
330A	Mertzon	24.95	329	P	P	18 02 57.3	-1.3	
	baz=25,SNR=6.8							
MIAR	Mount Ida	24.96	346	eP	P	18 02 56.4	-2.1	
	3.8nm,0.7s							
231A	Bronte	24.97	332	P	P	18 02 57.1	-1.6	
	baz=25							
CPCT	Cooper Cave	25.12	4	eP	P	18 02 57.5	-2.4	
KMSC	Kings Mountain	25.21	10	eP	P	18 03 00.8	+0.1	
	19nm,0.7s							
230A	Sterling City	25.32	330	P	P	18 03 01.2	-0.6	
	baz=25							
TKL	Tuckaleechee C	25.39	5	P	P	18 03 01.9	-0.4	
	5.9nm,0.7s,baz=181,slow=8.6,SNR=8.0							
329A	Wagon Wheel Ra	25.43	328	P	P	18 03 02.2	-0.7	
	baz=26,SNR=6.7							
229A	Bryant Ranch,	25.73	329	P	P	18 03 05.4	-0.2	
	baz=26							
Z31A	Sharp Cattle R	26.06	334	P	P	18 03 07.9	-0.6	
	baz=26							
228A	UT Block 9, Go	26.25	328	P	P	18 03 09.5	-0.8	
	baz=26							
W34A	Bridge Creek,	26.82	340	P	P	18 03 16.5	+1.2	
	baz=27							
W34A	Bridge Creek,	26.82	340	eP	P	18 03 15.8	+0.4	
	30nm,0.8s							
Z28A	Tucker Farm, M	27.08	330	P	P	18 03 17.1	-0.7	
	baz=27,SNR=8.6							
Y29A	Porterfield Fa	27.20	332	P	P	18 03 18.6	-0.3	
	baz=27							
X30A	Coker Ranch, T	27.34	334	P	P	18 03 19.6	-0.4	
	baz=27							
Y28A	McKinney Farm,	27.51	331	P	P	18 03 20.8	-0.9	
	baz=28							
X29A	Tulia	27.70	333	P	P	18 03 22.9	-0.5	
	baz=28							
V32A	Arapaho	27.71	338	P	P	18 03 22.3	-1.0	
	baz=28							
T37A	Cheneyville 18	27.74	346	P	P	18 03 24.3	+0.8	
	baz=28							
MSTX	Muleshoe	27.82	330	P	P	18 03 22.9	-1.5	
	baz=28							
MSTX	Muleshoe	27.82	330	eP	P	18 03 23.4	-1.0	
	15nm,1.0s							
AMTX	Amarillo	28.06	333	eP	P	18 03 30.0	+3.5	
	6.5nm,0.8s							
PTGA	Pitinga	28.73	111	P	P	18 03 34.4	+1.8	
	5.2nm,1.0s,baz=296,slow=9.8,SNR=4.6							
SAML	Samuel	30.19	128	eP	P	18 03 44.7	-0.8	
	7.0nm,1.1s							
P35A	Duane Minner,	30.29	346	P	P	18 03 47.6	+1.4	
	baz=30							
ANMO	Albuquerque	30.47	327	P	P	18 03 49.5	+1.3	
	2.4nm,0.9s,baz=156,slow=7.7,SNR=5.6							
ANMO	Albuquerque	30.47	327	eP	P	18 03 49.2	+1.1	
SSPA	Standing Stone	31.21	13	eP	P	18 03 55.1	+0.9	
	9.0nm,0.9s							
TUC	Tucson	31.24	318	eP	P	18 03 55.9	+1.1	
	4.0nm,1.0s							
LPAZ	La Paz	32.15	145	P	P	18 04 03.3	-0.2	
	1.4nm,1.0s,baz=352,slow=14,SNR=3.4							
SDCO	Great Sand Dun	32.16	331	P	P	18 04 03.5	+0.4	
	baz=32							
SDCO	Great Sand Dun	32.16	331	eP	P	18 04 02.0	-1.0	
	3.9nm,0.9s							
S22A	4UR Ranch, Cre	32.81	330	P	P	18 04 09.3	+0.6	
	baz=33							
WUAZ	Wupatki	33.70	322	P	P	18 04 17.7	+1.2	
	baz=34							
SMCO	Snowmass	34.00	331	eP	P	18 04 19.5	+0.2	
	3.6nm,0.9s							
PDMCI	Parker Dam,Lak	34.68	318	P	P	18 04 26.0	+1.3	
	baz=35							
BC3	Big Chuckawall	35.19	316	P	P	18 04 31.0	+1.7	
	baz=35							
IRM	Iron Mountain	35.27	317	P	P	18 04 31.8	+2.0	
	baz=35							
LONY	Lake Ozonia	35.76	15	eP	P	18 04 34.0	+0.1	
	5.7nm,0.8s							
GMRC	Granite Mounta	35.97	317	P	P	18 04 38.1	+2.1	
	baz=36							
I27A	Quinn	36.20	341	P	P	18 04 39.4	+1.6	
	baz=36							
SIV	San Ignacio	36.38	136	P	P	18 04 39.7	+0.2	
	3.5nm,0.9s,baz=316,slow=9.7,SNR=5.5							
SIV				pP	pP	18 04 47.5	+1.0	
	0.5nm,0.5s,baz=320,slow=14,SNR=1.2							
HEC	Hector,Ludlow	36.45	317	P	P	18 04 41.6	+1.6	
	baz=36							
G29A	Hoven	36.60	344	P	P	18 04 43.9	+2.8	
	baz=37							
H27A	Howes	36.72	341	P	P	18 04 43.8	+1.7	
	baz=37							
I25A	Rochford	36.72	339	P	P	18 04 43.0	+0.7	
	baz=37							
BFSC	Mount Baldy Ra	37.04	315	P	P	18 04 47.8	+2.7	
	baz=37							
CIS	Catalina Islan	37.12	313	P	P	18 04 50.3	+4.6	
	baz=37							
EDW2	Edwards Air Fo	37.61	316	P	P	18 04 51.5	+1.6	
	baz=38							
TPNV	Topopah Spring	37.65	320	P	P	18 04 52.1	+1.8	
	baz=38							
LRMC	Laurel Mountai	37.74	317	P	P	18 04 52.6	+1.6	
	baz=38							
DUG	Dugway	37.75	327	P	P	18 04 51.7	+0.7	
	baz=38							
FURC	Furnace Creek,	37.75	319	P	P	18 04 52.6	+1.6	
	baz=38							
MPMC	Manual Prospec	37.93	318	P	P	18 04 54.7	+1.9	
	baz=38							
PDAR	Pinedale Array	38.03	332	P	P	18 04 53.0	-0.5	
	1.5nm,0.8s,baz=128,slow=9.6,SNR=7.5							
PDAR				PcP	PcP	18 07 08.7	0.0	
	0.2nm,0.3s,baz=185,slow=2.3,SNR=3.9							
R11A	Troy Canyon, C	38.10	322	P	P	18 04 55.8	+1.7	
	baz=38							
GRAC	Grapevine Rang	38.40	319	P	P	18 04 58.4	+1.9	
	baz=38							
AGMN	Agassiz Nation	38.67	350	eP	P	18 04 56.8	-1.7	
	7.7nm,0.9s							
HVU	Hansel Valley	38.86	328	eP	P	18 04 56.4	-4.0	
PKM	Peak Mountain	38.90	314	P	P	18 05 02.8	+1.9	
	baz=39							
REDW	Red Top Meadow	39.09	332	eP	P	18 05 02.5	0.0	
	6.5nm,0.9s							
NVAR	Mina Array Bea	39.84	320	P	P	18 05 10.4	+1.7	
	2.7nm,0.9s,baz=136,slow=8.2,SNR=18							
NVAR				PcP	PcP	18 07 15.1	+0.6	
	1.0nm,0.8s,baz=116,slow=5.9,SNR=5.8							
E21A	Keefer Ranch,	40.09	338	P	P	18 05 10.8	+0.3	
	baz=40							
D22A	Cohagen	40.29	339	P	P	18 05 12.6	+0.5	
	baz=40							
BMN	Battle Mountai	40.40	323	eP	P	18 05 14.1	+0.8	
	17nm,1.1s							
DGMT	Dagmar	40.80	342	P	P	18 05 16.7	+0.4	
	baz=41							
HLID	Hailey	40.98	329	P	P	18 05 18.6	+0.6	
	baz=41							
B23A	Brockton	41.04	341	P	P	18 05 18.4	+0.1	
	baz=41							
C20A	Veseth Ranch,	41.42	338	P	P	18 05 21.8	+0.4	
	baz=42							
WVOR	Wild Horse Val	42.50	325	eP	P	18 05 30.9	+0.5	
	8.6nm,1.1s							
MSO	Missoula	43.15	333	P	P	18 05 36.1	+0.5	
	baz=43							
J05D	Fort Rock, OR	44.52	324	P	P	18 05 47.6	+0.9	
	baz=45							
J04D	Umpqua Nationa	45.01	323	P	P	18 05 51.8	+1.1	
	baz=45							
G05D	Wamic, OR	45.77	326	P	P	18 05 58.5	+2.0	
	baz=46							
I03D	Drain, OR	46.01	323	P	P	18 06 00.3	+1.9	
	baz=46							
SCHQ	Schefferville	47.13	16	LR	LR	18 26 30.3		
	comp=Z,111nm,19.2s,baz=251,slow=37							
YKA	Yellowknife Ar	55.89	345	P	P	18 07 11.0	-1.3	
	1.5nm,0.8s,baz=148,slow=6.9,SNR=6.5							
ILAR	Eielson Array	68.30	336	P	P	18 08 35.3	-0.3	
	8.7nm,1.2s,baz=118,slow=4.6,SNR=28							
ILAR				pP	pP	18 08 43.0	0.0	
	4.7nm,1.0s,baz=108,slow=4.5,SNR=9.6							
MCK	McKinley	68.74	335	eP	P	18 08 38.7	+0.3	
	14nm,1.0s							
ESDC	Sonseca Array	77.92	52	P	P	18 09 32.5	-0.7	
	0.1nm,0.2s,baz=283,slow=6.2,SNR=3.9							
ESDC				pP	pP	18 09 39.0	-1.6	
	0.6nm,0.6s,baz=286,slow=6.7,SNR=3.3							
DBIC	Dimbokro	80.81	85	LR	LR	18 45 04.7		
	comp=Z,20nm,19.1s,baz=128,slow=35							
NOA	NORSAR Array B	84.87	29	LR	LR	18 44 17.8		
	comp=Z,19nm,21.6s,baz=280,slow=33							
TORD	Torodi Ar. Bea	86.12	77	P	P	18 10 15.8	-0.8	
	0.5nm,0.8s,baz=307,slow=4.2,SNR=3.8							
TORD				pP	pP	18 10 22.7	-1.5	
	1.7nm,0.8s,baz=278,slow=4.2,SNR=7.6							
ARCES	ARCESS Array B	87.97	19	LR	LR	18 51 56.9		
	comp=Z,22nm,18.5s,baz=272,slow=37							
KEST	Kesra	88.89	54	LR	LR	18 43 03.5		
	comp=Z,18nm,21.8s,baz=312,slow=31							
GERES	GERESS Array B	89.07	41	LR	LR	18 47 02.3		
	comp=Z,51nm,19.4s,baz=274,slow=33							
AKASG	Malin Array Be	97.83	35	LR	LR	18 52 02.0		
	comp=Z,33nm,21.2s,baz=255,slow=33							
KSRS	Korea Array	122.50	322	PKP	PKPdf	18 16 30.4	-0.3	
	1.0nm,0.8s,baz=330,slow=2.2,SNR=6.5							
KSAR	Wonju Array Be	122.53	328	PKP	PKPdf	18 16 30.4	-0.4	
HHC	Hu-ho-hao-te	126.41	343	ePKP	PKPdf	18 16 39.2	+0.9	
HHC				PP	PP	18 18 37.7	+5.4	
HHC				SKS	SKSdf	18 23 49.7	+0.6	
HHC				SKKS	SKKSac	18 25 29.7	-0.7	
HHC	Hu-ho-hao-te	126.41	343	SS	SS	18 35 38.1	+3.5	
HHC				AMB	AMB			
	comp=Z,19nm,5.1s							
HHC				LR	LR			
	comp=N,110nm,19.0s							
HHC				LR	LR			
	comp=E,74nm,18.8s							
HHC				LR	LR			
	comp=Z,48nm,19.4s							
ASAR	Alice Springs	139.14	246	PKP	PKPdf	18 17 01.7	-0.8	
	comp=Z,1.3nm,0.9s,baz=94,slow=1.3,SNR=5.8							
WRA	Warramunga Arr	139.37	251	PKP	PKPdf	18 17 02.5	-0.5	
	comp=Z,2.4nm,1.0s,baz=99,slow=1.8,SNR=9.4							
CMAR	Chiang Mai Arr	150.91	349	PKP	PKPdf	18 17 23.5	+0.7	
	comp=Z,0.8nm,0.8s,baz=328,slow=1.6,SNR=5.5							
CMAR				PKPbc	PKPbc	18 17 28.2	-0.3	
	comp=Z,1.5nm,0.9s,baz=343,slow=2.3,SNR=8.9							
CMAR				PKPab	PKPab	18 17 36.4	+0.9	
	comp=Z,2.8nm,1.1s,baz=301,slow=2.2,SNR=7.8							

IDC ***12*** *18:15:39.3±2.1,5°.33S×102°.08E, h0km, mb3.4/6, mb1 3.6/7, mb1mx3.5/32, mbtmp3.5/7, ML3.8/1, Error ellipse: s-maj=81.8km s-min=18.6km az=53.0*

ISCJB ***12*** *18:15:44.5±0.9, 5°.21S±0°.07×102°.28E±0°.07, h44km, mb3.4/6, Error ellipse: s-maj=11.2km s-min=7.3km az=135.5*

DJA ***12*** *18:15:48.1±1.0, 5°S±5°×10°3E±°, h27km±10km, M3.9/8, MLv3.9/8*

ISC 12 18:15:46.7±1.1, 5°.13S±0°.08×102°.4E±0°.1, h44km, n18, σ0s69/18, mb3.4/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	Manna	0.96	37	P	Pn	18 16 03.5	-0.3
KSI	Kapahiang	1.49	9	P	Pn	18 16 11.7	+0.7
KSI				S	Sn	18 16 30.0	+0.7
LWLI	Liwa	1.69	86	P	Pn	18 16 13.5	-0.3
LHSI	Lahat	1.73	42	P	Pn	18 16 15.3	+1.0
MDSI	Maura Dua	1.91	71	P	Pn	18 16 17.0	+0.2
MDSI				S	Sn	18 16 39.4	-0.3
KASI	Kota Agung	2.15	101	P	Pn	18 16 20.9	+0.8
KASI				S	Sn	18 16 46.2	+0.6
KLI	Kotabumi	2.49	84	P	Sn	18 16 44.8	-9.2
CGJI	Cibinong	3.62	114	P	Pn	18 16 41.0	+0.7
LEM	Lembang	5.49	108	Pn	Pn	18 17 06.8	+0.7
	2.5nm,0.3s,baz=306,slow=19,SNR=2.5						
CMAR	Chiang Mai Arr	23.68	352	P	P	18 20 53.2	-1.2
	0.3nm,0.5s,baz=182,slow=9.0,SNR=6.3						
H01W3	Cape Leeuwin H	31.54	161	T	T	18 55 42.4	
	baz=340						
H01W2	Cape Leeuwin H	31.56	161	T	T	18 55 42.0	
	baz=340						
H01W1	Cape Leeuwin H	31.56	161	T	T	18 55 44.7	
	baz=340						
WRA	Warramunga Arr	34.41	118	P	P	18 22 29.2	-0.9
	0.4nm,1.0s,baz=300,slow=10,SNR=3.5						
ASAR	Alice Springs	35.53	124	P	P	18 22 39.6	-0.1
	0.2nm,0.6s,baz=303,slow=8.0,SNR=3.2						
ASAR				PcP	PcP	18 25 08.0	-0.4
	0.5nm,1.0s,baz=336,slow=4.1,SNR=2.9						
SONM	Songino Array	52.86	3	P	P	18 24 58.7	+0.7
	0.3nm,0.6s,baz=192,slow=5.5,SNR=2.5						
MKAR	Makanchi Array	54.68	343	P	P	18 25 11.3	0.0
	0.6nm,0.6s,baz=142,slow=7.4,SNR=9.5						
ZALV	Zalesovo Beam	60.68	348	P	P	18 25 53.2	0.0
	0.3nm,0.4s,baz=187,slow=7.0,SNR=3.8						

NNC 12 18:23:30.3±11.0, 36°.90N×70°.85E, h0km, mb3.5, mpv3.1, 3C-1D, Error ellipse: s-maj=92.2km s-min=49.6km az=175.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	Dzherino	2.49	320	↑P	Pn	18 24 12.2	0.0
	9.7nm,0.4s						
DZET				↑S	Sn	18 24 44.2	+0.8
	14nm,0.3s						
KK31	Karatay Array	6.20	358	Pn	Pn	18 25 02.3	-0.9
	0.2nm,0.2s,baz=175,slow=12,SNR=18						
KK31				↑S	Sn	18 26 13.4	-1.4
	0.2nm,0.2s,baz=171,slow=28,SNR=5.4						
AAK	Ala-Archa	6.38	25	↓S	Sn	18 26 23.7	+4.3
	0.8nm,0.4s						

WEL 12 18:47:58.0±0.4, 37.77S×176°.50E, h142km±3km, ML3.5/16, 12C-3D, Error ellipse: s-maj=2.7km s-min=2.5km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	0.69	136	↑P	Pn	18 48 19.8	+0.2
URZ				S	Sn	18 48 36.4	+0.4
URZ				AML	AML	18 48 36.6	
MWZ	Matawai	0.99	125	PN	Pn	18 48 21.9	-0.1
MWZ				AML	AML	18 48 42.3	
HAZ	Te Kaha	1.01	90	PN	Pn	18 48 21.8	-0.3
HAZ				SN	Sn	18 48 40.3	-0.2
RAGZ	Rawiri	1.02	136	PN	Pn	18 48 22.6	+0.3
RAGZ				SN	Sn	18 48 41.2	+0.3
SNGZ	Shannon Statio	1.21	147	↑P	Pn	18 48 24.2	+0.2
RAHZ	Arahi	1.24	158	PN	Pn	18 48 24.7	+0.4
TWGZ	Tauwhareparae	1.24	110	PN	Pn	18 48 24.5	+0.2
NMHZ	Naumai	1.35	170	PN	Pn	18 48 26.0	+0.5
RIGZ	Rimuhau	1.37	134	PN	Pn	18 48 25.7	+0.1
BKZ	Black Stump Fm	1.40	180	↑PN	Pn	18 48 25.6	-0.4
PUZ	Puketiti	1.42	103	PN	Pn	18 48 25.6	-0.5
WHHZ	Waihua	1.43	157	PN	Pn	18 48 26.3	+0.1
WMGZ	Waiomatatini S	1.52	93	PN	Pn	18 48 27.0	-0.1
CNGZ	Carnagh Statio	1.52	119	PN	Pn	18 48 27.5	+0.3
ARHZ	Aropaoanui	1.54	166	PN	Pn	18 48 27.5	+0.1
OTVZ	Oturere	1.54	205	PN	Pn	18 48 28.0	+0.4
TWVZ	Taurewa	1.55	212	PN	Pn	18 48 28.1	+0.5
KNZ	Kokohu	1.56	144	↓PN	Pn	18 48 27.2	-0.3
KNZ					Sn	18 48 48.1	-2.0
NGZ	Ngauruhoe	1.58	206	PN	Pn	18 48 28.3	+0.3
PRGZ	Paritu Road	1.59	137	PN	Pn	18 48 27.5	-0.4
WPVZ	Whakapapa	1.62	207	PN	Pn	18 48 28.7	+0.3
TUVZ	Tukino	1.64	204	↑PN	Pn	18 48 28.8	+0.1
KWHZ	Kaweka Forest	1.66	182	PN	Pn	18 48 28.4	-0.4
FWVZ	Far West T-bar	1.67	206	PN	Pn	18 48 29.1	+0.1
WHVZ	Whangaehu Hut	1.68	205	↑PN	Pn	18 48 29.2	0.0
MCHZ	McNeill Hill	1.68	175	PN	Pn	18 48 29.0	0.0
WNVZ	Wahianoa	1.71	204	↑PN	Pn	18 48 29.4	-0.1
MOVZ	Moawhango	1.74	199	PN	Pn	18 48 29.1	-0.7
BHHZ	Black Hill Sta	1.75	191	↑PN	Pn	18 48 29.2	-0.7
PKVZ	Pokaka	1.77	210	↑PN	Pn	18 48 30.2	+0.1
MTVZ	Mangateitei	1.81	206	↓PN	Pn	18 48 30.5	0.0
KRHZ	Kereru	1.88	183	PN	Pn	18 48 30.5	-0.7
VRZ	Vera Road	1.93	225	ePN	Pn	18 48 32.6	+0.9
KAHZ	Kahuranaki	2.05	172	↑PN	Pn	18 48 32.5	-0.7
PNHZ	Pukenui	2.16	186	↓PN	Pn	18 48 33.2	-1.4
PXZ	Pawanui	2.28	173	↑PN	Pn	18 48 34.6	-1.3
PXZ				eSN	Sn	18 49 02.6	-2.7
WPHZ	Waipukurau	2.30	181	PN	Pn	18 48 34.8	-1.4
WAZ	Wanganui	2.31	210	PN	Pn	18 48 35.9	-0.5
TSZ	Takapari Road	2.33	190	PN	Pn	18 48 35.2	-1.4
PRHZ	Porangahau	2.50	178	PN	Pn	18 48 37.0	-1.7
DVHZ	Dannevirke	2.54	186	PN	Pn	18 48 37.1	-2.1
POWZ	Post Office Ro	2.69	192	PN	Pn	18 48 39.0	-2.0
ANWZ	Angora Road	2.69	180	↑PN	Pn	18 48 39.2	-1.8
PRWZ	Pori Road	2.82	188	PN	Pn	18 48 40.8	-1.8
BFZ	Birch Farm	2.82	184	PN	Pn	18 48 41.5	-2.5
MRZ	Mangatainoka R	2.98	194	↑PN	Pn	18 48 42.2	-2.5
TIWZ	Tintock	3.05	189	PN	Pn	18 48 43.1	-2.5
OGWZ	Otaki Gorge	3.22	198	PN	Pn	18 48 45.2	-2.6
HOWZ	Holdsworth Sta	3.22	193	PN	Pn	18 48 44.8	-3.0
KIW	Kapiti Island	3.33	201	PN	Pn	18 48 46.1	-3.2
TMWZ	Te Maipa	3.37	188	PN	Pn	18 48 46.6	-3.2
MTW	Mount Morrison	3.48	193	PN	Pn	18 48 47.6	-3.5
DUWZ	D'Urville Isla	3.63	213	PN	Pn	18 48 50.2	-3.0
PAWZ	Paruwai Farm	3.71	193	PN	Pn	18 48 50.5	-3.7
MSWZ	Moikau Station	3.77	194	PN	Pn	18 48 51.2	-3.8
TCW	Tory Channel	3.85	206	PN	Pn	18 48 52.6	-3.4
PLWZ	Palliser	3.92	194	PN	Pn	18 48 52.9	-4.1
TUWZ	Tuamarina	4.16	208	PN	Pn	18 48 56.3	-3.7
NNZ	Nelson	4.21	214	PN	Pn	18 48 57.2	-3.6
QRZ	Quartz Range	4.34	224	PN	Pn	18 48 58.8	-3.7
BSWZ	Blackbirch Sta	4.43	206	PN	Pn	18 48 60.0	-3.7
THZ	Tophouse	4.86	214	PN	Pn	18 49 05.5	-3.9
KHZ	Kahutara	5.17	205	PN	Pn	18 49 09.1	-4.4
MQZ	McQueen's Vall	6.62	205	PN	Pn	18 49 26.5	-6.3

IDC 12 19:03:45.1±1.3, 26°.39S×176°.31W, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.7/19, mbtmp3.5/3, Error ellipse: s-maj=62.3km s-min=31.5km az=165.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	44.97	262	P	P	19 12 02.4	0.0
	0.4nm,0.4s,baz=96,slow=7.8,SNR=13						
WRA	Warramunga Arr	45.60	267	P	P	19 12 07.1	-0.3
	0.4nm,0.6s,baz=107,slow=7.8,SNR=3.4						
NVAR	Mina Array Bea	84.28	42	P	P	19 16 19.1	+0.1
	0.3nm,0.7s,baz=227,slow=6.1,SNR=2.5						
TORD	Torodi Ar. Bea	166.69	172	PKPab	PKPab	19 24 55.0	-0.6
	0.4nm,0.8s,baz=163,slow=3.6,SNR=2.5						

ISCJB ***12*** *19:24:02.6±0.4, 43°.47S±0°.07×39°.87E±0°.09, h10km, mb4.4/27, MS4.7/41, Error ellipse: s-maj=11.5km s-min=7.3km az=137.4*

IDC ***12*** *19:24:02.7±0.5, 43°.44S×39°.98E, h0km, mb4.2/20, mb1 4.4/22, mb1mx4.3/27, mbtmp4.3/22, ML4.3/2, MS4.6/25, Ms1 4.6/25, ms1mx4.5/32, Error ellipse: s-maj=19.4km s-min=12.4km az=66.0*

NEIC ***12*** *19:24:04.1±0.2, 43°.45S×39°.93E, h10km, mb5.2/9, MS4.9/9, Error ellipse: s-maj=9.5km s-min=6.7km az=66.0*

GCMT ***12*** *19:24:04.1±0.2, 43°.32S×40°.10E, h12km, MW5.2/92, Moment Tensor Solution. s39,c52; s92,c155; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=7.32±.14; Mθθ=6.61±.12; Mφφ=0.71±.13; Mrθ=-0.09±.40; Mrφ=-1.15±.11; Mθφ=0.28±.49; Best double couple: M0=7.07900×10^16 NP1:φs=103.00000°, δ=46.00000°, λ=-87.00000°. NP2: φs=279.00000°, δ=44.00000°, λ=-93.00000°. Principal axes: T 6.8280, Plg1.0000°, Azm191.0000°; N 0.5040, Plg2.0000°, Azm281.0000°; P -7.3300, Plg88.0000°, Azm84.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 12 19:24:03.9±0.4, 43°.49S±0°.08×39°.85E±0°.10, h10km, n248, σ2s08/199, mb4.7/30, MS4.7/43, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRZF	Crozet Islands	9.01	113	R		19 27 00.0	
GRM	Grahamstown	14.56	310	eP	Pn	19 27 29.9	-0.2
SEK	Senekal	18.05	323	eP	P	19 28 25.0	+10
SEK				IAmb	IAmb	19 28 25.9	
	comp=Z,75nm,1.2s						
SUR	Sutherland	18.62	300	P	Pn	19 28 22.3	+0.3
	comp=Z,2.7nm,0.3s,baz=123,slow=12,SNR=24						
SUR				LR	LR	19 34 02.0

comp=Z,7.1nm,1.0s,baz=178,slow=7.1,SNR=4.5
OPO LR LR 19 38 26.1
comp=Z,2µm,18.1s,baz=186,slow=34
MAW Mawson 27.11 161 P **P 19 29 47.3 +0.8**
comp=Z,5.1nm,0.8s,baz=310,slow=9.9,SNR=9.1
MAW LR LR 19 37 58.8
comp=Z,1µm,21.4s,baz=353,slow=31
LSZ Lusaka 29.83 337 P **P 19 30 11.3 -0.1**
comp=Z,7.0nm,1.0s,baz=109,slow=12,SNR=10
LSZ LR LR 19 40 20.4
comp=Z,868nm,21.9s,baz=106,slow=33
LSZ Lusaka 29.83 337 *e*P **P 19 30 10.5 -0.9**
comp=Z,65nm,1.5s
TSUM Tsumeb 30.60 315 *e*P **P 19 30 18.1 -0.2**
comp=Z,21nm,1.0s
SNAA Sanae 34.93 202 P **P 19 30 56.9 +1.4**
comp=Z,0.8nm,0.8s,baz=99,slow=9.9,SNR=10
VNA1 Neumayer--Stat 36.05 205 P P 19 31 11.0 +6.1
KMBO Kilima Mbogo 42.24 356 P **P 19 31 58.7 +1.1**
comp=Z,0.8nm,0.3s,baz=196,slow=12,SNR=3.5
KMBO LR LR 19 47 14.5
comp=Z,2µm,20.5s,baz=114,slow=33
QSPA South Pole Qui 46.72 180 P **P 19 32 33.2 +0.4**
comp=Z,6.3nm,0.9s,baz=262,slow=3.3,SNR=8.3
QSPA South Pole Qui 46.72 180 *e*P **P 19 32 32.8 0.0**
comp=Z,34nm,1.4s
VNDA Vanda 54.16 167 P **P 19 33 29.3 +0.5**
comp=Z,1.7nm,1.0s,baz=232,slow=4.7,SNR=5.3
VNDA LR LR 19 55 52.2
comp=Z,461nm,18.9s,baz=230,slow=35
H01W2 Cape Leeuwin H 56.45 108 T T 20 34 48.1
baz=238,slow=75,SNR=53
H01W3 Cape Leeuwin H 56.47 108 T T 20 34 50.1
baz=238,slow=75,SNR=67
H01W1 Cape Leeuwin H 56.47 108 T T 20 34 50.4
baz=238,slow=75,SNR=65
H10S2 ASCENSION HYDR 58.42 289 T T 20 37 21.8
baz=138,slow=75,SNR=5.6
H10S1 ASCENSION HYDR 58.43 289 T T 20 37 23.6
baz=138,slow=75,SNR=6.5
H10S3 ASCENSION HYDR 58.43 289 T T 20 37 23.4
baz=138,slow=75,SNR=5.1
ASCN Ascension 58.96 290 PFAKE 19 34 20.0 +16
ASCN LR LR
comp=Z,602nm,20.0s
DBIC Dimbokro 64.23 309 P **P 19 34 38.8 -0.4**
comp=Z,4.0nm,0.8s,baz=122,slow=7.8,SNR=5.3
DBIC LR LR 19 58 55.2
comp=Z,380nm,21.9s,baz=112,slow=33
TORD Torodi Ar. Bea 66.27 319 P **P 19 34 53.1 +0.8**
comp=Z,12nm,1.0s,baz=153,slow=5.9,SNR=43
TORD PP PP 19 37 09.5 -9.0
comp=Z,1.9nm,1.0s,baz=167,slow=8.9,SNR=2.9
TORD LR LR 20 02 42.6
comp=Z,392nm,19.5s,baz=155,slow=35
RAYN Ar Rayn 66.88 6 *e*P **P 19 34 55.9 -0.2**
comp=Z,46nm,2.5s
TAM Tamanrasset 73.11 327 *e*P **P 19 35 36.1 +1.5**
comp=Z,9.2nm,1.2s
STKA Stephens Creek 76.45 121 P **P 19 35 53.9 +0.1**
comp=Z,5.9nm,1.0s,baz=182,slow=4.0,SNR=3.5
STKA LR LR 20 03 45.0
comp=Z,305nm,19.7s,baz=209,slow=31
ASAR Alice Springs 76.91 110 P **P 19 35 56.5 -0.1**
comp=Z,1.6nm,0.9s,baz=216,slow=5.2,SNR=8.4
ASAR LR LR 20 04 42.8
comp=Z,244nm,19.0s,baz=234,slow=32
KSM Kuching 76.95 75 *e*P **P 19 35 56.3 -0.6**
comp=Z,53nm,1.9s
CPUP Villa Florida 77.23 246 P **P 19 35 59.2 +0.9**
comp=Z,3.9nm,0.8s,baz=128,slow=6.7,SNR=7.3
CPUP LR LR 20 03 20.8
comp=Z,108nm,21.8s,baz=144,slow=30
BDFB Brasilia 77.88 260 LR LR 20 05 25.0
comp=Z,239nm,18.4s,baz=96,slow=32
WRA Warramunga Arr 79.69 108 P **P 19 36 11.4 -0.6**
comp=Z,2.6nm,1.0s,baz=223,slow=4.3,SNR=12
CMAR Chiang Mai Arr 82.01 55 P **P 19 36 23.8 -0.4**
comp=Z,2.0nm,1.1s,baz=229,slow=5.7,SNR=8.4
CMAR LR LR 20 09 05.3
comp=Z,222nm,18.2s,baz=212,slow=33
CHTO Chiang Mai 82.29 55 *e*P **P 19 36 25.2 -0.5**
comp=Z,64nm,2.5s
GEYT Alibeck 82.72 14 P **P 19 36 27.4 -0.2**
comp=Z,0.3nm,0.3s,baz=224,slow=4.0,SNR=3.6
GEYT LR LR 20 09 36.4
comp=Z,284nm,21.1s,baz=205,slow=33
BRTR Keskin Array B 83.02 355 P **P 19 36 29.1 -0.1**
comp=Z,0.9nm,0.7s,baz=178,slow=6.2,SNR=7.4
BRTR LR LR 20 11 28.6
comp=Z,254nm,21.8s,baz=163,slow=34
KEST Kesra 83.60 335 P **P 19 36 34.2 +2.0**
comp=Z,3.3nm,1.2s,baz=180,slow=2.0,SNR=4.9
KEST LR LR 20 16 10.4
comp=Z,409nm,18.5s,baz=126,slow=37
SHL Shillong 83.68 46 *e*P **P 19 36 34.0 +1.0**
LSA Lhasa 86.69 43 *e*P **P 19 36 48.0 -0.3**
comp=Z,80nm,2.0s
KBZ Khabaz 86.88 2 P **P 19 36 48.5 +0.2**
comp=Z,0.5nm,0.5s,baz=173,slow=5.6,SNR=4.8
KBZ LR LR 20 14 29.5
comp=Z,297nm,20.3s,baz=174,slow=35
AQU L'Aquila 88.70 341 PFAKE 19 37 10.0 +13
AQU LR LR
comp=Z,463nm,20.0s
AAK Ala-Archa 91.20 25 PFAKE 19 37 20.0 +11
AAK LR LR
comp=Z,284nm,21.0s
LPAZ La Paz 91.41 246 LR LR 20 14 29.8
comp=Z,135nm,18.4s,baz=124,slow=33
ESDC Sonseca Array 91.76 328 P **P 19 37 10.2 -1.3**
comp=Z,0.2nm,0.4s,baz=152,slow=4.0,SNR=6.4
ESDC LR LR 20 19 24.1
comp=Z,461nm,19.1s,baz=150,slow=36
KECS Kecovo 93.16 347 *e*pP pP 19 37 22.8 +1.8
KOLS Kolonicke sedl 93.33 348 *e*pP pP 19 37 22.4 +0.6
STHS Stebnicka Huta 93.95 348 *e*P **P 19 37 22.0 +0.7**
AKASG Malin Array Be 94.27 353 LR LR 20 21 22.5
comp=Z,126nm,20.2s,baz=205,slow=36
GERES GERESS Array B 94.78 343 LR LR 20 22 23.3
comp=Z,309nm,21.1s,baz=160,slow=37
TREC Trest 94.84 344 AMS AMS 20 20 10.0
comp=Z,300nm,22.7s
OKC Ostrava-Krasne 94.86 346 AMS AMS 20 28 30.0
comp=Z,100nm,16.9s
AKTO Aktyubinsk 94.88 12 LR LR 20 19 38.9
comp=Z,203nm,20.8s,slow=35
KHC Kasperske Hory 95.07 343 AMS AMS 20 22 00.0
comp=Z,400nm,20.6s
BFO Black Forest 95.55 339 PFAKE 19 37 40.0 +11
BFO LR LR
comp=Z,211nm,21.0s
GOPC GO Pecny, Ondr 95.57 344 AMS AMS 20 20 00.0
comp=Z,300nm,20.4s
DPC Dobruska-Polom 95.69 345 AMS AMS 20 23 20.0
comp=Z,200nm,18.9s
PRU Pruhonice 95.69 344 AMS AMS 20 20 30.0
comp=Z,300nm,18.3s
UPC Upice 95.89 345 AMS AMS 20 23 30.0
comp=Z,200nm,17.5s
PVCC Panska Ves 96.19 344 AMS AMS 20 20 50.0
comp=Z,400nm,20.2s
MKAR Makanchi Array 97.43 28 LR LR 20 18 32.7
comp=Z,139nm,20.8s,baz=216,slow=34
BRVK Borovoye 99.67 18 PFAKE 19 38 00.0 +13
BRVK LR LR
comp=Z,324nm,20.0s
HHC Hu-ho-hao-te 105.88 48 Pdif **Pdif 19 38 19.5 +4.3**
HHC PP PP 19 42 45.5 +6.6
HHC Hu-ho-hao-te 105.88 48 SS SS 19 57 44.5 +5.7
HHC AMB AMB
comp=Z,56nm,5.8s
HHC LR LR
comp=N,110nm,18.6s
HHC LR LR
comp=E,180nm,19.2s
HHC LR LR
comp=Z,110nm,18.8s
TBI Tubuai 112.94 171 *e*LR LR 20 16 43.9
comp=Z,477nm,38.5s
RKT Rikitea 113.55 185 *e*SS SS 19 59 27.5 +8.6
comp=Z,245nm,32.0s
RKT Rikitea 113.55 185 *e*LR LR 20 16 58.0
comp=Z,435nm,25.0s
PPT2 Papeete2 118.61 170 *e*SS SS 20 00 47.6 +22
comp=Z,158nm,37.5s
PPT2 Papeete2 118.61 170 *e*LR LR 20 19 09.8
comp=Z,621nm,29.2s

GLMI Grayling 140.79 292 PFAKE 19 43 50.0 +17
GLMI LR LR
comp=Z,220nm,20.0s
MIAR Mount Ida 143.13 272 P **PKPdf 19 43 40.6 +2.7**
baz=143
Y39A Lockesburg 143.22 271 P **PKPdf 19 43 38.9 +0.8**
baz=143
237A Washetta, Mont 143.50 267 P **PKPdf 19 43 37.7 -1.0**
baz=144
336A Riesel 143.93 265 P PKPab 19 43 35.6 -1.1
baz=144
Z37A Pogue Cattle C 143.97 269 P PKPab 19 43 32.6 -4.2
baz=144
236A Katherine and 144.03 266 P **PKPab 19 43 35.8 -1.2**
baz=144
JFWS Jewell Farm 144.06 287 *e*PKPpre PKPpre 19 43 37.2
833A Chaparral WMA, 144.07 259 P **PKPab 19 43 36.4 -0.8**
baz=144
W38A Poteau 144.07 272 P **PKPab 19 43 35.6 -1.4**
baz=144
X38A Whitesboro 144.10 271 P **PKPab 19 43 36.0 -1.2**
baz=144
435B Jarrell 144.15 264 P **PKPab 19 43 37.1 -0.4**
baz=144
335A Moody 144.30 265 P **PKPab 19 43 33.5 -4.5**
baz=144
534A Blanco 144.38 262 P **PKPab 19 43 36.9 -1.5**
baz=144
832A Faith Ranch, C 144.46 258 P **PKPab 19 43 38.0 -0.7**
baz=145,SNR=7.7
X37A Clayton 144.46 271 P **PKPab 19 43 34.7 -3.9**
baz=145
633A Saathoff Ranch 144.56 261 P **PKPab 19 43 36.7 -2.4**
baz=145
Z36A Blue Ridge 144.60 268 P **PKPab 19 43 35.2 -3.8**
baz=145
434A Burnet 144.66 263 P **PKPab 19 43 38.1 -1.3**
baz=145
WHTX Lake Whitney 144.66 266 P **PKPab 19 43 37.5 -2.0**
baz=145
WHTX Lake Whitney 144.69 266 *e*PKPdf PKPbc 19 43 39.9 +0.3
732A Laxson Ranch, 144.71 259 P **PKPab 19 43 38.0 -1.6**
baz=145
W37A Quinton 144.76 272 P **PKPab 19 43 37.8 -1.9**
baz=145
Y36A Durant 144.80 269 P **PKPab 19 43 37.5 -2.3**
baz=145
533A Kerrville 144.81 262 P **PKPab 19 43 38.4 -1.6**
baz=145
V37A Hulbert 144.89 273 P **PKPab 19 43 37.8 -2.2**
baz=145
334A Lometa 144.91 264 P **PKPab 19 43 38.8 -1.5**
baz=145
632A Uvalde 145.03 260 P **PKPbc 19 43 39.4 -1.4**
baz=145,SNR=6.2
X36A Centrahoma 145.17 270 P **PKPbc 19 43 36.0 -5.1**
baz=145
234A Clairette 145.19 265 P **PKPbc 19 43 38.5 -2.7**
baz=145
433A Art 145.22 262 P **PKPbc 19 43 39.8 -1.6**
baz=145,SNR=10
Z35A Perchaven, San 145.22 268 P **PKPbc 19 43 38.9 -2.4**
baz=145
T37A Cheneyville 18 145.26 275 P **PKPbc 19 43 39.3 -1.9**
baz=146
W36A Wetumka 145.34 271 P **PKPbc 19 43 39.3 -2.3**
baz=146
Y35A Marietta 145.35 269 P **PKPbc 19 43 40.3 -1.3**
baz=146
TUL1 Tulsa 145.37 273 P **PKPbc 19 43 39.9 -1.7**
baz=146
V36A Jenks 145.43 272 P **PKPbc 19 43 39.7 -2.2**
baz=146
134A White-Moore Ra 145.45 266 P **PKPdf 19 43 39.8 -2.2**
baz=146
333A Richland Sprin 145.45 263 P **PKPdf 19 43 38.7 -3.4**
baz=146,SNR=5.7
S37A Fort Scott 145.46 276 P **PKPdf 19 43 38.6 -3.2**
baz=146,SNR=5.5
532A Rocksprings 145.46 261 P **PKPdf 19 43 40.4 -1.8**
baz=146,SNR=7.3
631A Perdido Creek 145.54 259 P **PKPab 19 43 43.0 +0.3**
baz=146
X35A Drake 145.54 270 P **PKPdf 19 43 39.1 -3.0**
baz=146
U36A Oologah 145.54 274 P **PKPdf 19 43 39.9 -2.1**
baz=146
JCT Junction City 145.58 261 P **PKPdf 19 43 41.2 -1.2**
baz=146,SNR=5.1
JCT Junction City 145.58 261 *e*PKPdf **PKPbc 19 43 42.6 0.0**
Q37A Longview Farm, 145.63 278 P **PKPdf 19 43 41.2 -0.9**
baz=146,SNR=7.0
R37A Teagarden Farm 145.68 277 P **PKPdf 19 43 40.6 -1.6**
baz=146
Z34A Collier Ranch, 145.73 267 P **PKPdf 19 43 38.9 -3.6**
baz=146
233A Rising Star 145.75 264 P **PKPdf 19 43 40.3 -2.4**
baz=146
432A Menard 145.79 262 P **PKPdf 19 43 41.2 -1.5**
baz=146
W35A Tecumseh 145.82 271 P **PKPdf 19 43 39.2 -3.4**
baz=146
Y34A Reagan Ranch, 145.90 268 P **PKPdf 19 43 38.7 -4.1**
baz=146
T36A Boggs Farm, Ca 145.93 274 P **PKPdf 19 43 40.8 -1.9**
baz=146
531A Rocksprings 145.94 260 P **PKPdf 19 43 41.9 -1.1**
baz=146
332A Millersview 146.03 263 P **PKPdf 19 43 42.3 -0.8**
baz=146,SNR=6.7
V35A Meyer Ranch, C 146.07 272 P **PKPdf 19 43 40.5 -2.5**
baz=146
133A Hamilton Ranch 146.07 265 P **PKPdf 19 43 42.0 -1.1**
baz=146
R36A Gordon, Harris 146.18 277 P **PKPdf 19 43 43.4 +0.3**
baz=146
232A Coleman 146.23 264 P **PKPdf 19 43 42.9 -0.5**
baz=146,SNR=5.1
U35A Pawnee 146.26 273 P **PKPdf 19 43 41.6 -1.7**
baz=146
X34A Smith Ranch, M 146.26 269 P **PKPdf 19 43 42.7 -0.6**
baz=146
431A Sonora 146.27 261 P **PKPdf 19 43 41.8 -1.8**
baz=146
Z33A Whitaker Ranch 146.30 267 P **PKPdf 19 43 41.0 -2.4**
baz=146
T35A Sooner Cattle 146.33 274 P **PKPdf 19 43 42.6 -0.8**
baz=146
P36A Good Intent, A 146.45 279 P **PKPdf 19 43 42.6 -0.9**
baz=147
O36A Bolckow 146.47 280 P **PKPab 19 43 48.3 +2.4**
baz=147
331A San Angelo 146.48 262 P **PKPbc 19 43 44.6 -0.7**
baz=147
530A J-C Ranch, Com 146.50 260 P **PKPdf 19 43 42.2 -1.7**
baz=147
S35A Otter Creek Ra 146.51 275 P **PKPdf 19 43 43.1 -0.6**
baz=147
W34A Bridge Creek, 146.51 270 P **PKPdf 19 43 40.9 -2.8**
baz=147
Y33A Hilltop Ranch, 146.55 268 P **PKPdf 19 43 43.2 -0.7**
baz=147
V34A Guthrie 146.59 271 P **PKPdf 19 43 38.7 -5.2**
baz=147
ABTX Abilene, Hawle 146.61 265 P **PKPdf 19 43 44.4 +0.4**
baz=147
R35A Emporia Munici 146.68 276 P **PKPab 19 43 47.5 +0.8**
baz=147
X33A Lawton 146.72 269 P **PKPdf 19 43 43.6 -0.5**
baz=147
231A Bronte 146.74 263 P **PKPdf 19 43 40.6 -3.7**
baz=147
Q35A Mercer Eighty, 146.77 277 P **PKPdf 19 43 43.4 -0.7**
baz=147
430A Baggett Ranch, 146.78 261 P **PKPdf 19 43 41.6 -2.8**
baz=147
Z32A Haskell 146.83 266 P **PKPdf 19 43 45.0 +0.6**
baz=147,SNR=8.4
T34A McClaskey Farm 146.87 274 P **PKPdf 19 43 42.4 -1.9**
baz=147
W33A Caddo, Fort Co 146.98 270 P **PKPdf 19 43 44.8 +0.3**
baz=147
P35A Duane Minner, 147.00 279 P **PKPdf 19 43 43.1 -1.3**
baz=147
WMOK Wichita Mounta 147.01 269 *e*PKPdf **PKPdf 19 43 45.0 +0.4**
330A Mertzon 147.07 262 P **PKPdf 19 43 44.1 -0.8**
baz=147
S34A Willow Spring 147.09 275 P **PKPbc 19 43 46.3 -0.5**
baz=147
Y32A R-V Farms, Ver 147.15 267 P **PKPdf 19 43 40.6 -4.2**
baz=147
V33A Lossen Ranch, 147.15 271 P PKPdf 19 43 35.2 -10
baz=147
131A Roby 147.17 264 P PKPdf 19 43 39.7 -5.3
baz=147
N35A Tabor 147.20 281 P **PKPbc 19 43 46.1 -0.9**
baz=147
X32A Elmer 147.23 268 P **PKPdf 19 43 41.3 -3.7**
baz=147
230A Sterling City 147.29 263 P **PKPdf 19 43 42.0 -3.3**
baz=147
Z31A Sharp Cattle R 147.32 266 P **PKPdf 19 43 42.6 -2.6**
baz=148
R34A Isabella, Hill 147.43 276 P **PKPdf 19 43 45.1 -0.1**
baz=148
M35A Neola 147.44 282 P **PKPab 19 43 49.6 -0.1**
baz=148
W32A Sentinel 147.53 269 P **PKPbc 19 43 47.2 -0.9**
baz=148,SNR=5.2
130A Snyder 147.55 264 P **PKPdf 19 43 40.9 -4.8**
baz=148
P34A Walnut Farm, R 147.59 278 P **PKPdf 19 43 46.4 +1.0**
baz=148
T33A Patterson Ranc 147.66 273 P **PKPdf 19 43 41.4 -4.3**
baz=148
TXAR Lajitas Array 147.69 256 PKPbc **PKPbc 19 43 49.5 +0.7**
comp=Z,1.8nm,0.9s,baz=156,slow=4.7,SNR=19
329A Wagon Wheel Ra 147.70 261 P **PKPdf 19 43 47.2 +1.3**
baz=148
Y31A Rekieta Farm, 147.72 266 P **PKPdf 19 43 44.9 -0.9**
baz=148
O34A Beatrice 147.72 279 P **PKPbc 19 43 49.1 +0.6**
baz=148
229A Bryant Ranch, 147.83 262 P **PKPdf 19 43 45.3 -0.9**
baz=148
X31A McDonald Ranch 147.84 268 P **PKPdf 19 43 42.9 -3.1**
baz=148
U32A Winter Ranch, 147.91 271 P **PKPdf 19 43 43.0 -3.1**
baz=148
Z30A Sanderson Ranc 148.02 265 P **PKPdf 19 43 45.0 -1.4**
baz=148
W31A Holland Ranch, 148.07 269 P **PKPdf 19 43 41.6 -4.8**
baz=148
M34A Aspy Farms, Fr 148.08 282 P **PKPbc 19 43 48.3 -1.0**
baz=148
Q33A Connelly Farm, 148.12 277 P **PKPdf 19 43 45.1 -1.2**
baz=148
Y30A Stafford Cattl 148.14 266 P **PKPdf 19 43 43.0 -3.6**
baz=148
T32A Huddler Ranch, 148.19 273 P **PKPdf 19 43 44.1 -2.5**
baz=148
O33A Hebron 148.33 279 P **PKPdf 19 43 45.1 -1.5**
baz=148
X30A Coker Ranch, T 148.40 267 P **PKPdf 19 43 42.1 -4.9**
baz=148
Z29A Hungry Hill Ra 148.42 264 P **PKPdf 19 43 43.3 -3.8**
baz=149
228A UT Block 9, Go 148.47 262 P **PKPdf 19 43 46.5 -0.8**
baz=149
U31A Nine Bar Ranch 148.53 271 P PKPdf 19 43 40.4 -6.8
baz=149
R32A Long Quarter, 148.54 275 P **PKPdf 19 43 45.8 -1.3**
baz=149
M33A Taylor Creek F 148.54 282 P **PKPbc 19 43 49.1 -1.5**
baz=149
Q32A Meitler Ranch, 148.64 276 P **PKPdf 19 43 48.1 +0.9**
baz=149
128A Castleberry Fa 148.66 263 P **PKPdf 19 43 46.5 -1.0**
baz=149
Y29A Porterfield Fa 148.69 265 P **PKPdf 19 43 45.1 -2.5**
baz=149
ECSD EROS Data Cent 148.74 286 P **PKPbc 19 43 49.9 -1.2**
baz=149
ECSD EROS Data Cent 148.74 286 *e*PKPbc **PKPbc 19 43 50.4 -0.6**
P32A Huiting Farm, 148.90 277 P **PKPdf 19 43 49.1 +1.5**
baz=149
Z28A Tucker Farm, M 148.93 264 P **PKPdf 19 43 43.1 -4.8**
baz=149
X29A Tulia 149.00 266 P **PKPdf 19 43 46.1 -1.9**
baz=149
R31A Burdett 149.08 274 P **PKPdf 19 43 48.2 +0.2**
baz=149
AGMN Agassiz Nation 149.13 295 *e*PKPbc **PKPbc 19 43 51.8 0.0**
Y28A McKinney Farm, 149.14 265 P **PKPdf 19 43 43.6 -4.7**
baz=149
BGNE Belgrade 149.17 281 P **PKPdf 19 43 49.1 +1.2**
baz=149
U30A WK&E Inc. Balk 149.18 271 P **PKPdf 19 43 43.8 -4.4**
baz=149
AMTX Amarillo 149.19 267 P **PKPdf 19 43 47.3 -1.0**
baz=149
AMTX Amarillo 149.19 267 *e*PKPdf **PKPdf 19 43 49.5 +1.1**
W29A Amraillo 149.28 267 P **PKPdf 19 43 43.4 -5.0**
baz=149
P31A Stockton 149.43 277 P **PKPdf 19 43 45.0 -3.5**
baz=150
MSTX Muleshoe 149.55 265 P **PKPdf 19 43 47.8 -1.1**
baz=150
MSTX Muleshoe 149.55 265 *e*PKPbc **PKPbc 19 43 53.6 +0.1**
R30A Dighton 149.62 274 P **PKPdf 19 43 45.3 -3.5**
baz=150
M31A Lambtecht Ranc 149.74 280 P **PKPdf 19 43 49.1 +0.2**
baz=150
W28A Vega 149.75 267 P **PKPdf 19 43 44.5 -4.7**
baz=150
Q30A Quinter 149.84 275 P **PKPdf 19 43 49.2 +0.1**
baz=150
P30A Selden 150.06 276 P **PKPdf 19 43 45.7 -3.8**
baz=150
U28A Mallet 150.26 269 P **PKPdf 19 43 48.9 -1.1**
baz=150
R29A Marienthal 150.30 274 P **PKPdf 19 43 47.6 -2.3**
baz=150
T28A Walsh 150.49 271 P **PKPdf 19 43 51.2 +0.9**
baz=151
S28A Manter 150.52 272 P PKPdf 19 43 43.9 -6.4
baz=151
K30A Basset 150.58 283 P **PKPbc 19 43 54.3 -1.3**
baz=151
J30A Dallas 150.66 284 P **PKPdf 19 43 56.0 +0.2**
baz=151
U27A Thompson Grove 150.71 269 P **PKPdf 19 43 49.0 -1.7**
baz=151
R28A Tribune 150.75 273 P **PKPdf 19 43 50.8 +0.1**
baz=151
T27A Campo 150.91 270 P **PKPdf 19 43 48.7 -2.3**
baz=151
R27A Eads 151.45 272 P **PKPdf 19 43 52.9 +1.1**
baz=152
T26A Comanche Natio 151.59 270 P **PKPdf 19 43 53.4 +1.3**
baz=152
O27A Beecher Island 151.90 276 P **PKPdf 19 43 48.1 -4.3**
baz=152
R26A Arlington 151.93 272 P **PKPdf 19 43 50.5 -2.0**
baz=152
Q26A Hugo 152.21 273 P **PKPbc 19 43 57.4 -2.3**
baz=152
121A Cookes Peak, D 152.41 258 P **PKPbc 19 43 57.8 -2.5**
baz=152
121A Cookes Peak, D 152.41 258 *e*PKPdf **PKPdf 19 43 50.3 -3.2**
ANMO Albuquerque 152.68 263 *e*PKPbc **PKPbc 19 44 01.3 +0.4**
ANMO LR LR
comp=Z,188nm,19.0s
SDCO Great Sand Dun 153.21 270 *e*PKPbc **PKPbc 19 44 02.7 +0.6**
BW06 Boulder Array 157.72 279 PFAKE 19 44 10.0 +10
BW06 LR LR
comp=Z,258nm,20.0s
PDAR Pinedale Array 157.72 279 PKPab **PKPab 19 44 32.6 -0.5**
comp=Z,0.4nm,0.7s,baz=86,slow=9.1,SNR=4.0
MVU Marysvale 158.38 266 *e*PKPdf **PKPdf 19 44 02.4 +1.0**
AHID Auburn Hatcher 158.82 278 PFAKE 19 44 10.0 +8.2
AHID LR LR
comp=Z,268nm,19.0s
NVAR Mina Array Bea 162.75 260 PKP **PKPdf 19 44 07.4 +1.3**
comp=Z,0.1nm,0.3s,baz=131,slow=4.5,SNR=3.6
NVAR PKPab **PKPab 19 44 56.6 +1.5**
comp=Z,0.2nm,0.5s,baz=131,slow=2.7,SNR=2.6

SJA 12 19:24:23.5±0.4, 31°38S×68°57W, h97km±2km, ML4.9, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
RTLL	**Cerro Villicun**	**0.10**	**57**	*i* P		19 24 37.9	+0.7
RTLL				*i* S	Sn	19 24 48.1	+0.7

CFAA	**Coronel Fontan**	**0.36**	**128**	*i* P	Pn	19 24 38.9	+0.7
CFAA				*i* S	Sn	19 24 50.3	+1.2
CFAA				AML	AML	19 24 53.0	
	comp=Z,34µm,0.1s						
AMOG	**MOGNA**	**0.45**	**9**	*i* P	Pn	19 24 39.5	+0.7
AMOG				*i* S	Sn	19 24 51.1	+1.0
RTCV	**Cerro Valdivia**	**0.48**	**177**	*i* P	Pn	19 24 39.6	+0.7
RTCV				*i* S	Sn	19 24 51.5	+1.0
RTLS	**Leoncito**	**0.74**	**236**	*i* P	Pn	19 24 42.6	+1.2
ACAN	**Cantantal**	**1.48**	**127**	*i* P	Pn	19 24 50.2	+0.9

MEX 12 19:36:43.8±0.3, 17°.01N×96°.89W, h146km±3km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.16**	**68**	*eP*	Pn	19 37 02.3	-1.6
VHO				*i* S	Sn	19 37 17.1	-1.9
OXBJ	**Oaxaca**	**0.17**	**71**	*eP*	Pn	19 37 02.1	-1.7
OXBJ				*eS*	Sn	19 37 16.3	-2.7
PNIG	**Pinotepa**	**1.34**	**243**	*i* P	Pn	19 37 10.2	-1.3
PNIG				*i* S	Sn	19 37 30.3	-2.2
HUIG	**Huatulco**	**1.45**	**149**	*eP*	Sn	19 37 11.2	-1.4
HUIG				*eS*	Sn	19 37 32.5	-2.1
TLIG	**Tlapa**	**1.69**	**289**	*i* P	Pn	19 37 14.0	-1.4
TLIG				*i* S	Sn	19 37 37.6	-2.0

SJA 12 19:48:10.6±0.9, 29°.23S×72°.07W, h33km, ML3.6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**1.22**	**80**	*i* P	Pb	19 48 33.8	+0.2
LCO				*i* S	Sb	19 48 50.5	+1.2
VCA	**Vinchina**	**3.42**	**83**	*eP*	Pb	19 49 08.9	-2.0
VCA				AML	AML	19 50 08.2	
	comp=Z,255nm,0.6s						
RTLS	**Leoncito**	**3.50**	**138**	*eP*	Pn	19 49 06.5	+3.4
RTLS				*eS*	Sn	19 49 48.0	+4.3
AMOG	**MOGNA**	**3.54**	**120**	*eP*	Pn	19 49 07.0	+3.7
RTLL	**Cerro Villicun**	**3.75**	**125**	*i* P	Pn	19 49 09.3	+3.0
AUSP	**Uspallata**	**3.77**	**143**	*eP*	Pn	19 49 09.5	+2.6
AUSP				*eS*	Sn	19 49 54.5	+4.1
RTCV	**Cerro Valdivia**	**4.02**	**132**	*eP*	Pn	19 49 13.2	+3.2
CFAA	**Coronel Fontan**	**4.07**	**126**	*i* P	Pn	19 49 13.5	+2.8
ARCO	**CERRO ARCO**	**4.50**	**144**	*eP*	Pn	19 49 20.9	+4.3
ARCO				AML	AML	19 50 34.4	
	comp=Z,23nm,0.7s						
AAGR	**Agrelo**	**4.74**	**145**	*eP*	Pn	19 49 23.4	+3.4
ACAN	**Cantantal**	**5.18**	**127**	*eP*	Pn	19 49 28.4	+2.5

WEL 12 20:20:57.3±0.2, 36°.46S×177°.54E, h182km±2km, ML3.8/4, 3C-1D, Error ellipse: s-maj=3.8km s-min=2.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.26**	**151**	PN	Pn	20 21 27.4	+0.2
MXZ				*e*SN	Sn	20 21 50.5	0.0
HAZ	**Te Kaha**	**1.30**	**171**	PN	Pn	20 21 27.8	+0.2
HAZ				SN	Sn	20 21 51.2	0.0
WMGZ	**Waiomatatini S**	**1.52**	**153**	⇓PN	Pn	20 21 29.7	+0.1
PUZ	**Puketiti**	**1.71**	**161**	PN	Pn	20 21 31.3	-0.1
PUZ				SN	Sn	20 21 57.4	-0.7
PUZ				AML	AML	20 22 00.3	
TWGZ	**Tauwhareparae**	**1.75**	**168**	PN	Pn	20 21 32.5	+0.6
URZ	**Urewera**	**1.82**	**191**	PN	Pn	20 21 32.7	+0.2
URZ				AML	AML	20 22 02.7	
URZ				AML	AML	20 22 04.9	
MWZ	**Matawai**	**1.87**	**180**	PN	Pn	20 21 33.6	+0.5
MWZ				SN	Sn	20 22 00.9	-0.2
MWZ				AML	AML	20 22 03.3	
TKGZ	**Te Karaka**	**1.99**	**173**	*e*PN	Pn	20 21 34.2	-0.1
CNGZ	**Carnagh Statio**	**2.09**	**165**	PN	Pn	20 21 35.8	+0.4
RIGZ	**Rimuhau**	**2.25**	**176**	PN	Pn	20 21 37.0	-0.2
SNGZ	**Shannon Statio**	**2.32**	**184**	PN	Pn	20 21 38.1	+0.1
PRGZ	**Paritu Road**	**2.47**	**174**	PN	Pn	20 21 39.6	-0.1
RAHZ	**Arahi**	**2.48**	**188**	⇑PN	Pn	20 21 39.8	0.0
KNZ	**Kokohu**	**2.56**	**178**	PN	Pn	20 21 40.0	-0.7
WHHZ	**Waihua**	**2.62**	**185**	PN	Pn	20 21 41.3	-0.2
NMHZ	**Naumai**	**2.69**	**192**	PN	Pn	20 21 42.4	0.0
BKZ	**Black Stump Fm**	**2.82**	**197**	⇑PN	Pn	20 21 43.1	-0.8
ARHZ	**Aropaoanui**	**2.83**	**189**	PN	Pn	20 21 43.6	-0.3
MCHZ	**McNeill Hill**	**3.05**	**192**	PN	Pn	20 21 45.6	-1.0
KWHZ	**Kaweka Forest**	**3.08**	**196**	PN	Pn	20 21 46.2	-0.9
BHHZ	**Black Hill Sta**	**3.24**	**201**	PN	Pn	20 21 47.3	-1.2
WNVZ	**Wahianoa**	**3.25**	**208**	PN	Pn	20 21 48.6	-0.6
KRHZ	**Kereru**	**3.31**	**196**	PN	Pn	20 21 48.4	-1.4
KAHZ	**Kahuranaki**	**3.37**	**189**	PN	Pn	20 21 49.3	-1.2
PXZ	**Pawanui**	**3.60**	**188**	⇑PN	Pn	20 21 51.5	-1.9
PXZ				AML	AML	20 22 36.8	
PXZ				AML	AML	20 22 37.4	
PXZ				AML	AML	20 22 37.5	
PNHZ	**Pukenui**	**3.60**	**197**	PN	Pn	20 21 51.7	-1.8
TSZ	**Takapari Road**	**3.80**	**199**	PN	Pn	20 21 53.8	-2.1
PRHZ	**Porangahau**	**3.86**	**190**	PN	Pn	20 21 54.3	-2.4
DVHZ	**Dannevirke**	**3.98**	**195**	PN	Pn	20 21 55.6	-2.5
ANWZ	**Angora Road**	**4.08**	**191**	PN	Pn	20 21 57.3	-2.1
PRWZ	**Pori Road**	**4.27**	**196**	*e*PN	Pn	20 21 59.7	-2.1
BFZ	**Birch Farm**	**4.33**	**193**	PN	Pn	20 21 59.9	-2.7
MRZ	**Mangatainoka R**	**4.46**	**200**	PN	Pn	20 22 01.3	-3.0
TIWZ	**Tintock**	**4.50**	**196**	PN	Pn	20 22 02.0	-2.8
HOWZ	**Holdsworth Sta**	**4.70**	**199**	PN	Pn	20 22 04.1	-3.4
OGWZ	**Otaki Gorge**	**4.73**	**202**	PN	Pn	20 22 04.6	-3.1
KIW	**Kapiti Island**	**4.85**	**204**	PN	Pn	20 22 05.9	-3.3
CAW	**Cannon Point**	**5.02**	**202**	PN	Pn	20 22 07.4	-4.1
TCW	**Tory Channel**	**5.38**	**207**	PN	Pn	20 22 12.4	-3.8
PLWZ	**Palliser**	**5.40**	**199**	PN	Pn	20 22 12.2	-4.3
KHZ	**Kahutara**	**6.70**	**206**	PN	Pn	20 22 28.8	-4.6

IDC 12 20:23:41.2±2.5, 7°.84S×114°.91E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/27, mbtmp3.4/4, Error ellipse: s-maj=195.5km s-min=23.6km az=51.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.34**	**125**	P	P	20 28 40.6	-0.4
	0.3nm,0.4s,baz=302,slow=12,SNR=13						
ASAR	**Alice Springs**	**24.07**	**133**	P	P	20 28 58.6	0.0
	0.2nm,0.3s,baz=303,slow=8.1,SNR=4.3						
STKA	**Stephens Creek**	**34.48**	**138**	P	P	20 30 31.2	+0.1
	2.4nm,0.9s,baz=323,slow=10,SNR=2.3						
MKAR	**Makanchi Array**	**61.64**	**335**	P	P	20 34 00.9	0.0
	0.2nm,0.7s,baz=150,slow=7.1,SNR=3.6						

*ISCJB **12** 20:32:54.9±0.6, 41°.10N±0°.04×112°.85W±0°.07, h0km, Error ellipse: s-maj=7.3km s-min=6.2km az=24.6*
*IDC **12** 20:32:54.9±1.2, 40°.63N×112°.80W, h0km, mb1 3.1/2, mb1mx3.0/42, mbtmp2.6/2, ML3.2/2, Error ellipse: s-maj=21.9km s-min=7.3km az=163.0*
*NEIC **12** 20:32:55.5±0.5, 41°.11N×112°.82W, h0km, ML1.8, Error ellipse: s-maj=7.2km s-min=5.5km az=100.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] W of Ogden.

ISC 12 20:32:54.4±0.9, 41°.08N±0°.04×112°.92W±0°.04, h0km, n17, σ1ᵍ25/19, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGU	**Big Grassy Mou**	**0.18**	**209**	*eP*	**Pg**	**20 32 59.9**	**+2.1**
SPUT	**South Promonto**	**0.42**	**57**	*eP*	**Pg**	**20 33 02.8**	**+0.3**
HVU	**Hansel Valley**	**0.71**	**9**	*eP*	**Pg**	**20 33 07.9**	**-0.1**
DUG	**Dugway**	**0.89**	**175**	*e*Pg	**Pn**	**20 33 12.9**	**-1.3**
CTU	**Camp Tracy**	**0.96**	**113**	*e*Pg	**Pb**	**20 33 14.2**	**+0.1**
TCUT	**Toone Canyon**	**1.14**	**88**	*e*Pn	**Pb**	**20 33 17.2**	**+0.1**
TCUT				*e*Sn	**Sn**	**20 33 34.3**	**0.0**
HWUT	**Hardware Ranch**	**1.15**	**62**	*e*Pn	**Pg**	**20 33 15.7**	**-0.6**
NLU	**North Lily Min**	**1.29**	**150**	*eP*	**Pn**	**20 33 20.1**	**+0.2**
MPU	**Maple Canyon**	**1.44**	**137**	*e*Pn	**Pb**	**20 33 21.7**	**-0.6**
ELK	**Elko**	**1.79**	**260**	Pn	**Pb**	**20 33 28.4**	**+0.1**
	1.5nm,0.3s,baz=76,slow=11,SNR=20						
ELK				Lg	Lg	20 33 53.2	
	2.1nm,0.3s,baz=149,slow=22,SNR=10						
AHID	**Auburn Hatcher**	**2.16**	**38**	Pn	**Pn**	**20 33 31.3**	**-0.6**
MSU	**Marysvale**	**2.63**	**167**	P	**Pn**	**20 33 38.7**	**+0.4**
SRU	**San Rafael**	**2.69**	**136**	Pn	**Pn**	**20 33 38.8**	**-0.4**
HLID	**Hailey**	**2.72**	**336**	*e*Pn	**Pn**	**20 33 41.5**	**+2.0**
PDAR	**Pinedale Array**	**3.02**	**55**	Pn	**Pb**	**20 33 48.2**	**-1.0**
	0.7nm,0.3s,baz=234,slow=12,SNR=7.3						
PDAR				Sn	**Sb**	**20 34 28.6**	**+1.9**
	0.9nm,0.3s,baz=234,slow=15,SNR=7.0						
NVAR	**Mina Array Bea**	**4.92**	**239**	Pn	**Pn**	**20 34 07.6**	**-2.3**
	0.2nm,0.3s,baz=65,slow=15,SNR=4.4						
NVAR				Pg	**Pb**	**20 34 19.7**	**-1.9**
	0.2nm,0.3s,baz=46,slow=13,SNR=4.1						
I56US	**NEWPORT INFRAS**	**7.78**	**339**	*i*		21 18 30.0	
	baz=157,slow=314,SNR=0.5						

*IDC **12** 21:02:01.9±0.6, 2°.08N×96°.60E, h0km, mb4.3/19, mb1 4.4/21, mb1mx4.3/36, mbtmp4.3/21, ML4.0/2, MS3.6/6, Ms1 3.6/6, ms1mx3.2/40, Error ellipse: s-maj=16.9km s-min=12.0km az=21.0*
*BJI **12** 21:02:03.6, 2°.04N×96°.73E, h29km, mb4.9/31, mB4.8/19, Ms4.2/11, Ms7 3.9/11*
*ISCJB **12** 21:02:04.5±0.3, 2°.10N±0°.03×96°.65E±0°.03, h28km, mb4.5/46, MS3.6/4, Error ellipse: s-maj=5.4km s-min=3.2km az=41.3*
*KLM **12** 21:02:04.3, 2°.12N×96°.68E, h1km, mb4.6, ML4.3, MS5.2*
*MOS **12** 21:02:05.4±1.0, 2°.19N×96°.68E, h33km, mb4.8/17, Error ellipse: s-maj=11.7km s-min=7.2km az=98.5*
*NEIC **12** 21:02:07.3±0.9, 2°.12N×96°.70E, h38km±8km, mb4.7/14, Error ellipse: s-maj=9.6km s-min=5.3km az=58.0*
*DJA **12** 21:02:08.1±1.0, 2°N±3°×9°7E±°, h17km±11km, M4.7/14, mb4.7/13, mB5.3/4, MLv4.7/14, Mw(mB)4.7/4*

ISC 12 21:02:06.3±0.4, 2°.08N±0°.04×96°.68E±0°.05, h28km, n159, σ1ᵍ31/156, mb4.5/46, MS3.5/4, 11C-9D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.18**	**131**	P	**Pn**	**21 02 27.1**	**+0.1**
GSI				*S*	**Sn**	**21 02 41.8**	**-0.4**
GSI	**Gunungsitoli**	**1.18**	**131**	*eP*	**Pn**	**21 02 27.1**	**+0.1**
GSI				*eS*	**Sn**	**21 02 38.3**	**-3.8**
TSI	**Tuntungan**	**2.36**	**53**	P	**Pn**	**21 02 45.1**	**+2.0**
PSI	**Prapat**	**2.36**	**72**	Pn	**Pn**	**21 02 43.9**	**+0.7**
	8.9nm,0.3s,baz=262,slow=5.3,SNR=55						
PSI				Lg	Lg	21 03 18.6	
	35nm,0.3s,baz=256,slow=17,SNR=7.2						
PSI				LR	LR	21 03 33.3	
	comp=Z,690nm,20.2s,baz=288,slow=38						
PSI	**Prapat**	**2.36**	**72**	P	**Pn**	**21 02 44.0**	**+0.7**
	baz=2.1,SNR=45						
PBSI	**Pulau Batu**	**2.66**	**143**	P	**Sn**	**21 03 19.8**	**+1.2**
LHMI	**Lhok Sumawe**	**3.14**	**5**	P	**Pn**	**21 02 55.6**	**+1.7**
LHMI	**Lhok Sumawe**	**3.14**	**5**	P	**Pn**	**21 02 54.7**	**+0.7**
	baz=2.8,SNR=14						
LHMI	**Lhok Sumawe**	**3.14**	**5**	*e*Pn	**Pn**	**21 02 54.2**	**+0.3**
LHMI				*e*Sn	**Sn**	**21 03 29.7**	**-0.8**
MNSI	**Mandailing Nat**	**3.17**	**114**	P	**Pn**	**21 02 55.2**	**+0.9**
MNSI				S	**Sn**	**21 03 31.8**	**+0.6**
SISI	**Saibi**	**4.16**	**144**	P	**Pn**	**21 03 08.0**	**+0.1**
PPI	**Padang Panjang**	**4.49**	**124**	P	**Pn**	**21 03 14.7**	**+2.2**
PPI	**Padang Panjang**	**4.49**	**124**	P	**Pn**	**21 03 14.4**	**+1.9**
	baz=4.5,SNR=8.7						
BKNI	**Bangkinang**	**4.70**	**112**	P	Pb	21 03 34.1	+6.1
IPM	**Ipoh**	**4.96**	**61**	⇓P	**Pn**	**21 03 20.4**	**+1.5**
IPM	**Ipoh**	**4.96**	**61**	*e*Pn	**Pn**	**21 03 19.6**	**+0.8**
IPM				*e*Sn	**Sn**	**21 04 17.7**	**+2.4**
FRIM	**Kepong**	**5.08**	**77**	⇑P	**Pn**	**21 03 20.7**	**+0.1**
KULM	**Kulim**	**5.09**	**51**	⇑P	**Pn**	**21 03 21.0**	**+0.3**
KULM	**Kulim**	**5.09**	**51**	*e*Pn	**Pn**	**21 03 20.9**	**+0.2**
	254nm,0.8s						
CMBY	**CAMPBELL BAY**	**5.61**	**331**	*eP*	**Pn**	**21 03 27.6**	**-0.3**
CMBY				AMB	AMB	21 03 29.9	
	comp=Z,50nm,1.2s						
SKLT	**Songkhla**	**6.41**	**38**	P	**Pn**	**21 03 39.0**	**+0.2**
	comp=Z,56nm,0.9s,comp=Z,801nmcomp=Z,0.3nm						
TRTT	**Trang**	**6.46**	**28**	P	**Pn**	**21 03 39.3**	**-0.3**
	comp=Z,89nm,0.7s,comp=Z,947nmcomp=Z,0.3nm						
KGM	**Kluang**	**6.64**	**90**	⇑P	**Pn**	**21 03 43.4**	**+1.4**
SURT	**Suratani**	**7.15**	**17**	P	**Pn**	**21 03 49.0**	**-0.1**
	comp=Z,29nm,0.8s,comp=Z,338nmcomp=Z,0.1nm						
MYKOM	**Kota Tinggi**	**7.18**	**92**	⇓P	**Pn**	**21 03 50.9**	**+1.5**
KTGM	**Kuala Trenggan**	**7.21**	**63**	⇓P	**Pn**	**21 03 50.7**	**+0.9**
TPRI	**Tanjung Pinang**	**7.93**	**98**	P	**Pn**	**21 04 00.5**	**+0.7**
	comp=Z,53nm,0.9s,comp=Z,6µmcomp=Z,0.5nm						
KSI	**Kapahiang**	**8.21**	**134**	P	**Pn**	**21 04 05.2**	**+1.6**
	comp=Z,76nm,1.8s						
MNAI	**Manna**	**8.96**	**136**	P	**Pn**	**21 04 14.5**	**+0.5**
	baz=9.1,SNR=3.7						
LHSI	**Lahat**	**9.01**	**131**	P	**Pn**	**21 04 16.8**	**+2.2**
	comp=Z,47nm,0.7s						
MDSI	**Maura Dua**	**9.94**	**131**	P	**Pn**	**21 04 27.5**	**+0.2**
	comp=Z,26nm,0.9s						
DGPR	**DIGLIPUR**	**11.63**	**342**	*eP*	**Pn**	**21 04 48.1**	**-2.4**
DGPR				AMB	AMB	21 05 20.0	
	comp=Z,78nm,2.4s						
KSM	**Kuching**	**13.64**	**92**	P	**Pn**	**21 05 20.5**	**+2.5**
	baz=14,SNR=5.6						
KSM	**Kuching**	**13.64**	**92**	*e*Pn	**Pn**	**21 05 17.7**	**-0.3**
	comp=Z,26nm,1.3s						
LEM	**Lembang**	**14.05**	**129**	LR	LR	21 12 16.0	
	comp=Z,301nm,18.7s,baz=208,slow=44						
STKI	**Sintang**	**14.93**	**98**	P	**P**	**21 05 38.9**	**-2.0**
	comp=Z,31nm,0.8s						
PBKT	**Sadao Pong**	**15.01**	**16**	P	**Pn**	**21 05 37.6**	**+1.0**
	comp=Z,29nm,0.9s						
SBUM	**Sibu**	**15.54**	**88**	⇑P	**Pn**	**21 05 44.5**	**+1.0**
UBPT	**Khong Chiam**	**15.73**	**33**	P	**P**	**21 05 49.7**	**0.0**
	comp=Z,20nm,1.0s,comp=Z,1µm						
UTTA	**Uttaradit**	**16.03**	**14**	P	**Pn**	**21 05 49.7**	**-0.1**
	comp=Z,12nm,0.8s,comp=Z,96nm						
CM31	**Chiang Mai Arr**	**16.43**	**8**	P	**P**	**21 05 57.4**	**-0.1**
	baz=16,SNR=6.3						
CMAR	**Chiang Mai Arr**	**16.43**	**8**	Pn	**Pn**	**21 05 54.0**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=196,slow=12,SNR=76						
CMAR				LR	LR	21 12 29.1	
	comp=Z,239nm,19.5s,baz=204,slow=38						
CMAR	**Chiang Mai Arr**	**16.43**	**8**	P	**Pn**	**21 05 54.0**	**-1.0**
LAMP	**Lampang**	**16.60**	**10**	P	**Pn**	**21 05 56.8**	**-0.3**
	comp=Z,8.6nm,0.9s,comp=Z,71nm						
CMMT	**Chiang Mai**	**16.78**	**7**	P	**Pn**	**21 05 58.6**	**-0.8**
	comp=Z,16nm,1.5s						
CHTO	**Chiang Mai**	**16.78**	**7**	P	**Pn**	**21 05 58.7**	**-0.7**
	comp=Z,42nm,1.1s						
CHTO	**Chiang Mai**	**16.78**	**7**	*eP*	**Pn**	**21 05 57.4**	**-2.1**
CHTO				pmax	pmax		
	comp=Z,15nm,1.3s						
CHTO	**Chiang Mai**	**16.78**	**7**	*e*Pn	**Pn**	**21 05 57.4**	**-2.1**
	comp=Z,15nm,1.3s						
CRAI	**Chiangrai**	**18.40**	**11**	P	**P**	**21 06 16.8**	**-2.5**
	comp=Z,30nm,0.7s						
MDRS	**Chennai**	**19.59**	**305**	*eP*	**Pn**	**21 06 33.6**	**-0.2**
MDRS				AMB	AMB	21 06 46.5	
	comp=Z,55nm,5.1s						
KKM	**Kota Kinabalu**	**19.88**	**78**	P	**Pn**	**21 06 37.1**	**-0.4**
	baz=20,SNR=3.4						
KKM	**Kota Kinabalu**	**19.88**	**78**	⇑P	**Pn**	**21 06 37.9**	**+0.5**
KKM	**Kota Kinabalu**	**19.88**	**78**	*eP*	**P**	**21 06 35.4**	**-0.3**
	comp=Z,36nm,0.9s						
VIS	**Vishakhapatnam**	**20.33**	**321**	*eP*	Pn	21 06 41.9	-0.7
VIS				AMB	AMB	21 06 45.8	
	comp=Z,27nm,1.0s						
SLVN	**Son La**	**20.39**	**20**	*eP*	**P**	**21 06 40.5**	**-0.7**
	comp=Z,10nm,0.8s						
KDM	**Kudat**	**20.66**	**76**	⇓P	**P**	**21 06 44.6**	**+0.6**
SDKM	**Sandakan**	**20.77**	**80**	⇓P	**P**	**21 06 46.5**	**+1.1**
QIZ	**Qiongzhong**	**21.22**	**37**	P	**P**	**21 06 47.4**	**-2.6**
QIZ				S	**S**	**21 10 40.6**	**-4.0**
QIZ				sS	Sn	21 10 54.1	+1.8
QIZ				LN			
	comp=Z,290nm,19.6s						
QIZ				LZ			
	comp=Z,290nm,15.0s						
KMI	**Kunming**	**23.65**	**14**	P	**P**	**21 07 16.3**	**+0.6**
KMI				PMZ			
	comp=Z,21nm,1.0s						
SHL	**Shillong**	**23.80**	**349**	*eP*	**P**	**21 07 14.6**	**-2.5**
SHL				AMB	AMB	21 07 17.3	
	comp=Z,26nm,0.7s						
BOK	**Bokaro**	**23.98**	**335**	*eP*	**P**	**21 07 18.3**	**-0.3**
BOK				AMB	AMB	21 07 21.0	
	comp=Z,37nm,0.8s						
KAPI	**Kappang**	**24.11**	**107**	P	**P**	**21 07 20.0**	**+0.1**
	comp=Z,10nm,0.9s,baz=301,slow=17,SNR=2.7						
H08S2	**Diego Garcia H**	**25.99**	**248**	T	T	21 34 24.1	
	baz=69,slow=75,SNR=3640						
H08S3	**Diego Garcia H**	**25.99**	**248**	T	T	21 34 24.3	
	baz=69,slow=75,SNR=2675						
H08S1	**Diego Carcia H**	**26.00**	**248**	T	T	21 34 25.5	
	baz=69,slow=75,SNR=4064						
ODAN	**Odare**	**26.20**	**341**	*eP*	**P**	**21 07 39.3**	**+0.3**
	comp=Z,57nm,0.8s						
RAMN	**Ramite**	**26.55**	**340**	*eP*	**P**	**21 07 43.0**	**+0.8**
	comp=Z,45nm,0.8s						
TAPN	**Taplejung**	**26.56**	**342**	*eP*	**P**	**21 07 42.9**	**+0.6**
	comp=Z,74nm,0.8s						
PKI	**Pulchoki**	**27.55**	**338**	*eP*	**P**	**21 07 52.0**	**+0.7**
PKIN	**Phulchoki**	**27.56**	**338**	*eP*	**P**	**21 07 52.4**	**+1.1**
GUN	**Gumba**	**27.68**	**339**	*eP*	**P**	**21 07 53.4**	**+0.9**
	comp=Z,56nm,0.7s						
DMN	**Daman**	**27.70**	**337**	*eP*	**P**	**21 07 53.2**	**+0.7**
	comp=Z,25nm,1.0s						
KKN	**Kakani**	**27.80**	**338**	*eP*	**P**	**21 07 53.5**	**+0.2**
	comp=Z,33nm,0.9s						
LSA	**Lhasa**	**27.97**	**350**	*eP*	**P**	**21 07 54.8**	**-0.4**
LSA				pmax	pmax		
	comp=Z,19nm,0.9s						
LSA	**Lhasa**	**27.97**	**350**	*eP*	**P**	**21 07 54.8**	**-0.4**
	comp=Z,19nm,0.9s						
BHPL	**Bhopal**	**28.12**	**320**	*eP*	**P**	**21 07 56.3**	**+0.2**
BHPL				AMB	AMB	21 07 59.8	
	comp=Z,13nm,2.3s						
GKN	**Gorkha**	**28.23**	**337**	*eP*	**P**	**21 07 57.4**	**+0.2**
	comp=Z,26nm,0.8s						
KOLN	**Koldanda**	**28.45**	**335**	*eP*	**P**	**21 07 59.9**	**+0.8**
	comp=Z,36nm,0.7s						
BHJ	**Bhuj**	**33.60**	**311**	*eP*	**P**	**21 08 44.1**	**-0.3**
BHJ				AMB	AMB	21 08 49.4	
	comp=Z,112nm,1.0s						
XAN	**Xi'an**	**33.80**	**18**	P	**P**	**21 08 44.6**	**-1.4**
XAN				PMZ			
	comp=Z,18nm,0.8s						
XAN				PMZ			
	comp=Z,57nm,5.4s						
LZH	**Lanzhou**	**34.48**	**10**	*eP*	**P**	**21 08 52.0**	**-0.1**
LZH				pP	**pP**	**21 09 05.1**	**+4.7**
LZH				PMZ			
	comp=Z,36nm,1.1s						
LZH				PMZ			
	comp=Z,97nm,4.0s						
LZH				LN			
	comp=Z,260nm,18.0s						
LZH				LE			
	comp=Z,380nm,17.8s						
LZH				LZ			
	comp=Z,140nm,18.0s						
GTA	**Gaotai**	**37.27**	**4**	*eP*	**P**	**21 09 15.5**	**-0.4**
GTA				pP	**pP**	**21 09 24.4**	**+0.2**
GTA				sP	**sP**	**21 09 28.3**	**+0.7**
GTA				PMZ			
	comp=Z,32nm,1.2s						
H01W3	**Cape Leeuwin H**	**40.25**	**158**	T	T	21 52 60.0	
	baz=334,slow=75,SNR=214						
H01W2	**Cape Leeuwin H**	**40.26**	**158**	T	T	21 53 00.8	
	baz=334,slow=75,SNR=238						
H01W1	**Cape Leeuwin H**	**40.27**	**158**	T	T	21 53 01.0	
	baz=334,slow=75,SNR=142						
WRKA	**Warakurna**	**40.82**	**133**	P	P	21 09 54.8	+9.1
	baz=41,SNR=3.5						
HHC	**Hu-ho-hao-te**	**40.88**	**17**	*eP*	**P**	**21 09 49.1**	**+3.1**
HHC				PP	**PnPn**	**21 11 27.0**	**+2.1**
HHC				S	**S**	**21 15 59.6**	**+3.7**
HHC				sS	**sS**	**21 16 09.3**	**-0.4**
HHC				SS	**SS**	**21 18 56.5**	**-1.5**
HHC				PMZ			
	comp=Z,10.0nm,1.2s						
HHC				PMZ			
	comp=Z,60nm,5.8s						
HHC				LN			
	comp=Z,100nm,15.3s						
HHC				LE			
	comp=Z,150nm,14.1s						
HHC				LZ			
	comp=Z,78nm,15.3s						
WRA	**Warramunga Arr**	**42.94**	**122**	P	**P**	**21 10 02.7**	**-0.4**
	comp=Z,8.8nm,0.7s,baz=300,slow=9.3,SNR=69						
WRAB	**Tennant Creek**	**42.95**	**122**	⇓*i*P	**P**	**21 10 03.1**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,48nm,1.4s						
WRAB	**Tennant Creek**	**42.95**	**122**	*eP*	**P**	**21 10 01.6**	**-1.6**
	comp=Z,47nm,1.7s						
ASAR	**Alice Springs**	**44.34**	**127**	P	**P**	**21 10 14.6**	**+0.2**
	comp=Z,3.4nm,0.9s,baz=302,slow=8.1,SNR=24						
ASAR				PcP	**PP**	**21 11 58.0**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=305,slow=3.3,SNR=3.9						
TJN	**Taejon**	**44.37**	**36**	⇑*i*P	**P**	**21 10 13.8**	**-0.5**
TKM2	**Tokmak 2**	**44.81**	**338**	*eP*	**P**	**21 10 18.2**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.7

BRVK pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 55.32 341 *e*P **P 21 11 36.2 -1.1**
comp=Z,6.7nm,0.9s
KLR Kul'dur 55.71 27 *e*P P 21 11 34.8 -5.4
ABKAR Akbulak array 56.50 332 *e*P **P 21 11 44.9 -1.0**
comp=Z,8.4nm,0.9s
BOD Bodaibo 57.25 11 *e*P **P 21 11 50.0 -1.0**
BOD pmax pmax
comp=Z,5.0nm,1.1s
CMSA Cobar Meteorol 57.26 130 P P 21 12 00.8 +9.3
baz=57,SNR=5.5
ERM Erimo 57.53 40⇑*e*P **P 21 11 53.9 +0.6**
ERM pmax pmax
comp=Z,117nm,1.5s
SVE Sverdlovsk 61.68 338 *e*P **P 21 12 21.6 0.0**
SVE pmax pmax
comp=Z,14nm,0.9s
ARU Arti 62.18 337 *d i*P P 21 12 28.2 +3.3
ARU 21 13 04.9
ARU S S 21 20 56.5 +7.9
ARU SS **SS 21 24 55.9 +3.9**
ARU pmax pmax
comp=Z,8.0nm,1.0s
ARU Arti 62.18 337 *e*P **P 21 12 23.4 -1.5**
comp=Z,6.3nm,0.8s
NEY Neytrino 62.98 318 P P **21 12 33.0 +2.2**
NEY pmax pmax
comp=Z,4.0nm,2.0s
KBZ Khabaz 63.07 319 P **P 21 12 30.5 -0.6**
comp=Z,1.2nm,0.7s,baz=132,slow=14,SNR=3.1
KIV Kislovodsk 63.30 319⇑*i*P P 21 12 37.1 +4.2
KIV *e* 21 13 06.1
KIV *e* 21 14 49.0
KIV *e*S **S 21 21 05.5 +2.1**
KIV pmax pmax
comp=Z,8.0nm,1.0s
MLR MLR
KIV
comp=Z,46nm,25.0s
KIV Kislovodsk 63.30 319 *e*P **P 21 12 32.6 -0.2**
comp=Z,8.9nm,1.0s
YAK Yakutsk 64.73 16 *e*P **P 21 12 40.1 -1.6**
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=Z,36nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK Yakutsk 64.73 16 *e*P **P 21 12 40.4 -1.3**
comp=N,34nm,0.8s
BRTR Keskin Array B 68.14 312 P **P 21 13 03.3 -0.9**
comp=N,0.7nm,0.7s,baz=111,slow=7.9,SNR=5.6
BRTR Keskin Array B 68.14 312 *i* P **P 21 13 03.2 -0.9**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
PRGR Permogore 70.63 337 *e*P **P 21 13 16.7 -2.2**
PRGR pmax pmax
comp=Z,8.0nm,0.8s
MA2 Magadan 70.77 26⇑*e*P **P 21 13 20.5 +0.6**
OBN Obninsk 71.60 328 *e*P P 21 13 21.6 -3.3
OBN *e* 21 13 41.8
OBN pmax pmax
comp=Z,23nm,2.4s
SEY Seymchan 73.17 23⇑*e*P **P 21 13 33.9 -0.2**
AKASG Malin Array Be 74.25 322 P **P 21 13 39.8 -0.9**
comp=Z,0.4nm,0.4s,baz=91,slow=4.7,SNR=4.2
KOLS Kolonicke sedl 78.21 320 *e*P **P 21 14 04.2 +0.8**
KOLS pmax pmax
comp=Z,9.0nm,1.6s
KOLS Kolonicke sedl 78.21 320 *e*P **P 21 14 04.2 +0.8**
KOLS *e* 21 14 12.3
STHS Stebnicka Huta 78.96 320 *e*P **P 21 14 09.2 +1.7**
STHS pmax pmax
comp=Z,7.0nm,2.0s
STHS Stebnicka Huta 78.96 320 *e*P **P 21 14 09.2 +1.7**
FINES FINESS Array B 78.98 333 P **P 21 14 07.0 -0.3**
comp=Z,2.7nm,0.7s,baz=107,slow=6.4,SNR=9.1
FINES FINESS Array B 78.98 333 P P **21 14 07.0 -0.3**
KECS Kecovo 79.30 319 *e*P **P 21 14 11.9 +2.5**
KECS pmax pmax
comp=Z,1.0nm,0.8s
KECS Kecovo 79.30 319 *e*P **P 21 14 11.9 +2.5**
ARCES ARCESS Array B 81.54 340 P **P 21 14 21.4 +0.4**
comp=Z,0.4nm,0.4s,baz=101,slow=5.1,SNR=7.7
GERES GERESS Array B 83.81 319 P **P 21 14 33.6 +0.2**
comp=Z,1.2nm,0.8s,baz=93,slow=4.5,SNR=11
NOA NORSAR Array B 85.99 331 P **P 21 14 44.0 +0.1**
comp=Z,1.0nm,0.8s,baz=91,slow=5.0,SNR=3.8
NOA NORSAR Array B 85.99 331 P P **21 14 44.0 +0.1**
NOA NORSAR Array B 85.99 331 P P **21 14 44.0 +0.1**
TXAR Lajitas Array 143.19 30 PKP PKPbc 21 21 37.0 +1.4
comp=Z,0.3nm,0.6s,baz=212,slow=1.1,SNR=5.1
CPUP Villa Florida 145.29 224 PKPbc **PKPdf 21 21 42.7 +0.5**
comp=Z,2.2nm,0.9s,baz=74,slow=3.1,SNR=4.1

*NEIC **12** 21:14:30.8±0.3, 15.°05S×173.°67W, h10km, mb4.6/4, Error ellipse: s-maj=16.0km s-min=8.0km az=132.0*
*ISCJB **12** 21:14:34.3±0.5, 15.°1S±0.°1×173.°7W±0.°1, h50km, mb4.3/15, MS3.6/7, Error ellipse: s-maj=22.0km s-min=11.1km az=41.1*
*IDC **12** 21:14:37.8±0.8, 15.°15S×173.°69W, h61km±6km, mb4.0/11, mb1 4.2/11, mb1mx3.9/33, mbtmp4.3/11, MS3.5/7, Ms1 3.5/7, ms1mx3.3/21, Error ellipse: s-maj=28.7km s-min=14.0km az=132.0*
ISC 12 21:14:36.8±0.7, 15.°1S±0.°2×173.°7W±0.°2, h50km, n28, σ1§31/20, mb4.5/15, MS3.6/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.22**	**57**	*e*Pn		Pn	21 15 05.6	-5.6
AFI				*e*Sn		Sn	21 15 26.2	-11
MSVF	**Nonsavu**	**8.34**	**251**	*e*P		Pn	21 16 44.5	+9.3
URZ	**Urewera**	**24.43**	**198**	P		**P**	**21 19 50.6**	**-0.2**
	12nm,0.9s,baz=339,slow=10,SNR=3.8							
RPZ	**Rata Peaks**	**31.32**	**202**	P		**P**	**21 20 52.7**	**+0.3**
	11nm,0.9s,baz=112,slow=6.5,SNR=3.9							
H11S2	**WAKE ISLAND Hy**	**38.60**	**329**	T		T	22 02 44.0	
	baz=148,slow=76,SNR=9.6							
H11S3	**WAKE ISLAND Hy**	**38.61**	**329**	T		T	22 02 41.4	
	baz=148,slow=76,SNR=10.0							
H11S1	**WAKE ISLAND Hy**	**38.62**	**329**	T		T	22 02 41.4	
	baz=148,slow=76,SNR=7.0							
H11N3	**WAKE ISLAND Hy**	**39.55**	**331**	T		T	22 03 51.9	
	baz=145,slow=74							
H11N1	**WAKE ISLAND Hy**	**39.55**	**331**	T		T	22 03 44.3	
	baz=145,slow=74							
H11N2	**WAKE ISLAND Hy**	**39.57**	**331**	T		T	22 03 50.2	
	baz=145							
STKA	**Stephens Creek**	**43.93**	**240**	P		**P**	**21 22 38.4**	**-0.6**
	3.4nm,0.9s,baz=94,slow=16,SNR=2.8							
WRAB	**Tennant Creek**	**49.62**	**257**	*e*P		**P**	**21 23 22.1**	**-1.7**
	5.6nm,1.0s							
WRA	**Warramunga Arr**	**49.63**	**257**	P		**P**	**21 23 22.9**	**-0.9**
	2.1nm,0.8s,baz=97,slow=7.9,SNR=34							
WRA				pP		**pP**	**21 23 39.3**	**+1.9**
	1.1nm,0.7s,baz=90,slow=7.1,SNR=3.7							
ASAR	**Alice Springs**	**49.93**	**252**	P		**P**	**21 23 25.1**	**-0.9**
	8.8nm,0.8s,baz=85,slow=8.4,SNR=56							
ASAR				pP		**pP**	**21 23 42.0**	**+2.4**
	4.6nm,0.6s,baz=87,slow=8.2,SNR=6.9							
ASAR				LR		LR	21 45 48.9	
	comp=Z,30nm,18.3s,baz=100,slow=38							
SBA	**Scott Base**	**63.49**	**185**	*e*P		**P**	**21 25 01.9**	**+0.6**
	3.9nm,0.8s							
VNDA	**Vanda**	**63.61**	**186**	P		**P**	**21 25 01.9**	**-0.2**
	2.2nm,0.8s,baz=14,slow=5.7,SNR=14							
MJAR	**Matsushiro Arr**	**68.56**	**320**	LR		LR	21 49 43.0	
	comp=Z,18nm,21.4s,baz=205,slow=31							
PFO	**Pinyon Flat Ob**	**72.95**	**47**	P		**P**	**21 25 59.8**	**-1.5**
	2.4nm,0.4s,baz=239,slow=12,SNR=3.8							
NVAR	**Mina Array Bea**	**74.32**	**42**	P		**P**	**21 26 09.2**	**-0.3**
	2.0nm,0.9s,baz=231,slow=10,SNR=10							
NVAR				pP		**PcP**	**21 26 26.7**	**+2.7**
	0.4nm,0.6s,baz=231,slow=9.8,SNR=2.4							
QSPA	**South Pole Qui**	**74.90**	**180**	*e*P		**P**	**21 26 12.4**	**+0.1**
	6.7nm,1.0s							
USRK	**Ussuriysk Ar.**	**77.01**	**323**	LR		LR	21 52 58.4	
	comp=Z,31nm,21.8s,baz=103,slow=30							
TXAR	**Lajitas Array**	**80.70**	**56**	LR		LR	21 56 21.4	
	comp=Z,25nm,19.5s,baz=0.0,slow=31							
COLA	**College**	**82.16**	**11**	*e*P		**P**	**21 26 51.3**	**-0.6**
	4.2nm,0.6s							
ILAR	**Eielson Array**	**82.24**	**11**	P		**P**	**21 26 51.4**	**-1.0**
	0.6nm,0.8s,baz=206,slow=6.3,SNR=5.0							
ILAR				LR		LR	21 55 27.8	
	comp=Z,26nm,20.6s,baz=252,slow=30							
PDAR	**Pinedale Array**	**82.26**	**42**	P		**P**	**21 26 53.0**	**-0.3**
	0.3nm,0.4s,baz=232,slow=4.4,SNR=4.2							
PDAR				LR		LR	21 57 46.6	
	comp=Z,41nm,18.3s,baz=263,slow=32							
MAW	**Mawson**	**87.95**	**199**	P		**P**	**21 27 19.8**	**-1.2**
	2.9nm,0.8s,baz=131,slow=9.4,SNR=6.0							
MAW				LR		LR	22 05 41.1	
	comp=Z,58nm,18.7s,baz=61,slow=35							
BRTR	**Keskin Array B**	**145.78**	**321**	PKPbc		**PKPdf**	**21 34 11.3**	**+0.9**
	2.4nm,0.8s,baz=106,slow=2.4,SNR=15							
BRTR				pPKPbc		pPKPbc	21 34 26.7	+0.8
	0.7nm,0.6s,baz=132,slow=1.8,SNR=2.6							
GERES	**GERESS Array B**	**145.84**	**351**	PKPbc		**PKPdf**	**21 34 11.2**	**+1.0**
	0.6nm,0.8s,baz=25,slow=5.4,SNR=3.0							

DJA 12 21:17:55.3±0.5, 8.°S±5.°×107.°E±.°, h10km, M4.6/18, mb5.2/1, MLv4.4/18, Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.34**	**28**	P		Pg	21 18 01.9	-0.2
SKJI	**Sukabumi**	**0.73**	**326**	P		Pg	21 18 08.3	-1.1
SKJI				S		Sg	21 18 19.0	+0.1
CISI	**Cisompet, Garu**	**0.84**	**86**	P		Pg	21 18 10.6	-1.0
CISI				S		Sg	21 18 21.6	-1.0
LEM	**Lembang**	**1.01**	**40**	P		Pg	21 18 13.2	-1.8
TNG	**Tangerang**	**1.47**	**347**	P		Pg	21 18 34.4	+11
TNG	**Tangerang**	**1.47**	**347**	P		Pg	21 18 34.5	+11
CMJI	**Cimerak**	**1.48**	**97**	P		Pn	21 18 20.0	-1.9
CGJI	**Cibinong**	**1.61**	**308**	P		Pn	21 18 20.9	-2.9
SBJI	**Serang**	**1.70**	**331**	P		Pn	21 18 24.6	-0.4
KPJI	**Karang Pucung**	**1.96**	**82**	P		Pn	21 18 28.7	0.0
KASI	**Kota Agung**	**3.21**	**310**	P		Pn	21 18 44.9	-1.0
KLI	**Kotabumi**	**3.44**	**322**	P		Pg	21 19 03.7	+2.3
SMRI	**Semarang**	**3.49**	**81**	P		Pn	21 18 50.9	+1.2
UGM	**Wanagama**	**3.53**	**95**	P		Pn	21 18 49.5	-0.8
LWLI	**Liwa**	**3.87**	**312**	P		Pb	21 19 00.0	-3.9
MDSI	**Maura Dua**	**4.16**	**318**	P		Pn	21 18 59.5	+0.5
PWJI	**Pagerwojo**	**4.81**	**95**	P		Pn	21 19 07.8	0.0
MNAI	**Manna**	**5.13**	**309**	P		Pn	21 19 14.0	+1.7

*NEIC **12** 21:21:31.8±0.5, 26.°44S×177.°30W, mb4.7/6, Error ellipse: s-maj=18.2km s-min=9.7km az=84.0*
*IDC **12** 21:21:32.5±0.9, 26.°47S×177.°37W, h108km±6km, mb4.0/12, mb1 4.2/13, mb1mx4.0/23, mbtmp4.3/13, MS3.1/1, Ms1 3.1/1, ms1mx2.7/22, Error ellipse: s-maj=21.3km s-min=10.6km az=88.0*
ISC 12 21:21:31.7±0.8, 26.°47S±0.°07×177.°2W±0.°1, h105km±6km, h105km:pP-P, n49, σ1§03/50, mb4.3/17, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.84**	**193**	P		**Pn**	**21 22 15.2**	**-0.3**
	26nm,0.3s,baz=30,slow=20,SNR=3.1							
RAO				S		**Sn**	**21 22 49.7**	**+0.5**
	467nm,0.3s,baz=330,slow=20,SNR=7.0							
RAO				LR		LR	21 22 51.8	
	comp=Z,360nm,20.1s,baz=26,slow=28							
MSVF	**Nonsavu**	**9.74**	**332**	*e*Pn		**Pn**	**21 23 50.4**	**+1.4**
WMGZ	**Waiomatatini S**	**11.91**	**197**	*e*SN		Sn	21 26 16.0	-13
TWGZ	**Tauwhareparae**	**12.36**	**198**	SN		Sn	21 26 26.5	-14
URZ	**Urewera**	**12.70**	**201**	*e*SN		Sn	21 26 34.7	-13
AFI	**Afiamalu**	**13.49**	**23**	*e*Pn		Pn	21 24 29.7	-9.3
BFZ	**Birch Farm**	**15.18**	**199**	SN		Sn	21 27 30.5	-18
MRZ	**Mangatainoka R**	**15.37**	**201**	SN		Sn	21 27 34.5	-18
DZM	**Mont Dzumac**	**15.54**	**283**	P		**P**	**21 25 09.0**	**+1.8**
	26nm,0.8s							
CTZ	**Chatham Island**	**17.23**	**179**	*e*PN		**P**	**21 25 23.8**	**-1.9**
CTZ				SN		Sn	21 28 21.2	-16
THZ	**Tophouse**	**17.30**	**206**	*e*PN		P	21 25 20.8	-5.7
THZ				*e*SN		Sn	21 28 19.9	-19
MQZ	**McQueen's Vall**	**19.07**	**203**	SN		S	21 28 55.4	-21
ASAR	**Alice Springs**	**44.17**	**263**	P		**P**	**21 29 29.2**	**-1.1**
	1.1nm,0.5s,baz=94,slow=6.8,SNR=17							
ASAR				pP		**pP**	**21 29 55.0**	**+0.2**
	7.6nm,1.2s,baz=106,slow=8.7,SNR=5.4							
ASAR				PcP		**PP**	**21 31 14.1**	**-1.1**
	0.6nm,0.7s,baz=103,slow=3.9,SNR=3.4							
WRAB	**Tennant Creek**	**44.80**	**268**	*e*P		**P**	**21 29 34.1**	**-1.2**
	4.2nm,0.8s							
WRA	**Warramunga Arr**	**44.80**	**268**	P		**P**	**21 29 34.4**	**-1.0**
	3.4nm,0.8s,baz=103,slow=8.0,SNR=25							
WRA				pP		**pP**	**21 29 58.9**	**-1.0**
	5.3nm,0.8s,baz=105,slow=8.0,SNR=11							
WRA				PcP		**PcP**	**21 31 15.9**	**+0.2**
	1.1nm,0.8s,baz=104,slow=3.4,SNR=3.3							
SBA	**Scott Base**	**51.99**	**184**	*e*P		**P**	**21 30 32.2**	**+2.5**
	6.9nm,0.6s							
SBA				*e*			21 30 40.7	
VNDA	**Vanda**	**52.06**	**186**	P		**P**	**21 30 32.1**	**+1.9**
	0.8nm,0.6s,baz=37,slow=5.4,SNR=5.8							
SIJI	**Sorong**	**55.65**	**289**	P		**P**	**21 30 56.3**	**-0.9**
	14nm,0.7s,baz=77,slow=6.9,SNR=13							
SIJI				pP		**pP**	**21 31 22.8**	**+0.1**
	11nm,0.8s,baz=98,slow=6.1,SNR=4.0							
QSPA	**South Pole Qui**	**63.63**	**180**	*e*P		**P**	**21 31 52.5**	**+1.1**
	4.8nm,0.6s							
QSPA				*e*pP		**pP**	**21 32 16.2**	**-1.2**
MJAR	**Matsushiro Arr**	**75.45**	**324**	P		**P**	**21 33 03.4**	**-0.8**
	1.2nm,0.5s,baz=173,slow=6.2,SNR=8.1							
MAW	**Mawson**	**76.22**	**200**	P		**P**	**21 33 07.7**	**-0.4**
	1.9nm,0.7s,baz=144,slow=6.5,SNR=4.4							
KSRS	**Korea Array**	**81.84**	**319**	P		**P**	**21 33 39.9**	**+0.8**
	1.6nm,0.6s,baz=139,slow=5.7,SNR=9.6							
KSAR	**Wonju Array Be**	**81.85**	**319**	P		**P**	**21 33 39.9**	**+0.7**
PETK	**Petropavlovsk-**	**82.20**	**345**	P		**P**	**21 33 40.5**	**-0.2**
	5.1nm,0.7s,baz=123,slow=5.5,SNR=4.1							
VNA1	**Neumayer--Stat**	**82.83**	**176**	P		**P**	**21 33 44.4**	**+0.5**
USRK	**Ussuriysk Ar.**	**84.29**	**326**	P		**P**	**21 33 52.2**	**+0.6**
	3.3nm,0.7s,baz=123,slow=3.6,SNR=15							
NVAR	**Mina Array Bea**	**84.88**	**42**	P		**P**	**21 33 56.0**	**+0.9**
	1.5nm,0.9s,baz=236,slow=8.7,SNR=7.4							
ENH	**Enshi**	**89.98**	**304**	*e*P		**P**	**21 34 19.7**	**+0.2**
	9.9nm,0.8s							
CMAR	**Chiang Mai Arr**	**92.78**	**289**	P		**P**	**21 34 33.5**	**+0.8**
	1.0nm,0.5s,baz=114,slow=2.2,SNR=9.0							
CHTO	**Chiang Mai**	**92.93**	**289**	*e*P		**P**	**21 34 33.8**	**+0.3**
	6.6nm,1.3s							
ILAR	**Eielson Array**	**93.95**	**13**	P		**P**	**21 34 36.8**	**-0.2**
	0.4nm,0.7s,baz=224,slow=7.1,SNR=5.7							
ILAR				PP		**PP**	**21 38 22.8**	**-1.9**
	0.4nm,0.8s,baz=217,slow=8.7,SNR=3.4							
SONM	**Songino Array**	**100.70**	**318**	P		**Pdif**	**21 35 08.5**	**+0.5**
	0.3nm,0.6s,baz=115,slow=6.5,SNR=3.7							
ARCES	**ARCESS Array B**	**134.90**	**349**	PKP		**PKPdf**	**21 40 36.2**	**-1.2**
	2.5nm,0.9s,baz=31,slow=3.3,SNR=5.1							
FINES	**FINESS Array B**	**141.67**	**342**	PKhKP		PKPpre	21 40 43.1	
	2.3nm,0.9s,baz=346,slow=4.7,SNR=5.8							
FINES				PKP		**PKPdf**	**21 40 48.2**	**-1.8**
	2.4nm,0.9s,baz=58,slow=4.7,SNR=4.7							
NB2	**NORSAR Subarra**	**144.97**	**353**	PKP		PKPbc	21 40 54.8	-0.7
	comp=Z,12nm,0.8s,baz=8.9,slow=3.8							
NOA	**NORSAR Array B**	**144.97**	**353**	PKP		PKPbc	21 40 54.6	-0.9
	comp=Z,7.7nm,0.8s,baz=16,slow=2.5,SNR=22							
NACGM	**Naroch**	**146.60**	**335**	*e*		**PKPdf**	**21 40 59.0**	**+0.1**
AKASG	**Malin Array Be**	**148.49**	**327**	PKPbc		**PKPbc**	**21 41 04.8**	**-1.0**
	comp=Z,3.3nm,0.6s,baz=44,slow=4.2,SNR=13							
AKASG				pPKPbc		**pPKPbc**	**21 41 35.5**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=37,slow=2.9,SNR=1.3							
KIEV	**Kiev**	**148.50**	**327**	*e*PKPdf		**PKPdf**	**21 41 02.4**	**+0.3**
KIEV				*e*PKPbc		**PKPbc**	**21 41 05.2**	**-0.7**
BRTR	**Keskin Array B**	**151.13**	**305**	PKPbc		**PKPbc**	**21 41 12.2**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=64,slow=3.4,SNR=6.8							
BRTR				PKPab		**PKPab**	**21 41 21.6**	**+0.6**
	comp=Z,6.8nm,0.7s,baz=98,slow=3.8,SNR=32							
DPC	**Dobruska-Polom**	**153.99**	**340**	*e*PKPAB		**PKPab**	**21 41 32.6**	**+0.2**
CLL	**Collm**	**154.01**	**345**	*e*PKPab		**PKPab**	**21 41 31.0**	**-1.4**
	comp=Z,5.0nm,0.8s							
BRG	**Berggiesshubel**	**154.18**	**344**	*e*P		**PKPab**	**21 41 32.8**	**-0.4**
	comp=Z,3.6nm,0.8s							
GOPC	**GO Pecny, Ondr**	**154.83**	**342**	*e*PKPAB		**PKPab**	**21 41 35.7**	**-0.3**
PRU	**Pruhonice**	**154.83**	**342**	*e*PKPAB		**PKPab**	**21 41 36.2**	**+0.2**
KHC	**Kasperske Hory**	**155.87**	**343**	*e*PKPAB		**PKPab**	**21 41 40.8**	**+0.3**
GERES	**GERESS Array B**	**156.10**	**342**	PKPab		**PKPab**	**21 41 41.1**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=20,slow=4.3,SNR=6.6							
ABTA	**Abfaltersbach**	**158.34**	**342**	*i*PKPab		**PKPab**	**21 41 50.4**	**-0.9**
	comp=Z,3.1nm,0.7s							
TORD	**Torodi Ar. Bea**	**166.71**	**175**	PKPab		**PKPab**	**21 42 28.5**	**0.0**
	comp=Z,1.3nm,1.1s,baz=190,slow=2.3,SNR=4.8							

*IDC **12** 22:02:02.4±1.1, 30.°95N×83.°78E, h0km, mb3.5/8, mb1 3.7/10, mb1mx3.5/47, mbtmp3.5/10, ML3.4/2, MS3.4/2, Ms1 3.4/2, ms1mx2.6/43, Error ellipse: s-maj=31.9km s-min=20.0km az=60.0*
*ISCJB **12** 22:02:05.6±0.9, 31.°0N±0.°1×83.°8E±0.°2, h33km, mb3.5/7, MS3.4/2, Error ellipse: s-maj=26.7km s-min=13.2km az=149.7*
ISC 12 22:02:07.7±1.1, 31.°0N±0.°2×83.°8E±0.°2, h35km, n12, σ0§91/10, mb3.5/7, Xizang

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.80**	**356**	Pn		**Pn**	**22 05 46.9**	**-0.5**
	0.0nm,0.3s,baz=185,slow=12,SNR=3.4							
CMAR	**Chiang Mai Arr**	**18.54**	**129**	P		**P**	**22 06 21.1**	**-0.3**
	0.1nm,0.3s,baz=300,slow=9.0,SNR=3.2							
KURBB	**Kurchatov Arra**	**19.98**	**350**	P		**P**	**22 06 35.9**	**-1.0**
	1.8nm,0.7s,baz=171,slow=10,SNR=21							
ZALV	**Zalesovo Beam**	**22.93**	**1**	P		**P**	**22 07 09.0**	**+0.5**
	0.8nm,0.5s,baz=198,slow=8.9,SNR=4.2							
SONM	**Songino Array**	**24.06**	**39**	P		**P**	**22 07 21.4**	**+1.6**
	1.2nm,0.7s,baz=227,slow=9.9,SNR=11							
BVAR	**Borovoye Array**	**24.07**	**340**	P		**P**	**22 07 19.8**	**+0.1**
	0.2nm,0.4s,baz=161,slow=9.2,SNR=3.1							
FINES	**FINESS Array B**	**47.95**	**327**	P		**P**	**22 10 42.9**	**+0.3**
	2.6nm,1.0s,baz=119,slow=11,SNR=4.1							
SPITS	**Spitsbergen Ar**	**55.28**	**347**	LR	LR		22 39 22.0	
	comp=Z,29nm,18.0s,baz=30,slow=40							
JAY	**Jayapura**	**63.48**	**111**	LR	LR		22 43 25.9	
	comp=Z,25nm,18.1s,baz=230,slow=39							
WRA	**Warramunga Arr**	**70.13**	**129**	P		**P**	**22 13 16.7**	**-0.1**
	0.6nm,0.7s,baz=324,slow=6.2,SNR=9.9							
TORD	**Torodi Ar. Bea**	**76.69**	**277**	P		**P**	**22 13 56.2**	**+0.6**
	0.2nm,0.5s,baz=58,slow=5.2,SNR=2.4							
YKA	**Yellowknife Ar**	**85.64**	**8**	P		**P**	**22 14 41.2**	**-1.1**
	0.4nm,0.6s,baz=342,slow=5.3,SNR=4.7							

*NEIC **12** 22:11:39.0, 31.°92N×114.°99W, h12km, ML3.3(PAS), ML3.6(ECX), After ECX.*
ECX 12 22:11:39.1±0.5, 31.°93N×114.°99W, h12km, MD3.4, ML3.6, 7C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ECBX	**El Chinero**	**0.46**	**187**⇑	*e*P		Pg	22 11 47.2	-0.9
ECBX				*e*S		Sg	22 11 53.8	-0.5
CPBX	**Cerro Prieto**	**0.56**	**331**⇑	*e*P		Pg	22 11 49.1	-0.9
CPBX				*e*S		Sg	22 11 57.1	-0.3
YMD	**Yuma Desert**	**0.73**	**31**⇓	*i*P		Pg	22 11 51.5	-1.7
EMSC	**East Mesa**	**0.81**	**0**	*e*P		Pg	22 11 52.8	-2.0
RDX	**Rancho Dawling**	**0.81**	**270**	*e*P		Pg	22 11 53.4	-1.6
RDX				*e*S		Sg	22 12 04.4	-1.4
RDX			⇑	*e*			22 12 05.8	
RDX				IAML			22 12 05.8	
	comp=N,1μm,0.3s							
SGL	**Mount Signal**	**0.95**	**319**	*e*P		Pg	22 11 55.2	-2.3
SPIG	**San Pedro Mart**	**0.97**	**205**⇑	*e*P		Pg	22 11 56.0	-2.3
SPX	**San Pedro Mart**	**0.97**	**205**⇑	*e*P		Pg	22 11 56.0	-2.3
SPX				*e*S		Sg	22 12 09.8	-1.4
SPX				IAML			22 12 10.7	
	comp=E,900nm,0.4s							
SPX			⇑	*e*			22 12 10.7	
GLA	**Glamis**	**1.13**	**7**	*e*P		Pb	22 11 57.1	-3.6
RMX	**La Rumorosa**	**1.14**	**306**	*e*P		Pb	22 11 58.8	-2.2
RMX				*e*S		Sb	22 12 14.1	-1.8
RMX			⇓	*e*			22 12 14.5	
RMX				IAML			22 12 14.5	
	comp=N,2μm,0.1s							
ZAX	**El Zacaton**	**1.17**	**250**	*e*P		Pb	22 11 59.2	-2.2
CBX	**Cerro Bola**	**1.47**	**286**	*e*P		Pn	22 12 04.0	-1.6
CBX			⇑	*e*			22 12 24.8	
CBX				IAML			22 12 24.8	
	comp=E,1μm,0.4s							
BAR	**Barrett**	**1.61**	**298**	*e*Pg		Pn	22 12 06.9	-0.5
BAR				*e*S		Sn	22 12 26.9	-1.2
214A	**Organ Pipe Nat**	**1.85**	**89**	*e*Pn		Pn	22 12 07.5	-3.2
PFO	**Pinyon Flat Ob**	**2.08**	**324**	*e*Pn		Pn	22 12 11.0	-3.0
TUC	**Tucson**	**3.59**	**83**	Pn		Pn	22 12 31.1	-3.6
GSC	**Goldstone**	**3.69**	**336**	*e*Pg		Pg	22 12 50.1	+0.2
SHPR	**Sheep Range**	**4.57**	**358**	*e*Pn		Pn	22 12 47.2	-1.1
SHPR				*e*Sg		Sg	22 14 02.3	-3.9

IDC 12 22:21:38.6±1.7, 7.°28S×128.°03E, h0km, mb3.7/1, mb1 3.8/4, mb1mx3.5/28, mbtmp3.7/4, ML3.5/3, MS2.6/1, Ms1 2.6/1, ms1mx2.2/28, Error ellipse: s-maj=61.9km s-min=29.3km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**7.14**	**27**	Pn		Pn	22 23 24.8	+0.4
	0.4nm,0.3s,baz=233,slow=20,SNR=3.5							
SIJI				Sn		Sn	22 24 36.3	-10
	0.8nm,0.3s,baz=210,slow=22,SNR=6.1							
WRA	**Warramunga Arr**	**13.99**	**155**	Pn		Pn	22 24 56.8	-1.6
	0.2nm,0.3s,baz=335,sl

	0.3nm,0.6s,baz=124,slow=7.5,SNR=4.6								
ILAR	**Eielson Array**	**83.36**	**26**	P	**P**	**22 44 51.1**	**+0.4**		
	0.5nm,0.8s,baz=236,slow=5.3,SNR=4.3								
ARCES	**ARCESS Array B**	**87.67**	**340**	P	**P**	**22 45 12.5**	**+0.6**		
	1.3nm,1.0s,baz=64,slow=6.3,SNR=3.5								
FINES	**FINESS Array B**	**89.04**	**332**	P	**P**	**22 45 18.7**	**+0.1**		
	0.9nm,0.9s,baz=69,slow=5.3,SNR=2.7								
TORD	**Torodi Ar. Bea**	**120.96**	**289**	PKP	**PKPdf**	**22 51 17.6**	**+1.2**		
	0.4nm,0.6s,baz=55,slow=1.4,SNR=4.7								

DJA ***12*** *22:41:00.7±1.1,3˚N±5˚×9˚6E±˚, h10km, M4.3/7, mb4.5/3, mB4.8/1, MLv4.2/7, Mw(mB)4.1/1*
ISCJB ***12*** *22:41:04.3±0.6, 3˚.07N±0˚.07×96˚.06E±0˚.06, h31km, mb4.1/13, Error ellipse: s-maj=11.5km s-min=5.8km az=40.8*
NEIC ***12*** *22:41:06.3±0.5, 3˚.02N×96˚.14E, h35km, mb4.4/1, Error ellipse: s-maj=10.4km s-min=6.5km az=47.0*
IDC ***12*** *22:41:10.3±4.2, 3˚.20N×96˚.42E, h65km±35km, mb3.7/12, mb1 3.8/14, mb1mx3.6/40, mbtmp4.0/14, ML3.9/2, MS3.0/2, Ms1 3.1/2, ms1mx2.6/27, Error ellipse: s-maj=48.0km s-min=14.4km az=53.0*
ISC 12 22:41:06.0±0.6, 3˚.02N±0˚.05×96˚.10E±0˚.07, h31km, n32, σ0§93/31, mb4.1/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GSI	**Gunungsitoli**	**2.26**	**139**	P		**Pn**	**22 41 42.3**	**+1.0**
GSI				S		**Sn**	**22 42 09.8**	**+1.7**
GSI	**Gunungsitoli**	**2.26**	**139**	*e*Pn		**Pn**	**22 41 41.4**	**+0.2**
LHMI	**Lhok Sumawe**	**2.35**	**21**	P		**Pb**	**22 41 48.1**	**+0.4**
LHMI	**Lhok Sumawe**	**2.35**	**21**	*e*Pn		**Pn**	**22 41 42.8**	**+0.2**
TSI	**Tuntungan**	**2.51**	**79**	P		**Pn**	**22 41 44.9**	**+0.2**
TSI				S		**Sb**	**22 42 21.6**	**+0.7**
PSI	**Prapat**	**2.83**	**94**	P		**Pn**	**22 41 49.5**	**+0.3**
	5.3nm,0.3s,baz=275,slow=12,SNR=15							
PSI				S		**Sn**	**22 42 24.1**	**+1.7**
	7.2nm,0.3s,baz=277,slow=17,SNR=3.5							
PSI				LR		LR	22 43 05.8	
	comp=Z,280nm,18.1s,baz=270,slow=45							
PBSI	**Pulau Batu**	**3.76**	**144**	P		**Pb**	**22 42 10.9**	**-0.8**
MNSI	**Mandailing Nat**	**4.12**	**122**	P		**Pn**	**22 42 07.3**	**+0.3**
KULM	**Kulim**	**5.07**	**63**	*e*Pn		**Pn**	**22 42 18.6**	**-1.4**
IPM	**Ipoh**	**5.13**	**73**	*e*Pn		**Pn**	**22 42 20.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**15.59**	**10**	P		**Pn**	**22 44 44.1**	**+0.5**
	0.5nm,0.3s,baz=196,slow=12,SNR=5.3							
CMAR				LR		LR	22 50 43.1	
	comp=Z,47nm,20.8s,baz=195,slow=37							
H08S2	**Diego Garcia H**	**25.82**	**246**	T		T	23 13 15.4	
	baz=67,slow=76,SNR=24							
H08S3	**Diego Garcia H**	**25.83**	**246**	T		T	23 12 52.3	
	baz=67,slow=76,SNR=14							
H08S1	**Diego Carcia H**	**25.84**	**246**	T		T	23 13 16.5	
	baz=67,slow=76,SNR=24							
H01W3	**Cape Leeuwin H**	**41.34**	**157**	T		T	23 32 09.7	
	baz=333,slow=75,SNR=6.5							
H01W2	**Cape Leeuwin H**	**41.35**	**157**	T		T	23 32 16.6	
	baz=333,slow=75,SNR=9.3							
H01W1	**Cape Leeuwin H**	**41.36**	**157**	T		T	23 32 12.7	
	baz=333,slow=75,SNR=13							
WRA	**Warramunga Arr**	**43.94**	**123**	P		**P**	**22 49 09.7**	**-0.8**
	3.7nm,0.5s,baz=301,slow=9.1,SNR=57							
WRA				PcP		**PcP**	**22 50 55.5**	**-0.8**
	0.1nm,0.3s,baz=309,slow=3.1,SNR=7.6							
WRAB	**Tennant Creek**	**43.94**	**123**	*e*P		**P**	**22 49 09.2**	**-1.3**
	3.1nm,0.4s							
MKAR	**Makanchi Array**	**45.22**	**347**	P		**P**	**22 49 20.0**	**-0.4**
	1.8nm,0.4s,baz=159,slow=8.8,SNR=58							
ASAR	**Alice Springs**	**45.37**	**128**	P		**P**	**22 49 21.1**	**-0.8**
	0.8nm,0.5s,baz=302,slow=8.0,SNR=9.6							
SONM	**Songino Array**	**45.52**	**10**	P		**P**	**22 49 21.4**	**-1.5**
	0.9nm,0.4s,baz=193,slow=9.5,SNR=10							
SONM				PcP		**PcP**	**22 51 00.6**	**-0.6**
	0.2nm,0.4s,baz=193,slow=4.2,SNR=2.9							
GEYT	**Alibeck**	**49.12**	**320**	P		**P**	**22 49 52.9**	**+2.0**
	3.5nm,0.7s,baz=134,slow=6.4,SNR=9.7							
KURBB	**Kurchatov Arra**	**49.70**	**345**	P		**P**	**22 49 54.9**	**-0.2**
	1.3nm,0.5s,baz=163,slow=6.8,SNR=22							
KURK	**Kurchatov**	**49.76**	**346**	P		**P**	**22 49 54.9**	**-0.6**
ZALV	**Zalesovo Beam**	**51.60**	**352**	P		**P**	**22 50 08.8**	**-0.5**
	1.6nm,0.4s,baz=169,slow=7.1,SNR=10							
BVAR	**Borovoye Array**	**54.18**	**341**	P		**P**	**22 50 28.0**	**-0.4**
	1.1nm,0.5s,baz=141,slow=9.3,SNR=5.8							
AKTO	**Aktyubinsk**	**57.11**	**332**	P		**P**	**22 50 49.5**	**0.0**
	0.8nm,0.7s,baz=135,slow=11,SNR=3.3							
BRTR	**Keskin Array B**	**67.08**	**312**	P		**P**	**22 51 57.2**	**+0.3**
	0.8nm,0.8s,baz=127,slow=7.9,SNR=4.8							
ARCES	**ARCESS Array B**	**80.46**	**340**	P		**P**	**22 53 14.8**	**+0.2**
	0.5nm,0.5s,baz=90,slow=5.5,SNR=6.9							
GERES	**GERESS Array B**	**82.72**	**319**	P		**P**	**22 53 28.0**	**+0.9**
	0.6nm,0.8s,baz=114,slow=4.8,SNR=5.4							
TXAR	**Lajitas Array**	**142.66**	**29**	PKP		**PKPdf**	**23 00 35.6**	**-1.4**
	0.2nm,0.6s,baz=356,slow=3.6,SNR=2.0							

ISCJB ***12*** *23:09:33.7±0.3, 0˚.42N±0˚.03×98˚.82E±0˚.03, h76km, mb4.3/24, Error ellipse: s-maj=5.3km s-min=3.5km az=150.1*
NEIC ***12*** *23:09:34.4±0.9, 0˚.34N×98˚.85E, h76km±6km, mb4.5/8, Error ellipse: s-maj=12.4km s-min=7.0km az=46.0*
IDC ***12*** *23:09:34.5±3.4, 0˚.38N×98˚.94E, h71km±28km, mb3.9/12, mb1 4.0/14, mb1mx3.7/33, mbtmp4.2/14, MS3.1/4, Ms1 3.2/4, ms1mx2.7/33, Error ellipse: s-maj=34.8km s-min=13.9km az=57.0*
DJA ***12*** *23:09:35.7±0.4, 0˚.N±2˚×9˚9E±˚, h39km±5km, M4.5/17, mb4.8/13, mB5.1/8, MLv4.5/17, Mw(mB)4.4/8*
KLM ***12*** *23:09:37.3, 0˚.44N×98˚.97E, h114km, mb4.6, ML4.2*
ISC 12 23:09:35.2±0.5, 0˚.43N±0˚.05×98˚.80E±0˚.05, h76km, n87, σ1§33/86, mb4.3/24, 3C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PBSI	**Pulau Batu**	**0.71**	**227**	P		**Pn**	**23 09 50.4**	**-0.2**
PBSI				S		**Sn**	**23 10 01.2**	**-0.8**
MNSI	**Mandailing Nat**	**0.86**	**65**	P		**Pn**	**23 09 51.2**	**-1.2**
MNSI				S		**Sn**	**23 10 02.2**	**-3.0**
GSI	**Gunungsitoli**	**1.50**	**305**	P		**Pn**	**23 10 00.5**	**+0.2**
GSI	**Gunungsitoli**	**1.50**	**305**	*i* Pn		**Pn**	**23 10 00.4**	**0.0**
SISI	**Saibi**	**1.77**	**170**	P		**Pn**	**23 10 04.1**	**+0.1**
SISI				S		**Sn**	**23 10 26.4**	**+0.6**
PPI	**Padang Panjang**	**1.83**	**119**	P		**Pn**	**23 10 05.2**	**+0.5**
PPI				S		**Sn**	**23 10 26.3**	**-0.8**
PPI	**Padang Panjang**	**1.83**	**119**	P		**Pn**	**23 10 05.1**	**+0.4**
	baz=1.8,SNR=96							
BKNI	**Bangkinang**	**2.25**	**93**	P		**Pn**	**23 10 10.0**	**-0.3**
BKNI	**Bangkinang**	**2.25**	**93**	P		**Pn**	**23 10 09.9**	**-0.3**
	baz=2.3,SNR=14							
BKNI	**Bangkinang**	**2.25**	**93**	*e*Pn		**Pn**	**23 10 09.6**	**-0.7**
PSI	**Prapat**	**2.36**	**3**	P		**Pn**	**23 10 10.7**	**-1.2**
	29nm,0.3s,baz=166,slow=9.4,SNR=148							
PSI				S		Sn	23 10 28.9	-11
	54nm,0.3s,baz=157,slow=16,SNR=12							
PSI				LR		LR	23 11 14.3	
	comp=Z,352nm,18.7s,baz=94,slow=44							
PSI	**Prapat**	**2.36**	**3**	P		**Pn**	**23 10 10.7**	**-1.2**
	baz=2.4,SNR=100							
SDSI	**Sungai Dareh**	**2.96**	**117**	P		**Pn**	**23 10 20.2**	**+0.2**
TSI	**Tuntungan**	**3.06**	**356**	P		**Pn**	**23 10 22.8**	**+1.5**
PPSI	**Pulau Pagai**	**3.40**	**159**	P		**Pn**	**23 10 24.2**	**-1.7**
FRIM	**Kepong**	**3.97**	**45**	⇓P		**Pn**	**23 10 33.9**	**+0.2**
IPM	**Ipoh**	**4.60**	**29**	⇑P		**Pn**	**23 10 44.2**	**+1.9**
IPM	**Ipoh**	**4.60**	**29**	*e*Pn		**Pn**	**23 10 43.4**	**+1.1**
KGM	**Kluang**	**4.79**	**71**	⇑P		**Pn**	**23 10 44.7**	**-0.2**
BTDF	**Bukit Timah Da**	**5.06**	**79**	P		**Pn**	**23 10 48.4**	**-0.2**
	baz=5.1,SNR=3.8							
BTDF				P		**Pn**	**23 10 48.4**	**-0.2**
	baz=5.1,SNR=3.8							
LHMI	**Lhok Sumawe**	**5.11**	**339**	P		**Pn**	**23 10 49.8**	**+0.5**
	baz=5.2,SNR=4.8							
KULM	**Kulim**	**5.17**	**21**	⇑P		**Pn**	**23 10 51.4**	**+1.3**
KULM	**Kulim**	**5.17**	**21**	*e*Pn		**Pn**	**23 10 50.4**	**+0.3**
	126nm,1.0s							
MYKOM	**Kota Tinggi**	**5.23**	**75**	⇓P		**Pn**	**23 10 51.0**	**+0.1**
KSI	**Kapahiang**	**5.55**	**137**	P		**Pn**	**23 10 57.5**	**+2.1**
	186nm,0.8s,4µm0.9nm							
MNAI	**Manna**	**6.32**	**139**	P		**Pn**	**23 11 05.1**	**-0.7**
MNAI	**Manna**	**6.32**	**139**	P		**Pn**	**23 11 05.1**	**-0.7**
	baz=6.3,SNR=9.1							
LHSI	**Lahat**	**6.34**	**132**	P		**Pn**	**23 11 07.2**	**+1.1**
	82nm,0.8s,2µm0.3nm							
KTGM	**Kuala Trenggan**	**6.51**	**42**	⇓P		**Pn**	**23 11 09.5**	**+1.1**
SKLT	**Songkhla**	**6.94**	**15**	P		**Pn**	**23 11 15.0**	**+0.8**
	68nm,0.8s,745nm0.2nm							

MDSI	**Maura Dua**	**7.26**	**132**	P		**Pn**	**23 11 19.1**	**+0.4**	
TRTT	**Trang**	**7.41**	**7**	P		**Pn**	**23 11 22.5**	**+1.8**	
	36nm,0.8s								
LWLI	**Liwa**	**7.54**	**136**	P		**Pn**	**23 11 23.8**	**+1.1**	
	68nm,0.8s,5µm0.4nm								
KASI	**Kota Agung**	**8.21**	**136**	P		**Pn**	**23 11 30.3**	**-1.3**	
CGJI	**Cibinong**	**9.82**	**136**	P		**Pn**	**23 11 51.5**	**-2.1**	
CNJI	**Cibinong**	**11.32**	**133**	P		Pn	23 12 09.5	-4.6	
CISI	**Cisompet, Garu**	**11.99**	**132**	P		Pn	23 12 19.2	-4.2	
	baz=12,SNR=4.2								
CMJI	**Cimerak**	**12.62**	**130**	P		Pn	23 12 27.4	-4.4	
	91nm,1.9s								
KPJI	**Karang Pucung**	**12.72**	**128**	P		**Pn**	**23 12 32.3**	**-0.8**	
	47nm,0.6s								
KHLT	**Khaolaem Dam**	**14.28**	**359**	P		**P**	**23 12 58.5**	**-0.2**	
	17nm,1.2s								
UGM	**Wanagama**	**14.33**	**126**	P		Pn	23 12 51.2	-3.3	
UGM	**Wanagama**	**14.33**	**126**	P		**Pn**	**23 12 52.6**	**-1.9**	
	baz=14,SNR=3.0								
PBKT	**Sadao Pong**	**16.18**	**8**	P		**P**	**23 13 21.7**	**+1.9**	
	12nm,0.8s,739nm								
UTTA	**Uttaradit**	**17.29**	**6**	P		**P**	**23 13 33.2**	**+1.1**	
	2.4nm,0.9s								
MHMT	**Maesarieng**	**17.66**	**357**	P		**Pn**	**23 13 39.3**	**+3.1**	
	7.1nm,1.2s,272nm								
CMAR	**Chiang Mai Arr**	**17.91**	**0**	P		**Pn**	**23 13 39.5**	**+0.1**	
	0.5nm,0.3s,baz=189,slow=11,SNR=43								
CMAR				LR		LR	23 20 36.4		
	comp=Z,62nm,19.6s,baz=185,slow=37								
KKM	**Kota Kinabalu**	**18.26**	**72**	P		**Pn**	**23 13 45.1**	**+1.4**	
	baz=18,SNR=6.4								
CMMT	**Chiang Mai**	**18.27**	**0**	P		**Pn**	**23 13 44.2**	**+0.5**	
	11nm,0.7s								
CHTO	**Chiang Mai**	**18.27**	**0**	P		**Pn**	**23 13 44.2**	**+0.5**	
	38nm,0.8s								
CHTO	**Chiang Mai**	**18.27**	**0**	*e*P		**P**	**23 13 41.9**	**-1.0**	
	4.4nm,0.6s								
MPSI	**Mapaga**	**21.10**	**90**	P		**P**	**23 14 17.9**	**+4.1**	
MDRS	**Chennai**	**22.26**	**305**	*e*P		**P**	**23 14 23.0**	**-3.1**	
VIS	**Vishakhapatnam**	**22.95**	**319**	*e*P		**P**	**23 14 33.7**	**+0.4**	
VIS					AMB	AMB	23 14 37.8		
	comp=Z,22nm,1.6s								
LUWI	**Luwuk**	**24.02**	**94**	P		**P**	**23 14 47.3**	**+4.1**	
	baz=24,SNR=3.3								
SHL	**Shillong**	**25.86**	**346**	*e*P		**P**	**23 15 00.9**	**+0.8**	
SHL					AMB	AMB	23 15 03.1		
	comp=Z,21nm,0.6s								
BOK	**Bokaro**	**26.39**	**333**	*e*P		**P**	**23 15 05.5**	**+0.9**	
BOK					AMB	AMB	23 15 07.7		
	comp=Z,13nm,1.3s								
H08S2	**Diego Garcia H**	**27.43**	**252**	T		T	23 42 43.4		
	baz=73,slow=75,SNR=24								
H08S3	**Diego Garcia H**	**27.43**	**253**	T		T	23 42 53.5		
	baz=73,slow=75,SNR=84								
H08S1	**Diego Carcia H**	**27.45**	**252**	T		T	23 42 58.7		
	baz=73,slow=75,SNR=88								
LSA	**Lhasa**	**30.00**	**347**	*e*P		**P**	**23 15 38.4**	**+1.0**	
	comp=Z,5.5nm,0.6s								
BHPL	**Bhopal**	**30.74**	**319**	*e*P		**P**	**23 15 43.1**	**-0.3**	
ENH	**Enshi**	**31.37**	**18**	*e*P		**P**	**23 15 48.8**	**-0.1**	
	comp=Z,7.7nm,0.4s								
YHNB	**Yeheng**	**32.53**	**41**	*e*P		**P**	**23 15 59.5**	**+0.3**	
	comp=Z,18nm,0.3s								
DDI	**Dehra Dun**	**35.67**	**328**	*e*P		**P**	**23 16 25.3**	**-1.0**	
DDI					AMB	AMB	23 16 30.4		
	comp=Z,9.3nm,0.8s								
DHRM	**DHARAMSHALA**	**38.11**	**328**	*e*P		**P**	**23 16 47.2**	**0.0**	
DHRM					AMB	AMB	23 16 48.7		
	comp=Z,10nm,1.6s								
WRA	**Warramunga Arr**	**40.28**	**122**	P		**P**	**23 17 03.1**	**-2.1**	
	comp=Z,1.1nm,0.6s,baz=302,slow=8.9,SNR=13								
WRA				PcP		**PcP**	**23 19 07.7**	**-0.1**	
	comp=Z,0.3nm,0.6s,baz=312,slow=2.7,SNR=3.7								
WRAB	**Tennant Creek**	**40.28**	**122**	*e*P		**P**	**23 17 02.7**	**-2.5**	
ASAR	**Alice Springs**	**41.66**	**128**	P		**P**	**23 17 15.0**	**-1.5**	
	comp=Z,1.1nm,0.7s,baz=302,slow=7.7,SNR=14								
KSAR	**Wonju Array Be**	**45.57**	**33**	P		**P**	**23 17 45.8**	**-1.9**	
KSRS	**Korea Array**	**45.60**	**33**	P		**P**	**23 17 45.7**	**-2.1**	
	comp=Z,1.2nm,0.4s,baz=220,slow=8.5,SNR=6.4								
KSRS				LR		LR	23 37 24.1		
	comp=Z,15nm,18.3s,baz=180,slow=37								
TKM2	**Tokmak 2**	**47.14**	**337**	*e*P		**P**	**23 18 01.3**	**+1.1**	
	comp=Z,4.6nm,0.5s								
EKS2	**Erkin-Say**	**47.67**	**335**	*e*P		**P**	**23 18 04.7**	**+0.6**	
	comp=Z,2.7nm,0.7s								
SONM	**Songino Array**	**47.67**	**7**	P		**P**	**23 18 05.2**	**+1.1**	
	comp=Z,1.1nm,0.6s,baz=190,slow=9.5,SNR=97								
SONM				PcP		**PcP**	**23 19 33.0**	**+0.6**	
	comp=Z,1.1nm,0.5s,baz=186,slow=3.1,SNR=4.2								
MK31	**Makanchi Array**	**48.38**	**345**	P		**P**	**23 18 10.4**	**+1.0**	
	baz=49,SNR=10								
MKAR	**Makanchi Array**	**48.38**	**345**	P		**P**	**23 18 10.2**	**+0.8**	
	comp=Z,5.1nm,0.5s,baz=155,slow=8.7,SNR=90								
MJAR	**Matsushiro Arr**	**51.20**	**41**	P		**P**	**23 18 29.4**	**-1.6**	
	comp=Z,0.7nm,0.5s,baz=224,slow=8.0,SNR=4.4								
STKA	**Stephens Creek**	**51.66**	**133**	P		**P**	**23 18 34.2**	**-0.3**	
	comp=Z,2.6nm,0.8s,baz=319,slow=8.6,SNR=6.3								
USRK	**Usuriysk Ar.**	**52.62**	**30**	P		**P**	**23 18 41.7**	**+0.2**	
	comp=Z,1.4nm,0.5s,baz=201,slow=7.5,SNR=6.0								
KURK	**Kurchatov**	**52.95**	**344**	*e*P		**P**	**23 18 43.4**	**-0.3**	
	comp=Z,3.0nm,0.7s								
ZAA0	**Zalesovo Array**	**54.58**	**350**	*e*P		**P**	**23 18 55.5**	**0.0**	
ZALV	**Zalesovo Beam**	**54.58**	**350**	P		**P**	**23 18 55.9**	**+0.3**	
	comp=Z,5.9nm,0.5s,baz=166,slow=6.9,SNR=24								
ABKAR	**Akbulak array**	**58.94**	**331**	*e*P		**P**	**23 19 25.9**	**-0.7**	
	comp=Z,1.8nm,0.7s								
BRTR	**Keskin Array B**	**70.81**	**312**	P		**P**	**23 20 43.5**	**-0.5**	
	comp=Z,2.6nm,0.7s,baz=121,slow=6.7,SNR=4.8								
FINES	**FINESS Array B**	**81.41**	**332**	P		**P**	**23 21 44.1**	**+0.5**	
	comp=Z,0.8nm,0.5s,baz=120,slow=7.8,SNR=16								
ARCES	**ARCESS Array B**	**83.79**	**340**	P		**P**	**23 21 56.4**	**+0.5**	
	comp=Z,0.9nm,0.4s,baz=76,slow=3.8,SNR=5.0								
ARCES				LR		LR	00 02 53.1		
	comp=Z,19nm,18.4s,baz=232,slow=38								
TXAR	**Lajitas Array**	**143.44**	**34**	PKP		PKPbc	23 28 59.8	+0.5	
	comp=Z,0.1nm,0.4s,baz=329,slow=1.2,SNR=5.3								
GOGA	**Godfrey**	**146.27**	**3**	*e*PKPdf		**PKPdf**	**23 29 05.8**	**-0.8**	

KRSC 12 23:48:44.3±1.2, 53˚.93N×167˚.62E, h15km±7km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BKI	**Bering**	**1.59**	**324**	*e*P		Pn	23 49 11.4	-0.5
BKI				*e*S		Sn	23 49 32.3	+0.1
MKZ	**Mys Kozlova**	**3.51**	**283**	*e*P		Pn	23 49 41.6	+3.4
MKZ				*e*S		Sn	23 50 23.3	+3.8
SPN	**Mys Shipunski**	**4.61**	**263**	*e*P		Pn	23 49 57.6	+4.2
SPN				*e*S		Sn	23 50 51.7	+5.1
SDLR	**Sedlovina**	**5.25**	**266**	*e*P		Pn	23 50 06.6	+4.4
UGLR	**Uglovaya**	**5.29**	**266**	*e*P		Pn	23 50 07.6	+4.7
KRER	**Koryakskii**	**5.32**	**267**	*e*P		Pn	23 50 08.2	+4.8
AVH	**Avacha**	**5.33**	**266**	*e*P		Pn	23 50 08.0	+4.6
KRX	**Arik**	**5.37**	**267**	*e*P		Pn	23 50 08.5	+4.5
KOK	**Koryaka**	**5.39**	**267**	*e*P		Pn	23 50 08.7	+4.5
RUS	**Russkaya**	**5.68**	**258**	*e*P		Pn	23 50 12.2	+4.2
GNL	**Ganaly**	**5.74**	**272**	*e*P		Pn	23 50 14.3	+5.3
ASAK	**Asacha**	**6.05**	**259**	*e*P		Pn	23 50 17.1	+3.8

BJI ***12*** *23:52:36.5, 18˚.00N×146˚.80E, h33km, mb4.9/8, mB5.3/5, Ms4.1/3, Ms7 3.9/3*
MOS ***12*** *23:52:37.6±1.0, 18˚.03N×146˚.54E, h33km, mb5.0/30, Error ellipse: s-maj=12.5km s-min=6.6km az=91.6*
ISCJB ***12*** *23:52:42.4±1.2, 18˚.10N±0˚.03×146˚.44E±0˚.06, h71km±11km, mb4.6/78, Error ellipse: s-maj=9.1km s-min=5.3km az=175.4*
NEIC ***12*** *23:52:44.8±0.8, 18˚.01N×146˚.50E, h85km±7km, mb4.8/42, Error ellipse: s-maj=5.9km s-min=4.0km az=98.0*
IDC ***12*** *23:52:44.6±2.0, 18˚.02N×146˚.61E, h81km±18km, mb4.3/29, mb1 4.4/32, mb1mx4.3/42, mbtmp4.6/32, MS3.7/21, Ms1 3.7/21, ms1mx3.6/40, Error ellipse: s-maj=14.5km s-min=8.0km az=86.0*
ISC 12 23:52:42.3±1.1, 18˚.05N±0˚.05×146˚.65E±0˚.08, h59km±9km, n245, σ0§92/246, mb4.8/77, MS3.8/23, 4C-2D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**4.75**	**201**	P		**Pn**	**23 53 53.2**	**+1.8**
	23nm,0.3s,baz=19,slow=18,SNR=9.1							
GUMO				S		**Sn**	**23 54 48.4**	**+3.1**
	78nm,0.3s,baz=77,slow=19,SNR=6.3							

CBIJ	**Chichi jima**	**9.90**	**336**	P		**Pn**	**23 55 03.1**	**+1.2**	
CBIJ				S		**Sn**	**23 56 50.0**	**-1.5**	
JCJ	**Chichijima**	**9.90**	**336**	P		**Pn**	**23 55 03.1**	**+1.2**	
	4.5nm,0.3s,baz=270,slow=20,SNR=4.8								
JCJ				S		**Sn**	**23 56 50.0**	**-1.5**	
	5.4nm,0.3s,baz=301,slow=19,SNR=5.1								
H11S3	**WAKE ISLAND Hy**	**19.04**	**86**	T		T	00 16 19.8		
	baz=272,slow=75,SNR=7.4								
H11S1	**WAKE ISLAND Hy**	**19.05**	**85**	T		T	00 16 21.8		
	baz=272,slow=75,SNR=5.1								
H11S2	**WAKE ISLAND Hy**	**19.06**	**86**	T		T	00 16 16.4		
	baz=272,slow=75,SNR=5.8								
H11N1	**WAKE ISLAND Hy**	**19.23**	**82**	T		T	00 16 30.6		
	baz=271								
H11N2	**WAKE ISLAND Hy**	**19.24**	**82**	T		T	00 16 40.2		
	baz=271								
H11N3	**WAKE ISLAND Hy**	**19.25**	**82**	T		T	00 16 32.3		
	baz=271								
MJAR	**Matsushiro Arr**	**19.87**	**340**	P		**P**	**23 57 09.0**	**+0.3**	
	1.3nm,0.3s,baz=171,slow=11,SNR=24								
MJAR				S		**S**	**00 00 50.0**	**+0.8**	
	0.5nm,0.3s,baz=156,slow=21,SNR=3.6								
MAJO	**Matsushiro**	**19.87**	**340**	*e*P		**P**	**23 57 08.8**	**+0.1**	
MAJO				pmax		pmax			
	comp=Z,21nm,0.7s								
MAJO	**Matsushiro**	**19.87**	**340**	*e*P		**P**	**23 57 08.8**	**+0.1**	
	comp=Z,21nm,0.7s								
MAT	**Matsushiro**	**19.87**	**340**	P		**P**	**23 57 09.6**	**+0.9**	
JNU	**Nakatsue**	**20.64**	**320**	P		**P**	**23 57 17.1**	**+0.1**	
	comp=Z,6.8nm,0.7s,baz=107,slow=17,SNR=2.2								
JNU				LR		LR	00 04 22.4		
	comp=Z,168nm,20.2s,baz=126,slow=34								
JAY	**Jayapura**	**21.25**	**197**	P		**P**	**23 57 24.7**	**+0.9**	
	comp=Z,8.4nm,0.7s,baz=37,slow=5.1,SNR=4.4								
JAY				LR		LR	00 05 16.9		
	comp=Z,209nm,20.3s,baz=1.5,slow=36								
ERM	**Erimo**	**24.07**	**354**	*i* P		**P**	**23 57 51.4**	**-0.7**	
SIJI	**Sorong**	**24.13**	**220**	P		**P**	**23 57 53.3**	**+0.3**	
	comp=Z,16nm,0.6s,baz=22,slow=7.7,SNR=8.7								
SIJI				LR		LR	00 05 37.4		
	comp=Z,168nm,21.5s,baz=295,slow=32								
SSLB	**Suanglung**	**24.65**	**288**	*e*P		**P**	**23 57 54.5**	**-3.1**	
	comp=Z,13nm,0.9s								
KSRS	**Korea Array**	**25.37**	**323**	P		**P**	**23 58 04.0**	**+0.1**	
	comp=Z,4.4nm,0.6s,baz=144,slow=8.7,SNR=22								
KSRS				LR		LR	00 07 39.8		
	comp=Z,258nm,21.1s,baz=130,slow=35								
KSRS	**Korea Array**	**25.37**	**323**	P		**P**	**23 58 04.1**	**+0.1**	
KSRS				pmax		pmax			
	comp=Z,4.0nm,0.6s								
KSRS				MLR		MLR			
	comp=Z,258nm,21.1s								
KSAR	**Wonju Array Be**	**25.39**	**323**	P		**P**	**23 58 04.1**	**0.0**	
KSAR	**Wonju Array Be**	**25.39**	**323**	P		**P**	**23 58 04.0**	**0.0**	
ASAJ	**Asahikawa**

CAST	**Castle Rocks**	61.27	27	*e*P		P	00 02 51.6	+0.4
	comp=Z,15nm,0.8s							
IM04	**Indian Mountai**	61.43	24	*e*P		P	00 02 52.3	+0.1
RC01	**Rabbit Creek A**	61.67	30	*e*P		P	00 02 53.0	-0.9
BPAW	**Bear Paw Mtn.**	61.94	26	*e*P		P	00 02 55.7	0.0
	comp=Z,23nm,0.8s							
TRF	**Thorofare Moun**	62.05	27	*e*P		P	00 02 56.4	-0.2
	comp=Z,14nm,0.8s							
SML	**Sawmill**	62.50	29	*e*P		P	00 02 58.8	-0.7
SML					pmax	pmax		
	comp=Z,6.0nm,0.8s							
SML	**Sawmill**	62.50	29	*e*P		P	00 02 58.8	-0.7
	comp=Z,6.1nm,0.8s							
MCK	**McKinley**	62.70	27	*e*P		P	00 02 59.8	-1.1
MCK					pmax	pmax		
	comp=Z,4.0nm,0.7s							
MCK	**McKinley**	62.70	27	*e*P		P	00 02 59.8	-1.1
	comp=Z,3.7nm,0.7s							
URZ	**Urewera**	62.89	153	LR		LR	00 26 05.5	
	comp=Z,80nm,21.8s,baz=346,slow=32							
ILAR	**Eielson Array**	63.83	26	P		P	00 03 07.4	-0.9
	comp=Z,7.7nm,0.9s,baz=258,slow=5.3,SNR=62							
ILAR					LR	LR	00 28 09.1	
	comp=Z,60nm,21.1s,baz=298,slow=33							
PAX	**Paxson**	64.05	28	*e*P		P	00 03 09.6	-0.3
PAX					pmax	pmax		
	comp=Z,8.0nm,0.6s							
PAX	**Paxson**	64.05	28	*e*P		P	00 03 09.6	-0.3
	comp=Z,8.2nm,0.6s							
HARP	**HAARP**	64.08	29	*e*P		P	00 03 11.0	+1.0
	comp=Z,24nm,0.7s							
RPZ	**Rata Peaks**	65.41	161	LR		LR	00 28 52.6	
	comp=Z,66nm,18.3s,baz=20,slow=33							
DAWY	**Dawson**	66.91	27	*e*P		P	00 03 29.1	+0.8
BRVK	**Borovoye**	67.61	321	*c*e P		P	00 03 32.5	-0.3
BRVK					pmax	pmax		
	comp=Z,13nm,1.2s							
BRVK					MLR	MLR		
	comp=Z,115nm,26.0s							
BRVK	**Borovoye**	67.61	321	*e*P		P	00 03 32.2	-0.6
	comp=Z,8.1nm,0.8s							
INK	**Inuvik**	69.62	23	P		P	00 03 45.0	0.0
	comp=Z,10nm,0.8s,baz=261,slow=6.9,SNR=12							
DLBC	**Dease Lake**	71.33	33	P		P	00 03 56.5	+0.7
	comp=Z,13nm,0.9s,baz=296,slow=5.4,SNR=18							
PPT	**Papeete**	72.02	116	LR		LR	00 29 31.6	
	comp=Z,89nm,21.3s,baz=344,slow=31							
PPT2	**Papeete2**	72.03	116	*e*LR		LR	00 26 12.5	
	comp=Z,141nm,23.0s,baz=293							
ARU	**Arti**	74.11	325	*d i*P		P	00 04 11.8	-0.4
ARU							00 06 55.0	
ARU				S		S	00 13 43.6	+3.0
ARU				SS		SS	00 18 27.7	+1.6
ARU					pmax	pmax		
	comp=Z,4.0nm,0.6s							
ARU	**Arti**	74.11	325	*e*P		P	00 04 11.5	-0.7
	comp=Z,4.2nm,0.8s							
ABKAR	**Akbulak array**	74.42	317	*e*P		P	00 04 12.9	-1.3
MBW	**Mount Baker**	77.58	43	P		P	00 04 33.1	+0.8
JCW	**Jim Creek**	77.70	43	P		P	00 04 33.8	+0.9
I03D	**Drain, OR**	77.77	48	P		P	00 04 33.2	-0.1
	baz=78							
TDL	**Tradedollar La**	77.94	45	P		P	00 04 35.2	+0.9
YKA	**Yellowknife Ar**	78.14	28	P		P	00 04 34.7	-0.2
	comp=Z,6.0nm,0.6s,baz=285,slow=5.4,SNR=48							
I04A	**Tendick Farm,**	78.40	48	P		P	00 04 37.0	+0.2
	baz=78							
M02C	**Callahan**	78.66	50	P		P	00 04 39.3	+0.9
	baz=79							
YBH	**Yreka Blue Hor**	78.69	50	P		P	00 04 39.0	+0.5
	comp=Z,7.0nm,0.8s,baz=288,slow=3.2,SNR=12							
YBH	**Yreka Blue Hor**	78.69	50	P		P	00 04 39.0	+0.5
YBH					pmax	pmax		
	comp=Z,7.0nm,0.8s							
YBH	**Yreka Blue Hor**	78.69	50	*e*P		P	00 04 38.4	-0.1
	comp=Z,135nm,2.9s							
G05D	**Wamic, OR**	78.81	46	P		P	00 04 39.2	+0.2
	baz=79							
N02D	**Trinity Center**	78.87	51	P		P	00 04 40.5	+0.9
	baz=79							
M04C	**Macdoel**	79.30	50	P		P	00 04 42.0	0.0
	baz=79							
J05D	**Fort Rock, OR**	79.36	48	P		P	00 04 42.6	+0.4
	baz=79							
PRGR	**Permogore**	79.41	332	P		P	00 04 41.6	-0.3
PRGR				*e*			00 04 47.0	
PRGR					pmax	pmax		
	comp=Z,4.0nm,0.3s							
K05A	**Summer Lake**	79.74	48	*e*P		P	00 04 44.5	+0.1
	comp=Z,15nm,0.8s							
LBCM	**Butte Creek Ri**	79.90	50	P		P	00 04 45.7	+0.4
NEW	**Newport**	80.79	42	P		P	00 04 49.6	-0.1
	baz=81							
CMB	**Columbia Colle**	81.37	53	*e*P		P	00 04 52.9	-0.1
CMB					pmax	pmax		
	comp=Z,6.0nm,0.6s							
CMB	**Columbia Colle**	81.37	53	*e*P		P	00 04 52.9	-0.1
	comp=Z,5.5nm,0.6s							
EDM	**Edmonton**	81.57	37	*e*P		P	00 04 54.3	+0.6
EDM	**Edmonton**	81.57	37	*e*P		P	00 04 54.3	+0.6
WAKR	**Walker**	81.96	52	*e*P		P	00 04 56.1	-0.1
BSMT	**Bassoo Peak**	82.41	42	P		P	00 04 59.2	+0.8
PKM	**Peak Mountain**	82.70	56	P		P	00 05 00.4	+0.2
	baz=83,SNR=5.2							
NVAR	**Mina Array Bea**	82.83	52	P		P	00 05 01.2	+0.3
	comp=Z,7.5nm,0.7s,baz=262,slow=6.2,SNR=68							
SBC	**Santa Barbara**	82.91	56	P		P	00 05 01.6	+0.6
	baz=83							
BMN	**Battle Mountai**	83.03	50	*e*P		P	00 05 02.2	+0.4
BMN					pmax	pmax		
	comp=Z,5.0nm,0.8s							
BMN	**Battle Mountai**	83.03	50	*e*P		P	00 05 02.2	+0.4
	comp=Z,4.7nm,0.8s							
MFID	**Camas Ranch**	83.10	47	*e*P		P	00 05 02.4	+0.3
	comp=Z,11nm,1.0s							
ARCES	**ARCESS Array B**	83.38	342	P		P	00 05 02.5	-0.3
	comp=Z,9.9nm,0.7s,baz=69,slow=7.9,SNR=31							
ARCES					LR	LR	00 45 33.2	
	comp=Z,57nm,21.6s,baz=43,slow=38							
ARVC	**Arvin**	83.40	55	P		P	00 05 03.7	+0.1
	baz=83							
TPH	**Tonopah**	83.75	52	*e*P		P	00 05 05.0	-0.6
TPH					pmax	pmax		
	comp=Z,4.0nm,0.7s							
TPH	**Tonopah**	83.75	52	*e*P		P	00 05 05.0	-0.6
	comp=Z,4.2nm,0.7s							
HLID	**Hailey**	84.03	46	P		P	00 05 07.2	+0.3
	baz=84							
HLID	**Hailey**	84.03	46	*e*P		P	00 05 07.5	+0.6
	comp=Z,3.5nm,0.7s							
MPMC	**Manual Prospec**	84.16	54	P		P	00 05 07.3	-0.4
	baz=84,SNR=9.8							
FURC	**Furnace Creek,**	84.52	54	P		P	00 05 09.6	+0.4
	baz=84							
TPNV	**Topopah Spring**	84.83	53	P		P	00 05 11.0	-0.1
	baz=85,SNR=8.4							
R11A	**Troy Canyon, C**	84.89	51	P		P	00 05 11.1	-0.2
	baz=85,SNR=9.7							
R11A	**Troy Canyon, C**	84.89	51	*e*P		P	00 05 11.5	+0.2
	comp=Z,3.6nm,0.8s							
GSC	**Goldstone**	84.93	55	P		P	00 05 11.4	0.0
	baz=85							
DAG	**Danmarks Havn**	84.97	357	*i* P		P	00 05 11.0	+0.3
	comp=Z,8.6nm,0.8s							
BOZ	**Bozeman (W)**	85.19	44	*e*P		P	00 05 12.2	-0.4
BOZ					pmax	pmax		
	comp=Z,4.0nm,0.8s							
BOZ	**Bozeman (W)**	85.19	44	P		P	00 05 12.6	0.0
	baz=85							
BOZ	**Bozeman (W)**	85.19	44	*e*P		P	00 05 12.2	-0.4
	comp=Z,3.9nm,0.8s							
EGMT	**Eagleton**	85.52	41	P		P	00 05 13.9	-0.3
	baz=86							
EGMT	**Eagleton**	85.52	41	*e*P		P	00 05 13.9	-0.3
	comp=Z,7.8nm,1.0s							
PFO	**Pinyon Flat Ob**	85.74	56	P		P	00 05 15.6	0.0
	baz=86							
A19A	**Klindworth Far**	85.80	40	P		P	00 05 15.5	0.0
	baz=86,SNR=7.5							
SHPR	**Sheep Range**	85.81	53	*e*P		P	00 05 15.8	-0.1
B19A	**Brinkman Farms**	85.86	40	P		P	00 05 15.3	-0.5
	baz=86,SNR=7.8							
BELC	**Belle Mtn. Jos**	85.97	56	P		P	00 05 16.0	-0.7
	baz=86							
GMRC	**Granite Mounta**	85.99	55	P		P	00 05 16.9	+0.1
	baz=86							
MONP	**Monument Peak**	86.00	57	P		P	00 05 17.1	+0.1
	baz=86							
DUG	**Dugway**	86.29	49	*e*P		P	00 05 18.1	-0.1
DUG					pmax	pmax		
	comp=Z,8.0nm,0.8s							
DUG	**Dugway**	86.29	49	P		P	00 05 18.1	-0.1
	baz=86,SNR=9.1							
DUG	**Dugway**	86.29	49	*e*P		P	00 05 18.1	-0.1
	comp=Z,7.7nm,0.8s							
FXWY	**Fox Creek**	86.31	45	*e*P		P	00 05 19.3	+0.9
	comp=Z,6.1nm,1.0s							
A20A	**Cobblestone Ra**	86.32	40	P		P	00 05 18.6	+0.5
	baz=86							
B20A	**Solberg Farm,**	86.43	40	P		P	00 05 18.5	-0.1
	baz=86,SNR=6.6							
BC3	**Big Chuckawall**	86.52	56	P		P	00 05 19.6	+0.2
	baz=86							
VSR	**Storozhevoye**	86.58	323	*i*[] *e*P		P	00 05 17.8	-1.4
VSR				*i*	pmax	pmax		
	comp=Z,4.0nm,0.5s							
IRM	**Iron Mountain**	86.59	55	P		P	00 05 19.3	-0.3
	baz=87							
HWUT	**Hardware Ranch**	86.68	47	*e*P		P	00 05 19.7	-0.4
	comp=Z,8.4nm,0.8s							
C20A	**Veseth Ranch,**	86.73	41	P		P	00 05 20.5	+0.5
	baz=87,SNR=16							
NLU	**North Lily Min**	86.91	49	*e*P		P	00 05 20.9	-0.4
	comp=Z,6.7nm,0.9s							
B21A	**Ellsworth Farm**	87.05	40	P		P	00 05 21.8	+0.2
	baz=87,SNR=5.8							
JLU	**Jordanelle**	87.12	48	*e*P		P	00 05 22.4	0.0
	comp=Z,9.1nm,0.8s							
GLA	**Glamis**	87.21	56	P		P	00 05 23.3	+0.6
	baz=87							
Y12C	**Blythe**	87.22	56	P		P	00 05 23.2	+0.5
	baz=87							
C21A	**Desert Coulee**	87.25	40	P		P	00 05 22.6	0.0
	baz=87,SNR=7.1							
H19A	**Powell**	87.29	44	P		P	00 05 23.9	+0.9
	baz=87							
KIV	**Kislovodsk**	87.29	315	*i*[] *e*P		P	00 05 23.7	+0.8
KIV				*i*			00 08 49.7	
KIV					pmax	pmax		
	comp=Z,11nm,2.5s							
KIV					MLR	MLR		
	comp=Z,58nm,20.0s							
PDMCI	**Parker Dam,Lak**	87.33	55	P		P	00 05 23.5	+0.4
	baz=87							
MSU	**Marysvale**	87.35	50	*e*P		P	00 05 23.7	+0.2
MSU					pmax	pmax		
	comp=Z,3.0nm,0.7s							
MSU	**Marysvale**	87.35	50	*e*P		P	00 05 23.7	+0.2
	comp=Z,3.4nm,0.7s							
F20A	**Billings**	87.39	43	P		P	00 05 23.5	+0.1
	baz=87							
I19A	**Meeteetse**	87.53	44	P		P	00 05 25.0	+0.8
	baz=88							
G20A	**Bridger**	87.58	43	P		P	00 05 23.8	-0.5
	baz=88,SNR=5.7							
PDAR	**Pinedale Array**	87.64	46	P		P	00 05 24.2	-0.6
	comp=Z,1.4nm,0.8s,baz=318,slow=2.0,SNR=7.4							
J19A	**Crowheart**	87.79	45	P		P	00 05 25.2	-0.3
	baz=88,SNR=5.6							
FINES	**FINESS Array B**	87.85	336	P		P	00 05 23.4	-1.7
	comp=Z,3.8nm,0.5s,baz=79,slow=4.5,SNR=42							
FINES					LR	LR	00 48 13.2	
	comp=Z,41nm,19.0s,baz=318,slow=38							
FINES	**FINESS Array B**	87.85	336	*i* P		P	00 05 23.3	-1.8
FINES					pmax	pmax		
	comp=Z,4.0nm,0.5s							
H20A	**Greybull**	88.01	44	P		P	00 05 26.9	+0.5
	baz=88							
D22A	**Cohagen**	88.09	41	P		P	00 05 27.1	+0.5
	baz=88							
I20A	**Worland**	88.14	44	P		P	00 05 26.5	-0.5
	baz=88,SNR=6.3							
LAO	**LASA Array**	88.26	41	*e*P		P	00 05 27.6	+0.1
	comp=Z,8.8nm,0.8s							
B23A	**Brockton**	88.26	39	P		P	00 05 28.0	+0.6
	baz=88							
CASY	**Casey**	88.32	194	*e*P		P	00 05 26.0	-1.0
	comp=Z,30nm,0.5s							
SRU	**San Rafael**	88.33	49	*e*P		P	00 05 28.0	-0.1
SRU					pmax	pmax		
	comp=Z,11nm,0.7s							
SRU	**San Rafael**	88.33	49	*e*P		P	00 05 28.0	-0.1
	comp=Z,11nm,0.7s							
E22A	**Miles City**	88.53	41	P		P	00 05 28.8	0.0
	baz=88							
H21A	**Big Horn, Sher**	88.58	43	P		P	00 05 29.3	+0.2
	baz=88							
F22A	**Rosebud**	88.61	42	P		P	00 05 29.9	+0.7
	baz=89							
I21A	**Big Trails, Te**	88.75	44	P		P	00 05 30.0	+0.1
	baz=89							
G22A	**Birney**	88.82	43	P		P	00 05 30.4	+0.2
	baz=89							
J21A	**Lysite**	88.83	45	P		P	00 05 30.5	+0.1
	baz=89							
E23A	**Ismay**	88.91	41	P		P	00 05 31.3	+0.8
	baz=89							
WUAZ	**Wupatki**	89.03	53	P		P	00 05 32.2	+0.8
	baz=89							
WUAZ	**Wupatki**	89.03	53	*e*P		P	00 05 32.0	+0.6
	comp=Z,13nm,0.8s							
214A	**Organ Pipe Nat**	89.19	57	P		P	00 05 32.8	+0.7
	baz=89							
214A	**Organ Pipe Nat**	89.19	57	*e*P		P	00 05 32.0	-0.1
	comp=Z,9.4nm,0.9s							
SUMG	**Summit**	89.53	2	*i* P		P	00 05 33.8	+0.5
	comp=Z,3.1nm,0.7s							
O20A	**White River Ci**	89.57	48	P		P	00 05 33.8	-0.2
	baz=90							
PV04	**Paradox Valley**	89.78	50	*e*P		P	00 05 35.5	+0.6
H24A	**Dirks Ranch, A**	90.14	42	P		P	00 05 36.5	+0.1
	baz=90							
K23A	**Bowen Ranch, D**	90.29	45	P		P	00 05 37.3	+0.1
	baz=90							
MVCO	**Mesa Verde**	90.53	51	P		P	00 05 38.9	+0.4
	baz=90							
TUC	**Tucson**	90.66	56	*e*P		P	00 05 40.2	+1.2
TUC					pmax	pmax		
	comp=Z,9.0nm,1.3s							
TUC	**Tucson**	90.66	56	*e*P		P	00 05 40.2	+1.2
	comp=Z,8.5nm,1.3s							
E26A	**Carlson Angus**	90.68	40	P		P	00 05 39.4	+0.6
	baz=91							
RSSD	**Black Hills**	90.75	43	*e*P		P	00 05 39.1	-0.3
RSSD					pmax	pmax		
	comp=Z,13nm,1.5s							
RSSD	**Black Hills**	90.75	43	*e*P		P	00 05 39.1	-0.3
	comp=Z,13nm,1.5s							
H25A	**Fruitdale**	90.81	42	P		P	00 05 39.9	+0.5
	baz=91							
F26A	**Lodgepole**	90.84	41	P		P	00 05 40.1	+0.5
	baz=91							
N23A	**Red Feather La**	90.86	46	P		P	00 05 41.3	+1.2
	baz=91							
I25A	**Rochford**	90.99	43	P		P	00 05 40.3	-0.2
	baz=91							
G26A	**Maurine**	91.14	41	P		P	00 05 41.4	+0.4
	baz=91							
J25A	**Sunshine Ranch**	91.22	43	P		P	00 05 41.1	-0.4
	baz=91							
SCO	**Scoresbysund**	91.34	356	*i* P		P	00 05 41.1	-0.1
	comp=Z,5.3nm,1.2s							
C28A	**Hausauer Farms**	91.35	38	P		P	00 05 42.1	+0.3
	baz=91							
G27A	**Dupree**	91.52	41	P		P	00 05 43.1	+0.5
	baz=92							
K25A	**Mack Ranch, Ha**	91.52	44	P		P	00 05 43.5	+0.6
	baz=92							
S22A	**4UR Ranch, Cre**	91.54	49	P		P	00 05 43.2	-0.1
	baz=92							
ISCO	**Idaho Springs**	91.55	47	*e*P		P	00 05 44.2	+0.9
ISCO					pmax	pmax		
	comp=Z,3.0nm,0.8s							
ISCO	**Idaho Springs**	91.55	47	P		P	00 05 44.1	+0.9
	baz=92							
ISCO	**Idaho Springs**	91.55	47	*e*P		P	00 05 44.2	+0.9
	comp=Z,3.2nm,0.8s							
J26A	**Sides Ranch, S**	91.73	43	P		P	00 05 44.3	+0.6
	baz=92							
H27A	**Howes**	91.77	42	P		P	00 05 44.7	+0.8
	baz=92							
K26A	**Motz Farm, Whi**	91.94	44	P		P	00 05 44.9	+0.2
	baz=92							
A30A	**Hoffart Farm,**	91.96	37	P		P	00 05 45.4	+0.8
	baz=92							
F28A	**McLaughlin**	92.00	40	P		P	00 05 45.3	+0.5
	baz=92							
I27A	**Quinn**	92.05	42	P		P	00 05 45.4	+0.2
	baz=92							
B30A	**Myrvik Farm, E**	92.19	37	P		P	00 05 46.0	+0.4
	baz=92							
AKASG	**Malin Array Be**	92.35	326	LR		LR	00 49 07.1	
	comp=Z,54nm,20.9s,baz=230,slow=37							
C30A	**Mose, Pekin**	92.48	38	P		P	00 05 47.4	+0.4
	baz=92							
SDCO	**Great Sand Dun**	92.49	49	P		P	00 05 47.9	+0.3
	baz=92							
SDCO	**Great Sand Dun**	92.49	49	*e*P		P	00 05 48.2	+0.5
	comp=Z,4.4nm,1.3s							
D30A	**Buchanan**	92.61	38	P		P	00 05 47.6	-0.1
	baz=92							
ULM	**Lac du Bonnet**	92.62	35	P		P	00 05 47.4	-0.2
	comp=Z,3.0nm,0.9s,baz=313,slow=3.4,SNR=10.0							
ULM					LR	LR	00 44 24.9	
	comp=Z,56nm,19.0s,baz=352,slow=34							
ULM	**Lac du Bonnet**	92.62	35	*e*P		P	00 05 47.5	0.0
	comp=Z,6.7nm,0.9s							
J28A	**Allard Ranch,**	92.87	43	P		P	00 05 49.3	+0.3
	baz=93							
121A	**Cookes Peak, D**	92.92	55	P		P	00 05 51.4	+1.8
	baz=93							
ANMO	**Albuquerque**	92.96	52	*e*P		P	00 05 49.4	-0.3
ANMO					pmax	pmax		
	comp=Z,4.0nm,1.1s							
ANMO	**Albuquerque**	92.96	52	*e*P		P	00 05 49.4	-0.3
	comp=Z,3.5nm,1.1s							
Q26A	**Hugo**	93.39	47	P		P	00 05 52.2	+0.6
	baz=93							
NOA	**NORSAR Array B**	93.49	340	LR		LR	00 52 15.8	
	comp=Z,31nm,20.4s,baz=60,slow=38							
T25A	**Trinidad**	93.54	49	P		P	00 05 53.2	+0.8
	baz=94							
R26A	**Arlington**	93.72	48	P		P	00 05 53.0	-0.1
	baz=94							
S26A	**Kim**	94.00	48	P		P	00 05 54.3	-0.1
	baz=94							
T26A	**Comanche Natio**	94.11	49	P		P	00 05 54.7	-0.3
	baz=94							
S27A	**Las Animas**	94.38	48	P		P	00 05 56.3	+0.1
	baz=94							
R28A	**Tribune**	94.85	47	P		P	00 05 57.9	-0.3
	baz=95							
S28A	**Manter**	95.13	48	P		P	00 06 00.2	+0.7
	baz=95							
BRTR	**Keskin Array B**	95.21	315	P		P	00 05 58.2	-1.7
	comp=Z,1.2nm,1.0s,baz=115,slow=3.7,SNR=4.7							
BRTR	**Keskin Array B**	95.21	315	*i* P		P	00 05 58.2	-1.7
BRTR					pmax	pmax		
	comp=Z,1.0nm,1.0s							
AMTX	**Amarillo**	96.52	50	P		P	00 06 06.1	+0.1
	baz=96							
TXAR	**Lajitas Array**	97.46	56	P		Pdif	00 06 10.4	+0.1
	comp=Z,0.7nm,0.9s,baz=282,slow=4.5,SNR=6.1							
Y31A	**Rekieta Farm,**	97.98	51	P		Pdif	00 06 13.0	+0.5
	baz=98							
Z32A	**Haskell**	98.87	51	P		Pdif	00 06 16.8	+0.4
	baz=99							
TORD	**Torodi Ar. Bea**	133.56	309	PKP		PKPdf	00 11 52.2	-0.8
	comp=Z,0.3nm,0.5s,baz=30,slow=2.2,SNR=5.4							
LVC	**Limon Verde**	146.40	104	*e*PKPdf		PKPdf	00 12 15.9	-0.5
LVC				*e*PKPbc		PKPab	00 12 18.7	0.0
LPAZ	**La Paz**	146.76	92	PKPbc		PKPdf	00 12 18.3	+0.7
	comp=Z,3.8nm,0.6s,baz=235,slow=4.1,SNR=20							
SAML	**Samuel**	149.66	77	*e*PKPdf		PKPdf	00 12 20.8	-0.9
SAML				*e*PKPbc		PKPbc	00 12 25.9	-0.5
SAML				*e*PKPab		PKPab	00 12 30.3	-1.3

SJA ***13*** *00:47:56.8±0.5, 35.25S×73.75W, h33km±119km, ML4.0*
ISCJB ***13*** *00:48:06.9±0.7, 35.29S±0.03×72.55W±0.06, h10km, Error ellipse: s-maj=7.4km s-min=4.5km az=14.0*
GUC ***13*** *00:48:07.8±0.7, 35.29S×72.54W, h18km±3km, ML4.2*

ISC 13 00:48:07.4±1.2, 35.31S±0.06×72.53W±0.06, h10km, n23, σ1°44/29, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TALC	**Talca**	0.74	97	*e*P		Pg	00 48 21.7	0.0
TALC				*e*S		Sg	00 48 31.4	+0.1
COCH	**Cobquecura**	0.85	194	*e*P		Pg	00 48 23.4	-0.4
COCH				*e*S		Sg	00 48 34.7	-0.2
LNCH	**Linares**	0.93	126	*e*P		Pg	00 48 24.9	-0.4
LNCH				*e*S		Sg	00 48 37.3	-0.2
NICH	**Los Niches**	1.11	74	*e*P		Pb	00 48 27.6	-1.1
NICH				*e*S		Sg	00 48 41.9	-1.3
NICH					AML	AML	00 48 45.8	
	comp=N,16μm,0.5s							
LNV	**Longovilo**	1.64	35	*e*P		Pn	00 48 35.5	-0.8
CHCH	**Chadas Angostu**	2.07	49	*e*P		Pn	00 48 42.6	+0.3
TACH	**Talagante**	2.11	39	*e*P		Pn	00 48 43.0	+0.2
PCH	**Pirque**	2.37	45	*e*P		Pn	00 48 47.1	+0.6
SAN	**Santiago**	2.41	40	*e*P		Pn	00 48 47.6	+0.6
SAN				*e*S		Sn	00 49 17.5	+0.9
SAN					AML	AML	00 49 25.5	
	comp=E,1μm,0.5s							
CLCH	**Cerro Calan**	2.52	41	*e*P		Pn	00 48 48.6	+0.1
CLCH				*e*S		Sn	00 49 20.0	+0.6
CLCH					AML	AML	00 49 30.3	
	comp=E,1μm,0.7s							
PEL	**Peldehue**	2.65	36	*e*P		Pn	00 48 50.1	-0.1
PEL					AML	AML	00 49 29.9	
	comp=E,1μm,0.4s							
CANA	**Caviahue**	2.83	156	*e*P		Pn	00 48 55.5	+2.5
AAGR	**Agrelo**	3.79	55	*e*P		Pn	00 49 09.2	+3.2
ARCO	**CERRO ARCO**	3.87	52	*e*P		Pn	00 49 10.4	+3.2
ARCO					AML	AML	00 49 24.3	
	comp=Z,54nm,0.3s							
AUSP	**Uspallata**	4.04	41	*e*P		Pn	00 49 10.7	+1.1
ASAL	**Salagasta**	4.10	50	*i* P		Pn	00 49 11.4	+1.2
ASAL				*e*S		Sb	00 50 08.2	-1.1
RTLS	**Leoncito**	4.42	39	*e*P		Pn	00 49 16.0	+1.2
RTCV	**Cerro Valdivia**

STKA	**Stephens Creek**	**30.61**	**226**	P		P		01 19 15.3	+1.9
	1.8nm,0.6s,baz=45,slow=8.6,SNR=3.8								
WRA	**Warramunga Arr**	**32.27**	**252**	P		P		01 19 27.6	-0.6
	0.6nm,0.8s,baz=84,slow=9.2,SNR=7.5								
ASAR	**Alice Springs**	**33.43**	**245**	P		P		01 19 37.4	-1.0
	0.7nm,0.7s,baz=69,slow=9.4,SNR=8.7								
SONM	**Songino Array**	**80.06**	**323**	P		P		01 25 10.7	+1.5
	0.4nm,0.7s,baz=132,slow=6.0,SNR=3.3								
MKAR	**Makanchi Array**	**94.95**	**317**	P		P		01 26 20.9	-1.1
	0.7nm,0.5s,baz=93,slow=6.3,SNR=8.3								
ARCES	**ARCESS Array B**	**117.48**	**346**	PKP		PKPdf		01 31 43.4	-1.4
	1.6nm,0.9s,baz=48,slow=1.3,SNR=5.3								

JMA 13 01:19:05.5±0.4, 32.92N×142.81E, h52km, M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
BSO1	**Boso 1**	**2.31**	**319**	P	Pn		01 19 42.0	+1.7
BSO1				S	Sn		01 20 09.5	+2.5
BSO2	**Boso 2**	**2.50**	**317**	S	Sn		01 20 14.7	+2.3
JHJ2	**Mitsune**	**2.52**	**275**	P	Pn		01 19 45.0	+1.0
BSO3	**Boso 3**	**2.68**	**315**	P	Pn		01 19 47.5	+1.7
BSO3				S	Sn		01 20 18.5	+1.7
BSO4	**Boso 4**	**2.91**	**316**	P	Pn		01 19 51.2	+2.0
BSO4				S	Sn		01 20 24.0	+1.1
JYN	**Shimodo**	**4.37**	**307**	P	Pn		01 20 11.4	+1.9
JYN				S	Sn		01 21 00.1	+0.9
JAG	**Ashikaga**	**4.46**	**323**	P	Pn		01 20 13.0	+2.4
JRY	**Ryogami san**	**4.47**	**315**	P	Pn		01 20 12.8	+2.1
JRY				S	Sn		01 21 02.7	+1.2
JFT	**Otama**	**5.01**	**337**	P	Pn		01 20 20.5	+2.3
JFT				S	Sn		01 21 13.8	-1.1
MAT	**Matsushiro**	**5.24**	**315**	P	Pn		01 20 23.1	+1.8
MAT				S	Sn		01 21 20.3	0.0

MEX 13 01:41:34.0±0.5, 15.97N×97.72W, h18km±179km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PNIG	**Pinotepa**	**0.57**	**317**	*e*P	Pb		01 41 43.7	-1.8
PNIG				*e*S	Sg		01 41 51.0	-2.3
VHO	**Vista Hermosa**	**1.45**	**41**	*e*P	Pn		01 41 55.7	-3.8
VHO				*e*S	Sn		01 42 12.8	-5.4
OXBJ	**Oaxaca**	**1.45**	**41**	*i* P	Pn		01 41 56.3	-3.3
OXBJ				*i* S	Sn		01 42 13.6	-4.7
HUIG	**Huatulco**	**1.56**	**97**	*e*P	Pn		01 41 57.4	-3.5
TLIG	**Tlapa**	**1.78**	**333**	*e*P	Pn		01 42 01.3	-2.7
TLIG				*i* S	Sn		01 42 21.4	-4.9

*ISCJB **13** 01:58:14.7±0.6, 20.5S±0.1×177.7W±0.1, h500km, mb4.0/15, Error ellipse: s-maj=16.6km s-min=11.1km az=139.6*
*IDC **13** 01:58:17.1±3.2, 20.51S×177.70W, h520km±35km, mb3.6/15, mb1 3.8/17, mb1mx3.8/20, mbtmp4.4/17, Error ellipse: s-maj=19.4km s-min=17.3km az=150.0*
ISC 13 01:58:15.2±0.6, 20.5S±0.1×177.6W±0.1, h500km, n65, σ0.975/62, mb4.1/15, 6C-8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
DZM	**Mont Dzumac**	**14.94**	**261**	P	**P**		**02 01 25.0**	**0.0**
	0.8nm,0.3s,baz=91,slow=23,SNR=6.0							
URZ	**Urewera**	**18.31**	**193**	P	**P**		**02 01 57.7**	**-0.6**
	0.8nm,0.3s,baz=45,slow=2.9,SNR=4.1							
CTA	**Charters Tower**	**33.84**	**264**	P	**P**		**02 04 15.7**	**0.0**
	baz=73,slow=10							
STKA	**Stephens Creek**	**38.12**	**244**	P	**P**		**02 04 50.9**	**-0.1**
	3.7nm,0.8s,baz=72,slow=12,SNR=5.4							
STKA	**Stephens Creek**	**38.12**	**244**	P	**P**		**02 04 51.5**	**+0.5**
	baz=46,SNR=4.4							
JAY	**Jayapura**	**44.37**	**288**	P	**P**		**02 05 41.5**	**+0.5**
	baz=52,SNR=6.3							
ASAR	**Alice Springs**	**44.87**	**257**	P	**P**		**02 05 44.4**	**-0.4**
	15nm,0.6s,baz=97,slow=7.6,SNR=170							
WRA	**Warramunga Arr**	**44.95**	**262**	P	**P**		**02 05 44.4**	**-1.0**
	9.5nm,0.6s,baz=97,slow=8.0,SNR=164							
KDU	**Kakadu**	**48.30**	**271**	P	P		02 06 17.2	+6.4
	baz=56,SNR=3.9							
MTN	**Manton Dam**	**49.51**	**270**	P	**P**		**02 06 19.1**	**-0.7**
	baz=58,SNR=6.4							
WRKA	**Warakurna**	**49.81**	**254**	P	**P**		**02 06 21.4**	**-0.5**
	baz=58,SNR=19							
SOEI	**Soe**	**56.85**	**272**	P	**P**		**02 07 13.7**	**+1.3**
	baz=65,SNR=4.4							
VNDA	**Vanda**	**57.98**	**185**	P	**P**		**02 07 19.5**	**+0.6**
	0.6nm,0.7s,baz=356,slow=5.8,SNR=3.6							
LUWI	**Luwuk**	**61.27**	**280**	P	P		02 07 32.1	-10
	baz=69,SNR=3.8							
MJAR	**Matsushiro Arr**	**70.39**	**323**	P	**P**		**02 08 37.8**	**-0.7**
	9.2nm,0.5s,baz=160,slow=6.4,SNR=24							
MAT	**Matsushiro**	**70.39**	**323**	P	**P**		**02 08 38.0**	**-0.5**
PETK	**Petropavlovsk-**	**76.33**	**345**	P	**P**		**02 09 12.0**	**0.0**
	4.7nm,0.6s,baz=186,slow=5.1,SNR=3.6							
KSRS	**Korea Array**	**77.09**	**318**	P	**P**		**02 09 17.6**	**+1.0**
	1.9nm,0.6s,baz=128,slow=5.9,SNR=6.8							
USRK	**Ussuriysk Ar.**	**79.13**	**326**	P	**P**		**02 09 28.6**	**+1.2**
	8.5nm,0.8s,baz=121,slow=3.3,SNR=18							
NVAR	**Mina Array Bea**	**80.76**	**43**	P	**P**		**02 09 37.4**	**+0.9**
	2.5nm,0.9s,baz=224,slow=9.0,SNR=12							
SEY	**Seymchan**	**86.42**	**347**	P	**P**		**02 10 03.2**	**-0.5**
	4.5nm,0.6s							
TXAR	**Lajitas Array**	**86.74**	**57**	P	**P**		**02 10 07.8**	**+1.7**
	0.6nm,0.7s,baz=216,slow=6.2,SNR=12							
ILAR	**Eielson Array**	**88.20**	**13**	P	**P**		**02 10 11.2**	**-0.8**
	1.2nm,0.4s,baz=218,slow=5.8,SNR=20							
PDAR	**Pinedale Array**	**88.69**	**43**	P	**P**		**02 10 15.7**	**+0.5**
	1.2nm,0.8s,baz=224,slow=2.5,SNR=10							
CMAR	**Chiang Mai Arr**	**90.43**	**289**	P	**P**		**02 10 24.8**	**+1.3**
	1.3nm,0.3s,baz=112,slow=2.6,SNR=10.0							
YKA	**Yellowknife Ar**	**96.33**	**25**	P	**P**		**02 10 49.3**	**-0.1**
	0.2nm,0.6s,baz=237,slow=4.2,SNR=3.2							
MKAR	**Makanchi Array**	**111.43**	**313**	PKiKP		**PKiKP**	**02 15 50.5**	**-1.6**
	0.6nm,0.6s,baz=96,slow=4.3,SNR=3.6							
KURBB	**Kurchatov Arra**	**114.26**	**317**	PKP		PKPdf	02 15 55.9	-1.5
	0.6nm,0.6s,baz=108,slow=1.8,SNR=7.2							
BVAR	**Borovoye Array**	**119.28**	**320**	PKP		**PKPdf**	**02 16 05.6**	**-1.4**
	1.7nm,0.5s,baz=108,slow=1.8,SNR=9.0							
ARCES	**ARCESS Array B**	**128.95**	**350**	PKP		**PKPdf**	**02 16 24.2**	**-0.9**
	2.8nm,0.9s,baz=54,slow=2.1,SNR=7.4							
HFS	**Hagfors**	**139.56**	**351**	PKhKP		PKPpre	02 16 36.0	
	1.1nm,0.4s,baz=48,slow=4.3,SNR=12							
AKASG	**Malin Array Be**	**143.15**	**331**	PKP		PKPab	02 16 48.6	-0.7
	3.0nm,0.7s,baz=42,slow=4.3,SNR=29							
EKA	**Eskdalemuir Ar**	**144.93**	**6**	PKP		**PKPdf**	**02 16 54.3**	**-0.4**
	1.1nm,0.4s,baz=347,slow=2.5,SNR=8.6							
ASF	**Jabal al Asfar**	**147.07**	**298**	PKPbc		**PKPbc**	**02 17 01.9**	**-0.2**
	2.5nm,0.7s,baz=118,slow=6.4,SNR=5.3							
BRTR	**Keskin Array B**	**147.07**	**313**	PKPbc		**PKPbc**	**02 17 01.2**	**-0.8**
	2.3nm,0.8s,baz=127,slow=4.7,SNR=12							
BURAR	**Bucovina Array**	**147.20**	**331**	⇓*i*P		**PKPbc**	**02 17 03.3**	**+1.3**
TESR	**Tescani**	**147.32**	**328**	⇑*i*P		**PKPab**	**02 17 05.5**	**-0.2**
VRI	**Vrincioaia**	**147.73**	**327**	⇑*i*P		**PKPbc**	**02 17 03.1**	**-0.2**
MMAI	**Mount Meron Ar**	**148.10**	**300**	PKPbc		**PKPbc**	**02 17 04.9**	**+0.1**
	2.7nm,0.5s,baz=81,slow=6.8,SNR=11							
MMAI				PKPab		**PKPab**	**02 17 10.1**	**+0.6**
	2.5nm,0.5s,baz=78,slow=7.8,SNR=7.0							
CLL	**Collm**	**148.10**	**347**	⇓*i*PKPbc		**PKPbc**	**02 17 03.8**	**-0.3**
	comp=Z,11nm,0.8s							
CLL				*e*PKPab		**PKPab**	**02 17 08.0**	**-0.7**
UPC	**Upice**	**148.13**	**343**	*e*PKP		**PKPbc**	**02 17 04.0**	**-0.2**
UPC				*ex*		x	02 17 09.4	
DPC	**Dobruska-Polom**	**148.19**	**343**	*e*PKP		**PKPbc**	**02 17 04.1**	**-0.3**
DPC				*ex*		x	02 17 07.2	
DPC				*ex*		x	02 17 09.6	
BRG	**Berggiesshubel**	**148.31**	**346**	*i* PKP		**PKPbc**	**02 17 04.5**	**-0.1**
	comp=Z,5.0nm,0.6s							
BRG				*e*			02 17 09.2	
	comp=Z,3.5nm,0.8s							
KRLC	**Kraliky**	**148.31**	**342**	*e*PKP		**PKPbc**	**02 17 04.5**	**-0.2**
KRLC				*ex*		x	02 17 10.7	
DOPR	**Dopca**	**148.32**	**329**	⇑*i*P		**PKPbc**	**02 17 05.2**	**+0.4**
MLR	**Muntele Rosu**	**148.38**	**328**	PKPbc		**PKPbc**	**02 17 04.3**	**-0.9**
	baz=86,slow=2.0							
MLR	**Muntele Rosu**	**148.38**	**328**	⇓*i*P		**PKPbc**	**02 17 05.7**	**+0.5**
PVCC	**Panska Ves**	**148.48**	**345**	*e*PKP		**PKPbc**	**02 17 04.9**	**-0.2**
PVCC				*ex*		x	02 17 12.2	
DRGR		**148.94**	**332**	⇑*i*P		**PKPdf**	**02 17 02.9**	**+1.2**
PRA	**Prague**	**148.94**	**345**	*e*PKP		**PKPbc**	**02 17 06.6**	**+0.4**
PRU	**Pruhonice**	**148.99**	**345**	*e*PKP		**PKPbc**	**02 17 06.2**	**-0.1**
PRU				*ex*		x	02 17 12.3	
GOPC	**GO Pecny, Ondr**	**149.00**	**344**	*e*PKP		**PKPbc**	**02 17 06.1**	**-0.3**
ARR	**Arges**	**149.12**	**329**	⇓*i*P		**PKPbc**	**02 17 08.1**	**+1.2**
NKC	**Novy Kostel**	**149.24**	**347**	*e*PKP		**PKPbc**	**02 17 06.7**	**-0.2**
NKC				*ex*		x	02 17 13.0	
TREC	**Trest**	**149.38**	**343**	*e*PKP		**PKPbc**	**02 17 07.0**	**-0.3**
KHC	**Kasperske Hory**	**150.02**	**345**	*e*PKP		**PKPbc**	**02 17 08.8**	**-0.1**
KHC				*ex*		x	02 17 16.5	
GERES	**GERESS Array B**	**150.26**	**345**	PKPbc		**PKPbc**	**02 17 09.1**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=8.1,slow=1.4,SNR=14							
BZS	**Buzias**	**150.33**	**332**	⇑*i*P		**PKPbc**	**02 17 09.4**	**-0.2**
PKSM	**Moragy**	**151.06**	**336**	⇓*i*P		**PKPbc**	**02 17 10.3**	**-1.0**
KDZ	**Kurdzhali**	**151.25**	**322**	⇓*i*P		**PKPbc**	**02 17 11.3**	**-0.6**
VTS	**Vitosha**	**151.82**	**326**	⇓*i*P		**PKPbc**	**02 17 13.3**	**-0.1**
DIVS	**Divibare**	**152.24**	**332**	⇓*i*P		**PKPbc**	**02 17 14.0**	**-0.1**
MMB	**Musomiste**	**152.24**	**324**	⇑*i*P		**PKPbc**	**02 17 13.4**	**-0.8**
DAVOX	**Davos/Dischmat**	**153.04**	**349**	PKPbc		**PKPbc**	**02 17 15.0**	**-1.0**
	baz=153,slow=4.5							
TORD	**Torodi Ar. Bea**	**172.70**	**175**	PKP		**PKPdf**	**02 17 25.8**	**-1.5**
	comp=Z,0.5nm,1.0s,baz=83,slow=2.9,SNR=3.1							

*SJA **13** 02:02:52.3±0.4, 34.57S×73.50W, h24km±14km, ML3.6*
*GUC **13** 02:02:59.9±0.6, 34.97S×72.31W, h9km±4km, ML3.8*
ISC 13 02:02:58.8±2.7, 34.95S±0.04×72.4W±0.1, h4km±17km, n19, σ1.51/28, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
TALC	**Talca**	**0.75**	**127**	*e*P	**Pb**		**02 03 14.2**	**-0.2**
TALC				*e*S	**Sb**		**02 03 24.7**	**-0.3**
NICH	**Los Niches**	**0.94**	**93**	*e*P	**Pb**		**02 03 17.6**	**-0.1**
NICH				*e*S	**Sn**		**02 03 30.8**	**-1.9**
NICH				AML	AML		02 03 40.8	
	comp=E,6μm,0.5s							
LNCH	**Linares**	**1.09**	**145**	*e*P	**Pb**		**02 03 20.6**	**+0.3**
LNCH				*e*S	**Sn**		**02 03 35.8**	**-0.7**
LNCH				AML	AML		02 03 43.8	
	comp=N,5μm,0.7s							
CHCH	**Chadas Angostu**	**1.75**	**55**	*e*P	**Pb**		**02 03 31.4**	**0.0**
CHCH				*e*S	**Sg**		**02 03 55.5**	**+0.6**
TACH	**Talagante**	**1.76**	**43**	*e*P	**Pn**		**02 03 31.0**	**+0.9**
PCH	**Pirque**	**2.03**	**50**	*e*P	**Pb**		**02 03 36.1**	**-0.2**
PCH				*e*S	**Sg**		**02 04 03.8**	**-0.2**
SAN	**Santiago**	**2.06**	**44**	*e*S	**Sg**		**02 04 04.2**	**-0.7**
SAN				AML	AML		02 04 08.3	
	comp=N,621nm,2.2s							
CLCH	**Cerro Calan**	**2.17**	**45**	*e*P	**Pb**		**02 03 38.4**	**-0.4**
CLCH				*e*S	**Sb**		**02 04 07.5**	**+1.4**
CLCH				AML	AML		02 04 15.0	
	comp=N,805nm,0.7s							
PEL	**Peldehue**	**2.28**	**38**	*e*P	**Pb**		**02 03 39.9**	**-0.8**
PEL				*e*S	**Sb**		**02 04 10.2**	**+0.9**
PEL				AML	AML		02 04 13.2	
	comp=N,1μm,0.7s							
CANA	**Caviahue**	**3.11**	**161**	*i* P	**Pb**		**02 03 53.4**	**-1.4**
AAGR	**Agrelo**	**3.48**	**59**	*i* P	**Pb**		**02 03 58.3**	**-2.8**
ARCO	**CERRO ARCO**	**3.55**	**55**	*i* P	**Pn**		**02 03 58.0**	**+3.1**
ARCO				AML	AML		02 04 07.7	
	comp=Z,49nm,0.6s							
ARCO				*i* S	**Sb**		**02 04 46.9**	**+1.0**
AUSP	**Uspallata**	**3.69**	**43**	*i* P	**Pn**		**02 03 58.3**	**+1.4**
AUSP				*i* S	**Sb**		**02 04 47.3**	**-2.6**
ASAL	**Salagasta**	**3.77**	**52**	*i* P	**Pn**		**02 04 00.7**	**+2.8**
RTLS	**Leoncito**	**4.06**	**40**	*i* P	**Pn**		**02 04 03.0**	**+1.0**
RTCV	**Cerro Valdivia**	**4.44**	**47**	*i* P	**Pn**		**02 04 08.9**	**+1.8**
RTLL	**Cerro Villicun**	**4.87**	**43**	*i* P	**Pn**		**02 04 14.3**	**+1.4**
AMOG	**MOGNA**	**5.16**	**40**	*i* P	**Pn**		**02 04 17.3**	**+0.4**
AVFE	**Valle Fertil**	**5.95**	**45**	*i* P	**Pn**		**02 04 28.7**	**+0.8**
AVFE				AML	AML		02 05 55.7	
	comp=Z,19nm,0.6s							

IDC 13 02:13:07.6±2.8, 8.39N×94.11E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.3/53, mbtmp3.5/5, Error ellipse: s-maj=108.2km s-min=27.4km az=58.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MKAR	**Makanchi Array**	**39.59**	**347**	P	P		02 20 41.8	+1.1
	0.7nm,0.6s,baz=170,slow=8.2,SNR=4.1							
SONM	**Songino Array**	**40.67**	**13**	P	P		02 20 49.3	-0.6
	0.2nm,0.6s,baz=189,slow=8.5,SNR=3.1							
KURBB	**Kurchatov Arra**	**44.05**	**346**	P	P		02 21 17.4	+0.3
	1.3nm,0.8s,baz=173,slow=6.7,SNR=8.0							
BVAR	**Borovoye Array**	**48.50**	**341**	P	P		02 21 50.7	-1.5
	0.8nm,0.7s,baz=151,slow=9.9,SNR=4.0							
WRA	**Warramunga Arr**	**48.58**	**126**	P	P		02 21 53.2	0.0
	0.2nm,0.6s,baz=304,slow=8.5,SNR=6.0							

*IDC **13** 02:14:06.7±3.8, 36.44N×71.46E, h150km±34km, mb3.4/11, mb1 3.4/17, mb1mx3.2/53, mbtmp3.8/17, Error ellipse: s-maj=23.6km s-min=17.4km az=179.0*
*ISCJB **13** 02:14:07.0±0.5, 36.63N±0.04×71.39E±0.06, h150km, mb3.6/11, Error ellipse: s-maj=7.0km s-min=6.0km az=145.5*
*NNC **13** 02:14:15.3±1.1, 37.16N×71.30E, h172km±8km, mb3.0, mpv4.0, Error ellipse: s-maj=10.8km s-min=4.1km az=164.0*
ISC 13 02:14:09.2±0.7, 36.77N±0.06×71.40E±0.06, h150km, n27, σ1.89/33, mb3.7/11, 6C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
DZET	**Dzherino**	**2.88**	**316**	⇓P	**Pn**		**02 14 57.8**	**+2.6**
	26nm,0.3s							
DZET				⇓S	**Sn**		**02 15 32.2**	**+1.6**
	484nm,0.5s							
SFK	**Sufi-Kurgan**	**3.64**	**26**	⇑P	**Pn**		**02 15 08.0**	**+3.1**
	17nm,0.3s							
SFK				⇓S	**Sn**		**02 15 49.7**	**+1.5**
	119nm,0.4s							
AAK	**Ala-Archa**	**6.33**	**21**	⇓P	**Pn**		**02 15 42.7**	**+2.4**
	4.8nm,0.5s							
AAK				⇓S	**Sn**		**02 16 50.7**	**-0.9**
	26nm,0.7s							
KK31	**Karatay Array**	**6.37**	**354**	P	**Pn**		**02 15 42.4**	**+1.6**
	5.2nm,0.3s,baz=168,slow=11,SNR=99							
KK31				S	**Sn**		**02 16 50.2**	**-2.2**
	4.8nm,0.3s,baz=141,slow=13,SNR=17							
TKM2	**Tokmak 2**	**6.94**	**26**	⇑P	**Pn**		**02 15 50.2**	**+1.7**
	2.9nm,0.4s							
TKM2				⇓S	**Sn**		**02 17 05.6**	**-0.9**
	6.1nm,0.7s							
SMLA	**Simla**	**7.38**	**138**	*i* P	**Pn**		**02 15 55.7**	**+1.4**
SMLA				*i* S	**Sn**		**02 17 13.3**	**-3.6**
SMLA				*i* S	**Sn**		**02 17 14.4**	**-2.5**
SMLA				AML	AML		02 17 18.0	
	comp=N,742nm,0.3s							
SMLA				AML	AML		02 17 18.8	
	comp=E,903nm,0.2s							
GEYT	**Alibeck**	**10.64**	**280**	P	Pn		02 16 35.9	-1.7
	comp=E,1.5nm,0.3s,baz=106,slow=11,SNR=16							
MKAR	**Makanchi Array**	**12.89**	**36**	P	**Pn**		**02 17 07.7**	**+0.9**
	comp=E,0.4nm,0.3s,baz=220,slow=13,SNR=8.8							
KURBB	**Kurchatov Arra**	**14.77**	**18**	⇑P	**P**		**02 17 33.0**	**+0.4**
	comp=E,3.2nm,0.6s							
KURBB	**Kurchatov Arra**	**14.77**	**18**	P	**P**		**02 17 33.0**	**+0.4**
	comp=E,0.1nm,0.3s,baz=206,slow=10,SNR=13							
AB31	**Akbulak array**	**15.01**	**330**	⇑P	**P**		**02 17 35.6**	**+2.1**
	comp=E,0.3nm,0.3s,baz=159,slow=11,SNR=11							
AB31				⇑S	**Sn**		**02 20 15.4**	**-4.7**
	comp=E,0.8nm,0.4s,baz=149,slow=23,SNR=7.1							
BVAR	**Borovoye Array**	**16.27**	**358**	P	**P**		**02 17 50.6**	**+1.3**
	comp=E,0.1nm,0.3s,baz=177,slow=8.4,SNR=2.8							
AKTO	**Aktyubinsk**	**16.72**	**329**	⇑P	**P**		**02 17 54.9**	**+0.8**
	comp=E,2.8nm,1.1s							
AKTO				⇓S	**S**		**02 20 56.3**	**-3.8**
	comp=E,4.1nm,1.1s							
AKTO	**Aktyubinsk**	**16.72**	**329**	P	**P**		**02 17 54.9**	**+0.8**
	comp=E,0.3nm,0.3s,baz=133,slow=7.6,SNR=5.7							
ZALV	**Zalesovo Beam**	**19.54**	**24**	P	**P**		**02 18 24.8**	**-0.1**
	comp=E,0.9nm,0.3s,baz=214,slow=11,SNR=5.5							
BRTR	**Keskin Array B**	**29.66**	**287**	P	**P**		**02 20 01.5**	**+0.7**
	comp=E,0.5nm,0.6s,baz=119,slow=7.7,SNR=3.9							
AKASG	**Malin Array Be**	**33.03**	**308**	P	**P**		**02 20 30.1**	**+0.1**
	comp=E,0.9nm,0.4s,baz=80,slow=7.5,SNR=4.0							
FINES	**FINESS Array B**	**37.45**	**326**	P	**P**		**02 21 07.5**	**-0.1**
	comp=E,0.6nm,0.3s,baz=128,slow=9.5,SNR=7.7							
ARCES	**ARCESS Array B**	**41.02**	**337**	P	**P**		**02 21 37.3**	**+0.1**
	comp=E,1.9nm,0.8s,baz=116,slow=8.2,SNR=7.1							
HFS	**Hagfors**	**43.06**	**322**	P	**P**		**02 21 53.3**	**-0.4**
	comp=E,2.1nm,0.4s,baz=99,slow=9.3,SNR=24							
NB2	**NORSAR Subarra**	**44.36**	**323**	P	**P**		**02 22 03.5**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=97,slow=7.9							
NOA	**NORSAR Array B**	**44.36**	**323**	P	**P**		**02 22 03.7**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=96,slow=7.7,SNR=8.7							
EKA	**Eskdalemuir Ar**	**52.32**	**316**	P	**P**		**02 23 04.5**	**-0.6**
	comp=Z,1.3nm,1.0s,baz=92,slow=7.5,SNR=3.6							
ESDC	**Sonseca Array**	**57.62**	**298**	P	**P**		**02 23 42.9**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=54,slow=7.4,SNR=7.1							
TORD	**Torodi Ar. Bea**	**66.05**	**269**	P	P		02 24 37.3	-2.8
	comp=Z,1.4nm,0.6s,baz=51,slow=5.9,SNR=47							
YKA	**Yellowknife Ar**	**80.97**	**3**	P	**P**		**02 26 05.8**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=347,slow=5.4,SNR=4.8							
WRA	**Warramunga Arr**	**81.86**	**122**	P	P		02 26 08.6	-3.3
	comp=Z,0.3nm,0.4s,baz=326,slow=4.8,SNR=12							

*NIED **13** 02:43:00, 33.80N×141.60E, h8km, Mw3.9 Best double couple: M0 8.87000×10^14 NP1:ϕ,δ,λ 145.00000°, 846.00000°, 18.00000°. NP2:ϕ,δ,λ 43.00000°, 877.00000°, 135.00000°.*
*IDC **13** 02:43:34.1±0.7, 33.84N×141.59E, h0km, mb3.9/15, mb1 4.1/17, mb1mx4.0/32, mbtmp3.9/17, ML4.1/2, MS3.0/4, Ms1 3.0/4, ms1mx2.7/48, Error ellipse: s-maj=22.6km s-min=15.8km az=80.0*
*ISCJB **13** 02:43:35.6±0.5, 33.84N±0.04×141.69E±0.05, h24km, mb3.9/18, MS4.0/2, Error ellipse: s-maj=7.2km s-min=4.6km az=44.7*
*JMA **13** 02:43:36.7±0.3, 33.83N×141.64E, h26km, M3.7*
*NEIC **13** 02:43:37.2±2.5, 33.81N×141.61E, h21km±17km, mb4.3/2, Error ellipse: s-maj=12.4km s-min=7.1km az=74.0*
ISC 13 02:43:36.9±0.6, 33.73N±0.05×141.63E±0.06, h24km, n45, σ1.28/49, mb4.0/18, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
BSO1	**Boso 1**	**1.07**	**330**	P	**Pn**		**02 43 54.8**	**-1.1**
BSO3	**Boso 3**	**1.41**	**319**	P	**Pn**		**02 44 00.2**	**-0.7**
JHJ2	**Mitsune**	**1.64**	**248**	P	**Pb**		**02 44 05.8**	**-0.6**
JHJ2				S	**Sb**		**02 44 27.4**	**+0.8**
JHJ2	**Mitsune**	**1.64**	**248**	*e*Pn	**Pb**		**02 44 05.5**	**-0.9**
JHJ2				*e*S	**Sb**		**02 44 28.1**	**+1.4**
BSO4	**Boso 4**	**1.65**	**320**	P	**Pn**		**02 44 04.3**	**0.0**
BSO4				S	**Sb**		**02 44 25.7**	**-1.2**
JHCJ	**Hachijojimakas**	**1.67**	**247**	P	**Pb**		**02 44 05.9**	**-1.0**
JIM2	**Oshima 3**	**2.07**	**299**	P	**Pn**		**02 44 09.6**	**-0.6**
JIM2				S	**Sn**		**02 44 34.0**	**-1.3**
JKO	**Kozu shima**	**2.12**	**283**	P	**Pn**		**02 44 11.3**	**+0.4**
JKO				S	**Sb**		**02 44 39.2**	**-1.4**
KTJJ	**Kamata 2**	**2.43**	**300**	P	**Pn**		**02 44 14.4**	**-0.8**
KTJJ				S	**Sn**		**02 44 41.8**	**-2.4**
JIZS	**Izushimoda**	**2.48**	**294**	P	**Pn**		**02 44 15.8**	**0.0**
JIZS				S	**Sn**		**02 44 45.3**	**-0.1**
JOD2	**Odawara 2**	**2.60**	**307**	P	**Pn**		**02 44 16.4**	**-1.0**
JOD2				S	**Sn**		**02 44 46.2**	**-2.0**
MJAR	**Matsushiro Arr**	**3.96**	**316**	Pn	**Pn**		**02 44 35.8**	**-0.4**
	6.1nm,0.3s,baz=142,slow=13,SNR=32							
MJAR				Sn	**Sn**		**02 45 20.5**	**-1.5**
	4.7nm,0.3s,baz=79,slow=19,SNR=10							
MJAR				LR	LR		02 46 10.4	
	comp=Z,60nm,

comp=N,6μm,0.6s
CCSP San Pedro de C 1.66 11 *e*S Sn 02 52 27.2 -0.2
CCSP AML AML 02 52 38.5
comp=E,3μm,0.4s
OSCH Osorno 2.12 172 *e*P Pn 02 52 13.2 +0.5
OSCH AML AML 02 52 51.2
comp=E,2μm,0.5s
U65B HualaæØ 3.76 22 *e*P Pn 02 52 35.4 +0.1
U65B *i*S Sn 02 53 19.8 +0.4
U73B San Pedro 4.85 21 *i*P Pn 02 52 49.2 -1.0
U73B *i*S Sn 02 53 45.1 -1.1
CLCH Cerro Calan 5.61 26 *i*P Pn 02 52 59.7 -1.2
CLCH *i*S Sn 02 54 03.5 -1.6

IDC ***13*** *03:18:05.2±0.5,36°.34N±21°.95E, h0km, mb4.4/31, mb1 4.4/39, mb1mx4.4/46, mbtmp4.3/39, ML4.2/7, MS4.2/37, Ms1 4.2/37, ms1mx4.1/50, Error ellipse: s-maj=11.4km s-min=11.0km az=159.0*
BJI ***13*** *03:18:07.2, 36°.51N±21°.67E, h33km, mb4.9/38, mB5.1/26, Ms4.7/22, Ms7 4.3/20*
SZGRF ***13*** *03:18:07.0, 36°.19N±22°.47E, h10km, Southern Greece*
MOS ***13*** *03:18:08.9±1.2, 36°.42N±21°.89E, h36km, mb5.1/29, MS4.1/28, Error ellipse: s-maj=5.9km s-min=3.1km az=89.2*
THE ***13*** *03:18:09.0, 36°.18N±21°.79E, h14km±1km, ML4.9/7, Error ellipse: s-maj=2.4km s-min=1.2km az=220.0*
HLW ***13*** *03:18:09.7, 36°.38N±22°.53E, h23km±22km, Md4.7, Ml4.6*
ISCJB ***13*** *03:18:10.8±0.3, 36°.40N±0°.02±21°.78E±0°.02, h60km±2km, mb4.5/77, Error ellipse: s-maj=3.5km s-min=1.9km az=28.8*
NEIC ***13*** *03:18:10.0, 36°.23N±21°.74E, h45km, mb4.6/21, After ATH.*
ATH ***13*** *03:18:10.0, 36°.23N±21°.74E, h45km, MD3.8/28, ML4.7*
CSEM ***13*** *03:18:11.2±0.2, 36°.30N±21°.72E, h51km±1km, mb4.8/21, Error ellipse: s-maj=4.4km s-min=2.1km az=26.0*
PDG ***13*** *03:18:12.4±0.4, 36°.68N±21°.47E, h9km±4km, MD5.0/2, ML5.0/12, Error ellipse: s-maj=4.7km s-min=1.7km az=90.0*
BEO ***13*** *03:18:43.4±0.4, 38°.99N±21°.03E, h0km, ML4.5/1*
ISC 13 03:18:10.0±0.3, 36°.27N±0°.03×21°.82E±0°.03, h35km±3km, h36km:pP-P, n954, σ1§92/1025, mb4.6/76, MS4.1/36, 93C-33D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res	ISC
PYL	**PYLOS**	**0.63**	**354**	*eP*			**Pn**	**03 18 23.5**	**+1.0**	
PYL				*eS*			**Sn**	**03 18 34.3**	**+2.9**	
PYL	**PYLOS**	**0.63**	**354**	*eP*			**Pn**	**03 18 23.5**	**+1.0**	
PYL				*eS*			**Sn**	**03 18 34.3**	**+2.9**	
PYL	**PYLOS**	**0.63**	**354**	P			**Pn**	**03 18 23.1**	**+0.6**	
PYL				S			**Sn**	**03 18 33.4**	**+2.0**	
ITM	**Ithomi**	**0.92**	**5**	*eP*			**Pn**	**03 18 28.0**	**+1.6**	
ITM				*eS*			**Sn**	**03 18 40.6**	**+2.2**	
ITM	**Ithomi**	**0.92**	**5**	*eP*			**Pn**	**03 18 28.0**	**+1.6**	
ITM				S			**Sn**	**03 18 41.5**	**+3.1**	
ITM	**Ithomi**	**0.92**	**5**	P			**Pn**	**03 18 27.8**	**+1.4**	
ITM				S			**Sn**	**03 18 41.5**	**+3.1**	
KYTH	**Kithira**	**0.98**	**89**	*eP*			Pn	03 18 30.5	+3.2	
KYTH	**Kithira**	**0.98**	**89**	P			**Pn**	**03 18 29.8**	**+2.5**	
VLI	**Veliai**	**1.01**	**63**	*eP*			**Pn**	**03 18 29.9**	**+2.3**	
VLI				*eS*			**Sn**	**03 18 45.4**	**+4.9**	
VLI	**Veliai**	**1.01**	**63**	P			**Pn**	**03 18 29.6**	**+2.0**	
VLI				S			**Sn**	**03 18 45.3**	**+4.8**	
VLI	**Veliai**	**1.01**	**63**	P			**Pn**	**03 18 29.6**	**+2.0**	
VLI				S			**Sn**	**03 18 44.9**	**+4.4**	
SFD	**Strofades**	**1.18**	**327**	*eP*			**Pn**	**03 18 31.1**	**+1.1**	
SFD	**Strofades**	**1.18**	**327**	P			**Pn**	**03 18 31.0**	**+1.1**	
VLX	**Vlachokerasia**	**1.19**	**22**	*eP*			**Pn**	**03 18 32.7**	**+2.5**	
VLX	**Vlachokerasia**	**1.19**	**22**	P			**Pn**	**03 18 32.3**	**+2.1**	
VLX				S			**Sn**	**03 18 50.1**	**+4.9**	
VLX	**Vlachokerasia**	**1.19**	**22**	P			**Pn**	**03 18 32.3**	**+2.1**	
VLX				S			**Sn**	**03 18 50.1**	**+4.9**	
ANKY	**Antikythira Is**	**1.26**	**108**	*eP*			**Pn**	**03 18 34.0**	**+2.9**	
ANKY	**Antikythira Is**	**1.26**	**108**	P			**Pn**	**03 18 34.0**	**+2.9**	
AMT	**Artemida-Makis**	**1.27**	**356**	*eP*			**Pn**	**03 18 33.5**	**+2.2**	
AMT	**Artemida-Makis**	**1.27**	**356**	P			**Pn**	**03 18 33.1**	**+1.9**	
AMT				S			**Sn**	**03 18 50.2**	**+3.2**	
AMT	**Artemida-Makis**	**1.27**	**356**	P			**Pn**	**03 18 33.4**	**+2.2**	
AMT				S			**Sn**	**03 18 50.2**	**+3.2**	
KRND	**KRANIDI**	**1.54**	**43**	*eP*			**Pn**	**03 18 37.1**	**+2.2**	
KRND	**KRANIDI**	**1.54**	**43**	*eP*			**Pn**	**03 18 37.1**	**+2.2**	
KRND	**KRANIDI**	**1.54**	**43**	P			**Pn**	**03 18 36.9**	**+2.0**	
DIDY	**Didyma**	**1.65**	**42**	*eP*			**Pn**	**03 18 38.5**	**+2.0**	
DIDY	**Didyma**	**1.65**	**42**	*eP*			**Pn**	**03 18 38.5**	**+2.0**	
DIDY	**Didyma**	**1.65**	**42**	P			**Pn**	**03 18 38.1**	**+1.6**	
ZKS	**Zakynthos**	**1.65**	**330**	P			**Pn**	**03 18 37.0**	**+0.6**	
ZKS	**Zakynthos**	**1.65**	**330**	P			**Pn**	**03 18 37.1**	**+0.6**	
DID	**Didima**	**1.68**	**42**	*eP*			**Pn**	**03 18 39.0**	**+2.1**	
DID	**Didima**	**1.68**	**42**	*eP*			**Pn**	**03 18 39.0**	**+2.1**	
DID				S			**Sn**	**03 19 01.7**	**+4.5**	
DID	**Didima**	**1.68**	**42**	P			**Pn**	**03 18 38.4**	**+1.5**	
DID				S			**Sn**	**03 19 01.7**	**+4.5**	
DRO	**Drossia**	**1.69**	**357**	P			**Pn**	**03 18 39.2**	**+2.2**	
DRO	**Drossia**	**1.69**	**357**	P			**Pn**	**03 18 39.2**	**+2.2**	
GUR	**Goura**	**1.72**	**14**	*eP*			**Pn**	**03 18 40.5**	**+3.0**	
GUR	**Goura**	**1.72**	**14**	P			**Pn**	**03 18 39.9**	**+2.4**	
GUR	**Goura**	**1.72**	**14**	P			**Pn**	**03 18 40.1**	**+2.6**	
KLV	**Kalavryta, Ach**	**1.79**	**8**	*eP*			**Pn**	**03 18 41.2**	**+2.7**	
KLV	**Kalavryta, Ach**	**1.79**	**8**	P			**Pn**	**03 18 40.3**	**+2.4**	
KLV				S			**Sn**	**03 19 04.3**	**+4.2**	
KLV	**Kalavryta, Ach**	**1.79**	**8**	P			**Sn**	**03 18 40.9**	**+2.4**	
KLV				S			**Sn**	**03 19 04.3**	**+4.2**	
RLS	**Riolos of Patr**	**1.81**	**351**	*eP*			**Pn**	**03 18 41.4**	**+2.8**	
RLS	**Riolos of Patr**	**1.81**	**351**	P			**Pn**	**03 18 41.0**	**+2.4**	
RLS				S			**Sn**	**03 19 04.5**	**+4.1**	
RLS	**Riolos of Patr**	**1.81**	**351**	P			**Pn**	**03 18 41.0**	**+2.4**	
RLS				S			**Sn**	**03 19 04.5**	**+4.1**	
ACOR	**Acrocorinthos**	**1.83**	**27**	P			**Pn**	**03 18 40.4**	**+1.5**	
THAL	**Thalero**	**1.89**	**21**	*eP*			**Pn**	**03 18 42.1**	**+2.4**	
THAL	**Thalero**	**1.89**	**21**	*eP*			**Pn**	**03 18 42.1**	**+2.4**	
THAL	**Thalero**	**1.89**	**21**	P			**Pn**	**03 18 42.1**	**+2.4**	
LOUT	**Loutraki**	**1.95**	**28**	*eP*			**Pn**	**03 18 43.4**	**+2.8**	
LOUT	**Loutraki**	**1.95**	**28**	*eP*			**Pn**	**03 18 43.4**	**+2.8**	
LOUT				S			**Sn**	**03 19 08.1**	**+4.3**	
LOUT	**Loutraki**	**1.95**	**28**	P			**Pn**	**03 18 42.1**	**+1.5**	
LOUT				S			**Sn**	**03 19 08.1**	**+4.3**	
LAKA	**Lakka**	**1.98**	**4**	*eP*			Pn	03 18 44.3	+3.4	
LAKA	**Lakka**	**1.98**	**4**	P			**Pn**	**03 18 43.6**	**+2.7**	
LAKA	**Lakka**	**1.98**	**4**	P			**Pn**	**03 18 43.8**	**+2.9**	
LTK	**Loutraki**	**1.98**	**27**	*eP*			**Pn**	**03 18 43.1**	**+2.1**	
LTK	**Loutraki**	**1.98**	**27**	*eP*			**Pn**	**03 18 43.1**	**+2.1**	
LTK	**Loutraki**	**1.98**	**27**	P			**Pn**	**03 18 42.6**	**+1.6**	
NAIG	**Nisos Aigina**	**2.00**	**41**	*eP*			**Pn**	**03 18 43.1**	**+1.9**	
NAIG	**Nisos Aigina**	**2.00**	**41**	*eP*			**Pn**	**03 18 43.1**	**+1.9**	
KFL	**Anninata**	**2.02**	**336**	P			**Pn**	**03 18 43.0**	**+1.5**	
KFL	**Anninata**	**2.02**	**336**	P			**Pn**	**03 18 43.0**	**+1.5**	
TRIZ	**Trizonia**	**2.11**	**5**	*eP*			Pn	03 18 46.2	+3.5	
TRIZ	**Trizonia**	**2.11**	**5**	P			**Pn**	**03 18 45.5**	**+2.8**	
TRIZ	**Trizonia**	**2.11**	**5**	P			**Pn**	**03 18 45.5**	**+2.8**	
VAM	**Vamos**	**2.11**	**113**	*eP*			**Pn**	**03 18 45.0**	**+2.2**	
VAM	**Vamos**	**2.11**	**113**	*eP*			**Pn**	**03 18 45.0**	**+2.2**	
MHLO	**Agia Marina, M**	**2.12**	**78**	P			**Pn**	**03 18 44.3**	**+1.4**	
MHLO	**Agia Marina, M**	**2.12**	**78**	P			**Pn**	**03 18 44.3**	**+1.4**	
KALE	**Kalithea**	**2.14**	**7**	*eP*			**Pn**	**03 18 46.0**	**+2.8**	
KALE	**Kalithea**	**2.14**	**7**	P			**Pn**	**03 18 45.6**	**+2.4**	
KALE	**Kalithea**	**2.14**	**7**	P			**Pn**	**03 18 45.7**	**+2.5**	
VLS	**Valsamata**	**2.15**	**333**	*eP*			**Pn**	**03 18 44.8**	**+1.5**	
VLS	**Valsamata**	**2.15**	**333**	P			**Pn**	**03 18 44.2**	**+0.9**	
VLS	**Valsamata**	**2.15**	**333**	P			**Pn**	**03 18 44.2**	**+0.9**	
SERG	**Sergoula**	**2.15**	**5**	P			**Pn**	**03 18 46.3**	**+2.9**	
SERG	**Sergoula**	**2.15**	**5**	P			**Pn**	**03 18 46.3**	**+2.9**	
DSF	**Desfina**	**2.21**	**15**	*eP*			**Pn**	**03 18 45.9**	**+1.6**	
DSF	**Desfina**	**2.21**	**15**	*eP*			**Pn**	**03 18 45.9**	**+1.6**	
DSF	**Desfina**	**2.21**	**15**	P			**Pn**	**03 18 45.8**	**+1.6**	
VILL	**Villia**	**2.24**	**32**	*eP*			**Pn**	**03 18 45.9**	**+1.3**	
VILL	**Villia**	**2.24**	**32**	P			**Pn**	**03 18 45.6**	**+1.0**	
VIL2	**Platees**	**2.26**	**30**	*eP*			**Pn**	**03 18 45.9**	**+1.1**	
ATH	**Athens Observa**	**2.28**	**41**	*eP*			**Pn**	**03 18 46.2**	**+1.1**	
ATH	**Athens Observa**	**2.28**	**41**	*eP*			**Pn**	**03 18 46.2**	**+1.1**	
ATH	**Athens Observa**	**2.28**	**41**	P			**Pn**	**03 18 46.1**	**+1.0**	
ATHU	**Athens Univers**	**2.31**	**42**	P			**Pn**	**03 18 46.4**	**+0.9**	
ATHU	**Athens Univers**	**2.31**	**42**	P			**Pn**	**03 18 46.4**	**+0.9**	
GVD	**Gavdhos**	**2.33**	**127**	*eP*			Pn	03 18 49.6	+3.8	
GVD				*eS*			**Sn**	**03 19 17.2**	**+4.0**	
GVD	**Gavdhos**	**2.33**	**127**	*eP*			Pn	03 18 49.6	+3.8	
GVD				*eS*			**Sn**	**03 19 17.2**	**+4.0**	
PDO	**Prodromos**	**2.38**	**348**	P			**Pn**	**03 18 49.5**	**+3.0**	
PDO	**Prodromos**	**2.38**	**348**	P			**Pn**	**03 18 49.5**	**+3.0**	
EXG	**Exogi**	**2.39**	**337**	P			**Pn**	**03 18 48.4**	**+1.8**	
EXG	**Exogi**	**2.39**	**337**	P			**Pn**	**03 18 48.4**	**+1.8**	
LKR	**Lokris**	**2.56**	**21**	P			**Pn**	**03 18 49.9**	**+1.0**	
LKR	**Lokris**	**2.56**	**21**	P			**Pn**	**03 18 49.9**	**+1.0**	
AXAR	**Agios Charalam**	**2.58**	**15**	*eP*			**Pn**	**03 18 51.7**	**+2.4**	
AXAR	**Agios Charalam**	**2.58**	**15**	*eP*			**Pn**	**03 18 51.7**	**+2.4**	
AXAR	**Agios Charalam**	**2.58**	**15**	P			**Pn**	**03 18 50.5**	**+1.2**	
ATAL	**Atalanti**	**2.60**	**21**	P			**Pn**	**03 18 50.7**	**+1.1**	
ATAL	**Atalanti**	**2.60**	**21**	P			**Pn**	**03 18 50.7**	**+1.1**	
IDI	**Anoyia**	**2.68**	**110**	Pn			**Pn**	**03 18 52.6**	**+1.9**	
	15nm,0.3s,baz=299,slow=14,SNR=11.6									
IDI				Sn			**Sn**	**03 19 25.2**	**+3.3**	
	120nm,0.3s,baz=90,slow=20,SNR=8.5									
IDI				LR			LR	03 20 11.6		
	comp=Z,6μm,18.0s,baz=289,slow=48									
EREA	**Eretria**	**2.73**	**37**	*eP*			**Pn**	**03 18 52.6**	**+1.3**	
EREA	**Eretria**	**2.73**	**37**	*eP*			**Pn**	**03 18 52.6**	**+1.3**	
EREA	**Eretria**	**2.73**	**37**	P			**Pn**	**03 18 52.3**	**+1.0**	
SIVA	**Sivas**	**2.73**	**116**	*eP*			**Pn**	**03 18 53.9**	**+2.6**	
SIVA	**Sivas**	**2.73**	**116**	*eP*			**Pn**	**03 18 53.9**	**+2.6**	
KARY	**Karystos**	**2.73**	**49**	P			**Pn**	**03 18 52.4**	**+1.1**	
MRKA	**Markates**	**2.81**	**29**	*eP*			**Pn**	**03 18 53.7**	**+1.3**	
MRKA	**Markates**	**2.81**	**29**	*eP*			**Pn**	**03 18 53.7**	**+1.3**	
SMIA	**Simia**	**2.83**	**22**	*eP*			**Pn**	**03 18 54.2**	**+1.5**	
SMIA	**Simia**	**2.83**	**22**	*eP*			**Pn**	**03 18 54.2**	**+1.5**	
SMIA	**Simia**	**2.83**	**22**	P			**Pn**	**03 18 53.8**	**+1.1**	
THR5	**Thira Island,**	**2.85**	**86**	*eP*			**Pn**	**03 18 54.5**	**+1.6**	
THR5	**Thira Island,**	**2.85**	**86**	*eP*			**Pn**	**03 18 54.6**	**+1.6**	
DSL	**Palaion Diasel**	**2.92**	**349**	*eP*			**Pn**	**03 18 56.9**	**+3.0**	
DSL	**Palaion Diasel**	**2.92**	**349**	P			**Pn**	**03 18 56.4**	**+2.5**	
DSL				S			**Sn**	**03 19 33.2**	**+5.4**	
DSL	**Palaion Diasel**	**2.92**	**349**	P			**Pn**	**03 18 56.4**	**+2.5**	
DSL				S			**Sn**	**03 19 33.2**	**+5.4**	
SANT	**Santorini**	**2.94**	**87**	*eP*			**Pn**	**03 18 55.5**	**+1.3**	
SANT	**Santorini**	**2.94**	**87**	*ePn*			**Pn**	**03 18 55.2**	**+1.0**	
SANT	**Santorini**	**2.94**	**87**	*eP*			**Pn**	**03 18 55.5**	**+1.3**	
SANT				*eS*			**Sn**	**03 19 32.7**	**+4.4**	
SANT	**Santorini**	**2.94**	**87**	*ePn*			**Pn**	**03 18 55.2**	**+1.0**	
SANT				*eS*			**Sn**	**03 19 32.6**	**+4.4**	
SANT	**Santorini**	**2.94**	**87**	P			**Pn**	**03 18 55.5**	**+1.3**	
THR1	**Thera Island**	**2.94**	**87**	*eP*			**Pn**	**03 18 55.8**	**+1.6**	
THR1	**Thera Island**	**2.94**	**87**	*eP*			**Pn**	**03 18 55.8**	**+1.6**	
APE	**Apeiranthos**	**3.09**	**74**	*eP*			**Pn**	**03 18 57.6**	**+1.4**	
APE	**Apeiranthos**	**3.09**	**74**	*c iP*			**Pn**	**03 18 57.3**	**+1.1**	
APE	**Apeiranthos**	**3.09**	**74**	⇑*iP*			**Pn**	**03 18 57.3**	**+1.1**	
APE	**Apeiranthos**	**3.09**	**74**	P			**Pn**	**03 18 57.4**	**+1.2**	
APE	**Apeiranthos**	**3.09**	**74**	P			**Pn**	**03 18 57.4**	**+1.2**	
LAST	**Lasithi**	**3.17**	**109**	*eP*			**Pn**	**03 18 58.7**	**+1.3**	
LAST	**Lasithi**	**3.17**	**109**	*eP*			**Pn**	**03 18 58.7**	**+1.3**	
LAST	**Lasithi**	**3.17**	**109**	P			**Pn**	**03 18 58.9**	**+1.5**	
NEO	**Neokhori**	**3.23**	**20**	*eP*			**Pn**	**03 18 59.8**	**+1.6**	
NEO	**Neokhori**	**3.23**	**20**	*eP*			**Pn**	**03 18 59.8**	**+1.6**	
NEO	**Neokhori**	**3.23**	**20**	P			**Pn**	**03 18 59.1**	**+0.9**	
NPS	**Neapolis**	**3.24**	**107**	*eP*			**Pn**	**03 18 59.5**	**+1.2**	
NPS	**Neapolis**	**3.24**	**107**	*eP*			**Pn**	**03 18 59.5**	**+1.2**	
FYTO	**Fytoko, Volos**	**3.26**	**15**	P			**Pn**	**03 19 01.5**	**+2.9**	
FYTO	**Fytoko, Volos**	**3.26**	**15**	P			**Pn**	**03 19 01.5**	**+2.9**	
XOR	**Xorichti**	**3.28**	**19**	*eP*			**Pn**	**03 19 00.0**	**+1.1**	
XOR	**Xorichti**	**3.28**	**19**	*eP*			**Pn**	**03 19 00.0**	**+1.1**	
XOR	**Xorichti**	**3.28**	**19**	P			**Pn**	**03 18 59.9**	**+1.1**	
THL	**Klokotos Trika**	**3.30**	**3**	*eP*			**Pn**	**03 19 01.6**	**+2.5**	
THL	**Klokotos Trika**	**3.30**	**3**	P			**Pn**	**03 19 01.3**	**+2.2**	
THL	**Klokotos Trika**	**3.30**	**3**	P			**Pn**	**03 19 01.3**	**+2.2**	
AOS	**Alonnisos**	**3.33**	**29**	*eP*			**Pn**	**03 19 00.4**	**+0.9**	
AOS	**Alonnisos**	**3.33**	**29**	P			**Pn**	**03 19 00.1**	**+0.6**	
AOS	**Alonnisos**	**3.33**	**29**	P			**Pn**	**03 19 00.1**	**+0.6**	
IGT	**Igoumenitsa**	**3.47**	**341**	*eP*			**Pn**	**03 19 03.0**	**+1.6**	
IGT	**Igoumenitsa**	**3.47**	**341**	P			**Pn**	**03 19 02.6**	**+1.2**	
IGT	**Igoumenitsa**	**3.47**	**341**	P			**Pn**	**03 19 02.6**	**+1.2**	
JAN	**Janina**	**3.47**	**348**	P			**Pn**	**03 19 03.9**	**+2.4**	
JAN	**Janina**	**3.47**	**348**	P			**Pn**	**03 19 03.9**	**+2.4**	
SGD	**Sagiada**	**3.57**	**340**	*eP*			**Pn**	**03 19 04.4**	**+1.6**	
SGD	**Sagiada**	**3.57**	**340**	P			**Pn**	**03 19 04.2**	**+1.4**	
SGD	**Sagiada**	**3.57**	**340**	P			**Pn**	**03 19 04.2**	**+1.4**	
ZKR	**Zakros**	**3.76**	**106**	*eP*			**Pn**	**03 19 07.6**	**+2.2**	
ZKR	**Zakros**	**3.76**	**106**	*eP*			**Pn**	**03 19 07.6**	**+2.2**	
KEK	**Kerkira**	**3.79**	**336**	P			**Pn**	**03 19 07.2**	**+1.3**	
KEK	**Kerkira**	**3.79**	**336**	P			**Pn**	**03 19 07.2**	**+1.3**	
LIT	**Litokhoron**	**3.87**	**8**	*eP*			**Pn**	**03 19 09.5**	**+2.6**	
LIT	**Litokhoron**	**3.87**	**8**	P			**Pn**	**03 19 08.4**	**+1.5**	
LIT	**Litokhoron**	**3.87**	**8**	P			**Pn**	**03 19 08.4**	**+1.5**	
SRN	**Sarande**	**3.88**	**339**	*i* PN			**Pn**	**03 19 08.4**	**+1.3**	
SRN				*i* SN			x	03 19 33.4		
SRN	**Sarande**	**3.88**	**339**	P			**Pn**	**03 19 08.2**	**+1.1**	
SRN	**Sarande**	**3.88**	**339**	P			**Pn**	**03 19 08.2**	**+1.1**	
PAIG	**Paliouri**	**3.94**	**21**	*eP*			**Pn**	**03 19 09.1**	**+1.2**	
PAIG	**Paliouri**	**3.94**	**21**	*eP*			**Pn**	**03 19 09.1**	**+1.2**	
CHOS	**Chios island**	**3.98**	**57**	*eP*			**Pn**	**03 19 09.2**	**+0.6**	
CHOS	**Chios island**	**3.98**	**57**	P			**Pn**	**03 19 09.5**	**+0.9**	
CHOS	**Chios island**	**3.98**	**57**	P			**Pn**	**03 19 09.5**	**+0.9**	
KZN	**Kozani**	**4.04**	**359**	*eP*			**Pn**	**03 19 11.9**	**+2.6**	
KZN	**Kozani**	**4.04**	**359**	P			**Pn**	**03 19 11.1**	**+1.8**	
KZN	**Kozani**	**4.04**	**359**	P			**Pn**	**03 19 11.1**	**+1.8**	
NEST	**Nestorio**	**4.19**	**352**	*eP*			**Pn**	**03 19 14.5**	**+3.1**	
NEST	**Nestorio**	**4.19**	**352**	P			**Pn**	**03 19 14.1**	**+2.7**	
NEST	**Nestorio**	**4.19**	**352**	P			**Pn**	**03 19 14.1**	**+2.7**	
SMG	**Samos**	**4.27**	**69**	*eP*			**Pn**	**03 19 14.2**	**+1.8**	
SMG	**Samos**	**4.27**	**69**	*eP*			**Pn**	**03 19 14.2**	**+1.8**	
SMG	**Samos**	**4.27**	**69**	P			**Pn**	**03 19 14.0**	**+1.6**	
PLG	**Polygyros**	**4.30**	**17**	*eP*			**Pn**	**03 19 15.1**	**+2.3**	
PLG	**Polygyros**	**4.30**	**17**	*eP*			**Pn**	**03 19 15.1**	**+2.3**	
PLG	**Polygyros**	**4.30**	**17**	P			**Pn**	**03 19 15.3**	**+2.5**	
NIS1	**Nisyros Isl.**	**4.33**	**84**	*eP*			**Pn**	**03 19 15.8**	**+2.5**	
NIS1	**Nisyros Isl.**	**4.33**	**84**	*eP*			**Pn**	**03 19 15.8**	**+2.5**	
SIGR	**SIGRI**	**4.34**	**46**	*eP*			**Pn**	**03 19 13.5**	**+0.1**	
SIGR	**SIGRI**	**4.34**	**46**	*eP*			**Pn**	**03 19 13.5**	**+0.1**	
OUR	**Ouranopolis**	**4.40**	**22**	*eP*			**Pn**	**03 19 15.3**	**+1.1**	
OUR	**Ouranopolis**	**4.40**	**22**	*eP*			**Pn**	**03 19 15.3**	**+1.1**	
KBN	**Korca**	**4.43**	**350**	*i* PN			**Pn**	**03 19 17.1**	**+2.4**	
KBN				*i* SN			x	03 19 28.8		
KBN	**Korca**	**4.43**	**350**	*i* Pn			**Pn**	**03 19 17.1**	**+2.4**	
KBN	**Korca**	**4.43**	**350**	P			**Pn**	**03 19 17.3**	**+2.6**	
HORT	**Hortiatis**	**4.44**	**13**	*eP*			**Pn**	**03 19 16.2**	**+1.3**	
HORT	**Hortiatis**	**4.44**	**13**	*eP*			**Pn**	**03 19 16.2**	**+1.3**	
BODT	**Bodrum**	**4.49**	**78**	*eP*			**Pn**	**03 19 17.8**	**+2.4**	
BODT	**Bodrum**	**4.49**	**78**	*eP*			**Pn**	**03 19 17.8**	**+2.4**	
FNA	**Florina**	**4.53**	**356**	*eP*			**Pn**	**03 19 17.5**	**+1.5**	
FNA	**Florina**	**4.53**	**356**	P			**Pn**	**03 19 17.5**	**+1.5**	
FNA	**Florina**	**4.53**	**356**	P			**Pn**	**03 19 17.5**	**+1.5**	
VLO	**Vlora**	**4.58**	**337**	*i* PN			**Pn**	**03 19 17.4**	**+0.8**	
VLO				*i* SN			x	03 19 50.5		
VLO	**Vlora**	**4.58**	**337**	*i* Pn			**Pn**	**03 19 17.4**	**+0.8**	
SOH	**Sokhos**	**4.71**	**14**	P			**Pn**	**03 19 21.1**	**+2.6**	
SOH	**Sokhos**	**4.71**	**14**	P			**Pn**	**03 19 21.1**	**+2.6**	
IZM	**Izmir**	**4.83**	**62**	*eP*			**Pn**	**03 19 22.4**	**+2.2**	
IZM	**Izmir**	**4.83**	**62**	*eP*			**Pn**	**03 19 22.4**	**+2.2**	
TIP	**Timpagrande**	**4.96**	**307**	*ePn*			**Pn**	**03 19 23.2**	**+1.3**	
TIP				*eS*			**Sn**	**03 20 15.8**	**-2.2**	
TIP	**Timpagrande**	**4.96**	**307**	*ePn*			**Pn**	**03 19 23.2**	**+1.3**	
TIP				*eS*			**Sn**	**03 20 15.8**	**-2.2**	
KNT	**Kendrikon**	**4.96**	**9**	P			**Pn**	**03 19 23.9**	**+1.9**	
KNT	**Kendrikon**	**4.96**	**9**	P			**Pn**	**03 19 23.8**	**+1.9**	
KNT	**Kendrikon**	**4.96**	**9**	P			**Pn**	**03 19 23.8**	**+1.9**	
SRS	**Serrai**	**5.04**	**15**	*eP*			**Pn**	**03 19 25.3**	**+2.3**	
SRS	**Serrai**	**5.04**	**15**	P			**Pn**	**03 19 25.0**	**+2.0**	
SRS	**Serrai**	**5.04**	**15**	P			**Pn**	**03 19 25.0**	**+2.0**	
GADA	**Gvkgeada**	**5.07**	**38**	*eP*			**Pn**	**03 19 24.8**	**+1.4**	
GADA	**Gvkgeada**	**5.07**	**38**	*eP*			**Pn**	**03 19 24.8**	**+1.4**	
VAY	**Valandovo**	**5.08**	**6**	*ePn*			**Pn**	**03 19 26.5**	**+2.9**	
VAY	**Valandovo**	**5.08**	**6**	P			**Pn**	**03 19 26.1**	**+2.5**	
VAY	**Valandovo**	**5.08**	**6**	*ePn*			**Pn**	**03 19 26.4**	**+2.9**	
VAY	**Valandovo**	**5.08**	**6**	P			**Pn**	**03 19 26.1**	**+2.5**	
ARG	**Arkhangelos**	**5.10**	**89**	P			**Pn**	**03 19 25.6**	**+1.8**	
ARG	**Arkhangelos**	**5.10**	**89**	P			**Pn**	**03 19 25.6**	**+1.8**	
AYDB	**Zeytinkoy-Aydi**	**5.13**	**69**	*eP*			**Pn**	**03 19 26.5**	**+2.1**	
AYDB	**Zeytinkoy-Aydi**	**5.13**	**69**	*eP*			**Pn**	**03 19 26.5**	**+2.1**	
YER	**Yerkesik**	**5.26**	**79**	*eP*			**Pn**	**03 19 27.6**	**+1.5**	
TIR	**Tirane**	**5.30**	**344**	*i* PN			**Pn**	**03 19 27.8**	**+1.2**	
TIR				*i* SN			x	03 19 52.1		
TIR	**Tirane**	**5.30**	**344**	*ePn*			**Pn**	**03 19 25.8**	**-0.8**	
TIR	**Tirane**	**5.30**	**344**	*eP*			**Pn**	**03 19 27.8**	**+1.2**	
TIR				*eS*			**Sn**	**03 20 27.3**	**+0.9**	
TIR	**Tirane**	**5.30**	**344**	*ePn*			**Pn**	**03 19 25.8**	**-0.8**	
TIR	**Tirane**	**5.30**	**344**	*eP*			**Pn**	**03 19 27.8**	**+1.2**	
TIR				*eS*			**Sn**	**03 20 27.3**	**+0.9**	
NVR	**Nevrokopi**	**5.32**	**17**	P			**Pn**	**03 19 29.3**	**+2.4**	
NVR	**Nevrokopi**	**5.32**	**17**	P			**Pn**	**03 19 29.3**	**+2.4**	
AKS	**Akhisar**	**5.43**	**59**	*eP*			**Pn**	**03 19 30.5**	**+2.1**	
GELI	**Tayfur-Gelibol**	**5.51**	**40**	*eP*			**Pn**	**03 19 31.9**	**+2.4**	
PHP	**Peshkopia**	**5.52

GRUS eSg Sn 03 21 19.2 -5.3
BBLS Lazići 7.81 347 ePn Pn 03 19 59.1 -2.1
BBLS eSg Sn 03 21 23.0 -5.4
BBLS Lazići 7.81 347 ePn Pn 03 19 59.1 -2.1
BBLS eSg Sn 03 21 23.0 -5.4
SILT Sile 7.82 49 eP Pn 03 20 03.6 +2.4
SILT Sile 7.82 49 eP Pn 03 20 03.6 +2.4
DIVS Divibare 7.95 350 ePn Pn 03 20 02.3 -0.7
DIVS eSg Sn 03 21 28.5 -3.2
DIVS Divibare 7.95 350 ⇑iP Pn 03 20 02.4 -0.6
DIVS Divibare 7.95 350 ePn Pn 03 20 02.3 -0.7
DIVS eSg Sn 03 21 28.5 -3.2
GULT Gulveren 8.00 56 eP Pn 03 20 06.0 +2.3
GULT Gulveren 8.00 56 eP Pn 03 20 06.0 +2.3
SVIS Svilajnac 8.01 357 eSg Sn 03 21 30.2 -2.7
TRUS Trudelj 8.02 353 ePn Pn 03 20 02.1 -1.8
TRUS eSg Sn 03 21 30.5 -2.9
TRUS Trudelj 8.02 353 ePn Pn 03 20 02.1 -1.8
TRUS eSg Sn 03 21 30.5 -2.9
PRD Provadia 8.15 30 ⇓iP Pn 03 20 07.7 +2.0
PRD Provadia 8.15 30 ⇓iP Pn 03 20 07.7 +2.0
SVRH Sivrihisar-ESK 8.30 65 eP Pn 03 20 10.8 +2.9
SVRH Sivrihisar-ESK 8.30 65 eP Pn 03 20 10.8 +2.9
KIZT Kizilcal 8.40 69 eP Pn 03 20 13.2 +4.0
KIZT Kizilcal 8.40 69 eP Pn 03 20 13.3 +4.0
SRE Strehaia 8.45 7 ⇑iP Pn 03 20 11.6 +1.7
SRE Strehaia 8.45 7 ⇑iP Pn 03 20 11.6 +1.7
TEKS Tekeris 8.46 349 ePn Pn 03 20 08.0 -1.9
TEKS eSg Sn 03 21 41.8 -2.3
TEKS Tekeris 8.46 349 ePn Pn 03 20 08.0 -1.9
TEKS eSg Sn 03 21 41.8 -2.3
MDUB Mudurnu 8.48 57 eP Pn 03 20 12.7 +2.4
MDUB Mudurnu 8.48 57 eP Pn 03 20 12.7 +2.4
KONT Konya--Tatoy 8.59 76 eP Pn 03 20 14.1 +2.4
KONT Konya--Tatoy 8.59 76 eP Pn 03 20 14.1 +2.4
HDMB Hadim 8.61 82 eP Pn 03 20 14.5 +2.3
HDMB Hadim 8.61 82 eP Pn 03 20 14.5 +2.3
AKMC Akamas 8.64 95 P Pn 03 20 10.5 -2.0
PPCY Paphos 8.69 96 P Pn 03 20 11.3 -1.7
ALFC Alevga 8.84 94 P Pn 03 20 12.8 -2.4
PSN Preselentsi 8.87 31 ⇑iP Pn 03 20 16.2 +0.7
PSN Preselentsi 8.87 31 ⇑iP Pn 03 20 16.2 +0.7
AQU L'Aquila 8.92 316 eP Pn 03 20 18.7 +2.5
AQU eS Sn 03 21 58.0 +2.6
AQU L'Aquila 8.92 316 ePn Pn 03 20 18.7 +2.5
AQU eS Sn 03 21 58.0 +2.6
AQU L'Aquila 8.92 316 ePn Pn 03 20 18.7 +2.5
AQU eS Sn 03 21 58.0 +2.6
FGSL Fruska Gora 9.01 351 ePn Pn 03 20 16.1 -1.4
FRGS Fruska Gora 9.01 351 ePn Pn 03 20 16.1 -1.4
MSAB Monastry St. A 9.06 29 ⇓iP Pn 03 20 20.2 +2.0
MSAB Monastry St. A 9.06 29 ⇓iP Pn 03 20 20.2 +2.0
LEF Lefka 9.08 94 eP Pn 03 20 20.8 +2.4
LEF Lefka 9.08 94 eP Pn 03 20 20.8 +2.4
SZAC Souni-Zanaja 9.14 96 ⇑P Pn 03 20 17.2 -2.2
KULU Kulu 9.29 69 eP Pn 03 20 24.1 +2.6
KULU Kulu 9.29 69 eP Pn 03 20 24.1 +2.6
LOT Lotru 9.29 9 ⇑iP Pn 03 20 23.2 +1.8
LOT Lotru 9.29 9 ⇑iP Pn 03 20 23.2 +1.8
ARR Arges 9.34 12 ⇑iP Pn 03 20 22.8 +0.8
ARR Arges 9.34 12 ⇑iP Pn 03 20 22.8 +0.8
BZS Buzias 9.34 359 ePn Pn 03 20 20.9 -1.1
BZS Buzias 9.34 359 ⇑iP Pn 03 20 21.2 -0.8
BZS Buzias 9.34 359 ePn Pn 03 20 20.9 -1.1
BZS Buzias 9.34 359 ⇑iP Pn 03 20 21.2 -0.8
AFSR Af`ar-Bala (A 9.45 67 eP Pn 03 20 25.6 +2.1
AFSR Af`ar-Bala (A 9.45 67 eP Pn 03 20 25.7 +2.1
UDBI Udbina 9.46 333 ePn Pn 03 20 24.7 +1.1
UDBI Sn Sn 03 22 03.5 -5.2
UDBI Udbina 9.46 333 ePn Pn 03 20 24.7 +1.1
CSS Prodhromos 9.46 95 eP Pn 03 20 27.2 +3.5
CSS Prodhromos 9.46 95 ePn Pn 03 20 24.5 +0.8
CSS eS Sn 03 21 54.2 -15
CSS Prodhromos 9.46 95 ePn Pn 03 20 24.5 +0.8
CSS eS Sn 03 21 54.2 -15
VOIR 9.48 14 ⇑iP Pn 03 20 26.5 +2.5
VOIR 9.48 14 ⇑iP Pn 03 20 26.5 +2.5
SULT Sultanhani-AKS 9.53 75 eP Pn 03 20 27.5 +2.9
SULT Sultanhani-AKS 9.53 75 eP Pn 03 20 27.5 +2.9
ISR Istrita 9.54 21 ⇑iP Pn 03 20 27.0 +2.2
ISR Istrita 9.54 21 ⇑iP Pn 03 20 27.0 +2.2
LFK Lefkose 9.57 92 eP Pn 03 20 25.4 +0.2
LFK Lefkose 9.57 92 eP Pn 03 20 25.4 +0.2
TIRR Tirgusor 9.60 30 eP Pn 03 20 23.9 -1.7
TIRR Tirgusor 9.60 30 ⇑iP Pn 03 20 27.1 +1.5
TIRR Tirgusor 9.60 30 ePn Pn 03 20 23.9 -1.7
TIRR Tirgusor 9.60 30 ⇑iP Pn 03 20 27.1 +1.5
TIRR Tirgusor 9.60 30 ePn Pn 03 20 23.9 -1.7
HARR Harsova 9.61 27 ⇑iP Pn 03 20 27.6 +1.9
HARR Harsova 9.61 27 ⇑iP Pn 03 20 27.6 +1.9
YESY Yesilyurt 9.65 77 eP Pn 03 20 28.8 +2.3
YESY Yesilyurt 9.65 77 eP Pn 03 20 28.8 +2.3
MLR Muntele Rosu 9.73 17 Pn Pn 03 20 29.6 +2.1
comp=Z,0.1nm,0.3s,baz=198,slow=9.6,SNR=12
MLR LR LR 03 25 09.0
comp=Z,824nm,18.0s,baz=198,slow=44
MLR Muntele Rosu 9.73 17 ⇑iP Pn 03 20 29.1 +1.6
NVLJ Novalja 9.83 330 ePn Pn 03 20 29.4 +0.7
NVLJ Sn Sn 03 22 09.5 -8.3
NVLJ Novalja 9.83 330 ePn Pn 03 20 29.4 +0.7
YAYX Yaylak 9.88 71 eP Pn 03 20 21.3 -8.2
HNAT Natroun 9.91 129 P Pn 03 20 27.7 -2.2
baz=132
HNAT Natroun 9.91 129 P Pn 03 20 27.7 -2.2
AWBH 9.93 141 P Pn 03 20 28.6 -1.5
baz=144
AWBH S Sn 03 22 13.6 -6.7
baz=144
AWBH 9.93 141 P Pn 03 20 28.6 -1.5
BRTR Keskin Array B 9.95 66 Pn Pn 03 20 33.7 +3.2
comp=Z,0.3nm,0.3s,baz=256,slow=14,SNR=42
BRTR LR LR 03 25 05.0
comp=Z,2µm,18.6s,baz=249,slow=43
BRTR Keskin Array B 9.95 66 *i* P Pn 03 20 34.2 +3.7
BRTR pmax pmax
comp=Z,10.0nm,0.8s
BRTR Keskin Array B 9.95 66 *i* P Pn 03 20 34.2 +3.7
comp=Z,10.0nm,0.8s
SIRR Siria 9.99 359 ⇑iP Pn 03 20 30.7 -0.3
SIRR Siria 9.99 359 ⇑iP Pn 03 20 30.7 -0.3
EREN Erenkoy 10.05 91 eP Pn 03 20 34.7 +3.0
EREN Erenkoy 10.05 91 eP Pn 03 20 34.7 +3.0
DOPR Dopca 10.06 14 ⇑iP Pn 03 20 33.8 +1.9
DOPR Dopca 10.06 14 ⇑iP Pn 03 20 33.8 +1.9
CFR Carcaliu 10.11 26 ⇑iP Pn 03 20 33.9 +1.4
CFR Carcaliu 10.11 26 ⇑iP Pn 03 20 33.9 +1.4
KEST Kesra 10.12 271 Pn Pn 03 20 34.0 +1.1
comp=Z,0.1nm,0.3s,baz=74,slow=11,SNR=14
KEST Sn Sn 03 22 21.7 -3.4
comp=Z,0.2nm,0.3s,baz=72,slow=20,SNR=5.2
KEST LR LR 03 25 38.9
comp=Z,478nm,19.4s,baz=36,slow=44
PKSM Moragy 10.22 347 ePn Pn 03 20 31.9 -2.1
PKSM Moragy 10.22 347 ⇑iP Pn 03 20 32.0 -2.1
PKSM Moragy 10.22 347 ePn Pn 03 20 31.9 -2.1
PKSM Moragy 10.22 347 ePn Pn 03 20 32.2 -1.8
MERS Mersin 10.24 83 eP Pn 03 20 36.2 +1.8
MERS Mersin 10.24 83 eP Pn 03 20 36.2 +1.8
PLOR Plostina 10.24 19 ⇑iP Pn 03 20 36.9 +2.5
PLOR Plostina 10.24 19 ⇑iP Pn 03 20 36.9 +2.5
VRI Vrincioaia 10.28 20 ⇑iP Pn 03 20 37.2 +2.3
VRI Vrincioaia 10.28 20 ⇑iP Pn 03 20 37.2 +2.3
VSL Villasalto 10.35 292 ePn Pn 03 20 34.7 -1.2
VSL eS Sn 03 22 19.6 -11
VSL Villasalto 10.35 292 ePn Pn 03 20 34.6 -1.2
VSL eS Sn 03 22 19.6 -11
NIG Nigde 10.37 76 eP Pn 03 20 38.1 +1.7
NIG Nigde 10.37 76 eP Pn 03 20 38.1 +1.7
BOJS Bojanci 10.48 334 *i* Pn Pn 03 20 37.4 -0.2
BOJS Bojanci 10.48 334 *i* Pn Pn 03 20 37.4 -0.2
KOT Kottamia 10.50 124 P Pn 03 20 34.4 -3.6
baz=127
KOT AMP 03 22 00.0
comp=E,260µm,0.5s,logA/T=5.7,baz=127
CJR Cluj-Napoca 10.52 7 ⇑iP Pn 03 20 39.2 +0.9
CJR Cluj-Napoca 10.52 7 ⇑iP Pn 03 20 39.2 +0.9
DRGR 10.54 3 ePn Pn 03 20 38.2 -0.3
DRGR 10.54 3 ⇑iP Pn 03 20 39.5 +1.0
DRGR 10.54 3 ePn Pn 03 20 38.2 -0.3
DRGR 10.54 3 ⇑iP Pn 03 20 39.5 +1.0
KARA Karaisali 10.66 81 eP Pn 03 20 41.9 +1.7
KARA Karaisali 10.66 81 eP Pn 03 20 41.9 +1.7
HHAG Hagoal 10.67 123 P Pn 03 20 37.2 -3.1
baz=126
HHAG AMP 03 22 00.0
comp=E,150µm,0.6s,logA/T=5.4,baz=126
HHAG Hagoal 10.67 123 P Pn 03 20 37.2 -3.1
HBNS Bani Suwayf 10.76 130 P Pn 03 20 38.3 -3.2
baz=133
HBNS Bani Suwayf 10.76 130 P Pn 03 20 38.3 -3.2
TESR Tescani 10.86 18 ⇓iP Pn 03 20 45.3 +2.5
TESR Tescani 10.86 18 ⇓iP Pn 03 20 45.3 +2.5
BEHE Becsehely 10.88 341 ⇑iP Pn 03 20 42.5 -0.5
BEHE Becsehely 10.88 341 ⇑ePn Pn 03 20 42.5 -0.5
KRTS Karatas 10.93 84 eP Pn 03 20 43.0 -0.7
KRTS Karatas 10.93 84 eP Pn 03 20 43.1 -0.7
CEY Cerknica 10.98 332 *i* Pn Pn 03 20 44.0 -0.5
CEY Cerknica 10.98 332 *i* Pn Pn 03 20 44.0 -0.5
BZK Bozkurt 11.04 55 eP Pn 03 20 46.7 +1.5
BZK Bozkurt 11.04 55 eP Pn 03 20 46.7 +1.5
NBNS Bani Suef 11.04 131 P Pn 03 20 42.8 -2.6
baz=133
NBNS Bani Suef 11.04 131 P Pn 03 20 42.8 -2.6
VNDS Vrh nad Dolski 11.19 334 *i* Pn Pn 03 20 46.6 -0.7
TRI Trieste 11.22 330 eP Pn 03 20 47.8 +0.1
TRI Trieste 11.22 330 eP Pn 03 20 47.8 +0.1
TRI eS Sn 03 22 41.9 -10
TRI Trieste 11.22 330 ePn Pn 03 20 47.8 +0.1
TRI eS Sn 03 22 41.9 -10
RSH 11.24 115 P Pn 03 20 44.2 -3.9
baz=117
KOZT Kozan 11.29 80 eP Pn 03 20 51.5 +2.8
KOZT Kozan 11.29 80 eP Pn 03 20 51.5 +2.8
PKST T``s 11.34 347 ⇑eP Pn 03 20 48.6 -0.8
PKST T``s 11.34 347 ⇑ePn Pn 03 20 48.6 -0.8
BUD Budapest 11.40 350 ⇑eP Pn 03 20 50.3 +0.1
BUD Budapest 11.40 350 ⇑ePn Pn 03 20 50.3 +0.1
CSKK Cs`‡kako 11.40 348 ePn Pn 03 20 48.2 -2.0
PKSG 11.41 348 ⇓eP Pn 03 20 50.1 -0.2
PKSG 11.41 348 ⇓ePn Pn 03 20 50.1 -0.2
PERS Pernice 11.51 336 ePn Pn 03 20 50.1 -1.7
PERS Pernice 11.51 336 ePn Pn 03 20 50.1 -1.7
SOKA Soboth 11.58 336 Pn Pn 03 20 50.8 -1.9
SNR=20
SOKA Soboth 11.58 336 ⇑iPn Pn 03 20 50.8 -1.9
SNR=20
SOKA ⇑*i*Sn Sn 03 22 49.8 -11
TAHT Tahtakopru-Hat 11.59 85 eP Pn 03 20 55.3 +2.5
TAHT Tahtakopru-Hat 11.59 85 eP Pn 03 20 55.3 +2.5
OBKA Obir 11.59 334 ePn Pn 03 20 51.0 -1.9
OBKA eSn Sn 03 22 53.9 -7.2
OBKA Obir 11.59 334 ePn Pn 03 20 51.0 -1.9
OBKA Obir 11.59 334 ⇓iPn Pn 03 20 51.9 -1.1
SNR=8.3
OBKA ⇑*i*Sn Sn 03 22 51.3 -10
BURAR Bucovina Array 11.62 11 ⇑iP Pn 03 20 54.8 +1.5
BURAR Bucovina Array 11.62 11 ⇑iP Pn 03 20 54.8 +1.5
MMAI Mount Meron Ar 11.65 102 Pn Pn 03 20 51.5 -2.2
comp=E,3.4nm,0.3s,baz=303,slow=14,SNR=9.4
MMAI Sn Sn 03 22 53.5 -9.0
comp=E,15nm,0.3s,baz=310,slow=24,SNR=8.6
CADS Cadrg 11.66 331 *i* Pn Pn 03 20 52.9 -0.9
CADS Cadrg 11.66 331 *i* Pn Pn 03 20 52.9 -0.9
HWQ Hawqa 11.72 96 eP Pn 03 20 51.9 -2.8
PSZ Piszkesteto 11.73 354 eP Pn 03 20 52.9 -1.9
PSZ eS Sn 03 23 00.2 -4.2
PSZ Piszkesteto 11.73 354 ⇑iP Pn 03 20 52.9 -1.1
PSZ Piszkesteto 11.73 354 ePn Pn 03 20 52.9 -1.9
PSZ Piszkesteto 11.73 354 ⇑iP Pn 03 20 53.7 -1.1
PSZ eS Sn 03 23 00.2 -4.2
PSZ Piszkesteto 11.73 354 ePn Pn 03 20 52.9 -1.9
PSZ eS Sn 03 23 00.2 -4.2
PSZ Piszkesteto 11.73 354 ⇓ePn Pn 03 20 55.7 +0.9
VLC Villacollemand 11.76 316 ePn Pn 03 20 56.1 +0.9
VLC Villacollemand 11.76 316 ePn Pn 03 20 56.1 +0.9
KIS Kishinev 11.93 24 eP Pn 03 21 04.0 +6.6
KIS eLQ LQ 03 24 40.0
KIS LRM MLR 03 26 03.0
comp=E,2µm,16.0s
KIS Kishinev 11.93 24 eP Pn 03 21 04.0 +6.6
KIS *e* 03 23 12.0
KIS MLR MLR
comp=Z,1µm,15.0s
KIS MLR MLR
comp=N,1µm,12.0s
KIS MLR MLR
comp=Z,2µm,16.0s
ARSA Arzberg 11.94 339 Pn Pn 03 20 56.3 -1.2
ARSA Arzberg 11.94 339 ⇓iPn Pn 03 20 56.3 -1.2
ARSA ⇑*i*Sn Sn 03 22 58.5 -11
HNKL Nakhl 11.99 118 P Pn 03 20 55.6 -2.8
baz=120
HNKL Nakhl 11.99 118 P Pn 03 20 55.6 -2.8
SOP Sopron 12.06 343 ⇑ePn Pn 03 20 57.4 -1.8
GRB Gharib 12.22 128 P Pn 03 20 59.1 -2.5
baz=130
GRB Gharib 12.22 128 P Pn 03 20 59.1 -2.5
KECS Kecovo 12.25 356 eP Pn 03 21 01.5 -0.3
KECS Kecovo 12.25 356 eP Pn 03 21 01.5 -0.3
KECS Kecovo 12.25 356 ePN Pn 03 21 01.5 -0.3
KECS *e* 03 23 06.1
UZH Uzhgorod 12.36 1 eP Pn 03 21 04.0 +0.7
UZH eS Sn 03 23 22.0 +2.3
UZH MLR MLR
comp=Z,6µm,10.0s
UZH Uzhgorod 12.36 1 *e*P Pn 03 21 04.0 +0.7
comp=Z,6µm,10.0s
ZST Bratislava 12.42 345 eP Pn 03 21 04.7 +0.6
ZST Bratislava 12.42 345 eP Pn 03 21 04.7 +0.6
ZST Bratislava 12.42 345 ePN Pn 03 21 04.7 +0.6
ZST *e* 03 23 09.7
CONA Conrad Observa 12.46 341 Pn Pn 03 21 03.1 -1.7
CONA Conrad Observa 12.46 341 ⇑iPn Pn 03 21 03.1 -1.7
CONA ⇓*i*Sn Sn 03 23 11.1 -11
SVSK Karacayir 12.50 68 eP Pn 03 21 07.3 +2.1
SVSK Karacayir 12.50 68 eP Pn 03 21 07.3 +2.1
KBA Koelnbreinsper 12.52 332 ePn Pn 03 21 05.7 +0.1
KBA Koelnbreinsper 12.52 332 ePn Pn 03 21 05.7 +0.1
ABTA Abfaltersbach 12.57 329 Pn Pn 03 21 06.1 -0.2
SNR=8.0
ABTA Abfaltersbach 12.57 329 ⇓iPn Pn 03 21 06.1 -0.2
SNR=8.0
ABTA ⇓*i*Sn Sn 03 23 15.4 -10
DARE Darende-Malaty 12.66 75 eP Pn 03 21 09.8 +2.2
DARE Darende-Malaty 12.66 75 eP Pn 03 21 09.8 +2.2
KOLS Kolonicke sedl 12.67 1 eP Pn 03 21 07.7 +0.2
KOLS Kolonicke sedl 12.67 1 eP Pn 03 21 07.7 +0.2
KOLS Kolonicke sedl 12.67 1 ePN Pn 03 21 07.7 +0.2
SIM Simferopol' 12.74 43 eP P 03 21 19.1 0.0
SIM pmax pmax
comp=Z,9.0nm,0.6s
SIM MLR MLR
comp=Z,1µm,16.0s
EIL Elat 12.83 117 Pn Pn 03 21 08.2 -1.6
comp=Z,0.9nm,0.3s,baz=318,slow=12,SNR=18
EIL Sn Sn 03 23 20.5 -11
comp=Z,5.1nm,0.3s,baz=130,slow=17,SNR=6.5
HKAT Jabal Katrina 12.85 123 P Pn 03 21 07.5 -2.8
baz=125
HKAT Jabal Katrina 12.85 123 P Pn 03 21 07.5 -2.8
MOA Molln 12.86 337 ePn Pn 03 21 09.0 -1.1
MOA eSn Sn 03 23 24.8 -7.0
MOA Molln 12.86 337 ePn Pn 03 21 09.0 -1.1
MOA Molln 12.86 337 ⇑iPn Pn 03 21 08.9 -1.2
SNR=8.6
MOA ⇓*i*Sn Sn 03 23 20.5 -11
ASF Jabal al Asfar 13.13 104 Pn Pn 03 21 13.4 -0.6
comp=Z,0.9nm,0.3s,baz=247,slow=9.1,SNR=7.0
ASF Sn Sn 03 23 29.8 -8.9
comp=Z,1.1nm,0.3s,baz=114,slow=20,SNR=3.3
STHS Stebnicka Huta 13.15 358 eP Pn 03 21 17.0 +2.9
STHS Stebnicka Huta 13.15 358 eP Pn 03 21 17.0 +2.9
STHS Stebnicka Huta 13.15 358 ePN Pn 03 21 17.0 +2.9
NIE Niedzica 13.19 356 eP Pn 03 21 14.9 +0.2
NIE Niedzica 13.19 356 eP Pn 03 21 14.9 +0.2
NIE Niedzica 13.19 356 eP Pn 03 21 14.9 +0.2
RJOB Jochberg 13.27 333 ePn Pn 03 21 15.8 0.0
RJOB eSn Sn 03 23 33.7 -8.3
RJOB Jochberg 13.27 333 ePn Pn 03 21 15.8 0.0
WTTA Wattenberg 13.35 329 ePn Pn 03 21 18.6 +1.6
WTTA eSn Sn 03 23 35.4 -8.7
WTTA Wattenberg 13.35 329 ePn Pn 03 21 18.6 +1.6
WTTA Wattenberg 13.35 329 ⇑iPn Pn 03 21 15.9 -1.0
SNR=7.5
WTTA ⇑*i*Sn Sn 03 23 32.7 -12
KWP Kalwaria Pacla 13.38 2 eP Pn 03 21 18.3 +1.1
KWP eS S 03 24 30.3 +23
KWP Kalwaria Pacla 13.38 2 eP Pn 03 21 18.4 +1.2
KWP Kalwaria Pacla 13.38 2 eP Pn 03 21 18.4 +1.2
WATA Walderalm 13.43 329 Pn Pn 03 21 17.4 -0.6
SNR=7.3
WATA Walderalm 13.43 329 ⇑iPn Pn 03 21 17.4 -0.6
SNR=7.3
HHRG Al Ghardaqah 13.45 129 P Pn 03 21 16.3 -2.0
baz=131
FUORN Ofenpass-Fuorn 13.48 324 ePn Pn 03 21 20.4 +1.5
FUORN Ofenpass-Fuorn 13.48 324 ePn Pn 03 21 20.4 +1.5
FETA Feichten 13.56 326 Pn Pn 03 21 19.1 -0.7
FETA Feichten 13.56 326 ⇑iPn Pn 03 21 19.1 -0.7
FETA ⇓*i*Sn Sn 03 23 39.6 -10
VRAC Vranov 13.58 345 Pn Pn 03 21 18.4 -1.7
comp=Z,0.7nm,0.3s,baz=170,slow=13,SNR=6.8
VRAC LR LR 03 27 58.5
comp=Z,2µm,18.1s,baz=166,slow=44
VRAC Vranov 13.58 345 ⇑iP Pn 03 21 19.1 -0.9
MOTA Moosalm 13.64 328 Pn Pn 03 21 19.6 -1.3
MOTA Moosalm 13.64 328 ⇑iPn Pn 03 21 19.6 -1.3
MOTA ⇑*i*Sn Sn 03 23 41.5 -10
LVV L'vov 13.64 6 eP Pn 03 21 21.1 +0.3
LVV eS Sn 03 23 50.1 -0.9
LVV MLR MLR
comp=N,240nm,11.0s
LVV MLR MLR
comp=E,200nm,11.0s
LVV MLR MLR
comp=Z,300nm,11.0s
DAVOX Davos/Dischmat 13.78 323 Pn Pn 03 21 22.9 0.0
comp=Z,0.2nm,0.3s,baz=132,slow=16,SNR=2.3
DAVOX Sn Sn 03 23 39.9 -15
comp=Z,0.7nm,0.3s,baz=149,slow=19,SNR=3.1
DAVOX LR LR 03 28 53.6
comp=Z,501nm,18.9s,baz=122,slow=47
TREC Trest 13.82 342 eP Pn 03 21 21.4 -1.8
TREC *ex* x 03 21 32.8
TREC *ex* x 03 21 41.2
TREC eS Sn 03 23 50.1 -5.3
TREC AMS AMS 03 27 40.0
comp=Z,2µm,15.4s
TREC Trest 13.82 342 eP Pn 03 21 21.4 -1.8
TREC *e* 03 23 50.1
TREC MLR MLR
comp=Z,2µm,15.4s
TREC Trest 13.82 342 P Pn 03 21 21.4 -1.8
OKC Ostrava-Krasne 13.83 350 eP Pn 03 21 21.5 -1.8
OKC *ex* x 03 21 33.0
OKC *ex* x 03 23 46.0
OKC AMS AMS 03 27 50.0
comp=Z,1µm,17.8s
OKC Ostrava-Krasne 13.83 350 eP Pn 03 21 21.5 -1.8
OKC eS Sn 03 23 46.0 -9.4
OKC MLR MLR
comp=Z,1µm,17.8s
OKC Ostrava-Krasne 13.83 350 P Pn 03 21 21.5 -1.8
OKC S Sn 03 23 46.0 -9.4
MORC Moravsky Berou 13.86 348 eP Pn 03 21 22.5 -1.3
MORC eS Sn 03 23 48.4 -7.9
MORC Moravsky Berou 13.86 348 ⇑iP Pn 03 21 23.1 -0.7
MORC Moravsky Berou 13.86 348 ePn Pn 03 21 22.5 -1.3
MORC eS Sn 03 23 48.4 -7.9
MORC Moravsky Berou 13.86 348 ePn Pn 03 21 22.5 -1.3
MORC eS Sn 03 23 48.4 -7.9
GEC2 GERESS Array S 13.91 337 ePn Pn 03 21 23.5 -1.1
comp=Z,376nm,5.1s
GEC2 GERESS Array S 13.91 337 eP Pn 03 21 23.3 -1.3
GEC2 eS Sn 03 23 52.6 -5.1
GEC2 pmax pmax
comp=Z,2µm,0.8s
GEC2 GERESS Array S 13.91 337 ePn Pn 03 21 23.3 -1.3
comp=Z,2µm,0.8s
GEC2 eS Sn 03 23 52.6 -5.1
GEC2 GERESS Array S 13.91 337 ePn Pn 03 21 23.3 -1.3
comp=Z,2µm,0.8s
GEC2 eS Sn 03 23 52.6 -5.1
GERES GERESS Array B 13.91 337 Pn Pn 03 21 23.4 -1.3
comp=Z,0.7nm,0.3s,baz=147,slow=13,SNR=14
GERES Sn Sn 03 23 47.8 -10
comp=Z,1.3nm,0.3s,baz=149,slow=23,SNR=8.2
GERES LR LR 03 28 06.6
comp=Z,3µm,19.6s,baz=136,slow=43
OJC Ojcow 14.03 355 eP Pn 03 21 26.5 +0.5
OJC eS S 03 24 21.8 +0.9
OJC Ojcow 14.03 355 eP Pn 03 21 26.5 +0.5
OJC Ojcow 14.03 355 ePn Pn 03 21 25.8 -0.2
OJC eS S 03 24 21.8 +0.9
OJC Ojcow 14.03 355 ePn Pn 03 21 25.8 -0.2
DAVA Damuels 14.15 325 eSn Sn 03 23 55.2 -8.3
DAVA Damuels 14.15 325 Pn Pn 03 21 27.3 -0.5
DAVA Damuels 14.15 325 ⇑iPn Pn 03 21 27.3 -0.5
DAVA ⇑*i*Sn Sn 03 23 54.3 -9.2
KHC Kasperske Hory 14.20 337 eP Pn 03 21 26.7 -1.8
KHC *ex* x 03 21 41.0
KHC *ex* x 03 22 01.0
KHC *ex* x 03 23 54.7
KHC AMS AMS 03 27 50.0
comp=Z,4µm,20.8s
KHC Kasperske Hory 14.20 337 eP Pn 03 21 26.7 -1.8
KHC eS Sn 03 23 54.7 -10
KHC MLR MLR
comp=Z,4µm,20.8s
KHC Kasperske Hory 14.20 337 P Pn 03 21 26.7 -1.8
KHC Kasperske Hory 14.20 337 ePn Pn 03 21 28.3 -0.2
KHC S Sn 03 23 54.7 -10
KHC Kasperske Hory 14.20 337 ePn Pn 03 21 28.3 -0.2
KHC eS Sn 03 23 54.3 -10
KRLC Kraliky 14.28 347 eP Pn 03 21 27.5 -2.0
KRLC *ex* x 03 21 37.4
KRLC *ex* x 03 21 46.1
KRLC *es*P 03 21 55.4
KRLC eS Sn 03 23 57.5 -9.1
KRLC Kraliky 14.28 347 eP Pn 03 21 27.5 -2.0
KRLC eS Sn 03 23 57.5 -9.1
KRLC Kraliky 14.28 347 P Pn 03 21 27.5 -2.0
KRLC S Sn 03 23 57.5 -9.1
GOPC GO Pecny, Ondr 14.57 342 eP Pn 03 21 31.6 -1.8
GOPC *ex* x 03 21 40.9
GOPC *es*P 03 21 58.0
GOPC *ex* x 03 24 04.2
GOPC AMS AMS 03 28 10.0
comp=Z,2µm,16.0s
GOPC GO Pecny, Ondr 14.57 342 P Pn 03 21 31.6 -1.8
GOPC S Sn 03 24 04.2 -9.3
ANN Anapa 14.60 49*c* iP P 03 21 38.9 -0.8
ANN pmax pmax
comp=Z,70nm,0.9s
ANN Anapa 14.60 49 *i* P P 03 21 38.9 -0.8
comp=Z,70nm,0.9s
DPC Dobruska-Polom 14.63 346 eP Pn 03 21 32.3 -2.0
DPC *ex* x 03 21 42.3
DPC *ep*P pP 03 21 54.0
DPC *ex* x 03 22 08.7
DPC *ex* x 03 24 04.7
DPC AMS AMS 03 28 30.0
comp=Z,2µm,15.0s
DPC Dobruska-Polom 14.63 346 eP Pn 03 21 32.3 -2.0
DPC eS Sn 03 24 04.7 -10
DPC MLR MLR
comp=Z,2µm,15.0s
DPC Dobruska-Polom 14.63 346 P Pn 03 21 32.3 -2.0
DPC S Sn 03 24 04.7 -10
PRU Pruhonice 14.70 341 eP Pn 03 21 33.1 -2.1
PRU *ex* x 03 21 42.0
PRU eS Sn 03 24 22.6 +5.9
PRU AMS AMS 03 28 10.0
comp=Z,2µm,15.4s
PRU Pruhonice 14.70 341 eP Pn 03 21 33.1 -2.1
PRU *e* 03 24 22.6
PRU MLR MLR
comp=Z,2µm,15.4s
PRU Pruhonice 14.70 341 P Pn 03 21 33.1 -2.1
PRA Prague 14.80 341 eP Pn 03 21 34.6 -1.9
PRA *ex* x 03 21 51.0
PRA *ex* x 03 21 59.1
PRA AMS AMS 03 28 10.0
comp=Z,2µm,15.1s
PRA Prague 14.80 341 eP Pn 03 21 34.6 -1.9
PRA MLR MLR

comp=Z,2µm,15.1s
PRA Prague 14.80 341 P **Pn** **03 21 34.6 -1.9**
SENIN Lac Senin/Sane 14.84 317 *e*Pn **Pn** **03 21 37.8 +0.5**
SENIN Lac Senin/Sane 14.84 317 *e*Pn **Pn** **03 21 37.8 +0.5**
UPC Upice 14.84 345 *e*P **Pn** **03 21 35.4 -1.7**
UPC *ex* x 03 21 43.2
UPC *ex* x 03 22 02.0
UPC AMS AMS 03 28 40.0
comp=Z,2µm,18.4s
UPC Upice 14.84 345 *e*P **Pn** **03 21 35.4 -1.7**
UPC MLR MLR
comp=Z,2µm,18.4s
UPC Upice 14.84 345 P **Pn** **03 21 35.4 -1.7**
KSP Ksiaz 15.11 346 *e*P **Pn** **03 21 39.3 -1.3**
KSP Ksiaz 15.11 346 *e*P **Pn** **03 21 39.3 -1.3**
PVCC Panska Ves 15.19 342 *e*P **Pn** **03 21 39.9 -1.8**
PVCC *ep*P **pP** **03 21 57.2 +1.7**
PVCC *ex* x 03 22 09.1
PVCC AMS AMS 03 28 40.0
comp=Z,2µm,15.8s
PVCC Panska Ves 15.19 342 *e*P **Pn** **03 21 39.9 -1.8**
PVCC MLR MLR
comp=Z,2µm,15.8s
PVCC Panska Ves 15.19 342 P **Pn** **03 21 39.9 -1.8**
SPAK Spaichingen-Ko 15.25 325 *e*P **P** **03 21 44.8 -2.3**
KIEV Kiev 15.38 18 *e*P **Pn** **03 21 41.1 -3.0**
KIEV pmax pmax
comp=Z,14nm,0.9s
KIEV Kiev 15.38 18 *e*Pn **Pn** **03 21 41.1 -3.0**
comp=Z,14nm,0.9s
KIEV *e*S Sn 03 24 40.6 +7.5
AKASG Malin Array Be 15.38 18 Pn **Pn** **03 21 42.0 -2.2**
comp=Z,1.0nm,0.3s,baz=208,slow=12,SNR=11
AKASG Malin Array Be 15.38 18 *i* P **Pn** **03 21 42.0 -2.2**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
BBS Basel-Blauen 15.43 321 *e*P **Pn** **03 21 46.0 +1.1**
FELD Feldberg im Sc 15.46 323 *e*P **P** **03 21 48.0 -1.5**
GRF Grafenberg Arr 15.48 333 *e*Pn **P** **03 21 50.8 +1.3**
comp=Z,1µm,4.7s
GRFO Grafenberg 15.48 333 *e*P **Pn** **03 21 41.6 -3.8**
GRFO pmax pmax
comp=Z,112nm,1.7s
GRFO Grafenberg 15.48 333 *e*Pn **Pn** **03 21 41.6 -3.8**
comp=Z,112nm,1.7s
GRFO *e*S Sn 03 24 17.3 -18
GRFO Grafenberg 15.48 333 *e*Pn **Pn** **03 21 41.6 -3.8**
comp=Z,112nm,1.7s
GRFO *e*S Sn 03 24 17.3 -18
NKC Novy Kostel 15.52 337 *e*P **Pn** **03 21 44.7 -1.4**
NKC *ex* x 03 22 13.9
NKC *ex* x 03 24 26.0
NKC *e*S **S** **03 24 54.5 +3.0**
NKC AMS AMS 03 28 40.0
comp=Z,3µm,14.6s
NKC Novy Kostel 15.52 337 *e*P **Pn** **03 21 44.7 -1.4**
NKC *e*S Sn 03 24 26.0 -11
NKC MLR MLR
comp=Z,3µm,14.6s
NKC Novy Kostel 15.52 337 P **Pn** **03 21 44.7 -1.4**
NKC S Sn 03 24 26.0 -11
SOC Sochi 15.54 56 *e*P **Pn** **03 21 43.5 -2.8**
SOC *e* 03 24 34.6
SOC pmax pmax
comp=Z,14nm,0.9s
SOC MLR MLR
comp=Z,321nm,12.0s
STU Stuttgart 15.56 327 *e*Pn **Pn** **03 21 47.7 +1.2**
STU Stuttgart 15.56 327 *e*Pn **Pn** **03 21 47.7 +1.2**
BEL Belsk 15.59 358 *e*P **P** **03 21 52.1 +1.4**
BEL Belsk 15.59 358 *e*P **P** **03 21 52.1 +1.4**
BEL Belsk 15.59 358 *e*P **P** **03 21 52.1 +1.4**
BFO Black Forest 15.62 325 *e*Pn **Pn** **03 21 48.1 +0.7**
BFO Black Forest 15.62 325 *e*P **Pn** **03 21 48.0 +0.7**
BFO pmax pmax
comp=Z,13nm,0.9s
BFO Black Forest 15.62 325 *e*Pn **Pn** **03 21 48.0 +0.7**
comp=Z,13nm,0.9s
BFO *e*S Sn 03 24 26.7 -13
BFO Black Forest 15.62 325 *e*Pn **Pn** **03 21 48.0 +0.7**
comp=Z,13nm,0.9s
BFO *e*S Sn 03 24 26.7 -13
BRG Berggiesshubel 15.66 341 *e*P **Pn** **03 21 47.4 -0.4**
comp=Z,14nm,1.4s
comp=N,1µm,17.7s
comp=E,724nm,10.6s
comp=Z,2µm,15.4s
BRG Berggiesshubel 15.66 341 *e*Pn **Pn** **03 21 46.2 -1.6**
BRG Berggiesshubel 15.66 341 *e*P **Pn** **03 21 47.4 -0.4**
BRG pmax pmax
comp=Z,14nm,1.4s
BRG MLR MLR
comp=N,1µm,17.7s
BRG MLR MLR
comp=E,724nm,10.6s
BRG MLR MLR
comp=Z,2µm,15.4s
BRG Berggiesshubel 15.66 341 *e*Pn **Pn** **03 21 46.2 -1.6**
TANN Tannenbergstha 15.68 337 *e*Pn **Pn** **03 21 48.6 +0.5**
TANN Tannenbergstha 15.68 337 *e*Pn **Pn** **03 21 48.6 +0.5**
LIBD Limburg 15.84 323 *e*P **Pn** **03 21 51.4 +1.2**
MOF Molkenrain 15.88 321 *e*P **P** **03 21 55.8 +1.8**
ECH Echery 16.11 322 *e*P **Pn** **03 21 54.3 +0.7**
ECH pmax pmax
comp=Z,28nm,1.3s
ECH Echery 16.11 322 *e*P **Pn** **03 21 54.3 +0.7**
comp=Z,28nm,1.3s
ECH *e*S Sn 03 24 37.0 -14
ECH Echery 16.11 322 *e*Pn **Pn** **03 21 54.3 +0.7**
comp=Z,28nm,1.3s
ECH *e*S Sn 03 24 37.0 -14
CLL Collm 16.31 340 *e*Pn **P** **03 22 00.0 +1.3**
CLL Collm 16.31 340 *e*P **Pn** **03 21 56.0 -0.1**
CLL pmax pmax
comp=Z,6.0nm,1.2s
CLL MLR MLR
comp=Z,2µm,18.4s
CLL Collm 16.31 340 *e*P **P** **03 21 58.9 +0.2**
comp=Z,35nm,1.1s
CLL Collm 16.31 340 *e*P **P** **03 21 58.9 +0.2**
comp=Z,35nm,1.1s
CLL Collm 16.31 340 *e*P **Pn** **03 21 56.0 -0.1**
comp=Z,6.0nm,1.2s
CLL *i* 03 22 00.0
comp=Z,37nm,1.5s
CLL *i* (PPP) 03 22 24.2
CLL *e*S **S** **03 25 04.0 -3.5**
CLL Lmax 03 29 00.0
CLL Lm MLR 03 29 00.0
comp=Z,2µm,18.4s
TOD Tromm 16.36 329 *e*P **P** **03 21 58.6 -0.7**
KTD Kalmit 16.45 327 *e*P **P** **03 22 00.5 +0.1**
UBBA Unterbreizbach 16.85 333 *e*Pn **P** **03 22 04.0 -0.6**
UBBA Unterbreizbach 16.85 333 *e*Pn **P** **03 22 04.0 -0.6**
TNS Taunus Mts 16.98 329 *e*Pn **P** **03 22 05.9 -0.3**
TNS Taunus Mts 16.98 329 *e*Pn **P** **03 22 05.9 -0.3**
RUE Ruedersdorf 17.18 343 *e*Pn **P** **03 22 08.3 0.0**
RUE Ruedersdorf 17.18 343 *e*Pn **P** **03 22 08.3 0.0**
NEY Neytrino 17.50 60 *de*P **P** **03 22 13.1 +1.0**
NEY pmax pmax
comp=Z,9.0nm,1.4s
NEY MLR MLR
comp=Z,367nm,17.0s
NEY Neytrino 17.50 60 *e*P **P** **03 22 13.1 +1.0**
comp=Z,367nm,17.0s
CLZ Clausthal 17.58 336 *e*Pn **P** **03 22 13.4 +0.6**
CLZ Clausthal 17.58 336 *e*Pn **P** **03 22 13.4 +0.6**
WLF Walferdange 17.58 324 P **P** **03 22 17.5 +4.7**
comp=Z,25nm,1.6s
WLF Walferdange 17.58 324 *e*P **Pn** **03 22 12.2 +0.2**
WLF Walferdange 17.58 324 *e*P **Pn** **03 22 12.2 +0.2**
WLF Walferdange 17.58 324 *e*Pn **Pn** **03 22 12.2 +0.2**
AKH Akhalkalaki 17.63 66 P **P** **03 22 13.5 -0.2**
AKH Akhalkalaki 17.63 66 ⇑ *i*P **Pn** **03 22 13.2 +0.3**
AKH Akhalkalaki 17.63 66 P **P** **03 22 13.5 -0.2**
KIV Kislovodsk 17.68 58 *c i*P **P** **03 22 14.0 -0.1**
KIV pmax pmax
comp=Z,28nm,1.0s
KIV MLR MLR
comp=Z,575nm,22.0s
KIV Kislovodsk 17.68 58 *e*Pn **Pn** **03 22 13.4 0.0**
comp=Z,25nm,0.8s
KIV Kislovodsk 17.68 58 *i* P **P** **03 22 14.0 -0.1**
comp=Z,575nm,22.0s
KIV *e*S Sn 03 25 19.6 -10
KIV Kislovodsk 17.68 58 *e*Pn **Pn** **03 22 13.4 0.0**
comp=Z,25nm,0.8s
KIV *e*S Sn 03 25 19.6 -10
KBZ Khabaz 17.76 59 P **P** **03 22 15.4 +0.6**
comp=Z,1.5nm,0.3s,baz=284,slow=7.7,SNR=29
KBZ LR LR 03 31 05.4
comp=Z,707nm,18.4s,baz=256,slow=44
SUW Suwalki 17.77 3 *e*P **Pn** **03 22 12.8 -1.5**
SUW *e*S **Sn** **03 25 31.3 +0.1**
SUW Suwalki 17.77 3 *e*P **Pn** **03 22 12.9 -1.4**
SUW *e*S **Sn** **03 25 31.3 +0.1**
ONI Oni 17.84 63 P **Pn** **03 22 15.0 -0.4**
ONI Oni 17.84 63 P **Pn** **03 22 15.0 -0.4**
NCK Nalchik 18.18 60 ⇑ *i*P **P** **03 22 22.1 +2.6**
NCK Nalchik 18.18 60 *i* P **P** **03 22 22.1 +2.6**
GOF Gofitskoye 18.30 55 *e*P **P** **03 22 18.9 -1.9**
MEM Membach 18.31 326 P **Pn** **03 22 23.9 +2.9**
BUG Bochum--Univer 18.39 330 *e*Pn **Pn** **03 22 23.4 +1.5**
BUG Bochum--Univer 18.39 330 *e*Pn **Pn** **03 22 23.4 +1.5**
GNI Garni 18.41 71 P **Pn** **03 22 23.1 +0.6**
comp=Z,2.7nm,0.3s,baz=257,slow=4.5,SNR=8.2
GNI Garni 18.41 71 *c i*P **P** **03 22 22.2 -0.1**
GNI pmax pmax
comp=Z,68nm,1.7s
GNI MLR MLR
comp=Z,1µm,19.0s
GNI Garni 18.41 71 *i* P **P** **03 22 22.2 -0.1**
comp=Z,1µm,19.0s
GNI Garni 18.41 71 *e*Pn **P** **03 22 22.0 -0.3**
TBLG Delisi 18.61 66 P **Pn** **03 22 24.9 +0.1**
TBLG Delisi 18.61 66 P **Pn** **03 22 24.8 +0.1**
TBLG Delisi 18.61 66 P **Pn** **03 22 24.8 +0.1**
DOU Dourbes 18.61 323 P **Pn** **03 22 27.3 +2.6**
comp=Z,22nm,2.3s
SEAG Tbilisi Sea 18.66 66 P **Pn** **03 22 27.8 +2.4**
SEAG Tbilisi Sea 18.66 66 P **Pn** **03 22 27.8 +2.4**
MNK Minsk 18.71 11 *e*P **P** **03 22 22.0 -3.1**
MNK *e*S Sn 03 25 46.0 -7.7
MNK MLR MLR
comp=Z,4µm,14.0s
MICGM Minsk 18.71 11 *e*P **P** **03 22 22.0 -3.2**
NACGM Naroch 18.95 9 *e*P **P** **03 22 25.0 -2.8**
DGRG David-gareji 19.04 67 P **Pn** **03 22 30.3 +0.4**
DGRG David-gareji 19.04 67 P **Pn** **03 22 30.3 +0.4**
SNF Seneffe 19.04 324 P **Pn** **03 22 33.1 +3.3**
IMRD Marand 19.10 75 *e*P **P** **03 22 30.1 +0.2**
IMRD Marand 19.10 75 *e*P **P** **03 22 30.0 +0.2**
IIGN Ignalina 19.33 8 *e*P **P** **03 22 31.2 -0.7**
IIGN lAmb lAmb 03 22 32.9
comp=Z,11nm,0.7s
IIGN Ignalina 19.33 8 *e*P **P** **03 22 31.2 -0.7**
SNR=40
IAZR Azarshahr 19.35 79 *e*P **P** **03 22 32.4 -0.2**
IAZR Azarshahr 19.35 79 *e*P **P** **03 22 32.4 -0.2**
IDID Didziasalis 19.35 9 *e*P **P** **03 22 31.6 -0.6**
IDID lAmb lAmb 03 22 33.5
comp=Z,8.0nm,0.7s
IDID Didziasalis 19.35 9 *e*P **P** **03 22 31.6 -0.6**
SNR=40
BSEG Bad Segeberg 19.40 339 *e*Pn **Pn** **03 22 33.6 -0.5**
BSEG Bad Segeberg 19.40 339 *e*Pn **Pn** **03 22 33.6 -0.5**
VSR Storozhevoye 19.43 34 *e*P **P** **03 22 33.5 +0.4**
VSR *e*S **S** **03 26 09.5 -1.2**
VSR pmax pmax
comp=N,10.0nm,0.5s
VSR pmax pmax
comp=E,9.0nm,0.5s
VSR pmax pmax
comp=Z,20nm,0.5s
VSR smax smax
comp=E,100nm,2.0s
VSR smax smax
comp=Z,20nm,2.0s
VSR smax smax
comp=N,30nm,1.8s
VSR MLR MLR
comp=N,480nm,16.0s
VSR MLR MLR
comp=E,540nm,16.0s
VSR MLR MLR
comp=Z,1µm,16.0s
VSR Storozhevoye 19.43 34 *e*P **P** **03 22 33.5 +0.4**
BSD Bornholm Skovb 19.44 348 *i* P **P** **03 22 33.7 +0.6**
comp=Z,1µm,14.0s
BSD Bornholm Skovb 19.44 348 *e*P **P** **03 22 33.7 +0.6**
BSD MLR MLR
comp=Z,1µm,14.0s
BSD Bornholm Skovb 19.44 348 *e*P **P** **03 22 33.7 +0.6**
comp=Z,1µm,14.0s
ITBZ Tabriz 19.45 77 *e*P **Pn** **03 22 34.7 -0.3**
ITBZ Tabriz 19.45 77 *e*P **Pn** **03 22 34.7 -0.3**
TAM Tamanrasset 19.49 231 *e*P **Pn** **03 22 37.0 +1.5**
TAM pmax pmax
comp=Z,14nm,1.3s
TAM Tamanrasset 19.49 231 *e*P **Pn** **03 22 37.0 +1.5**
comp=Z,14nm,1.3s
TAM Tamanrasset 19.49 231 *e*P **Pn** **03 22 37.0 +1.5**
comp=Z,14nm,1.3s
ISAL Salakas 19.53 7 *e*P **P** **03 22 33.4 -0.7**
ISAL lAmb lAmb 03 22 35.2
comp=Z,14nm,0.8s
ISAL Salakas 19.53 7 *e*P **P** **03 22 33.4 -0.7**
SNR=35
IZAR Zarasai 19.72 7 *e*P **P** **03 22 35.7 -0.5**
IZAR lAmb lAmb 03 22 37.1
comp=Z,24nm,0.7s
IZAR Zarasai 19.72 7 *e*P **P** **03 22 35.7 -0.5**
SNR=35
IDHR Dehrash 20.06 87 *e*P **P** **03 22 40.7 +0.4**
IDHR Dehrash 20.06 87 *e*P **P** **03 22 40.7 +0.4**
IHRS Heris 20.16 77 *e*P **P** **03 22 41.0 -0.4**
IHRS Heris 20.16 77 *e*P **P** **03 22 41.0 -0.4**
IVIS Veis 20.47 87 *e*P **P** **03 22 44.4 -0.3**
IVIS Veis 20.47 87 *e*P **P** **03 22 44.4 -0.3**
ESDC Sonseca Array 20.59 287 P Pn 03 22 47.4 -0.9
comp=Z,5.0nm,0.9s,baz=80,slow=11,SNR=19
ESDC LR LR 03 31 16.1
comp=Z,215nm,19.9s,baz=75,slow=38
MAK Makhachkala 20.84 63 *e*P **P** **03 22 46.3 -2.2**
MAK *e* 03 23 02.4
MAK *e*S **S** **03 26 36.9 -2.0**
MAK *e*SS SnSn 03 27 10.9 +11
MAK pmax pmax
comp=Z,206nm,1.5s
MAK MLR MLR
comp=Z,348nm,14.0s
PAB San Pablo 20.88 287 *e*P **P** **03 22 48.1 -1.0**
PAB pmax pmax
comp=Z,28nm,1.3s
PAB San Pablo 20.88 287 *e*P **P** **03 22 48.1 -1.0**
comp=Z,28nm,1.3s
PAB San Pablo 20.88 287 *e*P **P** **03 22 48.1 -1.0**
comp=Z,28nm,1.3s
IKOM Komasi 21.07 88 *e*P **P** **03 22 51.3 0.0**
IKOM Komasi 21.07 88 *e*P **P** **03 22 51.3 0.0**
IBZA Bozab 21.29 87 *e*P **P** **03 22 53.6 -0.1**
IBZA Bozab 21.29 87 *e*P **P** **03 22 53.6 -0.1**
OBN Obninsk 21.40 24 P **P** **03 22 52.9 -1.5**
comp=Z,20nm,0.4s,baz=229,slow=0.7,SNR=12
OBN LR LR 03 31 57.0
comp=Z,801nm,19.4s,baz=257,slow=39
OBN Obninsk 21.40 24 *c i*P **P** **03 22 53.1 -1.2**
OBN *i* 03 23 05.2
OBN *i* 03 23 16.7
OBN *i* S Sn 03 26 58.0 -0.5
OBN pmax pmax
comp=Z,181nm,2.5s
OBN MLR MLR
comp=N,929nm,25.0s
OBN Obninsk 21.40 24 *e*P **P** **03 22 53.2 -1.1**
comp=N,200nm,1.6s
OBN Obninsk 21.40 24 *e*P **P** **03 22 53.2 -1.1**
comp=N,200nm,1.6s
MDT Midelt 22.02 269 P **P** **03 23 02.9 +1.5**
comp=N,5.8nm,1.0s,baz=84,slow=9.2,SNR=6.6
MDT LR LR 03 33 44.0
comp=N,556nm,19.7s,baz=80,slow=42
MOS Moscow 22.26 24 *e*P **P** **03 23 00.6 -3.0**
MOS *e* 03 23 36.1
MOS *e*S **S** **03 27 00.5 -5.7**
MOS pmax pmax
comp=Z,300nm,1.6s
MOS pmax pmax
comp=Z,160nm,1.5s
MOS MLR MLR
comp=Z,600nm,18.0s
MOS MLR MLR
comp=N,500nm,17.0s
VSU Vasula 22.44 7 *c i*P **P** **03 23 03.9 -1.6**
VSU pmax pmax
comp=Z,55nm,0.6s
IRAZ Razeghan 22.78 84 *e*P **P** **03 23 10.3 +0.8**
PBRG Braganca 22.81 293 *e*P **P** **03 23 11.8 +2.1**
comp=Z,24nm,1.8s
IGZV Ghazvin 22.85 81 *e*P **P** **03 23 11.2 +0.8**
MVO Moncorvo 22.98 291 *e*P **P** **03 23 12.2 +0.7**
comp=Z,40nm,1.4s
MVO *e*S **S** **03 27 18.7 -0.7**
MVO *e*LR LR 03 31 35.3
comp=Z,396nm,20.0s
PBAR Barrancos 23.02 283 *e*P **P** **03 23 14.4 +2.5**
comp=Z,111nm,1.5s
PBAR *ep*P **pP** **03 23 21.6 +0.3**
PMRV Marv??o 23.24 287 *e*P **P** **03 23 14.9 +0.9**
comp=Z,22nm,1.6s
PMRV *e*S **S** **03 27 27.7 +4.1**
PMRV *e*LR LR 03 30 25.2
comp=Z,213nm,20.0s
PCBR Castelo Branco 23.30 288 *e*P **P** **03 23 15.6 +1.0**
comp=Z,24nm,1.4s
MTE Manteigas 23.35 289 *e*P **P** **03 23 15.3 +0.1**
comp=Z,32nm,1.6s
MTE *ep*P **pP** **03 23 25.3 +0.5**
MTE *e*S **S** **03 27 27.8 +2.3**
MTE *e*LR LR 03 30 27.3
comp=Z,333nm,20.0s
PESTR Estremoz 23.41 285 *e*P **P** **03 23 17.4 +1.7**
comp=Z,28nm,1.7s
PVIS Viseu 23.62 290 *e*P **P** **03 23 19.0 +1.2**
comp=Z,24nm,1.6s
PVAQ Vaqueiros 23.63 282 *e*P **P** **03 23 17.1 -0.7**
comp=Z,38nm,1.5s
PVAQ *e*S **S** **03 27 29.8 -0.2**
EVO Evora 23.76 284 *e*P **P** **03 23 20.1 +1.0**
comp=Z,32nm,1.7s
PMTG Montargil 23.90 286 *e*P **P** **03 23 20.6 +0.3**
comp=Z,21nm,1.7s
PGAV Gavieira, Arco 23.96 293 *e*S **S** **03 27 42.3 +6.9**
PGAV *e*LR LR 03 32 51.0
comp=Z,230nm,20.0s
MESJ Messejana 23.98 283 *e*P **P** **03 23 22.8 +1.7**
comp=Z,52nm,1.4s
PTOM Tomar 24.02 287 *e*P P 03 23 28.0 +6.5
comp=Z,24nm,1.9s
RAYN Ar Rayn 24.07 115 *e*P **P** **03 23 22.7 +0.6**
comp=Z,37nm,2.3s
RAYN Ar Rayn 24.07 115 *e*P **P** **03 23 22.7 +0.6**
comp=Z,37nm,2.3s
IVRN Varamin 24.30 84 *e*P **P** **03 23 24.8 +0.6**
HFS Hagfors 24.45 350 P **P** **03 23 24.5 -0.7**
comp=Z,8.3nm,0.6s,baz=163,slow=10,SNR=44
HFS LR LR 03 34 55.0
comp=Z,577nm,19.1s,baz=166,slow=41
KONO Kongsberg 24.71 345 *e*P **P** **03 23 27.5 0.0**
KONO pmax pmax
comp=Z,7.0nm,0.1s
KONO Kongsberg 24.71 345 *e*P **P** **03 23 27.5 0.0**
comp=Z,7.0nm,0.1s
KONO Kongsberg 24.71 345 *e*P **P** **03 23 27.5 0.0**
comp=Z,7.0nm,0.1s
IFIR Firoozkooh 25.00 82 *e*P **P** **03 23 31.2 +0.5**
FINES FINESS Array B 25.34 5 P **P** **03 23 32.5 -0.7**
comp=Z,6.6nm,0.7s,baz=165,slow=12,SNR=27
FINES LR LR 03 34 40.4
comp=Z,1µm,19.1s,baz=256,slow=39
EKA Eskdalemuir Ar 25.59 326 P **P** **03 23 35.6 0.0**
comp=Z,0.8nm,0.4s,baz=133,slow=8.8,SNR=12
NB2 NORSAR Subarra 25.70 348 P **P** **03 23 36.1 -0.4**
comp=Z,0.6nm,0.5s,baz=155,slow=11
NOA NORSAR Array B 25.70 348 P **P** **03 23 35.1 -1.4**
comp=Z,3.6nm,0.7s,baz=159,slow=9.6,SNR=21
NOA LR LR 03 35 42.3
comp=Z,297nm,18.7s,baz=165,slow=41
DSB Dublin 26.00 320 *e*P **P** **03 23 39.9 +0.6**
comp=Z,14nm,1.3s
DSB Dublin 26.00 320 *e*P **P** **03 23 39.9 +0.6**
comp=Z,14nm,1.3s
GEYT Alibeck 28.89 76 P **P** **03 24 04.9 -0.5**
comp=Z,7.5nm,0.5s,baz=270,slow=7.4,SNR=12
GEYT LR LR 03 39 08.8
comp=Z,240nm,18.3s,baz=245,slow=44
TOC1 Torodi Ar. Sit 29.25 223 *e*P **P** **03 24 09.4 +0.7**
TORD Torodi Ar. Bea 29.27 223 P **P** **03 24 09.9 +1.0**
comp=Z,4.9nm,0.7s,baz=36,slow=9.0,SNR=26
TORD LR LR 03 37 30.0
comp=Z,561nm,18.7s,baz=30,slow=40
PRGR Permogore 29.48 23 P **P** **03 24 07.7 -2.6**
PRGR *e*S **S** **03 28 56.6 -5.4**
PRGR pmax pmax
comp=Z,17nm,1.1s
AKTO Aktyubinsk 29.56 50 P **P** **03 24 10.2 -0.9**
comp=Z,5.6nm,0.7s,baz=257,slow=8.2,SNR=30
AKTO LR LR 03 38 56.6
comp=Z,388nm,20.1s,baz=270,slow=42
AKTO Aktyubinsk 29.56 50 P **P** **03 24 09.2 -2.0**
AKTO pmax pmax
comp=Z,8.0nm,0.8s
AB31 Akbulak array 30.52 53 P **P** **03 24 18.2 -1.4**
AB31 pmax pmax
comp=Z,1.0nm,0.3s
AB31 Akbulak array 30.52 53 P **P** **03 24 18.2 -1.4**
comp=Z,1.0nm,0.3s
ABKAR Akbulak array 30.52 53 *e*P **P** **03 24 18.8 -0.9**
ABKAR Akbulak array 30.52 53 *e*P **P** **03 24 18.8 -0.9**
UOSS Wadi Hilu 31.52 101 *e*P **P** **03 24 28.5 -0.2**
comp=Z,8.6nm,0.7s
UOSS Wadi Hilu 31.52 101 *e*P **P** **03 24 28.5 -0.2**
comp=Z,8.6nm,0.7s
ARU Arti 31.84 39 *c i*P **P** **03 24 30.1 -1.1**
ARU 03 25 30.9
ARU S **S** **03 29 38.6 -0.6**
ARU pmax pmax
comp=Z,32nm,1.7s
ARU MLR MLR
comp=Z,505nm,17.0s
ARU Arti 31.84 39 *e*P **P** **03 24 30.5 -0.7**
comp=Z,21nm,1.1s
ARU Arti 31.84 39 *e*P **P** **03 24 30.5 -0.7**
comp=Z,21nm,1.1s
SOKR Solikamsk 32.44 33 *d i*P **P** **03 24 36.4 0.0**
SOKR pmax pmax
comp=Z,20nm,0.7s
SOKR MLR MLR
comp=Z,570nm,24.0s
SVE Sverdlovsk 33.06 39 *e*P **P** **03 24 41.5 -0.4**
SVE pmax pmax
comp=Z,26nm,0.6s
SVE MLR MLR
comp=Z,559nm,18.0s
SVE Sverdlovsk 33.06 39 *e*P **P** **03 24 41.5 -0.4**
comp=Z,559nm,18.0s
ARCES ARCESS Array B 33.39 2 P **P** **03 24 44.0 -0.6**
comp=Z,4.1nm,0.8s,baz=188,slow=9.5,SNR=34
ARCES LR LR 03 39 30.8
comp=Z,885nm,19.1s,baz=186,slow=39
ARCES ARCESS Array B 33.39 2 P **P** **03 24 44.0 -0.6**
ARCES ARCESS Array B 33.39 2 P **P** **03 24 44.0 -0.6**
BRVK Borovoye 37.53 48 *c i*P **P** **03 25 19.9 -0.4**
BRVK pmax pmax
comp=Z,19nm,1.7s
BRVK Borovoye 37.53 48 *e*P **P** **03 25 20.0 -0.4**
comp=Z,7.3nm,0.7s
BRVK Borovoye 37.53 48 *e*P **P** **03 25 20.0 -0.4**
comp=Z,7.3nm,0.7s
BVA0 Borovoye Array 37.59 48 *i* P **P** **03 25 20.2 -0.7**
BVA0 pmax pmax
comp=Z,6.0nm,0.7s
BVA0 Borovoye Array 37.59 48 *i* P **P** **03 25 20.2 -0.7**
comp=Z,6.0nm,0.7s
BVAR Borovoye Array 37.59 48 P **P** **03 25 21.0 +0.1**
comp=Z,5.0nm,0.6s,baz=265,slow=6.2,SNR=34
KK31 Karatay Array 37.65 64 *i* P **P** **03 25 21.3 -0.3**
KK31 pmax pmax
comp=Z,9.0nm,0.7s
KK31 Karatay Array 37.65 64 *i* P **P** **03 25 21.3 -0.3**
comp=Z,9.0nm,0.7s
KKAR Karatay Array 37.65 64 *e*P **P** **03 25 21.3 -0.3**
KKAR pmax pmax
comp=Z,17nm,0.8s
KKAR Karatay Array 37.65 64 *e*P **P** **03 25 21.3 -0.3**
comp=Z,17nm,0.8s

KKAR	**Karatay Array**	**37.65**	**64**	*e*P		**P**	**03 25 21.3**	**-0.3**
	comp=Z,17nm,0.8s								
DBIC	**Dimbokro**	**38.25**	**226**	P		**P**	**03 25 27.9**	**+1.2**
	comp=Z,5.6nm,0.7s,baz=18,slow=9.2,SNR=11								
DBIC				LR		LR	03 43 26.3		
	comp=Z,270nm,18.4s,baz=14,slow=40								
DBIC	**Dimbokro**	**38.25**	**226**	P		**P**	**03 25 28.0**	**+1.2**
DBIC	**Dimbokro**	**38.25**	**226**	P		**P**	**03 25 28.0**	**+1.2**
TIC	**Toumodi**	**38.37**	**226**	*e*P		**P**	**03 25 28.6**	**+0.8**
KIC	**Kosan Boka**	**38.44**	**226**	*e*P		**P**	**03 25 29.2**	**+0.8**
	comp=Z,21nm,0.9s								
LIC	**Lamto**	**38.71**	**226**	*e*P		**P**	**03 25 30.8**	**+0.1**
	comp=Z,77nm,1.2s								
KMBO	**Kilima Mbogo**	**39.88**	**155**	LR		LR	03 44 43.5		
	comp=Z,147nm,19.1s,baz=344,slow=40								
EKS2	**Erkin-Say**	**40.09**	**64**	P		**P**	**03 25 42.6**	**+0.4**
	SNR=19								
EKS2	**Erkin-Say**	**40.09**	**64**	*e*P		**P**	**03 25 42.4**	**+0.3**
EKS2				pmax		pmax			
	comp=Z,19nm,0.8s								
EKS2	**Erkin-Say**	**40.09**	**64**	*e*P		**P**	**03 25 42.4**	**+0.3**
	comp=Z,18nm,0.8s								
EKS2	**Erkin-Say**	**40.09**	**64**	*e*P		**P**	**03 25 42.4**	**+0.3**
	comp=Z,19nm,0.8s								
USP	**Ospenovka**	**40.52**	**63**	P		**P**	**03 25 45.0**	**-0.6**
	SNR=9.3								
AAK	**Ala-Archa**	**40.62**	**64**	P		**P**	**03 25 47.6**	**+1.1**
	SNR=9.5								
AAK	**Ala-Archa**	**40.62**	**64**	P		**P**	**03 25 46.9**	**+0.4**
AAK				pmax		pmax			
	comp=Z,15nm,0.8s								
AAK	**Ala-Archa**	**40.62**	**64**	P		**P**	**03 25 46.9**	**+0.4**
	comp=Z,15nm,0.8s								
FRU	**Bishkek**	**40.67**	**64**	*i* P		**P**	**03 25 47.5**	**+0.6**
FRU				*i*			03 25 59.5		
FRU				*e*			03 31 54.0		
FRU				pmax		pmax			
	comp=Z,90nm,2.0s								
FRU				MLR		MLR			
	comp=E,200nm,18.0s								
FRU	**Bishkek**	**40.67**	**64**	*i* P		**P**	**03 25 47.5**	**+0.6**
	comp=E,90nm,2.0s								
UCH	**Uchtor**	**40.70**	**65**	P		**P**	**03 25 48.4**	**+0.8**
	SNR=7.6								
CHMS	**Chumysh**	**40.75**	**64**	P		**P**	**03 25 47.9**	**+0.5**
	SNR=9.2								
KZA	**Kyzart**	**41.26**	**65**	P		**P**	**03 25 53.6**	**+1.5**
	SNR=8.7								
SCO	**Scoresbysund**	**41.34**	**339**	*i* P		**P**	**03 25 53.9**	**+2.0**
	comp=E,11nm,1.0s								
SCO	**Scoresbysund**	**41.34**	**339**	*e*P		**P**	**03 25 53.9**	**+2.0**
SCO				pmax		pmax			
	comp=Z,11nm,1.0s								
SCO	**Scoresbysund**	**41.34**	**339**	*e*P		**P**	**03 25 53.9**	**+2.0**
	comp=Z,11nm,1.0s								
TKM2	**Tokmak 2**	**41.37**	**64**	P		**P**	**03 25 52.8**	**0.0**
	SNR=10								
TKM2	**Tokmak 2**	**41.37**	**64**	*e*P		**P**	**03 25 52.5**	**-0.3**
TKM2				pmax		pmax			
	comp=Z,15nm,1.0s								
TKM2	**Tokmak 2**	**41.37**	**64**	*e*P		**P**	**03 25 52.5**	**-0.3**
	comp=Z,15nm,1.0s								
TKM2	**Tokmak 2**	**41.37**	**64**	*e*P		**P**	**03 25 52.5**	**-0.3**
	comp=Z,15nm,1.0s								
ULHL	**Ulahol**	**41.96**	**65**	P		**P**	**03 25 58.1**	**+0.5**
	SNR=5.2								
SPITS	**Spitsbergen Ar**	**42.08**	**358**	P		**P**	**03 25 58.3**	**+0.4**
	comp=Z,1.6nm,0.4s,baz=161,slow=13,SNR=7.9								
KURBB	**Kurchatov Arra**	**42.56**	**52**	P		**P**	**03 26 01.1**	**-1.0**
	comp=Z,5.1nm,0.6s,baz=276,slow=8.7,SNR=43								
KURK	**Kurchatov**	**42.61**	**52**	P		**P**	**03 26 01.2**	**-1.3**
KURK				pmax		pmax			
	comp=Z,5.0nm,0.6s								
KURK	**Kurchatov**	**42.61**	**52**	*e*P		**P**	**03 26 01.5**	**-1.0**
KURK	**Kurchatov**	**42.61**	**52**	*e*P		**P**	**03 26 01.5**	**-1.0**
PDGK	**Podgornoye**	**44.10**	**62**	P		**P**	**03 26 14.4**	**-0.2**
PDGK				pmax		pmax			
	comp=Z,12nm,0.6s								
DAG	**Danmarks Havn**	**44.38**	**348**	*i* P		**P**	**03 26 17.1**	**+0.7**
	comp=Z,3.0nm,0.7s								
	comp=Z,230nm,23.0s								
DAG	**Danmarks Havn**	**44.38**	**348**	*i* P		**P**	**03 26 17.1**	**+0.7**
DAG				pmax		pmax			
	comp=Z,2.0nm,0.7s								
DAG				MLR		MLR			
	comp=Z,270nm,23.0s								
NVS	**Novosibirsk**	**45.24**	**46**	*i* P		**P**	**03 26 23.0**	**-0.6**
NVS				*e*			03 26 35.4		
NVS				pmax		pmax			
	comp=Z,24nm,1.2s								
NVS				pmax		pmax			
	comp=E,8.0nm,0.9s								
MK31	**Makanchi Array**	**45.44**	**57**	P		**P**	**03 26 24.7**	**-0.7**
MK31				pmax		pmax			
	comp=Z,2.0nm,0.3s								
MKAR	**Makanchi Array**	**45.44**	**57**	P		**P**	**03 26 24.7**	**-0.7**
	comp=Z,4.7nm,0.5s,baz=272,slow=8.0,SNR=42								
MKAR				LR		LR	03 50 08.8		
	comp=Z,88nm,18.0s,baz=292,slow=42								
MKAR	**Makanchi Array**	**45.44**	**57**	P		**P**	**03 26 24.7**	**-0.7**
MKAR				pmax		pmax			
	comp=Z,5.0nm,0.5s								
MKAR				MLR		MLR			
	comp=Z,88nm,18.0s								
MKAR	**Makanchi Array**	**45.44**	**57**	*e*P		**P**	**03 26 25.0**	**-0.4**
MKAR	**Makanchi Array**	**45.44**	**57**	*e*P		**P**	**03 26 25.0**	**-0.4**
ZALV	**Zalesovo Beam**	**46.22**	**47**	P		**P**	**03 26 30.1**	**-1.2**
	comp=Z,11nm,0.6s,baz=270,slow=9.0,SNR=32								
ZALV				LR		LR	03 48 52.0		
	comp=Z,151nm,19.0s,baz=252,slow=40								
NDI	**New Delhi**	**46.81**	**83**	*e*P		**P**	**03 26 37.0**	**+0.7**
SUMG	**Summit**	**46.98**	**339**	*i* P		**P**	**03 26 39.7**	**+2.2**
	comp=Z,300nm,20.0s								
SUMG	**Summit**	**46.98**	**339**	*e*P		**P**	**03 26 39.7**	**+2.2**
SUMG				MLR		MLR			
	comp=Z,300nm,20.0s								
WMQ	**Urumqi**	**49.80**	**60**	P		**P**	**03 27 01.3**	**+2.1**
WMQ				pP		**pP**	**03 27 11.5**	**+1.7**
WMQ				sP		**sP**	**03 27 15.9**	**+2.0**
WMQ				S		**S**	**03 34 06.5**	**+0.2**
WMQ				ScS		**ScS**	**03 36 47.3**	**-0.7**
WMQ				PMZ					
	comp=Z,12nm,0.7s								
WMQ				PMZ					
	comp=Z,100nm,4.2s								
WMQ				LN					
	comp=Z,300nm,27.8s								
WMQ				LE					
	comp=Z,160nm,16.4s								
WMQ				LZ					
	comp=Z,92nm,27.0s								
LSZ	**Lusaka**	**51.61**	**172**	P		**P**	**03 27 13.9**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=106,slow=7.4,SNR=5.3								
DANN	**Dangsing**	**52.17**	**80**	*e*P		**P**	**03 27 18.0**	**+0.4**
	comp=Z,25nm,0.7s								
KOLN	**Koldanda**	**52.30**	**81**	*e*P		**P**	**03 27 18.2**	**-0.2**
	comp=Z,38nm,0.7s								
GKN	**Gorkha**	**53.02**	**80**	*e*P		**P**	**03 27 23.4**	**-0.3**
	comp=Z,77nm,0.6s								
DMN	**Daman**	**53.57**	**80**	*e*P		**P**	**03 27 27.9**	**+0.1**
	comp=Z,96nm,0.7s								
KKN	**Kakani**	**53.62**	**80**	*e*P		**P**	**03 27 27.9**	**-0.3**
	comp=Z,43nm,0.6s								
PKI	**Pulchoki**	**53.82**	**80**	*e*P		**P**	**03 27 29.4**	**-0.4**
	comp=Z,59nm,0.9s								
GUN	**Gumba**	**54.05**	**79**	*e*P		**P**	**03 27 31.3**	**-0.1**
	comp=Z,94nm,0.9s								
RAMN	**Ramite**	**55.05**	**80**	*e*P		**P**	**03 27 37.8**	**-0.8**
	comp=Z,53nm,0.7s								
ODAN	**Odare**	**55.72**	**80**	*e*P		**P**	**03 27 42.5**	**-0.9**
	comp=Z,14nm,0.5s								
TAPN	**Taplejung**	**55.75**	**79**	*e*P		**P**	**03 27 43.3**	**-0.4**
	comp=Z,26nm,0.6s								
LSA	**Lhasa**	**57.42**	**75**	*e*P		**P**	**03 27 55.9**	**+0.2**
LSA				pmax		pmax			
	comp=Z,11nm,0.6s								
LSA	**Lhasa**	**57.42**	**75**	*e*P		**P**	**03 27 55.9**	**+0.2**
	comp=Z,11nm,0.6s								
LSA	**Lhasa**	**57.42**	**75**	*e*P		**P**	**03 27 55.9**	**+0.2**
	comp=Z,11nm,0.6s								
ZAK	**Zakamensk**	**58.05**	**48**	*e*P		**P**	**03 27 59.0**	**-0.4**
ZAK				pmax		pmax			
	comp=Z,4.0nm,1.1s								
GTA	**Gaotai**	**59.83**	**61**	*e*P		**P**	**03 28 11.8**	**-0.2**
GTA				pP		**pP**	**03 28 22.0**	**-0.7**
GTA				sP		**sP**	**03 28 26.1**	**-0.7**
GTA				S		**S**	**03 36 18.1**	**-3.0**
GTA				PMZ					
	comp=Z,7.0nm,1.1s								
GTA				PMZ					
	comp=Z,81nm,5.9s								
GTA				LN					
	comp=Z,170nm,19.5s								
GTA				LE					
	comp=Z,150nm,23.3s								
GTA				LZ					
	comp=Z,240nm,20.9s								
SCHQ	**Schefferville**	**60.57**	**318**	P		**P**	**03 28 18.2**	**+1.5**
	comp=Z,3.1nm,0.6s,baz=56,slow=8.2,SNR=6.2								
SCHQ				LR		LR	03 53 57.3		
	comp=Z,152nm,21.0s,baz=88,slow=36								
PALK	**Pallekele**	**60.76**	**103**	LR		LR	03 56 59.1		
	comp=Z,75nm,18.2s,baz=316,slow=38								
SONM	**Songino Array**	**60.88**	**50**	P		**P**	**03 28 18.6**	**-0.4**
	comp=Z,2.9nm,0.6s,baz=283,slow=8.2,SNR=28								
SONM				LR		LR	03 59 55.4		
	comp=Z,133nm,18.6s,baz=302,slow=41								
BOD	**Bodaibo**	**61.25**	**38**	*e*P		**P**	**03 28 19.7**	**-1.5**
BOD				pmax		pmax			
	comp=Z,6.0nm,0.8s								
RES	**Resolute Bay**	**61.89**	**344**	P		**P**	**03 28 26.1**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=37,slow=5.1,SNR=3.5								
LZH	**Lanzhou**	**64.14**	**63**	*e*P		**P**	**03 28 42.3**	**+1.3**
LZH				pP		**pP**	**03 28 47.5**	**-4.3**
LZH				PMZ					
	comp=Z,17nm,1.0s								
LZH				PMZ					
	comp=Z,95nm,4.0s								
LZH				LN					
	comp=Z,98nm,10.9s								
LZH				LE					
	comp=Z,110nm,13.4s								
LZH				LZ					
	comp=Z,210nm,18.6s								
BOSA	**Boshof**	**64.61**	**177**	P		**P**	**03 28 45.4**	**+1.5**
	comp=Z,2.3nm,0.5s,baz=350,slow=8.6,SNR=11								
BOSA				LR		LR	03 59 57.8		
	comp=Z,341nm,19.6s,baz=358,slow=39								
YAK	**Yakutsk**	**66.26**	**29**	*e*P		**P**	**03 28 55.5**	**+1.4**
YAK				pmax		pmax			
	comp=Z,21nm,0.9s								
CD2	**Chengdu**	**66.52**	**68**	⇑P		**P**	**03 28 56.1**	**-0.3**
CD2				pP		**pP**	**03 29 06.8**	**-0.4**
CD2				sP		**sP**	**03 29 11.0**	**-0.3**
CD2				PP		**PP**	**03 31 22.1**	**-0.7**
CD2				S		**S**	**03 37 43.5**	**-1.3**
CD2				sS		**sS**	**03 38 01.6**	**-1.1**
CD2				PMZ					
	comp=Z,20nm,0.8s								
CD2				PMZ					
	comp=Z,110nm,4.9s								
CD2				LN					
	comp=Z,140nm,6.6s								
CD2				LZ					
	comp=Z,110nm,7.2s								
HHC	**Hu-ho-hao-te**	**67.27**	**55**	*e*P		**P**	**03 29 02.0**	**+1.0**
HHC				PP		**PP**	**03 31 31.3**	**+2.1**
HHC				S		**S**	**03 37 51.1**	**-2.6**
HHC				sS		**sS**	**03 38 08.3**	**-3.3**
HHC				PMZ					
	comp=Z,25nm,0.7s								
HHC				PMZ					
	comp=Z,58nm,7.4s								
HHC				LN					
	comp=Z,87nm,14.8s								
HHC				LE					
	comp=Z,120nm,16.0s								
HHC				LZ					
	comp=Z,53nm,19.7s								
KMI	**Kunming**	**68.64**	**74**	P		**P**	**03 29 10.0**	**0.0**
KMI				PMZ					
	comp=Z,12nm,0.5s								
XAN	**Xi'an**	**68.77**	**63**	P		**P**	**03 29 09.1**	**-1.4**
XAN				PMZ					
	comp=Z,8.0nm,0.7s								
XAN				PMZ					
	comp=Z,49nm,3.7s								
CMAR	**Chiang Mai Arr**	**69.13**	**82**	P		**P**	**03 29 12.8**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=299,slow=7.9,SNR=14								
CMAR	**Chiang Mai Arr**	**69.13**	**82**	*i* P		**P**	**03 29 13.1**	**+0.2**
CMAR				pmax		pmax			
	comp=Z,3.0nm,0.7s								
BJI	**Beijing**	**70.72**	**54**	P		**P**	**03 29 22.3**	**0.0**
BJI				PP		PP	03 32 05.5	+6.7	
BJI				S		**S**	**03 38 33.1**	**-1.1**
BJI				PMZ					
	comp=Z,14nm,0.7s								
BJI				LN					
	comp=Z,110nm,22.2s								
BJI				LE					
	comp=Z,160nm,27.0s								
BJI				LZ					
	comp=Z,190nm,31.8s								
GYA	**Guiyang**	**70.97**	**71**	P		**P**	**03 29 24.8**	**+0.6**
GYA				PMZ					
	comp=Z,20nm,1.0s								
BILL	**Bilibino**	**72.64**	**13**	*c i*P		**P**	**03 29 33.2**	**-0.2**
BILL				*i*			03 29 45.2		
BILL				*i*			03 29 51.3		
BILL				pmax		pmax			
	comp=Z,5.0nm,1.3s								
TIA	**Tai'an**	**73.38**	**57**	⇑P		**P**	**03 29 38.3**	**-0.1**
TIA				PMZ					
	comp=Z,10.0nm,0.8s								
SEY	**Seymchan**	**73.54**	**21**	⇑*i*P		**P**	**03 29 39.6**	**+0.8**
CN2	**Changchun**	**74.44**	**47**	*e*P		**P**	**03 29 44.6**	**+0.2**
CN2				PMZ					
	comp=Z,20nm,0.7s								
KLR	**Kul'dur**	**74.68**	**40**	*e*P		P	03 29 41.8	-3.9	
YKA	**Yellowknife Ar**	**75.54**	**341**	P		**P**	**03 29 50.8**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=33,slow=5.2,SNR=14								
MA2	**Magadan**	**75.62**	**24**	⇑*e*P		**P**	**03 29 51.9**	**+1.0**
COWI	**Conover**	**77.18**	**318**	*e*P		**P**	**03 30 01.4**	**+1.3**
	comp=Z,5.8nm,0.8s								
COWI	**Conover**	**77.18**	**318**	*e*P		**P**	**03 30 01.4**	**+1.3**
	comp=Z,5.8nm,0.8s								
ULM	**Lac du Bonnet**	**77.85**	**324**	P		**P**	**03 30 04.5**	**+0.7**
	comp=Z,1.0nm,0.4s,baz=59,slow=5.9,SNR=3.5								
ULM				LR		LR	04 05 43.5		
	comp=Z,172nm,19.4s,baz=40,slow=37								
USRK	**Ussuriysk Ar.**	**77.95**	**44**	P		**P**	**03 30 04.0**	**-0.4**
	comp=Z,7.4nm,0.8s,baz=310,slow=6.8,SNR=15								
USRK				LR		LR	04 08 27.6		
	comp=Z,66nm,19.2s,baz=275,slow=39								
ILAR	**Eielson Array**	**78.91**	**355**	P		**P**	**03 30 10.2**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=352,slow=4.1,SNR=7.6								
ILAR				LR		LR	04 06 29.2		
	comp=Z,60nm,21.0s,baz=333,slow=37								
KSAR	**Wonju Array Be**	**79.72**	**51**	P		**P**	**03 30 14.4**	**+0.2**
KSAR	**Wonju Array Be**	**79.72**	**51**	P		**P**	**03 30 14.4**	**+0.2**
KSAR	**Wonju Array Be**	**79.72**	**51**	P		**P**	**03 30 14.3**	**+0.2**
KSRS	**Korea Array**	**79.73**	**51**	P		**P**	**03 30 14.3**	**+0.1**
	comp=Z,6.8nm,0.8s,baz=311,slow=4.9,SNR=20								
KSRS				LR		LR	04 09 52.8		
	comp=Z,143nm,18.2s,baz=280,slow=39								
KSRS	**Korea Array**	**79.73**	**51**	P		**P**	**03 30 14.4**	**+0.1**
KSRS				pmax		pmax			
	comp=Z,7.0nm,0.9s								
KSRS				MLR		MLR			
	comp=Z,143nm,18.2s								
TJN	**Taejon**	**80.04**	**52**	P		**P**	**03 30 13.8**	**-2.1**
YSS	**Yuzh-Sakhalins**	**81.69**	**36**	*e*P		P	03 30 18.0	-6.6	
YSS				*e*			03 30 36.5		
ECSD	**EROS Data Cent**	**82.72**	**320**	*e*P		**P**	**03 30 30.7**	**+0.7**
	comp=Z,12nm,1.6s								
ECSD	**EROS Data Cent**	**82.72**	**320**	*e*P		**P**	**03 30 30.7**	**+0.7**
	comp=Z,12nm,1.6s								
PETK	**Petropavlovsk-**	**83.10**	**25**	LR		LR	04 13 13.3		
	comp=Z,92nm,18.2s,baz=290,slow=40								
BDFB	**Brasilia**	**83.65**	**246**	LR		LR	04 07 32.0		
	comp=Z,635nm,20.6s,baz=50,slow=35								
COCO	**West Island**	**85.37**	**109**	*i* P		**P**	**03 30 41.7**	**-2.1**
MJAR	**Matsushiro Ar**	**86.57**	**46**	P		**P**	**03 30 49.9**	**+0.3**
	comp=Z,3.2nm,0.8s,baz=304,slow=5.2,SNR=9.9								
MJAR				LR		LR	04 13 42.4		
	comp=Z,70nm,18.1s,baz=310,slow=39								
PDAR	**Pinedale Array**	**89.71**	**326**	P		**P**	**03 31 04.1**	**-0.6**
	comp=Z,0.5nm,0.9s,baz=27,slow=4.4,SNR=3.2								
PDAR				LR		LR	04 12 19.8		
	comp=Z,185nm,21.4s,baz=27,slow=36								
TXAR	**Lajitas Array**	**97.04**	**314**	P		Pdif	03 31 40.4	+1.8	
	comp=Z,0.2nm,0.8s,baz=65,slow=4.3,SNR=2.9								
TXAR				LR		LR	04 15 27.5		
	comp=Z,95nm,20.4s,baz=0.0,slow=36								
CPUP	**Villa Florida**	**97.08**	**243**	LR		LR	04 16 25.8		
	comp=Z,256nm,19.7s,baz=49,slow=36								
LPAZ	**La Paz**	**99.41**	**257**	LR		LR	04 17 08.7		
	comp=Z,91nm,21.4s,baz=74,slow=36								
WRA	**Warramunga Arr**	**119.40**	**94**	PKP		**PKPdf**	**03 36 55.9**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=317,slow=1.9,SNR=8.3								
ASAR	**Alice Springs**	**120.91**	**98**	PKP		**PKPdf**	**03 36 58.8**	**0.0**
	comp=Z,1.1nm,0.8s,baz=303,slow=1.6,SNR=9.9								

IDC ***13*** *03:36:18.3±0.9,40.°72N×15.°39E,h0km,mb3.5/8, mb1 3.7/16,mb1mx3.6/42,mbtmp3.5/16,ML3.6/8,Error ellipse: s-maj=15.5km s-min=14.4km az=80.0*
CSEM ***13*** *03:36:18.9±0.1,40.°61N×15.°43E,h10km,ML4.1/11,Ms3.2, Error ellipse: s-maj=3.0km s-min=1.9km az=34.0*
ROM ***13*** *03:36:18.7±0.1,40.°58N×15.°49E,h9km±1km,Ml3.5/39, Error ellipse: s-maj=1.3km s-min=0.9km az=60.0*
LDG ***13*** *03:36:18.3±0.1,40.°63N×15.°57E,h2km,Ml3.3/6,Error ellipse: s-maj=2.7km s-min=2.0km az=55.0*
PRU ***13*** *03:36:20.5,40.°77N×15.°78E,h0km*
VIE ***13*** *03:36:21.3±0.4,40.°84N×15.°78E,h10km,mb3.0/6,Ms3.2/6, Error ellipse: s-maj=7.5km s-min=3.5km az=75.0*
THE ***13*** *03:36:23.3,40.°71N×15.°68E,h31km±50km,ML3.5/5,Error ellipse: s-maj=50.7km s-min=2.3km az=0.0*

ISC 13 03:36:19.4±0.7,40.°59N±0.°02×15.°47E±0.°02,h15km±5km, n314,σ1$30/378,mb3.6/7,48C-13D,Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CDRU	**Civita di Ruta**	**0.16**	**232**	⇑*i*Pg		**Pg**	**03 36 23.1**	**-0.5**
CDRU				Sg		**Sg**	**03 36 26.0**	**-0.4**
	20μm,0.2s							
CDRU	**Civita di Ruta**	**0.16**	**232**	⇑*i*Pg		**Pg**	**03 36 23.1**	**-0.5**
CDRU				Sg		**Sg**	**03 36 26.0**	**-0.4**
	20μm,0.2s							
PZUN	**Potenza**	**0.26**	**77**	⇑*i*Pg		**Pg**	**03 36 25.4**	**+0.3**
PZUN				Sg		**Sg**	**03 36 28.9**	**0.0**
	13μm,0.6s							
PZUN	**Potenza**	**0.26**	**77**	⇑*i*Pg		**Pg**	**03 36 25.4**	**+0.3**
PZUN				Sg		**Sg**	**03 36 28.9**	**0.0**
	13μm,0.6s							
CMPR	**Campora**	**0.30**	**205**	Pg		**Pg**	**03 36 25.4**	**-0.4**
CMPR				Sg		**Sg**	**03 36 30.0**	**-0.1**
	8μm,0.3s							
CMPR	**Campora**	**0.30**	**205**	Pg		**Pg**	**03 36 25.4**	**-0.4**
CMPR				Sg		**Sg**	**03 36 30.0**	**-0.1**
	8μm,0.3s							
MCRV	**Calabrutti - M**	**0.30**	**310**	Pg		**Pg**	**03 36 25.1**	**-0.7**
MCRV				Sg		**Sg**	**03 36 30.4**	**+0.2**
	8μm,0.3s							
MCRV	**Calabrutti - M**	**0.30**	**310**	Pg		**Pg**	**03 36 25.1**	**-0.7**
MCRV				Sg		**Sg**	**03 36 30.4**	**+0.2**
	8μm,0.3s							
MCEL	**Monticello**	**0.37**	**136**	Pg		**Pg**	**03 36 26.5**	**-0.4**
MCEL				Sg		**Sg**	**03 36 32.5**	**+0.4**
	6μm,0.6s							
MCEL	**Monticello**	**0.37**	**136**	Pg		**Pg**	**03 36 26.5**	**-0.4**
MCEL				Sg		**Sg**	**03 36 32.5**	**+0.4**
	6μm,0.6s							
VULT	**Monte Vulture**	**0.38**	**17**	⇑*i*Pg		**Pg**	**03 36 26.9**	**-0.3**
VULT				Sg		**Sg**	**03 36 33.0**	**+0.4**
	7μm,0.4s							
VULT	**Monte Vulture**	**0.38**	**17**	⇑*i*Pg		**Pg**	**03 36 26.9**	**-0.3**
VULT				Sg		**Sg**	**03 36 33.0**	**+0.4**
	7μm,0.4s							
MTSN	**Montesano sull**	**0.39**	**146**	Pg		**Pg**	**03 36 27.1**	**-0.2**
MTSN				Sg		**Sb**	**03 36 33.6**	**-0.2**
	2μm,0.5s							
MTSN	**Montesano sull**	**0.39**	**146**	Pg		**Pg**	**03 36 27.1**	**-0.2**
MTSN				Sg		**Sb**	**03 36 33.6**	**-0.2**
	2μm,0.5s							
SNAL	**S. Angelo Dei**	**0.39**	**330**	Pg		**Pg**	**03 36 27.0**	**-0.4**
SNAL				Sg		**Sb**	**03 36 33.6**	**-0.3**
	9μm,0.6s							
SNAL	**S. Angelo Dei**	**0.39**	**330**	Pg		**Pg**	**03 36 27.0**	**-0.4**
SNAL				Sg		**Sb**	**03 36 33.6**	**-0.3**
	9μm,0.6s							
ACER	**Acerenza**	**0.41**	**61**	⇑*i*Pg		**Pg**	**03 36 27.4**	**-0.3**
ACER				Sg		**Sb**	**03 36 34.3**	**-0.2**
	8μm,0.5s							
ACER	**Acerenza**	**0.41**	**61**	⇑*i*Pg		**Pg**	**03 36 27.4**	**-0.3**
ACER				Sg		**Sb**	**03 36 34.3**	**-0.2**
	8μm,0.5s							
CAFE	**Carife**	**0.47**	**338**	Pg		**Pg**	**03 36 28.5**	**-0.4**
CAFE				Sg		**Sb**	**03 36 37.0**	**+0.7**
	5μm,0.5s							
CAFE	**Carife**	**0.47**	**338**	Pg		**Pg**	**03 36 28.5**	**-0.4**
SIRI	**Monte Sirino -**	**0.51**	**143**	Pg		**Pg**	**03 36 28.7**	**-0.8**
	4μm,0.2s							
SIRI	**Monte Sirino -**	**0.51**	**143**	Pg		**Pg**	**03 36 28.7**	**-0.8**
	4μm,0.2s							
PALZ	**Palazzo San Ge**	**0.51**	**46**	⇑*i*Pg		**Pg**	**03 36 28.8**	**-0.8**
PALZ	**Palazzo San Ge**	**0.51**	**46**	⇑*i*Pg		**Pg**	**03 36 28.8**	**-0.8**
BULG	**Bulgheria - Ca**	**0.52**	**188**	Pg		**Pg**	**03 36 29.3**	**-0.4**
	4μm,0.5s							
BULG	**Bulgheria - Ca**	**0.52**	**188**	Pg		**Pg**	**03 36 29.3**	**-0.4**
	4μm,0.5s							
SGTA	**Sant Agata di**	**0.55**	**352**	Pg		**Pg**	**03 36 29.9**	**-0.5**
SGTA				Sg		**Sb**	**03 36 39.3**	**+0.7**
	3μm,0.7s

GATE	Gambatesa	1.01	336	Pg	Pg	03 36 39.8	+0.7
	725nm,0.8s						
LTRZ	Laterza	1.03	89	Pg	Pb	03 36 37.4	-1.5
	964nm,1.9s						
LTRZ	Laterza	1.03	89	Pg	Pb	03 36 37.4	-1.5
	964nm,1.9s						
PTRJ	Pietraroja	1.05	318	Pg	Pb	03 36 39.3	-0.1
	3µm,0.6s						
PTRJ	Pietraroja	1.05	318	Pg	Pb	03 36 39.3	-0.1
	3µm,0.6s						
MELA	Melanico ??? S	1.15	347	Pg	Pn	03 36 40.6	-0.3
MELA	Melanico ??? S	1.15	347	Pg	Pn	03 36 40.6	-0.3
SGG	Gregorio Mates	1.15	314	Pg	Pn	03 36 40.9	-0.1
	2µm,0.8s						
SGG	Gregorio Mates	1.15	314	Pg	Pn	03 36 40.9	-0.1
	2µm,0.8s						
BSSO	Busso	1.16	326	Pg	Pn	03 36 41.2	0.0
	1µm,0.8s						
BSSO	Busso	1.16	326	Pg	Pn	03 36 41.2	0.0
	1µm,0.8s						
MS1	Monte Sant'Ang	1.17	18	*i* Pg	Pn	03 36 40.2	-1.1
MS1				Sg	Sb	03 36 56.3	-0.1
MSAG	Monte S. Angel	1.17	16⇑	*i* Pg	Pn	03 36 40.2	-1.1
	2µm,0.3s						
MSAG	Monte S. Angel	1.17	16⇑	*i* Pg	Pn	03 36 40.2	-1.1
	2µm,0.3s						
SGRT	San Giovanni R	1.18	10⇑	*i* Pg	Pn	03 36 40.4	-1.1
SGRT				Sg	Sb	03 36 56.6	-0.1
	1µm,0.2s						
SGRT	San Giovanni R	1.18	10⇑	*i* Pg	Pn	03 36 40.4	-1.1
SGRT				Sg	Sb	03 36 56.6	-0.1
	1µm,0.2s						
BAI	Bari	1.19	64	*i* Pg	Pn	03 36 40.5	-0.9
BAI				Sg	Sg	03 36 58.1	+0.3
NOCI	Noci	1.23	80	Pg	Pn	03 36 41.1	-1.0
	1µm,0.4s						
NOCI	Noci	1.23	80	Pg	Pn	03 36 41.1	-1.0
	1µm,0.4s						
VAGA	Valle Agricola	1.25	312	Pg	Pn	03 36 42.2	-0.2
VAGA	Valle Agricola	1.25	312	Pg	Pn	03 36 42.2	-0.2
MODR	Mondragone	1.33	295	Pg	Pn	03 36 43.3	-0.1
	564nm,0.6s						
MODR	Mondragone	1.33	295	Pg	Pn	03 36 43.3	-0.1
	564nm,0.6s						
TRIV	Trivento	1.37	330	Pg	Pb	03 36 44.5	-0.2
	649nm,0.6s						
TRIV	Trivento	1.37	330	Pg	Pb	03 36 44.5	-0.2
	649nm,0.6s						
TAR1	Taranto	1.38	92	*i* Pg	Pn	03 36 43.5	-0.6
TAR1				Sg	Sg	03 37 07.4	+3.3
MIDA	Miranda	1.40	319	Pg	Pn	03 36 44.8	+0.4
	637nm,0.7s						
MIDA	Miranda	1.40	319	Pg	Pn	03 36 44.8	+0.4
	637nm,0.7s						
CERA	Filignano	1.49	313	Pg	Pn	03 36 46.1	+0.4
	2µm,1.5s						
CERA	Filignano	1.49	313	Pg	Pn	03 36 46.1	+0.4
	2µm,1.5s						
VENT	Ventotene	1.57	278	Pg	Pn	03 36 45.8	-0.9
	505nm,1.0s						
TIP	Timpagrande	1.72	144	P	Pb	03 36 51.2	+0.4
TIP	Timpagrande	1.72	144	P	Pb	03 36 51.2	+0.4
TIP	Timpagrande	1.72	144	P	Pb	03 36 51.2	+0.4
STON	Ston	2.83	35	*e*Pn	Pn	03 37 03.0	-1.0
STON				Sn	Sn	03 37 34.5	-3.2
STON	Ston	2.83	35	*e*Pn	Pn	03 37 03.0	-1.0
STON				Sn	Sn	03 37 34.5	-3.2
KEK	Kerkira	3.43	103	P	Pn	03 37 13.0	+0.7
KEK				S	Sn	03 37 51.3	-1.4
KEK	Kerkira	3.43	103	P	Pn	03 37 13.0	+0.7
KEK	Kerkira	3.43	103	P	Pn	03 37 13.0	+0.7
KEK				S	Sn	03 37 51.3	-1.4
SGD	Sagiada	3.78	103	P	Pn	03 37 18.9	+1.8
SGD				S	Sn	03 38 00.6	-0.7
SGD	Sagiada	3.78	103	P	Pn	03 37 18.6	+1.5
SGD	Sagiada	3.78	103	P	Pn	03 37 18.9	+1.8
SGD				S	Sn	03 38 00.6	-0.7
IGT	Igoumenitsa	3.88	104	P	Pn	03 37 19.8	+1.3
IGT	Igoumenitsa	3.88	104	P	Pn	03 37 19.8	+1.3
IGT	Igoumenitsa	3.88	104	P	Pn	03 37 19.8	+1.3
PHP	Peshkopia	3.91	72	P	Pn	03 37 20.3	+1.3
PHP				S	Sn	03 38 02.1	-2.5
PHP	Peshkopia	3.91	72	P	Pn	03 37 19.8	+0.8
PHP	Peshkopia	3.91	72	P	Pn	03 37 20.3	+1.3
PHP				S	Sn	03 38 02.1	-2.5
UDBI	Udbina	3.94	3	*e*Pn	Pn	03 37 20.0	+0.6
UDBI				Sn	Sn	03 38 05.7	+0.3
UDBI	Udbina	3.94	3	*e*Pn	Pn	03 37 20.0	+0.6
UDBI				Sn	Sn	03 38 05.7	+0.3
NVLJ	Novalja	4.00	354	*e*Pn	Pn	03 37 19.5	-0.5
NVLJ				Sn	Sn	03 38 06.0	-0.6
NVLJ	Novalja	4.00	354	*e*Pn	Pn	03 37 19.5	-0.5
NVLJ				Sn	Sn	03 38 06.0	-0.6
NEST	Nestorio	4.26	91	P	Pn	03 37 25.4	+1.6
NEST	Nestorio	4.26	91	P	Pn	03 37 25.4	+1.6
BBLS	Lazići	4.39	40	*e*Pn	Pn	03 37 26.2	+0.7
FNA	Florina	4.50	86	P	Pn	03 37 27.7	+0.7
FNA				S	Sn	03 38 18.0	-1.0
FNA	Florina	4.50	86	P	Pn	03 37 27.7	+0.7
FNA	Florina	4.50	86	P	Pn	03 37 27.7	+0.7
FNA				S	Sn	03 38 18.0	-1.0
EXG	Exogi	4.52	116	P	Pn	03 37 28.8	+1.5
EXG	Exogi	4.52	116	P	Pn	03 37 28.2	+0.9
EXG	Exogi	4.52	116	P	Pn	03 37 28.8	+1.5
DSL	Palaion Diasel	4.57	107	P	Pn	03 37 29.7	+1.7
DSL				S	Sn	03 38 19.8	-1.0
DSL	Palaion Diasel	4.57	107	P	Pn	03 37 29.3	+1.3
DSL	Palaion Diasel	4.57	107	P	Pn	03 37 29.7	+1.7
DSL				S	Sn	03 38 19.8	-1.0
VLS	Valsamata	4.64	120	P	Pn	03 37 30.3	+1.3
VLS	Valsamata	4.64	120	P	Pn	03 37 29.9	+0.9
VLS	Valsamata	4.64	120	P	Pn	03 37 30.3	+1.3
KZN	Kozani	4.81	91	P	Pn	03 37 32.9	+1.5
KZN				S	Sn	03 38 25.0	-2.0
KZN	Kozani	4.81	91	P	Pn	03 37 32.8	+1.4
KZN	Kozani	4.81	91	P	Pn	03 37 32.9	+1.5
KZN				S	Sn	03 38 25.0	-2.0
PDO	Prodromos	4.84	112	P	Pn	03 37 33.6	+1.9
PDO	Prodromos	4.84	112	P	Pn	03 37 33.5	+1.9
PDO	Prodromos	4.84	112	P	Pn	03 37 33.6	+1.9
DIVS	Divibare	4.85	42	⇓ *i* P	Pn	03 37 31.8	-0.1
DIVS	Divibare	4.85	42	P	Pn	03 37 31.4	-0.5
DIVS	Divibare	4.85	42	P	Pn	03 37 31.0	-0.9
DIVS	Divibare	4.85	42	P	Pn	03 37 31.4	-0.5
BOJS	Bojanci	4.92	358	*i* Pn	Pn	03 37 33.0	+0.3
BOJS	Bojanci	4.92	358	Pn	Pn	03 37 33.0	+0.3
TEKS	Tekeris	4.96	36	*e*Pn	Pn	03 37 31.9	-1.5
SELS	Selova	4.97	56	*e*Pn	Pn	03 37 33.0	-0.4
GRUS	Gruza	5.10	46	*e*Pn	Pn	03 37 34.6	+0.7
THL	Klokotos Trika	5.12	99	P	Pn	03 37 37.6	+2.0
THL				S	Sn	03 38 34.2	-0.2
THL	Klokotos Trika	5.12	99	P	Pn	03 37 37.6	+2.0
THL	Klokotos Trika	5.12	99	P	Pn	03 37 37.6	+2.0
THL				S	Sn	03 38 34.2	-0.2
TRUS	Trudelj	5.15	44	*e*Pn	Pn	03 37 34.2	-1.8
EVR	Evrytania	5.16	107	P	Pn	03 37 38.6	+2.4
EVR	Evrytania	5.16	107	P	Pn	03 37 38.6	+2.4
CEY	Cerknica	5.20	352	*e*Pn	Pn	03 37 36.7	0.0
CEY	Cerknica	5.20	352	*e*Pn	Pn	03 37 36.7	0.0
PGF	Pioggiola	5.23	294	*e*Pn	Pn	03 37 36.9	-0.3
PGF	Pioggiola	5.23	294	*e*Pn	Pn	03 37 36.9	-0.3
CRES	Cresnjev	5.23	360	*i* Pn	Pn	03 37 37.0	-0.1
CRES	Cresnjev	5.23	360	*i* Pn	Pn	03 37 37.0	-0.1
BARS	Barje	5.25	63	*e*Pn	Pn	03 37 37.4	+0.2
MAKR	Makrakomi, Fth	5.37	105	P	Pn	03 37 41.9	+3.0
MAKR	Makrakomi, Fth	5.37	105	P	Pn	03 37 41.9	+3.0
LIT	Litokhoron	5.39	93	P	Pn	03 37 39.9	+0.7
LIT	Litokhoron	5.39	93	P	Pn	03 37 39.9	+0.7
LIT	Litokhoron	5.39	93	P	Pn	03 37 39.9	+0.7
EFP	Efpalio	5.42	111	P	Pn	03 37 41.9	+2.2
EFP				S	Sn	03 38 43.1	+1.3
EFP	Efpalio	5.42	111	P	Pn	03 37 41.9	+2.2
EFP	Efpalio	5.42	111	P	Pn	03 37 41.9	+2.2
EFP				S	Sn	03 38 43.1	+1.3
DRO	Drossia	5.51	117	P	Pn	03 37 42.9	+2.0
DRO	Drossia	5.51	117	P	Pn	03 37 42.7	+1.8
DRO	Drossia	5.51	117	P	Pn	03 37 42.9	+2.0
VNDS	Vrh nad Dolski	5.54	354	*i* Pn	Pn	03 37 41.0	-0.3
FGSL	Fruska Gora	5.57	33	*e*Pn	Pn	03 37 41.6	-0.1
CADS	Cadrg	5.78	348	*i* Pn	Pn	03 37 44.8	+0.2
CADS	Cadrg	5.78	348	*i* Pn	Pn	03 37 44.8	+0.2
BOLS	Boljevac	5.80	54	*e*Pn	Pn	03 37 44.3	-0.6
GUR	Goura	5.95	114	P	Pn	03 37 48.2	+1.1
GUR	Goura	5.95	114	P	Pn	03 37 47.8	+0.7
GUR	Goura	5.95	114	P	Pn	03 37 48.2	+1.1
OBKA	Obir	5.96	354	Pn	Pn	03 37 46.2	-0.9
OBKA				Sn	Sn	03 38 54.3	-0.7
OBKA	Obir	5.96	354	⇑ *i* Pn	Pn	03 37 46.2	-0.9
OBKA				⇑ *i* Sn	Sn	03 38 54.3	-0.7
ZAPS	Zavoj	5.98	61	*e*Pn	Pn	03 37 47.7	+0.4
PERS	Pernice	6.05	358	*i* Pn	Pn	03 37 48.6	+0.3
PERS	Pernice	6.05	358	*i* Pn	Pn	03 37 48.6	+0.3
XOR	Xorichti	6.06	99	P	Pn	03 37 49.6	+1.2
XOR	Xorichti	6.06	99	P	Pn	03 37 49.4	+1.0
XOR	Xorichti	6.06	99	P	Pn	03 37 49.6	+1.2
PKSM	Moragy	6.08	21	⇑ *i* P	Pn	03 37 47.8	-0.8
PKSM	Moragy	6.08	21	⇑ *i* P	Pn	03 37 47.8	-0.8
PLG	Polygyros	6.08	89	P	Pn	03 37 49.6	+0.8
PLG	Polygyros	6.08	89	P	Pn	03 37 49.2	+0.4
PLG	Polygyros	6.08	89	P	Pn	03 37 49.6	+0.8
SOKA	Soboth	6.09	357	Pn	Pn	03 37 48.3	-0.7
SOKA				Sn	Sn	03 38 56.3	-2.1
SOKA	Soboth	6.09	357	⇓ *i* Pn	Pn	03 37 48.3	-0.7
SOKA				⇓ *i* Sn	Sn	03 38 56.3	-2.1
LKR	Lokris	6.13	106	P	Pn	03 37 50.8	+1.4
LKR	Lokris	6.13	106	P	Pn	03 37 50.6	+1.2
LKR	Lokris	6.13	106	P	Pn	03 37 50.8	+1.4
ATAL	Atalanti	6.13	106	P	Pn	03 37 50.9	+1.5
ATAL	Atalanti	6.13	106	P	Pn	03 37 50.8	+1.4
ATAL	Atalanti	6.13	106	P	Pn	03 37 50.9	+1.5
VTS	Vitosha	6.14	68	⇓ *i* P	Pn	03 37 50.4	+0.8
VTS	Vitosha	6.14	68	P	Pn	03 37 50.2	+0.6
VTS	Vitosha	6.14	68	P	Pn	03 37 50.2	+0.6
VTS	Vitosha	6.14	68	P	Pn	03 37 50.2	+0.6
SRS	Serrai	6.18	82	P	Pn	03 37 50.3	+0.2
SRS	Serrai	6.18	82	P	Pn	03 37 49.9	-0.2
SRS	Serrai	6.18	82	P	Pn	03 37 50.3	+0.2
MMB	Musomiste	6.32	78	⇑ *i* P	Pn	03 37 52.7	+0.7
MMB	Musomiste	6.32	78	⇑ *i* P	Pn	03 37 52.7	+0.7
NVR	Nevrokopi	6.40	80	P	Pn	03 37 53.6	+0.5
NVR	Nevrokopi	6.40	80	P	Pn	03 37 53.4	+0.3
NVR	Nevrokopi	6.40	80	P	Pn	03 37 53.6	+0.5
OUR	Ouranopolis	6.50	89	P	Pn	03 37 55.1	+0.7
OUR	Ouranopolis	6.50	89	P	Pn	03 37 55.0	+0.7
OUR	Ouranopolis	6.50	89	P	Pn	03 37 55.1	+0.7
ABTA	Abfaltersbach	6.52	342	Pn	Pn	03 37 55.3	+0.5
ABTA	Abfaltersbach	6.52	342	⇑ *i* Pn	Pn	03 37 55.3	+0.5
ABTA				⇑ *i* Sn	Sn	03 39 04.8	-4.1
AOS	Alonnisos	6.62	100	P	Pn	03 37 56.9	+0.8
AOS	Alonnisos	6.62	100	P	Pn	03 37 55.9	-0.2
AOS	Alonnisos	6.62	100	P	Pn	03 37 56.9	+0.8
BZS	Buzias	6.74	40	⇑ *i* P	Pn	03 37 58.9	+1.1
BZS	Buzias	6.74	40	⇑ *i* P	Pn	03 37 58.9	+1.1
DID	Didima	6.78	115	P	Pn	03 37 59.3	+0.9
DID	Didima	6.78	115	P	Pn	03 37 59.3	+0.9
SBF	Sospel	6.80	301	*e*Pn	Pn	03 37 58.3	-0.4
SBF	Sospel	6.80	301	*e*Pn	Pn	03 37 58.3	-0.4
KEST	Kesra	6.84	227	Pn	Pn	03 38 02.4	+3.1
	0.3nm,0.3s,baz=333,slow=6.7,SNR=16						
EREA	Eretria	6.89	106	P	Pn	03 38 01.1	+1.2
EREA	Eretria	6.89	106	P	Pn	03 38 00.7	+0.8
EREA	Eretria	6.89	106	P	Pn	03 38 01.1	+1.2
FRF	La Foret Royal	7.20	297	*e*Pn	Pn	03 38 03.0	-1.1
FRF				*e*Sn	Sn	03 39 20.4	-5.2
	5.5nm,0.7s						
FRF	La Foret Royal	7.20	297	*e*Pn	Pn	03 38 03.0	-1.1
LMR	La Mourre	7.22	295	*e*Pn	Pn	03 38 03.4	-0.9
LMR				*e*Sn	Sn	03 39 20.7	-5.3
	2.1nm,0.4s						
LMR	La Mourre	7.22	295	*e*Pn	Pn	03 38 03.4	-0.9
SIRR	Siria	7.24	36	⇑ *i* P	Pn	03 38 05.8	+1.1
SIRR	Siria	7.24	36	⇑ *i* P	Pn	03 38 05.8	+1.1
MOA	Molln	7.31	354	Pn	Pn	03 38 05.6	0.0
MOA	Molln	7.31	354	⇓ *i* Pn	Pn	03 38 05.6	0.0
MOA				⇓ *i* Sn	Sn	03 39 25.3	-3.0
KYTH	Kithira	7.33	124	P	Pn	03 38 08.4	+2.5
KYTH	Kithira	7.33	124	P	Pn	03 38 08.4	+2.5
KYTH	Kithira	7.33	124	P	Pn	03 38 08.4	+2.5
DAVOX	Davos/Dischmat	7.39	329	Pn	Pn	03 38 08.6	+1.6
	0.6nm,0.3s,baz=148,slow=19,SNR=7.7						
DAVOX				Sn	Sn	03 39 29.8	-0.8
	0.5nm,0.3s,baz=308,slow=19,SNR=3.0						
KDZ	Kurdzhali	7.58	79	⇑ *i* P	Pn	03 38 10.1	+0.7
KDZ	Kurdzhali	7.58	79	⇑ *i* P	Pn	03 38 10.1	+0.7
MBDF	Montbardon	7.63	306	*e*Pn	Pn	03 38 08.6	-1.5
MBDF	Montbardon	7.63	306	*e*Pn	Pn	03 38 08.6	-1.5
RETA	Reutte	7.68	335	Pn	Pn	03 38 12.1	+1.3
RETA				Sn	Sn	03 39 37.9	+0.4
RETA	Reutte	7.68	335	⇑ *i* Pn	Pn	03 38 12.1	+1.3
RETA				⇑ *i* Sn	Sn	03 39 37.9	+0.4
ZST	Bratislava	7.69	8	*e*Pn	Pn	03 38 09.8	-1.0
ZST	Bratislava	7.69	8	*e*PN	Pn	03 38 09.8	-1.0
LOT	Lotru	7.78	49	⇓ *i* P	Pn	03 38 13.7	+1.6
LOT	Lotru	7.78	49	⇓ *i* P	Pn	03 38 13.7	+1.6
LPG	La Plagne	8.05	310	*e*Sn	Sn	03 39 40.6	-6.3
	1.4nm,0.2s						
LPL	La Plagne	8.07	310	*e*Pn	Pn	03 38 14.6	-1.6
LPL				*e*Sn	Sn	03 39 41.1	-6.2
	1.7nm,0.4s						
LPL	La Plagne	8.07	310	*e*Pn	Pn	03 38 14.6	-1.6
SMRF	Simiane la Rot	8.08	298	*e*Pn	Pn	03 38 14.8	-1.4
SMRF	Simiane la Rot	8.08	298	*e*Pn	Pn	03 38 14.8	-1.4
DRGR		8.12	38	⇑ *i* P	Pn	03 38 16.9	+0.2
DRGR		8.12	38	⇑ *i* P	Pn	03 38 16.9	+0.2
ORIF	Oris-en-Rattie	8.28	305	*e*Pn	Pn	03 38 17.4	-1.5
ORIF	Oris-en-Rattie	8.28	305	*e*Pn	Pn	03 38 17.4	-1.5
GERES	GERESS Array B	8.35	352	Pn	Pn	03 38 18.9	-1.1
	1.3nm,0.3s,baz=170,slow=12,SNR=36						
GERES				Sn	Sn	03 39 48.8	-5.1
	1.0nm,0.3s,baz=162,slow=24,SNR=17						
VOIR		8.53	52	⇑ *i* P	Pn	03 38 22.9	+0.6
VOIR		8.53	52	⇑ *i* P	Pn	03 38 22.9	+0.6
JMB	Yambol	8.55	74	⇑ *i* P	Pn	03 38 23.2	+0.7
JMB	Yambol	8.55	74	⇑ *i* P	Pn	03 38 23.2	+0.7
KHC	Kasperske Hory	8.65	352	*e*PN	Pn	03 38 23.6	-0.3
KHC				*ex*	x	03 38 32.7	
KHC				*e*SN	Sn	03 39 55.9	-5.2
KHC				*ex*	x	03 40 14.3	
KHC	Kasperske Hory	8.65	352	Pn	Pn	03 38 23.6	-0.3
KECS	Kecovo	8.66	23	*e*Pn	Pn	03 38 25.6	+1.5
KECS	Kecovo	8.66	23	*e*PN	Pn	03 38 25.6	+1.5
VRAC	Vranov	8.76	5	Pn	Pn	03 38 24.5	-0.9
	0.4nm,0.3s,baz=245,slow=19,SNR=3.2						
DOPR	Dopca	9.01	50	⇑ *i* P	Pn	03 38 30.8	+1.9
DOPR	Dopca	9.01	50	⇑ *i* P	Pn	03 38 30.8	+1.9
VIVF	Saint-Julien-l	9.02	302	*e*Pn	Pn	03 38 27.5	-1.5
VIVF	Saint-Julien-l	9.02	302	*e*Pn	Pn	03 38 27.5	-1.5
CABF	La Chapelle	9.08	315	*e*Pn	Pn	03 38 28.2	-1.8
CABF	La Chapelle	9.08	315	*e*Pn	Pn	03 38 28.2	-1.8
MLR	Muntele Rosu	9.10	54	Pn	Pn	03 38 32.8	+2.6
	0.3nm,0.3s,baz=238,slow=13,SNR=12						
MLR	Muntele Rosu	9.10	54	⇑ *i* P	Pn	03 38 32.3	+2.1
MLR	Muntele Rosu	9.10	54	⇑ *i* P	Pn	03 38 32.3	+2.1
IDI	Anoyia	9.13	122	Pn	Pn	03 38 31.4	+0.8
	0.4nm,0.3s,baz=295,slow=11,SNR=5.0						
IDI				Sn	Sn	03 40 10.5	-2.6
	0.4nm,0.3s,baz=176,slow=19,SNR=2.9						
PRD	Provadia	9.27	70	⇑ *i* P	Pn	03 38 34.1	+1.6
PRD	Provadia	9.27	70	⇑ *i* P	Pn	03 38 34.1	+1.6
LASF	Ste Croix	9.28	296	*e*Pn	Pn	03 38 31.2	-1.4
LASF	Ste Croix	9.28	296	*e*Pn	Pn	03 38 31.2	-1.4
MORC	Moravsky Berou	9.30	8	⇑ *i* P	Pn	03 38 33.6	+0.7
MORC	Moravsky Berou	9.30	8	⇑ *i* P	Pn	03 38 33.6	+0.7
PRU	Pruhonice	9.42	356	*ex*	x	03 40 14.3	
HINF	Hinteralfeld	9.51	322	*e*Pn	Pn	03 38 33.6	-2.1
HINF				*e*Sn	Sn	03 40 14.7	-7.6
	5.7nm,0.6s						
HINF	Hinteralfeld	9.51	322	*e*Pn	Pn	03 38 33.6	-2.1
PLOR	Plostina	9.71	54	⇓ *i* P	Pn	03 38 39.6	+1.1
PLOR	Plostina	9.71	54	⇓ *i* P	Pn	03 38 39.6	+1.1
STHS	Stebnicka Huta	9.72	23	*e*Pn	Pn	03 38 36.7	-2.0
STHS	Stebnicka Huta	9.72	23	*e*PN	Pn	03 38 36.7	-2.0
VRI	Vrincioaia	9.76	54	⇓ *i* P	Pn	03 38 40.2	+1.0
VRI	Vrincioaia	9.76	54	⇓ *i* P	Pn	03 38 40.2	+1.0
CDF	Champ du Feu	9.76	326	*e*Pn	Pn	03 38 37.1	-2.2
CDF				*e*Sn	Sn	03 40 21.2	-7.4
	5.7nm,0.7s						
CDF	Champ du Feu	9.76	326	*e*Pn	Pn	03 38 37.1	-2.2
MSAB	Monastry St. A	9.79	65	⇓ *i* P	Pn	03 38 41.2	+1.6
MSAB	Monastry St. A	9.79	65	⇓ *i* P	Pn	03 38 41.2	+1.6
BURAR	Bucovina Array	9.92	42	⇑ *i* P	Pn	03 38 42.0	+0.6
BURAR	Bucovina Array	9.92	42	⇑ *i* P	Pn	03 38 42.0	+0.6
MTLF	Montolieu	10.25	290	*e*Pn	Pn	03 38 44.5	-1.3
MTLF	Montolieu	10.25	290	*e*Pn	Pn	03 38 44.5	-1.3
SMF	Signal de Mont	10.37	310	*e*Pn	Pn	03 38 45.8	-1.8
SMF	Signal de Mont	10.37	310	*e*Pn	Pn	03 38 45.8	-1.8
BRTR	Keskin Array B	13.93	88	Pn	Pn	03 39 37.8	+1.5
	0.1nm,0.3s,baz=276,slow=13,SNR=3.6						
EKA	Eskdalemuir Ar	19.23	326	P	Pn	03 40 43.4	-0.3
	baz=135,slow=11,SNR=2.6						
HFS	Hagfors	19.60	357	P	Pn	03 40 47.8	-0.4
	0.1nm,0.3s,baz=182,slow=8.9,SNR=4.4						
NB2	NORSAR Subarra	20.64	354	P	P	03 40 59.1	+0.9
	comp=Z,1.4nm,0.7s,baz=171,slow=10						
NB2	NORSAR Subarra	20.64	354	P	P	03 40 59.1	+0.9
	comp=Z,1.4nm,0.7s,SNR=0.1						
NOA	NORSAR Array B	20.64	354	P	P	03 40 59.0	+0.8
	comp=Z,1.5nm,0.7s,baz=171,slow=11,SNR=8.0						
FINES	FINESS Array B	21.86	14	P	P	03 41 11.1	-0.2
	comp=Z,1.3nm,0.5s,baz=186,slow=11,SNR=9.8						
TORD	Torodi Ar. Bea	29.89	208	P	P	03 42 27.6	+1.1
	comp=Z,0.3nm,0.8s,baz=12,slow=9.7,SNR=3.2						
ZALV	Zalesovo Beam	47.04	49	P	P	03 44 50.4	+0.5
	comp=Z,0.7nm,0.4s,baz=297,slow=6.3,SNR=3.2						
MKAR	Makanchi Array	47.40	59	P	P	03 44 54.0	+1.0
	comp=Z,0.5nm,0.5s,baz=292,slow=7.6,SNR=4.7						
SONM	Songino Array	61.92	50	P	P	03 46 39.4	+1.0
	comp=Z,0.3nm,0.7s,baz=280,slow=8.5,SNR=2.8						
YKA	Yellowknife Ar	69.73	338	P	P	03 47 28.6	+0.4
	comp=Z,0.3nm,0.6s,baz=37,slow=5.9,SNR=5.0						
PDAR	Pinedale Array	83.30	323	P	P	03 48 47.5	+1.7
	comp=Z,0.1nm,0.5s,baz=14,slow=4.0,SNR=3.8						

ISCJB ***13*** *03:36:31.6±0.7, 11°.97S±0°.06×166°.5E±0°.2, h83km, mb4.1/14, Error ellipse: s-maj=26.4km s-min=8.7km az=173.3*

IDC ***13*** *03:36:39.0±4.2, 11°.96S×166°.52E, h134km±36km, mb3.9/13, mb1 4.0/14, mb1mx3.8/31, mbtmp4.3/14, Error ellipse: s-maj=26.0km s-min=15.6km az=79.0*

NEIC ***13*** *03:36:39.6±2.3, 11°.95S×166°.51E, h141km±20km, mb4.1/1, Error ellipse: s-maj=20.2km s-min=12.4km az=72.0*

ISC 13 03:36:32.9±0.7, 11°.93S±0°.09×166°.6E±0°.2, h83km, n23, σ0s80/27, mb4.3/14, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	10.09	181	P	P	Pn	03 39 01.1	+6.1
	baz=180,slow=19							
DZM				S		Sn	03 40 46.1	-0.3
	0.9nm,0.3s,baz=108,slow=20,SNR=14							
RPZ	Rata Peaks		31.90	174	P	P	03 42 51.3	+0.9
	5.0nm,0.7s,baz=304,slow=5.3,SNR=6.0							
WRA	Warramunga Arr		32.01	251	P	P	03 42 51.0	-0.6
	0.4nm,0.6s,baz=83,slow=9.1,SNR=5.7			

GTA LN
1µm,16.2s
GTA LE
1µm,15.2s
GTA LZ
1µm,16.1s
LSA Lhasa 6.23 226 *e*P Pn 04 08 40.2 +4.5
LSA *e*S Sn 04 09 57.1 +10
LSA pmax pmax
comp=Z,51nm,0.6s
LSA Lhasa 6.23 226 *e*Pn Pn 04 08 40.2 +4.5
comp=Z,51nm,0.6s
LSA *e*S Sn 04 09 57.1 +10
LZH Lanzhou 6.49 71 Pn **Pn 04 08 39.9 +0.9**
LZH Sg **Sg 04 10 31.1 -0.6**
LZH SMN
comp=Z,190nm,1.2s
LZH SME
comp=Z,340nm,1.2s
LZH LN
comp=Z,5µm,4.8s
LZH LE
comp=Z,3µm,6.3s
LZH LZ
comp=Z,3µm,6.5s
CD2 Chengdu 7.10 115 Pn Pn 04 08 53.5 +6.2
CD2 Pg Pb 04 09 11.3 +4.6
CD2 Sg Sg 04 10 44.9 -6.3
CD2 smax smax
comp=N,150nm,1.5s
CD2 smax smax
comp=E,90nm,1.3s
CD2 LR LR
comp=N,1µm,7.2s
CD2 LR LR
comp=Z,890nm,6.6s
IMP Imphal 9.57 193 *e*P **Pn 04 09 21.0 -0.2**
IMP *e*S **Sn 04 11 06.0 -2.8**
TAPN Taplejung 10.02 230 *e*P **Pn 04 09 29.2 +1.7**
comp=Z,46nm,0.7s
XAN Xi'an 10.49 87 P **Pn 04 09 33.3 -0.4**
XAN S **Sn 04 11 33.5 +2.2**
XAN PMZ
comp=Z,9.0nm,1.1s
XAN PMZ
comp=Z,75nm,5.3s
XAN LN
comp=Z,3µm,10.9s
XAN LE
comp=Z,870nm,14.6s
XAN LZ
comp=Z,1µm,11.8s
ODAN Odare 10.56 229 *e*P **Pn 04 09 36.5 +1.5**
comp=Z,55nm,0.6s
KMI Kunming 10.62 146 P **Pn 04 09 37.1 +1.4**
KMI pP 04 09 38.8
KMI PMZ
comp=Z,34nm,0.9s
KMI LN
comp=Z,1µm,11.0s
KMI LE
comp=Z,2µm,10.3s
KMI LZ
comp=Z,450nm,8.6s
GUN Gumba 10.88 238 *e*P **Pn 04 09 41.4 +2.1**
comp=Z,36nm,0.4s
RAMN Ramite 11.01 232 *e*P **Pn 04 09 41.2 +0.2**
comp=Z,35nm,0.6s
KKN Kakani 11.37 239 *e*P **Pn 04 09 46.8 +0.8**
comp=Z,27nm,0.5s
PKI Pulchoki 11.41 238 *e*P **Pn 04 09 46.5 -0.2**
comp=Z,51nm,0.6s
PKIN Phulchoki 11.42 238 *e*P **Pn 04 09 47.5 +0.8**
comp=Z,30nm,0.5s
DMN Daman 11.60 239 *e*P **Pn 04 09 49.1 -0.1**
comp=Z,41nm,0.6s
GKN Gorkha 11.71 242 *e*P **Pn 04 09 50.5 -0.1**
comp=Z,56nm,0.8s
WMQ Urumqi 11.72 328 P Pn 04 09 49.0 -1.6
WMQ Urumqi 11.72 328 P Pn 04 09 48.9 -1.6
WMQ pP 04 09 52.9
WMQ sP 04 09 55.9
WMQ PMZ
comp=Z,130nm,0.8s
WMQ PMZ
comp=Z,180nm,3.8s
WMQ LN
comp=Z,2µm,9.2s
WMQ LE
comp=Z,2µm,15.0s
WMQ LZ
comp=Z,660nm,20.0s
GYA Guiyang 11.81 128↑ *i*P **Pn 04 09 52.6 +0.7**
GYA PMZ
comp=Z,30nm,0.7s
DANN Dangsing 12.17 245 *e*P **Pn 04 09 56.5 -0.5**
KOLN Koldanda 12.60 243 *e*P **Pn 04 10 01.5 -1.3**
comp=Z,28nm,0.5s
HHC Hu-ho-hao-te 13.84 57 *e*P Pn 04 10 23.3 +3.7
HHC PP P 04 10 35.8 +7.8
HHC S **Sn 04 12 55.5 +2.1**
HHC SS **S 04 13 13.0 -2.7**
HHC PMZ
comp=Z,15nm,1.1s
HHC PMZ
comp=Z,49nm,5.3s
HHC LN
comp=Z,2µm,13.1s
HHC LE
comp=Z,1µm,13.7s
HHC LZ
comp=Z,1µm,13.3s
CHTO Chiang Mai 15.47 170 *e*P **Pn 04 10 41.7 0.0**
CHTO pmax pmax
comp=Z,3.0nm,0.6s
CHTO Chiang Mai 15.47 170 *e*Pn **Pn 04 10 41.7 0.0**
comp=Z,3.5nm,0.6s
SONM Songino Array 15.63 26 Pn **Pn 04 10 41.4 -2.2**
comp=Z,3.4nm,0.3s,baz=211,slow=15,SNR=62
SONM LR LR 04 17 11.4
comp=Z,450nm,19.3s,baz=209,slow=39
WHN Wuhan 15.70 98 P **Pn 04 10 47.3 +2.8**
WHN S **Sn 04 13 40.3 +1.9**
WHN LN
comp=Z,2µm,7.8s
WHN LE
comp=Z,2µm,7.8s
WHN LZ
comp=Z,2µm,19.8s
CMAR Chiang Mai Arr 15.82 171 Pn **Pn 04 10 45.5 -0.7**
comp=Z,0.6nm,0.3s,baz=342,slow=11,SNR=9.1
CMAR LR LR 04 17 01.0
comp=Z,241nm,19.3s,baz=346,slow=38
MK31 Makanchi Array 16.47 324 P Pn 04 10 50.7 -3.7
MK31 pmax pmax
comp=Z,20nm,0.8s
MKAR Makanchi Array 16.47 324 Pn Pn 04 10 49.6 -4.7
comp=Z,1.3nm,0.3s,baz=129,slow=13,SNR=44
MKAR LR LR 04 17 12.6
comp=Z,224nm,18.0s,baz=133,slow=37
ZAK Zakamensk 17.00 15 *e*P **Pn 04 10 58.7 -2.5**
KSH Kashi 17.10 294 P **Pn 04 11 04.3 +1.8**
KSH PMZ
comp=Z,200nm,2.1s
ULHL Ulahol 17.66 303 P **P 04 11 12.1 +1.6**
SNR=14
KZA Kyzart 18.30 302 P **P 04 11 19.5 +1.7**
SNR=19
TKM2 Tokmak 2 18.35 305 P **P 04 11 19.8 +1.7**
SNR=16
TKM2 Tokmak 2 18.35 305 *e*P **Pn 04 11 17.3 -0.8**
TKM2 pmax pmax
comp=Z,31nm,1.2s
TKM2 Tokmak 2 18.35 305 *e*Pn **Pn 04 11 17.2 -0.8**
comp=Z,31nm,1.2s
KBK Karagaybulak 18.70 303 P **Pn 04 11 25.3 +3.0**
SNR=8.2
UCH Uchtor 18.87 302 P **P 04 11 25.4 +1.3**
SNR=21
FRU Bishkek 19.00 303 *e*P **P 04 11 25.0 0.0**
AAK Ala-Archa 19.01 303 P **P 04 11 25.0 -0.3**
AAK pmax pmax
comp=Z,12nm,1.1s
USP Ospenovka 19.23 305 P **P 04 11 28.2 +0.6**
SNR=5.4
QIZ Qiongzhong 19.32 138 P **Pn 04 11 31.5 +1.8**

QIZ pP pP 04 11 38.8 +7.3
QIZ S **S 04 15 09.6 +2.3**
QIZ PMZ
comp=Z,75nm,4.6s
QIZ LN
comp=Z,440nm,12.9s
QIZ LE
comp=Z,270nm,15.3s
QIZ LZ
comp=Z,270nm,9.2s
AML Almayashu 19.42 301 P **Pn 04 11 32.9 +1.7**
SNR=7.2
EKS2 Erkin-Say 19.52 302 *e*P **P 04 11 31.1 +0.2**
EKS2 pmax pmax
comp=Z,18nm,1.3s
EKS2 Erkin-Say 19.52 302 *e*P **P 04 11 31.1 +0.2**
comp=Z,18nm,1.3s
KURBB Kurchatov Arra 20.94 327 P **P 04 11 44.6 -1.4**
comp=Z,18nm,0.9s,baz=134,slow=11,SNR=124
KURK Kurchatov 20.97 327 P **P 04 11 44.4 -1.9**
KURK pmax pmax
comp=Z,18nm,1.3s
KURK Kurchatov 20.97 327 *e*P **P 04 11 44.6 -1.7**
comp=Z,26nm,1.0s
ZALV Zalesovo Beam 21.37 341 P **P 04 11 50.3 -0.4**
comp=Z,21nm,0.8s,baz=154,slow=9.7,SNR=34
ZALV LR LR 04 19 50.0
comp=Z,62nm,20.7s,baz=248,slow=36
KK31 Karatay Array 21.95 302 *i* P **P 04 11 56.1 -0.9**
KK31 pmax pmax
comp=Z,14nm,0.9s
KKAR Karatay Array 21.95 302 *e*P **P 04 11 56.5 -0.5**
KKAR pmax pmax
comp=Z,32nm,1.3s
KKAR Karatay Array 21.95 302 *e*P **P 04 11 56.5 -0.5**
comp=Z,32nm,1.3s
KRAR Krasnoyarsk 21.97 355 P **P 04 11 54.8 -2.3**
KRAR pmax pmax
comp=Z,17nm,0.3s
NVS Novosibirsk 22.60 340 *e*P **P 04 12 02.7 -1.1**
NVS pmax pmax
comp=Z,32nm,1.8s
NVS pmax pmax
comp=N,21nm,1.7s
NVS pmax pmax
comp=E,11nm,1.2s
CN2 Changchun 24.53 58 *e*P **P 04 12 22.3 -0.6**
CN2 PMZ
comp=E,10.0nm,0.7s
KSAR Wonju Array Be 25.78 74 P **P 04 12 32.5 -1.8**
KSAR Wonju Array Be 25.78 74 P **P 04 12 32.5 -1.8**
KSRS Korea Array 25.81 74 P **P 04 12 32.5 -2.0**
comp=E,5.2nm,0.7s,baz=265,slow=9.2,SNR=18
KSRS LR LR 04 24 22.0
comp=E,93nm,19.3s,baz=274,slow=40
KSRS Korea Array 25.81 74 P **P 04 12 32.5 -2.0**
KSRS pmax pmax
comp=Z,5.0nm,0.7s
KSRS MLR MLR
comp=Z,93nm,19.3s
BVA0 Borovoye Array 26.35 324 *i* P **P 04 12 37.6 -1.7**
BVA0 pmax pmax
comp=Z,8.0nm,1.0s
BVAR Borovoye Array 26.35 324 P **P 04 12 37.9 -1.5**
comp=Z,7.7nm,0.9s,baz=123,slow=11,SNR=23
BVAR LR LR 04 24 08.6
comp=Z,395nm,21.4s,baz=122,slow=39
BRVK Borovoye 26.42 324*c* *i*P **P 04 12 39.2 -0.8**
BRVK pmax pmax
comp=Z,15nm,1.0s
BRVK Borovoye 26.42 324 *e*P **P 04 12 39.5 -0.4**
comp=Z,11nm,0.9s
BOD Bodaibo 26.51 21 *e*P **P 04 12 39.2 -1.5**
KLR Kul'dur 30.14 49 *e*P P 04 13 08.7 -4.5
KLR MLR MLR
comp=E,500nm,12.0s
KLR MLR MLR
comp=Z,1µm,12.0s
AB31 Akbulak array 30.69 310 P **P 04 13 18.7 +0.7**
ABKAR Akbulak array 30.69 310 *e*P **P 04 13 17.9 -0.1**
comp=Z,1.8nm,0.6s
GEYT Alibeck 30.94 288 LR LR 04 28 15.5
comp=Z,198nm,18.3s,baz=110,slow=41
AKTO Aktyubinsk 32.21 312 P **P 04 13 30.7 -0.7**
AKTO pmax pmax
comp=Z,7.0nm,0.9s
ARU Arti 33.98 323 *e*P **P 04 13 46.2 -0.6**
ARU pmax pmax
comp=Z,10.0nm,0.8s
ARU Arti 33.98 323 *e*P **P 04 13 46.2 -0.6**
comp=Z,10nm,0.8s
KBZ Khabaz 41.96 300 LR LR 04 34 48.1
comp=Z,110nm,18.7s,baz=93,slow=40
PRGR Permogore 42.08 327 P **P 04 14 55.1 +0.1**
PRGR pmax pmax
comp=Z,7.0nm,0.8s
KIV Kislovodsk 42.09 300 *i* P **P 04 14 57.6 +2.1**
KIV *i* 04 16 34.8
KIV *i* S S 04 21 08.4 -6.5
KIV pmax pmax
comp=Z,7.0nm,1.7s
KIV MLR MLR
comp=Z,85nm,17.0s
VSR Storozhevoye 44.13 311 *e*P **P 04 15 12.4 +0.7**
VSR pmax pmax
comp=N,7.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 45.75 316 *e*P **P 04 15 25.1 +0.6**
OBN *i* SS SS 04 26 27.0 +55
OBN pmax pmax
comp=Z,8.0nm,0.5s
OBN MLR MLR
comp=Z,153nm,17.0s
PETK Petropavlovsk- 46.76 47 LR LR 04 35 54.1
comp=Z,88nm,18.5s,baz=286,slow=37
BRTR Keskin Array B 49.48 296 P **P**
comp=Z,2.3nm,0.8s,baz=98,slow=6.9,SNR=14
BRTR Keskin Array B 49.48 296 *i* P **P 04 15 56.0 +2.1**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 50.43 311 P **P 04 15 59.5 -1.3**
comp=Z,2.2nm,0.8s,baz=73,slow=6.5,SNR=10
AKASG LR LR 04 39 13.8
comp=Z,87nm,18.5s,baz=80,slow=38
AKASG Malin Array Be 50.43 311*ce*P **P 04 16 02.2 +1.4**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 51.30 325 P **P 04 16 06.4 -0.8**
comp=Z,3.1nm,0.7s,baz=105,slow=9.9,SNR=12
FINES FINESS Array B 51.30 325 *i* P **P 04 16 08.8 +1.6**
FINES pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 51.73 335 P **P 04 16 09.1 -1.3**
comp=Z,2.9nm,0.9s,baz=88,slow=8.2,SNR=6.4
ARCES LR LR 04 40 34.9
comp=Z,187nm,18.7s,baz=98,slow=39
KECS Kecovo 56.45 309 *e*P P 04 16 43.3 -1.8
KECS Kecovo 56.45 309 *e*P P 04 16 43.3 -1.8
OKC Ostrava-Krasne 57.56 311 AMS AMS 04 42 10.0
KRLC Kraliky 58.34 312 *e*P **P 04 16 59.9 +1.5**
KRLC *ex* x 04 17 03.7
KRLC Kraliky 58.34 312 *e*P **P 04 16 59.9 +1.5**
NB2 NORSAR Subarra 58.46 325 P **P 04 16 57.7 -1.4**
comp=Z,2.1nm,0.6s,baz=74,slow=7.4
NOA NORSAR Array B 58.46 325 P **P**
comp=Z,2.3nm,0.6s,baz=72,slow=7.0,SNR=10
NOA LR LR 04 43 40.0
comp=Z,138nm,20.0s,baz=60,slow=38
DPC Dobruska-Polom 58.54 312 *e*P **P 04 17 01.5 +1.6**
DPC *e*pP **pP 04 17 07.0 +3.9**
DPC AMS AMS 04 43 10.0
comp=Z,200nm,19.6s
DPC Dobruska-Polom 58.54 312 *e*P **P 04 17 01.5 +1.6**
DPC MLR MLR
comp=Z,200nm,19.6s
UPC Upice 58.69 313 *e*P **P 04 17 02.9 +2.1**
UPC AMS AMS 04 43 20.0
comp=Z,100nm,12.0s
UPC Upice 58.69 313 *e*P **P 04 17 02.9 +2.1**
UPC MLR MLR
comp=Z,100nm,12.0s
TREC Trest 59.37 311 *e*P **P 04 17 07.5 +1.9**
TREC AMS AMS 04 44 10.0

TREC Trest 59.37 311 *e*P **P 04 17 07.5 +1.9**
TREC MLR MLR
comp=Z,200nm,16.2s
GOPC GO Pecny, Ondr 59.62 312 *e*P **P 04 17 08.5 +1.2**
GOPC *ex* x 04 17 12.7
GOPC AMS AMS 04 44 20.0
comp=Z,100nm,14.6s
PRU Pruhonice 59.74 312 *e*P **P 04 17 09.7 +1.6**
PRU *ex* x 04 17 14.0
PRU AMS AMS 04 44 20.0
comp=Z,100nm,15.8s
PRU Pruhonice 59.74 312 *e*P **P 04 17 09.7 +1.6**
PRU MLR MLR
comp=Z,100nm,15.8s
BRG Berggiesshubel 59.83 313 *e*P **P 04 17 10.1 +1.4**
comp=Z,5.0nm,1.0s
BRG Berggiesshubel 59.83 313 *e*P **P 04 17 10.1 +1.4**
BRG pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 60.26 314 *e*P **P 04 17 13.0 +1.4**
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL Collm 60.26 314 *e*(P) **P 04 17 13.0 +1.4**
comp=Z,9.0nm,1.1s
CLL *e* 04 17 17.0
CLL LmV 04 44 00.0
comp=Z,100nm,19.2s
KHC Kasperske Hory 60.61 312 *e*P **P 04 17 16.0 +1.8**
KHC AMS AMS 04 45 10.0
comp=Z,100nm,17.6s
KHC Kasperske Hory 60.61 312 *e*P **P 04 17 16.0 +1.8**
KHC MLR MLR
comp=Z,100nm,17.6s
GERES GERESS Array B 60.63 311 P **P 04 17 13.2 -1.2**
comp=Z,1.1nm,0.6s,baz=64,slow=6.1,SNR=13
GERES LR LR 04 44 42.0
comp=Z,89nm,18.4s,baz=90,slow=37
NKC Novy Kostel 60.94 313 *e*P P 04 17 14.5 -1.8
NKC *ex* x 04 17 18.6
NKC Novy Kostel 60.94 313 *e*P P 04 17 14.5 -1.8
BFO Black Forest 64.14 312 *i* P **P 04 17 40.6 +2.8**
WRA Warramunga Arr 64.87 140 P **P 04 17 41.6 -1.2**
comp=Z,1.2nm,0.8s,baz=335,slow=7.2,SNR=14
ASAR Alice Springs 67.73 143 P **P 04 17 59.7 -1.4**
comp=Z,1.0nm,0.4s,baz=328,slow=6.7,SNR=17
ILAR Eielson Array 69.84 24 P P 04 18 11.1 -2.6
comp=Z,0.7nm,1.1s,baz=293,slow=4.7,SNR=4.7
ILAR LR LR 04 51 30.8
comp=Z,52nm,18.3s,baz=296,slow=38
ESDC Sonseca Array 76.01 308 P **P 04 18 49.9 -0.9**
comp=Z,0.8nm,0.8s,baz=34,slow=7.1,SNR=3.6
YKA Yellowknife Ar 80.52 14 P **P 04 19 13.9 -1.3**
comp=Z,1.0nm,1.0s,baz=338,slow=5.2,SNR=5.0
TORD Torodi Ar. Bea 86.45 283 P **P 04 19 45.5 -1.1**
comp=Z,1.0nm,0.9s,baz=44,slow=4.4,SNR=6.4

IDC ***13*** *04:24:37.4±0.6, 1°.31N×97°.13E, h0km, mb4.5/25, mb1 4.6/27, mb1mx4.4/34, mbtmp4.5/27, ML4.2/2, Error ellipse: s-maj=19.0km s-min=13.2km az=51.0*
BJI ***13*** *04:24:39.0, 1°.02N×97°.18E, h36km, mb5.0/48, mB5.0/34, Ms5.1/33, Ms7 4.6/34*
MOS ***13*** *04:24:40.6±0.9, 1°.36N×97°.13E, h33km, mb5.1/28, Error ellipse: s-maj=10.6km s-min=6.0km az=100.7*
DJA ***13*** *04:24:41.9±0.9, 1°.N±3°×9°7E±°, h24km±6km, M4.8/19, mb4.7/14, mB5.1/8, MLv5.2/19, Mw(mB)4.4/8*
ISCJB ***13*** *04:24:42.1±0.5, 1°.31N±0°.03×97°.20E±0°.04, h45km±4km, mb4.8/67, Error ellipse: s-maj=6.8km s-min=4.7km az=140.1*
NEIC ***13*** *04:24:43.2±0.9, 1°.32N×97°.15E, h40km±6km, mb4.9/19, Error ellipse: s-maj=8.9km s-min=5.0km az=51.0*
NEIC Felt [III] at Gunungsitoli.
ISC 13 04:24:42.8±0.4**, 1°.28N**±0°.04×**97°.15E**±0°.05**, h35**km±1km**, h35km:pP-P, n192,**σ1**$36/231, mb4.8/79, 9C-4D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.43**	**86**	P		**Pn**	**04 24 52.4**	**-0.1**
GSI	**Gunungsitoli**	**0.43**	**86**	*e*Pg		**Pn**	**04 24 52.5**	**0.0**
GSI				*e*S		**Sn**	**04 24 58.8**	**-0.4**
PBSI	**Pulau Batu**	**1.74**	**139**	P		**Pn**	**04 25 10.4**	**-0.2**
KCSI	**Kotacane, Aceh**	**2.31**	**16**	P		**Pn**	**04 25 17.8**	**-0.7**
KCSI				S		**Sb**	**04 25 56.6**	**+4.4**
PSI	**Prapat**	**2.33**	**49**	Pn		**Pn**	**04 25 16.7**	**-2.2**
	26nm,0.3s,baz=216,slow=4.9,SNR=201							
PSI	**Prapat**	**2.33**	**49**	P		**Pn**	**04 25 16.7**	**-2.2**
PSI				pmax	pmax			
	comp=Z,26nm,0.3s							
PSI	**Prapat**	**2.33**	**49**	*e*Pn		**Pn**	**04 25 19.0**	**+0.2**
MNSI	**Mandailing Nat**	**2.48**	**101**	P		**Pn**	**04 25 21.5**	**+0.8**
TSI	**Tuntungan**	**2.62**	**33**	P		**Pn**	**04 25 23.2**	**+0.5**
SISI	**Saibi**	**3.23**	**143**	P		**Pn**	**04 25 31.1**	**0.0**
PPI	**Padang Panjang**	**3.68**	**118**	P		**Pn**	**04 25 38.2**	**+1.0**
LHMI	**Lhok Sumawe**	**3.93**	**357**	P		**Pn**	**04 25 43.0**	**+2.3**
LHMI	**Lhok Sumawe**	**3.93**	**357**	*e*Pn		**Pn**	**04 25 40.9**	**+0.2**
PDSI	**Padang**	**3.96**	**123**	P		**Pn**	**04 25 42.4**	**+1.2**
BKNI	**Bangkinang**	**4.00**	**104**	P		**Pn**	**04 25 43.1**	**+1.4**
BKNI	**Bangkinang**	**4.00**	**104**	*e*Pn		**Pn**	**04 25 42.5**	**+0.8**
PPSI	**Pulau Pagai**	**4.93**	**145**	P		**Pn**	**04 25 54.2**	**-0.2**
IPM	**Ipoh**	**5.01**	**51**	*e*Pn		**Pn**	**04 25 56.5**	**+0.9**
IPM				*e*S		**Sb**	**04 27 08.5**	**-1.2**
KULM	**Kulim**	**5.30**	**41**	*e*Pn		**Pn**	**04 25 59.4**	**-0.1**
MYKOM	**Kota Tinggi**	**6.72**	**86**	*e*Pn		**Pn**	**04 26 20.5**	**+1.4**
SKLT	**Songkhla**	**6.80**	**30**	P		**Pn**	**04 26 19.8**	**-0.4**
	comp=Z,177nm,1.0s,comp=Z,2µmcomp=Z,1.8nm							
TRTT	**Trang**	**6.99**	**21**	P		**Pn**	**04 26 21.2**	**-1.6**
	comp=Z,75nm,0.7s,comp=Z,1µmcomp=Z,1.0nm							
SURT	**Suratani**	**7.80**	**12**	P		**Pn**	**04 26 33.4**	**-0.6**
	comp=Z,24nm,1.1s,comp=Z,308ncomp=Z,0.1nm							
MDSI	**Maura Dua**	**9.06**	**129**	P		**Pn**	**04 26 50.8**	**-0.4**
	comp=Z,33nm,0.8s							
KSM	**Kuching**	**13.16**	**89**	*e*Pn		**Pn**	**04 27 46.5**	**-0.8**
	comp=Z,15nm,0.8s							
SBUM	**Sibu**	**15.11**	**85**	*e*Pn		**Pn**	**04 28 14.1**	**+0.2**
PBKT	**Sadao Pong**	**15.66**	**14**	P		**Pn**	**04 28 19.8**	**-1.1**
	comp=Z,34nm,1.0s							
UBPT	**Khong Chiam**	**16.16**	**30**	P		**P**	**04 28 28.8**	**-1.5**
	comp=Z,46nm,1.0s							
UTTA	**Uttaradit**	**16.70**	**11**	P		**Pn**	**04 28 33.3**	**-1.0**
	comp=Z,5.5nm,0.9s,comp=Z,66nm							
MHMT	**Maesariang**	**16.81**	**3**	P		**P**	**04 28 36.7**	**-0.8**
	comp=Z,15nm,1.1s							
SKNT	**Sakolnakorn**	**16.99**	**23**	P		**Pn**	**04 28 38.2**	**+0.3**
	comp=Z,40nm,1.4s,comp=Z,2µm							
CMAR	**Chiang Mai Arr**	**17.16**	**6**	P		**Pn**	**04 28 38.4**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=196,slow=12,SNR=19							
LAMP	**Lampang**	**17.31**	**8**	P		**Pn**	**04 28 41.4**	**-0.5**
	comp=Z,7.0nm,0.9s							
CMMT	**Chiang Mai**	**17.52**	**6**	P		**Pn**	**04 28 42.8**	**-1.7**
	comp=Z,24nm,1.0s							
CHTO	**Chiang Mai**	**17.52**	**6**	P		**Pn**	**04 28 42.8**	**-1.7**
	comp=Z,82nm,1.0s							
CHTO	**Chiang Mai**	**17.52**	**6**	*e*P		**Pn**	**04 28 42.1**	**-2.4**
CHTO				pmax	pmax			
	comp=Z,15nm,0.9s							
CHTO	**Chiang Mai**	**17.52**	**6**	*e*Pn		**Pn**	**04 28 42.1**	**-2.4**
	comp=Z,15nm,0.9s							
CMAI	**Chiengmai2**	**18.63**	**6**	P		**Pn**	**04 28 58.9**	**+0.6**
	comp=Z,16nm,0.9s,comp=Z,877nm							
KKM	**Kota Kinabalu**	**19.60**	**76**	*e*P		**P**	**04 29 08.8**	**+0.4**
	comp=Z,63nm,1.1s							
SLVN	**Son La**	**21.00**	**18**	*e*P		**P**	**04 29 22.9**	**-0.6**
	comp=Z,84nm,0.9s							
SKHT	**Srikalahasti**	**21.24**	**306**	*e*P		**P**	**04 29 26.3**	**+0.2**
SKHT				IAmb	IAmb		04 29 33.0	
	comp=Z,26nm,1.4s							
CHLP	**Challavanipeta**	**21.41**	**324**	*e*P		**P**	**04 29 28.8**	**+1.0**
CHLP				IAmb	IAmb		04 29 29.9	
	comp=Z,32nm,1.0s							
CHLP				*e*			04 30 56.4	
QIZ	**Qiongzhong**	**21.59**	**34**	P		**P**	**04 29 31.8**	**+2.0**
QIZ				sP		**sP**	**04 29 43.9**	**+0.5**
QIZ				S		**S**	**04 33 30.9**	**+3.6**
QIZ				PMZ				
	comp=Z,24nm,1.0s							
QIZ				LZ				
	comp=Z,840nm,19.0s							
QIZ	**Qiongzhong**	**21.59**	**34**	P		**P**	**04 29 29.9**	**+0.1**
MYLDM	**Lahad Datu**	**21.66**	**79**	*e*P		**P**	**04 29 31.3**	**+0.6**
	comp=Z,77nm,1.1s							
PVM	**Polavaram**	**22.03**	**317**	*e*P		**P**	**04 29 35.5**	**+1.0**
PVM				IAmb	IAmb		04 29 39.2	

Sta	Station	Dist	Azm	Phase	ISC	Time	Res
	comp=Z,10nm,1.1s						
ADKI	**Addanki**	**22.28**	**311**	eP	**P**	**04 29 35.5**	**-1.7**
ADKI				IAmb	IAmb	04 29 41.3	
	comp=Z,11nm,1.0s						
ADKI				epP	**pP**	**04 29 47.1**	**+0.6**
ADKI				e		04 31 37.6	
MPSI	**Mapaga**	**22.77**	**92**	P	**P**	**04 29 42.3**	**-0.1**
	comp=Z,28nm,1.0s,comp=Z,668nm						
RCLA	**Racherla**	**22.82**	**309**	eP	**P**	**04 29 44.3**	**+1.3**
RCLA				IAmb	IAmb	04 29 46.4	
	comp=Z,14nm,1.0s						
NJS	**Nagarjunasagar**	**23.22**	**312**	eP	**P**	**04 29 47.5**	**+0.4**
NJS				IAmb	IAmb	04 29 58.0	
	comp=Z,43nm,1.6s						
SRLM	**Srisailam**	**23.25**	**310**	eP	**P**	**04 29 47.0**	**-0.4**
SRLM				IAmb	IAmb	04 29 52.0	
	comp=Z,20nm,1.2s						
KAPI	**Kappang**	**23.43**	**106**	P	**P**	**04 29 45.8**	**-3.3**
	comp=Z,24nm,1.0s,baz=308,slow=5.5,SNR=4.6						
KAPI	**Kappang**	**23.43**	**106**	P	**P**	**04 29 46.7**	**-2.5**
	comp=Z,23nm,1.0s						
IMP	**Imphal**	**23.57**	**353**	eP	**P**	**04 29 49.0**	**-1.5**
URV	**Uravakonda**	**23.88**	**306**	eP	**P**	**04 29 54.8**	**+1.4**
URV				IAmb	IAmb	04 30 00.9	
	comp=Z,26nm,1.5s						
KMI	**Kunming**	**24.32**	**12**	P	**P**	**04 29 58.3**	**+0.7**
KMI				pP	**pP**	**04 30 04.8**	**-2.8**
KMI				sP	**sP**	**04 30 09.3**	**-2.5**
KMI				S	**S**	**04 34 17.0**	**+2.3**
KMI				PMZ			
	comp=Z,79nm,1.3s						
KMI				PMZ			
	comp=Z,280nm,3.5s						
KMI				LN			
	comp=Z,2µm,17.1s						
KMI				LE			
	comp=Z,3µm,15.6s						
KMI				LZ			
	comp=Z,3µm,16.4s						
HYB	**Hyderabad**	**24.32**	**312**	iP	**P**	**04 29 58.5**	**+1.0**
HYBB	**Hyderabad (bro**	**24.32**	**312**	eP	**P**	**04 29 58.1**	**+0.5**
HYBB				IAmb	IAmb	04 30 01.3	
	comp=Z,15nm,1.2s						
HYBB				epP	**pP**	**04 30 07.3**	**-0.2**
RPR	**Rampur**	**24.73**	**316**	eP	**P**	**04 30 02.8**	**+1.6**
RPR				IAmb	IAmb	04 30 04.6	
	comp=Z,15nm,0.9s						
MRSI	**Marisa**	**24.80**	**92**	P	**P**	**04 30 01.1**	**-0.8**
SRSP	**Sriramsagar**	**25.45**	**315**	eP	**P**	**04 30 07.9**	**+0.2**
SRSP				IAmb	IAmb	04 30 17.3	
	comp=Z,17nm,1.2s						
H08S2	**Diego Garcia H**	**26.14**	**250**	T	T	04 57 12.2	
	baz=69						
H08S3	**Diego Garcia H**	**26.14**	**250**	T	T	04 57 12.2	
	baz=69						
H08S1	**Diego Carcia H**	**26.16**	**250**	T	T	04 57 11.0	
	baz=69						
KLRI	**Killari**	**26.19**	**311**	eP	**P**	**04 30 14.8**	**+0.4**
KLRI				IAmb	IAmb	04 30 22.2	
	comp=Z,97nm,1.9s						
GYA	**Guiyang**	**26.66**	**19**	⇑iP	**P**	**04 30 17.8**	**-0.9**
GYA				pP	**pP**	**04 30 31.3**	**+2.6**
GYA				sP	sP	04 30 36.4	+3.5
GYA				PP	**PnPn**	**04 31 07.0**	**+6.6**
GYA				PcP	**PcP**	**04 33 44.8**	**+2.7**
GYA				S	**S**	**04 34 52.6**	**+0.8**
GYA				sS	sS	04 35 11.0	+2.7
GYA				SS	SnSn	04 36 07.0	+10
GYA				ScP	**ScP**	**04 37 18.8**	**-1.0**
GYA				PMZ			
	comp=Z,20nm,0.9s						
GYA				PMZ			
	comp=Z,200nm,5.6s						
GYA				LN			
	comp=Z,4µm,15.8s						
GYA				LE			
	comp=Z,3µm,15.5s						
GYA				LZ			
	comp=Z,6µm,13.9s						
ODAN	**Odare**	**27.11**	**341**	eP	**P**	**04 30 23.4**	**+0.5**
	comp=Z,86nm,0.8s						
TAPN	**Taplejung**	**27.46**	**342**	eP	**P**	**04 30 27.1**	**+1.0**
	comp=Z,222nm,1.0s						
RAMN	**Ramite**	**27.46**	**339**	eP	**P**	**04 30 27.2**	**+1.1**
	comp=Z,65nm,0.8s						
SZP	**Santa**	**28.04**	**53**	eP	**P**	**04 30 31.2**	**+0.1**
	comp=Z,215nm,1.0s						
PKI	**Pulchoki**	**28.46**	**338**	eP	**P**	**04 30 35.4**	**+0.3**
	comp=Z,58nm,1.0s						
PKIN	**Phulchoki**	**28.47**	**338**	eP	**P**	**04 30 36.3**	**+1.2**
GUN	**Gumba**	**28.60**	**339**	eP	**P**	**04 30 36.9**	**+0.6**
	comp=Z,79nm,0.8s						
DMN	**Daman**	**28.61**	**337**	eP	**P**	**04 30 37.1**	**+0.7**
KKN	**Kakani**	**28.71**	**338**	eP	**P**	**04 30 37.7**	**+0.5**
	comp=Z,109nm,1.3s						
LSA	**Lhasa**	**28.84**	**349**	eP	**P**	**04 30 38.9**	**+0.4**
LSA				pmax	pmax		
	comp=Z,19nm,0.8s						
LSA	**Lhasa**	**28.84**	**349**	eP	**P**	**04 30 38.9**	**+0.4**
	comp=Z,19nm,0.8s						
GKN	**Gorkha**	**29.15**	**337**	eP	**P**	**04 30 41.3**	**+0.3**
	comp=Z,86nm,1.1s						
KOLN	**Koldanda**	**29.37**	**335**	eP	**P**	**04 30 43.8**	**+0.8**
	comp=Z,45nm,0.7s						
CD2	**Chengdu**	**30.13**	**11**	P	**P**	**04 30 48.3**	**-1.2**
CD2				pP	**pP**	**04 30 59.1**	**-0.4**
CD2				sP	**sP**	**04 31 04.1**	**+0.3**
CD2				S	**S**	**04 35 46.4**	**+0.2**
CD2				sS	sS	04 36 05.3	+2.5
CD2				PMZ			
	comp=Z,20nm,1.3s						
CD2				PMZ			
	comp=Z,140nm,5.9s						
CD2				LN			
	comp=Z,4µm,16.2s						
CD2				LZ			
	comp=Z,2µm,18.6s						
ENH	**Enshi**	**31.13**	**21**	eP	**P**	**04 30 57.2**	**-1.1**
	comp=Z,37nm,0.7s						
TPUB	**Ta-pu**	**31.59**	**44**	eP	**P**	**04 31 02.4**	**-0.1**
	comp=Z,30nm,1.1s						
YULB	**Yu-li**	**32.12**	**45**	eP	**P**	**04 31 07.4**	**+0.3**
	comp=Z,14nm,0.8s						
SSLB	**Suanglung**	**32.14**	**44**	eP	**P**	**04 31 07.4**	**+0.1**
	comp=Z,24nm,0.8s						
XAN	**Xi'an**	**34.41**	**17**	P	**P**	**04 31 25.5**	**-1.5**
XAN				PMZ			
	comp=Z,41nm,0.9s						
XAN				PMZ			
	comp=Z,140nm,5.2s						
LZH	**Lanzhou**	**35.19**	**9**	eP	**P**	**04 31 33.9**	**+0.1**
LZH				pP	**pP**	**04 31 44.3**	**+0.4**
LZH				eS	S	04 37 12.1	+7.1
LZH				sS	**sS**	**04 37 20.8**	**-0.9**
LZH				SS	**SnSn**	**04 39 24.5**	**+0.5**
LZH				PMZ			
	comp=Z,18nm,1.0s						
LZH				PMZ			
	comp=Z,150nm,7.1s						
LZH				LN			
	comp=Z,2µm,14.5s						
LZH				LE			
	comp=Z,3µm,16.0s						
LZH				LZ			
	comp=Z,3µm,16.3s						
NJ2	**Nanjing**	**36.83**	**32**	eP	**P**	**04 31 48.8**	**+1.1**
NJ2				PMZ			
	comp=Z,20nm,0.5s						
GTA	**Gaotai**	**38.03**	**3**	eP	**P**	**04 31 57.8**	**-0.2**
GTA				pP	**pP**	**04 32 08.8**	**+0.7**
GTA				sP	**sP**	**04 32 13.8**	**+1.5**
GTA				S	**S**	**04 37 47.9**	**-0.4**
GTA				sS	**sS**	**04 38 04.6**	**-0.4**
GTA				SS	**SnSn**	**04 40 27.1**	**-5.5**
GTA				PMZ			
	comp=Z,17nm,1.1s						
GTA				PMZ			
	comp=Z,97nm,6.4s						
GTA				LN			
	comp=Z,1µm,14.7s						
GTA				LE			
	comp=Z,1µm,14.2s						
GTA				LZ			
	comp=Z,2µm,14.7s						
NWAO	**Narrogin (SRO)**	**38.95**	**153**	P	**P**	**04 32 05.5**	**-0.2**
	comp=Z,6.7nm,0.8s,baz=328,slow=9.5,SNR=3.4						
NWAO	**Narrogin (SRO)**	**38.95**	**153**	⇑P	**P**	**04 32 07.1**	**+1.5**
	baz=1.4						
NWAO				⇑P	**P**	**04 32 07.1**	**+1.5**
	baz=1.4						
H01W3	**Cape Leeuwin H**	**39.34**	**158**	T	T	05 13 42.4	
	baz=335						
H01W2	**Cape Leeuwin H**	**39.35**	**158**	T	T	05 13 41.2	
	baz=335						
H01W1	**Cape Leeuwin H**	**39.35**	**158**	T	T	05 13 40.1	
	baz=335						
HHC	**Hu-ho-hao-te**	**41.50**	**17**	eP	**P**	**04 32 29.3**	**+2.5**
HHC				PP	**PnPn**	**04 34 09.0**	**+1.0**
HHC				S	**S**	**04 38 43.6**	**+3.4**
HHC				sS	sS	04 39 00.0	+3.0
HHC				SS	**SS**	**04 41 44.5**	**-1.1**
HHC				PMZ			
	comp=Z,26nm,0.9s						
HHC				PMZ			
	comp=Z,80nm,7.4s						
HHC				LN			
	comp=Z,3µm,16.2s						
HHC				LE			
	comp=Z,980nm,14.6s						
HHC				LZ			
	comp=Z,2µm,16.2s						
WRA	**Warramunga Arr**	**42.12**	**122**	P	**P**	**04 32 31.7**	**-0.4**
	comp=Z,4.3nm,0.8s,baz=301,slow=9.0,SNR=40						
WRAB	**Tennant Creek**	**42.12**	**122**	⇑eP	**P**	**04 32 32.0**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,11nm,0.7s						
WRAB	**Tennant Creek**	**42.12**	**122**	eP	**P**	**04 32 31.8**	**-0.3**
	comp=Z,8.9nm,0.8s						
BJI	**Beijing**	**42.29**	**22**	P	**P**	**04 32 33.4**	**+0.3**
BJI				S	**S**	**04 38 56.3**	**+4.8**
BJI				PMZ			
	comp=Z,42nm,0.8s						
BJI				PMZ			
	comp=Z,150nm,4.2s						
BJI				LN			
	comp=Z,460nm,15.6s						
BJI				LE			
	comp=Z,510nm,16.9s						
BJI				LZ			
	comp=Z,340nm,23.8s						
KSH	**Kashi**	**42.68**	**336**	P	**P**	**04 32 35.6**	**-0.9**
KSH				pP	**pP**	**04 32 49.3**	**+2.6**
KSH				sP	sP	04 32 54.3	+3.4
KSH				PP	**PP**	**04 34 18.3**	**+2.4**
KSH				PcP	**PcP**	**04 34 29.1**	**+1.1**
KSH				S	**S**	**04 38 54.8**	**-2.9**
KSH				sS	**sS**	**04 39 16.0**	**+1.4**
KSH				SS	SS	04 42 00.3	-8.7
KSH				PMZ			
	comp=Z,160nm,5.0s						
KSH				LN			
	comp=Z,360nm,9.9s						
KSH				LE			
	comp=Z,390nm,6.3s						
KSH				LZ			
	comp=Z,180nm,8.3s						
WMQ	**Urumqi**	**43.19**	**350**	P	**P**	**04 32 40.3**	**-0.2**
WMQ				pP	**pP**	**04 32 52.6**	**+1.9**
WMQ				sP	sP	04 32 58.8	+3.9
WMQ				PcP	**PcP**	**04 34 29.6**	**+0.1**
WMQ				S	**S**	**04 39 03.4**	**-1.5**
WMQ				SS	SS	04 42 10.5	-8.3
WMQ				PMZ			
	comp=Z,25nm,1.0s						
WMQ				PMZ			
	comp=Z,160nm,3.6s						
WMQ				LN			
	comp=Z,730nm,16.0s						
WMQ				LE			
	comp=Z,900nm,20.0s						
WMQ				LZ			
	comp=Z,610nm,22.0s						
ASAR	**Alice Springs**	**43.48**	**127**	P	**P**	**04 32 42.8**	**-0.4**
	comp=Z,4.1nm,0.9s,baz=297,slow=6.9,SNR=20						
TJN	**Taejon**	**44.74**	**35**	d iP	**P**	**04 32 53.0**	**+0.1**
JNU	**Nakatsue**	**44.78**	**41**	P	**P**	**04 32 53.0**	**-0.4**
	comp=Z,20nm,0.9s,baz=249,slow=8.2						
UCH	**Uchtor**	**45.56**	**336**	P	**P**	**04 33 00.9**	**+1.0**
	SNR=8.7						
TKM2	**Tokmak 2**	**45.73**	**338**	P	**P**	**04 33 01.6**	**+0.6**
	SNR=7.7						
TKM2	**Tokmak 2**	**45.73**	**338**	eP	**P**	**04 33 01.3**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,13nm,1.0s						
TKM2	**Tokmak 2**	**45.73**	**338**	eP	**P**	**04 33 01.3**	**+0.4**
	comp=Z,14nm,1.0s						
KBK	**Karagaybulak**	**45.75**	**337**	P	**P**	**04 33 02.7**	**+1.6**
	SNR=7.1						
KSAR	**Wonju Array Be**	**45.78**	**35**	P	**P**	**04 33 00.9**	**-0.3**
KSAR	**Wonju Array Be**	**45.78**	**35**	P	**P**	**04 33 00.9**	**-0.3**
KSRS	**Korea Array**	**45.81**	**35**	P	**P**	**04 33 00.9**	**-0.5**
	comp=Z,22nm,0.9s,baz=221,slow=9.1,SNR=70						
KSRS	**Korea Array**	**45.81**	**35**	P	**P**	**04 33 00.9**	**-0.5**
KSRS				pmax	pmax		
	comp=Z,22nm,0.9s						
FRU	**Bishkek**	**46.03**	**337**	eP	**P**	**04 33 04.5**	**+1.4**
EKS2	**Erkin-Say**	**46.22**	**336**	P	**P**	**04 33 06.0**	**+1.3**
	SNR=7.2						
EKS2	**Erkin-Say**	**46.22**	**336**	eP	**P**	**04 33 04.0**	**-0.7**
EKS2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
EKS2	**Erkin-Say**	**46.22**	**336**	eP	**P**	**04 33 04.0**	**-0.7**
	comp=Z,7.7nm,0.7s						
USP	**Ospenovka**	**46.44**	**337**	P	**P**	**04 33 07.2**	**+0.8**
	SNR=7.2						
SONM	**Songino Array**	**47.06**	**9**	P	**P**	**04 33 11.2**	**0.0**
	comp=Z,14nm,0.8s,baz=189,slow=8.8,SNR=111						
SONM				PcP	**PcP**	**04 34 42.5**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=186,slow=4.2,SNR=2.9						
MK31	**Makanchi Array**	**47.16**	**346**	iP	**P**	**04 33 11.8**	**0.0**
MK31				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MKAR	**Makanchi Array**	**47.16**	**346**	P	**P**	**04 33 11.8**	**-0.1**
	comp=Z,8.8nm,0.8s,baz=159,slow=8.0,SNR=40						
KK31	**Karatay Array**	**47.97**	**334**	iP	**P**	**04 33 18.1**	**-0.1**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KKAR	**Karatay Array**	**47.97**	**334**	eP	**P**	**04 33 17.0**	**-1.2**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KKAR	**Karatay Array**	**47.97**	**334**	eP	**P**	**04 33 17.0**	**-1.2**
	comp=Z,5.5nm,0.8s						
IMYA	**Miami**	**48.91**	**320**	eP	P	04 33 30.9	+5.2
ZAK	**Zakamensk**	**49.20**	**5**	⇑iP	**P**	**04 33 27.3**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CN2	**Changchun**	**49.26**	**27**	eP	**P**	**04 33 27.4**	**-0.7**
CN2				PMZ			
	comp=Z,20nm,1.0s						
IPAR	**Pars**	**50.60**	**309**	eP	**P**	**04 33 38.4**	**-0.5**
PMG	**Port Moresby**	**50.92**	**103**	P	**P**	**04 33 41.3**	**+0.1**
GEYT	**Alibeck**	**51.12**	**320**	P	**P**	**04 33 42.9**	**+0.5**
	comp=Z,1.2nm,0.4s,baz=109,slow=7.8,SNR=2.0						
KURBB	**Kurchatov Arra**	**51.64**	**345**	P	**P**	**04 33 45.7**	**-0.3**
	comp=Z,5.9nm,0.7s,baz=166,slow=6.9,SNR=38						
MJAR	**Matsushiro Arr**	**51.67**	**42**	P	**P**	**04 33 45.7**	**-0.8**
	comp=Z,3.4nm,0.8s,baz=229,slow=6.4,SNR=9.2						
KURK	**Kurchatov**	**51.70**	**345**	P	**P**	**04 33 46.1**	**-0.4**
KURK				pmax	pmax		
	comp=Z,13nm,1.2s						
KURK	**Kurchatov**	**51.70**	**345**	eP	**P**	**04 33 46.0**	**-0.4**
	comp=Z,28nm,1.2s						
MDJ	**Mudanjiang**	**51.83**	**29**	P	**P**	**04 33 48.0**	**+0.5**
MDJ				PMZ			
	comp=Z,14nm,1.4s						
MDJ	**Mudanjiang**	**51.83**	**29**	eP	**P**	**04 33 47.4**	**0.0**
	comp=Z,10nm,0.8s						
VLA	**Vladivostok**	**51.93**	**32**	P	**P**	**04 33 49.6**	**+1.4**
VLA				pmax	pmax		
	comp=Z,81nm,1.1s						
USRK	**Ussuriysk Ar.**	**52.73**	**31**	P	**P**	**04 33 54.0**	**-0.1**
	comp=Z,31nm,0.9s,baz=230,slow=6.1,SNR=51						
STKA	**Stephens Creek**	**53.45**	**132**	P	**P**	**04 34 00.7**	**+1.0**
	comp=Z,4.3nm,0.9s,baz=299,slow=7.1,SNR=4.9						
ZALV	**Zalesovo Beam**	**53.48**	**351**	P	**P**	**04 33 59.1**	**-0.4**
	comp=Z,18nm,0.6s,baz=181,slow=6.5,SNR=72						
NVS	**Novosibirsk**	**54.59**	**350**	eP	**P**	**04 34 06.5**	**-1.1**
NVS				e		04 34 18.9	
NVS				e		04 41 49.7	
NVS				pmax	pmax		
	comp=Z,22nm,1.2s						
KRAR	**Krasnoyarsk**	**54.67**	**357**	P	**P**	**04 34 06.5**	**-1.7**
KRAR				pmax	pmax		
	comp=Z,63nm,0.6s						
RAYN	**Ar Rayn**	**54.67**	**298**	eP	**P**	**04 34 10.3**	**+1.5**
	comp=Z,4.4nm,0.9s						
BVA0	**Borovoye Array**	**56.16**	**341**	iP	**P**	**04 34 17.9**	**-1.1**
BVA0				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BVAR	**Borovoye Array**	**56.16**	**341**	P	**P**	**04 34 18.0**	**-1.0**
	comp=Z,8.2nm,0.7s,baz=144,slow=8.4,SNR=45						
BVAR	**Borovoye Array**	**56.16**	**341**	P	**P**	**04 34 18.0**	**-1.0**
BVAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KLR	**Kul'dur**	**56.21**	**27**	eP	P	04 34 15.3	-4.1
KLR				pmax	pmax		
	comp=E,23nm,1.2s						
KLR				pmax	pmax		
	comp=Z,47nm,1.2s						
BRVK	**Borovoye**	**56.22**	**341**	c iP	**P**	**04 34 18.7**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HABR	**Khabarovsk**	**57.22**	**29**	eP	**P**	**04 34 24.5**	**-2.0**
HABR				e*PP	**pP**	**04 34 34.6**	**-2.5**
HABR				e*SP	**sP**	**04 34 38.7**	**-2.5**
HABR				e		04 35 18.3	
HABR				e		04 36 32.0	
HABR				ePPP	PPP	04 37 48.9	
HABR				eS	**S**	**04 42 19.1**	**-0.7**
HABR				e*SS	**sS**	**04 42 36.1**	**-1.1**
HABR				e		04 44 10.7	
HABR				eSS	**SS**	**04 46 10.5**	**+1.1**
HABR				pmax	pmax		
	comp=Z,27nm,1.3s						
AB31	**Akbulak array**	**57.42**	**332**	iP	**P**	**04 34 26.4**	**-1.6**
AB31				pmax	pmax		
	comp=Z,12nm,0.7s						
ABKAR	**Akbulak array**	**57.42**	**332**	eP	**P**	**04 34 26.8**	**-1.2**
	comp=Z,14nm,0.8s						
BOD	**Bodaibo**	**57.94**	**11**	eP	**P**	**04 34 30.2**	**-1.3**
BOD				pmax	pmax		
	comp=Z,14nm,1.1s						
AKTO	**Aktyubinsk**	**59.14**	**332**	P	**P**	**04 34 37.9**	**-2.1**
AKTO				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YSS	**Yuzh-Sakhalins**	**60.31**	**34**	⇓eP	**P**	**04 34 49.0**	**+0.9**
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
GNI	**Garni**	**61.20**	**316**	P	**P**	**04 34 53.7**	**-0.8**
GNI				pmax	pmax		
	comp=Z,11nm,1.0s						
SVE	**Sverdlovsk**	**62.60**	**338**	⇑eP	**P**	**04 35 03.1**	**-0.3**
SVE				pmax	pmax		
	comp=Z,23nm,1.1s						
ARU	**Arti**	**63.09**	**337**	d iP	**P**	**04 35 05.8**	**-0.9**
ARU						04 37 27.2	
ARU				S	**S**	**04 43 36.2**	**+1.1**
ARU				pmax	pmax		
	comp=Z,11nm,1.0s						
KBZ	**Khabaz**	**63.98**	**319**	P	**P**	**04 35 12.7**	**0.0**
	comp=Z,2.2nm,0.6s,baz=98,slow=5.7,SNR=5.5						
KIV	**Kislovodsk**	**64.22**	**319**	iP	**P**	**04 35 13.2**	**-1.3**
KIV				i		04 35 21.8	
KIV				i		04 35 45.8	
KIV				iS	S	04 43 39.1	-11
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
YAK	**Yakutsk**	**65.36**	**16**	P	**P**	**04 35 21.0**	**-0.4**
	comp=Z,2.7nm,0.4s,baz=202,slow=19,SNR=5.6						
YAK	**Yakutsk**	**65.36**	**16**	eP	**P**	**04 35 20.1**	**-1.3**
YAK				e		04 35 28.2	
YAK				pmax	pmax		
	comp=Z,58nm,1.0s						
YAK				pmax	pmax		
	comp=E,15nm,1.1s						
YAK				pmax	pmax		
	comp=N,18nm,1.1s						
SOKR	**Solikamsk**	**66.01**	**339**	eP	**P**	**04 35 25.5**	**-0.1**
SOKR				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BRTR	**Keskin Array B**	**69.02**	**312**	P	**P**	**04 35 44.5**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=124,slow=6.2,SNR=5.8						
BRTR	**Keskin Array B**	**69.02**	**312**	c eP	**P**	**04 35 44.4**	**-0.9**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
VSR	**Storozhevoye**	**69.48**	**325**	⇑iP	**P**	**04 35 46.7**	**-1.0**
VSR				pmax	pmax		
	comp=Z,6.0nm,0.4s						
MA2	**Magadan**	**71.28**	**26**	iP	**P**	**04 35 59.2**	**+0.6**
PRGR	**Permogore**	**71.55**	**337**	eP	**P**	**04 35 58.7**	**-1.4**
PRGR				e		04 36 05.4	
PRGR						04 36 15.6	
PRGR				pmax	pmax		
	comp=Z,21nm,0.8s						
PETK	**Petropavlovsk-**	**71.70**	**34**	P	**P**	**04 36 01.0**	**-0.2**
	comp=Z,5.0nm,0.8s,baz=226,slow=5.8,SNR=5.0						
PETK	**Petropavlovsk-**	**71.70**	**34**	P	**P**	**04 36 01.0**	**-0.2**
PET	**Petropavlovsk**	**72.20**	**34**	eP	**P**	**04 36 03.8**	**-0.3**
PET				pmax	pmax		
	comp=Z,29nm,1.0s						
MOS	**Moscow**	**72.24**	**329**	eP	**pP**	**04 36 16.4**	**+1.2**
MOS				e		04 36 29.0	
OBN	**Obninsk**	**72.53**	**328**	iP	**P**	**04 36 06.1**	**0.0**
OBN				i		04 36 22.1	
OBN				i		04 38 48.0	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SEY	**Seymchan**	**73.71**	**23**	P	**P**	**04 36 12.6**	**-0.4**
	comp=Z,8.7nm,0.8s,baz=234,slow=6.1,SNR=34						
SEY	**Seymchan**	**73.71**	**23**	⇓iP	**P**	**04 36 13.1**	**+0.2**
AKASG	**Malin Array Be**	**75.17**	**322**	P	**P**	**04 36 20.9**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=93,slow=4.0,SNR=7.2						
TMCR	**Tamitsa**	**75.83**	**337**	eP	P	04 36 34.8	+10
TMCR				pmax	pmax		
	comp=Z,49nm,1.4s						
NACGM	**Naroch**	**77.76**	**326**	e	P	04 36 44.0	+7.8
KOLS	**Kolonicke sedl**	**79.13**	**320**	eP	**P**	**04 36 45.1**	**+1.1**
KOLS				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KOLS	**Kolonicke sedl**	**79.13**	**320**	eP	**P**	**04 36 45.1**	**+1.1**
KOLS				ePCP	**pP**	**04 36 52.5**	**-2.4**
STHS	**Stebnicka Huta**	**79.88**	**320**	eP	**P**	**04 36 48.3**	**+0.2**
STHS				pmax	pmax		
	comp=Z,2.0nm,0.9s						
STHS	**Stebnicka Huta**	**79.88**	**320**	eP	**P**	**04 36 48.3**	**+0.2**
STHS				ePCP	**PcP**	**04 36 53.5**	**-2.1**
FINES	**FINESS Array B**	**79.91**	**333**	P	**P**	**04 36 47.6**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=104,slow=8.0,SNR=9.2						
ARCES	**ARCESS Array B**	**82.45**	**340**	P	**P**	**04 37 01.2**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=95,slow=5.8,SNR=7.2						
DPC	**Dobruska-Polom**	**83.16**	**320**	eP	**P**	**04 37 04.5**	**-0.9**
DPC				ex	x	04 37 12.3	
DPC				esP	**sP**	**04 37 21.0**	**+0.6**
DPC	**Dobruska-Polom**	**83.16**	**320**	eP	**P**	**04 37 04.5**	**-0.9**
DPC				e		04 37 12.3	
DPC				e		04 37 21.0	
GERES	**GERESS Array B**	**84.72**	**319**	P	**P**	**04 37 13.7**	**+0.2**
	comp=Z,1.9nm,1.0s,baz=98,slow=6.0,SNR=9.2						
NB2	**NORSAR Subarra**	**86.91**	**331**	P	**P**	**04 37 23.7**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=96,slow=4.8						
NOA	**NORSAR Array B**	**86.91**	**331**	P	**P**	**04 37 23.3**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=93,slow=4.9,SNR=5.4						
KEST	**Kesra**	**87.47**	**306**	P	**P**	**04 37 27.1**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=90,slow=8.1,SNR=3.4						
NVAR	**Mina Array Bea**	**128.75**	**36**	PKP	**PKPdf**	**04 43 47.4**	**0.0**
	comp=Z,0.8nm,0.7s,baz=240,slow=1.2,SNR=3.9						
PDAR	**Pinedale Array**	**129.99**	**26**	PKP	**PKPdf**	**04 43 49.6**	**0.0**
	comp=Z,0.3nm,0.6s,baz=251,slow=2.8,SNR=3.5						
PDAR				PP	**PP**	**04 46 00.9**	**+0.1**
	comp=Z,2.1nm,1.2s,baz=349,slow=6.0,SNR=3.9						
TXAR	**Lajitas Array**	**143.63**	**32**	PKP	PKPbc	04 44 12.9	+0.5
	comp=Z,0.9nm,0.8s,baz=186,slow=0.8,SNR=14						
CPUP	**Villa Florida**	**145.03**	**222**	PKPbc	**PKPdf**	**04 44 17.4**	**+0.1**
	comp=Z,4.0nm,0.8s,baz=36,slow=3.4,SNR=4.5						

*IDC **13** 04:26:19.8±0.5, 1°.31N×97°.21E, h0km, mb4.5/29, mb1 4.5/31, mb1mx4.5/40, mbtmp4.5/31, ML4.6/1, MS4.5/11, Ms1 4.5/11, ms1mx4.3/21, Error ellipse: s-maj=13.7km s-min=10.4km az=36.0*

*BJI **13** 04:26:22.3, 1°.35N×97°.19E, h27km, mb5.1/68, mB5.4/51, Ms5.2/72, Ms7 5.1/65*

*MOS **13** 04:26:23.1±0.9, 1°.38N×97°.23E, h33km, mb5.1/37, MS4.6/11, Error ellipse: s-maj=9.8km s-min=6.3km az=99.5*

DJA ***13*** *04:26:24.6±1.0, 1˚N±4˚, 9˚7E±˚, h25km±5km, M5.0/19, mb5.0/19, mB5.4/14, MLv5.2/7, Mw(mB)4.9/14*

ISCJB ***13*** *04:26:24.8±0.5, 1˚.35N±0˚.03, 97˚.17E±0˚.03, h45km±4km, mb4.9/81, MS4.6/20, Error ellipse: s-maj=5.6km s-min=4.1km az=138.8*

NEIC ***13*** *04:26:25.3±1.2, 1˚.39N, 97˚.14E, h33km±8km, mb5.2/31, Error ellipse: s-maj=7.8km s-min=6.1km az=223.0*

NEIC Felt [IV] at Gunungsitoli.

GCMT ***13*** *04:26:25.3±0.3, 1˚.18N, 96˚.85E, h23km±1km, MW5.1/61, Moment Tensor Solution. s50,c73; s61,c86; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.83±.22; $M_{\theta\theta}$-1.42±.13; $M_{\phi\phi}$-2.41±.14; $M_{r\theta}$2.86±.27; $M_{\theta\phi}$1.85±.10; $M_{\phi r}$-3.09±.25; Best double couple: $M_0$5.69200×10^{16} NP1:ϕ_s139.00000°,δ69.00000°,λ87.00000°. NP2: ϕ_s326.00000°,δ21.00000°,λ97.00000°. Principal axes: T 5.7010, Plg66.0000°, Azm44.0000°; N -0.0180, Plg3.0000°, Azm140.0000°; P -5.6830, Plg24.0000°, Azm231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

KLM ***13*** *04:26:27.9, 1˚.55N, 97˚.13E, h42km, mb5.1, MS5.7*

ISC 13 04:26:24.8±0.3, 1˚.38N±0˚.03, 97˚.15E±0˚.04, h28km±1km, h28km:pP-P,n339,σ1$50/371,mb4.9/91,MS4.6/21, 39C-24D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.43**	**100**	P	**Pb**	**04 26 34.3**	**+0.1**
GSI				S	**Sn**	**04 26 42.6**	**+0.4**
GSI	**Gunungsitoli**	**0.43**	**100**	*e*Pg	**Pb**	**04 26 34.2**	**+0.1**
GSI				*e*S	**Sn**	**04 26 42.7**	**+0.4**
PBSI	**Pulau Batu**	**1.82**	**142**	P	**Pn**	**04 26 54.6**	**+0.3**
KCSI	**Kotacane, Aceh**	**2.21**	**16**	P	**Pn**	**04 27 00.5**	**+0.7**
PSI	**Prapat**	**2.27**	**52**	Pn	**Pn**	**04 26 58.1**	**-2.4**
	baz=248,slow=19,SNR=1.0						
PSI				Sn	**Sn**	**04 27 27.0**	**-0.6**
	129nm,0.3s,baz=300,slow=20,SNR=5.7						
PSI				LR	LR	04 27 50.0	
	comp=Z,9μm,21.0s,baz=301,slow=41						
PSI	**Prapat**	**2.27**	**52**	⇑P	**Pn**	**04 27 01.7**	**+1.2**
	baz=2.1						
PSI	**Prapat**	**2.27**	**52**	*e*Pn	**Pn**	**04 27 02.0**	**+1.4**
PSI				*e*Sn	Sb	04 27 41.9	+9.1
MNSI	**Mandailing Nat**	**2.50**	**103**	P	**Pn**	**04 27 04.5**	**+0.9**
SISI	**Saibi**	**3.32**	**144**	P	**Pn**	**04 27 14.9**	**0.0**
PPI	**Padang Panjang**	**3.73**	**119**	P	**Pn**	**04 27 21.7**	**+1.2**
KULM	**Kulim**	**5.22**	**42**	Pn	Pn	04 27 34.3	-6.8
KGM	**Kluang**	**6.20**	**84**	⇓P	**Pn**	**04 27 56.4**	**+1.9**
MYKOM	**Kota Tinggi**	**6.71**	**86**	⇑P	**Pn**	**04 28 04.0**	**+2.4**
SKLT	**Songkhla**	**6.71**	**31**	P	**Pn**	**04 28 03.0**	**+1.4**
	562nm,1.0s,4μm1.8nm						
TRTT	**Trang**	**6.89**	**21**	P	**Pn**	**04 28 04.7**	**+0.6**
	262nm,1.3s,3μm1.2nm						
LHSI	**Lahat**	**8.21**	**129**	P	**Pn**	**04 28 22.5**	**+0.4**
	139nm,1.1s,4μm						
MDSI	**Maura Dua**	**9.13**	**130**	P	**Pn**	**04 28 34.0**	**-0.8**
	76nm,0.9s,2μm						
PATY	**Pattaya**	**12.04**	**18**	P	**P**	**04 29 29.8**	**+2.5**
KSM	**Kuching**	**13.16**	**89**	⇓P	Pn	04 29 33.2	+3.2
KSM	**Kuching**	**13.16**	**89**	*e*Pn	**Pn**	**04 29 31.2**	**+1.3**
	25nm,1.1s						
KHLT	**Khaolaem Dam**	**13.40**	**6**	P	**P**	**04 29 44.4**	**+1.9**
STKI	**Sintang**	**14.39**	**95**	P	**Pn**	**04 29 47.7**	**+0.9**
	95nm,1.1s,11μm						
SBUM	**Sibu**	**15.10**	**86**	⇑P	**Pn**	**04 29 58.1**	**+1.7**
SBUM	**Sibu**	**15.10**	**86**	*e*Pn	**Pn**	**04 29 57.0**	**+0.6**
	104nm,1.2s						
DLV	**T Lat**	**15.38**	**47**	Pn	Pn	04 29 50.7	-10
PBKT	**Sadao Pong**	**15.55**	**14**	P	**P**	**04 30 06.4**	**0.0**
	66nm,1.5s,989nm						
BTM	**Bintulu**	**16.02**	**83**	⇑P	**P**	**04 30 10.7**	**-1.0**
UBPT	**Khong Chiam**	**16.07**	**30**	P	**P**	**04 30 11.6**	**-0.5**
	97nm,1.1s,1μm						
UTTA	**Uttaradit**	**16.60**	**11**	P	**P**	**04 30 18.4**	**+0.4**
	7.2nm,1.1s,91nm						
SKNT	**Sakolnakorn**	**16.89**	**23**	P	**P**	**04 30 20.6**	**-0.6**
	95nm,1.3s,2μm						
CM11	**Chiang Mai Arr**	**16.98**	**6**	⇓P	**P**	**04 30 21.5**	**-0.7**
	baz=17						
CMAR	**Chiang Mai Arr**	**17.06**	**6**	P	**Pn**	**04 30 20.7**	**-0.8**
	0.8nm,0.3s,baz=196,slow=12,SNR=6.4						
CMAR				S	**S**	**04 33 39.8**	**+0.1**
	1.5nm,0.3s,baz=203,slow=27,SNR=5.1						
CMAR				LR	LR	04 37 19.8	
	comp=Z,3μm,18.8s,baz=198,slow=38						
LAMP	**Lampang**	**17.21**	**8**	P	**P**	**04 30 25.7**	**+1.0**
	12nm,1.4s,117nm						
PALK	**Pallekele**	**17.41**	**290**	LR	LR	04 36 38.1	
	comp=Z,3μm,19.0s,baz=112,slow=35						
PALK	**Pallekele**	**17.41**	**290**	*e*P	**P**	**04 30 26.7**	**-0.3**
PALK	**Pallekele**	**17.41**	**290**	*e*Pn	**P**	**04 30 26.6**	**-0.3**
CMMT	**Chiang Mai**	**17.41**	**6**	P	**P**	**04 30 27.3**	**+0.3**
	40nm,1.0s,652nm						
CHTO	**Chiang Mai**	**17.41**	**6**	P	**P**	**04 30 27.4**	**+0.4**
	171nm,0.9s,2μm						
CHTO	**Chiang Mai**	**17.41**	**6**	P	**Pn**	**04 30 24.4**	**-1.5**
CHTO				pmax	pmax		
	comp=Z,24nm,0.9s						
CHTO	**Chiang Mai**	**17.41**	**6**	Pn	**Pn**	**04 30 24.4**	**-1.5**
	comp=Z,24nm,0.9s						
CMAI	**Chiengmai2**	**18.53**	**6**	P	**Pn**	**04 30 41.9**	**+2.1**
	comp=Z,23nm,1.2s,comp=Z,870nm						
CRAI	**Chiangrai**	**19.00**	**9**	P	**P**	**04 30 44.0**	**-0.4**
	comp=Z,46nm,1.0s						
KKM	**Kota Kinabalu**	**19.58**	**76**	⇑P	**P**	**04 30 51.2**	**+0.3**
	baz=20,SNR=7.8						
KKM	**Kota Kinabalu**	**19.58**	**76**	⇑P	**Pn**	**04 30 52.9**	**+0.5**
KKM	**Kota Kinabalu**	**19.58**	**76**	*e*P	**P**	**04 30 50.8**	**-0.2**
	comp=Z,175nm,1.3s						
BKB	**Balikpapan**	**19.92**	**97**	P	**Pn**	**04 30 55.5**	**-0.9**
	comp=Z,279nm,1.3s,comp=Z,3μm						
KDM	**Kudat**	**20.38**	**74**	⇓P	**P**	**04 31 00.7**	**+1.1**
SDKM	**Sandakan**	**20.45**	**78**	⇑P	**P**	**04 31 01.3**	**+0.9**
SLVN	**Son La**	**20.90**	**18**	*e*P	**P**	**04 31 04.3**	**-0.8**
	comp=Z,112nm,0.9s						
TSM	**Tawau**	**20.90**	**82**	⇓P	**P**	**04 31 06.0**	**+0.8**
SKHT	**Srikalahasti**	**21.18**	**306**	*e*P	**P**	**04 31 07.2**	**-1.0**
SKHT				IAmb	IAmb	04 31 15.1	
	comp=Z,13nm,0.8s						
SKHT				*e*S	**S**	**04 35 00.5**	**-2.0**
SKHT				IVMs_BB	IVMs_BB	04 45 06.0	
	comp=Z,443nm,4.8s						
CHLP	**Challavanipeta**	**21.32**	**324**	*e*P	**P**	**04 31 10.0**	**+0.3**
CHLP				IAmb	IAmb	04 31 15.2	
	comp=Z,39nm,1.2s						
CHLP				*e*S	**S**	**04 35 06.4**	**+1.2**
CHLP				IVMs_BB	IVMs_BB	04 40 18.5	
	comp=Z,481nm,25.8s						
QIZ	**Qiongzhong**	**21.50**	**35**	P	**P**	**04 31 11.3**	**-0.4**
QIZ				pP	**pP**	**04 31 19.4**	**+0.1**
QIZ				PMZ			
	comp=Z,32nm,1.2s						
QIZ				LN			
	comp=Z,2μm,14.8s						
QIZ				LZ			
	comp=Z,2μm,15.2s						
QIZ	**Qiongzhong**	**21.50**	**35**	*e*P	**P**	**04 31 11.2**	**-0.5**
	comp=Z,30nm,0.9s						
MYLDM	**Lahad Datu**	**21.64**	**79**	⇓P	**P**	**04 31 15.6**	**+2.4**
MYLDM	**Lahad Datu**	**21.64**	**79**	*e*P	**P**	**04 31 14.2**	**+0.9**
	comp=Z,211nm,1.2s						
PVM	**Polavaram**	**21.95**	**317**	*e*P	**P**	**04 31 18.2**	**+1.7**
PVM				IAmb	IAmb	04 31 22.8	
	comp=Z,19nm,1.2s						
PVM				*e*S	**S**	**04 35 19.6**	**+2.0**
PVM				IVMs_BB	IVMs_BB	04 44 21.2	
	comp=Z,384nm,16.4s						
ADKI	**Addanki**	**22.21**	**311**	*e*P	**P**	**04 31 17.1**	**-2.2**
ADKI				*e*S	**S**	**04 35 23.9**	**+1.4**
ADKI				IVMs_BB	IVMs_BB	04 42 50.9	
	comp=Z,597nm,19.8s						
RCLA	**Racherla**	**22.75**	**309**	*e*P	**P**	**04 31 26.9**	**+1.8**
RCLA				IAmb	IAmb	04 31 29.1	
	comp=Z,26nm,1.4s						
RCLA				*e*S	**S**	**04 35 33.5**	**+1.1**
RCLA				IVMs_BB	IVMs_BB	04 42 48.4	
	comp=Z,799nm,16.9s						
MPSI	**Mapaga**	**22.77**	**92**	P	**P**	**04 31 24.9**	**-0.4**
	comp=Z,54nm,1.0s,comp=Z,855nm						
TTSI	**Tana Toraja**	**23.09**	**101**	P	**P**	**04 31 28.9**	**+0.3**
	comp=Z,53nm,1.4s,comp=Z,1μm						
SRLM	**Srisailam**	**23.19**	**310**	*e*P	**P**	**04 31 31.2**	**+1.6**
SRLM				IAmb	IAmb	04 31 34.1	
	comp=Z,11nm,0.9s						
SRLM				*e*S	**S**	**04 35 38.5**	**-1.3**
SRLM				IVMs_BB	IVMs_BB	04 42 46.9	
	comp=Z,619nm,20.9s						
SPSI	**Sidrap Palu**	**23.22**	**103**	P	**P**	**04 31 27.3**	**-2.6**
	comp=Z,27nm,1.4s						
KAPI	**Kappang**	**23.46**	**106**	P	**P**	**04 31 30.2**	**-2.1**
	comp=Z,44nm,1.0s,baz=284,slow=8.5,SNR=6.8						
KAPI				S	**S**	**04 35 45.9**	**+1.6**
	comp=Z,2.8nm,0.3s,baz=156,slow=17,SNR=2.4						
KAPI	**Kappang**	**23.46**	**106**	*e*P	**P**	**04 31 31.9**	**-0.3**
	comp=Z,18nm,1.3s						
KAPI				S	**S**	**04 35 45.9**	**+1.6**
URV	**Uravakonda**	**23.82**	**305**	*e*P	**P**	**04 31 37.6**	**+1.9**
URV				IAmb	IAmb	04 31 40.2	
	comp=Z,24nm,1.3s						
URV				IVMs_BB	IVMs_BB	04 42 37.3	
	comp=Z,456nm,4.5s						
KMI	**Kunming**	**24.21**	**12**	P	**P**	**04 31 40.1**	**+0.6**
KMI				pP	**pP**	**04 31 46.8**	**-0.9**
KMI				sP	**sP**	**04 31 49.9**	**-1.3**
KMI				S	**S**	**04 35 52.8**	**-3.7**
KMI				PMZ			
	comp=Z,160nm,1.5s						
KMI				PMZ			
	comp=Z,890nm,3.8s						
KMI				LN			
	comp=Z,6μm,15.4s						
KMI				LE			
	comp=Z,3μm,13.8s						
KMI				LZ			
	comp=Z,7μm,15.4s						
HYB	**Hyderabad**	**24.25**	**312**	*i*P	**P**	**04 31 40.0**	**+0.2**
HYB				*e*		04 31 49.0	
HYBB	**Hyderabad (bro**	**24.25**	**312**	*e*P	**P**	**04 31 38.9**	**-0.9**
HYBB				IAmb	IAmb	04 31 41.6	
	comp=Z,39nm,1.5s						
HYBB				*e*pP	**pP**	**04 31 48.9**	**+0.9**
HYBB				*e*sP	**sP**	**04 31 53.1**	**+1.7**
HYBB				*e*S	**S**	**04 35 56.8**	**-0.3**
HYBB				IVMs_BB	IVMs_BB	04 44 43.8	
	comp=Z,370nm,4.3s						
RPR	**Rampur**	**24.66**	**316**	*e*P	**P**	**04 31 43.1**	**-0.3**
RPR				IAmb	IAmb	04 31 49.1	
	comp=Z,10nm,0.8s						
RPR				IVMs_BB	IVMs_BB	04 47 20.2	
	comp=Z,333nm,4.7s						
MRSI	**Marisa**	**24.80**	**92**	P	**P**	**04 31 42.5**	**-2.3**
	comp=Z,74nm,0.8s,comp=Z,1μm						
SRSP	**Sriramsagar**	**25.37**	**315**	*e*P	**P**	**04 31 50.7**	**+0.8**
SRSP				IAmb	IAmb	04 31 56.4	
	comp=Z,12nm,1.0s						
SRSP				*e*S	**S**	**04 36 15.9**	**+1.0**
SRSP				IVMs_BB	IVMs_BB	04 45 26.6	
	comp=Z,437nm,16.1s						
LUWI	**Luwuk**	**25.73**	**95**	P	**P**	**04 31 51.9**	**-1.3**
	comp=Z,201nm,1.1s,comp=Z,2μm						
LUWI	**Luwuk**	**25.73**	**95**	*e*P	**P**	**04 31 53.4**	**+0.1**
	comp=Z,238nm,1.1s						
KLRI	**Killari**	**26.12**	**311**	*e*P	**P**	**04 31 55.8**	**-1.0**
KLRI				IAmb	IAmb	04 32 03.9	
	comp=Z,102nm,1.8s						
KLRI				IVMs_BB	IVMs_BB	04 44 43.5	
	comp=Z,827nm,12.5s						
H08S2	**Diego Garcia H**	**26.18**	**250**	T	T	04 59 00.1	
	baz=70,slow=76						
H08S3	**Diego Garcia H**	**26.18**	**250**	T	T	04 59 00.3	
	baz=70,slow=76						
H08S1	**Diego Carcia H**	**26.20**	**250**	T	T	04 59 01.6	
	baz=70,slow=76						
GYA	**Guiyang**	**26.56**	**19**	⇑*i*P	**P**	**04 31 59.1**	**-1.6**
GYA				pP	**pP**	**04 32 11.0**	**+2.1**
GYA				PcP	**PcP**	**04 35 27.6**	**+2.6**
GYA				S	**S**	**04 36 35.3**	**+1.6**
GYA				sS	**sS**	**04 36 48.8**	**+1.5**
GYA				ScP	**ScP**	**04 39 04.4**	**+1.2**
GYA				PMZ			
	comp=Z,50nm,1.4s						
GYA				PMZ			
	comp=Z,200nm,5.4s						
GYA				LN			
	comp=Z,5μm,15.9s						
GYA				LE			
	comp=Z,5μm,15.6s						
GYA				LZ			
	comp=Z,7μm,13.5s						
SZP	**Santa**	**27.98**	**54**	P	**P**	**04 32 13.2**	**-0.3**
	comp=Z,280nm,0.9s						
LSA	**Lhasa**	**28.73**	**349**	*e*P	**P**	**04 32 21.2**	**+0.7**
LSA				pmax	pmax		
	comp=Z,100nm,1.5s						
LSA	**Lhasa**	**28.73**	**349**	*e*P	**P**	**04 32 21.2**	**+0.7**
	comp=Z,100nm,1.5s						
SOEI	**Soe**	**29.18**	**113**	P	**P**	**04 32 23.1**	**-1.2**
	comp=Z,62nm,1.3s						
CD2	**Chengdu**	**30.03**	**11**	P	**P**	**04 32 30.4**	**-1.1**
CD2				pP	**pP**	**04 32 38.4**	**-1.3**
CD2				sP	**sP**	**04 32 42.3**	**-0.9**
CD2				S	**S**	**04 37 28.3**	**+0.2**
CD2				sS	**sS**	**04 37 42.3**	**+0.6**
CD2				PMZ			
	comp=Z,50nm,1.2s						
CD2				PMZ			
	comp=Z,220nm,4.1s						
CD2				LN			
	comp=Z,6μm,13.8s						
CD2				LZ			
	comp=Z,5μm,16.2s						
ENH	**Enshi**	**31.03**	**21**	*e*P	**P**	**04 32 39.1**	**-1.3**
	comp=Z,68nm,0.9s						
QZH	**Quanzhou**	**31.27**	**40**	P	P	04 32 46.3	+3.9
QZH				S	**S**	**04 37 53.0**	**+5.5**
QZH				LN			
	comp=Z,4μm,13.5s						
QZH				LE			
	comp=Z,4μm,14.0s						
QZH				LZ			
	comp=Z,6μm,14.4s						
TPUB	**Ta-pu**	**31.52**	**44**	*e*P	**P**	**04 32 44.3**	**-0.4**
	comp=Z,34nm,1.0s						
YULB	**Yu-li**	**32.05**	**45**	*e*P	**P**	**04 32 49.3**	**-0.2**
	comp=Z,58nm,1.2s						
SSLB	**Suanglung**	**32.06**	**44**	*e*P	**P**	**04 32 49.4**	**-0.2**
	comp=Z,55nm,1.1s						
NACB	**Ninganchiao**	**32.76**	**44**	*e*P	**P**	**04 32 55.6**	**0.0**
	comp=Z,36nm,1.0s						
WHN	**Wuhan**	**33.28**	**28**	⇓*i*P	**P**	**04 33 00.0**	**0.0**
WHN				S	**S**	**04 38 21.9**	**+3.1**
WHN				PMZ			
	comp=Z,56nm,1.0s						
WHN				LN			
	comp=Z,3μm,15.9s						
WHN				LE			
	comp=Z,3μm,13.9s						
WHN				LZ			
	comp=Z,6μm,14.4s						
XAN	**Xi'an**	**34.31**	**17**	P	**P**	**04 33 07.4**	**-1.6**
XAN				pP	**pP**	**04 33 15.0**	**-2.3**
XAN				sP	**sP**	**04 33 18.4**	**-2.3**
XAN				PP	**PnPn**	**04 34 20.6**	**-3.3**
XAN				S	S	04 38 28.1	-6.6
XAN				PMZ			
	comp=Z,80nm,1.2s						
XAN				PMZ			
	comp=Z,130nm,4.8s						
XAN				LN			
	comp=Z,2μm,15.8s						
XAN				LE			
	comp=Z,2μm,17.1s						
XAN				LZ			
	comp=Z,4μm,14.4s						
LZH	**Lanzhou**	**35.09**	**9**	*e*P	**P**	**04 33 15.3**	**-0.6**
LZH				pP	**pP**	**04 33 22.5**	**-1.6**
LZH				sP	**sP**	**04 33 26.6**	**-1.0**
LZH				S	**S**	**04 38 45.0**	**-1.9**
LZH				sS	**sS**	**04 38 58.8**	**-1.8**
LZH				SS	**SnSn**	**04 41 03.5**	**-0.9**
LZH				PMZ			
	comp=Z,89nm,1.4s						
LZH				PMZ			
	comp=Z,330nm,4.0s						
LZH				LN			
	comp=Z,2μm,14.5s						
LZH				LE			
	comp=Z,3μm,16.0s						
LZH				LZ			
	comp=Z,3μm,16.3s						
NJ2	**Nanjing**	**36.74**	**32**	*e*P	**P**	**04 33 31.4**	**+1.5**
NJ2				pP	**pP**	**04 33 38.8**	**+0.6**
NJ2				sP	**sP**	**04 33 40.4**	**-1.2**
NJ2				S	**S**	**04 39 15.0**	**+3.0**
NJ2				sS	**sS**	**04 39 25.5**	**-0.2**
NJ2				PMZ			
	comp=Z,30nm,0.7s						
NJ2				PMZ			
	comp=Z,380nm,4.0s						
NJ2				LN			
	comp=Z,2μm,20.6s						
NJ2				LE			
	comp=Z,4μm,24.9s						
NJ2				LZ			
	comp=Z,4μm,25.1s						
SSE	**Sheshan**	**37.30**	**35**	P	**P**	**04 33 36.6**	**+2.0**
SSE				pP	**pP**	**04 33 44.3**	**+1.4**
SSE				S	**S**	**04 39 23.3**	**+2.8**
SSE				sS	**ScP**	**04 39 38.6**	**-0.6**
SSE				PMZ			
	comp=Z,37nm,0.7s						
SSE				PMZ			
	comp=Z,170nm,11.2s						
SSE				LN			
	comp=Z,1μm,15.5s						
SSE				LE			
	comp=Z,1μm,15.5s						
SSE				LZ			
	comp=Z,2μm,14.9s						
KDU	**Kakadu**	**37.74**	**113**	⇓P	**P**	**04 33 36.1**	**-2.5**
	baz=38						
GTA	**Gaotai**	**37.93**	**3**	⇑P	**P**	**04 33 39.9**	**-0.1**
GTA				pP	**pP**	**04 33 47.8**	**-0.6**
GTA				sP	**sP**	**04 33 50.8**	**-1.0**
GTA				PcP	**PcP**	**04 35 54.8**	**-0.9**
GTA				S	**S**	**04 39 30.6**	**+0.4**
GTA				sS	**sS**	**04 39 42.8**	**-1.1**
GTA				SS	**SnSn**	**04 42 07.6**	**-5.5**
GTA				PMZ			
	comp=Z,27nm,1.3s						
GTA				PMZ			
	comp=Z,370nm,4.8s						
GTA				LN			
	comp=Z,1μm,14.2s						
GTA				LE			
	comp=Z,1μm,14.3s						
GTA				LZ			
	comp=Z,2μm,14.7s						
TIY	**Taiyuan**	**38.80**	**19**	*e*P	**P**	**04 33 46.6**	**-0.7**
TIY				PMZ			
	comp=Z,200nm,4.3s						
TIY				LN			
	comp=Z,3μm,13.6s						
TIY				LE			
	comp=Z,2μm,13.7s						
TIY				LZ			
	comp=Z,4μm,13.8s						
TIA	**Tai'an**	**39.29**	**26**	⇑P	**P**	**04 33 50.8**	**-0.6**
TIA				S	S	04 39 43.5	-7.1
TIA				PMZ			
	comp=Z,20nm,1.3s						
TIA				PMZ			
	comp=Z,260nm,6.3s						
TIA				LN			
	comp=Z,2μm,16.4s						
TIA				LE			
	comp=Z,2μm,15.1s						
TIA				LZ			
	comp=Z,3μm,15.5s						
H01W3	**Cape Leeuwin H**	**39.43**	**158**	T	T	05 15 23.2	
	baz=333,slow=76,SNR=97						
H01W2	**Cape Leeuwin H**	**39.45**	**158**	T	T	05 15 22.7	
	baz=333,slow=76,SNR=20						
H01W1	**Cape Leeuwin H**	**39.45**	**158**	T	T	05 15 21.8	
	baz=333,slow=76,SNR=235						
WRKA	**Warakurna**	**40.00**	**133**	P	**P**	**04 33 57.5**	**0.0**
	baz=40,SNR=8.3						
KMBL	**Kambalda**	**40.16**	**146**	⇓P	**P**	**04 34 00.7**	**+2.0**
	baz=40						
HHC	**Hu-ho-hao-te**	**41.40**	**17**	*e*P	**P**	**04 34 10.3**	**+1.4**
HHC				PP	**PnPn**	**04 35 49.8**	**+0.2**
HHC				S	**S**	**04 40 23.3**	**+1.1**
HHC				sS	**sS**	**04 40 39.4**	**+3.4**
HHC				SS	**SS**	**04 43 24.0**	**-2.9**
HHC				PMZ			
	comp=Z,33nm,1.0s						
HHC				PMZ			
	comp=Z,380nm,9.9s						
HHC				LN			
	comp=Z,3μm,16.0s						
HHC				LE			
	comp=Z,980nm,14.2s						
HHC				LZ			
	comp=Z,2μm,15.8s						
WRA	**Warramunga Arr**	**42.17**	**122**	P	**P**	**04 34 13.3**	**-2.2**
	comp=Z,7.4nm,0.7s,baz=302,slow=9.1,SNR=9.1						
WRA	**Warramunga Arr**	**42.17**	**122**	P	**P**	**04 34 13.3**	**-2.2**
WRA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WRAB	**Tennant Creek**	**42.18**	**122**	P	**P**	**04 34 14.6**	**-0.9**
	comp=Z,115nm,0.6s,SNR=6.2						
WRAB	**Tennant Creek**	**42.18**	**122**	⇓*e*P	**P**	**04 34 14.2**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,67nm,1.9s						
WRAB	**Tennant Creek**	**42.18**	**122**	*e*P	**P**	**04 34 14.3**	**-1.2**
	comp=Z,26nm,0.8s						
BJI	**Beijing**	**42.19**	**22**	P	**P**	**04 34 15.8**	**+0.6**
BJI				pP	**pP**	**04 34 24.3**	**+0.7**
BJI				sP	**sP**	**04 34 25.9**	**-1.1**
BJI				S	S	04 40 27.5	-6.1
BJI				PMZ			
	comp=Z,50nm,1.2s						
BJI				PMZ			
	comp=Z,410nm,3.8s						
BJI				LN			
	comp=Z,1μm,14.7s						
BJI				LE			
	comp=Z,560nm,16.2s						
BJI				LZ			
	comp=Z,630nm,22.2s						
KSH	**Kashi**	**42.58**	**336**	P	P	04 34 24.4	+5.8
KSH				PP	PP	04 36 04.1	+6.4
KSH				PcP	**PcP**	**04 36 14.3**	**+3.6**
KSH				S	**S**	**04 40 44.5**	**+4.7**
KSH				SKS	sS	04 40 55.3	+1.6
KSH				SS	**SS**	**04 43 47.3**	**-3.1**
KSH				pmax	pmax		
	comp=Z,19nm,1.0s						
KSH				pmax	pmax		
	comp=Z,200nm,3.4s						
KSH				LR	LR		
	comp=N,300nm,6.6s						
KSH				LR	LR		
	comp=E,400nm,8.1s						
KSH				LR	LR		
	comp=Z,340nm,6.8s						
WMQ	**Urumqi**	**43.09**	**350**	P	**P**	**04 34 23.9**	**+1.3**
WMQ				pP	**pP**	**04 34 31.4**	**+0.4**
WMQ				sP	**sP**	**04 34 35.0**	**+0.6**
WMQ				PP	**PP**	**04 36 06.4**	**+3.4**
WMQ				PcP	**PcP**	**04 36 12.3**	**+0.1**
WMQ				ScP	**ScP**	**04 40 04.1**	**+2.4**
WMQ				S	**S**	**04 40 47.5**	**+0.6**
WMQ				sS	**sS**	**04 40 59.9**	**-0.9**
WMQ				ScS	**ScS**	**04 44 20.5**	**-0.8**
WMQ				PMZ			
	comp=Z,47nm,1.4s						
WMQ				PMZ			
	comp=Z,410nm,3.8s						
WMQ				LN			
	comp=Z,750nm,18.0s						
WMQ				LE			
	comp=Z,910nm,20.0s						
WMQ				LZ			
	comp=Z,610nm,25.0s						
FORT	**Forrest**	**43.45**	**140**	⇓P	**P**	**04 34 27.6**	**+2.0**
	baz=44						
FORT	**Forrest**	**43.45**	**140**	*e*P	**P**	**04 34 26.7**	**+1.1**
	comp=Z,18nm,0.7s						
AS13	**Alice Springs**	**43.53**	**127**	⇑P	**P**	**04 34 25.1**	**-1.3**
	baz=44						
ASAR	**Alice Springs**	**43.55**	**127**	P	**P**	**04 34 24.1**	**-

ASAR pmax pmax
comp=Z,6.0nm,0.9s
ASAR MLR MLR
comp=Z,580nm,19.9s
KSJEU Jeongeup 43.79 36 P **P 04 34 28.8 +0.6**
SNR=6.3
KSBAR Backryungdo 44.35 32 P **P 04 34 33.1 +0.4**
SNR=9.2
KSSES Seosan 44.43 34 P **P 04 34 33.1 -0.3**
SNR=8.2
TJN Taejon 44.66 35 *ce*P **P 04 34 34.5 -0.7**
JNU Nakatsue 44.70 41 P **P 04 34 35.1 -0.6**
comp=Z,44nm,0.9s,baz=231,slow=2.7,SNR=11
JNU Nakatsue 44.70 41 *eP* **P 04 34 35.3 -0.4**
comp=Z,32nm,1.1s
KSCEA Cheonan 44.91 35 P **P 04 34 37.7 +0.5**
SNR=7.8
KSBON Boeun 44.99 36 P **P 04 34 38.0 +0.1**
SNR=17
KSCHJ Chungju 45.35 35 P **P 04 34 40.7 0.0**
SNR=6.9
KSMUS Musan 45.39 33 P **P 04 34 41.0 +0.1**
SNR=5.3
YNCB YEONCHEON 45.59 33 P **P 04 34 42.0 -0.6**
SNR=7.4
TKM2 Tokmak 2 45.63 338 *eP* **P 04 34 43.5 +0.4**
TKM2 Tokmak 2 45.63 338 *eP* **P 04 34 43.5 +0.4**
KSAR Wonju Array Be 45.70 35 P **P 04 34 43.3 -0.1**
KSAR Wonju Array Be 45.70 35 P **P 04 34 43.3 -0.1**
KSRS Korea Array 45.73 35 P **P 04 34 43.3 -0.4**
comp=Z,58nm,1.1s,baz=222,slow=9.0,SNR=41
KSRS Korea Array 45.73 35 P **P 04 34 43.3 -0.4**
KSRS pmax pmax
comp=Z,58nm,1.1s
AAK Ala-Archa 45.81 337 P **P 04 34 45.2 +0.7**
AAK pmax pmax
comp=Z,26nm,1.3s
FRU Bishkek 45.93 337 *eP* **P 04 34 45.0 -0.3**
FRU *eS* **S 04 41 32.0 +3.7**
FRU pmax pmax
comp=Z,90nm,2.0s
KSCWO Cheorwon 45.94 34 P **P 04 34 45.7 +0.3**
SNR=8.7
KSTBA Taebaek 46.09 36 P **P 04 34 47.7 +1.0**
SNR=11
EKS2 Erkin-Say 46.12 336 *eP* **P 04 34 44.4 -2.5**
EKS2 pmax pmax
comp=Z,8.0nm,0.8s
EKS2 Erkin-Say 46.12 336 *eP* **P 04 34 44.4 -2.5**
comp=Z,7.8nm,0.8s
KSIJA INJE 46.21 34 P **P 04 34 47.9 +0.4**
SNR=12
SEHB SEOHWA 46.48 34 P **P 04 34 49.9 +0.2**
SNR=5.8
SNY Shenyang 46.77 27 ⇑P **P 04 34 50.5 -1.3**
SNY S **S 04 41 44.8 +4.7**
SNY PMZ
comp=Z,25nm,1.4s
SNY PMZ
comp=Z,180nm,12.0s
SNY LN
comp=Z,1μm,16.0s
SNY LE
comp=Z,1μm,15.8s
SNY LZ
comp=Z,2μm,15.9s
QIS Mount Isa 46.94 120 ⇑P **P 04 34 52.1 -1.4**
baz=47,SNR=3.7
SONM Songino Array 46.96 9 P **P 04 34 53.0 -0.4**
comp=Z,21nm,0.9s,baz=192,slow=8.3,SNR=20
SONM PcP **PcP 04 36 25.2 -0.4**
comp=Z,1.2nm,0.5s,baz=199,slow=3.4,SNR=4.3
SONM LR LR 04 57 07.8
comp=Z,2μm,18.3s,baz=192,slow=39
SONM Songino Array 46.96 9 P **P 04 34 53.0 -0.4**
SONM 04 36 25.2
SONM pmax pmax
comp=Z,21nm,0.9s
SONM MLR MLR
comp=Z,2μm,18.3s
MK31 Makanchi Array 47.05 346 ⇓P **P 04 34 54.7 +0.7**
baz=47,SNR=4.8
MKAR Makanchi Array 47.05 346 P **P 04 34 53.2 -0.8**
comp=Z,8.9nm,0.8s,baz=152,slow=8.1,SNR=6.7
MKAR Makanchi Array 47.05 346 P **P 04 34 53.2 -0.8**
MKAR pmax pmax
comp=Z,9.0nm,0.8s
MKAR Makanchi Array 47.05 346 *eP* **P 04 34 54.7 +0.7**
COEN Coen 48.08 110 ⇓P **P 04 35 01.9 -0.5**
baz=48
IMYA Miami 48.82 320 *eP* **P 04 35 06.3 -1.7**
ZAK Zakamensk 49.10 5 *eP* **P 04 35 08.8 -1.0**
ZAK pmax pmax
comp=Z,11nm,1.6s
CN2 Changchun 49.17 27 *eP* **P 04 35 10.0 -0.3**
CN2 *eS* **S 04 42 15.3 +1.2**
CN2 PMZ
comp=Z,30nm,1.2s
CN2 LN
comp=Z,600nm,19.0s
CN2 LE
comp=Z,800nm,19.0s
CN2 LZ
comp=Z,300nm,22.0s
JCJ Chichijima 50.16 55 LR LR 04 54 25.3
comp=Z,164nm,21.6s,baz=265,slow=34
IPAR Pars 50.53 308 *eP* **P 04 35 23.3 +1.9**
ISAD Sadrabad 50.97 311 *eP* P 04 35 30.5 +5.9
GEYT Alibeck 51.04 320 P **P 04 35 26.1 +1.4**
comp=Z,2.1nm,0.6s,baz=126,slow=7.3,SNR=2.0
GEYT LR LR 05 00 12.8
comp=Z,306nm,19.5s,baz=115,slow=40
HIA Hailar 51.49 19 *eP* **P 04 35 27.6 -0.3**
HIA pmax pmax
comp=Z,37nm,1.1s
HIA Hailar 51.49 19 *eP* **P 04 35 27.6 -0.3**
comp=Z,37nm,1.1s
KURBB Kurchatov Arra 51.54 345 P **P 04 35 28.1 -0.1**
comp=Z,4.0nm,0.6s,baz=166,slow=6.7,SNR=8.0
MAT Matsushiro 51.59 42 P **P 04 35 27.1 -1.8**
MAT S **S 04 42 44.6 -3.5**
MJAR Matsushiro Arr 51.59 42 P **P 04 35 28.2 -0.7**
comp=Z,9.1nm,1.0s,baz=225,slow=7.7,SNR=11
MJAR LR LR 04 57 33.3
comp=Z,450nm,21.0s,baz=245,slow=36
MJAR Matsushiro Arr 51.59 42 P **P 04 35 28.2 -0.7**
MJAR pmax pmax
comp=Z,9.0nm,1.0s
MJAR MLR MLR
comp=Z,450nm,21.0s
KURK Kurchatov 51.60 345 P **P 04 35 29.0 +0.4**
comp=Z,123nm,1.3s,SNR=5.3
KURK Kurchatov 51.60 345 P **P 04 35 28.1 -0.6**
KURK pmax pmax
comp=Z,4.0nm,0.6s
KURK Kurchatov 51.60 345 *eP* **P 04 35 28.1 -0.6**
comp=Z,163nm,1.4s
MDJ Mudanjiang 51.73 29 P **P 04 35 30.3 +0.6**
MDJ pP **pP 04 35 36.5 -1.8**
MDJ PP **PP 04 37 26.1 -1.5**
MDJ S **S 04 42 53.8 +4.0**
MDJ PMZ
comp=Z,26nm,1.3s
MDJ PMZ
comp=Z,190nm,5.5s
MDJ LN
comp=Z,1μm,17.5s
MDJ LE
comp=Z,460nm,16.1s
MDJ LZ
comp=Z,2μm,16.8s
MDJ Mudanjiang 51.73 29 *eP* **P 04 35 30.4 +0.6**
comp=Z,39nm,1.3s
VLA Vladivostok 51.84 32 ⇓*i*P **P 04 35 31.6 +1.1**
VLA pmax pmax
comp=Z,107nm,1.1s
HTT Hallett 52.39 135 P **P 04 35 35.4 +0.5**
baz=52,SNR=5.8
CTA Charters Tower 52.63 117 P **P 04 35 35.5 -1.3**
comp=Z,8.6nm,0.9s,baz=320,slow=4.7,SNR=4.0
CTA Charters Tower 52.63 117 P **P 04 35 35.5 -1.3**
CTA pmax pmax
comp=Z,9.0nm,0.9s
CTAO Charters Tower 52.63 117 *eP* **P 04 35 35.4 -1.5**
CTAO pmax pmax
comp=Z,21nm,1.2s
CTAO Charters Tower 52.63 117 *eP* **P 04 35 35.4 -1.5**
comp=Z,21nm,1.2s
USRK Ussuriysk Ar. 52.64 31 P **P 04 35 36.5 +0.1**
comp=Z,58nm,1.0s,baz=231,slow=6.3,SNR=33
OPO Ambohidratompo 52.95 245 P **P 04 35 38.9 -0.5**
comp=Z,3.9nm,0.9s,baz=90,slow=5.1,SNR=3.4
QLP Quilpie 53.21 125 ⇓P **P 04 35 41.7 +0.7**
baz=53
ZAA0 Zalesovo Array 53.37 351 P **P 04 35 42.0 +0.3**
baz=54,SNR=6.5
ZALV Zalesovo Beam 53.37 351 P **P 04 35 41.6 -0.1**
comp=Z,15nm,0.6s,baz=176,slow=6.7,SNR=7.8
ZALV Zalesovo Beam 53.37 351 P **P 04 35 41.6 -0.1**
ZALV pmax pmax
comp=Z,15nm,0.6s
STKA Stephens Creek 53.52 132 P **P 04 35 42.2 -0.9**
comp=Z,5.0nm,0.5s,baz=313,slow=7.4,SNR=5.6
STKA LR LR 05 00 38.8
comp=Z,878nm,21.3s,baz=297,slow=38
STKA Stephens Creek 53.52 132 P **P 04 35 42.3 -0.9**
STKA pmax pmax
comp=Z,5.0nm,0.5s
STKA MLR MLR
comp=Z,878nm,21.3s
STKA Stephens Creek 53.52 132 P **P 04 35 43.3 +0.1**
baz=54,SNR=5.1
STKA Stephens Creek 53.52 132 *eP* **P 04 35 44.1 +1.0**
NVS Novosibirsk 54.49 350 *eP* **P 04 35 49.1 -0.7**
NVS *eS* **S 04 43 26.0 -0.9**
NVS pmax pmax
comp=N,17nm,1.1s
NVS pmax pmax
comp=Z,32nm,1.1s
NVS pmax pmax
comp=E,14nm,1.2s
NVS smax smax
comp=E,22nm,1.7s
NVS smax smax
comp=N,18nm,2.1s
KRAR Krasnoyarsk 54.57 357 P **P 04 35 50.6 +0.2**
KRAR pmax pmax
comp=Z,100nm,1.4s
RAYN Ar Rayn 54.63 298 *eP* **P 04 35 52.0 +0.5**
comp=Z,5.1nm,1.0s
BVAR Borovoye Array 56.06 341 P **P 04 36 00.7 -0.6**
comp=Z,5.3nm,0.7s,baz=136,slow=9.0,SNR=6.0
BVAR Borovoye Array 56.06 341 P **P 04 36 00.7 -0.6**
BVAR pmax pmax
comp=Z,5.0nm,0.7s
KLR Kul'dur 56.12 27 ⇓*i*P P 04 35 58.3 -3.4
KLR *eS* **S 04 43 54.0 +5.1**
KLR pmax pmax
comp=E,74nm,1.6s
KLR pmax pmax
comp=Z,140nm,1.6s
KLR MLR MLR
comp=E,700nm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s
BRVK Borovoye 56.12 341 *c i*P **P 04 36 00.5 -1.2**
BRVK pmax pmax
comp=Z,15nm,1.7s
CMSA Cobar Meteorol 56.45 130 P **P 04 36 04.8 +0.4**
baz=56,SNR=11
ABKAR Akbulak array 57.33 332 *eP* **P 04 36 09.5 -0.8**
BOD Bodaibo 57.84 11 *eP* **P 04 36 13.3 -0.4**
BOD pmax pmax
comp=Z,28nm,1.6s
EIDS Eidsvold 58.52 121 P **P 04 36 19.3 +0.2**
baz=59,SNR=5.6
EIDS Eidsvold 58.52 121 *eP* **P 04 36 19.3 +0.2**
comp=Z,14nm,0.8s
KMBO Kilima Mbogo 59.94 268 P **P 04 36 28.7 -0.8**
comp=Z,0.6nm,0.2s,baz=100,slow=6.1,SNR=3.8
KMBO Kilima Mbogo 59.94 268 P **P 04 36 28.7 -0.8**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
YSS Yuzh-Sakhalins 60.23 34 ⇓*i*P **P 04 36 31.0 +0.5**
YSS *e* 04 36 43.0
YSS pmax pmax
comp=Z,60nm,1.0s
YSS Yuzh-Sakhalins 60.23 34 *eP* **P 04 36 31.3 +0.8**
comp=Z,68nm,1.0s
ARMA Armidale 60.68 126 *eP* **P 04 36 36.5 +2.4**
comp=Z,38nm,1.4s
SVE Sverdlovsk 62.50 338 ⇑*eP* **P 04 36 45.5 -0.2**
SVE pmax pmax
comp=Z,37nm,1.4s
NKL Nikolayevsk 62.89 28 *eP* **P 04 36 47.0 -1.3**
NKL *e* 04 36 54.7
NKL pmax pmax
comp=Z,43nm,1.2s
NKL MLR MLR
comp=N,500nm,15.0s
NKL MLR MLR
comp=E,800nm,15.0s
NKL MLR MLR
comp=Z,1μm,15.0s
ARU Arti 63.00 337 *c i*P **P 04 36 47.8 -1.2**
ARU S **S 04 45 17.0 -0.5**
ARU pmax pmax
comp=Z,26nm,1.7s
ARU MLR MLR
comp=Z,492nm,18.0s
KBZ Khabaz 63.90 319 P **P 04 36 55.8 +0.6**
comp=Z,2.0nm,0.7s,baz=121,slow=9.6,SNR=3.2
KBZ Khabaz 63.90 319 P **P 04 36 55.8 +0.6**
KBZ pmax pmax
comp=Z,2.0nm,0.7s
KIV Kislovodsk 64.14 319 *i* P **P 04 36 58.3 +1.4**
KIV *i* 04 37 13.8
KIV *i* 04 37 28.7
KIV *i* S S 04 45 21.4 -11
KIV *i* SS **SS 04 49 45.3 +3.4**
KIV pmax pmax
comp=Z,6.0nm,0.5s
GOF Gofitskoye 64.39 320 *eP* P 04 37 04.2 +5.8
YAK Yakutsk 65.26 16 P **P 04 37 03.0 -0.7**
comp=Z,3.0nm,0.3s,baz=180,slow=18,SNR=8.9
YAK Yakutsk 65.26 16 *eP* **P 04 37 02.4 -1.3**
YAK *e**PP **pP 04 37 13.3 +0.8**
YAK *e* 04 37 39.7
YAK *e* 04 39 26.1
YAK *e*PPP PPP 04 40 56.8
YAK *eS* **S 04 45 44.0 -1.3**
YAK *eS*S **SS 04 49 55.0 -3.4**
YAK pmax pmax
comp=Z,81nm,1.0s
YAK pmax pmax
comp=N,35nm,1.2s
YAK pmax pmax
comp=E,34nm,1.3s
YAK pmax pmax
comp=Z,11nm,0.8s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK smax smax
comp=E,55nm,17.4s
YAK smax smax
comp=N,156nm,20.4s
YAK MLR MLR
comp=E,721nm,17.0s
YAK MLR MLR
comp=Z,1μm,17.0s
YAK MLR MLR
comp=N,787nm,19.0s
YAK Yakutsk 65.26 16 *eP* **P 04 37 02.8 -0.9**
comp=N,59nm,1.0s
ANN Anapa 67.93 318 *eP* **P 04 37 18.9 -2.2**
ANN pmax pmax
comp=Z,238nm,5.1s
BRTR Keskin Array B 68.95 312 P **P 04 37 27.9 +0.1**
comp=Z,1.3nm,0.8s,baz=131,slow=7.7,SNR=3.2
BRTR Keskin Array B 68.95 312 P **P 04 37 27.9 +0.1**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
VSR Storozhevoye 69.39 325 *eP* P 04 37 35.4 +5.3
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,5.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
SIM Simferopol' 70.20 318 *eP* P 04 37 46.3 +11
SIM pmax pmax
comp=Z,14nm,0.8s
SIM MLR MLR
comp=Z,70nm,17.0s
MA2 Magadan 71.19 26 *i* P **P 04 37 40.4 -0.6**
DZM Mont Dzumac 71.40 114 *e*LR LR 04 59 38.0
comp=Z,488nm,21.8s
PRGR Permogore 71.45 337 P **P 04 37 40.0 -2.5**
PRGR *e**PP **pP 04 37 49.1 -2.2**
PRGR *e* 04 37 57.3
PRGR pmax pmax
comp=Z,8.0nm,0.4s
PETK Petropavlovsk- 71.61 34 LR LR 05 13 03.2
comp=Z,275nm,18.3s,baz=249,slow=39
MOS Moscow 72.15 329 *eP* P 04 37 58.4 +12
MOS *e* 04 38 07.0
MOS pmax pmax
comp=Z,49nm,1.1s
OBN Obninsk 72.44 328 *i* P P 04 37 52.9 +4.4
OBN *i* 04 38 07.5
OBN *i* SS SS 04 51 47.6 -1.8
OBN pmax pmax
comp=Z,15nm,1.2s
OBN MLR MLR
comp=Z,235nm,18.0s
MAW Mawson 72.88 193 P **P 04 37 50.6 -0.3**
comp=Z,2.2nm,0.8s,baz=15,slow=5.3,SNR=5.0
MAW Mawson 72.88 193 P **P 04 37 50.6 -0.3**
MAW pmax pmax
comp=Z,2.0nm,0.8s
MAW Mawson 72.88 193 ⇑P **P 04 37 51.7 +0.8**
baz=73
SEY Seymchan 73.61 23 P **P 04 37 54.7 -0.7**
comp=Z,9.5nm,0.9s,baz=246,slow=4.4,SNR=12
SEY Seymchan 73.61 23 P **P 04 37 54.7 -0.7**
SEY pmax pmax
comp=Z,10.0nm,0.9s
CFR Carcaliu 74.32 317 ⇑P P 04 38 06.3 +6.4
CFR Carcaliu 74.32 317 ⇑*i*P P 04 38 06.3 +6.4
JMB Yambol 74.80 314 ⇑P P 04 38 10.2 +7.5
JMB Yambol 74.80 314 ⇑*i*P P 04 38 10.2 +7.5
AKASG Malin Array Be 75.08 322 P **P 04 38 02.5 -1.6**
comp=Z,0.5nm,0.4s,baz=89,slow=5.1,SNR=3.8
AKASG LR LR 05 14 52.2
comp=Z,70nm,21.0s,baz=90,slow=39
AKASG Malin Array Be 75.08 322 P **P 04 38 02.5 -1.6**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG MLR MLR
comp=Z,70nm,21.0s
VRI Vrincioaia 75.45 317 ⇑P P 04 38 11.0 +4.6
VRI Vrincioaia 75.45 317 ⇑*i*P P 04 38 11.0 +4.6
PLOR Plostina 75.50 317 ⇑P P 04 38 14.6 +7.9
PLOR Plostina 75.50 317 ⇑*i*P P 04 38 14.6 +7.9
TESR Tescani 75.65 318 ⇑*i*P P 04 38 15.2 +7.6
TMCR Tamitsa 75.73 337 *eP* P 04 38 15.4 +7.8
TMCR pmax pmax
comp=Z,27nm,1.1s
MLR Muntele Rosu 75.90 317 ⇑P P 04 38 16.5 +7.3
MLR Muntele Rosu 75.90 317 ⇑*i*P P 04 38 16.5 +7.3
BURAR Bucovina Array 76.85 319 ⇑P P 04 38 23.0 +8.5
BURAR Bucovina Array 76.85 319 ⇑*i*P P 04 38 23.0 +8.5
VTS Vitosha 77.27 313 ⇑P P 04 38 23.8 +6.8
VTS Vitosha 77.27 313 ⇑*i*P P 04 38 23.8 +6.8
NACGM Naroch 77.67 326 *e* P 04 38 24.0 +5.3
BZS Buzias 78.91 316 ⇓P P 04 38 33.0 +7.2
BZS Buzias 78.91 316 ⇓*i*P P 04 38 33.0 +7.2
SIRR Siria 78.99 317 ⇓*i*P P 04 38 34.3 +8.0
KOLS Kolonicke sedl 79.05 320 *eP* **P 04 38 27.7 +1.2**
KOLS pmax pmax
comp=Z,17nm,1.5s
KOLS Kolonicke sedl 79.05 320 *eP* **P 04 38 27.6 +1.1**
KOLS *e*PCP **PcP 04 38 33.8 -1.2**
STHS Stebnicka Huta 79.80 320 *ep*P pP 04 38 39.3 -0.3
FINES FINESS Array B 79.81 332 P **P 04 38 29.4 -1.0**
comp=Z,2.5nm,0.9s,baz=104,slow=8.0,SNR=4.3
FINES FINESS Array B 79.81 332 P **P 04 38 29.4 -1.0**
FINES pmax pmax
comp=Z,3.0nm,0.9s
SYO Syowa Base 80.16 198 ⇓*e*X **PcP 04 38 38.0 -1.3**
SYO Syowa Base 80.16 198 ⇓*es*P sP 04 38 46.6 +2.3
PSZ Piszkesteto 80.44 318 ⇑P P 04 38 41.7 +7.5
PSZ Piszkesteto 80.44 318 ⇑*i*P P 04 38 41.7 +7.5
BILL Bilibino 81.01 21 *i* P **P 04 38 35.6 -1.1**
BILL *i* 04 38 49.2
BILL pmax pmax
comp=Z,8.0nm,1.3s
PKSM Moragy 81.05 316 ⇑P P 04 38 44.1 +6.7
PKSM Moragy 81.05 316 ⇑*i*P P 04 38 44.1 +6.7
TIP Timpagrande 81.67 309 *eP* **P 04 38 43.1 +2.1**
comp=Z,6.1nm,1.2s
OKC Ostrava-Krasne 81.85 320 *ep*P **pP 04 38 48.6 -1.9**
OKC *es*P sP 04 38 55.7 +1.9
OKC *eS* **S 04 48 51.9 -1.4**
OKC AMS AMS 05 26 40.0
comp=Z,200nm,18.0s
OKC Ostrava-Krasne 81.85 320 *eP* **pP 04 38 48.6 -1.9**
OKC *e* 04 38 55.7
OKC *e* 04 39 01.5
OKC *eS* **S 04 48 51.9 -1.4**
OKC MLR MLR
comp=Z,200nm,18.0s
MORC Moravsky Berou 82.23 320 ⇑P P 04 38 51.8 +8.2
MORC Moravsky Berou 82.23 320 ⇑*i*P P 04 38 51.8 +8.2
ARCES ARCESS Array B 82.35 340 P **P 04 38 43.6 -0.2**
comp=Z,1.8nm,0.7s,baz=112,slow=6.0,SNR=6.0
ARCES ARCESS Array B 82.35 340 P **P 04 38 43.6 -0.2**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
BKZ Black Stump Fm 82.61 130 *eP* **P 04 38 48.5 +2.7**
comp=Z,223nm,2.6s
KRLC Kraliky 82.75 320 *eP* **P 04 38 46.5 +0.1**
KRLC *ep*P **pP 04 38 53.7 -1.6**
KRLC *es*P **sP 04 39 00.5 +1.9**
KRLC Kraliky 82.75 320 *eP* **P 04 38 46.5 +0.1**
KRLC *e* 04 38 53.7
KRLC *e* 04 39 00.5
DPC Dobruska-Polom 83.08 320 *eP* **P 04 38 47.6 -0.4**
DPC *ep*P **pP 04 38 55.0 -2.0**
DPC *es*P **sP 04 39 02.4 +2.1**
DPC *ex* x 04 39 08.4
DPC *eS* **S 04 49 06.1 +0.2**
DPC Dobruska-Polom 83.08 320 *eP* **P 04 38 47.6 -0.4**
DPC *e* 04 38 55.0
DPC *e* 04 39 02.4
DPC *eS* **S 04 49 06.1 +0.2**
UPC Upice 83.29 321 *eS* **S 04 49 06.1 -1.9**
UPC AMS AMS 05 22 00.0
comp=Z,300nm,20.6s
TREC Trest 83.51 319 *es*P **sP 04 39 04.6 +2.1**
TREC AMS AMS 05 27 00.0
comp=Z,200nm,16.2s
SOKA Soboth 83.58 317 ⇓*i*pP pP 04 38 58.6 -1.2
comp=Z,8.6nm,1.2s
GOPC GO Pecny, Ondr 84.02 320 *eS* **S 04 49 14.1 -1.3**
GOPC AMS AMS 05 22 30.0
comp=Z,200nm,15.1s
PRU Pruhonice 84.18 320 *eS* **S 04 49 15.0 -2.0**
PRU AMS AMS 05 22 30.0
comp=Z,200nm,12.6s
BRG Berggiesshubel 84.64 321 *eP* P 04 39 02.2 +6.3
comp=Z,7.6nm,1.3s
BRG Berggiesshubel 84.64 321 S **S 04 49 20.0 -1.5**
comp=N,114nm,13.9s
comp=E,148nm,21.5s
comp=Z,189nm,19.0s
BRG Berggiesshubel 84.64 321 *eP* P 04 39 02.2 +6.3
BRG S **S 04 49 20.0 -1.5**
BRG pmax pmax
comp=Z,8.0nm,1.3s
BRG MLR MLR
comp=N,114nm,13.9s
BRG MLR MLR
comp=E,148nm,21.5s
BRG MLR MLR
comp=Z,189nm,19.0s
GERES GERESS Array B 84.64 319 P **P 04 38 56.2 0.0**
comp=Z,0.2nm,0.3s,baz=103,slow=3.1,SNR=3.0
KHC Kasperske Hory 84.74 319 *eP* **P 04 38 55.7 -0.9**
KHC *ep*P **pP 04 39 03.0 -2.6**
KHC *es*P **sP 04 39 11.8 +3.0**
KHC *eS* **SKSac 04 49 20.6 +1.6**
KHC AMS AMS 05 23 00.0
comp=Z,200nm,20.7s
KHC Kasperske Hory 84.74 319 *eP* **P 04 38 55.7 -0.9**
KHC *e* 04 39 03.0

KHC *e* 04 39 11.8
KHC *eS* **SKSac** **04 49 20.6 +1.6**
KHC MLR MLR
comp=Z,200nm,20.7s
CLL Collm 85.26 321 *es*P **sP** **04 39 13.0 +1.7**
CLL *e*SSS SSS 04 58 42.0
CLL *e*SSSS 05 01 36.0
CLL LmV 05 21 00.0
comp=Z,100nm,21.9s
NKC Novy Kostel 85.55 320 *ep*P pP 04 39 07.8 -1.7
VNDA Vanda 86.01 169 P **P** **04 39 01.7 -0.5**
comp=Z,0.6nm,0.7s,baz=289,slow=5.9,SNR=2.8
VNDA Vanda 86.01 169 P **P** **04 39 01.7 -0.5**
VNDA pmax pmax
comp=Z,1.0nm,0.7s
FETA Feichten 86.55 317 *li*P pP 04 39 13.3 -1.5
comp=Z,6.4nm,1.3s
NB2 NORSAR Subarra 86.82 331 P P 04 39 10.5 +3.9
comp=Z,5.0nm,0.9s,baz=93,slow=5.1
NOA NORSAR Array B 86.82 331 P **P** **04 39 06.1 -0.5**
comp=Z,0.8nm,0.9s,baz=91,slow=4.0,SNR=2.3
NOA NORSAR Array B 86.82 331 P **P** **04 39 06.1 -0.5**
NOA pmax pmax
comp=Z,1.0nm,0.9s
NVL N'lazarevskaya 89.75 199 *e*P **sP** **04 39 36.4 +3.9**
NVL *e*S **SKSac** **04 49 44.0 -4.6**
NVL pmax pmax
comp=Z,7.0nm,0.8s
TAM Tamanrasset 90.97 293 P **P** **04 39 29.1 +1.9**
TAM pmax pmax
comp=Z,9.0nm,1.1s
TAM Tamanrasset 90.97 293 P **P** **04 39 29.1 +1.9**
comp=Z,9.1nm,1.1s
TORD Torodi Ar. Bea 95.00 283 P **P** **04 39 45.5 -0.3**
comp=Z,0.4nm,0.9s,baz=110,slow=4.6,SNR=2.2
ILAR Eielson Array 99.55 23 PP PP 04 44 07.6 -1.1
comp=Z,1.4nm,1.1s,baz=292,slow=7.3,SNR=4.2
YKA Yellowknife Ar 111.93 15 PP PP 04 45 40.8 +1.0
comp=Z,1.7nm,1.1s,baz=332,slow=6.0,SNR=6.1
TBI Tubuai 111.97 115 *e*LR LR 05 18 28.0
comp=Z,379nm,24.2s
PPT2 Papeete2 112.58 108 *e*LR LR 05 18 43.0
comp=Z,244nm,24.5s
RKT Rikitea 125.06 117 *e*LR LR 05 24 28.8
comp=Z,241nm,25.5s
NVAR Mina Array Bea 128.66 36 PKP **PKPdf** **04 45 30.0 -0.3**
comp=Z,0.3nm,0.5s,baz=72,slow=1.4,SNR=2.8
PDAR Pinedale Array 129.90 26 PKP **PKPdf** **04 45 31.9 -0.6**
comp=Z,0.5nm,1.0s,baz=328,slow=1.4,SNR=2.8
PDAR PP **PP** **04 47 44.0 +0.8**
comp=Z,1.1nm,1.1s,baz=317,slow=6.1,SNR=4.2
230A Sterling City 142.66 26 P **PKPdf** **04 45 52.5 -3.7**
baz=142
MIAR Mount Ida 142.87 15 P **PKPdf** **04 45 53.0 -3.4**
baz=143
233A Rising Star 143.47 23 P PKPbc 04 45 54.9 +0.1
baz=143
TXAR Lajitas Array 143.54 31 PKP PKPbc 04 45 55.2 +0.1
comp=Z,0.8nm,0.7s,baz=323,slow=0.6,SNR=8.1
332A Millersview 143.68 25 P PKPbc 04 45 55.1 -0.2
baz=144
530A J-C Ranch, Com 144.03 28 P PKPbc 04 45 56.3 -0.1
baz=144
333A Richland Sprin 144.04 24 P **PKPab** **04 45 55.7 -0.3**
baz=144
334A Lometa 144.33 23 P **PKPab** **04 45 57.0 -0.1**
baz=144
531A Rocksprings 144.38 27 P **PKPab** **04 45 57.0 -0.3**
baz=144
JCT Junction City 144.44 26 *e*PKIKP PKPbc 04 45 57.8 0.0
JCT Junction City 144.44 26 P PKPbc 04 45 57.8 +0.1
baz=144
JCT Junction City 144.44 26 *e*PKPdf PKPbc 04 45 57.8 +0.1
335A Moody 144.69 22 P **PKPab** **04 45 58.1 -0.2**
baz=144
532A Rocksprings 144.69 26 P **PKPab** **04 45 58.4 -0.1**
baz=144
238A Jacksonville 144.82 18 P PKPbc 04 45 59.2 +0.3
baz=145
631A Perdido Creek 145.00 28 P **PKPbc** **04 45 59.7 +0.2**
baz=145
CPUP Villa Florida 145.10 223 PKPbc **PKPbc** **04 45 59.2 -0.7**
comp=Z,4.5nm,0.8s,baz=107,slow=2.0,SNR=6.2
CPUP Villa Florida 145.10 223 PKIKP **PKPbc** **04 45 59.2 -0.7**
CPUP pmax pmax
comp=Z,5.0nm,0.8s
533A Kerrville 145.12 25 P **PKPbc** **04 45 59.6 -0.4**
baz=145
NATX Nacogdoches 145.19 18 P **PKPdf** **04 46 00.3 -0.2**
baz=145
NATX Nacogdoches 145.19 18 *e*PKPdf **PKPdf** **04 46 00.3 -0.2**
632A Uvalde 145.28 26 P **PKPdf** **04 46 00.8 0.0**
baz=145
GOGA Godfrey 145.39 1 *e*PKIKP **PKPbc** **04 46 00.1 -0.6**
GOGA Godfrey 145.39 1 *e*PKPdf **PKPbc** **04 46 00.1 -0.6**
633A Saathoff Ranch 145.59 26 P **PKPbc** **04 46 01.5 +0.1**
baz=145
732A Laxson Ranch, 145.86 27 P **PKPbc** **04 46 02.4 +0.2**
baz=146
733A Divot King Ran 146.17 27 P **PKPbc** **04 46 03.5 +0.3**
baz=146
832A Faith Ranch, C 146.23 28 P **PKPbc** **04 46 03.3 -0.1**
baz=146
734A La Parita Cree 146.38 25 P **PKPbc** **04 46 04.1 +0.2**
baz=146
636A Smothers Creek 146.44 23 P **PKPab** **04 46 04.7 -0.2**
baz=146
833A Chaparral WMA, 146.47 27 P **PKPab** **04 46 05.0 -0.1**
baz=146
735A Kenedy 146.69 24 P **PKPab** **04 46 05.6 -0.2**
baz=146
637A Eagle Lake 146.75 22 P **PKPab** **04 46 06.7 +0.6**
baz=147
933A Laredo 147.13 28 P **PKPbc** **04 46 06.1 +0.1**
baz=147

ISCJB ***13*** *05:03:16.6±0.5,24°.20S±0°.05×67°.10W±0°.07,h181km, mb3.7/6,Error ellipse: s-maj=9.0km s-min=5.8km az=153.7*
SJA ***13*** *05:03:17.0±0.4,24°.18S×67°.04W,h181km±4km,ML3.5*
IDC ***13*** *05:03:17.1±1.0,24°.14S×66°.82W,h187km±9km,mb3.6/6, mb1 3.7/11,mb1mx3.5/20,mbtmp4.0/11,Error ellipse: s-maj=16.8km s-min=13.1km az=44.0*
ISC 13 05:03:16.8±0.7,24°.16S±0°.07×66°.95W±0°.07,h181km,n26, σ1°39/30,mb3.8/6,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.44**	**113**	*i* P		**P**	**Pn**	**05 03 50.0**	**+1.5**
SLA				*i* S		**S**	**Sn**	**05 04 14.4**	**+1.5**
SLA				AML		AML	AML	05 04 17.6	
	comp=Z,291nm,0.8s								
HJA	**Humahuaca**	**1.70**	**57**	*i* P		**P**	**Pn**	**05 03 53.2**	**+1.9**
AZAP	**Zapla**	**1.73**	**93**	*i* P		**P**	**Pn**	**05 03 53.4**	**+2.0**
AZAP				*i* S		**S**	**Sn**	**05 04 20.1**	**+2.0**
AZAP				AML		AML	AML	05 04 23.7	
	comp=Z,225nm,0.7s								
FSA	**Cafayete**	**2.10**	**156**	*i* P		**P**	**Pn**	**05 03 56.8**	**+1.5**
ASTB	**Santa Barbara**	**2.27**	**85**	*i* P		**P**	**Pn**	**05 03 59.2**	**+2.1**
LVC	**Limon Verde**	**2.37**	**310**	P		**P**	**Pn**	**05 04 00.3**	**+1.9**
	comp=Z,682nm,0.3s,baz=122,slow=11,SNR=90								
LVC				S		**S**	**Sn**	**05 04 33.5**	**+3.0**
	comp=Z,764nm,0.3s,baz=294,slow=20,SNR=8.0								
LVC	**Limon Verde**	**2.37**	**310**	*i* P		**P**	**Pn**	**05 03 58.8**	**+0.4**
LVC				*i* S		**S**	**Sn**	**05 04 29.6**	**-1.0**
YJA	**Yavi**	**2.38**	**34**	*i* P		**P**	**Pn**	**05 04 01.1**	**+2.4**
AHML	**Horco Molle**	**3.00**	**151**	*i* P		**P**	**Pn**	**05 04 06.8**	**+1.3**
CYA	**Choya**	**4.39**	**167**	*i* P		**P**	**Pn**	**05 04 24.2**	**+1.2**
CYA				AML		AML	AML	05 05 16.8	
	comp=N,35nm,0.7s								
APLL	**PUNTA DE LOS L**	**6.22**	**177**	*i* P		**P**	**Pn**	**05 04 47.2**	**+0.4**
CFAA	**Coronel Fontan**	**7.50**	**188**	P		**P**	**Pn**	**05 05 03.6**	**0.0**
	comp=N,0.0nm,0.3s,baz=23,slow=13,SNR=5.3								
CFAA				S			Sn	05 06 21.5	-6.6
	comp=N,0.2nm,0.3s,baz=165,slow=16,SNR=10.0								
LPAZ	**La Paz**	**7.91**	**352**	P		**P**	**Pn**	**05 05 09.7**	**+0.1**
	comp=N,0.5nm,0.3s,baz=156,slow=9,9,SNR=22								
LPAZ				S			**Sn**	**05 06 39.6**	**+0.8**
	comp=N,0.2nm,0.3s,baz=210,slow=13,SNR=4.5								
CPUP	**Villa Florida**	**8.98**	**106**	P		**P**	**Pn**	**05 05 21.9**	**-1.1**
	comp=N,0.3nm,0.3s,baz=282,slow=12,SNR=8.0								
SIV	**San Ignacio**	**9.82**	**35**	P		**P**	**Pn**	**05 05 32.9**	**-1.3**
	comp=N,0.8nm,0.3s,baz=220,slow=14,SNR=3.7								
BDFB	**Brasilia**	**19.71**	**68**	P		**P**	**P**	**05 07 31.4**	**-1.2**
	comp=N,1.1nm,0.3s,baz=243,slow=8.8,SNR=11								

TXAR Lajitas Array 63.83 324 P **P** **05 13 30.2 +0.1**
comp=N,0.5nm,0.7s,baz=148,slow=8.3,SNR=7.1
TORD Torodi Ar. Bea 76.59 69 P **P** **05 14 46.5 -1.3**
comp=N,0.8nm,0.6s,baz=258,slow=5.5,SNR=15
PDAR Pinedale Array 77.31 329 P **P** **05 14 51.3 -0.2**
comp=N,0.3nm,0.5s,baz=132,slow=7.5,SNR=4.6
ULM Lac du Bonnet 78.39 342 P **P** **05 14 56.6 -0.4**
comp=N,2.1nm,0.6s,baz=169,slow=8.6,SNR=3.9
MAW Mawson 81.27 163 P **P** **05 15 12.2 -0.1**
comp=N,2.2nm,0.6s,baz=214,slow=7.3,SNR=8.0
YKA Yellowknife Ar 94.29 340 P **P** **05 16 14.5 -0.5**
comp=N,0.7nm,0.5s,baz=133,slow=4.6,SNR=18
ASAR Alice Springs 128.33 205 PKP **PKPdf** **05 22 01.9 -0.7**
comp=N,0.7nm,0.6s,baz=137,slow=2.1,SNR=8.8
WRA Warramunga Arr 131.50 207 PKP **PKPdf** **05 22 08.2 -0.4**
comp=N,0.7nm,0.5s,baz=157,slow=1.7,SNR=15
ZALV Zalesovo Beam 143.51 28 PKP PKPbc 05 22 27.4 0.0
comp=N,2.2nm,0.6s,baz=299,slow=3.4,SNR=8.3
MKAR Makanchi Array 146.62 40 PKPbc **PKPdf** **05 22 35.5 +0.4**
comp=N,3.7nm,0.7s,baz=307,slow=3.0,SNR=25

ISCJB ***13*** *05:25:37.4±0.8,57°.4S±0°.2×26°.5W±0°.3,h141km,mb3.7/6, Error ellipse: s-maj=26.9km s-min=18.4km az=139.2*
IDC ***13*** *05:25:41.9±7.2,57°.37S×26°.56W,h170km±68km,mb3.5/6, mb1 3.6/6,mb1mx3.5/15,mbtmp4.0/6,Error ellipse: s-maj=24.1km s-min=17.1km az=44.0*
ISC 13 05:25:38.8±0.8,57°.4S±0°.2×26°.5W±0°.2,h141km,n11, σ0°64/8,mb3.9/6,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**37.95**	**312**	P		**P**	**P**	**05 32 42.7**	**+0.3**
	3.1nm,1.0s,baz=130,slow=16,SNR=2.8								
MAW	**Mawson**	**38.88**	**142**	P		**P**	**P**	**05 32 49.7**	**-0.1**
	1.2nm,0.5s,baz=226,slow=8.3,SNR=5.0								
VNDA	**Vanda**	**45.28**	**183**	P		**P**	**P**	**05 33 41.9**	**+0.4**
	0.3nm,0.6s,baz=175,slow=7.8,SNR=6.1								
BOSA	**Boshof**	**45.96**	**74**	P		**P**	**P**	**05 33 47.5**	**0.0**
	2.2nm,0.9s,baz=222,slow=12,SNR=2.8								
H10S2	**ASCENSION HYDR**	**49.15**	**16**	T		T	T	06 27 23.0	
	baz=189								
H10S3	**ASCENSION HYDR**	**49.16**	**16**	T		T	T	06 27 23.6	
	baz=189								
H10S1	**ASCENSION HYDR**	**49.17**	**16**	T		T	T	06 27 23.0	
	baz=189								
LPAZ	**La Paz**	**51.43**	**305**	P		**P**	**P**	**05 34 29.8**	**-0.2**
	1.0nm,0.6s,baz=165,slow=3.9,SNR=7.1								
TORD	**Torodi Ar. Bea**	**74.02**	**29**	P		**P**	**P**	**05 36 59.4**	**+0.6**
	1.7nm,0.6s,baz=197,slow=5.8,SNR=15								
SONM	**Songino Array**	**150.42**	**88**	PKPbc		**PKPbc**	**PKPbc**	**05 45 11.8**	**-0.8**
	1.4nm,0.7s,baz=222,slow=3.0,SNR=7.5								
ILAR	**Eielson Array**	**151.25**	**310**	PKPbc		**PKPbc**	**PKPbc**	**05 45 13.0**	**-0.9**
	0.3nm,0.4s,baz=142,slow=2.8,SNR=8.3								

ISCJB ***13*** *05:29:36.8±0.2,23°.32S±0°.03×179°.80W±0°.04,h536km, mb4.5/49,Error ellipse: s-maj=5.6km s-min=3.9km az=30.2*
IDC ***13*** *05:29:36.6±1.6,23°.21S×179°.74W,h522km±18km, mb3.9/17,mb1 4.1/20,mb1mx3.9/27,mbtmp4.8/20,Error ellipse: s-maj=13.6km s-min=11.3km az=27.0*
NEIC ***13*** *05:29:37.4±0.5,23°.35S×179°.73W,h534km±6km,mb4.6/36, Error ellipse: s-maj=7.1km s-min=5.4km az=143.0*
ISC 13 05:29:37.5±0.4,23°.42S±0°.06×179°.72W±0°.07,h536km, n125,σ1°28/143,mb4.5/49,3C-1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.03**	**165**	P		**P**	**P**	**05 31 16.6**	**+1.0**
	50nm,0.3s,baz=72,slow=19,SNR=1.9								
RAO				S			**S**	**05 32 38.2**	**+2.3**
	170nm,0.3s,baz=75,slow=20,SNR=4.8								
MSVF	**Nonsavu**	**6.03**	**339**	*e*P		**P**	**P**	**05 31 17.0**	**+1.1**
NIUE	**Niue**	**10.10**	**67**	P		**P**	**P**	**05 31 56.8**	**+0.4**
	baz=9.8,SNR=4.6								
AFI	**Afiamalu**	**12.09**	**40**	*e*P		**P**	**P**	**05 32 14.4**	**-2.7**
DZM	**Mont Dzumac**	**12.84**	**273**	P		**P**	**P**	**05 32 24.1**	**-0.8**
	0.6nm,0.3s,baz=90,slow=20,SNR=3.8								
URZ	**Urewera**	**15.04**	**190**	P		**P**	**P**	**05 32 46.6**	**-0.8**
	13nm,0.3s,baz=32,slow=13,SNR=20								
URZ				S			**S**	**05 35 20.6**	**-3.3**
	3.7nm,0.3s,baz=50,slow=22,SNR=8.3								
URZ	**Urewera**	**15.04**	**190**	*e*P		**P**	**P**	**05 32 46.9**	**-0.5**
URZ				S			**S**	**05 35 20.6**	**-3.3**
BKZ	**Black Stump Fm**	**16.02**	**191**	*e*P		**P**	**P**	**05 32 56.6**	**-1.0**
	22nm,0.6s								
KWHZ	**Kaweka Forest**	**16.29**	**191**	PN		**P**	**P**	**05 32 58.7**	**-1.4**
KWHZ				*e*SN			**S**	**05 35 43.9**	**-1.8**
WNVZ	**Wahianoa**	**16.35**	**193**	PN		**P**	**P**	**05 32 59.6**	**-1.2**
WNVZ				SN			**S**	**05 35 46.7**	**-0.3**
BHHZ	**Black Hill Sta**	**16.41**	**192**	*e*PN		**P**	**P**	**05 32 58.8**	**-2.5**
BHHZ				SN			**S**	**05 35 46.3**	**-1.6**
BFZ	**Birch Farm**	**17.54**	**190**	*e*P		**P**	**P**	**05 33 11.0**	**-0.7**
	24nm,0.4s								
QRZ	**Quartz Range**	**18.54**	**199**	PN		**P**	**P**	**05 33 22.7**	**+1.9**
TUWZ	**Tuamarina**	**18.73**	**195**	PN		**P**	**P**	**05 33 22.2**	**-0.3**
THZ	**Tophouse**	**19.30**	**197**	PN		**P**	**P**	**05 33 28.7**	**+0.9**
THZ				SN			**S**	**05 36 31.6**	**-3.3**
KHZ	**Kahutara**	**19.76**	**195**	PN		**P**	**P**	**05 33 32.4**	**+0.5**
KHZ	**Kahutara**	**19.76**	**195**	*e*P		**P**	**P**	**05 33 33.2**	**+1.3**
	28nm,0.4s								
LTZ	**Lake Taylor**	**20.42**	**197**	*e*PN		**P**	**P**	**05 33 38.0**	**0.0**
OXZ	**Oxford**	**20.99**	**197**	*e*PN		**P**	**P**	**05 33 42.9**	**-0.1**
RPZ	**Rata Peaks**	**21.62**	**198**	P		**P**	**P**	**05 33 49.6**	**+0.8**
	25nm,0.4s,baz=16,slow=3.5,SNR=21								
RPZ	**Rata Peaks**	**21.62**	**198**	*e*P		**P**	**P**	**05 33 49.5**	**+0.8**
	24nm,0.9s								
ARMA	**Armidale**	**26.43**	**248**	P		**P**	**P**	**05 34 33.8**	**+2.0**
	baz=27,SNR=8.3								
EIDS	**Eidsvold**	**26.64**	**260**	P		**P**	**P**	**05 34 34.3**	**+0.8**
	baz=27,SNR=11								
EIDS	**Eidsvold**	**26.64**	**260**	*e*P		**P**	**P**	**05 34 34.4**	**+0.8**
	19nm,0.7s								
MGCD	**Mangrove Creek**	**27.39**	**243**	P		**P**	**P**	**05 34 42.1**	**+2.1**
	baz=28,SNR=7.1								
RMQ	**Roma**	**28.70**	**257**	P		**P**	**P**	**05 34 53.6**	**+2.0**
	baz=29,SNR=6.9								
CNB	**Canberra Magne**	**29.31**	**239**	P		**P**	**P**	**05 34 58.7**	**+1.8**
	baz=30,SNR=5.6								
MILA	**Mila**	**29.98**	**236**	P		**P**	**P**	**05 35 04.5**	**+1.9**
	baz=30,SNR=5.9								
CMSA	**Cobar Meteorol**	**31.63**	**248**	P		**P**	**P**	**05 35 17.7**	**+0.9**
	baz=32,SNR=43								
CTA	**Charters Tower**	**31.73**	**269**	P		**P**	**P**	**05 35 17.9**	**+0.1**
	72nm,0.3s,baz=95,slow=11,SNR=140								
CTAO	**Charters Tower**	**31.73**	**269**	*e*P		**P**	**P**	**05 35 17.9**	**+0.1**
	78nm,0.3s								
QLP	**Quilpie**	**32.75**	**257**	P		**P**	**P**	**05 35 27.0**	**+0.6**
	baz=33,SNR=27								
TOO	**Toolangi**	**32.92**	**237**	P		**P**	**P**	**05 35 29.0**	**+1.3**
	baz=33,SNR=12								
MTSU	**Mount Surprise**	**33.97**	**272**	P		**P**	**P**	**05 35 37.3**	**+0.5**
	baz=34,SNR=25								
PMG	**Port Moresby**	**34.58**	**288**	P		**P**	**P**	**05 35 41.3**	**-0.6**
	83nm,0.7s,baz=112,slow=5.3,SNR=18								
PMG	**Port Moresby**	**34.58**	**288**	P		**P**	**P**	**05 35 41.8**	**-0.1**
	baz=35,SNR=3.5								
PMG				P			**P**	**05 35 41.8**	**-0.1**
	baz=35,SNR=3.5								
PMG				P			**P**	**05 35 41.8**	**-0.1**
	baz=35,SNR=3.5								
PMG	**Port Moresby**	**34.58**	**288**	*e*P		**P**	**P**	**05 35 41.7**	**-0.2**
STKA	**Stephens Creek**	**35.14**	**247**	P		**P**	**P**	**05 35 47.2**	**+0.9**
	6.6nm,0.3s,baz=96,slow=10.0,SNR=11								
STKA	**Stephens Creek**	**35.14**	**247**	P		**P**	**P**	**05 35 47.4**	**+1.1**
	baz=35,SNR=9.7								
STKA	**Stephens Creek**	**35.14**	**247**	*e*P		**P**	**P**	**05 35 47.3**	**+0.9**
	2.9nm,0.8s								
ARPS	**Mount Arapiles**	**35.58**	**239**	P		**P**	**P**	**05 35 50.9**	**+1.0**
	baz=36,SNR=7.1								
COEN	**Coen**	**36.29**	**278**	P		**P**	**P**	**05 35 56.2**	**+0.1**
	baz=37,SNR=4.8								
COEN	**Coen**	**36.29**	**278**	*e*P		**P**	**P**	**05 35 56.6**	**+0.5**
	32nm,1.1s								
HTT	**Hallett**	**37.50**	**245**	P		**P**	**P**	**05 36 06.4**	**+0.5**
	baz=38,SNR=8.5								
QIS	**Mount Isa**	**37.74**	**266**	P		**P**	**P**	**05 36 07.6**	**-0.4**
	baz=38,SNR=12								
BBOO	**Buckleboo**	**39.87**	**246**	P		**P**	**P**	**05 36 25.0**	**0.0**
	baz=40,SNR=21								
ASAR	**Alice Springs**	**42.37**	**260**	P		**P**	**P**	**05 36 44.9**	**-0.1**
	19nm,0.5s,baz=96,slow=7.6,SNR=305								
ASAR				S			**S**	**05 42 25.0**	**-2.7**
	1.5nm,0.8s,baz=99,slow=14,SNR=10								

WRAB Tennant Creek 42.69 266 *e*P **P** **05 36 46.7 -0.9**
57nm,0.9s
WRA Warramunga Arr 42.70 266 P **P** **05 36 46.8 -0.8**
17nm,0.4s,baz=93,slow=8.5,SNR=546
WRA S **S** **05 42 28.6 -3.9**
1.7nm,0.9s,baz=97,slow=15,SNR=4.1
JAY Jayapura 43.56 293 P **P** **05 36 53.5 -0.9**
29nm,0.8s,baz=111,slow=2.5,SNR=13
JAY Jayapura 43.56 293 P **P** **05 36 53.7 -0.7**
baz=44,SNR=9.4
KDU Kakadu 46.50 275 P **P** **05 37 16.1 -0.9**
baz=47,SNR=7.0
FORT Forrest 46.72 249 P **P** **05 37 18.1 -0.3**
baz=47,SNR=12
WRKA Warakurna 47.19 257 P **P** **05 37 21.9 -0.2**
baz=48,SNR=57
MTN Manton Dam 47.67 274 P **P** **05 37 24.5 -1.3**
baz=48,SNR=32
KNRA Kununurra 48.95 269 P **P** **05 37 35.0 -0.2**
baz=49,SNR=34
FAKI Fak Fak 50.69 286 P **P** **05 37 47.1 -1.0**
baz=51,SNR=4.5
VNDA Vanda 54.88 185 P **P** **05 38 19.1 +2.2**
0.6nm,0.4s,baz=23,slow=6.8,SNR=10
SOEI Soe 55.06 274 P **P** **05 38 20.2 +0.8**
baz=55,SNR=9.4
SOEI Soe 55.06 274 *e*P **P** **05 38 20.0 +0.6**
99nm,0.9s
KLBR Kellerberrin 55.41 247 P **P** **05 38 21.2 -0.2**
baz=56,SNR=35
MEEK Meekatharra 55.49 253 P **P** **05 38 21.5 -0.7**
baz=56,SNR=22
NWAO Narrogin (SRO) 55.66 245 P **P** **05 38 23.1 -0.1**
baz=56,SNR=11
NWAO P **P** **05 38 23.1 -0.1**
baz=56,SNR=11
MBWA Marble Bar 55.71 260 *e*P **P** **05 38 22.8 -0.9**
28nm,0.8s
BLDU Ballidu 56.44 248 P **P** **05 38 28.3 -0.3**
baz=57,SNR=35
MORW Morawa 57.28 250 P **P** **05 38 34.2 -0.2**
baz=58,SNR=7.6
LUWI Luwuk 59.97 283 P P 05 39 00.7 +8.0
baz=60,SNR=3.4
GIRL Giralia 60.27 256 P **P** **05 38 55.6 +1.0**
baz=60,SNR=3.4
JAGI Jajag, Banyuwa 64.81 272 P **P** **05 39 22.7 -1.3**
baz=65,SNR=4.0
QSPA South Pole Qui 66.66 180 P **P** **05 39 36.3 +1.5**
2.1nm,0.7s,baz=54,slow=5.5,SNR=14
PETK Petropavlovsk- 78.70 346 P **P** **05 40 43.0 -1.0**
7.4nm,0.8s,baz=64,slow=8.5,SNR=3.6
NJ2 Nanjing 80.54 311 *e*P **P** **05 40 54.6 +0.5**
NJ2 PMZ
10.0nm,0.7s
ISA Isabella 82.51 46 *e*P **P** **05 41 04.3 0.0**
12nm,0.9s
CMB Columbia Colle 82.68 43 *e*P **P** **05 41 04.8 -0.2**
26nm,1.4s
GSC Goldstone 83.41 47 *e*P **P** **05 41 08.0 -0.9**
9.5nm,0.9s
GLA Glamis 83.53 50 *e*P **P** **05 41 10.1 +0.7**
28nm,1.2s
YBH Yreka Blue Hor 83.56 39 P **P** **05 41 08.9 -0.4**
4.7nm,0.9s,baz=270,slow=8.1,SNR=6.7
WAKR Walker 83.56 43 *e*P **P** **05 41 09.8 +0.2**
22nm,1.3s
NVAR Mina Array Bea 84.23 44 P **P** **05 41 12.6 -0.4**
4.3nm,0.9s,baz=217,slow=7.6,SNR=16
LDFC Landfair 84.44 48 *e*P **P** **05 41 14.3 +0.3**
34nm,1.1s
TPH Tonopah 84.72 45 *e*P **P** **05 41 15.2 -0.2**
10nm,1.2s
MOD Modoc 85.07 40 *e*P **P** **05 41 16.6 -0.3**
4.0nm,0.8s
SHPR Sheep Range 85.19 47 *e*P **P** **05 41 17.5 -0.2**
10nm,1.5s
TUC Tucson 86.03 52 *e*P **P** **05 41 22.3 +0.7**
15nm,1.1s
WVOR Wild Horse Val 86.38 40 *e*P **P** **05 41 23.3 +0.1**
13nm,1.3s
GYA Guiyang 86.72 301 *e*P **P** **05 41 26.0 +0.9**
GYA pP **pP** **05 43 22.4 +0.1**
GYA sP **sP** **05 44 15.0 -1.6**
GYA PP **PP** **05 45 01.8 +4.1**
GYA SKS **SKSac** **05 51 01.3 +0.2**
GYA S **S** **05 51 19.9 +1.8**
GYA PMZ
10.0nm,1.0s
MSU Marysvale 88.27 46 *e*P **P** **05 41 32.6 +0.3**
6.9nm,1.2s
121A Cookes Peak, D 88.33 53 *e*P **P** **05 41 32.9 +0.3**
5.8nm,1.0s
BMO Blue Mountains 88.58 39 *e*P **P** **05 41 32.7 -0.7**
4.7nm,0.9s
MFID Camas Ranch 88.63 41 *e*P **P** **05 41 33.4 -0.2**
3.0nm,1.0s
SEY Seymchan 88.86 348 P **P** **05 41 33.4 -0.6**
4.7nm,0.8s,baz=158,slow=4.5,SNR=11
KMI Kunming 89.27 298 P **P** **05 41 35.4 -1.7**
KMI PMZ
9.0nm,0.5s
TMUT Trail Mountain 89.33 46 *e*P **P** **05 41 38.0 +0.8**
18nm,0.9s
HLID Hailey 89.57 41 *e*P **P** **05 41 38.2 +0.2**
7.9nm,1.1s
CM31 Chiang Mai Arr 89.60 290 P **P** **05 41 36.5 -2.0**
baz=90,SNR=3.2
CMAR Chiang Mai Arr 89.60 290 P **P** **05 41 39.5 +1.0**
2.6nm,0.8s,baz=134,slow=3.4,SNR=17
TRF Thorofare Moun 89.63 13 *e*P **P** **05 41 36.1 -1.7**
10nm,0.8s
SRU San Rafael 89.69 47 *e*P **P** **05 41 38.6 -0.1**
18nm,1.0s
CTU Camp Tracy 89.70 45 *e*P **P** **05 41 38.8 0.0**
5.1nm,0.9s
LAZ Ladron 89.71 52 *e*P **P** **05 41 39.3 +0.3**
0.9nm,0.8s
TXAR Lajitas Array 89.96 58 P **P** **05 41 40.6 +0.4**
3.8nm,0.9s,baz=210,slow=6.5,SNR=45
TCUT Toone Canyon 90.14 45 *e*P **P** **05 41 40.5 -0.3**
42nm,1.4s
HHC Hu-ho-hao-te 90.26 315 *e*P **P** **05 41 42.0 +0.8**
HHC PP **PP** **05 45 29.0 +3.8**
HHC S **S** **05 51 49.4 -0.5**
HHC sS **sS** **05 55 21.6 +0.6**
HHC SS **SS** **05 58 10.9 +4.4**
HHC PMZ
11nm,1.0s
HHC PMZ
90nm,7.4s
HWUT Hardware Ranch 90.30 44 *e*P **P** **05 41 41.0 -0.5**
3.1nm,0.7s
ANMO Albuquerque 90.46 52 *e*P **P** **05 41 42.2 -0.3**
5.9nm,1.1s
CD2 Chengdu 91.03 303 P **P** **05 41 45.8 +0.8**
CD2 PMZ
10.0nm,0.5s
ILAR Eielson Array 91.51 13 P **P** **05 41 44.3 -1.9**
1.0nm,0.7s,baz=225,slow=5.7,SNR=10
SNOW Snow King Moun 91.77 43 P **P** **05 41 48.1 -0.2**
5.2nm,1.1s
CMIG Matias Romero 92.09 72 P **P** **05 41 50.4 +0.4**
2.9nm,1.0s,baz=225,slow=8.6,SNR=3.2
PDAR Pinedale Array 92.17 44 P **P** **05 41 49.7 -0.5**
2.5nm,0.8s,baz=217,slow=2.3,SNR=21
PDAR PP PP 05 45 32.6 -7.5
0.4nm,0.9s,baz=236,slow=6.4,SNR=2.6
BOZ Bozeman (W) 92.36 41 P **P** **05 41 50.6 -0.3**
5.0nm,1.2s
LZH Lanzhou 93.28 308 *e*P P 05 41 59.4 +4.1
LZH pP pP 05 43 58.8 +5.1
LZH sP sP 05 44 51.0 +3.4
LZH PMZ
14nm,1.0s
ARCES ARCESS Array B 131.47 348 PKP **PKPdf** **05 47 47.2 -1.2**
3.8nm,0.9s,baz=66,slow=2.3,SNR=7.8
FINES FINESS Array B 138.07 342 PKhKP PKPpre 05 47 50.4
0.4nm,0.4s,baz=93,slow=3.8,SNR=4.8
FINES PKP **PKPdf** **05 48 00.9 +0.1**
0.5nm,0.4s,baz=41,slow=3.5,SNR=4.8
NB2 NORSAR Subarra 141.65 351 PKP PKPdf 05 48 01.9 -5.5
comp=Z,1.7nm,0.7s,baz=

BRTR	**Keskin Array B**	**147.49**	**308**	PKPbc	**PKPbc**	**05 48 21.9**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=90,slow=2.8,SNR=5.8						
CLL	**Collm**	**150.47**	**344**	⇑*i*PKPbc	**PKPbc**	**05 48 27.7**	**-0.7**
	comp=Z,12nm,0.9s						
CLL				⇓*i*PKPab	**PKPab**	**05 48 36.6**	**-0.7**
	comp=Z,6.0nm,0.9s						
BRG	**Berggiesshubel**	**150.61**	**342**	*e*PKP	**PKPbc**	**05 48 28.4**	**-0.3**
	comp=Z,7.2nm,0.9s						
GERES	**GERESS Array B**	**152.49**	**341**	PKPbc	**PKPbc**	**05 48 32.1**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=45,slow=2.9,SNR=5.1						
DAVA	**Damuels**	**154.97**	**344**	⇑*i*PKPab	**PKPab**	**05 48 56.5**	**-0.3**
	comp=Z,5.9nm,0.9s						
FETA	**Feichten**	**155.00**	**343**	⇑*i*PKPab	**PKPab**	**05 48 56.8**	**-0.1**
	comp=Z,7.7nm,1.6s						
ESDC	**Sonseca Array**	**163.40**	**12**	PKPab	**PKPab**	**05 49 32.5**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=347,slow=4.0,SNR=8.7						
TORD	**Torodi Ar. Bea**	**169.69**	**188**	PKPab	**PKPab**	**05 50 02.0**	**+0.2**
	comp=Z,0.4nm,0.9s,baz=162,slow=4.8,SNR=3.5						

*IGIL **13** 05:34:04.8,38.91N×11.23W,h2km,ML1.9*
*MDD **13** 05:34:08.2±1.2,38.92N×11.13W,h60km,mb3.7/5,Error ellipse: s-maj=12.0km s-min=6.3km az=82.0,PRXIMO*
*INMG **13** 05:34:09.5±1.1,38.90N×11.30W,h10km,ML2.0,Error ellipse: s-maj=4.5km s-min=2.0km az=82.0*

ISC 13 05:34:03.7±1.9,38.94N±0.04×11.2W±0.1,h10km,n56, σ2s05/104,1C-1D,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
PMAFR	**Mafra**	**1.46**	**89**	*e*Pn	**Pn**		**05 34 31.8**	**+1.7**
PMAFR				*e*Sn	**Sn**		**05 34 48.7**	**-0.6**
PMAFR				A	A		05 34 51.9	
	21nm,0.4s							
PMAFR	**Mafra**	**1.46**	**89**	P	**Pn**		**05 34 31.8**	**+1.7**
	4.8nm,0.1s,SNR=10							
PMAFR				S	**Sn**		**05 34 48.8**	**-0.5**
	15nm,0.1s,SNR=13							
PMST	**Lisbon--Monsan**	**1.55**	**97**	*e*Pn	**Pb**		**05 34 34.8**	**+2.3**
PMST				*e*Sn	**Sn**		**05 34 51.0**	**-0.5**
PMST				A	A		05 34 52.3	
	29nm,0.6s							
PACT	**Alcochete**	**1.82**	**95**	*e*Pn	**Pn**		**05 34 35.9**	**+0.9**
PACT				*e*Sn	**Sn**		**05 34 57.4**	**-0.7**
PACT				A	A		05 35 00.6	
	30nm,0.5s							
PNCL	**Nicolau / Gran**	**2.22**	**111**	*e*Pn	**Pn**		**05 34 41.3**	**+0.8**
PNCL				*e*Sn	**Sn**		**05 35 04.5**	**-3.4**
PNCL				A	A		05 35 13.2	
	3.0nm,0.4s							
PTOM	**Tomar**	**2.24**	**71**	*e*Pn	**Pn**		**05 34 42.6**	**+1.9**
PTOM				*e*Sn	**Sn**		**05 35 07.0**	**-1.4**
PTOM				A	A		05 35 13.9	
	5.2nm,0.3s							
PTOM	**Tomar**	**2.24**	**71**	⇑P	**Pn**		**05 34 42.6**	**+1.9**
PTOM				S	**Sn**		**05 35 07.0**	**-1.4**
	2.6nm,0.3s							
PMTG	**Montargil**	**2.29**	**86**	*e*Pn	**Pn**		**05 34 42.6**	**+1.2**
PMTG				*e*Sn	**Sn**		**05 35 07.6**	**-2.0**
PMTG				A	A		05 35 19.6	
	4.4nm,0.6s							
PCAS	**Casmilo, Conde**	**2.34**	**61**	*e*Pn	**Pn**		**05 34 43.9**	**+1.7**
PCAS				*e*Sn	**Sn**		**05 35 09.4**	**-1.6**
PCAS				A	A		05 35 12.3	
	4.4nm,0.5s							
PTEO	**Sao Teotonio**	**2.36**	**125**	*e*Pn	**Pn**		**05 34 43.3**	**+0.8**
PTEO				*e*Sn	**Sn**		**05 35 08.2**	**-3.3**
PTEO				A	A		05 35 09.1	
	6.9nm,0.4s							
PTEO	**Sao Teotonio**	**2.36**	**125**	P	**Pn**		**05 34 43.3**	**+0.8**
PTEO				S	**Sn**		**05 35 08.2**	**-3.3**
	3.5nm,0.4s							
EVO	**Evora**	**2.49**	**98**	*e*Pn	**Pn**		**05 34 45.3**	**+1.1**
EVO				*e*Sn	**Sn**		**05 35 12.5**	**-2.2**
EVO				A	A		05 35 17.0	
	3.8nm,0.2s							
EVO	**Evora**	**2.49**	**98**	⇓P	**Pn**		**05 34 45.3**	**+1.1**
EVO				S	**Sn**		**05 35 12.5**	**-2.2**
	3.8nm,0.2s							
MESJ	**Messejana**	**2.55**	**114**	*e*P	**Pn**		**05 34 46.1**	**+1.0**
MESJ				*e*S	**Sn**		**05 35 15.4**	**-0.7**
MESJ				AML	AML		05 35 15.6	
	comp=N,2.6nm,0.4s							
MESJ	**Messejana**	**2.55**	**114**	*e*Pn	**Pn**		**05 34 46.1**	**+1.0**
MESJ				*e*Sn	**Sn**		**05 35 13.5**	**-2.7**
MESJ				A	A		05 35 16.3	
	comp=N,3.2nm,0.2s							
MESJ	**Messejana**	**2.55**	**114**	P	**Pn**		**05 34 46.1**	**+1.0**
MESJ				S	**Sn**		**05 35 13.5**	**-2.7**
	comp=N,3.2nm,0.2s							
MORF	**Marmelete**	**2.56**	**129**	*e*P	**Pn**		**05 34 46.1**	**+0.9**
MORF				*e*S	**Sn**		**05 35 15.9**	**-0.6**
MORF				AML	AML		05 35 16.8	
	comp=N,11nm,0.2s							
MORF	**Marmelete**	**2.56**	**129**	*e*Pn	**Pn**		**05 34 46.1**	**+0.9**
MORF				*e*Sn	**Sn**		**05 35 13.9**	**-2.5**
MORF				A	A		05 35 17.2	
	comp=N,7.0nm,0.5s							
MORF	**Marmelete**	**2.56**	**129**	P	**Pn**		**05 34 46.1**	**+0.9**
MORF				S	**Sn**		**05 35 13.9**	**-2.5**
	comp=N,7.0nm,0.5s							
PFVI	**Vila Bisbo**	**2.57**	**134**	*e*Pn	**Pn**		**05 34 45.9**	**+0.6**
PFVI	**Vila Bisbo**	**2.57**	**134**	P	**Pn**		**05 34 46.0**	**+0.6**
	comp=N,1.6nm,0.1s,SNR=7.9							
PFVI				S	**Sn**		**05 35 14.9**	**-1.8**
	comp=N,3.1nm,0.1s,SNR=7.9							
PCVE	**Castro Verde**	**2.77**	**117**	*e*Pn	**Pn**		**05 34 49.3**	**+1.1**
PCVE				*e*Sn	**Sn**		**05 35 19.8**	**-1.9**
PCVE				A	A		05 35 22.7	
	comp=N,2.1nm,0.2s							
PCVE	**Castro Verde**	**2.77**	**117**	P	**Pn**		**05 34 49.3**	**+1.1**
PCVE				S	**Sn**		**05 35 19.8**	**-1.9**
	comp=N,2.1nm,0.2s							
PESTR	**Estremoz**	**2.78**	**90**	*e*Pn	**Pn**		**05 34 49.5**	**+1.2**
PESTR				*e*Sn	**Sn**		**05 35 19.5**	**-2.4**
PESTR				A	A		05 35 23.0	
	comp=N,2.0nm,0.2s							
PMRV	**Marv??o**	**2.97**	**79**	*e*Pn	**Pn**		**05 34 52.2**	**+1.4**
PMRV				*e*Sn	**Sn**		**05 35 24.2**	**-2.3**
PMRV				A	A		05 35 26.5	
	comp=N,4.1nm,0.4s							
PMRV	**Marv??o**	**2.97**	**79**	P	**Pn**		**05 34 52.2**	**+1.4**
PMRV				S	**Sn**		**05 35 24.2**	**-2.3**
	comp=N,4.1nm,0.4s							
PCBR	**Castelo Branco**	**2.99**	**71**	*e*Pn	**Pn**		**05 34 52.6**	**+1.5**
PCBR				*e*Sn	**Sn**		**05 35 25.1**	**-1.9**
PCBR				A	A		05 35 27.6	
	comp=N,2.0nm,0.2s							
PCBR	**Castelo Branco**	**2.99**	**71**	P	**Pn**		**05 34 52.6**	**+1.5**
PCBR				S	**Sn**		**05 35 25.1**	**-1.9**
	comp=N,1.0nm,0.2s							
PBDV	**Barranco-do-Ve**	**3.05**	**123**	*e*Pn	**Pn**		**05 34 53.6**	**+1.6**
PBDV				*e*Sn	**Sn**		**05 35 25.8**	**-2.8**
PBDV				A	A		05 35 28.1	
	comp=N,3.7nm,1.0s							
PBDV	**Barranco-do-Ve**	**3.05**	**123**	P	**Pn**		**05 34 53.6**	**+1.6**
PBDV				S	**Sn**		**05 35 25.8**	**-2.8**
	comp=N,3.7nm,1.0s							
PVIS	**Viseu**	**3.08**	**54**	*e*Sn	**Sn**		**05 35 26.5**	**-2.7**
PVIS				A	A		05 35 29.4	
	comp=N,4.8nm,0.1s							
PVIS	**Viseu**	**3.08**	**54**	S	**Sn**		**05 35 26.5**	**-2.7**
	comp=N,2.4nm,0.1s							
PVAQ	**Vaqueiros**	**3.11**	**118**	*e*Pn	**Pn**		**05 34 53.8**	**+1.0**
PVAQ				*e*Sn	**Sn**		**05 35 26.9**	**-3.1**
PVAQ				A	A		05 35 30.9	
	comp=N,2.7nm,0.4s							
PVAQ	**Vaqueiros**	**3.11**	**118**	P	**Pn**		**05 34 53.8**	**+1.0**
PVAQ				S	**Sn**		**05 35 26.9**	**-3.1**
	comp=N,2.7nm,0.4s							
MTE	**Manteigas**	**3.15**	**61**	*e*Pn	**Pn**		**05 34 54.7**	**+1.4**
MTE				*e*Sn	**Sn**		**05 35 28.6**	**-2.4**
MTE				A	A		05 35 30.2	
	comp=N,3.6nm,0.3s							
MTE	**Manteigas**	**3.15**	**61**	P	**Pn**		**05 34 54.7**	**+1.4**
MTE				S	**Sn**		**05 35 28.6**	**-2.4**
	comp=N,1.8nm,0.3s							
EGRO	**El Granado**	**3.21**	**115**	P	**Pn**		**05 34 55.1**	**+0.9**
	comp=N,0.8nm,0.1s,SNR=7.9							
EGRO				S	**Sn**		**05 35 30.5**	**-1.9**
	comp=N,1.2nm,0.1s,SNR=7.9							
PBAR	**Barrancos**	**3.31**	**102**	*e*Pn	**Pn**		**05 34 57.1**	**+1.5**
PBAR				*e*Sn	**Sn**		**05 35 32.2**	**-2.8**
PBAR				A	A		05 35 35.5	
	comp=N,2.9nm,0.2s							
PBAR	**Barrancos**	**3.31**	**102**	P	**Pn**		**05 34 57.1**	**+1.5**
PBAR				S	**Sn**		**05 35 32.2**	**-2.8**
	comp=N,2.9nm,0.2s							
POLO	**Lamas de Olo**	**3.54**	**46**	*e*Pn	**Pn**		**05 35 00.2**	**+1.4**
POLO				*e*Sn	**Sn**		**05 35 37.8**	**-3.0**
PCAB	**Cabril**	**3.66**	**40**	*e*Pn	**Pn**		**05 35 01.9**	**+1.5**
PCAB				*e*Sn	**Sn**		**05 35 40.9**	**-2.7**
PCAB				A	A		05 35 43.1	
	comp=N,2.2nm,0.3s							
PCAB	**Cabril**	**3.66**	**40**	P	**Pn**		**05 35 01.9**	**+1.5**
PCAB				S	**Sn**		**05 35 40.9**	**-2.7**
	comp=N,1.1nm,0.3s							
EMIN	**Mina Concepcio**	**3.71**	**107**	P	**Pn**		**05 35 02.3**	**+1.3**
	comp=N,1.1nm,0.1s,SNR=8.5							
EMIN				S	**Sn**		**05 35 41.5**	**-3.4**
	comp=N,1.5nm,0.2s,SNR=7.9							
PGAV	**Gavieira, Arco**	**3.74**	**35**	*e*Pn	**Pn**		**05 35 03.0**	**+1.4**
PGAV				*e*Sn	**Sn**		**05 35 42.8**	**-2.9**
PGAV				A	A		05 35 45.8	
	comp=N,2.4nm,0.8s							
ELOB	**Lobios**	**3.76**	**38**	P	**Pn**		**05 35 03.4**	**+1.6**
	comp=N,0.5nm,0.0s,SNR=7.9							
ELOB				S	**Sn**		**05 35 43.3**	**-2.9**
	comp=N,0.8nm,0.2s,SNR=6.1							
MVO	**Moncorvo**	**3.87**	**54**	*e*Pn	**Pn**		**05 35 03.9**	**+0.6**
MVO				*e*Sn	Sn		05 35 44.8	-4.0
MVO				A	A		05 35 47.6	
	comp=N,2.1nm,0.3s							
MVO	**Moncorvo**	**3.87**	**54**	P	**Pn**		**05 35 03.9**	**+0.6**
	comp=N,1.2nm,0.1s,SNR=7.9							
MVO				S	Sn		05 35 44.9	-4.0
	comp=N,1.3nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**4.08**	**72**	P	**Pn**		**05 35 07.7**	**+1.5**
	comp=N,0.5nm,0.1s,SNR=7.9							
EPLA				S	**Sn**		**05 35 50.7**	**-3.4**
	comp=N,1.2nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**4.34**	**22**	P	**Pn**		**05 35 10.1**	**+0.4**
	comp=N,1.2nm,0.2s,SNR=7.9							
EMAZ				S	Sn		05 35 55.3	-4.9
	comp=N,0.5nm,0.1s,SNR=7.9							
PBRG	**Braganca**	**4.42**	**48**	*e*Pn	**Pn**		**05 35 12.6**	**+1.7**
PBRG				*e*Sn	**Sn**		**05 35 59.5**	**-3.0**
PBRG	**Braganca**	**4.42**	**48**	P	**Pn**		**05 35 12.6**	**+1.7**
PBRG				S	**Sn**		**05 35 59.5**	**-3.0**
ECAL	**Calabor**	**4.51**	**47**	P	**Pn**		**05 35 13.5**	**+1.4**
	comp=N,0.7nm,0.2s,SNR=7.9							
ECAL				S	**Sn**		**05 36 01.4**	**-3.3**
	comp=N,0.7nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**4.58**	**99**	P	**Pn**		**05 35 14.2**	**+1.2**
	comp=N,0.4nm,0.1s,SNR=7.9							
ECAB				S	**Sn**		**05 36 03.0**	**-3.3**
	comp=N,0.4nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**5.21**	**96**	P	**Pn**		**05 35 23.1**	**+1.4**
	comp=N,0.3nm,0.1s,SNR=7.9							
EADA				S	**Sn**		**05 36 17.9**	**-4.0**
	comp=N,0.3nm,0.1s,SNR=7.9							
EPON	**Pontenova**	**5.33**	**33**	P	**Pn**		**05 35 24.2**	**+1.0**
	comp=N,0.5nm,0.1s,SNR=7.9							
GUD	**Guadarrama**	**5.66**	**70**	S	**Sn**		**05 36 29.1**	**-3.9**
	comp=N,0.6nm,0.3s,SNR=7.9							

*NEIC **13** 05:57:04.4,16.96N×94.43W,h139km,MD4.2(MEX),After MEX.*

MEX 13 05:57:04.5±0.9,16.97N×94.44W,h139km±8km,MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
CMIG	**Matias Romero**	**0.44**	**286**	*i*P	Pn		05 57 23.3	-1.0
CMIG				*i*S	Sn		05 57 37.0	-2.4
CMIG	**Matias Romero**	**0.44**	**286**	*i*P	Pn		05 57 23.3	-1.0
CMIG				*i*S	Sn		05 57 37.0	-2.4
HUIG	**Huatulco**	**2.00**	**233**	*i*P	Pn		05 57 37.0	-2.0
HUIG				*i*S	Sn		05 58 04.2	-1.2
HUIG	**Huatulco**	**2.00**	**233**	*i*P	Pn		05 57 37.0	-2.0
HUIG				*i*S	Sn		05 58 04.2	-1.2
VHO	**Vista Hermosa**	**2.19**	**273**	*e*P	Pn		05 57 40.8	-0.8
VHO				*e*S	Sn		05 58 07.9	-2.1
VHO	**Vista Hermosa**	**2.19**	**273**	*e*P	Pn		05 57 40.8	-0.8
VHO				*e*S	Sn		05 58 07.9	-2.1
PNIG	**Pinotepa**	**3.58**	**261**	*i*P	Pn		05 57 56.3	-2.7
PNIG				*i*S	Sn		05 58 38.1	-3.1
PNIG	**Pinotepa**	**3.58**	**261**	*e*P	Pn		05 57 56.5	-2.5
PNIG				*i*S	Sn		05 58 37.4	-3.8
TLIG	**Tlapa**	**3.98**	**279**	*e*P	Pn		05 58 03.1	-1.3
TLIG				*e*S	Sn		05 58 48.1	-2.9
TEIG	**Tepich**	**6.68**	**60**	*e*Pn	Pn		05 58 39.4	-0.9

KRSC 13 06:14:25.1±1.4,53.98N×166.44E,h41km±23km,ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
BKI	**Bering**	**1.26**	**348**	*e*P	Pn		06 14 46.4	+0.2
BKI				*e*S	Sn		06 15 03.1	+1.2
MKZ	**Mys Kozlova**	**2.82**	**284**	*e*P	Pn		06 15 11.7	+4.1
MKZ				*e*S	Sn		06 15 45.1	+4.8
KBTR	**Krutoberegovo**	**3.05**	**319**	*e*P	Pn		06 15 13.3	+2.5
KBTR				S	Sn		06 15 49.3	+3.2
KZV	**Kizimen**	**3.75**	**290**	*e*P	Pn		06 15 25.1	+4.4
KZV				S	Sn		06 16 09.3	+5.5
TUMR	**Tumrok**	**3.88**	**292**	*e*P	Pn		06 15 27.3	+4.9
SPN	**Mys Shipunski**	**3.93**	**260**	*e*P	Pn		06 15 26.1	+3.3
SPN				S	Sn		06 16 11.0	+3.4
BDR	**Baidarnaya**	**3.96**	**313**	*e*P	Pn		06 15 27.1	+3.7
KMNR	**Kamenistaya**	**4.00**	**299**	*e*P	Pn		06 15 28.6	+4.6
SRKR	**Sorokina**	**4.03**	**314**	P	Pn		06 15 29.3	+4.9
NLC	**Nalytchevo**	**4.30**	**262**	S	Sn		06 16 20.5	+3.7
SRDR	**Sredinnyy**	**4.51**	**304**	P	Pn		06 15 36.2	+5.2
SDLR	**Sedlovina**	**4.55**	**264**	*e*P	Pn		06 15 35.9	+4.3
SDLR				*e*S	Sn		06 16 27.7	+4.4
UGLR	**Uglovaya**	**4.60**	**263**	*e*P	Pn		06 15 36.9	+4.7
SMAR	**Somma**	**4.60**	**264**	*e*P	Pn		06 15 36.1	+3.7
KRER	**Koryakskii**	**4.62**	**265**	*e*P	Pn		06 15 37.3	+4.6
KRER				*e*S	Sn		06 16 29.9	+4.6
AVH	**Avacha**	**4.64**	**264**	*e*P	Pn		06 15 37.4	+4.7
AVH				S	Sn		06 16 30.8	+5.5
KRX	**Arik**	**4.67**	**266**	*e*P	Pn		06 15 37.8	+4.5
KRX				*e*S	Sn		06 16 30.9	+4.6
KOK	**Koryaka**	**4.69**	**265**	*e*P	Pn		06 15 38.0	+4.5
KOK				S	Sn		06 16 31.9	+5.2
RUS	**Russkaya**	**5.01**	**255**	*e*P	Pn		06 15 41.5	+3.9
GNL	**Ganaly**	**5.04**	**270**	P	Pn		06 15 43.3	+5.0
MTVR	**Mutnovka**	**5.18**	**257**	*e*P	Pn		06 15 44.4	+4.2
MTVR				S	Sn		06 16 42.4	+3.6
ASAK	**Asacha**	**5.38**	**256**	*e*P	Pn		06 15 47.0	+4.2

MEX 13 06:15:50.3±0.3,16.43N×99.75W,h7km±3km,MD4.0,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
ACX	**Acapulco**	**0.45**	**347**	*i*P	Pn		06 16 02.0	-1.2
ACX				*i*S	Sb		06 16 09.0	+1.6
ACP2	**Acapulco**	**0.46**	**343**	*e*P	Pg		06 15 59.0	-0.2
ACP2				*e*S	Sg		06 16 05.3	+0.1
CAIG	**El Cayaco**	**0.79**	**321**	*e*P	Pg		06 16 03.9	-1.6
CAIG				*e*S	Sg		06 16 14.3	-1.4
TLIG	**Tlapa**	**1.59**	**45**	*e*P	Pn		06 16 15.6	-3.5
TLIG				*e*S	Sn		06 16 35.1	-5.0
ARIG	**Puente Sto Nin**	**1.92**	**343**	*i*P	Pn		06 16 19.4	-4.1
ARIG				*e*S	Sn		06 16 43.4	-4.6
ZIIG	**Zihuatanejo**	**2.01**	**306**	*i*P	Pn		06 16 21.1	-3.6
ZIIG				*i*S	Sn		06 16 46.0	-4.1

*NIED **13** 06:26:00,36.70N×144.30E,h5km,Mw3.8 Best double couple: M0:6.29000×1014 NP1:φs=7.00000°,δ21.00000°, λ=-97.00000°. NP2:φs=195.00000°,δ69.00000°, λ=-87.00000°.*
*IDC **13** 06:26:02.6±1.0,36.54N×144.48E,h0km,mb3.8/5, mb1 4.0/6,mb1mx3.7/30,mbtmp3.8/6,ML3.8/1,MS3.0/3, Ms1 3.0/3,ms1mx2.5/28,Error ellipse: s-maj=31.6km s-min=24.9km az=65.0*
*ISCJB **13** 06:26:06.2±0.7,36.66N±0.04×144.29E±0.05,h33km, mb3.9/5,MS3.8/1,Error ellipse: s-maj=6.2km s-min=5.7km az=7.4*
*JMA **13** 06:26:07.3±0.3,36.74N×144.25E,h49km,M3.8*

ISC 13 06:26:07.8±0.9,36.67N±0.05×144.36E±0.08,h35km,n30, σ1s34/36,mb3.9/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
JFK	**Kawauchi**	**2.88**	**285**	P	**Pn**		**06 26 50.5**	**-0.7**
JFK				S	**Sn**		**06 27 22.7**	**-1.8**
ONAJ	**Iwakimizuishiy**	**2.89**	**280**	P	**Pn**		**06 26 51.7**	**+0.4**
ONAJ				S	**Sn**		**06 27 23.1**	**-1.8**
JIO	**Ouri**	**2.98**	**308**	P	**Pn**		**06 26 51.7**	**-0.9**
JIO				S	**Sn**		**06 27 24.6**	**-2.5**
CHOJ	**Chosi**	**2.99**	**252**	P	**Pn**		**06 26 52.7**	**0.0**
CHOJ				*e*S	**Sn**		**06 27 27.2**	**-0.1**
JFT	**Otama**	**3.33**	**286**	P	**Pn**		**06 26 57.6**	**+0.3**
JFT				S	**Sn**		**06 27 35.3**	**-0.3**
JMK	**Ichinoseki**	**3.37**	**313**	S	**Sn**		**06 27 35.6**	**-1.2**
BSO1	**Boso 1**	**3.41**	**235**	P	**Pn**		**06 26 56.9**	**-1.1**
BSO1				S	**Sn**		**06 27 37.0**	**+0.1**
JOM	**Ohasama**	**3.70**	**320**	P	**Pn**		**06 27 02.0**	**-0.5**
JOM				S	**Sn**		**06 27 42.2**	**-2.7**
JYK	**Kaneyama**	**3.88**	**307**	P	**Pn**		**06 27 05.8**	**+0.8**
JYK				S	**Sn**		**06 27 48.5**	**-0.9**
JAG	**Ashikaga**	**3.96**	**268**	P	**Pn**		**06 27 06.0**	**0.0**
JAG				S	**Sn**		**06 27 50.2**	**-1.0**
JRY	**Ryogami san**	**4.45**	**263**	P	**Pn**		**06 27 12.5**	**-0.4**
JRY				S	**Sn**		**06 28 01.5**	**-2.0**
JOD2	**Odawara 2**	**4.50**	**253**	S	**Sn**		**06 28 02.7**	**-1.9**
MJAR	**Matsushiro Arr**	**4.95**	**270**	Pn	**Pn**		**06 27 19.7**	**0.0**
	3.7nm,0.3s,baz=76,slow=15,SNR=27							
MJAR				Sn	**Sn**		**06 28 18.6**	**+2.9**
	1.2nm,0.3s,baz=87,slow=27,SNR=4.1							
MJAR				LR	LR		06 29 47.4	
	comp=Z,50nm,19.1s,baz=100,slow=45							
MAT	**Matsushiro**	**4.95**	**270**	P	**Pn**		**06 27 20.7**	**+1.0**
MAT				S	**Sn**		**06 28 17.6**	**+1.9**
JHJ2	**Mitsune**	**5.15**	**228**	P	**Pn**		**06 27 21.7**	**-0.7**
JHJ2				*e*S	**Sn**		**06 28 18.0**	**-2.6**
JKB	**Kayabe**	**5.82**	**335**	P	**Pn**		**06 27 31.1**	**-0.4**
KSRS	**Korea Array**	**13.15**	**278**	LR	LR		06 34 46.8	
	comp=Z,28nm,18.3s,baz=105,slow=39							
H11N2	**WAKE ISLAND Hy**	**25.96**	**124**	T	T		06 58 25.1	
	baz=316,slow=75,SNR=197							
H11N1	**WAKE ISLAND Hy**	**25.97**	**124**	T	T		06 58 28.5	
	baz=316,slow=75,SNR=193							
H11N3	**WAKE ISLAND Hy**	**25.98**	**124**	T	T		06 58 27.7	
	baz=316,slow=75,SNR=243							
H11S1	**WAKE ISLAND Hy**	**26.71**	**127**	T	T		06 59 24.1	
	baz=318,slow=76,SNR=88							
H11S3	**WAKE ISLAND Hy**	**26.71**	**127**	T	T		06 59 22.4	
	baz=318,slow=76,SNR=113							
H11S2	**WAKE ISLAND Hy**	**26.73**	**127**	T	T		06 59 21.1	
	baz=318,slow=76,SNR=74							
MKAR	**Makanchi Array**	**46.31**	**303**	P	**P**		**06 34 31.4**	**+1.4**
	1.3nm,0.8s,baz=88,slow=9.0,SNR=6.5							
WRA	**Warramunga Arr**	**57.09**	**191**	P	**P**		**06 35 49.9**	**-0.8**
	0.7nm,0.6s,baz=10,slow=7.3,SNR=8.7							
WRA				PcP	**PcP**		**06 36 45.3**	**+0.1**
	0.4nm,0.6s,baz=357,slow=4.3,SNR=6.2							
ASAR	**Alice Springs**	**60.81**	**191**	P	**P**		**06 36 15.7**	**-0.7**
	0.5nm,0.6s,baz=5.5,slow=7.8,SNR=6.6							
FINES	**FINESS Array B**	**70.22**	**333**	P	**P**		**06 37 17.6**	**+0.8**
	1.5nm,0.7s,baz=45,slow=6.1,SNR=4.1							
TXAR	**Lajitas Array**	**88.45**	**54**	P	**P**		**06 38 57.6**	**+0.8**
	0.5nm,0.9s,baz=305,slow=3.2,SNR=3.9							
ESDC	**Sonseca Array**	**98.63**	**336**	LR	LR		07 31 50.6	
	comp=Z,29nm,18.4s,baz=155,slow=40							
TORD	**Torodi Ar. Bea**	**119.23**	**317**	PKP	**PKPdf**		**06 44 53.7**	**0.0**
	1.0nm,1.2s,baz=18,slow=0.5,SNR=2.7							

*IDC **13** 06:57:38.2±1.2,13.57N×92.93E,h0km,mb3.6/8, mb1 3.8/8,mb1mx3.6/43,mbtmp3.6/8,MS2.8/1,Ms1 2.8/1, ms1mx2.4/31,Error ellipse: s-maj=63.1km s-min=20.9km az=51.0*
*ISCJB **13** 06:57:40.6±1.0,13.5N±0.2×92.9E±0.3,h29km,mb3.6/8, Error ellipse: s-maj=51.2km s-min=17.1km az=142.3*

ISC 13 06:57:42.7±1.2,13.6N±0.3×93.0E±0.3,h29km,n12, σ0s50/8,mb3.6/8,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
PALK	**Pallekele**	**13.59**	**244**	LR	LR		07 06 01.4	
	comp=Z,41nm,21.4s,baz=133,slow=37							
H08S3	**Diego Garcia H**	**29.29**	**225**	T	T		07 34 10.1	
	baz=41							
H08S2	**Diego Garcia H**	**29.30**	**225**	T	T		07 34 10.1	
	baz=41,SNR=4.9							
H08S1	**Diego Carcia H**	**29.31**	**225**	T	T		07 34 09.5	
	baz=41							
MKAR	**Makanchi Array**	**34.29**

GUC 13 07:44:55.9±0.7, 35.00S×72.95W, h10km±5km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U65B	**HualaæØ**	**0.95**	**88**	*eP*	Pn	07 45 15.4	+0.2
U65B				*eS*	Sn	07 45 28.3	-0.6
U65B				AML	AML	07 45 31.2	
	comp=E,3µm,0.3s						
COCH	**Cobquecura**	**1.14**	**174**	*eP*	Pb	07 45 17.3	-0.3
COCH				*eS*	Sn	07 45 33.8	+0.2
TALC	**Talca**	**1.15**	**111**	*eP*	Pb	07 45 17.7	-0.1
TALC				*eS*	Sn	07 45 34.1	+0.4
LNCH	**Linares**	**1.39**	**128**	*eP*	Pb	07 45 22.2	+0.3
LNCH				*eS*	Sg	07 45 41.1	+0.5
NICH	**Los Niches**	**1.41**	**91**	*eP*	Pb	07 45 22.2	-0.1
NICH				*eS*	Sg	07 45 42.0	+0.7
LNV	**Longovilo**	**1.64**	**51**	*eP*	Pb	07 45 25.6	-0.6
U73B	**San Pedro**	**1.66**	**50**	*eP*	Pb	07 45 25.9	-0.7
U73B				*eS*	Sg	07 45 48.9	-0.4
U73B				AML	AML	07 45 55.0	
	comp=E,785nm,0.6s						
CHCH	**Chadas Angostu**	**2.17**	**61**	*eP*	Pb	07 45 34.1	-1.3
CLCH	**Cerro Calan**	**2.56**	**52**	*eP*	Pb	07 45 40.1	-1.9
CLCH				*eS*	Sb	07 46 14.0	+0.5
CLCH				AML	AML	07 46 29.1	
	comp=N,314nm,0.7s						
PEL	**Peldehue**	**2.63**	**46**	*eP*	Pb	07 45 42.2	-1.1
PEL				*eS*	Sb	07 46 16.5	+0.8
PEL				AML	AML	07 46 29.0	
	comp=N,367nm,0.4s						

ISCJB ***13*** *07:51:20.9±0.2, 40.57S±0.02×173.51E±0.04, h158km±3km, mb4.2/8, Error ellipse: s-maj=5.5km s-min=2.8km az=33.8*

IDC ***13*** *07:51:21.7±1.4, 40.44S×173.68E, h150km±15km, mb4.3/3, mb1 4.4/5, mb1mx3.9/15, mbtmp4.6/5, Error ellipse: s-maj=21.8km s-min=14.9km az=119.0*

NEIC ***13*** *07:51:23.2, 40.51S×173.55E, h149km, mb4.7/7, After WEL.*

NEIC Felt in Marlborough and the southern part of the North Island.

WEL ***13*** *07:51:23.8±0.2, 40.51S×173.56E, h143km±2km, ML4.9/22, Error ellipse: s-maj=1.2km s-min=0.6km az=90.0, reported intensity MM 5.*

WEL Felt from Taranaki to Marlborough, and from Nelson to Wairarapa, maximum.

ISC 13 07:51:22.6±0.7, 40.56S±0.04×173.53E±0.04, h156km±5km, n238, σ1§48/248, mb4.3/3, 38C-16D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.67**	**190**	⇓PN	**Pn**	**07 51 45.6**	**+0.1**
NNZ				SN	**Sn**	**07 52 01.8**	**-1.4**
NNZ	**Nelson**	**0.67**	**190**	Pn	**Pn**	**07 51 45.6**	**+0.1**
QRZ	**Quartz Range**	**0.81**	**251**	⇓PN	**Pn**	**07 51 46.2**	**-0.3**
QRZ				SN	**Sn**	**07 52 02.5**	**-2.2**
QRZ	**Quartz Range**	**0.81**	**251**	Pn	**Pn**	**07 51 46.2**	**-0.3**
TCW	**Tory Channel**	**0.86**	**139**	⇑PN	**Pn**	**07 51 47.3**	**+0.5**
TCW				SN	**Sn**	**07 52 03.7**	**-1.7**
TCW				AML	AML	07 52 04.4	
TCW	**Tory Channel**	**0.86**	**139**	Pn	**Pn**	**07 51 47.3**	**+0.5**
TUWZ	**Tuamarina**	**0.92**	**160**	⇑PN	**Pn**	**07 51 47.6**	**+0.3**
TUWZ				SN	**Sn**	**07 52 04.9**	**-1.4**
TUWZ				AML	AML	07 52 05.8	
TUWZ	**Tuamarina**	**0.92**	**160**	Pn	**Pn**	**07 51 47.6**	**+0.3**
KIW	**Kapiti Island**	**1.09**	**106**	⇑PN	**Pn**	**07 51 48.7**	**0.0**
KIW				SN	**Sn**	**07 52 06.2**	**-2.5**
KIW				AML	AML	07 52 09.0	
KIW	**Kapiti Island**	**1.09**	**106**	Pn	**Pn**	**07 51 48.7**	**0.0**
SNZO	**South Karori**	**1.16**	**130**	*e*Pn	**Pn**	**07 51 49.4**	**+0.1**
SNZO				*e*Sn	**Sn**	**07 52 07.6**	**-2.1**
BSWZ	**Blackbirch Sta**	**1.18**	**167**	⇓PN	**Pn**	**07 51 50.1**	**+0.6**
BSWZ				AML	AML	07 52 10.0	
BSWZ				AML	AML	07 52 10.8	
BSWZ	**Blackbirch Sta**	**1.18**	**167**	Pn	**Pn**	**07 51 50.1**	**+0.6**
NMEZ	**Namu Road**	**1.18**	**13**	⇑PN	**Pn**	**07 51 49.0**	**-0.5**
NMEZ				SN	**Sn**	**07 52 08.5**	**-1.6**
WEL	**Wellington**	**1.18**	**128**	⇑PN	**Pn**	**07 51 49.7**	**+0.3**
WEL				SN	**Sn**	**07 52 08.3**	**-1.9**
WEL				AML	AML	07 52 10.4	
WEL	**Wellington**	**1.18**	**128**	Pn	**Pn**	**07 51 49.7**	**+0.3**
OGWZ	**Otaki Gorge**	**1.27**	**102**	⇑PN	**Pn**	**07 51 50.4**	**+0.1**
OGWZ	**Otaki Gorge**	**1.27**	**102**	Pn	**Pn**	**07 51 50.4**	**+0.1**
CAW	**Cannon Point**	**1.29**	**116**	⇑PN	**Pn**	**07 51 50.5**	**+0.1**
CAW				AML	AML	07 52 12.5	
CAW				AML	AML	07 52 13.3	
CAW	**Cannon Point**	**1.29**	**116**	Pn	**Pn**	**07 51 50.5**	**+0.1**
LREZ	**Lake Rotokare**	**1.29**	**31**	⇑PN	**Pn**	**07 51 50.3**	**-0.3**
THZ	**Tophouse**	**1.29**	**201**	PN	**Pn**	**07 51 50.7**	**+0.2**
THZ	**Tophouse**	**1.29**	**201**	Pn	**Pn**	**07 51 50.7**	**+0.2**
CMWZ	**Cape Campbell**	**1.29**	**157**	⇓PN	**Pn**	**07 51 51.5**	**+1.0**
CMWZ				AML	AML	07 52 17.5	
CMWZ				AML	AML	07 52 20.0	
CMWZ	**Cape Campbell**	**1.29**	**157**	Pn	**Pn**	**07 51 51.5**	**+1.0**
PREZ	**Palmer Road**	**1.31**	**22**	⇑PN	**Pn**	**07 51 50.1**	**-0.7**
NWEZ	**Newall Road**	**1.31**	**11**	⇑PN	**Pn**	**07 51 50.3**	**-0.4**
NWEZ	**Newall Road**	**1.31**	**11**	Pn	**Pn**	**07 51 50.3**	**-0.4**
BHW	**Baring Head**	**1.32**	**130**	⇑PN	**Pn**	**07 51 50.8**	**+0.1**
BHW				AML	AML	07 52 10.9	
BHW				AML	AML	07 52 11.8	
BHW	**Baring Head**	**1.32**	**130**	Pn	**Pn**	**07 51 50.8**	**+0.1**
KHEZ	**Kahui Hut**	**1.32**	**16**	⇑PN	**Pn**	**07 51 50.3**	**-0.7**
NEZ	**North Egmont**	**1.36**	**19**	⇑PN	**Pn**	**07 51 50.3**	**-1.0**
NEZ	**North Egmont**	**1.36**	**19**	Pn	**Pn**	**07 51 50.3**	**-1.0**
WAZ	**Wanganui**	**1.37**	**55**	PN	**Pn**	**07 51 51.5**	**+0.1**
WAZ	**Wanganui**	**1.37**	**55**	Pn	**Pn**	**07 51 51.5**	**+0.1**
PKE	**Pukeiti**	**1.41**	**14**	⇑PN	**Pn**	**07 51 51.2**	**-0.6**
PKE	**Pukeiti**	**1.41**	**14**	Pn	**Pn**	**07 51 51.2**	**-0.6**
DREZ	**Durham Road**	**1.46**	**21**	⇑PN	**Pn**	**07 51 51.6**	**-0.7**
DREZ	**Durham Road**	**1.46**	**21**	Pn	**Pn**	**07 51 51.6**	**-0.7**
HOWZ	**Holdsworth Sta**	**1.54**	**103**	⇑PN	**Pn**	**07 51 53.0**	**-0.1**
HOWZ	**Holdsworth Sta**	**1.54**	**103**	Pn	**Pn**	**07 51 53.0**	**-0.1**
MSWZ	**Moikau Station**	**1.55**	**124**	⇑PN	**Pn**	**07 51 53.3**	**+0.2**
MSWZ				AML	AML	07 52 14.9	
MSWZ				AML	AML	07 52 15.0	
MSWZ	**Moikau Station**	**1.55**	**124**	Pn	**Pn**	**07 51 53.3**	**+0.2**
MRZ	**Mangatainoka R**	**1.56**	**94**	PN	**Pn**	**07 51 52.6**	**-0.6**
MRZ				AML	AML	07 52 16.3	
MRZ				AML	AML	07 52 17.3	
MRZ	**Mangatainoka R**	**1.56**	**94**	Pn	**Pn**	**07 51 52.6**	**-0.6**
MHEZ	**Mangahewa**	**1.60**	**23**	PN	**Pn**	**07 51 53.2**	**-0.5**
MHEZ	**Mangahewa**	**1.60**	**23**	Pn	**Pn**	**07 51 53.2**	**-0.5**
MTW	**Mount Morrison**	**1.61**	**112**	⇑PN	**Pn**	**07 51 53.8**	**+0.1**
MTW				AML	AML	07 52 15.8	
MTW				AML	AML	07 52 17.2	
MTW	**Mount Morrison**	**1.61**	**112**	Pn	**Pn**	**07 51 53.8**	**+0.1**
PLWZ	**Palliser**	**1.65**	**128**	⇑PN	**Pn**	**07 51 54.3**	**+0.1**
PLWZ	**Palliser**	**1.65**	**128**	Pn	**Pn**	**07 51 54.3**	**+0.1**
PAWZ	**Paruwai Farm**	**1.65**	**120**	⇑PN	**Pn**	**07 51 54.3**	**+0.1**
PAWZ				AML	AML	07 52 18.1	
PAWZ				AML	AML	07 52 19.3	
PAWZ	**Paruwai Farm**	**1.65**	**120**	Pn	**Pn**	**07 51 54.3**	**+0.1**
POWZ	**Post Office Ro**	**1.71**	**85**	⇑PN	**Pn**	**07 51 54.5**	**-0.4**
POWZ	**Post Office Ro**	**1.71**	**85**	Pn	**Pn**	**07 51 54.5**	**-0.4**
VRZ	**Vera Road**	**1.72**	**34**	PN	**Pn**	**07 51 53.9**	**-1.0**
VRZ	**Vera Road**	**1.72**	**34**	Pn	**Pn**	**07 51 54.0**	**-1.0**
DSZ	**Denniston Nort**	**1.76**	**227**	PN	**Pn**	**07 51 55.2**	**-0.2**
DSZ	**Denniston Nort**	**1.76**	**227**	Pn	**Pn**	**07 51 55.2**	**-0.2**
TIWZ	**Tintock**	**1.80**	**98**	⇑PN	**Pn**	**07 51 55.7**	**-0.1**
TIWZ				AML	AML	07 52 19.5	
TIWZ				AML	AML	07 52 21.1	
TIWZ	**Tintock**	**1.80**	**98**	Pn	**Pn**	**07 51 55.7**	**-0.1**
TRWZ	**Traveller**	**1.83**	**118**	⇑PN	**Pn**	**07 51 56.3**	**+0.1**
TRWZ				AML	AML	07 52 20.6	
TRWZ				AML	AML	07 52 20.8	
TRWZ	**Traveller**	**1.83**	**118**	Pn	**Pn**	**07 51 56.3**	**+0.1**
KHZ	**Kahutara**	**1.85**	**180**	AML	AML	07 52 21.4	
KHZ				AML	AML	07 52 21.9	
KHZ	**Kahutara**	**1.85**	**180**	*e*Pn	**Pn**	**07 51 56.9**	**+0.5**
KHZ				*e*Sn	**Sn**	**07 52 20.7**	**-1.8**
PRWZ	**Pori Road**	**1.86**	**91**	⇑PN	**Pn**	**07 51 56.4**	**-0.1**
TMWZ	**Te Maipa**	**1.87**	**108**	PN	**Pn**	**07 51 56.8**	**+0.2**
TMWZ	**Te Maipa**	**1.87**	**108**	Pn	**Pn**	**07 51 56.8**	**+0.2**
MTVZ	**Mangateitei**	**1.90**	**52**	PN	**Pn**	**07 51 56.4**	**-0.6**
MTVZ	**Mangateitei**	**1.90**	**52**	Pn	**Pn**	**07 51 56.4**	**-0.6**
TSZ	**Takapari Road**	**1.92**	**76**	PN	**Pn**	**07 51 56.6**	**-0.6**
TSZ				AML	AML	07 52 22.5	
TSZ				AML	AML	07 52 23.9	
TSZ	**Takapari Road**	**1.92**	**76**	Pn	**Pn**	**07 51 56.6**	**-0.6**
TRVZ	**Turoa**	**2.00**	**51**	PN	**Pn**	**07 51 57.3**	**-1.0**
TRVZ	**Turoa**	**2.00**	**51**	Pn	**Pn**	**07 51 57.4**	**-1.0**
WNVZ	**Wahianoa**	**2.01**	**53**	⇓PN	**Pn**	**07 51 57.5**	**-0.9**
WNVZ	**Wahianoa**	**2.01**	**53**	Pn	**Pn**	**07 51 57.5**	**-0.9**
DRZ	**Dome Shelter**	**2.02**	**51**	⇑PN	**Pn**	**07 51 58.1**	**-0.6**
DRZ	**Dome Shelter**	**2.02**	**51**	Pn	**Pn**	**07 51 58.1**	**-0.6**
DVHZ	**Dannevirke**	**2.03**	**83**	⇑PN	**Pn**	**07 51 57.8**	**-0.6**
DVHZ	**Dannevirke**	**2.03**	**83**	Pn	**Pn**	**07 51 57.8**	**-0.6**
FWVZ	**Far West T-bar**	**2.03**	**51**	PN	**Pn**	**07 51 57.6**	**-1.0**
FWVZ	**Far West T-bar**	**2.03**	**51**	Pn	**Pn**	**07 51 57.6**	**-1.0**
WHVZ	**Whangaehu Hut**	**2.03**	**52**	PN	**Pn**	**07 51 58.2**	**-0.5**
CPWZ	**Castlepoint**	**2.06**	**101**	⇑PN	**Pn**	**07 51 59.1**	**+0.4**
WPVZ	**Whakapapa**	**2.06**	**49**	⇓PN	**Pn**	**07 51 57.9**	**-1.0**
WPVZ	**Whakapapa**	**2.06**	**49**	Pn	**Pn**	**07 51 57.9**	**-1.0**
MOVZ	**Moawhango**	**2.06**	**57**	PN	**Pn**	**07 51 57.7**	**-1.2**
MOVZ	**Moawhango**	**2.06**	**57**	Pn	**Pn**	**07 51 57.7**	**-1.2**
COVZ	**Chateau Observ**	**2.06**	**49**	PN	**Pn**	**07 51 58.2**	**-0.7**
TUVZ	**Tukino**	**2.08**	**52**	PN	**Pn**	**07 51 58.3**	**-0.8**
TUVZ	**Tukino**	**2.08**	**52**	Pn	**Pn**	**07 51 58.4**	**-0.8**
TWVZ	**Taurewa**	**2.09**	**45**	PN	**Pn**	**07 51 58.1**	**-1.1**
TWVZ	**Taurewa**	**2.09**	**45**	Pn	**Pn**	**07 51 58.1**	**-1.1**
NGZ	**Ngauruhoe**	**2.11**	**50**	PN	**Pn**	**07 51 58.4**	**-1.1**
NGZ	**Ngauruhoe**	**2.11**	**50**	Pn	**Pn**	**07 51 58.4**	**-1.1**
PNHZ	**Pukenui**	**2.14**	**73**	⇑PN	**Pn**	**07 51 58.8**	**-0.9**
PNHZ	**Pukenui**	**2.14**	**73**	Pn	**Pn**	**07 51 58.8**	**-0.9**
WTVZ	**West Tongariro**	**2.14**	**48**	⇓PN	**Pn**	**07 51 58.7**	**-1.1**
WTVZ	**West Tongariro**	**2.14**	**48**	Pn	**Pn**	**07 51 58.7**	**-1.1**
OTVZ	**Oturere**	**2.15**	**50**	⇓PN	**Pn**	**07 51 59.1**	**-1.0**
OTVZ	**Oturere**	**2.15**	**50**	Pn	**Pn**	**07 51 59.1**	**-1.0**
KRVZ	**Karewarewa**	**2.19**	**49**	⇓PN	**Pn**	**07 51 59.1**	**-1.3**
KRVZ	**Karewarewa**	**2.19**	**49**	Pn	**Pn**	**07 51 59.1**	**-1.3**
BHHZ	**Black Hill Sta**	**2.22**	**62**	⇓PN	**Pn**	**07 51 59.5**	**-1.2**
BHHZ	**Black Hill Sta**	**2.22**	**62**	Pn	**Pn**	**07 51 59.5**	**-1.2**
ANWZ	**Angora Road**	**2.25**	**88**	⇑PN	**Pn**	**07 52 00.6**	**-0.3**
WPHZ	**Waipukurau**	**2.28**	**78**	PN	**Pn**	**07 52 00.8**	**-0.5**
WPHZ	**Waipukurau**	**2.28**	**78**	Pn	**Pn**	**07 52 00.8**	**-0.5**
HIZ	**Hauiti**	**2.29**	**27**	PN	**Pn**	**07 52 00.1**	**-1.4**
HIZ	**Hauiti**	**2.29**	**27**	Pn	**Pn**	**07 52 00.1**	**-1.4**
KATZ	**Kakaramea**	**2.30**	**47**	PN	**Pn**	**07 52 00.6**	**-1.1**
KATZ	**Kakaramea**	**2.30**	**47**	Pn	**Pn**	**07 52 00.6**	**-1.1**
KRHZ	**Kereru**	**2.36**	**68**	⇑PN	**Pn**	**07 51 01.3**	**-1.0**
PRHZ	**Porangahau**	**2.39**	**84**	⇑PN	**Pn**	**07 52 02.2**	**-0.4**
PRHZ	**Porangahau**	**2.39**	**84**	Pn	**Pn**	**07 52 02.2**	**-0.4**
RITZ	**Rihia Road**	**2.39**	**49**	PN	**Pn**	**07 52 01.7**	**-1.0**
RITZ	**Rihia Road**	**2.39**	**49**	Pn	**Pn**	**07 52 01.7**	**-1.0**
RATZ	**Rangitukua**	**2.42**	**46**	PN	**Pn**	**07 52 02.0**	**-1.0**
RATZ	**Rangitukua**	**2.42**	**46**	Pn	**Pn**	**07 52 02.0**	**-1.0**
KWHZ	**Kaweka Forest**	**2.49**	**64**	PN	**Pn**	**07 52 03.0**	**-1.0**
WATZ	**Wairara**	**2.51**	**43**	PN	**Pn**	**07 52 03.3**	**-0.9**
WATZ	**Wairara**	**2.51**	**43**	Pn	**Pn**	**07 52 03.3**	**-0.9**
HATZ	**Hinemaiaia**	**2.58**	**51**	PN	**Pn**	**07 52 03.2**	**-1.8**
HATZ	**Hinemaiaia**	**2.58**	**51**	Pn	**Pn**	**07 52 03.2**	**-1.8**
PXZ	**Pawanui**	**2.60**	**79**	⇑PN	**Pn**	**07 52 04.4**	**-0.8**
PXZ				AML	AML	07 52 38.2	
PXZ				AML	AML	07 52 38.2	
PXZ				AML	AML	07 52 38.2	
PXZ				AML	AML	07 52 38.3	
PXZ	**Pawanui**	**2.60**	**79**	Pn	**Pn**	**07 52 04.4**	**-0.8**
BKZ	**Black Stump Fm**	**2.67**	**59**	PN	**Pn**	**07 52 04.5**	**-1.7**
BKZ				AML	AML	07 52 37.1	
BKZ				AML	AML	07 52 38.8	
BKZ	**Black Stump Fm**	**2.67**	**59**	Pn	**Pn**	**07 52 04.5**	**-1.7**
KAHZ	**Kahuranaki**	**2.67**	**74**	PN	**Pn**	**07 52 05.4**	**-0.8**
KAHZ	**Kahuranaki**	**2.67**	**74**	Pn	**Pn**	**07 52 05.4**	**-0.8**
MCHZ	**McNeill Hill**	**2.67**	**66**	PN	**Pn**	**07 52 05.4**	**-0.7**
MCHZ	**McNeill Hill**	**2.67**	**66**	Pn	**Pn**	**07 52 05.4**	**-0.7**
TLZ	**Tolley Road**	**2.72**	**35**	PN	**Pn**	**07 52 04.9**	**-1.9**
KUTZ	**Kaahu Road**	**2.73**	**41**	⇓PN	**Pn**	**07 52 05.8**	**-1.0**
CKHZ	**Cape Kidnapper**	**2.86**	**73**	PN	**Pn**	**07 52 08.2**	**-0.3**
CKHZ	**Cape Kidnapper**	**2.86**	**73**	Pn	**Pn**	**07 52 08.2**	**-0.3**
WPRZ	**Whakapapataran**	**2.88**	**46**	PN	**Pn**	**07 52 07.3**	**-1.4**
NMHZ	**Naumai**	**2.91**	**61**	PN	**Pn**	**07 52 08.2**	**-1.0**
NMHZ	**Naumai**	**2.91**	**61**	Pn	**Pn**	**07 52 08.2**	**-1.0**
ALRZ	**Allen Road**	**2.95**	**48**	⇑PN	**Pn**	**07 52 07.8**	**-1.8**
ALRZ	**Allen Road**	**2.95**	**48**	Pn	**Pn**	**07 52 07.8**	**-1.8**
ARHZ	**Aropaoanui**	**2.96**	**65**	PN	**Pn**	**07 52 08.5**	**-1.2**
OXZ	**Oxford**	**2.98**	**202**	PN	**Pn**	**07 52 08.4**	**-1.4**
HRRZ	**Handcock Road**	**3.04**	**45**	⇓PN	**Pn**	**07 52 09.3**	**-1.4**
HRRZ	**Handcock Road**	**3.04**	**45**	Pn	**Pn**	**07 52 09.3**	**-1.4**
CRLZ	**Canterbury Las**	**3.09**	**192**	PN	**Pn**	**07 52 10.2**	**-1.0**
CRLZ	**Canterbury Las**	**3.09**	**192**	Pn	**Pn**	**07 52 10.2**	**-1.0**
RAHZ	**Arahi**	**3.19**	**60**	PN	**Pn**	**07 52 11.0**	**-1.6**
RAHZ	**Arahi**	**3.19**	**60**	Pn	**Pn**	**07 52 11.1**	**-1.6**
RRRZ	**Republican Roa**	**3.20**	**47**	⇓PN	**Pn**	**07 52 10.8**	**-1.9**
RRRZ	**Republican Roa**	**3.20**	**47**	Pn	**Pn**	**07 52 10.8**	**-1.9**
MQZ	**McQueen's Vall**	**3.21**	**191**	PN	**Pn**	**07 52 11.1**	**-1.7**
MQZ	**McQueen's Vall**	**3.21**	**191**	Pn	**Pn**	**07 52 11.1**	**-1.7**
WHHZ	**Waihua**	**3.21**	**64**	PN	**Pn**	**07 52 11.6**	**-1.3**
TOZ	**Tahuroa Road**	**3.22**	**29**	PN	**Pn**	**07 52 11.0**	**-1.9**
TOZ	**Tahuroa Road**	**3.22**	**29**	Pn	**Pn**	**07 52 11.0**	**-1.9**
WVZ	**Waitaha Valley**	**3.27**	**219**	⇓PN	**Pn**	**07 52 12.5**	**-1.0**
WVZ	**Waitaha Valley**	**3.27**	**219**	Pn	**Pn**	**07 52 12.5**	**-1.0**
KARZ	**Kaharoa**	**3.30**	**41**	PN	**Pn**	**07 52 12.5**	**-1.5**
KARZ	**Kaharoa**	**3.30**	**41**	Pn	**Pn**	**07 52 12.5**	**-1.5**
SNGZ	**Shannon Statio**	**3.43**	**60**	PN	**Pn**	**07 52 14.0**	**-1.8**
KNZ	**Kokohu**	**3.54**	**66**	PN	**Pn**	**07 52 15.1**	**-1.9**
KNZ	**Kokohu**	**3.54**	**66**	Pn	**Pn**	**07 52 15.1**	**-1.9**
URZ	**Urewera**	**3.60**	**51**	⇓PN	**Pn**	**07 52 15.0**	**-2.8**
URZ				AML	AML	07 52 57.1	
URZ				AML	AML	07 52 58.8	
URZ	**Urewera**	**3.60**	**51**	P	Pn	07 52 14.6	-3.2
	23nm,0.3s,baz=236,slow=9.0,SNR=174						
URZ				S	**Sn**	**07 52 56.4**	**-4.3**
	254nm,0.3s,baz=31,slow=16,SNR=34						
URZ	**Urewera**	**3.60**	**51**	*e*Pn	**Pn**	**07 52 14.9**	**-2.9**
URZ				*e*Sn	**Sn**	**07 52 56.2**	**-4.4**
KBAZ	**Karaka Road Bo**	**3.62**	**17**	⇑PN	**Pn**	**07 52 17.8**	**-0.2**
RAGZ	**Rawiri**	**3.64**	**57**	PN	**Pn**	**07 52 16.3**	**-2.2**
RPZ	**Rata Peaks**	**3.65**	**210**	PN	**Pn**	**07 52 16.8**	**-1.5**
RPZ	**Rata Peaks**	**3.65**	**210**	P	**Pn**	**07 52 17.5**	**-0.9**
	35nm,0.3s,baz=36,slow=5.7,SNR=196						
RPZ				S	**Sn**	**07 52 57.8**	**-4.1**
	28nm,0.3s,baz=110,slow=21,SNR=11						
RPZ	**Rata Peaks**	**3.65**	**210**	*e*Pn	**Pn**	**07 52 16.9**	**-1.5**
RPZ				S	**Sn**	**07 52 57.8**	**-4.1**
MKAZ	**Moumakai**	**3.67**	**21**	⇑PN	**Pn**	**07 52 17.6**	**-1.2**
MKAZ	**Moumakai**	**3.67**	**21**	Pn	**Pn**	**07 52 17.6**	**-1.2**
WTAZ	**Waiatarua**	**3.71**	**13**	PN	**Pn**	**07 52 18.9**	**-0.4**
WTAZ	**Waiatarua**	**3.71**	**13**	Pn	**Pn**	**07 52 18.9**	**-0.4**
PRGZ	**Paritu Road**	**3.73**	**65**	PN	**Pn**	**07 52 17.6**	**-1.9**
PRGZ	**Paritu Road**	**3.73**	**65**	Pn	**Pn**	**07 52 17.6**	**-1.9**
RIGZ	**Rimuhau**	**3.75**	**62**	PN	**Pn**	**07 52 17.4**	**-2.5**
ETAZ	**East Tamaki Re**	**3.77**	**17**	PN	**Pn**	**07 52 19.3**	**-0.7**
MWZ	**Matawai**	**3.81**	**56**	PN	**Pn**	**07 52 18.0**	**-2.6**
MWZ				AML	AML	07 53 01.5	
MWZ				AML	AML	07 53 01.5	
MWZ				AML	AML	07 53 02.6	
MWZ				AML	AML	07 53 02.6	
MWZ	**Matawai**	**3.81**	**56**	Pn	**Pn**	**07 52 18.0**	**-2.6**
RVAZ	**Riverhead Bore**	**3.87**	**13**	PN	**Pn**	**07 52 20.8**	**-0.6**
TKGZ	**Te Karaka**	**3.96**	**59**	PN	**Pn**	**07 52 20.1**	**-2.3**
FOZ	**Fox Glacier**	**4.14**	**222**	PN	**Pn**	**07 52 22.1**	**-2.7**
FOZ	**Fox Glacier**	**4.14**	**222**	Pn	**Pn**	**07 52 22.1**	**-2.7**
CNGZ	**Carnagh Statio**	**4.17**	**62**	PN	**Pn**	**07 52 23.2**	**-2.0**
CNGZ	**Carnagh Statio**	**4.17**	**62**	Pn	**Pn**	**07 52 23.2**	**-2.0**
KUZ	**Kuaotunu**	**4.18**	**25**	⇑PN	**Pn**	**07 52 23.6**	**-1.7**
KUZ	**Kuaotunu**	**4.18**	**25**	Pn	**Pn**	**07 52 23.6**	**-1.7**
TWGZ	**Tauwhareparae**	**4.19**	**57**	PN	**Pn**	**07 52 23.2**	**-2.3**
HAZ	**Te Kaha**	**4.33**	**51**	⇑PN	Pn	07 52 23.7	-3.6
PUZ	**Puketiti**	**4.43**	**57**	⇓PN	**Pn**	**07 52 25.5**	**-3.1**
PUZ				AML	AML	07 53 17.9	
PUZ				AML	AML	07 53 18.6	
PUZ	**Puketiti**	**4.43**	**57**	Pn	**Pn**	**07 52 25.5**	**-3.1**
LBZ	**Lake Benmore**	**4.55**	**212**	PN	**Pn**	**07 52 27.7**	**-2.5**
LBZ	**Lake Benmore**	**4.55**	**212**	Pn	**Pn**	**07 52 27.7**	**-2.5**
WCZ	**Waipu Caves**	**4.66**	**8**	PN	**Pn**	**07 52 31.1**	**-0.5**
WCZ	**Waipu Caves**	**4.66**	**8**	Pn	**Pn**	**07 52 31.1**	**-0.5**
WMGZ	**Waiomatatini S**	**4.68**	**56**	PN	**Pn**	**07 52 28.7**	**-3.1**
MXZ	**Matakaoa Point**	**4.77**	**53**	AML	AML	07 53 25.9	
MXZ				AML	AML	07 53 26.4	
ODZ	**Otahua Downs**	**4.96**	**204**	PN	**Pn**	**07 52 33.9**	**-1.5**
ODZ	**Otahua Downs**	**4.96**	**204**	*e*Pn	**Pn**	**07 52 34.2**	**-1.2**
	82nm,0.4s						
JCZ	**Jackson Bay**	**4.98**	**224**	⇑PN	**Pn**	**07 52 33.9**	**-2.0**
JCZ	**Jackson Bay**	**4.98**	**224**	Pn	**Pn**	**07 52 33.9**	**-2.0**
OUZ	**Omahuta**	**5.33**	**1**	*e*Pn	**Pn**	**07 52 41.0**	**+0.5**
WKZ	**Wanaka**	**5.41**	**216**	PN	**Pn**	**07 52 38.5**	**-2.9**
WKZ	**Wanaka**	**5.41**	**216**	Pn	**Pn**	**07 52 38.5**	**-2.9**
EAZ	**Earnscleugh**	**5.60**	**212**	PN	**Pn**	**07 52 41.0**	**-2.9**
EAZ	**Earnscleugh**	**5.60**	**212**	Pn	**Pn**	**07 52 41.0**	**-2.9**
HHSZ	**Highcliff Hill**	**5.74**	**201**	PN	**Pn**	**07 52 45.0**	**-0.7**
HHSZ	**Highcliff Hill**	**5.74**	**201**	Pn	**Pn**	**07 52 45.0**	**-0.7**
MSZ	**Milford Sound**	**5.83**	**223**	PN	**Pn**	**07 52 45.1**	**-1.8**
MSZ	**Milford Sound**	**5.83**	**223**	Pn	**Pn**	**07 52 45.1**	**-1.8**
TUZ	**Tuapeka**	**6.10**	**207**	PN	**Pn**	**07 52 48.8**	**-1.7**
TUZ	**Tuapeka**	**6.10**	**207**	Pn	**Pn**	**07 52 48.8**	**-1.7**
MLZ	**Mavora Lakes**	**6.19**	**218**	PN	**Pn**	**07 52 50.4**	**-1.4**
MLZ	**Mavora Lakes**	**6.19**	**218**	Pn	**Pn**	**07 52 50.4**	**-1.4**
WHZ	**Wether Hill Ro**	**6.71**	**216**	PN	**Pn**	**07 52 55.7**	**-3.0**
WHZ	**Wether Hill Ro**	**6.71**	**216**	*e*Pn	**Pn**	**07 52 56.4**	**-2.3**
	34nm,0.4s						
SYZ	**Scrubby Hill**	**6.77**	**207**	PN	**Pn**	**07 52 57.8**	**-1.7**
SYZ	**Scrubby Hill**	**6.77**	**207**	Pn	**Pn**	**07 52 57.8**	**-1.7**
DCZ	**Deep Cove**	**6.78**	**221**	PN	**Pn**	**07 52 56.4**	**-3.2**
DCZ	**Deep Cove**	**6.78**	**221**	Pn	**Pn**	**07 52 56.4**	**-3.2**
APZ	**The Paps**	**7.44**	**211**	Pn	**Pn**	**07 53 05.7**	**-2.7**
PYZ	**Puysegur Point**	**7.50**	**219**

TAU	Tasmania Unive	13.60	277	*e*Pn	Pn	08 21 52.3	-4.0
STKA	Stephens Creek	23.46	299	P	P	08 23 52.3	-0.8
	5.1nm,1.0s,baz=129,slow=14,SNR=2.1						
STKA				LR	LR	08 32 42.0	
	comp=Z,92nm,18.1s,baz=207,slow=36						
EIDS	Eidsvold	23.80	325	*e*P	P	08 23 58.4	+2.0
	11nm,0.9s						
ASAR	Alice Springs	34.08	300	P	P	08 25 27.9	-0.3
	2.0nm,0.6s,baz=130,slow=8.5,SNR=40						
ASAR				PcP	PcP	08 28 05.2	-0.3
	0.6nm,0.7s,baz=140,slow=4.7,SNR=5.1						
WRA	Warramunga Arr	36.69	305	P	P	08 25 49.9	-0.7
	1.0nm,0.5s,baz=137,slow=7.9,SNR=29						
WRA				PcP	PcP	08 28 13.1	-0.1
	0.7nm,0.8s,baz=141,slow=2.9,SNR=4.8						
WRAB	Tennant Creek	36.69	305	*e*P	P	08 25 49.8	-0.8
	28nm,1.5s						
H01W1	Cape Leeuwin H	40.23	267	T	T	09 09 08.2	
	baz=121,slow=75,SNR=278						
H01W2	Cape Leeuwin H	40.24	267	T	T	09 09 09.0	
	baz=121,slow=75,SNR=242						
H01W3	Cape Leeuwin H	40.24	267	T	T	09 09 08.6	
	baz=121,slow=75,SNR=270						
QSPA	South Pole Qui	44.07	180	P	P	08 26 51.5	+0.1
	3.3nm,1.0s,baz=48,slow=6.2,SNR=6.9						
QSPA	South Pole Qui	44.07	180	*e*P	P	08 26 52.1	+0.8
	25nm,1.5s						
PPT	Papeete	46.48	67	LR	LR	08 41 13.8	
	comp=Z,30nm,21.1s,baz=182,slow=29						
VNA1	Neumayer--Stat	63.53	182	P	P	08 29 13.4	+0.1
H08S2	Diego Garcia H	86.88	262	T	T	10 07 14.6	
	baz=135						
H08S1	Diego Carcia H	86.89	262	T	T	10 07 14.0	
	baz=135						
H08S3	Diego Garcia H	86.90	262	T	T	10 07 15.1	
	baz=135						
CMAR	Chiang Mai Arr	88.08	299	P	P	08 31 34.1	-0.1
	1.3nm,0.4s,baz=161,slow=2.5,SNR=7.6						
OPO	Ambohidratompo	95.15	237	LR	LR	09 07 56.9	
	comp=Z,36nm,18.6s,baz=328,slow=31						
ILAR	Eielson Array	116.48	21	PKP	PKPdf	08 37 26.1	0.0
	0.5nm,0.7s,baz=298,slow=2.8,SNR=7.0						
KURBB	Kurchatov Arra	122.17	311	PKP	PKPdf	08 37 37.1	-0.5
	0.5nm,0.4s,baz=113,slow=2.0,SNR=5.5						
KURK	Kurchatov	122.18	311	PKP	PKPdf	08 37 37.1	-0.5
YKA	Yellowknife Ar	125.20	54	PKP	PKPdf	08 37 42.9	-0.1
	0.4nm,0.8s,baz=218,slow=1.7,SNR=2.9						
TORD	Torodi Ar. Bea	144.57	207	PKP	PKPab	08 38 18.7	-0.1
	3.0nm,0.6s,baz=152,slow=2.3,SNR=37						
BRTR	Keskin Array B	144.85	277	PKP	PKPab	08 38 19.6	+0.1
	2.4nm,0.7s,baz=129,slow=3.9,SNR=14						
SPITS	Spitsbergen Ar	145.68	349	PKPbc	PKPdf	08 38 20.4	-0.1
	6.0nm,0.6s,baz=113,slow=3.3,SNR=9.3						
ARCES	ARCESS Array B	149.36	334	PKPbc	PKPbc	08 38 31.2	+0.1
	3.2nm,0.6s,baz=70,slow=4.0,SNR=18						
SUMG	Summit	151.11	15	*e*PKPbc	PKPbc	08 38 35.3	-0.5
AKASG	Malin Array Be	151.14	295	PKPbc	PKPbc	08 38 36.0	+0.1
	3.5nm,0.6s,baz=79,slow=2.5,SNR=8.2						
MLR	Muntele Rosu	152.23	284	PKPbc	PKPbc	08 38 38.8	-0.1
	0.2nm,0.4s,baz=122,slow=6.2,SNR=3.8						
FINES	FINESS Array B	152.24	318	PKPbc	PKPbc	08 38 38.4	+0.3
	2.1nm,0.7s,baz=73,slow=2.6,SNR=9.2						

GUC 13 08:24:44.0±0.6, 36°.88S×72°.76W, h41km±4km, ML4.3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
U14B	Concepcin	0.26	275	*e*	P	Pn	Pn	08 24 52.0	+0.1
U14B				*e*	S	Sn	Sn	08 24 58.5	+1.2
U14B				AML		AML	AML	08 25 00.5	
	comp=N,38μm,0.3s								
CCSP	San Pedro de C	0.28	277	*e*	P	Pn		08 24 52.6	+0.5
CCSP				*e*	S	Sn		08 24 59.0	+1.2
COCH	Cobquecura	0.75	358	*e*	P	Pn		08 24 58.7	+0.6
COCH				*e*	S	Sn		08 25 09.7	+1.4
LNCH	Linares	1.39	43	*e*	P	Pn		08 25 08.7	+1.8
TALC	Talca	1.74	32	*e*	P	Pn		08 25 14.0	+2.3
TALC				*e*	S	Sn		08 25 36.5	+3.9
NICH	Los Niches	2.25	34	*e*	P	Pn		08 25 21.3	+2.6
NICH				*e*	S	Sn		08 25 49.6	+4.4
VLCH	Valdivia	2.95	187	*e*	P	Pn		08 25 28.1	-0.2
VLCH				*e*	S	Sn		08 26 03.0	+0.6
CLCH	Cerro Calan	3.92	28	*e*	P	Pn		08 25 44.0	+2.2
CLCH				*e*	S	Sn		08 26 29.9	+3.2
CLCH				AML		AML		08 26 56.3	
	comp=N,271nm,0.3s								
PEL	Peldehue	4.10	25	*e*	P	Pn		08 25 46.8	+2.5
PEL				*e*	S	Sn		08 26 33.7	+2.7
PEL				AML		AML		08 26 55.8	
	comp=N,262nm,0.4s								

IDC 13 08:33:41.5±0.9, 29°.48N×142°.85E, h0km, mb3.7/8, mb1 3.9/10, mb1mx3.7/50, mbtmp3.6/10, ML3.7/2, Error ellipse: s-maj=25.7km s-min=20.0km az=95.0
ISCJB 13 08:33:43.2±0.7, 29°.46N±0°.06×142°.7E±0°.2, h24km, mb3.7/8, Error ellipse: s-maj=21.1km s-min=8.5km az=3.6
ISC 13 08:33:44.9±0.8, 29°.44N±0°.08×142°.7E±0°.2, h24km, n10, σ0.92/11, mb3.8/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	2.38	192	Pn		Pn	Pn	08 34 22.3	-0.2
	16nm,0.3s,baz=10,slow=19,SNR=47								
JCJ				Sn		Sn	Sn	08 34 50.0	-0.9
	26nm,0.3s,baz=276,slow=23,SNR=8.7								
MJAR	Matsushiro Arr	8.04	333	Pn		Pn	Pn	08 35 38.8	-1.4
	0.9nm,0.3s,baz=155,slow=12,SNR=7.5								
SONM	Songino Array	33.41	314	P		P	P	08 40 22.7	+1.0
	0.4nm,0.6s,baz=111,slow=7.9,SNR=5.3								
MKAR	Makanchi Array	49.39	308	P		P	P	08 42 33.3	+0.7
	0.7nm,0.6s,baz=91,slow=8.5,SNR=7.2								
WRA	Warramunga Arr	49.76	190	P		P	P	08 42 36.1	+0.5
	1.1nm,0.8s,baz=7.8,slow=7.8,SNR=11								
KURBB	Kurchatov Arra	51.77	313	P		P	P	08 42 51.0	+0.5
	0.3nm,0.3s,baz=90,slow=7.5,SNR=5.3								
ILAR	Eielson Array	55.44	29	P		P	P	08 43 16.1	-1.0
	0.3nm,0.8s,baz=262,slow=6.3,SNR=3.3								
YKA	Yellowknife Ar	69.86	29	P		P	P	08 44 53.0	-0.4
	0.4nm,0.6s,baz=298,slow=6.1,SNR=3.6								
NVAR	Mina Array Bea	78.70	52	P		P	P	08 45 46.1	+0.5
	0.9nm,0.7s,baz=276,slow=5.6,SNR=9.1								
TXAR	Lajitas Array	93.82	53	P		P	P	08 47 01.4	+0.8
	0.3nm,0.7s,baz=324,slow=2.0,SNR=5.3								

IDC 13 08:34:20.1±0.6, 29°.58N×142°.91E, h0km, mb4.0/20, mb1 4.2/23, mb1mx4.0/51, mbtmp4.0/23, ML3.8/3, MS3.2/2, Ms1 3.2/2, ms1mx2.5/38, Error ellipse: s-maj=19.4km s-min=14.8km az=82.0
ISCJB 13 08:34:21.7±0.4, 29°.53N±0°.04×142°.76E±0°.09, h22km, mb4.1/25, MS3.5/1, Error ellipse: s-maj=11.6km s-min=5.8km az=175.2
NEIC 13 08:34:21.7±0.2, 29°.59N×142°.86E, h10km, mb4.6/6, Error ellipse: s-maj=8.6km s-min=5.3km az=78.0
ISC 13 08:34:23.3±0.5, 29°.53N±0°.06×142°.8E±0°.1, h22km, n39, σ1.9/20/41, mb4.1/25, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.48	192	Pn		Pn	Pn	08 35 02.7	+0.3
CBIJ				Sn		Sn	Sn	08 35 28.8	-3.3
JCJ	Chichijima	2.48	192	Pn		Pn	Pn	08 35 02.7	+0.3
	38nm,0.3s,baz=253,slow=22,SNR=6.4								
JCJ				Sn		Sn	Sn	08 35 28.8	-3.3
	68nm,0.3s,baz=274,slow=23,SNR=7.6								
MJAR	Matsushiro Arr	7.98	332	Pn		Pn	Pn	08 36 17.1	-0.8
	1.7nm,0.3s,baz=160,slow=11,SNR=7.8								
MAJO	Matsushiro	7.98	332	*e*Pn		Pn	Pn	08 36 16.5	-1.5
	12nm,0.6s								
MAT	Matsushiro	7.98	332	P		Pn	Pn	08 36 17.6	-0.3
MAT				S		Sn	Sn	08 37 44.6	-2.9
KSRS	Korea Array	14.69	306	Pn		Pn	Pn	08 37 50.7	+0.9
	0.2nm,0.3s,baz=107,slow=13,SNR=3.5								
KSRS				LR		LR	LR	08 44 12.1	
	comp=Z,45nm,18.1s,baz=150,slow=40								
KSAR	Wonju Array Be	14.71	306	Pn		Pn	Pn	08 37 50.7	+0.6
YSS	Yuzh-Sakhalins	17.39	360	*e*P		Pn	Pn	08 38 21.6	-2.9
	19nm,0.4s								
SONM	Songino Array	33.38	313	P		P	P	08 41 00.6	+0.5
	1.1nm,0.8s,baz=116,slow=8.4,SNR=7.1								
MKAR	Makanchi Array	49.37	308	P		P	P	08 43 11.8	+0.7
	1.9nm,0.7s,baz=90,slow=9.4,SNR=13								
CTAO	Charters Tower	49.44	176	*e*P		P		08 43 11.2	-0.6
	30nm,1.6s								
WRAB	Tennant Creek	49.85	190	*e*P		P	P	08 43 15.5	+0.6
	73nm,2.4s								
WRA	Warramunga Arr	49.86	190	P		P	P	08 43 15.3	+0.3
	1.2nm,0.6s,baz=8.2,slow=7.9,SNR=12								
KURK	Kurchatov	51.69	313	P		P	P	08 43 29.6	+1.1
KURBB	Kurchatov Arra	51.75	313	P		P	P	08 43 29.6	+0.7
	1.0nm,0.5s,baz=89,slow=7.5,SNR=9.4								
ASAR	Alice Springs	53.58	190	P		P	P	08 43 43.9	+1.1
	baz=4.9,slow=6.4								
ILAR	Eielson Array	55.33	29	P		P	P	08 43 54.3	-0.7
	0.6nm,0.8s,baz=258,slow=6.2,SNR=5.6								
BVAR	Borovoye Array	56.63	316	P		P	P	08 44 04.6	0.0
	0.9nm,0.7s,baz=64,slow=9.8,SNR=3.8								
INK	Inuvik	60.60	25	P		P	P	08 44 31.6	-0.3
	1.0nm,0.6s,baz=286,slow=7.1,SNR=5.9								
STKA	Stephens Creek	61.08	181	P		P	P	08 44 36.0	+0.5
	2.5nm,0.9s,baz=326,slow=7.3,SNR=3.0								
ILAR	Akbulak array	63.79	314	*e*P		P	P	08 44 54.4	+0.8
ABKAR	1.7nm,0.6s								
AKTO	Aktyubinsk	64.67	315	P		P	P	08 44 59.9	+0.5
	1.1nm,0.7s,baz=69,slow=8.6,SNR=4.4								
YKA	Yellowknife Ar	69.76	29	P		P	P	08 45 31.2	-0.2
	0.6nm,0.6s,baz=296,slow=6.3,SNR=5.9								
ARCES	ARCESS Array B	71.42	341	P		P	P	08 45 41.9	+0.5
	3.0nm,0.9s,baz=58,slow=6.7,SNR=4.3								
FINES	FINESS Array B	76.00	334	P		P	P	08 46 08.9	+0.5
	1.5nm,0.9s,baz=58,slow=7.2,SNR=4.3								
KBZ	Khabaz	76.75	313	P		P	P	08 46 13.9	+0.9
	1.7nm,0.6s,baz=72,slow=7.9,SNR=4.2								
CMB	Columbia Colle	77.34	53	*e*P		P	P	08 46 17.5	+1.0
	1.5nm,0.7s								
NVAR	Mina Array Bea	78.61	52	P		P	P	08 46 23.4	-0.4
	1.3nm,0.7s,baz=282,slow=5.3,SNR=13								
AKASG	Malin Array Be	80.97	324	P		P	P	08 46 36.6	+0.6
	0.3nm,0.3s,baz=46,slow=5.7,SNR=5.4								
HFS	Hagfors	81.40	337	P		P	P	08 46 38.5	+0.3
	1.5nm,0.6s,baz=101,slow=4.7,SNR=3.4								
DUG	Dugway	81.42	49	*e*P		P	P	08 46 39.3	+0.5
	3.0nm,0.9s								
NOA	NORSAR Array B	81.55	338	P		P	P	08 46 39.2	+0.2
	0.8nm,0.8s,baz=92,slow=7.2,SNR=3.4								
PDAR	Pinedale Array	82.12	45	P		P	P	08 46 42.6	0.0
	0.7nm,1.0s,baz=278,slow=2.6,SNR=4.4								
BRTR	Keskin Array B	84.74	313	P		P	P	08 46 56.7	+0.7
	1.1nm,0.8s,baz=121,slow=4.8,SNR=5.4								
DAVOX	Davos/Dischmat	92.95	330	LR		LR		09 35 46.1	
	comp=Z,18nm,18.6s,baz=79,slow=40								
TXAR	Lajitas Array	93.73	53	P		P	P	08 47 38.9	0.0
	0.7nm,0.8s,baz=305,slow=2.7,SNR=8.7								
TORD	Torodi Ar. Bea	123.35	313	PKP		PKPdf		08 53 19.5	+0.2
	0.2nm,0.6s,baz=1.5,slow=1.9,SNR=2.5								
LPAZ	La Paz	148.77	7	PKPbc		PKPbc		08 54 10.2	-0.1
	1.3nm,0.8s,baz=340,slow=1.8,SNR=4.8								
LPAZ	La Paz	148.73	72	*e*PKPbc		PKPbc		08 54 11.9	+1.6

IDC 13 08:39:01.5±1.4, 7°.72N×92°.09E, h0km, mb3.9/8, mb1 3.9/10, mb1mx3.7/30, mbtmp3.9/10, ML4.2/2, MS3.4/17, Ms1 3.4/17, ms1mx3.3/32, Error ellipse: s-maj=49.1km s-min=16.8km az=55.0
ISCJB 13 08:39:02.2±0.6, 7°.54N±0°.09×92°.0E±0°.1, h24km, mb4.0/14, MS3.5/15, Error ellipse: s-maj=19.4km s-min=5.7km az=138.2
NEIC 13 08:39:05.8±0.6, 7°.63N×91°.99E, h35km, mb4.4/5, Error ellipse: s-maj=14.4km s-min=8.7km az=48.0
ISC 13 08:39:04.3±0.7, 7°.63N±0°.09×91°.99E±0°.09, h24km, n36, σ0.96/21, mb3.9/14, MS3.4/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	8.40	138	*e*Pn		Pn	Pn	08 41 04.3	-0.3
GSI				*e*Sn		Sn	Sn	08 42 38.0	-0.7
PSI	Prapat	8.41	124	Pn		Pn	Pn	08 41 05.7	+0.8
	1.5nm,0.3s,baz=304,slow=15,SNR=4.3								
PSI				Sn		Sn	Sn	08 42 38.6	-0.6
	0.7nm,0.3s,baz=227,slow=19,SNR=3.7								
PALK	Pallekele	11.20	269	Pn		Pn		08 41 38.7	-4.4
	6.1nm,0.3s,baz=88,slow=13,SNR=20								
PALK				Sn		Sn		08 43 28.7	-19
	9.6nm,0.3s,baz=188,slow=19,SNR=9.0								
PALK				LR		LR		08 45 31.2	
	comp=Z,130nm,21.9s,baz=80,slow=34								
PALK	Pallekele	11.20	269	*e*Pn		Pn		08 41 41.8	-1.3
PALK				Sn		Sn		08 43 28.7	-19
CMAR	Chiang Mai Arr	12.71	31	Pn		Pn		08 42 01.8	-1.9
	0.7nm,0.3s,baz=224,slow=14,SNR=14								
CMAR				LR		LR		08 47 13.0	
	comp=Z,105nm,18.9s,baz=214,slow=39								
QIZ	Qiongzhong	20.71	55	*e*P		P		08 43 43.6	+0.4
H08S3	Diego Garcia H	24.66	232	T		T		09 10 32.6	
	baz=52,slow=76,SNR=218								
H08S2	Diego Garcia H	24.66	232	T		T		09 10 32.0	
	baz=52,slow=76,SNR=69								
H08S1	Diego Carcia H	24.68	232	T		T		09 10 31.5	
	baz=52,slow=76,SNR=62								
EKS2	Erkin-Say	38.40	338	*e*P		P	P	08 46 24.9	+0.8
	3.0nm,0.7s								
MKAR	Makanchi Array	39.90	350	P		P	P	08 46 35.8	-0.5
	2.3nm,1.0s,baz=170,slow=8.0,SNR=8.7								
KKAR	Karatay Array	40.05	335	*e*P		P	P	08 46 37.3	-0.4
	0.8nm,0.6s								
SONM	Songino Array	41.90	15	P		P	P	08 46 52.8	-0.1
	1.9nm,0.8s,baz=195,slow=8.2,SNR=13								
SONM				LR		LR		09 06 49.9	
	comp=Z,82nm,20.2s,baz=206,slow=40								
GEYT	Alibeck	42.98	320	P		P	P	08 47 02.7	+0.9
	1.3nm,0.5s,baz=123,slow=7.4,SNR=3.6								
KURBB	Kurchatov Arra	44.29	348	P		P	P	08 47 12.2	+0.1
	1.7nm,0.9s,baz=168,slow=6.8,SNR=8.8								
KURK	Kurchatov	44.36	348	*e*P		P	P	08 47 12.8	+0.1
	2.0nm,0.3s								
ZALV	Zalesovo Beam	46.55	354	P		P	P	08 47 30.6	+0.7
	1.1nm,0.5s,baz=177,slow=8.2,SNR=4.1								
ZALV				LR		LR		09 11 03.0	
	comp=Z,34nm,19.9s,baz=250,slow=41								
BVAR	Borovoye Array	48.56	343	P		P	P	08 47 47.5	+1.9
	0.6nm,0.5s,baz=151,slow=9.2,SNR=3.1								
ABKAR	Akbulak array	49.44	333	*e*P		P	P	08 47 53.6	+1.2
	2.4nm,0.6s								
WRA	Warramunga Arr	49.88	124	P		P	P	08 47 57.1	+0.9
	0.2nm,0.3s,baz=306,slow=7.8,SNR=22								
WRAB	Tennant Creek	49.88	124	*e*P		P	P	08 47 57.4	+1.2
	12nm,1.3s								
MJAR	Matsushiro Arr	50.91	49	LR		LR		09 11 32.3	
	comp=Z,26nm,18.6s,baz=265,slow=38								
AKTO	Aktyubinsk	51.16	333	P		P	P	08 48 05.5	+0.1
	0.4nm,0.3s,baz=138,slow=10,SNR=2.3								
ASAR	Alice Springs	51.42	128	P		P	P	08 48 07.8	0.0
	baz=304,slow=8.0								
BRTR	Keskin Array B	60.98	311	LR		LR		09 16 27.3	
	comp=Z,23nm,21.9s,baz=119,slow=37								
STKA	Stephens Creek	61.50	132	LR		LR		09 18 26.2	
	comp=Z,54nm,18.3s,baz=208,slow=38								
AKASG	Malin Array Be	67.03	322	LR		LR		09 23 32.7	
	comp=Z,19nm,20.5s,baz=140,slow=40								
PETK	Petropavlovsk-	69.44	36	LR		LR		09 22 09.1	
	comp=Z,20nm,18.3s,baz=230,slow=37								
FINES	FINESS Array B	71.93	333	P		P		08 50 33.1	+7.6
	1.2nm,0.7s,baz=111,slow=7.6,SNR=5.1								
FINES				LR		LR		09 24 04.4	
	comp=Z,21nm,20.6s,baz=262,slow=38								
BOSA	Boshof	73.66	237	LR		LR		09 21 49.6	
	comp=Z,69nm,18.1s,baz=119,slow=35								
ARCES	ARCESS Array B	74.77	340	LR		LR		09 25 36.2	
	comp=Z,52nm,21.4s,baz=90,slow=37								
GERES	GERESS Array B	76.59	318	LR		LR		09 29 12.7	
	comp=Z,14nm,18.3s,baz=100,slow=39								
HFS	Hagfors	77.59	330	LR		LR		09 27 52.5	
	comp=Z,23nm,19.3s,baz=80,slow=38								
NOA	NORSAR Array B	78.89	331	LR		LR		09 29 29.1	
	comp=Z,24nm,19.6s,baz=50,slow=38								
SPITS	Spitsbergen Ar	79.64	348	LR		LR		09 35 29.5	
	comp=Z,15nm,18.1s,baz=60,slow=43								
JMIC	Jan Mayen	86.25	341	LR		LR		09 31 40.8	
	comp=Z,16nm,20.4s,baz=90,slow=37								

CSEM 13 08:46:39.4, 12°.00N×43°.89E, h4km, ML3.8
DHMR 13 08:46:39.4±1.7, 12°.00N×43°.89E, h4km±27km, ML3.8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LBOS		2.28	35	*i*	P		Pb	08 47 20.0	-1.6
LBOS				*i*	S		Sb	08 47 51.8	+1.3
BDHA	Al Bayda'	2.56	40	*i*	P		Pn	08 47 23.2	+1.3
BDHA				*i*	S		Sb	08 47 59.0	+0.8
BDHA				AML			AML	08 48 05.4	
	comp=E,554nm,0.5s								
BDHA	Al Bayda'	2.56	40	*i*	P		Pn	08 47 23.2	+1.2
BDHA				*i*	S		Sb	08 47 59.0	+0.8
	comp=E,277nm,0.5s								
DHBB	Dhamar BB	2.60	11	*i*	P		Pn	08 47 24.5	+1.8
DHBB				*i*	S		Sb	08 48 00.6	+0.8
HAJJ	Hajjah	3.69	356	*i*	P		Pn	08 47 40.9	+3.4
HAJJ				*i*	S		Sb	08 48 26.4	-4.4
HAJJ				AML			AML	08 48 44.1	
	comp=Z,477nm,0.8s								
HAJJ	Hajjah	3.69	356	*i*	P		Pn	08 47 40.9	+3.4
HAJJ				*i*	S		Sb	08 48 26.4	-4.4
	comp=Z,238nm,0.8s								

WEL 13 08:50:54.6±0.3, 38°.42S×175°.88E, h173km±2km, ML3.5/5, 20C-2D, Error ellipse: s-maj=1.9km s-min=1.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TLZ	Tolley Road	0.28	288	↑P		Pn	Pn	08 51 18.1	+0.2
TLZ				*e*S		Sn	Sn	08 51 36.4	+0.7
ALRZ	Allen Road	0.39	112	Pn		Pn	Pn	08 51 17.8	-0.4
ALRZ				*e*S		Sn	Sn	08 51 35.8	-0.5
RATZ	Rangitukua	0.46	191	↑Pn		Pn	Pn	08 51 18.3	-0.2
RATZ				*e*S		Sn	Sn	08 51 36.5	-0.4
KATZ	Kakaramea	0.58	195	Pn		Pn	Pn	08 51 19.1	0.0
KRVZ	Karewarewa	0.70	195	Pn		Pn	Pn	08 51 19.5	-0.3
KRVZ				*e*S		Sn	Sn	08 51 38.1	-1.2
WTVZ	West Tongariro	0.74	198	Pn		Pn	Pn	08 51 19.8	-0.1
WTVZ				*e*S		Sn	Sn	08 51 39.2	-1.2
TWVZ	Taurewa	0.74	208	↑Pn		Pn	Pn	08 51 19.8	+0.1
OTVZ	Oturere	0.77	193	Pn		Pn	Pn	08 51 20.1	-0.1
OTVZ				*e*S		Sn	Sn	08 51 39.8	-0.2
NGZ	Ngauruhoe	0.79	196	Pn		Pn	Pn	08 51 20.2	-0.1
HIZ	Hauiti	0.81	263	↓Pn		Pn	Pn	08 51 20.2	0.0
HIZ				*e*S		Sn	Sn	08 51 40.4	+0.4
COVZ	Chateau Observ	0.83	199	Pn		Pn	Pn	08 51 20.4	-0.1
WPVZ	Whakapapa	0.83	198	↑Pn		Pn	Pn	08 51 20.5	-0.1
TUVZ	Tukino	0.87	192	↑Pn		Pn	Pn	08 51 20.8	-0.1
FWVZ	Far West T-bar	0.88	197	↑Pn		Pn	Pn	08 51 20.8	-0.2
BKZ	Black Stump Fm	0.89	148	Pn		Pn	Pn	08 51 20.5	-0.3
BKZ				*e*S		Sn	Sn	08 51 39.5	-1.7
WHVZ	Whangaehu Hut	0.90	195	↑Pn		Pn	Pn	08 51 21.0	-0.2
TRVZ	Turoa	0.92	196	Pn		Pn	Pn	08 51 21.1	-0.2
TRVZ				*e*S		Sn	Sn	08 51 43.2	+1.2
WNVZ	Wahianoa	0.94	194	↑Pn		Pn	Pn	08 51 21.2	-0.2
WNVZ				*e*S		Sn	Sn	08 51 41.7	-0.4
PKVZ	Pokaka	0.97	205	↑Pn		Pn	Pn	08 51 21.2	-0.2
URZ	Urewera	0.98	81	↑Pn		Pn	Pn	08 51 20.8	-0.6
URZ				*e*S		Sn	Sn	08 51 39.6	-2.4
URZ				AML		AML	AML	08 51 40.4	
NMHZ	Naumai	0.99	134	Pn		Pn	Pn	08 51 22.3	+0.6
NMHZ				*e*S		Sn	Sn	08 51 42.6	+0.1
MOVZ	Moawhango	1.00	186	↑Pn		Pn	Pn	08 51 21.2	-0.5
MTVZ	Mangateitei	1.02	198	Pn		Pn	Pn	08 51 21.7	-0.2
RAHZ	Arahi	1.07	118	Pn		Pn	Pn	08 51 22.5	+0.3
BHHZ	Black Hill Sta	1.08	173	↑Pn		Pn	Pn	08 51 21.9	-0.4
KWHZ	Kawera Forest	1.09	157	↑Pn		Pn	Pn	08 51 22.4	0.0
VRZ	Vera Road	1.13	231	Pn		Pn	Pn	08 51 22.5	-0.1
VRZ				*e*S		Sn	Sn	08 51 44.0	-0.2
SNGZ	Shannon Statio	1.20	108	Pn		Pn	Pn	08 51 23.5	+0.2
RAGZ	Rawiri	1.21	94	Pn		Pn	Pn	08 51 22.9	-0.5
MCHZ	McNeill Hill	1.21	149	Pn		Pn	Pn	08

*IDC **13** 09:02:31.6±2.5,5°.60S×103°.26E,h0km,mb4.0/5, mb1 4.1/5,mb1mx3.7/30,mbtmp4.0/5,MS3.1/1,Ms1 3.1/1, ms1mx2.4/28,Error ellipse: s-maj=124.6km s-min=21.2km az=57.0*

*ISCJB **13** 09:02:35.8±0.8,5°.78S±0°.06×103°.27E±0°.05,h47km, mb4.0/5,Error ellipse: s-maj=9.1km s-min=6.7km az=26.4*

*DJA **13** 09:02:35.6±0.9,6°.5±4°×10°.3E±°,h13km±9km,M4.3/12, MLv4.3/12*

ISC 13 09:02:38.0±0.9,5°.70S±0°.08×103°.35E±0°.06,h47km,n20, σ1§07/21,mb3.9/5,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LWLI	**Liwa**	**0.98**	**46**	P	**Pn**	**09 02 53.8**	**-1.8**
LWLI				S	**Sn**	**09 03 08.0**	**-0.5**
KASI	**Kota Agung**	**1.16**	**81**	P	**Pn**	**09 02 56.6**	**-1.3**
KASI				S	**Sn**	**09 03 13.1**	**+0.5**
MNAI	**Manna**	**1.39**	**344**	P	**Pn**	**09 02 59.1**	**-1.9**
MNAI				S	**Sn**	**09 03 18.2**	**0.0**
MDSI	**Maura Dua**	**1.47**	**35**	P	**Pn**	**09 03 01.4**	**-0.7**
MDSI				S	**Sn**	**09 03 21.6**	**+1.5**
KLSI		**1.71**	**54**	P	**Pn**	**09 03 05.2**	**-0.2**
KLI	**Kotabumi**	**1.72**	**61**	P	**Pn**	**09 03 06.1**	**+0.6**
LHSI	**Lahat**	**1.87**	**5**	P	**Pn**	**09 03 08.9**	**+1.3**
KSI	**Kapahiang**	**2.17**	**340**	P	**Pn**	**09 03 12.9**	**+1.1**
CGJI	**Cibinong**	**2.50**	**111**	P	**Pn**	**09 03 15.9**	**-0.4**
LEM	**Lembang**	**4.39**	**105**	Pn	Pn	09 03 48.5	+6.1
	7.4nm,0.3s,baz=319,slow=20,SNR=4.7						
LEM				LR	LR	09 05 55.5	
	comp=Z,194nm,19.0s,baz=342,slow=45						
PPSI	**Pulau Pagai**	**4.43**	**311**	P	**Pn**	**09 03 42.2**	**-0.5**
H08S2	**Diego Garcia H**	**30.70**	**265**	T	T	09 41 26.4	
	baz=85						
H08S3	**Diego Garcia H**	**30.71**	**265**	T	T	09 41 23.7	
	baz=85						
H08S1	**Diego Garcia H**	**30.72**	**265**	T	T	09 41 23.0	
	baz=85						
WRA	**Warramunga Arr**	**33.28**	**118**	P	**P**	**09 09 11.2**	**-0.2**
	0.9nm,0.7s,baz=290,slow=10,SNR=6.9						
WRA				PcP	**PcP**	**09 11 53.8**	**+0.8**
	0.2nm,0.4s,baz=313,slow=1.9,SNR=3.6						
STKA	**Stephens Creek**	**44.22**	**131**	P	**P**	**09 10 44.2**	**+1.4**
	6.7nm,0.7s,baz=301,slow=7.3,SNR=11						
SONM	**Songino Array**	**53.38**	**3**	P	**P**	**09 11 52.8**	**-0.2**
	0.3nm,0.4s,baz=183,slow=7.9,SNR=3.1						
MKAR	**Makanchi Array**	**55.50**	**343**	P	**P**	**09 12 07.1**	**-1.2**
	0.6nm,0.5s,baz=143,slow=7.9,SNR=5.8						
ZALV	**Zalesovo Beam**	**61.44**	**348**	P	**P**	**09 12 48.4**	**-1.0**
	0.9nm,0.3s,baz=175,slow=5.6,SNR=3.4						
TXAR	**Lajitas Array**	**145.31**	**44**	PKPbc	**PKPdf**	**09 22 11.8**	**+0.2**
	0.7nm,0.7s,baz=262,slow=1.3,SNR=12						

*MOS **13** 09:53:39.0±1.5,49°.10N×156°.10E,h49km,mb4.3/1,Error ellipse: s-maj=81.6km s-min=7.8km az=76.1*

*KRSC **13** 09:53:41.0±3.4,49°.34N×156°.86E,h40km±28km,ML4.5*

ISC 13 09:53:41.3±4.5,49°.2N±0°.2×156°.6E±0°.2,h34km,n31, σ1§81/34,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.55**	**349**	*e*P	**Pn**	09 54 02.6	-3.8
SKR				*e*S	**Sn**	**09 54 20.1**	**-5.2**
SKR	**Severo-Kuril's**	**1.55**	**349**	*e*PN	Pn	09 53 50.1	-16
SKR				pmax	pmax		
	comp=N,110nm,0.4s						
SKR				pmax	pmax		
	comp=Z,120nm,0.4s						
SKR				pmax	pmax		
	comp=E,130nm,0.2s						
ASAK	**Asacha**	**3.33**	**14**	*e*P	**Pn**	**09 54 31.7**	**+0.7**
MTVR	**Mutnovka**	**3.47**	**16**	*e*P	**Pn**	**09 54 33.5**	**+0.5**
MTVR				*e*S	**Sn**	**09 55 13.7**	**+0.7**
RUS	**Russkaya**	**3.49**	**20**	*e*P	**Pn**	**09 54 33.3**	**+0.1**
RUS				*e*S	**Sn**	**09 55 13.6**	**+0.3**
RUS	**Russkaya**	**3.49**	**20**	PN	**Pn**	**09 54 33.3**	**+0.1**
RUS				S	**Sn**	**09 55 13.6**	**+0.3**
PET	**Petropavlovsk**	**4.08**	**18**	*e*P	**Pn**	**09 54 42.4**	**+1.2**
PET	**Petropavlovsk**	**4.08**	**18**	*e*PN	**Pn**	**09 54 43.1**	**+1.9**
PET				*e*S	**Sn**	**09 55 29.8**	**+2.1**
PET				pmax	pmax		
	comp=Z,18nm,0.4s						
PET				smax	smax		
	comp=N,65nm,0.6s						
PET				smax	smax		
	comp=E,74nm,0.6s						
UGLR	**Uglovaya**	**4.29**	**18**	*e*P	**Pn**	**09 54 46.1**	**+1.9**
AVH	**Avacha**	**4.32**	**17**	*e*P	**Pn**	**09 54 47.0**	**+2.4**
AVH	**Avacha**	**4.32**	**17**	PN	**Pn**	**09 54 47.0**	**+2.4**
KOK	**Koryaka**	**4.33**	**17**	*e*P	**Pn**	**09 54 46.5**	**+1.8**
KOK	**Koryaka**	**4.33**	**17**	PN	**Pn**	**09 54 46.5**	**+1.8**
SMAR	**Somma**	**4.33**	**18**	*e*P	**Pn**	**09 54 46.2**	**+1.3**
SMAR	**Somma**	**4.33**	**18**	PN	**Pn**	**09 54 46.2**	**+1.3**
KRER	**Koryakskii**	**4.36**	**17**	*e*P	**Pn**	**09 54 47.0**	**+1.7**
SDLR	**Sedlovina**	**4.37**	**18**	*e*P	**Pn**	**09 54 45.8**	**+0.5**
SDLR	**Sedlovina**	**4.37**	**18**	PN	**Pn**	**09 54 45.8**	**+0.5**
NLC	**Nalytchevo**	**4.37**	**22**	*e*S	**Sn**	**09 55 35.4**	**+0.5**
KRX	**Arik**	**4.40**	**16**	*e*P	**Pn**	**09 54 47.4**	**+1.7**
SPN	**Mys Shipunski**	**4.50**	**28**	*e*P	**Pn**	**09 54 47.8**	**+0.9**
SPN	**Mys Shipunski**	**4.50**	**28**	PN	**Pn**	**09 54 47.8**	**+0.9**
GNL	**Ganaly**	**4.62**	**10**	*e*P	**Pn**	**09 54 49.9**	**+1.2**
GNL	**Ganaly**	**4.62**	**10**	PN	**Pn**	**09 54 49.9**	**+1.2**
MKZ	**Mys Kozlova**	**6.27**	**29**	*e*P	**Pn**	**09 55 11.0**	**-0.2**
MKZ	**Mys Kozlova**	**6.27**	**29**	PN	**Pn**	**09 55 11.0**	**-0.2**
TUMR	**Tumrok**	**6.51**	**18**	*e*P	**Pn**	**09 55 16.7**	**+2.1**
TUMR	**Tumrok**	**6.51**	**18**	PN	**Pn**	**09 55 16.7**	**+2.1**
KBTR	**Krutoberegovo**	**8.01**	**26**	*e*P	**Pn**	**09 55 35.1**	**0.0**
KBTR	**Krutoberegovo**	**8.01**	**26**	PN	**Pn**	**09 55 35.1**	**0.0**
BKI	**Bering**	**8.35**	**40**	*e*S	**Sn**	**09 57 08.4**	**-4.4**

MEX 13 10:02:10.9±0.5,16°.02N×97°.53W,h16km±6km,MD4.3, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.68**	**303**	*e*P	Pg	10 02 21.8	-2.6
PNIG				*i* S	Sg	10 02 30.4	-3.1
VHO	**Vista Hermosa**	**1.30**	**36**	*i* P	Pn	10 02 30.8	-3.9
VHO				*i* S	Sb	10 02 46.3	-5.7
HUIG	**Huatulco**	**1.39**	**100**	*e*P	Pn	10 02 32.3	-3.4
HUIG				*e*S	Sn	10 02 48.5	-5.2
TLIG	**Tlapa**	**1.83**	**327**	*i* P	Pn	10 02 39.2	-2.7
TLIG				*i* S	Sn	10 03 00.1	-4.8

KMA 13 10:30:44.8,38°.00N×128°.76E,h8km,6C-3D,South Korea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSJMJ	**Jumunjin**	**0.12**	**182**	⇑P	Pg	10 30 46.8	-0.6
	SNR=142						
KSDGY	**Daegwallycong**	**0.31**	**193**	⇓P	Pg	10 30 50.6	-0.5
KSDGY				⇓S	Sb	10 30 59.2	+1.1
KSSKC	**Sokcho**	**0.35**	**327**	⇑P	Pg	10 30 50.9	-0.7
SEHB	**SEOHWA**	**0.48**	**304**	⇑P	Pg	10 30 53.7	-0.6
	SNR=31						
SEHB	**SEOHWA**	**0.48**	**304**	⇑P	Pg	10 30 53.7	-0.6
	SNR=31						
SEHB				⇓S	Sb	10 31 05.4	+2.5
KSIJA	**INJE**	**0.51**	**269**	⇑P	Pg	10 30 54.5	-0.3
	SNR=10.0						
KSIJA	**INJE**	**0.51**	**269**	⇑P	Pg	10 30 54.5	-0.3
	SNR=10.0						
KSCHC	**Chuncheon**	**0.78**	**254**	P	Pg	10 30 59.6	-0.3
	SNR=33						
KSCHC	**Chuncheon**	**0.78**	**254**	P	Pg	10 30 59.6	-0.3
	SNR=33						
KSTBA	**Taebaek**	**0.89**	**170**	P	Pb	10 31 02.8	+0.2
	SNR=13						
KSCHJ	**Chungju**	**1.28**	**209**	P	Pn	10 31 09.1	0.0
	SNR=7.4						
KSULJ	**Uljin**	**1.39**	**158**	P	Pn	10 31 10.0	-0.5
	SNR=17						
YNCB	**YEONCHEON**	**1.45**	**272**	P	Pb	10 31 12.0	-0.1
	SNR=11						

*ISCJB **13** 10:33:12.9±0.3,10°.65N±0°.03×62°.52W±0°.03,h99km±3km, mb3.7/11,Error ellipse: s-maj=5.3km s-min=3.1km az=138.1*

*TRN **13** 10:33:15.5,10°.66N×62°.36W,h100km,MD4.2*

*NEIC **13** 10:33:15.8,10°.61N×62°.47W,h83km,MD4.2(TRN), MW4.0(CAR),After CAR.*

*FUNV **13** 10:33:15.8,10°.61N×62°.47W,h83km,MW4.0*

*IDC **13** 10:33:16.1±2.8,10°.78N×62°.65W,h109km±32km,mb3.5/11, mb1 3.6/12,mb1mx3.5/40,mbtmp3.8/12,Error ellipse: s-maj=47.1km s-min=20.5km az=18.0*

ISC 13 10:33:13.8±0.7,10°.63N±0°.03×62°.51W±0°.03,h99km±6km, n61,σ1§63/86,mb3.8/11,2C-1D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUNV	**Guanoco**	**0.64**	**223**	*e*P	**Pn**	**10 33 31.2**	**+0.7**
GUNV				*e*S	**Sn**	**10 33 42.6**	**-0.5**
CRUV	**Carupano**	**0.72**	**273**	⇑*i*P	**Pn**	**10 33 30.8**	**-0.5**
TCE	**Chacachacare**	**0.74**	**85**	*e*P	**Pn**	**10 33 32.5**	**+0.9**
TCE	**Chacachacare**	**0.74**	**85**	*e*P	**Pn**	**10 33 32.5**	**+0.9**
TPP	**Pointe-a-Pierr**	**1.08**	**107**	*e*P	**Pn**	**10 33 36.1**	**+1.1**
TPP				*e*S	**Sn**	**10 33 50.5**	**-0.6**
TPP	**Pointe-a-Pierr**	**1.08**	**107**	*e*P	**Pn**	**10 33 36.1**	**+1.1**
TPP				*e*S	**Sn**	**10 33 50.5**	**-0.6**
TRN	**Trinidad (W)**	**1.08**	**89**	*e*P	**Pn**	**10 33 35.7**	**+0.6**
TRN				*e*S	**Sn**	**10 33 49.5**	**-1.5**
TRN	**Trinidad (W)**	**1.08**	**89**	*e*P	**Pn**	**10 33 35.7**	**+0.6**
TRN				*e*S	**Sn**	**10 33 49.5**	**-1.5**
GRGR	**Grenville**	**1.71**	**29**	⇑*i*P	**Pn**	**10 33 42.5**	**-0.2**
GRGR				*e*S	**Sn**	**10 34 03.5**	**-1.1**
GRGR	**Grenville**	**1.71**	**29**	*i* Pn	**Pn**	**10 33 42.1**	**-0.6**
GRGR				*e*Sn	**Sn**	**10 34 03.5**	**-1.1**
ORIV	**Oritupano**	**1.79**	**210**	⇓*e*P	**Pn**	**10 33 44.8**	**+1.1**
ORIV				*e*S	**Sn**	**10 34 05.5**	**-0.9**
TOSP	**Speyside**	**2.04**	**71**	*e*P	**Pn**	**10 33 46.3**	**-0.7**
TOSP				*e*S	**Sn**	**10 34 10.3**	**-2.0**
PCRV	**Puerto La Cruz**	**2.15**	**258**	P	**Pn**	**10 33 49.0**	**+0.7**
	24nm,0.3s,baz=87,slow=3.0,SNR=210						
PCRV				S	**Sn**	**10 34 13.5**	**-1.2**
	54nm,0.3s,baz=6.7,slow=20,SNR=42						
PCRV	**Puerto La Cruz**	**2.15**	**258**	*e*P	**Pn**	**10 33 49.0**	**+0.7**
PCRV				*e*S	**Sn**	**10 34 13.5**	**-1.2**
RIOV	**Rio Grande**	**2.64**	**165**	*e*P	**Pn**	**10 33 55.6**	**+0.8**
RIOV				*e*S	**Sn**	**10 34 24.9**	**-1.3**
FCV	**Fort Charlotte**	**2.80**	**26**	*e*P	**Pn**	**10 33 57.4**	**+0.6**
FCV				*e*S	**Sn**	**10 34 29.0**	**-1.0**
FCV	**Fort Charlotte**	**2.80**	**26**	*e*P	**Pn**	**10 33 56.4**	**-0.5**
FCV				*e*S	**Sn**	**10 34 29.0**	**-1.0**
PRGV	**PARIAGUAN**	**2.81**	**229**	*e*P	**Pn**	**10 33 57.8**	**+0.7**
PRGV				*e*S	**Sn**	**10 34 29.9**	**-0.5**
SVB	**Belmont**	**2.90**	**25**	*e*P	**Pn**	**10 33 59.0**	**+0.7**
SVB				*e*S	**Sn**	**10 34 31.7**	**-0.7**
SVB	**Belmont**	**2.90**	**25**	*e*P	**Pn**	**10 33 57.8**	**-0.4**
SVB				*e*S	**Sn**	**10 34 31.7**	**-0.7**
SVV	**Soufriere Volc**	**2.95**	**25**	*e*P	**Pn**	**10 33 59.2**	**+0.2**
SVV				*e*S	**Sn**	**10 34 32.2**	**-1.6**
SVV	**Soufriere Volc**	**2.95**	**25**	*e*P	**Pn**	**10 34 00.0**	**+1.0**
SVV				*e*S	**Sn**	**10 34 31.2**	**-2.6**
MCLT	**Moule a Chique**	**3.42**	**26**	*e*P	**Pn**	**10 34 05.3**	**+0.1**
MCLT				*e*S	**Sn**	**10 34 42.2**	**-2.7**
MCLT	**Moule a Chique**	**3.42**	**26**	*e*P	**Pn**	**10 34 05.3**	**+0.1**
MCLT				*e*S	**Sn**	**10 34 42.2**	**-2.7**
BIRV	**Birongo**	**3.71**	**268**	*e*P	**Pn**	**10 34 10.5**	**+1.4**
BIRV				*e*S	**Sn**	**10 34 50.8**	**-1.0**
MERV	**Las Mercedes**	**3.98**	**250**	*e*P	**Pn**	**10 34 13.3**	**+0.6**
MERV				*e*S	**Sn**	**10 34 56.3**	**-2.1**
H05S1	**Guadeloupe/Mar**	**4.11**	**23**	P	**Pn**	**10 34 16.7**	**+2.2**
H05S1				S	**Sn**	**10 34 59.5**	**-2.0**
BIM	**Bigot**	**4.11**	**20**	*e*P	**Pn**	**10 34 16.0**	**+1.4**
BIM				*e*S	**Sn**	**10 34 58.8**	**-2.7**
TRMF	**Trois Ilets**	**4.13**	**20**	*e*P	**Pn**	**10 34 15.7**	**+0.9**
ZAM	**Aeronautique**	**4.17**	**20**	*e*P	**Pn**	**10 34 16.4**	**+1.0**
LPMF	**Morne Lapointe**	**4.20**	**21**	*e*P	**Pn**	**10 34 16.8**	**+1.1**
MVM	**Montagne Vaucl**	**4.20**	**22**	*e*P	**Pn**	**10 34 17.0**	**+1.2**
FUNV	**FUNVISIS**	**4.24**	**268**	*e*P	**Pn**	**10 34 17.4**	**+1.0**
FUNV				*e*S	**Sn**	**10 35 03.3**	**-1.6**
FDF	**Fort de France**	**4.29**	**18**	*e*P	**Pn**	**10 34 17.5**	**+0.6**
FDF				*e*S	**Sn**	**10 34 59.9**	**-6.0**
LUEV	**Luepa**	**4.87**	**168**	*e*P	**Pn**	**10 34 24.2**	**-0.8**
LUEV				*e*S	**Sn**	**10 35 16.2**	**-4.0**
TURV	**Turiamo**	**5.25**	**269**	*e*P	**Pn**	**10 34 31.0**	**+1.0**
BAUV	**El Baul**	**5.71**	**253**	*e*P	**Pn**	**10 34 35.9**	**-0.3**
BAUV				*e*S	**Sn**	**10 35 36.2**	**-4.3**
H05N1	**Guadeloupe/Mar**	**5.82**	**14**	P	**Pn**	**10 34 38.9**	**+1.1**
	SNR=6.6						
MONV	**Montecano**	**7.44**	**281**	*e*P	**Pn**	**10 35 00.8**	**+1.0**
STVI	**Saint Thomas**	**8.03**	**343**	*e*Pn	**Pn**	**10 35 07.5**	**-0.3**
SOCV	**Socops**	**8.56**	**255**	*e*P	**Pn**	**10 35 14.3**	**-0.8**
CRPR	**Cabo Rojo, PR**	**8.58**	**329**	*e*Pn	**Pn**	**10 35 15.7**	**+0.5**
PTGA	**Pitinga**	**11.57**	**167**	P	**Pn**	**10 35 53.9**	**-1.9**
	7.1nm,0.3s,baz=350,slow=16,SNR=57						
PTGA				S	**Sn**	**10 37 57.8**	**-5.3**
	3.3nm,0.3s,baz=333,slow=20,SNR=5.7						
H07N1	**FLORES T-PHASE**	**40.17**	**39**	T	T	11 15 37.2	
	SNR=4.0						
TXAR	**Lajitas Array**	**42.64**	**302**	P	**P**	**10 41 01.7**	**+0.8**
	0.2nm,0.7s,baz=119,slow=9.4,SNR=4.0						
TXAR				pP	**pP**	**10 41 25.9**	**+1.8**
	0.2nm,0.6s,baz=102,slow=8.6,SNR=2.6						
TXAR				PcP	**PcP**	**10 42 51.5**	**+0.2**
	0.2nm,0.6s,baz=106,slow=5.2,SNR=3.5						
SCHQ	**Schefferville**	**44.22**	**356**	P	**P**	**10 41 13.9**	**+0.8**
	0.9nm,0.3s,baz=138,slow=12,SNR=4.0						
ULM	**Lac du Bonnet**	**48.12**	**332**	P	**P**	**10 41 42.0**	**-1.6**
	1.5nm,0.4s,baz=100,slow=4.7,SNR=3.6						
H10N3	**ASCENSION HYDR**	**51.18**	**109**	T	T	11 37 14.9	
	baz=292,slow=74,SNR=7.5						
H10N2	**ASCENSION HYDR**	**51.19**	**109**	T	T	11 37 14.6	
	baz=292,slow=74,SNR=6.9						
H10N1	**ASCENSION HYDR**	**51.20**	**109**	T	T	11 37 16.0	
	baz=292,slow=74,SNR=7.2						
H10S3	**ASCENSION HYDR**	**51.42**	**110**	T	T	11 37 37.4	
	baz=294,slow=75,SNR=6.6						
H10S1	**ASCENSION HYDR**	**51.43**	**110**	T	T	11 37 37.7	
	baz=294,slow=75,SNR=5.6						
H10S2	**ASCENSION HYDR**	**51.44**	**110**	T	T	11 37 38.2	
	baz=294,slow=75,SNR=3.9						
PDAR	**Pinedale Array**	**51.89**	**317**	P	**P**	**10 42 12.2**	**-0.4**
	0.2nm,0.5s,baz=100,slow=10,SNR=3.9						
TORD	**Torodi Ar. Bea**	**62.73**	**81**	P	**P**	**10 43 30.4**	**+1.4**
	0.7nm,0.4s,baz=290,slow=6.3,SNR=12						
YKA	**Yellowknife Ar**	**63.72**	**336**	P	**P**	**10 43 33.4**	**-1.3**
	0.4nm,0.4s,baz=110,slow=7.1,SNR=5.3						
HFS	**Hagfors**	**73.97**	**30**	P	**P**	**10 44 39.4**	**+1.1**
	1.3nm,0.6s,baz=202,slow=0.8,SNR=4.2						
ILAR	**Eielson Array**	**78.06**	**334**	P	**P**	**10 45 00.9**	**-0.6**
	0.4nm,0.6s,baz=79,slow=4.8,SNR=6.6						
ARCES	**ARCESS Array B**	**79.42**	**21**	P	**P**	**10 45 09.8**	**+0.9**
	3.1nm,0.9s,baz=268,slow=2.7,SNR=3.3						
FINES	**FINESS Array B**	**80.07**	**29**	P	**P**	**10 45 13.9**	**+1.4**
	1.2nm,0.9s,baz=241,slow=3.9,SNR=6.4						
BRTR	**Keskin Array B**	**87.96**	**50**	P	**P**	**10 45 55.4**	**+2.2**
	0.6nm,0.6s,baz=248,slow=4.4,SNR=3.8						

*IDC **13** 10:54:32.8±1.6,34°.57N×24°.94E,h0km,mb3.7/2, mb1 3.7/4,mb1mx3.5/30,mbtmp3.6/4,ML4.0/2,Error ellipse: s-maj=47.2km s-min=26.5km az=129.0*

*ATH **13** 10:54:39.4,34°.69N×24°.81E,h31km,MD3.2/10*

*ISCJB **13** 10:54:40.5±1.3,34°.78N±0°.09×24°.76E±0°.04,h32km±5km, mb3.5/2,Error ellipse: s-maj=15.9km s-min=5.0km az=177.5*

*CSEM **13** 10:54:40.6±0.5,34°.76N×24°.80E,h24km±2km,ML2.6, Error ellipse: s-maj=11.6km s-min=4.7km az=178.0*

*THE **13** 10:54:41.6,34°.86N×24°.75E,h30km,ML2.6/1,Error ellipse: s-maj=1.1km s-min=0.4km az=5.0*

ISC 13 10:54:40.6±1.1,34°.79N±0°.06×24°.79E±0°.02,h32km±6km, n35,σ0§99/53,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.23**	**3**	*e*PB	**Pb**	**10 54 47.5**	**+0.1**
SIVA				*e*SB	**Sn**	**10 54 53.7**	**+1.2**
SIVA	**Sivas**	**0.23**	**3**	P	**Pb**	**10 54 47.5**	**+0.1**
SIVA				S	**Sb**	**10 54 51.7**	**-0.3**
SIVA				*e*Sb	**Sn**	**10 54 53.7**	**+1.2**
SIVA	**Sivas**	**0.23**	**3**	P	**Pb**	**10 54 47.5**	**+0.1**
SIVA				S	**Sb**	**10 54 51.7**	**-0.3**
GVD	**Gavdhos**	**0.58**	**275**	*e*PN	**Pb**	**10 54 52.2**	**-0.3**
GVD				*e*SN	**Sn**	**10 55 01.6**	**+0.4**
GVD	**Gavdhos**	**0.58**	**275**	P	**Pb**	**10 54 52.2**	**-0.3**
GVD				*e*Sn	**Sn**	**10 55 01.6**	**+0.4**
GVD	**Gavdhos**	**0.58**	**275**	P	**Pb**	**10 54 52.2**	**-0.3**
LAST	**Lasithi**	**0.68**	**56**	*e*PN	**Pb**	**10 54 54.0**	**-0.1**
LAST				*e*SN	**Sn**	**10 55 04.2**	**+0.6**
LAST	**Lasithi**	**0.68**	**56**	P	**Pb**	**10 54 54.0**	**-0.1**
LAST				S	**Sn**	**10 55 03.9**	**+0.3**
LAST	**Lasithi**	**0.68**	**56**	P	**Pb**	**10 54 54.0**	**-0.1**
LAST				S	**Sn**	**10 55 03.9**	**+0.3**
VAM	**Vamos**	**0.79**	**322**	*e*PB	**Pb**	**10 54 55.8**	**-0.1**
VAM				*e*SN	**Sn**	**10 55 09.4**	**+3.2**
VAM	**Vamos**	**0.79**	**322**	*e*Pb	**Pb**	**10 54 55.8**	**-0.1**
VAM				*e*Sn	**Sn**	**10 55 09.4**	**+3.2**
NPS	**Neapolis**	**0.82**	**55**	*e*PN	**Pn**	**10 54 56.5**	**+0.5**
NPS				*e*SN	**Sn**	**10 55 08.3**	**+1.2**
NPS	**Neapolis**	**0.82**	**55**	P	**Pb**	**10 54 56.2**	**-0.3**
NPS	**Neapolis**	**0.82**	**55**	*e*Pn	**Pn**	**10 54 56.5**	**+0.5**
NPS				S	**Sb**	**10 55 07.2**	**-0.1**
NPS				*e*Sn	**Sn**	**10 55 08.3**	**+1.2**
NPS	**Neapolis**	**0.82**	**55**	P	**Pb**	**10 54 56.2**	**-0.3**
NPS				S	**Sb**	**10 55 07.2**	**-0.1**
ZKR	**Zakros**	**1.21**	**74**	*e*PN	**Pb**	**10 55 02.7**	**-0.3**
ZKR				*e*SN	**Sb**	**10 55 19.0**	**+0.6**
ZKR	**Zakros**	**1.21**	**74**	P	**Pn**	**10 55 02.0**	**+0.6**
ZKR	**Zakros**	**1.21**	**74**	*e*Pn	**Pb**	**10 55 02.7**	**-0.3**
ZKR				S	**Sb**	**10 55 17.8**	**-0.6**
ZKR				*e*Sn	**Sb**	**10 55 19.0**	**+0.6**
ZKR	**Zakros**	**1.21**	**74**	P	**Pn**	**10 55 02.0**	**+0.6**
ZKR				S	**Sb**	**10 55 17.8**	**-0.6**
ANKY	**Antikythira Is**	**1.63**	**312**	*e*PB	**Pb**	**10 55 08.9**	**-1.1**
ANKY	**Antikythira Is**	**1.63**	**312**	*e*Pb	**Pb**	**10 55 08.9**	**-1.1**
SANT	**Santorini**	**1.67**	**19**	*e*PB	**Pb**	**10 55 10.3**	**-0.5**
SANT	**Santorini**	**1.67**	**19**	*e*Pb	**Pb**	**10 55 10.3**	**-0.5**
THR5	**Thira Island,**	**1.69**	**15**	P	**Pn**	**10 55 07.5**	**-0.4**
THR5	**Thira Island,**	**1.69**	**15**	P	**Pn**	**10 55 07.5**	**-0.4**
KYTH	**Kithira**	**2.07**	**317**	*e*PN	**Pn**	**10 55 15.2**	**+2.0**
KYTH	**Kithira**	**2.07**	**317**	*e*Pn	**Pn**	**10 55 15.2**	**+2.0**
KARP	**Karpathos**	**2.08**	**68**	*e*PN	**Pn**	**10 55 13.9**	**+0.6**
KARP	**Karpathos**	**2.08**	**68**	P	**Pn**	**10 55 14.0**	**+0.6**
KARP	**Karpathos**	**2.08**	**68**	P	**Pn**	**10 55 14.0**	**+0.6**
VLI	**Velíai**	**2.45**	**322**	P	**Pn**	**10 55 17.4**	**-1.0**
VLI				S	**Sn**	**10 55 45.9**	**-1.3**
AKASG	**Malin Array Be**	**16.23**	**10**	Pn	**Pn**	**10 58 24.7**	**-1.4**
	1.2nm,0.3s,baz=198,slow=10,SNR=5.1						
GERES	**GERESS Array B**	**16.27**	**333**	Pn	**Pn**	**10 58 26.0**	**-0.8**
	0.2nm,0.3s,baz=150,slow=16,SNR=4.4						
TORD	**Torodi Ar. Bea**	**30.02**	**230**	P	P	11 00 43.2	-3.5
	0.3nm,0.3s,baz=35,slow=8.3,SNR=8.6						
MKAR	**Makanchi Array**	**44.23**	**56**	P	P	11 02 43.5	-3.3
	0.6nm,0.6s,baz=276,slow=7.1,SNR=6.8						

GUC 13 11:01:29.8±0.4,35°.52S×72°.49W,h8km±3km,ML3.6,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.71**	**80**	*e*P	Pb	11 01 44.6	+0.2
TALC				*e*S	Sb	11 01 55.4	+1.0
LNCH	**Linares**	**0.79**	**114**	*e*P	Pb	11 01 45.9	+0.1
LNCH				*e*S	Sn	11 01 58.3	-1.0
LNCH				AML	AML	11 02 05.3	
	comp=N,2μm,0.7s						
NICH	**Los Niches**	**1.15**	**64**	*e*P	Pn	11 01 52.2	0.0
NICH				*e*S	Sn	11 02 09.1	+0.8
NICH				AML	AML	11 02 18.2	
	comp=N,2μm,0.5s						
SAN	**Santiago**	**2.56**	**37**	*e*S	Sb	11 02 48.2	+0.5
SAN				AML	AML	11 02 57.2	
	comp=E,326nm,0.6s						
CLCH	**Cerro Calan**	**2.67**	**38**	*e*P	Pb	11 02 16.0	-1.9
CLCH				*e*S	Sb	11 02 50.9	0.0
CLCH				AML	AML	11 03 00.3	
	comp=N,450nm,0.6s						
PEL	**Peldehue**	**2.81**	**33**	*e*P	Pn	11 02 17.5	+2.5
PEL				*e*S	Sb	11 02

	240nm,0.8s							
CAGR	**Agira**	**3.16**	**12**	Pn	**Pn**	**11 20 27.1**	**+2.2**
ALJA	**Alia**	**3.22**	**1**	Pn	**Pn**	**11 20 25.5**	**-0.2**
	82nm,0.8s						
GALF	**Gagliano Caste**	**3.26**	**12**	Pn	**Pn**	**11 20 27.4**	**+1.2**
	106nm,0.6s						
GIB	**Gibilmanna**	**3.47**	**4**	Pn	**Pn**	**11 20 30.2**	**+1.0**
	209nm,0.8s						
PLLN	**Pollina**	**3.48**	**6**	Pn	**Pn**	**11 20 30.6**	**+1.3**
	133nm,1.0s						
MNO	**Monte Soro**	**3.50**	**13**	Pn	**Pn**	**11 20 30.9**	**+1.2**
	59nm,0.5s						
MMME	**Mongiuffi-Meli**	**3.64**	**20**	Pn	**Pn**	**11 20 32.1**	**+0.7**
	122nm,1.1s						
NOV	**Novara**	**3.69**	**18**	Pn	**Pn**	**11 20 32.8**	**+0.7**
	118nm,0.8s						
KEST	**Kesra**	**3.75**	**290**	Pn	**Pn**	**11 20 32.5**	**-0.5**
	1.8nm,0.3s,baz=159,slow=2.7,SNR=67						
KEST				Sn	**Sn**	**11 21 16.0**	**-1.3**
	0.8nm,0.3s,baz=240,slow=22,SNR=11						
MPAZ	**Palizzi**	**3.91**	**28**	Pn	**Pn**	**11 20 35.4**	**+0.3**
	58nm,0.7s						
MILZ	**Milazzo**	**3.95**	**18**	Pn	**Pn**	**11 20 36.1**	**+0.6**
	83nm,0.7s						
MSRU	**Castanea**	**4.01**	**21**	Pn	**Pn**	**11 20 37.2**	**+0.7**
	194nm,0.9s						
SOI	**Samo**	**4.03**	**28**	Pn	**Pn**	**11 20 37.3**	**+0.6**
	66µm,19.0s						
IACL	**Alicudi**	**4.04**	**8**	Pn	**Pn**	**11 20 36.7**	**-0.2**
	61nm,0.6s						
MSCL	**Scilla**	**4.08**	**24**	Pn	**Pn**	**11 20 38.1**	**+0.7**
	124nm,0.8s						
IFIL	**Filicudi I Eol**	**4.10**	**10**	Pn	**Pn**	**11 20 38.3**	**+0.7**
	36µm,19.0s						
PLAC	**Placanica**	**4.50**	**29**	Pn	**Pn**	**11 20 43.8**	**+0.5**
	34nm,0.6s						
SERS	**Sersale**	**5.11**	**27**	Pn	**Pn**	**11 20 52.2**	**+0.5**
	32nm,1.3s						
TIP	**Timpagrande**	**5.26**	**27**	Pn	**Pn**	**11 20 53.8**	**+0.1**
	14nm,1.0s						
ABSA	**Djebel Ababsia**	**5.36**	**291**	P	**Pn**	**11 20 54.7**	**-0.4**
CMAH	**Djebel Manchou**	**5.52**	**294**	P	**Pn**	**11 20 56.4**	**-0.9**
CUC	**Castrocucco**	**5.72**	**17**	Pn	**Pn**	**11 21 00.6**	**+0.6**
	7.0nm,0.7s						
CKFL	**Kef-Lekhel**	**5.98**	**290**	P	**Pn**	**11 21 02.6**	**-1.1**
VLS	**Valsamata**	**6.66**	**55**	*e*P	**Pn**	**11 21 11.4**	**-1.5**
VLS				*e*S	Px	11 21 20.5	
VLS	**Valsamata**	**6.66**	**55**	*e*P	**Pn**	**11 21 11.4**	**-1.5**
VLS				*e*S	Px	11 21 20.5	
KFL	**Anninata**	**6.76**	**56**	*e*P	**Pn**	**11 21 13.5**	**-0.8**
KFL	**Anninata**	**6.76**	**56**	*e*P	**Pn**	**11 21 13.5**	**-0.8**
RLS	**Riolos of Patr**	**7.21**	**58**	*e*P	**Pn**	**11 21 20.8**	**+0.4**
RLS	**Riolos of Patr**	**7.21**	**58**	*e*P	**Pn**	**11 21 20.8**	**+0.4**
PDO	**Prodromos**	**7.28**	**54**	*e*P	**Pn**	**11 21 20.2**	**-1.1**
PDO	**Prodromos**	**7.28**	**54**	*e*P	**Pn**	**11 21 20.2**	**-1.1**
DRO	**Drossia**	**7.33**	**60**	*e*P	**Pn**	**11 21 22.8**	**+0.7**
DRO	**Drossia**	**7.33**	**60**	*e*P	**Pn**	**11 21 22.8**	**+0.7**
DSL	**Palaion Diasel**	**7.52**	**50**	*e*P	**Pn**	**11 21 23.9**	**-0.8**
DSL	**Palaion Diasel**	**7.52**	**50**	*e*P	**Pn**	**11 21 23.9**	**-0.8**
LAKA	**Lakka**	**7.65**	**59**	*e*P	**Pn**	**11 21 27.1**	**+0.6**
LAKA	**Lakka**	**7.65**	**59**	*e*P	**Pn**	**11 21 27.1**	**+0.6**
KLV	**Kalavryta, Ach**	**7.69**	**60**	*e*P	**Pn**	**11 21 27.9**	**+0.9**
KLV	**Kalavryta, Ach**	**7.69**	**60**	*e*P	**Pn**	**11 21 27.9**	**+0.9**
GUR	**Goura**	**7.78**	**62**	*e*P	**Pn**	**11 21 30.0**	**+1.6**
GUR	**Goura**	**7.78**	**62**	*e*P	**Pn**	**11 21 30.0**	**+1.6**
MAKR	**Makrakomi, Fth**	**8.13**	**54**	*e*P	**Pn**	**11 21 33.3**	**+0.3**
MAKR	**Makrakomi, Fth**	**8.13**	**54**	*e*P	**Pn**	**11 21 33.3**	**+0.3**
THL	**Klokotos Trika**	**8.35**	**50**	*e*P	**Pn**	**11 21 35.4**	**-0.6**
THL	**Klokotos Trika**	**8.35**	**50**	*e*P	**Pn**	**11 21 35.4**	**-0.6**
NEO	**Neokhori**	**9.01**	**55**	*e*P	**Pn**	**11 21 44.4**	**-0.7**
NEO	**Neokhori**	**9.01**	**55**	*e*P	**Pn**	**11 21 44.4**	**-0.7**
IDI	**Anoyia**	**9.24**	**82**	Pn	**Pn**	**11 21 50.4**	**+2.1**
	0.4nm,0.3s,baz=280,slow=14,SNR=2.8						
IDI				Sn	**Sn**	**11 23 29.6**	**-2.7**
	0.2nm,0.3s,baz=319,slow=18,SNR=2.3						
BRTR	**Keskin Array B**	**16.73**	**66**	Pn	**P**	**11 23 31.6**	**-0.3**
	0.1nm,0.3s,baz=254,slow=10,SNR=3.2						
AKASG	**Malin Array Be**	**19.74**	**30**	P	**P**	**11 24 05.1**	**+0.4**
	0.5nm,0.3s,baz=224,slow=10,SNR=5.4						
TORD	**Torodi Ar. Bea**	**23.90**	**210**	P	**P**	**11 24 48.5**	**-0.5**
	0.7nm,0.8s,baz=23,slow=9.0,SNR=5.4						
KBZ	**Khabaz**	**24.36**	**59**	P	**P**	**11 24 55.3**	**+2.3**
	2.3nm,0.8s,baz=290,slow=6.2,SNR=4.3						
FINES	**FINESS Array B**	**28.09**	**13**	P	**P**	**11 25 26.0**	**-0.4**
	1.2nm,0.8s,baz=224,slow=5.8,SNR=3.2						
MKAR	**Makanchi Array**	**51.92**	**54**	P	**P**	**11 28 43.9**	**+0.1**
	0.5nm,0.7s,baz=288,slow=5.9,SNR=3.8						
ZALV	**Zalesovo Beam**	**52.21**	**45**	P	**P**	**11 28 45.6**	**-0.2**
	0.3nm,0.3s,baz=294,slow=11,SNR=2.9						
SONM	**Songino Array**	**67.01**	**47**	P	**P**	**11 30 29.2**	**+1.0**
	0.2nm,0.6s,baz=311,slow=9.0,SNR=3.6						

*IDC **13** 11:23:02.7±0.8,34˚09S×72˚16W,h0km,mb3.9/7, mb1 4.2/10,mb1mx4.0/30,mbtmp4.0/10,ML3.5/3,MS3.9/4, Ms1 3.8/4,ms1mx3.4/17, Error ellipse: s-maj=27.0km s-min=22.4km az=103.0*

*ISCJB **13** 11:23:04.4±0.9,34˚04S±0˚03×72˚31W±0˚05,h19km±6km, mb4.1/15,MS3.7/2, Error ellipse: s-maj=6.7km s-min=4.4km az=19.0*

*GUC **13** 11:23:05.7±0.6,34˚09S×72˚15W,h24km±3km,ML4.3*

*SJA **13** 11:23:07.1±1.0,34˚04S×72˚34W,h30km,ML4.7*

*NEIC **13** 11:23:08.8±2.0,33˚99S×72˚01W,h38km±16km,mb4.3/10, Error ellipse: s-maj=17.9km s-min=11.2km az=65.0*

ISC 13 11:23:03.6±2.5,34˚05S±0˚03×72˚22W±0˚07,h5km±15km, n56,σ0°96/68,mb4.3/15,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
U73B	**San Pedro**	**0.68**	**79**	*e*P	**Pb**	**11 23 18.3**	**+0.4**
U73B				*e*S	**Sb**	**11 23 28.0**	**+0.4**
U73B				AML	AML	11 23 28.7	
	comp=E,37µm,0.7s						
U65B	**HualaæØ**	**0.98**	**159**	*e*P	**Pb**	**11 23 22.9**	**-0.1**
U65B				*e*S	**Sb**	**11 23 35.6**	**-0.6**
U65B				AML	AML	11 23 37.8	
	comp=N,9µm,0.2s						
IHA	**Instituto Hidr**	**1.13**	**25**	*e*P	**Pn**	**11 23 26.5**	**+0.5**
TACH	**Talagante**	**1.14**	**70**	*e*P	**Pb**	**11 23 25.9**	**+0.1**
NICH	**Los Niches**	**1.25**	**140**	*e*P	**Pb**	**11 23 27.5**	**-0.2**
NICH				*e*S	**Sb**	**11 23 44.0**	**-0.1**
SAN	**Santiago**	**1.43**	**66**	*e*P	**Pn**	**11 23 30.4**	**+0.2**
SAN				*e*S	**Sb**	**11 23 49.1**	**-0.1**
TALC	**Talca**	**1.43**	**160**	*e*P	**Pb**	**11 23 30.4**	**-0.3**
TALC				*e*S	**Sb**	**11 23 49.0**	**-0.2**
PCH	**Pirque**	**1.48**	**74**	*e*P	**Pb**	**11 23 31.5**	**-0.2**
FSR	**Penalolen**	**1.52**	**68**	*e*P	**Pb**	**11 23 32.2**	**-0.1**
FSR				*e*S	**Sb**	**11 23 52.0**	**0.0**
LACH	**Col Las Americ**	**1.53**	**67**	*e*P	**Pb**	**11 23 32.1**	**-0.3**
LACH				*e*S	**Sb**	**11 23 52.0**	**-0.2**
CLCH	**Cerro Calan**	**1.55**	**66**	*e*P	**Pb**	**11 23 32.7**	**-0.1**
CLCH				*e*S	**Sg**	**11 23 53.2**	**0.0**
CLCH				AML	AML	11 24 07.1	
	comp=E,7µm,0.6s						
PEL	**Peldehue**	**1.57**	**55**	*e*P	**Pb**	**11 23 33.0**	**-0.1**
PEL				*e*S	**Sg**	**11 23 54.1**	**+0.2**
PEL				AML	AML	11 24 03.0	
	comp=N,11µm,0.6s						
LNCH	**Linares**	**1.86**	**164**	*e*P	**Pn**	**11 23 36.9**	**+0.7**
LNCH				*e*S	**Sb**	**11 24 00.8**	**-0.9**
AAGR	**Agrelo**	**2.99**	**72**	*e*P	**Pb**	**11 23 57.0**	**-0.4**
AUSP	**Uspallata**	**2.99**	**53**	*i* P	**Pb**	**11 23 57.8**	**+0.2**
AUSP				*i* S	**Sb**	**11 24 34.2**	**-0.4**
ARCO	**CERRO ARCO**	**3.00**	**67**	*e*P	**Pb**	**11 23 58.1**	**+0.5**
ARCO				AML	AML	11 24 03.9	
	comp=Z,1µm,0.6s						
ARCO				*i* S	**Sb**	**11 24 33.3**	**-1.3**
ASAL	**Salagasta**	**3.19**	**64**	*e*P	**Pb**	**11 24 00.6**	**-0.1**
RTLS	**Leoncito**	**3.33**	**48**	*e*P	**Pb**	**11 24 00.9**	**-2.3**
RTCV	**Cerro Valdivia**	**3.79**	**56**	*e*P	**Pb**	**11 24 10.3**	**-0.6**
CFAA	**Coronel Fontan**	**4.14**	**55**	Pn	**Pn**	**11 24 08.9**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=81,slow=2.7,SNR=18						
CFAA				Lg	Lg	11 25 06.8	
	comp=Z,2.2nm,0.3s,baz=95,slow=20,SNR=4.0						
CFAA				LR	LR	11 26 06.6	
	comp=Z,68nm,20.1s,baz=224,slow=45						
CFAA	**Coronel Fontan**	**4.14**	**55**	*e*P	**Pn**	**11 24 08.8**	**+1.2**
CFAA				*i* S	**Sn**	**11 24 57.6**	**+1.2**
RTLL	**Cerro Villicun**	**4.16**	**50**	*e*P	**Pn**	**11 24 10.9**	**+3.1**
AMOG	**MOGNA**	**4.42**	**46**	*e*P	**Pn**	**11 24 14.0**	**+2.6**
ACAN	**Cantantal**	**4.58**	**69**	*e*P	Pn	11 24 16.7	+3.2
AVFE	**Valle Fertil**	**5.26**	**51**	*e*P	**Pn**	**11 24 25.3**	**+2.3**
AVFE				AML	AML	11 25 38.8	
	comp=Z,674nm,0.6s						
LVC	**Limon Verde**	**11.76**	**15**	Pn	**Pn**	**11 25 51.4**	**-0.8**
	comp=Z,7.1nm,0.3s,baz=198,slow=13,SNR=2.2						
LVC				LR	LR	11 30 48.9	
	comp=Z,1µm,18.3s,baz=210,slow=40						
LVC	**Limon Verde**	**11.76**	**15**	Pn	**Pn**	**11 25 51.5**	**-0.8**
LVC				*e*Sn	**Sn**	**11 28 04.4**	**+0.3**
CPUP	**Villa Florida**	**14.99**	**63**	Pn	**Pn**	**11 26 35.3**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=221,slow=9.3,SNR=2.5						
CPUP				LR	LR	11 32 54.2	
	comp=Z,348nm,19.1s,baz=236,slow=40						
LPAZ	**La Paz**	**18.07**	**13**	P	**P**	**11 27 17.2**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=196,slow=7.1,SNR=21						
LPAZ	**La Paz**	**18.07**	**13**	*e*Pn	**P**	**11 27 16.7**	**+0.2**
	comp=Z,10nm,0.8s						
SIV	**San Ignacio**	**20.60**	**32**	P	**P**	**11 27 42.7**	**-0.9**
	comp=Z,4.8nm,0.8s,baz=208,slow=8.1,SNR=8.0						
SAML	**Samuel**	**26.33**	**20**	*e*P	**P**	**11 28 39.2**	**-1.3**
	comp=Z,6.0nm,0.9s						
BDFB	**Brasilia**	**28.49**	**56**	P	**P**	**11 28 58.8**	**-1.2**
	comp=Z,2.1nm,0.4s,baz=207,slow=10,SNR=3.4						
BDFB				LR	LR	11 41 22.6	
	comp=Z,206nm,19.6s,baz=227,slow=39						
OTAV	**Otavalo**	**34.61**	**349**	P	**P**	**11 29 53.8**	**-0.4**
	comp=Z,0.6nm,0.4s						
SNAA	**Sanae**	**51.59**	**158**	P	**P**	**11 32 10.6**	**+0.1**
	comp=Z,1.7nm,1.0s,baz=282,slow=6.7,SNR=8.3						
QSPA	**South Pole Qui**	**56.19**	**180**	*e*P	**P**	**11 32 44.9**	**+0.7**
	comp=Z,4.2nm,0.9s						
TXAR	**Lajitas Array**	**69.70**	**331**	P	**P**	**11 34 15.4**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=150,slow=8.4,SNR=5.8						
TXAR				LR	LR	12 00 44.6	
	comp=Z,39nm,18.2s,baz=0.0,slow=32						
SWET	**Sewanee**	**70.09**	**348**	*e*P	**P**	**11 34 17.1**	**+0.4**
	comp=Z,3.8nm,0.5s						
WVT	**Waverly**	**71.33**	**347**	*e*P	**P**	**11 34 24.2**	**+0.1**
	comp=Z,6.6nm,0.7s						
ACSO	**Alum Creek Sta**	**74.58**	**351**	P	**P**	**11 34 43.4**	**+0.1**
	comp=Z,4.7nm,0.6s						
ECSD	**EROS Data Cent**	**80.55**	**342**	*e*P	**P**	**11 35 16.5**	**-0.1**
	comp=Z,2.5nm,0.6s						
ECSD				*e*PcP	**PcP**	**11 35 23.3**	**-0.2**
CCUT	**Cedar City**	**80.87**	**328**	*e*P	**P**	**11 35 21.1**	**+2.3**
	comp=Z,1.2nm,0.8s						
PDAR	**Pinedale Array**	**83.74**	**333**	P	**P**	**11 35 34.1**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=118,slow=3.6,SNR=2.9						
NVAR	**Mina Array Bea**	**83.84**	**325**	P	**P**	**11 35 33.6**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=160,slow=5.6,SNR=4.0						
HVU	**Hansel Valley**	**84.15**	**331**	*e*P	**P**	**11 35 36.9**	**+1.1**
	comp=Z,0.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**84.37**	**70**	P	**P**	**11 35 36.7**	**-0.6**
	comp=Z,2.8nm,0.9s,baz=258,slow=4.7,SNR=11						
WRA	**Warramunga Arr**	**120.64**	**209**	PKP	**PKPdf**	**11 41 55.8**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=152,slow=1.8,SNR=2.6						
H11S2	**WAKE ISLAND Hyl**	**125.62**	**269**	T	T	14 00 29.6	
	baz=120						
H11S1	**WAKE ISLAND Hyl**	**125.63**	**269**	T	T	14 00 33.2	
	baz=120,slow=74						
H11S3	**WAKE ISLAND Hyl**	**125.64**	**269**	T	T	14 00 30.8	
	baz=120,slow=74						
BVAR	**Borovoye Array**	**147.42**	**43**	PKPbc	**PKPbc**	**11 42 48.2**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=0.0,slow=5.8,SNR=5.1						
KURBB	**Kurchatov Arra**	**153.01**	**43**	PKPbc	**PKPbc**	**11 43 01.3**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=266,slow=7.2,SNR=7.4						
KURK	**Kurchatov**	**153.02**	**43**	PKPbc	**PKPbc**	**11 43 01.4**	**-0.3**
ZALV	**Zalesovo Beam**	**154.35**	**32**	PKPbc	**PKPbc**	**11 43 03.7**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=278,slow=4.2,SNR=5.8						
ZALV				PKPab	**PKPab**	**11 43 18.5**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=303,slow=3.8,SNR=5.3						
MKAR	**Makanchi Array**	**156.91**	**49**	PKPab	**PKPab**	**11 43 28.4**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=298,slow=3.6,SNR=4.1						
SONM	**Songino Array**	**166.19**	**4**	PKPab	**PKPab**	**11 44 11.3**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=45,slow=0.8,SNR=3.3						

*ISCJB **13** 11:24:28.3±0.4,60˚50N±0˚03×152˚93W±0˚07, h162km±4km,mb3.2/1, Error ellipse: s-maj=6.3km s-min=4.8km az=27.1*

*NEIC **13** 11:24:30.1,60˚48N×152˚91W,h154km,MG3.0(AEIC), After AEIC.*

*IDC **13** 11:24:30.0±6.6,60˚77N×153˚26W,h140km±64km,mb3.1/1, mb1 3.1/5,mb1mx2.9/55,mbtmp3.4/5, Error ellipse: s-maj=58.0km s-min=27.2km az=35.0*

ISC 13 11:24:28.8±1.0,60˚50N±0˚04×152˚92W±0˚05, h161km±6km,n73,σ0°82/81,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RDWB	**Redoubt West**	**0.04**	**106**	P	**Pn**	**11 24 50.0**	**-0.4**
RDWB				S	**Sn**	**11 25 05.7**	**-1.2**
NCT	**North Crescent**	**0.06**	**357**	P	**Pn**	**11 24 50.2**	**-0.2**
RDN	**Redoubt North**	**0.08**	**80**	P	**Pn**	**11 24 50.0**	**-0.4**
RSO	**Redoubt South**	**0.09**	**114**	P	**Pn**	**11 24 50.4**	**-0.1**
DFR	**Drift River**	**0.15**	**52**	P	**Pn**	**11 24 50.2**	**-0.2**
ILIM	**Iliamna**	**0.42**	**182**	P	**Pn**	**11 24 51.1**	**-0.1**
IVE	**Iliamna Volcan**	**0.49**	**186**	P	**Pn**	**11 24 51.5**	**0.0**
CKL	**Chakachamna La**	**0.76**	**22**	P	**Pn**	**11 24 53.1**	**+0.2**
BGL	**Barrier Glacie**	**0.81**	**19**	P	**Pn**	**11 24 53.7**	**+0.4**
SPBG	**Spurr Blockage**	**0.81**	**19**	P	**Pn**	**11 24 53.6**	**+0.4**
SPBG				S	**Sn**	**11 25 12.1**	**0.0**
CKN	**Chakachatna No**	**0.81**	**26**	P	**Pn**	**11 24 53.5**	**+0.2**
OPT	**Oil Point**	**0.86**	**190**	P	**Pn**	**11 24 53.7**	**+0.1**
NKA	**Nikishka**	**0.87**	**73**	P	**Pn**	**11 24 55.4**	**+1.9**
HOM	**Homer**	**1.06**	**142**	P	**Pn**	**11 24 55.9**	**+0.8**
HOM				S	**Sn**	**11 25 15.5**	**+0.3**
STLK	**Strandline Lak**	**1.14**	**27**	P	**Pn**	**11 24 55.9**	**+0.1**
AUH	**Augustine H**	**1.17**	**193**	P	**Pn**	**11 24 56.4**	**+0.3**
AUI	**Augustine Isla**	**1.20**	**192**	P	**Pn**	**11 24 56.3**	**0.0**
BRLK	**Bradley Lake**	**1.26**	**125**	P	**Pn**	**11 24 57.4**	**+0.5**
BRLK				S	**Sn**	**11 25 18.1**	**-0.3**
CNPM	**China Poot**	**1.29**	**138**	P	**Pn**	**11 24 57.9**	**+0.7**
CNPM				S	**Sn**	**11 25 18.4**	**-0.5**
SLKM	**Skilak Lake**	**1.34**	**88**	P	**Pn**	**11 24 57.3**	**-0.3**
SVW2	**Sparrevohn**	**1.43**	**296**	P	**Pn**	**11 24 59.3**	**+0.9**
SUA	**Susitna One**	**1.44**	**47**	P	**Pn**	**11 24 58.6**	**-0.1**
FIB	**Fire Island**	**1.50**	**62**	P	**Pn**	**11 24 60.0**	**+0.9**
SKT	**Skwentna**	**1.63**	**24**	P	**Pn**	**11 25 00.8**	**+0.3**
SKT				S	**Sn**	**11 25 24.9**	**-0.2**
RC01	**Rabbit Creek A**	**1.67**	**68**	P	**Pn**	**11 25 00.6**	**-0.3**
PMR	**Palmer**	**2.15**	**58**	P	**Pn**	**11 25 05.1**	**-1.0**
CUT	**Chulitna**	**2.30**	**33**	P	**Pn**	**11 25 07.9**	**0.0**
PPLA	**Purkeypile**	**2.43**	**8**	P	**Pn**	**11 25 10.4**	**+0.8**
KVTA	**Katmai Vly 10**	**2.45**	**211**	P	**Pn**	**11 25 09.7**	**-0.1**
KAKN	**Katmai Knife C**	**2.46**	**207**	P	**Pn**	**11 25 09.7**	**-0.4**
KBM	**Katmai Bkd Mtn**	**2.52**	**209**	P	**Pn**	**11 25 10.6**	**-0.1**
KCE	**Katmai Mt Cerb**	**2.54**	**208**	P	**Pn**	**11 25 11.5**	**+0.5**
SML	**Sawmill**	**2.58**	**57**	P	**Pn**	**11 25 10.9**	**-0.5**
KABR	**Katmai Barrier**	**2.60**	**205**	P	**Pn**	**11 25 11.1**	**-0.6**
KDAK	**Kodiak Island**	**2.73**	**176**	P	**Pn**	**11 25 11.8**	**-1.3**
GLI	**Glacier Island**	**2.89**	**80**	P	**Pn**	**11 25 14.1**	**-1.1**
CAST	**Castle Rocks**	**2.96**	**7**	P	**Pn**	**11 25 15.8**	**-0.1**
SCM	**Sheep Creek Mo**	**3.02**	**61**	P	**Pn**	**11 25 16.5**	**-0.4**
JPK	**Jack Peak**	**3.15**	**77**	P	**Pn**	**11 25 18.4**	**-0.1**
TRF	**Thorofare Moun**	**3.21**	**22**	P	**Pn**	**11 25 20.0**	**+0.7**
VLZ	**Valdez**	**3.29**	**76**	P	**Pn**	**11 25 20.0**	**-0.1**
OHAK	**Old Harbor**	**3.29**	**183**	P	**Pn**	**11 25 18.3**	**-1.9**
RND	**Reindeer**	**3.49**	**32**	P	**Pn**	**11 25 23.0**	**+0.2**
EYAK	**Cordova Ski Ar**	**3.55**	**86**	P	**Pn**	**11 25 24.1**	**+0.7**
DIV	**Divide**	**3.56**	**77**	P	**Pn**	**11 25 23.7**	**0.0**
BPAW	**Bear Paw Mtn.**	**3.73**	**13**	P	**Pn**	**11 25 25.1**	**-0.6**
RAGM	**Ragged Mountai**	**4.09**	**88**	P	**Pn**	**11 25 31.2**	**+0.8**
BMRM	**Bremner River**	**4.11**	**80**	*e*Pn	**Pn**	**11 25 31.4**	**+0.7**
BMRM				*e*Sn	**Sn**	**11 26 18.5**	**-0.5**
HARP	**HAARP**	**4.19**	**59**	P	**Pn**	**11 25 31.9**	**+0.2**
PAX	**Paxson**	**4.33**	**52**	P	**Pn**	**11 25 34.1**	**+0.6**
WASW	**Wrangell South**	**4.47**	**68**	P	**Pn**	**11 25 36.2**	**+0.7**
GLB	**Gilahina Butte**	**4.54**	**74**	P	**Pn**	**11 25 36.4**	**+0.1**
WRH	**Wood River Hil**	**4.57**	**27**	P	**Pn**	**11 25 36.5**	**-0.1**
MLY	**Manley**	**4.66**	**11**	P	**Pn**	**11 25 37.1**	**-0.7**
VRDI	**Verde Repeater**	**4.69**	**77**	P	**Pn**	**11 25 39.2**	**+0.8**
CCB	**Clear Creek Bu**	**4.79**	**27**	P	**Pn**	**11 25 39.7**	**+0.3**
CRQM	**Cirque**	**4.83**	**83**	P	**Pn**	**11 25 41.3**	**+1.1**
MCARA	**McCarthy VSAT**	**4.91**	**75**	P	**Pn**	**11 25 42.5**	**+1.5**
MDM	**Murphy Dome**	**4.97**	**24**	P	**Pn**	**11 25 41.5**	**-0.3**
TGL	**Tana Glacier**	**4.98**	**83**	P	**Pn**	**11 25 43.1**	**+1.0**
IL1	**Eielson Array**	**5.11**	**30**	P	**Pn**	**11 25 43.8**	**+0.1**
ILAR	**Eielson Array**	**5.11**	**30**	P	**Pn**	**11 25 43.0**	**-0.7**
	1.0nm,0.3s,baz=222,slow=13,SNR=46						
ILAR				S	**Sn**	**11 26 39.5**	**-2.8**
	3.1nm,0.3s,baz=217,slow=21,SNR=16						
ILB	**Eielson Array**	**5.11**	**30**	P	**Pn**	**11 25 43.8**	**+0.1**
PTPK	**Patty Peak**	**5.16**	**78**	P	**Pn**	**11 25 45.8**	**+1.2**
GRNC	**Granite Creek**	**5.51**	**83**	P	**Pn**	**11 25 49.0**	**-0.1**
BARN	**Barnard Glacie**	**5.55**	**79**	P	**Pn**	**11 25 51.0**	**+1.3**
CTGM	**Chitina Glacie**	**5.71**	**80**	P	**Pn**	**11 25 52.8**	**+1.1**
LOGN	**Logan Glacier**	**5.87**	**82**	P	**Pn**	**11 25 55.2**	**+1.3**
DAWY	**Dawson**	**7.25**	**55**	P	**Pn**	**11 26 13.0**	**+1.0**
INK	**Inuvik**	**11.42**	**39**	P	**Pn**	**11 27 07.9**	**+1.0**
	0.2nm,0.3s,baz=244,slow=11,SNR=4.5						
DLBC	**Dease Lake**	**11.81**	**90**	P	**P**	**11 27 16.8**	**-1.8**
	0.1nm,0.3s,baz=299,slow=10,SNR=4.6						
YKA	**Yellowknife Ar**	**18.21**	**67**	P	**P**	**11 28 30.5**	**+1.3**
	0.1nm,0.3s,baz=280,slow=9.9,SNR=4.9						
SONM	**Songino Array**	**54.53**	**306**	P	**P**	**11 33 41.1**	**+1.4**
	0.3nm,0.6s,baz=26,slow=8.0,SNR=3.2						

*ISCJB **13** 11:28:23.6±0.2,46˚93N±0˚02×8˚61E±0˚02,h14km±2km, Error ellipse: s-maj=2.5km s-min=2.3km az=7.3*

*ZUR **13** 11:28:24.7,46˚94N×8˚68E,h7km,ML2.2/17*

*GEN **13** 11:28:24.1,46˚94N×8˚68E,h0km,ML2.0*

*CSEM **13** 11:28:24.4±0.1,46˚94N×8˚63E,h12km,ML2.6/22,Error ellipse: s-maj=2.2km s-min=1.9km az=11.0*

*STR **13** 11:28:25.8±0.4,46˚97N×8˚64E,h10km,Ml2.2,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

*VIE **13** 11:28:25.1±0.4,46˚88N×8˚76E,h11km±3km,mb1.9/4, ML2.4/6,Error ellipse: s-maj=2.7km s-min=1.6km az=95.0*

*LDG **13** 11:28:25.1±0.1,46˚94N×8˚68E,h7km,Md2.4/3,Ml2.4/20, Error ellipse: s-maj=2.1km s-min=1.6km az=105.0*

ISC 13 11:28:24.0±0.4,46˚96N±0˚01×8˚63E±0˚01,h10km±3km, n118,σ1°44/166,19C-15D,Switzerland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MUO	**Muotathal**	**0.01**	**23**	⇑*i*Pg	**Pg**	**11 28 26.7**	**+0.7**
	7µm,0.1s						
MUO				*i* Sg	**Sg**	**11 28 28.0**	**+0.6**
	7µm,0.1s						
MUO	**Muotathal**	**0.01**	**23**	⇑*i*Pg	**Pg**	**11 28 26.7**	**+0.7**
	7µm,0.1s						
MUO				*i* Sg	**Sg**	**11 28 28.0**	**+0.6**
	7µm,0.1s						
BNALP	**Bannalp**	**0.17**	**239**	⇑*i*Pg	**Pg**	**11 28 28.9**	**+1.2**
	393nm,0.3s						
BNALP				*e*Sg	**Sg**	**11 28 32.0**	**+1.8**
	393nm,0.3s						
BNALP	**Bannalp**	**0.17**	**239**	⇑*i*Pg	**Pg**	**11 28 28.9**	**

CDF	**Champ du Feu**	**1.72**	**328**	*e*Pn	**Pn**	11 28 55.0	+0.9
CDF	**Champ du Feu**	**1.72**	**328**	*e*Pg	**Pb**	11 28 57.3	+1.5
CDF				*e*Sn	**Sn**	11 29 15.0	-1.2
CDF				*e*Sg	**Sb**	11 29 18.8	+1.3
	3.8nm,0.2s						
CDF	**Champ du Feu**	**1.72**	**328**	*e*Pn	**Pn**	11 28 55.0	+0.9
CDF	**Champ du Feu**	**1.72**	**328**	*e*Pg	**Pb**	11 28 57.3	+1.5
CDF				*e*Sn	**Sn**	11 29 15.0	-1.2
CDF				*e*Sg	**Sb**	11 29 18.8	+1.3
	1.9nm,0.2s						
MOTA	**Moosalm**	**1.73**	**76**	Pg	**Pb**	11 28 57.2	+1.2
MOTA				Sg	**Sg**	11 29 21.0	+1.3
	5.1nm,0.1s						
MOTA	**Moosalm**	**1.73**	**76**⇑	*i*Pg	**Pb**	11 28 57.2	+1.2
MOTA				⇓*i*Sg	**Sg**	11 29 21.1	+1.3
	5.1nm,0.1s						
CABF	**La Chapelle**	**1.78**	**260**	*e*Pg	**Pb**	11 28 59.0	+2.2
CABF				*e*Sg	**Sb**	11 29 22.2	+3.0
	5.1nm,0.2s						
CABF	**La Chapelle**	**1.78**	**260**	*e*Pg	**Pb**	11 28 59.0	+2.2
CABF				*e*Sg	**Sb**	11 29 22.2	+3.0
	2.5nm,0.2s						
LSD	**Lago del Serru**	**1.82**	**215**	P	**Pn**	11 28 57.8	+2.2
HAU	**Haudompre**	**1.87**	**305**	*e*Pn	**Pn**	11 28 57.2	+1.1
HAU	**Haudompre**	**1.87**	**305**	*e*Pg	**Pb**	11 29 00.3	+2.0
HAU				*e*Sg	**Sb**	11 29 24.6	+2.9
	5.7nm,0.3s						
HAU	**Haudompre**	**1.87**	**305**	*e*Pn	**Pn**	11 28 57.2	+1.1
HAU	**Haudompre**	**1.87**	**305**	*e*Pg	**Pb**	11 29 00.3	+2.0
HAU				*e*Sg	**Sb**	11 29 24.6	+2.9
	2.8nm,0.3s						
LPL	**La Plagne**	**1.95**	**223**	*e*Pn	**Pn**	11 28 57.0	-0.4
LPL	**La Plagne**	**1.95**	**223**	*e*Pg	**Pb**	11 29 01.4	+1.6
LPL				*e*Sg	**Sb**	11 29 26.6	+2.4
	3.2nm,0.3s						
LPL	**La Plagne**	**1.95**	**223**	*e*Pn	**Pn**	11 28 57.0	-0.4
LPL	**La Plagne**	**1.95**	**223**	*e*Pg	**Pb**	11 29 01.4	+1.6
LPG	**La Plagne**	**1.96**	**222**	*e*Pn	**Pn**	11 28 57.0	-0.5
LPG	**La Plagne**	**1.96**	**222**	*e*P	**Pn**	11 28 59.2	+1.7
LPG				*e*Sg	**Sb**	11 29 26.8	+2.3
	4.5nm,0.3s						
LPG	**La Plagne**	**1.96**	**222**	*e*Pn	**Pn**	11 28 57.0	-0.5
LPG	**La Plagne**	**1.96**	**222**	*e*P	**Pn**	11 28 59.2	+1.7
WTTA	**Wattenberg**	**2.08**	**80**	Pn	**Pn**	11 28 59.5	+0.4
WTTA	**Wattenberg**	**2.08**	**80**	⇓*i*Pn	**Pn**	11 28 59.5	+0.4
PAGF	**Fort de Pagny**	**2.53**	**310**	*e*Pn	**Pn**	11 29 05.0	-0.1
PAGF				*e*Sg	**Sb**	11 29 44.4	+3.7
	1.5nm,0.3s,baz=146						
PAGF	**Fort de Pagny**	**2.53**	**310**	*e*Pn	**Pn**	11 29 05.0	-0.1
PAGF				*e*Sg	**Sb**	11 29 44.4	+3.7
	0.8nm,0.3s						
MBDF	**Montbardon**	**2.58**	**211**	*e*Pg	**Pb**	11 29 12.7	+2.3
MBDF				*e*Sg	**Sg**	11 29 47.6	+0.7
	1.9nm,0.3s						
MBDF	**Montbardon**	**2.58**	**211**	*e*Pg	**Pb**	11 29 12.7	+2.3
MBDF				*e*Sg	**Sg**	11 29 47.6	+0.7
	0.9nm,0.3s						
TEOL	**Teolo**	**2.65**	**126**	*e*Pg	**Pb**	11 29 12.2	+0.7
TEOL	**Teolo**	**2.65**	**126**	*e*Sg	**Pb**	11 29 12.2	+0.7
TEOL	**Teolo**	**2.65**	**126**	*e*Sg	**Pb**	11 29 12.2	+0.7
SFTF	**Sexfontaines**	**2.73**	**299**	*e*Pn	**Pn**	11 29 07.9	0.0
	baz=125						
SFTF				*e*Sn	**Sn**	11 29 39.7	-1.4
	3.4nm,0.2s						
SFTF	**Sexfontaines**	**2.73**	**299**	*e*Pn	**Pn**	11 29 07.9	0.0
SFTF				*e*Sn	**Sn**	11 29 39.7	-1.4
	1.7nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.80**	**224**	*e*Pn	**Pn**	11 29 09.1	+0.2
ORIF	**Oris-en-Rattie**	**2.80**	**224**	*e*Pg	**Pb**	11 29 16.9	+2.8
ORIF				*e*Sg	**Sg**	11 29 53.0	-0.9
	3.1nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.80**	**224**	*e*Pn	**Pn**	11 29 09.1	+0.2
ORIF	**Oris-en-Rattie**	**2.80**	**224**	*e*Pg	**Pb**	11 29 16.9	+2.8
ORIF				*e*Sg	**Sg**	11 29 53.0	-0.9
	1.5nm,0.3s						
MEZF	**Maizieres J'vi**	**2.87**	**304**	*e*Pn	**Pn**	11 29 09.6	-0.2
MEZF	**Maizieres J'vi**	**2.87**	**304**	*e*Pn	**Pn**	11 29 09.6	-0.2
KBA	**Koelnbreinsper**	**3.23**	**86**	Pg	**Pg**	11 29 25.8	0.0
KBA	**Koelnbreinsper**	**3.23**	**86**⇑	*i*Pg	**Pg**	11 29 25.8	0.0
LOR	**Lormes**	**3.27**	**277**	*e*Pn	**Pn**	11 29 15.5	+0.1
	baz=95						
LOR	**Lormes**	**3.27**	**277**	*e*Pg	Pb	11 29 26.1	+3.9
	baz=105						
LOR				*e*Sn	**Sn**	11 29 53.1	-1.3
LOR				*e*Sg	**Sg**	11 30 08.4	-0.7
	2.0nm,0.2s,baz=104						
LOR	**Lormes**	**3.27**	**277**	*e*Pn	**Pn**	11 29 15.5	+0.1
LOR	**Lormes**	**3.27**	**277**	*e*Pg	Pb	11 29 26.1	+3.9
LOR				*e*Sn	**Sn**	11 29 53.1	-1.3
LOR				*e*Sg	**Sg**	11 30 08.4	-0.7
	1.0nm,0.2s						
VINO	**Villanova**	**3.28**	**101**⇓	*e*Pn	**Pn**	11 29 15.3	-0.2
VINO	**Villanova**	**3.28**	**101**	*e*Pn	**Pn**	11 29 15.3	-0.2
SMF	**Signal de Mont**	**3.30**	**266**	*e*Pn	**Pn**	11 29 16.0	+0.2
SMF	**Signal de Mont**	**3.30**	**266**	*e*Pg	Pb	11 29 26.6	+3.9
SMF				*e*Sg	**Sg**	11 30 09.7	-0.4
	3.4nm,0.3s						
SMF	**Signal de Mont**	**3.30**	**266**	*e*Pn	**Pn**	11 29 16.0	+0.2
SMF	**Signal de Mont**	**3.30**	**266**	*e*Pg	Pb	11 29 26.6	+3.9
SMF				*e*Sg	**Sg**	11 30 09.7	-0.4
	1.7nm,0.3s						
VIVF	**Saint-Julien-l**	**3.47**	**234**	*e*Pn	**Pn**	11 29 18.5	+0.4
VIVF				*e*Sg	**Sg**	11 30 14.0	-1.4
	1.9nm,0.3s						
VIVF	**Saint-Julien-l**	**3.47**	**234**	*e*Pn	**Pn**	11 29 18.5	+0.4
VIVF				*e*Sg	**Sg**	11 30 14.0	-1.4
	0.9nm,0.3s						
SSF	**Saint Saulge**	**3.51**	**274**	*e*Pn	**Pn**	11 29 18.7	+0.1
SSF				*e*Sn	**Sn**	11 29 58.8	-1.3
SSF				*e*Sg	**Sg**	11 30 15.8	-0.8
	1.7nm,0.3s						
SSF	**Saint Saulge**	**3.51**	**274**	*e*Pn	**Pn**	11 29 18.7	+0.1
SSF				*e*Sn	**Sn**	11 29 58.8	-1.3
SSF				*e*Sg	**Sg**	11 30 15.8	-0.8
	0.9nm,0.3s						
AVF	**Avril sur Loir**	**3.62**	**269**	*e*Pn	**Pn**	11 29 21.1	+0.9
AVF	**Avril sur Loir**	**3.62**	**269**	*e*Pg	Pb	11 29 32.4	+4.3
AVF				*e*Sn	**Sn**	11 30 01.6	-1.4
	1.6nm,0.3s						
AVF	**Avril sur Loir**	**3.62**	**269**	*e*Pn	**Pn**	11 29 21.1	+0.9
AVF	**Avril sur Loir**	**3.62**	**269**	*e*Pg	Pb	11 29 32.4	+4.3
AVF				*e*Sn	**Sn**	11 30 01.6	-1.4
	0.8nm,0.3s						

*ISCJB **13** 11:28:39.5±0.3, 44°.34N±0°.03×11°.47E±0°.03, h29km±3km, Error ellipse: s-maj=4.4km s-min=3.7km az=169.4*
*CSEM **13** 11:28:39.5±0.1, 44°.35N×11°.52E, h20km, ML2.5/11, Error ellipse: s-maj=2.8km s-min=2.7km az=86.0*
*ROM **13** 11:28:40.0±0.2, 44°.33N×11°.50E, h18km±4km, Md2.7/18, Ml2.2/9, Error ellipse: s-maj=3.4km s-min=2.8km az=48.0*
*LDG **13** 11:28:41.0±0.2, 44°.26N×11°.44E, h2km, Ml2.7/9, Error ellipse: s-maj=5.3km s-min=2.9km az=120.0*

ISC 13 11:28:39.3±0.9, 44°.34N±0°.02×11°.51E±0°.02, h18km±2km, n62, σ0s81/92, 1C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTRZ	**Monterenzio**	**0.05**	**323**	Pg	**Pg**	**11 28 43.3**	**+0.6**
MTRZ				Sg	**Sg**	**11 28 46.3**	**+1.2**
	927nm,0.5s						
MTRZ	**Monterenzio**	**0.05**	**323**	Pg	**Pg**	**11 28 43.3**	**+0.6**
MTRZ				Sg	**Sg**	**11 28 46.3**	**+1.2**
	927nm,0.5s						
FIU	**Minerbio Fiu**	**0.30**	**358**	Pg	**Pb**	**11 28 47.1**	**+1.0**
	4µm,0.7s						
FIU	**Minerbio Fiu**	**0.30**	**358**	Pg	**Pb**	**11 28 47.1**	**+1.0**
	4µm,0.7s						
SEI	**Scarperia**	**0.30**	**201**	Pg	**Pg**	**11 28 45.9**	**-0.1**
SEI				Sg	**Sb**	**11 28 51.9**	**+1.1**
	409nm,0.3s						
SEI	**Scarperia**	**0.30**	**201**	Pg	**Pg**	**11 28 45.9**	**-0.1**
SEI				Sg	**Sb**	**11 28 51.9**	**+1.1**
	409nm,0.3s						
FNVD	**Fontana Vidola**	**0.32**	**238**	Pg	**Pg**	**11 28 45.9**	**-0.5**
FNVD				Sg	**Sb**	**11 28 52.0**	**+0.5**
	365nm,0.5s						
FNVD	**Fontana Vidola**	**0.32**	**238**	Pg	**Pg**	**11 28 45.9**	**-0.5**
FNVD				Sg	**Sb**	**11 28 52.0**	**+0.5**
	365nm,0.5s						
VMG	**Vicchio**	**0.38**	**176**	Pg	**Pg**	**11 28 47.0**	**-0.3**
VMG				Sg	**Sg**	**11 28 52.5**	**-0.1**
	82nm,0.4s						
ZCCA	**Zocca**	**0.38**	**272**	Pg	**Pb**	**11 28 48.2**	**+0.6**
ZCCA				Sg	**Sg**	**11 28 52.1**	**-0.6**
ZCCA	**Zocca**	**0.38**	**272**	Pg	**Pb**	**11 28 48.2**	**+0.6**
ZCCA				Sg	**Sg**	**11 28 52.1**	**-0.6**
SFI	**Santa Sofia**	**0.50**	**150**	Pg	**Pg**	**11 28 49.4**	**0.0**
SFI				Sg	**Sb**	**11 28 57.8**	**+1.3**
SFI	**Santa Sofia**	**0.50**	**150**	Pg	**Pg**	**11 28 49.4**	**0.0**
SFI				Sg	**Sb**	**11 28 57.8**	**+1.3**
ASQU	**Asqua**	**0.58**	**159**	Pg	**Pg**	**11 28 50.7**	**-0.2**
ASQU				Sg	**Sb**	**11 29 00.1**	**+1.4**
ASQU	**Asqua**	**0.58**	**159**	Pg	**Pg**	**11 28 50.7**	**-0.2**
ASQU				Sg	**Sb**	**11 29 00.1**	**+1.4**
CRMI	**Carmignano**	**0.67**	**215**	Pg	**Pb**	**11 28 52.7**	**+0.3**
	57nm,0.5s						
CRMI	**Carmignano**	**0.67**	**215**	Pg	**Pb**	**11 28 52.7**	**+0.3**
	57nm,0.5s						
BDI	**Bagni Di Lucca**	**0.71**	**247**	Pg	**Pb**	**11 28 53.6**	**+0.5**
	63nm,0.4s						
BDI	**Bagni Di Lucca**	**0.71**	**247**	Pg	**Pb**	**11 28 53.6**	**+0.5**
	63nm,0.4s						
CRE	**Caprese Michel**	**0.79**	**156**	Pg	**Pg**	**11 28 55.4**	**+0.6**
CRE	**Caprese Michel**	**0.79**	**156**	Pg	**Pg**	**11 28 55.4**	**+0.6**
ERBM	**Eremo**	**0.79**	**276**	Pg	**Pn**	**11 28 56.3**	**+0.7**
ERBM	**Eremo**	**0.79**	**276**	Pg	**Pn**	**11 28 56.3**	**+0.7**
VLC	**Villacollemand**	**0.82**	**258**	Pg	**Pg**	**11 28 56.0**	**+0.6**
	33nm,0.5s						
VLC	**Villacollemand**	**0.82**	**258**	Pg	**Pg**	**11 28 56.0**	**+0.6**
	33nm,0.5s						
MAIM	**Mastiano**	**0.84**	**240**	Pg	**Pg**	**11 28 56.4**	**+0.6**
	53nm,0.7s						
MAIM	**Mastiano**	**0.84**	**240**	Pg	**Pg**	**11 28 56.4**	**+0.6**
	53nm,0.7s						
PARC	**Parchiule**	**0.87**	**142**	Pg	**Pg**	**11 28 56.7**	**+0.4**
	73nm,0.8s						
PARC	**Parchiule**	**0.87**	**142**	Pg	**Pg**	**11 28 56.7**	**+0.4**
	73nm,0.8s						
CSNT	**Castellina Chi**	**0.88**	**190**	Pg	**Pb**	**11 28 56.5**	**+0.5**
	49nm,0.5s						
CSNT	**Castellina Chi**	**0.88**	**190**	Pg	**Pb**	**11 28 56.5**	**+0.5**
	49nm,0.5s						
TEOL	**Teolo**	**1.03**	**6**⇑	*e*Pg	**Pb**	**11 28 58.3**	**-0.2**
TEOL	**Teolo**	**1.03**	**6**	Pg	**Pb**	**11 28 58.7**	**+0.1**
TEOL	**Teolo**	**1.03**	**6**	Pg	**Pb**	**11 28 58.7**	**+0.1**
CAFI	**Castiglion Fio**	**1.06**	**162**	Pg	**Pb**	**11 28 59.8**	**+0.6**
	45nm,0.5s						
CAFI	**Castiglion Fio**	**1.06**	**162**	Pg	**Pb**	**11 28 59.8**	**+0.6**
	45nm,0.5s						
MARN	**Marana (Italy)**	**1.31**	**351**	*e*Pg	**Pn**	**11 29 02.6**	**-0.2**
MARN	**Marana (Italy)**	**1.31**	**351**	*e*Pg	**Pn**	**11 29 02.6**	**-0.2**
PANI	**Panarotta**	**1.71**	**355**	*e*Pg	**Pn**	**11 29 09.0**	**+0.6**
PANI	**Panarotta**	**1.71**	**355**	*e*Pg	**Pn**	**11 29 09.0**	**+0.6**
MLNI	**Malnisio**	**1.97**	**23**	*e*Pn	**Pn**	**11 29 11.3**	**-0.5**
MLNI				*e*Sn	**Sn**	**11 29 35.1**	**-1.0**
MLNI	**Malnisio**	**1.97**	**23**	*e*Pn	**Pn**	**11 29 11.3**	**-0.5**
MLNI				*e*Sn	**Sn**	**11 29 35.1**	**-1.0**
SABO	**M.te Sabotino**	**2.21**	**41**	*e*Pn	**Pn**	**11 29 14.6**	**-0.5**
SABO	**M.te Sabotino**	**2.21**	**41**	*e*Pn	**Pn**	**11 29 14.6**	**-0.5**
NVLJ	**Novalja**	**2.42**	**84**	*e*Pn	**Pn**	**11 29 17.8**	**-0.2**
NVLJ				Sn	**Sn**	**11 29 46.5**	**-0.6**
NVLJ	**Novalja**	**2.42**	**84**	*e*Pn	**Pn**	**11 29 17.7**	**-0.2**
NVLJ				Sn	**Sn**	**11 29 46.4**	**-0.6**
ZOU	**Zoufplan**	**2.45**	**24**	*e*Pn	**Pn**	**11 29 18.4**	**0.0**
PGF	**Pioggiola**	**2.56**	**226**	*e*Pn	**Pn**	**11 29 20.1**	**+0.2**
PGF				*e*Sn	**Sn**	**11 29 49.6**	**-1.0**
	23nm,0.6s						
PGF	**Pioggiola**	**2.56**	**226**	*e*Pn	**Pn**	**11 29 20.1**	**+0.2**
PGF				*e*Sn	**Sn**	**11 29 49.6**	**-1.0**
	11nm,0.6s						
SBF	**Sospel**	**2.97**	**262**	*e*Pn	Pn	11 29 29.1	+3.5
SBF				*e*Sn	**Sn**	**11 30 00.1**	**-0.6**
	5.1nm,0.3s						
SBF	**Sospel**	**2.97**	**262**	*e*Pn	Pn	11 29 29.1	+3.5
SBF				*e*Sn	**Sn**	**11 30 00.1**	**-0.6**
	2.5nm,0.3s						
LPL	**La Plagne**	**3.59**	**291**	*e*Pn	**Pn**	**11 29 35.3**	**+1.1**
LPL				*e*Sn	**Sn**	**11 30 15.5**	**-0.7**
	2.6nm,0.4s						
LPL	**La Plagne**	**3.59**	**291**	*e*Pn	**Pn**	**11 29 35.3**	**+1.1**
LPL				*e*Sn	**Sn**	**11 30 15.5**	**-0.7**
	1.3nm,0.4s						
FRF	**La Foret Royal**	**3.59**	**259**	*e*Pn	**Pn**	**11 29 35.4**	**+1.3**
FRF				*e*Sn	**Sn**	**11 30 14.7**	**-1.3**
	4.2nm,0.3s						
FRF	**La Foret Royal**	**3.59**	**259**	*e*Pn	**Pn**	**11 29 35.4**	**+1.3**
FRF				*e*Sn	**Sn**	**11 30 14.7**	**-1.3**
	2.1nm,0.3s						
LMR	**La Mourre**	**3.75**	**256**	*e*Pn	**Pn**	**11 29 37.1**	**+0.9**
LMR				*e*Sn	**Sn**	**11 30 18.5**	**-1.4**
	5.1nm,0.4s						
LMR	**La Mourre**	**3.75**	**256**	*e*Pn	**Pn**	**11 29 37.1**	**+0.9**
LMR				*e*Sn	**Sn**	**11 30 18.5**	**-1.4**
	2.5nm,0.4s						
ORIF	**Oris-en-Rattie**	**4.06**	**280**	*e*Pn	**Pn**	**11 29 41.5**	**+1.0**
ORIF				*e*Sn	**Sn**	**11 30 26.2**	**-1.4**
	5.7nm,0.6s						
ORIF	**Oris-en-Rattie**	**4.06**	**280**	*e*Pn	**Pn**	**11 29 41.5**	**+1.0**
ORIF				*e*Sn	**Sn**	**11 30 26.2**	**-1.4**
	2.8nm,0.6s						
SMRF	**Simiane la Rot**	**4.28**	**267**	*e*Pn	**Pn**	**11 29 44.3**	**+0.7**
SMRF				*e*Sn	**Sn**	**11 30 31.5**	**-1.6**
	1.6nm,0.4s						
SMRF	**Simiane la Rot**	**4.28**	**267**	*e*Pn	**Pn**	**11 29 44.3**	**+0.7**
SMRF				*e*Sn	**Sn**	**11 30 31.5**	**-1.6**
	0.8nm,0.4s						

*NIED **13** 11:36:00, 27°.20N×127°.50E, h89km, Mw3.9 Best double couple: M₀9.29000×10¹⁴ NP1:φ₀167.00000°, δ32.00000°, λ-172.00000°. NP2:φ₀70.00000°, δ86.00000°, λ-58.00000°.*
*ISCJB **13** 11:36:14.9±0.3, 27°.14N±0°.05×127°.49E±0°.05, h99km±4km, mb3.8/15, Error ellipse: s-maj=10.5km s-min=3.2km az=136.1*
*JMA **13** 11:36:16.4±0.2, 27°.18N×127°.51E, h88km±2km, M4.0*
JMA Felt I J1.
*IDC **13** 11:36:17.8±3.0, 27°.14N×127°.45E, h110km±25km, mb3.7/15, mb1 3.8/18, mb1mx3.6/50, mbtmp4.0/18, Error ellipse: s-maj=20.1km s-min=17.7km az=37.0*

ISC 13 11:36:16.4±0.6, 27°.09N±0°.05×127°.57E±0°.05, h102km±5km, n42, σ1s32/63, mb3.9/15, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.36**	**98**	P	**Pn**	**11 36 30.8**	**-0.7**
JIH				S	**Sn**	**11 36 41.0**	**-1.8**
JAGN	**Aguni-jima**	**0.57**	**210**	P	**Pn**	**11 36 32.2**	**-0.7**
JAGN				*e*S	**Sn**	**11 36 43.8**	**-1.5**
JOW	**Kunigami**	**0.68**	**112**	P	**Pn**	**11 36 33.6**	**-0.2**
JOW				*e*S	**Sn**	**11 36 45.7**	**-1.2**
JNTH	**Nagotoyohara**	**0.70**	**144**	P	**Pn**	**11 36 34.0**	**0.0**
JNTH				*e*S	**Sn**	**11 36 46.6**	**-0.5**
JOKE	**Okinoerabujima**	**0.94**	**73**	P	**Pn**	**11 36 35.6**	**-0.7**
JOKE				*e*S	**Sn**	**11 36 49.9**	**-1.4**
JJT2	**Tamagusuku 2**	**0.96**	**170**	P	**Pn**	**11 36 37.4**	**+0.9**
JJT2				*e*S	**Sn**	**11 36 53.0**	**+1.4**
JKE	**Kume jima 2**	**1.03**	**223**	P	**Pn**	**11 36 36.8**	**-0.5**
JKE				*e*S	**Sn**	**11 36 51.7**	**-1.3**
JTK	**Tokunoshima**	**1.41**	**60**	P	**Pn**	**11 36 41.1**	**-0.6**
JTK				*e*S	**Sn**	**11 36 59.3**	**-1.6**
JAMN	**Amaminishikomi**	**1.83**	**51**	P	**Pn**	**11 36 46.0**	**-0.9**
JAMN				*e*S	**Sn**	**11 37 07.9**	**-2.3**
JAM	**Amami Oshima**	**2.24**	**53**	P	**Pn**	**11 36 51.6**	**-0.5**
JAM				*e*S	**Sn**	**11 37 17.5**	**-2.0**
JZK	**Kikaishima**	**2.46**	**60**	P	**Pn**	**11 36 55.0**	**0.0**
JZK				*e*S	**Sn**	**11 37 24.2**	**-0.4**
JTAJ	**Takarajima**	**2.52**	**35**	P	**Pn**	**11 36 55.5**	**-0.2**
JTAJ				*e*S	**Sn**	**11 37 24.2**	**-1.8**
JIKM	**Ikemajima**	**3.00**	**225**	P	**Pn**	**11 37 02.4**	**+0.2**
JOGS	**Gusukube**	**3.02**	**221**	P	**Pn**	**11 37 03.0**	**+0.5**
JIRB	**Irabujima**	**3.11**	**224**	P	**Pn**	**11 37 03.6**	**-0.1**
JIRB				*e*S	**Sn**	**11 37 39.1**	**-1.1**
JMZ	**Minamidaito 2**	**3.51**	**110**	P	**Pn**	**11 37 07.6**	**-1.4**
JMZ				*e*S	**Sn**	**11 37 45.2**	**-4.5**
JTJ	**Tarama**	**3.55**	**227**	P	**Pn**	**11 37 09.1**	**-0.4**
JTJ				*e*S	**Sn**	**11 37 49.3**	**-1.3**
JISG	**Ishigakijimahi**	**3.85**	**230**	P	**Pn**	**11 37 12.4**	**-1.1**
JIJ	**Ishigaki jima**	**4.11**	**229**	P	**Pn**	**11 37 15.7**	**-1.4**
JIJ				*e*S	**Sn**	**11 38 01.5**	**-2.6**
JKRS	**Kuro-shima**	**4.28**	**229**	P	**Pn**	**11 37 18.3**	**-1.1**
IRIF	**Iriomote-Funau**	**4.41**	**232**	P	**Pn**	**11 37 19.6**	**-1.6**
IRIF				*e*S	**Sn**	**11 38 08.1**	**-3.4**
YOJ	**Yonaguni jima**	**4.87**	**239**	P	**Pn**	**11 37 26.9**	**-0.4**
JYNG	**Yonagunijimaku**	**4.92**	**239**	P	**Pn**	**11 37 27.5**	**-0.6**
JNU	**Nakatsue**	**6.66**	**25**	P	**Pn**	**11 37 52.6**	**+0.9**
	5.9nm,0.3s,baz=239,slow=4.2,SNR=19						
JNU				S	**Sn**	**11 39 06.4**	**+0.2**
	baz=221,slow=19,SNR=2.0						
KSRS	**Korea Array**	**10.34**	**2**	P	**Pn**	**11 38 42.8**	**+1.1**
	0.1nm,0.3s,baz=182,slow=14,SNR=9.6						
MJAR	**Matsshiro Arr**	**13.06**	**41**	P	**Pn**	**11 39 19.0**	**+1.0**
	0.4nm,0.3s,baz=245,slow=14,SNR=4.1						
SONM	**Songino Array**	**26.52**	**327**	P	**P**	**11 41 45.3**	**+0.9**
	1.2nm,0.5s,baz=142,slow=11,SNR=10.0						
SONM				pP	**pP**	**11 42 07.9**	**+1.0**
	0.6nm,0.7s,baz=135,slow=9.2,SNR=2.6						
SONM				PcP	**PcP**	**11 45 07.2**	**+0.6**
	0.2nm,0.4s,baz=145,slow=3.5,SNR=2.6						
PETK	**Petropavlovsk-**	**34.29**	**32**	P	**P**	**11 42 54.0**	**+1.3**
	2.0nm,0.8s,baz=237,slow=4.5,SNR=4.1						
MKAR	**Makanchi Array**	**40.52**	**311**	P	**P**	**11 43 44.2**	**-1.2**
	1.0nm,0.6s,baz=89,slow=9.3,SNR=9.0						
MKAR				PcP	**PcP**	**11 45 45.2**	**-0.8**
	0.4nm,0.7s,baz=67,slow=3.7,SNR=3.5						
ZALV	**Zalesovo Beam**	**41.21**	**322**	P	**P**	**11 43 48.9**	**-2.0**
	0.7nm,0.3s,baz=123,slow=8.4,SNR=2.5						
KURBB	**Kurchatov Arra**	**43.83**	**316**	P	**P**	**11 44 11.7**	**-0.4**
	0.7nm,0.5s,baz=103,slow=8.8,SNR=3.7						
WRA	**Warramunga Arr**	**47.21**	**171**	P	**P**	**11 44 40.0**	**+0.9**
	2.2nm,0.6s,baz=354,slow=8.4,SNR=17						
BVAR	**Borovoye Array**	**49.24**	**318**	P	**P**	**11 44 55.8**	**+1.4**
	0.6nm,0.4s,baz=117,slow=8.4,SNR=3.8						
ILAR	**Eielson Array**	**63.97**	**28**	P	**P**	**11 46 38.2**	**-0.3**
	0.7nm,0.6s,baz=254,slow=3.9,SNR=28						
INK	**Inuvik**	**68.34**	**23**	P	**P**	**11 47 07.1**	**+0.8**
	3.8nm,0.6s,baz=288,slow=6.3,SNR=16						
FINES	**FINESS Array B**	**71.83**	**330**	P	**P**	**11 47 27.2**	**-0.5**
	0.8nm,0.4s,baz=72,slow=4.5,SNR=7.4						
BRTR	**Keskin Array B**	**76.04**	**308**	P	**P**	**11 47 52.9**	**0.0**
	0.5nm,0.5s,baz=85,slow=5.9,SNR=4.4						
HFS	**Hagfors**	**77.79**	**332**	P	**P**	**11 48 01.6**	**-0.5**
	1.0nm,0.5s,baz=79,slow=7.5,SNR=5.6						
YKA	**Yellowknife Ar**	**78.00**	**25**	P	**P**	**11 48 03.9**	**+0.7**
	0.9nm,0.4s,baz=303,slow=5.7,SNR=8.4						
NB2	**NORSAR Subarra**	**78.29**	**334**	P	**P**	**11 48 03.8**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=52,slow=5.3						
NOA	**NORSAR Array B**	**78.29**	**334**	P	**P**	**11 48 04.0**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=53,slow=5.6,SNR=4.8						
GERES	**GERESS Array B**	**84.16**	**323**	P	**P**	**11 48 36.5**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=23,slow=5.3,SNR=4.9						

*IDC **13** 12:07:50.3±0.8, 36°.98N×27°.77E, h0km, mb3.7/7, mb1 3.8/13, mb1mx3.7/40, mbtmp3.7/13, ML3.5/6, MS2.1/1, Ms1 2.1/1, ms1mx1.7/41, Error ellipse: s-maj=19.2km s-min=16.2km az=158.0*
*ISK **13** 12:07:51.9, 36°.98N×27°.78E, h15km, ML3.6*
*ISCJB **13** 12:07:52.8±0.3, 36°.95N±0°.02×27°.75E±0°.02, h24km±3km, mb3.6/8, MS4.2/1, Error ellipse: s-maj=3.0km s-min=2.6km az=14.9*
*DDA **13** 12:07:52.4, 37°.00N×27°.68E, h26km, MD3.2*
*THE **13** 12:07:52.4, 36°.94N×27°.79E, h3km±2km, ML4.1/3, Error ellipse: s-maj=2.6km s-min=0.7km az=49.0*
*CSEM **13** 12:07:52.7±0.1, 36°.97N×27°.77E, h10km, MD3

CHOS	**Chios island**	**1.97**	**317**	P	**Pn**	**12 08 25.6**	**-0.2**
CHOS	**Chios island**	**1.97**	**317**	*e*Pn	**Pn**	**12 08 26.0**	**+0.1**
CHOS	**Chios island**	**1.97**	**317**	P	**Pn**	**12 08 25.6**	**-0.2**
KORT	**Korkueli**	**2.08**	**88**	*i* P	**Pb**	**12 08 30.1**	**-0.2**
KORT				*i* S	**Sb**	**12 08 57.2**	**+1.2**
ZKR	**Zakros**	**2.21**	**215**	*e*PN	**Pn**	**12 08 29.5**	**+0.4**
ZKR	**Zakros**	**2.21**	**215**	P	**Pn**	**12 08 29.2**	**+0.1**
ZKR	**Zakros**	**2.21**	**215**	*e*Pn	**Pn**	**12 08 29.5**	**+0.4**
ZKR	**Zakros**	**2.21**	**215**	P	**Pn**	**12 08 29.2**	**+0.1**
BCK	**Bucak**	**2.32**	**76**	*e*PN	**Pn**	**12 08 30.7**	**+0.1**
BCK	**Bucak**	**2.32**	**76**	*e*Pn	**Pn**	**12 08 30.7**	**+0.1**
ISP	**Isparta**	**2.37**	**67**	*e*PN	**Pn**	**12 08 31.5**	**+0.2**
ISP	**Isparta**	**2.37**	**67**	⇑P	**Pn**	**12 08 32.2**	**+0.9**
ISP	**Isparta**	**2.37**	**67**	*e*Pn	**Pn**	**12 08 31.5**	**+0.2**
ISP	**Isparta**	**2.37**	**67**	⇑P	**Pn**	**12 08 32.2**	**+0.9**
NPS	**Neapolis**	**2.42**	**227**	*e*PN	**Pn**	**12 08 31.9**	**0.0**
NPS	**Neapolis**	**2.42**	**227**	*e*Pn	**Pn**	**12 08 31.9**	**0.0**
LAST	**Lasithi**	**2.57**	**227**	*e*PN	**Pn**	**12 08 34.2**	**+0.2**
LAST	**Lasithi**	**2.57**	**227**	*e*Pn	**Pn**	**12 08 34.2**	**+0.2**
PRK	**Paraskevi**	**2.58**	**333**	*e*PN	**Pn**	**12 08 34.4**	**+0.3**
PRK	**Paraskevi**	**2.58**	**333**	P	**Pn**	**12 08 33.9**	**-0.2**
PRK	**Paraskevi**	**2.58**	**333**	*e*Pn	**Pn**	**12 08 34.4**	**+0.3**
PRK	**Paraskevi**	**2.58**	**333**	P	**Pn**	**12 08 33.9**	**-0.2**
SIGR	**SIGRI**	**2.71**	**327**	*e*PN	**Pn**	**12 08 35.4**	**-0.6**
SIGR	**SIGRI**	**2.71**	**327**	*e*PN	**Pn**	**12 08 36.0**	**0.0**
SIGR	**SIGRI**	**2.71**	**327**	P	**Pn**	**12 08 35.9**	**0.0**
SIGR	**SIGRI**	**2.71**	**327**	P	**Pn**	**12 08 35.9**	**0.0**
DST	**Dursunbey**	**2.74**	**14**	*e*PN	**Pn**	**12 08 35.9**	**-0.5**
DST	**Dursunbey**	**2.74**	**14**	*e*Pn	**Pn**	**12 08 35.9**	**-0.5**
TVSB	**Tavsanli**	**2.84**	**28**	*e*PN	**Pn**	**12 08 37.8**	**+0.1**
TVSB	**Tavsanli**	**2.84**	**28**	*e*Pn	**Pn**	**12 08 37.8**	**+0.1**
IDI	**Anoyia**	**2.85**	**235**	Pn	**Pn**	**12 08 38.2**	**+0.4**
	2.7nm,0.3s,baz=344,slow=8.5,SNR=17						
IDI				Sn	**Sb**	**12 09 19.0**	**+0.7**
	6.4nm,0.3s,baz=322,slow=18,SNR=7.3						
KARY	**Karystos**	**2.86**	**293**	P	**Pn**	**12 08 38.0**	**+0.1**
SIVA	**Sivas**	**3.07**	**232**	*e*PN	**Pn**	**12 08 41.4**	**+0.6**
SIVA	**Sivas**	**3.07**	**232**	*e*Pn	**Pn**	**12 08 41.4**	**+0.6**
ORLT	**Orhaneli**	**3.22**	**16**	*e*PN	**Pn**	**12 08 42.9**	**-0.1**
ORLT	**Orhaneli**	**3.22**	**16**	*e*Pn	**Pn**	**12 08 42.9**	**-0.1**
EREA	**Eretria**	**3.37**	**297**	*e*PN	**Pn**	**12 08 45.8**	**+0.8**
ATH	**Athens Observa**	**3.38**	**289**	*e*PN	**Pn**	**12 08 45.9**	**+0.9**
EDC	**Edincik**	**3.40**	**1**	*e*PN	**Pn**	**12 08 44.9**	**-0.4**
EDC	**Edincik**	**3.40**	**1**	*e*Pn	**Pn**	**12 08 44.9**	**-0.4**
LPK	**Lapseki**	**3.51**	**347**	*e*PN	**Pn**	**12 08 46.9**	**0.0**
LPK	**Lapseki**	**3.51**	**347**	*e*Pn	**Pn**	**12 08 46.9**	**0.0**
GADA	**Gvkgeada**	**3.55**	**336**	*e*PN	**Pn**	**12 08 47.3**	**-0.2**
GADA	**Gvkgeada**	**3.55**	**336**	*e*Pn	**Pn**	**12 08 47.3**	**-0.2**
LIA	**Limnos Island**	**3.58**	**326**	*e*PN	**Pn**	**12 08 48.2**	**+0.5**
LIA	**Limnos Island**	**3.58**	**326**	P	**Pn**	**12 08 48.1**	**+0.4**
GELI	**Tayfur-Gelibol**	**3.59**	**344**	*e*PN	**Pn**	**12 08 48.9**	**+0.9**
GELI	**Tayfur-Gelibol**	**3.59**	**344**	*e*Pn	**Pn**	**12 08 48.9**	**+0.9**
IZI	**Iznik**	**3.64**	**21**	*e*PN	**Pn**	**12 08 50.0**	**+1.2**
IZI	**Iznik**	**3.64**	**21**	*e*Pn	**Pn**	**12 08 50.0**	**+1.2**
ARMT	**Armutlu**	**3.72**	**13**	*e*PN	**Pn**	**12 08 50.4**	**+0.7**
ARMT	**Armutlu**	**3.72**	**13**	*e*Pn	**Pn**	**12 08 50.4**	**+0.7**
VILL	**Villia**	**3.74**	**290**	*e*Pn	**Pn**	**12 08 50.9**	**+0.9**
MRKA	**Markates**	**3.74**	**299**	*e*PN	**Pn**	**12 08 51.1**	**+1.0**
MRKA	**Markates**	**3.74**	**299**	*e*Pn	**Pn**	**12 08 51.1**	**+1.0**
AOS	**Alonnisos**	**3.78**	**307**	*e*PN	**Pn**	**12 08 51.3**	**+0.7**
AOS	**Alonnisos**	**3.78**	**307**	*e*Pn	**Pn**	**12 08 51.3**	**+0.7**
VIL2	**Platees**	**3.78**	**291**	*e*PN	**Pn**	**12 08 50.9**	**+0.2**
HDMB	**Hadim**	**3.79**	**88**	*e*PN	**Pn**	**12 08 51.2**	**+0.3**
HDMB	**Hadim**	**3.79**	**88**	*e*Pn	**Pn**	**12 08 51.2**	**+0.3**
KIZT	**Kizilcal**	**3.79**	**58**	*e*PN	**Pn**	**12 08 51.0**	**+0.2**
KIZT	**Kizilcal**	**3.79**	**58**	*e*Pn	**Pn**	**12 08 51.1**	**+0.2**
KYTH	**Kithira**	**3.86**	**261**	*e*PN	**Pn**	**12 08 52.6**	**+0.9**
KYTH	**Kithira**	**3.86**	**261**	P	**Pn**	**12 08 52.4**	**+0.7**
KYTH	**Kithira**	**3.86**	**261**	P	**Pn**	**12 08 52.4**	**+0.7**
SMTH	**Samothraki Isl**	**3.93**	**334**	*e*PN	**Pn**	**12 08 53.6**	**+1.0**
SMTH	**Samothraki Isl**	**3.93**	**334**	P	**Pn**	**12 08 52.5**	**-0.1**
ALN	**Alexandroupoli**	**4.17**	**342**	P	**Pn**	**12 08 55.3**	**-0.6**
AKMC	**Akamas**	**4.17**	**116**	P	**Pn**	**12 08 57.0**	**+1.0**
	baz=290						
AKMC	**Akamas**	**4.17**	**116**	P	**Pn**	**12 08 57.0**	**+1.0**
PPCY	**Paphos**	**4.25**	**118**	P	**Pn**	**12 08 58.1**	**+1.0**
	baz=292						
PPCY	**Paphos**	**4.25**	**118**	P	**Pn**	**12 08 58.1**	**+1.0**
ALFC	**Alevga**	**4.31**	**113**	⇑P	**Pn**	**12 08 59.5**	**+1.6**
	baz=288						
ALFC				S	**Sn**	**12 09 48.7**	**+0.7**
ALFC	**Alevga**	**4.31**	**113**	⇑P	**Pn**	**12 08 59.5**	**+1.6**
ALFC				S	**Sn**	**12 09 48.7**	**+0.7**
PAIG	**Paliouri**	**4.37**	**314**	*e*PN	**Pn**	**12 08 59.4**	**+0.7**
PAIG	**Paliouri**	**4.37**	**314**	*e*Pn	**Pn**	**12 08 59.4**	**+0.7**
OUR	**Ouranopolis**	**4.49**	**320**	*e*PN	**Pn**	**12 09 01.0**	**+0.6**
OUR	**Ouranopolis**	**4.49**	**320**	*e*Pn	**Pn**	**12 09 01.0**	**+0.6**
SZAC	**Souni-Zanaja**	**4.70**	**116**	P	**Pn**	**12 09 04.4**	**+1.1**
	baz=292						
SZAC				S	**Sn**	**12 09 58.9**	**+1.3**
SZAC	**Souni-Zanaja**	**4.70**	**116**	P	**Pn**	**12 09 04.4**	**+1.1**
SZAC				S	**Sn**	**12 09 58.9**	**+1.3**
MAKR	**Makrakomi, Fth**	**4.90**	**297**	*e*PN	**Pn**	**12 09 06.9**	**+0.9**
MAKR	**Makrakomi, Fth**	**4.90**	**297**	*e*Pn	**Pn**	**12 09 06.9**	**+0.9**
CSS	**Prodhromos**	**4.93**	**112**	P	Pn	12 09 09.8	+3.3
	baz=288						
CSS				S	**Sn**	**12 10 05.2**	**+1.8**
CSS	**Prodhromos**	**4.93**	**112**	P	Pn	12 09 09.8	+3.3
CSS				S	**Sn**	**12 10 05.2**	**+1.8**
KDZ	**Kurdzhali**	**5.04**	**340**	⇓*i*P	**Pn**	**12 09 08.0**	**+0.1**
KDZ	**Kurdzhali**	**5.04**	**340**	⇓*i*P	**Pn**	**12 09 08.0**	**+0.1**
SOH	**Sokhos**	**5.17**	**320**	*e*PN	**Pn**	**12 09 11.3**	**+1.5**
SOH	**Sokhos**	**5.17**	**320**	*e*Pn	**Pn**	**12 09 11.3**	**+1.5**
SRS	**Serrai**	**5.28**	**323**	*e*PN	**Pn**	**12 09 12.2**	**+1.0**
SRS	**Serrai**	**5.28**	**323**	*e*Pn	**Pn**	**12 09 12.2**	**+1.0**
BRTR	**Keskin Array B**	**5.39**	**57**	Pn	**Pn**	**12 09 14.4**	**+1.5**
	1.5nm,0.3s,baz=239,slow=17,SNR=26						
BRTR				Sn	**Sn**	**12 10 14.0**	**-0.8**
	baz=225,slow=24,SNR=2.5						
JMB	**Yambol**	**5.59**	**351**	⇓*i*P	**Pn**	**12 09 15.2**	**-0.2**
JMB	**Yambol**	**5.59**	**351**	S	Pb	12 09 34.8	+4.8
JMB	**Yambol**	**5.59**	**351**	⇓*i*P	**Pn**	**12 09 15.2**	**-0.2**
MMB	**Musomiste**	**5.59**	**327**	⇓*i*P	**Pn**	**12 09 16.1**	**+0.6**
MMB	**Musomiste**	**5.59**	**327**	⇓*i*P	**Pn**	**12 09 16.1**	**+0.6**
VTS	**Vitosha**	**6.64**	**330**	⇑*i*P	**Pn**	**12 09 31.2**	**+1.2**
VTS	**Vitosha**	**6.64**	**330**	⇑*i*P	**Pn**	**12 09 31.2**	**+1.2**
MMAI	**Mount Meron Ar**	**7.40**	**120**	Pn	**Pn**	**12 09 39.2**	**-1.2**
	7.3nm,0.3s,baz=307,slow=11,SNR=15						
MMAI				Sn	Sn	12 10 55.9	-8.2
	2.5nm,0.3s,baz=312,slow=21,SNR=2.7						
TIRR	**Tirgusor**	**7.52**	**4**	⇑*i*P	**Pn**	**12 09 42.2**	**+0.3**
TIRR	**Tirgusor**	**7.52**	**4**	⇑*i*P	**Pn**	**12 09 42.2**	**+0.3**
MLR	**Muntele Rosu**	**8.65**	**351**	Pn	**Pn**	**12 09 57.6**	**+0.1**
	0.1nm,0.3s,baz=167,slow=14,SNR=3.0						
MLR				LR	LR	12 13 05.4	
	comp=Z,12nm,21.0s,baz=126,slow=37						
MLR	**Muntele Rosu**	**8.65**	**351**	⇓*i*P	**Pn**	**12 09 57.7**	**+0.2**
MLR	**Muntele Rosu**	**8.65**	**351**	⇓*i*P	**Pn**	**12 09 57.7**	**+0.2**
ASF	**Jabal al Asfar**	**8.91**	**120**	Pn	**Pn**	**12 10 01.5**	**+0.3**
	0.5nm,0.3s,baz=264,slow=18,SNR=2.8						
ASF				Sn	**Sn**	**12 11 38.9**	**-2.5**
	0.2nm,0.3s,baz=105,slow=20,SNR=2.8						
EIL	**Elat**	**9.42**	**138**	Pn	**Pn**	**12 10 08.1**	**0.0**
	0.8nm,0.3s,baz=344,slow=16,SNR=3.0						
EIL				Sn	Sn	12 11 46.5	-7.4
	1.1nm,0.3s,baz=5.5,slow=18,SNR=3.9						
KECS	**Kecovo**	**12.70**	**337**	*e*PN	Pn	12 10 45.1	-7.8
FINES	**FINESS Array B**	**24.54**	**358**	P	**P**	**12 13 11.5**	**-0.2**
	2.1nm,0.8s,baz=170,slow=13,SNR=6.0						
HFS	**Hagfors**	**24.90**	**343**	P	**P**	**12 13 18.0**	**+3.1**
	0.5nm,0.5s,baz=165,slow=9.4,SNR=3.2						
ESDC	**Sonseca Array**	**24.97**	**286**	P	**P**	**12 13 16.1**	**+0.2**
	0.6nm,0.5s,baz=82,slow=8.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**33.25**	**231**	P	**P**	**12 14 29.0**	**-0.6**
	0.9nm,0.5s,baz=33,slow=8.8,SNR=13						
MKAR	**Makanchi Array**	**41.04**	**58**	P	**P**	**12 15 35.1**	**-0.4**
	1.2nm,0.6s,baz=284,slow=6.0,SNR=13						
SONM	**Songino Array**	**56.73**	**52**	P	**P**	**12 17 36.3**	**+0.2**
	0.9nm,0.6s,baz=288,slow=7.9,SNR=9.6						
KSRS	**Korea Array**	**75.53**	**54**	P	**P**	**12 19 35.4**	**-1.3**
	0.8nm,0.7s,baz=302,slow=5.0,SNR=3.8						
ILAR	**Eielson Array**	**78.53**	**358**	P	**P**	**12 19 52.7**	**-0.5**
	0.3nm,1.0s,baz=330,slow=3.2,SNR=3.0						
TGY	**Tagaytay City**	**84.16**	**77**	LR	LR	13 01 57.7	
	comp=Z,101nm,20.6s,baz=90,slow=39						

IDC 13 12:21:40.0±1.4, 12°71'N×143°44'E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/44, mbtmpb3.6/4, MS3.2/4, Ms1 3.2/4, ms1mx2.8/28, Error ellipse: s-maj=74.8km s-min=20.7km az=121.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.65**	**58**	Pn	Pn	12 22 09.9	-0.4
	100nm,0.3s,baz=214,slow=3.6,SNR=45						
GUMO				Sn	Sn	12 22 28.9	-3.3
	123nm,0.3s,baz=158,slow=22,SNR=9.3						
H11S3	**WAKE ISLAND Hy 23.11**	**73**	**T**	T	T	12 50 14.7	
	baz=253,slow=11,SNR=7.4						
H11S1	**WAKE ISLAND Hy 23.12**	**73**	**T**	T	T	12 50 14.7	
	baz=253,slow=11,SNR=7.5						
H11S2	**WAKE ISLAND Hy 23.13**	**73**	**T**	T	T	12 50 14.7	
	baz=253,slow=11,SNR=7.4						
JNU	**Nakatsue**	**23.34**	**333**	LR	LR	12 33 46.3	
	comp=Z,133nm,19.2s,baz=131,slow=31						
H11N1	**WAKE ISLAND Hy 23.56**	**70**		T	T	12 50 47.5	
	baz=255,slow=75,SNR=20						
H11N2	**WAKE ISLAND Hy 23.57**	**70**		T	T	12 50 48.4	
	baz=255,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy 23.58**	**70**		T	T	12 50 49.2	
	baz=255,slow=75,SNR=17						
ASAJ	**Asahikawa**	**31.31**	**359**	LR	LR	12 39 40.8	
	comp=Z,19nm,20.5s,baz=247,slow=34						
WRA	**Warramunga Arr**	**33.66**	**196**	P	P	12 28 22.4	-0.4
	1.3nm,0.9s,baz=19,slow=9.4,SNR=6.6						
ASAR	**Alice Springs**	**37.33**	**195**	P	P	12 28 54.3	-0.1
	0.5nm,1.0s,baz=16,slow=9.5,SNR=4.3						
PETK	**Petropavlovsk-**	**41.88**	**13**	LR	LR	12 46 37.7	
	comp=Z,19nm,19.1s,baz=211,slow=36						
SONM	**Songino Array**	**46.66**	**326**	LR	LR	12 50 41.1	
	comp=Z,35nm,18.0s,baz=143,slow=37						
ILAR	**Eielson Array**	**69.96**	**25**	P	P	12 32 52.3	-0.8
	0.1nm,0.5s,baz=250,slow=5.7,SNR=3.6						
NVAR	**Mina Array Bea**	**88.56**	**51**	P	P	12 34 36.8	+1.4
	0.7nm,0.9s,baz=255,slow=5.5,SNR=3.9						

IDC 13 12:25:20.2±5.5, 13°21'N×92°54'E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/53, mbtmpb3.3/3, ML3.7/1, Error ellipse: s-maj=108.8km s-min=36.5km az=112.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.08**	**49**	Pn	Pn	12 27 18.6	-0.3
	0.3nm,0.3s,baz=238,slow=17,SNR=2.9						
CMAR				Sn	Sn	12 28 52.2	+1.2
	0.3nm,0.3s,baz=233,slow=28,SNR=3.4						
WRA	**Warramunga Arr**	**52.70**	**128**	P	P	12 34 36.8	-0.1
	0.2nm,0.6s,baz=306,slow=9.4,SNR=7.6						
ASAR	**Alice Springs**	**54.58**	**132**	P	P	12 34 50.8	0.0
	0.2nm,0.4s,baz=312,slow=6.7,SNR=6.8						

JMA 13 12:28:35.4, 34°55'N×139°28'E, h11km±1km, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNIO	**Niijimaoohara**	**0.19**	**181**	P	Pg	12 28 39.7	+0.1
JIM2	**Oshima 3**	**0.21**	**37**	P	Pg	12 28 40.0	+0.1
JIZS	**Izushimoda**	**0.37**	**297**	P	Pg	12 28 42.9	+0.1
JKO	**Kozu shima**	**0.38**	**198**	P	Pg	12 28 43.0	0.0
KTJJ	**Kamata 2**	**0.41**	**335**	P	Pg	12 28 43.6	0.0
JOD2	**Odawara 2**	**0.73**	**348**	P	Pg	12 28 49.1	-0.5
BSO4	**Boso 4**	**0.97**	**63**	P	Pg	12 28 54.0	-0.1
SHZ3	**Shizuoka 3**	**1.02**	**301**	P	Pg	12 28 54.9	-0.3

*IDC **13** 12:28:35.3±1.4, 34°.56N×139°.34E, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.4/50, mbtmpb3.5/4, ML3.7/2, MS2.2/2, Ms1 2.2/2, ms1mx2.1/27, Error ellipse: s-maj=30.4km s-min=15.7km az=69.0*

*ISCJB **13** 12:28:37.1±0.6, 34°.53N±0°.03×139°.32E±0°.05, h21km±5km, mb3.4/2, Error ellipse: s-maj=7.5km s-min=5.1km az=178.3*

*JMA **13** 12:28:37.8, 34°.55N×139°.28E, h12km±1km, M3.1*
JMA Felt II J1.

ISC 13 12:28:37.3±0.9, 34°57'N±0°.03×139°29'E±0°.05, h16km±7km, n20, σ0°92/21, 2C-1D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIM2	**Oshima 3**	**0.19**	**38**	P	Pg	12 28 42.3	+0.4
JIM2				S	**Sg**	**12 28 45.9**	**+0.9**
JNIO	**Niijimaoohara**	**0.21**	**184**	P	**Pg**	**12 28 42.1**	**-0.1**
JNIO				*e*S	**Sg**	**12 28 45.5**	**+0.1**
JIZS	**Izushimoda**	**0.37**	**294**	⇑P	**Pb**	**12 28 45.2**	**-0.3**
JIZS				*e*S	**Sb**	**12 28 50.8**	**-0.3**
JKO	**Kozu shima**	**0.40**	**199**	⇑P	**Pb**	**12 28 45.2**	**-0.8**
JKO				*e*S	**Sb**	**12 28 50.6**	**-1.3**
KTJJ	**Kamata 2**	**0.40**	**333**	⇓P	**Pb**	**12 28 45.9**	**-0.2**
KTJJ				*e*S	**Sb**	**12 28 51.7**	**-0.3**
JOD2	**Odawara 2**	**0.71**	**347**	P	**Pb**	**12 28 51.3**	**-0.1**
JOD2				S	**Sb**	**12 29 01.2**	**+0.2**
BSO4	**Boso 4**	**0.96**	**64**	P	**Pn**	**12 28 55.8**	**-0.2**
SHZ3	**Shizuoka 3**	**1.02**	**300**	P	**Pn**	**12 28 57.0**	**0.0**
SHZ3				*e*S	**Sn**	**12 29 11.8**	**+0.8**
MJAR	**Matsushiro Arr**	**2.16**	**336**	Pn	**Pn**	**12 29 12.7**	**0.0**
	10nm,0.3s,baz=167,slow=15,SNR=34						
MJAR				Pg	**Pb**	**12 29 15.2**	**-0.8**
	10nm,0.3s,baz=165,slow=15,SNR=55						
MJAR				Lg	Lg	12 29 43.0	
	9.8nm,0.3s,baz=158,slow=20,SNR=10						
MJAR				LR	LR	12 30 00.2	
	comp=Z,23nm,21.2s,baz=165,slow=40						
MAT	**Matsushiro**	**2.16**	**336**	P	**Pn**	**12 29 13.2**	**+0.5**
MAT				S	**Sg**	**12 29 44.3**	**-2.5**
JNU	**Nakatsue**	**7.15**	**261**	Pn	**Pn**	**12 30 22.9**	**+1.6**
	1.8nm,0.3s,baz=73,slow=4.0,SNR=7.8						
KSRS	**Korea Array**	**9.65**	**291**	LR	LR	12 34 30.9	
	comp=Z,36nm,19.3s,baz=80,slow=37						
H11N2	**WAKE ISLAND Hy 28.55**	**114**		T	T	13 04 30.0	
	baz=308,slow=75,SNR=48						
H11N1	**WAKE ISLAND Hy 28.55**	**114**		T	T	13 04 24.2	
	baz=308,slow=75,SNR=41						
H11N3	**WAKE ISLAND Hy 28.57**	**114**		T	T	13 04 23.9	
	baz=308,slow=75,SNR=48						
H11S3	**WAKE ISLAND Hy 29.14**	**116**		T	T	13 05 08.7	
	baz=310,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy 29.15**	**116**		T	T	13 05 02.9	
	baz=310,slow=76,SNR=19						
H11S2	**WAKE ISLAND Hy 29.16**	**116**		T	T	13 05 09.9	
	baz=310,slow=76,SNR=12						
WRA	**Warramunga Arr**	**54.41**	**186**	P	**P**	**12 38 03.9**	**+0.2**
	0.9nm,1.1s,baz=2.6,slow=7.6,SNR=4.9						
NVAR	**Mina Array Bea**	**77.86**	**52**	P	**P**	**12 40 35.0**	**+0.4**
	0.1nm,0.3s,baz=293,slow=3.5,SNR=2.0						

CASC 13 12:29:21.3±1.4, 13°43'N×90°56'W, h13km±10km, MD3.7, ML4.1, 2C-9D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.96**	**357**	*e*P	Pb	12 29 39.1	-1.1
PCG				*e*S	Sb	12 29 52.4	-0.8
SBLS	**San Blas**	**1.00**	**66**	⇓*i*P	Pb	12 29 39.8	-1.1
RTR	**El Retiro**	**1.01**	**62**	⇓*i*P	Pb	12 29 40.0	-0.9
SNJE	**San Jose**	**1.03**	**65**	⇓*i*P	Pb	12 29 40.2	-1.1
FUG	**Fuego 3**	**1.05**	**345**	⇑*e*P	Pb	12 29 40.0	-1.6
RBDL	**Robledal**	**1.09**	**51**	⇓*i*P	Pb	12 29 41.1	-1.2
NBG	**Las Nubes**	**1.17**	**10**	⇑*e*P	Pn	12 29 43.2	-0.6
NBG				*e*S	Sg	12 29 59.5	-0.3
BOQS	**Boqueron**	**1.28**	**76**	⇓*i*P	Pn	12 29 44.4	-0.9
BOQS				*e*S	Sb	12 30 01.6	-0.7
SNET	**Serv Nac Est T**	**1.32**	**79**	⇓*i*P	Pn	12 29 44.6	-1.0
SNET				*e*S	Sb	12 30 01.8	-1.2
SNET				AML	AML	12 30 03.7	
	comp=Z,4μm,0.3s						
JAT	**Jato**	**1.37**	**310**	⇓*e*P	Pn	12 29 44.7	-1.4
LFU	**La Fuente**	**1.45**	**77**	*i* P	Pn	12 29 46.8	-0.4
LFU				*e*S	Sn	12 30 06.4	+0.2
LFRS	**El Faro**	**1.47**	**82**	*i* P	Pn	12 29 46.9	-0.9
LBRS	**Las Brisas**	**1.51**	**78**	*i* P	Pn	12 29 47.7	-0.5
SNVI	**San Vicente**	**1.69**	**84**	*e*P	Pn	12 29 50.2	-0.5
SNVI				*e*S	Sb	12 30 13.5	-0.3
MRL	**Marmol**	**1.83**	**27**	⇓*i*P	Pn	12 29 51.5	-1.3
MRL				⇓*e*P	Pb	12 29 52.4	-2.6
CNCH	**Conchagua**	**2.66**	**93**	*e*P	Pn	12 30 04.0	-0.1

*IDC **13** 12:53:25.7±1.1, 21°.85N×95°.80E, h0km, mb3.5/7, mb1 3.7/8, mb1mx3.5/49, mbtmpb3.5/8, ML3.8/1, Error ellipse: s-maj=73.0km s-min=14.5km az=54.0*

ISC 13 12:53:27.2±0.9, 22°0'N±0°.2×96°0'E±0°.3, h10km, n10, σ1s97/12, mb3.5/7, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**3.40**	**326**	*e*P	**Sn**	**12 54 56.5**	**-4.3**
IMP				*e*S	**Sg**	**12 55 18.0**	**+1.6**
CMAR	**Chiang Mai Arr**	**4.44**	**141**	Pn	**Pn**	**12 54 35.2**	**+0.5**
	1.3nm,0.3s,baz=313,slow=13,SNR=31						
CMAR				Pg	**Pg**	**12 54 51.4**	**-1.0**
	1.5nm,0.3s,baz=300,slow=17,SNR=13						
CMAR				Lg	Lg	12 55 48.6	
	2.0nm,0.3s,baz=298,slow=21,SNR=8.4						
SHL	**Shillong**	**5.21**	**314**	*e*P	Pn	12 54 40.0	-5.5
SHL				*e*S	**Sn**	**12 55 46.0**	**+0.2**
MKAR	**Makanchi Array**	**27.16**	**339**	P	**P**	**12 59 13.0**	**+2.3**
	0.4nm,0.6s,baz=144,slow=10,SNR=5.5						
KURBB	**Kurchatov Arra**	**31.72**	**339**	P	**P**	**12 59 52.6**	**+1.5**
	0.2nm,0.4s,baz=144,slow=9.1,SNR=5.3						
BVAR	**Borovoye Array**	**36.69**	**334**	P	**P**	**13 00 34.9**	**+0.7**
	0.3nm,0.4s,baz=134,slow=8.3,SNR=3.2						
WRA	**Warramunga Arr**	**56.01**	**135**	P	**P**	**13 03 07.0**	**+0.6**
	0.5nm,0.8s,baz=321,slow=7.5,SNR=4.6						
ASAR	**Alice Springs**	**58.45**	**139**	P	**P**	**13 03 24.4**	**+0.9**
	0.4nm,0.6s,baz=321,slow=7.2,SNR=8.5						
GERES	**GERESS Array B**	**68.83**	**315**	P	**P**	**13 04 30.2**	**-1.8**
	0.3nm,0.3s,baz=74,slow=4.2,SNR=3.2						
ILAR	**Eielson Array**	**81.10**	**23**	P	**P**	**13 05 41.8**	**-0.7**
	0.1nm,0.5s,baz=294,slow=4.5,SNR=2.4						

IDC 13 12:54:51.6±4.0, 10°93S×165°87E, h0km, mb3.8/2, mb1 4.2/2, mb1mx3.5/30, mbtmpb3.8/2, MS3.3/4, Ms1 3.3/4, ms1mx2.9/26, Error ellipse: s-maj=202.9km s-min=32.2km az=139.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**26.33**	**287**	LR	LR	13 10 31.1	
	comp=Z,50nm,21.9s,slow=36						
H11S2	**WAKE ISLAND Hy 29.25**	**2**	**T**	T	T	13 31 20.4	
	baz=181,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy 29.25**	**2**	**T**	T	T	13 31 25.1	
	baz=181,slow=76,SNR=4.4						
H11S1	**WAKE ISLAND Hy 29.27**	**2**	**T**	T	T	13 31 21.7	
	baz=181,slow=76,SNR=5.8						
H11N1	**WAKE ISLAND Hy 30.47**	**2**	**T**	T	T	13 32 52.7	
	baz=182,slow=76,SNR=5.1						
H11N3	**WAKE ISLAND Hy 30.47**	**2**	**T**	T	T	13 32 52.9	
	baz=182,slow=76,SNR=6.4						
H11N2	**WAKE ISLAND Hy 30.49**	**2**	**T**	T	T	13 32 53.4	
	baz=182,slow=76,SNR=5.8						
STKA	**Stephens Creek**	**30.61**	**223**	LR	LR	13 12 44.2	
	comp=Z,120nm,19.2s,baz=195,slow=35						
WRA	**Warramunga Arr**	**31.64**	**250**	P	P	13 01 16.9	+0.1
	2.3nm,0.8s,baz=80,slow=9.4,SNR=13						
ASAR

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.31**	**288**	*i* P	Pg	13 02 47.4	+0.2
BDRM				*i* S	Sg	13 02 52.0	+0.7
BDRM	**Kayabasi**	**0.31**	**288**	*i* P	Pg	13 02 47.4	+0.3
BDRM				*i* S	Sg	13 02 52.0	+0.7
YER	**Yerkesik**	**0.41**	**66**	*e*PG	Pb	13 02 50.7	0.0
YER				*e*SG	Sb	13 02 57.3	+0.1
BODT	**Bodrum**	**0.41**	**283**	*e*PG	Pg	13 02 49.8	+0.7
BODT				*e*SG	Sb	13 02 55.9	-1.3
BODT	**Bodrum**	**0.41**	**283**	*e*Pg	Pg	13 02 49.8	+0.7
BODT				*e*Sg	Sb	13 02 55.9	-1.3
NIS1	**Nisyros Isl.**	**0.63**	**235**	*e*PG	Pg	13 02 51.9	-1.2
TURN	**Turunc**	**0.64**	**98**	*i* P	Pg	13 02 48.7	-4.5
TURN				*i* S	Sg	13 02 55.0	-6.6
TURN	**Turunc**	**0.64**	**98**	*i* P	Pg	13 02 48.7	-4.6
TURN				*i* S	Sg	13 02 55.0	-6.6
AYDN	**Tasoluk**	**0.69**	**4**	*i* P	Pg	13 02 54.9	+0.5
AYDN				*i* S	Sb	13 03 05.4	0.0
AYDN	**Tasoluk**	**0.69**	**4**	*i* P	Pg	13 02 54.9	+0.5
AYDN				*i* S	Sb	13 03 05.4	0.0
AYDB	**Zeytinkoy-Aydi**	**0.98**	**4**	*e*PG	Pg	13 03 00.1	+0.2
AYDB	**Zeytinkoy-Aydi**	**0.98**	**4**	*e*Pg	Pg	13 03 00.1	+0.1

*ISK **13** 13:03:06.9, 40°.27N×29°.13E, h7km, MD2.6*
*ISCJB **13** 13:03:07.3±0.5, 40°.29N±0°.04×29°.13E±0°.04, h5km±7km, Error ellipse: s-maj=6.4km s-min=4.9km az=20.7*
*CSEM **13** 13:03:07.2±0.1, 40°.28N×29°.14E, h10km, MD2.6, Error ellipse: s-maj=3.2km s-min=2.9km az=35.0*

ISC 13 13:03:07.4±0.9, 40°.27N±0°.03×29°.13E±0°.02, h10km±8km, n35, σ0⁰64/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEMT	**Gemlik**	**0.17**	**16**	PG	**Pg**	**13 03 11.0**	**0.0**
GEMT				*e*SG	**Sg**	**13 03 14.0**	**+0.4**
GEMT	**Gemlik**	**0.17**	**16**	*i* Pg	**Pg**	**13 03 11.0**	**0.0**
GEMT				*e*Sg	**Sg**	**13 03 14.0**	**+0.4**
MDNY	**Mudanya-Bursa**	**0.21**	**297**	PG	**Pg**	**13 03 11.5**	**-0.2**
MDNY				*e*SG	**Sg**	**13 03 15.1**	**+0.4**
MDNY	**Mudanya-Bursa**	**0.21**	**297**	*i* Pg	**Pg**	**13 03 11.5**	**-0.2**
MDNY				*e*Sg	**Sg**	**13 03 15.1**	**+0.4**
IZI	**Iznik**	**0.27**	**76**	PG	**Pg**	**13 03 12.7**	**-0.2**
IZI				*e*SG	**Sg**	**13 03 17.2**	**+0.6**
IZI	**Iznik**	**0.27**	**76**	*i* Pg	**Pg**	**13 03 12.7**	**-0.2**
IZI				*e*Sg	**Sg**	**13 03 17.2**	**+0.6**
ARMT	**Armutlu**	**0.36**	**325**	*e*PG	**Pg**	**13 03 14.3**	**-0.2**
ARMT	**Armutlu**	**0.36**	**325**	*e*Pg	**Pg**	**13 03 14.3**	**-0.2**
CAVI	**Cavuskoy**	**0.55**	**97**	*e*PG	**Pg**	**13 03 17.3**	**-0.8**
CAVI	**Cavuskoy**	**0.55**	**97**	*e*Pg	**Pg**	**13 03 17.3**	**-0.8**
HRT	**Hereke**	**0.68**	**37**	*e*PG	**Pg**	**13 03 20.0**	**-0.6**
HRT	**Hereke**	**0.68**	**37**	*e*Pg	**Pg**	**13 03 20.0**	**-0.6**
DST	**Dursunbey**	**0.78**	**211**	*e*PG	**Pg**	**13 03 22.4**	**+0.1**
DST	**Dursunbey**	**0.78**	**211**	*e*Pg	**Pg**	**13 03 22.5**	**+0.1**
ISK	**Istanbul-Kandi**	**0.79**	**356**	*e*PG	**Pb**	**13 03 22.9**	**-0.4**
ISK	**Istanbul-Kandi**	**0.79**	**356**	*e*Pg	**Pb**	**13 03 22.9**	**-0.4**
DURS	**Dursunbey**	**0.84**	**217**	*i* P	**Pn**	**13 03 24.8**	**-0.6**
DURS				*i* S	**Sn**	**13 03 38.7**	**+0.8**
DURS	**Dursunbey**	**0.84**	**217**	*i* S	**Sn**	**13 03 38.7**	**+0.8**
DURS	**Dursunbey**	**0.84**	**217**	*i* P	**Pn**	**13 03 24.8**	**-0.6**
TVSB	**Tavsanli**	**0.86**	**163**	*e*PG	**Pb**	**13 03 24.3**	**-0.2**
TVSB	**Tavsanli**	**0.86**	**163**	*e*Pg	**Pb**	**13 03 24.3**	**-0.2**
EDC	**Edincik**	**0.97**	**275**	*e*PG	**Pg**	**13 03 25.5**	**-0.6**
EDC	**Edincik**	**0.97**	**275**	*e*Pg	**Pg**	**13 03 25.5**	**-0.6**
KLYT	**Kilyos**	**0.98**	**356**	*e*PG	**Pb**	**13 03 26.3**	**-0.2**
KLYT	**Kilyos**	**0.98**	**356**	*e*Pg	**Pb**	**13 03 26.3**	**-0.2**
GULT	**Gulveren**	**1.07**	**81**	*e*PG	**Pb**	**13 03 28.1**	**0.0**
GULT	**Gulveren**	**1.07**	**81**	*e*Pg	**Pb**	**13 03 28.1**	**0.0**
SLVT	**Silivri**	**1.18**	**324**	*e*PN	**Pb**	**13 03 29.5**	**-0.4**
SLVT	**Silivri**	**1.18**	**324**	*e*Pn	**Pb**	**13 03 29.5**	**-0.4**
GDZ	**Gediz**	**1.21**	**167**	*i* P	**Pb**	**13 03 29.5**	**-1.1**
GDZ				*i* S	**Sn**	**13 03 48.9**	**+1.7**
GDZ	**Gediz**	**1.21**	**167**	*i* P	**Pb**	**13 03 29.5**	**-1.1**
GDZ				*i* S	**Sn**	**13 03 48.9**	**+1.7**
MRMT	**Marmara Adasi**	**1.22**	**286**	*e*PN	**Pg**	**13 03 30.7**	**-0.1**
MRMT	**Marmara Adasi**	**1.22**	**286**	*e*Pn	**Pg**	**13 03 30.7**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.54**	**286**	*e*PN	**Pb**	**13 03 35.6**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.54**	**286**	*e*Pn	**Pb**	**13 03 35.7**	**-0.5**

IDC 13 13:05:41.9±3.6, 6°.69S×154°.98E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/28, mbtmp3.7/4, Error ellipse: s-maj=103.9km s-min=30.0km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.97**	**235**	P	P	13 10 59.1	+0.8
	1.4nm,0.6s,baz=60,slow=9.5,SNR=31						
ASAR	**Alice Springs**	**26.36**	**228**	P	P	13 11 19.0	-0.9
	0.3nm,0.4s,baz=57,slow=10.0,SNR=8.9						
H11S3	**WAKE ISLAND Hy**	**27.57**	**25**	T	T	13 39 55.0	
	baz=202,slow=75,SNR=2.6						
H11S2	**WAKE ISLAND Hy**	**27.57**	**25**	T	T	13 39 57.8	
	baz=202,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**27.58**	**25**	T	T	13 39 56.7	
	baz=202,slow=75,SNR=7.1						
SONM	**Songino Array**	**69.07**	**327**	P	P	13 16 50.0	+0.2
	0.4nm,0.4s,baz=142,slow=7.2,SNR=3.8						
MKAR	**Makanchi Array**	**83.17**	**319**	P	P	13 18 10.0	0.0
	0.2nm,0.5s,baz=101,slow=4.7,SNR=5.3						

IDC 13 13:07:11.2±4.5, 6°.91S×155°.35E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/27, mbtmp3.6/4, Error ellipse: s-maj=133.7km s-min=31.2km az=112.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.15**	**236**	P	P	13 12 30.3	+1.0
	1.0nm,0.7s,baz=62,slow=9.6,SNR=5.5						
ASAR	**Alice Springs**	**26.49**	**229**	P	P	13 12 49.9	-0.6
	0.3nm,0.4s,baz=56,slow=10.0,SNR=6.1						
SONM	**Songino Array**	**69.46**	**327**	P	P	13 18 21.6	+0.1
	0.6nm,0.4s,baz=131,slow=5.9,SNR=4.5						
MKAR	**Makanchi Array**	**83.57**	**319**	P	P	13 19 41.3	-0.2
	0.2nm,0.5s,baz=97,slow=6.0,SNR=3.1						

IGQ 13 13:10:17±0.6, 3°.21S×77°.21W, h4km±119km, Mb4.0, 9D, Error ellipse: s-maj=7.9km s-min=3.1km az=32.1, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACE	**Macas**	**1.37**	**314**	P	Pn	13 10 42.1	-1.0
MACE	**Macas**	**1.37**	**314**	S	Sb	13 11 00.7	-0.6
RIOE	**Riobamba**	**2.02**	**316**	S	Sn	13 11 18.0	-0.4
RIOE	**Riobamba**	**2.02**	**316**	P	Pn	13 10 52.1	-0.3
BPAT	**Tungurahua Vol**	**2.09**	**324**	P	Pn	13 10 53.9	+0.5
PAT1	**Patacocha**	**2.09**	**324**	P	Pn	13 10 53.9	+0.5
ARRY	**Arrayan**	**2.10**	**324**	P	Pn	13 10 53.7	+0.3
ARRY	**Arrayan**	**2.10**	**324**	S	Sn	13 11 18.6	-1.7
BMAS	**Trigal station**	**2.11**	**323**	⇓P	Pn	13 10 53.1	-0.5
BMAS	**Trigal station**	**2.11**	**323**	⇓S	Sn	13 11 19.6	-1.1
ULBA	**Ulba**	**2.12**	**326**	⇓P	Pn	13 10 53.1	-0.5
ULBA	**Ulba**	**2.12**	**326**	⇓S	Sn	13 11 20.0	-0.8
BULB	**Ulba Tungurahu**	**2.13**	**326**	⇓P	Pn	13 10 53.1	-0.7
BRUN	**Tungurahua Vol**	**2.14**	**326**	P	Pn	13 10 52.6	-1.4
BBIL	**Ulba Tungurahu**	**2.16**	**324**	⇓P	Pn	13 10 54.1	-0.1
BBIL	**Ulba Tungurahu**	**2.16**	**324**	⇓S	Sn	13 11 19.2	-2.6
IGUA	**Igualata**	**2.22**	**320**	P	Pn	13 10 56.8	+1.5
PISA	**Pisayambo**	**2.44**	**331**	P	Pn	13 10 58.8	+0.6
TAMB	**Tambo**	**2.75**	**335**	P	Pn	13 11 03.6	+1.0
BMOR	**Cotopaxi Volca**	**2.76**	**333**	P	Pn	13 11 03.7	+0.9
BTAM	**Cotopaxi Volca**	**2.78**	**335**	⇓P	Pn	13 11 03.8	+0.7
BVC2	**Cotopaxi Volca**	**2.80**	**335**	⇓P	Pn	13 11 03.6	+0.2
BREF	**Cotopaxi Volca**	**2.80**	**334**	P	Pn	13 11 04.7	+1.3
VC1	**Cotopaxi 1**	**2.81**	**335**	P	Pn	13 11 04.8	+1.4
BNAS	**Cotopaxi Volca**	**2.82**	**333**	P	Pn	13 11 05.0	+1.5
ANTI	**Antisana**	**2.90**	**341**	P	Pn	13 11 04.7	0.0
PITA	**Cotopaxi Volc**	**2.90**	**335**	P	Pn	13 11 05.0	+0.5
CONE	**Cono NE Rev Vo**	**3.15**	**352**	P	Pn	13 11 08.5	+0.8
OTAV	**Otavalo**	**3.64**	**340**	P	Pn	13 11 14.0	-0.7

*ISCJB **13** 13:18:42.6±1.0, 78°.34N±0°.08×7°.0E±0°.3, h11km, Error ellipse: s-maj=13.0km s-min=8.8km az=151.0*
*CSEM **13** 13:18:43.7±0.4, 78°.34N×7°.18E, h10km, ML4.2, Error ellipse: s-maj=12.8km s-min=8.7km az=170.0*
*NAO **13** 13:18:47.3±2.5, 78°.33N×8°.36E, ML4.2*
*BER **13** 13:18:49.4±2.4, 78°.29N×8°.49E, h10km, MD2.0, ML2.2, ML4.2(NAO)*

ISC 13 13:18:43.6±2.0, 78°.35N±0°.07×7°.5E±0°.1, h11km, n14, σ1⁰03/18, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.06**	**55**	Pg	**Pn**	**13 19 05.2**	**+0.9**
KBS				Lg	Lg	13 19 17.4	
KBS	**Kingsbay**	**1.06**	**55**	*e*P	**Pn**	**13 19 05.1**	**+0.7**
KBS				*e*S	**Sb**	**13 19 17.3**	**-0.4**
KBS				IAML		13 19 19.8	
	comp=Z,398nm,0.2s						
KBS	**Kingsbay**	**1.06**	**55**	Pg	**Pn**	**13 19 05.2**	**+0.9**
KBS				*e*S	**Sb**	**13 19 17.3**	**-0.4**
	SNR=70						
SPA0	**Spitsbergen Ar**	**1.83**	**91**	Pn	**Pb**	**13 19 17.0**	**0.0**
	baz=273,slow=16						
SPA0				Lg	Lg	13 19 39.1	
	baz=264,slow=18						
SPA0	**Spitsbergen Ar**	**1.83**	**91**	Pn	**Pb**	**13 19 17.0**	**0.0**
	baz=273,slow=16						
SPA0				Lg	Lg	13 19 39.1	
	baz=264,slow=18						
SPA0	**Spitsbergen Ar**	**1.83**	**91**	Pn	**Pb**	**13 19 17.0**	**0.0**
	baz=273,slow=15,SNR=140						
SPA0				Lg	Lg	13 19 39.2	
	SNR=68						
HSP	**Hornsund**	**2.20**	**124**	Pn	**Pn**	**13 19 20.9**	**+1.0**
HSP	**Hornsund**	**2.20**	**124**	Pn	**Pn**	**13 19 20.9**	**+1.0**
HSPB	**Hornsund (broa**	**2.20**	**124**	Pn	**Pn**	**13 19 20.9**	**+1.0**
HSPB				*e*S	**Sn**	**13 19 45.6**	**-1.4**
HSPB				IAML		13 19 48.8	
	comp=Z,9.2nm,0.3s						
HSPB	**Hornsund (broa**	**2.20**	**124**	Pn	**Pn**	**13 19 20.9**	**+1.0**
	SNR=50						
HSPB				*e*S	**Sn**	**13 19 45.6**	**-1.4**
	SNR=50						
HOPEN	**Hopen**	**4.25**	**107**	Pn	**Pn**	**13 19 49.3**	**+1.3**
HOPEN	**Hopen**	**4.25**	**107**	Pn	**Pn**	**13 19 49.3**	**+1.3**
HOPEN	**Hopen**	**4.25**	**107**	Pn	**Pn**	**13 19 49.3**	**+1.3**
DAG	**Danmarks Havn**	**5.82**	**267**	*i* P	**Pn**	**13 20 09.2**	**-0.5**
DAG				*i* S	Sn	13 21 08.6	-7.7

*ISCJB **13** 13:37:39.7±0.5, 10°.31S±0°.05×119°.52E±0°.04, h33km, Error ellipse: s-maj=7.5km s-min=6.3km az=172.2*
*AUST **13** 13:37:40.7±7.4, 10°.26S×119°.51E, h23km, Error ellipse: s-maj=0.9km s-min=0.8km az=270.0*
*DJA **13** 13:37:41.6±0.9, 10°.5±6°×12°.0E±°, h19km±10km, M4.4/15, mb4.6/5, mB4.7/1, MLv4.3/15, Mw(mB)3.9/1*

ISC 13 13:37:41.9±1.0, 10°.28S±0°.09×119°.53E±0°.07, h35km, n20, σ1⁰20/21, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**0.97**	**51**	P	**Pn**	**13 37 57.7**	**-1.4**
WSI				S	**Sn**	**13 38 11.8**	**+0.1**
MMRI	**Maumere**	**3.13**	**59**	P	**Pn**	**13 39 28.4**	**-0.4**
BATI	**Baumata**	**4.07**	**89**	P	**Pn**	**13 38 43.4**	**+1.7**
BSSI	**Bau Bau, Buton**	**4.22**	**13**	P	**Pn**	**13 38 42.9**	**-0.9**
IGBI	**Denpasar**	**4.56**	**288**	P	**Pn**	**13 38 49.4**	**+0.9**
SOEI	**Soe**	**4.70**	**84**	P	**Pn**	**13 38 51.8**	**+1.4**
SOEI	**Soe**	**4.70**	**84**	P	**Pn**	**13 38 52.0**	**+1.5**
	baz=4.7,SNR=10						
SRBI	**Singaraja**	**4.79**	**297**	P	**Pn**	**13 38 51.5**	**-0.1**
BKSI	**Bulukumba**	**4.96**	**7**	P	**Pn**	**13 38 53.1**	**-0.9**
JAGI	**Jajag, Banyuwa**	**5.60**	**288**	P	**Pn**	**13 39 03.2**	**+0.4**
	72nm,1.4s,0.4nm						
JAGI	**Jajag, Banyuwa**	**5.60**	**288**	P	**Pn**	**13 39 01.8**	**-1.0**
	baz=5.6,SNR=16						
ABJI	**Asem Bagus**	**5.78**	**295**	P	**Pn**	**13 39 05.5**	**+0.2**
	78nm,1.4s,0.3nm						
SPSI	**Sidrap Palu**	**6.28**	**2**	P	**Pn**	**13 39 12.4**	**+0.3**
	23nm,0.7s,0.1nm						
TTSI	**Tana Toraja**	**7.20**	**2**	P	**Pn**	**13 39 25.7**	**+1.0**
KNRA	**Kununurra**	**10.47**	**122**	P	**Pn**	**13 40 09.6**	**0.0**
	baz=10,SNR=24						
MTN	**Manton Dam**	**11.65**	**104**	P	**Pn**	**13 40 24.7**	**-1.1**
	baz=12,SNR=4.2						
KDU	**Kakadu**	**12.91**	**102**	P	**Pn**	**13 40 41.2**	**-1.8**
	baz=13,SNR=9.5						
GIRL	**Giralia**	**13.29**	**202**	P	**Pn**	**13 40 48.1**	**-0.1**
	baz=13,SNR=3.8						
MEEK	**Meekatharra**	**16.29**	**183**	P	**Pn**	**13 41 27.5**	**-0.7**
	baz=16,SNR=7.4						
MORW	**Morawa**	**18.97**	**189**	P	**Pn**	**13 42 03.9**	**+2.7**
	baz=19,SNR=4.2						

IDC 13 13:45:03.5±3.6, 6°.24S×149°.55E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.2/25, mbtmp3.3/2, Error ellipse: s-maj=129.9km s-min=47.3km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.10**	**226**	P	Pn	13 49 40.0	-0.7
	1.6nm,0.6s,baz=52,slow=11,SNR=12						
ASAR	**Alice Springs**	**22.95**	**219**	P	P	13 50 08.7	-0.9
	0.2nm,0.5s,baz=52,slow=9.4,SNR=7.3						
TORD	**Torodi Ar. Bea**	**147.61**	**285**	PKPbc	PKPbc	14 04 50.2	-0.7
	0.3nm,0.5s,baz=67,slow=3.6,SNR=4.0						

*IDC **13** 13:46:10.1±2.1, 1°.11N×126°.75E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/28, mbtmp3.7/3, Error ellipse: s-maj=166.3km s-min=25.7km az=66.0*
*DJA **13** 13:46:17.6±0.5, 1°.N±5°×12°.6E±°, h10km, M3.6/7, MLv3.6/7*
*ISCJB **13** 13:46:19.4±0.9, 0°.73N±0°.08×126°.51E±0°.05, h39km, mb3.6/3, Error ellipse: s-maj=11.5km s-min=6.5km az=175.7*

ISC 13 13:46:19.4±1.4, 0°.85N±0°.09×126°.53E±0°.05, h39km, n9, σ2⁰20/12, mb3.8/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.84**	**95**	P	**Pn**	**13 46 34.6**	**-0.1**
TNTI				S	**Sn**	**13 46 47.3**	**+1.4**
LBMI	**Labuha**	**1.77**	**147**	P	**Pn**	**13 46 48.2**	**+0.7**
LBMI				S	**Sn**	**13 47 12.9**	**+4.1**
KMSI	**Cibinong**	**2.56**	**264**	P	**Pn**	**13 46 57.7**	**-0.7**
KMSI				S	**Sn**	**13 47 29.3**	**+1.0**
SANI	**Sanana**	**2.93**	**191**	P	**Pn**	**13 47 03.9**	**+0.4**
SANI				S	**Sn**	**13 47 35.6**	**-1.9**
NLAI	**Namlea**	**4.10**	**172**	P	**Pn**	**13 47 19.8**	**+0.2**
APSI	**Ampana**	**5.18**	**250**	P	**Pn**	**13 47 37.4**	**+3.0**
WRA	**Warramunga Arr**	**22.04**	**160**	P	**P**	**13 51 08.4**	**-2.4**
	1.3nm,0.3s,baz=340,slow=11,SNR=25						
ASAR	**Alice Springs**	**25.41**	**164**	P	**P**	**13 51 41.1**	**-2.3**
	0.6nm,0.6s,baz=342,slow=10,SNR=12						
MKAR	**Makanchi Array**	**59.80**	**326**	P	P	13 56 16.6	-4.2
	0.4nm,0.6s,baz=118,slow=8.3,SNR=5.2						

IDC 13 14:14:08.7±1.4, 7°.86S×27°.10E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/31, mbtmp3.6/4, Error ellipse: s-maj=42.7km s-min=31.8km az=97.0, Zaire

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**12.13**	**57**	Sn	Sn	14 19 05.3	-14
	0.4nm,0.3s,baz=227,slow=19,SNR=2.6						
KMBO				Lg	Lg	14 20 28.1	
	0.3nm,0.3s,baz=342,slow=20,SNR=4.2						
BOSA	**Boshof**	**20.72**	**185**	P	P	14 18 51.0	0.0
	1.3nm,0.6s,baz=10,slow=13,SNR=2.2						
TORD	**Torodi Ar. Bea**	**32.74**	**309**	P	P	14 20 43.5	-0.1
	0.7nm,0.6s,baz=127,slow=9.6,SNR=6.8						
MKAR	**Makanchi Array**	**73.15**	**36**	P	P	14 25 41.0	-0.3
	0.4nm,0.6s,baz=240,slow=4.6,SNR=4.3						
KURBB	**Kurchatov Arra**	**73.22**	**31**	P	P	14 25 41.8	+0.3
	0.2nm,0.5s,baz=241,slow=7.3,SNR=3.3						

*IDC **13** 14:19:43.8±2.2, 25°.31N×96°.10E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.1/48, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=200.2km s-min=27.8km az=63.0*

ISC 13 14:19:30.3±1.4, 23°.1N±0°.1×94°.2E±0°.2, h10km, n5, σ3⁰23/5, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.69**	**353**	*e*P	**Pg**	**14 20 02.0**	**-0.7**
IMP				*e*S	Sn	14 20 11.0	-11
SHL	**Shillong**	**3.21**	**320**	*i* PN	**Pb**	**14 20 29.0**	**+1.4**
SHL				*i* SN	**Sn**	**14 20 56.0**	**-3.5**
CMAR	**Chiang Mai Arr**	**6.43**	**135**	Pn	**Pg**	**14 21 32.7**	**-0.9**
	0.1nm,0.3s,baz=313,slow=17,SNR=2.6						
CMAR				Lg	Lg	14 23 28.1	
	0.1nm,0.3s,baz=312,slow=28,SNR=3.1						
MKAR	**Makanchi Array**	**25.50**	**341**	P	**P**	**14 25 01.1**	**+2.3**
	0.2nm,0.4s,baz=145,slow=10,SNR=4.8						
WRA	**Warramunga Arr**	**58.03**	**134**	P	P	14 29 40.8	+17
	0.4nm,0.9s,baz=322,slow=7.5,SNR=5.7						

*IDC **13** 14:24:16.6±1.0, 9°.67S×107°.24E, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.8/40, mbtmp3.9/10, ML4.4/2, MS3.2/3, Ms1 3.2/3, ms1mx2.7/29, Error ellipse: s-maj=39.7km s-min=16.7km az=54.0*
*ISCJB **13** 14:24:17.8±0.5, 9°.66S±0°.05×107°.26E±0°.05, h22km, mb3.8/10, MS3.4/2, Error ellipse: s-maj=7.4km s-min=5.8km az=35.9*
*NEIC **13** 14:24:18.1±4.3, 9°.60S×107°.21E, h7km±28km, mb4.4/2, Error ellipse: s-maj=14.2km s-min=10.0km az=222.0*
*DJA **13** 14:24:19.6±1.0, 10°.S±9°×10°.7E±°, h10km, M4.6/18, mb4.7/6, MLv4.5/18*

ISC 13 14:24:20.0±0.7, 9°.61S±0°.06×107°.24E±0°.07, h22km, n49, σ1⁰28/44, mb3.9/10, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMI	**Christmas Isla**	**1.74**	**241**	P	**Pn**	**14 24 48.7**	**-0.2**
	baz=1.7,SNR=16						
XMIS	**Christmas Isla**	**1.79**	**241**	*e*P	**Pn**	**14 24 49.0**	**-0.6**
CISI	**Cisompet, Garu**	**2.12**	**16**	P	**Pn**	**14 24 53.2**	**-1.0**
CISI	**Cisompet, Garu**	**2.12**	**16**	P	**Pn**	**14 24 53.2**	**-1.0**
	baz=2.3,SNR=97						
CISI	**Cisompet, Garu**	**2.12**	**16**	*e*P	**Pn**	**14 24 53.0**	**-1.2**
CMJI	**Cimerak**	**2.17**	**33**	P	**Pn**	**14 24 53.5**	**-1.3**
CNJI	**Cibinong**	**2.29**	**357**	P	**Pn**	**14 24 56.0**	**-0.4**
SKJI	**Sukabumi**	**2.67**	**345**	P	**Pn**	**14 25 00.7**	**-1.0**
LEM	**Lembang**	**2.79**	**8**	P	**Pn**	**14 25 03.3**	**-0.2**
LEM	**Lembang**	**2.79**	**8**	Pn	**Pn**	**14 25 04.6**	**+1.1**
	45nm,0.3s,baz=40,slow=9.9,SNR=22						
LEM				Sn	**Sb**	**14 25 39.8**	**-3.3**
	97nm,0.3s,baz=346,slow=21,SNR=18						
LEM				LR	LR	14 26 37.3	
	comp=Z,254nm,21.5s,baz=26,slow=49						
LEM	**Lembang**	**2.79**	**8**	P	**Pn**	**14 25 04.5**	**+1.0**
	baz=3.0,SNR=14						
KPJI	**Karang Pucung**	**2.81**	**37**	P	**Pn**	**14 25 03.8**	**+0.1**
CGJI	**Cibinong**	**3.35**	**333**	P	**Pn**	**14 25 11.3**	**+0.3**
UGM	**Wanagama**	**3.66**	**63**	P	**Pn**	**14 25 13.8**	**-1.5**
UGM	**Wanagama**	**3.66**	**63**	P	**Pn**	**14 25 14.0**	**-1.4**
	baz=3.7,SNR=18						
SMRI	**Semarang**	**4.07**	**51**	P	Pn	14 25 12.8	-8.1
KASI	**Kota Agung**	**4.89**	**326**	P	**Pn**	**14 25 31.9**	**-0.3**
KLSI		**5.49**	**333**	P	**Pn**	**14 25 40.8**	**+0.4**
	46nm,1.0s,0.2nm						
MDSI	**Maura Dua**	**5.93**	**329**	P	**Pn**	**14 25 46.0**	**-0.5**
	15nm,0.7s,0.1nm						
MNAI	**Manna**	**6.73**	**321**	P	**Pn**	**14 25 56.5**	**-1.0**
	338nm,1.1s,1.4nm						
MNAI	**Manna**	**6.73**	**321**	P	**Pn**	**14 25 57.0**	**-0.5**
	baz=7.0,SNR=4.1						
MNAI	**Manna**	**6.73**	**321**	*e*P	**Pn**	**14 25 57.0**	**-0.5**
ABJI	**Asem Bagus**	**7.15**	**76**	P	**Pn**	**14 26 04.4**	**+1.1**
	93nm,1.0s,0.4nm						
IGBI	**Denpasar**	**7.85**	**85**	P	**Pn**	**14 26 13.4**	**+0.5**
	123nm,1.5s,0.5nm						
SRBI	**Singaraja**	**8.03**	**80**	P	**Pn**	**14 26 15.4**	**+0.1**
BKNI	**Bangkinang**	**11.64**	**328**	*e*P	Pn	14 27 01.1	-3.9
	63nm,0.4s						
GIRL	**Giralia**	**14.59**	**153**	P	Pn	14 27 41.3	-3.9
	baz=14,SNR=5.0						
BATI	**Baumata**	**16.19**	**93**	Pn	**Pn**	**14 28 05.3**	**-1.0**
	2.1nm,0.3s,baz=280,slow=12,SNR=3.5						
BATI				S	Sn	14 30 52.5	-13
	0.7nm,0.3s,baz=270,slow=20,SNR=2.5						
MBWA	**Marble Bar**	**16.63**	**135**	*e*Pn	**Pn**	**14 28 08.0**	**-3.7**
MBWA				*e*Sn	Sn	14 30 56.4	-19
FITZ	**Fitzroy Crossi**	**19.74**	**117**	P	**Pn**	**14 28 51.9**	**+1.8**
	baz=20,SNR=6.0						
FITZ	**Fitzroy Crossi**	**19.74**	**117**	P	**Pn**	**14 28 51.8**	**+1.8**
MEEK	**Meekatharra**	**20.07**	**149**	P	Pn	14 28 55.

TKGZ	**Te Karaka**	**0.41**	**99**	⇑PN		Pn		14 58 14.1	0.0
TKGZ				SN		Sn		14 58 22.4	+1.0
RIGZ	**Rimuhau**	**0.47**	**135**	PN		Pn		14 58 14.7	-0.2
RIGZ				SN		Sn		14 58 22.3	-0.5
EDRZ	**Edgecumbe**	**0.54**	**299**	PN		Pn		14 58 15.6	-0.2
TWGZ	**Tauwhareparae**	**0.55**	**69**	⇓PN		Pn		14 58 16.1	+0.3
TWGZ				SN		Sn		14 58 24.7	+0.3
RAHZ	**Arahi**	**0.58**	**200**	⇓PN		Pn		14 58 16.2	0.0
RAHZ				SN		Sn		14 58 25.6	+0.6
RRRZ	**Republican Roa**	**0.65**	**273**	⇓PN		Pn		14 58 16.8	-0.2
MARZ	**Manawahe**	**0.65**	**306**	PN		Pn		14 58 17.1	0.0
MARZ				SN		Sn		14 58 27.2	+0.6
TARZ	**Mount Tarawera**	**0.67**	**282**	⇑PN		Pn		14 58 17.5	+0.1
CNGZ	**Carnagh Statio**	**0.69**	**99**	PN		Pn		14 58 18.0	+0.4
PRGZ	**Paritu Road**	**0.70**	**142**	PN		Pn		14 58 17.6	-0.1
KNZ	**Kokohu**	**0.70**	**158**	PN		Pn		14 58 16.7	-0.9
WHHZ	**Waihua**	**0.70**	**186**	PN		Pn		14 58 17.8	0.0
HAZ	**Te Kaha**	**0.71**	**30**	⇓PN		Pn		14 58 17.2	-0.6
PRRZ	**Plateau Road**	**0.75**	**260**	⇓PN		Pn		14 58 18.0	-0.4
HLRZ	**Highlands Stat**	**0.78**	**279**	PN		Pn		14 58 18.9	+0.1
PUZ	**Puketiti**	**0.79**	**68**	⇓PN		Pn		14 58 18.6	-0.2
PUZ				AML		AML		14 58 34.8	
PUZ				AML		AML		14 58 41.4	
ALRZ	**Allen Road**	**0.80**	**256**	⇓PN		Pn		14 58 18.7	-0.3
OPRZ	**Ohinepanea**	**0.81**	**310**	⇑PN		Pn		14 58 18.6	-0.5
HRRZ	**Handcock Road**	**0.83**	**269**	⇓PN		Pn		14 58 19.1	-0.3
NMHZ	**Naumai**	**0.83**	**210**	PN		Pn		14 58 20.0	+0.5
LIRZ	**Lichensteins R**	**0.84**	**296**	PN		Pn		14 58 19.3	-0.2
WIZ	**White Island**	**0.85**	**352**	PN		Pn		14 58 19.1	-0.6
HSRZ	**Hossack Road**	**0.86**	**274**	⇑PN		Pn		14 58 19.9	+0.1
ARHZ	**Aropaoanui**	**0.93**	**197**	PN		Pn		14 58 20.6	-0.1
KARZ	**Kaharoa**	**0.93**	**292**	⇑PN		Pn		14 58 20.4	-0.4
WPRZ	**Whakapataparin**	**0.93**	**261**	PN		Pn		14 58 20.6	-0.2
WMGZ	**Waiomatatini S**	**1.02**	**57**	PN		Pn		14 58 22.0	+0.1
BKZ	**Black Stump Fm**	**1.03**	**220**	⇓PN		Pn		14 58 21.7	-0.4
BKZ				AML		AML		14 58 40.7	
BKZ				AML		AML		14 58 41.1	
MXZ	**Matakaoa Point**	**1.12**	**44**	PN		Pn		14 58 25.2	+1.9
MXZ				AML		AML		14 58 27.4	
MXZ				AML		AML		14 58 50.2	
MCHZ	**McNeill Hill**	**1.18**	**205**	⇑PN		Pn		14 58 24.0	-0.1
KUTZ	**Kaahu Road**	**1.19**	**264**	⇓PN		Pn		14 58 24.2	-0.2
KWHZ	**Kaweka Forest**	**1.27**	**214**	PN		Pn		14 58 25.0	-0.4
CKHZ	**Cape Kidnapper**	**1.30**	**189**	PN		Pn		14 58 24.4	-1.3
RITZ	**Rihia Road**	**1.30**	**242**	PN		Pn		14 58 25.7	-0.1
RATZ	**Rangitukua**	**1.32**	**248**	PN		Pn		14 58 26.3	+0.2
KAHZ	**Kahuranaki**	**1.46**	**194**	PN		Pn		14 58 26.9	-1.1
KRHZ	**Kereru**	**1.47**	**210**	PN		Pn		14 58 27.2	-1.0
BHHZ	**Black Hill Sta**	**1.49**	**221**	PN		Pn		14 58 28.3	-0.1
KRVZ	**Karewarewa**	**1.51**	**241**	⇓PN		Pn		14 58 28.4	-0.3
OTVZ	**Oturere**	**1.53**	**238**	⇓PN		Pn		14 58 28.7	-0.3
WTVZ	**West Tongariro**	**1.55**	**241**	PN		Pn		14 58 29.2	-0.2
NGZ	**Ngauruhoe**	**1.57**	**239**	PN		Pn		14 58 29.3	-0.3
TOZ	**Tahuroa Road**	**1.58**	**293**	PN		Pn		14 58 29.2	-0.4
TUVZ	**Tukino**	**1.59**	**235**	PN		Pn		14 58 29.5	-0.3
MOVZ	**Moawhango**	**1.61**	**230**	PN		Pn		14 58 29.5	-0.5
COVZ	**Chateau Observ**	**1.62**	**239**	⇓PN		Pn		14 58 30.0	-0.3
WPVZ	**Whakapapa**	**1.63**	**239**	PN		Pn		14 58 30.1	-0.3
WHVZ	**Whangaehu Hut**	**1.64**	**236**	PN		Pn		14 58 30.1	-0.5
PXZ	**Pawanui**	**1.69**	**192**	⇑PN		Pn		14 58 29.0	-2.1
PXZ				AML		AML		14 59 12.4	
PXZ				AML		AML		14 59 12.4	
PNHZ	**Pukenui**	**1.77**	**210**	PN		Pn		14 58 30.6	-1.7
PKVZ	**Pokaka**	**1.80**	**239**	PN		Pn		14 58 32.5	-0.2
PRHZ	**Porangahau**	**1.97**	**196**	PN		Pn		14 58 32.5	-2.4
TSZ	**Takapari Road**	**1.99**	**212**	PN		Pn		14 58 33.2	-2.0
DVHZ	**Dannevirke**	**2.13**	**205**	PN		Pn		14 58 34.4	-2.6
ANWZ	**Angora Road**	**2.19**	**197**	PN		Pn		14 58 35.5	-2.3
BFZ	**Birch Farm**	**2.45**	**200**	PN		Pn		14 58 38.4	-3.1
TIWZ	**Tintock**	**2.65**	**205**	PN		Pn		14 58 41.3	-2.9
MRZ	**Mangatainoka R**	**2.66**	**210**	PN		Pn		14 58 41.3	-3.0
TMWZ	**Te Maipa**	**2.95**	**202**	PN		Pn		14 58 44.6	-3.7
OGWZ	**Otaki Gorge**	**2.96**	**214**	PN		Pn		14 58 45.2	-3.2
CAW	**Cannon Point**	**3.24**	**212**	PN		Pn		14 58 48.5	-3.8

KRSC 13 15:04:19.4±1.6, 52°42N×160°33E, h48km±18km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.70**	**345**	*i* P		Pn	15 04 33.8	+0.7
SPN				*e*S		Sn	15 04 42.4	-0.6
NLC	**Nalytchevo**	**0.96**	**322**	*e*P		Pn	15 04 37.8	+1.3
NLC				*e*S		Sn	15 04 50.0	+1.0
RUS	**Russkaya**	**1.11**	**271**	*e*P		Pn	15 04 39.6	+1.0
RUS				*e*S		Sn	15 04 53.1	+0.3
PET	**Petropavlovsk**	**1.18**	**301**	*e*P		Pn	15 04 40.6	+1.1
PET				*e*S		Sn	15 04 54.7	+0.2
UGLR	**Uglovaya**	**1.21**	**311**	*e*P		Pn	15 04 41.9	+1.9
UGLR				*e*S		Sn	15 04 57.1	+1.8
SDLR	**Sedlovina**	**1.23**	**315**	*e*P		Pn	15 04 41.7	+1.4
SDLR				*e*S		Sn	15 04 58.8	+1.0
SMAR	**Somma**	**1.25**	**313**	*e*P		Pn	15 04 42.4	+1.6
AVH	**Avacha**	**1.28**	**312**	*e*P		Pn	15 04 42.9	+1.9
AVH				*e*S		Sn	15 04 58.5	+1.4
KRER	**Koryakskii**	**1.30**	**313**	*e*P		Pn	15 04 43.3	+1.9
KRER				*e*S		Sn	15 04 59.3	+1.4
MTVR	**Mutnovka**	**1.31**	**273**	*e*P		Pn	15 04 42.9	+1.4
MTVR				*e*S		Sn	15 04 58.8	+0.7
KOK	**Koryaka**	**1.35**	**311**	*e*P		Pn	15 04 43.7	+1.8
KRX	**Arik**	**1.38**	**313**	*e*P		Pn	15 04 44.4	+1.9
ASAK	**Asacha**	**1.49**	**269**	*e*P		Pn	15 04 46.1	+2.3
ASAK				*e*S		Sn	15 05 04.3	+2.1
KII	**Karymskiy**	**1.70**	**342**	*e*P		Pn	15 04 49.7	+3.0
GNL	**Ganaly**	**1.92**	**312**	*e*P		Pn	15 04 52.8	+3.0
GNL				*e*S		Sn	15 05 15.3	+2.4
APC	**Apacha**	**2.00**	**286**	*e*P		Pn	15 04 53.6	+3.0
APC				*e*S		Sn	15 05 18.5	+4.1
MKZ	**Mys Kozlova**	**2.29**	**21**	*e*P		Pn	15 04 58.0	+3.3
MKZ				*e*S		Sn	15 05 24.2	+2.5
PAU	**Pauzhetka**	**2.38**	**248**	*e*P		Pn	15 05 00.0	+4.1
KZV	**Kizimen**	**2.69**	**360**	*e*P		Pn	15 05 04.5	+4.1
KZV				*e*S		Sn	15 05 35.8	+3.9
TUMR	**Tumrok**	**2.87**	**358**	*e*P		Pn	15 05 06.8	+4.1
TUMR				*e*S		Sn	15 05 39.6	+3.5
SKR	**Severo-Kuril's**	**3.15**	**238**	*e*S		Sn	15 05 44.5	+1.7
ESO	**Esso**	**3.64**	**345**	*e*P		Pn	15 05 17.8	+4.7
KBTR	**Krutoberegovo**	**4.06**	**20**	*e*P		Pn	15 05 23.5	+4.6
BKI	**Bering**	**4.35**	**48**	*e*S		Sn	15 06 12.3	+0.1

IDC 13 15:22:46.2±5.4, 3°36N×122°56E, h557km±70km, mb3.0/3, mb1 3.2/4, mb1mx2.6/31, mbtmp4.0/4, Error ellipse: s-maj=52.0km s-min=26.2km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**19.05**	**108**	P		P	15 26 33.6	+0.1
	0.7nm,0.3s,baz=270,slow=20,SNR=3.9							
WRA	**Warramunga Arr**	**25.89**	**154**	P		P	15 27 34.3	-0.2
	0.3nm,0.3s,baz=336,slow=9.6,SNR=9.4							
MKAR	**Makanchi Array**	**55.55**	**327**	P		P	15 31 29.4	0.0
	0.5nm,0.4s,baz=132,slow=8.0,SNR=6.5							
MKAR				PcP		PcP	15 32 21.0	+0.2
	0.5nm,0.5s,baz=128,slow=3.3,SNR=6.5							
FINES	**FINESS Array B**	**90.18**	**331**	P		P	15 34 46.0	-1.3
	1.4nm,0.9s,baz=98,slow=5.9,SNR=3.8							
TORD	**Torodi Ar. Bea**	**119.06**	**287**	PKP		PKPdf	15 40 33.1	0.0
	0.6nm,0.9s,baz=90,slow=1.5,SNR=2.5							

IDC 13 15:52:37.0±7.6, 2°61N×94°60W, h0km, mb3.6/5, mb1 4.1/5, mb1mx3.8/25, mbtmp3.6/5, MS3.5/3, Ms1 3.6/3, ms1mx3.1/15, Error ellipse: s-maj=199.0km s-min=139.8km az=56.0, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**27.94**	**343**	P		P	15 58 28.5	-0.9
	0.6nm,0.8s,baz=161,slow=12,SNR=6.8							
LPAZ	**La Paz**	**32.20**	**127**	LR		LR	16 11 00.1	
	comp=Z,48nm,21.8s,baz=304,slow=34							
NVAR	**Mina Array Bea**	**41.72**	**332**	P		P	16 00 28.3	+0.2
	0.7nm,0.8s,baz=146,slow=9.6,SNR=4.6							
PDAR	**Pinedale Array**	**42.16**	**344**	P		P	16 00 32.1	+0.4
	0.5nm,0.3s,baz=134,slow=7.7,SNR=4.9							
PDAR				LR		LR	16 17 33.1	
	comp=Z,95nm,18.9s,baz=180,slow=36							
YKA	**Yellowknife Ar**	**61.58**	**350**	P		P	16 02 56.4	+0.4
	0.8nm,0.8s,baz=153,slow=7.4,SNR=4.3							
ILAR	**Eielson Array**	**72.38**	**339**	P		P	16 04 04.0	-0.7
	0.4nm,0.8s,baz=147,slow=5.2,SNR=4.2							
ILAR				LR		LR	16 37 11.8	
	comp=Z,32nm,18.8s,baz=258,slow=37							
H11N3	**WAKE ISLAND Hy**	**97.11**	**290**	T		T	17 53 27.8	
	baz=86							
H11N2	**WAKE ISLAND Hy**	**97.12**	**290**	T		T	17 53 24.6	
	baz=86							
H11N1	**WAKE ISLAND Hy**	**97.13**	**290**	T		T	17 53 19.4	
	baz=86							
H11S2	**WAKE ISLAND Hy**	**97.41**	**289**	T		T	17 53 39.7	
	baz=88							
H11S1	**WAKE ISLAND Hy**	**97.42**	**289**	T		T	17 53 39.7	
	baz=88							
H11S3	**WAKE ISLAND Hy**	**97.43**	**289**	T		T	17 53 38.8	
	baz=88							

NNC 13 16:17:09.7±1.7, 37°12N×71°25E, h164km±15km, mb2.5, mpv3.5, 8C-3D, Error ellipse: s-maj=17.1km s-min=6.6km az=163.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.55**	**312**	⇑P		Pn	16 17 51.6	-0.5
	14nm,0.4s							
DZET				⇑S		Sn	16 18 25.6	+0.4
	74nm,0.3s							
SFK	**Sufi-Kurgan**	**3.38**	**31**	⇑P		Pn	16 18 02.8	+0.1
	5.5nm,0.2s							
SFK				⇑S		Sn	16 18 44.6	+0.6
	46nm,0.3s							
KK31	**Karatay Array**	**6.00**	**355**	P		Pn	16 18 37.2	+0.7
	1.4nm,0.3s,baz=172,slow=10,SNR=38							
KK31				⇑S		Sn	16 19 45.4	+0.8
	8.4nm,0.7s,baz=175,slow=20,SNR=12							
AAK	**Ala-Archa**	**6.04**	**23**	P		Pn	16 18 38.3	+1.0
	1.8nm,0.4s							
AAK				⇑S		Sn	16 19 45.7	-0.3
	15nm,0.7s							
TKM2	**Tokmak 2**	**6.68**	**29**	⇓P		Pn	16 18 44.7	-1.0
	0.8nm,0.4s							
TKM2				⇑S		Sn	16 20 00.2	-1.1
	2.1nm,0.7s							
AB31	**Akbulak array**	**14.64**	**329**	⇑P		P	16 20 30.3	-0.4
	0.1nm,0.3s,baz=147,slow=11,SNR=3.9							
AB31				⇓S		Sn	16 23 08.2	-3.4
	0.6nm,0.4s,baz=151,slow=24,SNR=2.5							
AKTO	**Aktyubinsk**	**16.35**	**329**	⇓P		Pn	16 20 50.1	+0.3
	1.4nm,1.0s							

ISCJB ***13*** *16:33:04.7±1.7, 26°60S±0°09×177°40W±0°08, h96km±16km, mb4.4/22, Error ellipse: s-maj=16.1km s-min=11.5km az=157.2*

NEIC ***13*** *16:33:05.2±0.4, 27°06S×177°23W, mb4.8/9, Error ellipse: s-maj=10.7km s-min=8.9km az=154.0*

IDC ***13*** *16:33:07.0±0.7, 26°63S×177°34W, h104km±5km, mb4.0/15, mb1 4.2/16, mb1mx4.2/21, mbtmp4.4/16, MS3.1/6, Ms1 3.1/6, ms1mx2.9/20, Error ellipse: s-maj=17.8km s-min=14.4km az=158.0*

ISC 13 16:33:06.9±0.6, 26.73S±0°06×177°31W±0°09, h106km±5km, h106km; pP-P, n73, σ1s19/64, mb4.4/22, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.57**	**192**	P		**Pn**	**16 33 46.8**	**-0.3**
	459nm,0.3s,baz=58,slow=16,SNR=9.9							
RAO				S		**Sn**	**16 34 20.2**	**+2.2**
	578nm,0.3s,baz=178,slow=22,SNR=6.8							
RAO	**Raoul Island**	**2.57**	**192**	*e*Pn		Pn	16 33 39.6	-7.5
RAO				S		**Sn**	**16 34 20.2**	**+2.2**
MSVF	**Nonsavu**	**9.93**	**333**	*e*P		**Pn**	**16 35 28.6**	**+1.9**
	52nm,0.9s							
NIUE	**Niue**	**10.21**	**43**	P		Pn	16 35 25.2	-5.2
	baz=8.9,SNR=13							
OUZ	**Omahuta**	**11.51**	**220**	*e*P		**Pn**	**16 35 47.6**	**-0.2**
URZ	**Urewera**	**12.42**	**201**	P		Pn	16 35 50.2	-10
	0.5nm,0.3s,baz=333,slow=0.6,SNR=6.7							
URZ				S		Sn	16 38 03.6	-13
	1.9nm,0.3s,baz=69,slow=20,SNR=12							
AFI	**Afiamalu**	**13.77**	**23**	P		Pn	16 36 08.4	-9.3
	7.4nm,0.3s,baz=233,slow=5.1,SNR=14							
AFI				S		Sn	16 38 28.3	-21
	5.4nm,0.3s,baz=25,slow=23,SNR=3.6							
AFI				LR		LR	16 41 08.7	
	comp=Z,30nm,20.4s,baz=191,slow=35							
AFI	**Afiamalu**	**13.77**	**23**	*e*Pn		Pn	16 36 09.3	-8.4
AFI				S		Sn	16 38 28.3	-21
DZM	**Mont Dzumac**	**15.51**	**284**	*e*Pn		P	16 36 51.6	+10
	104nm,0.8s							
DZM	**Mont Dzumac**	**15.51**	**284**	*e*P		**Pn**	**16 36 40.6**	**+0.8**
	46nm,0.8s							
NOUC	**Port Laguerre**	**15.62**	**284**	*e*P		P	16 36 49.5	+6.4
RAR	**Rarotonga**	**16.94**	**75**	P		**Pn**	**16 36 56.5**	**-1.0**
	2.0nm,0.3s,baz=294,slow=11,SNR=8.0							
RPZ	**Rata Peaks**	**19.40**	**206**	P		**P**	**16 37 20.1**	**-4.4**
	0.3nm,0.3s,baz=1.6,slow=4.5,SNR=3.3							
RPZ				LR		LR	16 45 34.7	
	comp=Z,86nm,18.7s,baz=6.5,slow=38							
TBI	**Tubuai**	**25.44**	**89**	*e*LR		LR	16 44 18.6	
	130nm,34.8s							
TBI	**Tubuai**	**25.44**	**89**	*e*T		T	17 04 13.1	
	15nm,0.4s							
PAE	**Paea**	**27.17**	**76**	*e*T		T	17 06 27.7	
	4.1nm,0.3s							
PPT2	**Papeete2**	**27.20**	**76**	*e*LR		LR	16 45 23.0	
	227nm,32.0s							
PPT2	**Papeete2**	**27.20**	**76**	*e*T		T	17 06 31.1	
	6.2nm,0.4s							
PPT	**Papeete**	**27.21**	**76**	LR		LR	16 47 09.5	
	comp=Z,35nm,18.7s,baz=234,slow=31							
TVO	**Taravao**	**27.40**	**77**	*e*T		T	17 06 44.4	
	1.9nm,0.3s							
EIDS	**Eidsvold**	**28.39**	**266**	*e*P		P	16 38 46.4	-5.0
CTA	**Charters Tower**	**34.00**	**273**	P		**P**	**16 39 42.0**	**+1.3**
	2.7nm,0.5s,baz=105,slow=11,SNR=5.7							
CTAO	**Charters Tower**	**34.00**	**273**	*e*P		**P**	**16 39 40.4**	**-0.3**
STKA	**Stephens Creek**	**36.05**	**252**	LR		LR	16 51 50.8	
	comp=Z,95nm,20.5s,baz=200,slow=31							
PMG	**Port Moresby**	**37.74**	**290**	P		**P**	**16 40 13.3**	**+0.6**
	12nm,0.8s,baz=117,slow=13,SNR=3.8							
RKT	**Rikitea**	**38.44**	**94**	*e*T		T	17 20 25.4	
	2.6nm,0.3s							
ASAR	**Alice Springs**	**44.04**	**263**	P		**P**	**16 41 03.6**	**-0.8**
	3.7nm,1.0s,baz=107,slow=7.9,SNR=13							
WRAB	**Tennant Creek**	**44.69**	**268**	*e*P		**P**	**16 41 08.0**	**-1.6**
	7.9nm,1.0s							
WRA	**Warramunga Arr**	**44.70**	**268**	P		**P**	**16 41 08.8**	**-0.7**
	4.8nm,0.8s,baz=104,slow=7.6,SNR=78							
WRA				pP		**pP**	**16 41 33.5**	**-0.8**
	3.1nm,0.8s,baz=106,slow=7.7,SNR=4.4							
JAY	**Jayapura**	**46.87**	**294**	P		**P**	**16 41 26.6**	**-0.2**
	8.7nm,1.0s,baz=117,slow=9.0,SNR=2.9							
WRKA	**Warakurna**	**48.65**	**259**	P		**P**	**16 41 39.1**	**-1.3**
	baz=49,SNR=18							
KDU	**Kakadu**	**48.99**	**276**	P		**P**	**16 41 42.0**	**-1.1**
	baz=49,SNR=7.3							
MTN	**Manton Dam**	**50.12**	**276**	P		**P**	**16 41 51.2**	**-0.5**
	baz=50,SNR=4.4							
KNRA	**Kununurra**	**51.14**	**271**	P		**P**	**16 41 59.0**	**-0.3**
	baz=52,SNR=5.6							
SBA	**Scott Base**	**51.73**	**184**	P		**P**	**16 42 04.2**	**+1.4**
VNDA	**Vanda**	**51.80**	**186**	P		**P**	**16 42 05.3**	**+2.1**
	0.4nm,0.5s,baz=7.7,slow=7.6,SNR=3.5							
FITZ	**Fitzroy Crossi**	**53.07**	**267**	P		**P**	**16 42 13.1**	**-0.5**
	baz=54,SNR=4.7							
QSPA	**South Pole Qui**	**63.37**	**180**	*e*P		**P**	**16 43 25.6**	**+0.9**
	9.8nm,1.0s							
KSM	**Kuching**	**74.98**	**279**	P		**P**	**16 44 36.8**	**-0.3**
	baz=75,SNR=5.6							
KSM	**Kuching**	**74.98**	**279**	*e*P		**P**	**16 44 36.3**	**-0.8**
	14nm,1.0s							
MJAR	**Matsushiro Arr**	**75.60**	**324**	P		**P**	**16 44 38.8**	**-1.3**
	5.5nm,0.9s,baz=165,slow=5.3,SNR=9.3							
MJAR				LR		LR	17 13 33.4	
	comp=Z,9.8nm,21.9s,baz=255,slow=32							
YSS	**Yuzh-Sakhalins**	**81.73**	**334**	*e*P		**P**	**16 45 13.5**	**+0.1**
	31nm,0.9s							
KSRS	**Korea Array**	**81.97**	**319**	P		**P**	**16 45 15.2**	**+0.3**
	4.6nm,0.7s,baz=139,slow=5.8,SNR=8.0							
KSRS				LR		LR	17 21 00.7	
	comp=Z,6.5nm,18.6s,baz=295,slow=35							
KSAR	**Wonju Array Be**	**81.98**	**319**	P		**P**	**16 45 15.2**	**+0.2**
PETK	**Petropavlovsk-**	**82.43**	**345**	P		**P**	**16 45 16.9**	**0.0**
	6.3nm,0.9s,baz=148,slow=8.5,SNR=3.1							
VNA1	**Neumayer--Stat**	**82.58**	**176**	P		pP	16 45 42.7	-2.4
USRK	**Ussuriysk Ar.**	**84.45**	**326**	P		**P**	**16 45 27.8**	**+0.2**
	7.1nm,0.8s,baz=130,slow=3.7,SNR=15							
NVAR	**Mina Array Bea**	**85.14**	**43**	P		**P**	**16 45 31.8**	**+0.4**
	2.0nm,0.7s,baz=224,slow=8.2,SNR=13							
NVAR				pP		**pP**	**16 45 58.8**	**-0.1**
	1.2nm,0.7s,baz=216,slow=8.8,SNR=3.9							
MDJ	**Mudanjiang**	**85.96**	**325**	*e*P		**P**	**16 45 35.0**	**0.0**
	12nm,0.9s							
TXAR	**Lajitas Array**	**89.89**	**57**	P		**P**	**16 45 55.4**	**+1.1**
	0.7nm,0.8s,baz=211,slow=8.8,SNR=7.1							
TXAR				pP		**pP**	**16 46 21.6**	**-0.5**
	0.2nm,0.6s,baz=233,slow=5.8,SNR=2.6							
ENH	**Enshi**	**90.04**	**304**	*e*P		**P**	**16 45 55.4**	**+0.6**
	7.9nm,0.8s							
CMAR	**Chiang Mai Arr**	**92.77**	**289**	P		**P**	**16 46 09.0**	**+1.3**
	1.1nm,0.9s,baz=134,slow=3.6,SNR=7.2							
CHTO	**Chiang Mai**	**92.93**	**289**	*e*P		**P**	**16 46 09.2**	**+0.7**
	1.9nm,0.9s							
PDAR	**Pinedale Array**	**93.06**	**43**	P		**P**	**16 46 08.8**	**-0.1**
	1.3nm,0.8s,baz=219,slow=1.9,SNR=7.0							
ILAR	**Eielson Array**	**94.22**	**13**	P		**P**	**16 46 12.2**	**-1.1**
	0.6nm,0.8s,baz=228,slow=5.2,SNR=6.4							
ILAR				PP		**PP**	**16 50 05.5**	**+3.5**
	0.3nm,0.8s,baz=224,slow=7.6,SNR=5.0							
SONM	**Songino Array**	**100.82**	**318**	P		**Pdif**	**16 46 44.7**	**+1.1**
	0.4nm,0.8s,baz=110,slow=3.4,SNR=3.0							
MKAR	**Makanchi Array**	**115.85**	**311**	PKP		**PKPdf**	**16 51 35.5**	**-1.4**
	0.7nm,0.8s,baz=73,slow=3.9,SNR=5.4							
ARCES	**ARCESS Array B**	**135.13**	**349**	PKP		**PKPdf**	**16 52 13.3**	**+0.3**
	2.8nm,0.9s,baz=349,slow=2.5,SNR=5.2							
FINES	**FINESS Array B**	**141.88**	**342**	PKhKP		PKPpre	16 52 19.1	
	0.9nm,0.6s,baz=85,slow=2.1,SNR=4.3							
NB2	**NORSAR Subarra**	**145.21**	**353**	PKP		**PKPbc**	**16 52 30.5**	**-0.8**
	comp=Z,20nm,1.0s,baz=11,slow=3.7							
NOA	**NORSAR Array B**	**145.21**	**353**	PKPbc		**PKPbc**	**16 52 30.1**	**-1.3**
	comp=Z,11nm,0.9s,baz=14,slow=2.5,SNR=18							
NOA				pPKPbc		pPKPbc	16 52 58.9	-1.2
	comp=Z,4.5nm,0.8s,baz=15,slow=2.5,SNR=4.9							
AKASG	**Malin Array Be**	**148.66**	**327**	PKPbc		**PKPbc**	**16 52 40.4**	**-1.0**
	comp=Z,3.8nm,0.7s,baz=42,slow=3.1,SNR=10							
BRTR	**Keskin Array B**	**151.20**	**305**	PKPbc		**PKPbc**	**16 52 47.4**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=146,slow=2.4,SNR=7.8							
UPC	**Upice**	**154.16**	**340**	*e*PKPAB		**PKPab**	**16 53 08.4**	**+0.3**
DPC	**Dobruska-Polom**	**154.20**	**340**	*e*PKPAB		**PKPab**	**16 53 08.9**	**+0.5**
DPC				*ep*PKP		**pPKPdf**	**16 53 13.8**	**-1.3**
CLL	**Collm**	**154.23**	**345**	*i* PKPdiff		**PKPbc**	**16 52 54.0**	**-0.2**
	comp=Z,5.0nm,0.9s							
CLL				*e*PKPab		**PKPab**	**16 53 07.0**	**-1.4**
	comp=Z,5.0nm,1.0s							
CLL				*e*			16 53 13.0	
KRLC	**Kraliky**	**154.29**	**339**	*e*PKPAB		**PKPab**	**16 53 08.4**	**-0.4**
KRLC				*ep*PKP		**pPKPdf**	**16 53 14.0**	**-1.2**
BRG	**Berggiesshubel**	**154.40**	**343**	*e*P		**PKPbc**	**16 52 54.8**	**+0.2**
	comp=Z,2.0nm,0.8s							
BRG				*e*			16 53 09.0	
	comp=Z,4.7nm,0.9s							
**PRU

TRTT	**Trang**	**10.40**	**349**	P		Pn	16 54 58.9	+5.8
	38nm,1.1s,629nm							
KKM	**Kota Kinabalu**	**16.85**	**60**	P		**P**	**16 56 25.9**	**+4.2**
	baz=17,SNR=3.2							
SDKM	**Sandakan**	**17.52**	**63**	⇑P		**P**	**16 56 28.7**	**-0.3**
TSM	**Tawau**	**17.57**	**68**	⇑P		**Pn**	**16 56 29.1**	**+0.3**
KDM	**Kudat**	**17.81**	**58**	⇑P		**P**	**16 56 32.6**	**+0.4**
KAPI	**Kappang**	**18.28**	**99**	P		**Pn**	**16 56 38.4**	**+1.0**
	0.7nm,0.3s,baz=254,slow=5.2,SNR=4.6							
MYLDM	**Lahad Datu**	**18.49**	**66**	⇑P		**Pn**	**16 56 40.2**	**+0.2**
PBKT	**Sadao Pong**	**18.91**	**358**	P		Pn	16 56 50.2	+5.2
	6.8nm,2.0s							
SKNT	**Sakolnakorn**	**19.44**	**7**	P		**Pn**	**16 56 55.4**	**+3.9**
	20nm,1.9s							
CMAR	**Chiang Mai Arr**	**20.94**	**353**	P		**P**	**16 57 06.0**	**-0.3**
	2.1nm,1.1s,baz=190,slow=8.2,SNR=9.8							
CMAR				LR		LR	17 06 25.6	
	comp=Z,47nm,20.9s,baz=181,slow=40							
LUWI	**Luwuk**	**21.19**	**87**	P		**P**	**16 57 11.8**	**+2.7**
	65nm,1.1s							
PALK	**Pallekele**	**23.00**	**295**	LR		LR	17 06 35.9	
	comp=Z,136nm,18.4s,baz=120,slow=37							
H08S2	**Diego Garcia H**	**29.45**	**259**	T		T	17 27 48.5	
	baz=84							
H08S3	**Diego Garcia H**	**29.46**	**259**	T		T	17 27 52.8	
	baz=84							
H08S1	**Diego Carcia H**	**29.47**	**259**	T		T	17 28 00.6	
	baz=84							
WRA	**Warramunga Arr**	**36.38**	**121**	P		**P**	**16 59 25.4**	**-2.3**
	1.7nm,0.9s,baz=301,slow=8.9,SNR=8.5							
STKA	**Stephens Creek**	**47.65**	**132**	P		**P**	**17 00 58.3**	**-1.2**
	4.2nm,0.9s,baz=300,slow=10.0,SNR=3.1							
STKA				LR		LR	17 22 44.8	
	comp=Z,147nm,18.4s,baz=213,slow=38							
SONM	**Songino Array**	**50.25**	**4**	P		**P**	**17 01 19.1**	**-0.2**
	1.7nm,0.9s,baz=188,slow=9.9,SNR=11							
EKS2	**Erkin-Say**	**51.46**	**334**	*e*P		**P**	**17 01 27.9**	**-0.7**
	3.3nm,0.8s							
MJAR	**Matsushiro Arr**	**51.62**	**38**	P		**P**	**17 01 29.8**	**+0.1**
	1.0nm,0.8s,baz=221,slow=10,SNR=4.4							
MKAR	**Makanchi Array**	**51.91**	**343**	P		**P**	**17 01 29.6**	**-2.0**
	0.3nm,0.4s,baz=142,slow=6.1,SNR=5.7							
USRK	**Ussuriysk Ar.**	**53.81**	**27**	P		**P**	**17 01 45.9**	**+0.2**
	5.2nm,0.9s,baz=224,slow=4.9,SNR=9.5							
GEYT	**Alibeck**	**56.83**	**319**	P		**P**	**17 02 07.3**	**-0.4**
	2.3nm,0.8s,baz=121,slow=14,SNR=5.0							
ZALV	**Zalesovo Beam**	**57.92**	**348**	P		**P**	**17 02 12.8**	**-2.2**
	1.0nm,0.5s,baz=172,slow=7.0,SNR=5.6							
ZALV				LR		LR	17 30 47.3	
	comp=Z,33nm,18.4s,baz=70,slow=40							
ABKAR	**Akbulak array**	**62.81**	**331**	*e*P		**P**	**17 02 46.8**	**-1.7**
	1.4nm,0.5s							
KBZ	**Khabaz**	**69.71**	**319**	P		**P**	**17 03 33.6**	**+0.8**
	2.1nm,0.8s,baz=101,slow=5.1,SNR=4.1							
MAW	**Mawson**	**70.25**	**195**	LR		LR	17 28 26.8	
	comp=Z,57nm,18.1s,baz=59,slow=31							
BRTR	**Keskin Array B**	**74.82**	**312**	P		**P**	**17 04 02.2**	**-1.4**
	1.3nm,0.8s,baz=122,slow=6.3,SNR=6.4							
VNDA	**Vanda**	**81.41**	**169**	P		**P**	**17 04 39.0**	**-0.2**
	1.2nm,0.9s,baz=321,slow=5.8,SNR=5.3							
FINES	**FINESS Array B**	**85.26**	**332**	P		**P**	**17 04 57.8**	**-1.5**
	1.1nm,0.8s,baz=96,slow=5.6,SNR=3.9							
ARCES	**ARCESS Array B**	**87.44**	**340**	LR		LR	17 49 52.9	
	comp=Z,20nm,18.5s,baz=142,slow=40							
GERES	**GERESS Array B**	**90.45**	**319**	P		**P**	**17 05 25.2**	**+0.6**
	0.1nm,0.3s,baz=125,slow=6.3,SNR=3.5							
NOA	**NORSAR Array B**	**92.32**	**331**	LR		LR	17 51 12.9	
	comp=Z,14nm,18.1s,baz=65,slow=38							
BPAW	**Bear Paw Mtn.**	**99.75**	**25**	*e*P		**Pdif**	**17 06 07.1**	**+0.4**
	0.5nm,0.6s							
TXAR	**Lajitas Array**	**144.05**	**39**	PKP		PKPbc	17 11 57.0	-0.2
	0.7nm,0.7s,baz=227,slow=2.2,SNR=6.4							
CPUP	**Villa Florida**	**144.89**	**214**	PKP		**PKPdf**	**17 12 01.4**	**+0.8**
	6.3nm,0.9s,baz=124,slow=1.8,SNR=7.1							
BDFB	**Brasilia**	**144.99**	**238**	PKP		**PKPdf**	**17 12 02.0**	**+0.8**
	4.0nm,0.8s,baz=166,slow=4.2,SNR=3.3							
MIAR	**Mount Ida**	**145.07**	**22**	*e*PKP		**PKPbc**	**17 11 59.1**	**-1.1**
JCT	**Junction City**	**145.53**	**34**	*e*PKP		**PKPdf**	**17 12 01.7**	**-0.1**

IDC 13 17:04:01.1±2.8, 2°28N×93°03E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/34, mbtmp3.5/6, Error ellipse: s-maj=92.4km s-min=27.3km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**17.09**	**19**	Pn	Pn	17 07 59.4	-2.2
	baz=219,slow=13,SNR=2.7						
MKAR	**Makanchi Array**	**45.31**	**350**	P	P	17 12 20.6	-0.1
	0.5nm,0.5s,baz=167,slow=8.0,SNR=6.6						
WRA	**Warramunga Arr**	**46.16**	**121**	P	P	17 12 27.6	-0.3
	0.2nm,0.6s,baz=294,slow=8.6,SNR=3.9						
SONM	**Songino Array**	**46.82**	**12**	P	P	17 12 33.4	+0.6
	0.3nm,0.7s,baz=182,slow=8.7,SNR=2.8						
KURBB	**Kurchatov Arra**	**49.70**	**348**	P	P	17 12 54.5	-0.3
	0.2nm,0.3s,baz=171,slow=7.4,SNR=4.7						
ZALV	**Zalesovo Beam**	**51.94**	**354**	P	P	17 13 11.5	-0.1
	0.7nm,0.5s,baz=178,slow=7.6,SNR=3.9						

*IDC **13** 17:36:19.3±1.4, 32°.00S×178°.29W, h0km, mb4.4/3, mb1 4.6/4, mb1mx4.0/27, mbtmp4.5/4, ML4.5/1, Error ellipse: s-maj=39.5km s-min=34.9km az=164.0*
*ISCJB **13** 17:36:21.5±1.8, 32°.28S±0°.07×178°.2W±0°.3, h35km, mb4.4/3, Error ellipse: s-maj=34.8km s-min=10.0km az=4.5*

ISC 13 17:36:25.1±1.5, 32°.2S±0°.1×178°.4W±0°.2, h35km, n37, σ1178/36, mb4.3/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**6.19**	**204**	PN	**Pn**	**17 37 53.3**	**-0.6**
WMGZ				SN	**Sn**	**17 39 06.8**	**+3.4**
HAZ	**Te Kaha**	**6.37**	**208**	PN	**Pn**	**17 37 57.4**	**+1.0**
HAZ				*e*SN	**Sn**	**17 39 10.8**	**+2.9**
PUZ	**Puketiti**	**6.47**	**204**	PN	**Pn**	**17 37 58.0**	**+0.2**
PUZ				*e*SN	**Sn**	**17 39 11.0**	**+0.6**
TWGZ	**Tauwhareparae**	**6.66**	**205**	PN	**Pn**	**17 38 00.8**	**+0.4**
TWGZ				SN	**Sn**	**17 39 18.0**	**+2.9**
CNGZ	**Carnagh Statio**	**6.86**	**203**	PN	**Pn**	**17 38 03.6**	**+0.5**
TKGZ	**Te Karaka**	**6.94**	**205**	PN	**Pn**	**17 38 05.0**	**+0.8**
MWZ	**Matawai**	**6.97**	**207**	PN	**Pn**	**17 38 04.4**	**-0.3**
URZ	**Urewera**	**7.08**	**210**	PN	**Pn**	**17 38 06.0**	**-0.1**
	7.5nm,0.3s,baz=282,slow=3.2,SNR=51						
URZ				Sn	**Sn**	**17 39 27.1**	**+1.8**
	3.5nm,0.3s,baz=153,slow=18,SNR=9.1						
URZ	**Urewera**	**7.08**	**210**	PN	**Pn**	**17 38 05.7**	**-0.4**
URZ				*e*SN	**Sn**	**17 39 26.4**	**+1.1**
WCZ	**Waipu Caves**	**7.09**	**236**	PN	Pn	17 38 12.9	+6.6
RIGZ	**Rimuhau**	**7.21**	**205**	PN	**Pn**	**17 38 08.2**	**+0.2**
OUZ	**Omahuta**	**7.32**	**244**	PN	Pn	17 38 15.0	+5.6
SNGZ	**Shannon Statio**	**7.43**	**207**	PN	**Pn**	**17 38 11.2**	**+0.2**
KNZ	**Kokohu**	**7.52**	**204**	PN	**Pn**	**17 38 11.4**	**-0.8**
RAHZ	**Arahi**	**7.65**	**208**	PN	**Pn**	**17 38 14.1**	**+0.1**
NMHZ	**Naumai**	**7.91**	**208**	PN	**Pn**	**17 38 17.6**	**-0.1**
ARHZ	**Aropaoanui**	**7.98**	**207**	PN	**Pn**	**17 38 18.0**	**-0.5**
BKZ	**Black Stump Fm**	**8.10**	**209**	PN	**Pn**	**17 38 19.0**	**-1.2**
KWHZ	**Kaweka Forest**	**8.35**	**209**	PN	**Pn**	**17 38 22.1**	**-1.5**
KAHZ	**Kahuranaki**	**8.49**	**205**	PN	**Pn**	**17 38 23.7**	**-1.9**
BHHZ	**Black Hill Sta**	**8.55**	**210**	PN	**Pn**	**17 38 25.2**	**-1.2**
KRHZ	**Kereru**	**8.56**	**208**	PN	**Pn**	**17 38 26.5**	**+0.1**
WNVZ	**Wahianoa**	**8.63**	**213**	PN	**Pn**	**17 38 28.0**	**+0.5**
PXZ	**Pawanui**	**8.71**	**205**	*e*PN	Pn	17 38 25.1	-3.3
PXZ				*e*SN	**Sn**	**17 40 02.1**	**-3.2**
BFZ	**Birch Farm**	**9.50**	**205**	PN	Pn	17 38 36.0	-3.3
MRZ	**Mangatainoka R**	**9.74**	**208**	PN	Pn	17 38 38.5	-4.1
MRZ				*e*SN	**Sn**	**17 40 24.9**	**-5.9**
TUWZ	**Tuamarina**	**11.07**	**211**	PN	**Pn**	**17 38 58.1**	**-2.7**
NNZ	**Nelson**	**11.16**	**214**	*e*PN	Pn	17 38 54.9	-7.1
NNZ				*e*SN	Sn	17 40 57.8	-7.6
THZ	**Tophouse**	**11.80**	**214**	*e*PN	Pn	17 39 06.8	-4.1
THZ				*e*SN	Sn	17 41 14.5	-6.9
MQZ	**McQueen's Vall**	**13.48**	**209**	*e*SN	Sn	17 41 48.1	-14
RPZ	**Rata Peaks**	**14.18**	**213**	Pn	Pn	17 39 40.5	-2.9
	0.2nm,0.3s,baz=18,slow=6.4,SNR=3.2						
RPZ				Sn	Sn	17 42 06.2	-13
	0.3nm,0.3s,baz=130,slow=19,SNR=6.9						
CTA	**Charters Tower**	**33.80**	**282**	P	**P**	**17 43 05.4**	**+1.5**
	2.1nm,0.5s,baz=106,slow=8.5,SNR=5.7						
ASAR	**Alice Springs**	**42.71**	**269**	P	**P**	**17 44 18.4**	**-0.5**
	2.6nm,0.6s,baz=108,slow=7.9,SNR=55						
WRA	**Warramunga Arr**	**43.86**	**274**	P	**P**	**17 44 27.4**	**-0.8**
	4.3nm,0.3s,baz=112,slow=8.0,SNR=172						
FINES	**FINESS Array B**	**146.70**	**339**	PKPbc	**PKPdf**	**17 56 01.1**	**+0.4**
	1.6nm,0.4s,baz=68,slow=4.0,SNR=23						
NOA	**NORSAR Array B**	**150.47**	**351**	PKPbc	**PKPbc**	**17 56 10.7**	**-1.6**
	0.6nm,0.4s,baz=15,slow=4.1,SNR=3.1						
TORD	**Torodi Ar. Bea**	**161.04**	**180**	PKPab	**PKPab**	**17 57 06.2**	**+1.2**
	0.6nm,0.5s,baz=168,slow=3.6,SNR=6.1						

WEL 13 17:47:20.1±0.3, 35°.35S×178°.66E, h198km±7km, ML3.5/4, 1D, Error ellipse: s-maj=7.0km s-min=6.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**2.47**	**184**	PN	Pn	17 48 03.7	+0.2
WMGZ				SN	Sn	17 48 37.0	-0.6
HAZ	**Te Kaha**	**2.50**	**196**	PN	Pn	17 48 03.9	+0.1
HAZ				SN	Sn	17 48 36.5	-1.6
PUZ	**Puketiti**	**2.74**	**187**	PN	Pn	17 48 06.2	-0.4
PUZ				SN	Sn	17 48 41.2	-1.8
PUZ				AML	AML	17 49 25.2	
TWGZ	**Tauwhareparae**	**2.87**	**191**	PN	Pn	17 48 08.7	+0.5
TWGZ				SN	Sn	17 48 45.0	-0.9
MWZ	**Matawai**	**3.12**	**197**	⇓PN	Pn	17 48 11.5	+0.5
MWZ				SN	Sn	17 48 50.7	-0.4
CNGZ	**Carnagh Statio**	**3.15**	**186**	PN	Pn	17 48 11.5	+0.1
TKGZ	**Te Karaka**	**3.15**	**192**	PN	Pn	17 48 11.3	0.0
TKGZ				SN	Sn	17 48 51.8	+0.1
URZ	**Urewera**	**3.16**	**203**	PN	Pn	17 48 11.9	+0.4
URZ				SN	Sn	17 48 52.1	+0.3
RIGZ	**Rimuhau**	**3.43**	**192**	PN	Pn	17 48 14.5	-0.3
SNGZ	**Shannon Statio**	**3.58**	**197**	PN	Pn	17 48 17.1	+0.4
SNGZ				SN	Sn	17 49 01.2	0.0
NMHZ	**Naumai**	**4.02**	**201**	PN	Pn	17 48 22.7	+0.6
BKZ	**Black Stump Fm**	**4.18**	**204**	PN	Pn	17 48 24.4	+0.2
KAHZ	**Kahuranaki**	**4.66**	**197**	PN	Pn	17 48 29.4	-0.7

NNC 13 18:55:09.5±5.2, 36°.04N×69°.66E, h0km, mb3.5, mpv3.2, 3C-1D, Error ellipse: s-maj=39.0km s-min=28.7km az=6.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.84**	**347**	⇑Pn	Pn	18 55 56.3	0.0
	3.4nm,0.3s						
DZET				⇓Sn	Sn	18 56 32.7	+1.4
	10.0nm,0.4s						
SFK	**Sufi-Kurgan**	**4.99**	**36**	⇑Sn	Sn	18 57 26.4	+1.7
	3.5nm,0.2s						
KK31	**Karatay Array**	**7.08**	**5**	Pn	Pn	18 56 53.7	-0.8
	0.4nm,0.3s,baz=197,slow=16,SNR=19						
KK31				⇑Sn	Sn	18 58 14.8	-0.9
	0.3nm,0.3s,baz=190,slow=19,SNR=5.3						

*BJI **13** 19:15:42.3, 4°.69S×143°.74E, h110km, mb4.7/32, mB4.9/24*
*ISCJB **13** 19:15:47.3±0.6, 4°.30S±0°.03×143°.25E±0°.04, h116km±5km, mb4.4/29, Error ellipse: s-maj=6.9km s-min=4.2km az=160.6*
*NEIC **13** 19:15:47.6±0.3, 4°.25S×143°.26E, mb4.8/12, Error ellipse: s-maj=9.4km s-min=5.6km az=71.0*
*IDC **13** 19:15:47.8±0.5, 4°.24S×143°.33E, h106km±4km, mb4.1/18, mb1 4.1/22, mb1mx4.1/35, mbtmp4.5/22, MS3.1/8, Ms1 3.1/8, ms1mx2.9/28, Error ellipse: s-maj=13.6km s-min=8.3km az=64.0*
*DJA **13** 19:15:49.2±0.6, 4°.5S×144°.3E±°, h96km±6km, M4.8/27, mb4.8/27, mB5.2/5, MLv5.0/5, Mw(mB)4.6/5*

ISC 13 19:15:48.1±0.3, 4°.31S±0°.04×143°.32E±0°.05, h108km±2km, h108km:pP-P, n129, σ1939/172, mb4.5/29, 16C-13D, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**3.16**	**304**	P	**Pn**	**19 16 37.0**	**+0.7**
JAY	**Jayapura**	**3.16**	**304**	P	**Pn**	**19 16 35.1**	**-1.1**
	13nm,0.3s,baz=166,slow=9.3,SNR=35						
JAY				S	**Sn**	**19 17 13.9**	**+0.5**
	14nm,0.3s,baz=96,slow=16,SNR=4.1						
JAY				LR	LR	19 17 49.2	
	comp=Z,269nm,20.0s,baz=107,slow=39						
JAY	**Jayapura**	**3.16**	**304**	⇓P	**Pn**	**19 16 35.3**	**-1.0**
	baz=3.1						
GENI	**Genyem**	**3.58**	**298**	P	**Pn**	**19 16 41.0**	**-0.8**
MANU	**Manus Island**	**4.62**	**61**	⇑P	**Pn**	**19 16 57.9**	**+2.0**
	baz=4.7,SNR=4.1						
SMPI	**Sarmi**	**5.15**	**296**	P	**Pn**	**19 17 03.4**	**+0.5**
	113nm,1.1s,4μm0.6nm						
PMG	**Port Moresby**	**6.34**	**143**	P	**Pn**	**19 17 19.5**	**+0.4**
	5.8nm,0.3s,baz=37,slow=4.3,SNR=26						
PMG				S	**Sn**	**19 18 28.1**	**-2.0**
	7.2nm,0.3s,baz=134,slow=22,SNR=6.9						
PMG				LR	LR	19 20 29.6	
	comp=Z,200nm,21.4s,baz=304,slow=44						
PMG	**Port Moresby**	**6.34**	**143**	⇑P	**Pn**	**19 17 19.4**	**+0.4**
	baz=6.4,SNR=5.8						
PMG				⇑P	**Pn**	**19 17 19.4**	**+0.4**
	baz=6.4,SNR=5.8						
PMG				⇑P	**Pn**	**19 17 19.4**	**+0.4**
	baz=6.4,SNR=5.8						
PMG	**Port Moresby**	**6.34**	**143**	*e*Pn	**Pn**	**19 17 18.9**	**-0.2**
	53nm,0.8s						
PMG				S	**Sn**	**19 18 28.1**	**-2.0**
SRPI	**Serui, Papua**	**7.47**	**289**	P	**Pn**	**19 17 33.7**	**-0.8**
	81nm,0.8s,2μm0.8nm						
RKPI	**Ransiki, Papua**	**9.54**	**287**	P	**Pn**	**19 18 04.0**	**+1.4**
	33nm,0.8s						
COEN	**Coen**	**9.59**	**181**	P	**Pn**	**19 18 04.6**	**+1.4**
	baz=9.6,SNR=34						
COEN	**Coen**	**9.59**	**181**	*e*Pn	**Pn**	**19 18 04.4**	**+1.1**
	35nm,0.8s						
FAKI	**Fak Fak**	**11.13**	**277**	⇑P	**Pn**	**19 18 23.1**	**-1.1**
	baz=11,SNR=4.0						
SIJI	**Sorong**	**12.52**	**286**	P	**Pn**	**19 18 41.1**	**-1.5**
	1.5nm,0.3s,baz=59,slow=15,SNR=6.9						
KDU	**Kakadu**	**13.57**	**232**	⇓P	**Pn**	**19 18 53.6**	**-2.7**
	baz=14,SNR=27						
MTSU	**Mount Surprise**	**13.78**	**176**	⇓P	**Pn**	**19 19 00.9**	**+2.0**
	baz=14,SNR=19						
MTN	**Manton Dam**	**14.73**	**234**	P	**Pn**	**19 19 09.2**	**-1.9**
	baz=15,SNR=34						
CTA	**Charters Tower**	**15.94**	**170**	P	**Pn**	**19 19 26.6**	**+0.2**
	0.4nm,0.3s,baz=356,slow=13,SNR=7.2						
CTA	**Charters Tower**	**15.94**	**170**	⇓P	**P**	**19 19 28.0**	**+0.1**
	baz=16						
CTAO	**Charters Tower**	**15.94**	**170**	*e*Pn	**Pn**	**19 19 26.9**	**+0.6**
QIS	**Mount Isa**	**16.55**	**192**	P	**Pn**	**19 19 33.4**	**-0.5**
	baz=17,SNR=18						
TNTI	**Ternate**	**16.72**	**287**	P	**P**	**19 19 38.0**	**+1.5**
	35nm,1.0s						
HNR	**Honiara**	**17.27**	**108**	*e*Pn	**Pn**	**19 19 44.2**	**+1.5**
	96nm,0.6s						
WB8	**Warramunga Arr**	**17.70**	**209**	⇓P	**P**	**19 19 46.4**	**-0.9**
	baz=18						
WR7	**Warramunga Arr**	**17.78**	**208**	⇓P	**P**	**19 19 47.5**	**-0.6**
	baz=18						
WRAB	**Tennant Creek**	**17.82**	**209**	*e*Pn	**P**	**19 19 47.0**	**-1.6**
	133nm,0.6s						
WRA	**Warramunga Arr**	**17.84**	**209**	P	**P**	**19 19 49.0**	**+0.2**
	13nm,0.3s,baz=23,slow=12,SNR=302						
WRA				S	S	19 23 00.6	-7.8
	0.9nm,0.3s,baz=20,slow=23,SNR=4.6						
GUMO	**Guam**	**17.85**	**5**	LR	LR	19 25 46.4	
	comp=Z,28nm,20.5s,baz=172,slow=34						
KNRA	**Kununurra**	**18.23**	**231**	⇓P	**P**	**19 19 52.7**	**-0.5**
	baz=18,SNR=192						
SOEI	**Soe**	**19.66**	**253**	P	**Pn**	**19 20 10.4**	**-0.9**
	114nm,0.9s						
SOEI	**Soe**	**19.66**	**253**	⇓P	**P**	**19 20 09.6**	**+0.7**
	baz=20,SNR=24						
SOEI	**Soe**	**19.66**	**253**	*e*Pn	**P**	**19 20 08.9**	**0.0**
	72nm,0.8s						
SOEI				*e*S	**S**	**19 23 44.7**	**-0.4**
KMSI	**Cibinong**	**19.92**	**284**	P	**Pn**	**19 20 18.1**	**+3.9**
	100nm,0.8s,2μm						
BATI	**Baumata**	**20.35**	**252**	P	**P**	**19 20 17.5**	**+1.3**
	53nm,0.8s						
BATI	**Baumata**	**20.35**	**252**	P	**P**	**19 20 17.1**	**+0.8**
	29nm,0.5s,baz=179,slow=2.3,SNR=11						
LUWI	**Luwuk**	**20.78**	**278**	P	Pn	19 20 24.9	+0.7
	42nm,0.8s,3μm						
AS05	**Alice Springs**	**21.25**	**204**	⇑P	**P**	**19 20 25.2**	**-0.6**
	baz=21						
MRSI	**Marisa**	**21.88**	**282**	P	**P**	**19 20 32.2**	**-0.4**
	18nm,0.7s,532nm						
APSI	**Ampana**	**21.91**	**278**	P	**P**	**19 20 35.3**	**+2.5**
	56nm,1.2s						
FITZ	**Fitzroy Crossi**	**22.07**	**230**	⇓P	**P**	**19 20 32.6**	**-2.0**
	baz=22,SNR=106						
QLP	**Quilpie**	**22.17**	**178**	⇑P	**P**	**19 20 35.5**	**+0.1**
	baz=22,SNR=13						
EIDS	**Eidsvold**	**22.23**	**161**	P	**P**	**19 20 36.8**	**+0.7**
	baz=22,SNR=17						
EIDS	**Eidsvold**	**22.23**	**161**	*e*P	**P**	**19 20 36.3**	**+0.3**
	36nm,0.8s						
EIDS				*e*pP	**pP**	**19 21 01.2**	**+4.5**
RMQ	**Roma**	**22.66**	**167**	⇑P	**P**	**19 20 41.7**	**+1.2**
	baz=23,SNR=39						
TTSI	**Tana Toraja**	**23.49**	**272**	P	**P**	**19 20 53.2**	**+4.7**
	22nm,1.1s						
PCI	**Palu**	**23.70**	**278**	P	**P**	**19 20 53.3**	**+2.9**
	47nm,1.0s						
MPSI	**Mapaga**	**23.85**	**281**	P	**P**	**19 20 50.9**	**-0.9**
	8.5nm,0.8s						
WRKA	**Warakurna**	**25.17**	**214**	⇑P	**P**	**19 21 03.3**	**-0.3**
	baz=25,SNR=68						
ARMA	**Armidale**	**27.13**	**164**	⇑P	**P**	**19 21 22.9**	**+1.6**
	baz=27,SNR=14						
ARMA	**Armidale**	**27.13**	**164**	*e*P	**P**	**19 21 22.7**	**+1.4**
	9.9nm,0.6s						
CMSA	**Cobar Meteorol**	**27.18**	**176**	⇑P	**P**	**19 21 22.0**	**+0.4**
	baz=27,SNR=13						
STKA	**Stephens Creek**	**27.47**	**183**	P	**P**	**19 21 24.6**	**+0.4**
	17nm,0.7s,baz=352,slow=7.7,SNR=20						
STKA				LR	LR	19 34 59.3	
	comp=Z,108nm,20.2s,baz=6.7,slow=42						
STKA	**Stephens Creek**	**27.47**	**183**	P	**P**	**19 21 24.6**	**+0.4**
	baz=28,SNR=15						
MBWA	**Marble Bar**	**28.38**	**232**	*e*P	**P**	**19 21 32.0**	**-0.5**
DZM	**Mont Dzumac**	**28.53**	**130**	P	**P**	**19 21 34.2**	**+0.4**
	9.2nm,0.9s,baz=270,slow=24,SNR=12						
KKM	**Kota Kinabalu**	**28.95**	**291**	*e*P	**P**	**19 21 36.0**	**-1.7**
BBOO	**Buckleboo**	**29.16**	**193**	⇓P	**P**	**19 21 39.5**	**+0.3**
	baz=29,SNR=12						
HTT	**Hallett**	**29.26**	**188**	P	**P**	**19 21 40.6**	**+0.4**
	baz=29,SNR=6.4						
FORT	**Forrest**	**30.00**	**207**	P	**P**	**19 21 46.8**	**0.0**
	baz=30,SNR=22						
YNG	**Young**	**30.21**	**172**	P	**P**	**19 21 50.1**	**+1.6**
	baz=30,SNR=5.2						
JCJ	**Chichijima**	**31.24**	**358**	LR	LR	19 34 44.8	
	comp=Z,13nm,18.7s,baz=107,slow=36						
CAN	**Canberra**	**31.30**	**171**	⇑P	**P**	**19 21 59.7**	**+1.5**
	baz=32						
CNB	**Canberra Magne**	**31.36**	**170**	⇓P	**P**	**19 22 00.2**	**+1.5**
	baz=32,SNR=8.0						
ARPS	**Mount Arapiles**	**32.33**	**182**	P	**P**	**19 22 08.4**	**+1.3**
	baz=32,SNR=11						
MEEK	**Meekatharra**	**32.42**	**224**	P	**P**	**19 22 08.0**	**-0.1**
	baz=32,SNR=14						
MILA	**Mila**	**33.03**	**171**	⇓P	**P**	**19 22 14.4**	**+1.2**
	baz=33						
TOO	**Toolangi**	**33.16**	**177**	⇑P	**P**	**19 22 16.6**	**+2.2**
	baz=33						
KMBL	**Kambalda**	**33.63**	**214**	⇑P	**P**	**19 22 18.4**	**-0.1**
	baz=34,SNR=17						
MORW	**Morawa**	**35.71**	**223**	P	**P**	**19 22 36.4**	**0.0**
	baz=36,SNR=14						
KLBR	**Kellerberrin**	**36.24**	**219**	P	**P**	**19 22 40.8**	**-0.2**
	baz=36,SNR=11						
BLDU	**Ballidu**	**36.25**	**221**	P	**P**	**19 22 41.1**	**0.0**
	baz=36,SNR=26						
NWAO	**Narrogin (SRO)**	**37.48**	**217**	P	**P**	**19 22 50.8**	**-0.6**
	7.9nm,0.7s,baz=144,slow=0.7,SNR=9.1						
NWAO	**Narrogin (SRO)**	**37.48**	**217**	P	**P**	**19 22 52.0**	**+0.7**
	baz=38,SNR=6.5						
NWAO				P	**P**	**19 22 52.0**	**+0.7**
	baz=38,SNR=6.5						
JNU	**Nakatsue**	**39.05**	**343**	P	**P**	**19 23 03.5**	**-1.1**
	11nm,0.8s,baz=172,slow=4.7,SNR=6.2						
MJAR	**Matsushiro Arr**	**40.92**	**354**	P	**P**	**19 23 17.7**	**-2.3**
	4.5nm,0.8s,baz=178,slow=8.9,SN

	100nm,4.8s							
GTA				LN				
	63nm,20.9s							
GTA				LE				
	96nm,19.9s							
GTA				LZ				
	55nm,18.1s							
LSA	**Lhasa**	**60.31**	**308**	*e*P	**P**		**19 25 47.0**	**+0.6**
	6.9nm,1.0s							
LSA				*e*pP	**pP**		**19 26 12.3**	**-0.5**
SONM	**Songino Array**	**61.19**	**332**	P	**P**		**19 25 51.8**	**+0.2**
	1.1nm,0.6s,baz=160,slow=7.7,SNR=10							
TAPN	**Taplejung**	**62.17**	**304**	*e*P	**P**		**19 25 59.6**	**+0.8**
ODAN	**Odare**	**62.26**	**303**	*e*P	**P**		**19 25 59.2**	**-0.1**
	15nm,0.7s							
RAMN	**Ramite**	**62.95**	**303**	*e*P	**P**		**19 26 03.8**	**-0.1**
	13nm,0.5s							
GUN	**Gumba**	**63.88**	**304**	*e*P	**P**		**19 26 10.8**	**+0.6**
PKI	**Pulchoki**	**64.16**	**303**	*e*P	**P**		**19 26 11.4**	**-0.6**
PKIN	**Phulchoki**	**64.17**	**303**	*e*P	**P**		**19 26 11.7**	**-0.3**
KKN	**Kakani**	**64.34**	**303**	*e*P	**P**		**19 26 12.7**	**-0.3**
	21nm,0.8s							
DMN	**Daman**	**64.42**	**303**	*e*P	**P**		**19 26 13.5**	**-0.1**
	28nm,0.9s							
GKN	**Gorkha**	**64.95**	**304**	*e*P	**P**		**19 26 16.6**	**-0.3**
	22nm,0.7s							
KOLN	**Koldanda**	**65.73**	**303**	*e*P	**P**		**19 26 21.7**	**-0.4**
	17nm,0.7s							
WMQ	**Urumqi**	**69.14**	**320**	P	**P**		**19 26 42.5**	**-0.5**
WMQ				pP	**pP**		**19 27 09.8**	**-0.2**
WMQ				sP	**sP**		**19 27 22.9**	**+1.2**
WMQ				PMZ				
	6.0nm,0.8s							
WMQ				PMZ				
	44nm,4.0s							
WMQ				LN				
	33nm,18.5s							
WMQ				LE				
	17nm,18.0s							
WMQ				LZ				
	17nm,18.5s							
VNDA	**Vanda**	**73.83**	**176**	P	**P**		**19 27 11.2**	**+0.8**
	0.7nm,0.6s,baz=315,slow=7.2,SNR=5.1							
MK06	**Makanchi Array**	**73.86**	**321**	⇑P	**P**		**19 27 11.1**	**-0.2**
	baz=74							
MK31	**Makanchi Array**	**73.88**	**321**	⇓P	**P**		**19 27 11.3**	**-0.1**
	baz=74							
MK31	**Makanchi Array**	**73.88**	**321**	*e*P	**P**		**19 27 10.9**	**-0.5**
MK31				*e*pP	**pP**		**19 27 37.7**	**-1.0**
MKAR	**Makanchi Array**	**73.88**	**321**	P	**P**		**19 27 10.9**	**-0.4**
	2.1nm,0.5s,baz=104,slow=7.7,SNR=28							
MKAR				pP	**pP**		**19 27 37.8**	**-0.8**
	4.8nm,0.9s,baz=112,slow=8.0,SNR=8.8							
ZAA0	**Zalesovo Array**	**75.65**	**329**	*e*P	**P**		**19 27 20.0**	**-1.4**
ZAA0				*e*pP	**pP**		**19 27 47.2**	**-1.6**
ZALV	**Zalesovo Beam**	**75.65**	**329**	P	**P**		**19 27 19.9**	**-1.5**
	6.4nm,0.9s,baz=109,slow=5.2,SNR=16							
ZALV				pP	**pP**		**19 27 48.4**	**-0.4**
	1.6nm,0.5s,baz=100,slow=6.2,SNR=4.1							
ZAB4	**Zalesovo Array**	**75.66**	**329**	⇑P	**P**		**19 27 20.3**	**-1.1**
	baz=76							
TKM2	**Tokmak 2**	**76.88**	**316**	*e*P	**P**		**19 27 27.7**	**-1.1**
	3.8nm,0.6s							
TKM2				*e*pP	**pP**		**19 27 56.6**	**+0.3**
KURK	**Kurchatov**	**77.68**	**324**	*e*P	**P**		**19 27 31.8**	**-1.1**
	5.7nm,1.0s							
KURK				*e*pP	**pP**		**19 27 58.1**	**-2.2**
EKS2	**Erkin-Say**	**78.07**	**315**	*e*P	**P**		**19 27 34.7**	**-0.7**
	1.4nm,0.7s							
EKS2				*e*pP	**pP**		**19 28 03.2**	**+0.3**
MAW	**Mawson**	**82.40**	**202**	P	**P**		**19 27 58.1**	**+0.2**
	1.2nm,0.7s,baz=65,slow=19,SNR=2.6							
MAW				pP	**pP**		**19 28 24.3**	**-1.4**
	3.4nm,0.8s,baz=74,slow=7.2,SNR=5.1							
BRVK	**Borovoye**	**83.33**	**324**	*e*P	**P**		**19 28 02.7**	**-0.4**
BRVK				*e*pP	**pP**		**19 28 26.1**	**-4.8**
ILAR	**Eielson Array**	**85.40**	**24**	P	**P**		**19 28 10.8**	**-2.4**
	0.9nm,0.9s,baz=258,slow=4.7,SNR=7.0							
ILAR				pP	**pP**		**19 28 40.1**	**-1.0**
	2.2nm,0.6s,baz=256,slow=5.0,SNR=8.9							
KECS	**Kecovo**	**114.55**	**322**	*e*	**Pdif**		**19 30 30.0**	**+4.1**
TORD	**Torodi Ar. Bea**	**141.12**	**286**	PKP	**PKPdf**		**19 35 06.6**	**-0.4**
	0.8nm,0.8s,baz=78,slow=2.8,SNR=3.7							
TORD				pPKP	**pPKPdf**		**19 35 36.4**	**0.0**
	1.1nm,0.6s,baz=54,slow=1.9,SNR=4.4							
LPAZ	**La Paz**	**142.77**	**124**	PKP	**PKPdf**		**19 35 07.8**	**-2.9**
	4.5nm,0.6s,baz=27,slow=4.8,SNR=7.5							
CPUP	**Villa Florida**	**143.56**	**148**	PKP	PKPbc		19 35 08.4	-0.2
	3.9nm,0.8s,baz=222,slow=1.8,SNR=7.3							
DBIC	**Dimbokro**	**148.24**	**276**	PKPbc	**PKPbc**		**19 35 21.4**	**-1.3**
	4.0nm,0.9s,baz=122,slow=3.8,SNR=5.6							
DBIC				pPKPbc	**pPKPbc**		**19 35 50.3**	**-1.6**
	5.0nm,0.6s,baz=32,slow=2.1,SNR=3.1							
SIV	**San Ignacio**	**148.55**	**130**	PKPbc	**PKPbc**		**19 35 23.7**	**+0.2**
	9.9nm,0.5s,baz=252,slow=6.5,SNR=28							
SIV				pPKPbc	**pPKPbc**		**19 35 51.6**	**-1.1**
	9.9nm,0.9s,baz=164,slow=1.0,SNR=5.4							

IDC ***13*** *19:20:11.5±3.6,4°.87S×101°.53E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.6/31,mbtmp3.8/5,Error ellipse: s-maj=133.7km s-min=26.3km az=54.0*

ISCJB ***13*** *19:20:18.5±1.0,4°.4S±0°.1×101°.96E±0°.08,h37km,mb3.8/5, Error ellipse: s-maj=17.4km s-min=8.1km az=27.7*

DJA ***13*** *19:20:23.4±0.8,4°S±6°×10°2E±°,h22km±5km,M3.8/11, MLv3.8/11*

ISC 13 19:20:20.0±1.3,4°.4S±0°.1×102°.0E±0°.1,h37km,n17, σ1§16/15,mb3.9/5,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSI	**Kapahiang**	**0.90**	**39**	P	**Pn**	**19 20 36.8**	**+0.5**
MNAI	**Manna**	**0.93**	**90**	P	**Pn**	**19 20 37.0**	**+0.5**
MNAI				S	**Sn**	**19 20 47.2**	**-1.5**
LHSI	**Lahat**	**1.58**	**70**	P	**Pn**	**19 20 46.9**	**+1.3**
LWLI	**Liwa**	**2.13**	**108**	P	**Pn**	**19 20 54.1**	**+0.9**
MDSI	**Maura Dua**	**2.15**	**93**	P	**Pn**	**19 20 54.5**	**+1.2**
MDSI				S	**Sn**	**19 21 18.5**	**-0.3**
KLSI		**2.72**	**97**	P	**Pn**	**19 21 03.2**	**+2.1**
KASI	**Kota Agung**	**2.72**	**115**	P	**Pn**	**19 21 02.2**	**+1.0**
PPI	**Padang Panjang**	**4.21**	**337**	P	Pn	19 21 29.5	+7.9
CGJI	**Cibinong**	**4.28**	**122**	P	**Pn**	**19 21 23.8**	**+1.1**
CMAR	**Chiang Mai Arr**	**22.88**	**352**	P	**P**	**19 25 21.0**	**+0.5**
	0.5nm,0.5s,baz=185,slow=8.6,SNR=2.9						
H01W3	**Cape Leeuwin H**	**32.38**	**161**	T	T	20 00 49.0	
	baz=339,slow=76,SNR=5.7						
H01W2	**Cape Leeuwin H**	**32.39**	**161**	T	T	20 00 50.0	
	baz=339,slow=76,SNR=5.5						
H01W1	**Cape Leeuwin H**	**32.39**	**161**	T	T	20 00 51.0	
	baz=339,slow=76,SNR=5.9						
WRA	**Warramunga Arr**	**35.07**	**119**	P	**P**	**19 27 08.5**	**-1.4**
	1.4nm,0.9s,baz=292,slow=9.2,SNR=2.4						
SONM	**Songino Array**	**52.12**	**4**	P	**P**	**19 29 27.0**	**+0.4**
	0.6nm,0.6s,baz=190,slow=8.7,SNR=5.3						
MKAR	**Makanchi Array**	**53.84**	**343**	P	**P**	**19 29 39.4**	**0.0**
	0.9nm,0.7s,baz=155,slow=8.9,SNR=5.0						
ZALV	**Zalesovo Beam**	**59.86**	**348**	P	**P**	**19 30 21.2**	**-0.6**
	2.0nm,0.7s,baz=159,slow=4.9,SNR=6.2						

BJI ***13*** *19:27:50.6,4°.20S×78°.10W,h109km,mB4.8/2*

NEIC ***13*** *19:27:51.0±0.8,4°.11S×78°.29W,h114km±8km,mb4.5/14, Error ellipse: s-maj=13.6km s-min=7.3km az=64.0*

IGQ ***13*** *19:27:51±0.7,4°.14S×78°.39W,h8km±75km,Mb4.5,Error ellipse: s-maj=6.8km s-min=4.1km az=130.0*

IDC ***13*** *19:27:52.0±1.4,4°.21S×78°.41W,h124km±15km,mb3.9/12, mb1 4.0/19,mb1mx3.8/38,mbtmp4.3/19,MS2.7/3, Ms1 2.7/3,ms1mx2.4/33,Error ellipse: s-maj=16.1km s-min=12.3km az=60.0*

ISC 13 19:27:49.9±0.3,4°.19S±0°.03×78°.29W±0°.07,h100km,n303, σ1§05/300,mb4.4/24,11C-1D,Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MACE	**Macas**	**1.92**	**3**	⇑P	**Pn**	**19 28 23.4**	**+1.7**
MACE	**Macas**	**1.92**	**3**	⇑S	**Sn**	**19 28 49.0**	**+3.1**
RIOE	**Riobamba**	**2.44**	**352**	P	**Pn**	**19 28 31.7**	**+3.1**
RIOE	**Riobamba**	**2.44**	**352**	S	**Sn**	**19 28 58.4**	**+0.2**
PAT1	**Patacocha**	**2.66**	**357**	P	**Pn**	**19 28 34.8**	**+3.1**
ARRY	**Arrayan**	**2.67**	**356**	⇑P	**Pn**	**19 28 33.2**	**+1.5**
BPAT	**Tungurahua Vol**	**2.67**	**357**	⇑P	**Pn**	**19 28 34.8**	**+3.1**
BMAS	**Trigal station**	**2.67**	**356**	P	**Pn**	**19 28 33.3**	**+1.6**
IGUA	**Igualata**	**2.70**	**352**	P	**Pn**	**19 28 34.3**	**+2.1**
RETU	**Refugio**	**2.72**	**357**	P	Pn	19 28 35.8	+3.3
ULBA	**Ulba**	**2.72**	**357**	P	Pn	19 28 35.6	+3.3
BBIL	**Ulba Tungurahu**	**2.72**	**356**	⇓P	**Pn**	**19 28 34.1**	**+1.7**
BULB	**Ulba Tungurahu**	**2.73**	**357**	⇑P	Pn	19 28 35.7	+3.2
BRUN	**Tungurahua Vol**	**2.75**	**357**	P	**Pn**	**19 28 35.8**	**+3.1**
ATAH	**Atahualpa**	**2.93**	**182**	P	Pn	19 28 38.2	+3.0
	38nm,0.3s,baz=11,slow=9.8,SNR=148						
ATAH				S	**Sn**	**19 29 13.3**	**+3.4**
	75nm,0.3s,baz=221,slow=20,SNR=26						
ATAH				LR	LR	19 29 59.8	
	comp=Z,74nm,19.1s,baz=282,slow=44						
PISA	**Pisayambo**	**3.11**	**358**	P	Pn	19 28 40.9	+3.3
BMOR	**Cotopaxi Volca**	**3.44**	**357**	⇑P	**Pn**	**19 28 44.5**	**+2.4**
TAMB	**Tambo**	**3.47**	**359**	P	**Pn**	**19 28 45.1**	**+2.6**
BTAM	**Cotopaxi Volca**	**3.49**	**358**	⇑P	**Pn**	**19 28 45.3**	**+2.5**
BNAS	**Cotopaxi Volca**	**3.50**	**357**	P	**Pn**	**19 28 45.5**	**+2.7**
BREF	**Cotopaxi Volca**	**3.50**	**357**	P	**Pn**	**19 28 45.5**	**+2.5**
COV1	**Cotopaxi Volc**	**3.50**	**359**	P	Pn	19 28 46.5	+3.5
BVC2	**Cotopaxi Volca**	**3.51**	**358**	⇑P	Pn	19 28 46.6	+3.6
VC1	**Cotopaxi 1**	**3.52**	**358**	P	Pn	19 28 46.6	+3.4
PITA	**Cotopaxi Volc**	**3.60**	**358**	P	Pn	19 28 47.8	+3.5
ANTI	**Antisana**	**3.71**	**2**	⇑P	**Pn**	**19 28 48.9**	**+3.0**
PECV	**Mancha de Ca P**	**3.81**	**332**	P	**Pn**	**19 28 49.2**	**+2.5**
CHIS	**Cerro-Chispas-**	**3.96**	**322**	P	**Pn**	**19 28 49.5**	**+0.9**
JUA2	**San Juan 2**	**3.96**	**355**	P	**Pn**	**19 28 50.4**	**+1.4**
GGP	**Refugio Guagua**	**4.00**	**356**	P	**Pn**	**19 28 52.6**	**+2.9**
TERV	**Terraza Guagua**	**4.00**	**355**	P	**Pn**	**19 28 52.1**	**+2.5**
PINO	**Pino**	**4.01**	**355**	P	**Pn**	**19 28 52.8**	**+2.9**
YANA	**Yana**	**4.05**	**356**	P	**Pn**	**19 28 52.1**	**+1.8**
CONE	**Cono NE Rev Vo**	**4.14**	**9**	P	**Pn**	**19 28 52.1**	**+0.8**
MAG1	**Magdalena**	**4.35**	**340**	P	**Pn**	**19 28 54.8**	**+0.9**
OTAV	**Otavalo**	**4.40**	**358**	⇑P	**Pn**	**19 28 56.4**	**+1.5**
OTAV	**Otavalo**	**4.40**	**358**	*e*Pn	**Pn**	**19 28 56.0**	**+1.0**
URCU	**Urcuqui**	**4.59**	**0**	⇑P	Pn	19 29 00.9	+3.4
LITE	**Lita**	**4.96**	**359**	P	**Pn**	**19 29 04.5**	**+2.2**
NNA	**Nana**	**7.88**	**170**	P	**Pn**	**19 29 43.3**	**+1.4**
	18nm,0.3s,baz=337,slow=13,SNR=25						
NNA				S	**Sn**	**19 31 09.2**	**-0.4**
	15nm,0.3s,baz=208,slow=18,SNR=7.5						
NNA	**Nana**	**7.88**	**170**	*e*Pn	**Pn**	**19 29 41.5**	**-0.5**
	76nm,0.6s						
NNA				*e*Sn	Sn	19 31 02.7	-6.9
ROSC	**El Rosal**	**9.81**	**24**	P	**Pn**	**19 30 10.5**	**+2.0**
	1.5nm,0.3s,baz=251,slow=18,SNR=2.1						
ROSC	**El Rosal**	**9.81**	**24**	Pn	**Pn**	**19 30 06.1**	**-2.4**
LPAZ	**La Paz**	**15.63**	**141**	P	**P**	**19 31 27.4**	**0.0**
	0.3nm,0.3s,baz=1.9,slow=9.1,SNR=5.7						
SAML	**Samuel**	**15.73**	**108**	*e*Pn	**Pn**	**19 31 21.7**	**-4.3**
	4.9nm,0.6s						
SAML				*e*Sn	Sn	19 34 11.6	-8.4
JTS	**JuntasAbangare**	**15.84**	**335**	P	**Pn**	**19 31 29.5**	**+2.2**
	0.9nm,0.3s,baz=292,slow=16,SNR=3.4						
JTS				LR	LR	19 36 27.8	
	comp=Z,36nm,20.0s,baz=5.0,slow=33						
JTS	**JuntasAbangare**	**15.84**	**335**	*e*Pn	**Pn**	**19 31 27.7**	**+0.3**
PTGA	**Pitinga**	**18.62**	**80**	P	**P**	**19 31 59.7**	**-0.1**
	1.3nm,0.3s,baz=249,slow=13,SNR=12						
PTGA				LR	LR	19 38 52.0	
	comp=Z,24nm,21.0s,baz=216,slow=35						
PCRV	**Puerto La Cruz**	**19.71**	**44**	P	**Pn**	**19 32 14.3**	**+0.3**
	2.0nm,0.3s,baz=208,slow=17,SNR=4.0						
LVC	**Limon Verde**	**20.45**	**154**	P	**P**	**19 32 17.9**	**-1.9**
	4.7nm,0.9s						
SIV	**San Ignacio**	**20.59**	**126**	P	Pn	19 32 23.8	-0.5
	1.2nm,0.6s,baz=305,slow=7.4,SNR=4.9						
SJG	**San Juan**	**25.18**	**28**	P	**P**	**19 33 07.2**	**+1.0**
	28nm,0.6s,baz=216,slow=5.0,SNR=9.2						
SJG	**San Juan**	**25.18**	**28**	*e*Pn	**P**	**19 33 07.0**	**+0.7**
BDFB	**Brasilia**	**31.86**	**113**	P	**P**	**19 34 06.7**	**+0.7**
	1.3nm,0.4s,baz=296,slow=7.3,SNR=4.1						
934A	**Benavides**	**37.15**	**329**	P	**P**	**19 34 52.0**	**+0.9**
	baz=37						
933A	**Laredo**	**37.54**	**329**	P	**P**	**19 34 55.3**	**+0.7**
	baz=38						
834A	**Tilden**	**37.59**	**330**	P	**P**	**19 34 55.9**	**+0.9**
	baz=38						
637A	**Eagle Lake**	**37.65**	**334**	P	**P**	**19 34 56.1**	**+0.7**
	baz=38						
636A	**Smothers Creek**	**38.01**	**333**	P	**P**	**19 34 58.9**	**+0.4**
	baz=38						
635A	**Leesville**	**38.26**	**332**	P	**P**	**19 35 01.0**	**+0.5**
	baz=38						
732A	**Laxson Ranch,**	**38.80**	**329**	P	**P**	**19 35 05.8**	**+0.7**
	baz=39						
534A	**Blanco**	**39.13**	**332**	P	**P**	**19 35 07.2**	**-0.7**
	baz=39						
632A	**Uvalde**	**39.34**	**330**	P	**P**	**19 35 09.7**	**+0.1**
	baz=39						
336A	**Riesel**	**39.55**	**335**	P	**P**	**19 35 10.6**	**-0.7**
	baz=40						
631A	**Perdido Creek**	**39.67**	**329**	P	**P**	**19 35 12.5**	**+0.2**
	baz=40,SNR=7.8						
434A	**Burnet**	**39.69**	**333**	P	**P**	**19 35 12.0**	**-0.5**
	baz=40						
335A	**Moody**	**39.71**	**334**	P	**P**	**19 35 12.5**	**-0.2**
	baz=40						
532A	**Rocksprings**	**39.91**	**330**	P	**P**	**19 35 14.2**	**-0.1**
	baz=40,SNR=6.4						
138A	**Matatall Enter**	**39.96**	**338**	P	**P**	**19 35 15.2**	**+0.5**
	baz=40						
433A	**Art**	**40.03**	**332**	P	**P**	**19 35 15.2**	**-0.1**
	baz=40						
334A	**Lometa**	**40.12**	**333**	P	**P**	**19 35 16.2**	**+0.2**
	baz=40						
137A	**Heron Place, G**	**40.16**	**337**	P	**P**	**19 35 16.7**	**+0.4**
	baz=40						
531A	**Rocksprings**	**40.26**	**329**	P	**P**	**19 35 17.6**	**+0.3**
	baz=40						
WHTX	**Lake Whitney**	**40.34**	**334**	P	**P**	**19 35 18.0**	**+0.2**
	baz=40						
333A	**Richland Sprin**	**40.45**	**332**	P	**P**	**19 35 17.9**	**-0.9**
	baz=41						
432A	**Menard**	**40.46**	**331**	P	**P**	**19 35 19.3**	**+0.4**
	baz=41						
530A	**J-C Ranch, Com**	**40.65**	**329**	P	**P**	**19 35 20.6**	**+0.1**
	baz=41						
431A	**Sonora**	**40.71**	**330**	P	**P**	**19 35 21.3**	**+0.3**
	baz=41						
332A	**Millersview**	**40.86**	**331**	P	**P**	**19 35 22.1**	**-0.1**
	baz=41						
134A	**White-Moore Ra**	**41.10**	**334**	P	**P**	**19 35 24.2**	**+0.1**
	baz=41						
MIAR	**Mount Ida**	**41.13**	**341**	P	**P**	**19 35 23.8**	**-0.5**
	baz=41						
232A	**Coleman**	**41.23**	**332**	P	**P**	**19 35 25.1**	**-0.1**
	baz=41						
TXAR	**Lajitas Array**	**41.28**	**325**	P	**P**	**19 35 25.6**	**-0.1**
	1.3nm,0.7s,baz=152,slow=8.2,SNR=15						
TXAR				PcP	**PcP**	**19 37 22.4**	**-0.3**
	0.7nm,0.7s,baz=134,slow=6.4,SNR=6.0						
Z35A	**Perchaven, San**	**41.41**	**336**	P	**P**	**19 35 26.7**	**+0.1**
	baz=42						
Y35A	**Marietta**	**41.82**	**336**	P	**P**	**19 35 30.1**	**+0.1**
	baz=42						
230A	**Sterling City**	**41.94**	**330**	P	**P**	**19 35 31.0**	**0.0**
	baz=42						
Z33A	**Whitaker Ranch**	**42.01**	**334**	P	**P**	**19 35 31.6**	**+0.1**
	baz=42						
329A	**Wagon Wheel Ra**	**42.05**	**329**	P	**P**	**19 35 31.9**	**-0.1**
	baz=42						
Y34A	**Reagan Ranch,**	**42.16**	**336**	P	**P**	**19 35 33.1**	**+0.4**
	baz=42						
131A	**Roby**	**42.23**	**332**	P	**P**	**19 35 33.1**	**-0.3**
	baz=42						
W37A	**Quinton**	**42.30**	**339**	P	**P**	**19 35 33.5**	**-0.3**
	baz=42						
Z32A	**Haskell**	**42.34**	**333**	P	**P**	**19 35 33.4**	**-0.8**
	baz=42						
130A	**Snyder**	**42.44**	**331**	P	**P**	**19 35 34.8**	**-0.3**
	baz=42						
W36A	**Wetumka**	**42.60**	**338**	P	**P**	**19 35 36.2**	**0.0**
	baz=43						
V38A	**Canehill**	**42.61**	**341**	P	**P**	**19 35 35.5**	**-0.8**
	baz=43						
Z31A	**Sharp Cattle R**	**42.65**	**333**	P	**P**	**19 35 36.6**	**-0.2**
	baz=43						
X34A	**Smith Ranch, M**	**42.75**	**336**	P	**P**	**19 35 37.9**	**+0.4**
	baz=43						
W35A	**Tecumseh**	**42.85**	**337**	P	**P**	**19 35 37.6**	**-0.7**
	baz=43,SNR=5.4						
V37A	**Hulbert**	**42.87**	**340**	P	**P**	**19 35 38.5**	**+0.1**
	baz=43						
129A	**Stewart Farms,**	**42.91**	**330**	P	**P**	**19 35 38.5**	**-0.5**
	baz=43						
Y32A	**R-V Farms, Ver**	**42.91**	**334**	P	**P**	**19 35 38.5**	**-0.3**
	baz=43						
X33A	**Lawton**	**42.97**	**335**	P	**P**	**19 35 39.3**	**0.0**
	baz=43						
V36A	**Jenks**	**43.07**	**339**	P	**P**	**19 35 39.1**	**-0.9**
	baz=43,SNR=5.0						
Z30A	**Sanderson Ranc**	**43.09**	**332**	P	**P**	**19 35 39.8**	**-0.5**
	baz=43						
U38A	**Gravette**	**43.13**	**341**	P	**P**	**19 35 40.0**	**-0.5**
	baz=43						
X32A	**Elmer**	**43.20**	**334**	P	**P**	**19 35 40.7**	**-0.5**
	baz=43						
128A	**Castleberry Fa**	**43.21**	**330**	P	**P**	**19 35 41.0**	**-0.3**
	baz=43						
Y31A	**Rekieta Farm,**	**43.25**	**333**	P	**P**	**19 35 41.7**	**+0.2**
	baz=43						
WMOK	**Wichita Mounta**	**43.26**	**335**	*e*P	**P**	**19 35 39.9**	**-1.7**
W34A	**Bridge Creek,**	**43.28**	**337**	P	**P**	**19 35 41.7**	**-0.1**
	baz=43						
Z29A	**Hungry Hill Ra**	**43.34**	**331**	P	**P**	**19 35 42.0**	**-0.4**
	baz=43						
V35A	**Meyer Ranch, C**	**43.38**	**338**	P	**P**	**19 35 41.8**	**-0.7**
	baz=44						
Y30A	**Stafford Cattl**	**43.47**	**332**	P	**P**	**19 35 43.5**	**+0.2**
	baz=44						
W33A	**Caddo, Fort Co**	**43.48**	**336**	P	**P**	**19 35 43.3**	**-0.2**
	baz=44						
X31A	**McDonald Ranch**	**43.68**	**334**	P	**P**	**19 35 44.7**	**-0.3**
	baz=44						
V34A	**Guthrie**	**43.70**	**337**	P	**P**	**19 35 44.4**	**-0.7**
	baz=44						
V34A	**Guthrie**	**43.70**	**337**	*e*P	**P**	**19 35 44.4**	**-0.7**
	6.6nm,0.5s						
W32A	**Sentinel**	**43.78**	**335**	P	**P**	**19 35 45.6**	**-0.2**
	baz=44						
U35A	**Pawnee**	**43.88**	**338**	P	**P**	**19 35 46.2**	**-0.4**
	baz=44						
T37A	**Cheneyville 18**	**43.92**	**341**	P	**P**	**19 35 46.3**	**-0.5**
	baz=44						
X30A	**Coker Ranch, T**	**43.93**	**333**	P	**P**	**19 35 47.4**	**+0.3**
	baz=44						
V33A	**Lossen Ranch,**	**43.99**	**336**	P	**P**	**19 35 47.3**	**-0.2**
	baz=44						
Y28A	**McKinney Farm,**	**44.13**	**331**	P	**P**	**19 35 48.6**	**-0.1**
	baz=44						
W31A	**Holland Ranch,**	**44.14**	**334**	P	**P**	**19 35 48.1**	**-0.6**
	baz=44						
V32A	**Arapaho**	**44.21**	**336**	P	**P**	**19 35 49.0**	**-0.2**
	baz=44						
U34A	**Anderson Ranch**	**44.24**	**338**	P	**P**	**19 35 49.1**	**-0.3**
	baz=44						
MSTX	**Muleshoe**	**44.44**	**331**	P	**P**	**19 35 51.1**	**-0.1**
	baz=44						
MSTX	**Muleshoe**	**44.44**	**331**	*e*P	**P**	**19 35 50.4**	**-0.8**
	9.2nm,1.1s						
S37A	**Fort Scott**	**44.47**	**341**	P	**P**	**19 35 50.8**	**-0.4**
	baz=45						
T34A	**McClaskey Farm**	**44.62**	**338**	P	**P**	**19 35 52.1**	**-0.3**
	baz=45						
AMTX	**Amarillo**	**44.66**	**332**	P	**P**	**19 35 52.5**	**-0.4**
	baz=45						
S36A	**Lake Cedric, C**	**44.69**	**340**	P	**P**	**19 35 52.3**	**-0.7**
	baz=45						
U32A	**Winter Ranch,**	**44.76**	**336**	P	**P**	**19 35 53.5**	**-0.1**
	baz=45						
W29A	**Amraillo**	**44.84**	**333**	P	**P**	**19 35 53.6**	**-0.8**
	baz=45						
S35A	**Otter Creek Ra**	**44.90**	**340**	P	**P**	**19 35 54.0**	**-0.6**
	baz=45						
S34A	**Willow Spring**	**45.20**	**339**	P	**P**	**19 35 57.2**	**+0.2**
	baz=45						
T32A	**Huddler Ranch,**	**45.42**	**337**	P	**P**	**19 35 59.0**	**+0.1**
	baz=46						
S33A	**Kaszmaul Farm,**	**45.43**	**338**	P	**P**	**19 35 58.9**	**0.0**
	baz=46						
R34A	**Isabella, Hill**	**45.78**	**339**	P	**P**	**19 36 01.3**	**-0.3**
	baz=46						
Q35A	**Mercer Eighty,**	**45.87**	**341**	P	**P**	**19 36 01.8**	**-0.5**
	baz=46						
121A	**Cookes Peak, D**	**46.01**	**325**	P	**P**	**19 36 04.3**	**+0.5**
	baz=46						
S31A	**Mullinville**	**46.03**	**336**	P	**P**	**19 36 04.0**	**+0.3**
	baz=46						
R33A	**Olander Ranch,**	**46.05**	**338**	P	**P**	**19 36 03.5**	**-0.2**
	baz=46						
Q34A	**Chapman**	**46.23**	**340**	P	**P**	**19 36 04.7**	**-0.5**
	baz=46						
R32A	**Long Quarter,**	**46.43**	**338**	P	**P**	**19 36 06.6**	**-0.1**
	baz=46						
S30A	**Montezuma**	**46.44**	**336**	P	**P**	**19 36 06.8**	**-0.1**
	baz=47						
U27A	**Thompson Grove**	**46.45**	**332**	P	**P**	**19 36 07.2**	**+0.1**
	baz=47						
P35A	**Duane Minner,**	**46.47**	**341**	P	**P**	**19 36 06.7**	**-0.3**
	baz=47						
**Q33A

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=50						
N26A	Koester Ranch,	50.28	335	P	P	19 36 36.3	-0.1
	baz=50						
ISCO	Idaho Springs	50.48	333	P	P	19 36 37.3	-0.8
	baz=51						
ECSD	EROS Data Cent	50.48	343	P	P	19 36 36.4	-1.3
	baz=51						
K30A	Basset	50.49	340	P	P	19 36 36.9	-0.9
	baz=51						
M27A	Reverse DX Ran	50.53	337	P	P	19 36 38.1	-0.1
	baz=51						
PV01	Paradox Valley	50.61	329	eP	P	19 36 38.6	-0.5
	318nm,0.7s						
GLA	Glamis	50.68	320	P	P	19 36 39.5	+0.1
	baz=51						
K29A	Lazy Trails An	50.81	339	P	P	19 36 41.3	+1.1
	baz=51						
J30A	Dallas	51.02	340	P	P	19 36 41.0	-0.8
	baz=51						
PDMCI	Parker Dam,Lak	51.06	321	P	P	19 36 42.7	+0.6
	baz=51						
K28A	Ten Mile Ranch	51.15	338	P	P	19 36 42.7	-0.1
	baz=51						
J29A	Okreek	51.38	340	P	P	19 36 44.0	-0.5
	baz=52						
BC3	Big Chuckawall	51.47	320	P	P	19 36 45.6	+0.2
	baz=52						
N23A	Red Feather La	51.51	333	P	P	19 36 44.9	-0.9
	baz=52						
IRM	Iron Mountain	51.60	321	P	P	19 36 46.7	+0.4
	baz=52						
MONP	Monument Peak	51.62	318	P	P	19 36 46.7	0.0
	baz=52						
J28A	Allard Ranch,	51.72	339	P	P	19 36 46.6	-0.5
	baz=52						
I29A	Vivian Onida	51.91	340	P	P	19 36 47.7	-0.7
	baz=52						
BELC	Belle Mtn. Jos	52.04	320	P	P	19 36 49.8	+0.1
	baz=52						
I28A	Midland	52.20	339	P	P	19 36 50.2	-0.3
	baz=52						
J26A	Sides Ranch, S	52.31	337	P	P	19 36 51.8	+0.3
	baz=52						
GMRC	Granite Mounta	52.32	321	P	P	19 36 52.1	+0.3
	baz=52						
H29A	Onida	52.42	340	P	P	19 36 51.7	-0.5
	baz=52						
G30A	Faulkton	52.52	341	P	P	19 36 52.1	-0.7
	baz=53						
I27A	Quinn	52.58	339	P	P	19 36 53.4	+0.1
	baz=53						
J25A	Sunshine Ranch	52.66	337	P	P	19 36 53.7	-0.4
	baz=53						
HEC	Hector,Ludlow	52.77	320	P	P	19 36 55.2	+0.2
	baz=53,SNR=6.9						
G29A	Hoven	52.82	341	P	P	19 36 54.7	-0.4
	baz=53						
I26A	New Underwood	52.84	338	P	P	19 36 55.2	-0.2
	baz=53						
K23A	Bowen Ranch, D	52.88	335	P	P	19 36 55.7	0.0
	baz=53						
H27A	Howes	53.07	339	P	P	19 36 56.7	-0.3
	baz=53						
I25A	Rochford	53.16	337	P	P	19 36 57.7	-0.1
	baz=53,SNR=6.6						
EYMN	Ely	53.19	349	P	P	19 36 56.6	-1.2
	baz=53						
BFSC	Mount Baldy Ra	53.26	319	P	P	19 36 59.0	+0.3
	baz=53						
RSSD	Black Hills	53.37	337	eP	P	19 36 59.3	-0.1
	4.0nm,0.9s						
GSC	Goldstone	53.38	321	P	P	19 37 00.1	+0.6
	baz=54						
GSC	Goldstone	53.38	321	eP	P	19 36 59.8	+0.3
	6.3nm,0.9s						
G27A	Dupree	53.66	339	P	P	19 37 01.0	-0.3
	baz=54						
E30A	Jud	53.67	342	P	P	19 37 01.0	-0.4
	baz=54						
J22A	Midwest	53.78	335	P	P	19 37 02.3	0.0
	baz=54						
G26A	Maurine	53.83	339	P	P	19 37 01.8	-0.8
	baz=54						
EDW2	Edwards Air Fo	53.87	319	P	P	19 37 03.3	+0.3
	baz=54						
E29A	Napoleon	53.96	342	P	P	19 37 02.7	-0.7
	baz=54						
G25A	Newell	54.04	338	P	P	19 37 03.2	-0.9
	baz=54						
H24A	Dirks Ranch, A	54.09	337	P	P	19 37 04.0	-0.5
	baz=54						
J21A	Lysite	54.14	334	P	P	19 37 04.0	-1.1
	baz=54						
I22A	9 Mile Ranch,	54.17	335	P	P	19 37 04.2	-0.9
	baz=54,SNR=5.2						
D30A	Buchanan	54.17	343	P	P	19 37 04.6	-0.4
	baz=54						
MPMC	Manual Prospec	54.28	321	P	P	19 37 06.0	-0.2
	baz=54						
E28A	Huff	54.30	341	P	P	19 37 05.2	-0.7
	baz=54,SNR=5.4						
F26A	Lodgepole	54.33	339	P	P	19 37 06.1	-0.1
	baz=54						
DUG	Dugway	54.35	328	P	P	19 37 06.6	+0.1
	baz=54						
AGMN	Agassiz Nation	54.48	346	P	P	19 37 06.1	-1.1
	baz=55						
AGMN	Agassiz Nation	54.48	346	eP	P	19 37 05.8	-1.4
	4.2nm,0.5s						
R11A	Troy Canyon, C	54.62	324	P	P	19 37 08.4	-0.2
	baz=55						
PDAR	Pinedale Array	54.64	332	P	P	19 37 07.8	-0.8
	1.7nm,0.6s,baz=124,slow=9.7,SNR=9.9						
PDAR				PcP	PcP	19 38 08.8	-1.7
	0.7nm,0.4s,baz=125,slow=5.2,SNR=3.8						
ISA	Isabella	54.66	320	P	P	19 37 08.9	+0.1
	baz=55						
H22A	Clearmont	54.69	336	P	P	19 37 08.7	-0.1
	baz=55						
E26A	Carlson Angus	54.80	340	P	P	19 37 09.1	-0.4
	baz=55						
G23A	Biddle	54.80	337	P	P	19 37 08.9	-0.7
	baz=55						
D28A	Regan	54.80	342	P	P	19 37 09.0	-0.5
	baz=55						
I20A	Worland	54.92	334	P	P	19 37 10.4	-0.1
	baz=55						
H21A	Big Horn, Sher	55.00	335	P	P	19 37 10.5	-0.7
	baz=55						
PKM	Peak Mountain	55.08	318	P	P	19 37 11.9	0.0
	baz=55						
MDND	Maddock	55.09	343	P	P	19 37 11.5	-0.1
	baz=55						
E25A	Miller Ranch,	55.15	339	P	P	19 37 11.6	-0.5
	baz=55						
G22A	Birney	55.17	336	P	P	19 37 11.7	-0.7
	baz=55						
C28A	Hausauer Farms	55.21	342	P	P	19 37 12.3	-0.2
	baz=55						
F23A	Volborg	55.24	337	P	P	19 37 12.0	-0.8
	baz=55						
B30A	Myrvik Farm, E	55.27	344	P	P	19 37 12.1	-0.7
	baz=55						
H20A	Greybull	55.29	334	P	P	19 37 12.6	-0.6
	baz=55						
E24A	Baker	55.53	338	P	P	19 37 14.6	-0.2
	baz=56						
G21A	Lodge Grass	55.55	336	P	P	19 37 14.4	-0.6
	baz=56						
B29A	Wagenman Farm,	55.57	343	P	P	19 37 14.7	-0.3
	baz=56,SNR=7.7						
F22A	Rosebud	55.62	337	P	P	19 37 14.6	-0.8
	baz=56						
D25A	Fairfield	55.68	340	P	P	19 37 15.5	-0.4
	baz=56						
A30A	Hoffart Farm,	55.71	344	P	P	19 37 15.3	-0.7
	baz=56						
A29A	Manning Farm,	55.95	343	P	P	19 37 17.0	-0.7
	baz=56,SNR=6.4						
G20A	Bridger	55.97	335	P	P	19 37 17.0	-1.1
	baz=56						
F21A	Absaloka Mine,	56.00	336	P	P	19 37 17.9	-0.3
	baz=56						
D24A	Glendive	56.01	339	P	P	19 37 18.2	0.0
	baz=56						
E22A	Miles City	56.05	337	P	P	19 37 17.9	-0.6
	baz=56						
NVAR	Mina Array Bea	56.29	323	P	P	19 37 19.9	-0.6
	1.4nm,0.7s,baz=136,slow=6.9,SNR=12						
NVAR				PcP	PcP	19 38 16.0	-0.9
	0.3nm,0.6s,baz=121,slow=4.6,SNR=3.6						
ULM	Lac du Bonnet	56.30	347	P	P	19 37 18.6	-1.5
	6.0nm,0.5s,baz=170,slow=7.2,SNR=12						
A27A	Ledoux Ranch,	56.57	342	P	P	19 37 22.2	+0.1
	baz=57						
B25A	Knox Farm, Ray	56.59	340	P	P	19 37 22.7	+0.4
	baz=57						
D22A	Cohagen	56.72	338	P	P	19 37 23.2	0.0
	baz=57,SNR=6.5						
DGMT	Dagmar	57.12	340	P	P	19 37 26.1	+0.1
	baz=57						
B23A	Brockton	57.39	339	P	P	19 37 28.1	+0.1
	baz=58						
HLID	Hailey	57.60	329	P	P	19 37 29.7	0.0
	baz=58						
C21A	Desert Coulee	57.63	337	P	P	19 37 29.4	-0.3
	baz=58						
BOZ	Bozeman (W)	57.80	333	P	P	19 37 30.7	-0.4
	baz=58						
A22A	Carney Farms,	58.16	339	P	P	19 37 33.1	-0.3
	baz=58						
MFID	Camas Ranch	58.22	329	eP	P	19 37 33.4	-0.5
	2.6nm,0.7s						
MSO	Missoula	59.75	332	P	P	19 37 44.2	-0.2
	baz=60						
M04C	Macdoel	60.50	324	P	P	19 37 49.4	-0.3
	baz=61						
NEW	Newport	62.28	332	P	P	19 38 00.8	-0.7
	baz=62						
YKA	Yellowknife Ar	72.01	343	P	P	19 39 01.3	-1.2
	1.4nm,0.5s,baz=141,slow=5.8,SNR=9.7						
DBIC	Dimbokro	74.09	82	P	P	19 39 16.2	+0.3
	5.1nm,0.9s,baz=200,slow=1.2,SNR=3.4						
ESDC	Sonseca Array	80.68	49	P	P	19 39 52.6	+0.3
	0.6nm,0.5s,baz=251,slow=5.3,SNR=6.5						
SUMG	Summit	80.70	11	eP	P	19 39 51.8	-0.3
	4.0nm,0.8s						
TOA0	Torodi Ar. Sit	81.22	76	eP	P	19 39 55.2	-0.3
TORD	Torodi Ar. Bea	81.22	76	P	P	19 39 55.6	+0.1
	1.1nm,0.4s,baz=274,slow=5.8,SNR=19						
EGAK	Eagle	82.57	337	eP	P	19 40 01.0	-0.6
	11nm,1.0s						
ILAR	Eielson Array	84.81	336	P	P	19 40 12.0	-1.0
	2.7nm,0.9s,baz=126,slow=3.7,SNR=17						
TRF	Thorofare Moun	85.77	335	eP	P	19 40 14.8	-3.3
BPAW	Bear Paw Mtn.	86.27	335	eP	P	19 40 18.9	-1.4
	1.4nm,0.9s						
GEYT	Alibeck	127.99	44	PKP	PKPdf	19 46 44.2	-0.5
	1.1nm,0.6s,baz=72,slow=4.8,SNR=3.9						
ZALV	Zalesovo Beam	128.50	13	PKP	PKPdf	19 46 44.0	-1.2
	0.7nm,0.4s,baz=264,slow=1.5,SNR=6.1						
MKAR	Makanchi Array	134.34	19	PKP	PKPdf	19 46 54.9	-1.5
	0.2nm,0.4s,baz=311,slow=2.0,SNR=4.7						
SONM	Songino Array	136.33	355	PKP	PKPdf	19 46 59.5	-0.8
	0.7nm,0.9s,baz=291,slow=1.3,SNR=4.8						
WMQ	Urumqi	138.63	15	ePKP	PKPdf	19 47 03.6	-0.9
WMQ				LN			
	23nm,18.8s						
WMQ				LE			
	33nm,21.2s						
WMQ				LZ			
	12nm,22.8s						
WRA	Warramunga Arr	139.97	232	PKP	PKPdf	19 47 06.0	-1.6
	0.5nm,0.5s,baz=123,slow=1.8,SNR=5.2						
HHC	Hu-ho-hao-te	142.44	348	ePKP	PKPdf	19 47 10.1	-1.5
HHC				PP	PP	19 50 21.5	+3.2
HHC				SKS	SKSdf	19 54 08.4	-4.2
HHC				SS	SS	20 08 46.3	+1.1
HHC				PPMZ			
	26nm,7.4s						
GTA	Gaotai	144.89	3	ePKP	PKPab	19 47 14.8	-0.4
GTA				pPKP	pPKPdf	19 47 42.8	-0.7
GTA				sPKP		19 47 53.8	
LZH	Lanzhou	148.19	357	ePKPbc	PKPdf	19 47 20.1	-1.5
LZH				pPKP	pPKPdf	19 47 47.9	-1.3
LZH				sPKP		19 47 59.1	
CD2	Chengdu	153.35	356	PKPbc	PKPdf	19 47 25.8	-3.8

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*ISCJB **13** 19:57:05.7±0.7, 6°.69S±0°.06×130°.07E±0°.08, h146km, mb2.8/1, Error ellipse: s-maj=10.8km s-min=7.8km az=10.1*
*IDC **13** 19:57:06.5±2.3, 6°.70S×130°.05E, h127km±25km, mb2.8/1, mb1 3.3/5, mb1mx3.0/30, mbtmp3.7/5, Error ellipse: s-maj=29.1km s-min=20.1km az=116.0*
ISC 13 19:57:06.6±1.0**, 6°.77S**±0°.08×**130°.1E**±0°.1**, h146**km**, n9,** σ**2s.57**/11**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	4.36	29	P	Pn	19 58 10.5	-1.1
	baz=4.5,SNR=13						
SIJI	Sorong	5.97	11	P	Pn	19 58 31.3	-1.7
	2.0nm,0.3s,baz=71,slow=3.7,SNR=34						
SIJI				S	Sn	19 59 32.5	-7.9
	2.8nm,0.3s,baz=211,slow=23,SNR=9.4						
MTN	Manton Dam	6.11	171	P	Pn	19 58 37.9	+3.0
	baz=6.6,SNR=18						
KDU	Kakadu	6.31	159	P	Pn	19 58 39.7	+2.2
	baz=6.8,SNR=36						
BATI	Baumata	7.26	242	P	Pn	19 58 50.9	+0.7
	2.9nm,0.3s,baz=129,slow=3.7,SNR=9.8						
BATI				S	Sn	20 00 10.2	-1.3
	3.5nm,0.3s,baz=90,slow=5.2,SNR=6.9						
KNRA	Kununurra	8.95	189	P	Pn	19 59 13.6	+0.7
	baz=9.2,SNR=40						
WRA	Warramunga Arr	13.71	163	P	Pn	20 00 15.1	0.0
	0.5nm,0.3s,baz=338,slow=13,SNR=33						
WRA				S	Sn	20 02 40.8	-6.2
	0.8nm,0.3s,baz=346,slow=24,SNR=8.7						
ASAR	Alice Springs	17.18	168	P	Pn	20 01 00.0	+2.0
	0.3nm,0.3s,baz=342,slow=9.8,SNR=34						
ASAR				S	S	20 04 04.0	-5.2
	0.1nm,0.3s,baz=348,slow=26,SNR=4.7						
MKAR	Makanchi Array	68.11	327	P	P	20 07 52.0	+1.2
	0.1nm,0.5s,baz=123,slow=6.0,SNR=3.4						

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*ISCJB **13** 20:11:15.4±0.4, 2°.88S±0°.05×128°.23E±0°.04, h38km, mb3.7/3, MS3.0/1, Error ellipse: s-maj=6.9km s-min=6.2km az=177.4*
*DJA **13** 20:11:15.8±1.2, 3°S±9°×12°8E±°, h13km±14km, M4.3/4, mb4.8/3, mB4.9/2, MLv4.1/4, Mw(mB)4.2/2*
*IDC **13** 20:11:20.0±2.9, 2°.88S×128°.37E, h75km±34km, mb3.6/2, mb1 4.0/5, mb1mx3.4/42, mbtmp4.1/5, MS3.1/2, Ms1 3.1/2, ms1mx2.6/19, Error ellipse: s-maj=32.6km s-min=16.0km az=112.0*
ISC 13 20:11:17.6±0.8**, 2°.83S**±0°.07×**128°.20E**±0°.07**, h38**km**, n26,** σ**1s.39**/24**, mb3.6**/3**, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	Namlea	1.18	250	P	Pn	20 11 37.4	-0.1
LBMI	Labuha	2.29	342	P	Pn	20 11 53.3	+0.5
SANI	Sanana	2.34	289	P	Pn	20 11 51.8	-1.8
SWI	Sorong	3.62	57	P	Pn	20 12 10.6	-0.6
SWI	Sorong	3.62	57	P	Pn	20 12 10.5	-0.7
	baz=3.9,SNR=25						
SIJI	Sorong	3.63	58	P	Pn	20 12 10.7	-0.6
	13nm,0.3s,baz=359,slow=22,SNR=67						
SIJI				S	Sn	20 12 53.7	+0.8
	4.7nm,0.3s,baz=59,slow=23,SNR=7.0						
FAKI	Fak Fak	4.04	91	P	Pn	20 12 16.3	-0.6
FAKI	Fak Fak	4.04	91	P	Pn	20 12 16.6	-0.4
	baz=4.6,SNR=21						
LUWI	Luwuk	5.71	288	P	Pn	20 12 39.9	0.0
	48nm,1.1s,709nm						
APSI	Ampana	6.82	286	P	Pn	20 12 55.9	+0.7
	112nm,0.7s,1µm						
PCI	Palu	8.58	283	P	Pn	20 13 21.5	+2.2
BATI	Baumata	8.61	211	P	Pn	20 13 23.6	+4.0
	1.5nm,0.3s,baz=68,slow=5.0,SNR=4.3						
KAPI	Kappang	8.71	255	LR	LR	20 17 01.3	
	comp=Z,157nm,19.0s,baz=79,slow=38						
MTN	Manton Dam	10.36	164	P	Pn	20 13 45.2	+1.4
	baz=11,SNR=7.8						
KDU	Kakadu	10.67	157	P	Pn	20 13 47.6	-0.3
	baz=11,SNR=6.7						
KNRA	Kununurra	12.78	178	P	Pn	20 14 18.6	+1.8
	baz=13,SNR=6.1						
FITZ	Fitzroy Crossi	15.39	189	P	P	20 14 56.3	+0.1
	baz=16,SNR=3.5						
WRA	Warramunga Arr	18.03	161	P	Pn	20 15 23.5	-1.9
	0.8nm,0.3s,baz=339,slow=11,SNR=59						
QIS	Mount Isa	20.84	149	P	P	20 15 54.8	-1.4
	baz=22,SNR=13						
ASAR	Alice Springs	21.44	166	P	P	20 16 01.2	-1.5
	11nm,0.7s,baz=345,slow=12,SNR=82						
MTSU	Mount Surprise	21.93	135	P	P	20 16 11.4	+3.5
	baz=23,SNR=4.0						
WRKA	Warakurna	22.08	180	P	P	20 16 08.3	-1.2
	baz=23,SNR=8.8						
MEEK	Meekatharra	25.40	200	P	P	20 16 40.1	-1.5
	baz=26,SNR=4.7						
PETK	Petropavlovsk-	60.99	20	LR	LR	20 50 15.1	
	comp=Z,9.6nm,19.1s,baz=210,slow=38						
MKAR	Makanchi Array	63.78	327	P	P	20 21 45.3	-0.6
	0.2nm,0.6s,baz=129,slow=6.5,SNR=2.8						
KURBB	Kurchatov Arra	68.04	328	P	P	20 22 12.4	-0.7
	0.4nm,0.8s,baz=133,slow=6.2,SNR=4.3						

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*DJA **13** 20:16:42.6±0.7, 9°S±6°×12°3E±°, h10km, M3.5/4, MLv3.5/4*
*AUST **13** 20:16:52.2±9.2, 10°.06S×124°.49E, h0km±2km, Error ellipse: s-maj=4.0km s-min=2.4km az=245.0*
ISC 13 20:16:39.9±1.1**, 9°.1S**±0°.1×**123°.44E**±0°.08**, h10**km**, n9,** σ**1s.16**/10**, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	1.03	127	P	Pn	20 17 01.0	+0.5
SOEI				S	Sn	20 17 17.3	+2.2
SOEI	Soe	1.03	127	P	Pg	20 17 00.2	+0.4
	baz=0.4,SNR=263						
BATI	Baumata	1.09	168	P	Pb	20 17 00.9	-0.1
BATI				S	Sn	20 17 16.4	-0.2
MMRI	Maumere	1.28	292	P	Pg	20 17 05.0	+0.4
MMRI				S	Sb	20 17 21.3	+0.5
KNRA	Kununurra	8.33	142	P	Pn	20 18 36.5	-4.4
	baz=7.0,SNR=25						
MTN	Manton Dam	8.41	117	P	Pn	20 18 35.0	-6.9
	baz=7.1,SNR=4.3						
KDU	Kakadu	9.55	113	P	Pn	20 18 56.2	-1.4
	baz=8.3,SNR=8.7						
QIS	Mount Isa	19.30	128	P	P	20 21 03.9	-1.3
	baz=18,SNR=3.7						
COEN	Coen	19.92	106	P	P	20 21 11.7	-0.3
	baz=19,SNR=5.4						

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*NIED **13** 20:21:00, 21°.70N×121°.30E, h47km, Mw4.0 Best double couple: M₀1.19000×10¹⁵ NP1:φs193.00000°, δ17.00000°, λ171.00000°. NP2:φs292.00000°, δ87.00000°, λ73.00000°.*
*IDC **13** 20:21:27.5±1.0, 21°.17N×121°.00E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.7/35, mbtmp3.9/8, ML3.5/1, MS3.3/4, Ms1 3.3/4, ms1mx2.7/33, Error ellipse: s-maj=35.3km s-min=18.1km az=79.0*
*ISCJB **13** 20:21:31.4±0.6, 21°.32N±0°.03×121°.39E±0°.03, h28km±4km, mb3.8/7, MS3.4/3, Error ellipse: s-maj=5.3km s-min=4.2km az=33.6*
*TAP **13** 20:21:32.1, 21°.34N×121°.30E, h16km±1km, ML4.1, D*
*JMA **13** 20:21:33.3±0.2, 21°.75N×121°.34E, h0km, M4.4*
ISC 13 20:21:31.3±2.7**, 21°.26N**±0°.08×**121°.31E**±0°.04**, h25**km±19km**, n63,** σ**1s.61**/107**, mb3.9**/7**, MS3.4**/3**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	Hengchuen, Pin	0.74	329	P	Pn	20 21 45.2	-1.1
	baz=323						
TSEB				i S	Sb	20 21 54.9	-0.6
	baz=323						
LAY	Lan-yu	0.81	16	P	Pn	20 21 45.7	-1.4
	baz=19						
LAY				i S	Sn	20 21 55.7	-2.7
	baz=19						
TWK1	Hengchun	0.83	325	P	Pn	20 21 45.7	-1.7
	baz=322						
TWK1				S	Sn	20 21 55.7	-3.1
	baz=322						
HEN	Hengchun	0.92	324	P	Pn	20 21 47.6	-1.0
	baz=322						
HEN				S	Sn	20 21 58.5	-2.4
	baz=322						
TAW	Tawu	1.16	341	i P	Pn	20 21 49.4	-2.6
	baz=339						
TAW				i S	Sn	20 22 02.1	-4.9
	baz=339						
EAST	Anshuo	1.20	339	eP	Pn	20 21 50.1	-2.4
	baz=338						
EAST				eS	Sn	20 22 03.4	-4.6
	baz=338						
SCZT	Fangliau	1.28	330	eP	Pn	20 21 52.4	-1.3
	baz=328						
SCZT				eS	Sn	20 22 09.2	-0.8
	baz=328						
ECL	Taimali	1.37	346	eP	Pn	20 21 52.0	-2.9
	baz=345						
TTN	Taitung	1.50	354	eP	Pn	20 21 56.1	-0.4
	baz=354						
TTN				eS	Sn	20 22 11.5	-3.8
	baz=354						
TWG	Pinlang	1.57	352	eP	Pn	20 21 55.0	-2.6
	baz=352						
TWG				eS	Sn	20 22 12.9	-4.3
	baz=352						
SSD	Sandimen	1.61	337	eP	Pn	20 21 58.1	-0.1
	baz=336						
SSD				eS	Sn	20 22 17.6	-0.5
	baz=336						
SGLT	Jiouru	1.65	333	eS	Sn	20 22 20.3	+1.3
	baz=331						
TWM1	Shoushan	1.76	332	eP	Pn	20 22 01.7	+1.4
	baz=331						
TWM1				eS	Sn	20 22 22.2	+0.3
	baz=331						
CHKT	Chengkung	1.83	2	P	Pn	20 22 01.2	0.0
	baz=2.0						
CHKT				eS	Sn	20 22 19.3	-4.3
	baz=2.0						
SGST	Jiashian	1.94	340	eP	Pn	20 22 04.3	+1.6
	baz=339						
SGST				eS	Sn	20 22 25.1	-1.2
	baz=339						
ELDTW	Lidau	1.94	352	eP	Pn	20 22 03.5	+0.7
	baz=352						
ELDTW				eS	Sn	20 22 26.2	-0.2
	baz=352						
STYT	Tauyuan	1.96	345	P	Pn	20 22 03.1	0.0
	baz=344						
STYT				eS	Sn	20 22 26.6	-0.4
	baz=344						
CHN1	Nanshi	2.05	339	eP	Pn	20 22 04.1	-0.1
	baz=338						
CHN1				eS	Sn	20 22 28.7	-0.3
	baz=338						
WTP	Ta-pu	2.08	342	eP	Pn	20 22 05.2	+0.5
	baz=341						
WTP				eS	Sn	20 22 29.5	-0.3
	baz=341						
TWF1	Yuli	2.08	360	eP	Pn	20 22 05.9	+1.2
TWF1				eS	Sn	20 22 29.6	-0.3
TWK	Hsinying	2.14	339	eP	Pn	20 22 06.8	+1.3
	baz=338						
TWK				eS	Sn	20 22 33.5	+2.2
	baz=338						
CHN4	Tsaushan	2.19	342	eP	Pn	20 22 06.5	+0.4
	baz=341						
CHN4				eS	Sn	20 22 32.9	+0.5
	baz=341						
EHY	Hungye	2.24	0	eP	Pn	20 22 07.2	+0.4
EHY				eS	Sn	20 22 34.0	+0.4
YUS	Yu-Shan	2.25	352	eP	Pn	20 22 08.1	+0.8
	baz=351						
YUS				eS	Sn	20 22 36.5	+2.0
	baz=351						
ALS	Alishan	2.29	348	eP	Pn	20 22 10.6	+2.8
	baz=348						
ALS				eS	Sn	20 22 34.7	-0.7
	baz=348						
CHY	Chiayi	2.38	340	eP	Pn	20 22 09.9	+1.2
	baz=339						
CHY				eS	Sn	20 22 36.3	-0.7
	baz=339						
CHN5	Tsauling	2.40	346	eP	Pn	20 22 09.2	+0.1
	baz=345						
CHN5				eS	Sn	20 22 38.6	+0.8
	baz=345						
WGK	Gukeng	2.51	344	eP	Pn	20 22 11.0	+0.4
	baz=343						
WGK				eS	Sn	20 22 39.9	-0.5

baz=343
ESL Shilin 2.55 2 *e*P **Pn** 20 22 11.5 +0.5
baz=3.0
ESL *e*S **Sn** 20 22 40.8 -0.5
baz=3.0
TYC Yuchr 2.67 351 *e*P **Pn** 20 22 12.2 -0.5
baz=351
TYC *e*S **Sn** 20 22 44.4 +0.2
baz=351
HWA Hwalien 2.72 6 *e*P **Pn** 20 22 14.6 +1.2
baz=6.0
HWA *e*S **Sn** 20 22 44.8 -0.7
baz=6.0
TCU Taichung 2.94 349 *e*P **Pn** 20 22 18.1 +1.7
baz=348
TCU *e*S **Sn** 20 22 50.7 -0.1
baz=348
TWT Tachien 2.98 358 *e*P **Pn** 20 22 19.0 +1.8
baz=357
TWT *e*S **Sn** 20 22 52.6 +0.3
baz=357
TWQ1 Liyutan 3.12 351 *e*P **Pn** 20 22 20.7 +1.8
baz=350
TWQ1 *e*S **Sn** 20 22 56.1 +0.8
baz=350
NNS Nan Shan 3.17 1 *e*P **Pn** 20 22 20.9 +1.2
baz=1.0
NNS *e*S **Sn** 20 22 56.9 +0.1
baz=1.0
ENA Nanau 3.18 7 *e*P **Pn** 20 22 19.6 -0.1
baz=7.0
ENA *e*S **Sn** 20 22 56.1 -0.7
baz=7.0
NSY Sanyi 3.18 351 *e*P **Pn** 20 22 21.7 +1.9
baz=350
NSY *e*S **Sn** 20 22 57.4 +0.4
baz=350
NSTT Nanjuang 3.37 355 *e*P **Pn** 20 22 23.9 +1.5
baz=355
NSTT *e*S **Sn** 20 23 01.9 +0.4
baz=355
TWC Suao 3.37 8 *e*P **Pn** 20 22 24.4 +2.1
baz=9.0
TWC *e*S **Sn** 20 23 01.2 -0.4
baz=9.0
ENTT Nioudou 3.37 4 *e*P **Pn** 20 22 24.2 +1.7
baz=4.0
ENTT *e*S **Sn** 20 23 00.5 -1.2
baz=4.0
NSK Sanguang 3.40 1 *e*P Pn 20 22 20.1 -2.8
baz=1.0
NSK *e*S **Sn** 20 23 01.4 -1.0
baz=1.0
TWE Neicheng 3.46 5 *e*P **Pn** 20 22 25.7 +2.1
baz=5.0
TWE *e*S **Sn** 20 23 03.0 -0.8
baz=5.0
JYNG Yonagunijimaku 3.52 25 P **Pn** 20 22 24.5 +0.1
JYNG *e*S **Sn** 20 23 02.0 -3.2
YOJ Yonaguni jima 3.55 26 P **Pn** 20 22 25.3 +0.4
YOJ *e*S **Sn** 20 23 03.1 -3.0
HATJ Hateruma jima 3.61 39 P **Pn** 20 22 26.7 +1.0
HATJ *e*S **Sn** 20 23 07.0 -0.6
EGS 3.62 9 *e*P **Pn** 20 22 28.0 +2.3
baz=9.0
EGS *e*S **Sn** 20 23 08.2 +0.6
baz=9.0
TWB1 Santiao Chiao 3.78 9 *e*P **Pn** 20 22 28.0 0.0
baz=9.0
TWB1 *e*S **Sn** 20 23 13.0 +1.2
baz=9.0
IRIF Iriomote-Funau 3.79 36 P **Pn** 20 22 29.2 +1.1
IRIF *e*S **Sn** 20 23 10.6 -1.3
NWF Wu-fen Shan 3.82 6 *e*P **Pn** 20 22 30.2 +1.6
baz=6.0
NWF *e*S **Sn** 20 23 11.0 -1.7
baz=6.0
JKRS Kuro-shima 3.87 40 P **Pn** 20 22 29.9 +0.6
JKRS *e*S **Sn** 20 23 12.4 -1.5
JIJ Ishigaki jima 4.05 40 P **Pn** 20 22 31.8 +0.1
JIJ S **Sn** 20 23 15.7 -2.6
JISG Ishigakijimahi 4.32 39 P **Pn** 20 22 35.4 0.0
JISG *e*S **Sn** 20 23 23.3 -1.6
JTJ Tarama 4.59 42 P **Pn** 20 22 40.6 +1.4
JTJ *e*S **Sn** 20 23 30.7 -1.0
KSRS Korea Array 17.13 18 P **Pn** 20 25 28.6 -0.4
0.2nm,0.3s,baz=205,slow=12,SNR=7.6
KSRS LR LR 20 33 54.1
comp=Z,36nm,18.2s,baz=216,slow=43
MJAR Matsushiro Arr 21.18 40 P **P** 20 26 17.9 +3.1
2.3nm,0.9s,baz=236,slow=12,SNR=6.3
ASAJ Asahikawa 28.83 33 P **P** 20 27 29.6 +2.1
3.2nm,0.9s,baz=324,slow=8.7
SONM Songino Array 29.12 339 P **P** 20 27 29.4 -0.8
1.8nm,0.7s,baz=158,slow=10,SNR=17
SONM LR LR 20 40 22.7
comp=Z,79nm,19.1s,baz=194,slow=39
ZALV Zalesovo Beam 42.78 329 P **P** 20 29 26.2 -0.5
1.2nm,0.4s,baz=119,slow=7.5,SNR=8.7
WRA Warramunga Arr 42.88 162 P **P** 20 29 27.3 -0.6
1.0nm,0.6s,baz=344,slow=8.9,SNR=9.7
ASAR Alice Springs 46.31 164 P **P** 20 29 55.3 +0.1
0.6nm,0.7s,baz=354,slow=13,SNR=9.1
SEY Seymchan 46.68 19 LR LR 20 48 53.7
comp=Z,55nm,21.6s,baz=175,slow=35
AKTO Aktyubinsk 56.96 317 LR LR 20 56 05.7
comp=Z,21nm,18.2s,slow=37
FINES FINESS Array B 74.03 330 P **P** 20 33 04.8 +0.1
1.1nm,0.8s,baz=62,slow=15,SNR=2.7

DJA 13 20:26:07.8±1.8, 2˚S±5˚×13˚6E±1˚4, h11km±4km, M4.1/5, MLv4.1/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.16**	**244**	P	Pb	20 26 12.3	-0.5
SRPI				S	Sg	20 26 15.7	+1.8
BAKI	**Biak**	**0.66**	**336**	P	Pg	20 26 20.3	-0.4
BAKI				S	Sg	20 26 30.0	+0.6
RKPI	**Ransiki, Papua**	**2.22**	**277**	P	Pn	20 26 44.3	-0.3
FAKI	**Fak Fak**	**4.28**	**255**	P	Pn	20 27 12.3	-0.6

NNC 13 20:26:44.5±1.2, 41˚80N×81˚27E, h0km, mb3.8, mpv3.5, 13C-9D, Error ellipse: s-maj=9.4km s-min=6.1km az=146.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**2.02**	**320**	⇑P	Pn	20 27 19.7	0.0
27nm,0.4s							
PDGK				⇓S	Sb	20 27 47.9	+0.3
84nm,0.5s							
KNDC	**Almaty**	**3.48**	**295**	⇓P	Pb	20 27 47.3	+0.3
10nm,0.5s							
KNDC				⇑Lg	Lg	20 28 33.6	
50nm,0.8s							
TKM2	**Tokmak 2**	**4.35**	**287**	⇑P	Pn	20 27 51.7	-0.4
8.8nm,0.8s							
TKM2				⇓Lg	Lg	20 29 01.4	
10nm,0.6s							
MK31	**Makanchi Array**	**5.05**	**8**	⇑P	Pn	20 28 02.3	+0.8
0.8nm,0.3s,baz=4.8,slow=22,SNR=56							
MK31				⇑S	Sn	20 29 01.1	+0.6
1.0nm,0.3s,baz=191,slow=24,SNR=4.0							
MK31				⇑Lg	Lg	20 29 23.6	
8.8nm,0.7s,baz=266,slow=23,SNR=3.7							
AAK	**Ala-Archa**	**5.10**	**282**	⇑P	Pb	20 28 17.5	+2.7
6.7nm,0.8s							
AAK				⇓Lg	Lg	20 29 26.0	
13nm,0.7s							
KK31	**Karatay Array**	**8.06**	**283**	⇓P	Pb	20 29 11.5	+6.5
1.2nm,0.8s,baz=93,slow=15,SNR=6.0							
KK31				⇑Lg	Lg	20 30 58.5	
2.8nm,0.8s,baz=88,slow=29,SNR=5.1							
OTUK	**Ortayu**	**9.02**	**319**	⇓P	Pn	20 28 56.6	+0.7
0.9nm,0.5s							
OTUK				⇑S	Sn	20 30 38.0	-0.3
1.0nm,0.6s							
OTUK				⇑Lg	Lg	20 31 29.4	
2.4nm,0.6s							
KURBB	**Kurchatov Arra**	**9.03**	**349**	⇑P	Pn	20 28 55.7	-0.2
1.8nm,0.8s							
KURBB				⇑S	Sn	20 30 38.1	-0.1
7.5nm,0.6s							
KURBB				⇓Lg	Lg	20 31 30.2	
21nm,1.4s							
KURK	**Kurchatov**	**9.10**	**349**	⇑P	Pn	20 28 57.8	+0.7
1.7nm,0.9s							
KURK				⇓S	Sn	20 30 39.8	-0.3
2.8nm,0.8s							
KURK				⇓Lg	Lg	20 31 34.2	
8.7nm,1.3s							

*CSEM **13** 20:31:25.7, 51˚36N×16˚10E, h0km*
PRU 13 20:31:24.2, 51˚40N×16˚12E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPC	**Upice**	**0.90**	**184**	*e*PG	Pg	20 31 41.0	-0.4
UPC				*e*SG	Sg	20 31 52.9	-0.2
comp=Z,1.4nm,0.3s							
UPC	**Upice**	**0.90**	**184**	Pg	Pg	20 31 41.0	-0.4
UPC				Sg	Sg	20 31 52.9	-0.2
1.4nm,0.3s							
DPC	**Dobruska-Polom**	**1.06**	**173**	*e*PG	Pg	20 31 44.0	-0.6
DPC				*e*SG	Sg	20 31 58.2	-0.2
comp=Z,0.7nm,0.3s							
DPC	**Dobruska-Polom**	**1.06**	**173**	Pg	Pg	20 31 44.0	-0.6
DPC				Sg	Sg	20 31 58.2	-0.2
0.7nm,0.3s							
PVCC	**Panska Ves**	**1.31**	**229**	*e*PG	Pg	20 31 48.7	-0.7
PVCC				*e*SG	Sg	20 32 06.2	-0.2
comp=Z,4.6nm,0.2s							
PVCC	**Panska Ves**	**1.31**	**229**	Pg	Pg	20 31 48.7	-0.7
PVCC				Sg	Sg	20 32 06.2	-0.2
4.6nm,0.2s							
KRLC	**Kraliky**	**1.39**	**162**	*e*SG	Sg	20 32 08.8	-0.3
KRLC	**Kraliky**	**1.39**	**162**	Sg	Sg	20 32 08.8	-0.3

CASC 13 20:33:24.8±1.5, 13˚09N×90˚28W, h17km±6km, MD3.7, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**0.98**	**41**	*e*P	Pb	20 33 42.9	-0.8
SBLS				*e*S	Sb	20 33 56.3	-0.3
RTR	**El Retiro**	**1.01**	**38**	*e*P	Pb	20 33 43.4	-0.8
SNJE	**San Jose**	**1.01**	**40**	*e*P	Pb	20 33 43.3	-0.8
SNJE				*e*S	Sb	20 33 56.9	-0.5
BOQS	**Boqueron**	**1.16**	**57**	*e*P	Pn	20 33 46.0	-0.7
BOQS				*e*S	Sb	20 34 01.7	-0.1
RBDL	**Robledal**	**1.17**	**30**	*e*P	Pn	20 33 45.9	-0.8
LFRS	**El Faro**	**1.30**	**66**	*e*P	Pn	20 33 47.2	-1.1
LFU	**La Fuente**	**1.31**	**60**	*e*P	Pn	20 33 47.7	-0.8
PCG	**Pacaya**	**1.33**	**346**	*e*P	Pn	20 33 48.2	-0.8
LBRS	**Las Brisas**	**1.36**	**62**	*e*P	Pn	20 33 48.5	-0.7
FUG	**Fuego 3**	**1.45**	**338**	*e*P	Pn	20 33 49.5	-1.1
NBG	**Las Nubes**	**1.49**	**357**	*e*P	Pb	20 33 51.9	-0.5
MTO2	**Montecristo 2**	**1.58**	**34**	*e*P	Pn	20 33 51.9	-0.4
MTO2				*e*S	Sn	20 34 13.1	+0.5
JAT	**Jato**	**1.80**	**313**	*e*P	Pn	20 33 54.6	-0.4
VSM	**San Miguel**	**1.98**	**80**	*e*P	Pn	20 33 57.6	-0.3
MRL	**Marmol**	**2.04**	**16**	*e*P	Pn	20 33 60.0	+1.3

*NIED **13** 20:36:00, 45˚20N×150˚90E, h41km, Mw4.4 Best double couple: M0 5.05000×10^15 NP1:φs262.00000°, δ38.00000°, λ-137.00000°. NP2:φs136.00000°, δ65.00000°, λ-60.00000°.*
*ISCJB **13** 20:36:17.6±0.5, 45˚06N±0˚03×150˚89E±0˚04, h58km±4km, mb4.4/59, MS3.4/16, Error ellipse: s-maj=6.0km s-min=3.5km az=149.8*
*BJI **13** 20:36:18.0, 45˚17N×150˚88E, h59km, mb4.9/55, mB4.8/34, Ms4.1/27, Ms7 3.7/26*
*JMA **13** 20:36:18.9±0.4, 45˚23N×150˚88E, h30km, M5.1*
*IDC **13** 20:36:19.4±2.5, 45˚27N×150˚73E, h52km±23km, mb4.0/24, mb1 4.2/30, mb1mx4.1/41, mbtmp4.3/30, ML4.1/6, MS3.3/20, Ms1 3.3/20, ms1mx3.2/30, Error ellipse: s-maj=17.2km s-min=10.7km az=156.0*
*NEIC **13** 20:36:19.7±0.8, 45.24N×150.81E, h58km±7km, mb4.7/23, Error ellipse: s-maj=9.4km s-min=4.8km az=147.0*
*SKHL **13** 20:36:19.3±0.3, 45.13N×150.97E, h84km±5km, mb5.6/1, Ms4.2/4, msh5.5/6*
*MOS **13** 20:36:20.5±1.4, 45.23N×150.68E, h82km, mb4.5/25, Error ellipse: s-maj=7.9km s-min=6.8km az=121.5*
ISC 13 20:36:20.4±0.5, 45˚16N±0˚05×150˚83E±0˚04, h68km±3km, h68km:pP-P, n289, σ1°69/336, mb4.5/59, 29C-13D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.10**	**273**	*c i*PN	**Pn**	**20 36 53.6**	**+0.4**
KUR				*i* S	**Sn**	**20 37 19.2**	**+0.9**
KUR				pmax	pmax		
comp=Z,797nm,0.5s							
KUR				pmax	pmax		
comp=N,375nm,0.2s							
KUR				pmax	pmax		
comp=E,231nm,0.2s							
KUR				smax	smax		
comp=N,4μm,0.7s							
KUR				smax	smax		
comp=E,3μm,0.7s							
KUR	**Kuril'sk**	**2.10**	**273**	⇑*i*P	**Pn**	**20 36 53.6**	**+0.4**
KUR				AMB	AMB	20 36 54.6	
comp=E,800nm,0.5s							
KUR				*i* S	**Sn**	**20 37 19.2**	**+0.9**
KUR				A	A	20 37 20.8	
comp=E,4μm,0.7s							
KUR				A	A	20 37 20.8	
comp=E,3μm,0.7s							
SHO	**Shikotan**	**3.14**	**247**	*e*P	**Pn**	**20 37 06.8**	**-0.6**
SHO				AMB	AMB	20 37 07.2	
comp=E,80nm,0.4s							
SHO				*e*S	**Sn**	**20 37 42.3**	**-1.4**
SHO				A	A	20 37 45.7	
comp=E,290nm,0.6s							
SHO				AMS	AMS	20 41 51.4	
comp=E,13μm,21.0s							
SHO				AMS	AMS	20 41 51.4	
comp=E,27μm,21.0s							
YUK	**Yuzh-Kuril'sk**	**3.72**	**254**	*c i*PN	**Pn**	**20 37 15.9**	**+0.5**
YUK				*i* S	**Sn**	**20 37 58.6**	**+0.6**
YUK				pmax	pmax		
comp=E,168nm,0.4s							
YUK				pmax	pmax		
comp=Z,784nm,0.4s							
YUK				pmax	pmax		
comp=N,68nm,0.2s							
YUK				smax	smax		
comp=N,971nm,0.4s							
YUK				smax	smax		
comp=E,2μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**3.72**	**254**	⇑*i*P	**Pn**	**20 37 15.9**	**+0.5**
YUK				AMB	AMB	20 37 17.5	
comp=E,80nm,0.4s							
YUK				*i* S	**Sn**	**20 37 58.6**	**+0.6**
YUK				A	A	20 38 03.0	
comp=E,970nm,0.9s							
YUK				A	A	20 38 03.0	
comp=E,2μm,0.9s							
NEM2	**Nemuro 2**	**4.07**	**246**	P	**Pn**	**20 37 19.3**	**-0.8**
NEM2				*e*S	**Sn**	**20 38 03.8**	**-2.7**
JRA	**Rausu**	**4.26**	**255**	P	**Pn**	**20 37 23.9**	**+1.2**
JRA				*e*S	**Sn**	**20 38 12.5**	**+1.4**
JNK	**Nakash**	**4.66**	**252**	P	**Pn**	**20 37 28.7**	**+0.6**
JNK				*e*S	**Sn**	**20 38 20.4**	**-0.4**
JAK	**Akkeshi**	**4.92**	**246**	P	**Pn**	**20 37 30.9**	**-0.8**
JAK				*e*S	**Sn**	**20 38 24.6**	**-2.7**
JTKR	**Abashiri--Toko**	**5.09**	**259**	P	**Pn**	**20 37 35.5**	**+1.5**
JAR	**Ashorobuto**	**5.41**	**252**	P	**Pn**	**20 37 39.4**	**+1.0**
JAR				*e*S	**Sn**	**20 38 39.4**	**+0.2**
JMP	**Maruseppu**	**5.46**	**260**	P	**Pn**	**20 37 40.7**	**+1.6**
JOB	**Onbets**	**5.53**	**248**	P	**Pn**	**20 37 40.0**	**0.0**
JOB				*e*S	**Sn**	**20 38 39.8**	**-2.3**
HRK	**Horoka**	**5.78**	**256**	*e*P	**Pn**	**20 37 45.0**	**+1.4**
HRK				*e*S	**Sn**	**20 38 50.1**	**+1.6**
JSE	**Soyaes**	**5.84**	**271**	P	**Pn**	**20 37 46.6**	**+2.2**
YSS	**Yuzh-Sakhalins**	**5.90**	**291**	⇓*i*PN	**Pn**	**20 37 48.0**	**+2.9**
YSS				*e*S	**Sn**	**20 38 50.0**	**-1.2**
YSS				pmax	pmax		
comp=Z,30nm,0.5s							
YSS				smax	smax		
comp=N,60nm,1.0s							
YSS	**Yuzh-Sakhalins**	**5.90**	**291**	*e*P	**Pn**	**20 37 47.5**	**+2.4**
YSS				AMB	AMB	20 37 56.3	
comp=N,700nm,0.7s							
YSS				*e*S	**Sn**	**20 38 50.0**	**-1.2**
YSS				A	A	20 38 51.0	
comp=N,60nm,1.0s							
YSS	**Yuzh-Sakhalins**	**5.90**	**291**	*e*Pn	**Pn**	**20 37 46.6**	**+1.5**
comp=N,46nm,0.4s							
YSS				*e*Sn	**Sn**	**20 38 50.3**	**-0.9**
JKK2	**Kamakawa 2**	**5.92**	**260**	P	**Pn**	**20 37 47.3**	**+1.9**
JKA	**Kamikawa-asahi**	**5.96**	**263**	*e*P	**Pn**	**20 37 48.0**	**+2.0**
JKA				*e*S	**Sn**	**20 38 55.5**	**+2.6**
JCH	**Churui**	**5.97**	**247**	P	**Pn**	**20 37 45.2**	**-0.8**
JCH				*e*S	**Sn**	**20 38 50.1**	**-2.9**
ASAJ	**Asahikawa**	**5.97**	**263**	P	**Pn**	**20 37 48.3**	**+2.2**
ASAJ	**Asahikawa**	**5.97**	**263**	P	**Pn**	**20 37 48.0**	**+1.9**
baz=79,slow=16							
ASAJ				S	**Sn**	**20 38 55.5**	**+2.5**
comp=N,4.0nm,0.3s,baz=59,slow=18,SNR=1.5							
ASAJ	**Asahikawa**	**5.97**	**263**	PN	**Pn**	**20 37 48.0**	**+1.9**
ASAJ				S	**Sn**	**20 38 55.5**	**+2.5**
ASAJ				smax	smax		
comp=N,4.0nm,0.3s							
MYR	**Moyori**	**6.17**	**245**	*e*P	**Pn**	**20 37 48.6**	**-0.3**
MYR				*e*S	**Sn**	**20 38 55.4**	**-2.6**
JFR	**Furan**	**6.25**	**254**	P	**Pn**	**20 37 51.0**	**+1.0**
JFR				*e*S	**Sn**	**20 39 00.2**	**+0.2**
JWK2	**Keihoku**	**6.31**	**275**	P	Pn	20 37 54.5	+3.8
JAB	**Ashibetsu**	**6.39**	**258**	P	**Pn**	**20 37 54.2**	**+2.3**
ERM	**Erimo**	**6.40**	**243**	⇑*i*PN	**Pn**	**20 37 52.5**	**+0.6**
ERM				pmax	pmax		
comp=Z,145nm,0.6s							
ERM	**Erimo**	**6.40**	**243**	*e*P	**Pn**	**20 37 52.5**	**+0.6**
ERM	**Erimo**	**6.40**	**243**	*e*Pn	**Pn**	**20 37 52.1**	**+0.2**
comp=Z,284nm,0.5s							
ERM				*e*Sn	**Sn**	**20 38 59.6**	**-3.9**
JEM	**Erimo**	**6.40**	**243**	*e*S	**Sn**	**20 39 00.3**	**-3.2**
JSS	**Shosan**	**6.43**	**266**	P	Pn	20 37 56.4	+4.0
JNBK	**Urakawa-nobuka**	**6.52**	**247**	P	**Pn**	**20 37 52.5**	**-1.1**
JNBK				*e*S	**Sn**	**20 39 02.3**	**-4.3**
JBT2	**Biratori 2**	**6.56**	**252**	P	**Pn**	**20 37 54.2**	**+0.1**
JBT2				*e*S	**Sn**	**20 39 05.1**	**-2.3**
SKR	**Severo-Kuril's**	**6.57**	**31**	*e*PN	Pn	20 37 39.5	-15
SKR				pmax	pmax		
comp=N,100nm,0.5s							
SKR				pmax	pmax		
comp=Z,230nm,0.5s							
SKR	**Severo-Kuril's**	**6.57**	**31**	*e*P	**Pn**	**20 37 51.9**	**-2.3**
SKR				AMB	AMB	20 37 54.5	
comp=Z,270nm,0.4s							
SKR				AMB	AMB	20 38 02.1	
comp=Z,2μm,9.5s							
SKR				*e*S	**Sn**	**20 39 02.0**	**-5.5**
SKR				A	A	20 39 08.0	
comp=Z,150nm,0.5s							
SKR				A	A	20 39 20.8	
comp=Z,1μm,8.0s							
SKR				AMS	AMS	20 45 29.8	
comp=Z,3μm,21.0s							
SKR				AMS	AMS	20 45 29.8	
comp=Z,6μm,21.0s							
JHR	**Hokuryu**	**6.67**	**261**	P	**Pn**	**20 37 58.4**	**+2.7**
UGL	**Uglegorsk**	**7.15**	**306**	*e*PN	**Pn**	**20 38 02.8**	**+0.7**
UGL				*e*S	**Sn**	**20 39 22.8**	**+1.0**
UGL	**Uglegorsk**	**7.15**	**306**	*e*P	**Pn**	**20 38 02.8**	**+0.7**
UGL				AMB	AMB	20 38 03.6	
comp=Z,70nm,0.6s							
UGL				*e*S	**Sn**	**20 39 22.8**	**+1.0**
UGL				AMS	AMS	20 40 48.0	
comp=Z,400nm,17.0s							
JEW	**Eniwo**	**7.15**	**254**	P	**Pn**	**20 38 03.4**	**+1.2**
JNB	**Noboribetsu**	**7.58**	**253**	P	**Pn**	**20 38 07.9**	**-0.1**
JNB				*e*S	**Sn**	**20 39 30.1**	**-2.3**
JSK	**Shakotan**	**7.65**	**260**	P	**Pn**	**20 38 10.3**	**+1.2**
JKB	**Kayabe**	**7.83**	**249**	P	**Pn**	**20 38 11.2**	**-0.4**
JKB				*e*S	**Sn**	**20 39 33.6**	**-5.1**
TYV	**Tymovskoe**	**7.91**	**319**	*e*P	**Pn**	**20 38 15.0**	**+2.5**
TYV				AMS	AMS	20 41 28.0	
comp=Z,500nm,14.0s							
JYM2	**Yakumo 2**	**8.17**	**252**	P	**Pn**	**20 38 16.0**	**-0.2**
JYM2				*e*S	**Sn**	**20 39 45.0**	**-2.0**
JSH	**Shimam**	**8.19**	**256**	P	**Pn**	**20 38 16.8**	**+0.4**
JANG	**Nango**	**8.36**	**238**	P	**Pn**	**20 38 15.7**	**-3.0**
JANG				*e*S	Sn	20 39 43.2	-8.3
JTM	**Tenmabayashi**	**8.38**	**242**	P	**Pn**	**20 38 17.3**	**-1.8**
JTM				*e*S	Sn	20 39 45.0	-7.2
JSR	**Shiriuchi**	**8.41**	**248**	P	**Pn**	**20 38 18.5**	**-0.9**
JSR				*e*S	**Sn**	**20 39 47.5**	**-5.3**
JTH	**Tanohata**	**8.43**	**235**	P	Pn	20 38 16.1	-3.6
JTH				*e*S	Sn	20 39 43.4	-10
JOSM	**Okushiri--Mats**	**8.79**	**254**	P	**Pn**	**20 38 24.2**	**-0.5**
JOSM				*e*S	**Sn**	**20 39 58.5**	**-3.6**
OFUJ	**Ofunato**	**9.12**	**231**	P	**Pn**	**20 38 26.2**	**-3.0**
OFUJ				*e*S	Sn	20 40 02.3	-7.9
PETK	**Petropavlovsk-**	**9.13**	**27**	P	**Pn**	**20 38 27.5**	**-1.8**
comp=Z,2.2nm,0.3s,baz=200,slow=9.4,SNR=20							
PETK				S	**Sn**	**20 40 14.3**	**+3.9**
baz=214,slow=21,SNR=1.6							
PETK				LR	LR	20 41 52.9	
comp=Z,106nm,21.6s,baz=212,slow=37							
PET	**Petropavlovsk**	**9.39**	**30**	PN	**Pn**	**20 38 31.1**	**-1.6**
PET	**Petropavlovsk**	**9.39**	**30**	*e*P	**Pn**	**20 38 31.1**	**-1.6**
PET				*e*S	Sn	20 40 09.3	-7.3
PET				A	A	20 40 12.2	
comp=Z,50nm,0.8s							
PET				AMS	AMS	20 41 38.0	
comp=Z,300nm,14.0s							
PET	**Petropavlovsk**	**9.39**	**30**	Pn	**Pn**	**20 38 31.1**	**-1.6**
JRG	**Rokugo**	**9.50**	**236**	P	**Pn**	**20 38 31.9**	**-2.4**
JRG				*e*S	Sn	20 40 12.2	-7.2
JOG2	**Oga 2**	**9.69**	**241**	P	**Pn**	**20 38 35.5**	**-1.4**
JIO	**Ouri**	**9.74**	**230**	P	Pn	20 38 34.4	-3.3
JIO				*e*S	Sn	20 40 15.8	-10
NKL	**Nikolayevsk**	**10.39**	**324**	⇑*i*P	**Pn**	**20 38 47.6**	**+1.2**
NKL				AMB	AMB	20 38 48.0	
comp=Z,20nm,0.4s							
JYA	**Atsumi**	**10.57**	**235**	P	**Pn**	**20 38 47.0**	**-1.9**
JYA				*e*S	Sn	20 40 38.7	-6.8
JFK	**Kawauchi**	**10.80**	**227**	P	**Pn**	**20 38 49.1**	**-3.0**
JFK				*e*S	Sn	20 40 42.3	-9.0
HABR	**Khabarovsk**	**11.31**	**293**	PN	**Pn**	**20 38 57.8**	**-1.1**
HABR				*e*S	**Sn**	**20 41 03.7**	**+0.2**
HABR				pmax	pmax		
comp=Z,18nm,1.9s							
HABR				MLR	MLR		
comp=Z,94nm,16.0s							
HABR	**Khabarovsk**	**11.31**	**293**	*e*P	**Pn**	**20 38 57.8**	**-1.1**
HABR				AMB	AMB	20 38 58.8	
comp=Z,20nm,1.9s							
HABR				*e*S	**Sn**	**20 41 03.7**	**+0.2**
HABR				AMS	AMS	20 43 35.0	
comp=Z,100nm,16.0s							
JFY	**Yanaizu**	**11.40**	**231**	P	**Pn**	**20 38 58.5**	**-1.8**
JSD	**Sado**	**11.79**	**237**	P	**Pn**	**20 39 03.5**	**-2.1**
MAJO	**Matsushiro**	**12.85**	**232**	*e*PN	**Pn**	**20 39 17.4**	**-2.7**
MAJO				pmax	pmax		
comp=Z,26nm,0.8s							
MAJO	**Matsushiro**	**12.85**	**232**	*e*Pn	**Pn**	**20 39 17.4**	**-2.7**
comp=Z,26nm,0.8s							
MAT	**Matsushiro**	**12.85**	**232**	P	**Pn**	**20 39 18.1**	**-2.0**
MAT				S	**Sn**	**20 41 45.3**	**+4.1**
MAT	**Matsushiro**	**12.85**	**232**	P	**Pn**	**20 39 18.2**	**-1.9**
MJAR	**Matsushiro Arr**	**12.85**	**232**	P	**Pn**	**20 39 18.3**	**-1.8**
comp=Z,1.7nm,0.3s,baz=29,slow=12,SNR=26							
MJAR				S	**Sn**	**20 41 44.1**	**+2.9**
comp=Z,0.4nm,0.3s,baz=53,slow=24,SNR=3.7							
JNG	**Nsakai**	**13.01**	**232**	P	**Pn**	**20 39 20.6**	**-1.7**
USRK	**Ussuriysk Ar.**	**13.45**	**273**	P	**Pn**	**20 39 27.9**	**-0.1**
comp=Z,2.1nm,0.3s,baz=86,slow=12,SNR=33							
USRK				LR	LR	20 44 26.1	
comp=Z,156nm,21.0s,baz=97,slow=36							
KLR	**Kul'dur**	**13.59**	**294**	*e*PN	**Pn**	**20 39 27.3**	**-2.6**
KLR	**Kul'dur**	**13.59**	**294**	*e*P	**Pn**	**20 39 27.3**	**-2.6**
VLA	**Vladivostok**	**13.76**	**268**	⇑P	**Pn**	**20 39 32.6**	**+0.4**
VLA	**Vladivostok**	**13.76**	**268**	⇑*e*P	**Pn**	**20 39 32.6**	**+0.4**
EKMR	**Ekimchan**	**14.10**	**311**	*e*P	**Pn**	**20 39 38.3**	**+1.6**

MDJ LN
comp=Z,140nm,31.0s
MDJ LE
comp=Z,53nm,31.0s
MDJ LZ
comp=Z,160nm,26.1s
MDJ Mudanjiang 15.06 275 *e*P **Pn 20 39 48.0 -1.1**
MDJ Mudanjiang 15.06 275 *e*Pn **Pn 20 39 48.0 -1.1**
comp=Z,39nm,0.8s
YASR Yasnyy 16.94 307 *e*P **Pn 20 40 08.5 -4.2**
YASR AMB AMB 20 40 09.3
comp=Z,10.0nm,0.8s
BMKR Bomnak 17.01 312 *e*P **P 20 40 15.0 +0.5**
BMKR AMB AMB 20 40 16.0
comp=Z,20nm,0.5s
SEY Seymchan 17.83 2 P **P 20 40 21.9 -1.5**
comp=Z,0.4nm,0.3s,baz=185,slow=11,SNR=7.4
SEY Seymchan 17.83 2 ⇓*i*P **P 20 40 22.7 -0.7**
SEY Seymchan 17.83 2 ⇓*i*P **P 20 40 22.7 -0.7**
KROS Kirovskiy 17.90 310 *e*P **P 20 40 24.4 +0.1**
KROS AMB AMB 20 40 26.0
comp=Z,10.0nm,0.7s
CN2 Changchun 18.14 275 *e*P **P 20 40 26.3 -0.7**
CN2 *e*S **Sn 20 43 42.8 -6.5**
CN2 PMZ
comp=Z,10.0nm,0.7s
CN2 LN
comp=Z,70nm,14.0s
CN2 LE
comp=Z,100nm,14.0s
CN2 LZ
comp=Z,100nm,20.0s
KSRS Korea Array 18.81 254 P **P 20 40 33.4 -0.9**
comp=Z,0.9nm,0.3s,baz=62,slow=11,SNR=31
KSRS LR LR 20 47 50.6
comp=Z,70nm,19.1s,baz=64,slow=37
KSRS Korea Array 18.81 254 P **P 20 40 33.4 -0.9**
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KSRS MLR MLR
comp=Z,70nm,19.1s
KSAR Wonju Array Be 18.84 254 P **P 20 40 33.4 -1.3**
KSAR Wonju Array Be 18.84 254 *e*P **P 20 40 33.4 -1.3**
KSAR Wonju Array Be 18.84 254 P **P 20 40 33.4 -1.3**
JCJ Chichijima 19.31 204 LR LR 20 49 49.1
comp=Z,10nm,18.8s,baz=130,slow=42
JNU Nakatsue 19.54 239 P **Pn 20 40 44.2 0.0**
comp=Z,1.2nm,0.3s,baz=32,slow=16,SNR=6.7
JNU LR LR 20 49 17.0
comp=Z,64nm,18.9s,baz=74,slow=40
INCN Inchon 19.68 256 P **P 20 40 44.8 +1.0**
YAK Yakutsk 20.88 331 LR LR 20 48 39.5
comp=Z,67nm,20.7s,baz=143,slow=36
YAK Yakutsk 20.88 331 *e*P Pn 20 41 03.9 +4.2
YAK *e**PP sP 20 41 21.3 +1.9
YAK *e*S **S 20 44 42.5 -2.8**
YAK pmax pmax
comp=Z,65nm,1.1s
YAK pmax pmax
comp=E,38nm,1.3s
YAK pmax pmax
comp=N,45nm,1.3s
YAK smax smax
comp=E,5.0nm,0.8s
YAK smax smax
comp=N,19nm,1.4s
YAK Yakutsk 20.88 331 *e*P Pn 20 41 03.9 +4.2
YAK Yakutsk 20.88 331 *e*P **P 20 40 54.4 -2.2**
comp=N,18nm,0.6s
BOD Bodaibo 25.83 313 *e*P **P 20 41 42.8 -2.2**
BOD pmax pmax
comp=Z,4.0nm,0.7s
BJI Beijing 25.89 271 P **P 20 41 48.3 +2.6**
BJI S **S 20 46 10.6 0.0**
BJI PMZ
comp=Z,15nm,0.7s
BJI LN
comp=Z,90nm,14.4s
BJI LE
comp=Z,96nm,16.6s
BJI LZ
comp=Z,87nm,31.0s
TIA Tai'an 26.92 262 ⇓P **P 20 41 59.8 +4.7**
TIA PMZ
comp=Z,30nm,0.8s
NJ2 Nanjing 28.01 253 *e*P **P 20 42 06.0 +1.2**
NJ2 PMZ
comp=Z,20nm,0.6s
H11N2 WAKE ISLAND Hy 28.65 147 T T 21 13 07.6
baz=336,slow=75,SNR=3108
H11N1 WAKE ISLAND Hy 28.66 147 T T 21 13 04.1
baz=336,slow=76,SNR=2702
H11N3 WAKE ISLAND Hy 28.66 147 T T 21 13 06.7
baz=336,slow=75,SNR=2689
HHC Hu-ho-hao-te 28.84 275 *e*P **P 20 42 14.4 +2.1**
HHC PP **PnPn 20 43 09.3 +2.8**
HHC S **S 20 46 58.4 +1.0**
HHC sS **sS 20 47 23.8 -1.5**
HHC SS **SnSn 20 48 29.4 +4.2**
HHC PMZ
comp=Z,22nm,0.9s
HHC PMZ
comp=Z,93nm,8.6s
HHC LN
comp=Z,64nm,14.8s
HHC LE
comp=Z,76nm,13.6s
HHC LZ
comp=Z,55nm,18.5s
H11S1 WAKE ISLAND Hy 29.69 148 T T 21 14 21.6
baz=337,slow=76,SNR=1252
H11S3 WAKE ISLAND Hy 29.69 148 T T 21 14 22.0
baz=337,slow=76,SNR=692
H11S2 WAKE ISLAND Hy 29.70 148 T T 21 14 22.8
baz=337,slow=76,SNR=826
SONM Songino Array 30.39 291 P **P 20 42 25.8 -0.2**
comp=Z,1.3nm,0.6s,baz=76,slow=8.1,SNR=21
SONM LR LR 20 55 18.5
comp=Z,95nm,19.1s,baz=80,slow=38
ZAK Zakamensk 31.94 297 *e*P **P 20 42 36.9 -2.6**
ZAK pmax pmax
comp=Z,2.0nm,1.1s
WHN Wuhan 31.99 256 P **P 20 42 40.8 +0.8**
WHN pP **pP 20 42 54.8 -1.6**
WHN LN
comp=Z,170nm,8.6s
WHN LE
comp=Z,210nm,5.8s
WHN LZ
comp=Z,160nm,16.1s
XAN Xi'an 33.80 266 P **P 20 42 56.4 +0.5**
XAN PMZ
comp=Z,6.0nm,0.8s
XAN PMZ
comp=Z,72nm,5.3s
ENH Enshi 35.51 260 *e*P **P 20 43 10.5 -0.2**
comp=Z,6.6nm,0.8s
LZH Lanzhou 36.35 272 ⇑P **P 20 43 19.9 +2.0**
LZH pP **pP 20 43 37.4 +2.9**
LZH PMZ
comp=Z,38nm,1.0s
LZH PMZ
comp=Z,94nm,5.8s
BPAW Bear Paw Mtn. 36.99 38 *e*P **P 20 43 22.1 -0.7**
comp=Z,0.3nm,0.6s
GTA Gaotai 37.66 280 *e*P **P 20 43 30.5 +1.6**
GTA pP **pP 20 43 47.6 +2.0**
GTA sP **sP 20 43 54.6 +1.1**
GTA PcP **PcP 20 45 47.1 +2.1**
GTA S **S 20 49 15.3 +1.4**
GTA SS **SnSn 20 51 55.8 -3.0**
GTA PMZ
comp=Z,45nm,0.8s
GTA PMZ
comp=Z,100nm,5.5s
GTA LN
comp=Z,73nm,13.8s
GTA LE
comp=Z,55nm,15.7s
GTA LZ
comp=Z,91nm,16.6s
PMR Palmer 37.85 42 P **P 20 43 29.5 -0.6**
PMR Palmer 37.85 42 P **P 20 43 29.5 -0.6**
SML Sawmill 38.22 42 *e*P **P 20 43 33.1 -0.1**
SML pmax pmax
comp=Z,3.0nm,0.7s
SML Sawmill 38.22 42 *e*P **P 20 43 33.1 -0.1**
SML Sawmill 38.22 42 *e*P **P 20 43 33.1 -0.1**
comp=Z,2.5nm,0.7s
COLA College 38.37 37 ⇑P **P 20 43 35.1 +0.7**
COLA pmax pmax
comp=Z,14nm,1.0s
COLA College 38.37 37 ⇑*e*P **P 20 43 35.1 +0.7**
ILAR Eielson Array 38.78 37 P **P 20 43 38.5 +0.6**
comp=Z,1.0nm,0.7s,baz=265,slow=7.2,SNR=9.0
CD2 Chengdu 39.16 265 P **P 20 43 42.5 +1.0**
CD2 pP **pP 20 43 59.6 +1.4**
CD2 sP **sP 20 44 07.9 +1.8**
CD2 PP **PP 20 45 13.3 +1.0**
CD2 S **S 20 49 37.4 +0.8**
CD2 PMZ
comp=Z,50nm,0.7s
CD2 PMZ
comp=Z,130nm,4.9s
CD2 LN
comp=Z,140nm,7.2s
CD2 LZ
comp=Z,180nm,6.6s
ZALV Zalesovo Beam 42.26 307 P **P 20 44 04.9 -1.8**
comp=Z,0.8nm,0.3s,baz=68,slow=8.2,SNR=5.2
ZALV PcP **PcP 20 46 00.4 +1.1**
comp=Z,0.9nm,0.5s,baz=90,slow=3.0,SNR=3.9
ZALV LR LR 21 02 55.4
comp=Z,52nm,18.9s,baz=70,slow=38
INK Inuvik 43.84 31 P **P 20 44 19.9 +0.7**
comp=Z,1.7nm,0.6s,baz=218,slow=12,SNR=2.2
INK Inuvik 43.84 31 P **P 20 44 19.9 +0.7**
INK pmax pmax
comp=Z,2.0nm,0.6s
INK Inuvik 43.84 31 P **P 20 44 20.0 +0.7**
comp=Z,4.5nm,0.6s
WMQ Urumqi 44.02 292 P **P 20 44 21.6 +0.4**
WMQ pP **pP 20 44 40.1 +2.0**
WMQ sP **sP 20 44 47.9 +2.0**
WMQ PMZ
comp=Z,18nm,1.0s
WMQ PMZ
comp=Z,93nm,3.8s
WMQ LN
comp=Z,56nm,20.3s
WMQ LE
comp=Z,59nm,24.0s
WMQ LZ
comp=Z,56nm,18.0s
MKAR Makanchi Array 46.26 298 P **P 20 44 37.8 -1.0**
comp=Z,7.6nm,0.7s,baz=67,slow=9.5,SNR=55
MKAR PP **PP 20 46 27.6 -0.6**
comp=Z,1.8nm,0.7s,baz=48,slow=7.3,SNR=3.6
MKAR LR LR 21 05 11.9
comp=Z,69nm,19.0s,baz=59,slow=38
MKAR Makanchi Array 46.26 298*c*e P **P 20 44 39.2 +0.4**
MKAR pmax pmax
comp=Z,8.0nm,0.7s
MKAR Makanchi Array 46.26 298⇑*e*P **P 20 44 39.2 +0.4**
KURK Kurchatov 46.92 304 P **P 20 44 43.7 -0.1**
KURK 20 46 33.1
KURK pmax pmax
comp=Z,5.0nm,0.6s
KURK pmax pmax
comp=Z,2.0nm,0.8s
KURK Kurchatov 46.92 304 *e*P **P 20 44 43.7 -0.1**
KURK Kurchatov 46.92 304 *e*P **P 20 44 42.5 -1.4**
comp=Z,8.0nm,0.8s
KURK *e*PP **PP 20 46 30.5 -4.1**
KURK PP **PP 20 46 33.1 -1.5**
KURBB Kurchatov Arra 47.01 304 P **P 20 44 43.7 -0.8**
comp=Z,4.7nm,0.6s,baz=70,slow=8.7,SNR=49
KURBB PP **PP 20 46 33.1 -2.4**
comp=Z,1.7nm,0.8s,baz=67,slow=3.5,SNR=7.1
DLBC Dease Lake 47.84 44 P **P 20 44 51.6 +0.6**
comp=Z,3.1nm,0.8s,baz=278,slow=10,SNR=5.2
LSA Lhasa 48.77 273 *e*P **P 20 45 01.0 +2.1**
LSA pmax pmax
comp=Z,14nm,0.9s
LSA Lhasa 48.77 273 *e*P **P 20 45 01.0 +2.1**
comp=Z,14nm,0.9s
CHTO Chiang Mai 50.20 256 *e*P **P 20 45 10.0 +0.6**
CHTO pmax pmax
comp=Z,3.0nm,0.6s
CHTO Chiang Mai 50.20 256 *e*P **P 20 45 10.0 +0.6**
comp=Z,2.6nm,0.6s
CMAR Chiang Mai Arr 50.44 256 P **P 20 45 10.7 -0.5**
comp=Z,1.3nm,0.6s,baz=34,slow=7.7,SNR=13
CMAR LR LR 21 06 27.6
comp=Z,22nm,19.9s,baz=178,slow=36
BVAR Borovoye Array 50.64 310 P **P 20 45 12.0 -0.3**
comp=Z,0.8nm,0.5s,baz=64,slow=9.8,SNR=2.8
BVAR Borovoye Array 50.64 310 P **P 20 45 12.0 -0.3**
ULHL Ulahol 52.19 295 P **P 20 45 26.1 +1.8**
SNR=11
TKM2 Tokmak 2 52.27 296 P **P 20 45 26.3 +1.4**
SNR=6.1
TKM2 Tokmak 2 52.27 296 *e*P **P 20 45 25.7 +0.8**
TKM2 pmax pmax
comp=Z,2.0nm,0.7s
TKM2 Tokmak 2 52.27 296 *e*P **P 20 45 25.7 +0.8**
comp=Z,2.4nm,0.7s
TAPN Taplejung 52.59 273 *e*P **P 20 45 29.3 +1.7**
USP Ospenovka 52.79 297 P **P 20 45 29.6 +1.1**
SNR=15
KBK Karagaybulak 52.81 296 P **P 20 45 30.4 +1.5**
SNR=8.9
RES Resolute Bay 52.84 18 P **P 20 45 28.4 +0.1**
comp=Z,2.5nm,0.5s,baz=313,slow=10,SNR=6.6
KZA Kyzart 52.91 295 P **P 20 45 32.2 +2.3**
SNR=16
ODAN Odare 53.12 273 *e*P **P 20 45 32.9 +1.6**
YKA Yellowknife Ar 53.15 35 P **P 20 45 31.0 +0.3**
comp=Z,0.9nm,0.6s,baz=297,slow=6.8,SNR=4.2
YKA Yellowknife Ar 53.15 35 P **P 20 45 31.0 +0.3**
YKA pmax pmax
comp=Z,1.0nm,0.6s
GUN Gumba 53.55 275 *e*P **P 20 45 36.1 +1.5**
EKS2 Erkin-Say 53.55 297 P **P 20 45 35.6 +1.4**
SNR=17
EKS2 Erkin-Say 53.55 297 *e*P **P 20 45 35.3 +1.1**
EKS2 pmax pmax
comp=Z,11nm,0.8s
EKS2 Erkin-Say 53.55 297 *e*P **P 20 45 35.3 +1.1**
comp=Z,11nm,0.8s
RAMN Ramite 53.62 273 *e*P **P 20 45 36.3 +1.3**
comp=Z,45nm,0.5s
KSH Kashi 53.78 292 P P 20 45 41.0 +5.1
KSH pP pP 20 45 59.3 +5.9
KSH PcP **PcP 20 46 44.0 +2.9**
KSH PP PP 20 47 43.3 +6.0
KSH S **S 20 53 08.1 +2.7**
KSH sS sS 20 53 41.3 +6.3
KSH SS **SS 20 56 50.1 +3.5**
KSH PMZ
comp=Z,21nm,0.6s
KSH LN
comp=Z,120nm,4.7s
KSH LE
comp=Z,67nm,4.4s
KSH LZ
comp=Z,240nm,7.0s
KBS Kingsbay 53.82 351 *e*P **P 20 45 36.0 +0.5**
KKN Kakani 54.04 275 *e*P **P 20 45 39.6 +1.5**
comp=Z,31nm,0.8s
PKI Pulchoki 54.08 275 *e*P **P 20 45 39.7 +1.2**
comp=Z,13nm,0.5s
PKIN Phulchoki 54.09 275 *e*P **P 20 45 40.0 +1.5**
comp=Z,11nm,0.6s
DMN Daman 54.27 275 *e*P **P 20 45 41.4 +1.6**
comp=Z,37nm,0.8s
GKN Gorkha 54.37 276 *e*P **P 20 45 41.8 +1.4**
comp=Z,41nm,0.7s
ARU Arti 55.10 317*c i*P **P 20 45 42.4 -2.7**
ARU *PP **pP 20 45 59.5 -3.1**
ARU 20 47 43.6
ARU S **S 20 53 20.8 -1.6**
ARU SS **SS 20 57 00.4 -6.0**
ARU pmax pmax
comp=Z,12nm,2.5s
ARU Arti 55.10 317⇑*i*P **P 20 45 42.4 -2.7**
ARU Arti 55.10 317 *e*P **P 20 45 44.0 -1.1**
comp=Z,4.2nm,0.7s
KKAR Karatay Array 55.37 299 *e*P **P 20 45 47.5 +0.3**
KKAR pmax pmax
comp=Z,7.0nm,0.6s
KKAR Karatay Array 55.37 299 *e*P **P 20 45 47.5 +0.3**
comp=Z,6.7nm,0.6s
PRGR Permogore 57.84 327 P **P 20 46 02.2 -2.2**
ABKAR Akbulak array 58.22 310 *e*P **P 20 46 07.0 -0.2**
comp=Z,2.8nm,0.4s
EDM Edmonton 58.56 45 *e*P **P 20 46 09.9 +0.2**
EDM pmax pmax
comp=Z,9.0nm,0.7s
EDM Edmonton 58.56 45 *e*P **P 20 46 09.9 +0.2**
comp=Z,8.9nm,0.7s
AKTO Aktyubinsk 58.59 312 P **P 20 46 09.0 -0.9**
comp=Z,1.0nm,0.5s,baz=46,slow=9.2,SNR=6.9
AKTO Aktyubinsk 58.59 312 P **P 20 46 09.0 -0.9**
ARCES ARCESS Array B 58.82 340 P **P 20 46 10.5 -0.7**
comp=Z,4.0nm,0.9s,baz=32,slow=7.1,SNR=6.5
ARCES LR LR 21 14 13.4
comp=Z,22nm,19.9s,baz=70,slow=39
ARCES ARCESS Array B 58.82 340 *e*P **P 20 46 09.9 -1.3**
ARCES ARCESS Array B 58.82 340 *e*P **P 20 46 09.9 -1.3**
KULM Kulim 58.94 243 *e*P **P 20 46 14.0 +1.3**
NEW Newport 59.41 51 LR LR 21 13 36.5
comp=Z,18nm,18.7s,baz=243,slow=38
SLMT Seeley Lake 61.99 50 *e*P **P 20 46 33.4 +0.1**
comp=Z,8.2nm,0.9s
SUMG Summit 62.38 3 *i* P **P 20 46 36.8 +1.0**
comp=Z,8.4nm,0.7s
SUMG Summit 62.38 3 *e*P **P 20 46 36.6 +0.8**
SUMG pmax pmax
comp=Z,9.0nm,0.8s
SUMG Summit 62.38 3 *e*P **P 20 46 36.6 +0.8**
comp=Z,8.8nm,0.8s
FCC Fort Churchill 63.46 32 *e*P **P 20 46 41.4 -1.2**
FCC Fort Churchill 63.46 32 *e*P **P 20 46 41.4 -1.2**
FCC Fort Churchill 63.46 32 *e*P **P 20 46 41.4 -1.2**
NVAR Mina Array Bea 64.59 60 P **P 20 46 51.5 +0.8**
comp=Z,3.7nm,0.7s,baz=291,slow=7.1,SNR=23
FINES FINESS Array B 64.78 334 P **P 20 46 50.2 -1.0**
comp=Z,2.0nm,0.4s,baz=38,slow=6.3,SNR=45
FINES LR LR 21 17 28.8
comp=Z,32nm,19.0s,baz=60,slow=38
TPH Tonopah 65.48 60 *e*P **P 20 46 57.5 +1.0**
TPH pmax pmax
comp=Z,2.0nm,0.5s
TPH Tonopah 65.48 60 *e*P **P 20 46 57.5 +1.0**
comp=Z,1.9nm,0.5s
RLMT Red Lodge 65.61 50 *e*P **P 20 46 57.9 +0.7**
comp=Z,6.1nm,0.9s
OBN Obninsk 65.71 325 *e*P **P 20 46 55.3 -2.0**
OBN *i* 20 47 27.3
OBN pmax pmax
comp=Z,7.0nm,1.2s
OBN MLR MLR
comp=Z,19nm,16.0s
OBN Obninsk 65.71 325 *e*P **P 20 46 55.3 -2.0**
IMYA Miami 65.81 298 *e*P **P 20 46 59.6 +1.0**
IEMG Emamgholi 66.03 299 *e*P **P 20 47 01.9 +1.8**
GEYT Alibeck 66.04 300 P **P 20 47 00.8 +1.0**
comp=Z,8.0nm,0.7s,baz=64,slow=3.4,SNR=12
R11A Troy Canyon, C 66.30 59 *e*P **P 20 47 01.8 0.0**
comp=Z,3.0nm,0.9s
IPAY Payeh 66.43 298 *e*P **P 20 47 03.5 +0.8**
IMOG Moghan 66.44 298 *e*P **P 20 47 04.1 +1.4**
WRAB Tennant Creek 66.50 197 P **P 20 47 03.6 +0.8**
WRAB pmax pmax
comp=Z,41nm,1.8s
WRAB Tennant Creek 66.50 197 P **P 20 47 03.6 +0.8**
comp=Z,42nm,1.8s
WRA Warramunga Arr 66.51 197 P **P 20 47 03.7 +0.8**
comp=Z,2.0nm,0.9s,baz=15,slow=6.8,SNR=11
IKRD Kardeh 66.53 299 *e*P **P 20 47 00.9 -2.3**
ISFR Sfrayin 66.67 300 *e*P **P 20 47 05.3 +1.1**
PDAR Pinedale Array 66.97 52 P **P 20 47 06.5 +0.5**
comp=Z,3.1nm,0.8s,baz=348,slow=1.9,SNR=17
PDAR LR LR 21 18 14.8
comp=Z,14nm,18.3s,baz=266,slow=38
LDFC Landfair 68.70 61 P **P 20 47 17.0 +0.1**
comp=Z,42nm,0.4s
RSSD Black Hills 69.07 48 *e*P **P 20 47 18.8 -0.3**
RSSD pmax pmax
comp=Z,10.0nm,1.0s
RSSD Black Hills 69.07 48 *e*P **P 20 47 18.8 -0.3**
comp=Z,9.7nm,1.0s
NB2 NORSAR Subarra 69.20 340 P **P 20 47 18.6 -0.8**
comp=Z,1.3nm,0.7s,baz=28,slow=6.2
NOA NORSAR Array B 69.20 340 P **P 20 47 18.8 -0.6**
comp=Z,1.4nm,0.6s,baz=27,slow=6.5,SNR=10
NOA LR LR 21 22 34.7
comp=Z,16nm,19.5s,baz=345,slow=40
KIV Kislovodsk 70.75 313 *e*P **P 20 47 29.9 +0.7**
KIV pmax pmax
comp=Z,20nm,1.2s
KIV Kislovodsk 70.75 313 *e*P **P 20 47 29.9 +0.7**
KIV Kislovodsk 70.75 313 *e*P **P 20 47 29.9 +0.7**
comp=Z,20nm,1.2s
KBZ Khabaz 70.80 313 P **P 20 47 30.7 +1.3**
comp=Z,9.6nm,1.0s,baz=68,slow=5.3,SNR=14
KBZ LR LR 21 22 09.4
comp=Z,55nm,20.6s,baz=44,slow=39
AKASG Malin Array Be 71.96 325 P **P 20 47 36.0 -0.2**
comp=Z,0.9nm,0.3s,baz=40,slow=7.0,SNR=4.6
AKASG LR LR 21 23 33.3
comp=Z,24nm,18.6s,baz=35,slow=40
KIEV Kiev 71.97 325⇑*e*P **P 20 47 35.6 -0.7**
ECSD EROS Data Cent 73.13 44 *e*P **P 20 47 43.4 0.0**
comp=Z,14nm,1.2s
ANMO Albuquerque 74.03 56 ⇓*i*P **P 20 47 49.5 +0.4**
ANMO pmax pmax
comp=Z,16nm,2.5s
BURAR Bucovina Array 76.01 325 ⇓*i*P **P 20 48 00.5 +0.4**
STHS Stebnicka Huta 76.07 329 *e*P **P 20 48 02.1 +1.8**
STHS pmax pmax
comp=Z,7.0nm,1.5s
STHS Stebnicka Huta 76.07 329 *e*P **P 20 48 02.1 +1.8**
KOLS Kolonicke sedl 76.08 328 *e*P **P 20 48 01.0 +0.6**
KOLS pmax pmax
comp=Z,3.0nm,0.9s
KOLS Kolonicke sedl 76.08 328 *e*P **P 20 48 01.0 +0.6**
TESR Tescani 76.31 324⇑*i*P **P 20 48 01.9 +0.2**
CFR Carcaliu 76.74 322 ⇓*i*P **P 20 48 04.2 +0.1**
OKC Ostrava-Krasne 76.82 331 *e*P **P 20 48 04.7 +0.2**
OKC Ostrava-Krasne 76.82 331 *e*P **P 20 48 04.7 +0.2**
DPC Dobruska-Polom 77.00 332 *e*P **P 20 48 06.2 +0.6**
DPC *e*PCP **PcP 20 48 15.9 -0.4**
DPC *ex* x 20 48 34.2
DPC Dobruska-Polom 77.00 332 *e*P **P 20 48 06.2 +0.6**
DPC *e* 20 48 15.9
DPC *e* 20 48 34.2
MORC Moravsky Berou 77.08 331⇑*i*P **P 20 48 07.1 +1.1**
KRLC Kraliky 77.08 332 *e*P **P 20 48 06.3 +0.3**
KRLC *ex* x 20 48 27.6
KRLC Kraliky 77.08 332 *e*P **P 20 48 06.3 +0.3**
KRLC *e* 20 48 27.6
KRLC *e* 20 48 34.4
KECS Kecovo 77.12 329 *e*P **P 20 48 07.5 +1.3**
KECS pmax pmax
comp=Z,2.0nm,0.9s
KECS Kecovo 77.12 329 *e*P **P 20 48 07.5 +1.3**
TIRR Tirgusor 77.19 322⇑*i*P **P 20 48 06.1 -0.6**
CLL Collm 77.23 334 ⇓*i*P **P 20 48 07.0 +0.2**
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 77.23 334 ⇓*i*P **P 20 48 07.0 +0.2**
CLL Collm 77.23 334 ⇓*i*P **P 20 48 07.0 +0.2**
comp=Z,7.0nm,1.0s
DOPR Dopca 77.27 324⇑*i*P P 20 48 13.5 +6.3
MLR Muntele Rosu 77.43 324 ⇓*i*P **P 20 48 08.4 +0.2**
DRGR 77.68 326⇑*i*P **P 20 48 10.2 +0.7**
VRAC Vranov 77.80 331 ⇓*i*P **P 20 48 10.3 +0.3**
VOIR 77.84 324⇑*i*P **P 20 48 11.1 +0.7**
PRU Pruhonice 77.89 333 *e*P **P 20 48 10.8 +0.3**
PRU Pruhonice 77.89 333 *e*P **P 20 48 10.8 +0.3**
PRU Pruhonice 77.89 333 *e*P **P 20 48 10.8 +0.3**
BRTR Keskin Array B 78.43 316 P **P 20 48 15.0 +1.1**
comp=Z,1.2nm,0.7s,baz=85,slow=5.1,SNR=9.7
BRTR LR LR 21 28 58.1
comp=Z,12nm,19.1s,baz=96,slow=40
KHC Kasperske Hory 78.95 333 *e*P **P 20 48 17.6 +1.2**
KHC *ex* x 20 48 45.4
KHC *ex* x 20 48 47.6
KHC Kasperske Hory 78.95 333 *e*P **P 20 48 17.6 +1.2**
KHC *e* 20 48 47.6
KHC Kasperske Hory 78.95 333 *e*P **P 20 48 17.6 +1.2**
BZS Buzias 79.08 326⇑*i*P **P 20 48 16.8 -0.3**
GERES GERESS Array B 79.16 333 P **P 20 48 18.1 +0.5**
comp=Z,0.8nm,0.7s,baz=32,slow=4.4,SNR=8.6
GERES LR LR 21 26 40.0

comp=Z,14nm,18.4s,baz=18,slow=38
CONA Conrad Observa 79.24 331⇑ *e*P **P 20 48 18.7 +0.6**
comp=Z,3.3nm,0.7s
TXAR Lajitas Array 79.67 59 P **P 20 48 21.1 +0.4**
comp=Z,1.2nm,0.5s,baz=304,slow=4.0,SNR=32
SOKA Soboth 80.60 331⇑ *e*P **P 20 48 26.6 +1.2**
comp=Z,3.9nm,1.0s
KBA Koelnbreinsper 80.82 332⇑ *i*P **P 20 48 28.3 +1.6**
comp=Z,4.2nm,0.7s
VTS Vitosha 80.93 324⇓ *i*P **P 20 48 26.9 -0.4**
DIVS Divibare 80.98 327⇑ *i*P **P 20 48 28.0 +0.5**
ALN Alexandroupoli 81.09 321 *e*P pP 20 48 43.5 -3.0
WTTA Wattenberg 81.21 333⇑ *i*P **P 20 48 29.6 +0.8**
comp=Z,4.7nm,0.6s
MOTA Moosalm 81.31 334⇑ *i*P **P 20 48 29.9 +0.6**
comp=Z,0.8nm,0.2s
PMOR Pomariorio Ree 81.56 121 *e*T T 22 18 21.7
comp=Z,12nm,0.2s
LIA Limnos Island 82.28 321 *e*P **P 20 48 34.7 +0.4**
PPT2 Papeete2 82.57 124 *e*LR LR 21 14 03.5
comp=Z,77nm,28.2s
HORT Hortiatis 82.62 323 *e*P **P 20 48 37.2 +1.0**
PAIG Paliouri 82.92 322 *e*P **P 20 48 38.4 +0.8**
AOS Alonnisos 83.45 321 *e*P **P 20 48 40.8 +0.4**
XOR Xorichti 83.60 322 *e*P **P 20 48 40.7 -0.5**
NEST Nestorio 83.64 324 *e*P **P 20 48 41.5 0.0**
MRKA Markates 83.97 321 *e*P **P 20 48 43.0 -0.1**
SMIA Simia 83.99 322 *e*P **P 20 48 43.2 0.0**
AGG Agios Georgios 84.25 322 *e*P **P 20 48 44.2 -0.3**
DID Didima 85.11 321 *e*P **P 20 48 48.3 -0.6**
DRO Drossia 85.41 322 *e*P **P 20 48 50.0 -0.4**
LAST Lasithi 86.00 318 *e*P **P 20 48 52.3 -1.1**
TBI Tubuai 87.17 127 *e*LR LR 21 16 27.2
comp=Z,142nm,36.8s
KEST Kesra 92.26 330 LR LR 21 37 16.1
comp=Z,10nm,19.3s,baz=274,slow=40
BDFB Brasilia 146.56 34 PKPbc **PKPbc 20 55 54.8 +0.4**
comp=Z,6.1nm,0.7s,baz=304,slow=3.5,SNR=6.0
CPUP Villa Florida 150.64 60 PKPbc **PKPbc 20 56 05.0 +0.5**
comp=Z,4.2nm,0.7s,baz=314,slow=1.9,SNR=8.4

SJA ***13*** *21:12:28.8±0.8,27°85S×70°87W,h33km,ML4.3*
GUC ***13*** *21:12:31.0±0.6,27°90S×70°72W,h67km±5km,ML5.2*
ISCJB ***13*** *21:12:31.0±0.3,27°83S±0°02×70°68W±0°04,h70km±3km, mb4.5/40,Error ellipse: s-maj=6.5km s-min=3.7km az=176.7*
NEIC ***13*** *21:12:31.0,27°90S×70°72W,h67km,mb4.7/24,After GUC.*
NEIC Felt [IV] at Copiapo and Tierra Amarilla; [III] at Vallenar; [II] at Caldera, Freirina, Huasco and La Higuera.
IDC ***13*** *21:12:32.0±0.4,27°82S×70°57W,h68km±3km,mb4.3/15, mb1 4.3/19,mb1mx4.3/27,mbtmp4.5/19,MS3.2/9, Ms1 3.2/9,ms1mx3.1/24,Error ellipse: s-maj=14.4km s-min=9.1km az=77.0*
BJI ***13*** *21:12:33.1,27°90S×70°50W,h67km,mB5.2/5,Ms5.3/6, Ms7 5.1/5*

ISC 13 21:12:31.6±0.4,27°88S±0°03×70°80W±0°06,h67km±3km, h66km:pP-P,n345,σ1s22/369,mb4.6/41,6C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.65**	**38⇑**	*i*P		**Pn**	**21 12 45.1**	**-0.6**
CPCH				*i* S		**Sn**	**21 12 55.7**	**-0.4**
VACH	**Vallenar**	**0.70**	**177⇓**	*i*P		**Pn**	**21 12 46.0**	**-0.3**
VACH				*i* S		**Sn**	**21 12 56.9**	**-0.2**
CDCH	**Caldera**	**0.81**	**359⇑**	*i*P		**Pn**	**21 12 47.7**	**+0.1**
CDCH				*i* S		**Sn**	**21 12 59.6**	**+0.4**
LCO	**Las Campanas**	**1.13**	**176**	*e*Pn		**Pn**	**21 12 51.7**	**-0.2**
LCO				*e*Sn		**Sn**	**21 13 04.8**	**-2.2**
LCO	**Las Campanas**	**1.13**	**176**	*e*P		**Pn**	**21 12 51.8**	**-0.2**
LCO				*e*S		**Sn**	**21 13 06.7**	**-0.3**
LSCH	**La Serena**	**2.06**	**191⇑**	*i*P		**Pn**	**21 13 03.6**	**-0.4**
LSCH				*i* S		**Sn**	**21 13 28.3**	**-0.4**
TLL	**Tololo Astrono**	**2.28**	**180⇑**	*i*P		**Pn**	**21 13 07.4**	**+0.2**
TLL				*i* S		**Sn**	**21 13 34.9**	**+0.5**
TLL					AML	AML	21 13 37.2	
	comp=N,19μm,0.6s							
VCA	**Vinchina**	**2.44**	**111**	*i* P		**Pn**	**21 13 12.1**	**+2.8**
RTLL	**Cerro Villicun**	**3.99**	**150**	*e*P		**Pn**	**21 13 32.0**	**+1.7**
AVFE	**Valle Fertil**	**4.03**	**134**	*e*P		**Pn**	**21 13 32.2**	**+1.3**
RTLS	**Leoncito**	**4.12**	**162**	*e*P		**Pn**	**21 13 34.5**	**+2.2**
CFAA	**Coronel Fontan**	**4.33**	**150**	P		**Pn**	**21 13 36.3**	**+1.3**
	comp=N,2.5nm,0.3s,baz=333,slow=5.5,SNR=61							
CFAA					S	**Sn**	**21 14 25.0**	**+0.7**
	comp=N,6.2nm,0.3s,baz=314,slow=13,SNR=3.3							
CFAA	**Coronel Fontan**	**4.33**	**150**	*i* P		**Pn**	**21 13 36.2**	**+1.3**
RTCV	**Cerro Valdivia**	**4.43**	**154**	*i* P		**Pn**	**21 13 37.6**	**+1.3**
CYA	**Choya**	**4.45**	**98**	*i* P		**Pn**	**21 13 37.0**	**+0.3**
CYA					AML	AML	21 14 11.2	
	comp=Z,284nm,0.6s							
APLL	**PUNTA DE LOS L**	**4.50**	**125**	*e*P		**Pn**	**21 13 38.3**	**+0.9**
AUSP	**Uspallata**	**4.50**	**165**	*e*P		**Pn**	**21 13 39.4**	**+1.9**
FSA	**Cafayete**	**4.63**	**69**	*e*P		**Pn**	**21 13 41.9**	**+2.7**
AHML	**Horco Molle**	**4.98**	**79**	*e*P		**Pn**	**21 13 44.9**	**+1.0**
ASAL	**Salagasta**	**5.00**	**161**	*e*P		**Pn**	**21 13 45.5**	**+1.4**
ARCO	**CERRO ARCO**	**5.21**	**162**	*e*P		**Pn**	**21 13 48.6**	**+1.6**
ACAN	**Cantantal**	**5.39**	**145**	*e*P		**Pn**	**21 13 50.3**	**+0.9**
AAGR	**Agrelo**	**5.46**	**162**	*e*P		**Pn**	**21 13 52.6**	**+2.1**
LVC	**Limon Verde**	**5.51**	**18**	P		**Pn**	**21 13 49.8**	**-1.6**
	comp=Z,301nm,0.3s,baz=160,slow=7.8,SNR=13							
LVC					S	**Sn**	**21 14 51.6**	**-1.9**
	comp=Z,2μm,0.3s,baz=183,slow=16,SNR=3.1							
SLA	**San Lorenzo**	**5.70**	**58**	*i* P		**Pn**	**21 13 55.3**	**+1.5**
SLA					AML	AML	21 14 19.7	
	comp=Z,111nm,0.7s							
HJA	**Humahuaca**	**6.73**	**48**	*e*P		**Pn**	**21 14 08.7**	**+0.5**
ALOL	**LOMAS DE OLMED**	**7.36**	**58**	*e*P		**Pn**	**21 14 15.6**	**-0.9**
LPAZ	**La Paz**	**11.79**	**13**	P		**Pn**	**21 15 14.8**	**-2.7**
	comp=Z,0.6nm,0.3s,baz=185,slow=7.0,SNR=9.2							
LPAZ					LR	LR	21 20 14.8	
	comp=Z,124nm,21.6s,baz=173,slow=40							
CPUP	**Villa Florida**	**12.10**	**86**	P		Pn	21 15 17.8	-3.4
	comp=Z,0.1nm,0.3s,baz=264,slow=13,SNR=3.4							
CPUP					LR	LR	21 20 29.3	
	comp=Z,174nm,19.7s,baz=260,slow=40							
SIV	**San Ignacio**	**14.87**	**39**	P		Pn	21 15 51.1	-7.1
	comp=Z,1.5nm,0.3s,baz=242,slow=9.2,SNR=12							
SIV					LR	LR	21 22 41.8	
	comp=Z,208nm,21.1s,baz=195,slow=42							
NNA	**Nana**	**16.79**	**339**	LR		LR	21 22 55.8	
	comp=Z,33nm,18.5s,baz=166,slow=37							
SAML	**Samuel**	**20.15**	**22**	*e*P		**P**	**21 16 59.2**	**-1.3**
	comp=Z,11nm,0.8s							
BB16B	**Bebedouro**	**21.32**	**76⇑**	*i*P		**P**	**21 17 11.5**	**-1.6**
BB16B				*i*			21 17 15.7	
BB16B				*i*			21 17 21.1	
BB16B				*i*			21 17 27.3	
BB16B				*i*			21 17 33.5	
BB16B				*i*			21 17 37.7	
BB16B				*i*			21 17 40.7	
ATAH	**Atahualpa**	**21.85**	**339**	P		**P**	**21 17 20.4**	**+1.2**
	comp=Z,4.0nm,0.6s,baz=175,slow=17,SNR=3.8							
ATAH					LR	LR	21 25 27.1	
	comp=Z,26nm,20.7s,baz=190,slow=35							
BDFB	**Brasilia**	**24.36**	**65**	P		**P**	**21 17 42.0**	**-1.7**
	comp=Z,9.2nm,0.9s,baz=225,slow=11,SNR=8.3							
BDFB					sP	**sP**	**21 18 06.5**	**-1.0**
	comp=Z,26nm,1.0s,baz=240,slow=7.4,SNR=7.5							
BDFB					LR	LR	21 28 10.3	
	comp=Z,115nm,20.7s,baz=236,slow=39							
PTGA	**Pitinga**	**28.92**	**23**	P		**P**	**21 18 22.3**	**-2.2**
	comp=Z,1.6nm,0.3s,baz=188,slow=9.3,SNR=5.9							
PTGA					LR	LR	21 30 55.0	
	comp=Z,109nm,21.1s,baz=200,slow=38							
ROSC	**El Rosal**	**32.72**	**353**	P		**P**	**21 18 58.0**	**-0.4**
	comp=Z,4.9nm,0.5s,baz=101,slow=19,SNR=2.8							
ROSC					LR	LR	21 31 51.3	
	comp=Z,35nm,20.2s,baz=201,slow=36							
RCBR	**Riachuelo**	**39.71**	**63**	P		**P**	**21 19 58.0**	**+0.2**
	comp=Z,35nm,1.2s,baz=225,slow=10,SNR=5.0							
JTS	**JuntasAbangare**	**40.34**	**338**	P		**P**	**21 20 04.8**	**+2.0**
	comp=Z,4.9nm,0.6s,baz=311,slow=19,SNR=3.6							
TEIG	**Tepich**	**50.72**	**339**	*e*P		**P**	**21 21 25.3**	**+0.6**
	comp=Z,29nm,0.8s							
VNA1	**Neumayer--Stat**	**54.93**	**159**	P		P	21 21 50.7	-4.4
035A	**Encino**	**60.48**	**332**	P		**P**	**21 22 36.0**	**+1.4**
	baz=61							
936A	**North Padre Is**	**60.59**	**333**	P		**P**	**21 22 36.0**	**+0.8**
	baz=61							
034A	**Hebbronville**	**60.84**	**331**	P		**P**	**21 22 39.0**	**+1.9**
	baz=61							
934A	**Benavides**	**61.24**	**332**	P		**P**	**21 22 41.1**	**+1.4**
	baz=62							
933A	**Laredo**	**61.57**	**331**	P		**P**	**21 22 43.8**	**+1.9**
	baz=62							
834A	**Tilden**	**61.72**	**332**	P		**P**	**21 22 44.5**	**+1.6**
	baz=62							
736A	**Circle Diamond**	**61.86**	**334**	P		**P**	**21 22 45.8**	**+2.0**
	baz=62							
833A	**Chaparral WMA,**	**62.24**	**332**	P		**P**	**21 22 47.7**	**+1.2**
	baz=63,SNR=6.7							
636A	**Smothers Creek**	**62.32**	**334**	P		**P**	**21 22 48.4**	**+1.5**
	baz=63							
734A	**La Parita Cree**	**62.35**	**333**	P		**P**	**21 22 48.4**	**+1.2**
	baz=63							
832A	**Faith Ranch, C**	**62.45**	**331**	P		**P**	**21 22 48.9**	**+1.0**
	baz=63,SNR=10							
733A	**Divot King Ran**	**62.55**	**332**	P		**P**	**21 22 49.5**	**+1.1**
	baz=63							
732A	**Laxson Ranch,**	**62.84**	**331**	P		**P**	**21 22 51.3**	**+0.9**
	baz=63,SNR=8.4							
340A	**Bronson**	**62.94**	**338**	P		**P**	**21 22 51.8**	**+0.8**
	baz=63							
633A	**Saathoff Ranch**	**63.15**	**332**	P		**P**	**21 22 53.5**	**+1.0**
	baz=64							
534A	**Blanco**	**63.37**	**333**	P		**P**	**21 22 54.8**	**+0.9**
	baz=64							
338A	**Crockett**	**63.37**	**337**	P		**P**	**21 22 54.7**	**+0.8**
	baz=64							
436A	**Wall Ranch, Ga**	**63.38**	**335**	P		**P**	**21 22 54.5**	**+0.5**
	baz=64							
632A	**Uvalde**	**63.44**	**332**	P		**P**	**21 22 55.2**	**+0.7**
	baz=64,SNR=5.2							
KMSC	**Kings Mountain**	**63.46**	**350**	P		**P**	**21 22 54.7**	**+0.2**
	baz=64							
631A	**Perdido Creek**	**63.69**	**331**	P		**P**	**21 22 57.8**	**+1.7**
	baz=64							
434A	**Burnet**	**63.98**	**334**	P		**P**	**21 22 58.9**	**+0.9**
	baz=64							
532A	**Rocksprings**	**64.03**	**332**	P		**P**	**21 22 59.5**	**+1.1**
	baz=64,SNR=11							
335A	**Moody**	**64.07**	**335**	P		**P**	**21 22 59.7**	**+1.2**
	baz=64							
433A	**Art**	**64.25**	**333**	P		**P**	**21 23 00.3**	**+0.5**
	baz=65,SNR=10							
JCT	**Junction City**	**64.30**	**332**	P		**P**	**21 23 00.9**	**+0.9**
	baz=65,SNR=6.9							
JCT	**Junction City**	**64.30**	**332**	*e*P		**P**	**21 23 01.2**	**+1.2**
	comp=Z,15nm,0.8s							
531A	**Rocksprings**	**64.33**	**332**	P		**P**	**21 23 01.7**	**+1.3**
	baz=65,SNR=8.8							
236A	**Katherine and**	**64.39**	**336**	P		**P**	**21 23 01.3**	**+0.7**
	baz=65							
334A	**Lometa**	**64.43**	**334**	P		**P**	**21 23 01.5**	**+0.7**
	baz=65							
138A	**Matatall Enter**	**64.48**	**337**	P		**P**	**21 23 02.5**	**+1.3**
	baz=65							
432A	**Menard**	**64.64**	**333**	P		**P**	**21 23 03.0**	**+0.7**
	baz=65,SNR=6.2							
530A	**J-C Ranch, Com**	**64.66**	**331**	P		**P**	**21 23 03.6**	**+1.2**
	baz=65,SNR=6.2							
333A	**Richland Sprin**	**64.71**	**333**	P		**P**	**21 23 03.4**	**+0.6**
	baz=65,SNR=8.9							
WHTX	**Lake Whitney**	**64.72**	**335**	P		**P**	**21 23 03.7**	**+1.0**
	baz=65							
431A	**Sonora**	**64.81**	**332**	P		**P**	**21 23 04.2**	**+0.8**
	baz=65,SNR=5.2							
234A	**Clairette**	**64.99**	**334**	P		**P**	**21 23 05.3**	**+0.8**
	baz=65							
TXAR	**Lajitas Array**	**65.00**	**328**	P		**P**	**21 23 05.9**	**+1.2**
	comp=Z,2.1nm,0.6s,baz=152,slow=9.2,SNR=30							
TXAR				pP		**pP**	**21 23 23.5**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=142,slow=6.3,SNR=3.6							
332A	**Millersview**	**65.07**	**333**	P		**P**	**21 23 06.3**	**+1.2**
	baz=65							
430A	**Baggett Ranch,**	**65.17**	**331**	P		**P**	**21 23 06.8**	**+1.0**
	baz=66,SNR=5.7							
331A	**San Angelo**	**65.28**	**332**	P		**P**	**21 23 07.5**	**+1.0**
	baz=66							
233A	**Rising Star**	**65.29**	**334**	P		**P**	**21 23 07.3**	**+0.8**
	baz=66							
Y39A	**Lockesburg**	**65.32**	**339**	P		**P**	**21 23 07.9**	**+1.4**
	baz=66							
134A	**White-Moore Ra**	**65.47**	**335**	P		**P**	**21 23 08.5**	**+0.9**
	baz=66							
232A	**Coleman**	**65.47**	**333**	P		**P**	**21 23 08.5**	**+0.8**
	baz=66,SNR=5.8							
Z36A	**Blue Ridge**	**65.50**	**337**	P		**P**	**21 23 08.9**	**+1.2**
	baz=66							
330A	**Mertzon**	**65.68**	**332**	P		**P**	**21 23 09.8**	**+0.7**
	baz=66,SNR=6.2							
MIAR	**Mount Ida**	**65.72**	**339**	P		**P**	**21 23 09.5**	**+0.4**
	baz=66							
MIAR	**Mount Ida**	**65.72**	**339**	*e*P		**P**	**21 23 09.8**	**+0.7**
	comp=Z,5.9nm,0.8s							
231A	**Bronte**	**65.78**	**333**	P		**P**	**21 23 11.0**	**+1.4**
	baz=66							
133A	**Hamilton Ranch**	**65.82**	**334**	P		**P**	**21 23 11.0**	**+1.1**
	baz=66							
Z35A	**Perchaven, San**	**65.85**	**336**	P		**P**	**21 23 11.5**	**+1.5**
	baz=66							
230A	**Sterling City**	**66.07**	**332**	P		**P**	**21 23 12.5**	**+0.9**
	baz=66							
329A	**Wagon Wheel Ra**	**66.09**	**331**	P		**P**	**21 23 12.5**	**+0.8**
	baz=66							
ABTX	**Abilene, Hawle**	**66.12**	**334**	P		**P**	**21 23 12.7**	**+0.9**
	baz=66							
ABTX	**Abilene, Hawle**	**66.12**	**334**	*e*P		**P**	**21 23 13.0**	**+1.2**
	comp=Z,14nm,0.8s							
Z34A	**Collier Ranch,**	**66.12**	**335**	P		**P**	**21 23 12.6**	**+0.8**
	baz=66							
X38A	**Whitesboro**	**66.23**	**338**	P		**P**	**21 23 13.0**	**+0.6**
	baz=67,SNR=5.0							
Y35A	**Marietta**	**66.29**	**336**	P		**P**	**21 23 13.8**	**+1.0**
	baz=67							
X37A	**Clayton**	**66.33**	**338**	P		**P**	**21 23 13.6**	**+0.5**
	baz=67,SNR=5.0							
Z33A	**Whitaker Ranch**	**66.37**	**335**	P		**P**	**21 23 13.9**	**+0.5**
	baz=67,SNR=7.1							
229A	**Bryant Ranch,**	**66.43**	**331**	P		**P**	**21 23 15.6**	**+1.8**
	baz=67							
131A	**Roby**	**66.46**	**333**	P		**P**	**21 23 15.1**	**+1.1**
	baz=67							
W38A	**Poteau**	**66.50**	**339**	P		**P**	**21 23 15.1**	**+1.0**
	baz=67							
Y34A	**Reagan Ranch,**	**66.59**	**336**	P		**P**	**21 23 15.8**	**+1.1**
	baz=67							
130A	**Snyder**	**66.63**	**332**	P		**P**	**21 23 16.0**	**+0.9**
	baz=67							
X36A	**Centrahoma**	**66.65**	**337**	P		**P**	**21 23 15.5**	**+0.4**
	baz=67							
Z32A	**Haskell**	**66.66**	**334**	P		**P**	**21 23 16.1**	**+0.9**
	baz=67,SNR=5.5							
W37A	**Quinton**	**66.86**	**338**	P		**P**	**21 23 16.9**	**+0.5**
	baz=67							
228A	**UT Block 9, Go**	**66.90**	**331**	P		**P**	**21 23 17.8**	**+0.9**
	baz=67							
Z31A	**Shara Cattle R**	**66.93**	**334**	P		**P**	**21 23 17.8**	**+0.8**
	baz=67,SNR=9.1							
Y33A	**Hilltop Ranch,**	**66.96**	**335**	P		**P**	**21 23 18.0**	**+0.9**
	baz=67							
W36A	**Wetumka**	**67.12**	**338**	P		**P**	**21 23 18.1**	**0.0**
	baz=68							
V38A	**Canehill**	**67.19**	**339**	P		**P**	**21 23 18.8**	**+0.3**
	baz=68,SNR=5.9							
X34A	**Smith Ranch, M**	**67.20**	**336**	P		**P**	**21 23 19.3**	**+0.7**
	baz=68							
Y32A	**R-V Farms, Ver**	**67.26**	**334**	P		**P**	**21 23 19.9**	**+0.8**
	baz=68							
128A	**Castleberry Fa**	**67.28**	**331**	P		**P**	**21 23 20.3**	**+1.0**
	baz=68							
Z30A	**Sanderson Ranc**	**67.30**	**333**	P		**P**	**21 23 19.6**	**+0.3**
	baz=68,SNR=7.1							
W35A	**Tecumseh**	**67.36**	**337**	P		**P**	**21 23 19.8**	**+0.2**
	baz=68							
V37A	**Hulbert**	**67.44**	**339**	P		**P**	**21 23 20.5**	**+0.4**
	baz=68							
Z29A	**Hungry Hill Ra**	**67.51**	**332**	P		**P**	**21 23 21.1**	**+0.4**
	baz=68,SNR=7.4							
Y31A	**Rekieta Farm,**	**67.54**	**334**	P		**P**	**21 23 21.4**	**+0.6**
	baz=68,SNR=5.3							
V36A	**Jenks**	**67.62**	**338**	P		**P**	**21 23 21.2**	**0.0**
	baz=68,SNR=5.7							
TUL1	**Tulsa**	**67.68**	**338**	P		**P**	**21 23 21.7**	**+0.1**
	baz=68							
TUL1	**Tulsa**	**67.68**	**338**	*e*P		**P**	**21 23 22.0**	**+0.4**
	comp=Z,18nm,0.8s							
U38A	**Gravette**	**67.72**	**340**	P		**P**	**21 23 22.1**	**+0.3**
	baz=68							
Y30A	**Stafford Cattl**	**67.72**	**333**	P		**P**	**21 23 22.1**	**+0.1**
	baz=68							
U37A	**Salina**	**67.92**	**339**	P		**P**	**21 23 23.7**	**+0.6**
	baz=68							
W33A	**Caddo, Fort Co**	**67.92**	**336**	P		**P**	**21 23 23.9**	**+0.7**
	baz=68							
Y29A	**Porterfield Fa**	**68.02**	**333**	P		**P**	**21 23 24.3**	**+0.4**
	baz=68,SNR=6.3							
X31A	**McDonald Ranch**	**68.02**	**334**	P		**P**	**21 23 24.6**	**+0.7**
	baz=68							
W32A	**Sentinel**	**68.18**	**335**	P		**P**	**21 23 25.6**	**+0.8**
	baz=68							
V34A	**Guthrie**	**68.19**	**337**	P		**P**	**21 23 25.6**	**+0.7**
	baz=69							
X30A	**Coker Ranch, T**	**68.21**	**334**	P		**P**	**21 23 25.7**	**+0.7**
	baz=69							
Y28A	**McKinney Farm,**	**68.30**	**332**	P		**P**	**21 23 26.8**	**+1.2**
	baz=69							
U35A	**Pawnee**	**68.41**	**338**	P		**P**	**21 23 27.0**	**+0.8**
	baz=69							
V33A	**Lossen Ranch,**	**68.45**	**336**	P		**P**	**21 23 27.2**	**+0.7**
	baz=69							
W31A	**Holland Ranch,**	**68.50**	**335**	P		**P**	**21 23 27.4**	**+0.6**
	baz=69							
T37A	**Cheneyville 18**	**68.51**	**339**	P		**P**	**21 23 26.9**	**+0.1**
	baz=69,SNR=6.1							
X29A	**Tulia**	**68.54**	**333**	P		**P**	**21 23 28.3**	**+1.1**
	baz=69							
MSTX	**Muleshoe**	**68.57**	**332**	P		**P**	**21 23 27.8**	**+0.5**
	baz=69,SNR=7.4							
MSTX	**Muleshoe**	**68.57**	**332**	*e*P		**P**	**21 23 28.2**	**+0.9**
	comp=Z,18nm,0.9s							
V32A	**Arapaho**	**68.64**	**336**	P		**P**	**21 23 28.3**	**+0.6**
	baz=69							
U34A	**Anderson Ranch**	**68.75**	**337**	P		**P**	**21 23 29.1**	**+0.8**
	baz=69							
T36A	**Boggs Farm, Ca**	**68.76**	**339**	P		**P**	**21 23 28.5**	**+0.2**
	baz=69							
T35A	**Sooner Cattle**	**68.83**	**338**	P		**P**	**21 23 29.4**	**+0.6**
	baz=69							
AMTX	**Amarillo**	**68.91**	**333**	P		**P**	**21 23 30.3**	**+0.8**
	baz=69							
S37A	**Fort Scott**	**69.07**	**340**	P		**P**	**21 23 30.7**	**+0.5**
	baz=69							
W29A	**Amraillo**	**69.11**	**333**	P		**P**	**21 23 31.5**	**+0.8**
	baz=70							
T34A	**McClaskey Farm**	**69.16**	**338**	P		**P**	**21 23 31.6**	**+0.8**
	baz=70							
S36A	**Lake Cedric, C**	**69.28**	**339**	P		**P**	**21 23 31.7**	**+0.2**
	baz=70							
W28A	**Vega**	**69.45**	**333**	P		**P**	**21 23 33.5**	**+0.7**
	baz=70							
S35A	**Otter Creek Ra**	**69.47**	**339**	P		**P**	**21 23 33.2**	**+0.5**
	baz=70							
T33A	**Patterson Ranc**	**69.57**	**337**	P		**P**	**21 23 34.2**	**+0.8**
	baz=70							
SFIN	**Scholer Farm**	**69.58**	**347**	P		**P**	**21 23 32.7**	**-0.6**
	baz=70							
R37A	**Teagarden Farm**	**69.58**	**340**	P		**P**	**21 23 33.4**	**0.0**
	baz=70,SNR=5.1							
121A	**Cookes Peak, D**	**69.61**	**327**	P		**P**	**21 23 36.1**	**+2.2**
	baz=70							
S34A	**Willow Spring**	**69.75**	**338**	P		**P**	**21 23 35.1**	**+0.7**
	baz=70							
V28A	**Channing**	**69.88**	**333**	P		**P**	**21 23 37.2**	**+1.7**
	baz=70							
T32A	**Huddler Ranch,**	**69.90**	**336**	P		**P**	**21 23 36.4**	**+0.9**
	baz=70							
R35A	**Emporia Munici**	**70.02**	**339**	P		**P**	**21 23 36.8**	**+0.7**
	baz=70							
HDIL	**Hopedale**	**70.22**	**345**	P		**P**	**21 23 37.2**	**-0.1**
	baz=71							
HDIL	**Hopedale**	**70.22**	**345**	*e*P		**P**	**21 23 37.0**	**-0.3**
	comp=Z,25nm,0.6s							
VNDA	**Vanda**	**70.30**	**191**	P		**P**	**21 23 38.9**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=194,slow=4.2,SNR=2.3							
VNDA				pP		**PcP**	**21 23 57.1**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=150,slow=2.1,SNR=4.3							
R34A	**Isabella, Hill**	**70.33**	**338**	P		**P**	**21 23 38.5**	**+0.4**
	baz=71							
S32A	**Newby Ranch, P**	**70.37**	**337**	P		**P**	**21 23 39.4**	**+1.1**
	baz=71							
T30A	**Plains**	**70.37**	**335**	P		**P**	**21 23 39.3**	**+0.9**
	baz=71							
U28A	**Mallet**	**70.43**	**333**	P		**P**	**21 23 39.7**	**+1.0**
	baz=71							
Q35A	**Mercer Eighty,**	**70.45**	**339**	P		**P**	**21 23 39.2**	**+0.4**
	baz=71							
MMNY	**Mt. Morris Dam**	**70.56**	**354**	*e*P		**P**	**21 23 39.9**	**+0.6**
	comp=Z,121nm,1.5s							
R33A	**Olander Ranch,**	**70.59**	**338**	P		**P**	**21 23 40.0**	**+0.4**
	baz=71							
ANMO	**Albuquerque**	**70.99**	**330**	*e*P		**P**	**21 23 43.8**	**+1.4**
	comp=Z,5.2nm,1.3s							
T28A	**Walsh**	**71.03**	**334**	P		**P**	**21 23 43.2**	**+0.8**
	baz=71							
P35A	**Duane Minner,**	**71.06**	**340**	P		**P**	**21 23 42.7**	**+0.3**
	baz=71							
SYO	**Syowa Base**	**71.17**	**159⇑**	*e*P		P	21 23 38.8	-4.0
T27A	**Campo**	**71.22**	**333**	P		**P**	**21 23 44.7**	**+1.1**
	baz=72							
P34A	**Walnut Farm, R**	**71.33**	**339**	P		**P**	**21 23 45.2**	**+1.1**
	baz=72							
S28A	**Manter**	**71.36**	**334**	P		**P**	**21 23 45.9**	**+1.5**
	baz=72							
T26A	**Comanche Natio**	**71.67**

ECSD	EROS Data Cent	75.09 341	*e*P		P	21 24 06.4	+0.3
	comp=Z,8.1nm,0.8s						
GMRC	Granite Mounta	75.38 323	P		P	21 24 09.8	+1.6
	baz=76						
COWI	Conover	75.48 347	*e*P		P	21 24 08.4	+0.1
	comp=Z,7.2nm,0.9s						
HEC	Hector,Ludlow	75.78 323	P		P	21 24 11.9	+1.5
	baz=76						
N23A	Red Feather La	75.79 333	P		P	21 24 11.8	+1.2
	baz=76						
CIS	Catalina Islan	75.85 320	P		P	21 24 13.2	+2.4
	baz=76						
J29A	Okreek	75.94 338	P		P	21 24 11.9	+0.9
	baz=76						
BFSC	Mount Baldy Ra	76.05 321	P		P	21 24 13.5	+1.5
	baz=76						
O20A	White River Ci	76.10 331	P		P	21 24 14.0	+1.8
	baz=76						
J28A	Allard Ranch,	76.26 338	P		P	21 24 14.1	+1.2
	baz=77						
SRU	San Rafael	76.26 329	*e*P		P	21 24 14.8	+1.7
	comp=Z,5.9nm,0.7s						
J27A	Elkhorn Farm,	76.37 337	P		P	21 24 15.5	+1.9
	baz=77						
SHPR	Sheep Range	76.44 325	*e*P		P	21 24 15.5	+1.3
I29A	Vivian Onida	76.48 339	P		P	21 24 14.7	+0.7
	baz=77						
P17A	Butcher Ranch,	76.65 329	*e*P		P	21 24 17.2	+1.9
EDW2	Edwards Air Fo	76.71 322	P		P	21 24 17.6	+1.9
	baz=77						
J26A	Sides Ranch, S	76.80 336	P		P	21 24 17.2	+1.3
	baz=77						
H29A	Onida	77.00 339	P		P	21 24 17.7	+0.8
	baz=77						
J25A	Sunshine Ranch	77.12 336	P		P	21 24 18.8	+1.0
	baz=78						
FURC	Furnace Creek,	77.30 323	P		P	21 24 20.3	+1.6
	baz=78						
H28A	Mission Ridge	77.30 338	P		P	21 24 19.5	+0.8
	baz=78						
MPMC	Manual Prospec	77.32 323	P		P	21 24 20.7	+1.5
	baz=78						
TPNV	Topopah Spring	77.34 324	P		P	21 24 21.1	+1.8
	baz=78						
SBC	Santa Barbara	77.35 320	P		P	21 24 20.3	+1.2
	baz=78						
J24A	Dixon Ranch, L	77.39 335	P		P	21 24 21.1	+1.8
	baz=78						
K22A	Casper	77.51 334	P		P	21 24 21.7	+1.6
	baz=78						
ISA	Isabella	77.56 322	P		P	21 24 22.3	+1.9
	baz=78						
H27A	Howes	77.61 338	P		P	21 24 21.4	+1.0
	baz=78						
I25A	Rochford	77.65 336	P		P	21 24 22.2	+1.3
	baz=78						
EYMN	Ely	77.73 346	P		P	21 24 21.3	+0.3
	baz=78						
PKM	Peak Mountain	77.74 321	P		P	21 24 23.4	+1.9
	baz=78						
I24A	Kuemmerle Ranc	77.83 336	P		P	21 24 23.5	+1.8
	baz=78						
JLU	Jordanelle	77.89 330	*e*P		P	21 24 24.5	+2.2
	comp=Z,5.7nm,0.7s						
R11A	Troy Canyon, C	78.07 326	P		P	21 24 25.0	+1.7
	baz=78						
R11A	Troy Canyon, C	78.07 326	*e*P		P	21 24 25.6	+2.3
	comp=Z,3.5nm,1.0s						
J22A	Midwest	78.14 334	P		P	21 24 24.7	+1.1
	baz=78						
DUG	Dugway	78.18 328	P		P	21 24 25.4	+1.6
	baz=78						
DUG	Dugway	78.18 328	*e*P		P	21 24 25.8	+1.9
	comp=Z,6.3nm,0.8s						
G27A	Dupree	78.22 338	P		P	21 24 24.4	+0.6
	baz=79						
G26A	Maurine	78.37 338	P		P	21 24 25.7	+1.0
	baz=79						
I22A	9 Mile Ranch,	78.55 335	P		P	21 24 26.9	+1.1
	baz=79						
G25A	Newell	78.56 337	P		P	21 24 26.9	+1.2
	baz=79						
H24A	Dirks Ranch, A	78.57 336	P		P	21 24 26.3	+0.5
	baz=79						
F27A	Lemmon	78.69 338	P		P	21 24 27.4	+1.0
	baz=79						
MAW	Mawson	78.73 164	P		P	21 24 26.2	-0.1
	comp=Z,1.2nm,0.5s,baz=218,slow=12,SNR=4.1						
MAW			pP		pP	21 24 43.8	-0.8
	comp=Z,1.8nm,0.5s,baz=229,slow=7.7,SNR=3.7						
D30A	Buchanan	78.79 341	P		P	21 24 27.7	+0.8
	baz=79						
PDAR	Pinedale Array	78.83 332	P		P	21 24 27.4	0.0
	comp=Z,2.0nm,0.8s,baz=114,slow=5.5,SNR=10						
J19A	Crowheart	79.04 333	P		P	21 24 29.5	+1.0
	baz=79						
AGMN	Agassiz Nation	79.09 343	P		P	21 24 28.9	+0.4
	baz=80						
AGMN	Agassiz Nation	79.09 343	*e*P		P	21 24 28.9	+0.4
	comp=Z,4.9nm,0.8s						
H22A	Clearmont	79.10 335	P		P	21 24 30.2	+1.5
	baz=80						
F25A	Bowman	79.21 337	P		P	21 24 30.7	+1.5
	baz=80						
I20A	Worland	79.24 334	P		P	21 24 30.7	+1.2
	baz=80						
C30A	Mose, Pekin	79.25 341	P		P	21 24 30.1	+0.8
	baz=80						
G23A	Biddle	79.26 336	P		P	21 24 30.5	+1.0
	baz=80						
E26A	Carlson Angus	79.36 338	P		P	21 24 30.9	+0.9
	baz=80						
H21A	Big Horn, Sher	79.39 335	P		P	21 24 31.5	+1.2
	baz=80						
HVU	Hansel Valley	79.42 329	*e*P		P	21 24 31.9	+1.2
	comp=Z,5.6nm,0.6s						
HVU			*e*pP		pP	21 24 51.0	+2.1
F24A	Ekalaka	79.48 337	P		P	21 24 31.8	+1.0
	baz=80						
NVAR	Mina Array Bea	79.53 324	P		P	21 24 32.2	+0.9
	comp=Z,1.7nm,0.7s,baz=152,slow=6.9,SNR=7.4						
H20A	Greybull	79.64 334	P		P	21 24 32.9	+1.3
	baz=80						
TSUM	Tsumeb	79.88 106	*e*P		P	21 24 33.9	+0.2
	comp=Z,7.8nm,0.8s						
B30A	Myrvik Farm, E	79.89 342	P		P	21 24 33.5	+0.7
	baz=80						
G21A	Lodge Grass	79.95 335	P		P	21 24 34.4	+1.1
	baz=80						
E24A	Baker	80.06 337	P		P	21 24 34.8	+1.0
	baz=80						
F22A	Rosebud	80.07 336	P		P	21 24 35.5	+1.6
	baz=80						
G20A	Bridger	80.33 334	P		P	21 24 36.7	+1.3
	baz=81						
E23A	Ismay	80.35 337	P		P	21 24 36.5	+1.1
	baz=81						
F21A	Absaloka Mine,	80.43 335	P		P	21 24 37.1	+1.2
	baz=81						
B28A	Dugan Ranch, T	80.47 341	P		P	21 24 36.7	+0.8
	baz=81						
E22A	Miles City	80.53 336	P		P	21 24 37.1	+0.8
	baz=81						
D24A	Glendive	80.54 338	P		P	21 24 37.4	+1.1
	baz=81						
A29A	Manning Farm,	80.57 341	P		P	21 24 37.2	+0.8
	baz=81						
RLMT	Red Lodge	80.66 333	P		P	21 24 37.5	+0.2
	baz=81						
F20A	Billings	80.80 335	P		P	21 24 39.0	+1.2
	baz=81						
ULM	Lac du Bonnet	80.90 344	P		P	21 24 37.2	-1.0
	comp=Z,6.4nm,0.7s,baz=133,slow=7.6,SNR=5.4						
C24A	Savage	80.94 338	P		P	21 24 39.8	+1.3
	baz=81						
E21A	Keefer Ranch,	81.02 336	P		P	21 24 40.7	+1.7
	baz=81						
TOB5	Torodi Ar. Sit	81.12 70	*e*P		P	21 24 39.0	-1.1
TORD	Torodi Ar. Bea	81.13 70	P		P	21 24 39.5	-0.6
	comp=Z,17nm,0.7s,baz=270,slow=5.1,SNR=174						
TORD			pP		pP	21 24 58.5	+0.1
	comp=Z,5.2nm,0.5s,baz=268,slow=5.4,SNR=6.4						
TORD			sP		sP	21 25 06.0	+0.2
	comp=Z,10nm,0.7s,baz=258,slow=4.9,SNR=7.7						
B25A	Knox Farm, Ray	81.17 339	P		P	21 24 40.9	+1.2
	baz=82						
D22A	Cohagen	81.22 336	P		P	21 24 40.8	+0.8
	baz=82						
HLID	Hailey	81.58 330	P		P	21 24 44.4	+2.2
	baz=82						
DGMT	Dagmar	81.68 338	P		P	21 24 43.4	+1.1
	baz=82						
MCMT	McKenzie Canyo	81.89 331	*e*P		P	21 24 45.7	+1.8
BOSA	Boshof	81.98 118	P		P	21 24 43.4	-1.4
	comp=Z,5.5nm,0.6s,baz=249,slow=3.3,SNR=19						
BOSA			pP		pP	21 25 02.0	-1.1
	comp=Z,5.6nm,0.6s,baz=263,slow=3.5,SNR=4.9						
A24A	Westby	82.01 339	P		P	21 24 45.1	+1.0
	baz=82						
C21A	Desert Coulee	82.12 336	P		P	21 24 45.9	+1.2
	baz=82						
B22A	Reddig Ranch S	82.14 337	P		P	21 24 46.1	+1.3
	baz=82						
B21A	Ellsworth Farm	82.60 337	P		P	21 24 48.6	+1.4
	baz=83						
A22A	Carney Farms,	82.70 338	P		P	21 24 49.0	+1.3
	baz=83						
MOD	Modoc	83.12 325	*e*P		P	21 24 51.7	+1.4
	comp=Z,5.4nm,0.7s						
M04C	Macdoel	83.83 324	P		P	21 24 55.2	+1.4
	baz=84						
K05A	Summer Lake	84.03 325	*e*P		P	21 24 56.6	+1.7
	comp=Z,181nm,3.0s						
J05D	Fort Rock, OR	84.61 326	P		P	21 24 59.5	+1.7
	baz=85						
L02D	Cave Junction,	85.01 324	P		P	21 25 01.7	+2.1
	baz=85						
I05D	Terrebonne, OR	85.42 326	P		P	21 25 02.7	+1.0
	baz=86						
I04A	Tendick Farm,	85.56 325	P		P	21 25 02.9	+0.5
	baz=86						
I03D	Drain, OR	85.97 325	P		P	21 25 05.9	+1.5
	baz=86						
NEW	Newport	86.42 331	P		P	21 25 06.5	0.0
	baz=87						
YKA	Yellowknife Ar	96.62 341	P		P	21 25 52.9	-0.7
	comp=Z,0.8nm,0.7s,baz=142,slow=3.9,SNR=4.1						
COLA	College	109.63 334	*e*Pdif		Pdif	21 26 53.8	+2.3
FINES	FINESS Array B	117.31 32	PKP		PKPdf	21 31 08.3	-0.3
	comp=Z,1.0nm,0.8s,baz=227,slow=3.2,SNR=2.9						
BRTR	Keskin Array B	117.80 58	PKP		PKPdf	21 31 10.0	-0.5
	comp=Z,0.7nm,0.7s,baz=225,slow=1.2,SNR=4.9						
ARCES	ARCESS Array B	118.01 23	PKP		PKPdf	21 31 09.6	-0.2
	comp=Z,5.5nm,0.9s,baz=224,slow=2.5,SNR=3.3						
ASAR	Alice Springs	123.48 207	PKP		PKPdf	21 31 21.2	-0.8
	comp=Z,1.1nm,0.8s,baz=151,slow=1.6,SNR=8.6						
WRA	Warramunga Arr	126.60 210	PKP		PKPdf	21 31 27.3	-0.6
	comp=Z,2.1nm,0.7s,baz=161,slow=1.7,SNR=22						
WRA			pPKP		pPKPdf	21 31 46.8	-0.4
	comp=Z,3.4nm,0.6s,baz=159,slow=1.6,SNR=14						
SEY	Seymchan	135.14 334	PKP		PKPdf	21 31 43.6	+0.9
	comp=Z,3.3nm,0.7s,baz=190,slow=2.7,SNR=10						
AKTO	Aktyubinsk	135.43 45	PKP		PKPdf	21 31 44.9	+1.3
	comp=Z,1.0nm,0.6s,baz=299,slow=1.6,SNR=4.1						
GEYT	Alibeck	136.43 63	PKP		PKPdf	21 31 46.2	+0.3
	comp=Z,1.6nm,0.6s,baz=305,slow=5.2,SNR=3.6						
BVAR	Borovoye Array	141.94 38	PKhKP		PKPpre	21 31 49.5	
	comp=Z,0.6nm,0.6s,baz=293,slow=1.2,SNR=8.1						
BVAR			PKP		PKPdf	21 31 54.8	-0.6
	comp=Z,0.7nm,0.6s,baz=244,slow=1.5,SNR=4.9						
BVAR			pPKP		pPKPdf	21 32 15.3	+0.6
	comp=Z,0.6nm,0.7s,baz=232,slow=3.6,SNR=2.6						
SIJI	Sorong	144.42 220	PKP		PKPbc	21 32 00.3	+0.7
	comp=Z,6.7nm,0.7s,baz=356,slow=4.0,SNR=4.0						
KKAR	Karatay Array	145.36 54	*e*PKPab		PKPbc	21 32 01.4	-0.4
KURK	Kurchatov	147.52 37	PKPbc		PKPdf	21 32 06.0	+0.9
KURBB	Kurchatov Arra	147.52 37	PKPbc		PKPdf	21 32 06.0	+0.9
	comp=Z,8.9nm,0.6s,baz=304,slow=3.1,SNR=100						
AAK	Ala-Archa	148.31 53	P		PKPbc	21 32 11.5	+1.0
	SNR=8.4						
ZALV	Zalesovo Beam	148.41 28	PKPbc		PKPbc	21 32 10.2	+0.2
	comp=Z,33nm,0.8s,baz=289,slow=3.1,SNR=36						
ZALV			pPKPbc		pPKPbc	21 32 28.8	-0.5
	comp=Z,6.8nm,0.5s,baz=299,slow=3.5,SNR=5.1						
UCH	Uchtor	148.44 54	P		PKPbc	21 32 12.2	+1.1
	SNR=11						
KBK	Karagaybulak	148.63 53	P		PKPbc	21 32 11.6	+0.3
	SNR=6.3						
TKM2	Tokmak 2	149.00 52	P		PKPbc	21 32 12.6	+0.3
	SNR=6.0						
KZA	Kyzart	149.01 54	P		PKPbc	21 32 13.5	+1.0
	SNR=5.2						
ULHL	Ulahol	149.66 53	P		PKPbc	21 32 14.9	+1.0
	SNR=14						
KSH	Kashi	150.18 58	PKPbc		PKPbc	21 32 15.1	0.0
KSH			PP		PP	21 35 48.0	-2.8
KSH			SKS		SKSdf	21 39 11.0	-1.2
KSH			SKKS		SKKSac	21 42 35.3	-0.5
KSH			PPMZ				
	comp=Z,270nm,4.2s						
KSH			LN				
	comp=Z,65nm,4.4s						
KSH			LE				
	comp=Z,65nm,4.3s						
KSH			LZ				
	comp=Z,160nm,10.5s						
MKAR	Makanchi Array	151.68 41	PKPbc		PKPbc	21 32 18.1	-0.1
	comp=Z,11nm,0.6s,baz=318,slow=1.9,SNR=89						
MKAR			pPKPbc		pPKPbc	21 32 37.7	+0.2
	comp=Z,6.7nm,0.6s,baz=343,slow=1.8,SNR=9.2						
MJAR	Matsushiro Ar	154.05 297	PKPbc		PKPbc	21 32 24.6	+0.7
	comp=Z,0.8nm,0.8s,baz=169,slow=7.3,SNR=4.4						
MJAR			PKPab		PKPab	21 32 38.0	+0.4
	comp=Z,2.2nm,0.9s,baz=124,slow=2.8,SNR=5.9						
WMQ	Urumqi	156.50 42	*e*PKP		PKPdf	21 32 17.8	-1.1
WMQ			LN				
	comp=Z,24nm,19.0s						
WMQ			LE				
	comp=Z,58nm,20.0s						
SONM	Songino Array	159.96 6	PKP		PKPdf	21 32 23.3	+0.3
	comp=Z,0.2nm,0.4s,baz=331,slow=14,SNR=3.7						
SONM			pPKP		pPKPdf	21 32 43.0	+0.6
	comp=Z,0.9nm,0.9s,baz=204,slow=0.5,SNR=4.9						
SONM			PKPab		PKPab	21 33 03.0	+0.4
	comp=Z,1.4nm,0.8s,baz=325,slow=4.0,SNR=9.5						
SONM			pPKPab		pPKPab	21 33 21.8	+0.5
	comp=Z,0.8nm,0.9s,baz=329,slow=2.9,SNR=3.1						
JOW	Kunigami	163.02 271	*e*PKPab		PKPab	21 33 14.4	-2.3
LSA	Lhasa	164.07 79	*e*PKPab		PKPab	21 33 22.1	+0.2
GTA	Gaotai	166.10 32	*e*PKP		PKPdf	21 32 30.3	+1.1
GTA			pPKP		pPKPdf	21 32 48.1	-0.5
GTA			sPKP			21 32 56.8	
GTA			PKPab		PKPab	21 33 30.3	+0.4
BJI	Beijing	166.56 336	PKP		PKPdf	21 32 29.6	+0.3
BJI			PP		PP	21 37 28.6	+10
CMAR	Chiang Mai Arr	166.71 133	PKPab		PKPab	21 33 31.1	-1.8
	comp=Z,0.6nm,0.6s,baz=236,slow=4.1,SNR=4.9						
HHC	Hu-ho-hao-te	166.91 352	*e*PKP		PKPdf	21 32 24.9	-4.8
HHC			PPMZ				
	comp=Z,69nm,9.9s						
HHC			LN				
	comp=Z,43nm,13.6s						
HHC			LE				
	comp=Z,87nm,13.6s						
HHC			LZ				
	comp=Z,55nm,16.0s						
LZH	Lanzhou	170.64 28	*e*PKP		PKPdf	21 32 28.3	-4.1
LZH			pPKP		pPKPdf	21 32 55.5	+3.7
CD2	Chengdu	174.37 56	PKP		PKPdf	21 32 32.4	-1.6

*IDC **13** 21:18:25.7±3.4,8.°11S×159.°06E,h0km,mb3.7/6, mb1 3.9/7,mb1mx3.7/30,mbtmp3.8/7,ML4.2/1,Error ellipse: s-maj=86.9km s-min=28.6km az=115.0*

ISC 13 21:18:35.8±2.6,8.°0S±0.°3×158.°7E±0.°4,h61km,n14, o0.51/7,mb3.6/6,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	1.88	138	*e*P		Pn	21 19 11.0	+5.4
HNR				*i*	S	Sn	21 19 40.0	+12
JAY	Jayapura	18.71	286	P		Pn	21 22 50.2	-0.3
	0.8nm,0.3s,baz=118,slow=6.3,SNR=4.2						
WRA	Warramunga Arr	26.38	241	P		P	21 24 06.9	+0.3
	0.6nm,0.7s,baz=66,slow=9.0,SNR=8.8						
H11S3	WAKE ISLAND Hy	27.51	17	T		T	21 52 50.7	
	baz=197,slow=76,SNR=192						
H11S2	WAKE ISLAND Hy	27.51	17	T		T	21 52 51.8	
	baz=197,slow=76,SNR=181						
H11S1	WAKE ISLAND Hy	27.53	17	T		T	21 52 50.7	
	baz=197,slow=76,SNR=150						
ASAR	Alice Springs	28.38	234	P		P	21 24 24.4	-0.1
	0.2nm,0.4s,baz=63,slow=9.8,SNR=5.3						
H11N1	WAKE ISLAND Hy	28.73	16	T		T	21 54 20.1	
	baz=196,slow=76,SNR=167						
H11N3	WAKE ISLAND Hy	28.73	16	T		T	21 54 23.6	
	baz=196,slow=76,SNR=196						
H11N2	WAKE ISLAND Hy	28.74	16	T		T	21 54 23.2	
	baz=196,slow=76,SNR=203						
USRK	Ussuriysk Ar.	57.31	337	P		P	21 28 17.4	0.0
	1.5nm,0.8s,baz=114,slow=8.8,SNR=6.4						
CMAR	Chiang Mai Arr	64.52	295	P		P	21 29 07.4	+0.6
	0.2nm,0.2s,baz=125,slow=5.6,SNR=4.3						
SONM	Songino Array	72.20	326	P		P	21 29 54.6	+0.2
	1.7nm,0.8s,baz=136,slow=6.0,SNR=14						
MKAR	Makanchi Array	86.59	318	P		P	21 31 11.9	-0.6
	0.2nm,0.6s,baz=111,slow=6.3,SNR=3.1						

*NEIC **13** 21:23:57.9,37.°28S×179.°37W,h98km,MG4.2(WEL),After WEL.*

WEL 13 21:24:16.2±0.4,37.°90S×179.°11E,h28km±1km,ML3.3/3, 3C,Error ellipse: s-maj=3.5km s-min=2.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	Waiomatatini S	0.55	278	⇑P*		Pb	21 24 27.3	-0.1
WMGZ				S*		Sb	21 24 35.2	+0.1
PUZ	Puketiti	0.69	255	⇑P*		Pb	21 24 29.2	-0.6
PUZ				AML		AML	21 24 39.7	
PUZ				AML		AML	21 24 40.2	
PUZ	Puketiti	0.69	255	Pn		Pb	21 24 29.2	-0.6
MXZ	Matakaoa Point	0.72	298	P*		Pb	21 24 30.3	+0.2
MXZ				S*		Sn	21 24 40.3	-0.4
MXZ				AML		AML	21 24 42.6	
MXZ	Matakaoa Point	0.72	298	Pn		Pb	21 24 30.3	+0.2
CNGZ	Carnagh Statio	0.92	230	PN		Pn	21 24 33.4	0.0
CNGZ	Carnagh Statio	0.92	230	Pn		Pn	21 24 33.4	0.0
TWGZ	Tauwhareparae	0.93	252	⇑PN		Pn	21 24 33.2	-0.4
TWGZ				SN		Sb	21 24 45.8	-0.1
HAZ	Te Kaha	1.06	277	PN		Pn	21 24 34.9	-0.3
HAZ				SN		Sn	21 24 48.7	-0.4
TKGZ	Te Karaka	1.13	241	PN		Pn	21 24 35.9	-0.3
MWZ	Matawai	1.32	250	PN		Pn	21 24 38.1	-0.8
MWZ				AML		AML	21 24 55.7	
MWZ				AML		AML	21 24 55.7	
MWZ				AML		AML	21 24 56.8	
MWZ				AML		AML	21 24 56.8	
MWZ	Matawai	1.32	250	Pn		Pn	21 24 38.1	-0.8
RIGZ	Rimuhau	1.33	232	PN		Pn	21 24 38.6	-0.4
PRGZ	Paritu Road	1.41	223	PN		Pn	21 24 39.6	-0.4
PRGZ	Paritu Road	1.41	223	Pn		Pn	21 24 39.6	-0.4
KNZ	Kokohu	1.59	225	PN		Pn	21 24 41.7	-0.8
KNZ	Kokohu	1.59	225	Pn		Pn	21 24 41.7	-0.8
URZ	Urewera	1.62	256	PN		Pn	21 24 42.9	0.0
URZ	Urewera	1.62	256	Pn		Pn	21 24 43.4	+0.5
SNGZ	Shannon Statio	1.65	237	PN		Pn	21 24 42.9	-0.5
RAHZ	Arahi	1.89	237	PN		Pn	21 24 45.6	-1.0
RAHZ	Arahi	1.89	237	Pn		Pn	21 24 46.6	0.0
ARHZ	Aropaoanui	2.14	230	PN		Pn	21 24 50.0	-0.2
NMHZ	Naumai	2.17	236	PN		Pn	21 24 50.5	-0.1
NMHZ	Naumai	2.17	236	Pn		Pn	21 24 50.5	-0.1
BKZ	Black Stump Fm	2.41	237	PN		Pn	21 24 53.5	-0.4
BKZ	Black Stump Fm	2.41	237	Pn		Pn	21 24 53.5	-0.4
MCHZ	McNeill Hill	2.44	230	PN		Pn	21 24 53.8	-0.5
MCHZ	McNeill Hill	2.44	230	Pn		Pn	21 24 53.8	-0.5
KAHZ	Kahuranaki	2.57	222	*e*Pn		Pn	21 24 54.9	-1.3
KWHZ	Kaweka Forest	2.59	233	PN		Pn	21 24 55.9	-0.6
KRHZ	Kereru	2.76	230	PN		Pn	21 24 57.7	-1.0
PNHZ	Pukenui	3.03	228	PN		Pn	21 25 00.8	-1.7
PNHZ	Pukenui	3.03	228	Pn		Pn	21 25 00.8	-1.7
BFZ	Birch Farm	3.56	218	PN		Pn	21 25 08.2	-1.4
BFZ	Birch Farm	3.56	218	Pn		Pn	21 25 06.7	-2.9
MRZ	Mangatainoka R	3.89	224	PN		Pn	21 25 11.6	-2.6
MRZ	Mangatainoka R	3.89	224	Pn		Pn	21 25 11.6	-2.6

KRSC 13 21:24:34.5±0.7,52.°42N×160.°23E,h20km±6km,ML3.6,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	Mys Shipunski	0.70	350	*e*P		Pb	21 24 47.8	-0.1
SPN				*e*S		Sg	21 24 57.4	-0.2
NLC	Nalytchevo	0.93	325	*e*S		Sb	21 25 04.3	+0.5
RUS	Russkaya	1.05	272	*e*P		Pb	21 24 53.5	-0.5
RUS				*e*S		Sb	21 25 07.2	-0.1
UGLR	Uglovaya	1.17	313	*e*P		Pb	21 24 56.0	-0.1
UGLR				*e*S		Sn	21 25 11.5	+0.2
SDLR	Sedlovina	1.19	317	*e*P		Pn	21 24 55.9	-0.3
SMAR	Somma	1.22	315	*e*P		Pb	21 24 57.0	-0.1
AVH	Avacha	1.24	314	*e*P		Pb	21 24 57.6	+0.2
MTVR	Mutnovka	1.26	274	*e*P		Pn	21 24 57.0	-0.1
MTVR				*e*S		Sn	21 25 13.3	-0.3
KRER	Koryakskii	1.27	315	*e*P		Pn	21 24 57.5	+0.2
KRER				*e*S		Sb	21 25 14.2	+0.2
KOK	Koryaka	1.31	313	*e*P		Pb	21 24 58.6	+0.1
KRX	Arik	1.35	315	*e*P		Pb	21 24 59.1	-0.1
ASAK	Asacha	1.43	270	*e*P		Pb	21 25 00.0	-0.5
ASAK				*e*S		Sb	21 25 18.3	-0.1
GNL	Ganaly	1.89	314	*e*P		Pb	21 25 07.4	-1.0
GNL				*e*S		Sb	21 25 31.1	-0.5
TUMR	Tumrok	2.88	359	*e*P		Pn	21 25 21.1	+1.8

DJA 13 21:31:35.4±1.5,2.°5S±5.°1×12.°8E±.°,h29km±22km,M3.8/5, mb4.4/1,MLv3.5/5,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	Labuha	1.50	319	P	Pn	21 32 00.0	-0.5
LBMI				S	Sn	21 32 19.8	+0.7
SANI	Sanana	2.52	264	P	Pn	21 32 10.7	-3.6
SWI	Sorong	2.92	72	P	Pn	21 32 20.5	+0.7
SWI				S	Sn	21 32 56.4	+2.5
FAKI	Fak Fak	3.92	107	P	Pn	21 32 32.8	-0.9
APSI	Ampana	6.89	277	P	Pn	21 33 14.6	0.0
BAKI	Biak	7.64	86	P	Pn	21 33 18.9	-5.9

JMA 13 21:50:20.7±0.2,25.°72N×123.°66E,h223km,M3.5, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JISG

λ128.00000°. NP2:φ₀199.00000°, δ72.00000°, λ75.00000°.

JMA 13 21:52:32.4±0.1, 39.63N×142.63E, h35km±1km, M3.7, 2C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.63**	**265**	⇓P	Pn	21 52 44.7	-0.1
MIYJ				*e*S	Sn	21 52 53.1	-0.6
JTH	**Tanohata**	**0.67**	**298**	⇓P	Pn	21 52 45.4	0.0
JTH				*e*S	Sn	21 52 54.8	+0.2
OFUJ	**Ofunato**	**0.93**	**234**	P	Pn	21 52 49.1	+0.2
OFUJ				*e*S	Sn	21 53 01.0	0.0
JOM	**Ohasama**	**1.05**	**262**	⇓P	Pn	21 52 51.2	+0.6
JOM				*e*S	Sn	21 53 05.0	+1.0
JKZ	**Kuzumaki**	**1.06**	**290**	⇓P	Pn	21 52 51.4	+0.5
JKZ				*e*S	Sn	21 53 05.3	+0.8
JANG	**Nango**	**1.13**	**311**	⇓P	Pn	21 52 51.7	-0.1
JMK	**Ichinoseki**	**1.29**	**239**	⇓P	Pn	21 52 54.5	+0.6
JMK				*e*S	Sn	21 53 10.9	+1.0
JIO	**Ouri**	**1.54**	**221**	⇑P	Pn	21 52 57.7	+0.4
JIO				*e*S	Sn	21 53 16.5	+0.4
JRG	**Rokugo**	**1.56**	**262**	P	Pn	21 52 59.4	+1.7
JRG				*e*S	Sn	21 53 20.1	+3.4
JAH	**Hinai**	**1.63**	**291**	⇑P	Pn	21 53 00.3	+1.7
JAH				*e*S	Sn	21 53 20.3	+1.9
JTM	**Tenmabayashi**	**1.66**	**315**	⇓P	Pn	21 52 59.9	+0.9
JTM				*e*S	Sn	21 53 21.0	+1.8

*SJA **13** 22:00:41.3±0.3, 34.07S×71.85W, h55km, ML4.0*
*ISCJB **13** 22:00:46.2±0.5, 33.92S±0.03×71.41W±0.06, h55km±5km, mb3.5/4, Error ellipse: s-maj=9.3km s-min=4.9km az=20.6*
*GUC **13** 22:00:46.3±0.4, 33.93S×71.32W, h50km±3km, mL3.9*
*NEIC **13** 22:00:46.0, 33.93S×71.32W, h50km, mb3.6/1, After GUC.*
NEIC Felt [V] at Rancagua; [IV] at Alhue, Melipilla, San Fernando and San Pedro; [III] at Santa Cruz and Santo Domingo; [II] at Pichilemu, San Antonio and Santiago. Also felt at Copiapo.
*IDC **13** 22:00:51.9±6.1, 33.83S×71.01W, h96km±42km, mb3.3/3, mb1 3.5/7, mb1mx3.3/32, mbtmp3.7/7, MS2.6/1, Ms1 2.6/1, ms1mx2.3/11, Error ellipse: s-maj=56.2km s-min=33.2km az=31.0*

ISC 13 22:00:46.0±0.8, 33.94S±0.04×71.41W±0.06, h46km±7km, n38, σ1§95/50, mb3.5/4, 5C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.01**	**173**	⇑*i*P	**Pn**	**22 00 54.2**	**+1.1**
TACH	**Talagante**	**0.49**	**54**	⇑*i*P	**Pn**	**22 00 56.7**	**-0.2**
CHCH	**Chadas Angostu**	**0.63**	**89**	*e*P	**Pn**	**22 00 58.4**	**-0.3**
SAN	**Santiago**	**0.79**	**52**	*i* P	**Pn**	**22 01 00.5**	**-0.4**
SAN				*i* S	**Sn**	**22 01 11.5**	**-0.1**
PCH	**Pirque**	**0.81**	**67**	⇑*i*P	**Pn**	**22 01 01.8**	**-0.4**
FSR	**Penalolen**	**0.87**	**58**	*e*P	**Pn**	**22 01 01.9**	**0.0**
FSR				*i* S	**Sn**	**22 01 13.7**	**+0.1**
LACH	**Col Las Americ**	**0.88**	**57**	*e*P	**Pn**	**22 01 01.0**	**-1.1**
LACH				*i* S	**Sn**	**22 01 12.7**	**-1.1**
CLCH	**Cerro Calan**	**0.91**	**54**	AML	AML	22 01 15.2	
	comp=N,7μm,0.2s						
IHA	**Instituto Hidr**	**0.93**	**348**	⇑*i*P	**Pn**	**22 01 03.3**	**+0.6**
IHA				*i* S	**Sn**	**22 01 16.8**	**+1.8**
PEL	**Peldehue**	**1.00**	**38**	⇑*i*P	**Pn**	**22 01 03.6**	**0.0**
PEL				*i* S	**Sn**	**22 01 17.1**	**+0.4**
PEL				AML	AML	22 01 20.6	
	comp=E,8μm,0.3s						
NICH	**Los Niches**	**1.07**	**172**	*i* P	**Pn**	**22 01 05.5**	**+0.9**
NICH				*i* S	**Sn**	**22 01 19.9**	**+1.6**
TALC	**Talca**	**1.47**	**187**	*i* P	**Pn**	**22 01 11.3**	**+1.4**
TALC				*i* S	**Sn**	**22 01 30.3**	**+2.4**
AAGR	**Agrelo**	**2.32**	**69**	*i* P	**Pn**	**22 01 24.4**	**+2.6**
ARCO	**CERRO ARCO**	**2.35**	**63**	*e*P	**Pn**	**22 01 25.1**	**+2.9**
ARCO				AML	AML	22 01 27.8	
	comp=Z,488nm,0.6s						
AUSP	**Uspallata**	**2.41**	**45**	*e*P	**Pn**	**22 01 25.9**	**+2.7**
AUSP				*e*S	**Sn**	**22 01 57.2**	**+5.5**
ASAL	**Salagasta**	**2.54**	**59**	*e*P	**Pn**	**22 01 27.8**	**+3.0**
ASAL				*e*S	Sn	22 02 02.1	+7.5
RTLS	**Leoncito**	**2.78**	**40**	*e*P	Pn	22 01 31.5	+3.2
RTLS				*e*S	Sn	22 02 07.6	+6.9
RTCV	**Cerro Valdivia**	**3.18**	**50**	*e*P	**Pn**	**22 01 36.0**	**+2.4**
RTCV				*e*S	Sn	22 02 17.5	+7.2
CFAA	**Coronel Fontan**	**3.55**	**50**	P	**Pn**	**22 01 40.2**	**+1.7**
	comp=Z,2.3nm,0.3s,baz=208,slow=15,SNR=54						
CFAA				S	**Sn**	**22 02 23.6**	**+4.3**
	comp=Z,2.1nm,0.3s,baz=102,slow=22,SNR=6.7						
CFAA	**Coronel Fontan**	**3.55**	**50**	*e*P	**Pn**	**22 01 40.2**	**+1.7**
CFAA				*e*S	**Sn**	**22 02 21.9**	**+2.7**
RTLL	**Cerro Villicun**	**3.59**	**44**	*i* P	**Pn**	**22 01 40.9**	**+1.6**
RTLL				*e*S	**Sn**	**22 02 24.4**	**+3.9**
AMOG	**MOGNA**	**3.88**	**40**	*e*P	**Pn**	**22 01 44.7**	**+1.5**
ACAN	**Cantantal**	**3.92**	**66**	*i* P	**Pn**	**22 01 44.9**	**+1.3**
AVFE	**Valle Fertil**	**4.68**	**47**	*i* P	**Pn**	**22 01 54.6**	**+0.4**
AVFE				AML	AML	22 02 55.8	
	comp=Z,94nm,0.7s						
LCO	**Las Campanas**	**4.95**	**7**	*e*Pn	**Pn**	**22 01 58.1**	**+0.1**
LCO				*e*Sn	**Sn**	**22 02 51.4**	**-2.8**
APLL	**PUNTA DE LOS L**	**5.45**	**51**	*e*P	**Pn**	**22 02 04.4**	**-0.2**
TRQA	**Tornquist**	**8.68**	**121**	*e*Pn	**Pn**	**22 02 46.3**	**-2.5**
LVC	**Limon Verde**	**11.50**	**12**	P	Pn	22 03 32.6	+4.8
	comp=Z,11nm,0.3s,baz=190,slow=6.1,SNR=3.1						
LVC				S	**Sn**	**22 05 37.2**	**+2.2**
	comp=Z,6.4nm,0.3s,baz=144,slow=19,SNR=2.1						
LVC	**Limon Verde**	**11.50**	**12**	Pn	**Pn**	**22 03 25.8**	**-2.0**
CPUP	**Villa Florida**	**14.34**	**62**	LR	LR	22 09 02.6	
	comp=Z,23nm,19.7s,baz=181,slow=35						
LPAZ	**La Paz**	**17.82**	**10**	P	**Pn**	**22 04 50.9**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=170,slow=6.1,SNR=2.8						
SIV	**San Ignacio**	**20.16**	**30**	P	**P**	**22 05 15.0**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=198,slow=9.3,SNR=7.0						
SAML	**Samuel**	**26.00**	**19**	*e*P	**P**	**22 06 15.1**	**+0.5**
	comp=Z,1.3nm,0.6s						
TXAR	**Lajitas Array**	**69.94**	**330**	P	**P**	**22 11 52.9**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=158,slow=11,SNR=4.2						
TXAR				pP	**pP**	**22 12 06.0**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=144,slow=7.7,SNR=3.6						
TORD	**Torodi Ar. Bea**	**83.70**	**70**	P	**P**	**22 13 08.8**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=263,slow=4.2,SNR=8.6						
TORD				pP	**pP**	**22 13 23.5**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=215,slow=5.0,SNR=2.5						
NVAR	**Mina Array Bea**	**84.13**	**325**	P	**P**	**22 13 13.1**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=158,slow=7.5,SNR=2.9						
ZALV	**Zalesovo Beam**	**153.90**	**33**	PKPbc	**PKPbc**	**22 20 38.1**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=302,slow=4.8,SNR=4.9						
ZALV				PKPab	**PKPab**	**22 20 52.5**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=329,slow=4.3,SNR=3.8						
MKAR	**Makanchi Array**	**156.33**	**49**	PKPab	**PKPab**	**22 21 02.0**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=303,slow=5.5,SNR=2.5						

IDC 13 22:01:54.1±8.6, 1.92N×95.08W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.6/37, mbtmp3.6/4, MS3.2/6, Ms1 3.2/6, ms1mx3.0/17, Error ellipse: s-maj=255.9km s-min=156.1km az=81.0, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**13.05**	**50**	LR	LR	22 08 35.5	
	comp=Z,70nm,18.9s,baz=207,slow=31						
ATAH	**Atahualpa**	**18.92**	**119**	LR	LR	22 12 21.0	
	comp=Z,41nm,19.8s,baz=316,slow=33						
LPIG	**La Paz**	**26.52**	**327**	LR	LR	22 15 30.6	
	comp=Z,62nm,18.9s,baz=164,slow=31						
TXAR	**Lajitas Array**	**28.47**	**344**	P	P	22 07 51.4	+0.3
	0.5nm,0.7s,baz=168,slow=11,SNR=6.0						
TXAR				LR	LR	22 18 09.0	
	comp=Z,49nm,19.1s,baz=0.0,slow=34						
NVAR	**Mina Array Bea**	**42.10**	**332**	P	P	22 09 48.8	+0.4
	0.5nm,0.6s,baz=158,slow=9.5,SNR=4.9						
PDAR	**Pinedale Array**	**42.69**	**344**	P	P	22 09 51.9	-1.2
	0.7nm,0.7s,baz=122,slow=7.2,SNR=3.8						
PDAR				LR	LR	22 26 43.2	
	comp=Z,72nm,18.6s,baz=198,slow=35						
SCHQ	**Schefferville**	**57.56**	**19**	LR	LR	22 34 17.3	
	comp=Z,12nm,21.1s,baz=102,slow=34						
ILAR	**Eielson Array**	**72.85**	**339**	P	P	22 13 24.6	+0.1
	0.4nm,0.8s,baz=146,slow=4.9,SNR=4.4						
H11S2	**WAKE ISLAND Hy**	**97.18**	**289**	T	T	00 02 56.2	
	baz=83						
H11S1	**WAKE ISLAND Hy**	**97.19**	**289**	T	T	00 02 54.1	
	baz=83						
H11S3	**WAKE ISLAND Hy**	**97.20**	**289**	T	T	00 02 58.0	
	baz=83						

NNC 13 22:10:42.5±2.8, 37.86N×71.57E, h0km, mb3.7, mpv3.3, 4C-1D, Error ellipse: s-maj=28.5km s-min=7.9km az=164.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.35**	**294**	⇑Pn	Pn	22 11 21.8	-0.8
	3.3nm,0.2s						
DZET				⇓Sn	Sn	22 11 53.8	+1.4
	14nm,0.5s						
SFK	**Sufi-Kurgan**	**2.63**	**34**	⇑Pn	Pn	22 11 26.5	0.0
	8.2nm,0.3s						
SFK				⇑Sn	Sn	22 12 00.6	+1.3
	10.0nm,0.3s						
KK31	**Karatay Array**	**5.30**	**352**	⇑Pn	Pn	22 12 02.8	-0.2
	1.5nm,0.6s,baz=181,slow=18,SNR=15						
KK31				Sn	Sn	22 13 04.2	-0.5
	2.0nm,0.5s,baz=173,slow=15,SNR=14						

CASC 13 22:14:19.2±1.0, 13.09N×89.94W, h24km±4km, MD3.6, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**0.81**	**23**	*e*P	Pb	22 14 34.6	-0.4
SBLS				*e*S	Sn	22 14 46.9	-0.1
SNJE	**San Jose**	**0.84**	**23**	*e*P	Pb	22 14 35.3	-0.2
SNJE				*e*S	Sb	22 14 47.1	+0.4
RTR	**El Retiro**	**0.86**	**20**	*e*P	Pb	22 14 35.6	-0.1
BOQS	**Boqueron**	**0.91**	**45**	*e*P	Pb	22 14 36.3	-0.4
BOQS				*e*S	Sn	22 14 49.3	-0.1
LFRS	**El Faro**	**1.01**	**58**	*e*P	Pn	22 14 37.4	-0.7
LFU	**La Fuente**	**1.04**	**51**	*e*P	Pn	22 14 38.0	-0.5
LFU				*e*S	Sn	22 14 52.2	-0.1
RBDL	**Robledal**	**1.05**	**14**	*e*P	Pn	22 14 38.5	-0.2
RBDL				*e*S	Sn	22 14 53.4	+0.7
LBRS	**Las Brisas**	**1.09**	**53**	*e*P	Pn	22 14 39.0	-0.1
LBRS				*e*S	Sn	22 14 54.4	+0.9
SNVI	**San Vicente**	**1.20**	**64**	*e*P	Pn	22 14 40.4	-0.2
NBG	**Las Nubes**	**1.54**	**345**	*e*P	Pn	22 14 46.1	+0.6
NBG				*e*S	Sb	22 15 06.1	-0.8
FUG	**Fuego 3**	**1.61**	**327**	*e*P	Pn	22 14 45.5	-0.9
FUG				*e*S	Sb	22 15 07.8	-0.8
VSM	**San Miguel**	**1.66**	**78**	*e*P	Pn	22 14 47.3	+0.1

*BJI **13** 22:20:57.1, 0.92N×97.20E, h20km, mb5.0/63, mB4.9/44, Ms4.6/54, Ms7 4.4/51*
*IDC **13** 22:20:59.0±0.5, 1.30N×97.11E, h0km, mb4.6/27, mb1 4.7/29, mb1mx4.5/43, mbtmp4.6/29, ML4.5/2, MS3.9/17, Ms1 3.9/17, ms1mx3.7/32, Error ellipse: s-maj=14.2km s-min=12.4km az=4.0*
*DJA **13** 22:21:02.9±1.1, 1°N±3°×97°E±°, h22km±6km, M4.8/18, mb5.0/13, mB5.1/6, MLv4.9/18, Mw(mB)4.4/6*
*MOS **13** 22:21:02.5±0.8, 1.41N×97.19E, h33km, mb5.1/32, Error ellipse: s-maj=11.0km s-min=5.7km az=104.9*
*ISCJB **13** 22:21:03.8±0.5, 1.34N±0.03×97.23E±0.03, h45km±4km, mb4.9/86, MS3.9/15, Error ellipse: s-maj=5.3km s-min=3.7km az=146.4*
*NEIC **13** 22:21:05.3±0.6, 1.37N×97.18E, h43km±5km, mb5.0/38, Error ellipse: s-maj=5.5km s-min=4.1km az=56.0*
NEIC Felt [III] at Gunungsitoli.
*KLM **13** 22:21:10.0, 1.40N×97.55E, h42km, mb4.8, ML4.4, MS5.7*

ISC 13 22:21:03.4±0.4, 1.33N±0.03×97.16E±0.04, h27km±1km, h27km:pP-P, n348, σ1§43/393, mb4.9/99, MS4.0/15, 34C-13D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.41**	**94**	P	**Pn**	**22 21 13.9**	**+0.3**
GSI				S	**Sn**	**22 21 22.6**	**+2.2**
GSI	**Gunungsitoli**	**0.41**	**94**	*e*P	**Pn**	**22 21 13.9**	**+0.3**
PBSI	**Pulau Batu**	**1.78**	**141**	P	**Pn**	**22 21 32.2**	**-0.1**
PBSI				S	**Sn**	**22 21 52.8**	**-1.2**
PSI	**Prapat**	**2.29**	**50**	Pn	**Pn**	**22 21 39.9**	**+0.4**
	52nm,0.3s,baz=219,slow=5.3,SNR=158						
PSI				LR	LR	22 22 06.8	
	comp=Z,686nm,21.7s,baz=304,slow=30						
PSI				Lg	Lg	22 22 12.3	
	72nm,0.3s,baz=190,slow=6.7,SNR=6.3						
PSI	**Prapat**	**2.29**	**50**	P	**Pn**	**22 21 39.9**	**+0.4**
	baz=2.3,SNR=140						
MNSI	**Mandailing Nat**	**2.48**	**102**	P	**Pn**	**22 21 42.8**	**+0.8**
TSI	**Tuntungan**	**2.57**	**33**	P	**Pn**	**22 21 44.8**	**+1.5**
SISI	**Saibi**	**3.27**	**144**	P	**Pn**	**22 21 52.5**	**-0.4**
PPI	**Padang Panjang**	**3.69**	**119**	P	**Pn**	**22 21 59.9**	**+1.2**
PPI	**Padang Panjang**	**3.69**	**119**	P	**Pn**	**22 21 59.7**	**+1.0**
	baz=3.8,SNR=72						
LHMI	**Lhok Sumawe**	**3.88**	**357**	P	**Pn**	**22 22 02.6**	**+1.4**
LHMI	**Lhok Sumawe**	**3.88**	**357**	P	**Pn**	**22 22 01.9**	**+0.7**
	baz=3.9,SNR=10.0						
LHMI	**Lhok Sumawe**	**3.88**	**357**	*e*Pn	**Pn**	**22 22 01.4**	**+0.2**
BKNI	**Bangkinang**	**4.00**	**104**	P	**Pn**	**22 22 04.3**	**+1.3**
BKNI	**Bangkinang**	**4.00**	**104**	P	**Pn**	**22 22 04.3**	**+1.3**
	baz=4.1,SNR=5.0						
BKNI	**Bangkinang**	**4.00**	**104**	*e*Pn	**Pn**	**22 22 03.9**	**+0.9**
SDSI	**Sungai Dareh**	**4.82**	**118**	P	**Pn**	**22 22 14.9**	**+0.6**
FRIM	**Kepong**	**4.84**	**67**	⇑P	**Pn**	**22 22 15.2**	**+0.6**
IPM	**Ipoh**	**4.96**	**51**	⇑P	**Pn**	**22 22 17.7**	**+1.4**
IPM	**Ipoh**	**4.96**	**51**	*e*Pn	**Pn**	**22 22 17.9**	**+1.6**
IPM				*e*Sb	**Sb**	**22 23 25.1**	**-3.9**
KULM	**Kulim**	**5.25**	**41**	⇑P	**Pn**	**22 22 21.3**	**+1.1**
KULM	**Kulim**	**5.25**	**41**	*e*Pn	**Pn**	**22 22 21.1**	**+0.9**
KULM				*e*Sn	**Sn**	**22 23 21.3**	**+1.4**
KGM	**Kluang**	**6.19**	**84**	⇑P	**Pn**	**22 22 33.5**	**+0.3**
BTDF	**Bukit Timah Da**	**6.61**	**90**	P	**Pn**	**22 22 40.5**	**+1.7**
	baz=6.7,SNR=3.9						
BTDF				P	**Pn**	**22 22 40.5**	**+1.7**
	baz=6.7,SNR=3.9						
PKDT	**Phuket**	**6.62**	**10**	P	Pb	22 22 49.0	-8.9
MYKOM	**Kota Tinggi**	**6.70**	**86**	⇑P	**Pn**	**22 22 39.7**	**-0.4**
MYKOM	**Kota Tinggi**	**6.70**	**86**	*e*Pn	**Pn**	**22 22 41.2**	**+1.1**
SKLT	**Songkhla**	**6.75**	**31**	P	**Pn**	**22 22 41.2**	**+0.5**
	170nm,0.8s,1μm0.5nm						
TRTT	**Trang**	**6.93**	**21**	P	**Pn**	**22 22 42.9**	**-0.4**
	104nm,0.5s,1μm0.4nm						
KTGM	**Kuala Trenggan**	**7.16**	**56**	⇑P	**Pn**	**22 22 46.4**	**-0.1**
KSI	**Kapahiang**	**7.35**	**132**	P	**Pn**	**22 22 51.4**	**+2.4**
	198nm,0.7s,0.8nm						
SURT	**Suratani**	**7.75**	**12**	P	**Pn**	**22 22 53.7**	**-0.8**
	20nm,0.6s,278nm0.1nm						
MNAI	**Manna**	**8.09**	**134**	P	**Pn**	**22 22 58.4**	**-0.9**
	baz=8.2,SNR=7.5						
LHSI	**Lahat**	**8.17**	**129**	P	**Pn**	**22 23 01.1**	**+0.9**
	97nm,0.7s						
MDSI	**Maura Dua**	**9.09**	**130**	P	**Pn**	**22 23 12.2**	**-0.7**
	52nm,0.9s						
LWLI	**Liwa**	**9.34**	**133**	P	**Pn**	**22 23 17.0**	**+0.5**
	77nm,0.7s						
PPBI	**Pangkal Pinang**	**9.62**	**111**	P	**Pn**	**22 23 22.5**	**+2.3**
	14nm,1.3s,1μm						
KLSI		**9.64**	**128**	P	**Pn**	**22 23 20.1**	**-0.4**
	54nm,0.8s						
TPI	**Tanjungpandan**	**11.25**	**111**	P	**Pn**	**22 23 44.6**	**+2.1**
PHET	**Kaeng Krachan**	**11.76**	**12**	P	Pn	22 23 57.2	+7.7
KSM	**Kuching**	**13.14**	**89**	⇑P	**Pn**	**22 24 08.9**	**+0.5**
COCO	**West Island**	**13.44**	**181**	*e*P	**Pn**	**22 24 14.2**	**+1.8**
COCO	**West Island**	**13.44**	**181**	*e*Pn	**Pn**	**22 24 14.2**	**+1.8**
KHLT	**Khaolaem Dam**	**13.45**	**6**	P	**P**	**22 24 23.3**	**+1.6**
STKI	**Sintang**	**14.37**	**95**	P	**P**	**22 24 29.0**	**-2.9**
SBUM	**Sibu**	**15.09**	**86**	⇑P	**Pn**	**22 24 36.1**	**+1.1**
SBUM	**Sibu**	**15.09**	**86**	*e*Pn	**Pn**	**22 24 36.9**	**+1.9**
	21nm,0.8s						
DLV	**T Lat**	**15.40**	**46**	*e*P	**P**	**22 24 45.5**	**+1.9**
PBKT	**Sadao Pong**	**15.60**	**14**	P	**Pn**	**22 24 41.2**	**-0.3**
	45nm,0.7s,3μm						
UBPT	**Khong Chiam**	**16.10**	**30**	P	**P**	**22 24 50.6**	**-0.5**
	62nm,1.0s,2μm						
SUKH	**Sukhothai**	**16.23**	**8**	P	**Pn**	**22 24 49.1**	**-0.5**
	16nm,0.9s,106nm						
UTTA	**Uttaradit**	**16.64**	**11**	P	**Pn**	**22 24 54.5**	**-0.4**
	6.5nm,0.8s,66nm						
MHMT	**Maesarieng**	**16.75**	**3**	P	**P**	**22 24 57.7**	**-0.7**
	14nm,0.9s,298nm						
SKNT	**Sakolnakorn**	**16.93**	**23**	P	**P**	**22 24 59.7**	**-0.6**
	27nm,1.0s						
CMAR	**Chiang Mai Arr**	**17.11**	**6**	Pn	**Pn**	**22 24 59.8**	**-1.0**
	1.2nm,0.3s,baz=195,slow=13,SNR=47						
CMAR				LR	LR	22 32 38.0	
	comp=Z,575nm,18.3s,baz=195,slow=41						
CMAR	**Chiang Mai Arr**	**17.11**	**6**	*i* P	**Pn**	**22 24 59.7**	**-1.0**
CMAR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LAMP	**Lampang**	**17.25**	**8**	P	**Pn**	**22 25 02.3**	**-0.3**
	comp=Z,6.6nm,0.9s,comp=Z,91nm						
PALK	**Pallekele**	**17.43**	**290**	LR	LR	22 31 16.9	
	comp=Z,504nm,18.9s,baz=110,slow=36						
CMMT	**Chiang Mai**	**17.46**	**6**	P	**Pn**	**22 25 04.0**	**-1.1**
	comp=Z,25nm,0.9s						
CHTO	**Chiang Mai**	**17.46**	**6**	P	**Pn**	**22 25 04.1**	**-1.0**
	comp=Z,88nm,0.9s						
CHTO	**Chiang Mai**	**17.46**	**6**	*e*P	**Pn**	**22 25 03.9**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,15nm,0.9s						
CHTO	**Chiang Mai**	**17.46**	**6**	*e*Pn	**Pn**	**22 25 03.9**	**-1.2**
	comp=Z,15nm,0.9s						
CMAI	**Chiengmai2**	**18.58**	**6**	P	**Pn**	**22 25 19.2**	**+0.2**
	comp=Z,34nm,1.2s,comp=Z,13μm						
CRAI	**Chiangrai**	**19.04**	**9**	P	**P**	**22 25 22.4**	**-1.2**
	comp=Z,27nm,0.9s						
KKM	**Kota Kinabalu**	**19.58**	**76**	P	**P**	**22 25 30.3**	**+0.7**
	baz=20,SNR=6.8						
KKM	**Kota Kinabalu**	**19.58**	**76**	⇑P	**P**	**22 25 30.3**	**+0.7**
KKM	**Kota Kinabalu**	**19.58**	**76**	*e*P	**P**	**22 25 30.3**	**+0.7**
	comp=Z,53nm,1.1s						
KDM	**Kudat**	**20.38**	**74**	⇑P	**P**	**22 25 38.2**	**-0.1**
SDKM	**Sandakan**	**20.45**	**77**	⇑P	**P**	**22 25 39.5**	**+0.4**
TSM	**Tawau**	**20.89**	**81**	⇑P	**P**	**22 25 44.2**	**+0.4**
SLVN	**Son La**	**20.94**	**18**	*e*P	**P**	**22 25 44.1**	**-0.2**
	comp=Z,86nm,0.7s						
SKHT	**Srikalahasti**	**21.22**	**306**	*e*P	**P**	**22 25 48.4**	**+1.1**
SKHT				IAmb	IAmb	22 25 54.4	
	comp=Z,11nm,0.9s						
CHLP	**Challavanipeta**	**21.37**	**324**	*e*P	**P**	**22 25 50.0**	**+1.2**
CHLP				IAmb	IAmb	22 25 54.9	
	comp=Z,48nm,1.0s						
QIZ	**Qiongzhong**	**21.54**	**34**	P	**P**	**22 25 52.0**	**+1.3**
QIZ				pP	**pP**	**22 25 57.6**	**-0.5**
QIZ				sP	**sP**	**22 26 00.8**	**-0.8**
QIZ				S	**S**	**22 29 52.1**	**+3.9**
QIZ				sS	**sS**	**22 30 01.6**	**+1.5**
QIZ				PMZ			
	comp=Z,21nm,1.1s						
QIZ				LN			
	comp=Z,480nm,15.4s						
QIZ				LE			
	comp=Z,260nm,14.4s						
QIZ				LZ			
	comp=Z,320nm,15.8s						
QIZ	**Qiongzhong**	**21.54**	**34**	*e*P	**P**	**22 25 50.7**	**0.0**
	comp=Z,18nm,0.8s						
MYLDM	**Lahad Datu**	**21.64**	**79**	⇑P	**P**	**22 25 52.8**	**+0.9**
MYLDM	**Lahad Datu**	**21.64**	**79**	*e*P	**P**	**22 25 53.0**	**+1.2**
	comp=Z,62nm,1.1s						
PVM	**Polavaram**	**21.99**	**317**	*e*P	**P**	**22 25 57.9**	**+2.3**
PVM				IAmb	IAmb	22 26 09.3	
	comp=Z,16nm,0.8s						
ADKI	**Addanki**	**22.26**	**311**	*e*P	**P**	**22 26 01.2**	**+2.8**
ADKI				IAmb	IAmb	22 26 03.6	
	comp=Z,17nm,1.1s						
RCLA	**Racherla**	**22.80**	**309**	*e*P	**P**	**22 26 06.3**	**+2.1**
RCLA				IAmb	IAmb	22 26 15.0	
	comp=Z,93nm,2.0s						
NJS	**Nagarjunasagar**	**23.19**	**312**	*e*P	**P**	**22 26 09.8**	**+1.5**
NJS				IAmb	IAmb	22 26 18.8	
	comp=Z,77nm,1.6s						
SRLM	**Srisailam**	**23.23**	**310**	*e*P	**P**	**22 26 10.0**	**+1.4**
SRLM				IAmb	IAmb	22 26 12.7	
	comp=Z,16nm,0.8s						
URV	**Uravakonda**	**23.86**	**306**	*e*P	**P**	**22 26 16.0**	**+1.2**
URV				IAmb	IAmb	22 26 23.5	
	comp=Z,16nm,0.9s						
KMI	**Kunming**	**24.26**	**12**	P	**P**	**22 26 19.8**	**+1.2**
KMI				pP	**pP**	**22 26 26.6**	**-0.1**
KMI				sP	**sP**	**22 26 30.0**	**0.0**
KMI				PP	PnPn	22 26 59.4	+10
KMI				S	**S**	**22 30 35.6**	**-0.4**
KMI				sS	**sS**	**22 30 47.8**	**-1.3**
KMI				PMZ			
	comp=Z,72nm,1.1s						
KMI				LN			
	comp=Z,1μm,16.7s						
KMI				LE			
	comp=Z,690nm,14.4s						
KMI				LZ			
	comp=Z,1μm,15.7

comp=Z,80nm,8.5s
CD2 LN
comp=Z,1µm,15.6s
CD2 LZ
comp=Z,840nm,13.8s
ENH Enshi 31.07 21 *e*P **P 22 27 18.0 -1.4**
comp=Z,48nm,0.6s
ENH *e* 22 27 25.4
QZH Quanzhou 31.29 40 *e*P **P 22 27 21.3 -0.1**
QZH S **S 22 32 22.0 -4.7**
QZH LN
comp=Z,1µm,14.5s
QZH LE
comp=Z,770nm,15.2s
QZH LZ
comp=Z,1µm,14.0s
MBWA Marble Bar 31.42 137 *e*P **P 22 27 23.1 +0.6**
comp=Z,68nm,1.6s
TPUB Ta-pu 31.55 44 *e*P **P 22 27 23.6 0.0**
comp=Z,22nm,0.8s
AGRA Agra 31.67 326 *e*P **P 22 27 24.6 -0.1**
AGRA AMB AMB 22 27 33.0
comp=Z,14nm,0.3s
YULB Yu-li 32.08 45 *e*P **P 22 27 28.3 0.0**
comp=Z,22nm,0.8s
SSLB Suanglung 32.09 44 *e*P **P 22 27 28.9 +0.5**
comp=Z,28nm,0.9s
LGTI Lohaghat 32.27 332 *e*P **P 22 27 30.6 +0.7**
YHNB Yeheng 32.95 43 *e*P **P 22 27 34.9 -1.2**
comp=Z,15nm,0.9s
KALG Kalgarh 33.05 330 *e*P **P 22 27 36.1 -0.6**
KALG AMB AMB 22 27 41.6
comp=Z,13nm,1.1s
KUDL Kundal 33.19 325 *e*P **P 22 27 38.0 0.0**
KUDL AMB AMB 22 27 55.2
comp=Z,5.6nm,0.8s
WHN Wuhan 33.31 28 ⇑P **P 22 27 39.3 +0.3**
WHN PMZ
comp=Z,56nm,1.2s
WHN LN
comp=Z,910nm,15.0s
WHN LE
comp=Z,770nm,14.2s
WHN LZ
comp=Z,910nm,15.0s
ABI ADIBADRI 33.35 331 *e*P **P 22 27 39.5 -0.1**
ABI AMB AMB 22 27 44.0
comp=Z,106nm,0.8s
JOSI Joshimath 33.52 332 *e*P **P 22 27 40.8 -0.3**
KHET Khetri 33.53 324 *e*P **P 22 27 41.1 +0.1**
KHET AMB AMB 22 27 48.5
comp=Z,9.1nm,1.4s
GKD Gaurikund 33.84 331 *ex* **P 22 27 44.4 +0.5**
GKD AMB AMB 22 27 48.8
comp=Z,47nm,0.0s
GTU Guttu 33.88 331 *e*P **P 22 27 44.5 +0.2**
GTU AMB AMB 22 27 50.0
comp=Z,58nm,1.0s
DDI Dehra Dun 34.06 330 *e*P **P 22 27 46.2 +0.6**
DDI AMB AMB 22 27 58.2
comp=Z,12nm,0.7s
XAN Xi'an 34.35 17 P **P 22 27 47.1 -1.0**
XAN pP **pP 22 27 54.4 -1.7**
XAN sP **sP 22 27 57.8 -1.7**
XAN PP **PnPn 22 29 01.3 -1.8**
XAN S **S 22 33 09.9 -4.2**
XAN PMZ
comp=Z,23nm,0.6s
XAN LN
comp=Z,370nm,15.5s
XAN LE
comp=Z,450nm,16.3s
XAN LZ
comp=Z,640nm,15.7s
KKR Kurukshetra 34.41 328 *ex* P 22 27 43.8 -4.9
NHN Nahan 34.63 329 *ex* P 22 27 46.2 -4.3
NHN AMB AMB 22 27 56.5
comp=Z,30nm,0.6s
LZH Lanzhou 35.13 9 *e*P **P 22 27 55.5 +0.6**
LZH pP **pP 22 28 02.8 -0.2**
LZH sP **sP 22 28 06.0 -0.4**
LZH PMZ
comp=Z,41nm,1.3s
LZH PMZ
comp=Z,190nm,4.0s
LZH LN
comp=Z,1µm,14.1s
LZH LE
comp=Z,390nm,14.1s
LZH LZ
comp=Z,590nm,16.3s
SMLA Simla 35.16 329 *i*P **P 22 27 55.6 +0.5**
NJ2 Nanjing 36.77 32 *e*P **P 22 28 09.4 +0.6**
NJ2 pP **pP 22 28 15.8 -1.2**
NJ2 sP **sP 22 28 18.4 -1.9**
NJ2 S **S 22 33 53.0 +1.7**
NJ2 sS **sS 22 34 04.5 -0.2**
NJ2 PMZ
comp=Z,40nm,0.6s
NJ2 PMZ
comp=Z,460nm,6.0s
NJ2 LN
comp=Z,3µm,21.2s
NJ2 LE
comp=Z,5µm,22.6s
NJ2 LZ
comp=Z,4µm,24.4s
PALU Palau 37.66 80 P P 22 28 13.2 -3.5
baz=38,SNR=5.7
GTA Gaotai 37.98 3 P **P 22 28 19.8 +0.7**
GTA pP **pP 22 28 26.8 -0.5**
GTA sP **sP 22 28 30.4 -0.2**
GTA PP **PnPn 22 29 50.3 +2.7**
GTA PcP **PcP 22 30 35.0 +0.4**
GTA S **S 22 34 10.1 +0.5**
GTA sS **sS 22 34 22.3 -0.8**
GTA SS **SnSn 22 36 47.4 -5.5**
GTA PMZ
comp=Z,33nm,0.9s
GTA PMZ
comp=Z,69nm,4.0s
GTA LN
comp=Z,300nm,13.3s
GTA LE
comp=Z,210nm,13.8s
GTA LZ
comp=Z,350nm,14.2s
JOW Kunigami 39.18 47 *e*P **P 22 28 29.8 +0.5**
comp=Z,40nm,0.5s
H01W3 Cape Leeuwin H 39.38 158 T T 23 10 07.2
baz=333,slow=76,SNR=27
H01W2 Cape Leeuwin H 39.40 158 T T 23 10 04.3
baz=333,slow=76,SNR=26
H01W1 Cape Leeuwin H 39.40 158 T T 23 10 04.5
baz=333,slow=76,SNR=23
WRKA Warakurna 39.96 133 P **P 22 28 36.0 +0.2**
baz=40,SNR=12
HHC Hu-ho-hao-te 41.44 17 *e*P **P 22 28 50.6 +2.7**
HHC PP **PnPn 22 30 30.4 +1.6**
HHC S **S 22 35 05.3 +3.7**
HHC sS **sS 22 35 17.4 +2.3**
HHC SS **SS 22 38 05.4 -1.1**
HHC PMZ
comp=Z,15nm,1.0s
HHC PMZ
comp=Z,94nm,8.6s
HHC LN
comp=Z,470nm,17.5s
HHC LE
comp=Z,250nm,12.3s
HHC LZ
comp=Z,420nm,14.8s
WRA Warramunga Arr 42.14 122 P **P 22 28 52.9 -1.0**
comp=Z,7.4nm,0.7s,baz=301,slow=9.1,SNR=76
WRA PcP **PcP 22 30 47.9 -0.3**
comp=Z,1.8nm,0.8s,baz=318,slow=2.6,SNR=4.5
WRAB Tennant Creek 42.14 122 P **P 22 28 53.2 -0.6**
comp=Z,108nm,0.5s,SNR=8.3
WRAB Tennant Creek 42.14 122⇑ *i*P **P 22 28 53.3 -0.6**
WRAB pmax pmax
comp=Z,63nm,2.5s
WRAB Tennant Creek 42.14 122 *e*P **P 22 28 53.0 -0.9**
comp=Z,89nm,2.1s
BJI Beijing 42.23 22 P **P 22 28 55.1 +0.9**
BJI sP **sP 22 29 04.8 -0.9**
BJI S S 22 35 19.8 +6.8
BJI PMZ
comp=Z,59nm,0.8s
BJI PMZ
comp=Z,100nm,6.5s
BJI LN
comp=Z,220nm,14.2s
BJI LE
comp=Z,160nm,16.3s
BJI LZ
comp=Z,96nm,21.8s
KSH Kashi 42.63 336 P **P 22 28 56.1 -1.6**
KSH pP **pP 22 29 03.3 -2.6**
KSH PP **PP 22 30 41.1 +4.2**
KSH PcP **PcP 22 30 51.1 +1.5**
KSH S **S 22 35 15.8 -3.5**
KSH sS **sS 22 35 32.0 -0.8**
KSH SS SS 22 38 22.3 -7.8
KSH PMZ
comp=Z,10.0nm,0.6s
KSH PMZ
comp=Z,160nm,4.4s
KSH LN
comp=Z,190nm,5.2s
KSH LE
comp=Z,190nm,4.8s
KSH LZ
comp=Z,200nm,4.4s
WMQ Urumqi 43.14 350 P **P 22 29 02.9 +1.3**
WMQ pP **pP 22 29 10.4 +0.5**
WMQ sP **sP 22 29 14.3 +1.1**
WMQ S **S 22 35 27.1 +0.7**
WMQ SS **SS 22 38 32.9 -6.8**
WMQ PMZ
comp=Z,29nm,0.8s
WMQ PMZ
comp=Z,130nm,4.0s
WMQ LN
comp=Z,96nm,23.0s
WMQ LE
comp=Z,180nm,25.0s
WMQ LZ
comp=Z,98nm,26.7s
FORT Forrest 43.40 140 *e*P **P 22 29 03.4 -0.5**
comp=Z,36nm,0.7s
TJN Taejon 44.69 35⇑ *e*P **P 22 29 13.9 -0.2**
JNU Nakatsue 44.73 41 *e*P **P 22 29 13.8 -0.8**
comp=Z,12nm,0.9s
ULHL Ulahol 44.86 338 P **P 22 29 16.4 +0.8**
SNR=10
UCH Uchtor 45.51 336 P **P 22 29 22.1 +1.0**
SNR=18
TKM2 Tokmak 2 45.68 338 P **P 22 29 23.1 +0.9**
SNR=10
TKM2 Tokmak 2 45.68 338 *e*P **P 22 29 21.9 -0.3**
TKM2 pmax pmax
comp=Z,13nm,1.0s
TKM2 Tokmak 2 45.68 338 *e*P **P 22 29 21.9 -0.3**
comp=Z,13nm,1.0s
KBK Karagaybulak 45.70 337 P **P 22 29 24.3 +2.0**
SNR=13
KSAR Wonju Array Be 45.73 35 P **P 22 29 22.5 +0.1**
KSAR Wonju Array Be 45.73 35 P **P 22 29 22.4 +0.1**
KSRS Korea Array 45.76 35 P **P 22 29 22.4 -0.1**
comp=Z,24nm,0.9s,baz=222,slow=9.1,SNR=94
KSRS LR LR 22 49 06.6
comp=Z,111nm,20.0s,baz=239,slow=37
KSRS Korea Array 45.76 35 P **P 22 29 22.5 -0.1**
KSRS pmax pmax
comp=Z,24nm,0.9s
KSRS MLR MLR
comp=Z,111nm,20.0s
EKS2 Erkin-Say 46.17 336 P **P 22 29 27.3 +1.4**
SNR=17
EKS2 Erkin-Say 46.17 336 *e*P **P 22 29 26.4 +0.4**
EKS2 pmax pmax
comp=Z,10.0nm,0.8s
EKS2 Erkin-Say 46.17 336 *e*P **P 22 29 26.4 +0.4**
comp=Z,10nm,0.8s
USP Ospenovka 46.40 337 P **P 22 29 28.6 +0.9**
SNR=25
QIS Mount Isa 46.90 120 P **P 22 29 31.5 -0.4**
baz=47,SNR=4.4
SONM Songino Array 47.01 8 P **P 22 29 32.9 +0.5**
comp=Z,16nm,0.7s,baz=188,slow=9.2,SNR=174
SONM PcP **PcP 22 31 04.6 +0.1**
comp=Z,3.7nm,0.6s,baz=190,slow=3.6,SNR=7.2
SONM LR LR 22 51 47.6
comp=Z,306nm,19.0s,baz=202,slow=39
MK31 Makanchi Array 47.10 346 P **P 22 29 33.8 +0.8**
baz=47,SNR=17
MKAR Makanchi Array 47.10 346 P **P 22 29 33.5 +0.4**
comp=Z,10nm,0.5s,baz=160,slow=9.0,SNR=152
MKAR LR LR 22 52 36.1
comp=Z,89nm,21.1s,baz=159,slow=40
ITEG Tejag 47.81 315 *e*P **P 22 29 37.6 -1.4**
KKAR Karatay Array 47.92 334 *e*P **P 22 29 40.0 +0.5**
KKAR Karatay Array 47.92 334 *e*P **P 22 29 40.0 +0.5**
COEN Coen 48.05 110 P **P 22 29 41.3 +0.4**
baz=48,SNR=4.6
COEN Coen 48.05 110 *e*P **P 22 29 39.6 -1.2**
comp=Z,31nm,1.3s
ZAK Zakamensk 49.15 5 *e*P **P 22 29 49.0 +0.1**
ZAK pmax pmax
comp=Z,4.0nm,0.9s
CN2 Changchun 49.20 27 *e*P **P 22 29 49.0 -0.3**
CN2 *e*S **S 22 36 57.5 +4.1**
CN2 PMZ
comp=Z,20nm,0.9s
CN2 PMZ
comp=Z,50nm,4.0s
CN2 LN
comp=Z,100nm,19.0s
CN2 LE
comp=Z,200nm,19.0s
CN2 LZ
comp=Z,200nm,22.0s
IMOG Moghan 49.23 319 *e*P **P 22 29 48.1 -1.9**
IPAY Payeh 49.65 319 *e*P **P 22 29 52.5 -0.6**
IAKL Akhelmad 49.90 319 *e*P **P 22 29 53.0 -2.1**
IKRD Kardeh 50.16 319 *e*P P 22 29 50.7 -6.3
CBIJ Chichi jima 50.18 55 P **P 22 29 55.9 -1.1**
JCJ Chichijima 50.18 55 P **P 22 29 55.9 -1.1**
comp=Z,37nm,0.7s,baz=276,slow=23,SNR=4.3
MTSU Mount Surprise 50.26 115 P P 22 30 05.3 +7.5
baz=50,SNR=4.4
IEMG Emamgholi 50.44 320 *e*P **P 22 29 57.3 -1.9**
ISFR Sfrayin 50.65 319 *e*P P 22 30 08.0 +7.2
GEYT Alibeck 51.09 320 P **P 22 30 04.0 +0.2**
comp=Z,4.1nm,0.8s,baz=141,slow=7.6,SNR=10
HIA Hailar 51.53 19 *e*P **P 22 30 06.5 -0.3**
HIA pmax pmax
comp=Z,15nm,0.8s
HIA Hailar 51.53 19 *e*P **P 22 30 06.5 -0.3**
comp=Z,15nm,0.8s
KURBB Kurchatov Arra 51.59 345 P **P 22 30 07.5 +0.3**
comp=Z,10.0nm,0.6s,baz=166,slow=7.0,SNR=123
MAJO Matsushiro 51.62 42⇑ *e*P **P 22 30 07.4 -0.3**
MAJO pmax pmax
comp=Z,50nm,1.2s
MJAR Matsushiro Arr 51.62 42 P **P 22 30 07.9 +0.2**
comp=Z,3.4nm,0.8s,baz=224,slow=7.1,SNR=12
KURK Kurchatov 51.65 345 P **P 22 30 08.2 +0.5**
comp=Z,110nm,1.0s,SNR=10
KURK Kurchatov 51.65 345 P **P 22 30 07.5 -0.2**
KURK pmax pmax
comp=Z,10.0nm,0.6s
KURK Kurchatov 51.65 345 *e*P **P 22 30 08.1 +0.4**
comp=Z,22nm,1.1s
MDJ Mudanjiang 51.77 29 P **P 22 30 09.9 +1.2**
MDJ pP **pP 22 30 16.3 -0.8**
MDJ sP **sP 22 30 18.5 -1.8**
MDJ S **S 22 37 32.0 +3.0**
MDJ PMZ
comp=Z,15nm,0.8s
MDJ PMZ
comp=Z,41nm,5.1s
MDJ LN
comp=Z,190nm,15.4s
MDJ LE
comp=Z,130nm,16.9s
MDJ LZ
comp=Z,280nm,14.0s
HTT Hallett 52.34 135 P **P 22 30 14.1 +0.8**
baz=52,SNR=4.2
USRK Ussuriysk Ar. 52.68 31 P **P 22 30 16.0 +0.6**
comp=Z,32nm,0.9s,baz=232,slow=5.5,SNR=52
USRK LR LR 22 55 51.2
comp=Z,196nm,18.7s,baz=216,slow=40
QLP Quilpie 53.17 125 P **P 22 30 20.2 +0.8**
baz=53,SNR=10.0
ZAA0 Zalesovo Array 53.42 351 P **P 22 30 21.1 +0.4**
baz=54,SNR=25
ZALV Zalesovo Beam 53.42 351 P **P 22 30 21.0 +0.3**
comp=Z,48nm,0.8s,baz=179,slow=6.8,SNR=170
ZALV LR LR 22 58 10.7
comp=Z,92nm,19.1s,baz=300,slow=42
STKA Stephens Creek 53.47 132 P **P 22 30 22.0 +0.5**
comp=Z,7.3nm,0.6s,baz=304,slow=6.3,SNR=9.0
STKA LR LR 22 55 16.9
comp=Z,217nm,20.7s,baz=301,slow=38
STKA Stephens Creek 53.47 132 P **P 22 30 22.2 +0.7**
baz=54,SNR=7.1
NVS Novosibirsk 54.54 350 *e*P **P 22 30 27.8 -1.1**
NVS *e*S **S 22 38 04.8 -1.5**
NVS pmax pmax
comp=Z,14nm,0.8s
NVS pmax pmax
comp=N,7.0nm,0.5s
NVS pmax pmax
comp=E,6.0nm,0.5s
NVS smax smax
comp=N,3.0nm,1.1s
NVS smax smax
comp=E,4.0nm,1.1s
RAYN Ar Rayn 54.66 298 *e*P **P 22 30 31.8 +1.3**
comp=E,6.8nm,1.0s
BVAR Borovoye Array 56.11 341 P **P 22 30 39.8 -0.5**
comp=E,14nm,0.7s,baz=145,slow=8.7,SNR=95
KLR Kul'dur 56.15 27 *e*P P 22 30 37.2 -3.4
KLR pmax pmax
comp=E,25nm,1.2s
KLR pmax pmax
comp=Z,50nm,1.2s
BRVK Borovoye 56.17 341 P **P 22 30 40.0 -0.7**
comp=Z,129nm,0.6s,SNR=12
BRVK Borovoye 56.17 341 *e*P **P 22 30 40.1 -0.7**
BRVK pmax pmax
comp=Z,13nm,0.7s
BRVK Borovoye 56.17 341 *e*P **P 22 30 40.1 -0.6**
comp=Z,13nm,0.7s
CMSA Cobar Meteorol 56.41 130 P **P 22 30 43.6 +0.8**
baz=56,SNR=16
RMQ Roma 56.88 123 P **P 22 30 48.0 +1.7**
baz=57,SNR=7.8
ABKAR Akbulak array 57.38 332 *e*P **P 22 30 48.8 -0.5**
ERM Erimo 57.79 39⇓ *e*P **P 22 30 51.8 -0.6**
ERM pmax pmax
comp=Z,16nm,1.4s
BOD Bodaibo 57.89 11 *e*P **P 22 30 52.6 -0.1**
BOD pmax pmax
comp=Z,16nm,0.9s
EIDS Eidsvold 58.48 121 P **P 22 30 58.2 +0.7**
baz=59,SNR=8.1
EIDS Eidsvold 58.48 121 *e*P **P 22 30 58.4 +0.8**
comp=Z,18nm,0.6s
AKTO Aktyubinsk 59.10 332 P **P 22 31 00.5 -0.8**
comp=Z,5.7nm,0.5s,baz=127,slow=8.9,SNR=24
YSS Yuzh-Sakhalins 60.26 34 *e*P **P 22 31 09.2 -0.2**
YSS pmax pmax
comp=Z,61nm,1.3s
YSS Yuzh-Sakhalins 60.26 34 *e*P **P 22 31 09.2 -0.2**
comp=Z,61nm,1.3s
GNI Garni 61.17 316 P **P 22 31 16.5 +0.5**
comp=Z,0.9nm,0.3s,baz=165,slow=20,SNR=2.2
GNI Garni 61.17 316 *e*P **P 22 31 16.2 +0.2**
GNI pmax pmax
comp=Z,14nm,1.1s
GNI Garni 61.17 316 *e*P **P 22 31 16.2 +0.2**
comp=Z,14nm,1.1s
DGRG David-gareji 61.31 318 P **P 22 31 17.5 +0.8**
TBLG Delisi 61.86 318 P **P 22 31 20.8 +0.3**
TBLG Delisi 61.86 318 P **P 22 31 20.7 +0.3**
SVE Sverdlovsk 62.55 338⇓ *e*P **P 22 31 24.3 -0.4**
SVE pmax pmax
comp=Z,24nm,0.9s
ARU Arti 63.05 337 *c i*P **P 22 31 27.1 -0.9**
ARU 22 33 49.0
ARU S **S 22 39 56.5 -0.3**
ARU pmax pmax
comp=Z,15nm,1.0s
ARU Arti 63.05 337 P **P 22 31 27.4 -0.6**
comp=Z,85nm,1.0s,SNR=6.2
ARU Arti 63.05 337 *e*P **P 22 31 27.3 -0.6**
comp=Z,14nm,1.0s
KBZ Khabaz 63.95 319 P **P 22 31 34.0 -0.2**
comp=Z,5.8nm,0.8s,baz=121,slow=6.5,SNR=14
KBZ Khabaz 63.95 319 P **P 22 31 34.0 -0.2**
KIV Kislovodsk 64.18 319 *c i*P **P 22 31 34.7 -1.2**
KIV *i* 22 31 42.4
KIV *i* 22 32 07.7
KIV pmax pmax
comp=Z,6.0nm,0.6s
KIV Kislovodsk 64.18 319 *e*P **P 22 31 35.8 -0.1**
comp=Z,18nm,1.2s
YAK Yakutsk 65.30 16 *e*P **P 22 31 41.5 -1.2**
YAK pmax pmax
comp=Z,55nm,0.9s
YAK pmax pmax
comp=E,16nm,1.3s
YAK pmax pmax
comp=N,16nm,1.1s
YAK Yakutsk 65.30 16 *e*P **P 22 31 42.3 -0.4**
comp=N,90nm,1.1s
EIL Elat 65.35 302 P **P 22 31 44.6 +0.9**
comp=N,3.9nm,0.8s,baz=304,slow=3.9,SNR=4.9
MMAI Mount Meron Ar 65.80 306 P **P 22 31 47.5 +0.9**
comp=N,2.0nm,0.8s,baz=95,slow=12,SNR=3.6
SOKR Solikamsk 65.96 339 *d i*P **P 22 31 47.1 +0.1**
SOKR pmax pmax
comp=Z,20nm,0.9s
LHI Lord Howe Isla 67.04 125 P P 22 31 48.1 -6.3
baz=67,SNR=3.1
BRTR Keskin Array B 68.99 312 P **P 22 32 05.6 -1.2**
comp=Z,1.8nm,0.8s,baz=132,slow=6.9,SNR=15
BRTR LR LR 23 03 34.7
comp=Z,10nm,20.8s,baz=102,slow=37
VSR Storozhevoye 69.44 325 *e*P **P 22 32 07.6 -1.5**
VSR pmax pmax
comp=N,8.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
SIM Simferopol' 70.24 318 *e*P **P 22 32 14.1 -0.1**
SIM pmax pmax
comp=Z,7.0nm,0.7s
MA2 Magadan 71.23 26⇑ *e*P **P 22 32 19.8 -0.1**
PRGR Permogore 71.50 337⇑ *i*P **P 22 32 19.8 -1.7**
PRGR *e**PP **pP 22 32 27.0 -3.1**
PRGR 22 32 39.1
PRGR pmax pmax
comp=Z,21nm,0.7s
PETK Petropavlovsk- 71.64 34 P **P 22 32 22.6 0.0**
comp=Z,3.6nm,0.7s,baz=168,slow=7.6,SNR=4.2
PET Petropavlovsk 72.14 34 *e*P **P 22 32 25.5 0.0**
PET *e*S **S 22 41 41.5 -4.5**
PET pmax pmax
comp=Z,41nm,0.9s
OBN Obninsk 72.48 328 *i*P **P 22 32 26.8 -0.7**
OBN *i* 22 32 32.6
OBN pmax pmax
comp=Z,13nm,1.2s
OBN MLR MLR
comp=Z,55nm,22.0s
MAW Mawson 72.83 193 LR LR 22 57 54.3
comp=Z,64nm,20.1s,baz=60,slow=30
SEY Seymchan 73.65 23⇑ *i*P **P 22 32 34.2 -0.1**
PSN Preselentsi 73.97 315⇓ *i*P **P 22 32 36.2 -0.4**
PSN Preselentsi 73.97 315 ⇓ *i*P **P 22 32 36.2 -0.4**
TIRR Tirgusor 74.00 316 *e*P **P 22 32 35.9 -0.8**
TIRR pmax pmax
comp=Z,6.0nm,0.9s
TIRR Tirgusor 74.00 316⇓ *i*P **P 22 32 35.9 -0.8**
TIRR Tirgusor 74.00 316 *e*P **P 22 32 35.9 -0.8**
comp=Z,5.8nm,0.9s
BOSA Boshof 74.81 240 LR LR 22 59 55.1
comp=Z,76nm,18.1s,baz=120,slow=31
AKASG Malin Array Be 75.13 322 P **P 22 32 41.6 -1.5**
comp=Z,1.8nm,0.6s,baz=88,slow=5.0,SNR=14
KIEV Kiev 75.14 322 *e*P **P 22 32 42.0 -1.2**
KIEV pmax pmax
comp=Z,6.0nm,1.0s

KIEV	Kiev	75.14	322	*e*P		P		22 32 42.0	-1.2
	comp=Z,5.7nm,1.0s								
VRI	Vrincioaia	75.49	317	⇓P		P		22 32 45.4	0.0
VRI	Vrincioaia	75.49	317	⇓*i*P		P		22 32 45.4	0.0
PLOR	Plostina	75.54	317	⇓P		P		22 32 46.0	+0.3
PLOR	Plostina	75.54	317	⇓*i*P		P		22 32 46.0	+0.3
TESR	Tescani	75.70	318	⇑*i*P		P		22 32 46.0	-0.5
TMCR	Tamitsa	75.78	337	*e*P		P		22 32 46.5	-0.1
TMCR				*e*				22 32 58.5	
TMCR				*e*				22 35 38.7	
TMCR				pmax	pmax				
	comp=Z,9.0nm,0.8s								
MLR	Muntele Rosu	75.94	317	⇑P		P		22 32 48.0	-0.1
MLR	Muntele Rosu	75.94	317	⇑*i*P		P		22 32 48.0	-0.1
MMB	Musomiste	76.75	312	⇑P		P		22 32 47.2	-5.5
MMB	Musomiste	76.75	312	⇑*i*P		P		22 32 47.2	-5.5
ARR	Arges	76.82	316	⇑*i*P		P		22 32 52.1	-0.9
BURAR	Bucovina Array	76.90	319	⇑P		P		22 32 53.9	+0.5
BURAR	Bucovina Array	76.90	319	⇑*i*P		P		22 32 53.9	+0.5
DRGR		78.41	317	⇑P		P		22 33 02.3	+0.5
DRGR		78.41	317	⇑*i*P		P		22 33 02.3	+0.5
BZS	Buzias	78.95	316	⇓P		P		22 33 04.6	-0.1
BZS	Buzias	78.95	316	⇓*i*P		P		22 33 04.6	-0.1
SIRR	Siria	79.03	317	⇑*i*P		P		22 33 05.2	0.0
KOLS	Kolonicke sedl	79.09	320	*e*P		P		22 33 05.6	+0.1
KOLS				pmax	pmax				
	comp=Z,5.0nm,0.9s								
KOLS	Kolonicke sedl	79.09	320	*e*P		P		22 33 05.6	+0.1
KOLS				*e*PCP		PcP		22 33 12.9	-1.0
STHS	Stebnicka Huta	79.84	320	*e*P		P		22 33 10.4	+0.8
STHS				pmax	pmax				
	comp=Z,3.0nm,0.8s								
STHS	Stebnicka Huta	79.84	320	*e*P		P		22 33 10.4	+0.8
STHS				*e*PCP		PcP		22 33 16.1	-1.0
FINES	FINESS Array B	79.86	332	P		P		22 33 08.9	-0.4
	comp=Z,5.3nm,0.8s,baz=113,slow=6.7,SNR=20								
FINES	FINESS Array B	79.86	332	P		P		22 33 09.0	-0.4
KECS	Kecovo	80.18	319	*e*P		P		22 33 10.8	-0.6
KECS				pmax	pmax				
	comp=Z,2.0nm,1.0s								
KECS	Kecovo	80.18	319	*e*P		P		22 33 10.8	-0.6
KECS				*e*PCP		PcP		22 33 16.9	-1.7
PSZ	Piszkesteto	80.48	318	*e*P		P		22 33 12.8	-0.3
PSZ				pmax	pmax				
	comp=Z,4.0nm,0.8s								
PSZ	Piszkesteto	80.48	318	⇓*i*P		P		22 33 12.4	-0.7
PSZ	Piszkesteto	80.48	318	*e*P		P		22 33 12.8	-0.3
	comp=Z,3.9nm,0.8s								
BILL	Bilibino	81.05	21	*i*P		P		22 33 14.4	-1.2
BILL				*i*				22 33 20.7	
BILL				pmax	pmax				
	comp=Z,6.0nm,1.4s								
ARCES	ARCESS Array B	82.40	340	P		P		22 33 22.6	-0.1
	comp=Z,2.8nm,0.5s,baz=93,slow=4.8,SNR=26								
ARCES				LR		LR		23 14 26.2	
	comp=Z,59nm,19.3s,baz=100,slow=39								
KRLC	Kraliky	82.80	320	*e*P		P		22 33 25.5	+0.2
KRLC				*e*PCP		PcP		22 33 32.4	+2.3
KRLC				*e*pP		pP		22 33 40.2	+6.1
KRLC	Kraliky	82.80	320	*e*P		P		22 33 25.5	+0.2
KRLC				*e*				22 33 32.4	
KRLC				*e*				22 33 40.2	
DPC	Dobruska-Polom	83.12	320	*e*P		P		22 33 26.5	-0.4
DPC				*e*PCP		PcP		22 33 33.7	+2.2
DPC				*e*pP		pP		22 33 40.8	+5.1
GEC2	GERESS Array S	84.69	319	*e*P		P		22 33 35.2	+0.2
GEC2	GERESS Array S	84.69	319	*e*P		P		22 33 35.2	+0.2
GERES	GERESS Array B	84.69	319	P		P		22 33 34.7	-0.4
	comp=Z,2.5nm,0.8s,baz=88,slow=4.4,SNR=20								
KHC	Kasperske Hory	84.79	319	*e*P		P		22 33 35.1	-0.4
KHC				*e*pP		pP		22 33 44.8	+0.5
KHC				*e*sP		sP		22 33 50.2	+2.7
KHC	Kasperske Hory	84.79	319	*e*P		P		22 33 35.1	-0.4
KHC				*e*				22 33 44.8	
KHC				*e*				22 33 50.2	
VNDA	Vanda	85.96	169	P		P		22 33 41.2	+0.5
	comp=Z,0.9nm,1.0s,baz=6.4,slow=7.9,SNR=3.3								
VNDA				LR		LR		23 09 13.3	
	comp=Z,56nm,18.0s,baz=299,slow=34								
NB2	NORSAR Subarra	86.87	331	P		P		22 33 44.8	-0.7
	comp=Z,1.5nm,0.7s,baz=97,slow=4.6								
NOA	NORSAR Array B	86.87	331	P		P		22 33 44.9	-0.7
	comp=Z,2.4nm,0.8s,baz=94,slow=4.8,SNR=7.3								
NOA				LR		LR		23 17 31.7	
	comp=Z,33nm,18.8s,baz=290,slow=39								
FUORN	Ofenpass-Fuorn	86.90	316	*e*P		P		22 33 46.4	+0.1
	comp=Z,7.9nm,1.2s								
SBA	Scott Base	87.06	169	*e*P		P		22 33 54.2	+8.1
	comp=Z,122nm,3.0s								
KEST	Kesra	87.45	306	P		P		22 33 49.5	+0.6
	comp=Z,1.4nm,0.8s,baz=352,slow=9.5,SNR=5.3								
TAM	Tamanrasset	91.00	293	*e*P		P		22 34 06.7	+0.7
TAM				pmax	pmax				
	comp=Z,10.0nm,1.6s								
TAM	Tamanrasset	91.00	293	*e*P		P		22 34 06.7	+0.7
	comp=Z,10nm,1.6s								
TORD	Torodi Ar. Bea	95.02	283	P		P		22 34 23.8	-0.7
	comp=Z,0.5nm,1.1s,baz=95,slow=4.3,SNR=2.2								
TORD				LR		LR		23 15 29.9	
	comp=Z,46nm,18.9s,baz=170,slow=34								
IM04	Indian Mountai	96.46	23	*e*P		P		22 34 28.5	-1.5
NVAR	Mina Array Bea	128.70	36	PKP		PKPdf		22 40 09.5	+0.5
	comp=Z,1.4nm,0.9s,baz=239,slow=1.4,SNR=7.2								
PDAR	Pinedale Array	129.94	26	PKP		PKPdf		22 40 10.1	-1.1
	comp=Z,0.9nm,0.7s,baz=350,slow=1.7,SNR=5.5								
R11A	Troy Canyon, C	130.30	34	*e*PKPdf		PKPdf		22 40 12.2	+0.3
ANMO	Albuquerque	137.67	29	⇑PKIKP		PKPdf		22 40 26.1	+0.2
W36A	Wetumka	141.61	18	P		PKPdf		22 40 30.2	-2.6
	baz=141								
X38A	Whitesboro	142.46	16	P		PKPdf		22 40 30.2	-4.1
	baz=142								
230A	Sterling City	142.69	26	P		PKPdf		22 40 30.4	-4.5
	baz=142								
MIAR	Mount Ida	142.91	15	*e*PKIKP		PKPdf		22 40 31.9	-3.3
MIAR	Mount Ida	142.91	15	P		PKPdf		22 40 31.2	-4.0
	baz=143								
MIAR	Mount Ida	142.91	15	*e*PKPdf		PKPdf		22 40 31.9	-3.3
233A	Rising Star	143.50	23	P		PKPbc		22 40 34.0	+0.5
	baz=143								
TXAR	Lajitas Array	143.57	32	PKP		PKPbc		22 40 34.0	+0.1
	comp=Z,1.6nm,0.7s,baz=75,slow=0.5,SNR=22								
TXAR	Lajitas Array	143.57	32	PKIKP		PKPbc		22 40 34.0	+0.1
530A	J-C Ranch, Com	144.06	28	P		PKPbc		22 40 35.7	+0.4
	baz=144								
WHTX	Lake Whitney	144.08	21	P		PKPbc		22 40 35.7	+0.5
	baz=144								
333A	Richland Sprin	144.08	24	P		PKPbc		22 40 35.1	-0.2
	baz=144								
334A	Lometa	144.37	23	P		PKPab		22 40 35.7	-0.2
	baz=144								
531A	Rocksprings	144.41	27	P		PKPab		22 40 36.0	-0.1
	baz=144								
JCT	Junction City	144.47	26	P		PKPab		22 40 36.2	-0.1
	baz=144								
532A	Rocksprings	144.73	26	P		PKPab		22 40 36.8	-0.5
	baz=144								
238A	Jacksonville	144.86	18	P		PKPdf		22 40 38.4	-0.2
	baz=145								
631A	Perdido Creek	145.04	28	P		PKPbc		22 40 38.1	-0.3
	baz=145								
239A	Gary	145.05	17	P		PKPab		22 40 38.3	0.0
	baz=145								
CPUP	Villa Florida	145.08	222	PKPbc		PKPab		22 40 38.6	+0.1
	comp=Z,2.8nm,0.8s,baz=97,slow=4.9,SNR=5.2								
632A	Uvalde	145.31	27	P		PKPbc		22 40 39.2	-0.1
	baz=145								
GOGA	Godfrey	145.44	1	*e*PKIKP		PKPbc		22 40 39.0	-0.5
GOGA	Godfrey	145.44	1	*e*PKPdf		PKPbc		22 40 39.0	-0.5
LRAL	Lakeview Retre	145.59	6	*e*PKPdf		PKPdf		22 40 38.8	-1.1
437A	Phantom Ranch,	145.60	21	P		PKPab		22 40 40.6	+0.3
	baz=145								
633A	Saathoff Ranch	145.62	26	P		PKPbc		22 40 40.3	+0.1
	baz=145								
732A	Laxson Ranch,	145.89	27	P		PKPab		22 40 41.8	+0.3
	baz=146								
733A	Divot King Ran	146.21	27	P		PKPab		22 40 42.7	0.0
	baz=146								
832A	Faith Ranch, C	146.27	28	P		PKPab		22 40 42.9	-0.1
	baz=146								
635A	Leesville	146.28	24	P		PKPab		22 40 42.9	0.0
	baz=146								
636A	Smothers Creek	146.48	23	P		PKPab		22 40 43.7	0.0
	baz=146								
833A	Chaparral WMA,	146.50	27	P		PKPab		22 40 44.0	+0.1
	baz=146								
735A	Kenedy	146.73	24	P		PKPab		22 40 44.5	-0.2
	baz=146								
CFAA	Coronel Fontan	146.88	203	PKPbc		PKPbc		22 40 43.5	-0.5
	comp=Z,0.3nm,0.5s,baz=166,slow=4.6,SNR=4.2								
834A	Tilden	147.05	26	P		PKPab		22 40 45.7	-0.3
	baz=147								

IDC ***13*** *22:31:05.9±1.4, 35.39°N×25.66°E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.3/35, mbtmp3.5/4, ML4.4/1, Error ellipse: s-maj=40.4km s-min=9.4km az=163.0*
ISCJB ***13*** *22:31:08.9±0.3, 35.46°N±0.02×25.49°E±0.02, h25km±3km, mb3.4/3, Error ellipse: s-maj=3.9km s-min=3.2km az=11.3*
ATH ***13*** *22:31:08.0, 35.46°N×25.49°E, h30km±1km, MD3.7/24, ML3.1*
THE ***13*** *22:31:09.2, 35.48°N×25.50°E, h9km±1km, ML3.4/4, Error ellipse: s-maj=1.6km s-min=0.6km az=167.0*
CSEM ***13*** *22:31:09.1±0.1, 35.46°N×25.49°E, h15km, MD3.7, Error ellipse: s-maj=3.5km s-min=3.0km az=23.0*
ISK ***13*** *22:31:15.5, 35.88°N×25.88°E, h5km, MD3.2*
ISC 13 22:31:09.1±0.9, 35.46°N±0.02×25.49°E±0.02, h18km±4km, n198, σ0.9/92/232, mb3.4/3, 1C, Crete

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
						Op	ISC	h	m	s	ISC
NPS	Neapolis	0.23	153	*e*PB			Pg	22	31	14.4	0.0
NPS				*e*SB			Sb	22	31	18.3	+0.2
NPS	Neapolis	0.23	153	P			Pg	22	31	14.5	0.0
NPS				*e*Sb			Sb	22	31	18.3	+0.2
NPS	Neapolis	0.23	153	P			Pg	22	31	14.5	0.0
NPS				S			Sb	22	31	18.8	+0.7
LAST	Lasithi	0.30	181	P			Pg	22	31	15.4	-0.3
LAST				S			Sb	22	31	20.6	-0.1
LAST	Lasithi	0.30	181	P			Pg	22	31	15.4	-0.3
LAST				S			Sb	22	31	20.6	-0.1
IDI	Anoyia	0.52	250	Pg			Pg	22	31	19.0	-0.5
	94nm,0.3s,baz=3.6,slow=7.3,SNR=1010										
IDI				Lg			Lg	22	31	25.9	
	357nm,0.3s,baz=346,slow=19,SNR=50										
IDI				LR			LR	22	31	36.8	
	comp=Z,54nm,21.6s,baz=188,slow=49										
ZKR	Zakros	0.69	120	*e*PN			Pg	22	31	22.6	-0.1
ZKR				*e*SN			Sg	22	31	31.5	-0.5
ZKR	Zakros	0.69	120	*e*Pn			Pg	22	31	22.6	-0.1
ZKR	Zakros	0.69	120	P			Pb	22	31	23.0	+0.4
ZKR				*e*Sn			Sg	22	31	31.5	-0.5
ZKR				S			Sg	22	31	32.1	+0.1
ZKR	Zakros	0.69	120	P			Pb	22	31	23.0	+0.4
ZKR				S			Sg	22	31	32.1	+0.1
SIVA	Sivas	0.71	231	P			Pg	22	31	22.4	-0.7
SIVA				S			Sb	22	31	32.4	+0.8
SIVA	Sivas	0.71	231	P			Pg	22	31	22.4	-0.7
SIVA				S			Sb	22	31	33.1	+0.8
THR6	Thira Island,	0.89	355	P			Pb	22	31	25.7	-0.4
THR6	Thira Island,	0.89	355	P			Pb	22	31	25.7	-0.4
THR1	Thera Island	0.91	359	P			Pb	22	31	25.9	-0.4
THR1	Thera Island	0.91	359	P			Pb	22	31	25.9	-0.4
SANT	Santorini	0.91	359	*e*PN			Pb	22	31	25.7	-0.6
SANT				*e*SN			Sg	22	31	39.6	+0.8
SANT	Santorini	0.91	359	P			Pb	22	31	25.7	-0.6
SANT				S			Sg	22	31	38.9	+0.1
SANT				*e*Sn			Sg	22	31	39.6	+0.8
SANT	Santorini	0.91	359	P			Pb	22	31	25.7	-0.6
SANT				S			Sg	22	31	38.9	+0.1
THR3	Thira Island,	0.95	356	P			Pb	22	31	26.2	-0.8
THR3	Thira Island,	0.95	356	P			Pb	22	31	26.2	-0.8
THR5	Thira Island,	0.96	353	P			Pb	22	31	26.4	-0.8
THR5	Thira Island,	0.96	353	P			Pb	22	31	26.4	-0.8
VAM	Vamos	1.05	267	*e*PN			Pb	22	31	28.7	-0.1
VAM				*e*SN			Sb	22	31	42.3	+0.1
VAM	Vamos	1.05	267	*e*Pn			Pb	22	31	28.7	-0.1
VAM				*e*Sn			Sb	22	31	42.3	+0.1
GVD	Gavdhos	1.30	242	*e*PN			Pn	22	31	32.9	+0.5
GVD				*e*SN			Sn	22	31	50.0	+0.6
GVD	Gavdhos	1.30	242	*e*Pn			Pn	22	31	32.9	+0.5
GVD	Gavdhos	1.30	242	P			Pb	22	31	33.4	+0.3
GVD				*e*Sn			Sn	22	31	50.0	+0.6
GVD				S			Sg	22	31	51.4	+0.1
GVD	Gavdhos	1.30	242	P			Pb	22	31	33.4	+0.3
GVD				S			Sg	22	31	51.4	+0.1
KARP	Karpathos	1.37	86	*e*PN			Pn	22	31	32.5	-0.9
KARP	Karpathos	1.37	86	*e*Pn			Pn	22	31	32.5	-0.9
KARP				S			Sn	22	31	50.9	-0.2
KARP	Karpathos	1.37	86	P			Pn	22	31	32.4	-0.9
KARP				S			Sn	22	31	50.9	-0.2
MHLO	Agia Marina, M	1.51	325	*e*PB			Pn	22	31	34.6	-0.7
MHLO				*e*SN			Sn	22	31	55.7	+0.4
MHLO	Agia Marina, M	1.51	325	P			Pn	22	31	34.5	-0.7
MHLO				S			Sn	22	31	54.9	+0.5
MHLO				*e*Sn			Sb	22	31	55.7	+0.4
MHLO	Agia Marina, M	1.51	325	P			Pn	22	31	34.5	-0.7
MHLO				S			Sn	22	31	54.9	+0.5
APE	Apeiranthos	1.60	1	*e*PN			Pg	22	31	40.0	0.0
APE				*e*SN			Sn	22	31	57.7	+0.8
APE	Apeiranthos	1.60	1	⇑*i*P			Pg	22	31	40.2	+0.2
APE	Apeiranthos	1.60	1	P			Pn	22	31	35.6	-1.0
APE	Apeiranthos	1.60	1	*e*Pn			Pg	22	31	40.0	0.0
APE				S			Sn	22	31	57.5	+0.6
APE	Apeiranthos	1.60	1	P			Pn	22	31	35.6	-1.0
APE				S			Sn	22	31	57.5	+0.6
NIS1	Nisyros Isl.	1.78	50	*e*PN			Pn	22	31	39.2	+0.2
NIS1	Nisyros Isl.	1.78	50	*e*Pn			Pn	22	31	39.2	+0.2
ANKY	Antikythira Is	1.82	283	*e*PN			Pn	22	31	39.0	-0.6
ANKY	Antikythira Is	1.82	283	P			Pn	22	31	39.4	-1.2
ANKY	Antikythira Is	1.82	283	*e*Pn			Pn	22	31	39.0	-0.6
ANKY				S			Sn	22	32	02.8	+0.6
ANKY	Antikythira Is	1.82	283	P			Pn	22	31	38.4	-1.2
ANKY				S			Sn	22	32	02.8	+0.6
KYTH	Kithira	2.15	293	*e*PN			Pn	22	31	42.8	-1.3
KYTH	Kithira	2.15	293	*e*Pn			Pn	22	31	42.8	-1.3
BODT	Bodrum	2.17	42	*e*PN			Pn	22	31	46.4	+2.0
BODT	Bodrum	2.17	42	*e*Pn			Pn	22	31	46.4	+2.0
ARG	Arkhangelos	2.27	70	*e*PN			Pn	22	31	45.9	+0.2
ARG				*e*SN			Sn	22	32	12.9	-0.4
ARG	Arkhangelos	2.27	70	*e*Pn			Pn	22	31	45.9	+0.2
ARG				*e*Sn			Sn	22	32	12.9	-0.4
ARG				S			Sn	22	32	13.3	0.0
ARG	Arkhangelos	2.27	70	P			Pn	22	31	46.0	+0.2
ARG				S			Sn	22	32	13.3	0.0
VLI	Veliai	2.41	302	*e*PN			Pn	22	31	46.8	-0.9
VLI	Veliai	2.41	302	P			Pn	22	31	46.8	-0.9
VLI	Veliai	2.41	302	P			Pn	22	31	46.8	-0.9
SMG	Samos	2.49	25	*e*PN			Pn	22	31	48.6	-0.2
SMG	Samos	2.49	25	*e*Pn			Pn	22	31	48.6	-0.2
SMG	Samos	2.49	25	P			Pn	22	31	48.4	-0.4
KRND	KRANIDI	2.69	316	*e*PN			Pn	22	31	51.6	+0.1
KRND	KRANIDI	2.69	316	*e*Pn			Pn	22	31	51.6	+0.1
KRND	KRANIDI	2.69	316	P			Pn	22	31	51.5	+0.1
KARY	Karystos	2.70	342	P			Pn	22	31	51.4	-0.2
DIDY	Didyma	2.72	318	*e*PN			Pn	22	31	51.5	-0.5
DIDY	Didyma	2.72	318	*e*Pn			Pn	22	31	51.5	-0.5
DIDY	Didyma	2.72	318	P			Pn	22	31	51.8	-0.2
DIDY	Didyma	2.72	318	P			Pn	22	31	51.8	-0.2
DID	Didima	2.73	319	*e*PN			Pn	22	31	51.6	-0.5
DID	Didima	2.73	319	*e*Pn			Pn	22	31	51.6	-0.5
DID	Didima	2.73	319	P			Pn	22	31	51.9	-0.2
DID	Didima	2.73	319	P			Pn	22	31	51.9	-0.2
YER	Yerkesik	2.81	53	*e*PN			Pn	22	31	56.1	+2.9
YER				*e*SN			Sn	22	32	25.6	-1.0
YER	Yerkesik	2.81	53	*e*Pn			Pn	22	31	56.1	+2.9
YER				*e*Sn			Sn	22	32	25.6	-1.0
ATH	Athens Observa	2.88	331	*e*PN			Pn	22	31	54.4	+0.3
ATH	Athens Observa	2.88	331	*e*Pn			Pn	22	31	54.4	+0.3
DALY	Dalyan (Mu¨la	2.90	61	*e*PN			Pn	22	31	57.7	+3.4
DALY	Dalyan (Mu¨la	2.90	61	*e*Pn			Pn	22	31	57.7	+3.4
CHOS	Chios island	2.95	9	*e*PN			Pn	22	31	54.9	-0.3
CHOS	Chios island	2.95	9	*e*Pn			Pn	22	31	54.9	-0.3
AYDB	Zeytinkoy-Aydi	3.14	37	*e*PN			Pn	22	32	00.5	+2.6
AYDB	Zeytinkoy-Aydi	3.14	37	*e*Pn			Pn	22	32	00.5	+2.6
VLX	Vlachokerasia	3.15	308	*e*PN			Pn	22	31	57.6	-0.3
VLX	Vlachokerasia	3.15	308	*e*Pn			Pn	22	31	57.6	-0.3
VLX	Vlachokerasia	3.15	308	P			Pn	22	31	57.5	-0.3
EREA	Eretria	3.20	338	*e*PN			Pn	22	31	58.8	+0.2
EREA	Eretria	3.20	338	P			Pn	22	31	58.8	+0.2
EREA	Eretria	3.20	338	P			Pn	22	31	58.8	+0.2
ACOR	Acrocorinthos	3.21	320	P			Pn	22	31	59.0	+0.4
VILL	Villia	3.21	328	*e*Pn			Pn	22	31	59.1	+0.4
VILL	Villia	3.21	328	P			Pn	22	31	58.9	+0.2
LOUT	Loutraki	3.23	322	*e*PN			Pn	22	31	59.5	+0.6
LOUT	Loutraki	3.23	322	*e*Pn			Pn	22	31	59.5	+0.6
LTK	Loutraki	3.26	322	*e*PN			Pn	22	31	59.9	+0.6
LTK	Loutraki	3.26	322	P			Pn	22	31	59.6	+0.3
LTK	Loutraki	3.26	322	*e*Pn			Pn	22	31	59.9	+0.6
LTK	Loutraki	3.26	322	P			Pn	22	31	59.6	+0.3
VIL2	Platees	3.27	328	*e*PN			Pn	22	31	59.1	-0.4
ITM	Ithomi	3.34	302	*e*PN			Pn	22	32	02.0	+1.5
ITM	Ithomi	3.34	302	P			Pn	22	32	01.7	+1.2
ITM	Ithomi	3.34	302	*e*Pn			Pn	22	32	02.0	+1.5
ITM	Ithomi	3.34	302	P			Pn	22	32	01.7	+1.2
PYL	PYLOS	3.35	296	*e*PN			Pn	22	32	00.7	+0.1
PYL	PYLOS	3.35	296	*e*Pn			Pn	22	32	00.7	+0.1
THAL	Thalero	3.42	319	*e*PN			Pn	22	32	02.7	+1.1
THAL	Thalero	3.42	319	*e*Pn			Pn	22	32	02.7	+1.1
GUR	Goura	3.53	315	*e*PN			Pn	22	32	03.5	+0.3
GUR	Goura	3.53	315	P			Pn	22	32	03.5	+0.3
GUR	Goura	3.53	315	P			Pn	22	32	03.5	+0.3
MRKA	Markates	3.57	335	*e*PN			Pn	22	32	03.6	-0.1
MRKA	Markates	3.57	335	*e*Pn			Pn	22	32	03.6	-0.1
AMT	Artemida-Makis	3.68	305	*e*PN			Pn	22	32	07.3	+2.2
AMT	Artemida-Makis	3.68	305	*e*Pn			Pn	22	32	07.3	+2.2
KLV	Kalavryta, Ach	3.71	315	*e*PN			Pn	22	32	05.9	+0.2
KLV	Kalavryta, Ach	3.71	315	P			Pn	22	32	05.9	+0.2
KLV	Kalavryta, Ach	3.71	315	P			Pn	22	32	05.9	+0.2
LKR	Lokris	3.75	329	*e*PN			Pn	22	32	06.7	+0.6
LKR	Lokris	3.75	329	P			Pn	22	32	06.7	+0.6
LKR	Lokris	3.75	329	P			Pn	22	32	06.7	+0.6
SIGR	SIGRI	3.75	4	*e*PN			Pn	22	32	05.3	-0.8
SIGR	SIGRI	3.75	4	*e*Pn			Pn	22	32	05.3	-0.8
ATAL	Atalanti	3.78	329	P			Pn	22	32	07.1	+0.6
ATAL	Atalanti	3.78	329	P			Pn	22	32	07.1	+0.6
DSF	Desfina	3.78	322	*e*PN			Pn	22	32	07.1	+0.6
DSF	Desfina	3.78	322	P			Pn	22	32	06.7	+0.2
DSF	Desfina	3.78	322	*e*Pn			Pn	22	32	07.1	+0.6
DSF	Desfina	3.78	322	P			Pn	22	32	06.7	+0.2
ELL	Elmali	3.80	69	*e*PN			Pn	22	32	11.0	+4.0
ELL	Elmali	3.80	69	*e*Pn			Pn	22	32	11.0	+4.0
PRK

	35nm,0.4s,baz=125,slow=18,SNR=19							
AAK	**Ala-Archa**	**2.29**	**52**	P	**Pb**	**23 07 11.4**	**-1.4**	
	SNR=7.8							
AAK	**Ala-Archa**	**2.29**	**52**	⇓Pn	**Pb**	**23 07 11.4**	**-1.4**	
	6.3nm,0.4s							
AAK				⇑Sn	**Sb**	**23 07 41.3**	**-0.2**	
	112nm,0.7s							
AAK	**Ala-Archa**	**2.29**	**52**	⇑*iP*	**Pb**	**23 07 11.4**	**-1.4**	
	baz=54							
AAK				⇑*iS*	**Sg**	**23 07 43.6**	**-0.7**	
	baz=54							
FRU	**Bishkek**	**2.49**	**49**	*eP*	**Pg**	**23 07 17.5**	**-0.8**	
	baz=52							
FRU				*eS*	**Sb**	**23 07 47.0**	**0.0**	
	baz=52							
KZA	**Kyzart**	**2.53**	**69**	P	**Pb**	**23 07 15.0**	**-2.0**	
	SNR=22							
KZA	**Kyzart**	**2.53**	**69**	⇑*iP*	**Pb**	**23 07 14.9**	**-2.1**	
	baz=71							
KZA				⇑*iS*	**Sb**	**23 07 49.9**	**+1.2**	
	baz=71							
KBK	**Karagaybulak**	**2.58**	**56**	P	**Pb**	**23 07 15.9**	**-1.7**	
	SNR=8.0							
KBK	**Karagaybulak**	**2.58**	**56**	⇑*iP*	**Pb**	**23 07 15.7**	**-2.0**	
	baz=58							
KBK				⇑*iS*	**Sg**	**23 07 52.3**	**-1.3**	
	baz=58							
CHMS	**Chumysh**	**2.67**	**48**	P	**Pn**	**23 07 16.5**	**+2.0**	
	SNR=6.8							
USP	**Ospenovka**	**2.72**	**41**	P	Sn	23 07 56.9	+8.2	
	SNR=5.7							
USP	**Ospenovka**	**2.72**	**41**	⇑*iP*	**Pn**	**23 07 17.2**	**+1.9**	
	baz=44							
USP				⇑*iS*	**Sb**	**23 07 52.9**	**-0.9**	
	baz=44							
NRN	**Naryn**	**2.97**	**85**	*eP*	**Pb**	**23 07 25.0**	**+0.6**	
	baz=86							
NRN				*eS*	**Sb**	**23 08 02.8**	**+1.6**	
	baz=86							
TKM2	**Tokmak 2**	**3.13**	**56**	P	**Sg**	**23 08 10.2**	**-0.9**	
	SNR=5.2							
DZET	**Dzherino**	**3.47**	**227**	⇑Pn	**Pn**	**23 07 28.5**	**+2.9**	
	5.9nm,0.5s							
DZET				⇓Sn	**Sn**	**23 08 10.6**	**+3.3**	
	21nm,0.6s							
DZET				⇓Lg	Lg	23 08 23.8		
	27nm,0.6s							
KNDC	**Almaty**	**4.15**	**60**	⇓Lg	Lg	23 08 41.7		
	21nm,0.5s							
PDGK	**Podgornoye**	**5.89**	**67**	⇑Pg	Pg	23 08 18.5	-5.0	
	1.5nm,0.6s							
PDGK				⇑Lg	Lg	23 09 36.4		
	7.6nm,1.0s							
OTUK	**Ortayu**	**7.01**	**2**	⇑Lg	Lg	23 10 15.6		
	3.5nm,0.5s							
MK31	**Makanchi Array**	**9.23**	**50**	⇑Lg	Lg	23 11 23.3		
	2.3nm,0.9s							
KURBB	**Kurchatov Arra**	**10.41**	**23**	⇑Lg	Lg	23 12 02.5		
	5.7nm,0.7s							
KURK	**Kurchatov**	**10.52**	**23**	⇑Lg	Lg	23 12 04.3		
	2.2nm,0.9s							
BVA0	**Borovoye Array**	**11.85**	**355**	⇓Lg	Lg	23 12 46.8		
	2.0nm,0.8s,baz=171,slow=28,SNR=3.7							

WEL 13 23:13:51.7±0.3, 38°22S×176°01E, h156km±2km, ML3.6/18, 11C-3D, Error ellipse: s-maj=2.3km s-min=2.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.87**	**93**	PN	Pn	23 14 15.9	-0.1
URZ				SN	Sn	23 14 33.8	-0.6
KRVZ	**Karewarewa**	**0.92**	**198**	PN	Pn	23 14 16.7	+0.1
WTVZ	**West Tongariro**	**0.95**	**200**	PN	Pn	23 14 17.0	+0.2
WTVZ				SN	Sn	23 14 36.0	-0.1
TWVZ	**Taurewa**	**0.96**	**208**	⇑PN	Pn	23 14 17.1	+0.3
BKZ	**Black Stump Fm**	**1.02**	**158**	PN	Pn	23 14 17.1	-0.2
BKZ				SN	Sn	23 14 35.8	-1.1
NMHZ	**Naumai**	**1.08**	**145**	PN	Pn	23 14 18.1	+0.4
NMHZ				SN	Sn	23 14 37.5	-0.3
TUVZ	**Tukino**	**1.08**	**195**	⇑PN	Pn	23 14 18.1	+0.2
WHVZ	**Whangaehu Hut**	**1.11**	**197**	⇑PN	Pn	23 14 18.3	0.0
WNVZ	**Wahianoa**	**1.15**	**196**	⇑PN	Pn	23 14 18.5	0.0
SNGZ	**Shannon Statio**	**1.18**	**119**	PN	Pn	23 14 18.6	0.0
SNGZ				SN	Sn	23 14 39.2	-0.1
PKVZ	**Pokaka**	**1.19**	**206**	⇑PN	Pn	23 14 18.8	0.0
PKVZ				SN	Sn	23 14 40.0	+0.5
MWZ	**Matawai**	**1.20**	**96**	PN	Pn	23 14 19.0	+0.1
MWZ				SN	Sn	23 14 39.0	-0.6
MOVZ	**Moawhango**	**1.20**	**190**	⇑PN	Pn	23 14 18.5	-0.4
MOVZ				SN	Sn	23 14 39.0	-0.9
MTVZ	**Mangateitei**	**1.24**	**200**	PN	Pn	23 14 19.1	-0.1
KWHZ	**Kaweka Forest**	**1.24**	**165**	PN	Pn	23 14 19.2	-0.1
KWHZ				SN	Sn	23 14 40.0	-0.5
BHHZ	**Black Hill Sta**	**1.27**	**178**	PN	Pn	23 14 19.1	-0.4
BHHZ				SN	Sn	23 14 40.6	-0.3
ARHZ	**Aropaoanui**	**1.29**	**144**	PN	Pn	23 14 20.1	+0.4
ARHZ				SN	Sn	23 14 41.3	+0.1
MCHZ	**McNeill Hill**	**1.33**	**157**	PN	Pn	23 14 20.5	+0.4
MCHZ				SN	Sn	23 14 41.9	+0.1
KRHZ	**Kereru**	**1.45**	**169**	⇑PN	Pn	23 14 21.0	-0.2
KRHZ				SN	Sn	23 14 43.1	-0.9
RIGZ	**Rimuhau**	**1.46**	**110**	PN	Pn	23 14 22.1	+0.7
RIGZ				SN	Sn	23 14 43.2	-0.8
HAZ	**Te Kaha**	**1.48**	**72**	PN	Pn	23 14 20.8	-0.7
CKHZ	**Cape Kidnapper**	**1.66**	**150**	PN	Pn	23 14 23.4	+0.1
PNHZ	**Pukenui**	**1.70**	**175**	PN	Pn	23 14 23.0	-0.8
KAHZ	**Kahuranaki**	**1.71**	**157**	PN	Pn	23 14 23.8	-0.2
WAZ	**Wanganui**	**1.73**	**207**	⇓PN	Pn	23 14 23.8	-0.4
CNGZ	**Carnagh Statio**	**1.75**	**99**	PN	Pn	23 14 25.3	+0.9
TSZ	**Takapari Road**	**1.84**	**181**	⇑PN	Pn	23 14 24.5	-0.9
WPHZ	**Waipukurau**	**1.87**	**170**	PN	Pn	23 14 24.9	-0.8
PXZ	**Pawanui**	**1.93**	**160**	PN	Pn	23 14 22.9	-3.4
PXZ				AML	AML	23 14 54.1	
DVHZ	**Dannevirke**	**2.08**	**177**	⇑PN	Pn	23 14 26.7	-1.4
PRHZ	**Porangahau**	**2.10**	**167**	PN	Pn	23 14 27.4	-0.9
POWZ	**Post Office Ro**	**2.18**	**185**	⇑PN	Pn	23 14 27.7	-1.5
ANWZ	**Angora Road**	**2.27**	**171**	PN	Pn	23 14 29.2	-1.1
PRWZ	**Pori Road**	**2.33**	**181**	PN	Pn	23 14 29.7	-1.4
MRZ	**Mangatainoka R**	**2.46**	**188**	⇑PN	Pn	23 14 30.6	-2.0
MRZ				AML	AML	23 15 03.0	
MRZ				AML	AML	23 15 03.1	
BFZ	**Birch Farm**	**2.46**	**176**	PN	Pn	23 14 30.8	-1.8
TIWZ	**Tintock**	**2.56**	**182**	PN	Pn	23 14 31.8	-2.0
TIWZ				AML	AML	23 15 05.1	
TIWZ				AML	AML	23 15 05.8	
OGWZ	**Otaki Gorge**	**2.67**	**194**	PN	Pn	23 14 33.1	-2.1
HOWZ	**Holdsworth Sta**	**2.70**	**188**	PN	Pn	23 14 33.1	-2.5
KIW	**Kapiti Island**	**2.77**	**198**	PN	Pn	23 14 33.8	-2.6
TMWZ	**Te Maipa**	**2.89**	**182**	PN	Pn	23 14 35.4	-2.5
MTW	**Mount Morrison**	**2.96**	**187**	PN	Pn	23 14 35.9	-2.9
CAW	**Cannon Point**	**2.98**	**194**	PN	Pn	23 14 36.2	-2.8
TRWZ	**Traveller**	**3.19**	**184**	PN	Pn	23 14 38.7	-2.9
PAWZ	**Paruwai Farm**	**3.19**	**188**	⇓PN	Pn	23 14 38.6	-3.1
MSWZ	**Moikau Station**	**3.25**	**190**	⇓PN	Pn	23 14 39.2	-3.2
TCW	**Tory Channel**	**3.27**	**204**	PN	Pn	23 14 39.8	-2.9
BHW	**Baring Head**	**3.30**	**195**	PN	Pn	23 14 39.7	-3.4
PLWZ	**Palliser**	**3.40**	**190**	PN	Pn	23 14 40.8	-3.6
TUWZ	**Tuamarina**	**3.58**	**206**	PN	Pn	23 14 43.3	-3.3
NNZ	**Nelson**	**3.62**	**213**	PN	Pn	23 14 43.8	-3.3
ORZ	**Quartz Range**	**3.75**	**225**	PN	Pn	23 14 45.0	-3.8
BSWZ	**Blackbirch Sta**	**3.86**	**204**	PN	Pn	23 14 46.8	-3.4
THZ	**Tophouse**	**4.27**	**213**	PN	Pn	23 14 51.4	-4.2
KHZ	**Kahutara**	**4.60**	**203**	PN	Pn	23 14 56.0	-3.9

IDC ***13*** *23:36:23.0±0.9, 15°.22S×173°.41W, h0km, mb3.9/8, mb1 4.3/9, mb1mx4.0/33, mbtmp4.0/9, ML4.3/1, MS2.9/1, Ms1 2.9/1, ms1mx2.7/31, Error ellipse: s-maj=46.2km s-min=16.9km az=142.0*

ISCJB ***13*** *23:36:25.8±0.7, 15°.2S±0°.2×173°.5W±0°.2, h30km, mb3.9/7, MS5.0/1, Error ellipse: s-maj=36.2km s-min=11.8km az=143.1*

ISC 13 23:36:27.2±0.9, 15°.2S±0°.3×173°.3W±0°.2, h30km, n15, σ1s33/12, mb3.8/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.94**	**50**	Pn	**Pn**	**23 36 58.3**	**+0.1**
	107nm,0.3s,baz=23,slow=2.1,SNR=64						
AFI				Sn	**Sn**	**23 37 18.8**	**-2.8**
	192nm,0.3s,baz=40,slow=20,SNR=14						

AFI					LR	LR	23 37 38.8	
	comp=Z,299nm,19.9s,baz=183,slow=37							
DZM	**Mont Dzumac**	**20.36**	**247**	P	**P**	**23 41 01.1**	**-0.5**	
	7.1nm,1.0s,baz=270,slow=20,SNR=2.5							
URZ	**Urewera**	**24.52**	**198**	P	**P**	**23 41 43.5**	**-0.5**	
	12nm,0.7s,baz=355,slow=2.1,SNR=8.6							
H11S2	**WAKE ISLAND Hy**	**38.80**	**329**	T	T	00 24 18.0		
	baz=146,slow=76,SNR=4.6							
H11S3	**WAKE ISLAND Hy**	**38.81**	**329**	T	T	00 24 18.1		
	baz=146,slow=76,SNR=5.2							
H11S1	**WAKE ISLAND Hy**	**38.81**	**329**	T	T	00 24 19.1		
	baz=146,slow=76,SNR=3.9							
WRA	**Warramunga Arr**	**49.98**	**257**	P	**P**	**23 45 18.0**	**-1.0**	
	0.5nm,0.6s,baz=94,slow=6.8,SNR=5.9							
ASAR	**Alice Springs**	**50.26**	**252**	P	**P**	**23 45 19.9**	**-1.3**	
	1.3nm,0.5s,baz=90,slow=7.3,SNR=21							
NVAR	**Mina Array Bea**	**74.10**	**42**	P	**P**	**23 48 02.4**	**+1.5**	
	0.5nm,0.5s,baz=228,slow=10,SNR=4.8							
LEM	**Lembang**	**77.73**	**266**	LR	LR	00 19 11.7		
	comp=Z,803nm,20.9s,baz=96,slow=33							
TXAR	**Lajitas Array**	**80.41**	**56**	P	**P**	**23 48 37.5**	**+1.1**	
	1.1nm,1.1s,baz=220,slow=7.6,SNR=5.5							
PDAR	**Pinedale Array**	**82.03**	**42**	P	**P**	**23 48 45.8**	**+0.9**	
	0.7nm,0.6s,baz=134,slow=8.5,SNR=4.2							
ILAR	**Eielson Array**	**82.19**	**11**	P	**P**	**23 48 45.6**	**+0.7**	
	0.6nm,0.6s,baz=228,slow=6.7,SNR=8.5							
GERES	**GERESS Array B**	**145.91**	**352**	PKPbc	**PKPab**	**23 56 04.3**	**-0.1**	
	0.3nm,0.6s,baz=71,slow=5.8,SNR=4.2							
BRTR	**Keskin Array B**	**146.02**	**321**	PKPbc	**PKPab**	**23 56 05.5**	**+0.3**	
	1.3nm,1.1s,baz=180,slow=2.5,SNR=6.2							

IDC ***13*** *23:39:23.6±1.0, 7°.55N×91°.76E, h0km, mb3.7/9, mb1 4.0/12, mb1mx3.8/38, mbtmp3.9/12, ML4.2/3, MS3.0/1, Ms1 3.2/1, ms1mx2.7/48, Error ellipse: s-maj=31.7km s-min=17.4km az=47.0*

ISCJB ***13*** *23:39:25.0±0.7, 7°.5N±0°.1×91°.7E±0°.1, h24km, mb3.6/9, Error ellipse: s-maj=20.4km s-min=11.3km az=36.4*

ISC 13 23:39:27.3±0.8, 7°.6N±0°.1×91°.8E±0°.1, h24km, n15, σ1s17/12, mb3.6/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.55**	**124**	Pn	**Pn**	**23 41 29.9**	**+0.1**
	2.0nm,0.3s,baz=326,slow=11,SNR=4.2						
PALK	**Pallekele**	**11.02**	**269**	Pn	**Pn**	**23 42 03.5**	**-0.2**
	1.6nm,0.3s,baz=91,slow=13,SNR=11						
PALK				Sn	Sn	23 43 56.7	-10
	9.0nm,0.3s,baz=166,slow=21,SNR=14						
CMAR	**Chiang Mai Arr**	**12.81**	**32**	Pn	**Pn**	**23 42 26.7**	**-1.4**
	0.5nm,0.3s,baz=227,slow=15,SNR=8.7						
CMAR				LR	LR	23 47 04.5	
	comp=Z,61nm,18.6s,baz=201,slow=36						
H08S3	**Diego Garcia H**	**24.51**	**232**	T	T	00 10 58.3	
	baz=52,slow=75,SNR=20						
H08S2	**Diego Garcia H**	**24.52**	**232**	T	T	00 10 58.9	
	baz=52,slow=75,SNR=23						
H08S1	**Diego Garcia H**	**24.53**	**232**	T	T	00 11 01.8	
	baz=52,slow=75,SNR=20						
MKAR	**Makanchi Array**	**39.88**	**350**	P	**P**	**23 46 59.0**	**-0.2**
	0.3nm,0.4s,baz=168,slow=7.2,SNR=6.0						
SONM	**Songino Array**	**41.95**	**15**	P	**P**	**23 47 18.2**	**+1.8**
	0.7nm,0.7s,baz=198,slow=7.5,SNR=6.5						
GEYT	**Alibeck**	**42.88**	**320**	P	**P**	**23 47 25.6**	**+1.6**
	2.8nm,0.9s,baz=151,slow=6.8,SNR=7.2						
KURBB	**Kurchatov Arra**	**44.27**	**348**	P	**P**	**23 47 34.3**	**-0.6**
	0.3nm,0.4s,baz=171,slow=7.2,SNR=4.0						
ZALV	**Zalesovo Beam**	**46.54**	**354**	P	**P**	**23 47 53.8**	**+1.0**
	0.3nm,0.3s,baz=168,slow=8.5,SNR=2.4						
WRA	**Warramunga Arr**	**50.02**	**124**	P	**P**	**23 48 20.1**	**-0.2**
	1.0nm,0.7s,baz=305,slow=9.0,SNR=6.2						
ASAR	**Alice Springs**	**51.55**	**128**	P	**P**	**23 48 31.8**	**+0.1**
	0.3nm,0.4s,baz=298,slow=7.3,SNR=5.1						
BRTR	**Keskin Array B**	**60.85**	**311**	P	**P**	**23 49 36.5**	**-1.7**
	0.4nm,0.7s,baz=104,slow=9.0,SNR=3.6						
GERES	**GERESS Array B**	**76.48**	**318**	P	**P**	**23 51 15.1**	**-0.4**
	0.7nm,0.8s,baz=46,slow=5.8,SNR=5.3						

RSPR 13 23:46:22.2, 18°.41N×68°.43W, h161km±1km, MD3.6/11, 8C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMO	**Isla Mona**	**0.58**	**121**	⇑*eP*	Pn	23 46 44.9	-0.3
IDE	**Isla Desecheo**	**0.91**	**91**	⇑*eP*	Pn	23 46 47.4	+0.1
IDE	**Isla Desecheo**	**0.91**	**91**	*eS*	Sn	23 47 06.7	+0.1
DR12	**Loma Pena Alta**	**0.97**	**293**	⇑*iP*	Pn	23 46 47.2	-0.7
AGPR	**Aguadilla, PR**	**1.26**	**87**	*eP*	Pn	23 46 50.7	+0.4
AGPR	**Aguadilla, PR**	**1.26**	**87**	*eS*	Sn	23 47 12.4	+0.6
LSP	**Las Mesas**	**1.30**	**100**	⇓*eP*	Pn	23 46 50.5	-0.2
LSP	**Las Mesas**	**1.30**	**100**	*eS*	Sn	23 47 12.2	-0.4
CRPR	**Cabo Rojo, PR**	**1.32**	**107**	⇑*eP*	Pn	23 46 50.5	-0.3
CRPR	**Cabo Rojo, PR**	**1.32**	**107**	*eS*	Sn	23 47 12.4	-0.4
GBPR	**Guanica, Bosqu**	**1.54**	**106**	⇓*eP*	Pn	23 46 53.1	+0.1
GBPR	**Guanica, Bosqu**	**1.54**	**106**	*eS*	Sn	23 47 16.5	-0.2
AOPR	**Arecibo Observ**	**1.60**	**92**	⇑*eP*	Pn	23 46 53.3	-0.3
AOPR	**Arecibo Observ**	**1.60**	**92**	*eS*	Sn	23 47 18.1	+0.3
OBIP	**Obispado Ponce**	**1.77**	**102**	⇑*eP*	Pn	23 46 55.5	0.0
OBIP	**Obispado Ponce**	**1.77**	**102**	*eS*	Sn	23 47 21.7	+0.6
CELP	**Cerrillos**	**1.79**	**100**	⇓*eP*	Pn	23 46 55.8	+0.1
CELP				*eS*	Sn	23 47 21.9	+0.4
SJG	**San Juan**	**2.19**	**97**	⇑*eP*	Pn	23 47 00.1	0.0
SDDR	**Presa de Saban**	**2.77**	**282**	⇑*eP*	Pn	23 47 08.0	+0.8
STVI	**Saint Thomas**	**3.31**	**90**	⇓*eP*	Pn	23 47 14.2	+0.4
STVI	**Saint Thomas**	**3.31**	**90**	*eS*	Sn	23 47 54.5	+0.5
ABV	**Anegada**	**3.90**	**85**	⇓*iP*	Pn	23 47 21.9	+0.5

IDC ***13*** *23:52:39.4±2.0, 8°.79S×122°.36E, h0km, mb4.0/3, mb1 4.1/5, mb1mx3.7/39, mbtmp3.9/5, ML4.2/2, MS4.7/2, Ms1 4.7/2, ms1mx3.7/29, Error ellipse: s-maj=173.9km s-min=27.0km az=57.0*

ISCJB ***13*** *23:52:49.9±0.7, 8°.78S±0°.09×122°.92E±0°.10, h106km, mb3.9/3, Error ellipse: s-maj=16.0km s-min=10.2km az=140.4*

DJA ***13*** *23:52:54.3±0.6, 9°.5S±6°×12°.3E±°, h67km±13km, M4.0/9, MLv4.0/9*

ISC 13 23:52:51.8±1.0, 8°.83S±0°.08×122°.71E±0°.08, h106km, n14, σ1s76/12, mb4.0/3, Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**0.50**	**293**	P	**Pn**	**23 53 08.1**	**-0.1**
BATI	**Baumata**	**1.66**	**145**	P	**Pn**	**23 53 21.5**	**+1.2**
SOEI	**Soe**	**1.79**	**121**	P	**Pn**	**23 53 24.3**	**+2.2**
BASI	**Baing, Sumba**	**2.51**	**237**	P	**Pn**	**23 53 31.3**	**+0.1**
WSI	**Waingapu**	**2.52**	**251**	P	**Pn**	**23 53 34.0**	**+2.7**
BSSI	**Bau Bau, Buton**	**3.46**	**320**	P	**Pn**	**23 53 45.3**	**+1.4**
BKSI	**Bulukumba**	**4.33**	**324**	P	**Pn**	**23 53 56.8**	**+1.3**
WRA	**Warramunga Arr**	**15.77**	**136**	Pn	**Pn**	**23 56 24.8**	**-3.1**
	1.1nm,0.3s,baz=312,slow=12,SNR=34						
WRA				Sn	Sn	23 59 08.9	-14
	0.6nm,0.3s,baz=299,slow=23,SNR=6.7						
ASAR	**Alice Springs**	**18.23**	**145**	P	**Pn**	**23 56 57.8**	**-0.2**
	0.8nm,0.3s,baz=320,slow=12,SNR=28						
MJAR	**Matsushiro Arr**	**47.43**	**17**	LR	LR	00 24 07.5	
	comp=Z,951nm,19.2s,baz=180,slow=40						
SONM	**Songino Array**	**58.24**	**347**	P	**P**	**00 02 35.5**	**+0.3**
	0.4nm,0.5s,baz=163,slow=7.4,SNR=4.7						
MKAR	**Makanchi Array**	**66.04**	**331**	P	**P**	**00 03 26.9**	**-0.3**
	0.9nm,0.5s,baz=140,slow=7.5,SNR=12						
ZALV	**Zalesovo Beam**	**70.25**	**337**	P	**P**	**00 03 52.4**	**-0.9**
	1.4nm,0.5s,baz=131,slow=4.7,SNR=7.3						
AKASG	**Malin Array Be**	**98.97**	**320**	LR	LR	01 00 45.2	
	comp=Z,246nm,18.4s,baz=65,slow=41						

BJI ***13*** *23:56:25.9, 2°.75S×138°.59E, h16km, mb5.2/79, mB5.5/61, Ms5.3/84, Ms7 5.1/78*

IDC ***13*** *23:56:25.9±0.4, 2°.41S×138°.84E, h0km, mb4.8/27, mb1 4.8/34, mb1mx4.8/42, mbtmp4.8/34, ML4.7/5, MS5.0/15, Ms1 5.0/15, ms1mx4.9/23, Error ellipse: s-maj=10.1km s-min=9.7km az=86.0*

ISCJB ***13*** *23:56:27.2±0.6, 2°.39S±0°.02×138°.85E±0°.02, h18km±4km, mb5.3/109, MS5.2/179, Error ellipse: s-maj=3.8km s-min=3.4km az=42.5*

MOS ***13*** *23:56:29.2±0.9, 2°.43S×138°.73E, h33km, mb5.6/36, MS5.1/37, Error ellipse: s-maj=9.9km s-min=5.8km az=102.8*

NEIC ***13*** *23:56:30.5±1.4, 2°.43S×138°.80E, h31km±10km, mb5.6/39, MS5.2/142, Error ellipse: s-maj=5.0km s-min=4.1km az=225.0*

NEIC Felt [IV] at Sarmi.

GCMT ***13*** *23:56:30.5±0.1, 2°.27S×138°.81E, h17km, MW5.7/113, Moment Tensor Solution. s98,c177; s113,c276; Duration: 1s6 Moment tensor: Scale 10^17 Nm; Mrr=0.11±.04; Mθθ=2.67±.04; Mϕϕ=-2.56±.04; Mrθ=0.68±.10; Mθϕ=2.07±.03; Mϕr=1.64±.12; Best double couple: Mo=3.77900×10^17 NP1=ϕs=206.00000°, δ=88.00000°, λ=-152.00000°. NP2=ϕs=115.00000°, δ=62.00000°, λ=-2.00000°. Principal axes: T 3.7740, Plg18.0000°, Azm337.0000°; N 0.0130, Plg62.0000°, Azm210.0000°; P -3.7850, Plg21.0000°, Azm74.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

DJA ***13*** *23:56:30.2±0.5, 2°.5S±3°×13°9E±°, h14km±4km, M5.7/67, mb5.6/67, mB6.1/56, MLv5.8/3, Mw(mB)5.7/56, Mwp6.6/2*

ISC 13 23:56:29.6±0.3, 2°.44S±0°.03×138°.80E±0°.03, h23km±1km, h23km: pP-P, n543, σ1s85/477, mb5.5/120, MS5.2/182, 44C-27D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.46**	**349**	P	**Pb**	**23 56 36.9**	**-2.2**
GENI	**Genyem**	**1.38**	**96**	P	**Pn**	**23 56 52.5**	**-1.0**
JAY	**Jayapura**	**1.91**	**92**	P	**Pn**	**23 57 00.1**	**-0.7**
JAY	**Jayapura**	**1.91**	**92**	Pn	**Pn**	**23 56 59.0**	**-1.8**
	178nm,0.3s,baz=260,slow=9.7,SNR=226						
JAY				Sn	**Sb**	**23 57 29.1**	**+1.9**
	190nm,0.3s,baz=313,slow=22,SNR=9.0						
JAY				LR	LR	23 58 01.9	
	comp=Z,24μm,20.7s,baz=140,slow=52						
JAY	**Jayapura**	**1.91**	**92**	P	**Pn**	**23 56 59.1**	**-1.8**
JAY						23 57 29.1	
JAY				pmax	pmax		
	comp=Z,178nm,0.3s						
JAY				smax	smax		
	comp=N,191nm,0.3s						
JAY				MLR	MLR		
	comp=Z,24μm,20.7s						
JAY	**Jayapura**	**1.91**	**92**	⇑P	**Pn**	**23 56 59.8**	**-1.0**
	baz=1.9						
SRPI	**Serui, Papua**	**2.62**	**282**	P	**Pn**	**23 57 10.5**	**-0.1**
SRPI				S	**Sn**	**23 57 43.8**	**+2.1**
BAKI	**Biak**	**2.96**	**295**	P	**Pn**	**23 57 15.0**	**-0.4**
BAKI				S	**Sn**	**23 57 50.2**	**0.0**
RKPI	**Ransiki, Papua**	**4.71**	**281**	P	**Pn**	**23 57 40.0**	**+0.6**
FAKI	**Fak Fak**	**6.56**	**266**	P	**Pn**	**23 58 05.6**	**+0.8**
FAKI	**Fak Fak**	**6.56**	**266**	⇓P	**Pn**	**23 58 05.6**	**+0.8**
	baz=6.6,SNR=84						
FAKI	**Fak Fak**	**6.56**	**266**	*ePn*	**Pn**	**23 58 05.7**	**+0.8**
FAKI				*eSn*	**Sn**	**23 59 16.8**	**-2.2**
SIJI	**Sorong**	**7.69**	**282**	Pn	**Pn**	**23 58 19.7**	**-0.7**
	comp=Z,22nm,0.3s,baz=72,slow=12,SNR=33						
SIJI				Sn	**Sn**	**23 59 45.6**	**-1.3**
	comp=Z,7.2nm,0.3s,baz=139,slow=21,SNR=5.7						
SIJI				LR	LR	00 01 58.2	
	comp=Z,25μm,18.5s,baz=98,slow=43						
SWI	**Sorong**	**7.70**	**282**	P	**Pn**	**23 58 21.1**	**+0.7**
SAUI	**Saumlaki**	**9.28**	**233**	P	Pn	23 58 46.5	+4.4
MSAI	**Masohi**	**9.90**	**265**	P	**Pn**	**23 58 52.7**	**+2.0**
PALU	**Palau**	**10.64**	**336**	⇑P	**Pn**	**23 59 00.7**	**-0.1**
	baz=11,SNR=69						
PMG	**Port Moresby**	**10.81**	**130**	⇑*eP*	Pn	23 59 02.5	-0.7
	comp=Z,0.8nm,0.3s,baz=306,slow=17,SNR=1.9						
PMG	**Port Moresby**	**10.81**	**130**	⇑*eP*	Pn	23 59 06.8	+3.6
PMG				MLR	MLR		
	comp=Z,89μm,16.0s						
PMG	**Port Moresby**	**10.81**	**130**	*ePn*	**Pn**	**23 59 03.9**	**+0.7**
LBMI	**Labuha**	**11.44**	**279**	P	**Pn**	**23 59 13.5**	**+1.8**
NLAI	**Namlea**	**11.71**	**266**	P	**Pn**	**23 59 17.2**	**+1.7**
TNTI	**Ternate**	**11.87**	**285**	P	**Pn**	**23 59 19.0**	**+1.4**
TNTI	**Ternate**	**11.87**	**285**	*ePn*	**Pn**	**23 59 18.6**	**+1.0**
KDU	**Kakadu**	**11.95**	**211**	⇑P	**Pn**	**23 59 18.4**	**-0.4**
	baz=12,SNR=18						
COEN	**Coen**	**12.23**	**160**	⇑P	**Pn**	**23 59 23.0**	**+0.3**
	baz=12,SN

baz=22,SNR=7.0
AS13 Alice Springs 21.61 192 ⇓P **P 00 01 18.3 0.0**
baz=22
ASAR Alice Springs 21.62 192 P **P 00 01 17.9 -0.6**
comp=Z,32nm,0.9s,baz=16,slow=9.2,SNR=58
ASAR Alice Springs 21.62 192 P **P 00 01 17.9 -0.6**
ASAR pmax pmax
comp=Z,32nm,0.9s
MYLDM Lahad Datu 21.64 290 *e*P **P 00 01 20.5 +1.8**
comp=Z,1μm,1.5s
BKB Balikpapan 21.92 273 P **P 00 01 24.3 +2.6**
comp=Z,16μmcomp=Z,890nm,1.5s
TSM Tawau 21.96 288 ⇑P **P 00 01 25.0 +2.9**
HNR Honiara 22.14 109 PFAKE 00 01 40.0 +16
HNR LR LR
comp=Z,4μm,21.0s
KBKI Kotabaru 22.62 267 P **P 00 01 30.1 +0.9**
comp=Z,6μmcomp=Z,576nm,1.2s
SDKM Sandakan 23.02 290 ⇑P **P 00 01 36.5 +3.0**
BBKI Banjar Baru 23.95 267 P **P 00 01 45.0 +2.5**
KKM Kota Kinabalu 24.08 291 ⇓P **P 00 01 43.9 +0.1**
baz=24,SNR=41
KKM Kota Kinabalu 24.08 291 *e*P **P 00 01 43.1 -0.7**
comp=Z,635nm,1.6s
KKM LR LR
comp=Z,4μm,20.0s
SRBI Singaraja 24.14 256 P P 00 01 49.2 +5.0
comp=Z,3μmcomp=Z,126nm,1.3s
QLP Quilpie 24.56 168 ⇑P **P 00 01 49.8 +1.8**
baz=25,SNR=14
WRKA Warakurna 24.64 203 ⇑P **P 00 01 48.3 -0.4**
baz=25,SNR=22
ABJI Asem Bagus 25.03 257 P P 00 01 57.5 +5.2
comp=Z,3μmcomp=Z,175nm,2.2s
KMMI Kalianget 25.16 259 P **P 00 01 57.3 +3.8**
comp=Z,11μmcomp=Z,590nm,2.1s
BLJI Banyuglugur 25.64 257 P P 00 02 04.1 +6.2
EIDS Eidsvold 25.68 154 ⇑P **P 00 02 00.1 +2.0**
baz=26,SNR=8.1
EIDS Eidsvold 25.68 154 *e*P **P 00 01 59.8 +1.7**
comp=Z,395nm,1.6s
RMQ Roma 25.75 159 P **P 00 02 01.7 +3.0**
baz=26,SNR=15
MBWA Marble Bar 26.29 224 PFAKE 00 02 20.0 +16
MBWA LR LR
comp=Z,6μm,20.0s
BTM Bintulu 26.31 282 ⇑P **P 00 02 06.0 +2.0**
GRJI Gresik 26.60 259 P **P 00 02 09.7 +3.1**
comp=Z,4μmcomp=Z,573nm,1.0s
PBKI Pangkalan Bun 27.10 269 P **P 00 02 12.7 +1.5**
TBJI Tambak Boyo 27.20 260 P **P 00 02 14.7 +2.6**
STKI Sintang 27.43 275 P **P 00 02 16.9 +2.8**
PWJI Pagerwojo 27.44 257 P P 00 02 19.7 +5.6
comp=Z,71nm,0.9s
NGJI Ngawi 27.66 259 P P 00 02 23.3 +7.1
SMRI Semarang 28.62 260 P P 00 02 32.9 +8.2
KSM Kuching 28.75 277 ⇑P **P 00 02 27.1 +1.2**
baz=29,SNR=16
KSM Kuching 28.75 277 ⇓P **P 00 02 27.2 +1.4**
KSM Kuching 28.75 277 PFAKE 00 02 40.0 +14
KSM LR LR
comp=Z,1μm,20.0s
STKA Stephens Creek 29.40 175 P **P 00 02 31.7 +0.3**
comp=Z,6.9nm,0.8s,baz=337,slow=8.0,SNR=6.7
STKA Stephens Creek 29.40 175 *e*P **P 00 02 31.2 -0.2**
STKA pmax pmax
comp=Z,9.0nm,1.0s
STKA Stephens Creek 29.40 175 ⇑P **P 00 02 32.0 +0.6**
baz=30,SNR=5.1
STKA Stephens Creek 29.40 175 *e*P **P 00 02 31.2 -0.2**
comp=Z,8.9nm,1.0s
CBIJ Chichi jima 29.55 6 P **P 00 02 32.2 -0.5**
JCJ Chichijima 29.55 6 P **P 00 02 32.2 -0.5**
comp=Z,82nm,0.9s,baz=239,slow=2.9,SNR=3.9
JCJ LR LR 00 12 27.7
comp=Z,4μm,21.2s,baz=167,slow=33
CMSA Cobar Meteorol 29.66 168 ⇓P **P 00 02 34.7 +1.0**
baz=30,SNR=16
BBOO Buckleboo 30.32 185 *e*P **P 00 02 38.4 -1.1**
comp=Z,131nm,1.4s
ARMA Armidale 30.36 158 ⇑P **P 00 02 42.2 +2.0**
baz=30,SNR=5.5
ARMA Armidale 30.36 158 *e*P **P 00 02 41.1 +1.0**
comp=Z,271nm,2.0s
TWG Pinlang 30.49 326 *e*P P 00 02 45.1 +3.9
comp=Z,64nm,0.9s
HTT Hallett 30.83 180 ⇓P **P 00 02 44.2 +0.1**
baz=31
MEEK Meekatharra 30.88 217 ⇓P **P 00 02 45.2 +0.5**
baz=31,SNR=7.9
TPI Tanjungpandan 31.11 269 P **P 00 02 47.3 +0.5**
comp=Z,2μmcomp=Z,80nm,1.7s
LEM Lembang 31.37 261 P **P 00 02 49.6 +0.4**
comp=Z,11nm,0.5s,baz=323,slow=20,SNR=2.6
LEM Lembang 31.37 261 P **P 00 02 49.7 +0.4**
LEM pmax pmax
comp=Z,11nm,0.5s
YHNB Yeheng 31.82 329 PFAKE 00 03 00.0 +7.0
YHNB LR LR
comp=Z,4μm,21.0s
PPBI Pangkal Pinang 32.64 270 P **P 00 03 01.9 +1.7**
comp=Z,8μmcomp=Z,87nm,1.3s
MGCD Mangrove Creek 32.71 161 ⇓P **P 00 03 02.4 +1.9**
baz=33
KMBL Kambalda 32.90 207 ⇑P **P 00 03 04.6 +2.3**
baz=33
YNG Young 32.93 165 ⇑P **P 00 03 05.2 +2.6**
baz=33,SNR=6.6
DZM Mont Dzumac 33.20 128 *e*S **S 00 08 23.3 -0.7**
comp=Z,1μm,29.9s
DZM *e*LR LR 00 12 00.3
comp=Z,8μm,25.8s
DZM Mont Dzumac 33.20 128 P **P 00 03 04.9 -0.2**
comp=Z,4.7nm,0.8s,baz=270,slow=20,SNR=4.0
CGJI Cibinong 33.25 262 P P 00 03 08.9 +3.3
comp=Z,71nm,1.7s
DLV T Lat 33.34 296 *e*P **P 00 03 05.1 -1.5**
comp=Z,11nm,0.6s
DLV *e* 00 03 12.8
QZH Quanzhou 33.55 325 ⇑*i*P **P 00 03 07.4 -0.6**
QZH S **S 00 08 28.3 -0.8**
QZH PMZ
comp=Z,160nm,1.2s
QZH LN
comp=Z,1μm,10.9s
QZH LE
comp=Z,2μm,14.7s
QZH LZ
comp=Z,10μm,35.4s
PMBI Palembang 33.99 268 P P 00 03 20.1 +8.1
CAN Canberra 34.06 165 PFAKE 00 03 20.0 +7.6
CAN LR LR
comp=Z,6μm,21.0s
KLSI 34.07 265 P **P 00 03 15.3 +2.5**
comp=Z,3μmcomp=Z,94nm,2.0s
CNB Canberra Magne 34.15 165 ⇑P **P 00 03 15.7 +2.5**
baz=34,SNR=8.7
MORW Morawa 34.21 217 ⇓P **P 00 03 14.7 +1.0**
baz=34,SNR=6.0
ARPS Mount Arapiles 34.27 176 ⇑P **P 00 03 16.0 +1.8**
baz=34,SNR=10
TARA Tarawa 34.32 84 PFAKE 00 03 30.0 +15
TARA LR LR
comp=Z,2μm,19.0s
KASI Kota Agung 34.35 264 P **P 00 03 16.8 +1.7**
comp=Z,76nm,1.2s
HKC Hong Kong Obse 34.40 317 ⇑P P 00 03 19.0 +3.6
TPRI Tanjung Pinang 34.43 275 P **P 00 03 18.8 +3.0**
comp=Z,79μmcomp=Z,14μmcomp=Z,175nm,0.8s
MDSI Maura Dua 34.61 266 P **P 00 03 17.6 +0.2**
comp=Z,3μmcomp=Z,137nm,1.9s
LWLI Liwa 34.76 265 P P 00 03 26.1 +7.3
BLDU Ballidu 34.96 214 ⇓P **P 00 03 21.0 +0.8**
baz=35,SNR=9.2
KLBR Kellerberrin 35.13 212 P **P 00 03 23.3 +1.6**
baz=35,SNR=7.3
JMBI JAMBI 35.14 271 P P 00 03 25.5 +3.5
comp=Z,8μmcomp=Z,579nm,1.6s
MYKOM Kota Tinggi 35.19 277 ⇓P **P 00 03 24.4 +2.0**
MYKOM Kota Tinggi 35.19 277 *e*P **P 00 03 22.8 +0.4**
LHSI Lahat 35.25 267 P **P 00 03 23.8 +0.9**
comp=Z,7μmcomp=Z,246nm,1.7s
GZH Guangzhou 35.49 317 ⇑*i*P **P 00 03 25.4 +0.6**
GZH PP **PP 00 04 48.0 +2.3**
GZH S **S 00 08 59.0 -0.1**
GZH LN
comp=Z,3μm,17.2s
GZH LE
comp=Z,3μm,18.0s
GZH LZ
comp=Z,4μm,17.3s
QIZ Qiongzhong 35.58 308 P **P 00 03 24.6 -1.1**
QIZ pP **pP 00 03 32.3 -0.3**
QIZ PP **PP 00 04 47.9 +1.2**
QIZ S **S 00 08 58.4 -2.2**
QIZ PMZ
comp=Z,28nm,1.9s
QIZ PMZ
comp=Z,350nm,6.1s
QIZ LN
comp=Z,2μm,20.7s
QIZ LZ
comp=Z,3μm,20.7s
QIZ Qiongzhong 35.58 308 PFAKE 00 03 40.0 +14
QIZ LR LR
comp=Z,3μm,20.0s
KGM Kluang 35.75 277 ⇓P **P 00 03 28.8 +1.6**
JNU Nakatsue 36.16 349 P **P 00 03 29.6 -0.9**
comp=Z,24nm,0.9s,baz=133,slow=4.2,SNR=5.1
KSI Kapahiang 36.17 267 P P 00 03 36.7 +5.8
comp=Z,137nm,1.4s
KTGM Kuala Trenggan 36.45 282 ⇑P **P 00 03 35.6 +2.3**
NWAO Narrogin (SRO) 36.45 211 P **P 00 03 32.1 -0.9**
comp=Z,16nm,1.0s,baz=184,slow=0.5,SNR=3.4
NWAO Narrogin (SRO) 36.45 211 P **P 00 03 32.1 -0.9**
NWAO pmax pmax
comp=Z,16nm,1.0s
NWAO Narrogin (SRO) 36.45 211 P **P 00 03 32.1 -0.9**
NWAO LR LR
comp=Z,1.0nm,19.0s
SSE Sheshan 37.33 335 P P 00 03 45.3 +4.9
SSE S S 00 09 35.4 +8.4
SSE sS **ScP 00 09 44.9 -0.6**
SSE ScS **ScS 00 13 55.4 +1.9**
SSE PMZ
comp=Z,39nm,1.0s
SSE PMZ
comp=Z,410nm,9.3s
SSE LN
comp=Z,2μm,22.2s
SSE LE
comp=Z,1μm,22.2s
SSE LZ
comp=Z,2μm,20.0s
SDSI Sungai Dareh 37.38 272 P **P 00 03 42.9 +1.7**
comp=Z,347nm,1.1s
BKNI Bangkinang 37.85 274 P **P 00 03 45.3 +0.2**
comp=Z,4μmcomp=Z,382nm,1.1s
BKNI Bangkinang 37.85 274 *e*P **P 00 03 46.4 +1.2**
comp=Z,475nm,1.2s
PPI Padang Panjang 38.44 272 P **P 00 03 49.9 -0.2**
comp=Z,3μmcomp=Z,205nm,0.9s
PPI Padang Panjang 38.44 272 P **P 00 03 50.9 +0.8**
baz=38,SNR=5.5
MJAR Matsushiro Arr 38.79 359 P **P 00 03 50.6 -2.1**
comp=Z,2.4nm,0.6s,baz=176,slow=8.6,SNR=6.8
MAJO Matsushiro 38.79 359 ⇓P **P 00 03 51.6 -1.1**
MAJO pmax pmax
comp=Z,88nm,1.0s
MAJO MLR MLR
comp=Z,9μm,18.0s
MAJO Matsushiro 38.79 359 PFAKE 00 04 00.0 +7.3
MAJO LR LR
comp=Z,2μm,21.0s
MAT Matsushiro 38.79 359 P **P 00 03 53.2 +0.5**
MAT S **S 00 09 47.0 -2.0**
KULM Kulim 38.87 281 *e*P **P 00 03 52.2 -1.6**
KULM LR LR
comp=Z,2μm,21.0s
NJ2 Nanjing 39.18 333 *e*P **P 00 03 55.8 -0.2**
NJ2 pP **pP 00 04 05.6 +2.7**
NJ2 sP **sP 00 04 07.3 +1.6**
NJ2 S **S 00 09 58.5 +3.5**
NJ2 PMZ
comp=Z,60nm,1.1s
NJ2 PMZ
comp=Z,2μm,7.2s
NJ2 LN
comp=Z,5μm,18.4s
NJ2 LE
comp=Z,7μm,17.8s
NJ2 LZ
comp=Z,9μm,18.0s
MNSI Mandailing Nat 39.34 274 P **P 00 03 58.3 +0.6**
comp=Z,2μmcomp=Z,96nm,1.4s
SISI Saibi 39.70 271 P **P 00 04 01.2 +0.5**
comp=Z,4μmcomp=Z,214nm,1.3s
TJN Taejon 40.07 346 ⇓*e*P **P 00 04 02.2 -1.1**
PSI Prapat 40.20 277 P **P 00 04 04.1 -0.9**
comp=Z,86nm,1.1s,baz=122,slow=3.7,SNR=32
PSI Prapat 40.20 277 P **P 00 04 04.1 -0.9**
PSI pmax pmax
comp=Z,86nm,1.1s
PSI Prapat 40.20 277 ⇓P **P 00 04 04.3 -0.7**
baz=40,SNR=36
PSI Prapat 40.20 277 *e*P **P 00 04 03.0 -1.9**
WHN Wuhan 40.25 326 P P 00 04 10.0 +5.1
WHN PMZ
comp=Z,470nm,2.2s
WHN PMZ
comp=Z,2μm,8.4s
WHN LN
comp=Z,3μm,18.1s
WHN LE
comp=Z,1μm,13.9s
WHN LZ
comp=Z,3μm,15.0s
KSAR Wonju Array Be 40.96 347 P **P 00 04 10.1 -0.6**
KSAR 00 06 12.2
KSAR Wonju Array Be 40.96 347 P **P 00 04 10.1 -0.6**
KSAR PcP **PcP 00 06 12.2 +1.4**
KSRS Korea Array 40.96 347 P **P 00 04 10.1 -0.6**
comp=Z,2.6nm,0.6s,baz=170,slow=11,SNR=14
KSRS PcP **PcP 00 06 12.2 +1.4**
comp=Z,1.8nm,0.7s,baz=178,slow=3.4,SNR=3.0
KSRS LR LR 00 20 29.9
comp=Z,2μm,19.1s,baz=170,slow=35
TAU Tasmania Unive 41.01 170 PFAKE 00 04 20.0 +9.0
TAU LR LR
comp=Z,7μm,21.0s
INCN Inchon 41.30 345 PFAKE 00 04 20.0 +6.5
INCN LR LR
comp=Z,3μm,20.0s
GSI Gunungsitoli 41.38 275 P **P 00 04 14.9 +0.3**
GSI Gunungsitoli 41.38 275 ⇓P **P 00 04 12.7 -1.9**
baz=41
MSVF Nonsavu 41.39 114 *e*P **P 00 04 16.3 +1.6**
MSVF MLR MLR
comp=Z,4μm,21.0s
MSVF Nonsavu 41.39 114 *e*P **P 00 04 16.3 +1.6**
MSVF LR LR
comp=Z,4μm,21.0s
GYA Guiyang 42.30 315 ⇑*i*P **P 00 04 22.0 0.0**
GYA PP PP 00 06 07.8 +7.5
GYA S **S 00 10 42.5 +0.6**
GYA ScS **ScS 00 14 24.8 +1.4**
GYA PMZ
comp=Z,50nm,1.1s
GYA PMZ
comp=Z,580nm,7.5s
GYA LN
comp=Z,1μm,20.9s
GYA LE
comp=Z,2μm,21.8s
GYA LZ
comp=Z,2μm,20.2s
LHMI Lhok Sumawe 42.50 280 P **P 00 04 26.7 +3.0**
comp=Z,3μmcomp=Z,346nm,1.1s
COCO West Island 42.67 255 PFAKE 00 04 40.0 +15
COCO LR LR
comp=Z,2μm,19.0s
ENH Enshi 42.91 322 *e*P **P 00 04 26.0 -0.8**
comp=Z,56nm,1.0s
ENH LR LR
comp=Z,57nm,19.0s
TIA Tai'an 43.45 334 ⇑P **P 00 04 30.1 -1.0**
TIA pP **pP 00 04 35.9 -2.1**
TIA PP **PcP 00 06 16.3 -2.8**
TIA S **S 00 11 01.3 +3.0**
TIA sS **sS 00 11 10.4 +0.6**
TIA PMZ
comp=Z,20nm,0.7s
TIA PMZ
comp=Z,600nm,8.1s
TIA LN
comp=Z,2μm,20.0s
TIA LE
comp=Z,2μm,18.5s
TIA LZ
comp=Z,4μm,18.1s
DL2 Dalian 44.09 341 ⇑*i*P **P 00 04 35.4 -0.7**
DL2 S **S 00 11 07.8 +0.3**
DL2 PMZ
comp=Z,28nm,1.5s
DL2 PMZ
comp=Z,400nm,7.8s
DL2 LN
comp=Z,400nm,13.5s
DL2 LE
comp=Z,770nm,19.4s
DL2 LZ
comp=Z,790nm,17.1s
CM10 Chiang Mai Arr 44.32 300 ⇓P **P 00 04 38.6 +0.3**
baz=44
CM18 Chiang Mai Arr 44.35 300 ⇑P **P 00 04 38.8 +0.2**
baz=44
CMAR Chiang Mai Arr 44.38 300 P **P 00 04 38.6 -0.2**
comp=Z,7.9nm,0.8s,baz=118,slow=6.3,SNR=60
CMAR PcP **PcP 00 06 22.9 +0.3**
comp=Z,3.3nm,1.0s,baz=153,slow=2.1,SNR=1.6
CMAR LR LR 00 24 53.1
comp=Z,1μm,18.6s,baz=121,slow=38
CMAR Chiang Mai Arr 44.38 300 P **P 00 04 38.7 -0.2**
CMAR 00 06 22.9
CMAR pmax pmax
comp=Z,8.0nm,0.8s
CMAR pmax pmax
comp=Z,3.0nm,1.0s
CMAR MLR MLR
comp=Z,1μm,18.6s
CM13 Chiang Mai Arr 44.40 300 ⇑P **P 00 04 39.1 +0.2**
baz=44
KMI Kunming 44.41 310 ⇑P **P 00 04 39.5 +0.2**
KMI pP **pP 00 04 45.3 -1.0**
KMI PP **PP 00 06 25.1 +2.0**
KMI S **S 00 11 12.9 -0.3**
KMI sS **sS 00 11 23.3 -1.4**
KMI SS SS 00 14 24.8 -8.0
KMI PMZ
comp=Z,25nm,1.9s
KMI LN
comp=Z,1μm,18.8s
KMI LE
comp=Z,2μm,17.6s
KMI LZ
comp=Z,2μm,15.8s
ERM Erimo 44.43 5 ⇑*e*P **P 00 04 40.6 +1.8**
ERM MLR MLR
comp=Z,1μm,18.0s
ERM Erimo 44.43 5 PFAKE 00 04 50.0 +11
ERM LR LR
comp=Z,1μm,21.0s
CHTO Chiang Mai 44.52 300 PFAKE 00 04 50.0 +10
CHTO LR LR
comp=Z,1μm,20.0s
VLA Vladivostok 45.78 353 ⇓*e*P **P 00 04 49.6 +0.1**
VLA pmax pmax
comp=Z,46nm,1.1s
XAN Xi'an 45.91 325 P **P 00 04 50.1 -0.7**
XAN pP **pP 00 04 54.6 -3.2**
XAN sP **sP 00 04 57.3 -3.3**
XAN PP **PP 00 06 38.1 -0.6**
XAN S **S 00 11 33.5 -0.7**
XAN SS **ScS 00 14 49.8 +4.1**
XAN PMZ
comp=Z,45nm,1.4s
XAN PMZ
comp=Z,310nm,6.6s
XAN LN
comp=Z,860nm,21.7s
XAN LE
comp=Z,880nm,19.5s
XAN LZ
comp=Z,2μm,21.9s
ASAJ Asahikawa 46.48 4 LR LR 00 24 31.7
comp=Z,2μm,19.4s,baz=194,slow=36
YUK Yuzh-Kuril'sk 46.70 7 *c i*P P 00 05 02.5 +5.8
YUK *i* 00 06 30.4
YUK *i* S **S 00 11 41.9 -3.2**
YUK MLR MLR
comp=N,653nm,16.0s
YUK MLR MLR
comp=Z,457nm,16.0s
TIY Taiyuan 46.83 331 *e*P **P 00 04 58.5 +0.5**
TIY S **S 00 11 50.3 +2.9**
TIY PMZ
comp=Z,380nm,4.8s
TIY LN
comp=Z,1μm,13.9s
TIY LE
comp=Z,130nm,13.2s
TIY LZ
comp=Z,2μm,20.5s
USRK Ussuriysk Ar. 46.83 353 P **P 00 04 57.8 0.0**
comp=Z,11nm,1.0s,baz=161,slow=6.3,SNR=11
USRK LR LR 00 22 31.9
comp=Z,2μm,20.6s,baz=155,slow=34
CD2 Chengdu 47.04 318 P **P 00 04 59.6 -0.2**
CD2 pP **pP 00 05 04.6 -2.2**
CD2 sP **sP 00 05 06.8 -2.7**
CD2 PP **PP 00 06 50.1 -0.6**
CD2 S **S 00 11 52.6 +2.0**
CD2 sS **sS 00 12 01.1 -1.0**
CD2 PMZ
comp=Z,220nm,1.1s
CD2 PMZ
comp=Z,930nm,7.8s
CD2 LN
comp=Z,1μm,20.4s
CD2 LZ
comp=Z,3μm,22.8s
BJI Beijing 47.09 336 P **P 00 04 59.0 -0.8**
BJI sP **sP 00 05 12.1 +2.5**
BJI PP **PP 00 06 53.1 +2.3**
BJI S **S 00 11 50.4 -0.3**
BJI sS sS 00 12 08.3 +6.0
BJI PMZ
comp=Z,23nm,1.5s
BJI PMZ
comp=Z,370nm,7.8s
BJI LN
comp=Z,2μm,21.1s
BJI LE
comp=Z,2μm,19.6s
BJI LZ
comp=Z,3μm,20.3s
MDJ Mudanjiang 47.57 351 P **P 00 05 03.0 -0.5**
MDJ pP **pP 00 05 12.0 +1.5**
MDJ sP **sP 00 05 15.8 +2.5**
MDJ ScS **ScS 00 14 52.8 -3.2**
MDJ PMZ
comp=Z,37nm,1.0s
MDJ PMZ
comp=Z,290nm,7.0s
MDJ LN
comp=Z,1μm,21.0s
MDJ LE
comp=Z,910nm,20.1s
MDJ LZ
comp=Z,2μm,22.7s
MDJ Mudanjiang 47.57 351 PFAKE 00 05 20.0 +16
MDJ LR LR
comp=Z,2μm,20.0s
CN2 Changchun 47.57 347 *e*P **P 00 05 03.0 -0.6**
CN2 *ep*P **pP 00 05 07.5 -3.1**
CN2 *es*P **sP 00 05 09.8 -3.5**
CN2 *e*S **S 00 11 56.5 -1.1**
CN2 SS **SS 00 15 25.6 -0.3**
CN2 PMZ
comp=Z,10.0nm,0.7s
CN2 PMZ
comp=Z,100nm,4.0s
CN2 LN
comp=Z,2μm,19.0s
CN2 LE
comp=Z,1μm,19.0s
CN2 LZ
comp=Z,600nm,20.0s
KUR Kuril'sk 48.15 9 P **P 00 05 09.3 +1.3**

KUR *i* S **S** **00 12 04.8 -0.8**
KUR *i* SSS SSS 00 16 45.5
YSS Yuzh-Sakhalins 49.31 4⇑ *e*P **P** **00 05 15.1 -1.8**
YSS *e**SP **sP** **00 05 22.0 -4.7**
YSS *e* 00 05 30.0
YSS *e* 00 07 07.0
YSS *e*S **S** **00 12 20.0 -2.0**
YSS *e*SSS SSS 00 17 19.0
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,900nm,16.0s
YSS MLR MLR
comp=N,600nm,18.0s
HHC Hu-ho-hao-te 49.74 333 *e*P P 00 05 25.8 +5.4
HHC S **S** **00 12 26.9 -1.5**
HHC sS sS 00 12 44.3 +4.3
HHC PMZ
comp=N,16nm,1.1s
HHC PMZ
comp=N,570nm,11.1s
HHC LN
comp=N,1μm,20.0s
HHC LE
comp=N,1μm,21.8s
HHC LZ
comp=N,2μm,23.8s
RPZ Rata Peaks 50.07 150 P **P** **00 05 23.3 +0.4**
comp=N,11nm,0.6s,baz=332,slow=4.3,SNR=7.0
RPZ Rata Peaks 50.07 150 *e*P **P** **00 05 22.8 -0.1**
comp=N,68nm,0.9s
AFI Afiamalu 50.12 106 PFAKE 00 05 40.0 +16
AFI LR LR
comp=Z,3μm,22.0s
BTO Baotou 50.26 332 *e*P **P** **00 05 23.3 -1.1**
LZH Lanzhou 50.32 323 P **P** **00 05 25.5 +0.5**
LZH pP **pP** **00 05 30.3 -1.8**
LZH sP **sP** **00 05 34.3 -0.6**
LZH S **S** **00 12 37.3 +0.4**
LZH SS **SS** **00 16 07.8 -3.1**
LZH PMZ
comp=Z,75nm,1.1s
LZH PMZ
comp=Z,390nm,4.0s
LZH LN
comp=Z,1μm,15.3s
LZH LE
comp=Z,1μm,15.0s
LZH LZ
comp=Z,3μm,17.2s
SNZO South Karori 50.40 145 PFAKE 00 05 40.0 +15
SNZO LR LR
comp=Z,2μm,19.0s
KHZ Kahutara 50.48 147 *e*P **P** **00 05 24.7 -1.2**
comp=Z,41nm,1.2s
HABR Khabarovsk 50.81 357 *e*P **P** **00 05 27.2 -1.1**
HABR *e**PP **pP** **00 05 37.0 +1.7**
HABR *e**SP **sP** **00 05 41.2 +3.1**
HABR *e* 00 06 43.4
HABR 00 07 23.7
HABR *e*S **S** **00 12 41.6 -1.3**
HABR *e**SS **sS** **00 12 58.9 +4.4**
HABR *e* 00 15 14.8
HABR *e*SS **SS** **00 16 16.9 -1.0**
HABR *e*SSS SSS 00 17 49.6
HABR pmax pmax
comp=Z,51nm,1.7s
HABR MLR MLR
comp=Z,941nm,19.0s
KLR Kul'dur 51.83 354 *e*P P 00 05 31.2 -4.7
KLR *e*S S 00 12 49.5 -7.4
KLR pmax pmax
comp=Z,170nm,2.6s
KLR MLR MLR
comp=E,1μm,18.0s
MIDW Midway 51.97 51 PFAKE 00 05 50.0 +13
MIDW LR LR
comp=Z,3μm,20.0s
SHL Shillong 53.26 305 *i* P **P** **00 05 48.0 +0.9**
SHL *e*S **S** **00 13 16.0 -1.6**
HIA Hailar 54.08 345 PFAKE 00 06 00.0 +7.4
HIA LR LR
comp=Z,2μm,20.0s
GTA Gaotai 54.91 323 ⇑P **P** **00 05 59.0 +0.1**
GTA pP **pP** **00 06 03.8 -2.2**
GTA sP **sP** **00 06 06.4 -2.4**
GTA PcP **PcP** **00 06 59.0 -1.8**
GTA PP **PP** **00 08 04.6 +2.5**
GTA S **S** **00 13 40.0 +0.6**
GTA SS **SS** **00 17 24.3 +1.0**
GTA PMZ
comp=Z,22nm,1.9s
GTA PMZ
comp=Z,520nm,7.4s
GTA LN
comp=Z,870nm,19.0s
GTA LE
comp=Z,1μm,19.0s
GTA LZ
comp=Z,1μm,20.4s
NKL Nikolayevsk 55.41 1 *e*P **P** **00 06 02.0 -0.1**
NKL *e* 00 07 03.0
NKL *e* 00 08 07.0
NKL *e*S **S** **00 13 44.0 -1.3**
NKL pmax pmax
comp=Z,20nm,1.0s
NKL pmax pmax
comp=Z,300nm,8.0s
NKL smax smax
comp=E,500nm,11.0s
NKL MLR MLR
comp=N,500nm,16.0s
NKL MLR MLR
comp=Z,900nm,16.0s
LSA Lhasa 55.62 309 *e*P **P** **00 06 04.9 +0.3**
LSA pmax pmax
comp=Z,297nm,1.8s
LSA MLR MLR
comp=Z,766nm,20.0s
LSA Lhasa 55.62 309 *e*P **P** **00 06 04.9 +0.3**
comp=Z,298nm,1.8s
LSA LR LR
comp=Z,766nm,20.0s
SONM Songino Array 57.52 335 P **P** **00 06 17.3 -0.1**
comp=Z,3.3nm,0.6s,baz=155,slow=7.3,SNR=23
SONM LR LR 00 32 45.5
comp=Z,2μm,18.1s,baz=142,slow=38
SONM Songino Array 57.52 335 P **P** **00 06 17.3 -0.1**
SONM pmax pmax
comp=Z,3.0nm,0.6s
SONM MLR MLR
comp=Z,2μm,18.2s
PETK Petropavlovsk- 57.58 13 P **P** **00 06 17.7 +0.1**
comp=Z,6.4nm,1.1s,baz=130,slow=4.1,SNR=2.4
PETK Petropavlovsk- 57.58 13 P **P** **00 06 17.7 +0.1**
PETK pmax pmax
comp=Z,6.0nm,1.1s
CHLP Challavanipeta 57.73 294 *e*P **P** **00 06 18.5 -0.7**
CHLP IAmb IAmb 00 06 23.3
comp=Z,36nm,1.1s
CHLP *e*S **S** **00 14 16.9 -0.3**
CHLP IVMsBB 00 43 35.7
comp=Z,365nm,4.2s
PET Petropavlovsk 57.73 14 *e*P P 00 06 24.7 +6.1
PET *e* 00 08 29.4
PET *e*S **S** **00 14 16.9 +0.9**
PET *e*PS **PnS** **00 14 31.2 +2.4**
PET pmax pmax
comp=Z,100nm,8.4s
PET MLR MLR
comp=Z,1μm,19.0s
PET Petropavlovsk 57.73 14 PFAKE 00 06 30.0 +11
PET LR LR
comp=Z,952nm,22.0s
CIT Chita 58.32 342 *e*P **P** **00 06 20.5 -2.3**
PVM Polavaram 59.66 292 *e*P **P** **00 06 32.3 -0.4**
PVM IAmb IAmb 00 06 39.6
comp=Z,42nm,1.1s
PVM *e*S **S** **00 14 39.5 -2.9**
PVM IVMs_BB IVMs_BB 00 38 10.9
comp=Z,248nm,4.8s
CLNS Chul'man 60.16 351 *e*P **P** **00 06 36.2 +0.8**
CLNS *e**PP **pP** **00 06 46.3 +3.7**
CLNS *e* 00 08 42.9
CLNS *e*PPP PPP 00 10 18.9

CLNS *e* 00 16 22.3
CLNS pmax pmax
comp=E,5.0nm,0.9s
CLNS pmax pmax
comp=Z,30nm,1.1s
CLNS pmax pmax
comp=N,19nm,1.0s
CLNS pmax pmax
comp=Z,10.0nm,1.6s
CLNS pmax pmax
comp=N,6.0nm,0.9s
SKHT Srikalahasti 60.74 287 *e*P **P** **00 06 39.2 -0.9**
SKHT IAmb IAmb 00 06 41.6
comp=Z,65nm,1.5s
SKHT *e*S **S** **00 14 53.6 -2.8**
SKHT IVMs_BB IVMs_BB 00 43 21.1
comp=Z,451nm,4.7s
ZAK Zakamensk 60.78 335⇓ *i*P **P** **00 06 39.6 -0.3**
ZAK pmax pmax
comp=Z,53nm,1.4s
ADKI Addanki 60.91 290 *e*P **P** **00 06 39.7 -1.6**
ADKI IAmb IAmb 00 06 43.0
comp=Z,52nm,1.4s
ADKI *e*S **S** **00 14 57.4 -1.0**
ADKI IVMs_BB IVMs_BB 00 32 12.2
comp=Z,276nm,15.8s
NJS Nagarjunasagar 61.68 290 *e*P **P** **00 06 46.1 -0.4**
NJS IAmb IAmb 00 06 47.6
comp=Z,70nm,1.5s
NJS *e*S **S** **00 15 07.1 -1.1**
NJS IVMs_BB IVMs_BB 00 41 45.6
comp=Z,423nm,5.1s
RCLA Racherla 61.78 289 *e*P **P** **00 06 48.5 +1.2**
RCLA IAmb IAmb 00 06 51.5
comp=Z,42nm,1.4s
RCLA *e*S **S** **00 15 05.1 -4.5**
RCLA IVMs_BB IVMs_BB 00 51 02.5
comp=Z,445nm,4.5s
IRK Irkutsk 61.79 337⇑ *i*P **P** **00 06 45.9 -0.7**
IRK *e*S **S** **00 15 14.1 +5.6**
IRK pmax pmax
comp=Z,158nm,2.1s
SRLM Srisailam 61.97 290 *e*P **P** **00 06 47.6 -0.9**
SRLM IAmb IAmb 00 06 50.2
comp=Z,56nm,1.4s
SRLM *e*S **S** **00 15 08.7 -3.3**
SRLM IVMs_BB IVMs_BB 00 36 40.7
comp=Z,362nm,4.6s
RPR Rampur 62.19 293 *e*P **P** **00 06 49.5 -0.4**
RPR IAmb IAmb 00 06 56.5
comp=Z,30nm,1.2s
RPR *e*S **S** **00 15 13.2 -1.5**
RPR IVMs_BB IVMs_BB 00 44 21.0
comp=Z,323nm,4.2s
RAR Rarotonga 62.54 113 PFAKE 00 07 00.0 +7.8
RAR LR LR
comp=Z,5.0nm,22.0s
HYBB Hyderabad (bro 62.56 291 *e*P **P** **00 06 51.5 -0.9**
HYBB IAmb IAmb 00 07 00.0
comp=Z,31nm,0.9s
HYBB *e*S **S** **00 15 18.6 -0.9**
HYBB IVMs_BB IVMs_BB 00 43 58.3
comp=Z,345nm,4.6s
MOY Mondy 62.71 335 *e*P **P** **00 06 53.3 +0.4**
MOY pmax pmax
comp=Z,107nm,2.3s
SRSP Sriramsagar 63.08 293 *e*P **P** **00 06 54.9 -1.0**
SRSP IAmb IAmb 00 06 57.5
comp=Z,46nm,1.5s
SRSP *e*S **S** **00 15 26.9 +1.0**
SRSP IVMs_BB IVMs_BB 00 39 17.0
comp=Z,394nm,4.3s
BOD Bodaibo 63.28 345 *e*P **P** **00 06 56.1 -0.3**
BOD pmax pmax
comp=Z,24nm,1.9s
URV Uravakonda 63.30 288 *e*P **P** **00 06 56.5 -0.8**
URV IAmb IAmb 00 07 04.8
comp=Z,18nm,1.0s
URV *e*S **S** **00 15 32.0 +3.3**
URV IVMs_BB IVMs_BB 00 52 23.3
comp=Z,465nm,5.1s
DRV Dumont d'Urvil 64.10 179 S S 00 15 19.0 -18
DRV L L 00 22 00.0
DRV R 00 27 00.0
KLRI Killari 64.52 291 *e*P **P** **00 07 04.1 -1.3**
KLRI IAmb IAmb 00 07 12.4
comp=Z,55nm,1.5s
KLRI *e*S **S** **00 15 41.1 -2.8**
KLRI IVMs_BB IVMs_BB 00 49 39.0
comp=Z,599nm,4.2s
YAK Yakutsk 64.67 355 P **P** **00 07 05.1 -0.4**
comp=Z,5.0nm,0.4s,baz=61,slow=19,SNR=4.0
YAK Yakutsk 64.67 355 *e*P **P** **00 07 04.4 -1.1**
YAK *e**PP **pP** **00 07 14.3 +1.6**
YAK *e* 00 07 37.9
YAK *e* 00 09 25.9
YAK *e*PPP PPP 00 11 02.4
YAK *e*S **S** **00 15 43.8 -0.3**
YAK *e**SS **sS** **00 16 00.1 +4.1**
YAK *e* 00 16 55.7
YAK pmax pmax
comp=Z,61nm,1.1s
YAK pmax pmax
comp=N,28nm,1.2s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=Z,14nm,0.5s
YAK smax smax
comp=E,245nm,3.3s
YAK smax smax
comp=N,434nm,6.3s
WMQ Urumqi 64.86 322 P **P** **00 07 07.4 +0.2**
WMQ pP **pP** **00 07 12.4 -2.0**
WMQ sP **sP** **00 07 14.4 -2.7**
WMQ PcP **PcP** **00 07 40.4 0.0**
WMQ PcS 00 11 43.0
WMQ S **S** **00 15 46.8 -0.4**
WMQ sS **sS** **00 15 57.0 -2.2**
WMQ SS **SS** **00 19 59.6 +0.5**
WMQ PMZ
comp=N,110nm,1.0s
WMQ PMZ
comp=N,580nm,3.8s
WMQ LN
comp=N,1μm,19.6s
WMQ LE
comp=N,690nm,24.6s
WMQ LZ
comp=N,670nm,20.5s
SEY Seymchan 66.01 7 P **P** **00 07 14.2 +0.1**
comp=N,1.3nm,0.2s,baz=214,slow=5.9,SNR=8.1
SEY Seymchan 66.01 7 P **P** **00 07 14.2 +0.1**
SEY pmax pmax
comp=Z,1.0nm,0.2s
KIP Kipapa 66.14 65⇑ *e*P P 00 07 19.2 +3.4
KIP pmax pmax
comp=Z,34nm,0.9s
KIP MLR MLR
comp=Z,545nm,16.0s
KIP Kipapa 66.14 65 PFAKE 00 07 30.0 +14
KIP LR LR
comp=Z,2μm,22.0s
DGAR Diego Garcia 66.24 263 PFAKE 00 07 30.0 +13
DGAR LR LR
comp=Z,2μm,20.0s
NDI New Delhi 66.57 303 *e*P **P** **00 07 17.0 -1.5**
CASY Casey 66.75 192 *e*P **P** **00 07 19.8 +0.9**
comp=Z,156nm,1.8s
CASY LR LR
comp=Z,2μm,19.0s
POHA Pohakuloa 68.07 68 PFAKE 00 07 40.0 +12
POHA LR LR
comp=Z,1μm,19.0s
MK31 Makanchi Array 69.63 322 P **P** **00 07 37.5 +0.1**
baz=70,SNR=7.8
MKAR Makanchi Array 69.63 322 P **P** **00 07 37.3 0.0**
comp=Z,7.9nm,0.6s,baz=110,slow=8.0,SNR=59
MKAR LR LR 00 40 03.9
comp=Z,1μm,19.9s,baz=120,slow=38
KSH Kashi 70.97 313 P **P** **00 07 47.3 +1.5**
KSH pP **pP** **00 07 52.1 -1.0**
KSH PcP **PcP** **00 08 11.3 +5.1**
KSH PP PP 00 10 31.1 +7.8
KSH S **S** **00 16 58.6 -2.0**

KSH sS **sS** **00 17 14.0 +1.3**
KSH SKS **ScS** **00 17 49.3 +0.5**
KSH PMZ
comp=Z,100nm,1.3s
KSH LN
comp=Z,770nm,12.6s
KSH LE
comp=Z,2μm,16.4s
KSH LZ
comp=Z,3μm,18.7s
MIR Mirnyy 71.48 198⇑ *e*P P 00 07 57.0 +8.8
MIR pmax pmax
comp=Z,140nm,2.0s
ZALV Zalesovo Beam 71.75 330 P **P** **00 07 48.8 -1.2**
comp=Z,4.9nm,0.6s,baz=113,slow=6.0,SNR=21
ZALV Zalesovo Beam 71.75 330 P **P** **00 07 48.8 -1.2**
ZALV pmax pmax
comp=Z,5.0nm,0.6s
PPT2 Papeete2 71.75 108 *e*S **S** **00 17 08.4 -1.9**
comp=Z,650nm,27.2s
PPT2 *e*LQ LQ 00 26 50.8
comp=Z,8μm,42.8s
PPT2 *e*LR LR 00 29 45.6
comp=Z,3μm,25.8s
ZAA1 Zalesovo Array 71.75 330⇑ P **P** **00 07 49.2 -0.9**
baz=72
TBI Tubuai 72.28 114 *e*S **S** **00 17 16.3 +0.2**
comp=Z,353nm,28.5s
TBI *e*SS **SS** **00 21 56.1 +1.8**
comp=Z,586nm,28.0s
TBI *e*LQ LQ 00 27 01.8
comp=Z,5μm,40.0s
TBI *e*LR LR 00 29 59.4
comp=Z,2μm,26.8s
KZA Kyzart 72.36 316 P **P** **00 07 55.5 +1.0**
SNR=37
TKM2 Tokmak 2 72.41 317 P **P** **00 07 54.6 +0.1**
SNR=19
TKM2 Tokmak 2 72.41 317 *e*P **P** **00 07 54.4 -0.1**
TKM2 pmax pmax
comp=Z,46nm,0.9s
TKM2 MLR MLR
comp=Z,1μm,20.0s
TKM2 Tokmak 2 72.41 317 *e*P **P** **00 07 54.4 -0.1**
comp=Z,46nm,0.9s
TKM2 LR LR
comp=Z,1μm,20.0s
KBK Karagaybulak 72.77 316 P P 00 08 01.9 +5.3
SNR=7.1
BILL Bilibino 72.89 10⇑ *e*P P 00 08 00.7 +4.1
BILL *e*S **S** **00 17 20.9 -0.5**
BILL pmax pmax
comp=Z,11nm,1.0s
BILL MLR MLR
comp=Z,1μm,23.0s
BILL Bilibino 72.89 10 PFAKE 00 08 10.0 +13
BILL LR LR
comp=Z,967nm,21.0s
UCH Uchtor 72.92 316 P **P** **00 07 58.5 +0.6**
SNR=34
NVS Novosibirsk 73.01 330 *i* P **P** **00 07 56.3 -1.2**
NVS *e*S **S** **00 17 17.3 -5.9**
NVS pmax pmax
comp=Z,157nm,1.9s
NVS pmax pmax
comp=N,50nm,1.7s
NVS pmax pmax
comp=E,74nm,1.7s
NVS smax smax
comp=N,44nm,3.4s
NVS smax smax
comp=E,77nm,3.9s
CHMS Chumysh 73.02 316 P **P** **00 07 57.9 -0.1**
SNR=13
FRU Bishkek 73.06 316 *e*P **P** **00 07 59.0 +0.8**
FRU *e*S **SKiKP** **00 17 28.0 -1.7**
FRU *e*PS PnS 00 18 08.0 +10
FRU pmax pmax
comp=Z,160nm,2.1s
FRU MLR MLR
comp=E,800nm,19.0s
AAK Ala-Archa 73.08 316 P P 00 08 06.9 +8.5
SNR=6.1
AAK Ala-Archa 73.08 316 PFAKE 00 08 10.0 +12
AAK LR LR
comp=Z,1μm,19.0s
USP Ospenovka 73.29 317 P **P** **00 07 59.6 0.0**
SNR=20
AML Almayashu 73.47 315 P **P** **00 08 01.7 +0.7**
SNR=16
KURK Kurchatov 73.55 325 P **P** **00 08 00.5 -0.3**
KURK pmax pmax
comp=Z,4.0nm,0.3s
KURK Kurchatov 73.55 325 P **P** **00 08 00.5 -0.3**
KURK LR LR
comp=Z,772nm,20.0s
KURBB Kurchatov Arra 73.56 325 P **P** **00 08 00.5 -0.3**
comp=Z,3.8nm,0.3s,baz=122,slow=5.0,SNR=36
EKS2 Erkin-Say 73.58 316 P **P** **00 08 01.8 +0.5**
SNR=19
EKS2 Erkin-Say 73.58 316 *e*P **P** **00 08 01.6 +0.2**
EKS2 pmax pmax
comp=Z,65nm,1.0s
EKS2 MLR MLR
comp=Z,1μm,22.0s
EKS2 Erkin-Say 73.58 316 *e*P **P** **00 08 01.6 +0.2**
comp=Z,65nm,1.0s
EKS2 LR LR
comp=Z,1μm,22.0s
PAF Port-aux-Franc 74.30 219 S **SKiKP** **00 17 33.0 +1.7**
PAF L L 00 28 00.0
PAF R 00 32 00.0
SDPT Sand Point 75.86 31 *e*P **P** **00 08 12.2 -1.9**
comp=Z,65nm,0.9s
KKAR Karatay Array 76.00 315 *e*P **P** **00 08 14.5 -0.8**
KKAR pmax pmax
comp=Z,45nm,1.0s
KKAR Karatay Array 76.00 315 *e*P **P** **00 08 14.5 -0.8**
comp=Z,46nm,1.0s
VNDA Vanda 76.04 175 P **P** **00 08 15.0 +0.2**
comp=Z,8.1nm,0.7s,baz=325,slow=6.7,SNR=24
VNDA LR LR 00 41 49.4
comp=Z,2μm,18.2s,baz=349,slow=36
VNDA Vanda 76.04 175 P **P** **00 08 15.0 +0.2**
VNDA pmax pmax
comp=Z,8.0nm,0.7s
VNDA MLR MLR
comp=Z,2μm,18.3s
SBA Scott Base 76.80 174 PFAKE 00 08 30.0 +11
SBA LR LR
comp=Z,2μm,19.0s
BVAR Borovoye Array 79.14 325 P **P** **00 08 32.3 -0.3**
comp=Z,20nm,0.7s,baz=118,slow=8.2,SNR=59
BVAR Borovoye Array 79.14 325 P **P** **00 08 32.3 -0.3**
BVAR pmax pmax
comp=Z,20nm,0.7s
BRVK Borovoye 79.22 325 *e*P **P** **00 08 32.6 -0.3**
BRVK pmax pmax
comp=Z,133nm,1.1s
BRVK MLR MLR
comp=Z,938nm,21.0s
BRVK Borovoye 79.22 325 *e*P **P** **00 08 32.6 -0.3**
comp=Z,133nm,1.1s
BRVK LR LR
comp=Z,938nm,21.0s
OHAK Old Harbor 80.28 31 *e*P **P** **00 08 38.8 +0.2**
comp=Z,85nm,1.2s
KDAK Kodiak Island 80.83 30 *e*P **P** **00 08 42.8 +1.3**
KDAK pmax pmax
comp=Z,48nm,0.8s
KDAK MLR MLR
comp=Z,1μm,20.0s
KDAK Kodiak Island 80.83 30 *e*P **P** **00 08 42.8 +1.3**
comp=Z,48nm,0.8s
KDAK LR LR
comp=Z,1μm,20.0s
IMYA Miami 82.35 307 *e*P **P** **00 08 49.6 -0.7**
MAW Mawson 82.40 202 P **P** **00 08 49.7 +0.1**
comp=Z,17nm,1.1s,baz=73,slow=8.3,SNR=15
MAW LR LR 00 43 14.7
comp=Z,871nm,21.7s,baz=66,slow=34
MAW Mawson 82.40 202⇓ P **P** **00 08 51.6 +1.9**
baz=82,SNR=8.6
ISRO Mashad 82.85 307 *e*P **P** **00 08 50.2 -2.6**
IMOG Moghan 82.92 307 *e*P **P** **00 08 52.7 -0.8**
ITEG Tejag 82.97 303 *e*P **P** **00 08 53.0 -0.6**
MSEY Mahe Island 83.15 266 PFAKE 00 09 10.0 +15

MSEY LR LR
comp=Z,673nm,20.0s
IPAY Payeh 83.25 307 *e*P **P** **00 08 53.5 -1.5**
RC01 Rabbit Creek A 83.26 28 *e*P **P** **00 08 54.3 +0.1**
comp=Z,40nm,1.0s
IAKL Akhelmad 83.46 307 *e*P **P** **00 08 55.9 -0.3**
IEMG Emamgholi 83.66 308 *e*P **P** **00 08 55.5 -1.7**
BPAW Bear Paw Mtn. 83.66 25 *e*P **P** **00 08 57.0 +0.7**
comp=Z,16nm,1.7s
IKRD Kardeh 83.68 307 *e*P P 00 08 52.5 -4.7
PMR Palmer 83.69 27 *e*P **P** **00 08 55.8 -0.6**
PMR pmax pmax
comp=Z,54nm,1.2s
PMR Palmer 83.69 27 *e*P **P** **00 08 55.8 -0.6**
comp=Z,54nm,1.2s
TRF Thorofare Moun 83.74 25 *e*P **P** **00 08 56.8 -0.1**
comp=Z,30nm,1.2s
SML Sawmill 84.12 27 *e*P **P** **00 08 59.3 +0.6**
SML pmax pmax
comp=Z,21nm,1.2s
SML Sawmill 84.12 27 *e*P **P** **00 08 59.3 +0.6**
comp=Z,21nm,1.2s
ISFR Sfrayin 84.12 307 *e*P **P** **00 08 59.6 0.0**
GEYT Alibeck 84.14 308 P **P** **00 08 59.6 +0.2**
comp=Z,9.9nm,0.9s,baz=149,slow=3.1,SNR=19
GEYT LR LR 00 50 05.7
comp=Z,724nm,20.0s,baz=45,slow=38
MCK McKinley 84.41 25 *e*P **P** **00 08 59.7 -0.4**
MCK pmax pmax
comp=Z,92nm,1.5s
MCK McKinley 84.41 25 *e*P **P** **00 08 59.7 -0.4**
comp=Z,92nm,1.5s
ABKAR Akbulak array 84.58 320 P **P** **00 09 00.1 -1.1**
baz=85
ABKAR Akbulak array 84.58 320 *e*P **P** **00 09 00.1 -1.1**
comp=Z,39nm,1.0s
COLD Coldfoot 84.97 22 *e*P **P** **00 09 02.5 -0.4**
comp=Z,16nm,0.9s
DIV Divide 85.13 28 *e*P **P** **00 09 03.9 0.0**
comp=Z,47nm,0.9s
COLA College 85.19 24 *e*P **P** **00 09 03.8 -0.1**
COLA pmax pmax
comp=Z,20nm,1.1s
COLA MLR MLR
comp=Z,825nm,20.0s
COLA College 85.19 24 *e*P **P** **00 09 03.8 -0.1**
comp=Z,20nm,1.1s
COLA LR LR
comp=Z,825nm,20.0s
ILAR Eielson Array 85.55 24 P **P** **00 09 05.3 -0.5**
comp=Z,12nm,1.0s,baz=262,slow=4.8,SNR=28
ILAR LR LR 00 45 24.6
comp=Z,496nm,20.0s,baz=250,slow=34
SVE Sverdlovsk 85.57 327 *e*P **P** **00 09 06.1 +0.1**
SVE *e*S S 00 19 29.0 -7.5
SVE pmax pmax
comp=Z,34nm,1.2s
SVE MLR MLR
comp=Z,757nm,20.0s
RKT Rikitea 85.58 113 *e*LQ LQ 00 32 34.1
comp=Z,2μm,40.8s
RKT *e*LR LR 00 36 08.4
comp=Z,1μm,34.5s
BMRM Bremner River 85.64 28 *e*P **P** **00 09 06.2 -0.2**
comp=Z,47nm,1.1s
AKTO Aktyubinsk 86.00 321 P **P** **00 09 08.3 0.0**
comp=Z,2.0nm,0.6s,baz=110,slow=7.4,SNR=11
AKTO LR LR 00 49 45.0
comp=Z,625nm,21.7s,baz=100,slow=37
AKTO Aktyubinsk 86.00 321 P **P** **00 09 08.3 0.0**
AKTO pmax pmax
comp=Z,2.0nm,0.6s
AKTO MLR MLR
comp=Z,625nm,21.7s
CRZF Crozet Islands 86.13 224 P **P** **00 09 08.0 -1.1**
CRZF Crozet Islands 86.13 224 S S 00 20 45.0 +63
CRZF SS **SS** **00 25 25.0 +3.9**
CRZF L L 00 32 00.0
CRZF R 00 38 00.0
ICHK Chekchek 86.55 302 *e*P **P** **00 09 10.8 -0.9**
ARU Arti 86.62 327 *c i*P **P** **00 09 10.8 -0.4**
ARU 00 12 30.9
ARU S **SKSac** **00 19 33.8 -2.7**
ARU SSS SSS 00 28 55.6
ARU pmax pmax
comp=Z,12nm,1.0s
ARU MLR MLR
comp=Z,643nm,24.0s
ARU Arti 86.62 327 *e*P **P** **00 09 09.1 -2.1**
comp=Z,40nm,1.0s
ARU LR LR
comp=Z,635nm,22.0s
ISAD Sadrabad 87.13 302 *e*P **P** **00 09 16.1 +1.5**
IANJ Anjilo 87.23 306 *e*P **P** **00 09 12.9 -2.1**
QSPA South Pole Qui 87.50 180 *e*P **P** **00 09 15.0 -0.5**
comp=Z,57nm,1.1s
QSPA LR LR
comp=Z,3μm,19.0s
EGAK Eagle 87.95 25 PFAKE 00 09 30.0 +13
EGAK LR LR
comp=Z,779nm,22.0s
SOKR Solikamsk 88.04 330 *e*P P 00 09 24.4 +6.5
SOKR S **S** **00 19 56.8 -3.4**
SOKR pmax pmax
comp=Z,30nm,1.1s
SOKR MLR MLR
comp=Z,980nm,17.0s
IZEF Zefreh 88.34 303 *e*P **P** **00 09 18.8 -1.7**
IKAZ Kazeroun 88.56 300 *e*P **P** **00 09 20.1 -1.5**
IKLH Kolahrood 89.00 303 *e*P **P** **00 09 23.3 -0.2**
IPIR Pirpir 89.54 303 *e*P P 00 09 19.6 -6.5
PTCN Pitcairn Islan 89.98 115 PFAKE 00 09 40.0 +12
PTCN LR LR
comp=Z,2μm,19.0s
SKAG Skagway 89.98 31 *e*P **P** **00 09 27.6 +0.5**
comp=Z,42nm,1.1s
SYO Syowa Base 91.04 201⇑ *e*P **P** **00 09 31.5 -0.4**
ISRB Sarab 92.38 308 *e*P **P** **00 09 37.7 -1.3**
MAK Makhachkala 92.60 313 *e*P **P** **00 09 41.9 +2.3**
PRGR Permogore 93.65 331 *e*P **P** **00 09 42.4 -1.6**
PRGR pmax pmax
comp=Z,9.0nm,0.4s
RAYN Ar Rayn 93.99 293 *e*P **P** **00 09 45.2 -1.3**
comp=Z,6.3nm,0.9s
RAYN LR LR
comp=Z,609nm,21.0s
TBLG Delisi 94.65 311 P **P** **00 09 49.1 -0.1**
GNI Garni 94.67 310 PFAKE 00 10 00.0 +10
GNI LR LR
comp=Z,354nm,22.0s
ONI Oni 95.58 312 P P 00 10 01.5 +8.0
KBZ Khabaz 95.95 314 LR LR 01 00 22.9
comp=Z,202nm,18.3s,baz=75,slow=40
KIV Kislovodsk 96.09 314 P **P** **00 09 56.0 +0.2**
KIV *e* 00 10 08.2
KIV *e* 00 13 50.0
KIV *e*PS **PS** **00 22 30.8 -5.0**
KIV pmax pmax
comp=Z,3.0nm,1.2s
KIV MLR MLR
comp=Z,411nm,22.0s
KIV Kislovodsk 96.09 314 PFAKE 00 10 10.0 +14
KIV LR LR
comp=Z,489nm,20.0s
NLWA Neilton Lookou 96.76 43 PFAKE 00 10 10.0 +11
NLWA LR LR
comp=Z,880nm,20.0s
TMCR Tamitsa 96.88 334 *e*P **P** **00 10 00.7 +1.9**
TMCR pmax pmax
comp=Z,17nm,1.1s
LVZ Lovozero 97.56 338 PFAKE 00 10 10.0 +8.1
LVZ LR LR
comp=Z,714nm,19.0s
VSR Storozhevoye 97.94 321 *e*P **P** **00 10 01.9 -1.9**
VSR pmax pmax
comp=N,7.0nm,0.9s
VSR pmax pmax
comp=E,8.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR MLR MLR
comp=N,370nm,23.0s
VSR MLR MLR
comp=E,430nm,23.0s
VSR MLR MLR
comp=Z,560nm,23.0s

APA Apatity 98.10 338⇓ *i*P Pdif 00 10 10.0 +5.8
APA *i* PS **PS** **00 23 00.0 +3.6**
APA pmax pmax
comp=Z,12nm,0.6s
APA MLR MLR
comp=Z,1μm,24.0s
SOC Sochi 98.26 314 *e*P P 00 09 59.5 -6.0
SOC *i* 00 14 01.9
SOC *e*S SKSac 00 20 34.1 -8.1
SOC *e*SS **SS** **00 28 21.2 +5.5**
SOC *e*SSS SSS 00 32 07.0
SOC MLR MLR
comp=Z,404nm,20.0s
OBN Obninsk 98.99 325⇑ *i*P Pdif 00 10 10.0 +1.6
OBN *SP sP 00 10 18.0 -0.6
OBN *e* 00 14 16.2
OBN 00 20 44.0
OBN *e* 00 21 40.6
OBN *e*PS **PS** **00 23 04.6 -1.9**
OBN pmax pmax
comp=Z,29nm,1.5s
OBN Obninsk 98.99 325 PFAKE 00 10 20.0 +12
OBN LR LR
comp=Z,1μm,21.0s
KBS Kingsbay 99.06 351 PFAKE 00 10 20.0 +12
KBS LR LR
comp=Z,605nm,21.0s
KEV Kevo 99.72 341 PFAKE 00 10 20.0 +8.6
KEV LR LR
comp=Z,776nm,19.0s
ANN Anapa 99.78 315 *e*P **Pdif** **00 10 10.9 -1.3**
ANN *e* 00 14 23.0
ANN *e* 00 20 48.3
ANN pmax pmax
comp=Z,24nm,1.0s
ANN MLR MLR
comp=N,394nm,24.0s
ANN MLR MLR
comp=Z,535nm,24.0s
ANN MLR MLR
comp=E,334nm,24.0s
YKA Yellowknife Ar 99.79 27 P **Pdif** **00 10 10.8 -1.0**
comp=E,0.4nm,0.7s,baz=289,slow=4.7,SNR=2.7
ARCES ARCESS Array B 100.29 341 P **Pdif** **00 10 13.0 -1.0**
comp=E,3.0nm,0.7s,baz=86,slow=3.8,SNR=9.1
ARCES ARCESS Array B 100.29 341 P **Pdif** **00 10 13.0 -1.0**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
NEW Newport 101.18 41 PFAKE 00 10 30.0 +12
NEW LR LR
comp=Z,718nm,20.0s
KMBO Kilima Mbogo 101.48 268 PFAKE 00 10 30.0 +9.1
KMBO LR LR
comp=Z,437nm,22.0s
BMO Blue Mountains 101.56 45 PFAKE 00 10 30.0 +10
BMO LR LR
comp=Z,689nm,20.0s
NVAR Mina Array Bea 101.62 51 P **Pdif** **00 10 21.4 +0.5**
comp=Z,0.3nm,0.5s,baz=255,slow=5.5,SNR=3.2
FINES FINESS Array B 102.86 333 P **Pdif** **00 10 24.3 -1.2**
comp=Z,2.6nm,0.9s,baz=108,slow=4.2,SNR=5.7
FINES FINESS Array B 102.86 333 P **Pdif** **00 10 24.3 -1.2**
FINES pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 103.21 310 Pdiff **Pdif** **00 10 26.8 -1.0**
comp=Z,0.5nm,1.0s,baz=193,slow=4.8,SNR=3.6
BRTR PP **PP** **00 14 43.1 +0.2**
comp=Z,1.1nm,1.0s,baz=72,slow=4.0,SNR=3.8
BRTR Keskin Array B 103.21 310 P **Pdif** **00 10 26.8 -1.0**
BRTR 00 14 43.2
BRTR pmax pmax
comp=Z,1.0nm,1.0s
BRTR pmax pmax
comp=Z,1.0nm,1.0s
PFO Pinyon Flat Ob 103.62 56 PFAKE 00 10 40.0 +10
PFO LR LR
comp=Z,1μm,21.0s
HLID Hailey 103.82 46 PFAKE 00 10 40.0 +9.5
HLID LR LR
comp=Z,708nm,20.0s
CSS Prodhromos 104.06 305 PFAKE 00 10 40.0 +8.4
CSS LR LR
comp=Z,96nm,21.0s
AKASG Malin Array Be 104.21 322 Pdiff **Pdif** **00 10 30.9 -0.9**
comp=Z,0.7nm,0.4s,baz=61,slow=5.2,SNR=4.2
AKASG PP **PP** **00 14 50.7 +0.9**
comp=Z,0.3nm,0.3s,baz=62,slow=5.7,SNR=4.1
AKASG Malin Array Be 104.21 322 P **Pdif** **00 10 30.9 -0.9**
AKASG 00 14 50.7
AKASG pmax pmax
comp=Z,1.0nm,0.4s
KIEV Kiev 104.22 322 PFAKE 00 10 40.0 +8.1
KIEV LR LR
comp=Z,731nm,21.0s
KIS Kishinev 105.34 318 *e* 00 15 03.0
KIS LRM MLR 00 59 00.0
comp=Z,600nm,22.0s
BOZ Bozeman (W) 105.36 43 PFAKE 00 15 00.0
BOZ LR LR
comp=Z,639nm,19.0s
DUG Dugway 105.58 49 PFAKE 00 15 00.0
DUG LR LR
comp=Z,506nm,20.0s
ISP Isparta 105.90 309 PFAKE 00 15 00.0
ISP LR LR
comp=Z,272nm,21.0s
EGMT Eagleton 106.06 41 PFAKE 00 15 00.0
EGMT LR LR
comp=Z,796nm,22.0s
HWUT Hardware Ranch 106.25 47 PFAKE 00 15 00.0
HWUT LR LR
comp=Z,830nm,22.0s
AHID Auburn Hatcher 106.35 46 PFAKE 00 15 00.0
AHID LR LR
comp=Z,743nm,22.0s
LKWY Lake 106.45 44 PFAKE 00 15 00.0
LKWY LR LR
comp=Z,699nm,20.0s
RLMT Red Lodge 107.11 43 PFAKE 00 15 10.0
RLMT LR LR
comp=Z,643nm,20.0s
BW06 Boulder Array 107.46 46 PFAKE 00 15 10.0
BW06 LR LR
comp=Z,820nm,22.0s
MBAR Mbarara 108.02 269 PFAKE 00 15 10.0
MBAR LR LR
comp=Z,442nm,21.0s
FFC Flin Flon 108.51 32 PFAKE 00 15 10.0
FFC LR LR
comp=Z,1μm,22.0s
LAO LASA Array 108.73 41 PFAKE 00 15 10.0
LAO LR LR
comp=Z,783nm,22.0s
KOLS Kolonicke sedl 109.03 321 *e*P **Pdif** **00 10 52.6 -0.7**
UZH Uzhgorod 109.12 321 *e*P **Pdif** **00 10 59.8 +6.1**
UZH *e* 00 24 43.2
UZH *e*SS SS 00 31 03.0 +19
LSZ Lusaka 109.17 253 PFAKE 00 15 10.0
LSZ LR LR
comp=Z,1μm,22.0s
MVCO Mesa Verde 109.47 51 PFAKE 00 15 10.0
MVCO LR LR
comp=Z,941nm,20.0s
DGMT Dagmar 109.48 39 PFAKE 00 15 10.0
DGMT LR LR
comp=Z,779nm,22.0s
STHS Stebnicka Huta 109.50 322 *e*P **Pdif** **00 10 58.3 +2.9**
SANT Santorini 110.15 308 PFAKE 00 15 10.0
SANT LR LR
comp=Z,303nm,22.0s
KECS Kecovo 110.30 321 *e*P **Pdif** **00 11 04.9 +5.9**
PSZ Piszkesteto 110.86 321 PFAKE 00 15 10.0
PSZ LR LR
comp=Z,700nm,21.0s
PMSA Palmer Station 110.87 170 PFAKE 00 15 10.0
PMSA LR LR
comp=Z,1μm,20.0s
KONO Kongsberg 110.92 335 PFAKE 00 15 10.0
KONO LR LR
comp=Z,1μm,21.0s
ISCO Idaho Springs 111.06 48 PFAKE 00 15 10.0
ISCO LR LR
comp=Z,749nm,21.0s
OKC Ostrava-Krasne 111.23 323 *ex* x 00 23 28.5
OKC *e*SP SP 00 25 07.1 -2.5

OKC *ex* x 00 31 22.9
OKC AMS AMS 01 06 50.0
comp=Z,600nm,17.4s
ANMO Albuquerque 111.57 53 PFAKE 00 15 10.0
ANMO LR LR
comp=Z,999nm,22.0s
SDCO Great Sand Dun 111.67 50 PFAKE 00 15 10.0
SDCO LR LR
comp=Z,810nm,19.0s
KRLC Kraliky 111.94 324 *ex* **PKiKP** **00 15 07.6 +4.4**
KRLC *e*PP PP 00 15 53.2 +6.9
DPC Dobruska-Polom 112.10 324 *e*PDIFF **Pdif** **00 11 09.0 +2.0**
DPC *e*pP 00 11 14.3
DPC *ex* x 00 11 42.2
DPC *e*PP **PP** **00 15 46.4 -1.0**
DPC *e*SP SP 00 25 11.2 -6.4
DPC *ex* x 00 31 35.5
DPC AMS AMS 01 07 50.0
comp=Z,900nm,19.0s
DPC Dobruska-Polom 112.10 324 *e*P **Pdif** **00 11 09.0 +2.0**
DPC *e* 00 15 46.4
DPC *e* 00 25 11.2
DPC *e*SS SS 00 31 35.5 +11
DPC MLR MLR
comp=Z,900nm,19.0s
UPC Upice 112.21 325 *ex* x 00 22 26.7
UPC *ex* x 00 25 17.9
UPC *e*SS SS 00 31 35.7 +10
UPC AMS AMS 01 07 50.0
comp=Z,1μm,18.8s
TREC Trest 113.03 324 *e*pPKP **pPKiKP** **00 15 13.3 +0.4**
TREC *e*PP PP 00 16 02.5 +8.5
TREC *e*SKKS 00 22 55.5
TREC *e*SDIF **Sdif** **00 23 41.9 +6.5**
TREC *e*SP **SP** **00 25 26.0 -0.2**
TREC *ex* x 00 31 49.1
TREC AMS AMS 01 08 20.0
comp=Z,600nm,18.1s
PVCC Panska Ves 113.03 325 *e*SP SP 00 25 26.1 0.0
PVCC *e*SS SS 00 31 44.9 +8.4
PVCC AMS AMS 01 08 10.0
comp=Z,1μm,18.4s
TIR Tirane 113.07 314 PFAKE 00 15 20.0
TIR LR LR
comp=Z,635nm,21.0s
GOPC GO Pecny, Ondr 113.18 324 *e*PP PP 00 15 59.4 +4.3
GOPC *e*SDIF 00 23 44.5
GOPC *e*SP **SP** **00 25 26.2 -1.3**
GOPC *e*SS SS 00 31 47.0 +8.5
GOPC AMS AMS 01 08 20.0
comp=Z,1μm,18.5s
BRG Berggiesshubel 113.24 326 *e*(P) **Pdif** **00 11 20.4 +8.5**
comp=Z,7.5nm,1.4s
BRG Berggiesshubel 113.24 326 *e*P PKiKP 00 15 13.6 +8.0
comp=Z,2.6nm,0.9s
BRG *e* 00 16 01.2
comp=Z,4.5nm,1.4s
BRG Berggiesshubel 113.24 326 *e*PP PP 00 16 08.0 +13
BRG Berggiesshubel 113.24 326 *e*P **Pdif** **00 11 20.4 +8.5**
BRG pmax pmax
comp=Z,8.0nm,1.5s
PRU Pruhonice 113.29 324 *ex* **PKiKP** **00 15 09.7 +4.0**
PRU *e*PP **PP** **00 15 55.0 -0.8**
PRU *e*SDIF 00 23 42.8
PRU *e*SP **SP** **00 25 27.1 -1.4**
PRU *e*SS SS 00 31 48.5 +8.6
PRU AMS AMS 01 08 30.0
comp=Z,1μm,18.8s
PRU Pruhonice 113.29 324 *e*PKIKP **PKiKP** **00 15 09.7 +4.0**
PRU *e* 00 15 55.0
PRU *e* 00 25 27.1
PRU *e*SS SS 00 31 48.5 +8.6
PRU MLR MLR
comp=Z,1μm,18.8s
PRA Prague 113.31 325 *e*PP PP 00 16 01.4 +5.4
PRA *e*SKKS 00 23 01.5
PRA *ex* x 00 23 45.0
PRA *e*SP **SP** **00 25 28.0 -0.7**
PRA *e*SS **SS** **00 31 47.0 +6.8**
PRA AMS AMS 01 08 00.0
comp=Z,1μm,19.0s
OGNE Ogallala 113.36 46 PFAKE 00 15 20.0
OGNE LR LR
comp=Z,802nm,21.0s
CLL Collm 113.56 326 *e*PP PP 00 16 01.9 +4.2
CLL Collm 113.56 326 *e*pPKiKP pPKiKP 00 15 13.0 -0.8
comp=Z,3.0nm,0.9s
CLL *e*PP **PP** **00 16 00.0 +2.3**
CLL *e*Sdif Sdif 00 23 54.0 +14
CLL *e*PS **PS** **00 25 30.0 -4.5**
CLL *e* 00 28 00.0
CLL *e*SS **SS** **00 31 41.0 -2.4**
CLL *e*SSS SSS 00 36 12.0
CLL *e* 00 40 36.0
CLL L L 01 07 00.0
comp=N,800nm,19.1s
CLL L L 01 07 00.0
comp=E,600nm,20.5s
CLL LmV 01 09 00.0
comp=Z,1μm,18.6s
KHC Kasperske Hory 114.23 324 *e*PKP PKPdf 00 15 09.3 +1.7
KHC *e*PP **PP** **00 15 59.0 -3.6**
KHC *e*SKKS 00 23 07.3
KHC *e*SDIF **Sdif** **00 23 44.5 -1.0**
KHC *e*SP **SP** **00 25 36.8 -0.4**
KHC *e*SS **SS** **00 31 57.5 +5.0**
KHC AMS AMS 01 08 40.0
comp=Z,1μm,18.8s
KHC Kasperske Hory 114.23 324 *e*PKIKP PKPdf 00 15 09.3 +1.7
KHC *e* 00 15 59.0
KHC *e* 00 25 36.8
KHC *e*SS SS 00 31 57.5 +5.0
KHC MLR MLR
comp=Z,1μm,18.8s
GEC2 GERESS Array S 114.28 324 *e*PP PP 00 16 13.8 +11
GERES GERESS Array B 114.28 324 PKP PKPdf 00 15 07.3 -0.4
comp=Z,0.2nm,0.5s,baz=75,slow=1.1,SNR=2.6
TANN Tannenbergstha 114.28 326 *e*PP PP 00 16 16.6 +14
NKC Novy Kostel 114.38 325 *e*SP SP 00 25 38.2 -0.3
NKC *e*SS **SS** **00 31 58.7 +4.4**
NKC AMS AMS 01 09 40.0
comp=Z,1μm,18.6s
WET Wettzell 114.63 324 *e*PP PP 00 16 18.3 +13
MOX Moxa 114.65 326 *e*PP PP 00 16 17.9 +12
AGMN Agassiz Nation 114.67 37 PFAKE 00 15 20.0 +12
AGMN LR LR
comp=Z,1μm,22.0s
ROTZ Rotzenmuhle 114.73 325 *e*PP PP 00 16 19.5 +13
CLZ Clausthal 114.74 328 *e*PP PP 00 16 19.5 +13
SFJD Kangerlussuaq 115.23 4 PFAKE 00 15 20.0 +11
SFJD LR LR
comp=Z,519nm,19.0s
RJOB Jochberg 115.32 323 *e*PP PP 00 16 15.0 +4.7
GRF Grafenberg Arr 115.33 325 *e*PP PP 00 16 22.8 +13
UBBA Unterbreizbach 115.46 327 *e*PP PP 00 16 23.2 +12
CBKS Cedar Bluff 115.71 48 PFAKE 00 15 20.0 +9.2
CBKS LR LR
comp=Z,900nm,21.0s
IBBN Ibbenburen 115.86 329 *e*PP PP 00 16 26.0 +12
TIP Timpagrande 116.02 313 PFAKE 00 15 20.0 +8.7
TIP LR LR
comp=Z,1μm,22.0s
FUR Furstenfeldbru 116.03 324 *e*PP PP 00 16 26.5 +11
ECSD EROS Data Cent 116.12 42 PFAKE 00 15 20.0 +8.6
ECSD LR LR
comp=Z,769nm,21.0s
BORG Borgarnes 116.19 351 PFAKE 00 15 20.0 +9.2
BORG LR LR
comp=Z,344nm,19.0s
CUC Castrocucco 116.42 314 PFAKE 00 15 20.0 +7.9
CUC LR LR
comp=Z,218nm,20.0s
BUG Bochum--Univer 116.59 328 *e*PP PP 00 16 32.2 +13
TNS Taunus Mts 116.61 327 *e*PP PP 00 16 30.6 +11
STU Stuttgart 116.94 325 *e*PP PP 00 16 33.4 +12
AQU L'Aquila 117.22 317 PFAKE 00 15 20.0 +6.4
AQU LR LR
comp=Z,676nm,22.0s
EYMN Ely 117.42 36 PFAKE 00 15 20.0 +6.3
EYMN LR LR
comp=Z,1μm,22.0s
BFO Black Forest 117.66 325 *e*PP PP 00 16 39.2 +13
BFO Black Forest 117.66 325 PFAKE 00 15 30.0 +16

BFO					LR	LR			
	comp=Z,981nm,19.0s								
KSU1	**Kansas State U**	**117.90**	**46**		PFAKE		00 15 30.0	+15	
KSU1					LR	LR			
	comp=Z,967nm,22.0s								
TUE	**Stuetta**	**117.99**	**323**		PFAKE		00 15 30.0	+15	
TUE					LR	LR			
	comp=Z,853nm,20.0s								
JCT	**Junction City**	**118.08**	**57**		PFAKE		00 15 30.0	+14	
JCT					LR	LR			
	comp=Z,729nm,22.0s								
WLF	**Walferdange**	**118.16**	**327**	*e*PP	PP		00 16 43.7	+14	
WLF	**Walferdange**	**118.16**	**327**		PFAKE		00 15 30.0	+15	
WLF					LR	LR			
	comp=Z,707nm,19.0s								
ECH	**Echery**	**118.39**	**325**		PFAKE		00 15 30.0	+14	
ECH					LR	LR			
	comp=Z,886nm,19.0s								
TSUM	**Tsumeb**	**118.39**	**247**		PFAKE		00 15 30.0	+13	
TSUM					LR	LR			
	comp=Z,657nm,20.0s								
VLC	**Villacollemand**	**118.44**	**320**		PFAKE		00 15 30.0	+14	
VLC					LR	LR			
	comp=Z,653nm,22.0s								
WDD	**Wield Dalam**	**118.80**	**310**		PFAKE		00 15 30.0	+13	
WDD					LR	LR			
	comp=Z,315nm,21.0s								
ESK	**Eskdalemuir**	**119.00**	**336**		PFAKE		00 15 30.0	+14	
ESK					LR	LR			
	comp=Z,769nm,21.0s								
SCIA	**State Center**	**119.16**	**42**		PFAKE		00 15 30.0	+13	
SCIA					LR	LR			
	comp=Z,562nm,20.0s								
CLTB	**Caltabellotta**	**119.18**	**312**		PFAKE		00 15 30.0	+12	
CLTB					LR	LR			
	comp=Z,270nm,20.0s								
COWI	**Conover**	**119.75**	**37**		PFAKE		00 15 30.0	+12	
COWI					LR	LR			
	comp=Z,2μm,22.0s								
JFWS	**Jewell Farm**	**120.65**	**40**		PFAKE		00 15 30.0	+10	
JFWS					LR	LR			
	comp=Z,846nm,22.0s								
VSL	**Villasalto**	**121.18**	**316**		PFAKE		00 15 30.0	+8.8	
VSL					LR	LR			
	comp=Z,315nm,20.0s								
SSB	**Saint Sauveur**	**121.48**	**324**		PFAKE		00 15 30.0	+8.3	
SSB					LR	LR			
	comp=Z,929nm,19.0s								
MIAR	**Mount Ida**	**121.83**	**50**	*e*PKIKP		**PKPdf**	**00 15 22.5**	**-0.1**	
MIAR					MLR	MLR			
	comp=Z,1μm,22.0s								
MIAR	**Mount Ida**	**121.83**	**50**	*e*PKPdf		**PKPdf**	**00 15 22.5**	**-0.1**	
MIAR					LR	LR			
	comp=Z,1μm,22.0s								
NATX	**Nacogdoches**	**121.93**	**54**		PFAKE		00 15 30.0	+7.2	
NATX					LR	LR			
	comp=Z,846nm,20.0s								
HDIL	**Hopedale**	**122.40**	**42**		PFAKE		00 15 30.0	+6.5	
HDIL					LR	LR			
	comp=Z,711nm,19.0s								
GLMI	**Grayling**	**123.11**	**36**		PFAKE		00 15 40.0	+15	
GLMI					LR	LR			
	comp=Z,1μm,22.0s								
HOPE	**Hope Point**	**123.34**	**183**		PFAKE		00 15 40.0	+15	
HOPE					LR	LR			
	comp=Z,3μm,21.0s								
AAM	**Ann Arbor**	**125.12**	**38**		PFAKE		00 15 40.0	+11	
AAM					LR	LR			
	comp=Z,1μm,21.0s								
WVT	**Waverly**	**125.47**	**46**	*e*PKIKP		**PKPdf**	**00 15 27.9**	**-1.6**	
WVT	**Waverly**	**125.47**	**46**	*e*PKPdf		**PKPdf**	**00 15 27.9**	**-1.6**	
ACSO	**Alum Creek Sta**	**126.70**	**40**		PFAKE		00 15 40.0	+8.2	
ACSO					LR	LR			
	comp=Z,648nm,20.0s								
LRAL	**Lakeview Retre**	**127.45**	**49**	*e*PKPdf		**PKPdf**	**00 15 32.5**	**-0.9**	
BRAL	**Brewton**	**128.25**	**52**		PFAKE		00 15 50.0	+15	
BRAL					LR	LR			
	comp=Z,957nm,22.0s								
LONY	**Lake Ozonia**	**128.71**	**30**		PFAKE		00 15 50.0	+15	
LONY					LR	LR			
	comp=Z,568nm,21.0s								
NCB	**Newcomb**	**129.36**	**31**		PFAKE		00 15 50.0	+13	
NCB					LR	LR			
	comp=Z,700nm,20.0s								
GOGA	**Godfrey**	**129.91**	**47**		PFAKE		00 15 50.0	+12	
GOGA					LR	LR			
	comp=Z,893nm,22.0s								
BLA	**Blacksburg**	**130.05**	**41**		PFAKE		00 15 50.0	+12	
BLA					LR	LR			
	comp=Z,790nm,22.0s								
PAB	**San Pablo**	**130.16**	**323**		PFAKE		00 15 50.0	+12	
PAB					LR	LR			
	comp=Z,592nm,19.0s								
TAM	**Tamanrasset**	**130.42**	**298**		PFAKE		00 15 50.0	+10	
TAM					LR	LR			
	comp=Z,222nm,20.0s								
TEIG	**Tepich**	**130.81**	**65**		PFAKE		00 15 50.0	+10	
TEIG					LR	LR			
	comp=Z,15nm,21.0s								
PAYG	**Puerto Ayora**	**130.83**	**93**		PFAKE		00 15 50.0	+10	
PAYG					LR	LR			
	comp=Z,1μm,20.0s								
CBN	**Corbin**	**131.41**	**38**		PFAKE		00 15 50.0	+9.2	
CBN					LR	LR			
	comp=Z,880nm,22.0s								
NHSC	**New Hope**	**132.45**	**46**		PFAKE		00 15 50.0	+7.1	
NHSC					LR	LR			
	comp=Z,627nm,20.0s								
CNNC	**Cliffs of the**	**132.85**	**42**		PFAKE		00 15 50.0	+6.4	
CNNC					LR	LR			
	comp=Z,723nm,20.0s								
TRQA	**Tornquist**	**135.35**	**157**		PFAKE		00 16 00.0	+12	
TRQA					LR	LR			
	comp=Z,1μm,22.0s								
JTS	**JuntasAbangare**	**135.87**	**78**		PFAKE		00 16 00.0	+10	
JTS					LR	LR			
	comp=Z,1μm,20.0s								
TOB3	**Torodi Ar. Sit**	**136.26**	**286**	*e*PKP1		**PKPdf**	**00 15 49.4**	**-1.1**	
TORD	**Torodi Ar. Bea**	**136.27**	**286**	PKP		**PKPdf**	**00 15 50.4**	**-0.1**	
	comp=Z,2.3nm,1.0s,baz=82,slow=1.8,SNR=12								
LCO	**Las Campanas**	**137.84**	**140**		PFAKE		00 16 00.0	+6.6	
LCO					LR	LR			
	comp=Z,681nm,20.0s								
BCIP	**Isla Barro Col**	**141.01**	**78**		PFAKE		00 16 10.0	+11	
BCIP					LR	LR			
	comp=Z,882nm,21.0s								
MTDJ	**Mount Denham**	**141.09**	**64**		PFAKE		00 16 10.0	+11	
MTDJ					LR	LR			
	comp=Z,324nm,21.0s								
NNA	**Nana**	**141.79**	**113**		PFAKE		00 16 10.0	+9.3	
NNA					LR	LR			
	comp=Z,543nm,21.0s								
GTBY	**Guantanamo Bay**	**142.61**	**60**		PFAKE		00 16 10.0	+8.1	
GTBY					LR	LR			
	comp=Z,561nm,21.0s								
OTAV	**Otavalo**	**142.70**	**93**		PFAKE		00 16 10.0	+7.1	
OTAV					LR	LR			
	comp=Z,412nm,19.0s								
BBSR	**BB Station**	**142.93**	**34**		PFAKE		00 16 10.0	+7.8	
BBSR					LR	LR			
	comp=Z,732nm,21.0s								
LVC	**Limon Verde**	**143.24**	**134**		PFAKE		00 16 10.0	+6.7	
LVC					LR	LR			
	comp=Z,848nm,22.0s								
KIC	**Kosan Boka**	**143.45**	**277**	*e*PKP1		**PKPdf**	**00 16 06.7**	**+3.1**	
	comp=Z,24nm,0.8s								
DBIC	**Dimbokro**	**143.54**	**278**	PKP		PKPbc	00 16 01.7	+0.6	
	comp=Z,3.3nm,0.8s,baz=66,slow=4.7,SNR=3.1								
DBIC	**Dimbokro**	**143.54**	**278**	PKIKP		PKPbc	00 16 01.7	+0.6	
DBIC				pmax		pmax			
	comp=Z,3.0nm,0.8s								
TIC	**Toumodi**	**143.70**	**278**	*e*PKP1		**PKPdf**	**00 16 05.7**	**+1.6**	
GRTK	**Grand Turk**	**145.25**	**55**		PFAKE		00 16 20.0	+14	
GRTK					LR	LR			
	comp=Z,555nm,20.0s								
SDDR	**Presa de Saban**	**146.28**	**59**		PFAKE		00 16 20.0	+10	
SDDR					LR	LR			
	comp=Z,542nm,21.0s								
CPUP	**Villa Florida**	**147.42**	**152**		PKPbc		**PKPbc**	**00 16 11.7**	**-0.8**
	comp=Z,9.7nm,0.9s,baz=226,slow=2.4,SNR=10								
CPUP	**Villa Florida**	**147.42**	**152**		PKP2		**PKPbc**	**00 16 11.7**	**-0.8**
CPUP					pmax		pmax		
	comp=Z,10.0nm,0.9s								
LPAZ	**La Paz**	**147.53**	**126**		PKPbc		**PKPbc**	**00 16 13.0**	**-0.8**
	comp=Z,5.7nm,0.8s,baz=146,slow=4.1,SNR=15								
LPAZ	**La Paz**	**147.53**	**126**		PKP2		**PKPbc**	**00 16 13.0**	**-0.8**
LPAZ					pmax		pmax		
	comp=Z,6.0nm,0.8s								
SJG	**San Juan**	**151.00**	**56**		PFAKE		00 16 30.0	+0.8	
SJG					LR	LR			
	comp=Z,561nm,20.0s								
ASCN	**Ascension**	**151.31**	**249**		PFAKE		00 16 30.0	-0.7	
ASCN					LR	LR			
	comp=Z,1μm,22.0s								
ANWB	**Willy Bob**	**154.76**	**52**		PFAKE		00 16 30.0	-0.1	
ANWB					LR	LR			
	comp=Z,642nm,19.0s								
SAML	**Samuel**	**155.34**	**118**		PFAKE		00 16 30.0	+7.6	
SAML					LR	LR			
	comp=Z,652nm,21.0s								
FDF	**Fort de France**	**156.83**	**57**		PFAKE		00 16 40.0	-14	
FDF					LR	LR			
	comp=Z,504nm,20.0s								
GRGR	**Grenville**	**157.57**	**64**		PFAKE		00 16 40.0	+15	
GRGR					LR	LR			
	comp=Z,314nm,20.0s								
SACV	**Santiago Islan**	**158.64**	**307**		PFAKE		00 16 40.0	+13	
SACV					LR	LR			
	comp=Z,652nm,22.0s								
RCBR	**Riachuelo**	**170.23**	**213**		PFAKE		00 16 50.0	+13	
RCBR					LR	LR			
	comp=Z,939nm,22.0s								

DDA ***14*** *00:18:11.8, 40˚.54N×25˚.52E, h7km, MD3.1*
CSEM ***14*** *00:18:12.3±0.1, 40˚.51N×25˚.47E, h2km, ML2.7, Error ellipse: s-maj=2.7km s-min=2.1km az=7.0*
ISCJB ***14*** *00:18:12.2±0.4, 40˚.51N±0˚.02×25˚.49E±0˚.02, h5km±3km, Error ellipse: s-maj=2.7km s-min=2.6km az=25.9*
THE ***14*** *00:18:12.8, 40˚.51N×25˚.53E, h6km, ML2.7/11, Error ellipse: s-maj=0.7km s-min=0.5km az=117.0*
ATH ***14*** *00:18:12.3, 40˚.51N×25˚.57E, h26km, MD3.5/17*
ISK ***14*** *00:18:13.0, 40˚.51N×25˚.64E, h5km, MD3.1*
ISC 14 00:18:12.7±0.8, 40˚50N±0˚01×25˚52E±0˚01, h7km±5km, n135, σ0892/182, 3C-10D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
					Op	ISC	h m s		ISC
SMTH	**Samothraki Isl**	**0.03**	**167**	P		**Pg**	**00 18 14.3**	**+0.1**	
SMTH				S		**Sg**	**00 18 15.3**	**+0.1**	
SMTH	**Samothraki Isl**	**0.03**	**167**	P		**Pg**	**00 18 14.3**	**+0.1**	
SMTH				S		**Sg**	**00 18 15.3**	**+0.1**	
GADA	**Gvkgeada**	**0.43**	**137**	*e*PG		**Pg**	**00 18 21.5**	**+0.5**	
GADA				*e*SG		**Sb**	**00 18 27.9**	**-1.2**	
GADA	**Gvkgeada**	**0.43**	**137**	*e*Pg		**Pg**	**00 18 21.5**	**+0.5**	
GADA				*e*Sg		**Sb**	**00 18 27.9**	**-1.2**	
ENEZ	**Enez**	**0.54**	**64**	*e*PG		**Pg**	**00 18 22.9**	**-0.1**	
ENEZ				*e*SG		**Sg**	**00 18 30.2**	**+0.2**	
ENEZ	**Enez**	**0.54**	**64**	*e*Pg		**Pg**	**00 18 22.9**	**-0.1**	
ENEZ				*e*Sg		**Sg**	**00 18 30.2**	**+0.2**	
ALN	**Alexandroupoli**	**0.56**	**45**	*e*PN		**Pg**	**00 18 23.3**	**-0.3**	
ALN				*e*SN		**Sg**	**00 18 30.7**	**-0.1**	
ALN	**Alexandroupoli**	**0.56**	**45**	*e*Pn		**Pg**	**00 18 23.3**	**-0.3**	
ALN				S		**Sg**	**00 18 30.6**	**-0.2**	
ALN	**Alexandroupoli**	**0.56**	**45**	P		**Pg**	**00 18 23.2**	**-0.3**	
ALN				S		**Sg**	**00 18 30.6**	**-0.2**	
RDO	**Rodhopi**	**0.64**	**1**	*e*PN		**Pg**	**00 18 24.9**	**-0.2**	
RDO	**Rodhopi**	**0.64**	**1**	P		**Pg**	**00 18 24.7**	**-0.4**	
RDO	**Rodhopi**	**0.64**	**1**	P		**Pg**	**00 18 24.7**	**-0.4**	
LIA	**Limnos Island**	**0.66**	**203**	*e*PN		**Pb**	**00 18 25.9**	**-0.6**	
LIA				*e*SN		**Sb**	**00 18 35.8**	**0.0**	
LIA	**Limnos Island**	**0.66**	**203**	P		**Pg**	**00 18 25.8**	**+0.4**	
LIA				S		**Sg**	**00 18 34.6**	**+0.7**	
LIA				*e*Sn		**Sb**	**00 18 35.8**	**0.0**	
LIA	**Limnos Island**	**0.66**	**203**	P		**Pg**	**00 18 25.8**	**+0.4**	
LIA				S		**Sg**	**00 18 34.6**	**+0.7**	
GELI	**Tayfur-Gelibol**	**0.74**	**98**	*e*PG		**Pg**	**00 18 26.6**	**-0.2**	
GELI	**Tayfur-Gelibol**	**0.74**	**98**	*e*Pg		**Pg**	**00 18 26.6**	**-0.2**	
ERIK	**Erikli-Kesan**	**0.77**	**77**	*e*PG		**Pg**	**00 18 27.3**	**-0.3**	
ERIK	**Erikli-Kesan**	**0.77**	**77**	*e*Pg		**Pg**	**00 18 27.3**	**-0.3**	
BOZC	**Bozcaada**	**0.78**	**148**	*i* P		**Pb**	**00 18 28.3**	**-0.2**	
BOZC				*i* S		**Sb**	**00 18 38.8**	**-0.4**	
BOZC				*i* S		**Sg**	**00 18 39.1**	**+1.4**	
KAVA	**Kavala**	**0.91**	**303**	*e*PN		**Pb**	**00 18 30.7**	**-0.1**	
KAVA				*e*SN		**Sb**	**00 18 43.8**	**+0.8**	
KAVA	**Kavala**	**0.91**	**303**	P		**Pb**	**00 18 30.4**	**-0.4**	
KAVA	**Kavala**	**0.91**	**303**	*e*Pn		**Pb**	**00 18 30.7**	**-0.1**	
KAVA				S		**Sb**	**00 18 43.0**	**0.0**	
KAVA	**Kavala**	**0.91**	**303**	P		**Pb**	**00 18 30.4**	**-0.4**	
KAVA				S		**Sb**	**00 18 43.0**	**0.0**	
EZN	**Ezine**	**0.92**	**137**	*e*PG		**Pg**	**00 18 30.2**	**-0.1**	
EZN	**Ezine**	**0.92**	**137**	*e*Pg		**Pg**	**00 18 30.2**	**-0.1**	
LPK	**Lapseki**	**0.96**	**98**	*e*PG		**Pb**	**00 18 31.3**	**-0.2**	
LPK	**Lapseki**	**0.96**	**98**	*e*Pg		**Pb**	**00 18 31.3**	**-0.2**	
OUR	**Ouranopolis**	**1.19**	**262**	*e*PN		**Pb**	**00 18 34.9**	**-0.6**	
OUR				*e*SN		**Sn**	**00 18 52.7**	**+0.7**	
OUR	**Ouranopolis**	**1.19**	**262**	P		**Pb**	**00 18 34.8**	**-0.7**	
OUR				*e*Sn		**Sn**	**00 18 52.7**	**+0.7**	
OUR	**Ouranopolis**	**1.19**	**262**	P		**Pb**	**00 18 34.8**	**-0.7**	
OUR				S		**Sn**	**00 18 52.7**	**+0.7**	
RKY	**Sarkoy-Tekirda**	**1.27**	**81**	*e*PN		**Pn**	**00 18 36.1**	**-0.8**	
RKY	**Sarkoy-Tekirda**	**1.27**	**81**	*e*Pn		**Pn**	**00 18 36.1**	**-0.8**	
SART	**Tekirdag**	**1.28**	**81**	*i* P		**Pn**	**00 18 36.1**	**-0.9**	
SART				*i* S		**Sb**	**00 18 53.3**	**-0.4**	
SART	**Tekirdag**	**1.28**	**81**	*i* P		**Pn**	**00 18 36.1**	**-0.9**	
SART				*i* S		**Sb**	**00 18 53.3**	**-0.4**	
SIGR	**SIGRI**	**1.32**	**169**	*e*PN		**Pn**	**00 18 37.2**	**-0.2**	
SIGR				*e*SN		**Sb**	**00 18 54.8**	**+0.1**	
SIGR	**SIGRI**	**1.32**	**169**	P		**Pn**	**00 18 36.9**	**-0.5**	
SIGR	**SIGRI**	**1.32**	**169**	*e*Pn		**Pn**	**00 18 37.2**	**-0.2**	
SIGR				S		**Sn**	**00 18 54.9**	**-0.3**	
SIGR	**SIGRI**	**1.32**	**169**	P		**Pn**	**00 18 36.9**	**-0.5**	
SIGR				S		**Sn**	**00 18 54.9**	**-0.3**	
PRK	**Paraskevi**	**1.38**	**155**	*e*PN		**Pn**	**00 18 38.1**	**-0.2**	
PRK				*e*SN		**Sb**	**00 18 56.6**	**-0.1**	
PRK	**Paraskevi**	**1.38**	**155**	P		**Pn**	**00 18 37.7**	**-0.6**	
PRK	**Paraskevi**	**1.38**	**155**	*e*Pn		**Pn**	**00 18 38.1**	**-0.2**	
PRK				*e*Sn		**Sb**	**00 18 56.6**	**-0.1**	
PRK				S		**Sg**	**00 18 57.1**	**0.0**	
PRK	**Paraskevi**	**1.38**	**155**	P		**Pn**	**00 18 37.7**	**-0.6**	
PRK				S		**Sg**	**00 18 57.1**	**0.0**	
AYVA	**Ayvalik**	**1.50**	**143**	*i* P		**Pb**	**00 18 40.5**	**-0.2**	
AYVA				*i* S		**Sg**	**00 19 00.9**	**+0.1**	
AYVA	**Ayvalik**	**1.50**	**143**	*i* P		**Pb**	**00 18 40.5**	**-0.2**	
AYVA				*i* S		**Sg**	**00 19 00.9**	**+0.1**	
NVR	**Nevrokopi**	**1.51**	**304**	*e*PN		**Pn**	**00 18 40.2**	**0.0**	
NVR				*e*SN		**Sg**	**00 19 00.9**	**-0.5**	
NVR	**Nevrokopi**	**1.51**	**304**	P		**Pn**	**00 18 39.9**	**-0.3**	
NVR	**Nevrokopi**	**1.51**	**304**	*e*Pn		**Pn**	**00 18 40.2**	**0.0**	
NVR				S		**Sb**	**00 19 00.5**	**0.0**	
NVR	**Nevrokopi**	**1.51**	**304**	P		**Pn**	**00 18 39.9**	**-0.3**	
NVR				S		**Sb**	**00 19 00.5**	**0.0**	
PAIG	**Paliouri**	**1.52**	**248**	*e*PB		**Pn**	**00 18 39.4**	**-0.9**	
PAIG	**Paliouri**	**1.52**	**248**	P		**Pn**	**00 18 39.3**	**-1.0**	
PAIG	**Paliouri**	**1.52**	**248**	P		**Pn**	**00 18 39.3**	**-1.0**	
MRMT	**Marmara Adasi**	**1.58**	**86**	*e*PN		**Pb**	**00 18 41.8**	**-0.5**	
MRMT	**Marmara Adasi**	**1.58**	**86**	*e*Pn		**Pb**	**00 18 41.8**	**-0.5**	
SRS	**Serrai**	**1.59**	**293**	*e*PN		**Pn**	**00 18 41.2**	**0.0**	
SRS	**Serrai**	**1.59**	**293**	P		**Pn**	**00 18 40.7**	**-0.5**	
SRS	**Serrai**	**1.59**	**293**	*e*Pn		**Pn**	**00 18 41.2**	**0.0**	
SRS				S		**Sb**	**00 19 02.2**	**-0.3**	
SRS	**Serrai**	**1.59**	**293**	P		**Pn**	**00 18 40.7**	**-0.5**	
SRS				S		**Sb**	**00 19 02.2**	**-0.3**	
PLG	**Polygyros**	**1.59**	**266**	*e*PN		**Pn**	**00 18 41.0**	**-0.2**	
PLG	**Polygyros**	**1.59**	**266**	P		**Pn**	**00 18 40.5**	**-0.7**	
PLG	**Polygyros**	**1.59**	**266**	*e*Pn		**Pn**	**00 18 41.0**	**-0.2**	
PLG	**Polygyros**	**1.59**	**266**	P		**Pn**	**00 18 40.5**	**-0.7**	
TKR	**Tekirdag**	**1.61**	**72**	*e*PN		**Pb**	**00 18 42.7**	**+0.1**	
TKR	**Tekirdag**	**1.61**	**72**	*e*Pn		**Pb**	**00 18 42.7**	**+0.1**	
EDRB	**Edirne**	**1.63**	**34**	*e*PN		**Pb**	**00 18 42.9**	**-0.1**	
EDRB	**Edirne**	**1.63**	**34**	P		**Pb**	**00 18 41.0**	**-0.7**	
EDRB	**Edirne**	**1.63**	**34**	*e*Pn		**Pb**	**00 18 42.9**	**-0.1**	
EDRB				S		**Sn**	**00 19 02.3**	**-0.6**	
EDRB	**Edirne**	**1.63**	**34**	P		**Pn**	**00 18 41.0**	**-0.7**	
EDRB				S		**Sn**	**00 19 02.3**	**-0.6**	
SOH	**Sokhos**	**1.68**	**282**	*e*PB		**Pn**	**00 18 41.9**	**-0.6**	
SOH	**Sokhos**	**1.68**	**282**	P		**Pn**	**00 18 41.6**	**-0.9**	
SOH	**Sokhos**	**1.68**	**282**	*e*Pb		**Pn**	**00 18 41.9**	**-0.6**	
SOH	**Sokhos**	**1.68**	**282**	P		**Pn**	**00 18 41.6**	**-0.9**	
MMB	**Musomiste**	**1.74**	**309**	⇑ *i* P		**Sn**	**00 19 07.8**	**+2.2**	
EDC	**Edincik**	**1.80**	**94**	*e*PN		**Pb**	**00 18 45.1**	**-0.8**	
EDC	**Edincik**	**1.80**	**94**	*e*Pn		**Pb**	**00 18 45.1**	**-0.8**	
AOS	**Alonnisos**	**1.84**	**224**	*e*PB		**Pn**	**00 18 44.1**	**-0.5**	
AOS	**Alonnisos**	**1.84**	**224**	P		**Pn**	**00 18 43.8**	**-0.8**	
AOS	**Alonnisos**	**1.84**	**224**	*e*Pb		**Pn**	**00 18 44.1**	**-0.5**	
AOS				S		**Sb**	**00 19 09.0**	**-0.7**	
AOS	**Alonnisos**	**1.84**	**224**	P		**Pn**	**00 18 43.8**	**-0.8**	
AOS				S		**Sb**	**00 19 09.0**	**-0.7**	
HORT	**Hortiatis**	**1.85**	**274**	*e*PN		**Pn**	**00 18 45.4**	**+0.6**	
HORT	**Hortiatis**	**1.85**	**274**	*e*Pn		**Pn**	**00 18 45.4**	**+0.6**	
PHSR	**Pinarhisar**	**1.89**	**53**	*e*PN		**Pb**	**00 18 47.0**	**-0.5**	
PHSR	**Pinarhisar**	**1.89**	**53**	*e*Pn		**Pb**	**00 18 47.0**	**-0.5**	
KNT	**Kendrikon**	**2.10**	**289**	*e*PN		**Pn**	**00 18 48.3**	**+0.1**	
KNT	**Kendrikon**	**2.10**	**289**	P		**Pn**	**00 18 47.3**	**-0.9**	
KNT	**Kendrikon**	**2.10**	**289**	*e*Pn		**Pn**	**00 18 48.3**	**+0.1**	
KNT				S		**Sn**	**00 19 14.6**	**+0.1**	
KNT	**Kendrikon**	**2.10**	**289**	P		**Pn**	**00 18 47.3**	**-0.9**	
KNT				S		**Sn**	**00 19 14.6**	**+0.1**	
JMB	**Yambol**	**2.12**	**22**	⇑ *i* P		**Sn**	**00 19 19.2**	**+4.2**	
JMB	**Yambol**	**2.12**	**22**	P		**Pn**	**00 18 48.2**	**-0.3**	
JMB				S		**Sn**	**00 19 15.5**	**+0.5**	
JMB	**Yambol**	**2.12**	**22**	P		**Pn**	**00 18 48.2**	**-0.3**	
JMB				S		**Sn**	**00 19 15.5**	**+0.5**	
XOR	**Xorichti**	**2.12**	**238**	*e*PN		**Pn**	**00 18 48.5**	**0.0**	
XOR	**Xorichti**	**2.12**	**238**	*e*Pn		**Pn**	**00 18 48.5**	**0.0**	
NEO	**Neokhori**	**2.13**	**237**	*e*PN		**Pn**	**00 18 48.4**	**-0.3**	
NEO	**Neokhori**	**2.13**	**237**	*e*Pn		**Pn**	**00 18 48.4**	**-0.3**	
CHOS	**Chios island**	**2.15**	**169**	*e*PN		**Pn**	**00 18 48.5**	**-0.5**	
CHOS	**Chios island**	**2.15**	**169**	*e*Pn		**Pn**	**00 18 48.5**	**-0.5**	
SLVT	**Silivri**	**2.17**	**70**	*e*PN		**Pb**	**00 18 50.6**	**-1.6**	
SLVT	**Silivri**	**2.17**	**70**	*e*Pn		**Pb**	**00 18 50.6**	**-1.6**	
KCTX	**Karacabey (Bur**	**2.18**	**95**	*e*PN		**Pn**	**00 18 50.3**	**+1.0**	
KCTX	**Karacabey (Bur**	**2.18**	**95**	*e*Pn		**Pn**	**00 18 50.3**	**+1.0**	
CTYL	**Yal??k??y-??at**	**2.31**	**64**	*e*PN		**Pn**	**00 18 52.5**	**+1.4**	
CTYL	**Yal??k??y-??at**	**2.31**	**64**	*e*Pn		**Pn**	**00 18 52.5**	**+1.4**	
CTKS	**Kestanelik-??a**	**2.38**	**71**	*e*PN		**Pn**	**00 18 53.3**	**+1.3**	
CTKS	**Kestanelik-??a**	**2.38**	**71**	*e*Pn		**Pn**	**00 18 53.3**	**+1.3**	
DURS	**Dursunbey**	**2.44**	**111**	*i* P		**Pb**	**00 18 55.2**	**-1.7**	
DURS				*i* S		**Sb**	**00 19 28.6**	**+1.4**	
DURS	**Dursunbey**	**2.44**	**111**	*i* P		**Pb**	**00 18 55.2**	**-1.7**	
DURS				*i* S		**Sb**	**00 19 28.6**	**+1.4**	
ARMT	**Armutlu**	**2.55**	**88**	*e*PN		**Pn**	**00 18 56.0**	**+1.6**	
ARMT	**Armutlu**	**2.55**	**88**	*e*Pn		**Pn**	**00 18 56.0**	**+1.6**	
MDNY	**Mudanya-Bursa**	**2.57**	**92**	*e*PN		**Pn**	**00 18 56.0**	**+1.3**	
MDNY	**Mudanya-Bursa**	**2.57**	**92**	*e*Pn		**Pn**	**00 18 56.0**	**+1.3**	
VTS	**Vitosha**	**2.71**	**321**	*e*PN		**Pb**	**00 19 00.6**	**-1.0**	
VTS	**Vitosha**	**2.71**	**321**	⇓ *i* P		**Sg**	**00 19 42.8**	**+3.0**	
VTS	**Vitosha**	**2.71**	**321**	*e*Pn		**Pb**	**00 19 00.6**	**-1.0**	
KLYT	**Kilyos**	**2.77**	**73**	*e*PN		**Pn**	**00 18 58.7**	**+1.3**	
KLYT	**Kilyos**	**2.77**	**73**	*e*Pn		**Pn**	**00 18 58.7**	**+1.3**	
DEMI	**Demirci**	**2.86**	**120**	*i* P		**Pn**	**00 18 60.0**	**+1.2**	
DEMI				*i* S		**Sg**	**00 19 43.4**	**-1.2**	
DEMI	**Demirci**	**2.86**	**120**	*i* P		**Pn**	**00 19 00.0**	**+1.2**	
IZI	**Iznik**	**3.02**	**92**	*e*PN		**Pn**	**00 19 03.0**	**+2.0**	
IZI	**Iznik**	**3.02**	**92**	*e*Pn		**Pn**	**00 19 03.0**	**+2.0**	
AYDB	**Zeytinkoy-Aydi**	**3.15**	**143**	*e*PN		**Pn**	**00 19 04.6**	**+1.8**	
AYDB	**Zeytinkoy-Aydi**	**3.15**	**143**	*e*Pn		**Pn**	**00

0.8nm,0.4s,baz=128,slow=7.4,SNR=6.7
CHTO Chiang Mai 39.90 309 *e*P **P 00 42 56.2 +0.3**
2.9nm,0.7s
MJAR Matsushiro Arr 43.33 9 P **P 00 43 22.3 -1.1**
0.9nm,0.6s,baz=193,slow=10.0,SNR=4.7
SONM Songino Array 58.02 341 P **P 00 45 14.5 +1.0**
1.5nm,0.7s,baz=160,slow=6.6,SNR=8.1
MK31 Makanchi Array 67.97 326 P **P 00 46 21.0 +1.8**
baz=68,SNR=5.7
MKAR Makanchi Array 67.97 326 P **P 00 46 20.7 +1.5**
2.8nm,0.4s,baz=112,slow=8.6,SNR=58
SEY Seymchan 71.13 10 P **P 00 46 39.4 +1.2**
4.1nm,0.8s,baz=171,slow=2.8,SNR=9.5
ZALV Zalesovo Beam 71.24 333 P **P 00 46 39.7 +0.7**
1.1nm,0.6s,baz=114,slow=5.4,SNR=5.9
KURBB Kurchatov Arra 72.23 328 P **P 00 46 46.1 +1.1**
2.0nm,0.7s,baz=128,slow=4.8,SNR=21
KURK Kurchatov 72.24 328 *e*P **P 00 46 45.9 +0.9**
2.0nm,0.7s
BVAR Borovoye Array 77.80 328 P **P 00 47 18.0 +1.1**
0.7nm,0.5s,baz=140,slow=7.8,SNR=8.5
ABKAR Akbulak array 82.32 321 *e*P **P 00 47 41.7 +0.5**
AKTO Aktyubinsk 83.87 322 P **P 00 47 50.0 +0.8**
0.4nm,0.5s,baz=153,slow=5.8,SNR=3.7
ARCES ARCESS Array B 101.17 340 P **Pdif 00 49 10.8 +1.6**
2.5nm,0.8s,baz=72,slow=7.8,SNR=3.9
TORD Torodi Ar. Bea 129.13 282 PKP **PKPdf 00 54 28.8 +1.0**
0.4nm,0.7s,baz=69,slow=2.3,SNR=3.8
TORD SKPbc SKPbc 00 57 35.6 -0.2
0.3nm,0.7s,baz=84,slow=3.7,SNR=4.8

CSEM 14 00:42:40.5±0.4, 37.°04N×26.°67E, h5km, MD2.8, Error ellipse: s-maj=13.0km s-min=4.0km az=16.0
ISK 14 00:42:48.4, 37.°02N×27.°60E, h5km, MD2.8
DDA 14 00:42:43.2, 36.°71N×27.°41E, h2km, MD2.9, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.36**	**5**	*i* P	Pb	00 42 52.1	-0.3
BDRM				*i* S	Sg	00 42 56.6	+1.7
BDRM	**Kayabasi**	**0.36**	**5**	*i* P	Pb	00 42 52.1	-0.3
BODT	**Bodrum**	**0.36**	**348**	*e*PG	Pb	00 42 53.7	+1.3
BODT				*e*SG	Sb	00 42 58.6	0.0
BODT	**Bodrum**	**0.36**	**348**	*e*Pg	Pb	00 42 53.7	+1.3
BODT				*e*Sg	Sb	00 42 58.6	0.0
YER	**Yerkesik**	**0.82**	**58**	*e*PG	Pb	00 42 59.9	-0.4
YER				*e*SG	Sg	00 43 09.0	-0.8
TURN	**Turunc**	**0.97**	**80**	*i* P	Pg	00 42 56.6	-5.3
TURN				*i* S	Sg	00 43 05.9	-8.7
DALY	**Dalyan (Mu˘la**	**1.01**	**83**	*e*PG	Pn	00 43 06.9	+2.6
DALY	**Dalyan (Mu˘la**	**1.01**	**83**	*e*Pg	Pn	00 43 06.9	+2.6
AYDN	**Tasoluk**	**1.02**	**22**	*i* P	Pg	00 43 03.3	+0.3
AYDN				*i* S	Sg	00 43 15.8	-0.5
AYDN	**Tasoluk**	**1.02**	**22**	*i* P	Pg	00 43 03.3	+0.3
AYDN				*i* S	Sg	00 43 15.8	-0.5
AYDB	**Zeytinkoy-Aydi**	**1.30**	**17**	*e*PG	Pg	00 43 08.2	-0.1
ZEY	**˘zmir**	**1.69**	**335**	*i* P	Pb	00 43 15.1	+0.1
ZEY				*i* S	Sg	00 43 43.9	+6.4
GOLH	**Golhisar**	**1.81**	**72**	*i* P	Pg	00 43 19.1	+1.1
GOLH				*i* S	Sg	00 43 43.2	+1.7
GOLH	**Golhisar**	**1.81**	**72**	*i* P	Pg	00 43 19.1	+1.1
GOLH				*i* S	Sg	00 43 43.2	+1.7
MANT	**Manisa**	**2.00**	**27**	*i* P	Pg	00 43 22.4	+0.5
MANT				*i* S	Sg	00 43 49.0	+0.9
ELL	**Elmali**	**2.01**	**88**	*e*PN	Pg	00 43 23.4	+1.4
ELL	**Elmali**	**2.01**	**88**	*e*Pn	Pg	00 43 23.4	+1.4
KULA	**Kula-Manisa**	**2.06**	**29**	*e*PN	Pb	00 43 21.0	-0.5

SKO 14 00:43:39.7, 41.°51N×22.°94E, h15km, M1.5, ML1.6
ATH 14 00:43:39.7, 41.°48N×22.°90E, h17km±1km, MD3.1/11
THE 14 00:43:40.1, 41.°49N×22.°93E, h9km, ML1.6/6, Error ellipse: s-maj=1.1km s-min=0.5km az=173.0
BEO 14 00:43:42.1±0.5, 41.°57N×22.°75E, h0km, ML1.5/3
CSEM 14 00:43:40.3±0.4, 41.°49N×22.°88E, h20km, ML1.5, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.28**	**234**	*e*Pg	Pb	00 43 47.1	+0.4
VAY				*e*Sg	Sg	00 43 51.7	+0.7
VAY				*e*Lg	Lg	00 43 51.7	
	comp=E,73nm,0.2s						
VAY				*e*Lg	Lg	00 43 52.0	
	comp=N,74nm,0.2s						
VAY	**Valandovo**	**0.28**	**234**	*e*Pg	Pb	00 43 47.1	+0.4
VAY				*e*Sg	Sb	00 43 50.9	0.0
VAY	**Valandovo**	**0.28**	**234**	P	Pg	00 43 46.3	-0.4
VAY	**Valandovo**	**0.28**	**234**	*e*Pg	Pb	00 43 47.1	+0.4
VAY				S	Sg	00 43 51.0	0.0
VAY				*e*Lg	Lg	00 43 51.7	
	comp=N,73nm,0.2s						
VAY	**Valandovo**	**0.28**	**234**	P	Pg	00 43 46.3	-0.4
VAY				S	Sg	00 43 51.0	0.0
KNT	**Kendrikon**	**0.32**	**177**	*e*PB	Pg	00 43 46.8	-0.6
KNT				*e*SB	Sg	00 43 51.5	-0.7
KNT	**Kendrikon**	**0.32**	**177**	P	Pg	00 43 46.8	-0.6
KNT				*e*Sb	Sg	00 43 51.5	-0.7
KNT	**Kendrikon**	**0.32**	**177**	P	Pg	00 43 46.8	-0.6
KNT				S	Sg	00 43 51.4	-0.8
SRS	**Serrai**	**0.65**	**124**	*e*PN	Pb	00 43 52.2	-0.9
SRS				*e*SN	Sb	00 44 01.4	-0.3
SRS	**Serrai**	**0.65**	**124**	S	Sb	00 44 01.1	-0.6
SRS	**Serrai**	**0.65**	**124**	P	Pb	00 43 52.0	-1.1
SRS	**Serrai**	**0.65**	**124**	*e*Pn	Pb	00 43 52.2	-0.9
SRS	**Serrai**	**0.65**	**124**	P	Pb	00 43 52.0	-1.1
SRS				S	Sb	00 44 01.1	-0.6
NVR	**Nevrokopi**	**0.76**	**100**	*e*PN	Pb	00 43 53.8	-1.1
NVR				*e*SN	Sb	00 44 04.1	-0.7
NVR	**Nevrokopi**	**0.76**	**100**	S	Sb	00 44 03.9	-0.9
NVR	**Nevrokopi**	**0.76**	**100**	*e*Pn	Pb	00 43 53.8	-1.1
NVR	**Nevrokopi**	**0.76**	**100**	P	Pb	00 43 54.0	-0.9
NVR	**Nevrokopi**	**0.76**	**100**	P	Pb	00 43 54.0	-0.9
NVR				S	Sb	00 44 03.9	-0.9
SOH	**Sokhos**	**0.76**	**151**	*e*PN	Pb	00 43 54.3	-0.6
SOH				*e*SN	Sb	00 44 04.6	-0.2
SOH	**Sokhos**	**0.76**	**151**	P	Pb	00 43 54.3	-0.6
SOH				S	Sb	00 44 04.5	-0.3
SOH	**Sokhos**	**0.76**	**151**	P	Pb	00 43 54.3	-0.6
SOH				S	Sb	00 44 04.5	-0.3
THE	**Thessaloniki**	**0.85**	**175**	*e*PN	Pb	00 43 56.3	-0.2
THE				*e*SN	Sb	00 44 07.7	+0.2
THE	**Thessaloniki**	**0.85**	**175**	*e*Pn	Pb	00 43 56.3	-0.2
THE				*e*Sn	Sb	00 44 07.7	+0.2
HORT	**Hortiatis**	**0.90**	**169**	*e*PN	Pb	00 43 57.1	-0.3
HORT				*e*SN	Sb	00 44 09.6	+0.5
HORT	**Hortiatis**	**0.90**	**169**	*e*Pn	Pb	00 43 57.1	-0.3
HORT				*e*Sn	Sb	00 44 09.6	+0.5
VTS	**Vitosha**	**1.13**	**13**	*e*Pg	Pn	00 44 01.0	-0.3
VTS				*e*Sg	Sn	00 44 16.7	+0.2
VTS	**Vitosha**	**1.13**	**13**	*e*Pg	Pn	00 44 01.0	-0.3
VTS				*e*Sg	Sn	00 44 16.7	+0.2
VTS	**Vitosha**	**1.13**	**13**	P	Pn	00 44 00.9	-0.4
PLG	**Polygyros**	**1.19**	**159**	*e*PN	Pb	00 44 01.5	-0.4
PLG				*e*SN	Sb	00 44 17.5	-0.1
PLG	**Polygyros**	**1.19**	**159**	*e*Pn	Pn	00 44 01.5	-0.4
PLG				*e*Sn	Sn	00 44 17.5	-0.1
KAVA	**Kavala**	**1.33**	**111**	*e*PN	Pb	00 44 05.0	+0.4
KAVA	**Kavala**	**1.33**	**111**	P	Pn	00 44 03.9	+0.1
KAVA	**Kavala**	**1.33**	**111**	*e*Pn	Pb	00 44 21.6	+0.4
KAVA				S	Sb	00 44 03.9	+0.1
KAVA	**Kavala**	**1.33**	**111**	P	Pn	00 44 03.9	+0.1
KAVA				S	Sb	00 44 21.6	+0.4
FNA	**Florina**	**1.33**	**239**	*e*PN	Pb	00 44 04.7	0.0
FNA	**Florina**	**1.33**	**239**	S	Sg	00 44 23.8	+0.1
FNA	**Florina**	**1.33**	**239**	P	Pn	00 44 04.2	+0.3
FNA	**Florina**	**1.33**	**239**	*e*Pn	Pb	00 44 04.7	0.0
FNA	**Florina**	**1.33**	**239**	P	Pn	00 44 04.2	+0.3
FNA				S	Sg	00 44 23.8	+0.1
OUR	**Ouranopolis**	**1.42**	**144**	*e*PN	Pb	00 44 06.4	+0.2
OUR	**Ouranopolis**	**1.42**	**144**	*e*Pn	Pb	00 44 06.4	+0.2
BARS	**Barje**	**1.55**	**330**	*e*Pg	Pb	00 44 08.5	+0.2
BARS				*e*Sg	Sb	00 44 27.3	-0.2
BARS	**Barje**	**1.55**	**330**	*e*Pg	Pb	00 44 08.5	+0.2
BARS				*e*Sg	Sb	00 44 27.3	-0.2
PAIG	**Paliouri**	**1.67**	**158**	*e*PN	Pb	00 44 09.7	-0.7
PAIG	**Paliouri**	**1.67**	**158**	*e*Pn	Pb	00 44 09.7	-0.7
ZAPS	**Zavoj**	**1.80**	**354**	*e*Pg	Pb	00 44 12.8	+0.2
ZAPS				*e*Sg	Sb	00 44 35.8	+1.0
XOR	**Xorichti**	**2.13**	**173**	*e*PN	Pb	00 44 16.9	-1.4
XOR	**Xorichti**	**2.13**	**173**	*e*Pn	Pb	00 44 16.9	-1.4

DJA 14 01:48:04.7±2.2, 4.°S×15.°13E±1.°6, h436km±24km, M4.3/4, mb4.6/2, mB5.1/1, MLv4.2/4, Mw(mB)4.5/1
IDC 14 01:48:09.7±5.3, 5.°31S×133.°24E, h0km, mb4.0/1, mb1 4.2/3, mb1mx3.7/18, mbtmp4.0/3, ML3.9/2, Error ellipse: s-maj=318.6km s-min=31.4km az=77.0
ISCJB 14 01:48:15.1±1.1, 5.°71S±0.°10×132.°1E±0.°2, h33km, mb4.0/1, Error ellipse: s-maj=28.8km s-min=12.3km az=165.0
ISC 14 01:48:16.4±1.1, 5.°74S±0.°08×132.°2E±0.°1, h35km, n6, σ1s73/7, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.81**	**1**	P	**Pn**	**01 48 58.4**	**-0.5**
FAKI	**Fak Fak**	**2.81**	**1**	P	**Pn**	**01 48 58.2**	**-0.7**
	baz=2.7,SNR=150						
AAI	**Ambon**	**4.50**	**297**	P	**Pn**	**01 49 21.6**	**-0.5**
WRA	**Warramunga Arr**	**14.27**	**172**	Pn	**Pn**	**01 51 36.6**	**+0.6**
	0.3nm,0.3s,baz=354,slow=14,SNR=3.1						
WRA				Sn	**Sn**	**01 54 10.7**	**-2.5**
	0.4nm,0.3s,baz=355,slow=24,SNR=4.7						
ASAR	**Alice Springs**	**17.89**	**175**	P	**P**	**01 52 25.2**	**+2.1**
	0.9nm,0.3s,baz=2.3,slow=12,SNR=64						
MKAR	**Makanchi Array**	**68.41**	**326**	P	**P**	**01 59 14.9**	**+0.1**
	1.4nm,0.9s,baz=119,slow=7.5,SNR=6.6						

CSEM 14 01:59:17.6, 38.°49N×29.°85W, h10km, ML3.0
PDA 14 01:59:17.6±0.8, 38.°49N×29.°85W, h10km, MD3.6, ML3.0, Error ellipse: s-maj=8.7km s-min=4.6km az=146.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CALA	**Caldeira**	**0.91**	**84**	*e*S	Sg	01 59 42.2	-4.9
CALA	**Caldeira**	**0.91**	**84**	*e*S	Sg	01 59 42.2	-4.9
PCED	**Cedros**	**0.91**	**81**	*e*P	Pg	01 59 31.7	-3.5
PCED				*i* S	Sg	01 59 42.1	-5.0
PCED				A	A	01 59 44.9	
	135nm,0.3s						
PCED	**Cedros**	**0.91**	**81**	*e*P	Pg	01 59 31.7	-3.5
PCED				*i* S	Sg	01 59 42.1	-5.0
HOR	**Horta**	**0.96**	**87**	*e*P	Pg	01 59 32.5	-3.6
HOR				*e*S	Sg	01 59 43.5	-5.0
HOR	**Horta**	**0.96**	**87**	*e*P	Pg	01 59 32.5	-3.6
HOR				*e*S	Sg	01 59 43.5	-5.0
PCAN	**Candelaria**	**1.07**	**91**	*e*S	Sg	01 59 46.2	-6.1
PCAN				A	A	01 59 49.6	
	92nm,0.1s						
PCAN	**Candelaria**	**1.07**	**91**	*e*S	Sg	01 59 46.2	-6.1
PPNO	**Prainha do Nor**	**1.25**	**90**	*e*S	Sb	01 59 50.8	-6.7
PPNO				A	A	01 59 57.3	
	114nm,0.3s						
PPNO	**Prainha do Nor**	**1.25**	**90**	*e*S	Sb	01 59 50.8	-6.7
ROSA	**Rosais**	**1.28**	**79**	*e*P	Pn	01 59 37.1	-4.5
ROSA				*e*S	Sb	01 59 51.4	-7.0
ROSA				A	A	01 59 54.4	
	151nm,0.3s						
ROSA	**Rosais**	**1.28**	**79**	*e*P	Pn	01 59 37.1	-4.5
ROSA				*e*S	Sb	01 59 51.4	-7.0
PMAN	**Manadas**	**1.39**	**83**	*e*S	Sb	01 59 54.0	-7.5
PMAN				A	A	01 59 59.1	
	60nm,0.3s						
PMAN	**Manadas**	**1.39**	**83**	*e*S	Sb	01 59 54.0	-7.5
PGRA	**Graciosa**	**1.56**	**69**	*e*S	Sn	01 59 57.7	-8.0
PGRA				A	A	02 00 01.1	
	19nm,0.3s						
PGRA	**Graciosa**	**1.56**	**69**	*e*S	Sn	01 59 57.7	-8.0
ADH	**Angra Heroismo**	**2.06**	**85**	*e*P	Pn	01 59 47.9	-4.3
ADH				*e*S	Sn	02 00 10.5	-7.4
ADH				A	A	02 00 13.0	
	45nm,0.4s						
ADH	**Angra Heroismo**	**2.06**	**85**	*e*P	Pn	01 59 47.9	-4.3
ADH				*e*S	Sn	02 00 10.5	-7.4
PDA	**Ponta Delgada**	**3.38**	**101**	*e*P	Pn	02 00 05.9	-4.6
PDA	**Ponta Delgada**	**3.38**	**101**	*e*P	Pn	02 00 05.9	-4.6
PSMA	**Santa Maria**	**4.03**	**110**	*e*P	Pn	02 00 14.9	-4.4
PSMN	**Pico do Norte,**	**4.07**	**110**	*e*P	Pn	02 00 15.4	-4.6
PSMN	**Pico do Norte,**	**4.07**	**110**	*e*P	Pn	02 00 15.4	-4.6

PGC 14 02:59:51.1±0.3, 64.°26N×137.°83W, h10km, ML3.6/5, 80km east of Dawson, Yt Southern Yukon Territory, Canada, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAWY	**Dawson**	**0.71**	**255**	P	Pg	03 00 03.7	-1.3
DAWY				S	Sg	03 00 12.9	-1.5
HYT	**Haines Junctio**	**3.45**	**177**	Pn	Pn	03 00 45.6	+0.5
HYT				Pg	Pb	03 00 54.1	+1.7
HYT				Sg	Sb	03 01 37.5	+2.9
WHY	**Whitehorse**	**3.87**	**158**	Pn	Pn	03 00 48.9	-1.8
WHY				Sn	Sn	03 01 33.9	-2.4
WHY				Sg	Sb	03 01 50.9	+4.5
INK	**Inuvik**	**4.42**	**21**	Pn	Pn	03 00 57.5	-0.6
INK				Sn	Sn	03 01 45.5	-4.0
PLBC	**Pleasant Camp**	**4.87**	**171**	Pn	Pn	03 01 04.6	+0.3
PLBC				Pg	Pb	03 01 18.4	+2.0
PLBC				Sg	Sb	03 02 20.5	+5.4
DLBC	**Dease Lake**	**6.94**	**144**	Sg	Sg	03 03 26.0	-7.8
YKR2	**Yellowknife Ar**	**10.42**	**89**	Pn	Pn	03 02 18.9	-1.5
YKR3	**Yellowknife Ar**	**10.44**	**89**	Pn	Pn	03 02 19.6	-2.0
YKW3	**Yellowknife Ar**	**10.52**	**89**	Pn	Pn	03 02 19.1	-2.6
YKB8	**Yellowknife Ar**	**10.53**	**89**	Pn	Pn	03 02 19.5	-2.3
YKR7	**Yellowknife Ar**	**10.53**	**89**	Pn	Pn	03 02 19.8	-2.0
YKB7	**Yellowknife Ar**	**10.53**	**89**	Pn	Pn	03 02 19.8	-2.1
YKB6	**Yellowknife Ar**	**10.54**	**89**	Pn	Pn	03 02 19.5	-2.5
YKR8	**Yellowknife Ar**	**10.55**	**89**	Pn	Pn	03 02 20.1	-2.0
YKB4	**Yellowknife Ar**	**10.56**	**89**	Pn	Pn	03 02 20.1	-2.1
YKB3	**Yellowknife Ar**	**10.56**	**89**	Pn	Pn	03 02 20.1	-2.2
YKR9	**Yellowknife Ar**	**10.57**	**89**	Pn	Pn	03 02 20.2	-2.2

ISCJB 14 03:00:07.9±1.1, 23.°94S±0.°06×66.°9W±0.°1, h200km, mb3.7/1, Error ellipse: s-maj=18.4km s-min=7.3km az=169.4
SJA 14 03:00:08.1±0.6, 23.°96S×66.°73W, h207km±6km, MD3.0, ML2.4
IDC 14 03:00:17.4±9.6, 23.°15S×66.°24W, h251km±65km, mb3.5/1, mb1 3.2/3, mb1mx3.0/17, mbtmp3.9/3, Error ellipse: s-maj=109.4km s-min=35.6km az=24.0
ISC 14 03:00:07.2±1.5, 23.93S±0.°07×66.9W±0.°2, h200km, n11, σ1s45/16, 1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.48**	**122**	*i* P	**Pn**	**03 00 42.5**	**+1.5**
SLA				*i* S	**Sn**	**03 01 07.0**	**-0.2**
SLA				AML	AML	03 01 09.8	
	comp=Z,26nm,0.7s						
HJA	**Humahuaca**	**1.53**	**62**	*i* P	**Pn**	**03 00 43.1**	**+1.5**
AZAP	**Zapla**	**1.69**	**100**	*i* P	**Pn**	**03 00 43.8**	**+0.9**
AZAP				AML	AML	03 01 12.0	
	comp=Z,17nm,0.6s						
YJA	**Yavi**	**2.15**	**36**	*i* P	**Pn**	**03 00 49.9**	**+2.1**
YJA				*i* S	**Sn**	**03 01 20.5**	**+1.1**
ASTB	**Santa Barbara**	**2.20**	**91**	*i* P	**Pn**	**03 00 48.7**	**+0.8**
FSA	**Cafayete**	**2.29**	**160**	*i* P	**Pn**	**03 00 50.5**	**+1.4**
FSA				*i*S	**Sn**	**03 01 22.0**	**+0.3**
ALOL	**LOMAS DE OLMED**	**2.67**	**88**	*i* P	**Pn**	**03 00 53.2**	**+0.1**
ALOL				*i* P	**Pn**	**03 00 53.2**	**+0.1**
LPAZ	**La Paz**	**7.69**	**351**	P	**Pn**	**03 01 59.2**	**+2.1**
	comp=Z,0.5nm,0.3s,baz=168,slow=9.4,SNR=18						
LPAZ				S	**Sn**	**03 03 21.7**	**-2.7**
	baz=212,slow=19,SNR=1.4						
BDFB	**Brasilia**	**19.56**	**69**	P	**P**	**03 04 18.8**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=243,slow=14,SNR=5.6						
TORD	**Torodi Ar. Bea**	**76.44**	**69**	P	**P**	**03 11 34.7**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=256,slow=5.5,SNR=39						
MKAR	**Makanchi Array**	**146.40**	**40**	PKPbc	**PKPab**	**03 19 25.8**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=302,slow=2.7,SNR=7.2						

KRSC 14 03:09:44.3±1.0, 52.°71N×159.°90E, h57km±10km, ML4.1, FELT [II] at Petropavlovsk.
MOS 14 03:09:44.2±1.1, 52.°59N×159.°96E, h46km, mb4.5/3, Error ellipse: s-maj=10.5km s-min=5.9km az=88.0

MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.
ISCJB 14 03:09:45.9±0.5, 52.°72N±0.°04×159.°82E±0.°06, h62km±5km, mb3.8/8, Error ellipse: s-maj=7.7km s-min=3.7km az=44.7
IDC 14 03:09:50.3±2.3, 53.°67N×159.°29E, h70km±38km, mb3.3/6, mb1 3.6/6, mb1mx3.2/38, mbtmp3.6/6, Error ellipse: s-maj=62.8km s-min=22.1km az=3.0
ISC 14 03:09:46.2±0.7, 52.°73N±0.°04×159.°85E±0.°04, h49km±6km, n76, σ1s20/101, mb3.7/8, 1C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.38**	**16**	*i* P	**Pn**	**03 09 57.1**	**+1.1**
SPN				*e*S	**Sn**	**03 10 04.0**	**+1.1**
SPN	**Mys Shipunski**	**0.38**	**16**	PN	**Pn**	**03 09 57.1**	**+1.1**
SPN				S	**Sn**	**03 10 04.0**	**+1.1**
NLC	**Nalytchevo**	**0.54**	**325**	*i* P	**Pn**	**03 09 58.2**	**+0.5**
NLC				*e*S	**Sn**	**03 10 06.5**	**+0.5**
NLC	**Nalytchevo**	**0.54**	**325**	PN	**Pn**	**03 09 58.2**	**+0.5**
NLC				S	**Sn**	**03 10 06.5**	**+0.5**
PET	**Petropavlovsk**	**0.78**	**292**	*i* P	**Pn**	**03 10 00.9**	**0.0**
PET				*e*S	**Sn**	**03 10 11.1**	**-0.6**
PET	**Petropavlovsk**	**0.78**	**292**	*i* PN	**Pn**	**03 10 00.6**	**-0.3**
PET				*e*S	**Sn**	**03 10 11.0**	**-0.6**
PET				pmax	pmax		
	comp=Z,300nm,0.2s						
PET				pmax	pmax		
	comp=Z,291nm,0.3s						
PET				smax	smax		
	comp=E,2μm,0.9s						
PET				smax	smax		
	comp=N,3μm,0.4s						
PET				smax	smax		
	comp=N,3μm,0.4s						
PET				smax	smax		
	comp=E,2μm,0.2s						
UGLR	**Uglovaya**	**0.78**	**308**	*i* P	**Pn**	**03 10 01.6**	**+0.6**
UGLR				*e*S	**Sn**	**03 10 12.6**	**+0.8**
SDLR	**Sedlovina**	**0.80**	**314**	*e*P	**Pn**	**03 10 01.6**	**+0.3**
SDLR				*e*S	**Sn**	**03 10 12.9**	**+0.6**
SDLR	**Sedlovina**	**0.80**	**314**	PN	**Pn**	**03 10 01.6**	**+0.3**
SDLR				S	**Sn**	**03 10 12.9**	**+0.6**
SMAR	**Somma**	**0.83**	**310**	*e*P	**Pn**	**03 10 01.9**	**+0.2**
SMAR				*e*S	**Sn**	**03 10 13.3**	**+0.2**
SMAR	**Somma**	**0.83**	**310**	PN	**Pn**	**03 10 01.9**	**+0.2**
SMAR				S	**Sn**	**03 10 13.3**	**+0.2**
AVH	**Avacha**	**0.86**	**309**	*i* P	**Pn**	**03 10 02.7**	**+0.7**
AVH				*e*S	**Sn**	**03 10 14.8**	**+1.2**
AVH	**Avacha**	**0.86**	**309**	PN	**Pn**	**03 10 02.7**	**+0.7**
AVH				S	**Sn**	**03 10 14.8**	**+1.2**
RUS	**Russkaya**	**0.87**	**250**	*i* P	**Pn**	**03 10 01.8**	**-0.2**
RUS				*e*S	**Sn**	**03 10 13.9**	**+0.2**
RUS	**Russkaya**	**0.87**	**250**	PN	**Pn**	**03 10 01.8**	**-0.2**
RUS				S	**Sn**	**03 10 13.9**	**+0.2**
KRER	**Koryakskii**	**0.88**	**311**	*i* P	**Pn**	**03 10 02.9**	**+0.5**
KRER				*e*S	**Sn**	**03 10 15.3**	**+1.1**
KOK	**Koryaka**	**0.92**	**308**	*e*P	**Pn**	**03 10 03.5**	**+0.6**
KOK				*i* S	**Sn**	**03 10 16.0**	**+0.8**
KOK	**Koryaka**	**0.92**	**308**	PN	**Pn**	**03 10 03.5**	**+0.6**
KOK				S	**Sn**	**03 10 16.0**	**+0.8**
KRX	**Arik**	**0.96**	**311**	*i* P	**Pn**	**03 10 03.7**	**+0.3**
KRX				*i* S	**Sn**	**03 10 16.1**	**0.0**
MTVR	**Mutnovka**	**1.05**	**257**	*i* P	**Pn**	**03 10 04.7**	**+0.1**
MTVR				*e*S	**Sn**	**03 10 18.4**	**+0.2**
GRL	**Gorelyy**	**1.10**	**261**	*e*P	**Pn**	**03 10 05.8**	**+0.5**
GRL				*e*S	**Sn**	**03 10 19.7**	**+0.3**
GRL	**Gorelyy**	**1.10**	**261**	PN	**Pn**	**03 10 05.8**	**+0.5**
GRL				S	**Sn**	**03 10 19.7**	**+0.3**
ASAK	**Asacha**	**1.24**	**254**	*i* P	**Pn**	**03 10 07.8**	**+0.6**
ASAK				*e*S	**Sn**	**03 10 23.5**	**+0.7**
PETK	**Petropavlovsk-**	**1.36**	**287**	P	**Pn**	**03 10 09.0**	**+0.3**
	comp=E,115nm,0.3s,baz=99,slow=18,SNR=620						
PETK				S	**Sn**	**03 10 25.3**	**-0.2**
	comp=E,82nm,0.3s,baz=96,slow=26,SNR=19						
PETK	**Petropavlovsk-**	**1.36**	**287**	PN	**Pn**	**03 10 09.0**	**+0.3**
PETK				S	**Sn**	**03 10 25.3**	**-0.2**
PETK				pmax	pmax		
	comp=Z,115nm,0.3s						
PETK				smax	smax		
	comp=N,82nm,0.3s						
GNL	**Ganaly**	**1.50**	**311**	*i* P	**Pn**	**03 10 11.3**	**+0.6**
GNL				*e*S	**Sn**	**03 10 30.3**	**+1.1**
GNL	**Ganaly**	**1.50**	**311**	PN	**Pn**	**03 10 11.3**	**+0.6**
GNL				S	**Sn**	**03 10 30.3**	**+1.1**
APC	**Apacha**	**1.64**	**278**	*e*P	**Pn**	**03 10 13.6**	**+1.0**
APC				*e*S	**Sn**	**03 10 33.3**	**+0.8**
APC	**Apacha**	**1.64**	**278**	PN	**Pn**	**03 10 13.6**	**+1.0**
APC				S	**Sn**	**03 10 33.3**	**+0.8**
MIPR	**Malaya Ipel'ka**	**1.94**	**258**	*e*P	**Pn**	**03 10 18.0**	**+1.3**
MKZ	**Mys Kozlova**	**2.14**	**31**	*e*P	**Pn**	**03 10 20.2**	**+0.8**
MKZ				*e*S	**Sn**	**03 10 45.3**	**+0.6**
MKZ	**Mys Kozlova**	**2.14**	**31**	PN	**Pn**	**03

comp=Z,1.2nm,0.8s,baz=356,slow=17,SNR=2.7

FINES	**FINESS Array B**	**60.39**	**336**	P	P	03 19 44.6	-5.2
FINES				pmax	pmax		

comp=Z,1.0nm,0.8s

KIV	**Kislovodsk**	**69.60**	**317**	P	**P**	**03 20 49.0**	**-1.0**
KIV				pmax	pmax		

comp=Z,4.0nm,1.2s

TXAR	**Lajitas Array**	**70.92**	**67**	P	**P**	**03 20 59.0**	**+0.8**

comp=Z,0.4nm,0.6s,baz=296,slow=4.9,SNR=8.7

*IDC **14** 03:27:48.8±2.0, 44°.31N×82°.76E, h0km, mb3.5/1, mb1 3.2/4, mb1mx3.1/30, mbtmp3.2/4, ML2.6/3, Error ellipse: s-maj=36.6km s-min=14.7km az=93.0*
*NNC **14** 03:27:53.9±3.6, 44°.50N×82°.91E, h15km±15km, mb3.5, mpv3.1, Error ellipse: s-maj=34.9km s-min=11.8km az=113.0*

ISC 14 03:27:51.3±2.0, 44°.44N±0°.07×83°.1E±0°.2, h17km, n10, σ1$52/16, 10C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.43**	**347**	⇑Pn	**Pb**	**03 28 33.7**	**-0.8**
	0.4nm,0.2s,baz=159,slow=14,SNR=282						
MK31				⇑Pg	**Pg**	**03 28 37.1**	**-0.7**
	6.7nm,0.3s,baz=164,slow=17,SNR=8.3						
MK31				⇑Lg	Lg	03 29 09.2	
	13nm,0.2s,baz=162,slow=29,SNR=18						
MKAR	**Makanchi Array**	**2.43**	**347**	Pn	**Pb**	**03 28 33.4**	**-1.0**
	9.2nm,0.3s,baz=172,slow=15,SNR=109						
MKAR				Pg	**Pg**	**03 28 36.6**	**-1.2**
	9.2nm,0.3s,baz=164,slow=17,SNR=153						
MKAR				Sn	**Sb**	**03 29 04.2**	**+0.2**
	14nm,0.3s,baz=171,slow=22,SNR=11						
MKAR				Lg	Lg	03 29 09.8	
	28nm,0.3s,baz=160,slow=31,SNR=15						
PDGK	**Podgornoye**	**2.84**	**248**	⇑Pn	**Pb**	**03 28 39.3**	**-2.1**
	3.6nm,0.3s						
PDGK				⇓Lg	Lg	03 29 17.2	
	216nm,0.5s						
TKM2	**Tokmak 2**	**5.64**	**257**	⇓Pn	**Pn**	**03 29 16.1**	**+1.5**
	2.9nm,0.6s						
TKM2				⇑Lg	Lg	03 30 47.2	
	13nm,0.5s						
AAK	**Ala-Archa**	**6.51**	**257**	⇓Pn	**Pn**	**03 29 27.5**	**+1.1**
	2.5nm,0.7s						
AAK				⇑Lg	Lg	03 31 17.4	
	6.2nm,0.6s						
KURBB	**Kurchatov Arra**	**6.92**	**335**	⇓Pn	**Pn**	**03 29 32.6**	**+0.8**
	0.2nm,0.2s						
KURBB				⇑Sn	**Sn**	**03 30 52.8**	**+2.8**
	12nm,0.6s						
KURBB				⇑Lg	Lg	03 31 35.6	
	20nm,0.6s						
KURBB	**Kurchatov Arra**	**6.92**	**335**	Pn	**Pn**	**03 29 33.1**	**+1.3**
	0.1nm,0.3s,baz=150,slow=12,SNR=2.8						
KURBB				Sn	**Sn**	**03 30 51.4**	**+1.4**
	0.3nm,0.3s,baz=140,slow=26,SNR=9.5						
KURBB				Lg	Lg	03 31 27.0	
	0.2nm,0.3s,baz=148,slow=30,SNR=5.3						
KURK	**Kurchatov**	**6.97**	**336**	⇓Pn	**Pn**	**03 29 30.5**	**-2.1**
	1.8nm,0.5s						
KURK				⇑Sn	**Sn**	**03 30 51.9**	**+0.5**
	0.8nm,0.4s						
KURK				⇑Lg	Lg	03 31 36.0	
	2.7nm,0.5s						
ZALV	**Zalesovo Beam**	**9.59**	**6**	Pn	**Pn**	**03 30 09.1**	**+0.7**
	0.1nm,0.3s,baz=191,slow=14,SNR=2.4						
ZALV				Lg	Lg	03 32 57.0	
	0.3nm,0.3s,baz=192,slow=26,SNR=2.4						
TORD	**Torodi Ar. Bea**	**74.81**	**274**	P	**P**	**03 39 29.7**	**-1.1**
	0.3nm,0.7s,baz=45,slow=5.2,SNR=9.7						

WEL 14 03:42:28.1±0.2, 38°.24S×178°.30E, h12km, ML3.5/5, 2C-4D, Error ellipse: s-maj=2.9km s-min=1.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.17**	**349**	⇓PG	Pg	03 42 31.5	-0.5
PUZ				SG	Sg	03 42 34.7	0.0
PUZ				AML	AML	03 42 35.4	
CNGZ	**Carnagh Statio**	**0.26**	**196**	P*	Pb	03 42 34.5	-0.3
TWGZ	**Tauwhareparae**	**0.26**	**284**	⇓P*	Pg	03 42 33.8	+0.2
TKGZ	**Te Karaka**	**0.41**	**240**	⇓P*	Pb	03 42 36.8	-0.5
WMGZ	**Waiomatatini S**	**0.43**	**12**	P*	Pg	03 42 36.9	+0.2
MWZ	**Matawai**	**0.61**	**261**	P*	Pg	03 42 40.0	-0.2
MWZ				AML	AML	03 42 52.0	
MWZ				AML	AML	03 42 52.0	
MWZ				AML	AML	03 42 52.2	
MWZ				AML	AML	03 42 52.2	
RIGZ	**Rimuhau**	**0.63**	**222**	⇑P*	Pb	03 42 41.3	+0.1
HAZ	**Te Kaha**	**0.63**	**320**	P*	Pg	03 42 39.8	-0.6
HAZ				eS*	Sb	03 42 49.5	-0.3
MXZ	**Matakaoa Point**	**0.67**	**0**	⇓P*	Pg	03 42 41.4	+0.2
MXZ				AML	AML	03 42 54.3	
MXZ				AML	AML	03 42 54.3	
MXZ				AML	AML	03 42 55.1	
MXZ				AML	AML	03 42 55.1	
RAGZ	**Rawiri**	**0.74**	**249**	P*	Pg	03 42 42.8	+0.2
PRGZ	**Paritu Road**	**0.76**	**205**	P*	Pg	03 42 42.8	-0.2
KNZ	**Kokohu**	**0.92**	**212**	P*	Pg	03 42 44.5	-1.5
SNGZ	**Shannon Statio**	**0.93**	**234**	P*	Pg	03 42 45.7	-0.5
URZ	**Urewera**	**0.94**	**268**	P*	Pg	03 42 45.8	-0.4
URZ				AML	AML	03 43 02.5	
URZ				AML	AML	03 43 08.8	
WHHZ	**Waihua**	**1.18**	**225**	*e*P*	Pn	03 42 48.7	-1.9
TARZ	**Mount Tarawera**	**1.41**	**270**	PN	Pn	03 42 53.8	-0.1
OPRZ	**Ohinepanea**	**1.43**	**285**	⇑Pn	Pn	03 42 52.6	-1.3
BKZ	**Black Stump Fm**	**1.69**	**236**	PN	Pn	03 42 56.1	-1.5
BKZ				AML	AML	03 43 34.4	
MCHZ	**McNeill Hill**	**1.74**	**226**	*e*PN	Pn	03 42 56.1	-2.1
KWHZ	**Kaweka Forest**	**1.88**	**230**	PN	Pn	03 42 58.2	-2.1
KAHZ	**Kahuranaki**	**1.91**	**215**	PN	Pn	03 42 57.5	-3.1
BHHZ	**Black Hill Sta**	**2.15**	**234**	*e*PN	Pn	03 43 01.9	-2.0
KRVZ	**Karewarewa**	**2.25**	**247**	PN	Pn	03 43 03.8	-1.6
BFZ	**Birch Farm**	**2.91**	**212**	*e*PN	Pn	03 43 10.6	-3.7

NNC 14 03:45:15.6±4.1, 36°.76N×72°.97E, h0km, mb3.6, mpv3.3, 1C-4D, Error ellipse: s-maj=33.2km s-min=24.7km az=155.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.27**	**7**	⇓Pn	Pn	03 46 09.0	+0.4
	4.2nm,0.6s						
SFK				⇓Lg	Lg	03 47 04.7	
	30nm,1.0s						
DZET	**Dzherino**	**3.87**	**303**	⇓Pn	Pn	03 46 15.5	-1.0
	5.3nm,0.5s						
DZET				⇑Sn	Sn	03 47 04.8	+2.0
	49nm,0.9s						
KK31	**Karatay Array**	**6.61**	**344**	⇓Pn	Pn	03 46 56.8	+2.7
	0.9nm,0.3s,baz=150,slow=10,SNR=32						
KK31				Sn	Sn	03 48 15.7	+5.5
	2.6nm,0.6s,baz=162,slow=18,SNR=5.9						

*NNC **14** 03:48:31.3±1.6, 42°.19N×81°.09E, h0km, mb3.4, mpv2.9, Error ellipse: s-maj=11.9km s-min=7.7km az=170.0*
*KRNET **14** 03:48:32.6±0.1, 41°.27N×80°.60E, mb3.8*

ISC 14 03:48:30.4±2.9, 42°.3N±0°.1×81°.2E±0°.1, h10km, n6, σ1$64/9, 6C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**1.63**	**311**	⇑P	**Pb**	**03 49 00.9**	**+0.4**
	26nm,0.6s						
PDGK				⇓S	**Sg**	**03 49 23.7**	**+0.8**
	29nm,0.4s						
ANVS	**Anan'yevo**	**2.64**	**282**	⇓*i*P	**Pb**	**03 49 17.1**	**-0.9**
	baz=306						
ANVS				⇓*e*S	**Sg**	**03 49 53.5**	**-1.9**
	baz=306						
KDJ	**Kajisay**	**2.97**	**269**	*e*P	**Pn**	**03 49 17.4**	**-0.4**
	baz=290						
KDJ				*e*S	**Sn**	**03 49 54.0**	**+0.4**
	baz=290						
TKM2	**Tokmak 2**	**4.17**	**281**	⇓Pn	**Pn**	**03 49 36.8**	**+2.5**
	0.7nm,0.3s						
TKM2				⇑Lg	Lg	03 50 38.0	
	20nm,0.7s						
MK31	**Makanchi Array**	**4.59**	**10**	⇑Pn	Pn	03 49 46.2	+6.3
	1.1nm,0.6s,baz=194,slow=13,SNR=21						
MK31				⇑Sn	**Sb**	**03 50 44.6**	**-1.8**
	5.6nm,0.7s,baz=182,slow=24,SNR=5.6						
MK31				⇓Lg	Lg	03 50 59.1	
	2.8nm,0.5s,baz=193,slow=29,SNR=4.8						
AAK	**Ala-Archa**	**4.96**	**276**	⇑Pn	**Pn**	**03 49 46.3**	**+1.2**
	0.1nm,0.1s						
AAK				⇑Lg	Lg	03 51 02.0	
	6.6nm,0.5s						

MEX 14 04:10:05.7±0.6, 18°.21N×101°.64W, h4km±8km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.62**	**165**	*e*P	Pg	04 10 16.6	-0.9
ZIIG				*i* S	Sg	04 10 26.1	+0.5
ARIG	**Puente Sto Nin**	**1.23**	**86**	*e*P	Pg	04 10 25.8	-3.5
ARIG				*e*S	Sg	04 10 41.4	-3.8
MMIG	**Aquila**	**1.63**	**273**	*e*P	Pn	04 10 31.9	-3.2
MMIG				*i* S	Sn	04 10 51.5	-5.1

*CSEM **14** 04:14:42.0±0.5, 50°.19N×18°.49E, h1km, Error ellipse: s-maj=7.7km s-min=3.8km az=60.0*

PRU 14 04:14:43.9, 50°.11N×18°.40E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.32**	**211**	*e*PG	Pg	04 14 50.0	0.0
OKC				*e*SG	Sg	04 14 54.2	+0.1
	comp=Z,4.5nm,0.4s						
OKC	**Ostrava-Krasne**	**0.32**	**211**	Pg	Pg	04 14 50.0	0.0
OKC				Sg	Sg	04 14 54.2	+0.1
	4.5nm,0.4s						
MORC	**Moravsky Berou**	**0.65**	**239**	*e*Pg	Pg	04 14 56.3	-0.1
MORC				*e*Sg	Sg	04 15 05.9	+1.1
KRLC	**Kraliky**	**1.04**	**269**	*e*PG	Pg	04 15 03.2	-0.8
KRLC				*e*SG	Sg	04 15 17.5	-0.1
KRLC	**Kraliky**	**1.04**	**269**	Pg	Pg	04 15 03.2	-0.8
KRLC				Sg	Sg	04 15 17.5	-0.1
DPC	**Dobruska-Polom**	**1.36**	**281**	*e*PG	Pg	04 15 08.7	-1.3
DPC				*e*SG	Sg	04 15 27.3	-0.3
	comp=Z,2.0nm,0.4s						
DPC	**Dobruska-Polom**	**1.36**	**281**	Pg	Pg	04 15 08.7	-1.3
DPC				Sg	Sg	04 15 27.3	-0.3
	2.0nm,0.4s						
UPC	**Upice**	**1.58**	**285**	*e*SG	Sb	04 15 34.6	0.0
UPC	**Upice**	**1.58**	**285**	Sg	Sb	04 15 34.6	0.0

*ISCJB **14** 04:15:34.6±1.5, 41°.4S±0°.3×85°.0E±0°.2, h10km, mb4.0/6, MS3.8/11, Error ellipse: s-maj=51.2km s-min=23.9km az=14.3*
*IDC **14** 04:15:34.3±1.8, 41°.49S×84°.94E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.8/32, mbtmp4.0/6, MS3.7/11, Ms1 3.7/11, ms1mx3.5/22, Error ellipse: s-maj=61.6km s-min=30.0km az=17.0*

ISC 14 04:15:35.9±1.7, 41°.5S±0°.4×85°.0E±0°.2, h10km, n20, σ0$45/6, mb4.0/6, MS3.8/11, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**23.79**	**83**	T	T	04 45 11.6	
	baz=244,slow=74,SNR=92						
H01W3	**Cape Leeuwin H**	**23.79**	**83**	T	T	04 45 12.2	
	baz=244,slow=74,SNR=119						
H01W1	**Cape Leeuwin H**	**23.80**	**83**	T	T	04 45 12.9	
	baz=244,slow=74,SNR=102						
MAW	**Mawson**	**28.78**	**197**	LR	LR	04 30 32.1	
	comp=Z,113nm,19.8s,baz=58,slow=31						
H08S2	**Diego Garcia H**	**35.49**	**338**	T	T	04 59 54.1	
	baz=164,slow=75,SNR=140						
H08S1	**Diego Garcia H**	**35.49**	**338**	T	T	04 59 54.4	
	baz=164,slow=75,SNR=168						
H08S3	**Diego Garcia H**	**35.51**	**338**	T	T	04 59 55.1	
	baz=164,slow=75,SNR=205						
ASAR	**Alice Springs**	**44.29**	**82**	P	**P**	**04 23 45.8**	**-0.2**
	1.2nm,0.9s,baz=228,slow=7.5,SNR=5.7						
STKA	**Stephens Creek**	**45.70**	**97**	P	**P**	**04 23 56.9**	**-0.1**
	4.5nm,0.8s,baz=258,slow=5.2,SNR=3.0						
STKA				LR	LR	04 39 02.0	
	comp=Z,122nm,19.8s,baz=207,slow=31						
WRA	**Warramunga Arr**	**46.85**	**78**	P	**P**	**04 24 06.8**	**+0.6**
	2.2nm,1.1s,baz=230,slow=7.9,SNR=4.5						
WRA				LR	LR	04 41 15.5	
	comp=Z,74nm,21.4s,baz=245,slow=33						
VNDA	**Vanda**	**47.05**	**163**	LR	LR	04 41 41.2	
	comp=Z,126nm,19.4s,baz=269,slow=33						
BOSA	**Boshof**	**49.63**	**265**	LR	LR	04 41 23.6	
	comp=Z,117nm,19.3s,baz=167,slow=31						
CMAR	**Chiang Mai Arr**	**61.05**	**15**	P	**P**	**04 25 49.9**	**+0.1**
	1.3nm,0.3s,baz=205,slow=6.3,SNR=5.9						
CMAR				LR	LR	04 49 17.0	
	comp=Z,37nm,18.6s,baz=180,slow=33						
GEYT	**Alibeck**	**82.77**	**339**	LR	LR	04 59 19.3	
	comp=Z,42nm,21.5s,baz=315,slow=32						
MKAR	**Makanchi Array**	**87.94**	**358**	LR	LR	05 05 25.3	
	comp=Z,54nm,20.5s,baz=186,slow=34						
SONM	**Songino Array**	**90.96**	**14**	P	**P**	**04 28 39.2**	**-0.4**
	0.4nm,0.8s,baz=214,slow=3.9,SNR=3.0						
BRTR	**Keskin Array B**	**93.33**	**323**	LR	LR	05 07 31.5	
	comp=Z,23nm,18.6s,baz=124,slow=33						
TORD	**Torodi Ar. Bea**	**93.63**	**284**	P	**P**	**04 28 52.8**	**+0.2**
	0.5nm,1.0s,baz=121,slow=4.0,SNR=2.4						
DBIC	**Dimbokro**	**94.23**	**275**	LR	LR	05 08 48.2	
	comp=Z,41nm,18.4s,baz=127,slow=34						
ZALV	**Zalesovo Beam**	**95.08**	**360**	LR	LR	05 09 20.9	
	comp=Z,32nm,21.3s,baz=72,slow=34						

*CSEM **14** 04:20:41.1, 37°.75N×21°.14E, h31km, MD2.9*

ATH 14 04:20:41.1, 37°.75N×21°.14E, h31km, MD2.9/8, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKS	**Zakynthos**	**0.29**	**259**	*e*PB	Pb	04 20 48.6	+0.1
ZKS				*e*SB	Sn	04 20 54.3	-0.2
ZKS	**Zakynthos**	**0.29**	**259**	*e*Pb	Pb	04 20 48.6	+0.1
ZKS				*e*Sb	Sn	04 20 54.3	-0.2
RLS	**Riolos of Patr**	**0.40**	**40**	*e*PB	Pb	04 20 49.9	-0.2
RLS	**Riolos of Patr**	**0.40**	**40**	*e*PB	Pb	04 20 49.8	-0.3
RLS				*e*SB	Sb	04 20 56.1	-0.1
RLS	**Riolos of Patr**	**0.40**	**40**	*e*Pb	Pb	04 20 49.9	-0.2
DRO	**Drossia**	**0.49**	**66**	*e*PB	Pb	04 20 52.0	-0.1
DRO				*e*SB	Sn	04 21 00.1	+0.4
DRO	**Drossia**	**0.49**	**66**	*e*PB	Pn	04 20 51.9	-0.2
DRO				*e*SB	Sn	04 21 00.0	+0.3
DRO	**Drossia**	**0.49**	**66**	*e*Pb	Pn	04 20 52.0	-0.1
DRO				*e*Sb	Sn	04 21 00.1	+0.4
AMT	**Artemida-Makis**	**0.50**	**116**	*e*PN	Pb	04 20 51.9	+0.2
AMT				*e*SN	Sn	04 20 59.8	0.0
AMT	**Artemida-Makis**	**0.50**	**116**	*e*PN	Pb	04 20 51.7	0.0
AMT				*e*SN	Sn	04 20 59.4	-0.4
AMT	**Artemida-Makis**	**0.50**	**116**	*e*Pn	Pb	04 20 51.9	+0.2
AMT				*e*Sn	Sn	04 20 59.8	0.0
VLS	**Valsamata**	**0.61**	**315**	*e*PN	Pn	04 20 53.7	0.0
VLS				*e*SN	Sn	04 21 03.3	+0.8
VLS	**Valsamata**	**0.61**	**315**	*e*PB	Pb	04 20 53.5	+0.1
VLS				*e*SN	Sn	04 21 04.0	+1.5
VLS	**Valsamata**	**0.61**	**315**	*e*Pn	Pn	04 20 53.7	0.0
VLS				*e*Sn	Sn	04 21 03.3	+0.8
LAKA	**Lakka**	**0.82**	**53**	*e*PN	Pb	04 20 57.4	+0.4
LAKA				*e*SN	Sb	04 21 09.0	+1.2
LAKA	**Lakka**	**0.82**	**53**	*e*PN	Pb	04 20 58.4	+1.4
LAKA				*e*SN	Sb	04 21 10.7	+2.9
LAKA	**Lakka**	**0.82**	**53**	*e*Pn	Pb	04 20 57.4	+0.4
LAKA				*e*Sn	Sb	04 21 09.0	+1.2
ITM	**Ithomi**	**0.85**	**132**	*e*PN	Pb	04 20 57.8	+0.4
ITM	**Ithomi**	**0.85**	**132**	*e*PN	Pb	04 20 57.9	+0.5
ITM	**Ithomi**	**0.85**	**132**	*e*Pn	Pb	04 20 57.8	+0.4
PDO	**Prodromos**	**0.85**	**2**	*e*PN	Pb	04 20 58.3	+0.9
PDO	**Prodromos**	**0.85**	**2**	*e*PN	Pb	04 20 58.3	+0.9
PDO				*e*SN	Sb	04 21 11.4	+2.9
PDO	**Prodromos**	**0.85**	**2**	*e*Pn	Pb	04 20 58.3	+0.9
KLV	**Kalavryta, Ach**	**0.85**	**70**	*e*PN	Pb	04 20 57.5	0.0
KLV	**Kalavryta, Ach**	**0.85**	**70**	*e*PN	Pb	04 20 57.8	+0.3
KLV				*e*SN	Sb	04 21 11.1	+2.4
KLV	**Kalavryta, Ach**	**0.85**	**70**	*e*Pn	Pb	04 20 57.5	0.0
EFP	**Efpalio**	**0.91**	**42**	*e*PN	Pb	04 20 59.7	+1.4
EFP	**Efpalio**	**0.91**	**42**	*e*PB	Pb	04 20 59.4	+1.1
EFP				*e*SN	Sb	04 21 13.1	+3.0
EFP	**Efpalio**	**0.91**	**42**	*e*Pn	Pb	04 20 59.7	+1.4
TRIZ	**Trizonia**	**0.96**	**50**	*e*PN	Pb	04 21 00.4	+1.2
TRIZ	**Trizonia**	**0.96**	**50**	*e*PN	Pb	04 21 01.1	+1.9
TRIZ				*e*SN	Sb	04 21 14.5	+3.0
TRIZ	**Trizonia**	**0.96**	**50**	*e*Pn	Pb	04 21 00.4	+1.2
GUR	**Goura**	**0.97**	**79**	*e*PN	Pb	04 20 59.7	+0.2
GUR	**Goura**	**0.97**	**79**	*e*PN	Pb	04 20 59.8	+0.3
GUR				*e*SN	Sb	04 21 15.0	+2.9
GUR	**Goura**	**0.97**	**79**	*e*Pn	Pb	04 20 59.7	+0.2
PYL	**PYLOS**	**0.98**	**150**	*e*PN	Pb	04 21 01.6	+2.1
SERG	**Sergoula**	**0.98**	**47**	*e*PN	Pb	04 21 00.0	+0.4
SERG	**Sergoula**	**0.98**	**47**	*e*PN	Pb	04 21 00.0	+0.4
KALE	**Kalithea**	**1.02**	**51**	*e*PN	Pb	04 21 00.7	+0.4
KALE	**Kalithea**	**1.02**	**51**	*e*PN	Pb	04 21 01.8	+1.5
KALE				*e*SN	Sb	04 21 15.7	+2.3
KALE	**Kalithea**	**1.02**	**51**	*e*Pn	Pb	04 21 00.7	+0.4
VLX	**Vlachokerasia**	**1.05**	**111**	*e*PN	Pb	04 21 01.1	+0.1
VLX	**Vlachokerasia**	**1.05**	**111**	*e*PN	Pb	04 21 02.3	+1.3
VLX	**Vlachokerasia**	**1.05**	**111**	*e*Pn	Pb	04 21 01.1	+0.1
DSF	**Desfina**	**1.28**	**58**	*e*PN	Pb	04 21 06.0	+1.3
EVR	**Evrytania**	**1.28**	**24**	*e*PB	Pb	04 21 04.1	-0.6
EVR	**Evrytania**	**1.28**	**24**	*e*Pb	Pb	04 21 04.1	-0.6
DSL	**Palaion Diasel**	**1.38**	**359**	*e*PN	Pb	04 21 10.0	+3.6
LTK	**Loutraki**	**1.47**	**79**	*e*PN	Pb	04 21 11.4	+3.5
MAKR	**Makrakomi, Fth**	**1.48**	**31**	*e*PN	Pb	04 21 09.4	+1.3
DID	**Didima**	**1.68**	**98**	*e*PN	Pb	04 21 13.2	+1.7
VIL2	**Platees**	**1.74**	**74**	*e*PN	Pb	04 21 15.5	+3.0

*IDC **14** 04:24:50.0±1.6, 15°.22N×95°.98W, h0km, mb3.7/7, mb1 4.0/11, mb1mx3.8/27, mbtmp3.7/11, ML3.4/4, MS3.2/10, Ms1 3.2/10, ms1mx2.9/38, Error ellipse: s-maj=31.4km s-min=24.4km az=20.0*
*ISCJB **14** 04:24:51.5±1.5, 15°.23N±0°.06×96°.00W±0°.03, h17km±9km, mb4.0/16, MS3.1/9, Error ellipse: s-maj=10.2km s-min=5.3km az=11.8*
*MEX **14** 04:24:52.0±0.8, 15°.14N×96°.22W, h30km±11km, MD4.2*
*NEIC **14** 04:24:53.0, 15°.16N×96°.14W, h16km, mb4.2/16, MD4.4(MEX), After MEX.*

ISC 14 04:24:52.5±1.9, 15°.25N±0°.08×95°.99W±0°.05, h14km±10km, n142, σ1$15/136, mb4.0/16, MS3.1/9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.53**	**348**	*i* P	**Pg**	**04 25 02.5**	**-0.6**
HUIG				*i* S	**Sg**	**04 25 10.7**	**+0.6**
VHO	**Vista Hermosa**	**1.95**	**339**	*i* P	**Pn**	**04 25 24.0**	**-1.4**
VHO				*i* S	**Sn**	**04 25 47.5**	**-2.3**
OXX	**Oaxaca**	**1.96**	**339**	*i* P	**Pn**	**04 25 25.6**	**+0.1**
OXX				*i* S	**Sn**	**04 25 49.2**	**-0.8**
CMIG	**Matias Romero**	**2.12**	**30**	*e*P	**Pn**	**04 25 26.6**	**-0.9**
CMIG				*e*S	**Sn**	**04 25 53.7**	**-0.1**
CMIG	**Matias Romero**	**2.12**	**30**	Pn	**Pn**	**04 25 26.7**	**-0.9**
	35nm,0.3s,baz=215,slow=12,SNR=346						
CMIG				Sn	**Sn**	**04 25 55.3**	**+1.6**
	72nm,0.8s,baz=243,slow=18,SNR=11						
CMIG				LR	LR	04 26 25.2	
	comp=Z,799nm,18.3s,baz=204,slow=45						
PNIG	**Pinotepa**	**2.35**	**299**	*e*P	Pn	04 25 25.8	-4.9
PNIG				*i* S	Sn	04 25 49.9	-10
PCIG		**2.71**	**80**	*e*P	**Pn**	**04 25 34.9**	**-0.8**
PCIG				*i* S	**Sn**	**04 26 07.9**	**-0.4**
TGIG		**3.15**	**61**	*e*P	**Pn**	**04 25 42.2**	**+0.4**
TGIG				*e*S	**Sn**	**04 26 20.7**	**+1.4**
CCIG	**Comitan**	**3.85**	**74**	*e*P	**Pn**	**04 25 52.3**	**+0.7**
CCIG				*e*S	**Sn**	**04 26 37.0**	**+0.3**
ACX	**Acapulco**	**4.05**	**294**	*e*P	**Pn**	**04 25 51.5**	**-2.7**
CAIG	**El Cayaco**	**4.48**	**294**	*e*P	Pn	04 25 54.4	-5.6
TEIG	**Tepich**	**8.86**	**55**	Pn	**Pn**	**04 26 59.1**	**-1.2**
	0.2nm,0.3s,baz=255,slow=16,SNR=9.9						
TEIG				Sn	Sn	04 28 33.9	-6.1
	0.2nm,0.3s,baz=267,slow=15,SNR=7.9						
TEIG	**Tepich**	**8.86**	**55**	*e*Pn	**Pn**	**04 26 58.6**	**-1.6**
TEIG				*e*S	**Sn**	**04 28 36.1**	**-3.9**
JTS	**JuntasAbangare**	**11.84**	**113**	Pn	**Pn**	**04 27 39.3**	**-1.7**
	0.2nm,0.3s,baz=299,slow=13,SNR=2.0						
834A	**Tilden**	**13.03**	**350**	P	**Pn**	**04 27 59.5**	**+2.2**
	baz=13						
633A	**Saathoff Ranch**	**14.45**	**349**	P	**Pn**	**04 28 19.0**	**+2.3**
	baz=15						
534A	**Blanco**	**14.89**	**352**	P	**Pn**	**04 28 24.2**	**+1.5**
	baz=15						
531A	**Rocksprings**	**15.43**	**345**	P	**Pn**	**04 28 30.8**	**+0.9**
	baz=16						
SLBS	**Sierra La Lagu**	**15.60**	**305**	*e*Pn	**Pn**	**04 28 33.5**	**+1.4**
	18nm,1.3s						
TXAR	**Lajitas Array**	**15.71**	**334**	Pn	**Pn**	**04 28 34.5**	**+1.0**
	0.0nm,0.3s,baz=157,slow=14,SNR=3.5						
431A	**Sonora**	**15.94**	**345**	P	**Pn**	**04 28 37.4**	**+0.9**
	baz=16						
335A	**Moody**	**16.02**	**356**	P	**Pn**	**04 28 38.0**	**+0.5**
	baz=16						
338A	**Crockett**	**16.05**	**2**	P	**P**	**04 28 41.6**	**+0.3**
	baz=16						
339A	**Huntington**	**16.07**	**4**	P

X33A	Lawton	19.34	354	P		P	04 29 18.1	+0.5
	baz=20,SNR=14							
X38A	Whitesboro	19.37	3	P		Pn	04 29 19.2	+0.2
	baz=20,SNR=6.5							
WMOK	Wichita Mounta	19.57	353	*e*P		P	04 29 20.3	+0.2
	5.2nm,0.9s							
MSTX	Muleshoe	19.62	343	P		P	04 29 21.0	+0.2
	baz=20							
UALR	University of	19.72	9	*e*P		P	04 29 22.3	+0.6
	18nm,0.8s							
W38A	Poteau	19.79	4	P		Pn	04 29 23.8	-0.1
	baz=20,SNR=5.4							
X29A	Tulia	19.80	346	P		Pn	04 29 24.0	-0.2
	baz=20							
W36A	Wetumka	19.81	359	P		Pn	04 29 23.8	-0.4
	baz=20,SNR=5.1							
W37A	Quinton	19.81	1	P		Pn	04 29 24.2	-0.1
	baz=20							
W35A	Tecumseh	19.84	358	P		Pn	04 29 25.0	+0.4
	baz=20							
W33A	Caddo, Fort Co	19.95	354	P		Pn	04 29 27.0	+1.1
	baz=20							
W34A	Bridge Creek,	19.97	356	P		Pn	04 29 26.7	+0.5
	baz=20							
X28A	Dimmitt	19.99	345	P		P	04 29 25.2	+0.4
	baz=20							
W32A	Sentinel	20.01	352	P		Pn	04 29 26.2	-0.4
	baz=20,SNR=5.6							
W31A	Holland Ranch,	20.17	351	P		Pn	04 29 28.3	-0.3
	baz=20							
AMTX	Amarillo	20.21	346	P		Pn	04 29 28.4	-0.8
	baz=20							
AMTX	Amarillo	20.21	346	*e*P		P	04 29 28.0	+0.8
	6.9nm,0.8s							
121A	Cookes Peak, D	20.28	330	P		Pn	04 29 29.9	-0.1
	baz=20							
121A	Cookes Peak, D	20.28	330	*e*P		Pn	04 29 30.5	+0.4
	23nm,1.5s							
V35A	Meyer Ranch, C	20.45	358	P		P	04 29 30.1	+0.5
	baz=21							
V36A	Jenks	20.45	0	P		P	04 29 30.6	+0.9
	baz=21							
V37A	Hulbert	20.57	2	P		Pn	04 29 32.6	-0.5
	baz=21							
V32A	Arapaho	20.57	353	P		Pn	04 29 32.9	-0.3
	baz=21							
TUL1	Tulsa	20.58	0	P		Pn	04 29 32.9	-0.5
	baz=21							
TUL1	Tulsa	20.58	0	P		P	04 29 31.7	+0.7
	14nm,0.9s							
V38A	Canehill	20.58	4	P		P	04 29 32.1	+1.1
	baz=21,SNR=14							
V33A	Lossen Ranch,	20.59	355	P		Pn	04 29 33.0	-0.5
	baz=21							
U35A	Pawnee	21.05	358	P		P	04 29 37.2	+1.1
	baz=21							
U36A	Oologah	21.06	1	P		P	04 29 37.4	+1.1
	baz=21							
U37A	Salina	21.09	2	P		P	04 29 38.3	+1.8
	baz=21							
U34A	Anderson Ranch	21.15	357	P		P	04 29 38.0	+0.8
	baz=21							
U38A	Gravette	21.16	4	P		P	04 29 37.8	+0.5
	baz=21,SNR=6.4							
U33A	Lingo Farm, Me	21.18	355	P		P	04 29 39.7	+2.1
	baz=21,SNR=12							
LAZ	Ladron	21.56	334	*e*P		P	04 29 43.7	+1.8
	6.9nm,1.7s							
T35A	Sooner Cattle	21.59	359	P		P	04 29 42.6	+0.7
	baz=22,SNR=6.4							
TUC	Tucson	21.68	324	*e*P		P	04 29 44.8	+1.8
	4.6nm,0.8s							
T34A	McClaskey Farm	21.71	357	P		P	04 29 44.1	+0.8
	baz=22							
T36A	Boggs Farm, Ca	21.73	0	P		P	04 29 43.2	-0.2
	baz=22,SNR=9.3							
ANMO	Albuquerque	21.76	336	P		P	04 29 43.3	-0.7
	0.7nm,1.0s,baz=141,slow=13,SNR=2.6							
ANMO				LR		LR	04 38 41.5	
	comp=Z,91nm,19.7s,baz=168,slow=38							
ANMO	Albuquerque	21.76	336	*e*P		P	04 29 45.2	+1.3
	2.2nm,1.0s							
U28A	Mallet	21.77	346	P		P	04 29 44.0	0.0
	baz=22							
T37A	Cheneyville 18	21.81	2	P		P	04 29 45.3	+1.0
	baz=22							
U27A	Thompson Grove	21.95	345	P		P	04 29 46.7	+0.7
	baz=22							
T32A	Huddler Ranch,	22.00	354	P		P	04 29 47.3	+0.9
	baz=22							
PBMO	Poplar Bluff	22.01	12	*e*P		P	04 29 46.4	0.0
	11nm,0.8s							
WVT	Waverly	22.04	18	*e*P		P	04 29 46.3	-0.4
	4.2nm,0.5s							
S35A	Otter Creek Ra	22.35	359	P		P	04 29 49.8	-0.3
	baz=22							
S36A	Lake Cedric, C	22.39	1	P		P	04 29 52.7	+2.2
	baz=23							
R36A	Gordon, Harris	22.99	1	P		P	04 29 56.6	-0.3
	baz=23							
R37A	Teagarden Farm	23.00	2	P		P	04 29 56.6	-0.4
	baz=23							
TKL	Tuckaleechee C	23.09	26	LR		LR	04 39 29.5	
	comp=Z,31nm,20.4s,baz=203,slow=38							
R31A	Burdett	23.16	353	P		P	04 29 58.5	-0.2
	baz=23							
R30A	Dighton	23.26	351	P		P	04 30 02.1	+2.4
	baz=23							
Q35A	Mercer Eighty,	23.52	360	P		P	04 30 05.8	+3.6
	baz=24							
R27A	Eads	23.72	347	P		P	04 30 05.0	+0.7
	baz=24							
R26A	Arlington	23.89	345	P		P	04 30 07.1	+1.2
	baz=24							
SDCO	Great Sand Dun	23.94	341	P		P	04 30 07.5	+0.9
	baz=24							
SDCO	Great Sand Dun	23.94	341	*e*P		P	04 30 06.8	+0.2
	3.0nm,1.2s							
P31A	Stockton	24.36	354	P		P	04 30 12.3	+2.1
	baz=24							
S22A	4UR Ranch, Cre	24.38	339	P		P	04 30 12.5	+1.8
	baz=24							
P32A	Huiting Farm,	24.39	355	P		P	04 30 12.2	+1.7
	baz=25							
OLIL	Olney	24.41	15	*e*P		P	04 30 07.8	-2.7
WUAZ	Wupatki	24.44	328	P		P	04 30 12.2	+1.1
	baz=24,SNR=5.4							
WUAZ	Wupatki	24.44	328	*e*P		P	04 30 11.3	+0.2
	5.0nm,0.9s							
MVCO	Mesa Verde	24.54	335	P		P	04 30 12.5	+0.4
	baz=25							
MVCO	Mesa Verde	24.54	335	*e*P		P	04 30 11.8	-0.2
	77nm,2.8s							
PV01	Paradox Valley	25.36	336	*e*P		P	04 30 17.9	-1.6
	172nm,0.8s							
PFO	Pinyon Flat Ob	26.01	318	LR		LR	04 41 19.5	
	comp=Z,57nm,18.1s,baz=106,slow=38							
JFWS	Jewell Farm	28.01	9	*e*P		P	04 30 41.5	-1.5
	10nm,0.6s							
ATAH	Atahualpa	28.26	141	LR		LR	04 39 41.4	
	comp=Z,44nm,20.6s,baz=353,slow=32							
R11A	Troy Canyon, C	28.78	327	P		P	04 30 51.7	+1.5
	baz=29							
GRAC	Grapevine Rang	28.82	323	P		P	04 30 52.2	+1.8
	baz=29							
PDAR	Pinedale Array	29.80	340	P		P	04 30 59.7	+0.5
	0.4nm,0.8s,baz=138,slow=5.5,SNR=4.0							
PDAR				PcP		PcP	04 34 01.1	-1.5
	0.4nm,0.8s,baz=134,slow=6.4,SNR=3.2							
PDAR				LR		LR	04 44 12.9	
	comp=Z,31nm,18.8s,baz=166,slow=39							
NVAR	Mina Array Bea	30.33	324	P		P	04 31 04.6	+0.6
	2.2nm,0.8s,baz=149,slow=9.2,SNR=10							
NVAR				PcP		PcP	04 34 03.1	-1.0
	0.6nm,0.8s,baz=132,slow=4.0,SNR=2.7							
ELK	Elko	30.42	330	P		P	04 31 05.3	+0.5
	1.2nm,0.8s,baz=142,slow=11,SNR=5.2							
ELK				LR		LR	04 44 01.6	
	comp=Z,73nm,18.6s,baz=187,slow=38							
H19A	Powell	31.33	342	P		P	04 31 14.3	+1.6
	baz=32							
RLMT	Red Lodge	31.82	342	P		P	04 31 18.3	+1.2
	baz=32							
HLID	Hailey	32.31	335	P		P	04 31 22.6	+1.3
	baz=32							
C24A	Savage	32.94	349	P		P	04 31 27.9	+1.3
	baz=33							
ULM	Lac du Bonnet	34.91	0	LR		LR	04 49 32.3	
	comp=Z,29nm,20.3s,baz=359,slow=42							
SCHQ	Schefferville	45.51	23	LR		LR	04 55 53.7	
	comp=Z,34nm,18.1s,baz=46,slow=41							
YKA	Yellowknife Ar	48.99	349	P		P	04 33 38.0	-0.4
	0.8nm,0.8s,baz=156,slow=7.2,SNR=6.0							
ILAR	Eielson Array	60.20	337	P		P	04 34 59.4	-0.4
	2.3nm,1.0s,baz=142,slow=4.5,SNR=14							
NOA	NORSAR Array B	84.88	28	LR		LR	05 15 51.7	
	comp=Z,9.2nm,19.5s,baz=165,slow=36							
TORD	Torodi Ar. Bea	93.82	75	P		P	04 38 11.7	+1.6
	0.5nm,0.9s,baz=266,slow=4.3,SNR=2.5							

IDC **14** *04:29:23.1±1.0,43.02N×17.68E,h0km,mb3.6/8, mb1 3.7/14,mb1mx3.6/32,mbtmp3.6/14,ML3.2/6,Error ellipse: s-maj=13.7km s-min=12.6km az=35.0*

ISCJB **14** *04:29:24.5±0.4,43.07N±0.02×17.41E±0.02,h17km±4km, mb3.5/7,Error ellipse: s-maj=2.9km s-min=2.0km az=29.0*

LDG **14** *04:29:25.0±0.1,43.03N×17.63E,h2km,Ml3.9/29,Error ellipse: s-maj=1.7km s-min=1.3km az=18.0*

BEO **14** *04:29:25.7±0.4,43.10N×17.67E,h0km,ML3.5/1*

CSEM **14** *04:29:25.1±0.1,42.99N×17.51E,h10km,ML4.2/5,Ms3.8, Error ellipse: s-maj=4.3km s-min=2.6km az=22.0*

PDG **14** *04:29:26.2±0.4,43.05N×17.66E,h12km,MD3.4/3, ML3.3/12,Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*

VIE **14** *04:29:27.5±0.8,43.10N×17.70E,h10km,mb3.4/11, ML3.7/7,Ms3.8/4,Error ellipse: s-maj=9.5km s-min=7.1km az=73.0*

SZGRF **14** *04:29:28.7,42.93N×17.95E,h10km,mb4.0,Adriatic Sea*

PRU **14** *04:29:28.2,43.12N×17.73E,h5km*

ISC 14 04:29:26.0±0.9,43.00N±0.02×17.51E±0.02,h18km±5km, n271,σ1§86/363,mb3.6/7,51C-24D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
STON	Ston	0.19	134	*i* Pg		Pb	04 29 30.2		-0.6
STON				Sg		Sb	04 29 33.6		-0.4
STON	Ston	0.19	134	*e*Pg		Pb	04 29 29.9		-0.9
STON				*e*Sg		Sb	04 29 32.9		-1.1
BRY	Bratogost	0.76	97	⇑*i*Pg		Pb	04 29 38.5		-2.3
BRY				*e*Sg		Sb	04 29 49.6		-1.3
HCY	Herceg Novi	0.91	127	⇓*i*Pg		Pb	04 29 42.0		-1.3
HCY				*e*Sg		Sg	04 29 55.9		+0.1
HCY	Herceg Novi	0.91	127	⇓*i*Pg		Pb	04 29 42.0		-1.3
HCY				*e*Sg		Sg	04 29 55.9		+0.1
UPM	Unac-Piva	1.04	78	⇑*i*Pg		Pb	04 29 42.7		-2.9
UPM				*e*Sg		Sb	04 29 58.0		-1.0
UPM	Unac-Piva	1.04	78	⇑*i*Pg		Pb	04 29 42.7		-2.9
UPM				*e*Sg		Sb	04 29 58.0		-1.0
NKME	Niksic	1.08	102	⇑*i*Pg		Pb	04 29 44.9		-1.4
NKME				*e*Sg		Sn	04 30 00.5		-0.5
NKME	Niksic	1.08	102	⇑*i*Pg		Pb	04 29 44.9		-1.4
NKME				*e*Sg		Sn	04 30 00.5		-0.5
NKY	Niksic	1.10	99	⇓*i*Pg		Pn	04 29 45.3		-1.4
NKY				*e*Sg		Sn	04 30 01.6		0.0
NKY	Niksic	1.10	99	⇓*i*Pg		Pn	04 29 45.3		-1.4
NKY				*e*Sg		Sn	04 30 01.6		0.0
BUM	Brajici-Budva	1.24	124	⇓*i*Pg		Pn	04 29 48.1		-0.4
BUM				*e*Sg		Sg	04 30 06.8		+0.7
BUM	Brajici-Budva	1.24	124	⇓*i*Pg		Pn	04 29 48.1		-0.4
BUM				*e*Sg		Sg	04 30 06.8		+0.7
PDG	Podgorica	1.41	113	*e*Pg		Pn	04 29 50.5		-0.2
PDG				*e*Sg		Sn	04 30 06.9		-1.9
PDG	Podgorica	1.41	113	⇑*i*Pg		Pb	04 29 51.5		-0.2
PDG	Podgorica	1.41	113	P		Pg	04 29 55.6		+2.5
PDG				*e*Sg		Sg	04 30 11.6		+0.1
PDG	Podgorica	1.41	113	P		Pg	04 29 55.6		+2.5
TTG	Podgorica	1.41	113	⇑*i*Pg		Pb	04 29 51.5		-0.2
TTG				*e*Sg		Sg	04 30 11.6		+0.1
PLE	Pljevlja	1.41	76	⇑*i*Pg		Pn	04 29 50.4		-0.5
PLE				*e*Sg		Sg	04 30 10.8		-0.9
PLE	Pljevlja	1.41	76	⇑*i*Pg		Pn	04 29 50.4		-0.5
PLE				*e*Sg		Sg	04 30 10.8		-0.9
DRME	Dracevica, Mon	1.48	123	⇑*i*Pg		Pn	04 29 52.3		+0.5
DRME				*e*Sg		Sg	04 30 13.9		+0.1
DRME	Dracevica, Mon	1.48	123	⇑*i*Pg		Pn	04 29 52.3		+0.5
DRME				*e*Sg		Sg	04 30 13.9		+0.1
BBLS	Lazići	1.63	57	*e*Pg		Pn	04 29 52.1		-1.7
BBLS				*e*Sg		Sn	04 30 12.6		-1.8
ULC	Ulcinj	1.65	128	⇑*i*Pn		Pn	04 29 54.9		+0.8
ULC				*e*Sn		Sb	04 30 18.0		+1.6
ULC	Ulcinj	1.65	128	⇑*i*Pn		Pn	04 29 54.9		+0.8
ULC				*e*Sn		Sb	04 30 18.0		+1.6
BEY	Berane	1.75	93	⇓*i*Pn		Pb	04 29 56.9		-0.8
BEY				*e*Sn		Sb	04 30 20.5		+1.1
IVA	Berane	1.75	93	⇓*i*Pn		Pb	04 29 56.9		-0.8
IVA				*e*Sn		Sb	04 30 20.5		+1.1
BLY	Banja Luka	1.76	352	*e*Pg		Pb	04 29 57.6		-0.2
BLY	Banja Luka	1.76	352	*e*Pg		Pb	04 29 57.6		-0.2
SJES	Sjenica	1.82	81	*e*Pg		Pn	04 29 57.4		+0.9
SJES				*e*Sg		Sb	04 30 20.1		-1.3
PVY	Plav	1.85	102	⇓*i*Pn		Pb	04 29 58.6		-0.7
PVY				*e*Sn		Sb	04 30 23.1		+1.0
UDBI	Udbina	1.98	321	*i* Pn		Pb	04 30 02.7		+1.1
UDBI				Sn		Sg	04 30 28.9		-0.9
UDBI	Udbina	1.98	321	*i* Pn		Pb	04 30 02.7		+1.1
DIVS	Divibare	2.11	58	*e*Pg		Pn	04 30 00.6		+0.1
DIVS				*e*Sg		Sb	04 30 28.6		-1.1
DIVS	Divibare	2.11	58	⇓*i*P		Pn	04 30 00.6		+0.1
DIVS	Divibare	2.11	58	S		Sn	04 30 26.0		-0.3
DIVS	Divibare	2.11	58	P		Pn	04 30 00.1		-0.4
DIVS	Divibare	2.11	58	*e*Pg		Pn	04 30 00.6		+0.1
DIVS				S		Sb	04 30 27.6		-2.1
DIVS				*e*Sg		Sb	04 30 28.6		-1.1
DIVS	Divibare	2.11	58	P		Pn	04 30 00.1		-0.4
DIVS				S		Sb	04 30 27.6		-2.1
TEKS	Tekeris	2.13	43	*e*Pn		Pn	04 30 00.9		+0.2
TEKS	Tekeris	2.13	43	*e*Pn		Pn	04 30 00.9		+0.2
TIR	Tirane	2.41	133	*e*Pn		Pn	04 30 05.8		+1.3
TIR	Tirane	2.41	133	*e*Pn		Pn	04 30 05.8		+1.3
TRUS	Trudelj	2.43	59	*e*Pn		Pn	04 30 04.1		-0.7
TRUS	Trudelj	2.43	59	*e*Pn		Pn	04 30 04.1		-0.7
NVLJ	Novalja	2.47	310	*e*Pn		Pb	04 30 09.1		-0.8
NVLJ				Sn		Sb	04 30 41.9		+2.1
NVLJ	Novalja	2.47	310	*e*Pn		Pb	04 30 09.0		-0.8
GRUS	Gruza	2.50	68	*e*Pg		Pn	04 30 06.3		+0.6
GRUS				*e*Sg		Sb	04 30 40.3		-0.4
GRUS	Gruza	2.50	68	*e*Pg		Pn	04 30 06.3		+0.6
PHP	Peshkopia	2.54	120	P		Pb	04 30 10.4		-0.7
PHP	Peshkopia	2.54	120	P		Pb	04 30 10.4		-0.7
SISC	Sisak	2.60	342	*e*Pn		Pn	04 30 08.9		+1.7
SISC				Sn		Sb	04 30 41.6		-2.0
SISC	Sisak	2.60	342	*e*Pn		Pn	04 30 08.8		+1.7
SISC				Sn		Sb	04 30 41.6		-2.0
SELS	Selova	2.65	84	*e*Pn		Pn	04 30 08.7		+0.8
SELS				*e*Sn		Sn	04 30 38.7		-0.9
SELS	Selova	2.65	84	*e*Pn		Pn	04 30 08.7		+0.8
SELS				*e*Sn		Sn	04 30 38.7		-0.9
FGSL	Fruska Gora	2.72	37	*e*Pn		Pn	04 30 08.1		-0.7
FRGS	Fruska Gora	2.72	37	*e*Pn		Pn	04 30 08.1		-0.7
SVIS	Svilajnac	2.97	64	*e*Pn		Pn	04 30 12.4		+0.2
BARS	Barje	3.17	92	*e*Pn		Pn	04 30 15.3		+0.3
BARS				*e*Sn		Sn	04 30 52.6		+0.3
CRES	Cresnjev	3.18	333	*i* Pn		Pn	04 30 17.5		+2.3
CRES	Cresnjev	3.18	333	*i* Pn		Pn	04 30 17.5		+2.3
PKSM	Moragy	3.31	14	⇑*i*P		Pn	04 30 17.2		+0.3
PKSM	Moragy	3.31	14	⇑*i*P		Pn	04 30 17.2		+0.3
PKSM				*e*Sn		Sn	04 30 55.4		-0.3
PKSM	Moragy	3.31	14	⇓*e*pn		Pn	04 30 17.1		+0.2
PKSM				*esn*		Sn	04 30 55.4		-0.3
BOLS	Boljevac	3.34	74	*e*Pn		Pn	04 30 16.1		-1.2
BOLS	Boljevac	3.34	74	*e*Pn		Pn	04 30 16.1		-1.2
BEHE	Becsehely	3.51	352	⇓*e*Pn		Pn	04 30 21.5		+1.9
BEHE				*e*Sn		Sn	04 31 04.1		+3.5
BEHE	Becsehely	3.51	352	⇓*e*		Pn	04 30 21.5		+1.9
BEHE				*e*			04 31 04.1		
KOGS	Kog	3.56	346	*e*Pn		Pn	04 30 22.0		+1.7
KOGS	Kog	3.56	346	*e*Pn		Pn	04 30 22.0		+1.7
PKS9	Tamasi	3.62	8	*e*Pn		Pn	04 30 22.0		+0.8
PKS9	Tamasi	3.62	8	*e*		Pn	04 30 22.0		+0.8
PKS9				*e*			04 31 31.8		
FNA	Florina	3.64	126	*e*PB		Pb	04 30 28.2		-1.6
FNA	Florina	3.64	126	P		Pb	04 30 26.1		-3.7
FNA	Florina	3.64	126	P		Pb	04 30 26.1		-3.7
PKS2	Kecel	3.69	19	*e*Sn		Sn	04 31 04.0		-1.2
PKS2	Kecel	3.69	19	*e*		Sn	04 31 04.0		-1.2
NEST	Nestorio	3.70	133	*e*PN		Pn	04 30 24.9		+2.5
KEK	Kerkira	3.71	152	*e*PN		Pb	04 30 27.2		-3.8
ZAPS	Zavoj	3.76	84	*e*Pn		Pn	04 30 24.2		+1.1
ZAPS				*e*Sn		Sn	04 31 06.3		-0.6
TIP	Timpagrande	3.86	189	P		Pn	04 30 26.2		+1.6
TIP	Timpagrande	3.86	189	P		Pn	04 30 26.2		+1.6
BZS	Buzias	3.94	47	*e*Pn		Pn	04 30 24.7		-0.8
BZS				*e*Sn		Sn	04 31 09.7		-1.6
BZS	Buzias	3.94	47	⇑*i*P		Pn	04 30 25.1		-0.4
BZS	Buzias	3.94	47	*e*Pn		Pn	04 30 24.7		-0.8
BZS	Buzias	3.94	47	⇑*i*P		Pn	04 30 25.1		-0.4
BZS				*e*Sn		Sn	04 31 09.7		-1.6
BZS				S		Sn	04 31 10.9		-0.4
PERS	Pernice	4.01	336	*i* Pn		Pn	04 30 28.9		+2.3
PERS	Pernice	4.01	336	*i* Pn		Pn	04 30 28.9		+2.3
IGT	Igoumenitsa	4.07	148	*e*PN		Pn	04 30 32.1		+4.8
SOKA	Soboth	4.08	335	Pn		Pn	04 30 29.8		+2.3
	23nm,0.4s,SNR=54								
SOKA				Sn		Sn	04 31 16.5		+1.7
	55nm,0.6s								
SOKA	Soboth	4.08	335	⇑*i*Pn		Pn	04 30 29.8		+2.3
	23nm,0.4s,SNR=54								
SOKA				⇑*i*Sn		Sn	04 31 16.5		+1.7
	55nm,0.6s								
OBKA	Obir	4.09	330	*e*Pn		Pn	04 30 31.7		+4.0
OBKA	Obir	4.09	330	*e*Pn		Pn	04 30 31.7		+4.0
OBKA	Obir	4.09	330	⇑*i*Pn		Pn	04 30 31.7		+4.0
	3.8nm,0.2s								
OBKA				⇓*i*Sn		Sn	04 31 19.7		+4.5
	61nm,0.3s								
JAN	Janina	4.18	142	*e*PB		Pg	04 30 45.5		-0.6
PKS7	Kunszentmiklos	4.21	16	*e*Sn		Sn	04 31 17.8		-0.1
PKS7	Kunszentmiklos	4.21	16	*e*		Sn	04 31 17.8		-0.1
VTS	Vitosha	4.21	94	*e*Pn		Pn	04 30 30.1		+0.6
VTS				*e*Sn		Sn	04 31 18.1		-0.2
VTS	Vitosha	4.21	94	⇑*i*P		Pn	04 30 31.1		+1.6
VTS	Vitosha	4.21	94	S		Sn	04 31 18.6		+0.3
VTS	Vitosha	4.21	94	P		Pn	04 30 30.8		+1.3
VTS	Vitosha	4.21	94	*e*Pn		Pn	04 30 30.1		+0.6
VTS	Vitosha	4.21	94	P		Pn	04 30 30.1		+1.3
VTS				*e*Sn		Sn	04 31 18.1		-0.2
PKST	T‾'s	4.27	5	⇑*e*Pn		Pn	04 30 31.1		+1.0
PKST				*e*Sn		Sn	04 31 18.6		-0.9
PKST	T‾'s	4.27	5	⇑*e*pn		Pn	04 30 31.1		+1.0
PKST				*esn*		Sn	04 31 18.6		-0.9
CSKK	Cs‾‡kako	4.39	7	⇓*e*		Pn	04 30 32.3		+0.5
CSKK				*e*			04 31 22.4		
SIRR	Siria	4.41	41	⇑*i*P		Pn	04 30 31.3		-0.7
SIRR	Siria	4.41	41	⇑*i*P		Pn	04 30 31.3		-0.7
SIRR				S		Sn	04 31 21.5		-1.3
KNT	Kendrikon	4.41	113	*e*PN		Pn	04 30 35.9		+3.8
PKSG		4.43	8	⇑*e*Pn		Pn	04 30 33.4		+1.1
PKSG				*e*Sn		Sn	04 31 25.0		+1.6
PKSG		4.43	8	⇑*e*pn		Pn	04 30 33.4		+1.1
PKSG				*esn*		Sn	04 31 25.0		+1.6
ARSA	Arzberg	4.47	342	*e*Pn		Pn	04 30 35.0		+2.1
ARSA				*e*Sn		Sn	04 31 25.4		+0.9
ARSA	Arzberg	4.47	342	*e*Pn		Pn	04 30 35.0		+2.1
ARSA				Sn		Sn	04 31 24.8		+0.3
	74nm,0.6s								
ARSA	Arzberg	4.47	342	⇑*i*Pn		Pn	04 30 35.1		+2.2
	27nm,0.3s,SNR=36								
ARSA				⇑*e*Sn		Sn	04 31 24.8		+0.3
	74nm,0.6s								
MPEP	Malo Peshtene	4.57	83	P		Pn	04 30 36.5		+2.3
MPEP	Malo Peshtene	4.57	83	P		Pn	04 30 36.5		+2.3
DSL	Palaion Diasel	4.72	144	*e*PN		Pn	04 30 39.8		+3.5
SOP	Sopron	4.73	352	*e*Sn		Sn	04 31 32.9		+2.2
SOP	Sopron	4.73	352	*e*		Sn	04 31 32.9		+2.2
HORT	Hortiatis	4.82	118	*e*PN		Pn	04 30 42.8		+5.1
MMB	Musomiste	4.82	105	⇑*i*P		Pn	04 30 38.0		+0.3
MMB	Musomiste	4.82	105	P		Pn	04 30 40.1		+2.4
MMB	Musomiste	4.82	105	⇑*i*P		Pn	04 30 38.0		+0.3
THL	Klokotos Trika	4.83	134	*e*PN		Pn	04 30 40.4		+2.6
SOH	Sokhos	4.87	115	*e*PN		Pn	04 30 42.8		+4.3
SRS	Serrai	4.90	111	*e*PN		Pn	04 30 41.0		+2.2
NVR	Nevrokopi	5.00	107	*e*PN		Pn	04 30 42.0		+1.

2.6nm,0.3s,baz=277,slow=23,SNR=4.7
VRAC Vranov 6.34 355 *e*Pn **Pn 04 30 59.9 +1.4**
VRAC *e*Sn **Sn 04 32 07.9 -2.5**
GEC2 GERESS Array S 6.42 337 *e*Pn Pn 04 31 03.2 +3.5
GERES GERESS Array B 6.42 337 Pn **Pn 04 31 01.4 +1.8**
1.8nm,0.3s,baz=153,slow=14,SNR=28
GERES Sn **Sn 04 32 12.6 0.0**
6.3nm,0.3s,baz=145,slow=24,SNR=24
TREC Trest 6.45 348 Pn **Pn 04 31 01.7 +1.7**
TREC Sn **Sn 04 32 12.7 -0.4**
RETA Reutte 6.54 316⇑ *i*Pn **Pn 04 31 03.6 +2.3**
2.0nm,0.3s
RETA ⇑*e*Sn **Sn 04 32 20.6 +5.1**
25nm,0.4s
MLR Muntele Rosu 6.55 65 Pn **Pn 04 31 01.2 -0.3**
0.0nm,0.3s,baz=171,slow=13,SNR=2.2
MLR Sn **Sn 04 32 13.6 -2.1**
0.0nm,0.3s,baz=308,slow=19,SNR=3.8
MLR Muntele Rosu 6.55 65⇑ *i*P **Pn 04 31 01.4 -0.1**
MLR Muntele Rosu 6.55 65⇑ *i*P **Pn 04 31 01.4 -0.1**
DAVOX Davos/Dischmat 6.61 307 Pn **Pn 04 31 04.5 +2.2**
1.0nm,0.3s,baz=140,slow=18,SNR=7.2
DAVOX Sn **Sn 04 32 20.9 +3.7**
2.4nm,0.3s,baz=129,slow=23,SNR=3.4
KHC Kasperske Hory 6.71 337 *e*PN **Pn 04 31 05.9 +2.2**
KHC *ex* x 04 31 11.2
KHC *ex* x 04 31 19.6
KHC *e*SN **Sn 04 32 19.5 -0.1**
KHC AMS AMS 04 33 40.0
comp=Z,300nm,8.5s
MORC Moravsky Berou 6.78 0⇓ *i*P **Pn 04 31 05.9 +1.4**
MORC Moravsky Berou 6.78 0 *e*Pn **Pn 04 31 05.8 +1.3**
MORC Moravsky Berou 6.78 0⇓ *i*P **Pn 04 31 05.9 +1.4**
MORC *e*Sn **Sn 04 32 19.8 -1.4**
KOLS Kolonicke sedl 6.79 28 *e*Pn **Pn 04 31 06.7 +1.9**
KOLS Kolonicke sedl 6.79 28 *e*PN **Pn 04 31 06.7 +1.9**
KOLS *e*SN Sn 04 32 13.5 -8.1
OKC Ostrava-Krasne 6.85 3 *e*PN **Pn 04 31 06.9 +1.4**
OKC *ex* x 04 31 14.9
OKC *e*SN **Sn 04 32 21.0 -2.0**
OKC AMS AMS 04 34 00.0
comp=Z,100nm,8.2s
OKC Ostrava-Krasne 6.85 3 Pn **Pn 04 31 06.9 +1.4**
OKC Sn **Sn 04 32 21.0 -2.0**
DAVA Damuels 6.89 311 *e*Pn Pn 04 31 10.8 +4.6
DAVA Damuels 6.89 311⇑ *i*Pn Pn 04 31 10.1 +3.9
3.5nm,0.2s
STHS Stebnicka Huta 6.92 21 *e*Pn **Pn 04 31 08.4 +1.9**
STHS Stebnicka Huta 6.92 21 *e*PN **Pn 04 31 08.4 +1.9**
STHS *e*SN Sn 04 32 14.4 -10
WET Wettzell 6.93 334 *e*Pn Pn 04 31 14.3 +7.6
KRLC Kraliky 7.09 356 *e*PN **Pn 04 31 10.7 +1.8**
KRLC *e*SN **Sn 04 32 27.8 -1.2**
KRLC Kraliky 7.09 356 Pn **Pn 04 31 10.7 +1.8**
KRLC Sn **Sn 04 32 27.8 -1.2**
GOPC GO Pecny, Ondr 7.16 346 *e*Pn **Pn 04 31 11.8 +2.0**
GOPC *e*SN **Sn 04 32 29.2 -1.5**
GOPC *ex* x 04 32 39.1
GOPC GO Pecny, Ondr 7.16 346 Pn **Pn 04 31 11.8 +2.0**
GOPC Sn **Sn 04 32 29.2 -1.5**
PRU Pruhonice 7.28 345 *e*PN **Pn 04 31 13.9 +2.5**
PRU *ex* x 04 31 21.8
PRU *ex* x 04 31 28.0
PRU *e*SN **Sn 04 32 32.3 -1.3**
PRU *ex* x 04 32 44.3
PRU AMS AMS 04 34 10.0
comp=Z,200nm,8.1s
PRA Prague 7.38 344 *e*SN **Sn 04 32 34.7 -1.3**
PRA *ex* x 04 32 47.8
PRA Prague 7.38 344 Sn **Sn 04 32 34.7 -1.3**
SBF Sospel 7.39 280 *e*Pn **Pn 04 31 13.0 0.0**
SBF *e*Sn **Sn 04 32 33.0 -3.3**
41nm,0.6s
SBF Sospel 7.39 280 *e*Pn **Pn 04 31 13.0 0.0**
SBF *e*Sn **Sn 04 32 33.0 -3.3**
20nm,0.6s
DPC Dobruska-Polom 7.39 354 *e*PN **Pn 04 31 14.7 +1.7**
DPC *ex* x 04 31 21.9
DPC *e*PB **Pb 04 31 32.7 -1.0**
DPC *e*SN **Sn 04 32 34.7 -1.8**
DPC *ex* x 04 32 54.9
DPC AMS AMS 04 34 30.0
comp=Z,100nm,12.8s
DPC Dobruska-Polom 7.39 354 Pn **Pn 04 31 14.7 +1.7**
DPC Sn **Sn 04 32 34.7 -1.8**
UPC Upice 7.58 353 Sn **Sn 04 32 39.4 -1.5**
ROTZ Rotzenmuhle 7.69 333 *e*Pn Pn 04 31 23.0 +5.9
PVCC Panska Ves 7.79 346 Sn **Sn 04 32 44.9 -1.3**
MANZ Manzenberg 7.92 334 *e*Pn Pn 04 31 25.4 +5.2
FRF La Foret Royal 7.95 278 *e*Pn **Pn 04 31 20.6 0.0**
FRF *e*Sn **Sn 04 32 46.2 -3.9**
7.7nm,0.4s
FRF La Foret Royal 7.95 278 *e*Pn **Pn 04 31 20.6 0.0**
FRF *e*Sn **Sn 04 32 46.2 -3.9**
3.8nm,0.4s
MBDF Montbardon 7.95 286 *e*Pn **Pn 04 31 20.3 -0.5**
MBDF *e*Sn **Sn 04 32 46.2 -4.1**
21nm,0.6s
MBDF Montbardon 7.95 286 *e*Pn **Pn 04 31 20.3 -0.5**
MBDF *e*Sn **Sn 04 32 46.2 -4.1**
11nm,0.6s
NKC Novy Kostel 8.03 336 *e*PN **Pn 04 31 23.6 +1.9**
NKC *ex* x 04 31 27.9
NKC *e*SN **Sn 04 32 51.1 -0.8**
NKC *ex* x 04 33 15.0
NKC AMS AMS 04 34 30.0
comp=Z,200nm,10.6s
NKC Novy Kostel 8.03 336 Pn **Pn 04 31 23.6 +1.9**
NKC Sn **Sn 04 32 51.1 -0.8**
LMR La Mourre 8.05 276 *e*Pn **Pn 04 31 21.7 -0.3**
LMR *e*Sn **Sn 04 32 48.8 -3.8**
4.5nm,0.3s
LMR La Mourre 8.05 276 *e*Pn **Pn 04 31 21.7 -0.3**
LMR *e*Sn **Sn 04 32 48.8 -3.8**
2.2nm,0.3s
LPG La Plagne 8.12 292 *e*Pn **Pn 04 31 22.4 -0.8**
LPG *e*Sn **Sn 04 32 50.5 -4.1**
22nm,0.6s
LPG La Plagne 8.12 292 *e*Pn **Pn 04 31 22.4 -0.8**
LPG *e*Sn **Sn 04 32 50.5 -4.1**
11nm,0.6s
LPL La Plagne 8.13 292 *e*Pn **Pn 04 31 23.1 -0.3**
LPL *e*Sn **Sn 04 32 50.8 -4.2**
26nm,0.5s
LPL La Plagne 8.13 292 *e*Pn **Pn 04 31 23.1 -0.3**
LPL *e*Sn **Sn 04 32 50.8 -4.2**
13nm,0.5s
BRG Berggiesshubel 8.24 344 *e* Pn 04 31 28.2 +3.6
ORIF Oris-en-Rattie 8.61 287 *e*Pn **Pn 04 31 28.9 -0.8**
ORIF *e*Sn **Sn 04 33 02.0 -4.4**
10nm,0.4s
ORIF Oris-en-Rattie 8.61 287 *e*Pn **Pn 04 31 28.9 -0.8**
ORIF *e*Sn **Sn 04 33 02.0 -4.4**
5.2nm,0.4s
MOX Moxa 8.64 334 *e*Pn Pn 04 31 35.6 +5.5
SMRF Simiane la Rot 8.73 280 *e*Pn **Pn 04 31 30.9 -0.5**
SMRF *e*Sn **Sn 04 33 05.0 -4.4**
7.0nm,0.7s
SMRF Simiane la Rot 8.73 280 *e*Pn **Pn 04 31 30.9 -0.5**
SMRF *e*Sn **Sn 04 33 05.0 -4.4**
3.5nm,0.7s
CLL Collm 8.86 341 *e*Sn x 04 32 53.0
CLL *e* **Sn 04 33 09.0 -3.3**
CLL *e*Sb 04 33 36.0
CLL *e*Sg 04 34 05.0
CABF La Chapelle 8.89 298 *e*Pn **Pn 04 31 33.1 -0.4**
CABF *e*Sn **Sn 04 33 08.4 -4.8**
18nm,0.7s
CABF La Chapelle 8.89 298 *e*Pn **Pn 04 31 33.1 -0.4**
HINF Hinteralfeld 8.91 306 *e*Pn **Pn 04 31 33.3 -0.5**
HINF *e*Sn **Sn 04 33 08.6 -5.0**
14nm,0.6s
HINF Hinteralfeld 8.91 306 *e*Pn **Pn 04 31 33.3 -0.5**
CDF Champ du Feu 8.97 311 *e*Pn **Pn 04 31 33.8 -0.9**
CDF *e*Sn **Sn 04 33 10.1 -5.2**
8.8nm,0.7s
CDF Champ du Feu 8.97 311 *e*Pn **Pn 04 31 33.8 -0.9**
HAU Haudompre 9.29 306 *e*Pn **Pn 04 31 38.1 -1.0**
HAU *e*Sn **Sn 04 33 18.1 -5.1**
13nm,0.4s
HAU Haudompre 9.29 306 *e*Pn **Pn 04 31 38.1 -1.0**
VIVF Saint-Julien-l 9.45 286 *e*Pn **Pn 04 31 40.8 -0.4**
VIVF *e*Sn **Sn 04 33 22.0 -5.0**
4.2nm,0.5s
VIVF Saint-Julien-l 9.45 286 *e*Pn **Pn 04 31 40.8 -0.4**
PAGF Fort de Pagny 9.93 308 *e*Pn **Pn 04 31 46.8 -0.9**
baz=121
PAGF *e*Sn **Sn 04 33 32.8 -5.8**
2.5nm,0.7s
PAGF Fort de Pagny 9.93 308 *e*Pn **Pn 04 31 46.8 -0.9**
SFTF Sexfontaines 10.17 305 *e*Pn **Pn 04 31 50.0 -1.0**
baz=121
SFTF *e*Sn **Sn 04 33 38.7 -5.8**
4.6nm,0.4s
SFTF Sexfontaines 10.17 305 *e*Pn **Pn 04 31 50.0 -1.0**
MEZF Maizieres J'vi 10.29 307 *e*Pn **Pn 04 31 51.7 -1.0**
MEZF *e*Sn **Sn 04 33 41.7 -5.9**
8.8nm,0.5s
MEZF Maizieres J'vi 10.29 307 *e*Pn **Pn 04 31 51.7 -1.0**
SMF Signal de Mont 10.37 295 *e*Pn **Pn 04 31 53.1 -0.7**
SMF *e*Sn Sn 04 33 43.8 -5.7
12nm,0.3s
SMF Signal de Mont 10.37 295 *e*Pn **Pn 04 31 53.1 -0.7**
LOR Lormes 10.54 299 *e*Pn **Pn 04 31 55.4 -0.8**
baz=114
LOR *e*Sn Sn 04 33 48.0 -5.8
9.4nm,0.3s
LOR Lormes 10.54 299 *e*Pn **Pn 04 31 55.4 -0.8**
SSF Saint Saulge 10.71 297 *e*Pn **Pn 04 31 57.6 -0.8**
SSF *e*Sn Sn 04 33 51.8 -6.0
4.2nm,0.5s
SSF Saint Saulge 10.71 297 *e*Pn **Pn 04 31 57.6 -0.8**
AVF Avril sur Loir 10.73 296 *e*Pn **Pn 04 31 58.0 -0.7**
AVF *e*Sn Sn 04 33 52.4 -6.0
8.4nm,0.8s
AVF Avril sur Loir 10.73 296 *e*Pn **Pn 04 31 58.0 -0.7**
BGF Bois d'Agland 11.01 294 *e*Pn **Pn 04 32 01.8 -0.8**
BGF *e*Sn Sn 04 33 59.2 -6.1
11nm,0.5s
BGF Bois d'Agland 11.01 294 *e*Pn **Pn 04 32 01.8 -0.8**
GIVF Givet 11.25 314 *e*Pn **Pn 04 32 04.6 -1.2**
GIVF Givet 11.25 314 *e*Pn **Pn 04 32 04.6 -1.2**
CAF Calviac 11.30 285 *e*Pn **Pn 04 32 05.8 -0.8**
CAF Calviac 11.30 285 *e*Pn **Pn 04 32 05.8 -0.8**
TCF Toulx Ste Croi 11.38 292 *e*Pn **Pn 04 32 07.0 -0.7**
TCF *e*Sn Sn 04 34 08.1 -6.3
3.2nm,0.5s
TCF Toulx Ste Croi 11.38 292 *e*Pn **Pn 04 32 07.0 -0.7**
BAIF Baives 11.55 312 *e*Pn **Pn 04 32 08.5 -1.5**
BAIF Baives 11.55 312 *e*Pn **Pn 04 32 08.5 -1.5**
HFS Hagfors 17.31 354 P **Pn 04 33 26.7 +0.2**
0.1nm,0.3s,baz=171,slow=10,SNR=2.6
FINES FINESS Array B 19.17 13 P **P 04 33 47.4 -0.9**
0.1nm,0.3s,baz=211,slow=7.9,SNR=3.9
MDT Midelt 20.15 247 P Pn 04 34 01.0 -0.3
0.6nm,0.6s,baz=74,slow=6.5,SNR=3.3
ARCES ARCESS Array B 26.92 6 P **P 04 35 05.7 -0.1**
1.1nm,0.8s,baz=174,slow=11,SNR=3.5
TORD Torodi Ar. Bea 32.74 209 P **P 04 35 56.7 -1.0**
0.1nm,0.6s,baz=19,slow=8.4,SNR=4.0
SCHQ Schefferville 53.41 314 P **P 04 38 44.5 +0.1**
1.5nm,0.7s,baz=351,slow=8.9,SNR=3.3
SONM Songino Array 59.22 52 P **P 04 39 23.5 -2.6**
0.4nm,0.7s,baz=293,slow=4.2,SNR=3.8
YKA Yellowknife Ar 68.07 338 P **P 04 40 22.8 -1.2**
0.4nm,0.8s,baz=41,slow=5.8,SNR=3.7
PDAR Pinedale Array 82.29 324 P **P 04 41 47.1 +0.5**
0.3nm,0.7s,baz=103,slow=4.0,SNR=2.6
TXAR Lajitas Array 90.02 312 P **P 04 42 26.2 +1.4**
0.6nm,0.9s,baz=27,slow=5.9,SNR=3.8

*KRNET **14** 04:40:05.8±0.1, 41°.49N×80°.76E, mb4.0*
*NNC **14** 04:40:12.3±4.1, 42°.48N×80°.78E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=38.9km s-min=10.7km az=149.0*
ISC 14 04:40:07.0±2.4, 42°.3N±0°.1×81°.2E±0°.1, h10km, n7, σ2s 12/11, 9C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**1.60**	**310**	⇑P		**Pb**	**04 40 36.4**	**-0.2**
PDGK	13nm,0.3s			⇑S		**Sg**	**04 40 59.3**	**+0.9**
	42nm,0.3s							
ANVS	**Anan'yevo**	**2.63**	**281**	*i* P		**Pn**	**04 40 52.0**	**+2.3**
ANVS	baz=300			*e*S		**Sb**	**04 41 26.4**	**-0.4**
	baz=300							
KDJ	**Kajisay**	**2.97**	**268**	*e*P		**Pn**	**04 40 52.2**	**-2.2**
KDJ	baz=285			*e*S		**Sn**	**04 41 28.8**	**-1.3**
	baz=285							
TKM2	**Tokmak 2**	**4.16**	**280**	⇑Pn		**Pn**	**04 41 13.3**	**+2.6**
TKM2	2.6nm,0.6s			⇑Lg		Lg	04 42 12.5	
	17nm,0.6s							
MK31	**Makanchi Array**	**4.54**	**10**	⇓Pn		Pb	04 41 23.5	-3.4
MK31	0.7nm,0.4s,baz=201,slow=15,SNR=27			⇑Pg		**Pg**	**04 41 35.0**	**+1.0**
	0.8nm,0.4s,baz=178,slow=13,SNR=7.2							
MK31				⇑Sn		**Sb**	**04 42 19.6**	**-2.1**
	1.0nm,0.3s,baz=185,slow=23,SNR=8.0							
MK31				⇑Lg		Lg	04 42 35.1	
	2.2nm,0.4s,baz=190,slow=34,SNR=3.8							
AAK	**Ala-Archa**	**4.95**	**276**	Pg		**Pb**	**04 41 36.0**	**+2.2**
AAK	5.4nm,0.8s			Lg		Lg	04 42 38.1	
	9.3nm,0.6s							
KK31	**Karatay Array**	**7.89**	**279**	⇑Pg		**Pg**	**04 42 35.6**	**-2.4**
KK31	0.4nm,0.3s,baz=95,slow=15,SNR=3.8			⇑Lg		Lg	04 44 13.7	
	1.3nm,0.5s,baz=100,slow=28,SNR=3.6							

*IDC **14** 04:41:06.4±1.0, 35°.58S×72°.64W, h0km, mb4.1/6, mb1 4.3/7, mb1mx4. 1/17, mbtmp4. 1/7, ML3.6/1, MS3.6/6, Ms1 3.6/6, ms1mx3.2/24, Error ellipse: s-maj=35.5km s-min=21.5km az=87.0*
*GUC **14** 04:41:08.2±0.5, 35°.56S×72°.74W, h36km±2km, ML4.6*
*ISCJB **14** 04:41:09.4±1.0, 35°.60S±0°.06×72°.76W±0°.08, h32km±9km, mb4.0/6, MS3.5/4, Error ellipse: s-maj=13.7km s-min=7.3km az=39.7*
ISC 14 04:41:09.9±1.7, 35°.66S±0°.07×72°.63W±0°.09, h23km±13km, n21, σ0s 72/21, mb4.1/6, MS3.7/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.49**	**195**	*e*P		**Pb**	**04 41 20.2**	**+0.3**
COCH				*e*S		**Sn**	**04 41 28.9**	**-0.6**
TALC	**Talca**	**0.85**	**73**	*e*P		**Pb**	**04 41 25.5**	**-0.5**
TALC				*e*S		**Sn**	**04 41 38.7**	**+0.4**
NICH	**Los Niches**	**1.32**	**61**	*e*P		**Pn**	**04 41 32.4**	**-0.6**
NICH				*e*S		**Sb**	**04 41 50.8**	**+0.4**
NICH				AML		AML	04 41 58.9	
	comp=N,9μm,0.3s							
CHCH	**Chadas Angostu**	**2.37**	**44**	*e*P		**Pn**	**04 41 47.6**	**+0.1**
TACH	**Talagante**	**2.44**	**35**	*e*P		**Pn**	**04 41 47.8**	**-0.6**
SAN	**Santiago**	**2.73**	**37**	*e*S		**Sn**	**04 42 25.5**	**+0.7**
CLCH	**Cerro Calan**	**2.84**	**38**	*e*P		**Pn**	**04 41 53.9**	**0.0**
CLCH				*e*S		**Sn**	**04 42 28.4**	**+0.9**
CLCH				AML		AML	04 42 41.5	
	comp=N,3μm,0.7s							
PEL	**Peldehue**	**2.98**	**33**	*e*P		**Pn**	**04 41 55.7**	**-0.2**
PEL				*e*S		**Sn**	**04 42 31.7**	**+0.8**
PEL				AML		AML	04 42 43.4	
	comp=N,3μm,0.5s							
CFAA	**Coronel Fontan**	**5.45**	**43**	Pn		**Pn**	**04 42 29.5**	**-0.4**
CFAA	baz=189,slow=11			Lg		Lg	04 43 44.1	
	comp=N,0.2nm,0.3s,baz=303,slow=17,SNR=4.0							
CFAA				LR		LR	04 44 49.4	
	comp=N,36nm,18.8s,baz=229,slow=41							
LVC	**Limon Verde**	**13.39**	**15**	LR		LR	04 49 45.9	
	comp=N,662nm,18.2s,baz=229,slow=39							
CPUP	**Villa Florida**	**16.06**	**59**	LR		LR	04 51 34.6	
	comp=N,192nm,20.2s,baz=288,slow=39							
LPAZ	**La Paz**	**19.70**	**13**	P		**P**	**04 45 38.8**	**+0.4**
	comp=N,0.1nm,0.3s,baz=195,slow=7.6,SNR=12							
SIV	**San Ignacio**	**22.14**	**31**	P		**P**	**04 46 02.4**	**-1.8**
	comp=N,5.3nm,1.0s,baz=230,slow=9.6,SNR=9.2							
BDFB	**Brasilia**	**29.68**	**54**	LR		LR	05 00 05.7	
	comp=N,144nm,19.1s,baz=216,slow=38							
RCBR	**Riachuelo**	**44.93**	**57**	LR		LR	05 09 51.0	
	comp=N,111nm,20.4s,baz=205,slow=38							
SNAA	**Sanae**	**50.24**	**157**	P		**P**	**04 50 04.6**	**+0.7**
	comp=N,0.9nm,0.9s,baz=286,slow=7.0,SNR=6.4							
SNAA				LR		LR	05 08 55.8	
	comp=N,15nm,18.1s,baz=45,slow=33							
TXAR	**Lajitas Array**	**70.95**	**332**	P		**P**	**04 52 25.1**	**-0.5**
	comp=N,1.9nm,0.8s,baz=151,slow=8.5,SNR=22							
MAW	**Mawson**	**71.73**	**164**	P		**P**	**04 52 30.6**	**+0.9**
	comp=N,2.6nm,0.9s,baz=240,slow=6.6,SNR=4.5							
NVAR	**Mina Array Bea**	**84.97**	**326**	P		**P**	**04 53 43.5**	**+0.1**
	comp=N,1.3nm,0.8s,baz=150,slow=6.5,SNR=4.7							
TORD	**Torodi Ar. Bea**	**85.23**	**70**	P		**P**	**04 53 44.5**	**-0.5**
	comp=N,1.0nm,1.0s,baz=226,slow=3.9,SNR=8.3							
MDT	**Midelt**	**93.23**	**51**	LR		LR	05 38 52.3	
	comp=N,26nm,18.2s,baz=176,slow=37							

*CSEM **14** 04:43:38.0±0.1, 41°.68N×14°.84E, h20km, ML1.6/6, Error ellipse: s-maj=2.8km s-min=2.1km az=179.0*
ROM 14 04:43:38.1±0.1, 41°.68N×14°.84E, h16km±1km, Md2.0/10, Ml1.4/6, Error ellipse: s-maj=1.6km s-min=1.1km az=4.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CIGN	**Sant'Elia a Pi**	**0.06**	**116**	Pg		Pg	04 43 41.4	+0.2
CIGN				Sg		Sg	04 43 43.9	+0.6
	48nm,0.4s							
CIGN	**Sant'Elia a Pi**	**0.06**	**116**	Pg		Pg	04 43 41.4	+0.2
CIGN				Sg		Sg	04 43 43.9	+0.6
	48nm,0.4s							
GATE	**Gambatesa**	**0.18**	**162**	Pg		Pb	04 43 43.4	+0.4
GATE				Sg		Sg	04 43 45.9	+0.3
	42nm,0.5s							
GATE	**Gambatesa**	**0.18**	**162**	Pg		Pb	04 43 43.4	+0.4
GATE				Sg		Sg	04 43 45.9	+0.3
	42nm,0.5s							
MELA	**Melanico ??? S**	**0.22**	**83**	Pg		Pg	04 43 43.3	+0.1
MELA				Sg		Sb	04 43 47.5	0.0
	121nm,0.2s							
MELA	**Melanico ??? S**	**0.22**	**83**	Pg		Pg	04 43 43.3	+0.1
MELA				Sg		Sb	04 43 47.5	0.0
	121nm,0.2s							
BSSO	**Busso**	**0.23**	**234**	Pg		Pb	04 43 44.0	0.0
BSSO				Sg		Sg	04 43 47.3	+0.3
	54nm,0.6s							
BSSO	**Busso**	**0.23**	**234**	Pg		Pb	04 43 44.0	0.0
BSSO				Sg		Sg	04 43 47.3	+0.3
	54nm,0.6s							
TRIV	**Trivento**	**0.23**	**292**	Pg		Pb	04 43 44.0	0.0
	17nm,0.4s							
TRIV	**Trivento**	**0.23**	**292**	Pg		Pb	04 43 44.0	0.0
	17nm,0.4s							
FRES	**Fresagrandinar**	**0.32**	**337**	Pg		Pg	04 43 44.9	0.0
FRES				Sg		Sb	04 43 50.0	-0.4
	52nm,0.3s							
FRES	**Fresagrandinar**	**0.32**	**337**	Pg		Pg	04 43 44.9	0.0
FRES				Sg		Sb	04 43 50.0	-0.4
	52nm,0.3s							
PTRJ	**Pietraroja**	**0.39**	**216**	Pg		Pg	04 43 45.9	-0.4
PTRJ				Sg		Sb	04 43 52.3	-0.3
	47nm,0.7s							
PTRJ	**Pietraroja**	**0.39**	**216**	Pg		Pg	04 43 45.9	-0.4
PTRJ				Sg		Sb	04 43 52.3	-0.3
	47nm,0.7s							
MIDA	**Miranda**	**0.44**	**265**	Pg		Pg	04 43 46.8	-0.3
MIDA				Sg		Sb	04 43 53.9	-0.1
MIDA	**Miranda**	**0.44**	**265**	Pg		Pg	04 43 46.8	-0.3
MIDA				Sg		Sb	04 43 53.9	-0.1
LPEL	**Lama dei Pelig**	**0.61**	**307**	Pg		Pg	04 43 49.8	-0.5
LPEL				Sg		Sb	04 43 58.9	0.0
LPEL	**Lama dei Pelig**	**0.61**	**307**	Pg		Pg	04 43 49.8	-0.5
LPEL				Sg		Sb	04 43 58.9	0.0
SGRT	**San Giovanni R**	**0.68**	**83**	Pg		Pb	04 43 51.8	0.0
SGRT				Sg		Sb	04 44 01.0	-0.1
SGRT	**San Giovanni R**	**0.68**	**83**	Pg		Pb	04 43 51.8	0.0
SGRT				Sg		Sb	04 44 01.0	-0.1

*NEIC **14** 04:55:23.6±0.3, 7°.83S×158°.77E, h35km, mb4.6/10, Error ellipse: s-maj=9.3km s-min=7.4km az=84.0*
*BJI **14** 04:55:23.6, 7°.56S×158°.77E, h35km, mb4. 7/23, mB5.0/17, Ms4.7/10, Ms7 4.3/11*
*ISCJB **14** 04:55:24.1±1.5, 7°.86S±0°.05×158°.76E±0°.06, h53km±14km, mb4.5/27, MS3.5/12, Error ellipse: s-maj=10.5km s-min=8.1km az=15.8*
*IDC **14** 04:55:25.3±0.7, 7°.92S×158°.80E, h53km±5km, mb4.1/19, mb1 4.3/22, mb1mx4.3/23, mbtmp4.4/22, MS3.5/14, Ms1 3.5/14, ms1mx3.4/26, Error ellipse: s-maj=18.1km s-min=12.3km az=90.0*
ISC 14 04:55:25.2±0.5, 7°.90S±0°.06×158°.73E±0°.07, h47km±4km, h47km:pP-P, n75, σ1s 48/79, mb4.5/27, MS3.5/12, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HNR	**Honiara**	**1.94**	**142**	*e*Pn		**Pn**	**04 55 55.5**	**-0.4**
HNR				*e*S		**Sn**	**04 56 24.0**	**+5.0**
PMG	**Port Moresby**	**11.53**	**262**	LR		LR	05 02 37.3	
	comp=Z,276nm,18.0s,baz=114,slow=37							
MANU	**Manus Island**	**12.72**	**297**	P		**P**	**04 58 32.6**	**-0.9**
	baz=13,SNR=10.0							
DZM	**Mont Dzumac**	**15.93**	**153**	*e*Pn		**P**	**04 59 10.1**	**+0.7**
DZM	21nm,0.8s			*e*LR		LR	05 02 50.0	
	310nm,26.5s							
DZM	**Mont Dzumac**	**15.93**	**153**	P		**Pn**	**04 59 06.5**	**+0.1**
	0.4nm,0.3s,baz=270,slow=20,SNR=4.2							
CTA	**Charters Tower**	**17.11**	**224**	P		**P**	**04 59 23.1**	**+0.7**
	0.2nm,0.3s,baz=45,slow=16,SNR=1.9							
MTSU	**Mount Surprise**	**17.32**	**233**	P		**P**	**04 59 29.0**	**+4.3**
	baz=17,SNR=5.6							
JAY	**Jayapura**	**18.72**	**286**	P		**Pn**	**04 59 41.6**	**+0.6**
JAY	1.0nm,0.3s,baz=90,slow=1.0,SNR=3.8			LR		LR	05 07 41.3	
	comp=Z,127nm,19.0s,baz=9.5,slow=39							
EIDS	**Eidsvold**	**18.84**	**202**	P		**Pn**	**04 59 44.0**	**+1.7**
	baz=18,SNR=3.9							
EIDS	**Eidsvold**	**18.84**	**202**	*e*Pn		**Pn**	**04 59 42.6**	**+0.4**
	26nm,1.1s							
EIDS				*e*S		**Sn**	**05 03 08.6**	**-3.9**
RMQ	**Roma**	**20.77**	**206**	P		Pn	05 00 06.4	+1.1
	baz=20,SNR=6.6							
MSVF	**Nonsavu**	**21.21**	**119**	*e*P		**P**	**05 00 07.5**	**+0.3**
	12nm,0.6s							
QIS	**Mount Isa**	**22.37**	**234**	P		**P**	**05 00 20.7**	**+1.1**
	baz=22,SNR=3.8							
QLP	**Quilpie**	**23.13**	**215**	P		**P**	**05 00 28.0**	**+0.6**
	baz=22,SNR=7.2							
ARMA	**Armidale**	**23.37**	**196**	P		**P**	**05 00 31.5**	**+1.6**
	baz=23,SNR=4.7							
GUMO	**Guam**	**25.40**	**327**	LR		LR	05 09 36.1	
	comp=Z,72nm,20.7s,baz=127,slow=33							
WRAB	**Tennant Creek**	**26.47**	**241**	*e*P		**P**	**05 00 58.3**	**+0.1**
	16nm,0.8s							
CMSA	**Cobar Meteorol**	**26.48**	**206**	P		**P**	**05 00 58.0**	**-0.1**
	baz=26,SNR=6.5							
WRA	**Warramunga Arr**	**26.48**	**241**	P		**P**	**05 00 58.2**	**-0.1**
	2.6nm,0.6s,baz=65,slow=8.7,SNR=11							
WRA				LR		LR	05 10 42.3	
	comp=Z,251nm,21.4s,baz=60,slow=35							
H11S3	**WAKE ISLAND Hy 27.38**	**17**		T		T	05 29 42.9	
	baz=198,slow=76,SNR=297							
H11S2	**WAKE ISLAND Hy 27.38**	**17**		T		T	05 29 42.9	
	baz=198,slow=76,SNR=352							
H11S1	**WAKE ISLAND Hy 27.39**	**17**		T		T	05 29 43.6	
	baz=198,slow=76,SNR=280							
SIJI	**Sorong**	**28.24**	**283**	LR		LR	05 12 19.1	
	comp=Z,63nm,21.9s,baz=188,slow=36							
ASAR	**Alice Springs**	**28.49**	**234**	P		**P**	**05 01 15.6**	**-0.7**
	1.4nm,0.7s,baz=58,slow=10,SNR=11							
H11N1	**WAKE ISLAND Hy 28.59**	**16**		T		T	05 31 12.6	
	baz=196,slow=76,SNR=172							
H11N3	**WAKE ISLAND Hy 28.60**	**16**		T		T	05 31 13.7	
	baz=196,slow=76,SNR=202							
H11N2	**WAKE ISLAND

RPZ	**Rata Peaks**	**37.28**	**165**	P	**P**	**05 02 32.9**	**+0.3**
JCJ	**Chichijima**	**38.30**	**336**	LR	LR	05 17 21.3	
	comp=Z,72nm,20.8s,baz=126,slow=34						
MEEK	**Meekatharra**	**42.35**	**239**	P	**P**	**05 03 15.1**	**0.0**
	baz=42,SNR=5.9						
MJAR	**Matsushiro Arr**	**48.22**	**338**	P	**P**	**05 04 00.5**	**-0.8**
	1.9nm,0.6s,baz=166,slow=9.0,SNR=6.8						
MJAR				pP	**pP**	**05 04 15.2**	**+1.0**
	1.1nm,0.5s,baz=124,slow=1.5,SNR=2.7						
MJAR				LR	LR	05 21 37.4	
	comp=Z,30nm,21.9s,baz=110,slow=33						
PPT2	**Papeete2**	**51.20**	**106**	*e*LR	LR	05 19 15.8	
	116nm,24.8s						
TBI	**Tubuai**	**51.93**	**113**	*e*LR	LR	05 19 34.4	
	128nm,34.0s						
KSRS	**Korea Array**	**53.52**	**330**	P	**P**	**05 04 41.8**	**+0.6**
	2.2nm,0.6s,baz=141,slow=6.8,SNR=12						
KSRS				pP	**pP**	**05 04 55.6**	**+1.3**
	3.2nm,0.8s,baz=149,slow=8.9,SNR=5.0						
KSRS				LR	LR	05 25 05.6	
	comp=Z,22nm,21.5s,baz=140,slow=33						
KSAR	**Wonju Array Be**	**53.53**	**330**	P	**P**	**05 04 41.8**	**+0.6**
KSAR				pP	**pP**	**05 04 55.6**	**+1.2**
NJ2	**Nanjing**	**55.00**	**318**	*e*P	**P**	**05 04 52.0**	**0.0**
NJ2				PMZ			
	20nm,0.8s						
USRK	**Ussuriysk Ar.**	**57.21**	**337**	P	**P**	**05 05 07.3**	**-0.3**
	5.3nm,0.7s,baz=142,slow=7.0,SNR=11						
PETK	**Petropavlovsk-**	**60.77**	**359**	P	**P**	**05 05 31.9**	**-0.2**
	9.4nm,0.9s,baz=171,slow=7.5,SNR=7.3						
PETK				LR	LR	05 28 15.7	
	comp=Z,35nm,21.9s,baz=155,slow=32						
GYA	**Guiyang**	**60.95**	**306**	*e*P	**P**	**05 05 35.6**	**+1.5**
GYA				PMZ			
	10.0nm,1.0s						
KMI	**Kunming**	**63.59**	**303**	P	**P**	**05 05 53.8**	**+1.9**
KMI				pP	**pP**	**05 06 04.3**	**-1.0**
KMI				S	**S**	**05 14 22.9**	**+0.1**
KMI				PMZ			
	9.0nm,0.9s						
KMI				PMZ			
	100nm,3.6s						
KMI				LZ			
	34nm,15.2s						
CMAR	**Chiang Mai Arr**	**64.51**	**295**	P	**P**	**05 05 57.0**	**-0.7**
	0.8nm,0.4s,baz=126,slow=10,SNR=4.8						
CMAR				pP	**pP**	**05 06 13.2**	**+2.1**
	3.8nm,0.8s,baz=116,slow=4.7,SNR=5.8						
HHC	**Hu-ho-hao-te**	**65.04**	**322**	*e*P	**P**	**05 06 02.6**	**+1.7**
HHC				PP	**PP**	**05 08 27.9**	**+3.4**
HHC				S	**S**	**05 14 41.3**	**+1.4**
HHC				sS	sS	05 14 58.3	-4.0
HHC				SS	**SS**	**05 18 55.5**	**+2.6**
HHC				PMZ			
	17nm,1.0s						
HHC				PMZ			
	72nm,7.4s						
HHC				LN			
	110nm,17.3s						
HHC				LE			
	88nm,14.8s						
HHC				LZ			
	74nm,14.8s						
CD2	**Chengdu**	**65.23**	**309**	P	**P**	**05 06 01.1**	**-1.2**
CD2				pP	pP	05 06 11.8	-3.9
CD2				sP	sP	05 06 16.0	-5.1
CD2				PP	**PP**	**05 08 24.8**	**-1.5**
CD2				S	**S**	**05 14 42.6**	**+0.1**
CD2				sS	sS	05 15 00.8	-4.1
CD2				SS	**SS**	**05 18 56.9**	**+0.8**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	180nm,5.5s						
CD2				LN			
	170nm,7.2s						
CD2				LZ			
	220nm,6.0s						
LZH	**Lanzhou**	**67.57**	**314**	*e*P	**P**	**05 06 18.1**	**+0.8**
LZH				pP	**pP**	**05 06 28.4**	**-2.4**
LZH				sP	sP	05 06 32.3	-3.8
LZH				PMZ			
	13nm,1.0s						
VNDA	**Vanda**	**69.61**	**179**	P	**P**	**05 06 28.4**	**-0.7**
	2.8nm,0.7s,baz=332,slow=5.9,SNR=22						
VNDA				LR	LR	05 32 24.8	
	comp=Z,66nm,19.1s,baz=350,slow=32						
VNDA	**Vanda**	**69.61**	**179**	*e*P	**P**	**05 06 28.4**	**-0.7**
	4.1nm,0.8s						
SEY	**Seymchan**	**70.79**	**357**	LR	LR	05 33 57.3	
	comp=Z,59nm,21.9s,slow=33						
GTA	**Gaotai**	**71.94**	**316**	*e*P	**P**	**05 06 44.6**	**+0.5**
GTA				pP	**pP**	**05 06 55.1**	**-2.6**
GTA				sP	sP	05 06 59.0	-4.0
GTA				PMZ			
	3.0nm,1.2s						
SONM	**Songino Array**	**72.12**	**326**	P	**P**	**05 06 45.7**	**+0.8**
	8.1nm,0.7s,baz=137,slow=5.8,SNR=43						
RSO	**Redoubt South**	**78.08**	**22**	*e*P	**P**	**05 07 18.1**	**-1.0**
	20nm,0.6s						
MCK	**McKinley**	**81.54**	**21**	*e*P	**P**	**05 07 36.1**	**-1.4**
	11nm,1.0s						
WMQ	**Urumqi**	**82.02**	**316**	P	**P**	**05 07 40.6**	**0.0**
WMQ				pP	**pP**	**05 07 51.6**	**-2.8**
WMQ				sP	sP	05 07 55.1	-4.6
WMQ				PMZ			
	7.0nm,1.0s						
WMQ				PMZ			
	49nm,4.6s						
WMQ				LN			
	54nm,18.3s						
WMQ				LZ			
	28nm,18.3s						
QSPA	**South Pole Qui**	**82.08**	**180**	*e*P	**P**	**05 07 39.5**	**-1.1**
	7.9nm,1.1s						
ILAR	**Eielson Array**	**82.88**	**21**	P	**P**	**05 07 42.9**	**-1.7**
	1.3nm,0.8s,baz=267,slow=4.4,SNR=13						
ILAR				LR	LR	05 39 01.0	
	comp=Z,39nm,21.1s,baz=266,slow=32						
EGAK	**Eagle**	**84.94**	**22**	*e*P	**P**	**05 07 54.9**	**-0.1**
	2.0nm,0.9s						
MAW	**Mawson**	**84.99**	**202**	P	**P**	**05 07 54.2**	**-1.0**
	1.2nm,0.5s,baz=90,slow=4.0,SNR=3.8						
MKAR	**Makanchi Array**	**86.53**	**318**	P	**P**	**05 08 03.2**	**-0.2**
	2.1nm,0.7s,baz=98,slow=6.1,SNR=18						
MKAR				pP	**pP**	**05 08 16.8**	**-0.6**
	5.4nm,0.7s,baz=98,slow=5.8,SNR=14						
ZALV	**Zalesovo Beam**	**87.01**	**325**	P	**P**	**05 08 04.3**	**-1.1**
	0.6nm,0.4s,baz=126,slow=7.2,SNR=3.1						
ZALV				pP	**pP**	**05 08 21.2**	**+1.8**
	1.4nm,0.5s,baz=97,slow=7.6,SNR=4.0						
NVAR	**Mina Array Bea**	**89.39**	**51**	P	**P**	**05 08 17.7**	**+0.3**
	2.1nm,0.7s,baz=242,slow=7.3,SNR=12						
SHPR	**Sheep Range**	**91.53**	**54**	*e*P	**P**	**05 08 28.1**	**+0.7**
	9.9nm,1.3s						
MSU	**Marysvale**	**94.15**	**52**	*e*P	**P**	**05 08 41.1**	**+1.6**
	3.8nm,1.3s						
YKA	**Yellowknife Ar**	**95.40**	**28**	P	**P**	**05 08 43.2**	**-1.1**
	2.2nm,0.7s,baz=261,slow=4.4,SNR=19						
PDAR	**Pinedale Array**	**96.56**	**48**	P	**P**	**05 08 49.6**	**-0.8**
	0.5nm,0.7s,baz=182,slow=1.2,SNR=5.8						
TXAR	**Lajitas Array**	**100.43**	**62**	P	**Pdif**	**05 09 07.2**	**-0.8**
	0.3nm,1.0s,baz=309,slow=5.7,SNR=2.7						
FINES	**FINESS Array B**	**116.24**	**337**	PKP	**PKPdf**	**05 14 01.6**	**-1.5**
	1.1nm,0.8s,baz=14,slow=10,SNR=2.7						
LPAZ	**La Paz**	**127.77**	**118**	PKP	**PKPdf**	**05 14 26.5**	**-0.9**
	1.0nm,0.9s,baz=270,slow=7.1,SNR=4.7						
GERES	**GERESS Array B**	**129.69**	**331**	PKP	**PKPdf**	**05 14 28.9**	**-0.6**
	0.5nm,0.4s,baz=83,slow=2.5,SNR=4.1						
BDFB	**Brasilia**	**144.66**	**131**	PKP	**PKPab**	**05 14 55.7**	**-0.9**
	8.9nm,0.7s,baz=251,slow=3.3,SNR=15						
ESDC	**Sonseca Array**	**144.76**	**337**	PKP	PKPbc	05 14 56.2	-0.1
	0.2nm,0.3s,baz=16,slow=4.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**156.83**	**285**	PKP	**PKPdf**	**05 15 15.0**	**-1.4**
	0.6nm,1.0s,baz=68,slow=0.8,SNR=2.7						
TORD				PKPab	**PKPab**	**05 15 46.1**	**-0.2**
	0.5nm,0.7s,baz=86,slow=4.6,SNR=5.6						

ISCJB **14** *05:19:03.2±0.4,38.40N±0.02×23.81E±0.03,h12km±3km, Error ellipse: s-maj=3.8km s-min=2.5km az=12.7*
CSEM **14** *05:19:03.2±0.1,38.39N×23.80E,h15km,MD2.8, Error ellipse: s-maj=3.2km s-min=2.2km az=89.0*
THE **14** *05:19:03.8,38.40N×23.76E,h9km±1km,ML2.4/11, Error ellipse: s-maj=1.4km s-min=0.4km az=90.0*

ATH **14** *05:19:03.4,38.40N×23.81E,h17km±1km,MD2.8/26, ML2.5*

ISC 14 05:19:03.5±0.8,38.40N±0.01×23.79E±0.02,h13km±6km, n97,σ0.45/159,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EREA	**Eretria**	**0.12**	**78**	*e*PB	**Pg**	**05 19 07.0**	**+0.1**
EREA				*e*SB	**Sg**	**05 19 09.4**	**+0.2**
EREA	**Eretria**	**0.12**	**78**	*e*PB	**Pg**	**05 19 07.0**	**+0.1**
EREA				*e*SB	**Sg**	**05 19 09.2**	**+0.1**
EREA	**Eretria**	**0.12**	**78**	*e*Pb	**Pg**	**05 19 07.0**	**+0.1**
EREA				S	**Sg**	**05 19 08.8**	**-0.3**
EREA				*e*Sb	**Sg**	**05 19 09.4**	**+0.2**
EREA	**Eretria**	**0.12**	**78**	P	**Pg**	**05 19 06.9**	**+0.1**
EREA				S	**Sg**	**05 19 08.8**	**-0.3**
MRKA	**Markates**	**0.35**	**333**	*e*PB	**Pg**	**05 19 10.6**	**0.0**
MRKA				*e*SB	**Sg**	**05 19 15.9**	**+0.5**
MRKA	**Markates**	**0.35**	**333**	*e*PB	**Pg**	**05 19 10.7**	**+0.1**
MRKA				*e*SB	**Sg**	**05 19 15.9**	**+0.5**
MRKA	**Markates**	**0.35**	**333**	*e*Pb	**Pg**	**05 19 10.6**	**0.0**
MRKA				*e*Sb	**Sg**	**05 19 15.9**	**+0.5**
PTL	**Penteli**	**0.35**	**170**	*e*PB	**Pg**	**05 19 09.9**	**-0.8**
PTL				*e*SB	**Sg**	**05 19 15.4**	**-0.1**
PTL	**Penteli**	**0.35**	**170**	*e*PB	**Pg**	**05 19 11.0**	**+0.3**
PTL				*e*SB	**Sg**	**05 19 15.5**	**-0.1**
PTL	**Penteli**	**0.35**	**170**	*e*Pb	**Pg**	**05 19 09.9**	**-0.8**
PTL				*e*Sb	**Sg**	**05 19 15.4**	**-0.1**
ATH	**Athens Observa**	**0.43**	**187**	*e*PB	**Pg**	**05 19 11.8**	**-0.2**
ATH				*e*SB	**Sg**	**05 19 17.7**	**0.0**
ATH	**Athens Observa**	**0.43**	**187**	*e*PB	**Pg**	**05 19 11.9**	**-0.1**
ATH				*e*SB	**Sg**	**05 19 17.8**	**0.0**
ATH	**Athens Observa**	**0.43**	**187**	*e*Pb	**Pg**	**05 19 11.8**	**-0.2**
ATH				*e*Sb	**Sg**	**05 19 17.7**	**0.0**
ATH	**Athens Observa**	**0.43**	**187**	P	**Pg**	**05 19 12.0**	**-0.1**
ATH				S	**Sg**	**05 19 17.8**	**0.0**
ATHU	**Athens Univers**	**0.43**	**180**	P	**Pg**	**05 19 11.9**	**-0.2**
ATHU	**Athens Univers**	**0.43**	**180**	P	**Pg**	**05 19 11.9**	**-0.2**
VILL	**Villia**	**0.44**	**238**	*e*Pb	**Pg**	**05 19 12.3**	**0.0**
VILL				S	**Sg**	**05 19 17.8**	**-0.4**
VILL				*e*Sb	**Sb**	**05 19 18.6**	**-1.0**
VILL	**Villia**	**0.44**	**238**	P	**Pg**	**05 19 12.1**	**-0.2**
VILL				S	**Sg**	**05 19 17.8**	**-0.4**
VIL2	**Platees**	**0.45**	**246**	*e*PB	**Pg**	**05 19 12.3**	**-0.1**
VIL2				*e*SB	**Sg**	**05 19 18.6**	**+0.2**
VIL2	**Platees**	**0.45**	**246**	*e*PB	**Pg**	**05 19 12.5**	**+0.1**
VIL2				*e*SB	**Sg**	**05 19 18.2**	**-0.2**
SMIA	**Simia**	**0.66**	**317**	*e*PN	**Pg**	**05 19 16.3**	**-0.2**
SMIA				*e*SN	**Sb**	**05 19 26.5**	**+0.5**
SMIA	**Simia**	**0.66**	**317**	*e*PN	**Pg**	**05 19 16.5**	**0.0**
SMIA				*e*SN	**Sb**	**05 19 27.0**	**+1.0**
SMIA	**Simia**	**0.66**	**317**	*e*Pn	**Pg**	**05 19 16.3**	**-0.2**
SMIA				*e*Sn	**Sb**	**05 19 26.5**	**+0.5**
LKR	**Lokris**	**0.67**	**293**	*e*PB	**Pg**	**05 19 15.7**	**-0.9**
LKR				*e*SN	**Sb**	**05 19 26.0**	**-0.2**
LKR	**Lokris**	**0.67**	**293**	*e*PB	**Pg**	**05 19 15.5**	**-1.1**
LKR	**Lokris**	**0.67**	**293**	P	**Pg**	**05 19 15.8**	**-0.8**
LKR				S	**Sb**	**05 19 26.1**	**-0.1**
LKR	**Lokris**	**0.67**	**293**	P	**Pg**	**05 19 15.8**	**-0.8**
LKR				S	**Sb**	**05 19 26.1**	**-0.1**
ATAL	**Atalanti**	**0.67**	**297**	P	**Pg**	**05 19 16.1**	**-0.5**
ATAL				S	**Sg**	**05 19 25.7**	**+0.3**
ATAL	**Atalanti**	**0.67**	**297**	P	**Pg**	**05 19 16.1**	**-0.5**
ATAL				S	**Sg**	**05 19 25.7**	**+0.3**
NAIG	**Nisos Aigina**	**0.68**	**200**	*e*PN	**Pb**	**05 19 17.3**	**+0.1**
NAIG	**Nisos Aigina**	**0.68**	**200**	*e*PN	**Pb**	**05 19 17.3**	**+0.1**
NAIG	**Nisos Aigina**	**0.68**	**200**	*e*Pn	**Pb**	**05 19 17.3**	**+0.1**
LTK	**Loutraki**	**0.74**	**240**	*e*PN	**Pb**	**05 19 18.6**	**+0.3**
LTK				*e*SN	**Sb**	**05 19 28.5**	**+0.1**
LTK	**Loutraki**	**0.74**	**240**	*e*PN	**Pn**	**05 19 19.3**	**-0.4**
LTK				*e*SN	**Sb**	**05 19 28.5**	**+0.1**
LTK	**Loutraki**	**0.74**	**240**	P	**Pg**	**05 19 17.9**	**-0.1**
LTK	**Loutraki**	**0.74**	**240**	*e*Pn	**Pb**	**05 19 18.6**	**+0.3**
LTK				*e*Sn	**Sb**	**05 19 28.5**	**+0.1**
LTK	**Loutraki**	**0.74**	**240**	P	**Pg**	**05 19 17.9**	**-0.1**
LOUT	**Loutraki**	**0.76**	**238**	*e*PN	**Pb**	**05 19 18.8**	**+0.2**
LOUT				*e*SN	**Sb**	**05 19 29.6**	**+0.8**
LOUT	**Loutraki**	**0.76**	**238**	*e*PN	**Pn**	**05 19 19.2**	**-0.7**
LOUT				*e*SN	**Sb**	**05 19 29.5**	**+0.7**
LOUT	**Loutraki**	**0.76**	**238**	P	**Pg**	**05 19 17.7**	**-0.6**
LOUT	**Loutraki**	**0.76**	**238**	*e*Pn	**Pb**	**05 19 18.8**	**+0.2**
LOUT				S	**Sb**	**05 19 29.0**	**+0.2**
LOUT	**Loutraki**	**0.76**	**238**	P	**Pg**	**05 19 17.7**	**-0.6**
LOUT				S	**Sb**	**05 19 29.0**	**+0.2**
AOS	**Alonnisos**	**0.78**	**5**	*e*PN	**Pg**	**05 19 18.2**	**-0.4**
AOS	**Alonnisos**	**0.78**	**5**	*e*PN	**Pg**	**05 19 18.4**	**-0.2**
AOS				*e*SN	**Sb**	**05 19 29.6**	**+0.2**
AOS	**Alonnisos**	**0.78**	**5**	P	**Pg**	**05 19 18.3**	**-0.3**
AOS				S	**Sb**	**05 19 30.0**	**+0.6**
AOS	**Alonnisos**	**0.78**	**5**	P	**Pg**	**05 19 18.3**	**-0.3**
AOS				S	**Sb**	**05 19 30.0**	**+0.6**
AXAR	**Agios Charalam**	**0.96**	**293**	*e*PB	**Pb**	**05 19 20.9**	**-1.1**
AXAR				*e*SN	**Sn**	**05 19 35.6**	**-0.6**
AXAR	**Agios Charalam**	**0.96**	**293**	*e*PB	**Pb**	**05 19 21.2**	**-0.8**
AXAR				*e*SN	**Sn**	**05 19 35.6**	**-0.6**
AXAR	**Agios Charalam**	**0.96**	**293**	*e*Pb	**Pb**	**05 19 20.9**	**-1.1**
AXAR				*e*Sn	**Sn**	**05 19 35.7**	**-0.5**
DID	**Didima**	**0.99**	**206**	*e*PN	**Pg**	**05 19 22.7**	**+0.1**
DID	**Didima**	**0.99**	**206**	*e*PN	**Pn**	**05 19 23.1**	**0.0**
DID				*e*SN	**Sn**	**05 19 37.1**	**+0.2**
DID	**Didima**	**0.99**	**206**	*e*Pn	**Pg**	**05 19 22.7**	**+0.1**
DID				S	**Sn**	**05 19 36.7**	**-0.2**
DID	**Didima**	**0.99**	**206**	P	**Pg**	**05 19 22.6**	**0.0**
DID				S	**Sn**	**05 19 36.7**	**-0.2**
DSF	**Desfina**	**0.99**	**271**	*e*PB	**Pb**	**05 19 21.4**	**-1.1**
DSF	**Desfina**	**0.99**	**271**	*e*PB	**Pb**	**05 19 21.6**	**-0.9**
DSF				*e*SN	**Sg**	**05 19 36.0**	**+0.5**
DSF	**Desfina**	**0.99**	**271**	P	**Pb**	**05 19 21.6**	**-0.9**
DSF				S	**Sg**	**05 19 36.1**	**+0.5**
DSF	**Desfina**	**0.99**	**271**	P	**Pb**	**05 19 21.6**	**-0.9**
DSF				S	**Sg**	**05 19 36.1**	**+0.5**
NEO	**Neokhori**	**1.01**	**334**	*e*PN	**Pb**	**05 19 22.8**	**-0.1**
NEO	**Neokhori**	**1.01**	**334**	*e*PN	**Pb**	**05 19 22.8**	**-0.1**
NEO				*e*SN	**Sn**	**05 19 36.8**	**-0.7**
NEO	**Neokhori**	**1.01**	**334**	*e*Pn	**Pb**	**05 19 22.8**	**-0.1**
NEO				S	**Sg**	**05 19 36.5**	**+0.2**
NEO	**Neokhori**	**1.01**	**334**	P	**Pb**	**05 19 22.6**	**-0.3**
NEO				S	**Sg**	**05 19 36.5**	**+0.2**
DIDY	**Didyma**	**1.02**	**206**	*e*PN	**Pn**	**05 19 23.4**	**-0.2**
DIDY	**Didyma**	**1.02**	**206**	*e*PN	**Pn**	**05 19 23.3**	**-0.3**
DIDY	**Didyma**	**1.02**	**206**	*e*Pn	**Pn**	**05 19 23.4**	**-0.2**
XOR	**Xorichti**	**1.07**	**335**	*e*PN	**Pb**	**05 19 23.8**	**-0.2**
XOR	**Xorichti**	**1.07**	**335**	*e*PN	**Pb**	**05 19 23.8**	**-0.2**
XOR				*e*SN	**Sg**	**05 19 38.5**	**+0.2**
XOR	**Xorichti**	**1.07**	**335**	P	**Pb**	**05 19 23.8**	**-0.2**
XOR				S	**Sn**	**05 19 38.7**	**-0.4**
XOR	**Xorichti**	**1.07**	**335**	P	**Pb**	**05 19 23.8**	**-0.2**
XOR				S	**Sn**	**05 19 38.7**	**-0.4**
KRND	**KRANIDI**	**1.13**	**207**	*e*PN	**Pn**	**05 19 24.8**	**-0.2**
KRND	**KRANIDI**	**1.13**	**207**	*e*PB	**Pb**	**05 19 24.3**	**-0.6**
KRND				*e*SN	**Sg**	**05 19 40.9**	**+0.9**
KRND	**KRANIDI**	**1.13**	**207**	*e*Pn	**Pn**	**05 19 24.8**	**-0.2**
GUR	**Goura**	**1.23**	**249**	*e*PN	**Pb**	**05 19 26.6**	**0.0**
GUR	**Goura**	**1.23**	**249**	*e*PB	**Pn**	**05 19 26.0**	**-0.4**
GUR				*e*SN	**Sn**	**05 19 43.0**	**+0.1**
GUR	**Goura**	**1.23**	**249**	P	**Pn**	**05 19 26.3**	**-0.1**
GUR	**Goura**	**1.23**	**249**	*e*Pn	**Pb**	**05 19 26.6**	**0.0**
GUR				S	**Sn**	**05 19 42.8**	**-0.1**
GUR	**Goura**	**1.23**	**249**	P	**Pn**	**05 19 26.3**	**-0.1**
GUR				S	**Sn**	**05 19 42.8**	**-0.1**
KALE	**Kalithea**	**1.29**	**270**	*e*PN	**Pb**	**05 19 27.7**	**0.0**
KALE	**Kalithea**	**1.29**	**270**	*e*PN	**Pg**	**05 19 29.0**	**+0.6**
KALE				*e*SN	**Sg**	**05 19 46.5**	**+1.2**
KALE	**Kalithea**	**1.29**	**270**	*e*Pn	**Pb**	**05 19 27.7**	**0.0**
AGG	**Agios Georgios**	**1.30**	**299**	*e*PN	**Pb**	**05 19 27.9**	**+0.1**
AGG	**Agios Georgios**	**1.30**	**299**	*e*PN	**Pb**	**05 19 27.8**	**0.0**
AGG				*e*SN	**Sg**	**05 19 46.0**	**+0.5**
AGG	**Agios Georgios**	**1.30**	**299**	*e*Pn	**Pb**	**05 19 27.9**	**+0.1**
KLV	**Kalavryta, Ach**	**1.33**	**255**	*e*PB	**Pn**	**05 19 27.3**	**-0.6**
LAKA	**Lakka**	**1.43**	**264**	*e*PN	**Pb**	**05 19 30.6**	**+0.6**
LAKA	**Lakka**	**1.43**	**264**	*e*PN	**Pg**	**05 19 31.3**	**+0.3**
LAKA				*e*SN	**Sg**	**05 19 50.0**	**+0.4**
LAKA	**Lakka**	**1.43**	**264**	*e*Pn	**Pb**	**05 19 30.6**	**+0.6**
MAKR	**Makrakomi, Fth**	**1.43**	**296**	*e*PN	**Pg**	**05 19 31.9**	**+0.8**
MAKR				*e*SN	**Sg**	**05 19 50.0**	**+0.2**
EFP	**Efpalio**	**1.48**	**272**	*e*PN	**Pg**	**05 19 32.7**	**+0.8**
VLX	**Vlachokerasia**	**1.51**	**228**	*e*PN	**Pb**	**05 19 31.7**	**+0.2**
VLX				*e*SN	**Sb**	**05 19 51.5**	**+0.9**
PAIG	**Paliouri**	**1.53**	**357**	*e*PN	**Pn**	**05 19 30.4**	**-0.2**
PAIG	**Paliouri**	**1.53**	**357**	*e*PB	**Pn**	**05 19 30.4**	**-0.2**
PAIG	**Paliouri**	**1.53**	**357**	*e*Pn	**Pn**	**05 19 30.4**	**-0.2**
VLI	**Veliai**	**1.81**	**202**	*e*PN	**Pb**	**05 19 36.2**	**-0.2**
OUR	**Ouranopolis**	**1.94**	**4**	*e*PB	**Pn**	**05 19 36.4**	**+0.2**
KYTH	**Kithira**	**2.19**	**196**	*e*PB	**Pn**	**05 19 39.8**	**+0.1**
KYTH	**Kithira**	**2.19**	**196**	*e*PB	**Pn**	**05 19 40.7**	**+1.0**
KYTH	**Kithira**	**2.19**	**196**	*e*Pb	**Pn**	**05 19 39.8**	**+0.1**

MAN 14 05:27:49,13.51N×120.50E,h70km,mb4.0,ML2.8,MS2.5, 1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.33**	**313**	*e*P	Pn	05 28 02.6	+2.2
LUBP				*e*S	Sn	05 28 12.3	+3.6
PGP	**Puerto Galera**	**0.44**	**90**	*e*P	Pn	05 28 03.0	+1.7
PGP				*i* S	Sn	05 28 15.1	+4.7
SJMP	**San Jose**	**1.20**	**150**	*e*P	Pn	05 28 12.0	+2.0
SJMP				*e*S	Sn	05 28 27.2	+1.3
BUSP	**Coron**	**1.52**	**191**	*e*P	Pn	05 28 16.1	+1.8
ENPP	**El Nido**	**2.52**	**205**	*e*P	Pn	05 28 29.6	+2.0

ISCJB **14** *05:42:32.8±0.8,7.27S±0.08×128.48E±0.08,h35km, mb3.7/3, Error ellipse: s-maj=11.2km s-min=10.9km az=37.2*
IDC **14** *05:42:37.1±6.7,7.47S×128.50E,h66km±70km,mb3.5/3, mb1 3.7/5,mb1mx3.5/20,mbtmp3.8/5,ML3.9/3, Error ellipse: s-maj=54.9km s-min=27.4km az=23.0*

ISC 14 05:42:34.9±1.0,7.3S±0.1×128.6E±0.1,h35km,n14, σ1.9s33/11,mb3.8/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.90**	**240**	P	Pn	05 43 51.1	+4.9
	baz=4.6,SNR=18						
BATI	**Baumata**	**5.64**	**239**	P	**Pn**	**05 43 56.8**	**+0.4**
	1.6nm,0.3s,baz=114,slow=19,SNR=2.0						
BATI				S	**Sn**	**05 44 59.2**	**-0.7**
	17nm,0.3s,baz=76,slow=20,SNR=7.5						
MTN	**Manton Dam**	**6.08**	**156**	P	Pn	05 44 06.8	+4.5
	baz=5.5,SNR=17						
KDU	**Kakadu**	**6.61**	**145**	P	Pn	05 44 14.7	+5.0
	baz=6.1,SNR=20						
KNRA	**Kununurra**	**8.35**	**179**	P	**Pn**	**05 44 35.1**	**+1.6**
	baz=7.7,SNR=14						
WRA	**Warramunga Arr**	**13.78**	**157**	P	**Pn**	**05 45 46.4**	**-1.5**
	1.1nm,0.3s,baz=338,slow=13,SNR=13						
WRA				S	Sn	05 48 07.1	-13
	2.4nm,0.3s,baz=325,slow=23,SNR=12						
QIS	**Mount Isa**	**16.99**	**142**	P	**Pn**	**05 46 31.4**	**+1.4**
	baz=16,SNR=4.0						
ASAR	**Alice Springs**	**17.08**	**163**	P	**Pn**	**05 46 30.4**	**-0.8**
	0.5nm,0.3s,baz=328,slow=9.2,SNR=10.0						
ASAR				S	Sn	05 49 27.2	-13
	0.7nm,0.3s,baz=327,slow=17,SNR=5.9						
WRKA	**Warakurna**	**17.66**	**181**	P	**Pn**	**05 46 38.1**	**-0.1**
	baz=17,SNR=9.1						
MTSU	**Mount Surprise**	**18.76**	**127**	P	Pn	05 46 57.9	+6.1
	baz=18,SNR=4.6						
SONM	**Songino Array**	**58.27**	**343**	P	**P**	**05 52 27.6**	**+1.5**
	0.6nm,0.7s,baz=153,slow=7.4,SNR=3.6						
MKAR	**Makanchi Array**	**67.68**	**328**	P	**P**	**05 53 27.4**	**-1.2**
	0.2nm,0.4s,baz=126,slow=7.1,SNR=4.2						
ZALV	**Zalesovo Beam**	**71.21**	**334**	P	**P**	**05 53 48.9**	**-1.2**
	0.6nm,0.4s,baz=126,slow=7.3,SNR=2.6						
ULM	**Lac du Bonnet**	**123.46**	**33**	PKP	**PKPdf**	**06 01 27.7**	**-0.8**
	0.9nm,0.3s,baz=346,slow=4.2,SNR=4.0						

IDC **14** *06:19:14.7±1.5,1.68S×100.27E,h0km,mb3.9/8, mb1 4.0/8,mb1mx3.8/24,mbtmp4.0/8,MS3.0/1,Ms1 3.0/1, ms1mx2.4/31,Error ellipse: s-maj=46.8km s-min=24.2km az=58.0*
NEIC **14** *06:19:19.2±0.8,1.87S×100.11E,h35km,mb4.4/3,Error ellipse: s-maj=20.7km s-min=12.3km az=64.0*
ISCJB **14** *06:19:25.4±0.4,1.40S±0.04×100.36E±0.04,h89km±4km, mb4.1/10,Error ellipse: s-maj=6.9

LWLI	**Liwa**	**1.59**	**82**	P	**Pn**	**06 26 28.8**	**-0.4**
LWLI				S	**Sn**	**06 26 48.4**	**-0.2**
LHSI	**Lahat**	**1.75**	**37**	P	**Pn**	**06 26 32.0**	**+0.8**
MDSI	**Maura Dua**	**1.85**	**66**	P	**Pn**	**06 26 32.1**	**-0.6**
MDSI				S	**Sn**	**06 26 55.6**	**+0.7**
KASI	**Kota Agung**	**2.03**	**98**	P	**Pn**	**06 26 35.5**	**+0.4**
KASI				S	**Sn**	**06 26 58.8**	**-0.5**
KLSI		**2.31**	**77**	P	**Pn**	**06 26 39.5**	**+0.5**
CGJI	**Cibinong**	**3.48**	**113**	P	**Pn**	**06 26 55.3**	**+0.3**
CGJI				S	**Sn**	**06 27 34.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**23.80**	**352**	P	**P**	**06 31 10.7**	**-1.4**
	1.3nm,0.3s,baz=174,slow=10.0,SNR=4.0						
H08S2	**Diego Garcia H**	**29.89**	**264**	T	T	07 03 02.6	
	baz=87,slow=76,SNR=6.6						
H08S3	**Diego Garcia H**	**29.89**	**264**	T	T	07 03 03.8	
	baz=87,slow=76,SNR=8.9						
H08S1	**Diego Carcia H**	**29.91**	**264**	T	T	07 03 02.1	
	baz=87,slow=76,SNR=6.5						
H01W3	**Cape Leeuwin H**	**31.41**	**161**	T	T	07 04 58.1	
	baz=336						
H01W2	**Cape Leeuwin H**	**31.43**	**161**	T	T	07 04 59.8	
	baz=336						
H01W1	**Cape Leeuwin H**	**31.43**	**161**	T	T	07 05 00.7	
	baz=336						
WRA	**Warramunga Arr**	**34.26**	**118**	P	**P**	**06 32 47.5**	**+2.1**
	0.4nm,0.8s,baz=293,slow=9.2,SNR=2.7						
SONM	**Songino Array**	**52.96**	**3**	P	**P**	**06 35 15.2**	**-0.1**
	1.0nm,0.7s,baz=180,slow=9.8,SNR=6.8						
MKAR	**Makanchi Array**	**54.81**	**343**	P	**P**	**06 35 28.1**	**-0.6**
	1.1nm,0.5s,baz=149,slow=8.5,SNR=13						
KURBB	**Kurchatov Arra**	**59.34**	**343**	P	**P**	**06 35 59.3**	**-1.3**
	0.4nm,0.7s,baz=156,slow=7.2,SNR=4.3						
ZALV	**Zalesovo Beam**	**60.80**	**348**	P	**P**	**06 36 09.3**	**-1.2**
	1.3nm,0.5s,baz=178,slow=6.8,SNR=4.1						
TXAR	**Lajitas Array**	**145.57**	**43**	PKPbc	**PKPab**	**06 45 38.2**	**+0.3**
	0.2nm,0.6s,baz=294,slow=1.6,SNR=4.9						

DJA 14 06:54:50.6±0.5,9°S±8°×11°7E±°, h67km±12km, M4.2/14, mb4.2/1, MLv4.2/14, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DNP	**Denpasar**	**1.97**	**285**	P	Pn	06 55 22.2	+0.4
DNP				S	Sn	06 55 46.7	+1.2
IGBI	**Denpasar**	**2.00**	**281**	P	Pn	06 55 22.3	+0.1
IGBI				S	Sn	06 55 47.0	+0.8
SRBI	**Singaraja**	**2.20**	**300**	P	Pn	06 55 25.3	+0.4
JAGI	**Jajag, Banyuwa**	**3.03**	**284**	P	Pn	06 55 36.4	+0.1
JAGI				S	Sn	06 56 12.3	+0.8
ABJI	**Asem Bagus**	**3.19**	**296**	P	Pn	06 55 38.8	+0.4
BLJI	**Banyuglugur**	**3.79**	**292**	P	Pn	06 55 47.3	+0.8
BLJI				S	Sn	06 56 31.4	+1.5
BSSI	**Bau Bau, Buton**	**4.51**	**48**	P	Pn	06 55 56.4	-0.1
BKSI	**Bulukumba**	**4.87**	**38**	P	Pn	06 56 01.8	+0.4
PWJI	**Pagerwojo**	**5.40**	**282**	P	Pn	06 56 07.4	-1.2

IDC 14 07:05:52.0±1.8, 24°21S×68°70W, h0km, mb4.0/2, mb1 4.0/3, mb1mx3.6/17, mbtmp3.9/3, ML3.5/1, Error ellipse: s-maj=54.0km s-min=44.3km az=135.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**7.90**	**4**	Pn	Pn	07 07 49.4	+0.3
	0.3nm,0.3s,baz=182,slow=5.0,SNR=13						
BDFB	**Brasilia**	**21.21**	**70**	P	P	07 10 40.0	+0.3
	2.8nm,0.5s,baz=251,slow=12,SNR=8.7						
TORD	**Torodi Ar. Bea**	**78.09**	**70**	P	P	07 17 53.4	0.0
	0.9nm,0.4s,baz=257,slow=5.1,SNR=16						
WRA	**Warramunga Arr**	**130.71**	**209**	PKP	PKPdf	07 25 06.1	+0.2
	0.4nm,1.0s,baz=155,slow=1.6,SNR=3.1						
MKAR	**Makanchi Array**	**147.67**	**39**	PKPbc	PKPdf	07 25 37.1	+1.3
	0.2nm,0.6s,baz=285,slow=2.6,SNR=2.5						

NEIC 14 07:09:34.8, 32°23N×115°29W, h6km, ML3.5(PAS), ML3.6(ECX), After ECX.

ECX 14 07:09:34.8±0.5, 32°23N×115°30W, h6km, MD3.4, ML3.6, 5C-12D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.19**	**358**	⇓*eP*	Pg	07 09 38.4	-0.2
CPBX				⇓*eP*	Pg	07 09 38.5	-0.1
CPBX				*eS*	Sg	07 09 41.0	-0.1
CPBX				⇑*e*		07 09 43.1	
CPBX				IAML		07 09 43.1	
	comp=N,34μm,0.7s						
SGL	**Mount Signal**	**0.55**	**319**	⇓*iP*	Pg	07 09 44.7	-0.8
EMSC	**East Mesa**	**0.57**	**27**	⇓*iP*	Pg	07 09 45.0	-0.8
RDX	**Rancho Dawling**	**0.63**	**241**	⇑*eP*	Pg	07 09 46.4	-0.8
RDX				*eS*	Sg	07 09 54.6	-0.8
RDX				IAML		07 09 55.8	
	comp=N,2μm,0.3s						
RDX				⇓*e*		07 09 55.8	
WESC	**Westside Schoo**	**0.64**	**325**	⇓*iP*	Pg	07 09 46.5	-0.7
COA	**Coachella**	**0.65**	**13**	⇓*iP*	Pg	07 09 48.0	-1.3
YUH	**Yuha Desert**	**0.67**	**308**	⇓*iP*	Pg	07 09 46.5	-1.3
YMD	**Yuma Desert**	**0.71**	**63**	⇑*iP*	Pg	07 09 46.8	-1.8
COK	**Cook Ranch**	**0.72**	**330**	⇓*iP*	Pg	07 09 47.5	-1.0
RMX	**La Rumorosa**	**0.76**	**299**	⇓*eP*	Pg	07 09 48.2	-1.4
RMX				*eS*	Sg	07 09 58.4	-1.3
RMX				IAML		07 09 59.0	
	comp=N,3μm,0.4s						
RMX				⇓*e*		07 09 59.0	
ECBX	**El Chinero**	**0.79**	**165**	*eP*	Pg	07 09 48.5	-1.4
ECBX				*eS*	Sg	07 09 59.0	-1.1
GLA	**Glamis**	**0.91**	**26**	*ePg*	Pg	07 09 49.6	-2.8
GLA				*eSg*	Sg	07 10 00.7	-3.5
ZAX	**El Zacaton**	**1.10**	**230**	⇑*eP*	Pg	07 09 53.8	-2.2
SPIG	**San Pedro Mart**	**1.19**	**187**	⇓*eP*	Pg	07 09 55.1	-3.1
SPX	**San Pedro Mart**	**1.19**	**187**	⇓*eP*	Pg	07 09 55.1	-3.1
SPX				*eS*	Sg	07 10 11.7	-2.2
BAR	**Barrett**	**1.25**	**291**	*ePg*	Pg	07 09 56.9	-2.0
BAR				*eSg*	Sg	07 10 12.7	-2.4
PFO	**Pinyon Flat Ob**	**1.69**	**325**	*ePn*	Pn	07 10 01.1	-3.9
PFO				*eSn*	Sn	07 10 26.5	-0.5
214A	**Organ Pipe Nat**	**2.13**	**97**	*ePn*	Pn	07 10 06.8	-4.1
214A				*eSn*	Sn	07 10 37.8	+0.1
PASC	**Pasadena Art C**	**3.10**	**309**	Pn	Pn	07 10 26.1	+1.8
TUC	**Tucson**	**3.82**	**88**	*ePn*	Pn	07 10 32.1	-2.2
SHPR	**Sheep Range**	**4.27**	**1**	*ePn*	Pn	07 10 38.7	-1.8
ISA	**Isabella**	**4.32**	**323**	*ePn*	Pn	07 10 42.8	+1.5
DAC	**Darwin (Calif)**	**4.46**	**335**	*ePn*	Pb	07 10 54.7	+0.8
WUAZ	**Wupatki**	**4.62**	**44**	*ePn*	Pn	07 10 44.2	-1.3
121A	**Cookes Peak, D**	**6.36**	**85**	*ePn*	Pn	07 11 06.6	-2.8
	comp=N,6.0nm,0.3s						

IDC 14 08:21:08.8±0.4, 38°15S×73°59W, h0km, mb4.9/14, mb1 5.0/16, mb1mx5.0/18, mbtmp4.9/16, ML4.2/3, MS4.1/1, Ms1 4.1/1, ms1mx3.9/31, Error ellipse: s-maj=19.4km s-min=12.3km az=96.0

SJA 14 08:21:09.5±4.3, 37°66S×73°97W, h20km±119km, ML4.8, MW4.7

ISCJB 14 08:21:10.8±0.9, 38°06S±0°03×73°43W±0°06, h21km±6km, mb5.1/134, Error ellipse: s-maj=7.8km s-min=4.3km az=8.2

GUC 14 08:21:11.2±0.4, 38°16S×73°74W, h43km±2km, ML5.8

BJI 14 08:21:12.3, 38°00S×73°30W, h22km, mB5.2/22, Ms5.7/5, Ms7 5.6/7

MOS 14 08:21:13.3±1.0, 38°02S×73°51W, h33km, mb5.4/38, Error ellipse: s-maj=18.0km s-min=8.0km az=100.8

NEIC 14 08:21:14.4±0.1, 38°10S×73°41W, h35km, mb5.1/117, ML5.8(GUC), Error ellipse: s-maj=5.7km s-min=3.9km az=76.0

NEIC Felt [IV] at La Laja, San Rosendo and Temuco; [III] at Concepcion; [II] at Valdivia. Also felt at Canete, Chillan, Collipulli, Curico, Linares, Los Angeles, Nueva Imperial, Osorno, Puerto Varas, Santiago and Vina del Mar.

ISC 14 08:21:12.9±0.6, 38°10S±0°03×73°56W±0°06, h28km±3km, h26km:pP-P, n720, σ1℗05/751, mb5.1/134, 14C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSCH	**Puerto Saavedr**	**0.71**	**169**	*eP*	**Pb**	**08 21 24.8**	**-1.9**
PSCH				*iS*	**Sb**	**08 21 35.0**	**-1.1**
U14B	**Concepcin**	**1.30**	**17**	⇑*iP*	**Pn**	**08 21 35.1**	**-0.1**
U14B				*eS*	**Sb**	**08 21 53.1**	**+0.1**
U14B				AML	AML	08 22 04.8	
	comp=N,268μm,0.3s						
VLCH	**Valdivia**	**1.72**	**172**	⇑*iP*	**Pn**	**08 21 38.8**	**-2.1**
VLCH				*eS*	**Sn**	**08 21 59.8**	**-2.1**
CANA	**Caviahue**	**1.98**	**85**	*eP*	**Pb**	**08 21 47.5**	**-0.9**
CANA				*eS*	Sb	08 22 19.1	+6.3
OSCH	**Osorno**	**2.49**	**172**	*eP*	**Pn**	**08 21 50.4**	**-1.1**
TALC	**Talca**	**3.11**	**30**	⇑*iP*	**Pn**	**08 22 00.2**	**+0.1**
PMCH	**Puerto Montt**	**3.42**	**172**	*eP*	**Pn**	**08 22 02.5**	**-1.8**
U65B	**HualaæØ**	**3.44**	**25**	⇑*iP*	**Pn**	**08 22 04.5**	**-0.2**
PLCA	**Paso Flores**	**3.51**	**139**	*eP*	**Pn**	**08 22 06.8**	**+1.1**
PLCA				*eS*	**Sb**	**08 23 00.7**	**+4.2**
NICH	**Los Niches**	**3.62**	**32**	*eP*	**Pn**	**08 22 07.4**	**+0.3**
U73B	**San Pedro**	**4.52**	**23**	⇑*iP*	**Pn**	**08 22 18.5**	**-1.0**
CHCH	**Chadas Angostu**	**4.78**	**30**	⇑*iP*	**Pn**	**08 22 23.2**	**0.0**
SAN	**Santiago**	**5.20**	**28**	⇑*iP*	**Pn**	**08 22 28.9**	**0.0**
CLCH	**Cerro Calan**	**5.30**	**29**	*eP*	**Pn**	**08 22 30.1**	**-0.2**
AAGR	**Agrelo**	**6.32**	**39**	*eP*	**Pn**	**08 22 43.9**	**-0.4**
ARCO	**CERRO ARCO**	**6.47**	**37**	*eP*	**Pn**	**08 22 47.2**	**+0.8**
ARCO				AML	AML	08 24 49.3	
	comp=Z,142nm,0.8s						
ASAL	**Salagasta**	**6.72**	**36**	*eP*	**Pn**	**08 22 50.2**	**+0.4**
AUSP	**Uspallata**	**6.79**	**31**	*eP*	**Pn**	**08 22 51.0**	**0.0**
RTCV	**Cerro Valdivia**	**7.46**	**35**	*eP*	**Pn**	**08 22 59.4**	**-0.6**
CFAA	**Coronel Fontan**	**7.82**	**36**	Pn	**Pn**	**08 23 03.9**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=218,slow=16,SNR=61						
CFAA				Sn	**Sn**	**08 24 30.3**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=208,slow=17,SNR=3.1						
CFAA				Lg	Lg	08 25 17.7	
	comp=Z,0.4nm,0.3s,baz=211,slow=18,SNR=6.8						
CFAA				LR	LR	08 26 23.5	
	comp=Z,1μm,18.5s,baz=223,slow=40						
CFAA	**Coronel Fontan**	**7.82**	**36**	*eP*	**Pn**	**08 23 03.9**	**-1.0**
RTLL	**Cerro Villicun**	**7.95**	**33**	*eP*	**Pn**	**08 23 05.6**	**-1.0**
SUCO	**SUCO**	**8.50**	**59**	AML	AML	08 26 30.1	
	comp=Z,52nm,0.7s						
AVFE	**Valle Fertil**	**8.97**	**36**	*eP*	**Pn**	**08 23 18.6**	**-2.1**
AVFE				AML	AML	08 25 26.2	
	comp=Z,40nm,0.8s						
LCO	**Las Campanas**	**9.38**	**16**	*ePn*	**Pn**	**08 23 24.6**	**-1.8**
CYA	**Choya**	**11.61**	**36**	AML	AML	08 27 38.5	
	comp=Z,19nm,0.8s						
LVC	**Limon Verde**	**15.95**	**16**	Pn	**Pn**	**08 24 51.8**	**-3.8**
	comp=Z,26nm,0.3s,baz=187,slow=12,SNR=12						
LVC	**Limon Verde**	**15.95**	**16**	*ePn*	**Pn**	**08 24 54.8**	**-0.8**
	comp=Z,66nm,1.0s						
USHA	**Ushuaia**	**17.09**	**170**	P	**Pn**	**08 25 08.0**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=325,slow=10,SNR=18						
EFI	**East Falkland**	**17.40**	**146**	P	**P**	**08 25 14.6**	**0.0**
	comp=Z,799nm,0.5s,SNR=12						
EFI	**East Falkland**	**17.40**	**146**	⇓*eP*	**P**	**08 25 14.3**	**-0.3**
EFI				pmax	pmax		
	comp=Z,554nm,1.7s						
EFI	**East Falkland**	**17.40**	**146**	*ePn*	**P**	**08 25 14.6**	**0.0**
	comp=Z,119nm,1.0s						
CPUP	**Villa Florida**	**18.04**	**54**	P	**P**	**08 25 21.7**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=223,slow=12,SNR=25						
CPUP				Lg	Lg	08 30 43.1	
	comp=Z,0.1nm,0.3s,baz=133,slow=19,SNR=4.1						
LPAZ	**La Paz**	**22.25**	**14**	P	**P**	**08 26 09.8**	**+1.5**
	comp=Z,52nm,1.1s,baz=206,slow=10,SNR=74						
SIV	**San Ignacio**	**24.62**	**30**	P	**P**	**08 26 31.3**	**+0.3**
	comp=Z,36nm,0.9s,baz=232,slow=12,SNR=48						
NNA	**Nana**	**26.17**	**353**	P	**P**	**08 26 44.8**	**-0.3**
	comp=Z,21nm,0.7s,baz=210,slow=9.4,SNR=7.0						
BB16B	**Bebedouro**	**27.46**	**59**	*eP*	**P**	**08 26 55.2**	**-1.5**
BB16B				*i*		08 26 58.1	
BB16B				*i*		08 27 05.5	
SAML	**Samuel**	**30.50**	**21**	*eP*	**P**	**08 27 23.6**	**-0.1**
	comp=Z,19nm,1.5s						
BDFB	**Brasilia**	**31.74**	**52**	P	**P**	**08 27 34.3**	**-0.5**
	comp=Z,8.1nm,0.8s,baz=201,slow=8.0,SNR=7.9						
OTAV	**Otavalo**	**38.42**	**352**	*eP*	**P**	**08 28 34.3**	**+1.7**
	comp=Z,167nm,1.5s						
PTGA	**Pitinga**	**39.24**	**22**	*eP*	**P**	**08 28 38.8**	**-0.2**
ROSC	**El Rosal**	**42.75**	**359**	P	**P**	**08 29 11.9**	**+3.7**
	comp=Z,17nm,0.9s,baz=219,slow=6.1,SNR=12						
ROSC	**El Rosal**	**42.75**	**359**	*eP*	P	08 29 12.2	+3.9
VNA1	**Neumayer--Stat**	**46.43**	**155**	P	**P**	**08 29 38.4**	**+1.8**
SDV	**Santo Domingo**	**46.83**	**4**	*eP*	**P**	**08 29 40.8**	**+0.2**
	comp=Z,38nm,1.0s						
RCBR	**Riachuelo**	**46.90**	**56**	*eP*	**P**	**08 29 42.1**	**+1.1**
	comp=Z,87nm,1.4s						
SNAA	**Sanae**	**48.29**	**156**	P	**P**	**08 29 51.5**	**+0.3**
	comp=Z,13nm,1.0s,baz=280,slow=6.4,SNR=68						
JTS	**JuntasAbangare**	**49.31**	**345**	*c iP*	**P**	**08 30 00.8**	**+1.3**
JTS				pmax	pmax		
	comp=Z,52nm,1.7s						
JTS	**JuntasAbangare**	**49.31**	**345**	*ePn*	**P**	**08 30 01.4**	**+1.9**
	comp=Z,161nm,2.4s						
QSPA	**South Pole Qui**	**52.14**	**180**	P	**P**	**08 30 20.7**	**+0.2**
	comp=Z,7.9nm,0.8s,baz=161,slow=2.4,SNR=33						
QSPA	**South Pole Qui**	**52.14**	**180**	*eP*	**P**	**08 30 20.8**	**+0.2**
	comp=Z,21nm,1.1s						
NVL	**N'lazarevskaya**	**53.07**	**156**	⇑*iP*	**P**	**08 30 27.8**	**+0.7**
NVL				*eS*	**S**	**08 37 56.9**	**+1.8**
NVL				pmax	pmax		
	comp=Z,30nm,1.0s						
OBIP	**Obispado Ponce**	**56.23**	**8**	*eP*	**P**	**08 30 50.3**	**-0.3**
	comp=Z,24nm,0.8s						
OBIP				*epP*	**pP**	**08 30 57.9**	**-1.2**
SBA	**Scott Base**	**58.81**	**192**	*eP*	P	08 31 13.5	+5.4
SBA				pmax	pmax		
	comp=Z,218nm,2.9s						
SBA	**Scott Base**	**58.81**	**192**	*eP*	P	08 31 13.5	+5.4
	comp=Z,218nm,2.9s						
TEIG	**Tepich**	**59.65**	**344**	*eP*	**P**	**08 31 15.1**	**+0.6**
	comp=Z,47nm,1.4s						
VNDA	**Vanda**	**59.84**	**192**	P	**P**	**08 31 15.2**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=142,slow=6.7,SNR=4.1						
SYO	**Syowa Base**	**62.52**	**158**	⇓*eP*	**P**	**08 31 32.4**	**-1.0**
SYO	**Syowa Base**	**62.52**	**158**	⇓*epP*	P	08 31 37.6	+4.2
035A	**Encino**	**68.67**	**337**	P	**P**	**08 32 15.1**	**+1.5**
	baz=69						
034A	**Hebbronville**	**68.97**	**336**	P	**P**	**08 32 17.0**	**+1.5**
	baz=69						
934A	**Benavides**	**69.42**	**336**	P	**P**	**08 32 20.0**	**+1.7**
	baz=70						
MAW	**Mawson**	**69.60**	**164**	P	**P**	**08 32 18.8**	**-0.2**
	comp=Z,4.9nm,0.7s,baz=211,slow=8.0,SNR=15						
933A	**Laredo**	**69.67**	**336**	P	**P**	**08 32 20.8**	**+1.0**
	baz=70,SNR=8.5						
TIGA	**Tifton**	**69.82**	**351**	P	**P**	**08 32 21.7**	**+1.1**
	baz=70						
TIGA	**Tifton**	**69.82**	**351**	*eP*	**P**	**08 32 20.9**	**+0.3**
	comp=Z,30nm,1.0s						
835A	**Beeville**	**69.85**	**337**	P	**P**	**08 32 23.1**	**+2.2**
	baz=70						
737A	**Port Lavaca**	**69.88**	**339**	P	**P**	**08 32 22.9**	**+1.9**
	baz=70						
834A	**Tilden**	**69.92**	**337**	P	**P**	**08 32 22.9**	**+1.6**
	baz=70,SNR=7.8						
736A	**Circle Diamond**	**70.24**	**338**	P	**P**	**08 32 25.4**	**+2.1**
	baz=71						
SLBS	**Sierra La Lagu**	**70.32**	**325**	*eP*	**P**	**08 32 25.9**	**+1.9**
	comp=Z,16nm,1.1s						
833A	**Chaparral WMA,**	**70.37**	**336**	P	**P**	**08 32 25.2**	**+1.1**
	baz=71,SNR=14						
735A	**Kenedy**	**70.37**	**338**	P	**P**	**08 32 25.3**	**+1.3**
	baz=71,SNR=6.0						
637A	**Eagle Lake**	**70.49**	**339**	P	**P**	**08 32 26.0**	**+1.3**
	baz=71						
832A	**Faith Ranch, C**	**70.52**	**335**	P	**P**	**08 32 25.6**	**+0.6**
	baz=71,SNR=12						
540A	**Vidor**	**70.59**	**341**	P	**P**	**08 32 27.3**	**+1.9**
	baz=71						
734A	**La Parita Cree**	**70.59**	**337**	P	**P**	**08 32 26.3**	**+0.9**
	baz=71,SNR=5.5						
733A	**Divot King Ran**	**70.70**	**336**	P	**P**	**08 32 26.7**	**+0.6**
	baz=71						
636A	**Smothers Creek**	**70.74**	**338**	P	**P**	**08 32 28.0**	**+1.8**
	baz=71,SNR=6.0						
HKT	**Hockley**	**70.83**	**340**	*eP*	**P**	**08 32 26.9**	**+0.1**
HKT				pmax	pmax		
	comp=Z,35nm,1.8s						
HKT	**Hockley**	**70.83**	**340**	*eP*	**P**	**08 32 26.9**	**+0.1**
	comp=Z,35nm,1.8s						
732A	**Laxson Ranch,**	**70.93**	**336**	P	**P**	**08 32 28.4**	**+0.9**
	baz=71,SNR=23						
634A	**China Grove, S**	**71.03**	**337**	P	**P**	**08 32 28.5**	**+0.4**
	baz=71						
440A	**Kirbyville**	**71.09**	**342**	P	**P**	**08 32 29.8**	**+1.4**
	baz=72						
536A	**Bastrop**	**71.30**	**339**	P	**P**	**08 32 30.8**	**+1.2**
	baz=72						
439A	**Center Grove,**	**71.35**	**341**	P	**P**	**08 32 31.0**	**+1.0**
	baz=72						
633A	**Saathoff Ranch**	**71.36**	**337**	P	**P**	**08 32 30.7**	**+0.6**
	baz=72,SNR=11						
535A	**Dale**	**71.40**	**338**	P	**P**	**08 32 30.8**	**+0.5**
	baz=72,SNR=6.4						
438A	**Sam Houston St**	**71.49**	**340**	P	**P**	**08 32 32.1**	**+1.3**
	baz=72						
632A	**Uvalde**	**71.59**	**336**	P	**P**	**08 32 32.5**	**+1.0**
	baz=72,SNR=15						
534A	**Blanco**	**71.67**	**337**	P	**P**	**08 32 32.2**	**+0.2**
	baz=72,SNR=6.0						
340A	**Bronson**	**71.72**	**342**	P	**P**	**08 32 33.0**	**+0.8**
	baz=72,SNR=5.3						
VBMS	**Vicksburg**	**71.73**	**345**	P	**P**	**08 32 33.5**	**+1.3**
	baz=72						
437A	**Phantom Ranch,**	**71.75**	**340**	P	**P**	**08 32 33.0**	**+0.7**
	baz=72						
GOGA	**Godfrey**	**71.75**	**351**	*eP*	**P**	**08 32 32.5**	**+0.2**
GOGA				pmax	pmax		
	comp=Z,24nm,1.0s						
GOGA	**Godfrey**	**71.75**	**351**	*eP*	**P**	**08 32 32.5**	**+0.2**
	comp=Z,24nm,1.0s						
631A	**Perdido Creek**	**71.76**	**335**	P	**P**	**08 32 33.1**	**+0.6**
	baz=72,SNR=6.9						
339A	**Huntington**	**71.81**	**341**	P	**P**	**08 32 33.5**	**+0.8**
	baz=72,SNR=5.4						
436A	**Wall Ranch, Ga**	**71.87**	**339**	P	**P**	**08 32 33.9**	**+0.8**
	baz=72						
LRAL	**Lakeview Retre**	**71.87**	**348**	*eP*	**P**	**08 32 33.0**	**-0.1**
	comp=Z,20nm,0.9s						
533A	**Kerrville**	**71.88**	**337**	P	**P**	**08 32 33.6**	**+0.3**
	baz=72,SNR=10						
338A	**Crockett**	**72.02**	**341**	P	**P**	**08 32 35.4**	**+1.4**
	baz=72,SNR=6.5						
435B	**Jarrell**	**72.11**	**338**	P	**P**	**08 32 35.5**	**+0.9**
	baz=72						
532A	**Rocksprings**	**72.21**	**336**	P	**P**	**08 32 36.2**	**+0.9**
	baz=73,SNR=25						
NATX	**Nacogdoches**	**72.24**	**341**	P	**P**	**08 32 36.5**	**+1.2**
	baz=73						
NATX	**Nacogdoches**	**72.24**	**341**	*eP*	**P**	**08 32 35.5**	**+0.2**
434A	**Burnet**	**72.34**	**338**	P	**P**	**08 32 36.2**	**+0.2**
	baz=73,SNR=24						
239A	**Gary**	**72.44**	**341**	P	**P**	**08 32 37.3**	**+0.8**
	baz=73						
531A	**Rocksprings**	**72.45**	**336**	P	**P**	**08 32 37.4**	**+0.7**
	baz=73,SNR=16						
336A	**Riesel**	**72.47**	**339**	P	**P**	**08 32 37.2**	**+0.5**
	baz=73,SNR=15						
JCT	**Junction City**	**72.50**	**336**	*eP*	**P**	**08 32 38.0**	**+1.0**
JCT				pmax	pmax		
	comp=Z,44nm,1.0s						
JCT	**Junction City**	**72.50**	**336**	P	**P**	**08 32 37.7**	**+0.7**
	baz=73,SNR=27						
JCT	**Junction City**	**72.50**	**336**	*eP*	**P**	**08 32 38.0**	**+1.0**
	comp=Z,44nm,1.0s						
335A	**Moody**	**72.53**	**339**	P	**P**	**08 32 37.5**	**+0.4**
	baz=73						
433A	**Art**	**72.53**	**337**	P	**P**	**08 32 37.4**	**+0.2**
	baz=73,SNR=22						
238A	**Jacksonville**	**72.59**	**341**	P	**P**	**08 32 38.1**	**+0.7**
	baz=73						
530A	**J-C Ranch, Com**	**72.69**	**335**	P	**P**	**08 32 39.0**	**+0.8**
	baz=73,SNR=29						
TXAR	**Lajitas Array**	**72.76**	**333**	P	**P**	**08 32 39.3**	**+0.7**
	comp=Z,6.9nm,0.9s,baz=154,slow=8.1,SNR=72						
237A	**Washetta, Mont**	**72.77**	**340**	P	**P**	**08 32 39.4**	**+0.9**
	baz=73						
334A	**Lometa**	**72.82**	**338**	P	**P**	**08 32 39.4**	**+0.6**
	baz=73,SNR=39						
432A	**Menard**	**72.86**	**337**	P	**P**	**08 32 39.3**	**+0.2**
	baz=73,SNR=11						
431A	**Sonora**	**72.95**	**336**	P	**P**	**08 32 39.9**	**+0.3**
	baz=73,SNR=16						
236A	**Katherine and**	**72.96**	**340**	P	**P**	**08 32 40.1**	**+0.6**
	baz=73						
333A	**Richland Sprin**	**73.03**	**337**	P	**P**	**08 32 40.2**	**+0.1**
	baz=73,SNR=17						
139A	**Bunkhouse Ranc**	**73.05**	**342**	P	**P**	**08 32 40.8**	**+0.7**
	baz=73						
138A	**Matatall Enter**	**73.20**	**341**	P	**P**	**08 32 41.7**	**+0.7**
	baz=74						
WHTX	**Lake Whitney**	**73.21**	**339**	P	**P**	**08 32 41.2**	**+0.1**
	baz=74,SNR=6.6						
WHTX	**Lake Whitney**	**73.21**	**339**	*eP*	**P**	**08 32 41.2**	**+0.1**
	comp=Z,36nm,0.9s						
KMSC	**Kings Mountain**	**73.23**	**353**	P	**P**	**08 32 40.9**	**-0.3**
	baz=74,SNR=6.7						
KMSC	**Kings Mountain**	**73.23**	**353**	*eP*	**P**	**08 32 41.1**	**0.0**
	comp=Z,19nm,0.9s						
430A	**Baggett Ranch,**	**73.25**	**335**	P

228A	UT Block 9, Go baz=75,SNR=12	74.92	335	P	P	08 32 51.5	+0.3
Z32A	Haskell baz=75,SNR=21	75.03	338	P	P	08 32 52.0	+0.3
WVT	Waverly	75.04	348	eP	P	08 32 51.5	-0.1
WVT	comp=Z,31nm,1.0s			pmax	pmax		
WVT	Waverly comp=Z,31nm,1.0s	75.04	348	eP	P	08 32 51.5	-0.1
X38A	Whitesboro baz=75,SNR=13	75.05	342	P	P	08 32 52.3	+0.6
X37A	Clayton baz=76	75.11	342	P	P	08 32 52.4	+0.3
Y34A	Reagan Ranch, baz=76,SNR=8.1	75.14	339	P	P	08 32 52.4	+0.1
129A	Stewart Farms, baz=76,SNR=8.6	75.15	336	P	P	08 32 52.7	+0.2
BLA	Blacksburg	75.21	354	eP	P	08 32 52.9	+0.2
BLA	comp=Z,15nm,0.9s			pmax	pmax		
BLA	Blacksburg comp=Z,15nm,0.9s	75.21	354	eP	P	08 32 52.9	+0.2
VWCC	Virginia Weste	75.21	355	eP	P	08 32 53.0	+0.3
Z31A	Sharp Cattle R baz=76,SNR=19	75.24	337	P	P	08 32 53.5	+0.5
X36A	Centrahoma baz=76,SNR=17	75.34	341	P	P	08 32 53.0	-0.4
X35A	Drake baz=76,SNR=9.7	75.34	340	P	P	08 32 53.4	-0.1
128A	Castleberry Fa baz=76,SNR=17	75.35	335	P	P	08 32 53.8	+0.2
W38A	Poteau baz=76,SNR=10	75.36	342	P	P	08 32 53.7	+0.2
GLAT	Glass	75.42	347	eP	P	08 32 54.7	+0.8
Y33A	Hilltop Ranch, baz=76,SNR=7.3	75.44	339	P	P	08 32 54.2	+0.2
Z30A	Sanderson Ranc baz=76,SNR=6.3	75.52	336	P	P	08 32 54.7	+0.1
JSRW	J. Sargeant Re	75.53	356	eP	P	08 32 54.3	-0.1
W37A	Quinton baz=76,SNR=5.7	75.64	342	P	P	08 32 55.1	0.0
Y32A	R-V Farms, Ver baz=76,SNR=13	75.67	338	P	P	08 32 55.4	0.0
Z29A	Hungry Hill Ra baz=76,SNR=30	75.68	336	P	P	08 32 55.7	+0.2
X34A	Smith Ranch, M baz=76,SNR=13	75.77	340	P	P	08 32 56.3	+0.4
W36A	Wetumka baz=76,SNR=7.0	75.85	341	P	P	08 32 55.7	-0.7
Y31A	Rekieta Farm, baz=76,SNR=13	75.88	337	P	P	08 32 57.0	+0.4
PARMO	Parma	75.89	347	eP	P	08 32 56.9	+0.4
X33A	Lawton baz=76	75.90	339	P	P	08 32 56.6	-0.1
Z28A	Tucker Farm, M baz=76,SNR=6.6	75.92	335	P	P	08 32 57.1	+0.2
Y30A	Stafford Cattl baz=76	75.99	337	P	P	08 32 57.3	0.0
X32A	Elmer baz=76,SNR=10	76.01	338	P	P	08 32 57.5	+0.2
W35A	Tecumseh baz=76,SNR=6.1	76.03	340	P	P	08 32 56.8	-0.5
V38A	Canehill baz=76	76.09	343	P	P	08 32 57.3	-0.4
WMOK	Wichita Mounta	76.16	339	eP	P	08 32 57.9	-0.3
WMOK	comp=Z,34nm,1.4s			pmax	pmax		
WMOK	Wichita Mounta comp=Z,34nm,1.4s	76.16	339	eP	P	08 32 57.9	-0.3
CPRX	Cap Rock comp=Z,3.7nm,0.8s	76.19	334	eP	P	08 32 59.5	+1.0
Y29A	Porterfield Fa baz=77,SNR=11	76.22	336	P	P	08 32 58.9	+0.3
V37A	Hulbert baz=77,SNR=9.7	76.28	342	P	P	08 32 59.0	+0.2
W34A	Bridge Creek, baz=77,SNR=7.1	76.35	340	P	P	08 32 59.4	+0.2
W34A	Bridge Creek, comp=Z,22nm,0.9s	76.35	340	eP	P	08 32 59.3	+0.1
V36A	Jenks baz=77,SNR=31	76.39	341	P	P	08 32 59.5	+0.1
X31A	McDonald Ranch baz=77,SNR=24	76.41	338	P	P	08 33 00.0	+0.4
Y28A	McKinney Farm, baz=77,SNR=9.6	76.45	336	P	P	08 33 00.1	+0.2
W33A	Caddo, Fort Co baz=77,SNR=11	76.46	339	P	P	08 33 00.0	+0.2
TUL1	Tulsa baz=77,SNR=24	76.47	342	P	P	08 32 59.7	-0.2
TUL1	Tulsa comp=Z,47nm,0.9s	76.47	342	eP	P	08 32 59.7	-0.2
X30A	Coker Ranch, T baz=77,SNR=7.6	76.51	337	P	P	08 33 00.4	+0.3
V35A	Meyer Ranch, C baz=77,SNR=14	76.60	341	P	P	08 33 00.4	-0.2
U38A	Gravette baz=77	76.63	343	P	P	08 33 01.0	+0.2
W32A	Sentinel baz=77,SNR=39	76.66	339	P	P	08 33 01.6	+0.7
MSTX	Muleshoe baz=77,SNR=14	76.68	335	P	P	08 33 01.6	+0.4
MSTX	Muleshoe comp=Z,24nm,1.0s	76.68	335	eP	P	08 33 01.4	+0.2
X29A	Tulia baz=77,SNR=11	76.77	336	P	P	08 33 02.0	+0.3
U37A	Salina baz=77,SNR=5.5	76.78	342	P	P	08 33 01.7	+0.1
SIUC	Southern Illin comp=Z,16nm,0.8s	76.82	347	eP	P	08 33 01.8	0.0
V34A	Guthrie baz=77	76.84	340	P	P	08 33 01.8	-0.2
V34A	Guthrie comp=Z,34nm,0.9s	76.84	340	eP	P	08 33 02.6	+0.6
U36A	Oologah baz=77	76.91	342	P	P	08 33 02.6	+0.2
W31A	Holland Ranch, baz=77,SNR=8.8	76.92	338	P	P	08 33 02.5	0.0
X28A	Dimmitt baz=77,SNR=6.8	76.99	336	P	P	08 33 03.4	+0.4
V33A	Lossen Ranch, baz=77,SNR=12	77.04	340	P	P	08 33 03.3	+0.2
W30A	Crocket Farms baz=78	77.10	338	P	P	08 33 04.0	+0.5
U35A	Pawnee baz=78,SNR=22	77.14	341	P	P	08 33 03.9	+0.2
V32A	Arapaho baz=78,SNR=8.7	77.16	339	P	P	08 33 04.3	+0.5
AMTX	Amarillo baz=78	77.17	337	P	P	08 33 04.5	+0.6
AMTX	Amarillo comp=Z,38nm,1.0s	77.17	337	eP	P	08 33 04.6	+0.6
121A	Cookes Peak, D baz=78	77.17	331	P	P	08 33 05.6	+1.5
121A	Cookes Peak, D comp=Z,20nm,1.4s	77.17	331	eP	P	08 33 05.5	+1.4
LIC	Lamto comp=Z,177nm,0.9s	77.24	72	eP	P	08 33 05.9	+1.2
W29A	Amraillo baz=78,SNR=17	77.38	337	P	P	08 33 05.7	+0.6
T37A	Cheneyville 18 baz=78,SNR=9.1	77.41	343	P	P	08 33 04.6	-0.5
U34A	Anderson Ranch baz=78,SNR=7.4	77.42	340	P	P	08 33 04.9	-0.3
U34A	Anderson Ranch comp=Z,22nm,0.9s	77.42	340	eP	P	08 33 05.2	+0.1
V31A	Spring Creek L baz=78,SNR=11	77.44	338	P	P	08 33 06.0	+0.6
TIC	Toumodi	77.52	71	eP	P	08 33 07.3	+1.0
KIC	Kosan Boka comp=Z,252nm,0.9s	77.54	72	eP	P	08 33 07.8	+1.3
U33A	Lingo Farm, Me baz=78,SNR=6.3	77.57	340	P	P	08 33 06.0	0.0
T36A	Boggs Farm, Ca baz=78,SNR=10	77.58	342	P	P	08 33 06.1	0.0
T35A	Sooner Cattle baz=78,SNR=15	77.60	341	P	P	08 33 06.3	+0.1
OLIL	Olney comp=Z,10nm,0.2s	77.62	348	eP	P	08 33 05.8	-0.4
DBIC	Dimbokro comp=Z,76nm,0.8s,baz=197,slow=5.7,SNR=56	77.66	71	P	P	08 33 08.2	+1.1
V30A	Spur Ranch, Mi baz=78	77.67	338	P	P	08 33 07.7	+1.0
W28A	Vega baz=78	77.68	336	P	P	08 33 07.2	+0.4
U32A	Winter Ranch, baz=78,SNR=5.2	77.76	339	P	P	08 33 07.4	+0.3
BLO	Bloomington	77.82	350	eP	P	08 33 06.6	-0.7
BLO	comp=Z,18nm,0.8s			pmax	pmax		
BLO	Bloomington comp=Z,18nm,0.8s	77.82	350	eP	P	08 33 06.6	-0.7
T34A	McClaskey Farm baz=78,SNR=12	77.88	341	P	P	08 33 08.3	+0.6
SLM	Saint Louis	77.89	347	eP	P	08 33 08.2	+0.4
SLM	comp=Z,37nm,0.8s			pmax	pmax		
SLM	Saint Louis comp=Z,36nm,0.8s	77.89	347	eP	P	08 33 08.2	+0.4
U31A	Nine Bar Ranch baz=78	77.99	339	P	P	08 33 09.1	+0.6
S37A	Fort Scott baz=78,SNR=6.5	78.00	343	P	P	08 33 08.2	-0.1
V29A	Stinnett baz=78	78.03	337	P	P	08 33 09.2	+0.5
V28A	Channing baz=78	78.14	337	P	P	08 33 09.6	+0.3
S36A	Lake Cedric, C baz=78,SNR=10	78.14	342	P	P	08 33 08.7	-0.5
TUC	Tucson	78.17	328	eP	P	08 33 10.7	+1.1
TUC	comp=Z,20nm,1.3s			pmax	pmax		
TUC	Tucson comp=Z,20nm,1.3s	78.17	328	eP	P	08 33 10.7	+1.1
T33A	Patterson Ranc baz=79,SNR=12	78.21	340	P	P	08 33 10.3	+0.7
Y22D	IRIS PASSCAL I baz=79	78.22	332	P	P	08 33 10.8	+1.0
S35A	Otter Creek Ra baz=79,SNR=7.8	78.28	342	P	P	08 33 10.2	+0.2
LPM	Los Pinos Moun comp=Z,12nm,1.3s	78.32	333	eP	P	08 33 11.7	+1.1
V27A	Dan Oppiter Fa baz=79	78.33	336	P	P	08 33 11.0	+0.5
U30A	WK&E Inc. Balk baz=79,SNR=5.4	78.38	338	P	P	08 33 11.5	+0.9
ACSO	Alum Creek Sta comp=Z,31nm,0.8s	78.44	353	eP	P	08 33 11.0	+0.2
SSPA	Standing Stone comp=Z,19nm,1.3s	78.46	357	eP	P	08 33 11.2	+0.4
U29A	Oasis Ranch, S baz=79	78.49	338	P	P	08 33 12.0	+0.7
T32A	Huddler Ranch, baz=79	78.49	340	P	P	08 33 12.0	+0.8
S34A	Willow Spring baz=79	78.50	341	P	P	08 33 11.5	+0.3
R37A	Teagarden Farm baz=79,SNR=9.4	78.53	343	P	P	08 33 10.9	-0.4
LAZ	Ladron comp=Z,9.8nm,1.3s	78.59	332	eP	P	08 33 13.6	+1.6
S33A	Kaszmaul Farm, baz=79	78.63	340	P	P	08 33 12.3	+0.4
R36A	Gordon, Harris baz=79	78.69	343	P	P	08 33 12.1	-0.2
U28A	Mallet baz=79	78.71	337	P	P	08 33 13.2	+0.7
214A	Organ Pipe Nat baz=79	78.72	327	P	P	08 33 14.2	+1.6
214A	Organ Pipe Nat comp=Z,30nm,1.2s	78.72	327	eP	P	08 33 14.2	+1.6
T30A	Plains baz=79	78.83	338	P	P	08 33 13.8	+0.8
ANMO	Albuquerque	78.83	333	cP	P	08 33 14.5	+1.2
ANMO	comp=Z,80nm,1.0s			pmax	pmax		
ANMO	Albuquerque comp=Z,18nm,1.0s	78.83	333	eP	P	08 33 14.1	+0.8
R35A	Emporia Munici baz=79	78.86	342	P	P	08 33 13.4	+0.2
U27A	Thompson Grove baz=79,SNR=10	78.94	336	P	P	08 33 14.2	+0.4
Q37A	Longview Farm, baz=79,SNR=5.2	78.98	344	P	P	08 33 13.3	-0.5
S32A	Newby Ranch, P baz=79,SNR=7.4	78.98	340	P	P	08 33 14.5	+0.7
S31A	Mullinville baz=79	79.06	339	P	P	08 33 14.7	+0.4
SFIN	Scholer Farm baz=80	79.08	350	P	P	08 33 13.7	-0.6
R34A	Isabella, Hill baz=80,SNR=15	79.10	341	P	P	08 33 15.0	+0.6
T29A	Hugson baz=80	79.15	338	P	P	08 33 15.2	+0.4
BOSA	Boshof comp=Z,42nm,1.0s,baz=215,slow=4.3,SNR=29	79.25	118	P	P	08 33 15.8	-0.1
Q36A	Arnold C. Orve baz=80	79.29	343	P	P	08 33 15.2	-0.3
R33A	Olander Ranch, baz=80	79.30	341	P	P	08 33 16.2	+0.7
Q35A	Mercer Eighty, baz=80,SNR=5.9	79.33	342	P	P	08 33 15.5	-0.2
S30A	Montezuma baz=80,SNR=5.7	79.35	339	P	P	08 33 16.2	+0.2
T28A	Walsh baz=80,SNR=12	79.36	337	P	P	08 33 16.4	+0.3
T27A	Campo baz=80	79.50	337	P	P	08 33 17.2	+0.4
S29A	Ulysses baz=80	79.53	338	P	P	08 33 17.6	+0.7
R32A	Long Quarter, baz=80,SNR=7.3	79.60	340	P	P	08 33 17.7	+0.6
HDIL	Hopedale baz=80,SNR=11	79.60	348	P	P	08 33 16.8	-0.3
HDIL	Hopedale comp=Z,44nm,1.0s	79.60	348	eP	P	08 33 16.6	-0.5
Q34A	Chapman baz=80	79.61	342	P	P	08 33 17.2	0.0
R31A	Burdett baz=80,SNR=6.9	79.69	340	P	P	08 33 18.3	+0.5
KSU1	Kansas State U baz=80	79.70	342	P	P	08 33 17.8	+0.1
S28A	Manter baz=80,SNR=5.4	79.73	337	P	P	08 33 18.4	+0.3
P36A	Good Intent, A baz=80,SNR=7.0	79.86	343	P	P	08 33 17.9	-0.6
T26A	Comanche Natio baz=80,SNR=12	79.88	336	P	P	08 33 19.8	+0.8
R30A	Dighton baz=80	79.90	339	P	P	08 33 19.6	+0.8
Q33A	Connelly Farm, baz=80	79.91	341	P	P	08 33 19.4	+0.6
P35A	Duane Minner, baz=80,SNR=13	79.96	343	P	P	08 33 18.7	-0.4
QUA2	Belchertown comp=Z,18nm,0.9s	80.01	1	eP	P	08 33 20.2	+0.9
Q32A	Meitler Ranch, baz=80	80.09	340	P	P	08 33 20.3	+0.4
T25A	Trinidad baz=80	80.11	335	P	P	08 33 21.5	+1.3
S27A	Las Animas baz=80	80.12	337	P	P	08 33 20.8	+0.6
P34A	Walnut Farm, R baz=81	80.17	342	P	P	08 33 20.9	+0.6
W18A	Petrified Fore baz=81	80.21	331	P	P	08 33 21.4	+0.6
CBKS	Cedar Bluff baz=81	80.24	340	P	P	08 33 21.7	+1.0
S26A	Kim baz=81,SNR=24	80.25	336	P	P	08 33 21.9	+1.0
HRV	Adam Dziewonsk	80.25	2	eP	P	08 33 21.0	+0.4
HRV	comp=Z,25nm,1.0s			pmax	pmax		
HRV	Adam Dziewonsk comp=Z,25nm,1.0s	80.25	2	eP	P	08 33 21.0	+0.4
R29A	Marienthal baz=81	80.28	338	P	P	08 33 21.7	+0.7
P33A	Williams Farm, baz=81	80.29	341	P	P	08 33 21.3	+0.4
O36A	Bolckow baz=81,SNR=5.9	80.29	344	P	P	08 33 20.4	-0.5
Q31A	Ellis baz=81,SNR=7.2	80.33	340	P	P	08 33 22.1	+0.9
R28A	Tribune baz=81,SNR=12	80.40	338	P	P	08 33 22.3	+0.7
TRY	Troy comp=Z,61nm,1.2s	80.46	360	eP	P	08 33 22.9	+1.3
Q30A	Quinter baz=81,SNR=14	80.53	339	P	P	08 33 22.8	+0.5
GLA	Glamis baz=81	80.54	326	P	P	08 33 24.1	+1.6
O35A	Humboldt baz=81	80.64	343	P	P	08 33 22.1	-0.7
R27A	Eads baz=81,SNR=14	80.64	337	P	P	08 33 23.1	+0.2
Q29A	Oakley baz=81	80.66	339	P	P	08 33 23.6	+0.6
P32A	Huiting Farm, baz=81	80.69	341	P	P	08 33 23.9	+0.8
O34A	Beatrice baz=81,SNR=7.7	80.75	342	P	P	08 33 23.3	0.0
P31A	Stockton baz=81	80.81	340	P	P	08 33 24.5	+0.8
R26A	Arlington baz=81,SNR=17	80.86	337	P	P	08 33 24.9	+0.8
O33A	Hebron baz=81,SNR=6.5	80.86	342	P	P	08 33 24.3	+0.3
SWSC	Sam W. Stewart baz=81	80.88	325	P	P	08 33 26.0	+1.8
Y12C	Blythe baz=81,SNR=5.3	81.00	326	P	P	08 33 26.3	+1.5
SDCO	Great Sand Dun baz=81	81.02	335	P	P	08 33 26.1	+0.9
SDCO	Great Sand Dun comp=Z,10nm,1.0s	81.02	335	eP	P	08 33 25.8	+0.6
BAR	Barrett comp=Z,30nm,1.5s	81.06	324	eP	P	08 33 26.6	+1.4
P30A	Selden baz=82	81.06	339	P	P	08 33 25.7	+0.6
Q28A	Sharon Springs baz=82,SNR=5.5	81.07	338	P	P	08 33 26.0	+0.8
ACCN	Adirondack Com comp=Z,17nm,0.9s	81.11	360	eP	P	08 33 25.9	+0.8
MONP	Monument Peak baz=82	81.12	325	P	P	08 33 27.3	+1.5
N35A	Tabor baz=82,SNR=6.3	81.14	343	P	P	08 33 24.9	-0.5
WUAZ	Wupatki baz=82	81.20	330	P	P	08 33 27.6	+1.5
WUAZ	Wupatki comp=Z,25nm,1.3s	81.20	330	eP	P	08 33 27.4	+1.3
O32A	Brockman Farm, baz=82	81.21	341	P	P	08 33 26.1	+0.3
FFD	Franklin Falls comp=Z,20nm,0.9s	81.21	1	P	P	08 33 27.4	+1.7
KSCO	Kaye Shedlock' baz=82	81.26	337	P	P	08 33 27.2	+0.9
KSCO	Kaye Shedlock' comp=Z,51nm,1.4s	81.26	337	eP	P	08 33 27.1	+0.9
PDMCI	Parker Dam,Lak baz=82	81.30	327	P	P	08 33 27.9	+1.5
P29A	Atwood baz=82	81.31	339	P	P	08 33 27.2	+0.7
N34A	Lincoln baz=82,SNR=7.8	81.32	343	P	P	08 33 26.2	-0.2
BC3	Big Chuckawall baz=82	81.33	326	P	P	08 33 28.1	+1.4
O31A	Woolen Ranch, baz=82	81.38	340	P	P	08 33 27.4	+0.7
Q26A	Hugo baz=82,SNR=7.6	81.45	337	P	P	08 33 28.3	+1.0
N33A	J Bar K, Exete baz=82	81.45	342	P	P	08 33 27.2	+0.1
S22A	4UR Ranch, Cre baz=82	81.47	334	P	P	08 33 29.2	+1.5
P28A	Saint Francis baz=82	81.52	338	P	P	08 33 28.6	+1.1
MVCO	Mesa Verde baz=82	81.59	332	P	P	08 33 29.0	+0.8
MVCO	Mesa Verde comp=Z,29nm,1.3s	81.59	332	eP	P	08 33 29.2	+1.0
O30A	MW Ranch, Wils baz=82	81.61	340	P	P	08 33 28.8	+0.9
IRM	Iron Mountain baz=82	81.62	326	P	P	08 33 29.8	+1.6
N32A	Stulken Farm, baz=82	81.69	341	P	P	08 33 29.0	+0.7
MDV	Middlebury	81.72	0	eP	P	08 33 28.3	0.0
PFO	Pinyon Flat Ob	81.74	325	eP	P	08 33 30.9	+2.0
PFO	comp=Z,21nm,1.3s			pmax	pmax		
PFO	Pinyon Flat Ob baz=82	81.74	325	P	P	08 33 30.2	+1.3
PFO	Pinyon Flat Ob comp=Z,21nm,1.3s	81.74	325	eP	P	08 33 30.9	+2.0
P27A	Ficken Ranch, baz=82	81.75	338	P	P	08 33 30.0	+1.2
O29A	4D Ranch, Culb baz=82	81.76	339	P	P	08 33 29.4	+0.6
NEE2	Needles Airpor baz=82	81.90	327	P	P	08 33 31.2	+1.6
M34A	Aspy Farms, Fr baz=82	81.97	343	P	P	08 33 30.1	+0.3
P26A	Davis Ranch, A baz=82,SNR=6.1	81.98	337	P	P	08 33 31.0	+0.9
Q24A	Divide baz=82	82.01	336	P	P	08 33 31.3	+0.9
O28A	Krutsinger Ran baz=82	82.04	339	P	P	08 33 31.0	+0.7
JFWS	Jewell Farm	82.06	348	eP	P	08 33 30.5	+0.3
JFWS	comp=Z,24nm,1.1s			pmax	pmax		
JFWS	Jewell Farm comp=Z,24nm,1.1s	82.06	348	eP	P	08 33 30.5	+0.3
MURC	Murrieta baz=82	82.07	324	P	P	08 33 32.1	+1.6
M33A	Taylor Creek F baz=83	82.18	342	P	P	08 33 31.1	+0.2
N30A	Hueftle Ranch, baz=83	82.19	340	P	P	08 33 31.7	+0.6
BGNE	Belgrade baz=83	82.26	342	P	P	08 33 31.6	+0.3
BGNE	Belgrade comp=Z,19nm,0.7s	82.26	342	eP	P	08 33 32.1	+0.8
O27A	Beecher Island baz=83	82.30	338	P	P	08 33 32.1	+0.4
L35A	Bielow Farm, R baz=83,SNR=5.8	82.31	344	P	P	08 33 32.0	+0.5
LONY	Lake Ozonia comp=Z,28nm,1.1s	82.35	359	eP	P	08 33 32.5	+0.8
N29A	Votaw Ranch, W baz=83	82.36	340	P	P	08 33 32.8	+0.9
L34A	Svendsen Farm, baz=83	82.36	343	P	P	08 33 31.7	-0.2
GMRC	Granite Mounta baz=83	82.36	326	P	P	08 33 33.2	+1.0
LDFC	Landfair comp=Z,12nm,0.9s	82.38	327	eP	P	08 33 34.1	+1.9
M31A	Lambtecht Ranc baz=83	82.41	341	P	P	08 33 33.5	+1.4
PV01	Paradox Valley comp=Z,803nm,1.0s	82.44	333	eP	P	08 33 33.8	+1.2
N28A	Pribbeno Ranch baz=83	82.49	339	P	P	08 33 33.7	+1.1
O26A	Horse Wrangler baz=83,SNR=5.8	82.60	337	P	P	08 33 34.5	+1.3
HEC	Hector,Ludlow baz=83	82.70	326	P	P	08 33 35.8	+2.0
PV04	Paradox Valley	82.79	333	eP	P	08 33 35.1	+0.8
BFSC	Mount Baldy Ra baz=83	82.81	324	P	P	08 33 36.2	+1.7
SMCO	Snowmass comp=Z,36nm,1.3s	82.81	334	eP	P	08 33 36.2	+1.5
M30A	Dale-Ortello V baz=83	82.82	340	P	P	08 33 35.4	+1.1
OGNE	Ogallala baz=83	82.87	339	P	P	08 33 35.9	+1.3
N27A	Anderson Farm, baz=83	82.89	338	P	P	08 33 36.3	+1.5
ISCO	Idaho Springs	82.92	336	eP	P	08 33 35.9	+0.7
ISCO	comp=Z,18nm,1.4s			pmax	pmax		
ISCO	Idaho Springs baz=83	82.92	336	P	P	08 33 36.5	+1.4
ISCO	Idaho Springs comp=Z,18nm,1.4s	82.92	336	eP	P	08 33 35.9	+0.7
M29A	Burnside Ranch baz=83	82.96	340	P	P	08 33 36.7	+1.7
TUQ	Turquoise Moun baz=83	83.03	326	P	P	08 33 37.5	+1.9
N26A	Koester Ranch, baz=84	83.11	338	P	P	08 33 37.2	+1.3
DECC	Green Verdugo baz=84	83.13	324	P	P	08 33 37.7	+1.6
L31A	Butterfield Fa baz=84,SNR=8.5	83.16	341	P	P	08 33 37.0	+1.0
L30A	Spencer Herefo baz=84	83.17	341	P	P	08 33 37.7	+1.6
GSC	Goldstone baz=84	83.31	326	P	P	08 33 38.6	+1.6
L29A	Maesberg Ranch baz=84	83.48	340	P	P	08 33 39.6	+2.0
EDW2	Edwards Air Fo baz=84	83.49	325	P	P	08 33 39.8	+1.8
M27A	Reverse DX Ran baz=84	83.51	339	P	P	08 33 39.7	+1.8

SHPR **Sheep Range** 83.61 327 *e*P P 08 33 40.2 +1.6
comp=Z,12nm,1.2s
L28A **Connealy Angus** 83.71 339 P P 08 33 40.0 +1.1
baz=84
CCUT **Cedar City** 83.76 329 *e*P P 08 33 41.0 +1.6
comp=Z,21nm,1.3s
K30A **Basset** 83.82 341 P P 08 33 40.1 +0.8
baz=84,SNR=6.6
M25A **Palm-Egli Farm** 83.92 337 P P 08 33 41.2 +1.1
baz=84
SRU **San Rafael** 84.01 332 *e*P P 08 33 41.6 +0.9
SRU pmax pmax
comp=Z,10.0nm,0.9s
SRU **San Rafael** 84.01 332 *e*P P 08 33 41.6 +0.9
comp=Z,9.7nm,0.9s
N23A **Red Feather La** 84.02 336 P P 08 33 41.7 +0.9
baz=84,SNR=5.5
K29A **Lazy Trails An** 84.08 341 P P 08 33 42.1 +1.4
baz=84
ECSD **EROS Data Cent** 84.10 343 P P 08 33 40.9 +0.2
baz=84,SNR=49
ECSD **EROS Data Cent** 84.10 343 *e*P P 08 33 40.9 +0.2
comp=Z,39nm,0.9s
O20A **White River Ci** 84.10 334 P P 08 33 42.0 +0.9
baz=84,SNR=7.2
O20A **White River Ci** 84.10 334 *e*P P 08 33 41.8 +0.7
comp=Z,45nm,1.6s
MSU **Marysvale** 84.12 331 *e*P P 08 33 42.4 +1.1
MSU pmax pmax
comp=Z,17nm,1.3s
MSU **Marysvale** 84.12 331 *e*P P 08 33 42.4 +1.1
comp=Z,17nm,1.3s
MVU **Marysvale** 84.12 330 *e*P P 08 33 42.9 +1.5
comp=Z,17nm,1.3s
L26A **Underwood Farm** 84.18 338 P P 08 33 42.6 +1.3
baz=85
PHWY **Pilot Hill** 84.23 336 *e*P P 08 33 42.8 +0.9
comp=Z,16nm,1.3s
MPMC **Manual Prospec** 84.25 326 P P 08 33 43.3 +1.4
baz=85
FURC **Furnace Creek,** 84.31 326 P P 08 33 43.4 +1.5
baz=85
K28A **Ten Mile Ranch** 84.32 340 P P 08 33 43.3 +1.3
baz=85,SNR=9.2
PKM **Peak Mountain** 84.36 323 P P 08 33 44.0 +1.5
baz=85
ISA **Isabella** 84.36 325 *e*P P 08 33 44.3 +1.9
ISA pmax pmax
comp=Z,19nm,1.4s
ISA **Isabella** 84.36 325 P P 08 33 43.5 +1.2
baz=85
ISA **Isabella** 84.36 325 *e*P P 08 33 44.3 +1.9
comp=Z,19nm,1.4s
J30A **Dallas** 84.40 341 P P 08 33 42.6 +0.3
baz=85
TMUT **Trail Mountain** 84.43 332 *e*P P 08 33 44.2 +1.3
comp=Z,24nm,1.1s
TPNV **Topopah Spring** 84.45 327 P P 08 33 44.1 +1.2
baz=85,SNR=9.5
DAC **Darwin (Calif)** 84.47 326 *e*P P 08 33 44.5 +1.4
DAC pmax pmax
comp=Z,18nm,1.3s
DAC **Darwin (Calif)** 84.47 326 *e*P P 08 33 44.5 +1.4
comp=Z,18nm,1.3s
L25A **Engebretsen Ra** 84.55 338 P P 08 33 44.3 +1.1
baz=85
K27A **Flueckinger Fa** 84.55 339 P P 08 33 44.0 +0.8
baz=85,SNR=7.7
J29A **Okreek** 84.69 341 P P 08 33 44.4 +0.6
baz=85,SNR=9.6
SPMN **St. Paul** 84.75 346 P P 08 33 43.6 -0.3
baz=85,SNR=9.7
SPMN **St. Paul** 84.75 346 *e*P P 08 33 43.6 -0.3
comp=Z,19nm,0.9s
CWC **Cottonwood Cre** 84.83 325 P P 08 33 45.8 +0.9
baz=85
K25A **Mack Ranch, Ha** 84.94 338 P P 08 33 46.5 +1.4
baz=85
J28A **Allard Ranch,** 84.95 340 P P 08 33 45.9 +0.8
baz=85,SNR=8.1
GRAC **Grapevine Rang** 84.98 326 P P 08 33 47.1 +1.7
baz=85
COWI **Conover** 84.99 349 *e*P P 08 33 45.4 +0.3
comp=Z,11nm,0.9s
J27A **Elkhorn Farm,** 85.00 340 P P 08 33 46.4 +1.0
baz=85,SNR=6.7
I29A **Vivian Onida** 85.26 341 P P 08 33 47.5 +0.9
baz=86
NLU **North Lily Min** 85.33 331 *e*P P 08 33 48.7 +1.4
comp=Z,32nm,1.6s
R11A **Troy Canyon, C** 85.35 328 P P 08 33 48.9 +1.4
baz=86,SNR=16
R11A **Troy Canyon, C** 85.35 328 *e*P P 08 33 48.6 +1.1
comp=Z,15nm,1.3s
J26A **Sides Ranch, S** 85.35 339 P P 08 33 48.2 +1.1
baz=86,SNR=9.4
I28A **Midland** 85.46 340 P P 08 33 48.0 +0.4
baz=86,SNR=12
K23A **Bowen Ranch, D** 85.60 337 P P 08 33 49.2 +0.7
baz=86,SNR=6.7
J25A **Sunshine Ranch** 85.63 338 P P 08 33 49.5 +0.9
baz=86
JLU **Jordanelle** 85.66 332 *e*P P 08 33 49.7 +0.7
comp=Z,16nm,1.3s
I27A **Quinn** 85.77 340 P P 08 33 49.5 +0.3
baz=86
K22A **Casper** 85.79 336 P P 08 33 49.8 +0.3
baz=86,SNR=7.2
K22A **Casper** 85.79 336 *e*P P 08 33 50.2 +0.8
comp=Z,21nm,1.1s
H29A **Onida** 85.80 341 P P 08 33 49.5 +0.3
baz=86
TPH **Tonopah** 85.81 327 *e*P P 08 33 51.0 +1.2
TPH pmax pmax
comp=Z,23nm,1.2s
TPH **Tonopah** 85.81 327 *e*P P 08 33 51.0 +1.2
comp=Z,23nm,1.2s
DUG **Dugway** 85.82 331 *e*P P 08 33 50.7 +1.0
DUG pmax pmax
comp=Z,35nm,1.4s
DUG **Dugway** 85.82 331 P P 08 33 50.8 +1.2
baz=86,SNR=8.5
DUG **Dugway** 85.82 331 *e*P P 08 33 50.7 +1.0
comp=Z,35nm,1.4s
J24A **Dixon Ranch, L** 85.83 338 P P 08 33 50.3 +0.7
baz=86,SNR=7.2
I26A **New Underwood** 85.95 339 P P 08 33 50.1 -0.1
baz=86
G30A **Faulkton** 86.01 342 P P 08 33 50.4 +0.2
baz=86
H28A **Mission Ridge** 86.05 341 P P 08 33 50.7 +0.1
baz=86
TCUT **Toone Canyon** 86.10 332 *e*P P 08 33 52.2 +1.1
comp=Z,48nm,1.4s
I25A **Rochford** 86.19 339 P P 08 33 52.1 +0.7
baz=87,SNR=8.7
G29A **Hoven** 86.26 342 P P 08 33 51.3 -0.2
baz=87
H27A **Howes** 86.29 340 P P 08 33 51.7 0.0
baz=87
I24A **Kuemmerle Ranc** 86.30 338 P P 08 33 52.2 +0.2
baz=87
RSSD **Black Hills** 86.37 339 *e*P P 08 33 52.6 +0.2
RSSD pmax pmax
comp=Z,7.0nm,0.9s
RSSD **Black Hills** 86.37 339 *e*P P 08 33 52.6 +0.2
comp=Z,7.3nm,0.9s
G28A **Parade** 86.40 341 P P 08 33 52.7 +0.5
baz=87,SNR=5.9
J22A **Midwest** 86.46 337 P P 08 33 52.7 -0.1
baz=87
H26A **Fairpoint** 86.47 340 P P 08 33 52.5 -0.2
baz=87
NVAR **Mina Array Bea** 86.58 326 P P 08 33 54.6 +1.0
comp=Z,2.5nm,0.9s,baz=150,slow=6.4,SNR=16
HWUT **Hardware Ranch** 86.58 332 *e*P P 08 33 54.0 +0.5
comp=Z,50nm,1.4s
F30A **Leola** 86.64 342 P P 08 33 53.5 +0.1
baz=87
H25A **Fruitdale** 86.70 339 P P 08 33 54.5 +0.7
baz=87
J21A **Lysite** 86.71 336 P P 08 33 54.4 +0.4
baz=87
TOB5 **Torodi Ar. Sit** 86.74 71 *e*P P 08 33 53.9 -0.7
TORD **Torodi Ar. Bea** 86.75 71 P P 08 33 55.0 +0.4
comp=Z,8.1nm,0.6s,baz=219,slow=4.5,SNR=82
F29A **Eureka** 86.83 342 P P 08 33 54.5 +0.1
baz=87

BW06 **Boulder Array** 86.89 334 *e*P P 08 33 55.2 +0.2
comp=Z,23nm,1.4s
PDAR **Pinedale Array** 86.89 334 P P 08 33 55.4 +0.4
comp=Z,4.1nm,0.9s,baz=134,slow=4.3,SNR=27
I22A **9 Mile Ranch,** 86.89 337 P P 08 33 54.9 +0.1
baz=87
J20A **Shoshoni** 86.92 336 P P 08 33 55.9 +0.9
baz=87,SNR=15
G27A **Dupree** 86.95 340 P P 08 33 55.0 +0.1
baz=87
G26A **Maurine** 87.05 340 P P 08 33 55.5 +0.1
baz=87
I21A **Big Trails, Te** 87.08 336 P P 08 33 55.8 0.0
baz=88
F28A **McLaughlin** 87.09 341 P P 08 33 55.6 0.0
baz=88
H24A **Dirks Ranch, A** 87.09 338 P P 08 33 55.7 0.0
baz=88
WAKR **Walker** 87.14 326 *e*P P 08 33 58.1 +1.9
comp=Z,18nm,1.4s
EYMN **Ely** 87.15 348 P P 08 33 55.8 0.0
baz=88
J19A **Crowheart** 87.16 335 P P 08 33 56.3 +0.1
baz=88,SNR=13
H23A **Clabaugh Cattl** 87.17 338 P P 08 33 56.2 +0.1
baz=88
G25A **Newell** 87.18 339 P P 08 33 56.5 +0.4
baz=88
CMB **Columbia Colle** 87.18 325 *e*P P 08 33 56.2 -0.1
CMB pmax pmax
comp=Z,7.0nm,1.1s
CMB **Columbia Colle** 87.18 325 *e*P P 08 33 56.2 -0.1
comp=Z,7.3nm,1.1s
ELK **Elko** 87.24 330 *e*P P 08 33 57.7 +0.9
ELK pmax pmax
comp=Z,8.0nm,1.0s
ELK **Elko** 87.24 330 *e*P P 08 33 57.7 +0.9
comp=Z,8.1nm,1.0s
E30A **Jud** 87.24 343 P P 08 33 56.3 0.0
baz=88
AHID **Auburn Hatcher** 87.43 333 *e*P P 08 33 58.4 +0.8
F27A **Lemmon** 87.43 341 P P 08 33 57.4 +0.2
baz=88,SNR=5.7
I20A **Worland** 87.47 336 P P 08 33 58.3 +0.7
baz=88,SNR=7.6
E29A **Napoleon** 87.48 342 P P 08 33 57.7 +0.2
baz=88
H22A **Clearmont** 87.49 337 P P 08 33 58.6 +1.0
baz=88
F26A **Lodgepole** 87.58 340 P P 08 33 58.2 +0.2
baz=88
G24A **Alzada** 87.58 339 P P 08 33 58.2 +0.1
baz=88
H21A **Big Horn, Sher** 87.73 337 P P 08 33 58.5 -0.3
baz=88
E28A **Huff** 87.74 342 P P 08 33 58.4 -0.3
baz=88
D30A **Buchanan** 87.78 343 P P 08 33 59.3 +0.5
baz=88
E27A **Carson** 87.83 341 P P 08 33 59.3 +0.2
baz=88
I19A **Meeteetse** 87.83 335 P P 08 33 59.9 +0.4
baz=88
F25A **Bowman** 87.86 340 P P 08 33 59.6 +0.3
baz=88
REDW **Red Top Meadow** 87.86 334 *e*P P 08 33 59.9 +0.2
comp=Z,20nm,1.3s
H20A **Greybull** 87.91 336 P P 08 33 59.5 -0.2
baz=88
SNOW **Snow King Moun** 87.92 334 *e*P P 08 34 00.4 +0.4
comp=Z,6.7nm,1.0s
D29A **Pettibone, Tap** 87.93 343 P P 08 33 59.9 +0.3
baz=88
LOHW **Long Hollow** 88.00 334 *e*P P 08 34 00.7 +0.4
comp=Z,5.8nm,1.0s
TPAW **Teton Pass** 88.01 334 *e*P P 08 34 00.2 -0.2
comp=Z,12nm,1.1s
G22A **Birney** 88.03 338 P P 08 34 00.1 -0.2
baz=88
F24A **Ekalaka** 88.06 339 P P 08 33 59.8 -0.5
baz=88
E26A **Carlson Angus** 88.10 340 P P 08 34 00.6 +0.2
baz=88,SNR=6.4
F23A **Volborg** 88.23 338 P P 08 34 01.0 -0.1
baz=89
C30A **Mose, Pekin** 88.28 343 P P 08 34 01.7 +0.5
baz=89,SNR=7.3
AGMN **Agassiz Nation** 88.28 345 P P 08 34 01.3 +0.1
baz=89
AGMN **Agassiz Nation** 88.28 345 *e*P P 08 34 00.8 -0.4
comp=Z,19nm,1.1s
D28A **Regan** 88.29 342 P P 08 34 01.6 +0.3
baz=89
G21A **Lodge Grass** 88.32 337 P P 08 34 01.8 +0.2
baz=89
IMW **Indian Meadow** 88.36 334 *e*P P 08 34 03.0 +0.9
comp=Z,16nm,1.3s
E25A **Miller Ranch,** 88.38 340 P P 08 34 02.1 +0.3
baz=89
H19A **Powell** 88.39 336 P P 08 34 02.4 +0.4
baz=89
FLWY **Flagg Ranch** 88.44 334 *e*P P 08 34 03.5 +1.2
comp=Z,66nm,1.7s
D27A **Center** 88.45 341 P P 08 34 02.5 +0.4
baz=89
F22A **Rosebud** 88.53 338 P P 08 34 02.4 -0.1
baz=89
D26A **Manning** 88.61 341 P P 08 34 03.4 +0.6
baz=89
G20A **Bridger** 88.63 336 P P 08 34 03.1 0.0
baz=89
MDND **Maddock** 88.67 343 P P 08 34 03.4 +0.4
baz=89
MDND **Maddock** 88.67 343 *e*P P 08 34 03.7 +0.6
comp=Z,82nm,1.3s
E24A **Baker** 88.68 339 P P 08 34 02.4 -0.8
baz=89
C28A **Hausauer Farms** 88.73 342 P P 08 34 03.8 +0.5
baz=89
F21A **Ahtanum Mine,** 88.83 337 P P 08 34 04.2 +0.2
baz=89
RLMT **Red Lodge** 88.88 336 P P 08 34 04.4 0.0
baz=89
RLMT **Red Lodge** 88.88 336 *e*P P 08 34 04.8 +0.4
comp=Z,26nm,1.5s
B30A **Myrvik Farm, E** 88.95 344 P P 08 34 04.3 0.0
baz=89,SNR=24
D25A **Fairfield** 88.95 340 P P 08 34 04.8 +0.3
baz=89
C27A **Sayler Ranch,** 89.00 342 P P 08 34 05.0 +0.3
baz=89
YMR **Madison River** 89.05 334 *e*P P 08 34 05.8 +0.6
comp=Z,32nm,1.4s
B29A **Wagenman Farm,** 89.19 343 P P 08 34 06.0 +0.5
baz=90
D24A **Glendive** 89.19 340 P P 08 34 06.0 +0.4
baz=90
C26A **Warner Farm, P** 89.26 341 P P 08 34 06.5 +0.7
baz=90
HLID **Hailey** 89.33 332 P P 08 34 07.5 +1.1
baz=90
HLID **Hailey** 89.33 332 *e*P P 08 34 07.5 +1.1
comp=Z,20nm,1.3s
QLMT **Earthquake Lak** 89.35 334 *e*P P 08 34 08.5 +1.9
comp=Z,2.8nm,1.3s
A30A **Hoffart Farm,** 89.41 344 P P 08 34 06.2 -0.3
baz=90,SNR=7.3
B28A **Dugan Ranch, T** 89.41 343 P P 08 34 07.1 +0.6
baz=90
B27A **Peters Farms,** 89.59 342 P P 08 34 07.5 +0.1
baz=90
A29A **Manning Farm,** 89.59 343 P P 08 34 07.4 0.0
baz=90
C24A **Savage** 89.60 340 P P 08 34 07.9 +0.4
baz=90
LSZ **Lusaka** 89.66 109 *e*P P 08 34 10.4 +1.6
LSZ pmax pmax
comp=Z,19nm,1.0s
LSZ **Lusaka** 89.66 109 *e*P P 08 34 10.4 +1.6
comp=Z,19nm,1.0s
MFID **Camas Ranch** 89.74 331 *e*P P 08 34 09.0 +0.7
comp=Z,16nm,1.3s
MCMT **McKenzie Canyo** 89.84 333 *e*P P 08 34 10.2 +1.3
comp=Z,5.8nm,1.2s
B25A **Knox Farm, Ray** 89.94 341 P P 08 34 09.2 +0.2
baz=90
WVOR **Wild Horse Val** 90.04 328 *e*P P 08 34 10.3 +0.5
WVOR pmax pmax
comp=Z,21nm,1.4s
WVOR **Wild Horse Val** 90.04 328 *e*P P 08 34 10.3 +0.5
comp=Z,21nm,1.4s
A27A **Ledoux Ranch,** 90.09 342 P P 08 34 09.9 +0.2
baz=90
BOZ **Bozeman (W)** 90.13 334 *e*P P 08 34 10.3 +0.2
BOZ pmax pmax
comp=Z,11nm,1.5s
BOZ **Bozeman (W)** 90.13 334 P P 08 34 10.7 +0.5
baz=90
BOZ **Bozeman (W)** 90.13 334 *e*P P 08 34 10.3 +0.2
comp=Z,11nm,1.5s
ULM **Lac du Bonnet** 90.15 346 P P 08 34 09.6 -0.3
comp=Z,5.6nm,0.9s,baz=172,slow=7.1,SNR=5.1
DLMT **Dillon** 90.22 334 *e*P P 08 34 11.5 +1.0
comp=Z,12nm,1.3s
A26A **Wade Farm, Ken** 90.23 342 P P 08 34 11.1 +0.7
baz=91
MOD **Modoc** 90.31 327 *e*P P 08 34 11.2 +0.1
comp=Z,10nm,1.3s
DGMT **Dagmar** 90.40 340 P P 08 34 11.6 +0.4
baz=91
A25A **Svangstu Ranch** 90.55 341 P P 08 34 12.3 +0.5
baz=91
LRM **Limekiln Ridge** 90.57 334 *e*P P 08 34 13.3 +1.0
comp=Z,118nm,1.5s
B22A **Reddig Ranch S** 90.74 339 P P 08 34 12.9 +0.2
baz=91
A24A **Westby** 90.76 340 P P 08 34 13.4 +0.6
baz=91
M04C **Macdoel** 90.88 326 P P 08 34 14.7 +1.0
baz=91
M02C **Callahan** 91.01 325 P P 08 34 15.5 +1.2
baz=91
B21A **Ellsworth Farm** 91.15 338 P P 08 34 14.8 +0.2
baz=92
A22A **Carney Farms,** 91.34 339 P P 08 34 15.9 +0.3
baz=92
BMO **Blue Mountains** 91.52 331 *e*P P 08 34 17.2 +0.6
comp=Z,9.0nm,1.4s
CHMT **Chamberlain Mo** 91.79 334 *e*P P 08 34 18.2 +0.3
comp=Z,8.6nm,1.8s
J05D **Fort Rock, OR** 91.83 327 P P 08 34 19.3 +1.2
baz=92
MSO **Missoula** 91.96 334 P P 08 34 20.0 +1.4
baz=92
L02D **Cave Junction,** 91.96 325 P P 08 34 20.5 +1.9
baz=92
SLMT **Seeley Lake** 92.16 334 *e*P P 08 34 20.1 +0.5
comp=Z,12nm,1.4s
SWMT **Swartz Lake** 92.56 334 *e*P P 08 34 21.6 +0.3
comp=Z,5.6nm,1.3s
I05D **Terrebonne, OR** 92.73 328 P P 08 34 23.7 +1.5
baz=93
JTMT **Jette** 92.86 334 *e*P P 08 34 23.3 +0.5
comp=Z,5.6nm,1.2s
BLMT **Blacktail Moun** 93.12 334 *e*P P 08 34 24.5 +0.5
comp=Z,21nm,1.5s
BSMT **Bassoo Peak** 93.13 334 *e*P P 08 34 23.9 -0.2
comp=Z,5.5nm,1.1s
NEW **Newport** 94.31 332 *e*P P 08 34 28.3 -1.0
NEW pmax pmax
comp=Z,5.0nm,1.2s
NEW **Newport** 94.31 332 *e*P P 08 34 28.3 -1.0
comp=Z,5.5nm,1.2s
ESDC **Sonseca Array** 100.28 47 P Pdif 08 34 57.5 +1.0
comp=Z,0.2nm,0.3s,baz=256,slow=4.3,SNR=4.5
GERES **GERESS Array B** 115.88 47 PKP PKPdf 08 39 52.6 +0.2
comp=Z,2.5nm,0.7s,baz=222,slow=1.8,SNR=12
KHC **Kasperske Hory** 115.94 47 *e*PKP PKPdf 08 39 53.0 +0.5
KHC *ex* x 08 39 58.7
KHC *ep*PKP PKiKP 08 40 02.9 +10
KHC **Kasperske Hory** 115.94 47 *e*PKIKP PKPdf 08 39 53.0 +0.5
KHC *e* 08 40 02.9
TRIZ **Trizonia** 116.15 61 *e*P PKKPdf 08 50 47.5 -1.4
KALE **Kalithea** 116.21 61 *e*P PKKPdf 08 50 50.0 +1.1
THAL **Thalero** 116.40 61 *e*P PKKPdf 08 50 49.0 +0.6
MAKR **Makrakomi, Fth** 116.50 60 *e*P PKKPdf 08 50 49.0 +0.7
DIDY **Didyma** 116.51 62 *e*P PKKPdf 08 50 51.0 +2.7
WRA **Warramunga Arr** 116.59 209 PKP PKPdf 08 39 53.6 -1.1
comp=Z,0.9nm,0.9s,baz=174,slow=1.7,SNR=4.7
LOUT **Loutraki** 116.59 61 *e*P PKKPdf 08 50 51.5 +3.4
WRAB **Tennant Creek** 116.59 210⇑ *i*PKIKP PKPdf 08 39 54.7 0.0
VIL2 **Platees** 116.90 61 *e*P SP 08 50 43.5 -0.5
GOPC **GO Pecny, Ondr** 117.01 46 *e*PKP PKPdf 08 39 54.8 +0.3
TREC **Trest** 117.12 47 *e*PKP PKPdf 08 39 55.2 +0.5
TREC *ep*PKP pPKPdf 08 40 04.0 0.0
TREC **Trest** 117.12 47 *e*PKIKP PKPdf 08 39 55.2 +0.5
TREC *e* 08 40 04.0
PVCC **Panska Ves** 117.17 46 *e*PKP PKPdf 08 39 55.4 +0.7
PVCC *ep*PKP pPKPdf 08 40 04.4 +0.4
PVCC **Panska Ves** 117.17 46 *e*PKIKP PKPdf 08 39 55.4 +0.7
PVCC *e* 08 40 04.4
ILAR **Eielson Array** 117.27 332 PKP PKPdf 08 39 54.6 +0.1
comp=Z,0.5nm,0.9s,baz=185,slow=4.0,SNR=6.5
EREA **Eretria** 117.46 61 *e*P SP 08 50 47.5 -1.6
UPC **Upice** 117.98 46 *e*PKP PKPdf 08 39 56.8 +0.5
UPC *ep*PKP pPKPdf 08 40 06.1 +0.5
UPC **Upice** 117.98 46 *e*PKIKP PKPdf 08 39 56.8 +0.5
UPC *e* 08 40 06.1
DPC **Dobruska-Polom** 118.09 47 *e*PKP PKPdf 08 39 56.4 -0.2
DPC *ep*PKP pPKPdf 08 40 06.4 +0.6
DPC **Dobruska-Polom** 118.09 47 *e*PKIKP PKPdf 08 39 56.4 -0.2
DPC *e* 08 40 06.4
KRLC **Kraliky** 118.23 47 *e*PKP PKPdf 08 39 57.4 +0.5
KRLC *ep*PKP pPKPdf 08 40 05.9 -0.2
KRLC **Kraliky** 118.23 47 *e*PKIKP PKPdf 08 39 57.4 +0.5
KRLC *e* 08 40 05.9
NOA **NORSAR Array B** 120.12 34 PKP PKPdf 08 40 00.5 +0.4
comp=Z,1.6nm,0.9s,baz=258,slow=1.8,SNR=4.0
UZH **Uzhgorod** 120.88 50 *e*PKIKP PKPdf 08 40 08.2 +6.3
UZH *e* 08 40 17.2
H11S2 **WAKE ISLAND Hyl** 124.41 267 T T 10 56 30.2
baz=121
H11S1 **WAKE ISLAND Hyl** 124.42 267 T T 10 56 31.3
baz=121
H11S3 **WAKE ISLAND Hyl** 124.42 267 T T 10 56 33.8
baz=121
BRTR **Keskin Array B** 124.83 64 PKP PKPdf 08 40 10.4 +0.4
comp=Z,3.8nm,0.8s,baz=204,slow=3.2,SNR=17
KIEV **Kiev** 125.81 50⇓ *i*PKIKP PKPdf 08 40 10.9 -0.4
KIEV **Kiev** 125.81 50 *e*PKPdf PKPdf 08 40 11.2 -0.1
AKASG **Malin Array Be** 125.82 50 PKP PKPdf 08 40 11.1 -0.3
comp=Z,2.5nm,0.6s,baz=262,slow=2.5,SNR=13
RAYN **Ar Rayn** 126.56 87 *e*PKPdf PKPdf 08 40 14.1 +0.4
VSU **Vasula** 126.65 40⇑ *e*PKIKP PKPdf 08 40 12.9 +0.3
FINES **FINESS Array B** 127.04 36 PKP PKPdf 08 40 14.2 +0.9
comp=Z,5.2nm,0.9s,baz=180,slow=1.4,SNR=7.7
APA **Apatity** 130.98 29⇓ *i*PKIKP PKPdf 08 40 22.0 +1.3
APA pmax pmax
comp=Z,18nm,1.0s
OBN **Obninsk** 131.22 46⇓ *i*PKIKP PKPdf 08 40 21.9 +0.5
OBN 08 40 32.0
OBN pmax pmax
comp=Z,47nm,2.0s
VSR **Storozhevoye** 132.02 51 *e*PKIKP PKPdf 08 40 24.0 +0.9
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR pmax pmax
comp=N,7.0nm,0.9s
NEY **Neytrino** 132.44 63⇑ *e*PKIKP PKPdf 08 40 25.5 +1.1
KIV **Kislovodsk** 132.61 62⇓ *i*PKIKP PKPdf 08 40 25.7 +1.1
KIV 08 40 33.0
KIV *e* 08 42 48.9
KIV pmax pmax
comp=Z,23nm,1.9s
KBZ **Khabaz** 132.69 62 PKP PKPdf 08 40 25.4 +0.8
comp=Z,3.4nm,0.9s,baz=252,slow=3.2,SNR=7.0
TMCR **Tamitsa** 132.81 34 *e*PKIKP PKPdf 08 40 24.2 0.0
TMCR pmax pmax
comp=Z,21nm,1.4s
PRGR **Permogore** 136.36 37 *e*PKIKP PKPdf 08 40 28.9 -2.0
PRGR pmax pmax
comp=Z,23nm,1.2s
GEYT **Alibeck** 142.28 75 PKhKP PKPpre 08 40 39.8
comp=Z,1.9nm,0.5s,baz=225,slow=1.8,SNR=3.6
IEMG **Emamgholi** 142.54 76 *e*P PKPdf 08 40 40.0 -3.4
IMOG **Moghan** 142.69 78 *e*P PKPdf 08 40 38.9 -4.8
SEY **Seymchan** 142.88 327 PKP PKPdf 08 40 43.8 +1.0
comp=Z,5.8nm,0.9s,baz=75,slow=4.5,SNR=5.0
SEY **Seymchan** 142.88 327 *de*PKIKP PKPdf 08 40 44.3 +1.5
IMYA **Miami** 143.35 78 *e*P PKPbc 08 40 42.4 +0.5
ARU **Arti** 143.60 44 *i* PKIKP PKPbc 08 40 41.5 -0.2

AKTO	**Aktyubinsk**	**143.83**	**54**	PKIKP	PKPbc	08 40 43.4	+0.8
AKTO				pmax	pmax		
	comp=Z,69nm,1.6s						
SVE	**Sverdlovsk**	**144.65**	**43**	*e*PKIKP	**PKPdf**	**08 40 45.9**	**-0.2**
SVE				pmax	pmax		
	comp=Z,109nm,1.6s						
MA2	**Magadan**	**144.71**	**322**	*e*PKIKP	**PKPdf**	**08 40 45.8**	**-0.3**
AB31	**Akbulak array**	**145.09**	**56**	*i* PKIKP	**PKPab**	**08 40 46.8**	**+0.1**
AB31				pmax	pmax		
	comp=Z,85nm,0.8s						
ABKAR	**Akbulak array**	**145.09**	**56**	*e*PKPbc	**PKPab**	**08 40 46.8**	**+0.1**
URV	**Uravakonda**	**145.41**	**124**	*e*PKPdf	**PKPbc**	**08 40 48.1**	**-0.5**
SKHT	**Srikalahasti**	**146.07**	**128**	*e*PKIKP	**PKPdf**	**08 40 49.4**	**-0.3**
RCLA	**Racherla**	**146.89**	**125**	*e*PKPbc	**PKPbc**	**08 40 52.5**	**-0.5**
KLRI	**Killari**	**147.18**	**119**	*e*PKPbc	**PKPdf**	**08 40 52.0**	**+0.4**
KLRI				*e*PKPab	**PKPbc**	**08 40 53.9**	**+0.1**
SRLM	**Srisailam**	**147.32**	**125**	*e*PKPbc	**PKPbc**	**08 40 53.8**	**-0.5**
ADKI	**Addanki**	**147.83**	**126**	*e*PKPbc	**PKPbc**	**08 40 54.5**	**-1.1**
NJS	**Nagarjunasagar**	**147.92**	**125**	*e*PKPdf	**PKPdf**	**08 40 52.6**	**-0.2**
HYB	**Hyderabad**	**148.05**	**122**	*i* PKP	**PKPbc**	**08 40 56.0**	**-0.2**
HYBB	**Hyderabad (bro**	**148.05**	**122**	*e*PKPbc	**PKPbc**	**08 40 55.9**	**-0.3**
SRSP	**Sriramsagar**	**148.97**	**120**	*e*PKPbc	**PKPbc**	**08 40 58.4**	**-0.1**
RPR	**Rampur**	**149.57**	**121**	*e*PKPdf	**PKPdf**	**08 40 55.9**	**+0.4**
PVM	**Polavaram**	**149.92**	**127**	*e*PKPdf	**PKPdf**	**08 40 56.1**	**+0.1**
PVM				*e*PKIKP	**PKiKP**	**08 41 01.5**	**-0.3**
BRVK	**Borovoye**	**150.98**	**47**	*e*PKIKP	**PKPbc**	**08 41 02.4**	**+0.1**
BRVK	**Borovoye**	**150.98**	**47**	*e*PKPbc	**PKPbc**	**08 41 02.4**	**+0.1**
ERM	**Erimo**	**151.77**	**290**	*e*PKIKP	**PKPbc**	**08 41 04.6**	**+0.1**
ERM	**Erimo**	**151.77**	**290**	*e*PKPbc	**PKPbc**	**08 41 04.6**	**+0.1**
YSS	**Yuzh-Sakhalins**	**152.03**	**300**	*e*PKIKP	**PKPbc**	**08 41 04.1**	**-0.8**
YAK	**Yakutsk**	**152.09**	**337**	*e*PKIKP	**PKPbc**	**08 41 04.1**	**-0.5**
YAK				pmax	pmax		
	comp=Z,38nm,1.0s						
ASAJ	**Asahikawa**	**152.26**	**294**	PKP	**PKPdf**	**08 40 58.8**	**0.0**
	comp=Z,1.0nm,0.3s,baz=24,slow=19						
ASAJ				PKPbc	**PKPbc**	**08 41 05.1**	**-0.5**
	baz=264,slow=10						
ASAJ	**Asahikawa**	**152.26**	**294**	PKIKP	**PKPdf**	**08 40 58.8**	**0.0**
ASAJ						08 41 05.1	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**152.26**	**294**	PKP	**PKPdf**	**08 40 58.8**	**0.0**
ASAJ				PKPbc	**PKPbc**	**08 41 05.1**	**-0.5**
ASAJ				*e*PKPbc	**PKiKP**	**08 41 05.8**	**-0.1**
CHLP	**Challavanipeta**	**152.38**	**129**	*e*PKiKP	**PKiKP**	**08 41 06.9**	**+0.1**
KK31	**Karatay Array**	**152.41**	**68**	*i* PKIKP	**PKPdf**	**08 40 59.8**	**+0.7**
KK31				pmax	pmax		
	comp=Z,6.0nm,0.7s						
EKS2	**Erkin-Say**	**154.80**	**69**	*e*PKIKP	**PKPdf**	**08 41 03.8**	**+1.1**
EKS2	**Erkin-Say**	**154.80**	**69**	*e*PKPdf	**PKPdf**	**08 41 03.8**	**+1.1**
FRU	**Bishkek**	**155.42**	**69**	*e*PKIKP	**PKPdf**	**08 41 04.0**	**+0.6**
FRU				pmax	pmax		
	comp=Z,40nm,2.0s						
TKM2	**Tokmak 2**	**156.14**	**69**	*e*PKIKP	**PKPdf**	**08 41 05.0**	**+0.4**
TKM2	**Tokmak 2**	**156.14**	**69**	*e*PKPdf	**PKPdf**	**08 41 05.0**	**+0.4**
KSH	**Kashi**	**156.27**	**77**	PKP	**PKPdf**	**08 41 03.1**	**-1.7**
KSH				pPKP	**pPKPdf**	**08 41 14.0**	**-0.1**
KSH				PKS	**PKSdf**	**08 44 36.1**	**-2.7**
KSH				SKS	**SKSdf**	**08 48 04.1**	**-5.0**
KSH				SKKS	**SKKSac**	**08 51 54.1**	**-4.3**
KSH				SS	**SS**	**09 04 53.0**	**-6.9**
KSH				PPMZ			
	comp=Z,270nm,5.0s						
NVS	**Novosibirsk**	**157.03**	**36**	*e*PKIKP	**PKPdf**	**08 41 04.9**	**-0.1**
NVS				*e*		08 45 13.5	
NVS				pmax	pmax		
	comp=Z,21nm,1.5s						
NVS				pmax	pmax		
	comp=N,2.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.5s						
ZALV	**Zalesovo Beam**	**158.31**	**36**	PKP	**PKPdf**	**08 41 06.5**	**-0.2**
	comp=E,7.4nm,1.0s,baz=287,slow=2.5,SNR=16						
ZALV				PKPab	**PKPab**	**08 41 42.0**	**+1.0**
	comp=E,19nm,1.0s,baz=308,slow=5.5,SNR=14						
CMAR	**Chiang Mai Arr**	**159.36**	**159**	PKP	**PKPdf**	**08 41 09.7**	**+0.6**
	comp=E,0.8nm,0.3s,baz=246,slow=2.8,SNR=8.6						
CMAR				PKPab	**PKPab**	**08 41 46.1**	**-0.4**
	comp=E,0.7nm,0.4s,baz=229,slow=4.2,SNR=4.3						
BOD	**Bodaibo**	**159.66**	**348**	*e*PKP2	**PKPab**	**08 41 45.6**	**-1.2**
BOD				pmax	pmax		
	comp=E,8.0nm,1.3s						
MKAR	**Makanchi Array**	**160.24**	**56**	PKP	**PKPdf**	**08 41 09.2**	**-0.1**
	comp=Z,5.1nm,1.1s,baz=284,slow=2.4,SNR=21						
MKAR				PKPab	**PKPab**	**08 41 50.2**	**+0.4**
	comp=Z,8.1nm,0.7s,baz=290,slow=3.9,SNR=19						
MKAR				PP	**PP**	**08 45 31.2**	**-1.3**
	comp=Z,2.6nm,1.1s,baz=273,slow=5.6,SNR=5.4						
KSRS	**Korea Array**	**163.00**	**274**	PKP	**PKPdf**	**08 41 11.8**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=48,slow=1.8,SNR=5.5						
KSRS				PKPab	**PKPab**	**08 42 02.4**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=103,slow=5.5,SNR=4.2						
KSRS	**Korea Array**	**163.00**	**274**	PKIKP	**PKPdf**	**08 41 11.8**	**-0.5**
KSRS						08 42 02.4	
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSAR	**Wonju Array Be**	**163.03**	**274**	PKIKP	**PKPdf**	**08 41 11.8**	**-0.6**
KSAR						08 42 02.4	
KSAR	**Wonju Array Be**	**163.03**	**274**	PKP	**PKPdf**	**08 41 11.8**	**-0.6**
KSAR				PKPab	**PKPab**	**08 42 02.4**	**+0.1**
WMQ	**Urumqi**	**164.74**	**62**	*e*PKP	**PKPdf**	**08 41 14.8**	**+0.9**
KMI	**Kunming**	**166.68**	**165**	PKP	**PKPdf**	**08 41 15.4**	**-0.8**
ZAK	**Zakamensk**	**167.52**	**9**	*e*PKP2	**PKPab**	**08 42 21.1**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
NJ2	**Nanjing**	**168.18**	**243**	*e*PKP	**PKPdf**	**08 41 18.3**	**+1.5**
GYA	**Guiyang**	**168.39**	**181**	*e*PKP	**PKPdf**	**08 41 17.0**	**-0.3**
GYA				PKPab	**PKPab**	**08 42 29.3**	**+3.2**
GYA				PKS	**PKSdf**	**08 44 48.8**	**-1.2**
GYA				PP	**PP**	**08 46 18.0**	**+3.9**
GYA				SKKS		08 53 01.4	
GYA				SS	**SS**	**09 07 06.8**	**+3.8**
GYA				PPMZ			
	comp=Z,130nm,8.0s						
GYA				LN			
	comp=Z,340nm,23.9s						
GYA				LE			
	comp=Z,280nm,24.8s						
GYA				LZ			
	comp=Z,320nm,22.2s						
SONM	**Songino Array**	**170.27**	**0**	PKP	**PKPdf**	**08 41 17.2**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=284,slow=1.2,SNR=6.3						
SONM				PKPab	**PKPab**	**08 42 35.2**	**+1.2**
	comp=Z,6.4nm,0.9s,baz=338,slow=3.4,SNR=17						
SONM				PP	**PP**	**08 46 23.4**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=18,slow=5.0,SNR=5.0						
CD2	**Chengdu**	**172.49**	**162**	PKP	**PKPdf**	**08 41 19.8**	**+0.5**
CD2				pPKP	**pPKPdf**	**08 41 27.3**	**-1.3**
CD2				sPKP		08 41 29.9	
CD2				PP	**PP**	**08 46 36.4**	**+1.7**
CD2				SKS	**SKSdf**	**08 48 21.6**	**+0.9**
CD2				SKKS	**SKKSac**	**08 53 21.3**	**+1.2**
CD2				SS	**SS**	**09 07 47.5**	**+3.8**
CD2				PPMZ			
	comp=Z,110nm,7.8s						
GTA	**Gaotai**	**174.66**	**74**	*e*PKP	**PKPdf**	**08 41 20.8**	**+0.9**
GTA				pPKP	**pPKPdf**	**08 41 27.8**	**-1.4**
GTA				sPKP		08 41 31.3	
GTA				PKPab	**PKPab**	**08 42 54.9**	**+1.0**
GTA				PP	**PP**	**08 46 47.9**	**+1.1**
HHC	**Hu-ho-hao-te**	**175.18**	**306**	*e*PKP	**PKPdf**	**08 41 17.3**	**-2.7**
HHC				PP	**PP**	**08 46 49.0**	**+0.1**
HHC				SKS	**SKSdf**	**08 48 15.0**	**-6.1**
HHC				SS	**SS**	**09 08 06.8**	**-4.8**
HHC				PPMZ			
	comp=Z,60nm,11.1s						
HHC				LN			
	comp=Z,140nm,14.8s						
HHC				LE			
	comp=Z,980nm,17.3s						
HHC				LZ			
	comp=Z,130nm,13.6s						
XAN	**Xi'an**	**175.47**	**207**	PKP	**PKPdf**	**08 41 19.1**	**-1.1**
XAN				pPKP	**pPKPdf**	**08 41 29.9**	**+0.4**
LZH	**Lanzhou**	**177.11**	**133**	*e*PKP	**PKPdf**	**08 41 17.9**	**-2.8**

NNC ***14*** *08:21:25.4±2.5,54.°04N×86.°76E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=18.6km s-min=16.6km az=37.0*
IDC 14 08:21:21.7±2.9, 54.°55N×86.°54E, h0km, mb1 3.3/2, mb1mx3.1/30, mbtmp3.3/2, ML3.0/2, 8C-1D, *Error ellipse:*

s-maj=22.6km s-min=14.7km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.17**	**240**	*i*		08 29 00.0	
	baz=58,slow=313,SNR=4.7						
ZALV	**Zalesovo Beam**	**1.17**	**240**	Pg	Pg	08 21 42.9	-1.3
	3.1nm,0.3s,baz=59,slow=17,SNR=16						
ZALV				Lg	Lg	08 22 00.7	
	3.8nm,0.3s,baz=56,slow=28,SNR=6.6						
KURK	**Kurchatov**	**6.16**	**235**	⇑Pn	Pn	08 22 55.1	+1.3
	0.6nm,0.3s						
KURK				⇑Sn	Sn	08 24 05.7	+0.8
	0.8nm,0.5s						
KURK				⇑Lg	Lg	08 24 39.1	
	7.2nm,1.0s						
KURBB	**Kurchatov Arra**	**6.26**	**234**	⇑Pn	Pn	08 22 56.7	+1.4
	2.5nm,0.3s						
KURBB				⇓Sn	Sn	08 24 07.0	-0.4
	11nm,0.8s						
KURBB				⇑Lg	Lg	08 24 45.2	
	11nm,0.7s						
KURBB	**Kurchatov Arra**	**6.26**	**234**	Pn	Pn	08 22 56.3	+1.0
	0.3nm,0.3s,baz=52,slow=14,SNR=28						
KURBB				Sn	Sn	08 24 06.0	-1.5
	0.1nm,0.3s,baz=50,slow=22,SNR=5.2						
KURBB				Lg	Lg	08 24 42.5	
	0.1nm,0.3s,baz=48,slow=29,SNR=7.0						
MK31	**Makanchi Array**	**8.21**	**201**	⇑Pn	Pn	08 23 23.0	+0.9
	0.4nm,0.5s,baz=27,slow=14,SNR=7.1						
MK31				⇑Sn	Sn	08 24 55.3	-0.3
	0.2nm,0.5s,baz=27,slow=27,SNR=2.7						
MK31				⇑Lg	Lg	08 25 34.9	
	0.9nm,0.8s,baz=26,slow=33,SNR=5.2						
MKAR	**Makanchi Array**	**8.21**	**201**	Pn	Pn	08 23 22.9	+0.9
	0.2nm,0.3s,baz=22,slow=12,SNR=8.2						
MKAR				Sn	Sn	08 24 54.4	-1.2
	0.2nm,0.3s,baz=21,slow=20,SNR=6.1						
MKAR				Lg	Lg	08 25 40.7	
	0.0nm,0.3s,baz=24,slow=29,SNR=2.9						

PRU 14 08:23:50.2, 48.°97N×18.°47E, h0km, Slovakia, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.89**	**346**	*e*SG	Sg	08 24 18.6	-0.4
	comp=Z,6.9nm,0.4s						
KRLC	**Kraliky**	**1.56**	**316**	*e*PG	Pn	08 24 17.4	-1.9

ISCJB ***14*** *08:25:14.2±0.3, 1.°52N±0.°04×126.°59E±0.°04, h47km, mb4.2/20, Error ellipse: s-maj=6.4km s-min=6.0km az=12.9*
NEIC ***14*** *08:25:16.2±1.3, 1.°40N×126.°45E, h54km±13km, mb4.3/2, Error ellipse: s-maj=15.1km s-min=9.3km az=63.0*
IDC ***14*** *08:25:16.9±4.0, 1.°34N×126.°30E, h63km±39km, mb3.9/16, mb1 4.0/17, mb1mx3.9/25, mbtmp4.2/17, ML3.5/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/37, Error ellipse: s-maj=28.3km s-min=12.4km az=85.0*
DJA ***14*** *08:25:18.0±0.9, 1.°N±2.°×12.°6E±.°, h29km±12km, M4.4/13, mb4.5/7, mB5.2/2, MLv4.4/13, Mw(mB)4.6/2*
ISC 14 08:25:16.0±0.5, 1.°47N±0.°05×126.°49E±0.°05, h47km, n49, σ2s 02/49, mb4.2/20, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.12**	**128**	P	**Pn**	**08 25 36.7**	**+1.4**
TNTI				S	**Sn**	**08 25 54.7**	**+5.1**
TNTI	**Ternate**	**1.12**	**128**	*e*Pn	**Pn**	**08 25 36.0**	**+0.7**
LBMI	**Labuha**	**2.32**	**154**	P	**Pn**	**08 25 54.4**	**+2.5**
LBMI				S	**Sn**	**08 26 22.6**	**+3.4**
SGSI	**Sangihe**	**2.40**	**337**	P	**Pn**	**08 25 55.3**	**+2.4**
SGSI				S	**Sn**	**08 26 25.2**	**+4.0**
KMSI	**Cibinong**	**2.66**	**251**	P	**Pn**	**08 25 58.1**	**+1.7**
KMSI				S	**Sn**	**08 26 31.2**	**+3.8**
SANI	**Sanana**	**3.53**	**188**	P	**Pn**	**08 26 10.8**	**+2.4**
LUWI	**Luwuk**	**4.47**	**236**	P	Pn	08 26 24.8	+3.4
LUWI	**Luwuk**	**4.47**	**236**	P	**Pn**	**08 26 23.6**	**+2.2**
	baz=4.1,SNR=3.6						
MRSI	**Marisa**	**4.65**	**258**	P	**Pn**	**08 26 25.9**	**+2.1**
SWI	**Sorong**	**5.30**	**116**	P	**Pn**	**08 26 35.7**	**+2.9**
	23nm,0.8s,0.1nm						
SWI	**Sorong**	**5.30**	**116**	P	Pn	08 26 41.0	+8.2
	baz=5.4,SNR=3.2						
SIJI	**Sorong**	**5.31**	**116**	P	**Pn**	**08 26 35.8**	**+2.8**
	1.4nm,0.3s,baz=333,slow=16,SNR=4.0						
APSI	**Ampana**	**5.38**	**244**	P	**Pn**	**08 26 36.6**	**+2.7**
	103nm,1.1s,1μm0.5nm						
MPSI	**Mapaga**	**6.68**	**260**	P	**Pn**	**08 26 54.5**	**+2.8**
	16nm,0.8s,0.4nm						
TTSI	**Tana Toraja**	**8.03**	**236**	P	**Pn**	**08 27 12.6**	**+2.4**
	34nm,0.8s,3μm0.2nm						
SPSI	**Sidrap Palu**	**8.61**	**231**	P	**Pn**	**08 27 18.6**	**+0.4**
	24nm,0.8s						
KAPI	**Kappang**	**9.31**	**226**	LR	LR	08 31 04.7	
	comp=Z,120nm,19.9s,baz=321,slow=38						
KKM	**Kota Kinabalu**	**11.21**	**294**	Pn	**Pn**	**08 27 52.0**	**-1.9**
MTN	**Manton Dam**	**14.95**	**162**	P	**Pn**	**08 28 44.3**	**-0.1**
	baz=15,SNR=4.8						
KSM	**Kuching**	**16.17**	**270**	*e*P	**P**	**08 29 02.0**	**-0.8**
WRAB	**Tennant Creek**	**22.62**	**160**	*e*P	**P**	**08 30 11.1**	**-2.1**
	15nm,0.6s						
WRA	**Warramunga Arr**	**22.63**	**160**	P	**P**	**08 30 11.2**	**-2.0**
	9.4nm,0.5s,baz=337,slow=10,SNR=65						
MBWA	**Marble Bar**	**23.44**	**196**	*e*P	**P**	**08 30 22.8**	**+1.5**
	161nm,1.8s						
QIS	**Mount Isa**	**25.38**	**150**	P	**P**	**08 30 39.3**	**+0.1**
	baz=25,SNR=7.8						
AS31	**Alice Springs**	**26.00**	**164**	*e*P	**P**	**08 30 43.1**	**-1.7**
WRKA	**Warakurna**	**26.41**	**176**	P	**P**	**08 30 48.2**	**-0.2**
	baz=26,SNR=16						
MEEK	**Meekatharra**	**28.96**	**195**	P	P	08 31 02.3	-8.8
	baz=29,SNR=4.3						
CMAR	**Chiang Mai Arr**	**31.86**	**304**	P	**P**	**08 31 35.5**	**-1.5**
	0.5nm,0.3s,baz=129,slow=7.1,SNR=4.0						
BLDU	**Ballidu**	**33.24**	**195**	P	**P**	**08 31 47.5**	**-1.3**
	baz=33,SNR=6.9						
NWAO	**Narrogin (SRO)**	**35.31**	**194**	P	**P**	**08 32 04.9**	**-1.9**
	4.6nm,0.5s,baz=331,slow=3.9,SNR=5.7						
KSAR	**Wonju Array Be**	**35.82**	**2**	P	**P**	**08 32 12.1**	**+1.0**
KSRS	**Korea Array**	**35.84**	**2**	P	**P**	**08 32 12.1**	**+0.9**
	1.6nm,0.9s,baz=183,slow=10,SNR=5.4						
STKA	**Stephens Creek**	**36.12**	**158**	P	**P**	**08 32 13.0**	**-0.8**
	8.5nm,0.8s,baz=333,slow=8.2,SNR=8.9						
STKA	**Stephens Creek**	**36.12**	**158**	P	**P**	**08 32 13.4**	**-0.4**
	baz=36,SNR=8.6						
MJAR	**Matsushiro Arr**	**36.55**	**16**	P	**P**	**08 32 16.8**	**-0.6**
	1.2nm,0.4s,baz=184,slow=10,SNR=7.4						
ARPS	**Mount Arapiles**	**40.63**	**161**	P	**P**	**08 32 51.2**	**-0.4**
	baz=41,SNR=6.4						
USRK	**Ussuriysk Ar.**	**42.83**	**6**	P	**P**	**08 33 10.2**	**+0.8**
	0.9nm,0.5s,baz=200,slow=8.3,SNR=5.0						
ASAJ	**Asahikawa**	**44.81**	**16**	P	**P**	**08 33 26.4**	**+1.0**
	2.9nm,0.4s,baz=219,slow=6.5						
SONM	**Songino Array**	**49.36**	**342**	P	**P**	**08 34 00.6**	**-0.3**
	0.7nm,0.6s,baz=148,slow=8.5,SNR=3.5						
MK31	**Makanchi Array**	**59.27**	**326**	P	**P**	**08 35 11.9**	**-1.0**
	baz=60,SNR=5.4						
MKAR	**Makanchi Array**	**59.27**	**326**	P	**P**	**08 35 11.8**	**-1.2**
	1.9nm,0.5s,baz=122,slow=7.4,SNR=23						
ZALV	**Zalesovo Beam**	**62.49**	**334**	P		**08 35 33.3**	**-1.3**
	0.9nm,0.4s,baz=150,slow=6.0,SNR=4.1						
SEY	**Seymchan**	**64.28**	**13**	P	**P**	**08 35 47.9**	**+1.6**
	1.5nm,0.7s,baz=262,slow=2.4,SNR=5.2						
ABKAR	**Akbulak array**	**73.74**	**321**	*e*P	**P**	**08 36 44.0**	**-1.3**
	1.1nm,0.6s						
AKTO	**Aktyubinsk**	**75.28**	**322**	P	**P**	**08 36 53.2**	**-1.0**
	2.7nm,0.7s,baz=98,slow=7.1,SNR=11						
VNDA	**Vanda**	**81.23**	**173**	P	**P**	**08 37 25.0**	**-1.5**
	1.0nm,0.5s,baz=318,slow=8.3,SNR=8.3						
MAW	**Mawson**	**81.56**	**200**	P	**P**	**08 37 27.0**	**-1.4**
	0.6nm,0.5s,baz=62,slow=4.9,SNR=4.5						
ILAR	**Eielson Array**	**87.24**	**25**	P	**P**	**08 37 55.8**	**-1.5**
	0.2nm,0.4s,baz=248,slow=4.6,SNR=8.3						
FINES	**FINESS Array B**	**93.70**	**332**	P	**P**	**08 38 29.5**	**+2.0**
	1.0nm,0.6s,baz=69,slow=6.3,SNR=4.9						

SJA ***14*** *08:31:52.9±3.0, 38.°54S×77.°10W, h171km±93km, ML6.4, MW6.6*
IDC ***14*** *08:32:17.6±0.4, 38.°12S×73.°43W, h0km, mb5.4/26, mb1 5.4/29, mb1mx5.4/31, mbtmp5.3/29, ML4.8/3, MS6.5/22, Ms1 6.5/22, ms1mx6.3/29, Error ellipse: s-maj=15.7km s-min=11.4km az=86.0*
GUC ***14*** *08:32:17.2±0.7, 38.°11S×74.°13W, h27km±3km, ML6.6*
ISCJB ***14*** *08:32:18.1±1.3, 38.°03S±0.°02×73.°50W±0.°04, h11km±8km, mb5.8/251, MS6.5/209, Error ellipse: s-maj=5.3km s-min=3.5km az=171.8*
NEIC ***14*** *08:32:21.5±0.1, 38.°07S×73.°31W, h22km, mb5.9/195, ME6.1, MS6.5/154, MW6.5, MW6.5, MW6.5, ML6.6(GUC), Error ellipse: s-maj=5.6km s-min=3.2km az=67.0, Moment Tensor Solution. s62 Moment tensor: Scale 1018Nm; Mrr3.58; Mθθ-0.69; Mϕϕ-2.88; Mrθ-0.33; Mθϕ0.50; Mϕr-5.96; Best double couple: M0 6.80000×1018 NP1:ϕs181.00000°, δ76.00000°, λ95.00000°. NP2:ϕs342.00000°, δ15.00000°, λ72.00000°. Principal axes: T 7.1700, Plg58.0000°, Azm97.0000°; N -0.7200, Plg4.0000°, Azm359.0000°; P -6.4400, Plg30.0000°, Azm267.0000°; Broadband fault plane solution: P waves. NP1:ϕs360.00000°, δ15.00000°, λ90.00000°. NP2:ϕs180.00000°, δ75.00000°, λ90.00000°. Principal axes: T Plg60.0000°, Azm90.0000°; N Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm270.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [VI] at Angol, Canete, Curarrehue, Queule, Renaico, Temuco, Tolten and Traiguen; [V] at Collipulli; [IV] at Chillan, Concepcion, Curacautin, Linares, Los Angeles, Parral, Penco, Talcahuano, and Villarrica; [III] at Cobquecura, Corral, Curanilahue, Mafil, Panguipulli, Ranco, San Jose and Valdivia. Felt in much of central Chile from Santiago to Osorno. Also felt at Bariloche and Cutral-Co, Argentina.
GCMT ***14*** *08:32:21.5±0.1, 38.°35S×73.°89W, h15km, MW6.6/133, Moment Tensor Solution. s133,c305; s125,c509; Duration: 5s0 Moment tensor: Scale 1019Nm; Mrr0.32±.00; Mθθ0.01±.00; Mϕϕ-0.32±.00; Mrθ0.01±.01; Mθϕ-0.02±.00; Mϕr-1.03±.02; Best double couple: M0 1.07900×1019 NP1:ϕs180.00000°, δ81.00000°, λ89.00000°. NP2:ϕs7.00000°, δ9.00000°, λ97.00000°. Principal axes: T 1.0730, Plg54.0000°, Azm89.0000°; N 0.0110, Plg1.0000°, Azm180.0000°; P -1.0840, Plg36.0000°, Azm271.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
BJI ***14*** *08:32:22.6, 38.°00S×73.°30W, h33km, mB6.3/35, Ms6.8/76, Ms7 6.7/69*
NEIC ***14*** *08:32:22.0±0.0, 38.°00S×73.°28W, h25km, Moment Tensor Solution. s17 Moment tensor: Scale 1018Nm; Mrr2.72; Mθθ0.33; Mϕϕ-3.06; Mrθ0.52; Mθϕ-0.97; Mϕr-6.67; Best double couple: M0 7.40000×1018 NP1:ϕs177.00000°, δ79.00000°, λ81.00000°. NP2:ϕs36.00000°, δ15.00000°, λ128.00000°. Principal axes: T 2.2400, Plg55.0000°, Azm75.0000°; N 0.2300, Plg8.0000°, Azm178.0000°; P -7.4700, Plg32.0000°, Azm274.0000°;*
MOS ***14*** *08:32:22.4±1.1, 37.°98S×73.°45W, h33km, mb6.0/72, MS6.6/61 Error ellipse: s-maj=13.7km s-min=6.8km az=97.0*
NEIC ***14*** *08:32:39.7±0.0, 38.°42S×73.°47W, h29km, Moment Tensor Solution. s102 Moment tensor: Scale 1018Nm; Mrr3.99; Mθθ-0.22; Mϕϕ-3.77; Mrθ0.43; Mθϕ-0.13; Mϕr-5.92; Best double couple: M0 7.10000×1018 NP1:ϕs177.00000°, δ73.00000°, λ87.00000°. NP2:ϕs6.00000°, δ17.00000°, λ99.00000°. Principal axes: T 2.2100, Plg61.0000°, Azm82.0000°; N -0.2400, Plg2.0000°, Azm177.0000°; P -6.9700, Plg28.0000°, Azm269.0000°;*
ISC 14 08:32:21.9±0.5, 38.°06S±0.°03×73.°47W±0.°05, h26km±2km, h25km:pP-P, n1441, σ1s 57/1434, mb5.9/247, MS6.5/212, 63C-21D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSCH	**Puerto Saavedr**	**0.74**	**176**	*e*P	**Pb**	**08 32 33.4**	**-2.7**
PSCH				*e*S	**Sb**	**08 32 45.4**	**-0.4**
U14B	**Concepcin**	**1.24**	**14**	⇓*e*P	**Pn**	**08 32 43.0**	**-0.5**
U14B				AML	AML	08 33 12.7	
	comp=N,1489μm,0.6s						
VLCH	**Valdivia**	**1.75**	**174**	*e*P	**Pn**	**08 32 48.0**	**-2.6**
OSCH	**Osorno**	**2.52**	**174**	*e*P	**Pn**	**08 32 58.7**	**-2.5**
OSCH				*e*S	**Sn**	**08 33 29.8**	**-1.2**
TALC	**Talca**	**3.04**	**29**	*e*P	**Pn**	**08 33 08.8**	**+0.5**
TALC				*e*S	**Sb**	**08 33 49.0**	**-2.9**
PMCH	**Puerto Montt**	**3.45**	**173**	*e*P	Pn	08 33 10.5	-3.4
NICH	**Los Niches**	**3.55**	**31**	*i* P	**Pn**	**08 33 15.9**	**+0.7**
NICH				*e*S	**Sb**	**08 34 03.2**	**-3.3**
PUEL	**Puelo Alto**	**3.71**	**166**	*e*P	**Pn**	**08 33 15.5**	**-1.9**
PUEL				*i* S	**Sn**	**08 34 05.4**	**+5.1**
U73B	**San Pedro**	**4.46**	**22**	⇑*i*P	**Pn**	**08 33 27.0**	**-0.8**
PEL	**Peldehue**	**5.41**	**26**	⇓*i*P	**Pn**	**08 33 40.6**	**-0.3**
PEL				*i* S	Sn	08 34 50.1	+7.8
AAGR	**Agrelo**	**6.24**	**39**	*e*P	**Pn**	**

comp=Z,40nm,0.7s
NNA MLR MLR
comp=Z,69µm,19.6s
NNA Nana 26.14 352 *e*P **P 08 37 54.3 +0.3**
comp=Z,126nm,1.1s
PMSA Palmer Station 27.32 171 *e*P **P 08 38 04.8 +0.6**
comp=Z,163nm,1.2s
PMSA LR LR
comp=Z,109µm,21.0s
BB16B Bebedouro 27.38 59⇑ *i*P P 08 37 56.6 -8.5
BB16B *i* 08 42 58.9
BB16B *i* 08 48 05.2
BB16B *i* 08 49 33.0
HOPE Hope Point 29.88 135 *e*P **P 08 38 26.0 -1.0**
comp=Z,272nm,1.0s
HOPE LR LR
comp=Z,60µm,19.0s
SAML Samuel 30.43 20 *e*P **P 08 38 32.1 -0.2**
comp=Z,79nm,1.6s
SAML LR LR
comp=Z,117µm,22.0s
ATAH Atahualpa 31.11 351 LR LR 08 48 43.8
comp=Z,53µm,21.1s,baz=172,slow=32
BDFB Brasilia 31.66 52 P **P 08 38 42.0 -1.3**
comp=Z,48nm,1.1s,baz=216,slow=9.2,SNR=23
BDFB LR LR 08 53 01.4
comp=Z,186µm,18.0s,baz=218,slow=39
BDFB Brasilia 31.66 52 P **P 08 38 42.0 -1.3**
BDFB pmax pmax
comp=Z,48nm,1.1s
BDFB MLR MLR
comp=Z,186µm,18.0s
RPN Rapa Nui 31.95 279 LR LR 08 48 01.2
comp=Z,124µm,20.2s,baz=115,slow=30
OTAV Otavalo 38.39 352 *e*P **P 08 39 43.5 +1.8**
comp=Z,296nm,1.5s
OTAV LR LR
comp=Z,27µm,22.0s
PTGA Pitinga 39.17 22 P **P 08 39 47.6 -0.1**
comp=Z,73nm,1.1s,baz=198,slow=11
PTGA LR LR 08 58 19.9
comp=Z,62µm,19.1s,baz=191,slow=40
PTGA Pitinga 39.17 22 *e*P **P 08 39 46.5 -1.2**
PAYG Puerto Ayora 40.30 333 *e*P **P 08 39 58.4 +1.3**
comp=Z,108nm,1.1s
PAYG LR LR
comp=Z,73µm,20.0s
ROSC El Rosal 42.71 359 P P 08 40 20.8 +3.6
comp=Z,49nm,0.7s,baz=169,slow=1.8,SNR=44
ROSC El Rosal 42.71 359 *e*P P 08 40 21.0 +3.8
VNA1 Neumayer--Stat 46.43 155 P **P 08 40 45.9 0.0**
SDV Santo Domingo 46.78 4 *e*P **P 08 40 48.7 -0.7**
comp=Z,99nm,0.8s
SDV LR LR
comp=Z,57µm,19.0s
RCBR Riachuelo 46.81 56 LR LR 09 02 16.0
comp=Z,282µm,19.5s,baz=210,slow=38
RCBR Riachuelo 46.81 56 *e*P **P 08 40 52.4 +2.8**
comp=Z,289nm,1.3s
BCIP Isla Barro Col 47.36 351 *e*P **P 08 40 54.4 +0.7**
comp=Z,156nm,1.2s
BCIP LR LR
comp=Z,25µm,20.0s
TRIS Tristan da Cun 47.69 109 *e*P **P 08 40 57.0 +0.8**
comp=Z,301nm,1.0s
TRIS LR LR
comp=Z,27µm,20.0s
SNAA Sanae 48.30 156 P **P 08 41 00.1 -0.4**
comp=Z,45nm,0.9s,baz=280,slow=8.8,SNR=138
SNAA LR LR 09 01 03.8
comp=Z,13µm,18.2s,baz=282,slow=36
SNAA Sanae 48.30 156 P **P 08 41 00.1 -0.4**
SNAA pmax pmax
comp=Z,45nm,0.9s
SNAA MLR MLR
comp=Z,13µm,18.2s
PCRV Puerto La Cruz 48.69 12 LR LR 09 04 03.8
comp=Z,22µm,19.8s,slow=39
PTCN Pitcairn Islan 49.27 268 PFAKE 08 41 20.0 +11
PTCN LR LR
comp=Z,135µm,22.0s
JTS JuntasAbangare 49.29 345 LR LR 08 57 30.7
comp=Z,12µm,20.8s,baz=164,slow=31
JTS JuntasAbangare 49.29 345‖ *e*P **P 08 41 09.5 +0.9**
JTS pmax pmax
comp=Z,84nm,1.2s
JTS MLR MLR
comp=Z,98µm,23.0s
JTS JuntasAbangare 49.29 345 *e*P **P 08 41 09.7 +1.1**
comp=Z,114nm,1.3s
GRGR Grenville 51.14 15 *e*P **P 08 41 23.1 +0.4**
GRGR Grenville 51.14 15 *e*P **P 08 41 22.3 -0.4**
comp=Z,407nm,0.8s
GRGR LR LR
comp=Z,42µm,20.0s
QSPA South Pole Qui 52.18 180 *e*P **P 08 41 29.4 -0.7**
comp=Z,156nm,1.1s
QSPA LR LR
comp=Z,19µm,20.0s
SVB Belmont 52.33 15 *e*P **P 08 41 31.5 0.0**
BBGH Gun Hill 52.58 17 PFAKE 08 41 50.0 +17
BBGH LR LR
comp=Z,50µm,22.0s
MCLT Moule a Chique 52.82 15 *e*P **P 08 41 34.7 -0.5**
NVL N'lazarevskaya 53.08 156‖ *i*P **P 08 41 35.5 -1.0**
NVL *i* S **S 08 49 00.2 -4.4**
NVL pmax pmax
comp=Z,107nm,0.9s
NVL MLR MLR
comp=Z,24µm,17.0s
FDF Fort de France 53.77 15 *e*P **P 08 41 41.7 -0.5**
FDF MLR MLR
comp=Z,52µm,20.0s
FDF Fort de France 53.77 15 *e*P **P 08 41 41.7 -0.5**
FDF LR LR
comp=Z,52µm,20.0s
RKT Rikitea 54.10 267 *e*S **S 08 49 16.4 -3.3**
comp=Z,37µm,26.2s
RKT *e*SS **SS 08 53 01.4 +0.1**
comp=Z,11µm,28.0s
RKT *e*LQ LQ 08 55 11.9
comp=Z,12µm,28.2s
RKT *e*LR LR 08 57 34.1
comp=Z,159µm,25.0s,baz=124
RKT Rikitea 54.10 267 *e*T T 09 39 26.3
comp=Z,11nm,0.3s
ICMP Isla Caja de M 56.03 8 *e*P **P 08 41 58.2 -0.2**
CRPR Cabo Rojo, PR 56.09 7 *e*P **P 08 41 58.0 -0.8**
comp=Z,57nm,0.9s
MTDJ Mount Denham 56.12 355 PFAKE 08 42 10.0 +11
MTDJ LR LR
comp=Z,18µm,21.0s
OBIP Obispado Ponce 56.18 8 *e*P **P 08 41 59.5 0.0**
comp=Z,56nm,0.8s
CELP Cerrillos 56.21 8 *e*P **P 08 41 59.5 -0.2**
SJG San Juan 56.30 8 *e*P **P 08 41 59.8 -0.5**
SJG pmax pmax
comp=Z,66nm,0.9s
SJG MLR MLR
comp=Z,28µm,19.0s
SJG San Juan 56.30 8 *e*P **P 08 41 59.8 -0.5**
comp=Z,66nm,0.9s
SJG LR LR
comp=Z,28µm,19.0s
ANWB Willy Bob 56.51 13 PFAKE 08 42 10.0 +8.2
ANWB LR LR
comp=Z,24µm,19.0s
STVI Saint Thomas 56.68 10 P **P 08 42 02.7 -0.3**
comp=Z,32nm,0.9s
SDDR Presa de Saban 56.78 2 *e*P **P 08 42 04.7 +0.9**
comp=Z,94nm,1.3s
SDDR LR LR
comp=Z,22µm,21.0s
GTBY Guantanamo Bay 57.70 358 *e*P **P 08 42 10.4 +0.1**
comp=Z,131nm,0.8s
GTBY LR LR
comp=Z,17µm,20.0s
RCC Rio Carpintero 57.79 358 *e*P **P 08 42 09.5 -1.3**
RCC *e*S **S 08 50 04.0 -4.5**
comp=N,49nm,9.6s
comp=E,38nm,9.7s
LMGC Las Mercedes 57.91 356 *e*P **P 08 42 11.1 -0.7**
LMGC *e* 08 42 12.2
baz=230,slow=7.9
LMGC *e*S **S 08 50 09.4 -0.7**
LMGC AMS AMS 09 08 10.6
comp=E,15µm,17.3s
LMGC AMS AMS 09 09 12.3
comp=N,14µm,17.3s
MASC Masc 57.93 359 *e*P **P 08 42 13.3 +1.5**
CMIG Matias Romero 58.44 336 P **P 08 42 16.4 +0.9**
comp=N,6.7nm,0.8s,baz=81,slow=0.8,SNR=4.9
SBA Scott Base 58.87 192 *e*P **P 08 42 18.3 +0.5**
SBA pmax pmax
comp=Z,1µm,2.7s
SBA MLR MLR
comp=Z,16µm,19.0s
SBA Scott Base 58.87 192 *e*P **P 08 42 18.3 +0.5**
comp=Z,1µm,2.7s
SBA LR LR
comp=Z,16µm,19.0s
CCCC Cccc 59.09 355 *e*P **P 08 42 18.6 -1.3**
GRTK Grand Turk 59.30 3 PFAKE 08 42 30.0 +8.7
GRTK LR LR
comp=Z,16µm,19.0s
TEIG Tepich 59.63 344 P **P 08 42 23.4 -0.2**
comp=Z,1.8nm,1.0s,baz=182,slow=24,SNR=9.3
TEIG Tepich 59.63 344 *e*P **P 08 42 23.0 -0.7**
comp=Z,71nm,0.9s
TEIG LR LR
comp=Z,374nm,19.0s
VNDA Vanda 59.90 192 P **P 08 42 25.0 +0.1**
comp=Z,12nm,0.9s,baz=146,slow=6.2,SNR=32
VNDA PKPPKP **P'P'df 09 11 54.1 -4.1**
comp=Z,1.7nm,0.9s,baz=304,slow=8.6,SNR=3.8
SOR Soroa 61.19 350 *e*P **P 08 42 33.0 -1.3**
SOR *e*S **S 08 50 47.7 -4.7**
comp=N,7.2nm,3.1s
comp=E,3.6nm,8.4s
SYO Syowa Base 62.53 158‖ *e*P **P 08 42 40.0 -2.8**
TBI Tubuai 65.32 259 *e*S **S 08 51 41.0 -3.4**
comp=E,44µm,27.8s
TBI *e*LQ LQ 08 59 54.2
comp=E,19µm,27.5s
TBI *e*LR LR 09 02 38.0
comp=E,119µm,25.2s,baz=125
TBI Tubuai 65.32 259 *e*T T 09 53 25.4
comp=E,26nm,0.2s
TAOE Nuku Hiva Isla 66.26 277 *e*S **S 08 51 53.4 -2.7**
comp=E,65µm,24.8s
TAOE Nuku Hiva Isla 66.26 277 *e*LR LR 09 03 06.4
comp=E,109µm,24.5s,baz=137
MEH Mehetia 67.24 265 *e*P **P 08 43 15.4 +1.1**
comp=E,55nm,1.3s
MEH Mehetia 67.24 265 *e*T T 09 55 50.2
comp=E,96nm,0.2s
035Z Hargill 68.21 336 P **P 08 43 19.8 -0.2**
baz=69
035Z S **S 08 52 22.2 +3.5**
baz=69
TVO Taravao 68.22 264 *e*P **P 08 43 21.9 +1.4**
comp=E,51nm,1.2s
TVO Taravao 68.22 264 *e*T T 09 57 04.0
comp=E,6.9nm,0.3s
VAH Vaihoa 68.39 267 *e*P **P 08 43 22.6 +1.1**
comp=E,106nm,0.9s
TIAR Tiarei 68.42 264 *e*P **P 08 43 23.0 +1.3**
comp=E,32nm,0.9s
TIAR Tiarei 68.42 264 *e*T T 09 57 18.8
comp=E,51nm,0.3s
PAE Paea 68.55 264 *e*P **P 08 43 23.9 +1.4**
comp=E,30nm,1.1s
PAE Paea 68.55 264 *e*T T 09 57 21.2
comp=E,5.0nm,0.3s
PPT2 Papeete2 68.58 264 *e*P **P 08 43 24.3 +1.5**
comp=E,256nm,1.3s
PPT2 *e*S **S 08 52 20.7 -3.3**
comp=E,38µm,23.2s
PPT2 Papeete2 68.58 264 *e*LR LR 09 04 08.0
comp=E,90µm,25.5s,baz=118
PPT2 Papeete2 68.58 264 *e*T T 09 57 04.5
comp=E,11nm,0.3s
PPT Papeete 68.60 264 LR LR 09 05 41.9
comp=E,43µm,19.7s,baz=110,slow=29
035A Encino 68.66 336 P **P 08 43 22.4 -0.5**
baz=69
936A North Padre Is 68.87 337 P **P 08 43 24.2 +0.1**
baz=69
034A Hebbronville 68.97 336 P **P 08 43 24.1 -0.6**
baz=69,SNR=9.3
934A Benavides 69.41 336 P **P 08 43 26.4 -1.1**
baz=70,SNR=8.1
MAW Mawson 69.62 164 P **P 08 43 27.6 -0.7**
comp=E,28nm,0.9s,baz=210,slow=7.1,SNR=32
MAW LR LR 09 16 03.6
comp=E,48µm,18.0s,baz=229,slow=38
MAW Mawson 69.62 164 P **P 08 43 27.6 -0.7**
MAW pmax pmax
comp=Z,28nm,0.9s
MAW MLR MLR
comp=Z,48µm,18.0s
933A Laredo 69.67 336 P **P 08 43 29.0 -0.1**
baz=70,SNR=17
738A Farr-Stevens R 69.72 339 P **P 08 43 28.9 -0.4**
baz=70
TIGA Tifton 69.79 351 P **P 08 43 29.3 -0.4**
baz=70,SNR=14
TIGA Tifton 69.79 351 *e*P **P 08 43 29.0 -0.7**
comp=Z,122nm,1.1s
835A Beville 69.84 337 P **P 08 43 29.9 -0.2**
baz=70
737A Port Lavaca 69.87 339 P **P 08 43 30.4 +0.1**
baz=70
BRAL Brewton 69.88 348 *e*P **P 08 43 31.9 +1.6**
comp=Z,176nm,1.2s
BRAL LR LR
comp=Z,10µm,20.0s
834A Tilden 69.91 336 P **P 08 43 30.5 -0.1**
baz=70,SNR=20
736A Circle Diamond 70.23 338 P **P 08 43 33.1 +0.6**
baz=71,SNR=11
SLBS Sierra La Lagu 70.33 325 *e*P **P 08 43 33.9 +0.6**
comp=Z,109nm,1.3s
735A Kenedy 70.36 337 P **P 08 43 33.4 +0.1**
baz=71,SNR=11
833A Chaparral WMA, 70.36 336 P **P 08 43 33.9 +0.5**
baz=71,SNR=35
SACV Santiago Islan 70.47 52 *e*P **P 08 43 31.6 -2.7**
comp=Z,97nm,1.0s
SACV LR LR
comp=Z,83µm,20.0s
637A Eagle Lake 70.48 339 P **P 08 43 34.7 +0.7**
baz=71,SNR=7.4
832A Faith Ranch, C 70.52 335 P **P 08 43 33.9 -0.4**
baz=71,SNR=27
BBSR BB Station 70.55 8 *e*P **P 08 43 35.3 +1.0**
comp=Z,71nm,1.1s
BBSR LR LR
comp=Z,10µm,21.0s
540A Vidor 70.57 341 P **P 08 43 34.7 +0.1**
baz=71
734A La Parita Cree 70.58 337 P **P 08 43 34.8 +0.2**
baz=71,SNR=10
539A Cross D Ranch, 70.67 341 P **P 08 43 35.5 +0.4**
baz=71
733A Divot King Ran 70.70 336 P **P 08 43 35.3 -0.1**
baz=71,SNR=9.5
636A Smothers Creek 70.72 338 P **P 08 43 34.8 -0.7**
baz=71,SNR=12
HKT Hockley 70.82 340 *e*P **P 08 43 37.9 +1.9**
HKT pmax pmax
comp=Z,513nm,2.3s
HKT Hockley 70.82 340 *e*P **P 08 43 37.9 +1.9**
comp=Z,513nm,2.3s
635A Leesville 70.85 338 P **P 08 43 35.7 -0.6**
baz=71,SNR=6.5
LPIG La Paz 70.86 325 P **P 08 43 36.9 +0.5**
comp=Z,70nm,0.9s,baz=158,slow=5.4,SNR=3.7
732A Laxson Ranch, 70.93 335 P **P 08 43 36.3 -0.5**
baz=71,SNR=41
538A Harpers Horsep 70.98 340 P **P 08 43 37.3 +0.2**
baz=71
634A China Grove, S 71.02 337 P **P 08 43 37.2 -0.1**
baz=71
537A Green Hill Far 71.08 339 P **P 08 43 37.8 +0.2**
baz=71
440A Kirbyville 71.08 341 P **P 08 43 37.5 -0.1**
baz=72,SNR=11
NHSC New Hope 71.08 354 *e*P **P 08 43 38.5 +0.9**
comp=Z,209nm,1.1s
NHSC LR LR
comp=Z,21µm,21.0s
536A Bastrop 71.29 339 P **P 08 43 38.9 0.0**
baz=72,SNR=12
439A Center Grove, 71.33 341 P **P 08 43 39.0 -0.1**
baz=72,SNR=9.1
633A Saathoff Ranch 71.35 336 P **P 08 43 39.1 -0.2**
baz=72,SNR=28
535A Dale 71.39 338 P **P 08 43 39.0 -0.5**
baz=72,SNR=14
438A Sam Houston St 71.48 340 P **P 08 43 40.1 +0.1**
baz=72
632A Uvalde 71.59 336 P **P 08 43 40.7 -0.1**
baz=72,SNR=26
534A Blanco 71.66 337 P **P 08 43 40.5 -0.7**
baz=72,SNR=11
340A Bronson 71.70 342 P **P 08 43 41.0 -0.4**
baz=72,SNR=14
VBMS Vicksburg 71.71 345 P **P 08 43 41.3 -0.1**
baz=72,SNR=8.9
GOGA Godfrey 71.72 351 *e*P **P 08 43 40.6 -0.8**
GOGA pmax pmax
comp=Z,116nm,1.3s
GOGA MLR MLR
comp=Z,14µm,21.0s
GOGA Godfrey 71.72 351 *e*P **P 08 43 40.6 -0.8**
comp=Z,116nm,1.3s
GOGA LR LR
comp=Z,14µm,21.0s
437A Phantom Ranch, 71.73 340 P **P 08 43 41.3 -0.3**
baz=72
631A Perdido Creek 71.76 335 P **P 08 43 41.7 -0.1**
baz=72,SNR=15
339A Huntington 71.79 341 P **P 08 43 41.8 -0.1**
baz=72,SNR=7.8
LRAL Lakeview Retre 71.85 348 *e*P **P 08 43 42.0 -0.2**
comp=Z,110nm,1.1s
436A Wall Ranch, Ga 71.86 339 P **P 08 43 41.8 -0.5**
baz=72
533A Kerrville 71.87 337 P **P 08 43 42.5 0.0**
baz=72,SNR=43
338A Crockett 72.01 340 P **P 08 43 43.7 +0.5**
baz=72,SNR=23
435B Jarrell 72.10 338 P **P 08 43 43.8 -0.1**
baz=72
337A Centerville 72.12 340 P **P 08 43 44.6 +0.7**
baz=72
532A Rocksprings 72.20 336 P **P 08 43 44.8 +0.3**
baz=73,SNR=60
NATX Nacogdoches 72.22 341 P **P 08 43 44.6 +0.1**
baz=73
NATX Nacogdoches 72.22 341 *e*P **P 08 43 45.7 +1.2**
comp=Z,1µm,2.3s
CER Ceres 72.29 119 *e*P **P 08 43 46.1 +0.9**
CER IAmb IAmb 08 43 58.2
comp=Z,165nm,0.9s
CER Ceres 72.29 119 P **P 08 43 46.1 +0.9**
comp=Z,165nm,0.9s
434A Burnet 72.33 338 P **P 08 43 44.9 -0.3**
baz=73,SNR=50
JSC Jenkinsville 72.34 353 *e*P **P 08 43 45.2 +0.1**
JSC pmax pmax
comp=Z,66nm,1.2s
JSC Jenkinsville 72.34 353 *e*P **P 08 43 45.2 +0.1**
comp=Z,66nm,1.2s
239A Gary 72.42 341 P **P 08 43 45.8 +0.1**
baz=73,SNR=9.4
531A Rocksprings 72.44 336 P **P 08 43 46.1 +0.2**
baz=73,SNR=41
336A Riesel 72.46 339 P **P 08 43 45.6 -0.3**
baz=73,SNR=40
JCT Junction City 72.49 336 *e*P **P 08 43 46.4 +0.2**
JCT pmax pmax
comp=Z,127nm,0.9s
JCT MLR MLR
comp=Z,9µm,19.0s
JCT Junction City 72.49 336 P **P 08 43 45.7 -0.5**
baz=73,SNR=63
JCT Junction City 72.49 336 *e*P **P 08 43 46.4 +0.2**
comp=Z,127nm,0.9s
JCT LR LR
comp=Z,9µm,19.0s
335A Moody 72.52 339 P **P 08 43 45.7 -0.7**
baz=73
433A Art 72.53 337 P **P 08 43 45.9 -0.5**
baz=73,SNR=46
238A Jacksonville 72.57 341 P **P 08 43 46.2 -0.4**
baz=73
530A J-C Ranch, Com 72.69 335 P **P 08 43 46.7 -0.7**
baz=73,SNR=55
237A Washetta, Mont 72.75 340 P **P 08 43 47.6 0.0**
baz=73,SNR=7.0
TXAR Lajitas Array 72.76 333 P **P 08 43 47.8 -0.1**
comp=Z,15nm,0.8s,baz=154,slow=6.8,SNR=126
TXAR LR LR 09 10 54.7
comp=Z,49µm,18.7s,baz=0.0,slow=32
334A Lometa 72.81 338 P **P 08 43 48.0 -0.1**
baz=73,SNR=24
432A Menard 72.86 336 P **P 08 43 47.7 -0.6**
baz=73,SNR=25
431A Sonora 72.94 336 P **P 08 43 48.4 -0.5**
baz=73,SNR=43
236A Katherine and 72.95 340 P **P 08 43 48.0 -0.8**
baz=73,SNR=5.4
529A Stev Forest Ra 72.97 334 P **P 08 43 50.0 +0.9**
baz=73
KOMG Komaggas 73.01 115 *e*P **P 08 43 49.6 +0.1**
KOMG IAmb IAmb 08 44 03.6
comp=Z,353nm,1.7s
KOMG Komaggas 73.01 115 P **P 08 43 49.6 +0.1**
comp=Z,353nm,1.7s
333A Richland Sprin 73.03 337 P **P 08 43 49.1 -0.2**
baz=73,SNR=27
139A Bunkhouse Ranc 73.03 342 P **P 08 43 49.0 -0.2**
baz=73
CNNC Cliffs of the 73.05 356 PFAKE 08 44 00.0 +11
CNNC LR LR
comp=Z,13µm,20.0s
138A Matatall Enter 73.19 341 P **P 08 43 50.6 +0.4**
baz=74,SNR=7.8
WHTX Lake Whitney 73.20 339 P **P 08 43 49.9 -0.4**
baz=74,SNR=14
KMSC Kings Mountain 73.20 353 P **P 08 43 49.8 -0.5**
baz=74,SNR=27
KMSC Kings Mountain 73.20 353 *e*P **P 08 43 49.8 -0.5**
comp=Z,55nm,0.8s
430A Baggett Ranch, 73.24 335 P **P 08 43 50.5 -0.2**
baz=74,SNR=82
137A Heron Place, G 73.30 340 P **P 08 43 50.8 -0.1**
baz=74,SNR=12
332A Millersview 73.31 337 P **P 08 43 50.7 -0.4**
baz=74,SNR=70
234A Clairette 73.41 338 P **P 08 43 51.2 -0.3**
baz=74,SNR=40
331A San Angelo 73.46 336 P **P 08 43 51.7 -0.3**
baz=74,SNR=48
Z39A Irene McRaven, 73.52 342 P **P 08 43 52.0 -0.1**
baz=74
233A Rising Star 73.64 338 P **P 08 43 52.4 -0.6**
baz=74,SNR=46
CVNA Calvinia 73.67 117 *e*P **P 08 43 54.0 +0.5**
CVNA IAmb IAmb 08 43 59.5
comp=Z,179nm,1.1s
CVNA Calvinia 73.67 117 P **P 08 43 54.0 +0.5**
comp=Z,179nm,1.1s
OXF Oxford 73.71 346 *e*P **P 08 43 53.1 -0.1**
OXF pmax pmax
comp=Z,176nm,1.1s
OXF Oxford 73.71 346 *e*P **P 08 43 53.1 -0.1**
comp=Z,176nm,1.1s
135A Vickery Place, 73.72 339 P **P 08 43 52.9 -0.4**
baz=74,SNR=8.3
Z38A Mt. Pleasant 73.72 341 P **P 08 43 53.0 -0.4**
baz=74,SNR=12
232A Coleman 73.75 337 P **P 08 43 53.1 -0.5**
baz=74,SNR=68
330A Mertzon 73.79 336 P **P 08 43 53.1 -0.8**
baz=74,SNR=26
SWET Sewanee 73.82 349 *e*P **P 08 43 53.5 -0.4**
comp=Z,205nm,0.8s
Z37A Pogue Cattle C 73.84 341 P **P 08 43 53.8 -0.2**
baz=74
CPCT Cooper Cave 73.86 351 *e*P **P 08 43 53.6 -0.5**
SUR Sutherland 73.89 119 *e*P **P 08 43 55.9 +1.0**
SUR LR LR
comp=Z,54µm,20.0s
134A White-Moore Ra 73.92 339 P **P 08 43 53.6 -0.9**
baz=74,SNR=16
TKL Tuckaleechee C 73.97 351 P **P 08 43 54.2 -0.6**
comp=Z,40nm,0.8s,baz=166,slow=9.2,SNR=45
TKL Tuckaleechee C 73.97 351 P **P 08 43 54.2 -0.6**
TKL pmax pmax
comp=Z,40nm,0.8s

231A	**Bronte**	74.00	336	P		P	08 43 54.5	-0.6
	baz=74,SNR=46							
Z36A	**Blue Ridge**	74.12	340	P		P	08 43 55.2	-0.5
	baz=74,SNR=34							
329A	**Wagon Wheel Ra**	74.13	335	P		P	08 43 55.4	-0.6
	baz=74,SNR=29							
Y39A	**Lockesburg**	74.16	342	P		P	08 43 55.8	-0.1
	baz=74,SNR=18							
133A	**Hamilton Ranch**	74.20	338	P		P	08 43 55.9	-0.3
	baz=75,SNR=37							
230A	**Sterling City**	74.22	336	P		P	08 43 56.0	-0.4
	baz=75,SNR=13							
Y38A	**Idabel**	74.31	342	P		P	08 43 56.4	-0.3
	baz=75,SNR=28							
Z35A	**Perchaven, San**	74.40	339	P		P	08 43 56.8	-0.5
	baz=75,SNR=29							
ABTX	**Abilene, Hawle**	74.43	337	P		P	08 43 57.2	-0.3
	baz=75,SNR=20							
ABTX	**Abilene, Hawle**	74.43	337	*e*P		P	08 43 57.4	-0.2
	comp=Z,180nm,1.1s							
RAR	**Rarotonga**	74.44	255	PFAKE			08 44 10.0	+12
RAR				LR		LR		
	comp=Z,4.0nm,22.0s							
229A	**Bryant Ranch,**	74.52	335	P		P	08 43 57.3	-0.8
	baz=75,SNR=22							
UALR	**University of**	74.56	344	*e*P		P	08 43 58.1	-0.1
	comp=Z,521nm,2.6s							
Y37A	**Hugo**	74.58	341	P		P	08 43 58.2	-0.1
	baz=75,SNR=34							
MIAR	**Mount Ida**	74.62	343	*e*P		P	08 43 58.4	-0.2
MIAR				pmax		pmax		
	comp=Z,52nm,1.0s							
MIAR				MLR		MLR		
	comp=Z,10µm,21.0s							
MIAR	**Mount Ida**	74.62	343	P		P	08 43 58.0	-0.6
	baz=75,SNR=21							
MIAR	**Mount Ida**	74.62	343	*e*P		P	08 43 58.4	-0.2
	comp=Z,52nm,1.0s							
MIAR				LR		LR		
	comp=Z,10µm,21.0s							
Z34A	**Collier Ranch,**	74.62	339	P		P	08 43 58.5	-0.2
	baz=75,SNR=11							
Y36A	**Durant**	74.67	340	P		P	08 43 58.4	-0.5
	baz=75,SNR=12							
131A	**Roby**	74.71	337	P		P	08 43 59.3	+0.1
	baz=75,SNR=16							
Z33A	**Whitaker Ranch**	74.79	338	P		P	08 43 59.2	-0.4
	baz=75,SNR=41							
130A	**Snyder**	74.82	336	P		P	08 43 59.5	-0.4
	baz=75,SNR=16							
TZTN	**Tazewell**	74.82	352	*e*P		P	08 43 59.1	-0.6
	comp=Z,227nm,1.5s							
Y35A	**Marietta**	74.88	340	P		P	08 44 01.2	+1.1
	baz=75,SNR=13							
228A	**UT Block 9, Go**	74.92	335	P		P	08 44 00.1	-0.3
	baz=75,SNR=29							
WVT	**Waverly**	75.01	348	*e*P		P	08 43 59.8	-1.0
WVT				pmax		pmax		
	comp=Z,309nm,1.5s							
WVT	**Waverly**	75.01	348	*e*P		P	08 43 59.8	-1.0
	comp=Z,309nm,1.5s							
Z32A	**Haskell**	75.02	338	P		P	08 44 00.3	-0.7
	baz=75,SNR=54							
X38A	**Whitesboro**	75.03	342	P		P	08 44 00.7	-0.2
	baz=75,SNR=27							
HALT	**Halls**	75.06	347	*e*P		P	08 44 01.2	+0.2
X37A	**Clayton**	75.09	341	P		P	08 44 00.7	-0.6
	baz=76,SNR=16							
Y34A	**Reagan Ranch,**	75.13	339	P		P	08 44 00.5	-1.0
	baz=76,SNR=23							
129A	**Stewart Farms,**	75.14	335	P		P	08 44 01.2	-0.5
	baz=76,SNR=19							
BLA	**Blacksburg**	75.18	354	PFAKE			08 44 10.0	+8.2
BLA				LR		LR		
	comp=Z,11µm,20.0s							
VWCC	**Virginia Weste**	75.18	355	*e*P		P	08 44 01.6	-0.2
MIR	**Mirnyy**	75.19	174⇑	*e*P		P	08 44 09.0	+7.4
MIR				pmax		pmax		
	comp=Z,100nm,2.0s							
Z31A	**Sharp Cattle R**	75.23	337	P		P	08 44 01.6	-0.6
	baz=76,SNR=45							
GNAR	**Gosnell**	75.24	346	*e*P		P	08 44 02.2	+0.2
	comp=Z,2µm,1.2s							
X36A	**Centrahoma**	75.33	341	P		P	08 44 01.9	-0.7
	baz=76,SNR=27							
X35A	**Drake**	75.33	340	P		P	08 44 01.7	-1.0
	baz=76,SNR=43							
128A	**Castleberry Fa**	75.34	335	P		P	08 44 02.6	-0.3
	baz=76,SNR=38							
W38A	**Poteau**	75.34	342	P		P	08 44 02.4	-0.3
	baz=76,SNR=24							
UTMT	**University of**	75.39	347	*e*P		P	08 44 03.4	+0.4
	comp=Z,140nm,0.6s							
GLAT	**Glass**	75.40	347	*e*P		P	08 44 03.4	+0.4
Y33A	**Hilltop Ranch,**	75.42	339	P		P	08 44 02.6	-0.6
	baz=76,SNR=19							
JSRW	**J. Sargeant Re**	75.50	356	*e*P		P	08 44 03.8	+0.3
Z30A	**Sanderson Ranc**	75.51	336	P		P	08 44 03.1	-0.7
	baz=76,SNR=12							
W37A	**Quinton**	75.63	342	P		P	08 44 03.9	-0.5
	baz=76,SNR=14							
Y32A	**R-V Farms, Ver**	75.66	338	P		P	08 44 03.9	-0.7
	baz=76,SNR=23							
Z29A	**Hungry Hill Ra**	75.67	336	P		P	08 44 03.9	-0.9
	baz=76,SNR=79							
X34A	**Smith Ranch, M**	75.76	339	P		P	08 44 04.5	-0.6
	baz=76,SNR=37							
W36A	**Wetumka**	75.83	341	P		P	08 44 04.9	-0.6
	baz=76,SNR=17							
PARMO	**Parma**	75.87	347	*e*P		P	08 44 05.7	0.0
Y31A	**Rekieta Farm,**	75.87	337	P		P	08 44 05.6	-0.2
	baz=76,SNR=17							
X33A	**Lawton**	75.89	339	P		P	08 44 05.4	-0.5
	baz=76,SNR=20							
Z28A	**Tucker Farm, M**	75.92	335	P		P	08 44 05.1	-1.1
	baz=76,SNR=17							
CASY	**Casey**	75.94	182	*e*P		P	08 44 05.5	-0.4
CASY				LR		LR		
	comp=Z,114nm,1.2s							
CASY				LR		LR		
	comp=Z,18µm,20.0s							
CBN	**Corbin**	75.98	357	*e*P		P	08 44 07.3	+1.1
CBN				LR		LR		
	comp=Z,17nm,0.7s							
CBN				LR		LR		
	comp=Z,18µm,20.0s							
Y30A	**Stafford Cattl**	75.98	337	P		P	08 44 06.0	-0.5
	baz=76,SNR=8.6							
X32A	**Elmer**	76.00	338	P		P	08 44 06.4	-0.2
	baz=76,SNR=23							
W35A	**Tecumseh**	76.02	340	P		P	08 44 05.5	-1.1
	baz=76,SNR=19							
V38A	**Canehill**	76.07	343	P		P	08 44 06.8	-0.1
	baz=76,SNR=17							
PBMO	**Poplar Bluff**	76.11	346	*e*P		P	08 44 06.2	-0.9
	comp=Z,58nm,0.8s							
WMOK	**Wichita Mounta**	76.15	339	*e*P		P	08 44 06.9	-0.5
WMOK				pmax		pmax		
	comp=Z,263nm,1.7s							
WMOK				MLR		MLR		
	comp=Z,8µm,20.0s							
WMOK	**Wichita Mounta**	76.15	339	*e*P		P	08 44 06.8	-0.5
	comp=Z,263nm,1.7s							
WMOK				LR		LR		
	comp=Z,8µm,20.0s							
Y29A	**Porterfield Fa**	76.21	336	P		P	08 44 07.3	-0.5
	baz=77,SNR=42							
V37A	**Hulbert**	76.27	342	P		P	08 44 07.3	-0.7
	baz=77,SNR=28							
W34A	**Bridge Creek,**	76.33	340	P		P	08 44 07.8	-0.6
	baz=77,SNR=15							
W34A	**Bridge Creek,**	76.33	340	*e*P		P	08 44 08.3	-0.2
	comp=Z,142nm,1.1s							
V36A	**Jenks**	76.37	341	P		P	08 44 08.1	-0.5
	baz=77,SNR=79							
X31A	**McDonald Ranch**	76.40	338	P		P	08 44 08.8	-0.1
	baz=77,SNR=50							
Y28A	**McKinney Farm,**	76.44	336	P		P	08 44 09.1	-0.1
	baz=77,SNR=19							
W33A	**Caddo, Fort Co**	76.45	339	P		P	08 44 09.2	+0.1
	baz=77,SNR=32							
TUL1	**Tulsa**	76.45	342	P		P	08 44 08.6	-0.5
	baz=77,SNR=61							
TUL1	**Tulsa**	76.45	342	*e*P		P	08 44 08.4	-0.6
	comp=Z,115nm,0.8s							
X30A	**Coker Ranch, T**	76.50	337	P		P	08 44 09.2	-0.2
	baz=77,SNR=28							
UPI	**Upington**	76.53	115	*e*P		P	08 44 10.0	-0.1
UPI				IAmb		IAmb	08 44 30.9	
	comp=Z,243nm,1.4s							
UPI	**Upington**	76.53	115	P		P	08 44 10.0	-0.1
	comp=Z,243nm,1.4s							
V35A	**Meyer Ranch, C**	76.58	341	P		P	08 44 09.3	-0.5
	baz=77,SNR=44							
U38A	**Gravette**	76.62	343	P		P	08 44 09.9	-0.1
	baz=77,SNR=12							
W32A	**Sentinel**	76.64	339	P		P	08 44 10.1	0.0
	baz=77,SNR=99							
MSTX	**Muleshoe**	76.67	335	P		P	08 44 10.0	-0.5
	baz=77,SNR=32							
MSTX	**Muleshoe**	76.67	335	*e*P		P	08 44 10.0	-0.5
	comp=Z,133nm,1.1s							
U37A	**Salina**	76.76	342	P		P	08 44 10.0	-0.7
	baz=77,SNR=17							
X29A	**Tulia**	76.76	336	P		P	08 44 10.0	-0.9
	baz=77,SNR=42							
USIN	**University of**	76.78	349	*e*P		P	08 44 09.9	-0.9
	comp=Z,202nm,1.2s							
SIUC	**Southern Illin**	76.79	347	*e*P		P	08 44 10.1	-0.8
	comp=Z,64nm,0.8s							
V34A	**Guthrie**	76.83	340	P		P	08 44 11.1	-0.1
	baz=77,SNR=30							
V34A	**Guthrie**	76.83	340	*e*P		P	08 44 10.7	-0.5
	comp=Z,95nm,0.9s							
U36A	**Oologah**	76.90	342	P		P	08 44 10.9	-0.6
	baz=77,SNR=9.4							
W31A	**Holland Ranch,**	76.91	338	P		P	08 44 11.1	-0.6
	baz=77,SNR=15							
X28A	**Dimmitt**	76.99	336	P		P	08 44 11.2	-1.1
	baz=77,SNR=16							
V33A	**Lossen Ranch,**	77.03	340	P		P	08 44 11.3	-1.0
	baz=77,SNR=33							
W30A	**Crocket Farms**	77.09	337	P		P	08 44 11.9	-0.9
	baz=78							
U35A	**Pawnee**	77.13	341	P		P	08 44 12.9	0.0
	baz=78,SNR=63							
V32A	**Arapaho**	77.14	339	P		P	08 44 12.9	0.0
	baz=78,SNR=18							
LIC	**Lamto**	77.16	72	*e*P		P	08 44 13.1	-0.5
	comp=Z,732nm,1.1s							
AMTX	**Amarillo**	77.16	337	P		P	08 44 12.9	-0.3
	baz=78							
AMTX	**Amarillo**	77.16	337	*e*P		P	08 44 13.0	-0.1
	comp=Z,166nm,1.0s							
SDMD	**Soldier's Deli**	77.16	357	*e*P		P	08 44 13.6	+0.7
	comp=Z,252nm,1.3s							
121A	**Cookes Peak, D**	77.17	331	P		P	08 44 13.9	+0.5
	baz=78,SNR=18							
121A	**Cookes Peak, D**	77.17	331	*e*P		P	08 44 14.5	+1.1
	comp=Z,171nm,1.5s							
GRM	**Grahamstown**	77.22	122	*e*P		P	08 44 13.6	-0.3
GRM				IAmb		IAmb	08 44 23.9	
	comp=Z,120nm,0.9s							
GRM	**Grahamstown**	77.22	122	P		P	08 44 13.6	-0.3
GRM				pmax		pmax		
	comp=Z,120nm,0.9s							
GRM	**Grahamstown**	77.22	122	*i* P		P	08 44 13.4	-0.4
GRM	**Grahamstown**	77.22	122	P		P	08 44 13.6	-0.3
	comp=Z,120nm,0.9s							
W29A	**Amraillo**	77.37	337	P		P	08 44 13.8	-0.5
	baz=78,SNR=32							
T37A	**Cheneyville 18**	77.39	343	P		P	08 44 13.2	-1.1
	baz=78,SNR=37							
U34A	**Anderson Ranch**	77.40	340	P		P	08 44 13.9	-0.5
	baz=78,SNR=17							
U34A	**Anderson Ranch**	77.40	340	*e*P		P	08 44 13.8	-0.5
	comp=Z,98nm,1.0s							
V31A	**Spring Creek L**	77.42	338	P		P	08 44 14.4	-0.2
	baz=78,SNR=38							
TIC	**Toumodi**	77.44	71	*e*P		P	08 44 15.6	+0.4
KIC	**Kosan Boka**	77.46	72	*e*P		P	08 44 15.9	+0.6
	comp=Z,884nm,1.1s							
U33A	**Lingo Farm, Me**	77.55	340	P		P	08 44 14.5	-0.8
	baz=78,SNR=21							
T36A	**Boggs Farm, Ca**	77.57	342	P		P	08 44 14.4	-0.8
	baz=78,SNR=25							
DBIC	**Dimbokro**	77.58	71⇑	*i*P		P	08 44 16.6	+0.6
DBIC	**Dimbokro**	77.58	71	P		P	08 44 16.5	+0.6
	comp=Z,203nm,0.8s,baz=206,slow=6.1,SNR=92							
DBIC				LR		LR	09 14 57.7	
	comp=Z,24µm,20.4s,baz=213,slow=33							
T35A	**Sooner Cattle**	77.59	341	P		P	08 44 14.8	-0.6
	baz=78,SNR=38							
OLIL	**Olney**	77.60	348	*e*P		P	08 44 14.1	-1.3
	comp=Z,156nm,1.4s							
V30A	**Spur Ranch, Mi**	77.67	338	P		P	08 44 15.8	-0.1
	baz=78,SNR=11							
W28A	**Vega**	77.67	336	P		P	08 44 15.5	-0.6
	baz=78							
U32A	**Winter Ranch,**	77.75	339	P		P	08 44 15.6	-0.8
	baz=78							
BLO	**Bloomington**	77.79	350	*e*P		P	08 44 15.4	-1.1
BLO				pmax		pmax		
	comp=Z,112nm,1.1s							
BLO	**Bloomington**	77.79	350	*e*P		P	08 44 15.4	-1.1
	comp=Z,112nm,1.1s							
T34A	**McClaskey Farm**	77.86	341	P		P	08 44 16.6	-0.4
	baz=78,SNR=37							
SLM	**Saint Louis**	77.87	347	*e*P		P	08 44 16.4	-0.5
SLM				pmax		pmax		
	comp=Z,156nm,1.0s							
SLM	**Saint Louis**	77.87	347	*e*P		P	08 44 16.4	-0.5
	comp=Z,156nm,1.0s							
S37A	**Fort Scott**	77.98	343	P		P	08 44 16.6	-1.0
	baz=78,SNR=27							
U31A	**Nine Bar Ranch**	77.98	338	P		P	08 44 17.4	-0.3
	baz=78,SNR=6.7							
V29A	**Stinnett**	78.02	337	P		P	08 44 17.2	-0.8
	baz=78							
V28A	**Channing**	78.13	336	P		P	08 44 17.9	-0.7
	baz=78,SNR=15							
S36A	**Lake Cedric, C**	78.13	342	P		P	08 44 17.3	-1.1
	baz=78,SNR=33							
TUC	**Tucson**	78.17	328	*e*P		P	08 44 19.8	+0.9
TUC				pmax		pmax		
	comp=Z,143nm,1.5s							
TUC				MLR		MLR		
	comp=Z,22µm,19.0s							
TUC	**Tucson**	78.17	328	*e*P		P	08 44 19.8	+0.9
	comp=Z,143nm,1.5s							
TUC				LR		LR		
	comp=Z,22µm,19.0s							
T33A	**Patterson Ranc**	78.20	340	P		P	08 44 18.3	-0.5
	baz=79,SNR=34							
Y22D	**IRIS PASSCAL I**	78.22	332	P		P	08 44 18.6	-0.5
	baz=79							
S35A	**Otter Creek Ra**	78.27	342	P		P	08 44 18.6	-0.6
	baz=79,SNR=18							
LENM	**Lemitar**	78.32	332	*e*P		P	08 44 19.6	-0.1
	comp=Z,401nm,1.7s							
LPM	**Los Pinos Moun**	78.32	332	*e*P		P	08 44 20.5	+0.7
	comp=Z,32nm,1.0s							
V27A	**Dan Oppiter Fa**	78.33	336	P		P	08 44 19.3	-0.5
	baz=79,SNR=13							
U30A	**WK&E Inc. Balk**	78.37	338	P		P	08 44 19.6	-0.2
	baz=79,SNR=16							
BRNJ	**Basking Ridge**	78.38	359	*e*P		P	08 44 20.3	+0.7
	comp=Z,272nm,1.9s							
ACSO	**Alum Creek Sta**	78.41	353	*e*P		P	08 44 19.4	-0.4
	comp=Z,107nm,0.8s							
ACSO				LR		LR		
	comp=Z,15µm,21.0s							
SSPA	**Standing Stone**	78.43	357	*e*P		P	08 44 19.1	-0.9
	comp=Z,100nm,1.4s							
T32A	**Huddler Ranch,**	78.48	339	P		P	08 44 20.0	-0.4
	baz=79,SNR=10							
U29A	**Oasis Ranch, S**	78.48	337	P		P	08 44 19.8	-0.6
	baz=79							
S34A	**Willow Spring**	78.48	341	P		P	08 44 19.6	-0.7
	baz=79,SNR=14							
R37A	**Teagarden Farm**	78.51	343	P		P	08 44 19.8	-0.7
	baz=79,SNR=27							
LAZ	**Ladron**	78.59	332	*e*P		P	08 44 22.5	+1.2
	comp=Z,41nm,1.2s							
S33A	**Kaszmaul Farm,**	78.61	340	P		P	08 44 20.2	-0.9
	baz=79							
R36A	**Gordon, Harris**	78.68	342	P		P	08 44 20.5	-1.0
	baz=79,SNR=6.9							
U28A	**Mallet**	78.71	337	P		P	08 44 21.0	-0.8
	baz=79							
214A	**Organ Pipe Nat**	78.73	327	P		P	08 44 21.7	-0.1
	baz=79,SNR=42							
214A	**Organ Pipe Nat**	78.73	327	*e*P		P	08 44 22.8	+0.9
	comp=Z,86nm,1.1s							
ODNJ	**Ogdensburg**	78.78	359	*e*P		P	08 44 22.8	+0.9
T30A	**Plains**	78.81	338	P		P	08 44 22.1	-0.2
	baz=79							
ANMO	**Albuquerque**	78.83	333	P		P	08 44 23.6	+1.0
	comp=Z,33nm,0.9s,baz=164,slow=8.2,SNR=44							
ANMO	**Albuquerque**	78.83	333⇑	*e*P		P	08 44 22.8	+0.2
ANMO				pmax		pmax		
	comp=Z,166nm,1.0s							
ANMO	**Albuquerque**	78.83	333	*e*P		P	08 44 23.4	+0.8
	comp=Z,85nm,1.0s							
ANMO				LR		LR		
	comp=Z,28µm,21.0s							
R35A	**Emporia Munici**	78.84	342	P		P	08 44 22.0	-0.4
	baz=79,SNR=8.3							
U27A	**Thompson Grove**	78.93	336	P		P	08 44 22.5	-0.6
	baz=79,SNR=20							
Q37A	**Longview Farm,**	78.96	343	P		P	08 44 22.0	-1.0
	baz=79,SNR=12							
S32A	**Newby Ranch, P**	78.97	340	P		P	08 44 22.8	-0.3
	baz=79,SNR=17							
YLE	**Yale**	79.00	0	*e*P		P	08 44 24.2	+1.1
	comp=Z,140nm,1.0s							
S31A	**Mullinville**	79.04	339	P		P	08 44 22.8	-0.7
	baz=79							
SFIN	**Scholer Farm**	79.06	349	P		P	08 44 22.4	-1.0
	baz=79							
SFIN	**Scholer Farm**	79.06	349	*e*P		P	08 44 22.3	-1.2
	comp=Z,175nm,1.6s							
R34A	**Isabella, Hill**	79.08	341	P		P	08 44 23.3	-0.4
	baz=80,SNR=31							
T29A	**Hugoton**	79.14	338	P		P	08 44 23.8	-0.3
	baz=80,SNR=11							
BOSA	**Boshof**	79.21	118	*e*P		P	08 44 23.8	-1.2
BOSA				*i* P		P	08 44 23.9	-1.0
BOSA				IAmb		IAmb	08 44 29.8	
	comp=Z,179nm,1.1s							
BOSA	**Boshof**	79.21	118	P		P	08 44 24.4	-0.6
	comp=Z,107nm,0.8s,baz=221,slow=5.4,SNR=47							
BOSA				LR		LR	09 15 32.3	
	comp=Z,26µm,20.2s,baz=227,slow=33							
TSUM	**Tsumeb**	79.22	106	*e*P		P	08 44 25.7	+0.5
	comp=Z,136nm,1.3s							
TSUM				LR		LR		
	comp=Z,38µm,20.0s							
KSPA	**Keystone Colle**	79.27	358	*e*P		P	08 44 26.1	+1.5
	comp=Z,139nm,1.8s							
Q36A	**Arnold C. Orve**	79.27	343	P		P	08 44 24.1	-0.6
	baz=80,SNR=11							
R33A	**Olander Ranch,**	79.28	341	P		P	08 44 24.5	-0.3
	baz=80,SNR=14							
Q35A	**Mercer Eighty,**	79.31	342	P		P	08 44 24.0	-0.9
	baz=80,SNR=18							
S30A	**Montezuma**	79.34	338	P		P	08 44 24.8	-0.4
	baz=80,SNR=13							
T28A	**Walsh**	79.35	337	P		P	08 44 24.6	-0.7
	baz=80,SNR=29							
KHZ	**Kahutara**	79.38	224	*e*pP		pP	08 44 34.4	+0.6
SNZO	**South Karori**	79.48	225	PFAKE			08 44 40.0	+14
SNZO				LR		LR		
	comp=Z,27µm,19.0s							
T27A	**Campo**	79.49	337	P		P	08 44 25.6	-0.5
	baz=80							
S29A	**Ulysses**	79.52	338	P		P	08 44 24.9	-1.2
	baz=80,SNR=9.9							
HDIL	**Hopedale**	79.57	348	P		P	08 44 25.2	-1.1
	baz=80,SNR=32							
HDIL	**Hopedale**	79.57	348	PFAKE			08 44 40.0	+14
HDIL				LR		LR		
	comp=Z,16µm,21.0s							
R32A	**Long Quarter,**	79.58	340	P		P	08 44 25.6	-0.8
	baz=80,SNR=23							
Q34A	**Chapman**	79.59	342	P		P	08 44 25.7	-0.7
	baz=80,SNR=7.3							
BRYW	**Bryant College**	79.62	1	*e*P		P	08 44 28.4	+1.9
	comp=Z,131nm,1.1s							
R31A	**Burdett**	79.68	339	P		P	08 44 26.3	-0.7
	baz=80,SNR=15							
KSU1	**Kansas State U**	79.68	342	P		P	08 44 26.0	-0.9
	baz=80							
KSU1	**Kansas State U**	79.68	342	*e*P		P	08 44 27.1	+0.2
	comp=Z,63nm,0.9s							
KSU1				LR		LR		
	comp=Z,6µm,20.0s							
S28A	**Manter**	79.72	337	P		P	08 44 26.5	-0.8
	baz=80,SNR=24							
RPZ	**Rata Peaks**	79.83	222	*e*P		P	08 44 28.9	+0.9
	comp=Z,80nm,1.2s							
P36A	**Woodland, A**	79.84	343	P		P	08 44 26.7	-1.1
	baz=80,SNR=17							
BKZ	**Black Stump Fm**	79.87	228	*e*pP		pP	08 44 38.3	+1.7
T26A	**Comanche Natio**	79.87	336	P		P	08 44 27.4	-0.8
	baz=80,SNR=23							
WHZ	**Wether Hill Ro**	79.88	219	*e*P		P	08 44 30.8	+2.6
	comp=Z,444nm,2.5s							
R30A	**Dighton**	79.89	339	P		P	08 44 27.1	-1.0
	baz=80							
Q33A	**Connelly Farm,**	79.89	341	P		P	08 44 27.3	-0.8
	baz=80,SNR=13							
P35A	**Duane Minner,**	79.95	342	P		P	08 44 27.0	-1.4
	baz=80,SNR=39							
QUA2	**Belchertown**	79.97	1	*e*P		P	08 44 28.8	+0.4
	comp=Z,100nm,1.0s							
Q32A	**Meitler Ranch,**	80.08	340	P		P	08 44 28.7	-0.4
	baz=80,SNR=6.9							
URZ	**Urewera**	80.10	229	*e*pP		pP	08 44 38.5	+0.8
T25A	**Trinidad**	80.10	335	P		P	08 44 29.6	+0.1
	baz=80,SNR=47							
S27A	**Las Animas**	80.11	337	P		P	08 44 29.2	-0.2
	baz=80							
SWZ	**Schweizer**	80.13	117	*e*P		P	08 44 28.9	-1.1
SWZ				IAmb		IAmb	08 45 06.9	
	comp=Z,32nm,1.1s							
SWZ	**Schweizer**	80.13	117	P		P	08 44 28.9	-1.1
	comp=Z,32nm,1.1s							
P34A	**Walnut Farm, R**	80.16	342	P		P	08 44 29.1	-0.4
	baz=80,SNR=15							
W18A	**Petrified Fore**	80.21	331	P		P	08 44 29.8	-0.3
	baz=81,SNR=8.8							
W18A	**Petrified Fore**	80.21	331	*e*P		P	08 44 30.8	+0.8
	comp=Z,203nm,1.4s							
HRV	**Adam Dziewonsk**	80.21	1	*e*P		P	08 44 30.2	+0.6
HRV				pmax		pmax		
	comp=Z,107nm,1.1s							
HRV	**Adam Dziewonsk**	80.21	1	*e*P		P	08 44 30.2	+0.6
	comp=Z,107nm,1.1s							
CBKS	**Cedar Bluff**	80.23	339	P		P	08 44 29.5	-0.4
	baz=81							
CBKS	**Cedar Bluff**	80.23	339	PFAKE			08 44 40.0

baz=81,SNR=13
O34A **Beatrice** 80.73 342 P P 08 44 32.0 -0.5
baz=81,SNR=33
IBP **Imperial Bould** 80.79 325 P P 08 44 33.5 +0.4
baz=81
P31A **Stockton** 80.79 340 P P 08 44 32.2 -0.7
baz=81,SNR=10
O33A **Hebron** 80.85 341 P P 08 44 32.5 -0.6
baz=81,SNR=24
R26A **Arlington** 80.85 337 P P 08 44 33.4 0.0
baz=81,SNR=64
KSD **Kokstad** 80.87 122 eP P 08 44 33.3 -0.7
KSD IAmb IAmb 08 44 37.8
comp=Z,34nm,1.0s
KSD **Kokstad** 80.87 122 P P 08 44 33.3 -0.7
comp=Z,34nm,1.0s
SWSC **Sam W. Stewart** 80.89 325 P P 08 44 34.1 +0.6
baz=81
Y12C **Blythe** 81.00 326 P P 08 44 35.4 +1.3
baz=81,SNR=12
SDCO **Great Sand Dun** 81.02 335 P P 08 44 34.6 +0.2
baz=81,SNR=41
SDCO **Great Sand Dun** 81.02 335 eP P 08 44 34.7 +0.2
comp=Z,42nm,0.9s
SDCO LR LR
comp=Z,19µm,19.0s
SEK **Senekal** 81.03 119 eP P 08 44 34.2 -0.7
SEK IAmb IAmb 08 44 39.6
comp=Z,131nm,0.9s
SEK **Senekal** 81.03 119 P P 08 44 34.2 -0.7
comp=Z,131nm,0.9s
P30A **Selden** 81.05 339 P P 08 44 34.1 -0.2
baz=81,SNR=11
Q28A **Sharon Springs** 81.06 338 P P 08 44 34.3 -0.2
baz=81,SNR=10
BAR **Barrett** 81.07 324 eP P 08 44 36.5 +1.9
comp=Z,113nm,1.6s
ACCN **Adirondack Com** 81.07 360 eP P 08 44 34.6 +0.3
comp=Z,76nm,1.1s
N35A **Tabor** 81.13 343 P P 08 44 34.6 0.0
baz=82,SNR=23
MONP **Monument Peak** 81.13 325 P P 08 44 34.3 -0.8
baz=82
FFD **Franklin Falls** 81.17 1 eP P 08 44 36.0 +1.2
comp=Z,105nm,1.0s
O32A **Brockman Farm,** 81.20 341 P P 08 44 34.6 -0.4
baz=82,SNR=12
WUAZ **Wupatki** 81.20 330 P P 08 44 35.6 +0.2
baz=82,SNR=22
WUAZ **Wupatki** 81.20 330 eP P 08 44 36.6 +1.2
comp=Z,82nm,1.0s
WUAZ LR LR
comp=Z,21µm,20.0s
KSCO **Kaye Shedlock'** 81.25 337 P P 08 44 35.4 -0.1
baz=82,SNR=11
KSCO **Kaye Shedlock'** 81.25 337 eP P 08 44 36.3 +0.8
comp=Z,636nm,2.2s
P29A **Atwood** 81.30 339 P P 08 44 35.5 -0.1
baz=82,SNR=12
N34A **Lincoln** 81.30 343 P P 08 44 34.9 -0.6
baz=82,SNR=20
PDMCI **Parker Dam,Lak** 81.30 327 P P 08 44 36.1 +0.4
baz=82
BC3 **Big Chuckawall** 81.33 326 P P 08 44 36.5 +0.5
baz=82,SNR=16
BFSD **Buffelsfontein** 81.34 117 eP P 08 44 35.5 -1.0
BFSD IAmb IAmb 08 44 40.7
comp=Z,100nm,0.7s
BFSD **Buffelsfontein** 81.34 117 P P 08 44 35.5 -1.0
comp=Z,100nm,0.7s
O31A **Woolen Ranch,** 81.37 340 P P 08 44 36.0 +0.1
baz=82,SNR=6.0
HNH **Hanover** 81.40 1 eP P 08 44 36.5 +0.6
comp=Z,72nm,1.2s
N33A **J Bar K, Exete** 81.44 342 P P 08 44 35.7 -0.6
baz=82
109C **Camp Elliot, M** 81.44 324 P P 08 44 35.9 -0.5
baz=82
Q26A **Hugo** 81.44 337 P P 08 44 36.9 +0.4
baz=82,SNR=20
S22A **4UR Ranch, Cre** 81.47 334 P P 08 44 37.7 +0.8
baz=82,SNR=28
P28A **Saint Francis** 81.51 338 P P 08 44 36.8 0.0
baz=82,SNR=11
MVCO **Mesa Verde** 81.59 332 P P 08 44 37.2 -0.3
baz=82,SNR=15
MVCO **Mesa Verde** 81.59 332 eP P 08 44 38.2 +0.8
comp=Z,105nm,1.1s
MVCO LR LR
comp=Z,50µm,20.0s
O30A **MW Ranch, Wils** 81.59 340 P P 08 44 37.0 -0.2
baz=82,SNR=13
SCIA **State Center** 81.61 345 eP P 08 44 36.9 -0.2
comp=Z,643nm,2.2s
SCIA LR LR
comp=Z,9µm,21.0s
IRM **Iron Mountain** 81.62 326 P P 08 44 38.1 +0.7
baz=82,SNR=25
LBTB **Lobatse** 81.64 115 eP P 08 44 37.6 -0.5
LBTB IAmb IAmb 08 44 42.9
comp=Z,260nm,1.2s
LBTB **Lobatse** 81.64 115 P P 08 44 37.6 -0.5
LBTB pmax pmax
comp=Z,260nm,1.3s
LBTB **Lobatse** 81.64 115 P P 08 44 37.6 -0.5
comp=Z,260nm,1.3s
NCB **Newcomb** 81.66 359 eP P 08 44 37.1 -0.3
comp=Z,38nm,0.9s
NCB LR LR
comp=Z,10µm,20.0s
N32A **Stulken Farm,** 81.67 341 P P 08 44 37.4 -0.2
baz=82
MDV **Middlebury** 81.68 0 eP P 08 44 37.5 0.0
PRYS **Parys** 81.71 118 eP P 08 44 37.4 -1.1
PRYS IAmb IAmb 08 44 42.8
comp=Z,55nm,0.9s
PRYS **Parys** 81.71 118 P P 08 44 37.4 -1.1
comp=Z,55nm,0.9s
M35A **Neola** 81.72 343 P P 08 44 37.1 -0.6
baz=82,SNR=5.9
P27A **Ficken Ranch,** 81.74 338 P P 08 44 38.2 +0.2
baz=82,SNR=8.0
PFO **Pinyon Flat Ob** 81.75 325 P P 08 44 38.8 +0.6
comp=Z,18nm,0.9s,baz=139,slow=4.2,SNR=19
PFO **Pinyon Flat Ob** 81.75 325 eP P 08 44 39.2 +1.0
PFO pmax pmax
comp=Z,213nm,1.5s
PFO MLR MLR
comp=Z,22µm,19.0s
PFO **Pinyon Flat Ob** 81.75 325 P P 08 44 37.9 -0.3
baz=82,SNR=15
PFO **Pinyon Flat Ob** 81.75 325 eP P 08 44 39.2 +1.0
comp=Z,213nm,1.5s
PFO LR LR
comp=Z,22µm,19.0s
O29A **4D Ranch, Culb** 81.75 339 P P 08 44 38.0 0.0
baz=82
BELC **Belle Mtn. Jos** 81.87 325 P P 08 44 39.8 +0.9
baz=82,SNR=6.5
N31A **Bailey Ranch,** 81.90 341 P P 08 44 38.7 -0.1
baz=82
NEE2 **Needles Airpor** 81.91 327 P P 08 44 38.9 0.0
baz=82
M34A **Aspy Farms, Fr** 81.95 343 P P 08 44 38.5 -0.5
baz=82,SNR=6.2
P26A **Davis Ranch, A** 81.97 337 P P 08 44 39.4 +0.1
baz=82,SNR=14
Q24A **Divide** 82.00 336 P P 08 44 39.6 -0.1
baz=82,SNR=22
O28A **Krutsinger Ran** 82.03 338 P P 08 44 39.0 -0.5
baz=82,SNR=11
JFWS **Jewell Farm** 82.03 348 eP P 08 44 38.9 -0.4
JFWS pmax pmax
comp=Z,206nm,1.5s
JFWS MLR MLR
comp=Z,16µm,19.0s
JFWS **Jewell Farm** 82.03 348 eP P 08 44 38.9 -0.4
comp=Z,206nm,1.5s
JFWS LR LR
comp=Z,16µm,19.0s
KSR **Koster** 82.05 116 eP P 08 44 39.1 -1.3
KSR IAmb IAmb 08 44 45.1
comp=Z,135nm,1.0s
KSR **Koster** 82.05 116 P P 08 44 39.1 -1.3
comp=Z,135nm,1.0s
WDLM **Western Deep L** 82.06 117 eP P 08 44 39.7 -0.7
WDLM IAmb IAmb 08 44 42.1
comp=Z,41nm,0.8s
MURC **Murrieta** 82.08 324 P P 08 44 39.0 -0.9
baz=82
M33A **Taylor Creek F** 82.17 342 P P 08 44 39.5 -0.7
baz=83,SNR=5.4
N30A **Hueftle Ranch,** 82.18 340 P P 08 44 40.3 0.0
baz=83
SCI **San Clemente I** 82.19 323 P P 08 44 40.6 +0.2
baz=83
BGNE **Belgrade** 82.25 342 P P 08 44 40.5 -0.1
baz=83,SNR=7.6
BGNE **Belgrade** 82.25 342 eP P 08 44 41.1 +0.6
comp=Z,1µm,2.5s
O27A **Beecher Island** 82.29 338 P P 08 44 40.5 -0.4
baz=83
L35A **Bielow Farm, R** 82.30 344 P P 08 44 40.3 -0.5
baz=83,SNR=17
LONY **Lake Ozonia** 82.31 359 eP P 08 44 40.9 +0.1
comp=Z,150nm,1.4s
LONY LR LR
comp=Z,8µm,20.0s
WVL **Waterville** 82.32 3 eP P 08 44 42.0 +1.2
comp=Z,69nm,1.3s
N29A **Votaw Ranch, W** 82.34 340 P P 08 44 41.3 +0.1
baz=83,SNR=9.8
L34A **Svendsen Farm,** 82.35 343 P P 08 44 40.8 -0.3
baz=83
GMRC **Granite Mounta** 82.37 326 P P 08 44 42.3 +0.8
baz=83,SNR=13
LDFC **Landfair** 82.38 327 eP P 08 44 44.2 +2.7
comp=Z,647nm,2.4s
M31A **Lambtecht Ranc** 82.39 341 P P 08 44 41.9 +0.5
baz=83,SNR=10
PV01 **Paradox Valley** 82.43 333 eP P 08 44 42.6 +0.8
comp=Z,4µm,1.0s
CIS **Catalina Islan** 82.48 323 P P 08 44 41.8 -0.1
baz=83
N28A **Pribbeno Ranch** 82.48 339 P P 08 44 41.8 0.0
baz=83
BBRC **Big Bear Solar** 82.50 325 P P 08 44 42.1 -0.2
baz=83
EMMW **East Machias** 82.57 4 eP P 08 44 43.2 +1.1
comp=Z,128nm,1.3s
O26A **Horse Wrangler** 82.59 337 P P 08 44 42.6 +0.1
baz=83,SNR=21
SADO **Sadowa** 82.61 356 P P 08 44 41.6 -0.7
comp=Z,52nm,0.7s,baz=195,slow=4.1,SNR=59
CRZF **Crozet Islands** 82.66 145 P P 08 44 16.0 -27
CRZF **Crozet Islands** 82.66 145 S S 08 54 34.0 -25
CRZF L L 09 06 00.0
CRZF R 09 10 00.0
FMP **Fort Macarthur** 82.68 324 P P 08 44 43.0 +0.1
baz=83
ERPM **east rand prop** 82.69 118 eP P 08 44 43.9 +0.2
ERPM IAmb IAmb 08 44 45.7
comp=Z,3µm,3.8s
ERPM **east rand prop** 82.69 118 P P 08 44 43.9 +0.2
comp=Z,3µm,3.8s
HEC **Hector,Ludlow** 82.71 326 P P 08 44 43.7 +0.5
baz=83
RAO **Raoul Island** 82.74 239 PFAKE 08 45 00.0 +16
RAO LR LR
comp=Z,22µm,21.0s
L33A **Hoskins** 82.75 342 P P 08 44 42.8 -0.3
baz=83,SNR=6.0
PV04 **Paradox Valley** 82.78 333 eP P 08 44 44.9 +1.3
SMCO **Snowmass** 82.80 334 eP P 08 44 44.0 0.0
comp=Z,204nm,1.5s
M30A **Dale-Ortello V** 82.81 340 P P 08 44 43.7 +0.1
baz=83
BFSC **Mount Baldy Ra** 82.82 324 P P 08 44 45.1 +1.3
baz=83,SNR=12
OGNE **Ogallala** 82.86 339 P P 08 44 43.7 -0.2
baz=83
OGNE **Ogallala** 82.86 339 eP P 08 44 43.4 -0.4
comp=Z,271nm,1.6s
OGNE LR LR
comp=Z,10µm,22.0s
N27A **Anderson Farm,** 82.88 338 P P 08 44 44.0 0.0
baz=83,SNR=9.6
ISCO **Idaho Springs** 82.91 336 P P 08 44 45.0 +0.6
baz=83,SNR=20
ISCO **Idaho Springs** 82.91 336 PFAKE 08 45 00.0 +16
ISCO LR LR
comp=Z,10µm,20.0s
M29A **Burnside Ranch** 82.94 340 P P 08 44 44.5 +0.2
baz=83,SNR=9.7
MWC **Mount Wilson** 82.99 324 eP P 08 44 46.1 +1.3
MWC pmax pmax
comp=Z,268nm,1.9s
MWC **Mount Wilson** 82.99 324 eP P 08 44 46.0 +1.3
comp=Z,268nm,1.9s
PASC **Pasadena Art C** 83.01 324 eP P 08 44 47.3 +2.6
comp=Z,176nm,1.6s
PKME **Peaks-Kenny Pk** 83.03 3 eP P 08 44 46.5 +2.0
comp=Z,82nm,1.7s
PKME LR LR
comp=Z,8µm,20.0s
TUQ **Turquoise Moun** 83.04 326 P P 08 44 44.9 -0.1
baz=83
RRX **Edison Barstow** 83.05 325 P P 08 44 44.2 -0.7
baz=83
M28A **Bar X Bar Ranc** 83.09 339 P P 08 44 44.7 -0.3
baz=84
SLR **Silverton** 83.10 117 eP P 08 44 45.1 -0.7
SLR IAmb IAmb 08 44 50.1
comp=Z,109nm,1.0s
SLR **Silverton** 83.10 117 P P 08 44 45.1 -0.7
SLR pmax pmax
comp=Z,109nm,1.0s
SLR **Silverton** 83.10 117 P P 08 44 45.1 -0.7
comp=Z,109nm,1.0s
N26A **Koester Ranch,** 83.10 338 P P 08 44 45.2 0.0
baz=84
GLMI **Grayling** 83.12 352 eP P 08 44 45.3 +0.4
comp=Z,116nm,1.3s
GLMI LR LR
comp=Z,17µm,21.0s
DECC **Green Verdugo** 83.14 324 P P 08 44 44.4 -1.0
baz=84
L31A **Butterfield Fa** 83.14 341 P P 08 44 45.2 0.0
baz=84,SNR=23
L30A **Spencer Herefo** 83.16 341 P P 08 44 45.3 0.0
baz=84,SNR=6.2
GSC **Goldstone** 83.32 326 eP P 08 44 47.7 +1.3
GSC pmax pmax
comp=Z,168nm,1.7s
GSC **Goldstone** 83.32 326 P P 08 44 46.3 0.0
baz=84,SNR=12
GSC **Goldstone** 83.32 326 eP P 08 44 47.7 +1.3
comp=Z,168nm,1.7s
BLG **Laguna Peak** 83.37 323 P P 08 44 47.3 +0.8
baz=84
L29A **Maesberg Ranch** 83.46 340 P P 08 44 47.3 +0.4
baz=84
M27A **Reverse DX Ran** 83.50 339 P P 08 44 47.8 +0.7
baz=84
EDW2 **Edwards Air Fo** 83.50 325 P P 08 44 48.0 +0.7
baz=84,SNR=9.5
BSC **Santa Cruz Isl** 83.54 323 P P 08 44 47.9 +0.5
baz=84
SHOC **Shoshone** 83.59 326 P P 08 44 48.7 +1.0
baz=84
SHPR **Sheep Range** 83.61 327 eP P 08 44 48.8 +0.9
OSI **Osito Adit** 83.62 324 P P 08 44 48.4 +0.5
baz=84
M26A **McRoberts Ranc** 83.66 338 P P 08 44 48.2 +0.1
baz=84
L28A **Connealy Angus** 83.70 339 P P 08 44 48.2 +0.1
baz=84
CCUT **Cedar City** 83.76 329 eP P 08 44 49.7 +1.0
comp=Z,197nm,1.5s
K30A **Basset** 83.81 341 P P 08 44 48.5 -0.1
baz=84,SNR=16
LRMC **Laurel Mountai** 83.86 325 P P 08 44 49.7 +0.5
baz=84
M25A **Palm-Egli Farm** 83.91 337 P P 08 44 49.4 +0.1
baz=84,SNR=6.8
SBC **Santa Barbara** 83.95 323 P P 08 44 50.4 +0.9
baz=84
L27A **T5 Ranch, Ells** 83.99 339 P P 08 44 50.6 +0.9
baz=84
N23A **Red Feather La** 84.01 336 P P 08 44 50.0 0.0
baz=84,SNR=17
SRU **San Rafael** 84.01 332 eP P 08 44 50.3 +0.4
SRU pmax pmax
comp=Z,247nm,1.8s
SRU **San Rafael** 84.01 332 eP P 08 44 50.3 +0.4
comp=Z,247nm,1.8s
K29A **Lazy Trails An** 84.07 340 P P 08 44 50.0 0.0
baz=84,SNR=8.3
ECSD **EROS Data Cent** 84.08 343 P P 08 44 49.6 -0.3
baz=84,SNR=120
ECSD **EROS Data Cent** 84.08 343 eP P 08 44 49.6 -0.3
comp=Z,201nm,1.1s
ECSD LR LR
comp=Z,10µm,20.0s
ARVC **Arvin** 84.09 324 P P 08 44 50.3 0.0
baz=84
O20A **White River Ci** 84.10 334 P P 08 44 50.1 -0.3
baz=84,SNR=10
O20A **White River Ci** 84.10 334 eP P 08 44 51.3 +0.9
comp=Z,422nm,2.1s
MSU **Marysvale** 84.12 330 eP P 08 44 51.5 +0.9
MSU pmax pmax
comp=Z,42nm,1.0s
MSU **Marysvale** 84.12 330 eP P 08 44 51.5 +0.9
comp=Z,42nm,1.0s
MVU **Marysvale** 84.13 330 eP P 08 44 51.5 +0.9
comp=Z,150nm,1.7s
L26A **Underwood Farm** 84.17 338 P P 08 44 50.0 -0.6
baz=85
PHWY **Pilot Hill** 84.22 336 eP P 08 44 50.9 -0.2
comp=Z,93nm,1.4s
MPMC **Manual Prospec** 84.26 326 P P 08 44 52.1 +0.8
baz=85,SNR=11
K28A **Ten Mile Ranch** 84.31 340 P P 08 44 51.5 +0.3
baz=85,SNR=26
FURC **Furnace Creek,** 84.32 326 P P 08 44 51.4 +0.1
baz=85,SNR=14
POGA **Pongola** 84.37 120 eP P 08 44 52.3 +0.2
POGA IAmb IAmb 08 44 59.3
comp=Z,42nm,0.7s
POGA **Pongola** 84.37 120 P P 08 44 52.3 +0.2
comp=Z,42nm,0.7s
PKM **Peak Mountain** 84.37 323 P P 08 44 52.3 +0.5
baz=85,SNR=9.2
ISA **Isabella** 84.37 325 eP P 08 44 53.0 +1.3
ISA pmax pmax
comp=Z,82nm,1.4s
ISA **Isabella** 84.37 325 P P 08 44 52.3 +0.6
baz=85,SNR=16
ISA **Isabella** 84.37 325 eP P 08 44 53.0 +1.3
comp=Z,82nm,1.4s
J30A **Dallas** 84.39 341 P P 08 44 50.8 -0.7
baz=85
P17A **Butcher Ranch,** 84.41 332 eP P 08 44 52.5 +0.5
TMUT **Trail Mountain** 84.43 331 eP P 08 44 52.7 +0.5
comp=Z,50nm,0.8s
TPNV **Topopah Spring** 84.46 327 P P 08 44 52.4 +0.1
baz=85,SNR=26
DAC **Darwin (Calif)** 84.48 326 eP P 08 44 53.3 +0.9
DAC pmax pmax
comp=Z,153nm,1.5s
DAC **Darwin (Calif)** 84.48 326 eP P 08 44 53.3 +0.9
comp=Z,152nm,1.5s
PQI **Presque Isle** 84.50 4 eP P 08 44 51.9 -0.1
comp=Z,182nm,1.5s
L25A **Engebretsen Ra** 84.54 338 P P 08 44 52.2 -0.3
baz=85
K27A **Flueckinger Fa** 84.54 339 P P 08 44 52.1 -0.3
baz=85,SNR=21
J29A **Okreek** 84.67 341 P P 08 44 52.4 -0.6
baz=85,SNR=27
SPMN **St. Paul** 84.72 346 P P 08 44 51.6 -1.5
baz=85,SNR=29
SPMN **St. Paul** 84.72 346 eP P 08 44 51.8 -1.4
comp=Z,49nm,0.8s
SMMC **Simmler** 84.79 323 P P 08 44 50.8 -3.0
baz=85
VES **Vestal, Richgr** 84.80 324 P P 08 44 49.7 -4.0
baz=85,SNR=13
K26A **Motz Farm, Whi** 84.81 338 P P 08 44 53.8 0.0
baz=85
CWC **Cottonwood Cre** 84.84 325 P P 08 44 53.9 -0.3
baz=85
I30A **Oacoma** 84.92 341 P P 08 44 53.4 -0.8
baz=85,SNR=11
K25A **Mack Ranch, Ha** 84.93 338 P P 08 44 54.5 +0.1
baz=85
J28A **Allard Ranch,** 84.93 340 P P 08 44 54.3 0.0
baz=85,SNR=14
COWI **Conover** 84.96 349 eP P 08 44 54.1 -0.3
comp=Z,37nm,0.8s
COWI LR LR
comp=Z,10µm,21.0s
J27A **Elkhorn Farm,** 84.98 339 P P 08 44 54.7 +0.1
baz=85,SNR=17
GRAC **Grapevine Rang** 84.99 326 P P 08 44 54.7 0.0
baz=85,SNR=9.3
MPU **Maple Canyon** 85.22 332 eP P 08 44 56.3 +0.2
comp=Z,539nm,1.5s
I29A **Vivian Onida** 85.24 341 P P 08 44 55.4 -0.5
baz=86,SNR=10
RCTC **Rector, Farmer** 85.26 324 P P 08 44 56.2 +0.2
baz=86
K24A **Anderson Ranch** 85.31 337 P P 08 44 56.4 +0.1
baz=86,SNR=6.1
NLU **North Lily Min** 85.33 331 eP P 08 44 57.5 +0.8
comp=Z,484nm,2.3s
J26A **Sides Ranch, S** 85.34 339 P P 08 44 56.5 +0.1
baz=86,SNR=21
R11A **Troy Canyon, C** 85.36 328 P P 08 44 57.2 +0.5
baz=86,SNR=53
R11A **Troy Canyon, C** 85.36 328 eP P 08 44 57.6 +0.9
comp=Z,323nm,2.1s
TIN **Tinemaha** 85.41 326 P P 08 44 57.7 +0.8
baz=86
I28A **Midland** 85.45 340 P P 08 44 56.7 -0.1
baz=86,SNR=34
K23A **Bowen Ranch, D** 85.59 337 P P 08 44 57.2 -0.6
baz=86,SNR=14
J25A **Sunshine Ranch** 85.62 338 P P 08 44 57.6 -0.2
baz=86,SNR=14
JLU **Jordanelle** 85.66 332 eP P 08 44 58.8 +0.5
comp=Z,260nm,2.1s
I27A **Quinn** 85.75 340 P P 08 44 58.0 -0.4
baz=86,SNR=8.4
K22A **Casper** 85.78 336 P P 08 44 58.2 -0.5
baz=86,SNR=15
K22A **Casper** 85.78 336 eP P 08 44 59.1 +0.3
comp=Z,178nm,1.4s
H29A **Onida** 85.78 341 P P 08 44 57.8 -0.7
baz=86,SNR=5.5
J24A **Dixon Ranch, L** 85.82 338 P P 08 44 58.8 0.0
baz=86,SNR=14
DUG **Dugway** 85.82 331 P P 08 44 59.2 +0.2
baz=86,SNR=20
DUG **Dugway** 85.82 331 PFAKE 08 45 10.0 +11
DUG LR LR
comp=Z,20µm,20.0s
CTU **Camp Tracy** 85.85 332 eP P 08 45 00.2 +1.1
comp=Z,402nm,2.9s
I26A **New Underwood** 85.94 339 P P 08 44 59.3 -0.1
baz=86
G30A **Faulkton** 85.99 342 P P 08 44 59.3 -0.2
baz=86
H28A **Mission Ridge** 86.04 341 P P 08 44 59.3 -0.5
baz=86,SNR=6.0
TCUT **Toone Canyon** 86.09 332 eP P 08 45 00.7 +0.3
comp=Z,230nm,1.5s
J23A **Dilts Ranch, B** 86.16 337 P P 08 44 60.0 -0.6
baz=86
MLAC **Mammoth Lakes** 86.16 326 P P 08 44 59.8 -1.0
baz=86
I25A **Rochford** 86.18 339 P P 08 45 00.3 -0.4
baz=87,SNR=18
G29A **Hoven** 86.24 342 P P 08 45 00.1 -0.6
baz=87
H27A **Howes** 86.28 340 P P 08 45 00.6 -0.4
baz=87,SNR=10
H07S1 **FLORES T-PHASE** 86.28 31 eP P 08 45 03.4 +2.3
I24A **Kuemmerle Ranc** 86.29 338 P P 08 45 00.8 -0.4
baz=87,SNR=6.0
RSSD **Black Hills** 86.36 338 eP P 08 45 01.0 -0.6
RSSD pmax pmax
comp=Z,22nm,0.9s
RSSD **Black Hills** 86.36 338 eP P 08 45 01.0 -0.6
comp=Z,22nm,0.9s
G28A **Parade** 86.38 341 P P 08 45 01.2 -0.3
baz=87,SNR=13
J22A **Midwest** 86.45 337 P P 08 45 01.3 -0.7
baz=87,SNR=9.8
H26A **Fairpoint** 86.46 339 P P 08 45 01.1 -0.8
baz=87
MSNA **Messina** 86.47 116 eP P 08 45 03.1 +0.4
MSNA IAmb IAmb 08 45 07.7

comp=Z,85nm,0.7s
MSNA Messina 86.47 116 P **P** **08 45 03.1 +0.4**
comp=Z,85nm,0.7s
XMAS Kiritimati 86.50 275 PFAKE 08 45 10.0 +7.2
XMAS LR LR
comp=Z,16µm,20.0s
BGU Big Grassy Mou 86.54 331 *e*P **P** **08 45 03.5 +1.0**
comp=Z,94nm,1.4s
HWUT Hardware Ranch 86.58 332 *e*P **P** **08 45 02.7 0.0**
comp=Z,715nm,2.1s
HWUT LR LR
comp=Z,23µm,22.0s
H07N1 FLORES T-PHASE 86.58 31 *e*P **P** **08 45 05.3 +2.7**
NVAR Mina Array Bea 86.59 326 P **P** **08 45 03.7 +0.8**
comp=Z,6.4nm,0.8s,baz=155,slow=5.6,SNR=43
NVAR PKPPKP P'P'df 09 11 10.0 +9.1
comp=Z,0.5nm,0.8s,baz=240,slow=3.1,SNR=4.0
F30A Leola 86.63 342 P **P** **08 45 02.1 -0.5**
baz=87
I23A Meade Ranch, G 86.64 337 P **P** **08 45 02.1 -0.8**
baz=87
SPUT South Promonto 86.65 332 *e*P **P** **08 45 04.2 +1.2**
comp=Z,251nm,1.6s
TORD Torodi Ar. Bea 86.67 71 P **P** **08 45 03.2 -0.4**
comp=Z,78nm,1.0s,baz=231,slow=3.5,SNR=100
TORD ScS S 08 55 49.1 +10
comp=Z,1.1nm,1.0s,baz=232,slow=6.4,SNR=3.6
TORD LR LR 09 22 25.7
comp=Z,16µm,19.6s,baz=230,slow=35
PCAN Candelaria 86.67 34 *e*P **P** **08 45 02.3 -0.7**
comp=Z,138nm,1.4s
TOC1 Torodi Ar. Sit 86.69 71 *e*P **P** **08 45 02.9 -0.7**
H25A Fruitdale 86.69 339 P **P** **08 45 02.3 -0.7**
baz=87,SNR=12
J21A Lysite 86.70 336 P **P** **08 45 02.9 -0.4**
baz=87,SNR=8.6
PPNO Prainha do Nor 86.78 34 *e*P **P** **08 45 05.1 +1.5**
comp=Z,44nm,0.3s
F29A Eureka 86.82 342 P **P** **08 45 02.7 -0.9**
baz=87
BW06 Boulder Array 86.89 334 *e*P **P** **08 45 03.5 -0.8**
comp=Z,182nm,1.8s
BW06 LR LR
comp=Z,50µm,19.0s
I22A 9 Mile Ranch, 86.89 337 P **P** **08 45 03.6 -0.4**
baz=87,SNR=7.6
PDAR Pinedale Array 86.89 334 P **P** **08 45 03.4 -0.9**
comp=Z,12nm,0.9s,baz=133,slow=4.7,SNR=46
PDAR LR LR 09 19 52.2
comp=Z,44µm,18.6s,baz=160,slow=33
J20A Shoshoni 86.91 335 P **P** **08 45 03.9 -0.4**
baz=87,SNR=35
G27A Dupree 86.93 340 P **P** **08 45 03.5 -0.7**
baz=87,SNR=22
PMAN Manadas 86.99 34 *e*P **P** **08 45 04.2 -0.3**
comp=Z,97nm,1.8s
ROSA Rosais 86.99 34 *e*P **P** **08 45 04.8 +0.2**
comp=Z,117nm,1.1s
ROSA Rosais 86.99 34 *i* SKS **S** **08 55 47.0 +5.5**
ROSA Rosais 86.99 34 *i* LQ LQ 09 08 33.3
ROSA *e*LR LR 09 13 19.6
comp=Z,2µm,19.3s
PSMA Santa Maria 87.01 37 *e*P **P** **08 45 07.1 +2.5**
comp=Z,205nm,1.1s
G26A Maurine 87.03 340 P **P** **08 45 04.1 -0.6**
baz=87,SNR=18
PSMN Pico do Norte, 87.04 37 *e*P **P** **08 45 07.3 +2.5**
comp=Z,270nm,1.3s
PSMN Pico do Norte, 87.04 37 *i* SKS **S** **08 55 47.0 +5.0**
PSMN Pico do Norte, 87.04 37 *i* LQ LQ 09 08 21.5
PSMN *e*LR LR 09 13 17.5
comp=Z,2µm,18.0s
I21A Big Trails, Te 87.07 336 P **P** **08 45 04.0 -1.0**
baz=88,SNR=13
F28A McLaughlin 87.08 341 P **P** **08 45 04.2 -0.6**
baz=88
H24A Dirks Ranch, A 87.08 338 P **P** **08 45 03.8 -1.1**
baz=88,SNR=9.9
EYMN Ely 87.13 348 P **P** **08 45 04.5 -0.4**
baz=88,SNR=7.5
EYMN Ely 87.13 348 *e*P **P** **08 45 05.4 +0.4**
comp=Z,405nm,2.0s
EYMN LR LR
comp=Z,14µm,22.0s
WAKR Walker 87.15 326 *e*P **P** **08 45 07.7 +2.1**
J19A Crowheart 87.16 335 P **P** **08 45 04.8 -0.7**
baz=88,SNR=31
H23A Clabaugh Cattl 87.16 338 P **P** **08 45 04.7 -0.7**
baz=88
G25A Newell 87.17 339 P **P** **08 45 05.0 -0.3**
baz=88,SNR=11
HVU Hansel Valley 87.18 332 *e*P **P** **08 45 05.9 +0.3**
HVU Hansel Valley 87.18 332 *e*P **P** **08 45 05.9 +0.3**
CMB Columbia Colle 87.19 325 *e*P **P** **08 45 06.8 +1.2**
CMB pmax pmax
comp=Z,61nm,1.3s
CMB Columbia Colle 87.19 325 *e*P **P** **08 45 06.8 +1.2**
comp=Z,61nm,1.3s
PAF Port-aux-Franc 87.21 157 P P 08 44 42.0 -24
PAF Port-aux-Franc 87.21 157 S S 08 55 11.0 -33
PAF SS SS 09 01 02.0 -24
PAF L L 09 07 00.0
PAF R 09 13 00.0
PAF Port-aux-Franc 87.21 157 PFAKE 08 45 20.0 +14
PAF LR LR
comp=Z,20µm,20.0s
E30A Jud 87.23 343 P **P** **08 45 04.8 -0.7**
baz=88
ELK Elko 87.24 330 P **P** **08 45 06.4 +0.3**
comp=Z,19nm,0.9s,baz=130,slow=5.8,SNR=62
ELK Elko 87.24 330 P **P** **08 45 06.4 +0.3**
ELK pmax pmax
comp=Z,19nm,0.9s
PGRA Graciosa 87.36 34 *e*P **P** **08 45 07.4 +1.1**
comp=Z,38nm,0.4s
PGRA Graciosa 87.36 34 *i* SKS S 08 55 51.7 +6.7
PGRA Graciosa 87.36 34 *i* LQ LQ 09 08 35.7
PGRA *e*LR LR 09 13 22.5
comp=Z,2µm,21.5s
ADH Angra Heroismo 87.39 34 *e*P **P** **08 45 09.5 +3.1**
comp=Z,38nm,0.3s
PSET Sete Cidades 87.40 36 *e*P **P** **08 45 08.3 +1.7**
PSET Sete Cidades 87.40 36 *i* LQ LQ 09 08 38.1
PSET *e*LR LR 09 13 16.1
comp=Z,3µm,20.3s
F27A Lemmon 87.41 340 P **P** **08 45 06.0 -0.4**
baz=88,SNR=18
AHID Auburn Hatcher 87.42 333 *e*P **P** **08 45 06.9 +0.1**
comp=Z,59nm,1.1s
AHID LR LR
comp=Z,29µm,21.0s
I20A Worland 87.46 336 P **P** **08 45 06.8 -0.1**
baz=88,SNR=12
E29A Napoleon 87.46 342 P **P** **08 45 05.9 -0.8**
baz=88
H22A Clearmont 87.48 337 P **P** **08 45 06.2 -0.7**
baz=88
F26A Lodgepole 87.57 340 P **P** **08 45 06.4 -0.8**
baz=88,SNR=12
G24A Alzada 87.57 339 P **P** **08 45 06.4 -0.9**
baz=88
BART Pico Bartolome 87.62 36 *e*P **P** **08 45 10.4 +2.7**
comp=Z,161nm,1.1s
H21A Big Horn, Sher 87.72 337 P **P** **08 45 07.6 -0.5**
baz=88
E28A Huff 87.73 342 P **P** **08 45 07.5 -0.4**
baz=88
G23A Biddle 87.74 338 P **P** **08 45 07.8 -0.3**
baz=88
D30A Buchanan 87.76 343 P **P** **08 45 07.7 -0.4**
baz=88,SNR=14
BMN Battle Mountai 87.79 328 *e*P **P** **08 45 08.9 +0.3**
BMN pmax pmax
comp=Z,47nm,1.4s
BMN Battle Mountai 87.79 328 *e*P **P** **08 45 08.9 +0.3**
comp=Z,48nm,1.4s
E27A Carson 87.81 341 P **P** **08 45 07.7 -0.7**
baz=88,SNR=6.7
I19A Meeteetse 87.82 335 P **P** **08 45 08.7 0.0**
baz=88,SNR=10
PMOZ Porto Moniz, M 87.83 44 *e*P **P** **08 45 09.0 +0.1**
comp=Z,160nm,1.6s
PMOZ Porto Moniz, M 87.83 44 *e*PP PP 08 48 37.8 +2.4
F25A Bowman 87.85 340 P **P** **08 45 08.4 -0.2**
baz=88,SNR=7.3
REDW Red Top Meadow 87.86 334 *e*P **P** **08 45 08.8 -0.1**
comp=Z,170nm,1.6s

H20A Greybull 87.90 336 P **P** **08 45 07.8 -1.1**
baz=88,SNR=12
D29A Pettibone, Tap 87.91 342 P **P** **08 45 08.3 -0.5**
baz=88
SNOW Snow King Moun 87.91 334 *e*P **P** **08 45 09.0 -0.2**
comp=Z,155nm,1.8s
AFI Afiamalu 87.94 254 PFAKE 08 45 20.0 +10
AFI LR LR
comp=Z,33µm,19.0s
LOHW Long Hollow 87.99 334 *e*P **P** **08 45 09.2 -0.3**
comp=Z,34nm,1.3s
TPAW Teton Pass 88.01 334 *e*P **P** **08 45 09.8 +0.1**
comp=Z,48nm,1.0s
G22A Birney 88.03 337 P **P** **08 45 08.8 -0.7**
baz=88
F24A Ekalaka 88.05 339 P **P** **08 45 08.8 -0.8**
baz=88,SNR=8.2
E26A Carlson Angus 88.08 340 P **P** **08 45 09.2 -0.5**
baz=88,SNR=17
FXWY Fox Creek 88.16 334 *e*P **P** **08 45 10.3 -0.1**
comp=Z,74nm,1.5s
F23A Volborg 88.22 338 P **P** **08 45 09.6 -0.8**
baz=89
C30A Mose, Pekin 88.26 343 P **P** **08 45 10.0 -0.4**
baz=89,SNR=14
AGMN Agassiz Nation 88.26 345 P **P** **08 45 09.8 -0.6**
baz=89,SNR=20
AGMN Agassiz Nation 88.26 345 PFAKE 08 45 20.0 +10
AGMN LR LR
comp=Z,18µm,21.0s
D28A Regan 88.27 342 P **P** **08 45 10.3 -0.2**
baz=89,SNR=6.5
G21A Lodge Grass 88.31 337 P **P** **08 45 10.5 -0.3**
baz=89
IMW Indian Meadow 88.36 334 *e*P **P** **08 45 11.9 +0.5**
comp=Z,60nm,1.2s
E25A Miller Ranch, 88.36 340 P **P** **08 45 10.5 -0.5**
baz=89,SNR=13
H19A Powell 88.38 335 P **P** **08 45 10.5 -0.8**
baz=89,SNR=6.6
D27A Center 88.43 341 P **P** **08 45 10.8 -0.4**
baz=89
FLWY Flagg Ranch 88.44 334 *e*P **P** **08 45 11.9 +0.3**
comp=Z,140nm,1.3s
MCCM Marconi Confer 88.44 323 *e*pP pP 08 45 25.6 +5.8
PMPST Porto Santo, M 88.50 45 *e*P **P** **08 45 13.8 +1.9**
comp=Z,125nm,1.7s
PMPST Porto Santo, M 88.50 45 *e*PP PP 08 48 43.0 +2.3
F22A Rosebud 88.52 338 P **P** **08 45 11.5 -0.3**
baz=89
D26A Manning 88.59 341 P **P** **08 45 11.9 -0.2**
baz=89
G20A Bridger 88.62 336 P **P** **08 45 11.9 -0.5**
baz=89
MDND Maddock 88.65 343 P **P** **08 45 11.8 -0.5**
baz=89,SNR=16
MDND Maddock 88.65 343 *e*P **P** **08 45 12.3 0.0**
comp=Z,512nm,1.4s
E24A Baker 88.67 339 P **P** **08 45 12.0 -0.5**
baz=89,SNR=6.5
H17A Grant Village 88.67 334 P **P** **08 45 12.8 +0.1**
baz=89
H17A Grant Village 88.67 334 *e*pP pP 08 45 27.8 +6.7
C28A Hausauer Farms 88.72 342 P **P** **08 45 12.2 -0.4**
baz=89,SNR=6.1
LKWY Lake 88.76 335 PFAKE 08 45 20.0 +6.8
LKWY LR LR
comp=Z,44µm,20.0s
YFT Old Faithful 88.81 334 *e*P **P** **08 45 15.2 +1.8**
comp=Z,156nm,1.7s
F21A Absaloka Mine, 88.82 337 P **P** **08 45 12.7 -0.5**
baz=89
RLMT Red Lodge 88.88 336 P **P** **08 45 12.9 -0.7**
baz=89,SNR=13
RLMT Red Lodge 88.88 336 *e*P **P** **08 45 15.5 +1.8**
comp=Z,112nm,1.6s
RLMT LR LR
comp=Z,12µm,19.0s
E23A Ismay 88.89 339 P **P** **08 45 13.1 -0.4**
baz=89
B30A Myrvik Farm, E 88.93 344 P **P** **08 45 13.2 -0.4**
baz=89,SNR=29
D25A Fairfield 88.94 340 P **P** **08 45 13.1 -0.6**
baz=89
C27A Sayler Ranch, 88.99 341 P **P** **08 45 13.5 -0.4**
baz=89,SNR=6.1
E22A Miles City 89.03 338 P **P** **08 45 13.1 -1.0**
baz=89
YMR Madison River 89.04 334 *e*P **P** **08 45 15.2 +0.7**
comp=Z,462nm,1.9s
F20A Billings 89.12 337 P **P** **08 45 14.3 -0.3**
baz=90
B29A Wagenman Farm, 89.17 343 P **P** **08 45 14.6 -0.1**
baz=90,SNR=15
D24A Glendive 89.18 339 P **P** **08 45 14.9 0.0**
baz=90,SNR=6.8
C26A Wahner Farm, P 89.24 341 P **P** **08 45 15.4 +0.3**
baz=90
HLID Hailey 89.33 332 P **P** **08 45 16.0 +0.2**
baz=90,SNR=41
HLID Hailey 89.33 332 *e*P **P** **08 45 16.2 +0.4**
comp=Z,104nm,1.4s
HLID LR LR
comp=Z,16µm,19.0s
LAO LASA Array 89.33 338 *e*P **P** **08 45 15.8 +0.2**
comp=Z,237nm,2.3s
LAO LR LR
comp=Z,6µm,22.0s
QLMT Earthquake Lak 89.35 334 *e*P **P** **08 45 16.5 +0.6**
comp=Z,7.9nm,1.4s
A30A Hoffart Farm, 89.39 344 P **P** **08 45 14.9 -0.8**
baz=90,SNR=16
B28A Dugan Ranch, T 89.39 342 P **P** **08 45 15.2 -0.5**
baz=90,SNR=14
C25A Freed Ranch, W 89.44 340 P **P** **08 45 15.7 -0.3**
baz=90
E21A Keefer Ranch, 89.45 338 P **P** **08 45 15.6 -0.5**
baz=90
B27A Peters Farms, 89.57 342 P **P** **08 45 15.7 -0.9**
baz=90
A29A Manning Farm, 89.58 343 P **P** **08 45 15.5 -1.1**
baz=90
C24A Savage 89.59 340 P **P** **08 45 16.3 -0.5**
baz=90,SNR=11
GCMT Greycliff 89.60 336 P **P** **08 45 18.6 +1.6**
comp=Z,34nm,1.5s
LSZ Lusaka 89.61 109 *e*P **P** **08 45 19.3 +1.5**
LSZ pmax pmax
comp=Z,64nm,1.1s
LSZ MLR MLR
comp=Z,32µm,21.0s
LSZ Lusaka 89.61 109 *e*P **P** **08 45 19.2 +1.5**
comp=Z,64nm,1.1s
LSZ LR LR
comp=Z,32µm,21.0s
D22A Cohagen 89.74 338 P **P** **08 45 16.8 -0.6**
baz=90,SNR=9.8
B26A Jensen Ranch, 89.79 341 P **P** **08 45 17.3 -0.3**
baz=90
A28A Rude Farm, Bot 89.80 343 P **P** **08 45 16.8 -0.9**
baz=90
MCMT McKenzie Canyo 89.84 333 *e*P **P** **08 45 20.6 +2.4**
B25A Knox Farm, Ray 89.93 341 P **P** **08 45 17.6 -0.7**
baz=90
KCPM Cahto Peak 90.00 324 *e*P **P** **08 45 20.8 +1.9**
comp=Z,175nm,1.7s
WVOR Wild Horse Val 90.05 328 *e*P **P** **08 45 19.9 +0.8**
WVOR pmax pmax
comp=Z,99nm,1.4s
WVOR MLR MLR
comp=Z,16µm,20.0s
WVOR Wild Horse Val 90.05 328 *e*P **P** **08 45 19.9 +0.8**
comp=Z,99nm,1.4s
WVOR LR LR
comp=Z,16µm,20.0s
KIPM Iron Peak 90.05 324 *e*P **P** **08 45 21.4 +2.2**
comp=Z,341nm,1.7s
A27A Ledoux Ranch, 90.08 342 P **P** **08 45 18.0 -0.9**
baz=90
BOZ Bozeman (W) 90.13 334 *e*P **P** **08 45 19.8 +0.4**
BOZ pmax pmax
comp=Z,240nm,2.7s
BOZ MLR MLR
comp=Z,32µm,21.0s
BOZ Bozeman (W) 90.13 334 P **P** **08 45 19.5 +0.1**
baz=90,SNR=17
BOZ Bozeman (W) 90.13 334 *e*P **P** **08 45 19.8 +0.4**
comp=Z,240nm,2.7s

BOZ LR LR
comp=Z,32µm,21.0s
ULM Lac du Bonnet 90.13 346 P **P** **08 45 18.1 -1.0**
comp=Z,15nm,0.9s,baz=176,slow=5.0,SNR=14
ULM Lac du Bonnet 90.13 346 P **P** **08 45 18.1 -1.0**
ULM pmax pmax
comp=Z,15nm,0.9s
DLMT Dillon 90.22 334 *e*P **P** **08 45 21.1 +1.3**
comp=Z,118nm,1.6s
A26A Wade Farm, Ken 90.22 342 P **P** **08 45 18.8 -0.8**
baz=91
WDC Whiskeytown Da 90.23 325 *e*P P 08 45 27.2 +7.3
comp=Z,222nm,2.3s
MOD Modoc 90.31 327 *e*P **P** **08 45 20.6 +0.2**
comp=Z,271nm,2.3s
DGMT Dagmar 90.39 340 P **P** **08 45 19.6 -0.8**
baz=91
DGMT Dagmar 90.39 340 *e*P **P** **08 45 21.2 +0.8**
comp=Z,92nm,1.2s
DGMT LR LR
comp=Z,13µm,20.0s
KMRM Mail Ridge 90.48 324 *e*P P 08 45 25.3 +4.2
comp=Z,143nm,1.5s
A25A Svangstu Ranch 90.53 341 P **P** **08 45 20.3 -0.8**
baz=91
LRM Limekiln Ridge 90.56 334 *e*P **P** **08 45 22.7 +1.1**
comp=Z,392nm,1.4s
B23A Brockton 90.60 340 P **P** **08 45 20.6 -0.8**
baz=91
C21A Desert Coulee 90.62 338 P **P** **08 45 20.4 -1.1**
baz=91
N02D Trinity Center 90.62 325 P **P** **08 45 22.5 +0.7**
baz=91
B22A Reddig Ranch S 90.73 339 P **P** **08 45 21.5 -0.5**
baz=91,SNR=8.4
A24A Westby 90.75 340 P **P** **08 45 21.0 -1.1**
baz=91
C20A Veseth Ranch, 90.79 337 P **P** **08 45 21.3 -1.0**
baz=91
M04C Macdoel 90.88 326 P **P** **08 45 21.8 -1.2**
baz=91
A23A Redstone 91.02 340 P **P** **08 45 20.7 -2.7**
baz=91
M02C Callahan 91.02 325 P **P** **08 45 22.5 -1.1**
baz=91
HRY Holter Researc 91.12 335 *e*P **P** **08 45 26.6 +2.5**
comp=Z,40nm,1.4s
B21A Ellsworth Farm 91.14 338 P **P** **08 45 22.3 -1.6**
baz=92
YBH Yreka Blue Hor 91.23 325 P **P** **08 45 25.9 +1.3**
comp=Z,4.8nm,0.8s,baz=58,slow=6.7,SNR=7.9
YBH Yreka Blue Hor 91.23 325 P **P** **08 45 25.9 +1.3**
YBH pmax pmax
comp=Z,5.0nm,0.8s
YBH Yreka Blue Hor 91.23 325 *e*P **P** **08 45 26.3 +1.7**
comp=Z,162nm,2.3s
K05A Summer Lake 91.24 327 *e*P **P** **08 45 26.1 +1.4**
comp=Z,306nm,2.1s
TAU Tasmania Unive 91.29 209 PFAKE 08 45 40.0 +15
TAU LR LR
comp=Z,15µm,20.0s
A22A Carney Farms, 91.33 339 P **P** **08 45 24.7 -0.1**
baz=92,SNR=5.4
B20A Solberg Farm, 91.44 338 P **P** **08 45 24.0 -1.4**
baz=92
BMO Blue Mountains 91.53 330 *e*P **P** **08 45 26.3 +0.4**
comp=Z,68nm,1.5s
BMO LR LR
comp=Z,10µm,20.0s
K04D Chiloquin, OR 91.53 327 P **P** **08 45 24.4 -1.5**
baz=92
EGMT Eagleton 91.60 337 P **P** **08 45 25.0 -1.2**
baz=92
EGMT Eagleton 91.60 337 PFAKE 08 45 40.0 +14
EGMT LR LR
comp=Z,10µm,19.0s
A21A Bertgoll Ranch 91.62 339 P **P** **08 45 24.9 -1.2**
baz=92
B19A Brinkman Farms 91.73 337 P P 08 45 22.5 -4.2
baz=92
CHMT Chamberlain Mo 91.79 334 *e*P **P** **08 45 28.9 +1.7**
comp=Z,31nm,1.4s
A20A Cobblestone Ra 91.81 338 P **P** **08 45 24.3 -2.7**
baz=92
J05D Fort Rock, OR 91.84 327 P **P** **08 45 29.0 +1.6**
baz=92,SNR=6.4
MSO Missoula 91.95 334 P **P** **08 45 28.7 +0.8**
baz=92,SNR=13
MSO Missoula 91.95 334 *e*P **P** **08 45 29.3 +1.5**
comp=Z,106nm,1.8s
L02D Cave Junction, 91.97 325 P **P** **08 45 26.5 -1.4**
baz=92
A19A Klindworth Far 92.09 338 P **P** **08 45 26.0 -2.4**
baz=92
SLMT Seeley Lake 92.15 334 *e*P **P** **08 45 29.3 +0.5**
comp=Z,75nm,1.8s
J04D Umpqua Nationa 92.18 327 P **P** **08 45 27.8 -1.3**
baz=93
SWMT Swartz Lake 92.56 334 *e*P **P** **08 45 30.6 0.0**
comp=Z,20nm,1.2s
SCHQ Schefferville 92.70 4 P **P** **08 45 30.4 -0.6**
comp=Z,13nm,1.1s,baz=170,slow=3.9,SNR=10
I05D Terrebonne, OR 92.73 328 P **P** **08 45 32.5 +1.1**
baz=93,SNR=5.2
I04A Tendick Farm, 92.75 327 P **P** **08 45 29.3 -2.2**
baz=93
JTMT Jette 92.86 334 *e*P **P** **08 45 32.4 +0.3**
YBMT Yellow Bay 92.87 334 *e*P **P** **08 45 32.5 +0.5**
comp=Z,28nm,1.4s
MSVF Nonsavu 93.02 245 PFAKE 08 45 50.0 +16
MSVF LR LR
comp=Z,17µm,19.0s
I03D Drain, OR 93.08 326 P **P** **08 45 32.7 -0.3**
baz=94
BLMT Blacktail Moun 93.11 334 *e*P **P** **08 45 33.9 +0.6**
BSMT Bassoo Peak 93.13 334 P **P** **08 45 33.8 +0.4**
G05D Wamic, OR 93.46 328 P **P** **08 45 35.9 +1.2**
baz=94
HAWA Hanford 93.67 330 *e*P **P** **08 45 37.8 +2.2**
comp=Z,85nm,1.5s
HAWA LR LR
comp=Z,5µm,22.0s
D08A Wollman Farm, 93.98 331 *e*P **P** **08 45 38.1 +1.1**
comp=Z,98nm,1.8s
OD2 Odessa Site #2 94.18 331 P **P** **08 45 38.1 +0.1**
G03D McMinnville, O 94.25 327 P **P** **08 45 39.9 +1.6**
baz=95
ASR Mount Adams--S 94.31 329 P **P** **08 45 40.0 +1.3**
NEW Newport 94.31 332 P **P** **08 45 38.0 -0.7**
comp=Z,7.8nm,1.1s,baz=126,slow=3.3,SNR=10.0
NEW Newport 94.31 332 *e*P **P** **08 45 37.9 -0.7**
NEW pmax pmax
comp=Z,41nm,1.5s
NEW MLR MLR
comp=Z,14µm,21.0s
NEW Newport 94.31 332 P **P** **08 45 38.6 0.0**
baz=95,SNR=8.3
NEW Newport 94.31 332 *e*P **P** **08 45 37.9 -0.7**
comp=Z,41nm,1.5s
NEW LR LR
comp=Z,14µm,21.0s
FL2 Flat Top 2 94.66 328 P **P** **08 45 41.0 +0.7**
LON Longmire 94.88 329 *e*P **P** **08 45 41.2 -0.1**
LON pmax pmax
comp=Z,72nm,2.1s
LON Longmire 94.88 329 *e*P **P** **08 45 41.2 -0.1**
comp=Z,72nm,2.1s
ETW Entiat 94.98 330 P **P** **08 45 44.2 +2.4**
RVC Mount Rainier- 95.10 329 P **P** **08 45 43.2 +0.9**
MDT Midelt 95.24 52 P **P** **08 45 44.5 +1.1**
comp=Z,21nm,1.0s,baz=214,slow=3.5,SNR=23
MDT LR LR 09 27 26.3
comp=Z,42µm,21.1s,slow=35
D05A Enumclaw 95.30 329 *e*P **P** **08 45 44.4 +1.3**
comp=Z,30nm,1.1s
D05A *e*pP **pP** **08 45 51.5 +0.1**
E03A Lebam 95.44 328 *e*P **P** **08 45 45.2 +1.5**
comp=Z,62nm,1.2s
TAM Tamanrasset 95.59 66 *e*P **P** **08 45 46.3 +1.1**
TAM pmax pmax
comp=Z,30nm,1.2s
TAM MLR MLR
comp=Z,25µm,21.0s
TAM Tamanrasset 95.59 66 *e*P **P** **08 45 46.2 +1.1**
comp=Z,30nm,1.2s
TAM LR LR
comp=Z,25µm,21.0s

FFC Flin Flon 95.61 344 *e*P **P** **08 45 43.5 -0.8**
FFC MLR MLR
comp=Z,11µm,21.0s
FFC Flin Flon 95.61 344 *e*P **P** **08 45 43.5 -0.8**
FFC LR LR
comp=Z,11µm,21.0s
PFVI Vila Bisbo 95.67 47 *e*P **P** **08 45 44.6 -0.4**
comp=Z,73nm,1.5s
PFVI Vila Bisbo 95.67 47 *e*PP PP 08 49 36.5 -0.7
MORF Marmelete 95.89 47 *e*P **P** **08 45 45.7 -0.4**
MORF *e*PP **PP** **08 49 38.0 -0.9**
MORF *e*S **SKSac** **08 56 20.5 -0.1**
MORF *e*SS **SS** **09 03 33.4 -0.6**
MORF AMS AMS 09 27 05.4
comp=Z,32µm,24.1s
MORF Marmelete 95.89 47 *e*P **P** **08 45 46.1 0.0**
comp=Z,43nm,1.3s
MORF Marmelete 95.89 47 *e*P **P** **08 45 45.7 -0.4**
MORF *e* 08 49 38.0
MORF *e*S **SKSac** **08 56 20.5 -0.1**
POHA Pohakuloa 95.95 290 PFAKE 08 46 00.0 +13
POHA LR LR
comp=Z,25µm,19.0s
NLWA Neilton Lookou 96.24 328 PFAKE 08 46 00.0 +13
NLWA LR LR
comp=Z,17µm,20.0s
PBDV Barranco-do-Ve 96.26 47 *e*P **P** **08 45 49.1 +1.3**
PBDV Barranco-do-Ve 96.26 47 *e*PP PP 08 49 42.7 +0.9
PCVE Castro Verde 96.47 47 *e*P **P** **08 45 47.9 -0.8**
comp=Z,39nm,1.8s
PCVE Castro Verde 96.47 47 *e*PP PP 08 49 42.8 -0.5
PVAQ Vaqueiros 96.50 47 *e*P **P** **08 45 47.8 -1.0**
comp=Z,52nm,1.6s
PVAQ Vaqueiros 96.50 47 *e*PP PP 08 49 42.8 -0.7
PVAQ *e*SKSac **SKSac** **08 56 27.9 +4.3**
PVAQ Vaqueiros 96.50 47 *e*LR LR 09 18 28.1
comp=Z,28µm,18.0s
MESJ Messejana 96.51 46 *e*P **P** **08 45 48.4 -0.4**
MESJ *e*PP **PP** **08 49 42.8 -0.8**
MESJ *e*S **SKSac** **08 56 23.8 +0.2**
MESJ *e*SS **SS** **09 03 41.3 -1.3**
MESJ AMS AMS 09 27 12.0
comp=Z,31µm,23.4s
MESJ Messejana 96.51 46 *e*P **P** **08 45 48.4 -0.4**
MESJ *e* 08 49 42.7
MESJ *e*S **SKSac** **08 56 23.8 +0.2**
PNCL Nicolau / Gran 96.52 46 *e*P **P** **08 45 49.4 +0.5**
comp=Z,35nm,1.5s
PNCL Nicolau / Gran 96.52 46 *e*PP PP 08 49 43.8 +0.1
PMST Lisbon--Monsan 96.59 45 *e*P **P** **08 45 49.1 -0.1**
PMST Lisbon--Monsan 96.59 45 *e*PP PP 08 49 44.4 +0.2
LIS Lisbon 96.59 45 *e*P **P** **08 45 49.1 0.0**
LIS *e*PP **PP** **08 49 43.5 -0.8**
LIS AMS AMS 09 28 39.6
comp=Z,31µm,18.8s
LIS Lisbon 96.59 45 *e*P **P** **08 45 49.1 0.0**
LIS *e* 08 49 43.4
PMAFR Mafra 96.69 45 *e*P **P** **08 45 52.3 +2.7**
PMAFR Mafra 96.69 45 *e*PP PP 08 49 45.1 +0.1
PACT Alcochete 96.81 45 *e*P **P** **08 45 50.5 +0.4**
comp=Z,162nm,1.9s
PACT Alcochete 96.81 45 *e*PP PP 08 49 45.9 0.0
CAN Canberra 97.05 214 PFAKE 08 46 00.0 +8.2
CAN LR LR
comp=Z,23µm,20.0s
EVO Evora 97.11 46 *e*P Pdif 08 45 51.9 +0.3
comp=Z,29nm,1.5s
EVO Evora 97.11 46 *e*PP PP 08 49 48.0 -0.2
EDM Edmonton 97.26 337 *e*P **P** **08 45 50.3 -1.6**
EDM pmax pmax
comp=Z,73nm,1.6s
EDM Edmonton 97.26 337 *e*P **P** **08 45 50.3 -1.6**
comp=Z,73nm,1.6s
PMTG Montargil 97.36 45 *e*P Pdif 08 45 53.2 +0.5
comp=Z,34nm,1.3s
PMTG Montargil 97.36 45 *e*PP PP 08 49 49.9 -0.2
PBAR Barrancos 97.42 47 *e*P **P** **08 45 51.0 -1.9**
comp=Z,54nm,1.6s
PBAR Barrancos 97.42 47 *e*PP PP 08 49 50.5 -0.1
PESTR Estremoz 97.58 46 *e*P Pdif 08 45 54.5 +0.8
comp=Z,34nm,1.6s
PESTR Estremoz 97.58 46 *e*PP PP 08 49 50.6 -1.3
PCAS Casmilo, Conde 97.88 45 *e*P Pdif 08 45 58.1 +3.0
comp=Z,62nm,2.0s
PCAS Casmilo, Conde 97.88 45 *e*PP PP 08 49 55.8 +1.6
DZM Mont Dzumac 97.92 234 *e*PP PP 08 49 49.6 -4.4
comp=Z,2µm,26.1s
DZM *e*SKSac **SKSac** **08 56 29.6 -2.6**
comp=Z,12µm,28.1s
DZM *e*SP **SP** **08 58 39.8 -3.7**
comp=Z,12µm,25.8s
DZM *e*SS **SS** **09 04 03.5 +2.0**
comp=Z,19µm,23.4s
DZM *e*LQ LQ 09 13 40.0
comp=Z,18µm,28.5s
DZM *e*LR LR 09 17 48.6
comp=Z,72µm,23.6s
PMRV Marv??o 98.07 46 *e*SKSac **SKSac** **08 56 35.9 +4.2**
MTE Manteigas 98.65 45 *e*P Pdif 08 45 59.1 +0.6
comp=Z,28nm,2.3s
MTE Manteigas 98.65 45 *e*PP PP 08 50 00.3 +0.2
MTE *e*SKSac **SKSac** **08 56 41.4 +6.7**
MTE Manteigas 98.65 45 *e*LR LR 09 20 15.7
comp=Z,50nm,20.0s
MTE Manteigas 98.65 45 PFAKE 08 46 10.0 +11
MTE LR LR
comp=Z,47µm,20.0s
KIP Kipapa 98.81 290 PFAKE 08 46 10.0 +10
KIP LR LR
comp=Z,25µm,21.0s
OLHC Oulhaca 98.84 52 P Pdif 08 46 02.3 +2.8
POLO Lamas de Olo 99.18 44 *e*P **Pdif** **08 46 04.6 +3.7**
POLO Lamas de Olo 99.18 44 *e*PP PP 08 50 02.6 -1.6
OTSS Djebel Tessala 99.25 52 P **Pdif** **08 46 06.2 +4.8**
PGAV Gavieira, Arco 99.33 43 *e*P **Pdif** **08 46 02.0 +0.5**
PGAV Gavieira, Arco 99.33 43 *e*PP PP 08 50 05.2 -0.1
PGAV *e*SKSac **SKSac** **08 56 40.2 +2.2**
PGAV Gavieira, Arco 99.33 43 *e*LR LR 09 19 19.7
comp=Z,36µm,18.0s
MVO Moncorvo 99.46 45 *e*P **Pdif** **08 46 02.5 +0.4**
MVO Moncorvo 99.46 45 *e*PP PP 08 50 06.6 +0.3
MVO *e*SKSac **SKSac** **08 56 40.0 +1.3**
MVO Moncorvo 99.46 45 *e*LR LR 09 20 56.2
comp=Z,36µm,18.0s
PAB San Pablo 99.89 47 PFAKE 08 46 20.0 +16
PAB LR LR
comp=Z,21µm,19.0s
AIS Amsterdam Isla 99.93 157 Pdif Pdif 08 45 50.0 -14
AIS PP PP 08 50 02.0 -6.4
AIS SKKS **S** **08 57 39.0 +1.7**
AIS SS SS 09 04 39.0 +11
AIS L L 09 13 00.0
AIS R 09 19 00.0
PBRG Braganca 100.05 44 *e*P **Pdif** **08 46 05.5 +0.8**
PBRG Braganca 100.05 44 *e*PP PP 08 50 10.9 +0.1
ESDC Sonseca Array 100.20 47 P **Pdif** **08 46 05.2 -0.2**
comp=Z,6.0nm,0.9s,baz=230,slow=4.9,SNR=17
OJGS Djebel Guires 100.36 53 P **Pdif** **08 46 11.6 +5.3**
ABPO Ambohimpanom 100.50 124 PFAKE 08 46 20.0 +12
ABPO LR LR
comp=Z,24µm,19.0s
OKGL Djebel Kef Gue 100.63 52 P **Pdif** **08 46 12.4 +5.0**
ETRT Tiaret 100.63 53 P **Pdif** **08 46 10.2 +2.6**
MBAR Mbarara 100.79 99 PFAKE 08 46 20.0 +11
MBAR LR LR
comp=Z,819nm,21.0s
EANR 'Ain N'Sour 100.86 53 P **Pdif** **08 46 11.9 +3.4**
EBNR Beni Rached 101.34 53 P **Pdif** **08 46 14.9 +4.3**
EMHD Djebel Mahouad 102.19 54 P **Pdif** **08 46 19.7 +5.3**
CKHR Kef el Ahmar 103.71 55 P **Pdif** **08 46 27.9 +6.6**
RER Riviere de l'E 104.21 132 PFAKE 08 46 30.0 +6.1
RER LR LR
comp=Z,17µm,19.0s
CTEI Djebel Teioual 104.32 55 P **Pdif** **08 46 24.0 0.0**
KMBO Kilima Mbogo 105.50 104 PFAKE 08 50 50.0
KMBO LR LR
comp=Z,32µm,21.0s
YKA Yellowknife Ar 105.53 342 Pdiff **Pdif** **08 46 28.0 -0.4**
comp=Z,0.6nm,0.8s,baz=145,slow=5.0,SNR=7.9
YKA PKiKP **PKiKP** **08 50 41.6 0.0**
comp=Z,0.2nm,0.6s,baz=156,slow=1.8,SNR=5.6
SFJD Kangerlussuaq 106.18 9 *i*P **Pdif** **08 46 34.3 +3.1**
SFJD *i* 08 50 56.9
comp=Z,10µm,20.0s
SFJD Kangerlussuaq 106.18 9 *i*P **Pdif** **08 46 34.3 +3.1**
SFJD *i* 08 50 56.9
SFJD MLR MLR
comp=Z,10µm,20.0s
SFJD Kangerlussuaq 106.18 9 PFAKE 08 50 50.0
SFJD LR LR
comp=Z,10µm,20.0s
WRAK Wrangell Islan 106.48 330 PFAKE 08 51 00.0
WRAK LR LR
comp=Z,14µm,19.0s
VSL Villasalto 108.23 54 PFAKE 08 51 00.0
VSL LR LR
comp=Z,18µm,22.0s
ILULI Ilulissat 108.23 8 *i*P **Pdif** **08 46 43.2 +2.9**
ILULI *i* 08 51 10.5
comp=Z,20µm,20.0s
SSB Saint Sauveur 108.60 47 PFAKE 08 51 00.0
SSB LR LR
comp=Z,30µm,22.0s
NWAO Narrogin (SRO) 108.67 189 PFAKE 08 51 00.0
NWAO LR LR
comp=Z,1.0nm,21.0s
TARA Tarawa 109.30 256 PFAKE 08 51 00.0
TARA LR LR
comp=Z,14µm,20.0s
WDD Wield Dalam 109.61 60 PFAKE 08 51 00.0
WDD LR LR
comp=Z,92µm,20.0s
CLTB Caltabellotta 109.67 57 PFAKE 08 51 00.0
CLTB LR LR
comp=Z,25µm,21.0s
BORG Borgarnes 110.29 21 PFAKE 08 51 00.0
BORG LR LR
comp=Z,11µm,20.0s
ESK Eskdalemuir 110.57 35 PFAKE 08 51 00.0
ESK LR LR
comp=Z,19µm,19.0s
CTAO Charters Tower 111.16 220 PFAKE 08 51 10.0
CTAO LR LR
comp=Z,12µm,19.0s
HNR Honiara 111.36 238 PFAKE 08 51 10.0
HNR LR LR
comp=Z,9µm,19.0s
VLC Villacollemand 111.43 50 PFAKE 08 51 10.0
VLC LR LR
comp=Z,20µm,19.0s
ECH Echery 111.74 45 PFAKE 08 51 10.0
ECH LR LR
comp=Z,34µm,20.0s
WLF Walferdange 111.98 44 PFAKE 08 51 10.0
WLF LR LR
comp=Z,55µm,21.0s
TUE Stuetta 112.05 48 PFAKE 08 51 10.0
TUE LR LR
comp=Z,16µm,20.0s
AQU L'Aquila 112.34 53 PFAKE 08 51 10.0
AQU LR LR
comp=Z,19µm,19.0s
BFO Black Forest 112.46 46 *e*Pdiff **Pdif** **08 47 02.4 +2.7**
BFO Black Forest 112.46 46 PFAKE 08 51 10.0
BFO LR LR
comp=Z,21µm,20.0s
CUC Castrocucco 112.67 56 PFAKE 08 51 10.0
CUC LR LR
comp=Z,29µm,21.0s
DAVA Damuels 112.80 47⇑ *i*PKiKP **PKiKP** **08 50 56.3 +0.3**
DAVA ⇑ *i*PP **PP** **08 51 45.2 +0.5**
comp=Z,17nm,1.1s
TIP Timpagrande 112.87 58 PFAKE 08 51 10.0
TIP LR LR
comp=Z,37µm,21.0s
KULLO Kullorsuaq 112.88 5 *i*P **Pdif** **08 47 02.0 +1.1**
KULLO *i* 08 51 40.7
comp=Z,16µm,23.0s
SUMG Summit 113.00 11 *i*P **Pdif** **08 47 05.1 +3.1**
SUMG *i* 08 51 41.8
comp=Z,13µm,21.0s
SUMG Summit 113.00 11 *i*P **Pdif** **08 47 05.1 +3.1**
SUMG MLR MLR
comp=Z,13µm,21.0s
FETA Feichten 113.15 48⇑ *i*PKiKP **PKiKP** **08 50 56.5 -0.1**
comp=Z,14nm,1.2s
RETA Reutte 113.41 47⇑ *i*PKiKP **PKiKP** **08 50 57.6 +0.6**
comp=Z,13nm,1.0s
RETA ⇑ *i*PP **PP** **08 51 48.5 -0.4**
ASAR Alice Springs 113.43 207 PKiKP **PKiKP** **08 50 56.2 -1.7**
comp=Z,1.9nm,0.8s,baz=147,slow=1.6,SNR=5.6
TNS Taunus Mts 113.53 44 *e*Pdiff **Pdif** **08 47 04.0 -0.4**
WTTA Wattenberg 113.81 48⇑ *e*PKPdf **PKiKP** **08 50 58.2 +0.3**
comp=Z,22nm,1.4s
WTTA ⇑ *i*PP **PP** **08 51 51.1 -0.7**
comp=Z,26nm,1.9s
SCO Scoresbysund 114.40 17 *i*P **Pdif** **08 47 10.4 +2.7**
SCO *i* 08 51 53.0
SCO *i* 09 01 35.4
comp=Z,10µm,20.0s
SCO Scoresbysund 114.40 17 *i*P **Pdif** **08 47 10.4 +2.7**
SCO *i* 08 51 53.0
SCO *i* 09 01 35.4
SCO MLR MLR
comp=Z,10µm,20.0s
MYKA Terra Mystica 114.67 49⇑ *i*PKPdf PKPdf 08 50 58.7 -0.7
comp=Z,9.0nm,1.0s
UBBA Unterbreizbach 114.69 44 *e*Pdiff **Pdif** **08 47 10.4 +1.1**
KBA Koelnbreinsper 114.72 49⇑ *i*PKPdf PKPdf 08 50 60.0 +0.3
comp=Z,10nm,1.2s
KBA ⇑ *i*PP **PP** **08 51 58.1 -0.3**
comp=Z,10nm,1.4s
RJOB Jochberg 114.72 48 *e*Pdiff **Pdif** **08 47 12.9 +3.1**
RJOB Jochberg 114.72 48 *e*PKKP PKPdf 08 50 59.8 +0.3
GRF Grafenberg Arr 114.80 45 *e*Pdiff **Pdif** **08 47 11.6 +1.6**
VLS Valsamata 114.95 60 *e*P PKPdf 08 51 00.5 +0.3
OBKA Obir 115.16 50⇑ *i*PKPdf **PKPdf** **08 51 00.7 +0.3**
comp=Z,15nm,0.8s,SNR=5.6
OBKA ⇑ *i*PP **PP** **08 52 02.1 +0.7**
comp=Z,11nm,1.1s
KEK Kerkira 115.17 58 *e*P **PKPdf** **08 51 05.5 +4.9**
EGAK Eagle 115.24 334 PFAKE 08 51 10.0 +10
EGAK LR LR
comp=Z,15µm,19.0s
ROTZ Rotzenmuhle 115.39 46 *e*Pdiff **Pdif** **08 47 14.0 +1.3**
ROTZ Rotzenmuhle 115.39 46 *e*PKKP **PKPdf** **08 51 01.0 +0.3**
CLZ Clausthal 115.40 43 *e*Pdiff **Pdif** **08 47 14.1 +1.4**
CLZ Clausthal 115.40 43 *e*PKKP **PKPdf** **08 51 01.6 +0.9**
WET Wettzell 115.47 47 *e*Pdiff **Pdif** **08 47 13.3 +0.3**
WET Wettzell 115.47 47 *e*PKKP **PKPdf** **08 51 01.1 +0.2**
MOX Moxa 115.49 45 *e*Pdiff **Pdif** **08 47 13.2 +0.1**
MOX Moxa 115.49 45 *e*PKKP **PKPdf** **08 51 01.4 +0.6**
PDO Prodromos 115.57 60 *e*P **PKPdf** **08 51 02.0 +0.7**
MOA Molln 115.64 48⇑ *i*PKPdf **PKPdf** **08 50 59.8 -1.4**
comp=Z,13nm,1.0s,SNR=5.4
ANKY Antikythira Is 115.70 64 *e*P **PKPdf** **08 51 03.0 +1.3**
NKC Novy Kostel 115.75 45 *e*PKP **PKPdf** **08 51 01.8 +0.4**
NKC Novy Kostel 115.75 45 *e*PKiKP **PKPdf** **08 51 01.8 +0.4**
DSL Palaion Diasel 115.77 59 *e*P **PKPdf** **08 51 03.0 +1.2**
GEC2 GERESS Array S 115.80 47 *e*Pdiff **Pdif** **08 47 14.9 +0.3**
GEC2 GERESS Array S 115.80 47 *e*PKKP **PKPdf** **08 51 01.1 -0.5**
GERES GERESS Array B 115.80 47 PKP **PKPdf** **08 51 01.0 -0.5**
comp=Z,13nm,0.9s,baz=222,slow=1.3,SNR=32
GERES GERESS Array B 115.80 47 PKiKP **PKPdf** **08 51 01.0 -0.5**
GERES pmax pmax
comp=Z,13nm,0.9s
TANN Tannenbergstha 115.85 45 *e*Pdiff **Pdif** **08 47 14.8 0.0**
TANN Tannenbergstha 115.85 45 *e*PKKP **PKPdf** **08 51 02.2 +0.6**
KHC Kasperske Hory 115.86 47 *e*PDIFF **Pdif** **08 47 18.0 +3.2**
KHC *e*PKP **PKPdf** **08 51 00.7 -0.9**
KHC *e*pPKP PKiKP 08 51 07.1 +5.5
KHC *e*sPKP 08 51 15.1
KHC *e*PP PP 08 51 57.2 -9.0
KHC *e*SKP 08 54 33.5
KHC *e*SKS **SKSac** **08 57 47.8 -1.6**
KHC *e*SKKS **SKKSac** **08 59 09.4 +4.6**
KHC *e*SDIF **Sdif** **08 59 54.6 +5.3**
KHC *e*SP **SP** **09 01 43.5 0.0**
KHC *e*SS **SS** **09 08 01.7 -4.3**
KHC AMS AMS 09 39 50.0
comp=Z,23µm,20.8s
KHC Kasperske Hory 115.86 47 *e*P **Pdif** **08 47 18.0 +3.2**
KHC *e* 08 51 00.7
KHC *e* 08 51 07.1
KHC *e* 08 51 15.1
KHC *e* 08 54 33.5
KHC *e* 08 57 47.8
KHC *e* 09 01 43.5
KHC *e*SS SS 09 08 01.7 -4.3
KHC MLR MLR
comp=Z,23µm,20.8s
KHC Kasperske Hory 115.86 47 *e*PKPdf **PKPdf** **08 51 00.7 -0.9**
KLV Kalavryta, Ach 115.96 61 *e*P PKPdf 08 51 10.0 +7.8
TIR Tirane 116.01 57 *e*PKIKP **PKPdf** **08 51 02.7 +0.6**
TIR MLR MLR
comp=Z,43µm,20.0s
TIR Tirane 116.01 57 *e*PKPdf **PKPdf** **08 51 02.7 +0.6**
TIR LR LR
comp=Z,43µm,20.0s
KDAK Kodiak Island 116.02 324 PFAKE 08 51 10.0 +8.5
KDAK LR LR
comp=Z,14µm,20.0s
GUR Goura 116.04 61 *e*P **PKPdf** **08 51 02.0 -0.4**
ARSA Arzberg 116.10 49⇑ *e*PKPdf **PKPdf** **08 51 00.9 -1.2**
comp=Z,18nm,1.2s,SNR=7.9
EVR Evrytania 116.15 60 *e*P **PKPdf** **08 51 03.0 +0.4**
BSEG Bad Segeberg 116.40 41 *e*Pdiff **Pdif** **08 47 17.7 +0.7**
BSEG Bad Segeberg 116.40 41 *e*PKKP **PKPdf** **08 51 02.9 +0.5**
DSF Desfina 116.40 61 *e*P **PKPdf** **08 51 03.0 0.0**
MSEY Mahe Island 116.41 120 PFAKE 08 51 20.0 +16
MSEY LR LR
comp=Z,30µm,20.0s
DID Didima 116.45 62 *e*P **PKPdf** **08 51 03.0 -0.1**
LTK Loutraki 116.52 61 *e*P **PKPdf** **08 51 02.0 -1.2**
IDI Anoyia 116.55 65 PKP **PKPdf** **08 51 03.0 -0.4**
comp=Z,14nm,1.0s,baz=135,slow=9.6,SNR=4.3
KMY Karmoy 116.55 34 *e*PP PP 08 52 07.9 -2.7
AGG Agios Georgios 116.56 60 *e*P **PKPdf** **08 51 03.5 +0.2**
CLL Collm 116.58 44 *e*PKKP **PKPdf** **08 51 03.4 +0.5**
CLL Collm 116.58 44 *e*Sdif Sdif 09 00 11.0 +16
CLL *e*PS **PKKPdf** **09 01 58.0 +0.2**
CLL *e*PPS PPS 09 03 15.0
CLL *e*SS **SS** **09 08 14.0 -1.1**
CLL *e*SSS SSS 09 12 48.0
CLL Lm MLR 09 40 00.0
comp=N,13µm,20.6s
CLL Lm MLR 09 40 00.0
comp=E,18µm,20.6s
CLL Lm MLR 09 40 00.0
comp=Z,26µm,20.2s
THL Klokotos Trika 116.60 59 *e*P **PKPdf** **08 51 03.0 -0.3**
CONA Conrad Observa 116.62 49⇑ *e*PKPdf **PKPdf** **08 51 02.8 -0.4**
comp=Z,20nm,1.5s
WRA Warramunga Arr 116.66 209 PKP **PKPdf** **08 51 02.5 -1.7**
comp=Z,5.2nm,0.9s,baz=158,slow=1.6,SNR=14
WRA PKKPbc **PKKPbc** **09 01 31.8 +1.5**
comp=Z,3.9nm,0.9s,baz=345,slow=3.8,SNR=14
WRAB Tennant Creek 116.66 209⇑ *i*PKIKP **PKPdf** **08 51 03.7 -0.5**
WRAB MLR MLR
comp=Z,35µm,18.0s
WRAB Tennant Creek 116.66 209 *e*PKPdf **PKPdf** **08 51 03.5 -0.7**
WRAB LR LR
comp=Z,29µm,20.0s
FNA Florina 116.75 58 *e*P **PKPdf** **08 51 03.5 -0.1**
PRA Prague 116.80 46 *e*PDIFF **Pdif** **08 47 19.4 +0.5**
PRA *e*PP PP 08 52 04.5 -8.1
PRA *ex* x 08 54 48.2
PRA *e*SKS **SKSac** **08 57 51.8 -1.0**
PRA *e*SKKS **SKKSac** **08 59 15.2 +4.4**
PRA *e*SDIF **Sdif** **09 00 05.8 +8.9**
PRA *e*SP **SP** **09 01 52.4 +0.5**
PRA *e*SS **SS** **09 08 16.9 -1.1**
PRA AMS AMS 09 42 00.0
comp=Z,19µm,18.2s
PRA Prague 116.80 46 *e*P **Pdif** **08 47 19.4 +0.5**
PRA *e* 08 54 48.2
PRA *e* 08 57 51.8
PRA *e* 09 01 52.4
PRA *e*SS SS 09 08 16.9 -1.2
PRA MLR MLR
comp=Z,19µm,18.2s
PRU Pruhonice 116.82 46 *e*PDIFF **Pdif** **08 47 20.1 +1.1**
PRU *e*PKP **PKiKP** **08 51 04.2 +0.8**
PRU *ex* x 08 51 16.4
PRU *e*PP PP 08 52 04.4 -8.4
PRU *ex* x 08 54 48.0
PRU *e*SKS **SKSac** **08 57 52.2 -0.7**
PRU *e*SKKS **SKKSac** **08 59 15.6 +4.6**
PRU *e*SDIF **Sdif** **09 00 04.6 +7.5**
PRU *e*SP **SP** **09 01 54.0 +1.9**
PRU *e*SS **SS** **09 08 18.9 +0.5**
PRU AMS AMS 09 42 10.0
comp=Z,18µm,18.9s
PRU Pruhonice 116.82 46 *e*P **Pdif** **08 47 20.1 +1.1**
PRU *e* 08 51 04.2
PRU *e* 08 51 16.4
PRU *e* 08 54 48.0
PRU *e* 08 57 52.2
PRU *e* 09 01 54.0
PRU *e*SS SS 09 08 18.9 +0.5
PRU MLR MLR
comp=Z,18µm,18.9s
BRG Berggiesshubel 116.90 45 PKP **PKPdf** **08 51 03.8 +0.3**
comp=Z,17nm,1.2s
BRG PP PP 08 52 07.0 -6.3
BRG SKS SKSac 08 58 01.0 +7.9
BRG SS P'P'df 09 09 56.0 -9.0
comp=N,11µm,19.6s
comp=E,16µm,19.7s
comp=Z,20µm,19.2s
BRG Berggiesshubel 116.90 45 *e*Pdiff **Pdif** **08 47 21.9 +2.6**
BRG Berggiesshubel 116.90 45 *e*PKKP **PKPdf** **08 51 03.8 +0.3**
BRG Berggiesshubel 116.90 45 PKIKP **PKPdf** **08 51 03.8 +0.3**
BRG pmax pmax
comp=Z,17nm,1.2s
BRG MLR MLR
comp=N,11µm,19.6s
BRG MLR MLR
comp=E,16µm,19.7s
BRG MLR MLR
comp=Z,20µm,19.2s
GOPC GO Pecny, Ondr 116.93 46 *e*PDIFF **Pdif** **08 47 18.2 -1.3**
GOPC *e*PKP **PKPdf** **08 51 03.1 -0.5**
GOPC *ex* x 08 51 18.4
GOPC *e*PP PP 08 52 04.1 -9.5
GOPC *ex* x 08 54 49.0
GOPC *e*SKS **SKSac** **08 57 52.7 -0.6**
GOPC *e*SKKS **SKKSac** **08 59 15.8 +4.0**
GOPC *e*SDIF **Sdif** **08 59 57.8 -0.3**
GOPC *e*SP **SP** **09 01 51.7 -1.4**
GOPC *e*SS **SS** **09 08 19.3 -0.5**
GOPC AMS AMS 09 40 10.0
comp=Z,20µm,21.1s
MUD Monsted U'grnd 117.03 38 *i*P **Pdif** **08 47 23.2 +3.5**
MUD *i* 08 52 12.5
comp=Z,28µm,21.0s
MUD Monsted U'grnd 117.03 38 *i*P **Pdif** **08 47 23.2 +3.5**
MUD *i* 08 52 12.5
MUD MLR MLR
comp=Z,28µm,21.0s
TREC Trest 117.04 47 *e*PDIFF **Pdif** **08 47 20.8 +0.8**
TREC *e*PKP **PKiKP** **08 51 04.0 +0.1**
TREC *e*sPKP 08 51 18.2
TREC *e*PP PP 08 52 04.9 -9.5
TREC *e*PKS **PKSdf** **08 54 44.5 +4.1**
TREC *e*SKS **SKSac** **08 57 54.9 +1.1**
TREC *e*SKKS **SKKSac** **08 59 15.8 +3.2**
TREC *e*SDIF **Sdif** **09 00 03.6 +4.5**
TREC *e*SP **SP** **09 01 55.3 +1.1**
TREC AMS AMS 09 37 30.0
comp=Z,20µm,23.0s
TREC Trest 117.04 47 *e*P **Pdif** **08 47 20.8 +0.8**
TREC *e* 08 51 04.0
TREC *e* 08 51 18.2
TREC *e* 08 54 44.5
TREC *e* 08 57 54.9
TREC *e* 09 01 55.3
TREC MLR MLR
comp=Z,20µm,23.0s
PVCC Panska Ves 117.09 46 *e*PDIFF **Pdif** **08 47 19.0 -1.2**
PVCC *e*PKP **PKiKP** **08 51 04.2 +0.3**
PVCC *ex* x 08 51 18.6
PVCC *e*PP PP 08 52 04.4 -10
PVCC *e*SKS **SKSac** **08 57 56.4 +2.6**
PVCC *e*SKKS **SKKSac** **08 59 17.4 +4.6**
PVCC *e*SDIF **Sdif** **09 00 04.2 +4.9**
PVCC *e*SP **SP** **09 01 55.1 +0.6**
PVCC AMS AMS 09 41 40.0
comp=Z,24µm,19.4s
PVCC Panska Ves 117.09 46 *e*P **Pdif** **08 47 19.0 -1.2**
PVCC *e* 08 51 04.2

PVCC e 08 51 18.6
PVCC e 08 57 56.4
PVCC e 09 01 55.1
PVCC MLR MLR
comp=Z,24µm,19.4s
MIDW Midway 117.14 286 PFAKE 08 51 20.0 +15
MIDW LR LR
comp=Z,16µm,21.0s
BER Bergen 117.17 33 ePP PP 08 52 14.4 -0.5
BER eSS SS 09 08 26.8 +4.3
BER IVMs_BB IVMs_BB 09 39 13.3
comp=Z,6µm,18.6s
BER IAMs_20 IAMs_20 09 40 36.7
comp=Z,16µm,19.5s
BLS5 Blasjo 117.20 34 e **Pdif 08 47 24.4 +4.0**
BLS5 ePP **PP 08 52 13.8 -1.3**
SUE Sulen 117.26 32 ePP PP 08 52 13.6 -1.9
SUE IVMs_BB IVMs_BB 09 39 35.0
comp=Z,5µm,14.9s
ILAR Eielson Array 117.27 332 PKP **PKPdf 08 51 03.0 -0.8**
comp=Z,2.2nm,0.9s,baz=145,slow=3.3,SNR=17
ILAR PKKPab **PKKPbc 09 01 30.5 +1.7**
comp=Z,1.2nm,0.9s,baz=283,slow=4.0,SNR=8.3
XOR Xorichti 117.31 60 eP **PKPdf 08 51 03.5 -1.2**
DIVS Divibare 117.39 54⇓ iP **PKPdf 08 51 04.8 0.0**
ZKR Zakros 117.41 66 eP PKPdf 08 51 19.0 +14
SANT Santorini 117.47 64 PFAKE 08 51 20.0 +15
SANT LR LR
comp=Z,18µm,22.0s
PKSM Moragy 117.51 51⇑PKIKP **PKPdf 08 51 05.0 +0.2**
PKSM Moragy 117.51 51⇑ iP **PKPdf 08 51 05.0 +0.2**
HOMB Homborsund 117.58 36 ePP PP 08 52 17.3 -0.5
HOMB IVMs_BB IVMs_BB 09 39 56.3
comp=Z,5µm,26.3s
FOO Floro 117.65 32 ePP PP 08 52 18.8 +0.6
FOO IVMs_BB IVMs_BB 09 41 29.3
comp=Z,6µm,21.2s
FOO IAMs_20 IAMs_20 09 42 52.0
comp=Z,17µm,20.7s
COLA College 117.68 332c iPKIKP **PKPdf 08 51 04.5 0.0**
COLA MLR MLR
comp=Z,29µm,16.0s
COLA College 117.68 332 PFAKE 08 51 20.0 +15
COLA LR LR
comp=Z,11µm,19.0s
AOS Alonnisos 117.69 61 eP **PKPdf 08 51 06.0 +0.6**
HORT Hortiatis 117.82 59 eP **PKPdf 08 51 05.0 -0.7**
APE Apeiranthos 117.85 63 eP **PKPdf 08 51 07.5 +1.6**
UPC Upice 117.90 46 ePDIFF **Pdif 08 47 23.5 -0.3**
UPC ePKP **PKiKP 08 51 06.3 +0.8**
UPC esPKP 08 51 19.3
UPC ex x 08 52 07.3
UPC ex x 08 54 57.2
UPC eSKS **SKSac 08 57 59.1 +2.3**
UPC eSKKS **SKKSac 08 59 24.2 +6.0**
UPC ex x 09 00 13.4
UPC ePKKP PKKPab 09 01 33.3 +6.4
UPC eSP **SP 09 02 06.0 +4.2**
UPC eSS **SS 09 08 27.5 -4.9**
UPC AMS AMS 09 40 50.0
comp=Z,18µm,20.9s
UPC Upice 117.90 46 eP **Pdif 08 47 23.5 -0.3**
UPC e 08 51 06.3
UPC e 08 51 19.3
UPC e 08 54 57.2
UPC e 08 57 59.1
UPC e 09 02 06.0
UPC eSS SS 09 08 27.5 -4.9
UPC MLR MLR
comp=Z,18µm,20.9s
PAIG Paliouri 117.90 60 eP **PKPdf 08 51 05.5 -0.3**
KNT Kendrikon 117.94 58 eP **PKPdf 08 51 09.0 +3.1**
PLG Polygyros 117.95 59 eP **PKPdf 08 51 06.0 +0.1**
DPC Dobruska-Polom 118.00 47 ePDIFF **Pdif 08 47 26.0 +1.7**
DPC ePKP **PKiKP 08 51 05.9 +0.1**
DPC epPKP **pPKPdf 08 51 12.9 -1.4**
DPC ex x 08 51 19.6
DPC ePP PP 08 52 11.1 -10
DPC ex x 08 54 57.6
DPC eSKS **SKSac 08 57 55.9 -1.4**
DPC eSKKS **SKKSac 08 59 22.9 +3.9**
DPC eSDIF **Sdif 09 00 14.7 +7.6**
DPC ePKKP **PKKPab 09 01 29.3 +2.8**
DPC ex x 09 08 23.8
DPC AMS AMS 09 41 10.0
comp=Z,17µm,20.5s
DPC Dobruska-Polom 118.00 47 eP **Pdif 08 47 26.0 +1.7**
DPC e 08 51 05.9
DPC e 08 51 12.9
DPC e 08 51 19.6
DPC e 08 54 57.6
DPC e 08 57 55.9
DPC MLR MLR
comp=Z,17µm,20.5s
JMIC Jan Mayen 118.07 20 ePP PP 08 52 22.7 +1.8
SOH Sokhos 118.09 59 eP **PKPdf 08 51 07.0 +0.8**
KRLC Kraliky 118.15 47 ePKP **PKPdf 08 51 06.3 +0.3**
KRLC epPKP **pPKPdf 08 51 13.1 -1.5**
KRLC ex x 08 51 20.5
KRLC ePKKP **PKKPab 09 01 29.8 +3.9**
KRLC Kraliky 118.15 47 ePKIKP **PKPdf 08 51 06.3 +0.3**
KRLC e 08 51 13.1
KRLC e 08 51 20.5
KSP Ksiaz 118.21 46 ePKPdf **PKPdf 08 51 08.1 +2.1**
KSP ePP **PP 08 52 17.8 -4.6**
KSP eSKS **SKSdf 08 58 09.7 -6.4**
KSP LMZ LR 09 40 44.7
KSP Ksiaz 118.21 46 ePKIKP **PKPdf 08 51 08.1 +2.1**
KSP e 08 58 09.7
KSP MLR MLR
comp=Z,24µm,21.5s
COP Copenhagen 118.30 40 i P **Pdif 08 47 27.9 +2.5**
COP i 08 52 15.8
COP i 09 02 07.7
comp=Z,9µm,21.0s
COP Copenhagen 118.30 40 i P **Pdif 08 47 27.9 +2.5**
COP i 09 02 07.7
COP MLR MLR
comp=Z,9µm,21.0s
KARP Karpathos 118.30 66 eP PKPdf 08 51 14.0 +7.2
KKB Krupnik 118.39 58 P **PKPdf 08 51 06.1 -0.6**
MORC Moravsky Berou 118.45 47 ePKIKP **PKPdf 08 51 06.3 -0.3**
MORC Moravsky Berou 118.45 47⇑ iP **PKPdf 08 51 06.9 +0.3**
MORC Moravsky Berou 118.45 47 ePKPdf **PKPdf 08 51 06.3 -0.3**
BPAW Bear Paw Mtn. 118.47 331 ePKPdf **PKPdf 08 51 05.9 -0.3**
MMB Musomiste 118.69 58⇑PKIKP **PKPdf 08 51 08.2 +0.9**
MMB Musomiste 118.69 58⇑ iP **PKPdf 08 51 08.2 +0.9**
KONO Kongsberg 118.72 35 ePP PP 08 52 22.3 -3.4
KONO eSS SS 09 08 44.9 +2.4
KONO IVMs_BB IVMs_BB 09 39 49.2
comp=Z,5µm,20.7s
KONO Kongsberg 118.72 35 PFAKE 08 51 20.0 +13
KONO LR LR
comp=Z,17µm,22.0s
AKN Aaknes 118.74 32 ePP PP 08 52 24.2 -1.7
AKN IVMs_BB IVMs_BB 09 40 23.6
comp=Z,6µm,21.0s
VTS Vitosha 118.80 57⇑PKIKP **PKPdf 08 51 07.7 0.0**
VTS Vitosha 118.80 57⇑ iP **PKPdf 08 51 07.7 0.0**
VTS Vitosha 118.80 57 P **PKPdf 08 51 07.3 -0.4**
NIS1 Nisyros Isl. 118.80 64 eP **PKPdf 08 51 09.5 +1.8**
CHOS Chios island 118.83 62 eP **PKPdf 08 51 09.5 +1.7**
OKC Ostrava-Krasne 118.83 48 ePDIFF **Pdif 08 47 27.0 -0.9**
OKC ePKP **PKiKP 08 51 07.9 +0.6**
OKC ex x 08 51 22.8
OKC ex x 08 52 12.3
OKC ex x 08 54 54.8
OKC eSKS **SKSac 08 57 59.0 -1.2**
OKC eSKKS **SKKSac 08 59 29.4 +5.0**
OKC ex x 09 00 22.0
OKC eSP **SP 09 02 13.8 +3.5**
OKC AMS AMS 09 38 40.0
comp=Z,15µm,21.8s
OKC Ostrava-Krasne 118.83 48 eP **Pdif 08 47 27.0 -0.9**
OKC e 08 51 07.9
OKC e 08 51 22.8
OKC e 08 54 54.8
OKC e 08 57 59.0
OKC e 09 02 13.8
OKC MLR MLR
comp=Z,15µm,21.8s
LIA Limnos Island 118.92 60 eP **PKPdf 08 51 08.5 +0.8**
KAVA Kavala 118.96 59 eP **PKPdf 08 51 07.0 -0.8**
PSZ Piszkesteto 119.04 50 PFAKE 08 51 20.0 +12
PSZ LR LR
comp=Z,22µm,22.0s
SIGR SIGRI 119.07 61 eP **PKPdf 08 51 09.0 +1.0**
SMG Samos 119.07 63 eP PKPdf 08 51 14.5 +6.4
BZS Buzias 119.11 53⇑PKIKP **PKPdf 08 51 07.7 -0.2**
BZS Buzias 119.11 53⇑ iP **PKPdf 08 51 07.7 -0.2**
MOL Molde 119.15 32 ePP PP 08 52 25.1 -3.5
BSD Bornholm Skovb 119.32 41 i P **Pdif 08 47 34.9 +5.0**
BSD i 08 52 23.7
BSD i 09 02 20.4
comp=Z,29µm,22.0s
BSD Bornholm Skovb 119.32 41 i P **Pdif 08 47 34.9 +5.0**
BSD i 09 02 20.4
BSD MLR MLR
comp=Z,29µm,22.0s
PRK Paraskevi 119.38 61 eP **PKPdf 08 51 09.5 +0.9**
RZN Rozhen 119.40 58 P **PKPdf 08 51 09.5 +0.6**
SMTH Samothraki Isl 119.41 60 eP **PKPdf 08 51 08.0 -0.7**
PMG Port Moresby 119.44 228 PFAKE 08 51 20.0 +10
PMG LR LR
comp=Z,16µm,20.0s
MPEP Malo Peshtene 119.49 56 P **PKPdf 08 51 09.1 +0.3**
DAG Danmarks Havn 119.52 12 i P **Pdif 08 47 30.2 -0.2**
DAG i 08 52 25.6
comp=Z,18µm,22.0s
DAG Danmarks Havn 119.52 12 i P **Pdif 08 47 30.2 -0.2**
DAG MLR MLR
comp=Z,20µm,22.0s
KECS Kecovo 119.64 50 ePKIKP **PKPdf 08 51 08.3 -0.6**
KECS e 08 52 32.1
KECS Kecovo 119.64 50 ePKP **PKPdf 08 51 08.3 -0.6**
KECS ePP **PP 08 52 32.1 -0.3**
COLD Coldfoot 119.67 334 ePKPdf **PKPdf 08 51 09.2 +0.8**
GKP Gorka Klasztor 119.78 44 ePKPdf **PKPdf 08 51 10.8 +1.9**
GKP LMZ LR 09 37 59.1
GKP Gorka Klasztor 119.78 44 ePKIKP **PKPdf 08 51 10.8 +1.9**
MBWA Marble Bar 119.80 194 PFAKE 08 51 20.0 +10
MBWA LR LR
comp=Z,12µm,20.0s
NAO01 NORSAR Array S 119.82 34 ePKPdf **PKPdf 08 51 08.8 0.0**
KDZ Kurdzhali 119.86 59⇓PKIKP **PKPdf 08 51 09.0 -0.5**
KDZ Kurdzhali 119.86 59⇓ iP **PKPdf 08 51 09.0 -0.5**
NIE Niedzica 119.93 49 ePKPdf **PKPdf 08 51 09.9 +0.5**
NIE ePP **PP 08 52 34.5 +0.1**
NIE ePS **PS 09 02 33.1 +9.3**
NIE LMZ LR 09 39 43.8
NIE Niedzica 119.93 49 ePKIKP **PKPdf 08 51 09.9 +0.5**
NIE e 08 52 34.5
NIE MLR MLR
comp=Z,9µm,24.2s
ALN Alexandroupoli 119.95 60 eP **PKPdf 08 51 09.0 -0.7**
OJC Ojcow 119.96 48 ePKPdf **PKPdf 08 51 09.7 +0.3**
OJC ePP **PP 08 52 30.3 -4.2**
OJC eSKS **SKSac 08 58 07.9 +3.8**
OJC LMZ LR 09 39 19.0
OJC Ojcow 119.96 48 ePKIKP **PKPdf 08 51 09.8 +0.3**
OJC e 08 52 30.3
OJC e 08 58 08.0
NB2 NORSAR Subarra 120.05 34 PKPdf **PKPdf 08 51 08.9 -0.4**
comp=Z,15nm,1.1s,baz=248,slow=1.9
NB2 NORSAR Subarra 120.05 34 PKPdf **PKPdf 08 51 08.9 -0.4**
baz=248,slow=1.9
NOA NORSAR Array B 120.05 34 PKP **PKPdf 08 51 08.8 -0.5**
comp=Z,9.3nm,1.0s,baz=253,slow=1.9,SNR=15
NOA NORSAR Array B 120.05 34 PKIKP **PKPdf 08 51 08.8 -0.5**
NOA pmax pmax
comp=Z,9.0nm,1.0s
NC602 NORSAR Array S 120.06 34 ePP PP 08 52 34.7 -0.3
NC602 IVMs_BB IVMs_BB 09 40 31.3
comp=Z,7µm,23.0s
DRGR 120.29 52⇑PKIKP **PKPdf 08 51 08.6 -1.7**
DRGR 120.29 52⇑ iP **PKPdf 08 51 08.6 -1.7**
STHS Stebnicka Huta 120.48 49 ePKIKP **PKPdf 08 51 11.6 +1.1**
STHS e 08 52 37.3
STHS Stebnicka Huta 120.48 49 ePKP **PKPdf 08 51 11.6 +1.1**
STHS ePP **PP 08 52 37.3 -0.9**
TBLU Trondheim 120.56 31 ePP PP 08 52 37.0 -1.3
TBLU IVMs_BB IVMs_BB 09 42 06.4
comp=Z,5µm,22.0s
UZH Uzhgorod 120.79 50 i PKIKP **PKPdf 08 51 11.0 -0.1**
UZH e 08 58 16.0
UZH ePS **PS 09 02 34.0 +2.6**
UZH MLR MLR
comp=Z,10µm,20.0s
SZH Strazhica 120.89 57 P **PKPdf 08 51 12.2 +0.7**
JMB Yambol 120.99 58⇑PKIKP **PKPdf 08 51 11.4 -0.3**
JMB Yambol 120.99 58⇑ iP **PKPdf 08 51 11.4 -0.3**
BEL Belsk 121.19 46 ePKPdf **PKPdf 08 51 13.2 +1.5**
BEL LMZ LR 09 43 40.4
BEL Belsk 121.19 46 ePKIKP **PKPdf 08 51 13.2 +1.5**
BEL MLR MLR
comp=Z,17µm,20.7s
VOIR 121.22 55⇑PKIKP **PKPdf 08 51 13.0 +0.9**
VOIR 121.22 55⇑ iP **PKPdf 08 51 13.0 +0.9**
KWP Kalwaria Pacla 121.44 49 ePKPdf **PKPdf 08 51 12.8 +0.5**
KWP ePP **PP 08 52 44.6 -0.1**
KWP LMZ LR 09 40 31.1
KWP Kalwaria Pacla 121.44 49 ePKIKP **PKPdf 08 51 12.8 +0.5**
KWP e 08 52 44.7
KWP MLR MLR
comp=Z,18µm,24.1s
ISP Isparta 121.73 65 PFAKE 08 51 20.0 +6.6
ISP LR LR
comp=Z,27µm,20.0s
NSS Namsos 121.76 30 ePP PP 08 52 47.7 +1.3
NSS eSS SS 09 09 24.2 +2.8
MLR Muntele Rosu 121.81 55⇑PKIKP **PKPdf 08 51 13.9 +0.6**
MLR Muntele Rosu 121.81 55⇑ iP **PKPdf 08 51 13.9 +0.6**
PRD Provadia 121.84 58⇓PKIKP **PKPdf 08 51 13.6 +0.4**
PRD Provadia 121.84 58⇓ iP **PKPdf 08 51 13.6 +0.4**
PRD Provadia 121.84 58 P **PKPdf 08 51 13.6 +0.4**
BURAR Bucovina Array 122.19 52⇓PKIKP **PKPdf 08 51 13.6 -0.3**
BURAR Bucovina Array 122.19 52⇓ iP **PKPdf 08 51 13.6 -0.3**
LVV L'vov 122.31 49 i PKIKP **PKPdf 08 51 14.7 +0.7**
LVV ePPP PPP 08 55 26.1
LVV e 08 58 16.5
LVV ePS **PS 09 02 37.5 -7.4**
LVV eSS SS 09 09 39.1 +10
LVV eSSS SSS 09 13 56.3
PLOR Plostina 122.41 55⇑PKIKP **PKPdf 08 51 13.5 -0.8**
PLOR Plostina 122.41 55⇑ iP **PKPdf 08 51 13.5 -0.8**
VRI Vrincioaia 122.47 55⇑PKIKP **PKPdf 08 51 13.6 -0.8**
VRI Vrincioaia 122.47 55⇑ iP **PKPdf 08 51 13.6 -0.8**
CSS Prodhromos 122.52 69 ePKPdf **PKPdf 08 51 15.0 +0.1**
CSS LR LR
comp=Z,3µm,20.0s
PSN Preselentsi 122.56 57 P **PKPdf 08 51 12.1 -2.5**
TESR Tescani 122.67 54⇓ iP **PKPdf 08 51 14.2 -0.6**
HARR Harsova 122.79 56⇑PKIKP **PKPdf 08 51 15.0 0.0**
HARR Harsova 122.79 56⇑ iP **PKPdf 08 51 15.0 0.0**
TIRR Tirgusor 123.02 57 ePKIKP **PKPdf 08 51 14.6 -0.9**
TIRR Tirgusor 123.02 57⇓ iP **PKPdf 08 51 15.0 -0.5**
TIRR Tirgusor 123.02 57 ePKPdf **PKPdf 08 51 14.6 -0.9**
CFR Carcaliu 123.11 56⇑PKIKP **PKPdf 08 51 14.9 -0.7**
CFR Carcaliu 123.11 56⇑ iP **PKPdf 08 51 14.9 -0.7**
SUW Suwalki 123.34 45 ePKPdf **PKPdf 08 51 14.8 -1.0**
SUW ePP **PP 08 52 54.0 -3.4**
SUW eSKS **SKSdf 08 58 24.3 -1.3**
SUW eSS SS 09 09 30.8 -11
SUW LMZ LR 09 41 58.5
SUW Suwalki 123.34 45 ePKIKP **PKPdf 08 51 14.9 -0.9**
SUW e 08 52 54.1
SUW e 08 58 24.4
SUW MLR MLR
comp=Z,22µm,21.9s
LOF Lofoten 123.63 27 ePP PP 08 52 58.1 -0.9
KIS Kishinev 124.23 54 eP **Pdif 08 48 00.0 +8.0**
KIS Kishinev 124.23 54 ePKP **PKPdf 08 51 18.0 +0.3**
KIS Kishinev 124.23 54 ePP PP 08 52 58.0 -5.6
comp=Z,4µm,18.0s
KIS Kishinev 124.23 54 ePPP PPP 08 55 42.0
KIS eSKS **SKSdf 08 58 24.0 -3.6**
KIS eSKKS **SKKSac 08 59 56.0 -3.6**
KIS Kishinev 124.23 54 ePS SP 09 02 45.0 -14
KIS Kishinev 124.23 54 eP **Pdif 08 48 00.0 +8.0**
KIS e 08 51 18.0
KIS e 08 51 31.0
KIS ePPP PPP 08 55 42.0
KIS e 08 58 24.0
KIS ePPS PPS 09 04 34.0
H11S2 WAKE ISLAND Hyl 124.48 267 T T 11 07 36.9
baz=124
H11S1 WAKE ISLAND Hyl 124.50 267 T T 11 07 38.1
baz=124
H11S3 WAKE ISLAND Hyl 124.50 267 T T 11 07 38.2
baz=124
DGAR Diego Garcia 124.73 137 PFAKE 08 51 30.0 +10
DGAR LR LR
comp=Z,21µm,20.0s
BRTR Keskin Array B 124.74 64 PKP **PKPdf 08 51 18.5 -0.6**
comp=Z,18nm,1.0s,baz=197,slow=2.6,SNR=39
BRTR Keskin Array B 124.74 64c iPKIKP **PKPdf 08 51 18.6 -0.6**
BRTR pmax pmax
comp=Z,18nm,1.0s
WAKE Wake Island 124.96 268 PFAKE 08 51 30.0 +10
WAKE LR LR
comp=Z,17µm,19.0s
H11N3 WAKE ISLAND Hyl 125.00 269 T T 11 08 22.3
baz=121
H11N1 WAKE ISLAND Hyl 125.01 269 T T 11 08 32.1
baz=121
H11N2 WAKE ISLAND Hyl 125.01 269 T T 11 08 30.7
baz=121
NACGM Naroch 125.61 44 ePKP **PKPdf 08 51 18.0 -2.1**
KIEV Kiev 125.73 50 ePKIKP **PKPdf 08 51 19.1 -1.3**
KIEV MLR MLR
comp=Z,13µm,21.0s
KIEV Kiev 125.73 50 ePKPdf **PKPdf 08 51 19.1 -1.3**
KIEV LR LR
comp=Z,13µm,21.0s
AKASG Malin Array Be 125.74 50 PKP **PKPdf 08 51 19.1 -1.4**
comp=Z,10nm,0.7s,baz=263,slow=2.6,SNR=34
AKASG PP **PP 08 53 11.9 -1.6**
comp=Z,7.4nm,1.0s,baz=254,slow=6.4,SNR=9.0
AKASG Malin Array Be 125.74 50 PKIKP **PKPdf 08 51 19.1 -1.4**
AKASG 08 53 12.0
AKASG pmax pmax
comp=Z,10.0nm,0.7s
AKASG pmax pmax
comp=Z,7.0nm,1.0s
TRO Tromso 125.92 26 ePP PP 08 53 12.6 -1.6
MNK Minsk 126.08 45⇑ePKIKP **PKPdf 08 51 21.0 0.0**
MNK e 08 53 20.0
MNK e 08 58 30.0
MNK ePS **PS 09 03 22.0 +3.9**
MNK eSS SS 09 10 14.0 -2.4
MNK pmax pmax
comp=Z,160nm,1.0s
MNK MLR MLR
comp=E,14µm,18.0s
MNK MLR MLR
comp=Z,52µm,18.0s
MNK MLR MLR
comp=N,14µm,20.0s
MICGM Minsk 126.11 45⇑ePKP **PKPdf 08 51 21.0 -0.1**
KBS Kingsbay 126.17 14 PFAKE 08 51 30.0 +9.4
KBS LR LR
comp=Z,9µm,20.0s
RAYN Ar Rayn 126.48 87 ePKPdf **PKPdf 08 51 22.9 +0.1**
RAYN LR LR
comp=Z,19µm,20.0s
HSPB Hornsund (broa 126.51 16 ePP PP 08 53 15.8 -2.1
VSU Vasula 126.57 40c iPKIKP **PKPdf 08 51 21.5 -0.3**
BJO Bjornoya 126.95 20 ePP PP 08 53 17.3 -3.7
BJO eSS SS 09 10 27.0 +0.7
FINES FINESS Array B 126.96 36 PKP **PKPdf 08 51 22.0 -0.5**
comp=Z,29nm,1.0s,baz=243,slow=1.2,SNR=26
FINES FINESS Array B 126.96 36 PKIKP **PKPdf 08 51 22.0 -0.5**
FINES pmax pmax
comp=Z,29nm,1.0s
FINES FINESS Array B 126.96 36 PKP **PKPdf 08 51 22.0 -0.5**
SIM Simferopol' 126.98 58 P **Pdif 08 48 11.4 +7.1**
SIM 08 53 20.5
SIM 08 58 26.5
SIM PPS PPS 09 05 08.1
SIM SS SS 09 10 33.1 +4.8
SIM SSS SSS 09 15 17.2
SIM pmax pmax
comp=Z,75nm,13.0s
MALT Malatya 127.63 67⇓PKIKP **PKPdf 08 51 25.2 +0.5**
MALT Malatya 127.63 67⇓ iP **PKPdf 08 51 25.2 +0.5**
HAMF Hammerfest 127.70 25 e **PKPdf 08 51 24.0 +0.4**
HAMF ePP **PP 08 53 23.3 -2.7**
HAMF IVMs_BB IVMs_BB 09 54 07.4
comp=Z,5µm,18.5s
ARCES ARCESS Array B 128.17 26 PKP **PKPdf 08 51 24.1 -0.5**
comp=Z,16nm,0.9s,baz=270,slow=1.8,SNR=18
ARCES ARCESS Array B 128.17 26 PKIKP **PKPdf 08 51 24.1 -0.5**
ARCES pmax pmax
comp=Z,16nm,0.9s
ARE0 ARCESS Array S 128.17 26 e **PKPdf 08 51 27.3 +2.7**
ARE0 ePP **PP 08 53 29.2 0.0**
ARE0 eSS SS 09 10 41.0 -0.8
HOPEN Hopen 128.62 17 e **PKPdf 08 51 20.4 -4.8**
HOPEN ePP **PP 08 53 31.6 -0.2**
HOPEN eSS SS 09 10 46.6 -0.3
KEV Kevo 128.72 26 PFAKE 08 51 40.0 +14
KEV LR LR
comp=Z,16µm,22.0s
ANN Anapa 129.17 59 i PKIKP **PKPdf 08 51 27.6 +0.4**
ANN eSP SP 09 03 34.0 -7.9
ANN pmax pmax
comp=Z,141nm,1.7s
ANN MLR MLR
comp=E,4µm,23.0s
ANN MLR MLR
comp=Z,9µm,23.0s
ANN MLR MLR
comp=N,6µm,23.0s
COCO West Island 129.19 168 PFAKE 08 51 40.0 +12
COCO LR LR
comp=Z,9µm,20.0s
SOC Sochi 130.36 61 eP **Pdif 08 48 16.2 -3.2**
SOC i 08 51 29.7
SOC ePPP PPP 08 56 30.0
SOC pmax pmax
comp=Z,7.0nm,0.6s
SOC pmax pmax
comp=Z,65nm,1.0s
SOC MLR MLR
comp=Z,5µm,22.0s
APA Apatity 130.91 29⇓PKIKP **PKPdf 08 51 29.0 -0.8**
APA i 08 53 46.0
APA i PPP PPP 08 56 40.0
APA i 08 58 28.0
APA i PS **PS 09 04 00.0 +0.2**
APA pmax pmax
comp=Z,76nm,1.2s
APA MLR MLR
comp=Z,13µm,20.0s
OBN Obninsk 131.14 46d iP Pdif 08 48 33.9 +11
OBN i 08 51 31.1
OBN i 08 51 38.6
OBN i 08 51 45.7
OBN i 08 53 47.2
OBN i SS SS 09 11 20.5 +1.6
OBN SSS SSS 09 16 09.0
OBN pmax pmax
comp=Z,145µm,17.3s
OBN pmax pmax
comp=Z,115nm,1.7s
OBN MLR MLR
comp=Z,24µm,25.0s
OBN Obninsk 131.14 46 ePKPdf **PKPdf 08 51 31.2 +0.6**
OBN LR LR
comp=Z,22µm,22.0s
LVZ Lovozero 131.39 29c iPKIKP **PKPdf 08 51 31.3 +0.5**
LVZ pmax pmax
comp=Z,91nm,1.2s
LVZ MLR MLR
comp=Z,17µm,22.0s
LVZ Lovozero 131.39 29 ePKPdf **PKPdf 08 51 31.0 +0.1**
LVZ LR LR
comp=Z,1µm,19.0s
MOS Moscow 131.83 45 i PKIKP **PKPdf 08 51 31.4 -0.5**
MOS i 08 53 51.7
MOS ePS **PS 09 04 03.8 -4.3**
MOS i 09 05 49.4
MOS i SS SS 09 11 23.4 -4.0
MOS pmax pmax
comp=Z,56nm,1.3s
VSR Storozhevoye 131.94 51c iPKIKP **PKPdf 08 51 32.5 +0.2**
VSR MLR MLR

comp=Z,24µm,23.0s
VOR Voronezh 132.06 51 PKIKP **PKPdf 08 51 33.0 +0.5**
VOR pmax pmax
comp=Z,300nm,1.0s
NEY Neytrino 132.35 63⇑ *i*PKIKP **PKPdf 08 51 35.3 +1.7**
NEY MLR MLR
comp=Z,11µm,24.0s
AKH Akhalkalaki 132.35 65 P **PKPdf 08 51 34.8 +1.2**
KIV Kislovodsk 132.53 62 *d i*P **Pdif 08 48 38.6 +9.5**
KIV *i* 08 51 34.2
KIV *e* 08 51 44.8
KIV *i* 08 53 53.8
KIV *i* SS SS 09 11 41.2 +4.4
KIV *i* SSS SSS 09 16 26.4
KIV pmax pmax
comp=Z,53nm,1.3s
KIV MLR MLR
comp=Z,9µm,23.0s
KIV Kislovodsk 132.53 62 *e*PKPdf **PKPdf 08 51 33.6 -0.2**
KIV LR LR
comp=Z,8µm,22.0s
KBZ Khabaz 132.61 62 PKP **PKPdf 08 51 34.7 +0.9**
comp=Z,15nm,0.9s,baz=230,slow=2.9,SNR=15
KBZ Khabaz 132.61 62 PKIKP **PKPdf 08 51 34.7 +0.9**
KBZ pmax pmax
comp=Z,15nm,0.9s
ONI Oni 132.68 64 P **PKPdf 08 51 34.2 +0.1**
TMCR Tamitsa 132.74 34 *e*PKIKP **PKPdf 08 51 32.6 -0.8**
GNI Garni 132.87 67 *c i*PKIKP **PKPdf 08 51 35.9 +1.3**
GNI Garni 132.87 67 PFAKE 08 51 50.0 +15
GNI LR LR
comp=Z,13µm,20.0s
NCK Nalchik 133.03 62⇑ *i*PKIKP **PKPdf 08 51 36.2 +1.5**
GOF Gofitskoye 133.06 60 *e*PKIKP PKPpre 08 51 29.6
GOF pmax pmax
comp=Z,74nm,0.9s
TBLG Delisi 133.34 65 P **PKPdf 08 51 35.7 +0.3**
TBLG Delisi 133.34 65 PKIKP **PKPdf 08 51 35.6 +0.3**
DGRG David-gareji 133.72 66 P **PKPdf 08 51 33.5 -2.5**
LEM Lembang 135.33 182 PKP **PKPdf 08 51 41.5 +1.4**
comp=Z,35nm,0.6s,baz=78,slow=9.0,SNR=3.7
LEM Lembang 135.33 182 PKIKP **PKPdf 08 51 41.5 +1.4**
LEM pmax pmax
comp=Z,35nm,0.6s
KAPI Kappang 135.42 199 PFAKE 08 51 50.0 +10
KAPI LR LR
comp=Z,8µm,19.0s
MAK Makhachkala 135.65 64 *e*P **Pdif 08 48 46.4 +3.5**
MAK *e* 08 54 17.2
MAK *e*PPP PPP 08 57 15.4
MAK *e* 08 58 50.2
MAK *e*PS **PS 09 04 31.5 -10**
MAK pmax pmax
comp=Z,206nm,1.3s
BILL Bilibino 135.93 332 PFAKE 08 51 50.0 +11
BILL LR LR
comp=Z,21µm,20.0s
PRGR Permogore 136.28 37 *e*PKHKP PKPpre 08 51 27.8
PRGR *e* 08 51 40.1
IBAF Bafgh 138.09 83 *e*P **PKPdf 08 51 44.9 +0.2**
GUMO Guam 138.19 245 PFAKE 08 52 00.0 +15
GUMO LR LR
comp=Z,887nm,19.0s
IANJ Anjilo 138.23 77 *e*P **PKPdf 08 51 44.9 +0.1**
PET Petropavlovsk 141.45 310 *e*PKIKP **PKPdf 08 51 50.0 +0.2**
PET pmax pmax
comp=Z,75nm,2.5s
PET Petropavlovsk 141.45 310 PFAKE 08 52 00.0 +10
PET LR LR
comp=Z,16µm,22.0s
ISHV Shirvan 141.77 75 *e*P **PKPdf 08 51 50.6 -0.6**
ISFR Sfrayin 141.86 76 *e*P PKPpre 08 51 47.5
SOKR Solikamsk 142.00 39 *i* PKHKP PKPpre 08 51 44.9
SOKR 08 55 01.8
PETK Petropavlovsk- 142.02 310 PKhKP PKPpre 08 51 46.3
comp=Z,9.0nm,0.8s,baz=108,slow=4.8,SNR=8.3
IKRD Kardeh 142.18 77 *e*P **PKPdf 08 51 52.4 +0.4**
GEYT Alibeck 142.19 75 PKhKP PKPpre 08 51 48.1
comp=Z,9.7nm,0.6s,baz=242,slow=3.1,SNR=12
GEYT PKP **PKPdf 08 51 51.1 -0.6**
comp=Z,9.7nm,0.6s,baz=263,slow=3.5,SNR=14
IAKL Akhelmad 142.31 77 *e*P **PKPdf 08 51 49.7 -2.6**
IEMG Emamgholi 142.46 76 *e*P PKPpre 08 51 48.7
IMOG Moghan 142.61 78 *e*P PKPpre 08 51 48.4
ISRO Mashad 142.77 78 *e*P PKPpre 08 51 48.6
SEY Seymchan 142.89 327⇑ *e*PKHKP PKPpre 08 51 48.1
SKR Severo-Kuril's 143.06 306 *i* PKIKP **PKPdf 08 51 54.0 +1.3**
SKR *e* 08 55 08.0
SKR *e*PPP PPP 08 58 50.0
SKR pmax pmax
comp=Z,220nm,1.0s
SKR pmax pmax
comp=Z,3µm,14.0s
IMYA Miami 143.27 78 *e*P PKPab 08 51 49.5 -0.3
KSM Kuching 143.42 186 PFAKE 08 52 10.0 +15
KSM LR LR
comp=Z,11µm,20.0s
ARU Arti 143.52 44 *i* PKIKP PKPab 08 51 50.0 +0.2
ARU MLR MLR
comp=Z,37µm,22.0s
ARU Arti 143.52 44 PFAKE 08 52 10.0 +17
ARU LR LR
comp=Z,36µm,22.0s
AKTO Aktyubinsk 143.74 54 PKIKP PKPab 08 51 51.1 +0.2
AKTO pmax pmax
comp=Z,170nm,1.2s
PSI Prapat 144.22 167 PKP **PKPab 08 51 53.8 -0.1**
comp=Z,69nm,0.9s,baz=170,slow=6.1,SNR=32
PSI Prapat 144.22 167 PKIKP **PKPab 08 51 53.8 -0.1**
PSI pmax pmax
comp=Z,69nm,0.9s
SVE Sverdlovsk 144.57 43 *d i*PKIKP PKPbc 08 51 54.2 +0.2
SVE *e* 08 55 13.9
SVE pmax pmax
comp=Z,223nm,1.2s
SVE pmax pmax
comp=Z,6µm,15.7s
SVE MLR MLR
comp=N,8µm,22.0s
SVE MLR MLR
comp=E,20µm,23.0s
SVE MLR MLR
comp=Z,26µm,22.0s
DAV Davao City (W) 144.65 214 PFAKE 08 52 10.0 +13
DAV LR LR
comp=Z,5µm,20.0s
MA2 Magadan 144.72 322 *e*PKIKP **PKPab 08 51 54.1 -0.2**
AB31 Akbulak array 145.01 56 *i* PKIKP **PKPbc 08 51 55.2 -0.4**
AB31 pmax pmax
comp=Z,471nm,1.0s
ABKAR Akbulak array 145.01 56 *e*PKPbc **PKPbc 08 51 55.5 -0.1**
URV Uravakonda 145.38 124 *e*PKPbc **PKPbc 08 51 56.3 -1.5**
URV *e*PP **PP 08 55 17.2 -0.2**
URV *e*SKSdf **SKSdf 08 59 02.2 -3.4**
SKHT Srikalahasti 146.04 128 *e*PKPab **PKPdf 08 51 59.0 0.0**
SKHT *e*PP **PP 08 55 21.0 -0.2**
SKHT *e*SKSdf **SKSdf 08 59 05.7 -0.9**
LHMI Lhok Sumawe 146.17 163 *e*PKPdf **PKPdf 08 51 59.3 -0.1**
IPM Ipoh 146.20 170 *e*PKPdf **PKPdf 08 51 59.9 +0.4**
RCLA Racherla 146.85 125 *e*PKPdf **PKPdf 08 51 59.7 -0.7**
RCLA *e*PKPbc **PKPbc 08 52 01.1 -1.1**
RCLA *e*PP **PP 08 55 25.5 -0.6**
KKM Kota Kinabalu 146.94 198 *e*PKPdf **PKPdf 08 52 00.6 -0.2**
KKM LR LR
comp=Z,7µm,19.0s
KULM Kulim 146.94 169 *e*PKPdf **PKPdf 08 52 00.1 -0.6**
KULM LR LR
comp=Z,11µm,20.0s
KLRI Killari 147.14 119 *e*PKPdf **PKPdf 08 52 00.2 -0.6**
KLRI *e*PKPbc **PKPbc 08 52 02.0 -1.1**
KLRI *e*PP **PP 08 55 26.6 -1.3**
SRLM Srisailam 147.28 124 *e*PKPbc **PKPbc 08 52 02.4 -1.0**
SRLM *e*PP **PP 08 55 28.0 -0.7**
ADKI Addanki 147.79 126 *e*PKPdf **PKPdf 08 52 02.1 +0.2**
ADKI *e*PKPbc **PKPbc 08 52 04.0 -0.7**
ADKI *e*PP **PP 08 55 30.2 -1.3**
ADKI *e*SKSdf **SKSdf 08 59 08.0 -0.9**
NJS Nagarjunasagar 147.89 124 *e*PKPdf **PKPdf 08 52 01.2 -0.9**
NJS *e*PKPbc **PKPbc 08 52 04.1 -0.9**
NJS *e*PP **PP 08 55 31.6 -0.5**
NJS *e*SKSdf **SKSdf 08 59 07.3 -1.8**
HYB Hyderabad 148.01 122 *i* PKP **PKPbc 08 52 04.0 -1.4**
HYB *e* 08 52 08.5
HYB *e*PP PP 08 55 40.0 +7.0
HYB *e* 09 02 22.0
HYB *e* 09 05 54.0
HYBB Hyderabad (bro 148.01 122 *e*PKPdf **PKPdf 08 52 01.3 -1.0**
HYBB *e*PKPbc **PKPbc 08 52 04.3 -1.1**
HYBB *e*PP **PP 08 55 29.7 -3.3**
HYBB *e*SKSdf **SKSdf 08 59 09.2 -0.2**
KUR Kuril'sk 148.57 297⇓ *i*PKP2 **PKPbc 08 52 06.0 0.0**
KUR *i* 08 55 45.0
KUR *i* SS SS 09 14 40.2 -3.8
KUR SSS SSS 09 20 13.2
KUR pmax pmax
comp=N,77nm,1.3s
KUR pmax pmax
comp=E,46nm,1.3s
KUR pmax pmax
comp=Z,76nm,1.3s
SRSP Sriramsagar 148.93 120 *e*PKPdf **PKPdf 08 52 03.4 -0.4**
SRSP *e*PKPbc **PKPbc 08 52 06.6 -1.1**
SRSP *e*PP **PP 08 55 38.6 +0.3**
SRSP *e*SKSdf **SKSdf 08 59 12.3 +1.9**
RPR Rampur 149.52 121 *e*PKPdf **PKPdf 08 52 04.4 -0.2**
RPR *e*PKPbc **PKPbc 08 52 07.8 -1.4**
RPR *e*PP **PP 08 55 41.4 -0.3**
RPR *e*SKSdf **SKSdf 08 59 13.6 +2.4**
PVM Polavaram 149.89 127 *e*PKPdf **PKPdf 08 52 03.9 -1.3**
PVM *e*PKPbc **PKPbc 08 52 09.3 -0.8**
PVM *e*PP **PP 08 55 43.4 -0.3**
PVM *e*SKSdf **SKSdf 08 59 11.6 -0.2**
YUK Yuzh-Kuril'sk 149.96 294 *i* PKP2 **PKPbc 08 52 09.7 +0.2**
YUK *i* 08 55 42.7
YUK *e*PPP PPP 08 59 06.3
YUK *i* SS SS 09 14 53.2 -6.5
YUK pmax pmax
comp=N,350nm,1.4s
YUK pmax pmax
comp=E,183nm,1.4s
YUK pmax pmax
comp=Z,454nm,1.4s
BRVK Borovoye 150.89 47 *e*PKIKP **PKPdf 08 52 06.7 +0.9**
BRVK *e* 08 52 11.6
BRVK MLR MLR
comp=Z,20µm,20.0s
BRVK Borovoye 150.89 47 *e*PKPdf **PKPdf 08 52 06.7 +0.9**
BRVK *e*PKPbc **PKPbc 08 52 11.6 +0.2**
BRVK LR LR
comp=Z,20µm,20.0s
NGP Nagpur 150.91 118 *ex* **PP 08 55 51.5 +1.7**
NGP *ex* x 09 06 17.2
TYV Tymovskoe 151.52 308 *e*PKIKP **PKPdf 08 52 08.0 +1.2**
TYV pmax pmax
comp=Z,1µm,10.0s
ERM Erimo 151.82 290 *e*PKIKP **PKPbc 08 52 14.5 +0.6**
ERM MLR MLR
comp=Z,27µm,22.0s
ERM Erimo 151.82 290 *e*PKPbc **PKPbc 08 52 14.5 +0.6**
ERM LR LR
comp=Z,27µm,22.0s
YSS Yuzh-Sakhalins 152.07 300⇑ *i*PKIKP **PKPdf 08 52 06.0 -1.7**
YSS *e* 08 56 03.0
YSS *e*PPP PPP 08 59 28.0
YSS Yuzh-Sakhalins 152.07 300 *e*PKPbc **PKPbc 08 52 13.5 -0.9**
YSS LR LR
comp=Z,7µm,20.0s
NKL Nikolayevsk 152.08 314 *e*PKIKP **PKPdf 08 52 05.0 -2.5**
NKL *e* 08 52 19.0
NKL *e* 09 15 16.0
NKL pmax pmax
comp=Z,43nm,1.0s
NKL pmax pmax
comp=Z,2µm,9.0s
YAK Yakutsk 152.08 337 *e*PKIKP **PKPdf 08 52 04.3 -3.0**
YAK *e* 08 55 51.8
YAK pmax pmax
comp=N,10.0nm,0.8s
YAK pmax pmax
comp=E,10.0nm,1.0s
YAK pmax pmax
comp=Z,133nm,0.9s
YAK pmax pmax
comp=E,1µm,12.4s
YAK pmax pmax
comp=Z,2µm,9.0s
YAK pmax pmax
comp=N,685nm,9.1s
YAK Yakutsk 152.08 337 *e*PKPbc **PKPbc 08 52 12.4 -1.5**
YAK LR LR
comp=Z,17µm,22.0s
ASAJ Asahikawa 152.31 294 *e*PKPdf **PKPdf 08 52 07.5 -0.7**
ASAJ *e*PKPbc **PKPbc 08 52 14.1 -0.9**
KK31 Karatay Array 152.32 68 *i* PKIKP **PKPdf 08 52 07.9 -0.4**
KK31 pmax pmax
comp=Z,39nm,0.8s
CHLP Challavanipeta 152.35 129 *e*PKPdf **PKPdf 08 52 08.1 -0.9**
CHLP *e*PKPbc **PKPbc 08 52 15.3 -0.5**
CHLP *e*PP **PP 08 55 56.6 -1.2**
CHLP *e*SKSdf **SKSdf 08 59 13.3 -1.5**
OTUK Ortayu 153.26 57 PKIKP **PKPdf 08 52 11.5 +2.0**
NDI New Delhi 153.88 102 *ex* **PKPdf 08 52 12.5 +1.5**
NDI *ex* PP 08 56 13.0 +6.0
SFK Sufi-Kurgan 154.35 75 PKIKP **PKPdf 08 52 13.0 +1.4**
SFK pmax pmax
comp=Z,100nm,1.4s
BHK Bhakra 154.45 96 *e*P **PKPab 08 52 31.5 -3.1**
EKS2 Erkin-Say 154.72 69 *e*PKIKP **PKPdf 08 52 12.3 +0.4**
EKS2 MLR MLR
comp=Z,12µm,20.0s
EKS2 Erkin-Say 154.72 69 *e*PKPdf **PKPdf 08 52 12.3 +0.4**
EKS2 LR LR
comp=Z,12µm,20.0s
MJAR Matsushiro Arr 154.82 276 PKP **PKPdf 08 52 12.0 -0.1**
comp=Z,3.5nm,1.0s,baz=173,slow=2.7,SNR=8.7
MJAR PKPbc **PKiKP 08 52 21.3 +0.5**
comp=Z,8.4nm,1.0s,baz=199,slow=2.8,SNR=6.5
MJAR Matsushiro Arr 154.82 276 PKIKP **PKPdf 08 52 12.0 -0.1**
MJAR 08 52 21.3
MJAR pmax pmax
comp=Z,4.0nm,1.0s
MAJO Matsushiro 154.82 276 PFAKE 08 52 20.0 -0.8
MAJO LR LR
comp=Z,10µm,19.0s
MAT Matsushiro 154.82 276 PKP **PKPdf 08 52 11.8 -0.3**
SMLA Simla 154.92 97 *i* P **PKPdf 08 52 13.1 +0.8**
AAK Ala-Archa 155.24 69 PKIKP **PKPdf 08 52 13.2 +0.5**
AAK pmax pmax
comp=Z,77nm,1.2s
AAK Ala-Archa 155.24 69 PFAKE 08 52 20.0 +7.3
AAK LR LR
comp=Z,13µm,20.0s
FRU Bishkek 155.33 69 *i* PKIKP **PKPdf 08 52 14.0 +1.4**
FRU *i* 08 52 27.0
FRU *e* 08 52 34.0
FRU *i* 08 56 16.0
FRU pmax pmax
comp=Z,120nm,2.0s
TKM2 Tokmak 2 156.05 69 PKIKP **PKPdf 08 52 13.4 -0.4**
TKM2 pmax pmax
comp=Z,64nm,1.2s
TKM2 Tokmak 2 156.05 69 *e*PKPdf **PKPdf 08 52 13.6 -0.2**
TKM2 LR LR
comp=Z,11µm,20.0s
KSH Kashi 156.19 77 PKP **PKPdf 08 52 13.6 -0.4**
KSH pPKP **pPKPdf 08 52 24.1 +1.5**
KSH sPKP 08 52 28.4
KSH PKS **PKSdf 08 55 46.1 -1.9**
KSH SKS **SKSdf 08 59 14.1 -4.5**
KSH SKKS **SKKSac 09 03 04.0 -3.5**
KSH PPMZ
comp=Z,4µm,5.4s
KSH LN
comp=Z,4µm,16.8s
KSH LE
comp=Z,8µm,19.4s
KSH LZ
comp=Z,10µm,17.7s
KURK Kurchatov 156.54 48 *e*PKIKP **PKPdf 08 52 13.7 -0.2**
KURK MLR MLR
comp=Z,14µm,20.0s
KURK Kurchatov 156.54 48 *e*PKPdf **PKPdf 08 52 13.7 -0.2**
KURK LR LR
comp=Z,14µm,20.0s
HABR Khabarovsk 156.90 306 *ce*PKIKP **PKPdf 08 52 14.2 -0.2**
HABR *e* 08 52 25.1
HABR *e* 08 56 23.4
HABR *e* 08 59 17.7
HABR *e*PPP PPP 08 59 58.2
HABR *e*SS SS 09 16 15.5 +0.4
HABR *e*SSS SSS 09 22 17.7
NVS Novosibirsk 156.95 36 *e*PKIKP **PKPdf 08 52 12.4 -1.9**
NVS pmax pmax
comp=Z,55nm,1.2s
NVS pmax pmax
comp=N,11nm,1.3s
NVS pmax pmax
comp=E,25nm,1.3s
ZALV Zalesovo Beam 158.23 36 PKP **PKPdf 08 52 15.3 -0.6**
comp=E,29nm,0.9s,baz=287,slow=2.4,SNR=38
ZALV Zalesovo Beam 158.23 36 PKIKP **PKPdf 08 52 15.3 -0.6**
ZALV pmax pmax
comp=Z,29nm,1.0s
KOLN Koldanda 158.23 111 *e*P **PKPdf 08 52 16.6 -0.4**
comp=Z,24nm,0.9s
KLR Kul'dur 158.71 310 *e*PKIKP **PKPdf 08 52 11.5 -5.1**
KLR *e* 08 56 35.5
KLR *e* 09 09 56.5
KLR pmax pmax
comp=E,700nm,12.0s
KLR pmax pmax
comp=Z,3µm,12.0s
PDGK Podgornoye 158.87 67 PKIKP **PKPdf 08 52 16.7 -0.3**
PDGK pmax pmax
comp=Z,65nm,1.1s
GKN Gorkha 159.12 112 *e*P **PKPdf 08 52 18.4 +0.4**
DMN Daman 159.24 114 *e*P **PKPdf 08 52 18.7 +0.4**
CMAR Chiang Mai Arr 159.37 159 PKP **PKPdf 08 52 18.1 -0.2**
comp=Z,4.5nm,0.8s,baz=243,slow=2.7,SNR=19
CMAR Chiang Mai Arr 159.37 159 PKIKP **PKPdf 08 52 18.2 -0.2**
CMAR pmax pmax
comp=Z,5.0nm,0.8s
PKI Pulchoki 159.44 114 *e*P **PKPdf 08 52 19.0 +0.4**
comp=Z,55nm,1.1s
KKN Kakani 159.47 114 *e*P **PKPdf 08 52 18.9 +0.4**
BOD Bodaibo 159.63 348 *e*PKIKP **PKPdf 08 52 16.6 -0.8**
BOD pmax pmax
comp=Z,13nm,1.5s
CHTO Chiang Mai 159.71 159 *e*PKIKP **PKPdf 08 52 18.4 -0.3**
CHTO MLR MLR
comp=Z,11µm,20.0s
CHTO Chiang Mai 159.71 159 *e*PKPdf **PKPdf 08 52 18.4 -0.3**
CHTO LR LR
comp=Z,11µm,20.0s
RAMN Ramite 159.91 118 *e*P **PKPdf 08 52 19.3 +0.2**
USRK Ussuriysk Ar. 159.91 296 PKP **PKPdf 08 52 17.8 -0.4**
comp=Z,0.6nm,0.4s,baz=287,slow=2.4,SNR=3.6
GUN Gumba 159.97 114 *e*P **PKPdf 08 52 19.5 +0.2**
comp=Z,104nm,1.2s
MK31 Makanchi Array 160.15 56 *i* PKIKP **PKPdf 08 52 18.0 -0.4**
MK31 pmax pmax
comp=Z,29nm,0.8s
MKAR Makanchi Array 160.15 56 PKP **PKPdf 08 52 18.7 +0.3**
comp=Z,22nm,1.0s,baz=286,slow=2.0,SNR=46
MKAR PKPab **PKPab 08 52 58.9 +0.2**
comp=Z,21nm,0.9s,baz=284,slow=3.6,SNR=8.7
MKAR Makanchi Array 160.15 56 PKIKP **PKPdf 08 52 18.7 +0.3**
MKAR 08 52 58.9
MKAR pmax pmax
comp=Z,22nm,1.0s
MKAR pmax pmax
comp=Z,21nm,0.9s
ODAN Odare 160.40 119 *e*P **PKPdf 08 52 19.6 0.0**
comp=Z,61nm,1.0s
QIZ Qiongzhong 160.82 190 PKP **PKPdf 08 52 20.9 +0.9**
QIZ PP **PP 08 56 44.8 +1.1**
QIZ SS SS 09 17 00.0 +5.3
QIZ PPMZ
comp=Z,2µm,14.6s
QIZ LN
comp=Z,7µm,18.2s
QIZ LZ
comp=Z,9µm,19.4s
QIZ Qiongzhong 160.82 190 PFAKE 08 52 30.0 +10
QIZ LR LR
comp=Z,10µm,19.0s
TAPN Taplejung 160.93 119 *e*P **PKPdf 08 52 20.9 +0.6**
MDJ Mudanjiang 161.52 298 PKP **PKPdf 08 52 21.8 +1.9**
MDJ pPKP **pPKPdf 08 52 28.8 +0.2**
MDJ sPKP 08 52 31.3
MDJ PP **PP 08 56 51.1 +2.4**
MDJ SS SS 09 17 08.9 +4.5
MDJ PPMZ
comp=Z,3µm,11.1s
MDJ LN
comp=Z,4µm,21.9s
MDJ LE
comp=Z,15µm,24.1s
MDJ LZ
comp=Z,20µm,23.0s
MDJ Mudanjiang 161.52 298 PFAKE 08 52 30.0 +10
MDJ LR LR
comp=Z,22µm,22.0s
YHNB Yeheng 161.62 228 PFAKE 08 52 30.0 +9.2
YHNB LR LR
comp=Z,8µm,20.0s
HKC Hong Kong Obse 162.97 205 *e*P PKPdf 08 52 29.0 +6.9
KSRS Korea Array 163.07 275 PKP **PKPdf 08 52 21.2 -0.5**
comp=Z,4.6nm,1.0s,baz=136,slow=0.6,SNR=18
KSRS PKPab **PKPab 08 53 12.6 +0.8**
comp=Z,5.7nm,0.8s,baz=106,slow=3.8,SNR=6.2
KSRS Korea Array 163.07 275 PKIKP **PKPdf 08 52 21.2 -0.5**
KSRS 08 53 12.6
KSRS pmax pmax
comp=Z,5.0nm,1.0s
KSRS pmax pmax
comp=Z,6.0nm,0.8s
KSAR Wonju Array Be 163.10 274 PKIKP **PKPdf 08 52 21.2 -0.6**
KSAR 08 53 12.6
KSAR Wonju Array Be 163.10 274 PKP **PKPdf 08 52 21.2 -0.6**
KSAR PKPab **PKPab 08 53 12.6 +0.7**
QZH Quanzhou 163.38 222 *i* PKP **PKPdf 08 52 22.4 0.0**
QZH PKPab **PKPab 08 53 14.6 +1.3**
QZH PP **PP 08 57 01.0 +3.0**
QZH SS SS 09 17 23.1 +0.5
QZH PPMZ
comp=Z,4µm,8.7s
QZH LN
comp=Z,2µm,17.0s
QZH LE
comp=Z,11µm,20.2s
QZH LN
comp=Z,13µm,20.0s
GZH Guangzhou 163.97 203 *e*PKP **PKPdf 08 52 21.6 -1.4**
GZH PKPab **PKPab 08 53 15.6 -0.2**
GZH PP **PP 08 57 00.3 -0.3**
GZH SKS **SKSdf 08 59 19.0 -6.9**
GZH SS **SS 09 17 28.5 +0.7**
GZH LN
comp=Z,11µm,19.8s
GZH LE
comp=Z,11µm,20.2s
INCN Inchon 164.09 274 PFAKE 08 52 30.0 +7.3
INCN LR LR
comp=Z,11µm,20.0s
CN2 Changchun 164.61 298 PKP PKPdf 08 52 17.3 -5.6
CN2 PP **PP 08 57 07.3 +2.2**
CN2 SS SS 09 17 32.8 -3.6
CN2 PPMZ
comp=Z,1µm,7.0s
CN2 LN
comp=Z,5µm,20.0s
CN2 LE
comp=Z,12µm,20.0s
CN2 LZ
comp=Z,3µm,20.0s
WMQ Urumqi 164.66 62 PKP **PKPdf 08 52 22.8 -0.3**
WMQ sPKP 08 52 37.1
WMQ PKPab **PKPab 08 53 19.8 +1.1**
WMQ PKS **PKSdf 08 55 54.4 -1.5**
WMQ PP **PP 08 57 07.3 +1.9**
WMQ SKKS 09 03 49.3
WMQ SS **SS 09 17 33.8 -3.2**
WMQ PPMZ
comp=Z,5µm,15.0s
WMQ LN
comp=Z,11µm,20.0s
WMQ LE
comp=Z,17µm,20.0s
WMQ LZ
comp=Z,17µm,22.0s
LSA Lhasa 164.75 119 PKP **PKPdf 08 52 24.3 +0.2**

LSA PP **PP** **08 57 03.1 -3.3**
LSA PPMZ
comp=Z,540nm,15.0s
LSA LN
comp=Z,4μm,20.0s
LSA LE
comp=Z,7μm,18.0s
LSA LZ
comp=Z,11μm,23.0s
LSA Lhasa 164.75 119 PFAKE 08 52 40.0 +16
LSA LR LR
comp=Z,13μm,19.0s
HIA Hailar 165.30 324 PFAKE 08 52 30.0 +6.6
HIA LR LR
comp=Z,14μm,21.0s
SSE Sheshan 166.08 244 PKP **PKPdf** **08 52 23.5 -1.1**
SSE PP **PP** **08 57 15.5 +2.8**
SSE SS SS 09 17 51.8 +0.4
SSE PPMZ
comp=Z,3μm,12.0s
SSE LN
comp=Z,3μm,20.9s
SSE LE
comp=Z,5μm,20.8s
SSE LZ
comp=Z,8μm,21.7s
SNY Shenyang 166.40 291 ⇑PKP **PKPdf** **08 52 19.9 -4.5**
SNY PKPab PKPab 08 53 32.6 +6.3
SNY PP PP 08 57 20.6 +6.1
SNY SKKS 09 03 59.8
SNY LN
comp=Z,5μm,19.9s
SNY LE
comp=Z,9μm,20.5s
SNY LZ
comp=Z,12μm,21.1s
KMI Kunming 166.70 165 PKP **PKPdf** **08 52 25.6 +0.1**
KMI pPKP **pPKPdf** **08 52 35.3 +1.1**
KMI sPKP 08 52 38.3
ZAK Zakamensk 167.47 10 *e*PKIKP **PKPdf** **08 52 24.4 -0.7**
ZAK *e* 08 53 31.5
ZAK pmax pmax
comp=Z,8.0nm,2.7s
DL2 Dalian 168.14 279 ⇑PKP **PKPdf** **08 52 25.0 -0.8**
DL2 PP **PP** **08 57 28.0 +4.4**
DL2 PPMZ
comp=Z,2μm,8.7s
DL2 LE
comp=Z,3μm,19.6s
DL2 LZ
comp=Z,7μm,18.6s
NJ2 Nanjing 168.26 243 *e*PKP **PKPdf** **08 52 22.5 -3.6**
NJ2 PKS **PKSdf** **08 55 58.0 -0.7**
NJ2 PP **PP** **08 57 27.5 +3.6**
NJ2 SS SS 09 18 09.0 -4.4
NJ2 LN
comp=Z,13μm,19.5s
NJ2 LE
comp=Z,28μm,21.4s
NJ2 LZ
comp=Z,88μm,21.0s
GYA Guiyang 168.43 181 *i* PKP **PKPdf** **08 52 26.1 -0.5**
GYA PKPab **PKPab** **08 53 38.0 +2.5**
GYA PKS **PKSdf** **08 55 57.6 -1.8**
GYA PP **PP** **08 57 22.3 -1.3**
GYA SKKS 09 04 10.3
GYA SS **SS** **09 18 15.8 +2.9**
GYA PPMZ
comp=Z,2μm,12.4s
GYA LN
comp=Z,6μm,24.0s
GYA LE
comp=Z,6μm,23.6s
GYA LZ
comp=Z,7μm,24.0s
WHN Wuhan 170.10 223 PKP **PKPdf** **08 52 27.1 -0.2**
WHN PKPab **PKPab** **08 53 43.0 +0.2**
WHN PP **PP** **08 57 34.3 +1.6**
WHN SS SS 09 18 30.8 +0.1
WHN LN
comp=Z,22μm,21.2s
WHN LE
comp=Z,16μm,17.6s
WHN LZ
comp=Z,26μm,21.0s
ULN Ulaanbaatar 170.20 358 PFAKE 08 52 40.0 +13
ULN LR LR
comp=Z,19μm,22.0s
SONM Songino Array 170.23 1 PKP **PKPdf** **08 52 25.8 -1.3**
comp=Z,6.3nm,1.0s,baz=323,slow=1.7,SNR=20
SONM PKPab **PKPab** **08 53 44.7 +1.6**
comp=Z,23nm,0.9s,baz=341,slow=3.9,SNR=18
TIA Tai'an 171.34 261 PKP **PKPdf** **08 52 27.0 -0.8**
TIA PP PP 08 57 45.3 +5.5
TIA SKKS 09 04 27.0
TIA SS SS 09 18 37.1 -7.5
TIA PPMZ
comp=Z,7μm,10.0s
TIA LN
comp=Z,9μm,18.1s
TIA LE
comp=Z,8μm,17.8s
TIA LZ
comp=Z,14μm,19.5s
ENH Enshi 171.85 198 PFAKE 08 52 40.0 +12
ENH LR LR
comp=Z,402nm,21.0s
BJI Beijing 172.24 288 PKP **PKPdf** **08 52 28.5 +0.4**
BJI PP **PP** **08 57 47.6 +3.5**
BJI SS SS 09 18 52.5 -0.6
BJI LN
comp=Z,6μm,25.9s
BJI LE
comp=Z,6μm,22.7s
BJI LZ
comp=Z,8μm,35.9s
CD2 Chengdu 172.50 161 PKP **PKPdf** **08 52 27.8 -0.8**
CD2 pPKP **pPKPdf** **08 52 37.3 +0.1**
CD2 sPKP 08 52 40.6
CD2 PP **PP** **08 57 44.4 +0.3**
CD2 SKS **SKSdf** **08 59 28.9 -1.3**
CD2 SKKS **SKKSac** **09 04 28.5 -1.2**
CD2 SS **SS** **09 18 54.8 +1.4**
CD2 PPMZ
comp=Z,5μm,14.4s
CD2 LN
comp=Z,13μm,18.0s
CD2 LZ
comp=Z,16μm,20.6s
GTA Gaotai 174.58 74 ⇑PKP **PKPdf** **08 52 29.0 -0.2**
GTA pPKP **pPKPdf** **08 52 38.8 +0.9**
GTA sPKP 08 52 42.8
GTA PP **PP** **08 57 57.6 +1.9**
GTA SKS **SKSdf** **08 59 27.0 -3.6**
GTA SKKS **SKKSac** **09 04 38.1 -1.9**
GTA SS **SS** **09 19 10.8 -5.4**
GTA PPMZ
comp=Z,7μm,12.3s
GTA LN
comp=Z,10μm,22.8s
GTA LE
comp=Z,13μm,25.2s
GTA LZ
comp=Z,20μm,21.9s
HHC Hu-ho-hao-te 175.22 307 *e*PKP **PKPdf** **08 52 30.3 +1.0**
HHC PP **PP** **08 58 01.8 +3.5**
HHC SKKS 09 04 46.8
HHC PPMZ
comp=Z,3μm,13.1s
HHC LN
comp=Z,7μm,17.8s
HHC LE
comp=Z,5μm,19.2s
HHC LZ
comp=Z,13μm,18.2s
TIY Taiyuan 175.32 268 *e*PKP **PKPdf** **08 52 30.4 +1.0**
TIY PP PP 08 58 04.6 +5.2
TIY SKKS 09 04 45.8
TIY PPMZ
comp=Z,3μm,9.7s
TIY LN
comp=Z,12μm,18.9s
TIY LE
comp=Z,19μm,31.5s
TIY LZ
comp=Z,23μm,20.8s
XAN Xi'an 175.54 206 PKP **PKPdf** **08 52 29.8 +0.2**
XAN sPKP 08 52 43.5
XAN PKS **PKSdf** **08 56 00.4 -1.4**
XAN SKS **SKSdf** **08 59 27.3 -3.6**
XAN SKKS **SKKSac** **09 04 49.3 +5.2**
XAN LN
comp=Z,9μm,20.6s
XAN LE
comp=Z,12μm,19.2s
XAN LZ
comp=Z,13μm,19.9s
BTO Baotou 176.29 314 *e*PKP **PKPdf** **08 52 30.5 +0.9**
LZH Lanzhou 177.08 132 *e*PKP **PKPdf** **08 52 29.6 -0.4**
LZH pPKP **pPKPdf** **08 52 39.1 +0.5**
LZH sPKP 08 52 42.8
LZH PPMZ
comp=Z,2μm,7.2s
LZH LN
comp=Z,15μm,19.4s
LZH LE
comp=Z,20μm,19.0s
LZH LZ
comp=Z,22μm,20.6s

*ISCJB **14** 08:39:52.9±0.6,37.81S±0.07×74.5W±0.1,h33km, mb4.3/11, Error ellipse: s-maj=16.6km s-min=9.2km az=23.4*
*IDC **14** 08:39:56.2±0.7,37.80S×74.59W,h47km±6km,mb4.1/11, mb1 4.2/13,mb1mx4.0/39,mbtmp4.3/13,Error ellipse: s-maj=21.1km s-min=15.9km az=86.0*
ISC 14 08:39:55.4±0.7,37.87S±0.09×74.5W±0.1,h35km,n15, σ1§47/20,mb4.3/11,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**8.07**	**41**	P		**Pn**		**08 41 49.3**	**-0.9**
	0.6nm,0.3s,baz=215,slow=12,SNR=14								
CFAA				S		**Sn**		**08 43 20.6**	**+0.4**
	0.3nm,0.3s,baz=262,slow=15,SNR=2.7								
USHA	**Ushuaia**	**17.46**	**168**	P		**Pn**		**08 43 55.6**	**-0.3**
	0.2nm,0.3s,baz=354,slow=12,SNR=2.0								
LPAZ	**La Paz**	**22.21**	**16**	P		**P**		**08 44 48.7**	**-0.7**
	3.9nm,0.9s,baz=198,slow=13,SNR=2.5								
SNAA	**Sanae**	**48.79**	**156**	P		**P**		**08 48 35.6**	**-0.9**
	5.3nm,1.1s,baz=323,slow=5.5,SNR=5.4								
QSPA	**South Pole Qui**	**52.38**	**180**	P		**P**		**08 49 04.7**	**+0.9**
	7.3nm,1.0s,baz=273,slow=14,SNR=4.8								
TXAR	**Lajitas Array**	**72.23**	**333**	P		**P**		**08 51 16.3**	**-0.6**
	2.8nm,0.9s,baz=150,slow=8.1,SNR=10								
TXAR				pP		**pP**		**08 51 29.8**	**+2.1**
	3.0nm,0.9s,baz=148,slow=8.6,SNR=8.2								
DBIC	**Dimbokro**	**78.26**	**72**	P		**P**		**08 51 53.0**	**+1.1**
	13nm,0.9s,baz=229,slow=8.7,SNR=5.8								
ANMO	**Albuquque**	**78.30**	**334**	P		**P**		**08 51 50.2**	**-1.7**
	3.1nm,1.0s,baz=161,slow=9.6,SNR=3.2								
ANMO				pP		**pP**		**08 52 05.0**	**+2.2**
	8.0nm,1.1s,baz=153,slow=8.1,SNR=7.8								
BOSA	**Boshof**	**79.99**	**118**	P		**P**		**08 52 00.2**	**-1.2**
	13nm,0.9s,baz=220,slow=6.2,SNR=6.9								
NVAR	**Mina Array Bea**	**85.99**	**327**	P		**P**		**08 52 29.6**	**-2.5**
	0.6nm,0.8s,baz=151,slow=3.9,SNR=2.7								
PDAR	**Pinedale Array**	**86.37**	**335**	P		**P**		**08 52 32.0**	**-1.9**
	1.0nm,0.9s,baz=133,slow=6.3,SNR=3.4								
PDAR				pP		**pP**		**08 52 45.9**	**+0.9**
	2.6nm,1.1s,baz=144,slow=3.2,SNR=4.6								
ELK	**Elko**	**86.68**	**330**	P		**P**		**08 52 34.4**	**-1.1**
	1.2nm,0.9s,baz=180,slow=5.1,SNR=3.2								
ELK				pP		**pP**		**08 52 48.3**	**+1.8**
	3.4nm,1.1s,baz=127,slow=3.8,SNR=5.5								
TORD	**Torodi Ar. Bea**	**87.34**	**71**	P		**P**		**08 52 39.5**	**+0.6**
	1.7nm,0.6s,baz=216,slow=5.3,SNR=7.2								
AKTO	**Aktyubinsk**	**144.26**	**54**	PKP		**PKPdf**		**08 59 27.8**	**+0.8**
	4.5nm,0.7s,baz=278,slow=3.6								
MKAR	**Makanchi Array**	**160.69**	**55**	PKPab		**PKPab**		**09 00 34.9**	**+1.6**
	2.7nm,0.7s,baz=282,slow=4.0,SNR=6.1								

*NIED **14** 08:42:00,26.00N×128.50E,h17km,Mw4.1 Best double couple: M0 1.51000×10^15 NP1:φs=90.00000°,δ83.00000°, λ4.00000°. NP2:φs=360.00000°,δ86.00000°,λ173.00000°.*
*IDC **14** 08:42:35.8±2.3,25.74N×128.49E,h0km,mb4.1/9, mb1 4.2/12,mb1mx4.0/44,mbtmp4.1/12,ML4.0/2,MS2.9/1, Ms1 2.9/1,ms1mx2.5/45,Error ellipse: s-maj=51.3km s-min=35.0km az=146.0*
*NEIC **14** 08:42:37.9±1.2,25.83N×128.40E,h10km,mb4.3/1,Error ellipse: s-maj=23.4km s-min=7.4km az=129.0*
*ISCJB **14** 08:42:38.9±0.9,25.89N±0.04×128.51E±0.04,h33km±6km, mb4.0/10,MS4.8/1,Error ellipse: s-maj=7.4km s-min=4.0km az=44.3*
*JMA **14** 08:42:40.7±0.3,26.02N×128.52E,h45km±5km,M4.0*
ISC 14 08:42:38.4±1.7,25.92N±0.05×128.57E±0.04,h15km±10km, n44,σ1§64/55,mb4.2/10,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.77**	**287**	P		**Pb**		**08 42 54.4**	**+0.9**
JJT2				S		**Sb**		**08 43 04.8**	**+1.1**
JNTH	**Nagotoyohara**	**0.77**	**321**	P		**Pg**		**08 42 53.5**	**0.0**
JNTH				eS		**Sg**		**08 43 03.6**	**-0.1**
JOW	**Kunigami**	**0.95**	**344**	P		**Pb**		**08 42 56.5**	**-0.1**
JOW				eS		**Sg**		**08 43 07.2**	**-2.1**
JOW	**Kunigami**	**0.95**	**344**	*e*Pg		**Pb**		**08 42 56.5**	**-0.1**
JIH	**Iheya**	**1.24**	**334**	P		**Pn**		**08 43 00.9**	**-0.2**
JIH				S		**Sb**		**08 43 15.3**	**-1.9**
JAGN	**Aguni-jima**	**1.36**	**300**	P		**Pn**		**08 43 02.9**	**0.0**
JAGN				S		**Sn**		**08 43 19.1**	**-1.6**
JOKE	**Okinoerabujima**	**1.44**	**0**	P		**Pn**		**08 43 03.6**	**-0.4**
JOKE				S		**Sn**		**08 43 19.7**	**-2.9**
JKE	**Kume jima 2**	**1.65**	**285**	P		**Pn**		**08 43 06.4**	**-0.4**
JKE				S		**Sn**		**08 43 25.0**	**-2.8**
JTK	**Tokunoshima**	**1.89**	**10**	P		**Pn**		**08 43 09.9**	**-0.3**
JTK				S		Sn		08 43 29.3	-4.5
JAMN	**Amaminishikomi**	**2.38**	**13**	P		**Pn**		**08 43 16.5**	**-0.4**
JMZ	**Minamidaito 2**	**2.39**	**92**	P		**Pn**		**08 43 16.5**	**-0.6**
JMZ				S		**Sn**		**08 43 42.2**	**-3.9**
JAM	**Amami Oshima**	**2.65**	**20**	P		**Pn**		**08 43 20.8**	**+0.2**
JAM				S		**Sn**		**08 43 49.9**	**-2.6**
JOGS	**Gusukube**	**3.08**	**249**	P		**Pn**		**08 43 27.1**	**+0.6**
JOGS				S		**Sn**		**08 44 01.5**	**-1.6**
JMJ	**Miyako jima 2**	**3.16**	**250**	P		**Pn**		**08 43 27.9**	**+0.3**
JIKM	**Ikemajima**	**3.16**	**252**	P		**Pn**		**08 43 28.0**	**+0.4**
JIKM				eS		**Sn**		**08 44 03.7**	**-1.3**
JIRB	**Irabujima**	**3.25**	**251**	P		**Pn**		**08 43 28.8**	**-0.1**
JIRB				S		**Sn**		**08 44 04.6**	**-2.8**
JTJ	**Tarama**	**3.72**	**251**	P		**Pn**		**08 43 34.9**	**-0.4**
JTJ				eS		**Sn**		**08 44 16.4**	**-2.5**
JISG	**Ishigakijimahi**	**4.07**	**252**	P		**Pn**		**08 43 39.3**	**-0.9**
JISG				eS		**Sn**		**08 44 23.4**	**-4.2**
JIJ	**Ishigaki jima**	**4.30**	**250**	P		**Pn**		**08 43 42.1**	**-1.1**
JIJ				eS		Sn		08 44 28.5	-4.6
JKRS	**Kuro-shima**	**4.46**	**249**	P		**Pn**		**08 43 44.6**	**-0.8**
JKRS				eS		Sn		08 44 32.1	-5.0
IRIF	**Iriomote-Funau**	**4.66**	**251**	P		**Pn**		**08 43 46.9**	**-1.3**
IRIF				eS		**Sn**		**08 44 37.6**	**-4.4**
YOJ	**Yonaguni jima**	**5.24**	**255**	P		**Pn**		**08 43 55.2**	**-1.0**
JYNG	**Yonagunijimaku**	**5.30**	**255**	P		**Pn**		**08 43 55.8**	**-1.2**
NACB	**Ninganchiao**	**6.56**	**256**	*e*Pn		Pn		08 44 11.6	-2.7
	35nm,0.3s								
YHNB	**Yeheng**	**6.62**	**261**	*e*Pn		**Pn**		**08 44 14.7**	**-0.7**
	24nm,0.6s								
YULB	**Yu-li**	**7.07**	**251**	*e*Pn		Pn		08 44 17.6	-3.8
	11nm,0.4s								
SSLB	**Suanglung**	**7.23**	**255**	*e*Pn		Pn		08 44 21.2	-2.4
	22nm,0.4s								
JNU	**Nakatsue**	**7.46**	**15**	Pn		**Pn**		**08 44 28.0**	**+1.3**
	3.1nm,0.3s,baz=174,slow=2.8,SNR=16								
JNU				Sn		Sn		08 45 45.8	-5.2
	1.1nm,0.3s,baz=116,slow=18,SNR=1.9								
JNU				LR		LR		08 47 32.6	
	comp=Z,93nm,21.8s,baz=337,slow=39								
TPUB	**Ta-pu**	**7.68**	**252**	*e*Pn		**Pn**		**08 44 28.2**	**-1.5**
	23nm,0.4s								
KSAR	**Wonju Array Be**	**11.51**	**357**	Pn		**Pn**		**08 45 23.7**	**+1.6**
KSRS	**Korea Array**	**11.52**	**357**	Pn		**Pn**		**08 45 23.7**	**+1.4**
	0.3nm,0.3s,baz=179,slow=13,SNR=5.4								
USRK	**Usuriysk Ar.**	**18.45**	**8**	P		**Pn**		**08 46 55.4**	**+1.8**
	0.1nm,0.3s,baz=182,slow=7.2,SNR=4.4								
SIJI	**Sorong**	**26.76**	**174**	LR		LR		08 56 13.5	
	comp=Z,3μm,20.1s,baz=282,slow=31								
SONM	**Songino Array**	**27.98**	**327**	P		**P**		**08 48 30.7**	**+2.1**
	3.2nm,0.5s,baz=137,slow=11,SNR=17								
MKAR	**Makanchi Array**	**41.97**	**312**	P		**P**		**08 50 28.4**	**-0.3**
	1.6nm,0.5s,baz=98,slow=9.9,SNR=23								
ZALV	**Zalesovo Beam**	**42.68**	**323**	P		**P**		**08 50 33.4**	**-0.9**
	0.9nm,0.4s,baz=116,slow=9.8,SNR=3.7								
TKM2	**Tokmak 2**	**46.10**	**306**	*e*P		**P**		**08 51 02.5**	**+0.2**
	2.4nm,0.7s								
FINES	**FINESS Array B**	**73.28**	**331**	P		**P**		**08 54 08.6**	**-0.3**
	1.8nm,0.6s,baz=64,slow=4.4,SNR=4.8								
AKASG	**Malin Array Be**	**75.97**	**320**	P		**P**		**08 54 24.9**	**+0.3**
	1.9nm,0.5s,baz=58,slow=6.6,SNR=5.8								
BRTR	**Keskin Array B**	**77.46**	**308**	P		**P**		**08 54 34.1**	**+0.5**
	1.6nm,0.7s,baz=74,slow=5.1,SNR=3.1								
YKA	**Yellowknife Ar**	**78.68**	**25**	P		**P**		**08 54 40.6**	**+1.0**
	0.2nm,0.6s,baz=298,slow=6.0,SNR=3.0								
NB2	**NORSAR Subarra**	**79.73**	**334**	P		**P**		**08 54 45.3**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=53,slow=5.9								
NOA	**NORSAR Array B**	**79.73**	**334**	P		**P**		**08 54 45.4**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=52,slow=5.6,SNR=4.1								
GERES	**GERESS Array B**	**85.63**	**323**	P		**P**		**08 55 18.1**	**+1.6**
	comp=Z,0.4nm,0.2s,baz=53,slow=5.0,SNR=3.2								

*ISCJB **14** 08:50:06.8±0.9,37.9S±0.1×72.9W±0.2,h22km,mb3.6/7, Error ellipse: s-maj=25.8km s-min=12.7km az=27.6*
*IDC **14** 08:50:08.8±1.1,38.09S×73.33W,h28km±5km,mb3.5/7, mb1 3.7/8,mb1mx3.6/16,mbtmp3.6/8,ML2.9/1,Error ellipse: s-maj=35.4km s-min=26.7km az=58.0*
ISC 14 08:50:08.7±0.9,38.0S±0.1×73.0W±0.2,h22km,n9, σ1§49/13,mb3.7/7,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**7.46**	**33**	Pn		Pn		08 52 00.6	+4.3
	0.2nm,0.3s,baz=225,slow=11,SNR=8.5								
CFAA				Sn		**Sn**		**08 53 19.1**	**-1.0**
	0.1nm,0.3s,baz=173,slow=17,SNR=2.2								
LPAZ	**La Paz**	**22.01**	**13**	P		**P**		**08 55 01.6**	**-0.6**
	1.4nm,0.9s,baz=170,slow=6.1,SNR=2.9								
SNAA	**Sanae**	**48.26**	**156**	P		**P**		**08 58 45.8**	**-1.8**
	0.4nm,0.8s,baz=292,slow=6.9,SNR=3.1								
TXAR	**Lajitas Array**	**72.82**	**332**	P		**P**		**09 01 34.1**	**-1.6**
	0.2nm,0.7s,baz=153,slow=8.1,SNR=3.1								
TXAR				pP		**pP**		**09 01 42.8**	**-0.1**
	0.7nm,0.6s,baz=148,slow=8.6,SNR=7.3								
DBIC	**Dimbokro**	**77.21**	**71**	P		**P**		**09 02 02.7**	**+1.4**
	2.6nm,0.7s,baz=198,slow=6.4,SNR=3.5								
TORD	**Torodi Ar. Bea**	**86.30**	**70**	P		**P**		**09 02 49.0**	**-0.1**
	0.2nm,0.3s,baz=246,slow=5.6,SNR=3.6								
TORD				pP		**pP**		**09 02 58.4**	**+2.0**
	0.7nm,0.9s,baz=226,slow=4.1,SNR=2.4								
NVAR	**Mina Array Bea**	**86.69**	**326**	P		**P**		**09 02 50.7**	**-0.2**
	0.3nm,0.6s,baz=148,slow=5.3,SNR=3.0								
NVAR				pP		**pP**		**09 03 00.5**	**+2.4**
	0.6nm,0.7s,baz=149,slow=7.2,SNR=3.2								
PDAR	**Pinedale Array**	**86.94**	**334**	P		**P**		**09 02 51.5**	**-0.4**
	0.3nm,0.6s,baz=156,slow=4.7,SNR=2.6								
PDAR				pP		**pP**		**09 03 00.8**	**+1.6**
	0.4nm,0.6s,baz=113,slow=2.1,SNR=2.5								
MKAR	**Makanchi Array**	**159.80**	**56**	PKPab		**PKPab**		**09 10 45.1**	**+0.5**
	0.4nm,0.6s,baz=283,slow=2.5,SNR=4.1								

*IDC **14** 09:05:33.7±1.8,38.37S×73.73W,h0km,mb4.1/5, mb1 4.3/6,mb1mx3.9/19,mbtmp4.1/6,ML4.0/1,MS5.4/2, Ms1 5.4/2,ms1mx4.8/17,Error ellipse: s-maj=50.8km s-min=34.3km az=55.0*
*ISCJB **14** 09:05:35.5±1.5,38.3S±0.2×73.6W±0.3,h18km,mb4.1/5, MS5.3/2,Error ellipse: s-maj=32.0km s-min=29.5km az=157.7*
ISC 14 09:05:36.9±1.6,38.3S±0.2×73.7W±0.3,h18km,n10, σ0§59/8,mb4.0/5,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**18.23**	**54**	P		**Pn**		**09 09 48.6**	**-0.4**
	0.1nm,0.3s,baz=233,slow=8.6,SNR=6.4								
LPAZ	**La Paz**	**22.48**	**14**	P		**P**		**09 10 36.7**	**+0.7**
	2.6nm,0.8s,baz=174,slow=10,SNR=4.5								
SIV	**San Ignacio**	**24.86**	**30**	LR		LR		09 20 49.7	
	comp=Z,7μm,18.7s,baz=24,slow=37								
ATAH	**Atahualpa**	**31.34**	**351**	LR		LR		09 22 16.1	
	comp=Z,8μm,19.7s,baz=76,slow=32								
TXAR	**Lajitas Array**	**72.92**	**333**	P		**P**		**09 17 04.8**	**-0.2**
	0.4nm,0.6s,baz=160,slow=8.0,SNR=5.2								
DBIC	**Dimbokro**	**77.81**	**71**	P		**P**		**09 17 33.9**	**+0.5**
	4.9nm,0.7s,baz=190,slow=4.9,SNR=6.3								
BOSA	**Boshof**	**79.22**	**118**	P		**P**		**09 17 41.7**	**+0.4**
	4.9nm,0.8s,baz=225,slow=11,SNR=5.6								
TORD	**Torodi Ar. Bea**	**86.90**	**71**	P		**P**		**09 18 20.2**	**-0.7**
	0.8nm,0.8s,baz=235,slow=5.1,SNR=3.6								
KURBB	**Kurchatov Arra**	**156.81**	**49**	PKPab		**PKPab**		**09 25 59.8**	**-0.5**
	0.4nm,0.5s,baz=293,slow=5.3,SNR=4.3								
MKAR	**Makanchi Array**	**160.42**	**57**	PKPab		**PKPab**		**09 26 16.2**	**0.0**
	0.8nm,0.7s,baz=284,slow=5.0,SNR=6.7								

IDC 14 09:17:58.9±1.2,1.73S×136.29E,h0km,mb3.8/3, mb1 4.1/5,mb1mx3.7/20,mbtmp3.8/5,ML3.5/2,Error ellipse: s-maj=31.1km s-min=25.1km az=75.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.48**	**100**	Pn		Pn		09 19 09.9	+1.8
	0.8nm,0.3s,baz=243,slow=8.7,SNR=3.2								
JAY				Sn		Sn		09 20 00.6	-0.4
	0.6nm,0.3s,baz=131,slow=20,SNR=2.6								
WRA	**Warramunga Arr**	**18.20**	**186**	P		Pn		09 22 12.9	-0.3
	0.2nm,0.3s,baz=8.4,slow=12,SNR=5.7								
ASAR	**Alice Springs**	**21.93**	**186**	P		P		09 22 54.0	-0.2
	5.0nm,0.9s,baz=12,slow=13,SNR=24								
MKAR	**Makanchi Array**	**67.55**	**323**	P		P		09 28 58.0	+0.7
	0.6nm,0.5s,baz=126,slow=7.3,SNR=5.5								
ILAR	**Eielson Array**	**85.95**	**25**	P		P		09 30 39.8	-1.0
	0.5nm,0.8s,baz=265,slow=4.8,SNR=8.0								

*ISCJB **14** 09:19:08.3±0.3,17.81N±0.03×97.51W±0.03,h80km±3km, mb3.5/7,Error ellipse: s-maj=5.0km s-min=3.7km az=30.3*
*NEIC **14** 09:19:10.8,17.87N×97.50W,h64km,MD4.6(MEX),After MEX.*
*MEX **14** 09:19:10.8±0.7,17.87N×97.48W,h63km±5km,MD4.6*
*IDC **14** 09:19:11.8±1.3,18.18N×97.15W,h72km±8km,mb3.3/6, mb1 3.6/11,mb1mx3.5/26,mbtmp3.6/11,Error ellipse: s-maj=34.7km s-min=7.8km az=35.0*
ISC 14 09:19:09.7±0.6,17.86N±0.03×97.49W±0.03,h70km±6km, n207,σ1§08/237,mb3.6/7,1C,Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TPIG	**Tehuac#an**	**0.57**	**12**	*i* P		**Pn**		**09 19 22.1**	**-1.3**
TPIG				*i* S		**Sn**		**09 19 31.6**	**-1.9**
TPIG	**Tehuac#an**	**0.57**	**12**	*i* P		**Pn**		**09 19 22.1**	**-1.3**
TPIG				*i* S		**Sn**		**09 19 31.6**	**-1.9**
OXX	**Oaxaca**	**1.06**	**137**	*e*P		**Pn**		**09 19 29.2**	**0.0**
OXX	**Oaxaca**	**1.06**	**137**	*e*P		**Pn**		**09 19 29.2**	**0.0**
VHO	**Vista Hermosa**	**1.06**	**137**	*i* P		**Pn**		**09 19 28.7**	**-0.4**
VHO				*i* S		**Sn**		**09 19 42.8**	**-0.9**
VHO	**Vista Hermosa**	**1.06**	**137**	*i* P		**Pn**		**09 19 28.7**	**-0.4**
VHO				*i* S		**Sn**		**09 19 42.8**	**-0.9**
TLIG	**Tlapa**	**1.07**	**254**	*i* P		**Pn**		**09 19 28.8**	**-0.4**
TLIG				eS		**Sn**		**09 19 43.0**	**-0.7**
PNIG	**Pinotepa**	**1.58**	**203**	*e*P		**Pn**		**09 19 34.5**	**-1.3**
PNIG				eS		**Sn**		**09 19 54.1**	**-1.3**
PNIG	**Pinotepa**	**1.58**	**203**	*e*P		**Pn**		**09 19 33.9**	**-1.9**
PNIG				eS		**Sn**		**09 19 54.7**	**-0.7**
PPM	**Popocatepetl**	**1.62**	**318**	*e*P		**Pn**		**09 19 36.0**	**-0.7**
PPM				*i* S		**Sn**		**09 19 55.4**	**-1.6**
PPM	**Popocatepetl**	**1.62**	**318**	*e*P		**Pn**		**09 19 37.7**	**+1.0**
PPM				*i* S		**Sn**		**09 19 53.7**	**-3.3**
AMVM	**AMECAMECA**	**1.77**	**316**	*e*P		**Pn**		**09 19 38.4**	**-0.1**
AMVM				*i* S		**Sn**		**09 19 58.6**	**-1.7**
YAIG	**Yautepec**	**1.80**	**304**	*e*P		**Pn**		**09 19 39.1**	**+0.3**
YAIG				*i* S		**Sn**		**09 19 59.8**	**-1.1**
YAIG	**Yautepec**	**1.80**	**304**	*e*P		**Pn**		**09 19 39.1**	**+0.3**
YAIG				*i* S		**Sn**		**09 19 59.8**	**-1.1**
PLIG	**Platanillo**	**1.99**	**286**	*i* P		**Pn**		**09 19 41.5**	**+0.2**
PLIG				*i* S		**Sn**		**09 20 03.8**	**-1.5**
PLIG	**Platanillo**	**1.99**	**286**	*i* P		**Pn**		**09 19 41.5**	**+0.2**
PLIG				*i* S		**Sn**		**09 20 03.8**	**-1.5**
MEIG	**Mezcala**	**2.03**	**272**	*i* P		**Pn**		**09 19 41.7**	**-0.2**
MEIG				eS		**Sn**		**09 20 04.8**	**-1.5**
MEIG	**Mezcala**	**2.03**	**272**	*i* P		**Pn**		**09 19 41.7**	**-0.2**

MEIG				eS	Sn	09 20 04.8	-1.5		
IIO	**Organos**	**2.08**	**326**	eP	Pn	09 19 41.4	-1.4		
IIO				*i* S	Sn	09 20 07.0	-1.0		
IIO	**Organos**	**2.08**	**326**	eP	Pn	09 19 42.1	-0.8		
MZVM		**2.12**	**309**	eP	Pn	09 19 41.9	-1.0		
MZVM				*i* S	Sn	09 20 07.8	-0.4		
UNM	**Universidad Na**	**2.17**	**313**	*i* P	Pn	09 19 42.5	-1.4		
UNM				*i* S	Sn	09 20 08.6	-1.4		
UNM	**Universidad Na**	**2.17**	**313**	eP	Pn	09 19 39.8	-4.1		
PBIG	**Penon de los B**	**2.18**	**316**	eP	Pn	09 19 42.6	-1.2		
PBIG				*i* S	Sn	09 20 09.2	-0.7		
MAVM	**Malinalco, Edo**	**2.20**	**300**	eP	Pn	09 19 43.5	-0.6		
MAVM				*i* S	Sn	09 20 08.7	-1.8		
VTVM	**Tizayuca**	**2.26**	**328**	eP	Pn	09 19 44.3	-0.8		
PTVM	**Pico Tres Padr**	**2.31**	**318**	eP	Pn	09 19 44.9	-0.9		
PTVM	**Pico Tres Padr**	**2.31**	**318**	eP	Pn	09 19 44.9	-0.9		
ACX	**Acapulco**	**2.47**	**247**	eP	Pn	09 19 45.7	-2.0		
ACX				eS	Sn	09 20 15.6	-1.3		
ACX	**Acapulco**	**2.47**	**247**	eP	Pn	09 19 45.7	-2.0		
ACX				eS	Sn	09 20 09.3	-7.5		
ZUVM	**ZUMPANGO**	**2.47**	**323**⇑	eP	Pn	09 19 47.2	-0.7		
TOVM	**TOLUCA**	**2.52**	**305**	eP	Pn	09 19 47.2	-1.4		
TOVM				eS	Sn	09 20 17.7	-0.7		
CMIG	**Matias Romero**	**2.60**	**107**	P	Pn	09 19 49.1	-0.4		
	13nm,0.3s,baz=253,slow=12,SNR=159								
CMIG				S	Sn	09 20 18.4	-1.6		
	68nm,0.3s,baz=37,slow=17,SNR=25								
ARIG	**Puente Sto Nin**	**2.75**	**279**	*i* P	Pn	09 19 52.0	+0.4		
ARIG				eS	Sn	09 20 22.7	-1.1		
CAIG	**El Cayaco**	**2.77**	**254**	*i* P	Pn	09 19 49.9	-1.9		
CAIG				eS	Sn	09 20 22.8	-1.4		
CAIG	**El Cayaco**	**2.77**	**254**	*i* P	Pn	09 19 49.9	-1.9		
CAIG				*i* S	Sn	09 20 16.6	-7.6		
ZIIG	**Zihuatanejo**	**3.80**	**267**	eP	Pn	09 20 05.3	-0.5		
ZIIG				*i* S	Sn	09 20 48.6	-0.6		
ZIIG	**Zihuatanejo**	**3.80**	**267**	eP	Pn	09 20 05.3	-0.5		
ZIIG				eS	Sn	09 20 45.1	-4.2		
TEIG	**Tepich**	**9.02**	**73**	P	Pn	09 21 15.8	-1.5		
	0.7nm,0.3s,baz=184,slow=23,SNR=30								
TEIG				S	Sn	09 22 49.4	-7.9		
	0.5nm,0.3s,baz=177,slow=24,SNR=13								
632A	**Uvalde**	**11.79**	**350**	P	Pn	09 22 07.0	+12		
	baz=12								
537A	**Green Hill Far**	**12.21**	**5**	P	**P**	09 22 11.8	+1.2		
	baz=12								
531A	**Rocksprings**	**12.56**	**348**	P	**P**	09 22 15.4	+0.8		
	baz=13,SNR=8.4								
JCT	**Junction City**	**12.74**	**351**	P	**P**	09 22 18.0	+1.5		
	baz=13								
TXAR	**Lajitas Array**	**12.75**	**335**	P	**Pn**	09 22 09.8	+1.7		
	0.0nm,0.3s,baz=145,slow=13,SNR=3.1								
434A	**Burnet**	**12.92**	**357**	P	**P**	09 22 18.6	+0.1		
	baz=13								
431A	**Sonora**	**13.08**	**348**	P	**P**	09 22 22.3	+2.0		
	baz=13,SNR=9.4								
440A	**Kirbyville**	**13.22**	**13**	P	**P**	09 22 22.9	+1.1		
	baz=13								
430A	**Baggett Ranch,**	**13.31**	**346**	P	**P**	09 22 25.2	+2.2		
	baz=13,SNR=11								
334A	**Lometa**	**13.43**	**357**	P	**P**	09 22 24.4	+0.2		
	baz=14								
333A	**Richland Sprin**	**13.48**	**354**	P	**P**	09 22 24.8	+0.1		
	baz=14								
336A	**Riesel**	**13.48**	**2**	P	**P**	09 22 24.1	-0.6		
	baz=14								
338A	**Crockett**	**13.58**	**8**	P	**P**	09 22 26.2	+0.4		
	baz=14								
332A	**Millersview**	**13.62**	**352**	P	**P**	09 22 26.8	+0.5		
	baz=14								
331A	**San Angelo**	**13.65**	**349**	P	**P**	09 22 27.9	+1.2		
	baz=14,SNR=13								
330A	**Mertzon**	**13.90**	**347**	P	**P**	09 22 31.0	+1.6		
	baz=14,SNR=30								
WHTX	**Lake Whitney**	**14.07**	**0**	P	**P**	09 22 31.6	+0.4		
	baz=14								
234A	**Clairette**	**14.10**	**358**	P	**P**	09 22 32.2	+0.7		
	baz=14								
232A	**Coleman**	**14.11**	**352**	P	**P**	09 22 32.2	+0.5		
	baz=14,SNR=5.7								
233A	**Rising Star**	**14.16**	**355**	P	**P**	09 22 32.8	+0.5		
	baz=14								
329A	**Wagon Wheel Ra**	**14.17**	**344**	P	**P**	09 22 33.9	+1.5		
	baz=14,SNR=7.9								
238A	**Jacksonville**	**14.25**	**8**	P	**P**	09 22 33.5	+0.3		
	baz=14								
231A	**Bronte**	**14.25**	**350**	P	**P**	09 22 33.6	+0.4		
	baz=14								
JTS	**JuntasAbangare**	**14.29**	**120**	P	**Pn**	09 22 30.1	+1.4		
	0.3nm,0.3s,baz=333,slow=9.0,SNR=3.8								
230A	**Sterling City**	**14.35**	**347**	P	**P**	09 22 35.7	+1.3		
	baz=14								
229A	**Bryant Ranch,**	**14.58**	**345**	P	**P**	09 22 38.7	+1.7		
	baz=15								
134A	**White-Moore Ra**	**14.66**	**358**	P	**P**	09 22 37.7	-0.1		
	baz=15								
133A	**Hamilton Ranch**	**14.74**	**355**	P	**P**	09 22 38.9	+0.1		
	baz=15								
ABTX	**Abilene, Hawle**	**14.83**	**353**	P	**Pn**	09 22 37.6	+2.0		
	baz=15								
228A	**UT Block 9, Go**	**14.93**	**343**	P	**P**	09 22 43.3	+2.4		
	baz=15								
130A	**Snyder**	**15.01**	**349**	P	**P**	09 22 41.7	0.0		
	baz=15								
139A	**Bunkhouse Ranc**	**15.02**	**10**	P	**P**	09 22 40.6	-1.2		
	baz=15								
129A	**Stewart Farms,**	**15.23**	**346**	P	**P**	09 22 44.9	+0.7		
	baz=15,SNR=8.1								
Z37A	**Pogue Cattle C**	**15.37**	**6**	P	**P**	09 22 45.4	-0.2		
	baz=15								
128A	**Castleberry Fa**	**15.38**	**344**	P	**P**	09 22 46.9	+1.0		
	baz=15								
Z36A	**Blue Ridge**	**15.38**	**3**	P	**P**	09 22 45.8	0.0		
	baz=15								
Z33A	**Whitaker Ranch**	**15.41**	**356**	P	**P**	09 22 46.1	0.0		
	baz=16								
Z35A	**Perchaven, San**	**15.41**	**1**	P	**P**	09 22 45.6	-0.5		
	baz=16								
Z34A	**Collier Ranch,**	**15.45**	**359**	P	**P**	09 22 46.7	+0.1		
	baz=16								
Z32A	**Haskell**	**15.49**	**354**	P	**P**	09 22 46.9	-0.1		
	baz=16								
Z38A	**Mt. Pleasant**	**15.49**	**8**	P	**P**	09 22 45.9	-1.1		
	baz=16								
Z31A	**Sharp Cattle R**	**15.58**	**352**	P	**P**	09 22 48.2	+0.1		
	baz=16								
Z29A	**Hungry Hill Ra**	**15.80**	**347**	P	**P**	09 22 50.4	-0.1		
	baz=16,SNR=6.8								
Z28A	**Tucker Farm, M**	**15.98**	**345**	P	**P**	09 22 53.2	+0.6		
	baz=16,SNR=12								
Y35A	**Marietta**	**15.99**	**1**	P	**P**	09 22 53.0	+0.5		
	baz=16								
Y36A	**Durant**	**16.01**	**4**	P	**P**	09 22 52.7	-0.1		
	baz=16								
Y34A	**Reagan Ranch,**	**16.04**	**359**	P	**P**	09 22 52.6	-0.5		
	baz=16								
Y33A	**Hilltop Ranch,**	**16.12**	**357**	P	**P**	09 22 54.0	0.0		
	baz=16								
Y37A	**Hugo**	**16.14**	**6**	P	**P**	09 22 54.0	-0.2		
	baz=16								
Y32A	**R-V Farms, Ver**	**16.17**	**354**	P	**P**	09 22 54.4	-0.2		
	baz=16								
Y38A	**Idabel**	**16.19**	**8**	P	**P**	09 22 54.5	-0.2		
	baz=16								
Y31A	**Rekieta Farm,**	**16.23**	**352**	P	**P**	09 22 55.5	+0.2		
	baz=16								
Y29A	**Porterfield Fa**	**16.37**	**348**	P	**P**	09 22 57.5	+0.7		
	baz=16								
X35A	**Drake**	**16.48**	**1**	P	**P**	09 22 57.8	-0.2		
	baz=16								
Y28A	**McKinney Farm,**	**16.54**	**346**	P	**P**	09 22 59.3	+0.5		
	baz=17,SNR=7.5								
X33A	**Lawton**	**16.64**	**357**	P	**Pn**	09 22 58.4	0.0		
	baz=17								
X36A	**Centrahoma**	**16.68**	**3**	P	**P**	09 22 59.9	-0.2		
	baz=17								
X34A	**Smith Ranch, M**	**16.68**	**359**	P	**Pn**	09 22 59.9	+1.0		
	baz=17								
MSTX	**Muleshoe**	**16.73**	**345**	P	**Pn**	09 23 00.5	+0.9		
	baz=17								
X37A	**Clayton**	**16.77**	**6**	P	**Pn**	09 23 00.7	+0.7		
	baz=17								
X30A	**Coker Ranch, T**	**16.80**	**350**	P	**Pn**	09 23 01.3	+0.9		
	baz=17								
X31A	**McDonald Ranch**	**16.85**	**353**	P	**P**	09 23 02.5	+0.3		
	baz=17								
X38A	**Whitesboro**	**16.91**	**8**	P	**P**	09 23 02.8	0.0		
	baz=17								
X29A	**Tulia**	**16.94**	**348**	P	**P**	09 23 03.1	-0.1		
	baz=17								
MIAR	**Mount Ida**	**16.98**	**11**	P	**P**	09 23 04.2	+0.6		
	baz=17								
W35A	**Tecumseh**	**17.23**	**2**	P	**Pn**	09 23 05.7	-0.1		
	baz=17								
W36A	**Wetumka**	**17.25**	**3**	P	**Pn**	09 23 06.0	0.0		
	baz=17								
W32A	**Sentinel**	**17.27**	**355**	P	**Pn**	09 23 06.0	-0.2		
	baz=17								
W37A	**Quinton**	**17.31**	**6**	P	**Pn**	09 23 07.2	+0.5		
	baz=17								
W38A	**Poteau**	**17.35**	**8**	P	**Pn**	09 23 07.6	+0.5		
	baz=17								
AMTX	**Amarillo**	**17.36**	**348**	P	**P**	09 23 08.1	+0.2		
	baz=17								
V35A	**Meyer Ranch, C**	**17.84**	**2**	P	**P**	09 23 12.8	-0.2		
	baz=18								
V32A	**Arapaho**	**17.84**	**356**	P	**P**	09 23 13.4	+0.3		
	baz=18								
V33A	**Lossen Ranch,**	**17.91**	**358**	P	**P**	09 23 13.3	-0.5		
	baz=18								
V34A	**Guthrie**	**17.91**	**360**	P	**P**	09 23 13.2	-0.6		
	baz=18								
V36A	**Jenks**	**17.91**	**4**	P	**P**	09 23 13.1	-0.7		
	baz=18,SNR=10								
V31A	**Spring Creek L**	**17.97**	**354**	P	**P**	09 23 14.0	-0.4		
	baz=18								
TUL1	**Tulsa**	**18.04**	**4**	P	**P**	09 23 14.2	-1.1		
	baz=18,SNR=8.0								
V30A	**Spur Ranch, Mi**	**18.06**	**352**	P	**P**	09 23 15.4	0.0		
	baz=18								
V37A	**Hulbert**	**18.07**	**6**	P	**P**	09 23 14.4	-1.2		
	baz=18,SNR=8.5								
V38A	**Canehill**	**18.14**	**8**	P	**P**	09 23 15.3	-1.0		
	baz=18,SNR=5.4								
V29A	**Stinnett**	**18.30**	**350**	P	**P**	09 23 17.9	-0.2		
	baz=18								
V28A	**Channing**	**18.31**	**348**	P	**P**	09 23 18.4	+0.1		
	baz=18								
V27A	**Dan Oppiter Fa**	**18.45**	**346**	P	**P**	09 23 20.5	+0.6		
	baz=18								
U35A	**Pawnee**	**18.45**	**2**	P	**P**	09 23 18.8	-0.9		
	baz=18								
U34A	**Anderson Ranch**	**18.51**	**360**	P	**P**	09 23 19.3	-1.1		
	baz=19								
U33A	**Lingo Farm, Me**	**18.51**	**358**	P	**P**	09 23 19.8	-0.6		
	baz=19,SNR=5.0								
U36A	**Oologah**	**18.53**	**4**	P	**P**	09 23 19.9	-0.6		
	baz=19								
U31A	**Nine Bar Ranch**	**18.56**	**354**	P	**P**	09 23 21.0	0.0		
	baz=19								
U38A	**Gravette**	**18.71**	**8**	P	**P**	09 23 21.4	-1.2		
	baz=19								
ANMO	**Albuquerque**	**18.80**	**337**	P	**Pn**	09 23 24.9	-0.1		
	0.3nm,0.3s,baz=141,slow=13,SNR=9.5								
U30A	**WK&E Inc. Balk**	**18.81**	**352**	P	**Pn**	09 23 25.0	+0.1		
	baz=19								
U28A	**Mallet**	**18.92**	**348**	P	**P**	09 23 25.1	+0.1		
	baz=19								
T35A	**Sooner Cattle**	**19.00**	**2**	P	**P**	09 23 24.4	-1.4		
	baz=19,SNR=9.8								
U27A	**Thompson Grove**	**19.08**	**347**	P	**P**	09 23 27.3	+0.5		
	baz=19								
T34A	**McClaskey Farm**	**19.09**	**1**	P	**P**	09 23 25.6	-1.1		
	baz=19,SNR=6.8								
T33A	**Patterson Ranc**	**19.16**	**358**	P	**P**	09 23 26.7	-0.8		
	baz=19								
T36A	**Boggs Farm, Ca**	**19.18**	**4**	P	**P**	09 23 26.7	-1.0		
	baz=19								
T32A	**Huddler Ranch,**	**19.29**	**357**	P	**P**	09 23 28.7	-0.2		
	baz=19,SNR=5.8								
T30A	**Plains**	**19.31**	**353**	P	**P**	09 23 29.4	+0.3		
	baz=19								
T37A	**Cheneyville 18**	**19.32**	**6**	P	**P**	09 23 28.0	-1.3		
	baz=19								
T29A	**Hugoton**	**19.52**	**351**	P	**P**	09 23 31.3	-0.1		
	baz=20								
T28A	**Walsh**	**19.62**	**349**	P	**P**	09 23 32.8	+0.3		
	baz=20								
T27A	**Campo**	**19.68**	**347**	P	**P**	09 23 34.4	+1.1		
	baz=20								
S35A	**Otter Creek Ra**	**19.78**	**3**	P	**P**	09 23 33.1	-1.1		
	baz=20								
S36A	**Lake Cedric, C**	**19.86**	**4**	P	**P**	09 23 33.9	-1.2		
	baz=20								
S30A	**Montezuma**	**19.88**	**353**	P	**P**	09 23 35.1	-0.2		
	baz=20								
S29A	**Ulysses**	**19.94**	**352**	P	**P**	09 23 36.3	+0.2		
	baz=20								
T26A	**Comanche Natio**	**19.98**	**346**	P	**P**	09 23 37.7	+1.1		
	baz=20								
T25A	**Trinidad**	**20.15**	**344**	P	**P**	09 23 40.0	+1.5		
	baz=20,SNR=7.0								
R34A	**Isabella, Hill**	**20.37**	**1**	P	**P**	09 23 40.1	-0.5		
	baz=20								
S26A	**Kim**	**20.38**	**346**	P	**P**	09 23 41.8	+1.0		
	baz=20								
R33A	**Olander Ranch,**	**20.38**	**359**	P	**P**	09 23 40.1	-0.6		
	baz=20								
R31A	**Burdett**	**20.43**	**355**	P	**P**	09 23 40.8	-0.6		
	baz=20,SNR=7.1								
R36A	**Gordon, Harris**	**20.46**	**4**	P	**P**	09 23 40.6	-1.0		
	baz=20,SNR=5.0								
R30A	**Dighton**	**20.50**	**354**	P	**P**	09 23 41.2	-0.8		
	baz=21								
R37A	**Teagarden Farm**	**20.51**	**6**	P	**P**	09 23 40.4	-1.7		
	baz=21								
R32A	**Long Quarter,**	**20.52**	**357**	P	**P**	09 23 41.3	-0.9		
	baz=21								
R27A	**Eads**	**20.88**	**348**	P	**P**	09 23 45.7	-0.5		
	baz=21								
Q35A	**Mercer Eighty,**	**20.96**	**3**	P	**P**	09 23 46.2	-0.8		
	baz=21								
R26A	**Arlington**	**21.02**	**347**	P	**P**	09 23 48.7	+0.9		
	baz=21,SNR=8.0								
SDCO	**Great Sand Dun**	**21.02**	**342**	P	**P**	09 23 49.2	+1.2		
	baz=21								
Q32A	**Meitler Ranch,**	**21.08**	**358**	P	**P**	09 23 47.8	-0.4		
	baz=21								
Q29A	**Oakley**	**21.18**	**352**	P	**P**	09 23 50.2	+0.9		
	baz=21								
S22A	**4UR Ranch, Cre**	**21.44**	**339**	P	**P**	09 23 53.9	+1.5		
	baz=22								
KSCO	**Kaye Shedlock'**	**21.55**	**349**	P	**P**	09 23 52.8	-0.6		
	baz=22								
MVCO	**Mesa Verde**	**21.58**	**336**	P	**P**	09 23 55.5	+1.7		
	baz=22								
Q26A	**Hugo**	**21.64**	**347**	P	**P**	09 23 55.0	+0.6		
	baz=22								
P31A	**Stockton**	**21.65**	**356**	P	**P**	09 23 54.8	+0.5		
	baz=22								
P32A	**Huiting Farm,**	**21.71**	**358**	P	**P**	09 23 53.8	-1.2		
	baz=22								
P36A	**Good Intent, A**	**21.77**	**5**	P	**P**	09 23 54.6	-1.0		
	baz=22								
P26A	**Davis Ranch, A**	**22.21**	**348**	P	**P**	09 24 00.2	-0.4		
	baz=22								
ISCO	**Idaho Springs**	**22.97**	**344**	P	**P**	09 24 07.7	-1.0		
	baz=23								
M31A	**Lambtecht Ranc**	**23.44**	**357**	P	**P**	09 24 10.8	-2.0		
	baz=24								
O20A	**White River Ci**	**24.07**	**339**	P	**P**	09 24 19.8	+1.0		
	baz=24								
N23A	**Red Feather La**	**24.09**	**344**	P	**P**	09 24 19.6	+0.6		
	baz=24								
M25A	**Palm-Egli Farm**	**24.16**	**348**	P	**P**	09 24 20.1	+0.6		
	baz=24								
K30A	**Basset**	**24.80**	**356**	P	**P**	09 24 25.7	+0.6		
	baz=25								
K29A	**Lazy Trails An**	**24.94**	**355**	P	**P**	09 24 26.8	+0.4		
	baz=25								
K28A	**Ten Mile Ranch**	**24.99**	**353**	P	**P**	09 24 26.9	-0.1		
	baz=25								
K27A	**Fluecklinger Fa**	**25.09**	**352**	P	**P**	09 24 27.4	-0.5		
	baz=25								
TPNV	**Topopah Spring**	**25.19**	**323**	P	**P**	09 24 33.1	+4.1		
	baz=25								
K25A	**Mack Ranch, Ha**	**25.27**	**349**	P	**P**	09 24 29.9	+0.4		
	baz=25								
J29A	**Okreek**	**25.58**	**355**	P	**P**	09 24 32.7	+0.5		
	baz=26								
J28A	**Allard Ranch,**	**25.68**	**354**	P	**P**	09 24 33.2	+0.1		
	baz=26								
ECSD	**EROS Data Cent**	**25.81**	**1**	P	**P**	09 24 32.6	-1.6		
	baz=26								
J22A	**Midwest**	**26.59**	**345**	P	**P**	09 24 41.0	-0.4		
	baz=27								
J21A	**Lysite**	**26.77**	**344**	P	**P**	09 24 43.3	+0.1		
	baz=27								
PDAR	**Pinedale Array**	**26.87**	**340**	P	**P**	09 24 44.0	-0.1		
	0.3nm,0.7s,baz=148,slow=10,SNR=3.2								
PDAR				pP	**pP**	09 25 02.1	+1.5		
	0.4nm,0.8s,baz=146,slow=9.8,SNR=2.5								
H25A	**Fruitdale**	**27.17**	**350**	P	**P**	09 24 46.5	-0.1		
	baz=27								
NVAR	**Mina Array Bea**	**27.39**	**323**	P	**P**	09 24 50.9	+2.1		
	0.4nm,0.7s,baz=138,slow=8.6,SNR=4.4								
NVAR				pP	**pP**	09 25 08.2	+2.8		
	0.3nm,0.6s,baz=134,slow=9.1,SNR=2.7								
ELK	**Elko**	**27.46**	**330**	P	**P**	09 24 50.0	+0.6		
	0.2nm,0.3s,baz=151,slow=7.7,SNR=5.1								
I20A	**Worland**	**27.52**	**343**	P	**P**	09 24 49.3	-0.5		
	baz=28								
SPMN	**St. Paul**	**27.57**	**7**	P	**P**	09 24 48.3	-1.7		
	baz=28								
F26A	**Lodgepole**	**28.24**	**352**	P	**P**	09 24 55.1	-1.1		
	baz=28								
G22A	**Birney**	**28.26**	**347**	P	**P**	09 24 55.6	-0.7		
	baz=28								
F24A	**Ekalaka**	**28.50**	**350**	P	**P**	09 24 57.5	-1.0		
	baz=29								
D24A	**Glendive**	**29.72**	**351**	P	**P**	09 25 09.0	-0.1		
	baz=30								
D22A	**Cohagen**	**30.08**	**348**	P	**P**	09 25 11.2	-1.2		
	baz=30								
AGMN	**Agassiz Nation**	**30.39**	**2**	P	**P**	09 25 13.7	-1.3		
	baz=30,SNR=5.1								
B28A	**Dugan Ranch, T**	**30.60**	**356**	P	**P**	09 25 16.2	-0.7		
	baz=31								
A29A	**Manning Farm,**	**31.02**	**358**	P	**P**	09 25 19.8	-0.8		
	baz=31								
A28A	**Rude Farm, Bot**	**31.05**	**356**	P	**P**	09 25 19.5	-1.4		
	baz=31								
B23A	**Brockton**	**31.13**	**350**	P	**P**	09 25 20.9	-0.7		
	baz=31								
ULM	**Lac du Bonnet**	**32.34**	**2**	P	**P**	09 25 30.9	-1.2		
	1.1nm,0.5s,baz=181,slow=8.0,SNR=3.2								
SCHQ	**Schefferville**	**43.73**	**25**	P	**P**	09 27 06.8	-1.1		
	7.4nm,0.4s,baz=228,slow=7.7,SNR=45								
YKA	**Yellowknife Ar**	**46.17**	**349**	P	**P**	09 27 25.7	-1.3		
	0.8nm,0.6s,baz=154,slow=7.3,SNR=14								
YKA				pP	**pP**	09 27 43.4	-1.2		
	0.6nm,0.7s,baz=154,slow=7.5,SNR=5.3								
ILAR	**Eielson Array**	**57.25**	**337**	P	**P**	09 28 50.0	+0.4		
	0.3nm,0.6s,baz=143,slow=6.4,SNR=7.0								
ILAR				pP	**pP**	09 29 08.3	+0.7		
	0.3nm,0.9s,baz=140,slow=5.4,SNR=2.4								

IDC ***14*** *09:19:37.4±0.7,38°.14S×73°.64W,h0km,mb4.0/10, mb1 4.2/14,mb1mx4.1/20,mbtmp4.0/14,ML4.0/4, Error ellipse: s-maj=28.4km s-min=15.7km az=97.0*

ISCJB ***14*** *09:19:39.1±0.2,38°.13S±0°.03×73°.61W±0°.07,h22km, mb4.1/15, Error ellipse: s-maj=8.1km s-min=3.6km az=176.7*

GUC ***14*** *09:19:40.2±0.4,38°.19S×73°.53W,h28km±2km,ML5.1*

NEIC ***14*** *09:19:40.0,38°.19S×73°.53W,h28km,mb4.6/4, ML5.1(GUC),After GUC.*

NEIC Felt [III] at Angol and [II] at Temuco.

ISC 14 09:19:40.7±0.6,38°.16S±0°.04×73°.6W±0°.1,h22km,n77, σ0s75/83,mb4.1/15,2C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSCH	**Puerto Saavedr**	**0.66**	**167**⇑	*i*P		**Pb**		**09 19 53.8**	**+0.2**
PSCH				*i* S		**Sb**		**09 20 02.8**	**+0.5**
U14B	**Concepcin**	**1.35**	**17**⇑	*i*P		**Pn**		**09 20 03.8**	**-0.5**
U14B				*i* S		**Sn**		**09 20 21.9**	**+0.4**
U14B				AML		AML		09 20 28.2	
	comp=N,61μm,0.5s								
VLCH	**Valdivia**	**1.67**	**171**	eP		**Pn**		**09 20 07.8**	**-0.8**
VLCH				*i* S		**Sn**		**09 20 28.7**	**-0.6**
OSCH	**Osorno**	**2.44**	**172**	eP		**Pn**		**09 20 19.0**	**-0.2**
OSCH				*i* S		**Sn**		**09 20 48.3**	**-0.1**
TALC	**Talca**	**3.17**	**30**	eP		**Pn**		**09 20 29.1**	**-0.1**
TALC				eS		**Sn**		**09 21 06.6**	**+0.3**
CFAA	**Coronel Fontan**	**7.87**	**35**	Pn		**Pn**		**09 21 32.6**	**-1.3**
	comp=N,0.3nm,0.3s,baz=208,slow=12,SNR=18								
CFAA				Sn		**Sn**		**09 23 00.8**	**-1.5**
	comp=N,0.5nm,0.3s,baz=108,slow=20,SNR=4.4								
CFAA				Lg		Lg		09 23 44.1	
	comp=N,0.1nm,0.3s,baz=217,slow=20,SNR=3.1								
TRQA	**Tornquist**	**9.15**	**93**	ePn		**Pn**		**09 21 52.1**	**+0.7**
	comp=N,32nm,1.2s								
LCO	**Las Campanas**	**9.43**	**16**	ePn		**Pn**		**09 21 53.4**	**-2.1**
	comp=N,47nm,0.6s								
LVC	**Limon Verde**	**16.00**	**16**	Pn		**Pn**		**09 23 22.9**	**-1.8**
	comp=N,4.7nm,0.3s,baz=207,slow=10,SNR=2.7								
USHA	**Ushuaia**	**17.05**	**170**	P		**Pn**		**09 23 35.6**	**-1.8**
	comp=N,0.2nm,0.3s,baz=318,slow=14,SNR=5.6								
CPUP	**Villa Florida**	**18.08**	**54**	P		**P**		**09 23 50.8**	**0.0**
	comp=N,0.2nm,0.3s,baz=244,slow=9.3,SNR=7.3

baz=76
Z29A **Hungry Hill Ra** 75.72 336 P P 09 31 24.1 -0.4
baz=76
X32A **Elmer** 76.05 338 P P 09 31 26.8 +0.6
baz=76
WMOK **Wichita Mounta** 76.20 339 *e*P P 09 31 25.1 -2.0
comp=N,1.0nm,0.8s
V36A **Jenks** 76.43 341 P P 09 31 28.3 0.0
baz=77
X31A **McDonald Ranch** 76.45 338 P P 09 31 28.7 +0.2
baz=77
TUL1 **Tulsa** 76.51 342 P P 09 31 28.8 0.0
baz=77
V35A **Meyer Ranch, C** 76.64 341 P P 09 31 29.2 -0.3
baz=77
W32A **Sentinel** 76.70 339 P P 09 31 30.1 +0.2
baz=77
MSTX **Muleshoe** 76.72 335 P P 09 31 30.1 0.0
baz=77
AMTX **Amarillo** 77.21 337 P P 09 31 33.1 +0.2
baz=78
T35A **Sooner Cattle** 77.65 341 P P 09 31 35.1 -0.1
baz=78
DBIC **Dimbokro** 77.69 71 P P 09 31 36.4 +0.4
comp=N,2.9nm,0.5s,baz=191,slow=6.1,SNR=7.0
T34A **McClaskey Farm** 77.92 341 P P 09 31 37.1 +0.4
baz=78
T33A **Patterson Ranc** 78.25 340 P P 09 31 38.9 +0.4
baz=79
S35A **Otter Creek Ra** 78.33 342 P P 09 31 38.9 0.0
baz=79
214A **Organ Pipe Nat** 78.75 327 P P 09 31 41.8 +0.4
baz=79
T25A **Trinidad** 80.15 335 P P 09 31 49.0 -0.2
baz=80
S26A **Kim** 80.29 336 P P 09 31 50.3 +0.6
baz=81
R28A **Tribune** 80.44 338 P P 09 31 51.0 +0.5
baz=81
Q30A **Quinter** 80.57 339 P P 09 31 51.7 +0.5
baz=81
O34A **Beatrice** 80.79 342 P P 09 31 52.8 +0.6
baz=81
S22A **4UR Ranch, Cre** 81.51 334 P P 09 31 57.5 +0.9
baz=82
NVAR **Mina Array Bea** 86.61 326 P P 09 32 22.4 0.0
comp=N,0.4nm,0.7s,baz=135,slow=8.6,SNR=3.7
TORD **Torodi Ar. Bea** 86.78 71 P P 09 32 24.3 +0.8
comp=N,1.0nm,0.8s,baz=227,slow=4.7,SNR=9.3
PDAR **Pinedale Array** 86.93 334 P P 09 32 23.5 -0.4
comp=N,0.4nm,0.6s,baz=142,slow=4.6,SNR=4.4
WRA **Warramunga Arr** 116.53 209 PKP PKPdf 09 38 22.3 -1.0
comp=N,0.5nm,1.0s,baz=182,slow=2.2,SNR=4.2
ABKAR **Akbulak array** 145.13 56 *e*PKPbc PKPdf 09 39 15.8 0.0
BVAR **Borovoye Array** 151.09 47 PKPbc PKPbc 09 39 32.1 +0.7
comp=N,1.5nm,0.5s,baz=285,slow=3.5,SNR=10.0
BVAR PKPab PKPab 09 39 38.8 -0.3
comp=N,3.0nm,0.6s,baz=285,slow=2.8,SNR=12
MKAR **Makanchi Array** 160.28 56 PKPab PKPab 09 40 17.0 -1.7
comp=N,0.3nm,0.5s,baz=294,slow=3.1,SNR=3.4

*ISK **14** 09:38:38.5, 37˚.27N×28˚.25E, h2km, MD2.6*
*ISCJB **14** 09:38:39.5±0.6, 37˚.24N±0˚.05×28˚.21E±0˚.08, h0km, Error ellipse: s-maj=10.7km s-min=4.1km az=146.6*
*CSEM **14** 09:38:39.7±0.2, 37˚.24N×28˚.22E, h2km, MD2.6, Error ellipse: s-maj=6.3km s-min=3.0km az=53.0, Mining explosion.*
*DDA **14** 09:38:39.5, 37˚.23N×28˚.21E, h7km, MD2.3*
ISC 14 09:38:39.5±1.2, 37˚.24N±0˚.04×28˚.24E±0˚.05, h0km, n14, σ0§66/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.11	162	*e*Pg		G	Pg	09 38 41.8	+0.2
YER	Yerkesik	0.11	162	*e*Pg			Pg	09 38 41.8	+0.2
TURN	Turunc	0.47	141	*i* P			Pg	09 38 48.6	+0.2
TURN	Turunc	0.47	141	*i* P			Pg	09 38 48.6	+0.2
AYDN	Tasoluk	0.51	326	*i* P			Pg	09 38 49.5	+0.1
AYDN				*i* S			Sg	09 38 56.9	+0.9
AYDN	Tasoluk	0.51	326	*i* P			Pg	09 38 49.5	+0.1
AYDN				*i* S			Sg	09 38 56.9	+0.9
DALY	Dalyan (Mu¨la	0.53	142	*e*PG			Pg	09 38 50.2	+0.5
DALY				*e*SG			Sb	09 38 58.7	-1.3
DALY	Dalyan (Mu¨la	0.53	142	*e*Pg			Pg	09 38 50.2	+0.5
DALY				*e*Sg			Sb	09 38 58.7	-1.3
BDRM	Kayabasi	0.66	255	*i* P			Pg	09 38 51.8	-0.3
BDRM	Kayabasi	0.66	255	*i* P			Pg	09 38 51.8	-0.3
AYDB	Zeytinkoy-Aydi	0.76	339	*e*PG			Pg	09 38 53.7	-0.4
AYDB				*e*SG			Sg	09 39 04.7	+0.7
AYDB	Zeytinkoy-Aydi	0.76	339	*e*Pg			Pg	09 38 53.7	-0.4
AYDB				*e*Sg			Sg	09 39 04.7	+0.7
BODT	Bodrum	0.76	257	*e*PG			Pg	09 38 54.5	+0.3
BODT	Bodrum	0.76	257	*e*Pg			Pg	09 38 54.5	+0.3

BUC 14 09:40:24.9±0.8, 45.75N×26.42E, h113km±5km, MD2.6/2, 6C-4D, Error ellipse: s-maj=6.2km s-min=5.2km az=355.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLOR	Plostina	0.19	57	⇓*i*P			Pn	09 40 41.0	+0.2
PLOR				S			Sn	09 40 53.0	+0.3
PLOR	Plostina	0.19	57	⇓*i*P			Pn	09 40 41.0	+0.2
PLOR				*i* S			Sn	09 40 53.0	+0.3
VRI	Vrincioaia	0.25	61	⇓*i*P			Pn	09 40 41.1	+0.2
VRI	Vrincioaia	0.25	61	⇓*i*P			Pn	09 40 41.1	+0.2
VRI				*i* S			Sn	09 40 53.1	+0.2
MLR	Muntele Rosu	0.42	233	⇑*i*P			Pn	09 40 42.0	+0.2
MLR	Muntele Rosu	0.42	233	⇑*i*P			Pn	09 40 42.0	+0.2
MLR				*i* S			Sn	09 40 54.2	-0.3
CFR	Carcaliu	1.34	115	⇑*i*P			Pn	09 40 50.3	+0.3
CFR	Carcaliu	1.34	115	⇑*i*P			Pn	09 40 50.3	+0.3
CFR				*i* S			Sn	09 41 07.8	-1.2
TIRR	Tirgusor	1.91	132	⇑*i*P			Pn	09 40 57.4	+0.5
TIRR	Tirgusor	1.91	132	⇑*i*P			Pn	09 40 57.4	+0.5
TIRR				*i* S			Sn	09 41 19.9	-1.4
MSAB	Monastry St. A	1.93	148	S			Sn	09 41 22.0	+0.2
MSAB	Monastry St. A	1.93	148	*i* S			Sn	09 41 22.0	+0.2

*GUC **14** 09:53:57.0±0.5, 38˚.01S×73˚.76W, h16km±4km, ML5.0*
*IDC **14** 09:53:57.7±0.8, 38˚.10S×73˚.60W, h0km, mb4.0/8, mb1 4.2/12, mb1mx4.1/21, mbtmp4.1/12, ML3.7/3, Error ellipse: s-maj=29.8km s-min=16.3km az=101.0*
*ISCJB **14** 09:53:59.3±0.5, 38˚.00S±0˚.03×73˚.7W±0˚.1, h22km, mb4.1/12, Error ellipse: s-maj=11.9km s-min=4.0km az=5.2*
*NEIC **14** 09:54:02.9±0.4, 38˚.02S×73˚.54W, h35km, mb4.4/4, Error ellipse: s-maj=15.2km s-min=8.0km az=98.0*
ISC 14 09:54:00.9±0.6, 38˚.05S±0˚.04×73˚.5W±0˚.1, h22km, n34, σ1§40/43, mb4.2/12, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSCH	Puerto Saavedr	0.76	171	*e*P			Pb	09 54 13.3	-2.1
PSCH				*e*S			Sb	09 54 25.6	+0.4
U14B	Concepcin	1.24	17	*e*P			Pn	09 54 20.4	-2.5
U14B					AML	AML		09 54 51.0	
	comp=N,56μm,0.5s								
VLCH	Valdivia	1.77	173	*e*P			Pn	09 54 27.9	-2.2
VLCH				*e*S			Sb	09 54 53.5	-0.9
COCH	Cobquecura	2.00	18	*e*P			Pn	09 54 32.3	-1.1
COCH				*e*S			Sb	09 54 59.2	-1.9
OSCH	Osorno	2.54	173	*e*P			Pn	09 54 41.1	+0.3
OSCH				*e*S			Sb	09 55 14.6	-2.1
TALC	Talca	3.06	31	*e*P			Pn	09 54 48.3	+0.5
TALC				*e*S			Sb	09 55 26.7	-4.7
NICH	Los Niches	3.56	32	*e*P			Pn	09 54 55.0	+0.2
NICH				*e*S			Sn	09 55 39.5	+3.3
CFAA	Coronel Fontan	7.76	36	Pn			Pn	09 55 51.7	-0.9
	comp=N,0.2nm,0.3s,baz=207,slow=14,SNR=23								
CFAA				Sn			Sn	09 57 21.2	+1.3
	comp=N,0.3nm,0.3s,baz=119,slow=19,SNR=2.6								
CFAA				Lg		Lg		09 58 07.0	
	baz=323,slow=20,SNR=3.3								
LCO	Las Campanas	9.32	16	*e*Pn			Pn	09 56 13.4	-0.7
	comp=N,102nm,0.9s								
LVC	Limon Verde	15.89	16	Pn			Pn	09 57 42.8	-0.6
	comp=N,9.3nm,0.3s,baz=218,slow=12,SNR=2.4								
USHA	Ushuaia	17.14	170	P			P	09 57 59.8	-0.6
	comp=N,0.3nm,0.3s,baz=332,slow=11,SNR=5.6								
CPUP	Villa Florida	17.99	54	P			P	09 58 10.2	+0.4
	comp=N,0.2nm,0.3s,baz=235,slow=11,SNR=8.2								
LPAZ	La Paz	22.19	14	P			P	09 58 58.7	+2.4
	comp=N,16nm,1.2s,baz=168,slow=8.3,SNR=14								
SIV	San Ignacio	24.57	30	P			P	09 59 19.8	+0.5
	comp=N,4.5nm,0.8s,baz=235,slow=16,SNR=11								
VNA1	Neumayer--Stat	46.47	155	P			P	10 02 34.7	+9.0
SNAA	Sanae	48.33	156	P			P	10 02 40.6	+0.3
	comp=N,0.3nm,0.7s,baz=277,slow=8.6,SNR=7.2								
QSPA	South Pole Qui	52.20	180	P			P	10 03 09.2	-0.6
	comp=N,1.4nm,0.8s,baz=172,slow=2.7,SNR=7.2								
JCT	Junction City	72.46	336	*e*P			P	10 05 25.7	+0.1
	comp=N,7.3nm,1.1s								
TXAR	Lajitas Array	72.72	333	P			P	10 05 27.8	+0.6
	comp=N,1.2nm,0.9s,baz=153,slow=9.8,SNR=12								
ABTX	Abilene, Hawle	74.40	337	*e*P			P	10 05 36.1	-0.8
	comp=N,6.9nm,1.1s								
WMOK	Wichita Mounta	76.12	339	*e*P			P	10 05 46.7	-0.1
	comp=N,2.1nm,0.9s								
DBIC	Dimbokro	77.62	71	P			P	10 05 56.6	+0.9
	comp=N,6.2nm,0.7s,baz=205,slow=5.5,SNR=5.5								
SDCO	Great Sand Dun	80.98	335	*e*P			P	10 06 13.7	-0.1
	comp=N,5.6nm,1.9s								
TORD	Torodi Ar. Bea	86.71	71	P			P	10 06 43.1	-0.2
	comp=N,0.9nm,0.7s,baz=240,slow=3.9,SNR=6.2								
PDAR	Pinedale Array	86.85	334	P			P	10 06 42.9	-0.7
	comp=N,0.7nm,1.0s,baz=78,slow=6.8,SNR=4.1								
AKTO	Aktyubinsk	143.78	54	PKP			PKPbc	10 13 31.8	+0.5
	comp=N,1.6nm,0.7s,baz=343,slow=2.7,SNR=6.3								
ABKAR	Akbulak array	145.04	56	*e*PKPbc			PKPdf	10 13 36.0	+0.2
BRVK	Borovoye	150.92	47	*e*PKPbc			PKPbc	10 13 52.1	+1.0
BVAR	Borovoye Array	151.00	47	PKPbc			PKPbc	10 13 52.3	+1.0
	comp=N,2.5nm,0.7s,baz=282,slow=2.7,SNR=16								
KURBB	Kurchatov Arra	156.55	49	PKP			PKPdf	10 13 53.8	+0.3
	comp=N,0.2nm,0.4s,baz=276,slow=2.7,SNR=4.4								
KURBB				PKPab			PKPab	10 14 23.6	+1.1
	comp=N,2.1nm,1.0s,baz=288,slow=4.5,SNR=6.2								
KURK	Kurchatov	156.57	48	PKP			PKPdf	10 13 53.8	+0.3
KURK				PKPab			PKPab	10 14 23.6	+1.1
ZALV	Zalesovo Beam	158.25	36	PKPab			PKPab	10 14 29.7	0.0
	comp=N,0.5nm,0.4s,baz=325,slow=2.3,SNR=4.6								
MKAR	Makanchi Array	160.19	56	PKP			PKPdf	10 13 58.3	+0.2
	comp=N,0.4nm,0.9s,baz=321,slow=3.7,SNR=3.9								
MKAR				PKPab			PKPab	10 14 38.5	+0.1
	comp=N,1.2nm,0.8s,baz=298,slow=3.1,SNR=8.9								
SONM	Songino Array	170.22	0	PKP			PKPdf	10 14 07.2	+0.5
	comp=N,0.5nm,0.4s,baz=29,slow=3.3,SNR=2.5								
SONM				PKPab			PKPab	10 15 23.9	+1.3
	comp=N,0.4nm,0.3s,baz=343,slow=3.0,SNR=2.8								

*IDC **14** 10:00:43.5±1.2, 31˚.84S×66˚.83W, h106km±14km, mb3.5/7, mb1 3.6/11, mb1mx3.5/28, mbtmp3.9/11, Error ellipse: s-maj=21.4km s-min=14.7km az=110.0*
*ISCJB **14** 10:00:44.5±0.4, 31˚.77S±0˚.05×67˚.06W±0˚.06, h133km±5km, mb3.6/7, Error ellipse: s-maj=10.0km s-min=6.6km az=140.6*
*SJA **14** 10:00:44.8±0.9, 31˚.77S×67˚.10W, h127km±6km, ML3.9*
ISC 14 10:00:44.9±0.7, 31˚.71S±0˚.06×67˚.10W±0˚.06, h132km±7km, n24, σ0§84/33, mb3.8/7, 1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ACAN	Cantantal	0.57	188	*i* P			Pn	10 01 04.8	+0.2
CFAA	Coronel Fontan	0.98	276	P			Pn	10 01 07.6	-0.3
	21nm,0.3s,baz=97,slow=14,SNR=3138								
CFAA				S			Sn	10 01 24.5	-0.8
	106nm,0.3s,baz=126,slow=20,SNR=128								
CFAA	Coronel Fontan	0.98	276	*i* P			Pn	10 01 08.1	+0.3
CFAA				*i* P			Pn	10 01 08.1	+0.3
CFAA				*i* S			Sn	10 01 24.9	-0.3
CFAA				⇓*i* S			Sn	10 01 25.0	-0.3
AVFE	Valle Fertil	1.09	344	*i* P			Pn	10 01 10.5	+1.5
AVFE				*i* S			Sn	10 01 27.9	+0.6
AVFE					AML	AML		10 01 30.9	
	comp=Z,891nm,0.2s								
RTLL	Cerro Villicun	1.24	288	*i* P			Pn	10 01 11.0	+0.6
RTCV	Cerro Valdivia	1.24	263	*i* P			Pn	10 01 10.5	+0.1
ASAL	Salagasta	1.72	239	*i* P			Pn	10 01 15.8	+0.1
ASAL				*i* S			Sn	10 01 38.8	-0.4
RTLS	Leoncito	1.88	267	*i* P			Pn	10 01 18.5	+0.7
ARCO	CERRO ARCO	1.92	234	*i* P			Pn	10 01 18.3	+0.1
ARCO				*i* S			Sn	10 01 43.1	-0.6
ARCO					AML	AML		10 01 44.1	
	comp=Z,997nm,0.3s								
AAGR	Agrelo	2.01	226	*i* P			Pn	10 01 19.2	0.0
AAGR				*i* P			Pn	10 01 19.2	0.0
AUSP	Uspallata	2.01	255	*i* P			Pn	10 01 19.9	+0.5
TCA	Tanti	2.17	81	*i* P			Pn	10 01 21.9	+0.8
TCA				*i* S			Sn	10 01 48.8	-0.1
LVC	Limon Verde	9.21	349	P			Pn	10 02 55.5	+0.6
	comp=Z,92nm,0.3s,baz=189,slow=6.2,SNR=11								
LVC				S			Sn	10 04 34.1	-2.8
	comp=Z,20nm,0.3s,baz=180,slow=20,SNR=3.5								
CPUP	Villa Florida	10.09	60	P			Pn	10 03 04.4	-1.9
	comp=Z,0.4nm,0.3s,baz=226,slow=10,SNR=7.9								
LPAZ	La Paz	15.38	356	P			P	10 04 17.4	+0.1
	comp=Z,0.2nm,0.3s,baz=185,slow=14,SNR=6.4								
SIV	San Ignacio	16.58	21	P			P	10 04 30.6	+0.7
	comp=Z,0.2nm,0.3s,baz=219,slow=12,SNR=4.6								
USHA	Ushuaia	23.13	182	P			P	10 05 39.2	+0.1
	comp=Z,4.1nm,0.6s,baz=348,slow=10,SNR=7.6								
BDFB	Brasilia	23.63	52	P			P	10 05 43.4	-0.9
	comp=Z,1.9nm,0.5s,baz=230,slow=13,SNR=3.1								
SNAA	Sanae	52.17	159	P			P	10 09 42.0	+0.5
	comp=Z,0.4nm,0.5s,baz=289,slow=6.7,SNR=28								
QSPA	South Pole Qui	58.52	180	P			P	10 10 27.7	+0.6
	comp=Z,3.1nm,0.6s,baz=134,slow=3.8,SNR=35								
TXAR	Lajitas Array	69.96	326	P			P	10 11 46.4	+4.4
	comp=Z,0.1nm,0.6s,baz=155,slow=8.6,SNR=2.8								
MAW	Mawson	74.14	162	P			P	10 12 06.5	+0.2
	comp=Z,1.0nm,0.5s,baz=204,slow=6.1,SNR=6.3								
TORD	Torodi Ar. Bea	79.50	67	P			P	10 12 37.7	+0.5
	comp=Z,0.6nm,0.9s,baz=225,slow=5.7,SNR=2.3								
WRA	Warramunga Arr	124.68	205	PKP			PKPdf	10 19 29.3	-0.1
	comp=Z,0.5nm,0.4s,baz=157,slow=1.6,SNR=20								

*IDC **14** 10:21:04.2±0.9, 50˚.88N×73˚.61E, h0km, mb3.2/2, mb1 3.3/7, mb1mx3.2/47, mbtmp3.1/7, ML2.7/5, Error ellipse: s-maj=20.5km s-min=7.4km az=27.0*
*NNC **14** 10:21:07.9±1.9, 51˚.71N×74˚.45E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=89.8km s-min=14.6km az=31.0*
ISC 14 10:21:04.0±1.0, 50˚.8N±0˚.1×73˚.46E±0˚.08, h10km, n12, σ1§22/12, 8C-2D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BVA0	Borovoye Array	2.96	321	Pn			Pb	10 21 54.8	-2.0
	6.4nm,0.6s,baz=132,slow=16,SNR=16								
BVA0				⇓Lg			Lg	10 22 34.7	
	14nm,0.6s,baz=125,slow=28,SNR=11								
BVAR	Borovoye Array	2.96	321	Pn			Pn	10 21 53.0	+2.0
	2.5nm,0.3s,baz=127,slow=16,SNR=20								
BVAR				Lg			Lg	10 22 35.0	
	2.9nm,0.3s,baz=128,slow=28,SNR=8.0								
BRVK	Borovoye	3.02	321	⇑Pn			Pb	10 21 57.4	-0.5
	5.4nm,0.5s								
BRVK				⇑Lg			Lg	10 22 35.5	
	26nm,0.7s								
KURBB	Kurchatov Arra	3.23	91	⇓Pn			Pn	10 21 53.9	-0.8
	17nm,0.7s								
KURBB				⇑Lg			Lg	10 22 40.1	
	76nm,0.6s								
KURBB	Kurchatov Arra	3.23	91	Pn			Pn	10 21 54.3	-0.4
	0.3nm,0.3s,baz=279,slow=14,SNR=11								
KURBB				Pg			Pb	10 22 00.7	-0.7
	0.6nm,0.3s,baz=276,slow=14,SNR=25								
KURBB				Lg			Lg	10 22 41.3	
	0.7nm,0.3s,baz=273,slow=30,SNR=9.6								
KURK	Kurchatov	3.28	89	⇑Pn			Pn	10 21 49.9	-5.5
	6.6nm,1.0s								
KURK				⇑Lg			Lg	10 22 42.6	
	14nm,0.6s								
MK31	Makanchi Array	7.06	121	⇑Pn			Pn	10 22 56.2	+8.8
	0.7nm,0.5s,baz=301,slow=12,SNR=3.8								
MK31				⇑Sn			Sb	10 24 21.0	-10
	1.3nm,0.6s,baz=253,slow=26,SNR=3.3								
MK31				⇑Lg			Lg	10 24 44.2	
	3.1nm,0.6s,baz=312,slow=31,SNR=4.5								
MKAR	Makanchi Array	7.06	121	Pn			Pn	10 22 46.4	-1.0
	0.1nm,0.3s,baz=303,slow=14,SNR=2.4								
MKAR				Sn			Sn	10 24 08.8	+1.2
	0.2nm,0.3s,baz=331,slow=27,SNR=3.6								
MKAR				Lg			Lg	10 24 47.6	
	0.8nm,0.3s,baz=316,slow=28,SNR=7.0								
ZALV	Zalesovo Beam	7.65	61	Pn			Pn	10 22 55.0	-0.4
	0.3nm,0.3s,baz=257,slow=13,SNR=5.1								
AKTO	Aktyubinsk	9.83	274	Pn			Pn	10 23 26.2	+0.9
	0.2nm,0.3s,baz=82,slow=13,SNR=3.7								
ILAR	Eielson Array	60.63	19	P			P	10 31 13.9	-0.6
	0.2nm,0.5s,baz=329,slow=5.5,SNR=10								
YKA	Yellowknife Ar	66.91	4	P			P	10 31 56.4	+0.5
	0.2nm,0.9s,baz=359,slow=6.7,SNR=2.9								

*JMA **14** 10:29:10.8±0.1, 24˚.20N×121˚.65E, h33km±1km, M2.9*
*TAP **14** 10:29:11.6, 24˚.26N×121˚.73E, h29km, ML3.6, B*
*ISCJB **14** 10:29:12.2±0.3, 24˚.24N±0˚.02×121˚.77E±0˚.02, h25km±2km, Error ellipse: s-maj=3.6km s-min=2.3km az=135.8*
ISC 14 10:29:12.3±0.9, 24˚.23N±0˚.02×121˚.75E±0˚.02, h26km±5km, n57, σ0§78/92, 5C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EHP	Heping Village	0.07	356	*i* P			Pb	10 29 17.1	+0.2
	baz=24								
EHP				*i* S			Sb	10 29 20.6	+0.5
	baz=24								
ENA	Nanau	0.19	358	⇓*i*P			Pb	10 29 17.5	-0.5
	baz=7.0								
ENA				*e*S			Sb	10 29 21.4	-0.5
	baz=7.0								
TWD	Chiawan	0.21	222	⇓*i*P			Pb	10 29 17.7	-0.4
	baz=218								
TWD				*i* S			Sb	10 29 22.8	+0.7
	baz=218								
HWA	Hwalien	0.29	207	*e*P			Pb	10 29 19.3	+0.1
	baz=208								
HWA				*e*S			Sn	10 29 25.6	-0.6
	baz=208								
TWC	Suao	0.39	14	P			Pb	10 29 20.4	-0.3
	baz=15								
TWC				S			Sb	10 29 26.2	-0.2
	baz=15								
NNS	Nan Shan	0.40	301	⇑*i*P			Pb	10 29 20.1	-0.8
	baz=299								
NNS				*i* S			Sb	10 29 26.3	-0.6
	baz=299								
ENTT	Nioudou	0.44	338	⇑*i*P			Pb	10 29 20.8	-0.7
	baz=339								
ENTT				*i* S			Sb	10 29 27.1	-0.7
	baz=339								
WHF	Hehuan Shan	0.45	259	⇑*i*P			Pb	10 29 21.4	-0.6
	baz=255								
WHF				*i* S			Sb	10 29 28.1	-0.5
	baz=255								
TWE	Neicheng	0.49	351	*i* P			Pb	10 29 22.0	-0.4
	baz=351								
TWE				*i* S			Sb	10 29 28.8	-0.4
	baz=351								
ESL	Shilin	0.51	214	*e*P			Pb	10 29 21.8	-0.9
	baz=221								
TWT	Tachien	0.52	272	⇑*i*P			Pb	10 29 22.7	-0.3
	baz=266								
TWT				*i* S			Sb	10 29 29.9	-0.4
	baz=266								
ILA	Ilan	0.53	0	*e*P			Pb	10 29 22.7	-0.3
	baz=357								
ILA				*e*S			Sb	10 29 30.6	+0.3
	baz=357								
NSK	Sanguang	0.56	321	⇑*i*P			Pb	10 29 22.8	-0.9
	baz=321								
NSK				S			Sb	10 29 30.2	-1.2
	baz=321								
EGS		0.63	15	*e*P			Pn	10 29 25.1	-0.4
	baz=21								
EGS				*e*S			Sb	10 29 33.6	+0.4
	baz=21								
WDT	Danda	0.74	230	⇓*i*P			Pb	10 29 25.8	-0.9
	baz=220								
WDT				S			Sb	10 29 36.3	-0.2
	baz=220								
NSTT	Nanjuang	0.79	300	*i* P			Pb	10 29 26.9	-0.5
	baz=299								
NSTT				*i* S			Sb	10 29 37.7	0.0
	baz=299								
TWB1	Santiao Chiao	0.80	16	P			Pb	10 29 27.5	-0.1
	baz=18								
TWB1				S			Sb	10 29 38.1	+0.1
	baz=18								
EHY	Hungye	0.82	208	*e*P			Pb	10 29 26.6	-1.3
	baz=207								
TAP1	Taipei	0.83	346	*e*P			Pb	10 29 27.9	-0.1
	baz=345								
NWF	Wu-fen Shan	0.83	2	*e*P			Pb	10 29 27.9	-0.3
	baz=357								
NWF				S			Sb	10 29 39.2	+0.1
	baz=357								
TYC	Yuchr	0.88	248	*i* P			Pn	10 29 28.1	-0.7
	baz=243								
TYC				*e*S			Sb	10 29 39.5	-0.7
	baz=243								
NCU	National Centr	0.89	325	*e*P			Pn	10 29 28.9	-0.3
	baz=325								
NCU				*e*S			Sn	10 29 41.9	+0.7
	baz=325								
TWQ1	Liyutan	0.90	277	P			Pb	10 29 29.4	+0.2
	baz=281								
TWQ1				S			Sn	10 29 41.3	0.0
	baz=281								
HSN	Hsinchu	0.91	309	*e*P			Pb	10 29 29.2	-0.1
	baz=310								
HSN				*e*S			Sn	10 29 42.1	+0.5
	baz=310								
TWS1	Kuangyinshan	0.91	341	*e*P			Pn	10 29 29.0	-0.4
	baz=341								
TWS1				*e*S			Sn	10 29 42.1	+0.4
	baz=341								
NSY	Sanyi	0.92	282	P			Pb	10 29 30.0	+0.5
	baz=280								
NSY				S			Sn	10 29 42.9	+1.0
	baz=280								
TWF1	Yu

WSF	**Szhu** baz=246	**1.52**	**247**	*eP*	**Pb**	**10 29 39.2**	**-0.5**
CHN1	**Nanshi** baz=228	**1.53**	**227**	*eP*	**Pb**	**10 29 39.2**	**-0.8**
TWG	**Pinlang** baz=190	**1.54**	**204**	*eP*	**Pb**	**10 29 38.8**	**-1.3**
SGST	**Jiashian** baz=213	**1.57**	**223**	*eP*	**Pn**	**10 29 38.9**	**+0.5**
SGST	baz=213			*eS*	**Sb**	**10 29 59.8**	**-0.2**
SSD	**Sandimen** baz=216	**1.80**	**215**	*eP*	**Pn**	**10 29 42.8**	**+1.1**
JKRS	**Kuro-shima**	**2.06**	**89**	P	**Pn**	**10 29 45.9**	**+0.7**
PNG	**Penghu** baz=251	**2.11**	**252**	*eP*	**Pn**	**10 29 45.5**	**-0.4**
SCZT	**Fangliau** baz=196	**2.12**	**209**	*eP*	**Pb**	**10 29 48.5**	**-1.5**
WDGT	**Dungji** baz=243	**2.14**	**244**	*eP*	**Pn**	**10 29 46.5**	**+0.2**
JIJ	**Ishigaki jima**	**2.19**	**86**	P	**Pn**	**10 29 47.0**	**0.0**
JIJ				S	**Sn**	**10 30 13.2**	**0.0**
LAY	**Lan-yu** baz=186	**2.19**	**185**	*eP*	**Pn**	**10 29 46.8**	**-0.3**
JISG	**Ishigakijimahi**	**2.36**	**81**	P	**Pn**	**10 29 48.9**	**-0.5**
JISG				S	**Sn**	**10 30 17.4**	**-0.1**
TWK1	**Hengchun** baz=190	**2.44**	**201**	*eP*	**Pn**	**10 29 52.5**	**+2.1**

*IDC **14** 10:33:47.5±0.6, 38°.23S×73°.69W, h0km, mb4.1/14, mb1 4.2/16, mb1mx4.1/33, mbtmp4.1/16, ML3.7/2, Error ellipse: s-maj=24.1km s-min=14.7km az=90.0*
*ISCJB **14** 10:33:49.6±0.4, 38°.11S±0°.03×73°.62W±0°.09, h22km, mb4.1/18, Error ellipse: s-maj=10.7km s-min=4.3km az=4.9*
*GUC **14** 10:33:50.7±0.5, 38°.18S×73°.64W, h46km±3km, ML5.5*
*NEIC **14** 10:33:52.9±0.4, 38°.12S×73°.67W, h35km, mb4.4/4, Error ellipse: s-maj=11.2km s-min=7.4km az=94.0*
ISC 14 10:33:50.9±0.6, 38°.17S±0°.04×73°.6W±0°.1, h22km, n37, σ0°94/42, mb4.1/18, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSCH	**Puerto Saavedr**	**0.65**	**166**	*eP*	**Pb**	**10 34 03.8**	**+0.2**
PSCH				*eS*	**Sn**	**10 34 13.9**	**-0.5**
PSCH	comp=N,188μm,0.5s			AML	AML	10 34 14.8	
VLCH	**Valdivia**	**1.66**	**171**	*eP*	**Pn**	**10 34 17.7**	**-0.9**
COCH	**Cobquecura**	**2.13**	**18**	*eP*	**Pn**	**10 34 24.7**	**-0.5**
COCH				*eS*	**Sn**	**10 34 51.0**	**0.0**
OSCH	**Osorno**	**2.43**	**172**	*eP*	**Pn**	**10 34 28.5**	**-0.8**
PMCH	**Puerto Montt**	**3.36**	**171**	*eS*	**Sn**	**10 35 19.2**	**-2.0**
CHCH	**Chadas Angostu**	**4.85**	**30**	*eP*	**Pn**	**10 35 02.2**	**-0.5**
CLCH	**Cerro Calan**	**5.37**	**28**	*eP*	**Pn**	**10 35 09.2**	**-0.6**
CLCH	comp=N,611nm,0.4s			AML	AML	10 36 48.2	
PEL	**Peldehue**	**5.55**	**26**	*eP*	**Pn**	**10 35 11.7**	**-0.5**
PEL	comp=N,757nm,0.3s			AML	AML	10 36 51.8	
CFAA	**Coronel Fontan**	**7.89**	**35**	Pn	**Pn**	**10 35 43.6**	**-0.7**
CFAA	comp=N,0.2nm,0.3s,baz=203,slow=18,SNR=15			Sn	**Sn**	**10 37 12.2**	**-0.8**
	comp=N,0.4nm,0.3s,baz=318,slow=18,SNR=5.8						
TRQA	**Torrquist**	**9.16**	**93**	*e*Pn	Pn	10 36 04.9	+3.2
LCO	**Las Campanas** comp=N,15nm,0.4s	**9.45**	**16**	*e*Pn	**Pn**	**10 36 04.0**	**-1.9**
LCO				*e*Sn	**Sn**	**10 37 48.6**	**-3.0**
LVC	**Limon Verde**	**16.02**	**16**	Pn	**Pn**	**10 37 35.9**	**+0.8**
	comp=N,7.8nm,0.3s,baz=185,slow=11,SNR=2.4						
USHA	**Ushuaia**	**17.03**	**170**	Pn	**P**	**10 37 49.5**	**+0.3**
	comp=N,0.2nm,0.3s,baz=315,slow=13,SNR=3.5						
CPUP	**Villa Florida**	**18.10**	**54**	P	**P**	**10 38 01.4**	**+0.3**
	comp=N,0.2nm,0.3s,baz=210,slow=15,SNR=3.9						
LPAZ	**La Paz**	**22.32**	**14**	P	**P**	**10 38 48.6**	**+0.8**
	comp=N,3.5nm,0.8s,baz=170,slow=9.6,SNR=8.8						
SIV	**San Ignacio**	**24.70**	**30**	P	**P**	**10 39 11.8**	**+1.3**
	comp=N,0.5nm,0.4s,baz=239,slow=14,SNR=3.2						
VNA1	**Neumayer--Stat**	**46.38**	**155**	P	**P**	**10 42 15.7**	**+0.7**
SNAA	**Sanae**	**48.24**	**156**	P	**P**	**10 42 30.2**	**+0.6**
	comp=N,2.6nm,1.0s,baz=270,slow=7.7,SNR=17						
QSPA	**South Pole Qui**	**52.07**	**180**	P	**P**	**10 42 58.5**	**-0.4**
	comp=N,1.1nm,0.4s,baz=147,slow=4.0,SNR=9.2						
VNDA	**Vanda**	**59.77**	**192**	P	**P**	**10 43 54.5**	**+0.9**
	comp=N,1.0nm,0.8s,baz=138,slow=5.9,SNR=4.5						
MAW	**Mawson**	**69.55**	**164**	P	**P**	**10 44 56.2**	**-1.2**
	comp=N,1.7nm,0.7s,baz=198,slow=7.1,SNR=4.1						
JCT	**Junction City**	**72.55**	**336**	*eP*	**P**	**10 45 16.0**	**-0.1**
	comp=N,12nm,1.2s						
TXAR	**Lajitas Array**	**72.80**	**333**	P	**P**	**10 45 17.7**	**0.0**
	comp=N,1.2nm,0.6s,baz=152,slow=9.4,SNR=16						
ABTX	**Abilene, Hawle**	**74.49**	**337**	*eP*	**P**	**10 45 27.2**	**-0.3**
	comp=N,3.1nm,0.6s						
WMOK	**Wichita Mounta**	**76.21**	**339**	*eP*	**P**	**10 45 36.7**	**-0.7**
	comp=N,4.3nm,1.3s						
DBIC	**Dimbokro**	**77.71**	**71**	P	**P**	**10 45 47.6**	**+1.4**
	comp=N,4.1nm,0.6s,baz=198,slow=7.1,SNR=5.9						
ANMO	**Albuquerque**	**78.87**	**333**	P	**P**	**10 45 52.8**	**+0.4**
	comp=N,1.0nm,0.7s,baz=165,slow=8.9,SNR=6.3						
BOSA	**Boshof**	**79.25**	**118**	P	**P**	**10 45 55.1**	**+0.3**
	comp=N,5.1nm,0.8s,baz=180,slow=3.0,SNR=2.9						
SDCO	**Great Sand Dun**	**81.07**	**335**	*eP*	**P**	**10 46 04.0**	**-0.3**
	comp=N,1.3nm,1.0s						
NVAR	**Mina Array Bea**	**86.62**	**326**	P	**P**	**10 46 33.8**	**+1.2**
	comp=N,0.3nm,0.6s,baz=164,slow=4.8,SNR=3.9						
TORD	**Torodi Ar. Bea**	**86.80**	**71**	P	**P**	**10 46 34.0**	**+0.2**
	comp=N,0.6nm,0.5s,baz=219,slow=5.3,SNR=12						
PDAR	**Pinedale Array**	**86.94**	**334**	P	**P**	**10 46 34.0**	**-0.1**
	comp=N,0.8nm,1.0s,baz=108,slow=4.8,SNR=5.5						
ELK	**Elko**	**87.28**	**330**	P	**P**	**10 46 36.4**	**+0.6**
	comp=N,1.5nm,0.9s,baz=113,slow=5.3,SNR=6.1						
WRA	**Warramunga Arr**	**116.52**	**210**	PKP	**PKPdf**	**10 52 32.2**	**-1.3**
	comp=N,0.5nm,0.8s,baz=156,slow=1.9,SNR=3.7						
ABKAR	**Akbulak array**	**145.15**	**56**	*e*PKPbc	**PKPdf**	**10 53 25.9**	**-0.2**
ZALV	**Zalesovo Beam**	**158.38**	**36**	PKP	**PKPdf**	**10 53 45.3**	**-0.4**
	comp=N,0.6nm,0.4s,baz=321,slow=1.8,SNR=2.9						
ZALV				PKPab	**PKPab**	**10 54 21.1**	**+0.9**
	comp=N,1.1nm,0.5s,baz=336,slow=3.2,SNR=3.8						
MKAR	**Makanchi Array**	**160.30**	**56**	PKP	**PKPdf**	**10 53 47.7**	**-0.5**
	comp=N,0.3nm,0.6s,baz=45,slow=3.6,SNR=3.6						
MKAR				PKPab	**PKPab**	**10 54 28.9**	**0.0**
	comp=N,1.0nm,0.7s,baz=282,slow=4.3,SNR=7.3						

*SJA **14** 10:46:34.7±1.1, 34°.96S×72°.44W, h50km, ML3.3*
*ISCJB **14** 10:46:40.7±1.2, 34°.76S±0°.06×71°.93W±0°.09, h22km±12km, Error ellipse: s-maj=13.8km s-min=8.2km az=28.8*
*GUC **14** 10:46:41.3±0.5, 34°.81S×71°.84W, h40km±1km, ML3.8*
ISC 14 10:46:39.2±2.2, 34°.79S±0°.05×72°.03W±0°.09, h10km±13km, n19, σ1°48/29, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.69**	**152**	*eP*	**Pn**	**10 46 54.0**	**-0.9**
TALC				*eS*	**Sb**	**10 47 02.9**	**+0.1**
NICH	**Los Niches**	**0.69**	**108**	*eP*	**Pg**	**10 46 52.7**	**+0.2**
NICH				*eS*	**Sg**	**10 47 01.1**	**-0.5**
NICH	comp=E,13μm,0.4s			AML	AML	10 47 02.4	
LNV	**Longovilo**	**0.98**	**32**	*eP*	**Pb**	**10 46 57.9**	**-0.2**
TACH	**Talagante**	**1.45**	**39**	*eP*	**Pn**	**10 47 05.1**	**-0.3**
TACH				*eS*	**Sn**	**10 47 23.3**	**-1.2**
COCH	**Cobquecura**	**1.48**	**205**	*eP*	**Pb**	**10 47 07.1**	**+0.5**
PCH	**Pirque**	**1.71**	**48**	*eP*	**Pn**	**10 47 08.4**	**-0.7**
PCH				*eS*	**Sn**	**10 47 29.3**	**-1.8**
SAN	**Santiago**	**1.75**	**41**	*eP*	**Pn**	**10 47 09.2**	**-0.3**
SAN				*eS*	**Sn**	**10 47 30.1**	**-1.8**
SAN	comp=E,870nm,2.1s			AML	AML	10 47 33.6	
FSR	**Penalolen**	**1.81**	**44**	*eP*	**Pn**	**10 47 09.9**	**-0.4**
FSR				*eS*	**Sn**	**10 47 31.7**	**-1.6**
CLCH	**Cerro Calan**	**1.86**	**42**	*eP*	**Pn**	**10 47 10.6**	**-0.6**
CLCH				*eS*	**Sn**	**10 47 32.8**	**-1.9**
CLCH	comp=E,1μm,0.2s			AML	AML	10 47 36.8	
PEL	**Peldehue**	**1.99**	**35**	*eP*	**Pn**	**10 47 12.8**	**0.0**
PEL				*eS*	**Sn**	**10 47 36.1**	**-1.7**
PEL	comp=N,2μm,0.6s			AML	AML	10 47 41.1	
AAGR	**Agrelo**	**3.16**	**58**	*eP*	**Pn**	**10 47 30.0**	**+1.0**
ARCO	**CERRO ARCO**	**3.23**	**54**	*eP*	**Pn**	**10 47 31.4**	**+1.4**
ARCO	comp=Z,57nm,0.9s			AML	AML	10 47 49.7	
ARCO				*i* S	**Sn**	**10 48 12.2**	**+3.6**
AUSP	**Uspallata**	**3.38**	**42**	*eP*	**Pn**	**10 47 33.7**	**+1.5**
AUSP				*i* S	**Sn**	**10 48 16.2**	**+3.7**
ASAL	**Salagasta**	**3.45**	**51**	*eP*	**Pn**	**10 47 34.2**	**+1.2**
RTLS	**Leoncito**	**3.76**	**38**	*i* P	**Pn**	**10 47 38.7**	**+1.3**
RTCV	**Cerro Valdivia**	**4.13**	**46**	*i* P	**Pn**	**10 47 41.7**	**-0.6**
CFAA	**Coronel Fontan**	**4.49**	**46**	*eP*	**Pn**	**10 47 47.2**	**-0.1**
ACAN	**Cantantal**	**4.76**	**60**	*eP*	**Pn**	**10 47 50.6**	**-0.3**
AMOG	**MOGNA**	**4.86**	**39**	*eP*	**Pn**	**10 47 52.1**	**-0.3**

*IDC **14** 10:49:08.2±0.7, 5°.71S×152°.19E, h0km, mb4.2/16, mb1 4.4/17, mb1mx4.2/34, mbtmp4.2/17, ML2.7/1, Error ellipse: s-maj=21.2km s-min=15.8km az=104.0*
*ISCJB **14** 10:49:13.1±0.4, 5°.76S±0°.05×152°.16E±0°.07, h45km, mb4.3/21, Error ellipse: s-maj=10.9km s-min=6.3km az=29.5*
*NEIC **14** 10:49:13.7±0.3, 5°.75S×152°.14E, h35km, mb4.4/2, Error ellipse: s-maj=11.7km s-min=7.3km az=117.0*
ISC 14 10:49:14.9±0.6, 5°.71S±0°.07×152°.20E±0°.10, h45km, n41, σ1°06/44, mb4.2/21, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul** baz=1.5,SNR=33	**1.50**	**359**	P	**Pn**	**10 49 39.4**	**0.0**
PMG	**Port Moresby** 12nm,0.3s,baz=45,slow=7.7,SNR=33	**6.20**	**233**	Pn	**Pn**	**10 50 42.5**	**-1.4**
PMG				Sn	**Sn**	**10 51 54.4**	**+0.8**
	5.0nm,0.3s,baz=3.6,slow=16,SNR=4.2						
PMG	**Port Moresby** baz=6.6,SNR=15	**6.20**	**233**	P	**Pn**	**10 50 45.1**	**+1.2**
PMG				P	**Pn**	**10 50 45.1**	**+1.2**
	baz=6.6,SNR=15						
PMG				P	**Pn**	**10 50 45.1**	**+1.2**
	baz=6.6,SNR=15						
PMG	**Port Moresby**	**6.20**	**233**	Pn	**Pn**	**10 50 42.5**	**-1.4**
PMG				Sn	**Sn**	**10 51 54.4**	**+0.8**
PMG				*e*Sn	Sn	10 51 56.4	+2.7
MTSU	**Mount Surprise** baz=15,SNR=3.9	**14.55**	**211**	P	**P**	**10 52 46.0**	**+2.3**
QIS	**Mount Isa** baz=20,SNR=6.8	**19.17**	**218**	P	**Pn**	**10 53 35.5**	**-0.5**
KDU	**Kakadu** baz=21,SNR=6.2	**20.66**	**249**	P	**P**	**10 53 50.0**	**-1.1**
RMQ	**Roma** baz=21,SNR=8.4	**20.92**	**189**	P	**P**	**10 53 53.8**	**0.0**
DZM	**Mont Dzumac** 3.7nm,0.7s,baz=270,slow=20,SNR=4.1	**21.32**	**141**	P	**P**	**10 53 57.4**	**-0.8**
SIJI	**Sorong** 4.7nm,0.5s,baz=111,slow=18,SNR=3.8	**21.44**	**282**	P	**P**	**10 53 59.3**	**-0.2**
PALU	**Palau** baz=22,SNR=3.2	**21.93**	**306**	P	**P**	**10 54 05.4**	**+0.7**
MTN	**Manton Dam** baz=22,SNR=3.9	**21.95**	**250**	P	**P**	**10 54 07.3**	**+2.4**
QLP	**Quilpie** baz=22,SNR=5.5	**22.11**	**199**	P	**P**	**10 54 06.0**	**-0.5**
WRAB	**Tennant Creek** 11nm,0.6s	**22.39**	**229**	*eP*	**P**	**10 54 09.1**	**-0.6**
WRA	**Warramunga Arr** 5.7nm,0.6s,baz=53,slow=9.8,SNR=55	**22.40**	**229**	P	**P**	**10 54 08.5**	**-1.3**
KNRA	**Kununurra** baz=26,SNR=52	**25.04**	**245**	P	**P**	**10 54 34.5**	**-0.6**
CMSA	**Cobar Meteorol** baz=27,SNR=6.8	**26.41**	**193**	P	**P**	**10 54 47.7**	**+0.3**
STKA	**Stephens Creek** 3.9nm,0.8s,baz=354,slow=12,SNR=3.3	**27.86**	**200**	P	**P**	**10 54 58.9**	**-1.6**
FITZ	**Fitzroy Crossi** baz=29,SNR=5.7	**28.71**	**242**	P	**P**	**10 55 07.1**	**-1.0**
LUWI	**Luwuk** baz=30,SNR=3.7	**29.73**	**278**	P	P	10 55 20.6	+3.4
WRKA	**Warakurna** baz=30,SNR=13	**29.91**	**227**	P	**P**	**10 55 17.0**	**-1.7**
MEEK	**Meekatharra** baz=39,SNR=15	**38.18**	**233**	P	**P**	**10 56 29.3**	**-1.1**
MORW	**Morawa** baz=42,SNR=3.1	**41.32**	**231**	P	**P**	**10 56 55.2**	**-1.1**
KSRS	**Korea Array** 0.3nm,0.3s,baz=139,slow=12,SNR=5.1	**48.54**	**334**	P	**P**	**10 57 52.8**	**-0.8**
KSAR	**Wonju Array Be**	**48.55**	**334**	P	**P**	**10 57 52.8**	**-0.8**
CMAR	**Chiang Mai Arr** 1.0nm,0.5s,baz=123,slow=6.0,SNR=8.0	**57.73**	**296**	P	**P**	**10 59 00.7**	**-0.9**
PETK	**Petropavlovsk-** 2.9nm,0.9s,baz=170,slow=8.5,SNR=6.0	**58.78**	**4**	P	**P**	**10 59 08.6**	**+0.3**
SONM	**Songino Array** 1.2nm,0.7s,baz=132,slow=5.3,SNR=6.8	**66.77**	**328**	P	**P**	**11 00 02.5**	**+0.7**
VNDA	**Vanda** 1.6nm,0.9s,baz=344,slow=6.5,SNR=4.9	**71.95**	**178**	P	**P**	**11 00 32.8**	**-0.4**
MKAR	**Makanchi Array** 1.0nm,0.7s,baz=101,slow=6.3,SNR=8.3	**80.61**	**319**	P	**P**	**11 01 22.9**	**0.0**
SML	**Sawmill** 3.5nm,0.9s	**81.19**	**24**	*eP*	**P**	**11 01 26.8**	**+1.2**
ZALV	**Zalesovo Beam** 1.0nm,0.4s,baz=98,slow=5.0,SNR=3.2	**81.57**	**327**	P	**P**	**11 01 26.7**	**-1.1**
MCK	**McKinley** 34nm,1.0s	**81.92**	**23**	*eP*	**P**	**11 01 30.4**	**+0.9**
COLA	**College** 15nm,0.9s	**82.91**	**22**	*eP*	**P**	**11 01 34.6**	**+0.1**
ILAR	**Eielson Array** 7.3nm,0.8s,baz=254,slow=5.2,SNR=86	**83.22**	**22**	P	**P**	**11 01 36.0**	**-0.2**
MAW	**Mawson** 0.7nm,0.5s,baz=120,slow=8.1,SNR=2.7	**84.51**	**203**	P	**P**	**11 01 42.9**	**+0.1**
EGAK	**Eagle** 11nm,1.0s	**85.42**	**23**	*eP*	**P**	**11 01 48.9**	**+1.5**
INK	**Inuvik** 3.3nm,0.9s,baz=76,slow=2.2,SNR=4.3	**89.51**	**21**	P	**P**	**11 02 05.8**	**-1.1**
NVAR	**Mina Array Bea** 1.0nm,0.8s,baz=253,slow=7.7,SNR=8.8	**93.11**	**52**	P	**P**	**11 02 25.5**	**+0.9**
YKA	**Yellowknife Ar** 0.6nm,0.8s,baz=271,slow=4.5,SNR=6.5	**96.50**	**28**	P	**P**	**11 02 40.2**	**+0.9**
TORD	**Torodi Ar. Bea** 2.4nm,0.7s,baz=79,slow=2.9,SNR=12	**150.00**	**286**	PKPbc	**PKPbc**	**11 09 01.4**	**-0.2**

*NEIC **14** 10:52:15.2, 16°.23N×98°.13W, h5km, MD4.3(MEX), After MEX.*
MEX 14 10:52:15.0±0.4, 16°.22N×98°.13W, h5km±3km, MD4.2, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.17**	**1**	*i* P	Pg	10 52 18.2	-0.3
PNIG				*i* S	Sg	10 52 20.7	-0.2
PNIG	**Pinotepa**	**0.17**	**1**	*i* P	Pg	10 52 18.2	-0.3
PNIG				*i* S	Sg	10 52 20.7	-0.2
TLIG	**Tlapa**	**1.40**	**343**	*eP*	Pn	10 52 37.5	-3.9
TLIG				*eS*	Sb	10 52 55.3	-4.9
VHO	**Vista Hermosa**	**1.59**	**57**	*eP*	Pn	10 52 40.4	-3.7
VHO				*eS*	Sn	10 52 59.9	-5.3
VHO	**Vista Hermosa**	**1.59**	**57**	*eP*	Pn	10 52 40.4	-3.7
VHO				*eS*	Sn	10 52 59.9	-5.3
OXX	**Oaxaca**	**1.60**	**57**	*eP*	Pn	10 52 40.4	-3.9
OXX	**Oaxaca**	**1.60**	**57**	*eP*	Pn	10 52 40.4	-3.9
ACX	**Acapulco**	**1.78**	**292**	*eP*	Pn	10 52 42.7	-3.8
ACX				*eS*	Sn	10 53 04.8	-4.8
ACX	**Acapulco**	**1.78**	**292**	*eP*	Pn	10 52 42.7	-3.8
ACX				*eS*	Sn	10 53 04.8	-4.8
HUIG	**Huatulco**	**2.00**	**103**	*i* P	Pn	10 52 46.5	-2.9
HUIG				*i* S	Sn	10 53 09.5	-5.3
HUIG	**Huatulco**	**2.00**	**103**	*eP*	Pn	10 52 49.1	-0.4
HUIG				*eS*	Sn	10 53 05.5	-9.3
CAIG	**El Cayaco**	**2.21**	**292**	*eP*	Pn	10 52 49.7	-2.6
CAIG				*i* S	Sn	10 53 15.1	-5.0
CAIG	**El Cayaco**	**2.21**	**292**	*eP*	Pn	10 52 49.7	-2.6

*BJI **14** 11:01:24.7, 52°.12N×175°.96W, h52km, mb5.6/68, mB5.5/40, Ms5.2/60, Ms7 5.1/57*
*MOS **14** 11:01:26.6±0.9, 52°.01N×176°.06W, h57km, mb5.6/68, MS5.0/31, Error ellipse: s-maj=6.5km s-min=5.3km az=79.7*
*IDC **14** 11:01:27.9±0.5, 51°.98N×176°.08W, h54km±4km, mb4.8/37, mb1 5.0/40, mb1mx4.9/45, mbtmp5.1/40, MS4.8/36, Ms1 4.8/36, ms1mx4.7/44, Error ellipse: s-maj=11.3km s-min=6.7km az=172.0*
*NEIC **14** 11:01:27.2±0.1, 51°.81N×176°.11W, mb5.6/235, ML4.9(AEIC), Error ellipse: s-maj=4.6km s-min=2.0km az=168.0*
NEIC Felt on Adak.
*GCMT **14** 11:01:27.2±0.2, 51°.62N×175°.96W, h58km, MW5.6/116, Moment Tensor Solution. s80,c124; s116,c231; Duration: 1ṣ5 Moment tensor: Scale 10^17^Nm; Mrr2.70±.07; Mθθ-2.53±.05; Mϕϕ-0.17±.06; Mrθ0.69±.05; Mθϕ-1.12±.04; Mϕr1.11±.04; Best double couple: Mo3.13300×10^17^ NP1:ϕs53.00000°, δ57.00000°, λ73.00000°. NP2:ϕs263.00000°, δ37.00000°, λ115.00000°. Principal axes: T 3.0950, Plg72.0000°, Azm280.0000°; N 0.0750, Plg15.0000°, Azm63.0000°; P -3.1710, Plg10.0000°, Azm156.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*ISCJB **14** 11:01:28.5±0.3, 51°.93N±0°.03×176°.02W±0°.02, h77km±2km, mb5.5/351 Error ellipse: s-maj=4.4km s-min=1.6km az=175.0*
ISC 14 11:01:27.6±0.2, 51°.79N±0°.05×176°.06W±0°.02, h55km±1km, h55km:pP-n1341, σ1ṣ15/1630, mb5.6/363, MS5.0/185, 50C-13D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CERAA	**Semis' Rag'd T**	**2.64**	**274**	P	**Pn**	**11 02 09.0**	**+1.3**
CEAP	**Semis' Anvil P**	**2.71**	**276**	P	**Pn**	**11 02 10.2**	**+1.6**
CESW	**Semis' Southwe**	**2.72**	**274**	P	**Pn**	**11 02 09.8**	**+1.1**
AMKA	**Amchitka**	**2.92**	**264**	P	**Pn**	**11 02 12.6**	**+1.1**
AMKA				S	**Sn**	**11 02 47.5**	**+2.2**
LSPA	**Little Sitkin**	**3.33**	**275**	P	**Pn**	**11 02 19.0**	**+1.9**
LSNW	**Little Sitkin**	**3.36**	**275**	P	**Pn**	**11 02 19.1**	**+1.6**
LSSA	**Little Sitkin**	**3.37**	**275**	P	**Pn**	**11 02 20.2**	**+2.6**
NIKH	**Nikolski High**	**4.57**	**72**	P	**Pn**	**11 02 35.2**	**+1.2**
NIKH				S	**Sn**	**11 03 29.8**	**+3.9**
OKSP	**Okmok Steeple**	**4.97**	**70**	P	**Pn**	**11 02 41.7**	**+2.2**
OKCE	**Okmok Cone E**	**5.08**	**68**	P	**Pn**	**11 02 43.2**	**+2.1**
OKTU	**Okmok Mt. Tuli**	**5.14**	**69**	P	**Pn**	**11 02 44.4**	**+2.4**
OKFG	**Magazine Ridge**	**5.22**	**69**	P	**Pn**	**11 02 45.2**	**+2.2**
OKFG				S	**Sn**	**11 03 47.0**	**+5.1**
MCIR	**Makushin Cirqu**	**5.96**	**65**	P	**Pn**	**11 02 55.3**	**+2.2**
MSW	**Makushin Switc**	**6.01**	**66**	P	**Pn**	**11 02 55.6**	**+1.8**
MTBL	**Makushin Table**	**6.08**	**65**	P	**Pn**	**11 02 56.3**	**+1.4**
SMY	**Shemya**	**6.12**	**283**	P	**Pn**	**11 02 56.5**	**+1.3**
SMY				S	**Sn**	**11 04 07.6**	**+3.9**
SMY	**Shemya**	**6.12**	**283**	P	**Pn**	**11 02 56.5**	**+1.3**
SMY				S	**Sn**	**11 04 07.6**	**+3.9**
UNV	**Unalaska Valle**	**6.15**	**67**	P	**Pn**	**11 02 57.6**	**+1.9**
UNV				S	**Sn**	**11 04 09.4**	**+4.9**
SPIA	**Saint Paul Isl**	**6.37**	**30**	P	**Pn**	**11 03 01.1**	**+2.4**
AKRB	**Akutan Reef Bi**	**6.48**	**65**	P	**Pn**	**11 03 01.9**	**+1.8**
ZRO	**Akutan Zero**	**6.52**	**65**	P	**Pn**	**11 03 03.1**	**+2.4**
AKGG	**Akutan Green G**	**6.54**	**64**	P	**Pn**	**11 03 02.5**	**+1.5**
AKUT	**Akutan**	**6.64**	**65**	P	**Pn**	**11 03 04.9**	**+2.4**
WESP	**Westdahl Peak**	**7.34**	**64**	P	**Pn**	**11 03 14.2**	**+2.2**
WESN	**West Dahl Nort**	**7.44**	**64**	P	**Pn**	**11 03 14.6**	**+1.2**
SSBA	**Shishaldin**	**7.75**	**63**	P	**Pn**	**11 03 18.9**	**+1.2**
SSLW	**Shishaldin Wes**	**7.75**	**63**	P	**Pn**	**11 03 19.6**	**+1.9**
ISNN	**Isanotski Nort**	**7.96**	**63**	P	**Pn**	**11 03 22.6**	**+2.1**
FALS	**False Pass**	**8.17**	**63**	P	**Pn**	**11 03 25.2**	**+1.9**
DRIA	**Deer Island**	**8.84**	**64**	P	**Pn**	**11 03 33.5**	**+1.0**
DT1	**Dutton Round H**	**8.87**	**63**	P	**Pn**	**11 03 34.4**	**+1.5**
DTNA	**Dutton South F**	**8.89**	**62**	P	**Pn**	**11 03 34.8**	**+1.5**
PS4A	**Pavlof South-4**	**9.17**	**62**	P	**Pn**	**11 03 38.9**	**+1.9**
SDPT	**Sand Point**	**9.93**	**63**	P	**Pn**	**11 03 47.7**	**+0.3**
CHGN	**Chignik**	**11.30**	**60**	*e*Pn	**Pn**	**11 04 07.3**	**+1.2**
OHAK	**Old Harbor**	**14.27**	**59**	*e*Pn	**Pn**	**11 04 45.0**	**-1.3**
TNA	**Tin City** 220nm,1.2s	**14.42**	**14**	*e*Pn	**Pn**	**11 04 48.1**	**-0.2**
TNA				Sn	Sn	11 07 33.0	+6.5
TNA				*e*PcP	**PcP**	**11 10 01.0**	**+1.0**
SVW2	**Sparrevohn**	**14.60**	**42**	*e*Pn	**P**	**11 04 54.6**	**-1.2**
KDAK	**Kodiak Island**	**14.77**	**57**	*i* P	**Pn**	**11 04 50.7**	**-2.2**
KDAK	**Kodiak Island**	**14.77**	**57**	*e*Pn	**Pn**	**11 04 51.4**	**-1.5**
PET	**Petropavlovsk**	**15.46**	**285**	*de*P	**P**	**11 05 04.9**	**-0.4**
PET				*eS*	**Sn**	**11 07 56.4**	**+4.6**
PET	comp=Z,2μm,14.9s			pmax	pmax		
PET	comp=Z,135nm,1.7s			pmax	pmax		
PET	comp=Z,3μm,20.0s			MLR	MLR		
PET	comp=Z,2μm,18.0s			MLR	MLR		
PET	**Petropavlovsk** comp=Z,212nm,1.3s	**15.46**	**285**	*e*Pn	**Pn**	**11 05 02.2**	**+0.4**
PET				*e*PcP	**PcP**	**11 10 01.8**	**+0.2**
RSO	**Redoubt South** comp=Z,82nm,0.7s	**15.55**	**47**	*e*Pn	**Pn**	**11 05 03.0**	**-0.1**
PETK	**Petropavlovsk-** comp=Z,1.7nm,0.3s,baz=95,slow=13,SNR=26	**16.02**	**285**	P	**P**	**11 05 10.4**	**-1.2**
PETK	baz=104,slow=16,SNR=3.9			S	**Sn**	**11 08 09.3**	**+3.8**
PETK	comp=Z,1.8nm,0.3s,baz=142,slow=1.8,SNR=9.9			PcP	**PcP**	**11 10 03.1**	**+0.5**
PETK	comp=Z,2μm,21.8s,baz=91,slow=36			LR	LR	11 11 00.1	
BRLK	**Bradley Lake** comp=Z,198nm,1.0s	**16.17**	**51**	*e*Pn	**Pn**	**11 05 11.2**	**+0.3**
PPLA	**Purkeypile** comp=Z,468nm,1.2s	**16.90**	**40**	*e*P	**P**	**11 05 21.1**	**-0.3**
**RC01

ILAR PcP **PcP** **11 10 08.5 -0.2**
comp=Z,1.3nm,0.3s,baz=279,slow=3.5,SNR=8.8
ILAR ScP **ScP** **11 13 38.6 -1.3**
comp=Z,0.4nm,0.3s,baz=294,slow=2.9,SNR=9.8
ILAR LR LR 11 14 42.8
comp=Z,3μm,18.8s,baz=240,slow=40
ILAR P3KPbc 11 40 11.7
baz=48,slow=4.2,SNR=12
COLD Coldfoot 20.03 30 *e*Pn Pn 11 05 57.2 -0.5
comp=Z,262nm,0.9s
SEY Seymchan 20.11 316 P **P** **11 05 57.0 +0.7**
comp=Z,4.2nm,0.3s,baz=117,slow=11,SNR=51
SEY PcP **PcP** **11 10 09.5 +0.3**
comp=Z,1.8nm,0.3s,baz=155,slow=2.5,SNR=6.2
SEY ScP **ScP** **11 13 39.6 -0.9**
comp=Z,0.6nm,0.3s,baz=111,slow=4.4,SNR=9.7
SEY LR LR 11 13 58.9
comp=Z,8μm,19.0s,baz=126,slow=38
SEY Seymchan 20.11 316*c i*P Pn 11 05 58.3 -0.3
MENT Mentasta 20.45 44 *e*P **P** **11 05 59.8 -0.4**
EGAK Eagle 22.12 41 *e*P **P** **11 06 17.5 -0.5**
EGAK LR LR
comp=Z,4μm,19.0s
DAWY Dawson 22.64 43 *e*P **P** **11 06 22.7 -0.9**
HYT Haines Junctio 22.90 52 *e*P **P** **11 06 26.9 +0.5**
MIDW Midway 23.57 183 PFAKE 11 06 40.0 +7.0
MIDW LR LR
comp=Z,4μm,22.0s
SKAG Skagway 23.91 55 *e*P **P** **11 06 36.0 +0.1**
comp=Z,58nm,0.8s
SKAG *e*PcP **PcP** **11 10 17.8 +0.9**
BESE Bessie Mountai 24.16 57 *e*P P 11 06 44.2 +5.9
KUR Kuril'sk 24.59 269*c i*P **P** **11 06 43.1 +0.9**
KUR *i* *PP **pP** **11 07 00.5 +4.5**
KUR *i* S **S** **11 11 03.3 +4.1**
KUR *i* *SS sS 11 11 31.5 +9.1
KUR pmax pmax
comp=Z,172nm,1.4s
KUR pmax pmax
comp=N,60nm,1.6s
KUR pmax pmax
comp=E,104nm,1.6s
KUR pmax pmax
comp=Z,119nm,1.6s
CRAG Craig 25.42 65 *e*P **P** **11 06 51.8 +2.2**
WRAK Wrangell Islan 25.70 62 *e*P **P** **11 06 53.5 +1.4**
comp=Z,96nm,0.7s
WRAK *e*PcP **PcP** **11 10 21.7 +0.9**
NKL Nikolayevsk 26.09 290 *e*P **P** **11 06 55.5 -0.2**
NKL *i* 11 10 21.8
NKL pmax pmax
comp=Z,33nm,0.9s
INK Inuvik 26.14 35 P **P** **11 06 55.5 -0.5**
comp=Z,13nm,0.5s,baz=225,slow=7.0,SNR=41
INK PcP **PcP** **11 10 22.1 +0.5**
comp=Z,40nm,0.5s,baz=290,slow=1.2,SNR=20
INK ScP **ScP** **11 13 55.6 -0.7**
comp=Z,13nm,1.0s,baz=284,slow=5.8,SNR=6.3
INK LR LR 11 18 30.4
comp=Z,3μm,18.8s,baz=228,slow=39
INK Inuvik 26.14 35 *e*P **P** **11 06 55.5 -0.5**
INK *e* 11 10 22.2
INK pmax pmax
comp=Z,90nm,1.0s
INK Inuvik 26.14 35 *e*P **P** **11 06 55.5 -0.5**
comp=Z,90nm,1.0s
INK *e*PcP **PcP** **11 10 22.2 +0.5**
INK ScP **ScP** **11 13 55.6 -0.7**
YUK Yuzh-Kuril'sk 26.43 268*c i*P **P** **11 06 59.4 +0.6**
YUK *i* *PP pP 11 07 18.4 +5.8
YUK pmax pmax
comp=Z,682nm,1.5s
YUK pmax pmax
comp=E,394nm,1.5s
YUK pmax pmax
comp=Z,551nm,1.5s
YUK pmax pmax
comp=N,109nm,0.7s
DLBC Dease Lake 26.70 57 P **P** **11 07 00.9 -0.3**
comp=N,8.0nm,0.8s,baz=264,slow=7.3,SNR=15
DLBC PcP **PcP** **11 10 24.0 +0.7**
comp=N,19nm,0.8s,baz=302,slow=3.6,SNR=7.2
DLBC ScP **ScP** **11 13 59.2 +0.9**
comp=N,4.4nm,0.9s,baz=272,slow=2.1,SNR=3.6
DLBC LR LR 11 18 14.7
comp=N,2μm,19.1s,baz=264,slow=38
DLBC Dease Lake 26.70 57 *e*P **P** **11 07 01.2 -0.1**
comp=N,46nm,1.0s
DLBC PcP **PcP** **11 10 24.0 +0.7**
DLBC *e*PcP **PcP** **11 10 24.1 +0.9**
DLBC *e*ScP **ScP** **11 13 58.3 0.0**
DLBC ScP **ScP** **11 13 59.2 +0.9**
YSS Yuzh-Sakhalins 26.98 276*α i*P **P** **11 07 05.0 +1.2**
YSS *e*PP **pP** **11 07 16.1 -1.5**
YSS *SP **sP** **11 07 24.2 +0.1**
YSS *e* 11 08 05.0
YSS *e* 11 10 30.0
YSS *e*S **S** **11 11 37.0 0.0**
YSS *e*SSS SSS 11 13 08.0
YSS pmax pmax
comp=Z,170nm,1.0s
YSS MLR MLR
comp=Z,2μm,19.0s
YSS MLR MLR
comp=N,1μm,18.0s
YSS Yuzh-Sakhalins 26.98 276 *e*P **P** **11 07 05.5 +1.7**
comp=N,474nm,1.4s
YSS *e*PcP **PcP** **11 10 24.4 +0.4**
ASAJ Asahikawa 28.41 271 PcP **PcP** **11 10 28.5 +0.9**
baz=90,slow=1.0
ASAJ ScP **ScP** **11 14 03.6 0.0**
baz=19,slow=7.0
ASAJ LR LR 11 21 58.1
comp=N,438nm,18.1s,slow=43
ASAJ Asahikawa 28.41 271 *e*P **P** **11 07 17.5 +0.9**
comp=N,72nm,0.8s
ASAJ PcP **PcP** **11 10 28.5 +0.9**
ASAJ ScP **ScP** **11 14 03.6 0.0**
BBB Bella Bella 29.11 70 P **P** **11 07 23.6 +1.0**
comp=N,90nm,1.1s,baz=297,slow=9.4,SNR=23
BBB PcP **PcP** **11 10 29.9 +0.7**
comp=N,12nm,0.9s,baz=294,slow=6.1,SNR=3.9
BBB LR LR 11 16 50.5
comp=N,1μm,18.9s,baz=292,slow=32
ERM Erimo 29.18 267 *e*P **P** **11 07 24.5 +1.1**
ERM *e* 11 10 31.1
ERM pmax pmax
comp=Z,42nm,0.6s
ERM MLR MLR
comp=Z,1μm,20.0s
ERM Erimo 29.18 267 *e*P **P** **11 07 24.5 +1.1**
comp=Z,42nm,0.6s
ERM *e*PcP **PcP** **11 10 31.1 +1.6**
ERM LR LR
comp=Z,1μm,20.0s
YAK Yakutsk 30.43 311 P **P** **11 07 33.9 -0.4**
comp=Z,2.7nm,0.3s,baz=298,slow=6.8,SNR=4.3
YAK LR LR 11 19 36.4
comp=Z,3μm,21.4s,baz=108,slow=36
YAK Yakutsk 30.43 311 *e*P **pP** **11 07 46.4 -1.8**
YAK *e*PP sP 11 07 58.8 +4.1
YAK *e* 11 08 53.9
YAK *e* 11 10 31.1
YAK *e*SS SS 11 14 27.8 -14
YAK *e* 11 18 01.4
YAK pmax pmax
comp=Z,48nm,0.8s
YAK pmax pmax
comp=N,13nm,1.4s
YAK pmax pmax
comp=E,40nm,1.4s
YAK pmax pmax
comp=Z,432nm,3.5s
YAK pmax pmax
comp=E,281nm,2.3s
YAK pmax pmax
comp=N,70nm,1.7s
YAK Yakutsk 30.43 311 P **P** **11 07 33.9 -0.4**
comp=N,6.4nm,0.6s
YAK *e*ScP **ScP** **11 14 08.4 -1.4**
HABR Khabarovsk 31.04 284*c i*P **P** **11 07 39.5 -0.3**
HABR *e*PP **pP** **11 07 58.3 +4.6**
HABR *e* 11 08 44.1
HABR *e* 11 10 33.1
HABR *e*S **S** **11 12 39.9 -0.9**
HABR *e*SS **SnSn** **11 14 30.3 +4.5**
HABR *e* 11 18 06.8
HABR pmax pmax
comp=N,14nm,1.5s
HABR pmax pmax
comp=Z,33nm,1.5s
HABR pmax pmax
comp=E,24nm,1.5s
HABR MLR MLR
comp=Z,789nm,17.0s
KLR Kul'dur 32.70 287 *e*P P 11 07 49.8 -4.6
KLR *e*PPP PPP 11 10 35.3
KLR *e* 11 18 10.0
PGC Sidney 33.20 74 *e*P **P** **11 07 58.7 0.0**
comp=Z,46nm,0.6s
KIP Kipapa 33.40 148‖ *e*P **P** **11 08 01.8 +1.1**
KIP pmax pmax
comp=Z,61nm,1.0s
KIP Kipapa 33.40 148 PFAKE 11 08 10.0 +9.3
KIP LR LR
comp=Z,4μm,20.0s
NLWA Neilton Lookou 33.52 76 *e*P **P** **11 08 01.9 +0.4**
comp=Z,118nm,0.9s
NLWA *e*pP **pP** **11 08 16.3 +0.7**
NLWA *e*PcP **PcP** **11 10 42.3 +1.2**
NLWA LR LR
comp=Z,2μm,22.0s
YKA Yellowknife Ar 33.70 47 P **P** **11 08 01.8 -1.1**
comp=Z,11nm,0.4s,baz=283,slow=8.8,SNR=179
YKA PcP **PcP** **11 10 42.1 +0.8**
comp=Z,92nm,0.8s,baz=278,slow=2.9,SNR=65
YKA ScP **ScP** **11 14 20.5 -0.4**
comp=Z,6.5nm,0.9s,baz=289,slow=3.2,SNR=8.0
YKA PKiKP **PKiKP** **11 18 04.3 -1.1**
comp=Z,0.7nm,0.6s,baz=320,slow=2.3,SNR=6.1
YKA ScS **ScS** **11 18 20.1 -2.0**
comp=Z,0.5nm,0.6s,baz=289,slow=1.0,SNR=4.3
YKA P3KPbc 11 39 09.8
comp=Z,0.4nm,0.5s,baz=94,slow=5.4,SNR=12
MBW Mount Baker 34.07 73 P **P** **11 08 07.9 +1.4**
E03A Lebam 34.10 78 *e*P **P** **11 08 08.7 +2.2**
comp=Z,173nm,0.8s
JCW Jim Creek 34.31 74 P **P** **11 08 10.0 +1.5**
B06A Marblemount 34.44 73 *e*P **P** **11 08 11.0 +1.6**
comp=Z,58nm,0.6s
RPW Rockport 34.45 73 P **P** **11 08 10.7 +1.0**
F04D Rainier, OR 34.66 78 P P 11 08 14.9 +3.5
baz=34
H11N2 WAKE ISLAND Hy 34.67 209 T T 11 44 49.8
baz=18,slow=76
H11N3 WAKE ISLAND Hy 34.68 209 T T 11 44 49.0
baz=18,slow=76
H11N1 WAKE ISLAND Hy 34.69 209 T T 11 44 45.0
baz=18,slow=76
D05A Enumclaw 34.74 76 *e*P **P** **11 08 14.4 +2.3**
comp=Z,398nm,1.4s
USRK Ussuriysk Ar. 34.93 278 P **P** **11 08 14.0 +0.3**
comp=Z,40nm,0.9s,baz=60,slow=8.2,SNR=50
USRK PcP **PcP** **11 10 46.0 +0.8**
comp=Z,42nm,0.8s,baz=63,slow=2.7,SNR=16
USRK ScP **ScP** **11 14 25.9 +0.2**
comp=Z,2.1nm,0.6s,baz=22,slow=5.2,SNR=5.0
USRK LR LR 11 21 44.6
comp=Z,2μm,21.2s,baz=47,slow=35
G03D McMinnville, O 34.93 80 P **P** **11 08 15.0 +1.2**
baz=35
TDL Tradedollar La 35.01 77 P **P** **11 08 16.1 +1.6**
LON Longmire 35.06 76 *e*P **P** **11 08 15.5 +0.6**
LON *e*PP **pP** **11 08 29.9 +0.9**
LON *e* 11 10 46.2
LON pmax pmax
comp=Z,66nm,0.7s
LON Longmire 35.06 76 *e*P **P** **11 08 15.5 +0.6**
comp=Z,66nm,0.7s
LON *e*pP **pP** **11 08 29.9 +0.9**
LON *e*PcP **PcP** **11 10 46.2 +0.6**
COR Corvallis 35.23 80 *e*P **P** **11 08 16.5 +0.2**
COR *e*PP **pP** **11 08 31.9 +1.5**
COR pmax pmax
comp=Z,179nm,0.8s
COR Corvallis 35.23 80 *e*P **P** **11 08 16.5 +0.2**
comp=Z,179nm,0.8s
COR *e*pP **pP** **11 08 31.9 +1.5**
WPW White Pass 35.24 76 P **P** **11 08 17.9 +1.3**
KEBM Edson Butte 35.50 84 *e*P **P** **11 08 18.8 0.0**
KEBM *e*pP **pP** **11 08 34.2 +1.3**
MAJO Matsushiro 35.53 263 *e*P **P** **11 08 19.5 +0.4**
MAJO pmax pmax
comp=Z,125nm,1.0s
MAJO MLR MLR
comp=Z,2μm,21.0s
MAJO Matsushiro 35.53 263 *e*P **P** **11 08 19.5 +0.4**
comp=Z,125nm,1.0s
MAJO LR LR
comp=Z,2μm,21.0s
MAT Matsushiro 35.53 263 P **P** **11 08 19.8 +0.7**
MJAR Matsushiro Arr 35.53 263 P **P** **11 08 19.8 +0.8**
comp=Z,36nm,1.0s,baz=53,slow=7.6,SNR=62
MJAR PcP **PcP** **11 10 47.7 +0.6**
comp=Z,17nm,0.9s,baz=190,slow=0.7,SNR=9.1
MJAR LR LR 11 21 04.0
comp=Z,1μm,21.2s,baz=60,slow=33
VLA Vladivostok 35.57 277*c i*P **P** **11 08 20.3 +1.1**
VLA pmax pmax
comp=Z,315nm,1.7s
I03D Drain, OR 35.66 82 P **P** **11 08 21.6 +1.5**
baz=36
WTV Waterville 35.72 74 P **P** **11 08 21.5 +0.8**
POHA Pohakuloa 35.79 146 PFAKE 11 08 30.0 +8.3
POHA LR LR
comp=Z,4μm,22.0s
H11S1 WAKE ISLAND Hy 35.89 209 T T 11 46 15.2
baz=18,slow=76,SNR=6298
H11S2 WAKE ISLAND Hy 35.90 209 T T 11 46 21.3
baz=18,slow=76,SNR=4777
H11S3 WAKE ISLAND Hy 35.90 209 T T 11 46 21.5
baz=18,slow=76,SNR=3191
KBO Bosley Butte 35.93 85 *e*P **P** **11 08 24.2 +1.7**
VFP Flag Point 35.98 78 P **P** **11 08 24.3 +1.4**
G05D Wamic, OR 36.10 78 P **P** **11 08 25.2 +1.3**
baz=36,SNR=16
MDJ Mudanjiang 36.18 281 P **P** **11 08 24.3 -0.2**
MDJ pP **pP** **11 08 37.3 -1.3**
MDJ sP **sP** **11 08 43.5 -1.6**
MDJ PP **PnPn** **11 09 45.6 -1.6**
MDJ S **S** **11 14 01.8 +1.4**
MDJ PMZ
comp=Z,6.0nm,0.5s
MDJ PMZ
comp=Z,490nm,14.4s
MDJ LN
comp=Z,660nm,18.0s
MDJ LE
comp=Z,2μm,21.6s
MDJ LZ
comp=Z,3μm,23.4s
MDJ Mudanjiang 36.18 281 *e*P **P** **11 08 24.3 -0.2**
comp=Z,9.2nm,0.4s
MDJ LR LR
comp=Z,2μm,20.0s
I04A Tendick Farm, 36.19 81 P **P** **11 08 25.7 +1.1**
baz=36,SNR=23
L02D Cave Junction, 36.34 84 P **P** **11 08 27.3 +1.4**
baz=36
HUMO Hull Mountain 36.49 83 *e*P **P** **11 08 28.2 +1.0**
comp=Z,35nm,0.9s
HUMO *e*pP **pP** **11 08 41.9 +0.6**
HUMO *e*PcP **PcP** **11 10 51.3 +1.4**
I05D Terrebonne, OR 36.56 80 P **P** **11 08 28.4 +0.7**
baz=36,SNR=27
HAWA Hanford 36.60 76 *e*P **P** **11 08 28.8 +0.7**
comp=Z,145nm,0.7s
HAWA *e*pP **pP** **11 08 42.0 -0.2**
J04D Umpqua Nationa 36.67 82 P **P** **11 08 30.0 +1.0**
baz=37,SNR=15
EDM Edmonton 37.11 62 *e*P **P** **11 08 32.2 -0.2**
EDM *e* 11 10 52.4
EDM pmax pmax
comp=Z,93nm,0.4s
EDM Edmonton 37.11 62 *e*P **P** **11 08 32.2 -0.2**
comp=Z,93nm,0.4s
EDM *e*PcP **PcP** **11 10 52.4 +0.8**
EDM *e*ScP **ScP** **11 14 33.3 -0.3**
NEW Newport 37.13 71 P **P** **11 08 32.9 +0.3**
comp=Z,165nm,1.1s,baz=298,slow=7.1,SNR=158
NEW ScP **ScP** **11 14 34.2 +0.4**
comp=Z,4.8nm,0.7s,baz=294,slow=7.9,SNR=3.5
NEW Newport 37.13 71 P **P** **11 08 32.9 +0.3**
NEW *e*PP **pP** **11 08 45.8 -1.0**
NEW pmax pmax
comp=Z,6.0nm,0.6s
NEW MLR MLR
comp=Z,1μm,21.0s
NEW Newport 37.13 71 P **P** **11 08 32.9 +0.3**
baz=37,SNR=172
NEW Newport 37.13 71 P **P** **11 08 32.9 +0.3**
comp=Z,6.4nm,0.6s
NEW *e*pP **pP** **11 08 45.8 -1.0**
NEW ScP **ScP** **11 14 34.2 +0.4**
NEW LR LR
comp=Z,1μm,21.0s
YBH Yreka Blue Hor 37.13 84 P **P** **11 08 34.4 +1.7**
comp=Z,17nm,0.9s,baz=309,slow=4.1,SNR=16
YBH LR LR 11 20 33.0
comp=Z,2μm,21.2s,baz=310,slow=31
YBH Yreka Blue Hor 37.13 84 P **P** **11 08 34.4 +1.7**
YBH *e*PP **pP** **11 08 48.3 +1.4**
YBH Yreka Blue Hor 37.13 84 P **P** **11 08 34.4 +1.7**
YBH *e*pP **pP** **11 08 48.3 +1.4**
J05D Fort Rock, OR 37.18 81 P **P** **11 08 34.3 +1.1**
baz=37,SNR=28
K04D Chiloquin, OR 37.23 82 P **P** **11 08 34.6 +1.0**
baz=37,SNR=5.4
M02C Callahan 37.24 85 P **P** **11 08 34.2 +0.5**
baz=37
N02D Trinity Center 37.57 85 P **P** **11 08 38.2 +1.8**
baz=38
M04C Macdoel 37.64 83 P **P** **11 08 37.9 +0.8**
baz=38,SNR=15
KIPM Iron Peak 37.77 87 *e*P **P** **11 08 38.3 +0.1**
comp=Z,102nm,1.2s
KCPM Cahto Peak 37.78 88 *e*P P 11 08 32.8 -5.5
comp=Z,23nm,0.7s
KCPM *e*pP pP 11 08 53.1 +0.7
WDC Whiskeytown Da 37.90 86 *e*P **P** **11 08 40.5 +1.4**
WDC *e*PP **pP** **11 08 54.0 +0.8**
WDC pmax pmax
comp=Z,38nm,0.8s
WDC Whiskeytown Da 37.90 86 *e*P **P** **11 08 40.5 +1.4**
comp=Z,38nm,0.8s
WDC *e*pP **pP** **11 08 54.0 +0.8**
MOD Modoc 38.52 82 *e*P **P** **11 08 45.9 +1.3**
comp=Z,118nm,0.9s
MOD *e*PcP **PcP** **11 10 57.0 +0.8**
BSMT Bassoo Peak 38.71 71 *e*P **P** **11 08 46.6 +0.5**
comp=Z,82nm,0.7s
BMO Blue Mountains 38.74 76 *e*P **P** **11 08 47.0 +0.7**
comp=Z,74nm,1.0s
BMO *e*pP **pP** **11 09 00.1 -0.4**
BMO LR LR
comp=Z,2μm,22.0s
BLMT Blacktail Moun 38.88 70 *e*P **P** **11 08 47.8 +0.3**
comp=Z,132nm,0.6s
JTMT Jette 39.05 71 *e*P **P** **11 08 49.2 +0.3**
comp=Z,96nm,1.1s
JTMT *e*PcP **PcP** **11 10 58.4 +0.6**
BOD Bodaibo 39.09 307 *e*P **P** **11 08 47.3 -1.6**
BOD pmax pmax
comp=Z,25nm,1.0s
CN2 Changchun 39.14 282 *e*P **P** **11 08 48.5 -1.0**
CN2 *e*S **S** **11 14 45.6 +0.4**
CN2 PMZ
comp=Z,10.0nm,0.7s
CN2 PMZ
comp=Z,140nm,6.0s
CN2 LN
comp=Z,1μm,21.0s
CN2 LE
comp=Z,2μm,21.0s
CN2 LZ
comp=Z,680nm,21.0s
YBMT Yellow Bay 39.16 70 *e*P **P** **11 08 50.1 +0.4**
comp=Z,44nm,0.7s
YBMT *e*PcP **PcP** **11 10 58.3 +0.2**
WVOR Wild Horse Val 39.24 80 *e*P **P** **11 08 51.6 +1.0**
WVOR pmax pmax
comp=Z,249nm,0.8s
WVOR Wild Horse Val 39.24 80 *e*P **P** **11 08 51.6 +1.0**
comp=Z,249nm,0.8s
SWMT Swartz Lake 39.34 71 *e*P **P** **11 08 50.9 -0.3**
comp=Z,33nm,0.9s
SWMT *e*ScP **ScP** **11 14 43.3 +1.0**
KSULL Ulleungdo 39.47 270 P **P** **11 08 53.1 +0.8**
SNR=12
HIA Hailar 39.71 293 *e*P **P** **11 08 53.7 -0.5**
HIA pmax pmax
comp=Z,43nm,0.6s
HIA MLR MLR
comp=Z,2μm,21.0s
HIA Hailar 39.71 293 *e*P **P** **11 08 53.7 -0.5**
comp=Z,43nm,0.6s
HIA LR LR
comp=Z,2μm,21.0s
MSO Missoula 39.72 72 P **P** **11 08 54.5 +0.1**
baz=40,SNR=54
SLMT Seeley Lake 39.77 71 *e*P **P** **11 08 55.1 +0.2**
comp=Z,175nm,1.2s
SLMT *e*pP **pP** **11 09 09.7 +0.5**
CBIJ Chichi jima 39.81 248 *e*P **P** **11 08 55.6 +0.4**
comp=Z,109nm,0.8s
JCJ Chichijima 39.81 248 P **P** **11 08 56.3 +1.1**
comp=Z,258nm,0.5s,baz=331,slow=6.8,SNR=61
JCJ LR LR 11 22 50.1
comp=Z,832nm,21.6s,baz=40,slow=32
CHMT Chamberlain Mo 40.08 71 *e*P **P** **11 08 57.4 -0.1**
comp=Z,45nm,0.9s
CHMT *e*PcP **PcP** **11 11 01.6 +0.4**
MFID Camas Ranch 40.41 77 *e*P **P** **11 09 00.6 +0.4**
comp=Z,77nm,1.1s
KSSKC Sokcho 40.44 273 P **P** **11 09 01.9 +1.5**
SNR=52
KSSKC Sokcho 40.44 273 P **P** **11 09 02.2 +1.8**
SNR=34
KSJMJ Jumunjin 40.55 272 P **P** **11 09 02.6 +1.4**
SNR=64
KSJMJ Jumunjin 40.55 272 P **P** **11 09 03.0 +1.8**
SNR=17
SEHB SEOHWA 40.62 273 P **P** **11 09 03.4 +1.5**
SNR=52
SEHB SEOHWA 40.62 273 P **P** **11 09 03.9 +2.0**
SNR=7.1
KSDGY Daegwallycong 40.72 272 P **P** **11 09 04.2 +1.5**
SNR=13
KSDGY Daegwallycong 40.72 272 P **P** **11 09 04.3 +1.6**
SNR=15
CMB Columbia Colle 40.76 87 *e*P **P** **11 09 03.9 +0.8**
CMB *e*PP **pP** **11 09 17.8 +0.5**
CMB *e* 11 11 03.8
CMB pmax pmax
comp=Z,22nm,0.8s
CMB Columbia Colle 40.76 87 *e*P **P** **11 09 03.9 +0.8**
comp=Z,22nm,0.8s
CMB *e*pP **pP** **11 09 17.8 +0.5**
CMB *e*PcP **PcP** **11 11 03.8 +0.5**
KSULJ Uljin 40.88 270 P **P** **11 09 05.4 +1.4**
SNR=17
KSULJ Uljin 40.88 270 P **P** **11 09 06.4 +2.5**
SNR=8.6
KSIJA INJE 40.89 273 P **P** **11 09 05.2 +1.2**
SNR=103
KSIJA INJE 40.89 273 P **P** **11 09 05.2 +1.2**
SNR=103
KSJES JEONGSEON 40.89 272 P **P** **11 09 05.8 +1.7**
SNR=10
KSJES JEONGSEON 40.89 272 P **P** **11 09 05.8 +1.7**
SNR=10
KSTBA Taebaek 40.90 271 P **P** **11 09 05.6 +1.4**
SNR=100
KSTBA Taebaek 40.90 271 P **P** **11 09 06.3 +2.1**
SNR=19
HRY Holter Researc 41.02 71 *e*P **P** **11 09 05.5 +0.3**
comp=Z,72nm,0.7s
WAKR Walker 41.06 86 *e*P **P** **11 09 06.7 +1.0**
comp=Z,41nm,0.7s
WAKR *e*pP **pP** **11 09 20.6 +0.6**
LRM Limekiln Ridge 41.12 72 *e*P **P** **11 09 06.4 +0.2**
comp=Z,341nm,1.0s
KSYOW Yeongwol 41.18 272 P **P** **11 09 08.3 +1.9**
SNR=5.6
KSYOW Yeongwol 41.18 272 P **P** **11 09 08.3 +1.9**
SNR=5.6
HLID Hailey 41.18 76 P **P** **11 09 07.0 +0.4**
baz=41,SNR=58

HLID **Hailey** 41.18 76 *e*P P 11 09 06.3 -0.4
comp=Z,104nm,1.0s
HLID *e*ScP **ScP** 11 14 49.7 0.0
HLID LR LR
comp=Z,2µm,22.0s
KSCWO **Cheorwon** 41.20 273 P P 11 09 08.0 +1.4
SNR=231
KSCWO **Cheorwon** 41.20 273 P P 11 09 08.6 +2.0
SNR=24
KSCHC **Chuncheon** 41.20 273 P P 11 09 08.0 +1.4
SNR=25
KSCHC **Chuncheon** 41.20 273 P P 11 09 08.0 +1.4
SNR=25
KSPHA **Pohang** 41.23 270 P P 11 09 08.3 +1.5
SNR=5.7
BMN **Battle Mountai** 41.27 82 *e*P P 11 09 08.2 +0.8
BMN pmax pmax
comp=Z,94nm,0.8s
BMN **Battle Mountai** 41.27 82 *e*P P 11 09 08.2 +0.8
comp=Z,94nm,0.8s
DLMT **Dillon** 41.28 73 *e*P P 11 09 06.9 -0.5
comp=Z,114nm,1.5s
DLMT *e*pP **pP** 11 09 21.7 0.0
KSWJU **Wonju** 41.28 272 P P 11 09 08.7 +1.4
SNR=13
KSRS **Korea Array** 41.33 272 P P 11 09 08.7 +1.0
comp=Z,146nm,0.9s,baz=57,slow=7.9,SNR=530
KSRS PcP **PcP** 11 11 06.0 +1.0
comp=Z,17nm,0.9s,baz=54,slow=3.7,SNR=6.0
KSRS LR LR 11 25 46.9
comp=Z,511nm,21.3s,baz=52,slow=35
KSRS **Korea Array** 41.33 272 P P 11 09 08.7 +1.0
KSRS 11 11 06.1
KSRS pmax pmax
comp=Z,146nm,0.9s
KSRS MLR MLR
comp=Z,511nm,21.3s
KSAR **Wonju Array Be** 41.37 272 P P 11 09 08.7 +0.8
KSAR 11 11 06.1
KSAR **Wonju Array Be** 41.37 272 P P 11 09 08.7 +0.8
KSAR PcP **PcP** 11 11 06.0 +0.8
SNY **Shenyang** 41.38 281 ⇑P P 11 09 08.6 +0.6
SNY PMZ
comp=Z,110nm,1.4s
MCMT **McKenzie Canyo** 41.42 74 *e*P P 11 09 08.8 +0.1
comp=Z,40nm,0.5s
EGMT **Eagleton** 41.54 68 P P 11 09 08.9 -0.5
baz=41,SNR=46
EGMT **Eagleton** 41.54 68 *e*P P 11 09 09.5 0.0
comp=Z,144nm,1.1s
EGMT *e*pP **pP** 11 09 24.1 +0.3
EGMT LR LR
comp=Z,1µm,20.0s
KSEUS **ULSEONG** 41.55 271 P P 11 09 10.8 +1.3
SNR=7.0
YNCB **YEONCHEON** 41.59 274 P P 11 09 11.2 +1.5
SNR=56
KSDDC **Dongducheon** 41.59 274 P P 11 09 11.3 +1.5
SNR=21
A19A **Klindworth Far** 41.66 66 P P 11 09 10.1 -0.3
baz=42,SNR=60
A19A S S 11 15 20.6 -2.1
baz=42
KSCHJ **Chungju** 41.67 272 P P 11 09 12.2 +1.7
SNR=10
BOZ **Bozeman (W)** 41.70 72 *e*P P 11 09 10.9 +0.1
BOZ *e**PP **pP** 11 09 24.7 -0.4
BOZ pmax pmax
comp=Z,101nm,0.9s
BOZ MLR MLR
comp=Z,1µm,20.0s
BOZ **Bozeman (W)** 41.70 72 P P 11 09 11.2 +0.4
baz=42,SNR=190
BOZ **Bozeman (W)** 41.70 72 *e*P P 11 09 10.9 +0.1
comp=Z,101nm,0.9s
BOZ *e*pP **pP** 11 09 24.7 -0.4
BOZ LR LR
comp=Z,1µm,20.0s
KSICN **Icheon** 41.75 273 P P 11 09 12.6 +1.5
SNR=21
KSMUS **Musan** 41.78 274 P P 11 09 12.9 +1.6
SNR=16
B19A **Brinkman Farms** 41.79 67 P P 11 09 11.3 -0.1
baz=42,SNR=53
NVAR **Mina Array Bea** 41.81 85 P P 11 09 12.8 +0.9
comp=Z,21nm,0.9s,baz=292,slow=7.9,SNR=84
NVAR pP **pP** 11 09 27.1 +0.9
comp=Z,42nm,0.7s,baz=298,slow=6.5,SNR=26
NVAR sP **sP** 11 09 34.2 +1.6
comp=Z,25nm,0.7s,baz=273,slow=3.4,SNR=7.6
NVAR PcP **PcP** 11 11 08.2 +1.2
comp=Z,13nm,0.7s,baz=268,slow=2.7,SNR=4.2
NVAR ScP **ScP** 11 14 51.7 -0.6
comp=Z,8.0nm,1.0s,baz=279,slow=4.2,SNR=8.5
KSSAJ **Sangju** 41.85 271 P P 11 09 13.3 +1.4
SNR=12
ALE **Alert** 41.91 10 P P 11 09 12.4 +0.5
comp=Z,146nm,1.3s,SNR=6.1
KSSEO **Seoul** 41.94 273 P P 11 09 14.1 +1.5
SNR=35
MLAC **Mammoth Lakes** 41.98 87 P P 11 09 13.9 +0.7
baz=42
KSBUS **Busan** 42.00 269 P P 11 09 14.6 +1.4
SNR=7.8
KSBON **Boeun** 42.01 271 P P 11 09 14.3 +1.1
SNR=27
KSSWO **Suwon** 42.04 273 P P 11 09 14.8 +1.4
SNR=33
KSCPR **CHUPUNGNYEONG** 42.08 271 P P 11 09 15.2 +1.4
SNR=26
KSGAH **Ganghwa** 42.09 274 P P 11 09 15.3 +1.5
SNR=8.5
INCN **Inchon** 42.12 273 *e*P P 11 09 15.2 +1.1
INCN LR LR
comp=Z,330nm,0.9s
comp=Z,1µm,20.0s
KSCEA **Cheonan** 42.14 272 P P 11 09 15.6 +1.3
SNR=6.7
A20A **Cobblestone Ra** 42.15 66 P P 11 09 13.9 -0.4
baz=42,SNR=15
QLMT **Earthquake Lak** 42.27 73 *e*P P 11 09 15.8 +0.3
comp=Z,5.0nm,0.6s
ELK **Elko** 42.30 80 P P 11 09 16.3 +0.4
comp=Z,28nm,0.7s,baz=299,slow=8.6,SNR=105
JNU **Nakatsue** 42.31 265 P P 11 09 17.1 +1.3
comp=Z,78nm,0.9s,baz=31,slow=4.8,SNR=15
JNU LR LR 11 25 22.9
comp=Z,1µm,21.9s,baz=54,slow=34
JNU **Nakatsue** 42.31 265 *e*P P 11 09 16.9 +1.1
comp=Z,48nm,0.8s
B20A **Solberg Farm,** 42.32 67 P P 11 09 15.0 -0.7
baz=42,SNR=33
TJN **Taejon** 42.36 272 *c i*P P 11 09 17.2 +1.1
TJN *i* *PP **pP** 11 09 35.4 +5.0
KSTEJ **Daejeon** 42.36 272 P P 11 09 17.4 +1.3
SNR=21
KSKOJ **Gongju** 42.44 272 P P 11 09 18.0 +1.3
SNR=20
FFC **Flin Flon** 42.51 56 *e*P P 11 09 15.5 -1.5
FFC *e* 11 11 09.0
FFC pmax pmax
comp=Z,12nm,0.7s
FFC MLR MLR
comp=Z,2µm,22.0s
FFC **Flin Flon** 42.51 56 *e*P P 11 09 15.5 -1.5
comp=Z,12nm,0.7s
FFC *e*PcP **PcP** 11 11 09.0 +0.3
FFC LR LR
comp=Z,2µm,22.0s
RCTC **Rector, Farmer** 42.56 88 P P 11 09 18.6 +0.9
baz=42
YMR **Madison River** 42.63 73 *e*P P 11 09 19.1 +0.6
comp=Z,157nm,0.9s
YMR *e*ScP **ScP** 11 14 56.0 +0.5
A21A **Bergtoll Ranch** 42.66 65 P P 11 09 17.8 -0.6
baz=42,SNR=6.3
KSSES **Seosan** 42.66 273 P P 11 09 19.8 +1.3
SNR=26
KSTOY **TONGYEONG** 42.68 269 P P 11 09 20.4 +1.7
SNR=5.4
KSJEO **Jeonju** 42.69 271 P P 11 09 19.9 +1.1
SNR=6.1
TPH **Tonopah** 42.70 85 *e*P P 11 09 18.6 -0.5
TPH *e* 11 11 10.8
TPH pmax pmax
comp=Z,34nm,0.6s
TPH **Tonopah** 42.70 85 *e*P P 11 09 18.6 -0.5
comp=Z,34nm,0.6s
TPH *e*PcP **PcP** 11 11 10.8 +0.9
C20A **Veseth Ranch,** 42.71 67 P P 11 09 18.8 -0.1
baz=43,SNR=127
TIN **Tinemaha** 42.71 87 P P 11 09 19.5 +0.4
baz=43
SMMC **Simmler** 42.73 90 P P 11 09 19.7 +0.5
baz=43
KSJIN **Jinju** 42.73 270 P P 11 09 20.4 +1.4
SNR=13
YNR **Norris Junctio** 42.78 73 *e*P P 11 09 20.9 +1.2
comp=Z,95nm,0.8s
GCMT **Greycliff** 42.78 71 *e*P P 11 09 20.1 +0.5
comp=Z,33nm,0.7s
YFT **Old Faithful** 42.83 73 *e*P P 11 09 21.5 +1.4
comp=Z,99nm,0.9s
B21A **Ellsworth Farm** 42.90 66 P P 11 09 19.6 -0.7
baz=43,SNR=59
KSGUS **GUNSAN** 42.94 272 P P 11 09 21.9 +1.1
SNR=7.5
VES **Vestal, Richgr** 42.95 89 P P 11 09 16.3 -4.5
baz=43,SNR=13
KSBAR **Backryungdo** 43.00 275 P P 11 09 22.3 +1.1
SNR=112
H17A **Grant Village** 43.02 73 P P 11 09 22.8 +1.2
baz=43,SNR=79
H17A **Grant Village** 43.02 73 *e*P P 11 09 23.5 +1.8
comp=Z,76nm,0.8s
KSNAH **Namhae** 43.02 269 P P 11 09 23.0 +1.6
SNR=7.8
LKWY **Lake** 43.02 73 *e*P P 11 09 23.4 +1.7
LKWY pmax pmax
comp=Z,86nm,0.8s
LKWY MLR MLR
comp=Z,2µm,20.0s
LKWY **Lake** 43.02 73 *e*P P 11 09 23.4 +1.7
comp=Z,86nm,0.8s
LKWY LR LR
comp=Z,2µm,20.0s
IMW **Indian Meadow** 43.08 74 *e*P P 11 09 23.0 +0.8
comp=Z,59nm,0.9s
IMW *e*pP **pP** 11 09 36.2 -0.4
PKM **Peak Mountain** 43.11 90 P P 11 09 23.3 +0.9
baz=43
FLWY **Flagg Ranch** 43.12 73 *e*P P 11 09 23.4 +1.0
comp=Z,118nm,0.9s
FLWY *e*pP **pP** 11 09 37.0 +0.2
FLWY *e*ScP **ScP** 11 14 57.8 +0.3
C21A **Desert Coulee** 43.17 67 P P 11 09 22.6 0.0
baz=43,SNR=44
HVU **Hansel Valley** 43.19 77 *e*P P 11 09 23.3 +0.3
HVU *e**PP **pP** 11 09 37.1 -0.2
HVU *e* 11 11 12.4
HVU pmax pmax
comp=Z,122nm,0.7s
HVU **Hansel Valley** 43.19 77 *e*P P 11 09 23.2 +0.3
comp=Z,122nm,0.7s
HVU *e*pP **pP** 11 09 37.1 -0.2
HVU *e*PcP **PcP** 11 11 12.4 +0.9
CWC **Cottonwood Cre** 43.19 87 P P 11 09 22.4 -0.6
baz=43,SNR=12
KSJEU **Jeongeup** 43.20 271 P P 11 09 23.6 +0.7
SNR=52
A22A **Carney Farms,** 43.23 65 P P 11 09 22.2 -0.8
baz=43,SNR=46
GRAC **Grapevine Rang** 43.28 86 P P 11 09 24.0 +0.4
baz=43,SNR=21
MOOW **Roose Ponds** 43.28 74 *e*P P 11 09 24.4 +0.7
comp=Z,24nm,1.0s
MOOW *e*pP **pP** 11 09 37.2 -0.9
TPAW **Teton Pass** 43.30 74 *e*P P 11 09 24.9 +0.9
comp=Z,40nm,0.8s
KSKWJ **Gwangju** 43.38 270 P P 11 09 25.2 +0.9
SNR=13
RLMT **Red Lodge** 43.38 71 P P 11 09 24.6 0.0
baz=43,SNR=208
RLMT **Red Lodge** 43.38 71 *e*P P 11 09 24.8 +0.3
comp=Z,268nm,1.1s
RLMT *e*pP **pP** 11 09 38.6 -0.3
RLMT LR LR
comp=Z,1µm,20.0s
KSGWJ **Gwangju-acc** 43.43 271 P P 11 09 25.8 +1.1
SNR=6.5
REDW **Red Top Meadow** 43.44 74 *e*P P 11 09 25.9 +0.9
comp=Z,44nm,0.9s
REDW *e*pP **pP** 11 09 39.1 -0.3
SNOW **Snow King Moun** 43.44 74 *e*P P 11 09 26.4 +1.4
comp=Z,38nm,0.8s
LOHW **Long Hollow** 43.44 74 *e*P P 11 09 25.8 +0.7
comp=Z,22nm,0.8s
ISA **Isabella** 43.45 88 *e*P P 11 09 25.3 +0.3
ISA pmax pmax
comp=Z,39nm,0.9s
ISA **Isabella** 43.45 88 P P 11 09 24.8 -0.2
baz=43,SNR=14
ISA **Isabella** 43.45 88 *e*P P 11 09 25.3 +0.3
comp=Z,39nm,0.9s
R11A **Troy Canyon, C** 43.54 83 P P 11 09 25.9 +0.1
baz=43,SNR=63
R11A **Troy Canyon, C** 43.54 83 *e*P P 11 09 25.8 -0.1
comp=Z,43nm,0.6s
R11A *e*pP **pP** 11 09 39.8 -0.4
BGU **Big Grassy Mou** 43.54 79 *e*P P 11 09 26.0 +0.2
comp=Z,82nm,0.8s
BGU *e*pP **pP** 11 09 39.9 -0.2
B22A **Reddig Ranch S** 43.55 66 P P 11 09 25.4 -0.2
baz=43,SNR=60
KSKOH **Goheung** 43.56 270 P P 11 09 26.8 +1.0
SNR=5.7
ARVC **Arvin** 43.58 89 P P 11 09 26.2 +0.3
baz=44
DAC **Darwin (Calif)** 43.60 87 *e*P P 11 09 26.6 +0.3
DAC *e**PP **pP** 11 09 41.0 +0.3
DAC *e* 11 11 13.8
DAC pmax pmax
comp=Z,30nm,0.8s
DAC **Darwin (Calif)** 43.60 87 *e*P P 11 09 26.6 +0.3
comp=Z,30nm,0.8s
DAC *e*pP **pP** 11 09 41.0 +0.3
DAC *e*PcP **PcP** 11 11 13.8 +0.8
AHID **Auburn Hatcher** 43.63 75 *e*P P 11 09 27.1 +0.6
comp=Z,164nm,1.3s
AHID *e*pP **pP** 11 09 40.5 -0.4
AHID *e*ScP **ScP** 11 14 59.8 +0.3
AHID LR LR
comp=Z,2µm,20.0s
F20A **Billings** 43.66 70 P P 11 09 26.0 -0.6
baz=44,SNR=93
SPUT **Soch Promonto** 43.67 78 *e*P P 11 09 27.0 +0.2
comp=Z,78nm,0.7s
SPUT *e*pP **pP** 11 09 41.0 -0.2
SPUT *e*PcP **PcP** 11 11 13.4 +0.3
H19A **Powell** 43.80 72 P P 11 09 28.3 +0.5
baz=44,SNR=70
MPMC **Manual Prospec** 43.80 87 P P 11 09 28.5 +0.5
baz=44,SNR=16
BSC **Santa Cruz Isl** 43.82 91 P P 11 09 28.3 +0.3
baz=44
A23A **Redstone** 43.83 64 P P 11 09 27.3 -0.6
baz=44,SNR=19
E21A **Keefer Ranch,** 43.88 68 P P 11 09 28.6 +0.3
baz=44,SNR=21
FURC **Furnace Creek,** 43.93 86 P P 11 09 28.9 +0.2
baz=44,SNR=30
G20A **Bridger** 43.95 71 P P 11 09 28.9 0.0
baz=44,SNR=156
OSI **Osito Adit** 43.98 90 P P 11 09 29.6 +0.4
baz=44
OSI **Osito Adit** 43.98 90 *e*P P 11 09 28.3 -0.9
TPNV **Topopah Spring** 44.01 85 P P 11 09 29.6 +0.1
baz=44,SNR=66
B23A **Brockton** 44.02 65 P P 11 09 29.1 -0.3
baz=44,SNR=126
HWUT **Hardware Ranch** 44.03 77 *e*P P 11 09 30.2 +0.5
comp=Z,79nm,0.8s
HWUT *e*pP **pP** 11 09 43.9 -0.3
HWUT *e* 11 11 15.4
HWUT LR LR
comp=Z,1µm,20.0s
LRMC **Laurel Mountai** 44.05 88 P P 11 09 30.0 +0.1
baz=44,SNR=6.4
D22A **Cohagen** 44.06 67 P P 11 09 29.7 0.0
baz=44,SNR=172
BLG **Laguna Peak** 44.10 91 P P 11 09 30.7 +0.6
baz=44
DUG **Dugway** 44.11 79 *e*P P 11 09 31.3 +0.9
DUG *e**PP **pP** 11 09 45.1 +0.4
DUG pmax pmax
comp=Z,221nm,0.8s
DUG MLR MLR
comp=Z,1µm,19.0s
DUG **Dugway** 44.11 79 P P 11 09 31.2 +0.9
baz=44,SNR=71
DUG **Dugway** 44.11 79 *e*P P 11 09 31.2 +0.9
comp=Z,221nm,0.8s
DUG *e*pP **pP** 11 09 45.1 +0.4
DUG LR LR
comp=Z,1µm,19.0s
I19A **Meeteetse** 44.16 72 P P 11 09 31.1 +0.3
baz=44,SNR=40
F21A **Absaloka Mine,** 44.25 69 P P 11 09 31.4 +0.1
baz=44,SNR=25
KSJDO **Jindo** 44.25 270 P P 11 09 32.2 +0.8
SNR=10
EDW2 **Edwards Air Fo** 44.26 89 P P 11 09 32.0 +0.5
baz=44,SNR=8.8
LAO **LASA Array** 44.29 68 PFAKE 11 09 40.0 +8.4
LAO LR LR
comp=Z,1µm,19.0s
DL2 **Dalian** 44.32 279 P P 11 09 32.5 +0.7
DL2 PMZ
comp=Z,220nm,1.1s
A24A **Westby** 44.33 64 P P 11 09 31.7 -0.2
baz=44,SNR=50
TCUT **Toone Canyon** 44.41 77 *e*P P 11 09 33.6 +0.7
comp=Z,129nm,0.6s
TCUT *e*pP **pP** 11 09 46.9 -0.4
FCC **Fort Churchill** 44.43 47 *e*P P 11 09 31.3 -1.2
FCC *e**PP **pP** 11 09 45.3 -1.5
FCC *e* 11 11 14.7
FCC pmax pmax
comp=Z,28nm,0.8s
FCC **Fort Churchill** 44.43 47 *e*P P 11 09 31.2 -1.2
comp=Z,28nm,0.8s
FCC *e*pP **pP** 11 09 45.3 -1.5
FCC *e*PcP **PcP** 11 11 14.7 -0.4
CTU **Camp Tracy** 44.46 78 *e*P P 11 09 33.7 +0.5
comp=Z,90nm,0.7s
CTU *e*pP **pP** 11 09 47.0 -0.5
DECC **Green Verdugo** 44.46 90 P P 11 09 33.2 +0.1
baz=44
DGMT **Dagmar** 44.47 65 P P 11 09 32.8 -0.2
baz=44,SNR=38
DGMT **Dagmar** 44.47 65 *e*P P 11 09 32.6 -0.4
comp=Z,197nm,1.1s
DGMT LR LR
comp=Z,1µm,22.0s
H20A **Greybull** 44.49 71 P P 11 09 33.4 +0.1
baz=44,SNR=41
G21A **Lodge Grass** 44.53 70 P P 11 09 33.6 0.0
baz=44,SNR=41
BW06 **Boulder Array** 44.55 74 *e*P P 11 09 34.2 +0.3
BW06 *e*pP **pP** 11 09 47.0 -1.4
BW06 LR LR
comp=Z,2µm,19.0s
PDAR **Pinedale Array** 44.55 74 P P 11 09 33.9 -0.1
comp=Z,87nm,1.0s,baz=325,slow=4.7,SNR=415
PDAR *e*pP **pP** 11 09 48.3 -0.1
comp=Z,128nm,0.6s,baz=328,slow=4.9,SNR=22
PDAR PcP **PcP** 11 11 16.3 +0.1
comp=Z,8.3nm,0.8s,baz=9.5,slow=2.7,SNR=2.9
PDAR ScP **ScP** 11 15 03.5 +0.2
comp=Z,4.2nm,1.0s,baz=277,slow=2.5,SNR=4.0
PDAR LR LR 11 26 14.8
comp=Z,874nm,20.4s,baz=316,slow=33
J19A **Crowheart** 44.56 73 P P 11 09 34.5 +0.5
baz=44,SNR=25
E22A **Miles City** 44.58 68 P P 11 09 34.4 +0.5
baz=44,SNR=146
PASC **Pasadena Art C** 44.60 90 *e*P P 11 09 34.6 +0.4
comp=Z,15nm,0.9s
PASC *e*pP **pP** 11 09 49.5 +0.9
KSHUK **Heuksando** 44.64 271 P P 11 09 35.1 +0.7
SNR=14
MWC **Mount Wilson** 44.65 90 *e*P P 11 09 35.1 +0.4
MWC *e**PP **pP** 11 09 49.9 +0.7
MWC pmax pmax
comp=Z,44nm,0.8s
MWC **Mount Wilson** 44.65 90 *e*P P 11 09 35.1 +0.4
comp=Z,44nm,0.8s
MWC *e*pP **pP** 11 09 49.9 +0.7
SHOC **Shoshone** 44.66 87 P P 11 09 35.1 +0.5
baz=45,SNR=24
JLU **Jordanelle** 44.70 78 *e*P P 11 09 35.8 +0.7
comp=Z,94nm,0.8s
JLU *e*pP **pP** 11 09 49.4 -0.2
NLU **North Lily Min** 44.71 79 *e*P P 11 09 35.6 +0.4
comp=Z,7.6nm,1.0s
GSC **Goldstone** 44.72 88 *e*P P 11 09 35.9 +0.7
GSC *e**PP **pP** 11 09 49.3 -0.3
GSC pmax pmax
comp=Z,85nm,0.9s
GSC **Goldstone** 44.72 88 P P 11 09 35.9 +0.7
baz=45,SNR=45
GSC **Goldstone** 44.72 88 *e*P P 11 09 35.9 +0.7
comp=Z,85nm,0.9s
GSC *e*pP **pP** 11 09 49.3 -0.3
I20A **Worland** 44.72 72 P P 11 09 35.5 +0.4
baz=45,SNR=65
F22A **Rosebud** 44.77 69 P P 11 09 35.7 +0.3
baz=45,SNR=80
A25A **Svangstu Ranch** 44.82 63 P P 11 09 35.4 -0.3
baz=45,SNR=32
C24A **Savage** 44.85 66 P P 11 09 36.4 +0.3
baz=45,SNR=105
BFSC **Mount Baldy Ra** 44.88 89 P P 11 09 36.9 +0.4
baz=45,SNR=12
E23A **Ismay** 44.92 67 P P 11 09 37.2 +0.6
baz=45,SNR=96
MPU **Maple Canyon** 44.94 79 *e*P P 11 09 37.5 +0.4
comp=Z,509nm,0.7s
MPU *e*pP **pP** 11 09 51.3 -0.2
SHPR **Sheep Range** 44.96 85 *e*P P 11 09 37.7 +0.5
comp=Z,121nm,1.8s
SHPR *e*PcP **PcP** 11 11 18.8 +1.2
H21A **Big Horn, Sher** 44.97 71 P P 11 09 37.3 +0.2
baz=45,SNR=42
CIS **Catalina Islan** 44.98 91 P P 11 09 37.3 +0.1
baz=45
G22A **Birney** 45.07 70 P P 11 09 37.8 0.0
baz=45,SNR=48
J20A **Shoshoni** 45.09 73 P P 11 09 38.6 +0.5
baz=45,SNR=34
D24A **Glendive** 45.14 66 P P 11 09 38.6 +0.3
baz=45,SNR=110
B25A **Knox Farm, Ray** 45.16 64 P P 11 09 38.1 -0.3
baz=45,SNR=12
TUQ **Turquoise Moun** 45.18 87 P P 11 09 39.4 +0.5
baz=45,SNR=7.5
I21A **Big Trails, Te** 45.29 72 P P 11 09 39.6 -0.2
baz=45,SNR=109
F23A **Volborg** 45.30 68 P P 11 09 39.6 0.0
baz=45,SNR=206
HEC **Hector,Ludlow** 45.32 88 P P 11 09 40.3 +0.3
baz=45,SNR=12
BBRC **Big Bear Solar** 45.33 89 P P 11 09 40.7 +0.5
baz=45,SNR=8.7
H22A **Clearmont** 45.39 70 P P 11 09 40.5 +0.1
baz=45,SNR=45
CCUT **Cedar City** 45.41 83 *e*P P 11 09 41.6 +0.8
comp=Z,54nm,1.0s
CCUT *e*pP **pP** 11 09 55.4 +0.1
C25A **Freed Ranch, W** 45.41 65 P P 11 09 40.4 -0.1
baz=45,SNR=22
A26A **Wade Farm, Ken** 45.44 63 P P 11 09 39.8 -0.9
baz=45,SNR=14
E24A **Baker** 45.46 67 P P 11 09 41.3 +0.4
baz=45,SNR=78
J21A **Lysite** 45.47 72 P P 11 09 40.4 -0.8
baz=45,SNR=7.4
MVU **Marysvale** 45.52 81 *e*P P 11 09 42.5 +0.9
comp=Z,93nm,0.9s
MVU *e*pP **pP** 11 09 56.3 +0.2
MSU **Marysvale** 45.53 81 *e*P P 11 09 42.7 +0.9
MSU *e**PP **pP** 11 09 56.6 +0.4
MSU *e* 11 11 21.0
MSU pmax pmax
comp=Z,85nm,0.8s
MSU **Marysvale** 45.53 81 *e*P P 11 09 42.7 +0.9
comp=Z,85nm,0.8s
MSU *e*pP **pP** 11 09 56.6 +0.4
MSU *e*PcP **PcP** 11 11 20.9 +1.3
MURC **Murrieta** 45.59 90 P P 11 09 42.6 +0.5
baz=46

G23A	**Biddle**	**45.60**	**69**	P	**P**	**11 09 41.9**	**-0.2**
	baz=45,SNR=37							
B26A	**Jensen Ranch,**	**45.62**	**64**	P	**P**	**11 09 41.5**	**-0.6**
	baz=45,SNR=8.9							
TMUT	**Trail Mountain**	**45.64**	**79**	*e*P	**P**	**11 09 43.6**	**+0.9**
	comp=Z,301nm,0.8s							
TMUT				*ep*P	**pP**	**11 09 57.2**	**+0.1**
D25A	**Fairfield**	**45.69**	**66**	P	**P**	**11 09 42.6**	**-0.1**
	baz=46,SNR=15							
I22A	**9 Mile Ranch,**	**45.72**	**71**	P	**P**	**11 09 43.4**	**+0.3**
	baz=46,SNR=54							
GMRC	**Granite Mounta**	**45.77**	**87**	P	**P**	**11 09 43.8**	**+0.3**
	baz=46,SNR=29							
F24A	**Ekalaka**	**45.78**	**68**	P	**P**	**11 09 43.3**	**-0.2**
	baz=46,SNR=115							
A27A	**Ledoux Ranch,**	**45.85**	**62**	P	**P**	**11 09 43.2**	**-0.6**
	baz=46,SNR=18							
LDFC	**Landfair**	**45.91**	**87**	*e*P	**P**	**11 09 44.9**	**+0.2**
	comp=Z,94nm,0.8s							
H23A	**Clabaugh Cattl**	**45.97**	**70**	P	**P**	**11 09 43.8**	**-1.2**
	baz=46							
C26A	**Wahner Farm, P**	**46.00**	**64**	P	**P**	**11 09 45.1**	**0.0**
	baz=46,SNR=5.7							
J22A	**Midwest**	**46.00**	**72**	P	**P**	**11 09 45.5**	**+0.2**
	baz=46,SNR=136							
E25A	**Miller Ranch,**	**46.01**	**66**	P	**P**	**11 09 45.3**	**0.0**
	baz=46,SNR=63							
PFO	**Pinyon Flat Ob**	**46.05**	**89**	*e*P	**P**	**11 09 45.9**	**+0.1**
PFO				*e**PP	**pP**	**11 10 00.5**	**+0.2**
PFO				pmax	pmax			
	comp=Z,21nm,0.8s							
PFO				MLR	MLR			
	comp=Z,2µm,19.0s							
PFO	**Pinyon Flat Ob**	**46.05**	**89**	P	**P**	**11 09 45.8**	**+0.1**
	baz=46,SNR=7.8							
PFO	**Pinyon Flat Ob**	**46.05**	**89**	*e*P	**P**	**11 09 45.9**	**+0.1**
	comp=Z,21nm,0.8s							
PFO				*ep*P	**pP**	**11 10 00.5**	**+0.2**
PFO				LR	LR			
	comp=Z,2µm,19.0s							
BELC	**Belle Mtn. Jos**	**46.07**	**88**	P	**P**	**11 09 45.8**	**-0.2**
	baz=46,SNR=9.4							
G24A	**Alzada**	**46.09**	**68**	P	**P**	**11 09 45.6**	**-0.3**
	baz=46,SNR=58							
109C	**Camp Elliot, M**	**46.13**	**90**	P	**P**	**11 09 46.7**	**+0.5**
	baz=46							
B27A	**Peters Farms,**	**46.14**	**63**	P	**P**	**11 09 46.1**	**-0.1**
	baz=46,SNR=13							
SRU	**San Rafael**	**46.17**	**79**	*e*P	**P**	**11 09 47.1**	**+0.3**
SRU				*e**PP	**pP**	**11 10 00.9**	**-0.3**
SRU				pmax	pmax			
	comp=Z,281nm,0.7s							
SRU	**San Rafael**	**46.17**	**79**	*e*P	**P**	**11 09 47.1**	**+0.3**
	comp=Z,281nm,0.7s							
SRU				*ep*P	**pP**	**11 10 00.9**	**-0.3**
D26A	**Manning**	**46.26**	**65**	P	**P**	**11 09 46.9**	**-0.2**
	baz=46,SNR=7.7							
I23A	**Meade Ranch, G**	**46.28**	**70**	P	**P**	**11 09 47.0**	**-0.4**
	baz=46							
F25A	**Bowman**	**46.30**	**67**	P	**P**	**11 09 47.8**	**+0.3**
	baz=46,SNR=51							
H24A	**Dirks Ranch, A**	**46.35**	**69**	P	**P**	**11 09 47.4**	**-0.6**
	baz=46,SNR=87							
C27A	**Sayler Ranch,**	**46.39**	**64**	P	**P**	**11 09 48.1**	**-0.1**
	baz=46,SNR=9.4							
A28A	**Rude Farm, Bot**	**46.41**	**62**	P	**P**	**11 09 47.9**	**-0.4**
	baz=46,SNR=20							
NEE2	**Needles Airpor**	**46.42**	**87**	P	**P**	**11 09 48.9**	**+0.4**
	baz=46,SNR=9.2							
K22A	**Casper**	**46.43**	**73**	P	**P**	**11 09 48.4**	**-0.3**
	baz=46,SNR=41							
K22A	**Casper**	**46.43**	**73**	*e*P	**P**	**11 09 48.3**	**-0.3**
	comp=Z,65nm,0.6s							
K22A				*ep*P	**pP**	**11 10 01.9**	**-1.3**
IRM	**Iron Mountain**	**46.49**	**88**	P	**P**	**11 09 49.6**	**+0.4**
	baz=46,SNR=18							
BAR	**Barrett**	**46.54**	**90**	*e*P	**P**	**11 09 50.2**	**+0.7**
	comp=Z,31nm,0.8s							
BAR				*e*PcP	**PcP**	**11 11 23.9**	**+1.0**
MONP	**Monument Peak**	**46.55**	**90**	P	**P**	**11 09 51.2**	**+1.4**
	baz=46,SNR=7.4							
J23A	**Dilts Ranch, B**	**46.55**	**71**	P	**P**	**11 09 49.7**	**+0.1**
	baz=46,SNR=6.6							
E26A	**Carlson Angus**	**46.56**	**66**	P	**P**	**11 09 49.2**	**-0.3**
	baz=46,SNR=114							
B28A	**Dugan Ranch, T**	**46.61**	**63**	P	**P**	**11 09 49.4**	**-0.5**
	baz=46,SNR=26							
IRK	**Irkutsk**	**46.64**	**304**	*e*P	**P**	**11 09 49.5**	**-0.5**
IRK				*e*		11 11 17.1		
IRK				pmax	pmax			
	comp=Z,40nm,1.1s							
BC3	**Big Chuckawall**	**46.64**	**88**	P	**P**	**11 09 50.2**	**-0.2**
	baz=46,SNR=7.7							
D27A	**Center**	**46.72**	**65**	P	**P**	**11 09 50.8**	**0.0**
	baz=47,SNR=16							
G25A	**Newell**	**46.75**	**68**	P	**P**	**11 09 51.0**	**-0.1**
	baz=47,SNR=44							
F26A	**Lodgepole**	**46.80**	**67**	P	**P**	**11 09 51.4**	**0.0**
	baz=47,SNR=59							
I24A	**Kuemmerle Ranc**	**46.83**	**70**	P	**P**	**11 09 51.3**	**-0.4**
	baz=47,SNR=12							
K23A	**Bowen Ranch, D**	**46.90**	**72**	P	**P**	**11 09 52.0**	**-0.3**
	baz=47,SNR=28							
SWSC	**Sam W. Stewart**	**46.91**	**89**	P	**P**	**11 09 52.6**	**+0.3**
	baz=47							
IBP	**Imperial Bould**	**46.91**	**90**	P	**P**	**11 09 52.4**	**-0.1**
	baz=47							
O20A	**White River Ci**	**46.92**	**76**	P	**P**	**11 09 53.1**	**+0.4**
	baz=47,SNR=83							
O20A	**White River Ci**	**46.92**	**76**	*e*P	**P**	**11 09 52.9**	**+0.3**
	comp=Z,360nm,0.7s							
O20A				*ep*P	**pP**	**11 10 06.4**	**-0.8**
BJI	**Beijing**	**46.95**	**283**	P	**P**	**11 09 53.5**	**+1.0**
BJI				PcP	**PcP**	**11 11 24.3**	**+0.1**
BJI				ScP	**ScP**	**11 15 14.8**	**+1.8**
BJI				S	**S**	**11 16 38.3**	**-1.2**
BJI				ScS	**ScS**	**11 19 40.8**	**-0.8**
BJI				PMZ				
	comp=Z,68nm,0.9s							
BJI				LN				
	comp=Z,1µm,22.1s							
BJI				LE				
	comp=Z,2µm,21.7s							
BJI				LZ				
	comp=Z,3µm,23.8s							
A29A	**Manning Farm,**	**46.97**	**61**	P	**P**	**11 09 51.7**	**-0.9**
	baz=47,SNR=32							
H25A	**Fruitdale**	**46.98**	**69**	P	**P**	**11 09 52.8**	**0.0**
	baz=47,SNR=58							
C28A	**Hausauer Farms**	**47.01**	**63**	P	**P**	**11 09 52.9**	**-0.1**
	baz=47,SNR=14							
RSSD	**Black Hills**	**47.02**	**69**	*e*P	**P**	**11 09 52.8**	**-0.6**
RSSD				*e**PP	**pP**	**11 10 06.5**	**-1.4**
RSSD				pmax	pmax			
	comp=Z,46nm,0.6s							
RSSD	**Black Hills**	**47.02**	**69**	*e*P	**P**	**11 09 52.8**	**-0.6**
	comp=Z,46nm,0.6s							
RSSD				*ep*P	**pP**	**11 10 06.5**	**-1.4**
PDMCI	**Parker Dam,Lak**	**47.03**	**87**	P	**P**	**11 09 53.3**	**0.0**
	baz=47,SNR=22							
E27A	**Carson**	**47.09**	**66**	P	**P**	**11 09 53.3**	**-0.4**
	baz=47,SNR=54							
J24A	**Dixon Ranch, L**	**47.12**	**71**	P	**P**	**11 09 54.1**	**+0.1**
	baz=47,SNR=35							
F27A	**Lemmon**	**47.15**	**66**	P	**P**	**11 09 54.2**	**0.0**
	baz=47,SNR=58							
Y12C	**Blythe**	**47.15**	**87**	P	**P**	**11 09 54.3**	**+0.1**
	baz=47,SNR=15							
B29A	**Wagenman Farm,**	**47.16**	**62**	P	**P**	**11 09 53.4**	**-0.8**
	baz=47,SNR=8.5							
G26A	**Maurine**	**47.16**	**67**	P	**P**	**11 09 54.3**	**+0.1**
	baz=47,SNR=144							
D28A	**Regan**	**47.21**	**64**	P	**P**	**11 09 54.6**	**0.0**
	baz=47,SNR=36							
I25A	**Rochford**	**47.25**	**69**	P	**P**	**11 09 54.5**	**-0.7**
	baz=47,SNR=44							
TLY	**Talaya**	**47.27**	**303**	*e*P	**P**	**11 09 55.6**	**+0.6**
TLY				pmax	pmax			
	comp=Z,14nm,0.9s							
TLY	**Talaya**	**47.27**	**303**	*e*P	**P**	**11 09 54.8**	**-0.2**
	comp=Z,9,8nm,0.7s							
TLY				LR	LR			
	comp=Z,1µm,19.0s							
MDND	**Maddock**	**47.37**	**63**	P	**P**	**11 09 55.4**	**-0.4**
	baz=47							
MDND	**Maddock**	**47.37**	**63**	*e*P	**P**	**11 09 55.8**	**0.0**
	comp=Z,356nm,1.1s							
MDND				*ep*P	**pP**	**11 10 09.3**	**-1.1**
MDND				*e*PcP	**PcP**	**11 11 26.7**	**+1.0**
K24A	**Anderson Ranch**	**47.39**	**71**	P	**P**	**11 09 55.5**	**-0.7**
	baz=47							
GLA	**Glamis**	**47.43**	**88**	*e*P	**P**	**11 09 57.1**	**+0.6**
GLA				*e**PP	**pP**	**11 10 10.3**	**-0.7**
GLA				pmax	pmax			
	comp=Z,42nm,0.8s							
GLA	**Glamis**	**47.43**	**88**	P	**P**	**11 09 56.8**	**+0.3**
	baz=47,SNR=9.8							
GLA	**Glamis**	**47.43**	**88**	*e*P	**P**	**11 09 57.1**	**+0.6**
	comp=Z,42nm,0.8s							
GLA				*ep*P	**pP**	**11 10 10.3**	**-0.7**
H26A	**Fairpoint**	**47.46**	**68**	P	**P**	**11 09 56.1**	**-0.4**
	baz=47,SNR=28							
A30A	**Hoffart Farm,**	**47.46**	**61**	P	**P**	**11 09 55.4**	**-1.0**
	baz=47,SNR=9.1							
G27A	**Dupree**	**47.49**	**67**	P	**P**	**11 09 56.4**	**-0.4**
	baz=47,SNR=26							
E28A	**Huff**	**47.50**	**65**	P	**P**	**11 09 56.7**	**-0.1**
	baz=47,SNR=38							
J25A	**Sunshine Ranch**	**47.59**	**70**	P	**P**	**11 09 57.2**	**-0.4**
	baz=47,SNR=41							
PV04	**Paradox Valley**	**47.61**	**79**	*e*P	**P**	**11 09 58.4**	**+0.4**
PV04				*ep*P	**pP**	**11 10 11.9**	**-0.6**
B30A	**Myrvik Farm, E**	**47.73**	**62**	P	**P**	**11 09 57.9**	**-0.7**
	baz=48,SNR=54							
I26A	**New Underwood**	**47.75**	**69**	P	**P**	**11 09 58.6**	**-0.3**
	baz=48,SNR=29							
D29A	**Pettibone, Tap**	**47.83**	**64**	P	**P**	**11 09 58.7**	**-0.6**
	baz=48							
N23A	**Red Feather La**	**47.84**	**74**	P	**P**	**11 10 00.2**	**+0.4**
	baz=48,SNR=46							
H27A	**Howes**	**47.85**	**68**	P	**P**	**11 09 59.1**	**-0.4**
	baz=48,SNR=28							
F28A	**McLaughlin**	**47.86**	**66**	P	**P**	**11 09 59.3**	**-0.3**
	baz=48,SNR=42							
PHWY	**Pilot Hill**	**47.88**	**73**	*e*P	**P**	**11 09 59.6**	**-0.5**
	comp=Z,20nm,0.6s							
PHWY				*ep*P	**pP**	**11 10 12.9**	**-1.8**
WUAZ	**Wupatki**	**47.94**	**83**	P	**P**	**11 10 01.4**	**+0.8**
	baz=48,SNR=45							
WUAZ	**Wupatki**	**47.94**	**83**	*e*P	**P**	**11 10 01.4**	**+0.8**
	comp=Z,59nm,0.6s							
WUAZ				*ep*P	**pP**	**11 10 15.3**	**+0.2**
PV01	**Paradox Valley**	**47.98**	**79**	*e*P	**P**	**11 10 00.8**	**0.0**
	comp=Z,10µm,0.7s							
PV01				*ep*P	**pP**	**11 10 14.6**	**-0.8**
SONM	**Songino Array**	**47.98**	**298**	P	**P**	**11 10 00.1**	**-0.6**
	comp=Z,9.8nm,0.7s,baz=52,slow=9.2,SNR=35							
SONM				PcP	**PcP**	**11 11 28.3**	**+0.3**
	comp=Z,18nm,0.8s,baz=113,slow=1.6,SNR=9.5							
SONM				ScP	**ScP**	**11 15 16.5**	**-0.9**
	comp=Z,5.8nm,0.9s,baz=57,slow=3.0,SNR=6.4							
SONM				LR	LR	11 33 23.4		
	comp=Z,1µm,18.1s,baz=50,slow=40							
K25A	**Mack Ranch, Ha**	**48.02**	**71**	P	**P**	**11 10 00.9**	**-0.1**
	baz=48,SNR=16							
ULM	**Laz du Bonnet**	**48.02**	**58**	P	**P**	**11 09 59.8**	**-1.0**
	comp=Z,7.5nm,0.5s,baz=302,slow=8.4,SNR=17							
ULM				PcP	**PcP**	**11 11 27.9**	**0.0**
	comp=Z,38nm,0.6s,baz=307,slow=4.4,SNR=10							
ULM				ScP	**ScP**	**11 15 17.6**	**+0.2**
	comp=Z,3.1nm,0.6s,baz=286,slow=5.8,SNR=3.5							
J26A	**Sides Ranch, S**	**48.06**	**70**	P	**P**	**11 10 00.5**	**-0.8**
	baz=48,SNR=30							
C30A	**Mose, Pekin**	**48.08**	**62**	P	**P**	**11 10 00.5**	**-0.8**
	baz=48,SNR=9.5							
E29A	**Napoleon**	**48.09**	**64**	P	**P**	**11 10 01.0**	**-0.4**
	baz=48,SNR=6.7							
ZAK	**Zakamensk**	**48.19**	**302**	*e*P	**P**	**11 10 01.7**	**-0.5**
ZAK				*e*		11 11 27.1		
ZAK				pmax	pmax			
	comp=Z,16nm,1.0s							
I27A	**Quinn**	**48.20**	**68**	P	**P**	**11 10 02.4**	**+0.1**
	baz=48,SNR=73							
L25A	**Engebretsen Ra**	**48.24**	**72**	P	**P**	**11 10 03.0**	**+0.3**
	baz=48,SNR=9.2							
G28A	**Parade**	**48.25**	**67**	P	**P**	**11 10 02.5**	**-0.2**
	baz=48,SNR=32							
D30A	**Buchanan**	**48.27**	**63**	P	**P**	**11 10 02.1**	**-0.6**
	baz=48,SNR=36							
SMCO	**Snowmass**	**48.28**	**77**	*e*P	**P**	**11 10 03.5**	**+0.1**
	comp=Z,79nm,0.7s							
SMCO				*ep*P	**pP**	**11 10 17.3**	**-0.7**
K26A	**Motz Farm, Whi**	**48.37**	**70**	P	**P**	**11 10 03.1**	**-0.5**
	baz=48,SNR=16							
F29A	**Eureka**	**48.42**	**65**	P	**P**	**11 10 03.3**	**-0.6**
	baz=48,SNR=15							
H28A	**Mission Ridge**	**48.43**	**67**	P	**P**	**11 10 03.7**	**-0.3**
	baz=48,SNR=50							
E30A	**Jud**	**48.54**	**64**	P	**P**	**11 10 03.6**	**-1.2**
	baz=48,SNR=17							
MVCO	**Mesa Verde**	**48.61**	**80**	P	**P**	**11 10 06.1**	**+0.3**
	baz=48,SNR=28							
MVCO	**Mesa Verde**	**48.61**	**80**	*e*P	**P**	**11 10 05.8**	**+0.1**
	comp=Z,137nm,0.9s							
MVCO				*ep*P	**pP**	**11 10 19.7**	**-0.7**
MVCO				*e*ScP	**ScP**	**11 15 20.6**	**+0.2**
MVCO				LR	LR			
	comp=Z,2µm,20.0s							
M25A	**Palm-Egli Farm**	**48.63**	**72**	P	**P**	**11 10 06.4**	**+0.7**
	baz=48,SNR=30							
ISCO	**Idaho Springs**	**48.71**	**75**	*e*P	**P**	**11 10 07.3**	**+0.6**
ISCO				*e**PP	**pP**	**11 10 21.2**	**0.0**
ISCO				pmax	pmax			
	comp=Z,48nm,0.8s							
ISCO				MLR	MLR			
	comp=Z,2µm,20.0s							
ISCO	**Idaho Springs**	**48.71**	**75**	P	**P**	**11 10 06.5**	**-0.2**
	baz=49,SNR=31							
ISCO	**Idaho Springs**	**48.71**	**75**	*e*P	**P**	**11 10 07.2**	**+0.6**
	comp=Z,48nm,0.8s							
ISCO				*ep*P	**pP**	**11 10 21.2**	**0.0**
ISCO				LR	LR			
	comp=Z,2µm,20.0s							
J27A	**Elkhorn Farm,**	**48.72**	**69**	P	**P**	**11 10 06.4**	**0.0**
	baz=49,SNR=47							
G29A	**Hoven**	**48.74**	**66**	P	**P**	**11 10 05.7**	**-0.7**
	baz=49,SNR=17							
I28A	**Midland**	**48.75**	**68**	P	**P**	**11 10 06.6**	**+0.1**
	baz=49,SNR=283							
TIA	**Tai'an**	**48.80**	**279**	⇑P	**P**	**11 10 07.8**	**+0.9**
TIA				S	**S**	**11 17 00.6**	**-5.2**
TIA				PMZ				
	comp=Z,260nm,0.8s							
TIA				LN				
	comp=Z,1µm,19.2s							
TIA				LE				
	comp=Z,990nm,22.9s							
TIA				LZ				
	comp=Z,900nm,18.4s							
L26A	**Underwood Farm**	**48.83**	**71**	P	**P**	**11 10 06.6**	**-0.7**
	baz=49,SNR=6.6							
F30A	**Leola**	**48.87**	**65**	P	**P**	**11 10 06.1**	**-1.2**
	baz=49							
K27A	**Fluekinger Fa**	**48.92**	**70**	P	**P**	**11 10 07.5**	**-0.4**
	baz=49,SNR=29							
H29A	**Onida**	**48.92**	**67**	P	**P**	**11 10 07.4**	**-0.4**
	baz=49,SNR=53							
J28A	**Allard Ranch,**	**49.06**	**69**	P	**P**	**11 10 08.9**	**-0.1**
	baz=49,SNR=146							
M26A	**McRoberts Ranc**	**49.15**	**72**	P	**P**	**11 10 10.1**	**+0.5**
	baz=49,SNR=8.5							
AGMN	**Agassiz Nation**	**49.16**	**60**	P	**P**	**11 10 08.4**	**-1.1**
	baz=49,SNR=5.5							
AGMN	**Agassiz Nation**	**49.16**	**60**	*e*P	**P**	**11 10 08.8**	**-0.8**
AGMN				LR	LR			
	comp=Z,1µm,19.0s							
HHC	**Hu-ho-hao-te**	**49.21**	**287**	*e*P	**P**	**11 10 11.8**	**+1.7**
HHC				PP	**PP**	**11 12 06.5**	**+2.5**
HHC				S	**S**	**11 17 09.3**	**-2.4**
HHC				SS	**SS**	**11 20 36.6**	**-6.5**
HHC				PMZ				
	comp=Z,23nm,0.9s							
HHC				PMZ				
	comp=Z,350nm,7.4s							
HHC				LN				
	comp=Z,930nm,21.1s							
HHC				LE				
	comp=Z,700nm,21.0s							
HHC				LZ				
	comp=Z,490nm,21.0s							
W18A	**Petrified Fore**	**49.21**	**83**	P	**P**	**11 10 11.1**	**+0.8**
	baz=49,SNR=14							
W18A	**Petrified Fore**	**49.21**	**83**	*e*P	**P**	**11 10 10.9**	**+0.6**
	comp=Z,82nm,0.8s							
W18A				*ep*P	**pP**	**11 10 24.9**	**0.0**
G30A	**Faulkton**	**49.22**	**66**	P	**P**	**11 10 09.6**	**-0.5**
	baz=49,SNR=23							
I29A	**Vivian Onida**	**49.23**	**67**	P	**P**	**11 10 09.8**	**-0.4**
	baz=49,SNR=34							
L27A	**T5 Ranch, Ells**	**49.25**	**71**	P	**P**	**11 10 09.7**	**-0.8**
	baz=49							
S22A	**4UR Ranch, Cre**	**49.28**	**78**	P	**P**	**11 10 11.8**	**+0.8**
	baz=49,SNR=48							
GUMO	**Guam**	**49.32**	**234**	P	**P**	**11 10 10.0**	**-1.1**
	comp=Z,171nm,0.8s,baz=0.0,slow=8.1,SNR=9.7							
GUMO				LR	LR	11 29 49.3		
	comp=Z,352nm,20.0s,baz=52,slow=34							
GUMO	**Guam**	**49.32**	**234**	P	**P**	**11 10 10.0**	**-1.1**
K28A	**Ten Mile Ranch**	**49.42**	**69**	P	**P**	**11 10 11.8**	**+0.1**
	baz=49							
214A	**Organ Pipe Nat**	**49.43**	**88**	P	**P**	**11 10 12.0**	**+0.2**
	baz=49,SNR=39							
214A	**Organ Pipe Nat**	**49.43**	**88**	*e*P	**P**	**11 10 12.1**	**+0.2**
	comp=Z,36nm,1.0s							
214A				*e*PcP	**PcP**	**11 11 34.4**	**+1.1**
KBS	**Kingsbay**	**49.45**	**358**	*e*P	**P**	**11 10 12.0**	**+0.6**
KBS				IAmb	IAmb	11 10 17.7		
	comp=Z,24nm,0.8s							
KBS	**Kingsbay**	**49.45**	**358**	*e*P	**P**	**11 10 11.8**	**+0.4**
KBS				pmax	pmax			
	comp=Z,38nm,0.8s							
KBS				MLR	MLR			
	comp=Z,2µm,21.0s							
KBS	**Kingsbay**	**49.45**	**358**	*e*P	**P**	**11 10 11.8**	**+0.4**
	comp=Z,38nm,0.8s							
KBS				LR	LR			
	comp=Z,2µm,21.0s							
N26A	**Koester Ranch,**	**49.50**	**72**	P	**P**	**11 10 13.0**	**+0.6**
	baz=49,SNR=9.1							
Q24A	**Divide**	**49.52**	**76**	P	**P**	**11 10 13.1**	**+0.3**
	baz=49,SNR=11							
M27A	**Reverse DX Ran**	**49.55**	**71**	P	**P**	**11 10 13.2**	**+0.5**
	baz=49,SNR=9.7							
J29A	**Okreek**	**49.60**	**68**	P	**P**	**11 10 12.8**	**-0.2**
	baz=49,SNR=159							
SSE	**Sheshan**	**49.70**	**271**	P	**P**	**11 10 12.8**	**-1.1**
SSE				pP	**pP**	**11 10 28.4**	**-0.1**
SSE				S	**S**	**11 17 17.8**	**-0.8**
SSE				sS	**sS**	**11 17 44.1**	**+0.9**
SSE				PMZ				
	comp=Z,230nm,1.2s							
SSE				PMZ				
	comp=Z,520nm,7.4s							
SSE				LN				
	comp=Z,730nm,23.6s							
SSE				LE				
	comp=Z,460nm,23.7s							
SSE				LZ				
	comp=Z,800nm,22.1s							
L28A	**Connealy Angus**	**49.77**	**70**	P	**P**	**11 10 14.2**	**-0.2**
	baz=50,SNR=7.1							
I30A	**Oacoma**	**49.80**	**67**	P	**P**	**11 10 14.1**	**-0.4**
	baz=50,SNR=20							
O26A	**Horse Wrangler**	**49.81**	**73**	P	**P**	**11 10 15.4**	**+0.6**
	baz=50,SNR=5.7							
N27A	**Anderson Farm,**	**49.92**	**72**	P	**P**	**11 10 16.1**	**+0.6**
	baz=50,SNR=12							
K29A	**Lazy Trails An**	**50.00**	**69**	P	**P**	**11 10 16.2**	**+0.2**
	baz=50,SNR=69							
KRAR	**Krasnoyarsk**	**50.06**	**313**	⇑*i*P	**P**	**11 10 16.0**	**-0.2**
KRAR				pmax	pmax			
	comp=Z,29nm,0.5s							
SPA0	**Spitsbergen Ar**	**50.07**	**357**	*e*P	**P**	**11 10 15.7**	**-0.4**
SPA0				IAmb	IAmb	11 10 16.4		
	comp=Z,23nm,0.7s							
SPA0				*ep*P	**pP**	**11 10 31.2**	**+0.5**
SPITS	**Spitsbergen Ar**	**50.07**	**357**	P	**P**	**11 10 15.7**	**-0.4**
	comp=Z,16nm,0.6s,baz=52,slow=6.8,SNR=25							
SDCO	**Great Sand Dun**	**50.09**	**77**	P	**P**	**11 10 17.9**	**+0.8**
	baz=50,SNR=68							
SDCO	**Great Sand Dun**	**50.09**	**77**	*e*P	**P**	**11 10 17.8**	**+0.7**
	comp=Z,143nm,0.9s							
SDCO				*ep*P	**pP**	**11 10 31.4**	**-0.3**
SDCO				LR	LR			
	comp=Z,1µm,22.0s							
J30A	**Dallas**	**50.12**	**68**	P	**P**	**11 10 16.8**	**-0.2**
	baz=50,SNR=51							
OGNE	**Ogallala**	**50.13**	**72**	P	**P**	**11 10 17.7**	**+0.6**
	baz=50,SNR=25							
OGNE	**Ogallala**	**50.13**	**72**	*e*P	**P**	**11 10 17.6**	**+0.5**
	comp=Z,137nm,0.6s							
OGNE				*ep*P	**pP**	**11 10 30.6**	**-1.2**
OGNE				LR	LR			
	comp=Z,846nm,19.0s							
P26A	**Davis Ranch, A**	**50.22**	**74**	P	**P**	**11 10 18.8**	**+0.8**
	baz=50,SNR=54							
M28A	**Bar X Bar Ranc**	**50.23**	**71**	P	**P**	**11 10 18.4**	**+0.5**
	baz=50							
BTO	**Baotou**	**50.27**	**288**	*e*P	**P**	**11 10 19.3**	**+1.1**
L29A	**Maesberg Ranch**	**50.34**	**70**	P	**P**	**11 10 18.6**	**-0.1**
	baz=50,SNR=9.4							
O27A	**Beecher Island**	**50.34**	**73**	P	**P**	**11 10 19.0**	**+0.2**
	baz=50,SNR=16							
TUC	**Tucson**	**50.44**	**86**	*e*P	**P**	**11 10 19.9**	**+0.3**
TUC				*e**PP	**pP**	**11 10 34.2**	**0.0**
TUC				*e*		11 11 38.2		
TUC				pmax	pmax			
	comp=Z,47nm,0.8s							
TUC	**Tucson**	**50.44**	**86**	*e*P	**P**	**11 10 19.9**	**+0.3**
	comp=Z,47nm,0.8s							
TUC				*ep*P	**pP**	**11 10 34.2**	**0.0**
TUC				*e*PcP	**PcP**	**11 11 38.2**	**+1.1**
TUC				*e*ScP	**ScP**	**11 15 27.7**	**-0.4**
K30A	**Basset**	**50.46**	**68**	P	**P**	**11 10 19.7**	**+0.2**
	baz=50,SNR=18							
NJ2	**Nanjing**	**50.50**	**274**	*e*P	**P**	**11 10 21.1**	**+1.2**
NJ2				pP	**pP**	**11 10 34.8**	**+0.3**
NJ2				sP	**sP**	**11 10 39.8**	**-1.1**
NJ2				S	S	11 17 21.5	-8.1
NJ2				PMZ				
	comp=Z,330nm,0.9s							
NJ2				PMZ				
	comp=Z,2µm,4.1s							
NJ2				LN				
	comp=Z,2µm,20.2s							
NJ2				LE				
	comp=Z,3µm,22.1s							
NJ2			

LAZ *ep*P **pP** **11 10 41.0 +0.3**
ANMO **Albuquerque** **51.34** **80** P **P** **11 10 26.9 +0.4**
comp=Z,13nm,1.0s,baz=314,slow=7.7,SNR=32
ANMO pP **pP** **11 10 40.5 -0.6**
comp=Z,38nm,0.9s,baz=314,slow=7.4,SNR=25
ANMO ScP **ScP** **11 15 31.9 -0.2**
comp=Z,4.2nm,1.1s,baz=329,slow=5.9,SNR=3.3
ANMO **Albuquerque** **51.34** **80** *c* *i*P **P** **11 10 26.6 +0.2**
ANMO pmax pmax
comp=Z,94nm,1.2s
ANMO **Albuquerque** **51.34** **80** P **P** **11 10 26.9 +0.4**
ANMO pP **pP** **11 10 40.5 -0.6**
ANMO ScP **ScP** **11 15 31.9 -0.2**
ANMO LR LR
comp=Z,1μm,22.0s
N30A **Hueftle Ranch,** **51.36** **71** P **P** **11 10 26.4 +0.1**
baz=51,SNR=7.7
R27A **Eads** **51.37** **75** P **P** **11 10 27.2 +0.7**
baz=51,SNR=38
O29A **4D Ranch, Culb** **51.37** **72** P **P** **11 10 26.8 +0.4**
baz=51,SNR=13
S26A **Kim** **51.39** **76** P **P** **11 10 27.0 +0.3**
baz=51,SNR=48
Q28A **Sharon Springs** **51.44** **73** P **P** **11 10 27.4 +0.4**
baz=51,SNR=20
ECSD **EROS Data Cent** **51.51** **66** P **P** **11 10 26.0 -1.4**
baz=51,SNR=113
ECSD **EROS Data Cent** **51.51** **66** *e*P **P** **11 10 26.0 -1.4**
comp=Z,113nm,1.1s
ECSD *e*PcP **PcP** **11 11 40.9 +0.1**
ECSD LR LR
comp=Z,1μm,20.0s
LENM **Lemitar** **51.54** **82** *e*P **P** **11 10 28.8 +0.8**
comp=Z,86nm,0.9s
T26A **Comanche Natio** **51.61** **76** P **P** **11 10 28.2 -0.2**
baz=52,SNR=22
P29A **Atwood** **51.63** **72** P **P** **11 10 28.8 +0.4**
baz=52,SNR=40
Y22D **IRIS PASSCAL I** **51.64** **82** P **P** **11 10 29.2 +0.6**
baz=52
LPM **Los Pinos Moun** **51.66** **81** *e*P **P** **11 10 29.7 +0.9**
comp=Z,44nm,0.7s
LPM *ep*P **pP** **11 10 43.4 0.0**
M31A **Lambtecht Ranc** **51.66** **69** P **P** **11 10 28.4 -0.2**
baz=52,SNR=10.0
S27A **Las Animas** **51.70** **75** P **P** **11 10 29.1 0.0**
baz=52
EYMN **Ely** **51.70** **59** P **P** **11 10 27.5 -1.3**
baz=52,SNR=9.7
EYMN **Ely** **51.70** **59** *e*P **P** **11 10 27.3 -1.5**
comp=Z,21nm,0.6s
EYMN LR LR
comp=Z,1μm,19.0s
O30A **MW Ranch, Wils** **51.77** **71** P **P** **11 10 29.6 +0.1**
baz=52,SNR=37
R28A **Tribune** **51.92** **74** P **P** **11 10 30.8 +0.2**
baz=52,SNR=22
N31A **Bailey Ranch,** **52.01** **70** P **P** **11 10 31.0 -0.1**
baz=52,SNR=12
Q29A **Oakley** **52.06** **73** P **P** **11 10 31.7 0.0**
baz=52,SNR=17
P30A **Selden** **52.07** **72** P **P** **11 10 32.2 +0.5**
baz=52,SNR=35
BGNE **Belgrade** **52.10** **69** P **P** **11 10 31.4 -0.4**
baz=52,SNR=15
BGNE **Belgrade** **52.10** **69** *e*P **P** **11 10 31.7 -0.2**
comp=Z,446nm,0.7s
BGNE *ep*P **pP** **11 10 44.9 -1.6**
L33A **Hoskins** **52.12** **67** P **P** **11 10 31.0 -0.9**
baz=52,SNR=7.9
121A **Cookes Peak, D** **52.15** **84** P **P** **11 10 33.3 +0.8**
baz=52,SNR=34
121A **Cookes Peak, D** **52.15** **84** *e*P **P** **11 10 33.0 +0.6**
comp=Z,54nm,0.7s
121A *ep*P **pP** **11 10 46.7 -0.5**
T27A **Campo** **52.21** **76** P **P** **11 10 33.0 +0.2**
baz=52,SNR=12
O31A **Woolen Ranch,** **52.22** **71** P **P** **11 10 32.5 -0.2**
baz=52,SNR=13
R29A **Marienthal** **52.27** **74** P **P** **11 10 33.5 +0.3**
baz=52,SNR=12
S28A **Manter** **52.36** **75** P **P** **11 10 34.6 +0.7**
baz=52,SNR=36
N32A **Stulken Farm,** **52.43** **69** P **P** **11 10 33.9 -0.4**
baz=52,SNR=12
Q30A **Quinter** **52.45** **72** P **P** **11 10 34.7 +0.2**
baz=52,SNR=28
SUMG **Summit** **52.47** **15**⇑ *i*P **P** **11 10 34.5 -0.1**
comp=Z,68nm,1.0s
SUMG *i* 11 10 48.4
SUMG **Summit** **52.47** **15** *e*P **P** **11 10 34.5 -0.1**
SUMG *e**PP **pP** **11 10 48.4 -0.9**
SUMG pmax pmax
comp=Z,83nm,1.1s
SUMG **Summit** **52.47** **15** *e*P **P** **11 10 34.5 -0.1**
comp=Z,83nm,1.1s
SUMG *ep*P **pP** **11 10 48.4 -0.9**
T28A **Walsh** **52.54** **75** P **P** **11 10 35.4 +0.2**
baz=52
M33A **Taylor Creek F** **52.55** **68** P **P** **11 10 34.3 -0.8**
baz=52,SNR=18
U27A **Thompson Grove** **52.57** **77** P **P** **11 10 35.6 +0.1**
baz=52,SNR=31
P31A **Stockton** **52.60** **71** P **P** **11 10 35.7 +0.2**
baz=52,SNR=36
SPMN **St. Paul** **52.70** **62** P **P** **11 10 35.3 -0.8**
baz=52,SNR=12
SPMN **St. Paul** **52.70** **62** *e*P **P** **11 10 35.3 -0.8**
comp=Z,24nm,0.5s
SPMN *ep*P **pP** **11 10 47.9 -2.9**
SPMN *e*PcP **PcP** **11 11 44.9 -0.3**
O32A **Brockman Farm,** **52.77** **70** P **P** **11 10 36.1 -0.6**
baz=53,SNR=12
ILULI **Ilulissat** **52.77** **22** *i* P **P** **11 10 35.7 -0.6**
comp=Z,47nm,0.9s
L34A **Svendsen Farm,** **52.77** **67** P **P** **11 10 35.9 -0.8**
baz=53,SNR=37
S29A **Ulysses** **52.81** **74** P **P** **11 10 37.1 0.0**
baz=53,SNR=11
CBKS **Cedar Bluff** **52.85** **72** *e*P **P** **11 10 37.7 +0.3**
CBKS *e**PP **pP** **11 10 51.0 -1.1**
CBKS pmax pmax
comp=Z,229nm,0.7s
CBKS MLR MLR
comp=Z,1μm,19.0s
CBKS **Cedar Bluff** **52.85** **72** P **P** **11 10 37.7 +0.3**
baz=53,SNR=25
CBKS **Cedar Bluff** **52.85** **72** *e*P **P** **11 10 37.7 +0.3**
comp=Z,229nm,0.7s
CBKS *ep*P **pP** **11 10 51.0 -1.1**
CBKS LR LR
comp=Z,1μm,19.0s
R30A **Dighton** **52.87** **73** P **P** **11 10 38.0 +0.4**
baz=53,SNR=41
Q31A **Ellis** **52.92** **72** P **P** **11 10 38.1 +0.2**
baz=53,SNR=19
N33A **J Bar K, Exete** **52.94** **69** P **P** **11 10 37.5 -0.5**
baz=53,SNR=8.3
M34A **Aspy Farms, Fr** **52.95** **68** P **P** **11 10 37.2 -0.8**
baz=53,SNR=8.5
U28A **Mallet** **52.96** **76** P **P** **11 10 38.1 -0.3**
baz=53,SNR=6.1
P32A **Huiting Farm,** **52.99** **71** P **P** **11 10 37.8 -0.6**
baz=53,SNR=18
V27A **Dan Oppiter Fa** **53.01** **77** P **P** **11 10 38.4 -0.2**
baz=53,SNR=12
T29A **Hugoton** **53.01** **75** P **P** **11 10 38.6 0.0**
baz=53,SNR=7.0
L35A **Bielow Farm, R** **53.15** **67** P **P** **11 10 38.6 -1.0**
baz=53,SNR=11
S30A **Montezuma** **53.18** **74** P **P** **11 10 40.2 +0.3**
baz=53,SNR=20
O33A **Hebron** **53.29** **70** P **P** **11 10 39.8 -0.7**
baz=53,SNR=70
R31A **Burdett** **53.31** **73** P **P** **11 10 40.9 +0.1**
baz=53,SNR=28
V28A **Channing** **53.38** **77** P **P** **11 10 41.3 -0.1**
baz=53,SNR=6.2
N34A **Lincoln** **53.42** **68** P **P** **11 10 40.6 -0.9**
baz=53,SNR=15
Q32A **Meitler Ranch,** **53.42** **71** P **P** **11 10 41.8 +0.2**
baz=53,SNR=35
M35A **Neola** **53.48** **67** P **P** **11 10 41.6 -0.3**
baz=53,SNR=45
U29A **Oasis Ranch, S** **53.49** **75** P **P** **11 10 42.5 +0.4**
baz=53,SNR=11
T30A **Plains** **53.53** **74** P **P** **11 10 42.5 0.0**
baz=53,SNR=7.1
P33A **Williams Farm,** **53.64** **70** P **P** **11 10 42.7 -0.5**
baz=54,SNR=7.1
R32A **Long Quarter,** **53.71** **72** P **P** **11 10 43.6 -0.1**
baz=54,SNR=20
W28A **Vega** **53.72** **77** P **P** **11 10 43.8 -0.1**
baz=54
V29A **Stinnett** **53.72** **76** P **P** **11 10 43.4 -0.5**
baz=54,SNR=9.4
O34A **Beatrice** **53.74** **69** P **P** **11 10 43.2 -0.6**
baz=54,SNR=147
S31A **Mullinville** **53.78** **73** P **P** **11 10 44.0 -0.3**
baz=54,SNR=9.0
U30A **WK&E Inc. Balk** **53.81** **75** P **P** **11 10 44.4 -0.1**
baz=54,SNR=20
Q33A **Connelly Farm,** **53.85** **71** P **P** **11 10 44.6 -0.1**
baz=54,SNR=52
N35A **Tabor** **53.90** **68** P **P** **11 10 45.0 0.0**
baz=54,SNR=63
S32A **Newby Ranch, P** **54.05** **73** P **P** **11 10 45.7 -0.5**
baz=54
P34A **Walnut Farm, R** **54.08** **70** P **P** **11 10 45.6 -0.7**
baz=54,SNR=21
COWI **Conover** **54.12** **59** *e*P **P** **11 10 45.5 -1.1**
comp=Z,27nm,0.6s
COWI *ep*P **pP** **11 10 58.5 -2.9**
COWI *e*PcP **PcP** **11 11 50.7 +0.1**
COWI LR LR
comp=Z,1μm,19.0s
O35A **Humboldt** **54.13** **68** P **P** **11 10 45.6 -1.1**
baz=54,SNR=35
YHNB **Yeheng** **54.15** **265** *e*P **P** **11 10 47.9 +0.8**
comp=Z,12nm,0.6s
YHNB LR LR
comp=Z,810nm,20.0s
W29A **Amraillo** **54.15** **77** P **P** **11 10 47.1 0.0**
baz=54
R33A **Olander Ranch,** **54.21** **72** P **P** **11 10 46.9 -0.4**
baz=54,SNR=27
X28A **Dimmitt** **54.22** **78** P **P** **11 10 47.5 -0.1**
baz=54,SNR=15
MSTX **Muleshoe** **54.24** **79** P **P** **11 10 47.9 +0.1**
baz=54,SNR=52
MSTX **Muleshoe** **54.24** **79** *e*P **P** **11 10 47.9 +0.1**
comp=Z,188nm,0.8s
MSTX *ep*P **pP** **11 11 01.6 -1.0**
AMTX **Amarillo** **54.29** **77** P **P** **11 10 48.0 -0.1**
baz=54
AMTX **Amarillo** **54.29** **77** *e*P **P** **11 10 48.2 +0.1**
comp=Z,154nm,0.9s
AMTX *ep*P **pP** **11 11 01.8 -1.1**
V30A **Spur Ranch, Mi** **54.30** **76** P **P** **11 10 47.6 -0.5**
baz=54
WHN **Wuhan** **54.33** **276**⇑ P **P** **11 10 48.8 +0.6**
WHN pP **pP** **11 11 01.3 -1.7**
WHN sP **sP** **11 11 07.1 -2.2**
WHN PMZ
comp=Z,180nm,0.6s
WHN LN
comp=Z,470nm,11.5s
WHN LE
comp=Z,1μm,16.7s
WHN LZ
comp=Z,2μm,24.1s
U31A **Nine Bar Ranch** **54.39** **75** P **P** **11 10 48.5 -0.3**
baz=54
T32A **Huddler Ranch,** **54.41** **73** P **P** **11 10 48.3 -0.5**
baz=54,SNR=13
Q34A **Chapman** **54.42** **70** P **P** **11 10 48.5 -0.3**
baz=54,SNR=24
KSU1 **Kansas State U** **54.50** **70** P **P** **11 10 48.7 -0.7**
baz=54,SNR=14
KSU1 **Kansas State U** **54.50** **70** *e*P **P** **11 10 48.4 -1.0**
comp=Z,144nm,0.7s
KSU1 *ep*P **pP** **11 11 02.1 -2.1**
KSU1 *e*PcP **PcP** **11 11 51.2 -1.0**
KSU1 LR LR
comp=Z,1μm,20.0s
P35A **Duane Minner,** **54.56** **69** P **P** **11 10 49.1 -0.8**
baz=54,SNR=75
X29A **Tulia** **54.57** **78** P **P** **11 10 50.1 -0.1**
baz=54,SNR=11
SCIA **State Center** **54.60** **65** *e*P **P** **11 10 49.5 -0.6**
comp=Z,75nm,0.5s
SCIA *ep*P **pP** **11 11 03.5 -1.4**
SCIA LR LR
comp=Z,1μm,19.0s
Y28A **McKinney Farm,** **54.61** **78** P **P** **11 10 50.0 -0.4**
baz=54,SNR=40
SFJD **Kangerlussuaq** **54.61** **23**⇑ *i*P **P** **11 10 49.2 -0.6**
comp=Z,69nm,1.1s
SFJD **Kangerlussuaq** **54.61** **23**⇑ *i*P **P** **11 10 49.2 -0.6**
SFJD pmax pmax
comp=Z,69nm,1.1s
SFJD **Kangerlussuaq** **54.61** **23** PFAKE 11 11 00.0 +10
SFJD LR LR
comp=Z,1μm,20.0s
R34A **Isabella, Hill** **54.65** **71** P **P** **11 10 50.0 -0.6**
baz=54,SNR=50
S33A **Kaszmaul Farm,** **54.68** **72** P **P** **11 10 50.3 -0.4**
baz=54,SNR=7.5
CLNB **Carlsbad** **54.73** **81** *e*P **P** **11 10 51.6 +0.3**
comp=Z,4.6nm,0.8s
CLNB *ep*P **pP** **11 11 05.4 -0.8**
W30A **Crocket Farms** **54.76** **76** P **P** **11 10 51.6 +0.2**
baz=55
O36A **Bolckow** **54.77** **68** P **P** **11 10 50.6 -0.8**
baz=55
V31A **Spring Creek L** **54.80** **75** P **P** **11 10 51.6 -0.1**
baz=55,SNR=11
T33A **Patterson Ranc** **54.88** **73** P **P** **11 10 51.7 -0.5**
baz=55
U32A **Winter Ranch,** **54.90** **74** P **P** **11 10 52.0 -0.4**
baz=55,SNR=21
Z28A **Tucker Farm, M** **54.95** **79** P **P** **11 10 52.6 -0.3**
baz=55,SNR=30
P36A **Good Intent, A** **54.97** **69** P **P** **11 10 51.8 -1.0**
baz=55,SNR=79
ZALV **Zalesovo Beam** **54.97** **315** P **P** **11 10 52.9 +0.3**
comp=Z,3.5nm,0.3s,baz=49,slow=6.0,SNR=11
ZALV PcP **PcP** **11 11 53.7 0.0**
comp=Z,14nm,0.8s,baz=50,slow=4.1,SNR=8.5
ZALV ScP **ScP** **11 15 46.3 -1.0**
comp=Z,0.9nm,0.3s,baz=48,slow=2.1,SNR=4.2
ZALV PKiKP **PKiKP** **11 18 25.3 -0.6**
comp=Z,0.8nm,0.3s,baz=169,slow=0.7,SNR=3.8
Q35A **Mercer Eighty,** **54.99** **70** P **P** **11 10 51.9 -1.1**
baz=55,SNR=33
Y29A **Porterfield Fa** **54.99** **78** P **P** **11 10 53.2 +0.1**
baz=55,SNR=56
SSLB **Suanglung** **55.06** **265** *e*P **P** **11 10 53.8 +0.2**
comp=Z,226nm,1.3s
NVS **Novosibirsk** **55.07** **316**⇑ *i*P **P** **11 10 51.7 -1.6**
NVS *e* 11 11 08.4
NVS *e* 11 11 54.7
NVS pmax pmax
comp=N,6.0nm,1.0s
NVS pmax pmax
comp=E,11nm,1.0s
NVS pmax pmax
comp=Z,15nm,1.0s
X30A **Coker Ranch, T** **55.08** **77** P **P** **11 10 53.5 -0.2**
baz=55
S34A **Willow Spring** **55.13** **72** P **P** **11 10 53.3 -0.7**
baz=55,SNR=15
W31A **Holland Ranch,** **55.13** **76** P **P** **11 10 54.3 +0.2**
baz=55,SNR=16
YULB **Yu-li** **55.13** **264** *e*P **P** **11 10 53.9 -0.3**
comp=Z,28nm,0.6s
XAN **Xi'an** **55.25** **282** P **P** **11 10 54.9 0.0**
XAN pP **pP** **11 11 10.5 +0.7**
XAN sP **sP** **11 11 17.8 +1.7**
XAN PP **PP** **11 12 59.9 +1.3**
XAN S **S** **11 18 30.1 -4.3**
XAN sS **sS** **11 18 56.9 -2.5**
XAN SS **SS** **11 22 13.4 -5.4**
XAN PMZ
comp=Z,49nm,0.7s
XAN PMZ
comp=Z,710nm,14.0s
XAN LN
comp=Z,580nm,24.4s
XAN LE
comp=Z,1μm,22.4s
XAN LZ
comp=Z,2μm,20.4s
R35A **Emporia Munici** **55.25** **70** P **P** **11 10 54.2 -0.7**
baz=55,SNR=26
Q36A **Arnold C. Orve** **55.26** **69** P **P** **11 10 54.0 -0.9**
baz=55,SNR=46
V32A **Arapaho** **55.31** **75** P **P** **11 10 55.4 0.0**
baz=55
128A **Castleberry Fa** **55.34** **80** P **P** **11 10 55.7 0.0**
baz=55,SNR=45
Z29A **Hungry Hill Ra** **55.38** **79** P **P** **11 10 55.8 -0.1**
baz=55,SNR=49
U33A **Lingo Farm, Me** **55.39** **73** P **P** **11 10 55.5 -0.4**
baz=55,SNR=10
Y30A **Stafford Cattl** **55.45** **78** P **P** **11 10 56.4 0.0**
baz=55,SNR=8.0
X31A **McDonald Ranch** **55.49** **76** P **P** **11 10 56.6 0.0**
baz=55,SNR=29
T34A **McClaskey Farm** **55.54** **72** P **P** **11 10 56.4 -0.5**
baz=55,SNR=37
JFWS **Jewell Farm** **55.59** **63** *e*P **P** **11 10 55.7 -1.6**
JFWS pmax pmax
comp=Z,65nm,0.7s
JFWS MLR MLR
comp=Z,985nm,19.0s
JFWS **Jewell Farm** **55.59** **63** *e*P **P** **11 10 55.6 -1.6**
comp=Z,65nm,0.7s
JFWS LR LR
comp=Z,985nm,19.0s
W32A **Sentinel** **55.60** **75** P **P** **11 10 57.8 +0.4**
baz=56,SNR=22
S35A **Otter Creek Ra** **55.61** **71** P **P** **11 10 56.9 -0.6**
baz=55,SNR=40
TPUB **Ta-pu** **55.62** **264** *e*P **P** **11 10 57.9 +0.2**
comp=Z,110nm,1.2s
TPUB *e*PcP **PcP** **11 11 57.2 +0.5**
228A **UT Block 9, Go** **55.62** **80** P **P** **11 10 57.5 -0.2**
baz=56
R36A **Gordon, Harris** **55.66** **70** P **P** **11 10 57.2 -0.6**
baz=56,SNR=89
QZH **Quanzhou** **55.67** **267**⇑ *i*P **P** **11 10 58.5 +0.5**
QZH sP **sP** **11 11 18.0 -1.2**
QZH S **S** **11 18 43.1 +3.0**
QZH sS **sS** **11 19 02.5 -2.6**
QZH PMZ
comp=Z,290nm,1.1s
QZH PMZ
comp=Z,1μm,3.7s
QZH LN
comp=Z,590nm,13.6s
QZH LE
comp=Z,580nm,11.5s
QZH LZ
comp=Z,2μm,18.4s
V33A **Lossen Ranch,** **55.70** **74** P **P** **11 10 57.9 -0.2**
baz=56,SNR=8.8
Z30A **Sanderson Ranc** **55.71** **78** P **P** **11 10 58.1 -0.2**
baz=56,SNR=7.1
129A **Stewart Farms,** **55.71** **79** P **P** **11 10 57.9 -0.5**
baz=56,SNR=20
U34A **Anderson Ranch** **55.73** **73** P **P** **11 10 57.8 -0.5**
baz=56,SNR=28
U34A **Anderson Ranch** **55.73** **73** *e*P **P** **11 10 57.9 -0.4**
comp=Z,245nm,0.7s
U34A *ep*P **pP** **11 11 11.2 -2.0**
Y31A **Rekieta Farm,** **55.77** **77** P **P** **11 10 58.5 -0.3**
baz=56,SNR=8.7
Q37A **Longview Farm,** **55.90** **69** P **P** **11 10 58.1 -1.4**
baz=56,SNR=15
S36A **Lake Cedric, C** **56.01** **71** P **P** **11 10 59.4 -0.9**
baz=56,SNR=33
T35A **Sooner Cattle** **56.01** **72** P **P** **11 10 59.4 -0.9**
baz=56,SNR=11
W33A **Caddo, Fort Co** **56.04** **75** P **P** **11 11 01.0 +0.4**
baz=56,SNR=14
X32A **Elmer** **56.05** **76** P **P** **11 11 00.8 +0.1**
baz=56,SNR=13
R37A **Teagarden Farm** **56.06** **70** P **P** **11 10 59.2 -1.5**
baz=56,SNR=30
WMOK **Wichita Mounta** **56.14** **75** *e*P **P** **11 11 01.4 +0.1**
WMOK *e**PP **pP** **11 11 15.3 -0.9**
WMOK pmax pmax
comp=Z,65nm,0.8s
WMOK **Wichita Mounta** **56.14** **75** *e*P **P** **11 11 01.4 +0.1**
comp=Z,65nm,0.8s
WMOK *ep*P **pP** **11 11 15.2 -0.9**
V34A **Guthrie** **56.15** **74** P **P** **11 11 00.7 -0.6**
baz=56,SNR=12
V34A **Guthrie** **56.15** **74** *e*P **P** **11 11 01.0 -0.3**
comp=Z,140nm,0.9s
V34A *ep*P **pP** **11 11 14.6 -1.6**
229A **Bryant Ranch,** **56.20** **80** P **P** **11 11 01.4 -0.4**
baz=56,SNR=17
Y32A **R-V Farms, Ver** **56.24** **76** P **P** **11 11 02.0 0.0**
baz=56,SNR=26
U35A **Pawnee** **56.25** **73** P **P** **11 11 01.5 -0.5**
baz=56,SNR=7.9
130A **Snyder** **56.29** **79** P **P** **11 11 02.2 -0.2**
baz=56
T36A **Boggs Farm, Ca** **56.29** **71** P **P** **11 11 01.5 -0.8**
baz=56,SNR=27
Z31A **Sharp Cattle R** **56.29** **78** P **P** **11 11 01.9 -0.5**
baz=56,SNR=20
W34A **Bridge Creek,** **56.40** **74** P **P** **11 11 03.2 0.0**
baz=56,SNR=6.3
W34A **Bridge Creek,** **56.40** **74** *e*P **P** **11 11 03.6 +0.4**
comp=Z,71nm,0.8s
W34A *ep*P **pP** **11 11 16.5 -1.5**
S37A **Fort Scott** **56.43** **70** P **P** **11 11 02.3 -0.9**
baz=56,SNR=91
329A **Wagon Wheel Ra** **56.44** **80** P **P** **11 11 03.2 -0.3**
baz=56,SNR=28
X33A **Lawton** **56.44** **75** P **P** **11 11 03.5 +0.1**
baz=56,SNR=6.7
131A **Roby** **56.58** **78** P **P** **11 11 04.3 -0.2**
baz=56,SNR=12
V35A **Meyer Ranch, C** **56.60** **73** P **P** **11 11 04.3 -0.2**
baz=56,SNR=13
230A **Sterling City** **56.69** **79** P **P** **11 11 05.2 -0.1**
baz=57,SNR=38
Z32A **Haskell** **56.70** **77** P **P** **11 11 05.3 0.0**
baz=57,SNR=68
Y33A **Hilltop Ranch,** **56.73** **76** P **P** **11 11 05.5 0.0**
baz=57,SNR=18
X34A **Smith Ranch, M** **56.80** **75** P **P** **11 11 06.4 +0.4**
baz=57,SNR=16
T37A **Chenevyille 18** **56.81** **71** P **P** **11 11 05.1 -0.9**
baz=57,SNR=88
U36A **Oologah** **56.83** **72** P **P** **11 11 05.6 -0.5**
baz=57,SNR=12
LZH **Lanzhou** **56.90** **288** P **P** **11 11 07.0 +0.2**
LZH pP **pP** **11 11 22.5 +0.8**
LZH sP **sP** **11 11 29.0 +1.0**
LZH PMZ
comp=Z,110nm,1.4s
LZH PMZ
comp=Z,450nm,6.1s
LZH LN
comp=Z,890nm,16.3s
LZH LE
comp=Z,830nm,14.5s
LZH LZ
comp=Z,2μm,20.7s
TXAR **Lajitas Array** **56.91** **83** P **P** **11 11 06.3 -0.5**
comp=Z,46nm,0.9s,baz=296,slow=4.1,SNR=282
TXAR pP **pP** **11 11 21.4 -0.4**
comp=Z,56nm,0.7s,baz=303,slow=4.6,SNR=23
TXAR ScP **ScP** **11 15 56.2 -0.2**
comp=Z,5.6nm,1.2s,baz=320,slow=3.5,SNR=5.5
TXAR LR LR 11 32 50.6
comp=Z,1μm,20.6s,baz=0.0,slow=33
330A **Mertzon** **56.98** **80** P **P** **11 11 06.7 -0.7**
baz=57,SNR=33
GTA **Gaotai** **56.99** **293** *e*P **P** **11 11 06.3 -1.1**
GTA pP **pP** **11 11 22.3 0.0**
GTA sP **sP** **11 11 28.8 +0.2**
GTA PcP **PcP** **11 12 01.6 -0.4**
GTA ScP **ScP** **11 15 57.8 +1.2**
GTA PcS **PcS** **11 16 01.5 -1.5**
GTA S **S** **11 18 54.0 -3.5**
GTA sS **sS** **11 19 20.6 -2.0**
GTA ScS **ScS** **11 20 48.4 -3.3**
GTA SS **SS** **11 22 42.9 -3.2**
GTA PMZ
comp=Z,450nm,8.6s
GTA LN
comp=Z,960nm,19.9s
GTA LE
comp=Z,1μm,21.4s
GTA LZ

comp=Z,2µm,21.8s
W35A Tecumseh 57.00 74 P P 11 11 07.4 0.0
baz=57,SNR=25
HAMF Hammerfest 57.05 352 *e*P P 11 11 07.6 +0.5
ABTX Abilene, Hawle 57.07 78 P P 11 11 08.1 +0.1
baz=57,SNR=24
ABTX Abilene, Hawle 57.07 78 *e*P P 11 11 08.0 +0.1
comp=Z,233nm,0.9s
ABTX *e*pP **pP** 11 11 22.0 -0.9
V36A Jenks 57.12 73 P P 11 11 07.9 -0.2
baz=57,SNR=32
TUL1 Tulsa 57.12 72 P P 11 11 07.6 -0.6
baz=57,SNR=23
TUL1 Tulsa 57.12 72 *e*P P 11 11 07.7 -0.5
comp=Z,97nm,0.7s
TUL1 *e*pP **pP** 11 11 21.4 -1.8
231A Bronte 57.14 79 P P 11 11 08.0 -0.4
baz=57,SNR=16
Z33A Whitaker Ranch 57.15 77 P P 11 11 08.3 -0.1
baz=57,SNR=24
U37A Salina 57.18 71 P P 11 11 08.0 -0.7
baz=57,SNR=74
529A Stev Forest Ra 57.24 82 P P 11 11 09.5 +0.3
baz=57
Y34A Reagan Ranch, 57.29 75 P P 11 11 09.6 +0.2
baz=57,SNR=38
GLMI Grayling 57.35 58 *e*P P 11 11 09.4 -0.4
comp=Z,236nm,0.8s
GLMI *e*pP **pP** 11 11 22.6 -2.1
GLMI *e*PcP **PcP** 11 12 03.7 +0.5
GLMI LR LR
comp=Z,1µm,22.0s
430A Baggett Ranch, 57.38 80 P P 11 11 09.9 -0.3
baz=57,SNR=85
W36A Wetumka 57.39 73 P P 11 11 10.2 0.0
baz=57,SNR=22
X35A Drake 57.45 74 P P 11 11 10.5 -0.1
baz=57,SNR=35
331A San Angelo 57.51 79 P P 11 11 10.3 -0.8
baz=57,SNR=42
133A Hamilton Ranch 57.52 77 P P 11 11 11.0 -0.1
baz=57,SNR=48
V37A Hulbert 57.52 72 P P 11 11 10.3 -0.8
baz=57,SNR=33
232A Coleman 57.58 78 P P 11 11 11.3 -0.2
baz=57,SNR=62
U38A Gravette 57.59 71 P P 11 11 10.4 -1.1
baz=57,SNR=61
Z34A Collier Ranch, 57.60 76 P P 11 11 11.4 -0.3
baz=58,SNR=6.6
KEV Kevo 57.60 351 PFAKE 11 11 20.0 +9.0
KEV LR LR
comp=Z,2µm,21.0s
HDIL Hopedale 57.70 64 P P 11 11 11.4 -0.9
baz=58,SNR=28
HDIL Hopedale 57.70 64 *e*P P 11 11 11.3 -1.0
comp=Z,100nm,0.6s
HDIL *e*pP **pP** 11 11 24.1 -3.0
HDIL LR LR
comp=Z,1µm,21.0s
X36A Centrahoma 57.71 74 P P 11 11 12.5 +0.2
baz=58,SNR=34
Y35A Marietta 57.76 75 P P 11 11 13.2 +0.5
baz=58,SNR=20
530A J-C Ranch, Com 57.76 81 P P 11 11 12.9 0.0
baz=58,SNR=132
431A Sonora 57.84 80 P P 11 11 12.9 -0.5
baz=58,SNR=82
W37A Quinton 57.87 73 P P 11 11 13.7 +0.3
baz=58,SNR=45
332A Millersview 57.88 79 P P 11 11 13.1 -0.6
baz=58,SNR=58
233A Rising Star 57.94 78 P P 11 11 14.1 0.0
baz=58,SNR=32
ARCES ARCESS Array B 57.96 351 P P 11 11 12.2 -1.4
comp=Z,5.4nm,0.5s,baz=356,slow=32,SNR=16
ARCES PcP **PcP** 11 12 04.5 -0.7
comp=Z,10nm,0.8s,baz=28,slow=5.5,SNR=3.8
ARCES ScP **ScP** 11 16 00.7 +0.4
comp=Z,4.1nm,0.8s,baz=348,slow=4.0,SNR=4.8
ARCES LR LR 11 36 57.5
comp=Z,962nm,21.1s,baz=15,slow=37
ARE0 ARCESS Array S 57.96 351 *e*P P 11 11 12.6 -1.1
ARE0 *e*pP **pP** 11 11 29.7 +1.2
V38A Canehill 57.97 71 P P 11 11 13.5 -0.7
baz=58,SNR=107
Z35A Perchaven, San 58.02 76 P P 11 11 14.5 -0.1
baz=58,SNR=7.2
134A White-Moore Ra 58.05 77 P P 11 11 15.0 +0.1
baz=58,SNR=21
432A Menard 58.20 79 P P 11 11 15.4 -0.6
baz=58,SNR=12
Y36A Durant 58.21 74 P P 11 11 16.0 +0.1
baz=58,SNR=13
531A Rocksprings 58.24 80 P P 11 11 15.7 -0.5
baz=58,SNR=29
X37A Clayton 58.28 73 P P 11 11 16.5 +0.2
baz=58,SNR=46
333A Richland Sprin 58.38 78 P P 11 11 16.8 -0.3
baz=58,SNR=41
TRO Tromso 58.39 354 *e*P P 11 11 13.8 -2.7
234A Clairette 58.42 77 P P 11 11 17.4 0.0
baz=58,SNR=36
LVZ Lovozero 58.44 347 *e*P P 11 11 15.8 -1.2
LVZ *e**PP **pP** 11 11 32.7 +0.7
LVZ pmax pmax
comp=Z,25nm,0.7s
LVZ Lovozero 58.44 347 *e*P P 11 11 15.8 -1.2
comp=Z,24nm,0.7s
LVZ *e*pP **pP** 11 11 32.7 +0.7
W38A Poteau 58.45 72 P P 11 11 17.4 -0.1
baz=58,SNR=92
135A Vickery Place, 58.47 76 P P 11 11 18.0 +0.3
baz=58,SNR=6.7
JCT Junction City 58.47 80 *e*P P 11 11 17.1 -0.7
JCT *e**PP **pP** 11 11 31.3 -1.5
JCT pmax pmax
comp=Z,76nm,0.8s
JCT MLR MLR
comp=Z,1µm,20.0s
JCT Junction City 58.47 80 P P 11 11 17.3 -0.5
baz=58,SNR=28
JCT Junction City 58.47 80 *e*P P 11 11 17.1 -0.7
comp=Z,76nm,0.8s
JCT *e*pP **pP** 11 11 31.2 -1.5
JCT LR LR
comp=Z,1µm,20.0s
SLM Saint Louis 58.48 66 *e*P P 11 11 16.8 -0.9
SLM *e**PP **pP** 11 11 30.6 -2.0
SLM pmax pmax
comp=Z,113nm,0.6s
SLM Saint Louis 58.48 66 *e*P P 11 11 16.8 -0.9
comp=Z,113nm,0.6s
SLM *e*pP **pP** 11 11 30.6 -2.0
X38A Whitesboro 58.55 73 P P 11 11 18.1 -0.1
baz=58,SNR=28
Y37A Hugo 58.55 74 P P 11 11 18.1 -0.2
baz=58
Z36A Blue Ridge 58.56 75 P P 11 11 18.2 -0.1
baz=58,SNR=9.3
SCHQ Schefferville 58.61 40 P P 11 11 17.1 -1.2
comp=Z,22nm,0.9s,baz=322,slow=6.7,SNR=26
SCHQ PcP **PcP** 11 12 07.7 -0.2
comp=Z,10nm,0.7s,baz=353,slow=6.7,SNR=3.6
SCHQ LR LR 11 37 59.1
comp=Z,2µm,19.6s,baz=316,slow=38
532A Rocksprings 58.66 80 P P 11 11 18.3 -0.8
baz=58,SNR=29
433A Art 58.71 79 P P 11 11 18.9 -0.5
baz=59,SNR=49
631A Perdido Creek 58.75 81 P P 11 11 18.8 -0.9
baz=59,SNR=33
334A Lometa 58.83 78 P P 11 11 20.2 -0.1
baz=59,SNR=66
WHTX Lake Whitney 58.84 77 P P 11 11 20.3 +0.1
baz=59,SNR=7.3
WHTX Lake Whitney 58.84 77 *e*P P 11 11 20.6 +0.3
comp=Z,182nm,0.8s
WHTX *e*pP **pP** 11 11 34.5 -0.7
APA Apatity 58.92 347 *i*P **pP** 11 11 38.0 +2.7
APA *i* S S 11 19 48.0 +26
APA pmax pmax
comp=Z,108nm,1.4s
APA MLR MLR
comp=Z,1µm,18.0s
SFIN Scholer Farm 59.05 63 P P 11 11 21.2 -0.4
baz=59,SNR=49
SFIN Scholer Farm 59.05 63 *e*P P 11 11 20.9 -0.7
comp=Z,146nm,0.9s
SFIN *e*pP **pP** 11 11 34.0 -2.6
Z37A Pogue Cattle C 59.09 74 P P 11 11 21.9 -0.1
baz=59
Y38A Idabel 59.12 73 P P 11 11 22.1 -0.1
baz=59
632A Uvalde 59.17 80 P P 11 11 22.4 -0.2
baz=59,SNR=27
434A Burnet 59.17 78 P P 11 11 22.5 -0.2
baz=59,SNR=49
533A Kerrville 59.23 79 P P 11 11 22.2 -0.9
baz=59,SNR=14
335A Moody 59.35 77 P P 11 11 23.8 -0.1
baz=59,SNR=8.2
MIAR Mount Ida 59.37 72 *e*P P 11 11 23.6 -0.3
MIAR *e**PP **pP** 11 11 37.6 -1.3
MIAR pmax pmax
comp=Z,183nm,0.7s
MIAR MLR MLR
comp=Z,1µm,19.0s
MIAR Mount Ida 59.37 72 P P 11 11 23.8 -0.1
baz=59,SNR=119
MIAR Mount Ida 59.37 72 *e*P P 11 11 23.6 -0.3
comp=Z,183nm,0.7s
MIAR *e*pP **pP** 11 11 37.6 -1.3
MIAR LR LR
comp=Z,1µm,19.0s
236A Katherine and 59.39 76 P P 11 11 24.2 +0.2
baz=59,SNR=8.2
137A Heron Place, G 59.44 75 P P 11 11 24.6 +0.2
baz=59
Z38A Mt. Pleasant 59.44 74 P P 11 11 24.0 -0.4
baz=59
Y39A Lockesburg 59.49 73 P P 11 11 24.4 -0.3
baz=59,SNR=7.4
633A Saathoff Ranch 59.58 80 P P 11 11 25.3 -0.1
baz=60,SNR=5.4
AAM Ann Arbor 59.59 59 *e*P P 11 11 24.5 -0.8
AAM *e**PP **pP** 11 11 37.7 -2.6
AAM pmax pmax
comp=Z,37nm,0.4s
AAM MLR MLR
comp=Z,827nm,19.0s
AAM Ann Arbor 59.59 59 *e*P P 11 11 24.5 -0.8
comp=Z,37nm,0.4s
AAM *e*pP **pP** 11 11 37.7 -2.6
AAM LR LR
comp=Z,827nm,19.0s
534A Blanco 59.60 79 P P 11 11 24.8 -0.8
baz=60,SNR=21
435B Jarrell 59.61 78 P P 11 11 25.8 +0.2
baz=60,SNR=5.4
732A Laxson Ranch, 59.61 81 P P 11 11 25.5 -0.1
baz=60,SNR=60
OLIL Olney 59.62 65 *e*P P 11 11 25.0 -0.6
comp=Z,211nm,0.8s
336A Riesel 59.63 77 P P 11 11 25.7 -0.1
baz=60,SNR=12
SIUC Southern Illin 59.70 67 *e*P P 11 11 25.1 -1.0
comp=Z,207nm,0.6s
SIUC *e*pP **pP** 11 11 39.0 -2.1
138A Matatall Enter 59.79 75 P P 11 11 27.1 +0.2
baz=60,SNR=7.3
237A Washetta, Mont 59.82 76 P P 11 11 27.0 -0.1
baz=60,SNR=5.4
832A Faith Ranch, C 59.92 82 P P 11 11 27.9 +0.1
baz=60,SNR=107
Z39A Irene McRaven, 59.92 73 P P 11 11 27.7 0.0
baz=60
UALR University of 59.94 71 *e*P P 11 11 27.2 -0.6
comp=Z,58nm,0.6s
UALR *e*pP **pP** 11 11 40.7 -2.1
KURK Kurchatov 59.95 315 P P 11 11 27.9 +0.2
KURK pmax pmax
comp=Z,6.0nm,0.4s
KURK MLR MLR
comp=Z,4µm,20.0s
KURK Kurchatov 59.95 315 P P 11 11 27.9 +0.2
comp=Z,6.5nm,0.4s
KURK LR LR
comp=Z,4µm,20.0s
733A Divot King Ran 60.03 81 P P 11 11 28.8 +0.2
baz=60,SNR=27
SZP Santa 60.04 260 *e*P P 11 11 30.0 +1.4
comp=Z,331nm,0.9s
KURBB Kurchatov Arra 60.06 315 P P 11 11 27.9 -0.6
comp=Z,33nm,0.4s,baz=43,slow=6.6,SNR=26
436A Wall Ranch, Ga 60.10 77 P P 11 11 29.4 +0.5
baz=60,SNR=8.0
PARMO Parma 60.12 68 *e*P P 11 11 28.4 -0.7
PARMO *e*pP **pP** 11 11 42.2 -1.8
634A China Grove, S 60.14 80 P P 11 11 28.7 -0.6
baz=60
535A Dale 60.15 78 P P 11 11 29.6 +0.3
baz=60,SNR=9.8
139A Bunkhouse Ranc 60.20 74 P P 11 11 29.6 0.0
baz=60
BLO Bloomington 60.20 64 *e*P P 11 11 28.9 -0.7
BLO pmax pmax
comp=Z,126nm,0.9s
BLO Bloomington 60.20 64 *e*P P 11 11 28.9 -0.7
comp=Z,126nm,0.9s
238A Jacksonville 60.23 75 P P 11 11 30.1 +0.3
baz=60
833A Chaparral WMA, 60.25 81 P P 11 11 30.2 +0.1
baz=60,SNR=47
STEI Steigen 60.30 355 *e*P P 11 11 30.5 +0.7
HBAR Harrisburg 60.38 69 *e*P P 11 11 30.3 -0.5
HBAR *e*pP **pP** 11 11 43.8 -2.0
734A La Parita Cree 60.39 80 P P 11 11 31.6 +0.6
baz=60,SNR=16
USIN University of 60.40 65 *e*P P 11 11 30.4 -0.5
comp=Z,461nm,0.7s
USIN *e*pP **pP** 11 11 44.5 -1.4
536A Bastrop 60.43 78 P P 11 11 31.6 +0.4
baz=60
437A Phantom Ranch, 60.45 77 P P 11 11 31.9 +0.6
baz=60
GNAR Gosnell 60.46 68 *e*P P 11 11 30.8 -0.5
comp=Z,2µm,1.1s
GNAR *e*pP **pP** 11 11 44.3 -2.1
635A Leesville 60.48 79 P P 11 11 32.0 +0.4
baz=60,SNR=8.7
WMQ Urumqi 60.53 304 P P 11 11 32.0 +0.1
WMQ pP **pP** 11 11 50.6 +3.7
WMQ PMZ
comp=Z,33nm,0.7s
WMQ PMZ
comp=Z,270nm,4.0s
WMQ LN
comp=Z,1µm,21.8s
WMQ LE
comp=Z,1µm,21.0s
WMQ LZ
comp=Z,920nm,26.0s
CD2 Chengdu 60.55 283 P P 11 11 32.6 +0.5
CD2 PP **PP** 11 13 46.5 +0.7
CD2 S **S** 11 19 41.6 -2.2
CD2 SS **SS** 11 23 41.8 -0.4
CD2 PMZ
comp=Z,100nm,0.8s
CD2 PMZ
comp=Z,690nm,11.7s
CD2 LN
comp=Z,1µm,24.0s
CD2 LZ
comp=Z,2µm,22.8s
338A Crockett 60.58 76 P P 11 11 32.5 +0.3
baz=60
239A Gary 60.62 75 P P 11 11 32.5 0.0
baz=60
GLAT Glass 60.67 68 *e*P P 11 11 32.8 +0.1
NATX Nacogdoches 60.68 75 P P 11 11 33.4 +0.5
baz=60
NATX Nacogdoches 60.68 75 *e*P P 11 11 33.1 +0.2
comp=Z,106nm,0.9s
NATX *e*pP **pP** 11 11 47.0 -0.9
933A Laredo 60.84 82 P P 11 11 34.8 +0.8
baz=61,SNR=18
735A Kenedy 60.84 80 P P 11 11 34.5 +0.4
baz=61,SNR=8.7
636A Smothers Creek 60.85 79 P P 11 11 34.8 +0.6
baz=61
UTMT University of 60.86 67 *e*P P 11 11 33.6 -0.5
comp=Z,289nm,0.6s
UTMT *e*pP **pP** 11 11 47.6 -1.5
537A Green Hill Far 60.88 78 P P 11 11 35.1 +0.9
baz=61
HALT Halls 60.89 68 *e*P P 11 11 34.1 -0.2
HALT *e*pP **pP** 11 11 47.6 -1.7
438A Sam Houston St 60.91 76 P P 11 11 35.2 +0.7
baz=61
834A Tilden 60.91 81 P P 11 11 35.4 +0.8
baz=61,SNR=7.2
339A Huntington 61.05 75 P P 11 11 35.9 +0.5
baz=61
SOKR Solikamsk 61.05 332 *e*P P 11 11 34.5 -0.4
SOKR *e**PP pP 11 11 55.5 +5.5
SOKR pmax pmax
comp=Z,10.0nm,1.0s
MKAR Makanchi Array 61.10 310 P P 11 11 34.2 -1.4
comp=Z,18nm,0.6s,baz=52,slow=6.9,SNR=140
MKAR LR LR 11 38 43.7
comp=Z,1µm,21.6s,baz=34,slow=37
MET Memphis--Engin 61.10 69 *e*P P 11 11 35.8 +0.1
comp=Z,194nm,0.7s
MET *e*pP **pP** 11 11 49.3 -1.4
736A Circle Diamond 61.22 79 P P 11 11 37.3 +0.7
baz=61,SNR=6.5
835A Beeville 61.24 80 P P 11 11 37.7 +1.0
baz=61,SNR=10
HKT Hockley 61.26 77 *e*P P 11 11 37.3 +0.5
HKT *e**PP **pP** 11 11 51.3 -0.5
HKT pmax pmax
comp=Z,90nm,1.3s
HKT Hockley 61.26 77 *e*P P 11 11 37.3 +0.5
comp=Z,90nm,1.3s
HKT *e*pP **pP** 11 11 51.3 -0.5
538A Harpers Horsep 61.28 77 P P 11 11 37.6 +0.6
baz=61
439A Center Grove, 61.31 76 P P 11 11 37.5 +0.3
baz=61
934A Benavides 61.31 81 P P 11 11 38.1 +0.9
baz=61,SNR=18
637A Eagle Lake 61.33 78 P P 11 11 37.2 -0.1
baz=61
TMCR Tamitsa 61.37 344 *e*P P 11 11 35.3 -1.8
TMCR pmax pmax
comp=Z,26nm,1.3s
340A Bronson 61.39 75 P P 11 11 38.1 +0.4
baz=61,SNR=8.8
ACSO Alum Creek Sta 61.40 61 *e*P P 11 11 37.2 -0.5
comp=Z,54nm,0.8s
ACSO *e*PcP **PcP** 11 12 20.1 +0.7
ACSO LR LR
comp=Z,1µm,21.0s
034A Hebbronville 61.59 82 P P 11 11 40.1 +0.9
baz=62,SNR=7.4
WVT Waverly 61.60 67 *e*P P 11 11 38.7 -0.4
WVT *e**PP **pP** 11 11 52.6 -1.5
WVT pmax pmax
comp=Z,75nm,0.8s
WVT Waverly 61.60 67 *e*P P 11 11 38.7 -0.4
comp=Z,75nm,0.8s
WVT *e*pP **pP** 11 11 52.6 -1.5
BVAR Borovoye Array 61.66 321 P P 11 11 38.8 -0.5
comp=Z,11nm,0.4s,baz=57,slow=6.8,SNR=38
BVAR LR LR 11 40 59.2
comp=Z,5µm,19.5s,baz=44,slow=39
BRVK Borovoye 61.67 321 *c i*P P 11 11 38.7 -0.6
BRVK pmax pmax
comp=Z,35nm,1.2s
BRVK Borovoye 61.67 321 *e*P P 11 11 38.8 -0.5
comp=Z,65nm,1.1s
BRVK LR LR
comp=Z,5µm,20.0s
737A Port Lavaca 61.74 79 P P 11 11 40.1 -0.1
baz=62
440A Kirbyville 61.83 75 P P 11 11 41.1 +0.4
baz=62
OXF Oxford 61.84 69 *e*P P 11 11 40.3 -0.4
OXF *e**PP **pP** 11 11 53.9 -1.9
OXF pmax pmax
comp=Z,578nm,0.8s
OXF Oxford 61.84 69 *e*P P 11 11 40.3 -0.4
comp=Z,578nm,0.8s
OXF *e*pP **pP** 11 11 53.9 -1.9
GYA Guiyang 61.97 278 ⇑ *i*P P 11 11 42.0 +0.2
GYA pP **pP** 11 11 58.8 +1.9
GYA sP **sP** 11 12 05.4 +2.2
GYA PcP **PcP** 11 12 23.3 +1.2
GYA PP **PP** 11 14 02.8 +4.4
GYA ScP **ScP** 11 16 19.6 +0.7
GYA PcS **PcS** 11 16 25.0 -0.5
GYA S **S** 11 20 01.8 -0.2
GYA sS **sS** 11 20 26.8 -0.6
GYA SS **SS** 11 24 04.4 -0.3
GYA PMZ
comp=Z,230nm,1.0s
GYA PMZ
comp=Z,280nm,5.4s
GYA LN
comp=Z,560nm,19.0s
GYA LE
comp=Z,710nm,20.0s
GYA LZ
comp=Z,740nm,19.8s
035A Encino 62.04 81 P P 11 11 43.1 +0.9
baz=62,SNR=7.3
SVE Sverdlovsk 62.15 329 *e*P P 11 11 42.6 +0.2
SVE pmax pmax
comp=Z,41nm,1.4s
SVE MLR MLR
comp=Z,3µm,24.0s
PRGR Permogore 62.15 339 *e*P P 11 11 40.8 -1.6
PRGR *e**PP **pP** 11 11 57.4 0.0
PRGR 11 12 17.6
PRGR 11 13 59.0
PRGR pmax pmax
comp=Z,13nm,0.6s
BORG Borgarnes 62.16 12 PFAKE 11 11 50.0 +7.6
BORG LR LR
comp=Z,872nm,21.0s
035Z Hargill 62.41 82 P P 11 11 45.0 +0.4
baz=62,SNR=7.2
LONY Lake Ozonia 62.59 52 *e*P P 11 11 44.1 -1.5
comp=Z,19nm,0.9s
LONY *e*PP **PP** 11 14 04.3 +1.0
LONY LR LR
comp=Z,901nm,20.0s
VBMS Vicksburg 62.82 72 P P 11 11 47.4 +0.1
baz=63,SNR=7.5
ARU Arti 63.13 329 *c i*P P 11 11 48.0 -0.9
ARU *e**PP **pP** 11 12 08.9 +4.8
ARU 11 12 29.6
ARU 11 14 10.4
ARU PPP PPP 11 15 44.0
ARU S **S** 11 20 13.6 -2.0
ARU SS **SS** 11 24 24.4 +3.2
ARU pmax pmax
comp=Z,31nm,1.2s
ARU MLR MLR
comp=Z,1µm,22.0s
ARU Arti 63.13 329 P P 11 11 48.1 -0.9
comp=Z,175nm,0.5s,SNR=7.0
ARU Arti 63.13 329 *e*P P 11 11 48.3 -0.7
comp=Z,15nm,0.6s
ARU LR LR
comp=Z,1µm,20.0s
NCB Newcomb 63.24 52 *e*P P 11 11 48.6 -1.3
comp=Z,16nm,0.7s
NCB LR LR
comp=Z,1µm,20.0s
SWET Sewanee 63.33 66 *e*P P 11 11 49.4 -1.4
comp=Z,65nm,0.7s
SWET *e*pP **pP** 11 12 03.5 -2.4
SSPA Standing Stone 63.82 57 *e*P P 11 11 53.2 -0.6
comp=Z,67nm,0.6s
SSPA *e*pP **pP** 11 12 06.7 -2.1
ACCN Adirondack Com 63.94 52 *e*P P 11 11 53.7 -0.9
comp=Z,19nm,0.7s
CPCT Cooper Cave 63.97 65 *e*P P 11 11 53.9 -1.0
CPCT *e*pP **pP** 11 12 08.0 -1.9
PQI Presque Isle 64.16 47 *e*P P 11 11 54.2 -1.7
comp=Z,17nm,0.6s
LRAL Lakeview Retre 64.29 69 *e*P P 11 11 56.0 -1.0
comp=Z,81nm,0.9s
LRAL *e*pP **pP** 11 12 09.7 -2.5
HNR Honiara 64.39 206 PFAKE 11 12 10.0 +12
HNR LR LR
comp=Z,1µm,20.0s
TRY Troy 64.43 53 *e*P P 11 11 56.6 -1.1

comp=Z,7.0nm,0.6s
PKME Peaks-Kenny Pk 64.64 48 *e*P **P 11 11 57.7 -1.4**
comp=Z,24nm,1.0s
PKME LR LR
comp=Z,1µm,22.0s
BLA Blacksburg 64.96 61 *e*P **P 11 12 01.2 -0.2**
BLA *e**PP **pP 11 12 14.8 -1.7**
BLA pmax pmax
comp=Z,221nm,1.0s
BLA MLR MLR
comp=Z,983nm,21.0s
BLA Blacksburg 64.96 61 *e*P **P 11 12 01.2 -0.2**
comp=Z,221nm,1.0s
BLA *e*pP **pP 11 12 14.8 -1.7**
BLA LR LR
comp=Z,983nm,21.0s
VWCC Virginia Weste 65.18 61 *e*P **P 11 12 02.2 -0.5**
DAV Davao City (W) 65.22 249 PFAKE 11 12 20.0 +17
DAV LR LR
comp=Z,1µm,22.0s
SDMD Soldier's Deli 65.26 57 *e*P **P 11 12 02.5 -0.7**
comp=Z,241nm,1.3s
SDMD *e*pP **pP 11 12 15.9 -2.5**
KMI Kunming 65.35 280 ⇑P **P 11 12 05.0 +0.7**
KMI PcP **PcP 11 12 37.3 +1.2**
KMI PP **PP 11 14 30.1 +1.8**
KMI S **S 11 20 41.1 -3.2**
KMI SS **SS 11 24 57.1 -0.6**
KMI PMZ
comp=Z,130nm,1.2s
KMI PMZ
comp=Z,570nm,3.7s
KMI LN
comp=Z,880nm,17.4s
KMI LE
comp=Z,640nm,21.8s
KMI LZ
comp=Z,1µm,25.4s
QIZ Qiongzhong 65.48 270 P **P 11 12 05.4 +0.5**
QIZ S **S 11 20 49.6 +4.1**
QIZ PMZ
comp=Z,120nm,1.2s
QIZ Qiongzhong 65.48 270 PFAKE 11 12 20.0 +15
QIZ LR LR
comp=Z,554nm,22.0s
AFI Afiamalu 65.53 175 PFAKE 11 12 20.0 +15
AFI LR LR
comp=Z,1µm,20.0s
GENI Genyem 65.62 229 P **P 11 12 07.3 +1.6**
comp=Z,282nm,1.1s,comp=Z,4µm
CPNY Central Park 65.72 55 *e*P **P 11 12 05.8 -0.4**
CPNY *e*pP **pP 11 12 19.7 -1.6**
BRAL Brewton 65.73 70 *e*P **P 11 12 06.0 -0.3**
comp=Z,298nm,1.1s
BRAL *e*pP **pP 11 12 19.7 -1.9**
BRAL LR LR
comp=Z,982nm,20.0s
FINES FINESS Array B 65.74 349 P **P 11 12 04.2 -1.8**
comp=Z,3.7nm,0.7s,baz=15,slow=8.1,SNR=10
FINES PKPPKP **P'P'df 11 40 45.0 -3.7**
comp=Z,6.9nm,1.0s,baz=156,slow=1.4,SNR=6.0
FINES LR LR 11 42 17.2
comp=Z,999nm,20.9s,baz=12,slow=37
SMPI Sarmi 65.79 231 P **P 11 12 08.5 +1.7**
comp=Z,98nm,1.4s
CBN Corbin 65.87 59 *e*P **P 11 12 06.8 -0.3**
comp=Z,65nm,0.9s
CBN *e*pP **pP 11 12 20.4 -2.0**
CBN LR LR
comp=Z,1µm,19.0s
KMSC Kings Mountain 65.97 63 P **P 11 12 07.4 -0.4**
baz=66,SNR=69
KMSC Kings Mountain 65.97 63 *e*P **P 11 12 07.5 -0.4**
comp=Z,232nm,0.9s
KMSC *e*pP **pP 11 12 21.8 -1.3**
JSRW J. Sargeant Re 65.98 59 *e*P **P 11 12 07.5 -0.4**
GOGA Godfrey 66.04 66 *e*P **P 11 12 07.5 -0.9**
GOGA *e**PP **pP 11 12 21.2 -2.3**
GOGA pmax pmax
comp=Z,231nm,1.1s
GOGA MLR MLR
comp=Z,1µm,21.0s
GOGA Godfrey 66.04 66 *e*P **P 11 12 07.5 -0.9**
comp=Z,231nm,1.1s
GOGA *e*pP **pP 11 12 21.2 -2.3**
GOGA LR LR
comp=Z,1µm,21.0s
TKM2 Tokmak 2 67.16 311 P **P 11 12 15.1 -0.4**
SNR=33
TKM2 Tokmak 2 67.16 311 *e*P **P 11 12 15.2 -0.4**
TKM2 pmax pmax
comp=Z,27nm,0.8s
TKM2 MLR MLR
comp=Z,627nm,21.0s
TKM2 Tokmak 2 67.16 311 *e*P **P 11 12 15.2 -0.4**
comp=Z,27nm,0.8s
TKM2 LR LR
comp=Z,627nm,21.0s
NB2 NORSAR Subarra 67.37 356 P **P 11 12 15.1 -1.3**
comp=Z,18nm,1.2s,baz=5.9,slow=6.9
NB2 NORSAR Subarra 67.37 356 P **P 11 12 15.1 -1.3**
baz=5.9,slow=6.9
NOA NORSAR Array B 67.37 356 P **P 11 12 15.2 -1.3**
comp=Z,0.6nm,0.6s,baz=216,slow=18,SNR=10
NOA LR LR 11 39 34.9
comp=Z,620nm,21.9s,baz=5.0,slow=34
ULHL Ulahol 67.37 310 P **P 11 12 16.9 0.0**
SNR=11
USP Ospenovka 67.40 312 P **P 11 12 16.6 -0.3**
SNR=36
TIGA Tifton 67.42 68 P **P 11 12 16.6 -0.5**
baz=67,SNR=10
TIGA Tifton 67.42 68 *e*P **P 11 12 16.7 -0.5**
comp=Z,93nm,1.0s
TIGA *e*pP **pP 11 12 30.1 -2.3**
SLVN Son La 67.44 276 *e*P **P 11 12 18.6 +1.1**
comp=Z,111nm,0.9s
WAMI Wamena 67.44 230 P **P 11 12 19.7 +2.4**
comp=Z,157nm,0.8s
CHMS Chumysh 67.49 311 P **P 11 12 16.1 -1.4**
SNR=15
RKPI Ransiki, Papua 67.63 236 P **P 11 12 19.4 +0.8**
comp=Z,129nm,1.2s,comp=Z,6µm
KBK Karagaybulak 67.66 311 P **P 11 12 19.1 +0.4**
SNR=16
FRU Bishkek 67.68 311 *i* P **P 11 12 19.0 +0.3**
FRU pmax pmax
comp=Z,140nm,2.0s
CNNC Cliffs of the 67.79 61 *e*P **P 11 12 19.7 +0.3**
comp=Z,62nm,0.3s
CNNC *e*pP **pP 11 12 32.9 -1.8**
CNNC LR LR
comp=Z,947nm,19.0s
TAOE Nuku Hiva Isla 67.84 141 *e*T T 12 26 02.9
comp=Z,132nm,0.2s
AAK Ala-Archa 67.89 311 P **P 11 12 20.6 +0.4**
SNR=20
AAK Ala-Archa 67.89 311 PFAKE 11 12 30.0 +10
AAK LR LR
comp=Z,1µm,20.0s
KZA Kyzart 67.97 310 P **P 11 12 20.9 0.0**
SNR=20
NHSC New Hope 68.12 64 *e*P **P 11 12 21.8 +0.3**
comp=Z,860nm,1.1s
NHSC *e*pP **pP 11 12 36.1 -0.6**
NHSC LR LR
comp=Z,2µm,22.0s
UCH Uchtor 68.20 311 P **P 11 12 22.2 -0.3**
SNR=18
EKS2 Erkin-Say 68.20 312 P **P 11 12 22.1 0.0**
SNR=25
EKS2 Erkin-Say 68.20 312 *e*P **P 11 12 22.0 -0.1**
EKS2 pmax pmax
comp=Z,65nm,0.9s
EKS2 MLR MLR
comp=Z,2µm,19.0s
EKS2 Erkin-Say 68.20 312 *e*P **P 11 12 21.9 -0.1**
comp=Z,65nm,0.9s
EKS2 LR LR
comp=Z,2µm,19.0s
RGRS Roger Stewart 68.26 64 *e*P **P 11 12 22.7 +0.3**
comp=Z,19nm,0.4s
RGRS *e*pP **pP 11 12 36.8 -0.8**
AKTO Aktyubinsk 68.31 326 P **P 11 12 21.9 -0.5**
comp=Z,16nm,0.6s,baz=56,slow=7.3,SNR=31
AKTO PKPPKP **P'P'df 11 40 39.6 -4.4**
comp=Z,0.8nm,0.5s,baz=257,slow=3.5,SNR=3.6

VSU Vasula 68.54 347 ⇑*e*P **P 11 12 22.0 -1.7**
VSU pmax pmax
comp=Z,58nm,1.2s
SWI Sorong 68.61 239 P **P 11 12 25.3 +0.6**
comp=Z,463nm,0.9s,comp=Z,4µm
ABKAR Akbulak array 68.62 324 *e*P **P 11 12 23.8 -0.6**
comp=Z,8.1nm,0.5s
AML Almayashu 68.66 311 P **P 11 12 25.8 +0.5**
SNR=11
PMG Port Moresby 68.68 219 ⇓*e*P **P 11 12 26.2 +1.1**
PMG pmax pmax
comp=Z,305nm,1.2s
PMG Port Moresby 68.68 219 *e*P **P 11 12 25.6 +0.6**
comp=Z,53nm,0.9s
PMG LR LR
comp=Z,845nm,20.0s
KONO Kongsberg 68.82 357 PFAKE 11 12 40.0 +15
KONO LR LR
comp=Z,740nm,21.0s
LSA Lhasa 68.90 291 PFAKE 11 12 40.0 +13
LSA LR LR
comp=Z,1µm,22.0s
MOS Moscow 69.26 340 *e*P P 11 12 42.8 +15
MOS *e* 11 13 00.5
KKAR Karatay Array 69.34 314 *e*P **P 11 12 28.3 -0.7**
KKAR pmax pmax
comp=Z,23nm,0.5s
KKAR Karatay Array 69.34 314 *e*P **P 11 12 28.3 -0.7**
comp=Z,23nm,0.5s
TNTI Ternate 69.35 243 P **P 11 12 30.0 +0.6**
comp=Z,95nm,1.7s,comp=Z,2µm
TNTI Ternate 69.35 243 *e*P **P 11 12 29.2 -0.1**
comp=Z,54nm,0.8s
MSVF Nonsavu 69.42 186 PFAKE 11 12 40.0 +10
MSVF LR LR
comp=Z,1µm,19.0s
KSH Kashi 69.60 308 P P 11 12 34.3 +3.5
KSH pP pP 11 12 51.1 +5.0
KSH PcP **PcP 11 12 56.4 +2.9**
KSH PP PP 11 15 11.3 +6.6
KSH S **S 11 21 37.1 +2.4**
KSH sS sS 11 22 05.3 +4.8
KSH ScS **ScS 11 22 27.5 -0.1**
KSH PMZ
comp=Z,110nm,0.6s
KSH LN
comp=Z,2µm,14.8s
KSH LE
comp=Z,2µm,14.6s
KSH LZ
comp=Z,4µm,21.8s
FAKI Fak Fak 69.83 237 P **P 11 12 33.3 +1.0**
comp=Z,223nm,1.1s,comp=Z,3µm
FAKI Fak Fak 69.83 237 *e*P **P 11 12 32.9 +0.6**
comp=Z,71nm,0.6s
FAKI *e*pP **pP 11 12 46.9 -0.7**
OBN Obninsk 70.06 341 LR LR 11 48 45.0
comp=Z,903nm,18.2s,baz=34,slow=41
OBN Obninsk 70.06 341 ⇓*e*P **P 11 12 32.0 -1.1**
OBN *i* *PP **pP 11 12 50.6 +2.1**
OBN *i* 11 12 59.1
OBN pmax pmax
comp=Z,18nm,0.6s
OBN MLR MLR
comp=Z,1µm,21.0s
CRAI Chiangrai 70.44 278 P **P 11 12 34.1 -2.0**
comp=Z,170nm,0.9s,comp=Z,8µm
LBMI Labuha 70.45 242 P **P 11 12 37.0 +0.9**
comp=Z,89nm,1.4s,comp=Z,1µm
SKNT Sakolnakorn 70.67 273 P **P 11 12 37.4 0.0**
comp=Z,305nm,0.9s,comp=Z,2µm
PMOR Pomariorio Ree 70.88 151 *e*T T 12 29 54.8
comp=Z,47nm,0.2s
UBPT Khong Chiam 71.03 271 P **P 11 12 39.8 +0.2**
comp=Z,107nm,1.6s,comp=Z,2µm
SDKM Sandakan 71.30 255 ⇑P **P 11 12 42.0 +0.6**
KMSI Cibinong 71.41 246 P **P 11 12 43.1 +1.2**
comp=Z,294nm,0.9s
CMAI Chiengmai2 71.48 279 P **P 11 12 42.9 +0.4**
comp=Z,98nm,1.4s,comp=Z,1µm
KKM Kota Kinabalu 71.57 256 PFAKE 11 12 50.0 +7.0
KKM LR LR
comp=Z,476nm,20.0s
DLV T Lat 71.71 266 *e*P **P 11 12 44.7 +0.7**
comp=Z,41nm,0.9s
TSM Tawau 71.97 253 ⇑P **P 11 12 46.4 +1.1**
NACGM Naroch 71.98 346 *e* P 11 12 52.0 +7.2
LAMP Lampang 72.19 277 P **P 11 12 46.9 +0.3**
comp=Z,32nm,0.9s,comp=Z,254nm
UTTA Uttaradit 72.20 276 P **P 11 12 46.7 0.0**
comp=Z,130nm,0.8s,comp=Z,1µm
CMMT Chiang Mai 72.39 278 P **P 11 12 47.7 -0.1**
comp=Z,90nm,1.1s,comp=Z,2µm
CHTO Chiang Mai 72.39 278 P **P 11 12 47.7 -0.1**
comp=Z,316nm,1.2s,comp=Z,5µm
CHTO Chiang Mai 72.39 278 *e*P **P 11 12 47.7 -0.1**
CHTO pmax pmax
comp=Z,91nm,1.1s
CHTO MLR MLR
comp=Z,524nm,20.0s
CHTO Chiang Mai 72.39 278 *e*P **P 11 12 47.7 -0.1**
comp=Z,91nm,1.1s
CHTO LR LR
comp=Z,524nm,20.0s
AAI Ambon 72.61 240 P **P 11 12 49.6 +0.5**
comp=Z,185nm,1.4s,comp=Z,2µm
CMAR Chiang Mai Arr 72.66 278 P **P 11 12 49.8 +0.4**
comp=Z,64nm,0.8s,baz=27,slow=7.1,SNR=301
CMAR PKPPKP **P'P'df 11 40 31.3 -2.9**
comp=Z,0.4nm,0.5s,baz=237,slow=3.1,SNR=4.1
CMAR LR LR 11 45 45.3
comp=Z,396nm,21.9s,baz=48,slow=37
MRSI Marisa 72.66 248 P **P 11 12 49.5 +0.1**
comp=Z,161nm,1.1s,comp=Z,2µm
PPT Papeete 72.83 154 LR LR 11 36 48.6
comp=Z,1µm,21.0s,baz=304,slow=29
PBKT Sadao Pong 72.84 275 P **P 11 12 50.5 +0.1**
comp=Z,164nm,0.9s,comp=Z,2µm
PPT2 Papeete2 72.85 154 *e*LR LR 11 35 15.2
comp=Z,2µm,22.8s,baz=353
PPT2 Papete2 72.85 154 *e*T T 12 32 23.6
comp=Z,77nm,0.3s
TIAR Tiarei 72.89 153 *e*T T 12 32 25.7
comp=Z,17nm,0.3s
PAE Paea 72.92 154 *e*T T 12 32 28.4
comp=Z,15nm,0.3s
ESK Eskdalemuir 73.09 4 PFAKE 11 13 00.0 +8.6
ESK LR LR
comp=Z,1µm,22.0s
TVO Taravao 73.13 153 *e*T T 12 32 43.8
VSR Storozhevoye 73.13 338 *e*P **P 11 12 50.6 -1.1**
VSR pmax pmax
comp=N,30nm,1.2s
VSR pmax pmax
comp=E,10.0nm,1.2s
VSR pmax pmax
comp=Z,20nm,1.2s
LUWI Luwuk 73.42 246 P **P 11 12 53.6 -0.3**
comp=Z,424nm,1.2s,comp=Z,5µm
LUWI Luwuk 73.42 246 *e*P **P 11 12 53.2 -0.6**
comp=Z,274nm,0.9s
MHMT Maesarieng 73.49 278 P **P 11 12 54.8 +0.5**
comp=Z,158nm,0.7s,comp=Z,1µm
MEH Mehetia 73.55 152 *e*T T 12 33 15.2
comp=Z,20nm,0.3s
MPSI Mapaga 73.95 249 P **P 11 12 56.9 -0.1**
comp=Z,102nm,1.1s,comp=Z,2µm
APSI Ampana 73.95 247 P **P 11 12 57.5 +0.5**
comp=Z,138nm,1.4s,comp=Z,2µm
COEN Coen 74.40 221 *e*P **P 11 12 59.6 +0.1**
comp=Z,85nm,1.3s
PCI Palu 74.99 249 P **P 11 13 03.6 +0.5**
comp=Z,128nm,1.2s,comp=Z,1µm
DZM Mont Dzumac 75.13 197 *e*LR LR 11 36 16.9
comp=Z,2µm,27.6s
SMLA Simla 75.55 302 *i* P **P 11 13 05.6 -0.4**
SMLA *i* x x 11 13 05.6
baz=207,slow=16
AKASG Malin Array Be 75.66 344 P **P 11 13 04.8 -1.5**
comp=Z,2.2nm,0.3s,baz=18,slow=5.8,SNR=3.4
AKASG LR LR 11 50 09.1
comp=Z,1µm,19.7s,baz=5.0,slow=39
KHLT Khaolaem Dam 75.66 276 P **P 11 13 07.4 +0.5**
comp=Z,55nm,1.1s,comp=Z,657nm
KIEV Kiev 75.66 344 PFAKE 11 13 20.0 +14
KIEV LR LR

comp=Z,1µm,20.0s
SRDT SRDT 75.68 275 P **P 11 13 07.3 +0.3**
comp=Z,527nm,1.0s
PATY Pattaya 75.69 273 P **P 11 13 07.9 +0.9**
comp=Z,78nm,0.9s
BTM Bintulu 75.71 257 ⇓P **P 11 13 08.3 +1.1**
KDI Kendari 75.90 244 P **P 11 13 09.5 +1.3**
comp=Z,81nm,1.3s
PHET Kaeng Krachan 76.46 274 P **P 11 13 12.2 +0.7**
comp=Z,54nm,1.0s,comp=Z,450nm
TTSI Tana Toraja 76.74 247 P **P 11 13 13.5 +0.5**
comp=Z,124nm,1.1s,comp=Z,2µm
BBSR BB Station 76.93 54 PFAKE 11 13 30.0 +16
BBSR LR LR
comp=Z,654nm,22.0s
CLL Collm 76.99 354 ⇑*i*P **P 11 13 12.5 -1.4**
CLL *e**PP **pP 11 13 33.0 +3.6**
CLL pmax pmax
comp=Z,9.0nm,0.8s
CLL Collm 76.99 354 ⇑*i*P **P 11 13 12.5 -1.4**
comp=Z,9.0nm,0.8s
CLL *es*P **sP 11 13 34.0 -1.6**
CLL *e*PPS PPS 11 24 06.0
CLL *e*SS SS 11 28 04.0 +10
BRG Berggiesshubel 77.36 354 *e*P **P 11 13 14.6 -1.4**
comp=Z,5.3nm,0.8s
BRG *e* 11 14 19.6
comp=Z,11nm,1.1s
BRG Berggiesshubel 77.36 354 *e*P **P 11 13 14.6 -1.4**
BRG pmax pmax
comp=Z,5.0nm,0.8s
SPSI Sidrap Palu 77.52 247 P **P 11 13 17.4 +0.1**
comp=Z,50nm,1.0s,comp=Z,1µm
UPC Upice 77.56 352 *e*P **P 11 13 16.5 -0.7**
UPC AMS AMS 11 44 30.0
comp=Z,1µm,22.2s
UPC Upice 77.56 352 *e*P **P 11 13 16.5 -0.7**
UPC MLR MLR
comp=Z,1µm,22.2s
PVCC Panska Ves 77.66 353 *e*P P 11 13 21.8 +4.1
PVCC *es*P sP 11 13 39.7 +0.4
PVCC AMS AMS 11 44 20.0
comp=Z,1µm,19.0s
PVCC Panska Ves 77.66 353 *e*P P 11 13 21.8 +4.1
PVCC *e* 11 13 39.7
PVCC MLR MLR
comp=Z,1µm,19.0s
DPC Dobruska-Polom 77.69 352 *e*P **P 11 13 17.0 -0.9**
DPC *e*pP **PcP 11 13 28.9 +1.0**
DPC *es*P **sP 11 13 36.3 -3.3**
DPC AMS AMS 11 45 30.0
comp=Z,1µm,20.7s
DPC Dobruska-Polom 77.69 352 *e*P **P 11 13 17.0 -0.9**
DPC *e* 11 13 28.9
DPC *e* 11 13 36.3
DPC MLR MLR
comp=Z,1µm,20.7s
KWP Kalwaria Pacla 77.70 348 *e*P **P 11 13 17.5 -0.4**
KWP Kalwaria Pacla 77.70 348 *e*P **P 11 13 17.5 -0.4**
GOF Gofitskoye 77.80 333 *e*P **P 11 13 15.5 -3.1**
KRLC Kraliky 77.92 352 *e*P **P 11 13 17.6 -1.6**
KRLC *e*pP **pP 11 13 37.4 +2.6**
KRLC Kraliky 77.92 352 *e*P **P 11 13 17.6 -1.6**
KRLC *e* 11 13 37.4
MEM Membach 77.96 359 P **P 11 13 20.2 +0.9**
comp=Z,13nm,1.3s
OKC Ostrava-Krasne 78.03 351 AMS AMS 11 46 40.0
comp=Z,1µm,20.1s
SNF Seneffe 78.07 360 P **P 11 13 20.0 0.0**
NKC Novy Kostel 78.09 354 *e*P **P 11 13 19.4 -0.7**
NKC *e*pP **pP 11 13 38.5 +2.8**
NKC Novy Kostel 78.09 354 *e*P **P 11 13 19.4 -0.7**
NKC *e* 11 13 38.5
STHS Stebnicka Huta 78.09 349 *e*P **P 11 13 20.3 +0.1**
STHS pmax pmax
comp=Z,9.0nm,1.5s
STHS Stebnicka Huta 78.09 349 *e*P **P 11 13 20.2 +0.1**
STHS *e* 11 13 26.3
STHS *e* 11 13 32.2
STHS *es*P **sP 11 13 39.1 -2.7**
PRA Prague 78.12 353 *e*P **P 11 13 23.4 +3.2**
PRA AMS AMS 11 44 30.0
comp=Z,2µm,23.5s
PRA Prague 78.12 353 *e*P **P 11 13 23.4 +3.2**
PRA MLR MLR
comp=Z,2µm,23.5s
MORC Moravsky Berou 78.15 351 ⇑*i*P **P 11 13 19.8 -0.7**
PRU Pruhonice 78.19 353 *e*P **P 11 13 20.0 -0.7**
PRU *e*pP **pP 11 13 38.9 +2.7**
PRU AMS AMS 11 44 30.0
comp=Z,1µm,23.3s
PRU Pruhonice 78.19 353 *e*P **P 11 13 20.0 -0.7**
PRU *e* 11 13 38.9
PRU MLR MLR
comp=Z,1µm,23.3s
GOPC GO Pecny, Ondr 78.25 353 *e*P **P 11 13 20.0 -1.0**
GOPC AMS AMS 11 44 10.0
comp=Z,1µm,22.9s
TBI Tubuai 78.37 155 *e*LR LR 11 37 43.3
comp=Z,2µm,28.0s,baz=338
TBI Tubuai 78.37 155 *e*T T 12 39 17.5
comp=Z,20nm,0.3s
KAPI Kappang 78.38 246 *e*P **P 11 13 22.7 +0.6**
comp=Z,25nm,0.6s
KAPI LR LR
comp=Z,522nm,22.0s
BKSI Bulukumba 78.42 246 P **P 11 13 22.9 +0.6**
comp=Z,168nm,1.0s,comp=Z,2µm
KOLS Kolonicke sedl 78.44 348 *e*P **P 11 13 21.0 -1.0**
KOLS pmax pmax
comp=Z,8.0nm,1.5s
KOLS Kolonicke sedl 78.44 348 *e*P **P 11 13 21.0 -1.0**
KOLS *e*pP **pP 11 13 35.9 -1.7**
DOU Dourbes 78.49 360 P **P 11 13 21.6 -0.7**
GRFO Grafenberg 78.70 355 *e*P **P 11 13 23.4 -0.1**
GRFO pmax pmax
comp=Z,24nm,1.0s
GRFO Grafenberg 78.70 355 *e*P **P 11 13 23.4 -0.1**
comp=Z,24nm,1.0s
KSM Kuching 78.75 258 ⇑P **P 11 13 25.2 +1.0**
KSM Kuching 78.75 258 *e*P **P 11 13 24.7 +0.5**
comp=Z,86nm,1.0s
KSM LR LR
comp=Z,414nm,21.0s
CTAO Charters Tower 78.79 216 *e*P **P 11 13 24.1 -0.1**
CTAO pmax pmax
comp=Z,100nm,1.1s
CTAO MLR MLR
comp=Z,794nm,22.0s
CTAO Charters Tower 78.79 216 *e*P **P 11 13 24.1 -0.1**
comp=Z,100nm,1.1s
CTAO LR LR
comp=Z,794nm,22.0s
TREC Trest 78.81 352 AMS AMS 11 44 50.0
comp=Z,1µm,23.9s
WLF Walferdange 78.90 359 PFAKE 11 13 40.0 +15
WLF LR LR
comp=Z,916nm,20.0s
GEYT Alibeck 78.91 319 P **P 11 13 24.8 -0.1**
comp=Z,18nm,1.0s,baz=357,slow=5.9,SNR=17
GEYT pP **pP 11 13 39.3 -1.2**
comp=Z,12nm,0.8s,baz=343,slow=4.6,SNR=6.0
KIV Kislovodsk 78.91 333 ⇑*e*P **P 11 13 26.1 +1.2**
KIV *e* 11 13 36.5
KIV *e**PP **pP 11 13 42.2 +1.8**
KIV pmax pmax
comp=Z,5.0nm,0.6s
KIV MLR MLR
comp=Z,1µm,25.0s
KIV Kislovodsk 78.91 333 *e*P **P 11 13 24.1 -0.8**
KIV LR LR
comp=Z,1µm,21.0s
KBKI Kotabaru 79.06 250 P **P 11 13 25.5 -0.4**
comp=Z,65nm,1.2s,comp=Z,1µm
KBZ Khabaz 79.06 332 P **P 11 13 25.2 -0.3**
comp=Z,2.2nm,0.6s,baz=40,slow=4.3,SNR=4.3
KBZ LR LR 11 54 02.2
comp=Z,560nm,18.2s,baz=14,slow=40
KECS Kecovo 79.11 349 *e*P **P 11 13 24.5 -1.2**
KECS Kecovo 79.11 349 *e*P **P 11 13 24.5 -1.2**
KECS *e* 11 13 36.1
KECS *e* 11 13 42.2
KECS *e*PP **PP 11 16 22.1 -2.5**
KHC Kasperske Hory 79.12 354 *e*P **P 11 13 25.2 -0.6**
KHC *e*pP **pP 11 13 42.7 +1.3**

KHC AMS AMS 11 42 20.0
comp=Z,1µm,20.6s
KHC Kasperske Hory 79.12 354 *e*P **P 11 13 25.3 -0.6**
KHC pmax pmax
comp=Z,5.0nm,1.1s
KHC Kasperske Hory 79.12 354 *e*P **P 11 13 25.2 -0.6**
comp=Z,4.6nm,1.1s
STKI Sintang 79.16 256 P **P 11 13 26.7 +0.3**
comp=Z,77nm,1.3s
KIS Kishinev 79.30 343 *e*P **P 11 13 24.0 -2.7**
KIS *e*PP **pP 11 13 42.0 -0.3**
KIS *e*L L 11 42 30.0
KIS LRM MLR 11 51 14.0
comp=Z,900nm,20.0s
KIS Kishinev 79.30 343 *e*P **P 11 13 24.0 -2.7**
KIS *e**PP **pP 11 13 42.0 -0.3**
KIS MLR MLR
comp=N,900nm,20.0s
KIS MLR MLR
comp=Z,2µm,20.0s
KIS MLR MLR
comp=E,500nm,18.0s
KIS MLR MLR
comp=Z,2µm,20.0s
BURAR Bucovina Array 79.31 346⇑ *i*P **P 11 13 26.4 -0.5**
GERES GERESS Array B 79.39 353 P **P 11 13 26.6 -0.8**
comp=Z,2.2nm,0.7s,baz=347,slow=5.5,SNR=8.8
GERES PKPPKP **P'P'df 11 40 21.9 -2.8**
comp=Z,0.5nm,0.2s,baz=178,slow=2.9,SNR=5.7
GERES LR LR 11 51 23.6
comp=Z,476nm,18.7s,baz=12,slow=38
ANN Anapa 79.53 336 *e*P **P 11 13 30.4 +2.4**
ANN *e**PP pP 11 13 51.6 +8.0
ANN *e*S **S 11 23 27.6 +2.5**
ANN pmax pmax
comp=Z,33nm,1.1s
ANN MLR MLR
comp=N,1µm,21.0s
ANN MLR MLR
comp=Z,893nm,21.0s
ZEI Tsey 79.63 331 *e*P **P 11 13 27.4 -1.5**
ZEI pmax pmax
comp=Z,72nm,0.6s
PSZ Piszkesteto 79.73 349⇑ *i*P **P 11 13 29.5 +0.3**
PSZ Piszkesteto 79.73 349 PFAKE 11 13 40.0 +11
PSZ LR LR
comp=Z,934nm,20.0s
SOEI Soe 79.79 240 P **P 11 13 29.8 -0.1**
comp=Z,108nm,0.8s
SOEI Soe 79.79 240 *e*P **P 11 13 30.0 +0.1**
comp=Z,61nm,0.7s
BBKI Banjar Baru 79.97 251 P **P 11 13 31.5 +0.7**
comp=Z,70nm,1.4s
SURT Suratani 80.03 272 P **P 11 13 31.9 +0.7**
comp=Z,54nm,1.3s,comp=Z,635nm
BFO Black Forest 80.19 357 PFAKE 11 13 40.0 +8.4
BFO LR LR
comp=Z,761nm,19.0s
SKLT Songkhla 80.28 269 P **P 11 13 33.5 +1.0**
comp=Z,98nm,0.8s,comp=Z,2µm
ECH Echery 80.33 358 *e*P **P 11 13 31.6 -0.8**
ECH pmax pmax
comp=Z,14nm,1.1s
ECH MLR MLR
comp=Z,670nm,22.0s
ECH Echery 80.33 358 *e*P **P 11 13 31.6 -0.8**
comp=Z,14nm,1.1s
ECH LR LR
comp=Z,670nm,22.0s
TBLG Delisi 80.34 330 P **P 11 13 31.8 -0.7**
TBLG Delisi 80.34 330 P **P 11 13 31.8 -0.7**
TRTT Trang 80.34 270 P **P 11 13 33.5 +0.7**
comp=Z,72nm,1.0s,comp=Z,1µm
DGRG David-gareji 80.40 330 P **P 11 13 32.8 -0.1**
DRGR 80.48 347⇓ *i*P **P 11 13 33.3 0.0**
BATI Baumata 80.49 240 P **P 11 13 33.6 0.0**
comp=Z,217nm,0.8s,comp=Z,2µm
VRI Vrincioaia 80.76 344⇓ *i*P **P 11 13 35.1 +0.4**
MTDJ Mount Denham 81.02 72 *e*P **P 11 13 37.1 +0.6**
comp=Z,81nm,0.8s
MTDJ *e*pP **pP 11 13 51.2 -1.0**
MTDJ LR LR
comp=Z,650nm,20.0s
WTTA Wattenberg 81.10 355⇑ *e*P **P 11 13 35.2 -1.5**
comp=Z,14nm,1.4s
GTBY Guantanamo Bay 81.11 69 PFAKE 11 13 50.0 +13
GTBY LR LR
comp=Z,693nm,19.0s
PKDT Phuket 81.14 271 P **P 11 13 38.8 +1.7**
comp=Z,171nm,0.2s,comp=Z,12µm
CFR Carcaliu 81.18 343⇑ *i*P **P 11 13 37.5 +0.6**
KBA Koelnbreinsper 81.18 354⇑ *e*P **P 11 13 36.8 -0.3**
comp=Z,30nm,0.8s
PBKI Pangkalan Bun 81.25 254 P **P 11 13 38.2 +0.6**
comp=Z,208nm,1.2s
MLR Muntele Rosu 81.25 345⇓ *i*P **P 11 13 38.2 +0.7**
FETA Feichten 81.39 355⇑ *e*P **P 11 13 37.7 -0.6**
comp=Z,13nm,1.2s
VOIR 81.45 345⇑ *i*P **P 11 13 39.1 +0.6**
ISR Istrita 81.52 344⇑ *i*P **P 11 13 38.1 -0.7**
CHLP Challavanipeta 81.60 289 *e*P **P 11 13 38.0 -1.5**
CHLP IAmb IAmb 11 13 42.6
comp=Z,49nm,1.2s
OBKA Obir 81.65 353⇑ *e*P **P 11 13 39.5 0.0**
comp=Z,11nm,0.9s
KULM Kulim 81.72 268 *e*P **P 11 13 40.1 -0.1**
comp=Z,53nm,0.9s
KULM *e*pP **pP 11 13 54.5 -1.4**
KULM LR LR
comp=Z,519nm,19.0s
GNI Garni 81.78 330 LR LR 11 56 02.5
comp=Z,981nm,18.4s,baz=28,slow=40
GNI Garni 81.78 330 *de*P **P 11 13 42.4 +2.0**
GNI pmax pmax
comp=Z,15nm,1.2s
BZS Buzias 81.78 348⇑ *i*P **P 11 13 38.5 -1.6**
TIRR Tirgusor 81.82 343 *e*P **P 11 13 39.7 -0.6**
TIRR *e**PP **pP 11 13 56.6 +0.7**
TIRR pmax pmax
comp=Z,20nm,1.1s
TIRR Tirgusor 81.82 343⇑ *i*P **P 11 13 39.7 -0.6**
TIRR Tirgusor 81.82 343 *e*P **P 11 13 39.6 -0.6**
comp=Z,20nm,1.1s
TIRR *e*pP **pP 11 13 56.6 +0.7**
TUE Stuetta 82.00 356 PFAKE 11 13 50.0 +8.5
TUE LR LR
comp=Z,746nm,22.0s
EIDS Eidsvold 82.07 210 *e*P **P 11 13 41.9 +0.2**
comp=Z,62nm,1.1s
EIDS *e*pP **pP 11 13 57.6 +0.4**
EIDS *e*sP **sP 11 14 03.0 -0.4**
IPM Ipoh 82.11 267 *e*P **P 11 13 42.4 +0.1**
comp=Z,54nm,0.8s
IPM *e*pP **pP 11 13 56.0 -1.9**
IPM *e*sP **sP 11 14 01.6 -2.4**
GRTK Grand Turk 82.14 65 PFAKE 11 13 50.0 +7.7
GRTK LR LR
comp=Z,818nm,19.0s
MSAB Monastry St. A 82.28 343⇓ *i*P **P 11 13 42.5 -0.2**
JTS JuntasAbangare 82.69 83⇑ *e*P **P 11 13 45.7 +0.4**
JTS pmax pmax
comp=Z,26nm,1.0s
JTS JuntasAbangare 82.69 83 *e*P **P 11 13 45.5 +0.2**
comp=Z,20nm,1.0s
JTS LR LR
comp=Z,712nm,19.0s
TPRI Tanjung Pinang 82.73 262 P **P 11 13 46.2 +0.8**
comp=Z,98nm,1.2s,comp=Z,41µm
RKT Rikitea 82.82 142 *e*LR LR 11 39 40.1
comp=Z,2µm,31.0s,baz=335
RKT Rikitea 82.82 142 *e*T T 12 44 46.4
comp=Z,14nm,0.2s
SSB Saint Sauveur 83.31 360 PFAKE 11 14 00.0 +12
SSB LR LR
comp=Z,573nm,21.0s
KMMI Kalianget 83.36 250 P **P 11 13 50.1 +1.4**
comp=Z,152nm,1.4s
DIVS Divibare 83.48 348⇓ *i*P **P 11 13 48.2 -0.9**
WRAB Tennant Creek 83.50 226*c i*P **P 11 13 49.1 -0.1**
WRAB pmax pmax
comp=Z,254nm,1.2s
WRAB Tennant Creek 83.50 226 *e*P **P 11 13 49.0 -0.3**
comp=Z,106nm,1.2s
WRAB LR LR
comp=Z,909nm,20.0s
WRA Warramunga Arr 83.51 226 P **P 11 13 49.1 -0.2**
comp=Z,37nm,0.8s,baz=32,slow=5.6,SNR=188
WRA PKKPbc **PKKPbc 11 32 07.2 +1.1**
comp=Z,2.1nm,0.5s,baz=221,slow=2.0,SNR=36
WRA LR LR 11 48 39.9
comp=Z,354nm,20.6s,baz=45,slow=34
TPI Tanjungpandan 83.70 257 P **P 11 13 50.6 +0.1**
comp=Z,105nm,1.1s,comp=Z,1µm
DSRI Dabo 83.79 261 P **P 11 13 51.5 +0.6**
comp=Z,250nm,1.3s
PVM Polavaram 84.01 290 *e*P **P 11 13 51.4 -0.7**
PVM IAmb IAmb 11 13 53.6
comp=Z,42nm,0.7s
SDDR Presa de Saban 84.06 67 *e*P **P 11 13 52.7 +0.4**
comp=Z,37nm,0.7s
SDDR *e*pP **pP 11 14 06.7 -1.3**
SDDR LR LR
comp=Z,899nm,21.0s
LHMI Lhok Sumawe 84.06 271 P **P 11 13 54.3 +2.0**
comp=Z,455nm,1.4s,comp=Z,4µm
RPR Rampur 84.08 293 *e*P **P 11 13 51.5 -0.9**
RPR IAmb IAmb 11 13 54.0
comp=Z,49nm,1.1s
BLJI Banyuglugur 84.14 250 P **P 11 13 53.3 +0.7**
comp=Z,81nm,0.9s
VLC Villacollemand 84.27 355 PFAKE 11 14 00.0 +7.0
VLC LR LR
comp=Z,764nm,21.0s
VTS Vitosha 84.52 346⇑ *i*P **P 11 13 53.3 -1.2**
SRSP Sriramsagar 84.57 294 *e*P **P 11 13 53.4 -1.5**
SRSP IAmb IAmb 11 13 54.3
comp=Z,38nm,1.2s
PSI Prapat 84.72 268 P **P 11 13 56.3 +0.5**
comp=Z,168nm,0.8s,baz=4.8,slow=4.0,SNR=95
KCSI Kotacane, Aceh 84.88 269 P **P 11 13 55.7 -0.8**
comp=Z,32nm,0.7s,comp=Z,4µm
SMN1 Samana, DR 85.04 65 *e*P **P 11 13 57.6 +0.4**
SMN1 *e*pP **pP 11 14 12.0 -1.0**
NGJI Ngawi 85.09 252 P **P 11 13 57.4 0.0**
comp=Z,127nm,1.9s
BRTR Keskin Array B 85.25 337 P **P 11 13 57.1 -1.0**
comp=Z,5.1nm,0.6s,baz=55,slow=2.7,SNR=29
BRTR LR LR 11 58 40.5
comp=Z,405nm,19.3s,baz=20,slow=40
BKNI Bangkinang 85.34 265 *e*P **P 11 13 58.8 0.0**
comp=Z,61nm,0.5s
BKNI *e*pP **pP 11 14 13.0 -1.5**
BKNI *es*P **sP 11 14 18.7 -1.9**
MALT Malatya 85.34 333⇓ *i*P **P 11 13 59.1 +0.5**
NVR Nevrokopi 85.63 345 *e*P **P 11 14 00.5 +0.6**
HYBB Hyderabad (bro 85.65 293 *e*P **P 11 13 59.5 -0.8**
HYBB IAmb IAmb 11 14 00.2
comp=Z,60nm,1.2s
HYBB *e*pP **pP 11 14 14.2 -1.9**
HYBB *es*P **sP 11 14 19.4 -2.8**
HYB Hyderabad 85.65 293 *i* P **P 11 13 58.0 -2.3**
HYB *e* 11 14 27.0
ALN Alexandroupoli 85.70 343 *e*P P 11 14 09.5 +9.3
AQU L'Aquila 85.87 353 PFAKE 11 14 10.0 +8.9
AQU LR LR
comp=Z,687nm,21.0s
MNSI Mandailing Nat 85.88 266 P **P 11 14 00.7 -0.7**
comp=Z,39nm,0.7s
NJS Nagarjunasagar 85.90 292 *e*P **P 11 14 00.3 -1.2**
NJS IAmb IAmb 11 14 00.9
comp=Z,46nm,1.3s
NJS *e*pP **pP 11 14 18.2 +0.9**
KNT Kendrikon 85.96 346 *e*P **P 11 14 01.0 -0.5**
ADKI Addanki 86.08 291 *e*P **P 11 14 01.6 -0.8**
ADKI IAmb IAmb 11 14 02.9
comp=Z,25nm,0.9s
SDSI Sungai Dareh 86.08 264 P **P 11 14 04.7 +2.3**
TIR Tirane 86.21 348 *e*P **P 11 14 01.7 -1.0**
TIR pmax pmax
comp=Z,29nm,0.7s
TIR MLR MLR
comp=Z,875nm,22.0s
TIR Tirane 86.21 348 *e*P **P 11 14 01.6 -1.0**
comp=Z,29nm,0.7s
TIR LR LR
comp=Z,875nm,22.0s
KLRI Killari 86.24 294 *e*P **P 11 14 02.1 -1.2**
KLRI IAmb IAmb 11 14 04.3
comp=Z,57nm,0.8s
THE Thessaloniki 86.47 346 *e*P **P 11 14 03.5 -0.5**
HORT Hortiatis 86.48 345 *e*P pP 11 14 18.0 -1.9
PTCN Pitcairn Islan 86.49 139 PFAKE 11 14 20.0 +16
PTCN LR LR
comp=Z,3µm,21.0s
SRLM Srisailam 86.50 292 *e*P **P 11 14 04.0 -0.6**
SRLM IAmb IAmb 11 14 04.4
comp=Z,28nm,1.1s
FNA Florina 86.56 347 *e*P **P 11 14 04.0 -0.5**
KPJI Karang Pucung 86.56 254 P **P 11 14 04.4 -0.3**
comp=Z,87nm,0.8s
OUR Ouranopolis 86.60 345 *e*P **P 11 14 03.5 -1.1**
ARMA Armidale 86.64 208 *e*P **P 11 14 06.4 +1.6**
comp=Z,131nm,1.2s
ARMA *e*pP **pP 11 14 19.1 -1.4**
PLG Polygyros 86.65 345 *e*P **P 11 14 03.5 -1.4**
BCIP Isla Barro Col 86.70 79 PFAKE 11 14 20.0 +15
BCIP LR LR
comp=Z,657nm,22.0s
GSI Gunungsitoli 86.73 268 P **P 11 14 06.4 +0.8**
comp=Z,110nm,0.6s
GSI Gunungsitoli 86.73 268 *e*P **P 11 14 05.8 +0.2**
comp=Z,70nm,0.6s
GSI *e*pP **pP 11 14 19.6 -1.8**
NEST Nestorio 86.97 347 *e*P **P 11 14 05.5 -1.1**
RCLA Racherla 86.98 291 *e*P **P 11 14 05.9 -0.9**
RCLA IAmb IAmb 11 14 06.3
comp=Z,33nm,1.2s
KLSI 87.00 259 P **P 11 14 06.1 -0.8**
comp=Z,76nm,1.0s
PAIG Paliouri 87.05 345 *e*P **P 11 14 04.5 -2.3**
LHSI Lahat 87.06 260 P **P 11 14 06.3 -0.9**
comp=Z,74nm,1.5s,comp=Z,2µm
MDSI Maura Dua 87.18 259 P **P 11 14 06.2 -1.6**
comp=Z,99nm,1.6s
CRPR Cabo Rojo, PR 87.20 64 *e*P **P 11 14 07.8 0.0**
comp=Z,160nm,1.3s
CRPR *e*pP **pP 11 14 23.2 -0.4**
SIGR SIGRI 87.37 343 *e*P P 11 14 03.5 -4.9
POO Poona 87.41 297⇑ *i*PS **P 11 14 07.0 -2.0**
CELP Cerrillos 87.44 64 *e*P **P 11 14 09.1 0.0**
CELP *e*pP **pP 11 14 23.6 -1.3**
OBIP Obispado Ponce 87.45 64 *e*P **P 11 14 09.0 -0.1**
comp=Z,142nm,1.1s
OBIP *e*pP **pP 11 14 23.6 -1.3**
ICMP Isla Caja de M 87.62 64 *e*P **P 11 14 10.3 +0.4**
MTE Manteigas 87.64 9 PFAKE 11 14 20.0 +10
MTE LR LR
comp=Z,700nm,19.0s
SJG San Juan 87.65 64 *e*P **P 11 14 10.3 +0.3**
SJG pmax pmax
comp=Z,147nm,1.1s
SJG MLR MLR
comp=Z,960nm,21.0s
SJG San Juan 87.65 64 *e*P **P 11 14 10.3 +0.3**
comp=Z,147nm,1.1s
SJG LR LR
comp=Z,960nm,21.0s
XOR Xorichti 87.67 345 *e*P **P 11 14 08.0 -1.9**
NEO Neokhori 87.73 345 *e*P **P 11 14 08.0 -2.2**
AOS Alonnisos 87.75 345 *e*P **P 11 14 10.5 +0.3**
ISP Isparta 87.78 339 PFAKE 11 14 20.0 +9.5
ISP LR LR
comp=Z,770nm,21.0s
KEK Kerkira 87.83 348 *e*P **P 11 14 10.0 -0.6**
SISI Saibi 87.84 265 P **P 11 14 10.5 -0.4**
comp=Z,107nm,1.1s
SGD Sagiada 87.87 347 *e*P **P 11 14 09.5 -1.3**
SKHT Srikalahasti 87.90 290 *e*P **P 11 14 10.2 -1.1**
SKHT IAmb IAmb 11 14 11.2
comp=Z,32nm,1.2s
PAYG Puerto Ayora 87.90 94 PFAKE 11 14 20.0 +8.7
PAYG LR LR
comp=Z,1µm,22.0s
IGT Igoumenitsa 87.93 347 *e*P **P 11 14 11.5 +0.4**
CUC Castrocucco 88.00 351 *e*P **P 11 14 09.6 -1.9**
comp=Z,2.7nm,0.6s
CUC LR LR
comp=Z,616nm,21.0s
STVI Saint Thomas 88.12 62 *e*P **P 11 14 12.2 -0.1**
comp=Z,162nm,1.1s
STVI *e*pP **pP 11 14 26.6 -1.5**

CHOS Chios island 88.14 343 *e*P **P 11 14 09.5 -2.7**
AGG Agios Georgios 88.14 346 *e*P P 11 14 06.0 -6.1
SMIA Simia 88.15 345 *e*P **P 11 14 12.0 -0.1**
MAKR Makrakomi, Fth 88.18 346 *e*P **P 11 14 11.0 -1.3**
DSL Palaion Diasel 88.22 347 *e*P **P 11 14 11.5 -1.0**
MRKA Markates 88.25 345 *e*P **P 11 14 10.0 -2.7**
EVR Evrytania 88.33 346 *e*P **P 11 14 11.5 -1.6**
URV Uravakonda 88.36 292 *e*P **P 11 14 11.9 -1.6**
URV IAmb IAmb 11 14 13.1
comp=Z,32nm,1.1s
ESDC Sonseca Array 88.65 6 P **P 11 14 12.6 -2.0**
comp=Z,2.4nm,0.7s,baz=348,slow=4.2,SNR=5.5
ESDC LR LR 11 55 08.0
comp=Z,208nm,19.8s,baz=125,slow=36
CDVI St. Croix 88.71 63 *e*P **P 11 14 15.1 0.0**
comp=Z,219nm,1.0s
CDVI *e*pP **pP 11 14 29.8 -1.1**
DESF Desfina 88.71 345 *e*P **P 11 14 12.0 -2.9**
DSF Desfina 88.71 345 *e*P **P 11 14 12.0 -2.9**
TIP Timpagrande 88.72 350 PFAKE 11 14 30.0 +15
TIP LR LR
comp=Z,572nm,22.0s
PDO Prodromos 88.73 347 *e*P **P 11 14 13.5 -1.4**
PAB San Pablo 88.75 6 PFAKE 11 14 30.0 +15
PAB LR LR
comp=Z,788nm,22.0s
SERG Sergoula 88.78 346 *e*P **P 11 14 14.5 -0.7**
KALE Kalithea 88.79 346 *e*P **P 11 14 13.0 -2.2**
EFP Efpalio 88.79 346 *e*P **P 11 14 14.5 -0.6**
TRIZ Trizonia 88.83 346 *e*P **P 11 14 14.5 -0.8**
ATH Athens Observa 88.95 344 *e*P pP 11 14 27.5 -4.2
VSL Villasalto 88.96 356 PFAKE 11 14 30.0 +14
VSL LR LR
comp=Z,559nm,21.0s
LAKA Lakka 88.96 346 *e*P **P 11 14 15.5 -0.5**
LTK Loutraki 89.02 345 *e*P P 11 14 11.0 -5.3
LOUT Loutraki 89.06 345 *e*P **P 11 14 13.5 -2.9**
KLV Kalavryta, Ach 89.13 346 *e*P **P 11 14 15.0 -1.8**
GUR Goura 89.21 346 *e*P **P 11 14 15.0 -2.3**
RLS Riolos of Patr 89.22 346 *e*P **P 11 14 16.0 -1.2**
VLS Valsamata 89.23 347 *e*P **P 11 14 16.0 -1.2**
DRO Drossia 89.29 346 *e*P **P 11 14 16.5 -1.0**
DID Didima 89.48 345 *e*P P 11 14 12.0 -6.5
APE Apeiranthos 89.51 343 *e*P P 11 14 22.5 +3.9
DIDY Didyma 89.52 345 *e*P **P 11 14 16.0 -2.7**
AMT Artemida-Makis 89.70 346 *e*P **P 11 14 19.5 0.0**
VLX Vlachokerasia 89.75 345 *e*P P 11 14 15.5 -4.3
CSS Prodhromos 89.85 336 PFAKE 11 14 30.0 +10
CSS LR LR
comp=Z,130nm,21.0s
ITM Ithomi 90.01 346 *e*P **P 11 14 18.0 -2.9**
SFD Strofades 90.08 346 *e*P P 11 14 14.0 -7.2
SANT Santorini 90.20 343 PFAKE 11 14 30.0 +8.1
SANT LR LR
comp=Z,786nm,20.0s
VLI Veliai 90.30 345 *e*P **P 11 14 20.5 -1.8**
PYL PYLOS 90.32 346 *e*P **P 11 14 22.0 -0.3**
ANWB Willy Bob 90.40 60 PFAKE 11 14 30.0 +7.0
ANWB LR LR
comp=Z,732nm,20.0s
CLTB Caltabellotta 90.63 353 PFAKE 11 14 40.0 +16
CLTB LR LR
comp=Z,345nm,20.0s
KARP Karpathos 90.68 341 *e*P P 11 14 19.5 -4.6
ANKY Antikythira Is 91.07 344 *e*P **P 11 14 24.0 -1.8**
STKA Stephens Creek 91.22 215 P **P 11 14 27.3 +1.0**
comp=Z,27nm,0.7s,baz=356,slow=5.2,SNR=27
STKA LR LR 11 51 01.7
comp=Z,760nm,20.1s,baz=20,slow=32
MBWA Marble Bar 91.66 237 *e*P **P 11 14 28.4 -0.2**
comp=Z,118nm,1.3s
MBWA *e*pP **pP 11 14 42.4 -2.1**
MBWA LR LR
comp=Z,675nm,21.0s
WDD Wield Dalam 92.22 351 PFAKE 11 14 40.0 +8.9
WDD LR LR
comp=Z,517nm,19.0s
PALK Pallekele 92.44 285 P **P 11 14 33.1 +0.6**
comp=Z,42nm,1.2s,baz=355,slow=4.8,SNR=4.1
PALK LR LR 11 58 18.3
comp=Z,421nm,20.9s,baz=34,slow=37
SDV Santo Domingo 92.46 72 *e*P **P 11 14 33.3 +0.4**
comp=Z,25nm,0.9s
SDV *e*pP **pP 11 14 48.1 -0.6**
SDV *es*P **sP 11 14 54.7 0.0**
SDV LR LR
comp=Z,774nm,20.0s
SNZO South Karori 93.07 187 PFAKE 11 14 50.0 +15
SNZO LR LR
comp=Z,1µm,22.0s
FDF Fort de France 93.16 62 PFAKE 11 14 50.0 +14
FDF LR LR
comp=Z,674nm,20.0s
OTAV Otavalo 94.53 84 *e*P **P 11 14 43.1 +0.5**
comp=Z,14nm,1.0s
OTAV *e*pP **pP 11 14 57.9 -0.7**
OTAV LR LR
comp=Z,496nm,21.0s
GRGR Grenville 95.01 63 PFAKE 11 15 00.0 +16
GRGR LR LR
comp=Z,611nm,21.0s
RAYN Ar Rayn 96.63 322 *e*P **P 11 14 50.5 -1.2**
comp=Z,10nm,0.9s
RAYN LR LR
comp=Z,1µm,22.0s
NNA Nana 105.02 90 PFAKE 11 20 00.0
NNA LR LR
comp=Z,694nm,19.0s
TAM Tamanrasset 105.73 358 PFAKE 11 20 00.0
TAM LR LR
comp=Z,520nm,20.0s
PTGA Pitinga 106.44 69 PFAKE 11 20 00.0
PTGA LR LR
comp=Z,2µm,19.0s
SACV Santiago Islan 109.33 28 PFAKE 11 20 00.0
SACV LR LR
comp=Z,379nm,20.0s
SAML Samuel 111.08 77 PFAKE 11 20 10.0
SAML LR LR
comp=Z,718nm,21.0s
LPAZ La Paz 113.71 86 PKiKP **PKiKP 11 19 59.6 -0.9**
comp=Z,1.8nm,1.0s,baz=117,slow=3.8,SNR=3.9
TORD Torodi Ar. Bea 115.30 2 PKP **PKPdf 11 20 02.3 -0.7**
comp=Z,8.7nm,0.5s,baz=346,slow=2.2,SNR=119
TORD PKKPbc **PKKPbc 11 30 36.4 +1.1**
comp=Z,3.6nm,0.9s,baz=172,slow=2.3,SNR=20
TORD PKKP **PKKPdf 11 30 56.9 -1.3**
comp=Z,8.8nm,0.7s,baz=178,slow=3.9,SNR=13
TOB3 Torodi Ar. Sit 115.31 2 *e*PKiKP **PKPdf 11 20 01.0 -2.0**
MSEY Mahe Island 116.64 299 PFAKE 11 20 20.0 +14
MSEY LR LR
comp=Z,546nm,20.0s
LVC Limon Verde 117.96 92 PFAKE 11 20 20.0 +12
LVC LR LR
comp=Z,651nm,20.0s
DBIC Dimbokro 121.28 10 PKP **PKPdf 11 20 14.0 -0.5**
comp=Z,12nm,0.4s,baz=4.6,slow=2.4,SNR=47
TIC Toumodi 121.29 10 *e*PKiKP **PKPdf 11 20 13.9 -0.7**
KIC Kosan Boka 121.60 10 *e*PKiKP **PKPdf 11 20 14.1 -1.0**
comp=Z,53nm,0.9s
LIC Lamto 121.70 10 *e*PKiKP **PKPdf 11 20 13.9 -1.4**
comp=Z,53nm,0.6s
KMBO Kilima Mbogo 122.29 319 PKP **PKPdf 11 20 16.8 0.0**
comp=Z,6.3nm,0.3s,baz=355,slow=5.3,SNR=24
KMBO Kilima Mbogo 122.29 319 PKiKP **PKPdf 11 20 16.8 0.0**
KMBO MLR MLR
comp=Z,902nm,20.0s
KMBO Kilima Mbogo 122.29 319 PKP **PKPdf 11 20 16.8 0.0**
KMBO *e*PKPdf **PKiKP 11 20 17.1 +0.1**
KMBO LR LR
comp=Z,902nm,20.0s
RCBR Riachuelo 123.61 50 PFAKE 11 20 30.0 +11
RCBR LR LR
comp=Z,530nm,19.0s
MBAR Mbarara 124.23 327 PFAKE 11 20 30.0 +10
MBAR LR LR
comp=Z,886nm,22.0s
BDFB Brasilia 125.36 68 PKP **PKPdf 11 20 21.9 -0.4**
comp=Z,10nm,0.8s,baz=232,slow=1.6,SNR=11
CPUP Villa Florida 127.86 85 PKP **PKPdf 11 20 26.3 -0.3**
comp=Z,16nm,1.0s,baz=327,slow=3.1,SNR=17
VNDA Vanda 129.78 186 PKP **PKPdf 11 20 28.6 -0.2**
comp=Z,4.5nm,1.0s,baz=315,slow=4.5,SNR=14
SBA Scott Base 129.81 185 *e*PKiKP **PKPdf 11 20 29.0 +0.2**
SBA MLR MLR

comp=Z,399nm,19.0s
SBA Scott Base 129.81 185 *e*PKPdf **PKPdf 11 20 29.0 +0.2**
SBA LR LR
comp=Z,399nm,19.0s
CASY Casey 130.16 210 PFAKE 11 20 40.0 +10
CASY LR LR
comp=Z,624nm,19.0s
OPO Ambohidratompo132.63 298 PKP **PKPdf 11 20 36.3 +0.2**
comp=Z,16nm,0.9s,baz=59,slow=1.4,SNR=17
OPO SKP 11 23 56.0
comp=Z,6.7nm,0.9s,baz=90,slow=1.0,SNR=4.9
ABPO Ambohimpanom 132.97 298 *e*PKIKP **PKPdf 11 20 36.5 -0.3**
ABPO Ambohimpanom 132.97 298 *e*PKPdf **PKPdf 11 20 36.5 -0.3**
USHA Ushuaia 138.42 124 PKhKP PKPpre 11 20 36.2
comp=Z,7.5nm,1.1s,baz=326,slow=3.6,SNR=2.4
LSZ Lusaka 138.74 323 PKP **PKPdf 11 20 48.0 +0.4**
comp=Z,12nm,0.9s,baz=39,slow=6.4,SNR=15
LSZ Lusaka 138.74 323 PKIKP **PKPdf 11 20 48.0 +0.4**
LSZ pmax pmax
comp=Z,13nm,0.9s
LSZ Lusaka 138.74 323 *e*PKPdf **PKPdf 11 20 47.5 -0.1**
LSZ PKP **PKPdf 11 20 48.0 +0.4**
LSZ LR LR
comp=Z,732nm,22.0s
QSPA South Pole Qui 141.55 180 PKhKP PKPpre 11 20 45.2
comp=Z,14nm,0.6s,baz=29,slow=1.3,SNR=93
QSPA PKP **PKPdf 11 20 53.2 +2.2**
comp=Z,38nm,0.8s,baz=324,slow=0.9,SNR=20
QSPA South Pole Qui 141.55 180 PKP **PKPdf 11 20 53.2 +2.2**
QSPA LR LR
comp=Z,622nm,21.0s
PMSA Palmer Station 143.89 138 *e*PKPdf PKPbc 11 20 53.0 0.0
PMSA LR LR
comp=Z,778nm,21.0s
MSNA Messina 144.36 316 P **PKPab 11 20 55.7 +0.1**
TSUM Tsumeb 145.75 337 PKPbc **PKPdf 11 21 00.1 +0.2**
comp=Z,21nm,0.6s,baz=355,slow=6.0,SNR=23
MAW Mawson 147.86 218 PKPbc **PKPbc 11 21 05.0 +0.2**
comp=Z,106nm,0.9s,baz=87,slow=2.0,SNR=9.1
MAW PKKP **PKKPdf 11 29 59.1 +1.1**
comp=Z,1.8nm,0.5s,baz=251,slow=19,SNR=5.9
POGA Pongola 147.95 309 P **PKPbc 11 21 06.4 +0.1**
LBTB Lobatse 148.57 320 PKIKP **PKPdf 11 21 04.8 +0.3**
LBTB Lobatse 148.57 320 P **PKPdf 11 21 04.8 +0.3**
SWZ Schweizer 150.61 319 P **PKPdf 11 21 07.5 -0.2**
SEK Senekal 150.61 314 P **PKPdf 11 21 08.3 +0.6**
BOSA Boshof 151.90 317 PKP **PKPdf 11 21 08.6 -1.0**
comp=Z,9.7nm,0.6s,baz=16,slow=2.0,SNR=17
BOSA PKPbc **PKPbc 11 21 16.0 -0.1**
comp=Z,95nm,0.6s,baz=22,slow=2.0,SNR=141
UPI Upington 153.24 324 P **PKPdf 11 21 11.0 -0.5**
GRM Grahamstown 155.32 310 PKIKP **PKPdf 11 21 12.9 -1.3**
GRM Grahamstown 155.32 310 P **PKPdf 11 21 12.9 -1.3**
SYO Syowa Base 155.92 211⇑ *e*P **PKPdf 11 21 17.8 +4.0**
SNAA Sanae 159.82 174 PKP **PKPdf 11 21 17.0 -1.6**
comp=Z,4.6nm,1.0s,baz=169,slow=1.4,SNR=27
SNAA PKPab **PKPab 11 21 57.4 -0.7**
comp=Z,8.4nm,0.9s,baz=216,slow=5.4,SNR=13
VNA1 Neumayer--Stat 160.27 168 P **PKPdf 11 21 17.6 -1.5**
NVL N'lazarevskaya 160.62 188 *e*PKP2 **PKPab 11 21 57.5 -4.0**
NVL pmax pmax
comp=Z,13nm,0.9s

MEX 14 11:10:57.5±0.5, 14°39N×92°65W, h10km±40km, MD3.6,
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PCIG		**1.42**	**337**	*e*P		Pn	11 11 19.7	-3.6
PCIG				*i* S		Sn	11 11 36.9	-5.1
CCIG	**Comitan**	**1.94**	**15**	*e*P		Pn	11 11 27.9	-2.9
CCIG				*e*S		Sn	11 11 50.4	-5.2
TGIG		**2.42**	**349**	*i* P		Pn	11 11 34.2	-3.0
TGIG				*e*S		Sn	11 12 02.3	-4.6

KRSC 14 11:29:11.3±0.7, 54°96N×162°41E, h41km±14km, ML3.7,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.57**	**224**	*e*P		Pn	11 29 23.8	+0.9
MKZ				*e*S		Sn	11 29 32.2	+1.0
KZV	**Kizimen**	**1.23**	**278**	*e*P		Pn	11 29 33.1	+0.9
KZV				*e*S		Sn	11 29 48.5	+0.8
KBTR	**Krutoberegovo**	**1.27**	**10**	*e*P		Pn	11 29 33.8	+1.3
KBTR				*e*S		Sn	11 29 49.8	+1.5
TUMR	**Tumrok**	**1.34**	**285**	*e*P		Pn	11 29 35.4	+1.7
TUMR				*e*S		Sn	11 29 52.6	+2.2
KMNR	**Kamenistaya**	**1.47**	**303**	*e*P		Pn	11 29 37.0	+1.5
KMNR				*e*S		Sn	11 29 54.6	+0.9
KLY	**Klyuchi**	**1.68**	**324**	*e*P		Pn	11 29 39.3	+1.1
KLY				*e*S		Sn	11 29 59.4	+0.9
SMKR	**Semkarok**	**1.71**	**342**	*e*P		Pn	11 29 40.7	+2.0
SMKR				*e*S		Sn	11 30 01.9	+2.5
BDR	**Baidarnaya**	**1.75**	**338**	*e*P		Pn	11 29 41.4	+2.2
BDR				*e*S		Sn	11 30 03.4	+3.1
KOZ	**Kozyrevsk**	**1.81**	**308**	*e*P		Pn	11 29 42.8	+2.8
KOZ				*e*S		Sn	11 30 04.5	+2.7
SRKR	**Sorokina**	**1.83**	**338**	*e*P		Pn	11 29 42.7	+2.3
KII	**Karymskiy**	**1.96**	**243**	*e*P		Pn	11 29 43.7	+1.5
KII				*e*S		Sn	11 30 07.0	+1.4
SRDR	**Sredinnyy**	**2.04**	**313**	*e*P		Pn	11 29 45.7	+2.4
SRDR				*e*S		Sn	11 30 09.5	+1.9
BKI	**Bering**	**2.06**	**82**	*e*P		Pn	11 29 45.1	+1.7
BKI				*e*S		Sn	11 30 09.8	+2.0
ESO	**Esso**	**2.32**	**296**	*e*P		Pn	11 29 48.4	+1.3
SPN	**Mys Shipunski**	**2.34**	**218**	*e*P		Pn	11 29 49.0	+1.8
SPN				*e*S		Sn	11 30 14.5	-0.2
NLC	**Nalytchevo**	**2.55**	**226**	*e*P		Pn	11 29 53.3	+3.2
NLC				*e*S		Sn	11 30 22.7	+2.9
SDLR	**Sedlovina**	**2.68**	**232**	*e*P		Pn	11 29 55.7	+3.7
SDLR				*e*S		Sn	11 30 27.7	+4.4
KRER	**Koryakskii**	**2.72**	**234**	*e*P		Pn	11 29 56.0	+3.2
KRER				*e*S		Sn	11 30 28.1	+3.5
SMAR	**Somma**	**2.72**	**233**	*e*P		Pn	11 29 56.4	+3.6
SMAR				*e*S		Sn	11 30 28.4	+3.7
KRX	**Arik**	**2.73**	**236**	*e*P		Pn	11 29 56.9	+4.0
KRX				*e*S		Sn	11 30 29.2	+4.4
UGLR	**Uglovaya**	**2.75**	**232**	*e*P		Pn	11 29 56.4	+3.4
UGLR				*e*S		Sn	11 30 29.4	+4.3
AVH	**Avacha**	**2.75**	**233**	*e*P		Pn	11 29 57.1	+4.1
AVH				*e*S		Sn	11 30 29.4	+4.3
KOK	**Koryaka**	**2.78**	**235**	*e*P		Pn	11 29 56.3	+2.8
KOK				*e*S		Sn	11 30 28.9	+3.0
GNL	**Ganaly**	**2.91**	**246**	*e*P		Pn	11 29 58.4	+3.2
PET	**Petropavlovsk**	**2.95**	**230**	*e*P		Pn	11 29 58.7	+3.1
PET				*e*S		Sn	11 30 33.1	+3.4
RUS	**Russkaya**	**3.44**	**224**	*e*P		Pn	11 30 05.6	+3.4
ASAK	**Asacha**	**3.73**	**228**	*e*P		Pn	11 30 11.7	+5.3

NIED ***14*** *11:55:00, 33.5°N×131.9°E, h77km, Mw4.1 Best double couple: M0 1.64000×10^15 NP1:φs=322.00000°, δ17.00000°, λ-139.00000°. NP2:φs=191.00000°, δ79.00000°, λ-77.00000°.*

ISCJB ***14*** *11:55:41.3±0.3, 33.4°N±0.03×131.87°E±0.03, h85km±3km, mb3.7/15, Error ellipse: s-maj=5.5km s-min=3.9km az=7.6*

IDC ***14*** *11:55:43.0±0.6, 33.4°N×131.69°E, h82km±4km, mb3.5/15, mb1 3.7/18, mb1mx3.5/55, mbtmp3.8/18, Error ellipse: s-maj=11.9km s-min=10.4km az=108.0*

JMA ***14*** *11:55:42.9, 33.50°N×131.86°E, h74km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs=312.00000°, δ84.00000°, λ147.00000°. NP2: φs=46.00000°, δ57.00000°, λ7.00000°. Principal axes: T Plg27.0000°, Azm264.0000°; N Plg57.0000°, Azm123.0000°; P Plg18.0000°, Azm4.0000°;*

JMA Felt II J1.

ISC 14 11:55:42.4±0.6, 33°47N±0.04×131°86E±0.03, h78km±4km,
n73, σ0°84/93, mb3.8/15, 6C-4D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JKI	**Kunimi**	**0.29**	**304**	⇓P		**Pn**	**11 55 54.4**	**0.0**
JKI				S		**Sn**	**11 56 02.9**	**-0.3**
JBEP	**Beppuamama**	**0.40**	**250**	P		**Pn**	**11 55 55.3**	**+0.2**
JUS	**Usuki**	**0.42**	**192**	⇓P		**Pn**	**11 55 55.6**	**+0.4**
JUS				S		**Sn**	**11 56 04.6**	**-0.1**
JNA	**Nagahama**	**0.53**	**81**	⇑P		**Pn**	**11 55 56.3**	**+0.1**
JNA				*e*S		**Sn**	**11 56 06.2**	**-0.1**
UWA2	**Uwa jima 2**	**0.69**	**112**	⇑P		**Pn**	**11 55 57.7**	**-0.1**
UWA2				S		**Sn**	**11 56 08.7**	**-0.6**
JHM	**Kurahashi**	**0.87**	**40**	⇑P		**Pn**	**11 55 59.8**	**0.0**
JHM				*e*S		**Sn**	**11 56 12.3**	**-0.4**
JNU	**Nakatsue**	**0.89**	**247**	P		**Pn**	**11 56 00.5**	**+0.4**
baz=69,slow=8.7								
JNU				LR		LR	11 56 02.9	
comp=Z,139nm,21.9s,baz=30,slow=26								
JNU				S		**Sn**	**11 56 13.1**	**-0.1**
377nm,0.3s,baz=72,slow=20,SNR=63								
JTO	**Tosashimizu**	**1.00**	**127**	⇑P		**Pn**	**11 56 01.3**	**0.0**
JTO				*e*S		**Sn**	**11 56 14.8**	**-0.6**
JKU	**Kubokawa**	**1.02**	**99**	⇑P		**Pn**	**11 56 01.4**	**-0.2**
JKU				*e*S		**Sn**	**11 56 15.7**	**-0.2**
JET	**Tanbara**	**1.04**	**73**	⇑P		**Pn**	**11 56 01.8**	**0.0**
JET				S		**Sn**	**11 56 16.0**	**-0.3**
JIU2	**Izumi 2**	**1.27**	**224**	⇓P		**Pn**	**11 56 05.3**	**+0.6**
JHT	**Toyohira**	**1.28**	**21**	⇓P		**Pn**	**11 56 05.2**	**+0.4**
JHT				S		**Sn**	**11 56 21.1**	**-0.5**
KSBUS	**Busan**	**2.88**	**309**	P		**Pn**	**11 56 26.0**	**0.0**
SNR=25								
KSBUS	**Busan**	**2.88**	**309**	P		**Pn**	**11 56 26.0**	**0.0**
SNR=25								
KSTOY	**TONGYEONG**	**3.15**	**297**	P		**Pn**	**11 56 29.9**	**+0.2**
SNR=10.0								
KSTOY	**TONGYEONG**	**3.15**	**297**	P		**Pn**	**11 56 29.9**	**+0.2**
SNR=10.0								
KSDAG	**Daegu**	**3.35**	**314**	P		**Pn**	**11 56 32.4**	**0.0**
SNR=30								
KSDAG	**Daegu**	**3.35**	**314**	P		**Pn**	**11 56 32.4**	**0.0**
SNR=30								
KSPHA	**Pohang**	**3.40**	**324**	P		**Pn**	**11 56 33.1**	**+0.1**
SNR=16								
KSPHA	**Pohang**	**3.40**	**324**	P		**Pn**	**11 56 33.1**	**+0.1**
SNR=16								
KSYOC	**YEONGCHEON**	**3.46**	**317**	P		**Pn**	**11 56 34.3**	**+0.5**
SNR=6.6								
KSYOC	**YEONGCHEON**	**3.46**	**317**	P		**Pn**	**11 56 34.3**	**+0.5**
SNR=6.6								
KSNAH	**Namhae**	**3.52**	**293**	P		**Pn**	**11 56 35.2**	**+0.4**
SNR=15								
KSNAH	**Namhae**	**3.52**	**293**	P		**Pn**	**11 56 35.2**	**+0.4**
SNR=15								
KSJIN	**Jinju**	**3.59**	**299**	P		**Pn**	**11 56 36.1**	**+0.5**
SNR=7.6								
KSJIN	**Jinju**	**3.59**	**299**	P		**Pn**	**11 56 36.1**	**+0.5**
SNR=7.6								
KSULJ	**Uljin**	**3.80**	**329**	P		**Pn**	**11 56 38.3**	**-0.2**
SNR=37								
KSULJ	**Uljin**	**3.80**	**329**	P		**Pn**	**11 56 38.3**	**-0.2**
SNR=37								
KSEUS	**ULSEONG**	**3.88**	**319**	P		**Pn**	**11 56 40.1**	**+0.5**
SNR=33								
KSEUS	**ULSEONG**	**3.88**	**319**	P		**Pn**	**11 56 40.1**	**+0.5**
SNR=33								
KSKOH	**Goheung**	**3.97**	**288**	P		**Pn**	**11 56 41.5**	**+0.6**
SNR=17								
KSKOH	**Goheung**	**3.97**	**288**	P		**Pn**	**11 56 41.5**	**+0.6**
SNR=17								
KSULL	**Ulleungdo**	**4.07**	**349**	P		**Pn**	**11 56 42.3**	**+0.1**
SNR=6.6								
KSSAJ	**Sangju**	**4.22**	**315**	P		**Pn**	**11 56 44.9**	**+0.7**
SNR=6.9								
KSTBA	**Taebaek**	**4.35**	**328**	P		**Pn**	**11 56 46.8**	**+0.7**
SNR=43								
KSTBA	**Taebaek**	**4.35**	**328**	P		**Pn**	**11 56 46.8**	**+0.7**
SNR=43								
KSKWJ	**Gwangju**	**4.36**	**294**	P		**Pn**	**11 56 46.7**	**+0.5**
SNR=14								
KSWAN	**Wando**	**4.38**	**283**	P		**Pn**	**11 56 47.4**	**+0.9**
SNR=9.1								
KSJEO	**Jeonju**	**4.49**	**304**	P		**Pn**	**11 56 48.9**	**+0.9**
SNR=8.4								
KSBON	**Boeun**	**4.50**	**313**	P		**Pn**	**11 56 49.0**	**+1.0**
SNR=6.7								
KSJEU	**Jeongeup**	**4.54**	**298**	P		**Pn**	**11 56 49.4**	**+0.7**
SNR=65								
KSCHJ	**Chungju**	**4.65**	**318**	P		**Pn**	**11 56 50.8**	**+0.7**
SNR=10								
KSJDO	**Jindo**	**4.71**	**284**	P		**Pn**	**11 56 51.9**	**+0.9**
SNR=9.9								
KSDGY	**Daegwallycong**	**4.94**	**329**	P		**Pn**	**11 56 55.1**	**+0.9**
SNR=15								
KSWJU	**Wonju**	**5.00**	**323**	P		**Pn**	**11 56 55.9**	**+1.0**
SNR=6.8								
KSCEA	**Cheonan**	**5.04**	**313**	P		**Pn**	**11 56 56.2**	**+0.8**
SNR=9.6								
KSJMJ	**Jeunjin**	**5.07**	**331**	P		**Pn**	**11 56 56.6**	**+0.7**
SNR=37								
KSRS	**Korea Array**	**5.11**	**322**	P		**Pn**	**11 56 57.4**	**+1.1**
2.6nm,0.3s,baz=141,slow=14,SNR=34								
KSRS				S		**Sn**	**11 57 53.3**	**-0.7**
6.2nm,0.3s,baz=138,slow=24,SNR=17								
KSICN	**Icheon**	**5.26**	**318**	P		**Pn**	**11 56 59.5**	**+1.1**
SNR=6.4								
KSCHC	**Chuncheon**	**5.41**	**324**	P		**Pn**	**11 57 01.5**	**+1.0**
SNR=6.4								
KSSKC	**Sokcho**	**5.52**	**332**	P		**Pn**	**11 57 02.8**	**+0.8**
SNR=6.7								
SEHB	**SEOHWA**	**5.61**	**330**	P		**Pn**	**11 57 04.7**	**+1.4**
SNR=160								
MAT	**Matsushiro**	**6.04**	**58**	P		**Pn**	**11 57 10.8**	**+1.6**
MAT				S		**Sn**	**11 58 15.9**	**-1.1**
MJAR	**Matsushiro Arr**	**6.04**	**58**	P		**Pn**	**11 57 11.5**	**+2.3**
15nm,0.3s,baz=238,slow=15,SNR=116								
MJAR				S		**Sn**	**11 58 17.9**	**+0.9**
2.4nm,0.3s,baz=219,slow=16,SNR=5.0								
KSMUS	**Musan**	**6.05**	**318**	P		**Pn**	**11 57 10.4**	**+1.2**
SNR=9.5								
YNCB	**YEONCHEON**	**6.07**	**320**	P		**Pn**	**11 57 10.7**	**+1.3**
SNR=10								
KSGAH	**Ganghwa**	**6.11**	**315**	P		**Pn**	**11 57 11.1**	**+1.1**
SNR=8.0								
USRK	**Ussuriysk Ar.**	**10.71**	**1**	P		**Pn**	**11 58 14.1**	**+1.3**
0.2nm,0.3s,baz=142,slow=9.3,SNR=5.1								
SONM	**Songino Array**	**23.92**	**314**	P		**P**	**12 00 49.5**	**+0.3**
6.9nm,0.7s,baz=126,slow=9.9,SNR=34								
ZALV	**Zalesovo Beam**	**38.78**	**316**	P		**P**	**12 02 58.4**	**-0.8**
0.7nm,0.3s,baz=107,slow=4.8,SNR=3.8								
ZALV				pP		**pP**	**12 03 16.8**	**-1.1**
0.7nm,0.3s,baz=113,slow=6.6,SNR=1.5								
MKAR	**Makanchi Array**	**39.53**	**305**	P		**P**	**12 03 05.0**	**-0.6**
0.6nm,0.8s,baz=94,slow=11,SNR=5.2								
KURBB	**Kurchatov Arra**	**42.17**	**310**	P		**P**	**12 03 26.6**	**-0.6**
1.3nm,0.8s,baz=98,slow=9.0,SNR=9.8								
KURBB				pP		**pP**	**12 03 45.9**	**-0.1**
1.6nm,0.7s,baz=98,slow=9.1,SNR=9.6								
BVAR	**Borovoye Array**	**47.26**	**314**	P		**P**	**12 04 07.3**	**-0.4**
1.5nm,0.5s,baz=98,slow=11,SNR=10								
BVAR				pP		**pP**	**12 04 25.9**	**-0.8**
2.6nm,0.6s,baz=102,slow=9.9,SNR=7.4								
WRA	**Warramunga Arr**	**53.17**	**177**	P		**P**	**12 04 52.3**	**-0.2**
0.4nm,0.6s,baz=355,slow=8.1,SNR=7.8								
WRA				pP		**pP**	**12 05 12.8**	**+0.8**
1.1nm,0.9s,baz=352,slow=8.1,SNR=4.8								
ILAR	**Eielson Array**	**56.60**	**30**	P		**P**	**12 05 17.0**	**+0.2**
0.4nm,0.7s,baz=274,slow=7.0,SNR=7.4								
ILAR				pP		**pP**	**12 05 37.7**	**+1.2**
0.4nm,0.8s,baz=289,slow=8.2,SNR=4.9								
ASAR	**Alice Springs**	**56.85**	**178**	P		**P**	**12 05 19.3**	**+0.2**
0.3nm,0.6s,baz=357,slow=6.1,SNR=5.1								
ARCES	**ARCESS Array B**	**64.46**	**338**	P		**P**	**12 06 09.7**	**-0.5**
1.2nm,0.6s,baz=51,slow=9.6,SNR=8.1								
KBZ	**Khibaz**	**67.10**	**308**	P		**P**	**12 06 26.6**	**-0.9**
1.3nm,0.5s,baz=88,slow=9.7,SNR=3.1								
FINES	**FINESS Array B**	**68.15**	**330**	P		**P**	**12 06 32.7**	**-1.2**
0.8nm,0.4s,baz=72,slow=6.2,SNR=6.7								
FINES				pP		**pP**	**12 06 52.0**	**-2.0**
1.1nm,0.6s,baz=64,slow=4.4,SNR=1.6								
YKA	**Yellowknife Ar**	**70.66**	**27**	P		**P**	**12 06 50.6**	**+1.3**
0.3nm,0.8s,baz=306,slow=6.1,SNR=3.3								
HFS	**Hagfors**	**73.87**	**333**	P		**P**	**12 07 06.5**	**-2.1**
1.3nm,0.6s,baz=64,slow=3.4,SNR=3.4								
BRTR	**Kekin Array B**	**75.09**	**308**	P		**P**	**12 07 14.8**	**-1.3**
0.5nm,0.6s,baz=76,slow=7.6,SNR=3.3								
NVAR	**Mina Array Bea**	**83.28**	**48**	P		**P**	**12 08 02.9**	**+2.0**
0.3nm,0.5s,baz=298,slow=5.7,SNR=4.6								
NVAR				pP		**pP**	**12 08 23.9**	**+2.0**
0.3nm,0.6s,baz=297,slow=5.9,SNR=3.3								

NNC ***14*** *12:30:16.2±4.5, 36.85°N×70.48°E, h198km±54km, mb3.1, mpv4.1, Error ellipse: s-maj=40.5km s-min=30.0km az=37.0*

ISC 14 12:30:08.3±1.3, 36°41N±0.08×70°4E±0.1, h204km, n29,
σ2°00/31, 1C-9D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**5.98**	**129**	*e*P		**Pn**	**12 31 35.0**	**-0.6**
DLH				*ex*		**S**	**12 32 40.0**	**-4.4**
AML	**Almayashu**	**6.25**	**23**	P		**Pn**	**12 31 40.5**	**+1.4**
SNR=13								
UCH	**Uchtor**	**6.62**	**27**	P		**Pn**	**12 31 45.1**	**+1.2**
SNR=24								
KK31	**Karatay Array**	**6.69**	**1**	⇓P		**Pn**	**12 31 46.3**	**+1.9**
15nm,0.6s,baz=185,slow=15,SNR=103								
KK31				⇑S		**S**	**12 32 59.2**	**-1.3**
12nm,0.6s,baz=189,slow=24,SNR=7.6								
EKS2	**Erkin-Say**	**6.76**	**21**	P		**Pn**	**12 31 46.6**	**+1.2**
SNR=7.3								
KZA	**Kyzart**	**6.79**	**32**	P		**Pn**	**12 31 46.9**	**+0.9**
SNR=9.8								
AAK	**Ala-Archa**	**6.97**	**26**	P		**Pn**	**12 31 50.3**	**+2.1**
SNR=8.3								
AAK	**Ala-Archa**	**6.97**	**26**	⇓P		**Pn**	**12 31 50.1**	**+2.0**
5.9nm,0.4s								
AAK				⇓S		**S**	**12 33 06.4**	**-1.0**
20nm,0.6s								
SDNR	**Sundarnagar**	**7.31**	**130**	*e*P		Pn	12 32 00.0	+7.3
SDNR				*e*S		**S**	**12 33 15.0**	**-0.5**
CHMS	**Chumysh**	**7.38**	**26**	P		**Pn**	**12 31 55.1**	**+1.8**
SNR=8.2								
USP	**Ospenovka**	**7.53**	**23**	P		**Pn**	**12 31 58.2**	**+2.8**
SNR=6.1								
TKM2	**Tokmak 2**	**7.63**	**30**	P		**Pn**	**12 31 58.4**	**+1.6**
SNR=10.0								
TKM2	**Tokmak 2**	**7.63**	**30**	⇓P		**Pn**	**12 31 58.4**	**+1.6**
5.1nm,0.6s								
TKM2				⇓S		**S**	**12 33 21.9**	**-1.2**
6.9nm,1.0s								
SMLA	**Simla**	**7.69**	**131**	*i* P		**Pn**	**12 31 56.6**	**-0.9**
SMLA				*i* S		S	12 33 16.9	-7.6
SMLA					AML	AML	12 33 22.4	
comp=N,700nm,0.3s								
SMLA					AML	AML	12 33 22.9	
comp=E,771nm,0.3s								
KHET	**Khetri**	**9.47**	**150**	*e*P		**Pn**	**12 32 20.5**	**-0.2**
KHET				*e*S		S	12 33 56.1	-11
KHET					AML	AML	12 34 00.8	
comp=E,206nm,0.1s								
KHET					AML	AML	12 34 00.8	
comp=N,174nm,0.1s								
JOSI	**Joshimath**	**9.60**	**125**	*e*P		**Pn**	**12 32 20.6**	**-1.9**
JOSI				*e*S		S	12 34 01.4	-9.0
JOSI					AML	AML	12 34 03.4	
comp=E,87nm,0.7s								
JOSI					AML	AML	12 34 06.1	
comp=N,63nm,0.7s								
AYAN	**Aya Nagar**	**9.72**	**143**	*e*S		S	12 34 03.2	-9.5
SONA	**Sohna**	**9.89**	**143**	*e*P		**Pn**	**12 32 25.5**	**-0.5**
SONA				*e*S		S	12 34 06.4	-10
SONA					AML	AML	12 34 11.6	
comp=E,32nm,0.4s								
SONA					AML	AML	12 34 11.8	
comp=N,18nm,0.1s								
AGRA	**Agra**	**11.16**	**143**	*ex*		x	12 34 12.8	
AGRA					AML	AML	12 34 13.5	
comp=N,59nm,0.4s								
AGRA					AML	AML	12 34 14.2	
comp=E,60nm,0.3s								
KOLN	**Koldanda**	**14.09**	**124**	*e*P		**Pn**	**12 33 19.8**	**+0.4**
comp=E,7.1nm,0.4s								
GKN	**Gorkha**	**14.65**	**121**	*e*P		**P**	**12 33 27.8**	**+0.6**
comp=E,13nm,0.4s								
AB31	**Akbulak array**	**14.95**	**332**	⇓P		P	12 33 35.1	+5.0
comp=E,0.9nm,0.3s,baz=153,slow=12,SNR=87								
AB31				⇓S		**S**	**12 36 10.6**	**-4.4**
comp=E,1.3nm,0.4s,baz=154,slow=24,SNR=9.3								
DMN	**Daman**	**15.22**	**121**	*e*P		**P**	**12 33 34.9**	**+1.3**
comp=E,7.5nm,0.4s								
KKN	**Kakani**	**15.23**	**120**	*e*P		**P**	**12 33 35.8**	**+2.1**
comp=E,21nm,0.6s								
PKIN	**Phulchoki**	**15.44**	**121**	*e*P		**P**	**12 33 37.4**	**+1.3**
comp=E,7.7nm,0.3s								
GUN	**Gumba**	**15.58**	**119**	*e*P		**Pn**	**12 33 40.9**	**+3.2**
comp=E,8.8nm,0.3s								
AKTO	**Aktyubinsk**	**16.64**	**331**	⇓P		Pn	12 33 56.1	+6.3
comp=E,4.8nm,0.8s								
AKTO				⇓S		**S**	**12 36 53.3**	**+1.3**
comp=E,4.3nm,1.0s								
RAMN	**Ramite**	**16.67**	**120**	*e*P		**Pn**	**12 33 52.8**	**+2.1**
comp=E,9.0nm,0.5s								
TAPN	**Taplejung**	**17.21**	**117**	*e*P		**Pn**	**12 33 59.2**	**+2.0**
comp=E,13nm,0.8s								

ISCJB ***14*** *12:36:10.8±0.3, 5.83°S±0.04×146.69°E±0.06, h52km, mb4.4/23, MS3.8/1, Error ellipse: s-maj=7.9km s-min=5.1km az=0.1*

IDC ***14*** *12:36:13.0±2.2, 5.87°S×146.70°E, h60km±20km, mb4.0/18, mb1 4.1/21, mb1mx4.1/30, mbtmp4.3/21, ML4.4/2, MS3.4/2, Ms1 3.4/2, ms1mx3.0/33, Error ellipse: s-maj=15.3km s-min=10.5km az=98.0*

NEIC ***14*** *12:36:14.8±1.2, 5.89°S×146.72°E, h80km±11km, mb4.3/3, Error ellipse: s-maj=13.8km s-min=7.9km az=75.0*

DJA ***14*** *12:36:18.0±1.6, 6°S±13°×14°7E±1°4, h101km±10km, M5.1/12, mb4.8/12, mB5.0/1, MLv5.3/1, Mw(mB)4.3/1*

ISC 14 12:36:12.5±0.5, 5°88S±0°05×146°72E±0°07, h52km, n64,
σ1°23/67, mb4.3/22, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.53**	**173**	P		**Pn**

QLP	**Quilpie**	**20.73**	**186**	P		**P**	**12 40 49.9**	**+1.1**
	baz=21,SNR=8.7							
ASAR	**Alice Springs**	**21.57**	**214**	P		**P**	**12 40 57.9**	**+0.1**
	2.5nm,0.5s,baz=54,slow=9.1,SNR=88							
ASAR				PcP		**PcP**	**12 44 59.3**	**+0.6**
	3.9nm,1.1s,baz=24,slow=1.1,SNR=6.8							
BATI	**Baumata**	**23.23**	**258**	P		**P**	**12 41 15.4**	**0.0**
	10nm,0.4s,baz=90,slow=4.9,SNR=4.1							
FITZ	**Fitzroy Crossi**	**23.90**	**238**	P		**P**	**12 41 20.9**	**-0.7**
	baz=24,SNR=32							
ARMA	**Armidale**	**24.85**	**170**	P		**P**	**12 41 30.9**	**+0.6**
	baz=25,SNR=7.8							
DZM	**Mont Dzumac**	**24.95**	**132**	P		**P**	**12 41 30.7**	**-0.6**
	6.0nm,0.7s,baz=91,slow=23,SNR=7.0							
APSI	**Ampana**	**25.50**	**280**	P		**P**	**12 41 36.5**	**+0.2**
WRKA	**Warakurna**	**25.98**	**221**	P		**P**	**12 41 39.9**	**-0.7**
	baz=26,SNR=24							
STKA	**Stephens Creek**	**26.31**	**190**	P		**P**	**12 41 42.9**	**-0.5**
	4.2nm,0.8s,baz=10,slow=8.0,SNR=7.1							
STKA	**Stephens Creek**	**26.31**	**190**	P		**P**	**12 41 45.4**	**+2.0**
	baz=26,SNR=3.7							
PCI	**Palu**	**27.28**	**279**	P		**P**	**12 41 54.5**	**+2.1**
	47nm,0.9s							
MPSI	**Mapaga**	**27.48**	**282**	P		**P**	**12 41 53.5**	**-0.6**
MEEK	**Meekatharra**	**33.82**	**229**	P		**P**	**12 42 49.9**	**-0.1**
	baz=34,SNR=14							
MORW	**Morawa**	**37.05**	**228**	P		**P**	**12 43 17.9**	**+0.3**
	baz=37,SNR=4.6							
KLBR	**Kellerberrin**	**37.27**	**223**	P		**P**	**12 43 18.9**	**-0.6**
	baz=37,SNR=9.4							
MJAR	**Matsushiro Arr**	**42.94**	**350**	P		**P**	**12 44 05.3**	**-1.1**
	1.1nm,0.8s,baz=194,slow=8.8,SNR=3.4							
BKNI	**Bangkinang**	**46.02**	**276**	P		**P**	**12 44 34.3**	**+3.0**
	baz=46,SNR=3.5							
KSRS	**Korea Array**	**46.54**	**339**	P		**P**	**12 44 34.9**	**-0.1**
	1.7nm,0.5s,baz=152,slow=9.1,SNR=12							
KSAR	**Wonju Array Be**	**46.54**	**339**	P		**P**	**12 44 34.9**	**-0.1**
PPI	**Padang Panjang**	**46.55**	**275**	P		**P**	**12 44 35.3**	**-0.2**
	37nm,0.8s							
MNSI	**Mandailing Nat**	**47.53**	**276**	P		**P**	**12 44 43.2**	**0.0**
	23nm,0.7s							
PSI	**Prapat**	**48.51**	**279**	P		**P**	**12 44 49.2**	**-1.6**
	baz=49,SNR=5.7							
ASAJ	**Asahikawa**	**49.90**	**356**	P		**P**	**12 45 01.2**	**+0.4**
	1.2nm,0.5s,baz=158,slow=5.4							
CMAR	**Chiang Mai Arr**	**52.95**	**298**	P		**P**	**12 45 24.6**	**+0.6**
	2.3nm,0.7s,baz=124,slow=5.4,SNR=11							
HHC	**Hu-ho-hao-te**	**56.58**	**328**	*e*P		P	12 45 53.8	+3.7
HHC				PP		PP	12 48 01.9	+5.3
HHC				S		**S**	**12 53 39.9**	**+1.5**
HHC				sS		sS	12 54 06.0	+3.7
HHC	**Hu-ho-hao-te**	**56.58**	**328**	SS		**SS**	**12 57 29.3**	**+2.5**
HHC				pmax		pmax		
	comp=Z,10.0nm,1.1s							
HHC				pmax		pmax		
	comp=Z,45nm,5.4s							
HHC				LR		LR		
	comp=N,54nm,15.1s							
HHC				LR		LR		
	comp=E,73nm,15.3s							
HHC				LR		LR		
	comp=Z,45nm,15.1s							
PETK	**Petropavlovsk-**	**59.49**	**8**	P		**P**	**12 46 11.1**	**+0.9**
	comp=Z,2.8nm,0.8s,baz=131,slow=7.9,SNR=3.1							
ULN	**Ulaanbaatar**	**63.87**	**331**	*e*P		P	12 46 36.5	-3.4
	comp=Z,2.2nm,0.7s							
SONM	**Songino Array**	**64.16**	**331**	P		**P**	**12 46 40.8**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=152,slow=9.8,SNR=7.5							
VNDA	**Vanda**	**72.05**	**177**	P		**P**	**12 47 31.0**	**+0.4**
	comp=Z,4.0nm,0.7s,baz=332,slow=6.9,SNR=21							
MKAR	**Makanchi Array**	**77.23**	**321**	P		**P**	**12 47 59.9**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=98,slow=8.5,SNR=5.8							
ZALV	**Zalesovo Beam**	**78.76**	**328**	P		**P**	**12 48 07.2**	**-2.3**
	comp=Z,1.1nm,0.4s,baz=114,slow=6.2,SNR=4.9							
MAW	**Mawson**	**82.25**	**203**	P		**P**	**12 48 27.4**	**-0.6**
	comp=Z,3.1nm,0.6s,baz=114,slow=8.1,SNR=9.2							
QSPA	**South Pole Qui**	**84.09**	**180**	P		**P**	**12 48 37.2**	**-0.4**
	comp=Z,5.6nm,0.7s,baz=304,slow=0.9,SNR=37							
QSPA	**South Pole Qui**	**84.09**	**180**	*e*P		**P**	**12 48 37.0**	**-0.6**
	comp=Z,16nm,1.4s							
ILAR	**Eielson Array**	**85.48**	**23**	P		**P**	**12 48 42.5**	**-2.0**
	comp=Z,3.3nm,0.7s,baz=254,slow=5.0,SNR=48							
NVAR	**Mina Array Bea**	**97.51**	**52**	P		**P**	**12 49 41.1**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=266,slow=7.6,SNR=4.8							
YKA	**Yellowknife Ar**	**99.19**	**28**	P		**Pdif**	**12 49 47.6**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=271,slow=5.5,SNR=3.3							
TORD	**Torodi Ar. Bea**	**144.79**	**284**	PKP		**PKPab**	**12 55 42.6**	**-1.1**
	comp=Z,1.9nm,0.4s,baz=49,slow=4.0,SNR=18							
TOB5	**Torodi Ar. Sit**	**144.80**	**284**	*e*PKP1		**PKPab**	**12 55 41.5**	**-2.3**
SIV	**San Ignacio**	**144.94**	**129**	PKP		PKPbc	12 55 44.3	0.0
	comp=Z,6.8nm,0.5s,baz=247,slow=6.4,SNR=21							
BDFB	**Brasilia**	**154.11**	**146**	PKPbc		**PKPbc**	**12 56 07.6**	**-0.2**
	comp=Z,2.9nm,0.7s,baz=216,slow=4.6,SNR=3.2							

IDC **14** *12:44:13.6±0.6,38.˚06S×73.˚52W,h0km,mb4.3/11, mb1 4.5/15,mb1mx4.4/20,mbtmp4.4/15,ML4.1/3,MS3.9/6, Ms1 3.9/6,ms1mx3.7/22,Error ellipse: s-maj=23.7km s-min=15.0km az=99.0*

GUC **14** *12:44:14.9±0.8,38.˚09S×73.˚86W,h38km±4km,ML5.3*

ISCJB **14** *12:44:15.6±0.3,38.˚03S±0.˚03×73.˚42W±0.˚08,h22km, mb4.7/26,MS3.9/5,Error ellipse: s-maj=9.4km s-min=4.5km az=8.2*

BJI **14** *12:44:17.5,38.˚21S×73.˚32W,h35km,mB5.1/4,Ms4.8/3, Ms7 4.7/2*

NEIC **14** *12:44:17.9±0.2,38.˚04S×73.˚47W,mb4.9/13,Error ellipse: s-maj=6.7km s-min=5.3km az=79.0*

NEIC Felt [II] at Angol, Canete, Concepcion, Lebu, Los Angeles, Pucon, Puerto Saavedra and Temuco. Also felt at Chillan and Parral.

ISC 14 12:44:17.0±0.4,38.˚07S±0.˚04×73.˚48W±0.˚09,h22km,n67, σ1§31/81,mb4.7/26,MS4.0/5,7C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSCH	**Puerto Saavedr**	**0.73**	**174**	⇑*i*P	**Pb**	**12 44 29.9**	**-1.2**
PSCH				*i* S	**Sb**	**12 44 41.1**	**+0.5**
U14B	**Concepcin**	**1.25**	**15**	⇑*i*P	**Pn**	**12 44 39.2**	**+0.1**
U14B				*i* S	**Sb**	**12 44 56.3**	**+0.8**
U14B				AML	AML	12 45 05.2	
	comp=N,83μm,0.5s						
VLCH	**Valdivia**	**1.74**	**174**	⇑*i*P	**Pn**	**12 44 44.3**	**-1.6**
OSCH	**Osorno**	**2.52**	**174**	*e*P	**Pn**	**12 44 55.2**	**-1.3**
OSCH				*e*S	**Sn**	**12 45 25.1**	**-1.5**
TALC	**Talca**	**3.05**	**30**	⇑*i*P	**Pn**	**12 45 04.5**	**+0.6**
LNV	**Longovilo**	**4.43**	**23**	⇑*i*P	**Pn**	**12 45 22.4**	**-0.5**
CLCH	**Cerro Calan**	**5.24**	**28**	⇑*i*P	**Pn**	**12 45 33.9**	**-0.2**
PEL	**Peldehue**	**5.42**	**26**	⇓*i*P	**Pn**	**12 45 36.2**	**-0.3**
CFAA	**Coronel Fontan**	**7.76**	**35**	Pn	**Pn**	**12 46 08.1**	**-0.6**
	comp=N,0.6nm,0.3s,baz=214,slow=16,SNR=25						
CFAA				Sn	**Sn**	**12 47 36.9**	**+1.1**
	comp=N,0.5nm,0.3s,baz=191,slow=16,SNR=2.4						
CFAA				Lg	Lg	12 48 21.8	
	baz=176,slow=15,SNR=2.0						
CFAA				LR	LR	12 48 31.3	
	comp=N,16nm,21.0s,baz=217,slow=33						
TRQA	**Tornquist**	**9.07**	**93**	Pn	**Pn**	**12 46 27.0**	**+0.3**
LCO	**Las Campanas**	**9.33**	**15**	*e*Pn	**Pn**	**12 46 29.1**	**-1.2**
LCO				*e*Sn	**Sn**	**12 48 10.1**	**-4.6**
LVC	**Limon Verde**	**15.90**	**16**	Pn	**Pn**	**12 47 57.1**	**-2.6**
	comp=N,23nm,0.3s,baz=201,slow=4.4,SNR=6.3						
USHA	**Ushuaia**	**17.12**	**170**	P	**Pn**	**12 48 14.6**	**0.0**
	comp=N,0.8nm,0.3s,baz=327,slow=12,SNR=13						
USHA				LR	LR	12 55 13.9	
	comp=N,353nm,21.3s,baz=149,slow=38						
CPUP	**Villa Florida**	**17.97**	**54**	P	**Pn**	**12 48 24.6**	**-0.8**
	comp=N,0.5nm,0.3s,baz=220,slow=8.8,SNR=12						
CPUP				Lg	Lg	12 53 48.3	
	comp=N,0.1nm,0.3s,baz=180,slow=3.0,SNR=1.9						
CPUP	**Villa Florida**	**17.97**	**54**	*e*P	**P**	**12 48 25.9**	**+0.2**
CPUP				Lg	Lg	12 53 48.3	
LPAZ	**La Paz**	**22.20**	**14**	P	**P**	**12 49 13.1**	**+0.5**
	comp=N,8.0nm,0.7s,baz=182,slow=7.7,SNR=19						
SIV	**San Ignacio**	**24.57**	**30**	P	**P**	**12 49 34.7**	**-0.7**
	comp=N,6.8nm,0.8s,baz=225,slow=10,SNR=17						
SIV				LR	LR	13 01 04.6	
	comp=N,454nm,20.9s,baz=200,slow=41						
NNA	**Nana**	**26.15**	**353**	LR	LR	12 57 40.8	
	comp=N,151nm,18.7s,baz=159,slow=31						
BB16B	**Bebedouro**	**27.39**	**59**	⇑*i*P	**P**	**12 49 59.2**	**-1.8**
BB16B				*i*		12 50 01.6	
BDFB	**Brasilia**	**31.68**	**52**	P	**P**	**12 50 39.6**	**+0.6**
	comp=N,2.7nm,0.5s,baz=287,slow=11,SNR=3.3						
BDFB				LR	LR	13 05 02.0	
	comp=N,322nm,21.0s,baz=164,slow=39						
OTAV	**Otavalo**	**38.39**	**352**	*e*P	**P**	**12 51 38.0**	**+0.7**
	comp=N,28nm,1.6s						
VNA1	**Neumayer--Stat**	**46.43**	**155**	P	**P**	**12 52 42.6**	**+1.0**
SNAA	**Sanae**	**48.30**	**156**	P	**P**	**12 52 56.5**	**+0.4**
	comp=N,1.5nm,1.0s,baz=300,slow=6.9,SNR=12						
QSPA	**South Pole Qui**	**52.17**	**180**	P	**P**	**12 53 25.8**	**+0.1**
	comp=N,1.5nm,0.8s,baz=115,slow=1.6,SNR=7.5						
QSPA	**South Pole Qui**	**52.17**	**180**	*e*P	**P**	**12 53 25.8**	**+0.1**
	comp=N,126nm,3.0s						
JCT	**Junction City**	**72.49**	**336**	*e*P	**P**	**12 55 42.2**	**+0.4**
	comp=N,8.2nm,0.9s						
TXAR	**Lajitas Array**	**72.75**	**333**	P	**P**	**12 55 43.6**	**+0.1**
	comp=N,2.5nm,0.8s,baz=154,slow=8.4,SNR=32						
TXAR				LR	LR	13 22 32.7	
	comp=N,88nm,18.2s,baz=0.0,slow=32						
SWET	**Sewanee**	**73.83**	**349**	*e*P	**P**	**12 55 49.3**	**-0.3**
	comp=N,17nm,0.8s						
WVT	**Waverly**	**75.01**	**348**	*e*P	**P**	**12 55 56.0**	**-0.4**
	comp=N,11nm,1.1s						
TUL1	**Tulsa**	**76.45**	**342**	*e*P	**P**	**12 56 04.6**	**-0.1**
	comp=N,13nm,0.8s						
MSTX	**Muleshoe**	**76.67**	**335**	*e*P	**P**	**12 56 06.2**	**+0.1**
LIC	**Lamto**	**77.17**	**72**	*e*PKP1	**P**	**12 56 10.1**	**+0.8**
	comp=N,48nm,0.8s						
TIC	**Toumodi**	**77.45**	**71**	*e*PKP1	**P**	**12 56 11.7**	**+0.8**
KIC	**Kosan Boka**	**77.48**	**72**	*e*PKP1	**P**	**12 56 11.9**	**+0.9**
	comp=N,58nm,0.8s						
DBIC	**Dimbokro**	**77.59**	**71**	P	**P**	**12 56 12.7**	**+1.0**
	comp=N,16nm,0.7s,baz=204,slow=5.7,SNR=16						
ACSO	**Alum Creek Sta**	**78.41**	**353**	*e*P	**P**	**12 56 15.2**	**-0.4**
	comp=N,14nm,0.7s						
ANMO	**Albuquerque**	**78.83**	**333**	*e*P	**P**	**12 56 18.9**	**+0.7**
	comp=N,6.0nm,1.0s						
BOSA	**Boshof**	**79.22**	**118**	P	**P**	**12 56 20.8**	**+0.1**
	comp=N,4.2nm,0.8s,baz=226,slow=4.3,SNR=6.0						
HDIL	**Hopedale**	**79.58**	**348**	*e*P	**P**	**12 56 21.4**	**-0.5**
	comp=N,17nm,0.6s						
SDCO	**Great Sand Dun**	**81.01**	**335**	*e*P	**P**	**12 56 30.1**	**-0.1**
	comp=N,1.8nm,0.9s						
PV01	**Paradox Valley**	**82.43**	**333**	*e*P	**P**	**12 56 36.8**	**-0.8**
	comp=N,115nm,0.7s						
SRU	**San Rafael**	**84.01**	**332**	*e*P	**P**	**12 56 46.1**	**+0.5**
ECSD	**EROS Data Cent**	**84.08**	**343**	*e*P	**P**	**12 56 45.5**	**-0.1**
	comp=N,13nm,0.8s						
HWUT	**Hardware Ranch**	**86.58**	**332**	*e*P	**P**	**12 56 58.5**	**+0.2**
	comp=N,9.5nm,1.3s						
HWUT				*e*pP	**pP**	**12 57 06.8**	**+1.2**
NVAR	**Mina Array Bea**	**86.58**	**326**	P	**P**	**12 56 59.3**	**+0.7**
	comp=N,0.8nm,0.7s,baz=160,slow=6.6,SNR=9.1						
TORD	**Torodi Ar. Bea**	**86.68**	**71**	P	**P**	**12 56 59.2**	**-0.1**
	comp=N,2.2nm,0.5s,baz=219,slow=4.5,SNR=17						
PDAR	**Pinedale Array**	**86.89**	**334**	P	**P**	**12 56 59.7**	**-0.2**
	comp=N,0.8nm,0.7s,baz=128,slow=5.8,SNR=7.0						
MCMT	**McKenzie Canyo**	**89.84**	**333**	*e*P	**P**	**12 57 13.9**	**0.0**
	comp=N,0.5nm,0.7s						
MCMT				*e*pP	**pP**	**12 57 23.1**	**+1.9**
YBH	**Yreka Blue Hor**	**91.23**	**325**	LR	LR	13 31 25.3	
	comp=N,55nm,18.9s,baz=89,slow=31						
GERES	**GERESS Array B**	**115.81**	**47**	PKP	**PKPdf**	**13 02 56.5**	**-0.9**
	comp=N,0.4nm,0.2s,baz=210,slow=0.8,SNR=5.2						
BRTR	**Keskin Array B**	**124.76**	**64**	PKP	**PKPdf**	**13 03 14.8**	**-0.1**
	comp=N,1.2nm,0.7s,baz=199,slow=3.4,SNR=6.2						
AKASG	**Malin Array Be**	**125.75**	**50**	PKP	**PKPdf**	**13 03 15.4**	**-0.8**
	comp=N,0.2nm,0.3s,baz=255,slow=2.9,SNR=2.7						
AKTO	**Aktyubinsk**	**143.76**	**54**	PKP	PKPbc	13 03 47.4	0.0
	comp=N,3.8nm,0.6s,baz=264,slow=1.4,SNR=14						
ABKAR	**Akbulak array**	**145.02**	**56**	*e*PKPbc	**PKPab**	**13 03 51.6**	**+0.2**
BRVK	**Borovoye**	**150.91**	**47**	*e*PKPbc	**PKPbc**	**13 04 07.7**	**+0.5**
BVAR	**Borovoye Array**	**150.98**	**47**	PKPbc	**PKPbc**	**13 04 08.0**	**+0.6**
	comp=N,7.3nm,0.7s,baz=283,slow=3.9,SNR=40						
ZALV	**Zalesovo Beam**	**158.24**	**36**	PKP	**PKPdf**	**13 04 10.8**	**-0.8**
	comp=N,1.5nm,0.7s,baz=323,slow=2.2,SNR=5.0						
ZALV				PKPbc	PKPbc	13 04 22.2	
	comp=N,0.9nm,0.5s,baz=318,slow=2.0,SNR=4.3						
ZALV				PKPab	**PKPab**	**13 04 46.2**	**+0.4**
	comp=N,1.6nm,0.5s,baz=290,slow=5.0,SNR=6.7						
MKAR	**Makanchi Array**	**160.17**	**56**	PKP	**PKPdf**	**13 04 14.4**	**+0.3**
	comp=N,0.7nm,0.8s,baz=298,slow=2.6,SNR=5.6						
MKAR				PKPab	**PKPab**	**13 04 54.5**	**0.0**
	comp=N,2.7nm,0.7s,baz=286,slow=3.9,SNR=16						
WMQ	**Urumqi**	**164.67**	**62**	*e*PKP	**PKPdf**	**13 04 19.1**	**+0.3**
WMQ				LN			
	comp=N,52nm,21.4s						
KMI	**Kunming**	**166.70**	**165**	PKP	**PKPdf**	**13 04 21.0**	**-0.2**
NJ2	**Nanjing**	**168.25**	**243**	*e*PKP	**PKPdf**	**13 04 21.3**	**-0.5**
GYA	**Guiyang**	**168.42**	**181**	*e*PKP	**PKPdf**	**13 04 21.0**	**-1.3**
GYA				PKPab	**PKPab**	**13 05 33.3**	**+2.1**
GYA				PKS	**PKSdf**	**13 07 52.6**	**-2.5**
GYA				PP	**PP**	**13 09 22.8**	**+3.6**
GYA				PPMZ			
	comp=N,110nm,7.8s						
SONM	**Songino Array**	**170.24**	**0**	PKPab	**PKPab**	**13 05 38.9**	**+0.2**
	comp=N,1.2nm,0.7s,baz=336,slow=4.7,SNR=4.4						
CD2	**Chengdu**	**172.50**	**162**	PKP	**PKPdf**	**13 04 23.8**	**-0.5**
GTA	**Gaotai**	**174.59**	**74**	*e*PKP	**PKPdf**	**13 04 25.3**	**+0.4**
GTA				pPKP	**pPKPdf**	**13 04 35.9**	**+3.5**
GTA				sPKP		13 04 39.5	
HHC	**Hu-ho-hao-te**	**175.21**	**307**	*e*PKP	**PKPdf**	**13 04 25.3**	**+0.3**
HHC				PP	**PP**	**13 09 57.0**	**+3.1**
HHC				SKS	**SKSdf**	**13 11 23.0**	**-3.7**
HHC				SS	**SS**	**13 31 14.8**	**-2.5**
HHC				PPMZ			
	comp=N,35nm,11.1s						
HHC				LN			
	comp=N,96nm,18.5s						
HHC				LE			
	comp=N,100nm,17.3s						
HHC				LZ			
	comp=N,65nm,17.3s						
LZH	**Lanzhou**	**177.09**	**132**	*e*PKP	**PKPdf**	**13 04 25.1**	**-0.6**
LZH				pPKP	**pPKPdf**	**13 04 35.3**	**+2.1**
LZH				sPKP		13 04 39.5	

IDC **14** *12:52:33.9±2.1,24.˚70S×179.˚84E,h482km±23km, mb3.3/12,mb1 3.5/14,mb1mx3.4/28,mbtmp4.2/14,Error ellipse: s-maj=18.6km s-min=15.0km az=117.0*

ISCJB **14** *12:52:34.3±0.6,24.˚72S±0.˚07×179.˚8E±0.˚1,h500km, mb3.6/11,Error ellipse: s-maj=12.4km s-min=9.2km az=17.3*

ISC 14 12:52:35.7±0.7,24.˚82S±0.˚09×179.˚9E±0.˚1,h500km,n36, σ1§03/37,mb3.6/11,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.61**	**280**	P	**P**	**12 55 22.6**	**+1.8**
	0.4nm,0.3s,baz=90,slow=20,SNR=5.1						
AFI	**Afiamalu**	**13.42**	**38**	P	P	12 55 25.8	-3.7
	1.6nm,0.3s,baz=217,slow=15,SNR=3.6						
AFI				S	S	12 57 41.8	-11
	0.7nm,0.3s,baz=119,slow=19,SNR=2.7						
URZ	**Urewera**	**13.60**	**189**	P	**P**	**12 55 29.9**	**-1.0**
	0.7nm,0.3s,baz=286,slow=15,SNR=9.3						
URZ				S	**S**	**12 57 55.6**	**+0.1**
	0.8nm,0.3s,baz=84,slow=23,SNR=13						
RPZ	**Rata Peaks**	**20.18**	**199**	P	**P**	**12 56 35.8**	**+0.1**
	4.2nm,0.6s,baz=10,slow=12,SNR=3.8						
RMQ	**Roma**	**28.04**	**260**	P	**P**	**12 57 48.1**	**+2.0**
	baz=28,SNR=5.3						
CMSA	**Cobar Meteorol**	**30.76**	**250**	P	**P**	**12 58 10.2**	**+0.6**
	baz=31,SNR=6.9						
QLP	**Quilpie**	**32.08**	**259**	P	**P**	**12 58 21.0**	**0.0**
	baz=32,SNR=9.3						
MTSU	**Mount Surprise**	**33.66**	**274**	P	**P**	**12 58 34.9**	**+0.4**
	baz=34,SNR=31						
STKA	**Stephens Creek**	**34.26**	**249**	P	**P**	**12 58 39.8**	**+0.3**
	6.0nm,0.8s,baz=94,slow=10,SNR=6.5						
STKA	**Stephens Creek**	**34.26**	**249**	P	**P**	**12 58 40.1**	**+0.7**
	baz=35,SNR=6.5						
HTT	**Hallett**	**36.58**	**247**	P	**P**	**12 58 58.8**	**0.0**
	baz=37,SNR=4.4						
BBOO	**Buckleboo**	**38.96**	**248**	P	**P**	**12 59 17.5**	**-0.7**
	baz=39,SNR=4.9						
ASAR	**Alice Springs**	**41.76**	**262**	P	**P**	**12 59 40.1**	**-0.7**
	3.2nm,0.6s,baz=94,slow=6.9,SNR=84						
ASAR				PcP	**PcP**	**13 01 25.2**	**-0.5**
	0.4nm,0.6s,baz=99,slow=4.4,SNR=4.4						
WRA	**Warramunga Arr**	**42.22**	**267**	P	**P**	**12 59 43.4**	**-1.0**
	5.7nm,0.4s,baz=99,slow=6.9,SNR=174						
WRA				PP	**PcP**	**13 01 25.9**	**-1.3**
	0.4nm,0.8s,baz=103,slow=7.2,SNR=3.8						
WRA				ScP	**ScP**	**13 04 31.3**	**+1.4**
	1.1nm,1.0s,baz=102,slow=4.0,SNR=4.8						
KDU	**Kakadu**	**46.24**	**276**	P	**P**	**13 00 14.2**	**-1.5**
	baz=47,SNR=8.3						
WRKA	**Warakurna**	**46.51**	**258**	P	**P**	**13 00 16.7**	**-1.0**
	baz=47,SNR=47						
KNRA	**Kununurra**	**48.55**	**271**	P	**P**	**13 00 32.5**	**-0.6**
	baz=49,SNR=26						
FITZ	**Fitzroy Crossi**	**50.63**	**266**	P	**P**	**13 00 48.0**	**-0.3**
	baz=51,SNR=6.6						
VNDA	**Vanda**	**53.45**	**185**	P	**P**	**13 01 08.7**	**+0.9**
	0.8nm,0.7s,baz=342,slow=4.6,SNR=4.4						
KLBR	**Kellerberrin**	**54.51**	**248**	P	**P**	**13 01 15.6**	**-0.4**
	baz=55,SNR=6.0						
MEEK	**Meekatharra**	**54.72**	**254**	P	**P**	**13 01 16.6**	**-1.1**
	baz=55,SNR=3.9						
BLDU	**Ballidu**	**55.56**	**249**	P	**P**	**13 01 22.3**	**-1.1**
	baz=56,SNR=9.7						
MORW	**Morawa**	**56.44**	**251**	P	**P**	**13 01 28.7**	**-0.8**
	baz=57,SNR=7.1						
MJAR	**Matsushiro Arr**	**72.58**	**326**	P	**P**	**13 03 10.7**	**-0.9**
	1.6nm,0.8s,baz=167,slow=4.0,SNR=4.4						
MAW	**Mawson**	**76.84**	**201**	P	**P**	**13 03 35.7**	**+0.5**
	1.2nm,0.5s,baz=128,slow=3.5,SNR=4.3						
KSRS	**Korea Array**	**78.87**	**320**	P	**P**	**13 03 46.5**	**0.0**
	0.8nm,0.6s,baz=123,slow=4.5,SNR=6.6						
PETK	**Petropavlovsk-**	**79.96**	**347**	P	**P**	**13 03 51.4**	**-0.6**
	1.4nm,0.7s,baz=181,slow=14,SNR=3.9						
NVAR	**Mina Array Bea**	**85.51**	**44**	P	**P**	**13 04 20.7**	**0.0**
	0.3nm,0.7s,baz=226,slow=6.2,SNR=3.3						
CMAR	**Chiang Mai Arr**	**89.72**	**290**	P	**P**	**13 04 41.2**	**+0.6**
	1.2nm,0.9s,baz=136,slow=3.1,SNR=7.5						
TXAR	**Lajitas Array**	**91.03**	**58**	P	**P**	**13 04 47.3**	**+0.7**
	0.3nm,0.7s,baz=216,slow=5.7,SNR=7.3						
BVAR	**Borovoye Array**	**121.04**	**318**	PKP	**PKPdf**	**13 10 28.9**	**-1.8**
	0.5nm,0.3s,baz=146,slow=2.4,SNR=3.7						
ARCES	**ARCESS Array B**	**132.76**	**348**	PKP	**PKPdf**	**13 10 52.3**	**-0.3**
	2.2nm,0.9s,baz=48,slow=1.8,SNR=5.5						
FINES	**FINESS Array B**	**139.27**	**341**	PKhKP	PKPpre	13 10 55.3	
	1.8nm,0.9s,baz=284,slow=31,SNR=3.0						
HFS	**Hagfors**	**143.42**	**348**	PKP	PKPab	13 11 09.2	-1.3
	2.9nm,0.4s,baz=61,slow=3.7,SNR=23						
AKASG	**Malin Array Be**	**145.67**	**326**	PKPbc	**PKPdf**	**13 11 16.0**	**-0.4**
	0.6nm,0.3s,baz=45,slow=4.0,SNR=6.3						
BRTR	**Keskin Array B**	**148.02**	**306**	PKPbc	**PKPdf**	**13 11 23.6**	**+2.7**
	1.0nm,0.6s,baz=131,slow=2.9,SNR=5.0						

IDC **14** *13:21:57.3±2.1,64.˚60S×174.˚44E,h0km,mb4.2/3, mb1 4.4/4,mb1mx4.1/23,mbtmp4.2/4,ML4.0/1,MS4.0/13, Ms1 4.0/13,ms1mx3.8/23,Error ellipse: s-maj=84.0km s-min=24.3km az=70.0*

NEIC **14** *13:21:59.5±1.5,64.˚55S×174.˚14E,h10km,mb4.6/2,Error ellipse: s-maj=53.5km s-min=13.9km az=79.0*

ISC 14 13:22:00.1±1.6,64.˚7S±0.˚1×173.˚8E±0.˚4,h10km,n37, σ1§58/11,mb4.2/4,MS4.0/12,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**13.41**	**186**	*e*P	**Pn**	**13 25 10.7**	**+0.6**
	58nm,1.5s						
VNDA	**Vanda**	**13.41**	**191**	Pn	**Pn**	**13 25 12.0**	**+1.9**
	0.7nm,0.3s,baz=36,slow=16,SNR=33						
VNDA				Sn	**Sn**	**13 27 36.7**	**-2.3**
	0.1nm,0.3s,baz=350,slow=10,SNR=2.5						
VNDA				LR	LR	13 29 20.1	
	comp=Z,1μm,18.5s,baz=12,slow=33						
RPZ	**Rata Peaks**	**21.06**	**355**	LR	LR	13 34 24.4	
	comp=Z,510nm,18.2s,baz=176,slow=36						
QSPA	**South Pole Qui**	**25.41**	**180**	P	**P**	**13 27 27.0**	**-0.5**
	16nm,0.9s,baz=27,slow=6.2,SNR=33						
QSPA				LR	LR	13 36 14.7	
	comp=Z,488nm,19.1s,baz=32,slow=34						
QSPA	**South Pole Qui**	**25.41**	**180**	*e*P	**P**	**13 27 29.9**	**+2.5**
	20nm,0.9s						
URZ	**Urewera**	**26.53**	**6**	LR

KK31								13 38 07.3	
KK31								13 38 42.2	
KK31								13 39 06.1	
KK31						pmax	pmax		
	comp=Z,10.0nm,0.2s								
KK31						pmax	pmax		
	comp=Z,12nm,0.3s								
KK31						smax	smax		
	comp=N,18nm,0.2s								
KK31	**Karatay Array**	**4.25**	**78**		Pn	**Pn**		**13 37 53.7**	**+1.2**
	comp=N,10.0nm,0.2s								
KK31	**Karatay Array**	**4.25**	**78**		Pb	**Pg**		**13 38 07.3**	**-1.8**
	comp=N,12nm,0.3s								
KK31					Sn	**Sn**		**13 38 42.2**	**+0.1**
	comp=N,18nm,0.2s								
KK31					Sg	**Sg**		**13 39 06.1**	**+2.0**
GEYT	**Alibeck**	**6.79**	**231**		Pn	**Pn**		**13 38 25.8**	**-1.7**
	comp=N,1.9nm,0.3s,baz=15,slow=7.6,SNR=8.2								
GEYT					Sn	Sn		13 39 36.4	-8.5
	comp=N,1.4nm,0.3s,baz=50,slow=14,SNR=2.7								
GEYT					Lg	Lg		13 40 23.7	
	comp=N,0.7nm,0.3s,baz=45,slow=39,SNR=2.7								
IEMG	**Emamgholi**	**6.86**	**226**	*e*P		**Pn**		**13 38 28.2**	**-0.4**
IEMG	**Emamgholi**	**6.86**	**226**	*e*P		**Pn**		**13 38 28.2**	**-0.4**
IMYA	**Miami**	**7.04**	**213**	*e*P		**Pn**		**13 38 29.6**	**-1.5**
IMYA	**Miami**	**7.04**	**213**	*e*P		**Pn**		**13 38 29.6**	**-1.5**
AAK	**Ala-Archa**	**7.15**	**85**	⇓Pn		**Pn**		**13 38 33.8**	**+1.3**
	comp=N,5.0nm,1.0s								
AAK				⇑Pg		Pg		13 38 59.8	-4.8
	comp=N,12nm,0.7s								
AAK				⇑Lg		Lg		13 40 36.5	
	comp=N,51nm,1.1s								
AAK	**Ala-Archa**	**7.15**	**85**	PN		**Pn**		**13 38 33.8**	**+1.3**
AAK								13 38 58.8	
AAK				pmax		pmax			
	comp=Z,12nm,0.7s								
AAK	**Ala-Archa**	**7.15**	**85**	Pn		**Pn**		**13 38 33.8**	**+1.3**
	comp=Z,12nm,0.7s								
AAK	**Ala-Archa**	**7.15**	**85**	Pb		Pb		13 38 58.8	+6.8
FRU	**Bishkek**	**7.24**	**83**	*e*P*		Pg		13 39 03.0	-3.2
FRU				pmax		pmax			
	comp=Z,40nm,1.7s								
FRU	**Bishkek**	**7.24**	**83**	*e*Pb		Pg		13 39 03.0	-3.2
	comp=Z,40nm,1.7s								
ISHV	**Shirvan**	**7.30**	**231**	*e*P		**Pn**		**13 38 34.7**	**+0.1**
IKRD	**Kardeh**	**7.41**	**223**	*e*P		Pn		13 38 27.0	-9.2
IKRD	**Kardeh**	**7.41**	**223**	*e*P		Pn		13 38 27.0	-9.2
IAKL	**Akhelmad**	**7.43**	**221**	*e*P		**Pn**		**13 38 33.6**	**-2.9**
IPAY	**Payeh**	**7.44**	**219**	*e*P		**Pn**		**13 38 35.8**	**-0.7**
IPAY	**Payeh**	**7.44**	**219**	*e*P		**Pn**		**13 38 35.8**	**-0.7**
ISFR	**Sfrayin**	**7.47**	**227**	*e*P		**Pn**		**13 38 37.0**	**-0.1**
IMOG	**Moghan**	**7.56**	**216**	*e*P		**Pn**		**13 38 36.3**	**-2.0**
IMOG	**Moghan**	**7.56**	**216**	*e*P		**Pn**		**13 38 36.3**	**-2.0**
AB31	**Akbulak array**	**7.69**	**335**	⇑Pn		**Pn**		**13 38 40.6**	**+0.9**
	comp=Z,0.6nm,0.2s,baz=153,slow=15,SNR=88								
AB31				⇑Sn		**Sn**		**13 40 05.8**	**-1.0**
	comp=Z,3.6nm,0.4s,baz=357,slow=41,SNR=11								
AB31	**Akbulak array**	**7.69**	**335**	P		**Pn**		**13 38 40.4**	**+0.7**
AB31								13 40 05.8	
AB31				pmax		pmax			
	comp=Z,3.0nm,0.2s								
AB31				smax		smax			
	comp=N,6.0nm,0.2s								
AB31	**Akbulak array**	**7.69**	**335**	P		**Pn**		**13 38 40.4**	**+0.7**
	comp=N,3.0nm,0.2s								
AB31				S		**Sn**		**13 40 05.8**	**-1.0**
	comp=N,6.0nm,0.2s								
TKM2	**Tokmak 2**	**7.96**	**82**	⇓Pn		**Pn**		**13 38 43.5**	**-0.2**
	comp=N,5.8nm,0.7s								
TKM2				⇑Pg		Pg		13 39 14.2	-5.8
	comp=N,7.1nm,0.7s								
TKM2				⇑Lg		Lg		13 41 04.0	
	comp=N,19nm,0.7s								
TKM2	**Tokmak 2**	**7.96**	**82**	P		**Pn**		**13 38 43.4**	**-0.2**
TKM2				pmax		pmax			
	comp=Z,5.0nm,0.5s								
TKM2	**Tokmak 2**	**7.96**	**82**	P		**Pn**		**13 38 43.4**	**-0.2**
	comp=Z,5.0nm,0.5s								
KSH	**Kashi**	**8.90**	**105**	Pn		Pg		13 39 31.8	-6.3
KSH				Sn		Sn		13 40 27.5	-9.3
KSH				smax		smax			
	comp=N,21nm,0.4s								
KSH				smax		smax			
	comp=E,22nm,0.5s								
AKTK	**Aktyubinsk**	**9.34**	**332**	P		**Pn**		**13 39 05.0**	**+2.7**
	comp=E,6.0nm,1.0s								
AKTK				S		**Sn**		**13 40 46.5**	**-0.9**
	comp=E,11nm,0.7s								
AKTO	**Aktyubinsk**	**9.34**	**332**	⇑Pn		**Pn**		**13 39 05.1**	**+2.7**
	comp=E,4.7nm,0.8s								
AKTO				⇑Sn		**Sn**		**13 40 47.0**	**-0.4**
	comp=E,11nm,0.7s								
AKTO	**Aktyubinsk**	**9.34**	**332**	Pn		**Pn**		**13 39 03.3**	**+1.0**
	comp=E,0.7nm,0.3s,baz=146,slow=12,SNR=12								
AKTO				Sn		**Sn**		**13 40 44.4**	**-2.9**
	comp=E,0.7nm,0.3s,baz=72,slow=22,SNR=5.9								
AKTO				Lg		Lg		13 41 55.5	
	comp=E,0.5nm,0.3s,baz=68,slow=20,SNR=4.0								
AKTO	**Aktyubinsk**	**9.34**	**332**	P		**Pn**		**13 39 05.0**	**+2.7**
AKTO								13 40 46.5	
AKTO				pmax		pmax			
	comp=Z,6.0nm,1.0s								
AKTO				smax		smax			
	comp=N,11nm,0.7s								
IDAH	**Dahanechah**	**10.38**	**204**	*e*P		**Pn**		**13 39 15.0**	**-2.0**
IDAH	**Dahanechah**	**10.38**	**204**	*e*P		**Pn**		**13 39 15.0**	**-2.0**
BVA0	**Borovoye Array**	**11.30**	**17**	Pn		**Pn**		**13 39 30.2**	**+1.1**
	comp=N,4.5nm,0.6s,baz=198,slow=14,SNR=37								
BVA0				⇑Sn		**Sn**		**13 41 31.9**	**-3.4**
	comp=N,10nm,0.8s,baz=83,slow=64,SNR=5.7								
BVA0	**Borovoye Array**	**11.30**	**17**	*i* P		**Pn**		**13 39 30.2**	**+1.1**
BVA0								13 41 31.3	
BVA0				pmax		pmax			
	comp=Z,5.0nm,0.6s								
BVA0				smax		smax			
	comp=N,10.0nm,0.6s								
BVA0	**Borovoye Array**	**11.30**	**17**	*i* P		**Pn**		**13 39 30.2**	**+1.1**
	comp=N,5.0nm,0.6s								
BVAR	**Borovoye Array**	**11.30**	**17**	Pn		**Pn**		**13 39 30.2**	**+1.1**
	comp=N,1.7nm,0.3s,baz=182,slow=10.0,SNR=20								
BVAR				Sn		**Sn**		**13 41 32.1**	**-3.2**
	comp=N,1.6nm,0.3s,baz=208,slow=18,SNR=8.9								
BVAR				Lg		Lg		13 42 55.2	
	baz=187,slow=30,SNR=2.0								
BVAR	**Borovoye Array**	**11.30**	**17**	P		**Pn**		**13 39 30.2**	**+1.1**
BVAR								13 41 32.1	
BVAR				pmax		pmax			
	comp=Z,2.0nm,0.3s								
BVAR				smax		smax			
	comp=N,2.0nm,0.3s								
KURBB	**Kurchatov Arra**	**12.52**	**44**	⇑Pn		**Pn**		**13 39 45.2**	**-0.6**
	comp=N,4.0nm,1.2s								
KURBB				⇑Sn		**Sn**		**13 42 05.6**	**+0.2**
	comp=N,6.0nm,0.8s								
KURBB				⇑Lg		Lg		13 43 22.8	
	comp=N,49nm,0.8s								
KURBB	**Kurchatov Arra**	**12.52**	**44**	Pn		**Pn**		**13 39 45.3**	**-0.6**
	comp=N,0.1nm,0.3s,baz=235,slow=13,SNR=7.2								
KURBB				Sn		Sn		13 41 56.5	-8.8
	comp=N,0.1nm,0.3s,baz=234,slow=15,SNR=4.1								
KURBB				Lg		Lg		13 43 34.1	
	comp=N,0.1nm,0.3s,baz=236,slow=32,SNR=4.3								
KURK	**Kurchatov**	**12.62**	**44**	⇑Pn		**Pn**		**13 39 45.4**	**-1.9**
	comp=N,1.9nm,1.1s								
KURK				⇑Sn		Sn		13 42 00.7	-7.2
	comp=N,2.8nm,0.7s								
KURK				⇓Lg		Lg		13 43 22.2	
	comp=N,14nm,0.9s								
KURK	**Kurchatov**	**12.62**	**44**	P		**Pn**		**13 39 45.3**	**-1.9**
KURK								13 42 00.6	
KURK				pmax		pmax			
	comp=Z,2.0nm,1.1s								
KURK				smax		smax			
	comp=N,3.0nm,0.8s								
KURK	**Kurchatov**	**12.62**	**44**	P		**Pn**		**13 39 45.3**	**-1.9**
	comp=N,2.0nm,1.1s								
KURK				S		Sn		13 42 00.6	-7.2
	comp=N,3.0nm,0.8s								
MK31	**Makanchi Array**	**13.20**	**64**	Pn		**Pn**		**13 39 54.5**	**-0.7**
	comp=N,1.5nm,0.4s,baz=249,slow=13,SNR=8.9								
MK31				⇑Sn		**Sn**		**13 42 18.8**	**-3.3**
	comp=N,0.4nm,0.4s,baz=223,slow=54,SNR=5.2								
MK31	**Makanchi Array**	**13.20**	**64**	P		**Pn**		**13 39 54.5**	**-0.7**
MK31								13 42 18.7	
MK31				pmax		pmax			
	comp=Z,2.0nm,0.3s								
MK31				smax		smax			
	comp=N,1.0nm,0.4s								
MK31	**Makanchi Array**	**13.20**	**64**	P		**Pn**		**13 39 54.5**	**-0.7**
	comp=N,2.0nm,0.3s								
MK31				S		**Sn**		**13 42 18.7**	**-3.3**
	comp=N,1.0nm,0.4s								
MKAR	**Makanchi Array**	**13.20**	**64**	Pn		**Pn**		**13 39 54.4**	**-0.8**
	comp=N,1.2nm,0.3s,baz=249,slow=16,SNR=16								
MKAR				Sn		**Sn**		**13 42 18.3**	**-3.7**
	comp=N,0.3nm,0.3s,baz=249,slow=24,SNR=3.8								
MKAR				Lg		Lg		13 43 52.6	
	comp=N,0.3nm,0.3s,baz=246,slow=23,SNR=4.0								
ZALV	**Zalesovo Beam**	**17.59**	**42**	P		**P**		**13 40 54.5**	**+0.6**
	comp=N,0.3nm,0.3s,baz=233,slow=11,SNR=11								
ZALV				S		Sn		13 43 59.6	-9.0
	comp=N,0.1nm,0.3s,baz=237,slow=24,SNR=5.2								
HHC	**Hu-ho-hao-te**	**34.63**	**76**	*e*P		**P**		**13 43 39.8**	**+2.6**
HHC				PP		**PP**		**13 44 55.5**	**0.0**
HHC				S		**S**		**13 49 05.8**	**-0.9**
HHC				sS		**sS**		**13 49 15.6**	**+3.9**
HHC				SS		**SnSn**		**13 51 16.3**	**-2.2**
HHC				pmax		pmax			
	comp=Z,22nm,1.1s								
HHC				pmax		pmax			
	comp=Z,57nm,5.3s								
HHC				LR		LR			
	comp=N,85nm,13.7s								
HHC				LR		LR			
	comp=E,140nm,15.3s								
HHC				LR		LR			
	comp=Z,74nm,15.9s								
PSI	**Prapat**	**49.79**	**133**	LR		LR		14 10 11.1	
	comp=Z,72nm,20.0s,baz=96,slow=40								
ILAR	**Eielson Array**	**70.34**	**14**	P		**P**		**13 48 02.2**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=342,slow=3.7,SNR=4.9								
YKA	**Yellowknife Ar**	**75.49**	**360**	P		**P**		**13 48 32.3**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=358,slow=6.5,SNR=7.2								
YKA	**Yellowknife Ar**	**75.49**	**360**	P		**P**		**13 48 32.3**	**+0.7**
YKA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
WRA	**Warramunga Arr**	**89.06**	**118**	P		**P**		**13 49 42.0**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=324,slow=4.7,SNR=6.1								
ASAR	**Alice Springs**	**91.45**	**121**	P		**P**		**13 49 53.2**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=313,slow=3.5,SNR=7.0								
ASAR	**Alice Springs**	**91.45**	**121**	P		**P**		**13 49 53.2**	**-1.1**
ASAR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
SIQV	**Siquisique**	**6.54**	**36**	*e*P		**Pn**		**13 54 44.6**	**0.0**
MAPV	**Macapo**	**6.86**	**49**	⇑*i*P		**Pn**		**13 54 48.5**	**-0.3**
TURV	**Turiamo**	**7.72**	**48**	*e*P		**Pn**		**13 54 59.7**	**-0.5**
BIRV	**Birongo**	**8.96**	**55**	*e*P		**Pn**		**13 55 16.4**	**-0.4**
LPAZ	**La Paz**	**22.18**	**166**	P		**P**		**13 57 55.6**	**+0.8**
	1.3nm,0.4s,baz=353,slow=10,SNR=6.5								
SIV	**San Ignacio**	**24.61**	**150**	P		**P**		**13 58 15.9**	**-0.5**
	2.3nm,0.6s,baz=332,slow=7.9,SNR=8.2								
TXAR	**Lajitas Array**	**37.03**	**314**	P		**P**		**14 00 04.0**	**-1.4**
	0.2nm,0.6s,baz=137,slow=8.6,SNR=3.4								
PDAR	**Pinedale Array**	**48.94**	**325**	P		**P**		**14 01 41.5**	**+0.5**
	0.3nm,0.3s,baz=112,slow=20,SNR=4.1								
SCHQ	**Schefferville**	**49.66**	**5**	P		**P**		**14 01 47.4**	**+1.4**
	1.7nm,0.7s,baz=190,slow=11,SNR=3.6								
NVAR	**Mina Array Bea**	**52.11**	**316**	P		**P**		**14 02 04.1**	**-0.9**
	0.2nm,0.5s,baz=113,slow=6.9,SNR=2.8								
YKA	**Yellowknife Ar**	**64.45**	**340**	P		**P**		**14 03 30.0**	**+0.3**
	1.8nm,0.6s,baz=135,slow=6.3,SNR=26								
TORD	**Torodi Ar. Bea**	**74.61**	**78**	P		**P**		**14 04 35.1**	**+2.0**
	0.2nm,0.5s,baz=266,slow=5.6,SNR=2.9								
ILAR	**Eielson Array**	**78.05**	**335**	P		**P**		**14 04 52.0**	**+0.5**
	0.3nm,0.5s,baz=118,slow=4.8,SNR=5.5								
ASAR	**Alice Springs**	**147.76**	**233**	PKP		**PKPdf**		**14 12 33.9**	**-0.7**
	0.2nm,0.3s,baz=114,slow=3.5,SNR=7.5								
ASAR				PKPbc		**PKPbc**		**14 12 36.2**	**-1.4**
	0.5nm,0.5s,baz=120,slow=3.8,SNR=14								
ASAR				SKPbc		**SKPbc**		**14 15 59.4**	**-1.6**
	0.4nm,0.7s,baz=120,slow=2.8,SNR=6.3								
WRA	**Warramunga Arr**	**149.10**	**239**	PKP		**PKPdf**		**14 12 36.1**	**-0.7**
	1.0nm,1.0s,baz=111,slow=2.4,SNR=6.3								
WRA				PKPbc		**PKPbc**		**14 12 39.9**	**-1.3**
	0.6nm,0.4s,baz=116,slow=2.5,SNR=12								
WRA				SKPbc				14 16 02.3	
	0.6nm,0.9s,baz=107,slow=3.1,SNR=3.5								

*IDC **14** 13:47:29.7±3.2, 35°.30S×179°.64W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/32, mbtmp3.7/3, ML3.3/1, Error ellipse: s-maj=74.5km s-min=46.4km az=127.0*
*ISCJB **14** 13:47:30.6±1.2, 35°.60S±0°.10×179°.11W±0°.1, h41km, mb3.6/2, Error ellipse: s-maj=18.1km s-min=10.1km az=39.9*
ISC 14 13:47:32.8±1.6, 35°.8S±0°.1×179°.08W±0°.09, h41km, n16, σ1§97/24, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**2.85**	**224**		*e*PN	**Pn**		**13 48 17.7**	**+1.9**
PUZ	**Puketiti**	**3.12**	**222**		*e*PN	**Pn**		**13 48 20.8**	**+1.2**
PUZ					*e*SN	**Sn**		**13 48 57.5**	**+1.9**
HAZ	**Te Kaha**	**3.19**	**231**	PN		**Pn**		**13 48 21.1**	**+0.6**
HAZ					*e*SN	**Sn**		**13 48 59.9**	**+2.7**
TWGZ	**Tauwhareparae**	**3.35**	**224**		*e*PN	**Pn**		**13 48 23.7**	**+1.0**
TWGZ					*e*SN	**Sn**		**13 49 04.2**	**+3.0**
CNGZ	**Carnagh Statio**	**3.45**	**218**		*e*PN	**Pn**		**13 48 26.0**	**+2.0**
MWZ	**Matawai**	**3.72**	**226**		*e*PN	**Pn**		**13 48 28.4**	**+0.7**
MWZ					*e*SN	**Sn**		**13 49 11.6**	**+1.4**
URZ	**Urewera**	**3.92**	**230**	Pn		**Pn**		**13 48 31.1**	**+0.6**
	1.9nm,0.3s,baz=281,slow=3.1,SNR=29								
URZ						**Sn**		**13 49 15.8**	**+0.6**
	4.9nm,0.3s,baz=139,slow=17,SNR=9.2								
URZ	**Urewera**	**3.92**	**230**		*e*PN	**Pn**		**13 48 30.8**	**+0.4**
URZ					*e*SN	**Sn**		**13 49 15.4**	**+0.2**
KNZ	**Kokohu**	**4.13**	**218**		*e*PN	**Pn**		**13 48 33.3**	**0.0**
BKZ	**Black Stump Fm**	**4.87**	**225**		*e*PN	**Pn**		**13 48 44.1**	**+0.5**
BFZ	**Birch Farm**	**6.11**	**216**		*e*SN	**Sn**		**13 50 06.8**	**-2.4**
MRZ	**Mangatainoka R**	**6.43**	**219**		*e*PN	**Pn**		**13 49 02.8**	**-2.1**
MRZ					*e*SN	**Sn**		**13 50 12.9**	**-4.1**
CTZ	**Chatham Island**	**8.15**	**167**		*e*PN	**Pn**		**13 49 31.4**	**+2.8**
CTZ					*e*SN	**Sn**		**13 50 56.6**	**-2.7**
ASAR	**Alice Springs**	**42.22**	**273**	P		**P**		**13 55 20.6**	**-1.4**
	0.6nm,0.8s,baz=115,slow=7.7,SNR=15								
WRA	**Warramunga Arr**	**43.69**	**278**	P		**P**		**13 55 32.3**	**-1.7**
	1.3nm,0.5s,baz=120,slow=7.6,SNR=18								
FINES	**FINESS Array B**	**149.80**	**336**	PKPbc		**PKPbc**		**14 07 18.7**	**+1.3**
	2.7nm,1.1s,baz=54,slow=3.6,SNR=4.3								

*IDC **14** 13:51:19.8±1.0, 13°.24N×120°.06E, h0km, mb3.4/5, mb1 3.7/5, mb1mx3.4/39, mbtmp3.5/5, MS3.5/1, Ms1 3.5/1, ms1mx2.7/28, Error ellipse: s-maj=19.8km s-min=13.4km az=127.0*
*MAN **14** 13:51:20, 13°.43N×120°.03E, h4km, mb4.4, ML3.3, MS3.1*
*ISCJB **14** 13:51:21.2±0.7, 13°.47N±0°.04×119°.99E±0°.05, h16km, mb3.6/4, MS3.5/1, Error ellipse: s-maj=7.0km s-min=6.3km az=7.4*
ISC 14 13:51:21.2±0.9, 13°.40N±0°.04×120°.04E±0°.07, h16km, n15, σ1§37/17, mb3.4/4, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.39**	**31**		*e*P	**Pg**		**13 51 27.8**	**-1.3**
PGP	**Puerto Galera**	**0.89**	**84**	⇑	*e*P	**Pg**		**13 51 38.6**	**0.0**
PGP					*i* S	**Sn**		**13 51 51.6**	**-0.2**
TGY	**Tagaytay City**	**1.11**	**51**	Pg		**Pn**		**13 51 41.2**	**-1.1**
	baz=270,slow=1.4								
TGY				Lg		Lg		13 52 00.7	
	baz=90,slow=14								
TGY	**Tagaytay City**	**1.11**	**51**	⇑	*e*P	**Pn**		**13 51 40.8**	**-1.4**
TGY					*i* S	**Sg**		**13 51 59.5**	**+2.1**
BUSP	**Coron**	**1.40**	**174**		*e*P	**Pg**		**13 51 47.8**	**-0.4**
BUSP					*e*S	**Sg**		**13 52 06.4**	**0.0**
SJMP	**San Jose**	**1.41**	**132**		*e*P	**Pg**		**13 51 47.6**	**-0.7**
SJMP					*e*S	**Sg**		**13 52 06.6**	**-0.1**
OTRP	**Odiongan**	**2.19**	**118**		*e*P	**Pg**		**13 52 03.2**	**0.0**
ENPP	**El Nido**	**2.26**	**196**		*e*P	**Pb**		**13 51 59.7**	**-2.1**
CUYO	**Cuyo Island**	**2.71**	**159**		*e*P	**Pn**		**13 52 05.7**	**+1.5**
CMAR	**Chiang Mai Arr**	**20.90**	**287**	P		Pn		13 56 05.0	-0.6
	0.6nm,0.7s,baz=98,slow=9.2,SNR=4.7								
WRA	**Warramunga Arr**	**36.00**	**157**	P		**P**		**13 58 21.1**	**-0.7**
	2.4nm,0.7s,baz=336,slow=9.5,SNR=15								
ASAR	**Alice Springs**	**39.26**	**160**	P		**P**		**13 58 49.5**	**+0.2**
	1.2nm,0.8s,baz=339,slow=7.1,SNR=13								
MKAR	**Makanchi Array**	**45.89**	**324**	P		**P**		**13 59 45.8**	**+2.8**
	0.2nm,0.7s,baz=134,slow=8.3,SNR=2.6								
PETK	**Petropavlovsk-**	**49.59**	**29**	LR		LR		14 22 30.1	
	comp=Z,58nm,21.9s,baz=155,slow=38								
KURBB	**Kurchatov Arra**	**50.08**	**327**	P		**P**		**14 00 16.6**	**+1.3**
	0.1nm,0.4s,baz=118,slow=9.7,SNR=2.8								

*FUNV **14** 13:53:09.8, 5°.05N×73°.75W, h146km, MW3.8*
*ISCJB **14** 13:53:10.1±0.5, 5°.39N±0°.06×73°.75W±0°.07, h158km, mb3.4/9, Error ellipse: s-maj=11.8km s-min=5.8km az=35.6*
*IDC **14** 13:53:11.4±0.7, 5°.20N×73°.99W, h164km±4km, mb3.2/9, mb1 3.5/9, mb1mx3.4/20, mbtmp3.7/9, Error ellipse: s-maj=29.8km s-min=14.3km az=67.0*
ISC 14 13:53:10.6±0.7, 5°.34N±0°.08×73°.71W±0°.09, h158km, n24, σ0§95/32, mb3.4/9, 1C, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**0.78**	**232**	P		**Pn**		**13 53 35.6**	**+0.6**
	51nm,0.3s,baz=90,slow=10,SNR=57								
ROSC						**Sn**		**13 53 53.8**	**+0.3**
	234nm,0.3s,baz=81,slow=19,SNR=53								
CAPV	**Capacho**	**2.87**	**29**		*e*P	**Pn**		**13 53 58.4**	**+1.5**
CAPV					*e*S	**Sn**		**13 54 33.6**	**+0.9**
SOCV	**Socops**	**4.07**	**44**		*e*P	**Pn**		**13 54 12.3**	**+0.2**
SOCV					*e*S	**Sn**		**13 54 58.6**	**-1.4**
VIGV	**El Vigia**	**4.19**	**34**		*e*P	**Pn**		**13 54 14.3**	**+0.8**
VIGV					*e*S	**Sn**		**13 55 02.0**	**-0.6**
VIRV	**Villa del Rosa**	**5.29**	**14**		*e*P	**Pn**		**13 54 28.1**	**+0.1**
VIRV					*e*S	**Sn**		**13 55 27.9**	**-0.7**
QARV	**Quebrada Arrib**	**5.78**	**33**		*e*P	**Pn**		**13 54 35.2**	**+0.7**
SANV	**Sanarito**	**5.85**	**45**		*e*P	**Pn**		**13 54 35.7**	**+0.2**
CURV	**Curarigua**	**5.95**	**38**		*e*P	**Pn**		**13 54 36.7**	**-0.1**
DABV	**Dabajuro**	**6.33**	**29**		*e*P	**Pn**		**13 54 42.2**	**+0.5**

*IDC **14** 13:54:59.0±1.2, 2°.58N×117°.82E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/34, mbtmp3.6/5, ML3.8/1, Error ellipse: s-maj=112.3km s-min=20.1km az=57.0*
*ISCJB **14** 13:55:02.5±0.9, 2°.3N±0°.1×117°.4E±0°.1, h33km, mb3.3/4, Error ellipse: s-maj=25.3km s-min=10.8km az=140.6*
*DJA **14** 13:55:42.7±0.5, 0°.N±8°×12°.0E±°, h26km±10km, M3.2/5, MLv3.2/5*
ISC 14 13:55:04.5±1.1, 2°.4N±0°.1×117°.5E±0°.1, h35km, n10, σ1§01/11, mb3.4/4, Borneo

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**3.16**	**130**	P		**Pn**		**13 55 51.0**	**-0.7**
MRSI	**Marisa**	**4.85**	**113**	P		**Pn**		**13 56 15.4**	**+0.4**
MRSI				S		Sn		13 56 42.0	-28
APSI	**Ampana**	**5.30**	**128**	P		**Pn**		**13 56 22.5**	**+1.3**
TTSI	**Tana Toraja**	**5.87**	**156**	P		**Pn**		**13 56 30.8**	**+1.7**
SPSI	**Sidrap Palu**	**6.70**	**160**	P		**Pn**		**13 56 40.8**	**+0.3**
KAPI	**Kappang**	**7.68**	**163**	Pn		**Pn**		**13 56 53.8**	**-0.2**
	1.5nm,0.3s,baz=344,slow=11,SNR=6.2								
CMAR	**Chiang Mai Arr**	**24.19**	**313**	P		**P**		**14 00 17.2**	**-0.7**
	0.7nm,0.6s,baz=140,slow=6.9,SNR=5.9								
WRA	**Warramunga Arr**	**27.68**	**144**	P		**P**		**14 00 49.2**	**-0.2**
	1.2nm,0.8s,baz=333,slow=9.5,SNR=7.7								
ASAR	**Alice Springs**	**30.43**	**149**	P		**P**		**14 01 13.0**	**-0.9**
	0.3nm,0.7s,baz=327,slow=8.1,SNR=5.1								
ASAR				PcP		**PcP**		**14 04 12.4**	**-0.7**
	0.4nm,0.7s,baz=329,slow=2.6,SNR=7.4								
MKAR	**Makanchi Array**	**53.77**	**331**	P		**P**		**14 04 24.5**	**+1.0**
	0.5nm,0.8s,baz=144,slow=8.5,SNR=4.8								

*IDC **14** 13:56:49.6±1.2, 29°.11N×104°.10E, h0km, mb3.4/6, mb1 3.5/6, mb1mx3.3/40, mbtmp3.4/6, Error ellipse: s-maj=46.0km s-min=20.8km az=56.0*
*ISCJB **14** 13:56:50.1±1.0, 29°.1N±0°.2×104°.2E±0°.2, h17km, mb3.3/6, Error ellipse: s-maj=34.2km s-min=17.4km az

Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.48**	**203**	Pn	Pn	14 18 27.5	+0.1
	1.8nm,0.3s,baz=96,slow=23,SNR=24						
STKA	**Stephens Creek**	**33.15**	**230**	P	P	14 22 33.4	-0.5
	1.6nm,0.5s,baz=25,slow=8.3,SNR=4.1						
WRA	**Warramunga Arr**	**35.83**	**253**	P	P	14 22 56.6	-0.7
	0.4nm,0.9s,baz=85,slow=9.1,SNR=3.6						
ASAR	**Alice Springs**	**36.80**	**247**	P	P	14 23 06.2	+0.6
	0.6nm,0.6s,baz=78,slow=8.9,SNR=12						

SJA 14 14:21:15.1±1.0,34.99S×72.97W,h10km,ML3.6,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CANA	**Caviahue**	**3.28**	**153**	*e*P	Pn	14 22 09.3	+2.6
AAGR	**Agrelo**	**3.93**	**62**	*e*P	Pn	14 22 19.7	+4.1
ARCO	**CERRO ARCO**	**3.98**	**59**	*e*P	Pn	14 22 19.8	+3.4
ARCO				*i* P	Pb	14 22 20.7	-4.9
ARCO				AML	AML	14 22 27.1	
	comp=Z,64nm,0.3s						
ARCO				*i* S	Sn	14 23 06.9	+3.5
AUSP	**Uspallata**	**4.07**	**48**	*e*P	Pn	14 22 21.4	+3.7
ASAL	**Salagasta**	**4.19**	**56**	*e*P	Pn	14 22 23.1	+3.8
RTLS	**Leoncito**	**4.42**	**45**	*i* P	Pn	14 22 25.9	+3.2
RTCV	**Cerro Valdivia**	**4.84**	**51**	*e*P	Pn	14 22 30.8	+2.6
CFAA	**Coronel Fontan**	**5.21**	**51**	*e*P	Pn	14 22 34.0	+0.9
RTLL	**Cerro Villicun**	**5.25**	**47**	*i* P	Pn	14 22 35.3	+1.6
AMOG	**MOGNA**	**5.52**	**44**	*e*P	Pn	14 22 39.5	+2.0
ACAN	**Cantantal**	**5.53**	**62**	*e*P	Pn	14 22 39.5	+1.9
AVFE	**Valle Fertil**	**6.34**	**49**	*i* P	Pn	14 22 48.9	+0.2
AVFE				AML	AML	14 24 15.4	
	comp=Z,16nm,0.8s						

WEL 14 14:24:18.2±0.3,38.24S×178.33E,h12km,ML3.7/7,3C-6D, Error ellipse: s-maj=3.2km s-min=1.2km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.17**	**341**	P*	Pg	14 24 21.5	-0.6
PUZ				*e*SG	Sg	14 24 24.1	-0.7
PUZ				AML	AML	14 24 26.0	
CNGZ	**Carnagh Statio**	**0.27**	**201**	P*	Pb	14 24 24.8	-0.1
TWGZ	**Tauwhareparae**	**0.28**	**282**	⇓P*	Pg	14 24 24.1	+0.1
WMGZ	**Waiomatatini S**	**0.42**	**9**	⇓P*	Pg	14 24 26.5	0.0
TKGZ	**Te Karaka**	**0.43**	**242**	⇓P*	Pb	14 24 27.2	-0.4
MWZ	**Matawai**	**0.64**	**261**	P*	Pg	14 24 30.5	-0.2
MWZ				AML	AML	14 24 31.1	
MWZ				*e*S*	Sg	14 24 38.8	-0.3
MWZ				AML	AML	14 24 42.3	
RIGZ	**Rimuhau**	**0.65**	**223**	⇑P*	Pb	14 24 31.5	+0.1
HAZ	**Te Kaha**	**0.65**	**318**	⇓P*	Pg	14 24 30.1	-0.6
HAZ				*e*S*	Sb	14 24 40.0	-0.3
MXZ	**Matakaoa Point**	**0.67**	**358**	⇓P*	Pg	14 24 31.1	-0.1
MXZ				AML	AML	14 24 45.9	
MXZ				AML	AML	14 24 46.0	
MXZ				AML	AML	14 24 46.7	
MXZ				AML	AML	14 24 46.7	
RAGZ	**Rawiri**	**0.76**	**250**	⇑P*	Pg	14 24 33.3	+0.2
PRGZ	**Paritu Road**	**0.77**	**207**	P*	Pg	14 24 33.0	-0.1
KNZ	**Kokohu**	**0.94**	**213**	⇑P*	Pg	14 24 34.7	-1.5
SNGZ	**Shannon Statio**	**0.95**	**235**	P*	Pg	14 24 35.8	-0.7
URZ	**Urewera**	**0.96**	**268**	⇓P*	Pg	14 24 36.0	-0.6
URZ				AML	AML	14 24 58.6	
URZ				AML	AML	14 24 59.9	
RAHZ	**Arahi**	**1.19**	**235**	P*	Pn	14 24 39.1	-1.6
WHHZ	**Waihua**	**1.20**	**225**	*e*P*	Pn	14 24 39.2	-1.6
MARZ	**Manawahe**	**1.33**	**280**	PN	Pn	14 24 42.1	-0.5
RRRZ	**Republican Roa**	**1.43**	**265**	*e*PN	Pn	14 24 42.8	-1.2
TARZ	**Mount Tarawera**	**1.44**	**270**	*e*PN	Pn	14 24 43.5	-0.7
OPRZ	**Ohinepanea**	**1.45**	**285**	PN	Pn	14 24 42.7	-1.6
NMHZ	**Naumai**	**1.47**	**234**	*e*PN	Pn	14 24 43.3	-1.3
BKZ	**Black Stump Fm**	**1.71**	**237**	PN	Pn	14 24 46.1	-1.8
BKZ				AML	AML	14 25 23.5	
BKZ				AML	AML	14 25 26.0	
MCHZ	**McNeill Hill**	**1.75**	**226**	PN	Pn	14 24 46.5	-1.9
KAHZ	**Kahuranaki**	**1.92**	**216**	PN	Pn	14 24 47.9	-2.9
KRHZ	**Kereru**	**2.08**	**227**	PN	Pn	14 24 50.1	-2.8
WNVZ	**Wahianoa**	**2.40**	**242**	PN	Pn	14 24 56.0	-1.4
MTVZ	**Mangateitei**	**2.51**	**242**	PN	Pn	14 24 57.7	-1.2
MTVZ				AML	AML	14 25 54.5	
TSZ	**Takapari Road**	**2.59**	**225**	PN	Pn	14 24 56.6	-3.3
BFZ	**Birch Farm**	**2.92**	**213**	PN	Pn	14 24 60.0	-4.5
WAZ	**Wanganui**	**3.01**	**239**	PN	Pn	14 25 04.5	-1.3
MRZ	**Mangatainoka R**	**3.22**	**220**	PN	Pn	14 25 04.4	-4.2
MRZ				*e*SN	Sn	14 25 42.0	-5.0
NEZ	**North Egmont**	**3.47**	**251**	*e*PN	Pn	14 25 12.2	+0.1
CTZ	**Chatham Island**	**6.69**	**147**	*e*PN	Pn	14 25 53.5	-2.7
CTZ				*e*SN	Sn	14 27 02.3	-10

WEL 14 14:34:30.6±0.5,38.22S×176.01E,h174km±3km,ML3.7/10, 21C-5D,Error ellipse: s-maj=2.5km s-min=1.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUTZ	**Kaahu Road**	**0.31**	**208**	PN	Pn	14 34 54.6	+0.5
RATZ	**Rangitukua**	**0.67**	**196**	⇑PN	Pn	14 34 55.9	+0.2
RITZ	**Rihia Road**	**0.77**	**186**	PN	Pn	14 34 56.7	+0.6
URZ	**Urewera**	**0.87**	**93**	⇓PN	Pn	14 34 56.5	-0.2
URZ				SN	Sn	14 35 16.7	-0.2
URZ				AML	AML	14 35 16.8	
KRVZ	**Karewarewa**	**0.92**	**198**	⇓PN	Pn	14 34 57.4	+0.1
HIZ	**Hauiti**	**0.95**	**252**	PN	Pn	14 34 57.5	+0.2
WTVZ	**West Tongariro**	**0.95**	**200**	PN	Pn	14 34 57.5	0.0
TWVZ	**Taurewa**	**0.96**	**208**	PN	Pn	14 34 57.6	0.0
OTVZ	**Oturere**	**0.98**	**196**	PN	Pn	14 34 58.0	+0.2
BKZ	**Black Stump Fm**	**1.02**	**158**	⇑PN	Pn	14 34 57.9	0.0
BKZ				*e*SN	Sn	14 35 18.5	-0.6
BKZ				AML	AML	14 35 21.6	
COVZ	**Chateau Observ**	**1.04**	**200**	⇑PN	Pn	14 34 58.1	0.0
WPVZ	**Whakapapa**	**1.05**	**200**	⇑PN	Pn	14 34 58.2	0.0
NMHZ	**Naumai**	**1.08**	**145**	PN	Pn	14 34 59.4	+1.0
TUVZ	**Tukino**	**1.08**	**195**	⇑PN	Pn	14 34 58.5	0.0
FWVZ	**Far West T-bar**	**1.09**	**199**	PN	Pn	14 34 58.6	-0.1
RAHZ	**Arahi**	**1.09**	**130**	PN	Pn	14 34 59.2	+0.7
WHVZ	**Whangaehu Hut**	**1.11**	**197**	PN	Pn	14 34 58.8	-0.1
WNVZ	**Wahianoa**	**1.15**	**196**	⇑PN	Pn	14 34 59.0	-0.2
SNGZ	**Shannon Statio**	**1.19**	**119**	PN	Pn	14 34 59.6	+0.4
PKVZ	**Pokaka**	**1.19**	**206**	⇑PN	Pn	14 34 59.1	-0.2
MWZ	**Matawai**	**1.20**	**96**	⇓PN	Pn	14 34 59.2	-0.1
MWZ				SN	Sn	14 35 21.3	-0.4
MWZ				AML	AML	14 35 21.6	
MWZ				AML	AML	14 35 21.7	
MWZ				AML	AML	14 35 22.3	
MOVZ	**Moawhango**	**1.20**	**189**	⇑PN	Pn	14 34 58.9	-0.5
MTVZ	**Mangateitei**	**1.24**	**200**	⇑PN	Pn	14 34 59.5	-0.2
KWHZ	**Kaweka Forest**	**1.25**	**165**	PN	Pn	14 34 60.0	+0.2
BHHZ	**Black Hill Sta**	**1.27**	**178**	⇑PN	Pn	14 34 59.6	-0.4
WHHZ	**Waihua**	**1.29**	**132**	PN	Pn	14 35 00.5	+0.5
ARHZ	**Aropaoanui**	**1.30**	**144**	PN	Pn	14 35 00.7	+0.6
VRZ	**Vera Road**	**1.33**	**227**	PN	Pn	14 35 00.3	-0.1
MCHZ	**McNeill Hill**	**1.34**	**156**	PN	Pn	14 35 01.2	+0.7
KRHZ	**Kereru**	**1.45**	**169**	PN	Pn	14 35 01.5	-0.1
RIGZ	**Rimuhau**	**1.46**	**110**	PN	Pn	14 35 02.0	+0.2
TKGZ	**Te Karaka**	**1.46**	**99**	*e*PN	Pn	14 35 01.9	+0.2
HAZ	**Te Kaha**	**1.48**	**72**	⇓PN	Pn	14 35 00.8	-1.0
HAZ				SN	Sn	14 35 24.4	-1.5
KNZ	**Kokohu**	**1.53**	**122**	PN	Pn	14 35 02.5	+0.2
TWGZ	**Tauwhareparae**	**1.55**	**89**	PN	Pn	14 35 02.9	+0.3
PRGZ	**Paritu Road**	**1.63**	**116**	*e*PN	Pn	14 35 03.4	+0.1
CKHZ	**Cape Kidnapper**	**1.66**	**150**	⇑PN	Pn	14 35 03.9	+0.3
PNHZ	**Pukenui**	**1.70**	**175**	⇑PN	Pn	14 35 03.4	-0.7
KAHZ	**Kahuranaki**	**1.71**	**157**	⇑PN	Pn	14 35 04.3	+0.1
WAZ	**Wanganui**	**1.73**	**207**	⇑PN	Pn	14 35 03.6	-0.8
CNGZ	**Carnagh Statio**	**1.75**	**99**	PN	Pn	14 35 05.0	+0.5
LREZ	**Lake Rotokare**	**1.76**	**225**	*e*PN	Pn	14 35 04.5	-0.1
PUZ	**Puketiti**	**1.78**	**86**	PN	Pn	14 35 04.4	-0.5
PUZ				AML	AML	14 36 04.5	
PUZ				AML	AML	14 36 14.0	
TSZ	**Takapari Road**	**1.84**	**181**	PN	Pn	14 35 04.7	-0.8
TSZ				AML	AML	14 35 05.2	
TSZ				AML	AML	14 35 05.5	
WPHZ	**Waipukurau**	**1.87**	**170**	⇑PN	Pn	14 35 05.3	-0.6
PXZ	**Pawanui**	**1.93**	**160**	⇑PN	Pn	14 35 05.9	-0.5
PXZ				AML	AML	14 35 34.3	
PXZ				AML	AML	14 35 34.8	
MXZ	**Matakaoa Point**	**1.93**	**71**	PN	Pn	14 35 06.3	-0.1
WMGZ	**Waiomatatini S**	**1.94**	**79**	PN	Pn	14 35 06.0	-0.6
DVHZ	**Dannevirke**	**2.08**	**177**	⇑PN	Pn	14 35 06.9	-1.2
PRHZ	**Porangahau**	**2.10**	**167**	PN	Pn	14 35 07.5	-0.8
POWZ	**Post Office Ro**	**2.18**	**185**	PN	Pn	14 35 07.8	-1.4
ANWZ	**Angora Road**	**2.27**	**171**	⇑PN	Pn	14 35 09.2	-1.0
PRWZ	**Pori Road**	**2.33**	**181**	PN	Pn	14 35 09.6	-1.3
MRZ	**Mangatainoka R**	**2.46**	**188**	⇑PN	Pn	14 35 10.5	-2.0
MRZ				SN	Sn	14 35 41.6	-3.6
MRZ				AML	AML	14 35 44.6	
BFZ	**Birch Farm**	**2.47**	**176**	PN	Pn	14 35 10.7	-1.8
OGWZ	**Otaki Gorge**	**2.67**	**194**	⇑PN	Pn	14 35 12.8	-2.1
KIW	**Kapiti Island**	**2.77**	**197**	⇑PN	Pn	14 35 13.6	-2.6
KIW				AML	AML	14 35 49.1	
TMWZ	**Te Maipa**	**2.89**	**182**	PN	Pn	14 35 15.2	-2.3
DUWZ	**D'Urville Isla**	**3.04**	**211**	PN	Pn	14 35 16.5	-3.0
WEL	**Wellington**	**3.21**	**197**	PN	Pn	14 35 18.5	-2.9
WEL				AML	AML	14 35 58.5	
WEL				AML	AML	14 35 59.0	
TCW	**Tory Channel**	**3.27**	**204**	⇓PN	Pn	14 35 19.2	-3.0
TCW				AML	AML	14 36 00.2	
TCW				AML	AML	14 36 01.3	
PLWZ	**Palliser**	**3.40**	**190**	PN	Pn	14 35 20.4	-3.5
NNZ	**Nelson**	**3.62**	**213**	PN	Pn	14 35 22.8	-3.8
QRZ	**Quartz Range**	**3.74**	**225**	PN	Pn	14 35 23.9	-4.3
THZ	**Tophouse**	**4.27**	**213**	PN	Pn	14 35 31.1	-3.9
KHZ	**Kahutara**	**4.60**	**203**	PN	Pn	14 35 35.3	-3.8
DSZ	**Denniston Nort**	**4.78**	**221**	*e*PN	Pn	14 35 37.3	-4.3
OXZ	**Oxford**	**5.92**	**209**	PN	Pn	14 35 50.8	-5.6
MQZ	**McQueen's Vall**	**6.04**	**204**	PN	Pn	14 35 52.2	-5.7

*ISCJB **14** 14:34:32.9±0.5,5.04S±0.07×150.74E±0.07,h250km, mb3.9/15,Error ellipse: s-maj=11.8km s-min=7.2km az=39.5*

*IDC **14** 14:34:33.3±1.4,5.08S×150.65E,h239km±12km,mb3.7/14, mb1 3.8/16,mb1mx3.6/24,mbtmp4.3/16,Error ellipse: s-maj=14.4km s-min=9.8km az=133.0*

ISC 14 14:34:34.4±0.6,5.12S±0.09×150.7E±0.1,h250km,n34, σ1s03/39,mb3.9/15,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.73**	**58**	P	Pn	14 35 10.1	-4.5
	baz=1.7,SNR=4.2						
PMG	**Port Moresby**	**5.52**	**219**	P	**Pn**	**14 35 55.3**	**-1.3**
	23nm,0.3s,baz=43,slow=5.6,SNR=44						
PMG				S	**S**	**14 37 00.8**	**-1.4**
	baz=32,slow=16,SNR=1.6						
PMG	**Port Moresby**	**5.52**	**219**	P	**Pn**	**14 35 55.3**	**-1.3**
	baz=5.6,SNR=34						
PMG				P	**Pn**	**14 35 55.3**	**-1.3**
	baz=5.6,SNR=34						
PMG				P	**Pn**	**14 35 55.3**	**-1.3**
	baz=5.6,SNR=34						
COEN	**Coen**	**11.49**	**220**	P	**Pn**	**14 37 13.0**	**+1.2**
	baz=12,SNR=8.2						
MTSU	**Mount Surprise**	**14.36**	**205**	P	P	14 37 50.3	+3.0
	baz=14,SNR=4.8						
CTA	**Charters Tower**	**15.49**	**196**	P	**Pn**	**14 38 00.5**	**-0.1**
	0.4nm,0.3s,baz=27,slow=12,SNR=5.9						
QIS	**Mount Isa**	**18.75**	**214**	P	**P**	**14 38 36.2**	**+0.9**
	baz=19,SNR=4.3						
KDU	**Kakadu**	**19.50**	**246**	P	**P**	**14 38 43.6**	**+0.3**
	baz=20,SNR=21						
EIDS	**Eidsvold**	**20.14**	**179**	P	**P**	**14 38 50.0**	**0.0**
	baz=20,SNR=5.9						
MTN	**Manton Dam**	**20.78**	**247**	P	**P**	**14 38 58.6**	**+1.6**
	baz=21,SNR=5.2						
RMQ	**Roma**	**21.33**	**185**	P	**P**	**14 39 02.6**	**+0.3**
	baz=22,SNR=8.6						
WRA	**Warramunga Arr**	**21.69**	**226**	P	**P**	**14 39 06.1**	**+0.3**
	3.6nm,0.5s,baz=52,slow=9.8,SNR=31						
WRA				S	**S**	**14 42 48.9**	**+0.7**
	3.2nm,0.9s,baz=46,slow=16,SNR=6.1						
WRA				ScP	**ScP**	**14 46 11.9**	**+1.7**
	0.4nm,0.9s,baz=52,slow=3.0,SNR=5.4						
QLP	**Quilpie**	**22.22**	**195**	P	**P**	**14 39 11.3**	**+0.8**
	baz=22,SNR=22						
DZM	**Mont Dzumac**	**22.72**	**139**	P	**P**	**14 39 15.9**	**+0.6**
	9.7nm,0.5s,baz=307,slow=0.8,SNR=21						
KNRA	**Kununurra**	**23.96**	**242**	P	**P**	**14 39 28.5**	**+2.0**
	baz=24,SNR=18						
ASAR	**Alice Springs**	**24.53**	**220**	P	**P**	**14 39 32.1**	**+0.4**
	1.6nm,0.4s,baz=53,slow=9.0,SNR=190						
ASAR				S	**S**	**14 43 34.7**	**+1.0**
	0.5nm,0.8s,baz=35,slow=19,SNR=3.4						
ASAR				ScP	**ScP**	**14 46 19.9**	**+2.1**
	0.4nm,0.8s,baz=49,slow=4.2,SNR=4.5						
STKA	**Stephens Creek**	**27.95**	**197**	P	**P**	**14 40 01.2**	**-0.8**
	3.2nm,0.6s,baz=24,slow=14,SNR=5.9						
STKA	**Stephens Creek**	**27.95**	**197**	P	**P**	**14 40 02.4**	**+0.4**
	baz=28,SNR=4.3						
WRKA	**Warakurna**	**29.23**	**225**	P	**P**	**14 40 13.3**	**-0.2**
	baz=29,SNR=9.5						
HTT	**Hallett**	**30.23**	**200**	P	**P**	**14 40 22.5**	**+0.3**
	baz=30,SNR=3.5						
MEEK	**Meekatharra**	**37.35**	**232**	P	**P**	**14 41 24.0**	**+0.5**
	baz=38,SNR=8.5						
AFI	**Afiamalu**	**37.98**	**106**	P	**P**	**14 41 29.2**	**+0.3**
	9.5nm,0.3s,baz=228,slow=1.0,SNR=23						
MORW	**Morawa**	**40.53**	**230**	P	**P**	**14 41 49.8**	**+0.1**
	baz=41,SNR=3.5						
URZ	**Urewera**	**40.80**	**148**	P	**P**	**14 41 52.2**	**+0.4**
	2.9nm,0.5s,baz=321,slow=6.5,SNR=5.3						
RPZ	**Rata Peaks**	**42.42**	**158**	P	**P**	**14 42 03.9**	**-0.9**
	8.5nm,0.8s,baz=330,slow=6.0,SNR=3.9						
PETK	**Petropavlovsk-**	**58.31**	**5**	P	**P**	**14 44 03.6**	**+0.4**
	3.6nm,0.9s,baz=168,slow=8.5,SNR=5.9						
VNDA	**Vanda**	**72.59**	**177**	P	**P**	**14 45 33.4**	**-0.7**
	1.1nm,0.8s,baz=343,slow=6.3,SNR=5.2						
MKAR	**Makanchi Array**	**79.20**	**319**	P	**P**	**14 46 10.3**	**-1.6**
	0.1nm,0.6s,baz=111,slow=6.3,SNR=2.3						
ZALV	**Zalesovo Beam**	**80.26**	**327**	P	**P**	**14 46 15.9**	**-1.4**
	0.6nm,0.4s,baz=109,slow=7.8,SNR=2.7						
ILAR	**Eielson Array**	**83.25**	**22**	P	**P**	**14 46 31.5**	**-1.2**
	0.6nm,0.7s,baz=246,slow=5.4,SNR=12						
QSPA	**South Pole Qui**	**84.84**	**180**	P	**P**	**14 46 41.4**	**+0.5**
	1.4nm,0.8s,baz=304,slow=3.6,SNR=3.5						
NVAR	**Mina Array Bea**	**93.93**	**52**	P	**P**	**14 47 25.1**	**+0.7**
	0.3nm,0.6s,baz=259,slow=8.2,SNR=3.1						
YKA	**Yellowknife Ar**	**96.68**	**28**	P	**P**	**14 47 35.6**	**-0.4**
	0.2nm,0.6s,baz=262,slow=4.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**148.40**	**287**	PKPbc	**PKPbc**	**14 53 53.0**	**+0.5**
	1.0nm,0.7s,baz=63,slow=2.7,SNR=5.8						

MEX 14 14:37:06.2±0.6,15.81N×93.70W,h94km±6km,MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.48**	**102**	*e*P	Pn	14 37 19.9	-1.2
PCIG				*e*S	Sn	14 37 30.8	-1.5
TGIG		**1.11**	**30**	*i* P	Pn	14 37 26.5	-1.1
TGIG				*i* S	Sn	14 37 41.2	-2.4
CCIG	**Comitan**	**1.58**	**72**	*e*P	Pn	14 37 32.3	-1.0
CCIG				*e*S	Sn	14 37 52.1	-1.9
CMIG	**Matias Romero**	**1.71**	**319**	*e*P	Pn	14 37 34.2	-0.5
CMIG				*i* S	Sn	14 37 55.4	-1.0
HUIG	**Huatulco**	**2.32**	**269**	*i* P	Pn	14 37 40.9	-1.8
HUIG				*i* S	Sn	14 38 08.8	-1.9

*ISCJB **14** 14:45:31.5±1.2,56.4S±0.2×142.6W±0.3,h10km,mb3.9/5, MS3.5/1,Error ellipse: s-maj=34.2km s-min=25.3km az=18.6*

*IDC **14** 14:45:31.7±1.1,56.36S×142.56W,h0km,mb3.9/5, mb1 4.1/5,mb1mx3.9/30,mbtmp3.9/5,MS3.6/1,Ms1 3.7/1, ms1mx3.2/25,Error ellipse: s-maj=39.1km s-min=26.7km az=14.0*

*NEIC **14** 14:45:33.1±1.0,56.33S×142.48W,h10km,mb4.4/2,Error ellipse: s-maj=30.7km s-min=23.0km az=204.0*

ISC 14 14:45:33.2±1.3,56.3S±0.2×142.5W±0.2,h10km,n27, σ0s87/8,mb4.0/5,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**28.47**	**202**	LR	LR	14 59 16.9	
	comp=Z,132nm,21.6s,baz=74,slow=29						
TBI	**Tubuai**	**33.34**	**348**	*e*LR	LR	15 00 52.7	
	451nm,29.8s,baz=175						
TBI	**Tubuai**	**33.34**	**348**	*e*T	T	15 27 07.2	
	97nm,0.3s						
QSPA	**South Pole Qui**	**33.82**	**180**	P	**P**	**14 52 16.2**	**+0.9**
	2.6nm,1.0s,baz=96,slow=6.1,SNR=4.5						
QSPA	**South Pole Qui**	**33.82**	**180**	*e*P	**P**	**14 52 16.0**	**+0.7**
	5.0nm,1.0s						
MEH	**Mehetia**	**38.62**	**352**	*e*T	T	15 33 42.8	
	47nm,0.3s						
TVO	**Taravao**	**38.82**	**350**	*e*T	T	15 33 58.0	
	2.1nm,0.3s						
PAE	**Paea**	**38.97**	**349**	*e*T	T	15 34 09.2	
	3.6nm,0.3s						
PPT2	**Papeete2**	**39.04**	**349**	*e*LR	LR	15 03 29.2	
	339nm,26.5s,baz=176						
PPT2	**Papeete2**	**39.04**	**349**	*e*T	T	15 34 14.4	
	8.5nm,0.3s						
TIAR	**Tiarei**	**39.05**	**350**	*e*T	T	15 34 15.1	
	4.1nm,0.2s						
VAH	**Vaihoa**	**41.20**	**352**	*e*T	T	15 36 56.4	
	50nm,0.3s						
SNAA	**Sanae**	**49.19**	**164**	P	**P**	**14 54 19.8**	**-1.1**
	0.6nm,0.6s,baz=233,slow=8.9,SNR=10.0						
ASAR	**Alice Springs**	**67.13**	**261**	P	**P**	**14 56 26.2**	**-0.8**
	0.8nm,0.7s,baz=144,slow=6.2,SNR=9.4						
LPAZ	**La Paz**	**67.94**	**86**	P	**P**	**14 56 33.3**	**+0.4**
	0.7nm,0.5s,baz=140,slow=4.4,SNR=3.0						
LPAZ	**La Paz**	**67.94**	**86**	P	**P**	**14 56 32.8**	**-0.1**
	2.8nm,1.1s						
H01W1	**Cape Leeuwin H**	**68.45**	**239**	T	T	16 11 55.0	
	baz=143,slow=76,SNR=60						
H01W2	**Cape Leeuwin H**	**68.45**	**239**	T	T	16 11 55.5	
	baz=143,slow=76,SNR=59						
H01W3	**Cape Leeuwin H**	**68.46**	**239**	T	T	16 11 56.3	
	baz=143,slow=76,SNR=53						
WRA	**Warramunga Arr**	**69.87**	**264**	P	**P**	**14 56 44.7**	**+0.6**
	0.9nm,0.8s,baz=149,slow=5.9,SNR=4.1						
H10S3	**ASCENSION HYDR**	**102.08**	**127**	T	T	16 54 07.3	
	baz=207,slow=75,SNR=13						
H10S2	**ASCENSION HYDR**	**102.08**	**127**	T	T	16 53 58.0	
	baz=207,slow=75,SNR=15						
H10S1	**ASCENSION HYDR**	**102.09**	**127**	T	T	16 54 08.5	
	baz=207,slow=75,SNR=14						
H10N3	**ASCENSION HYDR**	**103.14**	**127**	T	T	16 55 12.0	
	baz=206,slow=75,SNR=20						
H10N1	**ASCENSION HYDR**	**103.14**	**127**	T	T	16 55 19.8	
	baz=206,slow=75,SNR=21						
H10N2	**ASCENSION HYDR**	**103.15**	**127**	T	T	16 55 13.4	
	baz=206,slow=75,SNR=26						
MKAR	**Makanchi Array**	**151.04**	**270**	PKPbc	**PKPbc**	**15 05 25.5**	**+0.1**
	0.9nm,0.9s,baz=104,slow=4.6,SNR=5.0						

*ISCJB **14** 14:46:30.3±0.9,37.82S±0.07×74.8W±0.2,h10km,mb3.6/7, MS4.2/1,Error ellipse: s-maj=21.0km s-min=8.7km az=168.0*

*IDC **14** 14:46:30.9±1.3,37.75S×74.38W,h0km,mb3.6/7, mb1 3.8/8,mb1mx3.7/26,mbtmp3.7/8,ML2.9/1,MS3.6/3, Ms1 3.6/3,ms1mx3.3/30,Error ellipse: s-maj=51.9km s-min=22.5km az=92.0*

*GUC **14** 14:46:44.2±0.6,38.17S×73.79W,h18km±8km,ML4.7*

ISC 14 14:46:32.8±1.0,38.02S±0.06×74.69W±0.09,h10km,n15, σ2s23/13,mb3.5/7,1C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSCH	**Puerto Saavedr**	**1.28**	**128**	⇓*i*P	**Pb**	**14 46 57.7**	**+0.6**
PSCH				*i* S	**Sb**	**14 47 08.8**	**-4.7**
CCSP	**San Pedro de C**	**1.71**	**48**	*i* S	**Sg**	**14 47 29.9**	**+2.0**
CCSP				AML	AML	14 47 32.9	
	comp=E,11μm,0.4s						
U14B	**Concepcin**	**1.72**	**48**	*e*P	Pg	14 47 10.3	+4.4
U14B				*i* S	**Sg**	**14 47 30.2**	**+2.0**
U14B				AML	AML	14 47 33.4	
	comp=N,37μm,0.6s						
VLCH	**Valdivia**	**2.11**	**148**	⇑*i*P	**Pg**	**14 47 14.6**	**+1.3**
VLCH				*i* S	**Sb**	**14 47 37.0**	**-0.4**
CFAA	**Coronel Fontan**	**8.30**	**42**	Pn	Pn	14 48 23.3	-10
	comp=N,0.1nm,0.3s,baz=211,slow=12,SNR=3.2						
CFAA				Sn	Sn	14 49 51.5	-16
	comp=N,0.1nm,0.3s,baz=177,slow=16,SNR=1.0						
CFAA				Lg	Lg	14 50 28.2	
	comp=N,0.1nm,0.3s,baz=338,slow=19,SNR=4.0						
C

ISCJB ***14*** *15:05:45.9±1.1,38˚.19S±0˚.03×73˚.32W±0˚.05,h15km±7km, mb5.3/141,MS5.5/176,Error ellipse: s-maj=6.5km s-min=4.2km az=0.7*

GUC ***14*** *15:05:47.3±0.6,38˚.29S×73˚.55W,h29km±6km,ML5.8*

BJI ***14*** *15:05:49.2,38˚.22S×73˚.54W,h36km,mB5.7/57,Ms5.8/59, Ms7 5.7/59*

MOS ***14*** *15:05:49.3±1.1,38˚.26S×73˚.39W,h33km,mb5.5/52, MS5.6/32,Error ellipse: s-maj=14.8km s-min=8.3km az=95.6*

GCMT ***14*** *15:05:50.4±0.1,38˚.39S×73˚.80W,h23km,MW5.8/104, Moment Tensor Solution. s93,c178; s104,c238; Duration: 1s8 Moment tensor: Scale 10¹⁷Nm; Mrr2.40±.05; Mθθ0.18±.03; Mϕϕ-2.59±.04; Mrθ0.38±.06; Mθϕ0.28±.03; Mϕr-4.77±.16; Best double couple: M₀5.40300×10¹⁷ NP1:ϕs175.00000°,δ76.00000°, λ91.00000°. NP2:ϕs353.00000°,δ14.00000°,λ88.00000°. Principal axes: T 5.2950, Plg59.0000°, Azm86.0000°; N 0.2110, Plg1.0000°, Azm355.0000°; P -5.5120, Plg31.0000°, Azm265.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***14*** *15:05:50.4±0.2,38˚.22S×73˚.23W,h35km,mb5.4/105, MS5.5/139,MW5.7,ML5.8(GUC) Error ellipse: s-maj=7.9km s-min=5.2km az=76.0,Moment Tensor Solution. s51 Moment tensor: Scale 10¹⁷Nm; Mrr2.24; Mθθ-1.18; Mϕϕ-1.06; Mrθ-0.98; Mθϕ-1.73; Mϕr-4.19; Best double couple: M₀5.00000×10¹⁷ NP1:ϕs198.00000°, δ76.00000°,λ73.00000°. NP2:ϕs71.00000°,δ22.00000°, λ141.00000°. Principal axes: T 5.1000, Plg55.0000°, Azm87.0000°; N -0.1500, Plg16.0000°, Azm202.0000°; P -4.9500, Plg29.0000°, Azm302.0000°;*

NEIC Felt [VI] at Chillan; [V] at Angol, Los Angeles, Los Sauces and Renaico; [IV] at Pucon, Puerto Saavedra, Temuco and Victoria; [III] at Concepcion, La Laja, Lebu, Los Alamos, Ranco, Talcahuano and Valdivia; [II] at Panguipulli and Parral. Also felt at Canete, Collipulli and Coronel.

ISC 14 15:05:49.7±0.5,38˚.25S±0˚.03×73˚.23W±0˚.05,h31km±3km, h30km:pP-P,n1046,σ1s24/1011,mb5.4/154,MS5.6/180, 34C-12D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSCH	**Puerto Saavedr**	**0.56**	**193**	*eP*	**Pb**	**15 05 58.0**	**-3.1**
PSCH				*i* S	**Sb**	**15 06 05.5**	**-3.5**
U14B	**Concepcin**	**1.40**	**5**	*i* P	**Pn**	**15 06 12.8**	**-0.2**
U14B				*i* S	**Sb**	**15 06 32.2**	**-0.3**
U14B				AML	AML	15 06 45.9	
	comp=N,528μm,0.6s						
CCSP	**San Pedro de C**	**1.41**	**4**	*eP*	**Pn**	**15 06 12.4**	**-0.7**
CCSP				*i* S	**Sn**	**15 06 31.6**	**+1.0**
CCSP				AML	AML	15 06 43.8	
	comp=N,120μm,0.6s						
TALC	**Talca**	**3.12**	**25**	*eP*	**Pn**	**15 06 37.6**	**+0.8**
TALC				*i* S	**Sn**	**15 07 16.2**	**+3.2**
AAGR	**Agrelo**	**6.28**	**36**	*eP*	**Pn**	**15 07 21.8**	**+1.5**
AAGR				*i* P	**Pn**	**15 07 21.9**	**+1.7**
ARCO	**CERRO ARCO**	**6.43**	**34**	*eP*	**Pn**	**15 07 24.6**	**+2.1**
ARCO				IAML		15 09 26.1	
	comp=Z,761nm,0.8s						
ASAL	**Salagasta**	**6.69**	**34**	*eP*	**Pn**	**15 07 27.5**	**+1.6**
AUSP	**Uspallata**	**6.79**	**29**	*i* P	**Pn**	**15 07 28.3**	**+0.9**
RTLS	**Leoncito**	**7.20**	**28**	*i* P	**Pn**	**15 07 32.9**	**-0.2**
RTCV	**Cerro Valdivia**	**7.44**	**33**	*eP*	**Pn**	**15 07 36.2**	**0.0**
RTCV				*i* S	Sn	15 09 09.1	+9.5
SJA	**San Juan**	**7.73**	**31**	IAML		15 10 18.1	
	comp=Z,568nm,0.8s						
ACAN	**Cantantal**	**7.74**	**41**	*eP*	**Pn**	**15 07 41.4**	**+1.1**
CFAA	**Coronel Fontan**	**7.79**	**33**	Pn	**Pn**	**15 07 41.1**	**+0.1**
	comp=Z,1.6nm,0.3s,baz=43,slow=3.0,SNR=41						
CFAA				Sn	**Sn**	**15 09 10.6**	**+2.3**
	comp=Z,3.4nm,0.3s,baz=202,slow=3.3,SNR=3.9						
CFAA				Lg	Lg	15 09 59.2	
	comp=Z,1.7nm,0.3s,baz=262,slow=6.2,SNR=7.7						
CFAA				LR	LR	15 11 31.4	
	comp=Z,5μm,18.5s,baz=222,slow=44						
RTLL	**Cerro Villicun**	**7.94**	**31**	*i* P	**Pn**	**15 07 41.9**	**-1.0**
RTLL				*i* S	Sn	15 09 20.0	+8.3
AMOG	**MOGNA**	**8.27**	**30**	*eP*	**Pn**	**15 07 46.2**	**-1.4**
SUCO	**SUCO**	**8.36**	**57**	*eP*	Pn	15 07 53.5	+4.6
SUCO				IAML		15 08 13.4	
	comp=Z,241nm,0.7s						
SUCO				*eS*	Sb	15 10 08.9	+16
TRQA	**Tornquist**	**8.87**	**92**	*eP*	Pn	15 07 59.2	+3.5
	comp=Z,390nm,0.9s						
TRQA				*eS*	Sn	15 10 07.1	+32
TRQA	**Tornquist**	**8.87**	**92**	*eP*	Pn	15 07 59.4	+3.7
TRQA				*eS*	Sn	15 10 01.6	+27
ACHE	**Chepes**	**8.90**	**39**	*eP*	**Pn**	**15 07 55.7**	**-0.6**
AVFE	**Valle Fertil**	**8.95**	**34**	*eP*	**Pn**	**15 07 55.2**	**-1.7**
AVFE				IAML		15 10 10.7	
	comp=Z,200nm,0.8s						
LCO	**Las Campanas**	**9.45**	**14**	*eP*	**Pn**	**15 08 01.6**	**-2.4**
	comp=Z,365nm,0.7s						
LCO	**Las Campanas**	**9.45**	**14**	*eP*	**Pn**	**15 08 02.0**	**-2.0**
LCO				*eP*	**Pn**	**15 08 02.4**	**-1.6**
LCO				*eS*	Sn	15 10 20.1	+30
LCO				*eS*	Sn	15 10 29.3	+40
TCA	**Tanti**	**9.90**	**48**	*eP*	**Pn**	**15 08 10.7**	**+0.8**
TCA				*eS*	Sn	15 10 30.8	+31
TCA				IAML		15 11 28.5	
	comp=Z,241nm,0.8s						
VCA	**Vinchina**	**10.37**	**25**	*eP*	**Pn**	**15 08 16.5**	**0.0**
VCA				*eS*	Sn	15 10 34.9	+23
VCA				IAML		15 11 36.2	
	comp=Z,538nm,0.9s						
CYA	**Choya**	**11.58**	**35**	*eP*	Pn	15 08 29.1	-3.8
CYA				IAML		15 09 09.5	
	comp=Z,84nm,0.8s						
AHML	**Horco Molle**	**13.22**	**32**	*eP*	Pn	15 08 52.0	-3.4
FSA	**Cafayete**	**13.57**	**29**	*eP*	Pn	15 08 56.3	-3.9
FSA				*eS*	**S**	**15 11 49.5**	**-3.1**
SLA	**San Lorenzo**	**15.00**	**28**	*eP*	**Pn**	**15 09 18.2**	**-1.5**
LVC	**Limon Verde**	**16.02**	**15**	Pn	**Pn**	**15 09 31.3**	**-1.7**
	comp=Z,52nm,0.3s,baz=198,slow=10,SNR=9.7						
LVC				LR	LR	15 15 12.1	
	comp=Z,34μm,21.3s,baz=202,slow=35						
LVC	**Limon Verde**	**16.02**	**15**	*eP*	**Pn**	**15 09 30.4**	**-2.6**
	comp=Z,112nm,1.0s						
ASTB	**Santa Barbara**	**16.09**	**30**	*eP*	**Pn**	**15 09 34.7**	**+0.9**
ALOL	**LOMAS DE OLMED**	**16.42**	**31**	*eP*	**Pn**	**15 09 36.5**	**-1.3**
HJA	**Humahuaca**	**16.42**	**26**	*eP*	**Pn**	**15 09 38.5**	**+0.2**
USHA	**Ushuaia**	**16.91**	**170**	Pn	**Pn**	**15 09 44.5**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=326,slow=8.8,SNR=11						
USHA				LR	LR	15 16 53.1	
	comp=Z,15μm,18.6s,baz=330,slow=39						
EFI	**East Falkland**	**17.14**	**146**	Pn	**P**	**15 09 48.7**	**+0.6**
	comp=Z,1μm,0.8s,SNR=10.0						
EFI	**East Falkland**	**17.14**	**146**	*eP*	**Pn**	**15 09 47.1**	**+0.4**
EFI				pmax	pmax		
	comp=Z,683nm,1.2s						
EFI	**East Falkland**	**17.14**	**146**	*eP*	**P**	**15 09 47.9**	**-0.2**
	comp=Z,290nm,1.1s						
YJA	**Yavi**	**17.34**	**25**	*eP*	**P**	**15 09 50.8**	**-0.3**
CPUP	**Villa Florida**	**17.91**	**53**	Pn	**Pn**	**15 09 56.5**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=226,slow=11,SNR=36						
CPUP	**Villa Florida**	**17.91**	**53**	P	**Pn**	**15 09 56.6**	**+0.1**
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CPUP	**Villa Florida**	**17.91**	**53**	*eP*	**P**	**15 09 57.6**	**+0.7**
LPAZ	**La Paz**	**22.34**	**13**	P	**P**	**15 10 46.3**	**+0.7**
	comp=Z,37nm,1.1s,baz=174,slow=8.3,SNR=33						
LPAZ	**La Paz**	**22.34**	**13**	P	**P**	**15 10 46.3**	**+0.7**
LPAZ				pmax	pmax		
	comp=Z,37nm,1.1s						
LPAZ	**La Paz**	**22.34**	**13**	*eP*	**P**	**15 10 46.1**	**+0.5**
SIV	**San Ignacio**	**24.63**	**29**	P	**P**	**15 11 07.3**	**-0.2**
	comp=Z,89nm,0.9s,baz=229,slow=11,SNR=58						
NNA	**Nana**	**26.35**	**352**	P	**P**	**15 11 20.4**	**-2.7**
	comp=Z,14nm,0.8s,baz=203,slow=12,SNR=3.2						
NNA				LR	LR	15 19 49.8	
	comp=Z,4μm,18.9s,baz=180,slow=32						
NNA	**Nana**	**26.35**	**352**	P	**P**	**15 11 20.4**	**-2.7**
NNA				pmax	pmax		
	comp=Z,14nm,0.8s						
NNA				MLR	MLR		
	comp=Z,4μm,18.9s						
NNA	**Nana**	**26.35**	**352**	*eP*	**P**	**15 11 23.1**	**0.0**
PMSA	**Palmer Station**	**27.11**	**171**	P	**P**	**15 11 30.4**	**+1.0**
	comp=Z,16nm,1.0s,baz=352,slow=12,SNR=2.2						
HOPE	**Hope Point**	**29.62**	**135**	PFAKE		15 12 00.0	+8.1
HOPE				LR	LR		
	comp=Z,7μm,22.0s						
SAML	**Samuel**	**30.55**	**20**	*eP*	**P**	**15 11 59.9**	**-0.5**
	comp=Z,52nm,1.3s						
SAML				LR	LR		
	comp=Z,12μm,22.0s						
ATAH	**Atahualpa**	**31.33**	**350**	P	**P**	**15 12 09.9**	**+2.1**
	comp=Z,21nm,1.0s,baz=186,slow=6.1,SNR=8.9						
ATAH				LR	LR	15 23 46.2	
	comp=Z,4μm,18.4s,baz=179,slow=35						
BDFB	**Brasilia**	**31.63**	**52**	P	**P**	**15 12 10.0**	**-0.2**
	comp=Z,34nm,0.9s,baz=219,slow=7.9,SNR=19						
BDFB				LR	LR	15 26 34.5	
	comp=Z,20μm,20.4s,baz=216,slow=39						
BDFB	**Brasilia**	**31.63**	**52**	P	**P**	**15 12 10.0**	**-0.2**
BDFB				pmax	pmax		
	comp=Z,34nm,0.9s						
BDFB				MLR	MLR		
	comp=Z,20μm,20.4s						
RPN	**Rapa Nui**	**32.16**	**279**	PFAKE		15 12 30.0	+15
RPN				LR	LR		
	comp=Z,11μm,21.0s						
OTAV	**Otavalo**	**38.60**	**352**	*eP*	**P**	**15 13 10.7**	**+0.1**
	comp=Z,169nm,1.4s						
OTAV				LR	LR		
	comp=Z,2μm,20.0s						
PTGA	**Pitinga**	**39.28**	**21**	P	**P**	**15 13 15.2**	**-0.5**
	comp=Z,25nm,0.9s,baz=196,slow=8.7,SNR=30						
PAYG	**Puerto Ayora**	**40.55**	**333**	PFAKE		15 13 40.0	+14
PAYG				LR	LR		
	comp=Z,5μm,19.0s						
ROSC	**El Rosal**	**42.90**	**358**	P	**P**	**15 13 46.1**	**+0.2**
	comp=Z,7.8nm,0.5s,baz=218,slow=4.9,SNR=9.0						
VNA1	**Neumayer--Stat**	**46.19**	**155**	P	**P**	**15 14 12.2**	**+1.1**
RCBR	**Riachuelo**	**46.76**	**56**	P	**P**	**15 14 17.6**	**+1.2**
	comp=Z,74nm,1.1s,baz=205,slow=9.6,SNR=11						
RCBR	**Riachuelo**	**46.76**	**56**	*eP*	**P**	**15 14 18.6**	**+2.2**
RCBR				LR	LR		
	comp=Z,21μm,21.0s						
SDV	**Santo Domingo**	**46.95**	**4**	*eP*	**P**	**15 14 16.0**	**-1.9**
	comp=Z,43nm,0.9s						
SDV				LR	LR		
	comp=Z,4μm,19.0s						
TRIS	**Tristan da Cun**	**47.46**	**108**	PFAKE		15 14 30.0	+8.5
TRIS				LR	LR		
	comp=Z,5μm,22.0s						
BCIP	**Isla Barro Col**	**47.57**	**351**	P	**P**	**15 14 22.8**	**+0.3**
BCIP				LR	LR		
	comp=Z,2μm,19.0s						
SNAA	**Sanae**	**48.05**	**156**	P	**P**	**15 14 26.6**	**+0.8**
	comp=Z,16nm,0.8s,baz=281,slow=6.8,SNR=54						
SNAA	**Sanae**	**48.05**	**156**	P	**P**	**15 14 26.6**	**+0.8**
SNAA				pmax	pmax		
	comp=Z,16nm,0.8s						
JTS	**JuntasAbangare**	**49.51**	**345**	P	**P**	**15 14 38.7**	**+1.3**
	comp=Z,9.1nm,0.8s,baz=153,slow=9.5,SNR=5.0						
JTS	**JuntasAbangare**	**49.51**	**345**	*eP*	**P**	**15 14 38.4**	**+0.9**
JTS				pmax	pmax		
	comp=Z,91nm,1.7s						
JTS	**JuntasAbangare**	**49.51**	**345**	*eP*	**P**	**15 14 39.1**	**+1.6**
JTS				LR	LR		
	comp=Z,2μm,20.0s						
GRGR	**Grenville**	**51.28**	**15**	*eP*	**P**	**15 14 51.2**	**+0.4**
GRGR				LR	LR		
	comp=Z,4μm,21.0s						
QSPA	**South Pole Qui**	**51.99**	**180**	P	**P**	**15 14 56.2**	**+0.3**
	comp=Z,24nm,1.0s,baz=141,slow=4.1,SNR=21						
QSPA	**South Pole Qui**	**51.99**	**180**	*eP*	**P**	**15 14 56.1**	**+0.2**
	comp=Z,95nm,1.2s						
QSPA				LR	LR		
	comp=Z,2μm,21.0s						
BBGH	**Gun Hill**	**52.70**	**17**	PFAKE		15 15 10.0	+8.6
BBGH				LR	LR		
	comp=Z,4μm,21.0s						
NVL	**N'lazarevskaya**	**52.83**	**156**	*i* P	**P**	**15 15 02.3**	**+0.5**
NVL				*i* S	**S**	**15 22 23.9**	**-4.1**
NVL				pmax	pmax		
	comp=Z,107nm,1.0s						
NVL				MLR	MLR		
	comp=Z,2μm,14.0s						
FDF	**Fort de France**	**53.91**	**15**	PFAKE		15 15 20.0	+10
FDF				LR	LR		
	comp=Z,5μm,20.0s						
RKT	**Rikitea**	**54.27**	**267**	*eS*	**S**	**15 22 52.2**	**+3.5**
	comp=Z,3μm,25.8s						
RKT				*eLR*	LR	15 30 50.5	
	comp=Z,13μm,25.2s,baz=125						
RKT	**Rikitea**	**54.27**	**267**	*eT*	T	16 12 54.0	
	comp=Z,2.9nm,0.2s						
MTDJ	**Mount Denham**	**56.32**	**355**	PFAKE		15 15 40.0	+12
MTDJ				LR	LR		
	comp=Z,1μm,19.0s						
OBIP	**Obispado Ponce**	**56.34**	**8**	*eP*	**P**	**15 15 26.2**	**-1.5**
	comp=Z,59nm,1.1s						
CELP	**Cerrillos**	**56.37**	**8**	*eP*	**P**	**15 15 26.4**	**-1.6**
SJG	**San Juan**	**56.45**	**8**	PFAKE		15 15 40.0	+11
SJG				LR	LR		
	comp=Z,3μm,19.0s						
ANWB	**Willy Bob**	**56.65**	**13**	PFAKE		15 15 40.0	+10
ANWB				LR	LR		
	comp=Z,2μm,20.0s						
SDDR	**Presa de Saban**	**56.96**	**2**	PFAKE		15 15 40.0	+7.8
SDDR				LR	LR		
	comp=Z,2μm,20.0s						
GTBY	**Guantanamo Bay**	**57.89**	**358**	PFAKE		15 15 50.0	+11
GTBY				LR	LR		
	comp=Z,1μm,19.0s						
SBA	**Scott Base**	**58.73**	**192**	*eP*	**P**	**15 15 44.9**	**+1.0**
SBA				pmax	pmax		
	comp=Z,130nm,1.9s						
SBA	**Scott Base**	**58.73**	**192**	*eP*	**P**	**15 15 44.9**	**+1.0**
	comp=Z,130nm,1.9s						
GRTK	**Grand Turk**	**59.48**	**2**	PFAKE		15 16 00.0	+10
GRTK				LR	LR		
	comp=Z,1μm,19.0s						
VNDA	**Vanda**	**59.75**	**192**	P	**P**	**15 15 50.4**	**-0.7**
	comp=Z,3.3nm,0.9s,baz=130,slow=6.2,SNR=4.7						
VNDA				LR	LR	15 37 19.5	
	comp=Z,2μm,20.1s,baz=127,slow=32						
TEIG	**Tepich**	**59.86**	**344**	*eP*	**P**	**15 15 51.1**	**-1.2**
	comp=Z,2.4nm,1.0s						
TEIG				LR	LR		
	comp=Z,26nm,20.0s						
SYO	**Syowa Base**	**62.29**	**158**	*eP*	**P**	**15 16 06.9**	**-1.4**
SYO	**Syowa Base**	**62.29**	**158**	*epP*	pP	15 16 17.2	-0.5
TBI	**Tubuai**	**65.47**	**259**	*eS*	**S**	**15 25 14.6**	**+1.9**
	comp=Z,3μm,28.2s						
TBI				*eLQ*	LQ	15 33 16.6	
	comp=Z,921nm,28.0s						
TBI				*eLR*	LR	15 36 01.8	
	comp=Z,10μm,25.2s,baz=124						
TBI	**Tubuai**	**65.47**	**259**	*eT*	T	16 26 52.8	
	comp=Z,8.6nm,0.3s						
TAOE	**Nuku Hiva Isla**	**66.46**	**277**	*eS*	**S**	**15 25 28.4**	**+3.2**
	comp=Z,5μm,24.8s						
TAOE	**Nuku Hiva Isla**	**66.46**	**277**	*eLR*	LR	15 36 33.6	
	comp=Z,9μm,23.5s						
MEH	**Mehetia**	**67.40**	**265**	*eT*	T	16 29 20.8	
	comp=Z,44nm,0.3s						
TVO	**Taravao**	**68.38**	**264**	*eT*	T	16 30 34.0	
	comp=Z,2.8nm,0.3s						
035Z	**Hargill**	**68.45**	**336**	P	**P**	**15 16 49.6**	**+1.0**
	baz=69						
TIAR	**Tiarei**	**68.58**	**264**	*eP*	P	15 16 57.1	+7.3
	comp=Z,23nm,1.0s						
TIAR	**Tiarei**	**68.58**	**264**	*eT*	T	16 30 49.1	
	comp=Z,13nm,0.3s						
PPT2	**Papeete2**	**68.75**	**264**	*eP*	P	15 16 57.7	+6.8
	comp=Z,127nm,1.4s						
PPT2				*eS*	**S**	**15 25 55.1**	**+2.5**
	comp=Z,5μm,28.0s						
PPT2	**Papeete2**	**68.75**	**264**	*eLR*	LR	15 37 33.8	
	comp=Z,7μm,25.5s,baz=118						
PPT	**Papeete**	**68.76**	**264**	P	**P**	**15 16 51.0**	**+0.1**
	comp=Z,53nm,0.8s,baz=204,slow=1.1,SNR=4.1						
PPT				LR	LR	15 39 09.5	
	comp=Z,3μm,19.0s,baz=118,slow=29						
PPT	**Papeete**	**68.76**	**264**	P	**P**	**15 16 51.0**	**+0.1**
PPT				pmax	pmax		
	comp=Z,53nm,0.8s						
035A	**Encino**	**68.91**	**336**	P	**P**	**15 16 51.9**	**+0.5**
	baz=69						
034A	**Hebbronville**	**69.21**	**336**	P	**P**	**15 16 53.4**	**+0.1**
	baz=70						
MAW	**Mawson**	**69.39**	**164**	P	**P**	**15 16 54.3**	**+0.3**
	comp=Z,17nm,0.8s,baz=231,slow=6.5,SNR=24						
MAW				LR	LR	15 47 23.5	
	comp=Z,3μm,20.8s,baz=230,slow=36						
MAW	**Mawson**	**69.39**	**164**	P	**P**	**15 16 54.3**	**+0.3**
MAW				pmax	pmax		
	comp=Z,17nm,0.8s						
MAW				MLR	MLR		
	comp=Z,3μm,20.8s						
934A	**Benavides**	**69.66**	**336**	P	**P**	**15 16 56.7**	**+0.6**
	baz=70						
933A	**Laredo**	**69.91**	**335**	P	**P**	**15 16 58.3**	**+0.6**
	baz=70						
738A	**Farr-Stevens R**	**69.96**	**339**	P	**P**	**15 16 58.1**	**+0.2**
	baz=70						
TIGA	**Tifton**	**70.00**	**351**	P	**P**	**15 16 57.4**	**-0.8**
	baz=70						
835A	**Beeville**	**70.08**	**337**	P	**P**	**15 16 58.9**	**+0.2**
	baz=70						
BRAL	**Brewton**	**70.10**	**347**	*eP*	**P**	**15 17 00.1**	**+1.4**
BRAL				LR	LR		
	comp=Z,1μm,19.0s						
737A	**Port Lavaca**	**70.11**	**338**	P	**P**	**15 16 59.0**	**+0.1**
	baz=70						
834A	**Tilden**	**70.15**	**336**	P	**P**	**15 16 58.0**	**-1.1**
	baz=70,SNR=7.7						
SACV	**Santiago Islan**	**70.45**	**51**	PFAKE		15 17 10.0	+8.8
SACV				LR	LR		
	comp=Z,11μm,19.0s						
736A	**Circle Diamond**	**70.47**	**338**	P	**P**	**15 17 01.3**	**+0.3**
	baz=71						
735A	**Kenedy**	**70.60**	**337**	P	**P**	**15 17 01.5**	**-0.4**
	baz=71						
833A	**Chaparral WMA,**	**70.61**	**336**	P	**P**	**15 17 02.4**	**+0.5**
	baz=71,SNR=9.6						
BBSR	**BB Station**	**70.71**	**8**	PFAKE		15 17 10.0	+7.6
BBSR				LR	LR		
	comp=Z,917nm,20.0s						
637A	**Eagle Lake**	**70.72**	**339**	P	**P**	**15 17 02.9**	**+0.4**
	baz=71						
832A	**Faith Ranch, C**	**70.76**	**335**	P	**P**	**15 17 02.8**	**0.0**
	baz=71,SNR=12						
540A	**Vidor**	**70.81**	**341**	P	**P**	**15 17 03.0**	**-0.1**
	baz=71						
734A	**La Parita Cree**	**70.83**	**337**	P	**P**	**15 17 03.3**	**+0.1**
	baz=71						
733A	**Divot King Ran**	**70.94**	**336**	P	**P**	**15 17 03.8**	**-0.1**
	baz=71						
636A	**Smothers Creek**	**70.97**	**338**	P	**P**	**15 17 04.3**	**+0.3**
	baz=71						
HKT	**Hockley**	**71.06**	**339**	*eP*	**P**	**15 17 03.4**	**-1.1**
HKT				pmax	pmax		
	comp=Z,31nm,1.4s						
HKT	**Hockley**	**71.06**	**339**	*eP*	**P**	**15 17 03.4**	**-1.1**
	comp=Z,31nm,1.4s						
635A	**Leesville**	**71.09**	**337**	P	**P**	**15 17 04.7**	**-0.1**
	baz=71						
LPIG	**La Paz**	**71.11**	**324**	P	P	15 17 09.1	+4.1
	comp=Z,27nm,0.4s,baz=134,slow=1.4,SNR=3.8						
732A	**Laxson Ranch,**	**71.17**	**335**	P	**P**	**15 17 05.2**	**-0.1**
	baz=72						
538A	**Harpers Horsep**	**71.22**	**340**	P	**P**	**15 17 05.9**	**+0.4**
	baz=72						
634A	**China Grove, S**	**71.26**	**337**	P	**P**	**15 17 05.3**	**-0.5**
	baz=72						
NHSC	**New Hope**	**71.29**	**354**	PFAKE		15 17 20.0	+14
NHSC				LR	LR		
	comp=Z,2μm,21.0s						
440A	**Kirbyville**	**71.31**	**341**	P	**P**	**15 17 06.1**	**-0.1**
	baz=72						
537A	**Green Hill Far**	**71.31**	**339**	P	**P**	**15 17 06.2**	**+0.1**
	baz=72						
536A	**Bastrop**	**71.53**	**338**	P	**P**	**15 17 07.3**	**-0.1**
	baz=72						
439A	**Center Grove,**	**71.57**	**341**	P	**P**	**15 17 07.6**	**-0.1**
	baz=72						
633A	**Saathoff Ranch**	**71.59**	**336**	P	**P**	**15 17 07.7**	**-0.2**
	baz=72						
535A	**Dale**	**71.63**	**338**	P	**P**	**15 17 07.5**	**-0.6**
	baz=72						
438A	**Sam Houston St**	**71.72**	**340**	P	**P**	**15 17 08.3**	**-0.2**
	baz=72						
632A	**Uvalde**	**71.83**	**336**	P	**P**	**15 17 09.0**	**-0.3**
	baz=72,SNR=16						
534A	**Blanco**	**71.90**	**337**	P	**P**	**15 17 09.2**	**-0.5**
	baz=72						
GOGA	**Godfrey**	**71.93**	**351**	*eP*	**P**	**15 17 08.5**	**-1.3**
GOGA				pmax	pmax		
	comp=Z,52nm,1.2s						
GOGA				MLR	MLR		
	comp=Z,1μm,20.0s						
GOGA	**Godfrey**	**71.93**	**351**	*eP*	**P**	**15 17 08.5**	**-1.3**
	comp=Z,52nm,1.2s						
GOGA				LR	LR		
	comp=Z,1μm,20.0s						
VBMS	**Vicksburg**	**71.93**	**345**	P	**P**	**15 17 10.0**	**+0.2**
	baz=72						
340A	**Bronson**	**71.94**	**342**	P	**P**	**15 17 09.4**	**-0.4**
	baz=72						
437A	**Phantom Ranch,**	**71.97**	**339**	P	**P**	**15 17 09.8**	**-0.3**
	baz=72						
631A	**Perdido Creek**	**72.00**	**335**	P	**P**	**15 17 09.6**	**-0.7**
	baz=72						
339A	**Huntington**	**72.03**	**341**	P	**P**	**15 17 10.3**	**-0.1**
	baz=72						
CER	**Ceres**	**72.04**	**118**	*eP*	**P**	**15 17 10.6**	**-0.2**
CER				IAmb	IAmb	15 17 35.2	
	comp=Z,76nm,0.8s						
CER				IAMs_20	IAMs_20	15 44 53.2	
	comp=Z,6μm,21.4s						
LRAL	**Lakeview Retre**	**72.07**	**348**	*eP*	**P**	**15 17 09.7**	**-0.9**
	comp=Z,55nm,1.2s						
436A	**Wall Ranch, Ga**	**72.10**	**339**	P	**P**	**15 17 10.6**	**-0.3**
	baz=72						
533A	**Kerrville**	**72.12**	**337**	P	**P**	**15 17 10.7**	**-0.3**
	baz=72						
338A	**Crockett**	**72.25**	**340**	P	**P**	**15 17 11.9**	**+0.2**
	baz=73						
435B	**Jarrell**	**72.34**	**338**	P	**P**	**15 17 12.5**	**+0.2**
	baz=73						
DRV	**Dumont d'Urvil**	**72.35**	**193**	P	P	15 17 06.0	-6.0
DRV				S	S	15 26 11.0	-22
DRV				SS	**SS**	**15 31 17.0**	**+6.8**
DRV				L	L	15 36 00.0	
DRV				R	R	15 39 00.0	
532A	**Rocksprings**	**72.44**	**336**	P	**P**	**15 17 12.8**	**-0.2**
	baz=73,SNR=26						
NATX	**Nacogdoches**	**72.46**	**341**	P	**P**	**15 17 12.8**	**-0.2**
	baz=73						
NATX	**Nacogdoches**	**72.46**	**341**	*eP*	**P**	**15 17 12.1

236A **Katherine and** 73.19 339 P P 15 17 17.2 -0.1
baz=74
CNNC **Cliffs of the** 73.25 356 PFAKE 15 17 30.0 +12
CNNC LR LR
comp=Z,1µm,20.0s
139A **Bunkhouse Ranc** 73.27 341 P P 15 17 17.6 -0.1
baz=74
333A **Richland Sprin** 73.27 337 P P 15 17 17.5 -0.4
baz=74,SNR=12
KMSC **Kings Mountain** 73.41 353 P P 15 17 17.7 -0.8
baz=74
KMSC **Kings Mountain** 73.41 353 eP P 15 17 17.0 -1.5
comp=Z,43nm,1.1s
138A **Matatall Enter** 73.42 341 P P 15 17 18.8 +0.1
baz=74
CVNA **Calvinia** 73.43 117 eP P 15 17 18.9 -0.3
CVNA IAmb IAmb 15 17 37.4
comp=Z,168nm,1.2s
WHTX **Lake Whitney** 73.44 339 P P 15 17 18.6 -0.1
baz=74
WHTX **Lake Whitney** 73.44 339 eP P 15 17 17.9 -0.9
comp=Z,45nm,0.8s
430A **Baggett Ranch,** 73.49 335 P P 15 17 18.6 -0.6
baz=74
137A **Heron Place, G** 73.54 340 P P 15 17 19.1 -0.3
baz=74
332A **Millersview** 73.56 337 P P 15 17 19.0 -0.5
baz=74,SNR=20
SUR **Sutherland** 73.64 118 PFAKE 15 17 30.0 +9.4
SUR LR LR
comp=Z,8µm,20.0s
234A **Clairette** 73.65 338 P P 15 17 19.5 -0.6
baz=74
331A **San Angelo** 73.70 336 P P 15 17 19.7 -0.7
baz=74,SNR=16
Z39A **Irene McRaven,** 73.75 342 P P 15 17 20.5 -0.1
baz=74
233A **Rising Star** 73.89 337 P P 15 17 21.0 -0.5
baz=74,SNR=9.1
OXF **Oxford** 73.94 346 eP P 15 17 20.4 -1.3
OXF pmax pmax
comp=Z,66nm,1.2s
OXF **Oxford** 73.94 346 eP P 15 17 20.4 -1.3
comp=Z,66nm,1.2s
135A **Vickery Place,** 73.96 339 P P 15 17 21.1 -0.7
baz=74
Z38A **Mt. Pleasant** 73.96 341 P P 15 17 21.5 -0.3
baz=74
232A **Coleman** 73.99 337 P P 15 17 21.2 -0.9
baz=74,SNR=17
330A **Mertzon** 74.04 335 P P 15 17 21.8 -0.6
baz=74
SWET **Sewanee** 74.04 349 eP P 15 17 21.6 -0.7
comp=Z,73nm,0.8s
CPCT **Cooper Cave** 74.07 350 eP P 15 17 21.7 -0.8
Z37A **Pogue Cattle C** 74.07 341 P P 15 17 22.1 -0.4
baz=74
134A **White-Moore Ra** 74.16 338 P P 15 17 22.4 -0.6
baz=74
231A **Bronte** 74.25 336 P P 15 17 22.4 -1.1
baz=75,SNR=11
Z36A **Blue Ridge** 74.36 340 P P 15 17 23.6 -0.6
baz=75
329A **Wagon Wheel Ra** 74.38 335 P P 15 17 23.4 -1.0
baz=75
Y39A **Lockesburg** 74.39 342 P P 15 17 24.0 -0.3
baz=75
133A **Hamilton Ranch** 74.44 338 P P 15 17 24.6 -0.1
baz=75
230A **Sterling City** 74.46 336 P P 15 17 23.9 -1.0
baz=75
Y38A **Idabel** 74.54 342 P P 15 17 24.4 -0.7
baz=75
RAR **Rarotonga** 74.57 255 LR LR 15 43 43.8
comp=Z,2µm,18.8s,baz=112,slow=31
Z35A **Perchaven, San** 74.64 339 P P 15 17 24.9 -0.8
baz=75
ABTX **Abilene, Hawle** 74.68 337 P P 15 17 25.2 -0.8
baz=75
ABTX **Abilene, Hawle** 74.68 337 eP P 15 17 25.8 -0.3
comp=Z,61nm,1.1s
229A **Bryant Ranch,** 74.76 335 P P 15 17 25.9 -0.7
baz=75
Y37A **Hugo** 74.81 341 P P 15 17 26.6 -0.1
baz=75
MIAR **Mount Ida** 74.85 343 P P 15 17 26.4 -0.5
baz=75
MIAR **Mount Ida** 74.85 343 PFAKE 15 17 40.0 +13
MIAR LR LR
comp=Z,649nm,19.0s
Z34A **Collier Ranch,** 74.86 339 P P 15 17 26.2 -0.9
baz=75
Y36A **Durant** 74.91 340 P P 15 17 26.6 -0.8
baz=75
131A **Roby** 74.95 337 P P 15 17 27.2 -0.5
baz=75
Z33A **Whitaker Ranch** 75.03 338 P P 15 17 27.2 -0.9
baz=75,SNR=9.8
130A **Snyder** 75.06 336 P P 15 17 27.3 -1.0
baz=75
Y35A **Marietta** 75.12 340 P P 15 17 28.1 -0.4
baz=75
228A **UT Block 9, Go** 75.16 335 P P 15 17 27.9 -1.0
baz=76
WVT **Waverly** 75.23 348 eP P 15 17 27.2 -1.9
WVT pmax pmax
comp=Z,72nm,1.2s
WVT **Waverly** 75.23 348 eP P 15 17 27.2 -1.9
comp=Z,72nm,1.2s
Z32A **Haskell** 75.26 337 P P 15 17 28.1 -1.3
baz=76,SNR=13
X38A **Whitesboro** 75.27 342 P P 15 17 28.8 -0.6
baz=76
X37A **Clayton** 75.33 341 P P 15 17 29.1 -0.6
baz=76
Y34A **Reagan Ranch,** 75.37 339 P P 15 17 29.2 -0.8
baz=76
BLA **Blacksburg** 75.38 354 PFAKE 15 17 40.0 +10
BLA LR LR
comp=Z,1µm,21.0s
129A **Stewart Farms,** 75.39 335 P P 15 17 29.5 -0.7
baz=76
GNAR **Gosnell** 75.46 346 P P 15 17 30.5 +0.1
Z31A **Sharp Cattle R** 75.47 337 P P 15 17 29.9 -0.7
baz=76
X36A **Centrahoma** 75.56 340 P P 15 17 30.2 -0.9
baz=76
X35A **Drake** 75.57 340 P P 15 17 30.3 -0.8
baz=76
W38A **Poteau** 75.58 342 P P 15 17 30.6 -0.6
baz=76
128A **Castleberry Fa** 75.59 335 P P 15 17 30.6 -0.7
baz=76
UTMT **University of** 75.62 347 eP P 15 17 32.9 +1.5
comp=Z,89nm,0.5s
Y33A **Hilltop Ranch,** 75.66 338 P P 15 17 30.7 -1.0
baz=76,SNR=6.5
JSRW **J. Sargeant Re** 75.69 356 eP P 15 17 31.1 -0.6
Z30A **Sanderson Ranc** 75.75 336 P P 15 17 31.6 -0.6
baz=76,SNR=19
CASY **Casey** 75.76 182 eP P 15 17 31.9 0.0
GDL2 **Guadalupe Moun** 75.85 333 P P 15 17 34.2 +1.3
comp=Z,7.9nm,0.9s
W37A **Quinton** 75.86 341 P P 15 17 32.1 -0.7
baz=76
Y32A **R-V Farms, Ver** 75.90 338 P P 15 17 32.5 -0.5
baz=76
Z29A **Hungry Hill Ra** 75.92 336 P P 15 17 31.9 -1.3
baz=76,SNR=15
X34A **Smith Ranch, M** 75.99 339 P P 15 17 33.2 -0.3
baz=76
W36A **Wetumka** 76.07 341 P P 15 17 33.1 -0.9
baz=76
PARMO **Parma** 76.09 346 P P 15 17 34.8 +0.8
Y31A **Rekieta Farm,** 76.11 337 P P 15 17 34.2 -0.1
baz=76
X33A **Lawton** 76.13 339 P P 15 17 33.5 -0.8
baz=76
Z28A **Tucker Farm, M** 76.16 335 P P 15 17 33.9 -0.7
baz=76
CBN **Corbin** 76.18 357 PFAKE 15 17 50.0 +16
CBN LR LR
comp=Z,1µm,20.0s
Y30A **Stafford Cattl** 76.23 337 P P 15 17 34.0 -1.0
baz=76
X32A **Elmer** 76.24 338 P P 15 17 34.0 -1.0
baz=77,SNR=7.0
W35A **Tecumseh** 76.25 340 P P 15 17 34.1 -0.9
baz=77
UPI **Upington** 76.29 115 eP P 15 17 34.9 -0.9
UPI IAmb IAmb 15 17 55.6
comp=Z,220nm,1.8s
V38A **Canehill** 76.30 342 P P 15 17 34.5 -0.8
baz=77
WMOK **Wichita Mounta** 76.39 339 eP P 15 17 34.7 -1.1
WMOK pmax pmax
comp=Z,47nm,1.3s
WMOK MLR MLR
comp=Z,563nm,21.0s
WMOK **Wichita Mounta** 76.39 339 eP P 15 17 34.7 -1.1
comp=Z,47nm,1.3s
WMOK LR LR
comp=Z,563nm,21.0s
CPRX **Cap Rock** 76.43 334 eP P 15 17 36.3 0.0
comp=Z,7.3nm,1.0s
Y29A **Porterfield Fa** 76.46 336 P P 15 17 35.3 -1.0
baz=77
V37A **Hulbert** 76.50 342 P P 15 17 35.3 -1.0
baz=77
W34A **Bridge Creek,** 76.57 340 P P 15 17 35.8 -1.0
baz=77
W34A **Bridge Creek,** 76.57 340 P P 15 17 36.6 -0.2
comp=Z,61nm,1.1s
V36A **Jenks** 76.61 341 P P 15 17 36.1 -0.9
baz=77
X31A **McDonald Ranch** 76.64 338 P P 15 17 36.3 -1.0
baz=77,SNR=9.7
Y28A **McKinney Farm,** 76.69 336 P P 15 17 36.9 -0.7
baz=77
TUL1 **Tulsa** 76.69 341 P P 15 17 37.0 -0.5
baz=77
TUL1 **Tulsa** 76.69 341 eP P 15 17 36.9 -0.5
comp=Z,37nm,0.6s
W33A **Caddo, Fort Co** 76.69 339 P P 15 17 37.3 -0.2
baz=77
SOE **Somerset East** 76.70 121 eP P 15 17 38.1 +0.1
SOE IAmb IAmb 15 17 53.9
comp=Z,2µm,3.8s
X30A **Coker Ranch, T** 76.75 337 P P 15 17 37.3 -0.6
baz=77
V35A **Meyer Ranch, C** 76.82 340 P P 15 17 37.1 -1.1
baz=77
U38A **Gravette** 76.85 343 P P 15 17 38.1 -0.3
baz=77
W32A **Sentinel** 76.89 338 P P 15 17 38.3 -0.4
baz=77
MSTX **Muleshoe** 76.92 335 P P 15 17 38.6 -0.3
baz=77
MSTX **Muleshoe** 76.92 335 eP P 15 17 38.7 -0.3
comp=Z,69nm,1.4s
GRM **Grahamstown** 76.97 122 eP P 15 17 39.7 +0.2
GRM IAmb IAmb 15 17 41.9
comp=Z,59nm,1.1s
U37A **Salina** 76.99 342 P P 15 17 38.2 -0.9
baz=77
USIN **University of** 77.00 348 eP P 15 17 38.2 -0.9
comp=Z,72nm,1.0s
X29A **Tulia** 77.00 336 P P 15 17 38.5 -0.9
baz=77,SNR=6.6
SIUC **Southern Illin** 77.02 347 eP P 15 17 38.7 -0.6
comp=Z,45nm,1.0s
LIC **Lamto** 77.04 71 eP P 15 17 41.2 +1.2
comp=Z,298nm,1.1s
V34A **Guthrie** 77.07 340 P P 15 17 39.0 -0.6
baz=77
V34A **Guthrie** 77.07 340 eP P 15 17 38.1 -1.5
comp=Z,43nm,0.9s
U36A **Oologah** 77.13 342 P P 15 17 39.5 -0.4
baz=78
W31A **Holland Ranch,** 77.15 338 P P 15 17 39.6 -0.5
baz=78
X28A **Dimmitt** 77.23 336 P P 15 17 40.0 -0.7
baz=78
V33A **Lossen Ranch,** 77.27 339 P P 15 17 40.6 -0.2
baz=78
TIC **Toumodi** 77.33 71 eP P 15 17 42.3 +0.7
W30A **Crocket Farms** 77.33 337 P P 15 17 41.3 0.0
baz=78
KIC **Kosan Boka** 77.35 71 eP P 15 17 42.4 +0.7
comp=Z,362nm,1.0s
U35A **Pawnee** 77.36 341 P P 15 17 40.8 -0.5
baz=78
V32A **Arapaho** 77.38 339 P P 15 17 41.2 -0.2
baz=78
AMTX **Amarillo** 77.40 336 eP P 15 17 41.6 0.0
comp=Z,66nm,1.0s
121A **Cookes Peak, D** 77.42 331 P P 15 17 42.0 +0.1
baz=78
121A **Cookes Peak, D** 77.42 331 eP P 15 17 42.9 +1.0
comp=Z,84nm,1.6s
DBIC **Dimbokro** 77.47 71 eP P 15 17 43.4 +1.0
DBIC **Dimbokro** 77.47 71 P P 15 17 43.8 +1.4
comp=Z,141nm,1.0s,baz=201,slow=6.0,SNR=64
DBIC LR LR 15 50 27.9
comp=Z,3µm,18.1s,baz=213,slow=35
W29A **Amraillo** 77.61 336 P P 15 17 42.4 -0.4
baz=78
T37A **Cheneyville 18** 77.63 342 P P 15 17 42.3 -0.4
baz=78
U34A **Anderson Ranch** 77.64 340 P P 15 17 42.5 -0.2
baz=78
U34A **Anderson Ranch** 77.64 340 eP P 15 17 43.8 +1.0
comp=Z,19nm,0.6s
V31A **Spring Creek L** 77.67 338 P P 15 17 43.5 +0.5
baz=78
U33A **Lingo Farm, Me** 77.79 340 P P 15 17 43.3 -0.4
baz=78
T36A **Boggs Farm, Ca** 77.80 342 P P 15 17 43.1 -0.5
baz=78
T35A **Sooner Cattle** 77.82 341 P P 15 17 43.6 -0.2
baz=78
V30A **Spur Ranch, Mi** 77.91 337 P P 15 17 44.6 +0.2
baz=78
W28A **Vega** 77.91 336 P P 15 17 44.4 0.0
baz=78
U32A **Winter Ranch,** 77.99 339 P P 15 17 44.2 -0.6
baz=78
T34A **McClaskey Farm** 78.10 341 P P 15 17 45.1 -0.2
baz=78
S37A **Fort Scott** 78.21 343 P P 15 17 45.4 -0.5
baz=78
U31A **Nine Bar Ranch** 78.22 338 P P 15 17 45.7 -0.4
baz=78
V29A **Stinnett** 78.26 337 P P 15 17 45.8 -0.6
baz=79
S36A **Lake Cedric, C** 78.36 342 P P 15 17 45.9 -0.9
baz=79
V28A **Channing** 78.37 336 P P 15 17 46.9 -0.1
baz=79
TUC **Tucson** 78.43 328 eP P 15 17 48.8 +1.4
TUC pmax pmax
comp=Z,22nm,0.6s
TUC MLR MLR
comp=Z,2µm,20.0s
TUC **Tucson** 78.43 328 eP P 15 17 48.8 +1.4
comp=Z,22nm,0.6s
TUC LR LR
comp=Z,2µm,20.0s
T33A **Patterson Ranc** 78.44 340 P P 15 17 47.0 -0.2
baz=79
Y22D **IRIS PASSCAL I** 78.47 332 P P 15 17 48.0 +0.4
baz=79
S35A **Otter Creek Ra** 78.50 341 P P 15 17 46.9 -0.7
baz=79
LPM **Los Pinos Moun** 78.57 332 eP P 15 17 49.5 +1.3
comp=Z,19nm,1.2s
V27A **Dan Oppiter Fa** 78.57 336 P P 15 17 48.1 -0.1
baz=79
U30A **WK&E Inc. Balk** 78.61 338 P P 15 17 48.1 -0.2
baz=79
ACSO **Alum Creek Sta** 78.61 352 eP P 15 17 46.8 -1.3
comp=Z,46nm,0.7s
ACSO LR LR
comp=Z,1µm,19.0s
SSPA **Standing Stone** 78.62 356 eP P 15 17 47.6 -0.5
comp=Z,36nm,1.1s
T32A **Huddler Ranch,** 78.72 339 P P 15 17 48.7 0.0
baz=79
S34A **Willow Spring** 78.72 341 P P 15 17 47.9 -0.8
baz=79
U29A **Oasis Ranch, S** 78.72 337 P P 15 17 48.6 -0.3
baz=79
R37A **Teagarden Farm** 78.74 343 P P 15 17 47.7 -1.1
baz=79
LAZ **Ladron** 78.84 332 eP P 15 17 51.4 +1.6
comp=Z,22nm,1.3s
S33A **Kaszmaul Farm,** 78.85 340 P P 15 17 49.0 -0.5
baz=79
R36A **Gordon, Harris** 78.91 342 P P 15 17 48.3 -1.5
baz=79
U28A **Mallet** 78.95 337 P P 15 17 50.0 -0.1
baz=79
BOSA **Boshof** 78.96 118 eP P 15 17 50.9 +0.2
BOSA IAmb IAmb 15 17 53.0
comp=Z,153nm,1.5s
BOSA IAMs_20 IAMs_20 15 47 41.5
comp=Z,4µm,25.9s
BOSA **Boshof** 78.96 118 P P 15 17 51.3 +0.6
comp=Z,40nm,1.0s,baz=224,slow=6.0,SNR=28
BOSA LR LR 15 47 51.5
comp=Z,3µm,20.0s,baz=230,slow=32
TSUM **Tsumeb** 78.99 106 PFAKE 15 18 00.0 +9.0
TSUM LR LR
comp=Z,5µm,20.0s
T30A **Plains** 79.06 338 P P 15 17 50.7 0.0
baz=79
ANMO **Albuquerque** 79.08 333 P P 15 17 51.3 +0.3
comp=Z,14nm,1.1s,baz=156,slow=7.2,SNR=12
ANMO **Albuquerque** 79.08 333 eP P 15 17 51.1 +0.1
ANMO pmax pmax
comp=Z,32nm,1.1s
ANMO MLR MLR
comp=Z,2µm,21.0s
ANMO **Albuquerque** 79.08 333 eP P 15 17 51.1 +0.1
comp=Z,32nm,1.1s
ANMO LR LR
comp=Z,2µm,21.0s
R35A **Emporia Munici** 79.08 342 P P 15 17 50.5 -0.2
baz=79
U27A **Thompson Grove** 79.18 336 P P 15 17 51.3 -0.2
baz=80
YLE **Yale** 79.19 0 P P 15 17 50.7 -0.4
comp=Z,39nm,0.7s
Q37A **Longview Farm,** 79.19 343 P P 15 17 50.5 -0.8
baz=80
S32A **Newby Ranch, P** 79.20 340 P P 15 17 50.9 -0.5
baz=80
SFIN **Scholer Farm** 79.28 349 P P 15 17 50.2 -1.5
baz=80
SFIN **Scholer Farm** 79.28 349 eP P 15 17 51.1 -0.5
comp=Z,11nm,0.7s
S31A **Mullinville** 79.28 339 P P 15 17 51.3 -0.6
baz=80
R34A **Isabella, Hill** 79.32 341 P P 15 17 51.6 -0.4
baz=80
Q36A **Arnold C. Orve** 79.51 343 P P 15 17 52.2 -0.9
baz=80
R33A **Olander Ranch,** 79.52 340 P P 15 17 52.9 -0.2
baz=80
Q35A **Mercer Eighty,** 79.55 342 P P 15 17 53.0 -0.3
baz=80
S30A **Montezuma** 79.58 338 P P 15 17 53.6 0.0
baz=80
T28A **Walsh** 79.60 337 P P 15 17 53.6 -0.1
baz=80
T27A **Campo** 79.73 336 P P 15 17 54.3 -0.2
baz=80
S29A **Ulysses** 79.76 338 P P 15 17 54.6 +0.1
baz=80
HDIL **Hopedale** 79.80 348 P P 15 17 53.6 -0.9
baz=80
HDIL **Hopedale** 79.80 348 eP P 15 17 52.6 -1.9
comp=Z,32nm,0.6s
HDIL LR LR
comp=Z,1µm,19.0s
BRYW **Bryant College** 79.80 1 eP P 15 17 55.4 +0.8
comp=Z,102nm,1.5s
RPZ **Rata Peaks** 79.81 222 P P 15 17 54.5 -0.4
comp=Z,1nm,1.0s,baz=133,slow=18,SNR=2.2
RPZ LR LR 15 44 22.6
comp=Z,4µm,21.9s,baz=119,slow=29
R32A **Long Quarter,** 79.82 340 P P 15 17 54.6 -0.1
baz=80
Q34A **Chapman** 79.83 341 P P 15 17 54.4 -0.4
baz=80
KSU1 **Kansas State U** 79.92 342 P P 15 17 54.3 -0.9
baz=80
KSU1 **Kansas State U** 79.92 342 PFAKE 15 18 10.0 +15
KSU1 LR LR
comp=Z,685nm,19.0s
R31A **Burdett** 79.92 339 P P 15 17 55.0 -0.3
baz=80
S28A **Manter** 79.96 337 P P 15 17 55.5 -0.2
baz=80
P36A **Good Intent, A** 80.08 343 P P 15 17 54.9 -1.2
baz=80
T26A **Comanche Natio** 80.11 336 P P 15 17 56.3 -0.3
baz=80
URZ **Urewera** 80.11 229 LR LR 15 45 28.2
comp=Z,3µm,20.2s,baz=141,slow=30
R30A **Dighton** 80.13 339 P P 15 17 56.6 +0.2
baz=80
Q33A **Connelly Farm,** 80.13 341 P P 15 17 56.6 +0.2
baz=80
QUA2 **Belchertown** 80.15 1 eP P 15 17 57.1 +0.7
comp=Z,99nm,1.3s
P35A **Duane Minner,** 80.18 342 P P 15 17 56.0 -0.6
baz=80
Q32A **Meitler Ranch,** 80.31 340 P P 15 17 57.7 +0.3
baz=81
T25A **Trinidad** 80.35 335 P P 15 17 58.5 +0.6
baz=81
S27A **Las Animas** 80.36 337 P P 15 17 57.4 -0.4
baz=81
P34A **Walnut Farm, R** 80.39 342 P P 15 17 57.5 -0.3
baz=81
W18A **Petrified Fore** 80.46 330 eP P 15 18 00.5 +2.0
comp=Z,36nm,1.0s
CBKS **Cedar Bluff** 80.47 339 P P 15 17 58.2 0.0
baz=81
CBKS **Cedar Bluff** 80.47 339 PFAKE 15 18 10.0 +12
CBKS LR LR
comp=Z,684nm,20.0s
S26A **Kim** 80.48 336 P P 15 17 58.5 0.0
baz=81
P33A **Williams Farm,** 80.51 341 P P 15 17 58.5 +0.1
baz=81
R29A **Marienthal** 80.51 338 P P 15 17 58.7 +0.1
baz=81
O36A **Bolckow** 80.51 343 P P 15 17 57.2 -1.2
baz=81
Q31A **Ellis** 80.55 340 P P 15 17 58.6 -0.2
baz=81
TRY **Troy** 80.60 360 eP P 15 17 59.4 +0.6
comp=Z,88nm,1.3s
R28A **Tribune** 80.63 338 P P 15 17 58.9 -0.3
baz=81
AAM **Ann Arbor** 80.73 352 PFAKE 15 18 10.0 +10
AAM LR LR
comp=Z,2µm,20.0s
Q30A **Quinter** 80.76 339 P P 15 17 59.6 -0.2
baz=81
SEK **Senekal** 80.78 119 eP P 15 18 01.0 +0.4
SEK IAmb IAmb 15 18 02.8
comp=Z,219nm,1.7s
O35A **Humboldt** 80.85 343 P P 15 17 59.3 -1.0
baz=81
R27A **Eads** 80.88 337 P P 15 18 00.4 -0.2
baz=81
Q29A **Oakley** 80.89 338 P P 15 18 00.5 -0.1
baz=81
P32A **Huiting Farm,** 80.92 340 P P 15 18 00.5 -0.1
baz=81
O34A **Beatrice** 80.96 342 P P 15 18 00.3 -0.5
baz=81
P31A **Stockton** 81.03 340 P P 15 18 01.4 +0.1
baz=81
O33A **Hebron** 81.08 341 P P 15 18 01.3 -0.2
baz=81
R26A **Arlington** 81.10 336 P P 15 18 01.9 +0.1
baz=81
BFSD **Buffelsfontein** 81.10 117 eP P 15 18 00.9 -1.4
BFSD IAmb IAmb 15 18 03.9
comp=Z,65nm,0.9s
ACCN **Adirondack Com** 81.26 360 eP P 15 18 02.3 0.0
comp=Z,70nm,1.4s
SDCO **Great Sand Dun** 81.26 335 P P 15 18 03.1 +0.2
baz=82
SDCO **Great Sand Dun** 81.26 335 eP P 15 18 03.4 +0.5
comp=Z,15nm,1.1s
SDCO LR LR
comp=Z,1µm,19.0s
P30A **Selden** 81.29 339 P P 15 18 02.2 -0.4
baz=82

Q28A Sharon Springs 81.30 338 P P 15 18 02.9 +0.1
baz=82
N35A Tabor 81.36 343 P P 15 18 02.5 -0.5
baz=82
LBTB Lobatse 81.40 115 eP P 15 18 04.1 +0.2
LBTB IAmb IAmb 15 18 06.0
comp=Z,130nm,1.4s
LBTB IAMs_20 IAMs_20 15 59 01.8
comp=Z,3µm,17.1s
O32A Brockman Farm, 81.43 341 P P 15 18 03.5 +0.2
baz=82
WUAZ Wupatki 81.45 329 P P 15 18 03.9 +0.1
baz=82
WUAZ Wupatki 81.45 329 eP P 15 18 04.7 +0.9
WUAZ LR LR
comp=Z,2µm,19.0s
PRYS Parys 81.46 117 eP P 15 18 03.9 -0.4
PRYS IAmb IAmb 15 18 05.6
comp=Z,26nm,1.0s
KSCO Kaye Shedlock' 81.49 337 P P 15 18 04.0 +0.1
baz=82
N34A Lincoln 81.54 342 P P 15 18 03.5 -0.4
baz=82
PDMCI Parker Dam,Lak 81.56 327 P P 15 18 04.0 -0.1
baz=82
O31A Wooden Ranch, 81.61 340 P P 15 18 04.2 -0.1
baz=82
N33A J Bar K, Exete 81.67 342 P P 15 18 04.2 -0.4
baz=82
Q26A Hugo 81.69 337 P P 15 18 05.0 +0.1
baz=82
S22A 4UR Ranch, Cre 81.72 334 P P 15 18 05.4 +0.2
baz=82
P28A Saint Francis 81.75 338 P P 15 18 05.3 +0.1
baz=82
WDLM Western Deep L 81.82 117 eP P 15 18 06.4 +0.2
WDLM IAmb IAmb 15 18 07.7
comp=Z,25nm,0.8s
O30A MW Ranch, Wils 81.83 340 P P 15 18 05.3 -0.1
baz=82
SCIA State Center 81.83 345 eP P 15 18 02.8 -2.6
SCIA LR LR
comp=Z,936nm,20.0s
MVCO Mesa Verde 81.84 332 P P 15 18 05.4 -0.4
baz=82,SNR=8.1
MVCO Mesa Verde 81.84 332 P P 15 18 05.7 -0.1
comp=Z,68nm,1.4s
MVCO LR LR
comp=Z,3µm,20.0s
NCB Newcomb 81.85 359 eP P 15 18 05.0 -0.4
comp=Z,14nm,0.9s
NCB LR LR
comp=Z,911nm,19.0s
MDV Middlebury 81.87 0 eP P 15 18 06.0 +0.5
comp=Z,45µm,0.4s
MDV e 15 18 35.8
N32A Stulken Farm, 81.91 341 P P 15 18 05.8 -0.1
baz=82
M35A Neola 81.94 343 P P 15 18 05.7 -0.3
baz=82
O29A 4D Ranch, Culb 81.99 339 P P 15 18 06.5 +0.2
baz=82
PFO Pinyon Flat Ob 82.00 325 LR LR 15 47 38.8
comp=Z,2µm,18.5s,baz=160,slow=31
N31A Bailey Ranch, 82.14 341 P P 15 18 07.0 -0.1
baz=82
NEE2 Needles Airpor 82.16 327 P P 15 18 06.2 -1.1
baz=82,SNR=6.2
M34A Aspy Farms, Fr 82.19 343 P P 15 18 06.7 -0.6
baz=82
P26A Davis Ranch, A 82.22 337 P P 15 18 07.9 +0.2
baz=82
Q24A Divide 82.25 335 P P 15 18 08.0 0.0
baz=83
JFWS Jewell Farm 82.25 347 eP P 15 18 07.7 +0.1
JFWS pmax pmax
comp=Z,50nm,1.3s
JFWS MLR MLR
comp=Z,1µm,19.0s
JFWS Jewell Farm 82.25 347 eP P 15 18 07.7 +0.1
comp=Z,50nm,1.3s
JFWS LR LR
comp=Z,1µm,19.0s
O28A Krutsinger Ran 82.27 338 P P 15 18 08.0 +0.1
baz=83
M33A Taylor Creek F 82.40 342 P P 15 18 07.4 -1.0
baz=83
CRZF Crozet Islands 82.41 145 P P 15 17 50.0 -19
CRZF Crozet Islands 82.41 145 S S 15 27 51.0 -32
CRZF R 15 44 00.0
N30A Hueftle Ranch, 82.42 340 P P 15 18 08.7 +0.1
baz=83
ERPM east rand prop 82.44 117 eP P 15 18 09.4 -0.1
ERPM IAmb IAmb 15 18 11.9
comp=Z,281nm,2.1s
SCI San Clemente I 82.45 323 P P 15 18 07.7 -1.2
baz=83
BGNE Belgrade 82.48 341 P P 15 18 08.8 0.0
baz=83
BGNE Belgrade 82.48 341 P P 15 18 09.6 +0.7
LONY Lake Ozonia 82.50 359 eP P 15 18 08.3 -0.5
comp=Z,67nm,1.4s
LONY LR LR
comp=Z,754nm,20.0s
L35A Bielow Farm, R 82.53 343 P P 15 18 08.8 -0.2
baz=83
O27A Beecher Island 82.53 338 P P 15 18 09.6 +0.3
baz=83
L34A Svendsen Farm, 82.58 343 P P 15 18 08.8 -0.5
baz=83
N29A Votaw Ranch, W 82.58 339 P P 15 18 09.9 +0.4
baz=83
GMRC Granite Mounta 82.63 326 P P 15 18 10.0 +0.1
baz=83
M31A Lambtecht Ranc 82.63 341 P P 15 18 09.6 -0.1
baz=83
LDFC Landfair 82.64 326 eP P 15 18 11.2 +1.3
comp=Z,292nm,0.8s
LDFC e 15 18 22.4
PV01 Paradox Valley 82.68 333 eP P 15 18 10.9 +0.7
comp=Z,3µm,1.3s
N28A Pribbeno Ranch 82.72 339 P P 15 18 10.1 -0.1
baz=83
CIS Catalina Islan 82.73 323 P P 15 18 09.6 -0.8
baz=83
BBRC Big Bear Solar 82.76 325 P P 15 18 10.4 -0.4
baz=83
RAO Raoul Island 82.80 238 LR LR 15 45 59.5
comp=Z,1µm,21.5s,baz=179,slow=29
O26A Horse Wrangler 82.83 337 P P 15 18 11.4 +0.5
baz=83
SLR Silverton 82.85 117 eP P 15 18 11.5 0.0
SLR IAmb IAmb 15 18 12.9
comp=Z,65nm,1.0s
SLR IAMs_20 IAMs_20 16 06 17.9
comp=Z,6µm,16.9s
FMP Fort Macarthur 82.94 324 P P 15 18 10.4 -1.0
baz=83
HEC Hector,Ludlow 82.97 326 P P 15 18 11.5 -0.1
baz=83
L33A Hoskins 82.98 342 P P 15 18 10.9 -0.5
baz=83
PV04 Paradox Valley 83.03 333 eP P 15 18 12.3 +0.4
M30A Dale-Ortello V 83.05 340 P P 15 18 11.3 -0.5
baz=83
SMCO Snowmass 83.05 334 eP P 15 18 12.2 -0.1
OGNE Ogallala 83.10 338 P P 15 18 11.9 -0.2
baz=83
OGNE Ogallala 83.10 338 PFAKE 15 18 20.0 +7.9
OGNE LR LR
comp=Z,648nm,20.0s
N27A Anderson Farm, 83.12 338 P P 15 18 12.0 -0.3
baz=83
ISCO Idaho Springs 83.16 335 eP P 15 18 13.9 +1.1
ISCO pmax pmax
comp=Z,34nm,1.4s
ISCO MLR MLR
comp=Z,841nm,19.0s
ISCO Idaho Springs 83.16 335 P P 15 18 12.2 -0.5
baz=84
ISCO Idaho Springs 83.16 335 eP P 15 18 13.9 +1.1
comp=Z,34nm,1.4s
ISCO LR LR
comp=Z,841nm,19.0s
M29A Burnside Ranch 83.18 340 P P 15 18 12.4 -0.2
baz=84

PKME Peaks-Kenny Pk 83.21 3 PFAKE 15 18 20.0 +7.6
PKME LR LR
comp=Z,723nm,21.0s
PASC Pasadena Art C 83.26 324 Pn P 15 18 15.5 +2.4
comp=Z,251nm,1.1s
RRX Edison Barstow 83.31 325 P P 15 18 13.2 -0.1
baz=84
M28A Bar X Bar Ranc 83.33 339 P P 15 18 13.2 -0.1
baz=84
GLMI Grayling 83.33 352 PFAKE 15 18 20.0 +6.9
GLMI LR LR
comp=Z,1µm,20.0s
N26A Koester Ranch, 83.34 338 P P 15 18 13.1 -0.3
baz=84
L30A Spencer Herefo 83.39 340 P P 15 18 13.2 -0.4
baz=84
GSC Goldstone 83.58 325 eP P 15 18 17.2 +2.5
GSC pmax pmax
comp=Z,51nm,0.6s
GSC Goldstone 83.58 325 eP P 15 18 17.2 +2.5
comp=Z,51nm,0.6s
L29A Maesberg Ranch 83.70 340 P P 15 18 14.8 -0.4
baz=84
M27A Reverse DX Ran 83.74 338 P P 15 18 15.1 -0.4
baz=84
SHPR Sheep Range 83.87 327 eP P 15 18 16.1 -0.2
comp=Z,35nm,0.9s
OSI Osito Adit 83.88 324 P P 15 18 16.5 +0.2
baz=84
M26A McRoberts Ranc 83.90 338 P P 15 18 16.5 +0.2
baz=84
L28A Connealy Angus 83.93 339 P P 15 18 16.3 -0.1
baz=84
CCUT Cedar City 84.01 329 eP P 15 18 17.4 +0.3
comp=Z,21nm,0.9s
K30A Basset 84.04 341 P P 15 18 16.8 -0.1
baz=84
POGA Pongola 84.11 120 eP P 15 18 17.7 -0.1
POGA IAmb IAmb 15 18 33.1
comp=Z,18nm,0.9s
LRMC Laurel Mountai 84.12 325 P P 15 18 16.5 -1.1
baz=84
M25A Palm-Egli Farm 84.15 337 P P 15 18 17.2 -0.4
baz=84
SBC Santa Barbara 84.20 323 P P 15 18 17.1 -0.7
baz=84
L27A T5 Ranch, Ells 84.23 339 P P 15 18 18.3 +0.4
baz=85
SRU San Rafael 84.26 332 P P 15 18 16.6 -1.7
SRU pmax pmax
comp=Z,47nm,1.3s
SRU San Rafael 84.26 332 P P 15 18 16.6 -1.7
comp=Z,47nm,1.3s
K29A Lazy Trails An 84.31 340 P P 15 18 18.3 0.0
baz=85
ECSD EROS Data Cent 84.31 343 P P 15 18 18.1 -0.1
baz=85
ECSD EROS Data Cent 84.31 343 eP P 15 18 17.2 -1.0
comp=Z,61nm,1.1s
ECSD LR LR
comp=Z,716nm,20.0s
O20A White River Ci 84.34 334 P P 15 18 18.7 +0.1
baz=85
O20A White River Ci 84.34 334 P P 15 18 19.5 +0.8
comp=Z,20nm,1.0s
ARVC Arvin 84.35 324 P P 15 18 17.9 -0.7
baz=85
MSU Marysvale 84.37 330 eP P 15 18 20.0 +1.1
MSU pmax pmax
comp=Z,33nm,1.3s
MSU Marysvale 84.37 330 eP P 15 18 20.0 +1.1
comp=Z,33nm,1.3s
MVU Marysvale 84.38 330 eP P 15 18 19.0 +0.1
comp=Z,31nm,1.4s
L26A Underwood Farm 84.41 338 P P 15 18 19.2 +0.3
baz=85
MPMC Manual Prospec 84.51 325 P P 15 18 19.8 +0.2
baz=85
K28A Ten Mile Ranch 84.55 340 P P 15 18 19.6 +0.1
baz=85
FURC Furnace Creek, 84.58 326 P P 15 18 19.9 +0.3
baz=85
J30A Dallas 84.62 341 P P 15 18 20.0 +0.2
baz=85
PKM Peak Mountain 84.62 323 P P 15 18 20.2 0.0
baz=85
ISA Isabella 84.63 324 eP P 15 18 20.6 +0.5
ISA pmax pmax
comp=Z,15nm,0.7s
ISA Isabella 84.63 324 P P 15 18 20.9 +0.8
baz=85,SNR=7.2
ISA Isabella 84.63 324 eP P 15 18 20.6 +0.5
comp=Z,15nm,0.7s
PQI Presque Isle 84.67 4 eP P 15 18 19.9 0.0
comp=Z,321nm,2.0s
TMUT Trail Mountain 84.68 331 eP P 15 18 21.0 +0.4
comp=Z,20nm,0.9s
TPNV Topopah Spring 84.71 327 P P 15 18 19.9 -0.7
baz=85
DAC Darwin (Calif) 84.74 325 eP P 15 18 21.1 +0.3
DAC pmax pmax
comp=Z,14nm,0.7s
DAC Darwin (Calif) 84.74 325 eP P 15 18 21.1 +0.3
comp=Z,14nm,0.7s
K27A Flueckinger Fa 84.78 339 P P 15 18 20.7 0.0
baz=85
L25A Engebretsen Ra 84.78 338 P P 15 18 20.9 +0.2
baz=85
J29A Okreek 84.91 341 P P 15 18 21.0 -0.2
baz=85
SPMN St. Paul 84.95 346 P P 15 18 21.0 -0.3
baz=85
SPMN St. Paul 84.95 346 eP P 15 18 21.0 -0.3
comp=Z,138nm,0.2s
K26A Motz Farm, Whi 85.05 338 P P 15 18 22.5 +0.5
baz=85
VES Vestal, Richgr 85.06 324 P P 15 18 22.4 +0.3
baz=85
CWC Cottonwood Cre 85.09 325 P P 15 18 23.0 +0.5
baz=85
I30A Oacoma 85.16 341 P P 15 18 22.2 -0.3
baz=86
K25A Mack Ranch, Ha 85.17 338 P P 15 18 23.3 +0.6
baz=86
J28A Allard Ranch, 85.17 340 P P 15 18 23.2 +0.6
baz=86
COWI Conover 85.18 349 eP P 15 18 21.7 -0.8
comp=Z,36nm,1.3s
COWI LR LR
comp=Z,946nm,20.0s
J27A Elkhorn Farm, 85.22 339 P P 15 18 23.4 +0.5
baz=86
GRAC Grapevine Rang 85.24 326 P P 15 18 23.5 +0.4
baz=86,SNR=5.1
MPU Maple Canyon 85.47 331 eP P 15 18 26.5 +2.2
comp=Z,119nm,1.3s
I29A Vivian Onida 85.48 341 P P 15 18 24.1 +0.1
baz=86
K24A Anderson Ranch 85.56 337 P P 15 18 24.9 +0.3
baz=86
J26A Sides Ranch, S 85.58 339 P P 15 18 24.9 +0.3
baz=86
NLU North Lily Min 85.58 331 eP P 15 18 26.3 +1.4
comp=Z,49nm,1.4s
R11A Troy Canyon, C 85.61 328 P P 15 18 25.4 +0.3
baz=86
R11A Troy Canyon, C 85.61 328 eP P 15 18 25.4 +0.3
comp=Z,44nm,1.5s
TIN Tinemaha 85.67 325 P P 15 18 25.3 0.0
baz=86
I28A Midland 85.69 340 P P 15 18 25.3 +0.2
baz=86
K23A Bowen Ranch, D 85.83 337 P P 15 18 26.3 +0.2
baz=86
J25A Sunshine Ranch 85.86 338 P P 15 18 26.1 0.0
baz=86
JLU Jordanelle 85.91 332 eP P 15 18 28.4 +1.8
comp=Z,8.3nm,0.8s
I27A Quinn 85.99 340 P P 15 18 26.3 -0.4
baz=86
H29A Onida 86.02 341 P P 15 18 26.4 -0.3
baz=86
K22A Casper 86.02 336 P P 15 18 27.2 +0.2
baz=86
K22A Casper 86.02 336 eP P 15 18 27.2 +0.2
comp=Z,58nm,1.3s
J24A Dixon Ranch, L 86.06 338 P P 15 18 27.3 +0.2
baz=86

DUG Dugway 86.07 331 eP P 15 18 27.1 -0.2
DUG pmax pmax
comp=Z,47nm,1.3s
DUG MLR MLR
comp=Z,1µm,19.0s
DUG Dugway 86.07 331 P P 15 18 27.3 0.0
baz=86
DUG Dugway 86.07 331 eP P 15 18 27.1 -0.2
comp=Z,47nm,1.3s
DUG LR LR
comp=Z,1µm,19.0s
TPH Tonopah 86.08 327 eP P 15 18 30.2 +2.8
TPH pmax pmax
comp=Z,27nm,1.0s
TPH Tonopah 86.08 327 eP P 15 18 30.2 +2.8
comp=Z,27nm,1.0s
I26A New Underwood 86.18 339 P P 15 18 27.4 -0.2
baz=86
MSNA Messina 86.22 115 eP P 15 18 29.5 +1.0
MSNA IAmb IAmb 15 18 31.4
comp=Z,128nm,1.5s
MSNA IAMs_20 IAMs_20 15 53 57.2
comp=Z,3µm,19.8s
G30A Faulkton 86.22 342 P P 15 18 27.7 0.0
baz=87
H28A Mission Ridge 86.28 341 P P 15 18 27.9 -0.1
baz=87
TCUT Tcone Canyon 86.34 332 eP P 15 18 28.7 -0.1
comp=Z,46nm,1.1s
J23A Dilts Ranch, B 86.40 337 P P 15 18 28.6 -0.2
baz=87
MLAC Mammoth Lakes 86.42 325 P P 15 18 28.4 -0.7
baz=87
I25A Rochford 86.42 338 P P 15 18 28.7 -0.2
baz=87
G29A Hoven 86.48 341 P P 15 18 28.6 -0.4
baz=87
H27A Howes 86.52 340 P P 15 18 28.7 -0.5
baz=87
I24A Kuemmerle Ranc 86.53 338 P P 15 18 29.1 -0.3
baz=87
TOB5 Torodi Ar. Sit 86.55 70 eP P 15 18 29.4 -0.6
TORD Torodi Ar. Bea 86.56 70 P P 15 18 30.4 +0.4
comp=Z,25nm,0.8s,baz=234,slow=3.7,SNR=78
TORD PP PP 15 21 45.9 -6.4
comp=Z,4.4nm,1.0s,baz=238,slow=6.5,SNR=2.8
TORD LR LR 15 57 42.5
comp=Z,2µm,18.1s,baz=270,slow=36
G28A Parade 86.62 341 P P 15 18 29.5 -0.2
baz=87
H26A Fairpoint 86.69 339 P P 15 18 30.1 0.0
baz=87
J22A Midwest 86.69 336 P P 15 18 29.5 -0.8
baz=87
BGU Big Grassy Mou 86.79 331 eP P 15 18 32.4 +1.7
comp=Z,30nm,1.4s
HWUT Hardware Ranch 86.83 332 eP P 15 18 30.7 -0.3
comp=Z,66nm,1.2s
HWUT LR LR
comp=Z,2µm,22.0s
NVAR Mina Array Bea 86.84 326 P P 15 18 31.8 +0.6
comp=Z,2.6nm,0.9s,baz=154,slow=5.9,SNR=14
F30A Leola 86.86 342 P P 15 18 30.7 -0.1
baz=87
H25A Fruitdale 86.93 339 P P 15 18 31.3 +0.1
baz=87
J21A Lysite 86.94 336 P P 15 18 31.6 0.0
baz=87
PAF Port-aux-Franc 86.97 157 P P 15 18 18.0 -14
PAF PP PP 15 21 51.0 -3.0
PAF S S 15 28 57.0 -11
PAF SS SS 15 34 19.0 -30
PAF R 15 46 00.0
ROSA Rosais 87.05 34 eP P 15 18 32.9 +1.0
comp=Z,75nm,1.7s
F29A Eureka 87.05 342 P P 15 18 31.4 -0.4
baz=87
PSMN Pico do Norte, 87.08 37 eP P 15 18 29.2 -2.9
comp=Z,72nm,1.3s
I22A 9 Mile Ranch, 87.13 337 P P 15 18 32.2 -0.1
baz=88
BW06 Boulder Array 87.13 334 eP P 15 18 31.7 -0.8
comp=Z,36nm,1.4s
BW06 LR LR
comp=Z,3µm,19.0s
PDAR Pinedale Array 87.13 334 P P 15 18 31.8 -0.8
comp=Z,10nm,1.2s,baz=134,slow=4.3,SNR=16
PDAR LR LR 15 53 20.8
comp=Z,3µm,18.7s,baz=160,slow=33
J20A Shoshoni 87.16 335 P P 15 18 32.3 -0.2
baz=88
G27A Dupree 87.17 340 P P 15 18 31.8 -0.6
baz=88
G26A Maurine 87.27 340 P P 15 18 32.5 -0.4
baz=88
F28A McLaughlin 87.31 341 P P 15 18 32.6 -0.4
baz=88
I21A Big Trails, Te 87.31 336 P P 15 18 32.6 -0.7
baz=88
H24A Dirks Ranch, A 87.32 338 P P 15 18 32.6 -0.6
baz=88
EYMN Ely 87.35 348 P P 15 18 32.6 -0.6
baz=88
EYMN Ely 87.35 348 PFAKE 15 18 40.0 +6.9
EYMN LR LR
comp=Z,941nm,20.0s
H23A Clabaugh Cattl 87.40 338 P P 15 18 33.1 -0.5
baz=88
J19A Crowheart 87.40 335 P P 15 18 33.1 -0.6
baz=88,SNR=6.9
WAKR Walker 87.40 325 eP P 15 18 36.4 +2.5
comp=Z,15nm,1.1s
G25A Newell 87.41 339 P P 15 18 33.4 -0.2
baz=88
HVU Hansel Valley 87.43 332 eP P 15 18 34.7 +0.9
HVU pmax pmax
comp=Z,18nm,1.1s
HVU Hansel Valley 87.43 332 eP P 15 18 34.7 +0.9
comp=Z,18nm,1.1s
PSET Sete Cidades 87.44 36 eP P 15 18 31.2 -2.7
comp=Z,224nm,1.3s
E30A Jud 87.46 343 P P 15 18 33.8 +0.1
baz=88
ELK Elko 87.50 329 P P 15 18 35.3 +1.0
comp=Z,7.8nm,1.1s,baz=126,slow=4.8,SNR=11
ELK Elko 87.50 329 eP P 15 18 35.0 +0.7
ELK pmax pmax
comp=Z,12nm,1.0s
ELK Elko 87.50 329 eP P 15 18 35.0 +0.7
comp=Z,12nm,1.0s
F27A Lemmon 87.65 340 P P 15 18 34.4 -0.2
baz=88
AHID Auburn Hatcher 87.67 333 PFAKE 15 18 50.0 +15
AHID LR LR
comp=Z,2µm,21.0s
E29A Napoleon 87.69 342 P P 15 18 34.4 -0.4
baz=88
I20A Worland 87.70 336 P P 15 18 35.1 0.0
baz=88
H22A Clearmont 87.72 337 P P 15 18 34.4 -0.7
baz=88
F26A Lodgepole 87.80 340 P P 15 18 35.0 -0.4
baz=88
G24A Alzada 87.81 339 P P 15 18 34.8 -0.7
baz=88
E28A Huff 87.96 341 P P 15 18 35.7 -0.4
baz=88
H21A Big Horn, Sher 87.97 337 P P 15 18 35.3 -1.0
baz=88
G23A Biddle 87.98 338 P P 15 18 35.6 -0.8
baz=88
D30A Buchanan 87.99 343 P P 15 18 36.4 +0.1
baz=88
BMN Battle Mountai 88.04 328 eP P 15 18 39.0 +2.1
BMN pmax pmax
comp=Z,3.0nm,0.5s
BMN Battle Mountai 88.04 328 eP P 15 18 39.0 +2.1
comp=Z,3.2nm,0.5s
E27A Carson 88.05 341 P P 15 18 36.0 -0.6
baz=88
I19A Meeteetse 88.07 335 P P 15 18 36.2 -0.8
baz=88
AFI Afiamalu 88.07 254 PFAKE 15 18 50.0 +12
AFI LR LR
comp=Z,3µm,19.0s
F25A Bowman 88.09 339 P P 15 18 36.1 -0.7
baz=88
REDW Red Top Meadow 88.11 334 eP P 15 18 37.8 +0.6

comp=Z,15nm,1.1s
H20A Greybull 88.14 336 P **P** 15 18 36.4 -0.7
baz=88
D29A Pettibone, Tap 88.14 342 P **P** 15 18 36.3 -0.6
baz=88
TPAW Teton Pass 88.25 334 P **P** 15 18 39.0 +1.1
comp=Z,21nm,1.1s
G22A Birney 88.27 337 P **P** 15 18 37.0 -0.7
baz=89
F24A Ekalaka 88.29 339 P **P** 15 18 36.9 -0.9
baz=89
E26A Carlson Angus 88.32 340 P **P** 15 18 37.4 -0.5
baz=89
MOOW Moose Ponds 88.41 334 P **P** 15 18 37.5 -1.1
comp=Z,23nm,1.5s
F23A Volborg 88.46 338 P **P** 15 18 37.7 -0.9
baz=89
C30A Mose, Pekin 88.49 343 P **P** 15 18 38.5 -0.1
baz=89
AGMN Agassiz Nation 88.49 345 P **P** 15 18 38.5 0.0
baz=89
AGMN Agassiz Nation 88.49 345 *e*P **P** 15 18 37.7 -0.8
comp=Z,32nm,1.1s
AGMN LR LR
comp=Z,1µm,19.0s
D28A Regan 88.50 342 P **P** 15 18 38.6 0.0
baz=89
G21A Lodge Grass 88.55 337 P **P** 15 18 38.7 -0.3
baz=89
E25A Miller Ranch, 88.60 340 P **P** 15 18 38.9 -0.3
baz=89
IMW Indian Meadow 88.61 334 *e*P **P** 15 18 38.9 -0.7
comp=Z,32nm,1.3s
H19A Powell 88.63 335 P **P** 15 18 39.2 -0.3
baz=89
D27A Center 88.67 341 P **P** 15 18 39.0 -0.4
baz=89
FLWY Flagg Ranch 88.69 334 *e*P **P** 15 18 40.3 +0.4
comp=Z,50nm,1.3s
F22A Rosebud 88.76 338 P **P** 15 18 39.1 -0.9
baz=89
D26A Manning 88.83 340 P **P** 15 18 40.0 -0.2
baz=89
G20A Bridger 88.87 336 P **P** 15 18 40.1 -0.5
baz=89
MDND Maddock 88.89 343 P **P** 15 18 39.8 -0.6
baz=89
MDND Maddock 88.89 343 P **P** 15 18 40.6 +0.1
comp=Z,246nm,1.3s
E24A Baker 88.91 339 P **P** 15 18 40.1 -0.6
baz=89
H17A Grant Village 88.92 334 P **P** 15 18 41.6 +0.6
baz=89
C28A Hausauer Farms 88.95 342 P **P** 15 18 40.4 -0.4
baz=89
LKWY Lake 89.01 334 PFAKE 15 18 50.0 +8.6
LKWY LR LR
comp=Z,4µm,21.0s
F21A Absaloka Mine, 89.06 337 P **P** 15 18 41.0 -0.4
baz=89
RLMT Red Lodge 89.12 335 P **P** 15 18 41.7 -0.1
baz=89
RLMT Red Lodge 89.12 335 *e*P **P** 15 18 42.7 +0.8
comp=Z,18nm,1.3s
RLMT LR LR
comp=Z,1µm,19.0s
E23A Ismay 89.13 338 P **P** 15 18 41.0 -0.7
baz=90
B30A Myrvik Farm, E 89.16 344 P **P** 15 18 41.4 -0.3
baz=90
D25A Fairfield 89.18 340 P **P** 15 18 41.9 0.0
baz=90
F20A Billings 89.36 336 P **P** 15 18 42.5 -0.3
baz=90
LSZ Lusaka 89.37 109 *e*P **P** 15 18 45.6 +1.8
LSZ pmax pmax
comp=Z,59nm,1.4s
LSZ MLR MLR
comp=Z,3µm,20.0s
LSZ Lusaka 89.37 109 *e*P **P** 15 18 45.6 +1.8
comp=Z,59nm,1.4s
LSZ LR LR
comp=Z,3µm,20.0s
B29A Wagenman Farm, 89.41 343 P **P** 15 18 42.9 0.0
baz=90
D24A Glendive 89.42 339 P **P** 15 18 43.1 +0.1
baz=90
C26A Wahner Farm, P 89.48 341 P **P** 15 18 43.3 +0.1
baz=90
HLID Hailey 89.58 331 P **P** 15 18 43.8 -0.2
baz=90,SNR=17
HLID Hailey 89.58 331 *e*P **P** 15 18 44.9 +0.8
comp=Z,32nm,1.4s
HLID LR LR
comp=Z,1µm,19.0s
QLMT Earthquake Lak 89.59 334 *e*P **P** 15 18 46.0 +1.9
comp=Z,3.2nm,1.3s
A30A Hoffart Farm, 89.61 344 P **P** 15 18 43.4 -0.4
baz=90
B28A Dugan Ranch, T 89.63 342 P **P** 15 18 43.9 0.0
baz=90
C25A Freed Ranch, W 89.67 340 P **P** 15 18 44.4 +0.3
baz=90
E21A Keefer Ranch, 89.70 337 P **P** 15 18 44.2 -0.1
baz=90
B27A Peters Farms, 89.80 342 P **P** 15 18 44.6 -0.1
baz=90
A29A Manning Farm, 89.81 343 P **P** 15 18 43.8 -1.0
baz=90
C24A Savage 89.83 339 P **P** 15 18 44.4 -0.5
baz=90
GCMT Greycliff 89.84 335 *e*P **P** 15 18 45.7 +0.5
comp=Z,7.7nm,0.6s
D22A Cohagen 89.98 338 P **P** 15 18 45.2 -0.4
baz=90
MFID Camas Ranch 89.99 330 *e*P **P** 15 18 46.3 +0.4
comp=Z,31nm,1.3s
B26A Jensen Ranch, 90.02 341 P **P** 15 18 45.3 -0.4
baz=90
A28A Rude Farm, Bot 90.03 343 P **P** 15 18 45.6 -0.3
baz=90
MCMT McKenzie Canyo 90.09 333 *e*P **P** 15 18 46.3 -0.2
comp=Z,18nm,1.4s
B25A Knox Farm, Ray 90.17 341 P **P** 15 18 46.6 +0.2
baz=90
WVOR Wild Horse Val 90.30 328 *e*P **P** 15 18 47.2 -0.1
WVOR pmax pmax
comp=Z,44nm,1.5s
WVOR MLR MLR
comp=Z,1µm,22.0s
WVOR Wild Horse Val 90.30 328 *e*P **P** 15 18 47.2 -0.1
comp=Z,44nm,1.5s
WVOR LR LR
comp=Z,1µm,22.0s
A27A Ledoux Ranch, 90.31 342 P **P** 15 18 46.7 -0.4
baz=91
ULM Lac du Bonnet 90.36 346 P **P** 15 18 46.3 -0.9
comp=Z,2.5nm,0.7s,baz=150,slow=6.8,SNR=6.5
ULM Lac du Bonnet 90.36 346 P **P** 15 18 46.3 -0.9
ULM pmax pmax
comp=Z,3.0nm,0.7s
BOZ Bozeman (W) 90.38 334 P **P** 15 18 47.7 0.0
baz=91
BOZ Bozeman (W) 90.38 334 PFAKE 15 19 00.0 +12
BOZ LR LR
comp=Z,2µm,21.0s
A26A Wade Farm, Ken 90.45 341 P **P** 15 18 47.0 -0.8
baz=91
DLMT Dillon 90.46 333 P **P** 15 18 47.5 -0.6
comp=Z,17nm,1.1s
MOD Modoc 90.57 327 *e*P **P** 15 18 49.5 +0.8
comp=Z,18nm,1.4s
DGMT Dagmar 90.62 340 P **P** 15 18 48.8 +0.3
baz=91
DGMT Dagmar 90.62 340 PFAKE 15 19 00.0 +11
DGMT LR LR
comp=Z,855nm,19.0s
A25A Svangstu Ranch 90.77 341 P **P** 15 18 49.0 -0.2
baz=91
LRM Limekiln Ridge 90.81 334 *e*P **P** 15 18 51.1 +1.3
comp=Z,146nm,1.5s
B23A Brockton 90.83 339 P **P** 15 18 48.8 -0.7
baz=91
C21A Desert Coulee 90.86 338 P **P** 15 18 48.9 -0.8
baz=91
B22A Reddig Ranch S 90.97 339 P **P** 15 18 48.9 -1.3
baz=91
C20A Veseth Ranch, 91.03 337 P **P** 15 18 49.2 -1.3
baz=91
A23A Redstone 91.25 340 P **P** 15 18 50.6 -0.8
baz=92
M02C Callahan 91.28 325 P **P** 15 18 51.3 -0.6
baz=92
B21A Ellsworth Farm 91.38 338 P **P** 15 18 51.0 -1.0
baz=92
A22A Carney Farms, 91.57 339 P **P** 15 18 52.2 -0.8
baz=92
B20A Solberg Farm, 91.68 338 P **P** 15 18 52.7 -0.8
baz=92
BMO Blue Mountains 91.78 330 *e*P **P** 15 18 52.3 -1.8
comp=Z,16nm,1.4s
BMO LR LR
comp=Z,819nm,19.0s
K04D Chiloquin, OR 91.78 326 P **P** 15 18 52.9 -1.4
baz=92
EGMT Eagleton 91.85 336 P **P** 15 18 53.0 -1.3
baz=92
EGMT Eagleton 91.85 336 PFAKE 15 19 10.0 +16
EGMT LR LR
comp=Z,577nm,19.0s
CHMT Chamberlain Mo 92.03 334 *e*P **P** 15 18 55.3 -0.1
comp=Z,6.1nm,1.4s
MSO Missoula 92.20 333 P **P** 15 18 55.8 -0.2
baz=92
L02D Cave Junction, 92.23 325 P **P** 15 18 54.5 -1.6
baz=92
A19A Klindworth Far 92.34 337 P **P** 15 18 55.8 -0.7
baz=93
SWMT Swartz Lake 92.81 334 *e*P **P** 15 18 59.8 +0.9
comp=Z,7.0nm,1.1s
SCHQ Schefferville 92.88 4 P **P** 15 18 57.1 -1.7
comp=Z,4.2nm,0.8s,baz=169,slow=3.0,SNR=5.6
MSVF Nonsavu 93.10 245 PFAKE 15 19 10.0 +9.0
MSVF LR LR
comp=Z,2µm,20.0s
JTMT Jette 93.11 334 P **P** 15 19 00.0 -0.2
comp=Z,8.1nm,1.3s
BSMT Bassoo Peak 93.38 333 *e*P **P** 15 19 01.3 -0.2
comp=Z,9.5nm,1.4s
G03D McMinnville, O 94.51 327 P **P** 15 19 05.3 -1.3
baz=95
NEW Newport 94.56 332 P **P** 15 19 06.4 -0.4
comp=Z,1.4nm,0.5s,baz=133,slow=8.6,SNR=5.7
NEW Newport 94.56 332 P **P** 15 19 06.4 -0.4
NEW pmax pmax
comp=Z,1.0nm,0.5s
NEW Newport 94.56 332 P **P** 15 19 06.2 -0.6
baz=95
NEW Newport 94.56 332 P **P** 15 19 06.4 -0.4
NEW LR LR
comp=Z,924nm,21.0s
TAM Tamanrasset 95.50 65 *e*P **P** 15 19 12.9 +1.0
TAM pmax pmax
comp=Z,20nm,1.3s
TAM MLR MLR
comp=Z,2µm,19.0s
TAM Tamanrasset 95.50 65 *e*P **P** 15 19 12.9 +1.0
comp=Z,20nm,1.3s
TAM LR LR
comp=Z,2µm,19.0s
FFC Flin Flon 95.84 344 PFAKE 15 19 20.0 +7.6
FFC LR LR
comp=Z,1µm,19.0s
MORF Marmelete 95.89 46 *e*P **P** 15 19 14.4 +1.2
MORF *e*PP **PP** 15 23 06.8 +0.8
MORF AMS AMS 16 02 24.7
comp=Z,3µm,19.5s
MORF Marmelete 95.89 46 *e*P **P** 15 19 14.3 +1.2
MORF *e* 15 23 06.8
NLWA Neilton Lookou 96.49 328 PFAKE 15 19 30.0 +14
NLWA LR LR
comp=Z,1µm,19.0s
MESJ Messejana 96.51 46 *e*P **P** 15 19 17.1 +1.2
MESJ *e*PP **PP** 15 23 10.8 +0.1
MESJ AMS AMS 16 02 52.8
comp=Z,3µm,18.1s
MESJ Messejana 96.51 46 *e*P **P** 15 19 17.1 +1.2
MESJ *e* 15 23 10.8
LIS Lisbon 96.60 45 *e*PP PP 15 23 11.8 +0.5
LIS AMS AMS 15 59 58.8
comp=Z,3µm,19.8s
CAN Canberra 97.00 214 PFAKE 15 19 30.0 +11
CAN LR LR
comp=Z,2µm,19.0s
DZM Mont Dzumac 97.95 234 *e*SKSac **SKSac** 15 30 02.4 +3.5
comp=Z,1µm,29.2s
DZM *e*SP **SP** 15 32 17.0 +6.5
comp=Z,746nm,24.6s
DZM *e*SS **SS** 15 37 30.6 +1.9
comp=Z,2µm,23.9s
DZM *e*LQ LQ 15 46 57.9
comp=Z,1µm,29.8s
DZM *e*LR LR 15 51 04.7
comp=Z,6µm,23.5s
MTE Manteigas 98.66 45 PFAKE 15 19 40.0 +14
MTE LR LR
comp=Z,4µm,20.0s
PAB San Pablo 99.89 47 PFAKE 15 19 40.0 +8.9
PAB LR LR
comp=Z,2µm,20.0s
ESDC Sonseca Array 100.19 47 P **Pdif** **15 19 32.4 -0.1**
comp=Z,0.2nm,0.3s,baz=246,slow=2.4,SNR=4.9
ABPO Ambohimpanom 100.25 124 PFAKE 15 19 40.0 +6.5
ABPO LR LR
comp=Z,3µm,19.0s
MBAR Mbarara 100.58 99 PFAKE 15 19 50.0 +15
MBAR LR LR
comp=Z,933nm,22.0s
KMBO Kilima Mbogo 105.28 104 PFAKE 15 24 20.0
KMBO LR LR
comp=Z,4µm,22.0s
YKA Yellowknife Ar 105.77 341 Pdiff **Pdif** **15 19 54.9 -1.7**
comp=Z,0.3nm,0.7s,baz=147,slow=4.3,SNR=4.2
SFJD Kangerlussuaq 106.34 9 PFAKE 15 24 20.0
SFJD LR LR
comp=Z,1µm,19.0s
WRAK Wrangell Islan 106.74 330 PFAKE 15 24 20.0
WRAK LR LR
comp=Z,884nm,19.0s
VSL Villasalto 108.19 54 PFAKE 15 24 30.0
VSL LR LR
comp=Z,2µm,19.0s
SSB Saint Sauveur 108.60 47 PFAKE 15 24 30.0
SSB LR LR
comp=Z,2µm,20.0s
TARA Tarawa 109.43 256 PFAKE 15 24 30.0
TARA LR LR
comp=Z,2µm,22.0s
WDD Wield Dalam 109.55 59 PFAKE 15 24 30.0
WDD LR LR
comp=Z,10µm,20.0s
CLTB Caltabellotta 109.61 57 PFAKE 15 24 30.0
CLTB LR LR
comp=Z,3µm,20.0s
BORG Borgarnes 110.40 21 PFAKE 15 24 30.0
BORG LR LR
comp=Z,1µm,20.0s
ESK Eskdalemuir 110.62 35 PFAKE 15 24 30.0
ESK LR LR
comp=Z,2µm,19.0s
VLC Villacollemand 111.41 50 PFAKE 15 24 30.0
VLC LR LR
comp=Z,2µm,19.0s
HNR Honiara 111.42 238 PFAKE 15 24 30.0
HNR LR LR
comp=Z,841nm,19.0s
ECH Echery 111.74 45 PFAKE 15 24 30.0
ECH LR LR
comp=Z,4µm,20.0s
WLF Walferdange 111.99 44 PFAKE 15 24 30.0
WLF LR LR
comp=Z,6µm,19.0s
TUE Stuetta 112.04 48 PFAKE 15 24 30.0
TUE LR LR
comp=Z,2µm,19.0s
AQU L'Aquila 112.31 53 PFAKE 15 24 30.0
AQU LR LR
comp=Z,3µm,20.0s
BFO Black Forest 112.46 46 PFAKE 15 24 30.0
BFO LR LR
comp=Z,2µm,19.0s
CUC Castrocucco 112.62 56 PFAKE 15 24 30.0
CUC LR LR
comp=Z,4µm,20.0s
TIP Timpagrande 112.82 57 PFAKE 15 24 30.0
TIP LR LR
comp=Z,4µm,21.0s
KULLO Kullorsuaq 113.05 5 *i* P **PP** **15 25 11.4 -1.3**
comp=Z,1µm,21.0s
SUMG Summit 113.14 11 *i* P **PP** **15 25 13.2 -0.7**
SUMG *e* 15 34 52.7
comp=Z,1µm,22.0s
ASAR Alice Springs 113.35 207 PKiKP **PKiKP** **15 24 22.7 -2.1**
comp=Z,0.7nm,0.7s,baz=175,slow=2.3,SNR=8.5
ASAR PKKPbc **PKKPbc** **15 35 09.1 +0.4**
comp=Z,2.6nm,0.7s,baz=338,slow=2.7,SNR=23
ASAR PKKPab **PKKPab** **15 35 17.0 -2.8**
comp=Z,2.6nm,0.7s,baz=341,slow=3.8,SNR=12
SCO Scoresbysund 114.53 17 *i* P **PP** **15 25 19.9 -3.4**
SCO *i* 15 35 08.3
comp=Z,880nm,20.0s
OBKA Obir 115.14 50 ⇑ *i* PKPdf **PKPdf** **15 24 28.0 +0.6**
comp=Z,5.8nm,0.9s
EGAK Eagle 115.48 334 PFAKE 15 24 40.0 +13
EGAK LR LR
comp=Z,1µm,19.0s
GERES GERESS Array B 115.79 47 PKP **PKPdf** **15 24 28.2 -0.4**
comp=Z,3.7nm,0.7s,baz=197,slow=1.4,SNR=28
GERES PP **PP** **15 25 32.3 -0.5**
comp=Z,1.3nm,0.7s,baz=208,slow=3.3,SNR=2.5
GERES GERESS Array B 115.79 47 PKIKP **PKPdf** **15 24 28.2 -0.4**
GERES 15 25 32.3
GERES pmax pmax
comp=Z,4.0nm,0.7s
GERES pmax pmax
comp=Z,1.0nm,0.7s
KHC Kasperske Hory 115.86 47 *e*PKP **PKPdf** **15 24 28.2 -0.5**
KHC *ex* x 15 24 35.4
KHC *e*PP **PP** **15 25 30.6 -2.6**
KHC *e*SKS **SKSac** **15 31 17.3 +1.4**
KHC *ex* x 15 33 25.8
KHC *e*SP **SP** **15 35 10.6 +0.6**
KHC *ex* x 15 36 29.2
KHC AMS AMS 16 13 40.0
comp=Z,2µm,19.7s
KHC Kasperske Hory 115.86 47 *e*PKIKP **PKPdf** **15 24 28.2 -0.5**
KHC *e* 15 24 35.4
KHC *e* 15 25 30.6
KHC *e* 15 31 17.3
KHC *e* 15 35 10.6
KHC *e* 15 36 29.2
KHC MLR MLR
comp=Z,2µm,19.7s
TIR Tirane 115.96 57 PFAKE 15 24 40.0 +11
TIR LR LR
comp=Z,5µm,19.0s
MSEY Mahe Island 116.16 120 PFAKE 15 24 40.0 +10
MSEY LR LR
comp=Z,4µm,20.0s
KDAK Kodiak Island 116.27 324 PFAKE 15 24 40.0 +11
KDAK LR LR
comp=Z,1µm,19.0s
CLL Collm 116.58 44 *e*PKIKP **PKPdf** **15 24 31.0 +1.1**
CLL *e* 15 25 38.0
CLL pmax pmax
comp=Z,6.0nm,1.1s
CLL MLR MLR
comp=Z,2µm,20.0s
CLL Collm 116.58 44 *e*Pdif **Pdif** **15 20 48.0 +3.1**
CLL *e*PKiKP **PKPdf** **15 24 31.0 +1.1**
comp=Z,6.0nm,1.1s
CLL *e*PP **PP** **15 25 38.0 -0.2**
CLL *e*PPP PPP 15 28 18.0
CLL *es*SKKSac 15 32 51.0
CLL *es*Sdiff 15 33 37.0
CLL *e*PS **PS** **15 35 20.0 -0.5**
CLL *e*PPS PPS 15 36 40.0
CLL *e*SS SS 15 41 34.0 -7.8
CLL *e*SSS SSS 15 46 18.0
CLL *e* 15 50 18.0
CLL Lm MLR 16 14 00.0
comp=N,1µm,20.8s
CLL Lm MLR 16 14 00.0
comp=E,1µm,20.3s
CLL Lm MLR 16 14 00.0
comp=Z,2µm,20.0s
WRA Warramunga Arr 116.58 209 PKP **PKPdf** **15 24 28.9 -2.2**
comp=Z,1.0nm,0.8s,baz=159,slow=1.7,SNR=7.7
WRA PKKPbc **PKKPbc** **15 34 56.0 -1.5**
comp=Z,1.0nm,0.7s,baz=346,slow=4.0,SNR=8.3
WRA PKKPab **PKKPab** **15 35 05.5 +0.1**
comp=Z,0.8nm,0.7s,baz=339,slow=4.4,SNR=4.8
WRAB Tennant Creek 116.59 209 PFAKE 15 24 40.0 +8.9
WRAB LR LR
comp=Z,3µm,20.0s
PRA Prague 116.80 46 *e*PP PP 15 25 40.0 +0.3
PRA *e*SKS **SKSac** **15 31 22.7 +3.4**
PRA *e*SP **SP** **15 35 19.0 +0.6**
PRA *ex* x 15 36 36.7
PRA AMS AMS 16 15 20.0
comp=Z,2µm,18.3s
PRU Pruhonice 116.82 46 *e*PKP **PKPdf** **15 24 31.6 +1.2**
PRU *e*PP **PP** **15 25 38.8 -1.1**
PRU *ex* x 15 32 54.8
PRU *e*SDIF 15 33 29.7
PRU *e*SP **SP** **15 35 18.2 -0.4**
PRU *ex* x 15 36 32.7
PRU AMS AMS 16 13 30.0
comp=Z,2µm,20.4s
PRU Pruhonice 116.82 46 *e*PKIKP **PKPdf** **15 24 31.6 +1.2**
PRU *e* 15 25 38.8
PRU *e* 15 35 18.2
PRU *e* 15 36 32.7
PRU MLR MLR
comp=Z,2µm,20.4s
BRG Berggiesshubel 116.90 45 PP **PKPdf** **15 24 30.5 0.0**
comp=Z,2.9nm,0.7s
BRG SKS 15 25 41.0
BRG SDIFF **SKKSac** **15 32 40.0 +2.0**
BRG SS SS 15 41 37.0 -9.0
comp=N,1µm,18.1s
comp=E,2µm,19.6s
comp=Z,2µm,19.1s
BRG Berggiesshubel 116.90 45 PKIKP **PKPdf** **15 24 30.5 0.0**
BRG 15 25 41.0
BRG pmax pmax
comp=Z,3.0nm,0.7s
BRG MLR MLR
comp=N,1µm,18.1s
BRG MLR MLR
comp=E,2µm,19.6s
BRG MLR MLR
comp=Z,2µm,19.1s
GOPC GO Pecny, Ondr 116.92 46 *e*PKP **PKPdf** **15 24 32.2 +1.5**
GOPC *e*PP PP 15 25 34.6 -6.0
GOPC *e*SKS **SKSac** **15 31 22.4 +2.6**
GOPC *ex* x 15 32 51.8
GOPC *e*SDIF **Sdif** **15 33 28.2 +3.6**
GOPC *e*SP **SP** **15 35 21.2 +1.6**
GOPC *ex* x 15 36 37.3
GOPC AMS AMS 16 13 40.0
comp=Z,2µm,20.6s
TREC Trest 117.03 47 *e*PKP **PKPdf** **15 24 30.1 -0.8**
TREC *ex* x 15 24 37.0
TREC *e*PP **PP** **15 25 40.2 -1.2**
TREC *e*SKS **SKSac** **15 31 22.8 +2.5**
TREC *ex* x 15 32 52.9
TREC *e*SDIF **Sdif** **15 33 32.1 +6.5**
TREC *e*SP **SP** **15 35 22.5 +1.8**
TREC AMS AMS 16 22 10.0
comp=Z,1µm,16.8s
TREC Trest 117.03 47 *e*PKIKP **PKPdf** **15 24 30.1 -0.8**
TREC *e* 15 24 37.0
TREC *e* 15 25 40.2
TREC *e* 15 31 22.8
TREC *e* 15 35 22.5
TREC MLR MLR
comp=Z,1µm,16.8s
MUD Monsted U'grnd 117.07 38 *i* P **PP** **15 25 41.1 -0.3**
comp=Z,3µm,20.0s
PVCC Panska Ves 117.09 46 *e*PKP **PKPdf** **15 24 31.3 +0.4**
PVCC *e*PP **PP** **15 25 41.6 -0.1**
PVCC *e*SDIF 15 33 31.0
PVCC *e*SP **SP** **15 35 23.0 +1.9**
PVCC *ex* x 15 36 47.1
PVCC AMS AMS 16 15 10.0
comp=Z,3µm,19.0s
PVCC Panska Ves 117.09 46 *e*PKIKP **PKPdf** **15 24 31.3 +0.4**

PVCC *e* 15 25 41.6
PVCC *e* 15 35 23.0
PVCC *e* 15 36 47.1
PVCC MLR MLR
comp=Z,3μm,19.0s
DIVS Divibare 117.35 54⇑ *i*P PKPdf 15 24 31.8 0.0
SANT Santorini 117.39 64 PFAKE 15 24 40.0 +8.0
SANT LR LR
comp=Z,3μm,22.0s
PKSM Moragy 117.49 51⇑ PKIKP **PKPdf 15 24 31.7 -0.1**
PKSM Moragy 117.49 51⇑ *i*P **PKPdf 15 24 31.7 -0.1**
ILAR Eielson Array 117.52 332 PKP **PKPdf 15 24 30.4 -0.9**
comp=Z,0.9nm,0.9s,baz=175,slow=3.5,SNR=7.2
ILAR PKKPbc **PKKPab 15 34 53.5 -1.3**
comp=Z,0.5nm,0.8s,baz=298,slow=1.9,SNR=5.0
HOMB Homborsund 117.62 36 *e*PP PP 15 25 39.0 -6.2
VRAC Vranov 117.68 48 PKP **PKPdf 15 24 31.4 -0.7**
comp=Z,5.9nm,0.3s,baz=265,slow=13,SNR=4.3
VRAC Vranov 117.68 48 PKIKP **PKPdf 15 24 31.4 -0.7**
VRAC pmax pmax
comp=Z,6.0nm,0.3s
UPC Upice 117.90 46 *e*PKP **PKPdf 15 24 32.8 +0.3**
UPC *e*PP **PP 15 25 45.2 -2.2**
UPC *e*SKS **SKSac 15 31 25.7 +2.4**
UPC *ex* x 15 32 55.4
UPC *ex* x 15 33 41.9
UPC *e*SP **SP 15 35 24.4 -4.0**
UPC *ex* x 15 36 57.1
UPC AMS AMS 16 16 10.0
comp=Z,2μm,17.4s
UPC Upice 117.90 46 *e*PKIKP **PKPdf 15 24 32.8 +0.3**
UPC *e* 15 25 45.2
UPC *e* 15 31 25.7
UPC *e* 15 35 24.4
UPC *e* 15 36 57.1
UPC MLR MLR
comp=Z,2μm,17.4s
COLA College 117.93 332 PFAKE 15 24 40.0 +8.0
COLA LR LR
comp=Z,852nm,20.0s
DPC Dobruska-Polom 118.00 47 *e*PKP **PKPdf 15 24 33.4 +0.6**
DPC *ex* x 15 24 39.9
DPC *ep*PKP **pPKPdf 15 24 43.2 +0.3**
DPC *e*PP PP 15 25 42.4 -5.8
DPC *e*SKS **SKSac 15 31 26.0 +2.2**
DPC *ex* x 15 32 57.0
DPC *ex* x 15 33 43.2
DPC *e*SP **SP 15 35 24.7 -4.7**
DPC *ex* x 15 36 56.1
DPC AMS AMS 16 14 20.0
comp=Z,2μm,20.3s
DPC Dobruska-Polom 118.00 47 *e*PKIKP **PKPdf 15 24 33.4 +0.6**
DPC *e* 15 24 43.2
DPC *e* 15 31 26.0
DPC *e* 15 35 24.7
DPC *e* 15 36 56.1
DPC MLR MLR
comp=Z,2μm,20.3s
KRLC Kraliky 118.14 47 *e*PKP **PKPdf 15 24 33.3 +0.3**
KRLC *ex* x 15 24 40.5
KRLC *ep*PKP **pPKPdf 15 24 42.3 -0.8**
KRLC Kraliky 118.14 47 *e*PKIKP **PKPdf 15 24 33.3 +0.3**
KRLC *e* 15 24 40.5
KRLC *e* 15 24 42.3
JMIC Jan Mayen 118.19 20 *e*PP PP 15 25 46.2 -2.6
COP Copenhagen 118.32 40 *i* P **PP 15 25 50.3 +0.2**
comp=Z,1μm,21.0s
MORC Moravsky Berou 118.45 47 *e*PKIKP **PKPdf 15 24 32.7 -0.9**
MORC Moravsky Berou 118.45 47 *e*PKPdf **PKPdf 15 24 32.7 -0.9**
KONO Kongsberg 118.77 35 *e*PP PP 15 25 52.5 -0.6
KONO Kongsberg 118.77 35 PFAKE 15 24 50.0 +16
KONO LR LR
comp=Z,2μm,22.0s
OKC Ostrava-Krasne 118.83 48 *e*PKP **PKPdf 15 24 34.7 +0.4**
OKC *ex* x 15 24 40.7
OKC *e*PP **PP 15 25 53.4 -0.4**
OKC *e*SKS **SKSac 15 31 29.9 +3.3**
OKC *e*SKKS **SKKSac 15 32 56.2 +5.3**
OKC *e*SP **SP 15 35 35.7 -1.1**
OKC *ex* x 15 37 06.8
OKC AMS AMS 16 22 00.0
comp=Z,1μm,17.4s
OKC Ostrava-Krasne 118.83 48 *e*PKIKP **PKPdf 15 24 34.7 +0.4**
OKC *e* 15 24 40.7
OKC *e* 15 25 53.4
OKC *e* 15 31 29.9
OKC *e* 15 35 35.7
OKC *e* 15 37 06.8
OKC MLR MLR
comp=Z,1μm,17.4s
PSZ Piszkesteto 119.02 50 PFAKE 15 24 50.0 +15
PSZ LR LR
comp=Z,2μm,19.0s
BSD Bornholm Skovb 119.34 41 *i* P PP 15 25 50.9 -6.3
BSD *i* 15 34 20.0
comp=Z,3μm,22.0s
PMG Port Moresby 119.44 227 PFAKE 15 24 50.0 +13
PMG LR LR
comp=Z,1μm,19.0s
KECS Kecovo 119.62 50 *e*PKIKP **PKPdf 15 24 35.9 0.0**
KECS Kecovo 119.62 50 *e*PKP **PKPdf 15 24 35.9 0.0**
MBWA Marble Bar 119.66 194 PFAKE 15 24 50.0 +13
MBWA LR LR
comp=Z,2μm,19.0s
NB2 NORSAR Subarra120.10 34 PKPdf **PKPdf 15 24 35.9 -0.5**
comp=Z,7.5nm,1.2s,baz=248,slow=1.9
NB2 NORSAR Subarra120.10 34 PKPdf **PKPdf 15 24 35.9 -0.5**
baz=248,slow=1.9
NOA NORSAR Array B120.10 34 PKP **PKPdf 15 24 35.9 -0.5**
comp=Z,1.8nm,0.8s,baz=250,slow=2.1,SNR=5.7
NOA NORSAR Array B120.10 34 PKIKP **PKPdf 15 24 35.9 -0.5**
NOA pmax pmax
comp=Z,2.0nm,0.8s
NC602 NORSAR Array S 120.12 34 *e*PP PP 15 25 53.1 -9.3
DRGR 120.26 52⇑ PKIKP **PKPdf 15 24 37.4 +0.1**
DRGR 120.26 52⇑ *i*P **PKPdf 15 24 37.4 +0.1**
STHS Stebnicka Huta 120.47 49 *e*PKIKP **PKPdf 15 24 38.1 +0.6**
STHS Stebnicka Huta 120.47 49 *e*PKP **PKPdf 15 24 38.1 +0.6**
UZH Uzhgorod 120.77 50 *i* PKIKP PKPdf 15 24 45.0 +7.0
UZH *e* 15 26 07.4
UZH *e* 15 31 34.8
UZH *e* 15 35 55.4
UZH *e*SS SS 15 42 54.6 +18
HFS Hagfors 120.84 36 PKP **PKPdf 15 24 36.5 -1.3**
comp=Z,4.5nm,0.7s,baz=186,slow=4.2,SNR=10
HFS Hagfors 120.84 36 PKIKP **PKPdf 15 24 36.5 -1.3**
HFS pmax pmax
comp=Z,5.0nm,0.7s
KOLS Kolonicke sedl 120.88 50 *e*PKIKP **PKPdf 15 24 39.4 +1.1**
KOLS Kolonicke sedl 120.88 50 *e*PKP **PKPdf 15 24 39.3 +1.0**
JMB Yambol 120.94 58⇑ PKIKP **PKPdf 15 24 38.2 -0.4**
JMB Yambol 120.94 58⇑ *i*P **PKPdf 15 24 38.2 -0.4**
VOIR 121.18 55⇓ PKIKP **PKPdf 15 24 39.4 +0.3**
VOIR 121.18 55⇓ *i*P **PKPdf 15 24 39.4 +0.3**
MLR Muntele Rosu 121.77 55⇑ PKIKP **PKPdf 15 24 40.3 0.0**
MLR Muntele Rosu 121.77 55⇑ *i*P **PKPdf 15 24 40.3 0.0**
BURAR Bucovina Array 122.16 52⇑ PKIKP **PKPdf 15 24 41.6 +0.7**
BURAR Bucovina Array 122.16 52⇑ *i*P **PKPdf 15 24 41.6 +0.7**
PLOR Plostina 122.37 55⇑ PKIKP **PKPdf 15 24 40.9 -0.4**
PLOR Plostina 122.37 55⇑ *i*P **PKPdf 15 24 40.9 -0.4**
CSS Prodhromos 122.42 69 PFAKE 15 24 50.0 +8.3
CSS LR LR
comp=Z,250nm,19.0s
VRI Vrincioaia 122.43 55⇑ PKIKP **PKPdf 15 24 41.1 -0.3**
VRI Vrincioaia 122.43 55⇑ *i*P **PKPdf 15 24 41.1 -0.3**
MSAB Monastry St. A 122.43 57⇑ *i*P **PKPdf 15 24 40.9 -0.5**
TESR Tescani 122.63 54⇓ *i*P **PKPdf 15 24 41.8 +0.1**
TIRR Tirgusor 122.97 57 *e*PKIKP **PKPdf 15 24 41.9 -0.5**
TIRR Tirgusor 122.97 57⇑ *i*P **PKPdf 15 24 42.1 -0.3**
TIRR Tirgusor 122.97 57 *e*PKPdf **PKPdf 15 24 41.9 -0.5**
CFR Carcaliu 123.07 56⇑ PKIKP **PKPdf 15 24 42.5 -0.1**
CFR Carcaliu 123.07 56⇑ *i*P **PKPdf 15 24 42.5 -0.1**
KIS Kishinev 124.19 54 *e*PKP **PKPdf 15 24 45.0 +0.3**
KIS Kishinev 124.19 54 *e*PP PP 15 26 28.0 -2.5
KIS *e*SKKS 15 33 23.0
KIS Kishinev 124.19 54 *e*PS PS 15 36 28.0 -0.8
KIS *e*SS *x* 15 47 50.0
KIS *e*LR LR 16 07 56.0
comp=Z,2μm,20.0s
KIS Kishinev 124.19 54 *e*PKIKP **PKPdf 15 24 45.0 +0.3**
KIS *e* 15 24 52.0
KIS *e* 15 26 28.0

KIS *e*PS **PS 15 36 28.0 -0.8**
KIS MLR MLR
comp=N,1μm,20.0s
KIS MLR MLR
comp=E,1μm,20.0s
KIS MLR MLR
comp=Z,2μm,20.0s
KIS MLR MLR
comp=Z,2μm,20.0s
DGAR Diego Garcia 124.47 137 PFAKE 15 25 00.0 +14
DGAR LR LR
comp=Z,2μm,19.0s
H11S2 WAKE ISLAND Hyl 24.65 267 T T 17 41 17.0
baz=128
BRTR Keskin Array B 124.66 64 PKP **PKPdf 15 24 46.1 +0.1**
comp=Z,3.6nm,0.7s,baz=194,slow=2.5,SNR=20
BRTR Keskin Array B 124.66 64 PKIKP **PKPdf 15 24 46.1 +0.1**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
H11S1 WAKE ISLAND Hyl 24.67 267 T T 17 41 08.7
baz=128
H11S3 WAKE ISLAND Hyl 24.67 267 T T 17 41 08.4
baz=128
NACGM Naroch 125.62 44 *e* 15 26 36.0
KIEV Kiev 125.71 50 *e*PKIKP **PKPdf 15 24 46.7 -0.7**
KIEV MLR MLR
comp=Z,441nm,20.0s
KIEV Kiev 125.71 50 *e*PKPdf **PKPdf 15 24 46.7 -0.7**
KIEV LR LR
comp=Z,441nm,20.0s
AKASG Malin Array Be 125.72 50 PKP **PKPdf 15 24 46.4 -1.1**
comp=Z,4.3nm,0.8s,baz=259,slow=2.8,SNR=18
AKASG PP **PP 15 26 38.1 -2.5**
comp=Z,0.2nm,0.3s,baz=254,slow=5.1,SNR=8.4
AKASG Malin Array Be 125.72 50 PKIKP **PKPdf 15 24 46.4 -1.1**
AKASG 15 26 38.1
AKASG pmax pmax
comp=Z,4.0nm,0.8s
TRO Tromso 126.01 26 *e*PP PP 15 26 40.5 -1.4
KBS Kingsbay 126.31 14 *e*PP PP 15 26 41.5 -2.2
KBS Kingsbay 126.31 14 PFAKE 15 25 00.0 +12
KBS LR LR
comp=Z,872nm,21.0s
RAYN Ar Rayn 126.31 87 *e*PKPdf **PKPdf 15 24 49.9 +0.4**
RAYN LR LR
comp=Z,2μm,20.0s
VSU Vasula 126.59 40⇓ *i*PKIKP **PKPdf 15 24 48.5 -0.4**
SIM Simferopol' 126.93 58 *i* PKIKP **PKPdf 15 24 53.5 +3.5**
SIM 15 26 49.2
SIM PPP PPP 15 29 40.2
SIM SS SS 15 43 59.9 +5.7
SIM pmax pmax
comp=Z,21nm,8.4s
FINES FINESS Array B 127.01 36 PKP **PKPdf 15 24 47.2 -2.4**
comp=Z,6.0nm,1.0s,baz=0.0,slow=1.9,SNR=8.2
FINES FINESS Array B 127.01 36 PKIKP **PKPdf 15 24 47.2 -2.4**
FINES pmax pmax
comp=Z,6.0nm,1.0s
SPA0 Spitsbergen Ar 127.03 15 *e*PP PP 15 26 44.0 -4.5
SPA0 *e*SS SS 15 43 55.0 +1.1
SPITS Spitsbergen Ar 127.03 15 PKP **PKPdf 15 24 49.3 0.0**
comp=Z,3.6nm,0.7s,baz=112,slow=11,SNR=3.2
SPITS Spitsbergen Ar 127.03 15 PKIKP **PKPdf 15 24 49.3 0.0**
SPITS pmax pmax
comp=Z,4.0nm,0.7s
MALT Malatya 127.54 67⇑ PKIKP **PKPdf 15 24 52.2 +0.7**
MALT Malatya 127.54 67⇑ *i*P **PKPdf 15 24 52.2 +0.7**
ARCES ARCESS Array B 128.26 26 PKP **PKPdf 15 24 50.9 -0.9**
comp=Z,3.5nm,0.7s,baz=282,slow=2.4,SNR=7.5
ARCES ARCESS Array B 128.26 26 PKIKP **PKPdf 15 24 50.9 -0.9**
ARCES pmax pmax
comp=Z,4.0nm,0.7s
ARE0 ARCESS Array S 128.26 26 *e*PP PP 15 26 57.1 +0.3
ARE0 *e*SS SS 15 44 11.2 +1.7
HOPEN Hopen 128.74 17 *e*PP PP 15 26 49.5 -10
KEV Kevo 128.81 26 PFAKE 15 25 00.0 +7.2
KEV LR LR
comp=Z,2μm,21.0s
COCO West Island 128.97 167 PFAKE 15 25 10.0 +15
COCO LR LR
comp=Z,1μm,19.0s
ANN Anapa 129.11 59 *i* PKIKP **PKPdf 15 24 55.4 +1.3**
ANN *e* 15 27 00.4
ANN pmax pmax
comp=Z,25nm,1.0s
SOC Sochi 130.29 61 *c i*PKIKP **PKPdf 15 24 56.6 +0.2**
SOC *i* 15 27 08.9
SOC *e*PPP PPP 15 29 59.2
SOC pmax pmax
comp=Z,17nm,0.8s
APA Apatity 130.98 29 *i* PKIKP **PKPdf 15 24 57.0 0.0**
APA *i* 15 27 18.0
APA *i* PPP PPP 15 30 08.0
APA pmax pmax
comp=Z,20nm,0.8s
OBN Obninsk 131.14 46 PKP **PKPdf 15 24 58.3 +0.6**
comp=Z,7.1nm,0.4s,baz=74,slow=1.6,SNR=7.8
OBN Obninsk 131.14 46⇑ *i*PKIKP **PKPdf 15 24 59.0 +1.4**
OBN *e* 15 25 07.2
OBN *i* 15 27 15.8
OBN *e*PS **PS 15 37 31.0 +1.8**
OBN *e*SS SS 15 44 51.8 +6.2
OBN pmax pmax
comp=Z,49nm,1.7s
OBN MLR MLR
comp=Z,2μm,21.0s
OBN Obninsk 131.14 46 PKP **PKPdf 15 24 58.3 +0.6**
OBN LR LR
comp=Z,2μm,22.0s
LVZ Lovozero 131.47 29⇑ *i*PKIKP **PKPdf 15 24 58.1 +0.1**
LVZ Lovozero 131.47 29 PFAKE 15 25 10.0 +12
LVZ LR LR
comp=Z,1μm,20.0s
MOS Moscow 131.84 45 *i* PKIKP **PKPdf 15 24 58.8 -0.1**
MOS pmax pmax
comp=Z,45nm,1.2s
VSR Storozhevoye 131.91 51 *e*PKIKP **PKPdf 15 24 59.6 +0.3**
VSR *e* 15 27 18.9
VSR pmax pmax
comp=E,7.0nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=N,60nm,3.0s
VSR pmax pmax
comp=E,180nm,3.0s
VSR pmax pmax
comp=Z,240nm,3.0s
VSR MLR MLR
comp=N,590nm,27.0s
VSR MLR MLR
comp=E,1μm,27.0s
VSR MLR MLR
comp=Z,2μm,27.0s
NEY Neytrino 132.28 63⇑ *e*PKIKP **PKPdf 15 25 02.5 +2.0**
KIV Kislovodsk 132.45 62 *i* PKIKP **PKPdf 15 25 01.0 +0.3**
KIV 15 25 15.0
KIV *i* 15 27 23.2
KIV *e*PS **PS 15 37 44.8 +3.6**
KIV SSS SSS 15 49 58.0
KIV pmax pmax
comp=Z,49nm,2.8s
KIV MLR MLR
comp=Z,711nm,24.0s
KIV Kislovodsk 132.45 62 PFAKE 15 25 10.0 +9.3
KIV LR LR
comp=Z,756nm,22.0s
KBZ Khabaz 132.54 62 PKP **PKPdf 15 25 01.8 +1.2**
comp=Z,3.3nm,0.7s,baz=344,slow=2.7,SNR=7.5
KBZ PP **PP 15 27 25.2 -0.1**
comp=Z,2.7nm,0.8s,baz=294,slow=5.8,SNR=3.9
KBZ Khabaz 132.54 62 PKIKP **PKPdf 15 25 01.8 +1.2**
KBZ 15 27 25.2
KBZ pmax pmax
comp=Z,3.0nm,0.7s
KBZ pmax pmax
comp=Z,3.0nm,0.8s
GNI Garni 132.77 67⇓ *e*PKIKP **PKPdf 15 25 01.9 +0.4**
GNI Garni 132.77 67 PFAKE 15 25 10.0 +8.5
GNI LR LR
comp=Z,1μm,20.0s
TMCR Tamitsa 132.79 34 *e*PKIKP **PKPdf 15 25 00.4 -0.1**
TMCR pmax pmax

comp=Z,16nm,0.7s
NCK Nalchik 132.96 63⇑ *e*PKIKP **PKPdf 15 25 03.6 +2.1**
GOF Gofitskoye 133.00 60 *e*PKIKP PKPdf 15 24 55.0 -6.5
IPIR Pirpir 134.74 79 *e*P **PKPdf 15 25 04.2 -1.4**
KAPI Kappang 135.30 199 PFAKE 15 25 20.0 +13
KAPI LR LR
comp=Z,962nm,19.0s
MAK Makhachkala 135.57 64 *i* PKIKP **PKPdf 15 25 04.3 -2.1**
MAK *e*PPP PPP 15 30 46.9
MAK *e*PS **PS 15 38 06.3 -1.3**
MAK pmax pmax
comp=Z,128nm,1.4s
BILL Bilibino 136.18 332 PKIKP **PKPdf 15 25 08.0 +1.2**
BILL *e* 15 25 23.7
BILL *e* 15 27 52.5
BILL PPP PPP 15 30 50.0
BILL 15 32 10.0
BILL SS SS 15 45 44.0 -1.8
BILL pmax pmax
comp=Z,12nm,1.9s
BILL Bilibino 136.18 332 PFAKE 15 25 20.0 +13
BILL LR LR
comp=Z,1μm,20.0s
PRGR Permogore 136.32 37 *e*PKIKP **PKPdf 15 25 06.2 -1.0**
PRGR *e* 15 25 16.3
PRGR pmax pmax
comp=Z,13nm,0.6s
GUMO Guam 138.28 244 PFAKE 15 25 20.0 +7.8
GUMO LR LR
comp=Z,96nm,19.0s
TRD Trivandrum 140.03 130⇓ *e*P **PKPdf 15 25 12.2 -3.3**
ITEG Tejag 140.93 83 *e*P PKPdf 15 25 11.1 -5.8
IKOO Kooshah 140.95 84 *e*P PKPdf 15 25 11.0 -6.0
PET Petropavlovsk 141.71 310 PFAKE 15 25 30.0 +13
PET LR LR
comp=Z,1μm,21.0s
SOKR Solikamsk 142.03 39 *i* PKIKP **PKPdf 15 25 19.7 +2.1**
SOKR pmax pmax
comp=Z,10.0nm,0.9s
IKRD Kardeh 142.04 77 *e*P **PKPdf 15 25 16.4 -2.4**
GEYT Alibeck 142.07 75 PKhKP PKPpre 15 25 13.4
comp=Z,3.5nm,0.6s,baz=294,slow=1.4,SNR=7.0
GEYT PKP **PKPdf 15 25 16.1 -2.5**
comp=Z,5.1nm,0.7s,baz=297,slow=6.3,SNR=7.5
PETK Petropavlovsk- 142.28 310 PKhKP PKPpre 15 25 15.3
comp=Z,5.6nm,0.9s,baz=134,slow=6.4,SNR=5.1
PETK PKP **PKPdf 15 25 19.5 +1.1**
comp=Z,5.1nm,0.8s,baz=120,slow=5.2,SNR=5.1
ISRO Mashad 142.64 78 *e*P **PKPdf 15 25 15.7 -4.0**
IMYA Miami 143.13 78 *e*P PKPab 15 25 16.5 +0.3
SEY Seymchan 143.15 327 PKhKP PKPpre 15 25 14.4
comp=Z,2.7nm,0.6s,baz=162,slow=4.6,SNR=7.8
SEY PKP **PKPdf 15 25 19.1 -0.5**
comp=Z,6.0nm,0.9s,baz=89,slow=4.2,SNR=10
SEY Seymchan 143.15 327 *i* PKHKP PKPpre 15 25 14.4
SEY 15 25 19.1
SEY pmax pmax
comp=Z,3.0nm,0.6s
SEY pmax pmax
comp=Z,6.0nm,0.9s
KSM Kuching 143.26 186 PFAKE 15 25 30.0 +8.6
KSM LR LR
comp=Z,962nm,21.0s
ARU Arti 143.53 44 *i* PKIKP PKPbc 15 25 17.5 -0.4
ARU MLR MLR
comp=Z,4μm,23.0s
ARU Arti 143.53 44 *e*PKPpre PKPbc 15 25 17.4 -0.5
ARU LR LR
comp=Z,4μm,22.0s
PSI Prapat 144.00 167 PKP PKPab 15 25 19.9 -0.2
comp=Z,18nm,0.8s,baz=184,slow=6.9,SNR=10
PSI Prapat 144.00 167 PKIKP PKPab 15 25 20.0 -0.1
PSI pmax pmax
comp=Z,19nm,0.8s
SVE Sverdlovsk 144.59 43 *d i*PKIKP PKPbc 15 25 21.6 +0.5
SVE *e* 15 28 41.4
SVE pmax pmax
comp=Z,110nm,1.7s
SVE MLR MLR
comp=E,2μm,25.0s
SVE MLR MLR
comp=Z,3μm,22.0s
DAV Davao City (W) 144.59 214 PFAKE 15 25 40.0 +16
DAV LR LR
comp=Z,504nm,21.0s
AB31 Akbulak array 144.96 56 *i* PKIKP **PKPab 15 25 22.7 +0.2**
AB31 pmax pmax
comp=Z,79nm,0.8s
ABKAR Akbulak array 144.96 56 *e*PKPdf **PKPab 15 25 22.8 +0.3**
URV Uravakonda 145.12 124 *e*PKPdf **PKPbc 15 25 23.5 -0.5**
POO Poona 145.27 115⇓ *i*x **PKPbc 15 25 24.0 -0.5**
SKHT Srikalahasti 145.78 128 *e*PKPdf **PKPdf 15 25 24.6 -1.0**
SKHT *e*PKPbc **PKPbc 15 25 25.1 -1.0**
IPM Ipoh 145.98 170 *e*PKPdf **PKPdf 15 25 25.9 -0.1**
RCLA Racherla 146.60 125 *e*PKPbc **PKPbc 15 25 28.0 -0.6**
KULM Kulim 146.72 169 *e*PKPdf **PKPdf 15 25 27.8 +0.5**
KULM LR LR
comp=Z,937nm,19.0s
KKM Kota Kinabalu 146.81 197 *e*PKPdf **PKPdf 15 25 28.4 +0.8**
KKM LR LR
comp=Z,612nm,20.0s
KLRI Killari 146.89 119 *e*PKPbc **PKPbc 15 25 28.8 -0.6**
SRLM Srisailam 147.03 124 *e*PKPbc **PKPdf 15 25 28.7 +0.9**
ADKI Addanki 147.53 126 *e*PKPbc **PKPbc 15 25 31.1 0.0**
NJS Nagarjunasagar 147.63 124 *e*PKPdf **PKPdf 15 25 28.3 -0.4**
NJS *e*PKPbc **PKPbc 15 25 30.6 -0.8**
HYB Hyderabad 147.76 122 *i* PKP **PKPbc 15 25 31.0 -0.8**
HYBB Hyderabad (bro 147.76 122 *e*PKPbc **PKPbc 15 25 31.5 -0.3**
SRSP Sriramsagar 148.68 120 *e*PKPdf **PKPdf 15 25 30.0 -0.4**
SRSP *e*PKPbc **PKPbc 15 25 33.5 -0.6**
KUR Kuril'sk 148.81 296⇓ *i*PKP2 **PKPab 15 25 35.7 -1.9**
KUR *i* SS SS 15 48 16.0 +2.6
KUR pmax pmax
comp=N,26nm,1.5s
KUR pmax pmax
comp=Z,20nm,1.5s
KUR pmax pmax
comp=E,26nm,0.8s
RPR Rampur 149.27 121 *e*PKPdf **PKPdf 15 25 30.2 -1.1**
RPR *e*PKPbc **PKPbc 15 25 35.2 -0.4**
PVM Polavaram 149.63 127 *e*P **PKPdf 15 25 31.7 -0.2**
PVM *e*PKPbc **PKPbc 15 25 36.2 -0.4**
YUK Yuzh-Kuril'sk 150.20 294 *i* PKIKP **PKPbc 15 25 36.7 -0.4**
YUK *i* 15 29 17.2
YUK *i* SSS SSS 15 54 02.3
YUK pmax pmax
comp=Z,121nm,1.4s
YUK pmax pmax
comp=N,64nm,1.5s
YUK pmax pmax
comp=E,44nm,1.5s
BRVK Borovoye 150.89 48 *e*PKIKP **PKPdf 15 25 33.2 +0.4**
BRVK *e* 15 25 39.0
BRVK MLR MLR
comp=Z,2μm,20.0s
BRVK Borovoye 150.89 48 *e*PKPdf **PKPdf 15 25 33.2 +0.4**
BRVK *e*PKPbc **PKiKP 15 25 39.0 -0.1**
BRVK LR LR
comp=Z,2μm,20.0s
BVA0 Borovoye Array 150.96 48 *i* PKIKP **PKPdf 15 25 32.6 -0.3**
BVA0 pmax pmax
comp=Z,48nm,0.9s
TYV Tymovskoe 151.78 308 *e*PKIKP **PKPbc 15 25 42.0 +1.4**
TYV *e* 15 29 28.0
ERM Erimo 152.06 289 PFAKE 15 25 50.0 -1.1
ERM LR LR
comp=Z,2μm,22.0s
CHLP Challavanipeta 152.09 128 *e*PKPbc **PKPbc 15 25 41.8 -0.5**
KKAR Karatay Array 152.22 68 *e*PKIKP **PKPbc 15 25 41.8 -0.1**
KKAR Karatay Array 152.22 68 *e*PKPbc **PKPbc 15 25 41.8 -0.1**
YSS Yuzh-Sakhalins 152.32 300 *i* PKIKP **PKPdf 15 25 34.0 -1.1**
YSS *e* 15 25 48.8
YSS *e* 15 29 30.0
YSS *e*SS SS 15 49 30.0 +38
YSS MLR MLR
comp=E,1μm,18.0s
YSS MLR MLR
comp=Z,1μm,18.0s
YSS Yuzh-Sakhalins 152.32 300 *e*PKPbc **PKPbc 15 25 41.1 -0.8**
YSS LR LR
comp=Z,618nm,19.0s
YAK Yakutsk 152.33 337 *e*PKIKP **PKPdf 15 25 32.0 -2.7**
YAK *e* 15 29 23.4
YAK *e* 15 32 33.9

YAK *e*SSS SSS 15 54 44.5
YAK pmax pmax
comp=Z,59nm,1.3s
YAK pmax pmax
comp=N,62nm,2.8s
YAK pmax pmax
comp=Z,163nm,3.5s
YAK pmax pmax
comp=E,79nm,4.3s
YAK Yakutsk 152.33 337 *e*PKPbc **PKPbc 15 25 40.5 -1.0**
YAK LR LR
comp=Z,1μm,22.0s
NKL Nikolayevsk 152.34 314 *e*PKIKP **PKPdf 15 25 30.0 -4.9**
NKL *e* 15 25 39.0
NKL *e* 15 25 44.0
NKL *e* 15 29 30.0
NKL pmax pmax
comp=Z,400nm,5.0s
ASAJ Asahikawa 152.55 294 PKPdf **PKPdf 15 25 34.8 -0.8**
ASAJ *e*PKPbc **PKPbc 15 25 42.5 0.0**
TGY Tagaytay City 152.87 211 PKPbc **PKPbc 15 25 46.1 +1.9**
baz=90,slow=2.0
AML Almayashu 154.53 71 P **PP 15 29 38.5 +0.3**
SNR=7.8
EKS2 Erkin-Say 154.61 70 P **PP 15 29 39.6 +1.3**
SNR=6.6
EKS2 Erkin-Say 154.61 70 *e*PKIKP **PKPdf 15 25 39.0 +0.2**
EKS2 MLR MLR
comp=Z,2μm,19.0s
EKS2 Erkin-Say 154.61 70 *e*PKPdf **PKPdf 15 25 39.0 +0.2**
EKS2 LR LR
comp=Z,2μm,19.0s
MJAR Matsushiro Arr 155.02 276 PKP **PKPdf 15 25 37.6 -1.8**
comp=Z,0.9nm,0.8s,baz=170,slow=3.9,SNR=3.3
MJAR PKPbc PKPbc 15 25 48.1
comp=Z,2.2nm,1.0s,baz=196,slow=2.5,SNR=4.6
MJAR Matsushiro Arr 155.02 276 PKIKP **PKPdf 15 25 37.6 -1.8**
MJAR 15 25 48.1
MJAR pmax pmax
comp=Z,1.0nm,0.8s
MAJO Matsushiro 155.02 276 PFAKE 15 25 50.0 +11
MAJO LR LR
comp=Z,969nm,22.0s
MAT Matsushiro 155.02 276 PKP **PKPdf 15 25 44.3 +4.9**
AAK Ala-Archa 155.14 70 P **PP 15 29 42.1 +0.8**
SNR=5.2
AAK Ala-Archa 155.14 70 PFAKE 15 25 50.0 +10
AAK LR LR
comp=Z,1μm,20.0s
UCH Uchtor 155.15 71 P **PP 15 29 43.1 +1.5**
SNR=6.4
FRU Bishkek 155.23 69 *i* PKIKP **PKPdf 15 25 40.0 +0.5**
FRU *i* 15 25 48.0
FRU *i* 15 26 06.0
FRU *i* 15 29 42.0
FRU pmax pmax
comp=Z,90nm,2.2s
FRU MLR MLR
comp=Z,2μm,24.0s
KBK Karagaybulak 155.47 70 P **PP 15 29 45.0 +1.9**
SNR=8.3
KZA Kyzart 155.69 71 P **PP 15 29 46.9 +2.2**
SNR=6.7
TKM2 Tokmak 2 155.95 69 P **PP 15 29 47.7 +1.8**
SNR=10.0
TKM2 Tokmak 2 155.95 69 *e*PKIKP **PKPdf 15 25 40.4 -0.3**
TKM2 MLR MLR
comp=Z,1μm,19.0s
TKM2 Tokmak 2 155.95 69 *e*PKPdf **PKPdf 15 25 40.4 -0.3**
TKM2 LR LR
comp=Z,1μm,19.0s
KSH Kashi 156.05 77 PKP **PKPdf 15 25 42.0 +1.2**
KSH pPKP **pPKPdf 15 25 53.1 +2.1**
KSH sPKP 15 25 56.5
KSH PKS **PKSdf 15 29 15.3 +0.4**
KSH SKS **SKSdf 15 32 43.3 -1.6**
KSH SKKS **SKKSac 15 36 32.0 -1.3**
KSH PPMZ
comp=Z,660nm,4.8s
KSH LN
comp=Z,240nm,6.1s
KSH LE
comp=Z,250nm,7.1s
KSH LZ
comp=Z,2μm,19.2s
ULHL Ulahol 156.43 71 P **PP 15 29 49.8 +1.2**
SNR=12
KURK Kurchatov 156.53 49 PFAKE 15 25 50.0 +9.1
KURK LR LR
comp=Z,2μm,21.0s
NVS Novosibirsk 157.00 36⇑ *i*PKIKP **PKPdf 15 25 40.5 -0.8**
NVS *i* 15 29 49.5
NVS pmax pmax
comp=Z,64nm,2.1s
NVS pmax pmax
comp=N,12nm,2.0s
NVS pmax pmax
comp=E,31nm,2.0s
NVS pmax pmax
comp=Z,90nm,2.8s
NVS pmax pmax
comp=N,18nm,2.6s
NVS pmax pmax
comp=E,59nm,3.3s
HABR Khabarovsk 157.16 306 *ce*PKIKP **PKPdf 15 25 41.2 -0.6**
HABR *e* 15 25 52.1
HABR 15 29 51.5
HABR *e* 15 32 44.9
HABR *e*PPP PPP 15 33 26.0
HABR *e*SS SS 15 49 44.0 -0.4
ZALV Zalesovo Beam 158.27 37 PKP **PKPdf 15 25 42.3 -0.7**
comp=E,7.7nm,0.7s,baz=272,slow=2.4,SNR=22
ZALV PKPab **PKPab 15 26 16.7 -0.6**
comp=E,9.1nm,0.7s,baz=303,slow=4.7,SNR=6.3
ZALV Zalesovo Beam 158.27 37 PKIKP **PKPdf 15 25 42.3 -0.7**
ZALV 15 26 16.7
ZALV pmax pmax
comp=Z,8.0nm,0.7s
ZALV pmax pmax
comp=Z,9.0nm,0.7s
DANN Dangsing 158.43 110 *e*P **PKPab 15 26 19.1 -0.1**
GKN Gorkha 158.88 112 *e*P **PKPab 15 26 20.5 -0.5**
comp=Z,75nm,1.0s
KLR Kul'dur 158.97 309 *e*PKIKP PKPdf 15 25 38.0 -6.0
KLR MLR MLR
comp=Z,2μm,23.0s
DMN Daman 159.00 114 *e*P **PKPab 15 26 21.0 -0.6**
comp=Z,62nm,0.9s
CMAR Chiang Mai Arr 159.13 159 PKP **PKPdf 15 25 44.4 -0.7**
comp=Z,0.9nm,0.8s,baz=230,slow=2.0,SNR=8.3
CMAR PKPab **PKPab 15 26 21.8 -0.1**
comp=Z,3.6nm,1.0s,baz=229,slow=4.9,SNR=7.3
CMAR Chiang Mai Arr 159.13 159 PKIKP **PKPdf 15 25 44.4 -0.7**
CMAR 15 26 21.8
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR pmax pmax
comp=Z,4.0nm,1.0s
PKIN Phulchoki 159.19 114 *e*P **PKPab 15 26 22.0 -0.4**
comp=Z,27nm,0.7s
PKI Pulchoki 159.19 114 *e*P **PKPab 15 26 22.0 -0.5**
comp=Z,62nm,0.8s
KKN Kakani 159.23 114 *e*P **PKPab 15 26 22.2 -0.3**
comp=Z,68nm,0.8s
CHTO Chiang Mai 159.47 158 PFAKE 15 26 00.0 +14
CHTO LR LR
comp=Z,853nm,19.0s
RAMN Ramite 159.66 118 *e*P **PKPab 15 26 24.4 0.0**
comp=Z,57nm,0.8s
BOD Bodaibo 159.85 349 *e*PKIKP **PKPdf 15 25 42.0 -2.7**
BOD pmax pmax
comp=Z,4.0nm,1.5s
MK31 Makanchi Array 160.10 57 *i* PKIKP **PKPdf 15 25 44.3 -1.1**
MK31 pmax pmax
comp=Z,39nm,1.2s
MKAR Makanchi Array 160.10 57 PKP **PKPdf 15 25 45.3 -0.1**
comp=Z,8.0nm,1.1s,baz=299,slow=1.2,SNR=24
MKAR PKPab **PKPab 15 26 24.6 -1.0**
comp=Z,9.0nm,1.0s,baz=290,slow=1.9,SNR=8.4
MKAR PP **PP 15 30 06.7 -1.4**
comp=Z,7.3nm,1.0s,baz=284,slow=5.8,SNR=10.0
ODAN Odare 160.15 119 *e*P **PKPab 15 26 26.5 -0.1**
comp=Z,65nm,0.7s
QIZ Qiongzhong 160.66 189 PKP **PKPdf 15 25 48.0 +1.2**
QIZ PP **PP 15 30 11.0 +1.1**
QIZ PPMZ
comp=Z,270nm,8.6s
QIZ LN
comp=Z,490nm,18.6s
QIZ LZ
comp=Z,1μm,20.3s
QIZ Qiongzhong 160.66 189 PFAKE 15 26 00.0 +13
QIZ LR LR
comp=Z,1μm,21.0s
TAPN Taplejung 160.68 119 *e*P **PKPab 15 26 28.7 -0.2**
comp=Z,27nm,0.8s
YHNB Yeheng 161.63 227 PFAKE 15 26 00.0 +12
YHNB LR LR
comp=Z,1μm,21.0s
MDJ Mudanjiang 161.77 298 PKP **PKPdf 15 25 49.5 +2.3**
MDJ pPKP **pPKPdf 15 25 59.5 +2.1**
MDJ sPKP 15 26 03.1
MDJ PP **PP 15 30 19.9 +2.8**
MDJ LN
comp=Z,440nm,24.0s
MDJ LE
comp=Z,1μm,24.0s
MDJ LZ
comp=Z,2μm,21.6s
MDJ Mudanjiang 161.77 298 PFAKE 15 26 00.0 +13
MDJ LR LR
comp=Z,2μm,22.0s
SHL Shillong 162.16 131 *ex* **PKPdf 15 25 48.0 -0.5**
KSRS Korea Array 163.27 274 PKP **PKPdf 15 25 47.2 -1.7**
comp=Z,1.5nm,0.8s,baz=191,slow=1.4,SNR=9.1
KSRS PKPab **PKPab 15 26 36.6 -3.0**
comp=Z,1.7nm,0.9s,baz=109,slow=3.9,SNR=4.2
KSRS Korea Array 163.27 274 PKIKP **PKPdf 15 25 47.2 -1.7**
KSRS 15 26 36.7
KSRS pmax pmax
comp=Z,2.0nm,0.8s
KSRS pmax pmax
comp=Z,2.0nm,0.9s
KSAR Wonju Array Be 163.30 274 PKIKP **PKPdf 15 25 47.2 -1.8**
KSAR 15 26 36.7
KSAR Wonju Array Be 163.30 274 PKP **PKPdf 15 25 47.2 -1.8**
KSAR PKPab **PKPab 15 26 36.6 -3.2**
QZH Quanzhou 163.36 221 *i* PKP **PKPdf 15 25 49.1 -0.3**
QZH PPMZ
comp=Z,840nm,4.6s
QZH LN
comp=Z,1μm,16.4s
QZH LE
comp=Z,1μm,16.3s
QZH LZ
comp=Z,3μm,19.8s
INCN Inchon 164.29 273 PFAKE 15 26 00.0 +10
INCN LR LR
comp=Z,1μm,20.0s
LSA Lhasa 164.51 119 PKIKP **PKPdf 15 25 51.1 +0.2**
LSA MLR MLR
comp=Z,1μm,20.0s
LSA Lhasa 164.51 119 PKPdf **PKPdf 15 25 51.1 +0.2**
LSA LR LR
comp=Z,1μm,20.0s
WMQ Urumqi 164.58 63 PKP **PKPdf 15 25 50.8 +0.8**
WMQ pPKP **pPKPdf 15 26 01.6 +1.4**
WMQ sPKP 15 26 09.3
WMQ PKPab **PKPab 15 26 46.4 +1.0**
WMQ PKS **PKSdf 15 29 22.5 -0.4**
WMQ PP **PP 15 30 35.0 +2.9**
WMQ SKKS 15 37 16.9
WMQ SS **SS 15 51 01.0 -1.8**
WMQ PPMZ
comp=Z,1μm,8.0s
WMQ LN
comp=Z,2μm,18.0s
WMQ LE
comp=Z,1μm,20.0s
WMQ LZ
comp=Z,2μm,23.2s
CN2 Changchun 164.86 297 *e*PKP PKPdf 15 25 42.3 -7.9
CN2 PP **PP 15 30 37.3 +3.9**
HIA Hailar 165.56 324 PFAKE 15 26 00.0 +9.4
HIA LR LR
comp=Z,1μm,21.0s
IRK Irkutsk 165.90 6 *e*PKP2 **PKPab 15 26 50.5 -0.1**
IRK *e* 15 30 38.2
IRK pmax pmax
comp=Z,71nm,2.2s
SSE Sheshan 166.16 243 PKP **PKPdf 15 25 51.3 -0.3**
SSE PP **PP 15 30 43.3 +3.1**
SSE PPMZ
comp=Z,300nm,12.0s
SSE LN
comp=Z,610nm,20.9s
SSE LE
comp=Z,470nm,21.0s
SSE LZ
comp=Z,1μm,18.7s
TLY Talaya 166.39 8 *c i*PKIKP **PKPdf 15 25 49.4 -1.8**
TLY *e* 15 26 51.5
TLY *e* 15 30 41.6
TLY *e*SS SS 15 51 18.6 -0.3
TLY pmax pmax
comp=Z,6.0nm,1.1s
TLY Talaya 166.39 8 PFAKE 15 26 00.0 +8.8
TLY LR LR
comp=Z,2μm,20.0s
KMI Kunming 166.47 164 ⇑PKP **PKPdf 15 25 52.0 -0.4**
KMI pPKP **pPKPdf 15 26 04.6 +2.1**
KMI PP **PP 15 30 38.8 -2.1**
KMI SKKS 15 37 26.4
KMI SS **SS 15 51 19.6 -0.7**
KMI PPMZ
comp=Z,350nm,9.7s
KMI LN
comp=Z,730nm,16.7s
KMI LE
comp=Z,680nm,17.8s
KMI LZ
comp=Z,990nm,17.6s
SNY Shenyang 166.63 291 PKP **PKPdf 15 25 50.3 -1.4**
SNY PP **PP 15 30 47.8 +5.0**
SNY PPMZ
comp=Z,420nm,6.7s
SNY LN
comp=Z,490nm,24.9s
SNY LE
comp=Z,680nm,21.0s
SNY LZ
comp=Z,2μm,22.1s
ZAK Zakamensk 167.62 10 *e*PKIKP **PKPdf 15 25 51.8 -0.5**
ZAK pmax pmax
comp=Z,4.0nm,2.9s
GYA Guiyang 168.24 180 *i* PKP **PKPdf 15 25 54.3 +0.8**
GYA PKPab **PKPab 15 27 05.0 +3.2**
GYA PKS **PKSdf 15 29 25.5 -0.8**
GYA PP **PP 15 30 54.5 +4.8**
GYA SKKS 15 37 37.8
GYA SS **SS 15 51 40.0 +2.4**
GYA PPMZ
comp=Z,1μm,12.6s
GYA LN
comp=Z,2μm,24.4s
GYA LE
comp=Z,3μm,23.8s
GYA LZ
comp=Z,2μm,24.6s
NJ2 Nanjing 168.34 242 *e*PKP **PKPdf 15 25 54.6 +1.4**
NJ2 pPKP **pPKPdf 15 26 04.6 +1.2**
NJ2 sPKP 15 26 10.4
NJ2 PP **PP 15 30 52.5 +1.2**
NJ2 PPMZ
comp=Z,2μm,8.7s
NJ2 LN
comp=Z,2μm,18.4s
NJ2 LE
comp=Z,2μm,18.5s
NJ2 LZ
comp=Z,5μm,19.1s
WHN Wuhan 170.09 221 PKP **PKPdf 15 25 53.9 -0.4**
WHN PP **PP 15 31 03.8 +4.2**
WHN SKKS 15 37 44.8
WHN SS **SS 15 51 53.1 -3.9**
WHN LN
comp=Z,2μm,16.7s
WHN LE
comp=Z,2μm,19.6s
WHN LZ
comp=Z,3μm,20.6s
ULN Ulaanbaatar 170.39 359 PFAKE 15 26 10.0 +16
ULN LR LR
comp=Z,353nm,19.0s
SONM Songino Array 170.42 2 PKP **PKPdf 15 25 52.8 -1.4**
comp=Z,2.1nm,0.9s,baz=153,slow=1.3,SNR=9.5
SONM PKPab **PKPab 15 27 11.1 +0.2**
comp=Z,9.1nm,0.9s,baz=336,slow=4.6,SNR=11
SONM PP **PP 15 31 00.6 -0.1**
comp=Z,0.4nm,0.4s,baz=292,slow=4.5,SNR=3.6
SONM Songino Array 170.42 2 PKIKP **PKPdf 15 25 52.8 -1.4**
SONM 15 27 11.1
SONM 15 31 00.6
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM pmax pmax
comp=Z,9.0nm,0.9s
TIA Tai'an 171.49 259 PKP **PKPdf 15 25 55.4 +0.5**
TIA PP **PP 15 31 11.8 +4.3**
TIA SKKS 15 37 51.8
TIA SS **SS 15 52 05.9 -6.7**
TIA PPMZ
comp=Z,890nm,8.4s
TIA LN
comp=Z,730nm,19.3s
TIA LE
comp=Z,880nm,18.5s
TIA LZ
comp=Z,2μm,19.4s
CD2 Chengdu 172.27 160 PKP **PKPdf 15 25 55.8 +0.3**
CD2 pPKP **pPKPdf 15 26 07.0 +1.3**
CD2 sPKP 15 26 11.3
CD2 PP **PP 15 31 11.4 +1.4**
CD2 SKS **SKSdf 15 32 56.3 -0.3**
CD2 SKKS **SKKSac 15 37 54.8 -0.3**
CD2 SS **SS 15 52 20.1 +2.4**
CD2 PPMZ
comp=Z,580nm,13.2s
CD2 LN
comp=Z,1μm,22.2s
CD2 LZ
comp=Z,2μm,20.4s
BJI Beijing 172.47 287 PKP **PKPdf 15 25 56.9 +1.7**
BJI PP **PP 15 31 14.5 +2.2**
BJI PPMZ
comp=Z,620nm,8.7s
BJI LN
comp=Z,1μm,21.6s
BJI LE
comp=Z,1μm,20.2s
BJI LZ
comp=Z,1μm,22.1s
GTA Gaotai 174.45 76 *e*PKP **PKPdf 15 25 56.3 +0.1**
GTA pPKP **pPKPdf 15 26 07.3 +0.9**
GTA sPKP 15 26 10.8
GTA PKPab **PKPab 15 27 31.1 +1.8**
GTA PP **PP 15 31 24.0 +1.8**
GTA SKS **SKSdf 15 32 54.6 -2.5**
GTA SKKS **SKKSac 15 38 05.0 -0.9**
GTA SS **SS 15 52 37.6 -4.0**
GTA PPMZ
comp=Z,1μm,7.1s
GTA LN
comp=Z,1μm,20.9s
GTA LE
comp=Z,1μm,18.0s
GTA LZ
comp=Z,2μm,22.8s
XAN Xi'an 175.45 203 PKP **PKPdf 15 25 56.4 -0.2**
XAN sPKP 15 26 10.8
XAN PKS **PKSdf 15 29 27.6 -1.2**
XAN SKS **SKSdf 15 32 52.6 -4.8**
XAN PPMZ
comp=Z,310nm,6.3s
XAN LN
comp=Z,820nm,19.5s
XAN LE
comp=Z,920nm,21.6s
XAN LZ
comp=Z,1μm,19.5s
HHC Hu-ho-hao-te 175.47 306 *e*PKP **PKPdf 15 25 57.3 +0.9**
HHC PP **PP 15 31 29.8 +3.2**
HHC PPMZ
comp=Z,360nm,6.1s
HHC LN
comp=Z,950nm,19.1s
HHC LE
comp=Z,810nm,21.5s
HHC LZ
comp=Z,1μm,19.4s
TIY Taiyuan 175.49 265 *e*PKP **PKPdf 15 25 56.0 -0.5**
TIY PP **PP 15 31 28.3 +1.1**
TIY SKKS 15 38 09.8
TIY PPMZ
comp=Z,400nm,6.6s
TIY LN
comp=Z,880nm,16.1s
TIY LE
comp=Z,530nm,20.1s
TIY LZ
comp=Z,2μm,18.8s
LZH Lanzhou 176.82 132 *e*PKP **PKPdf 15 25 59.0 +2.0**
LZH pPKP **pPKPdf 15 26 08.9 +1.8**
LZH sPKP 15 26 12.5
LZH PP **PP 15 31 33.1 +0.2**
LZH PPMZ
comp=Z,870nm,6.0s
LZH LN
comp=Z,1μm,19.4s
LZH LE
comp=Z,770nm,18.2s
LZH LZ
comp=Z,2μm,20.0s

*CSEM **14** 15:08:10.7, 37.85N×32.07E, h11km, MD2.6*
ISK 14 15:08:10.7, 37.85N×32.07E, h11km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KONT	**Konya--Tatoy**	**0.25**	**67**	*e*PG	Pg	15 08 16.3	+0.3
KONT				*e*SG	Sg	15 08 20.5	+0.9
KONT	**Konya--Tatoy**	**0.25**	**67**	*e*Pg	Pg	15 08 16.3	+0.3
KONT				*e*Sg	Sg	15 08 20.5	+0.9
CHBY	**Cihanbeyli**	**0.98**	**41**	*e*PG	Pn	15 08 30.6	+0.1
CHBY	**Cihanbeyli**	**0.98**	**41**	*e*Pg	Pn	15 08 30.7	+0.1
KIZT	**Kizilcal**	**1.04**	**352**	*e*PG	Pg	15 08 31.0	0.0
KIZT				*e*SG	Sn	15 08 46.0	-0.2
KIZT	**Kizilcal**	**1.04**	**352**	*e*Pg	Pg	15 08 31.0	0.0
KIZT				*e*Sg	Sn	15 08 46.0	-0.1
SULT	**Sultanhani-AKS**	**1.20**	**73**	*e*PN	Pg	15 08 34.1	+0.2
SULT	**Sultanhani-AKS**	**1.20**	**73**	*e*Pn	Pg	15 08 34.1	+0.2
ISP	**Isparta**	**1.22**	**269**	*e*PN	Pg	15 08 34.3	-0.1
ISP	**Isparta**	**1.22**	**269**	*e*Pn	Pg	15 08 34.3	-0.1
BCK	**Bucak**	**1.23**	**252**	*e*PN	Pg	15 08 34.6	+0.1
BCK	**Bucak**	**1.23**	**252**	*e*Pn	Pg	15 08 34.6	0.0
YESY	**Yesilyurt**	**1.33**	**92**	*e*PN	Pn	15 08 35.1	-0.3
YESY	**Yesilyurt**	**1.33**	**92**	*e*Pn	Pn	15 08 35.1	-0.3
KULU	**Kulu**	**1.40**	**31**	*e*PN	Pn	15 08 35.5	-0.9
KULU	**Kulu**	**1.40**	**31**	*e*Pn	Pn	15 08 35.5	-0.9

*ECX **14** 15:17:27.9±0.5, 32.28N×115.35W, h6km, MD3.8, ML4.0*
*NEIC **14** 15:17:27.9, 32.28N×115.35W, h10km, ML3.9(ECX), ML3.9(PAS), After ECX.*
NEIC Felt at San Diego, California.
*MEX **14** 15:17:31.2±0.7, 32.14N×115.20W, h22km±390km, MD4.5*
ISC 14 15:17:25.8±1.1, 32.28N±0.02×115.32W±0.02, h15km±9km, n49, σ1.9 06/73, 6C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.14**	**5⇓**	*e*P	**Pb**	**15 17 30.6**	**+0.5**
CPBX				*e*S	**Sb**	**15 17 33.2**	**+0.1**
CPBX				IAML		15 17 35.6	
	comp=N,167μm,0.3s						
CPBX				*e*		15 17 35.6	
SGL	**Mount Signal**	**0.50**	**317⇑**	*i*P	**Pb**	**15 17 36.5**	**+0.1**
DREC	**Desert Rsrch C**	**0.54**	**348⇓**	*i*P	**Pb**	**15 17 37.8**	**+0.9**
DREC				*e*P	**Pb**	**15 17 37.8**	**+0.9**
EMSC	**East Mesa**	**0.54**	**32⇓**	*i*P	**Pb**	**15 17 37.8**	**+0.8**
ERPC	**Ernies Place**	**0.55**	**328⇓**	*i*P	**Pb**	**15 17 37.7**	**+0.6**
WESC	**Westside Schoo**	**0.59**	**324⇓**	*i*P	**Pb**	**15 17 38.3**	**+0.4**
COA	**Coachella**	**0.60**	**16⇓**	*i*P	**Pb**	**15 17 38.5**	**+0.4**

YUH	**Yuha Desert**	**0.63**	**306**	⇑*iP*	**Pb**	**15 17 38.4**	**-0.1**
RDX	**Rancho Dawling**	**0.64**	**237**	⇑*eP*	**Pb**	**15 17 39.1**	**+0.4**
RDX				*eS*	**Sg**	**15 17 47.5**	**+0.7**
RMX	**La Rumorosa**	**0.72**	**297**	⇑*eP*	**Pg**	**15 17 40.1**	**+0.2**
RMX				*eS*	**Sg**	**15 17 49.6**	**+0.2**
RMX				*e*		15 17 51.0	
RMX				IAML		15 17 51.0	
	comp=N,10μm,0.7s						
IBP	**Imperial Bould**	**0.76**	**300**	P	**Pb**	**15 17 40.9**	**+0.1**
	baz=0.8,SNR=374						
IBP				S	**Sg**	**15 17 50.8**	**+0.2**
	baz=0.8						
SWSC	**Sam W. Stewart**	**0.77**	**329**	P	**Pg**	**15 17 40.4**	**-0.4**
	baz=0.8,SNR=51						
SWSC				S	**Sg**	**15 17 50.1**	**-1.0**
	baz=0.8						
ECBX	**El Chinero**	**0.84**	**164**	*eP*	**Pn**	**15 17 43.0**	**-0.1**
ECBX				*eS*	**Sn**	**15 17 54.3**	**-0.8**
GLA	**Glamis**	**0.87**	**28**	P	**Pg**	**15 17 42.3**	**-0.5**
	baz=1.0,SNR=86						
GLA				S	**Sg**	**15 17 53.4**	**-0.9**
	baz=1.0						
GLA	**Glamis**	**0.87**	**28**	*eP*	**Pg**	**15 17 42.3**	**-0.5**
GLA				*eS*	**Sg**	**15 17 53.4**	**-0.9**
MONP	**Monument Peak**	**1.11**	**303**	P	**Pb**	**15 17 46.2**	**-0.7**
	baz=1.1,SNR=232						
MONP				S	**Sb**	**15 18 00.6**	**-0.7**
	baz=1.1						
ZAX	**El Zacaton**	**1.11**	**227**	*eP*	**Pn**	**15 17 47.2**	**+0.2**
ZAX				*eS*	**Sb**	**15 18 01.8**	**+0.5**
CBX	**Cerro Bola**	**1.14**	**272**	⇓*eP*	**Pb**	**15 17 47.2**	**-0.1**
CBX				⇓*e*		15 18 07.7	
CBX				IAML		15 18 07.7	
	comp=N,3μm,0.5s						
BAR	**Barrett**	**1.21**	**290**	*e*Pn	**Pn**	**15 17 47.7**	**-0.5**
BAR				*eS*	**Sb**	**15 18 03.9**	**-0.1**
BAR	**Barrett**	**1.21**	**290**	⇑*iP*	**Pn**	**15 17 47.8**	**-0.5**
SPIG	**San Pedro Mart**	**1.24**	**186**	*i* P	**Pn**	**15 17 49.0**	**+0.1**
SPIG				*eS*	**Sb**	**15 18 01.8**	**-3.2**
SPIG	**San Pedro Mart**	**1.24**	**186**	*i* P	**Pn**	**15 17 49.0**	**+0.1**
SPIG				*eS*	**Sb**	**15 18 01.8**	**-3.2**
SPIG	**San Pedro Mart**	**1.24**	**186**	*eP*	**Pn**	**15 17 48.9**	**+0.1**
SPX	**San Pedro Mart**	**1.24**	**186**	⇓*eP*	**Pn**	**15 17 49.0**	**+0.1**
SPX				*eS*	**Sn**	**15 18 06.2**	**+0.6**
ECNX	**Esteban Cantu**	**1.25**	**241**	*eP*	**Pb**	**15 17 49.3**	**0.0**
ECNX				*eS*	**Sn**	**15 18 05.8**	**+0.3**
PBX	**Punta Banda**	**1.31**	**246**	*eP*	**Pn**	**15 17 50.0**	**+0.4**
PBX				*eS*	**Sn**	**15 18 07.4**	**+0.6**
BC3	**Big Chuckawall**	**1.38**	**355**	P	**Pn**	**15 17 49.7**	**-0.9**
	baz=1.5,SNR=123						
Y12C	**Blythe**	**1.61**	**24**	P	**Pn**	**15 17 52.9**	**-0.8**
	baz=1.7						
109C	**Camp Elliot, M**	**1.63**	**292**	P	**Pn**	**15 17 53.6**	**-0.4**
	baz=1.6,SNR=55						
109C				S	**Sn**	**15 18 13.7**	**-1.0**
	baz=1.6						
PFO	**Pinyon Flat Ob**	**1.63**	**325**	Pn	**Pn**	**15 17 53.0**	**-1.2**
	comp=N,2μm,0.4s,SNR=27						
PFO	**Pinyon Flat Ob**	**1.63**	**325**	P	**Pn**	**15 17 53.1**	**-1.2**
	baz=1.7,SNR=46						
PFO				S	**Sn**	**15 18 12.3**	**-2.8**
	baz=1.7						
PFO	**Pinyon Flat Ob**	**1.63**	**325**	*e*Pn	**Pn**	**15 17 53.1**	**-1.1**
BELC	**Belle Mtn. Jos**	**1.81**	**342**	P	**Pn**	**15 17 55.2**	**-1.4**
	baz=1.9,SNR=30						
IRM	**Iron Mountain**	**1.88**	**4**	P	**Pn**	**15 17 56.9**	**-0.6**
	baz=2.0,SNR=18						
MURC	**Murrieta**	**2.06**	**310**	Pb	**Pb**	**15 18 03.1**	**+0.2**
	baz=2.1						
MURC				Sb	**Sb**	**15 18 29.9**	**+1.5**
	baz=2.1						
214A	**Organ Pipe Nat**	**2.15**	**98**	P	**Pn**	**15 18 00.7**	**-0.6**
	baz=2.2						
214A	**Organ Pipe Nat**	**2.15**	**98**	*e*Pn	**Pn**	**15 18 00.6**	**-0.6**
GMRC	**Granite Mounta**	**2.51**	**354**	P	**Pn**	**15 18 05.4**	**-0.9**
	baz=2.6,SNR=32						
BFSC	**Mount Baldy Ra**	**2.77**	**316**	Pb	**Pb**	**15 18 15.4**	**+0.3**
	baz=2.8						
BFSC				Sb	**Sb**	**15 18 49.9**	**+1.0**
	baz=2.8						
CIS	**Catalina Islan**	**2.83**	**294**	Sb	**Sb**	**15 18 52.0**	**+1.5**
	baz=2.9						
FMP	**Fort Macarthur**	**2.88**	**301**	Sb	**Sb**	**15 18 53.1**	**+1.1**
	baz=2.9						
MWC	**Mount Wilson**	**3.00**	**311**	*e*Pg	**Pb**	**15 18 19.1**	**-0.1**
PASC	**Pasadena Art C**	**3.06**	**309**	*e*Pg	**Pb**	**15 18 21.0**	**+1.1**
PASC				*e*Sg	**Sb**	**15 18 57.5**	**+0.5**
DECC	**Green Verdugo**	**3.20**	**309**	Sb	**Sb**	**15 19 03.9**	**+2.8**
	baz=3.2						
EDW2	**Edwards Air Fo**	**3.42**	**320**	Sb	**Sb**	**15 19 08.4**	**+0.8**
	baz=3.5						
OSI	**Osito Adit**	**3.68**	**310**	Sb	**Sb**	**15 19 15.5**	**+0.5**
	baz=3.7						
OSI	**Osito Adit**	**3.68**	**310**	*e*Pn	**Pn**	**15 18 22.8**	**+0.6**
TUC	**Tucson**	**3.84**	**88**	Pn	**Pn**	**15 18 23.5**	**-1.0**
TUC				*e*Pg	**Pg**	**15 18 40.2**	**+0.8**
TUC				*e*Sg	**Sg**	**15 19 31.6**	**+2.4**
WUAZ	**Wupatki**	**4.60**	**44**	*e*Pn	**Pn**	**15 18 37.1**	**+2.1**

*IDC **14** 15:22:58.4±1.8, 15°.99S×174°.94W, h225km±17km, mb3.7/12, mb1 3.9/14, mb1mx3.6/31, mbtmp4.2/14, Error ellipse: s-maj=16.7km s-min=10.8km az=133.0*
*ISCJB **14** 15:23:02.8±0.5, 16°.0S±0°.1×175°.06W±0°.07, h278km, mb3.9/12, Error ellipse: s-maj=15.5km s-min=8.1km az=154.7*

ISC 14 15:23:04.1±0.6, 16°.0S±0°.1×174°.99W±0°.09, h278km, n25, σ1s03/26, mb3.9/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.72**	**57**	P	Pn	15 23 56.7	-9.5
	2.2nm,0.3s,baz=190,slow=12,SNR=7.5						
AFI				S	**S**	**15 24 56.1**	**+0.3**
	43nm,0.3s,baz=258,slow=20,SNR=6.9						
NIUE	**Niue**	**5.73**	**123**	P	**Pn**	**15 24 29.2**	**-0.3**
	baz=5.6,SNR=7.5						
DZM	**Mont Dzumac**	**18.56**	**248**	P	**P**	**15 27 00.6**	**-0.7**
	0.1nm,0.3s,baz=90,slow=20,SNR=2.2						
URZ	**Urewera**	**23.27**	**196**	P	**P**	**15 27 46.4**	**-0.9**
	2.3nm,0.3s,baz=50,slow=12,SNR=5.8						
URZ				S	**S**	**15 31 41.6**	**+3.2**
	4.4nm,0.6s,baz=0.0,slow=20,SNR=3.9						
QLP	**Quilpie**	**39.28**	**247**	P	**P**	**15 30 07.2**	**+0.6**
	baz=39,SNR=6.0						
STKA	**Stephens Creek**	**42.42**	**240**	P	**P**	**15 30 31.4**	**-0.7**
	2.6nm,0.7s,baz=82,slow=9.2,SNR=5.4						
STKA	**Stephens Creek**	**42.42**	**240**	P	**P**	**15 30 31.9**	**-0.2**
	baz=42,SNR=4.2						
JAY	**Jayapura**	**45.60**	**282**	P	**P**	**15 30 57.9**	**+0.4**
	19nm,1.0s,baz=105,slow=12,SNR=5.4						
WRA	**Warramunga Arr**	**48.22**	**257**	P	**P**	**15 31 16.6**	**-0.9**
	4.3nm,0.7s,baz=93,slow=7.8,SNR=41						
ASAR	**Alice Springs**	**48.48**	**252**	P	**P**	**15 31 18.6**	**-0.8**
	18nm,0.6s,baz=85,slow=8.1,SNR=244						
KDU	**Kakadu**	**50.90**	**266**	P	**P**	**15 31 40.2**	**+2.5**
	baz=51,SNR=4.0						
MTN	**Manton Dam**	**52.16**	**266**	P	**P**	**15 31 47.2**	**+0.2**
	baz=52,SNR=5.0						
WRKA	**Warakurna**	**53.56**	**250**	P	**P**	**15 31 56.5**	**-0.7**
	baz=54,SNR=50						
KNRA	**Kununurra**	**53.97**	**262**	P	**P**	**15 32 00.4**	**+0.3**
	baz=54,SNR=7.9						
FITZ	**Fitzroy Crossi**	**56.59**	**259**	P	**P**	**15 32 18.8**	**0.0**
	baz=57,SNR=5.2						
MEEK	**Meekatharra**	**62.18**	**248**	P	**P**	**15 32 55.8**	**-0.9**
	baz=62,SNR=4.4						
MJAR	**Matsushiro Arr**	**68.40**	**321**	P	**P**	**15 33 36.2**	**+0.1**
	0.9nm,0.7s,baz=151,slow=5.6,SNR=3.9						
PETK	**Petropavlovsk-**	**72.72**	**343**	P	**P**	**15 34 01.1**	**-0.7**
	1.8nm,0.5s,baz=121,slow=9.2,SNR=5.7						
KSRS	**Korea Array**	**75.50**	**316**	P	**P**	**15 34 18.6**	**+0.5**
	1.1nm,0.8s,baz=134,slow=11,SNR=6.2						
NVAR	**Mina Array Bea**	**75.78**	**43**	P	**P**	**15 34 20.6**	**+0.6**
	1.9nm,0.8s,baz=227,slow=9.7,SNR=10						
TXAR	**Lajitas Array**	**82.20**	**57**	P	**P**	**15 34 55.1**	**+0.4**
	0.7nm,0.7s,baz=221,slow=8.2,SNR=9.5						
ILAR	**Eielson Array**	**83.31**	**12**	P	**P**	**15 34 59.6**	**+0.2**
	0.4nm,0.4s,baz=222,slow=5.4,SNR=5.4						
PDAR	**Pinedale Array**	**83.72**	**42**	P	**P**	**15 35 02.2**	**-0.2**
	1.5nm,0.8s,baz=222,slow=1.2,SNR=9.6						
BRTR	**Keskin Array B**	**145.61**	**319**	PKPbc	**PKPdf**	**15 42 10.1**	**+0.3**
	0.9nm,0.6s,baz=11,slow=1.3,SNR=4.2						
TORD	**Torodi Ar. Bea**	**175.74**	**131**	PKPab	**PKPab**	**15 44 20.8**	**-0.9**
	0.5nm,0.6s,baz=226,slow=7.8,SNR=3.2						

IDC 14 15:30:05.4±11.0, 11°.49S×163°.55E, h210km±132km, mb3.3/6, mb1 3.6/8, mb1mx3.3/35, mbtmp4.0/8, MS4.0/1, Ms1 4.0/1, ms1mx3.0/21, Error ellipse: s-maj=96.7km s-min=26.9km az=160.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.88**	**166**	P	Pn	15 32 35.7	-0.3
	0.4nm,0.3s,baz=270,slow=20,SNR=5.7						
CTA	**Charters Tower**	**18.70**	**241**	P	P	15 34 09.0	+0.7
	0.7nm,0.3s,baz=67,slow=12,SNR=11						
CTA				LR	LR	15 41 23.2	
	comp=Z,442nm,20.7s,baz=234,slow=36						
WRA	**Warramunga Arr**	**29.31**	**250**	P	P	15 35 47.6	-1.1
	0.7nm,0.5s,baz=80,slow=9.1,SNR=4.8						
H11S2	**WAKE ISLAND Hy**	**29.95**	**6**	T	T	16 06 07.6	
	baz=188,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**29.95**	**6**	T	T	16 06 07.6	
	baz=188,slow=76,SNR=8.8						
H11S1	**WAKE ISLAND Hy**	**29.97**	**6**	T	T	16 06 08.8	
	baz=188,slow=76,SNR=8.3						
ASAR	**Alice Springs**	**30.67**	**243**	P	P	15 36 01.1	+0.4
	0.8nm,0.5s,baz=65,slow=10.0,SNR=14						
H11N1	**WAKE ISLAND Hy**	**31.18**	**6**	T	T	16 07 41.0	
	baz=188,slow=76,SNR=10.0						
H11N3	**WAKE ISLAND Hy**	**31.19**	**6**	T	T	16 07 51.9	
	baz=188,slow=76,SNR=6.4						
H11N2	**WAKE ISLAND Hy**	**31.20**	**6**	T	T	16 07 50.0	
	baz=188,slow=76,SNR=9.4						
CMAR	**Chiang Mai Arr**	**70.32**	**294**	P	P	15 40 56.6	-0.2
	0.3nm,0.4s,baz=87,slow=5.5,SNR=3.5						
SONM	**Songino Array**	**77.76**	**325**	P	P	15 41 39.5	+0.1
	0.6nm,0.6s,baz=143,slow=5.0,SNR=3.7						
ILAR	**Eielson Array**	**84.62**	**19**	P	P	15 42 14.9	-0.1
	0.4nm,0.7s,baz=242,slow=4.9,SNR=4.8						
MKAR	**Makanchi Array**	**92.38**	**317**	P	P	15 42 52.7	+0.5
	0.7nm,0.7s,baz=102,slow=6.1,SNR=8.0						

*NEIC **14** 15:39:17.1, 16°.25N×97°.88W, h8km, MD4.0(MEX), After MEX.*

MEX 14 15:39:17.2±0.3, 16°.26N×97°.88W, h9km±3km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.27**	**300**	*i* P	Pg	15 39 22.2	-0.5
PNIG				*i* S	Sg	15 39 26.4	0.0
PNIG	**Pinotepa**	**0.27**	**300**	*i* P	Pg	15 39 22.2	-0.5
PNIG				*i* S	Sg	15 39 26.4	0.0
VHO	**Vista Hermosa**	**1.37**	**53**	*i* P	Pn	15 39 39.0	-3.7
VHO				*eS*	Sb	15 39 55.9	-5.2
VHO	**Vista Hermosa**	**1.37**	**53**	*i* P	Pn	15 39 39.0	-3.7
VHO				*eS*	Sb	15 39 55.9	-5.2
TLIG	**Tlapa**	**1.46**	**333**	*eP*	Pn	15 39 40.3	-3.6
TLIG				*eS*	Sn	15 39 58.2	-5.0
HUIG	**Huatulco**	**1.77**	**106**	*eP*	Pn	15 39 44.6	-3.5
HUIG				*i* S	Sn	15 40 06.0	-4.8
HUIG	**Huatulco**	**1.77**	**106**	*eP*	Pn	15 39 44.6	-3.5
CAIG	**El Cayaco**	**2.42**	**289**	*i* P	Pn	15 39 54.5	-2.4
CAIG				*i* S	Sn	15 40 22.0	-4.7
CAIG	**El Cayaco**	**2.42**	**289**	*eP*	Pn	15 39 54.9	-2.0

*IDC **14** 15:45:05.7±0.7, 28°.30N×131°.69E, h0km, mb3.9/16, mb1 4.0/19, mb1mx3.9/38, mbtmp3.8/19, ML3.2/3, Error ellipse: s-maj=22.6km s-min=15.5km az=78.0*
*NEIC **14** 15:45:07.1±3.8, 28°.28N×131°.54E, h6km±24km, mb4.3/2, Error ellipse: s-maj=12.7km s-min=9.6km az=134.0*
*ISCJB **14** 15:45:08.5±1.4, 28°.32N±0°.03×131°.51E±0°.04, h28km±11km, mb3.8/18, Error ellipse: s-maj=6.2km s-min=4.4km az=27.5*
*JMA **14** 15:45:09.0±0.2, 28°.31N×131°.52E, h95km, MS3.9*

ISC 14 15:45:07.8±2.1, 28°.30N±0°.04×131°.55E±0°.06, h13km±12km, n45, σ1s46/60, mb3.9/18, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**1.39**	**271**	P	**Pg**	**15 45 33.7**	**-0.8**
JAM	**Amami Oshima**	**1.71**	**274**	P	**Pn**	**15 45 38.0**	**+0.7**
JAM				*eS*	**Sn**	**15 45 59.2**	**+0.1**
JAMN	**Amaminishikomi**	**2.09**	**269**	P	**Pn**	**15 45 42.8**	**+0.3**
JNN	**Nakanoshima**	**2.12**	**317**	P	**Pn**	**15 45 43.1**	**+0.1**
JNN				S	**Sn**	**15 46 07.5**	**-1.7**
JYAK	**Yakushimahirau**	**2.13**	**335**	P	**Pn**	**15 45 43.4**	**+0.3**
JYAK				S	**Sn**	**15 46 07.2**	**-2.3**
JTAJ	**Takarajima**	**2.23**	**293**	P	**Pn**	**15 45 44.5**	**+0.1**
JTAJ				S	**Sn**	**15 46 08.7**	**-3.1**
JTK	**Tokunoshima**	**2.35**	**258**	P	**Pn**	**15 45 46.4**	**+0.3**
JTK				*eS*	**Sn**	**15 46 13.8**	**-1.1**
JTN	**Tanegashima 3**	**2.40**	**348**	P	**Pn**	**15 45 46.8**	**+0.1**
JTN				S	**Sn**	**15 46 14.0**	**-2.0**
JMZ	**Minamidaito 2**	**2.49**	**187**	P	**Pn**	**15 45 47.8**	**-0.2**
JMZ				S	**Sn**	**15 46 15.9**	**-2.3**
JOKE	**Okinoerabujima**	**2.80**	**251**	P	**Pn**	**15 45 51.9**	**-0.3**
JOKE				*eS*	**Sn**	**15 46 24.3**	**-1.6**
JOW	**Kunigami**	**3.25**	**244**	P	**Pn**	**15 45 57.8**	**-0.7**
JOW				*eS*	**Sn**	**15 46 34.7**	**-2.4**
JOW	**Kunigami**	**3.25**	**244**	*e*Pn	**Pn**	**15 45 57.9**	**-0.6**
JIH	**Iheya**	**3.42**	**249**	P	**Pn**	**15 46 00.4**	**-0.3**
JIH				S	**Sn**	**15 46 38.4**	**-2.7**
JTZ	**Takazaki**	**3.61**	**354**	P	**Pn**	**15 46 04.0**	**+0.6**
JTZ				S	**Sn**	**15 46 44.8**	**-1.1**
JSJ	**Shimokoshiki**	**3.72**	**335**	P	**Pn**	**15 46 04.8**	**-0.2**
JSJ				S	**Sn**	**15 46 44.8**	**-3.9**
JNU	**Nakatsue**	**4.84**	**353**	Pn	**Pn**	**15 46 20.9**	**+0.6**
	1.2nm,0.3s,baz=167,slow=18,SNR=8.7						
JNU				Sn	**Sn**	**15 47 13.7**	**-2.6**
	4.2nm,0.3s,baz=96,slow=18,SNR=6.4						
JNU	**Nakatsue**	**4.84**	**353**	*eP*	**Pn**	**15 46 19.1**	**-1.2**
JNU				Sn	**Sn**	**15 47 13.7**	**-2.6**
JHJ2	**Mitsune**	**8.58**	**54**	*eP*	Pn	15 47 14.9	+3.2
KSAR	**Wonju Array Be**	**9.62**	**342**	Pn	**Pn**	**15 47 26.5**	**+0.6**
KSRS	**Korea Array**	**9.62**	**342**	Pn	**Pn**	**15 47 26.5**	**+0.6**
	0.1nm,0.3s,baz=156,slow=14,SNR=2.7						
MAT	**Matsushiro**	**9.96**	**33**	P	**Pn**	**15 47 32.5**	**+1.9**
MAT				S	**Sn**	**15 49 19.2**	**-3.0**
MJAR	**Matsushiro Arr**	**9.96**	**33**	Pn	**Pn**	**15 47 29.4**	**-1.1**
	0.4nm,0.3s,baz=218,slow=16,SNR=3.9						
SONM	**Songino Array**	**27.59**	**322**	P	**P**	**15 50 57.0**	**+2.2**
	0.4nm,0.6s,baz=111,slow=7.9,SNR=2.3						
SONM	**Songino Array**	**27.59**	**322**	P	**P**	**15 50 57.0**	**+2.2**
CHTO	**Chiang Mai**	**31.26**	**260**	P	**P**	**15 51 26.5**	**-1.0**
	2.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**31.40**	**259**	P	**P**	**15 51 29.6**	**+0.8**
	0.5nm,0.6s,baz=56,slow=7.2,SNR=5.7						
MK31	**Makanchi Array**	**42.43**	**310**	*eP*	**P**	**15 53 04.2**	**+2.0**
MKAR	**Makanchi Array**	**42.43**	**310**	P	**P**	**15 53 02.9**	**+0.7**
	0.7nm,0.7s,baz=91,slow=11,SNR=9.6						
ZALV	**Zalesovo Beam**	**42.47**	**320**	P	**P**	**15 53 03.7**	**+1.4**
	1.3nm,0.6s,baz=91,slow=6.7,SNR=5.7						
KURK	**Kurchatov**	**45.41**	**315**	P	**P**	**15 53 27.0**	**+0.9**
KURBB	**Kurchatov Arra**	**45.45**	**314**	P	**P**	**15 53 27.0**	**+0.6**
	0.5nm,0.5s,baz=101,slow=8.6,SNR=7.2						
WRA	**Warramunga Arr**	**48.03**	**176**	P	**P**	**15 53 47.1**	**+0.2**
	2.6nm,0.8s,baz=355,slow=8.8,SNR=13						
BRVK	**Borovoye**	**50.81**	**317**	P	**P**	**15 54 09.0**	**+1.3**
	5.5nm,0.9s						
ASAR	**Alice Springs**	**51.72**	**177**	P	**P**	**15 54 15.2**	**+0.4**
	1.0nm,0.8s,baz=10,slow=13,SNR=18						
ASAR				PcP	**PcP**	**15 55 27.1**	**-1.1**
	0.3nm,0.8s,baz=344,slow=3.1,SNR=4.3						
ABKAR	**Akbulak array**	**57.41**	**312**	*eP*	**P**	**15 54 56.9**	**+0.9**
ILAR	**Eielson Array**	**61.21**	**29**	P	**P**	**15 55 21.1**	**-0.9**
	0.4nm,0.8s,baz=264,slow=5.7,SNR=6.4						
ARCES	**ARCESS Array B**	**69.16**	**339**	P	**P**	**15 56 14.0**	**+0.5**
	3.4nm,1.1s,baz=57,slow=9.8,SNR=4.2						
KBZ	**Khabaz**	**70.13**	**310**	P	**P**	**15 56 20.3**	**+0.4**
	1.7nm,0.7s,baz=122,slow=9.5,SNR=3.3						
FINES	**FINESS Array B**	**72.51**	**331**	P	**P**	**15 56 34.2**	**+0.3**
	1.8nm,0.5s,baz=88,slow=5.6,SNR=14						
YKA	**Yellowknife Ar**	**75.39**	**26**	P	**P**	**15 56 51.0**	**+0.1**
	0.2nm,0.5s,baz=302,slow=6.1,SNR=3.9						
AKASG	**Malin Array Be**	**75.86**	**320**	P	**P**	**15 56 53.7**	**-0.1**
	0.4nm,0.3s,baz=56,slow=6.2,SNR=6.4						
BRTR	**Keskin Array B**	**78.07**	**309**	P	**P**	**15 57 07.5**	**+0.9**
	0.8nm,0.8s,baz=57,slow=4.6,SNR=4.3						
NB2	**NORSAR Subarra**	**78.74**	**335**	P	**P**	**15 57 09.3**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=49,slow=5.9						
NOA	**NORSAR Array B**	**78.74**	**335**	P	**P**	**15 57 09.0**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=49,slow=5.3,SNR=3.3						
NVAR	**Mina Array Bea**	**86.94**	**48**	P	**P**	**15 57 53.4**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=289,slow=4.5,SNR=4.3						

WEL 14 16:13:22.5±0.3, 38°.48S×175°.79E, h174km±2km, ML3.5/16, 11C-1D, Error ellipse: s-maj=1.8km s-min=1.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWVZ	**Taurewa**	**0.66**	**205**	PN	Pn	16 13 47.4	-0.1
WTVZ	**West Tongariro**	**0.66**	**194**	PN	Pn	16 13 47.6	+0.1
WTVZ				SN	Sn	16 14 06.6	-0.3
HIZ	**Hauiti**	**0.74**	**267**	PN	Pn	16 13 47.8	0.0
TUVZ	**Tukino**	**0.80**	**188**	⇑PN	Pn	16 13 48.5	+0.2
TUVZ				SN	Sn	16 14 07.2	-1.2
FWVZ	**Far West T-bar**	**0.80**	**194**	PN	Pn	16 13 48.3	-0.1
FWVZ				SN	Sn	16 14 07.7	-0.9
WHVZ	**Whangaehu Hut**	**0.82**	**191**	⇓PN	Pn	16 13 48.8	+0.2
WNVZ	**Wahianoa**	**0.86**	**190**	⇑PN	Pn	16 13 48.8	0.0
BKZ	**Black Stump Fm**	**0.88**	**142**	⇑PN	Pn	16 13 48.9	+0.1
BKZ				SN	Sn	16 14 08.0	-1.1
BKZ				AML	AML	16 14 11.1	
PKVZ	**Pokaka**	**0.89**	**203**	⇑PN	Pn	16 13 48.7	-0.1
MOVZ	**Moawhango**	**0.93**	**182**	⇑PN	Pn	16 13 48.9	-0.2
MTVZ	**Mangateitei**	**0.94**	**195**	PN	Pn	16 13 49.3	+0.1
NMHZ	**Naumai**	**1.01**	**128**	PN	Pn	16 13 50.9	+1.2
BHHZ	**Black Hill Sta**	**1.03**	**168**	PN	Pn	16 13 49.7	-0.1
VRZ	**Vera Road**	**1.04**	**231**	PN	Pn	16 13 49.7	-0.1
URZ	**Urewera**	**1.06**	**79**	PN	Pn	16 13 49.7	-0.3
KWHZ	**Kaweka Forest**	**1.07**	**153**	PN	Pn	16 13 50.4	+0.2
MCHZ	**McNeill Hill**	**1.20**	**144**	PN	Pn	16 13 52.1	+1.0
ARHZ	**Aropaoanui**	**1.22**	**130**	PN	Pn	16 13 52.1	+0.8
KRHZ	**Kereru**	**1.25**	**159**	⇑PN	Pn	16 13 51.8	+0.2
MWZ	**Matawai**	**1.37**	**85**	PN	Pn	16 13 52.6	-0.1
WAZ	**Wanganui**	**1.42**	**206**	⇑PN	Pn	16 13 52.9	-0.3
PNHZ	**Pukenui**	**1.47**	**168**	PN	Pn	16 13 53.5	-0.2
NEZ	**North Egmont**	**1.54**	**239**	PN	Pn	16 13 54.3	-0.1
RIGZ	**Rimuhau**	**1.56**	**99**	*e*PN	Pn	16 13 54.8	+0.2
KAHZ	**Kahuranaki**	**1.56**	**148**	PN	Pn	16 13 55.1	+0.5
KNZ	**Kokohu**	**1.57**	**111**	PN	Pn	16 13 54.9	+0.4
TSZ	**Takapari Road**	**1.59**	**175**	⇑PN	Pn	16 13 54.5	-0.3
TSZ				AML	AML	16 13 54.6	
TSZ				AML	AML	16 13 54.6	
WPHZ	**Waipukurau**	**1.67**	**163**	⇑PN	Pn	16 13 55.4	-0.1
HAZ	**Te Kaha**	**1.73**	**66**	PN	Pn	16 13 55.6	-0.5
PXZ	**Pawanui**	**1.76**	**152**	⇑PN	Pn	16 13 56.4	-0.1
PXZ				AML	AML	16 14 22.6	
DVHZ	**Dannevirke**	**1.84**	**171**	PN	Pn	16 13 56.7	-0.8
PRHZ	**Porangahau**	**1.90**	**160**	PN	Pn	16 13 57.8	-0.3
POWZ	**Post Office Ro**	**1.91**	**181**	PN	Pn	16 13 57.2	-0.9
PUZ	**Puketiti**	**1.98**	**79**	AML	AML	16 14 29.3	
ANWZ	**Angora Road**	**2.05**	**165**	PN	Pn	16 13 59.2	-0.4
PRWZ	**Pori Road**	**2.08**	**176**	PN	Pn	16 13 59.2	-0.8
MRZ	**Mangatainoka R**	**2.19**	**184**	⇑PN	Pn	16 13 59.8	-1.4
MRZ				AML	AML	16 14 30.6	
BFZ	**Birch Farm**	**2.23**	**171**	PN	Pn	16 14 00.5	-1.1
OGWZ	**Otaki Gorge**	**2.39**	**191**	PN	Pn	16 14 02.1	-1.3
HOWZ	**Holdsworth Sta**	**2.43**	**185**	PN	Pn	16 14 02.2	-1.7
KIW	**Kapiti Island**	**2.48**	**196**	PN	Pn	16 14 02.7	-1.9
TMWZ	**Te Maipa**	**2.63**	**178**	PN	Pn	16 14 04.4	-2.0
CAW	**Cannon Point**

Ms3.5/1, Error ellipse: s-maj=5.4km s-min=3.3km az=69.0
ISC 14 16:17:48.5±1.0, 43°07'N±0'02×17°67'E±0'02, h7km±8km, n76, σ1§27/136, 37C-10D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STON	**Ston**	**0.20**	**173**	*i* Pg	**Pg**	**16 17 52.4**	**-0.2**
STON				Sg	**Sg**	**16 17 55.8**	**+0.5**
STON	**Ston**	**0.20**	**173**	*e*Pg	**Pg**	**16 17 52.3**	**-0.3**
STON				*e*Sg	**Sg**	**16 17 55.2**	**-0.1**
STON	**Ston**	**0.20**	**173**	*i* Pg	**Pg**	**16 17 52.4**	**-0.2**
STON				Sg	**Sg**	**16 17 55.8**	**+0.5**
BRY	**Bratogost**	**0.66**	**105**	⇑*i*Pg	**Pg**	**16 18 00.9**	**-0.4**
BRY				*e*Sg	**Sb**	**16 18 11.9**	**-0.1**
BRY	**Bratogost**	**0.66**	**105**	⇑*i*Pg	**Pg**	**16 18 00.9**	**-0.4**
BRY				*e*Sg	**Sb**	**16 18 11.9**	**-0.1**
HCY	**Herceg Novi**	**0.87**	**135**	⇑*i*Pg	**Pg**	**16 18 03.9**	**-1.4**
HCY				*e*Sg	**Sn**	**16 18 18.6**	**-1.6**
HCY	**Herceg Novi**	**0.87**	**135**	⇑*i*Pg	**Pg**	**16 18 03.9**	**-1.4**
HCY				*e*Sg	**Sn**	**16 18 18.6**	**-1.6**
UPM	**Unac-Piva**	**0.92**	**81**	⇑*i*Pg	**Pg**	**16 18 04.9**	**-1.3**
UPM				*e*Sg	**Sn**	**16 18 20.5**	**-1.0**
UPM	**Unac-Piva**	**0.92**	**81**	⇑*i*Pg	**Pg**	**16 18 04.9**	**-1.3**
UPM				*e*Sg	**Sn**	**16 18 20.5**	**-1.0**
NKME	**Niksic**	**0.99**	**107**	⇑*i*Pg	**Pg**	**16 18 06.9**	**-0.7**
NKME				*e*Sg	**Sn**	**16 18 23.3**	**+0.1**
NKME	**Niksic**	**0.99**	**107**	⇑*i*Pg	**Pg**	**16 18 06.9**	**-0.7**
NKME				*e*Sg	**Sn**	**16 18 23.3**	**+0.1**
NKY	**Niksic**	**1.01**	**104**	⇑*i*Pg	**Pg**	**16 18 06.6**	**-1.3**
NKY				*e*Sg	**Sn**	**16 18 23.8**	**+0.1**
NKY	**Niksic**	**1.01**	**104**	⇑*i*Pg	**Pg**	**16 18 06.6**	**-1.3**
NKY				*e*Sg	**Sn**	**16 18 23.8**	**+0.1**
BUM	**Brajici-Budva**	**1.19**	**130**	⇑*i*Pg	**Pb**	**16 18 09.9**	**-1.5**
BUM				*e*Sg	**Sn**	**16 18 28.9**	**+0.8**
BUM	**Brajici-Budva**	**1.19**	**130**	⇑*i*Pg	**Pb**	**16 18 09.9**	**-1.5**
BUM				*e*Sg	**Sn**	**16 18 28.9**	**+0.8**
PLE	**Pljevlja**	**1.29**	**78**	⇑*i*Pg	**Pn**	**16 18 12.6**	**-0.4**
PLE				*e*Sg	**Sg**	**16 18 32.3**	**+2.4**
PLE	**Pljevlja**	**1.29**	**78**	⇑*i*Pg	**Pn**	**16 18 12.6**	**-0.4**
PLE				*e*Sg	**Sg**	**16 18 32.3**	**+2.4**
PDG	**Podgorica**	**1.33**	**118**	*e*Pg	**Pn**	**16 18 12.5**	**-1.1**
PDG				*e*Sg	**Sg**	**16 18 32.0**	**+0.6**
PDG	**Podgorica**	**1.33**	**118**	⇑*i*Pg	**Pn**	**16 18 12.4**	**-1.1**
PDG				*e*Sg	**Sg**	**16 18 33.6**	**+2.1**
TTG	**Podgorica**	**1.33**	**118**	⇑*i*Pg	**Pn**	**16 18 12.4**	**-1.1**
TTG				*e*Sg	**Sg**	**16 18 33.6**	**+2.1**
DRME	**Dracevica, Mon**	**1.43**	**128**	⇑*i*Pg	**Pb**	**16 18 14.9**	**-0.6**
DRME				*e*Sg	**Sg**	**16 18 36.9**	**+2.5**
DRME	**Dracevica, Mon**	**1.43**	**128**	⇑*i*Pg	**Pb**	**16 18 14.9**	**-0.6**
DRME				*e*Sg	**Sg**	**16 18 36.9**	**+2.5**
BBLS	**Lazići**	**1.49**	**57**	*e*Pn	**Pn**	**16 18 16.0**	**+0.2**
BBLS				*e*Sg	**Sn**	**16 18 34.4**	**-1.2**
BBLS	**Lazići**	**1.49**	**57**	*e*Pn	**Pn**	**16 18 16.0**	**+0.2**
BBLS				*e*Sg	**Sn**	**16 18 34.4**	**-1.2**
ULC	**Ulcinj**	**1.61**	**133**	⇓*i*Pn	**Pb**	**16 18 17.6**	**-1.0**
ULC				*e*Sn	**Sg**	**16 18 41.6**	**+1.3**
ULC	**Ulcinj**	**1.61**	**133**	⇓*i*Pn	**Pb**	**16 18 17.6**	**-1.0**
ULC				*e*Sn	**Sg**	**16 18 41.6**	**+1.3**
BEY	**Berane**	**1.65**	**96**	⇑*i*Pn	**Pb**	**16 18 18.9**	**-0.3**
BEY				*e*Sn	**Sg**	**16 18 42.4**	**+0.9**
IVA	**Berane**	**1.65**	**96**	⇑*i*Pn	**Pb**	**16 18 18.9**	**-0.3**
IVA				*e*Sn	**Sg**	**16 18 42.4**	**+0.9**
SJES	**Sjenica**	**1.70**	**83**	*e*Pg	**Pb**	**16 18 20.5**	**+0.4**
SJES				*e*Sg	**Sb**	**16 18 42.2**	**+0.5**
BLY	**Banja Luka**	**1.71**	**348**	*e*Pn	**Pb**	**16 18 19.8**	**-0.5**
BLY				*e*Sg	**Sg**	**16 18 43.6**	**+0.1**
BLY	**Banja Luka**	**1.71**	**348**	*e*Pn	**Pb**	**16 18 19.8**	**-0.5**
BLY				*e*Sg	**Sg**	**16 18 43.6**	**+0.1**
PVY	**Plav**	**1.75**	**105**	⇑*i*Pn	**Pb**	**16 18 20.8**	**-0.3**
PVY				*e*Sn	**Sg**	**16 18 45.6**	**+0.7**
DIVS	**Divibare**	**1.98**	**58**	*e*Pn	**Pn**	**16 18 23.0**	**+0.5**
DIVS				*e*Sg	**Sb**	**16 18 50.6**	**+0.9**
DIVS	**Divibare**	**1.98**	**58**	⇓*i*P	**Pn**	**16 18 23.0**	**+0.5**
DIVS	**Divibare**	**1.98**	**58**	S	**Sn**	**16 18 48.0**	**+0.5**
DIVS	**Divibare**	**1.98**	**58**	⇓*i*P	**Pn**	**16 18 23.0**	**+0.5**
DIVS				*e*Sg	**Sb**	**16 18 50.6**	**+0.9**
TEKS	**Tekeris**	**2.00**	**42**	*e*Pn	**Pn**	**16 18 22.9**	**+0.2**
TEKS				*e*Sg	**Sb**	**16 18 51.0**	**+0.7**
TEKS	**Tekeris**	**2.00**	**42**	*e*Pn	**Pn**	**16 18 22.9**	**+0.2**
TEKS				*e*Sg	**Sb**	**16 18 51.0**	**+0.7**
UDBI	**Udbina**	**2.00**	**317**	*i* Pn	**Pb**	**16 18 25.3**	**-0.1**
UDBI				Sn	**Sb**	**16 18 51.5**	**+1.1**
UDBI	**Udbina**	**2.00**	**317**	*i* Pn	**Pb**	**16 18 25.2**	**-0.1**
UDBI				Sn	**Sb**	**16 18 51.5**	**+1.1**
GRUS	**Gruza**	**2.37**	**69**	*e*Pn	**Pn**	**16 18 28.4**	**+0.7**
GRUS				*e*Sn	**Sb**	**16 18 59.2**	**-1.6**
GRUS	**Gruza**	**2.37**	**69**	*e*Pn	**Pn**	**16 18 28.4**	**+0.7**
GRUS				*e*Sn	**Sb**	**16 18 59.2**	**-1.6**
NVLJ	**Novalja**	**2.51**	**307**	*e*Pn	**Pb**	**16 18 31.9**	**-2.1**
NVLJ				Sn	**Sb**	**16 19 04.2**	**-0.8**
NVLJ	**Novalja**	**2.51**	**307**	*e*Pn	**Pb**	**16 18 31.8**	**-2.1**
NVLJ				Sn	**Sb**	**16 19 04.2**	**-0.8**
SELS	**Selova**	**2.53**	**86**	*e*Pn	**Pn**	**16 18 30.8**	**+0.8**
SELS	**Selova**	**2.53**	**86**	*e*Pn	**Pn**	**16 18 30.8**	**+0.8**
FGSL	**Fruska Gora**	**2.59**	**36**	*e*Pn	**Pn**	**16 18 30.4**	**-0.5**
FGSL				*e*Sn	**Sn**	**16 19 02.5**	**-0.1**
FRGS	**Fruska Gora**	**2.59**	**36**	*e*Pn	**Pn**	**16 18 30.4**	**-0.5**
FRGS				*e*Sn	**Sn**	**16 19 02.5**	**-0.2**
BARS	**Barje**	**3.06**	**93**	*e*Pn	**Pn**	**16 18 38.5**	**+1.2**
BARS				*e*Sn	**Sn**	**16 19 15.9**	**+1.8**
BARS	**Barje**	**3.06**	**93**	*e*Pn	**Pn**	**16 18 38.5**	**+1.2**
BARS				*e*Sn	**Sn**	**16 19 15.9**	**+1.8**
PKSM	**Moragy**	**3.21**	**12**	⇓*i*P	**Pn**	**16 18 39.3**	**-0.1**
PKSM	**Moragy**	**3.21**	**12**	⇓*i*P	**Pn**	**16 18 39.3**	**-0.1**
ZAPS	**Zavoj**	**3.64**	**85**	*e*Pn	**Pn**	**16 18 47.4**	**+2.1**
ZAPS				*e*Sn	**Sn**	**16 19 29.5**	**+1.0**
SOKA	**Soboth**	**4.06**	**333**	Pn	**Pn**	**16 18 51.9**	**+0.8**
SOKA				Sn	**Sn**	**16 19 38.7**	**-0.2**
SOKA	**Soboth**	**4.06**	**333**	⇑*i*Pn	**Pn**	**16 18 51.9**	**+0.8**
SOKA				⇑*i*Sn	**Sn**	**16 19 38.7**	**-0.2**
OBKA	**Obir**	**4.09**	**328**	Pn	**Pn**	**16 18 52.1**	**+0.6**
OBKA				Sn	**Sn**	**16 19 41.7**	**+2.1**
OBKA	**Obir**	**4.09**	**328**	⇑*i*Pn	**Pn**	**16 18 52.1**	**+0.6**
OBKA				⇑*i*Sn	**Sn**	**16 19 41.7**	**+2.1**
VTS	**Vitosha**	**4.11**	**95**	⇓*i*P	Pb	16 18 57.7	-3.5
SIRR	**Siria**	**4.28**	**40**	⇑*i*P	**Pn**	**16 18 53.6**	**-0.4**
SIRR	**Siria**	**4.28**	**40**	⇑*i*P	**Pn**	**16 18 53.6**	**-0.4**
ARSA	**Arzberg**	**4.44**	**341**	Pn	**Pn**	**16 18 56.7**	**+0.4**
ARSA				Sn	**Sn**	**16 19 47.7**	**-0.6**
ARSA	**Arzberg**	**4.44**	**341**	⇓*i*Pn	**Pn**	**16 18 56.7**	**+0.4**
ARSA				⇑*i*Sn	**Sn**	**16 19 47.7**	**-0.6**
MYKA	**Terra Mystica**	**4.56**	**323**	Pn	**Pn**	**16 18 58.8**	**+0.8**
MYKA				Sn	**Sn**	**16 19 52.9**	**+1.6**
MYKA	**Terra Mystica**	**4.56**	**323**	⇑*i*Pn	**Pn**	**16 18 58.8**	**+0.8**
MYKA				⇑*i*Sn	**Sn**	**16 19 52.9**	**+1.6**
KBA	**Koelnbreinsper**	**5.04**	**324**	Pn	**Pn**	**16 19 05.5**	**+0.9**
KBA	**Koelnbreinsper**	**5.04**	**324**	⇓*i*Pn	**Pn**	**16 19 05.5**	**+0.9**
PSZ	**Piszkesteto**	**5.09**	**17**	⇑*i*P	**Pn**	**16 19 05.2**	**-0.1**
PSZ	**Piszkesteto**	**5.09**	**17**	⇑*i*P	**Pn**	**16 19 05.2**	**-0.1**
MOA	**Molln**	**5.34**	**335**	Pn	**Pn**	**16 19 09.2**	**+0.6**
MOA				Sn	**Sn**	**16 20 11.3**	**+0.9**
MOA	**Molln**	**5.34**	**335**	⇑*i*Pn	**Pn**	**16 19 09.2**	**+0.6**
MOA				⇑*i*Sn	**Sn**	**16 20 11.3**	**+0.9**
WTTA	**Wattenberg**	**5.98**	**317**	Pn	**Pn**	**16 19 18.7**	**+1.2**
WTTA				Sn	**Sn**	**16 20 27.8**	**+1.5**
WTTA	**Wattenberg**	**5.98**	**317**	⇓*i*Pn	**Pn**	**16 19 18.7**	**+1.2**
WTTA				⇑*i*Sn	**Sn**	**16 20 27.8**	**+1.5**
MOTA	**Moosalm**	**6.30**	**315**	Pn	**Pn**	**16 19 22.7**	**+0.7**
MOTA				Sn	**Sn**	**16 20 36.4**	**+2.2**
MOTA	**Moosalm**	**6.30**	**315**	⇑*i*Pn	**Pn**	**16 19 22.7**	**+0.7**
MOTA				⇑*i*Sn	**Sn**	**16 20 36.4**	**+2.2**
KHC	**Kasperske Hory**	**6.69**	**336**	*e*PN	Pn	16 19 31.3	+4.1
KHC				*e*SN	**Sn**	**16 20 38.7**	**-4.9**
PRU	**Pruhonice**	**7.24**	**344**	*e*SN	**Sn**	**16 20 51.2**	**-6.0**

*ISCJB **14** 16:31:11.2±0.4, 4°56S±0'05×152°02E±0'06, h153km, mb4.1/18, Error ellipse: s-maj=9.4km s-min=6.6km az=22.6*
*NEIC **14** 16:31:12.0±1.3, 4°53S×152°05E, h146km±13km, mb4.4/4, Error ellipse: s-maj=10.3km s-min=9.7km az=176.0*
*IDC **14** 16:31:12.2±2.9, 4°55S×152°02E, h148km±27km, mb3.8/14, mb1 3.9/16, mb1mx3.8/32, mbtmp4.2/16, Error ellipse: s-maj=19.1km s-min=14.2km az=83.0*
ISC 14 16:31:12.8±0.5, 4°61S±0'06×152°02E±0'07, h153km, n47, σ1§13/51, mb4.2/18, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.44**	**19**	P	**Pn**	**16 31 36.9**	**+2.6**
	baz=0.5,SNR=71						
MANU	**Manus Island**	**5.30**	**299**	P	**Pn**	**16 32 31.5**	**+1.2**
	baz=5.4,SNR=7.1						
PMG	**Port Moresby**	**6.78**	**225**	P	**Pn**	**16 32 51.1**	**+1.1**
	1.4nm,0.3s,baz=32,slow=9.2,SNR=8.5						
PMG				S	**Sn**	**16 34 05.6**	**-0.6**
	13nm,0.3s,baz=182,slow=20,SNR=15						
PMG	**Port Moresby**	**6.78**	**225**	P	**Pn**	**16 32 51.8**	**+1.8**
	baz=6.8,SNR=5.2						
PMG				P	**Pn**	**16 32 51.8**	**+1.8**
	baz=6.8,SNR=5.2						
PMG				P	**Pn**	**16 32 51.8**	**+1.8**
	baz=6.8,SNR=5.2						
PMG	**Port Moresby**	**6.78**	**225**	*e*Pn	**Pn**	**16 32 50.6**	**+0.6**
PMG				S	**Sn**	**16 34 05.6**	**-0.6**
HNR	**Honiara**	**9.21**	**122**	*e*P	**Pn**	**16 33 21.4**	**-1.0**
JAY	**Jayapura**	**11.48**	**280**	P	**P**	**16 34 00.2**	**+0.3**
	1.0nm,0.3s,baz=242,slow=6.3,SNR=5.0						
MTSU	**Mount Surprise**	**15.41**	**209**	P	**P**	**16 34 44.3**	**+0.8**
	baz=16,SNR=9.6						
CTA	**Charters Tower**	**16.38**	**200**	P	**P**	**16 34 55.1**	**+0.9**
	0.4nm,0.3s,baz=19,slow=16,SNR=5.7						
CTAO	**Charters Tower**	**16.38**	**200**	*e*P	**P**	**16 34 55.4**	**+1.2**
FAKI	**Fak Fak**	**19.80**	**274**	P	**P**	**16 35 31.4**	**-0.2**
KDU	**Kakadu**	**20.91**	**246**	P	**P**	**16 35 42.1**	**-1.3**
	baz=21,SNR=21						
SIJI	**Soron**	**21.06**	**280**	P	**P**	**16 35 45.1**	**0.0**
	12nm,0.6s,baz=150,slow=8.6,SNR=7.4						
SWI	**Sorong**	**21.06**	**280**	P	**P**	**16 35 46.2**	**+1.1**
	baz=21,SNR=3.3						
MTN	**Manton Dam**	**22.19**	**247**	P	**P**	**16 35 55.6**	**-1.3**
	baz=22,SNR=14						
DZM	**Mont Dzumac**	**22.29**	**142**	P	**P**	**16 35 59.0**	**+1.1**
	4.5nm,0.5s,baz=166,slow=1.7,SNR=16						
WRAB	**Tennant Creek**	**22.98**	**227**	*e*P	**P**	**16 36 03.9**	**-0.4**
	15nm,0.8s						
WRA	**Warramunga Arr**	**23.00**	**227**	P	**P**	**16 36 04.0**	**-0.5**
	6.5nm,0.3s,baz=52,slow=9.8,SNR=187						
QLP	**Quilpie**	**23.08**	**198**	P	**P**	**16 36 05.5**	**+0.4**
	baz=23,SNR=7.5						
KNRA	**Kununurra**	**25.36**	**243**	P	**P**	**16 36 25.5**	**-0.5**
	baz=25,SNR=24						
ASAR	**Alice Springs**	**25.77**	**221**	P	**P**	**16 36 29.0**	**-0.7**
	1.2nm,0.4s,baz=52,slow=8.9,SNR=28						
WRKA	**Warakurna**	**30.52**	**226**	P	**P**	**16 37 10.6**	**-1.4**
	baz=31,SNR=6.7						
MEEK	**Meekatharra**	**38.70**	**232**	P	**P**	**16 38 21.0**	**-1.1**
	baz=39,SNR=7.5						
GIRL	**Giralia**	**40.68**	**240**	P	**P**	**16 38 38.6**	**+0.1**
	baz=41,SNR=3.1						
MORW	**Morawa**	**41.86**	**230**	P	**P**	**16 38 46.7**	**-1.4**
	baz=42,SNR=11						
BLDU	**Ballidu**	**42.12**	**228**	P	**P**	**16 38 48.4**	**-1.8**
	baz=42,SNR=15						
MJAR	**Matsushiro Arr**	**42.93**	**344**	P	**P**	**16 38 53.9**	**-2.6**
	0.8nm,0.6s,baz=71,slow=1.8,SNR=3.5						
PMBI	**Palembang**	**47.17**	**270**	P	**P**	**16 39 31.8**	**+1.4**
	baz=47,SNR=4.5						
KSRS	**Korea Array**	**47.48**	**334**	P	**P**	**16 39 31.9**	**-0.5**
	2.3nm,0.9s,baz=149,slow=8.9,SNR=10						
KSAR	**Wonju Array Be**	**47.49**	**334**	P	**P**	**16 39 31.9**	**-0.6**
ENH	**Enshi**	**53.46**	**313**	*e*P	**P**	**16 40 17.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**57.09**	**295**	P	**P**	**16 40 44.7**	**+1.0**
	6.5nm,0.7s,baz=119,slow=5.4,SNR=65						
CHTO	**Chiang Mai**	**57.20**	**296**	*e*P	**P**	**16 40 44.8**	**+0.3**
	9.1nm,1.3s						
PETK	**Petropavlovsk-**	**57.70**	**4**	P	**P**	**16 40 46.9**	**-0.4**
	0.7nm,0.5s,baz=166,slow=8.3,SNR=3.5						
SONM	**Songino Array**	**65.75**	**328**	P	**P**	**16 41 41.9**	**+0.5**
	1.6nm,0.5s,baz=143,slow=6.0,SNR=11						
LSA	**Lhasa**	**67.49**	**305**	*e*P	**P**	**16 41 54.0**	**+0.8**
	4.2nm,0.8s						
MK31	**Makanchi Array**	**79.67**	**319**	*e*P	**P**	**16 43 03.6**	**+0.1**
MKAR	**Makanchi Array**	**79.67**	**319**	P	**P**	**16 43 03.5**	**0.0**
	1.5nm,0.5s,baz=97,slow=6.9,SNR=19						
ZALV	**Zalesovo Beam**	**80.56**	**326**	P	**P**	**16 43 06.9**	**-1.2**
	2.9nm,0.5s,baz=107,slow=5.8,SNR=12						
COLA	**College**	**81.97**	**22**	*e*P	**P**	**16 43 14.2**	**-1.0**
ILAR	**Eielson Array**	**82.28**	**22**	P	**P**	**16 43 15.0**	**-1.9**
	1.1nm,0.6s,baz=246,slow=5.4,SNR=13						
KURK	**Kurchatov**	**83.14**	**322**	*e*P	**P**	**16 43 21.4**	**-0.2**
	3.1nm,1.0s						
MAW	**Mawson**	**85.45**	**203**	P	**P**	**16 43 32.9**	**0.0**
	0.6nm,0.4s,baz=225,slow=1.4,SNR=4.8						
NVAR	**Mina Array Bea**	**92.58**	**52**	P	**P**	**16 44 08.5**	**+0.9**
	1.2nm,0.8s,baz=244,slow=5.9,SNR=6.1						
GERES	**GERESS Array B**	**123.48**	**328**	PKP	**PKPdf**	**16 49 51.6**	**-0.6**
	0.8nm,0.6s,baz=38,slow=2.4,SNR=6.6						
LPAZ	**La Paz**	**135.19**	**119**	PKP	**PKPdf**	**16 50 17.4**	**+1.4**
	1.0nm,0.6s,baz=274,slow=0.6,SNR=4.9						
TORD	**Torodi Ar. Bea**	**149.51**	**288**	PKPbc	**PKPbc**	**16 50 44.2**	**-0.9**
	3.8nm,0.4s,baz=96,slow=2.4,SNR=80						

*IDC **14** 16:57:00.7±2.0, 18°16S×178°25W, h542km±24km, mb3.1/8, mb1 3.4/10, mb1mx3.1/21, mbtmp4.0/10, Error ellipse: s-maj=63.4km s-min=13.6km az=151.0*
*ISCJB **14** 16:57:02.7±1.2, 18°2S±0'4×178°4W±0'3, h579km, mb3.5/8, Error ellipse: s-maj=64.5km s-min=14.8km az=149.4*
ISC 14 16:57:03.5±1.4, 18°2S±0'4×178°4W±0'3, h579km, n12, σ0§78/11, mb3.4/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.62**	**57**	P	P	16 58 53.3	-5.3
	2.1nm,0.3s,baz=171,slow=8.2,SNR=3.2						
DZM	**Mont Dzumac**	**14.79**	**252**	P	**P**	**17 00 10.7**	**+0.3**
	0.4nm,0.3s,baz=90,slow=20,SNR=7.1						
STKA	**Stephens Creek**	**38.54**	**241**	P	**P**	**17 03 36.4**	**-1.2**
	1.1nm,0.4s,baz=79,slow=11,SNR=7.7						
WRA	**Warramunga Arr**	**44.63**	**260**	P	**P**	**17 04 26.1**	**+0.4**
	0.8nm,0.5s,baz=96,slow=7.0,SNR=35						
ASAR	**Alice Springs**	**44.77**	**255**	P	**P**	**17 04 27.9**	**+1.1**
	6.6nm,0.5s,baz=88,slow=9.3,SNR=326						
NVAR	**Mina Array Bea**	**79.59**	**44**	P	**P**	**17 08 12.3**	**+0.7**
	0.6nm,0.6s,baz=226,slow=6.2,SNR=3.0						
SEY	**Seymchan**	**84.06**	**347**	P	**P**	**17 08 33.4**	**0.0**
	1.9nm,0.9s,baz=178,slow=5.0,SNR=8.9						
TXAR	**Lajitas Array**	**86.10**	**58**	P	**P**	**17 08 44.5**	**+0.3**
	0.3nm,0.8s,baz=248,slow=4.8,SNR=7.2						
ILAR	**Eielson Array**	**86.15**	**13**	P	**P**	**17 08 42.5**	**-1.0**
	0.3nm,0.5s,baz=221,slow=6.2,SNR=4.7						
PDAR	**Pinedale Array**	**87.52**	**43**	P	**P**	**17 08 50.6**	**-0.1**
	0.4nm,0.7s,baz=304,slow=0.3,SNR=4.8						
BRTR	**Keskin Array B**	**145.01**	**315**	PKPbc	**PKPbc**	**17 15 36.8**	**+0.1**
	0.6nm,0.6s,baz=107,slow=4.5,SNR=3.1						
GERES	**GERESS Array B**	**147.89**	**345**	PKPbc	**PKPbc**	**17 15 44.6**	**+0.4**
	0.4nm,0.4s,baz=20,slow=4.3,SNR=5.4						

*ISN **14** 17:03:01.8±1.9, 32°78N×46°18E, h0km±9km, ML3.5*
*ISCJB **14** 17:03:02.4±0.9, 32°77N±0'06×46°3E±0'1, h10km, Error ellipse: s-maj=13.2km s-min=6.4km az=26.2*
*CSEM **14** 17:03:02.7±0.2, 32°77N×46°25E, h10km, ML3.5, Error ellipse: s-maj=7.3km s-min=5.8km az=91.0*
*TEH **14** 17:03:03.9, 32°79N×46°20E, h22km, ML3.5*
ISC 14 17:03:02.5±1.6, 32°78N±0'06×46°19E±0'08, h10km, n14, σ0§37/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.40**	**326**	*e*Pg	x	17 03 10.0	
IBDR				*i* Sg	x	17 03 16.0	
IKFM	**Kafar-mosalman**	**1.57**	**61**	*e*Pn	**Pn**	**17 03 30.7**	**+0.2**
IKFM				*e*		17 03 52.9	
	comp=Z,99nm,0.3s						
IKFM				*e*Sg	**Sg**	**17 03 53.2**	**0.0**
IKFM	**Kafar-mosalman**	**1.57**	**61**	*e*Pn	**Pn**	**17 03 30.7**	**+0.2**
IKFM				*e*Sg	**Sg**	**17 03 53.2**	**0.0**
NSR	**Nassriya**	**1.77**	**181**	*e*Pn	x	17 03 33.0	
NSR				*e*Sn	x	17 03 56.0	
NSR	**Nassriya**	**1.77**	**181**	*e*Pn	**Pn**	**17 03 33.0**	**-0.1**
	SNR=3.0						
NSR				*e*Sn	**Sn**	**17 03 56.0**	**+0.4**
	SNR=3.0						
IKOM	**Komasi**	**1.77**	**38**	*e*Pn	**Pn**	**17 03 33.7**	**+0.2**
IKOM				*e*		17 03 57.7	
	comp=Z,6µm,0.2s						
IKOM	**Komasi**	**1.77**	**38**	*e*Pn	**Pn**	**17 03 33.7**	**+0.2**
IVIS	**Veis**	**1.83**	**17**	*e*Pn	**Pn**	**17 03 33.5**	**-0.6**
IVIS				*e*		17 04 00.9	
	comp=Z,4µm,0.4s						
IVIS	**Veis**	**1.83**	**17**	*e*Pn	**Pn**	**17 03 33.5**	**-0.6**
IDHR	**Dehrash**	**1.92**	**5**	*e*Pn	**Pn**	**17 03 35.6**	**+0.1**
IDHR				*e*		17 04 04.8	
	comp=Z,6µm,0.2s						
IDHR	**Dehrash**	**1.92**	**5**	*e*Pn	**Pn**	**17 03 35.6**	**+0.1**
IKRK	**Kirkuk**	**3.03**	**330**	*e*Pn	x	17 03 51.0	
IKRK				*e*SN	x	17 04 27.7	
IPIR	**Pirpir**	**3.96**	**90**	*e*Pn	**Pn**	**17 04 03.2**	**-0.4**
IPIR				*e*		17 04 52.1	
	comp=Z,361nm,0.3s						
IPIR	**Pirpir**	**3.96**	**90**	*e*Pn	**Pn**	**17 04 03.2**	**-0.4**

IDC 14 17:12:44.1±2.1, 20°43S×176°11W, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.7/20, mbtmp4.1/5, ML4.1/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/24, Error ellipse: s-maj=51.8km s-min=37.9km az=92.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**8.94**	**190**	LR	LR	17 17 27.7	
	comp=Z,432nm,19.4s,baz=288,slow=32						
URZ	**Urewera**	**18.72**	**197**	P	Pn	17 17 04.9	+0.4
	0.6nm,0.3s,baz=351,slow=19,SNR=9.9						
URZ				S	Sn	17 20 10.1	-24
	0.3nm,0.3s,baz=352,slow=16,SNR=3.0						
RPZ	**Rata Peaks**	**25.58**	**202**	P	P	17 18 14.5	-0.4
	5.8nm,0.6s,baz=356,slow=19,SNR=5.2						
STKA	**Stephens Creek**	**39.42**	**244**	P	P	17 20 15.5	-0.5
	0.8nm,0.5s,baz=76,slow=8.3,SNR=6.1						
ASAR	**Alice Springs**	**46.26**	**256**	P	P	17 21 12.1	+0.4
	1.4nm,0.8s,baz=108,slow=8.5,SNR=14						
ASAR				PcP	PcP	17 22 46.2	-1.1
	0.4nm,0.7s,baz=109,slow=4.0,SNR=4.6						
WRA	**Warramunga Arr**	**46.37**	**262**	P	P	17 21 12.5	0.0
	0.8nm,0.6s,baz=97,slow=8.0,SNR=13						
WRA				PcP	PcP	17 22 47.3	-0.4
	0.3nm,0.7s,baz=94,slow=3.1,SNR=3.7						
JNU	**Nakatsue**	**73.45**	**316**	LR	LR	17 51 36.9	
	comp=Z,23nm,21.8s,baz=9.0,slow=32						
BVAR	**Borovoye Array**	**120.16**	**320**	PKP	PKPdf	17 31 37.0	+0.1
	0.8nm,0.4s,baz=106,slow=1.1,SNR=7.2						

ROM 14 17:16:22.9±0.1, 42°26N×13°57E, h6km, Md2.0/4, Ml0.9/2, Error ellipse: s-maj=1.4km s-min=0.4km az=179.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAGN	**Fagnano**	**0.01**	**37**	Pg	Pg	17 16 24.1	+0.1
FAGN				Sg	Sg	17 16 24.9	+0.1
	387nm,0.4s						
T0106	**Roio Piano**	**0.15**	**290**	Pg	Pg	17 16 26.6	+0.5
T0106				Sg	Sg	17 16 29.1	+0.8
	82nm,1.3s						
AQU	**L'Aquila**

MRZ					AML	AML	17 38 36.4		
HOWZ	**Holdsworth Sta**	**0.33**	**141**	⇑PN	Pn	Pn	17 38 28.7	-0.3	
HOWZ					SN	Sn	17 38 36.4	-0.1	
KIW	**Kapiti Island**	**0.34**	**229**	⇓PN	Pn	Pn	17 38 28.3	-0.7	
KIW					SN	Sn	17 38 35.7	-0.9	
KIW					AML	AML	17 38 36.0		
POWZ	**Post Office Ro**	**0.47**	**58**	PN	Pn	Pn	17 38 29.8	-0.5	
CAW	**Cannon Point**	**0.48**	**196**	PN	Pn	Pn	17 38 30.0	-0.4	
CAW					AML	AML	17 38 39.4		
CAW					AML	AML	17 38 39.6		
TIWZ	**Tintock**	**0.50**	**106**	⇑PN	Pn	Pn	17 38 30.6	0.0	
TIWZ					AML	AML	17 38 39.9		
TIWZ					AML	AML	17 38 40.9		
MTW	**Mount Morrison**	**0.55**	**160**	⇑PN	Pn	Pn	17 38 30.9	-0.2	
MTW					AML	AML	17 38 40.7		
MTW					AML	AML	17 38 41.1		
PRWZ	**Pori Road**	**0.56**	**81**	PN	Pn	Pn	17 38 31.2	0.0	
TMWZ	**Te Maipa**	**0.67**	**134**	⇑PN	Pn	Pn	17 38 32.6	0.0	
WEL	**Wellington**	**0.74**	**209**	⇓PN	Pn	Pn	17 38 32.6	-0.6	
WEL					SN	Sn	17 38 43.4	-0.6	
WEL					AML	AML	17 38 44.2		
WEL					AML	AML	17 38 44.7		
PAWZ	**Paruwai Farm**	**0.75**	**170**	⇑PN	Pn	Pn	17 38 33.2	-0.3	
PAWZ					AML	AML	17 38 44.3		
PAWZ					AML	AML	17 38 44.6		
BFZ	**Birch Farm**	**0.76**	**93**	⇑PN	Pn	Pn	17 38 33.3	-0.3	
MSWZ	**Moikau Station**	**0.77**	**180**	PN	Pn	Pn	17 38 33.4	-0.3	
MSWZ					AML	AML	17 38 44.7		
MSWZ					AML	AML	17 38 44.8		
CPWZ	**Castlepoint**	**0.77**	**110**	PN	Pn	Pn	17 38 34.2	+0.5	
DVHZ	**Dannevirke**	**0.78**	**64**	⇓PN	Pn	Pn	17 38 33.3	-0.6	
TSZ	**Takapari Road**	**0.80**	**43**	PN	Pn	Pn	17 38 33.5	-0.6	
TSZ					SN	Sn	17 38 45.3	-0.4	
TSZ					AML	AML	17 38 46.7		
BHW	**Baring Head**	**0.82**	**200**	⇓PN	Pn	Pn	17 38 33.6	-0.6	
BHW					AML	AML	17 38 44.7		
BHW					AML	AML	17 38 44.8		
TRWZ	**Traveller**	**0.83**	**156**	PN	Pn	Pn	17 38 34.0	-0.4	
TRWZ					AML	AML	17 38 47.3		
TRWZ					AML	AML	17 38 52.0		
WAZ	**Wanganui**	**0.91**	**347**	⇑PN	Pn	Pn	17 38 35.5	0.0	
PLWZ	**Palliser**	**0.93**	**180**	PN	Pn	Pn	17 38 35.1	-0.6	
TCW	**Tory Channel**	**0.93**	**232**	⇓PN	Pn	Pn	17 38 34.7	-1.0	
TCW					AML	AML	17 38 47.7		
TCW					AML	AML	17 38 48.1		
ANWZ	**Angora Road**	**0.95**	**79**	PN	Pn	Pn	17 38 35.7	-0.3	
DUWZ	**D'Urville Isla**	**1.02**	**261**	⇓PN	Pn	Pn	17 38 35.4	-1.5	
PNHZ	**Pukenui**	**1.03**	**45**	⇓PN	Pn	Pn	17 38 36.3	-0.8	
WPHZ	**Waipukurau**	**1.08**	**58**	PN	Pn	Pn	17 38 37.1	-0.6	
PRHZ	**Porangahau**	**1.12**	**71**	PN	Pn	Pn	17 38 37.7	-0.5	
TUWZ	**Tuamarina**	**1.26**	**231**	⇓PN	Pn	Pn	17 38 38.8	-1.3	
TUWZ					AML	AML	17 38 56.7		
TUWZ					AML	AML	17 38 57.2		
MTVZ	**Mangateitei**	**1.27**	**8**	PN	Pn	Pn	17 38 40.0	-0.3	
MOVZ	**Moawhango**	**1.29**	**18**	PN	Pn	Pn	17 38 39.8	-0.8	
BHHZ	**Black Hill Sta**	**1.31**	**29**	PN	Pn	Pn	17 38 39.9	-0.9	
KRHZ	**Kereru**	**1.32**	**41**	⇓PN	Pn	Pn	17 38 39.8	-1.1	
WNVZ	**Wahianoa**	**1.34**	**12**	PN	Pn	Pn	17 38 41.0	-0.4	
LREZ	**Lake Rotokare**	**1.35**	**331**	⇓PN	Pn	Pn	17 38 41.3	+0.1	
CMWZ	**Cape Campbell**	**1.35**	**215**	PN	Pn	Pn	17 38 40.8	-0.5	
PKVZ	**Pokaka**	**1.35**	**3**	PN	Pn	Pn	17 38 41.3	-0.1	
TRVZ	**Turoa**	**1.36**	**10**	PN	Pn	Pn	17 38 41.6	-0.1	
PXZ	**Pawanui**	**1.38**	**64**	PN	Pn	Pn	17 38 40.8	-0.8	
PXZ					AML	AML	17 38 59.9		
PXZ					AML	AML	17 38 59.9		
PXZ					AML	AML	17 39 01.2		
PXZ					AML	AML	17 39 01.3		
WHVZ	**Whangaehu Hut**	**1.39**	**11**	PN	Pn	Pn	17 38 41.8	-0.3	
FWVZ	**Far West T-bar**	**1.41**	**10**	PN	Pn	Pn	17 38 42.1	-0.2	
TUVZ	**Tukino**	**1.41**	**13**	PN	Pn	Pn	17 38 42.1	-0.2	
WPVZ	**Whakapapa**	**1.46**	**9**	PN	Pn	Pn	17 38 42.7	-0.1	
COVZ	**Chateau Observ**	**1.46**	**9**	PN	Pn	Pn	17 38 42.7	-0.1	
BSWZ	**Blackbirch Sta**	**1.49**	**224**	PN	Pn	Pn	17 38 41.8	-1.3	
BSWZ					AML	AML	17 39 01.9		
NGZ	**Ngauruhoe**	**1.49**	**11**	PN	Pn	Pn	17 38 43.3	-0.1	
KAHZ	**Kahuranaki**	**1.51**	**56**	PN	Pn	Pn	17 38 42.5	-0.9	
OTVZ	**Oturere**	**1.51**	**12**	PN	Pn	Pn	17 38 43.3	-0.3	
KWHZ	**Kaweka Forest**	**1.52**	**37**	⇓PN	Pn	Pn	17 38 42.4	-1.2	
NNZ	**Nelson**	**1.53**	**247**	PN	Pn	Pn	17 38 42.2	-1.4	
PREZ	**Palmer Road**	**1.55**	**327**	PN	Pn	Pn	17 38 44.2	+0.3	
WTVZ	**West Tongariro**	**1.55**	**10**	PN	Pn	Pn	17 38 43.9	-0.2	
VRZ	**Vera Road**	**1.56**	**346**	⇓PN	Pn	Pn	17 38 43.7	-0.4	
KRVZ	**Karewarewa**	**1.57**	**11**	PN	Pn	Pn	17 38 44.2	-0.2	
TWVZ	**Taurewa**	**1.58**	**5**	PN	Pn	Pn	17 38 43.9	-0.6	
NMEZ	**Namu Road**	**1.62**	**319**	PN	Pn	Pn	17 38 44.9	+0.1	
NEZ	**North Egmont**	**1.63**	**327**	PN	Pn	Pn	17 38 45.2	+0.1	
MCHZ	**McNeill Hill**	**1.64**	**43**	PN	Pn	Pn	17 38 44.1	-1.0	
KHEZ	**Kahui Hut**	**1.65**	**325**	⇓PN	Pn	Pn	17 38 45.4	0.0	
DREZ	**Durham Road**	**1.66**	**331**	PN	Pn	Pn	17 38 45.7	+0.3	
KATZ	**Kakaramea**	**1.70**	**12**	PN	Pn	Pn	17 38 45.5	-0.7	
MHEZ	**Mangahewa**	**1.72**	**335**	PN	Pn	Pn	17 38 46.5	+0.3	
NWEZ	**Newall Road**	**1.73**	**322**	PN	Pn	Pn	17 38 46.3	0.0	
PKE	**Pukeiti**	**1.74**	**326**	PN	Pn	Pn	17 38 46.3	-0.3	
BKZ	**Black Stump Fm**	**1.76**	**33**	⇓PN	Pn	Pn	17 38 45.5	-1.4	
BKZ					AML	AML	17 39 14.6		
BKZ					AML	AML	17 39 14.6		
HATZ	**Hinemaiaia**	**1.87**	**21**	PN	Pn	Pn	17 38 46.9	-1.4	
ARHZ	**Aropaoanui**	**1.93**	**45**	PN	Pn	Pn	17 38 47.6	-1.4	
NMHZ	**Naumai**	**1.96**	**38**	PN	Pn	Pn	17 38 48.2	-1.3	
QRZ	**Quartz Range**	**2.07**	**264**	⇓PN	Pn	Pn	17 38 49.3	-1.7	
THZ	**Tophouse**	**2.09**	**237**	⇑PN	Pn	Pn	17 38 49.6	-1.8	
HIZ	**Hauiti**	**2.15**	**352**	⇑PN	Pn	Pn	17 38 51.7	-0.4	
KHZ	**Kahutara**	**2.18**	**215**	⇓PN	Pn	Pn	17 38 50.7	-1.8	
RAHZ	**Arahi**	**2.23**	**40**	PN	Pn	Pn	17 38 51.2	-2.0	
SNGZ	**Shannon Statio**	**2.46**	**42**	PN	Pn	Pn	17 38 53.9	-2.5	
KNZ	**Kokohu**	**2.47**	**50**	PN	Pn	Pn	17 38 53.9	-2.5	
RIGZ	**Rimuhau**	**2.74**	**46**	PN	Pn	Pn	17 38 57.6	-2.6	
URZ	**Urewera**	**2.78**	**32**	⇑PN	Pn	Pn	17 38 57.8	-2.9	
DSZ	**Denniston Nort**	**2.82**	**246**	PN	Pn	Pn	17 38 59.0	-2.3	
MWZ	**Matawai**	**2.90**	**38**	⇓PN	Pn	Pn	17 38 59.7	-2.7	
TOZ	**Tahuroa Road**	**2.92**	**4**	PN	Pn	Pn	17 39 01.6	-0.8	
TKGZ	**Te Karaka**	**2.98**	**43**	PN	Pn	Pn	17 39 00.6	-2.8	
LTZ	**Lake Taylor**	**3.09**	**225**	⇓PN	Pn	Pn	17 39 02.5	-2.5	
TWGZ	**Tauwhareparae**	**3.25**	**42**	PN	Pn	Pn	17 39 04.4	-2.8	
PUZ	**Puketiti**	**3.47**	**43**	AML	AML	AML	17 39 52.0		
PUZ					AML	AML	17 40 04.0		
HAZ	**Te Kaha**	**3.49**	**35**	PN	Pn	Pn	17 39 06.9	-3.5	
CRLZ	**Canterbury Las**	**3.52**	**213**	PN	Pn	Pn	17 39 07.5	-3.2	
MKAZ	**Moumakai**	**3.53**	**359**	PN	Pn	Pn	17 39 10.2	-0.7	
OXZ	**Oxford**	**3.59**	**221**	PN	Pn	Pn	17 39 08.1	-3.7	
MQZ	**McQueen's Vall**	**3.62**	**211**	PN	Pn	Pn	17 39 08.3	-3.7	
WVZ	**Waitaha Valley**	**4.15**	**233**	PN	Pn	Pn	17 39 16.4	-3.0	
FOZ	**Fox Glacier**	**5.06**	**233**	PN	Pn	Pn	17 39 27.0	-4.8	
ODZ	**Otahua Downs**	**5.55**	**216**	⇓PN	Pn	Pn	17 39 34.3	-4.2	
TUZ	**Tuapeka**	**6.70**	**216**	PN	Pn	Pn	17 39 50.6	-3.7	
CTZ	**Chatham Island**	**6.79**	**120**	PN	Pn	Pn	17 39 54.6	-0.9	

*VIE **14** 17:47:57.8±0.8,49.°67N×18.°62E,h0km,mb1.9/3,ML2.4/3, Error ellipse: s-maj=5.1km s-min=3.9km az=86.0, Suspected Mining induced.*

*IPEC **14** 17:47:57.8±0.2,50.°00N×18.°60E,h2km±2km,ML1.9/3, Error ellipse: s-maj=2.2km s-min=1.1km az=161.0*

*PRU **14** 17:47:59.6,50.°01N×18.°49E,h0km*

CSEM 14 17:47:58.6±0.3,50.°03N×18.°48E,h2km,ML2.7/7,2C, Error ellipse: s-maj=8.3km s-min=3.5km az=4.0,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.19**	**285**	*e*Pg	Pg	17 48 04.3	+2.0
RAC				*e*Sg	Sg	17 48 08.7	+3.9
OKC	**Ostrava-Krasne**	**0.29**	**228**	*e*PG	Pg	17 48 05.1	+0.9
OKC				*e*SG	Sg	17 48 08.8	+0.8
	comp=Z,42nm,0.6s						
OKC	**Ostrava-Krasne**	**0.29**	**228**	Pg	Pg	17 48 05.1	+0.9
OKC				Sg	Sg	17 48 08.8	+0.8
	42nm,0.6s						
MORC	**Moravsky Berou**	**0.66**	**247**	*e*Pg	Pg	17 48 11.3	0.0
MORC				*e*Sg	Sg	17 48 20.3	+0.4
	37nm,0.4s,baz=72						
OJC	**Ojcow**	**0.87**	**77**	*e*Pg	Pg	17 48 13.6	-1.7
OJC				*e*Sg	Sg	17 48 25.2	-1.4
OJC	**Ojcow**	**0.87**	**77**	*e*Pg	Pg	17 48 13.6	-1.7
OJC				*e*Sg	Sg	17 48 25.2	-1.4
LANS	**Liptovska Anna**	**1.09**	**144**	*e*Sg	Sg	17 48 34.1	+0.3
LANS	**Liptovska Anna**	**1.09**	**144**	*e*SG	Sg	17 48 34.1	+0.3
KRLC	**Kraliky**	**1.10**	**273**	*e*PG	Pg	17 48 19.3	-0.4
KRLC				*e*SG	Sb	17 48 35.8	+0.6
	comp=Z,2.8nm,0.3s						
KRLC	**Kraliky**	**1.10**	**273**	Pg	Pg	17 48 19.3	-0.4
KRLC				Sg	Sb	17 48 35.8	+0.6
	2.8nm,0.3s						
NIE	**Niedzica**	**1.33**	**117**	*e*Pg	Pg	17 48 22.9	-1.3
NIE				*e*Sg	Sg	17 48 41.1	-0.4
NIE	**Niedzica**	**1.33**	**117**	*e*Pg	Pg	17 48 22.9	-1.3
NIE				*e*Sg	Sg	17 48 41.1	-0.4
DPC	**Dobruska-Polom**	**1.42**	**284**	*e*PG	Pn	17 48 25.5	-0.1
DPC				*e*SG	Sn	17 48 46.2	+1.3
	comp=Z,12nm,0.4s						
DPC	**Dobruska-Polom**	**1.42**	**284**	Pg	Pn	17 48 25.5	-0.1
DPC				Sg	Sn	17 48 46.2	+1.3
	12nm,0.4s						
VRAC	**Vranov**	**1.43**	**240**	*e*Pn	Pn	17 48 25.1	-0.4
VRAC				*e*Sg	Sg	17 48 43.8	-0.7
	10nm,0.3s,baz=61						
KSP	**Ksiaz**	**1.62**	**301**	*e*Pn	Pb	17 48 29.2	0.0
KSP				*e*Pg	Pg	17 48 31.9	+2.3
KSP				*e*Sg	Sg	17 48 53.5	+2.9
UPC	**Upice**	**1.65**	**288**	*e*PG	Pg	17 48 30.6	+0.2
UPC				*e*SG	Sg	17 48 52.5	+0.7
UPC	**Upice**	**1.65**	**288**	Pg	Pg	17 48 30.6	+0.2
UPC				Sg	Sg	17 48 52.5	+0.7
KRUC	**Moravsky**	**1.67**	**235**	*e*Pn	Pn	17 48 28.6	-0.3
	baz=56						
KRUC				*e*Sg	Sb	17 48 51.5	-0.1
	8.0nm,0.3s,baz=56						
STHS	**Stebnicka Huta**	**1.90**	**108**	*e*Pn	Pb	17 48 33.6	-0.4
STHS				*e*Sn	Sb	17 48 58.3	+0.2
STHS	**Stebnicka Huta**	**1.90**	**108**	*e*PN	Pb	17 48 33.6	-0.4
STHS				*e*SN	Sb	17 48 58.3	+0.2
KECS	**Kecovo**	**2.03**	**139**	*e*Pn	Pb	17 48 36.0	-0.3
KECS				*e*Sn	Sn	17 48 59.2	-0.6
KECS	**Kecovo**	**2.03**	**139**	*e*PN	Pb	17 48 36.0	-0.3
KECS				*e*SN	Sn	17 48 59.2	-0.6
PRU	**Pruhonice**	**2.54**	**271**	*e*PG	Pb	17 48 44.6	-0.3
PRU				*e*SG	Sg	17 49 20.2	-0.1
PRU	**Pruhonice**	**2.54**	**271**	Sg	Sg	17 49 20.2	-0.1
KOLS	**Kolonicke sedl**	**2.71**	**113**	*e*Pn	Pn	17 48 43.6	+0.5
KOLS				*e*Sn	Sn	17 49 18.4	+1.9
KOLS	**Kolonicke sedl**	**2.71**	**113**	*e*PN	Pn	17 48 43.6	+0.5
KOLS				*e*SN	Sn	17 49 18.4	+1.9
BRG	**Berggiesshubel**	**3.02**	**288**	SG	Sg	17 49 38.1	+2.5
	3.7nm,0.8s						
KHC	**Kasperske Hory**	**3.32**	**256**	*e*PN	Pb	17 48 51.0	-0.6
KHC				*e*PG	Pb	17 49 00.0	+1.8
KHC				*e*SG	Sg	17 49 45.5	+0.2
	comp=Z,5.2nm,0.5s						
KHC	**Kasperske Hory**	**3.32**	**256**	Pn	Pn	17 48 51.0	-0.6
KHC	**Kasperske Hory**	**3.32**	**256**	Pg	Pb	17 49 00.0	+1.8
KHC				Sg	Sg	17 49 45.5	+0.2
	5.2nm,0.5s						
MOA	**Molln**	**3.54**	**233**	Pn	Pn	17 48 51.3	-3.2
MOA				Sg	Sg	17 49 50.4	-1.8
	4.3nm,0.5s						
MOA	**Molln**	**3.54**	**233**	⇑*i*Pn	Pn	17 48 51.3	-3.3
MOA				⇑*i*Sg	Sg	17 49 50.4	-1.8
	4.3nm,0.5s						

MAN 14 18:06:01,13.°37N×120.°51E,h33km,mb4.3,ML3.2,MS3.0, 1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.45**	**325**	*e*P	Pn	18 06 11.8	+0.6
PGP	**Puerto Galera**	**0.45**	**72**	⇑*e*P	Pn	18 06 12.2	+1.0
PGP				*i* S	Sn	18 06 24.2	+6.0
SJMP	**San Jose**	**1.08**	**147**	*e*P	Pb	18 06 21.1	0.0
SJMP				*e*S	Sn	18 06 33.5	-0.1
BUSP	**Coron**	**1.39**	**193**	*e*P	Pn	18 06 25.2	+1.2
ENPP	**El Nido**	**2.40**	**206**	*e*P	Pn	18 06 38.7	+0.8
CUYO	**Cuyo Island**	**2.55**	**169**	*e*P	Pn	18 06 40.0	-0.1

*JMA **14** 18:06:13.5±0.3,21.°64N×121.°57E,h0km,M3.6*

*TAP **14** 18:06:16.1,21.°44N×121.°46E,h54km,ML3.1,D*

ISC 14 18:06:13.0±2.3,21.°51N±0.°09×121.°55E±0.°04,h6km±11km, n36,σ1°28/67,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.53**	**0**	*e*P	**Pn**	**18 06 28.9**	**+1.8**
	baz=9.0						
LAY				*e*S	**Sn**	**18 06 38.3**	**+1.8**
	baz=9.0						
TSEB	**Hengchuen, Pin**	**0.72**	**303**	*e*P	**Pn**	**18 06 31.2**	**+1.5**
	baz=302						
TSEB				*e*S	**Sn**	**18 06 41.7**	**+0.6**
	baz=302						
TWK1	**Hengchun**	**0.82**	**302**	P	**Pn**	**18 06 31.6**	**+0.6**
	baz=303						
TWK1				*e*S	**Sn**	**18 06 43.5**	**0.0**
	baz=303						
HEN	**Hengchun**	**0.90**	**304**	*e*P	**Pn**	**18 06 32.5**	**+0.3**
	baz=310						
HEN				*e*S	**Sn**	**18 06 45.4**	**-0.2**
	baz=310						
TAW	**Tawu**	**1.04**	**325**	*e*S	**Sg**	**18 06 46.2**	**-0.4**
	baz=338						
EAST	**Anshuo**	**1.09**	**323**	*e*P	**Pb**	**18 06 34.3**	**0.0**
	baz=337						
EAST				*e*S	**Sn**	**18 06 50.8**	**+0.5**
	baz=337						
ECL	**Taimali**	**1.22**	**333**	*e*P	**Pb**	**18 06 35.8**	**-0.6**
	baz=338						
ECL				*e*S	**Sn**	**18 06 53.1**	**-0.3**
	baz=338						
SCZT	**Fangliau**	**1.22**	**315**	*e*P	**Pn**	**18 06 37.1**	**+0.5**
	baz=320						
SCZT				*e*S	**Sn**	**18 06 53.6**	**+0.2**
	baz=320						
TWG	**Pinlang**	**1.38**	**341**	*e*P	**Pb**	**18 06 39.0**	**-0.3**
	baz=337						
TWG				*e*S	**Sg**	**18 07 00.5**	**+3.0**
	baz=337						
SSD	**Sandimen**	**1.50**	**326**	P	**Pn**	**18 06 40.8**	**+0.3**
	baz=330						
SSD				*e*S	**Sn**	**18 06 57.9**	**-2.5**
	baz=330						
SGLT	**Jiouru**	**1.56**	**321**	*e*P	**Pb**	**18 06 42.5**	**+0.2**
	baz=334						
SGLT				*e*S	**Sg**	**18 07 03.7**	**+0.6**
	baz=334						
CHKT	**Chengkung**	**1.60**	**354**	*e*P	**Pb**	**18 06 43.1**	**+0.2**
	baz=2.0						
CHKT				*e*S	**Sb**	**18 07 02.9**	**-0.4**
	baz=2.0						
ELDTW	**Lidau**	**1.75**	**344**	*e*P	**Pn**	**18 06 43.6**	**-0.4**
	baz=354						
ELDTW				*e*S	**Sn**	**18 07 01.8**	**-4.8**
	baz=354						
STYT	**Tauyuan**	**1.81**	**336**	*e*P	**Pb**	**18 06 46.8**	**+0.3**
	baz=340						
STYT				*e*S	**Sb**	**18 07 09.7**	**+0.3**
	baz=340						
SGST	**Jiashian**	**1.81**	**330**	*e*P	**Pg**	**18 06 47.2**	**-0.4**
	baz=334						
SGST				*e*S	**Sb**	**18 07 09.4**	**0.0**
	baz=334						
TWF1	**Yuli**	**1.85**	**353**	*e*P	**Pb**	**18 06 46.3**	**-1.0**
	baz=346						
TWF1				*e*S	**Sb**	**18 07 10.8**	**0.0**
	baz=346						
CHN1	**Nanshi**	**1.92**	**331**	*e*P	**Pg**	**18 06 49.4**	**-0.4**
	baz=334						
CHN1				*e*S	**Sg**	**18 07 13.9**	**-0.8**
	baz=334						
WTP	**Ta-pu**	**1.94**	**334**	*e*P	**Pb**	**18 06 48.1**	**-0.6**
	baz=337						
WTP				*e*S	**Sg**	**18 07 15.0**	**-0.3**
	baz=337						
EHY	**Hungye**	**2.00**	**354**	*e*P	**Pb**	**18 06 49.4**	**-0.4**
	baz=347						
EHY				*e*S	**Sb**	**18 07 13.9**	**-1.1**
	baz=347						
CHN4	**Tsaushan**	**2.04**	**334**	*e*P	**Pb**	**18 06 50.9**	**+0.4**
	baz=337						
CHN4				*e*S	**Sb**	**18 07 16.4**	**+0.3**
	baz=337						
YUS	**Yu-Shan**	**2.05**	**344**	*e*P	**Pb**	**18 06 51.0**	**+0.1**
	baz=356						
YUS				*e*S	**Sb**	**18 07 16.2**	**-0.7**
	baz=356						
ALS	**Alishan**	**2.11**	**341**	*e*P	**Pb**	**18 06 50.5**	**-1.4**
	baz=330						
ALS				*e*S	**Sb**	**18 07 17.9**	**-0.6**
	baz=330						
CHN5	**Tsauling**	**2.23**	**339**	*e*P	**Pb**	**18 06 53.4**	**-0.4**
	baz=341						
CHN5				*e*S	**Sb**	**18 07 21.9**	**+0.1**
	baz=341						
ESL	**Shilin**	**2.30**	**357**	*e*P	**Pb**	**18 06 53.1**	**-1.8**
	baz=351						
ESL				*e*S	**Sn**	**18 07 21.1**	**+0.9**
	baz=351						
TYC	**Yuchr**	**2.47**	**345**	*e*P	**Pb**	**18 06 57.6**	**-0.2**
	baz=336						
TYC				*e*S	**Sb**	**18 07 26.1**	**-2.5**
	baz=336						
WHF	**Hehuan Shan**	**2.64**	**354**	*e*P	**Pb**	**18 06 59.2**	**-1.8**
	baz=4.0						
WHF				*e*S	**Sn**	**18 07 30.8**	**+1.7**
	baz=4.0						
NNS	**Nan Shan**	**2.93**	**357**	*e*P	**Pb**	**18 07 05.2**	**-0.4**
	baz=7.0						
NNS				*e*S	**Sn**	**18 07 37.4**	**+1.6**
	baz=7.0						
ENTT	**Nioudou**	**3.12**	**0**	*e*P	**Pn**	**18 07 04.5**	**+1.7**
	baz=2.0						
ENTT				*e*S	**Sn**	**18 07 41.6**	**+1.2**
	baz=2.0						
NSK	**Sanguang**	**3.16**	**357**	*e*P	**Pb**	18 07 06.3	-3.3
	baz=6.0						
NSK				*e*S	**Sn**	**18 07 43.2**	**+1.7**
	baz=6.0						
JYNG	**Yonagunijimaku**	**3.20**	**23**	P	**Pn**	**18 07 04.3**	**+0.4**
YOJ	**Yonaguni jima**	**3.24**	**24**	P	**Pn**	**18 07 05.7**	**+1.4**
IRIF	**Iriomote-Funau**	**3.46**	**35**	P	**Pn**	**18 07 08.5**	**+1.1**
JKRS	**Kuro-shima**	**3.54**	**39**	P	**Pn**	**18 07 10.1**	**+1.6**
JKRS				*e*S	**Sn**	**18 07 50.3**	**-0.5**
JIJ	**Ishigaki jima**	**3.72**	**40**	P	**Pn**	**18 07 12.0**	**+1.1**
JIJ				*e*S	**Sn**	**18 07 52.9**	**-2.2**
JISG	**Ishigakijimahi**	**3.98**	**39**	P	**Pn**	**18 07 15.6**	**+1.0**
JISG				*e*S	**Sn**	**18 07 59.6**	**-2.1**
JTJ	**Tarama**	**4.26**	**42**	P	**Pn**	**18 07 20.1**	**+1.6**
JTJ				*e*S	**Sn**	**18 08 08.3**	**-0.3**

IDC 14 18:53:25.9±4.6,22.°73S×178.°18W,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.7/23,mbtmp3.8/4,Error ellipse: s-maj=195.0km s-min=35.9km az=144.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.71**	**247**	P	P	19 00 34.7	-0.2
	2.7nm,1.0s,baz=78,slow=9.3,SNR=2.9						
ASAR	**Alice Springs**	**43.89**	**259**	P	P	19 01 34.4	-0.2
	0.6nm,1.0s,baz=95,slow=7.1,SNR=4.1						
WRA	**Warramunga Arr**	**44.17**	**264**	P	P	19 01 36.7	-0.1
	0.7nm,0.4s,baz=102,slow=8.4,SNR=28						
ILAR	**Eielson Array**	**90.51**	**13**	P	P	19 06 29.2	0.0
	0.3nm,0.7s,baz=212,slow=6.4,SNR=3.1						

MEX 14 18:54:45.5±0.3,14.°54N×93.°16W,h20km,MD3.9,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.16**	**357**	*i* P	Pn	18 55 03.3	-3.3
PCIG				*i* S	Sb	18 55 17.2	-4.2

IDC 14 19:32:43.9±7.3,2.°95N×128.°55E,h283km±75km,mb3.0/7, mb1 3.1/7,mb1mx2.9/33,mbtmp3.6/7,Error ellipse: s-maj=72.2km s-min=12.9km az=64.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.45**	**166**	P	P	19 37 28.3	-0.2
	0.7nm,0.3s,baz=344,slow=10.0,SNR=22						
ASAR	**Alice Springs**	**26.96**	**169**	P	P	19 38 00.1	+0.1
	0.6nm,0.4s,baz=345,slow=6.9,SNR=39						
ASAR				PcP	PcP	19 41 13.5	-0.5
	0.5nm,1.0s,baz=349,slow=1.9,SNR=4.0						
CMAR	**Chiang Mai Arr**	**32.83**	**300**	P	P	19 38 51.4	-0.2
	0.5nm,0.8s,baz=102,slow=5.9,SNR=4.3						
STKA	**Stephens Creek**	**36.79**	**161**	P	P	19 39 25.1	0.0
	1.2nm,0.6s,baz=330,slow=8.3,SNR=14						
SONM	**Songino Array**	**48

comp=N,1.1nm,0.9s
AKTO Aktyubinsk 16.54 329 P **P** **19 43 54.5 +3.4**
comp=N,0.2nm,0.3s,baz=139,slow=9.8,SNR=3.8
ZALV Zalesovo Beam 19.43 25 P **P** **19 44 23.0 +0.3**
comp=N,0.8nm,0.4s,baz=216,slow=9.5,SNR=5.0

IDC ***14*** *19:41:47.2±1.5, 37°.92S×72°.76W, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.7/21, mbtmp3.5/5, ML2.6/1, MS2.7/2, Ms1 2.8/2, ms1mx2.6/18, Error ellipse: s-maj=49.8km s-min=32.8km az=132.0*
GUC ***14*** *19:41:54.6±0.4, 37°.65S×73°.29W, h36km±2km, ML4.4*
ISC 14 19:41:54.3±1.1, 37°.68S±0°.07×73°.1W±0°.2, h33km, n10, σ1$28/12, mb3.7/4, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
U14B	**Concepcin**	**0.82**	**0**	**⇓*i*P**	**Pn**		**Pn**	**19 42 09.9**	**+0.3**
U14B				*i*S	**Sb**		**Sb**	**19 42 21.0**	**0.0**
U14B				AML	AML			19 42 26.1	
	comp=N,38μm,0.4s								
CCSP	**San Pedro de C**	**0.83**	**359**	*e*P	**Pn**		**Pn**	**19 42 09.5**	**-0.2**
CCSP				*i*S	**Sb**		**Sb**	**19 42 21.3**	**0.0**
PSCH	**Puerto Saavedr**	**1.14**	**192**	*i*P	**Pn**		**Pn**	**19 42 14.8**	**+0.8**
U65B	**HualaæØ**	**2.91**	**22**	*e*P	**Pn**		**Pn**	**19 42 40.1**	**+1.9**
U65B				*i*S	**Sn**		**Sn**	**19 43 14.7**	**+2.7**
U65B				AML	AML			19 43 27.8	
	comp=E,933nm,0.8s								
CFAA	**Coronel Fontan**	**7.26**	**35**	Pn	**Pn**		**Pn**	**19 43 36.8**	**-1.3**
	comp=E,0.1nm,0.3s,baz=212,slow=15,SNR=2.3								
CFAA				Sn	**Sn**		**Sn**	**19 44 59.5**	**0.0**
	baz=273,slow=17,SNR=2.3								
CFAA				LR	LR			19 46 11.9	
	comp=E,8.8nm,18.0s,baz=152,slow=36								
SIV	**San Ignacio**	**24.07**	**29**	P	**P**		**P**	**19 47 05.9**	**-0.8**
	comp=E,0.9nm,0.7s,baz=228,slow=11,SNR=4.0								
TXAR	**Lajitas Array**	**72.56**	**332**	P	**P**		**P**	**19 53 17.9**	**-0.3**
	comp=E,0.4nm,0.6s,baz=155,slow=8.1,SNR=5.2								
TORD	**Torodi Ar. Bea**	**86.25**	**70**	P	P			19 54 29.1	-3.8
	comp=E,0.6nm,1.0s,baz=232,slow=4.7,SNR=4.0								
NVAR	**Mina Array Bea**	**86.44**	**326**	P	**P**		**P**	**19 54 32.8**	**-0.7**
	comp=E,0.4nm,0.7s,baz=142,slow=7.5,SNR=3.8								
ESDC	**Sonseca Array**	**99.72**	**47**	LR	LR			20 36 33.7	
	comp=E,20nm,21.7s,baz=270,slow=33								

IDC ***14*** *19:44:07.4±1.5, 9°.18S×150°.24E, h0km, mb3.6/4, mb1 3.8/7, mb1mx3.6/25, mbtmp3.6/7, ML3.5/2, Error ellipse: s-maj=32.2km s-min=27.6km az=89.0*
ISC 14 19:44:08.5±2.2, 8°.38S±0°.2×150°.4E±0°.1, h35km, n8, σ1$50/8, mb3.6/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.25**	**259**	Pn	**Pn**		**Pn**	**19 44 56.6**	**-0.4**
	5.3nm,0.3s,baz=60,slow=12,SNR=17								
PMG				Sn	**Sn**			**19 45 36.0**	**+1.5**
	7.2nm,0.3s,baz=62,slow=17,SNR=3.1								
CTA	**Charters Tower**	**11.91**	**199**	Pn	**Pn**		**Pn**	**19 46 55.1**	**-0.9**
	0.2nm,0.3s,baz=39,slow=17,SNR=2.6								
WRA	**Warramunga Arr**	**19.07**	**233**	P	**P**		**P**	**19 48 27.3**	**-0.8**
	0.1nm,0.3s,baz=60,slow=11,SNR=9.2								
ASAR	**Alice Springs**	**21.62**	**225**	P	**P**		**P**	**19 48 55.7**	**-0.1**
	1.2nm,0.8s,baz=55,slow=9.6,SNR=16								
STKA	**Stephens Creek**	**24.37**	**198**	P	**P**		**P**	**19 49 22.9**	**-0.5**
	5.0nm,1.0s,baz=1.6,slow=13,SNR=6.1								
VNDA	**Vanda**	**68.96**	**177**	P	**P**		**P**	**19 55 11.9**	**+2.2**
	0.8nm,0.7s,baz=342,slow=7.2,SNR=5.4								
MKAR	**Makanchi Array**	**81.79**	**320**	P	P			19 56 30.2	+6.2
	0.2nm,0.7s,baz=122,slow=4.6,SNR=2.7								
TORD	**Torodi Ar. Bea**	**148.98**	**281**	PKPbc	**PKPab**		**20 03 56.6**		**-1.4**
	0.3nm,0.5s,baz=40,slow=2.7,SNR=7.0								

IDC 14 19:55:02.7±5.9, 8°.98S×156°.64E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/32, mbtmp3.6/3, Error ellipse: s-maj=104.0km s-min=80.7km az=5.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.15**	**241**	P	P		P	20 00 20.0	-0.8
	0.7nm,0.7s,baz=69,slow=9.6,SNR=5.1								
ASAR	**Alice Springs**	**26.19**	**233**	P	P		P	20 00 39.6	+0.2
	0.3nm,0.7s,baz=62,slow=10,SNR=3.7								
STKA	**Stephens Creek**	**26.73**	**209**	P	P		P	20 00 44.5	+0.5
	3.9nm,1.1s,baz=34,slow=15,SNR=4.5								

IDC ***14*** *20:08:26.4±0.9, 15°.29S×173°.40W, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.8/33, mbtmp3.8/9, ML4.2/1, MS3.1/3, Ms1 3.2/3, ms1mx2.9/21, Error ellipse: s-maj=48.9km s-min=17.2km az=141.0*
ISCJB ***14*** *20:08:29.9±0.7, 15°.3S±0°.2×173°.4W±0°.2, h35km, mb3.7/8, MS3.4/2, Error ellipse: s-maj=38.5km s-min=12.5km az=139.9*
ISC 14 20:08:31.3±0.9, 15°.2S±0°.3×173°.3W±0°.2, h35km, n11, σ1$98/11, mb3.7/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.93**	**48**	Pn	**Pn**		**Pn**	**20 09 01.7**	**0.0**
	85nm,0.3s,baz=108,slow=1.3,SNR=43								
AFI				Sn	**Sn**			**20 09 21.3**	**-3.6**
	427nm,0.3s,baz=36,slow=23,SNR=48								
AFI				LR	LR			20 09 43.3	
	comp=Z,237nm,20.7s,baz=200,slow=37								
URZ	**Urewera**	**24.49**	**199**	P	**P**		**P**	**20 13 45.6**	**-1.6**
	6.4nm,0.9s,baz=93,slow=4.4,SNR=2.0								
STKA	**Stephens Creek**	**44.25**	**240**	P	**P**		**P**	**20 16 37.2**	**-0.3**
	3.6nm,1.0s,baz=85,slow=11,SNR=2.8								
WRA	**Warramunga Arr**	**50.02**	**257**	P	**P**		**P**	**20 17 21.4**	**-1.4**
	0.3nm,0.4s,baz=90,slow=8.1,SNR=5.4								
ASAR	**Alice Springs**	**50.30**	**252**	P	**P**		**P**	**20 17 23.8**	**-1.1**
	0.5nm,0.5s,baz=89,slow=7.6,SNR=15								
NVAR	**Mina Array Bea**	**74.10**	**42**	P	**P**		**P**	**20 20 06.5**	**+2.2**
	0.2nm,0.5s,baz=233,slow=7.5,SNR=4.2								
KSRS	**Korea Array**	**76.12**	**315**	LR	LR			20 49 49.5	
	comp=Z,13nm,18.9s,baz=196,slow=33								
TXAR	**Lajitas Array**	**80.39**	**56**	P	**P**		**P**	**20 20 41.4**	**+1.8**
	0.5nm,1.0s,baz=226,slow=3.6,SNR=3.4								
PDAR	**Pinedale Array**	**82.03**	**42**	P	**P**		**P**	**20 20 50.3**	**+2.1**
	0.5nm,0.5s,baz=196,slow=1.6,SNR=4.0								
PDAR				LR	LR			20 49 57.7	
	comp=Z,22nm,18.5s,baz=236,slow=30								
ILAR	**Eielson Array**	**82.23**	**11**	P	**P**		**P**	**20 20 48.3**	**-0.2**
	0.4nm,0.8s,baz=198,slow=8.4,SNR=4.0								
BRTR	**Keskin Array B**	**146.09**	**321**	PKPbc	**PKPbc**		**20 28 09.1**		**+0.9**
	0.6nm,0.8s,baz=41,slow=2.3,SNR=3.8								

OTT ***14*** *20:31:43.1±0.8, 73°.11N×48°.90W, h18km, MN4.0/3, western Greenland 745km northeast from Clyde River, Nu*
ISC 14 20:31:38.8±0.8, 73°.07N±0°.06×49°.05W±0°.05, h10km, n18, σ2$86/25, 1C, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KULLO	**Kullorsuaq**	**2.75**	**307**	*i*P	**Pb**		**20 32 27.4**		**-0.5**
KULLO				*i*S	**Sn**		**20 32 57.6**		**+1.6**
KULLO	**Kullorsuaq**	**2.75**	**307**	PN	**Pb**		**20 32 27.4**		**-0.5**
KULLO				SN	**Sn**		**20 32 57.7**		**+1.8**
KULLO				Trac			20 33 00.4		
	comp=Z,112nm,0.1s								
SUMG	**Summit**	**3.18**	**94**	*i*P	**Pn**		**20 32 31.2**		**+2.0**
SUMG				*i*S	**Sn**		**20 33 04.1**		**-3.2**
ILULI	**Ilulissat**	**3.94**	**191**	*i*P	Pn		20 32 43.5		+4.3
ILULI				*i*S	**Sn**		**20 33 25.8**		**+0.5**
ILULI	**Ilulissat**	**3.94**	**191**	PN	Pn		20 32 43.5		+4.3
ILULI				SN	**Sn**		**20 33 27.2**		**+1.9**
ILULI				Trac			20 33 29.4		
	comp=Z,69nm,0.1s								
SFJD	**Kangerlussuaq**	**6.13**	**186**	*i*P	**Pn**		**20 33 12.0**		**+2.8**
SFJD				*i*S	**Sn**		**20 34 17.2**		**-2.1**
SFJD	**Kangerlussuaq**	**6.13**	**186**	PN	**Pn**		**20 33 12.1**		**+2.8**
SFJD				SN	**Sn**		**20 34 16.8**		**-2.5**
SFJD				Trac			20 34 19.8		
	comp=Z,40nm,0.1s								
TULEG	**Thule**	**6.23**	**313**	SN	**Sn**		**20 34 19.0**		**-2.7**
DAG	**Danmarks Havn**	**8.65**	**51**	*i*P	**Pn**		**20 33 44.4**		**+0.6**
DAG				*i*S	Sn		20 35 12.1		-9.1
SCO	**Scoresbysund**	**8.82**	**94**	⇑*i*P	**Pn**		**20 33 44.9**		**-1.3**
GIFN	**Gifford Fjord,**	**10.68**	**269**	PN	Pn		20 34 16.1		+4.5
GIFN				SN	**Sn**		**20 36 05.9**		**-5.1**
GIFN				Trac			20 36 25.8		
	comp=Z,5.6nm,0.5s								
EUNU	**Eureka**	**10.88**	**326**	PN	**Pn**		**20 34 15.7**		**+1.4**
EUNU				SN	Sn		20 36 08.9		-6.9
FRB	**Frobisher Bay**	**11.71**	**227**	SN	**Sn**		**20 36 33.7**		**-2.5**
LAIN	**Lailor River,**	**11.73**	**267**	PN	**Pn**		**20 34 28.9**		**+2.9**
LAIN				SN	**Sn**		**20 36 31.6**		**-5.1**
LAIN				Trac			20 37 08.5		
	comp=Z,4.7nm,0.5s								
RES	**Resolute Bay**	**12.59**	**299**	PN	Pn		20 34 41.6		+4.1
RES				SN	**Sn**		**20 36 53.9**		**-3.6**
RES				Trac			20 37 11.6		
	comp=Z,7.6nm,0.7s								
QILN	**Qililugaq Expl**	**14.13**	**262**	PN	**Pn**		**20 35 00.9**		**+2.3**
QILN				SN	Sn		20 37 26.1		-9.0
QILN				Trac			20 37 31.2		
	comp=Z,8.2nm,1.0s								
BULN	**Bullion Camp,**	**16.27**	**268**	PN	**P**		**20 35 29.5**		**-0.6**
BULN				SN	**Sn**		**20 38 21.8**		**-5.6**
BULN				Trac			20 38 35.8		
	comp=Z,1.0nm,0.3s								
NUNN	**Nunuq Camp, NU**	**16.51**	**263**	PN	**P**		**20 35 32.3**		**-0.5**
NUNN				SN	Sn		20 38 22.6		-11

IDC ***14*** *21:00:00.9±0.6, 15°.49S×173°.25W, h0km, mb4.3/19, mb1 4.4/19, mb1mx4.3/41, mbtmp4.3/19, MS3.7/17, Ms1 3.8/17, ms1mx3.6/36, Error ellipse: s-maj=22.7km s-min=14.5km az=145.0*
NEIC ***14*** *21:00:02.2±0.4, 15°.50S×173°.09W, h10km, mb4.6/10, Error ellipse: s-maj=18.0km s-min=10.9km az=154.0*
ISCJB ***14*** *21:00:03.5±0.3, 15°.67S±0°.08×173°.26W±0°.07, h29km, mb4.3/26, MS3.8/15, Error ellipse: s-maj=12.2km s-min=7.8km az=150.3*
ISC 14 21:00:04.9±0.4, 15°.6S±0°.1×173°.13W±0°.08, h29km, n94, σ0$95/68, mb4.5/26, MS3.8/15, 4C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.15**	**38**	Pn	Pn			21 00 32.2	-6.7
	140nm,0.3s,baz=96,slow=0.6,SNR=46								
AFI				Sn	Sn			21 00 51.9	-13
	912nm,0.3s,baz=84,slow=19,SNR=30								
AFI				LR	LR			21 01 23.8	
	comp=Z,709nm,21.7s,baz=230,slow=39								
NIUE	**Niue**	**4.59**	**139**	P	**Pn**		**21 01 12.4**		**-0.1**
	baz=4.6,SNR=27								
MSVF	**Nonsavu**	**8.71**	**255**	*e*Pn	Pn			21 02 17.1	+8.1
RAR	**Rarotonga**	**13.83**	**116**	Pn	**Pn**		**21 03 16.8**		**-2.3**
	2.2nm,0.3s,baz=315,slow=7.1,SNR=2.3								
RAR				LR	LR			21 07 34.8	
	comp=Z,276nm,18.1s,baz=294,slow=32								
DZM	**Mont Dzumac**	**20.36**	**249**	*e*LR	LR			21 09 48.3	
	5.0nm,0.4s								
DZM	**Mont Dzumac**	**20.36**	**249**	P	**P**		**21 04 39.2**		**-0.1**
	6.4nm,0.7s,baz=90,slow=20,SNR=8.7								
DZM				LR	LR			21 11 20.5	
	comp=Z,399nm,18.7s,baz=270,slow=34								
PAE	**Paea**	**22.65**	**98**	*e*T	T			21 28 02.5	
	5.0nm,0.4s								
PPT	**Papeete**	**22.65**	**98**	LR	LR			21 11 14.4	
	comp=Z,218nm,21.8s,baz=212,slow=30								
PPT2	**Papeete2**	**22.65**	**98**	*e*LR	LR			21 10 25.0	
	392nm,24.0s								
PPT2	**Papeete2**	**22.65**	**98**	*e*T	T			21 28 03.5	
	6.7nm,0.4s								
TIAR	**Tiarei**	**22.87**	**98**	*e*T	T			21 28 18.8	
	4.7nm,0.3s								
TVO	**Taravao**	**22.97**	**99**	*e*T	T			21 28 26.6	
	2.4nm,0.4s								
TBI	**Tubuai**	**23.57**	**113**	*e*LR	LR			21 10 52.4	
	433nm,26.8s								
TBI	**Tubuai**	**23.57**	**113**	*e*T	T			21 29 27.8	
	21nm,0.4s								
URZ	**Urewera**	**24.13**	**199**	LR	LR			21 14 00.2	
	comp=Z,202nm,20.1s,baz=37,slow=35								
PMOR	**Pomariorio Ree**	**24.34**	**92**	*e*T	T			21 30 02.1	
	5.8nm,0.4s								
RPZ	**Rata Peaks**	**31.07**	**203**	LR	LR			21 18 46.8	
	comp=Z,523nm,18.0s,baz=45,slow=36								
RKT	**Rikitea**	**36.67**	**108**	*e*T	T			21 45 43.3	
	8.3nm,0.4s								
CTA	**Charters Tower**	**38.85**	**257**	P	P			21 07 31.3	+3.5
	3.8nm,0.7s,baz=95,slow=11,SNR=4.1								
PMG	**Port Moresby**	**39.21**	**274**	LR	LR			21 22 47.4	
	comp=Z,92nm,18.2s,baz=190,slow=35								
H11S2	**WAKE ISLAND Hy**	**39.29**	**329**	T	T			21 49 07.3	
	baz=144								
H11S3	**WAKE ISLAND Hy**	**39.31**	**329**	T	T			21 49 06.7	
	baz=144,slow=74								
H11S1	**WAKE ISLAND Hy**	**39.31**	**329**	T	T			21 49 08.6	
	baz=144,slow=74								
H11N3	**WAKE ISLAND Hy**	**40.24**	**330**	T	T			21 50 11.2	
	baz=149,slow=76,SNR=34								
H11N1	**WAKE ISLAND Hy**	**40.24**	**330**	T	T			21 50 10.6	
	baz=149,slow=76,SNR=40								
H11N2	**WAKE ISLAND Hy**	**40.26**	**330**	T	T			21 50 11.2	
	baz=149,slow=76,SNR=36								
CMSA	**Cobar Meteorol**	**40.66**	**240**	P	**P**		**21 07 42.0**		**-0.8**
	baz=41,SNR=11								
MTSU	**Mount Surprise**	**40.73**	**260**	P	**P**		**21 07 42.5**		**-1.1**
	baz=41,SNR=5.6								
QLP	**Quilpie**	**41.07**	**247**	P	**P**		**21 07 45.5**		**-0.8**
	baz=41,SNR=4.1								
COEN	**Coen**	**42.23**	**266**	P	**P**		**21 07 56.2**		**+0.4**
	baz=42,SNR=5.4								
STKA	**Stephens Creek**	**44.15**	**240**	P	**P**		**21 08 10.7**		**-0.5**
	8.5nm,0.9s,baz=94,slow=9.9,SNR=12								
STKA	**Stephens Creek**	**44.15**	**240**	P	**P**		**21 08 10.9**		**-0.3**
	baz=44,SNR=9.4								
STKA	**Stephens Creek**	**44.15**	**240**	*e*P	**P**		**21 08 11.0**		**-0.3**
	35nm,2.7s								
HTT	**Hallett**	**46.65**	**239**	P	**P**		**21 08 30.9**		**-0.1**
	baz=47,SNR=3.9								
JAY	**Jayapura**	**47.29**	**281**	P	**P**		**21 08 36.5**		**+0.3**
	6.3nm,0.8s,baz=135,slow=2.9,SNR=3.3								
BBOO	**Buckleboo**	**48.92**	**240**	P	**P**		**21 08 47.9**		**-0.7**
	baz=49,SNR=7.7								
WRA	**Warramunga Arr**	**50.05**	**257**	P	**P**		**21 08 55.7**		**-1.7**
	3.8nm,0.6s,baz=92,slow=6.8,SNR=80								
WRA				PcP	**PcP**		**21 10 17.1**		**0.0**
	2.0nm,0.6s,baz=91,slow=3.5,SNR=6.3								
ASAR	**Alice Springs**	**50.29**	**252**	P	**P**		**21 08 58.0**		**-1.3**
	7.9nm,0.6s,baz=88,slow=8.6,SNR=120								
ASAR				PcP	**PcP**		**21 10 18.0**		**+0.1**
	1.7nm,0.7s,baz=97,slow=5.8,SNR=3.0								
WRKA	**Warakurna**	**55.36**	**250**	P	**P**		**21 09 35.5**		**-1.2**
	baz=56,SNR=34								
FORT	**Forrest**	**55.55**	**243**	P	**P**		**21 09 36.9**		**-1.0**
	baz=56,SNR=8.4								
JCJ	**Chichijima**	**60.70**	**314**	LR	LR			21 31 11.8	
	comp=Z,71nm,21.7s,baz=114,slow=31								
VNDA	**Vanda**	**63.17**	**186**	P	**P**		**21 10 32.0**		**+2.2**
	1.2nm,0.7s,baz=354,slow=4.7,SNR=6.0								
VNDA				LR	LR			21 37 08.0	
	comp=Z,20nm,18.0s,baz=326,slow=35								
MEEK	**Meekatharra**	**63.97**	**248**	P	**P**		**21 10 35.3**		**-0.7**
	baz=64,SNR=3.9								
KLBR	**Kellerberrin**	**64.36**	**242**	P	**P**		**21 10 38.2**		**-0.2**
	baz=64,SNR=5.9								
MJAR	**Matsushiro Arr**	**69.28**	**320**	P	**P**		**21 11 09.0**		**-0.6**
	0.9nm,0.8s,baz=150,slow=6.2,SNR=3.5								
MJAR				LR	LR			21 35 54.0	
	comp=Z,58nm,21.6s,baz=110,slow=31								
ASAJ	**Asahikawa**	**71.87**	**328**	P	**P**		**21 11 25.7**		**+0.5**
	7.1nm,0.8s,baz=184,slow=3.1								
ASAJ	**Asahikawa**	**71.87**	**328**	*e*P	**P**		**21 11 26.2**		**+1.0**
	4.2nm,0.9s								
PETK	**Petropavlovsk-**	**72.93**	**342**	P	**P**		**21 11 30.8**		**-0.5**
	4.9nm,0.7s,baz=132,slow=8.1,SNR=6.9								
YBH	**Yreka Blue Hor**	**73.62**	**37**	P	**P**		**21 11 36.5**		**+0.8**
	1.1nm,0.7s,baz=180,slow=7.1,SNR=4.7								
NVAR	**Mina Array Bea**	**74.32**	**42**	P	**P**		**21 11 40.9**		**+0.8**
	1.0nm,0.7s,baz=233,slow=9.7,SNR=5.9								
R11A	**Troy Canyon, C**	**76.05**	**43**	*e*P	**P**		**21 11 47.0**		**-3.0**
	4.3nm,1.2s								
KSRS	**Korea Array**	**76.50**	**315**	P	**P**		**21 11 53.2**		**+0.9**
	0.5nm,0.5s,baz=122,slow=5.9,SNR=4.6								
KSAR	**Wonju Array Be**	**76.53**	**315**	P	**P**		**21 11 53.2**		**+0.7**
USRK	**Ussuriysk Ar.**	**77.72**	**323**	P	**P**		**21 11 59.0**		**-0.1**
	1.5nm,0.8s,baz=157,slow=4.1,SNR=7.9								
USRK				LR	LR			21 40 28.4	
	comp=Z,90nm,21.5s,baz=144,slow=31								
G08A	**Pilot Rock**	**77.97**	**36**	*e*P	**P**		**21 12 01.3**		**+0.8**
TXAR	**Lajitas Array**	**80.52**	**56**	P	**P**		**21 12 15.6**		**+0.7**
	1.4nm,0.9s,baz=224,slow=5.2,SNR=10								
ANMO	**Albuquerque**	**80.75**	**50**	P	**P**		**21 12 16.9**		**+0.9**
	1.7nm,0.8s,baz=259,slow=5.8,SNR=5.6								
ANMO	**Albuquerque**	**80.75**	**50**	*e*P	**P**		**21 12 17.1**		**+1.0**
	2.1nm,0.7s								
MCMT	**McKenzie Canyo**	**81.27**	**39**	*e*P	**P**		**21 12 19.7**		**+1.1**
FXWY	**Fox Creek**	**81.77**	**40**	*e*P	**P**		**21 12 22.2**		**+0.9**
	4.9nm,1.1s								
IMW	**Indian Meadow**	**81.95**	**40**	*e*P	**P**		**21 12 23.4**		**+1.1**
	6.5nm,0.5s								
PDAR	**Pinedale Array**	**82.26**	**42**	LR	LR			21 44 37.3	
	comp=Z,49nm,18.9s,baz=236,slow=32								
CCB	**Clear Creek Bu**	**82.34**	**11**	*e*P	**P**		**21 12 23.0**		**-0.5**
	4.2nm,0.8s								
BOZ	**Bozeman (W)**	**82.43**	**38**	*e*P	**P**		**21 12 25.5**		**+0.8**
	5.6nm,1.1s								
ILAR	**Eielson Array**	**82.62**	**11**	P	**P**		**21 12 23.6**		**-1.4**
	0.7nm,0.6s,baz=235,slow=6.5,SNR=10								
ILAR				LR	LR			21 40 36.1	
	comp=Z,40nm,21.1s,baz=220,slow=30								
SDCO	**Great Sand Dun**	**82.67**	**48**	*e*P	**P**		**21 12 27.2**		**+0.9**
	5.4nm,1.3s								
CMIG	**Matias Romero**	**83.71**	**70**	P	**P**		**21 12 32.8**		**+1.2**
	2.1nm,0.7s,baz=243,slow=4.5,SNR=3.9								
ABTX	**Abilene, Hawle**	**84.98**	**54**	*e*P	**P**		**21 12 38.0**		**+0.1**
	13nm,0.9s								
MAW	**Mawson**	**87.66**	**199**	P	**P**		**21 12 52.6**		**+2.3**
	2.5nm,0.8s,baz=127,slow=7.9,SNR=6.1								
CMAR	**Chiang Mai Arr**	**92.94**	**288**	P	**P**		**21 13 16.4**		**+0.5**
	0.7nm,0.9s,baz=77,slow=2.6,SNR=4.5								
CMAR				LR	LR			21 55 52.9	
	comp=Z,38nm,18.2s,baz=158,slow=36								
VNA1	**Neumayer--Stat**	**93.30**	**175**	P	**P**		**21 13 16.7**		**+0.1**
SONM	**Songino Array**	**95.19**	**318**	LR	LR			21 56 14.2	
	comp=Z,37nm,18.3s,baz=70,slow=36								
TLY	**Talaya**	**97.98**	**321**	LR	LR			21 54 50.3	
	comp=Z,41nm,19.4s,baz=180,slow=34								
TKL	**Tuckaleechee C**	**98.43**	**55**	LR	LR			21 53 24.0	
	comp=Z,33nm,18.7s,slow=32								
MKAR	**Makanchi Array**	**111.17**	**315**	PKiKP	**PKiKP**		**21 18 35.3**		**-0.7**
	0.3nm,0.6s,baz=29,slow=3.3,SNR=3.0								
KURK	**Kurchatov**	**113.48**	**319**	PKiKP	**PKiKP**		**21 18 39.8**		**-0.3**
KURBB	**Kurchatov Arra**	**113.55**	**319**	PKiKP	**PKiKP**		**21 18 39.8**		**-0.5**
	0.2nm,0.6s,baz=40,slow=1.5,SNR=3.3								
ARCES	**ARCESS Array B**	**124.87**	**352**	PKP	**PKPdf**		**21 18 59.7**		**-1.8**
	1.9nm,0.9s,baz=11,slow=0.9,SNR=5.1								
FINES	**FINESS Array B**	**132.22**	**348**	PKP	**PKPdf**		**21 19 15.4**		**-0.2**
	1.6nm,0.9s,baz=38,slow=7.2,SNR=3.9								
AKASG	**Malin Array Be**	**140.65**	**338**	PKP	**PKPdf**		**21 19 31.4**		**-0.3**
	0.1nm,0.3s,baz=313,slow=0.5,SNR=4.5								
PRA	**Prague**	**145.10**	**351**	*e*PKP	**PKPab**		**21 19 39.0**		**-0.1**
KMBO	**Kilima Mbogo**	**145.67**	**244**	PKPbc	**PKPab**		**21 19 43.4**		**+0.8**
	3.7nm,0.7s,baz=19,slow=1.6,SNR=7.2								
KHC	**Kasperske Hory**	**146.14**	**352**	*e*PKP	**PKPbc**		**21 19 42.4**		**0.0**
GERES	**GERESS Array B**	**146.41**	**352**	PKPbc	**PKPbc**		**21 19 43.1**		**-0.1**
	0.8nm,0.6s,baz=0.0,slow=1.7,SNR=10.0								
BRTR	**Keskin Array B**	**146.50**	**321**	PKPbc	**PKPbc**		**21 19 44.0**		**+0.1**
	4.8nm,0.8s,baz=124,slow=1.5,SNR=22								
CONA	**Conrad Observa**	**146.95**	**349**	⇓*i*PKPab	**PKPbc**		**21 19 44.6**		**-0.2**
	6.6nm,1.6s								
ARSA	**Arzberg**	**147.66**	**349**	⇓*i*PKPdf	**PKPdf**		**21 19 44.1**		**+0.1**
	2.7nm,1.1s								
SOKA	**Soboth**	**148.30**	**349**	⇓*i*PKPbc	**PKPdf**		**21 19 45.9**		**+0.7**
	3.7nm,1.2s								
FETA	**Feichten**	**148.54**	**355**	⇑*i*sPKPdf	**PKPbc**		**21 19 49.4**		**+0.2**
	4.4nm,1.1s								
ABTA	**Abfaltersbach**	**148.

BKZ				SN	Sn	21 05 12.2	+1.2	
BKZ				AML	AML	21 05 13.8		
BKZ	**Black Stump Fm**	**0.70**	**256**	Pn	**Pn**	**21 05 01.9**	**+0.7**	
URZ	**Urewera**	**0.77**	**345**	⇑PN	**Pn**	**21 05 01.6**	**-0.4**	
URZ				SN	**Sn**	**21 05 12.9**	**+0.5**	
URZ				AML	AML	21 05 13.2		
URZ	**Urewera**	**0.77**	**345**	Pn	**Pn**	**21 05 01.8**	**-0.2**	
	baz=193,slow=8.6							
URZ				Sn	**Sn**	**21 05 12.6**	**+0.2**	
	828nm,0.3s,baz=270,slow=20,SNR=152							
URZ	**Urewera**	**0.77**	**345**	Pn	**Pn**	**21 05 01.6**	**-0.4**	
KWHZ	**Kaweka Forest**	**0.85**	**240**	PN	**Pn**	**21 05 04.2**	**+1.0**	
KAHZ	**Kahuranaki**	**0.88**	**206**	PN	**Pn**	**21 05 04.9**	**+1.3**	
ALRZ	**Allen Road**	**0.91**	**298**	⇑PN	**Pn**	**21 05 04.2**	**+0.2**	
ALRZ	**Allen Road**	**0.91**	**298**	Pn	**Pn**	**21 05 04.2**	**+0.2**	
PRRZ	**Plateau Road**	**0.91**	**303**	⇑PN	**Pn**	**21 05 04.1**	**0.0**	
PRRZ	**Plateau Road**	**0.91**	**303**	Pn	**Pn**	**21 05 04.1**	**0.0**	
RRRZ	**Republican Roa**	**0.94**	**314**	⇑PN	**Pn**	**21 05 04.4**	**0.0**	
RRRZ	**Republican Roa**	**0.94**	**314**	Pn	**Pn**	**21 05 04.4**	**0.0**	
TWGZ	**Tauwhareparae**	**0.95**	**30**	⇓PN	**Pn**	**21 05 04.8**	**+0.2**	
HATZ	**Hinemaiaia**	**1.00**	**276**	PN	**Pn**	**21 05 05.8**	**+0.6**	
HATZ	**Hinemaiaia**	**1.00**	**276**	Pn	**Pn**	**21 05 05.8**	**+0.6**	
KRHZ	**Kereru**	**1.01**	**230**	*e*PN	**Pn**	**21 05 06.1**	**+0.7**	
EDRZ	**Edgecumbe**	**1.02**	**331**	PN	**Pn**	**21 05 05.5**	**0.0**	
EDRZ	**Edgecumbe**	**1.02**	**331**	Pn	**Pn**	**21 05 05.5**	**0.0**	
TARZ	**Mount Tarawera**	**1.02**	**318**	PN	**Pn**	**21 05 05.7**	**+0.2**	
TARZ	**Mount Tarawera**	**1.02**	**318**	Pn	**Pn**	**21 05 05.7**	**+0.2**	
HRRZ	**Handcock Road**	**1.04**	**305**	PN	**Pn**	**21 05 05.7**	**-0.1**	
HRRZ	**Handcock Road**	**1.04**	**305**	Pn	**Pn**	**21 05 06.5**	**+0.6**	
WPRZ	**Whakapapatarin**	**1.06**	**297**	⇑PN	**Pn**	**21 05 06.4**	**+0.4**	
PXZ	**Pawanui**	**1.10**	**201**	PN	**Pn**	**21 05 06.8**	**+0.2**	
PXZ				AML	AML	21 05 34.1		
PXZ				AML	AML	21 05 34.2		
PXZ				AML	AML	21 05 34.8		
PXZ				AML	AML	21 05 34.8		
PXZ	**Pawanui**	**1.10**	**201**	Pn	**Pn**	**21 05 07.6**	**+1.0**	
MKRZ	**Makatiti**	**1.11**	**320**	Pn	**Pn**	**21 05 07.7**	**+1.0**	
HSRZ	**Hossack Road**	**1.12**	**308**	PN	**Pn**	**21 05 06.8**	**0.0**	
BHHZ	**Black Hill Sta**	**1.13**	**244**	PN	**Pn**	**21 05 08.0**	**+1.0**	
WHTZ	**Whakaora**	**1.15**	**286**	PN	**Pn**	**21 05 07.9**	**+0.6**	
WHTZ	**Whakaora**	**1.15**	**286**	Pn	**Pn**	**21 05 07.9**	**+0.6**	
PUZ	**Puketiti**	**1.16**	**37**	⇓PN	**Pn**	**21 05 07.0**	**-0.4**	
PUZ				AML	AML	21 05 23.4		
PUZ				AML	AML	21 05 30.5		
PUZ	**Puketiti**	**1.16**	**37**	Pn	**Pn**	**21 05 07.0**	**-0.4**	
RITZ	**Rihia Road**	**1.18**	**271**	Pn	**Pn**	**21 05 09.3**	**+1.7**	
OMRZ	**Omania**	**1.19**	**318**	⇑PN	**Pn**	**21 05 07.5**	**-0.2**	
OMRZ	**Omania**	**1.19**	**318**	Pn	**Pn**	**21 05 07.5**	**-0.2**	
RATZ	**Rangitukua**	**1.25**	**276**	*e*PN	**Pn**	**21 05 09.3**	**+0.6**	
RATZ	**Rangitukua**	**1.25**	**276**	Pn	**Pn**	**21 05 09.3**	**+0.6**	
HAZ	**Te Kaha**	**1.28**	**15**	⇓PN	**Pn**	**21 05 09.1**	**0.0**	
WPHZ	**Waipukurau**	**1.28**	**214**	*e*PN	**Pn**	**21 05 09.7**	**+0.6**	
PNHZ	**Pukenui**	**1.29**	**224**	PN	**Pn**	**21 05 09.5**	**+0.4**	
KATZ	**Kakaramea**	**1.30**	**271**	PN	**Pn**	**21 05 10.4**	**+0.9**	
KATZ	**Kakaramea**	**1.30**	**271**	Pn	**Pn**	**21 05 10.4**	**+0.9**	
WATZ	**Wairara**	**1.31**	**282**	PN	**Pn**	**21 05 09.8**	**+0.4**	
KUTZ	**Kaahu Road**	**1.31**	**292**	PN	**Pn**	**21 05 09.7**	**+0.2**	
KARZ	**Kaharoa**	**1.32**	**318**	⇑PN	**Pn**	**21 05 09.1**	**-0.4**	
KARZ	**Kaharoa**	**1.32**	**318**	Pn	**Pn**	**21 05 09.1**	**-0.4**	
OPRZ	**Ohinepanea**	**1.32**	**331**	⇑PN	**Pn**	**21 05 08.9**	**-0.6**	
OPRZ	**Ohinepanea**	**1.32**	**331**	Pn	**Pn**	**21 05 08.9**	**-0.6**	
MOVZ	**Moawhango**	**1.32**	**252**	PN	**Pn**	**21 05 10.4**	**+0.8**	
OTVZ	**Oturere**	**1.34**	**262**	PN	**Pn**	**21 05 10.9**	**+0.9**	
KRVZ	**Karewarewa**	**1.35**	**265**	PN	**Pn**	**21 05 10.8**	**+0.7**	
NGZ	**Ngauruhoe**	**1.39**	**262**	PN	**Pn**	**21 05 11.5**	**+0.8**	
PRHZ	**Porangahau**	**1.39**	**204**	PN	**Pn**	**21 05 10.6**	**+0.1**	
PRHZ	**Porangahau**	**1.39**	**204**	Pn	**Pn**	**21 05 10.7**	**+0.2**	
WTVZ	**West Tongariro**	**1.39**	**265**	PN	**Pn**	**21 05 11.4**	**+0.8**	
WHVZ	**Whangaehu Hut**	**1.41**	**258**	PN	**Pn**	**21 05 11.8**	**+0.8**	
WNVZ	**Wahianoa**	**1.42**	**256**	PN	**Pn**	**21 05 11.9**	**+0.9**	
DRZ	**Dome Shelter**	**1.43**	**258**	Pn	**Pn**	**21 05 12.9**	**+1.6**	
FWVZ	**Far West T-bar**	**1.44**	**259**	Pn	**Pn**	**21 05 12.4**	**+1.0**	
WMGZ	**Waiomatatini S**	**1.44**	**35**	PN	**Pn**	**21 05 10.9**	**-0.3**	
TWVZ	**Taurewa**	**1.51**	**267**	*e*PN	**Pn**	**21 05 12.8**	**+0.6**	
TSZ	**Takapari Road**	**1.52**	**225**	*e*PN	**Pn**	**21 05 12.6**	**+0.2**	
TSZ				AML	AML	21 05 32.7		
TSZ				AML	AML	21 05 34.3		
TSZ	**Takapari Road**	**1.52**	**225**	Pn	**Pn**	**21 05 12.6**	**+0.2**	
MTVZ	**Mangateitei**	**1.52**	**255**	PN	**Pn**	**21 05 13.1**	**+0.7**	
MTVZ	**Mangateitei**	**1.52**	**255**	Pn	**Pn**	**21 05 13.2**	**+0.8**	
TLZ	**Tolley Road**	**1.58**	**294**	PN	**Pn**	**21 05 13.0**	**-0.2**	
DVHZ	**Dannevirke**	**1.60**	**215**	*e*PN	**Pn**	**21 05 13.2**	**-0.2**	
PKVZ	**Pokaka**	**1.60**	**259**	*e*PN	**Pn**	**21 05 14.4**	**+0.9**	
MXZ	**Matakaoa Point**	**1.61**	**27**	*e*PN	**Pn**	**21 05 13.2**	**-0.3**	
MXZ				AML	AML	21 05 51.8		
MXZ				AML	AML	21 05 52.2		
MXZ	**Matakaoa Point**	**1.61**	**27**	Pn	**Pn**	**21 05 13.8**	**+0.3**	
ANWZ	**Angora Road**	**1.61**	**205**	*e*PN	**Pn**	**21 05 13.4**	**-0.2**	
POWZ	**Post Office Ro**	**1.86**	**221**	*e*PN	**Pn**	**21 05 17.2**	**+0.2**	
BFZ	**Birch Farm**	**1.89**	**207**	PN	**Pn**	**21 05 17.0**	**-0.3**	
BFZ	**Birch Farm**	**1.89**	**207**	Pn	**Pn**	**21 05 17.1**	**-0.3**	
PRWZ	**Pori Road**	**1.89**	**214**	*e*PN	**Pn**	**21 05 17.3**	**-0.1**	
TOZ	**Tahuroa Road**	**1.94**	**310**	*e*PN	**Pn**	**21 05 17.5**	**-0.6**	
WAZ	**Wanganui**	**2.00**	**247**	*e*PN	**Pn**	**21 05 20.4**	**+1.5**	
HIZ	**Hauiti**	**2.02**	**283**	PN	**Pn**	**21 05 20.0**	**+0.8**	
VRZ	**Vera Road**	**2.04**	**266**	*e*PN	**Pn**	**21 05 20.5**	**+1.2**	
TIWZ	**Tintock**	**2.11**	**212**	PN	**Pn**	**21 05 20.7**	**+0.2**	
TIWZ				AML	AML	21 05 48.8		
TIWZ				AML	AML	21 06 21.0		
TIWZ	**Tintock**	**2.11**	**212**	Pn	**Pn**	**21 05 20.7**	**+0.2**	
MRZ	**Mangatainoka R**	**2.16**	**219**	PN	**Pn**	**21 05 20.3**	**-0.8**	
MRZ				SN	**Sn**	**21 05 46.5**	**-0.1**	
MRZ				AML	AML	21 06 24.7		
MRZ	**Mangatainoka R**	**2.16**	**219**	Pn	**Pn**	**21 05 20.3**	**-0.8**	
MRZ				Sn	**Sn**	**21 05 46.5**	**-0.1**	
HOWZ	**Holdsworth Sta**	**2.37**	**216**	PN	**Pn**	**21 05 22.8**	**-1.2**	
TMWZ	**Te Maipa**	**2.39**	**208**	PN	**Pn**	**21 05 23.4**	**-0.9**	
TMWZ	**Te Maipa**	**2.39**	**208**	Pn	**Pn**	**21 05 23.4**	**-0.9**	
OGWZ	**Otaki Gorge**	**2.48**	**222**	*e*PN	**Pn**	**21 05 24.5**	**-1.0**	
PREZ	**Palmer Road**	**2.52**	**261**	*e*PN	**Pn**	**21 05 27.5**	**+1.5**	
NEZ	**North Egmont**	**2.56**	**263**	*e*PN	**Pn**	**21 05 29.0**	**+2.3**	
MTW	**Mount Morrison**	**2.59**	**213**	PN	**Pn**	**21 05 25.5**	**-1.4**	
MTW				AML	AML	21 05 59.7		
MTW				AML	AML	21 06 23.9		
KHEZ	**Kahui Hut**	**2.62**	**263**	PN	**Pn**	**21 05 29.5**	**+2.0**	
PKE	**Pukeiti**	**2.64**	**265**	PN	**Pn**	**21 05 30.0**	**+2.3**	
KIW	**Kapiti Island**	**2.65**	**225**	PN	**Pn**	**21 05 26.9**	**-0.9**	
KIW				AML	AML	21 06 27.6		
TRWZ	**Traveller**	**2.72**	**208**	PN	**Pn**	**21 05 27.6**	**-1.2**	
TRWZ	**Traveller**	**2.72**	**208**	Pn	**Pn**	**21 05 27.6**	**-1.2**	
CAW	**Cannon Point**	**2.75**	**219**	*e*PN	**Pn**	**21 05 27.5**	**-1.7**	
CAW				AML	AML	21 06 35.6		
CAW				AML	AML	21 06 42.3		
PAWZ	**Paruwai Farm**	**2.81**	**211**	PN	**Pn**	**21 05 28.4**	**-1.5**	
PAWZ	**Paruwai Farm**	**2.81**	**211**	Pn	**Pn**	**21 05 28.4**	**-1.5**	
MSWZ	**Moikau Station**	**2.91**	**213**	PN	**Pn**	**21 05 29.5**	**-1.9**	
MSWZ				AML	AML	21 06 50.4		
MSWZ	**Moikau Station**	**2.91**	**213**	Pn	**Pn**	**21 05 29.5**	**-1.9**	
PLWZ	**Palliser**	**3.03**	**212**	*e*PN	**Pn**	**21 05 30.9**	**-2.3**	
DUWZ	**D'Urville Isla**	**3.21**	**235**	*e*PN	**Pn**	**21 05 34.7**	**-0.7**	
TCW	**Tory Channel**	**3.24**	**226**	*e*PN	**Pn**	**21 05 34.2**	**-1.7**	
TCW				AML	AML	21 06 13.9		
TCW				AML	AML	21 06 14.1		
TUWZ	**Tuamarina**	**3.57**	**226**	PN	**Pn**	**21 05 38.6**	**-1.9**	
TUWZ				AML	AML	21 06 21.6		
TUWZ				AML	AML	21 06 25.6		
TUWZ	**Tuamarina**	**3.57**	**226**	Pn	**Pn**	**21 05 38.6**	**-1.9**	
NNZ	**Nelson**	**3.78**	**233**	PN	**Pn**	**21 05 42.1**	**-1.2**	
NNZ	**Nelson**	**3.78**	**233**	Pn	**Pn**	**21 05 42.1**	**-1.2**	
BSWZ	**Blackbirch Sta**	**3.81**	**223**	Pn	**Pn**	**21 05 41.8**	**-1.9**	
QRZ	**Quartz Range**	**4.14**	**242**	*e*PN	**Pn**	**21 05 47.3**	**-1.1**	
THZ	**Tophouse**	**4.39**	**230**	PN	**Pn**	**21 05 50.2**	**-1.5**	
THZ	**Tophouse**	**4.39**	**230**	Pn	**Pn**	**21 05 50.2**	**-1.5**	
KHZ	**Kahutara**	**4.49**	**219**	PN	**Pn**	**21 05 51.0**	**-2.0**	
KHZ	**Kahutara**	**4.49**	**219**	Pn	**Pn**	**21 05 51.0**	**-2.0**	
DSZ	**Denniston Nort**	**5.06**	**235**	*e*PN	**Pn**	**21 05 59.0**	**-1.9**	
MQZ	**McQueen's Vall**	**5.89**	**216**	PN	Pn	21 06 08.9	-3.4	
OXZ	**Oxford**	**5.90**	**221**	*e*PN	**Pn**	**21 06 09.4**	**-3.1**	
CTZ	**Chatham Island**	**6.54**	**138**	⇑PN	**Pn**	**21 06 21.3**	**0.0**	
RPZ	**Rata Peaks**	**6.69**	**223**	PN	**Pn**	**21 06 20.8**	**-2.4**	
RPZ	**Rata Peaks**	**6.69**	**223**	Pn	**Pn**	**21 06 22.7**	**-0.6**	
	0.5nm,0.3s,baz=29,slow=13,SNR=6.7							
RPZ				Sn	Sn	21 07 30.5	-7.6	
	1.7nm,0.3s,baz=337,slow=11,SNR=13							
TUZ	**Tuapeka**	**9.00**	**217**	PN	**Pn**	**21 06 52.4**	**-2.4**	
ASAR	**Alice Springs**	**39.76**	**280**	P	**P**	**21 12 16.6**	**+0.4**	
	0.7nm,0.5s,baz=132,slow=8.7,SNR=12							
WRA	**Warramunga Arr**	**41.55**	**285**	P	**P**	**21 12 32.1**	**+1.1**	
	0.4nm,0.8s,baz=134,slow=7.2,SNR=4.8							
ARCES	**ARCESS Array B**	**145.93**	**343**	PKPbc	**PKPdf**	**21 24 20.0**	**-0.5**	
	2.7nm,0.9s,baz=29,slow=2.1,SNR=3.3							
FINES	**FINESS Array B**	**151.41**	**331**	PKPbc	**PKPbc**	**21 24 35.3**	**-0.3**	
	1.7nm,0.9s,baz=20,slow=4.6,SNR=4.7							

*ISCJB **14** 21:08:28.2±0.6, 32.2′1N±0.0′2×115.2′2W±0.0′4, h14km±4km, Error ellipse: s-maj=5.3km s-min=4.0km az=176.9*
*MEX **14** 21:08:28.8±0.7, 32.3′1N×114.9′9W, h15km±43km, MD3.6*
*ECX **14** 21:08:29.4±0.5, 32.2′0N×115.2′6W, h10km, MD3.0, ML3.2*
*NEIC **14** 21:08:29.4, 32.2′0N×115.2′6W, h10km, ML3.1(PAS), ML3.2(ECX), After ECX.*
NEIC Felt [II] at San Diego, California. Also felt at Carlsbad.

ISC 14 21:08:27.6±1.1, 32.2′0N±0.0′2×115.2′2W±0.0′3, h14km±9km, n22, σ0.50/36, 5C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
MBIG	**Mexicali**	**0.21**	**5**	*e*P		**Pb**	**21 08 33.5**	**+0.3**
MBIG				*i* S		**Sg**	**21 08 35.8**	**+0.4**
CPBX	**Cerro Prieto**	**0.23**	**342**	⇓*e*P		**Pb**	**21 08 33.5**	**-0.1**
CPBX				*e*S		**Sb**	**21 08 37.0**	**-0.5**
CPBX				IAML			21 08 41.1	
	comp=E,10μm,0.2s							
CPBX				⇑*e*			21 08 41.1	
EMSC	**East Mesa**	**0.57**	**20**	*e*P		**Pb**	**21 08 39.9**	**+0.4**
SGL	**Mount Signal**	**0.62**	**317**	⇓*i*P		**Pb**	**21 08 40.1**	**-0.1**
RDX	**Rancho Dawling**	**0.67**	**247**	⇓*e*P		**Pb**	**21 08 41.2**	**0.0**
RDX				*e*S		**Sg**	**21 08 50.0**	**+0.4**
RDX				⇓*e*			21 08 51.7	
RDX				IAML			21 08 51.7	
	comp=N,903nm,0.5s							
YMD	**Yuma Desert**	**0.67**	**58**	*e*P		**Pb**	**21 08 41.1**	**0.0**
ECBX	**El Chinero**	**0.74**	**169**	*e*P		**Pb**	**21 08 42.2**	**0.0**
ECBX				*e*S		**Sb**	**21 08 52.4**	**+0.3**
YUH	**Yuha Desert**	**0.75**	**307**	⇓*i*P		**Pg**	**21 08 42.0**	**0.0**
COK	**Cook Ranch**	**0.78**	**327**	⇑*i*P		**Pb**	**21 08 42.8**	**0.0**
RMX	**La Rumorosa**	**0.83**	**299**	*e*P		**Pg**	**21 08 43.5**	**-0.2**
RMX				*e*S		**Sg**	**21 08 54.4**	**-0.3**
RMX				IAML			21 08 55.8	
	comp=N,856nm,0.1s							
RMX				⇑*e*			21 08 55.8	
GLA	**Glamis**	**0.91**	**21**	*e*P		**Pb**	**21 08 45.0**	**-0.3**
GLA				*e*S		**Sg**	**21 08 56.1**	**-1.1**
ZAX	**El Zacaton**	**1.13**	**233**	*e*P		**Pb**	**21 08 48.6**	**-0.3**
ZAX				*e*S		**Sb**	**21 09 03.4**	**0.0**
ZAX				IAML			21 09 05.8	
	comp=E,709nm,0.4s							
ZAX				⇑*e*			21 09 05.8	
SPIG	**San Pedro Mart**	**1.17**	**191**	*e*P		**Pn**	**21 08 49.2**	**-0.5**
SPIG				*i* S		**Sg**	**21 09 05.8**	**+0.4**
SPIG	**San Pedro Mart**	**1.17**	**191**	*e*P		**Pn**	**21 08 49.2**	**-0.5**
SPIG				*i* S		**Sg**	**21 09 05.8**	**+0.4**
SPX	**San Pedro Mart**	**1.17**	**190**	*e*P		**Pn**	**21 08 49.2**	**-0.6**
SPX				*e*S		**Sn**	**21 09 06.0**	**+0.3**
SPX				IAML			21 09 06.8	
	comp=E,425nm,0.6s							
CBX	**Cerro Bola**	**1.23**	**276**	*e*P		**Pn**	**21 08 49.8**	**-0.6**
CBX				*e*S		**Sb**	**21 09 06.3**	**-0.1**
CBX				*e*S		**Sn**	**21 09 07.0**	**0.0**
BAR	**Barrett**	**1.32**	**292**	*e*Pn		**Pn**	**21 08 51.0**	**-0.7**
BAR				*e*S		**Sb**	**21 09 08.8**	**-0.2**
BAR	**Barrett**	**1.32**	**292**	*e*P		**Pn**	**21 08 51.5**	**-0.1**
PBX	**Punta Banda**	**1.36**	**251**	*e*P		**Pn**	**21 08 52.0**	**-0.1**
PBX				*e*S		**Sb**	**21 09 10.5**	**+0.4**
PFO	**Pinyon Flat Ob**	**1.75**	**324**	*e*Pn		**Pn**	**21 08 58.0**	**+0.4**
PFO				*e*Sn		**Sb**	**21 09 21.8**	**+0.3**
MWC	**Mount Wilson**	**3.12**	**311**	*e*Pn		**Pn**	**21 09 18.2**	**+1.6**
TUC	**Tucson**	**3.76**	**87**	*e*P		Pn	21 09 20.8	-4.4

*IDC **14** 21:11:19.9±1.0, 38.0′7S×178.3′0E, h0km, mb4.4/6, mb1 4.6/6, mb1mx4.1/35, mbtmp4.4/6, Error ellipse: s-maj=33.5km s-min=20.0km az=177.0*
*ISCJB **14** 21:11:20.5±0.8, 38.3′6S±0.0′3×178.5′7E±0.0′7, h30km±3km, mb4.3/6, Error ellipse: s-maj=8.6km s-min=5.2km az=177.8*
*NEIC **14** 21:11:23.5, 38.2′2S×178.3′2E, h17km, ML4.4(WEL), After WEL.*
*WEL **14** 21:11:23.1±0.2, 38.2′1S×178.3′6E, h20km±1km, ML4.4/38, Error ellipse: s-maj=1.6km s-min=0.8km az=90.0*
WEL Felt from Gisborne to Hawke''s Bay, maximum reported intensity MM 5.

ISC 14 21:11:21.6±1.1, 38.2′5S±0.0′3×178.4′8E±0.0′5, h18km±3km, n181, σ0.93/140, mb4.5/6, 4C-9D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
PUZ	**Puketiti**	**0.24**	**315**	⇑P*		**Pg**	**21 11 27.6**	**+0.4**
PUZ				*e*S*		**Sb**	**21 11 30.5**	**-0.6**
PUZ				AML	AML		21 11 31.8	
PUZ				AML	AML		21 11 31.9	
PUZ				AML	AML		21 11 31.9	
PUZ	**Puketiti**	**0.24**	**315**	P*		**Pb**	**21 11 26.9**	**-0.4**
CNGZ	**Carnagh Statio**	**0.32**	**221**	⇓P*		**Pb**	**21 11 29.8**	**+1.1**
CNGZ	**Carnagh Statio**	**0.32**	**221**	P*		**Pb**	**21 11 29.8**	**+1.1**
TWGZ	**Tauwhareparae**	**0.40**	**280**	⇓P*		**Pg**	**21 11 29.4**	**-0.4**
TWGZ				*e*S*		**Sg**	**21 11 34.6**	**-0.8**
WMGZ	**Waiomatatini S**	**0.43**	**354**	P*		**Pn**	**21 11 32.8**	**0.0**
TKGZ	**Te Karaka**	**0.53**	**248**	⇓P*		**Pb**	**21 11 32.2**	**-0.1**
MXZ	**Matakaoa Point**	**0.69**	**349**	*e*P*		**Pn**	**21 11 36.2**	**-0.3**
MXZ				AML	AML		21 11 52.7	
MXZ				AML	AML		21 11 52.7	
MXZ				AML	AML		21 11 52.8	
MXZ				AML	AML		21 11 52.8	
MXZ	**Matakaoa Point**	**0.69**	**349**	P*		**Pn**	**21 11 37.2**	**+0.7**
RIGZ	**Rimuhau**	**0.72**	**230**	⇑P*		**Pn**	**21 11 36.8**	**-0.1**
HAZ	**Te Kaha**	**0.73**	**312**	P*		**Pb**	**21 11 35.8**	**0.0**
MWZ	**Matawai**	**0.75**	**263**	⇓P*		**Pb**	**21 11 36.6**	**-0.5**
MWZ				*e*S*		**Sb**	**21 11 44.9**	**-1.1**
MWZ				AML	AML		21 11 47.7	
MWZ				AML	AML		21 11 48.0	
MWZ				AML	AML		21 11 48.0	
MWZ	**Matawai**	**0.75**	**263**	P*		**Pb**	**21 11 34.9**	**-1.2**
MWZ				S*		**Sb**	**21 11 46.1**	**0.0**
PRGZ	**Paritu Road**	**0.82**	**214**	⇑P*		**Pn**	**21 11 38.4**	**+0.1**
PRGZ	**Paritu Road**	**0.82**	**214**	P*		**Pn**	**21 11 38.4**	**+0.1**
RAGZ	**Rawiri**	**0.87**	**253**	⇓P*		**Pb**	**21 11 38.3**	**+0.1**
KNZ	**Kokohu**	**1.00**	**219**	⇑P*		**Pb**	**21 11 40.1**	**-0.2**
KNZ	**Kokohu**	**1.00**	**219**	P*		**Pb**	**21 11 40.1**	**-0.2**
SNGZ	**Shannon Statio**	**1.04**	**239**	P*		**Pb**	**21 11 40.9**	**-0.1**
URZ	**Urewera**	**1.07**	**269**	⇓P*		**Pb**	**21 11 41.3**	**-0.3**
URZ				AML	AML		21 12 02.4	
URZ				AML	AML		21 12 04.2	
URZ	**Urewera**	**1.07**	**269**	Pn		**Pb**	**21 11 41.4**	**-0.3**
	492nm,0.3s,baz=101,slow=6.8,SNR=1020							
URZ				Sn		**Sb**	**21 11 54.7**	**-0.6**
	298nm,0.3s,baz=347,slow=24,SNR=22							
URZ	**Urewera**	**1.07**	**269**	P*		**Pb**	**21 11 40.6**	**-1.0**
URZ				Pn		**Pb**	**21 11 41.4**	**-0.3**
URZ				Sn		**Sb**	**21 11 54.7**	**-0.6**
WHHZ	**Waihua**	**1.28**	**229**	PN		**Pn**	**21 11 44.4**	**-0.1**
RAHZ	**Arahi**	**1.28**	**238**	PN		**Pn**	**21 11 44.3**	**-0.2**
RAHZ	**Arahi**	**1.28**	**238**	Pn		**Pn**	**21 11 44.3**	**-0.2**
EDRZ	**Edgecumbe**	**1.38**	**275**	PN		**Pn**	**21 11 46.2**	**+0.3**
EDRZ				AML	AML		21 11 58.4	
EDRZ				AML	AML		21 12 12.1	
EDRZ	**Edgecumbe**	**1.38**	**275**	Pn		**Pn**	**21 11 46.2**	**+0.3**
MARZ	**Manawahe**	**1.44**	**280**	PN		**Pn**	**21 11 46.8**	**0.0**
MARZ	**Manawahe**	**1.44**	**280**	Pn		**Pn**	**21 11 46.8**	**0.0**
ARHZ	**Aropaoanui**	**1.54**	**228**	PN		**Pn**	**21 11 48.3**	**+0.2**
RRRZ	**Republican Roa**	**1.55**	**266**	⇓PN		**Pn**	**21 11 48.3**	**0.0**
RRRZ	**Republican Roa**	**1.55**	**266**	Pn		**Pn**	**21 11 48.3**	**0.0**
TARZ	**Mount Tarawera**	**1.55**	**270**	PN		**Pn**	**21 11 48.5**	**+0.2**
TARZ	**Mount Tarawera**	**1.55**	**270**	Pn		**Pn**	**21 11 48.5**	**+0.2**
NMHZ	**Naumai**	**1.56**	**236**	PN		**Pn**	**21 11 48.2**	**-0.2**
NMHZ	**Naumai**	**1.56**	**236**	Pn		**Pn**	**21 11 48.2**	**-0.2**
OPRZ	**Ohinepanea**	**1.57**	**284**	PN		**Pn**	**21 11 48.0**	**-0.4**
OPRZ	**Ohinepanea**	**1.57**	**284**	Pn		**Pn**	**21 11 48.0**	**-0.4**
OMRZ	**Omania**	**1.66**	**274**	PN		**Pn**	**21 11 50.4**	**+0.6**
OMRZ	**Omania**	**1.66**	**274**	Pn		**Pn**	**21 11 50.4**	**+0.6**
HLRZ	**Highlands Stat**	**1.67**	**269**	PN		**Pn**	**21 11 50.4**	**+0.5**
ALRZ	**Allen Road**	**1.71**	**259**	PN		**Pn**	**21 11 50.9**	**+0.5**
ALRZ	**Allen Road**	**1.71**	**259**	Pn		**Pn**	**21 11 50.9**	**+0.5**
HRRZ	**Handcock Road**	**1.73**	**265**	Pn		**Pb**	**21 11 53.7**	**+0.9**
KARZ	**Kaharoa**	**1.77**	**277**	PN		**Pn**	**21 11 51.1**	**-0.2**
KARZ	**Kaharoa**	**1.77**	**277**	Pn		**Pn**	**21 11 51.1**	**-0.2**
BKZ	**Black Stump Fm**	**1.80**	**239**	PN		**Pn**	**21 11 51.6**	**-0.2**
BKZ				AML	AML		21 12 15.8	
BKZ				AML	AML		21 12 29.7	
BKZ	**Black Stump Fm**	**1.80**	**239**	Pn		**Pn**	**21 11 51.2**	**-0.6**
MCHZ	**McNeill Hill**	**1.83**	**229**	PN		**Pn**	**21 11 52.0**	**-0.1**
MCHZ	**McNeill Hill**	**1.83**	**229**	Pn		**Pn**	**21 11 52.0**	**-0.1**
KAHZ	**Kahuranaki**	**1.99**	**218**	PN		**Pn**	**21 11 53.2**	**-1.1**
KAHZ	**Kahuranaki**	**1.99**	**218**	Pn		**Pn**	**21 11 53.2**	**-1.1**
KWHZ	**Kaweka Forest**	**1.99**	**233**	PN		**Pn**	**21 11 53.7**	**-0.6**
PXZ	**Pawanui**	**2.18**	**215**	PN		**Pn**	**21 11 55.5**	**-1.4**
PXZ				AML	AML		21 12 23.5	
PXZ				AML	AML		21 12 26.2	
PXZ				AML	AML		21 13 10.1	
PXZ				AML	AML		21 13 12.6	
PXZ	**Pawanui**	**2.18**	**215**	Pn		**Pn**	**21 11 55.5**	**-1.4**
RATZ	**Rangitukua**	**2.21**	**253**	*e*PN		**Pn**	**21 11 57.0**	**-0.4**
RATZ				AML	AML		21 12 14.8	
RATZ				AML	AML		21 12 15.8	
RATZ	**Rangitukua**	**2.21**	**253**	Pn		**Pg**	**21 12 07.0**	**+3.1**
BHHZ	**Black Hill Sta**	**2.25**	**236**	PN		**Pn**	**21 11 57.4**	**-0.6**
BHHZ	**Black Hill Sta**	**2.25**	**236**	Pn		**Pn**	**21 11 57.4**	**-0.6**
KATZ	**Kakaramea**	**2.30**	**251**	AML	AML		21 12 17.2	
KATZ				AML	AML		21 12 20.0	
KATZ	**Kakaramea**	**2.30**	**251**	Pn		**Pn**	**21 11 58.8**	**+0.2**
KRVZ	**Karewarewa**	**2.38**	**248**	PN		**Pn**	**21 11 59.6**	**-0.1**
KRVZ

THZ				AML	AML	21 13 46.5	
THZ				AML	AML	21 13 49.2	
THZ	**Tophouse**	**5.53**	**229**	Pn	Pn	21 12 39.3	-3.7
KHZ	**Kahutara**	**5.62**	**221**	PN	Pn	21 12 39.6	-4.5
KHZ				AML	AML	21 13 44.0	
KHZ				AML	AML	21 13 45.8	
KHZ	**Kahutara**	**5.62**	**221**	Pn	Pn	21 12 39.6	-4.5
DSZ	**Denniston Nort**	**6.20**	**234**	PN	Pn	21 12 48.6	-3.6
DSZ	**Denniston Nort**	**6.20**	**234**	Pn	Pn	21 12 48.6	-3.6
LTZ	**Lake Taylor**	**6.55**	**224**	PN	Pn	21 12 51.8	-5.2
LTZ				AML	AML	21 14 07.7	
LTZ				AML	AML	21 14 47.4	
LTZ	**Lake Taylor**	**6.55**	**224**	Pn	Pn	21 12 51.8	-5.2
CTZ	**Chatham Island**	**6.62**	**147**	*e*PN	**Pn**	**21 12 58.6**	**+0.7**
CTZ	**Chatham Island**	**6.62**	**147**	Pn	**Pn**	**21 12 59.3**	**+1.4**
MQZ	**McQueen's Vall**	**7.01**	**217**	PN	Pn	21 12 58.6	-4.6
MQZ	**McQueen's Vall**	**7.01**	**217**	Pn	Pn	21 12 58.6	-4.6
OXZ	**Oxford**	**7.04**	**222**	*e*PN	Pn	21 13 01.3	-2.4
RPZ	**Rata Peaks**	**7.83**	**223**	Pn	Pn	21 13 11.4	-3.2
	1.3nm,0.3s,baz=10,slow=11,SNR=6.0						
RPZ				Sn	Sn	21 14 32.3	-10
	5.0nm,0.3s,baz=148,slow=22,SNR=20						
WKZ	**Wanaka**	**9.67**	**224**	Pn	Pn	21 13 59.3	+20
STKA	**Stephens Creek**	**30.70**	**271**	P	**P**	**21 17 36.0**	**+0.6**
	8.9nm,0.8s,baz=104,slow=7.9,SNR=15						
STKA	**Stephens Creek**	**30.70**	**271**	P	**P**	**21 17 36.3**	**+0.9**
	baz=37,SNR=10						
QLP	**Quilpie**	**30.99**	**282**	P	**P**	**21 17 38.6**	**+0.7**
	baz=38,SNR=4.4						
CTA	**Charters Tower**	**33.22**	**294**	P	**P**	**21 17 58.3**	**+0.8**
	5.7nm,0.6s,baz=118,slow=8.3,SNR=7.6						
MTSU	**Mount Surprise**	**35.88**	**294**	P	**P**	**21 18 21.6**	**+1.0**
	baz=42,SNR=7.9						
COEN	**Coen**	**39.50**	**298**	P	**P**	**21 18 51.6**	**+0.4**
	baz=46,SNR=6.3						
ASAR	**Alice Springs**	**40.50**	**278**	P	**P**	**21 18 58.8**	**-0.8**
	8.0nm,0.6s,baz=124,slow=8.5,SNR=124						
ASAR				PcP	**PcP**	**21 21 00.2**	**-1.8**
	0.4nm,0.8s,baz=116,slow=4.2,SNR=3.0						
WRA	**Warramunga Arr**	**42.21**	**283**	P	**P**	**21 19 12.6**	**-1.0**
	6.0nm,0.7s,baz=126,slow=7.1,SNR=38						
WRKA	**Warakurna**	**44.20**	**272**	P	**P**	**21 19 27.9**	**-1.8**
	baz=51,SNR=32						
KNRA	**Kununurra**	**49.01**	**283**	P	**P**	**21 20 07.2**	**-0.1**
	baz=56,SNR=4.6						
FITZ	**Fitzroy Crossi**	**50.00**	**278**	P	**P**	**21 20 14.5**	**-0.5**
	baz=57,SNR=6.4						
MEEK	**Meekatharra**	**51.04**	**265**	P	**P**	**21 20 21.2**	**-1.6**
	baz=58,SNR=16						
QSPA	**South Pole Qui**	**51.88**	**180**	P	P	21 20 32.8	+4.1
	0.8nm,0.7s,baz=6.4,slow=5.0,SNR=5.1						
MORW	**Morawa**	**51.91**	**260**	P	**P**	**21 20 28.1**	**-1.1**
	baz=58,SNR=3.4						
GIRL	**Giralia**	**56.49**	**266**	P	**P**	**21 21 02.7**	**+0.1**
	baz=63,SNR=3.5						
CMAR	**Chiang Mai Arr**	**93.34**	**291**	P	**P**	**21 24 36.7**	**+1.1**
	0.5nm,0.7s,baz=158,slow=2.6,SNR=4.1						
ARCES	**ARCESS Array B**	**145.46**	**344**	PKPbc	**PKPdf**	**21 30 57.1**	**-0.2**
	3.9nm,0.9s,baz=46,slow=3.5,SNR=13						
FINES	**FINESS Array B**	**151.16**	**333**	PKPbc	**PKPbc**	**21 31 12.2**	**-0.5**
	0.7nm,0.5s,baz=48,slow=2.8,SNR=8.4						
BRTR	**Keskin Array B**	**152.73**	**284**	PKPbc	**PKPbc**	**21 31 16.6**	**-0.5**
	0.7nm,0.9s,baz=149,slow=6.7,SNR=3.4						
TORD	**Torodi Ar. Bea**	**154.84**	**187**	PKPbc	**PKPbc**	**21 31 25.5**	**+3.3**
	0.3nm,0.9s,baz=176,slow=3.0,SNR=3.3						

*ISCJB **14** 21:19:24.9±0.3,36˚.80N±0˚.05×97˚.43E±0˚.04, h10km, mb4.3/35, MS3.9/8, Error ellipse: s-maj=7.1km s-min=4.0km az=16.7*

*IDC **14** 21:19:25.0±0.7,36˚.82N×97˚.57E, h0km, mb4.1/18, mb1 4.2/21,mb1mx4.1/39,mbtmp4.1/21,ML3.8/3,MS3.7/9, Ms1 3.7/9,ms1mx3.2/40,Error ellipse: s-maj=20.1km s-min=12.7km az=29.0*

*MOS **14** 21:19:27.8±1.1,36˚.75N×97˚.44E, h33km,mb4.7/16,Error ellipse: s-maj=9.9km s-min=6.5km az=107.8*

*BJI **14** 21:19:27.7,36˚.81N×97˚.52E, h10km, mb4.4/12, mB4.6/6, ML3.9/15, Ms4.1/8, Ms7 3.9/12*

*NEIC **14** 21:19:29.9±0.2,36˚.76N×97˚.46E, h35km, mb4.4/9, Error ellipse: s-maj=6.2km s-min=4.8km az=28.0*

ISC 14 21:19:26.8±0.5,36˚.78N±0˚.05×97˚.44E±0˚.04,h10km,n85, σ1§59/90,mb4.3/35,MS4.0/8,6C-6D,Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GTA	**Gaotai**	**3.22**	**35**	Pn		**Pn**	**21 20 19.9**	**+2.3**
GTA				Pg		**Pb**	**21 20 25.8**	**+1.6**
GTA				Sn		**Sb**	**21 21 00.4**	**-3.2**
GTA				Sg		**Sg**	**21 21 07.5**	**-2.9**
GTA				SMN				
	150nm,1.8s							
GTA				SME				
	250nm,0.9s							
LZH	**Lanzhou**	**5.21**	**96**	ǁPn		**Pn**	**21 20 46.3**	**+1.4**
LZH				Pg		Pg	21 21 02.8	-3.8
LZH				Sn		**Sn**	**21 21 46.3**	**+1.2**
LZH				Sg		**Sg**	**21 22 11.3**	**-2.7**
LZH				SMN				
	350nm,0.8s							
LZH				SME				
	450nm,0.8s							
LZH				LZ				
	1µm,6.1s							
LSA	**Lhasa**	**8.81**	**219**	*e*P		**Pn**	**21 21 33.7**	**-1.0**
LSA	**Lhasa**	**8.81**	**219**	*e*Pn		**Pn**	**21 21 33.7**	**-1.0**
XAN	**Xi'an**	**9.76**	**103**	P		**Pn**	**21 21 45.0**	**-2.3**
XAN				S		**Sn**	**21 23 42.0**	**+5.0**
XAN				pmax		pmax		
	comp=Z,9.0nm,0.5s							
XAN				LR		LR		
	comp=N,300nm,8.6s							
XAN				LR		LR		
	comp=E,220nm,7.1s							
XAN				LR		LR		
	comp=Z,320nm,6.7s							
WMQ	**Urumqi**	**10.23**	**316**	P		**Pn**	**21 21 54.1**	**+0.3**
WMQ				PP		**PnPn**	**21 22 02.4**	**+1.0**
WMQ				S		**Sn**	**21 23 49.5**	**+0.9**
WMQ				LN				
	comp=Z,760nm,8.0s							
WMQ				LZ				
	comp=Z,93nm,13.5s							
HHC	**Hu-ho-hao-te**	**11.74**	**65**	*e*P		Pn	21 22 19.1	+4.7
HHC				PP		PnPn	21 22 29.8	+7.7
HHC				S		**Sn**	**21 24 27.9**	**+2.3**
HHC				SS		**SnSn**	**21 24 43.3**	**+5.9**
HHC				PMZ				
	comp=Z,10.0nm,1.1s							
HHC				LN				
	comp=Z,640nm,10.2s							
HHC				LE				
	comp=Z,220nm,10.8s							
HHC				LZ				
	comp=Z,220nm,11.0s							
ENH	**Enshi**	**11.96**	**119**	*e*P		**Pn**	**21 22 17.5**	**+0.1**
SONM	**Songino Array**	**12.87**	**28**	Pn		**Pn**	**21 22 30.5**	**+0.7**
	comp=Z,3.0nm,0.3s,baz=211,slow=15,SNR=86							
SONM				LR		LR	21 27 47.2	
	comp=Z,539nm,18.6s,baz=226,slow=39							
ZAK	**Zakamensk**	**14.23**	**15**	*e*P		**Pn**	**21 22 49.5**	**+1.1**
ZAK				pmax		pmax		
	comp=Z,7.0nm,1.6s							
MKAR	**Makanchi Array**	**15.07**	**316**	Pn		**Pn**	**21 22 56.3**	**-3.4**
	comp=Z,0.4nm,0.3s,baz=131,slow=14,SNR=19							
MKAR				Sn		Sn	21 25 37.6	-9.1
	comp=Z,0.1nm,0.3s,baz=129,slow=25,SNR=2.6							
MKAR				LR		LR	21 28 38.2	
	comp=Z,41nm,18.4s,baz=122,slow=37							
MOY	**Mondy**	**15.10**	**9**	*e*P		**P**	**21 23 05.8**	**+0.3**
MOY				pmax		pmax		
	comp=Z,20nm,2.2s							
TLY	**Talaya**	**15.54**	**15**	*e*P		**P**	**21 23 14.4**	**+4.2**
TLY				pmax		pmax		
	comp=Z,4.0nm,0.9s							
TLY				MLR		MLR		
	comp=Z,338nm,21.0s							
IRK	**Irkutsk**	**16.20**	**15**	*e*P		**Pn**	**21 23 10.6**	**-3.8**
TKM2	**Tokmak 2**	**17.84**	**297**	*i* P		**Pn**	**21 23 34.5**	**-0.8**
TKM2				pmax		pmax		
	comp=Z,11nm,0.6s							
TKM2	**Tokmak 2**	**17.84**	**297**	*e*Pn		**Pn**	**21 23 34.6**	**-0.7**
	comp=Z,14nm,0.7s							
CMAR	**Chiang Mai Arr**	**18.30**	**175**	P		**Pn**	**21 23 41.5**	**+0.6**
	baz=357,slow=9.9,SNR=6.3							
CMAR				LR		LR	21 31 08.8	
	comp=Z,243nm,19.9s,baz=350,slow=38							
FRU	**Bishkek**	**18.52**	**296**	*e*P		Pn	21 23 52.0	+8.5
EKS2	**Erkin-Say**	**19.10**	**295**	*e*P		**P**	**21 23 49.8**	**0.0**
EKS2				pmax		pmax		
	comp=Z,5.0nm,0.8s							
EKS2	**Erkin-Say**	**19.10**	**295**	*e*P		**P**	**21 23 49.8**	**0.0**
	comp=Z,4.7nm,0.8s							
ZALV	**Zalesovo Beam**	**19.27**	**337**	P		**P**	**21 23 51.1**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=147,slow=11,SNR=22							
ZALV				LR		LR	21 31 59.4	
	comp=Z,87nm,21.0s,baz=254,slow=39							
KURBB	**Kurchatov Arra**	**19.37**	**322**	P		**P**	**21 23 52.2**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=130,slow=12,SNR=60							
KURK	**Kurchatov**	**19.39**	**322**	P		**P**	**21 23 52.2**	**-0.5**
KURK				pmax		pmax		
	comp=Z,1.0nm,0.3s							
KURK	**Kurchatov**	**19.39**	**322**	*e*P		**P**	**21 23 52.3**	**-0.5**
KRAR	**Krasnoyarsk**	**19.48**	**352**ǁ	*e*P		**Pn**	**21 23 56.8**	**+1.9**
KRAR				pmax		pmax		
	comp=Z,28nm,1.2s							
NVS	**Novosibirsk**	**20.53**	**336**ǁ	*i*P		**P**	**21 24 04.7**	**-0.4**
NVS				pmax		pmax		
	comp=N,20nm,1.0s							
NVS				pmax		pmax		
	comp=E,16nm,1.0s							
NVS				pmax		pmax		
	comp=Z,29nm,1.0s							
KKAR	**Karatay Array**	**21.54**	**295**	*e*P		**P**	**21 24 16.4**	**+0.2**
KKAR				pmax		pmax		
	comp=Z,11nm,0.8s							
KKAR	**Karatay Array**	**21.54**	**295**	*e*P		**P**	**21 24 16.4**	**+0.2**
	comp=Z,11nm,0.8s							
BOD	**Bodaibo**	**23.73**	**22**	*e*P		**P**	**21 24 38.3**	**-0.6**
BOD				pmax		pmax		
	comp=Z,4.0nm,1.1s							
TJN	**Taejon**	**23.99**	**82**ǁ	*e*P		**P**	**21 24 40.8**	**-0.7**
KSAR	**Wonju Array Be**	**24.24**	**79**	P		**P**	**21 24 42.3**	**-1.6**
KSAR	**Wonju Array Be**	**24.24**	**79**	P		**P**	**21 24 42.3**	**-1.6**
KSRS	**Korea Array**	**24.27**	**79**	P		**P**	**21 24 42.3**	**-1.8**
	comp=Z,14nm,0.8s,baz=272,slow=9.1,SNR=32							
KSRS	**Korea Array**	**24.27**	**79**	P		**P**	**21 24 42.3**	**-1.8**
KSRS				pmax		pmax		
	comp=Z,14nm,0.9s							
BVAR	**Borovoye Array**	**24.90**	**319**	P		**P**	**21 24 49.6**	**-0.2**
	comp=Z,11nm,0.6s,baz=115,slow=9.7,SNR=30							
BRVK	**Borovoye**	**24.98**	**319**ǁ	*e*P		**P**	**21 24 50.7**	**+0.3**
BRVK				pmax		pmax		
	comp=Z,41nm,1.2s							
BRVK	**Borovoye**	**24.98**	**319**	*e*P		**P**	**21 24 50.6**	**+0.2**
	comp=Z,21nm,0.7s							
KLR	**Kul'dur**	**27.75**	**53**	*e*P		P	21 25 10.9	-4.6
KLR				MLR		MLR		
	comp=Z,800nm,14.0s							
ABKAR	**Akbulak array**	**29.81**	**307**	*e*P		**P**	**21 25 33.7**	**0.0**
	comp=Z,0.5nm,0.5s							
GEYT	**Alibeck**	**31.12**	**284**	P		**P**	**21 25 47.6**	**+2.0**
	comp=Z,3.2nm,0.7s,baz=132,slow=6.6,SNR=8.4							
YAK	**Yakutsk**	**32.23**	**28**	LR		LR	21 39 35.0	
	comp=Z,256nm,18.2s,baz=204,slow=38							
MJAR	**Matsushiro Arr**	**32.53**	**78**	P		**P**	**21 25 57.6**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=286,slow=8.3,SNR=5.2							
ARU	**Arti**	**32.55**	**320***c*	*i*P		**P**	**21 25 58.2**	**+0.3**
ARU							21 27 08.9	
ARU				S		**S**	**21 31 12.1**	**-0.9**
ARU				SS		**SnSn**	**21 33 07.5**	**+0.9**
ARU				pmax		pmax		
	comp=Z,13nm,0.8s							
ARU	**Arti**	**32.55**	**320**	*e*P		**P**	**21 25 58.1**	**+0.2**
	comp=Z,8.9nm,0.6s							
ASAJ	**Asahikawa**	**34.78**	**64**	P		**P**	**21 26 16.9**	**-0.4**
	comp=Z,4.8nm,1.0s,baz=275,slow=12							
ASAJ	**Asahikawa**	**34.78**	**64**	P		**P**	**21 26 17.0**	**-0.4**
ASAJ				pmax		pmax		
	comp=Z,5.0nm,1.0s							
PRGR	**Permogore**	**40.46**	**325**	P		**P**	**21 27 04.0**	**-1.2**
PRGR				pmax		pmax		
	comp=Z,8.0nm,1.0s							
NCK	**Nalchik**	**41.10**	**297**ǁ	*e*P		**P**	**21 27 10.0**	**-0.8**
KIV	**Kislovodsk**	**41.67**	**297**	P		**P**	**21 27 18.0**	**+2.4**
KIV				pmax		pmax		
	comp=Z,7.0nm,1.0s							
KIV				MLR		MLR		
	comp=Z,30nm,16.0s							
SEY	**Seymchan**	**42.17**	**34**	P		**P**	**21 27 19.7**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=180,slow=20,SNR=4.8							
VSR	**Storozhevoye**	**43.20**	**309**	*e*P		**P**	**21 27 29.6**	**+1.9**
VSR				pmax		pmax		
	comp=N,7.0nm,0.6s							
VSR				pmax		pmax		
	comp=E,8.0nm,0.6s							
VSR				pmax		pmax		
	comp=Z,7.0nm,0.6s							
LEM	**Lembang**	**44.41**	**165**	LR		LR	21 47 50.3	
	comp=Z,191nm,19.9s,slow=38							
OBN	**Obninsk**	**44.56**	**314**	LR		LR	21 47 15.8	
	comp=Z,78nm,19.5s,baz=90,slow=38							
OBN	**Obninsk**	**44.56**	**314**	P		**P**	**21 27 39.0**	**+0.4**
OBN				*e**SP		sP	21 27 48.9	+5.9
OBN							21 29 26.0	
OBN				pmax		pmax		
	comp=Z,15nm,1.6s							
OBN				MLR		MLR		
	comp=Z,81nm,21.0s							
BILL	**Bilibino**	**48.59**	**28**ǁ	*e*P		**P**	**21 28 09.0**	**-1.1**
BILL				*e*			21 28 18.6	
BILL				pmax		pmax		
	comp=Z,4.0nm,0.7s							
BILL				MLR		MLR		
	comp=Z,231nm,17.0s							
BRTR	**Keskin Array B**	**49.24**	**294**	P		**P**	**21 28 16.4**	**+0.7**
	comp=Z,2.1nm,0.7s,baz=81,slow=7.6,SNR=15							
BRTR	**Keskin Array B**	**49.24**	**294***ce*	P		**P**	**21 28 16.3**	**+0.6**
BRTR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
AKASG	**Malin Array Be**	**49.49**	**309**	P		**P**	**21 28 16.9**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=64,slow=7.7,SNR=6.6							
KIEV	**Kiev**	**49.50**	**309***de*	P		**P**	**21 28 19.0**	**+1.7**
VSU	**Vasula**	**49.71**	**319***ce*	P		**P**	**21 28 19.2**	**+0.4**
VSU				pmax		pmax		
	comp=Z,43nm,1.7s							
FINES	**FINESS Array B**	**49.75**	**323**	P		**P**	**21 28 19.0**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=98,slow=8.5,SNR=20							
FINES	**FINESS Array B**	**49.75**	**323**	*i* P		**P**	**21 28 19.2**	**+0.2**
FINES				pmax		pmax		
	comp=Z,3.0nm,0.7s							
ARCES	**ARCESS Array B**	**49.79**	**334**	P		**P**	**21 28 19.1**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=87,slow=8.4,SNR=14							
KOLS	**Kolonicke sedl**	**54.29**	**308**	*e*P		**P**	**21 28 52.6**	**-0.5**
KOLS				pmax		pmax		
	comp=Z,21nm,2.7s							
KOLS	**Kolonicke sedl**	**54.29**	**308**	*e*P		**P**	**21 28 52.6**	**-0.5**
STHS	**Stebnicka Huta**	**54.79**	**309**	*e*P		**P**	**21 28 57.0**	**+0.3**
STHS				pmax		pmax		
	comp=Z,3.0nm,1.1s							
STHS	**Stebnicka Huta**	**54.79**	**309**	*e*P		**P**	**21 28 57.0**	**+0.3**
NB2	**NORSAR Subarra**	**56.87**	**325**	P		**P**	**21 29 10.9**	**-0.6**
	comp=Z,1.5nm,0.5s,baz=70,slow=7.4							
NOA	**NORSAR Array B**	**56.87**	**325**	P		**P**	**21 29 10.7**	**-0.8**
	comp=Z,1.9nm,0.6s,baz=72,slow=7.1,SNR=7.9							
CLL	**Collm**	**59.14**	**313**	*e*(P)		**P**	**21 29 30.0**	**+2.5**
GERES	**GERESS Array B**	**59.64**	**310**	P		**P**	**21 29 31.4**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=68,slow=7.4,SNR=8.4							
BFO	**Black Forest**	**63.11**	**312**	*i* P		**P**	**21 29 52.4**	**-2.1**
COLD	**Coldfoot**	**64.52**	**24**	*e*P		**P**	**21 30 02.2**	**-1.2**
	comp=Z,5.1nm,0.9s							
PPLA	**Purkeypile**	**66.30**	**28**	*e*P		**P**	**21 30 14.2**	**-1.0**
	comp=Z,8.0nm,0.7s							
WRA	**Warramunga Arr**	**66.30**	**142**	P		**P**	**21 30 15.1**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=341,slow=6.7,SNR=7.1							
COLA	**College**	**66.68**	**25**ǁ	*e*P		**P**	**21 30 17.0**	**-0.4**
COLA				pmax		pmax		
	comp=Z,21nm,1.0s							
ILAR	**Eielson Array**	**67.07**	**25**	P		**P**	**21 30 18.4**	**-1.5**
	comp=Z,1.2nm,0.9s,baz=296,slow=5.3,SNR=12							
ILAR				LR		LR	22 02 16.9	
	comp=Z,62nm,18.4s,baz=248,slow=38							
SML	**Sawmill**	**68.39**	**28**	*e*P		**P**	**21 30 27.7**	**-0.7**
SML				pmax		pmax		
	comp=Z,2.0nm,0.8s							
SML	**Sawmill**	**68.39**	**28**	*e*P		**P**	**21 30 27.7**	**-0.7**
	comp=Z,1.7nm,0.8s							
KDAK	**Kodiak Island**	**69.11**	**33**	*i* P		**P**	**21 30 34.3**	**+1.5**
ASAR	**Alice Springs**	**69.26**	**144**	P		**P**	**21 30 33.5**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=334,slow=6.3,SNR=9.4							
ESDC	**Sonseca Array**	**75.13**	**308**	P		**P**	**21 31 09.0**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=46,slow=5.9,SNR=6.1							
YKA	**Yellowknife Ar**	**77.76**	**15**	P		**P**	**21 31 22.6**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=333,slow=4.8,SNR=5.6							
TORD	**Torodi Ar. Bea**	**86.77**	**284**	P		**P**	**21 32 11.6**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=51,slow=5.8,SNR=4.4							
SCHQ	**Schefferville**	**87.76**	**351**	LR		LR	22 16 12.6	
	comp=Z,51nm,18.1s,baz=332,slow=39							

*IDC **14** 21:20:24.8±0.8,38˚.08S×73˚.50W,h0km,mb4.0/7, mb1 4.2/8,mb1mx4.0/24,mbtmp4.0/8,ML2.8/1,MS3.4/7, Ms1 3.4/7,ms1mx3.3/17,Error ellipse: s-maj=34.5km s-min=20.7km az=86.0*

*ISCJB **14** 21:20:26.6±0.6,38˚.02S±0˚.04×73˚.3W±0˚.1,h22km,mb4.1/8, MS3.7/5, Error ellipse: s-maj=15.5km s-min=5.6km az=13.2*

*GUC **14** 21:20:27.7±0.6,38˚.12S×73˚.61W,h44km±4km,ML4.5*

*NEIC **14** 21:20:27.0,38˚.12S×73˚.61W,h44km,mb4.2/3,After GUC.*

NEIC Felt [II] at Angol, Arauco, Renaico, Temuco, Tirua and Tolten.

ISC 14 21:20:28.4±0.6,38˚.10S±0˚.05×73˚.31W±0˚.09,h22km,n35, σ1§31/30,mb4.1/8,MS3.6/5,2C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PSCH	**Puerto Saavedr**	**0.70**	**185**ǁ	*i*P		**Pn**	**21 20 41.9**	**-1.1**
PSCH				*i* S		**Sn**	**21 20 51.8**	**-1.3**
U14B	**Concepcin**	**1.25**	**8**ǁ	*i*P		**Pn**	**21 20 50.1**	**-0.5**
U14B				*i* S		**Sb**	**21 21 07.7**	**+0.7**
U14B				AML		AML	21 21 23.2	
	comp=N,19µm,0.5s							
CCSP	**San Pedro de C**	**1.26**	**7**	*e*P		**Pn**	**21 20 50.4**	**-0.4**
CCSP				AML		AML	21 21 14.6	
	comp=E,9µm,0.5s							
VLCH	**Valdivia**	**1.70**	**178**	*e*P		**Pn**	**21 20 56.0**	**-0.7**
VLCH				*i* S		**Sn**	**21 21 16.8**	**-1.1**
CFAA	**Coronel Fontan**	**7.70**	**34**	Pn		**Pn**	**21 22 18.2**	**-1.0**
	comp=E,0.1nm,0.3s,baz=214,slow=12,SNR=10							
CFAA				Sn		**Sn**	**21 23 46.2**	**+0.4**
	comp=E,0.1nm,0.3s,baz=127,slow=20,SNR=2.5							
CFAA				LR		LR	21 26 08.2	
	comp=E,32nm,18.2s,baz=224,slow=44							
TRQA	**Tornquist**	**8.93**	**93**	*e*Pn		**Pn**	**21 22 36.9**	**+0.8**
TRQA				Sn		**Sn**	**21 24 12.3**	**-3.7**
LCO	**Las Campanas**	**9.32**	**14**	*e*Pn		**Pn**	**21 22 39.2**	**-2.5**
	comp=E,52nm,0.6s							
LVC	**Limon Verde**	**15.89**	**15**	Pn		**P**	**21 24 15.6**	**+1.1**
	comp=E,9.5nm,0.3s,baz=207,slow=6.8,SNR=4.2							
LVC	**Limon Verde**	**15.89**	**15**	*e*Pn		**Pn**	**21 24 09.1**	**-1.9**
	comp=E,3.1nm,0.8s							
USHA	**Ushuaia**	**17.06**	**170**	Pn		**P**	**21 24 30.0**	**+3.1**
	comp=E,0.3nm,0.3s,baz=316,slow=5.8,SNR=3.6							
CPUP	**Villa Florida**	**17.87**	**54**	LR		LR	21 30 57.6	
	comp=E,67nm,21.3s,baz=228,slow=35							
LPAZ	**La Paz**	**22.20**	**13**	P		**P**	**21 25 24.7**	**+0.7**
	comp=E,6.8nm,0.8s,baz=160,slow=11,SNR=18							
BDFB	**Brasilia**	**31.59**	**52**	LR		LR	21 41 42.1	
	comp=E,133nm,19.5s,baz=226,slow=40							
OTAV	**Otavalo**	**38.44**	**352**	*e*P		P	21 27 45.4	-3.7
	comp=E,8.4nm,1.3s							
VNA1	**Neumayer--Stat**	**46.35**	**155**	P		**P**	**21 28 51.8**	**-0.5**
SDV	**Santo Domingo**	**46.81**	**4**	*e*P		P	21 28 52.3	-4.4
SNAA	**Sanae**	**48.21**	**156**	P		**P**	**21 29 07.4**	**+0.5**
	comp=E,1.2nm,1.0s,baz=262,slow=6.6,SNR=8.2							
QSPA	**South Pole Qui**	**52.14**	**180**	P		**P**	**21 29 37.2**	**+0.4**
	comp=E,1.6nm,0.8s,baz=91,slow=1.2,SNR=5.4							
QSPA	**South Pole Qui**	**52.14**	**180**	*e*P		P	21 29 32.1	-4.7
	comp=E,2.7nm,0.9s							
CMIG	**Matias Romero**	**58.52**	**336**	LR		LR	21 50 24.2	
	comp=E,30nm,18.7s,baz=166,slow=31							
LPIG	**La Paz**	**70.96**	**324**	LR		LR	21 55 23.7	
	comp=E,59nm,18.4s,baz=254,slow=30							
TXAR	**Lajitas Array**	**72.85**	**332**	P		**P**	**21 31 54.8**	**-0.7**
	comp=E,1.7nm,0.9s,baz=156,slow=8.8,SNR=14							
TXAR				LR		LR	21 57 40.7	
	comp=E,35nm,20.1s,baz=0.0,slow=31							
DBIC	**Dimbokro**	**77.47**	**71**	P		**P**	**21 32 23.6**	**+1.3**
	comp=E,4.9nm,0.6s,baz=203,slow=5.7,SNR=6.8							
TSUM	**Tsumeb**	**79.09**	**106**	LR		LR	22 02 27.4	
	comp=E,58nm,21.3s,baz=191,slow=32							
TORD	**Torodi Ar. Bea**	**86.56**	**70**	P		**P**	**21 33 10.2**	**+0.1**
	comp=E,1.3nm,0.8s,baz=222,slow=4.9,SNR=9.2							
NVAR	**Mina Array Bea**	**86.69**	**326**	P		**P**	**21 33 09.8**	**-0.6**
	comp=E,0.5nm,0.7s,baz=158,slow=6.1,SNR=4.2							
BRTR	**Keskin Array B**	**124.65**	**64**	PKP		**PKPdf**	**21 39 25.4**	**-0.6**
	comp=E,0.6nm,0.7s,baz=221,slow=5.3,SNR

JMP	**Maruseppu**	**7.42 251**	P	Pn	21 34 21.0	+3.4
JAR	**Ashorobuto**	**7.49 245**	P	**Pn**	**21 34 19.5**	**+0.9**
JAR			*e*S	**Sn**	**21 35 43.7**	**+1.6**
JOB	**Onbets**	**7.66 243**	P	**Pn**	**21 34 21.0**	**+0.1**
JOB			*e*S	**Sn**	**21 35 43.7**	**-2.6**
HRK	**Horoka**	**7.81 248**	*e*P	**Pn**	**21 34 24.9**	**+1.9**
JKA	**Kamikawa-asahi**	**7.87 254**	*e*P	**Pn**	**21 34 26.6**	**+2.8**
ASAJ	**Asahikawa**	**7.87 254**	P	**Pn**	**21 34 26.8**	**+3.0**
ASAJ	**Asahikawa**	**7.87 254**	P	**Pn**	**21 34 26.6**	**+2.8**
	comp=Z,1.2nm,0.3s,baz=79,slow=13,SNR=1.8					
ASAJ	**Asahikawa**	**7.87 254**	PN	**Pn**	**21 34 26.6**	**+2.8**
ASAJ			pmax	pmax		
	comp=Z,1.0nm,0.3s					
JKK2	**Kamakawa 2**	**7.87 252**	P	**Pn**	**21 34 26.3**	**+2.5**
JWK2	**Keihoku**	**7.95 263**	P	Pn	21 34 30.2	+5.4
JCH	**Churui**	**8.11 242**	P	**Pn**	**21 34 26.5**	**-0.6**
JCH			*e*S	**Sn**	**21 35 53.0**	**-4.3**
MYR	**Moyori**	**8.35 241**	*e*P	**Pn**	**21 34 29.7**	**-0.6**
JEM	**Erimo**	**8.59 240**	P	**Pn**	**21 34 33.7**	**+0.1**
JBT2	**Biratori 2**	**8.64 246**	P	**Pn**	**21 34 35.3**	**+1.0**
JNBK	**Urakawa-nobuka**	**8.67 242**	P	**Pn**	**21 34 33.6**	**-1.2**
JNBK			*e*S	**Sn**	**21 36 05.2**	**-5.9**
JNB	**Noboribetsu**	**9.64 248**	P	**Pn**	**21 34 47.5**	**-0.5**
JNB			*e*S	**Sn**	**21 36 32.3**	**-2.4**
JKB	**Kayabe**	**9.95 245**	P	**Pn**	**21 34 51.2**	**-1.0**
JKB			*e*S	Sn	21 36 35.9	-6.5
JSH	**Shimam**	**10.19 251**	P	**Pn**	**21 34 56.0**	**+0.5**
NKL	**Nikolayevsk**	**10.22 313**	*e*P	**Pn**	**21 34 53.3**	**-2.5**
JYM2	**Yakumo 2**	**10.25 247**	P	**Pn**	**21 34 55.6**	**-0.6**
JANG	**Nango**	**10.59 237**	P	Pn	21 34 57.4	-3.5
JANG			*e*S	Sn	21 36 47.2	-11
JOSM	**Okushiri--Mats**	**10.84 249**	P	**Pn**	**21 35 03.8**	**-0.5**
JRG	**Rokugo**	**11.74 235**	P	**Pn**	**21 35 14.3**	**-2.4**
EKMR	**Ekimchan**	**14.40 303**	*e*P	**Pn**	**21 35 55.0**	**+2.4**
EKMR			AMB	AMB	21 36 08.3	
	comp=Z,3.0nm,0.6s					
KLR	**Kul'dur**	**14.50 287**	AMS	AMS	21 36 50.0	
	comp=Z,800nm,14.0s					
USRK	**Ussuriysk Ar.**	**15.04 268**	P	**Pn**	**21 36 00.9**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=79,slow=14,SNR=6.2					
MJAR	**Matsushiro Arr**	**15.12 233**	P	**P**	**21 36 07.8**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=35,slow=9.2,SNR=9.7					
MJAR	**Matsushiro Arr**	**15.12 233**	*e*P	**P**	**21 36 07.9**	**+1.8**
SEY	**Seymchan**	**16.17 359**	P	**P**	**21 36 18.3**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=181,slow=14,SNR=3.5					
BMKR	**Bomnak**	**17.21 306**	*e*P	**P**	**21 36 30.0**	**+0.8**
YASR	**Yasnyy**	**17.35 301**	*e*P	**Pn**	**21 36 29.6**	**-0.4**
KROS	**Kirovskiy**	**18.19 304**	*e*P	**Pn**	**21 36 42.2**	**+1.9**
KSRS	**Korea Array**	**20.82 252**	P	Pn	21 37 10.8	-0.9
	comp=Z,1.4nm,0.6s,baz=58,slow=10,SNR=8.4					
KSRS	**Korea Array**	**20.82 252**	P	Pn	21 37 10.8	-0.9
KSRS			pmax	pmax		
	comp=Z,1.0nm,0.6s					
H11N2	**WAKE ISLAND Hy**	**29.26 153**	T	T	22 09 52.4	
	baz=340,slow=76,SNR=679					
H11N1	**WAKE ISLAND Hy**	**29.28 153**	T	T	22 09 53.2	
	baz=340,slow=76,SNR=720					
H11N3	**WAKE ISLAND Hy**	**29.28 153**	T	T	22 09 53.2	
	baz=340,slow=76,SNR=490					
H11S1	**WAKE ISLAND Hy**	**30.35 154**	T	T	22 11 18.4	
	baz=338,slow=74					
H11S3	**WAKE ISLAND Hy**	**30.36 154**	T	T	22 11 25.0	
	baz=338,slow=74					
H11S2	**WAKE ISLAND Hy**	**30.37 154**	T	T	22 11 17.6	
	baz=338					
SONM	**Songino Array**	**31.32 289**	P	**P**	**21 38 47.3**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=72,slow=9.3,SNR=3.1					
ILAR	**Eielson Array**	**36.50 39**	P	**P**	**21 39 31.9**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=267,slow=9.1,SNR=5.2					
ILAR			pP	**pP**	**21 39 44.9**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=252,slow=5.5,SNR=4.4					
ZALV	**Zalesovo Beam**	**42.58 306**	P	**P**	**21 40 22.1**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=58,slow=5.4,SNR=3.8					
ZALV			PcP	**PcP**	**21 42 12.8**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=64,slow=3.4,SNR=2.6					
ZALV			LR	LR	21 59 44.8	
	comp=Z,64nm,18.2s,baz=68,slow=38					
MKAR	**Makanchi Array**	**46.92 297**	P	**P**	**21 40 55.8**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=58,slow=5.2,SNR=6.1					
MKAR			PcP	**PcP**	**21 42 28.8**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=54,slow=4.5,SNR=3.5					
KURK	**Kurchatov**	**47.34 304**	P	**P**	**21 40 58.9**	**-1.0**
KURK			pmax	pmax		
	comp=Z,2.0nm,0.2s					
KURK	**Kurchatov**	**47.34 304**	*e*P	**P**	**21 40 58.9**	**-1.0**
KURBB	**Kurchatov Arra**	**47.43 304**	P	**P**	**21 40 58.9**	**-1.7**
	comp=Z,2.1nm,0.2s,baz=66,slow=8.4,SNR=3.7					
BVAR	**Borovoye Array**	**50.83 309**	PcP	**PcP**	**21 42 42.9**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=8.5,slow=2.9,SNR=3.1					
YKA	**Yellowknife Ar**	**50.88 37**	P	**P**	**21 41 27.7**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=291,slow=6.5,SNR=3.3					
YKA	**Yellowknife Ar**	**50.88 37**	P	**P**	**21 41 27.7**	**+0.9**
YKA			pmax	pmax		
	comp=Z,1.0nm,0.6s					
CMAR	**Chiang Mai Arr**	**52.39 256**	P	**P**	**21 41 40.0**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=37,slow=7.2,SNR=11					
CMAR	**Chiang Mai Arr**	**52.39 256**	P	**P**	**21 41 40.0**	**+1.4**
CMAR			pmax	pmax		
	comp=Z,1.0nm,0.7s					
ARCES	**ARCESS Array B**	**57.80 341**	P	**P**	**21 42 16.1**	**-0.8**
	comp=Z,2.9nm,1.0s,baz=25,slow=7.1,SNR=3.0					
ARCES	**ARCESS Array B**	**57.80 341**	P	**P**	**21 42 16.2**	**-0.8**
ARCES			pmax	pmax		
	comp=Z,3.0nm,1.0s					
AKTO	**Aktyubinsk**	**58.69 312**	LR	LR	22 08 44.9	
	comp=Z,49nm,19.4s,baz=71,slow=37					
NVAR	**Mina Array Bea**	**62.40 62**	P	**P**	**21 42 50.3**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=300,slow=6.2,SNR=4.0					
FINES	**FINESS Array B**	**63.99 335**	P	**P**	**21 42 58.0**	**-1.0**
	comp=Z,1.8nm,0.6s,baz=38,slow=7.4,SNR=13					
FINES			LR	LR	22 15 09.2	
	comp=Z,42nm,18.1s,baz=0.0,slow=40					
FINES	**FINESS Array B**	**63.99 335**	P	**P**	**21 42 58.0**	**-1.0**
FINES			pmax	pmax		
	comp=Z,2.0nm,0.6s					
FINES			MLR	MLR		
	comp=Z,42nm,18.1s					
PDAR	**Pinedale Array**	**64.71 54**	P	**P**	**21 43 05.2**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=7.6,slow=2.2,SNR=4.2					
NB2	**NORSAR Subarra**	**68.18 341**	P	**P**	**21 43 25.1**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=27,slow=6.2					
NOA	**NORSAR Array B**	**68.18 341**	P	**P**	**21 43 25.4**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=29,slow=6.2,SNR=6.0					
NOA	**NORSAR Array B**	**68.18 341**	P	**P**	**21 43 25.4**	**-0.6**
NOA			pmax	pmax		
	comp=Z,2.0nm,0.7s					
WRA	**Warramunga Arr**	**68.56 199**	P	**P**	**21 43 29.2**	**+0.5**
	comp=Z,0.4nm,0.9s,baz=13,slow=6.3,SNR=2.9					
AKASG	**Malin Array Be**	**71.50 326**	P	**P**	**21 43 45.2**	**-1.3**
	comp=Z,1.8nm,0.4s,baz=35,slow=6.1,SNR=5.5					
AKASG	**Malin Array Be**	**71.50 326**	P	**P**	**21 43 45.2**	**-1.3**
AKASG			pmax	pmax		
	comp=Z,2.0nm,0.4s					
ASAR	**Alice Springs**	**72.26 198**	P	**P**	**21 43 53.2**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=8.2,slow=5.4,SNR=5.5					
ASAR			pP	**pP**	**21 44 07.3**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=9.5,slow=6.3,SNR=2.5					
TXAR	**Lajitas Array**	**77.46 61**	P	**P**	**21 44 22.7**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=296,slow=4.7,SNR=13					
TXAR			pP	**pP**	**21 44 36.2**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=291,slow=4.4,SNR=7.9					
TXAR	**Lajitas Array**	**77.46 61**	P	**P**	**21 44 22.7**	**+1.2**
TXAR			*PP	**pP**	**21 44 36.2**	**-1.0**
TXAR			pmax	pmax		
	comp=Z,1.0nm,0.5s					
BRTR	**Keskin Array B**	**78.35 317**	P	**P**	**21 44 26.4**	**0.0**
	comp=Z,0.9nm,0.8s,baz=84,slow=6.3,SNR=5.0					
BRTR	**Keskin Array B**	**78.35 317**	P	**P**	**21 44 26.4**	**0.0**
BRTR			pmax	pmax		
	comp=Z,1.0nm,0.8s					
GERES	**GERESS Array B**	**78.41 334**	P	**P**	**21 44 25.6**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=61,slow=6.9,SNR=3.3					
GERES	**GERESS Array B**	**78.41 334**	P	**P**	**21 44 25.6**	**-0.9**
GERES			pmax	pmax		
	comp=Z,1.0nm,0.6s					

ISCJB **14** *21:41:02.3±0.5,29°.29N±0°.04×104°.03E±0°.08,h10km, mb3.9/12,MS3.0/1,Error ellipse: s-maj=10.2km s-min=4.3km az=157.2*

IDC **14** *21:41:02.2±0.9,29°.18N×104°.01E,h0km,mb4.0/12, mb1 4.1/13,mb1mx3.8/52,mbtmp4.0/13,ML3.3/1,MS3.1/1, Ms1 3.1/1,ms1mx2.5/34,Error ellipse: s-maj=27.1km s-min=15.6km az=45.0*

BJI **14** *21:41:04.5,29°.30N×103°.98E,h21km,mb4.3/3,ML3.9/23, Ms3.9/9,Ms7 3.6/9*

ISC 14 21:41:04.5±0.6,29°.36N±0°.04×104°.06E±0°.07,h10km,n21, σ1§94/28,mb4.0/12,1C,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.57**	**350**	⇑Pg	**Pb**	**21 41 33.9**	**+0.3**
CD2				Sg	**Sg**	**21 41 56.8**	**+1.9**
CD2				SMN			
	6μm,0.4s						
CD2				SME			
	8μm,0.7s						
GYA	**Guiyang**	**3.70**	**141**	Pn	**Pn**	**21 42 02.9**	**+1.1**
GYA				Pg	**Pg**	**21 42 14.8**	**-0.5**
GYA				Sn	**Sb**	**21 42 52.3**	**-2.6**
GYA				Sg	**Sg**	**21 43 04.1**	**+0.9**
GYA				SMN			
	190nm,1.2s						
GYA				SME			
	220nm,1.0s						
GYA				LN			
	1μm,6.5s						
GYA				LE			
	980nm,5.8s						
GYA				LZ			
	1μm,6.2s						
XAN	**Xi'an**	**6.24**	**40**	Pn	**Pn**	**21 42 38.3**	**+1.6**
XAN				Pg	**Pb**	**21 42 55.8**	**+2.6**
XAN				Sn	Sb	21 43 59.0	-9.0
XAN				Sg	**Sg**	**21 44 21.9**	**-2.9**
XAN				SMN			
	470nm,1.0s						
XAN				SME			
	250nm,1.0s						
XAN				LN			
	320nm,3.8s						
XAN				LE			
	250nm,3.8s						
XAN				LZ			
	200nm,4.5s						
LZH	**Lanzhou**	**6.71**	**359**	Pg	Pg	21 43 07.9	-5.1
LZH				Sn	**Sn**	**21 44 02.3**	**+2.5**
LZH				Sg	**Sg**	**21 44 34.5**	**-5.4**
LZH				SMN			
	70nm,0.5s						
LZH				SME			
	93nm,0.7s						
LZH				LN			
	400nm,6.2s						
LZH				LE			
	420nm,7.8s						
LZH				LZ			
	450nm,6.9s						
WHN	**Wuhan**	**9.01**	**80**	P	Pn	21 43 07.4	-7.2
WHN				S	Sn	21 44 27.3	-29
WHN				LR	LR		
	comp=N,1μm,6.0s						
WHN				LR	LR		
	comp=E,930nm,10.0s						
GTA	**Gaotai**	**10.62**	**342**	*e*P	Pn	21 43 34.3	-2.5
GTA				pP		21 43 37.3	
GTA				sP		21 43 40.3	
GTA				S	**Sn**	**21 45 32.5**	**-3.4**
GTA				sS		21 45 37.3	
GTA				SS	**SnSn**	**21 45 45.3**	**-2.7**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,38nm,4.6s						
GTA				LR	LR		
	comp=N,130nm,11.4s						
GTA				LR	LR		
	comp=E,240nm,10.9s						
GTA				LR	LR		
	comp=Z,190nm,12.3s						
CMAR	**Chiang Mai Arr**	**11.81**	**204**	Pn	**Pn**	**21 43 53.8**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=17,slow=12,SNR=4.9						
SONM	**Songino Array**	**18.54**	**5**	P	**Pn**	**21 45 22.6**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=180,slow=11,SNR=9.5						
WMQ	**Urumqi**	**19.47**	**322**	P	**P**	**21 45 32.3**	**+0.9**
KSRS	**Korea Array**	**21.46**	**62**	P	**P**	**21 45 53.0**	**+0.1**
	comp=Z,6.4nm,0.8s,baz=241,slow=9.8,SNR=27						
KSRS				LR	LR	21 55 10.9	
	comp=Z,56nm,19.9s,baz=236,slow=39						
JNU	**Nakatsue**	**23.21**	**74**	P	**P**	**21 46 12.1**	**+0.3**
	comp=Z,9.9nm,0.8s,baz=62,slow=1.8,SNR=3.8						
MKAR	**Makanchi Array**	**24.30**	**322**	P	**P**	**21 46 22.5**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=122,slow=11,SNR=16						
USRK	**Ussuriysk Ar.**	**26.67**	**49**	P	**P**	**21 46 44.0**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=238,slow=11,SNR=4.1						
ZALV	**Zalesovo Beam**	**28.28**	**336**	P	**P**	**21 46 58.2**	**+0.3**
	comp=Z,8.3nm,0.7s,baz=141,slow=8.4,SNR=35						
KURBB	**Kurchatov Arra**	**28.62**	**325**	P	**P**	**21 47 00.9**	**0.0**
	comp=Z,1.8nm,0.7s,baz=134,slow=9.3,SNR=24						
BVAR	**Borovoye Array**	**34.15**	**323**	P	**P**	**21 47 50.6**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=141,slow=9.3,SNR=4.2						
WRA	**Warramunga Arr**	**57.05**	**146**	P	**P**	**21 50 49.0**	**-1.9**
	comp=Z,1.8nm,0.8s,baz=337,slow=8.0,SNR=9.6						
ARCES	**ARCESS Array B**	**58.83**	**336**	P	**P**	**21 51 02.6**	**-0.2**
	comp=Z,2.0nm,0.9s,baz=95,slow=7.4,SNR=3.0						
FINES	**FINESS Array B**	**58.99**	**327**	P	**P**	**21 51 03.6**	**-0.4**
	comp=Z,2.3nm,0.9s,baz=106,slow=10,SNR=4.4						
ASAR	**Alice Springs**	**60.03**	**148**	P	**P**	**21 51 10.3**	**-1.3**
	comp=Z,1.0nm,0.8s,baz=325,slow=7.0,SNR=6.8						
GERES	**GERESS Array B**	**68.74**	**315**	P	**P**	**21 52 08.9**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=75,slow=5.7,SNR=3.9						

ISCJB **14** *21:49:13.9±0.7,29°.09N±0°.05×103°.97E±0°.10,h17km, mb3.7/7,Error ellipse: s-maj=12.2km s-min=7.7km az=8.9*

IDC **14** *21:49:13.6±0.9,29°.18N×104°.05E,h0km,mb3.8/7, mb1 3.8/9,mb1mx3.6/48,mbtmp3.7/9,ML3.4/2,Error ellipse: s-maj=30.6km s-min=17.5km az=65.0*

BJI **14** *21:49:15.9,29°.30N×103°.98E,h21km,ML3.4/16,Ms3.4/1*

ISC 14 21:49:15.9±0.8,29°.21N±0°.06×104°.01E±0°.10,h17km,n13, σ1§02/17,mb3.7/7,1C,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.71**	**353**	⇑Pg	**Pb**	**21 49 45.5**	**-1.4**
CD2				Sg	**Sb**	**21 50 07.8**	**-0.4**
CD2				SMN			
	2μm,0.7s						
CD2				SME			
	3μm,0.7s						
GYA	**Guiyang**	**3.61**	**139**	Pn	**Pb**	**21 50 16.8**	**-2.5**
GYA				Pg	**Pg**	**21 50 26.0**	**+1.0**
GYA				Sn	**Sb**	**21 51 03.3**	**+0.4**
GYA				Sg	**Sg**	**21 51 12.3**	**+0.5**
GYA				SMN			
	210nm,1.1s						
GYA				SME			
	190nm,1.0s						
XAN	**Xi'an**	**6.38**	**40**	Pn	**Pn**	**21 50 49.5**	**+0.3**
XAN				Pg	Pb	21 51 09.6	+3.1
XAN				Sn	Sn	21 52 06.9	+5.2
XAN				Sg	Sg	21 52 33.0	-7.7
CMAR	**Chiang Mai Arr**	**11.66**	**205**	Pn	**Pn**	**21 52 01.8**	**+0.2**
	0.0nm,0.3s,baz=19,slow=13,SNR=2.6						
SONM	**Songino Array**	**18.69**	**5**	P	**Pn**	**21 53 34.7**	**+0.9**
	0.3nm,0.3s,baz=187,slow=12,SNR=4.0						
WMQ	**Urumqi**	**19.56**	**323**	P	**Pn**	**21 53 43.8**	**-0.4**
KSRS	**Korea Array**	**21.57**	**61**	P	**P**	**21 54 04.7**	**+0.2**
	1.6nm,0.5s,baz=238,slow=9.8,SNR=11						
MKAR	**Makanchi Array**	**24.39**	**322**	P	**P**	**21 54 35.0**	**+1.7**
	1.4nm,0.7s,baz=126,slow=12,SNR=11						
ZALV	**Zalesovo Beam**	**28.40**	**336**	P	**P**	**21 55 09.9**	**+0.7**
	4.6nm,0.8s,baz=142,slow=8.4,SNR=18						
KURBB	**Kurchatov Arra**	**28.72**	**325**	P	**P**	**21 55 11.8**	**-0.3**
	1.1nm,0.7s,baz=132,slow=9.6,SNR=19						
WRA	**Warramunga Arr**	**56.95**	**145**	P	**P**	**21 59 00.7**	**+0.2**
	1.1nm,0.9s,baz=337,slow=7.9,SNR=6.5						
ASAR	**Alice Springs**	**59.92**	**148**	P	**P**	**21 59 21.1**	**-0.1**
	0.5nm,0.8s,baz=331,slow=7.4,SNR=3.7						
ILAR	**Eielson Array**	**71.58**	**25**	P	**P**	**22 00 35.5**	**-0.3**
	0.2nm,0.5s,baz=287,slow=7.2,SNR=4.4						

IDC 14 22:00:02.8±1.1,29°.17N×104°.04E,h0km,mb3.5/6, mb1 3.6/7,mb1mx3.4/36,mbtmp3.5/7,Error ellipse: s-maj=39.8km s-min=18.4km az=58.0,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.64**	**205**	Pn	Pn	22 02 54.3	+4.0
	0.1nm,0.3s,baz=21,slow=13,SNR=3.3						
SONM	**Songino Array**	**18.72**	**5**	P	P	22 04 22.9	-0.2
	baz=189,slow=8.3,SNR=3.4						
KSRS	**Korea Array**	**21.56**	**61**	P	P	22 04 53.5	-0.2
	1.6nm,0.7s,baz=243,slow=10.0,SNR=8.5						
MKAR	**Makanchi Array**	**24.43**	**322**	P	P	22 05 23.6	+0.4
	0.3nm,0.7s,baz=128,slow=9.3,SNR=3.7						
ZALV	**Zalesovo Beam**	**28.45**	**336**	P	P	22 05 59.1	-0.1
	2.0nm,0.8s,baz=133,slow=10,SNR=7.6						
KURBB	**Kurchatov Arra**	**28.77**	**325**	P	P	22 06 01.7	-0.4
	0.4nm,0.6s,baz=130,slow=9.5,SNR=7.6						
WRA	**Warramunga Arr**	**56.91**	**145**	P	P	22 09 49.3	-0.5
	0.4nm,0.7s,baz=327,slow=9.1,SNR=3.3						
ASAR	**Alice Springs**	**59.88**	**148**	P	P	22 10 10.9	+0.3
	0.4nm,0.9s,baz=328,slow=8.7,SNR=3.5						

ISCJB **14** *22:06:52.0±0.7,29°.04N±0°.05×104°.01E±0°.08,h17km, mb3.8/10,MS2.9/4,Error ellipse: s-maj=9.7km s-min=7.1km az=161.8*

IDC **14** *22:06:52.0±0.9,29°.20N×104°.02E,h0km,mb3.9/10, mb1 4.0/11,mb1mx3.7/44,mbtmp3.9/11,ML3.4/1,MS2.9/5, Ms1 2.9/5,ms1mx2.7/31,Error ellipse: s-maj=30.6km s-min=17.5km az=51.0*

BJI **14** *22:06:55.0,29°.28N×103°.97E,h16km,mb3.6/2,ML3.7/22, Ms3.6/4,Ms7 3.3/5*

ISC 14 22:06:54.8±0.7,29°.08N±0°.05×103°.90E±0°.08,h17km,n22, σ2§05/27,mb3.9/10,MS2.9/4,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.83**	**356**	Pg	**Pn**	**22 07 24.1**	**-1.5**
CD2				Sg	**Sn**	**22 07 47.1**	**-1.3**
CD2				SMN			
	2μm,0.8s						
CD2				SME			
	3μm,0.7s						
GYA	**Guiyang**	**3.58**	**136**	Pn	**Pb**	**22 07 55.5**	**-2.2**
GYA				Pg	**Pg**	**22 08 04.4**	**+1.0**
GYA				Sn	**Sb**	**22 08 42.4**	**+1.5**
GYA				Sg	**Sg**	**22 08 53.8**	**+4.0**
GYA				SMN			
	240nm,0.8s						
GYA				SME			
	260nm,0.8s						
XAN	**Xi'an**	**6.54**	**40**	Pn	**Pn**	**22 08 28.3**	**-2.0**
XAN				Pg	**Pb**	**22 08 48.5**	**+0.3**
XAN				Sn	**Sn**	**22 09 44.0**	**-0.6**
XAN				Sg	Sb	22 10 11.9	+5.7
XAN				SMN			
	230nm,0.9s						
XAN				SME			
	170nm,0.9s						
LZH	**Lanzhou**	**6.99**	**360**	*e*Pg	**Pb**	**22 08 57.9**	**+2.0**
LZH				Sn	**Sn**	**22 09 57.9**	**+2.1**
LZH				Sg	Sg	22 10 28.8	-11
LZH				SMN			
	75nm,1.1s						
LZH				SME			
	100nm,1.2s						
WHN	**Wuhan**	**9.20**	**78**	P	**Pn**	**22 09 06.1**	**-0.6**
GTA	**Gaotai**	**10.85**	**343**	*e*P	**Pn**	**22 09 30.9**	**+1.5**
GTA				pP		22 09 34.1	
GTA				sP		22 09 36.9	
GTA				S	**Sn**	**22 11 34.3**	**+3.9**
GTA				sS		22 11 38.6	
GTA				SS	**SnSn**	**22 11 47.6**	**+5.0**
GTA				PMZ			
	2.0nm,0.8s						
GTA				LN			
	80nm,10.4s						
GTA				LE			
	210nm,11.4s						
GTA				LZ			
	120nm,12.2s						
CMAR	**Chiang Mai Arr**	**11.50**	**204**	Pn	Pn	22 09 44.1	+5.8
	0.1nm,0.3s,baz=18,slow=12,SNR=7.5						
CMAR				LR	LR	22 13 52.0	
	comp=Z,13nm,21.1s,baz=205,slow=36						
SONM	**Songino Array**	**18.83**	**5**	P	**P**	**22 11 11.1**	**-2.8**
	0.1nm,0.3s,baz=191,slow=7.2,SNR=8.0						
WMQ	**Urumqi**	**19.61**	**323**	P	**P**	**22 11 22.3**	**0.0**
KSRS	**Korea Array**	**21.71**	**61**	P	**P**	**22 11 43.5**	**-1.5**
	5.3nm,0.8s,baz=242,slow=10,SNR=24						
KSRS				LR	LR	22 21 00.6	
	comp=Z,43nm,20.1s,baz=230,slow=39						
TLY	**Talaya**	**22.58**	**360**	LR	LR	22 21 19.9	
	comp=Z,25nm,18.8s,baz=176,slow=39						
JNU	**Nakatsue**	**23.42**	**73**	LR	LR	22 21 54.2	
	comp=Z,59nm,18.5s,baz=12,slow=39						
MKAR	**Makanchi Array**	**24.43**	**322**	P	**P**	**22 12 12.1**	**-0.5**
	2.2nm,0.9s,baz=125,slow=10,SNR=13						
USRK	**Ussuriysk Ar.**	**26.96**	**48**	P	**P**	**22 12 33.4**	**-2.0**
	1.0nm,0.8s,baz=254,slow=8.1,SNR=4.2						
ZALV	**Zalesovo Beam**	**28.48**	**336**	P	**P**	**22 12 47.8**	**-1.1**
	6.3nm,0.8s,baz=138,slow=8.9,SNR=26						
KURBB	**Kurchatov Arra**	**28.77**	**325**	P	**P**	**22 12 51.5**	**-0.1**
	1.8nm,0.8s,baz=132,slow=9.4,SNR=28						
MJAR	**Matsushiro Arr**	**29.67**	**67**	LR	LR	22 25 00.9	
	comp=Z,27nm,19.6s,baz=240,slow=37						
WRA	**Warramunga Arr**	**56.90**	**145**	P	**P**	**22 16 38.9**	**-0.2**
	0.7nm,0.5s,baz=337,slow=8.1,SNR=6.7						
ARCES	**ARCESS Array B**	**59.03**	**336**	P	**P**	**22 16 52.2**	**-1.2**
	1.3nm,0.8s,baz=98,slow=6.5,SNR=4.2						
ASAR	**Alice Springs**	**59.86**	**148**	P	**P**	**22 17 00.1**	**+0.4**
	0.7nm,0.8s,baz=324,slow=6.9,SNR=4.9						
NOA	**NORSAR Array B**	**66.27**	**328**	P	**P**	**22 17 41.1**	**-0.7**
	0.8nm,0.9s,baz=72,slow=4.7,SNR=3.6						
GERES	**GERESS Array B**	**68.84**	**315**	P	**P**	**22 17 58.7**	**+0.3**
	0.1nm,0.3s,baz=58,slow=3.3,SNR=3.4						

IDC **14** *22:39:05.

GYA				Sn	**Sb**	**22 55 05.8**	**-0.4**
GYA				Sg	**Sg**	**22 55 15.3**	**+0.2**
GYA				SMN			
	300nm,0.9s						
GYA				SME			
	320nm,0.8s						
XAN	**Xi'an**	**6.41**	**40**	Pn	**Pn**	**22 54 51.9**	**-1.9**
XAN				Pg	**Pb**	**22 55 12.0**	**+0.7**
XAN				Sn	**Sn**	**22 56 09.9**	**+3.2**
XAN				Sg	Sg	22 56 37.1	-8.8
XAN				SMN			
	150nm,1.1s						
XAN				SME			
	110nm,0.9s						
XAN				LN			
	130nm,3.6s						
XAN				LE			
	140nm,3.0s						
XAN				LZ			
	89nm,4.3s						
LZH	**Lanzhou**	**6.90**	**359**	*e*Pg	Pb	22 55 24.5	+4.8
LZH				Sn	**Sn**	**22 56 18.8**	**-0.1**
LZH				Sg	Sb	22 56 49.3	+7.5
LZH				SMN			
	32nm,0.8s						
LZH				SME			
	43nm,0.8s						
LZH				LN			
	200nm,4.4s						
LZH				LE			
	250nm,5.4s						
LZH				LZ			
	190nm,5.7s						
WHN	**Wuhan**	**9.08**	**79**	P	**Pn**	**22 55 29.5**	**-0.9**
GTA	**Gaotai**	**10.79**	**342**	*e*P	**Pn**	**22 55 54.3**	**+0.4**
GTA				pP		22 55 57.5	
GTA				sP		22 56 00.4	
GTA				S	**Sn**	**22 57 56.3**	**+2.0**
GTA				sS		22 58 02.4	
GTA				SS	**SnSn**	**22 58 09.1**	**+2.6**
GTA				PMZ			
	3.0nm,1.0s						
GTA				LN			
	80nm,12.4s						
GTA				LE			
	140nm,14.3s						
GTA				LZ			
	100nm,12.4s						
CMAR	**Chiang Mai Arr**	**11.62**	**205**	Pn	**Pn**	**22 56 06.6**	**+1.3**
	baz=18,slow=12,SNR=6.7						
SONM	**Songino Array**	**18.73**	**5**	P	**P**	**22 57 37.6**	**-0.4**
	0.5nm,0.3s,baz=187,slow=10.0,SNR=5.9						
WMQ	**Urumqi**	**19.59**	**323**	P	**P**	**22 57 47.3**	**-0.1**
KSRS	**Korea Array**	**21.59**	**61**	P	**P**	**22 58 08.3**	**-0.7**
	4.0nm,0.7s,baz=241,slow=10,SNR=22						
KSRS				LR	LR	23 07 04.5	
	comp=Z,31nm,18.5s,baz=222,slow=38						
JNU	**Nakatsue**	**23.31**	**73**	LR	LR	23 09 25.2	
	comp=Z,33nm,19.6s,baz=341,slow=42						
MKAR	**Makanchi Array**	**24.42**	**322**	P	**P**	**22 58 37.6**	**-0.1**
	1.4nm,0.8s,baz=125,slow=11,SNR=11						
ZALV	**Zalesovo Beam**	**28.44**	**336**	P	**P**	**22 59 12.7**	**-1.1**
	4.7nm,0.8s,baz=138,slow=9.1,SNR=20						
KURBB	**Kurchatov Arra**	**28.76**	**325**	P	**P**	**22 59 15.8**	**-0.9**
	0.8nm,0.5s,baz=131,slow=11,SNR=14						
WRA	**Warramunga Arr**	**56.92**	**145**	P	**P**	**23 03 03.8**	**-0.7**
	1.8nm,0.7s,baz=335,slow=7.6,SNR=5.2						
ARCES	**ARCESS Array B**	**58.99**	**336**	P	**P**	**23 03 17.8**	**-0.6**
	1.3nm,0.8s,baz=97,slow=7.4,SNR=3.6						
ASAR	**Alice Springs**	**59.89**	**148**	P	**P**	**23 03 24.9**	**-0.3**
	0.8nm,0.6s,baz=329,slow=7.0,SNR=6.9						
ILAR	**Eielson Array**	**71.61**	**25**	P	**P**	**23 04 40.4**	**+0.1**
	0.4nm,0.7s,baz=322,slow=2.8,SNR=5.2						
KEST	**Kesra**	**77.05**	**304**	LR	LR	23 47 12.7	
	comp=Z,8.8nm,18.8s,baz=272,slow=42						

*IDC **14** 23:43:59.4±0.9,4.°68S×154.°36E,h0km,mb4.0/14, mb1 4.2/16,mb1mx4.0/45,mbtmp4.0/16,ML3.3/2,MS3.3/4, Ms1 3.3/4,ms1mx2.9/32,Error ellipse: s-maj=27.3km s-min=15.7km az=98.0*

*ISCJB **14** 23:44:03.3±0.5,4.°64S±0.°06×154.°13E±0.°07,h33km, mb4.0/18,MS3.1/3,Error ellipse: s-maj=10.8km s-min=8.0km az=16.3*

*NEIC **14** 23:44:09.1±2.2,4.°71S×154.°21E,h74km±22km,mb4.3/5, Error ellipse: s-maj=18.6km s-min=11.2km az=121.0*

ISC 14 23:44:05.1±0.8,4.°64S±0.°09×154.°2E±0.°1,h35km,n47, σ1§56/41,mb4.0/18,MS3.4/3,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.43**	**130**	Pn	Pn	23 45 54.3	+3.2
	195nm,0.3s						
PMG	**Port Moresby**	**8.45**	**235**	Pn	**Pn**	**23 46 05.1**	**0.0**
	7.8nm,0.3s,baz=47,slow=12,SNR=14						
PMG				Sn	Sn	23 47 33.5	-5.7
	2.1nm,0.3s,baz=18,slow=19,SNR=2.9						
JAY	**Jayapura**	**13.64**	**278**	Pn	**Pn**	**23 47 16.8**	**+0.5**
	0.6nm,0.3s,baz=144,slow=14,SNR=2.9						
JAY				LR	LR	23 51 40.9	
	comp=Z,192nm,19.6s,baz=124,slow=34						
COEN	**Coen**	**14.28**	**229**	P	**P**	**23 47 32.8**	**+1.1**
	baz=12,SNR=4.4						
MTSU	**Mount Surprise**	**16.54**	**215**	P	**P**	**23 47 58.6**	**+1.8**
	baz=14,SNR=4.7						
CTA	**Charters Tower**	**17.20**	**206**	P	**P**	**23 48 05.8**	**+1.7**
	0.3nm,0.3s,baz=26,slow=15,SNR=4.4						
GUMO	**Guam**	**20.34**	**333**	LR	LR	23 55 29.3	
	comp=Z,32nm,20.3s,baz=175,slow=34						
EIDS	**Eidsvold**	**20.83**	**188**	*e*P	**P**	**23 48 42.7**	**-1.1**
	10nm,0.8s						
QIS	**Mount Isa**	**21.26**	**221**	P	**P**	**23 48 49.7**	**+1.2**
	baz=19,SNR=7.5						
RMQ	**Roma**	**22.34**	**193**	P	**P**	**23 49 03.4**	**+3.4**
	baz=21,SNR=5.0						
KDU	**Kakadu**	**22.91**	**248**	P	**P**	**23 49 03.4**	**-2.8**
	baz=21,SNR=4.9						
SIJI	**Sorong**	**23.21**	**279**	P	**P**	**23 49 09.5**	**+0.2**
	3.8nm,0.3s,baz=139,slow=11,SNR=2.2						
SIJI				LR	LR	23 58 26.8	
	comp=Z,144nm,20.7s,baz=275,slow=37						
QLP	**Quilpie**	**23.81**	**203**	P	**P**	**23 49 16.4**	**+1.5**
	baz=22,SNR=6.0						
WRAB	**Tennant Creek**	**24.60**	**230**	*e*P	**P**	**23 49 21.5**	**-0.7**
	14nm,0.6s						
WRA	**Warramunga Arr**	**24.61**	**230**	P	**P**	**23 49 21.1**	**-1.3**
	13nm,0.7s,baz=53,slow=9.8,SNR=49						
H11S3	**WAKE ISLAND Hy**	**26.07**	**28**	T	T	00 16 56.0	
	baz=205,slow=77,SNR=47						
H11S2	**WAKE ISLAND Hy**	**26.08**	**28**	T	T	00 16 56.0	
	baz=205,slow=77,SNR=31						
H11S1	**WAKE ISLAND Hy**	**26.09**	**28**	T	T	00 16 56.1	
	baz=205,slow=77,SNR=3.6						
ASAR	**Alice Springs**	**27.23**	**224**	P	**P**	**23 49 45.0**	**-1.0**
	1.1nm,0.5s,baz=57,slow=9.3,SNR=11						
KNRA	**Kununurra**	**27.30**	**244**	P	**P**	**23 49 47.6**	**+0.9**
	baz=25,SNR=5.2						
CMSA	**Cobar Meteorol**	**27.93**	**196**	P	**P**	**23 49 56.7**	**+4.6**
	baz=26,SNR=6.7						
STKA	**Stephens Creek**	**29.57**	**202**	P	**P**	**23 50 07.7**	**+0.9**
	2.7nm,0.6s,baz=41,slow=14,SNR=14						
STKA				LR	LR	00 01 32.8	
	comp=Z,87nm,21.0s,baz=29,slow=36						
STKA	**Stephens Creek**	**29.57**	**202**	P	**P**	**23 50 07.9**	**+1.1**
	baz=28,SNR=8.7						
FITZ	**Fitzroy Crossi**	**30.97**	**242**	P	**P**	**23 50 16.8**	**-2.5**
	baz=29,SNR=9.3						
LUWI	**Luwuk**	**31.59**	**276**	P	P	23 50 29.1	+4.3
	baz=30,SNR=4.2						
HTT	**Hallett**	**31.99**	**205**	P	**P**	**23 50 29.2**	**+1.0**
	baz=30,SNR=4.1						
WRKA	**Warakurna**	**32.10**	**228**	P	**P**	**23 50 26.9**	**-2.3**
	baz=30,SNR=9.1						
FORT	**Forrest**	**35.81**	**220**	P	**P**	**23 51 00.8**	**-0.6**
	baz=34,SNR=15						
MBWA	**Marble Bar**	**37.27**	**241**	*e*P	**P**	**23 51 11.8**	**-2.1**
MEEK	**Meekatharra**	**40.42**	**233**	P	**P**	**23 51 38.6**	**-1.7**
	baz=38,SNR=11						
MJAR	**Matsushiro Arr**	**43.61**	**341**	P	**P**	**23 52 06.3**	**+0.2**
	0.5nm,0.4s,baz=166,slow=7.3,SNR=3.2						
KSRS	**Korea Array**	**48.50**	**332**	P	**P**	**23 52 44.9**	**+0.3**
	0.4nm,0.3s,baz=149,slow=8.2,SNR=3.7						
KSAR	**Wonju Array Be**	**48.51**	**332**	P	**P**	**23 52 44.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**59.08**	**295**	P	**P**	**23 54 04.0**	**+1.6**
	0.8nm,0.3s,baz=108,slow=4.9,SNR=2.8						
SONM	**Songino Array**	**66.94**	**327**	P	**P**	**23 54 55.0**	**+0.8**
	0.5nm,0.6s,baz=146,slow=4.3,SNR=3.0						
VNDA	**Vanda**	**72.94**	**178**	P	**P**	**23 55 30.6**	**+0.1**
	0.2nm,0.5s,baz=338,slow=5.6,SNR=2.4						
RC01	**Rabbit Creek A**	**78.45**	**24**	P	**P**	**23 56 01.6**	**-0.5**
BPAW	**Bear Paw Mtn.**	**79.62**	**21**	*e*P	**P**	**23 56 07.8**	**-0.7**
	0.7nm,0.9s						
MKAR	**Makanchi Array**	**81.13**	**319**	P	**P**	**23 56 18.9**	**+1.8**
	0.3nm,0.7s,baz=107,slow=4.8,SNR=2.3						
ILAR	**Eielson Array**	**81.49**	**22**	P	**P**	**23 56 17.2**	**-1.3**
	0.5nm,0.8s,baz=232,slow=4.4,SNR=3.6						
ZALV	**Zalesovo Beam**	**81.80**	**326**	P	**P**	**23 56 20.9**	**+0.6**
	0.5nm,0.5s,baz=100,slow=6.2,SNR=2.6						
EGAK	**Eagle**	**83.66**	**23**	*e*P	**P**	**23 56 29.3**	**-0.5**
	3.4nm,0.8s						
EKS2	**Erkin-Say**	**86.10**	**313**	*e*P	**P**	**23 56 42.4**	**-0.4**
	2.2nm,0.7s						
MAW	**Mawson**	**86.26**	**203**	P	**P**	**23 56 42.8**	**0.0**
	1.2nm,0.5s,baz=75,slow=9.9,SNR=3.6						
BVAR	**Borovoye Array**	**89.95**	**323**	P	**P**	**23 56 59.5**	**-1.2**
	0.5nm,0.5s,baz=76,slow=6.1,SNR=3.7						
GERES	**GERESS Array B**	**124.64**	**329**	PKP	**PKPdf**	**00 03 01.6**	**+0.4**
	0.1nm,0.3s,baz=81,slow=1.3,SNR=3.2						
TORD	**Torodi Ar. Bea**	**151.58**	**289**	PKPbc	**PKPbc**	**00 03 55.5**	**-1.2**
	0.7nm,0.6s,baz=32,slow=2.7,SNR=5.7						

*ISCJB **14** 23:48:10.7±0.5,29.°27N±0.°04×103.°97E±0.°05,h10km, mb4.0/10,MS3.0/5,Error ellipse: s-maj=6.9km s-min=5.1km az=163.7*

*IDC **14** 23:48:10.8±1.0,29.°17N×103.°98E,h0km,mb4.0/10, mb1 4.1/11,mb1mx3.7/47,mbtmp4.0/11,ML3.4/1,MS3.1/6, Ms1 3.2/6,ms1mx2.9/49,Error ellipse: s-maj=29.3km s-min=17.2km az=53.0*

*BJI **14** 23:48:11.7,29.°27N×103.°96E,h19km,mb4.0/5,mB4.2/2, ML4.1/22,Ms4.0/6,Ms7 3.6/8*

ISC 14 23:48:12.8±0.7,29.°25N±0.°04×103.°91E±0.°06,h10km,n22, σ1§71/29,mb4.0/10,MS2.9/5,1D,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.66**	**356**	Pg	**Pn**	**23 48 42.5**	**+0.4**
CD2				Sg	**Sg**	**23 49 05.6**	**-0.8**
CD2				SMN			
	6μm,0.6s						
CD2				SME			
	8μm,0.8s						
GYA	**Guiyang**	**3.70**	**138**	Pn	**Pn**	**23 49 11.9**	**+1.7**
GYA				Pg	**Pg**	**23 49 21.8**	**-1.9**
GYA				Sn	**Sb**	**23 50 01.3**	**-2.0**
GYA				Sg	**Sg**	**23 50 10.4**	**-1.2**
GYA				SMN			
	270nm,0.8s						
GYA				SME			
	210nm,0.8s						
XAN	**Xi'an**	**6.41**	**41**	Pn	**Pn**	**23 49 45.8**	**-1.6**
XAN				Pg	**Pb**	**23 50 07.3**	**+2.8**
XAN				Sn	**Sn**	**23 51 02.1**	**+1.5**
XAN				Sg	Sg	23 51 30.4	-8.2
XAN				SMN			
	650nm,1.0s						
XAN				SME			
	420nm,0.9s						
XAN				LN			
	520nm,3.9s						
XAN				LE			
	410nm,3.0s						
XAN				LZ			
	340nm,3.9s						
LZH	**Lanzhou**	**6.82**	**360**	Pg	Pb	23 50 15.5	+3.9
LZH				Sn	**Sn**	**23 51 09.8**	**-1.1**
LZH				Sg	Sg	23 51 44.4	-7.4
LZH				SMN			
	110nm,1.0s						
LZH				SME			
	250nm,1.2s						
LZH				LN			
	620nm,5.6s						
LZH				LE			
	710nm,5.0s						
LZH				LZ			
	420nm,6.2s						
WHN	**Wuhan**	**9.15**	**79**	P	**Pn**	**23 50 25.6**	**+0.6**
GTA	**Gaotai**	**10.69**	**343**	P	Pn	23 50 43.0	-3.1
GTA				S	**Sn**	**23 52 41.0**	**-4.9**
GTA				PMZ			
	2.0nm,1.1s						
GTA				LN			
	240nm,13.3s						
GTA				LE			
	450nm,13.3s						
GTA				LZ			
	210nm,10.4s						
CMAR	**Chiang Mai Arr**	**11.66**	**204**	Pn	**Pn**	**23 51 01.4**	**+2.0**
	0.2nm,0.3s,baz=28,slow=10,SNR=3.4						
CMAR				LR	LR	23 56 10.2	
	comp=Z,95nm,18.4s,baz=228,slow=41						
TIA	**Tai'an**	**13.11**	**55**	↓P	**Pn**	**23 51 19.3**	**+0.2**
TIA				S	**Sn**	**23 53 42.8**	**-2.2**
TIA				LN			
	320nm,8.3s						
TIA				LE			
	440nm,12.6s						
TIA				LZ			
	410nm,14.5s						
NJ2	**Nanjing**	**13.17**	**74**	*e*P	**Pn**	**23 51 23.0**	**+3.1**
NJ2				S	**Sn**	**23 53 47.3**	**+0.8**
SONM	**Songino Array**	**18.66**	**5**	Pn	**P**	**23 52 30.9**	**-0.1**
	0.1nm,0.3s,baz=183,slow=16,SNR=7.7						
WMQ	**Urumqi**	**19.48**	**323**	P	**P**	**23 52 39.8**	**-0.1**
KSRS	**Korea Array**	**21.62**	**61**	P	**P**	**23 53 01.9**	**-1.3**
	4.0nm,0.7s,baz=243,slow=9.6,SNR=25						
KSRS				LR	LR	00 02 19.0	
	comp=Z,86nm,20.9s,baz=224,slow=39						
TLY	**Talaya**	**22.41**	**360**	LR	LR	00 02 07.8	
	comp=Z,25nm,18.7s,baz=180,slow=37						
JNU	**Nakatsue**	**23.37**	**74**	P	**P**	**23 53 21.3**	**-0.4**
	8.2nm,0.9s,baz=292,slow=6.9,SNR=3.9						
JNU				LR	LR	00 03 11.9	
	comp=Z,95nm,19.6s,baz=276,slow=39						
MKAR	**Makanchi Array**	**24.30**	**322**	P	**P**	**23 53 31.3**	**+0.8**
	0.9nm,0.6s,baz=123,slow=12,SNR=9.2						
MKAR				LR	LR	00 03 34.3	
	comp=Z,42nm,20.1s,baz=136,slow=38						
ZALV	**Zalesovo Beam**	**28.33**	**336**	P	**P**	**23 54 06.8**	**+0.1**
	4.8nm,0.8s,baz=138,slow=9.0,SNR=19						
ZALV				LR	LR	00 06 25.2	
	comp=Z,28nm,20.7s,baz=68,slow=38						
KURBB	**Kurchatov Arra**	**28.64**	**325**	P	**P**	**23 54 10.2**	**+0.7**
	1.0nm,0.3s,baz=128,slow=9.5,SNR=6.6						
SEY	**Seymchan**	**45.79**	**29**	P	**P**	**23 56 34.0**	**-0.4**
	0.5nm,0.4s,baz=264,slow=19,SNR=3.2						
WRA	**Warramunga Arr**	**57.04**	**145**	P	**P**	**23 57 57.8**	**-1.3**
	0.6nm,0.6s,baz=336,slow=8.0,SNR=3.6						
ARCES	**ARCESS Array B**	**58.88**	**336**	P	**P**	**23 58 11.2**	**-0.4**
	5.4nm,1.1s,baz=90,slow=7.2,SNR=3.8						
ASAR	**Alice Springs**	**60.00**	**148**	P	**P**	**23 58 18.8**	**-1.1**
	0.3nm,0.5s,baz=329,slow=6.9,SNR=3.1						
INK	**Inuvik**	**73.96**	**19**	P	**P**	**23 59 48.2**	**+0.3**
	2.7nm,0.9s,baz=315,slow=2.9,SNR=4.1						

*NIED **14** 23:51:00,35.°00N×140.°10E,h110km,Mw3.9 Best double couple: M0 8.44000×10^14 NP1:φs52.00000°, δ8.00000°,λ-33.00000°. NP2:φs174.00000°,δ86.00000°, λ-97.00000°.*

*ISCJB **14** 23:51:54.5±0.4,34.°97N±0.°05×140.°06E±0.°05, h115km±2km,mb3.9/14,Error ellipse: s-maj=8.8km s-min=5.5km az=39.9*

*IDC **14** 23:51:54.5±2.1,34.°88N×140.°02E,h100km±19km, mb3.6/14,mb1 3.8/16,mb1mx3.6/41,mbtmp4.0/16,Error ellipse: s-maj=22.7km s-min=14.0km az=60.0*

*JMA **14** 23:51:55.2±0.1,34.°99N×140.°08E,h111km±1km,M3.6*

ISC 14 23:51:55.8±0.7,34.°98N±0.°05×140.°05E±0.°05,h111km±5km, n38,σ0§66/43,mb3.9/14,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TATJ	**Tateyama 2**	**0.14**	**294**	P	**Pn**	**23 52 11.2**	**0.0**
BSO4	**Boso 4**	**0.24**	**86**	P	**Pn**	**23 52 11.3**	**0.0**
BSO4				S	**Sn**	**23 52 23.1**	**+0.1**
KTR	**Katsuura**	**0.28**	**52**	P	**Pn**	**23 52 11.1**	**-0.5**
KTR				S	**Sn**	**23 52 22.5**	**-1.0**
BSO3	**Boso 3**	**0.42**	**114**	P	**Pn**	**23 52 11.7**	**-0.3**
BSO3				S	**Sn**	**23 52 24.7**	**+0.6**
JIM2	**Oshima 3**	**0.57**	**243**	P	**Pn**	**23 52 12.7**	**-0.6**
JIM2				S	**Sn**	**23 52 25.8**	**-0.6**
BSO1	**Boso 1**	**0.83**	**112**	P	**Pn**	**23 52 14.3**	**-0.5**
BSO1				S	**Sn**	**23 52 29.4**	**+0.2**
JOD2	**Odawara 2**	**0.84**	**290**	P	**Pn**	**23 52 14.9**	**-0.6**
JOD2				S	**Sn**	**23 52 29.9**	**-0.5**
JIZS	**Izushimoda**	**0.99**	**255**	P	**Pn**	**23 52 16.9**	**-0.1**
JIZS				S	**Sn**	**23 52 33.4**	**+0.4**
JYN	**Shimob**	**1.33**	**293**	P	**Pn**	**23 52 21.0**	**+0.2**
JYN				S	**Sn**	**23 52 40.2**	**+0.4**
JRY	**Ryogami san**	**1.40**	**318**	P	**Pn**	**23 52 21.4**	**-0.1**
JRY				S	**Sn**	**23 52 40.6**	**-0.4**
SHZ3	**Shizuoka 3**	**1.51**	**274**	P	**Pn**	**23 52 23.4**	**+0.6**
JAG	**Ashikaga**	**1.52**	**342**	P	**Pn**	**23 52 22.2**	**-0.8**
JHJ2	**Mitsune**	**1.87**	**186**	P	**Pn**	**23 52 26.2**	**-1.0**
JHJ2				S	**Sn**	**23 52 50.3**	**-0.8**
MJAR	**Matsushiro Arr**	**2.16**	**317**	P	**Pn**	**23 52 30.6**	**-0.3**
	9.3nm,0.3s,baz=154,slow=12,SNR=70						
MJAR				S	**Sn**	**23 52 56.6**	**-1.2**
	25nm,0.3s,baz=150,slow=21,SNR=42						
MAT	**Matsushiro**	**2.16**	**317**	P	**Pn**	**23 52 31.0**	**+0.1**
MAT				S	**Sn**	**23 52 57.0**	**-0.8**
JCJ	**Chichijima**	**8.07**	**166**	P	Pn	23 53 45.9	-4.3
	3.6nm,0.3s,baz=342,slow=20,SNR=3.7						
JCJ				S	Sn	23 55 07.1	-13
	7.3nm,0.3s,baz=315,slow=19,SNR=4.0						
KSRS	**Korea Array**	**10.10**	**288**	P	**Pn**	**23 54 19.9**	**+2.2**
	0.2nm,0.3s,baz=102,slow=13,SNR=5.8						
SONM	**Songino Array**	**28.09**	**308**	P	**P**	**23 57 36.9**	**-0.1**
	1.4nm,0.6s,baz=103,slow=8.0,SNR=7.8						
H11N2	**WAKE ISLAND Hy**	**28.15**	**116**	T	T	00 27 02.1	
	baz=307,slow=75,SNR=39						
H11N1	**WAKE ISLAND Hy**	**28.16**	**116**	T	T	00 27 05.2	
	baz=307,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**28.17**	**116**	T	T	00 27 03.8	
	baz=307,slow=75,SNR=22						
H11S3	**WAKE ISLAND Hy**	**28.78**	**118**	T	T	00 27 51.6	
	baz=310,slow=75,SNR=5.2						
H11S1	**WAKE ISLAND Hy**	**28.78**	**118**	T	T	00 27 51.6	
	baz=310,slow=75,SNR=6.8						
H11S2	**WAKE ISLAND Hy**	**28.79**	**118**	T	T	00 27 51.6	
	baz=310,slow=75,SNR=3.3						
ZALV	**Zalesovo Beam**	**42.51**	**314**	P	**P**	**23 59 39.2**	**-0.7**
	1.0nm,0.4s,baz=94,slow=8.9,SNR=5.5						
MKAR	**Makanchi Array**	**44.30**	**304**	P	**P**	**23 59 54.6**	**+0.1**
	1.6nm,0.7s,baz=88,slow=10,SNR=13						
KURBB	**Kurchatov Arra**	**46.42**	**309**	P	**P**	**00 00 11.0**	**0.0**
	4.4nm,0.4s,baz=84,slow=8.1,SNR=28						
BVAR	**Borovoye Array**	**51.16**	**313**	P	**P**	**00 00 47.5**	**+0.3**
	1.4nm,0.5s,baz=94,slow=6.9,SNR=8.6						
ILAR	**Eielson Array**	**51.83**	**31**	P	**P**	**00 00 51.9**	**-0.1**
	0.4nm,0.7s,baz=274,slow=7.0,SNR=4.7						
WRA	**Warramunga Arr**	**54.88**	**187**	P	**P**	**00 01 13.6**	**-1.3**
	1.1nm,0.6s,baz=2.1,slow=7.6,SNR=4.9						
ASAR	**Alice Springs**	**58.61**	**187**	P	**P**	**00 01 41.1**	**0.0**
	0.3nm,0.4s,baz=22,slow=10,SNR=3.5						
GEYT	**Alibeck**	**63.87**	**299**	P	**P**	**00 02 17.0**	**+0.4**
	2.1nm,0.8s,baz=55,slow=5.6,SNR=3.9						
FINES	**FINESS Array B**	**70.11**	**332**	P	**P**	**00 02 55.1**	**-0.5**
	1.7nm,0.8s,baz=72,slow=6.2,SNR=4.9						
KBZ	**Khabaz**	**71.40**	**311**	P	**P**	**00 03 03.9**	**+0.1**
	2.9nm,0.8s,baz=46,slow=5.0,SNR=5.5						
NVAR	**Mina Array Bea**	**77.12**	**52**	P	**P**	**00 03 38.1**	**+0.8**
	0.4nm,0.4s,baz=305,slow=6.5,SNR=3.9						
BRTR	**Keskin Array B**	**79.38**	**311**	P	**P**	**00 03 49.5**	**-0.1**
	0.7nm,0.7s,baz=107,slow=6.6,SNR=4.7						
TXAR	**Lajitas Array**	**92.26**	**52**	P	**P**	**00 04 54.0**	**+0.4**
	0.2nm,0.4s,baz=316,slow=2.5,SNR=3.5						
LPAZ	**La Paz**	**148.68**	**61**	PKPbc	**PKPbc**	**00 11 31.6**	**+0.4**
	1.2nm,0.7s,baz=282,slow=1.9,SNR=4.6						

*IDC **15** 00:19:16.0±0.7,11.°13N×146.°06E,h0km,mb4.1/16, mb1 4.3/16,mb1mx4.1/50,mbtmp4.1/16,ML5.2/1,MS3.2/9, Ms1 3.2/9,ms1mx3.0/37,Error ellipse: s-maj=24.5km s-min=14.4km az=87.0*

*NEIC **15** 00:19:17.6±0.4,11.°10N×146.°05E,h10km,mb4.7/8,Error ellipse: s-maj=12.8km s-min=8.2km az=83.0*

*ISCJB **15** 00:19:19.5±0.5,11.°13N±0.°06×146.°0E±0.°1,h33km, mb4.2/23,MS3.1/5,Error ellipse: s-maj=15.3km s-min=7.9km az=167.4*

ISC 15 00:19:21.5±0.7,11.°16N±0.°09×146.°0E±0.°1,h35km,n48, σ0§89/39,mb4.2/23,MS3.1/5,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.67**	**335**	Pn	**Pn**	**00 20 01.0**	**-1.0**
	420nm,0.3s,baz=150,slow=5.2,SNR=100						
GUMO				Sn	**Sn**	**00 20 32.6**	**-0.6**
	127nm,0.3s,baz=3.9,slow=22,SNR=8.1						
GUMO				LR	LR	00 22 06.4	
	comp=Z,301nm,18.6s,baz=201,slow=63						
JAY	**Jayapura**	**14.58**	**202**	LR	LR	00 27 04.5	
	comp=Z,192nm,20.6s,baz=17,slow=32						
JCJ	**Chichijima**	**16.26**	**348**	LR	LR	00 27 28.9	
	comp=Z,78nm,21.3s,baz=133,slow=30						
SIJI	**Sorong**	**18.93**	**232**	LR	LR	00 29 31.3	
	comp=Z,78nm,19.9s,baz=317,slow=32						
H11S3	**WAKE ISLAND Hy**	**21.25**	**67**	T	T	00 45 57.3	
	baz=253,slow=74,SNR=65						
H11S1	**WAKE ISLAND Hy**	**21.26**	**67**	T	T	00 45 57.5	
	baz=253,slow=74,SNR=72						
H11S2	**WAKE ISLAND Hy**	**21.26**	**68**	T	T	00 46 00.9	
	baz=253,slow=74,SNR=51						
H11N1	**WAKE ISLAND Hy**	**21.81**	**65**	T	T	00 46 47.9	
	baz=249,slow=75,SNR=48						
H11N2	**WAKE ISLAND Hy**	**21.82**	**64**	T	T	00 46 42.1	
	baz=249,slow=75,SNR=35						
H11N3	**WAKE ISLAND Hy**	**21.83**	**65**	T	T	00 46 41.5	
	baz=249,slow=75,SNR=82						
JOW	**Kunigami**	**22.87**	**315**	*e*P	**P**	**00 24 22.2**	**+0.2**
	21nm,1.0s						
JNU	**Nakatsue**	**25.91**	**330**	P	**P**	**00 24 50.1**	**-0.3**
	22nm,1.0s,baz=101,slow=4.1,SNR=9.3						
JNU				LR	LR	00 35 33.4	
	comp=Z,10nm,18

KOLN Koldanda 60.56 296 *e*P **P 00 29 29.5 +0.4**
17nm,0.8s
MK31 Makanchi Array 64.02 317 *e*P **P 00 29 52.6 +0.9**
MKAR Makanchi Array 64.02 317 P **P 00 29 52.5 +0.8**
4.4nm,0.8s,baz=96,slow=8.1,SNR=40
MKAR Makanchi Array 64.02 317 *e*P **P 00 29 53.0 +1.3**
ZALV Zalesovo Beam 64.25 325 P **P 00 29 53.2 +0.2**
1.6nm,0.6s,baz=86,slow=6.8,SNR=5.2
KURK Kurchatov 67.17 320 *e*P **P 00 30 12.4 +0.5**
13nm,0.9s
ILAR Eielson Array 70.28 25 P **P 00 30 29.9 -1.0**
0.8nm,0.5s,baz=254,slow=5.9,SNR=8.9
KKAR Karatay Array 71.90 312 *e*P **P 00 30 41.7 +0.3**
BRVK Borovoye 72.60 322 *e*P **P 00 30 46.4 +1.2**
4.7nm,0.8s
ABKAR Akbulak array 79.10 318 *e*P **P 00 31 22.6 +0.2**
1.3nm,0.6s
YKA Yellowknife Ar 84.48 27 P **P 00 31 49.8 -0.6**
0.4nm,0.6s,baz=284,slow=5.8,SNR=3.3
NVAR Mina Array Bea 87.54 51 P **P 00 32 07.8 +1.4**
1.0nm,0.8s,baz=248,slow=4.8,SNR=2.5
ELK Elko 89.32 49 P **P 00 32 15.3 +0.5**
0.6nm,0.9s,baz=270,slow=3.0,SNR=2.0
TORD Torodi Ar. Bea 137.16 303 PKP **PKPdf 00 38 42.7 +0.6**
0.5nm,0.9s,baz=76,slow=1.5,SNR=2.8

SJA ***15*** *00:35:56.1±0.5,33°81′S×73°10′W,h10km,ML5.7,Fault plane solution: NP1:φs18.00000°,δ4.00000°,λ21.00000°.*
BJI ***15*** *00:36:01.8,34°12′S×72°45′W,h11km,mB5.2/24,Ms5.3/24,Ms7 5.2/26*
GUC ***15*** *00:36:02.3±0.7,34°15′S×72°30′W,h9km±2km,ML5.5*
NEIC ***15*** *00:36:02.0,34°15′S×72°30′W,h9km,mb5.2/66,MS5.0/130, ML5.5(GUC),After GUC.*
NEIC Felt [V] at Navidad and Pichilemu; [IV] at Curico, Iloca, Paredones, Rancagua, San Fernando, San Vicente and Santa Cruz; [III] in Chacabuco and Maipo and at Casablanca, Cauquenes, Constitucion, Melipilla, Molina, Parral, Pencahue, Puchuncavi, Romeral, San Felipe, Santiago, Talca, Talagante and Vina del Mar.
GCMT ***15*** *00:36:02.0±0.2,34°27′S×72°35′W,h23km, MW5.4/90, Moment Tensor Solution. s66,c106; s90,c138; Duration: 1s2 Moment tensor: Scale 10¹⁷Nm; Mrr0.83±.03; Mθθ0.45±.02; Mφφ-1.28±.03; Mrθ0.32±.04; Mθφ0.09±.02; Mφr-1.14±.06; Best double couple: M₀1.60000×10¹⁷ NP1:φs164.00000°,δ70.00000°, λ77.00000°. NP2:φs18.00000°,δ24.00000°,λ121.00000°. Principal axes: T 1.4030, Plg63.0000°, Azm54.0000°; N 0.3980, Plg12.0000°, Azm169.0000°; P -1.7980, Plg24.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB ***15*** *00:36:02.6±0.8,34°18S±0°02×72°31W±0°04,h23km±6km, mb5.1/89,MS5.0/155 Error ellipse: s-maj=5.2km s-min=3.9km az=13.8*
MOS ***15*** *00:36:04.5±1.1,34°08S×72°21W,h33km,mb5.3/45, MS5.0/18,Error ellipse: s-maj=18.2km s-min=8.4km az=100.0*
IDC ***15*** *00:36:07.5±2.5,34°10S×71°97W,h49km±22km,mb4.7/25, mb1 4.7/27,mb1mx4.7/31,mbtmp4.9/27,ML4.4/2,MS5.0/16, Ms1 4.9/16,ms1mx4.8/23,Error ellipse: s-maj=15.5km s-min=10.2km az=81.0*
ISC 15 00:36:02.1±0.6,34°14S±0°03×72°17W±0°04,h13km±3km, n797,σ1s11/714,mb5.1/89,MS5.0/157,21C-17D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.65**	**74**	*i*P	**Pn**	**00 36 17.1**	**-0.1**
U73B	**San Pedro**	**0.66**	**71**	*i* P	**Pn**	**00 36 16.6**	**-0.6**
U73B				*i* S	**Sn**	**00 36 26.7**	**-0.8**
U65B	**HualaæØ**	**0.88**	**159**	*i* P	**Pg**	**00 36 19.1**	**-0.1**
NICH	**Los Niches**	**1.16**	**138**	*i*P	**Pn**	**00 36 24.2**	**+0.1**
NICH				*i* S	**Sn**	**00 36 40.7**	**+0.9**
CHCH	**Chadas Angostu**	**1.27**	**81**	*i*P	**Pg**	**00 36 26.5**	**-0.1**
TALC	**Talca**	**1.33**	**161**	*i*P	**Pn**	**00 36 26.6**	**+0.1**
TALC				*i* S	**Sg**	**00 36 45.0**	**-0.2**
SAN	**Santiago**	**1.43**	**62**	*i*P	**Pb**	**00 36 29.1**	**+0.4**
SAN				*i* S	**Sg**	**00 36 49.6**	**+1.5**
CLCH	**Cerro Calan**	**1.54**	**62**	*i*P	**Pb**	**00 36 31.1**	**+0.4**
CLCH				*i* S	**Sg**	**00 36 53.6**	**+1.7**
CLCH				AML	AML	00 37 00.7	
	comp=E,123μm,0.4s						
PEL	**Peldehue**	**1.58**	**52**	*i*P	**Pb**	**00 36 31.8**	**+0.5**
PEL				*i* S	**Sg**	**00 36 54.3**	**+1.2**
PEL				AML	AML	00 37 02.1	
	comp=E,85μm,0.5s						
U14B	**Concepcin**	**2.82**	**195**	*i* P	**Pn**	**00 36 45.6**	**-1.3**
AAGR	**Agrelo**	**2.98**	**70**	*e*P	**Pb**	**00 36 54.0**	**-1.2**
ARCO	**CERRO ARCO**	**3.00**	**65**	*e*P	**Pb**	**00 36 56.9**	**+1.5**
ARCO				AML	AML	00 37 04.1	
	comp=Z,9μm,0.6s						
ARCO				*i* S	**Sg**	**00 37 39.4**	**+1.0**
AUSP	**Uspallata**	**3.01**	**51**	*i* P	**Pb**	**00 36 54.2**	**-1.6**
ASAL	**Salagasta**	**3.19**	**62**	*i* P	**Pb**	**00 36 57.1**	**-1.6**
RTLS	**Leoncito**	**3.35**	**47**	*i* P	Pb	00 36 58.4	-3.2
RTCV	**Cerro Valdivia**	**3.80**	**54**	*e*P	Pb	00 37 05.2	-3.8
CANA	**Caviahue**	**3.85**	**167**	*e*P	**Pn**	**00 37 03.5**	**+2.2**
SJA	**San Juan**	**4.00**	**50**	*e*P	**Pb**	**00 37 11.6**	**-1.0**
CFAA	**Coronel Fontan**	**4.16**	**54**	P	**Pn**	**00 37 06.5**	**+1.1**
	comp=Z,3.1nm,0.3s,baz=229,slow=12,SNR=135						
CFAA				S	**Sn**	**00 37 58.2**	**+4.2**
	comp=Z,8.0nm,0.3s,baz=228,slow=12,SNR=2.6						
CFAA	**Coronel Fontan**	**4.16**	**54**	*i* P	Pn	00 37 09.2	+3.7
CFAA				*i* S	**Sb**	**00 38 02.8**	**-2.6**
RTLL	**Cerro Villicun**	**4.18**	**49**	*e*P	Pn	00 37 09.8	+4.0
AMOG	**MOGNA**	**4.45**	**45**	*e*P	Pn	00 37 13.2	+3.8
ACAN	**Cantantal**	**4.57**	**67**	*i* P	Pn	00 37 15.9	+4.8
LCO	**Las Campanas**	**5.26**	**14**	*e*Pn	**Pn**	**00 37 21.0**	**+0.3**
	comp=Z,384nm,0.8s						
LCO				*e*Sn	**Sn**	**00 38 18.9**	**-2.5**
LCO	**Las Campanas**	**5.26**	**14**	*e*P	**Pn**	**00 37 20.9**	**+0.1**
AVFE	**Valle Fertil**	**5.28**	**50**	*e*P	Pn	00 37 25.6	+4.7
AVFE				*i* S	Sn	00 38 27.9	+6.2
AVFE				AML	AML	00 38 40.8	
	comp=Z,5μm,0.7s						
ACHE	**Chepes**	**5.50**	**59**	*e*P	**Pn**	**00 37 26.8**	**+2.8**
APLL	**PUNTA DE LOS L**	**6.06**	**54**	*e*P	**Pn**	**00 37 33.1**	**+1.6**
SUCO	**SUCO**	**6.12**	**85**	*e*P	Pn	00 37 36.7	+4.4
VCA	**Vinchina**	**6.36**	**33**	*e*P	Pn	00 37 39.1	+3.3
PLCA	**Paso Flores**	**6.71**	**169**	*e*P	**Pn**	**00 37 41.6**	**+1.2**
TCA	**Tanti**	**6.96**	**68**	*e*P	**Pn**	**00 37 45.6**	**+1.7**
CYA	**Choya**	**7.86**	**46**	*e*P	**Pn**	**00 37 56.2**	**-0.2**
TRQA	**Tornquist**	**9.12**	**118**	*e*Pn	**Pn**	**00 38 16.4**	**+2.8**
	comp=Z,224nm,1.0s						
TRQA				*e*Sn	**Sn**	**00 39 55.4**	**-0.8**
AHML	**Horco Molle**	**9.40**	**41**	*e*P	**Pn**	**00 38 15.7**	**-1.8**
FSA	**Cafayete**	**9.62**	**35**	*e*P	**Pn**	**00 38 20.4**	**-0.2**
LVC	**Limon Verde**	**11.83**	**15**	P	**Pn**	**00 38 47.9**	**-3.0**
	comp=Z,80nm,0.3s,baz=196,slow=8.5,SNR=27						
LVC				S	Sn	00 41 14.1	+11
	comp=Z,93nm,0.3s,baz=191,slow=18,SNR=2.8						
LVC				LR	LR	00 43 51.0	
	comp=Z,36μm,18.8s,baz=206,slow=39						
LVC	**Limon Verde**	**11.83**	**15**	*e*Pn	Pn	00 38 46.3	-4.6
	comp=Z,45nm,0.7s						
LVC				*e*Sn	**Sn**	**00 41 02.2**	**-0.7**
LVC				S	Sn	00 41 14.1	+11
CPUP	**Villa Florida**	**14.99**	**63**	P	Pn	00 39 29.5	-4.2
	comp=Z,0.3nm,0.3s,baz=232,slow=12,SNR=5.7						
CPUP				S	**Sn**	**00 42 16.5**	**-3.2**
	comp=Z,0.8nm,0.3s,baz=216,slow=19,SNR=1.5						
CPUP				LR	LR	00 45 46.4	
	comp=Z,10μm,20.1s,baz=239,slow=39						
CPUP	**Villa Florida**	**14.99**	**63**	P	Pn	00 39 29.5	-4.2
CPUP				S	**Sn**	**00 42 16.5**	**-3.2**
CPUP				smax	smax		
	comp=N,1.0nm,0.3s						
CPUP				MLR	MLR		
	comp=Z,10μm,20.1s						
LPAZ	**La Paz**	**18.14**	**13**	P	**P**	**00 40 15.7**	**+0.9**
	comp=Z,2.3nm,0.3s,baz=190,slow=7.6,SNR=48						
LPAZ				S	**Sn**	**00 43 34.6**	**-2.5**
	baz=212,slow=19,SNR=1.4						
LPAZ	**La Paz**	**18.14**	**13**	P	**P**	**00 40 15.7**	**+0.9**
LPAZ				S	**Sn**	**00 43 34.6**	**-2.5**
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
EFI	**East Falkland**	**20.28**	**154**	P	**P**	**00 40 37.9**	**+0.5**
	comp=Z,756nm,1.0s,SNR=7.4						
EFI	**East Falkland**	**20.28**	**154**	*i*P	**P**	**00 40 36.6**	**-0.8**
EFI				pmax	pmax		
	comp=Z,402nm,2.5s						
EFI	**East Falkland**	**20.28**	**154**	PFAKE		00 40 50.0	+11
EFI				LR	LR		
	comp=Z,3μm,19.0s						
SIV	**San Ignacio**	**20.64**	**32**	P	**P**	**00 40 41.6**	**0.0**
	comp=Z,94nm,0.9s,baz=218,slow=8.2,SNR=100						
SIV				LR	LR	00 50 07.1	
	comp=Z,8μm,19.3s,baz=224,slow=41						
USHA	**Ushuaia**	**20.86**	**174**	P	Pn	00 40 45.0	-1.1
	comp=Z,29nm,1.0s,baz=310,slow=11,SNR=9.1						
USHA				LR	LR	00 49 45.3	
	comp=Z,6μm,18.0s,baz=318,slow=39						
NNA	**Nana**	**22.46**	**348**	P	**P**	**00 41 02.3**	**+1.2**
	comp=Z,18nm,0.7s,baz=203,slow=13,SNR=5.7						
NNA				LR	LR	00 48 24.3	
	comp=Z,741nm,18.1s,baz=178,slow=33						
NNA	**Nana**	**22.46**	**348**	P	**P**	**00 41 02.3**	**+1.2**
NNA				pmax	pmax		
	comp=Z,18nm,0.7s						
NNA				MLR	MLR		
	comp=Z,741nm,18.1s						
BB16B	**Bebedouro**	**24.57**	**64**	*e*P	**P**	**00 41 19.7**	**-2.3**
BB16B				*i*		00 41 21.6	
BB16B				*i*		00 41 28.7	
BB16B				*i*		00 41 34.5	
BB16B				*i*		00 41 42.4	
SAML	**Samuel**	**26.39**	**20**	*e*P	**P**	**00 41 38.3**	**-0.2**
	comp=Z,47nm,0.9s						
SAML				LR	LR		
	comp=Z,5μm,21.0s						
ATAH	**Atahualpa**	**27.48**	**347**	P	**P**	**00 41 49.7**	**+1.1**
	comp=Z,2.6nm,0.6s,baz=257,slow=13,SNR=1.7						
BDFB	**Brasilia**	**28.50**	**56**	P	**P**	**00 41 57.2**	**-0.3**
	comp=Z,22nm,0.7s,baz=227,slow=9.2,SNR=29						
BDFB				LR	LR	00 54 34.1	
	comp=Z,7μm,18.8s,baz=224,slow=39						
BDFB	**Brasilia**	**28.50**	**56**	P	**P**	**00 41 57.2**	**-0.3**
BDFB				pmax	pmax		
	comp=Z,22nm,0.7s						
BDFB				MLR	MLR		
	comp=Z,7μm,18.8s						
PMSA	**Palmer Station**	**31.07**	**173**	PFAKE		00 42 30.0	+10
PMSA				LR	LR		
	comp=Z,4μm,19.0s						
RPN	**Rapa Nui**	**32.60**	**272**	PFAKE		00 42 50.0	+16
RPN				LR	LR		
	comp=Z,5μm,19.0s						
OTAV	**Otavalo**	**34.70**	**349**	*e*P	**P**	**00 42 53.8**	**+1.4**
	comp=Z,21nm,1.1s						
OTAV				LR	LR		
	comp=Z,1μm,21.0s						
PTGA	**Pitinga**	**35.14**	**22**	P	**P**	**00 42 55.8**	**+0.1**
	comp=Z,36nm,0.9s,baz=209,slow=11,SNR=41						
PTGA	**Pitinga**	**35.14**	**22**	P	**P**	**00 42 55.8**	**+0.1**
PTGA				LR	LR		
	comp=Z,8μm,20.0s						
PAYG	**Puerto Ayora**	**37.36**	**329**	PFAKE		00 43 30.0	+15
PAYG				LR	LR		
	comp=Z,2μm,22.0s						
ROSC	**El Rosal**	**38.84**	**357**	P	**P**	**00 43 27.9**	**+0.4**
	comp=Z,9.0nm,0.5s,baz=202,slow=8.4,SNR=2.1						
ROSC				LR	LR	00 59 25.2	
	comp=Z,654nm,20.4s,baz=190,slow=36						
SDV	**Santo Domingo**	**42.81**	**2**	*e*P	**P**	**00 43 59.3**	**-0.8**
	comp=Z,34nm,0.9s						
SDV				LR	LR		
	comp=Z,1μm,21.0s						
BCIP	**Isla Barro Col**	**43.67**	**349**	PFAKE		00 44 20.0	+13
BCIP				LR	LR		
	comp=Z,785nm,21.0s						
RCBR	**Riachuelo**	**43.80**	**58**	P	**P**	**00 44 07.0**	**-1.0**
	comp=Z,16nm,0.5s,baz=217,slow=10.0,SNR=24						
RCBR	**Riachuelo**	**43.80**	**58**	P	**P**	**00 44 07.0**	**-1.0**
RCBR				LR	LR		
	comp=Z,5μm,19.0s						
JTS	**JuntasAbangare**	**45.82**	**342**	P	**P**	**00 44 25.0**	**+1.1**
	comp=Z,4.2nm,0.4s,baz=156,slow=20,SNR=4.4						
JTS	**JuntasAbangare**	**45.82**	**342**	*e*P	**P**	**00 44 24.8**	**+0.8**
JTS				pmax	pmax		
	comp=Z,23nm,1.2s						
JTS	**JuntasAbangare**	**45.82**	**342**	*e*P	**P**	**00 44 24.6**	**+0.6**
	comp=Z,47nm,1.4s						
JTS				LR	LR		
	comp=Z,785nm,21.0s						
GRGR	**Grenville**	**47.09**	**14**	PFAKE		00 44 50.0	+16
GRGR				LR	LR		
	comp=Z,2μm,20.0s						
BBGH	**Gun Hill**	**48.52**	**16**	PFAKE		00 45 00.0	+15
BBGH				LR	LR		
	comp=Z,3μm,22.0s						
VNA1	**Neumayer--Stat**	**49.59**	**157**	P	**P**	**00 44 53.5**	**+0.9**
FDF	**Fort de France**	**49.72**	**14**	PFAKE		00 45 10.0	+16
FDF				LR	LR		
	comp=Z,2μm,20.0s						
PTCN	**Pitcairn Islan**	**50.60**	**264**	PFAKE		00 45 10.0	+9.1
PTCN				LR	LR		
	comp=Z,3μm,21.0s						
SNAA	**Sanae**	**51.50**	**158**	P	**P**	**00 45 07.7**	**+0.6**
	comp=Z,10nm,0.9s,baz=283,slow=6.9,SNR=65						
SNAA	**Sanae**	**51.50**	**158**	P	**P**	**00 45 07.7**	**+0.6**
SNAA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CRPR	**Cabo Rojo, PR**	**52.07**	**6**	*e*P	**P**	**00 45 10.5**	**-1.3**
	comp=Z,52nm,0.7s						
OBIP	**Obispado Ponce**	**52.16**	**7**	*e*P	**P**	**00 45 13.7**	**+1.3**
	comp=Z,61nm,0.7s						
CELP	**Cerrillos**	**52.19**	**7**	*e*P	**P**	**00 45 12.3**	**-0.4**
SJG	**San Juan**	**52.27**	**7**	*e*P	**P**	**00 45 12.6**	**-0.7**
SJG				pmax	pmax		
	comp=Z,42nm,0.9s						
SJG				MLR	MLR		
	comp=Z,994nm,20.0s						
SJG	**San Juan**	**52.27**	**7**	*e*P	**P**	**00 45 12.6**	**-0.7**
	comp=Z,42nm,0.9s						
SJG				LR	LR		
	comp=Z,994nm,20.0s						
MTDJ	**Mount Denham**	**52.32**	**354**	PFAKE		00 45 30.0	+16
MTDJ				LR	LR		
	comp=Z,499nm,19.0s						
ANWB	**Willy Bob**	**52.46**	**13**	PFAKE		00 45 30.0	+15
ANWB				LR	LR		
	comp=Z,898nm,21.0s						
SDDR	**Presa de Saban**	**52.83**	**1**	PFAKE		00 45 30.0	+13
SDDR				LR	LR		
	comp=Z,819nm,19.0s						
GTBY	**Guantanamo Bay**	**53.83**	**357**	PFAKE		00 45 40.0	+15
GTBY				LR	LR		
	comp=Z,539nm,20.0s						
GRTK	**Grand Turk**	**55.35**	**1**	PFAKE		00 45 50.0	+14
GRTK				LR	LR		
	comp=Z,999nm,20.0s						
RKT	**Rikitea**	**55.45**	**264**	*e*S	**S**	**00 53 21.5**	**-0.1**
	comp=Z,710nm,27.5s						
RKT				*e*LR	LR	01 01 45.1	
	comp=Z,1μm,27.8s						
RKT	**Rikitea**	**55.45**	**264**	*e*T	T	01 45 28.5	
	comp=Z,2.4nm,0.3s						
QSPA	**South Pole Qui**	**56.10**	**180**	P	**P**	**00 45 41.9**	**+0.9**
	comp=Z,62nm,0.9s,baz=137,slow=8.2,SNR=82						
QSPA				LR	LR	01 09 36.2	
	comp=Z,527nm,18.9s,baz=164,slow=36						
QSPA	**South Pole Qui**	**56.10**	**180**	*e*P	**P**	**00 45 41.3**	**+0.4**
	comp=Z,60nm,0.9s						
TEIG	**Tepich**	**56.20**	**342**	P	**P**	**00 45 42.5**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=359,slow=23,SNR=10						
TEIG	**Tepich**	**56.20**	**342**	*e*P	**P**	**00 45 43.8**	**+1.9**
	comp=Z,3.2nm,1.0s						
TEIG				LR	LR		
	comp=Z,19nm,20.0s						
NVL	**N'lazarevskaya**	**56.24**	**157**	*i*P	**P**	**00 45 41.7**	**0.0**
NVL				*e*PP	pP	00 45 52.1	+6.4
NVL				pmax	pmax		
	comp=Z,30nm,0.9s						
SBA	**Scott Base**	**62.92**	**192**	*e*P	**P**	**00 46 27.5**	**-0.2**
SBA				pmax	pmax		
	comp=Z,14nm,1.1s						
SBA				MLR	MLR		
	comp=Z,277nm,19.0s						
SBA	**Scott Base**	**62.92**	**192**	*e*P	**P**	**00 46 27.5**	**-0.2**
	comp=Z,14nm,1.1s						
SBA				LR	LR		
	comp=Z,277nm,19.0s						
VNDA	**Vanda**	**63.95**	**191**	P	**P**	**00 46 35.8**	**+1.4**
	comp=Z,5.0nm,0.9s,baz=131,slow=5.0,SNR=18						
VNDA				LR	LR	01 11 12.3	
	comp=Z,342nm,19.1s,baz=134,slow=33						
035A	**Encino**	**65.53**	**335**	P	**P**	**00 46 47.1**	**+1.8**
	baz=66						
SYO	**Syowa Base**	**65.78**	**158**	*e*P	**P**	**00 46 45.0**	**-1.4**
034A	**Hebbronville**	**65.86**	**334**	P	**P**	**00 46 49.2**	**+1.7**
	baz=66						
TIGA	**Tifton**	**66.11**	**349**	P	**P**	**00 46 49.4**	**+0.5**
	baz=66						
TIGA	**Tifton**	**66.11**	**349**	*e*P	**P**	**00 46 48.4**	**-0.6**
	comp=Z,29nm,0.9s						
BRAL	**Brewton**	**66.30**	**346**	PFAKE		00 47 00.0	+10
BRAL				LR	LR		
	comp=Z,293nm,20.0s						
BBSR	**BB Station**	**66.53**	**7**	PFAKE		00 47 00.0	+8.4
BBSR				LR	LR		
	comp=Z,320nm,19.0s						
933A	**Laredo**	**66.57**	**334**	P	**P**	**00 46 53.5**	**+1.5**
	baz=67						
835A	**Beeville**	**66.67**	**335**	P	**P**	**00 46 55.1**	**+2.5**
	baz=67						
834A	**Tilden**	**66.78**	**335**	P	**P**	**00 46 54.9**	**+1.6**
	baz=67,SNR=8.1						
736A	**Circle Diamond**	**67.03**	**336**	P	**P**	**00 46 57.3**	**+2.4**
	baz=67						
TBI	**Tubuai**	**67.18**	**257**	*e*S	**S**	**00 55 49.1**	**-1.6**
	comp=Z,625nm,25.2s						
TBI	**Tubuai**	**67.18**	**257**	*e*LR	LR	01 07 05.7	
	comp=Z,3μm,26.5s						
735A	**Kenedy**	**67.18**	**336**	P	**P**	**00 46 57.6**	**+1.8**
	baz=68						
SACV	**Santiago Islan**	**67.22**	**52**	PFAKE		00 47 10.0	+14
SACV				LR	LR		
	comp=Z,1μm,19.0s						
833A	**Chaparral WMA,**	**67.26**	**334**	P	**P**	**00 46 57.4**	**+1.0**
	baz=68,SNR=15						
NHSC	**New Hope**	**67.31**	**353**	PFAKE		00 47 10.0	+13
NHSC				LR	LR		
	comp=Z,452nm,21.0s						
832A	**Faith Ranch, C**	**67.43**	**334**	P	**P**	**00 46 58.3**	**+0.8**
	baz=68,SNR=11						
734A	**La Parita Cree**	**67.44**	**335**	P	**P**	**00 46 58.8**	**+1.3**
	baz=68						
636A	**Smothers Creek**	**67.51**	**337**	P	**P**	**00 46 59.8**	**+1.9**
	baz=68,SNR=5.2						
HKT	**Hockley**	**67.55**	**338**	*e*P	**P**	**00 46 59.1**	**+1.0**
HKT				pmax	pmax		
	comp=Z,40nm,1.4s						
HKT	**Hockley**	**67.55**	**338**	*e*P	**P**	**00 46 59.1**	**+1.0**
	comp=Z,40nm,1.4s						
733A	**Divot King Ran**	**67.58**	**334**	P	**P**	**00 46 59.8**	**+1.4**
	baz=68						
635A	**Leesville**	**67.66**	**336**	P	**P**	**00 47 00.0**	**+1.2**
	baz=68						
537A	**Green Hill Far**	**67.82**	**337**	P	**P**	**00 47 01.3**	**+1.4**
	baz=68						
732A	**Laxson Ranch,**	**67.83**	**334**	P	**P**	**00 47 00.9**	**+0.9**
	baz=68,SNR=19						
439A	**Center Grove,**	**68.01**	**339**	P	**P**	**00 47 02.3**	**+1.3**
	baz=68						
GOGA	**Godfrey**	**68.03**	**350**	*e*P	**P**	**00 47 00.6**	**-0.5**
GOGA				pmax	pmax		
	comp=Z,14nm,0.8s						
GOGA				MLR	MLR		
	comp=Z,486nm,22.0s						
GOGA	**Godfrey**	**68.03**	**350**	*e*P	**P**	**00 47 00.6**	**-0.5**
	comp=Z,14nm,0.8s						
GOGA				LR	LR		
	comp=Z,486nm,22.0s						
536A	**Bastrop**	**68.06**	**337**	P	**P**	**00 47 02.9**	**+1.5**
	baz=68						
535A	**Dale**	**68.18**	**336**	P	**P**	**00 47 03.4**	**+1.3**
	baz=68						
633A	**Saathoff Ranch**	**68.21**	**335**	P	**P**	**00 47 03.3**	**+0.9**
	baz=68,SNR=7.7						
LRAL	**Lakeview Retre**	**68.25**	**347**	*e*P	**P**	**00 47 01.9**	**-0.7**
	comp=Z,13nm,0.9s						
340A	**Bronson**	**68.34**	**340**	P	**P**	**00 47 04.4**	**+1.3**
	baz=69						
339A	**Huntington**	**68.46**	**339**	P	**P**	**00 47 05.4**	**+1.5**
	baz=69						
632A	**Uvalde**	**68.47**	**334**	P	**P**	**00 47 05.0**	**+1.0**
	baz=69,SNR=14						
534A	**Blanco**	**68.49**	**336**	P	**P**	**00 47 04.9**	**+0.7**
	baz=69						
631A	**Perdido Creek**	**68.68**	**334**	P	**P**	**00 47 05.8**	**+0.5**
	baz=69						
338A	**Crockett**	**68.70**	**339**	P	**P**	**00 47 06.6**	**+1.3**
	baz=69						
533A	**Kerrville**	**68.72**	**335**	P	**P**	**00 47 06.2**	**+0.6**
	baz=69,SNR=6.8						
MEH	**Mehetia**	**68.72**	**262**	*e*T	T	02 02 04.0	
	comp=Z,25nm,0.2s						
435B	**Jarrell**	**68.88**	**337**	P	**P**	**00 47 07.6**	**+1.0**
	baz=69						
NATX	**Nacogdoches**	**68.89**	**340**	P	**P**	**00 47 07.4**	**+0.9**
	baz=69						
NATX	**Nacogdoches**	**68.89**	**340**	*e*P	**P**	**00 47 06.4**	**-0.1**
	comp=Z,16nm,0.3s						
239A	**Gary**	**69.07**	**340**	P	**P**	**00 47 08.6**	**+0.9**
	baz=69						
532A	**Rocksprings**	**69.08**	**334**	P	**P**	**00 47 08.8**	**+1.0**
	baz=69,SNR=28						
434A	**Burnet**	**69.14**	**336**	P	**P**	**00 47 08.9**	**+0.7**
	baz=69,SNR=13						
336A	**Riesel**	**69.20**	**338**	P	**P**	**00 47 09.2**	**+0.7**
	baz=70						
CNNC	**Cliffs of the**	**69.22**	**355**	PFAKE		00 47 20.0	+11
CNNC				LR	LR		
	comp=Z,430nm,21.0s						
238A	**Jacksonville**	**69.25**	**339**	P	**P**	**00 47 09.9**	**+1.2**
	baz=70						
335A	**Moody**	**69.29**	**337**	P	**P**	**00 47 09.7**	**+0.7**
	baz=70,SNR=5.9						
531A	**Rocksprings**	**69.34**	**334**	P	**P**	**00 47 10.6**	**+1.1**
	baz=70,SNR=8.6						
JCT	**Junction City**	**69.36**	**335**	*e*P	**P**	**00 47 11.2**	**+1.6**
JCT				pmax	pmax		
	comp=Z,64nm,1.3s						
JCT				MLR	MLR		
	comp=Z,234nm,22.0s						
JCT	**Junction City**	**69.36**	**335**	P	**P**	**00 47 10.1**	**+0.5**
	baz=70,SNR=14						
JCT	**Junction City**	**69.36**	**335**	*e*P	**P**	**00 47 11.2**	**+1.6**
	comp=Z,64nm,1.3s						
JCT				LR	LR		
	comp=Z,234nm,22.0s						
433A	**Art**	**69.36**	**335**	P	**P**	**00 47 10.2**	**+0.6**
	baz=70,SNR=16						
KMSC	**Kings Mountain**	**69.45**	**352**	P	**P**	**00 47 10.1**	**+0.1**
	baz=70,SNR=8.1						
KMSC	**Kings Mountain**	**69.45**	**352**	*e*P	**P**	**00 47 09.2**	**-0.8**
	comp=Z,17nm,0.8s						
237A	**Washetta, Mont**	**69.45**	**339**	P	**P**	**00 47 10.7**	**+0.7**

comp=Z,2µm,27.2s
PPT Papeete 70.12 262 P **P** **00 47 16.5 +1.8**
comp=Z,71nm,1.1s,baz=217,slow=5.1,SNR=2.5
PPT LR LR 01 11 14.3
comp=Z,841nm,18.1s,baz=182,slow=30
Z39A Irene McRaven, 70.14 340 P **P** **00 47 15.0 +0.8**
baz=70
430A Baggett Ranch, 70.16 334 P **P** **00 47 15.2 +0.7**
baz=70,SNR=15
332A Millersview 70.16 335 P **P** **00 47 14.9 +0.4**
baz=70,SNR=11
CPCT Cooper Cave 70.18 349 *e*P **P** **00 47 14.9 +0.5**
234A Clairette 70.19 337 P **P** **00 47 15.2 +0.7**
baz=70,SNR=6.3
TKL Tuckaleechee C 70.28 350 P **P** **00 47 14.8 -0.2**
comp=Z,13nm,0.8s,baz=155,slow=8.0,SNR=16
TKL Tuckaleechee C 70.28 350 P **P** **00 47 14.8 -0.2**
TKL pmax pmax
comp=Z,13nm,0.9s
331A San Angelo 70.34 335 P **P** **00 47 16.1 +0.5**
baz=71,SNR=13
Z38A Mt. Pleasant 70.38 340 P **P** **00 47 16.5 +0.8**
baz=71
Z37A Pogue Cattle C 70.51 339 P **P** **00 47 17.2 +0.7**
baz=71
232A Coleman 70.59 335 P **P** **00 47 17.7 +0.6**
baz=71,SNR=11
134A White-Moore Ra 70.69 337 P **P** **00 47 17.9 +0.3**
baz=71
330A Mertzon 70.69 334 P **P** **00 47 18.0 +0.2**
baz=71,SNR=9.4
Z36A Blue Ridge 70.82 339 P **P** **00 47 19.5 +1.1**
baz=71
231A Bronte 70.87 335 P **P** **00 47 18.9 +0.1**
baz=71,SNR=9.5
133A Hamilton Ranch 71.00 336 P **P** **00 47 20.1 +0.5**
baz=71,SNR=7.6
329A Wagon Wheel Ra 71.06 333 P **P** **00 47 21.0 +1.0**
baz=71
230A Sterling City 71.11 334 P **P** **00 47 20.6 +0.4**
baz=71
Z35A Perchaven, San 71.13 338 P **P** **00 47 21.1 +0.8**
baz=71
MIAR Mount Ida 71.21 341 *e*P **P** **00 47 20.4 -0.3**
MIAR pmax pmax
comp=Z,29nm,1.3s
MIAR MLR MLR
comp=Z,235nm,19.0s
MIAR Mount Ida 71.21 341 P **P** **00 47 21.1 +0.4**
baz=72
MIAR Mount Ida 71.21 341 *e*P **P** **00 47 20.4 -0.3**
comp=Z,29nm,1.3s
MIAR LR LR
comp=Z,235nm,19.0s
ABTX Abilene, Hawle 71.26 336 P **P** **00 47 21.8 +0.6**
baz=72,SNR=7.1
Y36A Durant 71.36 339 P **P** **00 47 22.1 +0.4**
baz=72
Z34A Collier Ranch, 71.38 337 P **P** **00 47 22.0 +0.2**
baz=72
VWCC Virginia Weste 71.39 353 *e*P **P** **00 47 21.2 -0.6**
229A Bryant Ranch, 71.43 334 P **P** **00 47 22.6 +0.4**
baz=72
131A Roby 71.56 335 P **P** **00 47 23.2 +0.3**
baz=72
Z33A Whitaker Ranch 71.57 337 P **P** **00 47 23.3 +0.3**
baz=72,SNR=10.0
Y35A Marietta 71.60 338 P **P** **00 47 23.6 +0.6**
baz=72
X38A Whitesboro 71.66 340 P **P** **00 47 24.0 +0.6**
baz=72,SNR=6.1
130A Snyder 71.69 335 P **P** **00 47 24.2 +0.4**
baz=72
X37A Clayton 71.74 340 P **P** **00 47 24.0 +0.1**
baz=72
Z32A Haskell 71.83 336 P **P** **00 47 25.1 +0.5**
baz=72,SNR=13
228A UT Block 9, Go 71.86 333 P **P** **00 47 25.4 +0.6**
baz=72,SNR=9.8
Y34A Reagan Ranch, 71.87 338 P **P** **00 47 24.8 +0.1**
baz=72,SNR=6.3
W38A Poteau 71.96 341 P **P** **00 47 25.8 +0.6**
baz=72
X35A Drake 72.03 339 P **P** **00 47 25.7 -0.1**
baz=72
129A Stewart Farms, 72.05 334 P **P** **00 47 26.0 +0.1**
baz=72
Z31A Sharp Cattle R 72.06 336 P **P** **00 47 26.4 +0.4**
baz=72,SNR=9.2
CBN Corbin 72.14 356 PFAKE 00 47 40.0 +14
CBN LR LR
comp=Z,412nm,21.0s
Y33A Hilltop Ranch, 72.19 337 P **P** **00 47 26.8 +0.2**
baz=72
128A Castleberry Fa 72.27 333 P **P** **00 47 28.0 +0.7**
baz=73,SNR=9.8
W37A Quinton 72.27 340 P **P** **00 47 27.2 +0.1**
baz=73
Z30A Sanderson Ranc 72.38 335 P **P** **00 47 28.2 +0.4**
baz=73,SNR=11
Y32A R-V Farms, Ver 72.45 336 P **P** **00 47 28.4 +0.2**
baz=73
X34A Smith Ranch, M 72.48 338 P **P** **00 47 29.1 +0.7**
baz=73,SNR=5.6
W36A Wetumka 72.50 339 P **P** **00 47 28.4 -0.1**
baz=73
Z29A Hungry Hill Ra 72.56 334 P **P** **00 47 29.1 +0.1**
baz=73,SNR=13
X33A Lawton 72.64 337 P **P** **00 47 29.3 -0.1**
baz=73
V38A Canehill 72.67 341 P **P** **00 47 29.4 -0.1**
baz=73,SNR=6.8
Y31A Rekieta Farm, 72.69 336 P **P** **00 47 29.8 +0.2**
baz=73,SNR=7.4
W35A Tecumseh 72.70 339 P **P** **00 47 29.4 -0.3**
baz=73
X32A Elmer 72.78 337 P **P** **00 47 30.1 -0.1**
baz=73
Z28A Tucker Farm, M 72.83 334 P **P** **00 47 30.7 +0.1**
baz=73
V37A Hulbert 72.89 341 P **P** **00 47 31.0 +0.2**
baz=73
WMOK Wichita Mounta 72.91 337 *e*P **P** **00 47 29.4 -1.6**
WMOK pmax pmax
comp=Z,37nm,1.5s
WMOK MLR MLR
comp=Z,233nm,20.0s
WMOK Wichita Mounta 72.91 337 *e*P **P** **00 47 29.4 -1.6**
comp=Z,37nm,1.5s
WMOK LR LR
comp=Z,233nm,20.0s
V36A Jenks 73.02 340 P **P** **00 47 31.6 +0.1**
baz=73,SNR=5.6
W34A Bridge Creek, 73.05 338 P **P** **00 47 32.1 +0.3**
baz=73
MAW Mawson 73.08 164 P **P** **00 47 32.1 +0.5**
comp=Z,25nm,0.9s,baz=215,slow=7.1,SNR=39
MAW LR LR 01 22 26.1
comp=Z,2µm,18.1s,baz=230,slow=38
MAW Mawson 73.08 164 P **P** **00 47 32.1 +0.5**
MAW pmax pmax
comp=Z,25nm,0.9s
MAW MLR MLR
comp=Z,2µm,18.1s
Y29A Porterfield Fa 73.09 335 P **P** **00 47 32.5 +0.3**
baz=73,SNR=8.8
TUL1 Tulsa 73.10 340 P **P** **00 47 32.0 -0.1**
baz=73,SNR=7.9
W33A Caddo, Fort Co 73.19 338 P **P** **00 47 33.2 +0.6**
baz=74,SNR=7.6
X31A McDonald Ranch 73.20 336 P **P** **00 47 33.0 +0.3**
baz=74,SNR=7.7
U38A Gravette 73.21 341 P **P** **00 47 33.2 +0.5**
baz=74
SIUC Southern Illin 73.22 346 *e*P **P** **00 47 31.5 -1.2**
comp=Z,34nm,0.9s
CER Ceres 73.26 119 *e*P P **00 47 29.7 -3.7**
CER IAmb IAmb 00 47 35.3
comp=Z,114nm,1.3s
CER Ceres 73.26 119 P P **00 47 29.7 -3.7**
comp=Z,114nm,1.3s
V35A Meyer Ranch, C 73.26 339 P **P** **00 47 33.1 +0.1**
baz=74,SNR=6.9
SDMD Soldier's Deli 73.31 356 *e*P **P** **00 47 31.5 -1.6**
comp=Z,59nm,1.0s
Y28A McKinney Farm, 73.34 334 P **P** **00 47 33.9 +0.3**
baz=74
X30A Coker Ranch, T 73.34 336 P **P** **00 47 34.1 +0.5**
baz=74
U37A Salina 73.38 341 P **P** **00 47 33.8 +0.2**
baz=74
W32A Sentinel 73.41 337 P **P** **00 47 34.5 +0.5**
baz=74,SNR=11
V34A Guthrie 73.53 339 P **P** **00 47 34.6 +0.1**
baz=74
U36A Oologah 73.53 340 P **P** **00 47 34.9 +0.3**
baz=74
MSTX Muleshoe 73.58 334 P **P** **00 47 35.4 +0.3**
baz=74
X29A Tulia 73.62 335 P **P** **00 47 35.6 +0.3**
baz=74
W31A Holland Ranch, 73.70 337 P **P** **00 47 35.9 +0.3**
baz=74
V33A Lossen Ranch, 73.75 338 P **P** **00 47 36.1 +0.2**
baz=74
U35A Pawnee 73.80 340 P **P** **00 47 36.6 +0.4**
baz=74,SNR=11
V32A Arapaho 73.90 337 P **P** **00 47 37.1 +0.3**
baz=74
W30A Crocket Farms 73.91 336 P **P** **00 47 36.9 0.0**
baz=74
T37A Cheneyville 18 74.00 341 P **P** **00 47 37.2 -0.1**
baz=74,SNR=9.5
AMTX Amarillo 74.01 335 P **P** **00 47 37.8 +0.2**
baz=74
AMTX Amarillo 74.01 335 *e*P **P** **00 47 37.8 +0.2**
comp=Z,35nm,1.1s
U34A Anderson Ranch 74.09 339 P **P** **00 47 38.2 +0.3**
baz=74
U34A Anderson Ranch 74.09 339 *e*P **P** **00 47 37.5 -0.4**
comp=Z,32nm,1.0s
T36A Boggs Farm, Ca 74.20 340 P **P** **00 47 38.3 -0.2**
baz=74
V31A Spring Creek L 74.20 337 P **P** **00 47 39.3 +0.8**
baz=74
W29A Amraillo 74.22 335 P **P** **00 47 39.2 +0.5**
baz=74
T35A Sooner Cattle 74.24 340 P **P** **00 47 39.0 +0.3**
baz=75,SNR=7.5
U33A Lingo Farm, Me 74.26 338 P **P** **00 47 39.4 +0.6**
baz=75
121A Cookes Peak, D 74.30 329 P **P** **00 47 40.9 +1.5**
baz=75,SNR=13
SLM Saint Louis 74.32 345 *e*P **P** **00 47 38.0 -1.1**
SLM pmax pmax
comp=Z,42nm,0.8s
SLM Saint Louis 74.32 345 *e*P **P** **00 47 38.0 -1.1**
comp=Z,42nm,0.8s
V30A Spur Ranch, Mi 74.47 336 P **P** **00 47 41.3 +1.1**
baz=75
U32A Winter Ranch, 74.49 338 P **P** **00 47 40.6 +0.4**
baz=75,SNR=7.4
T34A McClaskey Farm 74.53 339 P **P** **00 47 40.9 +0.4**
baz=75,SNR=6.7
CVNA Calvinia 74.55 118 *e*P **P** **00 47 42.5 +1.4**
CVNA IAmb IAmb 00 47 54.2
comp=Z,62nm,0.9s
CVNA Calvinia 74.55 118 P **P** **00 47 42.5 +1.4**
comp=Z,62nm,0.9s
S37A Fort Scott 74.57 342 P **P** **00 47 40.7 +0.1**
baz=75
ACSO Alum Creek Sta 74.67 351 *e*P **P** **00 47 40.3 -0.8**
comp=Z,44nm,0.7s
ACSO LR LR
comp=Z,319nm,20.0s
S36A Lake Cedric, C 74.74 341 P **P** **00 47 41.7 +0.1**
baz=75,SNR=12
U31A Nine Bar Ranch 74.75 337 P **P** **00 47 42.4 +0.6**
baz=75
V29A Stinnett 74.85 336 P **P** **00 47 42.5 +0.1**
baz=75
S35A Otter Creek Ra 74.90 340 P **P** **00 47 42.9 +0.3**
baz=75,SNR=6.9
T33A Patterson Ranc 74.90 339 P **P** **00 47 43.3 +0.7**
baz=75,SNR=9.3
LIC Lamto 74.92 72 *e*P **P** **00 47 44.4 +1.2**
comp=Z,132nm,1.6s
V28A Channing 74.99 335 P **P** **00 47 43.9 +0.7**
baz=75
R37A Teagarden Farm 75.09 342 P **P** **00 47 43.8 +0.2**
baz=75
S34A Willow Spring 75.14 340 P **P** **00 47 44.5 +0.6**
baz=76
U30A WK&E Inc. Balk 75.16 337 P **P** **00 47 45.0 +0.9**
baz=76
TIC Toumodi 75.18 71 *e*P **P** **00 47 44.5 -0.2**
T32A Huddler Ranch, 75.20 338 P **P** **00 47 45.5 +1.2**
baz=76
KIC Kosan Boka 75.23 72 *e*P **P** **00 47 45.1 +0.1**
comp=Z,28nm,0.6s
R36A Gordon, Harris 75.28 341 P **P** **00 47 45.1 +0.4**
baz=76
S33A Kaszmaul Farm, 75.30 339 P **P** **00 47 45.1 +0.2**
baz=76
DBIC Dimbokro 75.32 71 *e*P P 00 47 39.9 -5.6
DBIC Dimbokro 75.32 71 P **P** **00 47 45.6 +0.1**
comp=Z,11nm,0.6s,baz=211,slow=5.3,SNR=20
DBIC LR LR 01 19 15.5
comp=Z,1µm,19.1s,baz=218,slow=34
SFIN Scholer Farm 75.42 348 P **P** **00 47 45.7 +0.3**
baz=76
TUC Tucson 75.42 327 *e*P **P** **00 47 45.5 -0.3**
TUC pmax pmax
comp=Z,18nm,1.4s
TUC MLR MLR
comp=Z,331nm,19.0s
TUC Tucson 75.42 327 *e*P **P** **00 47 45.5 -0.3**
comp=Z,18nm,1.4s
TUC LR LR
comp=Z,331nm,19.0s
R35A Emporia Munici 75.47 341 P **P** **00 47 46.0 +0.2**
baz=76
Q37A Longview Farm, 75.53 342 P **P** **00 47 45.9 -0.2**
baz=76
U28A Mallet 75.55 335 P **P** **00 47 46.8 +0.3**
baz=76
T30A Plains 75.59 337 P **P** **00 47 47.1 +0.5**
baz=76
S32A Newby Ranch, P 75.68 338 P **P** **00 47 47.6 +0.5**
baz=76
R34A Isabella, Hill 75.74 340 P **P** **00 47 47.9 +0.6**
baz=76,SNR=5.7
U27A Thompson Grove 75.80 335 P **P** **00 47 48.7 +0.8**
baz=76
ANMO Albuquerque 75.85 331 *c i*P **P** **00 47 49.0 +0.7**
ANMO pmax pmax
comp=Z,60nm,1.0s
ANMO Albuquerque 75.85 331 *e*P **P** **00 47 48.4 +0.1**
comp=Z,18nm,1.1s
ANMO LR LR
comp=Z,1µm,20.0s
Q35A Mercer Eighty, 75.92 341 P **P** **00 47 48.3 -0.1**
baz=76
T29A Hugoton 75.94 336 P **P** **00 47 49.1 +0.5**
baz=76
R33A Olander Ranch, 75.96 339 P **P** **00 47 48.9 +0.3**
baz=76
HDIL Hopedale 75.98 347 P **P** **00 47 48.5 -0.2**
baz=76
HDIL Hopedale 75.98 347 *e*P **P** **00 47 47.6 -1.0**
comp=Z,29nm,0.8s
HDIL LR LR
comp=Z,395nm,20.0s
214A Organ Pipe Nat 76.07 325 P **P** **00 47 50.7 +1.3**
baz=76,SNR=9.0
214A Organ Pipe Nat 76.07 325 *e*P **P** **00 47 49.5 0.0**
comp=Z,10nm,1.0s
S30A Montezuma 76.11 337 P **P** **00 47 50.3 +0.8**
baz=76
T28A Walsh 76.18 336 P **P** **00 47 50.5 +0.5**
baz=76,SNR=13
Q34A Chapman 76.23 340 P **P** **00 47 50.6 +0.4**
baz=77
R32A Long Quarter, 76.28 339 P **P** **00 47 50.8 +0.3**
baz=77
S29A Ulysses 76.30 337 P **P** **00 47 51.5 +0.9**
baz=77
KSU1 Kansas State U 76.31 341 P **P** **00 47 50.5 0.0**
baz=77
KSU1 Kansas State U 76.31 341 PFAKE 00 48 00.0 +9.4
KSU1 LR LR
comp=Z,284nm,20.0s
T27A Campo 76.34 335 P **P** **00 47 51.5 +0.5**
baz=77,SNR=8.0
R31A Burdett 76.41 338 P **P** **00 47 51.7 +0.5**
baz=77
P36A Good Intent, A 76.42 342 P **P** **00 47 51.6 +0.5**
baz=77,SNR=6.0
S28A Manter 76.53 336 P **P** **00 47 52.6 +0.6**
baz=77
DRV Dumont d'Urvil 76.55 193 S **SKiKP** **00 57 09.0 +0.1**
DRV SS SS 01 02 21.0 -10
DRV L L 01 07 00.0
DRV R 01 12 00.0
P35A Duane Minner, 76.55 341 P **P** **00 47 52.0 +0.1**
baz=77,SNR=5.9
Q33A Connelly Farm, 76.56 340 P **P** **00 47 52.4 +0.4**
baz=77
R30A Dighton 76.64 338 P **P** **00 47 53.0 +0.5**
baz=77
T26A Comanche Natio 76.75 335 P **P** **00 47 54.1 +0.7**
baz=77,SNR=9.6
Q32A Meitler Ranch, 76.76 339 P **P** **00 47 53.8 +0.7**
baz=77
P34A Walnut Farm, R 76.78 341 P **P** **00 47 53.6 +0.3**
baz=77
AAM Ann Arbor 76.79 351 PFAKE 00 48 10.0 +17
AAM LR LR
comp=Z,563nm,21.0s
O36A Bolckow 76.84 342 P **P** **00 47 53.9 +0.3**
baz=77
P33A Williams Farm, 76.92 340 P **P** **00 47 55.0 +0.9**
baz=77
CBKS Cedar Bluff 76.95 338 P **P** **00 47 55.2 +0.9**
baz=77
S27A Las Animas 76.96 335 P **P** **00 47 55.6 +1.2**
baz=77
T25A Trinidad 77.01 334 P **P** **00 47 55.9 +1.1**
baz=77,SNR=13
Q31A Ellis 77.03 339 P **P** **00 47 55.5 +0.8**
baz=77,SNR=5.8
R29A Marienthal 77.04 337 P **P** **00 47 55.6 +0.7**
baz=77
S26A Kim 77.10 335 P **P** **00 47 56.7 +1.4**
baz=77,SNR=10
R28A Tribune 77.19 336 P **P** **00 47 56.4 +0.7**
baz=78
O35A Humboldt 77.21 342 P **P** **00 47 55.2 -0.4**
baz=78
Q30A Quinter 77.25 338 P **P** **00 47 56.6 +0.6**
baz=78,SNR=10.0
UPI Upington 77.27 116 *e*P **P** **00 47 56.6 0.0**
UPI Upington 77.27 116 P **P** **00 47 56.6 0.0**
O34A Beatrice 77.34 341 P **P** **00 47 57.6 +1.2**
baz=78,SNR=5.8
W18A Petrified Fore 77.34 329 P **P** **00 47 57.7 +1.0**
baz=78
Q29A Oakley 77.41 337 P **P** **00 47 57.3 +0.4**
baz=78
R27A Eads 77.47 336 P **P** **00 47 58.1 +0.8**
baz=78
P31A Stockton 77.50 339 P **P** **00 47 58.1 +0.8**
baz=78
N35A Tabor 77.70 342 P **P** **00 47 58.3 0.0**
baz=78
R26A Arlington 77.70 335 P **P** **00 47 59.2 +0.6**
baz=78
NCB Newcomb 77.76 358 PFAKE 00 48 10.0 +11
NCB LR LR
comp=Z,570nm,21.0s
P30A Selden 77.78 338 P **P** **00 47 59.6 +0.6**
baz=78
Q28A Sharon Springs 77.84 337 P **P** **00 48 00.1 +0.7**
baz=78
O32A Brockman Farm, 77.86 340 P **P** **00 47 59.3 0.0**
baz=78
N34A Lincoln 77.90 341 P **P** **00 47 59.9 +0.4**
baz=78
GLA Glamis 77.93 324 *e*P **P** **00 47 59.2 -0.7**
GLA pmax pmax
comp=Z,17nm,1.3s
GLA Glamis 77.93 324 P **P** **00 48 01.3 +1.4**
baz=78
GLA Glamis 77.93 324 *e*P **P** **00 47 59.2 -0.7**
comp=Z,17nm,1.3s
SDCO Great Sand Dun 77.94 334 P **P** **00 48 01.1 +1.0**
baz=78,SNR=15
SDCO Great Sand Dun 77.94 334 *e*P **P** **00 47 59.6 -0.6**
comp=Z,7.4nm,0.9s
SDCO LR LR
comp=Z,547nm,21.0s
P29A Atwood 78.05 338 P **P** **00 48 01.9 +1.5**
baz=78,SNR=5.1
KSCO Kaye Shedlock' 78.06 336 P **P** **00 48 01.9 +1.3**
baz=78
N33A J Bar K, Exete 78.07 341 P **P** **00 48 01.2 +0.8**
baz=78
SCIA State Center 78.10 344 PFAKE 00 48 10.0 +9.4
SCIA LR LR
comp=Z,349nm,20.0s
IBP Imperial Bould 78.23 323 P **P** **00 48 03.2 +1.6**
baz=78
P28A Saint Francis 78.28 337 P **P** **00 48 02.8 +1.1**
baz=79
Q26A Hugo 78.29 336 P **P** **00 48 03.5 +1.6**
baz=79
Y12C Blythe 78.36 325 P **P** **00 48 04.0 +1.8**
baz=79,SNR=6.4
WUAZ Wupatki 78.39 328 P **P** **00 48 04.0 +1.5**
baz=79,SNR=8.0
WUAZ Wupatki 78.39 328 *e*P **P** **00 48 02.3 -0.2**
comp=Z,19nm,1.0s
WUAZ LR LR
comp=Z,414nm,21.0s
LONY Lake Ozonia 78.42 358 *e*P **P** **00 48 01.6 -0.7**
comp=Z,16nm,0.9s
LONY LR LR
comp=Z,465nm,20.0s
S22A 4UR Ranch, Cre 78.44 333 P **P** **00 48 04.3 +1.3**
baz=79,SNR=7.4
JFWS Jewell Farm 78.44 347 PFAKE 00 48 10.0 +7.6
JFWS LR LR
comp=Z,445nm,22.0s
MONP Monument Peak 78.58 323 P **P** **00 48 05.2 +1.5**
baz=79
MVCO Mesa Verde 78.63 331 P **P** **00 48 05.1 +1.1**
baz=79,SNR=12
MVCO Mesa Verde 78.63 331 *e*P **P** **00 48 04.0 0.0**
comp=Z,18nm,1.1s
MVCO LR LR
comp=Z,1µm,19.0s
O28A Krutsinger Ran 78.79 337 P **P** **00 48 06.1 +1.6**
baz=79
P26A Davis Ranch, A 78.80 336 P **P** **00 48 06.3 +1.6**
baz=79
Q24A Divide 78.89 334 P **P** **00 48 06.7 +1.3**
baz=79,SNR=11
L34A Svendsen Farm, 78.93 342 P **P** **00 48 06.2 +1.1**
baz=79
IRM Iron Mountain 78.99 325 P **P** **00 48 06.8 +1.1**
baz=79,SNR=7.7
M31A Lambtecht Ranc 79.06 340 P **P** **00 48 07.7 +1.8**
baz=79
N29A Votaw Ranch, W 79.06 338 P **P** **00 48 07.7 +1.7**
baz=79
PKME Peaks-Kenny Pk 79.07 2 PFAKE 00 48 20.0 +14
PKME LR LR
comp=Z,177nm,20.0s
O27A Beecher Island 79.08 337 P **P** **00 48 07.7 +1.6**
baz=79
PFO Pinyon Flat Ob 79.18 324 P **P** **00 48 08.5 +1.6**
comp=Z,89nm,1.1s,SNR=6.2
PFO Pinyon Flat Ob 79.18 324 *e*P **P** **00 48 08.0 +1.2**
PFO pmax pmax
comp=Z,15nm,1.0s
PFO MLR MLR
comp=Z,818nm,20.0s
PFO Pinyon Flat Ob 79.18 324 P **P** **00 48 08.5 +1.6**
baz=79
PFO Pinyon Flat Ob 79.18 324 *e*P **P** **00 48 08.0 +1.2**
comp=Z,15nm,1.0s
PFO LR LR
comp=Z,818nm,20.0s
BELC Belle Mtn. Jos 79.27 324 P **P** **00 48 09.1 +1.7**
baz=80
TSUM Tsumeb 79.28 106 *e*P **P** **00 48 07.9 0.0**
comp=Z,7.4nm,0.9s
TSUM LR LR
comp=Z,2µm,19.0s
GLMI Grayling 79.40 351 PFAKE 00 48 20.0 +12
GLMI LR LR
comp=Z,516nm,21.0s
O26A Horse Wrangler 79.40 336 P **P** **00 48 09.0 +1.0**
baz=80,SNR=5.7

MURC Murrieta 79.54 323 P P 00 48 10.6 +1.8
baz=80
OGNE Ogallala 79.62 337 P P 00 48 10.2 +1.2
baz=80
OGNE Ogallala 79.62 337 PFAKE 00 48 20.0 +11
OGNE LR LR
comp=Z,284nm,19.0s
N27A Anderson Farm, 79.65 337 P P 00 48 10.4 +1.2
baz=80,SNR=5.8
M29A Burnside Ranch 79.65 339 P P 00 48 10.3 +1.1
baz=80
GMRC Granite Mounta 79.74 325 P P 00 48 11.7 +1.8
baz=80,SNR=6.7
L31A Butterfield Fa 79.79 340 P P 00 48 11.1 +1.3
baz=80
ISCO Idaho Springs 79.80 334 eP P 00 48 09.5 -0.8
ISCO pmax pmax
comp=Z,19nm,1.4s
ISCO MLR MLR
comp=Z,293nm,20.0s
ISCO Idaho Springs 79.80 334 P P 00 48 11.6 +1.3
baz=80,SNR=7.7
ISCO Idaho Springs 79.80 334 eP P 00 48 09.5 -0.8
comp=Z,19nm,1.4s
ISCO LR LR
comp=Z,293nm,20.0s
M28A Bar X Bar Ranc 79.82 338 P P 00 48 11.6 +1.5
baz=80
L30A Spencer Herefo 79.83 339 P P 00 48 11.4 +1.2
baz=80
CASY Casey 79.88 181 PFAKE 00 48 20.0 +10
CASY LR LR
comp=Z,1μm,20.0s
N26A Koester Ranch, 79.90 337 P P 00 48 11.9 +1.3
baz=80
CIS Catalina Islan 79.99 322 P P 00 48 11.9 +0.7
baz=80
BOSA Boshof 80.10 118 eP P 00 48 12.6 +0.3
BOSA IAmb IAmb 00 48 25.0
comp=Z,2μm,4.0s
BOSA Boshof 80.10 118 P P 00 48 11.5 -0.8
comp=Z,31nm,1.0s,baz=231,slow=4.9,SNR=20
BOSA LR LR 01 20 14.8
comp=Z,504nm,19.1s,baz=230,slow=33
BOSA Boshof 80.10 118 P P 00 48 12.6 +0.3
HEC Hector,Ludlow 80.10 324 P P 00 48 13.1 +1.3
baz=80,SNR=7.6
BFSC Mount Baldy Ra 80.28 323 P P 00 48 14.1 +1.2
baz=80,SNR=7.3
TUQ Turquoise Moun 80.40 325 P P 00 48 14.6 +1.1
baz=81,SNR=12
K30A Basset 80.47 340 P P 00 48 13.9 +0.4
baz=81,SNR=5.9
ECSD EROS Data Cent 80.64 342 P P 00 48 14.6 +0.2
baz=81,SNR=35
ECSD EROS Data Cent 80.64 342 eP P 00 48 13.8 -0.6
comp=Z,38nm,0.9s
ECSD LR LR
comp=Z,276nm,22.0s
GSC Goldstone 80.71 324 P P 00 48 16.1 +1.0
baz=81
N23A Red Feather La 80.89 335 P P 00 48 17.2 +1.1
baz=81,SNR=9.3
EDW2 Edwards Air Fo 80.95 323 P P 00 48 17.6 +1.2
baz=81,SNR=5.8
K28A Ten Mile Ranch 81.02 339 P P 00 48 17.9 +1.3
baz=81,SNR=7.8
J30A Dallas 81.03 340 P P 00 48 16.9 +0.4
baz=81
O20A White River Ci 81.06 333 P P 00 48 17.8 +0.8
baz=81
SRU San Rafael 81.08 331 eP P 00 48 16.7 -0.4
SRU pmax pmax
comp=Z,11nm,0.9s
SRU San Rafael 81.08 331 eP P 00 48 16.7 -0.4
comp=Z,11nm,0.9s
BSC Santa Cruz Isl 81.08 322 P P 00 48 18.5 +1.5
baz=81
SPMN St. Paul 81.18 345 P P 00 48 18.2 +1.0
baz=82,SNR=6.0
SPMN St. Paul 81.18 345 eP P 00 48 14.9 -2.3
comp=Z,19nm,0.8s
K27A Flueckinger Fa 81.28 338 P P 00 48 18.9 +0.9
baz=82
LRMC Laurel Mountai 81.28 324 P P 00 48 18.5 +0.4
baz=82
COWI Conover 81.33 348 PFAKE 00 48 30.0 +12
COWI LR LR
comp=Z,401nm,22.0s
L25A Engebretsen Ra 81.33 337 P P 00 48 19.7 +1.4
baz=82
J29A Okreek 81.34 340 P P 00 48 18.6 +0.4
baz=82,SNR=9.6
I30A Oacoma 81.56 340 P P 00 48 19.1 -0.2
baz=82
ARVC Arvin 81.57 323 P P 00 48 20.4 +0.9
baz=82
K26A Motz Farm, Whi 81.57 337 P P 00 48 20.3 +0.8
baz=82
J28A Allard Ranch, 81.63 339 P P 00 48 20.7 +1.0
baz=82,SNR=7.2
MPMC Manual Prospec 81.65 324 P P 00 48 20.8 +0.6
baz=82
FURC Furnace Creek, 81.68 325 P P 00 48 21.6 +1.6
baz=82
J27A Elkhorn Farm, 81.70 338 P P 00 48 21.6 +1.4
baz=82,SNR=6.2
TPNV Topopah Spring 81.78 326 P P 00 48 22.6 +1.8
baz=82,SNR=13
ISA Isabella 81.81 323 eP P 00 48 20.8 -0.1
ISA pmax pmax
comp=Z,12nm,1.0s
ISA Isabella 81.81 323 P P 00 48 22.6 +1.7
baz=82,SNR=7.1
ISA Isabella 81.81 323 eP P 00 48 20.8 -0.1
comp=Z,12nm,1.0s
PKM Peak Mountain 81.88 322 P P 00 48 22.5 +1.1
baz=82,SNR=5.4
I29A Vivian Onida 81.90 340 P P 00 48 22.4 +1.3
baz=82
SEK Senekal 81.99 119 eP P 00 48 22.2 -0.2
SEK IAmb IAmb 00 48 35.2
comp=Z,1μm,3.9s
SEK Senekal 81.99 119 P P 00 48 22.2 -0.2
comp=Z,1μm,3.9s
J26A Sides Ranch, S 82.09 338 P P 00 48 23.4 +1.2
baz=82,SNR=6.4
K24A Anderson Ranch 82.12 336 P P 00 48 23.1 +0.6
baz=82
I28A Midland 82.13 339 P P 00 48 23.2 +0.9
baz=82
LBTB Lobatse 82.34 115 eP P 00 48 24.3 +0.1
LBTB IAmb IAmb 00 48 36.2
comp=Z,45nm,1.1s
LBTB IAMs_20 IAMs_20 01 21 41.9
comp=Z,2μm,6.2s
LBTB Lobatse 82.34 115 P P 00 48 24.3 +0.1
LBTB pmax pmax
comp=Z,45nm,1.1s
LBTB Lobatse 82.34 115 P P 00 48 24.3 +0.1
comp=Z,45nm,1.1s
GRAC Grapevine Rang 82.35 325 P P 00 48 25.2 +1.5
baz=83,SNR=7.2
J25A Sunshine Ranch 82.39 337 P P 00 48 24.8 +1.0
baz=83,SNR=8.7
K23A Bowen Ranch, D 82.42 336 P P 00 48 24.8 +0.7
baz=83
H29A Onida 82.43 340 P P 00 48 23.8 -0.1
baz=83
PRYS Parys 82.59 117 eP P 00 48 20.4 -5.1
PRYS IAmb IAmb 00 48 25.5
comp=Z,153nm,2.8s
PRYS Parys 82.59 117 P P 00 48 20.4 -5.1
comp=Z,153nm,2.8s
G30A Faulkton 82.60 341 P P 00 48 25.5 +0.8
baz=83
J24A Dixon Ranch, L 82.61 337 P P 00 48 26.0 +1.0
baz=83,SNR=6.8
R11A Troy Canyon, C 82.61 327 P P 00 48 26.6 +1.4
baz=83,SNR=30
R11A Troy Canyon, C 82.61 327 eP P 00 48 24.7 -0.5
comp=Z,9.6nm,1.0s
K22A Casper 82.64 335 P P 00 48 26.0 +0.8
baz=83,SNR=7.3
K22A Casper 82.64 335 eP P 00 48 24.7 -0.4
comp=Z,61nm,1.5s
I26A New Underwood 82.67 338 P P 00 48 25.9 +0.7
baz=83
H28A Mission Ridge 82.71 340 P P 00 48 25.6 +0.3
baz=83
G29A Hoven 82.87 341 P P 00 48 26.3 +0.1
baz=83
I25A Rochford 82.93 338 P P 00 48 27.6 +0.9
baz=83,SNR=13
DUG Dugway 82.94 330 eP P 00 48 27.4 +0.7
DUG pmax pmax
comp=Z,23nm,1.1s
DUG MLR MLR
comp=Z,592nm,20.0s
DUG Dugway 82.94 330 P P 00 48 27.6 +0.8
baz=83,SNR=20
DUG Dugway 82.94 330 eP P 00 48 27.4 +0.7
comp=Z,22nm,1.1s
DUG LR LR
comp=Z,592nm,20.0s
H27A Howes 82.98 339 P P 00 48 27.2 +0.5
baz=83,SNR=5.3
SNZO South Karori 83.00 224 PFAKE 00 48 40.0 +13
SNZO LR LR
comp=Z,1μm,21.0s
G28A Parade 83.04 340 P P 00 48 27.7 +0.6
baz=83
I24A Kuemmerle Ranc 83.07 337 P P 00 48 27.6 +0.3
baz=83
F30A Leola 83.23 341 P P 00 48 28.6 +0.6
baz=84
J22A Midwest 83.30 336 P P 00 48 28.6 +0.1
baz=84,SNR=7.1
F29A Eureka 83.44 341 P P 00 48 29.7 +0.6
baz=84
EYMN Ely 83.53 347 P P 00 48 29.8 +0.4
baz=84
EYMN Ely 83.53 347 PFAKE 00 48 40.0 +11
EYMN LR LR
comp=Z,369nm,20.0s
MLAC Mammoth Lakes 83.55 324 P P 00 48 29.7 -0.4
baz=84
J21A Lysite 83.57 335 P P 00 48 30.4 +0.4
baz=84
G27A Dupree 83.61 339 P P 00 48 30.0 0.0
baz=84
HWUT Hardware Ranch 83.62 331 eP P 00 48 29.4 -0.9
comp=Z,16nm,1.0s
HWUT LR LR
comp=Z,988nm,19.0s
BGU Big Grassy Mou 83.64 330 eP P 00 48 29.6 -0.8
comp=Z,24nm,1.4s
I22A 9 Mile Ranch, 83.72 336 P P 00 48 30.7 0.0
baz=84,SNR=7.9
SPUT South Promonto 83.72 331 eP P 00 48 30.8 0.0
comp=Z,41nm,1.4s
G26A Maurine 83.73 339 P P 00 48 30.7 +0.1
baz=84
J20A Shoshoni 83.81 335 P P 00 48 32.0 +0.8
baz=84,SNR=9.6
E30A Jud 83.81 342 P P 00 48 30.7 -0.3
baz=84
BW06 Boulder Array 83.83 333 eP P 00 48 30.0 -1.4
comp=Z,12nm,1.4s
BW06 LR LR
comp=Z,886nm,19.0s
PDAR Pinedale Array 83.83 333 P P 00 48 31.7 +0.3
comp=Z,5.0nm,1.0s,baz=133,slow=5.3,SNR=19
H24A Dirks Ranch, A 83.84 337 P P 00 48 31.5 +0.3
baz=84,SNR=7.2
G25A Newell 83.89 338 P P 00 48 32.0 +0.6
baz=84,SNR=7.3
I21A Big Trails, Te 83.93 335 P P 00 48 31.7 -0.1
baz=84,SNR=6.2
NVAR Mina Array Bea 83.93 325 P P 00 48 33.4 +1.3
comp=Z,4.9nm,0.8s,baz=147,slow=5.3,SNR=19
SLR Silverton 83.94 117 eP P 00 48 31.3 -1.2
SLR IAmb IAmb 00 48 34.1
comp=Z,13nm,0.8s
SLR IAMs_20 IAMs_20 01 27 46.6
comp=Z,2μm,15.9s
SLR Silverton 83.94 117 P P 00 48 31.3 -1.2
SLR pmax pmax
comp=Z,13nm,0.8s
SLR Silverton 83.94 117 P P 00 48 31.3 -1.2
comp=Z,13nm,0.8s
J19A Creaart 84.08 334 P P 00 48 33.0 +0.4
baz=84,SNR=20
F27A Lemmon 84.09 340 P P 00 48 32.8 +0.3
baz=84,SNR=8.1
F26A Lodgepole 84.26 339 P P 00 48 33.6 +0.3
baz=85
H22A Clearmont 84.30 336 P P 00 48 34.0 +0.4
baz=85
D30A Buchanan 84.34 342 P P 00 48 34.1 +0.5
baz=85,SNR=7.9
I20A Worland 84.34 335 P P 00 48 34.1 +0.2
baz=85,SNR=7.6
TOB4 Torodi Ar. Sit 84.34 70 eP P 00 48 32.4 -2.0
E28A Huff 84.36 341 P P 00 48 33.7 0.0
baz=85
TORD Torodi Ar. Bea 84.36 70 P P 00 48 34.5 +0.1
comp=Z,28nm,0.9s,baz=240,slow=4.1,SNR=74
TORD LR LR 01 25 17.9
comp=Z,1μm,18.6s,baz=240,slow=35
AHID Auburn Hatcher 84.42 332 PFAKE 00 48 50.0 +16
AHID LR LR
comp=Z,710nm,20.0s
G23A Biddle 84.52 337 P P 00 48 34.4 -0.2
baz=85
H21A Big Horn, Sher 84.56 336 P P 00 48 35.2 +0.2
baz=85
F25A Bowman 84.56 339 P P 00 48 35.2 +0.3
baz=85
I19A Meeteetse 84.73 334 P P 00 48 36.0 +0.1
baz=85,SNR=8.0
AGMN Agassiz Nation 84.76 344 P P 00 48 35.8 +0.1
baz=85,SNR=6.9
AGMN Agassiz Nation 84.76 344 PFAKE 00 48 50.0 +14
AGMN LR LR
comp=Z,268nm,20.0s
H20A Greybull 84.76 335 P P 00 48 36.1 +0.1
baz=85,SNR=12
F24A Ekalaka 84.79 338 P P 00 48 36.4 +0.4
baz=85
C30A Mose, Pekin 84.82 343 P P 00 48 36.4 +0.4
baz=85,SNR=7.8
G22A Birney 84.83 337 P P 00 48 36.3 0.0
baz=85,SNR=5.9
SNOW Snow King Moun 84.88 333 eP P 00 48 36.8 0.0
comp=Z,4.5nm,0.6s
D28A Regan 84.89 341 P P 00 48 37.1 +0.7
baz=85
TPAW Ten Pass 84.98 333 eP P 00 48 37.4 +0.1
comp=Z,11nm,0.9s
F23A Volborg 84.98 337 P P 00 48 37.4 +0.4
baz=85
E25A Miller Ranch, 85.06 339 P P 00 48 37.7 +0.3
baz=85
D27A Center 85.08 340 P P 00 48 37.7 +0.3
baz=85
MOOW Moose Ponds 85.12 333 eP P 00 48 36.3 -1.6
comp=Z,12nm,1.5s
G21A Lodge Grass 85.14 336 P P 00 48 37.7 -0.1
baz=85
MDND Maddock 85.24 342 P P 00 48 39.0 +0.9
baz=86
D26A Manning 85.26 340 P P 00 48 39.0 +0.7
baz=86
H19A Powell 85.27 335 P P 00 48 39.0 +0.4
baz=86,SNR=9.2
F22A Rosebud 85.31 337 P P 00 48 38.9 +0.3
baz=86,SNR=7.3
IMW Indian Meadow 85.32 333 eP P 00 48 38.8 -0.3
comp=Z,16nm,1.1s
FLWY Flagg Ranch 85.39 333 eP P 00 48 40.0 +0.7
comp=Z,11nm,0.6s
E24A Baker 85.39 338 P P 00 48 39.7 +0.7
baz=86
POGA Pongola 85.43 120 eP P 00 48 34.3 -5.5
POGA IAmb IAmb 00 48 46.4
comp=Z,409nm,3.6s
POGA Pongola 85.43 120 P P 00 48 34.3 -5.5
comp=Z,409nm,3.6s
B30A Myrvik Farm, E 85.48 343 P P 00 48 39.9 +0.6
baz=86,SNR=18
G20A Bridger 85.48 335 P P 00 48 39.4 -0.2
baz=86,SNR=24
H17A Grant Village 85.61 333 P P 00 48 40.9 +0.5
baz=86
F21A Absaloka Mine, 85.64 336 P P 00 48 40.8 +0.5
baz=86
LKWY Lake 85.69 334 PFAKE 00 48 50.0 +9.2
LKWY LR LR
comp=Z,812nm,20.0s
B29A Wagenman Farm, 85.75 342 P P 00 48 41.0 +0.4
baz=86
RLMT Red Lodge 85.76 335 P P 00 48 41.4 +0.3
baz=86,SNR=16
RLMT Red Lodge 85.76 335 PFAKE 00 48 50.0 +8.9
RLMT LR LR
comp=Z,341nm,21.0s
E22A Miles City 85.80 337 P P 00 48 40.8 -0.2
baz=86,SNR=5.4
D24A Glendive 85.90 339 P P 00 48 42.1 +0.7
baz=86
A30A Hoffart Farm, 85.93 343 P P 00 48 41.9 +0.3
baz=86
F20A Billings 85.96 336 P P 00 48 42.3 +0.4
baz=86
B28A Dugan Ranch, T 85.99 342 P P 00 48 42.4 +0.6
baz=86
LAO LASA Array 86.11 337 PFAKE 00 48 50.0 +7.5
LAO LR LR
comp=Z,348nm,20.0s
A29A Manning Farm, 86.14 342 P P 00 48 42.7 +0.1
baz=86,SNR=5.6
B27A Peters Farms, 86.19 341 P P 00 48 43.4 +0.6
baz=86
E21A Keefer Ranch, 86.25 337 P P 00 48 43.7 +0.4
baz=87
C24A Savage 86.30 339 P P 00 48 44.1 +0.7
baz=87,SNR=16
A28A Rude Farm, Bot 86.39 342 P P 00 48 44.9 +1.1
baz=87
HLID Hailey 86.40 331 P P 00 48 45.0 +0.7
baz=87,SNR=7.4
HLID Hailey 86.40 331 PFAKE 00 49 00.0 +16
HLID LR LR
comp=Z,400nm,20.0s
D22A Cohagen 86.50 338 P P 00 48 45.1 +0.7
baz=87,SNR=8.9
ULM Lac du Bonnet 86.60 345 P P 00 48 44.6 -0.2
comp=Z,20nm,1.1s,baz=172,slow=3.6,SNR=7.0
ULM Lac du Bonnet 86.60 345 P P 00 48 44.6 -0.2
ULM pmax pmax
comp=Z,20nm,1.1s
BOZ Bozeman (W) 87.07 333 eP P 00 48 48.2 +0.8
BOZ pmax pmax
comp=Z,7.0nm,1.0s
BOZ MLR MLR
comp=Z,551nm,20.0s
BOZ Bozeman (W) 87.07 333 P P 00 48 47.6 +0.1
baz=87,SNR=7.2
BOZ Bozeman (W) 87.07 333 eP P 00 48 48.2 +0.8
comp=Z,7.3nm,1.0s
BOZ LR LR
comp=Z,551nm,20.0s
DGMT Dagmar 87.07 339 P P 00 48 47.9 +0.7
baz=87,SNR=9.3
DGMT Dagmar 87.07 339 PFAKE 00 49 00.0 +13
DGMT LR LR
comp=Z,245nm,19.0s
A25A Svangstu Ranch 87.18 340 P P 00 48 48.1 +0.4
baz=88
MSNA Messina 87.19 115 eP P 00 48 48.8 +0.2
MSNA IAmb IAmb 00 48 51.2
comp=Z,12nm,0.9s
MSNA IAMs_20 IAMs_20 01 26 47.6
comp=Z,1μm,6.9s
MSNA Messina 87.19 115 P P 00 48 48.8 +0.2
comp=Z,12nm,0.9s
WVOR Wild Horse Val 87.28 327 eP P 00 48 46.7 -1.8
WVOR pmax pmax
comp=Z,15nm,1.3s
WVOR MLR MLR
comp=Z,511nm,20.0s
WVOR Wild Horse Val 87.28 327 eP P 00 48 46.7 -1.8
comp=Z,15nm,1.3s
WVOR LR LR
comp=Z,511nm,20.0s
C21A Desert Coulee 87.39 337 P P 00 48 49.3 +0.5
baz=88
B22A Reddig Ranch S 87.46 338 P P 00 48 49.6 +0.5
baz=88,SNR=5.6
C20A Veseth Ranch, 87.58 337 P P 00 48 49.7 0.0
baz=88,SNR=6.7
WDC Whiskeytown Da 87.65 324 eP P 00 48 50.3 +0.2
WDC pmax pmax
comp=Z,16nm,0.9s
WDC Whiskeytown Da 87.65 324 eP P 00 48 50.3 +0.2
comp=Z,16nm,0.9s
N02D Trinity Center 88.03 324 P P 00 48 52.6 +0.5
baz=88
A22A Carney Farms, 88.05 339 P P 00 48 52.2 +0.2
baz=88,SNR=7.2
B20A Solberg Farm, 88.22 337 P P 00 48 52.9 +0.1
baz=88,SNR=6.3
M02C Callahan 88.43 324 P P 00 48 54.7 +0.8
baz=89
EGMT Eagleton 88.44 336 P P 00 48 54.4 +0.6
baz=89
EGMT Eagleton 88.44 336 PFAKE 00 49 10.0 +16
EGMT LR LR
comp=Z,303nm,19.0s
B19A Brinkman Farms 88.54 337 P P 00 48 54.5 +0.2
baz=89
BMO Blue Mountains 88.65 330 PFAKE 00 49 10.0 +15
BMO LR LR
comp=Z,429nm,20.0s
SCHQ Schefferville 88.73 3 P P 00 48 54.5 -0.3
comp=Z,7.9nm,1.0s,baz=180,slow=3.9,SNR=6.6
SCHQ LR LR 01 31 31.0
comp=Z,229nm,19.6s,baz=130,slow=38
A19A Klindworth Far 88.89 337 P P 00 48 56.3 +0.5
baz=89
MSO Missoula 88.93 333 P P 00 48 56.8 +0.6
baz=89
J05D Fort Rock, OR 89.13 327 P P 00 48 58.4 +1.2
baz=89,SNR=6.3
J04D Umpqua Nationa 89.50 326 P P 00 48 59.9 +0.9
baz=90
LSZ Lusaka 89.86 108 PFAKE 00 49 10.0 +8.5
LSZ LR LR
comp=Z,2μm,20.0s
AFI Afiamalu 90.06 253 PFAKE 00 49 10.0 +7.7
AFI LR LR
comp=Z,936nm,20.0s
I04A Tendick Farm, 90.06 326 P P 00 49 02.4 +0.9
baz=90
BSMT Bassoo Peak 90.10 333 eP P 00 49 02.3 +0.5
comp=Z,5.8nm,1.2s
PAF Port-aux-Franc 90.40 156 S S 00 59 49.0 -8.6
PAF SS SS **01 05 49.0 -7.2**
PAF R 01 19 00.0
NEW Newport 91.34 332 P P 00 49 07.4 +0.1
baz=92
NEW Newport 91.34 332 PFAKE 00 49 20.0 +13
NEW LR LR
comp=Z,413nm,19.0s
FFC Flin Flon 92.15 343 PFAKE 00 49 20.0 +9.2
FFC LR LR
comp=Z,344nm,20.0s
TAM Tamanrasset 92.98 65 eP P 00 49 17.4 +1.7
TAM pmax pmax
comp=Z,7.0nm,1.0s
TAM MLR MLR
comp=Z,998nm,22.0s
TAM Tamanrasset 92.98 65 eP P 00 49 17.4 +1.7
comp=Z,6.8nm,1.0s
TAM LR LR
comp=Z,998nm,22.0s
NLWA Neilton Lookou 93.47 328 PFAKE 00 49 30.0 +13
NLWA LR LR
comp=Z,351nm,21.0s
EDM Edmonton 94.07 337 eP P 00 49 18.1 -1.7
EDM pmax pmax
comp=Z,8.0nm,0.9s
EDM Edmonton 94.07 337 eP P 00 49 18.1 -1.7
comp=Z,7.8nm,0.9s
MTE Manteigas 95.11 44 PFAKE 00 49 40.0 +15
MTE LR LR
comp=Z,1μm,20.0s
MSVF Nonsavu 95.65 244 PFAKE 00 49 40.0 +12
MSVF LR LR
comp=Z,909nm,21.0s
PAB San Pablo 96.44 46 PFAKE 00 49 40.0 +9.0
PAB LR LR

comp=Z,650nm,19.0s
ESDC Sonseca Array 96.75 46 P **P** **00 49 32.2 -0.2**
comp=Z,1.4nm,0.8s,baz=234,slow=3.0,SNR=6.4
ESDC LR LR 01 33 05.4
comp=Z,440nm,18.1s,baz=210,slow=35
DZM Mont Dzumac 101.07 234 *e*LR LR 01 22 45.6
comp=Z,1µm,28.6s
SFJD Kangerlussuaq 102.15 8 PFAKE 00 50 10.0 +14
SFJD LR LR
comp=Z,534nm,19.0s
YKA Yellowknife Ar 102.15 341 P **Pdif** **00 49 55.7 -0.2**
comp=Z,1.7nm,0.9s,baz=142,slow=4.6,SNR=4.7
YKA Yellowknife Ar 102.15 341 P **Pdif** **00 49 55.7 -0.2**
YKA pmax pmax
comp=Z,2.0nm,0.9s
VSL Villasalto 105.04 52 PFAKE 00 54 40.0
VSL LR LR
comp=Z,592nm,19.0s
SSB Saint Sauveur 105.12 45 PFAKE 00 54 40.0
SSB LR LR
comp=Z,960nm,20.0s
KMBO Kilima Mbogo 105.36 102 PFAKE 00 54 40.0
KMBO LR LR
comp=Z,756nm,20.0s
BORG Borgarnes 106.25 20 PFAKE 00 54 40.0
BORG LR LR
comp=Z,370nm,20.0s
CLTB Caltabellotta 106.63 56 PFAKE 00 54 40.0
CLTB LR LR
comp=Z,901nm,20.0s
WDD Wield Dalam 106.67 58 PFAKE 00 54 40.0
WDD LR LR
comp=Z,3µm,19.0s
ESK Eskdalemuir 106.74 34 PFAKE 00 54 40.0
ESK LR LR
comp=Z,889nm,20.0s
VLC Villacollemand 108.08 49 PFAKE 00 54 40.0
VLC LR LR
comp=Z,419nm,20.0s
ECH Echery 108.21 44 PFAKE 00 54 40.0
ECH LR LR
comp=Z,573nm,21.0s
WLF Walferdange 108.39 42 PFAKE 00 54 40.0
WLF LR LR
comp=Z,1µm,19.0s
TUE Stuetta 108.61 46 PFAKE 00 54 40.0
TUE LR LR
comp=Z,521nm,19.0s
BFO Black Forest 108.94 44 PFAKE 00 54 40.0
BFO LR LR
comp=Z,483nm,21.0s
AQU L'Aquila 109.11 51 PFAKE 00 54 40.0
AQU LR LR
comp=Z,641nm,19.0s
CUC Castrocucco 109.58 55 PFAKE 00 54 40.0
CUC LR LR
comp=Z,607nm,19.0s
TIP Timpagrande 109.84 56 PFAKE 00 54 50.0
TIP LR LR
comp=Z,432nm,19.0s
EGAK Eagle 112.17 334 PFAKE 00 54 50.0
EGAK LR LR
comp=Z,309nm,20.0s
NKC Novy Kostel 112.22 44 AMS AMS 01 39 20.0
comp=Z,700nm,19.6s
GERES GERESS Array B 112.33 45 PKiKP **PKiKP** **00 54 37.2 -0.2**
comp=Z,0.8nm,0.6s,baz=172,slow=2.0,SNR=5.8
KHC Kasperske Hory 112.38 45 *e*SP SP 01 04 53.5 -1.9
KHC *ex* x 01 06 09.4
KHC AMS AMS 01 44 50.0
comp=Z,600nm,19.4s
TIR Tirane 112.94 55 PFAKE 00 54 50.0
TIR LR LR
comp=Z,1µm,20.0s
CLL Collm 113.02 43 *e*PP PP 00 55 27.0 -1.2
CLL *e*SKSac SKSac 01 01 31.0 +8.7
CLL *e*PS **PS** **01 05 04.0 +1.0**
CLL *e*PPS PPS 01 06 21.0
CLL *e*SS **SS** **01 11 14.0 +2.1**
CLL *e* 01 14 54.0
CLL *e*SSS SSS 01 15 24.0
CLL *e* 01 18 24.0
CLL *e*SSSS 01 19 12.0
CLL Lm MLR 01 40 00.0
comp=N,200nm,21.9s
CLL Lm MLR 01 40 00.0
comp=E,500nm,20.6s
CLL Lm MLR 01 40 00.0
comp=Z,700nm,20.8s
PRA Prague 113.29 44 AMS AMS 01 44 40.0
comp=Z,500nm,18.1s
PRU Pruhonice 113.32 45 *e*SP SP 01 05 01.1 -2.9
PRU *ex* x 01 06 10.9
PRU AMS AMS 01 43 00.0
comp=Z,500nm,20.7s
BRG Berggiesshubel 113.36 44 *i* **PS** **01 05 07.0 +0.8**
BRG *e* 01 11 21.0
GOPC GO Pecny, Ondr 113.43 45 *e*SP SP 01 05 01.6 -3.4
GOPC *ex* x 01 06 13.3
GOPC AMS AMS 01 43 00.0
comp=Z,500nm,21.0s
KDAK Kodiak Island 113.43 325 PFAKE 00 54 50.0
KDAK LR LR
comp=Z,323nm,20.0s
PVCC Panska Ves 113.57 44 AMS AMS 01 48 50.0
comp=Z,600nm,23.4s
TREC Trest 113.58 46 *e*SP SP 01 05 08.0 +1.6
TREC *ex* x 01 06 25.2
TREC AMS AMS 01 51 10.0
comp=Z,600nm,20.1s
ILAR Eielson Array 114.27 333 PKP PKPdf 00 54 40.4 -0.2
comp=Z,0.6nm,0.8s,baz=159,slow=2.9,SNR=7.2
ILAR Eielson Array 114.27 333 PKIKP PKPdf 00 54 40.4 -0.2
ILAR pmax pmax
comp=Z,1.0nm,0.8s
HNR Honiara 114.31 239 PFAKE 00 54 50.0 +7.8
HNR LR LR
comp=Z,430nm,20.0s
UPC Upice 114.40 44 *e*SP SP 01 05 14.2 +0.4
UPC *ex* x 01 06 31.6
UPC AMS AMS 01 43 30.0
comp=Z,500nm,17.2s
DPC Dobruska-Polom 114.51 45 *e*SP SP 01 05 13.7 -1.2
DPC *ex* x 01 06 28.7
DPC AMS AMS 01 43 50.0
comp=Z,500nm,19.0s
COLA College 114.68 333 PFAKE 00 54 50.0 +8.7
COLA LR LR
comp=Z,262nm,20.0s
CTAO Charters Tower 114.84 220 PFAKE 00 55 00.0 +17
CTAO LR LR
comp=Z,475nm,21.0s
KONO Kongsberg 114.89 34 PFAKE 00 54 50.0 +8.1
KONO LR LR
comp=Z,388nm,20.0s
OKC Ostrava-Krasne 115.38 46 *e*SP SP 01 05 22.3 -0.5
OKC *ex* x 01 06 46.2
OKC AMS AMS 01 48 00.0
comp=Z,500nm,18.3s
BPAW Bear Paw Mtn. 115.54 331 *e*PKPdf **PKPdf** **00 54 42.1 -1.0**
PSZ Piszkesteto 115.68 48 PFAKE 00 55 00.0 +16
PSZ LR LR
comp=Z,734nm,21.0s
BZS Buzias 115.87 51 ⇑PKIKP **PKPdf** **00 54 44.7 +0.5**
BZS Buzias 115.87 51 ⇑*i*P **PKPdf** **00 54 44.7 +0.5**
HFS Hagfors 116.98 34 PKP **PKPdf** **00 54 45.6 -0.3**
comp=Z,3.2nm,0.9s,baz=222,slow=4.0,SNR=4.9
HFS Hagfors 116.98 34 PKIKP **PKPdf** **00 54 45.6 -0.3**
HFS pmax pmax
comp=Z,3.0nm,0.9s
DRGR 117.02 50 ⇓PKIKP **PKPdf** **00 54 46.5 0.0**
DRGR 117.02 50 ⇓*i*P **PKPdf** **00 54 46.5 0.0**
MSEY Mahe Island 117.37 117 PFAKE 00 55 00.0 +12
MSEY LR LR
comp=Z,741nm,20.0s
ASAR Alice Springs 117.40 207 PKP **PKPdf** **00 54 47.1 -0.9**
comp=Z,1.0nm,0.8s,baz=134,slow=2.2,SNR=7.2
ASAR PKKPbc **PKKPbc** **01 05 10.5 +0.1**
comp=Z,1.3nm,0.9s,baz=339,slow=2.9,SNR=6.9
JMB Yambol 117.98 56 ⇑PKIKP **PKPdf** **00 54 48.7 +0.3**
JMB Yambol 117.98 56 ⇑*i*P **PKPdf** **00 54 48.7 +0.3**
MLR Muntele Rosu 118.64 53 ⇑*i*P PKPdf 00 54 57.8 +8.0
BURAR Bucovina Array 118.91 50 ⇑PKIKP **PKPdf** **00 54 51.4 +1.2**
BURAR Bucovina Array 118.91 50 ⇑*i*P **PKPdf** **00 54 49.9 -0.3**
PLOR Plostina 119.23 52 ⇑PKIKP **PKPdf** **00 54 50.2 -0.6**
PLOR Plostina 119.23 52 ⇑*i*P **PKPdf** **00 54 50.2 -0.6**
VRI Vrincioaia 119.29 52 ⇑PKIKP **PKPdf** **00 54 50.3 -0.5**
VRI Vrincioaia 119.29 52 ⇑*i*P **PKPdf** **00 54 50.3 -0.5**
TESR Tescani 119.46 52 ⇓*i*P **PKPdf** **00 54 51.1 0.0**
CFR Carcaliu 119.99 53 ⇓PKIKP **PKPdf** **00 54 52.1 0.0**
CFR Carcaliu 119.99 53 ⇓*i*P **PKPdf** **00 54 52.1 0.0**
CSS Prodhromos 120.04 66 PFAKE 00 55 00.0 +7.3
CSS LR LR
comp=Z,136nm,21.0s
WRA Warramunga Arr 120.59 209 PKP **PKPdf** **00 54 53.3 -1.0**
comp=Z,2.8nm,0.7s,baz=168,slow=1.5,SNR=10
WRA Warramunga Arr 120.59 209 PKIKP **PKPdf** **00 54 53.3 -1.0**
WRA pmax pmax
comp=Z,3.0nm,0.7s
WRAB Tennant Creek 120.60 209 PFAKE 00 55 10.0 +16
WRAB LR LR
comp=Z,561nm,19.0s
BRTR Keskin Array B 121.99 61 PKP **PKPdf** **00 54 55.5 -0.9**
comp=Z,2.6nm,0.8s,baz=199,slow=3.4,SNR=16
BRTR Keskin Array B 121.99 61 PKIKP **PKPdf** **00 54 55.5 -0.9**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
KBS Kingsbay 122.11 13 PFAKE 00 55 10.0 +15
KBS LR LR
comp=Z,183nm,20.0s
KIEV Kiev 122.35 48 ⇑*i*PKIKP **PKPdf** **00 54 56.0 -0.5**
KIEV Kiev 122.35 48 PFAKE 00 55 10.0 +13
KIEV LR LR
comp=Z,378nm,20.0s
AKASG Malin Array Be 122.36 48 PKP **PKPdf** **00 54 54.8 -1.7**
comp=Z,2.6nm,0.7s,baz=260,slow=2.5,SNR=5.5
AKASG Malin Array Be 122.36 48 PKIKP **PKPdf** **00 54 54.8 -1.7**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
PMG Port Moresby 122.85 228 PFAKE 00 55 10.0 +11
PMG LR LR
comp=Z,617nm,19.0s
VSU Vasula 122.86 38 ⇓*i*PKIKP **PKPdf** **00 54 57.9 +0.7**
FINES FINESS Array B 123.16 35 PKP **PKPdf** **00 54 57.2 -0.5**
comp=Z,2.1nm,0.7s,baz=224,slow=3.8,SNR=8.5
FINES FINESS Array B 123.16 35 PKIKP **PKPdf** **00 54 57.2 -0.5**
FINES pmax pmax
comp=Z,2.0nm,0.7s
ARCES ARCESS Array B 124.18 25 PKP **PKPdf** **00 55 00.1 +0.6**
comp=Z,2.8nm,0.7s,baz=242,slow=3.8,SNR=11
ARCES ARCESS Array B 124.18 25 PKIKP **PKPdf** **00 55 00.1 +0.6**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
KEV Kevo 124.73 25 PFAKE 00 55 10.0 +9.5
KEV LR LR
comp=Z,392nm,21.0s
MALT Malatya 125.06 64 ⇓PKIKP **PKPdf** **00 55 03.2 +0.9**
MALT Malatya 125.06 64 ⇓*i*P **PKPdf** **00 55 03.2 +0.9**
RAYN Ar Rayn 125.11 84 PFAKE 00 55 20.0 +17
RAYN LR LR
comp=Z,477nm,21.0s
LVZ Lovozero 127.43 27 PFAKE 00 55 20.0 +14
LVZ LR LR
comp=Z,468nm,21.0s
OBN Obninsk 127.61 43 ⇓*i*PKIKP **PKPdf** **00 55 06.4 0.0**
OBN *i* 00 55 15.0
OBN *i* 00 57 04.8
OBN *e*SS SS 01 14 20.0 +1.0
OBN pmax pmax
comp=Z,18nm,1.7s
OBN MLR MLR
comp=Z,696nm,19.0s
OBN Obninsk 127.61 43 PFAKE 00 55 20.0 +14
OBN LR LR
comp=Z,731nm,20.0s
VSR Storozhevoye 128.61 49 *e*PKIKP **PKPdf** **00 55 06.5 -2.0**
VSR pmax pmax
comp=N,9.0nm,1.0s
VSR pmax pmax
comp=E,4.0nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s
KIV Kislovodsk 129.65 58 PFAKE 00 55 20.0 +9.1
KIV LR LR
comp=Z,249nm,21.0s
GNI Garni 130.28 64 ⇓*i*PKIKP **PKPdf** **00 55 11.4 -0.9**
GNI Garni 130.28 64 PFAKE 00 55 20.0 +7.7
GNI LR LR
comp=Z,482nm,21.0s
PRGR Permogore 132.49 35 *e*PKIKP **PKPdf** **00 55 14.4 -1.1**
PRGR pmax pmax
comp=Z,9.0nm,0.9s
MAK Makhachkala 132.90 61 *i* PKIKP **PKPdf** **00 55 14.0 -2.9**
MAK *e* 00 57 42.5
MAK *e*SS SS 01 15 24.6 -0.2
MAK pmax pmax
comp=Z,21nm,0.3s
BILL Bilibino 132.91 334 ⇓*i*PKIKP **PKPdf** **00 55 16.4 +0.2**
BILL pmax pmax
comp=Z,15nm,1.9s
BILL Bilibino 132.91 334 PFAKE 00 55 30.0 +14
BILL LR LR
comp=Z,476nm,19.0s
KAPI Kappang 139.47 198 PFAKE 00 55 40.0 +10
KAPI LR LR
comp=Z,380nm,21.0s
PET Petropavlovsk 139.61 314 *i* PKIKP PKPdf 00 55 35.9 +6.9
PET pmax pmax
comp=Z,30nm,1.1s
PET Petropavlovsk 139.61 314 PFAKE 00 55 40.0 +11
PET LR LR
comp=Z,260nm,22.0s
ARU Arti 139.92 41 *i* PKIKP **PKPdf** **00 55 29.8 +0.3**
ARU MLR MLR
comp=Z,449nm,20.0s
ARU Arti 139.92 41 *e*PKPdf **PKPdf** **00 55 28.5 -1.0**
ARU LR LR
comp=Z,454nm,20.0s
GEYT Alibeck 140.00 70 PKP **PKPdf** **00 55 29.8 -0.5**
comp=Z,1.2nm,0.5s,baz=248,slow=1.6,SNR=4.1
SEY Seymchan 140.09 330 ⇓*e*PKIKP **PKPdf** **00 55 28.6 -1.0**
AB31 Akbulak array 141.85 52 *i* PKHKP PKPpre 00 55 27.4
AB31 pmax pmax
comp=Z,3.0nm,0.6s
ABKAR Akbulak array 141.85 52 *e*PKPdf PKPpre 00 55 26.4
POO Poona 146.00 108 *e*P **PKPdf** **00 55 41.0 -0.5**
URV Uravakonda 146.46 117 *e*PKPbc **PKPbc** **00 55 43.1 -0.6**
BRVK Borovoye 147.38 43 *e*PKIKP **PKPdf** **00 55 43.0 +0.3**
BRVK MLR MLR
comp=Z,657nm,20.0s
BRVK Borovoye 147.38 43 *e*PKPdf **PKPdf** **00 55 43.0 +0.3**
BRVK LR LR
comp=Z,657nm,20.0s
KSM Kuching 147.42 185 PFAKE 00 56 00.0 +12
KSM LR LR
comp=Z,304nm,20.0s
SKHT Srikalahasti 147.43 122 *e*PKPbc **PKPbc** **00 55 45.9 -0.4**
BVA0 Borovoye Array 147.45 43 *i* PKIKP **PKPdf** **00 55 43.5 +0.7**
BVA0 pmax pmax
comp=Z,21nm,0.8s
KLRI Killari 147.87 112 *e*PKPbc **PKPbc** **00 55 47.1 -0.5**
SRLM Srisailam 148.40 117 *e*PKPdf **PKPdf** **00 55 44.5 -1.0**
SRLM *e*pPKPdf **PKPbc** **00 55 47.8 -1.2**
YAK Yakutsk 148.82 340 *e*PKIKP **PKPdf** **00 55 45.0 +0.3**
YAK *e* 00 59 15.1
YAK pmax pmax
comp=Z,72nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=N,13nm,1.2s
YAK pmax pmax
comp=Z,5.0nm,0.4s
YAK pmax pmax
comp=E,5.0nm,0.6s
YAK pmax pmax
comp=N,3.0nm,0.5s
YAK Yakutsk 148.82 340 PFAKE 00 56 00.0 +7.5
YAK LR LR
comp=Z,358nm,19.0s
HYB Hyderabad 148.97 115 *i* PKP **PKPbc** **00 55 49.0 -1.4**
HYBB Hyderabad (bro 148.97 115 *e*pPKPdf **PKPbc** **00 55 48.7 -1.7**
NJS Nagarjunasagar 148.99 117 *e*PKPdf **PKPdf** **00 55 46.3 -0.1**
NJS *e*PKPbc **PKPbc** **00 55 50.1 -0.3**
ADKI Addanki 149.02 119 *e*PKPbc **PKPbc** **00 55 50.2 -0.3**
KK31 Karatay Array 149.70 62 PKP2 **PKPbc** **00 55 51.1 -0.4**
KK31 pmax pmax
comp=Z,9.0nm,0.6s
KKAR Karatay Array 149.70 62 *e*PKPdf **PKPdf** **00 55 47.6 +0.7**
SRSP Sriramsagar 149.72 112 *e*PKPbc **PKPbc** **00 55 51.6 -0.6**
IPM Ipoh 149.82 166 *e*PKPdf **PKPdf** **00 55 48.6 +0.6**
NKL Nikolayevsk 149.95 319 *e*PKP2 **PKPbc** **00 55 51.0 -0.7**
NKL pmax pmax
comp=Z,43nm,1.0s
RPR Rampur 150.40 114 *e*PKPbc **PKPbc** **00 55 53.2 -0.6**
KULM Kulim 150.53 165 *e*PKPdf **PKPdf** **00 55 48.7 -0.3**
KULM LR LR
comp=Z,290nm,22.0s
YSS Yuzh-Sakhalins 150.79 307 ⇑*e*PKIKP **PKPbc** **00 55 53.7 -0.2**
YSS *e* 00 56 02.5
YSS pmax pmax
comp=Z,20nm,0.7s
YSS Yuzh-Sakhalins 150.79 307 PFAKE 00 56 00.0 -1.1
YSS LR LR
comp=Z,171nm,19.0s
KKM Kota Kinabalu 150.99 197 *e*PKPdf **PKPdf** **00 55 49.1 -0.7**
ERM Erimo 151.26 296 *e*PKIKP **PKPdf** **00 55 48.9 -0.3**
ERM MLR MLR
comp=Z,408nm,21.0s
ERM Erimo 151.26 296 *e*PKPdf **PKPdf** **00 55 48.9 -0.3**
ERM LR LR
comp=Z,408nm,21.0s
ASAJ Asahikawa 151.44 301 *e*PKPdf **PKPdf** **00 55 50.7 +1.3**
AML Almayashu 152.13 63 P **PKPbc** **00 55 58.4 +0.7**
SNR=5.6
EKS2 Erkin-Say 152.13 62 P **PKPbc** **00 55 58.5 +1.1**
SNR=6.9
EKS2 Erkin-Say 152.13 62 *e*PKIKP **PKPdf** **00 55 49.9 -0.8**
EKS2 MLR MLR
comp=Z,402nm,21.0s
EKS2 Erkin-Say 152.13 62 *e*PKPdf **PKPdf** **00 55 49.9 -0.8**
EKS2 LR LR
comp=Z,402nm,21.0s
USP Ospenovka 152.58 61 P **PKPbc** **00 55 59.2 +0.9**
SNR=5.3
AAK Ala-Archa 152.66 62 P **PKPbc** **00 55 59.6 +0.9**
SNR=6.7
AAK Ala-Archa 152.66 62 PKIKP **PKPbc** **00 55 59.0 +0.4**
AAK pmax pmax
comp=Z,17nm,0.8s
AAK Ala-Archa 152.66 62 PFAKE 00 56 00.0 +1.4
AAK LR LR
comp=Z,300nm,19.0s
UCH Uchtor 152.72 63 P **PKPbc** **00 56 00.5 +1.3**
SNR=11
FRU Bishkek 152.73 62 *e*PKIKP **PKPbc** **00 55 59.0 +0.4**
FRU *e* 00 56 08.0
FRU *e* 00 59 40.0
KURK Kurchatov 153.05 43 PFAKE 00 56 00.0 +1.1
KURK LR LR
comp=Z,445nm,21.0s
NVS Novosibirsk 153.11 32 ⇑*i*PKIKP **PKPdf** **00 55 51.2 -0.4**
NVS *i* 00 56 07.4
NVS pmax pmax
comp=Z,35nm,1.1s
NVS pmax pmax
comp=N,4.0nm,1.2s
NVS pmax pmax
comp=E,13nm,1.2s
TKM2 Tokmak 2 153.43 61 *e*PKIKP **PKPdf** **00 55 52.2 -0.5**
TKM2 MLR MLR
comp=Z,368nm,21.0s
TKM2 Tokmak 2 153.43 61 *e*PKPdf **PKPdf** **00 55 52.2 -0.5**
TKM2 LR LR
comp=Z,368nm,21.0s
KSH Kashi 154.02 69 PKPbc **PKPdf** **00 55 55.8 +2.2**
KSH PKS **PKSdf** **00 59 29.1 +1.2**
KSH PP **PP** **00 59 55.1 +4.8**
KSH SKS **SKSdf** **01 03 01.1 +0.9**
KSH SKKS **SKKSac** **01 06 41.3 +1.4**
KSH SS **SS** **01 19 28.3 -0.5**
KSH PPMZ
comp=Z,340nm,3.8s
KSH LN
comp=Z,150nm,5.2s
KSH LE
comp=Z,120nm,4.2s
KSH LZ
comp=Z,250nm,6.1s
ZALV Zalesovo Beam 154.40 32 PKP **PKPdf** **00 55 53.3 -0.1**
comp=Z,4.6nm,1.0s,baz=286,slow=3.0,SNR=10
ZALV PKPbc **PKPbc** **00 56 01.4 -0.4**
comp=Z,15nm,0.6s,baz=268,slow=2.7,SNR=22
ZALV PKPab **PKPab** **00 56 16.1 +0.1**
comp=Z,15nm,0.7s,baz=305,slow=4.8,SNR=8.9
ZALV Zalesovo Beam 154.40 32 PKIKP **PKPdf** **00 55 53.3 -0.1**
ZALV 00 56 01.4
ZALV 00 56 16.1
ZALV pmax pmax
comp=Z,5.0nm,1.0s
ZALV pmax pmax
comp=Z,15nm,0.7s
MAJO Matsushiro 155.15 284 PFAKE 00 56 10.0 -10
MAJO LR LR
comp=Z,216nm,19.0s
BOD Bodaibo 155.95 352 *e*PKIKP **PKPdf** **00 55 54.1 -1.3**
BOD *e* 00 56 22.0
BOD pmax pmax
comp=Z,20nm,1.4s
KLR Kul'dur 156.76 318 *e*PKIKP **PKPdf** **00 55 52.1 -4.7**
MK31 Makanchi Array 156.93 49 PKIKP **PKPdf** **00 55 57.0 -0.1**
MK31 pmax pmax
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 156.93 49 PKP **PKPdf** **00 55 57.2 +0.1**
comp=Z,2.3nm,0.9s,baz=263,slow=1.7,SNR=13
MKAR PKPab **PKPab** **00 56 27.1 -0.2**
comp=Z,6.0nm,0.8s,baz=290,slow=3.9,SNR=12
MKAR PP **PP** **01 00 05.9 0.0**
comp=Z,1.2nm,0.8s,baz=324,slow=6.0,SNR=3.7
MKAR Makanchi Array 156.93 49 PKIKP **PKPdf** **00 55 57.2 +0.1**
MKAR 01 00 05.9
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR pmax pmax
comp=Z,1.0nm,0.8s
USRK Ussuriysk Ar. 158.81 305 PKPab **PKPab** **00 56 36.4 +1.0**
comp=Z,3.8nm,0.9s,baz=45,slow=3.7,SNR=5.0
MDJ Mudanjiang 160.25 308 PKP **PKPdf** **00 56 01.9 +0.8**
MDJ pPKP **pPKPdf** **00 56 05.6 +0.2**
MDJ sPKP 00 56 06.8
MDJ PKS **PKSdf** **00 59 34.3 -0.1**
MDJ PP **PP** **01 00 26.5 +2.5**
MDJ SKS **SKSdf** **01 03 07.4 +1.4**
MDJ SS **SS** **01 20 36.8 +2.5**
MDJ PPMZ
comp=Z,70nm,6.0s
MDJ LN
comp=Z,95nm,14.1s
MDJ LE
comp=Z,160nm,18.0s
MDJ LZ
comp=Z,230nm,20.3s
MDJ Mudanjiang 160.25 308 PFAKE 00 56 10.0 +8.9
MDJ LR LR
comp=Z,218nm,20.0s
WMQ Urumqi 161.64 52 PKP **PKPdf** **00 56 02.5 -0.2**
WMQ pPKP **pPKPdf** **00 56 07.5 +0.4**
WMQ PKPab **PKPab** **00 56 49.8 +2.0**
WMQ PP **PP** **01 00 34.1 +2.5**
WMQ SKKS 01 07 17.0
WMQ PPMZ
comp=Z,190nm,12.0s
WMQ LN
comp=Z,380nm,20.0s
WMQ LE
comp=Z,410nm,19.0s
WMQ LZ
comp=Z,410nm,20.0s
TLY Talaya 162.20 9 PFAKE 00 56 10.0 +7.0
TLY LR LR
comp=Z,450nm,19.0s
CMAR Chiang Mai Arr 162.48 151 PKP **PKPdf** **00 56 04.6 +0.3**
comp=Z,0.8nm,0.3s,baz=246,slow=2.5,SNR=10.0
CMAR PKPab **PKPab** **00 56 51.2 -0.7**
comp=Z,0.9nm,0.3s,baz=227,slow=5.2,SNR=4.3
CMAR Chiang Mai Arr 162.48 151 PKIKP **PKPdf** **00 56 04.6 +0.3**
CMAR 00 56 51.3
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR pmax pmax
comp=Z,1.0nm,0.3s
HIA Hailar 162.50 333 PFAKE 00 56 10.0 +6.6
HIA LR LR
comp=Z,338nm,20.0s
CHTO Chiang Mai 162.81 150 PFAKE 00 56 20.0 +15

CHTO				LR	LR			
	comp=Z,329nm,19.0s							
CN2	**Changchun**	**163.27**	**310**	*e*PKP	**PKPdf**	**00 56 01.6**	**-2.7**	
CN2				*e*PP	**PP**	**01 00 40.8**	**+0.7**	
CN2				PPMZ				
	comp=Z,200nm,6.0s							
CN2				LN				
	comp=Z,200nm,20.0s							
CN2				LE				
	comp=Z,300nm,20.0s							
CN2				LZ				
	comp=Z,300nm,22.0s							
KSRS	**Korea Array**	**163.37**	**287**	PKP	**PKPdf**	**00 56 04.0**	**-0.5**	
	comp=Z,0.7nm,0.3s,baz=136,slow=0.7,SNR=8.8							
KSRS				PKPab	**PKPab**	**00 56 56.8**	**+1.2**	
	comp=Z,4.3nm,1.1s,baz=103,slow=3.9,SNR=7.1							
KSAR	**Wonju Array Be**	**163.40**	**287**	PKIKP	**PKPdf**	**00 56 04.1**	**-0.5**	
KSAR	**Wonju Array Be**	**163.40**	**287**	PKP	**PKPdf**	**00 56 04.0**	**-0.5**	
KSAR				PKPab	**PKPab**	**00 56 56.8**	**+1.1**	
ZAK	**Zakamensk**	**163.42**	**10**	*e*PKP2	**PKPab**	**00 56 54.9**	**-0.4**	
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.3s							
INCN	**Inchon**	**164.39**	**288**	PFAKE		00 56 20.0	+14	
INCN				LR	LR			
	comp=Z,307nm,20.0s							
QIZ	**Qiongzhong**	**164.85**	**187**	PKP	**PKPdf**	**00 56 04.9**	**-1.5**	
QIZ				PP	**PP**	**01 00 48.9**	**+1.5**	
QIZ				LE				
	comp=Z,120nm,17.9s							
QIZ				LZ				
	comp=Z,260nm,22.0s							
QIZ	**Qiongzhong**	**164.85**	**187**	PFAKE		00 56 20.0	+14	
QIZ				LR	LR			
	comp=Z,307nm,22.0s							
YHNB	**Yeheng**	**164.91**	**235**	PFAKE		00 56 20.0	+14	
YHNB				LR	LR			
	comp=Z,327nm,20.0s							
LSA	**Lhasa**	**165.16**	**103**	PFAKE		00 56 20.0	+13	
LSA				LR	LR			
	comp=Z,746nm,20.0s							
SONM	**Songino Array**	**166.27**	**4**	PKP	**PKPdf**	**00 56 06.3**	**-0.6**	
	comp=Z,1.4nm,0.8s,baz=333,slow=1.9,SNR=4.3							
SONM				PKPab	**PKPab**	**00 57 08.1**	**+0.2**	
	comp=Z,3.5nm,0.9s,baz=0.7,slow=3.6,SNR=7.7							
SONM	**Songino Array**	**166.27**	**4**	PKIKP	**PKPdf**	**00 56 06.3**	**-0.6**	
SONM						00 57 08.1		
SONM				pmax	pmax			
	comp=Z,1.0nm,0.8s							
SONM				pmax	pmax			
	comp=Z,4.0nm,0.9s							
ULN	**Ulaanbaatar**	**166.27**	**2**	PFAKE		00 56 20.0	+13	
ULN				LR	LR			
	comp=Z,358nm,20.0s							
KMI	**Kunming**	**169.99**	**152**	PKP	**PKPdf**	**00 56 09.8**	**-0.5**	
KMI				pPKP	**pPKPdf**	**00 56 14.8**	**+0.2**	
KMI				PP	**PP**	**01 01 19.3**	**+5.0**	
KMI				SKKS		01 08 01.6		
KMI				LN				
	comp=Z,210nm,18.2s							
KMI				LE				
	comp=Z,220nm,21.7s							
KMI				LZ				
	comp=Z,250nm,19.9s							
NJ2	**Nanjing**	**170.52**	**260**	*e*PKP	**PKPdf**	**00 56 11.1**	**+1.0**	
BJI	**Beijing**	**171.11**	**314**	PKP	**PKPdf**	**00 56 10.5**	**+0.4**	
BJI				PPMZ				
	comp=Z,89nm,6.6s							
BJI				LN				
	comp=Z,230nm,18.3s							
BJI				LE				
	comp=Z,280nm,17.6s							
BJI				LZ				
	comp=Z,210nm,19.0s							
GTA	**Gaotai**	**171.69**	**48**	*e*PKP	**PKPdf**	**00 56 10.9**	**+0.3**	
GTA				sPKP		00 56 17.9		
GTA				PKPab	**PKPab**	**00 57 33.1**	**+0.7**	
GTA				PP	**PP**	**01 01 26.5**	**+3.1**	
GTA				SKS	**SKSdf**	**01 03 12.8**	**-1.0**	
GTA				SKKS	**SKKSac**	**01 08 12.6**	**+2.6**	
GTA				SS	**SS**	**01 22 32.8**	**+1.9**	
GTA				PPMZ				
	comp=Z,140nm,7.8s							
GTA				LN				
	comp=Z,260nm,21.8s							
GTA				LE				
	comp=Z,250nm,21.4s							
GTA				LZ				
	comp=Z,520nm,19.5s							
TIA	**Tai'an**	**172.12**	**288**	*e*PKP	**PKPdf**	**00 56 10.8**	**0.0**	
GYA	**Guiyang**	**172.28**	**172**	*e*PKP	**PKPdf**	**00 56 11.0**	**-0.3**	
GYA				PKPab	**PKPab**	**00 57 37.0**	**+1.9**	
GYA				PKS	**PKSdf**	**00 59 42.6**	**-1.2**	
GYA				PPMZ				
	comp=Z,120nm,8.4s							
HHC	**Hu-ho-hao-te**	**172.67**	**337**	*e*PKP	**PKPdf**	**00 56 12.3**	**+1.3**	
HHC				PP	**PP**	**01 01 32.0**	**+4.6**	
HHC				SKS	**SKSdf**	**01 03 10.3**	**-3.7**	
HHC				SKKS	**SKKSac**	**01 08 13.9**	**-0.4**	
HHC				SS	**SS**	**01 22 38.0**	**-1.0**	
HHC				PPMZ				
	comp=Z,36nm,5.3s							
HHC				LN				
	comp=Z,150nm,20.6s							
HHC				LE				
	comp=Z,140nm,20.0s							
HHC				LZ				
	comp=Z,170nm,20.2s							
WHN	**Wuhan**	**173.43**	**239**	PKPbc	PKPdf	00 56 03.1	-8.3	
WHN				PP	PP	01 01 24.8	-7.2	
CD2	**Chengdu**	**175.29**	**132**	PKP	**PKPdf**	**00 56 11.5**	**-0.6**	
CD2				pPKP	**pPKPdf**	**00 56 15.4**	**-1.1**	
CD2				sPKP		00 56 16.8		
CD2				PP	**PP**	**01 01 40.6**	**-0.3**	
CD2				SKS	**SKSdf**	**01 03 14.5**	**-0.6**	
CD2				SKKS	**SKKSac**	**01 08 26.5**	**-0.8**	
CD2				SS	**SS**	**01 23 06.1**	**+0.5**	
CD2				PPMZ				
	comp=Z,160nm,6.6s							
CD2				LN				
	comp=Z,310nm,17.4s							
CD2				LZ				
	comp=Z,450nm,20.4s							
LZH	**Lanzhou**	**176.19**	**58**	*e*PKP	**PKPdf**	**00 56 08.1**	**-4.3**	
LZH				pPKP	**pPKPdf**	**00 56 12.0**	**-4.7**	
LZH				sPKP		00 56 14.8		
LZH				PKPab	**PKPab**	**00 57 50.5**	**-2.1**	
LZH				LN				
	comp=Z,450nm,19.1s							
LZH				LE				
	comp=Z,290nm,14.9s							
LZH				LZ				
	comp=Z,320nm,14.2s							
XAN	**Xi'an**	**179.09**	**264**	PKP	**PKPdf**	**00 56 10.0**	**-2.7**	
XAN				PKS	**PKSdf**	**00 59 40.8**	**-4.0**	
XAN				SKS	SKSdf	01 03 07.6	-7.8	
XAN				PPMZ				
	comp=Z,240nm,7.8s							
XAN				LN				
	comp=Z,170nm,21.1s							
XAN				LE				
	comp=Z,320nm,19.7s							
XAN				LZ				
	comp=Z,300nm,21.1s							

IDC ***15*** *01:02:01.9±0.6,38.14S×73.58W,h0km,mb4.3/13, mb1 4.4/16,mb1mx4.3/26,mbtmp4.3/16,ML4.3/3,MS4.2/7, Ms1 4.1/7,ms1mx3.9/21,Error ellipse: s-maj=24.0km s-min=14.2km az=92.0*

NEIC ***15*** *01:02:02.0,38.13S×74.17W,h27km,mb5.0/52,After GUC.*

NEIC Felt [III] at Contulmo and Tirua. Also felt at Concepcion, Coronel and Talcahuano.

GUC ***15*** *01:02:02.2±0.4,38.13S×74.17W,h27km±2km,ML5.5*

MOS ***15*** *01:02:04.8±1.5,38.00S×73.77W,h33km,mb5.0/21,Error ellipse: s-maj=21.9km s-min=11.0km az=99.5*

ISCJB ***15*** *01:02:11.1±0.3,37.95S±0.05×72.64W±0.06,h30km, mb4.9/65,MS4.3/5,Error ellipse: s-maj=7.6km s-min=5.8km az=150.0*

BJI ***15*** *01:02:15.8,37.91S×73.00W,h42km,mB5.1/9,Ms5.1/11, Ms7 5.1/11*

ISC 15 01:02:04.8±0.5**,38.06S**±0.04**×73.83W**±0.07**,h24**km±3km**,**

h23km:pP-P,n446,σ1$48/186,mb5.0/65,MS4.3/5,5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PSCH	**Puerto Saavedr**	**0.81**	**155**	*e*P		**Pb**	**01 02 18.6**	**-1.7**
PSCH				*i* S		**Sb**	**01 02 30.6**	**-0.2**
U14B	**Concepcin**	**1.34**	**27**	*e*P		**Pn**	**01 02 28.4**	**+0.4**
U14B				*i* S		**Sb**	**01 02 48.0**	**+2.3**
U14B				AML	AML		01 03 01.5	
	comp=N,204μm,0.4s							
U14B	**Concepcin**	**1.34**	**27**	*i* P		**Pn**	**01 02 28.4**	**+0.4**
CCSP	**San Pedro de C**	**1.34**	**25**	*e*P		**Pn**	**01 02 28.5**	**+0.5**
CCSP				AML	AML		01 02 59.4	
	comp=E,48μm,0.5s							
VLCH	**Valdivia**	**1.80**	**166**	*e*P		**Pn**	**01 02 32.8**	**-1.6**
VLCH				*i* S		**Sn**	**01 02 56.9**	**+0.4**
OSCH	**Osorno**	**2.57**	**168**	*e*P		**Pn**	**01 02 42.9**	**-2.0**
LNCH	**Linares**	**2.83**	**40**	*e*P		**Pn**	**01 02 48.7**	**+0.1**
LNCH				*e*S		**Sb**	**01 03 26.6**	**-2.4**
U65B	**HualaæØ**	**3.50**	**29**	*i* P		**Pn**	**01 02 58.5**	**+0.8**
PLCA	**Paso Flores**	**3.69**	**138**	*e*P		**Pn**	**01 03 00.7**	**+0.4**
U73B	**San Pedro**	**4.57**	**26**	*i* P		**Pn**	**01 03 09.8**	**-2.6**
AAGR	**Agrelo**	**6.42**	**41**	*e*P		**Pn**	**01 03 39.5**	**+1.6**
AAGR				*e*S		Sb	01 05 37.1	+25
ARCO	**CERRO ARCO**	**6.56**	**39**	*e*P		**Pn**	**01 03 42.9**	**+3.0**
ARCO				AML	AML		01 05 51.7	
	comp=Z,43nm,0.6s							
ASAL	**Salagasta**	**6.81**	**38**	*e*P		**Pn**	**01 03 44.6**	**+1.3**
AUSP	**Uspallata**	**6.86**	**33**	*e*P		**Pn**	**01 03 44.6**	**+0.4**
AUSP				*i* S		**Sn**	**01 05 02.7**	**+1.0**
RTLS	**Leoncito**	**7.27**	**32**	*e*P		**Pn**	**01 03 51.0**	**+1.2**
RTLS				*i* S		**Sn**	**01 05 11.8**	**+0.2**
RTCV	**Cerro Valdivia**	**7.55**	**37**	*e*P		**Pn**	**01 03 52.1**	**-1.3**
CFAA	**Coronel Fontan**	**7.91**	**37**	Pn		**Pn**	**01 03 57.8**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=211,slow=13,SNR=15							
CFAA				Sn		**Sn**	**01 05 28.8**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=219,slow=19,SNR=3.1							
CFAA				LR	LR		01 07 09.7	
	comp=Z,267nm,18.6s,baz=222,slow=39							
CFAA	**Coronel Fontan**	**7.91**	**37**	*e*P		**Pn**	**01 03 57.6**	**-0.7**
ACAN	**Cantantal**	**7.92**	**45**	*e*P		**Pn**	**01 03 59.0**	**+0.4**
RTLL	**Cerro Villicun**	**8.03**	**35**	*i* P		**Pn**	**01 03 58.9**	**-1.1**
AMOG	**MOGNA**	**8.35**	**33**	*e*P		**Pn**	**01 04 03.9**	**-0.6**
ACHE	**Chepes**	**9.06**	**43**	*e*P		**Pn**	**01 04 13.7**	**-0.5**
AVFE	**Valle Fertil**	**9.06**	**37**	*e*P		**Pn**	**01 04 12.5**	**-1.7**
AVFE				AML	AML		01 07 06.4	
	comp=Z,22nm,0.7s							
TRQA	**Tornquist**	**9.35**	**94**	*e*Pn		**Pn**	**01 04 19.8**	**+1.8**
	comp=Z,59nm,1.1s							
TRQA				*e*S		Sn	01 06 46.5	+44
LCO	**Las Campanas**	**9.39**	**17**	*e*Pn		**Pn**	**01 04 17.8**	**-1.1**
TCA	**Tanti**	**10.13**	**51**	*e*P		**Pn**	**01 04 28.6**	**-0.2**
FSA	**Cafayete**	**13.64**	**31**	*e*P		Pn	01 05 13.8	-3.1
LVC	**Limon Verde**	**15.96**	**17**	Pn		**Pn**	**01 05 49.0**	**+0.9**
	comp=Z,6.9nm,0.3s,baz=197,slow=11,SNR=3.1							
LVC	**Limon Verde**	**15.96**	**17**	*e*Pn		**Pn**	**01 05 47.3**	**-0.8**
EFI	**East Falkland**	**17.56**	**146**	*e*P		**Pn**	**01 06 08.2**	**+0.5**
EFI	**East Falkland**	**17.56**	**146**	*e*P		**Pn**	**01 06 08.2**	**+0.5**
CPUP	**Villa Florida**	**18.18**	**55**	P		**Pn**	**01 06 13.9**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=244,slow=9.8,SNR=11							
CPUP				LR	LR		01 14 02.2	
	comp=Z,1μm,21.0s,baz=228,slow=40							
LPAZ	**La Paz**	**22.26**	**15**	P		**P**	**01 07 00.9**	**+0.2**
	comp=Z,15nm,1.1s,baz=166,slow=8.9,SNR=22							
LPAZ	**La Paz**	**22.26**	**15**	P		**P**	**01 07 00.9**	**+0.2**
LPAZ				pmax	pmax			
	comp=Z,15nm,1.1s							
SIV	**San Ignacio**	**24.69**	**31**	P		**P**	**01 07 23.5**	**-0.6**
	comp=Z,7.9nm,1.1s,baz=222,slow=12,SNR=8.2							
NNA	**Nana**	**26.10**	**353**	P		**P**	**01 07 38.2**	**+1.4**
	comp=Z,9.9nm,0.8s,baz=196,slow=12,SNR=2.2							
NNA	**Nana**	**26.10**	**353**	P		**P**	**01 07 38.2**	**+1.4**
NNA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
BB16B	**Bebedouro**	**27.62**	**59**	*e*P		**P**	**01 07 48.6**	**-1.9**
BB16B				*i*			01 07 53.8	
BB16B				*i*			01 07 58.8	
BB16B				*i*			01 08 09.6	
SAML	**Samuel**	**30.53**	**21**	*e*P		**P**	**01 08 14.8**	**-1.5**
	comp=Z,7.8nm,1.2s							
BDFB	**Brasilia**	**31.88**	**53**	P		**P**	**01 08 27.1**	**-1.3**
	comp=Z,3.5nm,0.6s,baz=229,slow=9.3,SNR=4.7							
BDFB				LR	LR		01 23 02.1	
	comp=Z,560nm,18.1s,baz=219,slow=40							
BDFB	**Brasilia**	**31.88**	**53**	P		**P**	**01 08 27.1**	**-1.3**
BDFB				pmax	pmax			
	comp=Z,4.0nm,0.6s							
BDFB				MLR	MLR			
	comp=Z,560nm,18.1s							
OTAV	**Otavalo**	**38.34**	**353**	*e*P		P	01 09 20.8	-3.6
	comp=Z,25nm,1.5s							
VNA1	**Neumayer--Stat**	**46.56**	**155**	P		P	01 10 18.6	-11
SDV	**Santo Domingo**	**46.79**	**4**	*e*P		**P**	**01 10 30.1**	**-2.7**
	comp=Z,10nm,0.9s							
SNAA	**Sanae**	**48.42**	**156**	P		**P**	**01 10 43.9**	**-0.8**
	comp=Z,3.0nm,1.1s,baz=268,slow=6.6,SNR=9.1							
SNAA	**Sanae**	**48.42**	**156**	P		**P**	**01 10 43.9**	**-0.8**
SNAA				pmax	pmax			
	comp=Z,3.0nm,1.2s							
JTS	**JuntasAbangare**	**49.21**	**345**	P		**P**	**01 10 53.6**	**+2.4**
	comp=Z,2.8nm,0.7s,baz=338,slow=19,SNR=2.0							
JTS	**JuntasAbangare**	**49.21**	**345**	*e*P		P	01 10 56.4	+5.2
JTS				pmax	pmax			
	comp=Z,21nm,1.7s							
JTS	**JuntasAbangare**	**49.21**	**345**	P		P	01 10 47.0	-4.3
	comp=Z,22nm,1.4s							
QSPA	**South Pole Qui**	**52.19**	**180**	P		**P**	**01 11 13.6**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=180,slow=1.5,SNR=14							
QSPA	**South Pole Qui**	**52.19**	**180**	*e*P		**P**	**01 11 13.6**	**+0.3**
	comp=Z,5.6nm,1.1s							
RKT	**Rikitea**	**53.82**	**267**	*e*LR		LR	01 27 15.4	
	comp=Z,457nm,27.8s							
TBI	**Tubuai**	**65.04**	**259**	*e*LR		LR	01 32 21.1	
	comp=Z,344nm,26.0s							
TIAR	**Tiarei**	**68.14**	**264**	*e*T		T	02 26 59.8	
	comp=Z,5.1nm,0.3s							
PPT2	**Papeete2**	**68.30**	**264**	*e*LR		LR	01 33 34.4	
	comp=Z,260nm,28.8s							
035A	**Encino**	**68.55**	**337**	P		pP	01 13 13.7	+0.8
	baz=68							
034A	**Hebbronville**	**68.84**	**336**	P		pP	01 13 15.3	+0.6
	baz=69							
934A	**Benavides**	**69.29**	**337**	P		pP	01 13 18.3	+0.7
	baz=69							
933A	**Laredo**	**69.54**	**336**	P		pP	01 13 19.5	+0.4
	baz=70							
MAW	**Mawson**	**69.70**	**164**	P		**P**	**01 13 12.3**	**+0.3**
	comp=Z,1.8nm,0.9s,baz=221,slow=7.6,SNR=4.9							
MAW				LR	LR		01 45 22.2	
	comp=Z,281nm,18.2s,baz=239,slow=37							
MAW	**Mawson**	**69.70**	**164**	P		**P**	**01 13 12.3**	**+0.3**
MAW				pmax	pmax			
	comp=Z,2.0nm,0.9s							
MAW				MLR	MLR			
	comp=Z,281nm,18.3s							
834A	**Tilden**	**69.79**	**337**	P		pP	01 13 21.7	+1.1
	baz=70							
736A	**Circle Diamond**	**70.12**	**338**	P		pP	01 13 23.6	+1.0
	baz=70							
833A	**Chaparral WMA,**	**70.24**	**336**	P		pP	01 13 24.3	+0.9
	baz=70							
735A	**Kenedy**	**70.25**	**338**	P		pP	01 13 24.3	+0.9
	baz=70							
832A	**Faith Ranch, C**	**70.39**	**336**	P		pP	01 13 25.0	+0.7
	baz=70,SNR=8.9							
636A	**Smothers Creek**	**70.61**	**339**	P		pP	01 13 26.5	+0.9
	baz=71							
635A	**Leesville**	**70.74**	**338**	P		pP	01 13 27.3	+0.9
	baz=71							
732A	**Laxson Ranch,**	**70.80**	**336**	P		pP	01 13 27.3	+0.5
	baz=71,SNR=11							
633A	**Saathoff Ranch**	**71.23**	**337**	P		pP	01 13 29.8	+0.5
	baz=71							
535A	**Dale**	**71.28**	**338**	P		pP	01 13 30.2	+0.6
	baz=71							
632A	**Uvalde**	**71.47**	**336**	P		pP	01 13 31.7	+0.9
	baz=71,SNR=8.5							
534A	**Blanco**	**71.55**	**338**	P		pP	01 13 31.8	+0.4
	baz=72							
340A	**Bronson**	**71.61**	**342**	P		pP	01 13 32.1	+0.5
	baz=72							
339A	**Huntington**	**71.69**	**341**	P		pP	01 13 32.9	+0.8
	baz=72							
436A	**Wall Ranch, Ga**	**71.75**	**339**	P		pP	01 13 33.6	+1.1
	baz=72							
533A	**Kerrville**	**71.76**	**337**	P		pP	01 13 33.0	+0.5
	baz=72,SNR=8.7							
LRAL	**Lakeview Retre**	**71.78**	**348**	*e*P		P	01 13 20.1	-5.0
	comp=Z,18nm,1.1s							
338A	**Crockett**	**71.91**	**341**	P		pP	01 13 34.3	+0.9
	baz=72							
435B	**Jarrell**	**71.99**	**339**	P		pP	01 13 34.8	+0.8
	baz=72							
337A	**Centerville**	**72.02**	**340**	P		pP	01 13 35.0	+0.9
	baz=72							
532A	**Rocksprings**	**72.08**	**336**	P		pP	01 13 34.8	+0.2
	baz=72,SNR=9.9							
NATX	**Nacogdoches**	**72.13**	**341**	P		pP	01 13 35.1	+0.4
	baz=72							
434A	**Burnet**	**72.22**	**338**	P		pP	01 13 35.8	+0.5
	baz=72,SNR=16							
531A	**Rocksprings**	**72.32**	**336**	P		pP	01 13 36.3	+0.3
	baz=72,SNR=11							
239A	**Gary**	**72.33**	**342**	P		pP	01 13 36.6	+0.7
	baz=72							
336A	**Riesel**	**72.35**	**339**	P		pP	01 13 36.5	+0.5
	baz=72							
JCT	**Junction City**	**72.37**	**337**	P		**P**	**01 13 27.5**	**-1.2**
JCT				*e*		**pP**	**01 13 36.7**	**+0.4**
JCT				pmax	pmax			
	comp=Z,44nm,1.1s							
JCT	**Junction City**	**72.37**	**337**	P		pP	01 13 36.7	+0.4
	baz=72,SNR=10							
JCT	**Junction City**	**72.37**	**337**	P		**P**	**01 13 27.5**	**-1.2**
	comp=Z,44nm,1.1s							
JCT				*e*		**pP**	**01 13 36.7**	**+0.4**
433A	**Art**	**72.41**	**337**	P		pP	01 13 36.6	+0.2
	baz=72,SNR=14							
335A	**Moody**	**72.41**	**339**	P		pP	01 13 36.7	+0.3
	baz=72							
238A	**Jacksonville**	**72.47**	**341**	P		pP	01 13 37.9	+1.1
	baz=72							
530A	**J-C Ranch, Com**	**72.56**	**335**	P		pP	01 13 38.5	+1.1
	baz=73,SNR=13							
TXAR	**Lajitas Array**	**72.62**	**333**	P		**P**	**01 13 32.1**	**+1.9**
	comp=Z,0.8nm,0.7s,baz=158,slow=8.5,SNR=8.9							
TXAR				LR	LR		01 40 39.5	
	comp=Z,152nm,18.1s,baz=0.0,slow=32							
237A	**Washetta, Mont**	**72.65**	**341**	P		pP	01 13 38.6	+0.7
	baz=73							
334A	**Lometa**	**72.70**	**338**	P		pP	01 13 38.6	+0.4
	baz=73,SNR=14							
432A	**Menard**	**72.74**	**337**	P		pP	01 13 38.9	+0.4
	baz=73							
431A	**Sonora**	**72.82**	**336**	P		pP	01 13 39.1	+0.1
	baz=73,SNR=11							
529A	**Stev Forest Ra**	**72.84**	**334**	P		pP	01 13 39.3	+0.2
	baz=73							
236A	**Katherine and**	**72.84**	**340**	P		pP	01 13 39.2	+0.3
	baz=73							
333A	**Richland Sprin**	**72.91**	**338**	P		pP	01 13 39.7	+0.2
	baz=73,SNR=12							
WHTX	**Lake Whitney**	**73.09**	**339**	P		pP	01 13 40.5	+0.1
	baz=73							
WHTX	**Lake Whitney**	**73.09**	**339**	*e*P		**P**	**01 13 31.1**	**-1.8**
	comp=Z,34nm,0.9s							
430A	**Baggett Ranch,**	**73.12**	**336**	P		pP	01 13 41.0	+0.3
	baz=73,SNR=16							
KMSC	**Kings Mountain**	**73.16**	**354**	P		pP	01 13 40.3	-0.5
	baz=73							
332A	**Millersview**	**73.19**	**337**	P		pP	01 13 41.8	+0.7
	baz=73,SNR=20							
137A	**Heron Place, G**	**73.20**	**341**	P		pP	01 13 41.5	+0.4
	baz=73							
234A	**Clairette**	**73.30**	**339**	P		pP	01 13 41.8	+0.1
	baz=73,SNR=8.4							
331A	**San Angelo**	**73.34**	**336**	P		pP	01 13 42.2	+0.2
	baz=73,SNR=11							
Z38A	**Mt. Pleasant**	**73.63**	**342**	P		pP	01 13 43.7	+0.1
	baz=74							
232A	**Coleman**	**73.64**	**337**	P		pP	01 13 43.6	-0.2
	baz=74,SNR=8.1							
330A	**Mertzon**	**73.67**	**336**	P		pP	01 13 43.9	-0.1
	baz=74,SNR=7.9							
134A	**White-Moore Ra**	**73.81**	**339**	P		pP	01 13 44.8	+0.1
	baz=74							
231A	**Bronte**	**73.89**	**337**	P		pP	01 13 45.1	-0.1
	baz=74,SNR=9.2							
329A	**Wagon Wheel Ra**	**74.01**	**335**	P		pP	01 13 46.2	+0.2
	baz=74,SNR=5.5							
Z36A	**Blue Ridge**	**74.02**	**340**	P		pP	01 13 45.9	0.0
	baz=74,SNR=6.7							
133A	**Hamilton Ranch**	**74.09**	**338**	P		pP	01 13 46.4	+0.1
	baz=74,SNR=11							
230A	**Sterling City**	**74.09**	**336**	P		pP	01 13 46.9	+0.4
	baz=74							
Y38A	**Idabel**	**74.21**	**342**	P		pP	01 13 47.3	+0.3
	baz=74							
Z35A	**Perchaven, San**	**74.30**	**340**	P		pP	01 13 47.9	+0.4
	baz=74							
ABTX	**Abilene, Hawle**	**74.32**	**338**	P		pP	01 13 47.8	+0.1
	baz=74,SNR=7.7							
ABTX	**Abilene, Hawle**	**74.32**	**338**	*e*P		**P**	**01 13 38.6**	**-1.5**
	comp=Z,43nm,1.1s							
ABTX				*e*		**pP**	**01 13 47.9**	**+0.2**
229A	**Bryant Ranch,**	**74.39**	**336**	P		pP	01 13 48.8	+0.6
	baz=74,SNR=8.1							
Z34A	**Collier Ranch,**	**74.52**	**339**	P		pP	01 13 49.1	+0.3
	baz=74							
MIAR	**Mount Ida**	**74.53**	**343**	*e*P		**P**	**01 13 40.4**	**-0.8**
MIAR				pmax	pmax			
	comp=Z,5.0nm,1.0s							
MIAR	**Mount Ida**	**74.53**	**343**	P		pP	01 13 49.2	+0.4
	baz=74							
MIAR	**Mount Ida**	**74.53**	**343**	*e*P		**P**	**01 13 40.4**	**-0.8**
	comp=Z,4.5nm,1.0s							
Y36A	**Durant**	**74.58**	**341**	P		pP	01 13 49.5	+0.4
	baz=74							
131A	**Roby**	**74.59**	**337**	P		pP	01 13 49.6	+0.3
	baz=75							
Z33A	**Whitaker Ranch**	**74.68**	**339**	P		pP	01 13 50.2	+0.4
	baz=75,SNR=10							
130A	**Snyder**	**74.70**	**336**	P		pP	01 13 50.2	+0.2
	baz=75							
Y35A	**Marietta**	**74.78**	**340**	P		pP	01 13 50.7	+0.4
	baz=75							
228A	**UT Block 9, Go**	**74.79**	**335**	P		pP	01 13 51.4	+0.8
	baz=75							
Z32A	**Haskell**	**74.91**	**338**	P		pP	01 13 51.5	+0.4
	baz=75,SNR=17							
X38A	**Whitesboro**	**74.94**	**342**	P		pP	01

comp=Z,16nm,1.2s
WMOK Wichita Mounta 76.04 339 *e*P **P 01 13 48.8 -1.2**
comp=Z,16nm,1.2s
WMOK *e* **pP 01 13 56.9 -0.7**
Y29A Porterfield Fa 76.09 336 P pP 01 13 58.2 +0.2
baz=76,SNR=5.6
V37A Hulbert 76.17 342 P pP 01 13 58.6 +0.3
baz=76,SNR=9.2
W34A Bridge Creek, 76.23 340 P pP 01 13 59.1 +0.5
baz=76
V36A Jenks 76.28 342 P pP 01 13 58.8 -0.1
baz=76,SNR=10
X31A McDonald Ranch 76.29 338 P pP 01 13 59.2 +0.1
baz=76,SNR=9.9
Y28A McKinney Farm, 76.32 336 P pP 01 13 59.6 +0.2
baz=76
W33A Caddo, Fort Co 76.34 339 P pP 01 13 59.9 +0.6
baz=76,SNR=9.7
TUL1 Tulsa 76.36 342 P pP 01 13 59.3 -0.1
baz=76,SNR=9.3
TUL1 Tulsa 76.36 342 *e*P P 01 13 48.2 -3.5
comp=Z,36nm,0.9s
TUL1 *e* pP 01 13 58.2 -1.1
X30A Coker Ranch, T 76.39 337 P pP 01 13 59.9 +0.3
baz=76,SNR=5.8
V35A Meyer Ranch, C 76.48 341 P pP 01 14 00.4 +0.4
baz=76,SNR=6.2
U38A Gravette 76.53 343 P pP 01 14 00.2 -0.1
baz=76
W32A Sentinel 76.54 339 P pP 01 14 00.8 +0.4
baz=76,SNR=11
MSTX Muleshoe 76.55 336 P pP 01 14 01.0 +0.4
baz=76
MSTX Muleshoe 76.55 336 *e*P **P 01 13 52.3 -0.7**
comp=Z,25nm,1.1s
X29A Tulia 76.64 337 P pP 01 14 01.4 +0.3
baz=77
U37A Salina 76.67 342 P pP 01 14 01.5 +0.4
baz=77
V34A Guthrie 76.73 340 P pP 01 14 01.7 +0.3
baz=77,SNR=5.0
V34A Guthrie 76.73 340 *e*P **P 01 13 53.3 -0.5**
comp=Z,37nm,1.0s
W31A Holland Ranch, 76.80 338 P pP 01 14 02.3 +0.4
baz=77
U36A Oologah 76.80 342 P pP 01 14 02.3 +0.5
baz=77
X28A Dimmitt 76.86 336 P pP 01 14 02.8 +0.4
baz=77
V33A Lossen Ranch, 76.92 340 P pP 01 14 03.3 +0.8
baz=77,SNR=6.2
121A Cookes Peak, D 77.03 331 P pP 01 14 04.3 +0.9
baz=77
121A Cookes Peak, D 77.03 331 *e*P **P 01 13 54.7 -1.1**
comp=Z,15nm,1.4s
121A *e* **pP 01 14 04.4 +0.9**
U35A Pawnee 77.03 341 P pP 01 14 03.7 +0.6
baz=77,SNR=11
V32A Arapaho 77.04 339 P pP 01 14 03.6 +0.4
baz=77
AMTX Amarillo 77.04 337 P pP 01 14 03.9 +0.5
baz=77
AMTX Amarillo 77.04 337 *e*P **P 01 13 53.8 -1.9**
comp=Z,44nm,1.1s
W29A Amraillo 77.25 337 P pP 01 14 04.7 +0.2
baz=77,SNR=8.6
U34A Anderson Ranch 77.30 341 P pP 01 14 05.1 +0.4
baz=77
T37A Cheneyville 18 77.30 343 P pP 01 14 04.5 -0.2
baz=77,SNR=9.6
V31A Spring Creek L 77.31 339 P pP 01 14 05.1 +0.3
baz=77,SNR=7.8
LIC Lamto 77.42 72 *e*P **P 01 14 00.6 +2.3**
comp=Z,48nm,1.2s
T36A Boggs Farm, Ca 77.47 342 P pP 01 14 06.1 +0.5
baz=77,SNR=5.7
T35A Sooner Cattle 77.49 342 P pP 01 14 06.2 +0.5
baz=77,SNR=9.6
V30A Spur Ranch, Mi 77.55 338 P pP 01 14 07.4 +1.2
baz=78
U32A Winter Ranch, 77.64 339 P pP 01 14 07.6 +1.0
baz=78,SNR=7.2
TIC Toumodi 77.71 71 *e*P **P 01 14 01.1 +1.2**
KIC Kosan Boka 77.73 72 *e*P **P 01 14 01.0 +1.0**
comp=Z,100nm,1.3s
T34A McClaskey Farm 77.76 341 P pP 01 14 08.0 +0.8
baz=78,SNR=8.2
SLM Saint Louis 77.80 347 P **P 01 14 01.1 +1.4**
SLM Saint Louis 77.80 347 P **P 01 14 01.1 +1.4**
DBIC Dimbokro 77.84 72 P **P 01 14 02.1 +1.5**
comp=Z,9.4nm,1.0s,baz=172,slow=6.9,SNR=6.9
DBIC LR LR 01 46 42.1
comp=Z,146nm,18.3s,baz=232,slow=34
U31A Nine Bar Ranch 77.87 339 P pP 01 14 08.4 +0.4
baz=78
S37A Fort Scott 77.89 343 P pP 01 14 07.8 -0.1
baz=78
S36A Lake Cedric, C 78.04 343 P pP 01 14 09.1 +0.4
baz=78,SNR=6.3
T33A Patterson Ranc 78.10 340 P pP 01 14 09.6 +0.5
baz=78,SNR=5.5
S35A Otter Creek Ra 78.17 342 P pP 01 14 09.8 +0.3
baz=78
U30A WK&E Inc. Balk 78.25 338 P pP 01 14 10.9 +0.8
baz=78,SNR=5.1
T32A Huddler Ranch, 78.37 340 P pP 01 14 11.1 +0.5
baz=78
R37A Teagarden Farm 78.42 343 P pP 01 14 11.3 +0.4
baz=78
S33A Kaszmaul Farm, 78.51 341 P pP 01 14 11.9 +0.5
baz=78
214A Organ Pipe Nat 78.56 327 P pP 01 14 13.4 +1.6
baz=79
214A Organ Pipe Nat 78.56 327 P **P 01 14 06.3 +2.1**
comp=Z,26nm,1.2s
R36A Gordon, Harris 78.59 343 P pP 01 14 12.2 +0.4
baz=78
U28A Mallet 78.59 337 P pP 01 14 12.8 +0.8
baz=79
ANMO Albuquerque 78.69 333 *e*P **P 01 14 03.0 -2.0**
ANMO *e* 01 14 14.2
ANMO pmax pmax
comp=Z,25nm,1.2s
ANMO Albuquerque 78.69 333 *e*P **P 01 14 03.0 -2.0**
comp=Z,25nm,1.2s
ANMO *e* **pP 01 14 14.2 +1.5**
T30A Plains 78.70 338 P pP 01 14 13.5 +1.0
baz=79
R35A Emporia Munici 78.75 342 P pP 01 14 13.4 +0.7
baz=79
U27A Thompson Grove 78.81 337 P pP 01 14 14.2 +1.0
baz=79
S32A Newby Ranch, P 78.86 340 P pP 01 14 14.6 +1.2
baz=79
Q37A Longview Farm, 78.88 344 P pP 01 14 14.4 +1.1
baz=79
S31A Mullinville 78.94 339 P pP 01 14 14.9 +1.1
baz=79
R34A Isabella, Hill 78.99 341 P pP 01 14 14.2 +0.2
baz=79,SNR=7.8
SFIN Scholer Farm 79.00 350 P pP 01 14 14.5 +0.6
baz=79
T29A Hugoton 79.03 338 P pP 01 14 15.2 +0.9
baz=79
R33A Olander Ranch, 79.18 341 P pP 01 14 16.1 +1.0
baz=79
Q36A Arnold C. Orve 79.18 343 P pP 01 14 15.9 +0.8
baz=79
Q35A Mercer Eighty, 79.22 343 P pP 01 14 16.2 +1.0
baz=79
S30A Montezuma 79.23 339 P pP 01 14 16.4 +1.0
baz=79
T28A Walsh 79.24 337 P pP 01 14 16.0 +0.5
baz=79
T27A Campo 79.37 337 P pP 01 14 17.3 +1.0
baz=79
S29A Ulysses 79.40 338 P pP 01 14 17.5 +1.1
baz=79
BOSA Boshof 79.46 118 P **P 01 14 09.5 -0.1**
comp=Z,6.9nm,1.0s,baz=217,slow=4.1,SNR=5.4
BOSA LR LR 01 46 38.4
comp=Z,87nm,20.1s,baz=231,slow=34
R32A Long Quarter, 79.48 340 P pP 01 14 17.6 +0.9
baz=79,SNR=5.3
Q34A Chapman 79.50 342 P pP 01 14 18.2 +1.4
baz=79
HDIL Hopedale 79.51 348 P pP 01 14 17.4 +0.6
baz=79

HDIL Hopedale 79.51 348 P P 01 14 05.1 -4.0
comp=Z,26nm,1.0s
HDIL *e* pP 01 14 15.4 -1.3
KSU1 Kansas State U 79.59 342 P pP 01 14 19.0 +1.8
baz=80
T26A Comanche Natio 79.75 336 P pP 01 14 19.4 +0.9
baz=80
P36A Good Intent, A 79.75 343 P pP 01 14 18.6 +0.5
baz=80
R30A Dighton 79.78 339 P pP 01 14 19.6 +1.2
baz=80
P35A Duane Minner, 79.86 343 P pP 01 14 18.9 +0.1
baz=80,SNR=5.7
T25A Trinidad 79.98 336 P pP 01 14 20.8 +1.1
baz=80
W18A Petrified Fore 80.06 331 P pP 01 14 21.8 +1.7
baz=80
W18A Petrified Fore 80.06 331 P P 01 14 09.5 -3.0
comp=Z,33nm,1.3s
W18A *e* pP 01 14 20.6 +0.4
P34A Walnut Farm, R 80.06 342 P pP 01 14 21.2 +1.4
baz=80
S26A Kim 80.12 337 P pP 01 14 21.9 +1.5
baz=80
CBKS Cedar Bluff 80.12 340 P pP 01 14 21.8 +1.6
baz=80
R29A Marienthal 80.16 339 P pP 01 14 21.4 +0.9
baz=80
R28A Tribune 80.28 338 P pP 01 14 22.1 +0.9
baz=80
GLA Glamis 80.38 326 P pP 01 14 23.2 +1.4
baz=80
Q30A Quinter 80.41 339 P pP 01 14 22.7 +0.9
baz=80
R27A Eads 80.52 337 P pP 01 14 23.4 +0.9
baz=80
O35A Humboldt 80.53 343 P pP 01 14 23.3 +0.9
baz=80
Q29A Oakley 80.54 339 P pP 01 14 23.3 +0.8
baz=80
P32A Huiting Farm, 80.58 341 P pP 01 14 23.7 +1.1
baz=80
IBP Imperial Bould 80.62 325 P pP 01 14 24.8 +1.7
baz=81
O34A Beatrice 80.64 342 P pP 01 14 22.8 -0.1
baz=80,SNR=6.4
P31A Stockton 80.69 340 P pP 01 14 24.1 +0.8
baz=81
SWSC Sam W. Stewart 80.72 325 P pP 01 14 25.5 +2.0
baz=81
R26A Arlington 80.73 337 P pP 01 14 24.7 +1.1
baz=81
O33A Hebron 80.75 342 P pP 01 14 24.7 +1.2
baz=81
Y12C Blythe 80.84 327 P pP 01 14 26.0 +1.9
baz=81
SDCO Great Sand Dun 80.89 335 P pP 01 14 26.0 +1.3
baz=81
SDCO Great Sand Dun 80.89 335 *e*P **P 01 14 17.5 +0.5**
comp=Z,7.6nm,1.1s
SDCO *e* **pP 01 14 26.0 +1.3**
P30A Selden 80.95 340 P pP 01 14 26.0 +1.3
baz=81
Q28A Sharon Springs 80.95 338 P pP 01 14 25.9 +1.2
baz=81
MONP Monument Peak 80.96 325 P pP 01 14 27.4 +2.3
baz=81
N35A Tabor 81.04 343 P pP 01 14 26.2 +1.2
baz=81
WUAZ Wupatki 81.05 330 P pP 01 14 27.6 +2.1
baz=81
O32A Brockman Farm, 81.10 341 P pP 01 14 26.9 +1.5
baz=81
PDMCI Paer Dam,Lak 81.14 327 P pP 01 14 27.8 +2.0
baz=81
P29A Atwood 81.19 339 P pP 01 14 27.4 +1.5
baz=81
Q26A Hugo 81.33 337 P pP 01 14 28.5 +1.7
baz=81
S22A 4UR Ranch, Cre 81.34 334 P pP 01 14 28.5 +1.4
baz=81
MVCO Mesa Verde 81.45 333 P pP 01 14 29.2 +1.7
baz=82
MVCO Mesa Verde 81.45 333 *e*P **P 01 14 20.6 +0.7**
comp=Z,17nm,1.1s
MVCO *e* **pP 01 14 29.3 +1.7**
IRM Iron Mountain 81.46 326 P pP 01 14 29.3 +1.8
baz=82
O30A MW Ranch, Wils 81.49 340 P pP 01 14 29.2 +1.7
baz=81
PFO Pinyon Flat Ob 81.58 325 P **P 01 14 18.7 -1.8**
PFO pmax pmax
comp=Z,3.0nm,1.0s
PFO Pinyon Flat Ob 81.58 325 P pP 01 14 30.3 +2.0
baz=82
PFO Pinyon Flat Ob 81.58 325 P **P 01 14 18.7 -1.8**
comp=Z,2.8nm,1.0s
BELC Belle Mtn. Jos 81.70 326 P pP 01 14 30.7 +1.7
baz=82
Q24A Divide 81.88 336 P pP 01 14 31.1 +1.2
baz=82
MURC Murrieta 81.91 325 P pP 01 14 32.0 +2.2
baz=82
O28A Krutsinger Ran 81.92 339 P pP 01 14 31.5 +1.6
baz=82
O27A Beecher Island 82.18 338 P pP 01 14 32.4 +1.1
baz=82
GMRC Granite Mounta 82.21 326 P pP 01 14 33.7 +2.1
baz=82
L35A Bielow Farm, R 82.21 344 P pP 01 14 32.1 +0.9
baz=82
PV01 Paradox Valley 82.30 333 P **P 01 14 23.7 -0.7**
PV01 *e* **pP 01 14 34.2 +2.1**
O26A Horse Wrangler 82.47 338 P pP 01 14 33.8 +1.0
baz=82
HEC Hector,Ludlow 82.55 326 P pP 01 14 35.1 +1.9
baz=83
BFSC Mount Baldy Ra 82.65 325 P pP 01 14 35.6 +1.7
baz=83
PV04 Paradox Valley 82.65 333 P **P 01 14 26.8 +0.7**
SMCO Snowmass 82.68 335 P **P 01 14 26.3 -0.2**
comp=Z,19nm,1.1s
SMCO *e* **pP 01 14 36.0 +1.8**
N27A Anderson Farm, 82.77 338 P pP 01 14 35.4 +1.2
baz=83
ISCO Idaho Springs 82.79 336 P **P 01 14 26.3 -0.7**
ISCO *e* **pP 01 14 36.1 +1.4**
ISCO pmax pmax
comp=Z,7.0nm,1.1s
ISCO Idaho Springs 82.79 336 P pP 01 14 35.8 +1.1
baz=83
ISCO Idaho Springs 82.79 336 P **P 01 14 26.2 -0.7**
comp=Z,7.3nm,1.1s
ISCO *e* 01 14 36.1
TUQ Turquoise Moun 82.88 327 P pP 01 14 36.9 +1.9
baz=83
L31A Butterfield Fa 83.04 342 P pP 01 14 37.3 +1.7
baz=83
L30A Spencer Herefo 83.06 341 P pP 01 14 37.1 +1.4
baz=83
GSC Goldstone 83.15 326 P pP 01 14 38.4 +2.0
baz=83
EDW2 Edwards Air Fo 83.33 325 P pP 01 14 39.2 +1.8
baz=84
SHPR Sheep Range 83.46 328 *e*P **P 01 14 31.0 +0.7**
SHPR *e* **pP 01 14 40.0 +1.9**
CCUT Cedar City 83.61 329 *e*P **P 01 14 30.1 -1.1**
comp=Z,15nm,1.2s
CCUT *e* **pP 01 14 41.2 +2.3**
LRMC Laurel Mountai 83.69 325 P pP 01 14 41.2 +2.0
baz=84
K30A Basset 83.71 341 P pP 01 14 40.5 +1.5
baz=84
N23A Red Feather La 83.89 336 P pP 01 14 41.4 +1.1
baz=84
O20A White River Ci 83.97 334 P pP 01 14 41.8 +1.2
baz=84
MVU Marysvale 83.98 331 *e*P **P 01 14 33.4 +0.3**
comp=Z,12nm,1.3s
MVU *e* **pP 01 14 42.5 +1.7**
ECSD EROS Data Cent 83.99 344 P pP 01 14 41.4 +1.0
baz=84
ECSD EROS Data Cent 83.99 344 *e*P **P 01 14 30.4 -2.3**
comp=Z,39nm,1.1s
ECSD *e* **pP 01 14 40.5 0.0**
MPMC Manual Prospec 84.09 326 P pP 01 14 43.1 +1.8
baz=84

FURC Furnace Creek, 84.16 326 P pP 01 14 43.7 +2.3
baz=84
PKM Peak Mountain 84.19 324 P pP 01 14 43.8 +2.0
baz=84
ISA Isabella 84.20 325 P pP 01 14 43.7 +2.0
baz=84
K28A Ten Mile Ranch 84.20 340 P pP 01 14 43.1 +1.5
baz=84
TPNV Topopah Spring 84.30 327 P pP 01 14 44.1 +1.8
baz=84
K27A Flueckinger Fa 84.43 339 P pP 01 14 44.3 +1.5
baz=84
J29A Okreek 84.58 341 P pP 01 14 44.8 +1.4
baz=84
SPMN St. Paul 84.65 347 P pP 01 14 44.5 +0.8
baz=84
GRAC Grapevine Rang 84.82 326 P pP 01 14 46.6 +1.7
baz=85
I30A Oacoma 84.83 342 P pP 01 14 45.9 +1.2
baz=85
J27A Elkhorn Farm, 84.88 340 P pP 01 14 45.8 +0.8
baz=85
I29A Vivian Onida 85.14 341 P pP 01 14 47.6 +1.3
baz=85
NLU North Lily Min 85.19 331 *e*P P 01 14 35.5 -3.6
comp=Z,14nm,1.4s
NLU *e* pP 01 14 49.2 +2.3
R11A Troy Canyon, C 85.20 328 P pP 01 14 48.4 +1.5
baz=85
R11A Troy Canyon, C 85.20 328 *e*P **P 01 14 39.8 +0.7**
comp=Z,12nm,1.3s
R11A *e* **pP 01 14 48.5 +1.6**
J26A Sides Ranch, S 85.23 339 P pP 01 14 48.0 +1.2
baz=85
I28A Midland 85.35 341 P pP 01 14 48.9 +1.6
baz=85
K23A Bowen Ranch, D 85.47 337 P pP 01 14 49.5 +1.4
baz=86
K22A Casper 85.66 336 P pP 01 14 50.2 +1.2
baz=86
K22A Casper 85.66 336 *e*P **P 01 14 40.0 -1.3**
comp=Z,16nm,1.1s
K22A *e* 01 14 50.1
TPH Tonopah 85.66 327 *e*P **P 01 14 41.7 +0.2**
TPH *e* **pP 01 14 51.0 +1.8**
TPH pmax pmax
comp=Z,17nm,1.2s
TPH Tonopah 85.66 327 *e*P **P 01 14 41.7 +0.2**
comp=Z,17nm,1.2s
TPH *e* **pP 01 14 51.0 +1.8**
DUG Dugway 85.68 331 *e*P **P 01 14 41.2 -0.2**
DUG *e* 01 14 50.5
DUG pmax pmax
comp=Z,23nm,1.4s
DUG Dugway 85.68 331 P pP 01 14 50.8 +1.6
baz=86
DUG Dugway 85.68 331 *e*P **P 01 14 41.2 -0.2**
comp=Z,23nm,1.4s
DUG *e* **pP 01 14 50.5 +1.3**
H29A Onida 85.69 341 P pP 01 14 50.0 +1.1
baz=86
J24A Dixon Ranch, L 85.71 338 P pP 01 14 50.6 +1.4
baz=86
TCUT Toone Canyon 85.96 332 P **P 01 14 41.6 -1.4**
comp=Z,28nm,1.4s
TCUT *e* **pP 01 14 52.3 +1.6**
I25A Rochford 86.07 339 P pP 01 14 51.9 +0.8
baz=86
H27A Howes 86.18 340 P pP 01 14 52.2 +0.7
baz=86
RSSD Black Hills 86.25 339 P **P 01 14 45.9 +1.6**
RSSD pmax pmax
comp=Z,9.0nm,1.2s
RSSD Black Hills 86.25 339 P **P 01 14 45.9 +1.6**
comp=Z,8.5nm,1.2s
G28A Parade 86.29 341 P pP 01 14 53.0 +1.1
baz=86
J22A Midwest 86.33 337 P pP 01 14 53.6 +1.2
baz=86
BGU Big Grassy Mou 86.39 331 *e*P **P 01 14 43.6 -1.4**
comp=Z,11nm,1.5s
BGU *e* **pP 01 14 54.2 +1.5**
NVAR Mina Array Bea 86.42 327 P **P 01 14 47.1 +1.8**
comp=Z,0.1nm,0.2s,baz=134,slow=3.9,SNR=1.8
HWUT Hardware Ranch 86.44 333 *e*P **P 01 14 46.5 +1.3**
comp=Z,29nm,1.2s
HWUT *e* **pP 01 14 54.3 +1.3**
SPUT South Promonto 86.51 332 *e*P **P 01 14 44.1 -1.5**
comp=Z,19nm,1.2s
SPUT *e* **pP 01 14 54.6 +1.3**
J21A Lysite 86.58 336 P pP 01 14 54.5 +0.9
baz=87
H25A Fruitdale 86.58 339 P pP 01 14 54.6 +1.1
baz=86
F29A Eureka 86.72 342 P pP 01 14 55.0 +1.0
baz=87
BW06 Boulder Array 86.76 334 *e*P **P 01 14 46.4 -0.4**
comp=Z,14nm,1.3s
BW06 *e* **pP 01 14 55.1 +0.6**
I22A 9 Mile Ranch, 86.77 337 P pP 01 14 55.6 +1.1
baz=87
J20A Shoshoni 86.79 336 P pP 01 14 55.7 +1.1
baz=87
G27A Dupree 86.83 341 P pP 01 14 55.9 +1.3
baz=87
TOB5 Torodi Ar. Sit 86.92 71 *e*P **P 01 14 48.1 +0.1**
G26A Maurine 86.93 340 P pP 01 14 55.9 +0.8
baz=87
TORD Torodi Ar. Bea 86.93 71 P **P 01 14 48.3 +0.3**
comp=Z,1.3nm,0.6s,baz=219,slow=5.4,SNR=23
I21A Big Trails, Te 86.95 336 P pP 01 14 56.1 +0.7
baz=87
H24A Dirks Ranch, A 86.97 339 P pP 01 14 55.8 +0.4
baz=87
F28A McLaughlin 86.98 341 P pP 01 14 56.1 +0.8
baz=87
J19A Crowheart 87.03 335 P pP 01 14 56.9 +1.1
baz=87
HVU Hansel Valley 87.04 332 *e*P **P 01 14 45.3 -2.8**
HVU *e* **pP 01 14 56.5 +0.7**
HVU pmax pmax
comp=Z,8.0nm,1.0s
HVU Hansel Valley 87.04 332 *e*P **P 01 14 45.3 -2.8**
comp=Z,8.2nm,1.0s
HVU *e* **pP 01 14 56.5 +0.7**
G25A Newell 87.06 340 P pP 01 14 56.7 +0.9
baz=87
ELK Elko 87.09 330 *e*P **P 01 14 47.5 -1.0**
ELK *e* **pP 01 14 57.1 +0.8**
ELK pmax pmax
comp=Z,9.0nm,1.1s
ELK Elko 87.09 330 *e*P **P 01 14 47.5 -1.0**
comp=Z,8.5nm,1.1s
ELK *e* **pP 01 14 57.1 +0.8**
F27A Lemmon 87.31 341 P pP 01 14 58.4 +1.4
baz=87
I20A Worland 87.34 336 P pP 01 14 58.7 +1.4
baz=87
E28A Huff 87.63 342 P pP 01 14 59.9 +1.4
baz=88
D30A Buchanan 87.67 343 P pP 01 14 59.8 +1.2
baz=88
I19A Meeteetse 87.70 335 P pP 01 15 00.4 +1.4
baz=88
F25A Bowman 87.75 340 P pP 01 15 00.4 +1.3
baz=88
LOHW Long Hollow 87.86 334 *e*P **P 01 14 50.9 -1.2**
comp=Z,7.1nm,1.2s
LOHW *e* **pP 01 15 00.6 +0.7**
TPAW Teton Pass 87.88 334 *e*P **P 01 14 51.4 -0.9**
comp=Z,8.9nm,1.1s
TPAW *e* **pP 01 15 00.6 +0.6**
F24A Ekalaka 87.94 339 P pP 01 15 00.9 +0.8
baz=88
E26A Carlson Angus 87.98 341 P pP 01 15 01.1 +1.0
baz=88
C30A Mose, Pekin 88.17 344 P pP 01 15 02.3 +1.3
baz=88
D28A Regan 88.18 342 P pP 01 15 02.1 +1.1
baz=88
G21A Lodge Grass 88.19 337 P pP 01 15 02.6 +1.4
baz=88
IMW Indian Meadow 88.23 334 *e*P **P 01 14 53.9 0.0**
comp=Z,10.0nm,1.2s
IMW *e* **pP 01 15 02.5 +0.8**
H19A Powell 88.26 336 P pP 01 15 02.9 +1.2
baz=88

E25A	**Miller Ranch,** baz=88	**88.26**	**340**		P		pP	01 15 02.8	+1.3
FLWY	**Flagg Ranch** comp=Z,11nm,1.2s	**88.31**	**334**	*e*	P		**P**	**01 14 54.4**	**+0.2**
FLWY				*e*			**pP**	**01 15 03.6**	**+1.6**
D26A	**Manning** baz=88	**88.49**	**341**		P		pP	01 15 03.9	+1.4
G20A	**Bridger** baz=88	**88.50**	**336**		P		pP	01 15 04.2	+1.5
H17A	**Grant Village** baz=89	**88.54**	**335**		P		pP	01 15 05.5	+2.4
E24A	**Baker** baz=88	**88.56**	**340**		P		pP	01 15 04.7	+1.7
RLMT	**Red Lodge** baz=89	**88.75**	**336**		P		pP	01 15 05.4	+1.4
RLMT	**Red Lodge** comp=Z,12nm,1.3s	**88.75**	**336**	*e*	P		**P**	**01 14 56.6**	**+0.3**
B30A	**Myrvik Farm, E** baz=89	**88.84**	**344**		P		pP	01 15 05.7	+1.6
C27A	**Sayler Ranch,** baz=89	**88.89**	**342**		P		pP	01 15 06.3	+1.9
D24A	**Glendive** baz=89	**89.08**	**340**		P		pP	01 15 06.9	+1.7
HLID	**Hailey** baz=89	**89.19**	**332**		P		pP	01 15 07.8	+1.7
HLID	**Hailey** comp=Z,14nm,1.3s	**89.19**	**332**	*e*	P		**P**	**01 14 58.3**	**0.0**
HLID				*e*			**pP**	**01 15 08.0**	**+1.9**
C24A	**Savage** baz=89	**89.48**	**340**		P		pP	01 15 08.7	+1.5
A29A	**Manning Farm,** baz=89	**89.49**	**344**		P		pP	01 15 08.0	+0.9
MFID	**Camas Ranch** comp=Z,11nm,1.3s	**89.60**	**331**	*e*	P		P	01 14 57.0	-3.2
MFID				*e*			pP	01 15 09.6	+1.7
MCMT	**McKenzie Canyo**	**89.71**	**333**	*e*	P		**P**	**01 15 00.2**	**-0.6**
MCMT				*e*			**pP**	**01 15 10.8**	**+2.2**
BOZ	**Bozeman (W)** baz=90	**90.00**	**335**		P		pP	01 15 10.9	+1.1
LRM	**Limekiln Ridge** comp=Z,84nm,1.3s	**90.43**	**334**	*e*	P		**P**	**01 15 04.0**	**-0.2**
LRM				*e*			**pP**	**01 15 12.9**	**+0.9**
CHMT	**Chamberlain Mo** comp=Z,6.1nm,1.4s	**91.66**	**334**	*e*	P		**P**	**01 15 10.1**	**+0.3**
CHMT				*e*			**pP**	**01 15 20.1**	**+2.5**
J05D	**Fort Rock, OR** baz=92	**91.68**	**327**		P		pP	01 15 19.6	+1.9
BSMT	**Bassoo Peak** comp=Z,5.0nm,1.2s	**93.00**	**334**	*e*	P		**P**	**01 15 17.1**	**+1.2**
BSMT				*e*			**pP**	**01 15 25.1**	**+1.4**
NEW	**Newport**	**94.18**	**333**		P		**P**	**01 15 21.6**	**+0.4**
NEW				*e*			**pP**	**01 15 29.0**	**+0.1**
NEW	comp=Z,10.0nm,1.4s				pmax		pmax		
NEW	**Newport** baz=94	**94.18**	**333**		P		pP	01 15 29.6	+0.7
NEW	**Newport** comp=Z,9.6nm,1.4s	**94.18**	**333**		P		**P**	**01 15 21.6**	**+0.4**
NEW				*e*				01 15 29.0	
GERES	**GERESS Array B** comp=Z,0.2nm,0.4s,baz=241,slow=1.0,SNR=2.5	**116.00**	**47**		PKP		**PKPdf**	**01 20 45.9**	**+0.7**
WRA	**Warramunga Arr** comp=Z,0.4nm,0.3s,baz=146,slow=1.8,SNR=3.4	**116.52**	**210**		PKP		**PKPdf**	**01 20 46.3**	**-0.9**
ILAR	**Eielson Array** comp=Z,0.1nm,0.4s,baz=164,slow=4.7,SNR=2.7	**117.13**	**333**		PKP		**PKPdf**	**01 20 49.2**	**+2.4**
BRTR	**Keskin Array B**	**124.99**	**64***c*	*i*	PKIKP		PKPdf	01 21 12.6	+10
BRTR	comp=Z,1.0nm,0.8s				pmax		pmax		
KIEV	**Kiev**	**125.94**	**50**	⇓*i*	PKIKP		PKPdf	01 21 12.3	+8.2
OBN	**Obninsk**	**131.34**	**46**	⇓*i*	PKIKP		PKPdf	01 21 23.5	+9.3
OBN				*i*				01 21 37.2	
OBN	comp=Z,10.0nm,1.1s				pmax		pmax		
BILL	**Bilibino**	**135.79**	**332**	⇑*i*	PKIKP		PKPdf	01 21 31.2	+9.0
BILL	comp=Z,12nm,2.2s				pmax		pmax		
PRGR	**Permogore**	**136.45**	**37**		PKIKP		PKPdf	01 21 31.7	+8.1
PRGR	comp=Z,11nm,1.4s				pmax		pmax		
SEY	**Seymchan**	**142.73**	**327**	⇑*e*	PKIKP		PKPdf	01 21 44.2	+9.2
ARU	**Arti**	**143.71**	**44**	*i*	PKIKP		PKPbc	01 21 35.1	+0.5
ARU	**Arti**	**143.71**	**44**	*e*	PKPdf		PKPab	01 21 32.9	-0.9
MA2	**Magadan**	**144.54**	**322**	*e*	PKIKP		PKPdf	01 21 45.3	+7.0
SVE	**Sverdlovsk**	**144.76**	**43**	*e*	PKIKP		**PKPdf**	**01 21 39.3**	**+0.5**
SVE	comp=Z,20nm,1.2s				pmax		pmax		
ABKAR	**Akbulak array**	**145.24**	**56**	*e*	PKPdf		**PKPdf**	**01 21 40.1**	**+0.2**
BRVK	**Borovoye**	**151.10**	**47**	⇓*i*	PKIKP		**PKPab**	**01 22 04.0**	**+1.0**
BRVK	comp=Z,9.0nm,1.0s				pmax		pmax		
YSS	**Yuzh-Sakhalins**	**151.82**	**300**	⇑*e*	PKIKP		**PKPab**	**01 22 06.3**	**+0.2**
YSS	comp=Z,27nm,2.5s				pmax		pmax		
YAK	**Yakutsk**	**151.96**	**336**	*i*	PKIKP		**PKPab**	**01 22 04.8**	**-1.4**
YAK	comp=Z,22nm,0.7s				pmax		pmax		
KSH	**Kashi**	**156.46**	**77**		PKP		PKPdf	01 22 05.1	+7.5
KSH					pPKP		pPKP	01 22 14.5	
KSH					PKS		PKSdf	01 25 38.3	+6.8
KSH					SKS		**SKSdf**	**01 29 06.4**	**+4.1**
KSH					SKKS		**SKKSac**	**01 32 54.3**	**+1.9**
KSH					SS		**SS**	**01 45 50.3**	**-4.6**
KSH	comp=Z,150nm,3.9s				PPMZ				
KSH	comp=Z,130nm,4.8s				LN				
KSH	comp=Z,120nm,5.8s				LE				
KSH	comp=Z,350nm,8.5s				LZ				
NVS	**Novosibirsk**	**157.11**	**35**	*e*	PKP2		**PKPab**	**01 22 29.7**	**+1.3**
ZALV	**Zalesovo Beam** comp=Z,0.3nm,0.3s,baz=273,slow=2.5,SNR=2.4	**158.39**	**36**		PKP		**PKPdf**	**01 21 59.2**	**-0.1**
ZALV	comp=Z,2.2nm,0.8s,baz=300,slow=6.2,SNR=6.3				PKPab		**PKPab**	**01 22 35.3**	**+1.3**
ZALV	**Zalesovo Beam**	**158.39**	**36**		PKIKP		**PKPdf**	**01 21 59.2**	**-0.1**
ZALV								01 22 35.3	
ZALV	comp=Z,2.0nm,0.8s				pmax		pmax		
BOD	**Bodaibo**	**159.57**	**348**	*e*	PKP2		PKPab	01 22 46.1	+7.2
BOD	comp=Z,5.0nm,1.7s				pmax		pmax		
MK31	**Makanchi Array**	**160.38**	**56**	*e*	PKIKP		**PKPdf**	**01 22 01.8**	**-0.1**
MK31				*e*				01 22 39.2	
MK31	**Makanchi Array**	**160.38**	**56**	*e*	PKPdf		**PKPdf**	**01 22 01.8**	**-0.1**
MK31				*e*	PKPab		**PKPab**	**01 22 39.2**	**-3.7**
MKAR	**Makanchi Array** comp=Z,0.6nm,0.9s,baz=321,slow=1.3,SNR=4.2	**160.38**	**56**		PKP		**PKPdf**	**01 22 02.1**	**+0.2**
MKAR	comp=Z,1.2nm,0.6s,baz=280,slow=4.2,SNR=7.1				PKPab		**PKPab**	**01 22 43.3**	**+0.3**
MDJ	**Mudanjiang**	**161.27**	**298**		PKP		PKPdf	01 22 13.8	+11
MDJ	comp=Z,78nm,14.9s				LN				
MDJ	comp=Z,170nm,16.1s				LE				
MDJ	comp=Z,200nm,17.4s				LZ				
CN2	**Changchun**	**164.35**	**298**	*e*	PKP		PKPdf	01 22 15.0	+9.1
WMQ	**Urumqi**	**164.90**	**62**	*e*	PKP		PKPdf	01 22 19.6	+13
WMQ	comp=Z,73nm,18.4s				LN				
WMQ	comp=Z,78nm,18.6s				LE				
WMQ	comp=Z,67nm,18.7s				LZ				
KMI	**Kunming**	**166.78**	**166**		PKP		PKPdf	01 22 18.8	+10
NJ2	**Nanjing**	**168.01**	**244**	*e*	PKP		PKPdf	01 22 20.0	+11
GYA	**Guiyang**	**168.43**	**182**	*e*	PKP		PKPdf	01 22 18.8	+9.0
GYA					PKPab		PKPab	01 23 33.0	+14
GYA					PKS		PKSdf	01 25 50.3	+7.7
GYA					PP		PP	01 27 22.6	+16
GYA	comp=Z,120nm,8.2s				PPMZ				
CD2	**Chengdu**	**172.60**	**164**		PKP		PKPdf	01 22 21.3	+9.4
CD2					pPKP		pPKPdf	01 22 30.0	+10
CD2					sPKP			01 22 33.3	
CD2					PP		PP	01 27 40.0	+12
CD2					SKKS			01 34 24.3	
CD2	comp=Z,160nm,7.2s				PPMZ				
CD2	comp=Z,150nm,9.0s				LN				
CD2	comp=Z,210nm,7.2s				LZ				
GTA	**Gaotai**	**174.85**	**73**	*e*	PKP		PKPdf	01 22 20.5	+8.0
GTA					pPKP		pPKPdf	01 22 29.3	+8.8
GTA					PP		PP	01 27 48.4	+8.2
GTA					SKS		**SKSdf**	**01 29 18.6**	**+4.5**
GTA					SKKS		**SKKSac**	**01 34 29.8**	**+5.1**
GTA					SS		**SS**	**01 49 02.8**	**+0.6**
GTA	comp=Z,120nm,5.9s				PPMZ				
GTA	comp=Z,85nm,17.1s				LN				
GTA	comp=Z,92nm,18.1s				LE				
GTA	comp=Z,140nm,16.6s				LZ				
HHC	**Hu-ho-hao-te**	**174.98**	**305**	*e*	PKP		PKPdf	01 22 25.9	+13
HHC					PKS		PKSdf	01 25 56.8	+12
HHC					PP		PP	01 27 54.0	+14
HHC					SKKS			01 34 34.9	
HHC					SS		**SS**	**01 49 06.0**	**+3.4**
HHC	comp=Z,39nm,5.0s				PPMZ				
HHC	comp=Z,140nm,20.6s				LN				
HHC	comp=Z,100nm,19.6s				LE				
HHC	comp=Z,130nm,20.0s				LZ				
LZH	**Lanzhou**	**177.29**	**136**	*e*	PKP		PKPdf	01 22 21.6	+8.4
LZH					PKPab		PKPab	01 24 07.0	+8.9
LZH	comp=Z,230nm,14.6s				LN				
LZH	comp=Z,180nm,14.2s				LE				
LZH	comp=Z,170nm,13.7s				LZ				

*ISCJB **15** 01:03:33.0±0.6, 6.96S±0.06×129.41E±0.08, h139km, mb3.9/3, Error ellipse: s-maj=12.0km s-min=7.7km az=160.1*
*IDC **15** 01:03:37.6±3.6, 7.07S×129.23E, h164km±30km, mb3.7/3, mb1 4.0/5, mb1mx3.4/31, mbtmp4.5/5, Error ellipse: s-maj=35.9km s-min=20.7km az=63.0*

ISC 15 01:03:34.2±1.0, **7.09S**±0.10×**129.5E**±0.1, **h139**km, **n14,** σ1§**42/17, mb4.1/3, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
BATI	**Baumata** 36nm,0.3s,baz=72,slow=20,SNR=16	**6.54**	**241**	P		**Pn**	**01**	**05**	**09.5**	**+1.3**
BATI	26nm,0.3s,baz=81,slow=18,SNR=9.5			S		**Sn**	**01**	**06**	**20.5**	**-1.2**
WRA	**Warramunga Arr** 1.1nm,0.3s,baz=336,slow=13,SNR=18	**13.62**	**160**	P		**Pn**	**01**	**06**	**41.9**	**+0.1**
WRA	3.7nm,0.3s,baz=329,slow=23,SNR=11			S		Sn	01	09	05.6	-6.9
ASAR	**Alice Springs** 2.3nm,0.3s,baz=344,slow=12,SNR=50	**17.02**	**166**	P		**Pn**	**01**	**07**	**26.2**	**+2.1**
ASAR	0.9nm,0.3s,baz=345,slow=18,SNR=8.0			S		**S**	**01**	**10**	**31.1**	**-3.0**
ASAR	0.1nm,0.3s,baz=356,slow=1.8,SNR=4.7			ScP		**ScP**	**01**	**15**	**21.4**	**-2.3**
STKA	**Stephens Creek** 2.8nm,0.5s,baz=330,slow=12,SNR=4.1	**27.13**	**157**	P		**P**	**01**	**09**	**06.4**	**+2.1**
ODAN	**Odare** 9.2nm,0.4s	**52.93**	**311**	*e*P		**P**	**01**	**12**	**36.1**	**-0.6**
TAPN	**Taplejung** 12nm,0.4s	**52.96**	**312**	*e*P		**P**	**01**	**12**	**36.6**	**-0.4**
RAMN	**Ramite** 24nm,0.4s	**53.57**	**311**	*e*P		**P**	**01**	**12**	**41.7**	**+0.3**
GUN	**Gumba** 13nm,0.4s	**54.63**	**312**	*e*P		**P**	**01**	**12**	**48.3**	**-0.9**
PKI	**Pulchoki** 4.5nm,0.4s	**54.80**	**311**	*e*P		**P**	**01**	**12**	**50.1**	**-0.3**
KKN	**Kakani**	**55.01**	**311**	*e*P		**P**	**01**	**12**	**51.7**	**-0.1**
GKN	**Gorkha** 9.3nm,0.4s	**55.60**	**311**	*e*P		**P**	**01**	**12**	**55.5**	**-0.5**
KOLN	**Koldanda** 4.8nm,0.3s	**56.27**	**310**	*e*P		**P**	**01**	**13**	**00.9**	**+0.2**
MKAR	**Makanchi Array** 1.2nm,0.4s,baz=136,slow=8.1,SNR=16	**68.02**	**327**	P		**P**	**01**	**14**	**18.5**	**0.0**
ZALV	**Zalesovo Beam** 0.6nm,0.4s,baz=139,slow=4.9,SNR=4.2	**71.44**	**334**	P		**P**	**01**	**14**	**38.7**	**-0.6**

*CSEM **15** 01:08:23.3, 39.28N×29.73W, h0km, ML2.3*

PDA 15 01:08:23.3±0.5, **39.28N**×**29.73W, h0**km±4km, **MD3.5, ML2.3, Error ellipse: s-maj=7.9km s-min=2.2km az=27.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
PCED	**Cedros**	**1.03**	**129**	*e*P		Pg	01	08	40.1	-3.0
PCED				*e*S		Sg	01	08	52.8	-3.7
PCED	17nm,0.3s			A		A	01	08	55.4	
PCED	**Cedros**	**1.03**	**129**	*e*P		Pg	01	08	40.1	-3.0
PCED				*e*S		Sg	01	08	52.8	-3.7
CALA	**Caldeira**	**1.06**	**131**	*e*S		Sg	01	08	53.4	-4.3
CALA	**Caldeira**	**1.06**	**131**	*e*S		Sg	01	08	53.4	-4.3
H07S1	**FLORES T-PHASE**	**1.15**	**275**	*e*P		Pg	01	08	41.8	-3.6
H07N1	**FLORES T-PHASE**	**1.15**	**291**	*e*P		Pg	01	08	41.9	-3.5
PCAN	**Candelaria**	**1.27**	**130**	*e*P		Pg	01	08	43.5	-4.2
PCAN				*e*S		Sg	01	08	58.7	-5.5
PCAN	30nm,0.2s			A		A	01	09	01.5	
PCAN	**Candelaria**	**1.27**	**130**	*e*P		Pg	01	08	43.5	-4.2
PCAN				*e*S		Sg	01	08	58.7	-5.5
ROSA	**Rosais**	**1.29**	**115**	*e*P		Pg	01	08	43.7	-4.3
ROSA				*e*S		Sg	01	08	59.0	-5.8
ROSA	15nm,0.3s			A		A	01	09	00.2	
ROSA	**Rosais**	**1.29**	**115**	*e*P		Pg	01	08	43.7	-4.3
ROSA				*e*S		Sg	01	08	59.0	-5.8
PMAN	**Manadas**	**1.43**	**116**	*e*P		Pn	01	08	45.5	-5.1
PMAN				*e*S		Sg	01	09	02.5	-6.9
PMAN	16nm,0.4s			A		A	01	09	03.1	
PMAN	**Manadas**	**1.43**	**116**	*e*P		Pn	01	08	45.5	-5.1
PMAN				*e*S		Sg	01	09	02.5	-6.9

GUC 15 01:12:38.4±0.6, **34.25S**×**72.16W, h45**km±2km, **ML3.5, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
LNV	**Longovilo**	**0.69**	**65**	*e*P		Pn	01	12	52.2	+0.4
LNV				*e*S		Sn	01	13	02.4	+0.9
NICH	**Los Niches**	**1.07**	**135**	*e*P		Pn	01	12	57.6	+0.6
NICH				*e*S		Sn	01	13	12.3	+1.6
NICH	comp=E,5μm,0.4s			AML		AML	01	13	18.9	
TACH	**Talagante**	**1.18**	**60**	*e*S		Sn	01	13	15.0	+1.6
TALC	**Talca**	**1.22**	**160**	*e*P		Pn	01	12	59.5	+0.5
TALC				*e*S		Sn	01	13	16.0	+1.6
CHCH	**Chadas Angostu**	**1.29**	**76**	*e*P		Pn	01	13	01.2	+1.1
CHCH				*e*S		Sn	01	13	17.6	+1.4
SAN	**Santiago**	**1.48**	**58**	*e*S		Sn	01	13	22.0	+1.2
SAN	comp=N,396nm,1.1s			AML		AML	01	13	32.4	
LNCH	**Linares**	**1.66**	**164**	*e*P		Pn	01	13	05.4	+0.4
LNCH				*e*S		Sn	01	13	26.5	+1.4
LNCH	comp=N,839nm,0.8s			AML		AML	01	13	37.8	

*MOS **15** 01:30:28.3±0.8, 22.30N×93.55E, h44km, mb4.8/24, Error ellipse: s-maj=14.4km s-min=5.0km az=123.9*
*ISCJB **15** 01:30:28.6±0.5, 22.34N±0.03×93.51E±0.02, h44km±5km, mb4.5/66, MS3.7/3, Error ellipse: s-maj=4.6km s-min=3.3km az=178.5*
*BJI **15** 01:30:29.2, 22.23N×93.38E, h59km, mb4.7/30, mB4.6/12, ML4.2/4, Ms3.9/16, Ms7 3.7/15*
*IDC **15** 01:30:30.7±0.6, 22.25N×93.52E, h52km±5km, mb4.1/22, mb1 4.3/23, mb1mx4.0/44, mbtmp4.4/23, MS3.4/3, Ms1 3.5/3, ms1mx3.0/35, Error ellipse: s-maj=20.1km s-min=10.1km az=58.0*
*NEIC **15** 01:30:32.1±0.8, 22.27N×93.60E, h67km±7km, mb4.6/24, Error ellipse: s-maj=8.2km s-min=4.0km az=57.0*
*BKK **15** 01:30:32.8±1.6, 23.2N×93.9.4E±1.6, h82km±150km, M4.6/7, mb4.9/7, mB5.0/7, ML4.8/7, Mw(mB)4.3/7*

ISC 15 01:30:31.3±0.4, **22.27N**±0.04×**93.50E**±0.03, **h57**km±3km,

h57km**:pP-P, n210,** σ1§**59**/254, **mb4.5**/66, **MS3.3**/3, **24C-27D, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
IMP	**Imphal**	**2.54**	**9**	*e*P		**Pn**	**01**	**31**	**11.0**	**+0.9**
IMP				*e*S		Sn	01	31	21.0	-19
SHL	**Shillong**	**3.60**	**336**	*ex*		**Pn**	**01**	**31**	**25.0**	**+0.1**
SHL				*ex*		**Sn**	**01**	**32**	**04.0**	**-2.3**
CMAI	**Chiengmai2** 207nm,0.5s,3μm0.8nm	**5.67**	**113**	P		**Pn**	**01**	**31**	**54.0**	**+0.8**
CMAI	207nm,0.5s,3μm0.8nm			S		**Sn**	**01**	**32**	**58.6**	**+1.5**
MHMT	**Maesarieng** 96nm,0.7s,734nm0.4nm	**5.82**	**134**	P		**Pn**	**01**	**31**	**56.7**	**+1.6**
CHTO	**Chiang Mai** 213nm,0.7s,3μm1.9nm	**6.15**	**123**	P		**Pn**	**01**	**32**	**00.4**	**+0.8**
CHTO	**Chiang Mai**	**6.15**	**123**	*e*P		**Pn**	**01**	**31**	**58.4**	**-1.2**
CHTO				*e*			01	33	06.0	
CHTO	**Chiang Mai**	**6.15**	**123**	*e*Pn		**Pn**	**01**	**31**	**58.4**	**-1.2**
CHTO				*e*Sn		**Sn**	**01**	**33**	**06.0**	**-2.6**
CMMT	**Chiang Mai**	**6.15**	**123**	P		**Pn**	**01**	**32**	**00.6**	**+0.9**
CMAR	**Chiang Mai Arr** 3.8nm,0.3s,baz=302,slow=14,SNR=46	**6.36**	**126**	P		**Pn**	**01**	**32**	**03.4**	**+0.9**
CMAR	0.4nm,0.3s,baz=317,slow=22,SNR=3.2			S		**Sn**	**01**	**33**	**19.1**	**+5.4**
CMAR	comp=Z,338nm,18.4s,baz=310,slow=42			LR		LR	01	34	59.0	
CRAI	**Chiangrai** 20nm,0.7s,3μm0.2nm	**6.72**	**106**	P		**Pn**	**01**	**32**	**05.6**	**-1.9**
LAMP	**Lampang** 17nm,0.7s,188nm0.1nm	**6.85**	**122**	P		**Pn**	**01**	**32**	**10.2**	**+1.0**
ODAN	**Odare** 132nm,0.6s	**7.20**	**311**	*e*P		**Pn**	**01**	**32**	**12.9**	**-1.3**
TAPN	**Taplejung** 121nm,0.4s	**7.30**	**315**	*e*P		**Pn**	**01**	**32**	**14.7**	**-0.9**
LSA	**Lhasa**	**7.70**	**345**	P		**Pn**	**01**	**32**	**20.8**	**-0.4**
LSA				S		**Sn**	**01**	**33**	**44.8**	**-2.4**
LSA	70nm,0.6s			SMN						
LSA	70nm,0.6s			SME						
LSA	**Lhasa**	**7.70**	**345**	*e*P		**Pn**	**01**	**32**	**21.3**	**+0.1**
LSA				*e*			01	33	43.8	
LSA	**Lhasa**	**7.70**	**345**	*e*Pn		**Pn**	**01**	**32**	**21.3**	**+0.1**
LSA				*e*Sn		**Sn**	**01**	**33**	**43.8**	**-3.5**
RAMN	**Ramite** 148nm,0.4s	**7.82**	**308**	*e*P		**Pn**	**01**	**32**	**21.3**	**-1.4**
UTTA	**Uttaradit**	**8.01**	**123**	P		**Pn**	**01**	**32**	**26.2**	**+1.1**
GUN	**Gumba** 155nm,0.6s	**8.90**	**311**	*e*P		**Pn**	**01**	**32**	**36.3**	**-1.3**
KMI	**Kunming**	**8.93**	**70**	P		Pn	01	32	41.3	+3.4
KMI				PP			01	32	47.8	
KMI				S		**Sn**	**01**	**34**	**18.1**	**+1.0**
KMI				SS			01	34	31.8	
KMI	10.0nm,1.1s			PMZ						
KMI	300nm,7.4s			LN						
KMI	280nm,11.3s			LE						
KMI	330nm,11.7s			LZ						
PKI	**Pulchoki** 50nm,0.4s	**9.05**	**307**	*e*P		**Pn**	**01**	**32**	**37.8**	**-1.8**
PKIN	**Phulchoki** 63nm,0.4s	**9.06**	**307**	*e*P		**Pn**	**01**	**32**	**38.4**	**-1.3**
PKIN				*e*S		Sn	01	34	12.4	-7.9
KKN	**Kakani** 40nm,0.3s	**9.26**	**308**	*e*P		**Pn**	**01**	**32**	**40.1**	**-2.3**
DMN	**Daman** 41nm,0.5s	**9.29**	**307**	*e*P		**Pn**	**01**	**32**	**40.5**	**-2.3**
CHLP	**Challavanipeta**	**9.62**	**249**	*e*Pn		Pn	01	32	43.8	-3.3
CHLP	comp=Z,9.8nm,0.4s			IAmb		IAmb	01	32	50.1	
CHLP				*e*			01	34	22.2	
CHLP	comp=Z,239nm,4.2s			IVMs_BB		IVMs_BB	01	37	16.6	
GKN	**Gorkha** comp=Z,128nm,0.4s	**9.85**	**307**	*e*P		**Pn**	**01**	**32**	**48.2**	**-2.3**
KOLN	**Koldanda** comp=Z,156nm,0.7s	**10.52**	**303**	*e*P		**Pn**	**01**	**32**	**57.0**	**-2.6**
DANN	**Dangsing** comp=Z,22nm,0.8s	**10.69**	**306**	*e*P		**Pn**	**01**	**32**	**59.1**	**-2.9**
PVM	**Polavaram**	**12.24**	**248**	*e*Pn		**Pn**	**01**	**33**	**21.2**	**-1.8**
PVM	comp=Z,6.1nm,0.8s			IAmb		IAmb	01	33	33.6	
PVM				*e*			01	35	24.1	
PVM				Sn		**Sn**	**01**	**35**	**38.9**	**+0.9**
PVM	comp=Z,236nm,4.5s			IVMs_BB		IVMs_BB	01	37	20.7	
CD2	**Chengdu**	**12.57**	**45**	P		**Pn**	**01**	**33**	**26.6**	**-0.9**
CD2				pP		**P**	**01**	**33**	**38.1**	**+0.9**
CD2				PP		**PnPn**	**01**	**33**	**40.3**	**+4.7**
CD2				sP			01	33	47.3	
CD2				S		**Sn**	**01**	**35**	**47.5**	**+1.5**
CD2				SS		**SnSn**	**01**	**36**	**03.8**	**+5.0**
CD2	comp=Z,10.0nm,0.5s			PMZ						
CD2	comp=Z,140nm,7.2s			PMZ						
CD2	comp=Z,200nm,7.8s			LN						
CD2	comp=Z,260nm,8.4s			LZ						
GYA	**Guiyang**	**12.70**	**68**	*e*P		**Pn**	**01**	**33**	**29.0**	**-0.3**
GYA				pP		**P**	**01**	**33**	**37.8**	**-0.9**
GYA				PP		**PnPn**	**01**	**33**	**39.5**	**+2.1**
GYA				sP			01	33	48.0	
GYA				S		**Sn**	**01**	**35**	**48.4**	**-0.8**
GYA	comp=Z,10.0nm,0.8s			PMZ						
RPR	**Rampur**	**13.73**	**258**	*e*Pn		**Pn**	**01**	**33**	**43.1**	**-0.2**
RPR	comp=Z,10nm,0.8s			IAmb		IAmb	01	33	51.5	
RPR				*e*			01	36	01.1	
RPR				*e*Sn		**Sn**	**01**	**36**	**16.4**	**+2.1**
RPR				IVMs_BB		IVMs_BB	01	38	32.6	
ADKI	**Addanki**	**14.30**	**246**	*e*Pn		**Pn**	**01**	**33**	**53.2**	**+2.4**
ADKI	comp=Z,11nm,0.8s			IAmb		IAmb	01	34	03.0	
ADKI				*e*			01	36	14.3	
ADKI				*e*Sn		**Sn**	**01**	**36**	**31.0**	**+3.0**
ADKI	comp=Z,345nm,4.3s			IVMs_BB		IVMs_BB	01	38	25.5	
NJS	**Nagarjunasagar**	**14.54**	**249**	*e*Pn		Pn	01	33	49.6	-4.4
NJS	comp=Z,34nm,1.8s			IAmb		IAmb	01	34	01.1	
NJS				*e*			01	36	24.3	
NJS				*e*Sn		**Sn**	**01**	**36**	**37.4**	**+3.4**
NJS	comp=Z,332nm,4.0s			IVMs_BB		IVMs_BB	01	39	54.5	
SRSP	**Sriramsagar**	**14.58**	**260**	*e*Pn		**Pn**	**01**	**33**	**52.3**	**-2.2**
SRSP	comp=Z,15nm,0.9s			IAmb		IAmb	01	34	02.9	
SRSP				*e*			01	36	19.9	
SRSP				*e*Sn		**Sn**	**01**	**36**	**38.0**	**+3.1**
SRSP	comp=Z,394nm,3.9s			IVMs_BB		IVMs_BB	01	40	10.8	
HYB	**Hyderabad**	**14.87**	**254**	*i* P		**P**	**01**	**34**	**03.0**	**+0.2**
HYB				*e*			01	36	27.0	
HYB				*e*			01	36	43.5	
HYBB	**Hyderabad (bro**	**14.87**	**254**	*e*P		**P**	**01**	**34**	**03.4**	**+0.6**
HYBB	comp=Z,12nm,1.1s			IAmb		IAmb	01	34	06.3	
HYBB				*e*			01	36	27.4	
HYBB				*e*Sn		**Sn**	**01**	**36**	**44.9**

SKHT eSn **Sn** **01 37 06.1 +6.1**
SKHT IVMs_BB IVMs_BB 01 39 49.4
comp=Z,389nm,4.1s
NDI New Delhi 16.03 297 *ex* **Pn** **01 34 12.0 -1.1**
NDI ex Sn 01 36 55.0 -15
ENH Enshi 16.39 58 *e*Pn **Pn** **01 34 16.7 -1.0**
KLRI Killari 16.41 258 *e*Pn **Pn** **01 34 16.7 -1.4**
KLRI IAmb IAmb 01 34 21.5
comp=Z,22nm,1.0s
KLRI *e* 01 37 04.2
KLRI IVMs_BB IVMs_BB 01 38 27.9
comp=Z,435nm,3.7s
LZH Lanzhou 16.45 31 *e*P **P** **01 34 21.0 +0.6**
LZH pP **pP** **01 34 32.1 -0.7**
LZH sP **sP** **01 34 40.5 +0.4**
LZH PMZ
comp=Z,13nm,1.0s
URV Uravakonda 17.02 247 *e*Pn **Pn** **01 34 26.1 +0.4**
URV IAmb IAmb 01 34 31.5
comp=Z,9.1nm,0.4s
URV eSn **Sn** **01 37 36.4 +2.2**
URV IVMs_BB IVMs_BB 01 38 30.5
comp=Z,352nm,4.1s
GTA Gaotai 17.92 16 *e*P **Pn** **01 34 37.5 +0.9**
GTA pP **pP** **01 34 48.8 -0.2**
GTA sP **sP** **01 34 56.0 -0.3**
GTA PMZ
comp=Z,6.0nm,1.1s
XAN Xi'an 17.93 46 P **Pn** **01 34 39.9 +3.2**
XAN PMZ
comp=Z,10.0nm,0.7s
XAN PMZ
comp=Z,36nm,3.6s
IPM Ipoh 19.12 157 *e*P **P** **01 34 48.1 -1.7**
comp=Z,11nm,0.7s
PSI Prapat 20.05 164 P Pn 01 35 02.2 -0.1
comp=Z,2.8nm,0.5s,baz=341,slow=14,SNR=2.1
WHN Wuhan 20.39 62 P Pn 01 35 09.8 +3.8
SARP Sargodha 20.86 302 P **P** **01 35 06.7 -1.9**
CHCP Chirah Chowk 21.13 307 ⇓P **P** **01 35 11.6 +0.1**
THW Thamme Wali 21.92 303 P **P** **01 35 18.8 -1.2**
WMQ Urumqi 22.03 349 P **P** **01 35 21.6 +0.6**
WMQ sP **sP** **01 35 43.0 +2.0**
WMQ S **S** **01 39 16.0 -4.8**
WMQ PMZ
comp=Z,27nm,0.8s
WMQ LN
comp=Z,110nm,13.0s
WMQ LE
comp=Z,92nm,12.0s
WMQ LZ
comp=Z,67nm,12.0s
CEP Cherat 22.22 306 ⇓P **P** **01 35 22.6 -0.7**
KSH Kashi 22.78 323 P **P** **01 35 28.8 -0.4**
KSH pP **pP** **01 35 43.1 +1.2**
KSH PP **PnPn** **01 36 00.8 +5.4**
KSH PcP **PcP** **01 39 21.3 +2.3**
KSH S **S** **01 39 28.8 -5.2**
KSH sS Sn 01 39 53.8 +1.4
KSH PMZ
comp=Z,72nm,0.8s
KSH LN
comp=Z,230nm,6.0s
KSH LE
comp=Z,260nm,5.8s
KSH LZ
comp=Z,130nm,7.0s
HHC Hu-ho-hao-te 24.00 35 *e*P **P** **01 35 40.9 +0.1**
HHC PP **PnPn** **01 36 17.3 +5.3**
HHC S **S** **01 39 50.8 -3.0**
HHC sS **sS** **01 40 15.0 -2.7**
HHC SS **SnSn** **01 40 45.3 +6.3**
HHC PMZ
comp=Z,10.0nm,1.2s
HHC PMZ
comp=Z,130nm,5.3s
HHC LN
comp=Z,98nm,14.7s
HHC LE
comp=Z,100nm,13.7s
HHC LZ
comp=Z,71nm,13.3s
NJ2 Nanjing 24.52 61 *e*P **P** **01 35 44.6 -0.9**
NJ2 PMZ
comp=Z,30nm,0.7s
ULHL Ulahol 24.61 328 P **P** **01 35 48.2 +1.8**
SNR=21
TIA Tai'an 24.77 51 ⇓P P 01 35 53.8 +6.0
TIA pmax pmax
comp=Z,10.0nm,0.8s
KZA Kyzart 24.98 326 P **P** **01 35 50.6 +0.5**
SNR=10
TKM2 Tokmak 2 25.43 328 P **P** **01 35 55.1 +1.3**
SNR=12
TKM2 Tokmak 2 25.43 328 *e*P **P** **01 35 54.9 +1.0**
TKM2 pmax pmax
comp=Z,8.0nm,0.6s
TKM2 Tokmak 2 25.43 328 *e*P **P** **01 35 54.9 +1.0**
comp=Z,8.0nm,0.6s
UCH Uchtor 25.47 326 P **P** **01 35 55.6 +1.1**
SNR=17
KBK Karagaybulak 25.55 327 P **P** **01 35 56.8 +1.8**
SNR=12
AAK Ala-Archa 25.77 326 P **P** **01 35 58.9 +2.0**
SNR=11
AML Almayashu 25.83 325 P **P** **01 35 59.1 +1.3**
SNR=10
MK31 Makanchi Array 26.10 342 *i* P **P** **01 36 00.2 +0.5**
MK31 pmax pmax
comp=Z,20nm,0.7s
MK31 Makanchi Array 26.10 342 *e*P **P** **01 36 00.3 +0.5**
MKAR Makanchi Array 26.10 342 P **P** **01 36 00.4 +0.7**
comp=Z,25nm,0.7s,baz=153,slow=10,SNR=221
MKAR ScP **ScP** **01 43 01.0 +0.1**
comp=Z,0.2nm,0.6s,baz=108,slow=4.7,SNR=2.7
BJI Beijing 26.15 42 P **P** **01 35 59.4 -0.8**
BJI PMZ
comp=Z,10.0nm,0.7s
EKS2 Erkin-Say 26.16 326 P **P** **01 36 02.2 +1.8**
SNR=19
EKS2 Erkin-Say 26.16 326 *e*P **P** **01 36 01.8 +1.4**
EKS2 pmax pmax
comp=Z,16nm,0.8s
EKS2 Erkin-Say 26.16 326 *e*P **P** **01 36 01.8 +1.4**
comp=Z,16nm,0.8s
SONM Songino Array 27.53 19 P **P** **01 36 13.0 +0.4**
comp=Z,1.1nm,0.5s,baz=211,slow=8.4,SNR=4.6
SONM LR LR 01 49 21.6
comp=Z,85nm,21.2s,baz=107,slow=41
KKAR Karatay Array 28.23 323 *e*P **P** **01 36 18.1 -0.8**
KKAR pmax pmax
comp=Z,2.0nm,0.8s
KKAR Karatay Array 28.23 323 *e*P **P** **01 36 18.1 -0.8**
comp=Z,2.2nm,0.8s
TLY Talaya 30.40 13 LR LR 01 50 25.6
comp=Z,52nm,19.6s,baz=176,slow=39
KURBB Kurchatov Arra 30.64 341 P **P** **01 36 40.3 +0.3**
comp=Z,9.2nm,0.6s,baz=156,slow=8.3,SNR=81
KURBB ScP **ScP** **01 43 14.8 0.0**
comp=Z,0.3nm,0.5s,baz=157,slow=2.9,SNR=4.1
KURK Kurchatov 30.69 341 P **P** **01 36 39.8 -0.7**
KURK pmax pmax
comp=Z,6.0nm,0.7s
KURK Kurchatov 30.69 341 *e*P **P** **01 36 40.9 +0.4**
comp=Z,16nm,0.7s
KURK ScP **ScP** **01 43 14.8 -0.2**
ZALV Zalesovo Beam 32.31 350 P **P** **01 36 55.4 +0.7**
comp=Z,6.5nm,0.4s,baz=179,slow=7.6,SNR=28
NVS Novosibirsk 33.43 349 ⇓*i*P **P** **01 37 04.2 -0.2**
NVS pmax pmax
comp=N,9.0nm,1.0s
NVS pmax pmax
comp=E,4.0nm,1.0s
NVS pmax pmax
comp=Z,11nm,1.0s
KRAR Krasnoyarsk 33.70 359 ⇓*e*P **P** **01 37 06.5 -0.3**
CN2 Changchun 34.00 43 *e*P **P** **01 37 10.9 +1.3**
GEYT Alibeck 34.13 305 P **P** **01 37 12.1 +1.3**
comp=Z,1.3nm,0.4s,baz=113,slow=3.3,SNR=6.1
BVA0 Borovoye Array 35.43 336 *i* P **P** **01 37 21.6 -0.2**
BVA0 pmax pmax
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 35.43 336 P **P** **01 37 22.0 +0.3**
comp=Z,1.4nm,0.3s,baz=144,slow=10,SNR=16
BRVK Borovoye 35.49 336 *ci* P **P** **01 37 22.7 +0.4**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BRVK Borovoye 35.49 336 *e*P **P** **01 37 23.0 +0.7**
comp=Z,3.6nm,0.8s
AB31 Akbulak array 37.78 324 P **P** **01 37 42.7 +0.9**
AB31 pmax pmax
comp=Z,17nm,0.5s
ABKAR Akbulak array 37.78 324 *e*P **P** **01 37 42.7 +0.9**
AKTO Aktyubinsk 39.47 324 P **P** **01 37 56.5 +0.5**
comp=Z,9.3nm,0.6s,baz=122,slow=8.4,SNR=48
SVE Sverdlovsk 42.06 334 ⇓*i*P **P** **01 38 18.5 +1.3**
SVE pmax pmax
comp=Z,30nm,0.9s
ARU Arti 42.68 332 *di* P **P** **01 38 22.5 +0.2**
ARU 01 40 00.1
ARU S **S** **01 44 45.6 +4.2**
ARU SS **SS** **01 47 54.0 +0.6**
ARU pmax pmax
comp=Z,16nm,1.7s
ARU Arti 42.68 332 *e*P **P** **01 38 22.6 +0.3**
comp=Z,8.5nm,0.4s
RAYN Ar Rayn 44.07 281 *e*P **P** **01 38 34.0 0.0**
comp=Z,6.1nm,0.8s
SOKR Solikamsk 45.41 335 *ci* P **P** **01 38 45.1 +1.1**
SOKR pmax pmax
comp=Z,10.0nm,0.8s
SOKR MLR MLR
comp=Z,530nm,19.0s
ZEI Tsey 45.82 309 *e*P **P** **01 38 48.5 +0.6**
ZEI pmax pmax
comp=Z,33nm,0.4s
NEY Neytrino 46.75 309 ⇓*e*P **P** **01 38 56.5 +1.4**
NEY pmax pmax
comp=Z,1.0nm,0.7s
KIV Kislovodsk 46.90 310 *e*P **P** **01 38 56.8 +0.6**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV Kislovodsk 46.90 310 *e*P **P** **01 38 56.8 +0.6**
comp=Z,11nm,1.1s
MBWA Marble Bar 50.18 148 *e*P **P** **01 39 21.0 -0.5**
comp=Z,9.7nm,0.9s
ANN Anapa 50.75 310 *e*P **P** **01 39 24.5 -1.0**
ANN *e**PP **pP** **01 39 40.3 -0.3**
ANN *e* 01 41 21.9
ANN *e*S **S** **01 46 38.7 +1.8**
ANN pmax pmax
comp=Z,36nm,1.1s
PRGR Permogore 51.12 333 *e*P **P** **01 39 27.0 -1.0**
PRGR pmax pmax
comp=Z,15nm,0.4s
OBN Obninsk 53.22 323 ⇓*e*P **P** **01 39 43.3 -0.4**
OBN *i* 01 40 03.3
OBN pmax pmax
comp=Z,17nm,1.7s
BRTR Keskin Array B 53.24 304 P **P** **01 39 44.5 +0.2**
comp=Z,2.0nm,0.9s,baz=89,slow=5.9,SNR=11
BRTR Keskin Array B 53.24 304 *ce*P **P** **01 39 44.5 +0.2**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
CSS Prodhromos 53.61 298 *e*P **P** **01 39 46.4 -0.5**
comp=Z,1.4nm,0.8s
AKASG Malin Array Be 56.88 317 P **P** **01 40 09.6 -0.6**
comp=Z,1.5nm,0.4s,baz=78,slow=6.4,SNR=7.1
KIEV Kiev 56.89 317 *e*P **P** **01 40 09.6 -0.6**
KIEV pmax pmax
comp=Z,7.0nm,0.9s
KIEV Kiev 56.89 317 *e*P **P** **01 40 09.6 -0.6**
comp=Z,7.3nm,0.9s
CFR Carcaliu 57.36 310 ⇓P **P** **01 40 13.7 +0.1**
CFR Carcaliu 57.36 310 ⇓P **P** **01 40 13.7 +0.1**
MSAB Monastry St. A 57.58 309 ⇑*i*P **P** **01 40 15.9 +0.7**
WRA Warramunga Arr 57.89 133 P **P** **01 40 17.4 -0.3**
comp=Z,1.8nm,0.6s,baz=323,slow=7.3,SNR=7.1
WRAB Tennant Creek 57.89 133 ⇑*i*P **P** **01 40 15.1 -2.6**
WRAB pmax pmax
comp=Z,7.0nm,1.0s
WRAB Tennant Creek 57.89 133 *e*P **P** **01 40 16.6 -1.1**
comp=Z,38nm,1.7s
VRI Vrincioaia 58.35 311 ⇑P **P** **01 40 21.8 +1.1**
VRI Vrincioaia 58.35 311 ⇑*i*P **P** **01 40 21.8 +1.1**
PLOR Plostina 58.40 311 ⇓P **P** **01 40 22.2 +1.1**
PLOR Plostina 58.40 311 ⇓*i*P **P** **01 40 22.2 +1.1**
TESR Tescani 58.40 312 ⇓*i*P **P** **01 40 21.2 +0.2**
JMB Yambol 58.52 307 ⇓P **P** **01 40 22.8 +0.9**
JMB Yambol 58.52 307 ⇓*i*P **P** **01 40 22.8 +0.9**
NACGM Naroch 58.73 322 *e*LR LR 01 40 26.0
MLR Muntele Rosu 58.90 311 ⇑P **P** **01 40 26.1 +1.4**
MLR Muntele Rosu 58.90 311 ⇑*i*P **P** **01 40 26.0 +1.4**
BURAR Bucovina Array 59.38 313 ⇓P **P** **01 40 28.3 +0.4**
BURAR Bucovina Array 59.38 313 ⇓*i*P **P** **01 40 28.3 +0.4**
KDZ Kurdzhali 59.44 306 ⇓P **P** **01 40 29.1 +0.8**
KDZ Kurdzhali 59.44 306 ⇓*i*P **P** **01 40 29.1 +0.8**
FINES FINESS Array B 59.92 329 P **P** **01 40 31.0 -0.2**
comp=Z,6.8nm,0.8s,baz=104,slow=6.8,SNR=24
FINES FINESS Array B 59.92 329 P **P** **01 40 31.0 -0.2**
AS31 Alice Springs 60.24 137 *e*P **P** **01 40 33.5 -0.4**
ASAR Alice Springs 60.24 137 P **P** **01 40 34.0 +0.1**
comp=Z,3.2nm,0.5s,baz=319,slow=6.9,SNR=36
ASAR pP **pP** **01 40 47.8 -1.7**
comp=Z,1.8nm,0.5s,baz=318,slow=6.9,SNR=5.8
CJR Cluj-Napoca 60.50 312 ⇑P **P** **01 40 36.5 +1.0**
CJR Cluj-Napoca 60.50 312 ⇑*i*P **P** **01 40 36.5 +1.0**
COEN Coen 60.55 122 *e*P **P** **01 40 34.3 -1.8**
MMB Musomiste 60.70 306 ⇓P **P** **01 40 37.3 +0.3**
MMB Musomiste 60.70 306 ⇓*i*P **P** **01 40 37.3 +0.3**
VTS Vitosha 61.01 307 ⇑P **P** **01 40 39.7 +0.5**
VTS Vitosha 61.01 307 ⇑*i*P **P** **01 40 39.7 +0.5**
DRGR 61.11 312 ⇑P **P** **01 40 40.4 +0.7**
DRGR 61.11 312 ⇑*i*P **P** **01 40 40.3 +0.6**
KOLS Kolonicke sedl 61.33 315 *e*P **P** **01 40 41.6 +0.5**
KOLS pmax pmax
comp=Z,4.0nm,1.5s
KOLS Kolonicke sedl 61.33 315 *e*P **P** **01 40 41.6 +0.5**
ARCES ARCESS Array B 61.66 338 P **P** **01 40 43.1 +0.2**
comp=Z,3.8nm,0.5s,baz=89,slow=7.6,SNR=28
SIRR Siria 61.86 312 ⇓*i*P **P** **01 40 45.5 +0.8**
BZS Buzias 61.93 311 ⇑P **P** **01 40 45.5 +0.3**
BZS Buzias 61.93 311 ⇑*i*P **P** **01 40 45.5 +0.3**
STHS Stebnicka Huta 61.99 315 *e*P **P** **01 40 45.2 -0.3**
STHS pmax pmax
comp=Z,2.0nm,0.6s
STHS Stebnicka Huta 61.99 315 *e*P **P** **01 40 45.2 -0.3**
PSZ Piszkesteto 62.96 314 *e*P **P** **01 40 52.1 0.0**
PSZ pmax pmax
comp=Z,2.0nm,0.7s
PSZ Piszkesteto 62.96 314 *e*P **P** **01 40 52.1 0.0**
comp=Z,2.4nm,0.7s
BILL Bilibino 63.11 24 ⇓*e*P **P** **01 40 51.5 -1.1**
BILL pmax pmax
comp=Z,2.0nm,0.7s
DIVS Divibare 63.21 309 ⇑*i*P **P** **01 40 54.0 +0.2**
PKSM Moragy 63.95 312 ⇑P **P** **01 40 58.7 +0.1**
PKSM Moragy 63.95 312 ⇑*i*P **P** **01 40 58.7 +0.1**
MORC Moravsky Berou 64.37 316 *e*P **P** **01 41 01.5 +0.2**
MORC pmax pmax
comp=Z,18nm,1.1s
MORC Moravsky Berou 64.37 316 ⇑*i*P **P** **01 41 01.9 +0.6**
MORC Moravsky Berou 64.37 316 *e*P **P** **01 41 01.5 +0.2**
comp=Z,18nm,1.1s
DPC Dobruska-Polom 65.11 316 *e*P **P** **01 41 06.8 +0.7**
DPC Dobruska-Polom 65.11 316 *e*P **P** **01 41 06.8 +0.7**
TREC Trest 65.75 315 *e*P **P** **01 41 10.4 +0.2**
TREC *e*pP **pP** **01 41 26.6 +0.7**
TREC Trest 65.75 315 *e*P **P** **01 41 10.4 +0.2**
TREC *e* 01 41 26.6
PVCC Panska Ves 66.20 317 *e*P **P** **01 41 13.7 +0.6**
PVCC Panska Ves 66.20 317 *e*P **P** **01 41 13.7 +0.6**
PRU Pruhonice 66.28 316 *e*P **P** **01 41 13.8 +0.2**
PRU Pruhonice 66.28 316 *e*P **P** **01 41 13.8 +0.2**
TIP Timpagrande 66.29 304 *e*P **P** **01 41 13.3 -0.6**
comp=Z,1.9nm,0.7s
PRA Prague 66.34 316 *e*P **P** **01 41 14.9 +0.9**
PRA Prague 66.34 316 *e*P **P** **01 41 14.9 +0.9**
MOA Molln 66.73 314 ⇓*i*P **P** **01 41 16.6 0.0**
comp=Z,3.3nm,0.6s
GERES GERESS Array B 66.97 315 P **P** **01 41 18.4 +0.2**
comp=Z,3.7nm,0.6s,baz=71,slow=6.4,SNR=28
KHC Kasperske Hory 67.01 315 *e*P **P** **01 41 18.3 0.0**
KHC *e*pP **pP** **01 41 34.4 +0.4**
KHC Kasperske Hory 67.01 315 *e*P **P** **01 41 18.3 0.0**
KHC *e* 01 41 34.4
NB2 NORSAR Subarra 67.07 328 P **P** **01 41 17.3 -1.2**
comp=Z,2.9nm,0.5s,baz=86,slow=6.5
NOA NORSAR Array B 67.07 328 P **P** **01 41 17.8 -0.7**
comp=Z,3.3nm,0.5s,baz=86,slow=6.5,SNR=18
NOA pP **pP** **01 41 32.7 -1.4**
comp=Z,1.8nm,0.7s,baz=86,slow=6.4,SNR=4.6
CLL Collm 67.09 318 *e*P **P** **01 41 19.0 +0.3**
CLL pmax pmax
comp=Z,6.0nm,1.2s
CLL Collm 67.09 318 *e*P **P** **01 41 19.0 +0.3**
comp=Z,6.0nm,1.2s
NAO01 NORSAR Array S 67.25 328 *e*P **P** **01 41 18.8 -0.8**
comp=Z,5.3nm,0.6s
WTTA Wattenberg 68.59 314 ⇓*i*P **P** **01 41 27.9 -0.6**
comp=Z,3.4nm,0.5s
MOTA Moosalm 68.93 314 ⇑*i*P **P** **01 41 30.0 -0.6**
comp=Z,3.4nm,0.6s
RETA Reutte 69.13 314 ⇓*i*P **P** **01 41 31.2 -0.4**
comp=Z,4.4nm,0.6s
FETA Feichten 69.24 313 ⇑*i*P **P** **01 41 31.3 -1.2**
comp=Z,3.7nm,1.0s
DAVA Damuels 69.76 314 ⇑*i*P **P** **01 41 35.6 -0.1**
comp=Z,4.9nm,0.8s
STKA Stephens Creek 70.83 138 P **P** **01 41 41.8 -0.3**
comp=Z,1.7nm,0.8s,baz=334,slow=6.3,SNR=2.8
STKA pP **pP** **01 41 56.3 -1.6**
comp=Z,4.9nm,1.1s,baz=330,slow=11,SNR=3.3
WLF Walferdange 71.69 317 *e*P **P** **01 41 47.8 +0.6**
WLF pmax pmax
comp=Z,20nm,1.1s
WLF Walferdange 71.69 317 *e*P **P** **01 41 47.8 +0.6**
comp=Z,20nm,1.1s
KEST Kesra 72.80 302 P **P** **01 41 54.2 0.0**
comp=Z,1.5nm,0.9s,baz=20,slow=5.8,SNR=4.8
LSZ Lusaka 74.06 246 *e*P **P** **01 42 02.0 +0.2**
LSZ pmax pmax
comp=Z,5.0nm,0.7s
LSZ Lusaka 74.06 246 *e*P **P** **01 42 01.9 +0.2**
comp=Z,4.9nm,0.7s
TAM Tamanrasset 79.91 290 *e*P **P** **01 42 35.2 +0.5**
TAM pmax pmax
comp=Z,3.0nm,1.0s
TAM Tamanrasset 79.91 290 *e*P **P** **01 42 35.2 +0.5**
comp=Z,2.5nm,1.0s
CAST Castle Rocks 80.55 25 *e*P **P** **01 42 35.0 -2.3**
comp=Z,9.9nm,0.7s
BPAW Bear Paw Mtn. 80.60 24 *e*P **P** **01 42 37.8 +0.2**
comp=Z,4.7nm,0.8s
LBTB Lobatse 80.93 238 *e*P **P** **01 42 40.0 0.0**
LBTB pmax pmax
comp=Z,5.0nm,0.6s
LBTB Lobatse 80.93 238 *e*P **P** **01 42 40.0 0.0**
comp=Z,4.9nm,0.6s
ESDC Sonseca Array 81.57 309 P **P** **01 42 42.5 -0.6**
comp=Z,1.2nm,0.7s,baz=51,slow=4.8,SNR=7.0
ILAR Eielson Array 81.71 22 P **P** **01 42 41.5 -1.9**
comp=Z,1.1nm,0.9s,baz=312,slow=5.3,SNR=8.7
ILAR pP **pP** **01 42 58.3 -1.2**
comp=Z,1.5nm,0.7s,baz=292,slow=4.6,SNR=6.5
BOSA Boshof 82.97 235 P **P** **01 42 50.8 +0.1**
comp=Z,5.6nm,0.6s,baz=61,slow=2.7,SNR=16
BOSA pP **pP** **01 43 05.9 -1.0**
comp=Z,5.0nm,0.7s,baz=46,slow=7.0,SNR=3.3
INK Inuvik 83.40 16 *e*P **P** **01 42 51.5 -0.6**
INK pmax pmax
comp=Z,3.0nm,0.6s
INK Inuvik 83.40 16 *e*P **P** **01 42 51.5 -0.6**
comp=Z,2.9nm,0.6s
TOA0 Torodi Ar. Sit 86.75 283 *e*P **P** **01 43 10.2 +0.3**
TORD Torodi Ar. Bea 86.75 283 P **P** **01 43 10.3 +0.4**
comp=Z,2.0nm,0.8s,baz=64,slow=4.1,SNR=15
TXAR Lajitas Array 126.10 19 PKP **PKPdf** **01 49 27.9 0.0**
comp=Z,0.2nm,0.8s,baz=93,slow=0.4,SNR=3.7
SDV Santo Domingo 145.35 332 *e*PKPbc **PKPab** **01 50 04.2 +0.3**
CPUP Villa Florida 153.14 255 PKPbc **PKPbc** **01 50 21.3 -1.8**
CPUP comp=Z,1.1nm,0.6s,baz=78,slow=2.0,SNR=4.5 PKPab **PKPab** **01 50 33.6 -1.4**
comp=Z,1.4nm,0.7s,baz=153,slow=2.3,SNR=2.4

SJA ***15*** *01:33:25.9±0.5, 34.°05S×72.°93W, h20km, ML4.3*
IDC ***15*** *01:33:29.0±0.7, 34.°14S×72.°12W, h0km, mb4.1/11, mb1 4.2/13, mb1mx4.1/27, mbtmp4.0/13, ML3.5/3, MS3.3/2, Ms1 3.3/2, ms1mx3.0/27, Error ellipse: s-maj=26.1km s-min=14.8km az=107.0*
GUC ***15*** *01:33:32.0±0.4, 34.°18S×72.°22W, h13km±1km, ML4.1*
NEIC ***15*** *01:33:34.3±0.4, 34.°12S×71.°98W, h35km, mb4.2/4, Error ellipse: s-maj=11.3km s-min=7.5km az=96.0*
ISC 15 01:33:29.7±2.0, 34.°17S±0.°03×72.°30W±0.°06, h8km±12km, n51, σ1°37/62, mb4.1/11, 1C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.77**	**74**	⇓*i*P		**Pg**	**01 33 45.3**	**+0.8**
NICH	**Los Niches**	**1.22**	**134**	⇓*e*P		**Pb**	**01 33 52.5**	**-0.5**
NICH				*i* S		**Sb**	**01 34 07.7**	**-1.2**
TACH	**Talagante**	**1.25**	**66**	⇓*i*P		**Pn**	**01 33 52.5**	**-1.0**
TACH				*i* S		**Sb**	**01 34 08.6**	**-1.2**
TALC	**Talca**	**1.34**	**156**	⇓*i*P		**Pn**	**01 33 54.7**	**-0.1**
TALC				*i* S		**Sb**	**01 34 12.0**	**-0.6**
CHCH	**Chadas Angostu**	**1.39**	**81**	⇑*i*P		**Pn**	**01 33 55.0**	**-0.6**
SAN	**Santiago**	**1.54**	**63**	⇓*i*P		**Pn**	**01 33 57.7**	**+0.1**
SAN				*e*S		**Sn**	**01 34 17.3**	**-0.6**
PCH	**Pirque**	**1.58**	**70**	*e*P		**Pn**	**01 33 58.4**	**+0.1**
LACH	**Col Las Americ**	**1.64**	**65**	*i*P		**Pn**	**01 33 59.3**	**+0.3**
LACH				*i* S		**Sn**	**01 34 20.0**	**-0.3**
LACH					AML	AML	01 34 32.2	
	comp=N,2μm,0.6s							
CLCH	**Cerro Calan**	**1.66**	**63**	⇓*i*P		**Pn**	**01 33 59.5**	**+0.3**
CLCH				*i* S		**Sn**	**01 34 20.9**	**+0.1**
CLCH					AML	AML	01 34 27.6	
	comp=E,4μm,0.7s							
PEL	**Peldehue**	**1.69**	**53**	*e*P		**Pn**	**01 34 00.5**	**+0.8**
PEL				*i* S		**Sn**	**01 34 21.6**	**+0.1**
PEL					AML	AML	01 34 31.6	
	comp=N,5μm,0.7s							
LNCH	**Linares**	**1.77**	**161**	*e*P		**Pn**	**01 34 01.6**	**+0.9**
LNCH				*i* S		**Sn**	**01 34 24.0**	**+0.5**
AAGR	**Agrelo**	**3.09**	**71**	*e*P		Pn	01 34 22.6	+3.5
ARCO	**CERRO ARCO**	**3.11**	**66**	*e*P		**Pb**	**01 34 24.9**	**-0.5**
ARCO					AML	AML	01 34 30.2	
	comp=Z,486nm,0.6s							
ARCO				*i* S		**Sb**	**01 35 05.5**	**+1.9**
AUSP	**Uspallata**	**3.12**	**52**	*e*P		**Pn**	**01 34 22.5**	**+2.9**
AUSP				*e*S		**Sb**	**01 35 06.6**	**+2.6**
ASAL	**Salagasta**	**3.30**	**63**	*e*P		**Pb**	**01 34 27.8**	**-0.8**
ASAL				*e*S		**Sb**	**01 35 09.0**	**0.0**
RTLS	**Leoncito**	**3.46**	**48**	*i*P		Pn	01 34 27.7	+3.5
RTLS				*i* S		**Sb**	**01 35 12.8**	**-0.9**
CANA	**Caviahue**	**3.85**	**165**	*e*P		**Pn**	**01 34 31.5**	**+2.0**
RTCV	**Cerro Valdivia**	**3.91**	**55**	*i*P		**Pn**	**01 34 33.0**	**+2.9**
CFAA	**Coronel Fontan**	**4.27**	**54**	Pn		**Pn**	**01 34 35.3**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=230,slow=12,SNR=19							
CFAA					Sn	**Sn**	**01 35 24.7**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=185,slow=14,SNR=3.9							
CFAA					LR	LR	01 36 17.5	
	comp=Z,55nm,18.6s,baz=226,slow=41							
CFAA	**Coronel Fontan**	**4.27**	**54**	*e*P		**Pn**	**01 34 36.9**	**+1.7**
RTLL	**Cerro Villicun**	**4.29**	**50**	*i*P		**Pn**	**01 34 38.1**	**+2.6**
RTLL				*i* S		**Sn**	**01 35 29.9**	**+4.2**
AMOG	**MOGNA**	**4.55**	**46**	*e*P		**Pn**	**01 34 40.7**	**+1.6**
ACAN	**Cantantal**	**4.68**	**68**	*i*P		**Pn**	**01 34 43.5**	**+2.7**
LCO	**Las Campanas**	**5.32**	**15**	*e*Pn		**Pn**	**01 34 48.2**	**-1.5**
	comp=Z,28nm,0.8s							
LCO				*e*S		**Sn**	**01 35 50.2**	**-1.3**
AVFE	**Valle Fertil**	**5.39**	**51**	*e*P		**Pn**	**01 34 52.6**	**+2.1**
AVFE					AML	AML	01 36 11.0	
	comp=Z,123nm,0.6s							
ACHE	**Chepes**	**5.62**	**59**	*e*P		**Pn**	**01 34 55.9**	**+2.1**
VCA	**Vinchina**	**6.45**	**34**	*e*P		**Pn**	**01 35 07.0**	**+1.9**
TCA	**Tanti**	**7.08**	**69**	*e*P		**Pn**	**01 35 13.9**	**+0.1**
CYA	**Choya**	**7.97**	**46**	*e*P		Pn	01 35 23.8	-2.2
TRQA	**Tornquist**	**9.21**	**118**	Pn		Pn	01 35 40.3	-2.6
LVC	**Limon Verde**	**11.89**	**15**	LR		LR	01 41 33.3	
	comp=Z,791nm,18.3s,baz=160,slow=41							
CPUP	**Villa Florida**	**15.10**	**63**	Pn		**Pn**	**01 37 01.1**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=209,slow=10,SNR=2.1							
CPUP					Lg	Lg	01 41 23.8	
	comp=Z,0.1nm,0.3s,baz=345,slow=19,SNR=1.9							
LPAZ	**La Paz**	**18.20**	**13**	P		**Pn**	**01 37 43.5**	**0.0**
	comp=Z,0.2nm,0.3s,baz=180,slow=8.1,SNR=14							
LPAZ	**La Paz**	**18.20**	**13**	*e*Pn		**Pn**	**01 37 44.1**	**+0.6**
	comp=Z,4.9nm,0.8s							
SIV	**San Ignacio**	**20.73**	**32**	P		**P**	**01 38 10.0**	**-0.8**
	comp=Z,4.4nm,0.9s,baz=218,slow=8.2,SNR=9.9							
BDFB	**Brasilia**	**28.61**	**56**	P		**P**	**01 39 25.4**	**-1.5**
	comp=Z,2.6nm,0.7s,baz=207,slow=7.5,SNR=4.4							

PTGA	**Pitinga**	**35.21**	**22**	P	**P**	**01 40 24.1**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=222,slow=10,SNR=4.9						
SNAA	**Sanae**	**51.51**	**158**	P	**P**	**01 42 35.8**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=280,slow=7.5,SNR=19						
QSPA	**South Pole Qui**	**56.07**	**180**	P	**P**	**01 43 09.6**	**+0.5**
	comp=Z,5.2nm,0.8s,baz=94,slow=5.1,SNR=9.4						
QSPA	**South Pole Qui**	**56.07**	**180**	*eP*	**P**	**01 43 09.8**	**+0.6**
	comp=Z,5.1nm,0.8s						
VNDA	**Vanda**	**63.89**	**191**	P	**P**	**01 44 03.6**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=96,slow=4.4,SNR=4.1						
TXAR	**Lajitas Array**	**69.77**	**331**	P	**P**	**01 44 41.5**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=153,slow=8.4,SNR=3.7						
WVT	**Waverly**	**71.42**	**347**	*eP*	**P**	**01 44 50.4**	**0.0**
	comp=Z,8.0nm,0.8s						
MAW	**Mawson**	**73.08**	**164**	P	**P**	**01 45 00.5**	**+0.5**
	comp=Z,3.9nm,0.9s,baz=192,slow=7.4,SNR=7.1						
MAW	**Mawson**	**73.08**	**164**	*eP*	**P**	**01 45 00.2**	**+0.2**
	comp=Z,0.8nm,0.8s						
BOSA	**Boshof**	**80.19**	**118**	P	**P**	**01 45 41.0**	**-0.1**
	comp=Z,3.2nm,1.0s,baz=277,slow=8.1,SNR=3.1						
PDAR	**Pinedale Array**	**83.81**	**333**	P	**P**	**01 46 00.7**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=130,slow=3.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**84.47**	**70**	P	**P**	**01 46 02.8**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=268,slow=4.3,SNR=9.6						
BRTR	**Keskin Array B**	**122.11**	**61**	PKP	**PKPdf**	**01 52 25.2**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=207,slow=1.0,SNR=2.8						
ZALV	**Zalesovo Beam**	**154.48**	**32**	PKPbc	**PKPbc**	**01 53 30.6**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=296,slow=3.9,SNR=9.8						
ZALV				PKPab	**PKPab**	**01 53 44.5**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=291,slow=3.7,SNR=6.3						
MKAR	**Makanchi Array**	**157.04**	**49**	PKPab	**PKPab**	**01 53 55.8**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=305,slow=5.1,SNR=4.1						

IDC ***15*** *02:24:29.2±1.1,25°.42S×71°.06W,h0km,mb4.1/4, mb1 4.0/9,mb1mx3.8/27,mbtmp3.9/9,ML3.6/4,MS3.4/6, Ms1 3.4/6,ms1mx3.2/24,Error ellipse: s-maj=33.9km s-min=15.8km az=111.0*

ISCJB ***15*** *02:24:32.9±1.3,25°.47S±0°.05×70°.9W±0°.2,h35km,mb3.9/4, MS3.8/2,Error ellipse: s-maj=23.1km s-min=7.1km az=4.1*

ISC 15 02:24:34.0±1.0,**25°.42S**±0°.06×**71°.0W**±0°.1,**h35km**,**n15,** σ1ᵍ**36**/16,**mb4.0**/4,**Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**3.40**	**35**	Pn	**Pn**	**02 25 26.0**	**+1.2**
	135nm,0.3s,baz=185,slow=6.2,SNR=74						
LVC				Sn	**Sn**	**02 26 05.0**	**+1.0**
	1μm,0.3s,baz=196,slow=18,SNR=12						
LVC				Lg	Lg	02 26 18.6	
	2μm,0.3s,baz=18,slow=19,SNR=3.8						
LVC				LR	LR	02 26 40.2	
	comp=Z,996nm,18.9s,baz=24,slow=38						
CFAA	**Coronel Fontan**	**6.63**	**159**	Pn	**Pn**	**02 26 09.5**	**+0.4**
	0.2nm,0.3s,baz=320,slow=13,SNR=43						
CFAA				Sn	**Sn**	**02 27 23.3**	**-0.1**
	0.4nm,0.3s,baz=334,slow=7.7,SNR=3.1						
CFAA				LR	LR	02 29 05.7	
	comp=Z,55nm,20.9s,baz=330,slow=42						
LPAZ	**La Paz**	**9.48**	**17**	Pn	**Pn**	**02 26 48.4**	**-0.3**
	1.0nm,0.3s,baz=196,slow=5.7,SNR=39						
LPAZ				LR	LR	02 31 06.1	
	comp=Z,134nm,18.5s,baz=170,slow=42						
CPUP	**Villa Florida**	**12.36**	**97**	Pn	**Pn**	**02 27 28.1**	**+0.6**
	0.0nm,0.3s,baz=355,slow=12,SNR=2.0						
CPUP				LR	LR	02 33 16.8	
	comp=Z,104nm,19.1s,baz=86,slow=43						
SIV	**San Ignacio**	**13.21**	**47**	Pn	**Pn**	**02 27 36.8**	**-2.4**
	0.5nm,0.3s,baz=230,slow=12,SNR=5.4						
BDFB	**Brasilia**	**23.61**	**70**	P	**P**	**02 29 41.2**	**-0.9**
	2.2nm,0.5s,baz=212,slow=9.5,SNR=3.9						
PTGA	**Pitinga**	**26.77**	**25**	P	**P**	**02 30 11.0**	**+0.3**
	0.7nm,0.3s,baz=194,slow=7.4,SNR=5.5						
ROSC	**El Rosal**	**30.27**	**353**	LR	LR	02 43 09.0	
	comp=Z,51nm,20.4s,baz=276,slow=37						
TORD	**Torodi Ar. Bea**	**80.49**	**71**	P	**P**	**02 36 43.7**	**+0.8**
	1.3nm,0.6s,baz=258,slow=4.6,SNR=11						
MAW	**Mawson**	**81.14**	**164**	P	**P**	**02 36 47.1**	**+1.7**
	1.4nm,0.8s,baz=262,slow=15,SNR=3.4						
NEW	**Newport**	**84.18**	**331**	LR	LR	03 14 15.4	
	comp=Z,145nm,19.7s,slow=36						
WRA	**Warramunga Arr**	**128.61**	**211**	PKP	**PKPdf**	**02 43 37.8**	**-0.4**
	0.5nm,0.8s,baz=133,slow=1.6,SNR=5.0						
ZALV	**Zalesovo Beam**	**146.31**	**26**	PKPbc	**PKPab**	**02 44 11.2**	**-0.3**
	1.1nm,0.6s,baz=350,slow=4.5,SNR=4.1						
MKAR	**Makanchi Array**	**149.92**	**38**	PKPbc	**PKPbc**	**02 44 20.9**	**+0.4**
	0.7nm,0.7s,baz=339,slow=3.1,SNR=6.5						
HHC	**Hu-ho-hao-te**	**164.46**	**353**	*e*PKP	**PKPdf**	**02 44 33.8**	**-0.4**
HHC				PP	PP	02 49 19.1	+5.1
HHC				SKS	**SKSdf**	**02 51 32.8**	**-3.3**

GUC 15 02:25:49.8±0.8,**33°.65S**×**71°.69W**,**h44km**±2km,**ML3.9, 11C-2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U73B	**San Pedro**	**0.35**	**141**	⇑*i*P	Pn	02 25 59.3	+0.4
U73B				⇑*i*P	Pn	02 25 59.3	+0.4
U73B				*i* S	Sn	02 26 05.9	+0.6
U73B				AML	AML	02 26 06.2	
	comp=N,22μm,0.2s						
LNV	**Longovilo**	**0.38**	**144**	⇑*i*P	Pn	02 25 59.6	+0.3
IHA	**Instituto Hidr**	**0.62**	**3**	⇑*i*P	Pn	02 26 02.1	-0.2
IHA				*i* S	Sn	02 26 11.9	+0.7
TACH	**Talagante**	**0.62**	**91**	⇑*i*P	Pn	02 26 02.6	+0.2
U69B	**Peumo**	**0.84**	**150**	⇑*i*P	Pn	02 26 05.9	+0.7
SAN	**Santiago**	**0.88**	**78**	⇑*i*P	Pn	02 26 06.5	+0.7
SAN				*i* S	Sn	02 26 18.7	+1.2
PEL	**Peldehue**	**0.97**	**59**	⇑*i*P	Pn	02 26 08.1	+0.9
PEL				*i* S	Sn	02 26 21.7	+1.8
PEL				AML	AML	02 26 22.6	
	comp=E,7μm,0.3s						
PCH	**Pirque**	**0.98**	**89**	⇓*i*P	Pn	02 26 07.8	+0.6
FSR	**Penalolen**	**0.98**	**80**	⇑*i*P	Pn	02 26 09.2	+1.9
FSR				*i* S	Sn	02 26 22.3	+2.2
CLCH	**Cerro Calan**	**0.99**	**76**	⇓*i*P	Pn	02 26 08.4	+1.0
CLCH				*i* S	Sn	02 26 22.0	+1.6
CLCH				AML	AML	02 26 24.0	
	comp=E,3μm,0.6s						
U65B	**HualaæØ**	**1.32**	**184**	⇑*i*P	Pn	02 26 12.8	+1.0
U65B				*i* S	Sn	02 26 29.3	+1.2
NICH	**Los Niches**	**1.40**	**165**	⇑*i*P	Pn	02 26 16.6	+3.7
NICH				*i* S	Sn	02 26 34.5	+4.2

ISCJB ***15*** *02:40:45.6±0.8,13°.1N±0°.1×143°.7E±0°.1,h150km,mb3.4/7, Error ellipse: s-maj=22.0km s-min=13.3km az=148.1*

IDC ***15*** *02:40:47.9±0.7,13°.12N×144°.18E,h168km±9km,mb3.2/7, mb1 3.5/7,mb1mx3.2/41,mbtmp3.7/7,Error ellipse: s-maj=33.6km s-min=16.3km az=94.0*

ISC 15 02:40:47.2±0.9,**13°.0N**±0°.2×**143°.9E**±0°.2,**h150km**,**n8,** σ1ᵍ**02**/8,**mb3.4**/7,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.12**	**60**	P	**Pn**	**02 41 13.6**	**+0.5**
	39nm,0.3s,baz=263,slow=17,SNR=9.0						
GUMO				S	**Sn**	**02 41 33.1**	**+0.3**
	59nm,0.3s,baz=270,slow=20,SNR=5.8						
WRA	**Warramunga Arr**	**34.08**	**196**	P	**P**	**02 47 17.7**	**+0.1**
	1.8nm,0.6s,baz=17,slow=9.4,SNR=13						
ASAR	**Alice Springs**	**37.75**	**195**	P	**P**	**02 47 48.7**	**-0.1**
	0.5nm,0.6s,baz=18,slow=13,SNR=9.5						
MKAR	**Makanchi Array**	**61.21**	**316**	P	**P**	**02 50 45.9**	**-0.4**
	0.2nm,0.4s,baz=100,slow=7.9,SNR=3.3						
KURBB	**Kurchatov Arra**	**64.42**	**320**	P	**P**	**02 51 06.2**	**-1.1**
	0.1nm,0.3s,baz=104,slow=6.0,SNR=3.2						
ILAR	**Eielson Array**	**69.48**	**25**	P	P	02 51 35.0	-4.1
	0.1nm,0.4s,baz=277,slow=8.5,SNR=4.1						
GEYT	**Alibeck**	**74.80**	**306**	P	**P**	**02 52 35.2**	**+1.5**
	1.9nm,0.6s,baz=90,slow=4.4,SNR=4.1						
NVAR	**Mina Array Bea**	**88.03**	**51**	P	**P**	**02 53 20.0**	**-1.1**
	0.2nm,0.4s,baz=264,slow=5.3,SNR=4.2						

ISCJB ***15*** *03:23:01.6±1.0,14°.4N±0°.1×93°.17W±0°.08,h51km,mb3.9/6, MS3.4/4,Error ellipse: s-maj=14.9km s-min=11.7km az=5.6*

IDC ***15*** *03:23:05.2±3.4,14°.68N×92°.99W,h60km±25km,mb3.6/6, mb1 3.8/10,mb1mx3.5/41,mbtmp3.7/10,ML3.2/4,MS3.2/5, Ms1 3.3/5,ms1mx2.9/28,Error ellipse: s-maj=57.3km s-min=25.0km az=37.0*

ISC 15 03:23:03.7±1.2,**14°.5N**±0°.1×**93°.17W**±0°.09,**h51km**,**n15,** σ1ᵍ**62**/12,**mb3.9**/6,**MS3.5**/4,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**3.09**	**328**	P	**Pn**	**03 23 49.5**	**-0.5**
	3.2nm,0.3s,baz=158,slow=12,SNR=21						
CMIG				LR	LR	03 24 35.4	
	comp=Z,94nm,20.8s,baz=168,slow=30						
CMIG				S	Sn	03 24 36.3	+11
	9.4nm,0.3s,baz=237,slow=22,SNR=7.3						
TEIG	**Tepich**	**7.39**	**39**	P	**Pn**	**03 24 46.8**	**-2.2**
	0.1nm,0.3s,baz=0.0,slow=20,SNR=6.0						
TEIG				S	**Sn**	**03 26 14.2**	**+2.7**
	baz=0.0,slow=20,SNR=2.6						
JTS	**JuntasAbangare**	**9.03**	**116**	P	**Pn**	**03 25 12.6**	**+1.0**
	0.4nm,0.3s,baz=315,slow=19,SNR=3.3						
TXAR	**Lajitas Array**	**17.70**	**328**	P	**P**	**03 27 08.3**	**+1.4**
	0.0nm,0.3s,baz=150,slow=9.5,SNR=13						
TKL	**Tuckaleechee C**	**22.73**	**20**	LR	LR	03 38 40.5	
	comp=Z,70nm,19.3s,baz=180,slow=42						
ANMO	**Albuquerque**	**23.65**	**332**	P	**P**	**03 28 11.8**	**+1.1**
	0.5nm,0.5s,baz=133,slow=12,SNR=3.2						
PDAR	**Pinedale Array**	**31.54**	**337**	P	**P**	**03 29 19.5**	**-1.9**
	0.2nm,0.6s,baz=183,slow=14,SNR=2.7						
NVAR	**Mina Array Bea**	**32.60**	**322**	P	**P**	**03 29 31.7**	**+1.0**
	1.4nm,0.8s,baz=148,slow=9.0,SNR=8.1						
SCHQ	**Schefferville**	**45.19**	**21**	LR	LR	03 52 10.7	
	comp=Z,76nm,18.9s,baz=24,slow=39						
YKA	**Yellowknife Ar**	**50.32**	**347**	P	**P**	**03 31 55.0**	**0.0**
	4.7nm,0.7s,baz=149,slow=7.5,SNR=20						
INK	**Inuvik**	**59.67**	**344**	P	**P**	**03 33 01.5**	**-0.9**
	2.9nm,0.7s,baz=124,slow=7.3,SNR=2.3						
ILAR	**Eielson Array**	**61.97**	**337**	P	**P**	**03 33 17.6**	**-0.5**
	0.9nm,1.0s,baz=133,slow=4.9,SNR=10						
NOA	**NORSAR Array B**	**84.27**	**28**	LR	LR	04 11 15.8	
	comp=Z,18nm,21.1s,baz=265,slow=34						
ARCES	**ARCESS Array B**	**86.05**	**18**	LR	LR	04 15 33.9	
	comp=Z,19nm,18.7s,baz=296,slow=37						
CMAR	**Chiang Mai Arr**	**145.17**	**340**	PKPbc	**PKPbc**	**03 42 34.9**	**-1.2**
	1.8nm,0.8s,baz=343,slow=3.9,SNR=8.0						

ISCJB ***15*** *04:06:06.5±0.9,45°.6N±0°.2×27°.7W±0°.2,h10km,mb3.5/7, MS3.2/18,Error ellipse: s-maj=29.9km s-min=18.2km az=14.4*

IDC ***15*** *04:06:06.9±1.1,45°.62N×27°.67W,h0km,mb3.5/7, mb1 3.7/7,mb1mx3.5/43,mbtmp3.5/7,MS3.2/19, Ms1 3.2/19,ms1mx3.1/37,Error ellipse: s-maj=35.3km s-min=21.3km az=13.0*

ISC 15 04:06:08.4±1.1,**45°.6N**±0°.2×**27°.7W**±0°.1,**h10km**,**n22,** σ1ᵍ**33**/7,**mb3.5**/7,**MS3.2**/18,**Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**18.38**	**100**	LR	LR	04 16 04.3	
	comp=Z,76nm,21.1s,baz=305,slow=32						
MDT	**Midelt**	**21.87**	**118**	LR	LR	04 17 53.6	
	comp=Z,56nm,19.3s,baz=334,slow=32						
SFJD	**Kangerlussuaq**	**24.64**	**338**	LR	LR	04 19 02.1	
	comp=Z,74nm,19.0s,baz=156,slow=32						
DAVOX	**Davos/Dischmat**	**25.85**	**74**	LR	LR	04 21 08.7	
	comp=Z,64nm,19.7s,baz=276,slow=35						
SCHQ	**Schefferville**	**26.39**	**305**	LR	LR	04 20 42.7	
	comp=Z,62nm,18.4s,baz=32,slow=33						
NOA	**NORSAR Array B**	**27.35**	**42**	LR	LR	04 22 08.6	
	comp=Z,15nm,18.4s,baz=200,slow=35						
GERES	**GERESS Array B**	**28.02**	**68**	LR	LR	04 22 38.5	
	comp=Z,48nm,19.2s,baz=272,slow=35						
HFS	**Hagfors**	**28.31**	**44**	LR	LR	04 21 41.2	
	comp=Z,31nm,18.4s,baz=250,slow=33						
FRB	**Frobisher Bay**	**29.08**	**323**	LR	LR	04 21 37.7	
	comp=Z,59nm,18.2s,baz=166,slow=32						
KEST	**Kesra**	**29.52**	**96**	LR	LR	04 22 41.8	
	comp=Z,27nm,20.0s,baz=254,slow=34						
VRAC	**Vranov**	**29.82**	**67**	LR	LR	04 23 55.4	
	comp=Z,70nm,18.0s,baz=276,slow=36						
FINES	**FINESS Array B**	**34.49**	**43**	P	**P**	**04 12 54.4**	**-1.8**
	0.8nm,0.8s,baz=262,slow=8.3,SNR=2.3						
FINES				LR	LR	04 25 33.2	
	comp=Z,31nm,19.0s,baz=258,slow=34						
ARCES	**ARCESS Array B**	**35.43**	**29**	LR	LR	04 27 15.3	
	comp=Z,24nm,18.1s,baz=318,slow=36						
AKASG	**Malin Array Be**	**37.48**	**61**	LR	LR	04 28 14.1	
	comp=Z,36nm,19.7s,baz=255,slow=35						
TORD	**Torodi Ar. Bea**	**40.81**	**133**	P	**P**	**04 13 49.4**	**-0.7**
	0.8nm,1.1s,baz=338,slow=8.0,SNR=3.2						
TORD				LR	LR	04 29 14.9	
	comp=Z,76nm,20.5s,baz=305,slow=34						
DBIC	**Dimbokro**	**43.54**	**146**	LR	LR	04 30 15.0	
	comp=Z,45nm,20.3s,baz=346,slow=33						
BRTR	**Keskin Array B**	**44.49**	**75**	P	**P**	**04 14 21.6**	**+1.6**
	0.5nm,0.7s,baz=310,slow=9.0,SNR=3.4						
BRTR				LR	LR	04 33 12.0	
	comp=Z,22nm,18.8s,baz=258,slow=36						
PDAR	**Pinedale Array**	**56.31**	**299**	P	**P**	**04 15 49.3**	**-0.1**
	0.2nm,0.7s,baz=62,slow=4.5,SNR=2.6						
ILAR	**Eielson Array**	**60.22**	**334**	P	**P**	**04 16 16.3**	**+0.2**
	0.2nm,0.6s,baz=45,slow=5.3,SNR=4.6						
TXAR	**Lajitas Array**	**60.31**	**283**	P	**P**	**04 16 17.6**	**+0.1**
	0.5nm,0.7s,baz=71,slow=8.1,SNR=6.1						
TXAR				LR	LR	04 41 36.0	
	comp=Z,80nm,19.3s,baz=0.0,slow=35						
ZALV	**Zalesovo Beam**	**65.42**	**97**	LR	LR	04 48 00.6	
	comp=Z,16nm,18.3s,baz=314,slow=38						
MKAR	**Makanchi Array**	**69.33**	**44**	P	**P**	**04 17 16.6**	**+0.8**
	0.6nm,0.9s,baz=340,slow=6.4,SNR=3.9						

NEIC ***15*** *04:19:23.0,29°.87S×71°.53W,h50km,mb4.5/25,After GUC.*

NEIC Felt [IV] at Coquimbo, La Higuera, La Serena and Vicuna; [III] at Monte Patria and Ovalle; [II] at Andacollo and Pisco Elqui.

GUC ***15*** *04:19:23.8±0.7,29°.87S×71°.53W,h50km±7km,ML5.4*

SJA ***15*** *04:19:23.4±0.5,29°.91S×71°.20W,h11km±14km,ML4.6*

ISCJB ***15*** *04:19:24.5±0.4,29°.88S±0°.03×71°.38W±0°.06,h59km±4km, mb4.4/34,MS3.4/5,Error ellipse: s-maj=9.2km s-min=5.1km az=165.5*

BJI ***15*** *04:19:26.9,30°.00S×71°.10W,h50km,mB5.0/2,Ms4.7/2, Ms7 4.2/2*

IDC ***15*** *04:19:28.4±0.8,29°.93S×71°.20W,h88km±6km,mb3.8/8, mb1 4.0/11,mb1mx3.8/30,mbtmp4.1/11,MS3.3/8, Ms1 3.3/8,ms1mx3.1/22,Error ellipse: s-maj=20.3km s-min=10.3km az=46.0*

ISC 15 04:19:24.9±0.7,**29°.86S**±0°.03×**71°.48W**±0°.07,**h52km**±5km, **n240,**σ1ᵍ**54**/252,**mb4.4**/34,**MS3.5**/5,**2C-2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSCH	**La Serena**	**0.21**	**102**	⇑*i*P	**Pn**	**04 19 32.9**	**-0.6**
LSCH				*i* S	**Sn**	**04 19 39.0**	**-0.7**
LCO	**Las Campanas**	**1.09**	**39**	*e*Pn	**Pn**	**04 19 43.1**	**-1.0**
LCO				*e*Sn	**Sn**	**04 19 54.7**	**-3.6**
LCO	**Las Campanas**	**1.09**	**39**	*i* P	**Pn**	**04 19 42.9**	**-1.2**
LCO				*i* S	**Sn**	**04 19 57.0**	**-1.2**
VACH	**Vallenar**	**1.43**	**26**	⇓*i*P	**Pn**	**04 19 48.7**	**+0.2**
VACH				*i* S	**Sn**	**04 20 06.8**	**+0.6**
RTLS	**Leoncito**	**2.69**	**136**	*i* P	**Pn**	**04 20 07.3**	**+1.3**
CDCH	**Caldera**	**2.85**	**12**	*e*P	**Pn**	**04 20 07.3**	**-0.5**
CDCH				*e*S	**Sn**	**04 20 39.9**	**-0.9**
AUSP	**Uspallata**	**2.96**	**143**	*i* P	**Pn**	**04 20 10.8**	**+1.2**
RTLL	**Cerro Villicun**	**2.97**	**120**	*i* P	**Pn**	**04 20 10.0**	**+0.4**
SJA	**San Juan**	**3.01**	**124**	*i* P	**Pn**	**04 20 10.8**	**+0.7**
VCA	**Vinchina**	**3.07**	**69**	*i* P	**Pn**	**04 20 11.9**	**+0.8**
RTCV	**Cerro Valdivia**	**3.22**	**129**	*i* P	**Pn**	**04 20 13.4**	**+0.4**
CFAA	**Coronel Fontan**	**3.29**	**123**	P	**Pn**	**04 20 14.0**	**+0.1**
	26nm,0.3s,baz=307,slow=11,SNR=158						
CFAA				S	**Sn**	**04 20 51.2**	**-0.6**
	11nm,0.3s,baz=56,slow=23,SNR=6.5						
CFAA				LR	LR	04 21 34.2	
	comp=Z,70nm,18.2s,baz=295,slow=41						
CFAA	**Coronel Fontan**	**3.29**	**123**	*i* P	**Pn**	**04 20 14.5**	**+0.6**
PEL	**Peldehue**	**3.34**	**168**	⇓*i*P	**Pn**	**04 20 14.1**	**-0.6**
PEL				AML	AML	04 21 09.0	
	comp=N,5μm,0.5s						
AVFE	**Valle Fertil**	**3.57**	**104**	*i* P	**Pn**	**04 20 18.2**	**+0.3**
AVFE				AML	AML	04 21 08.1	
	comp=Z,1μm,0.5s						
CLCH	**Cerro Calan**	**3.61**	**167**	⇑*i*P	**Pn**	**04 20 18.1**	**-0.3**
CLCH				AML	AML	04 21 18.3	
	comp=E,5μm,0.8s						
SAN	**Santiago**	**3.65**	**169**	*e*P	**Pn**	**04 20 18.7**	**-0.1**
SAN				*i* S	**Sn**	**04 20 59.6**	**-1.0**

ARCO	**CERRO ARCO**	**3.68**	**144**	*i* P	**Pn**	**04 20 21.1**	**+1.6**
ARCO				AML	AML	04 21 17.9	
	comp=Z,1μm,0.6s						
PCH	**Pirque**	**3.83**	**168**	*e*P	**Pn**	**04 20 21.9**	**+0.4**
PCH				*e*S	**Sn**	**04 21 05.8**	**+0.5**
AAGR	**Agrelo**	**3.93**	**145**	*i* P	**Pn**	**04 20 24.6**	**+1.8**
U73B	**San Pedro**	**4.04**	**179**	*i* P	**Pn**	**04 20 22.2**	**-2.0**
CHCH	**Chadas Angostu**	**4.12**	**170**	*e*P	**Pn**	**04 20 24.1**	**-1.2**
U65B	**HualaæØ**	**5.09**	**183**	*i* P	**Pn**	**04 20 36.6**	**-2.0**
U14B	**Concepcin**	**7.10**	**190**	*i* P	Pn	04 21 03.0	-3.2
LVC	**Limon Verde**	**7.58**	**18**	P	**Pn**	**04 21 11.2**	**-1.8**
	comp=Z,96nm,0.3s,baz=194,slow=9.1,SNR=20						
LVC				S	Sn	04 22 44.6	+6.9
	comp=Z,276nm,0.3s,baz=218,slow=11,SNR=4.2						
LVC	**Limon Verde**	**7.58**	**18**	*e*Pn	**Pn**	**04 21 11.4**	**-1.6**
	comp=Z,34nm,0.4s						
LVC				*e*Sn	**Sn**	**04 22 34.0**	**-3.7**
TRQA	**Tornquist**	**11.35**	**139**	*e*Pn	Pn	04 21 59.6	-4.7
	comp=Z,58nm,1.1s						
CPUP	**Villa Florida**	**12.98**	**78**	P	Pn	04 22 22.0	-4.5
	comp=Z,1.0nm,0.3s,baz=248,slow=12,SNR=19						
CPUP				LR	LR	04 27 48.7	
	comp=Z,246nm,18.5s,baz=253,slow=39						
CPUP	**Villa Florida**	**12.98**	**78**	*e*Pn	Pn	04 22 21.7	-4.8
	comp=Z,0.5nm,0.8s						
LPAZ	**La Paz**	**13.86**	**14**	P	**Pn**	**04 22 40.9**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=187,slow=11,SNR=14						
LPAZ	**La Paz**	**13.86**	**14**	*e*Pn	**Pn**	**04 22 40.1**	**+0.9**
	comp=Z,5.5nm,0.7s						
SIV	**San Ignacio**	**16.79**	**37**	P	**P**	**04 23 17.4**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=226,slow=11,SNR=20						
SIV				LR	LR	04 30 59.5	
	comp=Z,122nm,21.4s,baz=209,slow=41						
SAML	**Samuel**	**22.21**	**22**	*e*P	**P**	**04 24 16.1**	**-0.9**
	comp=Z,4.7nm,0.7s						
BB16B	**Bebedouro**	**22.43**	**72**	*e*P	P	04 24 11.7	-7.8
BB16B				*i*		04 24 15.1	
BB16B				*i*		04 24 27.0	
BB16B				*i*		04 24 29.7	
BB16B				*i*		04 24 40.3	
ATAH	**Atahualpa**	**23.53**	**343**	LR	LR	04 32 40.6	
	comp=Z,24nm,18.2s,baz=266,slow=34						
USHA	**Ushuaia**	**25.05**	**176**	P	**P**	**04 24 43.3**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=124,slow=3.6,SNR=3.6						
BDFB	**Brasilia**	**25.79**	**62**	P	**P**	**04 24 48.9**	**-2.3**
	comp=Z,3.9nm,0.5s,baz=242,slow=6.9,SNR=12						
BDFB				LR	LR	04 36 01.5	
	comp=Z,105nm,20.4s,baz=220,slow=39						
OTAV	**Otavalo**	**30.66**	**346**	*e*P	**P**	**04 25 34.3**	**-0.8**
	comp=Z,4.1nm,1.0s						
SNAA	**Sanae**	**55.24**	**159**	P	**P**	**04 28 50.8**	**-1.5**
	comp=Z,0.8nm,0.9s,baz=276,slow=5.3,SNR=11						
QSPA	**South Pole Qui**	**60.36**	**180**	*e*P	**P**	**04 29 26.8**	**-1.5**
	comp=Z,3.1nm,0.8s						
933A	**Laredo**	**63.03**	**332**	P	**P**	**04 29 48.7**	**+2.1**
	baz=63						
834A	**Tilden**	**63.20**	**333**	P	**P**	**04 29 50.1**	**+2.5**
	baz=64						
736A	**Circle Diamond**	**63.38**	**335**	P	**P**	**04 29 51.7**	**+2.9**
	baz=64						
833A	**Chaparral WMA,**	**63.71**	**333**	P	**P**	**04 29 52.9**	**+1.9**
	baz=64,SNR=5.7						
HKT	**Hockley**	**63.85**	**337**	*e*P	**P**	**04 29 51.4**	**-0.3**
	comp=Z,4.5nm,1.1s						
734A	**La Parita Cree**	**63.85**	**334**	P	**P**	**04 29 53.8**	**+1.9**
	baz=64						
636A	**Smothers Creek**	**63.86**	**335**	P	**P**	**04 29 54.3**	**+2.4**
	baz=64						
832A	**Faith Ranch, C**	**63.91**	**332**	P	**P**	**04 29 53.7**	**+1.4**
	baz=64,SNR=9.5						
LRAL	**Lakeview Retre**	**64.26**	**346**	*e*P	**P**	**04 29 54.1**	**-0.4**
732A	**Laxson Ranch,**	**64.30**	**332**	P	**P**	**04 29 56.3**	**+1.4**
	baz=65,SNR=9.7						
**633A

baz=69
Z30A Sanderson Ranc 68.79 334 P P 04 30 24.6 +1.0
baz=69
Y32A R-V Farms, Ver 68.80 335 P P 04 30 24.5 +0.9
baz=69
V38A Canehill 68.84 340 P P 04 30 24.2 +0.4
baz=69
Z29A Hungry Hill Ra 69.00 333 P P 04 30 25.8 +1.0
baz=69
Y31A Rekieta Farm, 69.07 335 P P 04 30 26.4 +1.2
baz=69
WMOK Wichita Mounta 69.23 336 eP P 04 30 26.2 0.0
comp=Z,1.1nm,0.6s
V36A Jenks 69.24 339 P P 04 30 27.0 +0.8
baz=70
Z28A Tucker Farm, M 69.29 333 P P 04 30 27.5 +0.8
baz=70
TUL1 Tulsa 69.31 339 P P 04 30 27.3 +0.7
baz=70
TUL1 Tulsa 69.31 339 eP P 04 30 26.7 +0.1
comp=Z,6.5nm,0.7s
W33A Caddo, Fort Co 69.49 337 P P 04 30 29.1 +1.3
baz=70
Y29A Porterfield Fa 69.51 333 P P 04 30 29.1 +1.1
baz=70
U37A Salina 69.56 340 P P 04 30 29.1 +0.9
baz=70
X30A Coker Ranch, T 69.73 334 P P 04 30 29.7 +0.5
baz=70
W32A Sentinel 69.74 336 P P 04 30 30.1 +0.8
baz=70,SNR=5.0
Y28A McKinney Farm, 69.78 333 P P 04 30 31.1 +1.5
baz=70
V33A Lossen Ranch, 70.04 337 P P 04 30 31.9 +0.8
baz=70
MSTX Muleshoe 70.04 333 P P 04 30 32.0 +0.7
baz=70
MSTX Muleshoe 70.04 333 eP P 04 30 32.2 +0.9
comp=Z,8.6nm,0.8s
T37A Cheneyville 18 70.17 340 P P 04 30 32.2 +0.3
baz=70
V32A Arapaho 70.20 336 P P 04 30 33.2 +1.0
baz=70
AMTX Amarillo 70.42 334 eP P 04 30 36.1 +2.5
comp=Z,27nm,0.6s
S37A Fort Scott 70.73 341 P P 04 30 35.9 +0.6
baz=71
T34A McClaskey Farm 70.77 338 P P 04 30 36.7 +1.1
baz=71
S36A Lake Cedric, C 70.92 340 P P 04 30 37.1 +0.7
baz=71
121A Cookes Peak, D 70.96 328 P P 04 30 38.4 +1.4
baz=71
S35A Otter Creek Ra 71.10 339 P P 04 30 38.6 +1.0
baz=71
R37A Teagarden Farm 71.25 341 P P 04 30 39.4 +1.0
baz=72
V28A Channing 71.39 334 P P 04 30 41.3 +1.8
baz=72
U28A Mallet 71.95 334 P P 04 30 44.8 +2.0
baz=72
LAZ Ladron 72.25 330 eP P 04 30 46.0 +1.3
ANMO Albuquerque 72.41 330 eP P 04 30 47.2 +1.5
comp=Z,2.2nm,0.9s
S29A Ulysses 72.64 336 P P 04 30 48.1 +1.3
baz=73
T27A Campo 72.73 334 P P 04 30 48.9 +1.4
baz=73
S28A Manter 72.89 335 P P 04 30 49.9 +1.5
baz=73
214A Organ Pipe Nat 72.93 324 P P 04 30 50.6 +1.9
baz=73
T26A Comanche Natio 73.17 334 P P 04 30 51.0 +0.9
baz=74
CBKS Cedar Bluff 73.23 337 P P 04 30 51.5 +1.2
baz=74
Q31A Ellis 73.29 338 P P 04 30 52.5 +1.8
baz=74
DBIC Dimbokro 73.43 72 P P 04 30 50.2 -1.8
comp=Z,6.7nm,0.9s,baz=203,slow=7.8,SNR=4.1
DBIC pP PcP 04 31 12.8 +4.9
comp=Z,3.1nm,0.6s,baz=204,slow=5.1,SNR=1.5
DBIC LR LR 05 01 02.5
comp=Z,25nm,19.6s,baz=173,slow=34
T25A Trinidad 73.45 333 P P 04 30 53.6 +1.7
baz=74
S26A Kim 73.51 334 P P 04 30 54.1 +2.0
baz=74
R28A Tribune 73.53 336 P P 04 30 53.4 +1.3
baz=74
Q30A Quinter 73.54 337 P P 04 30 53.3 +1.2
baz=74
O33A Hebron 73.69 339 P P 04 30 53.5 +0.6
baz=74
Q29A Oakley 73.72 336 P P 04 30 53.9 +0.7
baz=74
P31A Stockton 73.75 338 P P 04 30 54.2 +0.8
baz=74
SDCO Great Sand Dun 74.41 333 P P 04 30 58.9 +1.3
baz=75
SDCO Great Sand Dun 74.41 333 eP P 04 30 58.8 +1.3
comp=Z,35nm,2.5s
S22A 4UR Ranch, Cre 74.95 332 P P 04 31 02.3 +1.6
baz=75
WUAZ Wupatki 75.10 327 P P 04 31 03.5 +2.1
baz=75
WUAZ Wupatki 75.10 327 eP P 04 31 03.1 +1.7
comp=Z,5.2nm,1.0s
MVCO Mesa Verde 75.20 330 P P 04 31 03.9 +1.8
baz=76
MVCO Mesa Verde 75.20 330 eP P 04 31 03.9 +1.8
comp=Z,24nm,1.8s
M31A Lambtecht Ranc 75.28 339 P P 04 31 03.6 +1.5
baz=76
Q24A Divide 75.33 333 P P 04 31 04.4 +1.6
baz=76
O26A Horse Wrangler 75.75 335 P P 04 31 06.8 +1.8
baz=76
IRM Iron Mountain 75.87 324 P P 04 31 07.5 +1.8
baz=76
ISCO Idaho Springs 76.23 334 P P 04 31 09.7 +1.7
baz=76
ISCO Idaho Springs 76.23 334 eP P 04 31 08.8 +0.8
comp=Z,2.2nm,0.8s
SMCO Snowmass 76.23 332 eP P 04 31 09.5 +1.4
comp=Z,9.1nm,1.0s
GMRC Granite Mounta 76.62 324 P P 04 31 11.8 +1.8
baz=77
ECSD EROS Data Cent 76.78 342 P P 04 31 11.4 +0.8
baz=77
ECSD EROS Data Cent 76.78 342 eP P 04 31 10.5 0.0
comp=Z,4.4nm,0.8s
MAW Mawson 77.00 164 LR LR 05 05 15.6
comp=Z,34nm,18.2s,baz=240,slow=36
BFSC Mount Baldy Ra 77.24 322 P P 04 31 15.5 +1.9
baz=78
TUQ Turquoise Moun 77.26 324 P P 04 31 15.5 +1.8
baz=78
K28A Ten Mile Ranch 77.28 338 P P 04 31 15.5 +2.0
baz=78
N23A Red Feather La 77.30 334 P P 04 31 15.3 +1.4
baz=78
O20A White River Ci 77.56 332 P P 04 31 17.4 +2.1
baz=78
J29A Okreek 77.57 339 P P 04 31 16.2 +1.1
baz=78
SRU San Rafael 77.67 330 eP P 04 31 17.1 +1.2
comp=Z,6.7nm,1.4s
J28A Allard Ranch, 77.87 338 P P 04 31 18.2 +1.4
baz=78
MSU Marysvale 77.91 328 eP P 04 31 18.8 +1.5
comp=Z,1.7nm,1.1s
MVU Marysvale 77.92 328 eP P 04 31 19.1 +1.7
comp=Z,6.0nm,1.4s
J26A Sides Ranch, S 78.38 337 P P 04 31 22.3 +2.7
baz=79
FURC Furnace Creek, 78.54 324 P P 04 31 23.0 +2.5
baz=79
TPNV Topopah Spring 78.61 325 P P 04 31 23.8 +2.6
baz=79
J25A Sunshine Ranch 78.70 337 P P 04 31 23.1 +1.7
baz=79
K23A Bowen Ranch, D 78.79 335 P P 04 31 23.5 +1.5
baz=79
PKM Peak Mountain 78.90 321 P P 04 31 25.1 +2.3
baz=79
CWC Cottonwood Cre 79.15 323 P P 04 31 25.6 +1.5
baz=79

I25A Rochford 79.23 337 P P 04 31 26.2 +1.8
baz=80
R11A Troy Canyon, C 79.38 326 P P 04 31 27.3 +2.0
baz=80
J22A Midwest 79.67 335 P P 04 31 27.9 +1.1
baz=80
G26A Maurine 79.98 338 P P 04 31 28.8 +0.6
baz=80
I22A 9 Mile Ranch, 80.09 335 P P 04 31 30.0 +1.0
baz=80
H24A Dirks Ranch, A 80.15 337 P P 04 31 30.2 +1.0
baz=80
G25A Newell 80.16 338 P P 04 31 30.3 +1.0
baz=80
HWUT Hardware Ranch 80.17 331 eP P 04 31 30.4 +0.9
comp=Z,2.8nm,0.6s
PDAR Pinedale Array 80.31 333 P P 04 31 30.7 +0.4
comp=Z,0.5nm,0.6s,baz=129,slow=7.6,SNR=6.6
PDAR pP pP 04 31 54.5 +9.2
comp=Z,0.6nm,0.6s,baz=123,slow=7.0,SNR=4.1
F27A Lemmon 80.31 339 P P 04 31 31.1 +1.1
baz=81
I21A Big Trails, Te 80.32 335 P P 04 31 31.2 +0.9
baz=81
D30A Buchanan 80.47 341 P P 04 31 31.8 +1.0
baz=81
F26A Lodgepole 80.50 338 P P 04 31 32.0 +0.9
baz=81
J19A Crowheart 80.53 333 P P 04 31 32.7 +1.2
baz=81
E28A Huff 80.54 340 P P 04 31 32.2 +0.9
baz=81
I20A Worland 80.75 334 P P 04 31 34.0 +1.4
baz=81
NVAR Mina Array Bea 80.78 325 P P 04 31 34.5 +1.5
comp=Z,0.7nm,0.7s,baz=163,slow=6.1,SNR=5.9
F25A Bowman 80.82 338 P P 04 31 33.7 +1.0
baz=81
AGMN Agassiz Nation 80.82 344 P P 04 31 33.2 +0.6
baz=81
G23A Biddle 80.83 336 P P 04 31 33.4 +0.5
baz=81
C30A Mose, Pekin 80.94 342 P P 04 31 34.0 +0.7
baz=81
E26A Carlson Angus 80.99 339 P P 04 31 34.4 +0.8
baz=81
F24A Ekalaka 81.07 337 P P 04 31 35.2 +1.0
baz=81
H20A Greybull 81.16 334 P P 04 31 35.2 +0.5
baz=82
D26A Manning 81.48 339 P P 04 31 38.0 +1.8
baz=82
B30A Myrvik Farm, E 81.59 342 P P 04 31 37.9 +1.2
baz=82
F22A Rosebud 81.64 336 P P 04 31 38.4 +1.2
baz=82
E24A Baker 81.66 338 P P 04 31 38.5 +1.2
baz=82
G20A Bridger 81.86 335 P P 04 31 39.1 +0.6
baz=82
E23A Ismay 81.94 337 P P 04 31 39.5 +0.9
baz=82
B28A Dugan Ranch, T 82.14 341 P P 04 31 40.7 +1.0
baz=82
RLMT Red Lodge 82.18 334 P P 04 31 41.3 +1.1
baz=82
A29A Manning Farm, 82.26 342 P P 04 31 40.8 +0.6
baz=83
TOA0 Torodi Ar. Sit 82.36 70 eP P 04 31 39.5 -2.0
TORD Torodi Ar. Bea 82.36 70 P P 04 31 40.3 -1.2
comp=Z,1.4nm,0.6s,baz=277,slow=5.9,SNR=26
TORD LR LR 05 07 05.4
comp=Z,21nm,18.3s,baz=140,slow=35
C24A Savage 82.55 338 P P 04 31 43.1 +1.2
baz=83
D22A Cohagen 82.80 337 P P 04 31 44.9 +1.7
baz=83
HLID Hailey 82.99 330 P P 04 31 45.6 +1.3
baz=83
DGMT Dagmar 83.30 339 P P 04 31 47.2 +1.5
baz=84
LBTB Lobatse 83.61 115 eP P 04 31 46.5 -1.7
comp=Z,8.3nm,0.8s
C20A Veseth Ranch, 83.91 336 P P 04 31 49.3 +0.4
baz=84
A22A Carney Farms, 84.31 338 P P 04 31 51.4 +0.5
baz=85
SFJD Kangerlussuaq 97.85 8 eP P 04 32 52.0 -1.9
WRA Warramunga Arr 124.58 210 PKP PKPdf 04 38 16.9 -2.2
comp=Z,0.8nm,0.5s,baz=151,slow=1.6,SNR=6.8
H11S2 WAKE ISLAND Hyl 26.21 272 T T 06 57 30.8
baz=115,slow=75,SNR=72
H11S1 WAKE ISLAND Hyl 26.22 272 T T 06 57 37.5
baz=115,slow=75,SNR=71
H11S3 WAKE ISLAND Hyl 26.23 272 T T 06 57 23.8
baz=115,slow=75,SNR=46
GNI Garni 127.76 60 ePKPdf PKPdf 04 38 22.8 -1.8
KAPI Kappang 143.69 199 ePKPdf PKPdf 04 38 54.3 -0.5
KKAR Karatay Array 146.99 56 ePKPbc PKPdf 04 39 00.3 +0.8
EKS2 Erkin-Say 149.43 56 ePKPbc PKPbc 04 39 08.1 -0.1
ZALV Zalesovo Beam 150.43 29 PKPbc PKPbc 04 39 09.8 -0.2
comp=Z,5.2nm,0.6s,baz=302,slow=3.0,SNR=14
TKM2 Tokmak 2 150.67 55 ePKPbc PKPbc 04 39 10.8 -0.5
KSH Kashi 151.69 61 PKPbc PKPbc 04 39 13.4 -0.2
KSH pPKP pPKPdf 04 39 27.3 +4.2
KSH PKS PKSdf 04 42 42.3 +0.3
KSH PP PP 04 42 57.1 +2.7
KSH SKS SKSdf 04 46 11.4 +0.9
KSH SKKS SKKSac 04 49 41.6 +1.2
KSH SS SS 05 02 14.3 -2.5
KSH PPMZ
comp=Z,180nm,5.2s
KSH LN
comp=Z,69nm,3.5s
KSH LE
comp=Z,88nm,4.2s
MKAR Makanchi Array 153.55 43 PKPbc PKPbc 04 39 15.1 -2.3
comp=Z,0.6nm,0.8s,baz=304,slow=2.8,SNR=5.2
MKAR PKPab PKPab 04 39 27.9 -2.2
comp=Z,0.7nm,0.8s,baz=270,slow=2.4,SNR=4.3
WMQ Urumqi 158.36 44 ePKP PKPdf 04 39 14.4 -1.8
WMQ LN
comp=Z,40nm,21.0s
WMQ LZ
comp=Z,22nm,18.0s
GTA Gaotai 168.09 35 ePKP PKPdf 04 39 29.0 +3.4
GTA pPKP pPKPdf 04 39 46.3 +4.8
GTA sPKP 04 39 52.9
HHC Hu-ho-hao-te 168.76 348 ePKP PKPdf 04 39 27.3 +1.3
HHC PKS PKSdf 04 42 58.4 -0.2
HHC PP PP 04 44 30.6 +5.6
HHC SKKS 04 51 12.9
HHC SS SS 05 05 19.1 +5.5
HHC PPMZ
comp=Z,28nm,5.6s
HHC LN
comp=Z,97nm,18.8s
HHC LE
comp=Z,130nm,19.2s
HHC LZ
comp=Z,56nm,19.4s
LZH Lanzhou 172.66 31 ePKP PKPdf 04 39 29.3 +1.0
LZH pPKP pPKPdf 04 39 41.4 -2.8
LZH sPKP 04 39 45.6
LZH PKPab PKPab 04 40 56.1 +2.1
KMI Kunming 173.03 131 PKP PKPdf 04 39 29.3 +0.4
CD2 Chengdu 175.76 75 PKP PKPdf 04 39 27.1 -2.3

IDC 15 04:19:45.3±8.0, 19°05S×176°15W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/31, mbtmp3.7/3, Error ellipse: s-maj=349.8km s-min=39.3km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	46.54	260	P	P	04 28 14.6	-0.5
	0.5nm,0.4s,baz=97,slow=7.3,SNR=4.0						
ASAR	Alice Springs	46.56	255	P	P	04 28 15.4	+0.2
	0.7nm,0.5s,baz=92,slow=8.0,SNR=8.4						
ILAR	Eielson Array	86.53	12	P	P	04 32 29.7	0.0
	0.2nm,0.4s,baz=212,slow=4.9,SNR=4.8						

WEL 15 04:20:51.1±0.1, 37°76S×178°07E, h40km±1km, ML3.8/6, 5C-1D, Error ellipse: s-maj=1.0km s-min=0.9km az=90.0,

Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	Te Kaha	0.23	270	↑PN	Pn	04 20 58.1	-0.6
HAZ				SN	Sn	04 21 03.8	-0.2
MXZ	Matakaoa Point	0.27	44	PN	Pn	04 20 58.8	-0.2
MXZ				AML	AML	04 21 06.1	
MXZ				AML	AML	04 21 08.0	
WMGZ	Waiomatatini S	0.28	103	↑PN	Pn	04 20 59.0	-0.1
PUZ	Puketiti	0.35	156	PN	Pn	04 20 59.6	-0.4
PUZ				SN	Sn	04 21 05.9	-0.3
PUZ				AML	AML	04 21 10.0	
TWGZ	Tauwhareparae	0.43	190	↑PN	Pn	04 21 01.0	0.0
TKGZ	Te Karaka	0.70	195	PN	Pn	04 21 04.6	0.0
MWZ	Matawai	0.72	217	PN	Pn	04 21 05.0	+0.1
MWZ				AML	AML	04 21 17.2	
MWZ				AML	AML	04 21 17.3	
MWZ				AML	AML	04 21 17.4	
MWZ				AML	AML	04 21 17.4	
CNGZ	Carnagh Statio	0.74	172	PN	Pn	04 21 05.1	0.0
WIZ	White Island	0.74	288	PN	Pn	04 21 05.1	+0.1
RAGZ	Rawiri	0.90	215	PN	Pn	04 21 07.5	+0.1
URZ	Urewera	0.91	236	PN	Pn	04 21 07.2	-0.3
URZ				SN	Sn	04 21 19.4	0.0
URZ				AML	AML	04 21 22.0	
RIGZ	Rimuhau	0.98	194	PN	Pn	04 21 08.0	-0.5
EDRZ	Edgecumbe	1.11	251	↓PN	Pn	04 21 10.1	-0.2
MARZ	Manawahe	1.13	258	PN	Pn	04 21 09.9	-0.6
PRGZ	Paritu Road	1.18	187	PN	Pn	04 21 10.6	-0.5
SNGZ	Shannon Statio	1.18	209	PN	Pn	04 21 11.0	-0.1
OPRZ	Ohinepanea	1.21	265	PN	Pn	04 21 10.7	-0.8
KNZ	Kokohu	1.30	194	PN	Pn	04 21 11.5	-1.3
TARZ	Mount Tarawera	1.33	248	PN	Pn	04 21 13.3	0.0
WHHZ	Waihua	1.48	206	PN	Pn	04 21 15.9	+0.7
ARHZ	Aropaoanui	1.73	209	PN	Pn	04 21 18.8	+0.1
BKZ	Black Stump Fm	1.88	221	AML	AML	04 21 58.6	
BKZ				AML	AML	04 22 04.8	
MCHZ	McNeill Hill	2.00	212	PN	Pn	04 21 22.5	+0.1
KWHZ	Kaweka Forest	2.11	217	PN	Pn	04 21 23.5	-0.5
KUZ	Kuaotunu	2.13	297	↑PN	Pn	04 21 23.0	-1.2
KAHZ	Kahuranaki	2.24	204	PN	Pn	04 21 24.2	-1.6
BHHZ	Black Hill Sta	2.34	222	PN	Pn	04 21 27.1	0.0
MKAZ	Moumakai	2.40	285	↑PN	Pn	04 21 27.4	-0.5
NGZ	Ngauruhoe	2.40	233	ePN	Pn	04 21 29.4	+1.3
TUVZ	Tukino	2.43	231	PN	Pn	04 21 28.7	+0.3
PXZ	Pawanui	2.46	202	PN	Pn	04 21 26.6	-2.1
PXZ				AML	AML	04 22 24.8	
WHVZ	Whangaehu Hut	2.48	231	PN	Pn	04 21 29.4	+0.2
WNVZ	Wahianoa	2.50	230	PN	Pn	04 21 29.4	0.0
PNHZ	Pukenui	2.61	214	PN	Pn	04 21 29.7	-1.1
PRHZ	Porangahau	2.75	204	PN	Pn	04 21 30.1	-2.6
ANWZ	Angora Road	2.97	204	PN	Pn	04 21 33.4	-2.4
BFZ	Birch Farm	3.25	205	PN	Pn	04 21 36.7	-2.9
OGWZ	Otaki Gorge	3.80	215	PN	Pn	04 21 44.6	-2.4
KIW	Kapiti Island	3.96	217	PN	Pn	04 21 46.7	-2.6

IDC 15 04:23:29.8±1.0, 50°01N×177°56E, h0km, mb3.7/9, mb1 4.0/9, mb1mx3.8/36, mbtmp3.7/9, MS2.9/1, Ms1 3.0/1, ms1mx2.4/35, Error ellipse: s-maj=33.2km s-min=21.1km az=166.0
ISCJB 15 04:23:33.1±0.7, 49°99N±0°06×177°75E±0°07, h33km, mb3.7/9, MS2.8/1, Error ellipse: s-maj=8.5km s-min=6.6km az=173.5
NEIC 15 04:23:34.5, 50°10N×177°79E, h5km, ML3.8(AEIC), After AEIC.

ISC 15 04:23:35.2±0.9, 50°04N±0°09×177°74E±0°06, h35km, n37, σ0°92/44, mb3.8/9, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMKA	Amchitka	1.67	36	ePn	Pn	04 24 00.8	-1.1
AMKA				eS	Sn	04 24 19.9	-2.2
LSSE	Little Sitkin	1.97	15	P	Pn	04 24 06.0	-0.1
LSPA	Little Sitkin	1.99	15	P	Pn	04 24 06.0	-0.4
LSPA				S	Sn	04 24 31.5	+1.5
LSNW	Little Sitkin	2.00	14	P	Pn	04 24 06.0	-0.4
CESW	Semis' Southwe	2.19	31	P	Pn	04 24 09.3	+0.2
CERAA	Semis' Rag'd T	2.24	33	P	Pn	04 24 10.0	+0.3
CEAP	Semis' Anvil P	2.28	30	P	Pn	04 24 10.7	+0.4
GALAA	Gareloi Lava P	2.80	51	P	Pn	04 24 17.7	+0.3
GAEA	Gareloi East	2.83	50	P	Pn	04 24 18.1	+0.3
TASE	Tanaga Southea	3.22	54	P	Pn	04 24 23.5	+0.2
TANO	Tanaga North	3.22	53	P	Pn	04 24 23.6	+0.4
TAFP	Tanaga Falls P	3.28	54	P	Pn	04 24 24.1	0.0
TAFP				S	Sn	04 25 03.2	+1.3
SMY	Shemya	3.53	321	ePn	Pn	04 24 27.5	0.0
SMY				eS	Sn	04 25 06.7	-1.3
KIKV	Kanaga Island	3.71	58	P	Pn	04 24 29.9	0.0
KICM	Kanaga Island	3.71	58	P	Pn	04 24 30.2	+0.3
KIRH	Kanaga Island	3.76	58	P	Pn	04 24 30.7	+0.1
ADAG	Mount Adagdak	4.07	59	P	Pn	04 24 35.4	+0.6
ETKA	Kagalaska Isla	4.13	61	P	Pn	04 24 35.6	-0.1
GSCK	Great Sitkin C	4.33	60	P	Pn	04 24 38.6	+0.2
GSTD	Great Sitkin T	4.35	60	P	Pn	04 24 38.7	-0.2
GSMY	Great Sitkin M	4.40	60	P	Pn	04 24 39.3	-0.1
GSTR	Great Sitkin T	4.42	60	ePn	Pn	04 24 39.8	+0.1
GSTR				eS	Sn	04 25 27.9	-2.0
ATKA	Atka Island	5.52	64	P	Pn	04 24 54.2	-0.5
NIKH	Nikolski High	8.86	66	P	Pn	04 25 40.2	-0.4
NIKH				S	Sn	04 27 16.9	-2.2
OKTU	Okmok Mt. Tuli	9.44	64	P	Pn	04 25 48.9	+0.3
SPIA	Saint Paul Isl	10.09	40	P	Pn	04 25 58.0	+0.6
UNV	Unalaska Valle	10.45	63	ePn	Pn	04 26 01.4	-0.9
UNV				S	Sn	04 27 56.1	-1.8
ILAR	Eielson Array	23.66	38	P	P	04 28 41.5	-1.5
	0.6nm,0.8s,baz=235,slow=8.7,SNR=16						
ILAR				LR	LR	04 39 09.8	
	comp=Z,28nm,18.3s,baz=188,slow=40						
YKA	Yellowknife Ar	37.74	45	P	P	04 30 48.3	+1.1
	0.6nm,0.6s,baz=281,slow=8.9,SNR=3.3						
NVAR	Mina Array Bea	45.93	79	P	P	04 31 55.8	+1.1
	0.8nm,0.6s,baz=290,slow=8.4,SNR=8.3						
PDAR	Pinedale Array	48.83	69	P	P	04 32 18.1	+1.0
	0.4nm,0.7s,baz=309,slow=5.7,SNR=3.2						
MKAR	Makanchi Array	59.12	307	P	P	04 33 31.2	-0.7
	0.5nm,0.6s,baz=54,slow=7.7,SNR=5.3						
TXAR	Lajitas Array	61.06	78	P	P	04 33 46.4	+0.8
	0.3nm,0.4s,baz=307,slow=6.8,SNR=7.4						
FINES	FINESS Array B	66.57	346	P	P	04 34 21.9	+0.8
	1.5nm,0.9s,baz=15,slow=7.9,SNR=4.1						
WRA	Warramunga Arr	79.54	221	P	P	04 35 37.5	-0.8
	1.0nm,0.8s,baz=30,slow=6.0,SNR=11						
BRTR	Keskin Array B	85.20	333	P	P	04 36 08.3	+0.4
	0.9nm,0.9s,baz=83,slow=4.2,SNR=3.9						
TORD	Torodi Ar. Bea	116.99	356	PKP	PKPdf	04 42 16.1	-0.3
	0.2nm,0.4s,baz=354,slow=2.3,SNR=7.3						

TRN 15 04:31:43.2, 10°16N×62°07W, h23km, MD3.5
FUNV 15 04:31:43.5, 10°13N×61°94W, h14km, MW3.0
ISCJB 15 04:31:44.9±0.7, 10°21N±0°05×62°01W±0°03, h42km±15km, Error ellipse: s-maj=9.0km s-min=5.1km az=164.4

ISC 15 04:31:43.5±1.4, 10°12N±0°06×62°01W±0°04, h25km±13km, n13, σ1°01/23, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	Guiria	0.56	338	*i* P	Pb	04 31 54.5	-0.3
GUIV				eS	Sb	04 32 02.3	-0.2
TPP	Pointe-a-Pierr	0.59	70	eP	Pn	04 31 56.6	+0.3
TPP				eS	Sn	04 32 04.8	-0.3
TCE	Chacachacare	0.63	24	eP	Pn	04 31 56.8	0.0
TCE				eS	Sb	04 32 03.9	-0.5
TRN	Trinidad (W)	0.80	49	eP	Pb	04 31 58.8	+0.1
TRN				eS	Sn	04 32 10.9	+0.7
GUNV	Guanoco	0.92	273	eP	Pb	04 32 01.4	+0.6
GUNV				eS	Sn	04 32 15.2	+2.0
TBH	Brigand Hill	1.00	69	eP	Pn	04 32 01.9	0.0
TBH				eS	Sn	04 32 16.8	+1.5
CRUV	Carupano	1.32	295	eP	Pn	04 32 07.2	+0.8
CRUV				eS	Sb	04 32 25.1	+0.8
ORIV	Oritupano	1.73	233	eP	Pb	04 32 14.1	-0.6
TOSP	Speyside	1.86	51	eP	Pn	04 32 13.9	+0.1
GRGR	Grenville	2.03	10	eP	Pn	04 32 15.9	-0.3
GRGR				eS	Sn	04 32 40.2	-0.5
PCRV	Puerto La Cruz	2.58	271	eP	Pn	04 32 24.3	+0.5
SVB	Belmont	3.22	13	eP	Pn	04 32 32.7	+0.1
SVB				eS	Sn	04 33 09.4	-0.7
BAUV	El Baul	6.06	259	eP	Pn	04 33 11.5	-0.1

BAUV eS Sn 04 34 17.2 -3.1

MEX 15 04:35:39.7±0.5, 16°.98N×94°.64W, h140km±5km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.26**	**296**	*i* P	Pn	04 35 57.3	-1.6
CMIG				*i* S	Sn	04 36 11.6	-1.9
TGIG		**1.47**	**97**	*i* P	Pn	04 36 07.1	-1.1
TGIG				*e*S	Sn	04 36 28.0	-2.0
HUIG	**Huatulco**	**1.85**	**230**	*e*P	Pn	04 36 11.2	-1.3
HUIG				*i* S	Sn	04 36 35.0	-2.6
PCIG		**1.86**	**133**	*i* P	Pn	04 36 13.7	+1.1
PCIG				*e*S	Sn	04 36 39.3	+1.6
VHO	**Vista Hermosa**	**2.01**	**273**	*e*P	Pn	04 36 13.3	-1.3
VHO				*e*S	Sn	04 36 40.1	-1.1

IDC 15 04:40:50.5±14.0, 14°.75S×165°.93E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/28, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=241.1km s-min=37.4km az=57.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.30**	**176**	Pn	Pn	04 42 39.3	+0.8
	0.8nm,0.3s,baz=90,slow=24,SNR=12						
DZM				Sn	Sn	04 44 00.7	-1.5
	baz=270,slow=20						
STKA	**Stephens Creek**	**28.00**	**228**	P	P	04 46 42.8	-0.4
	1.7nm,1.1s,baz=46,slow=8.1,SNR=3.8						
WRA	**Warramunga Arr**	**30.56**	**256**	P	P	04 47 06.5	+0.4
	0.3nm,0.8s,baz=81,slow=8.2,SNR=2.3						
ASAR	**Alice Springs**	**31.45**	**249**	P	P	04 47 13.8	-0.2
	0.4nm,0.7s,baz=81,slow=8.6,SNR=4.4						

GUC 15 05:14:03.8±0.4, 37°.63S×73°.29W, h58km±8km, ML4.4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U14B	**Concepcin**	**0.79**	**12**	*e*P	Pn	05 14 19.4	+0.3
U14B				*e*S	Sn	05 14 31.0	+0.8
U14B				AML	AML	05 14 35.7	
	comp=N,40μm,0.4s						
CCSP	**San Pedro de C**	**0.80**	**10**	*e*P	Pn	05 14 19.4	+0.2
CCSP				*e*S	Sn	05 14 31.1	+0.7
COCH	**Cobquecura**	**1.55**	**15**	*e*P	Pn	05 14 29.5	+0.4
COCH				*e*S	Sn	05 14 48.9	+0.7
VLCH	**Valdivia**	**2.17**	**179**	*e*P	Pn	05 14 38.2	+0.7
VLCH				*e*S	Sn	05 15 03.7	+0.5
LNCH	**Linares**	**2.24**	**38**	*e*P	Pn	05 14 38.7	+0.2
LNCH				*e*S	Sn	05 15 05.8	+0.8
LNCH				AML	AML	05 15 22.9	
	comp=N,2μm,0.4s						

MEX 15 05:19:32.4±0.7, 15°.89N×97°.99W, h15km±49km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.51**	**345**	*i* P	Pg	05 19 40.8	-1.8
PNIG				*i* S	Sg	05 19 47.9	-1.7
VHO	**Vista Hermosa**	**1.68**	**46**	*e*P	Pn	05 19 58.8	-2.7
VHO				*i* S	Sn	05 20 17.8	-5.2
TLIG	**Tlapa**	**1.75**	**342**	*e*P	Pn	05 19 59.7	-2.7
TLIG				*e*S	Sn	05 20 19.9	-4.7

GUC 15 05:34:17.6±0.7, 36°.68S×73°.08W, h30km±6km, ML4.0
NEIC 15 05:34:17.0, 36°.68S×73°.07W, h30km, mb4.4/2, ML4.0(GUC), After GUC.
NEIC Felt [IV] at Penco, Talcahuano and Tome; [III] at Concepcion; [II] at La Laja and San Rosendo.

ISC 15 05:34:16.1±1.1, 36°.9S±0°.1×73°.1W±0°.1, h44km±7km, n12, σ1§14/16, mb4.5/3, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.04**	**12**	↑*i*P	**Pn**	**05 34 23.7**	**+0.6**
CCSP				*i* S	**Sn**	**05 34 27.5**	**-0.4**
CCSP				AML	AML	05 34 28.4	
	comp=E,33μm,0.5s						
U14B	**Concepcin**	**0.04**	**53**	↑*i*P	**Pn**	**05 34 23.7**	**+0.7**
U14B				*i* S	**Sn**	**05 34 27.5**	**-0.4**
U14B				AML	AML	05 34 29.1	
	comp=N,75μm,0.4s						
LNCH	**Linares**	**1.60**	**50**	*e*P	**Pn**	**05 34 42.3**	**+0.4**
LNCH				*i* S	**Sn**	**05 35 01.7**	**+0.3**
TALC	**Talca**	**1.91**	**40**	↑*i*P	**Pn**	**05 34 47.1**	**+1.0**
TALC				*i* S	**Sn**	**05 35 09.1**	**+0.2**
U65B	**HualaæØ**	**2.20**	**30**	↑*i*P	**Pn**	**05 34 50.4**	**+0.3**
U65B				AML	AML	05 35 27.6	
	comp=N,1μm,0.6s						
U73B	**San Pedro**	**3.27**	**26**	↓*i*P	**Pn**	**05 35 05.0**	**+0.2**
U73B				AML	AML	05 36 03.0	
	comp=E,298nm,0.8s						
TRQA	**Tornquist**	**8.94**	**101**	*e*Pn	**Pn**	**05 36 23.3**	**+0.8**
LVC	**Limon Verde**	**14.68**	**16**	*e*Pn	**Pn**	**05 37 40.4**	**-0.7**
CPUP	**Villa Florida**	**17.05**	**56**	*e*P	**Pn**	**05 38 10.2**	**-1.1**
	comp=E,0.4nm,1.4s						
OTAV	**Otavalo**	**37.26**	**351**	*e*P	**P**	**05 41 27.0**	**+2.8**
	comp=E,7.0nm,1.5s						
RCBR	**Riachuelo**	**45.93**	**57**	*e*P	**P**	**05 42 34.0**	**-0.8**
	comp=E,36nm,1.5s						
MIAR	**Mount Ida**	**73.57**	**342**	*e*P	**P**	**05 45 42.8**	**-1.5**
	comp=E,11nm,1.8s						

IDC 15 05:35:30.8±0.9, 36°.81N×27°.36E, h0km, mb3.7/8, mb1 3.7/11, mb1mx3.6/40, mbtmp3.7/11, ML3.7/3, MS2.3/2, Ms1 2.3/2, ms1mx2.0/40, Error ellipse: s-maj=24.3km s-min=14.2km az=151.0
DDA 15 05:35:31.3, 36°.80N×27°.40E, h22km, ML4.3
THE 15 05:35:32.6, 36°.81N×27°.44E, h4km±1km, ML3.8/3, Error ellipse: s-maj=1.4km s-min=0.5km az=191.0
ISCJB 15 05:35:33.0±0.3, 36°.80N±0°.02×27°.40E±0°.02, h21km±3km, mb3.5/8, Error ellipse: s-maj=3.1km s-min=2.9km az=39.4
ATH 15 05:35:32.4, 36°.82N×27°.37E, h27km±2km, MD3.4/8
ISK 15 05:35:32.7, 36°.83N×27°.40E, h18km, MD3.6, ML3.7
CSEM 15 05:35:33.0±0.1, 36°.82N×27°.40E, h12km, MD3.6, Error ellipse: s-maj=2.6km s-min=2.3km az=34.0
NIC 15 05:35:37.7, 36°.86N×27°.87E, h8km, mb4.3, ML3.9

ISC 15 05:35:32.9±0.8, 36°.80N±0°.02×27°.40E±0°.02, h14km±6km, n153, σ0§96/196, mb3.8/8, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIS1	**Nisyros Isl.**	**0.26**	**223**	*e*PG	**Pb**	**05 35 39.7**	**+0.3**
NIS1				*e*SG	**Sb**	**05 35 44.2**	**+0.4**
NIS1	**Nisyros Isl.**	**0.26**	**223**	P	**Pb**	**05 35 39.1**	**-0.3**
NIS1	**Nisyros Isl.**	**0.26**	**223**	*e*Pg	**Pb**	**05 35 39.7**	**+0.3**
NIS1				S	**Sg**	**05 35 43.2**	**+1.0**
NIS1				*e*Sg	**Sb**	**05 35 44.2**	**+0.4**
NIS1	**Nisyros Isl.**	**0.26**	**223**	P	**Pb**	**05 35 39.1**	**-0.3**
NIS1				S	**Sg**	**05 35 43.2**	**+1.0**
BDRM	**Kayabasi**	**0.27**	**7**	*i* P	**Pg**	**05 35 38.1**	**-0.5**
BDRM				*i* S	**Sg**	**05 35 41.9**	**-0.6**
BDRM	**Kayabasi**	**0.27**	**7**	*i* P	**Pg**	**05 35 38.1**	**-0.5**
BDRM				*i* S	**Sg**	**05 35 41.9**	**-0.6**
BODT	**Bodrum**	**0.28**	**345**	*e*PG	**Pg**	**05 35 38.4**	**-0.3**
BODT				*e*SG	**Sg**	**05 35 42.8**	**+0.2**
BODT	**Bodrum**	**0.28**	**345**	*e*Pg	**Pg**	**05 35 38.4**	**-0.3**
BODT				*e*Sg	**Sg**	**05 35 42.8**	**+0.2**
NISR	**Nisiros**	**0.28**	**230**	*e*PB	**Pb**	**05 35 39.8**	**0.0**
NISR				*e*SB	**Sb**	**05 35 44.5**	**+0.1**
NISR	**Nisiros**	**0.28**	**230**	P	**Pb**	**05 35 39.5**	**-0.3**
NISR	**Nisiros**	**0.28**	**230**	*e*Pb	**Pb**	**05 35 39.8**	**0.0**
NISR				*e*Sb	**Sb**	**05 35 44.5**	**+0.1**
NISR	**Nisiros**	**0.28**	**230**	P	**Pb**	**05 35 39.5**	**-0.3**
YER	**Yerkesik**	**0.78**	**64**	*e*PG	**Pg**	**05 35 47.8**	**-0.3**
YER				*e*SG	**Sb**	**05 35 59.6**	**+0.7**
YER	**Yerkesik**	**0.78**	**64**	*e*Pg	**Pg**	**05 35 47.8**	**-0.3**
YER				*e*Sg	**Sb**	**05 35 59.6**	**+0.7**
ARG	**Arkhangelos**	**0.82**	**134**	*e*PB	**Pg**	**05 35 48.4**	**-0.4**
ARG				*e*SN	**Sn**	**05 36 02.2**	**+0.2**
ARG	**Arkhangelos**	**0.82**	**134**	P	**Pg**	**05 35 48.0**	**-0.8**
ARG	**Arkhangelos**	**0.82**	**134**	*e*Pb	**Pg**	**05 35 48.4**	**-0.4**
ARG				S	**Sb**	**05 36 00.3**	**+0.4**
ARG				*e*Sn	**Sn**	**05 36 02.2**	**+0.2**
ARG	**Arkhangelos**	**0.82**	**134**	P	**Pg**	**05 35 48.0**	**-0.8**
ARG				S	**Sb**	**05 36 00.3**	**+0.4**
AYDN	**Tasoluk**	**0.94**	**24**	*i* P	**Pg**	**05 35 50.0**	**-1.1**
AYDN				*i* S	**Sg**	**05 36 02.6**	**-0.9**
AYDN	**Tasoluk**	**0.94**	**24**	*i* P	**Pg**	**05 35 50.0**	**-1.1**
AYDN				*i* S	**Sg**	**05 36 02.6**	**-0.9**
TURN	**Turunc**	**0.97**	**85**	*i* P	Pg	05 35 45.0	-6.6
TURN				*i* S	Sg	05 35 54.1	-10
DALY	**Dalyan (Mu˘la**	**1.01**	**88**	*e*PG	**Pg**	**05 35 51.4**	**-0.9**
DALY				*e*SG	**Sn**	**05 36 06.5**	**-0.1**
DALY	**Dalyan (Mu˘la**	**1.01**	**88**	*e*Pg	**Pg**	**05 35 51.4**	**-0.9**
DALY				*e*Sg	**Sn**	**05 36 06.5**	**-0.1**
SMG	**Samos**	**1.02**	**334**	*e*PN	**Pg**	**05 35 51.7**	**-0.8**
SMG	**Samos**	**1.02**	**334**	P	**Pg**	**05 35 51.7**	**-0.8**
SMG				S	**Sn**	**05 36 06.6**	**-0.3**
SMG	**Samos**	**1.02**	**334**	P	**Pg**	**05 35 51.7**	**-0.8**
SMG				S	**Sn**	**05 36 06.6**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.21**	**19**	*e*PN	**Pn**	**05 35 54.9**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.21**	**19**	*e*Pn	**Pn**	**05 35 54.9**	**-0.7**
KARP	**Karpathos**	**1.26**	**189**	*e*PN	**Pn**	**05 35 56.0**	**-0.1**
KARP	**Karpathos**	**1.26**	**189**	P	**Pn**	**05 35 56.0**	**-0.1**
KARP				S	**Sg**	**05 36 14.0**	**+0.5**
KARP	**Karpathos**	**1.26**	**189**	P	**Pn**	**05 35 56.0**	**-0.1**
KARP				S	**Sg**	**05 36 14.0**	**+0.5**
APE	**Apeiranthos**	**1.52**	**281**	*e*PN	**Pn**	**05 35 59.3**	**-0.4**
APE	**Apeiranthos**	**1.52**	**281**	*e*Pn	**Pn**	**05 35 59.3**	**-0.4**
APE				S	**Sb**	**05 36 20.3**	**+0.2**
APE	**Apeiranthos**	**1.52**	**281**	P	**Pn**	**05 35 59.2**	**-0.6**
APE				S	**Sb**	**05 36 20.3**	**+0.2**
IZM	**Izmir**	**1.60**	**356**	*e*PN	**Pn**	**05 36 01.0**	**+0.1**
IZM	**Izmir**	**1.60**	**356**	*e*Pn	**Pn**	**05 36 01.0**	**+0.1**
ZEY	**˙zmir**	**1.61**	**334**	*i* P	**Pn**	**05 36 00.1**	**-0.7**
ZEY				*i* S	**Sb**	**05 36 23.2**	**+0.7**
DENT	**Denizli**	**1.62**	**53**	*e*PN	**Pn**	**05 36 01.1**	**0.0**
DENT	**Denizli**	**1.62**	**53**	*e*Pn	**Pn**	**05 36 01.1**	**0.0**
THR6	**Thira Island,**	**1.67**	**255**	P	**Pn**	**05 36 01.6**	**-0.1**
THR6	**Thira Island,**	**1.67**	**255**	P	**Pn**	**05 36 01.6**	**-0.1**
URLA	**Izmir**	**1.69**	**338**	*i* P	**Pn**	**05 36 02.3**	**+0.3**
URLA				*i* S	**Sg**	**05 36 29.2**	**+2.0**
URLA	**Izmir**	**1.69**	**338**	*i* P	**Pn**	**05 36 02.3**	**+0.3**
THR5	**Thira Island,**	**1.69**	**258**	*e*PN	**Pn**	**05 36 02.6**	**+0.6**
THR5	**Thira Island,**	**1.69**	**258**	*e*Pn	**Pn**	**05 36 02.6**	**+0.6**
GOLH	**Golhisar**	**1.79**	**75**	*i* P	**Pb**	**05 36 05.6**	**+0.1**
GOLH				*i* S	**Sg**	**05 36 31.0**	**+0.7**
GOLH	**Golhisar**	**1.79**	**75**	*i* P	**Pb**	**05 36 05.6**	**+0.1**
GOLH				*i* S	**Sg**	**05 36 31.0**	**+0.7**
AKAS	**Kas**	**1.86**	**107**	*i* P	**Pb**	**05 36 06.7**	**-0.1**
AKAS				*i* S	**Sg**	**05 36 35.2**	**+2.4**
AKAS	**Kas**	**1.86**	**107**	*i* P	**Pb**	**05 36 06.7**	**-0.1**
CHOS	**Chios island**	**1.91**	**326**	*e*PN	**Pn**	**05 36 05.4**	**+0.2**
CHOS	**Chios island**	**1.91**	**326**	*e*PB	**Pn**	**05 36 04.8**	**-0.4**
CHOS	**Chios island**	**1.91**	**326**	*e*Pb	**Pn**	**05 36 04.8**	**-0.4**
CHOS	**Chios island**	**1.91**	**326**	*e*Pn	**Pn**	**05 36 05.4**	**+0.2**
CHOS				S	**Sn**	**05 36 29.5**	**+0.4**
CHOS	**Chios island**	**1.91**	**326**	P	**Pn**	**05 36 04.6**	**-0.6**
CHOS				S	**Sn**	**05 36 29.5**	**+0.4**
MANT	**Manisa**	**1.93**	**28**	*i* P	**Pn**	**05 36 04.4**	**-1.1**
MANT	**Manisa**	**1.93**	**28**	*i* P	**Pn**	**05 36 04.4**	**-1.1**
KULA	**Kula-Manisa**	**1.99**	**30**	P	**Pn**	**05 36 04.8**	**-1.4**
KULA				S	**Sn**	**05 36 31.1**	**+0.2**
KULA	**Kula-Manisa**	**1.99**	**30**	P	**Pn**	**05 36 04.8**	**-1.4**
KULA				S	**Sn**	**05 36 31.1**	**+0.2**
ELL	**Elmali**	**2.02**	**91**	*e*PN	**Pn**	**05 36 07.2**	**+0.6**
ELL	**Elmali**	**2.02**	**91**	*e*Pn	**Pn**	**05 36 07.2**	**+0.6**
AKNS	**Akhisar**	**2.11**	**9**	*e*P	**Pn**	**05 36 08.4**	**+0.6**
AKNS				*i* S	**Sg**	**05 36 42.5**	**+1.9**
AKHS	**Akhisar**	**2.11**	**9**	*e*P	**Pn**	**05 36 08.4**	**+0.6**
KHAL	**Karahalli**	**2.29**	**46**	*i* P	**Pn**	**05 36 09.9**	**-0.4**
KHAL	**Karahalli**	**2.29**	**46**	*i* P	**Pn**	**05 36 09.9**	**-0.4**
IDI	**Anoyia**	**2.53**	**234**	Pn	**Pn**	**05 36 13.5**	**-0.1**
	0.5nm,0.3s,baz=66,slow=19,SNR=5.1						
IDI				Sn	**Sn**	**05 36 46.0**	**+1.7**
	2.7nm,0.3s,baz=299,slow=18,SNR=5.2						
IDI	**Anoyia**	**2.53**	**234**	*e*PB	**Pn**	**05 36 14.8**	**+1.2**
IDI	**Anoyia**	**2.53**	**234**	P	**Pn**	**05 36 13.4**	**-0.2**
IDI	**Anoyia**	**2.53**	**234**	*e*Pb	**Pn**	**05 36 14.8**	**+1.2**
IDI	**Anoyia**	**2.53**	**234**	P	**Pn**	**05 36 13.4**	**-0.2**
PRK	**Paraskevi**	**2.60**	**340**	*e*PN	**Pn**	**05 36 14.5**	**-0.1**
PRK	**Paraskevi**	**2.60**	**340**	P	**Pn**	**05 36 13.8**	**-0.8**
PRK	**Paraskevi**	**2.60**	**340**	*e*Pn	**Pn**	**05 36 14.5**	**-0.1**
PRK	**Paraskevi**	**2.60**	**340**	P	**Pn**	**05 36 13.8**	**-0.8**
BCK	**Bucak**	**2.63**	**74**	*e*PN	**Pn**	**05 36 15.7**	**+0.7**
BCK	**Bucak**	**2.63**	**74**	*e*Pn	**Pn**	**05 36 15.7**	**+0.7**
SIGR	**SIGRI**	**2.70**	**334**	*e*PN	**Pn**	**05 36 15.4**	**-0.5**
SIGR	**SIGRI**	**2.70**	**334**	P	**Pn**	**05 36 14.9**	**-1.0**
SIGR	**SIGRI**	**2.70**	**334**	*e*Pn	**Pn**	**05 36 15.4**	**-0.5**
SIGR	**SIGRI**	**2.70**	**334**	P	**Pn**	**05 36 14.9**	**-1.0**
DST	**Dursunbey**	**2.96**	**19**	*e*PN	**Pn**	**05 36 19.9**	**+0.3**
DST	**Dursunbey**	**2.96**	**19**	*e*Pn	**Pn**	**05 36 19.9**	**+0.3**
TVSB	**Tavsanli**	**3.11**	**31**	*e*PN	**Pn**	**05 36 22.2**	**+0.6**
TVSB	**Tavsanli**	**3.11**	**31**	*e*Pn	**Pn**	**05 36 22.2**	**+0.6**
EREA	**Eretria**	**3.20**	**302**	*e*PN	**Pn**	**05 36 23.5**	**+0.8**
EREA	**Eretria**	**3.20**	**302**	P	**Pn**	**05 36 23.2**	**+0.5**
EREA	**Eretria**	**3.20**	**302**	*e*Pn	**Pn**	**05 36 23.5**	**+0.8**
EREA	**Eretria**	**3.20**	**302**	P	**Pn**	**05 36 23.2**	**+0.5**
VILL	**Villia**	**3.53**	**294**	*e*Pn	**Pn**	**05 36 27.7**	**+0.4**
KCTX	**Karacabey (Bur**	**3.54**	**12**	*e*PN	**Pn**	**05 36 28.5**	**+0.9**
KCTX	**Karacabey (Bur**	**3.54**	**12**	*e*Pn	**Pn**	**05 36 28.5**	**+0.9**
KYTH	**Kithira**	**3.55**	**263**	P	**Pn**	**05 36 27.7**	**+0.1**
KYTH	**Kithira**	**3.55**	**263**	P	**Pn**	**05 36 27.7**	**+0.1**
LIA	**Limnos Island**	**3.55**	**331**	*e*PN	**Pn**	**05 36 28.1**	**+0.5**
LIA	**Limnos Island**	**3.55**	**331**	P	**Pn**	**05 36 27.7**	**+0.1**
LIA	**Limnos Island**	**3.55**	**331**	*e*Pn	**Pn**	**05 36 28.1**	**+0.5**
LIA	**Limnos Island**	**3.55**	**331**	P	**Pn**	**05 36 27.7**	**+0.1**
EDC	**Edincik**	**3.56**	**6**	*e*PN	**Pn**	**05 36 28.5**	**+0.7**
EDC	**Edincik**	**3.56**	**6**	*e*Pn	**Pn**	**05 36 28.5**	**+0.7**
VIL2	**Platees**	**3.58**	**295**	*e*PN	**Pn**	**05 36 27.7**	**-0.3**
GADA	**Gvkgeada**	**3.59**	**341**	*e*PN	**Pn**	**05 36 27.9**	**-0.2**
GADA	**Gvkgeada**	**3.59**	**341**	*e*Pn	**Pn**	**05 36 27.9**	**-0.2**
LPK	**Lapseki**	**3.61**	**352**	*e*PN	**Pn**	**05 36 29.3**	**+1.0**
LPK	**Lapseki**	**3.61**	**352**	*e*Pn	**Pn**	**05 36 29.3**	**+1.0**
AOS	**Alonnisos**	**3.65**	**312**	*e*PN	**Pn**	**05 36 30.2**	**+1.2**
AOS	**Alonnisos**	**3.65**	**312**	P	**Pn**	**05 36 29.1**	**+0.1**
AOS	**Alonnisos**	**3.65**	**312**	*e*Pn	**Pn**	**05 36 30.2**	**+1.2**
AOS	**Alonnisos**	**3.65**	**312**	P	**Pn**	**05 36 29.1**	**+0.1**
GELI	**Tayfur-Gelibol**	**3.67**	**349**	*e*PN	**Pn**	**05 36 30.2**	**+1.0**
GELI	**Tayfur-Gelibol**	**3.67**	**349**	*e*Pn	**Pn**	**05 36 30.2**	**+1.0**
ERIK	**Erikli-Kesan**	**3.93**	**350**	*e*PN	**Pn**	**05 36 33.4**	**+0.6**
ERIK	**Erikli-Kesan**	**3.93**	**350**	*e*Pn	**Pn**	**05 36 33.4**	**+0.6**
SMTH	**Samothraki Isl**	**3.95**	**339**	*e*PN	**Pn**	**05 36 33.2**	**+0.1**
SMTH	**Samothraki Isl**	**3.95**	**339**	P	**Pn**	**05 36 32.7**	**-0.4**
SMTH	**Samothraki Isl**	**3.95**	**339**	*e*Pn	**Pn**	**05 36 33.2**	**+0.1**
SMTH	**Samothraki Isl**	**3.95**	**339**	P	**Pn**	**05 36 32.7**	**-0.4**
GAZI	**Gazipasa**	**4.00**	**97**	*i* P	**Pn**	**05 36 34.9**	**+1.1**
GAZI	**Gazipasa**	**4.00**	**97**	*i* P	**Pn**	**05 36 34.9**	**+1.1**
KIZT	**Kizilcal**	**4.11**	**58**	*e*PN	**Pn**	**05 36 35.9**	**+0.5**
KIZT	**Kizilcal**	**4.11**	**58**	*e*Pn	**Pn**	**05 36 35.9**	**+0.5**
KONT	**Konya--Tatoy**	**4.12**	**72**	*e*PN	**Pn**	**05 36 37.1**	**+1.7**
KONT	**Konya--Tatoy**	**4.12**	**72**	*e*Pn	**Pn**	**05 36 37.1**	**+1.7**
ALN	**Alexandroupoli**	**4.23**	**346**	*e*PN	**Pn**	**05 36 37.6**	**+0.7**
ALN	**Alexandroupoli**	**4.23**	**346**	*e*PN	**Pn**	**05 36 37.2**	**+0.3**
ALN	**Alexandroupoli**	**4.23**	**346**	P	**Pn**	**05 36 36.4**	**-0.5**
ALN	**Alexandroupoli**	**4.23**	**346**	*e*Pn	**Pn**	**05 36 37.2**	**+0.3**
ALN	**Alexandroupoli**	**4.23**	**346**	P	**Pn**	**05 36 36.4**	**-0.5**
AKMC	**Akamas**	**4.37**	**112**	P	**Pn**	**05 36 39.5**	**+0.6**
	baz=298						
AKMC	**Akamas**	**4.37**	**112**	P	**Pn**	**05 36 39.5**	**+0.6**
PPCY	**Paphos**	**4.45**	**114**	P	**Pn**	**05 36 41.0**	**+1.1**
	baz=299						
PPCY	**Paphos**	**4.45**	**114**	P	**Pn**	**05 36 41.0**	**+1.1**
ALFC	**Alevga**	**4.52**	**110**	P	**Pn**	**05 36 41.5**	**+0.5**
	baz=295						
ALFC				S	**Sn**	**05 37 31.7**	**-1.7**
ALFC	**Alevga**	**4.52**	**110**	P	**Pn**	**05 36 41.5**	**+0.5**
ALFC				S	**Sn**	**05 37 31.7**	**-1.7**
SZAC	**Souni-Zanaja**	**4.90**	**113**	P	**Pn**	**05 36 47.3**	**+1.1**
	baz=298						
SZAC				S	**Sn**	**05 37 40.9**	**-1.8**
SZAC	**Souni-Zanaja**	**4.90**	**113**	P	**Pn**	**05 36 47.3**	**+1.1**
SZAC				S	**Sn**	**05 37 40.9**	**-1.8**
EDRB	**Edirne**	**5.07**	**354**	*e*PN	**Pn**	**05 36 50.2**	**+1.7**
EDRB	**Edirne**	**5.07**	**354**	*e*Pn	**Pn**	**05 36 50.2**	**+1.7**
CSS	**Prodhromos**	**5.15**	**109**	P	**Pn**	**05 36 49.5**	**-0.1**
	baz=294						
CSS				S	**Sn**	**05 37 47.6**	**-1.3**
CSS	**Prodhromos**	**5.15**	**109**	*e*PN	**Pn**	**05 36 50.8**	**+1.2**
CSS	**Prodhromos**	**5.15**	**109**	P	**Pn**	**05 36 49.5**	**-0.1**
CSS	**Prodhromos**	**5.15**	**109**	*e*Pn	**Pn**	**05 36 50.8**	**+1.2**
CSS				S	**Sn**	**05 37 47.6**	**-1.3**
BRTR	**Keskin Array B**	**5.71**	**57**	Pn	**Pn**	**05 36 58.9**	**+1.4**
	0.8nm,0.3s,baz=238,slow=16,SNR=14						
BRTR				Sn	**Sn**	**05 38 07.8**	**+4.8**
	baz=260,slow=25,SNR=2.3						
MMAI	**Mount Meron Ar**	**7.58**	**117**	Pn	**Pn**	**05 37 23.1**	**0.0**
	2.8nm,0.3s,baz=225,slow=55,SNR=3.4						
MMAI				Sn	**Sn**	**05 38 44.2**	**-4.6**
	6.3nm,0.3s,baz=307,slow=29,SNR=4.8						
MLR	**Muntele Rosu**	**8.76**	**353**	LR	LR	05 41 36.2	
	comp=Z,5.6nm,21.3s,baz=84,slow=42						
EIL	**Elat**	**9.51**	**136**	Pn	**Pn**	**05 37 50.0**	**+0.6**
	0.7nm,0.3s,baz=300,slow=20,SNR=5.2						
EIL				Sn	**Sn**	**05 39 31.8**	**-4.4**
	2.3nm,0.3s,baz=79,slow=3.4,SNR=6.9						
VRAC	**Vranov**	**14.77**	**331**	LR	LR	05 45 48.6	
	comp=Z,37nm,19.2s,baz=292,slow=42						
ESDC	**Sonseca Array**	**24.74**	**286**	P	**P**	**05 40 52.9**	**-1.1**
	0.1nm,0.3s,baz=79,slow=8.0,SNR=4.1						
HFS	**Hagfors**	**24.96**	**344**	P	**P**	**05 40 56.6**	**+1.0**
	2.0nm,0.9s,baz=170,slow=8.8,SNR=3.7						
AKTO	**Aktyubinsk**	**25.81**	**48**	P	**P**	**05 41 03.1**	**-0.3**
	0.4nm,0.3s,baz=252,slow=14,SNR=3.5						
TORD	**Torodi Ar. Bea**	**32.93**	**231**	P	**P**	**05 42 07.0**	**-0.1**
	0.9nm,0.7s,baz=33,slow=8.3,SNR=7.2						
KURBB	**Kurchatov Arra**	**38.68**	**53**	P	**P**	**05 42 56.4**	**+0.3**
	1.0nm,0.6s,baz=279,slow=8.8,SNR=9.7						
MKAR	**Makanchi Array**	**41.36**	**58**	P	**P**	**05 43 18.6**	**+0.2**
	1.2nm,0.5s,baz=273,slow=7.9,SNR=16						
ZALV	**Zalesovo Beam**	**42.56**	**47**	P	**P**	**05 43 27.7**	**-0.3**
	0.9nm,0.5s,baz=274,slow=8.0,SNR=2.7						
ILAR	**Eielson Array**	**78.67**	**358**	P	**P**	**05 47 33.9**	**-0.2**
	0.2nm,0.7s,baz=1.3,slow=4.0,SNR=2.9						

ISCJB 15 05:50:54.0±0.7, 14°.27N±0°.09×92°.27W±0°.05, h70km±13km, Error ellipse: s-maj=16.2km s-min=4.1km az=26.5
NEIC 15 05:50:56.3, 14°.22N×92°.28W, h26km, MD4.0(MEX), After MEX.
MEX 15 05:50:56.4±0.5, 14°.24N×92°.31W, h30km±20km, MD3.9
CASC 15 05:50:58.3±2.0, 14°.19N×92°.02W, h58km±15km, MD3.9

ISC 15 05:50:54.4±1.4, 14°.22N±0°.09×92°.28W±0°.05, h65km±18km, n23, σ1§24/35, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.63**	**81**	*e*P	**Pn**	**05 51 09.1**	**+1.0**
JAT				*e*S	**Sn**	**05 51 17.6**	**-0.6**
FUG	**Fuego 3**	**1.41**	**81**	*e*P	**Pn**	**05 51 18.4**	**+0.2**
PCG	**Pacaya**	**1.63**	**84**	*e*P	**Pn**	**05 51 22.0**	**+0.8**
PCG				*e*S	**Sn**	**05 51 41.0**	**-0.3**
PCIG		**1.73**	**328**	*e*P	**Pn**	**05 51 22.5**	**+0.2**
PCIG				*i* S	**Sn**	**05 51 41.9**	**-1.7**
PCIG		**1

BADI Sg Sn 05 53 33.6 -0.6
726nm,0.7s
FSSB Fossombrone 0.63 134 Pg Pb 05 53 22.8 -0.4
601nm,0.3s
FSSB Fossombrone 0.63 134 Pg Pb 05 53 22.8 -0.4
601nm,0.3s
PIEI Pieia 0.66 155 Pg Pb 05 53 23.1 -0.5
PIEI Sg Sn 05 53 34.5 -0.6
374nm,0.4s
PIEI Pieia 0.66 155 Pg Pb 05 53 23.1 -0.5
PIEI Sg Sn 05 53 34.5 -0.6
374nm,0.4s
CDCA Citt' di Caste 0.68 175 Pg Pn 05 53 25.1 -0.3
622nm,0.7s
CDCA Citt' di Caste 0.68 175 Pg Pn 05 53 25.1 -0.3
622nm,0.7s
ATPC Poggio Castell 0.69 161 Pg Pb 05 53 24.1 -0.1
771nm,0.9s
ATPC Poggio Castell 0.69 161 Pg Pb 05 53 24.1 -0.1
771nm,0.9s
ATPI Pietralunga - 0.70 165 Pg Pb 05 53 24.2 -0.3
847nm,1.1s
ATPI Pietralunga - 0.70 165 Pg Pb 05 53 24.2 -0.3
847nm,1.1s
FNVD Fontana Vidola 0.74 273 Pg Pb 05 53 24.9 -0.2
638nm,0.5s
FNVD Fontana Vidola 0.74 273 Pg Pb 05 53 24.9 -0.2
638nm,0.5s
ATVO AVT- Monte Val 0.77 166 Pg Pb 05 53 25.5 -0.1
779nm,0.9s
ATVO AVT- Monte Val 0.77 166 Pg Pb 05 53 25.5 -0.1
779nm,0.9s
CAFI Castiglion Fio 0.81 190 Pg Pb 05 53 26.7 +0.4
CAFI Castiglion Fio 0.81 190 Pg Pb 05 53 26.7 +0.4
ATFO Monte Foce - G 0.82 158 Pg Pb 05 53 26.4 -0.1
ATFO Monte Foce - G 0.82 158 Pg Pb 05 53 26.4 -0.1
ARVD Arcevia 0.85 138 Pg Pb 05 53 27.3 +0.3
217nm,0.6s
ARVD Arcevia 0.85 138 Pg Pb 05 53 27.3 +0.3
217nm,0.6s
CSNT Castellina Chi 0.91 224 Pg Pb 05 53 28.2 +0.3
380nm,0.8s
CSNT Castellina Chi 0.91 224 Pg Pb 05 53 28.2 +0.3
380nm,0.8s
MURB Monte Urbino 0.91 163 Pg Pb 05 53 28.0 0.0
709nm,0.6s
MURB Monte Urbino 0.91 163 Pg Pb 05 53 28.0 0.0
709nm,0.6s
CRMI Carmignano 0.92 249 Pg Pb 05 53 28.0 -0.1
242nm,0.8s
CRMI Carmignano 0.92 249 Pg Pb 05 53 28.0 -0.1
242nm,0.8s
POPM Popiglio 1.01 266 P Pb 05 53 30.0 +0.3
POPM S Sn 05 53 45.1 +1.4
SNTG Esanatoglia 1.05 147 Pg Pb 05 53 30.6 +0.3
296nm,0.8s
SNTG Esanatoglia 1.05 147 Pg Pb 05 53 30.6 +0.3
296nm,0.8s
CING Cingoli 1.07 135 Pg Pb 05 53 31.2 +0.5
278nm,0.8s
CING Cingoli 1.07 135 Pg Pb 05 53 31.2 +0.5
278nm,0.8s
BDI Bagni Di Lucca 1.12 267 Pg Pg 05 53 33.1 +0.6
332nm,0.6s
BDI Bagni Di Lucca 1.12 267 Pg Pg 05 53 33.1 +0.6
332nm,0.6s
AOI Ancona 1.20 119 Pg Pb 05 53 33.3 +0.4
147nm,0.5s
AOI Ancona 1.20 119 Pg Pb 05 53 33.3 +0.4
147nm,0.5s
MAIM Mastiano 1.22 260 Pg Pg 05 53 34.2 -0.1
149nm,0.8s
MAIM Mastiano 1.22 260 P Pn 05 53 32.6 -0.2
MAIM Mastiano 1.22 260 Pg Pg 05 53 34.2 -0.1
149nm,0.8s
MAIM S Sg 05 53 49.9 -0.3
MGAB Montegabbione 1.22 181 Pg Pb 05 53 33.8 +0.5
379nm,0.6s
MGAB Montegabbione 1.22 181 Pg Pb 05 53 33.8 +0.5
379nm,0.6s
CESI CESI - Serrava 1.25 154 Pg Pb 05 53 34.2 +0.3
46nm,0.6s
CESI CESI - Serrava 1.25 154 Pg Pb 05 53 34.2 +0.3
46nm,0.6s
VLC Villacollemand 1.27 272 Pg Pg 05 53 35.3 0.0
305nm,1.1s
VLC Villacollemand 1.27 272 Pg Pg 05 53 35.3 0.0
305nm,1.1s
TEOL Teolo 1.27 345 Pg Pn 05 53 33.3 -0.3
2µm,0.7s
TEOL Teolo 1.27 345 Pg Pn 05 53 33.3 -0.3
2µm,0.7s
FDMO Fiordimonte 1.29 148 Pg Pb 05 53 34.7 +0.2
222nm,0.8s
FDMO Fiordimonte 1.29 148 Pg Pb 05 53 34.7 +0.2
222nm,0.8s
SACS San Casciano d 1.29 188 Pg Pb 05 53 34.8 +0.2
283nm,0.9s
GRFL Gerfalco 1.30 221 Pg Pb 05 53 35.4 +0.7
65nm,0.8s
GRFL Gerfalco 1.30 221 Pg Pb 05 53 35.4 +0.7
65nm,0.8s
SASS Sassa´´´´ 1.37 231 Pg Pb 05 53 36.2 +0.3
97nm,0.7s
SASS Sassa´´´´ 1.37 231 Pg Pb 05 53 36.2 +0.3
97nm,0.7s
VALM Valbona 1.39 280 P Pn 05 53 34.9 -0.3
VALM S Sb 05 53 54.2 +0.7
MARN Marana (Italy) 1.65 336⇑ePg Pn 05 53 38.6 -0.2
MARN eSg Sn 05 53 58.9 -0.6
MARN Marana (Italy) 1.65 336 ePg Pn 05 53 38.6 -0.2
MARN eSg Sn 05 53 58.9 -0.6
CGRP Cima Grappa 1.77 352⇓ePg Pn 05 53 40.1 -0.5
CGRP eSg Sn 05 54 01.6 -1.0
CGRP Cima Grappa 1.77 352 ePg Pn 05 53 40.1 -0.5
CGRP eSg Sb 05 54 05.3 +0.8
BALD Monte Baldo 1.82 329⇓ePg Pn 05 53 41.4 +0.1
BALD eSg Sn 05 54 04.1 +0.1
BALD Monte Baldo 1.82 329 ePg Pn 05 53 41.4 +0.1
BALD eSg Sn 05 54 04.1 +0.1
DDS Dosso del Somm 1.88 339⇑ePg Pn 05 53 41.7 -0.4
DDS Dosso del Somm 1.88 339 ePg Pn 05 53 41.7 -0.4
CAE Caneva 1.89 6⇑ePg Pn 05 53 41.3 -0.8
CAE Caneva 1.89 6 ePg Pn 05 53 41.3 -0.8
POLC Polcenigo 1.91 7 ePg Pn 05 53 42.0 -0.3
SKDS Skadanscina 1.94 42 *i* Pn Pn 05 53 41.3 -1.5
SKDS Skadanscina 1.94 42 Pn Pn 05 53 41.3 -1.5
TRI Trieste 1.95 35⇑ePg Pn 05 53 41.6 -1.2
TRI eSg Sn 05 54 05.4 -1.5
NVLJ Novalja 2.00 77 *i* Pn Pn 05 53 43.2 -0.4
NVLJ Sn Sn 05 54 08.0 -0.1
NVLJ Novalja 2.00 77 *i* Pn Pn 05 53 43.1 -0.4
NVLJ Sn Sn 05 54 07.9 -0.1
PANI Panarotta 2.01 343⇓ePn Pn 05 53 43.9 -0.1
PANI eSn Sn 05 54 07.4 -1.2
PANI Panarotta 2.01 343⇓ePn Pn 05 53 43.8 -0.1
PANI eSn Sn 05 54 07.4 -1.2
MLNI Malnisio 2.04 9⇓ePn Pn 05 53 43.5 -0.7
MLNI Malnisio 2.04 9⇓ePn Pn 05 53 43.5 -0.7
SABO M.te Sabotino 2.11 29⇓ePn Pn 05 53 44.5 -0.7
SABO eSn Sn 05 54 10.7 -0.3
SABO M.te Sabotino 2.11 29⇓ePn Pn 05 53 44.5 -0.7
SABO eSn Sn 05 54 10.7 -0.3
RNI Roncone 2.13 331⇓ePn Pn 05 53 45.8 +0.2
RNI Roncone 2.13 331⇓ePn Pn 05 53 45.8 +0.2
CSO Casso 2.14 3⇓ePn Pn 05 53 44.6 -1.1
CSO Casso 2.14 3⇓ePn Pn 05 53 44.6 -1.1
COLI Coloredo 2.18 23⇓ePn Pn 05 53 45.5 -0.6
COLI eSn Sn 05 54 11.7 -0.9
COLI Coloredo 2.18 23⇓ePn Pn 05 53 45.5 -0.6
COLI eSn Sn 05 54 11.7 -0.9
CIMO Cimolais 2.19 5⇓ePn Pn 05 53 45.2 -1.0
CIMO Cimolais 2.19 5⇓ePn Pn 05 53 45.2 -1.0
MPRI Monte Prat 2.19 15⇓ePn Pn 05 53 46.0 -0.2
MPRI Monte Prat 2.19 15⇓ePn Pn 05 53 46.0 -0.2
BUA Buia 2.20 18⇓ePn Pn 05 53 46.0 -0.3
BUA eSn Sn 05 54 12.6 -0.4
BUA Buia 2.20 18⇓ePn Pn 05 53 46.0 -0.3
BUA eSn Sn 05 54 12.6 -0.4
BAD Bernadia 2.24 20⇓ePn Pn 05 53 46.3 -0.6
BAD eSn Sn 05 54 12.9 -1.3
BAD Bernadia 2.24 20⇓ePn Pn 05 53 46.3 -0.6
BAD eSn Sn 05 54 12.9 -1.3
VOJS Vojsko 2.26 32 *i* Pn Pn 05 53 46.2 -1.1
VOJS Vojsko 2.26 32 *i* Pn Pn 05 53 46.2 -1.1
VINO Villanova 2.27 20⇓ePn Pn 05 53 46.7 -0.6
VINO Villanova 2.27 20⇓ePn Pn 05 53 46.7 -0.6
BOO Bordano 2.29 17 ePn Pn 05 53 47.0 -0.6
BOO Bordano 2.29 17 ePn Pn 05 53 47.0 -0.6
DRE Drenchia 2.30 27⇓ePn Pn 05 53 46.9 -0.8
DRE eSn Sn 05 54 14.6 -1.0
DRE Drenchia 2.30 27⇓ePn Pn 05 53 46.9 -0.8
DRE eSn Sn 05 54 14.6 -1.0
FUSE Fusea 2.36 14⇑ePn Pn 05 53 48.1 -0.4
FUSE Fusea 2.36 14⇑ePn Pn 05 53 48.1 -0.4
KOSI Kohlern 2.39 347 ePn Pn 05 53 50.0 +0.8
ZOU Zoufplan 2.49 13⇓ePn Pn 05 53 50.3 -0.3
PLRO Paularo 2.52 16 ePn Pn 05 53 50.5 -0.3
PLRO Paularo 2.52 16 ePn Pn 05 53 50.5 -0.3
LSR Lussari 2.54 22 ePn Pn 05 53 50.6 -0.5
LSR Lussari 2.54 22 ePn Pn 05 53 50.7 -0.5
GORS Gorjuse 2.54 30 *i* Pn Pn 05 53 50.3 -0.8
GORS Gorjuse 2.54 30 *i* Pn Pn 05 53 50.3 -0.8
LJU Ljubljana 2.55 41 ePn Pn 05 53 50.9 -0.2
BOJS Bojanci 2.60 57 *i* Pn Pn 05 53 51.3 -0.5
BOJS Bojanci 2.60 57 *i* Pn Pn 05 53 51.3 -0.5
ACOM Acomizza, Ital 2.60 21⇑ePn Pn 05 53 51.8 -0.2
ACOM Acomizza, Ital 2.60 21⇑ePn Pn 05 53 51.8 -0.2
UDBI Udbina 2.62 80 ePn Pn 05 53 52.4 +0.2
UDBI Sn Sn 05 54 24.0 +0.4
UDBI Udbina 2.62 80 ePn Pn 05 53 52.4 +0.2
UDBI Sn Sn 05 54 24.0 +0.4
ABTA Abfaltersbach 2.63 5 Pn Pn 05 53 52.6 +0.3
SNR=11
ABTA Sn Sn 05 54 23.8 0.0
ABTA Abfaltersbach 2.63 5⇑ePn Pn 05 53 52.6 +0.3
SNR=11
ABTA ⇑*i*Sn Sn 05 54 23.8 0.0
ABSI Aberstueckl 2.66 348 ePn Pn 05 53 53.7 +0.8
MYKA Terra Mystica 2.71 22 Pn Pn 05 53 53.0 -0.4
MYKA Sn Sn 05 54 25.0 -0.7
MYKA Sg Sg 05 54 36.7 -1.1
67nm,0.4s
MYKA Terra Mystica 2.71 22⇑*i*Pn Pn 05 53 53.0 -0.4
MYKA ⇑*i*Sn Sn 05 54 25.0 -0.7
MYKA ⇓*i*Sg Sg 05 54 36.7 -1.1
67nm,0.4s
MOSI Grossmontoni 2.73 336 ePn Pn 05 53 55.4 +1.6
PDKS Podkum 2.79 45 *i* Pn Pn 05 53 53.8 -0.7
PDKS Podkum 2.79 45 *i* Pn Pn 05 53 53.8 -0.7
PGF Pioggiola 2.79 237 ePn Pn 05 53 55.5 +0.9
PGF eSn Sn 05 54 28.8 +1.0
14nm,0.4s
PGF Pioggiola 2.79 237 ePn Pn 05 53 55.5 +0.9
PGF eSn Sn 05 54 28.8 +1.0
6.9nm,0.4s
RISI Rein 2.82 359 ePn Pn 05 53 55.8 +0.8
OBKA Obir 2.92 35 ePn Pn 05 53 56.7 +0.4
OBKA eSn Sn 05 54 30.3 -0.7
OBKA eSg Sg 05 54 44.3 -0.2
OBKA Obir 2.92 35 Pn Pn 05 53 55.7 -0.6
SNR=14
OBKA Sn Sn 05 54 30.2 -0.7
OBKA eSg Sg 05 54 44.3 -0.2
OBKA Obir 2.92 35⇑ePn Pn 05 53 55.7 -0.6
SNR=14
OBKA ⇓*i*Sn Sn 05 54 30.2 -0.7
FETA Feichten 3.06 341 Pn Pn 05 53 58.5 +0.2
SNR=8.3
FETA Sn Sn 05 54 35.0 +0.5
FETA Feichten 3.06 341⇑ePn Pn 05 53 58.5 +0.2
SNR=8.3
FETA ⇓*i*Sn Sn 05 54 35.0 +0.5
KBA Koelnbreinsper 3.06 15 ePn Pn 05 53 58.8 +0.4
KBA eSn Sn 05 54 34.3 -0.3
KBA Koelnbreinsper 3.06 15 Pn Pn 05 53 57.6 -0.8
SNR=9.5
KBA eSn Sn 05 54 34.3 -0.3
KBA Koelnbreinsper 3.06 15⇓ePn Pn 05 53 57.6 -0.8
SNR=9.5
KBA ⇑*i*Sn Sn 05 54 34.4 -0.3
WTTA Wattenberg 3.15 354 ePn Pn 05 54 01.2 +1.6
WTTA Wattenberg 3.15 354 Pn Pn 05 53 59.9 +0.3
WTTA Sn Sn 05 54 36.8 0.0
WTTA Wattenberg 3.15 354⇓ePn Pn 05 53 59.9 +0.3
WTTA ⇑*i*Sn Sn 05 54 36.8 0.0
WATA Walderalm 3.23 353 Pn Pn 05 54 00.6 0.0
SNR=11
WATA Sn Sn 05 54 39.6 +1.0
WATA Walderalm 3.23 353⇑*i*Pn Pn 05 54 00.6 0.0
SNR=11
WATA ⇓*i*Sn Sn 05 54 39.6 +1.0
SOKA Soboth 3.25 38 Pn Pn 05 54 00.4 -0.5
SOKA Soboth 3.25 38⇑*i*Pn Pn 05 54 00.4 -0.5
SOKA ⇓*i*Pg Pb 05 54 10.5 +2.5
SOKA ⇓*i*Sn Sn 05 54 38.1 -1.1
SOKA ⇑*i*Sg Sg 05 54 54.0 -1.3
22nm,0.4s
MOTA Moosalm 3.30 348 Pn Pn 05 54 01.7 +0.2
SNR=12
MOTA Moosalm 3.30 348⇑*i*Pn Pn 05 54 01.7 +0.2
SNR=12
SBF Sospel 3.41 267 ePn Pn 05 54 03.1 0.0
SBF eSn Sn 05 54 42.7 -0.4
24nm,0.4s
SBF Sospel 3.41 267 ePn Pn 05 54 03.1 0.0
SBF eSn Sn 05 54 42.7 -0.4
12nm,0.4s
PLONS Plons/SG 3.51 327 ePn Pn 05 54 07.0 +2.6
PLONS eSn Sn 05 54 47.6 +2.2
PLONS Plons/SG 3.51 327 ePn Pn 05 54 07.0 +2.6
PLONS eSn Sn 05 54 47.6 +2.2
DAVA Damuels 3.53 334 ePn Pn 05 54 07.0 +2.2
DAVA eSn Sn 05 54 48.7 +2.5
DAVA Damuels 3.53 334 Pn Pn 05 54 05.5 +0.7
SNR=5.9
DAVA Sn Sn 05 54 47.0 +0.8
DAVA Damuels 3.53 334⇑*i*Pn Pn 05 54 05.5 +0.7
SNR=5.9
DAVA ⇓*i*Sn Sn 05 54 47.0 +0.8
RJOB Jochberg 3.63 7 ePn Pn 05 54 08.0 +1.9
RJOB eSn Sn 05 54 49.8 +1.3
RJOB Jochberg 3.63 7 ePn Pn 05 54 08.0 +1.9
RJOB eSn Sn 05 54 49.8 +1.3
MBDF Montbardon 3.90 281 ePn Pn 05 54 09.8 0.0
MBDF eSn Sn 05 54 54.2 -1.0
13nm,0.6s
MBDF Montbardon 3.90 281 ePn Pn 05 54 09.8 0.0
MBDF eSn Sn 05 54 54.2 -1.0
6.4nm,0.6s
ARSA Arzberg 3.91 36 ePn Pn 05 54 09.4 -0.5
ARSA Arzberg 3.91 36 ePn Pn 05 54 09.4 -0.5
ARSA Arzberg 3.91 36⇑ePn Pn 05 54 09.1 -0.8
WILA Wila 3.99 326 ePn Pn 05 54 12.7 +1.6
WILA eSn Sn 05 54 57.7 +0.4
WILA eSg Sg 05 55 24.5 +5.7
WILA Wila 3.99 326 ePn Pn 05 54 12.6 +1.6
WILA eSn Sn 05 54 57.7 +0.4
MOA Molln 4.00 21 ePn Pn 05 54 11.6 +0.5
MOA eSn Sn 05 54 56.8 -0.7
MOA Molln 4.00 21 Pn Pn 05 54 10.6 -0.5
MOA eSn Sn 05 54 56.8 -0.7
MOA Molln 4.00 21⇑ePn Pn 05 54 10.6 -0.5
MOA ⇓*i*Sn Sn 05 54 56.6 -0.8
LPG La Plagne 4.08 291 ePn Pn 05 54 11.9 -0.5
LPG eSn Sn 05 54 57.9 -1.9
12nm,0.4s
LPG La Plagne 4.08 291 ePn Pn 05 54 11.9 -0.5
LPG eSn Sn 05 54 57.9 -1.9
5.8nm,0.4s
FUR Furstenfeldbru 4.08 352 eSn Sn 05 54 59.6 +0.1
FUR Furstenfeldbru 4.08 352 eSn Sn 05 54 59.6 +0.1
LPL La Plagne 4.10 292 ePn Pn 05 54 12.2 -0.4
LPL eSn Sn 05 54 58.3 -1.9
14nm,0.4s
LPL La Plagne 4.10 292 ePn Pn 05 54 12.2 -0.4
LPL eSn Sn 05 54 58.3 -1.9
6.8nm,0.4s
LMR La Mourre 4.17 261 ePn Pn 05 54 13.5 +0.1
LMR eSn Sn 05 55 00.8 -0.8
6.7nm,0.5s
LMR La Mourre 4.17 261 ePn Pn 05 54 13.5 +0.1
LMR eSn Sn 05 55 00.8 -0.8
3.3nm,0.5s
STON Ston 4.23 105 ePn Pn 05 54 15.7 +1.4
STON Sn Sn 05 55 02.0 -1.0
STON Ston 4.23 105 ePn Pn 05 54 15.6 +1.4
STON Sn Sn 05 55 02.0 -1.0
SULZ Cheisacher 4.42 322 ePn Pn 05 54 18.1 +1.3
SULZ Cheisacher 4.42 322 ePn Pn 05 54 18.1 +1.3
SLE Schleitheim 4.44 326 ePn Pn 05 54 18.0 +0.9
SLE eSn Sn 05 55 06.2 -2.1
SLE Schleitheim 4.44 326 ePn Pn 05 54 18.0 +0.9
SLE eSn Sn 05 55 06.2 -2.1
BALST Balsthal 4.47 317 ePn Pn 05 54 18.3 +0.7
BALST eSn Sn 05 55 05.9 -3.3
BALST Balsthal 4.47 317 ePn Pn 05 54 18.3 +0.7
BALST eSn Sn 05 55 05.9 -3.3
ORIF Oris-en-Rattie 4.55 282 ePn Pn 05 54 18.4 -0.4
ORIF eSn Sn 05 55 09.5 -1.7
18nm,0.7s
ORIF Oris-en-Rattie 4.55 282 ePn Pn 05 54 18.4 -0.4
ORIF eSn Sn 05 55 09.5 -1.7
8.8nm,0.7s
CONA Conrad Observa 4.59 33 Pn Pn 05 54 18.8 -0.5
CONA Conrad Observa 4.59 33⇓*i*Pn Pn 05 54 18.8 -0.5
CONA ⇑*i*Pg Pg 05 54 36.3 -2.3
CONA ⇑*i*Sn Sn 05 55 11.3 -0.9
SMRF Simiane la Rot 4.74 270 ePn Pn 05 54 21.2 -0.1
SMRF Simiane la Rot 4.74 270 ePn Pn 05 54 21.2 -0.1
GEC2 GERESS Array S 4.83 12 eSn Sn 05 55 15.6 -2.6
GEC2 GERESS Array S 4.83 12 eSn Sn 05 55 15.6 -2.6
CABF La Chapelle 4.94 302 ePn Pn 05 54 24.9 +0.8
CABF eSn Sn 05 55 17.7 -3.0
7.0nm,0.4s
CABF La Chapelle 4.94 302 ePn Pn 05 54 24.9 +0.8
CABF eSn Sn 05 55 17.7 -3.0
3.5nm,0.4s
BFO Black Forest 4.96 329 ePn Pn 05 54 25.1 +0.7
BFO eSn Sn 05 55 19.1 -2.2
BFO Black Forest 4.96 329 ePn Pn 05 54 25.1 +0.7
BFO eSn Sn 05 55 19.1 -2.2
WET Wettzell 5.04 5 ePn Pn 05 54 24.8 -0.6
WET Wettzell 5.04 5 ePn Pn 05 54 24.8 -0.6
KHC Kasperske Hory 5.10 11 ePN Pn 05 54 25.3 -0.9
KHC ex x 05 54 34.4
KHC ePG Pb 05 54 41.4 +2.1
KHC eSN Sn 05 55 21.3 -3.2
KHC eSB Sb 05 55 44.8 +4.6
KHC eSG 05 55 55.5
KHC ex x 05 56 02.5
KHC Kasperske Hory 5.10 11 Pn Pn 05 54 25.3 -0.9
KHC Kasperske Hory 5.10 11 Pg Pb 05 54 41.4 +2.1
KHC Sn Sn 05 55 21.3 -3.2
HINF Hinteralfeld 5.22 317 ePn Pn 05 54 27.0 -0.8
HINF eSn Sn 05 55 23.3 -4.2
21nm,0.4s
HINF Hinteralfeld 5.22 317 ePn Pn 05 54 27.0 -0.8
HINF eSn Sn 05 55 23.3 -4.2
10nm,0.4s
VIVF Saint-Julien-l 5.40 280 ePn Pn 05 54 29.9 -0.4
VIVF Saint-Julien-l 5.40 280 ePn Pn 05 54 29.9 -0.4
CDF Champ du Feu 5.45 323 ePn Pn 05 54 31.1 0.0
CDF eSn Sn 05 55 28.9 -4.5
10nm,0.3s
CDF Champ du Feu 5.45 323 ePn Pn 05 54 31.1 0.0
HAU Haudompre 5.59 316 ePn Pn 05 54 33.1 +0.1
HAU eSn Sn 05 55 32.6 -4.2
47nm,0.5s
HAU Haudompre 5.59 316 ePn Pn 05 54 33.1 +0.1
LASF Ste Croix 5.97 272 ePn Pn 05 54 37.9 -0.3
LASF Ste Croix 5.97 272 ePn Pn 05 54 37.9 -0.3
GOPC GO Pecny, Ondr 6.06 16 ePN Pn 05 54 38.5 -0.8
GOPC ex x 05 54 45.4
GOPC ePG Pb 05 54 58.7 +3.0
GOPC eSN Sn 05 55 43.5 -4.7
GOPC eSG Sg 05 56 25.3 +0.3
GOPC GO Pecny, Ondr 6.06 16 Pn Pn 05 54 38.5 -0.8
PRU Pruhonice 6.08 15 ePG Pb 05 54 59.0 +2.9
PRU ex x 05 55 03.8
PRU eSN Sn 05 55 43.1 -5.6
PRU eSG Sg 05 56 24.4 -1.4
PRU ex x 05 56 29.0
NKC Novy Kostel 6.11 2 ePN Pn 05 54 40.1 +0.1
NKC ePG Pb 05 55 00.5 +4.0
NKC ex x 05 55 05.7
NKC eSN Sn 05 55 44.5 -4.9
NKC eSG Sg 05 56 27.3 +0.7
NKC Novy Kostel 6.11 2 Pn Pn 05 54 40.1 +0.1
WERN Wernitzgruen 6.16 1 ePn Pn 05 54 41.5 +0.7
WERN Wernitzgruen 6.16 1 ePn Pn 05 54 41.5 +0.7
GUNZ Gunzen 6.24 1 ePn Pn 05 54 42.9 +1.1
GUNZ Gunzen 6.24 1 ePn Pn 05 54 42.9 +1.1
PAGF Fort de Pagny 6.27 317 ePn Pn 05 54 40.6 -1.7
PAGF eSn Sn 05 55 48.6 -4.8
1.8nm,0.3s
PAGF Fort de Pagny 6.27 317 ePn Pn 05 54 40.6 -1.7
TANN Tannenbergstha 6.29 2 ePn Pn 05 54 42.0 -0.6
TANN Tannenbergstha 6.29 2 ePn Pn 05 54 42.0 -0.6
WERD Werda 6.32 1 ePn Pn 05 54 42.7 -0.2
WERD Werda 6.32 1 ePn Pn 05 54 42.7 -0.2
SMF Signal de Mont 6.37 296 ePn Pn 05 54 42.6 -1.0
SMF eSn Sn 05 55 51.9 -3.9
7.6nm,0.3s
SMF Signal de Mont 6.37 296 ePn Pn 05 54 42.6 -1.0
SFTF Sexfontaines 6.40 312 ePn Pn 05 54 42.5 -1.6
SFTF eSn Sn 05 55 51.9 -4.7
5.5nm,0.3s
SFTF Sexfontaines 6.40 312 ePn Pn 05 54 42.5 -1.6
MEZF Maizieres J'vi 6.58 314 ePn Pn 05 54 44.9 -1.5
MEZF eSn Sn 05 55 56.0 -4.9
7.2nm,0.3s
MEZF Maizieres J'vi 6.58 314 ePn Pn 05 54 44.9 -1.5
LOR Lormes 6.60 301 ePn Pn 05 54 46.3 -0.5
baz=125
LOR eSn Sn 05 55 57.4 -4.1
12nm,0.4s
LOR Lormes 6.60 301 ePn Pn 05 54 46.3 -0.5
PVCC Panska Ves 6.61 14 eSN Sn 05 55 57.7 -3.9
PVCC eSG Sg 05 56 39.2 -3.4
KRLC Kraliky 6.73 26 ePN Pn 05 54 47.0 -1.6
KRLC eSN Sn 05 56 00.0 -4.8
KRLC ex x 05 56 14.7
KRLC eSG Sg 05 56 45.7 -0.9
KRLC Kraliky 6.73 26 Pn Pn 05 54 47.0 -1.6
AVF Avril sur Loir 6.73 296 ePn Pn 05 54 47.6 -1.0
AVF eSn Sn 05 56 00.7 -4.1
2.1nm,0.4s
AVF Avril sur Loir 6.73 296 ePn Pn 05 54 47.6 -1.0
SSF Saint Saulge 6.74 299 ePn Pn 05 54 47.8 -0.8
SSF eSn Sn 05 56 00.8 -4.0
8.3nm,0.6s
SSF Saint Saulge 6.74 299 ePn Pn 05 54 47.8 -0.8
DPC Dobruska-Polom 6.84 23 ePN Pn 05 54 48.5 -1.6
DPC ex x 05 54 56.8
DPC eSN Sn 05 56 02.3 -5.1
DPC eSG Sg 05 56 47.6 -2.4
DPC Dobruska-Polom 6.84 23 Pn Pn 05 54 48.5 -1.6
BRG Berggiesshubel 6.85 10 PN Pn 05 54 49.5 -0.7
BRG *i* 05 56 02.0
BRG Berggiesshubel 6.85 10 SG Sg 05 56 56.9 +6.4
11nm,1.1s
UPC Upice 6.90 21 ePN Pn 05 54 49.9 -0.9
UPC eSN Sn 05 56 04.1 -4.7
UPC ex x 05 56 16.0
UPC eSG Sg 05 56 48.8 -3.0
UPC Upice 6.90 21 Pn Pn 05 54 49.9 -0.9
BGF Bois d'Agland 6.99 294 ePn Pn 05 54 51.1 -1.1
BGF eSn Sn 05 56 07.1 -4.0
9.3nm,0.5s
BGF Bois d'Agland 6.99 294 ePn Pn 05 54 51.1 -1.1
CLL Collm 7.20 4 ePn Pn 05 54 55.0 0.0
CLL eSn Sn 05 56 10.0 -6.3
CLL eSg Sg 05 57 10.0 +8.3
comp=Z,26nm,1.4s
MTLF Montolieu 7.24 267 ePn Pn 05 54 55.2 -0.4
MTLF Montolieu 7.24 267 ePn Pn 05 54 55.2 -0.4
CAF Calviac 7.25 280 ePn Pn 05 54 55.1 -0.7
CAF Calviac 7.25 280 ePn Pn 05 54 55.1 -0.7
TCF Toulx Ste Croi 7.34 291 ePn Pn 05 54 56.0 -1.0
TCF eSn Sn 05 56 15.8 -4.1
comp=Z,4.0nm,0.3s
TCF Toulx Ste Croi 7.34 291 ePn Pn 05 54 56.0 -1.0
RJF Les Rejaudoux 7.67 282 ePn Pn 05 55 00.7 -0.7
RJF Les Rejaudoux 7.67 282 ePn Pn 05 55 00.7 -0.7
EPF Esparros 8.65 267 ePn Pn 05 55 14.4 -0.5
EPF Esparros 8.65 267 ePn Pn 05 55 14.4 -0.5

*JMA **15** 06:05:16.4±0.1,23°.68N×121°.59E,h31^{km}±2^{km},M2.9*
*ISCJB **15** 06:05:17.3±0.3,23°.68N±0°.01×121°.62E±0°.02,h27^{km}±2^{km}, Error ellipse: s-maj=3.0km s-min=1.9km az=41.9*
*TAP **15** 06:05:17.5,23°.70N×121°.54E,h29^{km},ML3.7,B*
ISC 15 06:05:17.4±0.9,23°.67N±0°.02×121°.60E±0°.02,h30^{km}±5^{km}, n65,σ0^{s}82/121,9C-1D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.07**	**302**	P	**Pb**	**06 05 23.1**	**+0.6**
	baz=57						
TEGC				*e*S	**Sb**	**06 05 27.1**	**+1.2**
	baz=57						
ESL	**Shilin**	**0.21**	**312**	⇑*i*P	**Pb**	**06 05 23.0**	**-0.7**
	baz=313						
ESL				S	**Sb**	**06 05 26.9**	**-1.0**
	baz=313						
ESF	**Shoufeng Towns**	**0.21**	**336**	*e*P	**Pb**	**06 05 23.8**	**+0.1**
	baz=339						
ESF				*e*S	**Sb**	**06 05 28.4**	**+0.3**
	baz=339						
HWA	**Hwalien**	**0.30**	**1**	*e*P	**Pb**	**06 05 24.6**	**-0.2**
	baz=22						
HWA				*e*S	**Sn**	**06 05 30.9**	**-0.3**
	baz=22						
EHY	**Hungye**	**0.31**	**237**	⇑*i*P	**Pb**	**06 05 24.3**	**-0.6**
	baz=224						
EHY				S	**Sb**	**06 05 29.0**	**-1.0**
	baz=224						
TWD	**Chiawan**	**0.40**	**359**	⇑*i*P	**Pb**	**06 05 26.1**	**-0.2**
	baz=360						
TWD				*e*S	**Sn**	**06 05 33.1**	**-0.7**
	baz=360						
TWF1	**Yuli**	**0.42**	**221**	⇓*i*P	**Pb**	**06 05 26.2**	**-0.4**
	baz=220						
TWF1				*e*S	**Sb**	**06 05 32.4**	**-0.5**
	baz=220						
WDT	**Danda**	**0.44**	**281**	⇑*i*P	**Pb**	**06 05 26.4**	**-0.7**
	baz=278						
WDT				*i* S	**Sb**	**06 05 32.1**	**-1.5**
	baz=278						
WHF	**Hehuan Shan**	**0.56**	**327**	⇑*i*P	**Pb**	**06 05 28.0**	**-1.1**
	baz=331						
WHF				*e*S	**Sb**	**06 05 35.5**	**-1.6**
	baz=331						
CHKT	**Chengkung**	**0.61**	**201**	*e*P	**Pn**	**06 05 29.9**	**-0.1**
	baz=180						
CHKT				*e*S	**Sn**	**06 05 38.7**	**-0.2**
	baz=180						
YUS	**Yu-Shan**	**0.62**	**253**	⇑*i*P	**Pb**	**06 05 30.0**	**-0.1**
	baz=248						
YUS				S	**Sb**	**06 05 37.7**	**-1.1**
	baz=248						
TWT	**Tachien**	**0.69**	**326**	*e*P	**Pb**	**06 05 30.6**	**-0.5**
	baz=333						
TYC	**Yuchr**	**0.72**	**289**	*i* P	**Pb**	**06 05 30.6**	**-0.8**
	baz=295						
TYC				*e*S	**Sb**	**06 05 40.4**	**-0.6**
	baz=295						
ELDTW	**Lidau**	**0.72**	**228**	P	**Pb**	**06 05 30.5**	**-1.1**
	baz=218						
ELDTW				*e*S	**Sb**	**06 05 39.5**	**-1.7**
	baz=218						
ALS	**Alishan**	**0.75**	**258**	⇑*i*P	**Pn**	**06 05 32.0**	**-0.2**
	baz=253						
ALS				S	**Sb**	**06 05 41.5**	**-0.6**
	baz=253						
ENA	**Nanau**	**0.76**	**10**	⇑*i*P	**Pn**	**06 05 31.3**	**-0.8**
	baz=2.0						
ENA				*e*S	**Sn**	**06 05 42.7**	**+0.1**
	baz=2.0						
NNS	**Nan Shan**	**0.79**	**345**	P	**Pn**	**06 05 31.8**	**-0.8**
	baz=357						
NNS				*e*S	**Sb**	**06 05 41.3**	**-1.9**
	baz=357						
CHN5	**Tsauling**	**0.85**	**265**	⇑*i*P	**Pb**	**06 05 33.7**	**+0.1**
	baz=262						
CHN5				*e*S	**Sn**	**06 05 45.0**	**+0.1**
	baz=262						
WNT	**Mingjian**	**0.86**	**284**	P	**Pb**	**06 05 33.9**	**0.0**
	baz=282						
WNT				*e*S	**Sn**	**06 05 45.8**	**+0.7**
	baz=282						
STYT	**Tauyuan**	**0.93**	**237**	P	**Pn**	**06 05 34.4**	**0.0**
	baz=228						
STYT				*e*S	**Sn**	**06 05 46.6**	**-0.2**
	baz=228						
WGK	**Gukeng**	**0.95**	**271**	*e*P	**Pn**	**06 05 34.0**	**-0.7**
	baz=268						
WGK				*e*S	**Sb**	**06 05 47.8**	**+0.2**
	baz=268						
TWC	**Suao**	**0.96**	**14**	*e*P	**Pn**	**06 05 35.0**	**+0.2**
	baz=28						
TWC				*e*S	**Sn**	**06 05 47.3**	**-0.2**
	baz=28						
ENTT	**Nioudou**	**0.96**	**358**	*e*P	**Pn**	**06 05 33.8**	**-1.1**
	baz=2.0						
TCU	**Taichung**	**0.97**	**299**	*e*P	**Pn**	**06 05 35.8**	**+0.2**
	baz=299						
TCU				*e*S	**Sb**	**06 05 48.7**	**+0.7**
	baz=299						
CHN4	**Tsaushan**	**0.98**	**251**	*e*P	**Pb**	**06 05 36.0**	**+0.2**
	baz=248						
CHN4				*e*S	**Sb**	**06 05 49.0**	**+0.6**
	baz=248						
TWG	**Pinlang**	**0.98**	**210**	*e*P	**Pn**	**06 05 33.8**	**-1.3**
	baz=193						
WTP	**Ta-pu**	**1.00**	**245**	P	**Pb**	**06 05 36.2**	**0.0**
	baz=249						
WTP				*e*S	**Sb**	**06 05 49.6**	**+0.6**
	baz=249						
TWQ1	**Liyutan**	**1.01**	**312**	P	**Pb**	**06 05 36.4**	**+0.1**
	baz=321						
TWQ1				*e*S	**Sb**	**06 05 49.7**	**+0.4**
	baz=321						
NSK	**Sanguang**	**1.02**	**348**	*e*P	**Pn**	**06 05 35.3**	**-0.4**
	baz=1.0						
NSK				*e*S	**Sn**	**06 05 48.2**	**-0.9**
	baz=1.0						
CHN2	**Minshiung**	**1.04**	**262**	*e*P	**Pb**	**06 05 37.4**	**+0.5**
	baz=260						
CHN2				*e*S	**Sb**	**06 05 50.9**	**+0.8**
	baz=260						
TWE	**Neicheng**	**1.04**	**3**	*e*P	**Pn**	**06 05 36.2**	**+0.2**
	baz=7.0						
TWE				*e*S	**Sn**	**06 05 49.1**	**-0.5**
	baz=7.0						
NSY	**Sanyi**	**1.06**	**314**	*e*P	**Pb**	**06 05 37.6**	**+0.4**
	baz=315						
NSY				*e*S	**Sb**	**06 05 52.0**	**+1.1**
	baz=315						
CHY	**Chiayi**	**1.09**	**261**	*e*P	**Pb**	**06 05 36.7**	**+0.1**
	baz=267						
CHY				*e*S	**Sb**	**06 05 52.3**	**+0.7**
	baz=267						
CHN1	**Nanshi**	**1.10**	**244**	P	**Pb**	**06 05 37.9**	**+0.1**
	baz=241						
CHN1				*e*S	**Sb**	**06 05 53.0**	**+1.2**
	baz=241						
NSTT	**Nanjuang**	**1.10**	**330**	*e*P	**Pb**	**06 05 37.6**	**-0.2**
	baz=343						
NSTT				*e*S	**Sn**	**06 05 50.9**	**0.0**
	baz=343						
TWK	**Hsinying**	**1.10**	**249**	P	**Pb**	**06 05 37.8**	**0.0**
	baz=245						
TWK				*e*S	**Sb**	**06 05 52.6**	**+0.8**
	baz=245						
SGST	**Jiashian**	**1.10**	**238**	*e*P	**Pb**	**06 05 37.8**	**-0.1**
	baz=226						
SGST				*e*S	**Sb**	**06 05 53.2**	**+1.2**
	baz=226						
EGS		**1.20**	**14**	*e*P	**Pb**	**06 05 39.5**	**-0.1**
	baz=6.0						
WTCT	**Ta-ch'eng**	**1.22**	**279**	*e*P	**Pb**	**06 05 39.3**	**-0.6**
	baz=269						
WTCT				*e*S	**Sb**	**06 05 56.1**	**+0.8**
	baz=269						
ECL	**Taimali**	**1.23**	**209**	*e*P	**Pn**	**06 05 37.7**	**-0.8**
	baz=196						
WSF	**Szhu**	**1.26**	**269**	*e*P	**Pn**	**06 05 38.9**	**-0.1**
	baz=267						
WSF				*e*S	**Sb**	**06 05 56.0**	**-0.5**
	baz=267						
SSD	**Sandimen**	**1.28**	**224**	*e*P	**Pb**	**06 05 40.8**	**-0.1**
	baz=221						
SSD				*e*S	**Sb**	**06 05 56.9**	**-0.2**
	baz=221						
CHN8	**Yiju**	**1.32**	**256**	*e*P	**Pn**	**06 05 38.5**	**-1.3**
	baz=253						
CHN8				*e*S	**Sb**	**06 05 57.6**	**-0.3**
	baz=253						
NCU	**National Centr**	**1.34**	**344**	*e*P	**Pb**	**06 05 41.0**	**-0.9**
	baz=345						
NCU				*e*S	**Sn**	**06 05 57.2**	**+0.2**
	baz=345						
TWB1	**Santiao Chiao**	**1.37**	**15**	*e*P	**Pb**	**06 05 41.8**	**-0.7**
	baz=5.0						
TWB1				*e*S	**Sb**	**06 05 59.2**	**-0.5**
	baz=5.0						
TWM1	**Shoushan**	**1.38**	**232**	*e*P	**Pb**	**06 05 42.9**	**+0.4**
	baz=242						
TWM1				*e*S	**Sb**	**06 06 02.7**	**+3.0**
	baz=242						
NWF	**Wu-fen Shan**	**1.40**	**7**	P	**Pn**	**06 05 41.7**	**+0.7**
	baz=8.0						
NWF				*e*S	**Sn**	**06 05 59.2**	**+0.7**
	baz=8.0						
TWS1	**Kuangyinshan**	**1.43**	**353**	*e*P	**Pb**	**06 05 43.3**	**-0.1**
	baz=6.0						
TWS1				*e*S	**Sb**	**06 06 00.4**	**-0.8**
	baz=6.0						
JYNG	**Yonagunijimaku**	**1.45**	**58**	P	**Pn**	**06 05 42.1**	**+0.5**
JYNG				S	**Sn**	**06 06 00.1**	**+0.5**
EAST	**Anshuo**	**1.46**	**208**	*e*P	**Pb**	**06 05 43.0**	**-1.0**
	baz=198						
YOJ	**Yonaguni jima**	**1.51**	**58**	P	**Pn**	**06 05 43.2**	**+0.8**
YOJ				S	**Sn**	**06 06 01.5**	**+0.5**
YOJ	**Yonaguni jima**	**1.51**	**58**	*e*P	**Pn**	**06 05 43.2**	**+0.8**
	baz=60						
SCZT	**Fangliau**	**1.58**	**215**	*e*P	**Pb**	**06 05 45.2**	**-0.7**
	baz=215						
SCZT				*e*S	**Sb**	**06 06 05.5**	**0.0**
	baz=215						
TWY	**Chenhua**	**1.59**	**360**	*e*P	**Pb**	**06 05 46.2**	**0.0**
	baz=2.0						
LAY	**Lan-yu**	**1.63**	**182**	*e*P	**Pn**	**06 05 43.1**	**-1.0**
	baz=172						
LAY				*e*S	**Sn**	**06 06 04.2**	**+0.2**
	baz=172						
WDGT	**Dungji**	**1.83**	**257**	*e*P	**Pn**	**06 05 47.1**	**+0.3**
	baz=256						
WDGT				*e*S	**Sn**	**06 06 09.0**	**0.0**
	baz=256						
TWK1	**Hengchun**	**1.87**	**203**	*e*P	**Pn**	**06 05 47.7**	**+0.3**
	baz=191						
TWK1				*e*S	**Sb**	**06 06 12.2**	**-1.7**
	baz=191						
PNG	**Penghu**	**1.88**	**267**	*e*P	**Pn**	**06 05 48.3**	**+0.8**
	baz=251						
PNG				*e*S	**Sn**	**06 06 10.5**	**+0.3**
	baz=251						
TSEB	**Hengchuen, Pin**	**1.88**	**200**	*e*P	**Pn**	**06 05 48.9**	**+1.4**
	baz=194						
TSEB				*e*S	**Sb**	**06 06 12.4**	**-1.7**
	baz=194						
IRIF	**Iriomote-Funau**	**2.06**	**71**	P	**Pn**	**06 05 50.7**	**+0.8**
IRIF				S	**Sn**	**06 06 15.8**	**+1.3**
JKRS	**Kuro-shima**	**2.27**	**75**	P	**Pn**	**06 05 52.6**	**-0.3**
JKRS				S	**Sn**	**06 06 21.5**	**+1.6**
JIJ	**Ishigaki jima**	**2.42**	**73**	P	**Pn**	**06 05 55.5**	**+0.5**
JIJ				S	**Sn**	**06 06 23.2**	**-0.4**
JISG	**Ishigakijimahi**	**2.64**	**69**	P	**Pn**	**06 05 58.5**	**+0.6**
JISG				*e*S	**Sn**	**06 06 28.2**	**-0.7**
KNM	**Kinmen**	**2.99**	**285**	*e*P	**Pn**	**06 06 04.3**	**+1.5**
	baz=284						
KNM				*e*S	**Sn**	**06 06 39.1**	**+1.5**
	baz=284						
JTJ	**Tarama**	**2.99**	**71**	*e*S	**Sn**	**06 06 38.9**	**+1.2**

MEX 15 06:28:01.3±0.3,14°.05N×92°.30W,h15^{km}±95^{km}, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.87**	**332**	*e*P	Pn	06 28 29.1	-3.8
PCIG				*i* S	Sn	06 28 51.5	-4.7

GUC 15 06:41:13.2±0.4,37°.77S×73°.33W,h6^{km}±3^{km},ML4.3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.94**	**11**	*e*P	Pb	06 41 32.0	+0.1
CCSP				*e*S	Sn	06 41 46.6	-0.2
PSCH	**Puerto Saavedr**	**1.03**	**183**	*e*S	Sn	06 41 49.2	+0.2
PSCH				AML	AML	06 41 54.0	
	comp=N,14μm,0.4s						
VLCH	**Valdivia**	**2.04**	**178**	*e*P	Pb	06 41 49.6	-1.0
LNCH	**Linares**	**2.37**	**36**	*e*P	Pb	06 41 55.3	-1.0
LNCH				*e*S	Sb	06 42 26.8	+1.0
LNCH				AML	AML	06 42 45.1	
	comp=N,596nm,0.4s						
CLCH	**Cerro Calan**	**4.92**	**28**	AML	AML	06 43 57.9	
	comp=N,219nm,0.6s						

*JMA **15** 06:43:30.7±0.5,32°.95N×142°.50E,h4^{km},M3.7*
*IDC **15** 06:43:33.3±4.6,32°.50N×141°.57E,h0^{km},mb3.6/3, mb1 3.7/5,mb1mx3.4/40,mbtmp3.6/5,ML3.8/2,Error ellipse: s-maj=175.3km s-min=19.3km az=70.0*
ISC 15 06:43:33.0±1.4,32°.85N±0°.08×142°.7E±0°.2,h33^{km},n14, σ1^{s}71/21,mb3.6/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.30**	**322**	P	**Pn**	**06 44 07.4**	**-0.6**
BSO1				*e*S	**Sn**	**06 44 34.9**	**0.0**
BSO3	**Boso 3**	**2.66**	**318**	P	**Pn**	**06 44 13.1**	**-0.2**
BSO4	**Boso 4**	**2.90**	**318**	P	**Pn**	**06 44 16.9**	**+0.3**
JHO	**Hitachi**	**4.14**	**336**	P	**Pn**	**06 44 33.1**	**-0.7**
JHO				S	**Sn**	**06 45 17.9**	**-3.2**
JRY	**Ryogami san**	**4.45**	**316**	P	**Pn**	**06 44 38.5**	**+0.4**
JRY				S	**Sn**	**06 45 27.1**	**-1.6**
JAG	**Ashikaga**	**4.45**	**324**	P	**Pn**	**06 44 38.6**	**+0.4**
JFT	**Otama**	**5.04**	**338**	P	**Pn**	**06 44 46.6**	**+0.3**
JFT				S	**Sn**	**06 45 40.2**	**-3.2**
MJAR	**Matsushiro Arr**	**5.21**	**316**	Pn	**Pn**	**06 44 49.1**	**+0.4**
	2.2nm,0.3s,baz=150,slow=12,SNR=12						
MJAR				Sn	**Sn**	**06 45 45.5**	**-2.1**
	0.2nm,0.3s,baz=127,slow=25,SNR=3.6						
MAT	**Matsushiro**	**5.22**	**316**	P	**Pn**	**06 44 49.3**	**+0.6**
MAT				S	**Sn**	**06 45 46.4**	**-1.3**
MAT	**Matsushiro**	**5.22**	**316**	P	**Pn**	**06 44 49.7**	**+1.0**
JCJ	**Chichijima**	**5.75**	**184**	Pn	**Pn**	**06 44 55.7**	**-0.3**
	4.8nm,0.3s,baz=286,slow=23,SNR=13						
JCJ				Sn	**Sn**	**06 45 57.1**	**-3.8**
	4.8nm,0.3s,baz=300,slow=20,SNR=3.0						
MKAR	**Makanchi Array**	**47.32**	**306**	P	**P**	**06 52 04.8**	**+1.4**
	0.6nm,0.8s,baz=80,slow=9.2,SNR=5.0						
WRA	**Warramunga Arr**	**53.10**	**190**	P	**P**	**06 52 49.2**	**+1.9**
	0.7nm,0.7s,baz=7.7,slow=7.4,SNR=4.6						
BVAR	**Borovoye Array**	**54.21**	**315**	P	**P**	**06 52 56.3**	**+1.1**
	0.2nm,0.4s,baz=76,slow=7.6,SNR=2.8						

JMA 15 06:46:20.6±0.3,44°.04N×148°.06E,h0^{km},M3.9,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.81**	**249**	*e*S	Sb	06 47 17.4	-0.4
JRA	**Rausu**	**2.12**	**268**	P	Pn	06 46 57.9	+0.6
JRA				*e*S	Sb	06 47 25.9	-0.9
JNK	**Nakash**	**2.46**	**261**	P	Pn	06 47 02.7	+0.7
JNK				*e*S	Sn	06 47 34.0	+1.3
JAK	**Akkeshi**	**2.66**	**248**	P	Pn	06 47 05.4	+0.7
JAK				*e*S	Sn	06 47 38.7	+1.1
JAR	**Ashorobuto**	**3.20**	**258**	P	Pn	06 47 13.7	+1.6
JCH	**Churui**	**3.71**	**249**	P	Pn	06 47 20.3	+1.1
JNBK	**Urakawa-nobuka**	**4.26**	**247**	P	Pn	06 47 28.5	+1.8
JKB	**Kayabe**	**5.59**	**250**	P	Pn	06 47 46.3	+1.4

MEX 15 06:49:51.5±0.7,19°.52N×103°.02W,h16^{km}±16^{km}, MD3.9, Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URUA	**Uruapan**	**0.90**	**96**	*e*P	Pb	06 50 05.2	-3.7
URUA				*i* S	Sb	06 50 16.0	-4.9
MMIG	**Aquila**	**1.27**	**194**	*e*P	Pn	06 50 11.1	-3.4
MMIG				*e*S	Sb	06 50 25.5	-5.5
MOIG	**Morelia**	**1.73**	**85**	*e*P	Pn	06 50 18.1	-3.2
MOIG				*e*S	Sn	06 50 38.5	-4.7
ZIIG	**Zihuatanejo**	**2.41**	**142**	*e*P	Pn	06 50 27.4	-2.8
ZIIG				*i* S	Sn	06 50 55.3	-4.1
ARIG	**Puente Sto Nin**	**2.81**	**116**	*i* P	Pn	06 50 32.5	-3.4
ARIG				*e*S	Sn	06 51 06.0	-3.5
PLIG	**Platanillo**	**3.51**	**108**	*e*P	Pn	06 50 47.2	+1.7

KRSC 15 07:03:13.7±1.7,49°.89N×156°.97E,h16^{km}±28^{km},ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.96**	**326**	*e*P	Pb	07 03 30.3	-1.7
SKR				*e*S	Sb	07 03 42.7	-1.7
PAU	**Pauzhetka**	**1.58**	**356**	*e*P	Pb	07 03 41.8	-0.7
PAU				*e*S	Sb	07 04 02.0	-0.3
MIPR	**Malaya Ipel'ka**	**2.39**	**357**	*e*S	Sn	07 04 22.7	+1.5
ASAK	**Asacha**	**2.56**	**13**	*e*P	Pb	07 03 57.2	-2.2
MTVR	**Mutnovka**	**2.71**	**16**	*e*S	Sb	07 04 32.9	-2.1
RUS	**Russkaya**	**2.73**	**20**	*e*P	Pn	07 03 58.3	+1.6
RUS				*e*S	Sn	07 04 31.4	+2.1
UGLR	**Uglovaya**	**3.52**	**19**	*e*P	Pn	07 04 11.6	+3.8
AVH	**Avacha**	**3.56**	**17**	*e*P	Pb	07 04 12.3	-4.0
AVH				*e*S	Sb	07 04 55.8	-3.5
KOK	**Koryaka**	**3.56**	**16**	*e*P	Pn	07 04 12.1	+3.7
KRER	**Koryakskii**	**3.59**	**17**	*e*P	Pn	07 04 13.0	+4.0
SDLR	**Sedlovina**	**3.60**	**19**	*e*P	Pn	07 04 11.1	+2.2
KRX	**Arik**	**3.63**	**16**	*e*P	Pb	07 04 13.5	-4.1
SPN	**Mys Shipunski**	**3.74**	**30**	*e*P	Pn	07 04 12.9	+2.3
GNL	**Ganaly**	**3.86**	**9**	*e*P	Pn	07 04 16.8	+4.3
TUMR	**Tumrok**	**5.74**	**19**	*e*P	Pn	07 04 43.6	+5.3

*IDC **15** 07:12:47.4±1.3,32°.98N×140°.71E,h0^{km},mb3.4/3, mb1 3.6/4,mb1mx3.3/43,mbtmp3.3/4,ML3.2/1,MS3.0/3, Ms1 3.0/3,ms1mx2.5/33,Error ellipse: s-maj=55.7km s-min=23.3km az=87.0*
*ISCJB **15** 07:12:58.8±0.6,33°.31N±0°.05×139°.9E±0°.1,h123^{km}, mb3.5/3,Error ellipse: s-maj=13.9km s-min=7.4km az=169.7*
*JMA **15** 07:13:01.1±0.1,33°.40N×139°.91E,h104^{km}±1^{km},M3.0*
ISC 15 07:12:59.9±1.0,33°.28N±0°.06×139°.95E±0°.09,h123^{km},n19, σ1^{s}49/21,mb3.5/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.20**	**213**	P	**Pn**	**07 13 16.4**	**-0.4**
JHJ2				S	**Sn**	**07 13 28.1**	**-1.5**
JHCJ	**Hachijojimakas**	**0.24**	**211**	P	**Pn**	**07 13 16.4**	**-0.6**
JHCJ				S	**Sn**	**07 13 28.4**	**-1.4**
JIM2	**Oshima 3**	**1.50**	**344**	P	**Pn**	**07 13 26.5**	**-1.0**
JIM2				S	**Sn**	**07 13 45.7**	**-2.8**
BSO3	**Boso 3**	**1.59**	**17**	P	**Pn**	**07 13 27.9**	**-0.3**
BSO1	**Boso 1**	**1.62**	**32**	P	**Pn**	**07 13 28.5**	**+0.2**
JIZS	**Izushimoda**	**1.69**	**329**	P	**Pn**	**07 13 28.9**	**-0.8**
BSO4	**Boso 4**	**1.74**	**11**	P	**Pn**	**07 13 30.0**	**-0.2**
KTJJ	**Kamata 2**	**1.80**	**336**	P	**Pn**	**07 13 30.5**	**-0.5**
TK02	**Tokai 2**	**1.94**	**291**	P	**Pn**	**07 13 32.7**	**+0.2**
TK04	**Tokai 4**	**2.05**	**303**	P	**Pn**	**07 13 34.3**	**+0.4**
JOD2	**Odawara 2**	**2.10**	**341**	P	**Pn**	**07 13 34.2**	**-0.6**
MJAR	**Matsushiro Arr**	**3.56**	**337**	Pn	**Pn**	**07 13 52.6**	**-1.0**
	1.7nm,0.3s,baz=169,slow=14,SNR=9.8						
MJAR				Sn	**Sn**	**07 14 39.0**	**+3.9**
	1.1nm,0.3s,baz=140,slow=12,SNR=4.1						
MAT	**Matsushiro**	**3.56**	**337**	P	**Pn**	**07 13 53.4**	**-0.2**
MAT				*e*S	**Sn**	**07 14 32.6**	**-2.5**
ASAJ	**Asahikawa**	**11.02**	**10**	LR	LR	07 20 13.4	
	comp=Z,351nm,21.1s,baz=115,slow=40						
TGY	**Tagaytay City**	**25.75**	**227**	LR	LR	07 27 33.8	
	comp=Z,22nm,20.2s,baz=259,slow=34						
SEY	**Seymchan**	**30.70**	**11**	LR	LR	07 32 03.5	
	comp=Z,10.0nm,19.6s,slow=37						
WRA	**Warramunga Arr**	**53.19**	**187**	P	**P**	**07 22 05.4**	**0.0**
	0.2nm,0.3s,baz=1.8,slow=7.9,SNR=5.0						
ILAR	**Eielson Array**	**53.32**	**31**	P	**P**	**07 22 07.0**	**+1.1**
	0.2nm,0.5s,baz=256,slow=7.4,SNR=4.1						
ASAR	**Alice Springs**	**56.92**	**187**	P	**P**	**07 22 33.1**	**+0.9**
	0.2nm,0.4s,baz=23,slow=9.3,SNR=3.8						

*IDC **15** 07:36:20.8±1.6,5°.72S×103°.56E,h0^{km},mb3.9/9, mb1 4.0/10,mb1mx3.8/50,mbtmp3.9/10,ML3.5/1,MS3.4/3, Ms1 3.4/3,ms1mx2.7/33,Error ellipse: s-maj=71.1km s-min=15.2km az=47.0*
*DJA **15** 07:36:31.8±1.1,6°.S±8°×10°.4E±°,h31^{km}±8^{km},M4.1/9, MLv4.1/9*
*NEIC **15** 07:36:32.2±0.9,5°.11S×104°.39E,h71^{km}±10^{km},mb4.2/2, Error ellipse: s-maj=35.0km s-min=7.7km az=222.0*
ISC 15 07:36:28.1±0.8,5°.82S±0°.08×103°.93E±0°.07,h42^{km},n35, σ2^{s}67/26,mb4.0/11,MS3.6/3,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**0.64**	**62**	P	**Pn**	**07 36 43.0**	**+2.3**
KASI				S	**Sn**	**07 36 51.6**	**+1.9**
LWLI	**Liwa**	**0.81**	**9**	P	**Pn**	**07 36 45.6**	**+2.4**
LWLI				S	**Sn**	**07 36 56.0**	**+1.9**
MDSI	**Maura Dua**	**1.35**	**11**	P	**Pn**	**07 36 52.5**	**+2.0**
KLSI		**1.38**	**35**	P	**Pn**	**07 36 52.8**	**+2.0**
MNAI	**Manna**	**1.75**	**326**	P	**Pn**	**07 36 59.1**	**+3.2**
MNAI				S	**Sn**	**07 37 21.5**	**+4.5**
MNAI	**Manna**	**1.75**	**326**	*e*Pn	**Pn**	**07 36 58.9**	**+3.0**
MNAI				*e*Sn	**Sn**	**07 37 20.5**	**+3.5**
CGJI	**Cibinong**	**1.92**	**114**	P	**Pn**	**07 37 01.4**	**+3.1**
LHSI	**Lahat**	**2.02**	**348**	P	**Pn**	**07 37 03.2**	**+3.5**
KSI	**Kapahiang**	**2.53**	**328**	P	**Pn**	**07 37 11.0**	**+4.2**
TNG	**Tangerang**	**2.72**	**98**	P	**Pn**	**07 37 11.9**	**+2.6**
CBJI	**Citeko**	**2.96**	**102**	P	**Pn**	**07 37 21.3**	**+8.7**
CNJI	**Cibinong**	**3.51**	**115**	P	**Pn**	**07 37 24.8**	**+4.7**
LEM	**Lembang**	**3.80**	**105**	Pn	**Pn**	**07 37 25.6**	**+1.3**
	2.9nm,0.3s,baz=311,slow=19,SNR=2.1						
LEM				Sn	Sn	07 38 18.9	+11
	5.1nm,0.3s,baz=300,slow=20,SNR=4.9						
BATI	**Baumata**	**20.02**	**104**	LR	LR	07 50 10.4	
	comp=Z,282nm,18.0s,baz=156,slow=41						
CMAR	**Chiang Mai Arr**	**24.62**	**349**	P	**P**	**07 41 40.5**	**-4.2**
	0.7nm,0.3s,baz=177,slow=8.5,SNR=5.5						
PALK	**Pallekele**	**26.58**	**299**	LR	LR	07 49 38.5	
	comp=Z,27nm,19.9s,baz=249,slow=30						
H01W3	**Cape Leeuwin H**	**30.42**	**163**	T	T	08

mb1 3.4/6, mb1mx3.2/35, mbtmp3.7/6, MS3.3/1, Ms1 3.3/1, ms1mx2.4/24, Error ellipse: s-maj=182.1km s-min=17.4km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.26**	**162**	P	P	08 23 18.0	+0.6
	0.6nm,0.5s,baz=340,slow=10,SNR=13						
WRA				PcP	PcP	08 26 40.9	-0.2
	0.2nm,0.5s,baz=345,slow=2.5,SNR=3.5						
ASAR	**Alice Springs**	**29.68**	**165**	P	P	08 23 48.6	+0.9
	0.1nm,0.3s,baz=341,slow=7.5,SNR=4.2						
ASAR				PcP	PcP	08 26 49.2	-0.2
	0.3nm,0.3s,baz=349,slow=2.4,SNR=7.2						
STKA	**Stephens Creek**	**39.72**	**159**	P	P	08 25 11.8	-2.1
	1.1nm,0.7s,baz=349,slow=8.3,SNR=3.2						
MKAR	**Makanchi Array**	**55.98**	**325**	P	P	08 27 19.6	+0.4
	0.3nm,0.3s,baz=120,slow=6.3,SNR=6.4						
ZALV	**Zalesovo Beam**	**58.99**	**333**	LR	LR	08 53 04.9	
	comp=Z,26nm,18.5s,baz=250,slow=36						
KURBB	**Kurchatov Arra**	**60.16**	**327**	P	P	08 27 48.1	-0.1
	1.3nm,0.6s,baz=126,slow=6.3,SNR=4.4						
BVAR	**Borovoye Array**	**65.74**	**327**	P	P	08 28 24.6	-0.5
	1.0nm,0.7s,baz=96,slow=9.4,SNR=5.6						

IDC 15 08:29:20.0±2.7, 0.7°78N×98.7°74E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/36, mbtmp3.6/4, Error ellipse: s-maj=371.2km s-min=23.9km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**27.48**	**252**	T	T	09 02 15.9	
	baz=73,slow=75,SNR=343						
H08S3	**Diego Garcia H**	**27.48**	**252**	T	T	09 02 16.2	
	baz=73,slow=75,SNR=296						
H08S1	**Diego Carcia H**	**27.49**	**252**	T	T	09 02 17.3	
	baz=73,slow=75,SNR=272						
WRA	**Warramunga Arr**	**40.51**	**123**	P	P	08 37 01.8	+0.6
	0.4nm,0.8s,baz=302,slow=9.4,SNR=3.3						
ASAR	**Alice Springs**	**41.92**	**128**	P	P	08 37 11.8	-0.9
	0.2nm,0.6s,baz=300,slow=7.4,SNR=3.7						
MKAR	**Makanchi Array**	**48.03**	**345**	P	P	08 38 01.1	0.0
	0.5nm,0.5s,baz=148,slow=7.8,SNR=5.4						
ZALV	**Zalesovo Beam**	**54.23**	**350**	P	P	08 38 47.1	-0.3
	1.0nm,0.4s,baz=160,slow=4.6,SNR=3.7						

IDC 15 08:55:01.4±2.7, 54.1°14N×86.4°41E, h0km, mb1 3.6/2, mb1mx3.2/31, mbtmp3.6/2, ML2.8/2, Error ellipse: s-maj=20.5km s-min=12.4km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**259**	*i*		09 01 45.0	
	baz=80,slow=312,SNR=7.8						
ZALV	**Zalesovo Beam**	**0.96**	**259**	Pg	Pg	08 55 18.7	-1.0
	1.7nm,0.3s,baz=80,slow=17,SNR=7.6						
ZALV				Lg	Lg	08 55 33.4	
	2.1nm,0.3s,baz=76,slow=29,SNR=11						
KURBB	**Kurchatov Arra**	**5.97**	**237**	Pn	Pn	08 56 31.6	+0.6
	0.2nm,0.3s,baz=55,slow=14,SNR=5.1						
KURBB				Lg	Lg	08 58 12.4	
	0.1nm,0.3s,baz=61,slow=33,SNR=5.6						
MKAR	**Makanchi Array**	**7.81**	**201**	Pn	Pn	08 56 57.4	+1.1
	0.2nm,0.3s,baz=20,slow=14,SNR=6.1						
MKAR				Sn	Sn	08 58 25.5	+0.2
	0.1nm,0.3s,baz=13,slow=27,SNR=3.8						
MKAR				Lg	Lg	08 59 06.3	
	0.0nm,0.3s,baz=26,slow=32,SNR=6.7						

NIED ***15*** *09:05:00, 37.5°50N×143.1°10E, h11km, Mw3.8 Best double couple: M₀5.32000×10¹⁴ NP1:φ₀212.00000°, δ29.00000°, λ112.00000°. NP2:φ₀7.00000°, δ63.00000°, λ78.00000°.*

IDC ***15*** *09:05:29.7±1.1, 37.4°49N×143.6°38E, h0km, mb3.5/6, mb1 3.6/9, mb1mx3.5/33, mbtmp3.5/9, ML2.8/3, MS2.8/1, Ms1 2.8/1, ms1mx2.2/36, Error ellipse: s-maj=25.3km s-min=21.5km az=65.0*

ISCJB ***15*** *09:05:32.0±0.8, 37.8°48N±0.05°×143.2°16E±0.07°, h24km, mb3.5/6, Error ellipse: s-maj=8.2km s-min=7.2km az=17.3*

JMA ***15*** *09:05:32.9±0.3, 37.5°45N×143.1°07E, h32km, M3.5*

ISC 15 09:05:33.5±1.1, 37.4°46N±0.07°×143.2°21E±0.08°, h24km, n23, σ1°92/30, mb3.6/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.77**	**304**	P	**Pn**	**09 06 01.3**	**-1.3**
JFK	**Kawauchi**	**1.86**	**268**	P	**Pn**	**09 06 02.0**	**-1.9**
JFK				*e*S	**Sn**	**09 06 22.9**	**-3.8**
ONAJ	**Iwakimizuishiy**	**1.96**	**260**	P	**Pn**	**09 06 03.5**	**-1.8**
JMM	**Marumori**	**1.96**	**283**	P	**Pn**	**09 06 03.3**	**-1.9**
JMM				*e*S	**Sn**	**09 06 25.8**	**-3.3**
JMK	**Ichinoseki**	**2.16**	**314**	P	**Pn**	**09 06 07.1**	**-0.9**
JOU	**Okura**	**2.21**	**295**	P	**Pn**	**09 06 07.6**	**-1.0**
JFT	**Otama**	**2.29**	**272**	P	**Pn**	**09 06 09.2**	**-0.5**
JFT				*e*S	**Sn**	**09 06 35.5**	**-1.7**
JOM	**Ohasama**	**2.51**	**324**	P	**Pn**	**09 06 12.0**	**-0.8**
JOM				*e*S	**Sn**	**09 06 41.6**	**-1.0**
JYK	**Kaneyama**	**2.67**	**304**	P	**Pn**	**09 06 14.3**	**-0.8**
JRG	**Rokugo**	**2.80**	**314**	P	**Pn**	**09 06 16.7**	**0.0**
JANG	**Nango**	**3.19**	**336**	*e*S	**Sn**	**09 06 57.5**	**-2.0**
JAH	**Hinai**	**3.38**	**324**	P	**Pn**	**09 06 25.8**	**+1.0**
JRY	**Ryogami san**	**3.75**	**249**	P	**Pn**	**09 06 28.7**	**-1.2**
JRY				*e*S	**Sn**	**09 07 08.9**	**-4.4**
MJAR	**Matsushiro Arr**	**4.11**	**259**	Pn	**Pn**	**09 06 35.5**	**+0.7**
	2.0nm,0.3s,baz=88,slow=14,SNR=29						
MJAR				Sn	**Sn**	**09 07 25.2**	**+3.1**
	0.8nm,0.3s,baz=99,slow=26,SNR=2.7						
MAT	**Matsushiro**	**4.11**	**259**	P	**Pn**	**09 06 35.7**	**+0.9**
MAT				S	**Sb**	**09 07 37.8**	**+3.4**
USRK	**Ussuriysk Ar.**	**10.84**	**312**	Pn	**Pn**	**09 08 07.9**	**+0.8**
	0.2nm,0.3s,baz=133,slow=14,SNR=2.5						
KSRS	**Korea Array**	**12.15**	**275**	Pn	**Pn**	**09 08 26.9**	**+1.8**
	0.1nm,0.3s,baz=92,slow=14,SNR=5.1						
KSRS				LR	LR	09 12 38.3	
	comp=Z,40nm,18.2s,baz=108,slow=35						
SONM	**Songino Array**	**28.75**	**303**	P	**P**	**09 11 30.0**	**+0.8**
	1.7nm,0.9s,baz=108,slow=9.7,SNR=5.6						
ZALV	**Zalesovo Beam**	**42.69**	**312**	P	**P**	**09 13 28.9**	**+0.7**
	0.6nm,0.4s,baz=85,slow=16,SNR=3.9						
MKAR	**Makanchi Array**	**45.11**	**302**	P	**P**	**09 13 47.7**	**-0.1**
	0.7nm,0.7s,baz=90,slow=7.8,SNR=7.0						
ILAR	**Eielson Array**	**48.36**	**33**	P	**P**	**09 14 12.0**	**-0.9**
	0.1nm,0.7s,baz=278,slow=6.2,SNR=3.2						
WRA	**Warramunga Arr**	**57.71**	**190**	P	**P**	**09 15 22.1**	**-0.2**
	0.4nm,0.7s,baz=9.2,slow=7.2,SNR=3.6						
ASAR	**Alice Springs**	**61.43**	**190**	P	**P**	**09 15 48.6**	**+0.7**
	0.2nm,0.8s,baz=1.3,slow=8.4,SNR=2.6						

IDC ***15*** *09:24:57.0±1.0, 53.5°58N×164.3°37W, h0km, mb4.0/16, mb1 4.1/18, mb1mx3.8/51, mbtmp3.9/18, ML3.3/2, MS3.3/5, Ms1 3.3/5, ms1mx2.8/35, Error ellipse: s-maj=26.5km s-min=13.5km az=174.0*

ISCJB ***15*** *09:25:00.4±0.7, 53.3°34N±0.06°×164.2°24W±0.05°, h43km±6km, mb4.0/16, MS3.2/5, Error ellipse: s-maj=10.0km s-min=4.6km az=164.2*

NEIC ***15*** *09:25:01.2, 53.3°37N×164.2°24W, h17km, mb3.7/4, ML3.6(AEIC), After AEIC.*

ISC 15 09:25:02.4±1.5, 53.4°42N±0.08°×164.2°28W±0.04°, h42km±13km, n64, σ0°90/60, mb4.1/16, MS3.2/5, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**1.11**	**311**	P	**Pn**	**09 25 20.4**	**-1.0**
AKSA				S	**Sn**	**09 25 34.7**	**-0.7**
WESP	**Westdahl Peak**	**1.11**	**347**	P	**Pn**	**09 25 20.6**	**-0.9**
WESP				S	**Sn**	**09 25 36.4**	**+0.7**
AKUT	**Akutan**	**1.14**	**310**	P	**Pn**	**09 25 20.9**	**-0.9**
AKUT				S	**Sn**	**09 25 37.3**	**+1.1**
WESN	**West Dahl Nort**	**1.17**	**351**	P	**Pn**	**09 25 21.5**	**-0.8**
HSB	**Akutan Spr's B**	**1.24**	**309**	P	**Pn**	**09 25 22.6**	**-0.6**
AKRB	**Akutan Reef Bi**	**1.28**	**305**	P	**Pn**	**09 25 23.0**	**-0.7**
AKRB				S	**Sn**	**09 25 41.5**	**+1.8**
AKGG	**Akutan Green G**	**1.28**	**308**	P	**Pn**	**09 25 23.0**	**-0.8**
SSLS	**Shishaldin Sou**	**1.31**	**7**	P	**Pn**	**09 25 23.3**	**-0.9**
SSBA	**Shishaldin**	**1.36**	**4**	P	**Pn**	**09 25 23.8**	**-1.2**
SSLW	**Shishaldin Wes**	**1.36**	**4**	P	**Pn**	**09 25 24.0**	**-0.9**
UNV	**Unalaska Valle**	**1.39**	**289**	P	**Pn**	**09 25 24.2**	**-1.0**
UNV				S	**Sn**	**09 25 44.4**	**+2.0**
ISNN	**Isanotski Nort**	**1.45**	**12**	P	**Pn**	**09 25 26.0**	**-0.1**
MTBL	**Makushin Table**	**1.53**	**292**	P	**Pn**	**09 25 26.7**	**-0.5**
FALS	**False Pass**	**1.53**	**19**	P	**Pn**	**09 25 26.3**	**-0.9**
FALS				S	**Sn**	**09 25 46.2**	**+0.3**
MSW	**Makushin Switc**	**1.57**	**290**	P	**Pn**	**09 25 27.3**	**-0.4**
MCIR	**Makushin Cirqu**	**1.64**	**290**	P	**Pn**	**09 25 28.5**	**-0.2**
DRIA	**Deer Island**	**1.96**	**37**	P	**Pn**	**09 25 31.9**	**-1.1**
DT1	**Dutton Round H**	**2.06**	**34**	P	**Pn**	**09 25 33.8**	**-0.7**
DTNA	**Dutton South F**	**2.11**	**34**	P	**Pn**	**09 25 34.6**	**-0.5**
OKFG	**Magazine Ridge**	**2.17**	**271**	P	**Pn**	**09 25 34.8**	**-1.2**
OKTU	**Okmok Mt. Tuli**	**2.25**	**271**	P	**Pn**	**09 25 36.7**	**-0.4**
OKCE	**Okmok Cone E**	**2.32**	**272**	P	**Pn**	**09 25 37.5**	**-0.5**
OKSP	**Okmok Steeple**	**2.41**	**268**	P	**Pn**	**09 25 38.6**	**-0.7**
NIKH	**Nikolski High**	**2.78**	**263**	P	**Pn**	**09 25 43.0**	**-1.4**
SDPT	**Sand Point**	**2.95**	**47**	P	**Pn**	**09 25 46.0**	**-0.7**
VNKR	**Veniaminof 5**	**3.87**	**45**	P	**Pn**	**09 25 58.9**	**-0.4**
VNSS	**Veniaminof 8**	**3.97**	**43**	P	**Pn**	**09 26 01.2**	**+0.4**
CHGN	**Chignik**	**4.46**	**47**	*e*Pn	**Pn**	**09 26 06.7**	**-0.6**
SPIA	**Saint Paul Isl**	**5.08**	**320**	P	**Pn**	**09 26 16.5**	**+0.7**
BPAW	**Bear Paw Mtn.**	**12.71**	**27**	*e*Pn	**Pn**	**09 28 02.0**	**+1.8**
	0.4nm,0.7s						
MENT	**Mentasta**	**14.38**	**40**	*e*Pn	**Pn**	**09 28 23.1**	**+0.2**
ILAR	**Eielson Array**	**14.40**	**31**	Pn	Pn	09 28 18.9	-4.3
	0.0nm,0.3s,baz=223,slow=12,SNR=4.3						
HYT	**Haines Junctio**	**16.23**	**52**	*e*Pn	**P**	**09 28 49.1**	**-0.7**
	3.6nm,0.7s						
EGAK	**Eagle**	**16.33**	**37**	*e*Pn	**P**	**09 28 49.5**	**-1.2**
	3.9nm,0.9s						
DAWY	**Dawson**	**16.62**	**40**	*e*Pn	**P**	**09 28 53.0**	**-1.0**
	4.4nm,0.8s						
DLBC	**Dease Lake**	**19.69**	**61**	P	**P**	**09 29 27.7**	**-0.1**
	0.1nm,0.3s,baz=295,slow=17,SNR=1.9						
INK	**Inuvik**	**20.79**	**32**	P	**P**	**09 29 37.9**	**-1.6**
	3.6nm,0.5s,baz=241,slow=9.2,SNR=18						
INK	**Inuvik**	**20.79**	**32**	*e*P	**P**	**09 29 40.0**	**+0.5**
BBB	**Bella Bella**	**21.76**	**79**	LR	LR	09 36 07.0	
	comp=Z,66nm,19.7s,baz=100,slow=31						
PETK	**Petropavlovsk-**	**22.57**	**285**	P	**P**	**09 29 57.4**	**-1.4**
	1.8nm,0.4s,baz=89,slow=12,SNR=4.8						
PETK				LR	LR	09 38 27.1	
	comp=Z,38nm,20.0s,baz=73,slow=36						
SEY	**Seymchan**	**24.29**	**310**	P	**P**	**09 30 14.6**	**-0.7**
	1.1nm,0.5s,baz=86,slow=10,SNR=4.2						
YKA	**Yellowknife Ar**	**27.21**	**51**	P	**P**	**09 30 40.5**	**-1.2**
	0.2nm,0.4s,baz=276,slow=8.3,SNR=3.1						
YBH	**Yreka Blue Hor**	**29.96**	**96**	LR	LR	09 40 02.1	
	comp=Z,56nm,19.4s,baz=283,slow=30						
NVAR	**Mina Array Bea**	**34.66**	**97**	P	**P**	**09 31 49.1**	**+1.2**
	1.1nm,0.8s,baz=294,slow=8.5,SNR=9.1						
ASAJ	**Asahikawa**	**35.47**	**277**	P	**P**	**09 31 54.2**	**-0.2**
	5.4nm,0.8s,baz=90,slow=20						
H11N2	**WAKE ISLAND Hy**	**40.28**	**225**	T	T	10 16 12.6	
	baz=26,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**40.29**	**225**	T	T	10 16 21.6	
	baz=26,slow=75,SNR=31						
H11N1	**WAKE ISLAND Hy**	**40.30**	**225**	T	T	10 16 04.3	
	baz=26,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**41.45**	**224**	T	T	10 17 41.2	
	baz=25,slow=76,SNR=40						
H11S2	**WAKE ISLAND Hy**	**41.47**	**224**	T	T	10 17 28.6	
	baz=25,slow=76,SNR=31						
H11S3	**WAKE ISLAND Hy**	**41.47**	**224**	T	T	10 17 27.1	
	baz=25,slow=76,SNR=30						
KSRS	**Korea Array**	**48.31**	**279**	P	**P**	**09 33 39.2**	**0.0**
	2.4nm,0.7s,baz=55,slow=7.6,SNR=12						
KSAR	**Wonju Array Be**	**48.34**	**279**	P	**P**	**09 33 39.2**	**-0.2**
TXAR	**Lajitas Array**	**49.69**	**94**	P	**P**	**09 33 51.2**	**+1.1**
	0.5nm,0.5s,baz=301,slow=5.8,SNR=21						
TLY	**Talaya**	**52.17**	**308**	*e*P	**P**	**09 34 08.3**	**0.0**
	3.3nm,0.7s						
SONM	**Songino Array**	**53.36**	**303**	P	**P**	**09 34 17.5**	**+0.1**
	2.3nm,0.9s,baz=44,slow=7.9,SNR=6.6						
ARCES	**ARCESS Array B**	**54.15**	**356**	P	**P**	**09 34 44.1**	**0.0**
	2.9nm,0.8s,baz=12,slow=6.7,SNR=8.5						
ZALV	**Zalesovo Beam**	**58.67**	**320**	LR	LR	10 00 25.8	
	comp=Z,29nm,18.9s,baz=70,slow=36						
FINES	**FINESS Array B**	**65.19**	**355**	P	**P**	**09 35 38.4**	**-0.2**
	0.6nm,0.4s,baz=23,slow=6.2,SNR=7.3						
MKAR	**Makanchi Array**	**65.26**	**316**	P	**P**	**09 35 38.8**	**-0.6**
	1.2nm,0.8s,baz=44,slow=6.0,SNR=12						
MKAR				LR	LR	10 05 02.7	
	comp=Z,24nm,18.6s,baz=15,slow=37						
AKASG	**Malin Array Be**	**75.64**	**351**	P	**P**	**09 36 42.3**	**-0.2**
	1.1nm,0.5s,baz=10,slow=5.6,SNR=4.0						
CMAR	**Chiang Mai Arr**	**79.33**	**286**	P	**P**	**09 37 03.5**	**-0.2**
	0.6nm,0.3s,baz=18,slow=5.9,SNR=6.4						
GEYT	**Alibeck**	**81.91**	**327**	P	**P**	**09 37 17.8**	**+0.6**
	1.8nm,0.5s,baz=28,slow=10,SNR=2.6						
BRTR	**Keskin Array B**	**85.95**	**346**	P	**P**	**09 37 38.8**	**+0.9**
	2.5nm,0.9s,baz=45,slow=2.3,SNR=8.9						

CASC 15 09:28:14.1±2.2, 12.3°18N×87.3°21W, h36km±999km, MD3.8, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.25**	**331**	*e*P	Pn	09 28 35.5	+0.4
CNCH				*e*S	Sn	09 28 51.3	+0.5
VSM	**San Miguel**	**1.61**	**320**	*e*P	Pn	09 28 41.3	+0.9
VSM				*e*S	Sn	09 29 01.3	+1.1
VCR	**Vista de Mar**	**2.56**	**143**	*e*P	Pn	09 28 54.8	+1.5
JCR	**Jicaral**	**3.10**	**138**	*e*P	Pn	09 28 58.8	-1.8
JCR				*e*S	Sn	09 29 31.9	-4.6
CGA2	**Cerro Gallo 2**	**3.45**	**128**	*e*P	Pn	09 29 06.0	+0.5

NIED ***15*** *09:49:00, 31.2°20N×141.8°80E, h5km, Mw3.7 Best double couple: M₀4.56000×10¹⁴ NP1:φ₀211.00000°, δ16.00000°, λ128.00000°. NP2:φ₀352.00000°, δ77.00000°, λ80.00000°.*

IDC ***15*** *09:49:05.4±2.8, 30.2°37N×140.9°99E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.5/29, mbtmp3.6/5, ML3.3/2, MS3.0/1, Ms1 3.0/1, ms1mx2.2/33, Error ellipse: s-maj=115.6km s-min=20.5km az=69.0*

JMA ***15*** *09:49:08.6±0.5, 31.2°20N×141.7°6E, h0km, M4.0*

ISC 15 09:49:06.7±1.2, 30.7°6N±0.08°×142.0°E±0.2°, h37km, n12, σ1°47/15, mb3.6/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.99**	**322**	P	**Pn**	**09 49 51.8**	**+0.3**
JHJ2				S	**Sn**	**09 50 23.7**	**-2.3**
JCJ	**Chichijima**	**3.66**	**177**	Pn	**Pn**	**09 49 59.9**	**-0.9**
	2.1nm,0.3s,baz=77,slow=19,SNR=3.8						
JCJ				Sn	**Sn**	**09 50 41.2**	**-1.4**
	10.0nm,0.3s,baz=113,slow=22,SNR=6.7						
BSO4	**Boso 4**	**4.44**	**342**	P	**Pn**	**09 50 12.9**	**+1.5**
JHU	**Hanno**	**5.56**	**337**	P	**Pn**	**09 50 28.0**	**+1.1**
JRY	**Ryogami san**	**5.84**	**335**	P	**Pn**	**09 50 32.2**	**+1.4**
JRY				S	**Sn**	**09 51 35.6**	**-0.9**
JHO	**Hitachi**	**5.95**	**349**	P	**Pn**	**09 50 32.0**	**-0.2**
JHO				S	**Sn**	**09 51 36.8**	**-2.3**
JAG	**Ashikaga**	**6.03**	**340**	P	**Pn**	**09 50 34.6**	**+1.3**
MJAR	**Matsushiro Arr**	**6.57**	**332**	Pn	**Pn**	**09 50 42.5**	**+1.8**
	0.8nm,0.3s,baz=156,slow=10.0,SNR=7.3						
JNU	**Nakatsue**	**9.74**	**287**	LR	LR	09 54 54.3	
	comp=Z,94nm,18.1s,baz=39,slow=39						
MKAR	**Makanchi Array**	**48.08**	**307**	P	**P**	**09 57 43.2**	**+0.6**
	0.2nm,0.3s,baz=96,slow=8.8,SNR=5.3						
WRA	**Warramunga Arr**	**50.95**	**189**	P	**P**	**09 58 04.7**	**+0.1**
	0.9nm,0.5s,baz=5.1,slow=7.6,SNR=16						
ASAR	**Alice Springs**	**54.67**	**189**	P	**P**	**09 58 32.8**	**+0.7**
	0.3nm,0.5s,baz=2.8,slow=6.2,SNR=14						

CSEM ***15*** *09:52:11.8±0.1, 42.1°17N×23.7°43E, h5km, MD2.7, Error ellipse: s-maj=2.1km s-min=1.6km az=73.0*

SOF ***15*** *09:52:11.4, 42.1°15N×23.7°47E, h5km, MD2.7*

ISCJB ***15*** *09:52:11.1±0.4, 42.2°20N±0.01°×23.7°43E±0.02°, h5km±3km, Error ellipse: s-maj=2.8km s-min=2.0km az=156.6*

THE ***15*** *09:52:12.0, 42.1°16N×23.7°45E, h2km±1km, ML3.0/9, Error ellipse: s-maj=1.2km s-min=0.7km az=294.0*

SKO ***15*** *09:52:12.7, 42.1°16N×23.7°41E, h4km, M2.8, ML3.1*

BEO ***15*** *09:52:13.6±0.3, 42.1°18N×23.5°35E, h7km±2km, ML2.6/9*

ISK ***15*** *09:53:12.1, 40.9°96N×25.8°48E, h26km, MD2.8*

ISC 15 09:52:11.9±1.0, 42.1°17N±0.01°×23.7°45E±0.02°, h7km±9km, n134, σ0°85/182, 15C-15D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.41**	**222**	*i* Pg	**Pg**	**09 52 19.7**	**-0.1**
KKB	**Krupnik**	**0.41**	**222**	*i* Pg	**Pg**	**09 52 19.7**	**-0.1**
VTS	**Vitosha**	**0.46**	**337**	*e*Pg	**Pg**	**09 52 21.0**	**+0.3**
VTS	**Vitosha**	**0.46**	**337**	⇑*i*P	**Pg**	**09 52 21.1**	**+0.3**
VTS	**Vitosha**	**0.46**	**337**	S	**Sg**	**09 52 27.4**	**+0.7**
VTS	**Vitosha**	**0.46**	**337**	*i* Pg	**Pg**	**09 52 21.1**	**+0.3**
VTS	**Vitosha**	**0.46**	**337**	P	**Pg**	**09 52 20.3**	**-0.5**
VTS	**Vitosha**	**0.46**	**337**	*e*Pg	**Pg**	**09 52 21.0**	**+0.3**
VTS				S	**Sg**	**09 52 27.4**	**+0.7**
VTS	**Vitosha**	**0.46**	**337**	P	**Pg**	**09 52 20.3**	**-0.5**
VTS				S	**Sg**	**09 52 27.4**	**+0.7**
MMB	**Musomiste**	**0.62**	**160**	⇑*i*P	**Pg**	**09 52 24.3**	**+0.4**
MMB	**Musomiste**	**0.62**	**160**	S	**Sb**	**09 52 34.2**	**+0.2**
MMB	**Musomiste**	**0.62**	**160**	*i* Pg	**Pg**	**09 52 24.2**	**+0.4**
MMB	**Musomiste**	**0.62**	**160**	*i* Pg	**Pg**	**09 52 24.2**	**+0.4**
PGB	**Panagyurishte**	**0.65**	**54**	*i* Pg	**Pg**	**09 52 24.3**	**-0.2**
PGB	**Panagyurishte**	**0.65**	**54**	*i* Pg	**Pg**	**09 52 24.3**	**-0.2**
NVR	**Nevrokopi**	**0.88**	**159**	*e*P	**Pg**	**09 52 28.9**	**+0.2**
NVR	**Nevrokopi**	**0.88**	**159**	P	**Pg**	**09 52 28.3**	**-0.4**
NVR				S	**Sg**	**09 52 40.1**	**0.0**
NVR	**Nevrokopi**	**0.88**	**159**	P	**Pg**	**09 52 28.3**	**-0.4**
NVR				S	**Sg**	**09 52 40.1**	**0.0**
PLD	**Plovdiv**	**0.94**	**94**	*e*Pg	**Pg**	**09 52 32.1**	**+0.6**
PLD				*e*Sg	**Sn**	**09 52 46.0**	**+0.9**
PLD	**Plovdiv**	**0.94**	**94**	*i* P	**Pb**	**09 52 30.4**	**0.0**
PLD	**Plovdiv**	**0.94**	**94**	*i* P	**Pb**	**09 52 30.4**	**0.0**
PLD	**Plovdiv**	**0.94**	**94**	*e*Pg	**Pn**	**09 52 32.1**	**+0.6**
PLD				*e*Sg	**Sn**	**09 52 46.0**	**+0.9**
SRS	**Serrai**	**1.06**	**174**	*e*P	**Pg**	**09 52 31.6**	**-0.7**
SRS	**Serrai**	**1.06**	**174**	P	**Pg**	**09 52 31.5**	**-0.7**
SRS				S	**Sb**	**09 52 46.5**	**-0.1**
SRS	**Serrai**	**1.06**	**174**	P	**Pg**	**09 52 31.5**	**-0.7**
SRS				S	**Sb**	**09 52 46.5**	**-0.1**
RZN	**Rozhen**	**1.06**	**117**	*i* Pg	**Pg**	**09 52 31.7**	**-0.6**
RZN	**Rozhen**	**1.06**	**117**	*i* Pg	**Pg**	**09 52 31.7**	**-0.6**
VAY	**Valandovo**	**1.07**	**218**	⇓*i*Pg	**Pb**	**09 52 32.8**	**0.0**
VAY				*e*Sg	**Sg**	**09 52 46.7**	**+0.3**
VAY				*e*Lg	Lg	09 52 49.3	
	comp=N,492nm,0.7s						
VAY				*e*Lg	Lg	09 52 50.2	
	comp=E,324nm,0.5s						
VAY	**Valandovo**	**1.07**	**218**	*e*Pg	**Pg**	**09 52 32.1**	**-0.4**
VAY				*e*Sg	**Sg**	**09 52 46.3**	**-0.1**
VAY	**Valandovo**	**1.07**	**218**	*e*Pg	**Pg**	**09 52 32.1**	**-0.4**
VAY				*e*Sg	**Sg**	**09 52 46.3**	**-0.1**
VAY				*e*Lg	Lg	09 52 50.1	
	comp=E,324nm,0.5s						
VAY	**Valandovo**	**1.07**	**218**	P	**Pg**	**09 52 32.0**	**-0.4**
VAY				S	**Sg**	**09 52 46.5**	**+0.1**
KNT	**Kendrikon**	**1.09**	**202**	*e*P	**Pg**	**09 52 31.9**	**-0.9**
KNT	**Kendrikon**	**1.09**	**202**	P	**Pg**	**09 52 31.9**	**-0.9**
KNT	**Kendrikon**	**1.09**	**202**	P	**Pg**	**09 52 31.9**	**-0.9**
MPEP	**Malo Peshtene**	**1.20**	**10**	*i* P	**Pn**	**09 52 35.3**	**+0.1**
ZAPS	**Zavoj**	**1.25**	**332**	*e*Pg	**Pg**	**09 52 36.7**	**+0.8**
ZAPS				*e*Sg	**Sn**	**09 52 52.9**	**-0.2**
SOH	**Sokhos**	**1.35**	**183**	*e*P	**Pn**	**09 52 36.8**	**-0.5**
SOH	**Sokhos**	**1.35**	**183**	P	**Pn**	**09 52 36.7**	**-0.5**
SOH	**Sokhos**	**1.35**	**183**	P	**Pn**	**09 52 36.7**	**-0.5**
BARS	**Barje**	**1.37**	**299**	*e*Pg	**Pn**	**09 52 37.4**	**0.0**
BARS				*e*Sg	**Sg**	**09 52 56.0**	**+0.1**
BARS	**Barje**	**1.37**	**299**	*e*Pg	**Pn**	**09 52 37.4**	**0.0**
BARS				*e*Sg	**Sg**	**09 52 56.0**	**+0.1**
KAVA	**Kavala**	**1.42**	**145**	*e*P	**Pb**	**09 52 38.6**	**-0.1**
KAVA	**Kavala**	**1.42**	**145**	P	**Pn**	**09 52 38.1**	**0.0**
KAVA				S	**Sg**	**09 52 57.9**	**+0.4**
KAVA	**Kavala**

LOT				S	**Sn**	**09 53 43.0**	**-0.2**
VOIR		**3.46**	**19**	⇓*i*P	**Pn**	**09 53 07.0**	**+0.7**
VOIR		**3.46**	**19**	⇓*i*P	**Pn**	**09 53 07.0**	**+0.7**
VOIR				S	**Sn**	**09 53 47.6**	**0.0**
MRMT	**Marmara Adasi**	**3.49**	**115**	*e*PN	Sn	09 53 39.9	-8.4
BZS	**Buzias**	**3.69**	**340**	*e*Pn	**Pn**	**09 53 10.2**	**+0.9**
BZS				*e*Sg	**Sg**	**09 54 09.5**	**-0.8**
BZS	**Buzias**	**3.69**	**340**	⇓*i*P	**Pn**	**09 53 09.5**	**+0.2**
BZS	**Buzias**	**3.69**	**340**	⇓*i*P	**Pn**	**09 53 09.5**	**+0.2**
BZS	**Buzias**	**3.69**	**340**	*e*Pn	**Pn**	**09 53 10.2**	**+0.9**
BZS				S	**Sn**	**09 53 54.3**	**+1.2**
BZS				*e*Sg	**Sg**	**09 54 09.5**	**-0.8**
MSAB	**Monastry St. A**	**3.73**	**58**	⇑*i*P	**Pn**	**09 53 11.2**	**+1.3**
MSAB	**Monastry St. A**	**3.73**	**58**	⇑*i*P	**Pn**	**09 53 11.2**	**+1.3**
MSAB				S	**Sn**	**09 53 56.1**	**+1.9**
MLR	**Muntele Rosu**	**3.78**	**28**	⇑*i*P	**Pn**	**09 53 10.9**	**+0.2**
MLR	**Muntele Rosu**	**3.78**	**28**	⇑*i*P	**Pn**	**09 53 10.9**	**+0.2**
TIRR	**Tirgusor**	**4.28**	**56**	⇓*i*P	**Pn**	**09 53 17.6**	**+0.1**
TIRR	**Tirgusor**	**4.28**	**56**	⇓*i*P	**Pn**	**09 53 17.6**	**+0.1**
TIRR				S	**Sn**	**09 54 06.4**	**-1.3**
SIRR	**Siria**	**4.29**	**343**	S	**Sn**	**09 54 08.5**	**+0.6**
SIRR	**Siria**	**4.29**	**343**	S	**Sn**	**09 54 08.5**	**+0.6**
PLOR	**Plostina**	**4.34**	**31**	⇑*i*P	**Pn**	**09 53 19.1**	**+0.7**
PLOR	**Plostina**	**4.34**	**31**	⇑*i*P	**Pn**	**09 53 19.1**	**+0.7**
VRI	**Vrincioaia**	**4.39**	**32**	⇓*i*P	**Pn**	**09 53 19.8**	**+0.9**
VRI	**Vrincioaia**	**4.39**	**32**	⇓*i*P	**Pn**	**09 53 19.8**	**+0.9**
CFR	**Carcaliu**	**4.54**	**47**	⇓*i*P	**Pn**	**09 53 20.7**	**-0.3**
CFR	**Carcaliu**	**4.54**	**47**	⇓*i*P	**Pn**	**09 53 20.7**	**-0.3**

NIED ***15*** *09:54:00, 29.60N×130.00E, h74km, Mw3.8 Best double couple: M₀4.78000×10¹⁴ NP1:φ₁257.00000°, δ41.00000°, λ153.00000°. NP2:φ₂8.00000°, δ73.00000°, λ52.00000°.*
IDC ***15*** *09:54:34.9±1.6, 29.19N×130.23E, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.5/30, mbtmp3.7/4, ML3.4/2, Error ellipse: s-maj=149.8km s-min=24.6km az=87.0*
ISCJB ***15*** *09:54:39.2±0.4, 29.59N±0.04×129.93E±0.08, h71km±6km, mb3.9/2, Error ellipse: s-maj=12.4km s-min=3.5km az=23.4*
JMA ***15*** *09:54:39.6±0.1, 29.58N×129.98E, h63km±1km, M3.5*
JMA Felt I J1.

ISC 15 09:54:40.4±1.0, 29.56N±0.04×129.97E±0.07, h56km±9km, n19, σ1ᵗ40/33, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.30**	**344**	P	**Pn**	**09 54 49.7**	**-0.4**
JNN				S	**Sn**	**09 54 57.7**	**+0.6**
JTAJ	**Takarajima**	**0.78**	**239**	P	**Pn**	**09 54 55.3**	**-0.1**
JTAJ				S	**Sn**	**09 55 08.3**	**+2.0**
JYAK	**Yakushimahirau**	**0.83**	**35**	P	**Pn**	**09 54 55.4**	**-0.6**
JYAK				S	**Sn**	**09 55 06.8**	**-0.7**
JKC	**Kuchinoerabu**	**0.93**	**12**	P	**Pn**	**09 54 56.7**	**-0.6**
JKC				*e*S	**Sn**	**09 55 09.5**	**-0.3**
JAM	**Amami Oshima**	**1.18**	**196**	P	**Pn**	**09 55 00.0**	**-0.7**
JAM				*e*S	**Sn**	**09 55 16.4**	**+0.6**
JZK	**Kikaishima**	**1.24**	**180**	P	**Pn**	**09 55 02.3**	**+0.9**
JZK				*e*S	**Sn**	**09 55 19.2**	**+2.1**
JTN	**Tanegashima 3**	**1.40**	**38**	P	**Pn**	**09 55 03.2**	**-0.5**
JTN				*e*S	**Sn**	**09 55 22.4**	**+1.2**
JAMN	**Amaminishikomi**	**1.48**	**208**	P	**Pn**	**09 55 03.9**	**-0.8**
JAMN				*e*S	**Sn**	**09 55 23.4**	**+0.4**
JTSR	**Tashiro 2**	**1.81**	**27**	P	**Pn**	**09 55 08.9**	**-0.3**
JTSR				*e*S	**Sn**	**09 55 30.6**	**-0.4**
JTK	**Tokunoshima**	**1.98**	**207**	P	**Pn**	**09 55 11.1**	**-0.4**
JTK				*e*S	**Sn**	**09 55 36.0**	**+0.9**
JSU	**Suzuyama**	**1.99**	**12**	P	**Pn**	**09 55 11.4**	**-0.3**
JSJ	**Shimokoshiki**	**2.13**	**354**	P	**Pn**	**09 55 13.0**	**-0.5**
JSJ				*e*S	**Sn**	**09 55 37.1**	**-1.7**
JOKE	**Okinoerabujima**	**2.51**	**210**	P	**Pn**	**09 55 18.6**	**-0.1**
JOKE				*e*S	**Sn**	**09 55 48.3**	**+0.2**
JIH	**Iheya**	**3.07**	**216**	P	**Pn**	**09 55 27.0**	**+0.6**
JIH				*e*S	**Sn**	**09 56 02.2**	**+0.4**
JOW	**Kunigami**	**3.10**	**209**	P	**Pn**	**09 55 26.4**	**-0.4**
JOW				*e*S	**Sn**	**09 56 02.1**	**-0.5**
JNU	**Nakatsue** 5.2nm,0.3s,baz=339,slow=3.6,SNR=25	**3.64**	**12**	Pn	**Pn**	**09 55 36.4**	**+2.1**
JNU	2.4nm,0.3s,baz=160,slow=23,SNR=6.4			Sn	**Sn**	**09 56 21.4**	**+5.5**
KSRS	**Korea Array** 0.1nm,0.3s,baz=165,slow=16,SNR=5.1	**8.06**	**348**	Pn	Pn	09 56 39.2	+4.5
WRA	**Warramunga Arr** 1.1nm,0.3s,baz=354,slow=8.4,SNR=8.5	**49.39**	**175**	P	**P**	**10 03 22.7**	**-1.8**
ASAR	**Alice Springs** 0.4nm,0.8s,baz=357,slow=7.8,SNR=4.6	**53.05**	**175**	P	**P**	**10 03 51.9**	**0.0**

IDC 15 10:14:06.3±6.4, 6.20S×126.25E, h482km±83km, mb3.0/3, mb1 3.1/6, mb1mx2.8/34, mbtmp3.9/6, Error ellipse: s-maj=177.4km s-min=18.3km az=55.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata** 10.0nm,0.3s,baz=85,slow=11,SNR=3.7	**4.73**	**213**	P	P	10 15 30.2	+0.2
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=323,slow=11,SNR=45	**15.76**	**151**	P	P	10 17 24.0	-0.9
ASAR	**Alice Springs** 0.7nm,0.3s,baz=327,slow=8.2,SNR=62	**18.86**	**158**	P	P	10 17 55.5	-0.1
STKA	**Stephens Creek** 1.4nm,0.5s,baz=335,slow=6.7,SNR=11	**29.29**	**153**	P	P	10 19 28.8	+0.2
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=130,slow=7.2,SNR=5.7	**65.56**	**328**	P	P	10 24 01.8	+0.2
KURBB	**Kurchatov Arra** 0.3nm,0.3s,baz=145,slow=4.8,SNR=6.3	**69.92**	**330**	P	P	10 24 27.9	-0.2

ISCJB ***15*** *10:40:48.9±0.7, 50.35N±0.05×18.62E±0.04, h0km, Error ellipse: s-maj=7.4km s-min=3.5km az=0.7*
CSEM ***15*** *10:40:49.5±0.5, 50.34N×18.66E, h2km, ML2.6/6, Error ellipse: s-maj=11.1km s-min=6.1km az=3.0*
PRU ***15*** *10:40:50.3, 50.28N×18.67E, h0km*

ISC 15 10:40:50.3±0.9, 50.28N±0.05×18.64E±0.03, h0km, n21, σ0ᵗ93/35, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.23**	**88**	*e*Pg	**Pg**	**10 40 54.8**	**+0.2**
OKC	**Ostrava-Krasne**	**0.55**	**216**	*e*PG	**Pg**	**10 41 00.5**	**-0.3**
OKC				*e*SG	**Sg**	**10 41 08.0**	**+0.1**
	comp=Z,7.1nm,0.3s						
OKC	**Ostrava-Krasne** 7.1nm,0.3s	**0.55**	**216**	Pg	**Pg**	**10 41 00.5**	**-0.3**
OKC				Sg	**Sg**	**10 41 08.0**	**+0.1**
OJC	**Ojcow**	**0.74**	**94**	*e*Pg	**Pg**	**10 41 04.0**	**-0.6**
OJC				*e*Sg	**Sg**	**10 41 13.6**	**-0.6**
OJC	**Ojcow**	**0.74**	**94**	*e*Pg	**Pg**	**10 41 04.0**	**-0.6**
MORC	**Moravsky Berou**	**0.87**	**235**	*e*Pg	**Pb**	**10 41 08.1**	**-0.2**
MORC				*e*Sg	**Sb**	**10 41 20.5**	**-0.1**
KRLC	**Kraliky**	**1.21**	**261**	*e*PG	**Pg**	**10 41 13.2**	**-0.4**
KRLC				*e*SG	**Sb**	**10 41 30.4**	**0.0**
KRLC	**Kraliky**	**1.21**	**261**	Pg	**Pg**	**10 41 13.2**	**-0.4**
KRLC				Sg	**Sb**	**10 41 30.4**	**0.0**
DPC	**Dobruska-Polom**	**1.49**	**273**	*e*PG	**Pn**	**10 41 18.2**	**-0.2**
DPC				*e*SG	**Sn**	**10 41 39.5**	**+1.0**
	comp=Z,12nm,0.5s						
DPC	**Dobruska-Polom** 12nm,0.5s	**1.49**	**273**	Pg	**Pn**	**10 41 18.2**	**-0.2**
DPC				Sg	**Sn**	**10 41 39.5**	**+1.0**
VRAC	**Vranov**	**1.65**	**234**	*e*Pn	**Pb**	**10 41 21.4**	**-0.2**
VRAC				*e*Sg	**Sg**	**10 41 44.2**	**+1.0**
UPC	**Upice**	**1.70**	**279**	*e*PG	**Pb**	**10 41 22.1**	**-0.3**
UPC				*e*SG	**Sg**	**10 41 46.1**	**+1.3**
	comp=Z,2.9nm,0.2s						
UPC	**Upice** 2.9nm,0.2s	**1.70**	**279**	Pg	**Pb**	**10 41 22.1**	**-0.3**
UPC				Sg	**Sg**	**10 41 46.1**	**+1.3**
GOPC	**GO Pecny, Ondr**	**2.51**	**263**	*e*PG	**Pg**	**10 41 37.5**	**-0.9**
GOPC				*e*SG	**Sg**	**10 42 09.9**	**-1.0**
	comp=Z,2.8nm,0.2s						
GOPC	**GO Pecny, Ondr** 2.8nm,0.2s	**2.51**	**263**	Pg	**Pg**	**10 41 37.5**	**-0.9**
GOPC				Sg	**Sg**	**10 42 09.9**	**-1.0**
PVCC	**Panska Ves** comp=Z,8.1nm,0.3s	**2.62**	**277**	*e*SG	**Sg**	**10 42 14.3**	**-0.1**
PVCC	**Panska Ves** 8.1nm,0.3s	**2.62**	**277**	Sg	**Sg**	**10 42 14.3**	**-0.1**
PRU	**Pruhonice** comp=Z,2.5nm,0.2s	**2.65**	**265**	*e*SG	**Sg**	**10 42 14.4**	**-1.2**
PRU	**Pruhonice** 2.5nm,0.2s	**2.65**	**265**	Sg	**Sg**	**10 42 14.4**	**-1.2**
KHC	**Kasperske Hory**	**3.48**	**253**	*e*PG	**Pb**	**10 41 54.8**	**+1.9**
KHC				*e*SG	**Sg**	**10 42 39.8**	**-2.4**
	comp=Z,3.7nm,0.5s						
KHC	**Kasperske Hory**	**3.48**	**253**	Pg	**Pb**	**10 41 54.8**	**+1.9**

MEX 15 10:55:07.2±0.6, 16.98N×100.22W, h5km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.08**	**329**	*i* P	Pg	10 55 08.2	-0.8
CAIG				*i* S	Sg	10 55 10.2	-0.1
ARIG	**Puente Sto Nin**	**1.30**	**355**	*e*P	Pn	10 55 28.6	-3.5
ARIG				*e*S	Sg	10 55 45.1	-4.0
ZIIG	**Zihuatanejo**	**1.34**	**298**	*e*P	Pn	10 55 29.4	-3.2
ZIIG				*e*S	Sb	10 55 45.9	-4.4
PLIG	**Platanillo**	**1.57**	**26**	*e*P	Pn	10 55 32.8	-3.1
PLIG				*i* S	Sn	10 55 51.0	-5.6

CNRM ***15*** *11:10:25.7, 35.04N×2.02W, h30km, MD3.0*
CSEM ***15*** *11:10:27.8±0.4, 34.92N×2.26W, h30km, MD3.0, Error ellipse: s-maj=8.0km s-min=4.4km az=125.0*

MDD 15 11:10:28.1±0.6, 34.93N×2.22W, h2km±2km, mb3.5/10, Error ellipse: s-maj=4.5km s-min=1.9km az=130.0, PRXIMO, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.43**	**275**	P	Pg	11 10 37.0	+0.4
ZAI				S	Sb	11 10 45.0	-0.7
ZAI	**Zaio**	**0.43**	**275**	P	Pg	11 10 37.0	+0.4
ZAI				S	Sb	11 10 45.0	-0.7
MELI	**Melilla** 165nm,0.2s,SNR=7.9	**0.69**	**302**	P	Pg	11 10 40.5	-0.9
MELI	128nm,0.2s,SNR=7.9			S	Sg	11 10 50.8	+0.5
MELI	**Melilla** 165nm,0.2s,SNR=7.9	**0.69**	**302**	P	Pg	11 10 40.5	-0.9
MELI	128nm,0.2s,SNR=7.9			S	Sg	11 10 50.8	+0.5
EMLI	**Melilla** 74nm,0.3s,SNR=13	**0.70**	**302**	P	Pg	11 10 41.0	-0.6
EMLI	788nm,0.2s,SNR=6.0			S	Sg	11 10 51.3	+0.5
EMEL	**Melilla** 74nm,0.3s,SNR=13	**0.71**	**302**	P	Pg	11 10 41.0	-0.7
EMEL	788nm,0.2s,SNR=6.0			S	Sg	11 10 51.3	+0.4
TOU	**Touzarine**	**1.26**	**272**	P	Pg	11 10 49.0	-3.5
TOU				S	Sg	11 11 04.0	-5.0
TOU	**Touzarine**	**1.26**	**272**	P	Pg	11 10 49.0	-3.5
TOU				S	Sg	11 11 04.0	-5.0
TZK	**Tazeka**	**1.83**	**243**	P	Pn	11 10 56.0	-4.9
TZK				S	Sn	11 11 20.0	-4.9
TZK	**Tazeka**	**1.83**	**243**	P	Pn	11 10 56.0	-4.9
TZK				S	Sn	11 11 20.0	-4.9
EBER	**Berja** 1.1nm,0.2s,SNR=5.6	**2.04**	**345**	P	Pn	11 10 59.3	-4.5
EBER	7.9nm,0.3s,SNR=5.4			S	Sn	11 11 22.4	-7.6
EBER	**Berja** 1.1nm,0.2s,SNR=5.6	**2.04**	**345**	P	Pn	11 10 59.3	-4.5
EBER	7.9nm,0.3s,SNR=5.4			S	Sn	11 11 22.4	-7.6
ENIJ	**Nijar** 6.4nm,0.2s,SNR=7.9	**2.04**	**0**	S	Sn	11 11 23.4	-6.2
ENIJ	**Nijar** 6.4nm,0.2s,SNR=7.9	**2.04**	**0**	S	Sn	11 11 23.4	-6.2
EQUE	**Quentar** 1.3nm,0.2s,SNR=6.3	**2.48**	**337**	P	Pn	11 11 06.3	-3.4
EQUE	2.7nm,0.2s			S	Sn	11 11 34.4	-6.2
EQUE	**Quentar** 1.3nm,0.2s,SNR=6.3	**2.48**	**337**	P	Pn	11 11 06.3	-3.4
EQUE	2.7nm,0.2s			S	Sn	11 11 34.4	-6.2
EMIJ	**Mijas** 4.5nm,0.2s,SNR=7.9	**2.64**	**309**	S	Sn	11 11 37.4	-7.2
EMIJ	**Mijas** 4.5nm,0.2s,SNR=7.9	**2.64**	**309**	S	Sn	11 11 37.4	-7.1
EQES	**Quesada** 1.1nm,0.1s,SNR=7.9	**2.95**	**347**	P	Pn	11 11 14.0	-2.2
EQES	1.5nm,0.2s,SNR=7.9			S	Sn	11 11 48.2	-4.1
EQES	**Quesada** 1.1nm,0.1s,SNR=7.9	**2.95**	**347**	P	Pn	11 11 14.0	-2.2
EQES	1.5nm,0.2s,SNR=7.9			S	Sn	11 11 48.2	-4.1
CZD	**Col de Zad**	**3.01**	**232**	P	Pn	11 11 13.0	-4.3
CZD				S	Sn	11 11 48.0	-6.3
CZD	**Col de Zad**	**3.01**	**232**	P	Pn	11 11 13.0	-4.3
CZD				S	Sn	11 11 48.0	-6.3
SESP	**Santiago Espad** 0.8nm,0.1s,SNR=7.9	**3.19**	**355**	P	Pn	11 11 17.1	-2.6
SESP	2.2nm,0.2s,SNR=7.9			S	Sn	11 11 53.4	-5.1
SESP	**Santiago Espad** 0.8nm,0.1s,SNR=7.9	**3.19**	**355**	P	Pn	11 11 17.0	-2.6
SESP	2.2nm,0.2s,SNR=7.9			S	Sn	11 11 53.4	-5.1
ETOB	**Tobarra** 1.5nm,0.2s,SNR=9.6	**3.75**	**8**	P	Pn	11 11 24.2	-2.9
ETOB	0.3nm,0.3s			S	Sn	11 12 05.4	-6.4
ETOB	**Tobarra** 1.5nm,0.2s,SNR=9.6	**3.75**	**8**	P	Pn	11 11 24.2	-2.9
ETOB	0.3nm,0.3s			S	Sn	11 12 05.4	-6.5
EADA	**Adamuz** 0.3nm,0.1s,SNR=7.9	**3.75**	**330**	P	Pn	11 11 23.8	-3.3
EADA	1.4nm,0.3s,SNR=7.9			S	Sn	11 12 05.2	-6.6
EADA	**Adamuz** 0.3nm,0.1s,SNR=7.9	**3.75**	**330**	P	Pn	11 11 23.8	-3.3
EADA	1.4nm,0.3s,SNR=7.9			S	Sn	11 12 05.2	-6.6
EIBI	**Ibiza** 0.5nm,0.1s,SNR=7.9	**4.99**	**34**	P	Pn	11 11 41.2	-2.8
EIBI	**Ibiza** 0.5nm,0.1s,SNR=7.9	**4.99**	**34**	P	Pn	11 11 41.2	-2.8

IDC 15 11:12:13.7±5.7, 22.13S×172.36E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/34, mbtmp4.0/4, ML3.7/1, MS3.3/6, Ms1 3.3/6, ms1mx3.0/26, Error ellipse: s-maj=144.7km s-min=66.4km az=14.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 2.3nm,0.3s,baz=270,slow=24,SNR=33	**5.49**	**269**	Pn	Pn	11 13 38.7	+1.9
DZM	2.7nm,0.3s,baz=270,slow=20,SNR=4.6			Sn	Sn	11 14 39.1	-1.7
DZM	comp=Z,136nm,18.4s,baz=0.0,slow=33			LR	LR	11 15 16.8	
URZ	**Urewera** comp=Z,162nm,18.6s,baz=343,slow=31	**16.59**	**167**	LR	LR	11 20 53.0	
AFI	**Afiamalu** comp=Z,93nm,20.4s,baz=238,slow=34	**17.14**	**64**	LR	LR	11 21 48.4	
RPZ	**Rata Peaks** comp=Z,159nm,19.0s,baz=19,slow=33	**21.56**	**183**	LR	LR	11 24 09.7	
STKA	**Stephens Creek** 1.8nm,0.9s,baz=96,slow=13,SNR=3.0	**29.00**	**244**	P	P	11 18 14.3	-1.0
ASAR	**Alice Springs** 3.6nm,0.9s,baz=88,slow=9.4,SNR=20	**35.39**	**260**	P	P	11 19 11.8	+0.4
WRA	**Warramunga Arr** 0.9nm,0.7s,baz=97,slow=8.7,SNR=4.6	**35.50**	**266**	P	P	11 19 12.1	-0.3
GUMO	**Guam** comp=Z,15nm,20.8s,baz=166,slow=32	**44.58**	**320**	LR	LR	11 36 19.3	
PETK	**Petropavlovsk-** comp=Z,22nm,19.9s,baz=35,slow=33	**76.00**	**351**	LR	LR	11 53 45.3	

ISCJB ***15*** *11:25:53.8±0.5, 28.99N±0.02×34.68E±0.04, h10km±4km, Error ellipse: s-maj=6.0km s-min=3.8km az=0.4*
GII ***15*** *11:25:54.1±0.0, 28.97N×34.76E, h9km±1km, mb4.4/5, MD4.4/5, Mm3.5/8*
SGS ***15*** *11:25:55.4, 28.98N×34.76E, h18km*
CSEM ***15*** *11:25:55.2±0.1, 28.96N×34.73E, h20km, ML4.3, Mw3.5, Error ellipse: s-maj=4.5km s-min=3.0km az=94.0*
NSSC ***15*** *11:26:05.4±0.8, 29.18N×34.56E, h281km±68km, ML3.5*

ISC 15 11:25:54.6±1.2, 28.96N±0.02×34.69E±0.04, h10km±10km, n48, σ1ᵗ16/61, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HQLS		**0.47**	**43**	P	**Pg**	**11 26 04.0**	**+0.2**
HQLS				S	**Sg**	**11 26 10.0**	**0.0**
HQLK		**0.47**	**43**	P	**Pg**	**11 26 04.0**	**+0.2**
BDAS	**Al Bad'**	**0.64**	**146**	P	**Pb**	**11 26 08.0**	**+0.1**
BDAS				S	**Sb**	**11 26 16.0**	**-0.8**
BDAS	**Al Bad'**	**0.64**	**146**	P	**Pb**	**11 26 07.6**	**-0.2**
RSHS		**0.66**	**172**	P	**Pg**	**11 26 08.0**	**+0.6**
RSHS		**0.66**	**172**	P	**Pg**	**11 26 08.1**	**+0.6**
JLOS		**0.73**	**107**	P	**Pg**	**11 26 09.0**	**+0.2**
JLOS				S	**Sg**	**11 26 18.0**	**-0.5**
JLOS		**0.73**	**107**	P	**Pg**	**11 26 08.7**	**-0.2**
EIL	**Elat**	**0.74**	**18**	Pg	**Pg**	**11 26 08.8**	**-0.2**
EIL				Sg	**Sg**	**11 26 18.5**	**-0.2**
HKAT	**Jabal Katrina**	**0.75**	**235**	Pg	**Pb**	**11 26 11.0**	**+1.1**
MBH	**Mount Berech**	**0.85**	**13**	Pg	**Pg**	**11 26 10.1**	**-1.0**
MBH	**Mount Berech**	**0.85**	**13**	Pg	**Pg**	**11 26 10.1**	**-1.0**
TR2		**1.03**	**236**	Pg	**Pb**	**11 26 14.0**	**-0.5**
HRFI	**Mount Harif**	**1.11**	**16**	Pg	**Pb**	**11 26 14.2**	**-1.8**
HRFI				Sg	**Sb**	**11 26 29.9**	**-0.7**
HNKL	**Nakhl**	**1.15**	**327**	Pg	**Pn**	**11 26 16.0**	**-0.8**
HNKL				Sg	**Sb**	**11 26 32.0**	**+0.4**
TR1		**1.15**	**215**	Pg	**Pb**	**11 26 16.0**	**-0.6**
KRMI	**Paran Flat**	**1.16**	**1**	Pg	**Pb**	**11 26 15.9**	**-0.8**
KRMI				Sg	**Sb**	**11 26 31.2**	**-0.6**
PRNI	**Paran**	**1.42**	**11**	Pn	**Pn**	**11 26 19.2**	**-1.3**
PRNI				Sn	**Sn**	**11 26 39.1**	**-0.1**
RMNI	**Mount Ramon**	**1.63**	**2**	Pn	**Pn**	**11 26 22.6**	**-0.9**
RMNI	**Mount Ramon**	**1.63**	**2**	Pn	**Pn**	**11 26 22.6**	**-0.9**
ZFRI	**Zfri**	**1.65**	**15**	Pn	**Pn**	**11 26 22.2**	**-1.4**
KZIT	**Kziot**	**1.96**	**353**	Pn	**Pn**	**11 26 28.0**	**+0.1**
KZIT	**Kziot**	**1.96**	**353**	Pn	**Pn**	**11 26 28.0**	**+0.1**
REVI	**Revivim**	**2.08**	**1**	Pn	**Pn**	**11 26 29.1**	**-0.4**
REVI	**Revivim**	**2.08**	**1**	Pn	**Pn**	**11 26 29.1**	**-0.4**
MZDA	**Masada**	**2.41**	**14**	Pn	**Pn**	**11 26 32.6**	**-1.5**
MZDA				Sn	**Sn**	**11 27 03.6**	**-0.1**
MZDA	**Masada**	**2.41**	**14**	Pn	**Pn**	**11 26 32.6**	**-1.5**
MZDA				Sn	**Sn**	**11 27 03.6**	**-0.1**
MZBI	**Masada**	**2.42**	**14**	Pn	**Pn**	**11 26 32.6**	**-1.6**
MZBI				Sn	**Sn**	**11 27 03.8**	**0.0**
MZBI	**Masada**	**2.42**	**14**	Pn	**Pn**	**11 26 32.6**	**-1.6**
MZBI				Sn	**Sn**	**11 27 03.8**	**0.0**
DSI	**Dead Sea**	**2.67**	**13**	Pn	**Pn**	**11 26 36.7**	**-1.0**
DSI	**Dead Sea**	**2.67**	**13**	Pn	**Pn**	**11 26 36.7**	**-1.0**
SLTI	**Sal'it**	**3.29**	**5**	Pn	**Pn**	**11 26 45.7**	**-0.5**
SLTI	**Sal'it**	**3.29**	**5**	Pn	**Pn**	**11 26 45.7**	**-0.5**
HMDT	**Nahal Hemdat**	**3.36**	**12**	Pn	**Pn**	**11 26 46.4**	**-0.8**
HMDT	**Nahal Hemdat**	**3.36**	**12**	Pn	**Pn**	**11 26 46.4**	**-0.8**
MMLI	**Mount Malkishu**	**3.52**	**10**	Pn	**Pn**	**11 26 48.7**	**-0.8**
BLGI	**Bet Lehem HaGe**	**3.79**	**6**	Pn	**Pn**	**11 26 52.9**	**-0.2**
BLGI	**Bet Lehem HaGe**	**3.79**	**6**	Pn	**Pn**	**11 26 52.9**	**-0.2**
MMA0	**Mount Meron ar**	**4.09**	**8**	Pn	**Pn**	**11 26 57.3**	**0.0**
MMA0	**Mount Meron ar**	**4.09**	**8**	Pn	**Pn**	**11 26 57.3**	**0.0**
SALA	**Sala**	**4.13**	**25**	*e*P	**Pg**	**11 27 13.2**	**-0.6**
SALA				*e*S	**Sb**	**11 28 02.6**	**+5.0**
SALA				AML	AML	11 28 22.9	
	comp=N,258nm,0.7s						
SALA				AML	AML	11 28 28.0	
	comp=E,44nm,0.7s						
ZALF	**Zalf**	**4.56**	**29**	*e*P	Pg	11 27 18.8	-3.1
ZALF				*e*S	**Sb**	**11 28 11.0**	**+1.3**
ZALF				AML	AML	11 28 28.8	
	comp=E,124nm,0.7s						
ZALF				AML	AML	11 28 44.1	
	comp=N,205nm,0.8s						
BRBR	**Barbar**	**4.57**	**13**	*e*P	**Pb**	**11 27 18.1**	**+3.0**
BRBR				*e*S	**Sb**	**11 28 10.2**	**0.0**
BRBR				AML	AML	11 28 21.9	
	comp=N,180nm,0.6s						
BRBR				AML	AML	11 28 30.9	
	comp=E,223nm,0.5s						
RCY	**Rachaya**	**4.63**	**12**	*e*P	**Pb**	**11 27 17.3**	**+1.3**
TOTH	**TOTAH**	**4.63**	**18**	*e*P	Pb	11 27 19.6	+3.5
TOTH				*e*S	**Sb**	**11 28 12.4**	**+0.5**
TOTH				AML	AML	11 28 33.0	
	comp=N,223nm,0.7s						
TOTH				AML	AML	11 28 44.7	
	comp=E,179nm,0.8s						
DQRL	**Deir Qamar**	**4.79**	**9**	*e*P	**Pb**	**11 27 21.1**	**+2.3**
BHL	**Bhannes**	**5.00**	**9**	*e*P	**Pb**	**11 27 23.6**	**+1.3**
HWQ	**Hawqa**	**5.41**	**11**	*e*P	Pb	11 27 23.7	-5.6

ISCJB ***15*** *11:32:26.3±0.6, 42.03N±0.04×81.15E±0.07, h10km, mb3.7/6, MS3.3/1, Error ellipse: s-maj=7.9km s-min=5.0km az=33.0*
IDC ***15*** *11:32:26.2±1.0, 42.02N×81.10E, h0km, mb3.7/5, mb1 3.8/9, mb1mx3.5/53, mbtmp3.6/9, ML3.2/4, Error ellipse: s-maj=24.9km s-min=16.1km az=94.0*
BJI ***15*** *11:32:27.0, 42.09N×80.95E, h9km, mb4.1/2, ML3.7/11*
MOS ***15*** *11:32:28.4±1.4, 42.10N×81.13E, h23km, mb4.0/4, Error ellipse: s-maj=18.9km s-min=9.4km az=101.8*
NNC ***15*** *11:32:30.7±2.2, 42.18N×80.86E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=15.4km s-min=12.6km az=148.0*

ISC 15 11:32:29.8±0.6, 42.19N±0.05×80.97E±0.04, h10km, n40, σ2ᵗ34/43, mb3.8/6, 10C-7D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye** 121nm,0.5s	**1.58**	**317**	⇑P	**Pn**	**11 32 57.5**	**-0.4**
PDGK	207nm,0.4s			⇑S	**Sg**	**11 33 20.5**	**-0.2**
PDGK	**Podgornoye**	**1.58**	**317**	PN	**Pn**

	comp=Z,330nm,0.5s								
SFK	**Sufi-Kurgan**	**6.05**	**251**	⇓Pg		Pb		11 34 19.5	+4.2
	comp=Z,8.1nm,0.7s								
SFK				⇑Lg		Lg		11 35 40.8	
	comp=Z,19nm,0.8s								
SFK	**Sufi-Kurgan**	**6.05**	**251**	PN		Pb		11 34 19.5	+4.2
SFK				pmax		pmax			
	comp=Z,9.0nm,0.8s								
SFK				pmax		pmax			
	comp=N,19nm,0.8s								
KK31	**Karatay Array**	**7.77**	**280**	⇑Pg		Pb		11 34 49.6	+5.1
	comp=N,2.3nm,0.5s,baz=92,slow=15,SNR=13								
KK31				⇓Lg		Lg		11 36 36.7	
	comp=N,7.7nm,0.5s,baz=88,slow=28,SNR=7.8								
OTUK	**Ortayu**	**8.59**	**318**	⇓Lg		Lg		11 36 59.1	
	comp=N,23nm,0.7s								
KURBB	**Kurchatov Arra**	**8.61**	**350**	⇑Lg		Lg		11 36 58.8	
	comp=N,40nm,0.7s								
KURBB	**Kurchatov Arra**	**8.61**	**350**	Pn		**Pn**		**11 34 35.5**	**+1.2**
	comp=N,0.1nm,0.3s,baz=172,slow=12,SNR=4.2								
KURBB				Lg		Lg		11 36 59.4	
	comp=N,0.5nm,0.3s,baz=181,slow=32,SNR=10								
KURK	**Kurchatov**	**8.68**	**350**	⇓Lg		Lg		11 36 59.1	
	comp=N,33nm,1.0s								
KURK	**Kurchatov**	**8.68**	**350**	P		**Pn**		**11 34 35.5**	**+0.2**
CHCP	**Chirah Chowk**	**10.46**	**218**	P		**Pn**		**11 34 59.4**	**-0.4**
CEP	**Cherat**	**10.99**	**223**	P		**Pn**		**11 35 06.4**	**-0.7**
ZALV	**Zalesovo Beam**	**12.04**	**11**	Pn		**Pn**		**11 35 20.8**	**-0.6**
	comp=N,0.2nm,0.3s,baz=197,slow=14,SNR=5.8								
ZALV	**Zalesovo Beam**	**12.04**	**11**	*i* P		**Pn**		**11 35 23.6**	**+2.3**
ZALV				pmax		pmax			
	comp=Z,2.0nm,0.6s								
BVAR	**Borovoye Array**	**12.97**	**330**	Pn		**Pn**		**11 35 36.4**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=108,slow=9.3,SNR=2.9								
BVAR				Lg		Lg		11 39 21.4	
	comp=Z,0.2nm,0.3s,baz=150,slow=26,SNR=4.0								
BRVK	**Borovoye**	**13.03**	**330**	*i* P		**Pn**		**11 35 34.2**	**-0.6**
GTA	**Gaotai**	**14.54**	**95**	*eP*		**P**		**11 36 02.6**	**+0.3**
GTA				pP		pP		11 36 06.0	
GTA				sP				11 36 09.3	
GTA				pmax		pmax			
	comp=Z,4.0nm,1.0s								
SONM	**Songino Array**	**18.80**	**64**	P		**P**		**11 36 47.0**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=263,slow=12,SNR=7.1								
SONM	**Songino Array**	**18.80**	**64**	P		**P**		**11 36 47.0**	**-2.4**
ARU	**Arti**	**20.28**	**322**	*c iP*		**P**		**11 37 05.0**	**-0.3**
ARU								11 37 18.9	
ARU				S		**S**		**11 40 49.4**	**-3.1**
ARU				SS		Sn		11 41 01.4	+5.9
ARU				pmax		pmax			
	comp=Z,6.0nm,0.7s								
HHC	**Hu-ho-hao-te**	**22.89**	**83**	*eP*		**P**		**11 37 36.9**	**+3.3**
HHC				PP		PnPn		11 38 06.8	+9.0
HHC				S		**S**		**11 41 40.1**	**-3.3**
HHC				SS		SnSn		11 42 24.8	+10
HHC				pmax		pmax			
	comp=Z,13nm,1.2s								
HHC				pmax		pmax			
	comp=Z,71nm,5.4s								
HHC				LR		LR			
	comp=N,96nm,12.8s								
HHC				LR		LR			
	comp=E,110nm,13.3s								
HHC				LR		LR			
	comp=Z,32nm,13.0s								
BRTR	**Keskin Array B**	**35.48**	**282**	P		**P**		**11 39 26.4**	**0.0**
	comp=Z,0.9nm,0.6s,baz=100,slow=7.0,SNR=4.6								
BRTR	**Keskin Array B**	**35.48**	**282**	*i* P		**P**		**11 39 26.5**	**0.0**
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
ILAR	**Eielson Array**	**67.00**	**20**	P		**P**		**11 43 20.6**	**-1.6**
	comp=Z,0.3nm,0.7s,baz=328,slow=5.6,SNR=5.6								
TORD	**Torodi Ar. Bea**	**73.39**	**273**	P		**P**		**11 43 59.6**	**-2.6**
	comp=Z,0.6nm,0.6s,baz=47,slow=4.5,SNR=4.3								
WRA	**Warramunga Arr**	**79.03**	**130**	P		**P**		**11 44 31.8**	**-2.3**
	comp=Z,0.5nm,0.8s,baz=331,slow=5.3,SNR=5.0								
WRA	**Warramunga Arr**	**79.03**	**130**	P		**P**		**11 44 31.8**	**-2.3**
WRA				pmax		pmax			
	comp=Z,1.0nm,0.8s								
ASAR	**Alice Springs**	**81.74**	**132**	P		**P**		**11 44 46.0**	**-2.6**
	comp=Z,0.6nm,0.9s,baz=322,slow=6.0,SNR=4.4								
ASAR	**Alice Springs**	**81.74**	**132**	P		**P**		**11 44 46.0**	**-2.6**
ASAR				pmax		pmax			
	comp=Z,1.0nm,0.9s								

*ISCJB **15** 11:37:16.6±0.5,35°.85N±0°.10×135°.5E±0°.1,h350km, mb2.5/2,Error ellipse: s-maj=15.0km s-min=10.4km az=138.7*

*IDC **15** 11:37:16.7±1.6,35°.70N×135°.55E,h360km±17km,mb2.5/3, mb1 2.7/6,mb1mx2.6/30,mbtmp3.3/6,Error ellipse: s-maj=30.8km s-min=20.4km az=91.0*

*JMA **15** 11:37:17.4±0.1,35°.72N×135°.42E,h348km±1km,M2.9*

ISC 15 11:37:16.5±1.1,35°.8N±0°.1×135°.5E±0°.1,h350km,n16, σ1§18/19,Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKY	**Yasaka**	**0.34**	**249**	P	**Pn**	**11 38 01.3**	**+0.8**
JWT	**Wachi**	**0.47**	**190**	P	**Pn**	**11 38 01.5**	**+0.7**
JWT				S	**S**	**11 38 35.9**	**-0.3**
JKSM	**Kasumi**	**0.70**	**257**	P	**Pn**	**11 38 01.8**	**+0.6**
JKSM				S	**S**	**11 38 36.6**	**-0.4**
JKG	**Kaga**	**0.85**	**52**	P	**Pn**	**11 38 02.7**	**+1.1**
JGM	**Miyama**	**0.99**	**93**	P	**Pn**	**11 38 03.3**	**+1.1**
JIE	**Ise**	**1.68**	**144**	P	**Pn**	**11 38 06.8**	**+1.1**
JNG	**Nsakai**	**2.21**	**72**	P	**Pn**	**11 38 10.8**	**+1.5**
MAT	**Matsushiro**	**2.33**	**69**	P	**Pn**	**11 38 11.7**	**+1.5**
MAT				*e*S	**S**	**11 38 51.1**	**-2.2**
MAT	**Matsushiro**	**2.33**	**69**	P	**Pn**	**11 38 11.7**	**+1.5**
MJAR	**Matsushiro Arr**	**2.33**	**69**	P	**Pn**	**11 38 11.5**	**+1.3**
	1.6nm,0.3s,baz=258,slow=11,SNR=22						
JMN	**Monobe**	**2.42**	**214**	P	**Pn**	**11 38 11.7**	**+0.7**
JTO	**Tosashimizu**	**3.65**	**219**	P	**Pn**	**11 38 22.3**	**+0.3**
USRK	**Ussuriysk Ar.**	**8.86**	**343**	P	**Pn**	**11 39 22.0**	**+1.4**
	0.5nm,0.3s,baz=171,slow=13,SNR=6.5						
ASAJ	**Asahikawa**	**9.97**	**31**	P	**Pn**	**11 39 33.3**	**-0.6**
	0.6nm,0.3s,baz=221,slow=11,SNR=5.7						
MKAR	**Makanchi Array**	**40.77**	**303**	P	**P**	**11 44 24.3**	**-0.3**
	0.2nm,0.6s,baz=76,slow=6.8,SNR=2.2						
ILAR	**Eielson Array**	**53.11**	**32**	P	**P**	**11 45 58.1**	**-0.6**
	0.1nm,0.4s,baz=274,slow=6.0,SNR=3.9						

*IDC **15** 11:47:35.6±6.2,7°.13S×128°.79E,h68km±65km,mb3.4/2, mb1 3.7/4,mb1mx3.2/33,mbtmp3.9/4,ML4.1/2,Error ellipse: s-maj=99.5km s-min=24.1km az=75.0*

ISC 15 11:47:42.2±1.0,6°.87S±0°.06×129°.9E±0°.2,h150km,n11, σ2§52/14,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.59**	**31**	P	**Pn**	**11 48 51.3**	**+1.1**
	baz=4.6,SNR=17						
MTN	**Manton Dam**	**6.07**	**168**	P	**Pn**	**11 49 12.3**	**+2.5**
	baz=6.0,SNR=53						
SIJI	**Sorong**	**6.12**	**13**	P	**Pn**	**11 49 11.2**	**+0.6**
	3.0nm,0.3s,baz=29,slow=22,SNR=46						
SIJI				S	**Sn**	**11 50 15.8**	**-4.0**
	5.3nm,0.3s,baz=262,slow=24,SNR=14						
SWI	**Sorong**	**6.13**	**13**	P	**Pn**	**11 49 11.5**	**+0.8**
	baz=6.2,SNR=6.2						
KDU	**Kakadu**	**6.33**	**156**	P	**Pn**	**11 49 15.8**	**+2.4**
	baz=6.2,SNR=174						
KNRA	**Kununurra**	**8.82**	**187**	P	**Pn**	**11 49 46.9**	**+0.3**
	baz=8.8,SNR=43						
WRA	**Warramunga Arr**	**13.70**	**162**	P	**Pn**	**11 50 50.0**	**-0.4**
	1.0nm,0.3s,baz=336,slow=13,SNR=39						
WRA				S	**Sn**	**11 53 17.2**	**-5.1**
	0.9nm,0.3s,baz=339,slow=22,SNR=5.8						
ASAR	**Alice Springs**	**17.15**	**167**	P	**Pn**	**11 51 35.3**	**+2.4**
	0.6nm,0.3s,baz=341,slow=9.9,SNR=37						
ASAR				S	**S**	**11 54 41.7**	**-1.8**
	0.1nm,0.3s,baz=357,slow=30,SNR=4.0						
WRKA	**Warakurna**	**18.13**	**185**	P	**Pn**	**11 51 45.4**	**+0.8**
	baz=18,SNR=18						
STKA	**Stephens Creek**	**27.18**	**158**	P	**P**	**11 53 13.9**	**+2.0**
	0.5nm,0.3s,baz=339,slow=10,SNR=3.3						
MKAR	**Makanchi Array**	**68.04**	**327**	P	**P**	**11 58 25.7**	**+0.2**
	0.1nm,0.3s,baz=118,slow=5.5,SNR=3.2						

*IDC **15** 12:06:57.2±4.9,36°.06S×178°.21E,h155km±31km,mb3.7/3, mb1 4.0/4,mb1mx3.5/23,mbtmp4.2/4,Error ellipse: s-maj=69.8km s-min=22.1km az=47.0*

*ISCJB **15** 12:07:03.8±0.9,37°.05S±0°.07×177°.59E±0°.10,h217km±6km, mb3.7/3,Error ellipse: s-maj=12.5km s-min=11.1km az=172.8*

*NEIC **15** 12:07:05.1,36°.69S×177°.55E,h171km,MG4.5(WEL), After WEL.*

*WEL **15** 12:07:06.7±0.6,36°.75S×177°.54E,h159km±4km,ML4.4/17, Error ellipse: s-maj=4.3km s-min=3.4km az=0.0*

ISC 15 12:07:04.0±1.1,36°.92S±0°.08×177°.59E±0°.07,h200km±7km, n141,σ1§18/144,mb3.9/3,10C-7D,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.85**	**170**	PN	**Pn**	**12 07 32.3**	**-0.4**
HAZ				SN	**Sn**	**12 07 53.0**	**-2.2**
MXZ	**Matakaoa Point**	**0.86**	**139**	PN	**Pn**	**12 07 32.3**	**-0.5**
MXZ				*e*SN	**Sn**	**12 07 51.7**	**-4.0**
MXZ				AML	AML	12 07 54.6	
MXZ				AML	AML	12 07 54.6	
MXZ				AML	AML	12 07 56.1	
MXZ	**Matakaoa Point**	**0.86**	**139**	Pn	**Pn**	**12 07 32.4**	**-0.5**
WMGZ	**Waiomatatini S**	**1.12**	**144**	⇑PN	**Pn**	**12 07 34.8**	**+0.3**
OPRZ	**Ohinepanea**	**1.24**	**221**	PN	**Pn**	**12 07 35.7**	**+0.3**
OPRZ	**Ohinepanea**	**1.24**	**221**	Pn	**Pn**	**12 07 35.8**	**+0.3**
PUZ	**Puketiti**	**1.27**	**156**	⇓PN	**Pn**	**12 07 36.1**	**+0.4**
PUZ				*e*SN	**Sn**	**12 07 59.8**	**-0.8**
PUZ				AML	AML	12 08 02.5	
PUZ	**Puketiti**	**1.27**	**156**	Pn	**Pn**	**12 07 36.1**	**+0.4**
PUZ				Sn	**Sn**	**12 08 01.2**	**+0.6**
MARZ	**Manawahe**	**1.29**	**214**	PN	**Pn**	**12 07 36.4**	**+0.5**
MARZ	**Manawahe**	**1.29**	**214**	Pn	**Pn**	**12 07 36.4**	**+0.5**
TWGZ	**Tauwhareparae**	**1.30**	**166**	⇑PN	**Pn**	**12 07 37.1**	**+1.2**
EDRZ	**Edgecumbe**	**1.37**	**209**	PN	**Pn**	**12 07 37.5**	**+0.9**
EDRZ	**Edgecumbe**	**1.37**	**209**	Pn	**Pn**	**12 07 37.5**	**+0.9**
URZ	**Urewera**	**1.40**	**196**	PN	**Pn**	**12 07 37.6**	**+0.2**
	163nm,0.3s,baz=272,slow=4.8,SNR=2146						
URZ				S	**Sn**	**12 08 02.0**	**-0.3**
	128nm,0.3s,baz=354,slow=2.8,SNR=59						
MWZ	**Matawai**	**1.42**	**182**	⇑PN	**Pn**	**12 07 37.5**	**+0.6**
MWZ				AML	AML	12 08 03.1	
MWZ				AML	AML	12 08 03.1	
MWZ				AML	AML	12 08 04.6	
MWZ				AML	AML	12 08 04.6	
MWZ	**Matawai**	**1.42**	**182**	Pn	**Pn**	**12 07 37.5**	**+0.6**
KUZ	**Kuaotunu**	**1.51**	**276**	PN	**Pn**	**12 07 36.6**	**-1.2**
KUZ	**Kuaotunu**	**1.51**	**276**	Pn	**Pn**	**12 07 36.6**	**-1.2**
TKGZ	**Te Karaka**	**1.54**	**172**	⇑PN	**Pn**	**12 07 38.9**	**+0.9**
TARZ	**Mount Tarawera**	**1.57**	**213**	PN	**Pn**	**12 07 39.8**	**+1.4**
TARZ	**Mount Tarawera**	**1.57**	**213**	Pn	**Pn**	**12 07 39.9**	**+1.4**
RAGZ	**Rawiri**	**1.58**	**185**	⇑PN	**Pn**	**12 07 39.5**	**+1.1**
CNGZ	**Carnagh Statio**	**1.64**	**163**	PN	**Pn**	**12 07 40.2**	**+1.3**
CNGZ	**Carnagh Statio**	**1.64**	**163**	Pn	**Pn**	**12 07 40.2**	**+1.3**
RRRZ	**Republican Roa**	**1.66**	**211**	⇑PN	**Pn**	**12 07 40.2**	**+1.0**
RRRZ	**Republican Roa**	**1.66**	**211**	Pn	**Pn**	**12 07 40.2**	**+1.0**
RIGZ	**Rimuhau**	**1.79**	**176**	⇑PN	**Pn**	**12 07 41.4**	**+1.0**
TOZ	**Tahuroa Road**	**1.85**	**243**	PN	**Pn**	**12 07 41.8**	**+0.8**
TOZ	**Tahuroa Road**	**1.85**	**243**	Pn	**Pn**	**12 07 41.8**	**+0.8**
ALRZ	**Allen Road**	**1.92**	**211**	PN	**Pn**	**12 07 42.8**	**+1.1**
ALRZ	**Allen Road**	**1.92**	**211**	Pn	**Pn**	**12 07 42.8**	**+1.1**
MKAZ	**Moumakai**	**1.95**	**264**	PN	**Pn**	**12 07 42.1**	**+0.1**
MKAZ	**Moumakai**	**1.95**	**264**	Pn	**Pn**	**12 07 42.1**	**+0.1**
PRGZ	**Paritu Road**	**2.02**	**174**	PN	**Pn**	**12 07 43.6**	**+0.9**
PRGZ	**Paritu Road**	**2.02**	**174**	Pn	**Pn**	**12 07 43.6**	**+0.9**
RAHZ	**Arahi**	**2.04**	**191**	⇑PN	**Pn**	**12 07 44.0**	**+1.1**
RAHZ	**Arahi**	**2.04**	**191**	Pn	**Pn**	**12 07 44.0**	**+1.1**
KNZ	**Kokohu**	**2.10**	**178**	PN	**Pn**	**12 07 44.3**	**+0.8**
KNZ	**Kokohu**	**2.10**	**178**	Pn	**Pn**	**12 07 44.3**	**+0.8**
TLZ	**Tolley Road**	**2.16**	**228**	PN	**Pn**	**12 07 45.6**	**+1.5**
WHHZ	**Waihua**	**2.18**	**187**	PN	**Pn**	**12 07 45.4**	**+1.1**
ARHZ	**Aropaoanui**	**2.39**	**191**	PN	**Pn**	**12 07 47.7**	**+1.1**
BKZ	**Black Stump Fm**	**2.41**	**201**	⇑PN	**Pn**	**12 07 47.2**	**+0.4**
BKZ				*e*SN	**Sn**	**12 08 20.2**	**-0.3**
BKZ				AML	AML	12 08 26.5	
BKZ	**Black Stump Fm**	**2.41**	**201**	Pn	**Pn**	**12 07 47.2**	**+0.4**
MCHZ	**McNeill Hill**	**2.62**	**195**	PN	**Pn**	**12 07 50.2**	**+1.0**
MCHZ	**McNeill Hill**	**2.62**	**195**	Pn	**Pn**	**12 07 50.2**	**+1.0**
KWHZ	**Kaweka Forest**	**2.67**	**200**	⇓PN	**Pn**	**12 07 50.4**	**+0.6**
HIZ	**Hauiti**	**2.69**	**233**	⇓PN	**Pn**	**12 07 51.9**	**+1.9**
HIZ	**Hauiti**	**2.69**	**233**	Pn	**Pn**	**12 07 51.9**	**+1.9**
WTVZ	**West Tongariro**	**2.71**	**215**	PN	**Pn**	**12 07 51.6**	**+1.3**
WTVZ	**West Tongariro**	**2.71**	**215**	Pn	**Pn**	**12 07 51.6**	**+1.3**
OTVZ	**Oturere**	**2.71**	**214**	PN	**Pn**	**12 07 51.4**	**+1.0**
OTVZ	**Oturere**	**2.71**	**214**	Pn	**Pn**	**12 07 51.4**	**+1.0**
NGZ	**Ngauruhoe**	**2.75**	**214**	PN	**Pn**	**12 07 52.2**	**+1.3**
NGZ	**Ngauruhoe**	**2.75**	**214**	Pn	**Pn**	**12 07 52.2**	**+1.3**
CKHZ	**Cape Kidnapper**	**2.77**	**188**	PN	**Pn**	**12 07 51.8**	**+0.9**
CKHZ	**Cape Kidnapper**	**2.77**	**188**	Pn	**Pn**	**12 07 51.8**	**+0.9**
TUVZ	**Tukino**	**2.80**	**212**	PN	**Pn**	**12 07 52.5**	**+1.1**
TUVZ	**Tukino**	**2.80**	**212**	Pn	**Pn**	**12 07 52.5**	**+1.1**
BHHZ	**Black Hill Sta**	**2.84**	**205**	⇓PN	**Pn**	**12 07 52.0**	**+0.2**
BHHZ	**Black Hill Sta**	**2.84**	**205**	Pn	**Pn**	**12 07 52.0**	**+0.2**
FWVZ	**Far West T-bar**	**2.84**	**214**	PN	**Pn**	**12 07 53.0**	**+1.1**
FWVZ	**Far West T-bar**	**2.84**	**214**	Pn	**Pn**	**12 07 53.0**	**+1.1**
WHVZ	**Whangaehu Hut**	**2.84**	**213**	PN	**Pn**	**12 07 53.0**	**+1.0**
WNVZ	**Wahianoa**	**2.88**	**213**	PN	**Pn**	**12 07 53.0**	**+0.7**
WNVZ	**Wahianoa**	**2.88**	**213**	Pn	**Pn**	**12 07 53.0**	**+0.7**
MOVZ	**Moawhango**	**2.88**	**210**	PN	**Pn**	**12 07 52.3**	**+0.1**
MOVZ	**Moawhango**	**2.88**	**210**	Pn	**Pn**	**12 07 52.3**	**+0.1**
KAHZ	**Kahuranaki**	**2.93**	**191**	PN	**Pn**	**12 07 53.6**	**+0.8**
KAHZ	**Kahuranaki**	**2.93**	**191**	Pn	**Pn**	**12 07 53.6**	**+0.8**
PXZ	**Pawanui**	**3.17**	**190**	PN	**Pn**	**12 07 55.6**	**+0.2**
PXZ				AML	AML	12 08 37.7	
PXZ				AML	AML	12 08 37.8	
PXZ				AML	AML	12 08 39.2	
PXZ				AML	AML	12 08 39.3	
PXZ	**Pawanui**	**3.17**	**190**	Pn	**Pn**	**12 07 55.6**	**+0.2**
PNHZ	**Pukenui**	**3.19**	**200**	PN	**Pn**	**12 07 56.0**	**+0.1**
PNHZ	**Pukenui**	**3.19**	**200**	Pn	**Pn**	**12 07 56.0**	**+0.1**
WPHZ	**Waipukurau**	**3.27**	**196**	PN	**Pn**	**12 07 57.1**	**+0.3**
WPHZ	**Waipukurau**	**3.27**	**196**	Pn	**Pn**	**12 07 57.1**	**+0.3**
TSZ	**Takapari Road**	**3.39**	**202**	PN	**Pn**	**12 07 58.0**	**-0.3**
TSZ				AML	AML	12 08 42.3	
TSZ				AML	AML	12 08 43.7	
TSZ	**Takapari Road**	**3.39**	**202**	Pn	**Pn**	**12 07 58.0**	**-0.3**
PRHZ	**Porangahau**	**3.43**	**192**	PN	**Pn**	**12 07 58.8**	**+0.1**
PRHZ	**Porangahau**	**3.43**	**192**	Pn	**Pn**	**12 07 58.8**	**+0.1**
WAZ	**Wanganui**	**3.50**	**215**	PN	**Pn**	**12 08 00.3**	**+0.7**
WAZ	**Wanganui**	**3.50**	**215**	Pn	**Pn**	**12 08 00.3**	**+0.7**
DVHZ	**Dannevirke**	**3.56**	**198**	PN	**Pn**	**12 08 00.1**	**-0.2**
DVHZ	**Dannevirke**	**3.56**	**198**	Pn	**Pn**	**12 08 00.1**	**-0.2**
NEZ	**North Egmont**	**3.62**	**228**	PN	**Pn**	**12 08 03.6**	**+2.5**
NEZ	**North Egmont**	**3.62**	**228**	Pn	**Pn**	**12 08 03.6**	**+2.5**
ANWZ	**Angora Road**	**3.65**	**194**	⇑PN	**Pn**	**12 08 01.6**	**+0.3**
POWZ	**Post Office Ro**	**3.75**	**202**	PN	**Pn**	**12 08 02.6**	**-0.1**
POWZ	**Post Office Ro**	**3.75**	**202**	Pn	**Pn**	**12 08 02.6**	**-0.1**
PRWZ	**Pori Road**	**3.85**	**199**	PN	**Pn**	**12 08 03.9**	**+0.1**
BFZ	**Birch Farm**	**3.91**	**195**	⇓PN	**Pn**	**12 08 04.2**	**-0.3**
BFZ	**Birch Farm**	**3.91**	**195**	Pn	**Pn**	**12 08 04.2**	**-0.3**
MRZ	**Mangatainoka R**	**4.06**	**202**	⇓PN	**Pn**	**12 08 05.6**	**-0.8**
MRZ				AML	AML	12 08 55.7	
MRZ				AML	AML	12 08 56.3	
MRZ	**Mangatainoka R**	**4.06**	**202**	Pn	**Pn**	**12 08 05.6**	**-0.8**
TIWZ	**Tintock**	**4.08**	**199**	PN	**Pn**	**12 08 06.2**	**-0.5**
TIWZ				AML	AML	12 08 55.7	
TIWZ				AML	AML	12 08 57.9	
TIWZ	**Tintock**	**4.08**	**199**	Pn	**Pn**	**12 08 06.2**	**-0.5**
CPWZ	**Castlepoint**	**4.13**	**195**	PN	**Pn**	**12 08 07.1**	**-0.3**
HOWZ	**Holdsworth Sta**	**4.29**	**202**	⇓PN	**Pn**	**12 08 08.3**	**-1.1**
HOWZ	**Holdsworth Sta**	**4.29**	**202**	Pn	**Pn**	**12 08 08.3**	**-1.1**
OGWZ	**Otaki Gorge**	**4.33**	**205**	PN	**Pn**	**12 08 08.9**	**-1.0**
OGWZ	**Otaki Gorge**	**4.33**	**205**	Pn	**Pn**	**12 08 08.9**	**-1.0**
TMWZ	**Te Maipa**	**4.39**	**197**	PN	**Pn**	**12 08 10.0**	**-0.7**
TMWZ	**Te Maipa**	**4.39**	**197**	Pn	**Pn**	**12 08 10.0**	**-0.7**
KIW	**Kapiti Island**	**4.46**	**207**	PN	**Pn**	**12 08 10.3**	**-1.2**
KIW				AML	AML	12 09 05.1	
KIW				AML	AML	12 09 06.4	
KIW	**Kapiti Island**	**4.46**	**207**	Pn	**Pn**	**12 08 10.3**	**-1.2**
CAW	**Cannon Point**	**4.63**	**204**	PN	**Pn**	**12 08 12.2**	**-1.4**
CAW				AML	AML	12 09 07.4	
CAW				AML	AML	12 09 11.3	
CAW	**Cannon Point**	**4.63**	**204**	Pn	**Pn**	**12 08 12.2**	**-1.4**
TRWZ	**Traveller**	**4.72**	**198**	PN	**Pn**	**12 08 13.7**	**-1.0**
TRWZ				AML	AML	12 09 10.6	
TRWZ				AML	AML	12 09 10.9	
TRWZ	**Traveller**	**4.72**	**198**	Pn	**Pn**	**12 08 13.7**	**-1.0**
PAWZ	**Paruwai Farm**	**4.77**	**200**	PN	**Pn**	**12 08 14.0**	**-1.3**
PAWZ				AML	AML	12 09 11.6	
PAWZ				AML	AML	12 09 11.7	
PAWZ	**Paruwai Farm**	**4.77**	**200**	Pn	**Pn**	**12 08 14.0**	**-1.3**
MSWZ	**Moikau Station**	**4.85**	**201**	PN	**Pn**	**12 08 14.8**	**-1.6**
MSWZ				AML	AML	12 09 12.7	
MSWZ	**Moikau Station**	**4.85**	**201**	Pn	**Pn**	**12 08 14.8**	**-1.6**
WEL	**Wellington**	**4.89**	**206**	PN	**Pn**	**12 08 15.5**	**-1.3**
WEL				AML	AML	12 09 14.2	
WEL				AML	AML	12 09 14.9	
WEL	**Wellington**	**4.89**	**206**	Pn	**Pn**	**12 08 15.5**	**-1.3**
BHW	**Baring Head**	**4.96**	**204**	PN	**Pn**	**12 08 16.1**	**-1.7**
BHW				AML	AML	12 09 14.5	
BHW				AML	AML	12 09 14.6	
BHW	**Baring Head**	**4.96**	**204**	Pn	**Pn**	**12 08 16.1**	**-1.7**
PLWZ	**Palliser**	**4.99**	**201**	PN	**Pn**	**12 08 16.7**	**-1.5**
PLWZ	**Palliser**	**4.99**	**201**	Pn	**Pn**	**12 08 16.7**	**-1.5**
TUWZ	**Tuamarina**	**5.33**	**211**	PN	**Pn**	**12 08 20.9**	**-1.6**
TUWZ				AML	AML	12 09 24.3	
TUWZ				AML	AML	12 09 24.3	
TUWZ	**Tuamarina**	**5.33**	**211**	Pn	**Pn**	**12 08 20.9**	**-1.6**
NNZ	**Nelson**	**5.40**	**216**	PN	**Pn**	**12 08 21.5**	**-1.9**
NNZ	**Nelson**	**5.40**	**216**	Pn	**Pn**	**12 08 21.6**	**-1.9**
QRZ	**Quartz Range**	**5.55**	**224**	PN	**Pn**	**12 08 23.0**	**-2.5**
QRZ	**Quartz Range**	**5.55**	**224**	Pn	**Pn**	**12 08 23.0**	**-2.5**
BSWZ	**Blackbirch Sta**	**5.59**	**210**	PN	**Pn**	**12 08 24.6**	**-1.3**
BSWZ	**Blackbirch Sta**	**5.59**	**210**	Pn	**Pn**	**12 08 24.6**	**-1.3**
THZ	**Tophouse**	**6.05**	**215**	PN	**Pn**	**12 08 29.8**	**-2.1**
THZ	**Tophouse**	**6.05**	**215**	Pn	**Pn**	**12 08 29.8**	**-2.1**
KHZ	**Kahutara**	**6.32**	**208**	PN	**Pn**	**12 08 33.4**	**-1.9**
KHZ	**Kahutara**	**6.32**	**208**	Pn	**Pn**	**12 08 33.4**	**-1.9**
OXZ	**Oxford**	**7.69**	**212**	PN	**Pn**	**12 09 49.6**	**-3.4**
MQZ	**McQueen's Vall**	**7.76**	**208**	PN	**Pn**	**12 08 50.7**	**-3.3**
MQZ	**McQueen's Vall**	**7.76**	**208**	Pn	**Pn**	**12 08 50.7**	**-3.3**
RPZ	**Rata Peaks**	**8.43**	**214**	P	**Pn**	**12 09 00.8**	**-2.0**
	0.7nm,0.3s,baz=62,slow=17,SNR=5.6						
RPZ				S	Sn	12 10 29.1	-8.4
	2.9nm,0.3s,baz=341,slow=20,SNR=12						
ASAR	**Alice Springs**	**39.64**	**277**	P	**P**	**12 14 16.9**	**+0.4**
	2.5nm,0.7s,baz=120,slow=8.0,SNR=31						
WRA	**Warramunga Arr**	**41.24**	**282**	P	**P**	**12 14 30.0**	**+0.4**
	1.8nm,0.7s,baz=120,slow=7.8,SNR=14						
QSPA	**South Pole Qui**	**53.21**	**180**	P	P	12 16 05.8	+4.3
	2.1nm,0.6s,baz=31,slow=4.9,SNR=12						
FINES	**FINESS Array B**	**149.65**	**333**	PKPbc	**PKPdf**	**12 26 26.5**	**+2.4**
	1.9nm,1.0s,baz=74,slow=7.4,SNR=3.8						
TORD	**Torodi Ar. Bea**	**156.05**	**190**	PKPab	**PKPab**	**12 27 03.7**	**+0.6**
	1.1nm,0.6s,baz=167,slow=4.8,SNR=7.1						

**MEX 15 12

comp=Z,1.1nm,0.6s,baz=86,slow=11,SNR=4.8
STKA LR LR 12 55 22.6
ASAR Alice Springs 34.85 261 P **P** **12 46 20.1 -0.7**
comp=Z,91nm,18.7s,baz=38,slow=34
WRAB Tennant Creek 35.00 267 *e*P **P** **12 46 20.9 -1.1**
WRA Warramunga Arr 35.01 267 P **P** **12 46 21.3 -0.7**
comp=Z,2.4nm,0.5s,baz=96,slow=8.6,SNR=54
WRKA Warakurna 39.80 258 P **P** **12 47 02.7 +0.1**
baz=40,SNR=19
MTN Manton Dam 39.88 277 P P 12 46 57.0 -6.3
baz=40,SNR=4.0
FITZ Fitzroy Crossi 43.44 267 P **P** **12 47 33.4 +0.9**
baz=43,SNR=5.4
GUMO Guam 44.64 321 LR LR 13 03 52.5
comp=Z,40nm,20.6s,baz=154,slow=33
MEEK Meekatharra 48.29 254 P **P** **12 48 10.3 -0.4**
baz=48,SNR=6.7
MORW Morawa 50.27 250 P **P** **12 48 25.3 -0.5**
baz=50,SNR=4.5
VNDA Vanda 55.19 183 P **P** **12 49 01.4 +0.1**
comp=Z,0.8nm,0.5s,baz=109,slow=21,SNR=8.8
VNDA LR LR 13 09 03.5
comp=Z,83nm,19.0s,baz=353,slow=32
KSM Kuching 64.51 283 P **P** **12 50 07.6 +1.2**
baz=64,SNR=6.0
KSM Kuching 64.51 283 *e*P **P** **12 50 07.3 +0.9**
comp=Z,4.3nm,0.6s
MJAR Matsushiro Arr 66.86 331 LR LR 13 14 26.8
comp=Z,6.6nm,21.0s,baz=230,slow=31
JNU Nakatsue 67.81 324 LR LR 13 19 29.6
comp=Z,19nm,18.1s,baz=189,slow=35
KSRS Korea Array 72.65 325 P **P** **12 50 55.3 -1.3**
comp=Z,0.7nm,0.6s,baz=142,slow=6.3,SNR=4.8
KSRS LR LR 13 20 18.2
comp=Z,25nm,20.1s,baz=182,slow=34
KSAR Wonju Array Be 72.66 325 P **P** **12 50 55.3 -1.3**
PETK Petropavlovsk- 76.39 351 P **P** **12 51 18.7 +0.8**
comp=Z,1.9nm,0.8s,baz=145,slow=6.7,SNR=4.7
PETK LR LR 13 18 42.3
comp=Z,36nm,21.3s,baz=127,slow=31
CMAR Chiang Mai Arr 82.10 294 P **P** **12 51 51.9 +2.0**
comp=Z,1.3nm,0.6s,baz=137,slow=4.2,SNR=8.1
NVAR Mina Array Bea 89.22 48 P **P** **12 52 25.2 +0.2**
comp=Z,1.4nm,1.0s,baz=228,slow=6.5,SNR=6.5
ILAR Eielson Array 92.72 16 P **P** **12 52 39.3 -1.2**
comp=Z,0.3nm,0.8s,baz=237,slow=7.0,SNR=6.7
ILAR LR LR 13 28 28.3
comp=Z,46nm,19.0s,baz=208,slow=32
GERES GERESS Array B 148.60 332 PKPbc **PKPbc** **12 59 16.4 +0.6**
comp=Z,0.3nm,0.3s,baz=57,slow=3.6,SNR=4.3
TORD Torodi Ar. Bea 166.74 227 PKP **PKPdf** **12 59 33.7 -1.4**
comp=Z,0.9nm,1.1s,baz=176,slow=4.3,SNR=2.8

*NAO **15** 13:14:09.9±1.3,67.65N×34.18E,ML2.6*
*KOLA **15** 13:14:09.8,67.69N×34.23E,h0km*
*HEL **15** 13:14:10.6±0.5,67.70N×33.93E,h0km,ML2.4,Explosion*
*CSEM **15** 13:14:12.4±0.7,67.59N×33.37E,h2km,ML2.6,Error ellipse: s-maj=12.9km s-min=7.8km az=86.0,Mining explosion.*

ISC 15 13:14:08.8±1.9,67°64N±0°.04×34°23E±0°.10,h0km,n30, σ1§73/47,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.32**	**257**	P	**Pg**	**13 14 15.9**	**+1.0**
APA				S	**Sg**	**13 14 20.3**	**+1.2**
APA0	**Apatity Array**	**0.47**	**266**	Pg	**Pg**	**13 14 15.9**	**-1.9**
APA0				Pg	**Pg**	**13 14 18.4**	**+0.5**
	baz=91,slow=18						
APA0				Lg	Lg	13 14 20.4	
APA0				Rg	Rg	13 14 21.9	
APA0				Lg	Lg	13 14 24.2	
	baz=69,slow=56						
APA0				Rg	Rg	13 14 27.4	
	baz=86,slow=37						
APA0	**Apatity Array**	**0.47**	**266**	Pg	**Pg**	**13 14 15.9**	**-1.9**
APA0				Pg	**Pg**	**13 14 18.4**	**+0.5**
	baz=91,slow=18						
APA0				Lg	Lg	13 14 20.4	
APA0				Rg	Rg	13 14 21.9	
APA0				Lg	Lg	13 14 24.2	
	baz=69,slow=56						
APA0				Rg	Rg	13 14 27.4	
	baz=86,slow=37						
APA0	**Apatity Array**	**0.47**	**266**	P	**Pg**	**13 14 18.4**	**+0.5**
APA0				S	**Sg**	**13 14 24.7**	**+0.7**
APA0	**Apatity Array**	**0.47**	**266**	Pg	**Pg**	**13 14 15.9**	**-1.9**
	SNR=90						
APA0				Lg	Lg	13 14 20.4	
KU6	**Riekki**	**2.36**	**229**	*e*PG	**Pb**	**13 14 51.6**	**-0.5**
KU6				*e*SG	**Sb**	**13 15 22.1**	**+0.3**
KU6	**Riekki**	**2.36**	**229**	Pg	**Pb**	**13 14 51.6**	**-0.5**
KU6				Sg	**Sb**	**13 15 22.1**	**+0.3**
MSF	**Maaselka**	**2.69**	**232**	*e*SG	**Sb**	**13 15 31.5**	**+0.2**
MSF	**Maaselka**	**2.69**	**232**	Sg	**Sb**	**13 15 31.4**	**+0.2**
SGF	**Sodankyl**	**2.96**	**270**	*e*PG	**Pb**	**13 15 01.7**	**-0.7**
SGF				*e*SG	**Sb**	**13 15 38.2**	**-0.9**
SGF	**Sodankyl**	**2.96**	**270**	Pg	**Pb**	**13 15 01.6**	**-0.7**
SGF				Sg	**Sb**	**13 15 38.1**	**-0.9**
RNF	**Rovaniemi**	**3.37**	**256**	*e*P	**Pn**	**13 15 03.0**	**+0.4**
RNF	**Rovaniemi**	**3.37**	**256**	P	**Pn**	**13 15 03.0**	**+0.4**
KEV	**Kevo**	**3.38**	**312**	*e*P	**Pn**	**13 15 03.7**	**+0.9**
KEV				*e*SG	**Sb**	**13 15 50.2**	**-0.9**
KEV				MSG		13 15 51.1	
	comp=Z,16nm,0.2s						
KEV	**Kevo**	**3.38**	**312**	P	**Pn**	**13 15 03.6**	**+0.9**
ARA0	**ARCESS Array S**	**3.72**	**305**	Pn	**Pn**	**13 15 07.9**	**+0.5**
	baz=123,slow=16						
ARA0				Pg	**Pb**	**13 15 15.9**	**+0.7**
	baz=114,slow=16						
ARA0				Sn	**Sn**	**13 15 50.5**	**-1.3**
	baz=126,slow=22						
ARA0				Lg	Lg	13 16 02.8	
	baz=121,slow=28						
ARA0	**ARCESS Array S**	**3.72**	**305**	Pn	**Pn**	**13 15 07.9**	**+0.5**
	baz=123,slow=16						
ARA0				Pg	**Pb**	**13 15 15.9**	**+0.7**
	baz=114,slow=16						
ARA0				Sn	**Sn**	**13 15 50.5**	**-1.3**
	baz=126,slow=22						
ARA0				Lg	Lg	13 16 02.8	
	baz=121,slow=28						
ARA0	**ARCESS Array S**	**3.72**	**305**	Pn	**Pn**	**13 15 07.9**	**+0.5**
	SNR=50						
ARA0	**ARCESS Array S**	**3.72**	**305**	Pg	**Pb**	**13 15 15.9**	**+0.7**
	SNR=3.2						
ARA0				Sn	**Sn**	**13 15 50.5**	**-1.3**
	SNR=50						
ARA0				Lg	Lg	13 16 02.8	
	SNR=2.7						
ARE0	**ARCESS Array S**	**3.72**	**305**	*e*SG	**Sb**	**13 16 01.3**	**+0.5**
ARE0	**ARCESS Array S**	**3.72**	**305**	Sg	**Sb**	**13 16 01.3**	**+0.5**
HEF	**Hetta**	**4.05**	**286**	*e*SG	**Sb**	**13 16 10.7**	**+0.4**
HEF				MSG		13 16 14.9	
	comp=Z,7.8nm,0.2s						
HEF	**Hetta**	**4.05**	**286**	Sg	**Sb**	**13 16 10.6**	**+0.4**
KJN	**Kajaani**	**4.46**	**220**	*e*SG	**Sb**	**13 16 27.4**	**+5.3**
KJN				MSG		13 16 32.4	
	comp=Z,3.8nm,0.3s						
KJN	**Kajaani**	**4.46**	**220**	Sg	**Sb**	**13 16 27.4**	**+5.3**
LANU	**Lannavaara**	**4.65**	**281**	*e*SG	**Sb**	**13 16 30.8**	**+3.1**
LANU	**Lannavaara**	**4.65**	**281**	Sg	**Sb**	**13 16 30.7**	**+3.1**
FIA0	**FINESS Array S**	**7.14**	**213**	Pn	**Pn**	**13 15 54.3**	**0.0**
	baz=45,slow=12						
FIA0				Sn	**Sn**	**13 17 13.0**	**-3.0**
	baz=34,slow=22						
FIA0				Lg	Lg	13 17 49.9	
	baz=34,slow=28						
FIA0	**FINESS Array S**	**7.14**	**213**	Pn	**Pn**	**13 15 54.3**	**0.0**
	baz=45,slow=12						
FIA0				Sn	**Sn**	**13 17 13.0**	**-3.0**
	baz=34,slow=22						
FIA0				Lg	Lg	13 17 49.9	
	baz=34,slow=28						
FIA0	**FINESS Array S**	**7.14**	**213**	Pn	**Pn**	**13 15 54.3**	**0.0**
	SNR=50						
FIA0				Sn	**Sn**	**13 17 13.0**	**-3.0**
	SNR=50						
FIA0				Lg	Lg	13 17 49.9	
	SNR=6.0						

IDC 15 13:23:21.3±1.9,13°02N×92°79E,h0km,mb3.4/4,
mb1 3.6/5,mb1mx3.4/34,mbtmp3.4/5,ML3.8/1,MS2.9/1, Ms1 2.9/1,ms1mx2.4/27,Error ellipse: s-maj=63.8km s-min=22.9km az=64.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.02**	**47**	Pn	Pn	13 25 19.1	-0.2
	0.3nm,0.3s,baz=238,slow=14,SNR=3.8						
TGY	**Tagaytay City**	**27.38**	**84**	LR	LR	13 38 07.9	
	comp=Z,24nm,20.1s,baz=178,slow=32						
H08S3	**Diego Garcia H**	**28.77**	**226**	T	T	13 59 25.3	
	baz=43,slow=76,SNR=6.6						
H08S2	**Diego Garcia H**	**28.77**	**226**	T	T	13 59 29.4	
	baz=43,slow=76,SNR=9.4						
H08S1	**Diego Garcia H**	**28.79**	**226**	T	T	13 59 16.8	
	baz=43,slow=76,SNR=7.2						
H08N1	**Diego Garcia H**	**28.95**	**230**	T	T	13 58 39.1	
	baz=52						
H08N2	**Diego Garcia H**	**28.95**	**230**	T	T	13 58 38.4	
	baz=52						
H08N3	**Diego Garcia H**	**28.96**	**230**	T	T	13 58 35.4	
	baz=52						
MKAR	**Makanchi Array**	**34.81**	**347**	P	P	13 30 13.0	-0.8
	0.2nm,0.6s,baz=153,slow=9.7,SNR=2.7						
ZALV	**Zalesovo Beam**	**41.32**	**353**	P	P	13 31 09.2	+0.7
	0.4nm,0.4s,baz=180,slow=6.9,SNR=3.0						
WRA	**Warramunga Arr**	**52.39**	**128**	P	P	13 32 35.6	-0.2
	0.5nm,0.6s,baz=308,slow=7.7,SNR=5.0						
ASAR	**Alice Springs**	**54.27**	**132**	P	P	13 32 49.5	-0.1
	0.2nm,0.7s,baz=310,slow=6.8,SNR=6.5						

*IDC **15** 13:57:35.5±0.8,20.96N×146.00E,h0km,mb3.8/13, mb1 4.0/14,mb1mx3.8/45,mbtmp3.8/14,ML4.0/1,MS3.1/5, Ms1 3.1/5,ms1mx2.8/29,Error ellipse: s-maj=24.0km s-min=17.9km az=75.0*
*ISCJB **15** 13:57:39.6±0.7,21.14N±0.06×145.9E±0.2,h34km, mb3.8/13,MS3.2/4,Error ellipse: s-maj=20.5km s-min=7.3km az=170.6*

ISC 15 13:57:40.6±0.8,21°0N±0°.1×146°0E±0°.2,h34km,n24, σ1§19/17,mb3.7/13,MS3.1/4,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**6.98**	**331**	Pn	**Pn**	**13 59 20.9**	**+0.4**
	2.5nm,0.3s,baz=193,slow=22,SNR=9.3						
JCJ				Sn	**Sn**	**14 00 36.8**	**-1.9**
	6.9nm,0.3s,baz=287,slow=23,SNR=5.8						
GUMO	**Guam**	**7.46**	**188**	Sn	Sn	14 00 57.5	+7.0
	1.0nm,0.3s,baz=318,slow=15,SNR=2.5						
JNU	**Nakatsue**	**18.04**	**315**	LR	LR	14 07 13.6	
	comp=Z,27nm,21.6s,baz=162,slow=32						
H11N1	**WAKE ISLAND Hy**	**19.65**	**90**	T	T	14 22 17.2	
	baz=279						
H11S3	**WAKE ISLAND Hy**	**19.65**	**94**	T	T	14 22 13.8	
	baz=281,slow=75,SNR=14						
H11N2	**WAKE ISLAND Hy**	**19.65**	**90**	T	T	14 22 18.3	
	baz=279						
H11S1	**WAKE ISLAND Hy**	**19.66**	**94**	T	T	14 22 15.0	
	baz=281,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**19.67**	**90**	T	T	14 22 16.9	
	baz=279						
H11S2	**WAKE ISLAND Hy**	**19.67**	**94**	T	T	14 22 15.0	
	baz=281,slow=75,SNR=9.7						
KSRS	**Korea Array**	**22.66**	**320**	P	**P**	**14 02 40.7**	**+1.7**
	1.3nm,0.6s,baz=144,slow=7.2,SNR=8.1						
USRK	**Ussuriysk Ar.**	**25.88**	**337**	P	**P**	**14 03 11.4**	**+2.2**
	1.4nm,0.7s,baz=152,slow=11,SNR=3.5						
PETK	**Petropavlovsk-**	**33.29**	**13**	LR	LR	14 15 56.8	
	comp=Z,32nm,21.4s,baz=204,slow=33						
SONM	**Songino Array**	**41.53**	**320**	P	**P**	**14 05 25.0**	**+0.1**
	0.3nm,0.5s,baz=94,slow=4.3,SNR=2.8						
SONM				LR	LR	14 22 45.1	
	comp=Z,38nm,19.1s,baz=65,slow=36						
WRA	**Warramunga Arr**	**42.27**	**196**	P	**P**	**14 05 30.7**	**-0.3**
	0.6nm,0.5s,baz=14,slow=8.8,SNR=10						
CMAR	**Chiang Mai Arr**	**44.23**	**275**	P	**P**	**14 05 47.6**	**+0.6**
	0.5nm,0.6s,baz=74,slow=6.7,SNR=3.7						
CMAR				LR	LR	14 25 28.8	
	comp=Z,15nm,18.4s,baz=195,slow=38						
ASAR	**Alice Springs**	**45.94**	**195**	P	**P**	**14 05 59.9**	**-0.6**
	0.2nm,0.5s,baz=13,slow=7.9,SNR=4.6						
ZALV	**Zalesovo Beam**	**56.36**	**322**	P	**P**	**14 07 16.9**	**-1.5**
	0.8nm,0.6s,baz=119,slow=12,SNR=4.0						
MKAR	**Makanchi Array**	**57.08**	**313**	P	**P**	**14 07 23.9**	**+0.3**
	0.3nm,0.5s,baz=95,slow=8.6,SNR=5.0						
MKAR				PcP	**PcP**	**14 08 17.3**	**-0.9**
	0.5nm,0.6s,baz=94,slow=5.8,SNR=3.8						
KURBB	**Kurchatov Arra**	**59.80**	**317**	P	**P**	**14 07 42.4**	**0.0**
	1.4nm,0.6s,baz=92,slow=7.6,SNR=17						
ILAR	**Eielson Array**	**61.47**	**27**	P	**P**	**14 07 53.1**	**-0.5**
	0.9nm,0.9s,baz=261,slow=5.4,SNR=14						
BVAR	**Borovoye Array**	**64.88**	**320**	P	**P**	**14 08 16.7**	**+0.3**
	3.1nm,0.6s,baz=93,slow=7.8,SNR=18						
NVAR	**Mina Array Bea**	**81.51**	**52**	P	**P**	**14 09 56.5**	**+1.3**
	1.2nm,0.8s,baz=268,slow=6.2,SNR=10.0						
FINES	**FINESS Array B**	**84.90**	**335**	P	**P**	**14 10 11.5**	**-0.4**
	1.3nm,0.6s,baz=90,slow=3.8,SNR=8.3						
FINES				LR	LR	14 52 56.8	
	comp=Z,20nm,18.4s,baz=94,slow=39						
LPAZ	**La Paz**	**147.38**	**88**	PKPbc	**PKPab**	**14 17 23.0**	**-1.4**
	1.2nm,0.4s,baz=298,slow=3.4,SNR=6.2						

*ISCJB **15** 14:05:39.7±0.6,6.94N±0.06×73.09W±0.07,h166km, mb3.3/4,Error ellipse: s-maj=11.8km s-min=5.9km az=41.6*
*FUNV **15** 14:05:40.3,6.83N×73.17W,h167km,MW3.1*
*IDC **15** 14:05:40.9±4.0,6.77N×73.08W,h166km±34km,mb3.0/4, mb1 3.5/5,mb1mx3.2/22,mbtmp3.6/5,Error ellipse: s-maj=63.0km s-min=31.4km az=72.0*

ISC 15 14:05:40.7±0.8,6°91N±0°.07×73°06W±0°.08,h166km,n19, σ1§02/24,mb3.2/4,4C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.21**	**38**	*i*P	**Pn**	**14 06 09.0**	**-0.1**
CAPV				*e*S	**Sn**	**14 06 30.5**	**-0.4**
ROSC	**El Rosal**	**2.39**	**212**	P	**Pn**	**14 06 21.3**	**-0.6**
	42nm,0.3s,baz=309,slow=2.2,SNR=56						
ROSC				S	**Sn**	**14 06 51.5**	**-2.2**
	64nm,0.3s,baz=91,slow=16,SNR=6.8						
VIGV	**El Vigia**	**2.56**	**41**	↑*i*P	**Pn**	**14 06 23.5**	**+0.1**
VIGV				*e*S	**Sn**	**14 06 54.8**	**-1.7**
SOCV	**Socops**	**2.58**	**58**	*e*P	**Pn**	**14 06 23.8**	**+0.2**
SOCV				*e*S	**Sn**	**14 06 56.3**	**-0.7**
ELOV	**Elorza**	**3.56**	**88**	↑*i*P	**Pn**	**14 06 35.4**	**-0.4**
VIRV	**Villa del Rosa**	**3.63**	**10**	*e*P	**Pn**	**14 06 35.7**	**-1.1**
VIRV				*e*S	**Sn**	**14 07 17.8**	**-2.7**
QARV	**Quebrada Arrib**	**4.13**	**37**	↑*i*P	**Pn**	**14 06 43.4**	**+0.2**
SANV	**Sanarito**	**4.34**	**53**	*e*P	**Pn**	**14 06 45.3**	**-0.7**
CURV	**Curarigua**	**4.35**	**45**	*e*P	**Pn**	**14 06 45.8**	**-0.3**
DABV	**Dabajuro**	**4.66**	**31**	*e*P	**Pn**	**14 06 49.9**	**0.0**
SIQV	**Siquisique**	**4.92**	**41**	*e*P	**Pn**	**14 06 52.8**	**-0.7**
MAPV	**Macapo**	**5.41**	**57**	*e*P	**Pn**	**14 06 59.1**	**-0.7**
MONV	**Montecano**	**5.87**	**31**	*e*P	**Pn**	**14 07 05.1**	**-0.8**
TXAR	**Lajitas Array**	**36.45**	**312**	P	**P**	**14 12 30.9**	**+1.0**
	0.3nm,0.4s,baz=132,slow=9.2,SNR=6.2						
NVAR	**Mina Array Bea**	**51.47**	**315**	P	**P**	**14 14 29.9**	**+0.4**
	0.2nm,0.5s,baz=108,slow=8.6,SNR=2.5						
YKA	**Yellowknife Ar**	**63.20**	**340**	P	**P**	**14 15 51.5**	**+0.5**
	1.0nm,0.6s,baz=133,slow=6.6,SNR=5.9						
ILAR	**Eielson Array**	**76.91**	**335**	P	**P**	**14 17 15.4**	**+1.0**
	0.2nm,0.5s,baz=100,slow=4.7,SNR=3.0						
MKAR	**Makanchi Array**	**122.22**	**20**	PKP	**PKPdf**	**14 24 16.2**	**0.0**
	0.1nm,0.3s,baz=283,slow=1.8,SNR=3.0						
WRA	**Warramunga Arr**	**150.43**	**241**	PKPbc	**PKPbc**	**14 25 13.3**	**-0.2**
	0.2nm,0.4s,baz=106,slow=3.0,SNR=7.1						

GUC 15 14:27:16.8±0.4,38°49S×73°82W,h35km±5km,ML4.2, 1C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSCH	**Puerto Saavedr**	**0.46**	**133**	↓*i*P	Pn	14 27 28.1	+1.3
PSCH				*i* S	Sn	14 27 34.1	+0.3
VLCH	**Valdivia**	**1.39**	**161**	*i* P	Pn	14 27 40.7	+1.0
VLCH				*i* S	Sn	14 27 59.1	+2.4
U14B	**Concepcin**	**1.73**	**20**	↑*i*P	Pn	14 27 45.6	+1.3
U14B				*i* S	Sn	14 28 07.8	+2.7
U14B				AML	AML	14 28 16.6	
	comp=N,4μm,0.5s						

*ISCJB **15** 14:42:38.8±3.7,22.60S±0.05×175.00W±0.06, h13km±22km,mb4.8/53,MS3.6/7,Error ellipse: s-maj=11.3km s-min=6.6km az=34.8*
*IDC **15** 14:42:38.5±0.5,22.55S×175.00W,h0km,mb4.6/17, mb1 4.8/19,mb1mx4.7/29,mbtmp4.7/19,ML5.0/2,MS3.6/7, Ms1 3.6/7,ms1mx3.2/27,Error ellipse: s-maj=21.1km s-min=14.3km az=111.0*
*MOS **15** 14:42:42.3±1.4,22.55S×175.05W,h33km,mb5.1/18, Error ellipse: s-maj=12.6km s-min=10.3km az=78.5*
*NEIC **15** 14:42:43.2±0.2,22.67S×174.89W,h35km,mb4.8/34, Error ellipse: s-maj=10.5km s-min=6.3km az=140.0*

ISC 15 14:42:43.5±0.5,22°58S±0°.06×175°00W±0°.08,h33km±2km, h33km:pP-P,n179,σ1§28/203,mb4.8/54,MS3.8/7,29C-9D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**5.88**	**55**	P	Pn	14 43 57.6	-11
	baz=5.4,SNR=26						
RAO	**Raoul Island**	**7.15**	**201**	Pn	**Pn**	**14 44 24.9**	**-0.8**
	96nm,0.3s,baz=234,slow=19,SNR=3.6						
RAO	**Raoul Island**	**7.15**	**201**	P	**Pn**	**14 44 24.9**	**-0.8**
RAO				pmax	pmax		
	comp=Z,96nm,0.3s						
RAO	**Raoul Island**	**7.15**	**201**	*e*Pn	**Pn**	**14 44 23.1**	**-2.7**
RAO				*e*Sn	**Sn**	**14 45 46.1**	**+0.3**
MSVF	**Nonsavu**	**8.11**	**305**	*e*P	**Pn**	**14 44 40.6**	**+1.5**
MSVF	**Nonsavu**	**8.11**	**305**	*e*Pn	**Pn**	**14 44 40.6**	**+1.5**
AFI	**Afiamalu**	**9.15**	**20**	Pn	Pn	14 44 44.3	-8.9
	comp=Z,12nm,0.3s,baz=1.9,slow=1.2,SNR=20						
AFI				Sn	Sn	14 46 17.5	-18
	comp=Z,2.7nm,0.3s,baz=52,slow=20,SNR=3.1						
AFI				LR	LR	14 48 29.4	
	comp=Z,285nm,18.9s,baz=203,slow=38						
RAR	**Rarotonga**	**14.20**	**87**	Pn	Pn	14 45 51.6	-11
	comp=Z,4.3nm,0.3s,baz=265,slow=9.3,SNR=12						
RAR				Sn	Sn	14 48 12.7	-26
	comp=Z,0.9nm,0.3s,baz=106,slow=7.4,SNR=2.6						
URZ	**Urewera**	**17.04**	**202**	P	**Pn**	**14 46 38.4**	**-0.8**
	comp=Z,1.6nm,0.3s,baz=306,slow=1.7,SNR=14						
URZ				S	Sn	14 49 35.0	-13
	comp=Z,0.2nm,0.3s,baz=120,slow=20,SNR=3.4						
DZM	**Mont Dzumac**	**17.18**	**268**	P	**P**	**14 46 44.2**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=270,slow=24,SNR=7.5						
RPZ	**Rata Peaks**	**24.04**	**205**	P	**P**	**14 47 55.9**	**+0.4**
	comp=Z,6.2nm,0.6s,baz=357,slow=17,SNR=4.6						
PAE	**Paea**	**24.35**	**83**	*e*T	T	15 13 16.9	
	comp=Z,8.4nm,0.4s						
PPT2	**Papeete2**	**24.37**	**83**	*e*LR	LR	14 53 33.2	
	comp=Z,241nm,26.5s						
PPT2	**Papeete2**	**24.37**	**83**	*e*T	T	15 13 19.5	
	comp=Z,4.4nm,0.4s						
PPT	**Papeete**	**24.38**	**83**	LR	LR	14 55 44.2	
	comp=Z,97nm,18.9s,baz=248,slow=32						
HNR	**Honiara**	**27.34**	**295**	LR	LR	14 58 52.7	
	comp=Z,71nm,18.2s,baz=226,slow=36						
RMQ	**Roma**	**33.13**	**256**	P	**P**	**14 49 18.5**	**+1.7**
	baz=34,SNR=4.0						
CMSA	**Cobar Meteorol**	**35.97**	**247**	P	**P**	**14 49 42.0**	**+0.6**
	baz=36,SNR=8.7						
QLP	**Quilpie**	**37.18**	**255**	P	**P**	**14 49 51.1**	**-0.6**
	baz=38,SNR=5.7						
STKA	**Stephens Creek**	**39.48**	**247**	P	**P**	**14 50 09.8**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=103,slow=12,SNR=6.3						
STKA				LR	LR	15 04 31.3	
	comp=Z,150nm,20.0s,baz=31,slow=33						
STKA	**Stephens Creek**	**39.48**	**247**	P	**P**	**14 50 10.4**	**-0.5**
	baz=40,SNR=5.0						
HTT	**Hallett**	**41.80**	**245**	P	**P**	**14 50 29.3**	**-0.9**
	baz=42,SNR=7.0						
KIP	**Kipapa**	**46.76**	**22**	*i* P	**P**	**14 51 09.5**	**-0.3**
KIP				pmax	pmax		
	comp=Z,119nm,2.5s						
ASAR	**Alice Springs**	**46.80**	**258**	P	**P**	**14 51 09.2**	**-1.1**
ASAR				PcP	**PcP**	**14 52 44.0**	**+0.7**
	comp=Z,2.8nm,0.7s,baz=109,slow=3.8,SNR=8.2						
ASAR				LR	LR	15 10 42.9	
	comp=Z,128nm,18.3s,baz=118,slow=36						
WRAB	**Tennant Creek**	**47.10**	**263**	*c i*P	**P**	**14 51 11.1**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,64nm,2.5s						
WRAB	**Tennant Creek**	**47.10**	**263**	*e*P	**P**	**14 51 10.9**	**-1.8**
	comp=Z,7.8nm,0.9s						
WRA	**Warramunga Arr**	**47.11**	**263**	P	**P**	**14 51 11.1**	**-1.7**
	comp=Z,4.4nm,0.7s,baz=92,slow=8.4,SNR=49						
WRA				PcP	**PcP**	**14 52 44.8**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=101,slow=3.5,SNR=7.8						
KDU	**Kakadu**	**50.80**	**272**	P	**P**	**14 51 39.0**	**-2.1**
	baz=51,SNR=7.4						
FORT	**Forrest**	**51.08**	**248**	*e*P	**P**	**14 51 42.9**	**-0.1**
	comp=Z,16nm,0.7s						
WRKA	**Warakurna**	**51.62**	**255**	P	**P**	**14 51 45.9**	**-1.3**
	baz=52,SNR=91						
MTN	**Manton Dam**	**51.99**	**271**	P	**P**	**14 51 48.2**	**-1.7**
	baz=52,SNR=5.4						
KNRA	**Kununurra**	**53.33**	**267**	P	**P**	**14 51 58.6**	**-1.2**
	baz=54,SNR=17						
VNDA	**Vanda**	**56.12**	**186**	LR	LR	15 14 02.5	
	comp=Z,32nm,19.1s,baz=41,slow=34						
KLBR	**Kellerberrin**	**59.73**	**246**	P	**P**	**14 52 45.3**	**0.0**
	baz=60,SNR=6.4						
MBWA	**Marble Bar**	**60.14**	**258**	*e*P	**P**	**14 52 47.5**	**-0.7**
	comp=Z,85nm,2.0s						
MORW	**Morawa**	**61.64**	**248**	P	**P**	**14 52 57.9**	**-0.5**
	baz=62,SNR=5.4						
QSPA	**South Pole Qui**	**67.50**	**180**	*e*P	**P**	**14 53 37.0**	**+0.8**
	comp=Z,5.7nm,0.9s,baz=64,slow=1.9,SNR=14						
QSPA	**South Pole Qui**	**67.50**	**180**	*e*P	**P**	**14 53 35.3**	**-0.9**
	comp=Z,11nm,1.1s						
MJAR	**Matsushiro Arr**	**73.54**	**322**	P	**P**	**14 54 12.8**	**-0.4**
	comp=Z,4.6nm,0.7s,baz=166,slow=6.4,SNR=17						
MAJO	**Matsushiro**	**73.54**	**322**	*e*P	**P**	**14 54

NVAR Mina Array Bea 80.66 42 P P 14 54 53.5 +0.1
comp=Z,3.8nm,0.7s,baz=226,slow=8.9,SNR=36
LDFC Landfair 80.68 46 eP P 14 54 52.6 -0.9
comp=Z,6.6nm,0.7s
MOD Modoc 81.67 38 eP P 14 54 58.5 -0.1
comp=Z,4.2nm,0.8s
K05A Summer Lake 81.88 37 eP P 14 55 00.2 +0.5
comp=Z,17nm,1.3s
USRK Ussuriysk Ar. 82.25 325 P P 14 55 03.2 +1.8
comp=Z,11nm,0.8s,baz=143,slow=3.5,SNR=20
R11A Troy Canyon, C 82.30 43 eP P 14 54 59.5 -2.5
comp=Z,44nm,3.0s
WVOR Wild Horse Val 82.97 38 eP P 14 55 02.9 -2.4
WVOR pmax pmax
comp=Z,2.0nm,0.9s
WVOR Wild Horse Val 82.97 38 eP P 14 55 02.9 -2.4
comp=Z,2.4nm,0.9s
CCUT Cedar City 83.26 45 eP P 14 55 06.7 -0.4
comp=Z,4.0nm,0.8s
NJ2 Nanjing 83.35 309 eP P 14 55 07.1 -0.3
NJ2 PMZ
comp=Z,20nm,0.6s
HABR Khabarovsk 83.64 329 deP P 14 55 06.5 -1.9
HABR e*PP pP 14 55 17.0 -1.8
HABR e*SP sP 14 55 21.0 -1.6
HABR e 14 58 17.9
HABR e 15 00 24.3
HABR eS S 15 05 24.4 -3.9
HABR eSS SS 15 10 51.1 -4.9
HABR eSSS SSS 15 14 20.5
HABR MLR MLR
comp=Z,54nm,21.0s
ELK Elko 83.94 41 eP P 14 55 08.1 -2.5
ELK pmax pmax
comp=Z,3.0nm,0.8s
ELK Elko 83.94 41 eP P 14 55 08.1 -2.5
comp=Z,2.6nm,0.8s
LON Longmire 84.05 34 eP P 14 55 09.7 -1.0
LON pmax pmax
comp=Z,4.0nm,0.8s
LON Longmire 84.05 34 eP P 14 55 09.7 -1.0
comp=Z,4.4nm,0.8s
MSU Marysvale 84.58 45 eP P 14 55 13.8 0.0
MSU pmax pmax
comp=Z,5.0nm,0.9s
MSU Marysvale 84.58 45 eP P 14 55 13.8 0.0
comp=Z,4.6nm,0.9s
G08A Pilot Rock 84.60 36 eP P 14 55 13.6 0.0
comp=Z,7.3nm,0.8s
BMO Blue Mountains 85.23 37 eP P 14 55 15.8 -1.0
comp=Z,3.3nm,0.8s
SYO Syowa Base 85.30 192 eP P 14 55 18.0 +1.3
TMUT Trail Mountain 85.64 44 P P 14 55 17.9 -1.3
comp=Z,17nm,1.1s
CN2 Changchun 85.65 321 eP P 14 55 21.9 +3.2
CN2 esP sP 14 55 37.0 +4.1
CN2 eS S 15 05 50.9 +2.2
CN2 PMZ
comp=Z,10.0nm,0.8s
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,300nm,18.0s
CN2 LE
comp=Z,500nm,18.0s
CN2 LZ
comp=Z,600nm,19.0s
KLR Kul'dur 85.74 328 eP P 14 55 15.7 -3.4
TXAR Lajitas Array 85.85 56 P P 14 55 20.2 -0.1
comp=Z,2.1nm,0.7s,baz=210,slow=8.2,SNR=24
SRU San Rafael 85.98 45 eP P 14 55 20.2 -0.6
SRU pmax pmax
comp=Z,5.0nm,0.9s
SRU San Rafael 85.98 45 eP P 14 55 20.2 -0.6
comp=Z,5.4nm,0.9s
HVU Hansel Valley 86.06 42 eP P 14 55 20.1 -0.9
HVU Hansel Valley 86.06 42 eP P 14 55 20.1 -0.9
comp=Z,59µm,0.8s
ANMO Albuquerque 86.55 50 c iP P 14 55 23.4 -0.3
ANMO pmax pmax
comp=Z,29nm,1.2s
ANMO Albuquerque 86.55 50 eP P 14 55 21.2 -2.5
comp=Z,4.5nm,0.8s
VNA1 Neumayer--Stat 86.56 176 P P 14 55 23.6 +0.7
CAST Castle Rocks 87.59 10 eP P 14 55 26.8 -1.0
comp=Z,5.0nm,1.0s
IMW Indian Meadow 88.36 41 eP P 14 55 32.3 -0.1
comp=Z,19nm,2.3s
MCK McKinley 88.42 11 eP P 14 55 31.4 -0.3
MCK pmax pmax
comp=Z,23nm,1.6s
MCK McKinley 88.42 11 eP P 14 55 31.4 -0.3
comp=Z,23nm,1.6s
PDAR Pinedale Array 88.59 42 P P 14 55 32.5 -0.8
comp=Z,2.1nm,0.8s,baz=228,slow=0.8,SNR=11
SDCO Great Sand Dun 88.63 48 eP P 14 55 33.0 -0.7
BOZ Bozeman (W) 88.94 39 eP P 14 55 34.7 -0.1
BOZ pmax pmax
comp=Z,2.0nm,0.8s
BOZ Bozeman (W) 88.94 39 eP P 14 55 34.7 -0.1
comp=Z,2.5nm,0.8s
SEY Seymchan 89.04 346 P P 14 55 35.0 +0.4
comp=Z,3.6nm,0.7s,baz=122,slow=4.4,SNR=12
SEY Seymchan 89.04 346 iP P 14 55 34.8 +0.2
BJI Beijing 89.33 314 P P 14 55 37.3 +0.8
BJI PMZ
comp=Z,13nm,0.8s
HDA Harding Lake 89.40 12 eP P 14 55 37.1 +0.8
comp=Z,31nm,2.0s
CCB Clear Creek Bu 89.46 11 eP P 14 55 36.3 -0.3
comp=Z,20nm,1.6s
COLA College 89.66 11 eP P 14 55 37.0 -0.4
COLA pmax pmax
comp=Z,24nm,1.2s
COLA College 89.66 11 eP P 14 55 36.7 -0.7
comp=Z,7.9nm,1.1s
ILAR Eielson Array 89.74 12 P P 14 55 37.5 -0.3
comp=Z,1.9nm,0.8s,baz=220,slow=5.9,SNR=19
GYA Guiyang 90.10 299 eP P 14 55 41.0 +0.4
GYA pP pP 14 55 51.4 +0.3
GYA PP PP 14 59 16.0 +1.5
GYA SKS SKSac 15 06 07.3 -2.3
GYA S S 15 06 29.5 -2.6
GYA sS sS 15 06 47.8 -1.7
GYA SS SS 15 12 31.8 0.0
GYA PMZ
comp=Z,10.0nm,1.0s
GYA PMZ
comp=Z,120nm,5.8s
GYA LN
comp=Z,460nm,20.4s
GYA LE
comp=Z,440nm,21.0s
GYA LZ
comp=Z,480nm,20.2s
EGAK Eagle 90.91 14 eP P 14 55 44.0 +0.6
comp=Z,4.8nm,1.0s
BILL Bilibino 91.40 353 eP P 14 55 46.0 +0.5
BILL pmax pmax
comp=Z,3.0nm,0.9s
XAN Xi'an 91.61 306 P P 14 55 48.6 +1.2
XAN PMZ
comp=Z,17nm,0.8s
XAN PMZ
comp=Z,59nm,5.2s
KMI Kunming 92.77 296 P P 14 55 55.3 +2.1
KMI PMZ
comp=Z,16nm,0.5s
HHC Hu-ho-hao-te 92.80 313 eP P 14 55 54.4 +1.6
HHC PP PP 14 59 39.4 +3.8
HHC S S 15 06 54.5 -1.5
HHC sS sS 15 07 12.3 -1.1
HHC SS SS 15 13 12.0 +1.8
HHC PMZ
comp=Z,16nm,1.1s
HHC PMZ
comp=Z,52nm,5.5s
HHC LN
comp=Z,120nm,15.5s
HHC LE
comp=Z,99nm,15.7s
CMAR Chiang Mai Arr 93.43 288 P P 14 55 58.2 +2.1
comp=Z,5.8nm,0.8s,baz=132,slow=3.0,SNR=40
CMAR Chiang Mai Arr 93.43 288 iP P 14 55 58.2 +2.1
CMAR pmax pmax
comp=Z,6.0nm,0.8s

CHTO Chiang Mai 93.56 289 eP P 14 55 56.7 0.0
CHTO pmax pmax
comp=Z,6.0nm,0.7s
CHTO Chiang Mai 93.56 289 eP P 14 55 56.6 0.0
comp=Z,5.5nm,0.7s
CD2 Chengdu 94.25 302 P P 14 55 59.3 -0.4
CD2 PMZ
comp=Z,10.0nm,0.5s
YAK Yakutsk 95.09 337 iP P 14 56 01.9 -0.7
YAK pmax pmax
comp=Z,5.0nm,0.9s
LZH Lanzhou 96.25 306 eP P 14 56 09.5 +0.7
LZH pP pP 14 56 19.8 +0.5
LZH sP sP 14 56 23.1 0.0
LZH PMZ
comp=Z,14nm,1.0s
MKAR Makanchi Array 114.65 312 PKP PKPdf 15 01 19.6 -0.7
comp=Z,0.8nm,0.6s,baz=196,slow=0.4,SNR=13
ARU Arti 128.49 325 iPKIKP PKPdf 15 01 45.9 -0.7
ARU 15 03 50.5
ARU 15 08 49.7
ARCES ARCESS Array B 131.44 351 PKP PKPdf 15 01 52.4 +0.5
comp=Z,2.1nm,0.6s,baz=90,slow=1.2,SNR=13
FINES FINESS Array B 138.52 345 PKP PKPdf 15 02 06.6 +1.4
comp=Z,1.4nm,0.7s,baz=56,slow=3.5,SNR=5.3
FINES FINESS Array B 138.52 345 c iPKIKP PKPdf 15 02 06.9 +1.7
FINES pmax pmax
comp=Z,1.0nm,0.7s
OBN Obninsk 139.90 332 iPKIKP PKPdf 15 02 09.3 +1.4
OBN pmax pmax
comp=Z,46nm,2.5s
AKASG Malin Array Be 146.16 332 PKPbc PKPbc 15 02 19.8 -0.3
comp=Z,6.0nm,0.5s,baz=40,slow=4.1,SNR=56
KIEV Kiev 146.17 332 ePKP2 PKPdf 15 02 19.6 +0.5
KIEV Kiev 146.17 332 ePKPbc PKPdf 15 02 19.6 +0.5
MALT Malatya 147.41 306 ⇑PKP2 PKPab 15 02 25.6 -0.7
MALT Malatya 147.41 306 ⇑iP PKPab 15 02 25.6 -0.7
TLCR 150.21 325 ⇑iP PKPbc 15 02 32.9 +1.9
BURAR Bucovina Array 150.22 332 ⇑iP PKPbc 15 02 33.6 +2.4
BRTR Keskin Array B 150.30 312 PKPbc PKPbc 15 02 31.9 +0.2
comp=Z,4.5nm,0.8s,baz=127,slow=3.7,SNR=21
BRTR Keskin Array B 150.30 312 c iPKIKP PKPbc 15 02 31.8 +0.1
BRTR pmax pmax
comp=Z,5.0nm,0.8s
KOLS Kolonicke sedl 150.34 337 ePKIKP PKPbc 15 02 32.9 +1.6
KOLS e 15 02 38.6
KOLS Kolonicke sedl 150.34 337 ePKP PKPbc 15 02 32.9 +1.6
KOLS e 15 02 38.6
TESR Tescani 150.39 329 ⇓iP PKPbc 15 02 32.1 +0.6
CFR Carcaliu 150.58 326 ⇓PKIKP PKPbc 15 02 31.9 0.0
CFR Carcaliu 150.58 326 ⇓iP PKPbc 15 02 31.9 0.0
UZH Uzhgorod 150.59 336 ePKIKP PKPdf 15 02 27.3 +0.9
UZH i 15 02 32.1
CLL Collm 150.65 350 iPKIKP PKPbc 15 02 32.2 +0.3
CLL i 15 02 35.4
CLL pmax pmax
comp=Z,12nm,0.8s
CLL Collm 150.65 350 iPKPbc PKPbc 15 02 32.2 +0.3
comp=Z,12nm,0.8s
CLL iPPKPdf pPKPdf 15 02 35.4 -1.8
comp=Z,8.0nm,0.8s
CLL iPKPab PKPab 15 02 38.7 -0.1
comp=Z,8.0nm,1.0s
VRI Vrincioaia 150.81 328 ⇑PKIKP PKPbc 15 02 33.1 +0.6
VRI Vrincioaia 150.81 328 ⇑iP PKPbc 15 02 33.1 +0.6
UPC Upice 150.82 346 ⇑ePKP PKPbc 15 02 32.9 +0.5
UPC ePKPAB PKPab 15 02 41.6 +2.1
UPC Upice 150.82 346 ePKIKP PKPbc 15 02 32.9 +0.5
UPC e 15 02 41.6
PLOR Plostina 150.86 328 ⇑PKIKP PKPbc 15 02 33.4 +0.7
PLOR Plostina 150.86 328 ⇑iP PKPbc 15 02 33.4 +0.7
DPC Dobruska-Polom 150.89 345 ⇑ePKP PKPbc 15 02 33.2 +0.6
DPC ePKPAB PKPab 15 02 40.7 +0.8
DPC epPKP pPKPdf 15 02 47.2 +9.5
DPC Dobruska-Polom 150.89 345 ePKIKP PKPbc 15 02 33.2 +0.6
DPC e 15 02 40.7
DPC e 15 02 47.2
BRG Berggiesshubel 150.91 348 ePKP PKPbc 15 02 32.5 0.0
comp=Z,11nm,0.8s
BRG Berggiesshubel 150.91 348 ePKIKP PKPbc 15 02 32.5 0.0
BRG pmax pmax
comp=Z,11nm,0.8s
EFOR EFORIE 151.03 323 ⇓iP PKPbc 15 02 33.2 +0.2
KRLC Kraliky 151.03 344 ⇑ePKP PKPbc 15 02 33.2 +0.3
KRLC ePKPAB PKPab 15 02 41.6 +1.1
MORC Moravsky Berou 151.11 343 ⇑iP PKPbc 15 02 34.0 +0.9
PVCC Panska Ves 151.11 347 ⇑ePKP PKPbc 15 02 33.8 +0.8
PVCC ePKPAB PKPab 15 02 42.3 +1.6
KECS Kecovo 151.35 338 ePKIKP PKPdf 15 02 28.9 +1.3
KECS e 15 02 35.1
KECS e 15 02 43.1
KECS Kecovo 151.35 338 ePKP PKPdf 15 02 28.9 +1.3
KECS e 15 02 35.1
KECS e 15 02 43.1
KECS e 15 37 04.5
DOPR Dopca 151.38 330 ⇓iP PKPbc 15 02 35.3 +1.5
ISR Istrita 151.43 327 ⇓iP PKPbc 15 02 35.3 +1.3
MLR Muntele Rosu 151.46 328 ⇑iP PKPbc 15 02 35.6 +1.4
MSAB Monastry St. A 151.47 324 ⇓iP PKPbc 15 02 33.8 -0.2
PRU Pruhonice 151.63 347 ⇑ePKP PKPbc 15 02 35.4 +1.2
PRU ePKPAB PKPab 15 02 42.4 -0.5
GOPC GO Pecny, Ondr 151.65 347 ⇑ePKP PKPbc 15 02 34.6 +0.3
GOPC ePKPAB PKPab 15 02 43.2 +0.2
VOIR ⇑iP PKPbc 15 02 36.1 +0.9
TREC Trest 152.07 345 ⇑ePKP PKPbc 15 02 35.2 -0.1
TREC ePKPAB PKPab 15 02 44.8 0.0
ARR Arges 152.18 330 ⇑iP PKPbc 15 02 37.6 +1.8
KHC Kasperske Hory 152.64 348 ePKPDF PKPdf 15 02 29.6 0.0
KHC ⇑ePKP PKPbc 15 02 36.7 +0.1
KHC epPKP pPKPdf 15 02 41.3 +0.9
KHC ePKPAB PKPab 15 02 45.5 -1.7
KHC Kasperske Hory 152.64 348 ePKIKP PKPdf 15 02 29.6 0.0
KHC e 15 02 36.7
KHC e 15 02 41.3
KHC e 15 02 45.5
GERES GERESS Array B 152.89 347 PKPbc PKPbc 15 02 37.2 0.0
comp=Z,0.8nm,0.5s,baz=40,slow=2.3,SNR=6.9
GERES PKPab PKPab 15 02 46.7 -1.7
comp=Z,0.7nm,0.7s,baz=21,slow=1.9,SNR=4.2
CONA Conrad Observa 153.25 344 ⇑iPKPdf pPKPdf 15 02 42.0 +0.6
comp=Z,2.2nm,0.7s
CONA ⇑iPKPbc sPKPbc 15 02 52.5 -0.1
comp=Z,9.1nm,1.7s
SRE Strehaia 153.38 330 ⇑iP PKPbc 15 02 37.9 -0.4
PKSM Moragy 153.95 338 ⇑iP PKPbc 15 02 38.8 -0.7
TORD Torodi Ar. Bea 170.11 161 PKP PKPdf 15 02 46.8 -1.9
comp=Z,0.5nm,0.7s,baz=294,slow=1.2,SNR=2.9
TORD PKPab PKPab 15 04 04.0 0.0
comp=Z,1.1nm,0.7s,baz=200,slow=4.2,SNR=5.5

IDC ***15*** *15:23:05.5±1.2, 23°.14S×172°.15E, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.0/41, mbtmp4.1/10, ML3.6/1, MS3.6/11, Ms1 3.6/11, ms1mx3.4/29, Error ellipse: s-maj=35.9km s-min=23.5km az=142.0*

NEIC ***15*** *15:23:08.7±3.9, 22°.96S×172°.13E, h22km±29km, mb4.7/9, Error ellipse: s-maj=14.9km s-min=13.7km az=133.0*

ISCJB ***15*** *15:23:11.0±0.6, 23°.09S±0°.09×171°.96E±0°.06, h47km, mb4.3/17, MS3.5/8, Error ellipse: s-maj=13.4km s-min=7.7km az=19.8*

ISC 15 15:23:12.2±0.7, 23°.1S±0°.1×172°.03E±0°.09, h47km, n39, σ1§06/30, mb4.3/17, MS3.5/8, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	5.26	280	Pn	Pn	15 24 27.5	-1.0
	2.1nm,0.3s,baz=184,slow=5.9,SNR=32						
DZM				Sn	Sn	15 25 28.5	+0.6
	2.1nm,0.3s,baz=180,slow=23,SNR=1.4						
DZM	Mont Dzumac	5.26	280	eP	Pn	15 24 28.5	+0.1
DZM				eS	Sn	15 25 27.8	-0.1
DZM	Mont Dzumac	5.26	280	Pn	Pn	15 24 27.5	-1.0
DZM				eSn	Sn	15 25 26.6	-1.3
NOUC	Port Laguerre	5.38	280	eP	Pn	15 24 30.2	+0.2
NOUC				eS	Sn	15 25 30.6	-0.1
MSVF	Nonsavu	7.78	48	Pn	Pn	15 24 56.9	-6.2
	33nm,1.0s						
URZ	Urewera	15.71	165	Pn	P	15 26 53.0	-0.5
	0.4nm,0.3s,baz=310,slow=1.6,SNR=8.0						
URZ				LR	LR	15 31 33.4	
	comp=Z,352nm,19.1s,baz=4.5,slow=32						

URZ Urewera 15.71 165 ePn P 15 26 52.5 -1.0
20nm,0.9s
HNR Honiara 17.86 318 LR LR 15 33 33.3
comp=Z,215nm,19.3s,baz=160,slow=35
AFI Afiamalu 17.87 62 LR LR 15 32 40.1
comp=Z,91nm,22.0s,baz=222,slow=32
RPZ Rata Peaks 20.56 182 LR LR 15 35 00.2
comp=Z,301nm,18.2s,baz=332,slow=35
CTAO Charters Tower 24.14 272 P P 15 28 24.2 +0.2
RAR Rarotonga 26.17 91 LR LR 15 38 27.1
comp=Z,82nm,18.2s,baz=278,slow=35
PMG Port Moresby 27.43 296 LR LR 15 38 13.6
comp=Z,69nm,19.5s,baz=210,slow=33
STKA Stephens Creek 28.29 245 P P 15 29 03.2 +1.9
1.0nm,0.7s,baz=93,slow=14,SNR=4.5
STKA LR LR 15 39 38.9
comp=Z,111nm,18.4s,baz=32,slow=35
ASAR Alice Springs 34.93 261 P P 15 30 00.2 +0.5
4.2nm,1.1s,baz=92,slow=8.5,SNR=15
ASAR PcP PcP 15 32 31.5 -0.2
0.7nm,0.9s,baz=115,slow=3.8,SNR=4.0
ASAR LR LR 15 43 57.6
comp=Z,54nm,18.6s,baz=106,slow=36
WRAB Tennant Creek 35.13 268 eP P 15 30 00.8 -0.7
8.6nm,1.1s
WRA Warramunga Arr 35.14 268 P P 15 30 01.0 -0.6
1.3nm,0.7s,baz=100,slow=8.8,SNR=16
H11S2 WAKE ISLAND Hy 41.68 352 T T 16 15 05.4
baz=171,slow=76,SNR=6.5
H11S3 WAKE ISLAND Hy 41.69 352 T T 16 15 07.2
baz=171,slow=76,SNR=6.5
H11S1 WAKE ISLAND Hy 41.70 352 T T 16 15 07.0
baz=171,slow=76,SNR=6.8
H11N1 WAKE ISLAND Hy 42.87 353 T T 16 16 32.3
baz=169,slow=74,SNR=5.2
H11N3 WAKE ISLAND Hy 42.87 353 T T 16 16 31.5
baz=169
H11N2 WAKE ISLAND Hy 42.88 353 T T 16 16 30.5
baz=169,slow=74,SNR=4.3
GUMO Guam 45.14 321 LR LR 15 47 42.9
comp=Z,52nm,19.7s,baz=174,slow=33
MBWA Marble Bar 48.27 262 eP P 15 31 49.6 +0.7
25nm,1.4s
VNDA Vanda 54.68 183 LR LR 15 53 21.5
comp=Z,104nm,18.2s,baz=16,slow=33
SBA Scott Base 54.85 181 eP P 15 32 38.5 +1.3
7.2nm,1.1s
CASY Casey 57.67 205 eP P 15 32 56.4 -1.0
16nm,1.3s
KSM Kuching 64.78 283 eP P 15 33 43.9 -2.6
4.7nm,0.9s
QSPA South Pole Qui 66.95 180 eP P 15 33 59.1 -0.7
8.3nm,1.3s
KSRS Korea Array 73.16 325 P P 15 34 39.1 +1.2
1.1nm,0.9s,baz=148,slow=7.2,SNR=4.7
KSAR Wonju Array Be 73.17 325 P P 15 34 39.1 +1.2
YSS Yuzh-Sakhalins 74.59 340 P P 15 34 45.2 -0.8
35nm,1.4s
MAW Mawson 75.83 202 P P 15 34 53.5 +0.5
0.8nm,0.4s,baz=115,slow=8.0,SNR=4.2
PETK Petropavlovsk- 76.92 351 P P 15 35 00.8 +1.6
2.8nm,0.8s,baz=160,slow=8.9,SNR=3.4
PETK LR LR 16 05 10.8
comp=Z,45nm,19.0s,baz=123,slow=33
CMAR Chiang Mai Arr 82.45 294 P P 15 35 30.8 +0.8
0.6nm,0.6s,baz=133,slow=4.6,SNR=5.0
CHTO Chiang Mai 82.61 294 P P 15 35 31.1 +0.2
11nm,1.6s
SEY Seymchan 87.17 351 P P 15 35 53.3 +0.6
1.2nm,0.8s,baz=252,slow=3.2,SNR=4.3
ILAR Eielson Array 93.17 16 P P 15 36 19.1 -1.7
0.7nm,0.9s,baz=216,slow=7.2,SNR=6.2

ISCJB ***15*** *15:31:43.2±0.6, 38°.74N±0°.04×122°.84W±0°.07, h10km, mb3.2/1, MS3.3/2, Error ellipse: s-maj=8.7km s-min=4.6km az=155.0*

IDC ***15*** *15:31:43.5±1.5, 38°.64N×122°.84W, h0km, mb3.3/1, mb1 4.0/7, mb1mx3.6/52, mbtmp3.6/7, ML3.4/5, MS3.4/8, Ms1 3.4/8, ms1mx3.1/25, Error ellipse: s-maj=19.5km s-min=9.1km az=60.0*

NEIC ***15*** *15:31:43.5, 38°.82N×122°.81W, h3km, MW4.0(BRK), After NCEDC.*

NEIC Felt [II] at Calistoga, Cloverdale and Kelseyville. Also felt at Geyserville, Lakeport, Middletown, Saint Helena, Santa Rosa and Windsor.

ISC 15 15:31:44.5±0.9, 38°.86N±0°.04×122°.83W±0°.07, h10km, n45, σ1§55/40, Northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCCM	Marconi Confer	0.71	183	ePg	Pg	15 31 56.9	-1.2
KCPM	Cahto Peak	1.01	325	ePg	Pn	15 32 03.8	-1.0
KIPM	Iron Peak	1.08	332	ePg	Pg	15 32 04.4	-0.8
SAC	San Andreas	1.31	165	ePg	Pn	15 32 05.9	-2.9
WDC	Whiskeytown Da	1.74	7	ePn	Pn	15 32 14.8	+0.1
CMB	Columbia Colle	2.09	112	ePn	Pn	15 32 17.7	-1.9
N02D	Trinity Center	2.12	3	P	Pb	15 32 21.8	-1.2
	baz=2.2						
KHMM	Horse Mountain	2.13	341	ePn	Pb	15 32 22.9	-0.4
M02C	Callahan	2.53	360	P	Pb	15 32 28.9	-1.1
	baz=2.6						
WAKR	Walker	2.68	96	ePn	Pn	15 32 27.9	+0.1
YBH	Yreka Blue Hor	2.88	2	Pn	Pb	15 32 34.4	-1.5
	2.6nm,0.3s,baz=187,slow=6.8,SNR=24						
YBH				Pg	Pg	15 32 38.1	-1.4
	2.6nm,0.3s,baz=188,slow=9.7,SNR=33						
YBH				Lg	Lg	15 33 22.6	
	0.5nm,0.3s,baz=79,slow=12,SNR=3.5						
YBH				LR	LR	15 33 57.9	
	comp=Z,721nm,18.6s,baz=203,slow=44						
M04C	Macdoel	3.02	14	P	Pb	15 32 37.4	-1.0
	baz=3.1						
MLAC	Mammoth Lakes	3.38	110	P	Pn	15 32 39.9	+2.4
	baz=3.3						
NVAR	Mina Array Bea	3.57	95	Pn	Pn	15 32 40.4	+0.2
	1.4nm,0.3s,baz=268,slow=16,SNR=36						
NVAR				Pg	Pb	15 32 48.7	+0.9
	8.0nm,0.3s,baz=262,slow=18,SNR=66						
MOD	Modoc	3.60	32	ePn	Pn	15 32 41.5	+1.0
TPH	Tonopah	4.47	98	ePn	Pn	15 32 53.8	+1.3
BMN	Battle Mountai	4.61	68	ePn	Pn	15 32 58.7	+4.4
ISA	Isabella	4.71	131	ePn	Pn	15 32 55.1	-0.6
WVOR	Wild Horse Val	4.79	40	ePn	Pn	15 32 56.7	-0.1
DAC	Darwin (Calif)	4.89	120	ePn	Pn	15 32 58.5	+0.2
OSI	Osito Adit	5.37	141	ePn	Pn	15 33 04.3	-0.3
	36nm,0.7s						
R11A	Troy Canyon, C	5.70	93	ePn	Pn	15 33 10.1	+0.8
	13nm,1.0s						
GSC	Goldstone	5.98	125	Pn	Pn	15 33 10.1	-3.1
	9.0nm,0.7s						
PASC	Pasadena Art C	5.99	140	ePn	Pn	15 33 12.4	-0.7
MWC	Mount Wilson	6.01	139	ePn	Pn	15 33 12.7	-0.9
	20nm,1.0s						
ELK	Elko	6.14	70	Pn	Pn	15 33 17.2	+1.7
	0.2nm,0.3s,baz=246,slow=12,SNR=11						
ELK				Lg	Lg	15 34 57.2	
	0.2nm,0.3s,baz=23,slow=7.7,SNR=2.5						
SHPR	Sheep Range	6.52	109	ePn	Pn	15 33 22.4	+1.9
LDFC	Landfair	7.24	119	Pn	Pn	15 33 28.6	-1.8
	16nm,0.9s						
BMO	Blue Mountains	7.27	33	ePn	Pn	15 33 32.4	+1.6
	1.1nm,0.8s						
PFO	Pinyon Flat Ob	7.34	134	Pn	Pn	15 33 30.9	-1.0
	0.5nm,0.3s,baz=312,slow=9.5,SNR=6.8						
PFO				LR	LR	15 36 45.8	
	comp=Z,378nm,18.5s,baz=330,slow=42						
DUG	Dugway	7.86	77	ePn	Pn	15 33 37.9	-1.0
	8.9nm,1.0s						
MVU	Marysvale	8.31	89	ePn	Pn	15 33 45.5	+0.2
	3.4nm,0.7s						
MSU	Marysvale	8.34	89	ePn	Pn	15 33 47.2	+1.6
	3.9nm,0.7s						
HWUT	Hardware Ranch	9.04	69	Pn	Pn	15 33 56.7	+1.5
	3.4nm,0.8s						
SRU	San Rafael	9.59	85	Pn	Pn	15 33 60.0	-2.7
	3.8nm,1.0s						
FLWY	Flagg Ranch	10.49	56	Pn	Pn	15 34 12.8	-2.3
	18nm,0.5s						
BW06	Boulder Array	10.79	65	Pn	Pn	15 34 22.6	+3.5
	5.2nm,1.2s						
PDAR	Pinedale Array	10.79	65	Pn	Pn	15 34 25.1	+5.9
	0.0nm,0.3s,baz=256,slow=11,SNR=18						
ANMO	Albuquerque	13.67	102	LR	LR	15 41 00.5	
	comp=Z,97nm,21.3s,baz=287,slow=41						

BBB	**Bella Bella**	**13.83**	**346**	LR	LR	15 40 15.2			
	comp=Z,122nm,20.8s,baz=212,slow=36								
LPIG	**La Paz**	**18.15**	**140**	LR	LR	15 43 04.3			
	comp=Z,200nm,19.8s,baz=278,slow=38								
TXAR	**Lajitas Array**	**18.47**	**115**	Pn	**Pn**	**15 36 02.7**	**+2.1**		
	baz=294,slow=9.1,SNR=20								
TXAR				LR	LR	15 44 16.4			
	comp=Z,77nm,18.7s,baz=0.0,slow=41								
DLBC	**Dease Lake**	**20.14**	**349**	LR	LR	15 45 06.2			
	comp=Z,129nm,18.7s,baz=184,slow=39								
ECSD	**EROS Data Cent**	**20.25**	**68**	*e*P	**P**	**15 36 18.3**	**-1.6**		
ILAR	**Eielson Array**	**29.53**	**339**	P	**P**	**15 37 51.1**	**+2.3**		
	0.3nm,0.6s,baz=150,slow=8.0,SNR=2.7								
ILAR				LR	LR	15 48 14.1			
	comp=Z,81nm,21.1s,baz=126,slow=33								

ISCJB ***15*** *15:35:09.7±0.3,36°.44N±0°.02×70°.82E±0°.04, h137km±4km, mb4.0/17, Error ellipse: s-maj=4.9km s-min=2.9km az=161.6*

NEIC ***15*** *15:35:11.9±1.9,36°.53N×70°.88E, h142km±17km, mb4.4/7, Error ellipse: s-maj=17.4km s-min=9.7km az=210.0*

MOS ***15*** *15:35:11.2±0.9,36°.47N×70°.85E, h150km, mb4.3/4, Error ellipse: s-maj=12.6km s-min=6.5km az=87.7*

IDC ***15*** *15:35:11.4±0.8,36°.32N×70°.82E, h144km±6km, mb3.8/15, mb1 4.0/18, mb1mx3.6/52, mbtmp4.3/18, MS3.0/1, Ms1 3.0/1, ms1mx2.2/49, Error ellipse: s-maj=15.4km s-min=12.0km az=37.0*

BJI ***15*** *15:35:13.1,36°.59N×71°.00E, h142km, mb4.2/8, mB4.7/4*

NNC ***15*** *15:35:17.4±2.7,36°.93N×70°.88E, h196km±22km, mb3.9, mpv5.0, Error ellipse: s-maj=23.7km s-min=19.9km az=46.0*

ISC 15 15:35:11.3±0.5,**36°.48N**±0°.04×**70°.79E**±0°.05,**h143**km±5km, **h142**km:**pP-P,n122,**σ2**≥01**/144,**mb4.1**/17,**17C-7D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CEP	**Cherat**	**2.81**	**161**	P		**Pn**	**15 35 56.2**	**+0.1**
CEP				S		**Sn**	**15 36 29.0**	**-1.6**
CHCP	**Chirah Chowk**	**3.47**	**144**	P		**Pn**	**15 36 04.8**	**+0.3**
THW	**Thamme Wali**	**3.76**	**168**	P		**Pn**	**15 36 07.9**	**-0.4**
SFK	**Sufi-Kurgan**	**4.12**	**30**	⇓P		**Pn**	**15 36 14.7**	**+1.6**
	105nm,0.3s							
SFK				⇑S		**Sn**	**15 37 02.3**	**+1.2**
	227nm,0.3s							
SFK	**Sufi-Kurgan**	**4.12**	**30**	PN		**Pn**	**15 36 14.7**	**+1.6**
SFK							15 37 02.0	
SFK				pmax		pmax		
	comp=Z,105nm,0.3s							
KSH	**Kashi**	**5.09**	**52**	P		Pn	15 36 22.3	-3.6
KSH				S		Sn	15 37 05.3	-19
KSH				SMN				
	comp=Z,1μm,0.7s							
KSH				SME				
	comp=Z,430nm,0.6s							
DLH	**Dalhousie**	**5.80**	**131**	*e*P		**Pn**	**15 36 34.0**	**-1.6**
DLH				*e*S		**Sn**	**15 37 37.0**	**-4.3**
AML	**Almayashu**	**6.07**	**21**	P		**Pn**	**15 36 39.8**	**+0.6**
	SNR=544							
DHRM	**DHARAMSHALA**	**6.21**	**131**	*e*P		**Pn**	**15 36 40.0**	**-1.0**
DHRM				*e*S		**Sn**	**15 37 48.1**	**-2.9**
DHRM				AML		AML	15 37 49.4	
	comp=E,960nm,0.1s							
DHRM				AML		AML	15 37 49.6	
	comp=N,652nm,0.2s							
UCH	**Uchtor**	**6.42**	**26**	P		**Pn**	**15 36 44.2**	**+0.3**
	SNR=211							
KZA	**Kyzart**	**6.57**	**30**	P		**Pn**	**15 36 45.8**	**-0.1**
	SNR=63							
EKS2	**Erkin-Say**	**6.59**	**20**	P		**Pn**	**15 36 46.6**	**+0.8**
	SNR=115							
EKS2	**Erkin-Say**	**6.59**	**20**	*e*PN		**Pn**	**15 36 46.1**	**+0.3**
EKS2				pmax		pmax		
	comp=Z,77nm,0.4s							
EKS2	**Erkin-Say**	**6.59**	**20**	*e*Pn		**Pn**	**15 36 46.1**	**+0.3**
	comp=Z,77nm,0.4s							
EKS2				*e*Sn		Sn	15 37 42.7	-17
KK31	**Karatay Array**	**6.62**	**358**	P		**Pn**	**15 36 46.7**	**+0.6**
	comp=Z,74nm,0.4s,baz=183,slow=13,SNR=994							
KK31				⇑S		**Sn**	**15 37 58.5**	**-1.8**
	comp=Z,67nm,0.5s,baz=179,slow=23,SNR=4.1							
KK31	**Karatay Array**	**6.62**	**358**	*e*PN		**Pn**	**15 36 46.7**	**+0.6**
KK31				pmax		pmax		
	comp=Z,131nm,0.4s							
KKAR	**Karatay Array**	**6.62**	**358**	*e*PN		**Pn**	**15 36 46.7**	**+0.6**
KKAR				pmax		pmax		
	comp=Z,180nm,0.5s							
KKAR	**Karatay Array**	**6.62**	**358**	*e*Pn		**Pn**	**15 36 46.6**	**+0.6**
	comp=Z,180nm,0.5s							
KKAR				*e*Sn		Sn	15 37 48.9	-11
AAK	**Ala-Archa**	**6.77**	**24**	P		**Pn**	**15 36 49.3**	**+0.9**
	SNR=79							
AAK	**Ala-Archa**	**6.77**	**24**	⇑P		**Pn**	**15 36 49.1**	**+0.6**
	comp=Z,45nm,0.3s							
AAK				⇑S		**Sn**	**15 38 03.2**	**-1.2**
	comp=Z,70nm,0.8s							
AAK	**Ala-Archa**	**6.77**	**24**	PN		**Pn**	**15 36 49.0**	**+0.6**
AAK				pmax		pmax		
	comp=Z,45nm,0.4s							
BHK	**Bhakra**	**6.88**	**136**	*ex*		**Sn**	**15 38 07.0**	**+0.1**
KBK	**Karagaybulak**	**6.95**	**26**	P		**Pn**	**15 36 51.4**	**+0.7**
	SNR=28							
FRU	**Bishkek**	**6.99**	**24**	*e*PN		**Pn**	**15 36 51.5**	**+0.3**
FRU				pmax		pmax		
	comp=Z,50nm,1.6s							
ULHL	**Ulahol**	**7.13**	**35**	P		**Pn**	**15 36 53.1**	**-0.1**
	SNR=26							
SDNR	**Sundarnagar**	**7.14**	**132**	*e*P		**Pn**	**15 36 52.6**	**-0.7**
SDNR				*e*S		**Sn**	**15 38 08.0**	**-5.2**
CHMS	**Chumysh**	**7.18**	**24**	P		**Pn**	**15 36 54.5**	**+0.7**
	SNR=42							
USP	**Ospenovka**	**7.35**	**22**	P		**Pn**	**15 36 57.0**	**+1.0**
	SNR=74							
TKM2	**Tokmak 2**	**7.42**	**28**	P		**Pn**	**15 36 57.5**	**+0.4**
	SNR=15							
TKM2	**Tokmak 2**	**7.42**	**28**	⇑P		**Pn**	**15 36 57.2**	**+0.1**
	comp=Z,54nm,0.6s							
TKM2				⇓S		**Sn**	**15 38 19.3**	**-0.7**
	comp=Z,45nm,0.8s							
TKM2	**Tokmak 2**	**7.42**	**28**	*i* PN		**Pn**	**15 36 57.1**	**+0.1**
TKM2				pmax		pmax		
	comp=Z,54nm,0.5s							
TKM2	**Tokmak 2**	**7.42**	**28**	*e*Pn		**Pn**	**15 36 56.8**	**-0.2**
	comp=Z,83nm,0.6s							
SMLA	**Simla**	**7.53**	**133**	*i* P		**Pn**	**15 36 56.3**	**-2.0**
SMLA				*i* S		**Sn**	**15 38 17.3**	**-5.0**
SMLA				AML		AML	15 38 18.8	
	comp=E,187nm,0.2s							
SMLA				AML		AML	15 38 19.6	
	comp=N,249nm,0.2s							
KNDC	**Almaty**	**8.23**	**33**	⇓P		**Pn**	**15 37 10.1**	**+2.3**
	comp=N,67nm,0.5s							
IMYA	**Miami**	**8.62**	**272**	*e*P		**Pn**	**15 37 12.5**	**-0.7**
DDI	**Dehra Dun**	**8.64**	**133**	*e*S		**Sn**	**15 38 45.3**	**-3.9**
DDI				AML		AML	15 39 03.1	
	comp=N,232nm,0.4s							
DDI				AML		AML	15 39 03.1	
	comp=E,191nm,0.6s							
ISRO	**Mashad**	**9.13**	**272**	*e*P		**Pn**	**15 37 19.1**	**-0.9**
IMOG	**Moghan**	**9.26**	**271**	*e*P		**Pn**	**15 37 20.6**	**-1.2**
KHET	**Khetri**	**9.40**	**152**	*e*P		Pn	15 37 19.3	-4.1
KHET				*ex*		x	15 38 57.0	
JOSI	**Joshimath**	**9.40**	**126**	*e*P		Pn	15 37 17.9	-5.8
JOSI				*e*S		Sn	15 38 59.4	-8.6
JOSI				AML		AML	15 39 08.8	
	comp=E,243nm,0.7s							
JOSI				AML		AML	15 39 13.3	
	comp=N,191nm,0.7s							
NDI	**New Delhi**	**9.48**	**143**	*e*P		**Pn**	**15 37 23.0**	**-1.5**
NDI				*ex*		x	15 39 00.0	
IPAY	**Payeh**	**9.50**	**273**	*e*P		**Pn**	**15 37 24.6**	**-0.5**
PDGK	**Podgornoye**	**9.55**	**42**	⇑P		**Pn**	**15 37 24.8**	**-0.5**
	comp=N,26nm,0.7s							
PDGK				⇑S		Sn	15 39 03.6	-7.4
	comp=N,21nm,0.8s							
IAKL	**Akhelmad**	**9.69**	**274**	*e*P		**Pn**	**15 37 27.2**	**-0.3**
IEMG	**Emamgholi**	**9.76**	**279**	*e*P		**Pn**	**15 37 26.4**	**-2.2**
GEYT	**Alibeck**	**10.21**	**282**	P		**Pn**	**15 37 32.3**	**-2.0**
	comp=N,3.0nm,0.3s,baz=102,slow=8.8,SNR=13							
GEYT				S		**Sn**	**15 39 22.6**	**-4.6**
	comp=N,6.4nm,0.3s,baz=130,slow=4.6,SNR=5.9							
AGRA	**Agra**	**11.04**	**145**	*e*P		**Pn**	**15 37 42.6**	**-2.7**
AGRA				*ex*		x	15 39 35.5	
AGRA				AML		AML	15 39 43.3	
	comp=E,98nm,0.4s							
AGRA				AML		AML	15 39 44.0	
	comp=N,67nm,0.7s							
OTUK	**Ortayu**	**11.81**	**5**	⇑P		**Pn**	**15 37 54.0**	**-1.2**
	comp=N,15nm,0.9s							
OTUK				⇑S		**Sn**	**15 39 59.8**	**-5.7**
	comp=N,9.0nm,0.7s							
MK31	**Makanchi Array**	**13.40**	**36**	⇑P		**Pn**	**15 38 17.0**	**+1.2**
	comp=N,8.4nm,0.6s,baz=196,slow=4.3,SNR=6.8							
MKAR	**Makanchi Array**	**13.40**	**36**	P		**Pn**	**15 38 15.4**	**-0.4**
	comp=N,1.4nm,0.3s,baz=221,slow=13,SNR=121							
MKAR	**Makanchi Array**	**13.40**	**36**	*i* P		**Pn**	**15 38 16.0**	**+0.2**
MKAR				pmax		pmax		
	comp=Z,15nm,0.7s							
KOLN	**Koldanda**	**13.89**	**125**	*e*P		**Pn**	**15 38 19.6**	**-2.7**
	comp=Z,38nm,0.4s							
BHPL	**Bhopal**	**14.39**	**155**	*e*P		**Pn**	**15 38 25.7**	**-2.8**
BHPL				*ex*		x	15 40 54.2	
GKN	**Gorkha**	**14.44**	**122**	*e*P		**Pn**	**15 38 26.6**	**-2.6**
	comp=Z,314nm,0.6s							
DMN	**Daman**	**15.01**	**122**	*e*P		**Pn**	**15 38 34.8**	**-1.6**
	comp=Z,64nm,0.5s							
KKN	**Kakani**	**15.01**	**121**	*e*P		**Pn**	**15 38 33.8**	**-2.6**
	comp=Z,232nm,0.6s							
AB31	**Akbulak array**	**15.02**	**332**	⇓P		**Pn**	**15 38 34.7**	**-1.4**
	comp=Z,2.6nm,0.3s							
AB31				⇑S		Sn	15 41 11.9	-11
	comp=Z,14nm,0.7s							
ABKAR	**Akbulak array**	**15.02**	**332**	*e*Pn		**Pn**	**15 38 34.9**	**-1.2**
	comp=Z,7.8nm,0.3s							
ABKAR				*e*Sn		Sn	15 41 06.1	-17
KURBB	**Kurchatov Arra**	**15.19**	**19**	⇑P		**Pn**	**15 38 37.1**	**-1.1**
	comp=Z,38nm,0.6s							
KURBB	**Kurchatov Arra**	**15.19**	**19**	P		**Pn**	**15 38 36.5**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=210,slow=10.0,SNR=28							
KURBB				S		**S**	**15 41 32.3**	**-0.2**
	baz=204,slow=19,SNR=5.4							
PKIN	**Phulchoki**	**15.22**	**122**	*e*P		**Pn**	**15 38 38.2**	**-0.9**
	comp=Z,56nm,0.3s							
PKI	**Pulchoki**	**15.24**	**122**	*e*P		**Pn**	**15 38 38.1**	**-1.3**
	comp=Z,182nm,0.7s							
KURK	**Kurchatov**	**15.30**	**19**	⇑P		**Pn**	**15 38 38.6**	**-1.0**
	comp=Z,20nm,0.8s							
KURK	**Kurchatov**	**15.30**	**19**	P		**Pn**	**15 38 36.5**	**-3.1**
KURK				S		**S**	**15 41 32.3**	**-2.1**
KURK	**Kurchatov**	**15.30**	**19**	P		**Pn**	**15 38 36.5**	**-3.1**
KURK				S		**S**	**15 41 32.3**	**-2.1**
GUN	**Gumba**	**15.35**	**120**	*e*P		**Pn**	**15 38 39.8**	**-1.0**
	comp=Z,208nm,0.9s							
RAMN	**Ramite**	**16.45**	**121**	*e*P		**Pn**	**15 38 52.3**	**-1.9**
	comp=Z,81nm,0.6s							
BVA0	**Borovoye Array**	**16.54**	**359**	P		**Pn**	**15 38 54.7**	**-0.1**
	comp=Z,8.0nm,0.8s,baz=160,slow=12,SNR=57							
BVA0				⇑S		**S**	**15 41 52.0**	**-7.0**
	comp=Z,4.8nm,0.9s,baz=170,slow=24,SNR=8.3							
BVAR	**Borovoye Array**	**16.54**	**359**	P		**Pn**	**15 38 54.6**	**-0.2**
	comp=Z,1.5nm,0.3s,baz=158,slow=14,SNR=27							
BVAR				S		**S**	**15 41 53.4**	**-5.6**
	comp=Z,1.3nm,0.3s,baz=167,slow=25,SNR=7.6							
BRVK	**Borovoye**	**16.58**	**359**	⇓P		**Pn**	**15 38 54.3**	**-0.9**
	comp=Z,9.7nm,0.5s							
BRVK				⇓S		**S**	**15 41 53.1**	**-6.7**
	comp=Z,11nm,0.7s							
BRVK	**Borovoye**	**16.58**	**359**	*e*P		**Pn**	**15 38 53.2**	**-2.0**
BRVK				*e*			15 41 48.0	
BRVK				pmax		pmax		
	comp=Z,10.0nm,0.7s							
BRVK	**Borovoye**	**16.58**	**359**	*e*Pn		**Pn**	**15 38 53.2**	**-2.0**
	comp=Z,10.0nm,0.7s							
BRVK				*e*Sn		S	15 41 48.0	-12
AKTO	**Aktyubinsk**	**16.71**	**331**	⇓P		**Pn**	**15 38 57.4**	**+0.5**
	comp=Z,16nm,0.6s							
AKTO				⇑S		**S**	**15 41 57.1**	**-6.0**
	comp=Z,20nm,0.8s							
AKTO	**Aktyubinsk**	**16.71**	**331**	P		**Pn**	**15 38 57.9**	**+1.0**
	comp=Z,1.7nm,0.3s,baz=141,slow=9.9,SNR=77							
AKTO				S		S	15 41 53.0	-10
	comp=Z,0.4nm,0.3s,baz=342,slow=21,SNR=3.3							
TAPN	**Taplejung**	**16.99**	**118**	*e*P		**Pn**	**15 39 00.2**	**-0.5**
	comp=Z,52nm,0.5s							
ODAN	**Odare**	**17.06**	**120**	*e*P		**P**	**15 39 00.1**	**-0.9**
	comp=Z,77nm,0.6s							
POO	**Poona**	**18.09**	**171**	*ex*		**Sn**	**15 42 40.0**	**+3.3**
LSA	**Lhasa**	**18.33**	**106**	*e*P		**Pn**	**15 39 18.0**	**+1.1**
LSA				pmax		pmax		
	comp=Z,10.0nm,0.6s							
LSA	**Lhasa**	**18.33**	**106**	*e*Pn		**Pn**	**15 39 18.0**	**+1.1**
	comp=Z,9.9nm,0.6s							
SRSP	**Sriramsagar**	**18.71**	**157**	*e*P		**P**	**15 39 19.4**	**+0.5**
KLRI	**Killari**	**19.05**	**163**	*e*P		**P**	**15 39 23.0**	**+0.4**
RPR	**Rampur**	**19.09**	**155**	*e*P		**P**	**15 39 23.8**	**+0.8**
ZALV	**Zalesovo Beam**	**20.00**	**25**	P		**P**	**15 39 33.4**	**+0.9**
	comp=Z,60nm,0.5s,baz=221,slow=11,SNR=306							
ZALV	**Zalesovo Beam**	**20.00**	**25**	*i* P		**P**	**15 39 33.7**	**+1.2**
ZALV				pmax		pmax		
	comp=Z,60nm,0.5s							
HYBB	**Hyderabad (bro**	**20.20**	**158**	*e*P		**P**	**15 39 35.4**	**+0.4**
HYBB				*e*			15 39 38.2	
HYB	**Hyderabad**	**20.20**	**158**	*i* P		**P**	**15 39 34.5**	**-0.5**
NVS	**Novosibirsk**	**20.26**	**21**	⇑P		**P**	**15 39 36.2**	**+1.0**
NVS				*e*S		**S**	**15 43 14.7**	**+0.3**
NVS				pmax		pmax		
	comp=Z,40nm,1.1s							
NVS				pmax		pmax		
	comp=N,14nm,1.2s							
NVS				pmax		pmax		
	comp=E,34nm,1.2s							
NVS				smax		smax		
	comp=N,5.0nm,0.7s							
NVS				smax		smax		
	comp=E,3.0nm,0.8s							
GNI	**Garni**	**20.74**	**288**	P		Pn	15 39 44.5	-0.4
	comp=E,2.8nm,0.4s,baz=291,slow=6.3,SNR=3.5							
GNI	**Garni**	**20.74**	**288**	*e*P		Pn	15 39 43.8	-1.1
GNI				pmax		pmax		
	comp=Z,10.0nm,1.3s							
GNI	**Garni**	**20.74**	**288**	P		Pn	15 39 44.5	-0.4
	comp=Z,1.1nm,1.2s							
SHL	**Shillong**	**21.05**	**115**	*e*P		**P**	**15 39 46.2**	**+1.9**
NJS	**Nagarjunasagar**	**21.24**	**157**	*e*P		**P**	**15 39 46.7**	**+0.5**
PVM	**Polavaram**	**21.43**	**151**	*e*P		**P**	**15 39 49.1**	**+1.0**
PVM				*e*			15 39 53.9	
SVE	**Sverdlovsk**	**21.46**	**345**	*e*P		**P**	**15 39 48.5**	**+0.3**
SRLM	**Srisailam**	**21.54**	**158**	*e*P		**P**	**15 39 49.7**	**+0.3**
ARU	**Arti**	**21.59**	**341**	*c i*P		**P**	**15 39 51.1**	**+1.5**
ARU							15 40 20.8	
ARU				S		**S**	**15 43 39.8**	**+0.2**
ARU				SS		**SnSn**	**15 44 22.6**	**+3.7**
ARU				pmax		pmax		
	comp=Z,20nm,1.7s							
ARU	**Arti**	**21.59**	**341**	*e*P		**P**	**15 39 50.6**	**+1.0**
	comp=Z,12nm,1.0s							
ADKI	**Addanki**	**22.12**	**156**	*e*P		**P**	**15 39 55.2**	**-0.1**
RCLA	**Racherla**	**22.17**	**159**	*e*P		**P**	**15 39 56.0**	**+0.1**
KBZ	**Khabaz**	**22.46**	**297**	P		**P**	**15 39 59.3**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=109,slow=16,SNR=2.8							
GTA	**Gaotai**	**23.03**	**74**	*e*P		**P**	**15 40 06.3**	**+2.3**
GTA				PMZ				
	comp=Z,2.0nm,1.0s							
SKHT	**Srikalahasti**	**24.02**	**158**	*e*P		**P**	**15 40 13.8**	**+0.8**
ANN	**Anapa**	**26.50**	**299**	*e*P		**P**	**15 40 36.4**	**+1.2**
ANN				*e**PP		**pP**	**15 41 09.9**	**+4.7**
ANN				*e*			15 41 27.6	
ANN				*e*S		**S**	**15 44 57.9**	**-0.6**
ANN				pmax		pmax		
	comp=Z,45nm,1.3s							
SONM	**Songino Array**	**28.48**	**55**	P		**P**	**15 40 53.5**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=216,slow=7.1,SNR=3.2							
CHTO	**Chiang Mai**	**30.36**	**118**	*e*P		**P**	**15 41 11.1**	**+1.4**
CHTO				pmax		pmax		
	comp=Z,3.0nm,0.5s							
CHTO	**Chiang Mai**	**30.36**	**118**	*e*P		**P**	**15 41 11.1**	**+1.4**
	comp=Z,3.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**30.59**	**118**	P		**P**	**15 41 12.6**	**+0.8**
	comp=Z,2.9nm,0.7s,baz=295,slow=8.5,SNR=15							
EIL	**Elat**	**30.67**	**268**	LR		LR	15 55 51.9	
	comp=Z,27nm,19.4s,baz=52,slow=40							
ENH	**Enshi**	**32.74**	**90**	P		**P**	**15 41 31.1**	**+0.5**
FINES	**FINESS Array B**	**37.40**	**326**	P		**P**	**15 42 11.7**	**+1.7**
	comp=Z,1.0nm,0.4s,baz=130,slow=9.7,SNR=13							
FINES				pP		**pP**	**15 42 43.2**	**+2.1**
	comp=Z,5.5nm,0.9s,baz=121,slow=14,SNR=5.7							
FINES	**FINESS Array B**	**37.40**	**326**	*i* P		**P**	**15 42 11.6**	**+1.6**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.4s							
ARCES	**ARCESS Array B**	**41.10**	**338**	P		**P**	**15 42 42.8**	**+2.2**
	comp=Z,1.9nm,0.5s,baz=108,slow=8.7,SNR=19							
ARCES				pP		**pP**	**15 43 13.2**	**+1.0**
	comp=Z,2.1nm,0.8s,baz=120,slow=7.2,SNR=1.3							
HFS	**Hagfors**	**42.98**	**322**	P		**P**	**15 42 57.3**	**+1.4**
	comp=Z,6.5nm,0.6s,baz=97,slow=12,SNR=22							
HFS				pP		**pP**	**15 43 29.6**	**+1.9**
	comp=Z,1.4nm,0.5s,baz=104,slow=11,SNR=2.0							
NB2	**NORSAR Subarra**	**44.29**	**323**	P		**P**	**15 43 07.3**	**+0.8**
	comp=Z,4.4nm,0.6s,baz=97,slow=7.9							
NOA	**NORSAR Array B**	**44.29**	**323**	P		**P**	**15 43 07.5**	**+1.0**
	comp=Z,3.8nm,0.6s,baz=97,slow=7.8,SNR=14							
NOA				pP		**pP**	**15 43 39.6**	**+1.1**
	comp=Z,2.1nm,0.9s,baz=97,slow=8.1,SNR=3.1							
TORD	**Torodi Ar. Bea**	**65.55**	**269**	P		**P**	**15 45 38.5**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=51,slow=6.1,SNR=26							
TORD				pP		**pP**	**15 46 14.6**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=56,slow=6.0,SNR=2.0							
INK	**Inuvik**	**73.95**	**9**	P		**P**	**15 46 32.0**	**+1.6**
	comp=Z,2.7nm,0.8s,baz=4.6,slow=6.0,SNR=6.4							
ILAR	**Eielson Array**	**74.84**	**16**	P		**P**	**15 46 35.8**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=317,slow=5.2,SNR=7.6							
ILAR				pP		**pP**	**15 47 11.2**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=311,slow=5.4,SNR=3.0							
BOSA	**Boshof**	**77.63**	**220**	P		**P**	**15 46 52.1**	**+0.2**
	comp=Z,1.4nm,0.3s,baz=44,slow=3.8,SNR=5.4							
YKA	**Yellowknife Ar**	**81.27**	**3**	P		**P**	**15 47 11.9**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=356,slow=5.2,SNR=4.6							
WRA	**Warramunga Arr**	**82.12**	**122**	P		**P**	**15 47 14.8**	**-1.4**
	comp=Z,1.4nm,0.4s,baz=322,slow=4.9,SNR=12							
ASAR	**Alice Springs**	**84.38**	**125**	P		**P**	**15 47 26.5**	**-1.2**
	comp=Z,1.8nm,0.7s,baz=309,slow=5.0,SNR=33							

ISCJB ***15*** *15:43:08.6±0.2,51°.52N±0°.01×16°.05E±0°.02, h0km, mb3.8/12, Error ellipse: s-maj=1.9km s-min=1.7km az=155.2*

MOS ***15*** *15:43:09.5±1.5,51°.58N×15°.87E, h10km, mb4.1/7, Error ellipse: s-maj=6.1km s-min=3.7km az=67.9*

NEIC ***15*** *15:43:10.8±0.4,51°.52N×15°.90E, h5km, mb4.1/3, Error ellipse: s-maj=7.9km s-min=4.6km az=154.0*

LDG ***15*** *15:43:10.0±0.1,51°.58N×16°.20E, h1km, Ml4.2/24, Error ellipse: s-maj=2.2km s-min=1.4km az=172.0, Suspected Mining induced.*

CSEM ***15*** *15:43:11.0±0.1,51°.53N×16°.06E, h2km, mb4.0/6, ML4.1/12, Ms3.5, Error ellipse: s-maj=3.7km s-min=3.2km az=171.0*

PRU ***15*** *15:43:12.5,51°.49N×16°.09E, h0km, M4.1*

STR ***15*** *15:43:12.3±0.7,51°.50N×16°.11E, h5km, Ml4.1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

IDC ***15*** *15:43:12.9±0.5,51°.47N×16°.00E, h0km, mb3.7/9, mb1 3.8/18, mb1mx3.7/57, mbtmp3.7/18, ML3.5/9, Error ellipse: s-maj=9.3km s-min=5.7km az=111.0*

BNS ***15*** *15:43:13.7±0.3,51°.52N×16°.10E, h5km, ML3.4*

BGR ***15*** *15:43:13.5±0.5,51°.51N×16°.08E, h1km, ML3.8/7, Error ellipse: s-maj=6.7km s-min=4.4km az=138.0*

VIE ***15*** *15:43:14.2±0.5,51°.27N×16°.09E, h2km±1km, mb3.1/10, ML3.4/10, Ms3.5/1, Error ellipse: s-maj=2.6km s-min=1.5km az=179.0, Suspected Mining induced.*

ISC 15 15:43:11.1±0.4,**51°.49N**±0°.02×**16°.10E**±0°.02,**h0**km,**n345,** σ1**9**97/461,**mb3.9**/12,**15C-14D,Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSP	**Ksiaz**	**0.66**	**169**	*i* Pg		**Pb**	**15 43 25.5**	**0.0**
KSP				*i* Sg		**Sg**	**15 43 34.1**	**+1.9**
KSP				*e*			15 43 37.2	
KSP	**Ksiaz**	**0.66**	**169**	⇓*i*P		**Pb**	**15 43 25.5**	**0.0**
KSP				*e*			15 43 37.2	
KSP	**Ksiaz**	**0.66**	**169**	*i* P		**Pb**	**15 43 25.5**	**0.0**
KSP				*i* Sg		**Sg**	**15 43 34.1**	**+1.9**
UPC	**Upice**	**0.99**	**183**	*e*PG		**Pb**	**15 43 30.9**	**-0.1**
UPC				*e*SG		**Sg**	**15 43 43.3**	**+0.6**
	comp=Z,884nm,0.6s							
UPC				AMS		AMS	15 44 00.0	
	comp=Z,900nm,2.3s							
UPC	**Upice**	**0.99**	**183**	*e*P		**Pb**	**15 43 30.9**	**-0.1**
UPC				*e*			15 43 43.3	
UPC				smax		smax		
	comp=N,884nm,0.6s							
UPC				MLR		MLR		
	comp=N,900nm,2.3s							
UPC	**Upice**	**0.99**	**183**	*e*P		**Pb**	**15 43 30.9**	**-0.1**
	comp=Z,884nm,0.6s							
UPC				*e*S		**Sg**	**15 43 43.3**	**+0.

PRA MLR MLR
comp=Z,1µm,2.5s
PRA Prague 1.77 217 *e*P **Pn 15 43 43.6 +0.6**
PRA Prague 1.77 217 Pg **Pg 15 43 45.4 +0.4**
PRA *e*S **Sg 15 44 08.4 +0.4**
comp=Z,1µm,2.5s
GOPC GO Pecny, Ondr 1.79 208 *e*PN **Pn 15 43 43.4 +0.2**
GOPC *e*PG **Pg 15 43 45.5 +0.2**
GOPC *e*SG **Sb 15 44 08.2 +0.6**
comp=Z,191nm,0.5s
GOPC AMS AMS 15 44 20.0
comp=Z,800nm,3.5s
GOPC GO Pecny, Ondr 1.79 208 Pn **Pn 15 43 43.4 +0.2**
PRU Pruhonice 1.80 214 *e*PN **Pn 15 43 43.9 +0.5**
PRU *e*PG **Pg 15 43 45.9 +0.3**
PRU *e*SG **Sg 15 44 09.5 +0.6**
comp=Z,244nm,0.6s
PRU AMS AMS 15 44 30.0
comp=Z,800nm,4.0s
PRU Pruhonice 1.80 214 *e*P **Pn 15 43 43.9 +0.5**
PRU *e* 15 44 09.5
PRU smax smax
comp=N,244nm,0.6s
PRU MLR MLR
comp=Z,800nm,4.0s
PRU Pruhonice 1.80 214 *e*P **Pn 15 43 43.9 +0.5**
PRU Pruhonice 1.80 214 Pg **Pg 15 43 45.9 +0.3**
PRU *e*S **Sg 15 44 09.5 +0.6**
comp=Z,800nm,4.0s
FBE Freiberg 1.82 253 *e*Pn **Pb 15 43 44.3 -0.9**
SNR=4.9
FBE *e*Sg **Sg 15 44 10.7 +1.3**
SNR=5.3
FBE Freiberg 1.82 253 Pn **Pb 15 43 44.3 -0.9**
SNR=4.9
FBE Sg **Sg 15 44 10.7 +1.3**
SNR=5.3
GKP Gorka Klasztor 1.91 21 *e*Pn **Pb 15 43 46.5 -0.3**
GKP *e* 15 43 54.2
GKP *e*Sg **Sg 15 44 16.9 +4.4**
GKP *e* 15 44 27.2
GKP Gorka Klasztor 1.91 21 *e*P **Pb 15 43 46.5 -0.3**
GKP Gorka Klasztor 1.91 21 *e*P **Pb 15 43 46.5 -0.3**
GKP *e*Sg **Sg 15 44 17.0 +4.4**
RAC Raciborz 1.94 136 *e*P **Pg 15 43 48.9 +0.7**
RAC *e* 15 44 15.1
RAC Raciborz 1.94 136 *e*Pg **Pg 15 43 48.9 +0.7**
RAC *e*Sg **Sg 15 44 15.1 +1.8**
MORC Moravsky Berou 1.95 151 *e*P **Pn 15 43 45.8 +0.4**
MORC *e* 15 44 13.3
MORC Moravsky Berou 1.95 151 ⇑*i*P **Pn 15 43 46.3 +0.9**
MORC Moravsky Berou 1.95 151 S **Sn 15 44 10.2 -0.4**
MORC Moravsky Berou 1.95 151 *e*P **Pn 15 43 45.8 +0.4**
MORC *e*S **Sb 15 44 13.3 +1.0**
MORC Moravsky Berou 1.95 151 *e*Pn **Pn 15 43 45.8 +0.4**
MORC *e*Sn **Sb 15 44 13.3 +1.0**
CLL Collm 1.95 266 *e*Pn **Pn 15 43 45.7 +0.3**
SNR=4.4
CLL *e*Sg **Sg 15 44 14.9 +1.3**
SNR=4.5
CLL Collm 1.95 266 *e*P **Pn 15 43 46.0 +0.6**
CLL Collm 1.95 266 Pn **Pn 15 43 45.7 +0.3**
SNR=4.4
CLL Collm 1.95 266 *e*P **Pn 15 43 46.0 +0.6**
CLL Sg **Sg 15 44 14.9 +1.3**
SNR=4.5
CLL Collm 1.95 266 *e*Pn **Pn 15 43 46.0 +0.6**
CLL *e*Pg **Pg 15 43 49.0 +0.6**
CLL *i* 15 43 52.7
CLL *i* Sg **Sg 15 44 14.7 +1.1**
comp=Z,222nm,1.0s
OKC Ostrava-Krasne 2.11 141 *e*PN **Pn 15 43 47.8 +0.2**
OKC *e*PG **Pg 15 43 51.6 +0.2**
OKC *e*SG **Sg 15 44 18.5 -0.2**
comp=Z,286nm,0.6s
OKC AMS AMS 15 44 30.0
comp=Z,400nm,4.0s
OKC Ostrava-Krasne 2.11 141 *e*P **Pn 15 43 47.8 +0.2**
OKC *e* 15 44 18.5
OKC smax smax
comp=N,286nm,0.6s
OKC MLR MLR
comp=Z,400nm,4.0s
OKC Ostrava-Krasne 2.11 141 *e*P **Pn 15 43 47.8 +0.2**
VRAC Vranov 2.21 172 Pn **Pn 15 43 50.3 +1.3**
comp=Z,5.5nm,0.3s,baz=334,slow=16,SNR=30
VRAC Lg Lg 15 44 22.3
comp=Z,20nm,0.3s,baz=250,slow=22,SNR=18
VRAC Vranov 2.21 172 ⇑*i*P **Pb 15 43 51.6 -0.3**
VRAC Vranov 2.21 172 S **Sn 15 44 18.2 +1.2**
VRAC Vranov 2.21 172 *e*Pn **Pn 15 43 49.9 +0.9**
TREC Trest 2.23 190 *e*PN **Pn 15 43 50.4 +1.1**
TREC *e*PG **Pg 15 43 53.4 -0.4**
TREC *e*SG **Sg 15 44 22.9 +0.1**
comp=Z,154nm,0.4s
TREC AMS AMS 15 44 50.0
comp=Z,300nm,3.2s
TREC Trest 2.23 190 *e*P **Pn 15 43 50.4 +1.1**
TREC *e* 15 44 22.9
TREC smax smax
comp=N,154nm,0.4s
TREC MLR MLR
comp=Z,300nm,3.2s
TREC Trest 2.23 190 *e*P **Pn 15 43 50.4 +1.1**
TANN Tannenbergstha 2.54 246 *e*Pn **Pn 15 43 54.8 +1.2**
SNR=14
TANN *e*Pg **Pg 15 44 01.6 +1.9**
SNR=6.5
TANN Tannenbergstha 2.54 246 Pn **Pn 15 43 54.8 +1.2**
SNR=14
NKC Novy Kostel 2.63 243 *e*PN **Pn 15 43 55.9 +1.1**
NKC *e*PG **Pg 15 44 01.2 -0.3**
NKC *e*SG **Sg 15 44 36.8 +1.2**
comp=Z,326nm,0.7s
NKC AMS AMS 15 45 10.0
comp=Z,500nm,2.8s
NKC Novy Kostel 2.63 243 *e*P **Pn 15 43 55.9 +1.1**
NKC MLR MLR
comp=Z,500nm,2.8s
NKC Novy Kostel 2.63 243 *e*P **Pn 15 43 55.9 +1.1**
comp=Z,500nm,2.8s
WERN Wernitzgruen 2.65 244 *e*Pn **Pn 15 43 56.8 +1.8**
SNR=17
WERN Wernitzgruen 2.65 244 Pn **Pn 15 43 56.8 +1.8**
SNR=17
OJC Ojcow 2.67 117 *e*Pn **Pn 15 43 54.3 -1.0**
OJC *e*Pg **Pg 15 44 02.9 +0.7**
OJC *i* Sg **Sg 15 44 38.7 +2.0**
OJC Ojcow 2.67 117 *e*P **Pn 15 43 54.3 -1.0**
OJC *i* 15 44 38.7
OJC Ojcow 2.67 117 *e*P **Pn 15 43 54.3 -1.0**
PLN Plauen 2.69 250 *e*Pn **Pn 15 43 56.6 +1.1**
SNR=6.2
PLN Plauen 2.69 250 Pn **Pn 15 43 56.6 +1.1**
SNR=6.2
KHC Kasperske Hory 2.86 215 *e*PN **Pn 15 43 58.5 +0.5**
KHC *e*PG **Pg 15 44 05.0 -0.9**
KHC *e*SN **Sn 15 44 33.1 -0.1**
KHC *e*SG **Sg 15 44 43.3 +0.3**
comp=Z,149nm,0.6s
KHC AMS AMS 15 45 00.0
comp=Z,400nm,5.1s
KHC Kasperske Hory 2.86 215 *e*P **Pn 15 43 58.5 +0.5**
KHC *e* 15 44 33.1
KHC smax smax
comp=N,149nm,0.6s
KHC MLR MLR
comp=Z,400nm,5.1s
KHC Kasperske Hory 2.86 215 *e*Pn **Pn 15 43 58.6 +0.5**
KHC Kasperske Hory 2.86 215 Pg **Pg 15 44 05.0 -0.9**
KHC *e*S **Sn 15 44 33.1 -0.1**
comp=Z,400nm,5.1s
KHC Sg **Sg 15 44 43.3 +0.3**
comp=Z,149nm,0.6s
KHC Kasperske Hory 2.86 215 *e*Pn **Pn 15 43 58.6 +0.6**
MANZ Manzenberg 2.95 241 *e*Pn **Pn 15 44 00.6 +1.4**
SNR=9.4
MANZ *e*Sg **Sg 15 44 47.3 +1.6**
SNR=4.7
MANZ Manzenberg 2.95 241 Pn **Pn 15 44 00.6 +1.4**
SNR=9.4
MANZ Sg **Sg 15 44 47.3 +1.6**
SNR=4.7
MOX Moxa 2.95 255 *e*Pg **Pg 15 44 08.4 +0.8**
SNR=5.6
MOX *e*Sg **Sg 15 44 48.1 +2.2**
SNR=8.3
MOX Moxa 2.95 255 Pg **Pg 15 44 08.4 +0.8**
SNR=5.6
MOX Sg **Sg 15 44 48.1 +2.2**
SNR=8.3
ROTZ Rotzenmuhle 3.02 237 *e*Pn **Pn 15 44 01.6 +1.5**
SNR=13
ROTZ Rotzenmuhle 3.02 237 Pn **Pn 15 44 01.6 +1.5**
SNR=13
GEC2 GERESS Array S 3.06 211 *e*Pn **Pn 15 44 02.9 +2.1**
SNR=11
GEC2 *e*Sg **Sg 15 44 50.4 +0.9**
SNR=3.1
GEC2 GERESS Array S 3.06 211 Pn **Pn 15 44 02.9 +2.1**
SNR=11
GEC2 Sg **Sg 15 44 50.4 +0.9**
SNR=3.1
GERES GERESS Array B 3.06 211 Pn **Pn 15 44 02.0 +1.1**
comp=Z,3.8nm,0.3s,baz=27,slow=12,SNR=52
GERES Pg **Pg 15 44 08.8 -0.9**
comp=Z,6.4nm,0.3s,baz=30,slow=16,SNR=59
GERES Sn **Sn 15 44 39.1 +0.9**
comp=Z,7.1nm,0.3s,baz=30,slow=22,SNR=6.1
GERES Lg Lg 15 44 49.3
comp=Z,10nm,0.3s,baz=30,slow=27,SNR=7.2
SMOL Smolenice 3.10 163 *e*P **Pb 15 44 08.7 +1.6**
SMOL Smolenice 3.10 163 *e*Pg **Pb 15 44 08.7 +1.6**
SMOL *e*Sg **Sg 15 44 53.2 +2.5**
SMOL Smolenice 3.10 163 *e* **Pb 15 44 08.7 +1.6**
WET Wettzell 3.13 223 *e*Pn **Pn 15 44 03.0 +1.4**
SNR=4.9
WET *e*Sg **Sg 15 44 52.2 +0.7**
SNR=1.8
WET Wettzell 3.13 223 Pn **Pn 15 44 03.0 +1.4**
SNR=4.9
WET Sg **Sg 15 44 52.2 +0.7**
SNR=1.8
RGN Rugen 3.49 332 Pn Pn 15 44 03.1 -3.4
RGN Rugen 3.49 332 Pn Pn 15 44 03.1 -3.4
CONA Conrad Observa 3.57 183 Pn **Pn 15 44 09.1 +1.3**
SNR=12
CONA Conrad Observa 3.57 183 ⇓*i*Pn **Pn 15 44 09.1 +1.3**
SNR=12
CONA ⇑*i*Pg **Pg 15 44 18.4 -1.1**
CONA ⇑*i*Sg **Sg 15 45 05.0 -0.7**
comp=Z,143nm,0.6s
CLZ Clausthal 3.58 278 *e*Pn **Pn 15 44 09.4 +1.5**
SNR=3.6
CLZ Clausthal 3.58 278 Pn **Pn 15 44 09.4 +1.5**
SNR=3.6
GRA1 Grafenberg Arr 3.59 242 Pn **Pn 15 44 09.5 +1.5**
SNR=4.0
GRF Grafenberg Arr 3.59 242 *e*Pn **Pn 15 44 09.5 +1.5**
SNR=4.0
GRFO Grafenberg 3.59 242 *e*P **Pn 15 44 08.5 +0.5**
GRFO *e* 15 44 52.2
GRFO Grafenberg 3.59 242 *e*P **Pn 15 44 08.5 +0.5**
GRFO *e*S **Sn 15 44 52.2 +1.1**
GRFO Grafenberg 3.59 242 *e*Pn **Pn 15 44 08.5 +0.5**
GRFO *e*Sn **Sn 15 44 52.2 +1.1**
GRFO *e*Sg **Sg 15 45 09.5 +3.1**
BSD Bornholm Skovb 3.70 349 *i* P **Pn 15 44 09.3 -0.1**
BSD *i* S **Sn 15 44 51.3 -2.4**
BSD Bornholm Skovb 3.70 349 *i* P **Pn 15 44 09.3 -0.1**
BSD *i* S **Sn 15 44 51.3 -2.4**
BSD Bornholm Skovb 3.70 349 *i* P **Pn 15 44 09.3 -0.1**
BSD *i* S **Sn 15 44 51.3 -2.4**
MOA Molln 3.83 199 Pn **Pn 15 44 11.3 0.0**
SNR=17
MOA Sg **Sg 15 45 15.1 +0.9**
comp=Z,127nm,0.7s
MOA Molln 3.83 199 ⇓*i*Pn **Pn 15 44 11.3 0.0**
SNR=17
MOA ⇑*i*Sg **Sg 15 45 15.1 +0.9**
comp=Z,127nm,0.7s
KLNR Kaliningrad 3.98 37 *e*P **Pn 15 44 13.0 -0.3**
KLNR Kaliningrad 3.98 37 *e*P **Pn 15 44 13.0 -0.3**
KECS Kecovo 4.13 135 *e*P **Pn 15 44 16.4 +1.0**
KECS Kecovo 4.13 135 *e*P **Pn 15 44 16.4 +1.0**
KECS Kecovo 4.13 135 *e*Pg **Pb 15 44 27.0 +2.4**
KECS *e*Sg **Sg 15 45 25.2 +1.5**
KECS Kecovo 4.13 135 *e*PN **Pn 15 44 16.4 +1.0**
KECS *e* 15 44 27.0
ARSA Arzberg 4.26 185 Pn **Pn 15 44 17.2 0.0**
ARSA Sn **Sn 15 45 05.9 -1.7**
ARSA Sg **Sg 15 45 27.3 -0.6**
comp=Z,164nm,0.8s
ARSA Arzberg 4.26 185 ⇓*i*Pn **Pn 15 44 17.2 0.0**
ARSA ⇑*i*Sn **Sn 15 45 05.9 -1.7**
ARSA ⇑*i*Sg **Sg 15 45 27.3 -0.6**
comp=Z,164nm,0.8s
KWP Kalwaria Pacla 4.61 111 *e*Pn **Pn 15 44 22.2 +0.3**
KWP *e*Pg **Pg 15 44 37.3 -2.0**
KWP Kalwaria Pacla 4.61 111 *e*P **Pn 15 44 22.3 +0.3**
KWP Kalwaria Pacla 4.61 111 *e*P **Pn 15 44 22.3 +0.3**
KOLS Kolonicke sedl 4.72 120 *e*P **Pn 15 44 24.7 +1.2**
KOLS Kolonicke sedl 4.72 120 *e*P **Pn 15 44 24.7 +1.2**
KOLS Kolonicke sedl 4.72 120 *e*Pg **Pb 15 44 36.9 +2.3**
KOLS *e*Sg **Sg 15 45 44.2 +1.6**
KOLS Kolonicke sedl 4.72 120 *e*PN **Pn 15 44 24.7 +1.2**
KOLS *e* 15 44 36.9
KBA Koelnbreinsper 4.77 203 Pn **Pn 15 44 24.8 +0.5**
SNR=8.2
KBA Sg **Sg 15 45 45.2 +0.9**
comp=Z,72nm,0.6s
KBA Koelnbreinsper 4.77 203 ⇓*i*Pn **Pn 15 44 24.8 +0.5**
SNR=8.2
KBA ⇑*i*Sg **Sg 15 45 45.2 +0.9**
comp=Z,72nm,0.6s
PERS Pernice 4.90 188 *i* Pn **Pn 15 44 28.2 +2.1**
PERS Pernice 4.90 188 *i* Pn **Pn 15 44 28.2 +2.1**
UZH Uzhgorod 4.91 123 *e*P **Pn 15 44 26.9 +0.8**
UZH *e*S **Sn 15 45 22.9 -0.6**
UZH Uzhgorod 4.91 123 *e*P **Pn 15 44 26.9 +0.8**
UZH *e*S **Sn 15 45 22.9 -0.6**
TOD Tromm 5.02 251 P **Pn 15 44 27.9 +0.3**
WATA Walderalm 5.10 217 Pn **Pn 15 44 29.2 +0.4**
SNR=6.0
WATA Sg **Sg 15 45 57.3 +2.5**
comp=Z,77nm,0.9s
WATA Walderalm 5.10 217 ⇓*i*Pn **Pn 15 44 29.2 +0.4**
SNR=6.0
WATA ⇓*i*Sg **Sg 15 45 57.3 +2.5**
comp=Z,77nm,0.9s
WTTA Wattenberg 5.14 216 Pn **Pn 15 44 29.6 +0.2**
SNR=8.8
WTTA Sg **Sg 15 45 57.6 +1.6**
comp=Z,78nm,0.8s
WTTA Wattenberg 5.14 216 ⇓*i*Pn **Pn 15 44 29.6 +0.2**
SNR=8.8
WTTA ⇓*i*Sg **Sg 15 45 57.6 +1.6**
comp=Z,78nm,0.8s
ABTA Abfaltersbach 5.30 208 Pn **Pn 15 44 32.3 +0.8**
SNR=8.5
ABTA Abfaltersbach 5.30 208 ⇑*i*Pn **Pn 15 44 32.3 +0.8**
SNR=8.5
LVV L'vov 5.32 105 *e*P Pb 15 44 39.5 -5.3
LVV *i* S **Sn 15 45 32.1 -1.5**
KOE Koeppel 5.39 262 *e*Pn **Pn 15 44 33.6 +0.8**
KOE Koeppel 5.39 262 Pn **Pn 15 44 33.6 +0.8**
PDKS Podkum 5.48 188 *i* Pn **Pn 15 44 36.4 +2.4**
PDKS Podkum 5.48 188 *i* Pn **Pn 15 44 36.4 +2.4**
PKSM Moragy 5.54 161 ⇑*i*P **Pn 15 44 37.2 +2.4**
PKSM Moragy 5.54 161 S **Sn 15 45 39.6 +0.5**
PKSM Moragy 5.54 161 ⇑*i*P **Pn 15 44 37.2 +2.4**
LEGS Legarje 5.57 186 *i* Pn **Pn 15 44 37.3 +2.1**
LEGS Legarje 5.57 186 *i* Pn **Pn 15 44 37.3 +2.1**
ABH Alteburg 5.67 257 P **Pn 15 44 37.5 +1.0**
FETA Feichten 5.69 220 Pn **Pn 15 44 37.5 +0.5**
FETA Sn **Sn 15 45 42.3 -0.7**
FETA Sg **Sg 15 46 16.6 +2.9**
comp=Z,50nm,1.0s
FETA Feichten 5.69 220 ⇑*i*Pn **Pn 15 44 37.5 +0.5**
FETA ⇑*i*Sn **Sn 15 45 42.3 -0.7**
FETA ⇓*i*Sg **Sg 15 46 16.6 +2.9**
comp=Z,50nm,1.0s
BGG Burgeitz 5.70 260 *e*Pn **Pn 15 44 37.7 +0.8**
BGG *e*Sn **Sn 15 45 41.5 -1.4**
comp=Z,18nm,0.9s
BGG Burgeitz 5.70 260 Pn **Pn 15 44 37.7 +0.8**
BGG Sn **Sn 15 45 41.5 -1.4**
comp=Z,18nm,0.9s
LAUG Laupendahl 5.73 272 *e*Pn **Pn 15 44 38.0 +0.7**
LAUG Laupendahl 5.73 272 Pn **Pn 15 44 38.0 +0.7**
SPAK Spaichingen-Ko 5.82 237 P **Pn 15 44 39.6 +0.9**
LANF Langenberg 5.88 248 P **Pn 15 44 39.3 -0.2**
LANF Langenberg 5.88 248 P **Pn 15 44 39.3 -0.2**
STB Steinbach 5.91 265 *e*Pn **Pn 15 44 40.4 +0.6**
STB Steinbach 5.91 265 Pn **Pn 15 44 40.4 +0.6**
BFO Black Forest 5.93 241 *e*P **Pn 15 44 39.8 -0.3**
BFO pmax pmax
comp=Z,8.0nm,0.6s
BFO Black Forest 5.93 241 *e*P **Pn 15 44 39.8 -0.3**
comp=Z,8.0nm,0.6s
BFO Black Forest 5.93 241 *e*Pn **Pn 15 44 39.8 -0.3**
comp=Z,8.0nm,0.6s
BOJS Bojanci 6.02 186 *i* Pn **Pn 15 44 43.3 +2.0**
BOJS Bojanci 6.02 186 *i* Pn **Pn 15 44 43.3 +2.0**
RUP Ruppelstein 6.03 256 P **Pn 15 44 42.0 +0.5**
HILG Hillesheim 6.08 262 *e*Pn **Pn 15 44 43.2 +1.0**
HILG Hillesheim 6.08 262 Pn **Pn 15 44 43.2 +1.0**
KLL Kalltalsperre 6.23 266 *e*Pn **Pn 15 44 44.7 +0.5**
KLL Kalltalsperre 6.23 266 Pn **Pn 15 44 44.7 +0.5**
DAVOX Davos/Dischmat 6.23 223 Pn **Pn 15 44 45.4 +1.0**
comp=Z,1.0nm,0.3s,baz=16,slow=16,SNR=3.8
DAVOX Sn **Sn 15 45 55.4 -1.0**
comp=Z,0.5nm,0.3s,baz=332,slow=18,SNR=1.6
DAVOX Lg Lg 15 46 28.3
comp=Z,0.6nm,0.3s,baz=248,slow=17,SNR=3.2
DAVOX Davos/Dischmat 6.23 223 P **Pn 15 44 45.4 +1.0**
DAVOX 15 45 55.4
DAVOX pmax pmax
comp=Z,1.0nm,0.3s
DAVOX smax smax
comp=N,1.0nm,0.3s
FELD Feldberg im Sc 6.38 239 P **Pn 15 44 46.7 +0.3**
DRGR 6.40 135 ⇓*i*P **Pn 15 44 48.0 +1.4**
DRGR 6.40 135 S **Sn 15 45 59.7 -0.6**
DRGR 6.40 135 ⇓*i*P **Pn 15 44 48.0 +1.4**
CDF Champ du Feu 6.47 245 *e*Pn **Pn 15 44 47.3 -0.3**
CDF *e*Sg **Sg 15 46 35.5 -3.4**
comp=N,150nm,0.9s
CDF Champ du Feu 6.47 245 *e*P **Pn 15 44 47.3 -0.3**
CDF Champ du Feu 6.47 245 *e*Pn **Pn 15 44 47.3 -0.3**
CDF *e*Sg **Sg 15 46 35.5 -3.4**
comp=N,75nm,0.9s
CDF Champ du Feu 6.47 245 *e*Pn **Pn 15 44 47.3 -0.3**
CDF *e*Sg **Sg 15 46 35.5 -3.4**
WLF Walferdange 6.59 258 P Pn 15 44 45.4 -3.8
WLF Walferdange 6.59 258 *e*Sg **Sg 15 46 46.0 +3.3**
WLF Walferdange 6.59 258 P Pn 15 44 45.4 -3.8
WLF *e*Sg **Sg 15 46 46.0 +3.3**
BZS Buzias 6.92 146 ⇓*i*P **Pb 15 45 11.8 -0.4**
HINF Hinteralfeld 7.04 242 *e*Pn **Pn 15 44 53.2 -2.1**
HINF *e*Sg **Sg 15 46 53.2 -3.8**
comp=N,92nm,1.0s
HINF Hinteralfeld 7.04 242 *e*P **Pn 15 44 53.2 -2.1**
HINF Hinteralfeld 7.04 242 *e*Pn **Pn 15 44 53.2 -2.1**
HINF *e*Sg **Sg 15 46 53.2 -3.8**
comp=N,46nm,1.0s
HINF Hinteralfeld 7.04 242 *e*Pn **Pn 15 44 53.2 -2.1**
HINF *e*Sg **Sg 15 46 53.2 -3.8**
BURAR Bucovina Array 7.09 120 ⇑*i*P **Pn 15 44 55.9 -0.2**
BURAR Bucovina Array 7.09 120 S **Sn 15 46 15.0 -2.3**
BURAR Bucovina Array 7.09 120 ⇑*i*P **Pn 15 44 55.9 -0.2**
HAU Haudompre 7.21 245 *e*Pn **Pn 15 44 55.6 -2.2**
HAU *e*Sg **Sg 15 46 59.0 -3.7**
comp=N,119nm,1.1s
HAU Haudompre 7.21 245 *e*P **Pn 15 44 55.6 -2.2**
HAU Haudompre 7.21 245 *e*Pn **Pn 15 44 55.6 -2.2**
HAU *e*Sg **Sg 15 46 59.0 -3.7**
comp=N,60nm,1.1s
HAU Haudompre 7.21 245 *e*Pn **Pn 15 44 55.6 -2.2**
HAU *e*Sg **Sg 15 46 59.0 -3.7**
GIVF Givet 7.28 263 *e*Pn **Pn 15 44 56.2 -2.4**
GIVF *e*Sg **Sg 15 47 00.4 -4.4**
comp=N,134nm,1.1s
GIVF Givet 7.28 263 *e*P **Pn 15 44 56.2 -2.4**
GIVF Givet 7.28 263 *e*Pn **Pn 15 44 56.2 -2.4**
GIVF Givet 7.28 263 *e*Pn **Pn 15 44 56.2 -2.4**
GIVF *e*Sg **Sg 15 47 00.4 -4.4**
PAGF Fort de Pagny 7.30 250 *e*Pn **Pn 15 44 56.3 -2.6**
PAGF *e*Sg **Sg 15 47 01.1 -4.3**
comp=N,46nm,1.1s
PAGF Fort de Pagny 7.30 250 *e*Pn **Pn 15 44 56.3 -2.6**
PAGF *e*Sg **Sg 15 47 01.1 -4.3**
comp=N,23nm,1.1s
PAGF Fort de Pagny 7.30 250 *e*Pn **Pn 15 44 56.3 -2.6**
PAGF *e*Sg **Sg 15 47 01.1 -4.3**
BAIF Baives 7.68 264 *e*Pn **Pn 15 45 01.3 -2.7**
BAIF *e*Sg **Sg 15 47 12.3 -5.1**
comp=N,60nm,1.0s
BAIF Baives 7.68 264 *e*P **Pn 15 45 01.3 -2.7**
BAIF Baives 7.68 264 *e*Pn **Pn 15 45 01.3 -2.7**
BAIF *e*Sg **Sg 15 47 12.3 -5.1**
comp=N,30nm,1.0s
BAIF Baives 7.68 264 *e*Pn **Pn 15 45 01.3 -2.7**
BAIF *e*Sg **Sg 15 47 12.3 -5.1**
MEZF Maizieres J'vi 7.72 252 *e*Pn **Pn 15 45 02.1 -2.6**
MEZF *e*Sg **Sg 15 47 14.3 -4.6**
comp=N,260nm,1.7s
MEZF Maizieres J'vi 7.72 252 *e*Pn **Pn 15 45 02.1 -2.6**
MEZF *e*Sg **Sg 15 47 14.3 -4.6**
comp=N,130nm,1.7s
MEZF Maizieres J'vi 7.72 252 *e*Pn **Pn 15 45 02.1 -2.6**
MEZF *e*Sg **Sg 15 47 14.3 -4.6**
SFTF Sexfontaines 7.87 250 *e*Pn **Pn 15 45 04.3 -2.4**
SFTF *e*Sg **Sg 15 47 19.1 -4.5**
comp=N,68nm,1.0s
SFTF Sexfontaines 7.87 250 *e*Pn **Pn 15 45 04.3 -2.4**
SFTF *e*Sg **Sg 15 47 19.1 -4.5**
comp=N,34nm,1.0s
SFTF Sexfontaines 7.87 250 *e*Pn **Pn 15 45 04.3 -2.4**
SFTF *e*Sg **Sg 15 47 19.1 -4.5**
CABF La Chapelle 8.19 237 *e*Pn **Pn 15 45 09.0 -2.2**
CABF *e*Sg **Sg 15 47 29.4 -4.5**
comp=N,198nm,1.3s
CABF La Chapelle 8.19 237 *e*P **Pn 15 45 09.0 -2.2**
CABF La Chapelle 8.19 237 *e*Pn **Pn 15 45 09.0 -2.2**
CABF *e*Sg **Sg 15 47 29.4 -4.5**
comp=N,99nm,1.3s
CABF La Chapelle 8.19 237 *e*Pn **Pn 15 45 09.0 -2.2**
CABF *e*Sg **Sg 15 47 29.4 -4.5**
KIEV Kiev 8.29 90 *e*P **Pn 15 45 11.8 -0.7**
KIEV pmax pmax
comp=Z,16nm,0.8s
KIEV Kiev 8.29 90 *e*P **Pn 15 45 11.8 -0.7**
comp=Z,16nm,0.8s
KIEV Kiev 8.29 90 *e*Pn **Pn 15 45 11.8 -0.7**
comp=Z,16nm,0.8s
AKASG Malin Array Be 8.30 90 Pn **Pn 15 45 11.9 -0.7**
comp=Z,2.2nm,0.3s,baz=279,slow=12,SNR=16
AKASG Sn **Sn 15 46 43.4 -3.6**
comp=Z,1.2nm,0.3s,baz=275,slow=23,SNR=4.8
AKASG Lg Lg 15 47 38.1
comp=Z,0.7nm,0.3s,baz=277,slow=29,SNR=4.2
AKASG Malin Array Be 8.30 90 P **Pn 15 45 11.9 -0.7**
AKASG 15 46 43.4
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG smax smax
comp=N,1.0nm,0.3s
LPL La Plagne 8.62 230 *e*Pn **Pn 15 45 14.9 -2.3**
LPL *e*Sg **Sg 15 47 43.2 -4.6**
comp=N,58nm,1.3s
LPL La Plagne 8.62 230 *e*P **Pn 15 45 14.9 -2.3**
LPL La Plagne 8.62 230 *e*Pn **Pn 15 45 14.9 -2.3**
LPL *e*Sg **Sg 15 47 43.2 -4.6**
comp=N,29nm,1.3s
LPL La Plagne 8.62 230 *e*Pn **Pn 15 45 14.9 -2.3**
LPL *e*Sg **Sg 15 47 43.2 -4.6**
LPG La Plagne 8.63 230 *e*Pn **Pn 15 45 15.1 -2.3**
LPG *e*Sg **Sg 15 47 43.4 -4.5**
comp=N,69nm,1.3s
LPG La Plagne 8.63 230 *e*P **Pn 15 45 15.1 -2.3**
LPG La Plagne 8.63 230 *e*Pn **Pn 15 45 15.1 -2.3**
LPG La Plagne 8.63 230 *e*Pn **Pn 15 45 15.1 -2.3**
LPG *e*Sg **Sg 15 47 43.4 -4.5**
HFS Hagfors 8.77 352 Pn **Pn 15 45 18.1 -0.8**
comp=N,0.2nm,0.3s,baz=168,slow=15,SNR=4.8
HFS Sn **Sn 15 46 56.9 -1.5**
comp=N,0.2nm,0.3s,baz=159,slow=21,SNR=2.6
LOR Lormes 9.03 247 *e*Pn **Pn 15 45 20.4 -2.3**
baz=71
LOR *e*Sg Sn 15 47 55.3 +50
comp=N,64nm,1.2s
LOR Lormes 9.03 247 *e*P **Pn 15 45 20.4 -2.3**

LOR	**Lormes**	**9.03**	**247**	*e*Pn		**Pn**	**15 45 20.4**	**-2.3**
LOR				*e*Sg		Sn	15 47 55.3	+50
	comp=N,32nm,1.2s							
LOR	**Lormes**	**9.03**	**247**	*e*Pn		**Pn**	**15 45 20.4**	**-2.3**
LOR				*e*Sg		Sn	15 47 55.3	+50
MBDF	**Montbardon**	**9.20**	**226**	*e*Pn		**Pn**	**15 45 22.8**	**-2.3**
MBDF				*e*Sg		Sn	15 48 01.5	+52
	comp=N,45nm,1.3s							
MBDF	**Montbardon**	**9.20**	**226**	*e*P		**Pn**	**15 45 22.8**	**-2.3**
MBDF	**Montbardon**	**9.20**	**226**	*e*Pn		**Pn**	**15 45 22.8**	**-2.3**
MBDF				*e*Sg		Sn	15 48 01.5	+52
	comp=N,22nm,1.3s							
MBDF	**Montbardon**	**9.20**	**226**	*e*Pn		**Pn**	**15 45 22.8**	**-2.3**
MBDF				*e*Sg		Sn	15 48 01.5	+52
VSU	**Vasula**	**9.27**	**37**	*e*P		**Pn**	**15 45 26.3**	**+0.4**
VSU	**Vasula**	**9.27**	**37**	*e*P		**Pn**	**15 45 26.3**	**+0.4**
SSF	**Saint Saulge**	**9.35**	**247**	*e*Pn		**Pn**	**15 45 24.6**	**-2.3**
SSF				*e*Sg		Sn	15 48 05.3	+53
	comp=N,40nm,1.1s							
SSF	**Saint Saulge**	**9.35**	**247**	*e*P		**Pn**	**15 45 24.6**	**-2.3**
SSF	**Saint Saulge**	**9.35**	**247**	*e*Pn		**Pn**	**15 45 24.6**	**-2.3**
SSF				*e*Sg		Sn	15 48 05.3	+53
	comp=N,20nm,1.1s							
SSF	**Saint Saulge**	**9.35**	**247**	*e*Pn		**Pn**	**15 45 24.6**	**-2.3**
SSF				*e*Sg		Sn	15 48 05.3	+53
SMF	**Signal de Mont**	**9.39**	**244**	*e*Sg		Sn	15 48 06.7	+53
	comp=N,8.6nm,0.6s							
SMF	**Signal de Mont**	**9.39**	**244**	*e*Sg		Sn	15 48 06.7	+53
	comp=N,4.3nm,0.6s							
ORIF	**Oris-en-Rattie**	**9.47**	**230**	*e*Pn		**Pn**	**15 45 26.2**	**-2.5**
ORIF				*e*Sg		Sn	15 48 09.6	+54
	comp=N,51nm,1.3s							
ORIF	**Oris-en-Rattie**	**9.47**	**230**	*e*P		**Pn**	**15 45 26.2**	**-2.5**
ORIF	**Oris-en-Rattie**	**9.47**	**230**	*e*Pn		**Pn**	**15 45 26.2**	**-2.5**
ORIF				*e*Sg		Sn	15 48 09.6	+54
	comp=N,25nm,1.3s							
ORIF	**Oris-en-Rattie**	**9.47**	**230**	*e*Pn		**Pn**	**15 45 26.2**	**-2.5**
ORIF				*e*Sg		Sn	15 48 09.6	+54
AVF	**Avril sur Loir**	**9.58**	**246**	*e*Pn		**Pn**	**15 45 27.6**	**-2.6**
AVF				*e*Sg		Sn	15 48 12.3	+54
	comp=N,86nm,1.4s							
AVF	**Avril sur Loir**	**9.58**	**246**	*e*P		**Pn**	**15 45 27.6**	**-2.6**
AVF	**Avril sur Loir**	**9.58**	**246**	*e*Pn		**Pn**	**15 45 27.6**	**-2.6**
AVF				*e*Sg		Sn	15 48 12.3	+54
	comp=N,43nm,1.4s							
AVF	**Avril sur Loir**	**9.58**	**246**	*e*Pn		**Pn**	**15 45 27.6**	**-2.6**
AVF				*e*Sg		Sn	15 48 12.3	+54
SBF	**Sospel**	**9.61**	**221**	*e*Pn		**Pn**	**15 45 28.3**	**-2.3**
SBF	**Sospel**	**9.61**	**221**	*e*P		**Pn**	**15 45 28.3**	**-2.3**
SBF	**Sospel**	**9.61**	**221**	*e*Pn		**Pn**	**15 45 28.3**	**-2.3**
SBF	**Sospel**	**9.61**	**221**	*e*Pn		**Pn**	**15 45 28.3**	**-2.3**
HYF	**Humbligny**	**9.74**	**250**	*e*Sg		Sn	15 48 17.5	+55
HYF	**Humbligny**	**9.74**	**250**	*e*Sg		Sn	15 48 17.5	+55
NOA	**NORSAR Array B**	**9.95**	**346**	Pn		**Pn**	**15 45 33.6**	**-1.5**
	comp=N,0.2nm,0.3s,baz=157,slow=11,SNR=4.3							
BGF	**Bois d'Agland**	**10.00**	**246**	*e*Pn		**Pn**	**15 45 33.3**	**-2.6**
BGF				*e*Sg		Sn	15 48 25.7	+57
	comp=N,38nm,0.9s							
BGF	**Bois d'Agland**	**10.00**	**246**	*e*P		**Pn**	**15 45 33.3**	**-2.6**
BGF	**Bois d'Agland**	**10.00**	**246**	*e*Pn		**Pn**	**15 45 33.3**	**-2.6**
BGF				*e*Sg		Sn	15 48 25.7	+57
	comp=N,19nm,0.9s							
BGF	**Bois d'Agland**	**10.00**	**246**	*e*Pn		**Pn**	**15 45 33.3**	**-2.6**
BGF				*e*Sg		Sn	15 48 25.7	+57
VIVF	**Saint-Julien-l**	**10.11**	**233**	*e*Pn		**Pn**	**15 45 34.8**	**-2.6**
VIVF	**Saint-Julien-l**	**10.11**	**233**	*e*P		**Pn**	**15 45 34.8**	**-2.6**
VIVF	**Saint-Julien-l**	**10.11**	**233**	*e*Pn		**Pn**	**15 45 34.8**	**-2.6**
VIVF	**Saint-Julien-l**	**10.11**	**233**	*e*Pn		**Pn**	**15 45 34.8**	**-2.6**
TCF	**Toulx Ste Croi**	**10.52**	**246**	*e*Pn		**Pn**	**15 45 40.4**	**-2.6**
TCF				*e*Sg			15 48 41.9	
	comp=N,31nm,1.1s							
TCF	**Toulx Ste Croi**	**10.52**	**246**	*e*P		**Pn**	**15 45 40.4**	**-2.6**
TCF	**Toulx Ste Croi**	**10.52**	**246**	*e*Pn		**Pn**	**15 45 40.4**	**-2.6**
TCF	**Toulx Ste Croi**	**10.52**	**246**	*e*Pn		**Pn**	**15 45 40.4**	**-2.6**
TCF				*e*Sg			15 48 41.9	
LDF	**La Druitiere**	**10.83**	**261**	*e*Pn		**Pn**	**15 45 44.4**	**-2.8**
LDF	**La Druitiere**	**10.83**	**261**	*e*P		**Pn**	**15 45 44.4**	**-2.8**
LDF	**La Druitiere**	**10.83**	**261**	*e*Pn		**Pn**	**15 45 44.4**	**-2.8**
LDF	**La Druitiere**	**10.83**	**261**	*e*Pn		**Pn**	**15 45 44.4**	**-2.8**
FLN	**La Foliniere**	**10.99**	**262**	*e*Pn		**Pn**	**15 45 46.6**	**-2.8**
FLN	**La Foliniere**	**10.99**	**262**	*e*P		**Pn**	**15 45 46.6**	**-2.8**
FLN	**La Foliniere**	**10.99**	**262**	*e*Pn		**Pn**	**15 45 46.6**	**-2.8**
FLN	**La Foliniere**	**10.99**	**262**	*e*Pn		**Pn**	**15 45 46.6**	**-2.8**
LASF	**Ste Croix**	**11.07**	**233**	*e*Pn		**Pn**	**15 45 48.2**	**-2.4**
LASF	**Ste Croix**	**11.07**	**233**	*e*Pn		**Pn**	**15 45 48.2**	**-2.4**
LASF	**Ste Croix**	**11.07**	**233**	*e*Pn		**Pn**	**15 45 48.2**	**-2.4**
GRR	**Gorron**	**11.36**	**261**	*e*Pn		**Pn**	**15 45 51.5**	**-3.0**
GRR	**Gorron**	**11.36**	**261**	*e*P		**Pn**	**15 45 51.5**	**-3.0**
GRR	**Gorron**	**11.36**	**261**	*e*Pn		**Pn**	**15 45 51.5**	**-3.0**
GRR	**Gorron**	**11.36**	**261**	*e*Pn		**Pn**	**15 45 51.5**	**-3.0**
FINES	**FINESS Array B**	**11.38**	**25**	Pn		**Pn**	**15 45 53.0**	**-1.7**
	comp=N,0.4nm,0.3s,baz=198,slow=12,SNR=15							
FINES				Sn		Sn	15 47 55.5	-7.0
	comp=N,0.3nm,0.3s,baz=219,slow=22,SNR=2.0							
CAF	**Calviac**	**11.43**	**240**	*e*Pn		**Pn**	**15 45 52.8**	**-2.7**
CAF	**Calviac**	**11.43**	**240**	*e*P		**Pn**	**15 45 52.8**	**-2.7**
CAF	**Calviac**	**11.43**	**240**	*e*Pn		**Pn**	**15 45 52.8**	**-2.7**
CAF	**Calviac**	**11.43**	**240**	*e*Pn		**Pn**	**15 45 52.8**	**-2.7**
RJF	**Les Rejaudoux**	**11.49**	**243**	*e*Pn		**Pn**	**15 45 53.9**	**-2.4**
RJF	**Les Rejaudoux**	**11.49**	**243**	*e*P		**Pn**	**15 45 53.9**	**-2.4**
RJF	**Les Rejaudoux**	**11.49**	**243**	*e*Pn		**Pn**	**15 45 53.9**	**-2.4**
RJF	**Les Rejaudoux**	**11.49**	**243**	*e*Pn		**Pn**	**15 45 53.9**	**-2.4**
MFF	**Saint Martin d**	**11.72**	**252**	*e*Pn		**Pn**	**15 45 56.8**	**-2.6**
MFF	**Saint Martin d**	**11.72**	**252**	*e*P		**Pn**	**15 45 56.8**	**-2.6**
MFF	**Saint Martin d**	**11.72**	**252**	*e*Pn		**Pn**	**15 45 56.8**	**-2.6**
MFF	**Saint Martin d**	**11.72**	**252**	*e*Pn		**Pn**	**15 45 56.8**	**-2.6**
EKA	**Eskdalemuir Ar**	**12.11**	**296**	Pn		**Pn**	**15 46 03.8**	**-0.9**
	baz=98,slow=14,SNR=3.7							
ESK	**Eskdalemuir**	**12.13**	**296**	P		**Pn**	**15 46 06.5**	**+1.5**
ESK	**Eskdalemuir**	**12.13**	**296**	P		**Pn**	**15 46 06.5**	**+1.5**
ESK	**Eskdalemuir**	**12.13**	**296**	P		**Pn**	**15 46 06.5**	**+1.5**
SGMF	**Saint Gilles**	**12.46**	**262**	*e*Pn		**Pn**	**15 46 06.6**	**-2.9**
SGMF	**Saint Gilles**	**12.46**	**262**	*e*P		**Pn**	**15 46 06.6**	**-2.9**
SGMF	**Saint Gilles**	**12.46**	**262**	*e*Pn		**Pn**	**15 46 06.6**	**-2.9**
SGMF	**Saint Gilles**	**12.46**	**262**	*e*Pn		**Pn**	**15 46 06.6**	**-2.9**
OBN	**Obninsk**	**12.76**	**65**	*e*P		**Pn**	**15 46 11.9**	**-1.6**
OBN				*i* S		**Sn**	**15 48 30.9**	**-5.2**
OBN				pmax		pmax		
	comp=Z,9.0nm,1.1s							
OBN	**Obninsk**	**12.76**	**65**	*e*P		**Pn**	**15 46 11.9**	**-1.6**
	comp=Z,9.0nm,1.1s							
VSR	**Storozhevoye**	**14.41**	**82**	*e*P		**Pn**	**15 46 36.5**	**+0.4**
VSR				pmax		pmax		
	comp=Z,9.0nm,1.2s							
ANN	**Anapa**	**15.70**	**107**	*e*P		Pn	15 46 47.8	-5.6
ANN				pmax		pmax		
	comp=Z,52nm,1.2s							
TMCR	**Tamitsa**	**17.12**	**34**	*e*P		**Pn**	**15 47 07.5**	**-4.0**
TMCR				*e*S		**Sn**	**15 50 21.7**	**-0.6**
TMCR				pmax		pmax		
	comp=Z,23nm,1.1s							
ARCES	**ARCESS Array B**	**18.64**	**10**	Pn		**P**	**15 47 26.8**	**-3.2**
	comp=Z,0.4nm,0.3s,baz=193,slow=14,SNR=10							
KEV	**Kevo**	**19.03**	**12**	*e*P		**P**	**15 47 34.1**	**-0.1**
KEV				pmax		pmax		
	comp=Z,12nm,0.7s							
KEV	**Kevo**	**19.03**	**12**	*e*P		**P**	**15 47 34.1**	**-0.1**
	comp=Z,12nm,0.7s							
KEV	**Kevo**	**19.03**	**12**	*e*P		**P**	**15 47 34.1**	**-0.1**
	comp=Z,12nm,0.7s							
ARU	**Arti**	**25.15**	**62**	P		**P**	**15 48 36.4**	**-1.2**
ARU	**Arti**	**25.15**	**62**	P		**P**	**15 48 36.4**	**-1.2**
ARU	**Arti**	**25.15**	**62**	P		**P**	**15 48 36.4**	**-1.2**
AKTK	**Aktyubinsk**	**26.17**	**76**	P		**P**	**15 48 47.9**	**+1.0**
	comp=Z,2.0nm,0.6s							
AKTO	**Aktyubinsk**	**26.17**	**76**	P		**P**	**15 48 47.9**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=290,slow=12,SNR=4.3							
AKTO	**Aktyubinsk**	**26.17**	**76**	P		**P**	**15 48 47.9**	**+1.0**
AKTO				pmax		pmax		
	comp=Z,2.0nm,0.6s							
BRVK	**Borovoye**	**32.53**	**66**	*e*P		**P**	**15 49 43.6**	**+0.2**
BRVK				pmax		pmax		
	comp=Z,3.0nm,1.0s							
BRVK	**Borovoye**	**32.53**	**66**	*e*P		**P**	**15 49 43.6**	**+0.2**
	comp=Z,2.9nm,1.0s							
BRVK	**Borovoye**	**32.53**	**66**	*e*P		**P**	**15 49 43.6**	**+0.2**
	comp=Z,2.9nm,1.0s							
KURK	**Kurchatov**	**38.20**	**66**	P		P	15 50 27.4	-4.7
KURK	**Kurchatov**	**38.20**	**66**	P		P	15 50 27.4	-4.7
EKS2	**Erkin-Say**	**39.33**	**80**	*e*P		**P**	**15 50 42.2**	**+0.4**
EKS2				pmax		pmax		
	comp=Z,5.0nm,1.2s							
EKS2	**Erkin-Say**	**39.33**	**80**	*e*P		**P**	**15 50 42.2**	**+0.4**
	comp=Z,5.2nm,1.2s							
EKS2	**Erkin-Say**	**39.33**	**80**	*e*P		**P**	**15 50 42.2**	**+0.4**
	comp=Z,5.2nm,1.2s							
TORD	**Torodi Ar. Bea**	**39.98**	**202**	P		**P**	**15 50 48.3**	**+1.0**
	comp=Z,2.2nm,1.0s,baz=8.3,slow=8.4,SNR=7.3							
ZAA0	**Zalesovo Array**	**40.21**	**59**	P		**P**	**15 50 50.0**	**+1.1**
ZAA0	**Zalesovo Array**	**40.21**	**59**	P		**P**	**15 50 50.0**	**+1.1**
ZALV	**Zalesovo Beam**	**40.21**	**59**	P		**P**	**15 50 50.5**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=286,slow=10,SNR=3.9							
ZALV	**Zalesovo Beam**	**40.21**	**59**	P		**P**	**15 50 50.5**	**+1.6**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**42.23**	**69**	P		**P**	**15 51 07.3**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=316,slow=5.1,SNR=3.8							
SONM	**Songino Array**	**54.93**	**55**	P		P	15 52 47.1	+3.6
	comp=Z,0.8nm,0.7s,baz=304,slow=11,SNR=3.7							
SONM	**Songino Array**	**54.93**	**55**	P		P	15 52 47.1	+3.6
SONM				pmax		pmax		
	comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**59.87**	**336**	P		**P**	**15 53 19.5**	**+1.6**
	comp=Z,1.2nm,0.7s,baz=34,slow=6.6,SNR=4.6							
YKA	**Yellowknife Ar**	**59.87**	**336**	P		**P**	**15 53 19.5**	**+1.6**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
KDAK	**Kodiak Island**	**70.69**	**354**	*i* P		P	15 54 33.4	+5.3
CMAR	**Chiang Mai Arr**	**71.36**	**84**	P		**P**	**15 54 34.2**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=310,slow=6.3,SNR=5.7							
CMAR	**Chiang Mai Arr**	**71.36**	**84**	P		**P**	**15 54 34.2**	**+1.3**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
PDAR	**Pinedale Array**	**74.95**	**322**	P		**P**	**15 54 55.4**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=65,slow=8.4,SNR=4.6							
TXAR	**Lajitas Array**	**83.72**	**310**	P		**P**	**15 55 43.8**	**+1.8**
	comp=Z,0.2nm,0.6s,baz=72,slow=4.1,SNR=4.6							

*ISCJB **15** 15:48:16.1±0.7, 14.°52N±0.°10×90.°81W±0.°06, h176km±6km, mb4.2/2, Error ellipse: s-maj=15.8km s-min=9.9km az=9.7*
*CASC **15** 15:48:17.4±1.5, 14.°34N×90.°76W, h164km±8km, MD3.6*
*IDC **15** 15:48:18.0±2.0, 14.°65N×90.°75W, h176km±21km, mb3.9/2, mb1 3.6/5, mb1mx3.1/49, mbtmp3.9/5, Error ellipse: s-maj=32.4km s-min=22.6km az=35.0*

ISC 15 15:48:16.3±1.0, 14.°56N±0.°10×90.°84W±0.°06, h175km±8km, n18, σ1°45/24, 2C-3D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.11**	**181**	*e*P			**Pn**	**15 48 40.2**	**+0.4**
PCG	**Pacaya**	**0.28**	**127**	↑*e*P			**Pn**	**15 48 40.7**	**+0.5**
NBG	**Las Nubes**	**0.48**	**87**	*e*P			**Pn**	**15 48 41.7**	**+0.9**
NBG				*e*S			**Sn**	**15 49 00.6**	**+1.0**
IXG	**Ixpaco**	**0.54**	**136**	↓*e*P			**Pn**	**15 48 40.0**	**-0.9**
JAT	**Jato**	**0.81**	**253**	*e*P			**Pn**	**15 48 43.0**	**+0.8**
JAT				*e*S			**Sn**	**15 49 01.0**	**-1.1**
RBDL	**Robledal**	**1.20**	**112**	↓*i*P			**Pn**	**15 48 44.7**	**-0.7**
RBDL				*e*S			**Sn**	**15 49 05.6**	**-2.1**
MRL	**Marmol**	**1.22**	**66**	↑*i*P			**Pn**	**15 48 45.8**	**+0.3**
MRL				*e*S			**Sn**	**15 49 08.7**	**+0.7**
RTR	**El Retiro**	**1.33**	**120**	*e*P			**Pn**	**15 48 45.7**	**-0.8**
SBLS	**San Blas**	**1.38**	**121**	*e*P			**Pn**	**15 48 46.1**	**-0.9**
SNJE	**San Jose**	**1.38**	**120**	*e*P			**Pn**	**15 48 46.1**	**-0.9**
MTO2	**Montecristo 2**	**1.44**	**96**	↓*i*P			**Pn**	**15 48 46.9**	**-0.7**
MTO2				*e*S			**Sn**	**15 49 10.3**	**-1.4**
CMIG	**Matias Romero**	**4.63**	**303**	P			**Pn**	**15 49 26.8**	**+1.3**
	0.8nm,0.3s,baz=144,slow=9.4,SNR=10.0								
CMIG				S			**Sn**	**15 50 15.4**	**-4.2**
	2.4nm,0.3s,baz=106,slow=15,SNR=11								
TEIG	**Tepich**	**6.14**	**23**	P			**Pn**	**15 49 45.1**	**0.0**
	0.2nm,0.3s,baz=179,slow=23,SNR=9.1								
JTS	**JuntasAbangare**	**7.15**	**126**	P			**Pn**	**15 50 00.3**	**+1.8**
	1.8nm,0.3s,baz=297,slow=16,SNR=5.2								
JTS				S			Sn	15 51 11.0	-8.1
	0.8nm,0.3s,baz=282,slow=15,SNR=2.3								
TXAR	**Lajitas Array**	**18.89**	**323**	P			**Pn**	**15 52 25.8**	**-0.3**
	0.1nm,0.3s,baz=147,slow=11,SNR=9.0								
TKL	**Tuckaleechee C**	**21.95**	**16**	P			**P**	**15 52 57.2**	**+1.3**
	7.1nm,0.8s,baz=198,slow=8.3,SNR=5.1								
SCHQ	**Schefferville**	**44.31**	**20**	P			**P**	**15 56 08.4**	**-0.2**
	4.9nm,0.7s,baz=224,slow=6.1,SNR=8.3								
WRA	**Warramunga Arr**	**136.62**	**256**	PKP			**PKPdf**	**16 07 20.0**	**+1.5**
	0.3nm,0.5s,baz=92,slow=3.3,SNR=4.5								

KRSC 15 16:17:47.7±1.5, 50.°38N×157.°03E, h41km±19km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.66**	**298**	*e*P			Pn	16 18 06.5	0.0
SKR				*e*S			Sn	16 18 09.0	-0.8
PAU	**Pauzhetka**	**1.10**	**353**	*e*P			Pn	16 18 08.2	+1.6
PAU				*e*S			Sn	16 18 22.9	+2.4
MIPR	**Malaya Ipel'ka**	**1.91**	**355**	*e*P			Pn	16 18 19.4	+1.7
ASAK	**Asacha**	**2.08**	**15**	*e*P			Pn	16 18 22.1	+2.0
MTVR	**Mutnovka**	**2.23**	**18**	*e*P			Pn	16 18 25.3	+3.1
MTVR				*e*S			Sn	16 18 52.2	+3.6
RUS	**Russkaya**	**2.26**	**24**	*e*P			Pn	16 18 24.5	+2.1
RUS				*e*S			Sn	16 18 51.2	+2.2
PET	**Petropavlovsk**	**2.83**	**20**	*e*P			Pn	16 18 33.8	+3.5
PET				*e*S			Sn	16 19 07.2	+4.0
UGLR	**Uglovaya**	**3.04**	**21**	*e*P			Pn	16 18 37.8	+4.4
AVH	**Avacha**	**3.08**	**19**	*e*P			Pn	16 18 38.8	+5.0
KOK	**Koryaka**	**3.08**	**18**	P			Pn	16 18 38.6	+4.7
SMAR	**Somma**	**3.09**	**20**	*e*P			Pn	16 18 38.1	+3.9
KRER	**Koryakskii**	**3.12**	**19**	*e*P			Pn	16 18 38.1	+3.6
KRER				*e*S			Sn	16 19 14.8	+4.1
SDLR	**Sedlovina**	**3.12**	**21**	*e*P			Pn	16 18 37.4	+2.9
SDLR				S			Sn	16 19 13.4	+2.8
NLC	**Nalytchevo**	**3.14**	**26**	P			Pn	16 18 37.5	+2.9
KRX	**Arik**	**3.15**	**18**	*e*P			Pn	16 18 39.2	+4.3
SPN	**Mys Shipunski**	**3.30**	**33**	*e*P			Pn	16 18 40.1	+3.4
SPN				*e*S			Sn	16 19 18.7	+4.1
GNL	**Ganaly**	**3.37**	**9**	*e*P			Pn	16 18 41.9	+4.0
MKZ	**Mys Kozlova**	**5.07**	**33**	*e*P			Pn	16 19 04.2	+3.1

*ISCJB **15** 16:25:18.4±1.2, 6.°9S±0.°2×154.°9E±0.°1, h41km, mb3.8/5, MS3.0/2, Error ellipse: s-maj=38.9km s-min=12.4km az=153.0*
*IDC **15** 16:25:22.1±6.5, 6.°94S×154.°92E, h62km±52km, mb3.6/5, mb1 3.9/6, mb1mx3.5/35, mbtmp3.9/6, ML2.1/1, MS3.2/5, Ms1 3.2/5, ms1mx2.9/24, Error ellipse: s-maj=44.8km s-min=34.3km az=123.0*

ISC 15 16:25:19.6±1.3, 6.°9S±0.°3×155.°1E±0.°2, h41km, n11, σ1°24/9, mb3.8/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.47**	**118**	LR		LR		16 28 54.8	
	comp=Z,306nm,18.6s,baz=262,slow=38								
PMG	**Port Moresby**	**8.20**	**252**	P			**Pn**	**16 27 16.6**	**+0.5**
	1.3nm,0.3s,baz=34,slow=3.6,SNR=4.7								
PMG				S			**Sn**	**16 28 47.9**	**+0.3**
	0.6nm,0.3s,baz=240,slow=19,SNR=2.2								
PMG				LR		LR		16 30 00.4	
	comp=Z,162nm,19.2s,baz=66,slow=34								
JAY	**Jayapura**	**14.94**	**286**	LR		LR		16 35 37.3	
	comp=Z,104nm,18.1s,baz=0.5,slow=42								
GUMO	**Guam**	**22.72**	**334**	LR		LR		16 37 39.0	
	comp=Z,24nm,19.7s,baz=136,slow=32								
WRA	**Warramunga Arr**	**23.92**	**235**	P			**P**	**16 30 29.2**	**-0.7**
	2.2nm,0.7s,baz=60,slow=9.7,SNR=13								
WRA				PcP			**PcP**	**16 34 13.1**	**+1.1**
	0.5nm,0.9s,baz=61,slow=3.0,SNR=4.3								
ASAR	**Alice Springs**	**26.28**	**228**	P			**P**	**16 30 50.6**	**-0.8**
	1.4nm,0.6s,baz=61,slow=8.5,SNR=25								
STKA	**Stephens Creek**	**27.85**	**205**	LR		LR		16 41 35.4	
	comp=Z,82nm,19.0s,baz=22,slow=35								
CMAR	**Chiang Mai Arr**	**60.79**	**295**	P			**P**	**16 35 28.7**	**+0.7**
	1.3nm,0.8s,baz=121,slow=5.3,SNR=7.8								
MKAR	**Makanchi Array**	**83.36**	**319**	P			**P**	**16 37 41.2**	**-1.3**
	0.5nm,0.7s,baz=112,slow=4.8,SNR=6.4								
NVAR	**Mina Array Bea**	**91.61**	**52**	P			**P**	**16 38 24.0**	**+1.1**
	0.5nm,0.8s,baz=267,slow=7.0,SNR=3.5								
TORD	**Torodi Ar. Bea**	**153.05**	**285**	PKPbc			**PKPbc**	**16 45 12.0**	**-1.8**
	1.1nm,0.7s,baz=58,slow=2.0,SNR=7.1								

*CSEM **15** 16:25:45.0, 26.°72N×35.°35E, h27km, ML3.5*

SGS 15 16:25:44.9, 26.°72N×35.°35E, h27km, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BIDS	**Bi'r al Bayda'**	**1.44**	**84**	P			Pn	16 26 08.0	-1.2
BIDS				S			Sn	16 26 25.0	-2.3
BIDS	**Bi'r al Bayda'**	**1.44**	**84**	S			Sn	16 26 24.9	-2.4
BIDS	**Bi'r al Bayda'**	**1.44**	**84**	P			Pn	16 26 08.1	-1.1
JLOS		**2.01**	**3**	P			Pn	16 26 15.0	-2.2
JLOS		**2.01**	**3**	P			Pn	16 26 15.5	-1.7
UMJS	**Umm Lajj**	**2.31**	**130**	P			Pn	16 26 20.0	-1.1
UMJS	**Umm Lajj**	**2.31**	**130**	P			Pn	16 26 19.6	-1.5
HQLS		**2.58**	**354**	P			Pn	16 26 24.0	-0.9
HQLS				S			Sn	16 26 52.0	-3.5
HQLS		**2.58**	**354**	P			Pn	16 26 23.5	-1.4

GUC 15 16:29:40.5±0.5, 35.°17S×72.°36W, h21km±2km, ML3.6, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.64**	**111**	*e*P			Pb	16 29 53.2	+0.1
TALC				*e*S			Sn	16 30 02.8	-1.0
LNCH	**Linares**	**0.92**	**138**	*e*P			Pb	16 29 57.9	+0.2
LNCH				*e*S			Sn	16 30 10.5	-0.2
LNCH				AML		AML		16 30 11.3	
	comp=N,5μm,0.6s								
NICH	**Los Niches**	**0.94**	**80**	*e*P			Pn	16 29 58.4	-0.1
NICH				*e*S			Sn	16 30 12.0	+0.6
NICH				AML		AML		16 30 15.9	
	comp=N,5μm,0.7s								
LNV	**Longovilo**	**1.44**	**33**	*e*P			Pb	16 30 06.2	-0.5
CLCH	**Cerro Calan**	**2.33**	**41**	*e*P			Pb	16 30 20.5	-1.4
CLCH				*e*S			Sb	16 30 50.5	+0.2
CLCH				AML		AML		16 31 02.3	
	comp=N,341nm,2.2s								
PEL	**Peldehue**	**2.45**	**35**	↓*e*P			Pb	16 30 22.0	-2.0
PEL				*e*S			Sb	16 30 53.4	-0.4
PEL				AML		AML		16 31 09.8	
	comp=N,349nm,3.2s								

*NIED **15** 16:31:00, 24.°00N×122.°40E, h44km, Mw4.0 Best double couple: M0 9.52000×10^14 NP1: φs 149.00000°, δ66.00000°, λ -168.00000°. NP2: φs 54.00000°, δ79.00000°, λ -25.00000°.*
*IDC **15** 16:31:50.2±1.4, 24.°23N×122.°72E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.8/26, mbtmp4.0/8, MS3.1/6, Ms1 3.1/6, ms1mx2.9/28, Error ellipse: s-maj=90.2km s-min=18.4km az=64.0*
*NEIC **15** 16:31:53.6±3.3, 24.°06N×122.°41E, h19km±22km, mb4.

NSTT eS Sb 16 32 39.0 +1.1
baz=293
TWY Chenhua 1.48 330 eP Pb 16 32 21.1 +0.4
baz=327
NCU National Centr 1.48 312 eP Pb 16 32 21.1 +0.3
baz=307
JKRS Kuro-shima 1.48 80 P Pb 16 32 20.9 +0.1
JKRS S Sb 16 32 40.8 +1.5
ELDTW Lidau 1.50 238 eP Pn 16 32 20.2 +0.3
baz=236
ELDTW eS Sn 16 32 37.6 -1.4
baz=236
TWQ1 Liyutan 1.54 284 P Pb 16 32 22.4 +0.8
baz=280
TWQ1 eS Sb 16 32 42.1 +1.3
baz=280
ALS Alishan 1.54 252 P Pb 16 32 21.9 0.0
baz=250
ALS eS Sn 16 32 39.7 -0.6
baz=250
HSN Hsinchu 1.54 302 eS Sg 16 32 43.1 -0.5
baz=299
NSY Sanyi 1.56 286 P Pb 16 32 23.1 +1.0
baz=282
NSY eS Sg 16 32 43.5 -0.7
baz=282
WNT Mingjian 1.58 266 P Pb 16 32 23.2 +0.8
baz=263
WNT eS Sb 16 32 43.6 +1.5
baz=263
TCU Taichung 1.59 276 P Pb 16 32 23.4 +0.9
baz=273
TCU eS Sg 16 32 44.2 -0.9
baz=273
JIJ Ishigaki jima 1.63 76 P Pn 16 32 22.1 +0.6
JIJ S Sn 16 32 42.2 +0.2
PCYT Pengchaiyu 1.66 350 eP Pn 16 32 22.3 +0.3
baz=347
TTN Taitung 1.69 224 eS Sn 16 32 43.1 -0.3
baz=223
TWG Pinlang 1.69 227 eP Pn 16 32 22.3 0.0
baz=237
TWG eS Sn 16 32 42.4 -1.1
baz=237
TWG Pinlang 1.69 227 ePn Pn 16 32 22.0 -0.3
WGK Gukeng 1.72 260 eP Pb 16 32 24.6 -0.1
baz=258
WGK eS Sb 16 32 47.4 +1.4
baz=258
STYT Tauyuan 1.72 242 P Pn 16 32 24.4 +1.5
baz=230
STYT eS Sn 16 32 44.8 +0.4
baz=230
TPUB Ta-pu 1.77 248 ePn Pn 16 32 24.9 +1.5
CHN4 Tsaushan 1.78 250 P Pb 16 32 26.1 +0.3
baz=248
CHN4 eS Sb 16 32 49.5 +1.6
baz=248
WTP Ta-pu 1.80 246 P Pb 16 32 26.1 -0.1
baz=244
WTP eS Sb 16 32 48.6 +0.1
baz=244
CHN2 Minshiung 1.83 256 eP Pb 16 32 27.4 +0.8
baz=254
CHN2 eS Sb 16 32 51.4 +2.3
baz=254
JISG Ishigakijimahi 1.84 71 P Pn 16 32 24.8 +0.4
JISG S Sn 16 32 46.7 -0.5
CHY Chiayi 1.88 255 eP Pn 16 32 24.6 -0.4
baz=253
CHY eS Sb 16 32 50.7 -0.1
baz=253
CHN1 Nanshi 1.90 246 eP Pb 16 32 27.9 0.0
baz=244
CHN1 eS Sb 16 32 52.7 +1.4
baz=244
TWK Hsinying 1.90 248 eP Pn 16 32 27.1 +1.7
baz=246
TWK eS Sb 16 32 51.7 +0.3
baz=246
SGST Jiashian 1.90 242 P Pb 16 32 28.5 +0.6
baz=231
SGST eS Sb 16 32 52.2 +0.9
baz=231
ECL Taimali 1.92 224 eP Pn 16 32 25.5 -0.1
baz=233
WTCT Ta-ch'eng 1.95 267 eP Pb 16 32 28.5 -0.2
baz=278
WTCT eS Sb 16 32 53.6 +0.9
baz=278
WSF Szhu 2.03 261 eP Pb 16 32 29.4 -0.7
baz=258
WSF eS Sb 16 32 55.8 +0.7
baz=258
SSD Sandimen 2.05 233 eP Pb 16 32 29.4 -1.0
baz=226
SSD eS Sn 16 32 54.3 +2.0
baz=226
CHN3 Shinhua 2.08 245 eS Sb 16 32 58.1 +1.6
baz=243
LAY Lan-yu 2.09 202 eP Pn 16 32 27.2 -0.7
baz=200
CHN8 Yiju 2.11 253 eS Sb 16 32 57.2 -0.1
baz=251
TAW Tawu 2.14 221 eP Pn 16 32 30.7 +2.2
baz=230
TAW eS Sn 16 32 54.1 -0.5
baz=230
EAST Anshuo 2.15 222 eP Pn 16 32 28.9 +0.2
baz=222
EAST eS Sn 16 32 55.0 +0.2
baz=222
TWM1 Shoushan 2.16 238 eP Pb 16 32 32.7 +0.4
baz=236
TWM1 eS Sb 16 33 01.2 +2.4
baz=236
JTJ Tarama 2.19 72 S Sn 16 32 57.9 +2.0
SCZT Fangliau 2.30 226 eP Pn 16 32 32.4 +1.7
baz=219
SCZT eS Sn 16 33 01.1 +2.6
baz=219
TWP Hsiaoliuchiu 2.49 229 eS Sb 16 33 08.6 +0.3
baz=230
HEN Hengchun 2.50 218 eS Sn 16 33 05.3 +1.7
baz=219
TWK1 Hengchun 2.51 216 eS Sn 16 33 05.7 +1.8
baz=217
PNG Penghu 2.65 262 eP Pn 16 32 36.9 +1.4
baz=259
PNG eS Sn 16 33 08.5 +1.3
baz=259
JIRB Irabujima 2.66 71 P Pn 16 32 37.8 +2.1
JIRB S Sn 16 33 08.1 +0.7
JIKM Ikemajima 2.75 70 P Pn 16 32 38.9 +1.9
JIKM S Sn 16 33 11.7 +2.0
JMJ Miyako jima 2 2.76 72 P Pn 16 32 38.2 +1.2
JMJ S Sn 16 33 11.3 +1.4
JOGS Gusukube 2.84 74 P Pb 16 32 41.5 -2.4
JOGS eS Sn 16 33 14.6 +2.6
KNM Kinmen 3.65 278 eP Pn 16 32 51.6 +2.3
baz=274
JKE Kume jima 2 4.60 59 P Pn 16 33 04.5 +2.1
JKE eS Sn 16 33 55.2 -0.2
JNU Nakatsue 11.75 37 LR LR 16 39 32.9
comp=Z,70nm,19.5s,baz=180,slow=41
KSRS Korea Array 14.23 18 LR LR 16 41 04.8
comp=Z,39nm,19.1s,baz=171,slow=40
SONM Songino Array 26.99 336 P P 16 37 33.3 -1.4
2.1nm,0.8s,baz=158,slow=9.8,SNR=9.3
SONM LR LR 16 47 51.0
comp=Z,44nm,19.0s,baz=96,slow=36
MKAR Makanchi Array 39.26 316 P P 16 39 20.7 -0.6
2.6nm,0.8s,baz=102,slow=10,SNR=18
MKAR PcP PcP 16 41 28.9 -1.1
0.1nm,0.6s,baz=114,slow=5.1,SNR=2.7
MKAR LR LR 16 57 39.9
comp=Z,33nm,18.1s,baz=92,slow=39
ZALV Zalesovo Beam 41.02 327 P P 16 39 34.0 -1.7
3.1nm,0.5s,baz=112,slow=7.4,SNR=15
ZALV LR LR 16 56 06.3
comp=Z,24nm,18.5s,baz=70,slow=36
TKM2 Tokmak 2 42.77 308 eP P 16 39 50.7 +0.3
2.8nm,0.9s
KURK Kurchatov 42.96 320 eP P 16 39 50.1 -1.5
WRA Warramunga Arr 45.19 164 P P 16 40 10.2 +0.4
1.3nm,0.8s,baz=347,slow=9.2,SNR=6.1
ASAR Alice Springs 48.67 166 P P 16 40 37.5 +0.6
0.4nm,0.7s,baz=346,slow=6.5,SNR=8.4
GEYT Alibeck 55.86 301 P P 16 41 30.8 +0.3
0.8nm,0.3s,baz=83,slow=12,SNR=3.3
FINES FINESS Array B 72.18 330 P P 16 43 16.6 -0.6
1.8nm,0.8s,baz=87,slow=6.5,SNR=5.5
FINES LR LR 17 18 26.5
comp=Z,34nm,20.4s,baz=66,slow=39
BRTR Keskin Array B 74.19 307 P P 16 43 29.7 0.0
1.5nm,0.8s,baz=88,slow=4.9,SNR=7.0

MEX 15 17:18:35.1±0.6, 17.69N×101.54W, h23km±13km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.11	141	*i* P		Pb	17 18 38.3	-1.3
ZIIG				*i* S		Sb	17 18 41.8	-0.8
ARIG	Puente Sto Nin	1.27	62	*e*P		Pn	17 18 55.2	-2.4
ARIG				*e*S		Sn	17 19 09.3	-4.6
CAIG	El Cayaco	1.37	118	*e*P		Pn	17 18 56.1	-2.7
CAIG				*e*S		Sn	17 19 12.4	-3.9
MMIG	Aquila	1.82	289	*e*P		Pn	17 19 02.4	-2.6
MMIG				*e*S		Sn	17 19 23.9	-3.4

TRN 15 17:25:04.5, 15.15N×61.14W, h113km, MD3.6, M3.1(FDF), 4C-4D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
FDF	Fort de France	0.41	181	⇓*i* P		Pn	17 25 22.4	+1.1
FDF	Fort de France	0.41	181	⇓*i* P		Pn	17 25 22.8	+1.6
FDF				*e*S		Sn	17 25 35.6	+1.8
BVM	Bellevue	0.42	170	*e*P		Pn	17 25 22.7	+1.4
BBL	Barber's Block	0.49	320	⇓*i* P		Pn	17 25 23.0	+1.3
LPMF	Morne Lapointe	0.59	163	*e*P		Pn	17 25 23.0	+0.7
TRMF	Trois Ilets	0.61	172	*e*P		Pn	17 25 23.9	+1.4
BIM	Bigot	0.63	174	*e*P		Pn	17 25 24.4	+1.7
BIM				*e*S		Sn	17 25 38.5	+2.1
MVM	Montagne Vaucl	0.64	158	⇓*i* P		Pn	17 25 23.9	+1.2
MGG	Marie-Galante	0.79	348	*e*P		Pn	17 25 24.8	+0.9
MGG				*e*S		Sn	17 25 39.6	+1.1
TBG	Guadaloupe-3	0.85	325	*e*P		Pn	17 25 25.5	+1.0
TBG				*e*S		Sn	17 25 40.8	+1.1
PHG	Guadaloupe-2	0.99	331	⇑*i* P		Pn	17 25 27.3	+1.3
DOG	Dongo Capester	0.99	332	*e*P		Pn	17 25 27.0	+1.1
ECG	Echelle	1.02	331	⇑*i* P		Pn	17 25 27.7	+1.4
SCG	Saint Claude	1.02	329	*e*P		Pn	17 25 27.7	+1.4
TAG	Tarade	1.02	331	*e*P		Pn	17 25 27.8	+1.4
FNG	Fond-Bernard	1.05	330	*e*P		Pn	17 25 27.8	+1.2
MLG	Mont-d'or	1.06	329	⇑*e*P		Pn	17 25 27.8	+1.2
MLG				*e*S		Sn	17 25 45.3	+1.8
SSG	Sans Toucher	1.07	331	*e*P		Pn	17 25 27.9	+1.0
DEG	La Desirade	1.16	4	*e*P		Pn	17 25 28.2	+0.5
LZG	Guadaloupe-1	1.16	328	*e*P		Pn	17 25 28.8	+1.2
SEG	Port Louis	1.30	344	⇑*i* P		Pn	17 25 30.1	+0.9
MCLT	Moule a Chique	1.44	172	*e*P		Pn	17 25 31.9	+1.0
MCLT				*e*S		Sn	17 25 51.4	+0.6
SSV	Crater Summit	1.81	182	*e*P		Pn	17 25 37.2	+1.8
SVV	Soufriere Volc	1.82	182	*e*P		Pn	17 25 37.2	+1.8
SVV				*e*S		Sn	17 26 00.7	+1.7
SVB	Belmont	1.87	183	*e*P		Pn	17 25 36.9	+0.8
SVB				*e*S		Sn	17 26 00.8	+0.7
FCV	Fort Charlotte	1.98	183	*e*P		Pn	17 25 38.9	+1.5
FCV				*e*S		Sn	17 26 03.2	+0.6
GRGR	Grenville	3.04	190	*e*P		Pn	17 25 51.8	+0.6

*NOU **15** 17:42:21.9±1.4, 18.26S×168.54E, h30km±999km, MD3.2, ML4.5, MS2.5*
*NEIC **15** 17:42:24.9±0.5, 18.73S×168.93E, mb4.6/5, Error ellipse: s-maj=12.8km s-min=9.9km az=85.0*
*IDC **15** 17:42:25.2±0.8, 18.78S×168.89E, h142km±5km, mb3.8/13, mb1 4.0/14, mb1mx3.9/19, mbtmp4.3/14, MS3.0/2, Ms1 3.0/2, ms1mx2.6/29, Error ellipse: s-maj=19.3km s-min=10.7km az=101.0*
*ISCJB **15** 17:42:32.4±0.6, 19.18S±0.05×168.48E±0.07, h201km, mb4.0/14, Error ellipse: s-maj=9.7km s-min=7.5km az=5.1*
ISC 15 17:42:32.2±0.6, 19.01S±0.08×168.6E±0.1, h201km, n63, σ1s91/60, mb4.2/15, 9C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
LIFNC	LIFOU	2.19	216	*e*P		Pn	17 43 03.2	-10
LIFNC				*e*S		S	17 43 33.4	-10
BAYA	Yate Dam	3.53	207	*e*P		Pn	17 43 22.0	-6.2
DZM	Mont Dzumac	3.67	214	P		Pn	17 43 24.8	-5.3
	94nm,0.3s,baz=270,slow=24,SNR=1051							
DZM				S		S	17 44 11.1	-3.8
	29nm,0.3s,baz=156,slow=23,SNR=3.7							
DZM				LR		LR	17 44 30.1	
	comp=Z,374nm,19.6s,baz=180,slow=31							
DZM				AMP			17 44 15.5	
	comp=Z,2μm,1.1s							
LASL	Noumea	3.76	211	*e*P		Pn	17 43 25.8	-5.2
LASL				*e*S		S	17 44 12.1	-4.5
NOUC	Port Laguerre	3.77	215	*e*P		Pn	17 43 24.3	-6.8
NOUC				*e*S		S	17 44 12.6	-4.3
NOUC				AMP			17 44 20.6	
	comp=Z,150nm,10.3s							
MVNO	Noumea	3.84	212	*e*P		Pn	17 43 27.0	-5.0
MVNO				*e*S		S	17 44 14.0	-4.4
RMQ	Roma	19.77	244	P		Pn	17 46 53.8	+2.7
	baz=21,SNR=5.6							
URZ	Urewera	20.55	161	P		P	17 46 55.2	-0.1
	comp=Z,21nm,0.9s,baz=332,slow=9.3,SNR=5.6							
URZ	Urewera	20.55	161	*e*P		P	17 46 54.6	-0.8
	comp=Z,38nm,1.1s							
CTA	Charters Tower	21.11	263	P		P	17 47 03.1	+1.7
	comp=Z,4.9nm,0.7s,baz=88,slow=8.2,SNR=6.3							
CTAO	Charters Tower	21.11	263	*e*P		P	17 47 02.1	+0.7
	comp=Z,10nm,1.0s							
QRZ	Quartz Range	22.00	172	*e*PN		P	17 47 12.3	+2.1
NNZ	Nelson	22.51	171	*e*PN		P	17 47 16.1	+1.2
THZ	Tophouse	22.97	172	*e*PN		P	17 47 19.5	+0.3
MTSU	Mount Surprise	23.06	268	P		P	17 47 22.0	+1.8
	baz=24,SNR=6.5							
CNB	Canberra Magne	23.54	222	P		P	17 47 26.9	+2.4
	baz=25,SNR=8.6							
QLP	Quilpie	23.69	247	P		P	17 47 27.2	+1.4
	baz=25,SNR=8.1							
KHZ	Kahutara	23.70	171	*e*PN		P	17 47 24.9	-0.8
LTZ	Lake Taylor	23.90	173	*e*PN		P	17 47 27.9	+0.3
CMSA	Cobar Meteorol	24.14	234	P		P	17 47 31.7	+1.8
	baz=25,SNR=7.3							
OXZ	Oxford	24.41	174	*e*PN		P	17 47 32.0	-0.2
RPZ	Rata Peaks	24.72	176	P		P	17 47 35.5	+0.6
	comp=Z,18nm,0.7s,baz=0.5,slow=5.8,SNR=7.0							
MQZ	McQueen's Vall	24.86	173	*e*PN		P	17 47 36.4	+0.2
STKA	Stephens Creek	27.48	237	P		P	17 48 01.6	+1.7
	comp=Z,3.8nm,0.7s,baz=79,slow=10,SNR=9.7							
STKA				pP		pP	17 48 29.1	-11
	comp=Z,5.3nm,0.9s,baz=78,slow=10,SNR=3.3							
STKA				PcP		PcP	17 51 13.6	+0.6
	comp=Z,1.0nm,0.5s,baz=139,slow=2.9,SNR=3.3							
STKA	Stephens Creek	27.48	237	P		P	17 48 01.8	+1.9
	baz=28,SNR=9.1							
WRAB	Tennant Creek	32.30	263	*e*P		P	17 48 42.3	-0.2
WRA	Warramunga Arr	32.31	263	P		P	17 48 41.9	-0.7
	comp=Z,0.9nm,0.6s,baz=97,slow=8.4,SNR=11							
WRA				PcP		PcP	17 51 26.1	+0.4
	comp=Z,0.6nm,0.6s,baz=89,slow=3.4,SNR=6.0							
WRKA	Warakurna	37.77	253	P		P	17 49 29.4	+0.2
	baz=39,SNR=4.4							
KNRA	Kununurra	38.14	269	P		P	17 49 32.4	+0.1
	baz=39,SNR=4.8							
GUMO	Guam	39.97	322	LR		LR	18 07 03.2	
	comp=Z,12nm,18.8s,baz=150,slow=37							
MBWA	Marble Bar	45.83	259	*e*P		P	17 50 35.1	+0.6
MEEK	Meekatharra	46.48	251	P		P	17 50 40.3	+0.7
	baz=47,SNR=37							
KLBR	Kellerberrin	47.29	244	P		P	17 50 45.9	+0.2
	baz=48,SNR=8.0							
MORW	Morawa	48.72	248	P		P	17 50 57.0	+0.3
	baz=50,SNR=4.0							
PVCP	Virac	54.49	303	⇑*i* P		P	17 51 44.5	+5.0
VNDA	Vanda	58.64	182	P		P	17 52 08.5	+0.7
	comp=Z,2.4nm,0.8s,baz=2.0,slow=6.1,SNR=6.3							
SBA	Scott Base	58.89	180	*e*P		P	17 52 11.2	+1.7
	comp=Z,21nm,0.9s							
MJAR	Matsushiro Arr	62.28	333	P		P	17 52 30.9	-2.0
	comp=Z,0.8nm,0.6s,baz=179,slow=4.9,SNR=4.8							
MJAR				pP		PcP	17 53 06.1	-4.7
	comp=Z,1.4nm,0.8s,baz=164,slow=5.5,SNR=3.2							
QSPA	South Pole Qui	71.04	180	*e*P		P	17 53 28.1	0.0
	comp=Z,14nm,0.9s							
USRK	Ussuriysk Ar.	71.27	333	P		P	17 53 29.1	-0.4
	comp=Z,1.5nm,0.7s,baz=98,slow=7.4,SNR=4.7							
PETK	Petropavlovsk-	72.44	353	P		P	17 53 34.8	-1.5
	comp=Z,3.9nm,0.7s,baz=147,slow=7.0,SNR=7.4							
MDJ	Mudanjiang	72.65	332	*e*P		P	17 53 36.5	-1.3
	comp=Z,5.2nm,0.8s							
CMAR	Chiang Mai Arr	77.88	294	P		P	17 54 09.2	+1.0
	comp=Z,1.4nm,0.7s,baz=132,slow=4.2,SNR=10.0							
CMAR				pP		pP	17 54 43.9	-13
	comp=Z,0.9nm,0.9s,baz=134,slow=4.1,SNR=3.7							
MAW	Mawson	78.43	202	P		P	17 54 12.1	+1.9
	comp=Z,8.3nm,0.8s,baz=127,slow=6.0,SNR=17							
MAW	Mawson	78.43	202	P		P	17 54 12.4	+2.1
	baz=79,SNR=8.9							
SONM	Songino Array	86.69	323	P		P	17 54 52.7	-0.6
	comp=Z,1.0nm,0.8s,baz=126,slow=2.6,SNR=7.2							
SONM				pP		pP	17 55 29.7	-13
	comp=Z,1.8nm,0.9s,baz=144,slow=6.9,SNR=7.0							
ILAR	Eielson Array	90.19	17	P		P	17 55 05.5	-3.7
	comp=Z,0.3nm,0.5s,baz=236,slow=5.7,SNR=4.6							
ILAR				pP		pP	17 55 42.5	-16
	comp=Z,0.6nm,0.9s,baz=240,slow=5.0,SNR=3.2							
MKAR	Makanchi Array	101.17	316	P		Pdif	17 56 01.0	+1.4
	comp=Z,0.1nm,0.4s,baz=93,slow=8.7,SNR=2.9							
ARCES	ARCESS Array B	124.70	345	PKP		PKPdf	18 01 05.6	-1.6
	comp=Z,1.8nm,0.7s,baz=30,slow=3.2,SNR=6.3							
FINES	FINESS Array B	130.16	338	SKPbc		SKPab	18 04 26.3	+4.5
	comp=Z,1.9nm,0.5s,baz=71,slow=4.1,SNR=18							
AKASG	Malin Array Be	134.97	324	SKPbc		SKiKP	18 04 44.5	-1.1
	comp=Z,0.9nm,0.5s,baz=49,slow=4.3,SNR=5.3							
CONA	Conrad Observa	143.65	329	⇑*i* PKPdf		PKPbc	18 01 41.5	+0.2
	comp=Z,1.6nm,0.6s							
GERES	GERESS Array B	144.02	332	PKP		PKPbc	18 01 41.6	-0.7
	comp=Z,0.6nm,0.6s,baz=56,slow=2.6,SNR=8.3							
GERES				SKPbc		SKiKP	18 05 09.0	+4.6
	comp=Z,0.5nm,0.6s,baz=46,slow=3.9,SNR=5.3							
MOA	Molln	144.47	330	⇑*i* PKPdf		PKPdf	18 01 43.6	-0.9
	comp=Z,9.3nm,1.1s							
SOKA	Soboth	144.91	328	⇑*i* PKPdf		PKPdf	18 01 44.8	-0.6
	comp=Z,7.6nm,1.1s							
KBA	Koelnbreinsper	145.46	330	⇑*i* PKPab		PKPdf	18 01 45.1	-1.3
	comp=Z,4.4nm,0.9s							
ABTA	Abfaltersbach	146.10	330	⇓*i* PKPab		PKPbc	18 01 47.8	-0.9
	comp=Z,1.7nm,0.4s							
WTTA	Wattenberg	146.12	331	⇑*i* PKiKP		PKPab	18 01 49.3	-0.6
	comp=Z,2.8nm,0.6s							
MOTA	Moosalm	146.30	332	⇑*i* PKPab		PKPbc	18 01 48.6	-0.7
	comp=Z,8.1nm,1.2s							
FETA	Feichten	146.71	332	⇑*i* PKPab		PKPbc	18 01 50.2	-0.3
	comp=Z,2.6nm,0.5s							
DAVA	Damuels	146.87	333	⇑*i* PKPab		PKPbc	18 01 50.6	-0.4
	comp=Z,3.0nm,0.5s							
TORD	Torodi Ar. Bea	166.16	247	PKP		PKPdf	18 02 13.2	-0.9
	comp=Z,0.4nm,0.6s,baz=65,slow=1.0,SNR=3.6							
TORD				PKPab		PKPab	18 03 16.3	+0.4
	comp=Z,1.0nm,1.0s,baz=151,slow=3.3,SNR=2.8							

*ISCJB **15** 18:02:12.4±0.8, 17.9S±0.2×178.3W±0.1, h550km, mb3.6/8, Error ellipse: s-maj=21.7km s-min=15.6km az=144.6*
*IDC **15** 18:02:12.8±5.0, 17.94S×178.24W, h544km±58km, mb3.2/9, mb1 3.4/9, mb1mx3.1/20, mbtmp4.1/9, Error ellipse: s-maj=29.8km s-min=22.2km az=32.0*
ISC 15 18:02:13.2±0.9, 17.9S±0.2×178.2W±0.1, h550km, n18, σ0s69/18, mb3.7/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
URZ	Urewera	20.67	190	P		P	18 06 14.7	-0.5
	5.4nm,0.9s,baz=344,slow=15,SNR=3.0							
PMG	Port Moresby	34.64	279	P		P	18 08 17.0	-0.3
	17nm,0.9s,baz=108,slow=6.5,SNR=3.0							
QLP	Quilpie	35.70	249	P		P	18 08 26.3	+0.3
	baz=42,SNR=6.3							
COEN	Coen	37.29	270	P		P	18 08 40.4	+1.3
	baz=44,SNR=5.4							
STKA	Stephens Creek	38.78	241	P		P	18 08 51.0	-0.1
	2.5nm,0.7s,baz=90,slow=8.7,SNR=10							
STKA	Stephens Creek	38.78	241	P		P	18 08 52.2	+1.1
	baz=45,SNR=8.3							
HTT	Hallett	41.30	240	P		P	18 09 12.0	+0.8
	baz=47,SNR=5.4							
JAY	Jayapura	43.09	286	P		P	18 09 25.8	+0.3
	2.7nm,0.3s,baz=197,slow=7.7,SNR=4.2							
BBOO	Buckleboo	43.56	241	P		P	18 09 29.2	+0.2
	baz=50,SNR=9.5							
WRA	Warramunga Arr	44.81	260	P		P	18 09 38.1	-0.7
	2.4nm,0.5s,baz=95,slow=7.3,SNR=77							
WRA				PcP		PcP	18 11 08.1	-0.9
	0.2nm,0.3s,baz=90,slow=3.6,SNR=5.2							
WRKA	Warakurna	50.02	252	P		P	18 10 17.5	-0.3
	baz=56,SNR=13							
KNRA	Kununurra	50.67	264	P		P	18 10 22.0	-0.6
	baz=57,SNR=3.9							
MJAR	Matsushiro Arr	68.03	323	P		P	18 12 17.4	-0.7
	1.1nm,0.7s,baz=157,slow=6.5,SNR=4.0							
NVAR	Mina Array Bea	79.31	44	P		P	18 13 22.8	+0.4
	0.3nm,0.6s,baz=238,slow=9.5,SNR=2.9							
TXAR	Lajitas Array	85.85	58	P		P	18 13 55.6	+0.2
	0.2nm,0.6s,baz=248,slow=4.8,SNR=3.4							
CMAR	Chiang Mai Arr	89.06	290	P		P	18 14 11.3	+0.7
	0.4nm,0.8s,baz=117,slow=3.7,SNR=4.6							
BRTR	Keskin Array B	144.92	315	PKP		PKPbc	18 20 48.4	-0.6
	0.4nm,0.4s,baz=107,slow=2.8,SNR=3.6							
GERES	GERESS Array B	147.67	345	PKPbc		PKPbc	18 20 55.8	-0.4
	0.5nm,0.5s,baz=28,slow=4.4,SNR=5.2							

KRSC 15 18:08:26.7±1.3, 50.55N×157.25E, h44km±21km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SKR	Severo-Kuril's	0.73	281	*e*P		Pn	18 08 40.9	+0.2
SKR				*e*S		Sn	18 08 50.4	-0.4
PAU	Pauzhetka	0.96	343	*e*P		Pn	18 08 45.3	+1.5
PAU				*e*S		Sn	18 08 58.5	+2.2
MIPR	Malaya Ipel'ka	1.76	350	*e*P		Pn	18 08 56.7	+2.0
ASAK	Asacha	1.88	12	*e*P		Pn	18 08 59.3	+2.8
MTVR	Mutnovka	2.02	16	P		Pn	18 09 00.9	+2.4
MTVR				*e*S		Sn	18 09 25.8	+3.1
RUS	Russkaya	2.05	22	*e*P		Pn	18 09 01.1	+2.5
RUS				*e*S		Sn	18 09 25.5	+2.6
APC	Apacha	2.38	359	*e*P		Pn	18 09 06.1	+2.9
PET	Petropavlovsk	2.63	19	*e*P		Pn	18 09 09.9	+3.3
PET				*e*S		Sn	18 09 41.1	+3.9
UGLR	Uglovaya	2.84	19	*e*P		Pn	18 09 12.4	+2.8
UGLR				*e*S		Sn	18 09 45.1	+2.4
AVH	Avacha	2.87	18	P		Pn	18 09 14.2	+4.1
KOK	Koryaka	2.88	17	P		Pn	18 09 14.5	+4.3
SMAR	Somma	2.88	19	P		Pn	18 09 14.7	+4.3
KRER	Koryakskii	2.91	18	*e*P		Pn	18 09 13.6	+2.8
KRER				*e*S		Sn	18 09 47.5	+2.8
SDLR	Sedlovina	2.92	20	*e*P		Pn	18 09 14.0	+3.3
SDLR				*e*S		Sn	18 09 48.2	+3.6
KRX	Arik	2.95	17	*e*P		Pn	18 09 13.7	+2.5
SPN	Mys Shipunski	3.08	33	*e*P		Pn	18 09 15.8	+3.0
SPN				*e*S		Sn	18 09 51.4	+3.1
GNL	Ganaly	3.18	7	*e*P		Pn	18 09 18.5	+4.1
MKZ	Mys Kozlova	4.86	33	*e*P		Pn	18 09 40.3	+3.2
TUMR	Tumrok	5.06	19	P		Pn	18 09 45.1	+5.0

*ISCJB **15** 18:26:24.0±0.5, 31.51S±0.05×138.70E±0.06, h14km, Error ellipse: s-maj=8.5km s-min=5.4km az=42.2*
*IDC **15** 18:26:25.9±4.4, 31.34S×138.75E, h0km, mb1 3.8/4, mb1mx3.5/37, mbtmp3.6/4, ML3.6/4, Error ellipse: s-maj=69.3km s-min=17.2km az=32.0*
*AUST **15** 18:26:26.1±0.2, 31.61S×138.66E, h10km, Error ellipse: s-maj=2.9km s-min=2.5km az=40.0*
ISC 15 18:26:25.6±1.0, 31.49S±0.07×138.67E±0.08, h14km, n22, σ1s85/24, 9C-9D, South Australia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
HTT	Hallett	1.94	174	⇓P		Pn	18 26 58.3	0.0
	baz=1.8,SNR=89							
STKA	Stephens Creek	2.52	100	Pn		Pn	18 27 07.7	+1.6
	3.2nm,0.3s,baz=280,slow=11,SNR=141							
STKA				Lg		Lg	18 27 44.7	
	39nm,0.3s,baz=348,slow=20,SNR=13

STKA	**Stephens Creek**	**2.52**	**100**	⇓P		**Pn**	**18 27 07.7**	**+1.6**
	baz=2.5,SNR=90							
BBOO	**Buckleboo**	**2.58**	**239**	⇓P		**Pn**	**18 27 07.9**	**+1.0**
	baz=2.5,SNR=20							
ARPS	**Mount Arapiles**	**5.88**	**154**	⇑P		**Pn**	**18 27 51.4**	**-0.9**
	baz=5.8,SNR=43							
CMSA	**Cobar Meteorol**	**5.99**	**92**	⇑P		**Pn**	**18 27 54.7**	**+0.8**
	baz=6.0							
QLP	**Quilpie**	**6.90**	**46**	⇑P		Pn	18 28 10.3	+4.0
	baz=7.0,SNR=3.5							
TOO	**Toolangi**	**8.27**	**139**	⇑P		**Pn**	**18 28 24.8**	**-0.3**
	baz=8.2,SNR=29							
AS17	**Alice Springs**	**8.83**	**331**	⇓P		**Pn**	**18 28 35.5**	**+2.6**
	baz=9.0							
AS07	**Alice Springs**	**8.84**	**331**	⇑P		**Pn**	**18 28 35.9**	**+2.9**
	baz=9.0							
AS06	**Alice Springs**	**8.86**	**331**	⇓P		**Pn**	**18 28 36.1**	**+2.9**
	baz=9.0							
ASAR	**Alice Springs**	**8.87**	**330**	Pn		**Pn**	**18 28 34.4**	**+1.0**
	0.6nm,0.3s,baz=156,slow=12,SNR=50							
ASAR				Sn		**Sn**	**18 30 12.7**	**-0.5**
	1.8nm,0.3s,baz=153,slow=22,SNR=8.5							
FORT	**Forrest**	**9.12**	**272**	⇑P		**Pn**	**18 28 36.9**	**+0.1**
	baz=9.1							
CAN	**Canberra**	**9.44**	**117**	⇓P		**Pn**	**18 28 41.0**	**-0.2**
	baz=9.4							
CNB	**Canberra Magne**	**9.71**	**116**	⇓P		**Pn**	**18 28 44.9**	**0.0**
	baz=9.7							
RMQ	**Roma**	**10.14**	**63**	⇓P		**Pn**	**18 28 52.3**	**+1.5**
	baz=10							
MGCD	**Mangrove Creek**	**10.66**	**103**	⇓P		**Pn**	**18 28 58.6**	**+0.7**
	baz=11							
QIS	**Mount Isa**	**10.92**	**5**	⇑P		**Pn**	**18 29 04.1**	**+2.6**
	baz=11							
ARMA	**Armidale**	**11.18**	**88**	⇑P		**Pn**	**18 29 06.5**	**+1.4**
	baz=11							
WRKA	**Warakurna**	**11.18**	**303**	⇑P		**Pn**	**18 29 06.5**	**+1.5**
	baz=11,SNR=5.1							
WRA	**Warramunga Arr**	**12.14**	**340**	Pn		**Pn**	**18 29 18.9**	**+0.6**
	0.5nm,0.3s,baz=155,slow=14,SNR=49							
WRA				Sn		**Sn**	**18 31 31.6**	**-1.9**
	0.8nm,0.3s,baz=168,slow=25,SNR=5.4							
CTA	**Charters Tower**	**13.24**	**33**	Pn		**Pn**	**18 29 33.5**	**+0.3**
	0.3nm,0.3s,baz=210,slow=14,SNR=5.6							
CTA				Sn		**Sn**	**18 31 55.8**	**-4.6**
	0.2nm,0.3s,baz=146,slow=15,SNR=2.6							

*ISCJB **15** 18:28:38.5±0.3,0.°55N×0.°03×121.°49E±0.°03, h113km, mb4.2/12, Error ellipse: s-maj=5.0km s-min=4.5km az=43.5*

*NEIC **15** 18:28:38.8±0.4,0.°47N×121.°52E, mb4.5/2, Error ellipse: s-maj=12.0km s-min=7.0km az=59.0*

*IDC **15** 18:28:39.0±0.8,0.°49N×121.°56E, h98km±7km, mb3.9/10, mb1 3.9/13, mb1mx3.6/43, mbtmp4.2/13, MS2.7/2, Ms1 2.7/2, ms1mx2.5/31, Error ellipse: s-maj=20.2km s-min=10.4km az=81.0*

*KLM **15** 18:28:39.0, 0.°35N×121.°23E, h10km, mb4.7, ML4.5, MS6.4*

*DJA **15** 18:28:40.7±0.4, 1.°N±3.°×12.°1E±.°, h62km±6km, M4.8/2, mb4.9/1, mB5.0/1, MLv4.7/2, Mw(mB)4.4/1*

ISC 15 18:28:39.7±0.5,0.°57N±0.°05×121.°50E±0.°05,h113km,n41,
σ1§53/48,mb4.1/12,6C,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MRSI	**Marisa**	**0.45**	**102**	P		**Pn**	**18 28 53.7**	**-2.8**
MRSI				S		**Sn**	**18 29 03.9**	**-5.3**
TOLI	**Toli-Toli**	**0.89**	**308**	*e*Pn		**Pn**	**18 28 58.0**	**-2.1**
APSI	**Ampana**	**1.48**	**174**	P		**Pn**	**18 29 06.5**	**+0.1**
APSI				S		**Sn**	**18 29 26.1**	**-0.6**
MPSI	**Mapaga**	**1.62**	**262**	P		**Pn**	**18 29 06.3**	**-1.7**
LUWI	**Luwuk**	**2.05**	**142**	P		**Pn**	**18 29 13.0**	**-0.4**
LUWI				S		**Sn**	**18 29 40.2**	**+1.0**
LUWI	**Luwuk**	**2.05**	**142**	*e*Pn		**Pn**	**18 29 12.8**	**-0.6**
KMSI	**Cibinong**	**2.48**	**90**	P		**Pn**	**18 29 19.4**	**+0.4**
KMSI				S		**Sn**	**18 29 50.0**	**+0.9**
TTSI	**Tana Toraja**	**3.96**	**205**	P		**Pn**	**18 29 38.7**	**+0.1**
SGKI	**Sangatta, Kali**	**4.04**	**254**	S		**Sn**	**18 30 24.8**	**-1.5**
SPSI	**Sidrap Palu**	**4.82**	**201**	P		**Pn**	**18 29 51.0**	**+0.8**
BKB	**Balikpapan**	**4.95**	**248**	P		**Pn**	**18 29 51.3**	**-0.5**
TSM	**Tawau**	**5.18**	**316**	⇑P		**Pn**	**18 29 54.5**	**-0.5**
SANI	**Sanana**	**5.19**	**120**	P		**Pn**	**18 29 55.5**	**+0.4**
MYLDM	**Lahad Datu**	**5.47**	**327**	⇑P		**Pn**	**18 30 02.0**	**+3.1**
KAPI	**Kappang**	**5.81**	**197**	P		**Pn**	**18 30 02.5**	**-1.1**
	6.7nm,0.3s,baz=18,slow=7.9,SNR=20							
KAPI				S		**Sn**	**18 31 08.7**	**-0.3**
	1.0nm,0.3s,baz=108,slow=20,SNR=2.4							
KAPI				LR		LR	18 32 43.9	
	comp=Z,66nm,19.3s,baz=36,slow=42							
TNTI	**Ternate**	**5.87**	**88**	*e*Pn		**Pn**	**18 30 04.0**	**-0.4**
	9.4nm,0.4s							
LBMI	**Labuha**	**6.12**	**101**	P		**Pn**	**18 30 06.8**	**-0.9**
SDKM	**Sandakan**	**6.62**	**320**	⇑P		**Pn**	**18 30 16.2**	**+1.6**
CTBH	**Cotabato--PC H**	**7.15**	**22**	⇑*i*P		**Pn**	**18 30 20.5**	**-1.2**
IPIL	**Ipil**	**7.25**	**8**	⇑*e*P		**Pn**	**18 30 23.0**	**0.0**
KKM	**Kota Kinabalu**	**7.58**	**316**	⇑P		**Pn**	**18 30 29.4**	**+1.9**
KKM	**Kota Kinabalu**	**7.58**	**316**	*e*Pn		**Pn**	**18 30 28.9**	**+1.3**
	18nm,0.4s							
SIJI	**Sorong**	**9.87**	**98**	P		**Pn**	**18 30 57.8**	**-0.8**
	0.6nm,0.3s,baz=291,slow=9.4,SNR=3.7							
JAY	**Jayapura**	**19.44**	**99**	P		**P**	**18 32 57.6**	**0.0**
	0.4nm,0.3s,baz=262,slow=14,SNR=3.1							
MBWA	**Marble Bar**	**21.66**	**184**	*e*P		**P**	**18 33 21.0**	**-0.3**
WRAB	**Tennant Creek**	**23.96**	**149**	*e*P		**P**	**18 33 42.7**	**-0.9**
WRA	**Warramunga Arr**	**23.96**	**149**	P		**P**	**18 33 43.1**	**-0.6**
	29nm,0.6s,baz=326,slow=11,SNR=44							
ASAR	**Alice Springs**	**26.94**	**154**	P		**P**	**18 34 10.5**	**-0.2**
	2.0nm,0.6s,baz=340,slow=15,SNR=6.3							
NWAO	**Narrogin (SRO)**	**33.56**	**186**	P		**P**	**18 35 09.2**	**+0.3**
	7.8nm,0.6s,baz=328,slow=8.1,SNR=6.0							
KSRS	**Korea Array**	**37.18**	**8**	LR		LR	18 52 04.7	
	comp=Z,12nm,18.9s,baz=186,slow=38							
STKA	**Stephens Creek**	**37.46**	**151**	P		**P**	**18 35 42.2**	**-0.2**
	3.1nm,0.6s,baz=326,slow=7.9,SNR=6.4							
STKA	**Stephens Creek**	**37.46**	**151**	*e*P		**P**	**18 35 41.6**	**-0.7**
LSA	**Lhasa**	**40.92**	**318**	*e*P		P	18 36 15.4	+3.8
	3.4nm,0.6s							
ASAJ	**Asahikawa**	**47.25**	**21**	P		**P**	**18 37 03.0**	**+1.6**
	1.0nm,0.5s,baz=192,slow=9.3,SNR=2.5							
SONM	**Songino Array**	**48.87**	**347**	P		**P**	**18 37 16.0**	**+2.0**
	1.6nm,0.7s,baz=168,slow=8.4,SNR=13							
SONM				pP		**pP**	**18 37 38.8**	**-1.7**
	1.6nm,0.9s,baz=167,slow=8.7,SNR=4.3							
MKAR	**Makanchi Array**	**57.35**	**329**	P		**P**	**18 38 18.4**	**+2.3**
	1.1nm,0.5s,baz=128,slow=8.8,SNR=29							
MKAR				pP		**pP**	**18 38 41.2**	**-2.1**
	0.8nm,0.5s,baz=123,slow=8.7,SNR=3.6							
ZALV	**Zalesovo Beam**	**61.18**	**336**	P		**P**	**18 38 43.7**	**+1.5**
	0.9nm,0.5s,baz=129,slow=7.7,SNR=3.7							
ZALV				pP		**pP**	**18 39 08.1**	**-1.7**
	0.7nm,0.5s,baz=130,slow=6.4,SNR=2.7							
KURK	**Kurchatov**	**61.74**	**331**	*e*P		**P**	**18 38 47.5**	**+1.4**
	5.8nm,0.8s							
KURK				*e*pP		**pP**	**18 39 11.3**	**-2.3**
VNDA	**Vanda**	**81.02**	**172**	P		**P**	**18 40 41.8**	**+0.3**
	1.2nm,0.8s,baz=311,slow=6.8,SNR=7.6							
BRTR	**Keskin Array B**	**87.99**	**310**	P		**P**	**18 41 17.6**	**0.0**
	0.9nm,0.9s,baz=108,slow=4.0,SNR=3.8							
TORD	**Torodi Ar. Bea**	**118.81**	**285**	PKP		**PKPdf**	**18 47 15.7**	**0.0**
	0.1nm,0.3s,baz=98,slow=1.7,SNR=4.4							

*IDC **15** 18:36:04.0±2.9,34.°84S×179.°76W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/31, mbtmp3.7/3, ML3.4/1, Error ellipse: s-maj=67.5km s-min=44.3km az=125.0*

*ISCJB **15** 18:36:08.5±1.5,35.°00S±0.°07×179.°9W±0.°2, h39km, mb3.6/2, Error ellipse: s-maj=21.5km s-min=9.4km az=6.0*

ISC 15 18:36:09.3±1.9,35.°03S±0.°09×179.°8W±0.°2,h39km,n21,
σ1§06/26,East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.97**	**211**	*e*Pn		**Pn**	**18 36 53.6**	**-0.3**
MXZ				*e*Sn		**Sn**	**18 37 29.1**	**+0.8**
WMGZ	**Waiomatatini S**	**3.15**	**207**	*e*Pn		**Pn**	**18 36 58.1**	**+1.7**
HAZ	**Te Kaha**	**3.37**	**215**	*e*Pn		**Pn**	**18 36 59.1**	**-0.3**
HAZ				*e*Sn		**Sn**	**18 37 40.0**	**+2.0**
PUZ	**Puketiti**	**3.43**	**207**	*e*Pn		**Pn**	**18 37 01.1**	**+0.8**
PUZ				*e*Sn		**Sn**	**18 37 39.8**	**+0.1**
TWGZ	**Tauwhareparae**	**3.63**	**209**	*e*Pn		**Pn**	**18 37 04.0**	**+0.9**
CNGZ	**Carnagh Statio**	**3.81**	**205**	*e*Pn		**Pn**	**18 37 06.7**	**+1.2**
MWZ	**Matawai**	**3.95**	**213**	*e*Pn		**Pn**	**18 37 07.6**	**+0.1**
URZ	**Urewera**	**4.09**	**217**	Pn		**Pn**	**18 37 09.9**	**+0.6**
	2.3nm,0.3s,baz=67,slow=8.6,SNR=54							
URZ				Sn		**Sn**	**18 37 55.0**	**-0.9**
	4.2nm,0.3s,baz=75,slow=20,SNR=6.6							
URZ	**Urewera**	**4.09**	**217**	*e*Pn		**Pn**	**18 37 09.5**	**+0.2**
URZ				*e*Sn		**Sn**	**18 37 54.6**	**-1.3**
RAGZ	**Rawiri**	**4.14**	**212**	*e*Pn		**Pn**	**18 37 10.8**	**+0.8**
RIGZ	**Rimuhau**	**4.17**	**208**	*e*Pn		**Pn**	**18 37 11.4**	**+0.9**
SNGZ	**Shannon Statio**	**4.41**	**211**	*e*Pn		**Pn**	**18 37 14.5**	**+0.8**
MKAZ	**Moumakai**	**4.61**	**242**	PN		**Pn**	**18 37 17.5**	**+1.1**
TOZ	**Tahuroa Road**	**4.68**	**233**	*e*Pn		**Pn**	**18 37 16.6**	**-0.8**
BKZ	**Black Stump Fm**	**5.10**	**215**	*e*Pn		**Pn**	**18 37 23.0**	**-0.2**
OUZ	**Omahuta**	**5.45**	**266**	*e*Pn		**Pn**	**18 37 28.4**	**+0.4**
KAHZ	**Kahuranaki**	**5.46**	**208**	*e*Pn		**Pn**	**18 37 27.0**	**-1.2**
MRZ	**Mangatainoka R**	**6.72**	**212**	*e*Pn		**Pn**	**18 37 42.9**	**-2.6**
MRZ				*e*Sn		Sn	18 38 54.6	-6.1
ASAR	**Alice Springs**	**41.62**	**273**	P		**P**	**18 43 53.8**	**-0.1**
	0.5nm,0.3s,baz=116,slow=7.6,SNR=24							
WRA	**Warramunga Arr**	**43.03**	**278**	P		**P**	**18 44 05.2**	**-0.1**
	0.5nm,0.4s,baz=119,slow=7.7,SNR=17							
FINES	**FINESS Array B**	**148.88**	**336**	PKPbc		**PKPbc**	**18 55 51.8**	**-0.2**
	0.9nm,0.8s,baz=47,slow=2.7,SNR=3.3							

*IDC **15** 18:44:53.0±1.1,0.°06S×126.°32E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/31, mbtmp3.6/6, ML2.9/1, Error ellipse: s-maj=50.6km s-min=18.5km az=64.0*

*ISCJB **15** 18:44:56.8±0.8,0.°06N±0.°07×126.°50E±0.°07, h35km, mb3.6/5, Error ellipse: s-maj=11.0km s-min=9.5km az=151.0*

*DJA **15** 18:44:58.0±0.5,0.°N±3.°×12.°7E±.°, h10km, M3.2/3, MLv3.2/3*

ISC 15 18:44:58.8±0.9,0.°07N±0.°06×126.°63E±0.°06,h35km,n10,
σ1§67/12,mb3.5/5,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.02**	**47**	P		**Pn**	**18 45 15.5**	**-1.1**
TNTI				S		**Sn**	**18 45 32.9**	**+3.3**
LBMI	**Labuha**	**1.12**	**129**	P		**Pn**	**18 45 18.5**	**+0.5**
LBMI				S		**Sn**	**18 45 32.8**	**+0.6**
SANI	**Sanana**	**2.20**	**197**	P		**Pn**	**18 45 33.9**	**+1.1**
KMSI	**Cibinong**	**2.69**	**281**	P		**Pn**	**18 45 41.2**	**+1.6**
SIJI	**Sorong**	**4.73**	**101**	Pn		**Pn**	**18 46 09.9**	**+2.2**
	0.5nm,0.3s,baz=270,slow=20,SNR=9.5							
WRA	**Warramunga Arr**	**21.28**	**160**	P		**P**	**18 49 41.1**	**-1.3**
	0.6nm,0.3s,baz=338,slow=11,SNR=21							
ASAR	**Alice Springs**	**24.63**	**164**	P		**P**	**18 50 15.1**	**-1.0**
	1.0nm,0.6s,baz=342,slow=9.7,SNR=22							
STKA	**Stephens Creek**	**34.79**	**157**	P		**P**	**18 51 45.4**	**-0.8**
	1.5nm,0.8s,baz=326,slow=9.3,SNR=6.8							
SONM	**Songino Array**	**50.72**	**342**	P		**P**	**18 53 54.8**	**-0.4**
	0.2nm,0.5s,baz=142,slow=7.3,SNR=2.5							
MKAR	**Makanchi Array**	**60.51**	**327**	P		**P**	**18 55 04.7**	**-0.8**
	0.3nm,0.4s,baz=121,slow=7.3,SNR=10							

KRSC 15 19:17:06.2±0.8,54.°12N×162.°10E,h38km±12km,ML3.9,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.49**	**334**	*i* P		Pn	19 17 17.6	+0.9
MKZ				*e*S		Sn	19 17 24.0	-0.1
KZV	**Kizimen**	**1.45**	**314**	*i* P		Pn	19 17 31.4	+1.3
KZV				*i* S		Sn	19 17 48.6	+0.6
KII	**Karymskiy**	**1.57**	**268**	*e*P		Pn	19 17 33.1	+1.5
KII				*e*S		Sn	19 17 51.4	+0.7
SPN	**Mys Shipunski**	**1.61**	**231**	*i* P		Pn	19 17 33.9	+1.9
TUMR	**Tumrok**	**1.63**	**317**	*e*P		Pn	19 17 34.3	+1.8
TUMR				*e*S		Sn	19 17 54.5	+2.1
KMNR	**Kamenistaya**	**1.96**	**327**	*e*P		Pn	19 17 39.9	+2.8
KMNR				*e*S		Sn	19 18 04.0	+3.4
SDLR	**Sedlovina**	**2.09**	**248**	*e*P		Pn	19 17 41.4	+2.5
SDLR				*e*S		Sn	19 18 06.5	+2.7
KBTR	**Krutoberegovo**	**2.13**	**11**	*e*P		Pn	19 17 42.0	+2.7
KBTR				*e*S		Sn	19 18 07.2	+2.7
SMAR	**Somma**	**2.14**	**248**	*e*P		Pn	19 17 42.2	+2.5
SMAR				*e*S		Sn	19 18 07.6	+2.4
UGLR	**Uglovaya**	**2.15**	**246**	*e*P		Pn	19 17 42.3	+2.6
UGLR				*e*S		Sn	19 18 08.2	+2.9
KRER	**Koryakskii**	**2.15**	**249**	*i* P		Pn	19 17 42.7	+2.8
KRER				*e*S		Sn	19 18 08.2	+2.7
AVH	**Avacha**	**2.18**	**248**	*e*P		Pn	19 17 43.0	+3.0
AVH				*e*S		Sn	19 18 09.1	+3.3
KRX	**Arik**	**2.19**	**251**	*i* P		Pn	19 17 42.9	+2.6
KRX				*e*S		Sn	19 18 07.9	+1.7
KOK	**Koryaka**	**2.22**	**250**	*i* P		Pn	19 17 43.4	+2.8
KOZ	**Kozyrevsk**	**2.33**	**327**	*e*P		Pn	19 17 47.4	+5.4
PET	**Petropavlovsk**	**2.33**	**243**	*e*P		Pn	19 17 44.7	+2.7
PET				*e*S		Sn	19 18 12.3	+3.0
BKI	**Bering**	**2.50**	**63**	*e*P		Pn	19 17 46.4	+2.2
BKI				*e*S		Sn	19 18 15.4	+2.0
GNL	**Ganaly**	**2.50**	**262**	*i* P		Pn	19 17 47.3	+2.8
GNL				*e*S		Sn	19 18 16.6	+2.8
BDR	**Baidarnaya**	**2.51**	**349**	*e*P		Pn	19 17 48.0	+3.4
SRDR	**Sredinnyy**	**2.59**	**329**	*e*P		Pn	19 17 48.8	+3.1
SRKR	**Sorokina**	**2.60**	**349**	*e*P		Pn	19 17 49.0	+3.2
ESO	**Esso**	**2.67**	**314**	*e*P		Pn	19 17 48.8	+2.1
RUS	**Russkaya**	**2.74**	**233**	*e*P		Pn	19 17 50.7	+3.1
MTVR	**Mutnovka**	**2.87**	**237**	*e*P		Pn	19 17 52.5	+2.9
ASAK	**Asacha**	**3.07**	**237**	*i* P		Pn	19 17 56.1	+3.9
APC	**Apacha**	**3.19**	**250**	*e*P		Pn	19 17 58.1	+4.4
APC				*e*S		Sn	19 18 35.7	+5.3
MIPR	**Malaya Ipel'ka**	**3.71**	**242**	*e*P		Pn	19 18 05.3	+4.4

*IDC **15** 19:33:35.5±0.7,21.°35S×175.°54W, h0km, mb4.2/10, mb1 4.5/12, mb1mx4.3/23, mbtmp4.3/12, ML4.7/2, MS3.1/5, Ms1 3.2/5, ms1mx2.9/26, Error ellipse: s-maj=29.4km s-min=16.8km az=135.0*

*ISCJB **15** 19:33:41.6±0.6,21.°3S±0.°1×175.°5W±0.°1, h60km, mb4.4/13, MS3.4/3, Error ellipse: s-maj=17.9km s-min=10.5km az=44.7*

*NEIC **15** 19:33:55.3±2.1,21.°46S×175.°76W, h159km±17km, mb4.6/5, Error ellipse: s-maj=16.0km s-min=12.0km az=111.0*

ISC 15 19:33:44.0±0.6,21.°4S±0.°1×175.°6W±0.°1,h60km,n63,
σ0§84/51,mb4.5/13,MS3.2/3,11C,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIUE	**Niue**	**5.78**	**68**	P		Pn	19 34 59.1	-8.1
	baz=5.4,SNR=16							
MSVF	**Nonsavu**	**7.02**	**300**	*e*P		Pn	19 35 35.0	+11
	227nm,0.9s							
AFI	**Afiamalu**	**8.27**	**27**	Pn		Pn	19 35 37.9	-3.5
	5.0nm,0.3s,baz=101,slow=5.2,SNR=3.6							
AFI				Sn		Sn	19 36 59.8	-14
	19nm,0.3s,baz=118,slow=22,SNR=7.0							
AFI				LR		LR	19 37 50.5	
	comp=Z,43nm,21.6s,baz=172,slow=31							
RAR	**Rarotonga**	**14.73**	**92**	LR		LR	19 43 57.0	
	comp=Z,34nm,18.0s,baz=259,slow=42							
DZM	**Mont Dzumac**	**16.72**	**264**	*e*P		P	19 37 41.7	+5.9
	24nm,0.9s							
URZ	**Urewera**	**17.96**	**199**	P		**P**	**19 37 46.9**	**-2.4**
	4.9nm,0.3s,baz=288,slow=4.0,SNR=18							
TBI	**Tubuai**	**24.22**	**100**	*e*LR		LR	19 44 29.7	
	249nm,30.8s							
TBI	**Tubuai**	**24.22**	**100**	*e*T		T	20 03 05.1	
	20nm,0.3s							
PAE	**Paea**	**24.77**	**86**	*e*T		T	20 03 58.5	
	16nm,0.3s							
PPT2	**Papeete2**	**24.79**	**86**	*e*LR		LR	19 44 41.3	
	328nm,27.8s							
PPT2	**Papeete2**	**24.79**	**86**	*e*T		T	20 04 01.6	
	20nm,0.3s							
PPT	**Papeete**	**24.80**	**86**	LR		LR	19 48 04.8	
	comp=Z,69nm,18.5s,baz=305,slow=35							
RPZ	**Rata Peaks**	**24.89**	**203**	P		**P**	**19 39 00.8**	**-0.4**
	11nm,0.5s,baz=313,slow=3.3,SNR=8.8							
RPZ	**Rata Peaks**	**24.89**	**203**	*e*P		**P**	**19 39 00.6**	**-0.6**
MEH	**Mehetia**	**26.13**	**87**	*e*T		T	20 05 40.1	
	34nm,0.3s							
HNR	**Honiara**	**26.37**	**293**	LR		LR	19 48 21.3	
	comp=Z,45nm,19.1s,baz=122,slow=34							
CTA	**Charters Tower**	**35.66**	**265**	P		**P**	**19 40 36.8**	**+0.1**
	5.5nm,0.7s,baz=95,slow=11,SNR=7.5							
CTAO	**Charters Tower**	**35.66**	**265**	*e*P		**P**	**19 40 36.9**	**+0.2**
CMSA	**Cobar Meteorol**	**35.95**	**245**	P		**P**	**19 40 39.0**	**0.0**
	baz=36,SNR=9.2							
QLP	**Quilpie**	**36.97**	**254**	P		**P**	**19 40 48.6**	**+0.8**
	baz=37,SNR=4.9							
RKT	**Rikitea**	**37.54**	**100**	*e*T		T	20 19 42.8	
	12nm,0.3s							

STKA	**Stephens Creek**	**39.46**	**245**	P		**P**	**19 41 08.3**	**-0.3**
	3.2nm,0.7s,baz=98,slow=11,SNR=15							
STKA				PcP		**PcP**	**19 43 15.8**	**+0.2**
	2.4nm,1.0s,baz=130,slow=3.4,SNR=2.8							
STKA	**Stephens Creek**	**39.46**	**245**	P		**P**	**19 41 08.6**	**-0.1**
	baz=40,SNR=11							
HTT	**Hallett**	**41.84**	**243**	P		**P**	**19 41 27.7**	**-0.5**
	baz=42,SNR=6.2							
ASAR	**Alice Springs**	**46.52**	**257**	P		**P**	**19 42 05.4**	**-0.5**
	11nm,0.8s,baz=97,slow=7.1,SNR=64							
ASAR				PcP		**PcP**	**19 43 39.7**	**+0.2**
	1.0nm,0.8s,baz=105,slow=4.5,SNR=4.1							
WRA	**Warramunga Arr**	**46.72**	**262**	P		**P**	**19 42 06.5**	**-0.9**
	2.4nm,0.6s,baz=93,slow=8.1,SNR=63							
WRA				PcP		**PcP**	**19 43 40.1**	**-0.1**
	1.3nm,0.9s,baz=95,slow=3.3,SNR=3.4							
KDU	**Kakadu**	**50.23**	**271**	P		**P**	**19 42 35.6**	**+1.2**
	baz=51,SNR=3.2							
WRKA	**Warakurna**	**51.41**	**254**	P		**P**	**19 42 42.4**	**-0.8**
	baz=52,SNR=32							
KNRA	**Kununurra**	**52.86**	**266**	P		**P**	**19 42 54.1**	**+0.1**
	baz=53,SNR=4.9							
SBA	**Scott Base**	**57.15**	**184**	*e*P		**P**	**19 43 25.8**	**+1.7**
	4.4nm,0.7s							
MBWA	**Marble Bar**	**59.87**	**257**	*e*P		**P**	**19 43 42.3**	**-1.6**
MORW	**Morawa**	**61.59**	**248**	P		**P**	**19 43 56.7**	**+1.1**
	baz=62,SNR=3.2							
QSPA	**South Pole Qui**	**68.69**	**180**	*e*P		**P**	**19 44 41.1**	**0.0**
	9.7nm,1.0s							
NVAR	**Mina Array Bea**	**80.14**	**42**	P		**P**	**19 45 48.4**	**+0.4**
	0.5nm,0.6s,baz=223,slow=7.7,SNR=5.8							
MAW	**Mawson**	**81.49**	**199**	P		**P**	**19 45 54.8**	**+0.3**
	3.3nm,0.6s,baz=144,slow=5.3,SNR=17							
MAW	**Mawson**	**81.49**	**199**	P		**P**	**19 45 55.1**	**+0.6**
	baz=81,SNR=10							
TXAR	**Lajitas Array**	**85.64**	**56**	P		**P**	**19 46 16.2**	**-0.4**
	0.3nm,0.5s,baz=210,slow=7.2,SNR=4.8							
TCUT	**Toone Canyon**	**86.03**	**43**	*e*P		P	19 46 13.4	-5.0
	10nm,0.6s							
PDAR	**Pinedale Array**	**88.07**	**42**	LR		LR	20 17 05.4	
	comp=Z,46nm,20.8s,baz=120,slow=30							
ILAR	**Eielson Array**	**88.69**	**12**	P		**P**	**19 46 29.3**	**-1.0**
	0.3nm,0.4s,baz=216,slow=5.0,SNR=5.2							
CMAR	**Chiang Mai Arr**	**92.54**	**289**	P		**P**	**19 46 49.9**	**+0.5**
	0.6nm,1.0s,baz=122,slow=3.4,SNR=3.4							
ZALV	**Zalesovo Beam**	**112.60**	**321**	PKiKP		**PKiKP**	**19 52 12.4**	**-0.9**
	0.3nm,0.3s,baz=48,slow=2.2,SNR=3.6							
MKAR	**Makanchi Array**	**113.45**	**313**	PKiKP		**PKiKP**	**19 52 14.3**	**-0.9**
	0.4nm,0.6s,baz=227,slow=1.5,SNR=8.2							
KURK	**Kurchatov**	**116.18**	**317**	*e*PKPdf		**PKPdf**	**19 52 19.4**	**-0.9**
BRVK	**Borovoye**	**121.27**	**320**	*e*PKPdf		**PKPdf**	**19 52 29.6**	**-0.4**
ARCES	**ARCESS Array B**	**130.18**	**350**	PKP		**PKPdf**	**19 52 45.9**	**-0.7**
	1.7nm,0.7s,baz=301,slow=0.7,SNR=7.2							
FINES	**FINESS Array B**	**137.23**	**345**	PKP		**PKPdf**	**19 52 58.9**	**-1.1**
	0.8nm,0.6s,baz=113,slow=1.8,SNR=3.9							
AKASG	**Malin Array Be**	**144.86**	**332**	PKP		**PKPab**	**19 53 12.9**	**-0.3**
	3.4nm,0.7s,baz=39,slow=4.3,SNR=27							
BRTR	**Keskin Array B**	**149.10**	**313**	PKPbc		**PKPbc**	**19 53 26.1**	**+0.2**
	3.8nm,0.7s,baz=137,slow=4.7,SNR=19							
CLL	**Collm**	**149.39**	**349**	⇑*i*PKPbc		**PKPbc**	**19 53 26.8**	**+0.8**
	comp=Z,11nm,0.9s							
UPC	**

PET smax smax
comp=E,9µm,0.6s
PET Petropavlovsk 1.30 299 *e*Pn **Pb 20 28 32.5 -0.8**
UGLR Uglovaya 1.31 308 *e*P **Pb 20 28 33.1 -0.5**
SDLR Sedlovina 1.33 312 *i* P **Pn 20 28 33.0 +1.3**
SDLR Sedlovina 1.33 312 PN **Pn 20 28 33.0 +1.3**
INSR Institute 1.35 300 *e*P **Pn 20 28 33.1 +1.3**
SMAR Somma 1.36 310 *i* P **Pn 20 28 33.4 +1.2**
SMAR Somma 1.36 310 PN **Pn 20 28 33.4 +1.2**
AVH Avacha 1.39 309 *i* P **Pb 20 28 34.3 -0.5**
AVH Avacha 1.39 309 PN **Pb 20 28 34.3 -0.5**
KRER Koryakskii 1.41 310 P **Pb 20 28 34.4 -0.8**
MTVR Mutnovka 1.45 274 *e*P **Pn 20 28 34.7 +1.4**
MTVR S **Sb 20 28 56.0 +2.1**
KOK Koryaka 1.46 308 P **Pb 20 28 35.0 -1.0**
KOK Koryaka 1.46 308 PN **Pb 20 28 35.0 -1.0**
KRX Arik 1.49 310 P **Pn 20 28 35.2 +1.3**
GRL Gorelyy 1.52 276 *i* P **Pb 20 28 36.9 -0.1**
GRL Gorelyy 1.52 276 PN **Pb 20 28 36.9 -0.1**
ASAK Asacha 1.62 270 P **Pn 20 28 37.3 +1.7**
ASAK S **Sb 20 29 02.0 +3.2**
KII Karymskiy 1.76 338 P **Pn 20 28 38.4 +0.9**
KII Karymskiy 1.76 338 PN **Pn 20 28 38.4 +0.9**
PETK Petropavlovsk- 1.86 293 P **Pn 20 28 40.9 +2.0**
comp=E,164nm,0.3s,baz=114,slow=17,SNR=631
PETK LR LR 20 29 12.5
comp=E,903nm,19.7s,baz=87,slow=34
GNL Ganaly 2.03 310 *e*P **Pb 20 28 44.1 -1.6**
GNL Ganaly 2.03 310 PN **Pb 20 28 44.1 -1.6**
APC Apacha 2.12 285 *e*P **Pb 20 28 45.1 -2.1**
APC Apacha 2.12 285 PN **Pb 20 28 45.1 -2.1**
MKZ Mys Kozlova 2.26 18 *i* P **Pn 20 28 42.7 -1.7**
MKZ *e*S **Sn 20 29 09.2 -1.9**
MKZ Mys Kozlova 2.26 18 PN **Pn 20 28 42.7 -1.7**
MKZ S **Sn 20 29 09.2 -1.9**
MIPR Malaya Ipel'ka 2.33 268 *i* P **Pn 20 28 47.4 +2.2**
PAU Pauzhetka 2.50 249 *e*P **Pn 20 28 48.2 +0.6**
PAU Pauzhetka 2.50 249 PN **Pn 20 28 48.2 +0.6**
KZV Kizimen 2.71 357 *i* P **Pn 20 28 51.5 +0.8**
KZV *e*S **Sn 20 29 25.4 +3.0**
TUMR Tumrok 2.89 356 *i* P **Pn 20 28 54.5 +1.4**
TUMR *e*S **Sn 20 29 30.3 +3.6**
TUMR Tumrok 2.89 356 PN **Pn 20 28 54.5 +1.4**
TUMR S **Sn 20 29 30.3 +3.6**
SKR Severo-Kuril's 3.26 240 *e*P **Pn 20 28 57.9 -0.1**
SKR *e*S **Sn 20 29 35.4 -0.2**
SKR Severo-Kuril's 3.26 240⇑ *i*PN **Pn 20 28 57.5 -0.5**
SKR *i* S **Sn 20 29 35.0 -0.6**
SKR pmax pmax
comp=E,120nm,0.5s
SKR pmax pmax
comp=Z,190nm,0.5s
SKR pmax pmax
comp=N,50nm,0.3s
SKR smax smax
comp=N,830nm,0.2s
SKR smax smax
comp=E,3µm,0.2s
SKR smax smax
comp=N,1µm,2.0s
SKR MLR MLR
comp=N,3µm,14.0s
SKR MLR MLR
comp=E,5µm,14.0s
SKR MLR MLR
comp=Z,4µm,14.0s
KMNR Kamenistaya 3.36 357 *i* P **Pn 20 29 01.6 +2.1**
KMNR Kamenistaya 3.36 357 PN **Pn 20 29 01.6 +2.1**
ESO Esso 3.69 344 *e*P **Pn 20 29 05.5 +1.6**
ESO Esso 3.69 344 PN **Pn 20 29 05.5 +1.6**
SRDR Sredinnyy 3.94 353 *e*P **Pn 20 29 08.9 +1.4**
SRDR Sredinnyy 3.94 353 PN **Pn 20 29 08.9 +1.4**
KBTR Krutoberegovo 4.03 18 *i* P **Pn 20 29 07.9 -0.8**
KBTR Krutoberegovo 4.03 18 PN **Pn 20 29 07.9 -0.8**
BDR Baidarnaya 4.18 5 P **Pn 20 29 13.1 +2.2**
SMKR Semkarok 4.22 7 *e*P **Pn 20 29 12.9 +1.6**
SMKR *e*S **Sn 20 30 03.4 +4.1**
SMKR Semkarok 4.22 7 PN **Pn 20 29 12.9 +1.6**
SMKR S **Sn 20 30 03.4 +4.1**
SRKR Sorokina 4.27 5 *e*P **Pn 20 29 13.8 +1.8**
SRKR Sorokina 4.27 5 PN **Pn 20 29 13.8 +1.8**
SMY Shemya 8.27 82 *e*PN Pn 20 30 03.6 -3.2
SMY pmax pmax
comp=Z,263nm,0.8s
SMY Shemya 8.27 82 *e*Pn Pn 20 30 03.6 -3.2
comp=Z,263nm,0.8s
MA2 Magadan 9.02 327 *e*PN **Pn 20 30 19.0 +1.9**
KUR Kuril'sk 11.01 234⇑ *i*PN **Pn 20 30 44.7 +0.4**
KUR *i* SS SS 20 33 00.5
KUR pmax pmax
comp=N,8.0nm,0.1s
KUR pmax pmax
comp=E,13nm,0.1s
KUR pmax pmax
comp=Z,14nm,0.1s
KUR pmax pmax
comp=Z,26nm,3.0s
SEY Seymchan 11.41 341 P **Pn 20 30 51.9 +2.2**
comp=Z,0.1nm,0.3s,baz=138,slow=13,SNR=6.3
SEY Seymchan 11.41 341 *e*PN **Pn 20 30 49.9 +0.2**
NKL Nikolayevsk 12.05 281 *e*PN Pn 20 30 51.0 -7.5
NKL pmax pmax
comp=E,300nm,8.0s
NKL pmax pmax
comp=Z,300nm,8.0s
NKL MLR MLR
comp=E,1µm,14.0s
NKL MLR MLR
comp=Z,2µm,14.0s
UGL Uglegorsk 12.16 261 PN **Pn 20 30 59.1 -1.0**
UGL *e*SS SS 20 33 29.6
YSS Yuzh-Sakhalins 12.73 252⇓ *e*PN **Pn 20 31 09.8 +1.9**
YSS *e*S **Sn 20 33 33.0 +4.7**
YSS pmax pmax
comp=Z,40nm,1.0s
YSS MLR MLR
comp=Z,1µm,15.0s
YSS MLR MLR
comp=E,800nm,14.0s
YSS Yuzh-Sakhalins 12.73 252 *e*Pn **Pn 20 31 10.5 +2.6**
comp=E,37nm,0.9s
YUK Yuzh-Kuril'sk 12.87 235⇓ *i*PN **Pn 20 31 07.7 -2.0**
YUK pmax pmax
comp=N,41nm,0.5s
YUK pmax pmax
comp=E,11nm,0.5s
YUK pmax pmax
comp=Z,42nm,0.5s
YUK pmax pmax
comp=Z,77nm,1.5s
YUK MLR MLR
comp=Z,329nm,11.0s
YUK MLR MLR
comp=N,250nm,11.0s
YUK MLR MLR
comp=E,403nm,11.0s
ASAJ Asahikawa 14.52 242 P **Pn 20 31 32.1 -0.1**
baz=68,slow=10
ASAJ Asahikawa 14.52 242 *e*Pn **Pn 20 31 31.6 -0.7**
ERM Erimo 15.69 235 *e*P Pn 20 31 42.0 -5.8
ERM pmax pmax
comp=Z,18nm,0.6s
ERM Erimo 15.69 235 *e*Pn Pn 20 31 42.0 -5.8
comp=Z,18nm,0.6s
BILL Bilibino 15.92 8 *ce*P **Pn 20 31 49.9 -0.7**
BILL pmax pmax
comp=Z,24nm,1.2s
HABR Khabarovsk 16.67 266 *e*P **Pn 20 31 59.0 -1.2**
HABR pmax pmax
comp=E,10.0nm,1.1s
HABR pmax pmax
comp=N,7.0nm,1.1s
HABR pmax pmax
comp=Z,15nm,1.1s
HABR MLR MLR
comp=Z,872nm,17.0s
KLR Kul'dur 18.41 272 *e*P **P 20 32 18.0 -3.5**
KLR MLR MLR
comp=Z,1µm,13.0s
NIKH Nikolski High 18.50 76 *e*P **P 20 32 22.5 +0.2**
comp=Z,52nm,1.0s
YAK Yakutsk 19.10 312 P **P 20 32 27.8 -1.1**
comp=Z,0.0nm,0.3s,baz=284,slow=20,SNR=19
YAK LR LR 20 40 50.3
comp=Z,410nm,18.9s,baz=107,slow=40
YAK Yakutsk 19.10 312 *i* P **P 20 32 28.2 -0.7**
YAK pmax pmax
comp=Z,129nm,1.0s
YAK Yakutsk 19.10 312 *e*P **P 20 32 26.9 -2.0**
comp=Z,99nm,0.8s
USRK Ussuriysk Ar. 20.59 258 P **P 20 32 43.5 -1.7**
comp=Z,18nm,0.9s,baz=59,slow=11,SNR=33
FALS False Pass 21.36 69 *e*P **P 20 32 55.6 +2.1**
comp=Z,8.1nm,1.0s
MDJ Mudanjiang 21.80 261 P **P 20 32 56.8 -1.5**
MDJ PMZ
comp=Z,11nm,0.8s
MDJ PMZ
comp=Z,45nm,5.3s
MDJ LN
comp=Z,560nm,16.7s
MDJ LE
comp=Z,260nm,16.3s
MDJ LZ
comp=Z,800nm,11.6s
MDJ Mudanjiang 21.80 261 *e*P **P 20 32 57.4 -1.0**
comp=Z,12nm,0.9s
MSHR Mys Shultsa 22.01 255 *i* P **P 20 33 00.0 -0.6**
MAJO Matsushiro 22.35 234 *i* P **P 20 33 03.3 -0.9**
MAJO pmax pmax
comp=Z,273nm,0.9s
MAJO Matsushiro 22.35 234 *e*P **P 20 33 04.5 +0.3**
comp=Z,46nm,0.8s
MAT Matsushiro 22.35 234 P **P 20 33 04.6 +0.4**
MAT S **S 20 37 10.6 +2.9**
MJAR Matsushiro Arr 22.35 234 P **P 20 33 04.0 -0.2**
comp=Z,24nm,0.8s,baz=29,slow=8.9,SNR=68
MJAR LR LR 20 42 16.3
comp=Z,362nm,21.7s,baz=60,slow=38
HIA Hailar 25.71 279 *e*P **P 20 33 34.3 -2.0**
HIA pmax pmax
comp=Z,41nm,0.9s
HIA Hailar 25.71 279 *e*P **P 20 33 34.3 -2.0**
comp=Z,41nm,0.9s
IM04 Indian Mountai 26.32 41 *e*P **P 20 33 40.7 -0.9**
BOD Bodaibo 26.72 300 *e*P **P 20 33 44.0 -1.3**
BOD pmax pmax
comp=Z,18nm,1.0s
PPLA Purkeypile 26.75 48 *e*pP pP 20 33 57.4 +2.1
KSRS Korea Array 27.22 250 P **P 20 33 49.4 -0.5**
comp=Z,5.1nm,0.8s,baz=44,slow=9.7,SNR=19
KSRS PcP **PcP 20 37 09.4 +0.2**
comp=Z,1.1nm,0.6s,baz=24,slow=2.5,SNR=5.7
KSRS LR LR 20 45 43.7
comp=Z,313nm,18.2s,baz=58,slow=39
KSRS Korea Array 27.22 250 P **P 20 33 49.4 -0.5**
KSRS 20 37 09.5
KSRS pmax pmax
comp=Z,5.0nm,0.8s
KSRS MLR MLR
comp=Z,313nm,18.2s
KSAR Wonju Array Be 27.25 250 P **P 20 33 49.4 -0.8**
KSAR 20 37 09.5
KSAR Wonju Array Be 27.25 250 P **P 20 33 49.4 -0.8**
KSAR PcP **PcP 20 37 09.4 +0.1**
BPAW Bear Paw Mtn. 27.32 46 *e*P **P 20 33 50.7 +0.1**
comp=Z,40nm,2.1s
SML Sawmill 28.58 51 *e*P **P 20 34 01.3 -0.6**
SML pmax pmax
comp=Z,4.0nm,0.9s
SML Sawmill 28.58 51 *e*P **P 20 34 01.3 -0.6**
comp=Z,4.5nm,0.9s
COLA College 28.70 44 *e*P **P 20 34 04.1 +1.3**
COLA College 28.70 44 *e*P **P 20 34 04.0 +1.3**
CCB Clear Creek Bu 28.71 45 *e*P **P 20 34 03.3 +0.3**
comp=Z,8.0nm,1.2s
JNU Nakatsue 28.77 240 P **P 20 34 03.9 0.0**
comp=Z,6.8nm,0.8s,baz=56,slow=10,SNR=3.4
ILAR Eielson Array 29.11 44 P **P 20 34 05.9 -0.6**
comp=Z,0.7nm,0.6s,baz=264,slow=8.4,SNR=6.8
ILAR PcP **PcP 20 37 14.9 +1.5**
comp=Z,0.2nm,0.6s,baz=283,slow=2.7,SNR=2.7
ILAR LR LR 20 47 24.4
comp=Z,139nm,18.4s,baz=287,slow=40
EGAK Eagle 31.56 44 *e*P **P 20 34 27.7 -0.5**
comp=Z,5.3nm,0.9s
BJI Beijing 32.58 266 P **P 20 34 36.4 -0.9**
BJI pP **pP 20 34 45.6 -1.4**
BJI sP **sP 20 34 49.5 -1.6**
BJI PP **PP 20 35 50.3 -0.8**
BJI S **S 20 39 48.4 -2.0**
BJI PMZ
comp=Z,6.0nm,0.5s
BJI LN
comp=Z,640nm,13.9s
BJI LE
comp=Z,440nm,15.5s
BJI LZ
comp=Z,370nm,19.7s
H11N2 WAKE ISLAND Hy 32.99 169 T T 21 09 34.0
baz=349
H11N3 WAKE ISLAND Hy 33.00 169 T T 21 09 32.8
baz=349,slow=74
H11N1 WAKE ISLAND Hy 33.01 169 T T 21 09 31.6
baz=349,slow=74
IRK Irkutsk 33.65 293 *e*P **P 20 34 45.8 -0.8**
IRK pmax pmax
comp=Z,19nm,1.6s
HYT Haines Junctio 33.89 51 *e*P **P 20 34 51.2 +2.5**
H11S1 WAKE ISLAND Hy 34.17 170 T T 21 10 57.0
baz=350,slow=76,SNR=7.2
H11S3 WAKE ISLAND Hy 34.19 170 T T 21 10 58.2
baz=350,slow=76,SNR=4.1
H11S2 WAKE ISLAND Hy 34.19 170 T T 21 10 58.2
baz=350,slow=76,SNR=5.3
TLY Talaya 34.23 292 *e*P **P 20 34 52.2 +0.6**
TLY *e* 20 36 22.7
TLY pmax pmax
comp=Z,14nm,1.4s
TLY MLR MLR
comp=Z,310nm,13.0s
INK Inuvik 34.25 37 P **P 20 34 51.1 -0.4**
comp=Z,2.1nm,0.6s,baz=234,slow=4.2,SNR=2.3
SONM Songino Array 34.33 284 P **P 20 34 51.8 -0.9**
comp=Z,2.6nm,0.8s,baz=58,slow=8.4,SNR=18
SONM PcP **PcP 20 37 28.4 +0.4**
comp=Z,2.5nm,0.9s,baz=67,slow=2.5,SNR=4.2
TIA Tai'an 34.44 259⇓ P **P 20 34 54.6 +1.0**
TIA PMZ
comp=Z,20nm,0.9s
HHC Hu-ho-hao-te 34.91 271 *e*P **P 20 34 58.8 +1.0**
HHC PP **PP 20 36 16.3 -0.8**
HHC S **S 20 40 25.6 -1.3**
HHC sS **sS 20 40 41.6 -1.4**
HHC SS **SnSn 20 42 39.3 -3.5**
HHC ScS **ScS 20 45 15.8 -0.3**
HHC PMZ
comp=Z,18nm,1.1s
HHC LN
comp=Z,530nm,16.7s
HHC LE
comp=Z,400nm,13.7s
HHC LZ
comp=Z,490nm,17.1s
ZAK Zakamensk 34.99 290 *e*P **P 20 34 57.5 -0.8**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
DLBC Dease Lake 38.24 53 P **P 20 35 26.8 +0.9**
comp=Z,4.1nm,0.7s,baz=294,slow=9.8,SNR=4.9
DLBC Dease Lake 38.24 53 *e*P **P 20 35 27.6 +1.8**
WHN Wuhan 40.05 255 P **P 20 35 41.3 +0.2**
LZH Lanzhou 42.61 271 *e*P **P 20 36 02.4 0.0**
LZH pP **pP 20 36 12.1 -0.2**
LZH sP **sP 20 36 16.0 -0.3**
LZH PMZ
comp=Z,15nm,1.0s
LZH PMZ
comp=Z,75nm,4.0s
LZH LN
comp=Z,420nm,12.8s
LZH LE
comp=Z,600nm,14.1s
LZH LZ
comp=Z,570nm,15.3s
GTA Gaotai 42.96 277 *e*P **P 20 36 05.0 -0.1**
GTA pP **pP 20 36 14.1 -1.0**
GTA sP **sP 20 36 18.0 -1.1**
GTA PcP **PcP 20 37 55.9 +0.8**
GTA S **S 20 42 28.8 +0.9**
GTA sS **sS 20 42 45.1 +0.8**
GTA PMZ
comp=Z,4.0nm,1.0s
GTA PMZ
comp=Z,71nm,4.6s
GTA LN
comp=Z,470nm,16.2s
GTA LE
comp=Z,540nm,14.3s
GTA LZ
comp=Z,560nm,14.7s
ENH Enshi 43.15 260 *e*P **P 20 36 07.2 +0.6**
comp=Z,9.4nm,0.7s
ZALV Zalesovo Beam 43.38 303 P **P 20 36 06.0 -2.1**
comp=Z,1.9nm,0.5s,baz=64,slow=6.5,SNR=14
ZALV LR LR 20 55 36.2
comp=Z,159nm,19.2s,baz=70,slow=38
ZALV Zalesovo Beam 43.38 303 P **P 20 36 06.0 -2.1**
ZALV Zalesovo Beam 43.38 303 P **P 20 36 06.0 -2.1**
YKA Yellowknife Ar 43.48 42 P **P 20 36 08.6 -0.3**
comp=Z,0.9nm,0.8s,baz=293,slow=7.6,SNR=2.8
NVS Novosibirsk 43.73 305⇑ *i*P **P 20 36 09.2 -1.7**
NVS *i* 20 36 20.4
NVS *e* 20 37 50.6
NVS pmax pmax
comp=Z,50nm,1.1s
NVS pmax pmax
comp=N,14nm,1.2s
NVS pmax pmax
comp=E,34nm,1.2s
CD2 Chengdu 46.18 265 P **P 20 36 30.0 -0.8**
CD2 pP **pP 20 36 39.5 -1.3**
CD2 sP **sP 20 36 43.6 -1.2**
CD2 PP **PP 20 38 18.3 -1.0**
CD2 S **S 20 43 13.5 -1.1**
CD2 sS **sS 20 43 29.8 -1.3**
CD2 PMZ
comp=E,20nm,0.9s
CD2 PMZ
comp=E,260nm,4.9s
CD2 LN
comp=E,470nm,7.2s
CD2 LZ
comp=E,500nm,15.6s
WMQ Urumqi 47.46 290 P **P 20 36 41.5 +0.8**
WMQ pP **pP 20 36 52.0 +1.3**
WMQ S **S 20 43 29.0 -3.7**
WMQ SS SS 20 46 50.0 -10
WMQ PMZ
comp=E,14nm,1.0s
WMQ PMZ
comp=E,170nm,5.0s
WMQ LN
comp=E,150nm,16.0s
WMQ LE
comp=E,220nm,17.0s
WMQ LZ
comp=E,250nm,17.0s
GYA Guiyang 47.62 259 *e*P **P 20 36 43.0 +0.8**
GYA PMZ
comp=E,10.0nm,1.0s
KURK Kurchatov 48.33 303 *e*P **P 20 36 45.8 -1.4**
KURK *e**PP **pP 20 36 55.0 -2.3**
KURK pmax pmax
comp=Z,38nm,0.7s
KURK Kurchatov 48.33 303 *e*P **P 20 36 45.8 -1.4**
comp=Z,38nm,0.7s
KURK *e*pP **pP 20 36 55.0 -2.3**
MKAR Makanchi Array 48.70 296 P **P 20 36 48.9 -1.3**
comp=Z,3.3nm,0.4s,baz=53,slow=6.5,SNR=110
MKAR Makanchi Array 48.70 296 *i* P **P 20 36 48.5 -1.7**
MKAR pmax pmax
comp=Z,3.0nm,0.4s
MKAR Makanchi Array 48.70 296 *e*P **P 20 36 48.7 -1.4**
B08A Colville Reser 48.78 61 *e*P P 20 36 55.8 +5.0
comp=Z,3.4nm,0.8s
EDM Edmonton 48.96 53 *e*pP pP 20 37 03.7 +1.5
KMI Kunming 50.98 261 P **P 20 37 08.8 +0.8**
KMI pP **pP 20 37 18.4 +0.3**
KMI sP **sP 20 37 22.8 +0.7**
KMI PP **PP 20 39 05.3 +0.9**
KMI S **S 20 44 20.1 -2.6**
KMI SS **SS 20 47 52.3 -5.3**
KMI PMZ
comp=Z,10.0nm,0.8s
KMI PMZ
comp=Z,140nm,3.8s
KMI LN
comp=Z,480nm,15.3s
KMI LE
comp=Z,350nm,15.8s
KMI LZ
comp=Z,260nm,14.2s
YBH Yreka Blue Hor 51.00 70 P **P 20 37 07.6 -0.2**
comp=Z,2.6nm,0.8s,baz=331,slow=8.2,SNR=3.6
BRVK Borovoye 51.06 309 *e i*P **P 20 37 06.6 -1.3**
BRVK pmax pmax
comp=Z,11nm,0.9s
BRVK Borovoye 51.06 309 *e*P **P 20 37 06.8 -1.1**
comp=Z,14nm,0.7s
DAG Danmarks Havn 51.09 360 *i* P **P 20 37 07.4 -0.4**
comp=Z,14nm,0.8s
DAG Danmarks Havn 51.09 360 *i* P **P 20 37 07.4 -0.4**
DAG pmax pmax
comp=Z,10.0nm,0.8s
QIZ Qiongzhong 51.45 249 P P 20 37 14.6 +3.4
QIZ S **S 20 44 29.9 +1.0**
QIZ LZ
comp=Z,120nm,18.2s
BSMT Bassoo Peak 51.50 59 *e*P **P 20 37 12.6 +1.0**
comp=Z,7.4nm,0.7s
MOD Modoc 52.27 68 *e*P P 20 37 11.2 -6.1
comp=Z,4.5nm,0.8s
SVE Sverdlovsk 52.96 317 *e*P **P 20 37 21.9 -0.1**
SVE pmax pmax
comp=Z,6.0nm,0.6s
APA Apatity 53.99 338⇓ *i*P **P 20 37 30.0 +0.6**
APA pmax pmax
comp=Z,16nm,0.8s
APA MLR MLR
comp=Z,300nm,14.0s
ARCES ARCESS Array B 54.02 342 P **P 20 37 29.1 -0.6**
comp=Z,13nm,0.7s,baz=42,slow=9.6,SNR=18
ARCES LR LR 21 03 58.1
comp=Z,77nm,19.1s,baz=32,slow=40
ARU Arti 54.09 318 *d i*P **P 20 37 29.5 -0.8**
ARU 20 39 34.0
ARU S **S 20 45 08.9 +4.9**
ARU SS **SS 20 48 43.8 -1.2**
ARU pmax pmax
comp=Z,16nm,1.0s
ARU Arti 54.09 318 *e*P **P 20 37 29.3 -0.9**
comp=Z,15nm,0.5s
BOZ Bozeman (W) 54.58 59 *e*P **P 20 37 35.1 +0.9**
BOZ Bozeman (W) 54.58 59 *e*P **P 20 37 35.0 +0.9**
SUMG Summit 54.61 7 *i* P **P 20 37 34.8 +0.5**
comp=Z,38nm,0.7s
SUMG Summit 54.61 7 *e*P **P 20 37 34.0 -0.3**
SUMG pmax pmax
comp=Z,39nm,0.8s
SUMG Summit 54.61 7 *e*P **P 20 37 34.0 -0.3**
comp=Z,39nm,0.8s
LSA Lhasa 54.74 274 *e*P **P 20 37 36.7 +0.7**
LSA pmax pmax
comp=Z,7.0nm,0.7s
LSA Lhasa 54.74 274 *e*P **P 20 37 36.7 +0.7**
comp=Z,6.7nm,0.7s
TKM2 Tokmak 2 54.83 296 *e*P **P 20 37 35.3 -0.9**
TKM2 pmax pmax
comp=Z,4.0nm,0.8s
TKM2 Tokmak 2 54.83 296 *e*P **P 20 37 35.3 -0.9**
comp=Z,3.9nm,0.8s
WAKR Walker 55.02 71 *e*P **P 20 37 38.4 +0.9**
PRGR Permogore 55.16 328 *e*P **P 20 37 37.9 -0.1**
PRGR pmax pmax
comp=Z,37nm,0.9s
TMCR Tamitsa 55.51 333 *e*P **P 20 37 41.0 +0.6**
TMCR pmax pmax
comp=Z,117nm,1.2s
NVAR Mina Array Bea 55.72 70 P **P 20 37 42.6 0.0**
comp=Z,1.5nm,0.6s,baz=297,slow=7.6,SNR=14
EKS2 Erkin-Say 56.00 297 *e*P **P 20 37 43.9 -0.6**
EKS2 pmax pmax
comp=Z,9.0nm,0.8s
EKS2 Erkin-Say 56.00 297 *e*P **P 20 37 43.9 -0.6**
comp=Z,8.7nm,0.8s
CRAI Chiangrai 56.09 259 P P **20 37 44.3 -0.9**

comp=Z,58nm,1.1s,comp=Z,5µm
SKNT Sakolnakorn 56.47 253 P **P** **20 37 49.6 +1.7**
comp=Z,30nm,0.7s,comp=Z,4µm
REDW Red Top Meadow 56.52 61 *e*P P 20 37 54.3 +6.0
comp=Z,7.4nm,1.0s
HVU Hansel Valley 56.55 63 *e*P **P** **20 37 50.5 +2.0**
HVU Hansel Valley 56.55 63 *e*P **P** **20 37 50.5 +2.0**
comp=Z,53µm,0.8s
KSH Kashi 56.92 293 P P 20 37 54.6 +3.5
KSH pP pP 20 38 05.3 +4.0
KSH PcP **PcP** **20 38 50.3 +4.1**
KSH PP PP 20 40 03.1 +5.7
KSH S **S** **20 45 44.5 +1.9**
KSH sS sS 20 46 02.1 +2.7
KSH PMZ
comp=Z,190nm,4.8s
KSH LN
comp=Z,90nm,3.7s
KSH LE
comp=Z,110nm,4.3s
KSH LZ
comp=Z,280nm,8.1s
CMAI Chiengmai2 57.12 260 P **P** **20 37 54.0 +1.3**
comp=Z,38nm,1.0s
R11A Troy Canyon, C 57.33 68 *e*P **P** **20 37 54.9 +0.8**
comp=Z,29nm,2.6s
KKAR Karatay Array 57.46 300 *e*P **P** **20 37 53.9 -0.8**
KKAR Karatay Array 57.46 300 *e*P **P** **20 37 53.9 -0.8**
PDAR Pinedale Array 57.62 61 P **P** **20 37 57.1 +1.0**
comp=Z,2.5nm,0.8s,baz=331,slow=5.2,SNR=7.4
PDAR LR LR 21 00 02.1
comp=Z,35nm,21.3s,baz=292,slow=33
LAMP Lampang 57.85 258 P **P** **20 37 59.3 +1.6**
comp=Z,9.5nm,0.9s,comp=Z,76nm
UTTA Uttaradit 57.90 257 P **P** **20 37 59.5 +1.5**
comp=Z,11nm,0.9s,comp=Z,71nm
CMMT Chiang Mai 58.03 259 P **P** **20 38 00.1 +1.1**
comp=Z,46nm,1.2s
CHTO Chiang Mai 58.04 259 P **P** **20 38 00.1 +1.1**
comp=Z,157nm,1.2s
CHTO Chiang Mai 58.04 259 *e*P **P** **20 38 00.3 +1.3**
CHTO pmax pmax
comp=Z,24nm,0.9s
CHTO Chiang Mai 58.04 259 *e*P **P** **20 38 00.2 +1.3**
comp=Z,24nm,0.9s
NLU North Lily Min 58.19 65 *e*P P 20 37 56.0 -4.2
comp=Z,4.7nm,0.5s
NLU *e*pP pP 20 38 14.6 +4.2
CMAR Chiang Mai Arr 58.31 259 P **P** **20 38 01.9 +1.0**
comp=Z,15nm,0.9s,baz=24,slow=7.1,SNR=95
CMAR LR LR 21 06 31.4
comp=Z,199nm,18.3s,baz=54,slow=40
CMAR Chiang Mai Arr 58.31 259 *i* P **P** **20 38 02.4 +1.5**
CMAR pmax pmax
comp=Z,15nm,0.9s
TAPN Taplejung 58.53 275 *e*P **P** **20 38 02.7 0.0**
comp=Z,30nm,0.7s
PBKT Sadao Pong 58.56 256 P **P** **20 38 04.3 +1.7**
comp=Z,11nm,0.8s,comp=Z,2µm
ODAN Odare 59.08 275 *e*P **P** **20 38 05.8 -0.7**
comp=Z,21nm,0.7s
MHMT Maesarieng 59.14 260 P **P** **20 38 08.5 +1.9**
comp=Z,17nm,1.1s
RAMN Ramite 59.50 275 *e*P **P** **20 38 09.1 -0.3**
comp=Z,37nm,0.6s
SRU San Rafael 59.64 64 *e*P **P** **20 38 11.7 +1.6**
SRU pmax pmax
comp=Z,9.0nm,0.7s
SRU San Rafael 59.64 64 *e*P **P** **20 38 11.7 +1.6**
comp=Z,8.6nm,0.7s
KKN Kakani 59.69 277 *e*P **P** **20 38 10.6 -0.1**
comp=Z,31nm,0.6s
PKI Pulchoki 59.77 277 *e*P **P** **20 38 11.2 -0.2**
comp=Z,26nm,0.7s
PKIN Phulchoki 59.78 277 *e*P **P** **20 38 11.6 +0.3**
comp=Z,18nm,0.6s
GKN Gorkha 59.93 278 *e*P **P** **20 38 11.9 -0.3**
comp=Z,30nm,0.7s
DMN Daman 59.93 277 *e*P **P** **20 38 12.4 0.0**
comp=Z,42nm,0.6s
KOLN Koldanda 60.73 278 *e*P **P** **20 38 17.5 -0.2**
comp=Z,28nm,0.6s
FINES FINESS Array B 60.86 337 P **P** **20 38 18.0 +0.2**
comp=Z,12nm,0.5s,baz=40,slow=7.3,SNR=119
FINES LR LR 21 08 32.3
comp=Z,124nm,18.9s,baz=29,slow=40
FINES FINESS Array B 60.86 337 *i* P **P** **20 38 18.3 +0.5**
FINES pmax pmax
comp=Z,13nm,0.5s
PUL Pulkovo 61.21 334 *e*P **P** **20 38 20.1 -0.2**
PUL pmax pmax
comp=Z,41nm,0.6s
PHET Kaeng Krachan 62.23 254 P **P** **20 38 30.0 +2.2**
comp=Z,13nm,0.9s,comp=Z,115nm
MOS Moscow 62.38 328 *e*P P 20 38 37.9 +10
OBN Obninsk 63.24 328*c i*P **P** **20 38 33.6 -0.3**
OBN *i* 20 38 44.9
OBN *i* 20 40 54.7
OBN *e*S S 20 47 17.6 +15
OBN pmax pmax
comp=Z,25nm,1.1s
OBN MLR MLR
comp=Z,118nm,16.0s
OBN Obninsk 63.24 328 *e*P **P** **20 38 33.9 0.0**
comp=Z,20nm,0.8s
VSU Vasula 63.29 335 *e*P **P** **20 38 33.6 -0.6**
VSU pmax pmax
comp=Z,64nm,0.9s
SBUM Sibu 63.86 236 *e*P **P** **20 38 40.2 +1.6**
comp=Z,6.6nm,0.9s
SBUM *e*pP **pP** **20 38 48.6 -0.3**
NB2 NORSAR Subarra 64.28 344 P **P** **20 38 40.5 -0.2**
comp=Z,12nm,0.8s,baz=21,slow=6.9
NOA NORSAR Array B 64.28 344 P **P** **20 38 39.9 -0.8**
comp=Z,14nm,0.9s,baz=20,slow=6.7,SNR=24
NOA LR LR 21 08 39.3
comp=Z,59nm,20.6s,baz=35,slow=38
ANMO Albuquerque 64.89 65 *e*P P 20 38 41.8 -3.6
ANMO pmax pmax
comp=Z,9.0nm,1.2s
VSR Storozhevoye 65.55 324 *e*P **P** **20 38 48.6 -0.5**
VSR pmax pmax
comp=N,40nm,1.0s
VSR pmax pmax
comp=E,20nm,1.0s
VSR pmax pmax
comp=Z,40nm,1.0s
IZAR Zarasai 65.79 334 *e*P **P** **20 38 51.3 +0.8**
IZAR IAmb IAmb 20 38 52.7
comp=Z,5.6nm,0.6s
ISAL Salakas 65.98 334 *e*P **P** **20 38 52.6 +0.8**
ISAL IAmb IAmb 20 38 53.8
comp=Z,8.8nm,1.0s
IDID Didziasalis 66.04 333 *e*P **P** **20 38 53.0 +0.9**
IDID IAmb IAmb 20 38 54.1
comp=Z,9.3nm,0.9s
IIGN Ignalina 66.15 333 *e*P **P** **20 38 53.8 +0.9**
IIGN IAmb IAmb 20 38 54.7
comp=Z,20nm,1.2s
SCIA State Center 66.54 51 *e*P **P** **20 38 56.4 +0.7**
CHLP Challavanipeta 67.34 271 *e*P **P** **20 39 00.8 -0.2**
CHLP IAmb IAmb 20 39 02.4
comp=Z,31nm,1.1s
CHLP *e*pP **pP** **20 39 13.5 +2.0**
GEYT Alibeck 67.69 303 P **P** **20 39 02.6 -0.5**
comp=Z,8.4nm,0.8s,baz=36,slow=7.5,SNR=18
IMYA Miami 67.87 301 *e*P **P** **20 39 05.2 +0.9**
SUW Suwalki 68.15 334 *e*P **P** **20 39 06.4 +0.8**
SUW Suwalki 68.15 334 *e*P **P** **20 39 06.4 +0.8**
IAKL Akhelmad 68.37 302 *e*P **P** **20 39 08.7 +1.0**
GOF Gofitskoye 69.08 318 *e*P **P** **20 39 11.2 -0.3**
COP Copenhagen 69.09 341 *i* P **P** **20 39 13.5 +2.1**
comp=Z,12nm,0.6s
COP Copenhagen 69.09 341 *i* P **P** **20 39 13.5 +2.1**
COP pmax pmax
comp=Z,12nm,0.6s
BSD Bornholm Skovb 69.12 340 *i* P **P** **20 39 12.4 +0.8**
comp=Z,20nm,0.6s
BSD Bornholm Skovb 69.12 340 *i* P **P** **20 39 12.4 +0.8**
BSD pmax pmax
comp=Z,20nm,0.6s
WMOK Wichita Mounta 69.21 60 *e*P **P** **20 39 12.5 -0.1**
WMOK pmax pmax
comp=Z,4.0nm,0.8s
WMOK Wichita Mounta 69.21 60 *e*P **P** **20 39 12.5 -0.1**
comp=Z,4.1nm,0.8s

AKASG Malin Array Be 69.34 329 P **P** **20 39 12.4 -0.7**
comp=Z,12nm,0.8s,baz=29,slow=6.2,SNR=5.0
AKASG LR LR 21 12 31.8
comp=Z,102nm,19.9s,baz=20,slow=38
AKASG Malin Array Be 69.34 329 *i* P P 20 39 09.3 -3.8
AKASG pmax pmax
comp=Z,12nm,0.8s
KIEV Kiev 69.35 329 *e*P **P** **20 39 12.8 -0.3**
KIEV pmax pmax
comp=Z,17nm,0.9s
KIEV Kiev 69.35 329 *e*P **P** **20 39 12.8 -0.3**
comp=Z,17nm,0.9s
PVM Polavaram 69.79 272 *e*P **P** **20 39 15.5 -0.8**
PVM IAmb IAmb 20 39 17.4
comp=Z,18nm,1.0s
PVM *e*pP **pP** **20 39 27.5 +0.7**
RPR Rampur 69.99 275 *e*P **P** **20 39 16.8 -0.7**
RPR IAmb IAmb 20 39 17.9
comp=Z,17nm,0.7s
RPR *e*pP **pP** **20 39 28.4 +0.4**
NCK Nalchik 70.12 316 *i*P **P** **20 39 17.4 -0.6**
KIV Kislovodsk 70.12 317 *e*P **P** **20 39 18.7 +0.5**
KIV pmax pmax
comp=Z,10.0nm,0.8s
KIV Kislovodsk 70.12 317 *e*P **P** **20 39 18.6 +0.5**
comp=Z,9.7nm,0.8s
KBZ Khabaz 70.22 317 P **P** **20 39 18.4 -0.2**
comp=Z,14nm,0.9s,baz=86,slow=4.9,SNR=21
SRSP Sriramsagar 70.51 276 *e*P **P** **20 39 19.7 -1.1**
SRSP IAmb IAmb 20 39 21.1
comp=Z,21nm,1.0s
SRSP *e*pP **pP** **20 39 30.8 -0.4**
ZEI Tsey 70.56 316 *e*P **P** **20 39 20.2 -0.8**
ZEI pmax pmax
comp=Z,39nm,0.3s
TXAR Lajitas Array 70.65 67 P **P** **20 39 21.6 0.0**
comp=Z,2.2nm,0.6s,baz=299,slow=4.4,SNR=19
NEY Neytrino 70.69 317 *e*P **P** **20 39 19.6 -2.1**
BSEG Bad Segeberg 71.15 342 *e*P **P** **20 39 26.1 +2.0**
comp=Z,181nm,2.8s
ITEG Tejag 71.22 300 *e*P **P** **20 39 26.1 +1.0**
ANN Anapa 71.53 321 *e*P P 20 39 21.5 -5.0
ANN *e**PP pP 20 39 32.8 -4.2
ANN *e*S **S** **20 48 37.3 -5.4**
ANN *e*SS **SS** **20 53 14.0 -3.0**
ANN pmax pmax
comp=Z,48nm,1.2s
HYB Hyderabad 71.54 275 *i* P **P** **20 39 26.0 -1.0**
HYB *e*pP **pP** **20 39 37.0 -0.5**
HYBB Hyderabad (bro 71.54 275 *e*P **P** **20 39 26.4 -0.6**
HYBB IAmb IAmb 20 39 27.2
comp=Z,20nm,0.7s
HYBB *e*pP **pP** **20 39 38.4 +0.9**
NJS Nagarjunasagar 71.74 273 *e*P **P** **20 39 28.2 +0.1**
NJS IAmb IAmb 20 39 29.4
comp=Z,20nm,1.2s
NJS *e*pP **pP** **20 39 39.6 +0.9**
AKH Akhalkalaki 71.86 315 *i*P **P** **20 39 30.1 +1.3**
ADKI Addanki 71.88 273 *e*P **P** **20 39 29.2 +0.2**
ADKI IAmb IAmb 20 39 29.7
comp=Z,17nm,1.2s
KWP Kalwaria Pacla 72.22 333 *e*P **P** **20 39 31.4 +0.7**
KWP Kalwaria Pacla 72.22 333 *e*P **P** **20 39 31.4 +0.7**
KLRI Killari 72.23 277 *e*P **P** **20 39 31.0 -0.2**
KLRI IAmb IAmb 20 39 31.6
comp=Z,39nm,0.9s
KLRI *e*pP **pP** **20 39 41.9 +0.2**
SRLM Srisailam 72.34 274 *e*P **P** **20 39 30.8 -1.1**
SRLM IAmb IAmb 20 39 32.4
comp=Z,33nm,1.0s
SRLM *e*pP **pP** **20 39 42.2 -0.1**
SRLM *e* 20 39 51.6
GNI Garni 72.34 314*c i*P **P** **20 39 31.0 -0.7**
GNI pmax pmax
comp=Z,16nm,1.4s
OJC Ojcow 72.48 335 *e*P **P** **20 39 32.6 +0.4**
OJC Ojcow 72.48 335 *e*P **P** **20 39 32.8 +0.6**
OJC pmax pmax
comp=Z,32nm,1.7s
OJC Ojcow 72.48 335 *e*P **P** **20 39 32.8 +0.6**
comp=Z,32nm,1.7s
SIM Simferopol' 72.65 323 *e*P **P** **20 39 33.2 0.0**
SIM pmax pmax
comp=Z,9.0nm,0.7s
SIM MLR MLR
comp=N,150nm,15.2s
KSP Ksiaz 72.78 337 *e*P **P** **20 39 34.5 +0.6**
KSP Ksiaz 72.78 337 *e*P **P** **20 39 34.5 +0.6**
RCLA Racherla 72.80 273 *e*P **P** **20 39 34.2 -0.3**
RCLA IAmb IAmb 20 39 35.5
comp=Z,16nm,0.8s
RCLA *e*pP **pP** **20 39 45.2 +0.2**
IGZV Ghazvin 72.83 308 *e*P **P** **20 39 35.5 +0.7**
ISRB Sarab 72.89 310 *e*P **P** **20 39 35.3 +0.2**
KOLS Kolonicke sedl 72.98 333 *e*P **P** **20 39 35.9 +0.7**
KOLS pmax pmax
comp=Z,4.0nm,0.9s
KOLS Kolonicke sedl 72.98 333 *e*P **P** **20 39 35.9 +0.7**
KOLS *e* 20 39 43.2
KOLS *e*pP **pP** **20 39 47.6 +1.9**
NIE Niedzica 73.08 334 *e*P **P** **20 39 36.9 +1.2**
NIE Niedzica 73.08 334 *e*P **P** **20 39 36.9 +1.2**
IMRD Marand 73.08 312 *e*P **P** **20 39 36.4 +0.3**
CLL Collm 73.09 339 *e*P **P** **20 39 36.1 +0.4**
comp=Z,20nm,0.9s
CLL *e*L L 21 09 43.1
comp=Z,54nm,19.4s
CLL Collm 73.09 339 *e*P **P** **20 39 35.4 -0.3**
CLL pmax pmax
comp=Z,24nm,0.9s
CLL Collm 73.09 339 *e*P **P** **20 39 35.4 -0.3**
comp=Z,24nm,0.9s
CLL Collm 73.09 339 *i* P **P** **20 39 36.1 +0.4**
comp=Z,20nm,0.9s
CLL *e* 20 39 46.0
CLZ Clausthal 73.13 341 *e*P **P** **20 39 37.1 +1.1**
comp=Z,38nm,1.3s
UPC Upice 73.16 337 *e*P **P** **20 39 37.1 +0.9**
UPC *ex* x 20 39 44.5
UPC AMS AMS 21 18 30.0
comp=Z,200nm,14.2s
UPC Upice 73.16 337 *e*P **P** **20 39 37.1 +0.9**
UPC MLR MLR
comp=Z,200nm,14.2s
IVRN Varamin 73.20 306 *e*P **P** **20 39 37.3 +0.5**
DPC Dobruska-Polom 73.23 337 *e*P **P** **20 39 37.6 +0.9**
DPC *ex* x 20 39 44.4
DPC *e*pP **pP** **20 39 48.4 +1.2**
DPC *es*P **sP** **20 39 52.4 +1.3**
DPC Dobruska-Polom 73.23 337 *e*P **P** **20 39 37.6 +0.9**
DPC *e* 20 39 48.4
DPC *e* 20 39 52.4
OKC Ostrava-Krasne 73.25 336 AMS AMS 21 16 00.0
BRG Berggiesshubel 73.29 339 *e*P **P** **20 39 36.4 -0.5**
comp=Z,8.1nm,1.1s
BRG *e* 20 39 48.4
comp=Z,6.8nm,1.0s
BRG Berggiesshubel 73.29 339 *e*P **P** **20 39 37.2 +0.3**
comp=Z,8.0nm,1.1s
BRG Berggiesshubel 73.29 339 *e*P **P** **20 39 36.4 -0.5**
BRG *e* 20 39 48.4
BRG pmax pmax
comp=Z,8.0nm,1.1s
KRLC Kraliky 73.37 337 *e*P **P** **20 39 38.2 +0.7**
KRLC *ex* x 20 39 43.4
KRLC *e*pP **pP** **20 39 49.2 +1.2**
KRLC Kraliky 73.37 337 *e*P **P** **20 39 38.2 +0.7**
KRLC *e* 20 39 49.2
MORC Moravsky Berou 73.46 336 *e*P **P** **20 39 38.8 +0.8**
MORC pmax pmax
comp=Z,31nm,0.8s
MORC Moravsky Berou 73.46 336 *i*P **P** **20 39 38.9 +0.8**
MORC Moravsky Berou 73.46 336 *e*P **P** **20 39 38.8 +0.8**
comp=Z,31nm,0.8s
PVCC Panska Ves 73.47 338 AMS AMS 21 18 40.0
POO Poona 73.55 279 *i*P **P** **20 39 38.0 -1.0**
comp=Z,50nm,1.0s
SKHT Srikalahasti 73.66 271 *e*P **P** **20 39 38.2 -1.4**
SKHT IAmb IAmb 20 39 44.2
comp=Z,16nm,1.2s
TESR Tescani 73.84 329 *i*P **P** **20 39 40.4 +0.1**
KECS Kecovo 73.88 334 *e*P **P** **20 39 41.1 +0.6**
KECS pmax pmax
comp=Z,3.0nm,0.8s

KECS Kecovo 73.88 334 *e*P **P** **20 39 41.0 +0.6**
KECS *e* 20 39 49.7
KECS *e* 20 39 52.9
PRA Prague 73.93 338 *e*P **P** **20 39 42.1 +1.4**
PRA Prague 73.93 338 *e*P **P** **20 39 42.1 +1.4**
PRU Pruhonice 73.98 338 *e*P **P** **20 39 41.8 +0.8**
PRU *e*pP **pP** **20 39 51.4 -0.1**
PRU AMS AMS 21 18 40.0
comp=Z,300nm,12.2s
PRU Pruhonice 73.98 338 *e*P **P** **20 39 41.8 +0.8**
PRU *e* 20 39 51.4
PRU MLR MLR
comp=Z,300nm,12.2s
GOPC GO Pecny, Ondr 74.00 338 *e*P **P** **20 39 41.7 +0.6**
GOPC *e*pP **pP** **20 39 52.6 +0.9**
GOPC *es*P **sP** **20 39 57.7 +2.1**
GOPC AMS AMS 21 18 30.0
MOX Moxa 74.01 340 *e*P **P** **20 39 41.8 +0.6**
comp=Z,7.0nm,0.8s
MOX *e*L L 21 16 39.0
comp=Z,50nm,19.8s
ICHK Chekchek 74.01 302 *e*P **P** **20 39 42.4 +0.6**
ARCR ARCALIA 74.04 331⇑*i*P **P** **20 39 42.9 +1.5**
VRAC Vranov 74.13 336⇑*i*P **P** **20 39 41.8 -0.1**
NKC Novy Kostel 74.22 339 *e*P **P** **20 39 43.0 +0.6**
NKC *e*pP **pP** **20 39 54.7 +1.7**
NKC *ex* x 20 39 58.5
NKC Novy Kostel 74.22 339 *e*P **P** **20 39 43.0 +0.6**
NKC *e* 20 39 54.7
NKC *e* 20 39 58.5
URV Uravakonda 74.22 274 *e*P **P** **20 39 42.2 -0.7**
URV IAmb IAmb 20 39 43.8
comp=Z,9.6nm,0.7s
URV *e*pP **pP** **20 39 53.2 -0.2**
TLCR 74.31 327⇑*i*P **P** **20 39 43.7 +0.8**
VRI Vrincioaia 74.39 328⇑*i*P **P** **20 39 44.6 +1.1**
TREC Trest 74.41 337 *e*P **P** **20 39 44.1 +0.5**
TREC *e*pP **pP** **20 39 55.1 +1.0**
TREC *es*P **sP** **20 39 59.6 +1.6**
TREC AMS AMS 21 19 20.0
comp=Z,200nm,17.0s
TREC Trest 74.41 337 *e*P **P** **20 39 44.1 +0.5**
TREC *e* 20 39 55.1
TREC *e* 20 39 59.6
TREC MLR MLR
comp=Z,200nm,17.0s
PLOR Plostina 74.43 328⇓*i*P **P** **20 39 44.1 +0.4**
CFR Carcaliu 74.54 327⇓*i*P **P** **20 39 44.8 +0.5**
PSZ Piszkesteto 74.56 334 *e*P **P** **20 39 45.6 +1.1**
PSZ pmax pmax
comp=Z,6.0nm,0.8s
PSZ Piszkesteto 74.56 334 *e*P **P** **20 39 45.6 +1.1**
comp=Z,6.2nm,0.8s
PSZ Piszkesteto 74.56 334‖*e*P **P** **20 39 45.8 +1.3**
IMEH Mehriz 74.58 301 *e*P **P** **20 39 45.0 -0.2**
CJR Cluj-Napoca 74.60 331⇑*i*P **P** **20 39 45.7 +1.0**
SMOL Smolenice 74.66 336 *e*P **P** **20 39 47.6 +2.6**
SMOL Smolenice 74.66 336 *e*P **P** **20 39 47.6 +2.6**
ROTZ Rotzenmuhle 74.71 339 *e*P **P** **20 39 46.0 +0.7**
comp=Z,14nm,1.4s
DRGR 74.79 331⇓*i*P **P** **20 39 47.4 +1.5**
MLR Muntele Rosu 74.97 329⇑*i*P **P** **20 39 48.3 +1.3**
GRF Grafenberg Arr 75.00 340 *e*L L 21 11 15.5
comp=Z,60nm,20.7s
GRFO Grafenberg 75.00 340 *e*P **P** **20 39 49.5 +2.6**
GRFO pmax pmax
comp=Z,14nm,0.9s
GRFO Grafenberg 75.00 340 *e*P **P** **20 39 49.5 +2.6**
comp=Z,14nm,0.9s
KHC Kasperske Hory 75.01 338 *e*P **P** **20 39 48.0 +0.9**
KHC *e*pP **pP** **20 39 58.5 +0.9**
KHC *es*P **sP** **20 40 04.2 +2.7**
KHC AMS AMS 21 19 30.0
comp=Z,300nm,13.2s
KHC Kasperske Hory 75.01 338 *e*P **P** **20 39 47.9 +0.9**
KHC pmax pmax
comp=Z,5.0nm,1.1s
KHC Kasperske Hory 75.01 338 *e*P **P** **20 39 47.9 +0.9**
comp=Z,4.8nm,1.1s
TIRR Tirgusor 75.08 327 *e*P **P** **20 39 46.6 -0.8**
TIRR *e**PP **pP** **20 39 57.1 -0.9**
TIRR pmax pmax
comp=Z,15nm,0.8s
TIRR Tirgusor 75.08 327⇓*i*P **P** **20 39 48.0 +0.5**
TIRR Tirgusor 75.08 327 *e*P **P** **20 39 46.6 -0.8**
comp=Z,15nm,0.8s
TIRR *e*pP **pP** **20 39 57.1 -0.9**
ISR Istrita 75.11 328⇑*i*P **P** **20 39 49.2 +1.5**
MEM Membach 75.12 344 P **P** **20 39 48.3 +0.7**
comp=Z,17nm,1.3s
MEM Membach 75.12 344 *e*P **P** **20 39 48.7 +1.1**
MEM pmax pmax
comp=Z,28nm,1.0s
MEM Membach 75.12 344 *e*P **P** **20 39 48.7 +1.1**
comp=Z,28nm,1.0s
WET Wettzell 75.15 339 *e*P **P** **20 39 49.0 +1.1**
comp=Z,122nm,3.0s
WET *e*L L 21 18 19.5
comp=Z,85nm,19.2s
GEC2 GERESS Array S 75.25 338 *e*P **P** **20 39 49.2 +0.7**
comp=Z,101nm,3.0s
GEC2 *e*L L 21 14 42.7
comp=Z,73nm,21.0s
GEC2 GERESS Array S 75.25 338 *e*P **P** **20 39 49.5 +1.0**
GEC2 GERESS Array S 75.25 338 *e*P **P** **20 39 49.5 +1.0**
GERES GERESS Array B 75.25 338 P **P** **20 39 48.6 +0.1**
comp=Z,2.8nm,0.7s,baz=34,slow=5.5,SNR=19
VOIR 75.30 329⇑*i*P **P** **20 39 47.7 -1.2**
BCLA Clavier 75.42 344 P **P** **20 39 48.8 -0.5**
comp=Z,20nm,1.8s
PKSG 75.45 334‖*e*P **P** **20 39 50.9 +1.4**
ARR Arges 75.50 330⇓*i*P **P** **20 39 51.1 +1.2**
CSKK Cs˙‡kako 75.51 335⇑*e*P **P** **20 39 50.7 +0.8**
WRAB Tennant Creek 75.56 205 *e*P P 20 39 46.8 -3.6
WRAB pmax pmax
comp=Z,17nm,1.3s
WRA Warramunga Arr 75.58 205 P **P** **20 39 50.7 +0.2**
comp=Z,1.3nm,0.8s,baz=22,slow=6.2,SNR=5.6
CONA Conrad Observa 75.59 336⇑*i*P **P** **20 39 51.7 +1.3**
comp=Z,6.9nm,0.7s
MSAB Monastry St. A 75.60 327⇑*i*P **P** **20 39 51.5 +1.0**
PKST T˜'s 75.66 335‖*e*P **P** **20 39 52.0 +1.2**
DOU Dourbes 75.85 344 P **P** **20 39 51.3 -0.5**
IVIS Veis 75.95 309 *e*P **P** **20 39 52.4 -0.4**
IDHR Dehrash 76.03 309 *e*P **P** **20 39 53.0 -0.3**
BZS Buzias 76.18 332⇓*i*P **P** **20 39 54.2 +0.5**
STU Stuttgart 76.28 341 *e*L L 21 19 26.0
comp=Z,58nm,18.7s
ARSA Arzberg 76.31 336⇑*i*P **P** **20 39 55.8 +1.3**
comp=Z,6.8nm,0.9s
PKSM Moragy 76.47 334⇑*i*P **P** **20 39 55.6 +0.3**
PKSM Moragy 76.47 334⇑*e*P **P** **20 39 55.3 0.0**
MALT Malatya 76.60 317⇓*i*P **P** **20 39 57.8 +1.4**
BFO Black Forest 76.88 341 *e*L L 21 19 28.2
comp=Z,46nm,20.0s
BFO Black Forest 76.88 341 *i* P **P** **20 40 00.2 +2.5**
SOKA Soboth 76.96 336⇑*i*P **P** **20 39 59.2 +0.9**
comp=Z,15nm,1.3s,SNR=7.7
PERS Pernice 76.98 336 *e*P **P** **20 39 59.2 +0.9**
KBA Koelnbreinsper 76.99 338⇑*i*P **P** **20 39 60.0 +1.4**
comp=Z,45nm,0.9s,SNR=21
WATA Walderalm 77.15 339⇓*i*P **P** **20 40 00.6 +1.3**
comp=Z,13nm,1.2s
WTTA Wattenberg 77.20 339⇑*i*P **P** **20 40 00.9 +1.2**
comp=Z,14nm,1.1s
ECH Echery 77.21 342 *e*P **P** **20 40 00.1 +0.5**
ECH Echery 77.21 342 *e*P **P** **20 40 00.1 +0.5**
OBKA Obir 77.24 337⇑*i*P **P** **20 40 00.1 +0.3**
comp=Z,9.5nm,1.1s
MOTA Moosalm 77.24 339⇓*i*P **P** **20 40 00.8 +0.9**
comp=Z,12nm,1.1s,SNR=6.5
BRTR Keskin Array B 77.32 321 P **P** **20 40 00.4 -0.1**
comp=Z,4.3nm,0.9s,baz=32,slow=3.9,SNR=16
BRTR PP **PP** **20 42 52.7 -1.5**
comp=Z,0.9nm,0.8s,baz=15,slow=6.3,SNR=3.7
BRTR LR LR 21 20 12.7
comp=Z,59nm,18.1s,baz=24,slow=40
BRTR Keskin Array B 77.32 321 *i* P **P** **20 40 00.8 +0.3**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
MYKA Terra Mystica 77.34 337⇑*i*P **P** **20 40 00.7 +0.3**
comp=Z,5.6nm,0.9s
JMB Yambol 77.46 327⇑*i*P **P** **20 40 02.0 +1.0**
ABTA Abfaltersbach 77.50 338⇓*i*P **P** **20 40 02.1 +0.9**

	comp=Z,19nm,1.3s,SNR=9.7							
DAVA	**Damuels**	**77.56**	**340**	⇓	*i*P	**P**	**20 40 02.6**	**+0.9**
	comp=Z,9.8nm,1.1s							
FETA	**Feichten**	**77.63**	**339**	⇑	*i*P	**P**	**20 40 03.1**	**+1.0**
	comp=Z,11nm,1.2s							
DIVS	**Divibare**	**78.03**	**332**	⇓	*i*P	**P**	**20 40 04.7**	**+0.4**
FUORN	**Ofenpass-Fuorn**	**78.11**	**340**		*e*P	**P**	**20 40 06.3**	**+1.3**
	comp=Z,7.3nm,0.8s							
VTS	**Vitosha**	**78.44**	**329**	⇓	*i*P	**P**	**20 40 07.3**	**+0.6**
TUE	**Stuetta**	**78.45**	**340**		*e*P	**P**	**20 40 07.7**	**+1.0**
	comp=Z,9.6nm,0.8s							
KDZ	**Kurdzhali**	**78.58**	**327**	⇓	*i*P	**P**	**20 40 08.3**	**+1.0**
UOSS	**Wadi Hilu**	**78.83**	**296**		*e*P	**P**	**20 40 08.6**	**-0.3**
	comp=Z,27nm,0.7s							
UOSS					*e*pP	**PcP**	**20 40 17.9**	**+0.4**
RDO	**Rodhopi**	**78.99**	**327**		*e*P	**P**	**20 40 10.1**	**+0.6**
	comp=Z,23nm,1.0s							
MMB	**Musomiste**	**79.19**	**328**	⇑	*i*P	**P**	**20 40 11.4**	**+0.8**
AQU	**L'Aquila**	**81.42**	**336**		*e*P	**P**	**20 40 24.4**	**+1.7**
AQU	**L'Aquila**	**81.42**	**336**		*e*P	**P**	**20 40 24.4**	**+1.7**
CSS	**Prodhromos**	**81.57**	**319**		*e*P	**P**	**20 40 24.0**	**+0.5**
	comp=Z,3.6nm,0.8s							
TIP	**Timpagrande**	**83.50**	**332**		*e*P	**P**	**20 40 33.6**	**0.0**
	comp=Z,3.6nm,0.8s							
STKA	**Stephens Creek**	**85.55**	**196**		P	**P**	**20 40 44.1**	**+0.5**
	comp=Z,1.3nm,0.9s,baz=354,slow=9.2,SNR=2.7							
ESDC	**Sonseca Array**	**87.31**	**348**		P	**P**	**20 40 52.4**	**-0.2**
	comp=Z,3.7nm,0.9s,baz=352,slow=4.8,SNR=16							
KEST	**Kesra**	**88.69**	**337**		P	**P**	**20 40 59.3**	**+0.1**
	comp=Z,3.0nm,1.0s,baz=307,slow=4.0,SNR=7.7							
KEST					LR	LR	21 25 15.9	
	comp=Z,22nm,19.4s,baz=330,slow=39							
KEST	**Kesra**	**88.69**	**337**		*e*P	**P**	**20 40 59.7**	**+0.4**
KEST					*e*pP	**pP**	**20 41 11.6**	**+1.6**
SSN	**San Juan del S**	**94.97**	**64**		PFAKE		20 41 40.0	+11
SSN					LR	LR		
	comp=Z,100nm,18.2s							
TORD	**Torodi Ar. Bea**	**112.20**	**338**		PP	PP	20 47 22.6	-2.8
	comp=Z,4.8nm,1.1s,baz=9.3,slow=7.7,SNR=4.7							

*ISCJB **15** 20:52:22.8±0.3,38°.11N±0'.01×22°.70E±0'.02, h13km±2km, Error ellipse: s-maj=2.1km s-min=2.0km az=24.4*
*THE **15** 20:52:23.3,38°.13N×22°.72E, h8km, ML2.6/13, Error ellipse: s-maj=0.6km s-min=0.2km az=189.0*
*CSEM **15** 20:52:23.0±0.1,38°.11N×22°.72E, h11km, MD3.1, Error ellipse: s-maj=2.0km s-min=1.8km az=16.0*
*ATH **15** 20:52:23.0, 38°.12N×22°.70E, h19km, MD3.1/42, ML2.5*
ISC 15 20:52:23.4±0.8, **38°.12N**±0'.01×**22°.71E**±0'.01, **h13**km±4km, **n144**, σ0°**58**/235, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THAL	**Thalero**	**0.09**	**202**	*e*PB	**Pg**	**20 52 26.0**	**-0.3**
THAL				*e*SB	**Sg**	**20 52 27.8**	**-0.5**
THAL	**Thalero**	**0.09**	**202**	P	**Pg**	**20 52 26.0**	**-0.3**
THAL				*e*Sb	**Sg**	**20 52 27.8**	**-0.5**
THAL	**Thalero**	**0.09**	**202**	P	**Pg**	**20 52 26.0**	**-0.3**
THAL				S	**Sg**	**20 52 27.9**	**-0.4**
LTK	**Loutraki**	**0.23**	**116**	*e*PB	**Pg**	**20 52 28.3**	**0.0**
LTK				*e*SB	**Sg**	**20 52 32.1**	**+0.5**
LTK	**Loutraki**	**0.23**	**116**	P	**Pg**	**20 52 28.0**	**-0.3**
LTK	**Loutraki**	**0.23**	**116**	*e*Pb	**Pg**	**20 52 28.3**	**0.0**
LTK				S	**Sg**	**20 52 31.4**	**-0.2**
LTK				*e*Sb	Sb	20 52 32.1	-1.4
LTK	**Loutraki**	**0.23**	**116**	P	**Pg**	**20 52 28.0**	**-0.3**
LTK				S	**Sg**	**20 52 31.4**	**-0.2**
LOUT	**Loutraki**	**0.25**	**123**	*e*PB	**Pg**	**20 52 28.7**	**0.0**
LOUT				*e*SB	**Sg**	**20 52 33.2**	**+0.9**
LOUT	**Loutraki**	**0.25**	**123**	P	**Pg**	**20 52 28.6**	**-0.1**
LOUT				S	**Sg**	**20 52 32.0**	**-0.3**
LOUT				*e*Sb	Sb	20 52 33.2	-0.9
LOUT	**Loutraki**	**0.25**	**123**	P	**Pg**	**20 52 28.6**	**-0.1**
LOUT				S	**Sg**	**20 52 32.0**	**-0.3**
ACOR	**Acrocorinthos**	**0.27**	**151**	P	**Pg**	**20 52 28.6**	**-0.4**
ACOR				S	**Sg**	**20 52 32.4**	**-0.3**
DSF	**Desfina**	**0.32**	**334**	*e*PB	**Pg**	**20 52 29.9**	**-0.1**
DSF				*e*SB	**Sg**	**20 52 35.2**	**+0.8**
DSF	**Desfina**	**0.32**	**334**	*e*Pb	**Pg**	**20 52 29.9**	**-0.1**
DSF				S	**Sg**	**20 52 34.1**	**-0.3**
DSF				*e*Sb	**Sg**	**20 52 35.2**	**+0.8**
DSF	**Desfina**	**0.32**	**334**	P	**Pg**	**20 52 29.7**	**-0.3**
DSF				S	**Sg**	**20 52 34.1**	**-0.3**
GUR	**Goura**	**0.34**	**237**	*e*PB	**Pg**	**20 52 30.1**	**-0.3**
GUR				*e*SB	**Sg**	**20 52 34.4**	**-0.7**
GUR	**Goura**	**0.34**	**237**	P	**Pg**	**20 52 30.1**	**-0.3**
GUR				*e*Sb	**Sg**	**20 52 34.4**	**-0.7**
GUR	**Goura**	**0.34**	**237**	P	**Pg**	**20 52 30.1**	**-0.3**
GUR				S	**Sg**	**20 52 34.9**	**-0.2**
KLV	**Kalavryta, Ach**	**0.45**	**260**	*e*PB	**Pg**	**20 52 31.8**	**-0.5**
KLV				*e*SB	**Sg**	**20 52 37.4**	**-0.9**
KLV	**Kalavryta, Ach**	**0.45**	**260**	*e*Pb	**Pg**	**20 52 31.8**	**-0.5**
KLV				*e*Sb	**Sg**	**20 52 37.4**	**-0.9**
KLV				S	**Sg**	**20 52 38.6**	**+0.3**
KLV	**Kalavryta, Ach**	**0.45**	**260**	P	**Pg**	**20 52 31.7**	**-0.5**
KLV				S	**Sg**	**20 52 38.6**	**+0.3**
VIL2	**Platees**	**0.45**	**79**	*e*PB	**Pg**	**20 52 32.9**	**-0.3**
VIL2				*e*SB	**Sb**	**20 52 41.1**	**+1.3**
VILL	**Villia**	**0.48**	**85**	P	**Pg**	**20 52 32.2**	**-0.6**
VILL	**Villia**	**0.48**	**85**	*e*Pb	**Pg**	**20 52 32.9**	**-0.8**
VILL				S	**Sg**	**20 52 39.2**	**0.0**
VILL	**Villia**	**0.48**	**85**	P	**Pg**	**20 52 32.2**	**-0.6**
VILL				S	**Sg**	**20 52 39.2**	**0.0**
KALE	**Kalithea**	**0.52**	**301**	*e*PN	**Pg**	**20 52 33.6**	**0.0**
KALE				*e*SN	**Sg**	**20 52 40.8**	**+0.2**
KALE	**Kalithea**	**0.52**	**301**	P	**Pg**	**20 52 33.0**	**-0.6**
KALE	**Kalithea**	**0.52**	**301**	*e*Pn	**Pg**	**20 52 33.6**	**0.0**
KALE				*e*Sn	**Sg**	**20 52 40.8**	**+0.2**
KALE	**Kalithea**	**0.52**	**301**	P	**Pg**	**20 52 33.0**	**-0.6**
TRIZ	**Trizonia**	**0.56**	**296**	*e*PN	**Pg**	**20 52 34.1**	**-0.2**
TRIZ				*e*SN	**Sb**	**20 52 42.2**	**-0.6**
TRIZ	**Trizonia**	**0.56**	**296**	P	**Pg**	**20 52 34.0**	**-0.2**
TRIZ				*e*Sn	**Sb**	**20 52 42.2**	**-0.6**
TRIZ	**Trizonia**	**0.56**	**296**	P	**Pg**	**20 52 34.0**	**-0.2**
LKR	**Lokris**	**0.57**	**23**	*e*PN	**Pg**	**20 52 34.1**	**-0.5**
LKR	**Lokris**	**0.57**	**23**	*e*Pn	**Pg**	**20 52 34.1**	**-0.5**
LKR				S	**Sg**	**20 52 42.3**	**+0.1**
LKR	**Lokris**	**0.57**	**23**	P	**Pg**	**20 52 34.0**	**-0.5**
LKR				S	**Sg**	**20 52 42.3**	**+0.1**
LAKA	**Lakka**	**0.59**	**282**	*e*PN	**Pg**	**20 52 34.6**	**-0.3**
LAKA				*e*SN	**Sg**	**20 52 42.3**	**-0.3**
LAKA	**Lakka**	**0.59**	**282**	P	**Pg**	**20 52 34.5**	**-0.3**
LAKA				*e*Sn	**Sg**	**20 52 42.3**	**-0.3**
LAKA	**Lakka**	**0.59**	**282**	P	**Pg**	**20 52 34.5**	**-0.3**
SERG	**Sergoula**	**0.59**	**300**	*e*PN	**Pg**	**20 52 34.8**	**-0.2**
SERG				*e*SN	**Sg**	**20 52 42.2**	**-0.5**
SERG	**Sergoula**	**0.59**	**300**	P	**Pg**	**20 52 34.7**	**-0.2**
SERG				*e*Sn	**Sg**	**20 52 42.2**	**-0.5**
SERG	**Sergoula**	**0.59**	**300**	P	**Pg**	**20 52 34.7**	**-0.2**
ATAL	**Atalanti**	**0.62**	**23**	P	**Pg**	**20 52 34.9**	**-0.6**
ATAL				S	**Sg**	**20 52 43.6**	**-0.1**
ATAL	**Atalanti**	**0.62**	**23**	P	**Pg**	**20 52 34.9**	**-0.6**
ATAL				S	**Sg**	**20 52 43.6**	**-0.1**
AXAR	**Agios Charalam**	**0.64**	**357**	*e*PN	**Pg**	**20 52 35.5**	**-0.4**
AXAR				*e*SN	**Sb**	**20 52 45.7**	**+0.3**
AXAR	**Agios Charalam**	**0.64**	**357**	P	**Pg**	**20 52 35.3**	**-0.6**
AXAR				S	**Sg**	**20 52 44.6**	**+0.2**
AXAR				*e*Sn	**Sb**	**20 52 45.7**	**+0.3**
AXAR	**Agios Charalam**	**0.64**	**357**	P	**Pg**	**20 52 35.3**	**-0.6**
AXAR				S	**Sg**	**20 52 44.6**	**+0.2**
EFP	**Efpalio**	**0.70**	**296**	*e*PN	**Pg**	**20 52 36.9**	**-0.1**
EFP	**Efpalio**	**0.70**	**296**	P	**Pg**	**20 52 36.8**	**-0.2**
EFP	**Efpalio**	**0.70**	**296**	P	**Pg**	**20 52 36.8**	**-0.2**
NAIG	**Nisos Aigina**	**0.72**	**120**	*e*PN	**Pb**	**20 52 37.5**	**-0.2**
NAIG	**Nisos Aigina**	**0.72**	**120**	*e*Pn	**Pb**	**20 52 37.5**	**-0.2**
DID	**Didima**	**0.74**	**146**	*e*PN	**Pg**	**20 52 37.3**	**-0.5**
DID				*e*SN	**Sb**	**20 52 48.7**	**+0.4**
DID	**Didima**	**0.74**	**146**	P	**Pg**	**20 52 37.3**	**-0.5**
DID				*e*Sn	**Sb**	**20 52 48.7**	**+0.4**
DID	**Didima**	**0.74**	**146**	P	**Pg**	**20 52 37.3**	**-0.5**
DIDY	**Didyma**	**0.76**	**148**	*e*PN	**Pg**	**20 52 37.8**	**-0.3**
DIDY				*e*SN	**Sb**	**20 52 49.1**	**+0.3**
DIDY	**Didyma**	**0.76**	**148**	P	**Pg**	**20 52 37.5**	**-0.6**
DIDY	**Didyma**	**0.76**	**148**	*e*Pn	**Pg**	**20 52 37.8**	**-0.3**
DIDY				*e*Sn	**Sb**	**20 52 49.1**	**+0.3**
DIDY	**Didyma**	**0.76**	**148**	P	**Pg**	**20 52 37.5**	**-0.6**
VLX	**Vlachokerasia**	**0.80**	**199**	*e*PN	**Pg**	**20 52 38.3**	**-0.6**
VLX				*e*SN	**Sg**	**20 52 48.4**	**-0.9**
VLX	**Vlachokerasia**	**0.80**	**199**	P	**Pg**	**20 52 38.2**	**-0.6**
VLX				S	**Sb**	**20 52 50.5**	**+0.7**
VLX	**Vlachokerasia**	**0.80**	**199**	P	**Pg**	**20 52 38.2**	**-0.6**
VLX				S	**Sb**	**20 52 50.5**	**+0.7**
DRO	**Drossia**	**0.81**	**258**	*e*PN	**Pb**	**20 52 39.1**	**-0.1**
DRO				*e*SN	**Sg**	**20 52 49.3**	**-0.3**
DRO	**Drossia**	**0.81**	**258**	P	**Pg**	**20 52 38.3**	**-0.7**
DRO	**Drossia**	**0.81**	**258**	*e*Pn	**Pb**	**20 52 39.1**	**-0.1**
DRO	**Drossia**	**0.81**	**258**	P	**Pg**	**20 52 38.3**	**-0.7**
ATH	**Athens Observa**	**0.81**	**100**	*e*PN	**Pg**	**20 52 38.5**	**-0.6**
ATH				*e*SN	**Sb**	**20 52 50.7**	**+0.6**
ATH	**Athens Observa**	**0.81**	**100**	*e*Pn	**Pg**	**20 52 38.5**	**-0.6**
ATH				*e*Sn	**Sb**	**20 52 50.7**	**+0.6**
KRND	**KRANIDI**	**0.82**	**155**	*e*PN	**Pb**	**20 52 39.0**	**-0.4**
KRND				*e*SN	**Sb**	**20 52 50.1**	**-0.3**
KRND	**KRANIDI**	**0.82**	**155**	*e*Pn	**Pb**	**20 52 39.0**	**-0.4**
KRND				*e*Sn	**Sb**	**20 52 50.1**	**-0.3**
SMIA	**Simia**	**0.85**	**27**	*e*PN	**Pg**	**20 52 39.2**	**-0.6**
SMIA				*e*SN	**Sb**	**20 52 51.7**	**+0.4**
SMIA	**Simia**	**0.85**	**27**	P	**Pg**	**20 52 39.0**	**-0.8**
SMIA				*e*Sn	**Sb**	**20 52 51.7**	**+0.4**
SMIA	**Simia**	**0.85**	**27**	P	**Pg**	**20 52 39.0**	**-0.8**
MRKA	**Markates**	**0.90**	**50**	*e*PB	**Pg**	**20 52 39.8**	**-1.0**
MRKA				*e*SN	**Sn**	**20 52 54.0**	**-0.7**
MRKA	**Markates**	**0.90**	**50**	P	**Pg**	**20 52 39.9**	**-0.9**
MRKA				S	**Sb**	**20 52 52.9**	**+0.1**
MRKA				*e*Sn	**Sn**	**20 52 54.0**	**-0.7**
MRKA	**Markates**	**0.90**	**50**	P	**Pg**	**20 52 39.9**	**-0.9**
MRKA				S	**Sb**	**20 52 52.9**	**+0.1**
PTL	**Penteli**	**0.92**	**94**	*e*PN	**Pb**	**20 52 41.2**	**+0.1**
PTL				*e*SN	**Sb**	**20 52 53.7**	**+0.5**
PTL	**Penteli**	**0.92**	**94**	*e*Pn	**Pb**	**20 52 41.2**	**+0.1**
PTL				*e*Sn	**Sb**	**20 52 53.7**	**+0.5**
AGG	**Agios Georgios**	**0.94**	**342**	*e*PN	**Pg**	**20 52 41.3**	**-0.3**
AGG				*e*SN	**Sb**	**20 52 54.6**	**+0.5**
AGG	**Agios Georgios**	**0.94**	**342**	P	**Pg**	**20 52 41.0**	**-0.6**
AGG	**Agios Georgios**	**0.94**	**342**	*e*Pn	**Pg**	**20 52 41.3**	**-0.3**
AGG				S	**Sb**	**20 52 54.5**	**+0.5**
AGG	**Agios Georgios**	**0.94**	**342**	P	**Pg**	**20 52 41.0**	**-0.6**
AGG				S	**Sb**	**20 52 54.5**	**+0.5**
RLS	**Riolos of Patr**	**0.98**	**267**	*e*PN	**Pg**	**20 52 41.6**	**-0.7**
RLS				*e*SN	**Sn**	**20 52 56.3**	**-0.3**
RLS	**Riolos of Patr**	**0.98**	**267**	*e*Pn	**Pg**	**20 52 41.6**	**-0.7**
RLS				*e*Sn	**Sn**	**20 52 56.3**	**-0.3**
AMT	**Artemida-Makis**	**0.99**	**234**	*e*PN	**Pg**	**20 52 41.6**	**-0.8**
AMT				*e*SN	**Sn**	**20 52 56.6**	**-0.2**
AMT	**Artemida-Makis**	**0.99**	**234**	P	**Pg**	**20 52 41.7**	**-0.7**
AMT				*e*Sn	**Sn**	**20 52 56.6**	**-0.2**
AMT	**Artemida-Makis**	**0.99**	**234**	P	**Pg**	**20 52 41.7**	**-0.7**
AMT				S	**Sn**	**20 52 56.7**	**-0.1**
MAKR	**Makrakomi, Fth**	**1.00**	**333**	*e*PN	**Pg**	**20 52 42.2**	**-0.4**
MAKR				*e*SN	**Sn**	**20 52 56.4**	**-0.4**
MAKR	**Makrakomi, Fth**	**1.00**	**333**	P	**Pg**	**20 52 42.0**	**-0.6**
MAKR				*e*Sn	**Sn**	**20 52 56.6**	**-0.4**
MAKR	**Makrakomi, Fth**	**1.00**	**333**	P	**Pg**	**20 52 42.0**	**-0.6**
MAKR				S	**Sb**	**20 52 56.4**	**+0.8**
EREA	**Eretria**	**1.01**	**73**	*e*PN	**Pg**	**20 52 42.1**	**-0.8**
EREA				*e*SN	**Sn**	**20 52 57.5**	**+0.2**
EREA	**Eretria**	**1.01**	**73**	P	**Pg**	**20 52 42.0**	**-0.8**
EREA				S	**Sn**	**20 52 56.5**	**-0.8**
EREA				*e*Sn	**Sn**	**20 52 57.5**	**+0.2**
EREA	**Eretria**	**1.01**	**73**	P	**Pg**	**20 52 42.0**	**-0.8**
EREA				S	**Sn**	**20 52 56.5**	**-0.8**
EVR	**Evrytania**	**1.06**	**319**	*e*PN	**Pb**	**20 52 43.5**	**-0.2**
EVR				*e*SN	**Sn**	**20 52 58.5**	**-0.2**
EVR	**Evrytania**	**1.06**	**319**	P	**Pb**	**20 52 43.4**	**-0.2**
EVR				*e*Sn	**Sn**	**20 52 58.5**	**-0.2**
EVR	**Evrytania**	**1.06**	**319**	P	**Pb**	**20 52 43.4**	**-0.2**
EVR				S	**Sn**	**20 52 58.8**	**+0.1**
ITM	**Ithomi**	**1.13**	**214**	*e*PB	**Pb**	**20 52 43.3**	**-1.2**
ITM	**Ithomi**	**1.13**	**214**	*e*Pb	**Pb**	**20 52 43.5**	**-1.2**
NEO	**Neokhori**	**1.25**	**19**	*e*PN	**Pb**	**20 52 46.7**	**-0.1**
NEO				*e*SN	**Sg**	**20 53 04.4**	**+0.8**
NEO	**Neokhori**	**1.25**	**19**	*e*Pn	**Pb**	**20 52 46.7**	**-0.1**
NEO				*e*Sn	**Sg**	**20 53 04.4**	**+0.8**
PDO	**Prodromos**	**1.29**	**292**	*e*PN	**Pg**	**20 52 48.4**	**+0.2**
PDO				*e*SN	**Sg**	**20 53 05.9**	**+1.0**
PDO	**Prodromos**	**1.29**	**292**	P	**Pn**	**20 52 46.7**	**-0.4**
PDO	**Prodromos**	**1.29**	**292**	*e*Pn	**Pg**	**20 52 48.4**	**+0.2**
PDO				*e*Sn	**Sg**	**20 53 05.9**	**+1.0**
PDO	**Prodromos**	**1.29**	**292**	P	**Pn**	**20 52 46.7**	**-0.4**
XOR	**Xorichti**	**1.30**	**17**	*e*PN	**Pb**	**20 52 47.4**	**-0.2**
XOR				*e*SN	**Sg**	**20 53 04.9**	**-0.3**
XOR	**Xorichti**	**1.30**	**17**	P	**Pn**	**20 52 46.9**	**-0.3**
XOR	**Xorichti**	**1.30**	**17**	*e*Pn	**Pb**	**20 52 47.4**	**-0.2**
XOR				S	**Sg**	**20 53 04.9**	**-0.3**
XOR	**Xorichti**	**1.30**	**17**	P	**Pn**	**20 52 46.9**	**-0.3**
XOR				S	**Sg**	**20 53 04.9**	**-0.3**
AOS	**Alonnisos**	**1.39**	**41**	*e*PN	**Pn**	**20 52 48.4**	**-0.1**
AOS				*e*SN	**Sg**	**20 53 07.4**	**-0.8**
AOS	**Alonnisos**	**1.39**	**41**	P	**Pn**	**20 52 47.9**	**-0.6**
AOS	**Alonnisos**	**1.39**	**41**	*e*Pn	**Pn**	**20 52 48.4**	**-0.1**
AOS				S	**Sb**	**20 53 06.9**	**0.0**
AOS				*e*Sn	**Sg**	**20 53 07.4**	**-0.8**
AOS	**Alonnisos**	**1.39**	**41**	P	**Pn**	**20 52 47.9**	**-0.6**
AOS				S	**Sb**	**20 53 06.9**	**0.0**
PYL	**PYLOS**	**1.45**	**212**	*e*PN	**Pb**	**20 52 50.2**	**0.0**
PYL	**PYLOS**	**1.45**	**212**	*e*Pn	**Pb**	**20 52 50.2**	**0.0**
THL	**Klokotos Trika**	**1.54**	**340**	*e*PN	**Pb**	**20 52 51.1**	**-0.6**
THL				*e*SN	**Sg**	**20 53 12.2**	**-0.7**
THL	**Klokotos Trika**	**1.54**	**340**	*e*Pn	**Pb**	**20 52 51.1**	**-0.6**
THL				*e*Sn	**Sg**	**20 53 12.2**	**-0.7**
ZKS	**Zakynthos**	**1.58**	**255**	*e*PN	**Pn**	**20 52 51.6**	**+0.5**
ZKS	**Zakynthos**	**1.58**	**255**	*e*Pn	**Pn**	**20 52 51.6**	**+0.5**
DSL	**Palaion Diasel**	**1.62**	**309**	*e*PN	**Pb**	**20 52 53.3**	**+0.2**
DSL	**Palaion Diasel**	**1.62**	**309**	*e*Pn	**Pb**	**20 52 53.3**	**+0.2**
EXG	**Exogi**	**1.67**	**282**	*e*PN	**Pb**	**20 52 54.2**	**+0.3**
EXG	**Exogi**	**1.67**	**282**	*e*Pn	**Pb**	**20 52 54.2**	**+0.3**
VLS	**Valsamata**	**1.67**	**272**	*e*PN	**Pb**	**20 52 53.5**	**-0.5**
VLS	**Valsamata**	**1.67**	**272**	*e*Pn	**Pb**	**20 52 53.5**	**-0.5**
KYTH	**Kithira**	**1.86**	**172**	*e*PN	**Pb**	**20 52 56.9**	**-0.3**
PAIG	**Paliouri**	**1.95**	**22**	*e*PB	**Pn**	**20 52 56.1**	**-0.1**
LIT	**Litokhoron**	**1.98**	**355**	*e*PB	**Pn**	**20 52 57.0**	**+0.4**
ANKY	**Antikythira Is**	**2.30**	**168**	*e*PB	**Pn**	**20 53 01.8**	**+0.8**
PLG	**Polygyros**	**2.32**	**14**	*e*PN	**Pn**	**20 53 01.7**	**+0.4**
PLG	**Polygyros**	**2.32**	**14**	*e*Pn	**Pn**	**20 53 01.7**	**+0.4**
IGT	**Igoumenitsa**	**2.33**	**308**	*e*PB	**Pn**	**20 53 03.0**	**+1.6**
OUR	**Ouranopolis**	**2.42**	**24**	*e*PN	**Pn**	**20 53 03.1**	**+0.5**
OUR	**Ouranopolis**	**2.42**	**24**	*e*Pn	**Pn**	**20 53 03.1**	**+0.5**
SGD	**Sagiada**	**2.44**	**308**	*e*PN	**Pn**	**20 53 03.5**	**+0.7**
SGD	**Sagiada**	**2.44**	**308**	*e*Pn	**Pn**	**20 53 03.5**	**+0.7**
APE	**Apeiranthos**	**2.48**	**114**	*e*PN	**Pn**	**20 53 05.0**	**+1.6**
APE	**Apeiranthos**	**2.48**	**114**	*e*Pn	**Pn**	**20 53 05.0**	**+1.6**
HORT	**Hortiatis**	**2.49**	**7**	*e*PN	**Pn**	**20 53 04.1**	**+0.4**
HORT	**Hortiatis**	**2.49**	**7**	*e*Pn	**Pn**	**20 53 04.1**	**+0.4**
NEST	**Nestorio**	**2.62**	**331**	*e*PB	**Pn**	**20 53 07.7**	**+2.2**
SOH	**Sokhos**	**2.74**	**10**	*e*PN	**Pn**	**20 53 07.9**	**+0.8**
SOH	**Sokhos**	**2.74**	**10**	*e*Pn	**Pn**	**20 53 07.9**	**+0.8**
VAM	**Vamos**	**2.96**	**156**	*e*PN	**Pn**	**20 53 11.9**	**+1.8**
VAM	**Vamos**	**2.96**	**156**	*e*Pn	**Pn**	**20 53 11.9**	**+1.8**
KNT	**Kendrikon**	**3.04**	**3**	*e*PN	**Pn**	**20 53 12.1**	**+1.0**
KNT	**Kendrikon**	**3.04**	**3**	*e*Pn	**Pn**	**20 53 12.1**	**+1.0**

*DDA **15** 20:53:46.9, 40°.58N×34°.00E, h3km, MD2.8*
*ISK **15** 20:53:46.3, 40°.59N×33°.99E, h5km, MD2.9*
*ISCJB **15** 20:53:47.2±0.8, 40°.59N±0'.03×33°.98E±0'.04, h5km±9km, Error ellipse: s-maj=6.7km s-min=4.2km az=140.9*
*CSEM **15** 20:53:47.1±0.2, 40°.59N×33°.96E, h5km, MD2.9, Error ellipse: s-maj=4.7km s-min=3.9km az=125.0*
ISC 15 20:53:47.4±1.0, **40°.59N**±0'.02×**33°.99E**±0'.02, **h6**km±11km, **n42**, σ0°**68**/57, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CANT	**Cankiri**	**0.28**	**274**	*e*PG	**Pg**	**20 53 52.8**	**-0.1**
CANT				*e*SG	**Sg**	**20 53 56.8**	**+0.2**
ELDT	**Eldivan**	**0.44**	**257**	*i*P	**Pg**	**20 53 56.2**	**+0.3**
ELDT				*i*S	**Sg**	**20 54 02.4**	**+0.7**
ELDT	**Eldivan**	**0.44**	**257**	*i*P	**Pg**	**20 53 56.2**	**+0.3**
ELDT				*i*S	**Sg**	**20 54 02.4**	**+0.7**
TOS	**Tosya**	**0.45**	**4**	*e*PG	**Pg**	**20 53 55.6**	**-0.5**
TOS				*e*SG	**Sg**	**20 54 02.1**	**+0.1**
TOS	**Tosya**	**0.45**	**4**	*e*Pg	**Pg**	**20 53 55.6**	**-0.5**
TOS				*e*Sg	**Sg**	**20 54 02.1**	**+0.1**
ILGA	**Ilgaz**	**0.51**	**336**	*i*P	**Pg**	**20 53 57.0**	**-0.2**
ILGA	**Ilgaz**	**0.51**	**336**	*i*P	**Pg**	**20 53 57.0**	**-0.2**
CDAG	**Cicekdag**	**1.01**	**163**	*i*P	**Pg**	**20 54 06.1**	**-0.6**
CDAG				*i*S	**Sn**	**20 54 23.4**	**+0.7**
CDAG	**Cicekdag**	**1.01**	**163**	*i*P	**Pg**	**20 54 06.1**	**-0.6**
CDAG				*i*S	**Sn**	**20 54 23.4**	**+0.7**
LOD	**Lodumlu**	**1.17**	**234**	*e*PN	**Pg**	**20 54 09.0**	**-0.8**
LOD	**Lodumlu**	**1.17**	**234**	*e*Pn	**Pg**	**20 54 09.0**	**-0.8**
KAMT	**Kaman**	**1.23**	**190**	*e*PN	**Pg**	**20 54 09.9**	**-1.2**
KAMT	**Kaman**	**1.23**	**190**	*e*Pn	**Pg**	**20 54 09.9**	**-1.2**
BBAL	**Bala**	**1.24**	**213**	*i*P	**Pg**	**20 54 10.6**	**-0.5**
BBAL				*i*S	**Sb**	**20 54 27.5**	**+0.1**
BBAL	**Bala**	**1.24**	**213**	*i*P	**Pg**	**20 54 10.6**	**-0.5**
BBAL				*i*S	**Sb**	**20 54 27.5**	**+0.1**
AFSR	**Af˙ar-Bala (A**	**1.34**	**212**	*e*PN	**Pn**	**20 54 11.8**	**-0.9**
AFSR	**Af˙ar-Bala (A**	**1.34**	**212**	*e*Pn	**Pn**	**20 54 11.8**	**-0.9**
YOZ	**Yozgat**	**1.39**	**132**	*e*PN	**Pn**	**20 54 13.1**	**-0.4**
YOZ	**Yozgat**	**1.39**	**132**	*e*Pn	**Pn**	**20 54 13.1**	**-0.4**
HAVZ	**Havza**	**1.40**	**69**	*i*P	**Pg**	**20 54 14.0**	**-0.2**
HAVZ				*i*S	**Sg**	**20 54 33.1**	**+0.7**
HAVZ	**Havza**	**1.40**	**69**	*i*P	**Pg**	**20 54 14.0**	**-0.2**
HAVZ				*i*S	**Sg**	**20 54 33.1**	**+0.7**
DIKM	**Dikmen**	**1.43**	**42**	*e*PN	**Pn**	**20 54 13.3**	**-0.6**
DIKM	**Dikmen**	**1.43**	**42**	*e*Pn	**Pn**	**20 54 13.3**	**-0.6**
BCAM	**Yenicaga**	**1.48**	**279**	*i*P	**Pb**	**20 54 14.8**	**-0.5**
BCAM				*i*S	**Sg**	**20 54 37.1**	**+2.2**
BCAM	**Yenicaga**	**1.48**	**279**	*i*P	**Pb**	**20 54 14.8**	**-0.5**
KVT	**Kavak**	**1.64**	**72**	*e*PN	**Pn**	**20 54 17.0**	**+0.2**
KVT	**Kavak**	**1.64**	**72**	*e*Pn	**Pn**	**20 54 17.0**	**+0.2**
SERE	**Sereflikochisa**	**1.67**	**191**	*e*PN	**Pn**	**20 54 17.2**	**-0.1**
SERE	**Sereflikochisa**	**1.67**	**191**	*e*Pn	**Pn**	**20 54 17.2**	**-0.1**
KULU	**Kulu**	**1.72**	**206**	*e*PN	**Pn**	**20 54 17.1**	**-0.8**
KULU	**Kulu**	**1.72**

MAKR					*e*SN	**Sg**	**21 16 18.0 +1.0**
MAKR	**Makrakomi, Fth**	**1.20**	**291**		*e*Pn	**Pg**	**21 16 01.1 -0.2**
MAKR					*e*Sn	**Sg**	**21 16 18.0 +1.0**
KLV	**Kalavryta, Ach**	**1.24**	**245**		*e*PN	**Pg**	**21 16 02.0 0.0**
KLV					*e*SN	**Sg**	**21 16 18.0 -0.1**
KLV	**Kalavryta, Ach**	**1.24**	**245**		*e*Pn	**Pg**	**21 16 02.0 0.0**
KLV					*e*Sn	**Sg**	**21 16 18.0 -0.1**
KRND	**KRANIDI**	**1.24**	**196**		*e*PB	**Pn**	**21 16 00.7 -0.3**
KRND					*e*SN	**Sg**	**21 16 18.5 +0.3**
KRND	**KRANIDI**	**1.24**	**196**		*e*Pb	**Pn**	**21 16 00.7 -0.3**
KRND					*e*Sn	**Sg**	**21 16 18.5 +0.3**
PAIG	**Paliouri**	**1.35**	**4**		*e*PN	**Pn**	**21 16 02.6 +0.1**
PAIG	**Paliouri**	**1.35**	**4**		*e*Pn	**Pn**	**21 16 02.6 +0.1**
OUR	**Ouranopolis**	**1.78**	**10**		*e*PB	**Pn**	**21 16 08.9 +0.5**

NIED ***15*** *21:18:00, 42˚.80N×145˚.00E, h89km, Mw4.2 Best double couple: M0 2.24000×10^15 NP1:φs=83.00000°, δ32.00000°, λ-87.00000°. NP2:φs=259.00000°, δ58.00000°, λ-92.00000°.*

BJI ***15*** *21:18:35.3, 42˚.79N×145˚.06E, h64km, mb4.6/26, mB4.8/17, Ms4.4/8, Ms7 4.2/8*

NEIC ***15*** *21:18:37.0±0.9, 42˚.81N×145˚.07E, h73km±8km, mb4.6/12, MW4.2(NIED), Error ellipse: s-maj=11.0km s-min=7.8km az=120.0*

NEIC Recorded [2 JMA] in eastern Hokkaido and [1 JMA] in southeastern Hokkaido.

MOS ***15*** *21:18:37.2±1.5, 42˚.84N×144˚.94E, h87km, mb4.8/16, Error ellipse: s-maj=9.6km s-min=5.6km az=105.4*

ISCJB ***15*** *21:18:37.9±0.3, 42˚.83N±0˚.03×145˚.00E±0˚.04, h94km±2km, mb4.4/41, Error ellipse: s-maj=5.6km s-min=3.6km az=139.9*

IDC ***15*** *21:18:38.2±0.6, 42˚.83N×145˚.11E, h87km±5km, mb4.0/22, mb1 4.1/25, mb1mx4.0/34, mbtmp4.2/25, MS2.9/5, Ms1 2.9/5, ms1mx2.6/32, Error ellipse: s-maj=12.3km s-min=10.9km az=109.0*

SKHL ***15*** *21:18:38.9±0.6, 42˚.90N×145˚.00E, h97km±5km, mb5.0/5, msh5.2/2*

JMA ***15*** *21:18:38.5±0.1, 42˚.81N×145˚.02E, h90km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φs=258.00000°, δ62.00000°, λ-86.00000°. NP2:φs=69.00000°, δ28.00000°, λ-98.00000°. Principal axes: T Plg17.0000°, Azm345.0000°; N Plg4.0000°, Azm76.0000°; P Plg73.0000°, Azm178.0000°;*

JMA Felt II J1.

ISC 15 21:18:38.1±0.4, 42˚.83N±0˚.04×144˚.99E±0˚.04, h82km±3km, h82km:pP-P,n181,σ1§55/202, mb4.5/43, 20C-13D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.27**	**307**	⇓	*i*	P	**Pn**	**21 18 52.0**	**+1.5**
JAK						*e*S	**Sn**	**21 19 02.3**	**+2.7**
NEM2	**Nemuro 2**	**0.77**	**46**	⇓		P	**Pn**	**21 18 55.4**	**+0.8**
NEM2						*e*S	**Sn**	**21 19 07.7**	**+0.8**
JNK	**Nakash**	**0.78**	**345**	⇓		P	**Pn**	**21 18 55.6**	**+0.8**
JNK						*e*S	**Sn**	**21 19 08.6**	**+1.4**
JOB	**Onbets**	**0.85**	**275**	⇓		P	**Pn**	**21 18 57.1**	**+1.5**
JOB						*e*S	**Sn**	**21 19 11.0**	**+2.4**
JAR	**Ashorobuto**	**1.01**	**298**	⇓		P	**Pn**	**21 18 58.8**	**+1.4**
JAR						*e*S	**Sn**	**21 19 14.0**	**+2.2**
JRA	**Rausu**	**1.11**	**5**	⇓		P	**Pn**	**21 18 59.9**	**+1.3**
JRA						*e*S	**Sn**	**21 19 16.2**	**+2.3**
JCH	**Churui**	**1.22**	**260**	⇓		P	**Pn**	**21 19 01.1**	**+1.2**
JCH						*e*S	**Sn**	**21 19 17.6**	**+1.3**
YUK	**Yuzh-Kuril'sk**	**1.36**	**28**	⇓	*i*	PN	**Pn**	**21 19 03.1**	**+1.4**
YUK					*i*	S	**Sn**	**21 19 21.0**	**+1.6**
YUK	comp=N,163nm,0.3s					pmax	pmax		
YUK	comp=E,159nm,0.3s					pmax	pmax		
YUK	comp=Z,804nm,0.3s					pmax	pmax		
YUK	comp=E,8μm,0.3s					smax	smax		
YUK	comp=N,12μm,0.4s					smax	smax		
YUK	**Yuzh-Kuril'sk**	**1.36**	**28**	⇓	*i*	P	**Pn**	**21 19 03.1**	**+1.4**
YUK						AMB	AMB	21 19 03.9	
YUK	comp=N,160nm,0.3s					AMB	AMB	21 19 03.9	
YUK	comp=N,800nm,0.3s				*i*	S	**Sn**	**21 19 21.0**	**+1.6**
YUK						A	A	21 19 22.0	
YUK	comp=N,12μm,0.4s					A	A	21 19 22.0	
YUK	comp=N,8μm,0.4s					A	A	21 19 22.1	
YUK	comp=N,8μm,0.4s					A	A	21 19 22.1	
JTKR	**Abashiri--Toko**	**1.39**	**326**	⇑		P	**Pn**	**21 19 03.7**	**+1.7**
JTKR						*e*S	**Sn**	**21 19 22.2**	**+2.2**
HRK	**Horoka**	**1.50**	**296**			*e*P	**Pn**	**21 19 05.1**	**+1.5**
HRK						*e*S	**Sn**	**21 19 24.5**	**+1.7**
ERM	**Erimo**	**1.58**	**240**		*d*	*i*PN	**Pn**	**21 19 06.4**	**+1.8**
ERM	comp=Z,180nm,0.6s					pmax	pmax		
ERM	**Erimo**	**1.58**	**240**			*e*P	**Pn**	**21 19 06.4**	**+1.8**
ERM	**Erimo**	**1.58**	**240**			*e*Pn	**Pn**	**21 19 06.1**	**+1.6**
ERM						*e*Sn	**Sn**	**21 19 26.3**	**+1.7**
JEM	**Erimo**	**1.58**	**240**			*e*S	**Sn**	**21 19 27.1**	**+2.5**
JMP	**Maruseppu**	**1.67**	**315**	⇑		P	**Pn**	**21 19 07.1**	**+1.4**
JMP						*e*S	**Sn**	**21 19 29.0**	**+2.3**
JNBK	**Urakawa-nobuka**	**1.74**	**252**			P	**Pn**	**21 19 06.9**	**+0.3**
JNBK						*e*S	**Sn**	**21 19 28.0**	**-0.3**
JFR	**Furan**	**1.79**	**281**			P	**Pn**	**21 19 08.5**	**+1.2**
JFR						*e*S	**Sn**	**21 19 30.3**	**+0.9**
ASAJ	**Asahikawa** baz=179,slow=9.6	**2.17**	**307**			P	**Pn**	**21 19 13.7**	**+1.4**
ASAJ	baz=166,slow=19					S	**Sn**	**21 19 37.3**	**-1.0**
ASAJ	**Asahikawa**	**2.17**	**307**			*e*Pn	**Pn**	**21 19 13.9**	**+1.7**
ASAJ						*e*Sn	**Sn**	**21 19 36.2**	**-2.0**
KUR	**Kuril'sk**	**3.17**	**40**	⇓	*i*	PN	**Pn**	**21 19 28.0**	**+2.3**
KUR					*i*	S	**Sn**	**21 20 04.7**	**+2.2**
KUR	comp=N,78nm,0.5s					pmax	pmax		
KUR	comp=E,81nm,0.5s					pmax	pmax		
KUR	comp=Z,198nm,0.5s					pmax	pmax		
KUR	comp=N,188nm,0.4s					smax	smax		
KUR	comp=E,302nm,0.5s					smax	smax		
KUR	**Kuril'sk**	**3.17**	**40**	⇑	*i*	P	**Pn**	**21 19 27.8**	**+2.1**
KUR						AMB	AMB	21 19 28.3	
KUR	comp=E,860nm,0.8s					AMB	AMB	21 19 28.3	
KUR					*i*	S	**Sn**	**21 20 04.3**	**+1.8**
KUR						A	A	21 20 06.0	
KUR	comp=E,680nm,0.5s					A	A	21 20 06.0	
KUR	comp=E,530nm,0.5s					A	A	21 20 06.8	
KUR	comp=E,300nm,0.7s					A	A	21 20 06.8	
YSS	**Yuzh-Sakhalins**	**4.42**	**340**	⇑	*i*	PN	**Pn**	**21 19 43.8**	**+1.2**
YSS						*e*S	**Sn**	**21 20 34.0**	**+1.2**
YSS	comp=N,50nm,0.9s					pmax	pmax		
YSS	comp=Z,60nm,0.9s					pmax	pmax		
YSS	comp=E,30nm,0.8s					pmax	pmax		
YSS	comp=E,90nm,1.2s					smax	smax		
YSS	comp=Z,300nm,15.0s					MLR	MLR		
YSS	**Yuzh-Sakhalins**	**4.42**	**340**	⇑	*i*	P	**Pn**	**21 19 43.8**	**+1.2**
YSS						AMB	AMB	21 19 44.5	
YSS	comp=Z,50nm,0.9s					AMB	AMB	21 19 44.5	
YSS	comp=Z,30nm,0.9s					AMB	AMB	21 19 44.5	
YSS	comp=Z,60nm,0.9s					*e*S	**Sn**	**21 20 34.0**	**+1.2**
YSS						A	A	21 20 36.5	
YSS	comp=Z,90nm,1.2s					AMS	AMS	21 21 30.0	
YSS	comp=Z,300nm,15.0s								
YSS	**Yuzh-Sakhalins**	**4.42**	**340**			*e*Pn	Pn	21 19 39.1	-3.5
UGL	**Uglegorsk**	**6.57**	**343**			*e*PN	**Pn**	**21 20 11.4**	**-0.6**
UGL						*e*S	**Sn**	**21 21 25.6**	**+0.3**
UGL	**Uglegorsk**	**6.57**	**343**			*e*P	**Pn**	**21 20 14.0**	**+2.0**
UGL						AMB	AMB	21 20 15.0	
UGL	comp=Z,90nm,0.7s					*e*S	**Sn**	**21 21 25.4**	**+0.1**
MJAR	**Matsushiro Arr**	**8.17**	**222**			P	**Pn**	**21 20 33.5**	**-0.5**
MJAR	comp=Z,1.8nm,0.3s,baz=28,slow=13,SNR=29					LR	LR	21 23 56.6	
MAJO	comp=Z,59nm,21.4s,baz=230,slow=39 **Matsushiro**	**8.17**	**222**			*e*PN	**Pn**	**21 20 33.3**	**-0.6**
MAJO	**Matsushiro**	**8.17**	**222**			*e*P	**Pn**	**21 20 33.3**	**-0.6**
MAJO	**Matsushiro**	**8.17**	**222**			*e*Pn	**Pn**	**21 20 32.6**	**-1.4**
MAT	**Matsushiro**	**8.17**	**222**			P	**Pn**	**21 20 33.3**	**-0.6**
MAT						S	**Sn**	**21 22 04.7**	**+0.1**
HABR	**Khabarovsk**	**8.96**	**312**			PN	**Pn**	**21 20 44.6**	**+0.1**
HABR						S	**Sn**	**21 22 23.9**	**+0.3**
HABR	comp=N,20nm,1.3s					pmax	pmax		
HABR	comp=Z,38nm,1.3s					pmax	pmax		
HABR	comp=E,26nm,1.3s					pmax	pmax		
HABR	comp=Z,83nm,21.0s					MLR	MLR		
HABR	**Khabarovsk**	**8.96**	**312**			*e*P	**Pn**	**21 20 44.6**	**+0.1**
HABR	comp=Z,20nm,1.3s					AMB	AMB	21 20 48.1	
HABR	comp=Z,30nm,1.3s					AMB	AMB	21 20 48.1	
HABR	comp=Z,40nm,1.3s					AMB	AMB	21 20 48.1	
HABR	comp=Z,100nm,21.0s					AMS	AMS	21 24 37.5	
USRK	**Ussuriysk Ar.**	**9.55**	**283**			P	**Pn**	**21 20 53.6**	**+1.0**
JHJ2	comp=Z,0.1nm,0.3s,baz=75,slow=15,SNR=7.7 **Mitsune**	**10.53**	**204**			*e*Pn	**Pn**	**21 21 03.4**	**-2.6**
SKR	**Severo-Kuril's**	**10.94**	**40**			*e*P	**Pn**	**21 21 09.5**	**-2.0**
KLR	**Kul'dur**	**11.20**	**309**			*e*PN	**Pn**	**21 21 12.3**	**-2.8**
KLR	**Kul'dur**	**11.20**	**309**			*e*P	**Pn**	**21 21 12.3**	**-2.8**
MDJ	**Mudanjiang**	**11.29**	**284**			P	**Pn**	**21 21 17.3**	**+1.0**
MDJ	comp=Z,9.0nm,0.8s					PMZ			
MDJ	comp=Z,50nm,6.3s					PMZ			
EKMR	**Ekimchan**	**13.02**	**326**			*e*P	**Pn**	**21 21 38.6**	**-1.1**
EKMR						AMB	AMB	21 21 50.0	
PETK	comp=Z,4.0nm,0.5s **Petropavlovsk-**	**13.33**	**35**			P	**Pn**	**21 21 43.6**	**-0.1**
CN2	comp=Z,0.7nm,0.3s,baz=216,slow=14,SNR=6.1 **Changchun**	**14.26**	**281**			*e*P	**Pn**	**21 21 56.1**	**+0.1**
CN2						*es*P		21 22 17.0	
CN2						*e*S	**Sn**	**21 24 32.6**	**-0.2**
CN2	comp=Z,10.0nm,0.6s					PMZ			
CN2	comp=Z,200nm,3.0s					PMZ			
CN2	comp=Z,400nm,14.0s					LN			
CN2	comp=Z,600nm,14.0s					LE			
CN2	comp=Z,700nm,15.0s					LZ			
JNU	**Nakatsue**	**14.74**	**234**			LR	LR	21 28 40.3	
YASR	comp=Z,26nm,18.9s,baz=283,slow=41 **Yasnyy**	**15.41**	**319**			*e*P	**Pn**	**21 22 06.5**	**-4.1**
YASR						AMB	AMB	21 22 08.4	
BMKR	comp=Z,4.0nm,0.6s **Bomnak**	**15.91**	**324**			*e*P	**Pn**	**21 22 15.9**	**-1.0**
KROS	**Kirovskiy**	**16.57**	**321**			*e*P	**Pn**	**21 22 24.5**	**-0.7**
KROS	comp=Z,3.0nm,0.5s					AMB	AMB	21 22 27.2	
MA2	**Magadan**	**17.14**	**10**			*e*P	**Pn**	**21 22 31.2**	**-0.9**
MA2	**Magadan**	**17.14**	**10**			*e*P	**Pn**	**21 22 31.2**	**-0.9**
HIA	**Hailar**	**18.62**	**299**			*e*P	**P**	**21 22 46.4**	**-2.5**
HIA	comp=Z,8.0nm,0.7s					pmax	pmax		
HIA	**Hailar**	**18.62**	**299**			*e*P	**P**	**21 22 46.4**	**-2.5**
HIA	**Hailar**	**18.62**	**299**			*e*P	**P**	**21 22 46.4**	**-2.5**
CLNS	comp=Z,7.7nm,0.7s **Chul'man**	**18.99**	**325**			*e*P	**P**	**21 22 48.6**	**-4.3**
CLNS	comp=Z,8.0nm,0.8s					pmax	pmax		
CLNS	comp=N,12nm,0.9s					pmax	pmax		
SEY	**Seymchan**	**20.60**	**10**			P	**P**	**21 23 08.2**	**-2.0**
SEY	comp=N,2.0nm,0.3s,baz=209,slow=13,SNR=7.0					LR	LR	21 30 17.8	
SEY	comp=N,29nm,21.2s,baz=158,slow=34 **Seymchan**	**20.60**	**10**			*e*P	**P**	**21 23 08.7**	**-1.5**
SEY	**Seymchan**	**20.60**	**10**			*e*P	**P**	**21 23 08.7**	**-1.5**
YAK	**Yakutsk**	**21.27**	**340**			P	**P**	**21 23 16.0**	**-1.4**
YAK	comp=N,3.2nm,0.3s,baz=148,slow=19,SNR=5.7					LR	LR	21 31 36.1	
YAK	comp=N,34nm,18.7s,baz=138,slow=36 **Yakutsk**	**21.27**	**340**			*e*P	**P**	**21 23 14.5**	**-2.9**
YAK						*e*S	S	21 27 00.5	-8.4
YAK						*e*SS	**SnSn**	**21 27 37.9**	**+0.2**
YAK						*e*		21 34 30.1	
YAK	comp=Z,25nm,0.9s					pmax	pmax		
YAK	comp=N,5.0nm,1.0s					pmax	pmax		
YAK	comp=E,4.0nm,0.9s					pmax	pmax		
YAK	comp=N,41nm,1.5s					smax	smax		
YAK	comp=E,23nm,1.4s					smax	smax		
YAK	comp=Z,51nm,14.0s					MLR	MLR		
YAK	**Yakutsk**	**21.27**	**340**			*e*P	**P**	**21 23 14.5**	**-2.9**
YAK	**Yakutsk**	**21.27**	**340**			*e*P	**P**	**21 23 15.9**	**-1.5**
NJ2	comp=Z,37nm,0.9s **Nanjing**	**23.29**	**251**			*e*P	**P**	**21 23 39.1**	**+0.4**
NJ2	comp=Z,40nm,0.9s					PMZ			
BOD	**Bodaibo**	**24.53**	**318**			*e*P	**P**	**21 23 47.1**	**-2.6**
BOD	comp=Z,4.0nm,0.7s					pmax	pmax		
BOD	**Bodaibo**	**24.53**	**318**			*e*P	**P**	**21 23 47.1**	**-2.6**
HHC	**Hu-ho-hao-te**	**24.89**	**277**			*e*P	**P**	**21 23 54.8**	**+1.5**
HHC						PP	**PnPn**	**21 24 33.6**	**+3.0**
HHC						S	**S**	**21 28 10.3**	**-0.2**
HHC						SS	**SnSn**	**21 29 11.3**	**+4.7**
HHC	comp=Z,13nm,1.1s					PMZ			
HHC	comp=Z,77nm,5.2s					PMZ			
HHC	comp=Z,140nm,13.9s					LN			
HHC	comp=Z,170nm,13.7s					LE			
HHC	comp=Z,55nm,13.5s					LZ			
WHN	**Wuhan**	**27.31**	**253**			P	**P**	**21 24 17.3**	**+2.3**
SONM	**Songino Array**	**27.39**	**294**			P	**P**	**21 24 15.6**	**-0.1**
IRK	comp=Z,28nm,0.9s,baz=85,slow=8.4,SNR=115 **Irkutsk**	**28.71**	**303**			*e*P	**P**	**21 24 26.7**	**-0.6**
IRK						*e*		21 24 57.1	
IRK	comp=Z,18nm,0.8s					pmax	pmax		
IRK	**Irkutsk**	**28.71**	**303**			*e*P	**P**	**21 24 26.7**	**-0.6**
ZAK	**Zakamensk**	**29.31**	**300**			*e*P	**P**	**21 24 33.7**	**+0.9**
ZAK	comp=Z,12nm,1.0s					pmax	pmax		
ZAK	**Zakamensk**	**29.31**	**300**			*e*P	**P**	**21 24 33.7**	**+0.9**
H11N2	**WAKE ISLAND Hy** baz=328,slow=75,SNR=300	**29.51**	**134**			T	T	21 55 48.3	
H11N1	**WAKE ISLAND Hy** baz=328,slow=75,SNR=351	**29.52**	**135**			T	T	21 55 49.4	
H11N3	**WAKE ISLAND Hy** baz=328,slow=75,SNR=439	**29.53**	**134**			T	T	21 55 49.7	
H11S1	**WAKE ISLAND Hy** baz=329,slow=76,SNR=758	**30.43**	**136**			T	T	21 56 59.2	
H11S3	**WAKE ISLAND Hy** baz=329,slow=76,SNR=525	**30.43**	**136**			T	T	21 56 58.5	
H11S2	**WAKE ISLAND Hy** baz=329,slow=76,SNR=386	**30.45**	**136**			T	T	21 56 56.9	
MOY	**Mondy**	**30.73**	**302**			*e*P	**P**	**21 24 46.6**	**+1.3**
GTA	**Gaotai**	**33.90**	**280**			*e*P	P	21 25 17.0	+3.9
GTA						pP	pP	21 25 33.1	+0.8
GTA						sP	sP	21 25 39.8	-2.0
GTA	comp=Z,2.0nm,1.2s					PMZ			
CD2	**Chengdu**	**34.74**	**264**			P	**P**	**21 25 20.0**	**-0.4**
CD2						pP	**pP**	**21 25 36.4**	**-3.2**
CD2						sP	**sP**	**21 25 44.6**	**-4.5**
CD2						PP	**PP**	**21 26 39.8**	**-0.7**
CD2						S	**S**	**21 30 45.6**	**+0.9**
CD2						sS	**sS**	**21 31 14.4**	**-3.4**
CD2	comp=Z,10.0nm,0.9s					PMZ			
CD2	comp=Z,660nm,5.3s					LN			
CD2	comp=Z,390nm,5.1s					LZ			
KMI	**Kunming**	**38.77**	**257**			P	**P**	**21 25 55.8**	**+0.9**
KMI	comp=Z,7.0nm,0.6s					PMZ			
IM04	**Indian Mountai**	**40.27**	**34**			*e*P	**P**	**21 26 07.1**	**+0.5**
ZALV	**Zalesovo Beam** comp=Z,2.9nm,0.4s,baz=90,slow=7.3,SNR=20	**40.30**	**308**			P	**P**	**21 26 07.0**	**+0.1**
ZALV	comp=Z,1.3nm,0.5s,baz=88,slow=4.0,SNR=4.4					PcP	**PcP**	**21 28 08.5**	**-0.5**
CAST	**Castle Rocks** comp=Z,2.4nm,0.8s	**40.92**	**38**			*e*P	**P**	**21 26 13.4**	**+1.4**
WMQ	**Urumqi**	**40.97**	**292**			*e*P	**P**	**21 26 15.0**	**+2.3**
NVS	**Novosibirsk**	**41.07**	**309**		*i*	P	**P**	**21 26 13.5**	**+0.2**
NVS	**Novosibirsk**	**41.07**	**309**		*i*	P	**P**	**21 26 13.5**	**+0.2**
ILAR	**Eielson Array** comp=Z,1.3nm,0.8s,baz=275,slow=7.7,SNR=12	**43.16**	**36**			P	**P**	**21 26 29.4**	**-0.8**
MKAR	**Makanchi Array** comp=Z,4.4nm,0.5s,baz=84,slow=8.1,SNR=45	**43.62**	**298**			P	**P**	**21 26 33.9**	**-0.2**
MKAR	comp=Z,0.3nm,0.5s,baz=64,slow=3.4,SNR=2.1					PcP	**PcP**	**21 28 19.9**	**-0.2**
MKAR	**Makanchi Array**	**43.62**	**298**		*ce*	P	**P**	**21 26 34.2**	**+0.1**
MKAR	comp=Z,5.0nm,0.5s					pmax	pmax		
MKAR	**Makanchi Array**	**43.62**	**298**			*e*P	**P**	**21 26 34.2**	**+0.1**
MKAR	**Makanchi Array**	**43.62**	**298**			*e*P	**P**	**21 26 34.3**	**+0.1**
MKAR						PcP	**PcP**	**21 28 19.9**	**-0.2**
KURK	**Kurchatov**	**44.74**	**304**			*e*P	**P**	**21 26 42.9**	**-0.1**
KURK	comp=Z,8.0nm,0.7s					pmax	pmax		
KURK	**Kurchatov**	**44.74**	**304**			*e*P	**P**	**21 26 42.9**	**-0.1**
KURK	**Kurchatov** comp=Z,8.2nm,0.7s	**44.74**	**304**			*e*P	**P**	**21 26 42.9**	**-0.1**
CHTO	**Chiang Mai**	**45.51**	**253**			*e*P	**P**	**21 26 49.8**	**+0.4**
CHTO	comp=Z,2.0nm,0.7s					pmax	pmax		
CHTO	**Chiang Mai** comp=Z,2.3nm,0.7s	**45.51**	**253**			*e*P	**P**	**21 26 49.8**	**+0.4**
EGAK	**Eagle** comp=Z,6.8nm,1.4s	**45.59**	**35**			*e*P	**P**	**21 26 50.1**	**+0.6**
CMAR	**Chiang Mai Arr** comp=Z,0.7nm,0.6s,baz=47,slow=7.1,SNR=4.2	**45.75**	**253**			P	**P**	**21 26 51.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**45.75**	**253**		*ce*	P	**P**	**21 26 52.2**	**+0.9**
CMAR	**Chiang Mai Arr**	**45.75**	**253**			*e*P	**P**	**21 26 52.2**	**+0.9**
HYT	**Haines Junctio**	**48.05**	**40**			*e*P	**P**	**21 27 10.5**	**+1.6**
BRVK	**Borovoye**	**48.91**	**309**	⇑	*i*	P	**P**	**21 27 16.4**	**+0.9**
BRVK	comp=Z,11nm,1.0s					pmax	pmax		
BRVK	**Borovoye**	**48.91**	**309**			*e*P	**P**	**21 27 16.4**	**+0.9**
BRVK	**Borovoye** comp=Z,10nm,1.0s	**48.91**	**309**			*e*P	**P**	**21 27 16.2**	**+0.7**
TKM2	**Tokmak 2** comp=Z,2.0nm,0.7s	**49.47**	**295**			*e*P	**P**	**21 27 22.3**	**+2.1**
TKM2	comp=Z,2.0nm,0.7s					pmax	pmax		
TKM2	**Tokmak 2** comp=Z,2.3nm,0.7s	**49.47**	**295**			*e*P	**P**	**21 27 22.3**	**+2.1**
SVE	**Sverdlovsk**	**52.73**	**317**	⇓		*e*P	**P**	**21 27 43.7**	**-0.3**
SVE	comp=Z,32nm,1.1s					pmax	pmax		
SVE	**Sverdlovsk**	**52.73**	**317**			*e*P	**P**	**21 27 43.7**	**-0.3**
KKAR	**Karatay Array**	**52.74**	**298**			*e*P	**P**	**21 27 45.6**	**+1.2**
KKAR	**Karatay Array**	**52.74**	**298**			*e*P	**P**	**21 27 45.6**	**+1.2**
ARU	**Arti**	**53.94**	**317**		*c*	*i*P	**P**	**21 27 53.3**	**+0.4**
ARU								21 29 54.0	
ARU						S	**S**	**21 35 21.9**	**0.0**
ARU						SS	**SKiKP**	**21 38 57.3**	**+0.2**
ARU	comp=Z,16nm,1.0s					pmax	pmax		
ARU	**Arti**	**53.94**	**317**	⇑	*i*	P	**P**	**21 27 53.3**	**+0.4**
ARU	**Arti** comp=Z,11nm,0.8s	**53.94**	**317**			*e*P	**P**	**21 27 53.2**	**+0.4**
ABKAR	**Akbulak array**	**56.40**	**308**			*e*P	**P**	**21 28 11.7**	**+0.9**
YKA	**Yellowknife Ar** comp=Z,0.6nm,0.7s,baz=300,slow=7.6,SNR=2.5	**57.43**	**33**			P	**P**	**21 28 17.8**	**0.0**
PRGR	**Permogore**	**57.45**	**326**			P	**P**	**21 28 16.9**	**-1.0**
PRGR	comp=Z,11nm,0.9s					pmax	pmax		
ARCES	**ARCESS Array B** comp=Z,2.5nm,0.7s,baz=39,slow=8.0,SNR=17	**59.55**	**339**			P	**P**	**21 28 32.3**	**-0.2**
WRA	**Warramunga Arr** comp=Z,3.9nm,0.8s,baz=10,slow=7.0,SNR=18	**63.23**	**191**			P	**P**	**21 28 56.8**	**-0.9**
WRA	comp=Z,1.1nm,0.7s,baz=14,slow=6.9,SNR=2.6					pP	**pP**	**21 29 19.6**	**+0.9**
GEYT	**Alibeck** comp=Z,0.7nm,0.5s,baz=46,slow=4.2,SNR=2.5	**63.49**	**298**			P	**P**	**21 28 59.7**	**+0.2**
FINES	**FINESS Array B** comp=Z,14nm,0.6s,baz=54,slow=5.5,SNR=72	**64.97**	**332**			P	**P**	**21 29 08.4**	**-0.2**
FINES	**FINESS Array B**	**64.97**	**332**		*i*	P	**P**	**21 29 08.1**	**-0.6**
FINES	comp=Z,14nm,0.6s					pmax	pmax		
FINES	**FINESS Array B**	**64.97**	**332**		*i*	P	**P**	**21 29 08.1**	**-0.6**
OBN	**Obninsk**	**65.11**	**323**			*e*P	**P**	**21 29 09.4**	**-0.3**
OBN	comp=Z,10.0nm,1.7s					pmax	pmax		
OBN	**Obninsk**	**65.11**	**323**			*e*P	**P**	**21 29 09.4**	**-0.3**
PALK	**Pallekele**	**66.31**	**257**		*i*	P	P	21 29 14.3	-3.8
VSR	**Storozhevoye**	**66.39**	**319**			*e*P	**P**	**21 29 20.6**	**+2.6**
VSR	comp=N,1.0nm,0.6s					pmax	pmax		
VSR	comp=E,2.0nm,0.6s					pmax	pmax		
VSR	comp=Z,10.0nm,0.6s					pmax	pmax		
ASAR	**Alice Springs** comp=Z,4.0nm,0.6s,baz=8.5,slow=5.7,SNR=58	**66.95**	**191**			P	**P**	**21 29 21.4**	**-0.4**
ASAR	comp=Z,1.1nm,0.8s,baz=12,slow=5.6,SNR=3.2					pP	**pP**	**21 29 44.5**	**+1.5**
KIV	**Kislovodsk**	**69.19**	**311**			*e*P	**P**	**21 29 37.5**	**+1.7**
KIV	comp=Z,14nm,0.8s					pmax	pmax		
KIV	**Kislovodsk**	**69.19**	**311**			*e*P	**P**	**21 29 37.5**	**+1.7**
KIV	**Kislovodsk** comp=Z,14nm,0.8s	**69.19**	**311**			*e*P	**P**	**21 29 37.5**	**+1.7**
KBZ	**Khabaz** comp=Z,3.9nm,0.7s,baz=40,slow=4.5,SNR=8.9	**69.22**	**311**			P	**P**	**21 29 37.6**	**+1.8**
NVAR	**Mina Array Bea** comp=Z,1.6nm,0.7s,baz=284,slow=5.8,SNR=8.5	**69.40**	**56**			P	**P**	**21 29 36.1**	**-1.4**
NVAR	comp=Z,1.3nm,0.7s,baz=294,slow=6.3,SNR=3.2					pP	**pP**	**21 29 59.0**	**+0.3**
NB2	**NORSAR Subarra** comp=Z,2.6nm,0.5s,baz=32,slow=6.9	**69.88**	**338**			P	**P**	**21 29 38.7**	**-1.0**
NOA	**NORSAR Array B** comp=Z,3.8nm,0.8s,baz=35,slow=5.4,SNR=11	**69.88**	**338**			P	**P**	**21 29 39.0**	**-0.7**
NOA	comp=Z,14nm,19.0s,baz=30,slow=39					LR	LR	22 04 05.2	
NOA	**NORSAR Array B**	**69.88**	**338**			P	**P**	**21 29 39.0**	**-0.7**
AKASG	**Malin Array Be** comp=Z,5.1nm,0.5s,baz=39,slow

OJC	**Ojcow**	**75.71**	**327**	*e*P	P	21 30 18.5	+4.1
NIE	**Niedzica**	**76.13**	**326**	*e*P	P	21 30 21.7	+4.9
NIE	**Niedzica**	**76.13**	**326**	*e*P	P	21 30 21.7	+4.9
MORC	**Moravsky Berou**	**76.95**	**328**	*e*P	**P**	**21 30 22.1**	**+0.6**
MORC				pmax	pmax		
	comp=Z,13nm,0.6s						
MORC	**Moravsky Berou**	**76.95**	**328**	⇑*i*P	P	21 30 26.2	+4.7
MORC	**Moravsky Berou**	**76.95**	**328**	*e*P	**P**	**21 30 22.1**	**+0.6**
	comp=Z,13nm,0.6s						
DPC	**Dobruska-Polom**	**76.96**	**329**	*e*P	**P**	**21 30 22.1**	**+0.6**
DPC				*ex*	x	21 30 26.1	
DPC	**Dobruska-Polom**	**76.96**	**329**	*e*P	**P**	**21 30 22.1**	**+0.6**
DPC				*e*		21 30 26.1	
KRLC	**Kraliky**	**77.00**	**329**	*e*P	**P**	**21 30 24.4**	**+2.6**
KRLC				*ex*	x	21 30 26.1	
KRLC	**Kraliky**	**77.00**	**329**	*e*P	**P**	**21 30 24.4**	**+2.6**
KRLC				*e*		21 30 26.1	
BRTR	**Keskin Array B**	**77.02**	**313**	P	**P**	**21 30 22.1**	**0.0**
	comp=Z,0.4nm,0.5s,baz=50,slow=6.0,SNR=2.6						
CLL	**Collm**	**77.38**	**331**	*i* P	P	21 30 27.2	+3.4
CLL				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CLL	**Collm**	**77.38**	**331**	*i* P	P	21 30 27.2	+3.4
CLL	**Collm**	**77.38**	**331**	*i* P	P	21 30 27.2	+3.4
	comp=Z,10.0nm,0.4s						
BRG	**Berggiesshubel**	**77.41**	**331**	*e*(P)	P	21 30 27.6	+3.7
	comp=Z,1.9nm,0.7s						
BRG	**Berggiesshubel**	**77.41**	**331**	*e*P	P	21 30 27.6	+3.7
BRG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GOPC	**GO Pecny, Ondr**	**77.89**	**330**	*e*P	**P**	**21 30 28.5**	**+1.9**
GOPC				*ex*	x	21 30 31.0	
PRU	**Pruhonice**	**77.92**	**330**	*e*P	**P**	**21 30 28.5**	**+1.7**
PRU	**Pruhonice**	**77.92**	**330**	*e*P	**P**	**21 30 28.5**	**+1.7**
PRU	**Pruhonice**	**77.92**	**330**	*e*P	**P**	**21 30 28.5**	**+1.7**
KHC	**Kasperske Hory**	**78.98**	**330**	*e*P	**P**	**21 30 34.2**	**+1.5**
KHC				*ex*	x	21 30 37.4	
KHC	**Kasperske Hory**	**78.98**	**330**	*e*P	**P**	**21 30 34.2**	**+1.5**
KHC				*e*		21 30 37.4	
KHC	**Kasperske Hory**	**78.98**	**330**	*e*P	**P**	**21 30 34.2**	**+1.5**
GERES	**GERESS Array B**	**79.17**	**330**	P	**P**	**21 30 33.4**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=33,slow=5.9,SNR=3.8						
GERES	**GERESS Array B**	**79.17**	**330**	P	**P**	**21 30 33.4**	**-0.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
VTS	**Vitosha**	**80.17**	**320**	⇑P	P	21 30 43.3	+3.9
VTS	**Vitosha**	**80.17**	**320**	⇑*i*P	P	21 30 43.3	+3.9
SOKA	**Soboth**	**80.45**	**328**	⇑*i*PcP	P	21 30 46.2	+5.5
	comp=Z,1.4nm,0.6s						
DIVS	**Divibare**	**80.46**	**323**	⇑*i*P	P	21 30 44.6	+3.7
MMB	**Musomiste**	**80.70**	**319**	⇑⇑P	**P**	**21 30 41.7**	**-0.4**
MMB	**Musomiste**	**80.70**	**319**	⇑*i*P	**P**	**21 30 41.7**	**-0.4**
KBA	**Koelnbreinsper**	**80.77**	**329**	⇑*i*PcP	P	21 30 47.5	+4.9
	comp=Z,3.0nm,0.5s						
TXAR	**Lajitas Array**	**84.47**	**55**	P	**P**	**21 31 01.4**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=295,slow=3.0,SNR=16						
TXAR				pP	**pP**	**21 31 24.2**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=296,slow=3.6,SNR=9.4						

DJA 15 21:19:16.2±1.0, 2°N±9′×12°3E±°, h10km, M3.5/2, MLv3.5/2, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.30**	**145**	P	Pn	21 19 38.6	-1.8
MRSI	**Marisa**	**1.75**	**228**	P	Pn	21 19 45.3	-1.3
MRSI				S	Sn	21 20 08.9	0.0
LUWI	**Luwuk**	**2.71**	**190**	P	Pn	21 20 00.0	+0.1
APSI	**Ampana**	**3.00**	**212**	P	Pn	21 20 04.5	+0.7
MPSI	**Mapaga**	**3.59**	**249**	P	Pn	21 20 11.5	-0.4

GUC 15 21:34:46.8±0.6, 35°55S×72°87W, h11km±4km, ML4.0, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.59**	**174**	⇑*i*P	Pb	21 34 58.8	-0.3
COCH				*i* S	Sb	21 35 07.6	+0.2
TALC	**Talca**	**1.02**	**82**	⇑*i*P	Pb	21 35 06.6	+0.1
TALC				*i* S	Sn	21 35 21.2	-0.1
LNCH	**Linares**	**1.07**	**107**	*e*P	Pn	21 35 08.0	+0.2
LNCH				*i* S	Sn	21 35 23.6	+0.9
LNCH				AML	AML	21 35 25.4	
	comp=N,7μm,0.5s						
NICH	**Los Niches**	**1.45**	**68**	AML	AML	21 35 37.5	
	comp=N,3μm,0.5s						
CLCH	**Cerro Calan**	**2.88**	**43**	*e*P	Pn	21 35 35.3	+2.5
CLCH				*e*S	Sb	21 36 12.9	-0.9
CLCH				AML	AML	21 36 24.9	
	comp=N,407nm,3.2s						
PEL	**Peldehue**	**3.00**	**38**	*e*P	Pn	21 35 37.1	+2.7
PEL				*e*S	Sb	21 36 15.1	-2.0
PEL				AML	AML	21 36 23.9	
	comp=E,537nm,0.3s						

MEX 15 21:52:42.2±0.4, 16°03N×96°54W, h32km±13km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PANG	**Puerto Angel**	**0.37**	**170**	*i* P	Pb	21 52 48.4	-2.4
PANG				*i* S	Sb	21 52 54.6	-2.0
HUIG	**Huatulco**	**0.49**	**122**	*i* P	Pb	21 52 50.8	-1.8
HUIG				*e*S	Sb	21 52 57.9	-1.9
VHO	**Vista Hermosa**	**1.05**	**350**	*i* P	Pn	21 52 58.8	-2.3
VHO				*i* S	Sn	21 53 12.1	-2.8
PNIG	**Pinotepa**	**1.57**	**284**	*e*P	Pn	21 53 06.2	-1.7
PNIG				*e*S	Sn	21 53 24.6	-2.5
CMIG	**Matias Romero**	**1.91**	**56**	*i* P	Pn	21 53 08.8	-3.8
CMIG				*e*S	Sn	21 53 31.1	-4.4

IDC ***15*** *21:52:45.5±18.0, 52°61N×171°79W, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.4/39, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=342.7km s-min=70.9km az=88.0*
NEIC ***15*** *21:52:52.7, 52°62N×169°99W, h1km, ML3.4(AEIC), After AEIC.*

ISC 15 21:52:52.6±1.7, 52°8N±0°2×170°22W±0°08, h5km±13km, n28, σ1§37/25, mb3.3/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.84**	**79**	P	**Pb**	**21 53 08.5**	**-1.2**
NIKH				S	**Sn**	**21 53 22.1**	**-1.7**
OKSP	**Okmok Steeple**	**1.24**	**69**	P	**Pg**	**21 53 16.5**	**+0.1**
OKCE	**Okmok Cone E**	**1.38**	**63**	P	**Pb**	**21 53 18.4**	**-0.5**
OKTU	**Okmok Mt. Tuli**	**1.43**	**66**	P	**Pg**	**21 53 19.5**	**-0.5**
OKFG	**Magazine Ridge**	**1.51**	**66**	P	**Pb**	**21 53 20.2**	**-0.9**
OKFG				S	**Sg**	**21 53 42.3**	**+1.2**
MSOM	**Makushin Julie**	**2.20**	**62**	P	**Pb**	**21 53 30.9**	**-1.9**
MCIR	**Makushin Cirqu**	**2.29**	**59**	P	**Pb**	**21 53 32.6**	**-1.9**
MSW	**Makushin Switc**	**2.33**	**61**	P	**Pb**	**21 53 33.6**	**-1.6**
MTBL	**Makushin Table**	**2.41**	**60**	P	**Pb**	**21 53 34.2**	**-2.3**
UNV	**Unalaska Valle**	**2.45**	**64**	*e*Pn	**Pn**	**21 53 33.8**	**+0.6**
UNV				*e*S	**Sb**	**21 54 07.5**	**-0.2**
ATKA	**Atka Island**	**2.51**	**257**	P	**Pn**	**21 53 36.0**	**+2.0**
ATKA				S	**Sb**	**21 54 09.9**	**+0.7**
AKRB	**Akutan Reef Bi**	**2.81**	**60**	P	**Pn**	**21 53 39.8**	**+1.7**
AKGG	**Akutan Green G**	**2.88**	**60**	P	Pb	21 53 41.3	-3.1
AKUT	**Akutan**	**2.96**	**62**	*e*Pn	**Pn**	**21 53 41.5**	**+1.2**
AKUT				*e*S	**Sb**	**21 54 23.8**	**+1.4**
AKSA	**Akutan Strait**	**3.01**	**62**	P	**Pn**	**21 53 42.1**	**+1.3**
GSTR	**Great Sitkin T**	**3.65**	**261**	*e*Pn	**Pn**	**21 53 50.9**	**+1.2**
GSTR				*e*S	**Sb**	**21 54 40.8**	**-1.2**
GSMY	**Great Sitkin M**	**3.66**	**260**	P	**Pn**	**21 53 49.8**	**-0.1**
SSBA	**Shishaldin**	**4.11**	**59**	P	**Pn**	**21 53 57.3**	**+1.2**
ILAR	**Eielson Array**	**16.88**	**36**	P	**P**	**21 56 51.7**	**+0.3**
	0.1nm,0.3s,baz=226,slow=11,SNR=8.6						
H11N2	**WAKE ISLAND Hy**	**37.49**	**217**	T	T	22 39 26.0	
	baz=21,slow=75,SNR=3.8						
H11N3	**WAKE ISLAND Hy**	**37.50**	**217**	T	T	22 39 27.8	
	baz=21,slow=75,SNR=4.6						
H11N1	**WAKE ISLAND Hy**	**37.51**	**217**	T	T	22 39 26.0	
	baz=21,slow=75,SNR=4.1						
NVAR	**Mina Array Bea**	**38.19**	**91**	P	P	22 00 14.7	+1.5
	0.4nm,0.6s,baz=302,slow=5.2,SNR=2.6						
H11S1	**WAKE ISLAND Hy**	**38.69**	**217**	T	T	22 40 59.3	
	baz=22,slow=76,SNR=30						
H11S2	**WAKE ISLAND Hy**	**38.70**	**217**	T	T	22 40 58.1	
	baz=22,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	**38.70**	**217**	T	T	22 41 00.7	
	baz=22,slow=76,SNR=22						
PDAR	**Pinedale Array**	**40.83**	**79**	P	P	22 00 37.5	+2.3
	0.4nm,0.6s,baz=327,slow=7.8,SNR=4.1						
TXAR	**Lajitas Array**	**53.25**	**89**	P	**P**	**22 02 12.6**	**+0.4**
	0.4nm,0.7s,baz=290,slow=5.4,SNR=4.7						

IDC ***15*** *21:57:27.0±3.7, 35°38N×140°76E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.4/32, mbtmp3.7/5, ML3.8/2, MS2.4/2, Ms1 2.4/2, ms1mx2.3/35, Error ellipse: s-maj=126.2km s-min=22.7km az=62.0*
ISCJB ***15*** *21:57:32.3±1.9, 35°4N±0°1×140°4E±0°3, h37km±9km, mb3.4/3, Error ellipse: s-maj=45.8km s-min=10.0km az=149.2*
JMA ***15*** *21:57:33.2±0.1, 35°42N×140°37E, h25km±2km, M3.2 Broadband fault plane solution: P waves. NP1: ϕs59.00000°, δ70.00000°, λ86.00000°. NP2:ϕs250.00000°, δ20.00000°, λ100.00000°. Principal axes: T Plg65.0000°, Azm323.0000°; N Plg3.0000°, Azm60.0000°; P Plg25.0000°, Azm152.0000°;*
JMA Felt II J1.

ISC 15 21:57:32.7±2.8, 35°4N±0°2×140°4E±0°3, h28km±10km, n17, σ0§93/11, mb3.5/3, 1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.17**	**276**	⇓P	**Pb**	**21 57 38.6**	**+0.2**
JCN				S	**Sb**	**21 57 41.7**	**-0.6**
KTR	**Katsuura**	**0.26**	**198**	P	**Pb**	**21 57 39.3**	**-0.2**
KTR				S	**Sb**	**21 57 44.2**	**+0.1**
BSO4	**Boso 4**	**0.41**	**189**	P	**Pb**	**21 57 42.5**	**+0.9**
MJAR	**Matsushiro Arr**	**2.12**	**303**	Pn	**Pn**	**21 58 07.1**	**+0.8**
	6.1nm,0.3s,baz=108,slow=7.0,SNR=35						
MAT	**Matsushiro**	**2.12**	**303**	P	**Pn**	**21 58 07.6**	**+1.3**
MAT				*e*S	**Sn**	**21 58 31.0**	**-0.7**
JNU	**Nakatsue**	**8.21**	**257**	LR	LR	22 02 19.8	
	comp=Z,15nm,21.8s,baz=180,slow=34						
JCJ	**Chichijima**	**8.42**	**169**	Pn	Pn	21 59 29.6	-3.1
	3.6nm,0.3s,baz=0.0,slow=20,SNR=3.4						
KSRS	**Korea Array**	**10.27**	**285**	LR	LR	22 04 01.2	
	comp=Z,41nm,20.5s,baz=81,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.07**	**117**	T	T	22 32 36.2	
	baz=309,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**28.08**	**117**	T	T	22 32 36.7	
	baz=309,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**28.09**	**117**	T	T	22 32 37.5	
	baz=309,slow=75,SNR=18						
H11S3	**WAKE ISLAND Hy**	**28.71**	**119**	T	T	22 33 22.1	
	baz=312,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**28.71**	**119**	T	T	22 33 21.5	
	baz=312,slow=75,SNR=18						
H11S2	**WAKE ISLAND Hy**	**28.73**	**119**	T	T	22 33 22.1	
	baz=312,slow=75,SNR=9.4						
ZALV	**Zalesovo Beam**	**42.44**	**314**	P	**P**	**22 05 24.9**	**+0.2**
	0.3nm,0.3s,baz=78,slow=9.1,SNR=3.3						
MKAR	**Makanchi Array**	**44.32**	**303**	P	**P**	**22 05 40.4**	**+0.3**
	0.2nm,0.6s,baz=82,slow=8.8,SNR=5.5						
WRA	**Warramunga Arr**	**55.34**	**187**	P	**P**	**22 07 02.6**	**-1.4**
	0.7nm,0.9s,baz=4.1,slow=7.4,SNR=4.3						

IDC ***15*** *22:13:16.7±0.9, 28°52N×105°13E, h0km, mb3.8/7, mb1 3.8/9, mb1mx3.5/47, mbtmp3.7/9, ML3.5/2, MS2.8/2, Ms1 2.9/2, ms1mx2.5/35, Error ellipse: s-maj=29.4km s-min=16.8km az=59.0*
BJI ***15*** *22:13:20.7, 28°40N×104°89E, h19km, ML3.8/21, Ms3.4/1, Ms7 3.2/1*

ISC 15 22:13:19.6±0.6, 28°38N±0°03×105°01E±0°05, h19km, n16, σ1§48/23, mb3.7/7, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GYA	**Guiyang**	**2.42**	**142**	Pn	**Pn**	**22 14 00.9**	**-1.6**
GYA				Pg	**Pg**	**22 14 06.5**	**+0.5**
GYA				Sn	**Sb**	**22 14 30.3**	**-1.7**
GYA				Sg	**Sg**	**22 14 36.9**	**-0.5**
GYA				SMN			
	480nm,0.6s						
GYA				SME			
	530nm,0.7s						
CD2	**Chengdu**	**2.74**	**337**	Pn	**Pn**	**22 14 04.3**	**+1.6**
CD2				Pg	**Pg**	**22 14 11.3**	**-0.9**
CD2				Sn	**Sb**	**22 14 40.9**	**-0.5**
CD2				Sg	**Sg**	**22 14 48.1**	**+0.2**
CD2				SMN			
	730nm,0.7s						
CD2				SME			
	860nm,0.8s						
KMI	**Kunming**	**3.83**	**213**	Pg	**Pg**	**22 14 30.5**	**-2.5**
KMI				Sg	**Sg**	**22 15 24.5**	**+1.9**
KMI				SMN			
	26nm,1.0s						
KMI				SME			
	27nm,0.9s						
XAN	**Xi'an**	**6.56**	**30**	Pn	**Pn**	**22 14 56.9**	**+1.8**
XAN				Pg	Pb	22 15 18.4	+5.3
XAN				Sn	Sb	22 16 19.5	-12
XAN				Sg	**Sg**	**22 16 49.3**	**-0.7**
XAN				SMN			
	160nm,0.9s						
XAN				SME			
	140nm,1.0s						
LZH	**Lanzhou**	**7.74**	**353**	*e*Pg	Pb	22 15 39.8	+6.5
LZH				Sg	Sb	22 17 20.8	+16
LZH				SMN			
	94nm,1.3s						
LZH				SME			
	160nm,1.4s						
WHN	**Wuhan**	**8.42**	**73**	P	**Pn**	**22 15 23.0**	**+2.4**
CMAR	**Chiang Mai Arr**	**11.34**	**211**	Pn	**Pn**	**22 16 02.9**	**+2.2**
	0.2nm,0.3s,baz=20,slow=11,SNR=7.5						
CMAR				LR	LR	22 20 17.2	
	comp=Z,54nm,18.6s,baz=196,slow=36						
SONM	**Songino Array**	**19.45**	**3**	P	**P**	**22 17 43.6**	**-1.5**
	0.1nm,0.3s,baz=184,slow=11,SNR=2.5						
KSRS	**Korea Array**	**21.21**	**59**	P	**P**	**22 18 02.8**	**-1.3**
	0.6nm,0.5s,baz=246,slow=9.0,SNR=3.3						
KSRS				LR	LR	22 27 13.9	
	comp=Z,22nm,18.2s,baz=220,slow=30						
MKAR	**Makanchi Array**	**25.58**	**322**	P	**P**	**22 18 47.5**	**+0.1**
	1.3nm,0.6s,baz=119,slow=11,SNR=12						
ZALV	**Zalesovo Beam**	**29.51**	**336**	P	**P**	**22 19 20.5**	**-2.0**
	0.9nm,0.6s,baz=141,slow=7.6,SNR=4.7						
KURBB	**Kurchatov Arra**	**29.90**	**325**	P	**P**	**22 19 25.7**	**-0.3**
	0.4nm,0.7s,baz=128,slow=9.6,SNR=6.8						
GEYT	**Alibeck**	**40.04**	**296**	P	**P**	**22 20 54.4**	**+0.8**
	2.0nm,0.7s,baz=94,slow=4.3,SNR=4.8						
WRA	**Warramunga Arr**	**55.78**	**146**	P	**P**	**22 22 55.5**	**0.0**
	1.4nm,0.6s,baz=337,slow=8.3,SNR=10						
ASAR	**Alice Springs**	**58.76**	**149**	P	**P**	**22 23 17.2**	**+0.7**
	baz=328,slow=7.1						
FINES	**FINESS Array B**	**60.27**	**327**	P	**P**	**22 23 25.8**	**-0.6**
	0.7nm,0.5s,baz=75,slow=7.4,SNR=6.3						

ISCJB ***15*** *22:21:48.1±0.9, 2°8N±0°2×128°9E±0°3, h250km, mb3.7/7, Error ellipse: s-maj=42.4km s-min=13.5km az=149.4*
IDC ***15*** *22:21:48.4±8.6, 2°80N×128°94E, h237km±86km, mb3.4/7, mb1 3.6/7, mb1mx3.3/32, mbtmp4.0/7, Error ellipse: s-maj=66.4km s-min=15.6km az=61.0*

ISC 15 22:21:49.6±1.1, 2°8N±0°2×128°9E±0°4, h250km, n15, σ0§34/15, mb3.8/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.20**	**167**	P	**P**	**22 26 34.7**	**0.0**
	1.2nm,0.4s,baz=346,slow=9.9,SNR=12						
CMAR	**Chiang Mai Arr**	**33.20**	**300**	P	**P**	**22 28 03.5**	**+0.2**
	1.9nm,0.3s,baz=113,slow=8.1,SNR=7.4						
STKA	**Stephens Creek**	**36.51**	**162**	P	**P**	**22 28 31.3**	**-0.1**
	0.7nm,0.4s,baz=342,slow=8.3,SNR=5.3						
TAPN	**Taplejung**	**46.31**	**306**	*e*P	**P**	**22 29 51.3**	**+0.1**
ODAN	**Odare**	**46.37**	**305**	*e*P	**P**	**22 29 51.4**	**-0.2**
	11nm,0.6s						
RAMN	**Ramite**	**47.05**	**305**	*e*P	**P**	**22 29 57.0**	**+0.1**
	13nm,0.4s						
PKI	**Pulchoki**	**48.27**	**305**	*e*P	**P**	**22 30 05.5**	**-0.8**
	2.8nm,0.3s						
KKN	**Kakani**	**48.46**	**305**	*e*P	**P**	**22 30 07.0**	**-0.6**
	4.7nm,0.4s						
DMN	**Daman**	**48.53**	**305**	*e*P	**P**	**22 30 08.1**	**-0.1**
SONM	**Songino Array**	**48.91**	**340**	P	**P**	**22 30 10.7**	**+0.1**
	0.4nm,0.4s,baz=161,slow=6.1,SNR=4.2						
KOLN	**Koldanda**	**49.83**	**305**	*e*P	**P**	**22 30 17.8**	**-0.2**
	8.4nm,0.4s						
MKAR	**Makanchi Array**	**59.57**	**325**	P	**P**	**22 31 27.3**	**+0.1**
	0.9nm,0.4s,baz=114,slow=7.9,SNR=16						
ZALV	**Zalesovo Beam**	**62.42**	**332**	P	**P**	**22 31 45.9**	**-0.2**
	0.2nm,0.3s,baz=122,slow=10,SNR=2.5						
ARCES	**ARCESS Array B**	**92.08**	**340**	P	**P**	**22 34 30.1**	**0.0**
	2.9nm,0.9s,baz=84,slow=6.2,SNR=5.4						
TORD	**Torodi Ar. Bea**	**125.25**	**288**	PKP	**PKPdf**	**22 40 21.9**	**+0.3**
	0.6nm,1.1s,baz=54,slow=1.0,SNR=4.3						

TRN 15 22:32:40.1, 15°32N×61°23W, h139km, MD3.5, M3.0(FDF), 2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDF	**Fort de France**	**0.59**	**173**	⇓*i*P	Pn	22 33 01.6	+0.8
FDF				*i* S	Sn	22 33 17.3	+0.9
MGG	**Marie-Galante**	**0.60**	**352**	*e*P	Pn	22 33 01.7	+1.0
MGG				*e*S	Sn	22 33 17.3	+0.9
TBG	**Guadaloupe-3**	**0.66**	**323**	*e*P	Pn	22 33 02.2	+1.1
TBG				*e*S	Sn	22 33 18.4	+1.4
TAG	**Tarade**	**0.83**	**330**	*e*P	Pn	22 33 04.0	+1.5
DEG	**La Desirade**	**1.00**	**9**	*e*P	Pn	22 33 04.8	+0.9
SEG	**Port Louis**	**1.11**	**346**	*e*P	Pn	22 33 05.9	+1.1
MCLT	**Moule a Chique**	**1.63**	**170**	*e*P	Pn	22 33 11.6	+1.4
MCLT				*e*S	Sn	22 33 34.8	+1.6
SVV	**Soufriere Volc**	**1.99**	**180**	⇓*i*P	Pn	22 33 16.2	+1.7
SVB	**Belmont**	**2.04**	**181**	*e*P	Pn	22 33 15.6	+0.6
FCV	**Fort Charlotte**	**2.15**	**180**	*e*P	Pn	22 33 17.4	+1.0
GRGR	**Grenville**	**3.20**	**187**	*e*P	Pn	22 33 30.2	+0.6
TOSP	**Speyside**	**4.05**	**170**	*e*P	Pn	22 33 42.0	+1.1

IDC ***15*** *22:40:53.5±2.4, 1°70S×99°34E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.8/26, mbtmp3.9/8, ML2.9/1, MS3.2/3, Ms1 3.2/3, ms1mx2.7/30, Error ellipse: s-maj=104.6km s-min=17.2km az=60.0*
DJA ***15*** *22:40:57.9±0.8, 1°49S±0°06×99°29E±0°06, h30km, n26, σ1§87/18, mb4.2/6, Southern Sumatera*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SISI	**Saibi**	**0.26**	**310**	P	**Pb**	**22 41 03.3**	**-1.5**
PPSI	**Pulau Pagai**	**1.45**	**150**	P	**Pn**	**22 41 23.2**	**+1.0**
PBSI	**Pulau Batu**	**1.75**	**325**	P	**Pn**	**22 41 26.9**	**+0.7**
SDSI	**Sungai Dareh**	**2.21**	**75**	P	**Pb**	**22 41 35.9**	**-1.4**
MNSI	**Mandailing Nat**	**2.29**	**7**	P	**Pn**	**22 41 36.1**	**+2.4**
BKNI	**Bangkinang**	**2.52**	**44**	P	**Pb**	**22 41 42.6**	**+0.1**
RGRI	**Rengat**	**3.25**	**70**	P	Pn	22 41 50.4	+3.4
RGRI				S	**Sb**	**22 42 30.7**	**-3.5**
PSI	**Prapat**	**4.28**	**355**	Pn	**Pn**	**22 42 01.9**	**+0.7**
	0.6nm,0.3s,baz=172,slow=19,SNR=2.2						
PSI				LR	LR	22 43 54.0	
	comp=Z,223nm,20.1s,baz=156,slow=41						
LHSI	**Lahat**	**4.83**	**119**	P	**Pn**	**22 42 11.4**	**+2.8**
MDSI	**Maura Dua**	**5.72**	**121**	P	**Pn**	**22 42 23.6**	**+2.7**
LEM	**Lembang**	**9.85**	**123**	LR	LR	22 47 47.7	
	comp=Z,107nm,20.9s,baz=350,slow=43						
CMAR	**Chiang Mai Arr**	**19.83**	**359**	P	**Pn**	**22 45 28.3**	**+0.1**
	0.5nm,0.3s,baz=189,slow=9.1,SNR=5.8						
H08S2	**Diego Garcia H**	**27.38**	**256**	T	T	23 14 34.7	
	baz=78,slow=75,SNR=166						
H08S3	**Diego Garcia H**	**27.39**	**256**	T	T	23 14 34.9	
	baz=78,slow=75,SNR=207						
H08S1	**Diego Garcia H**	**27.40**	**256**	T	T	23 14 34.4	
	baz=78,slow=75,SNR=156						
H01W3	**Cape Leeuwin H**	**35.99**	**159**	T	T	23 25 44.1	
	baz=335,slow=76,SNR=12						
H01W2	**Cape Leeuwin H**	**36.00**	**159**	T	T	23 25 43.9	
	baz=335,slow=76,SNR=11						
H01W1	**Cape Leeuwin H**	**36.00**	**159**	T	T	23 25 45.4	
	baz=335,slow=76,SNR=10						
WRA	**Warramunga Arr**	**38.86**	**121**	P	**P**	**22 48 19.6**	**-1.4**
	5.3nm,0.7s,baz=302,slow=9.1,SNR=7.0						
ASAR	**Alice Springs**	**40.13**	**126**	P	**P**	**22 48 29.9**	**-1.6**
	0.9nm,0.5s,baz=297,slow=7.5,SNR=12						
SONM	**Songino Array**	**49.52**	**6**	P	**P**	**22 49 47.2**	**+1.3**
	1.2nm,0.9s,baz=183,slow=9.1,SNR=4.7						
STKA	**Stephens Creek**	**50.02**	**132**	P	**P**	**22 49 48.5**	**-1.4**
	2.6nm,0.8s,baz=301,slow=9.7,SNR=5.8						
MKAR	**Makanchi Array**	**50.35**	**345**	P	**P**	**22 49 53.7**	**+1.5**
	1.4nm,0.6s,baz=156,slow=7.9,SNR=14						
ZALV	**Zalesovo Beam**	**56.55**	**350**	P	**P**	**22 50 39.1**	**+1.6**
	1.7nm,0.6s,baz=181,slow=8.1,SNR=8.8						
GERES	**GERESS Array B**	**88.20**	**319**	LR	LR	23 37 32.8	
	comp=Z,15nm,19.4s,baz=176,slow=38						
TXAR	**Lajitas Array**	**144.73**	**36**	PKP	**PKPdf**	**23 00 33.0**	**+0.3**
	0.7nm,0.7s,baz=248,slow=1.6,SNR=9.8						

SJA ***15*** *22:56:53.2±0.8, 35°49S×73°53W, h40km, ML5.1*
IDC ***15*** *22:56:58.4±0.5, 35°14S×72°66W, h0km, mb4.4/12, mb1 4.5/17, mb1mx4.4/21, mbtmp4.3/17, ML3.9/4, MS3.8/8, Ms1 3.8/8, ms1mx3.6/17, Error ellipse:

comp=Z,2.8nm,0.3s,baz=300,slow=20,SNR=6.0
CFAA Coronel Fontan 5.22 48 *e*P **Pn 22 58 19.5 +0.6**
RTLL Cerro Villicun 5.28 45 *e*P **Pn 22 58 20.3 +0.6**
RTLL *i* S Sn 22 59 26.4 +6.6
ACAN Cantantal 5.50 60 *e*P **Pn 22 58 24.0 +1.2**
AVFE Valle Fertil 6.36 47 *e*P **Pn 22 58 33.7 -0.9**
AVFE AML AML 23 00 07.3
comp=Z,738nm,0.6s
LCO Las Campanas 6.39 17 *e*Pn **Pn 22 58 33.3 -1.9**
LCO *e*S **Sb 23 00 10.9 +1.7**
APLL PUNTA DE LOS L 7.12 50 *e*P **Pn 22 58 43.9 -1.0**
TRQA Tornquist 9.17 111 *e*Pn **Pn 22 59 14.0 +0.9**
TRQA *e*S Sn 23 01 29.5 +34
LVC Limon Verde 12.97 16 Pn **Pn 23 00 03.6 -1.7**
comp=Z,12nm,0.3s,baz=197,slow=11,SNR=3.9
LVC Lg Lg 23 03 22.7
comp=Z,15nm,0.3s,baz=311,slow=20,SNR=3.4
LVC LR LR 23 05 52.1
comp=Z,1μm,19.3s,baz=217,slow=41
LVC Limon Verde 12.97 16 *e*Pn **Pn 23 00 03.4 -1.9**
comp=Z,5.8nm,0.6s
LVC *e*S Sn 23 02 45.9 +17
LVC Lg Lg 23 03 22.7
CPUP Villa Florida 15.95 61 Pn **Pn 23 00 42.5 -2.6**
comp=Z,0.1nm,0.3s,baz=231,slow=18,SNR=2.6
CPUP Lg Lg 23 05 03.5
comp=Z,0.1nm,0.3s,baz=180,slow=20,SNR=2.3
CPUP LR LR 23 07 52.5
comp=Z,308nm,19.5s,baz=239,slow=41
LPAZ La Paz 19.26 14 P **P 23 01 25.5 -0.3**
comp=Z,0.8nm,0.3s,baz=188,slow=8.3,SNR=27
LPAZ La Paz 19.26 14 *e*P **Pn 23 01 27.9 +1.0**
comp=Z,15nm,0.9s
USHA Ushuaia 19.90 173 P **P 23 01 32.0 +0.2**
comp=Z,0.4nm,0.3s,baz=9.9,slow=9.9,SNR=3.4
SIV San Ignacio 21.80 32 P **P 23 01 51.5 -1.2**
comp=Z,10nm,0.6s,baz=215,slow=9.1,SNR=33
SIV LR LR 23 11 45.0
comp=Z,300nm,18.3s,baz=219,slow=41
BB16B Bebedouro 25.50 63 *e*P P 23 02 20.3 -8.6
BB16B *i* 23 02 28.4
BB16B *i* 23 02 34.1
BB16B *i* 23 02 37.6
SAML Samuel 27.55 21 *e*P **P 23 02 47.0 -0.3**
comp=Z,6.9nm,1.3s
ATAH Atahualpa 28.37 348 LR LR 23 12 15.6
comp=Z,101nm,18.0s,baz=192,slow=32
BDFB Brasilia 29.52 55 P **P 23 03 03.7 -1.3**
comp=Z,2.3nm,0.7s,baz=214,slow=7.3,SNR=3.2
BDFB LR LR 23 16 17.6
comp=Z,231nm,20.5s,baz=230,slow=39
OTAV Otavalo 35.62 350 *e*P **P 23 03 59.3 +0.6**
SDV Santo Domingo 43.86 3 *e*P **P 23 05 06.2 -0.7**
comp=Z,18nm,1.1s
GRGR Grenville 48.22 15 *e*P **P 23 05 41.0 0.0**
VNA1 Neumayer--Stat 48.86 156 P **P 23 05 46.4 +1.1**
SNAA Sanae 50.75 157 P **P 23 05 59.6 -0.3**
comp=Z,4.4nm,0.8s,baz=275,slow=5.7,SNR=70
FDF Fort de France 50.84 15 *e*P **P 23 06 00.3 -0.9**
comp=Z,24nm,0.5s
QSPA South Pole Qui 55.07 180 P **P 23 06 32.3 +0.3**
comp=Z,3.1nm,0.7s,baz=151,slow=1.7,SNR=8.0
QSPA South Pole Qui 55.07 180 *e*P **P 23 06 32.7 +0.7**
comp=Z,15nm,0.9s
TEIG Tepich 57.01 343 *e*P **P 23 06 46.4 +0.3**
comp=Z,1.0nm,0.5s
VNDA Vanda 62.83 192 P **P 23 07 26.4 +1.0**
comp=Z,1.0nm,1.0s,baz=106,slow=4.5,SNR=3.6
034A Hebbronville 66.56 335 P **P 23 07 52.0 +1.8**
baz=67
833A Chaparral WMA, 67.96 335 P **P 23 08 00.1 +0.9**
baz=68
832A Faith Ranch, C 68.13 334 P **P 23 08 01.0 +0.8**
baz=68
636A Smothers Creek 68.25 337 P **P 23 08 02.2 +1.3**
baz=68
732A Laxson Ranch, 68.53 334 P **P 23 08 03.6 +0.9**
baz=69
632A Uvalde 69.18 335 P **P 23 08 07.6 +0.9**
baz=70,SNR=5.8
631A Perdido Creek 69.37 334 P **P 23 08 08.6 +0.7**
baz=70
532A Rocksprings 69.78 335 P **P 23 08 11.2 +0.7**
baz=70,SNR=14
434A Burnet 69.87 337 P **P 23 08 11.7 +0.7**
baz=70
336A Riesel 69.95 338 P **P 23 08 12.6 +1.1**
baz=70
531A Rocksprings 70.04 335 P **P 23 08 13.0 +0.9**
baz=70,SNR=7.0
JCT Junction City 70.07 335 P **P 23 08 13.2 +0.9**
baz=70
JCT Junction City 70.07 335 *e*P **P 23 08 12.2 -0.1**
comp=Z,18nm,1.4s
433A Art 70.08 336 P **P 23 08 12.7 +0.4**
baz=70,SNR=8.3
530A J-C Ranch, Com 70.31 334 P **P 23 08 14.7 +1.0**
baz=71
334A Lometa 70.34 337 P **P 23 08 14.3 +0.4**
baz=71
432A Menard 70.43 336 P **P 23 08 15.0 +0.5**
baz=71
TXAR Lajitas Array 70.45 332 P **P 23 08 15.4 +0.8**
comp=Z,2.0nm,0.6s,baz=153,slow=8.8,SNR=28
TXAR LR LR 23 34 49.1
comp=Z,63nm,18.2s,baz=0.0,slow=32
431A Sonora 70.53 335 P **P 23 08 15.9 +0.8**
baz=71
333A Richland Sprin 70.57 336 P **P 23 08 16.0 +0.7**
baz=71
430A Baggett Ranch, 70.85 334 P **P 23 08 17.8 +0.7**
baz=71
332A Millersview 70.88 336 P **P 23 08 17.2 +0.1**
baz=71,SNR=5.4
234A Clairette 70.93 337 P **P 23 08 17.9 +0.5**
baz=71
331A San Angelo 71.04 335 P **P 23 08 18.5 +0.4**
baz=71,SNR=5.2
SWET Sewanee 71.09 349 *e*P **P 23 08 18.2 -0.1**
comp=Z,10.0nm,0.6s
233A Rising Star 71.19 337 P **P 23 08 19.6 +0.5**
baz=72
232A Coleman 71.31 336 P **P 23 08 20.2 +0.4**
baz=72
330A Mertzon 71.39 335 P **P 23 08 20.7 +0.4**
baz=72
231A Bronte 71.58 336 P **P 23 08 21.5 +0.1**
baz=72,SNR=6.9
133A Hamilton Ranch 71.73 337 P **P 23 08 22.9 +0.6**
baz=72
329A Wagon Wheel Ra 71.75 334 P **P 23 08 23.3 +0.9**
baz=72
Z35A Perchaven, San 71.89 339 P **P 23 08 24.0 +0.8**
baz=72
ABTX Abilene, Hawle 71.98 336 P **P 23 08 24.7 +0.9**
baz=72
ABTX Abilene, Hawle 71.98 336 *e*P **P 23 08 24.5 +0.7**
comp=Z,16nm,1.1s
MIAR Mount Ida 72.02 342 P **P 23 08 24.2 +0.2**
baz=72
MAW Mawson 72.24 164 P **P 23 08 24.9 0.0**
comp=Z,3.1nm,0.6s,baz=189,slow=5.7,SNR=13
MAW LR LR 23 42 12.0
comp=Z,84nm,18.2s,baz=241,slow=38
MAW Mawson 72.24 164 *e*P **P 23 08 25.1 +0.2**
comp=Z,1.6nm,0.9s
131A Roby 72.28 336 P **P 23 08 26.2 +0.7**
baz=73
WVT Waverly 72.30 347 *e*P **P 23 08 25.2 -0.4**
comp=Z,13nm,0.8s
Z33A Whitaker Ranch 72.31 337 P **P 23 08 26.3 +0.6**
baz=73
130A Snyder 72.40 335 P **P 23 08 26.6 +0.3**
baz=73
228A UT Block 9, Go 72.54 334 P **P 23 08 27.9 +0.7**
baz=73
Z32A Haskell 72.56 337 P **P 23 08 27.8 +0.6**
baz=73
W38A Poteau 72.76 341 P **P 23 08 28.9 +0.6**
baz=73
X36A Centrahoma 72.79 340 P **P 23 08 28.6 +0.1**
baz=73
Z31A Sharp Cattle R 72.79 336 P **P 23 08 29.1 +0.5**
baz=73,SNR=6.1
X35A Drake 72.80 339 P **P 23 08 28.8 +0.2**
baz=73
W37A Quinton 73.06 341 P **P 23 08 30.2 +0.1**
baz=73
Z30A Sanderson Ranc 73.09 335 P **P 23 08 30.4 0.0**
baz=73,SNR=5.2
Y32A R-V Farms, Ver 73.19 337 P **P 23 08 31.5 +0.6**
baz=74
X34A Smith Ranch, M 73.25 339 P **P 23 08 31.7 +0.5**
baz=74
Z29A Hungry Hill Ra 73.26 335 P **P 23 08 31.8 +0.4**
baz=74
Y31A Rekieta Farm, 73.42 336 P **P 23 08 32.8 +0.6**
baz=74
V38A Canehill 73.48 342 P **P 23 08 32.3 -0.3**
baz=74
Z28A Tucker Farm, M 73.53 334 P **P 23 08 33.9 +0.8**
baz=74
WMOK Wichita Mounta 73.66 338 *e*P **P 23 08 33.8 +0.1**
comp=Z,6.6nm,1.3s
V37A Hulbert 73.69 341 P **P 23 08 34.0 +0.2**
baz=74
V36A Jenks 73.81 341 P **P 23 08 34.8 +0.2**
baz=74
TUL1 Tulsa 73.89 341 P **P 23 08 35.3 +0.4**
baz=74
X31A McDonald Ranch 73.94 337 P **P 23 08 35.9 +0.6**
baz=74
Y28A McKinney Farm, 74.04 335 P **P 23 08 36.5 +0.5**
baz=74
V35A Meyer Ranch, C 74.04 340 P **P 23 08 35.8 0.0**
baz=74
W32A Sentinel 74.16 338 P **P 23 08 37.2 +0.6**
baz=74
U37A Salina 74.18 341 P **P 23 08 37.1 +0.5**
baz=74
MSTX Muleshoe 74.28 334 P **P 23 08 38.1 +0.7**
baz=75
MSTX Muleshoe 74.28 334 *e*P **P 23 08 37.7 +0.2**
comp=Z,11nm,1.0s
V33A Lossen Ranch, 74.51 339 P **P 23 08 39.4 +0.7**
baz=75
U35A Pawnee 74.58 340 P **P 23 08 39.5 +0.5**
baz=75
T37A Cheneyville 18 74.80 342 P **P 23 08 40.6 +0.4**
baz=75
121A Cookes Peak, D 74.92 330 P **P 23 08 42.2 +0.9**
baz=75
121A Cookes Peak, D 74.92 330 P **P 23 08 41.7 +0.5**
comp=Z,22nm,1.7s
W29A Amraillo 74.93 336 P **P 23 08 42.0 +0.8**
baz=75
T36A Boggs Farm, Ca 75.00 341 P **P 23 08 41.9 +0.5**
baz=75
U32A Winter Ranch, 75.25 338 P **P 23 08 43.9 +1.1**
baz=76
T34A McClaskey Farm 75.32 340 P **P 23 08 43.5 +0.2**
baz=76
S37A Fort Scott 75.38 342 P **P 23 08 43.5 -0.1**
baz=76
S36A Lake Cedric, C 75.55 342 P **P 23 08 44.4 -0.1**
baz=76
ACSO Alum Creek Sta 75.61 352 *e*P **P 23 08 44.9 0.0**
comp=Z,20nm,0.6s
T33A Patterson Ranc 75.67 339 P **P 23 08 46.1 +0.8**
baz=76
S35A Otter Creek Ra 75.70 341 P **P 23 08 46.1 +0.7**
baz=76
V28A Channing 75.70 336 P **P 23 08 46.8 +1.2**
baz=76
V27A Dan Oppiter Fa 75.91 335 P **P 23 08 47.3 +0.4**
baz=76
DBIC Dimbokro 76.16 71 P **P 23 08 48.2 -0.4**
comp=Z,6.1nm,0.7s,baz=204,slow=7.3,SNR=8.4
LAZ Lazo 76.29 331 *e*P **P 23 08 47.3 -1.9**
ANMO Albuquerque 76.51 332 *e*P **P 23 08 50.6 +0.2**
comp=Z,5.5nm,1.0s
U27A Thompson Grove 76.51 335 P **P 23 08 51.4 +1.2**
baz=77
R34A Isabella, Hill 76.53 340 P **P 23 08 50.8 +0.7**
baz=77
R33A Olander Ranch, 76.74 340 P **P 23 08 51.9 +0.6**
baz=77
S30A Montezuma 76.86 338 P **P 23 08 53.3 +1.2**
baz=77
HDIL Hopedale 76.87 347 P **P 23 08 52.2 +0.2**
baz=77
T28A Walsh 76.91 336 P **P 23 08 53.0 +0.6**
baz=77
R32A Long Quarter, 77.06 339 P **P 23 08 54.1 +0.9**
baz=77
T27A Campo 77.06 336 P **P 23 08 54.2 +0.9**
baz=77
R31A Truedett 77.17 339 P **P 23 08 54.6 +0.8**
baz=78
S28A Manter 77.27 337 P **P 23 08 55.5 +1.1**
baz=78
Q32A Meitler Ranch, 77.54 340 P **P 23 08 56.3 +0.4**
baz=78
T25A Trinidad 77.71 335 P **P 23 08 57.8 +0.8**
baz=78
T25A Trinidad 77.71 335 *e*P **P 23 08 58.4 +1.4**
comp=Z,14nm,1.0s
CBKS Cedar Bluff 77.72 339 P **P 23 08 57.5 +0.7**
baz=78
R29A Marienthal 77.79 338 P **P 23 08 57.4 +0.1**
baz=78
S26A Kim 77.82 336 P **P 23 08 58.7 +1.1**
baz=78,SNR=6.2
Q30A Quinter 78.01 338 P **P 23 08 59.5 +1.0**
baz=78
O34A Beatrice 78.15 342 P **P 23 08 60.0 +0.8**
baz=78
Q29A Oakley 78.16 338 P **P 23 08 59.7 +0.4**
baz=78
R27A Eads 78.19 336 P **P 23 09 00.5 +0.9**
baz=78
R26A Arlington 78.42 336 P **P 23 09 02.2 +1.3**
baz=79,SNR=5.2
SDCO Great Sand Dun 78.64 334 P **P 23 09 03.3 +1.1**
baz=79
SDCO Great Sand Dun 78.64 334 *e*P **P 23 09 03.2 +0.9**
comp=Z,3.0nm,1.0s
WUAZ Wupatki 78.99 329 P **P 23 09 06.0 +1.9**
baz=79
S22A 4UR Ranch, Cre 79.12 333 *e*P **P 23 09 06.4 +1.5**
comp=Z,2.1nm,0.8s
MVCO Mesa Verde 79.28 332 *e*P **P 23 09 07.2 +1.5**
comp=Z,11nm,1.3s
Q24A Divide 79.60 335 P **P 23 09 08.6 +1.0**
baz=80
Q24A Divide 79.60 335 *e*P **P 23 09 09.0 +1.5**
comp=Z,5.7nm,0.6s
DGR Domenigoni Val 80.00 324 *e*P **P 23 09 12.0 +2.5**
BOSA Boshof 80.09 118 P **P 23 09 10.4 -0.1**
comp=Z,5.4nm,0.7s,baz=246,slow=5.4,SNR=8.7
PV01 Paradox Valley 80.11 332 *e*P **P 23 09 11.7 +1.4**
SMCO Snowmass 80.44 334 *e*P **P 23 09 13.8 +1.6**
comp=Z,6.6nm,1.0s
ISCO Idaho Springs 80.51 335 P **P 23 09 13.2 +0.8**
baz=81
KNB Kanab 80.88 329 *e*P **P 23 09 16.0 +1.7**
comp=Z,7.8nm,1.0s
EDW2 Edwards Air Fo 81.47 324 P **P 23 09 17.7 +0.3**
baz=82
ECSD EROS Data Cent 81.47 343 P **P 23 09 17.2 +0.1**
baz=82
ECSD EROS Data Cent 81.47 343 *e*P **P 23 09 16.6 -0.5**
comp=Z,6.1nm,0.8s
CCUT Cedar City 81.56 329 *e*P **P 23 09 20.2 +2.2**
comp=Z,4.7nm,1.0s
N23A Red Feather La 81.60 335 P **P 23 09 18.9 +0.8**
baz=82
SRU San Rafael 81.72 331 *e*P **P 23 09 19.8 +1.1**
comp=Z,6.2nm,1.1s
J26A Sides Ranch, S 82.84 338 P **P 23 09 25.5 +1.1**
baz=83
R11A Troy Canyon, C 83.19 327 P **P 23 09 27.9 +1.4**
baz=84
J24A Dixon Ranch, L 83.35 337 P **P 23 09 28.3 +1.2**
baz=84
DUG Dugway 83.56 330 P **P 23 09 29.9 +1.6**
baz=84
DUG Dugway 83.56 330 *e*P **P 23 09 28.9 +0.7**
comp=Z,6.1nm,1.0s
I25A Rochford 83.69 338 P **P 23 09 29.6 +0.7**
baz=84
I24A Kuemmerle Ranc 83.82 337 P **P 23 09 30.4 +0.9**
baz=84
RSSD Black Hills 83.87 338 *e*P **P 23 09 30.5 +0.6**
comp=Z,5.2nm,0.9s
BGU Big Grassy Mou 84.27 331 *e*P **P 23 09 34.0 +2.2**
comp=Z,7.7nm,1.6s
HWUT Hardware Ranch 84.27 332 *e*P **P 23 09 32.3 +0.4**
comp=Z,13nm,1.3s
EYMN Ely 84.42 348 P **P 23 09 32.6 +0.3**
baz=85
I22A 9 Mile Ranch, 84.45 336 P **P 23 09 32.9 +0.3**
baz=85
NVAR Mina Array Bea 84.48 326 P **P 23 09 33.9 +0.8**
comp=Z,1.4nm,0.8s,baz=153,slow=6.6,SNR=5.0
G26A Maurine 84.51 339 P **P 23 09 33.2 +0.4**
baz=85
J20A Shoshoni 84.51 335 P **P 23 09 34.1 +1.1**
baz=85,SNR=8.1
PDAR Pinedale Array 84.52 334 P **P 23 09 33.4 +0.2**
comp=Z,0.9nm,0.8s,baz=120,slow=5.3,SNR=6.0
I21A Big Trails, Te 84.64 336 P **P 23 09 34.1 +0.4**
baz=85
G25A Newell 84.66 339 P **P 23 09 34.0 +0.4**
baz=85
J19A Crowheart 84.77 334 P **P 23 09 34.5 +0.1**
baz=85,SNR=5.3
I20A Worland 85.05 335 P **P 23 09 36.1 +0.4**
baz=85,SNR=5.9
D30A Buchanan 85.16 343 P **P 23 09 36.6 +0.6**
baz=86
TORD Torodi Ar. Bea 85.20 70 P **P 23 09 36.4 -0.6**
comp=Z,3.6nm,0.8s,baz=228,slow=4.5,SNR=29
TORD PKKPbc **PKKPbc 23 27 42.3 +0.4**
comp=Z,0.5nm,1.1s,baz=78,slow=2.7,SNR=5.1
I19A Meeteetse 85.43 335 P **P 23 09 38.2 +0.5**
baz=86
H20A Greybull 85.48 336 P **P 23 09 38.2 +0.4**
baz=86
G22A Birney 85.56 337 P **P 23 09 38.6 +0.4**
baz=86
AGMN Agassiz Nation 85.61 345 P **P 23 09 38.4 +0.2**
baz=86
C30A Mose, Pekin 85.64 343 P **P 23 09 39.1 +0.7**
baz=86
TPAW Teton Pass 85.66 333 *e*P **P 23 09 39.7 +0.8**
comp=Z,5.2nm,1.0s
G21A Lodge Grass 85.87 336 P **P 23 09 40.4 +0.7**
baz=86
G20A Bridger 86.20 336 P **P 23 09 41.2 -0.2**
baz=86,SNR=6.8
B30A Myrvik Farm, E 86.31 343 P **P 23 09 42.1 +0.4**
baz=87
E23A Ismay 86.40 338 P **P 23 09 42.1 -0.1**
baz=87
RLMT Red Lodge 86.47 335 P **P 23 09 43.4 +0.5**
baz=87,SNR=5.3
RLMT Red Lodge 86.47 335 *e*P **P 23 09 43.1 +0.3**
comp=Z,3.1nm,0.5s
D24A Glendive 86.66 339 P **P 23 09 43.9 +0.3**
baz=87
A29A Manning Farm, 86.96 343 P **P 23 09 45.5 +0.6**
baz=87
E21A Keefer Ranch, 86.99 337 P **P 23 09 45.7 +0.6**
baz=87
HLID Hailey 87.04 331 P **P 23 09 46.6 +1.0**
baz=87
C24A Savage 87.07 339 P **P 23 09 45.6 +0.1**
baz=87
MCMT McKenzie Canyo 87.51 333 *e*P **P 23 09 49.3 +1.4**
DGMT Dagmar 87.85 340 P **P 23 09 50.0 +0.8**
baz=88
DGMT Dagmar 87.85 340 *e*P **P 23 09 49.5 +0.3**
comp=Z,18nm,0.9s
C21A Desert Coulee 88.14 338 P **P 23 09 51.0 +0.4**
baz=88
MOD Modoc 88.18 327 *e*P **P 23 09 52.2 +1.1**
comp=Z,8.0nm,1.2s
C20A Veseth Ranch, 88.32 337 P **P 23 09 52.1 +0.6**
baz=89
ESDC Sonseca Array 97.84 47 LR LR 23 52 13.8
comp=Z,24nm,21.5s,baz=285,slow=34
GERES GERESS Array B 113.42 46 PKiKP **PKiKP 23 15 37.3 -0.4**
comp=Z,0.4nm,0.6s,baz=264,slow=0.9,SNR=5.9
ILAR Eielson Array 114.94 333 PKP PKPdf 23 15 40.0 -0.1
comp=Z,0.5nm,0.8s,baz=132,slow=2.6,SNR=4.7
WRA Warramunga Arr 119.43 210 PKP **PKPdf 23 15 49.3 -0.9**
comp=Z,0.5nm,0.3s,baz=154,slow=1.7,SNR=2.9
BRTR Keskin Array B 122.95 62 PKP **PKPdf 23 15 56.2 -0.2**
comp=Z,1.1nm,0.7s,baz=188,slow=2.8,SNR=8.8
AKASG Malin Array Be 123.45 48 PKP **PKPdf 23 15 55.9 -0.9**
comp=Z,1.2nm,0.5s,baz=258,slow=2.8,SNR=8.4
FINES FINESS Array B 124.31 35 PKP **PKPdf 23 15 56.6 -1.5**
comp=Z,1.3nm,0.9s,baz=259,slow=1.4,SNR=6.0
ARCES ARCESS Array B 125.34 25 PKP **PKPdf 23 15 59.6 -0.3**
comp=Z,1.4nm,0.7s,baz=256,slow=2.5,SNR=7.6
H11N3 WAKE ISLAND Hy 125.55 270 T T 01 34 12.8
baz=115,slow=78,SNR=14
H11N1 WAKE ISLAND Hy 125.57 270 T T 01 34 12.2
baz=115,slow=78,SNR=19
H11N2 WAKE ISLAND Hy 125.57 270 T T 01 34 12.8
baz=115,slow=78,SNR=27
ABKAR Akbulak array 142.90 53 *e*PKPdf **PKPdf 23 16 29.1 -4.1**
KKAR Karatay Array 150.65 63 *e*PKPbc **PKPbc 23 16 51.9 -0.1**
ASAJ Asahikawa 151.49 299 PKPbc **PKPbc 23 16 54.0 +0.1**
EKS2 Erkin-Say 153.08 64 *e*PKPbc **PKPbc 23 16 58.2 +0.5**
KURK Kurchatov 154.16 44 *e*PKPbc **PKPbc 23 16 59.2 -0.4**
KSH Kashi 154.87 71 PKPbc **PKPdf 23 16 53.3 +0.3**
ZALV Zalesovo Beam 155.55 33 PKP **PKPdf 23 16 52.5 -0.7**
comp=Z,1.4nm,0.6s,baz=298,slow=3.1,SNR=7.3
ZALV PKPab **PKPab 23 17 18.2 -1.0**
comp=Z,2.3nm,0.5s,baz=293,slow=5.1,SNR=5.5
MKAR Makanchi Array 158.00 51 PKP **PKPdf 23 16 55.9 -0.8**
comp=Z,0.4nm,0.6s,baz=101,slow=1.2,SNR=6.2
MKAR PKPab **PKPab 23 17 29.2 -0.9**
comp=Z,0.7nm,0.5s,baz=298,slow=2.6,SNR=5.7
DMN Daman 159.72 106 *e*P **PKPab 23 17 35.6 -2.8**
comp=Z,18nm,0.8s
PKI Pulchoki 159.94 106 *e*P **PKPab 23 17 38.3 -1.2**
comp=Z,16nm,0.8s
RAMN Ramite 160.58 109 *e*P **PKPab 23 17 41.8 -0.3**
comp=Z,12nm,0.6s
ODAN Odare 161.14 111 *e*P **PKPab 23 17 44.5 -0.1**
comp=Z,14nm,0.8s
WMQ Urumqi 162.68 54 *e*PKP **PKPdf 23 17 03.0 +1.0**
KSRS Korea Array 163.13 284 PKPab **PKPab 23 17 53.2 +0.4**
comp=Z,0.8nm,0.4s,baz=97,slow=4.1,SNR=3.2
KSAR Wonju Array Be 163.16 284 PKPab **PKPab 23 17 53.2 +0.3**
SONM Songino Array 167.33 2 PKPab **PKPab 23 18 10.4 -0.4**
comp=Z,1.6nm,0.8s,baz=343,slow=5.1,SNR=8.7
KMI Kunming 169.28 158 PKP **PKPdf 23 17 06.5 -1.6**
NJ2 Nanjing 169.79 256 *e*PKP **PKPdf 23 17 08.1 +0.3**
HHC Hu-ho-hao-te 173.36 330 *e*PKP **PKPdf 23 17 10.6 +1.1**
HHC PKS **PKSdf 23 20 41.4 -0.3**
HHC PP **PP 23 22 34.0 +4.7**
HHC SKKS 23 29 15.5
HHC SS **SS 23 43 43.6 +0.5**
HHC PPMZ
comp=Z,20nm,5.0s
HHC LN
comp=Z,110nm,20.4s
HHC LE
comp=Z,97nm,19.0s
HHC LZ
comp=Z,66nm,20.6s
CD2 Chengdu 174.87 145 PKP **PKPdf 23 17 09.9 -0.3**

IDC 15 23:02:37.2±6.0, 14°.50N×55°.45E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.4/37, mbtmp3.6/6, Ms1 3.1/8, Ms1mx2.9/30, Error ellipse: s-maj=124.9km s-min=36.6km az=164.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GEYT	**Alibeck**	**23.46**	**5**	P	P	23 07 47.8	-0.6
	1.3nm,0.6s,baz=180,slow=10,SNR=5.0						
GEYT				LR	LR	23 18 50.7	
	comp=Z,43nm,18.3s,baz=325,slow=42						
EIL	**Elat**	**24.20**	**312**	LR	LR	23 17 45.6	
	comp=Z,54nm,19.9s,baz=62,slow=38						
PALK	**Pallekele**	**25.80**	**103**	LR	LR	23 15 39.6	
	comp=Z,70nm,19.2s,baz=272,slow=30						
H08N2	**Diego Garcia H**	**25.80**	**142**	T	T	23 34 53.7	
	baz=324,slow=76,SNR=32						
H08N3	**Diego Garcia H**	**25.82**	**142**	T	T	23 34 54.5	
	baz=324,slow=76,SNR=37						
H08N1	**Diego Carcia H**	**25.82**	**142**	T	T	23 34 54.8	
	baz=324,slow=76,SNR=28						
MMAI	**Mount Meron Ar**	**25.93**	**319**	LR	LR	23 18 19.3	
	comp=Z,24nm,20.2s,baz=150,slow=36						
KBZ	**Khabaz**	**31.05**	**342**	LR	LR	23 23 27.4	

comp=Z,41nm,18.7s,baz=212,slow=40
BRTR Keskin Array B 31.59 327 LR LR 23 22 37.1
comp=Z,14nm,18.1s,baz=158,slow=38
MKAR Makanchi Array 39.24 29 P P 23 10 07.3 -0.1
0.3nm,0.7s,baz=215,slow=8.5,SNR=3.4
MKAR LR LR 23 29 06.2
comp=Z,25nm,18.3s,baz=200,slow=40
ZALV Zalesovo Beam 45.61 24 P P 23 10 59.1 0.0
0.4nm,0.5s,baz=226,slow=7.6,SNR=7.0
ZALV LR LR 23 30 29.2
comp=Z,32nm,18.5s,baz=250,slow=37
GERES GERESS Array B 48.39 324 P P 23 11 21.7 +0.6
0.2nm,0.6s,baz=115,slow=6.9,SNR=2.7
FINES FINESS Array B 51.41 342 P P 23 11 43.7 0.0
2.3nm,1.0s,baz=132,slow=5.8,SNR=3.2
ESDC Sonseca Array 57.41 308 P P 23 12 27.2 -0.7
0.3nm,0.6s,baz=109,slow=8.0,SNR=4.6
H01W3 Cape Leeuwin H 74.20 133 T T 00 35 36.0
baz=302,slow=75,SNR=5.9
H01W2 Cape Leeuwin H 74.21 133 T T 00 35 34.8
baz=302,slow=75,SNR=6.1
H01W1 Cape Leeuwin H 74.22 133 T T 00 35 33.8
baz=302,slow=75,SNR=5.9

NEIC ***15*** *23:13:52.1, 32.17N×115.22W, h10km, ML3.0(PAS), After ECX.*

ECX 15 23:13:52.1±0.4, 32.17N×115.22W, h8km, MD3.2, ML3.5, 7C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.26**	**344**	*e*P		Pg	23 13 56.6	-0.6
CPBX				*e*S		Sg	23 14 00.5	-0.3
EMSC	**East Mesa**	**0.60**	**19**	↑*i*P		Pg	23 14 02.8	-0.9
SGL	**Mount Signal**	**0.64**	**318**	↓*i*P		Pg	23 14 03.3	-1.1
RDX	**Rancho Dawling**	**0.66**	**249**	↓*e*P		Pg	23 14 03.9	-1.2
RDX				*e*S		Sg	23 14 12.9	-0.9
RDX				IAML			23 14 14.7	
	comp=N,2μm,0.4s							
RDX				↑*e*			23 14 14.7	
DREC	**Desert Rsrch C**	**0.66**	**343**	↑*i*P		Pg	23 14 04.2	-0.7
ERPC	**Ernies Place**	**0.68**	**327**	↓*i*P		Pg	23 14 04.5	-0.7
YMD	**Yuma Desert**	**0.69**	**56**	↑*i*P		Pg	23 14 03.9	-1.5
COA	**Coachella**	**0.70**	**7**	↑*i*P		Pg	23 14 04.1	-1.5
ECBX	**El Chinero**	**0.71**	**168**	*e*P		Pg	23 14 04.2	-1.6
ECBX				*e*S		Sg	23 14 14.2	-0.9
WESC	**Westside Schoo**	**0.73**	**324**	*e*P		Pg	23 14 05.2	-1.0
YUH	**Yuha Desert**	**0.76**	**309**	↓*i*P		Pg	23 14 05.2	-1.6
RMX	**La Rumorosa**	**0.84**	**301**	*e*P		Pg	23 14 06.8	-1.8
RMX				*e*S		Sg	23 14 18.5	-1.2
GLA	**Glamis**	**0.94**	**21**	*e*Pg		Pg	23 14 07.0	-3.2
GLA				*e*Sg		Sg	23 14 20.8	-1.8
ZAX	**El Zacaton**	**1.11**	**234**	*e*P		Pg	23 14 11.5	-2.0
ZAX				*e*S		Sg	23 14 26.2	-1.9
SPIG	**San Pedro Mart**	**1.14**	**191**	P		Pg	23 14 11.8	-2.6
SPIG				S		Sg	23 14 25.6	-4.0
SPX	**San Pedro Mart**	**1.14**	**190**	*e*P		Pg	23 14 11.9	-2.6
SPX				*e*S		Sg	23 14 27.6	-2.0
SPX				IAML			23 14 28.8	
	comp=E,622nm,0.5s							
CBX	**Cerro Bola**	**1.23**	**277**	*e*P		Pn	23 14 13.2	-2.6
CBX				*e*S		Sb	23 14 30.0	-2.0
CBX				IAML			23 14 31.2	
	comp=N,880nm,0.4s							
CBX				↑*e*			23 14 31.2	
ECNX	**Esteban Cantu**	**1.28**	**247**	*e*P		Pn	23 14 14.3	-2.1
ECNX				*e*S		Sb	23 14 31.6	-1.7
BAR	**Barrett**	**1.33**	**293**	*e*Pn		Pn	23 14 14.3	-2.7
BAR				*e*Sb		Sb	23 14 32.4	-2.1
BAR	**Barrett**	**1.33**	**293**	*e*P		Pn	23 14 14.4	-2.6
PBX	**Punta Banda**	**1.35**	**252**	*e*P		Pn	23 14 15.1	-2.2
PBX				*e*S		Sb	23 14 33.3	-1.8
PFO	**Pinyon Flat Ob**	**1.77**	**324**	*e*Pn		Pn	23 14 19.5	-3.8
214A	**Organ Pipe Nat**	**2.06**	**95**	*e*Pn		Pn	23 14 23.2	-3.9
214A				*e*Sb		Sb	23 14 54.7	-0.9
LDFC	**Landfair**	**2.90**	**2**	*e*Pg		Pg	23 14 47.0	-0.9
GSC	**Goldstone**	**3.39**	**338**	*e*Pg		Pg	23 14 57.2	0.0
TUC	**Tucson**	**3.76**	**87**	*e*Pg		Pg	23 15 02.3	-2.1
SHPR	**Sheep Range**	**4.32**	**1**	*e*Pn		Pn	23 14 56.7	-1.7
DAC	**Darwin (Calif)**	**4.54**	**335**	*e*Pn		Pn	23 14 59.4	-2.1
WUAZ	**Wupatki**	**4.62**	**43**	*e*Pn		Pn	23 15 01.2	-1.3

ISCJB ***15*** *23:54:20.8±0.5, 38.79N±0.03×122.79W±0.06, h7km, Error ellipse: s-maj=6.8km s-min=3.9km az=162.7*
NEIC ***15*** *23:54:20.3, 38.82N×122.82W, h2km, MW3.8(BRK), After NCEDC.*
NEIC Felt [II] at Cloverdale. Also felt at Calistoga, Kelseyville, Oakland, Port Costa, San Pablo, Santa Rosa, Sebastopol and Windsor.
IDC ***15*** *23:54:25.4±2.2, 39.07N×122.29W, h0km, mb1 3.9/4, mb1mx3.4/40, mbtmp3.4/4, ML3.4/4, Error ellipse: s-maj=26.2km s-min=11.0km az=50.0*

ISC 15 23:54:21.2±0.8, 38.83N±0.03×122.80W±0.06, h7km, n33, σ1ş40/38, Northern California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MCCM	**Marconi Confer**	**0.69**	**185**	*e*Pg		**Pg**	**23 54 33.8**	**-0.6**
MCCM				*e*S		**Sg**	**23 54 42.6**	**-0.8**
KCPM	**Cahto Peak**	**1.04**	**325**	*e*Pg		**Pb**	**23 54 41.3**	**-0.4**
KCPM				*e*S		**Sn**	**23 54 58.8**	**+1.5**
KIPM	**Iron Peak**	**1.11**	**332**	*e*Pg		**Pg**	**23 54 41.9**	**-0.5**
SAC	**San Andreas**	**1.28**	**166**	*e*Pg		**Pn**	**23 54 42.9**	**-2.7**
SAC				*e*S		**Sn**	**23 55 03.1**	**+0.1**
WDC	**Whiskeytown Da**	**1.76**	**7**	*e*Pn		**Pn**	**23 54 52.2**	**+0.1**
CMB	**Columbia Colle**	**2.06**	**112**	*e*Pn		**Pn**	**23 54 54.9**	**-1.3**
CMB				*e*S		**Sn**	**23 55 23.2**	**+1.0**
N02D	**Trinity Center** baz=2.2	**2.14**	**2**	P		**Pb**	**23 54 59.7**	**-0.6**
KHMM	**Horse Mountain**	**2.16**	**341**	*e*Pn		**Pn**	**23 54 58.9**	**+1.2**
M02C	**Callahan** baz=2.6	**2.56**	**359**	P		**Pb**	**23 55 07.2**	**-0.2**
WAKR	**Walker**	**2.66**	**96**	*e*Pn		**Pn**	**23 55 04.9**	**+0.3**
YBH	**Yreka Blue Hor** 2.4nm,0.3s,baz=170,slow=5.7,SNR=16	**2.90**	**1**	Pn		**Pb**	**23 55 11.2**	**-2.1**
YBH				Lg		Lg	23 55 49.7	
	0.2nm,0.3s,baz=285,slow=19,SNR=2.4							
YBH	**Yreka Blue Hor**	**2.90**	**1**	*e*Pn		**Pn**	**23 55 08.5**	**+0.7**
YBH				Lg		Lg	23 55 49.7	
M04C	**Macdoel** baz=3.1	**3.04**	**14**	P		**Pb**	**23 55 13.3**	**-2.3**
MLAC	**Mammoth Lakes** baz=3.3	**3.35**	**110**	P		**Pn**	**23 55 17.0**	**+2.9**
NVAR	**Mina Array Bea** 1.5nm,0.3s,baz=274,slow=14,SNR=45	**3.55**	**95**	Pn		**Pn**	**23 55 16.9**	**0.0**
NVAR				Lg		Lg	23 56 13.4	
	1.0nm,0.3s,baz=270,slow=33,SNR=2.9							
MOD	**Modoc**	**3.61**	**31**	*e*Pn		**Pn**	**23 55 19.2**	**+1.6**
HUMO	**Hull Mountain**	**3.77**	**358**	*e*Pn		**Pn**	**23 55 21.1**	**+1.4**
HUMO				*e*Pg		**Pg**	**23 55 30.8**	**-2.7**
TPH	**Tonopah**	**4.45**	**98**	*e*Pn		**Pn**	**23 55 29.2**	**+0.1**
BMN	**Battle Mountai**	**4.59**	**68**	*e*Pn		**Pn**	**23 55 33.1**	**+1.9**
GRAC	**Grapevine Rang** baz=4.7	**4.67**	**111**	P		**Pn**	**23 55 34.5**	**+2.3**
ISA	**Isabella** baz=4.7	**4.68**	**131**	P		**Pn**	**23 55 32.8**	**+0.4**
ISA	**Isabella**	**4.68**	**131**	*e*Pn		**Pn**	**23 55 32.3**	**-0.1**
WVOR	**Wild Horse Val**	**4.79**	**40**	*e*Pn		**Pn**	**23 55 33.9**	**0.0**
DAC	**Darwin (Calif)**	**4.86**	**120**	*e*Pn		**Pn**	**23 55 35.5**	**+0.6**
FURC	**Furnace Creek,** baz=5.3	**5.27**	**115**	P		**Pb**	**23 55 53.6**	**-0.1**
TPNV	**Topopah Spring** baz=5.5	**5.51**	**108**	P		**Pb**	**23 55 56.2**	**-1.7**
EDW2	**Edwards Air Fo** baz=5.5	**5.52**	**134**	P		**Pn**	**23 55 44.1**	**+0.3**
ELK	**Elko** 0.2nm,0.3s,baz=252,slow=11,SNR=15	**6.13**	**69**	Pn		**Pn**	**23 55 52.6**	**+0.2**
ELK				Lg		Lg	23 57 23.7	
	0.1nm,0.3s,baz=261,slow=18,SNR=1.8							
BFSC	**Mount Baldy Ra** baz=6.2	**6.18**	**136**	P		**Pn**	**23 55 53.3**	**+0.4**
DUG	**Dugway** baz=7.8	**7.84**	**77**	P		**Pn**	**23 56 17.5**	**+1.7**
MONP	**Monument Peak** baz=7.9	**7.87**	**137**	P		**Pn**	**23 56 16.8**	**+0.5**
PDAR	**Pinedale Array** baz=251,slow=11,SNR=1.5	**10.78**	**64**	Pn		**Pn**	**23 56 57.2**	**+1.1**
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=287,slow=9.0,SNR=14	**18.44**	**115**	P		**Pn**	**23 58 39.8**	**+2.5**

ISCJB ***16*** *00:06:41.8±0.3, 12.82N±0.03×88.56W±0.03, h72km±2km, mb4.8/142, Error ellipse: s-maj=6.3km s-min=2.4km az=38.7*
CASC ***16*** *00:06:42.3±1.9, 12.78N×88.64W, h37km±184km, mb8.0, MD4.7, ML5.1, Fault plane solution: NP1:φs115.15000°, δ72.77000°, λ58.43000°.*
IDC ***16*** *00:06:42.6±0.7, 13.19N×88.01W, h62km±5km, mb4.4/19, mb1 4.6/19, mb1mx4.5/27, mbtmp4.7/19, MS4.1/25, Ms1 4.1/25, ms1mx4.0/28, Error ellipse: s-maj=22.6km s-min=9.6km az=54.0*
NEIC ***16*** *00:06:42.5±0.3, 12.83N×88.54W, mb4.9/130, MD5.2(SNET), Error ellipse: s-maj=7.3km s-min=3.9km az=210.0*
NEIC Felt [IV] at San Salvador. Also felt at Antiguo Cuscatlan, Armenia, Nueva San Salvador, San Martin and San Miguel. Felt at Managua, Nicaragua.
GCMT ***16*** *00:06:45.0±0.2, 12.68N×88.74W, h61km±2km, MW5.1/83, Moment Tensor Solution. s58,c77; s83,c131; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr3.15±.17; Mθθ-2.70±.15; Mφφ-0.44±.18; Mrθ2.44±.11; Mrφ2.14±.13; Mθφ-3.87±.11; Best double couple: M◎5.84600×10^16 NP1:φs142.00000°, δ72.00000°, λ107.00000°. NP2: φs278.00000°, δ24.00000°, λ48.00000°. Principal axes: T 5.7330, Plg59.0000°, Azm76.0000°; N 0.2350, Plg16.0000°, Azm317.0000°; P -5.9590, Plg25.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 16 00:06:42.2±0.5, 12.81N±0.05×88.60W±0.04, h62km±3km, h62km:pP-P,n653,σ1ş21/692, mb4.8/142, 8C-15D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.69**	**27**	↑*i*P		**Pn**	**00 06 56.6**	**-0.2**
BLLM	**Bellamira**	**0.72**	**29**	↓*i*P		**Pn**	**00 06 56.5**	**-0.3**
AIES	**Las Flores**	**0.78**	**326**	↓*e*P		**Pn**	**00 06 56.4**	**-1.1**
AIES				*e*S		**Sn**	**00 07 07.9**	**-1.0**
AIES				AML	AML		00 07 13.5	
	comp=Z,101μm,0.4s							
SNVI	**San Vicente**	**0.83**	**344**	↓*i*P		**Pn**	**00 06 57.9**	**-0.5**
CNCH	**Conchagua**	**0.88**	**58**	↓*e*P		**Pn**	**00 06 58.2**	**-0.7**
LFRS	**El Faro**	**0.93**	**331**	↓*i*P		**Pn**	**00 06 58.7**	**-0.8**
LBRS	**Las Brisas**	**1.02**	**335**	↓*i*P		**Pn**	**00 07 00.4**	**-0.3**
CAHU	**Cacacuatique**	**1.03**	**21**	↓*i*P		**Pn**	**00 07 01.2**	**+0.3**
LFU	**La Fuente**	**1.06**	**332**	↓*i*P		**Pn**	**00 07 00.8**	**-0.4**
SNET	**Serv Nac Est T**	**1.07**	**325**	↓*e*P		**Pn**	**00 07 00.4**	**-0.8**
SNET				*e*S		**Sn**	**00 07 14.9**	**-0.6**
SNET				AML	AML		00 07 17.3	
	comp=Z,53μm,0.4s							
SNET	**Serv Nac Est T**	**1.07**	**325**	*e*Pn		**Pn**	**00 07 00.5**	**-0.8**
SNET				*e*Sn		**Sn**	**00 07 12.1**	**-3.4**
BOQS	**Boqueron**	**1.14**	**324**	↓*e*P		**Pn**	**00 07 01.7**	**-0.6**
SONS	**Sonsonate**	**1.43**	**310**	↓*e*P		**Pn**	**00 07 05.1**	**-0.9**
SONS				*e*S		**Sn**	**00 07 23.0**	**-0.9**
SONS				AML	AML		00 07 28.3	
	comp=Z,40μm,0.4s							
SBLS	**San Blas**	**1.43**	**316**	↑*e*P		**Pn**	**00 07 05.9**	**-0.3**
RTR	**El Retiro**	**1.49**	**317**	↑*e*P		**Pn**	**00 07 06.8**	**-0.1**
RBDL	**Robledal**	**1.67**	**321**	↑*i*P		**Pn**	**00 07 09.5**	**0.0**
TGUH	**Tegucigalpa,Un**	**1.79**	**46**	↓*i*P		**Pn**	**00 07 11.7**	**+0.9**
CNGN	**Cerro Negro**	**1.88**	**99**	↓*i*P		**Pn**	**00 07 11.5**	**-0.5**
CNGN				*e*S		**Sn**	**00 07 35.1**	**+0.3**
IXG	**Ixpaco**	**2.26**	**307**	↓*i*P		**Pn**	**00 07 16.9**	**-0.5**
NBG	**Las Nubes**	**2.45**	**316**	↑*e*P		**Pn**	**00 07 21.7**	**+1.6**
MRL	**Marmol**	**2.48**	**335**	↑*e*P		**Pn**	**00 07 21.4**	**+0.9**
PCG	**Pacaya**	**2.51**	**309**	*e*P		**Pn**	**00 07 22.6**	**+1.7**
FUG	**Fuego 3**	**2.72**	**307**	*e*P		**Pn**	**00 07 24.6**	**+0.9**
JAT	**Jato**	**3.31**	**297**	*e*P		**Pn**	**00 07 32.7**	**+1.1**
GBS2	**Las Lilas**	**3.65**	**122**	*i* P		**Pn**	**00 07 39.0**	**+2.7**
NY14	**Universidad de**	**3.69**	**125**	*i* P		**Pn**	**00 07 37.3**	**+0.5**
GB1A	**Borinquen Arri**	**3.70**	**122**	*i* P		**Pn**	**00 07 38.4**	**+1.3**
LAPC	**Finca la Perla**	**3.70**	**123**	*i* P		**Pn**	**00 07 38.2**	**+1.2**
BUEV	**Buena Vista**	**3.71**	**122**	*i* P		**Pn**	**00 07 38.6**	**+1.5**
MESS	**Mesas**	**3.92**	**121**	*i* P		**Pn**	**00 07 40.2**	**+0.3**
VCR	**Vista de Mar**	**3.94**	**132**	*e*P		**Pn**	**00 07 40.3**	**-0.1**
CUI	**Cuipilapa**	**3.98**	**122**	*i* P		**Pn**	**00 07 43.2**	**+2.3**
AMAS	**Alto Masis**	**4.15**	**121**	*i* P		**Pn**	**00 07 44.8**	**+1.6**
CHPA	**Chiripa**	**4.31**	**123**	*i* P		**Pn**	**00 07 46.0**	**+0.6**
JTS	**JuntasAbangare**	**4.36**	**125**	P		**Pn**	**00 07 47.1**	**+1.1**
	comp=Z,22nm,0.3s,baz=301,slow=9.8,SNR=66							
JTS				S		**Sn**	**00 08 33.0**	**-2.6**
	comp=Z,54nm,0.3s,baz=315,slow=22,SNR=4.3							
JTS				Lg	Lg		00 08 53.2	
	comp=Z,88nm,0.3s,baz=294,slow=20,SNR=13							
JTS	**JuntasAbangare**	**4.36**	**125**	*e*Pn		**Pn**	**00 07 46.4**	**+0.4**
JTS				*e*Sn		**Sn**	**00 08 35.8**	**+0.2**
JCR	**Jicaral**	**4.51**	**130**	*e*P		**Pn**	**00 07 48.9**	**+0.9**
CCIG	**Comitan**	**4.87**	**316**	P		**Pn**	**00 07 55.1**	**+2.1**
CCIG				S		Sn	00 09 03.9	+16
CGA2	**Cerro Gallo 2**	**4.91**	**124**	*e*P		Pn	00 07 58.0	+4.3
PCIG		**5.33**	**303**	P		**Pn**	**00 07 59.5**	**+0.4**
PCIG				S		**Sn**	**00 08 55.2**	**-4.0**
QCR	**Quepos**	**5.50**	**127**	↑*e*P		**Pn**	**00 08 03.0**	**+1.5**
QCR				*e*S		**Sn**	**00 09 04.2**	**+0.7**
URSC	**Urasca**	**5.57**	**122**	*e*P		**Pn**	**00 08 03.7**	**+0.9**
URSC				*e*S		**Sn**	**00 09 08.4**	**+2.8**
BUS	**Buena Vista**	**5.74**	**124**	↓*e*P		**Pn**	**00 08 07.7**	**+2.4**
BUS				*e*S		**Sn**	**00 09 10.8**	**+0.7**
TGIG		**5.89**	**313**	P		**Pn**	**00 08 07.8**	**+0.8**
TGIG				S		**Sn**	**00 09 16.5**	**+3.3**
TEIG	**Tepich**	**7.38**	**2**	P		**Pn**	**00 08 29.6**	**+2.2**
	comp=Z,1.2nm,0.3s,baz=180,slow=20,SNR=78							
TEIG				Lg	Lg		00 10 21.1	
	comp=Z,0.2nm,0.3s,baz=0.0,slow=20,SNR=2.2							
TEIG	**Tepich**	**7.38**	**2**	*e*Pn		**Pn**	**00 08 29.3**	**+2.0**
CMIG	**Matias Romero**	**7.42**	**306**	P		**Pn**	**00 08 28.5**	**+0.7**
	comp=Z,4.6nm,0.3s,baz=89,slow=11,SNR=25							
CMIG				S		**Sn**	**00 09 47.3**	**-3.3**
	comp=Z,11nm,0.3s,baz=346,slow=19,SNR=4.2							
HUIG	**Huatulco**	**7.85**	**293**	P		Pn	00 08 14.9	-19
HUIG				S		Sn	00 09 54.7	-6.6
VHO	**Vista Hermosa**	**8.93**	**299**	P		**Pn**	**00 08 51.6**	**+2.9**
VHO				S		Sn	00 10 17.2	-11
BCIP	**Isla Barro Col**	**9.33**	**112**	*e*Pn		**Pn**	**00 08 55.8**	**+1.8**
MTDJ	**Mount Denham**	**11.94**	**62**	*e*Pn		**Pn**	**00 09 30.9**	**+1.1**
OTAV	**Otavalo**	**16.04**	**140**	*e*Pn		**P**	**00 10 27.1**	**+0.3**
	comp=Z,33nm,1.1s							
ROSC	**El Rosal**	**16.15**	**118**	P		**P**	**00 10 27.6**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=292,slow=8.8,SNR=14							
ROSC				LR		LR	00 18 36.4	
	comp=Z,325nm,18.6s,baz=343,slow=45							
035Z	**Hargill** baz=16	**16.24**	**328**	P		**P**	**00 10 28.0**	**-0.5**
LGNH	**LØogne**	**16.40**	**68**	*e*Pn		**Pn**	**00 10 29.0**	**+0.5**
	comp=Z,226nm,1.2s							
035A	**Encino** baz=17	**16.64**	**329**	P		**P**	**00 10 34.1**	**+1.1**
034A	**Hebbronville** baz=17	**17.05**	**328**	P		**P**	**00 10 38.8**	**+1.4**
934A	**Benavides** baz=18,SNR=11	**17.40**	**329**	P		**P**	**00 10 43.1**	**+1.8**
737A	**Port Lavaca** baz=18	**17.48**	**336**	P		**P**	**00 10 44.1**	**+2.0**
835A	**Beeville** baz=18	**17.65**	**332**	P		**P**	**00 10 46.1**	**+2.1**
SDDR	**Presa de Saban** comp=Z,55nm,1.0s	**17.74**	**68**	*e*P		**P**	**00 10 45.8**	**+0.6**
933A	**Laredo** baz=18,SNR=10	**17.80**	**327**	P		**P**	**00 10 47.5**	**+1.8**
834A	**Tilden** baz=18,SNR=13	**17.85**	**330**	P		**Pn**	**00 10 48.2**	**+1.9**
736A	**Circle Diamond** baz=18	**17.89**	**335**	P		**Pn**	**00 10 49.1**	**+2.2**
540A	**Vidor** baz=18	**18.02**	**345**	P		**Pn**	**00 10 50.4**	**+2.1**
SDV	**Santo Domingo** comp=Z,76nm,0.9s	**18.07**	**101**	*e*P		**P**	**00 10 48.0**	**-1.0**
735A	**Kenedy** baz=18	**18.12**	**333**	P		**Pn**	**00 10 51.4**	**+1.8**
539A	**Cross D Ranch,** baz=18	**18.13**	**343**	P		**Pn**	**00 10 52.0**	**+2.4**
HKT	**Hockley** comp=Z,15nm,0.9s	**18.33**	**340**	*e*P		**Pn**	**00 10 54.2**	**+2.2**
636A	**Smothers Creek** baz=18	**18.36**	**336**	P		**Pn**	**00 10 54.4**	**+1.9**
833A	**Chaparral WMA,** baz=18,SNR=19	**18.43**	**329**	P		**Pn**	**00 10 54.0**	**+0.6**
734A	**La Parita Cree** baz=18	**18.46**	**331**	P		**Pn**	**00 10 55.1**	**+1.4**
538A	**Harpers Horsep**	**18.47**	**341**	P		**Pn**	**00 10 55.0**	**+1.3**
440A	**Kirbyville** baz=19	**18.52**	**345**	P		**Pn**	**00 10 55.4**	**+0.9**
635A	**Leesville** baz=19	**18.57**	**334**	P		**Pn**	**00 10 56.3**	**+1.3**
537A	**Green Hill Far** baz=19	**18.61**	**339**	P		**Pn**	**00 10 56.9**	**+1.3**
832A	**Faith Ranch, C** baz=19,SNR=22	**18.70**	**327**	P		**Pn**	**00 10 56.7**	**0.0**
733A	**Divot King Ran** baz=19,SNR=37	**18.70**	**329**	P		**Pn**	**00 10 56.8**	**+0.1**
634A	**China Grove, S** baz=19	**18.82**	**333**	P		**Pn**	**00 10 58.0**	**0.0**
438A	**Sam Houston St** baz=19	**18.95**	**341**	P		**Pn**	**00 10 59.8**	**+0.3**
732A	**Laxson Ranch,** baz=19,SNR=24	**19.06**	**328**	P		**P**	**00 11 00.0**	**+0.5**
TIGA	**Tifton** baz=19	**19.11**	**13**	P		**Pn**	**00 11 01.8**	**+0.4**
TIGA	**Tifton** comp=Z,154nm,0.9s	**19.11**	**13**	*e*P		**Pn**	**00 11 02.1**	**+0.7**
340A	**Bronson** baz=19,SNR=7.1	**19.15**	**346**	P		**Pn**	**00 11 02.7**	**+0.8**
339A	**Huntington** baz=19,SNR=12	**19.24**	**344**	P		**Pn**	**00 11 03.4**	**+0.5**
633A	**Saathoff Ranch** baz=19	**19.26**	**331**	P		**Pn**	**00 11 02.8**	**-0.5**
VBMS	**Vicksburg** baz=19	**19.40**	**355**	P		**Pn**	**00 11 05.5**	**+0.7**
VBMS	**Vicksburg** comp=Z,100nm,0.8s	**19.40**	**355**	*e*P		**Pn**	**00 11 05.7**	**+0.8**
534A	**Blanco** baz=20,SNR=13	**19.43**	**333**	P		**P**	**00 11 04.2**	**+0.7**
338A	**Crockett** baz=20	**19.47**	**343**	P		**Pn**	**00 11 05.7**	**0.0**
632A	**Uvalde** baz=20,SNR=32	**19.60**	**330**	P		**P**	**00 11 06.1**	**+0.7**
SMN1	**Samana, DR**	**19.62**	**69**	*e*P		**P**	**00 11 03.8**	**-2.0**
NATX	**Nacogdoches** baz=20	**19.67**	**344**	P		**Pn**	**00 11 07.5**	**-0.6**
533A	**Kerrville** baz=20,SNR=24	**19.71**	**332**	P		**P**	**00 11 06.6**	**-0.1**
435B	**Jarrell** baz=20	**19.72**	**337**	P		**Pn**	**00 11 07.9**	**-0.8**
239A	**Gary** baz=20	**19.87**	**345**	P		**Pn**	**00 11 10.0**	**-0.4**
631A	**Perdido Creek** baz=20,SNR=26	**19.92**	**328**	P		**P**	**00 11 09.1**	**+0.2**
336A	**Riesel** baz=20	**19.99**	**339**	P		**P**	**00 11 10.5**	**+0.9**
434A	**Burnet** baz=20,SNR=14	**20.02**	**335**	P		**P**	**00 11 09.8**	**-0.2**
238A	**Jacksonville** baz=20	**20.02**	**344**	P		Pn	00 11 11.1	-1.1
335A	**Moody** baz=20,SNR=6.6	**20.11**	**338**	P		**P**	**00 11 11.2**	**+0.3**
532A	**Rocksprings** baz=20,SNR=33	**20.17**	**330**	P		**P**	**00 11 12.4**	**+0.7**
LRAL	**Lakeview Retre** comp=Z,39nm,0.9s	**20.19**	**4**	*e*P		Pn	00 11 13.4	-0.7
237A	**Washetta, Mont** baz=20	**20.22**	**342**	P		**P**	**00 11 13.1**	**+1.0**
433A	**Art** baz=20,SNR=20	**20.32**	**333**	P		**P**	**00 11 12.9**	**-0.4**
JCT	**Junction City** baz=20,SNR=10	**20.41**	**331**	P		**P**	**00 11 14.5**	**+0.2**
JCT	**Junction City** comp=Z,34nm,0.8s	**20.41**	**331**	*e*P		**P**	**00 11 13.5**	**-0.7**
236A	**Katherine and** baz=20	**20.44**	**340**	P		**P**	**00 11 15.7**	**+1.1**
334A	**Lometa** baz=20,SNR=19	**20.46**	**336**	P		**P**	**00 11 14.8**	**0.0**
139A	**Bunkhouse Ranc** baz=20	**20.48**	**346**	P		Pn	00 11 16.5	-1.1
531A	**Rocksprings** baz=21,SNR=14	**20.51**	**329**	P		**P**	**00 11 15.8**	**+0.4**
138A	**Matatall Enter** baz=21	**20.64**	**344**	P		Pn	00 11 18.1	-1.3
432A	**Menard** baz=21,SNR=20	**20.74**	**332**	P		**P**	**00 11 17.9**	**0.0**
WHTX	**Lake Whitney** baz=21	**20.75**	**338**	P		**P**	**00 11 19.3**	**+1.4**
WHTX	**Lake Whitney** comp=Z,108nm,0.8s	**20.75**	**338**	*e*P		**P**	**00 11 18.2**	**+0.2**
137A	**Heron Place, G** baz=21	**20.76**	**343**	P		Pn	00 11 19.6	-1.3
333A	**Richland Sprin** baz=21,SNR=29	**20.77**	**334**	P		**P**	**00 11 17.9**	**-0.2**
136A	**Ennis** baz=21	**20.88**	**341**	P		**P**	**00 11 20.6**	**+1.4**
530A	**J-C Ranch, Com** baz=21,SNR=40	**20.90**	**328**	P		**P**	**00 11 19.9**	**+0.3**
431A	**Sonora** baz=21,SNR=47	**20.96**	**330**	P		**P**	**00 11 20.8**	**+0.5**
234A	**Clairette** baz=21,SNR=7.5	**21.02**	**337**	P		**P**	**00 11 21.4**	**+0.6**
GOGA	**Godfrey** comp=Z,78nm,0.8s	**21.04**	**12**	*e*P		**P**	**00 11 22.6**	**+1.7**
332A	**Millersview** baz=21,SNR=78	**21.14**	**333**	P		**P**	**00 11 22.5**	**+0.3**
Z38A	**Mt. Pleasant** baz=21	**21.17**	**345**	P		**P**	**00 11 23.8**	**+1.5**
135A	**Vickery Place,** baz=21	**21.25**	**339**	P		**P**	**00 11 25.0**	**+1.8**
Z37A	**Pogue Cattle C** baz=21	**21.29**	**344**	P		**P**	**00 11 25.4**	**+1.8**
233A	**Rising Star** baz=21,SNR=18	**21.33**	**335**	P		**P**	**00 11 24.3**	**+0.2**
430A	**Baggett Ranch,** baz=21	**21.36**	**329**	P		**P**	**00 11 24.8**	**+0.3**
331A	**San Angelo** baz=22,SNR=41	**21.40**	**331**	P		**P**	**00 11 24.7**	**-0.1**
134A	**White-Moore Ra** baz=22	**21.51**	**338**	P		**P**	**00 11 27.8**	**+1.8**
232A	**Cole

baz=22,SNR=25
Y35A Marietta 22.36 341 P P 00 11 36.5 +1.3
baz=22,SNR=21
JSC Jenkinsville 22.39 16 eP P 00 11 37.0 +1.6
comp=Z,147nm,1.2s
Z33A Whitaker Ranch 22.40 337 P P 00 11 35.5 -0.1
baz=22,SNR=11
SWET Sewanee 22.44 6 eP P 00 11 36.5 +0.5
X38A Whitesboro 22.49 346 P P 00 11 37.3 +0.8
baz=22,SNR=22
131A Roby 22.53 333 P P 00 11 36.6 -0.5
baz=23,SNR=6.9
X37A Clayton 22.54 345 P P 00 11 37.9 +0.9
baz=23,SNR=16
229A Bryant Ranch, 22.60 330 P P 00 11 37.5 -0.3
baz=23,SNR=15
Y34A Reagan Ranch, 22.64 340 P P 00 11 38.9 +0.7
baz=23
Z32A Haskell 22.70 336 P P 00 11 37.6 -1.1
baz=23,SNR=16
130A Snyder 22.72 332 P P 00 11 37.6 -1.5
baz=23,SNR=27
X36A Centrahoma 22.78 343 P P 00 11 39.4 -0.1
baz=23,SNR=7.2
X35A Drake 22.80 342 P P 00 11 40.1 +0.3
baz=23,SNR=7.3
W38A Poteau 22.80 347 P P 00 11 40.4 +0.6
baz=23,SNR=26
CPCT Cooper Cave 22.84 9 eP P 00 11 41.0 +0.8
SLBS Sierra La Lagu 22.95 301 eP P 00 11 44.3 +2.8
comp=Z,35nm,1.1s
Z31A Sharp Cattle R 22.98 335 P P 00 11 40.6 -1.1
baz=23,SNR=27
Y33A Hilltop Ranch, 22.99 338 P P 00 11 42.5 +0.7
baz=23
W37A Quinton 23.07 346 P P 00 11 42.2 -0.3
baz=23,SNR=29
228A UT Block 9, Go 23.12 328 P P 00 11 41.9 -1.3
baz=23,SNR=15
TKL Tuckaleechee C 23.16 10 P P 00 11 43.7 +0.2
comp=Z,50nm,0.9s,baz=182,slow=10,SNR=36
TKL LR LR 00 21 54.0
comp=Z,254nm,19.2s,baz=192,slow=40
TKL Tuckaleechee C 23.16 10 eP P 00 11 44.1 +0.7
WVT Waverly 23.23 2 eP P 00 11 43.3 -0.7
comp=Z,22nm,0.9s
X34A Smith Ranch, M 23.26 340 P P 00 11 44.7 +0.4
baz=23,SNR=19
W36A Wetumka 23.28 344 P P 00 11 44.4 -0.1
baz=23
Y32A R-V Farms, Ver 23.29 337 P P 00 11 44.4 -0.3
baz=23,SNR=5.5
Z30A Sanderson Ranc 23.38 333 P P 00 11 44.7 -0.8
baz=23,SNR=34
STVI Saint Thomas 23.42 73 eP P 00 11 44.6 -1.4
comp=Z,225nm,1.3s
LPIG La Paz 23.42 302 P P 00 11 49.8 +3.9
comp=Z,14nm,0.4s,baz=164,slow=7.4,SNR=2.3
X33A Lawton 23.43 339 P P 00 11 45.8 -0.2
baz=24,SNR=24
128A Castleberry Fa 23.47 329 P P 00 11 45.2 -1.2
baz=24,SNR=23
W35A Tecumseh 23.47 343 P P 00 11 45.8 -0.6
baz=24,SNR=6.2
V38A Canehill 23.55 348 P P 00 11 46.8 -0.3
baz=24,SNR=17
Y31A Rekieta Farm, 23.58 335 P P 00 11 46.8 -0.7
baz=24,SNR=23
X32A Elmer 23.61 337 P P 00 11 47.4 -0.2
baz=24,SNR=28
Z29A Hungry Hill Ra 23.62 332 P P 00 11 46.8 -1.0
baz=24,SNR=45
PCRV Puerto La Cruz 23.62 94 P P 00 11 47.3 -0.7
comp=Z,15nm,0.5s,baz=183,slow=6.0,SNR=10
PCRV LR LR 00 21 25.9
comp=Z,412nm,21.9s,baz=279,slow=38
WMOK Wichita Mounta 23.70 339 eP P 00 11 48.9 +0.4
comp=Z,51nm,1.4s
V37A Hulbert 23.72 347 P P 00 11 48.3 -0.3
baz=24,SNR=20
Y30A Stafford Cattl 23.78 334 P P 00 11 49.8 +0.5
baz=24,SNR=50
V36A Jenks 23.82 345 P P 00 11 49.5 0.0
baz=24
W34A Bridge Creek, 23.82 341 P P 00 11 49.7 +0.1
baz=24,SNR=12
W34A Bridge Creek, 23.82 341 eP P 00 11 50.2 +0.7
comp=Z,74nm,0.8s
TUL1 Tulsa 23.90 345 P P 00 11 49.6 -0.6
baz=24,SNR=8.5
TUL1 Tulsa 23.90 345 eP P 00 11 50.4 +0.1
comp=Z,65nm,0.9s
PBMO Poplar Bluff 23.92 356 eP P 00 11 50.4 0.0
comp=Z,76nm,1.0s
Z28A Tucker Farm, M 23.96 331 P P 00 11 50.2 -0.7
baz=24,SNR=8.3
W33A Caddo, Fort Co 23.97 340 P P 00 11 50.5 -0.4
baz=24,SNR=7.1
V35A Meyer Ranch, C 24.03 343 P P 00 11 51.0 -0.4
baz=24
X31A McDonald Ranch 24.05 336 P P 00 11 51.5 -0.2
baz=24,SNR=11
TZTN Tazewell 24.07 10 eP P 00 11 52.1 +0.4
comp=Z,60nm,1.1s
U38A Gravette 24.10 349 P P 00 11 52.2 +0.2
baz=24,SNR=12
Y29A Porterfield Fa 24.10 333 P P 00 11 52.1 -0.1
baz=24,SNR=8.5
U37A Salina 24.22 347 P P 00 11 53.5 +0.4
baz=24,SNR=16
W32A Sentinel 24.22 338 P P 00 11 53.1 -0.1
baz=24,SNR=18
X30A Coker Ranch, T 24.25 335 P P 00 11 53.5 0.0
baz=24,SNR=58
V34A Guthrie 24.30 342 P P 00 11 53.2 -0.7
baz=24,SNR=12
V34A Guthrie 24.30 342 eP P 00 11 53.7 -0.1
comp=Z,35nm,0.6s
U36A Oologah 24.34 346 P P 00 11 54.5 +0.2
baz=24
Y28A McKinney Farm, 24.41 332 P P 00 11 54.5 -0.5
baz=24,SNR=23
V33A Lossen Ranch, 24.52 341 P P 00 11 55.7 -0.2
baz=25,SNR=6.4
W31A Holland Ranch, 24.53 337 P P 00 11 56.3 +0.3
baz=25
U35A Pawnee 24.58 344 P P 00 11 55.8 -0.6
baz=25,SNR=7.6
X29A Tulia 24.61 333 P P 00 11 56.8 0.0
baz=25,SNR=23
V32A Arapaho 24.68 339 P P 00 11 57.7 +0.3
baz=25,SNR=5.5
MSTX Muleshoe 24.70 331 P P 00 11 57.3 -0.4
baz=25,SNR=28
MSTX Muleshoe 24.70 331 eP P 00 11 57.6 -0.1
comp=Z,62nm,0.8s
SIUC Southern Illin 24.81 359 eP P 00 11 58.6 +0.2
comp=Z,65nm,1.0s
U34A Anderson Ranch 24.86 343 P P 00 11 59.2 +0.2
baz=25
U34A Anderson Ranch 24.86 343 eP P 00 11 58.8 -0.2
comp=Z,36nm,0.8s
T37A Cheneyville 18 24.86 348 P P 00 11 58.9 -0.1
baz=25,SNR=14
X28A Dimmitt 24.89 333 P P 00 11 59.4 0.0
baz=25
T36A Boggs Farm, Ca 25.02 346 P P 00 11 60.0 -0.4
baz=25,SNR=6.9
V31A Spring Creek L 25.02 338 P P 00 12 00.8 +0.4
baz=25,SNR=15
U33A Lingo Farm, Me 25.03 342 P P 00 12 00.3 -0.2
baz=25
T35A Sooner Cattle 25.03 345 P P 00 12 01.2 +0.6
baz=25
USIN University of 25.07 2 eP P 00 11 59.3 -1.5
comp=Z,54nm,0.8s
W29A Amraillo 25.16 334 P P 00 12 01.4 -0.5
baz=25,SNR=7.4
U32A Winter Ranch, 25.27 340 P P 00 12 02.7 0.0
baz=25,SNR=6.3
T34A McClaskey Farm 25.31 344 P P 00 12 02.7 -0.4
baz=25
V30A Spur Ranch, Mi 25.32 337 P P 00 12 03.7 +0.4
baz=25
BLA Blacksburg 25.38 15 eP P 00 12 02.5 -1.2
comp=Z,64nm,0.9s
S37A Fort Scott 25.46 348 P P 00 12 03.7 -0.7
baz=26,SNR=5.8
W28A Vega 25.52 333 P P 00 12 04.7 -0.4
baz=26,SNR=5.6
VWCC Virginia Weste 25.53 16 eP P 00 12 04.2 -0.9
U31A Nine Bar Ranch 25.55 339 P P 00 12 05.7 +0.4
baz=26
S36A Lake Cedric, C 25.59 347 P P 00 12 05.0 -0.5
baz=26,SNR=22
T33A Patterson Ranc 25.67 342 P P 00 12 06.4 0.0
baz=26
S35A Otter Creek Ra 25.71 346 P P 00 12 06.6 -0.1
baz=26,SNR=7.3
V29A Stinnett 25.75 335 P P 00 12 07.0 -0.2
baz=26
OLIL Olney 25.82 1 eP P 00 12 07.6 -0.1
comp=Z,28nm,0.9s
S34A Willow Spring 25.93 344 P P 00 12 09.0 +0.4
baz=26
V28A Channing 25.94 334 P P 00 12 08.5 -0.4
baz=26,SNR=8.1
T32A Huddler Ranch, 25.97 341 P P 00 12 09.8 +0.7
baz=26
U30A WK&E Inc. Balk 25.99 337 P P 00 12 10.1 +0.8
baz=26
R37A Teagarden Farm 26.00 349 P P 00 12 10.1 +0.8
baz=26
R36A Gordon, Harris 26.14 348 P P 00 12 10.8 +0.3
baz=26
U29A Oasis Ranch, S 26.15 336 P P 00 12 11.7 +0.9
baz=26
V27A Dan Oppiter Fa 26.21 333 P P 00 12 11.2 -0.1
baz=26,SNR=6.6
BLO Bloomington 26.32 4 eP P 00 12 11.6 -0.5
comp=Z,35nm,1.1s
121A Cookes Peak, D 26.35 321 P P 00 12 13.4 +0.6
baz=26,SNR=20
T30A Plains 26.40 338 P P 00 12 13.6 +0.6
baz=26
Q37A Longview Farm, 26.48 350 P P 00 12 14.6 +1.0
baz=26
U28A Mallet 26.48 335 P P 00 12 14.1 +0.4
baz=27
R34A Isabella, Hill 26.53 345 P P 00 12 14.8 +0.7
baz=27
S31A Mullinville 26.55 340 P P 00 12 14.9 +0.6
baz=27
JSRW J. Sargeant Re 26.57 19 eP P 00 12 14.3 -0.1
URVA University of 26.57 20 eP P 00 12 16.4 +2.0
R33A Olander Ranch, 26.73 343 P P 00 12 16.5 +0.6
baz=27
U27A Thompson Grove 26.77 334 P P 00 12 16.6 +0.2
baz=27,SNR=9.6
T29A Hugoton 26.78 337 P P 00 12 16.6 +0.2
baz=27,SNR=5.1
BNM Barren Site 26.84 325 eP P 00 12 19.0 +1.8
S30A Montezuma 26.91 339 P P 00 12 18.0 +0.5
baz=27
LPM Los Pinos Moun 26.96 326 eP P 00 12 20.0 +1.8
Q34A Chapman 27.04 346 P P 00 12 19.2 +0.5
baz=27
R32A Long Quarter, 27.05 342 P P 00 12 19.2 +0.4
baz=27
T28A Walsh 27.07 336 P P 00 12 18.5 -0.6
baz=27,SNR=11
S29A Ulysses 27.12 338 P P 00 12 19.6 +0.1
baz=27
R31A Buttett 27.18 341 P P 00 12 20.3 +0.3
baz=27
CBN Corbin 27.20 20 eP P 00 12 19.8 -0.3
comp=Z,33nm,0.8s
NNA Nana 27.26 154 LR LR 00 21 23.0
comp=Z,201nm,20.3s,baz=315,slow=32
T27A Campo 27.27 335 P P 00 12 20.5 -0.4
baz=27,SNR=6.6
LAZ Ladron 27.30 325 eP P 00 12 23.5 +2.2
P36A Good Intent, A 27.34 349 P P 00 12 21.7 +0.4
baz=27
ANMO Albuquerque 27.34 327 P P 00 12 23.0 +1.4
comp=Z,3.5nm,0.6s,baz=143,slow=10,SNR=18
ANMO PcP PcP 00 15 41.1 +1.4
comp=Z,4.6nm,1.1s,baz=104,slow=4.6,SNR=3.3
ANMO LR LR 00 25 21.6
comp=Z,250nm,20.7s,baz=142,slow=41
ANMO Albuquerque 27.34 327 eP P 00 12 23.3 +1.7
comp=Z,4.1nm,0.7s
Q33A Connelly Farm, 27.34 344 P P 00 12 21.7 +0.3
baz=27
S28A Manter 27.39 337 P P 00 12 21.5 -0.5
baz=28,SNR=5.0
P35A Duane Minner, 27.41 347 P P 00 12 21.6 -0.4
baz=28,SNR=7.1
R30A Dighton 27.42 340 P P 00 12 22.2 0.0
baz=28,SNR=7.4
SFIN Scholer Farm 27.49 2 P P 00 12 21.6 -1.1
baz=28
Q32A Meitler Ranch, 27.53 343 P P 00 12 23.4 +0.3
baz=28
P34A Walnut Farm, R 27.61 346 P P 00 12 24.3 +0.5
baz=28
HDIL Hopedale 27.65 359 P P 00 12 24.9 +0.9
baz=28
CBKS Cedar Bluff 27.72 341 P P 00 12 25.4 +0.6
baz=28
T26A Comanche Natio 27.73 334 P P 00 12 25.0 -0.1
baz=28
ACSO Alum Creek Sta 27.76 9 eP P 00 12 23.8 -1.3
comp=Z,22nm,0.8s
Q31A Ellis 27.79 342 P P 00 12 25.9 +0.5
baz=28
R29A Marienthal 27.84 339 P P 00 12 26.4 +0.5
baz=28
S27A Las Animas 27.87 335 P P 00 12 26.6 +0.3
baz=28
R28A Tribune 28.02 338 P P 00 12 27.3 -0.2
baz=28,SNR=7.3
Q30A Quinter 28.03 340 P P 00 12 27.8 +0.3
baz=28
S26A Kim 28.06 334 P P 00 12 27.9 -0.1
baz=28,SNR=8.7
T25A Trinidad 28.06 332 P P 00 12 28.9 +0.9
baz=28,SNR=19
T25A Trinidad 28.06 332 eP P 00 12 29.0 +0.9
comp=Z,26nm,0.8s
O35A Humboldt 28.10 348 P P 00 12 28.9 +0.8
baz=28
TUC Tucson 28.11 317 eP P 00 12 30.8 +2.3
comp=Z,9.7nm,1.0s
P32A Huiting Farm, 28.13 343 P P 00 12 28.7 +0.3
baz=28
O34A Beatrice 28.18 347 P P 00 12 28.3 -0.5
baz=28,SNR=8.7
Q29A Oakley 28.20 339 P P 00 12 29.4 +0.2
baz=28
P31A Stockton 28.26 342 P P 00 12 29.9 +0.2
baz=28
O33A Hebron 28.29 345 P P 00 12 30.1 +0.3
baz=28
R27A Eads 28.35 336 P P 00 12 30.2 -0.2
baz=28,SNR=12
SDMD Soldier's Deli 28.46 19 eP P 00 12 30.2 -1.1
P30A Selden 28.55 341 P P 00 12 32.6 +0.4
baz=29
R26A Arlington 28.62 335 P P 00 12 33.2 +0.2
baz=29,SNR=8.3
O32A Brockman Farm, 28.64 344 P P 00 12 33.6 +0.6
baz=29
N34A Lincoln 28.77 347 P P 00 12 34.8 +0.7
baz=29
P29A Atwood 28.83 340 P P 00 12 35.3 +0.6
baz=29
N33A J Bar K, Exete 28.89 346 P P 00 12 35.9 +0.8
baz=29
SDCO Great Sand Dun 29.06 332 P P 00 12 37.6 +0.6
baz=29,SNR=21
SDCO Great Sand Dun 29.06 332 eP P 00 12 38.4 +1.3
comp=Z,12nm,0.9s
O30A MW Ranch, Wils 29.07 342 P P 00 12 37.8 +1.0
baz=29
P28A Saint Francis 29.08 339 P P 00 12 37.7 +0.7
baz=29
N32A Stulken Farm, 29.12 345 P P 00 12 37.9 +0.7
baz=29
M35A Neola 29.22 349 P P 00 12 39.1 +1.1
baz=29
BBSR BB Station 29.30 44 eP P 00 12 39.1 +0.2
comp=Z,33nm,0.9s
W18A Petrified Fore 29.31 323 P P 00 12 40.2 +1.0
baz=29
P27A Ficken Ranch, 29.37 338 P P 00 12 40.5 +1.0
baz=29
P26A Davis Ranch, A 29.66 337 P P 00 12 43.5 +1.3
baz=30
S22A 4UR Ranch, Cre 29.69 330 P P 00 12 43.8 +1.2
baz=30,SNR=40
S22A 4UR Ranch, Cre 29.69 330 eP P 00 12 43.9 +1.2
comp=Z,18nm,0.8s
M31A Lambtecht Ranc 29.84 344 P P 00 12 44.4 +0.8
baz=30
O27A Beecher Island 29.89 338 P P 00 12 45.0 +0.9
baz=30
Q24A Divide 29.90 334 P P 00 12 45.6 +1.1
baz=30
Q24A Divide 29.90 334 eP P 00 12 44.1 -0.4
comp=Z,6.3nm,0.7s
LUPA Lehigh Univers 30.02 20 eP P 00 12 44.8 -0.3
comp=Z,4.1nm,1.0s
MVCO Mesa Verde 30.13 327 P P 00 12 48.2 +1.8
baz=30
MVCO Mesa Verde 30.13 327 eP P 00 12 46.3 -0.2
comp=Z,12nm,1.0s
O26A Horse Wrangler 30.24 337 P P 00 12 48.1 +0.9
baz=30
M30A Dale-Ortello V 30.27 343 P P 00 12 48.1 +0.7
baz=30
BRNJ Basking Ridge 30.38 21 eP P 00 12 46.3 -2.0
comp=Z,103nm,2.3s
OGNE Ogallala 30.40 340 P P 00 12 48.9 +0.2
baz=30
N27A Anderson Farm, 30.45 339 P P 00 12 50.4 +1.3
baz=30
WUAZ Wupatki 30.56 322 P P 00 12 51.0 +0.8
baz=31,SNR=8.4
WUAZ Wupatki 30.56 322 eP P 00 12 52.1 +1.9
comp=Z,8.6nm,0.9s
L31A Butterfield Fa 30.59 345 P P 00 12 51.4 +1.2
baz=31
ISCO Idaho Springs 30.79 334 P P 00 12 52.8 +0.5
baz=31,SNR=21
ISCO Idaho Springs 30.79 334 eP P 00 12 53.5 +1.1
comp=Z,13nm,0.8s
ISCO ePcP PcP 00 15 50.5 +2.0
PV01 Paradox Valley 30.86 328 eP P 00 12 53.1 +0.2
SMCO Snowmass 30.89 331 eP P 00 12 54.6 +1.2
comp=Z,16nm,0.8s
PV05 Paradox Valley 31.09 328 eP P 00 12 56.2 +1.2
L28A Connealy Angus 31.19 341 P P 00 12 56.7 +1.1
baz=31
PV04 Paradox Valley 31.23 328 eP P 00 12 57.7 +1.6
K30A Basset 31.25 344 P P 00 12 57.0 +0.9
baz=31,SNR=5.6
PV10 Paradox Valley 31.29 328 eP P 00 12 57.4 +0.7
GLA Glamis 31.30 314 P P 00 12 58.0 +1.4
baz=31
PTGA Pitinga 31.43 113 eP P 00 12 56.1 -1.8
comp=Z,30nm,1.8s
PV09 Paradox Valley 31.43 328 eP P 00 12 59.8 +1.9
PV09 ePcP PcP 00 15 51.2 +1.0
Y12C Blythe 31.49 316 P P 00 12 59.2 +1.0
baz=32
L27A T5 Ranch, Ells 31.52 340 P P 00 12 59.4 +0.9
baz=32
K29A Lazy Trails An 31.52 343 P P 00 12 59.6 +1.1
baz=32
PDMCI Parker Dam,Lak 31.55 317 P P 00 12 59.6 +0.9
baz=32
M25A Palm-Egli Farm 31.55 337 P P 00 12 59.8 +0.9
baz=32
ECSD EROS Data Cent 31.58 349 P P 00 12 58.0 -0.9
baz=32
ECSD EROS Data Cent 31.58 349 eP P 00 12 56.8 -2.1
comp=Z,11nm,0.8s
L26A Underwood Farm 31.73 339 P P 00 13 01.9 +1.5
baz=32
K28A Ten Mile Ranch 31.79 342 P P 00 13 02.2 +1.4
baz=32
J30A Dallas 31.83 345 P P 00 13 02.0 +0.9
baz=32
N23A Red Feather La 31.84 335 P P 00 13 01.9 +0.4
baz=32,SNR=10
N23A Red Feather La 31.84 335 eP P 00 13 01.2 -0.3
comp=Z,12nm,0.8s
SWSC Sam W. Stewart 31.92 313 P P 00 13 02.6 +0.6
baz=32
PHWY Pilot Hill 31.98 336 eP P 00 13 03.8 +1.0
comp=Z,20nm,1.0s
BC3 Big Chuckawall 32.07 315 P P 00 13 04.8 +1.3
baz=32
J29A Okreek 32.12 344 P P 00 13 03.8 +0.1
baz=32,SNR=7.3
O20A White River Ci 32.25 331 P P 00 13 06.3 +1.3
baz=32,SNR=35
O20A White River Ci 32.25 331 eP P 00 13 06.9 +1.9
comp=Z,45nm,0.8s
MONP Monument Peak 32.34 313 P P 00 13 06.0 0.0
baz=32
K26A Motz Farm, Whi 32.35 340 P P 00 13 06.7 +0.9
baz=32
J28A Allard Ranch, 32.40 343 P P 00 13 06.5 +0.4
baz=32,SNR=5.4
KNB Kanab 32.43 322 eP P 00 13 04.9 -1.7
comp=Z,6.4nm,1.0s
J27A Elkhorn Farm, 32.47 342 P P 00 13 07.9 +1.1
baz=32
SPMN St. Paul 32.50 354 P P 00 13 05.8 -1.2
baz=33,SNR=17
SPMN St. Paul 32.50 354 eP P 00 13 04.8 -2.2
comp=Z,36nm,0.7s
K25A Mack Ranch, Ha 32.52 339 P P 00 13 07.3 0.0
baz=33
QUA2 Belchertown 32.58 23 eP P 00 13 07.7 +0.1
comp=Z,24nm,1.0s
DANC Danby, Needles 32.58 316 eP P 00 13 10.1 +2.3
DANC esP sP 00 13 44.6 +14
SRU San Rafael 32.61 327 eP P 00 13 09.6 +1.4
comp=Z,6.3nm,0.8s
SRU ePcP PcP 00 15 54.7 +1.5
I29A Vivian Onida 32.69 344 P P 00 13 08.4 -0.2
baz=33,SNR=5.8
DPP Dos Picos Cty 32.77 313 eP P 00 13 15.0 +5.5
GMRC Granite Mounta 32.85 316 P P 00 13 11.1 +0.8
baz=33
SADO Sadowa 32.86 12 P P 00 13 08.8 -1.3
comp=Z,8.6nm,0.5s,baz=208,slow=8.4,SNR=12
J26A Sides Ranch, S 32.87 340 P P 00 13 10.8 +0.6
baz=33,SNR=12
I28A Midland 32.91 343 P P 00 13 11.4 +0.8
baz=33
MSU Marysvale 33.08 325 eP P 00 13 13.8 +1.5
MSU epP pP 00 13 28.9 +1.3
MSU ePcP PcP 00 15 55.6 +1.0
MVU Marysvale 33.09 325 eP P 00 13 12.0 -0.5
comp=Z,30nm,2.3s
CCUT Cedar City 33.11 322 eP P 00 13 14.9 +2.3
comp=Z,3.9nm,1.0s
J25A Sunshine Ranch 33.18 340 P P 00 13 13.7 +0.8
baz=33,SNR=5.6
I27A Quinn 33.23 342 P P 00 13 14.4 +1.0
baz=33
SAML Samuel 33.24 129 eP P 00 13 13.0 -0.7
comp=Z,75nm,1.0s
SAML ePcP PcP 00 15 57.7 +2.5
K23A Bowen Ranch, D 33.28 337 P P 00 13 15.4 +1.4
baz=33
TUQ Turquoise Moun 33.41 317 P P 00 13 16.5 +1.4
baz=34
J24A Dixon Ranch, L 33.42 338 P P 00 13 16.5 +1.3
baz=34
I26A New Underwood 33.44 341 P P 00 13 16.7 +1.5
baz=34
G30A Faulkton 33.44 346 P P 00 13 14.4 -0.8
baz=34,SNR=6.2
H28A Mission Ridge 33.49 344 P P 00 13 15.6 0.0
baz=34,SNR=6.4
SHPR Sheep Range 33.55 319 eP P 00 13 16.7 +0.3
SHPR ePcP PcP 00 15 57.7 +1.8
K22A Casper 33.55 336 P P 00 13 17.0 +0.7
baz=34,SNR=15
K22A Casper 33.55 336 eP P 00 13 17.3 +1.0
comp=Z,34nm,1.0s
G29A Hoven 33.69 346 P P 00 13 18.1 +0.8
baz=34
I25A Rochford 33.71 340 P P 00 13 18.6 +0.9
baz=34,SNR=9.4
H27A Howes 33.75 343 P P 00 13 18.4 +0.5
baz=34,SNR=6.7
MPU Maple Canyon 33.85 327 eP P 00 13 19.4 +0.4
comp=Z,36nm,0.9s

I24A **Kuemmerle Ranc** 33.87 339 P P 00 13 20.1 +1.1
baz=34,SNR=5.8
LONY **Lake Ozonia** 33.89 18 eP P 00 13 18.5 -0.6
comp=Z,28nm,0.9s
RSSD **Black Hills** 33.90 340 eP P 00 13 20.4 +1.0
comp=Z,10nm,0.9s
SHOC **Shoshone** 33.91 317 P P 00 13 20.9 +1.6
baz=34
GSC **Goldstone** 33.92 316 P P 00 13 21.2 +1.7
baz=34
GSC **Goldstone** 33.92 316 eP P 00 13 19.2 -0.3
comp=Z,10nm,1.4s
GSC ePcP PcP 00 15 58.0 +1.1
NLU **North Lily Min** 34.04 327 eP P 00 13 21.1 +0.4
comp=Z,3.7nm,0.8s
NLU ePcP PcP 00 15 59.3 +2.0
J22A **Midwest** 34.17 337 P P 00 13 22.3 +0.6
baz=34,SNR=18
H25A **Fruitdale** 34.20 341 P P 00 13 22.2 +0.3
baz=34
G27A **Dupree** 34.39 343 P P 00 13 23.7 +0.3
baz=34,SNR=6.1
EDW2 **Edwards Air Fo** 34.50 315 P P 00 13 26.4 +1.9
baz=35
G26A **Maurine** 34.50 342 P P 00 13 25.0 +0.6
baz=35
J21A **Lysite** 34.50 335 P P 00 13 25.6 +1.0
baz=35,SNR=53
TPNV **Topopah Spring** 34.51 319 P P 00 13 26.1 +1.4
baz=35,SNR=7.6
TPNV **Topopah Spring** 34.51 319 eP P 00 13 26.7 +2.0
comp=Z,55nm,2.5s
TPNV ePcP PcP 00 16 00.5 +1.8
I22A **9 Mile Ranch,** 34.58 337 P P 00 13 26.1 +0.9
baz=35,SNR=38
DUG **Dugway** 34.61 326 P P 00 13 26.4 +0.9
baz=35,SNR=5.5
DUG **Dugway** 34.61 326 eP P 00 13 26.0 +0.5
comp=Z,5.1nm,1.0s
LRMC **Laurel Mountai** 34.62 316 P P 00 13 27.0 +1.4
baz=35
FURC **Furnace Creek,** 34.62 318 P P 00 13 26.7 +1.3
baz=35
H24A **Dirks Ranch, A** 34.63 340 P P 00 13 26.2 +0.6
baz=35,SNR=21
G25A **Newell** 34.66 341 P P 00 13 27.0 +1.2
baz=35
E30A **Jud** 34.70 347 P P 00 13 25.5 -0.5
baz=35
J20A **Shoshoni** 34.77 335 P P 00 13 27.9 +1.1
baz=35,SNR=14
MPMC **Manual Prospec** 34.81 317 P P 00 13 28.6 +1.2
baz=35
I21A **Big Trails, Te** 34.83 336 P P 00 13 27.9 +0.6
baz=35,SNR=11
F27A **Lemmon** 34.87 344 P P 00 13 27.9 +0.4
baz=35
E29A **Napoleon** 34.92 347 P P 00 13 28.6 +0.7
baz=35
BW06 **Boulder Array** 34.93 333 eP P 00 13 28.4 0.0
comp=Z,8.4nm,0.8s
PD31 **Pinedale Array** 34.93 333 eP P 00 13 28.2 -0.1
PD31 ePcP PcP 00 15 59.7 -0.2
PD31 eScP ScP 00 19 38.4 -1.8
PDAR **Pinedale Array** 34.93 333 P P 00 13 28.2 -0.1
comp=Z,8.0nm,0.9s,baz=122,slow=8.7,SNR=37
PDAR PcP PcP 00 15 59.7 -0.2
comp=Z,1.6nm,0.6s,baz=120,slow=5.3,SNR=4.0
PDAR ScP ScP 00 19 38.4 -1.8
comp=Z,0.7nm,0.8s,baz=123,slow=3.3,SNR=3.4
PDAR LR LR 00 31 01.5
comp=Z,270nm,21.2s,baz=148,slow=42
R11A **Troy Canyon, C** 34.96 321 P P 00 13 29.6 +1.0
baz=35,SNR=7.1
R11A **Troy Canyon, C** 34.96 321 eP P 00 13 28.6 0.0
comp=Z,18nm,1.9s
HWUT **Hardware Ranch** 34.99 329 eP P 00 13 30.0 +1.1
comp=Z,9.9nm,0.8s
F26A **Lodgepole** 35.03 343 P P 00 13 29.1 +0.1
baz=35,SNR=11
G24A **Alzada** 35.10 340 P P 00 13 30.6 +1.0
baz=35
J19A **Crowheart** 35.11 334 P P 00 13 30.1 +0.2
baz=35,SNR=16
EYMN **Ely** 35.11 357 P P 00 13 27.5 -2.0
baz=35,SNR=5.6
EYMN **Ely** 35.11 357 eP P 00 13 28.2 -1.4
comp=Z,16nm,0.8s
H22A **Clearmont** 35.13 338 P P 00 13 30.3 +0.4
baz=35,SNR=13
E28A **Huff** 35.17 345 P P 00 13 30.9 +0.8
baz=35
SPUT **South Promonto** 35.22 328 eP P 00 13 31.8 +1.0
D30A **Buchanan** 35.24 348 P P 00 13 29.8 -0.9
baz=35,SNR=7.2
BGU **Big Grassy Mou** 35.25 327 eP P 00 13 31.6 +0.6
comp=Z,5.7nm,0.9s
BGU ePcP PcP 00 16 00.7 0.0
ISA **Isabella** 35.25 315 eP P 00 13 29.7 -1.4
comp=Z,6.1nm,1.0s
ISA ePcP PcP 00 16 02.8 +2.1
E27A **Carson** 35.26 344 P P 00 13 30.8 -0.1
baz=35,SNR=6.8
I20A **Worland** 35.28 335 P P 00 13 31.8 +0.6
baz=35,SNR=52
LPAZ **La Paz** 35.29 144 P P 00 13 32.2 +0.1
comp=Z,4.1nm,0.9s,baz=345,slow=7.6,SNR=9.4
LPAZ LR LR 00 28 35.8
comp=Z,230nm,21.4s,baz=310,slow=37
LPAZ **La Paz** 35.29 144 eP P 00 13 33.0 +0.9
comp=Z,5.8nm,0.8s
G23A **Biddle** 35.31 339 P P 00 13 32.3 +0.8
baz=35
H21A **Big Horn, Sher** 35.42 337 P P 00 13 32.9 +0.5
baz=36,SNR=28
E26A **Carlson Angus** 35.54 343 P P 00 13 33.8 +0.5
baz=36
F24A **Ekalaka** 35.56 341 P P 00 13 34.0 +0.4
baz=36,SNR=8.8
G22A **Birney** 35.65 338 P P 00 13 34.1 -0.2
baz=36,SNR=7.1
H20A **Greybull** 35.67 336 P P 00 13 34.5 0.0
baz=36,SNR=11
I19A **Meeteetse** 35.71 334 P P 00 13 35.2 +0.2
baz=36,SNR=14
D28A **Regan** 35.72 346 P P 00 13 35.0 +0.1
baz=36
HVU **Hansel Valley** 35.73 328 eP P 00 13 34.3 -0.9
comp=Z,6.1nm,0.8s
C30A **Mose, Pekin** 35.75 349 P P 00 13 35.4 +0.3
baz=36
F23A **Volborg** 35.77 340 P P 00 13 35.6 +0.2
baz=36,SNR=12
TPH **Tonopah** 35.80 320 eP P 00 13 35.2 -0.7
comp=Z,7.2nm,1.2s
E25A **Miller Ranch,** 35.83 342 P P 00 13 35.9 +0.1
baz=36,SNR=7.3
D27A **Center** 35.88 345 P P 00 13 35.5 -0.7
baz=36,SNR=6.3
AGMN **Agassiz Nation** 35.89 352 P P 00 13 35.2 -1.0
baz=36,SNR=17
AGMN **Agassiz Nation** 35.89 352 eP P 00 13 35.5 -0.8
comp=Z,26nm,0.8s
G21A **Lodge Grass** 35.99 337 P P 00 13 37.2 0.0
baz=36,SNR=8.4
REDW **Red Top Meadow** 35.99 332 eP P 00 13 38.4 +1.0
comp=Z,46nm,0.9s
SNOW **Snow King Moun** 36.02 332 eP P 00 13 38.8 +1.1
comp=Z,49nm,0.8s
D26A **Manning** 36.04 344 P P 00 13 37.9 +0.3
baz=36
LOHW **Long Hollow** 36.07 332 eP P 00 13 38.9 +0.8
comp=Z,17nm,0.9s
F22A **Rosebud** 36.12 339 P P 00 13 38.6 +0.3
baz=36
MDND **Maddock** 36.12 347 P P 00 13 37.6 -0.7
baz=36,SNR=5.7
MDND **Maddock** 36.12 347 eP P 00 13 38.3 +0.1
comp=Z,63nm,1.0s
TPAW **Teton Pass** 36.13 332 eP P 00 13 39.6 +0.9
comp=Z,35nm,1.1s
E24A **Baker** 36.16 342 P P 00 13 38.6 -0.1
baz=36,SNR=9.7
C28A **Hausauer Farms** 36.17 346 P P 00 13 38.7 +0.1
baz=36
H19A **Powell** 36.22 335 P P 00 13 39.1 -0.2
baz=36,SNR=11
MOOW **Moose Ponds** 36.24 332 eP P 00 13 40.1 +0.6
comp=Z,8.8nm,0.8s
MOOW ePcP PcP 00 16 04.7 +1.0
FXWY **Fox Creek** 36.28 332 eP P 00 13 39.8 -0.1
comp=Z,7.1nm,0.8s
ELK **Elko** 36.33 325 eP P 00 13 39.0 -1.4
comp=Z,3.4nm,0.9s
ELK ePcP PcP 00 16 05.5 +1.4
G20A **Bridger** 36.37 336 P P 00 13 40.1 -0.4
baz=36,SNR=25
E23A **Ismay** 36.42 340 P P 00 13 40.4 -0.5
baz=36,SNR=12
C27A **Sayler Ranch,** 36.43 345 P P 00 13 41.2 +0.3
baz=36
B30A **Myrvik Farm, E** 36.44 349 P P 00 13 41.1 +0.2
baz=36
IMW **Indian Meadow** 36.45 332 eP P 00 13 41.9 +0.6
comp=Z,11nm,0.7s
IMW ePcP PcP 00 16 05.5 +1.1
F21A **Absaloka Mine,** 36.46 338 P P 00 13 41.4 +0.2
baz=36
FLWY **Flagg Ranch** 36.48 333 eP P 00 13 42.8 +1.1
comp=Z,29nm,1.1s
EMMW **East Machias** 36.57 26 eP P 00 13 42.2 +0.3
comp=Z,25nm,0.5s
E22A **Miles City** 36.58 340 P P 00 13 43.0 +0.7
baz=37
B29A **Wagenman Farm,** 36.66 348 P P 00 13 42.9 +0.1
baz=37
D24A **Glendive** 36.66 342 P P 00 13 43.2 +0.3
baz=37,SNR=7.3
H17A **Grant Village** 36.67 333 P P 00 13 44.5 +1.2
baz=37
H17A **Grant Village** 36.67 333 eP P 00 13 44.3 +1.0
comp=Z,26nm,1.4s
C26A **Wahner Farm, P** 36.69 345 P P 00 13 43.5 +0.4
baz=37
NV01 **Mina Array Sit** 36.70 319 eP P 00 13 45.2 +1.7
NV01 ePcP PcP 00 16 06.7 +1.5
NV01 eScP ScP 00 19 47.2 +0.5
NVAR **Mina Array Bea** 36.70 319 P P 00 13 45.2 +1.7
comp=Z,6.1nm,0.8s,baz=134,slow=6.8,SNR=45
NVAR PcP PcP 00 16 06.7 +1.5
comp=Z,9.2nm,0.9s,baz=138,slow=4.2,SNR=11
NVAR ScP ScP 00 19 47.2 +0.5
comp=Z,0.9nm,0.6s,baz=109,slow=4.9,SNR=5.3
RLMT **Red Lodge** 36.71 335 P P 00 13 43.4 -0.1
baz=37,SNR=37
F20A **Billings** 36.83 337 P P 00 13 44.5 +0.1
baz=37,SNR=18
YFT **Old Faithful** 36.83 333 eP P 00 13 47.2 +2.6
comp=Z,25nm,0.9s
B28A **Dugan Ranch, T** 36.85 347 P P 00 13 44.5 +0.1
baz=37
C25A **Freed Ranch, W** 36.89 343 P P 00 13 45.1 +0.3
baz=37
A30A **Hoffart Farm,** 36.91 349 P P 00 13 45.0 0.0
baz=37
B27A **Peters Farms,** 37.02 346 P P 00 13 46.4 +0.5
baz=37
E21A **Keefer Ranch,** 37.06 339 P P 00 13 46.8 +0.5
baz=37,SNR=17
YMR **Madison River** 37.06 333 eP P 00 13 48.5 +1.9
comp=Z,43nm,0.9s
YMR eScP ScP 00 19 44.8 -3.1
C24A **Savage** 37.06 342 P P 00 13 46.9 +0.6
baz=37
A29A **Manning Farm,** 37.07 348 P P 00 13 46.3 0.0
baz=37
B26A **Jensen Ranch,** 37.23 345 P P 00 13 47.7 +0.1
baz=37
BMN **Battle Mountai** 37.26 323 eP P 00 13 48.3 +0.1
comp=Z,6.2nm,0.8s
A28A **Rude Farm, Bot** 37.27 347 P P 00 13 48.5 +0.5
baz=37
D22A **Cohagen** 37.28 340 P P 00 13 49.1 +1.0
baz=37,SNR=20
B25A **Knox Farm, Ray** 37.38 344 P P 00 13 49.9 +1.0
baz=37
QLMT **Earthquake Lak** 37.39 333 eP P 00 13 51.4 +2.1
GCMT **Greycliff** 37.41 336 eP P 00 13 50.2 +0.8
A26A **Wade Farm, Ken** 37.67 345 P P 00 13 51.8 +0.5
baz=38
ULM **Lac du Bonnet** 37.81 352 P P 00 13 50.9 -1.6
comp=Z,25nm,0.8s,baz=174,slow=8.5,SNR=16
ULM LR LR 00 32 05.1
comp=Z,318nm,21.4s,baz=137,slow=41
ULM **Lac du Bonnet** 37.81 352 eP P 00 13 51.3 -1.2
comp=Z,33nm,1.1s
CMB **Columbia Colle** 37.83 317 eP P 00 13 53.0 +0.1
comp=Z,2.9nm,0.9s
CMB ePcP PcP 00 16 09.9 +1.5
DGMT **Dagmar** 37.84 343 P P 00 13 53.0 +0.1
baz=38,SNR=22
DGMT **Dagmar** 37.84 343 eP P 00 13 53.5 +0.6
comp=Z,54nm,0.8s
HLID **Hailey** 37.85 329 P P 00 13 53.8 +0.6
baz=38
HLID **Hailey** 37.85 329 eP P 00 13 53.0 -0.2
comp=Z,5.3nm,0.9s
HLID ePcP PcP 00 16 08.3 -0.2
A25A **Svangstu Ranch** 37.98 344 P P 00 13 54.5 +0.5
baz=38
MCMT **McKenzie Canyo** 38.03 332 eP P 00 13 56.3 +1.5
BOZ **Bozeman (W)** 38.12 334 P P 00 13 55.9 +0.5
baz=38,SNR=39
C21A **Desert Coulee** 38.18 340 P P 00 13 56.4 +0.7
baz=38,SNR=7.8
DLMT **Dillon** 38.33 332 eP P 00 13 58.7 +1.6
comp=Z,20nm,0.9s
C20A **Veseth Ranch,** 38.39 339 P P 00 13 58.1 +0.6
baz=38,SNR=20
MFID **Camas Ranch** 38.48 328 eP P 00 13 58.1 -0.2
comp=Z,7.2nm,1.0s
MFID ePcP PcP 00 16 13.8 +3.4
LRM **Limekiln Ridge** 38.62 333 eP P 00 14 00.5 +0.9
B21A **Ellsworth Farm** 38.67 340 P P 00 14 01.1 +1.2
baz=39
B20A **Solberg Farm,** 39.02 339 P P 00 14 02.9 +0.2
baz=39,SNR=11
HRY **Holter Researc** 39.05 334 eP P 00 14 04.2 +1.1
A21A **Bergtoll Ranch** 39.13 341 P P 00 14 04.1 +0.4
baz=39,SNR=6.2
EGMT **Eagleton** 39.29 338 P P 00 14 06.5 +1.5
baz=39,SNR=31
EGMT **Eagleton** 39.29 338 eP P 00 14 05.7 +0.6
comp=Z,59nm,0.9s
B19A **Brinkman Farms** 39.36 339 P P 00 14 06.2 +0.7
baz=39
WVOR **Wild Horse Val** 39.36 324 eP P 00 14 06.5 +0.8
comp=Z,7.7nm,0.9s
A19A **Klindworth Far** 39.69 339 P P 00 14 08.6 +0.3
baz=40,SNR=7.5
CHMT **Chamberlain Mo** 39.81 333 eP P 00 14 09.8 +0.2
MSO **Missoula** 40.05 333 P P 00 14 11.0 -0.4
baz=40,SNR=18
MSO **Missoula** 40.05 333 eP P 00 14 11.7 +0.2
comp=Z,24nm,1.0s
MSO epP pP 00 14 26.7 -0.3
LVC **Limon Verde** 40.14 151 P P 00 14 14.0 +1.4
comp=Z,18nm,0.9s,baz=352,slow=4.0,SNR=4.1
SLMT **Seeley Lake** 40.17 334 eP P 00 14 12.8 +0.3
SLMT ePcP PcP 00 16 15.2 -0.6
SWMT **Swartz Lake** 40.60 333 eP P 00 14 16.4 +0.4
M04C **Macdoel** 40.85 321 P P 00 14 18.5 +0.3
baz=41
JTMT **Jette** 40.90 333 eP P 00 14 19.1 +0.6
JTMT ePcP PcP 00 16 18.8 +0.8
F10A **Beach Ranch, E** 40.98 329 eP P 00 14 19.2 +0.1
F10A epP pP 00 14 34.2 -0.6
BLMT **Blacktail Moun** 41.14 334 eP P 00 14 20.7 +0.2
BSMT **Bassoo Peak** 41.20 333 eP P 00 14 21.7 +0.7
YBH **Yreka Blue Hor** 41.36 321 P P 00 14 21.4 -0.9
comp=Z,1.4nm,0.6s,baz=84,slow=6.4,SNR=4.4
WALA **Waterton Lakes** 41.76 335 eP P 00 14 26.1 +0.6
comp=Z,17nm,0.9s
WALA epP pP 00 14 43.8 +2.6
I04A **Tendick Farm,** 42.37 323 P P 00 14 30.8 +0.4
baz=42
NEW **Newport** 42.56 332 P P 00 14 32.4 +0.5
baz=43
NEW **Newport** 42.56 332 eP P 00 14 30.8 -1.2
comp=Z,3.6nm,0.8s
D08A **Wollman Farm,** 42.57 329 eP P 00 14 32.0 +0.1
comp=Z,7.4nm,0.7s
G05D **Wamic, OR** 42.63 326 P P 00 14 33.5 +1.0
baz=43
C09A **Chrisman Ranch** 42.77 331 eP P 00 14 33.1 -0.5
comp=Z,8.7nm,0.6s
H04A **Detroit Lake** 42.77 324 eP P 00 14 33.4 -0.3
comp=Z,11nm,0.8s
I03D **Drain, OR** 42.87 323 P P 00 14 35.3 +1.0
baz=43
FFC **Flin Flon** 43.12 349 eP P 00 14 34.9 -1.3
comp=Z,56nm,1.5s
LTY **Liberty** 43.59 328 eP P 00 14 40.6 +0.4
comp=Z,6.2nm,1.0s
B08A **Colville Reser** 43.67 330 eP P 00 14 40.9 +0.1
comp=Z,5.3nm,0.9s
G03D **McMinnville, O** 43.70 324 P P 00 14 42.0 +0.9
baz=44
ALCT **Alcott Element** 44.55 328 eP P 00 14 46.6 -1.2
PIER **Pier 30 Seattl** 44.66 328 eP P 00 14 50.4 +1.6
B06A **Marblemount** 44.83 329 eP P 00 14 50.1 0.0
comp=Z,23nm,0.8s
EDM **Edmonton** 44.87 339 eP P 00 14 50.3 -0.1
comp=Z,89nm,0.8s
SCHQ **Schefferville** 45.27 18 P P 00 14 51.4 -2.1
comp=Z,24nm,1.0s,baz=219,slow=7.6,SNR=16
SCHQ LR LR 00 34 40.1
comp=Z,463nm,19.8s,baz=204,slow=38
SCHQ **Schefferville** 45.27 18 eP P 00 14 52.1 -1.4
comp=Z,53nm,1.2s
BDFB **Brasilia** 49.10 124 P P 00 15 22.9 -1.1
comp=Z,24nm,1.0s,baz=291,slow=8.7,SNR=16
BDFB PcP PcP 00 16 48.4 +1.5
comp=Z,5.7nm,0.9s,baz=288,slow=3.2,SNR=2.7
BDFB LR LR 00 39 09.1
comp=Z,275nm,19.1s,baz=300,slow=40
BDFB **Brasilia** 49.10 124 eP P 00 15 23.4 -0.5
CPUP **Villa Florida** 49.38 142 P P 00 15 25.0 -0.7
comp=Z,11nm,1.0s,baz=332,slow=8.6,SNR=12
CPUP LR LR 00 38 09.7
comp=Z,155nm,20.1s,baz=330,slow=38
CPUP **Villa Florida** 49.38 142 eP P 00 15 25.8 0.0
BB16B **Bebedouro** 51.73 130 eP P 00 15 37.8 -5.9
BB16B i 00 15 41.0
YKA **Yellowknife Ar** 52.98 345 P P 00 15 51.4 -0.7
comp=Z,34nm,1.0s,baz=140,slow=7.6,SNR=77
YKA pP pP 00 16 07.1 -1.3
comp=Z,11nm,0.8s,baz=253,slow=22,SNR=8.5
YKB5 **Yellowknife Ar** 52.98 345 eP P 00 15 51.4 -0.8
YKB5 epP pP 00 16 07.1 -1.3
DLBC **Dease Lake** 55.11 335 eP P 00 16 08.1 +0.2
comp=Z,32nm,0.9s
DLBC epP pP 00 16 24.4 +0.2
TAOE **Nuku Hiva Isla** 55.55 250 eT T 01 15 11.0
comp=Z,143nm,0.2s
RKT **Rikitea** 57.76 232 eLR LR 00 33 36.7
comp=Z,766nm,28.5s
RKT **Rikitea** 57.76 232 eT T 01 18 18.3
comp=Z,6.9nm,0.2s
HYT **Haines Junctio** 59.59 335 eP P 00 16 40.1 +0.6
DAWY **Dawson** 62.03 337 eP P 00 16 55.1 -0.8
comp=Z,10.0nm,1.1s
INK **Inuvik** 62.53 343 P P 00 16 58.1 -0.9
comp=Z,22nm,0.9s,baz=118,slow=7.7,SNR=25
INK pP pP 00 17 14.0 -1.6
comp=Z,10nm,0.8s,baz=121,slow=8.9,SNR=5.1
BMRM **Bremner River** 62.72 333 eP P 00 16 59.9 -0.7
comp=Z,7.1nm,0.7s
EGAK **Eagle** 63.05 338 eP P 00 17 01.8 -0.9
comp=Z,11nm,1.0s
KLU **Klutina** 63.52 333 eP P 00 17 06.2 +0.3
comp=Z,11nm,0.8s
SCM **Sheep Creek Mo** 64.27 333 eP P 00 17 10.7 -0.2
comp=Z,10nm,1.0s
SML **Sawmill** 64.70 333 eP P 00 17 13.3 -0.3
comp=Z,5.4nm,1.3s
PMOR **Pomariorio Ree** 64.87 247 eT T 01 26 53.8
comp=Z,6.6nm,0.2s
HDA **Harding Lake** 65.12 336 eP P 00 17 15.7 -0.5
comp=Z,20nm,1.0s
ILAR **Eielson Array** 65.24 336 P P 00 17 16.1 -1.0
comp=Z,14nm,1.0s,baz=113,slow=4.7,SNR=78
ILAR LR LR 00 48 37.6
comp=Z,337nm,21.1s,baz=116,slow=39
ILB **Eielson Array** 65.24 336 eP P 00 17 16.1 -1.0
RND **Reindeer** 65.51 335 eP P 00 17 19.0 +0.1
comp=Z,43nm,1.0s
CCB **Clear Creek Bu** 65.56 336 eP P 00 17 17.6 -1.4
comp=Z,4.1nm,0.8s
WRH **Wood River Hil** 65.60 336 eP P 00 17 18.3 -1.0
comp=Z,8.8nm,0.8s
MCK **McKinley** 65.66 335 eP P 00 17 19.6 -0.2
comp=Z,20nm,0.9s
TRF **Thorofare Moun** 66.13 334 eP P 00 17 22.6 -0.4
comp=Z,17nm,0.9s
SUMG **Summit** 66.52 15 i P P 00 17 24.3 -1.3
SUMG **Summit** 66.52 15 eP P 00 17 24.2 -1.3
SUMG epP pP 00 17 40.5 -1.8
BPAW **Bear Paw Mtn.** 66.64 335 eP P 00 17 25.4 -0.7
comp=Z,3.7nm,0.9s
MLY **Manley** 66.86 336 eP P 00 17 27.1 -0.4
comp=Z,23nm,1.0s
CAST **Castle Rocks** 66.88 334 eP P 00 17 26.1 -1.4
comp=Z,8.8nm,1.0s
PPT **Papeete** 67.34 245 LR LR 00 38 38.0
comp=Z,426nm,20.9s,baz=21,slow=28
PPT2 **Papeete2** 67.34 245 eS S 00 26 32.9 +10
comp=Z,93nm,23.2s
PPT2 **Papeete2** 67.34 245 eLR LR 00 37 43.1
comp=Z,1µm,27.5s
COLD **Coldfoot** 67.45 338 eP P 00 17 31.4 +0.3
comp=Z,23nm,1.0s
CHGN **Chignik** 68.25 326 eP P 00 17 35.8 -0.5
SDPT **Sand Point** 69.26 325 eP P 00 17 40.9 -1.7
comp=Z,24nm,1.0s
TBI **Tubuai** 69.53 239 eS S 00 27 01.4 +13
comp=Z,129nm,30.0s
TBI **Tubuai** 69.53 239 eLR LR 00 38 59.1
comp=Z,724nm,27.5s,baz=68
TBI **Tubuai** 69.53 239 eT T 01 32 53.7
comp=Z,14nm,0.3s
ESDC **Sonseca Array** 77.85 52 P P 00 18 30.0 -3.4
comp=Z,2.7nm,1.0s,baz=278,slow=5.5,SNR=7.0
ESDC pP PcP 00 18 46.6 +3.4
comp=Z,2.7nm,0.7s,baz=283,slow=6.0,SNR=6.0
ESDC LR LR 00 46 60.0
comp=Z,169nm,21.5s,baz=215,slow=31
DBIC **Dimbokro** 82.47 85 P P 00 18 55.7 -3.0
comp=Z,13nm,1.2s,baz=288,slow=3.7,SNR=3.6
DBIC LR LR 00 52 03.2
comp=Z,116nm,21.1s,baz=272,slow=33
NOA **NORSAR Array B** 83.60 29 pP pP 00 19 18.6 -2.4
comp=Z,1.2nm,0.9s,baz=285,slow=5.0,SNR=1.7
NOA LR LR 00 52 29.8
comp=Z,154nm,21.5s,baz=280,slow=33
ARA0 **ARCESS Array S** 86.21 19 eP P 00 19 14.2 -2.4
ARCES **ARCESS Array B** 86.21 19 P P 00 19 14.2 -2.4
comp=Z,2.2nm,1.0s,baz=270,slow=5.4,SNR=4.7
ARCES LR LR 00 56 15.3
comp=Z,82nm,21.9s,baz=304,slow=35
FETA **Feichten** 86.99 43⇑ iP P 00 19 19.0 -2.1
comp=Z,8.2nm,1.3s
CLL **Collm** 87.23 38 eS S 00 29 54.0 -2.9
CLL ePS PS 00 31 06.0 0.0
CLL eSS SS 00 35 48.0 +6.6
TOA0 **Torodi Ar. Sit** 87.42 77 eP P 00 19 20.0 -3.6
TORD **Torodi Ar. Bea** 87.42 77 P P 00 19 20.0 -3.6
comp=Z,0.4nm,0.5s,baz=290,slow=5.6,SNR=5.9
TORD LR LR 00 55 02.2
comp=Z,152nm,21.5s,baz=275,slow=33
GEC2 **GERESS Array S** 88.39 40 eP P 00 19 24.1 -3.5
GEC2 epP pP 00 19 43.4 -1.6
GERES **GERESS Array B** 88.39 40 P P 00 19 24.1 -3.5
comp=Z,0.1nm,0.4s,baz=274,slow=6.3,SNR=5.0
GERES pP pP 00 19 43.4 -1.6
comp=Z,0.8nm,0.9s,baz=291,slow=4.1,SNR=3.2
GERES LR LR 00 54 19.2
comp=Z,171nm,21.6s,baz=278,slow=33
KEST **Kesra** 88.94 54 LR LR 00 53 31.3
comp=Z,58nm,21.9s,baz=212,slow=32
FINES **FINESS Array B** 90.14 26 LR LR 00 57 50.1
comp=Z,133nm,21.8s,baz=289,slow=34
AKASG **Malin Array Be** 96.86 35 LR LR 01 01 17.5
comp=Z,180nm,20.8s,baz=280,slow=34
OBN **Obninsk** 98.19 28 LR LR 01 00 26.8
comp=Z,131nm,21.8s,baz=270,slow=33
BOSA **Boshof** 116.86 116 PKP PKPdf 00 25 20.3 -0.2
comp=Z,5.6nm,1.0s,baz=229,slow=9.0,SNR=3.6
SONM **Songino Array** 118.17 349 PKP PKPdf 00 25 21.7 -0.9
comp=Z,0.8nm,0.6s,baz=325,slow=1.3,SNR=7.6
KSRS **Korea Array** 119.37 327 PKP PKPdf 00 25 25.4 +0.5
comp=Z,2.5nm,0.7s,baz=346,slow=1.9,SNR=10

MKAR	**Makanchi Array**	**120.11**	**7**	PKP	**PKPdf**	**00 25 24.6**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=345,slow=3.3,SNR=6.3						
MAW	**Mawson**	**122.13**	**168**	PKP	**PKPdf**	**00 25 29.7**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=211,slow=4.9,SNR=4.9						
MAW				pPKP	**pPKPdf**	**00 25 48.0**	**+0.5**
	comp=Z,4.2nm,0.8s,baz=255,slow=4.5,SNR=5.9						
HHC	**Hu-ho-hao-te**	**123.44**	**342**	*e*PKP	**PKPdf**	**00 25 37.4**	**+4.5**
WMQ	**Urumqi**	**123.54**	**3**	*e*PKP	**PKPdf**	**00 25 33.5**	**+0.5**
WMQ				LN			
	comp=Z,290nm,26.0s						
WMQ				LE			
	comp=Z,190nm,25.0s						
WMQ				LZ			
	comp=Z,260nm,27.0s						
KSH	**Kashi**	**126.00**	**15**	PKP	**PKPdf**	**00 25 34.1**	**-3.8**
KSH				sPKP		00 26 12.3	
KSH				PKS	**PKSdf**	**00 29 10.1**	**-4.5**
KSH				SKS	SKSdf	00 32 35.1	-10
KSH				LN			
	comp=Z,93nm,3.9s						
KSH				LE			
	comp=Z,77nm,3.6s						
KSH				LZ			
	comp=Z,190nm,5.4s						
GTA	**Gaotai**	**127.46**	**352**	*e*PKP	**PKPdf**	**00 25 41.3**	**+0.6**
GTA				sPKP		00 26 08.5	
GTA				PP	PP	00 27 48.3	+8.3
GTA				SKS	**SKSdf**	**00 32 41.3**	**-6.2**
GTA				SKKS	**SKKSac**	**00 34 30.0**	**-3.8**
GTA				SS	**SS**	**00 44 49.3**	**+4.3**
GTA				PPMZ			
	comp=Z,69nm,7.8s						
GTA				LN			
	comp=Z,170nm,20.0s						
GTA				LE			
	comp=Z,140nm,20.9s						
GTA				LZ			
	comp=Z,170nm,19.5s						
NJ2	**Nanjing**	**128.22**	**330**	*e*PKP	**PKPdf**	**00 25 41.4**	**-0.7**
LZH	**Lanzhou**	**129.97**	**347**	*e*PKP	**PKPdf**	**00 25 46.3**	**+0.7**
LZH				sPKP		00 26 15.8	
LZH				LN			
	comp=Z,140nm,17.2s						
LZH				LE			
	comp=Z,150nm,15.4s						
LZH				LZ			
	comp=Z,190nm,18.7s						
STKA	**Stephens Creek**	**130.32**	**239**	PKP	**PKPdf**	**00 25 47.2**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=132,slow=14,SNR=3.1						
STKA	**Stephens Creek**	**130.32**	**239**	*e*PKPdf	**PKPdf**	**00 25 46.8**	**+0.7**
CD2	**Chengdu**	**134.94**	**345**	PKP	**PKPdf**	**00 25 54.1**	**-0.9**
GYA	**Guiyang**	**138.24**	**339**	*e*Pdif	**Pdif**	**00 23 08.8**	**-2.6**
GYA				PKP	**PKPdf**	**00 26 00.3**	**-1.0**
GYA				PP	**PP**	**00 28 51.4**	**+2.1**
GYA				PPMZ			
	comp=Z,110nm,7.8s						
WRA	**Warramunga Arr**	**138.29**	**254**	PKP	**PKPdf**	**00 26 02.5**	**+1.2**
	comp=Z,3.5nm,0.8s,baz=88,slow=1.9,SNR=8.8						
ASAR	**Alice Springs**	**138.36**	**249**	PKhKP	PKPpre	00 25 51.6	
	comp=Z,0.6nm,0.7s,baz=129,slow=1.8,SNR=5.7						
ASAR				PKP	**PKPdf**	**00 26 02.1**	**+0.7**
	comp=Z,1.9nm,0.9s,baz=108,slow=2.1,SNR=8.8						
ASAR				SKPab	**SKPab**	**00 29 38.1**	**-1.2**
	comp=Z,1.1nm,0.9s,baz=101,slow=2.6,SNR=5.5						
KMI	**Kunming**	**140.71**	**344**	PKP	**PKPdf**	**00 26 06.1**	**+0.1**
KMI				sPKP		00 26 34.0	
KMI				SS	SS	00 47 26.5	+1.3
KMI				LZ			
	comp=Z,120nm,30.5s						
HYB	**Hyderabad**	**147.40**	**23**	*i* PKP	**PKPbc**	**00 26 19.5**	**-0.5**
HYB				*e*		00 26 34.0	
CMAR	**Chiang Mai Arr**	**148.05**	**346**	PKPbc	**PKPdf**	**00 26 19.1**	**+0.6**
	comp=Z,5.7nm,0.8s,baz=332,slow=3.2,SNR=25						
CMAR				PP	**PP**	**00 29 50.9**	**+2.8**
	comp=Z,0.3nm,0.3s,baz=336,slow=5.2,SNR=4.5						

NNC 16 00:26:12.5±1.7, 38°41N×72°69E, h0km, mb3.8, mpv3.7, 6C-7D, Error ellipse: s-maj=17.1km s-min=6.2km az=147.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.73**	**21**	⇑Pn	Pn	00 26 43.7	-0.5
	30nm,0.3s						
SFK				⇑Sn	Sb	00 27 08.1	+0.2
	108nm,0.6s						
DZET	**Dzherino**	**3.05**	**279**	⇑Pn	Pn	00 27 01.4	-0.8
	48nm,0.4s						
DZET				⇓Sn	Sn	00 27 41.8	+2.2
	162nm,0.5s						
AAK	**Ala-Archa**	**4.44**	**17**	Pn	Pn	00 27 21.2	-0.2
AAK				⇓Pg	Pb	00 27 32.0	+0.3
	4.3nm,0.6s						
AAK				⇓Sn	Sn	00 28 16.9	+2.9
	7.7nm,0.6s						
AAK				⇓Lg	Lg	00 28 35.3	
	14nm,0.8s						
KK31	**Karatay Array**	**4.98**	**341**	Pn	Pn	00 27 29.1	+0.6
	2.6nm,0.4s,baz=149,slow=11,SNR=66						
KK31				⇑Sn	Sn	00 28 25.5	-1.3
	7.6nm,0.7s,baz=151,slow=18,SNR=5.0						
KK31				⇑Lg	Lg	00 28 50.1	
	4.6nm,0.6s						
TKM2	**Tokmak 2**	**5.02**	**25**	⇑Pn	Pn	00 27 29.7	+0.3
TKM2				⇓Pg	Pb	00 27 44.2	+2.6
	2.9nm,0.6s						
TKM2				⇓Lg	Lg	00 28 53.4	
	11nm,0.8s						
AB31	**Akbulak array**	**14.20**	**324**	⇓P	Pn	00 29 33.6	-1.2
	0.7nm,0.6s,baz=128,slow=14,SNR=6.6						
BVA0	**Borovoye Array**	**14.71**	**355**	P	Pn	00 29 42.9	+1.1
	0.1nm,0.8s,baz=175,slow=8.2,SNR=5.2						

ROM 16 00:45:25.5±0.1, 42°67N×13°11E, h10km, MI1.3/1, Error ellipse: s-maj=0.3km s-min=0.2km az=32.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNSS	**Leonessa**	**0.08**	**219**	Pg	Pg	00 45 28.2	+0.2
LNSS				Sg	Sg	00 45 30.2	+0.4
	88nm,0.2s						
NRCA	**Norcia**	**0.17**	**1**	Pg	Pg	00 45 29.8	+0.5
NRCA				Sg	Sg	00 45 32.8	+0.9
	3.0nm,0.2s						
SMA1	**SAN MARTINO**	**0.17**	**102**	Pg	Pg	00 45 29.8	+0.4
SMA1				Sg	Sg	00 45 32.9	+0.9
	60nm,0.2s						

MOS **16** *00:48:48.7±1.2, 4°07N×125°71E, h151km, mb4.7/28, Error ellipse: s-maj=10.5km s-min=5.9km az=105.6*
BJI **16** *00:48:49.7, 4°00N×125°90E, h160km, mb4.8/41, mB4.8/35*
ISCJB **16** *00:48:50.0±0.3, 4°02N±0°02×125°92E±0°03, h163km±2km, mb4.7/89, Error ellipse: s-maj=4.4km s-min=3.0km az=163.3*
IDC **16** *00:48:50.5±1.3, 4°02N×125°72E, h152km±12km, mb4.3/31, mb1 4.4/35, mb1mx4.4/44, mbtmp4.8/35, MS3.3/3, Ms1 3.3/3, ms1mx2.9/33, Error ellipse: s-maj=12.4km s-min=7.3km az=77.0*
NEIC **16** *00:48:51.3±0.6, 4°00N×125°83E, h160km±6km, mb4.8/38, Error ellipse: s-maj=5.9km s-min=4.5km az=68.0*
MAN **16** *00:48:51, 4°10N×125°73E, h158km, mb4.9, ML3.8, MS3.9*
KLM **16** *00:48:54.7, 3°76N×125°78E, h117km, mb4.9, ML5.0, MS6.2*
DJA **16** *00:48:54.2±0.4, 4°N±4°×12°6E±°, h156km±5km, M4.9/38, mb4.9/38, mB5.3/22, MLv5.3/14, Mw(mB)4.7/22, Mwp6.7/1*
ISC 16 00:48:51.3±0.3, 4.00N±0.03×125.87E±0.04, h161km±2km, h161km:pP-P, n272, σ1°60/363, mb4.7/89, 6C-7D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**0.46**	**228**	P	**Pn**	**00 49 12.0**	**-1.7**
SGSI				S	**Sn**	**00 49 27.4**	**-3.4**
GSPH	**General Santos**	**2.27**	**336**	*e*P	**Pn**	**00 49 28.4**	**-1.9**
GSPH				*e*S	**Sn**	**00 49 57.7**	**-2.8**
DAV	**Davao City (W)**	**3.07**	**355**	*e*Pn	Pn	00 49 44.4	+4.4
DAV				*e*S	**Sn**	**00 50 16.9**	**-0.8**
TNTI	**Ternate**	**3.54**	**155**	P	**Pn**	**00 49 44.5**	**-1.4**
TNTI	**Ternate**	**3.54**	**155**	*e*Pn	**Pn**	**00 49 44.5**	**-1.4**
TNTI				*e*S	**Sn**	**00 50 23.2**	**-5.2**
CTBH	**Cotabato--PC H**	**3.59**	**333**	*i*P	**Pn**	**00 49 45.7**	**-0.9**
KMSI	**Cibinong**	**3.89**	**209**	P	**Pn**	**00 49 50.1**	**-0.3**
BIPH	**Bislig**	**4.19**	**7**	*i*P	**Pn**	**00 49 54.8**	**+0.5**
BIPH				*i* S	Sn	00 50 10.5	-33
CGP	**Cagayan de Oro**	**4.58**	**345**	*e*P	**Pn**	**00 50 00.0**	**+0.6**
CGP				*e*S	**Sn**	**00 50 50.7**	**-1.9**
LBMI	**Labuha**	**4.88**	**160**	P	**Pn**	**00 50 02.4**	**-1.0**
LBMI				S	**Sn**	**00 50 55.7**	**-4.1**
MRSI	**Marisa**	**5.25**	**228**	P	**Pn**	**00 50 09.4**	**+1.1**
	294nm,0.7s,5μm1.0nm						
TOLI	**Toli-Toli**	**5.82**	**241**	*e*Pn	**Pn**	**00 50 14.3**	**-1.4**
LUWI	**Luwuk**	**5.88**	**212**	P	**Pn**	**00 50 17.3**	**+0.7**
	316nm,1.1s,5μm1.7nm						
LUWI	**Luwuk**	**5.88**	**212**	P	**Pn**	**00 50 18.7**	**+2.1**
	baz=5.9,SNR=23						
LUWI	**Luwuk**	**5.88**	**212**	*e*Pn	**Pn**	**00 50 17.4**	**+0.8**
LUWI				*e*S	**Sn**	**00 51 24.0**	**+0.6**
SANI	**Sanana**	**6.01**	**179**	P	**Pn**	**00 50 15.2**	**-3.0**
APSI	**Ampana**	**6.45**	**221**	P	**Pn**	**00 50 25.3**	**+1.3**
	147nm,1.1s,2μm0.8nm						
MPSI	**Mapaga**	**6.99**	**239**	P	**Pn**	**00 50 32.1**	**+0.9**
	32nm,0.8s,681nm0.2nm						
SWI	**Sorong**	**7.24**	**132**	P	**Pn**	**00 50 33.7**	**-0.8**
	170nm,1.0s,2μm0.6nm						
SWI	**Sorong**	**7.24**	**132**	P	**Pn**	**00 50 34.2**	**-0.3**
	baz=7.1,SNR=6.4						
SIJI	**Sorong**	**7.24**	**132**	P	**Pn**	**00 50 33.8**	**-0.9**
	12nm,0.3s,baz=328,slow=9.8,SNR=26						
SIJI				S	**Sn**	**00 51 53.7**	**-2.3**
	3.9nm,0.3s,baz=176,slow=19,SNR=4.1						
SIJI				LR	LR	00 52 43.2	
	comp=Z,303nm,21.7s,baz=224,slow=32						
NLAI	**Namlea**	**7.29**	**170**	P	**Pn**	**00 50 35.3**	**0.0**
	231nm,1.1s,16μm3.9nm						
MYLDM	**Lahad Datu**	**7.44**	**279**	⇑P	**Pn**	**00 50 39.6**	**+2.4**
MYLDM	**Lahad Datu**	**7.44**	**279**	*e*Pn	**Pn**	**00 50 39.2**	**+1.9**
MSAI	**Masohi**	**7.91**	**157**	P	**Pn**	**00 50 43.1**	**-0.4**
AAI	**Ambon**	**7.98**	**163**	P	**Pn**	**00 50 44.8**	**+0.3**
	170nm,1.1s,8μm0.9nm						
AAI	**Ambon**	**7.98**	**163**	P	**Pn**	**00 50 44.3**	**-0.2**
	baz=7.9,SNR=3.4						
TSM	**Tawau**	**7.98**	**272**	⇓P	**Pn**	**00 50 46.0**	**+1.6**
SDKM	**Sandakan**	**8.79**	**281**	⇓P	**Pn**	**00 50 55.8**	**+0.5**
PALU	**Palau**	**9.19**	**68**	P	**Pn**	**00 51 00.2**	**-0.3**
	baz=9.2,SNR=13						
TTSI	**Tana Toraja**	**9.24**	**221**	P	**Pn**	**00 51 02.4**	**+1.2**
	116nm,1.2s,2μm						
FAKI	**Fak Fak**	**9.37**	**137**	P	**Pn**	**00 51 02.8**	**-0.2**
	183nm,1.5s,3μm						
FAKI	**Fak Fak**	**9.37**	**137**	P	**Pn**	**00 51 02.8**	**-0.2**
	baz=9.3,SNR=23						
FAKI	**Fak Fak**	**9.37**	**137**	*e*Pn	**Pn**	**00 51 02.5**	**-0.5**
FAKI				*e*S	**Sn**	**00 52 43.7**	**-3.5**
KDM	**Kudat**	**9.45**	**288**	⇓P	Pn	00 51 11.1	+7.2
KKM	**Kota Kinabalu**	**9.83**	**282**	P	Pn	00 51 13.4	+4.4
	baz=9.9,SNR=6.4						
KKM	**Kota Kinabalu**	**9.83**	**282**	*e*Pn	**Pn**	**00 51 08.5**	**-0.6**
	26nm,0.6s						
RKPI	**Ransiki, Papua**	**9.95**	**123**	P	**Pn**	**00 51 11.8**	**+1.3**
SPSI	**Sidrap Palu**	**9.98**	**218**	P	**Pn**	**00 51 11.1**	**+0.1**
	97nm,0.7s,824nm						
KAPI	**Kappang**	**10.84**	**214**	P	**Pn**	**00 51 21.8**	**-0.4**
	4.4nm,0.3s,baz=23,slow=7.1,SNR=27						
KAPI				LR	LR	00 55 25.8	
	comp=Z,240nm,19.7s,baz=44,slow=37						
KAPI	**Kappang**	**10.84**	**214**	*e*Pn	**Pn**	**00 51 21.9**	**-0.3**
KBKI	**Kotabaru**	**12.10**	**233**	P	**P**	**00 51 42.1**	**-2.6**
	68nm,1.2s,3μm						
BTM	**Bintulu**	**12.78**	**267**	⇑P	**P**	**00 51 50.2**	**-2.1**
BBKI	**Banjar Baru**	**13.28**	**236**	P	**P**	**00 51 55.9**	**-1.9**
	302nm,1.1s						
SBUM	**Sibu**	**13.71**	**264**	*e*Pn	**P**	**00 52 01.3**	**-1.3**
SOEI	**Soe**	**13.76**	**187**	P	P	00 52 10.0	+6.8
SOEI	**Soe**	**13.76**	**187**	P	**P**	**00 52 02.3**	**-0.9**
	baz=14,SNR=3.0						
SOEI	**Soe**	**13.76**	**187**	*e*Pn	**Pn**	**00 51 59.2**	**-0.7**
SOEI				*e*S	**S**	**00 54 44.8**	**+3.7**
SMPI	**Sarmi**	**14.15**	**115**	P	**P**	**00 52 07.1**	**-0.3**
	152nm,0.6s,38μm423μm						
BATI	**Baumata**	**14.28**	**189**	P	**Pn**	**00 52 07.6**	**+1.2**
BATI	**Baumata**	**14.28**	**189**	P	**Pn**	**00 52 06.7**	**+0.2**
	15nm,0.3s,baz=274,slow=2.2,SNR=8.0						
STKI	**Sintang**	**14.90**	**255**	P	**P**	**00 52 18.4**	**+2.6**
	63nm,0.8s,28μm						
GENI	**Genyem**	**15.72**	**114**	P	**P**	**00 52 27.4**	**+2.5**
	304nm,1.3s						
KSM	**Kuching**	**15.74**	**261**	P	**P**	**00 52 27.1**	**+2.0**
	baz=16,SNR=11						
KSM	**Kuching**	**15.74**	**261**	*e*Pn	**P**	**00 52 25.5**	**+0.4**
	26nm,0.8s						
SRBI	**Singaraja**	**16.03**	**222**	P	**P**	**00 52 30.0**	**+1.7**
	89nm,1.1s						
JAY	**Jayapura**	**16.18**	**113**	P	**P**	**00 52 33.8**	**+3.8**
JAY	**Jayapura**	**16.18**	**113**	P	**P**	**00 52 29.9**	**-0.1**
	3.9nm,0.3s,baz=287,slow=19,SNR=15						
JAY	**Jayapura**	**16.18**	**113**	P	**P**	**00 52 30.1**	**+0.1**
	baz=16,SNR=9.0						
JAGI	**Jajag, Banyuwa**	**17.03**	**223**	P	**Pn**	**00 52 40.8**	**+0.8**
	baz=17,SNR=4.1						
JAGI	**Jajag, Banyuwa**	**17.03**	**223**	*e*Pn	**Pn**	**00 52 39.9**	**-0.1**
MTN	**Manton Dam**	**17.53**	**163**	P	**P**	**00 52 43.6**	**-1.2**
	baz=18,SNR=9.2						
KDU	**Kakadu**	**17.83**	**158**	P	**Pn**	**00 52 49.0**	**-0.6**
	baz=18,SNR=4.7						
SMRI	**Semarang**	**18.91**	**235**	P	**P**	**00 53 01.0**	**+1.1**
	109nm,1.1s						
KNRA	**Kununurra**	**19.76**	**172**	P	**P**	**00 53 08.8**	**-0.1**
	baz=20,SNR=14						
TPUB	**Ta-pu**	**19.85**	**346**	*e*P	**P**	**00 53 07.0**	**-3.0**
	38nm,1.0s						
SSLB	**Suanglung**	**20.24**	**347**	*e*P	**P**	**00 53 12.8**	**-1.4**
	15nm,0.8s						
YHNB	**Yeheng**	**21.00**	**349**	*e*P	**P**	**00 53 21.4**	**-0.9**
	6.7nm,0.5s						
LEM	**Lembang**	**21.15**	**240**	P	**P**	**00 53 23.4**	**-0.7**
	25nm,0.7s,baz=137,slow=24,SNR=5.2						
CBJI	**Citeko**	**21.62**	**241**	P	**P**	**00 53 30.9**	**+1.9**
	194nm,0.9s,10μm						
QIZ	**Qiongzhong**	**21.64**	**315**	P	**P**	**00 53 29.8**	**+0.7**
QIZ				pP	**pP**	**00 53 56.6**	**-0.9**
QIZ				S	**S**	**00 57 18.9**	**+0.5**
QIZ				PMZ			
	610nm,4.6s						
MYKOM	**Kota Tinggi**	**22.10**	**265**	*e*P	**P**	**00 53 34.5**	**+0.7**
	148nm,2.0s						
MANU	**Manus Island**	**22.31**	**105**	P	**P**	**00 53 35.4**	**-0.5**
	baz=22,SNR=3.5						
JOW	**Kunigami**	**22.82**	**6**	*e*P	**P**	**00 53 42.0**	**+1.5**
	40nm,0.5s						
MDSI	**Maura Dua**	**23.25**	**249**	P	**P**	**00 53 48.4**	**+3.8**
	15nm,1.3s						
SKNT	**Sakolnakorn**	**25.05**	**303**	P	**P**	**00 54 04.2**	**+3.3**
	43nm,2.2s						
PMG	**Port Moresby**	**25.05**	**122**	P	**P**	**00 54 01.5**	**+0.5**
	6.8nm,0.4s,baz=278,slow=15,SNR=2.9						
WRAB	**Tennant Creek**	**25.20**	**161**	*e*P	**P**	**00 54 01.6**	**-0.6**
WRAB				*e*		00 54 33.2	
WRAB				pmax	pmax		
	comp=Z,43nm,1.0s						
WRAB	**Tennant Creek**	**25.20**	**161**	*e*P	**P**	**00 54 01.6**	**-0.6**
	comp=Z,43nm,1.0s						
WRAB				*e*		00 54 33.2	
WRA	**Warramunga Arr**	**25.20**	**161**	P	**P**	**00 54 01.6**	**-0.7**
	comp=Z,29nm,0.7s,baz=340,slow=10.0,SNR=42						
WRA				PcP	**PcP**	**00 57 31.9**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=338,slow=2.9,SNR=5.7						
WRA				S	**S**	**00 58 12.2**	**-3.6**
	comp=Z,8.4nm,1.1s,baz=334,slow=16,SNR=7.7						
WRA				ScP	**ScP**	**01 00 56.7**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=345,slow=3.2,SNR=4.2						
MBWA	**Marble Bar**	**25.71**	**193**	*e*P	**P**	**00 54 05.9**	**-1.0**
	comp=Z,47nm,1.0s						
PSI	**Prapat**	**26.92**	**268**	P	**P**	**00 54 17.9**	**-0.1**
	comp=Z,3.3nm,0.3s,baz=89,slow=0.6,SNR=4.1						
PBKT	**Sadao Pong**	**27.45**	**299**	P	**P**	**00 54 25.1**	**+2.6**
	comp=Z,13nm,1.1s						
UTTA	**Uttaradit**	**28.31**	**301**	P	**P**	**00 54 32.6**	**+2.5**
	comp=Z,2.7nm,1.0s,comp=Z,86nm						
ASAR	**Alice Springs**	**28.59**	**164**	P	**P**	**00 54 32.4**	**-0.1**
	comp=Z,5.9nm,0.5s,baz=345,slow=7.5,SNR=130						
ASAR				PcP	**PcP**	**00 57 40.2**	**+0.3**
	comp=Z,3.9nm,0.6s,baz=345,slow=2.3,SNR=13						
NJ2	**Nanjing**	**28.67**	**348**	*e*P	**P**	**00 54 34.1**	**+1.0**
NJ2				PMZ			
	comp=Z,20nm,0.5s						
GIRL	**Giralia**	**28.82**	**203**	P	**P**	**00 54 35.1**	**+0.7**
	baz=29,SNR=3.5						
GYA	**Guiyang**	**28.93**	**322**	P	**P**	**00 54 37.8**	**+2.1**
GYA				pP	**pP**	**00 55 11.0**	**+1.7**
GYA				sP	**sP**	**00 55 29.3**	**+1.5**
GYA				PP	**PnPn**	**00 55 37.6**	**+1.6**
GYA				PcP	PcP	**00 57 41.8**	**+1.0**
GYA				S	**S**	**00 59 16.0**	**+1.4**
GYA				sS	**sS**	**01 00 14.3**	**+0.3**
GYA				ScP	**ScP**	**01 01 07.4**	**0.0**
GYA				ScS	**ScS**	**01 05 01.0**	**-0.7**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
GYA				PMZ			
	comp=Z,110nm,4.9s						
WRKA	**Warakurna**	**28.96**	**175**	P	**P**	**00 54 35.6**	**-0.1**
	baz=29,SNR=37						
JNU	**Nakatsue**	**29.35**	**9**	P	**P**	**00 54 39.2**	**0.0**
	comp=Z,12nm,0.8s,baz=116,slow=4.6,SNR=7.6						
JNU	**Nakatsue**	**29.35**	**9**	*e*P	**P**	**00 54 39.7**	**+0.5**
	comp=Z,9.3nm,1.1s						
LAMP	**Lampang**	**29.43**	**301**	P	**P**	**00 54 42.7**	**+2.6**
	comp=Z,3.8nm,0.9s						
CRAI	**Chiangrai**	**29.61**	**305**	P	P	00 54 51.5	+10
CMAR	**Chiang Mai Arr**	**30.00**	**301**	P	**P**	**00 54 45.3**	**+0.3**
	comp=Z,4.9nm,0.6s,baz=119,slow=7.2,SNR=25						
CMAR				PcP	**PcP**	**00 57 44.5**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=213,slow=0.9,SNR=6.2						
CMAR				ScP	**ScP**	**01 01 09.7**	**-1.1**
	comp=Z,1.3nm,0.3s,baz=145,slow=2.3,SNR=6.5						
CMMT	**Chiang Mai**	**30.14**	**301**	P	**P**	**00 54 48.0**	**+1.6**
	comp=Z,24nm,0.9s						
CHTO	**Chiang Mai**	**30.15**	**301**	P	**P**	**00 54 48.1**	**+1.7**
	comp=Z,60nm,0.8s						
CHTO	**Chiang Mai**	**30.15**	**301**	*e*P	**P**	**00 54 46.9**	**+0.5**
CHTO				*e*		00 55 21.1	
CHTO	**Chiang Mai**	**30.15**	**301**	*e*P	**P**	**00 54 46.9**	**+0.5**
CHTO				*e*		00 55 21.1	
CMAI	**Chiengmai2**	**30.57**	**303**	P	**P**	**00 54 51.8**	**+1.6**
	comp=Z,13nm,0.8s,comp=Z,1μm						
KMI	**Kunming**	**30.59**	**316**	P	**P**	**00 54 52.3**	**+1.9**
KMI				pP	**pP**	**00 55 24.3**	**+0.1**
KMI				sP	**sP**	**00 55 43.1**	**+0.4**
KMI				S	**S**	**00 59 44.9**	**+4.1**
KMI				SS	**SnSn**	**01 01 31.5**	**-6.7**
KMI				PMZ			
	comp=Z,12nm,1.3s						
KMI				PMZ			
	comp=Z,93nm,4.2s						
KMI				LN			
	comp=Z,280nm,12.3s						
KMI				LE			
	comp=Z,170nm,12.9s						
KMI				LZ			
	comp=Z,150nm,11.5s						
TJN	**Taejon**	**32.25**	**2**	*e*P	**P**	**00 55 03.5**	**-1.1**
KSAR	**Wonju Array Be**	**33.34**	**3**	P	**P**	**00 55 15.4**	**+1.4**
KSAR						00 57 53.4	
KSAR	**Wonju Array Be**	**33.34**	**3**	P	**P**	**00 55 15.4**	**+1.4**
KSAR				PcP	**PcP**	**00 57 53.4**	**+1.2**
KSRS	**Korea Array**	**33.35**	**3**	P	**P**	**00 55 15.4**	**+1.3**
	comp=Z,4.7nm,0.7s,baz=180,slow=10.0,SNR=17						
KSRS				PcP	**PcP**	**00 57 53.4**	**+1.1**
	comp=Z,4.5nm,0.8s,baz=192,slow=2.9,SNR=11						
KSRS				LR	LR	01 09 55.6	
	comp=Z,26nm,20.9s,baz=20,slow=38						
CD2	**Chengdu**	**33.92**	**325**	P	**P**	**00 55 19.5**	**+0.2**
CD2				pP	**pP**	**00 55 52.8**	**-0.6**
CD2				sP	**sP**	**00 56 10.8**	**-1.0**
CD2				PP	**PP**	**00 56 39.8**	**+0.3**
CD2				S	**S**	**01 00 33.9**	**+1.7**
CD2				sS	**sS**	**01 01 32.8**	**+0.6**
CD2				PMZ			
	comp=Z,20nm,1.0s						
CD2				PMZ			
	comp=Z,200nm,4.5s						
MORW	**Morawa**	**34.20**	**195**	P	**P**	**00 55 20.9**	**-0.7**
	baz=34,SNR=4.8						
MAJO	**Matsushiro**	**34.32**	**18**	*e*P	**P**	**00 55 21.7**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,35nm,1.1s						
MJAR	**Matsushiro Arr**	**34.32**	**18**	P	**P**	**00 55 22.1**	**-0.5**
	comp=Z,4.0nm,0.8s,baz=197,slow=9.3,SNR=9.1						
MJAR				PcP	**PcP**	**00 57 56.4**	**+1.3**
	comp=Z,2.8nm,0.8s,baz=163,slow=2.4,SNR=4.6						
FORT	**Forrest**	**34.64**	**177**	P	**P**	**00 55 25.2**	**-0.2**
	baz=35,SNR=48						
FORT	**Forrest**	**34.64**	**177**	*e*P	**P**	**00 55 25.0**	**-0.3**
	comp=Z,57nm,0.6s						
KMBL	**Kambalda**	**35.37**	**186**	P	**P**	**00 55 31.4**	**-0.2**
	baz=36,SNR=19						
BLDU	**Ballidu**	**35.51**	**194**	P	**P**	**00 55 31.9**	**-0.9**
	baz=36,SNR=19						
KLBR	**Kellerberrin**	**36.23**	**192**	P	**P**	**00 55 38.4**	**-0.4**
	baz=36,SNR=19						
BJI	**Beijing**	**36.94**	**348**	P	**P**	**00 55 46.6**	**+1.9**
BJI				pP	**pP**	**00 56 19.3**	**0.0**
BJI				sP	**sP**	**00 56 36.6**	**-1.0**
BJI				PP	**PP**	**00 57 12.1**	**-0.3**
BJI				PcP	**PcP**	**00 58 03.8**	**+1.1**
BJI				S	**S**	**01 01 21.9**	**+4.1**
BJI				ScS	**ScS**	**01 05 44.8**	**+2.6**
BJI				PMZ			
	comp=Z,21nm,0.7s						
BJI				LN			
	comp=Z,250nm,21.4s						
BJI				LE			
	comp=Z,75nm,11.4s

baz=39,SNR=4.7
VLA Vladivostok 39.32 7 *e*P **P** **00 56 05.3 +0.6**
VLA pmax pmax
comp=Z,35nm,1.1s
CN2 Changchun 39.64 360 *e*P **P** **00 56 07.1 -0.2**
CN2 PcP **PcP** **00 58 11.0 -0.1**
CN2 PMZ
comp=Z,10.0nm,0.6s
CN2 PMZ
comp=Z,200nm,4.0s
USRK Ussuriysk Ar. 40.40 7 P **P** **00 56 14.8 +1.2**
comp=Z,16nm,0.7s,baz=193,slow=7.2,SNR=48
MDJ Mudanjiang 40.59 4 P **P** **00 56 16.6 +1.5**
MDJ PMZ
comp=Z,33nm,0.7s
MDJ PMZ
comp=Z,90nm,6.9s
MDJ Mudanjiang 40.59 4 *e*P **P** **00 56 15.9 +0.8**
comp=Z,18nm,0.7s
GTA Gaotai 42.43 330 *e*P **P** **00 56 30.1 -0.3**
GTA pP **pP** **00 57 06.0 +0.3**
GTA sP **sP** **00 57 24.3 +0.5**
GTA PcP **PcP** **00 58 21.8 +1.3**
GTA S **S** **01 02 40.4 +0.3**
GTA sS **sS** **01 03 42.5 +0.8**
GTA SS **SS** **01 05 49.0 -6.8**
GTA ScS **ScS** **01 06 11.8 -3.4**
GTA PMZ
comp=Z,5.0nm,1.4s
GTA PMZ
comp=Z,95nm,4.7s
GTA LN
comp=Z,89nm,16.6s
GTA LE
comp=Z,140nm,14.2s
GTA LZ
comp=Z,100nm,18.1s
TAPN Taplejung 43.17 307 *e*P **P** **00 56 36.9 +0.2**
ARPS Mount Arapiles 43.21 161 P **P** **00 56 38.0 +1.5**
baz=43,SNR=18
ODAN Odare 43.22 306 *e*P **P** **00 56 36.9 -0.1**
RAMN Ramite 43.89 305 *e*P **P** **00 56 42.4 -0.1**
GUN Gumba 44.87 306 *e*P **P** **00 56 50.1 -0.3**
comp=Z,61nm,0.9s
HABR Khabarovsk 45.01 9 *e*P **P** **00 56 48.0 -2.6**
HABR *e**SP sP 00 57 35.6 -8.6
HABR *e* 00 58 35.9
HABR *e*PPP PPP 00 59 19.2
HABR *e*S **S** **01 03 16.1 -0.8**
HABR *e**SS sS 01 04 11.5 -7.5
HABR *e* 01 06 30.3
HABR pmax pmax
comp=Z,10.0nm,1.0s
HABR MLR MLR
comp=Z,228nm,19.0s
PALK Pallekele 45.05 276 PcP **PcP** **00 58 30.3 +0.5**
comp=Z,14nm,0.7s,baz=83,slow=2.2,SNR=6.6
PKI Pulchoki 45.11 306 *e*P **P** **00 56 51.6 -0.6**
PKIN Phulchoki 45.13 306 *e*P **P** **00 56 51.5 -0.8**
comp=Z,12nm,0.9s
TOO Toolangi 45.20 158 P **P** **00 56 54.5 +2.1**
baz=45,SNR=5.4
YSS Yuzh-Sakhalins 45.22 16 *e*P **P** **00 56 52.9 +0.6**
YSS pmax pmax
comp=Z,13nm,1.1s
KKN Kakani 45.31 306 *e*P **P** **00 56 53.4 -0.2**
KLR Kul'dur 45.35 5 *e*P P 00 56 49.6 -3.7
KLR pmax pmax
comp=Z,25nm,1.2s
DMN Daman 45.38 306 *e*P **P** **00 56 54.2 0.0**
HIA Hailar 45.41 354 *e*P **P** **00 56 54.3 +0.5**
HIA pmax pmax
comp=Z,15nm,0.9s
HIA Hailar 45.41 354 *e*P **P** **00 56 54.3 +0.5**
comp=Z,15nm,0.9s
GKN Gorkha 45.91 306 *e*P **P** **00 56 57.9 -0.4**
KOLN Koldanda 46.67 305 *e*P **P** **00 57 03.8 -0.5**
comp=Z,50nm,0.8s
SONM Songino Array 46.78 342 P **P** **00 57 04.1 -0.6**
comp=Z,3.0nm,0.7s,baz=161,slow=8.7,SNR=18
SONM PcP **PcP** **00 58 35.1 -0.1**
comp=Z,7.3nm,0.8s,baz=164,slow=4.0,SNR=15
SONM ScP **ScP** **01 02 13.8 -0.2**
comp=Z,0.3nm,0.3s,baz=157,slow=4.7,SNR=2.9
HYB Hyderabad 48.22 290 *i* P **P** **00 57 15.0 -1.2**
TLY Talaya 51.01 342 *e*P **P** **00 57 35.7 -1.0**
TLY pmax pmax
comp=Z,6.0nm,0.9s
MOY Mondy 51.84 341 *e*P **P** **00 57 43.4 +0.4**
WMQ Urumqi 52.02 325 P **P** **00 57 44.3 -0.1**
WMQ sP **sP** **00 58 39.3 +0.5**
WMQ PcP **PcP** **00 58 53.3 -1.2**
WMQ PP **PP** **00 59 43.8 -0.4**
WMQ S **S** **01 04 53.5 -2.1**
WMQ SS **SS** **01 08 31.3 -3.6**
WMQ PMZ
comp=Z,13nm,1.4s
WMQ PMZ
comp=Z,44nm,3.8s
WMQ LN
comp=Z,270nm,24.4s
WMQ LE
comp=Z,170nm,26.3s
WMQ LZ
comp=Z,230nm,25.0s
BOD Bodaibo 54.48 352 *e*P **P** **00 58 02.1 +0.1**
BOD pmax pmax
comp=Z,11nm,1.2s
PETK Petropavlovsk- 55.51 23 P **P** **00 58 11.1 +1.5**
comp=Z,7.0nm,0.7s,baz=193,slow=7.6,SNR=11
PET Petropavlovsk 55.82 23 *e*P **P** **00 58 12.0 +0.3**
PET pmax pmax
comp=Z,17nm,1.5s
MK31 Makanchi Array 56.85 326 *e*P **P** **00 58 18.5 -0.7**
MK31 *e* 00 59 12.8
MK31 Makanchi Array 56.85 326 P **P** **00 58 18.8 -0.4**
baz=57,SNR=6.1
MK31 Makanchi Array 56.85 326 *e*P **P** **00 58 18.5 -0.7**
MK31 *e* 00 59 12.8
MKAR Makanchi Array 56.85 326 P **P** **00 58 18.6 -0.6**
comp=Z,3.9nm,0.5s,baz=118,slow=8.3,SNR=38
MKAR PcP **PcP** **00 59 13.0 +0.1**
comp=Z,20nm,0.6s,baz=111,slow=5.3,SNR=28
MKAR ScP **ScP** **01 02 56.8 -0.7**
comp=Z,2.4nm,0.8s,baz=111,slow=5.0,SNR=6.7
MKAR S **S** **01 05 59.3 -0.8**
comp=Z,0.6nm,0.8s,baz=125,slow=12,SNR=4.5
MKAR Makanchi Array 56.85 326 P **P** **00 58 18.6 -0.6**
MKAR 00 59 13.0
MKAR S **S** **01 05 59.3 -0.8**
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MKAR smax smax
comp=N,1.0nm,0.8s
KSH Kashi 57.25 315 P **P** **00 58 23.0 +0.8**
KSH pP **pP** **00 59 02.1 +2.6**
KSH PcP **PcP** **00 59 17.0 +2.2**
KSH PP **PP** **01 00 36.1 +4.9**
KSH S **S** **01 06 01.3 -4.5**
KSH sS **sS** **01 07 12.1 +1.7**
KSH SS **SS** **01 10 01.1 +3.5**
KSH PMZ
comp=N,26nm,1.2s
KSH PMZ
comp=N,220nm,3.5s
KSH LN
comp=N,140nm,5.4s
KSH LE
comp=N,100nm,3.7s
KSH LZ
comp=N,250nm,6.2s
YAK Yakutsk 57.97 2 P **P** **00 58 26.9 +0.3**
comp=N,3.9nm,0.4s,baz=195,slow=20,SNR=6.7
YAK Yakutsk 57.97 2 *e*P **P** **00 58 27.1 +0.5**
YAK *e* 00 59 16.0
YAK *e*S **S** **01 06 13.4 -0.7**
YAK *e* 01 07 57.4
YAK *e*SS **SS** **01 10 13.7 +5.9**
YAK pmax pmax
comp=Z,45nm,0.8s
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK smax smax
comp=E,60nm,2.2s
YAK smax smax
comp=N,82nm,2.3s
YAK Yakutsk 57.97 2 *e*P **P** **00 58 27.4 +0.7**
comp=N,65nm,0.7s
ULHL Ulahol 58.25 318 P **P** **00 58 29.4 +0.1**
SNR=5.4
MA2 Magadan 58.66 15 *e*P **P** **00 58 31.9 +0.4**
KZA Kyzart 58.84 318 P **P** **00 58 33.8 +0.1**
SNR=10
TKM2 Tokmak 2 58.98 319 P **P** **00 58 34.2 -0.1**
SNR=5.3
TKM2 Tokmak 2 58.98 319 *e*P **P** **00 58 34.0 -0.3**
TKM2 Tokmak 2 58.98 319 *e*P **P** **00 58 34.0 -0.3**
UCH Uchtor 59.40 318 P **P** **00 58 37.6 +0.1**
SNR=12
USP Ospenovka 59.85 319 P **P** **00 58 39.5 -0.6**
SNR=7.3
AML Almayashu 59.91 317 P **P** **00 58 41.1 +0.2**
SNR=7.2
ZAA0 Zalesovo Array 59.96 333 P **P** **00 58 39.1 -1.4**
baz=60,SNR=4.0
ZALV Zalesovo Beam 59.96 333 P **P** **00 58 38.9 -1.6**
comp=N,2.4nm,0.5s,baz=120,slow=6.0,SNR=18
ZALV PcP **PcP** **00 59 23.8 -1.2**
comp=N,4.5nm,0.6s,baz=169,slow=3.2,SNR=9.8
KURK Kurchatov 61.05 328 *e*P **P** **00 58 47.1 -0.9**
KURK pmax pmax
comp=Z,20nm,0.7s
KURK Kurchatov 61.05 328 *e*P **P** **00 58 47.1 -0.9**
comp=Z,20nm,0.7s
NVS Novosibirsk 61.25 333⇑ *i*P **P** **00 58 46.7 -2.5**
NVS *i**PP **PcP** **00 59 28.7 -1.5**
NVS *i* S **S** **01 06 55.0 -1.3**
NVS *i**SS **SKKSac** **01 08 21.6 -3.0**
NVS pmax pmax
comp=Z,12nm,1.5s
NVS pmax pmax
comp=N,5.0nm,1.0s
NVS pmax pmax
comp=E,6.0nm,1.0s
NVS smax smax
comp=N,8.0nm,1.5s
NVS smax smax
comp=E,11nm,1.5s
SEY Seymchan 61.97 13 *i* P **P** **00 58 54.9 +1.0**
KKAR Karatay Array 62.45 317 *e*P **P** **00 58 56.6 -1.0**
KKAR pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 62.45 317 *e*P **P** **00 58 56.6 -1.0**
comp=Z,2.2nm,0.7s
BVA0 Borovoye Array 66.63 327 *i* P **P** **00 59 23.1 -1.3**
BVA0 pmax pmax
comp=Z,12nm,1.1s
BVAR Borovoye Array 66.63 327 P **P** **00 59 23.6 -0.9**
comp=Z,2.4nm,0.4s,baz=134,slow=8.5,SNR=31
BRVK Borovoye 66.70 327*c* *i* P **P** **00 59 23.7 -1.2**
BRVK pmax pmax
comp=Z,13nm,1.0s
BRVK Borovoye 66.70 327 *e*P **P** **00 59 24.1 -0.8**
comp=Z,18nm,1.2s
BILL Bilibino 69.52 15 *i* P **P** **00 59 41.7 -0.5**
BILL *e* 00 59 59.8
BILL *e**PP **pP** **01 00 19.2 -1.6**
BILL pmax pmax
comp=Z,5.0nm,1.2s
GEYT Alibeck 70.06 309 P **P** **00 59 44.4 -1.8**
comp=Z,3.9nm,1.0s,baz=113,slow=3.9,SNR=9.1
CASY Casey 70.98 186 *e*P **P** **00 59 51.6 +0.7**
comp=Z,10nm,0.7s
AB31 Akbulak array 71.40 321 *i* P **P** **00 59 52.5 -1.4**
AB31 pmax pmax
comp=Z,2.0nm,0.4s
ABKAR Akbulak array 71.40 321 *e*P **P** **00 59 52.7 -1.2**
comp=Z,3.5nm,0.6s
ABKAR *e*PcP **PcP** **01 00 11.5 -1.1**
AKTO Aktyubinsk 72.92 322 P **P** **01 00 01.7 -1.2**
comp=Z,5.2nm,0.7s,baz=98,slow=7.0,SNR=26
AKTO Aktyubinsk 72.92 322 P **P** **01 00 01.8 -1.2**
AKTO pmax pmax
comp=Z,7.0nm,0.8s
SVE Sverdlovsk 73.28 329 *e*P **P** **01 00 03.8 -1.1**
UNV Unalaska Valle 73.69 35 *e*P **P** **01 00 08.1 +0.7**
comp=Z,18nm,0.9s
AKUT Akutan 74.19 35 *e*P **P** **01 00 11.5 +1.2**
comp=Z,45nm,0.9s
ARU Arti 74.25 328*d* *i*P **P** **01 00 09.1 -1.5**
ARU S **S** **01 09 32.8 +1.7**
ARU SS **SS** **01 14 18.1 -2.0**
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 74.25 328 *e*P **P** **01 00 08.9 -1.7**
comp=Z,7.5nm,0.6s
FALS False Pass 75.70 34 *e*P **P** **01 00 20.0 +1.1**
comp=Z,22nm,0.6s
SDPT Sand Point 77.46 34 *e*P **P** **01 00 29.5 +0.7**
comp=Z,47nm,0.6s
CHGN Chignik 78.78 33 *e*P **P** **01 00 36.2 +0.2**
OHAK Old Harbor 81.69 33 *e*P **P** **01 00 52.5 +0.9**
comp=Z,20nm,0.9s
PRGR Permogore 81.86 332 *e*P P 01 00 48.4 -4.0
PRGR pmax pmax
comp=Z,14nm,0.6s
KDAK Kodiak Island 82.12 32 *e*P **P** **01 00 55.0 +1.2**
KDAK Kodiak Island 82.12 32 *e*P **P** **01 00 55.0 +1.2**
comp=Z,304nm,2.9s
KIV Kislovodsk 82.33 314 *e*P P 01 00 49.6 -5.8
KIV *e**PP pP 01 01 29.4 -5.8
KIV pmax pmax
comp=Z,4.0nm,1.2s
IM04 Indian Mountai 82.44 24 *e*P **P** **01 00 56.7 +1.3**
CAST Castle Rocks 82.88 27 *e*P **P** **01 00 59.4 +1.7**
comp=Z,14nm,0.9s
BRLK Bradley Lake 83.16 30 *e*P **P** **01 01 00.6 +1.4**
comp=Z,22nm,0.9s
MAW Mawson 83.71 200 P **P** **01 01 02.2 +0.5**
comp=Z,7.0nm,1.0s,baz=48,slow=6.4,SNR=12
MAW Mawson 83.71 200 P **P** **01 01 02.2 +0.5**
MAW pmax pmax
comp=Z,7.0nm,1.0s
MAW Mawson 83.71 200 P **P** **01 01 02.6 +0.9**
baz=84,SNR=8.7
MAW Mawson 83.71 200 *e*P **P** **01 01 01.9 +0.2**
comp=Z,4.4nm,1.4s
VNDA Vanda 83.80 173 P **P** **01 01 02.7 +0.6**
comp=Z,16nm,0.9s,baz=318,slow=5.9,SNR=47
MCK McKinley 84.31 26 *e*P **P** **01 01 05.2 +0.2**
MCK pmax pmax
comp=Z,22nm,0.9s
MCK McKinley 84.31 26 *e*P **P** **01 01 05.2 +0.2**
comp=Z,22nm,0.9s
SBA Scott Base 84.72 172 *e*P **P** **01 01 07.6 +0.9**
SBA pmax pmax
comp=Z,9.0nm,1.0s
SBA Scott Base 84.72 172 *e*P **P** **01 01 07.6 +0.9**
comp=Z,8.6nm,1.0s
COLA College 84.82 25 *e*P **P** **01 01 06.5 -0.9**
COLA pmax pmax
comp=Z,14nm,0.8s
CCB Clear Creek Bu 84.84 26 *e*P **P** **01 01 06.2 -1.4**
VSR Storozhevoye 84.84 321 *e*P **P** **01 01 06.8 -1.0**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=N,2.0nm,0.7s
HDA Harding Lake 85.20 26 *e*P **P** **01 01 09.2 -0.2**
comp=N,6.3nm,0.8s
ILAR Eielson Array 85.23 25 P **P** **01 01 08.7 -0.8**
comp=N,1.5nm,0.5s,baz=245,slow=4.9,SNR=24
ILAR PKKPbc **PKKPbc** **01 19 13.9 -3.3**
comp=N,0.7nm,0.9s,baz=66,slow=2.0,SNR=6.2
TMCR Tamitsa 85.48 334 *e*P **P** **01 01 10.4 -0.3**
TMCR pmax pmax
comp=Z,43nm,0.7s
ANN Anapa 86.10 314 *e*P **P** **01 01 11.9 -2.3**
ANN pmax pmax
comp=Z,59nm,1.3s
RIDG Independ'e Rid 86.13 26 *e*P **P** **01 01 14.8 +0.7**
comp=Z,8.9nm,0.6s
OBN Obninsk 86.35 325 P **P** **01 01 14.6 -0.6**
comp=Z,11nm,0.5s,baz=36,slow=1.4,SNR=7.4
OBN Obninsk 86.35 325*c* *i*P **P** **01 01 13.8 -1.4**
OBN *e**PP **pP** **01 01 53.3 -2.0**
OBN *e* 01 04 34.5
OBN pmax pmax
comp=Z,46nm,1.7s
OBN Obninsk 86.35 325 *e*P **P** **01 01 14.5 -0.6**
comp=Z,64nm,1.6s
APA Apatity 87.28 337⇑ *i*P **P** **01 01 18.5 -0.9**
APA pmax pmax
comp=Z,12nm,0.8s
APA MLR MLR
comp=Z,200nm,13.0s
EGAK Eagle 87.69 25 *e*P **P** **01 01 22.0 +0.6**
comp=Z,3.3nm,0.6s
KMBO Kilima Mbogo 88.70 269 P **P** **01 01 27.1 -0.5**
comp=Z,0.9nm,0.4s,baz=49,slow=10.0,SNR=4.3
BRTR Keskin Array B 89.19 310 P **P** **01 01 27.3 -2.0**
comp=Z,2.8nm,0.8s,baz=114,slow=4.8,SNR=14
BRTR Keskin Array B 89.19 310 *i* P **P** **01 01 27.2 -2.0**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 89.90 340 P **P** **01 01 30.9 -0.9**
comp=Z,22nm,0.7s,baz=82,slow=5.2,SNR=55
AKASG Malin Array Be 91.14 321 P **P** **01 01 36.4 -1.5**
comp=Z,1.3nm,0.5s,baz=68,slow=4.3,SNR=4.3
KIEV Kiev 91.15 321 *e*P **P** **01 01 36.2 -1.8**
FINES FINESS Array B 91.19 332 P **P** **01 01 36.9 -1.0**
comp=Z,8.0nm,0.9s,baz=66,slow=4.5,SNR=18
VSU Vasula 91.39 329 *e*P **P** **01 01 35.9 -3.0**
VSU pmax pmax
comp=Z,49nm,1.3s
QSPA South Pole Qui 93.90 180 *e*P **P** **01 01 50.9 +0.5**
comp=Z,9.2nm,0.8s
KOLS Kolonicke sedl 95.89 320 *e*P **P** **01 02 00.2 +0.4**
KOLS Kolonicke sedl 95.89 320 *e*P **P** **01 02 00.2 +0.4**
KECS Kecovo 97.14 320 *e*P **P** **01 02 04.2 -1.3**
KECS Kecovo 97.14 320 *e*P **P** **01 02 04.2 -1.3**
NB2 NORSAR Subarra 98.17 333 P **P** **01 02 08.2 -1.6**
comp=Z,9.2nm,0.7s,baz=68,slow=4.6
NB2 NORSAR Subarra 98.17 333 P **P** **01 02 08.2 -1.6**
baz=68,slow=4.6
NOA NORSAR Array B 98.17 333 P **P** **01 02 08.3 -1.6**
comp=Z,8.2nm,0.7s,baz=67,slow=4.6,SNR=23
LSZ Lusaka 98.44 255 P **P** **01 02 10.2 -1.9**
comp=Z,0.8nm,0.5s,baz=51,slow=13,SNR=4.1
YKA Yellowknife Ar 99.61 24 P **Pdif** **01 02 16.9 +0.8**
comp=Z,2.4nm,0.9s,baz=300,slow=4.9,SNR=4.2
CLL Collm 100.92 324 *e*PP PP 01 06 28.0 -4.0
CLL *e* 01 07 15.0
NVAR Mina Array Bea 107.37 48 Pdiff **Pdif** **01 02 52.9 +1.3**
comp=Z,0.2nm,0.4s,baz=267,slow=3.6,SNR=4.0
NVAR PKKPbc **PKKPbc** **01 18 16.1 -0.3**
comp=Z,0.6nm,0.7s,baz=134,slow=4.3,SNR=5.5
NVAR PKKP **PKKPdf** **01 18 29.6 +0.6**
comp=Z,0.3nm,0.6s,baz=129,slow=2.5,SNR=4.7
PDAR Pinedale Array 111.72 41 PKiKP **PKiKP** **01 07 08.2 +0.6**
comp=Z,0.7nm,0.5s,baz=167,slow=1.5,SNR=5.4
PDAR PKKPab **PKKPab** **01 18 10.2 -1.8**
comp=Z,1.8nm,0.9s,baz=98,slow=5.7,SNR=9.0
ANMO Albuquerque 117.48 47 *i* PKIKP **PKPdf** **01 07 19.7 +0.9**
ANMO pmax pmax
comp=Z,10.0nm,1.7s
SCHQ Schefferville 120.44 8 PKP **PKPdf** **01 07 23.9 +0.3**
comp=Z,3.9nm,0.6s,baz=296,slow=1.9,SNR=8.6
MDT Midelt 120.53 312 PKP **PKPdf** **01 07 25.0 +0.4**
comp=Z,2.0nm,0.9s,baz=174,slow=2.1,SNR=4.5
TORD Torodi Ar. Bea 122.02 288 PKP **PKPdf** **01 07 27.1 -0.6**
comp=Z,4.1nm,0.7s,baz=81,slow=1.7,SNR=34
TXAR Lajitas Array 122.11 52 PKP **PKPdf** **01 07 28.3 +0.6**
comp=Z,1.2nm,0.7s,baz=238,slow=1.2,SNR=13
WMOK Wichita Mounta 123.04 44 *e*PKIKP **PKPdf** **01 07 29.9 +0.6**
WMOK Wichita Mounta 123.04 44 *e*PKPdf **PKPdf** **01 07 29.9 +0.6**
JCT Junction City 124.53 49 *e*PKIKP **PKPdf** **01 07 33.0 +0.7**
JCT Junction City 124.53 49 *e*PKPdf **PKPdf** **01 07 33.0 +0.7**
MIAR Mount Ida 126.65 41 *e*PKIKP **PKPdf** **01 07 37.5 +1.3**
MIAR Mount Ida 126.65 41 *e*PKPdf **PKPdf** **01 07 37.5 +1.3**
USHA Ushuaia 128.01 170 PKP **PKPdf** **01 07 39.9 +1.8**
comp=Z,12nm,1.0s,baz=214,slow=3.6,SNR=3.5
DBIC Dimbokro 129.68 282 PKP **PKPdf** **01 07 42.8 +0.4**
comp=Z,2.8nm,0.6s,baz=129,slow=4.0,SNR=4.8
U65B HualaæØ 145.11 154 *e*PKPdf **PKPdf** **01 08 10.6 +0.4**
LCO Las Campanas 150.57 149 *e*PKPbc **PKPbc** **01 08 25.8 +0.6**
CPUP Villa Florida 157.58 172 PKP **PKPdf** **01 08 30.1 +1.0**
comp=Z,0.8nm,0.6s,baz=213,slow=1.9,SNR=3.8
CPUP PKPab **PKPab** **01 09 02.8 +1.1**
comp=Z,11nm,0.9s,baz=187,slow=6.3,SNR=13
LPAZ La Paz 161.61 133 PKP **PKPdf** **01 08 35.9 +1.0**
comp=Z,2.3nm,1.0s,baz=272,slow=4.1,SNR=5.3
SIV San Ignacio 166.27 151 PKP **PKPdf** **01 08 40.3 +1.9**
comp=Z,1.2nm,0.6s,baz=285,slow=2.4,SNR=4.2
SIV PKPab **PKPab** **01 09 40.8 +0.8**
comp=Z,3.1nm,0.8s,baz=238,slow=4.1,SNR=7.8
BDFB Brasilia 166.96 207 PKPab **PKPab** **01 09 43.6 +0.4**
comp=Z,6.5nm,0.9s,baz=90,slow=8.1,SNR=5.4

IDC 16 01:00:32.0±1.9, 2°22S×12°05W, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.5/34, mbtmp3.8/5, Error ellipse: s-maj=96.7km s-min=31.1km az=97.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**6.08**	**203**	T	T	01 07 51.1	
	baz=22,slow=74,SNR=45						
H10N1	**ASCENSION HYDR**	**6.09**	**203**	T	T	01 07 47.6	
	baz=22,slow=74,SNR=43						
H10N3	**ASCENSION HYDR**	**6.10**	**203**	T	T	01 07 52.4	
	baz=22,slow=74,SNR=35						
H10S1	**ASCENSION HYDR**	**7.16**	**201**	T	T	01 09 14.7	
	baz=23,slow=74						
H10S2	**ASCENSION HYDR**	**7.18**	**201**	T	T	01 09 22.6	
	baz=23,slow=74						
H10S3	**ASCENSION HYDR**	**7.18**	**201**	T	T	01 09 24.9	
	baz=23						
TORD	**Torodi Ar. Bea**	**20.47**	**41**	P	P	01 05 11.3	-0.2
	1.9nm,0.7s,baz=229,slow=11,SNR=10						
GERES	**GERESS Array B**	**55.55**	**20**	P	P	01 10 09.4	+0.2
	0.4nm,0.7s,baz=208,slow=8.3,SNR=2.9						
FINES	**FINESS Array B**	**69.88**	**18**	P	P	01 11 44.8	+0.3
	0.4nm,0.4s,baz=210,slow=7.1,SNR=7.7						
ARCES	**ARCESS Array B**	**75.96**	**13**	P	P	01 12 19.9	-0.6
	5.0nm,1.2s,baz=216,slow=6.4,SNR=4.0						
MAW	**Mawson**	**82.24**	**158**	P	P	01 12 54.9	0.0
	1.2nm,0.6s,baz=280,slow=6.1,SNR=5.4						

MAN 16 01:37:47.6±71N×125°02E, h1km, mb4.7, ML3.6, MS3.6, Mindanao

*IDC **16** 01:39:46.5±5.2, 17°08N×100°58W, h0km, mb3.3/2, mb1 3.6/5, mb1mx3.4/38, mbtmp3.3/5, ML3.2/3, MS3.0/5, Ms1 3.0/5, ms1mx2.8/18, Error ellipse: s-maj=108.5km s-min=34.8km az=29.0*
*ISCJB **16** 01:39:48.5±0.6, 17°20N±0°04×100°53W±0°04, h28km±5km, mb3.1/2, MS2.9/2, Error ellipse: s-maj=7.8km s-min=4.5km az=34.0*
*MEX **16** 01:39:50.4±0.5, 17°17N×100°57W, h14km±5km, MD4.0*
ISC 16 01:39:47.7±1.2, 17°25N±0°04×100°52W±0°04, h9km±10km, n20, σ1°42/31, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.31**	**130**	*e*P	**Pb**	**01 39 56.2**	**+0.7**
CAIG				*e*S	**Sb**	**01 40 01.6**	**+1.0**
ACP2	**Acapulco**	**0.71**	**122**	*i*P	**Pg**	**01 40 01.9**	**+0.5**
ACP2				*i*S	**Sg**	**01 40 11.0**	**+0.4**
ZIIG	**Zihuatanejo**	**0.97**	**292**	*i*P	**Pg**	**01 40 05.7**	**-0.8**
ZIIG				*e*S	**Sg**	**01 40 18.0**	**-1.2**
ARIG	**Puente Sto Nin**	**1.04**	**9**	*i*P	**Pb**	**01 40 08.0**	**+0.1**
ARIG				*e*S	**Sb**	**01 40 21.8**	**+0.1**
MEIG	**Mezcala**	**1.09**	**52**	*i*P	**Pg**	**01 40 08.9**	**+0.3**
MEIG				*e*S	**Sb**	**01 40 23.1**	**0.0**
PLIG	**Platanillo**	**1.49**	**40**	*i*P	**Pn**	**01 40 15.0**	**+0.2**
PLIG				*e*S	**Sn**	**01 40 34.1**	**-0.3**
TLIG	**Tlapa**	**1.89**	**80**	*e*P	**Pn**	**01 40 19.7**	**-0.5**
TLIG				*e*S	**Sn**	**01 40 42.4**	**-1.8**
HMTT	**Tlapaneco**	**1.94**	**73**	*i*P	**Pn**	**01 40 20.8**	**-0.2**
HMTT				*i*S	**Sn**	**01 40 45.3**	**-0.3**
YAIG	**Yautepec**	**2.12**	**40**	*i*P	**Pn**	**01 40 23.0**	**-0.4**
YAIG				*e*S	**Sn**	**01 40 49.3**	**-0.6**
UNM	**Universidad Na**	**2.43**	**31**	*i*P	**Pn**	**01 40 27.2**	**-0.7**
UNM				*e*S	**Sn**	**01 40 57.7**	**-0.1**
PNIG	**Pinotepa**	**2.44**	**110**	*e*P	**Pn**	**01 40 26.6**	**-1.2**
PNIG				*i*S	**Sn**	**01 40 56.6**	**-1.2**
VHO	**Vista Hermosa**	**3.62**	**92**	*e*P	**Pn**	**01 40 44.8**	**+0.7**
VHO				*i*S	**Sn**	**01 41 26.7**	**-0.4**
HUIG	**Huatulco**	**4.48**	**109**	*i*P	**Pn**	**01 40 55.2**	**-0.6**
HUIG				*i*S	**Sn**	**01 41 46.9**	**-1.1**
CMIG	**Matias Romero**	**5.38**	**91**	Pn	**Pn**	**01 41 09.0**	**+0.7**

0.6nm,0.3s,baz=271,slow=17,SNR=7.5
CMIG Sn **Sb** **01 42 21.1 -5.7**
2.4nm,0.3s,baz=290,slow=9.8,SNR=3.9
CMIG Lg Lg 01 42 38.8
3.2nm,0.3s,baz=169,slow=19,SNR=5.8
CMIG LR LR 01 43 30.2
comp=Z,116nm,20.1s,baz=263,slow=41
TXAR Lajitas Array 12.37 347 Pn Pn 01 42 48.0 +3.8
0.1nm,0.3s,baz=171,slow=14,SNR=2.9
TXAR Lg Lg 01 46 28.1
0.1nm,0.3s,baz=171,slow=25,SNR=3.0
TXAR LR LR 01 48 25.8
comp=Z,54nm,18.0s,baz=0.0,slow=42
ANMO Albuquerque 18.41 344 P **Pn** **01 44 05.4 +2.0**
0.1nm,0.3s,baz=157,slow=13,SNR=5.0
ANMO LR LR 01 51 59.9
comp=Z,96nm,19.1s,baz=176,slow=40
TKL Tuckaleechee C 23.62 36 LR LR 01 56 07.1
comp=Z,21nm,19.8s,baz=1.5,slow=41
NVAR Mina Array Bea 26.23 327 P **P** **01 45 24.2 +0.9**
0.5nm,0.6s,baz=142,slow=10.0,SNR=4.9
PDAR Pinedale Array 26.58 345 P **P** **01 45 28.0 +1.6**
0.2nm,0.5s,baz=140,slow=11,SNR=2.5
ELK Elko 26.64 334 LR LR 01 58 07.7
comp=Z,58nm,19.4s,baz=138,slow=41

CASC 16 02:15:34.4±2.2, 12°05N×87°39W, h6km±7km, MD3.9, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSM	**San Miguel**	**1.62**	**328**	*eP*	Pn	02 16 03.8	-0.1
SNVI	**San Vicente**	**2.10**	**318**	*eS*	Sn	02 16 38.2	+1.3
LFRS	**El Faro**	**2.26**	**314**	*eP*	Pn	02 16 11.7	-0.8
LFRS				*eS*	Sn	02 16 40.5	-0.3
GPS1	**Guardaparques**	**2.37**	**122**	*i* S	Sn	02 16 44.6	+1.2
LFU	**La Fuente**	**2.38**	**315**	*eP*	Pn	02 16 12.8	-1.3
BOQS	**Boqueron**	**2.49**	**312**	*eP*	Pn	02 16 15.8	0.0
BOQS				*eS*	Sn	02 16 48.3	+1.6
LIM1	**Limonal**	**2.49**	**123**	*i* S	Sn	02 16 46.5	+0.1
MESS	**Mesas**	**2.52**	**121**	*i* S	Sn	02 16 47.3	+0.3
VCR	**Vista de Mar**	**2.58**	**138**	*eP*	Pn	02 16 18.1	+1.3
VCR				*eS*	Sb	02 16 51.2	-2.1
CUI	**Cuipilapa**	**2.58**	**122**	*i* S	Sn	02 16 48.9	+0.2
SBLS	**San Blas**	**2.81**	**309**	*eP*	Pn	02 16 18.8	-1.4
RTR	**El Retiro**	**2.86**	**310**	*eP*	Pn	02 16 21.0	+0.1
JCR	**Jicaral**	**3.13**	**134**	*eP*	Pn	02 16 23.9	-0.5
JCR				*eS*	Sn	02 17 01.8	-0.3
URSC	**Urasca**	**4.17**	**122**	*eP*	Pn	02 16 38.0	-0.9
URSC				*eS*	Sn	02 17 27.9	-0.3

ISCJB ***16*** *02:25:22.9±0.1, 21°34S±0.0°×68°47W±0.0°, h129km, mb4.8/156, Error ellipse: s-maj=4.2km s-min=3.1km az=159.8*
SJA ***16*** *02:25:22.4±0.8, 21°52S×68°68W, h152km±6km, ML4.1, MW3.8*
GUC ***16*** *02:25:22.4±0.4, 21°40S×68°75W, h143km±4km, ML5.1*
IDC ***16*** *02:25:22.9±1.3, 21°24S×68°35W, h110km±11km, mb4.5/18, mb1 4.6/21,mb1mx4.5/32,mbtmp4.8/21,MS3.6/9, Ms1 3.6/9,ms1mx3.4/29,Error ellipse: s-maj=12.8km s-min=11.8km az=87.0*
NEIC ***16*** *02:25:24.0±0.5,21°28S×68°24W,h120km±3km, mb5.0/141, Error ellipse: s-maj=6.0km s-min=4.1km az=57.0*
NEIC Felt [III] at Oficina Maria Elena and [II] at Tocopilla.
BJI ***16*** *02:25:24.6,21°30S×68°20W,h117km,mB5.2/10*
GCMT ***16*** *02:25:24.1±0.2,21°54S×68°72W,h140km±2km,MW5.1/89, Moment Tensor Solution. s39,c51; s89,c126; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.48±.15; Mθθ=0.49±.17; Mφφ=1.99±.24; Mrθ=-0.01±.09; Mrφ=2.26±.16; Mθφ=-4.31±.13; Best double couple: M=5.37200×10^16 NP1:ϕs7.00000°,δ75.00000°,λ-113.00000°. NP2: ϕs245.00000°,δ27.00000°,λ-35.00000°. Principal axes: T 5.3940, Plg26.0000°, Azm115.0000°; N -0.0440, Plg22.0000°, Azm13.0000°; P -5.3500, Plg54.0000°, Azm249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 16 02:25:24.6±0.3, 21°38S±0.04°×68°53W±0.04, h130km±2km, h129km:pP-P, n708, σ1°11/754, mb5.0/156, 1C-10D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.95**	**290**	*eP*	**Pn**	**02 25 45.1**	**-2.0**
PB01				*eS*	**Sn**	**02 26 02.6**	**-1.6**
PB01				AML	AML	02 26 04.4	
comp=E,54μm,0.8s							
LVC	**Limon Verde**	**1.28**	**196**	P	**Pn**	**02 25 49.5**	**-1.0**
comp=E,7μm,0.3s,baz=27,slow=10,SNR=1962							
LVC				S	**Sn**	**02 26 08.6**	**-1.6**
baz=241,slow=19							
LVC	**Limon Verde**	**1.28**	**196**	||*iP*	**Pn**	**02 25 49.5**	**-1.0**
LVC	**Limon Verde**	**1.28**	**196**	*eP*	**Pn**	**02 25 49.8**	**-0.7**
LVC				*eS*	**Sn**	**02 26 09.0**	**-1.3**
PB07	**IPOC Station P**	**1.30**	**254**	*eP*	**Pn**	**02 25 48.6**	**-2.1**
PB07				*i* S	**Sn**	**02 26 08.0**	**-2.5**
PB07				AML	AML	02 26 10.5	
comp=N,49μm,0.6s							
PB06	**IPOC Station P**	**1.63**	**216**	*eP*	**Pn**	**02 25 52.6**	**-1.7**
PB06				*i* S	**Sn**	**02 26 15.0**	**-2.1**
PB06				AML	AML	02 26 16.2	
comp=N,24μm,0.8s							
PB04	**IPOC Station P**	**1.78**	**237**	*eP*	**Pn**	**02 25 54.3**	**-1.7**
PB04				*eS*	**Sn**	**02 26 17.1**	**-2.9**
PB04				AML	AML	02 26 24.0	
comp=N,12μm,0.5s							
MNMC	**Minimini**	**2.45**	**336**	*eP*	**Pn**	**02 26 03.2**	**-1.2**
MNMC				*i* S	**Sn**	**02 26 34.4**	**-0.5**
CEN1	**Los Morros**	**2.53**	**217**	*eP*	**Pn**	**02 26 05.0**	**-0.2**
CEN1				*i* S	**Sn**	**02 26 37.8**	**+1.3**
CEN1				AML	AML	02 26 45.2	
comp=N,5μm,0.7s							
PB10	**IPOC Station P**	**2.83**	**221**	*eP*	**Pn**	**02 26 06.6**	**-2.3**
ANCH	**Antofagasta**	**2.88**	**217**	*eP*	**Pn**	**02 26 07.4**	**-2.2**
ANCH				*i* S	**Sn**	**02 26 41.1**	**-3.1**
YJA	**Yavi**	**2.92**	**106**	*eP*	**Pn**	**02 26 11.4**	**+0.9**
YJA				IAML		02 26 15.6	
comp=Z,189nm,0.4s							
YJA				*eS*	**Sn**	**02 26 48.7**	**+2.8**
HJA	**Humahuaca**	**3.42**	**123**	*eP*	**Pn**	**02 26 18.0**	**+1.0**
AZAP	**Zapla**	**4.27**	**132**	*eP*	**Pn**	**02 26 28.0**	**-0.1**
AZAP				IAML		02 26 29.9	
comp=Z,309nm,0.3s							
SLA	**San Lorenzo**	**4.34**	**141**	*eP*	**Pn**	**02 26 29.8**	**+0.8**
SLA				IAML		02 26 31.4	
comp=Z,390nm,0.7s							
ASTB	**Santa Barbara**	**4.53**	**125**	*eP*	**Pn**	**02 26 31.3**	**-0.2**
ALOL	**LOMAS DE OLMED**	**4.86**	**121**	*eP*	**Pn**	**02 26 34.8**	**-1.1**
LPAZ	**La Paz**	**5.08**	**4**	P	**Pn**	**02 26 40.1**	**+0.8**
comp=Z,8.1nm,0.3s,baz=198,slow=6.1,SNR=221							
LPAZ				S	Sn	02 27 30.5	-6.9
comp=Z,3.3nm,0.3s,baz=181,slow=18,SNR=2.6							
LPAZ	**La Paz**	**5.08**	**4**	||*eP*	**Pn**	**02 26 40.5**	**+1.2**
FSA	**Cafayete**	**5.23**	**154**	*eP*	**Pn**	**02 26 40.8**	**-0.2**
FSA				IAML		02 26 48.9	
comp=Z,47nm,0.5s							
ARE	**Arequipa**	**5.63**	**330**	*eP*	Pn	02 26 43.0	-3.5
AHML	**Horco Molle**	**6.12**	**152**	*eP*	**Pn**	**02 26 51.9**	**-0.9**
AHML				IAML		02 26 53.2	
comp=Z,41nm,0.7s							
CYA	**Choya**	**7.46**	**161**	||*eP*	**Pn**	**02 27 08.2**	**-2.5**
CYA				IAML		02 29 00.1	
comp=N,14nm,0.7s							
LCO	**Las Campanas**	**7.85**	**194**	*e*Pn	Pn	02 27 11.0	-5.2
LCO				*e*Sn	Sn	02 28 36.4	-7.3
SIV	**San Ignacio**	**8.87**	**54**	P	Pn	02 27 26.1	-3.7
comp=N,9.3nm,0.3s,baz=253,slow=14,SNR=135							
SIV				S	Sn	02 28 56.3	-12
baz=263,slow=18,SNR=2.2							
AVFE	**Valle Fertil**	**9.29**	**174**	*eP*	Pn	02 27 32.0	-3.5
AVFE				IAML		02 28 53.4	
comp=Z,16nm,0.6s							
AMOG	**MOGNA**	**9.52**	**180**	||*eP*	Pn	02 27 34.3	-4.3
RTLL	**Cerro Villicun**	**9.91**	**180**	||*eP*	Pn	02 27 39.3	-4.5
CFAA	**Coronel Fontan**	**10.19**	**179**	P	Pn	02 27 42.7	-4.8
comp=Z,0.6nm,0.3s,baz=16,slow=8.3,SNR=42							
CFAA				S	Sn	02 29 28.1	-12
comp=Z,0.2nm,0.3s,baz=212,slow=17,SNR=3.5							
CFAA				LR	LR	02 32 34.4	
comp=Z,56nm,20.8s,baz=360,slow=42							
CFAA	**Coronel Fontan**	**10.19**	**179**	*eP*	Pn	02 27 43.0	-4.5
RTLS	**Leoncito**	**10.40**	**184**	||*eP*	Pn	02 27 45.9	-4.6
RTCV	**Cerro Valdivia**	**10.44**	**180**	||*eP*	Pn	02 27 46.5	-4.3
TCA	**Tanti**	**10.53**	**161**	IAML		02 27 56.3	
comp=Z,9.3nm,0.4s							
AUSP	**Uspallata**	**10.83**	**184**	||*eP*	Pn	02 27 51.7	-4.6
ACAN	**Cantantal**	**10.92**	**174**	||*eP*	Pn	02 27 53.0	-4.2
CPUP	**Villa Florida**	**11.38**	**118**	P	**Pn**	**02 28 00.1**	**-3.1**
comp=Z,1.3nm,0.3s,baz=295,slow=12,SNR=55							
CPUP				LR	LR	02 32 11.2	
comp=Z,312nm,18.2s,baz=308,slow=36							
CPUP	**Villa Florida**	**11.38**	**118**	*e*Pn	Pn	02 27 59.7	-3.6
comp=Z,1.0nm,0.9s							
NNA	**Nana**	**12.27**	**318**	P	**Pn**	**02 28 14.7**	**-0.4**
comp=Z,1.5nm,0.3s,baz=160,slow=12,SNR=3.4							
NNA				S	Sn	02 30 21.4	-9.0
comp=Z,3.1nm,0.3s,baz=267,slow=17,SNR=3.4							
SAML	**Samuel**	**13.39**	**23**	*e*Pn	Pn	02 28 24.0	-5.6
comp=Z,6.1nm,0.6s							
ATAH	**Atahualpa**	**17.07**	**325**	P	**Pn**	**02 29 18.3**	**+2.4**
comp=Z,0.5nm,0.3s,baz=146,slow=15,SNR=4.9							
TRQA	**Tornquist**	**17.56**	**163**	*eP*	**P**	**02 29 18.9**	**-1.6**
comp=Z,252nm,1.5s							
BB16B	**Bebedouro**	**18.61**	**93**	||*iP*	**P**	**02 29 30.6**	**-1.5**
BB16B					*i*		02 29 32.9	
BB16B					*i*		02 29 37.5	
BB16B					*i*		02 29 40.9	
BDFB	**Brasilia**	**20.27**	**77**	P	**P**	**02 29 48.1**	**-2.1**
comp=Z,51nm,0.5s,baz=250,slow=11,SNR=58							
BDFB				LR	LR	02 38 09.7	
comp=Z,293nm,19.2s,baz=244,slow=38							
PTGA	**Pitinga**	**22.16**	**23**	P	**P**	**02 30 08.3**	**-1.8**
comp=Z,4.1nm,0.4s,baz=204,slow=14,SNR=8.5							
PTGA				S	**S**	**02 33 59.5**	**-6.0**
comp=Z,12nm,1.1s,baz=162,slow=22,SNR=8.9							
OTAV	**Otavalo**	**23.57**	**334**	*eP*	**P**	**02 30 25.0**	**+1.0**
comp=Z,112nm,1.6s							
OTAV				*e*PcP	**PcP**	**02 34 06.6**	**+0.8**
ROSC	**El Rosal**	**26.68**	**347**	LR	LR	02 42 53.4	
comp=Z,245nm,18.8s,baz=186,slow=40							
SDV	**Santo Domingo**	**30.15**	**356**	*eP*	**P**	**02 31 21.1**	**-1.5**
comp=Z,21nm,1.3s							
PCRV	**Puerto La Cruz**	**31.59**	**7**	P	**P**	**02 31 35.4**	**+0.2**
comp=Z,6.6nm,0.6s,baz=334,slow=3.1,SNR=5.2							
BCIP	**Isla Barro Col**	**32.32**	**339**	*eP*	**P**	**02 31 41.5**	**0.0**
comp=Z,13nm,0.7s							
RCBR	**Riachuelo**	**35.17**	**69**	P	**P**	**02 32 05.2**	**-1.2**
comp=Z,37nm,0.7s,baz=228,slow=10.0,SNR=24							
RCBR	**Riachuelo**	**35.17**	**69**	*eP*	**P**	**02 32 05.0**	**-1.3**
comp=Z,33nm,0.7s							
JTS	**JuntasAbangare**	**35.36**	**331**	*eP*	**P**	**02 32 10.1**	**+2.2**
comp=Z,42nm,1.5s							
CELP	**Cerrillos**	**39.26**	**3**	*eP*	**P**	**02 32 38.8**	**-1.8**
SJG	**San Juan**	**39.32**	**4**	P	**P**	**02 32 38.6**	**-2.5**
comp=Z,27nm,0.6s,baz=158,slow=3.8,SNR=15							
SJG	**San Juan**	**39.32**	**4**	*eP*	**P**	**02 32 38.5**	**-2.5**
comp=Z,25nm,0.6s							
SJG				*e*		02 33 09.8	
TEIG	**Tepich**	**45.63**	**334**	*ep*P	pP	02 34 02.4	+0.6
TIGA	**Tifton**	**54.47**	**344**	P	**P**	**02 34 38.4**	**-0.2**
baz=55							
BRAL	**Brewton**	**55.04**	**341**	*eP*	**P**	**02 34 43.5**	**+0.7**
comp=Z,46nm,0.8s							
RGRS	**Roger Stewart**	**55.12**	**348**	*eP*	**P**	**02 34 43.7**	**+0.4**
comp=Z,7.8nm,0.6s							
NHSC	**New Hope**	**55.31**	**348**	*eP*	**P**	**02 34 45.5**	**+0.8**
034A	**Hebbronville**	**56.31**	**327**	P	**P**	**02 34 52.5**	**+0.5**
baz=57							
GOGA	**Godfrey**	**56.31**	**345**	*eP*	**P**	**02 34 51.9**	**0.0**
comp=Z,123nm,2.5s							
JSC	**Jenkinsville**	**56.66**	**347**	*eP*	**P**	**02 34 54.6**	**+0.3**
comp=Z,25nm,0.9s							
JSC				*ep*P	**pP**	**02 35 26.6**	**+1.6**
934A	**Benavides**	**56.67**	**328**	P	**P**	**02 34 55.3**	**+0.7**
baz=57							
540A	**Vidor**	**56.83**	**334**	P	**P**	**02 34 57.2**	**+1.6**
baz=57							
LRAL	**Lakeview Retre**	**56.91**	**341**	*eP*	**P**	**02 34 55.3**	**-0.8**
comp=Z,24nm,1.3s							
736A	**Circle Diamond**	**57.11**	**330**	P	**P**	**02 34 58.9**	**+1.4**
baz=57,SNR=8.7							
834A	**Tilden**	**57.12**	**328**	P	**P**	**02 34 58.3**	**+0.6**
baz=57,SNR=8.1							
637A	**Eagle Lake**	**57.18**	**331**	P	**P**	**02 34 59.3**	**+1.3**
baz=58							
440A	**Kirbyville**	**57.29**	**334**	P	**P**	**02 34 59.6**	**+0.7**
baz=58							
735A	**Kenedy**	**57.37**	**329**	P	**P**	**02 35 00.2**	**+0.8**
baz=58							
HKT	**Hockley**	**57.40**	**332**	*eP*	**P**	**02 34 59.9**	**+0.4**
comp=Z,46nm,1.6s							
HKT				*ep*P	**pP**	**02 35 30.8**	**+0.5**
HKT				*es*P	**sP**	**02 35 45.5**	**+1.0**
538A	**Harpers Horsep**	**57.48**	**332**	P	**P**	**02 35 01.0**	**+0.9**
baz=58							
636A	**Smothers Creek**	**57.55**	**330**	P	**P**	**02 35 01.2**	**+0.5**
baz=58,SNR=7.9							
439A	**Center Grove,**	**57.67**	**333**	P	**P**	**02 35 02.6**	**+1.1**
baz=58							
833A	**Chaparral WMA,**	**57.70**	**328**	P	**P**	**02 35 01.7**	**-0.1**
baz=58,SNR=16							
537A	**Green Hill Far**	**57.72**	**331**	P	**P**	**02 35 02.6**	**+0.8**
baz=58							
734A	**La Parita Cree**	**57.73**	**329**	P	**P**	**02 35 02.3**	**+0.4**
baz=58							
635A	**Leesville**	**57.80**	**330**	P	**P**	**02 35 02.5**	**0.0**
baz=58							
340A	**Bronson**	**57.85**	**334**	P	**P**	**02 35 03.4**	**+0.6**
baz=58,SNR=9.7							
438A	**Sam Houston St**	**57.93**	**333**	P	**P**	**02 35 03.9**	**+0.6**
baz=58							
832A	**Faith Ranch, C**	**57.96**	**327**	P	**P**	**02 35 03.2**	**-0.4**
baz=58,SNR=15							
339A	**Huntington**	**58.05**	**334**	P	**P**	**02 35 04.3**	**+0.1**
baz=58							
536A	**Bastrop**	**58.06**	**331**	P	**P**	**02 35 05.0**	**+0.8**
baz=58							
634A	**China Grove, S**	**58.07**	**329**	P	**P**	**02 35 04.0**	**-0.4**
baz=58							
535A	**Dale**	**58.25**	**330**	P	**P**	**02 35 05.2**	**-0.4**
baz=59							
732A	**Laxson Ranch,**	**58.33**	**327**	P	**P**	**02 35 05.9**	**-0.2**
baz=59							
338A	**Crockett**	**58.39**	**333**	P	**P**	**02 35 07.3**	**+0.9**
baz=59							
NATX	**Nacogdoches**	**58.47**	**334**	P	**P**	**02 35 07.5**	**+0.5**
baz=59							
NATX	**Nacogdoches**	**58.47**	**334**	*eP*	**P**	**02 35 08.2**	**+1.2**
comp=Z,58nm,0.9s							
CPCT	**Cooper Cave**	**58.52**	**345**	*eP*	**P**	**02 35 07.2**	**-0.1**
436A	**Wall Ranch, Ga**	**58.53**	**331**	P	**P**	**02 35 08.2**	**+0.8**
baz=59							
633A	**Saathoff Ranch**	**58.53**	**329**	P	**P**	**02 35 07.5**	**0.0**
baz=59,SNR=8.2							
TKL	**Tuckaleechee C**	**58.53**	**345**	LR	LR	03 03 00.8	
comp=Z,48nm,18.3s,slow=39							
239A	**Gary**	**58.62**	**334**	P	**P**	**02 35 08.5**	**+0.5**
baz=59							
SWET	**Sewanee**	**58.66**	**343**	*eP*	**P**	**02 35 07.5**	**-0.8**
comp=Z,32nm,0.8s							
534A	**Blanco**	**58.67**	**330**	P	**P**	**02 35 07.9**	**-0.6**
baz=59							
238A	**Jacksonville**	**58.87**	**334**	P	**P**	**02 35 10.2**	**+0.4**
baz=59							
632A	**Uvalde**	**58.87**	**328**	P	**P**	**02 35 10.1**	**+0.2**
baz=59							
435B	**Jarrell**	**58.89**	**331**	P	**P**	**02 35 09.8**	**-0.2**
baz=59							
533A	**Kerrville**	**58.97**	**329**	P	**P**	**02 35 10.3**	**-0.3**
baz=59							
OXF	**Oxford**	**59.02**	**340**	*eP*	**P**	**02 35 10.7**	**-0.1**
comp=Z,55nm,1.0s							
336A	**Riesel**	**59.08**	**332**	P	**P**	**02 35 11.4**	**+0.2**
baz=59							
237A	**Washetta, Mont**	**59.16**	**333**	P	**P**	**02 35 12.3**	**+0.5**
baz=60							
139A	**Bunkhouse Ranc**	**59.16**	**335**	P	**P**	**02 35 12.6**	**+0.8**
baz=60							
631A	**Perdido Creek**	**59.19**	**327**	P	**P**	**02 35 11.6**	**-0.5**
baz=60,SNR=8.3							
434A	**Burnet**	**59.23**	**330**	P	**P**	**02 35 12.0**	**-0.4**
baz=60							
335A	**Moody**	**59.24**	**331**	P	**P**	**02 35 12.4**	**0.0**
baz=60,SNR=6.6							
VWCC	**Virginia Weste**	**59.30**	**349**	*eP*	**P**	**02 35 12.6**	**0.0**
TZTN	**Tazewell**	**59.33**	**346**	*eP*	**P**	**02 35 13.1**	**+0.2**
comp=Z,24nm,0.9s							
BLA	**Blacksburg**	**59.34**	**349**	*eP*	**P**	**02 35 13.7**	**+0.7**
comp=Z,186nm,1.8s							
138A	**Matatall Enter**	**59.43**	**334**	P	**P**	**02 35 13.8**	**+0.1**
baz=60,SNR=7.1							
532A	**Rocksprings**	**59.44**	**328**	P	**P**	**02 35 13.8**	**0.0**
baz=60,SNR=17							
236A	**Katherine and**	**59.46**	**332**	P	**P**	**02 35 13.9**	**0.0**
baz=60,SNR=7.6							
433A	**Art**	**59.57**	**329**	P	**P**	**02 35 14.2**	**-0.5**
baz=60,SNR=22							
Z39A	**Irene McRaven,**	**59.58**	**335**	P	**P**	**02 35 15.3**	**+0.6**
baz=60							
137A	**Heron Place, G**	**59.65**	**333**	P	**P**	**02 35 15.7**	**+0.5**
baz=60							
334A	**Lometa**	**59.66**	**331**	P	**P**	**02 35 14.6**	**-0.6**
baz=60,SNR=10.0							
JCT	**Junction City**	**59.68**	**329**	P	**P**	**02 35 15.2**	**-0.3**
baz=60,SNR=8.3							
JCT	**Junction City**	**59.68**	**329**	*eP*	**P**	**02 35 15.9**	**+0.4**
comp=Z,25nm,0.8s							
531A	**Rocksprings**	**59.79**	**328**	P	**P**	**02 35 16.3**	**+0.1**
baz=60,SNR=30							
WHTX	**Lake Whitney**	**59.86**	**332**	P	**P**	**02 35 16.5**	**-0.1**
baz=60,SNR=6.6							
WHTX	**Lake Whitney**	**59.86**	**332**	*eP*	**P**	**02 35 17.5**	**+0.9**
comp=Z,37nm,0.8s							
136A	**Ennis**	**59.87**	**333**	P	**P**	**02 35 17.1**	**+0.4**
baz=60							
Z38A	**Mt. Pleasant**	**59.90**	**334**	P	**P**	**02 35 17.4**	**+0.5**
baz=60							
333A	**Richland Sprin**	**59.99**	**330**	P	**P**	**02 35 17.1**	**-0.5**
baz=60,SNR=15							
432A	**Menard**	**60.00**	**329**	P	**P**	**02 35 17.3**	**-0.4**
baz=60,SNR=18							
WVT	**Waverly**	**60.04**	**342**	*eP*	**P**	**02 35 16.4**	**-1.3**
comp=Z,40nm,0.8s							
Z37A	**Pogue Cattle C**	**60.12**	**334**	P	**P**	**02 35 18.7**	**+0.4**
baz=60							
Y39A	**Lockesburg**	**60.16**	**336**	P	**P**	**02 35 18.7**	**+0.2**
baz=60							
530A	**J-C Ranch, Com**	**60.17**	**327**	P	**P**	**02 35 18.8**	**0.0**
baz=60,SNR=34							
234A	**Clairette**	**60.17**	**331**	P	**P**	**02 35 18.7**	**-0.1**
baz=60,SNR=21							
431A	**Sonora**	**60.24**	**328**	P	**P**	**02 35 19.1**	**-0.2**
baz=60,SNR=19							
UALR	**University of**	**60.25**	**337**	*eP*	**P**	**02 35 19.5**	**+0.3**
comp=Z,33nm,1.0s							
SLBS	**Sierra La Lagu**	**60.26**	**316**	*eP*	**P**	**02 35 21.4**	**+1.8**
VNA1	**Neumayer--Stat**	**60.28**	**161**	P	**P**	**02 35 20.4**	**+1.5**
135A	**Vickery Place,**	**60.32**	**332**	P	**P**	**02 35 19.7**	**-0.1**
baz=61							
Y38A	**Idabel**	**60.40**	**335**	P	**P**	**02 35 20.2**	**0.0**
baz=61							
332A	**Millersview**	**60.40**	**329**	P	**P**	**02 35 20.2**	**-0.1**
baz=61,SNR=26							
MIAR	**Mount Ida**	**60.50**	**336**	P	**P**	**02 35 20.7**	**-0.2**
baz=61,SNR=32							
MIAR	**Mount Ida**	**60.50**	**336**	*eP*	**P**	**02 35 20.7**	**-0.2**
comp=Z,34nm,0.6s							
Z36A	**Blue Ridge**	**60.52**	**333**	P	**P**	**02 35 21.2**	**+0.2**
baz=61,SNR=15							
233A	**Rising Star**	**60.53**	**330**	P	**P**	**02 35 20.9**	**-0.4**
baz=61,SNR=20							
GNAR	**Gosnell**	**60.55**	**340**	*eP*	**P**	**02 35 20.7**	**-0.5**
comp=Z,186nm,0.5s							
529A	**Stev Forest Ra**	**60.60**	**327**	P	**P**	**02 35 21.8**	**+0.1**
baz=61							
134A	**White-Moore Ra**	**60.63**	**331**	P	**P**	**02 35 21.8**	**-0.1**
baz=61,SNR=6.0							
430A	**Baggett Ranch,**	**60.63**	**328**	P	**P**	**02 35 22.1**	**+0.1**
baz=61,SNR=20							
331A	**San Angelo**	**60.66**	**329**	P	**P**	**02 35 21.5**	**-0.6**
baz=61,SNR=20							
TXAR	**Lajitas Array**	**60.73**	**325**	P	**P**	**02 35 22.7**	**0.0**
comp=Z,3.8nm,0.6s,baz=150,slow=9.2,SNR=42							
232A	**Coleman**	**60.77**	**330**	P	**P**	**02 35 22.8**	**-0.1**
baz=61,SNR=25							
Y37A	**Hugo**	**60.80**	**334**	P	**P**	**02 35 23.5**	**+0.5**
baz=61,SNR=8.6							
429A	**Davenport Ranc**	**60.83**	**327**	P	**P**	**02 35 23.7**	**+0.3**
baz=61							
Z35A	**Perchaven, San**	**60.91**	**333**	P	**P**	**02 35 23.9**	**+0.2**
baz=61,SNR=11							
133A	**Hamilton Ranch**	**61.04**	**331**	P	**P**	**02 35 24.5**	**-0.1**
baz=61,SNR=12							
X38A	**Whitesboro**	**61.09**	**335**	P	**P**	**02 35 25.2**	**+0.3**
baz=61,SNR=29							
PARMO	**Parma**	**61.11**	**341**	*eP*	**P**	**02 35 24.7**	**-0.3**
330A	**Mertzon**	**61.11**	**328**	P	**P**	**02 35 24.4**	**-0.8**
baz=61,SNR=9.8							
231A	**Bronte**	**61.13**	**329**	P	**P**	**02 35 24.7**	**-0.6**
baz=61,SNR=6.2							
X37A	**Clayton**	**61.23**	**335**	P	**P**	**02 35 25.9**	**0.0**
baz=62,SNR=23							
Z34A	**Collier Ranch,**	**61.24**	**332**	P	**P**	**02 35 26.0**	**0.0**
baz=62,SNR=11							
Y35A	**Marietta**	**61.32**	**333**	P	**P**	**02 35 26.9**	**+0.4**
baz=62,SNR=5.5							
W38A	**Poteau**	**61.32**	**336**	P	**P**	**02 35 26.7**	**+0.3**
baz=62,SNR=24							
ABTX	**Abilene, Hawle**	**61.38**	**330**	P	**P**	**02 35 26.5**	**-0.5**
baz=62,SNR=16							
ABTX	**Abilene, Hawle**	**61.38**	**330**	*eP*	**P**	**02 35 26.8**	**-0.2**
comp=Z,46nm,1.0s							
ABTX				*ep*P	**pP**	**02 35 56.8**	**-1.3**
ABTX				*es*P	**sP**	**02 36 11.6**	**-0.7**
PBMO	**Poplar Bluff**	**61.43**	**340**	*eP*	**P**	**02 35 26.1**	**-1.

TUL1	Tulsa	62.55	335	*e*P		P	02 35 34.7	0.0
	comp=Z,44nm,1.1s								
Z30A	Sanderson Ranc	62.63	329	P		P	02 35 34.9	-0.4
	baz=63,SNR=22								
U37A	Salina	62.73	336	P		P	02 35 35.7	-0.1
	baz=63,SNR=18								
128A	Castleberry Fa	62.74	328	P		P	02 35 36.0	-0.2
	baz=63,SNR=8.8								
ACSO	Alum Creek Sta	62.76	348	*e*P		P	02 35 35.6	-0.4
	comp=Z,40nm,0.9s								
ACSO				*ep*P		pP	02 36 06.8	-0.4	
W34A	Bridge Creek,	62.77	333	P		P	02 35 35.2	-1.0	
	baz=63								
WMOK	Wichita Mounta	62.77	332	*e*P		P	02 35 35.4	-0.9	
	comp=Z,6.5nm,0.8s								
Y31A	Rekieta Farm,	62.78	331	P		P	02 35 36.3	0.0	
	baz=63,SNR=14								
V35A	Meyer Ranch, C	62.84	334	P		P	02 35 35.9	-0.7	
	baz=63								
Z29A	Hungry Hill Ra	62.88	329	P		P	02 35 36.1	-0.9	
	baz=63,SNR=7.8								
U36A	Oologah	62.95	336	P		P	02 35 37.0	-0.3	
	baz=63								
KSPA	Keystone Colle	62.97	354	*e*P		P	02 35 36.8	-0.5	
	comp=Z,21nm,1.1s								
W33A	Caddo, Fort Co	62.99	333	P		P	02 35 37.9	+0.3	
	baz=63,SNR=17								
BRYW	Bryant College	63.04	357	*ep*P		pP	02 36 11.9	+2.8	
CLNB	Carlsbad	63.16	327	*e*P		P	02 35 39.7	+0.8	
	comp=Z,0.9nm,0.5s								
V34A	Guthrie	63.18	334	P		P	02 35 38.3	-0.6	
	baz=64,SNR=7.1								
V34A	Guthrie	63.18	334	*e*P		P	02 35 37.8	-1.0	
	comp=Z,29nm,0.9s								
X31A	McDonald Ranch	63.21	331	P		P	02 35 38.7	-0.5	
	baz=64,SNR=20								
Z28A	Tucker Farm, M	63.23	328	P		P	02 35 38.6	-0.8	
	baz=64,SNR=13								
T37A	Cheneyville 18	63.28	337	P		P	02 35 39.4	-0.1	
	baz=64,SNR=53								
W32A	Sentinel	63.30	332	P		P	02 35 39.1	-0.6	
	baz=64,SNR=16								
U35A	Pawnee	63.32	335	P		P	02 35 39.4	-0.3	
	baz=64,SNR=10								
Y29A	Porterfield Fa	63.36	329	P		P	02 35 39.5	-0.7	
	baz=64,SNR=15								
X30A	Coker Ranch, T	63.47	330	P		P	02 35 40.3	-0.5	
	baz=64								
V33A	Lossen Ranch,	63.48	333	P		P	02 35 40.3	-0.6	
	baz=64,SNR=11								
T36A	Boggs Farm, Ca	63.59	336	P		P	02 35 41.1	-0.4	
	baz=64,SNR=8.0								
W31A	Holland Ranch,	63.66	332	P		P	02 35 41.2	-0.9	
	baz=64								
Y28A	McKinney Farm,	63.67	329	P		P	02 35 41.4	-0.8	
	baz=64,SNR=10								
U34A	Anderson Ranch	63.70	334	P		P	02 35 42.6	+0.3	
	baz=64,SNR=10								
U34A	Anderson Ranch	63.70	334	*e*P		P	02 35 41.8	-0.5	
	comp=Z,33nm,0.8s								
T35A	Sooner Cattle	63.71	335	P		P	02 35 42.0	-0.3	
	baz=64,SNR=10								
V32A	Arapaho	63.72	333	P		P	02 35 42.3	-0.1	
	baz=64								
S37A	Fort Scott	63.81	337	P		P	02 35 42.5	-0.4	
	baz=64,SNR=21								
SFIN	Scholer Farm	63.83	344	P		P	02 35 41.3	-1.6	
	baz=64,SNR=7.2								
SFIN	Scholer Farm	63.83	344	*e*P		P	02 35 41.1	-1.9	
	comp=Z,28nm,0.9s								
SFIN				*ep*P		pP	02 36 12.5	-1.8	
SFIN				*es*P		sP	02 36 27.8	-0.6	
X29A	Tulia	63.85	330	P		P	02 35 42.2	-1.2	
	baz=64,SNR=5.8								
U33A	Lingo Farm, Me	63.94	334	P		P	02 35 42.9	-0.9	
	baz=64,SNR=5.5								
W30A	Crocket Farms	63.94	331	P		P	02 35 43.4	-0.5	
	baz=64								
MSTX	Muleshoe	63.97	329	P		P	02 35 43.9	-0.3	
	baz=64,SNR=13								
MSTX	Muleshoe	63.97	329	*e*P		P	02 35 43.9	-0.3	
	comp=Z,52nm,1.0s								
MSTX				*ep*P		pP	02 36 15.7	+0.1	
MSTX				*es*P		sP	02 36 30.6	+1.0	
S36A	Lake Cedric, C	64.07	336	P		P	02 35 44.4	-0.2	
	baz=64,SNR=32								
T34A	McClaskey Farm	64.07	335	P		P	02 35 44.3	-0.3	
	baz=64,SNR=9.1								
V31A	Spring Creek L	64.11	332	P		P	02 35 45.3	+0.3	
	baz=64								
X28A	Dimmitt	64.14	329	P		P	02 35 44.5	-0.8	
	baz=64,SNR=6.7								
U32A	Winter Ranch,	64.26	333	P		P	02 35 45.9	-0.1	
	baz=65								
S35A	Otter Creek Ra	64.30	336	P		P	02 35 46.0	-0.2	
	baz=65,SNR=23								
R37A	Teagarden Farm	64.31	337	P		P	02 35 45.9	-0.3	
	baz=65,SNR=19								
MMNY	Mt. Morris Dam	64.37	352	*e*P		P	02 35 46.9	+0.4	
	comp=Z,124nm,1.4s								
MMNY				*ep*P		PcP	02 36 20.0	+0.1	
W29A	Amraillo	64.38	330	P		P	02 35 45.8	-1.0	
	baz=65,SNR=7.1								
V30A	Spur Ranch, Mi	64.48	331	P		P	02 35 47.8	+0.3	
	baz=65								
T33A	Patterson Ranc	64.55	334	P		P	02 35 47.7	-0.1	
	baz=65								
R36A	Gordon, Harris	64.56	337	P		P	02 35 47.3	-0.6	
	baz=65,SNR=13								
HDIL	Hopedale	64.58	343	P		P	02 35 46.3	-1.6	
	baz=65,SNR=5.6								
HDIL	Hopedale	64.58	343	*e*P		P	02 35 47.1	-0.8	
	comp=Z,24nm,0.8s								
U31A	Nine Bar Ranch	64.62	332	P		P	02 35 47.8	-0.5	
	baz=65								
S34A	Willow Spring	64.63	335	P		P	02 35 47.6	-0.7	
	baz=65								
Q37A	Longview Farm,	64.67	338	P		P	02 35 48.0	-0.6	
	baz=65								
R35A	Emporia Munici	64.82	336	P		P	02 35 49.6	+0.1	
	baz=65								
S33A	Kaszmaul Farm,	64.89	334	P		P	02 35 49.7	-0.3	
	baz=65								
T32A	Huddler Ranch,	64.91	334	P		P	02 35 49.8	-0.3	
	baz=65								
V29A	Stinnett	64.94	331	P		P	02 35 50.0	-0.5	
	baz=65								
U30A	WK&E Inc. Balk	65.10	332	P		P	02 35 51.7	+0.2	
	baz=65								
Q36A	Arnold C. Orve	65.11	337	P		P	02 35 50.6	-0.8	
	baz=65,SNR=9.5								
V28A	Channing	65.17	330	P		P	02 35 52.0	+0.1	
	baz=66								
R34A	Isabella, Hill	65.20	335	P		P	02 35 51.5	-0.4	
	baz=66,SNR=13								
Q35A	Mercer Eighty,	65.23	337	P		P	02 35 51.7	-0.5	
	baz=66,SNR=9.8								
U29A	Oasis Ranch, S	65.31	331	P		P	02 35 53.2	+0.4	
	baz=66								
S32A	Newby Ranch, P	65.36	334	P		P	02 35 53.2	+0.2	
	baz=66								
121A	Cookes Peak, D	65.44	324	P		P	02 35 55.2	+1.3	
	baz=66,SNR=21								
121A	Cookes Peak, D	65.44	324	*e*P		P	02 35 55.1	+1.2	
	comp=Z,31nm,0.9s								
V27A	Dan Oppiter Fa	65.46	330	P		P	02 35 54.0	+0.2	
	baz=66								
T30A	Plains	65.48	332	P		P	02 35 54.2	+0.3	
	baz=66								
R33A	Olander Ranch,	65.50	335	P		P	02 35 53.1	-0.8	
	baz=66,SNR=5.9								
S31A	Mullinville	65.52	333	P		P	02 35 54.2	+0.1	
	baz=66								
P36A	Good Intent, A	65.60	338	P		P	02 35 53.5	-1.1	
	baz=66,SNR=8.4								
Q34A	Chapman	65.62	336	P		P	02 35 53.9	-0.8	
	baz=66								
U28A	Mallet	65.68	331	P		P	02 35 55.2	-0.1	
	baz=66,SNR=7.0								
P35A	Duane Minner,	65.81	337	P		P	02 35 55.4	-0.5	
	baz=66,SNR=6.6								
R32A	Long Quarter,	65.89	334	P		P	02 35 56.3	-0.1	
	baz=66,SNR=11								
T29A	Hugoton	65.91	332	P		P	02 35 56.9	+0.2	
	baz=66								
LONY	Lake Ozonia	65.91	355	*e*P		P	02 35 56.5	+0.1	
	comp=Z,5.8nm,0.8s								
S30A	Montezuma	65.95	333	P		P	02 35 56.9	0.0	
	baz=66								
O36A	Bolckow	65.97	338	P		P	02 35 55.8	-1.1	
	baz=66								
U27A	Thompson Grove	65.99	330	P		P	02 35 56.7	-0.6	
	baz=66								
Q33A	Connelly Farm,	66.03	335	P		P	02 35 57.0	-0.3	
	baz=66								
R31A	Burdett	66.10	334	P		P	02 35 57.6	-0.2	
	baz=66								
P34A	Walnut Farm, R	66.13	336	P		P	02 35 57.6	-0.3	
	baz=66,SNR=8.4								
LPM	Los Pinos Moun	66.19	326	*e*P		P	02 35 59.7	+1.1	
	comp=Z,14nm,0.8s								
S29A	Ulysses	66.22	332	P		P	02 35 58.5	-0.1	
	baz=66,SNR=8.0								
T28A	Walsh	66.24	331	P		P	02 35 58.5	-0.3	
	baz=67,SNR=11								
Q32A	Meitler Ranch,	66.31	335	P		P	02 35 58.5	-0.6	
	baz=67,SNR=10								
P33A	Williams Farm,	66.36	336	P		P	02 35 59.0	-0.5	
	baz=67								
R30A	Dighton	66.41	333	P		P	02 35 59.7	-0.1	
	baz=67								
O35A	Humboldt	66.42	337	P		P	02 35 58.6	-1.2	
	baz=67								
S28A	Manter	66.53	332	P		P	02 36 00.6	0.0	
	baz=67,SNR=20								
SADO	Sadowa	66.54	352	LR		LR	03 07 57.6		
	comp=Z,55nm,19.6s,baz=170,slow=38								
ANMO	Albuquerque	66.59	327	*e*P		P	02 36 01.6	+0.4	
	comp=Z,16nm,0.8s								
O34A	Beatrice	66.63	337	P		P	02 36 00.6	-0.6	
	baz=67,SNR=8.3								
CBKS	Cedar Bluff	66.64	334	P		P	02 36 01.6	+0.4	
	baz=67,SNR=6.3								
CBKS	Cedar Bluff	66.64	334	*e*P		P	02 36 01.9	+0.7	
	comp=Z,52nm,0.8s								
Q31A	Ellis	66.66	334	P		P	02 36 01.5	+0.1	
	baz=67,SNR=8.4								
N35A	Tabor	66.86	338	P		P	02 36 01.8	-0.7	
	baz=67,SNR=6.0								
P32A	Huiting Farm,	66.87	335	P		P	02 36 02.5	-0.2	
	baz=67								
O33A	Hebron	66.87	336	P		P	02 36 02.9	+0.3	
	baz=67,SNR=10								
R29A	Marienthal	66.90	333	P		P	02 36 02.9	0.0	
	baz=67,SNR=6.2								
TUC	Tucson	66.96	322	*e*P		P	02 36 04.3	+0.9	
	comp=Z,27nm,1.2s								
TUC				*ep*P		pP	02 36 35.6	+0.6	
TUC				*es*P		sP	02 36 51.4	+2.3	
T26A	Comanche Natio	66.96	330	P		P	02 36 03.6	+0.1	
	baz=67								
Q30A	Quinter	66.97	334	P		P	02 36 03.8	+0.4	
	baz=67,SNR=17								
SCIA	State Center	66.98	340	*e*P		P	02 36 03.0	-0.3	
	comp=Z,32nm,0.9s								
JFWS	Jewell Farm	67.03	343	*e*P		P	02 36 02.9	-0.7	
	comp=Z,35nm,0.8s								
P31A	Stockton	67.09	334	P		P	02 36 04.1	0.0	
	baz=67,SNR=8.7								
R28A	Tribune	67.12	332	P		P	02 36 04.4	+0.1	
	baz=67								
N34A	Lincoln	67.14	337	P		P	02 36 03.6	-0.7	
	baz=67,SNR=12								
Q29A	Oakley	67.22	333	P		P	02 36 04.9	0.0	
	baz=68,SNR=9.9								
S26A	Kim	67.27	330	P		P	02 36 06.0	+0.7	
	baz=68								
O32A	Brockman Farm,	67.30	336	P		P	02 36 05.0	-0.3	
	baz=68								
T25A	Trinidad	67.32	329	P		P	02 36 06.5	+0.7	
	baz=68,SNR=13								
N33A	J Bar K, Exete	67.40	337	P		P	02 36 05.5	-0.4	
	baz=68								
M35A	Neola	67.41	338	P		P	02 36 04.9	-1.1	
	baz=68								
P30A	Selden	67.47	334	P		P	02 36 06.5	0.0	
	baz=68								
R27A	Eads	67.51	331	P		P	02 36 06.4	-0.4	
	baz=68								
O31A	Woolen Ranch,	67.61	335	P		P	02 36 06.9	-0.5	
	baz=68								
Q28A	Sharon Springs	67.73	332	P		P	02 36 08.3	+0.1	
	baz=68								
N32A	Stulken Farm,	67.74	336	P		P	02 36 07.4	-0.7	
	baz=68								
M34A	Aspy Farms, Fr	67.75	338	P		P	02 36 07.7	-0.4	
	baz=68								
P29A	Atwood	67.80	333	P		P	02 36 08.4	-0.1	
	baz=68								
R26A	Arlington	67.81	331	P		P	02 36 09.1	+0.3	
	baz=68,SNR=7.5								
214A	Organ Pipe Nat	67.89	320	P		P	02 36 10.7	+1.4	
	baz=68,SNR=22								
214A	Organ Pipe Nat	67.89	320	*e*P		P	02 36 10.8	+1.5	
	comp=Z,30nm,0.9s								
214A				*ep*P		pP	02 36 42.7	+1.8	
214A				*es*P		sP	02 36 57.5	+2.5	
O30A	MW Ranch, Wils	67.93	334	P		P	02 36 09.7	+0.4	
	baz=68								
L35A	Bielow Farm, R	67.93	339	P		P	02 36 08.6	-0.7	
	baz=68,SNR=5.3								
LIC	Lamto	68.02	74	*e*P		P	02 36 08.6	-1.8	
	comp=Z,75nm,1.3s								
KSCO	Kaye Shedlock'	68.03	332	P		P	02 36 10.7	+0.5	
	baz=68								
KSCO	Kaye Shedlock'	68.03	332	*e*P		P	02 36 11.2	+1.0	
	comp=Z,54nm,1.1s								
M33A	Taylor Creek F	68.03	337	P		P	02 36 09.0	-0.9	
	baz=68								
N31A	Bailey Ranch,	68.04	336	P		P	02 36 10.6	+0.5	
	baz=68								
L34A	Svendsen Farm,	68.09	338	P		P	02 36 09.2	-1.1	
	baz=68,SNR=7.2								
P28A	Saint Francis	68.12	333	P		P	02 36 11.1	+0.5	
	baz=68								
TIC	Toumodi	68.21	73	*e*P		P	02 36 10.1	-1.5	
BGNE	Belgrade	68.24	336	*e*P		P	02 36 11.7	+0.4	
	comp=Z,128nm,0.6s								
SDCO	Great Sand Dun	68.32	329	P		P	02 36 13.1	+1.0	
	baz=69,SNR=18								
SDCO	Great Sand Dun	68.32	329	*e*P		P	02 36 13.2	+1.0	
	comp=Z,24nm,0.8s								
SDCO				*ep*P		pP	02 36 44.5	+0.7	
SDCO				*es*P		sP	02 36 59.4	+1.5	
KIC	Kosan Boka	68.33	74	*e*P		P	02 36 10.9	-1.5	
	comp=Z,64nm,0.9s								
Q26A	Hugo	68.35	331	P		P	02 36 12.8	+0.6	
	baz=69,SNR=5.7								
DBIC	Dimbokro	68.36	73	P		P	02 36 11.8	-0.8	
	comp=Z,23nm,0.8s,baz=219,slow=7.3,SNR=17								
DBIC				LR		LR	03 06 41.9		
	comp=Z,70nm,18.1s,baz=194,slow=36								
DBIC	Dimbokro	68.36	73	*e*P		P	02 36 11.3	-1.2	
	comp=Z,46nm,1.1s								
W18A	Petrified Fore	68.45	325	P		P	02 36 14.0	+1.1	
	baz=69,SNR=8.4								
W18A	Petrified Fore	68.45	325	*e*P		P	02 36 14.5	+1.6	
	comp=Z,35nm,1.2s								
P27A	Ficken Ranch,	68.46	332	P		P	02 36 13.3	+0.6	
	baz=69								
M31A	Lambtecht Ranc	68.50	336	P		P	02 36 13.3	+0.4	
	baz=69								
O28A	Krutsinger Ran	68.59	333	P		P	02 36 14.2	+0.7	
	baz=69								
N29A	Votaw Ranch, W	68.70	334	P		P	02 36 15.0	+0.9	
	baz=69								
P26A	Davis Ranch, A	68.80	332	P		P	02 36 15.5	+0.6	
	baz=69								
QSPA	South Pole Qui	68.81	180	*e*P		P	02 36 16.1	+1.4	
	comp=Z,10.0nm,0.7s								
QSPA				*ep*P		pP	02 36 49.9	+3.5	
O27A	Beecher Island	68.94	333	P		P	02 36 16.2	+0.4	
	baz=69								
N28A	Pribbeno Ranch	68.96	334	P		P	02 36 16.2	+0.4	
	baz=69								
S22A	4UR Ranch, Cre	68.97	328	P		P	02 36 17.0	+0.8	
	baz=69								
M30A	Dale-Ortello V	69.01	335	P		P	02 36 16.2	+0.1	
	baz=69								
Q24A	Divide	69.13	330	P		P	02 36 17.6	+0.4	
	baz=69,SNR=10.0								
L31A	Butterfield Fa	69.16	336	P		P	02 36 16.7	-0.2	
	baz=70,SNR=6.7								
M29A	Burnside Ranch	69.25	335	P		P	02 36 17.9	+0.4	
	baz=70								
L30A	Spencer Herefo	69.30	336	P		P	02 36 18.2	+0.4	
	baz=70								
O26A	Horse Wrangler	69.34	332	P		P	02 36 18.5	+0.3	
	baz=70								
OGNE	Ogallala	69.38	333	P		P	02 36 18.9	+0.5	
	baz=70								
MVCO	Mesa Verde	69.39	327	P		P	02 36 19.3	+0.7	
	baz=70,SNR=27								
MVCO	Mesa Verde	69.39	327	*e*P		P	02 36 19.8	+1.1	
	comp=Z,30nm,0.7s								
N27A	Anderson Farm,	69.48	333	P		P	02 36 19.6	+0.6	
	baz=70								
WUAZ	Wupatki	69.64	324	P		P	02 36 21.1	+0.9	
	baz=70,SNR=42								
WUAZ	Wupatki	69.64	324	*e*P		P	02 36 21.9	+1.7	
	comp=Z,41nm,0.9s								
L29A	Maesberg Ranch	69.69	335	P		P	02 36 20.5	+0.2	
	baz=70								
ECSD	EROS Data Cent	69.73	339	P		P	02 36 19.9	-0.5	
	baz=70,SNR=15								
ECSD	EROS Data Cent	69.73	339	*e*P		P	02 36 19.7	-0.7	
	comp=Z,32nm,1.4s								
GLA	Glamis	69.87	320	P		P	02 36 23.0	+1.4	
	baz=70								
GLA	Glamis	69.87	320	*e*P		P	02 36 22.9	+1.4	
	comp=Z,8.6nm,0.8s								
SPMN	St. Paul	69.88	342	P		P	02 36 20.4	-0.9	
	baz=70								
SPMN	St. Paul	69.88	342	*e*P		P	02 36 20.3	-0.9	
	comp=Z,27nm,1.3s								
K30A	Basset	69.88	336	P		P	02 36 21.3	-0.1	
	baz=70,SNR=5.0								
ISCO	Idaho Springs	70.02	330	P		P	02 36 22.8	+0.2	
	baz=70,SNR=18								
ISCO	Idaho Springs	70.02	330	*e*P		P	02 36 23.4	+0.9	
	comp=Z,14nm,0.8s								
L28A	Connealy Angus	70.06	334	P		P	02 36 23.1	+0.6	
	baz=70								
PV01	Paradox Valley	70.13	327	*e*P		P	02 36 24.1	+0.8	
SMCO	Snowmass	70.16	329	*e*P		P	02 36 24.8	+1.2	
	comp=Z,15nm,0.7s								
Y12C	Blythe	70.18	320	P		P	02 36 24.6	+1.3	
	baz=70,SNR=13								
K29A	Lazy Trails An	70.23	336	P		P	02 36 23.4	-0.1	
	baz=70,SNR=5.9								
M26A	McRoberts Ranc	70.28	333	P		P	02 36 24.8	+0.9	
	baz=71								
PDMCI	Parker Dam,Lak	70.34	321	P		P	02 36 25.0	+0.7	
	baz=71								
IBP	Imperial Bould	70.37	319	P		P	02 36 25.8	+1.2	
	baz=71								
SWSC	Sam W. Stewart	70.38	319	P		P	02 36 26.0	+1.4	
	baz=71								
J30A	Dallas	70.40	337	P		P	02 36 24.6	+0.2	
	baz=71								
L27A	T5 Ranch, Ells	70.45	334	P		P	02 36 25.4	+0.5	
	baz=71								
PV04	Paradox Valley	70.50	327	*e*P		P	02 36 27.1	+1.7	
K28A	Ten Mile Ranch	70.59	335	P		P	02 36 26.7	+1.0	
	baz=71,SNR=6.3								
M25A	Palm-Egli Farm	70.64	332	P		P	02 36 26.9	+0.8	
	baz=71								
BC3	Big Chuckawall	70.67	320	P		P	02 36 27.6	+1.1	
	baz=71,SNR=29								
L26A	Underwood Farm	70.72	333	P		P	02 36 27.8	+1.2	
	baz=71								
MONP	Monument Peak	70.73	319	P		P	02 36 28.1	+1.1	
	baz=71,SNR=6.5								
BAR	Barrett	70.74	318	*e*P		P	02 36 28.5	+1.7	
	comp=Z,27nm,1.0s								
J29A	Okreek	70.78	336	P		P	02 36 28.3	+1.5	
	baz=71								
IRM	Iron Mountain	70.83	320	P		P	02 36 28.4	+1.1	
	baz=71,SNR=23								
I30A	Oacoma	70.88	337	P		P	02 36 26.8	-0.6	
	baz=71								
K27A	Flueckinger Fa	70.93	334	P		P	02 36 28.7	+0.8	
	baz=71								
NEE2	Needles Airpor	70.95	321	P		P	02 36 29.0	+1.0	
	baz=71								
N23A	Red Feather La	71.04	331	P		P	02 36 29.2	+0.5	
	baz=71,SNR=13								
J28A	Allard Ranch,	71.14	335	P		P	02 36 29.5	+0.5	
	baz=71,SNR=15								
PHWY	Pilot Hill	71.15	331	*e*P		P	02 36 30.3	+0.9	
	comp=Z,26nm,1.3s								
PHWY				*ep*P		pP	02 37 01.8	+0.4	
PHWY				*es*P		sP	02 37 17.0	+1.7	
109C	Camp Elliot, M	71.15	318	P		P	02 36 29.9	+0.7	
	baz=72								
L25A	Engebretsen Ra	71.19	333	P		P	02 36 30.1	+0.7	
	baz=72								
BELC	Belle Mtn. Jos	71.23	320	P		P	02 36 31.1	+1.2	
	baz=72,SNR=11								
PFO	Pinyon Flat Ob	71.24	319	P		P	02 36 32.0	+2.1	
	comp=Z,108nm,0.8s,SNR=6.0								
PFO	Pinyon Flat Ob	71.24	319	P		P	02 36 31.7	+1.8	
	baz=72,SNR=10								
PFO	Pinyon Flat Ob	71.24	319	*e*P		P	02 36 31.5	+1.5	
	comp=Z,28nm,1.2s								
I29A	Vivian Onida	71.30	336	P		P	02 36 28.9	-1.0	
	baz=72								
J27A	Elkhorn Farm,	71.30	335	P		P	02 36 31.0	+1.0	
	baz=72,SNR=15								
K26A	Motz Farm, Whi	71.32	334	P		P	02 36 31.1	+1.0	
	baz=72								
O20A	White River Ci	71.52	329	P		P	02 36 32.9	+1.3	
	baz=72,SNR=20								
O20A	White River Ci	71.52	329	*e*P		P	02 36 32.8	+1.2	
	comp=Z,32nm,0.8s								
GMRC	Granite Mounta	71.57	321	P		P	02 36 33.4	+1.5	
	baz=72,SNR=33								
I28A	Midland	71.61	336	P		P	02 36 31.8	0.0	
	baz=72								
MURC	Murrieta	71.69	319	P		P	02 36 33.5	+1.0	
	baz=72								
H29A	Onida	71.78	337	P		P	02 36 32.2	-0.6	
	baz=72								
J26A	Sides Ranch, S	71.78	334	P		P	02 36 33.7	+0.9	
	baz=72,SNR=7.8								
G30A	Faulkton	71.83	338	P		P	02 36 32.4	-0.7	
	baz=72								
SRU	San Rafael	71.86	327	*e*P		P	02 36 33.4	-0.2	
	comp=Z,44nm,0.7s								
HEC	Hector,Ludlow	72.00	320	P		P	02 36 36.3	+1.9	
	baz=72,SNR=5.5								
I27A	Quinn	72.01	335	P		P	02 36 34.4	+

GSC Goldstone 72.61 320 P P 02 36 39.3 +1.3
baz=73,SNR=13
GSC Goldstone 72.61 320 eP P 02 36 39.7 +1.7
comp=Z,30nm,1.2s
I25A Rochford 72.63 344 P P 02 36 39.0 +1.0
baz=73,SNR=25
MWC Mount Wilson 72.64 319 eP P 02 36 39.6 +1.3
comp=Z,33nm,1.2s
F29A Eureka 72.68 338 P P 02 36 38.0 -0.1
baz=73
PASC Pasadena Art C 72.68 319 eP P 02 36 40.6 +2.3
comp=Z,46nm,1.4s
K22A Casper 72.71 332 P P 02 36 39.1 +0.6
baz=73,SNR=6.1
K22A Casper 72.71 332 eP P 02 36 39.1 +0.6
comp=Z,14nm,0.9s
SHOC Shoshone 72.71 321 P P 02 36 39.4 +0.9
baz=73,SNR=6.3
H26A Fairpoint 72.75 335 P P 02 36 38.6 0.0
baz=73
DECC Green Verdugo 72.82 319 P P 02 36 39.9 +0.6
baz=73
RSSD Black Hills 72.84 334 eP P 02 36 39.1 -0.2
comp=Z,11nm,0.9s
I24A Kuemmerle Ranc 72.87 334 P P 02 36 40.2 +0.8
baz=73
E30A Jud 72.94 339 P P 02 36 39.5 -0.1
baz=73
EDW2 Edwards Air Fo 73.03 319 P P 02 36 42.0 +1.5
baz=73,SNR=7.6
F28A McLaughlin 73.04 337 P P 02 36 40.1 -0.1
baz=73
G27A Dupree 73.06 336 P P 02 36 40.8 +0.4
baz=73
H25A Fruitdale 73.08 335 P P 02 36 41.1 +0.6
baz=73
MPU Maple Canyon 73.11 327 eP P 02 36 42.0 +1.0
comp=Z,52nm,1.0s
BLG Laguna Peak 73.19 318 P P 02 36 41.6 +0.2
baz=74
G26A Maurine 73.25 336 P P 02 36 41.2 -0.2
baz=74,SNR=7.2
E29A Napoleon 73.25 338 P P 02 36 41.6 +0.1
baz=74
NLU North Lily Min 73.29 326 eP P 02 36 43.8 +1.7
comp=Z,26nm,1.3s
J22A Midwest 73.30 332 P P 02 36 42.5 +0.5
baz=74,SNR=19
I23A Meade Ranch, G 73.30 333 P P 02 36 42.9 +0.9
baz=74
TPNV Topopah Spring 73.41 322 P P 02 36 44.3 +1.4
baz=74,SNR=34
D30A Buchanan 73.42 339 P P 02 36 42.1 -0.3
baz=74,SNR=10
FURC Furnace Creek, 73.44 321 P P 02 36 44.2 +1.5
baz=74,SNR=27
JLU Jordanelle 73.45 327 eP P 02 36 44.4 +1.3
comp=Z,24nm,0.7s
JLU epP pP 02 37 17.3 +2.1
JLU esP sP 02 37 31.3 +2.2
G25A Newell 73.48 335 P P 02 36 43.2 +0.4
baz=74,SNR=5.8
F27A Lemmon 73.51 336 P P 02 36 43.3 +0.3
baz=74
MPMC Manual Prospec 73.53 320 P P 02 36 44.7 +1.1
baz=74,SNR=8.7
AGMN Agassiz Nation 73.55 341 P P 02 36 42.4 -0.7
baz=74,SNR=6.1
AGMN Agassiz Nation 73.55 341 eP P 02 36 42.4 -0.7
comp=Z,15nm,1.0s
H24A Dirks Ranch, A 73.57 334 P P 02 36 43.3 -0.2
baz=74,SNR=11
E28A Huff 73.62 337 P P 02 36 44.0 +0.4
baz=74
D29A Pettibone, Tap 73.66 338 P P 02 36 43.6 -0.2
baz=74
J21A Lysite 73.67 331 P P 02 36 44.9 +0.7
baz=74,SNR=10.0
CTU Camp Tracy 73.67 327 eP P 02 36 46.0 +1.7
I22A 9 Mile Ranch, 73.68 332 P P 02 36 44.6 +0.4
baz=74,SNR=15
DAC Darwin (Calif) 73.74 321 eP P 02 36 45.9 +1.2
comp=Z,33nm,1.2s
DAC epP pP 02 37 18.0 +1.0
DAC esP sP 02 37 33.1 +2.3
F26A Lodgepole 73.74 336 P P 02 36 44.7 +0.4
baz=74,SNR=6.0
H23A Clabaugh Cattl 73.76 333 P P 02 36 44.7 +0.1
baz=74
TCUT Toone Canyon 73.82 328 eP P 02 36 45.7 +0.5
comp=Z,18nm,0.7s
C30A Mose, Pekin 73.84 339 P P 02 36 44.8 -0.1
baz=74,SNR=6.7
DUG Dugway 73.85 326 P P 02 36 46.5 +1.2
baz=74,SNR=25
DUG Dugway 73.85 326 eP P 02 36 46.5 +1.2
comp=Z,20nm,0.9s
ISA Isabella 73.85 320 P P 02 36 47.0 +1.7
baz=74,SNR=12
ISA Isabella 73.85 320 eP P 02 36 47.1 +1.8
comp=Z,26nm,1.0s
ISA epP pP 02 37 18.4 +0.9
J20A Shoshoni 73.96 331 P P 02 36 47.0 +1.1
baz=74,SNR=12
I21A Big Trails, Te 73.97 332 P P 02 36 46.3 +0.4
baz=74,SNR=32
G24A Alzada 73.99 335 P P 02 36 46.5 +0.6
baz=74
R11A Troy Canyon, C 74.02 323 P P 02 36 47.9 +1.6
baz=74,SNR=37
R11A Troy Canyon, C 74.02 323 eP P 02 36 48.0 +1.7
comp=Z,19nm,1.0s
GRAC Grapevine Rang 74.10 321 P P 02 36 48.2 +1.6
baz=74,SNR=6.9
F25A Bowman 74.11 335 P P 02 36 46.7 +0.2
baz=74
D28A Regan 74.11 338 P P 02 36 46.5 0.0
baz=74
CWC Cottonwood Cre 74.14 320 P P 02 36 48.1 +1.1
baz=74,SNR=6.0
PKM Peak Mountain 74.17 318 P P 02 36 48.1 +0.8
baz=74,SNR=9.0
BW06 Boulder Array 74.18 330 eP P 02 36 47.5 +0.3
comp=Z,15nm,1.3s
PDAR Pinedale Array 74.18 330 P P 02 36 47.8 +0.5
comp=Z,4.1nm,0.7s,baz=123,slow=5.5,SNR=29
E26A Carlson Angus 74.18 336 P P 02 36 48.4 +1.5
baz=74
H22A Clearmont 74.19 333 P P 02 36 47.4 +0.3
baz=74,SNR=6.0
HWUT Hardware Ranch 74.27 328 eP P 02 36 48.5 +0.8
comp=Z,20nm,0.6s
G23A Biddle 74.28 334 P P 02 36 47.8 +0.2
baz=75,SNR=12
MDND Maddock 74.34 339 P P 02 36 48.2 +0.4
baz=75
MDND Maddock 74.34 339 eP P 02 36 48.6 +0.9
comp=Z,73nm,0.9s
F24A Ekalaka 74.42 335 P P 02 36 48.8 +0.4
baz=75,SNR=8.1
I20A Worland 74.45 331 P P 02 36 48.8 +0.2
baz=75,SNR=12
B30A Myrvik Farm, E 74.45 340 P P 02 36 48.2 -0.2
baz=75,SNR=6.6
SPUT South Promonto 74.49 327 eP P 02 36 49.8 +0.8
comp=Z,22nm,0.7s
BGU Big Grassy Mou 74.50 327 eP P 02 36 49.5 +0.5
comp=Z,15nm,1.0s
H21A Big Horn, Sher 74.51 333 P P 02 36 48.8 -0.2
baz=75,SNR=6.0
SMMC Simmler 74.55 318 P P 02 36 50.5 +1.2
baz=75
E25A Miller Ranch, 74.56 336 P P 02 36 49.9 +0.7
baz=75
TIN Tinemaha 74.64 321 P P 02 36 51.6 +1.7
baz=75
D26A Manning 74.64 337 P P 02 36 50.4 +0.9
baz=75
G22A Birney 74.67 333 P P 02 36 49.9 +0.1
baz=75
F23A Volborg 74.71 334 P P 02 36 50.2 +0.2
baz=75,SNR=10
RCTC Rector, Farmer 74.75 320 P P 02 36 50.7 +0.4
baz=75
TPH Tonopah 74.75 322 eP P 02 36 52.0 +1.4
comp=Z,28nm,1.2s
B29A Wagenman Farm, 74.80 339 P P 02 36 50.4 0.0
baz=75,SNR=5.2

H20A Greybull 74.82 332 P P 02 36 51.1 +0.4
baz=75,SNR=11
A30A Hoffart Farm, 74.87 340 P P 02 36 51.1 +0.3
baz=75
I19A Meeteetse 74.91 331 P P 02 36 52.2 +0.8
baz=75,SNR=19
AHID Auburn Hatcher 74.91 329 eP P 02 36 52.6 +1.2
comp=Z,38nm,0.8s
E24A Baker 74.96 335 P P 02 36 52.2 +0.7
baz=75,SNR=8.4
HVU Hansel Valley 75.00 327 eP P 02 36 53.2 +1.4
comp=Z,23nm,1.0s
G21A Lodge Grass 75.06 333 P P 02 36 52.4 +0.3
baz=75,SNR=5.9
D25A Fairfield 75.07 336 P P 02 36 52.9 +0.9
baz=75
F22A Rosebud 75.11 334 P P 02 36 52.4 +0.1
baz=75,SNR=9.2
B28A Dugan Ranch, T 75.12 339 P P 02 36 52.4 +0.2
baz=75
A29A Manning Farm, 75.16 340 P P 02 36 52.0 -0.5
baz=75,SNR=11
C26A Wahner Farm, P 75.19 337 P P 02 36 53.2 +0.5
baz=76
REDW Red Top Meadow 75.25 329 eP P 02 36 54.4 +1.0
comp=Z,20nm,0.8s
SNOW Snow King Moun 75.28 330 eP P 02 36 55.0 +1.4
comp=Z,11nm,0.7s
E23A Ismay 75.30 335 P P 02 36 53.5 +0.1
baz=76
ULM Lac du Bonnet 75.31 342 P P 02 36 52.7 -0.6
comp=Z,9.0nm,0.5s,baz=151,slow=5.8,SNR=14
ULM Lac du Bonnet 75.31 342 eP P 02 36 52.4 -0.8
comp=Z,6.3nm,0.6s
LOHW Long Hollow 75.32 330 eP P 02 36 54.6 +0.9
comp=Z,15nm,0.8s
MLAC Mammoth Lakes 75.39 321 P P 02 36 55.6 +1.3
baz=76
B27A Peters Farms, 75.39 338 P P 02 36 54.2 +0.4
baz=76
TPAW Teton Pass 75.39 330 eP P 02 36 55.2 +1.0
comp=Z,20nm,0.8s
H19A Powell 75.40 331 P P 02 36 54.6 +0.5
baz=76,SNR=13
D24A Glendive 75.43 336 P P 02 36 55.2 +1.1
baz=76
A28A Rude Farm, Bot 75.48 339 P P 02 36 54.2 -0.1
baz=76
G20A Bridger 75.49 332 P P 02 36 54.5 -0.1
baz=76,SNR=14
MOOW Moose Ponds 75.49 330 eP P 02 36 54.9 +0.1
comp=Z,10nm,0.8s
F21A Absaloka Mine, 75.50 333 P P 02 36 55.5 +1.0
baz=76
E22A Miles City 75.51 334 P P 02 36 56.2 +1.6
baz=76
C25A Freed Ranch, W 75.52 337 P P 02 36 55.4 +0.9
baz=76
ELK Elko 75.52 325 eP P 02 36 55.5 +0.5
comp=Z,12nm,1.0s
FXWY Fox Creek 75.54 330 eP P 02 36 55.8 +0.8
comp=Z,12nm,0.9s
NVAR Mina Array Bea 75.61 322 P P 02 36 56.8 +1.2
comp=Z,8.7nm,0.9s,baz=147,slow=5.6,SNR=52
IMW Indian Meadow 75.69 330 eP P 02 36 57.1 +1.1
comp=Z,22nm,0.8s
FLWY Flagg Ranch 75.72 330 eP P 02 36 57.4 +1.4
comp=Z,42nm,0.9s
FLWY epP pP 02 37 27.6 -0.8
C24A Savage 75.81 336 P P 02 36 57.2 +1.0
baz=76
LAO LASA Array 75.83 334 eP P 02 36 57.2 +0.8
comp=Z,33nm,1.3s
A27A Leoux Ranch, 75.85 338 P P 02 36 57.5 +1.2
baz=76
RLMT Red Lodge 75.87 332 P P 02 36 57.8 +0.9
baz=76,SNR=18
RLMT Red Lodge 75.87 332 eP P 02 36 57.9 +1.0
comp=Z,22nm,0.8s
RLMT epP pP 02 37 30.1 +0.9
RLMT esP sP 02 37 43.4 +0.4
H17A Grant Village 75.91 330 P P 02 36 58.7 +1.6
baz=76
H17A Grant Village 75.91 330 eP P 02 36 59.5 +2.4
SCHQ Schefferville 75.91 1 P P 02 36 56.1 -0.5
comp=Z,7.4nm,0.8s,baz=210,slow=4.6,SNR=11
F20A Billings 75.92 333 P P 02 36 57.1 +0.2
baz=76,SNR=5.3
B25A Knox Farm, Ray 75.95 337 P P 02 36 57.4 +0.4
baz=76
SBA Scott Base 76.01 190 eP P 02 36 59.8 +2.8
E21A Keefer Ranch, 76.06 334 P P 02 36 57.8 +0.1
baz=76,SNR=7.7
D22A Cohagen 76.18 335 P P 02 36 59.1 +0.7
baz=76,SNR=9.4
YMR Madison River 76.29 330 eP P 02 37 01.1 +1.8
comp=Z,104nm,1.6s
WAKR Walker 76.32 321 eP P 02 37 01.5 +1.9
BMN Battle Mountai 76.38 324 eP P 02 37 02.6 +2.8
SYO Syowa Base 76.49 159 jeX P 02 36 54.0 -5.8
A25A Svangstu Ranch 76.50 337 P P 02 37 00.8 +0.8
baz=77
DGMT Dagmar 76.50 336 P P 02 37 00.6 +0.5
baz=77,SNR=8.2
DGMT Dagmar 76.50 336 eP P 02 37 01.4 +1.3
comp=Z,31nm,0.8s
DGMT epP pP 02 37 33.5 +1.0
DGMT esP sP 02 37 49.1 +2.8
GCMT Greycliff 76.57 332 eP P 02 37 01.3 +0.6
comp=Z,22nm,1.1s
CMB Columbia Colle 76.57 320 eP P 02 37 01.8 +1.0
comp=Z,8.0nm,1.2s
QLMT Earthquake Lak 76.63 330 eP P 02 37 02.2 +1.1
comp=Z,0.5nm,0.7s
TOB4 Torodi Ar. Sit 76.97 70 eP P 02 37 01.4 -2.1
TOA0 Torodi Ar. Sit 76.98 70 eP P 02 37 02.4 -1.2
TORD Torodi Ar. Bea 76.98 70 P P 02 37 02.1 -1.4
comp=Z,17nm,0.7s,baz=251,slow=5.7,SNR=271
VNDA Vanda 77.03 190 P P 02 37 04.5 +1.8
comp=Z,3.6nm,0.8s,baz=128,slow=5.2,SNR=16
VNDA Vanda 77.03 190 eP P 02 37 04.0 +1.3
comp=Z,3.1nm,0.8s
C21A Desert Coulee 77.10 334 P P 02 37 04.1 +0.6
baz=77,SNR=9.9
HLID Hailey 77.13 328 P P 02 37 05.1 +1.2
baz=77,SNR=78
HLID Hailey 77.13 328 eP P 02 37 05.4 +1.4
comp=Z,31nm,0.9s
MCMT McKenzie Canyo 77.30 329 eP P 02 37 06.5 +1.5
BOZ Bozeman (W) 77.34 331 P P 02 37 05.3 +0.2
baz=78,SNR=10
BOZ Bozeman (W) 77.34 331 eP P 02 37 05.9 +0.9
comp=Z,18nm,1.3s
C20A Veseth Ranch, 77.37 334 P P 02 37 05.0 0.0
baz=78,SNR=7.0
B21A Ellsworth Farm 77.55 335 P P 02 37 06.5 +0.5
baz=78
DLMT Dillon 77.58 330 eP P 02 37 07.8 +1.5
comp=Z,22nm,1.2s
MFID Camas Ranch 77.73 327 eP P 02 37 09.2 +1.9
comp=Z,40nm,1.4s
B20A Solberg Farm, 77.96 334 P P 02 37 08.6 +0.3
baz=78,SNR=6.5
A21A Bergtoll Ranch 77.97 335 P P 02 37 08.6 +0.3
baz=78
HRY Holter Researc 78.24 331 eP P 02 37 11.5 +1.6
comp=Z,4.7nm,0.6s
EGMT Eagleton 78.35 333 P P 02 37 10.8 +0.3
baz=79
EGMT Eagleton 78.35 333 eP P 02 37 11.1 +0.7
comp=Z,14nm,1.1s
EGMT epP pP 02 37 43.9 +1.0
EGMT esP sP 02 37 58.8 +2.1
B19A Brinkman Farms 78.35 334 P P 02 37 11.0 +0.6
baz=79,SNR=9.9
WVOR Wild Horse Val 78.53 325 eP P 02 37 12.6 +1.0
comp=Z,7.1nm,1.1s
A19A Klindworth Far 78.64 334 P P 02 37 12.5 +0.4
baz=79
CHMT Chamberlain Mo 79.04 331 eP P 02 37 15.6 +1.2
comp=Z,5.0nm,1.4s
MOD Modoc 79.08 323 eP P 02 37 15.1 +0.4
comp=Z,30nm,1.0s
MSO Missoula 79.29 330 P P 02 37 16.6 +0.9
baz=80,SNR=8.2
MSO Missoula 79.29 330 eP P 02 37 17.6 +1.9
comp=Z,12nm,1.2s
MSO epP pP 02 37 50.3 +2.0

SLMT Seeley Lake 79.39 331 eP P 02 37 17.2 +0.9
comp=Z,15nm,1.1s
WDC Whiskeytown Da 79.49 321 eP P 02 37 16.6 -0.2
comp=Z,22nm,0.8s
BMO Blue Mountains 79.50 327 eP P 02 37 17.8 +0.9
comp=Z,31nm,1.0s
TSUM Tsumeb 79.74 107 eP P 02 37 19.1 +0.3
comp=Z,12nm,0.9s
SWMT Swartz Lake 79.82 331 eP P 02 37 19.8 +1.2
comp=Z,4.3nm,0.9s
N02D Trinity Center 79.84 321 P P 02 37 18.7 0.0
baz=80
M04C Macdoel 79.87 322 P P 02 37 20.0 +1.0
baz=80,SNR=15
K05A Summer Lake 79.95 324 eP P 02 37 21.4 +1.9
comp=Z,50nm,0.9s
KMRM Mail Ridge 79.95 320 eP P 02 37 22.1 +2.7
comp=Z,30nm,1.0s
JTMT Jette 80.12 331 eP P 02 37 20.6 +0.4
M02C Callahan 80.19 322 P P 02 37 21.2 +0.6
baz=80
YBH Yreka Blue Hor 80.33 322 eP P 02 37 21.5 +0.1
comp=Z,9.0nm,0.8s
BLMT Blacktail Moun 80.36 331 eP P 02 37 22.3 +0.7
K04D Chiloquin, OR 80.37 323 P P 02 37 22.8 +1.2
baz=81
KHMM Horse Mountain 80.38 321 eP P 02 37 19.6 -2.2
comp=Z,19nm,1.0s
BSMT Bassoo Peak 80.43 330 eP P 02 37 22.8 +0.9
comp=Z,15nm,1.1s
J05D Fort Rock, OR 80.51 324 P P 02 37 23.9 +1.5
baz=81,SNR=14
G08A Pilot Rock 80.65 327 eP P 02 37 24.3 +1.2
comp=Z,32nm,1.5s
KTRM Thompson Ridge 80.83 322 P P 02 37 25.5 +1.4
WALA Waterton Lakes 80.93 332 eP P 02 37 24.9 +0.5
J04D Umpqua Nationa 80.97 323 P P 02 37 26.1 +1.2
baz=81,SNR=6.0
FFC Flin Flon 81.03 341 eP P 02 37 25.2 +0.5
L02D Cave Junction, 81.11 322 P P 02 37 26.5 +1.0
baz=81
I05D Terrebonne, OR 81.26 325 P P 02 37 27.4 +1.1
baz=82,SNR=16
HBO Huckleberry Mo 81.47 324 P P 02 37 28.3 +0.8
I04A Tendick Farm, 81.49 324 P P 02 37 27.9 +0.5
baz=82
CROR Criterion Ridg 81.50 325 P P 02 37 29.8 +2.3
HAWA Hanford 81.70 327 eP P 02 37 29.6 +1.2
comp=Z,16nm,0.9s
RSW Rattlesnake Hi 81.73 327 P P 02 37 30.5 +1.8
NEW Newport 81.82 330 P P 02 37 29.5 +0.4
comp=Z,2.4nm,0.6s,baz=121,slow=6.7,SNR=6.5
NEW Newport 81.82 330 P P 02 37 29.3 +0.3
baz=82,SNR=5.5
NEW Newport 81.82 330 eP P 02 37 29.7 +0.7
comp=Z,9.0nm,1.2s
D08A Wollman Farm, 81.85 328 eP P 02 37 30.6 +1.4
comp=Z,22nm,1.1s
G05D Wamic, OR 81.85 325 P P 02 37 30.3 +1.0
baz=82
I03D Drain, OR 81.95 323 P P 02 37 30.7 +0.9
baz=82
OD2 Odessa Site #2 81.97 328 P P 02 37 31.3 +1.5
NAC Naches 82.59 327 P P 02 37 34.6 +1.6
FCC Fort Churchill 82.59 347 eP P 02 37 32.4 -0.4
G03D McMinnville, O 82.87 324 P P 02 37 35.9 +1.4
baz=83
ETW Entiat 82.92 328 P P 02 37 36.4 +1.5
B08A Colville Reser 82.94 329 eP P 02 37 35.5 +0.6
comp=Z,20nm,1.4s
BOSA Boshof 83.19 118 P P 02 37 36.2 -0.7
comp=Z,3.8nm,0.6s,baz=252,slow=3.5,SNR=7.8
BOSA LR LR 03 10 11.0
comp=Z,54nm,21.8s,baz=268,slow=32
D05A Enumclaw 83.48 327 eP P 02 37 38.5 +0.8
comp=Z,23nm,0.9s
EDM Edmonton 83.80 335 eP P 02 37 38.2 -0.9
EDM epP pP 02 38 11.8 -0.2
EDM esP sP 02 38 26.5 +0.7
B06A Marblemount 84.11 328 eP P 02 37 41.2 +0.5
JCW Jim Creek 84.12 327 P P 02 37 40.8 -0.1
MAW Mawson 84.34 163 P P 02 37 42.5 +0.8
comp=Z,5.6nm,0.8s,baz=211,slow=4.9,SNR=18
MAW Mawson 84.34 163 eP P 02 37 42.6 +0.8
comp=Z,0.7nm,0.8s
CMW Cultus Mountai 84.36 327 P P 02 37 42.5 +0.3
TAM Tamanrasset 84.45 63 eP P 02 37 43.3 0.0
comp=Z,4.0nm,1.1s
MBW Mount Baker 84.49 328 P P 02 37 43.4 +0.5
LBTB Lobatse 84.75 115 eP P 02 37 44.7 -0.1
comp=Z,5.1nm,0.6s
ESDC Sonseca Array 85.50 44 P P 02 37 48.2 +0.1
comp=Z,0.9nm,0.8s,baz=246,slow=5.3,SNR=5.2
ESDC LR LR 03 13 07.4
comp=Z,27nm,20.5s,baz=265,slow=34
LSZ Lusaka 90.60 107 eP P 02 38 12.9 -0.1
comp=Z,2.4nm,0.6s
YKA Yellowknife Ar 91.19 340 P P 02 38 14.4 0.0
comp=Z,18nm,0.7s,baz=134,slow=4.5,SNR=89
YKW3 Yellowknife Ar 91.24 341 eP P 02 38 14.3 -0.3
comp=Z,0.4nm,0.8s
YKW3 epP pP 02 38 48.4 +0.5
KEST Kesra 92.95 53 eP P 02 38 21.9 -1.4
ILAR Eielson Array 104.29 334 Pdiff Pdif 02 39 13.9 +0.3
comp=Z,0.2nm,0.6s,baz=108,slow=2.9,SNR=3.7
ILAR PP PKiKP 02 43 28.4 -1.0
comp=Z,0.2nm,0.7s,baz=124,slow=6.4,SNR=4.1
KECS Kecovo 105.07 44 PDIF Pdif 02 39 14.7 -2.7
BRTR Keskin Array B 112.47 55 PKiKP PKiKP 02 43 46.1 +0.4
comp=Z,0.7nm,0.8s,baz=333,slow=0.6,SNR=4.1
KBZ Khabaz 119.77 51 PKP PKPdf 02 44 00.3 +1.0
comp=Z,3.9nm,0.9s,baz=108,slow=3.5,SNR=6.9
CTAO Charters Tower 126.56 222 ePKPdf PKPdf 02 44 13.8 +0.5
H11S2 WAKE ISLAND Hyl 28.21 277 T T 05 04 32.8
baz=102,slow=75,SNR=68
H11S1 WAKE ISLAND Hyl 28.22 277 T T 05 04 36.9
baz=102,slow=75,SNR=56
H11S3 WAKE ISLAND Hyl 28.23 277 T T 05 04 37.5
baz=102,slow=75,SNR=56
H11N3 WAKE ISLAND Hyl 28.29 279 T T 05 04 31.5
baz=103,slow=75,SNR=36
H11N2 WAKE ISLAND Hyl 28.30 279 T T 05 04 39.1
baz=103,slow=75,SNR=27
H11N1 WAKE ISLAND Hyl 28.30 279 T T 05 04 30.5
baz=103,slow=75,SNR=28
GEYT Alibeck 131.44 58 PKP PKPdf 02 44 23.7 +1.8
comp=Z,1.1nm,0.3s,baz=210,slow=5.0,SNR=4.4
PETK Petropavlovsk- 132.67 324 PKP PKPdf 02 44 25.1 +1.3
comp=Z,3.3nm,0.6s,baz=135,slow=2.5,SNR=6.7
WRA Warramunga Arr 133.24 210 PKP PKPdf 02 44 26.2 +0.3
comp=Z,3.5nm,0.6s,baz=156,slow=1.7,SNR=18
WRAB Tennant Creek 133.24 210 ePKPdf PKPdf 02 44 25.8 -0.1
PMG Port Moresby 133.48 232 ePKPdf PKPdf 02 44 27.1 +0.6
KURK Kurchatov 141.03 33 ePKPdf PKPdf 02 44 40.6 +1.4
KURBB Kurchatov Arra 141.04 33 PKP PKPdf 02 44 40.1 +0.8
comp=Z,1.7nm,0.7s,baz=305,slow=2.8,SNR=6.9
ZALV Zalesovo Beam 141.69 25 PKP PKPdf 02 44 39.3 -1.1
comp=Z,6.6nm,0.7s,baz=289,slow=4.5,SNR=9.6
EKS2 Erkin-Say 142.07 47 ePKPdf PKPdf 02 44 42.9 +1.3
KSH Kashi 144.75 51 PKP PKPdf 02 44 46.6 +0.2
KSH pPKP pPKPdf 02 45 14.1 -7.1
KSH PKS PKSdf 02 48 22.4 +0.4
KSH SKS SKSdf 02 51 45.1 +1.2
KSH SKKS SKKSac 02 54 45.3 +0.4
KSH PPMZ
comp=Z,170nm,5.1s
KSH LN
comp=Z,120nm,4.6s
KSH LE
comp=Z,92nm,4.2s
KSH LZ
comp=Z,350nm,5.0s
MK31 Makanchi Array 145.33 36 ePKPdf PKPbc 02 44 47.1 0.0
MKAR Makanchi Array 145.33 36 PKPbc PKPab 02 44 47.8 +0.4
comp=Z,16nm,0.8s,baz=325,slow=2.9,SNR=95
ASAJ Asahikawa 145.69 319 ePKPbc PKPab 02 44 48.8 0.0
ERM Erimo 146.37 315 ePKPbc PKPab 02 44 51.5 +0.1
SOEI Soe 146.60 203 ePKPbc PKPab 02 44 52.9 -0.3
GUMO Guam 147.26 262 PKPbc PKPbc 02 44 53.1 -0.6
comp=Z,26nm,0.3s,baz=194,slow=4.2,SNR=4.1
FAKI Fak Fak 148.42 223 ePKPbc PKPbc 02 44 57.4 +0.6
SIJI Sorong 150.62 224 PKPbc PKPbc 02 45 03.1 +0.8
comp=Z,25nm,0.7s,baz=63,slow=2.3,SNR=16
SIJI PKPab PKPab 02 45 10.9 +1.6
comp=Z,13nm,0.6s,baz=43,slow=2.3,SNR=6.6
USRK Ussuriysk Ar. 151.59 328 PKPbc PKPbc 02 45 04.0 +0.5

comp=Z,12nm,0.7s,baz=34,slow=1.0,SNR=26
MJAR Matsushiro Arr 152.27 309 PKPbc **PKPbc 02 45 05.2 -0.1**
comp=Z,6.2nm,0.7s,baz=134,slow=1.0,SNR=21
MJAR PKPab **PKPab 02 45 16.1 +0.4**
comp=Z,2.4nm,0.8s,baz=120,slow=1.7,SNR=5.2
MAJO Matsushiro 152.27 309 *e*PKPbc **PKPbc 02 45 05.2 -0.1**
MAT Matsushiro 152.27 309 PKP **PKPbc 02 45 05.2 -0.2**
KAPI Kappang 152.54 198 *e*PKPbc **PKPbc 02 45 07.6 +1.0**
SONM Songino Array 153.29 8 PKP **PKPdf 02 45 01.0 +1.2**
comp=Z,2.5nm,0.8s,baz=300,slow=0.6,SNR=15
SONM PKPbc **PiKiPK 02 45 07.9 +0.4**
comp=Z,3.7nm,0.7s,baz=326,slow=1.3,SNR=16
SONM PKPab **PKPab 02 45 19.6 -0.1**
comp=Z,1.0nm,0.6s,baz=331,slow=2.9,SNR=4.8
KSRS Korea Array 158.56 322 PKP **PKPdf 02 45 08.4 +1.5**
comp=Z,4.2nm,0.8s,baz=67,slow=1.3,SNR=11
KSRS PKPab **PKPab 02 45 43.4 +0.9**
comp=Z,3.6nm,0.8s,baz=65,slow=5.5,SNR=6.5
KSAR Wonju Array Be 158.59 322 PKP **PKPdf 02 45 08.4 +1.5**
KSAR PKPab **PKPab 02 45 43.4 +0.8**
GTA Gaotai 159.44 26 *e*PKP **PKPdf 02 45 09.6 +1.5**
GTA pPKP **pPKPdf 02 45 41.5 -1.5**
GTA PKPab **PKPab 02 45 45.5 -0.9**
GTA sPKP 02 45 54.5
HHC Hu-ho-hao-te 160.59 360 *e*PKP **PKPdf 02 45 10.9 +1.6**
HHC sPKP 02 45 50.1
HHC PPMZ
comp=Z,76nm,11.1s
BJI Beijing 160.97 349 PKP **PKPdf 02 45 08.3 -1.2**
LZH Lanzhou 163.90 23 *e*PKP **PKPdf 02 45 14.5 +1.7**
LZH pPKP pPKPdf 02 45 40.0 -7.8
LZH PP **PP 02 49 56.0 +4.9**
LZH PPMZ
comp=Z,150nm,5.1s
LZH LN
comp=Z,320nm,17.0s
LZH LE
comp=Z,290nm,19.2s
LZH LZ
comp=Z,370nm,20.2s
NJ2 Nanjing 167.49 330 *e*PKP **PKPdf 02 45 14.8 -0.8**
CMAR Chiang Mai Arr 167.87 102 PKP **PKPdf 02 45 17.3 +1.0**
comp=Z,0.9nm,0.4s,baz=282,slow=1.6,SNR=7.5
CD2 Chengdu 168.26 34 PKP **PKPdf 02 45 15.0 -1.3**
CD2 pPKP **pPKPdf 02 45 46.5 -4.8**
CD2 sPKP 02 45 58.6
CD2 PP **PP 02 50 12.0 -1.8**
CD2 SKS **SKSdf 02 52 08.1 -0.2**
CD2 SKKS **SKKSac 02 56 47.6 -1.9**
CD2 SS **SS 03 10 52.1 -1.5**
CD2 PPMZ
comp=Z,320nm,7.2s
CD2 LN
comp=Z,720nm,6.6s
CD2 LZ
comp=Z,410nm,6.0s
KMI Kunming 171.15 63 PKP **PKPdf 02 45 15.9 -2.5**
GYA Guiyang 173.30 40 PKP **PKPdf 02 45 17.0 -2.2**
GYA pPKP **pPKPdf 02 45 49.3 -4.9**
GYA sPKP 02 46 01.8
GYA PKPab **PKPab 02 46 46.6 -1.3**
GYA PKS **PKSdf 02 48 48.0 -3.6**
GYA PPMZ
comp=Z,120nm,8.2s

*ISCJB **16** 02:35:58.1±1.3,8.6S±0.2×158.6E±0.3,h250km,mb3.8/5, Error ellipse: s-maj=42.9km s-min=14.3km az=29.7*
*IDC **16** 02:35:58.3±15.0,8.5S×158.62E,h234km±151km, mb3.6/5,mb1 3.8/6,mb1mx3.3/42,mbtmp4.2/6,Error ellipse: s-maj=60.8km s-min=36.3km az=102.0*
ISC 16 02:35:59.9±1.6,8.6S±0.2×158.6E±0.3,h250km,n19, σ0§92/13,mb3.7/5,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**16.54**	**225**	P	**Pn**	**02 39 37.7**	**-0.7**
	0.6nm,0.3s,baz=48,slow=12,SNR=9.3						
QIS	**Mount Isa**	**21.88**	**235**	P	**P**	**02 40 32.9**	**-0.1**
	baz=15,SNR=3.3						
WRA	**Warramunga Arr**	**26.06**	**242**	P	**P**	**02 41 10.1**	**-0.7**
	2.2nm,0.3s,baz=67,slow=9.0,SNR=6.3						
STKA	**Stephens Creek**	**28.05**	**212**	P	**P**	**02 41 28.5**	**+0.2**
	3.6nm,0.5s,baz=50,slow=14,SNR=14						
STKA	**Stephens Creek**	**28.05**	**212**	P	**P**	**02 41 29.9**	**+1.6**
	baz=23,SNR=6.6						
H11S2	**WAKE ISLAND Hy**	**28.08**	**16**	T	T	03 10 30.0	
	baz=197,slow=76,SNR=174						
H11S3	**WAKE ISLAND Hy**	**28.08**	**16**	T	T	03 10 23.6	
	baz=197,slow=76,SNR=142						
H11S1	**WAKE ISLAND Hy**	**28.09**	**16**	T	T	03 10 30.9	
	baz=197,slow=76,SNR=115						
H11N1	**WAKE ISLAND Hy**	**29.29**	**16**	T	T	03 11 59.0	
	baz=196,slow=76,SNR=72						
H11N3	**WAKE ISLAND Hy**	**29.30**	**16**	T	T	03 12 01.9	
	baz=196,slow=76,SNR=86						
H11N2	**WAKE ISLAND Hy**	**29.31**	**16**	T	T	03 12 02.7	
	baz=196,slow=76,SNR=92						
BBOO	**Buckleboo**	**31.88**	**218**	P	**P**	**02 42 02.0**	**0.0**
	baz=26,SNR=12						
WRKA	**Warakurna**	**33.20**	**237**	P	**P**	**02 42 12.5**	**-1.1**
	baz=27,SNR=4.2						
FITZ	**Fitzroy Crossi**	**33.41**	**250**	P	**P**	**02 42 14.2**	**-1.1**
	baz=27,SNR=5.1						
MEEK	**Meekatharra**	**41.91**	**239**	P	**P**	**02 43 26.9**	**+0.5**
	baz=35,SNR=40						
CISI	**Cisompet, Garu**	**50.29**	**267**	P	**P**	**02 44 32.7**	**+1.0**
	baz=44,SNR=4.7						
PETK	**Petropavlovsk-**	**61.48**	**359**	P	**P**	**02 45 49.4**	**-0.6**
	1.3nm,0.7s,baz=157,slow=7.8,SNR=2.7						
SONM	**Songino Array**	**72.65**	**326**	P	**P**	**02 47 01.3**	**+0.9**
	0.5nm,0.6s,baz=136,slow=4.8,SNR=3.7						
ILAR	**Eielson Array**	**83.57**	**21**	P	**P**	**02 47 59.4**	**-0.3**
	0.7nm,0.7s,baz=244,slow=5.3,SNR=10.0						

*IDC **16** 02:38:22.5±0.8,15.2S×173.45W,h0km,mb3.6/6, mb1 4.1/6,mb1mx3.8/38,mbtmp3.6/6,Error ellipse: s-maj=44.2km s-min=24.6km az=131.0*
ISC 16 02:38:27.2±1.1,15.2S±0.3×172.8W±0.4,h30km,n15, σ1§83/8,mb3.7/6,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.59**	**39**	Pn	**Pn**	**02 38 53.0**	**-0.5**
	44nm,0.3s,baz=210,slow=20,SNR=37						
AFI				Sn	**Sn**	**02 39 11.9**	**-1.3**
	140nm,0.3s,baz=246,slow=19,SNR=15						
H11S2	**WAKE ISLAND Hy**	**39.06**	**328**	T	T	03 26 55.8	
	baz=149,slow=76,SNR=40						
H11S3	**WAKE ISLAND Hy**	**39.07**	**328**	T	T	03 26 54.5	
	baz=149,slow=76,SNR=46						
H11S1	**WAKE ISLAND Hy**	**39.08**	**328**	T	T	03 26 48.8	
	baz=149,slow=76,SNR=36						
H11N3	**WAKE ISLAND Hy**	**39.99**	**329**	T	T	03 28 00.6	
	baz=150,slow=76,SNR=16						
H11N1	**WAKE ISLAND Hy**	**40.00**	**329**	T	T	03 28 03.9	
	baz=150,slow=76,SNR=16						
H11N2	**WAKE ISLAND Hy**	**40.01**	**329**	T	T	03 28 02.8	
	baz=150,slow=76,SNR=27						
WRA	**Warramunga Arr**	**50.46**	**257**	P	P	02 47 17.6	-5.1
	0.5nm,0.7s,baz=90,slow=7.4,SNR=2.5						
VNDA	**Vanda**	**63.67**	**186**	P	**P**	**02 48 54.3**	**-1.0**
	0.4nm,0.6s,baz=0.0,slow=6.1,SNR=4.1						
NVAR	**Mina Array Bea**	**73.77**	**42**	P	**P**	**02 50 01.9**	**+2.8**
	0.4nm,0.8s,baz=230,slow=6.7,SNR=2.3						
TXAR	**Lajitas Array**	**80.00**	**56**	P	P	02 50 37.8	+3.6
	0.4nm,0.8s,baz=231,slow=5.7,SNR=5.3						
PDAR	**Pinedale Array**	**81.71**	**42**	P	**P**	**02 50 45.1**	**+1.9**
	0.8nm,0.8s,baz=270,slow=3.3,SNR=6.4						
ILAR	**Eielson Array**	**82.10**	**11**	P	**P**	**02 50 44.8**	**+0.3**
	0.7nm,0.9s,baz=222,slow=5.9,SNR=6.7						
GERES	**GERESS Array B**	**145.99**	**352**	PKPbc	**PKPdf**	**02 58 02.2**	**-1.2**
	0.3nm,0.6s,baz=299,slow=4.4,SNR=2.7						
BRTR	**Keskin Array B**	**146.33**	**322**	PKPbc	**PKPab**	**02 58 05.5**	**-0.9**
	0.6nm,0.7s,baz=53,slow=4.0,SNR=3.0						

NNC 16 02:39:00.7±2.3,37.09N×71.16E,h0km,mb4.0,mpv3.6, 5C-8D,Error ellipse: s-maj=18.8km s-min=8.4km az=169.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.51**	**314**	⇓P	Pn	02 39 42.9	-0.1
	52nm,0.5s						
DZET				⇓Sn	Sn	02 40 15.6	+1.2
	124nm,0.5s						
SFK	**Sufi-Kurgan**	**3.44**	**32**	⇓Pg	Pb	02 40 02.9	0.0
	9.2nm,0.5s						
SFK				⇑Lg	Lg	02 40 50.1	
	12nm,0.3s						
KK31	**Karatay Array**	**6.02**	**355**	⇑Pn	Pn	02 40 31.4	+0.3
	0.9nm,0.2s,baz=178,slow=12,SNR=84						
KK31				⇓Sn	Sn	02 41 41.4	+0.7
	1.7nm,0.4s,baz=122,slow=20,SNR=4.4						
KK31				⇓Lg	Lg	02 42 11.0	
	10nm,0.8s,baz=178,slow=27,SNR=7.1						
AAK	**Ala-Archa**	**6.10**	**24**	⇓Pg	Pb	02 40 51.3	+3.3
	5.6nm,1.1s						
AAK				⇑Sn	Sn	02 41 45.2	+2.3
	2.7nm,0.6s						
AAK				⇓Lg	Lg	02 42 11.8	
	7.5nm,1.3s						
TKM2	**Tokmak 2**	**6.74**	**29**	⇓Pn	Pn	02 40 43.2	+2.0
	2.2nm,0.8s						
TKM2				⇑Lg	Lg	02 42 33.9	
	3.7nm,0.9s						
AB31	**Akbulak array**	**14.63**	**330**	Pn	Pn	02 42 24.9	-3.9
	0.8nm,0.3s,baz=157,slow=11,SNR=55						
AKTO	**Aktyubinsk**	**16.33**	**329**	⇑Pn	Pn	02 42 47.7	-3.6
	3.0nm,1.1s						

*IDC **16** 03:02:19.7±19.0,28.49S×178.48W,h377km±177km, mb3.1/4,mb1 3.3/4,mb1mx3.1/43,mbtmp3.9/4,Error ellipse: s-maj=93.3km s-min=24.2km az=59.0*
ISC 16 03:02:00.1±1.5,29.3S±0.1×178.1W±0.3,h200km,n17, σ2§48/17,mb3.5/4,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**9.29**	**198**	*e*PN	**Pn**	**03 04 08.1**	**-2.0**
PUZ				*e*SN	**Sn**	**03 05 54.6**	**+0.5**
MWZ	**Matawai**	**9.75**	**201**	*e*PN	**Pn**	**03 04 13.7**	**-2.3**
MWZ				*e*SN	**Sn**	**03 06 08.3**	**+3.4**
URZ	**Urewera**	**9.81**	**203**	*e*PN	**Pn**	**03 04 14.3**	**-2.5**
URZ				*e*SN	**Sn**	**03 06 09.6**	**+3.1**
KNZ	**Kokohu**	**10.34**	**199**	*e*SN	**S**	**03 06 22.3**	**+2.9**
PXZ	**Pawanui**	**11.51**	**200**	*e*SN	**S**	**03 06 46.8**	**-0.2**
BFZ	**Birch Farm**	**12.29**	**201**	*e*SN	**Sn**	**03 07 03.7**	**-1.8**
MRZ	**Mangatainoka R**	**12.49**	**203**	*e*PN	Pn	03 04 47.0	-4.1
MRZ				*e*SN	**Sn**	**03 07 07.2**	**-3.0**
KIW	**Kapiti Island**	**12.90**	**204**	*e*SN	**S**	**03 07 18.5**	**-1.5**
ASAR	**Alice Springs**	**43.08**	**266**	P	**P**	**03 09 42.8**	**+2.2**
	0.4nm,0.5s,baz=104,slow=7.8,SNR=7.2						
WRA	**Warramunga Arr**	**43.96**	**271**	P	**P**	**03 09 47.9**	**+0.2**
	0.6nm,0.3s,baz=108,slow=8.0,SNR=4.4						
VNDA	**Vanda**	**49.21**	**186**	P	P	03 10 35.9	+8.3
	1.0nm,0.6s,baz=31,slow=5.9,SNR=7.4						
MAW	**Mawson**	**73.33**	**200**	P	P	03 13 14.6	+5.3
	0.9nm,0.4s,baz=152,slow=3.2,SNR=5.8						
VNA1	**Neumayer--Stat**	**80.11**	**177**	P	P	03 13 52.4	+5.1
FINES	**FINESS Array B**	**144.04**	**340**	PKP	**PKPab**	**03 21 05.8**	**-3.2**
	1.7nm,0.8s,baz=57,slow=2.8,SNR=2.9						
NB2	**NORSAR Subarra**	**147.61**	**352**	PKP	**PKPdf**	**03 21 18.1**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**147.61**	**352**	PKPbc	**PKPdf**	**03 21 18.0**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=15,slow=4.6,SNR=4.1						
TORD	**Torodi Ar. Bea**	**163.96**	**179**	PKPab	**PKPab**	**03 22 36.8**	**+3.1**
	comp=Z,0.8nm,0.9s,baz=186,slow=3.3,SNR=7.2						

*ISCJB **16** 03:04:18.8±0.9,18.76N±0.09×108.54W±0.09,h10km, mb4.0/30,MS3.5/12,Error ellipse: s-maj=15.7km s-min=8.5km az=43.3*
*NEIC **16** 03:04:19.7±0.8,18.70N×108.55W,h10km,mb4.1/36, Error ellipse: s-maj=14.9km s-min=9.0km az=47.0*
*IDC **16** 03:04:22.0±3.8,19.15N×108.44W,h0km,mb3.5/5, mb1 4.0/7,mb1mx3.7/44,mbtmp3.7/7,ML3.5/2,MS3.6/17, Ms1 3.5/17,ms1mx3.4/26,Error ellipse: s-maj=72.5km s-min=38.9km az=29.0*
ISC 16 03:04:20.6±1.4,18.8N±0.1×108.4W±0.2,h10km,n65, σ0§80/48,mb4.2/30,MS3.4/12,Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**5.54**	**342**	LR	LR	03 07 17.6	
	comp=Z,902nm,20.1s,baz=188,slow=34						
TXAR	**Lajitas Array**	**11.34**	**22**	Pn	**Pn**	**03 07 01.2**	**-1.5**
	0.1nm,0.3s,baz=201,slow=14,SNR=9.0						
TXAR				LR	LR	03 10 46.2	
	comp=Z,151nm,20.1s,baz=0.0,slow=35						
CMIG	**Matias Romero**	**13.01**	**95**	Pn	Pn	03 07 30.0	+4.3
	0.3nm,0.3s,baz=290,slow=11,SNR=7.7						
CMIG				LR	LR	03 12 09.0	
	comp=Z,260nm,20.6s,baz=277,slow=36						
TUC	**Tucson**	**13.60**	**352**	*e*Pn	**Pn**	**03 07 34.3**	**+0.6**
JCT	**Junction City**	**14.01**	**32**	*e*Pn	**Pn**	**03 07 39.5**	**+0.3**
LAZ	**Ladron**	**15.56**	**4**	*e*Pn	**Pn**	**03 08 00.8**	**+0.5**
	6.1nm,1.5s						
ABTX	**Abilene, Hawle**	**15.86**	**28**	*e*Pn	**P**	**03 08 07.2**	**-0.5**
	8.2nm,0.9s						
MSTX	**Muleshoe**	**15.91**	**17**	*e*Pn	**P**	**03 08 08.0**	**-0.4**
	10nm,1.0s						
HKT	**Hockley**	**15.94**	**44**	*e*Pn	**Pn**	**03 08 04.9**	**-0.1**
ANMO	**Albuquerque**	**16.16**	**6**	Pn	**P**	**03 08 11.1**	**-0.2**
	0.1nm,0.3s,baz=186,slow=11,SNR=8.2						
ANMO				LR	LR	03 12 58.1	
	comp=Z,114nm,19.7s,baz=190,slow=33						
ANMO	**Albuquerque**	**16.16**	**6**	*e*Pn	**P**	**03 08 11.4**	**+0.1**
	34nm,2.1s						
PFO	**Pinyon Flat Ob**	**16.38**	**336**	LR	LR	03 13 23.6	
	comp=Z,500nm,21.5s,baz=176,slow=34						
WUAZ	**Wupatki**	**16.83**	**352**	*e*Pn	**Pn**	**03 08 15.5**	**-1.0**
	9.2nm,1.1s						
WMOK	**Wichita Mounta**	**18.03**	**27**	*e*Pn	**Pn**	**03 08 31.6**	**+0.3**
	7.6nm,1.3s						
MVCO	**Mesa Verde**	**18.32**	**360**	*e*P	**P**	**03 08 34.2**	**-1.0**
	12nm,1.3s						
SHPR	**Sheep Range**	**18.59**	**343**	*e*P	**Pn**	**03 08 38.6**	**+0.4**
SDCO	**Great Sand Dun**	**19.03**	**7**	*e*P	**P**	**03 08 43.9**	**+0.9**
	16nm,1.8s						
TEIG	**Tepich**	**19.06**	**82**	Pn	Pn	03 08 51.2	+7.3
	0.2nm,0.3s,baz=270,slow=1.0,SNR=12						
R11A	**Troy Canyon, C**	**20.43**	**344**	*e*P	**P**	**03 08 58.9**	**+0.7**
	7.6nm,1.4s						
ISCO	**Idaho Springs**	**21.05**	**6**	*e*P	**P**	**03 09 05.0**	**0.0**
	11nm,1.4s						
CBKS	**Cedar Bluff**	**21.31**	**19**	*e*P	**P**	**03 09 08.3**	**+0.8**
	20nm,0.9s						
NVAR	**Mina Array Bea**	**21.34**	**338**	P	**P**	**03 09 09.5**	**+1.3**
	2.8nm,1.1s,baz=153,slow=12,SNR=11						
DUG	**Dugway**	**21.63**	**351**	*e*P	**P**	**03 09 11.8**	**+0.6**
	13nm,1.3s						
WAKR	**Walker**	**21.82**	**336**	*e*P	**P**	**03 09 14.3**	**+1.0**
TCUT	**Toone Canyon**	**22.37**	**354**	*e*P	**P**	**03 09 19.8**	**+0.6**
	31nm,1.5s						
ELK	**Elko**	**22.62**	**346**	P	**P**	**03 09 21.6**	**-0.2**
	1.0nm,0.8s,baz=176,slow=8.5,SNR=6.5						
ELK				LR	LR	03 18 32.4	
	comp=Z,107nm,18.6s,baz=152,slow=38						
ELK	**Elko**	**22.62**	**346**	*e*P	**P**	**03 09 22.4**	**+0.6**
	14nm,1.8s						
SPUT	**South Promonto**	**22.68**	**352**	*e*P	**P**	**03 09 22.2**	**-0.1**
	12nm,1.2s						
HWUT	**Hardware Ranch**	**22.87**	**354**	*e*P	**P**	**03 09 25.2**	**+0.8**
	2.4nm,0.8s						
LRAL	**Lakeview Retre**	**23.86**	**49**	*e*P	**P**	**03 09 34.8**	**+0.7**
	9.5nm,1.1s						
BW06	**Boulder Array**	**23.89**	**358**	*e*P	**P**	**03 09 35.0**	**+0.3**
	4.7nm,1.4s						
PDAR	**Pinedale Array**	**23.89**	**358**	P	**P**	**03 09 35.0**	**+0.4**
	0.6nm,0.8s,baz=173,slow=11,SNR=4.5						
PDAR				LR	LR	03 18 23.0	
	comp=Z,127nm,18.5s,baz=186,slow=36						
JTS	**JuntasAbangare**	**24.24**	**107**	LR	LR	03 17 01.2	
	comp=Z,73nm,18.8s,baz=263,slow=31						
REDW	**Red Top Meadow**	**24.55**	**356**	*e*P	**P**	**03 09 41.2**	**+0.5**
	5.3nm,1.0s						
SNOW	**Snow King Moun**	**24.64**	**356**	*e*P	**P**	**03 09 42.1**	**+0.5**
	4.7nm,0.7s						
TPAW	**Teton Pass**	**24.69**	**356**	*e*P	**P**	**03 09 42.3**	**+0.3**
	8.6nm,1.3s						
LOHW	**Long Hollow**	**24.78**	**356**	*e*P	**P**	**03 09 42.3**	**-0.5**
	13nm,1.4s						
FXWY	**Fox Creek**	**24.84**	**356**	*e*P	**P**	**03 09 43.7**	**+0.3**
	6.8nm,1.4s						
MOOW	**Moose Ponds**	**24.93**	**356**	*e*P	**P**	**03 09 45.6**	**+1.4**
	11nm,1.5s						
WVT	**Waverly**	**25.04**	**42**	*e*P	**P**	**03 09 44.1**	**-0.9**
	3.8nm,0.9s						
WVOR	**Wild Horse Val**	**25.08**	**342**	*e*P	**P**	**03 09 45.7**	**+0.3**
	12nm,1.4s						
IMW	**Indian Meadow**	**25.09**	**356**	*e*P	**P**	**03 09 45.0**	**-0.7**
	4.9nm,1.2s						
MOD	**Modoc**	**25.13**	**339**	*e*P	**P**	**03 09 45.9**	**0.0**
	11nm,1.2s						
HLID	**Hailey**	**25.18**	**350**	*e*P	**P**	**03 09 44.0**	**-2.3**
	3.3nm,1.0s						
RSSD	**Black Hills**	**25.50**	**7**	*e*P	**P**	**03 09 50.6**	**+1.3**
	2.8nm,0.9s						
YBH	**Yreka Blue Hor**	**25.88**	**335**	LR	LR	03 19 14.4	
	comp=Z,106nm,21.3s,baz=161,slow=35						
BOZ	**Bozeman (W)**	**26.88**	**355**	*e*P	**P**	**03 10 01.0**	**-0.7**
	5.5nm,1.5s						
TKL	**Tuckaleechee C**	**27.49**	**47**	LR	LR	03 22 21.7	
	comp=Z,89nm,18.1s,baz=216,slow=40						
NEW	**Newport**	**30.21**	**348**	LR	LR	03 21 38.7	
	comp=Z,81nm,18.3s,baz=168,slow=35						
NEW	**Newport**	**30.21**	**348**	*e*P	**P**	**03 10 30.2**	**-1.0**
	11nm,1.5s						
ULM	**Lac du Bonnet**	**32.93**	**15**	LR	LR	03 24 04.4	
	comp=Z,63nm,20.6s,baz=124,slow=36						
OTAV	**Otavalo**	**34.74**	**119**	*e*P	**P**	**03 11 10.9**	**-0.9**
	3.2nm,1.0s						
SDV	**Santo Domingo**	**37.93**	**100**	*e*P	**P**	**03 11 40.1**	**+1.3**
	7.3nm,1.0s						
TAOE	**Nuku Hiva Isla**	**41.64**	**231**	*e*T	T	03 56 11.2	
	117nm,0.3s						
SCHQ	**Schefferville**	**47.83**	**31**	LR	LR	03 34 07.5	
	comp=Z,56nm,21.5s,baz=62,slow=38						
RKT	**Rikitea**	**49.08**	**213**	*e*T	T	04 05 27.9	
	4.2nm,0.4s						
INK	**Inuvik**	**51.93**	**348**	P	**P**	**03 13 29.2**	**0.0**
	2.9nm,1.1s,baz=166,slow=7.5,SNR=2.7						
INK	**Inuvik**	**51.93**	**348**	*e*P	**P**	**03 13 28.7**	**-0.5**
	4.6nm,1.3s						
SAML	**Samuel**	**52.47**	**118**	*e*P	**P**	**03 13 34.0**	**0.0**
	1.2nm,0.6s						
ILAR	**Eielson Array**	**52.58**	**340**	P	**P**	**03 13 34.0**	**-0.1**
	1.2nm,1.1s,baz=145,slow=6.7,SNR=9.2						
ILAR				LR	LR	03 37 17.2	
	comp=Z,36nm,18.8s,baz=149,slow=38						
PPT2	**Papeete2**	**54.26**	**231**	*e*LR	LR	03 29 22.9	
	155nm,25.0s						
TBI	**Tubuai**	**57.97**	**225**	*e*LR	LR	03 31 07.7	
	161nm,29.8s						
RAR	**Rarotonga**	**64.10**	**234**	LR	LR	03 35 42.7	
	comp=Z,134nm,20.9s,baz=56,slow=29						
AFI	**Afiamalu**	**70.36**	**247**	LR	LR	03 37 29.8	
	comp=Z,128nm,19.2s,baz=57,slow=28						
NOA	**NORSAR Array B**	**87.02**	**25**	LR	LR	03 54 50.5	
	comp=Z,17nm,21.8s,baz=310,slow=35						

*IDC **16** 03:05:36.4±0.4,1.24N×126.29E,h0km,mb4.5/27, mb1 4.6/28,mb1mx4.5/42,mbtmp4.5/28,ML3.9/1,MS3.3/13, Ms1 3.3/13,ms1mx3.2/42,Error ellipse: s-maj=18.2km s-min=10.4km az=72.0*
*BJI **16** 03:05:38.1,0.70N×126.67E,h62km,mb4.9/38,mB5.0/28, Ms4.6/16,Ms7 4.4/14*
*MOS **16** 03:05:39.4±0.8,1.28N×126.22E,h33km,mb4.9/31,Error ellipse: s-maj=13.4km s-min=6.4km az=106.7*
*ISCJB **16** 03:05:42.5±0.5,1.27N±0.03×126.41E±0.03,h59km±5km, mb4.7/71,MS3.4/14,Error ellipse: s-maj=5.4km s-min=4.6km az=28.7*
*DJA **16** 03:05:42.2±1.0,1°N±4'×12°6E±°,h14km±10km,M4.8/19, mb5.0/12,mB5.2/9,MLv4.8/19,Mw(mB)4.6/9*
*NEIC **16** 03:05:44.5±0.7,1.27N×126.47E,h62km±7km,mb4.7/28, Error ellipse: s-maj=8.1km s-min=5.7km az=54.0*
ISC 16 03:05:44.6±0.4,1.27N±0.04×126.48E±0.04,h59km±3km, n170,σ1§34/196,mb4.7/71,MS3.4/14,5C-2D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.02**	**119**	P	**Pn**	**03 06 00.8**	**-2.1**
TNTI				S	**Sn**	**03 06 15.6**	**-0.7**
TNTI	**Ternate**	**1.02**	**119**	*e*Pn	**Pn**	**03 06 00.8**	**-2.1**
TNTI				*e*Sn	**Sn**	**03 06 14.8**	**-1.5**
LBMI	**Labuha**	**2.15**	**152**	P	**Pn**	**03 06 18.1**	**0.0**
SGSI	**Sangihe**	**2.58**	**338**	P	**Pn**	**03 06 22.6**	**-1.4**
KMSI	**Cibinong**	**2.59**	**255**	P	**Pn**	**03 06 21.8**	**-2.3**
KMSI				S	**Sn**	**03 06 54.2**	**-0.2**
LUWI	**Luwuk**	**4.36**	**238**	P	**Pn**	**03 06 48.6**	**+0.3**
LUWI	**Luwuk**	**4.36**	**238**	P	**Pn**	**03 06 48.3**	**-0.1**
	baz=4.4,SNR=30						
LUWI	**Luwuk**	**4.36**	**238**	*e*Pn	**Pn**	**03 06 47.9**	**-0.4**
NLAI	**Namlea**	**4.52**	**172**	P	**Pn**	**03 06 51.2**	**+0.7**
MRSI	**Marisa**	**4.60**	**260**	P	**Pn**	**03 06 49.9**	**-1.8**
MSAI	**Masohi**	**5.20**	**152**	P	**Pn**	**03 07 00.2**	**+0.4**
	46nm,0.9s,1μm0.2nm						
SWI	**Sorong**	**5.23**	**114**	P	**Pn**	**03 07 00.6**	**+0.3**
	66nm,0.9s,0.2nm						
SIJI	**Sorong**	**5.24**	**114**	Pn	**Pn**	**03 07 00.3**	**-0.1**
	4.2nm,0.3s,baz=321,slow=8.2,SNR=18						
APSI	**Ampana**	**5.29**	**246**	P	**Pn**	**03 07 00.7**	**-0.4**
	637nm,1.1s,6μm2.2nm						
CTBH	**Cotabato--PC H**	**6.32**	**339**	⇓*i*P	Pn	03 07 18.1	+2.9
KDI	**Kendari**	**6.46**	**217**	P	**Pn**	**03 07 16.6**	**-0.6**
	75nm,0.8s,0.2nm						
MPSI	**Mapaga**	**6.64**	**262**	P	**Pn**	**03 07 18.4**	**-1.3**
	89nm,0.7s,1μm0.2nm						
PCI	**Palu**	**6.98**	**252**	P	**Pn**	**03 07 23.0**	**-1.3**
	123nm,1.0s,1μm0.4nm						
FAKI	**Fak Fak**	**7.11**	**126**	P	**Pn**	**03 07 27.0**	**+0.9**
	120nm,0.8s,0.3nm						
FAKI	**Fak Fak**	**7.11**	**126**	P	**Pn**	**03 07 27.2**	**+1.1**
	baz=7.2,SNR=12						

PMG	Port Moresby	23.17	118	eP		P	03 10 47.0	+0.7	
	comp=Z,29nm,1.0s								
YHNB	Yeheng	23.78	348	eP		P	03 10 48.4	-3.6	
	comp=Z,11nm,0.8s								
QIZ	Qiongzhong	24.03	318	P		P	03 10 54.8	+0.5	
QIZ				S		S	03 15 10.1	+2.6	
QIS	Mount Isa	25.21	150	P		P	03 11 05.3	+0.2	
	baz=25,SNR=14								
JOW	Kunigami	25.48	4	eP		P	03 11 08.4	+1.1	
	comp=Z,15nm,0.8s								
IPM	Ipoh	25.62	278	eP		P	03 11 07.2	-1.6	
	comp=Z,9.3nm,0.6s								
ASAR	Alice Springs	25.81	164	P		P	03 11 09.7	-0.8	
	comp=Z,8.1nm,0.8s,baz=348,slow=7.2,SNR=47								
ASAR				PcP		PcP	03 14 38.6	-0.3	
	comp=Z,0.7nm,0.5s,baz=344,slow=1.9,SNR=4.5								
ASAR				S		S	03 15 38.3	+2.3	
	comp=Z,2.2nm,0.9s,baz=356,slow=22,SNR=7.3								
WRKA	Warakurna	26.21	176	P		P	03 11 15.5	+1.5	
	baz=26,SNR=14								
PSI	Prapat	27.58	274	P		P	03 11 23.8	-2.8	
	comp=Z,8.7nm,0.9s,baz=144,slow=8.2,SNR=5.0								
PSI	Prapat	27.58	274	P		P	03 11 24.4	-2.2	
	baz=28,SNR=3.6								
NJ2	Nanjing	31.45	348	eP		P	03 11 59.8	-0.8	
NJ2				PMZ					
	comp=Z,20nm,0.6s								
GYA	Guiyang	31.47	324	eP		P	03 12 02.3	+1.3	
GYA				pP		pP	03 12 17.0	+1.3	
GYA				sP		sP	03 12 24.3	+1.7	
GYA				PP		PP	03 13 09.6	-3.4	
GYA				PcP		PcP	03 14 54.0	+0.9	
GYA				S		S	03 17 06.8	+1.7	
GYA				sS		sS	03 17 31.3	+1.2	
GYA				ScS		ScS	03 22 28.0	-1.4	
GYA				PMZ					
	comp=Z,10.0nm,0.8s								
GYA				PMZ					
	comp=Z,90nm,4.9s								
FORT	Forrest	31.90	177	eP		P	03 12 04.6	0.0	
	comp=Z,21nm,0.7s								
JNU	Nakatsue	31.96	7	LR		LR	03 24 16.6		
	comp=Z,29nm,20.9s,baz=136,slow=35								
JNU	Nakatsue	31.96	7	eP		P	03 12 05.0	0.0	
	comp=Z,10nm,1.0s								
CMAR	Chiang Mai Arr	31.96	304	P		P	03 12 03.8	-1.5	
	comp=Z,0.9nm,0.3s,baz=128,slow=8.2,SNR=4.3								
CMAR				LR		LR	03 27 32.1		
	comp=Z,50nm,18.6s,baz=146,slow=41								
PATS	Pohnpei	32.22	79	P		P	03 12 02.1	-5.5	
	baz=32,SNR=3.6								
CMAI	Chiengmai2	32.62	306	P		P	03 12 13.3	+2.1	
	comp=Z,7.9nm,0.7s								
KMI	Kunming	32.98	318	P		P	03 12 13.5	-0.8	
KMI				pP		pP	03 12 31.6	+2.5	
KMI				sP		sP	03 12 38.8	+2.8	
KMI				S		S	03 17 31.3	+2.5	
KMI				SS		SnSn	03 19 35.0	+3.5	
KMI				PMZ					
	comp=Z,12nm,1.0s								
KMI				PMZ					
	comp=Z,130nm,3.5s								
KMI				LN					
	comp=Z,200nm,12.7s								
KMI				LE					
	comp=Z,140nm,16.3s								
KMI				LZ					
	comp=Z,200nm,16.0s								
BBOO	Buckleboo	35.08	166	P		P	03 12 31.6	-0.6	
	baz=35,SNR=12								
NWAO	Narrogin (SRO)	35.11	194	P		P	03 12 31.7	-0.7	
	comp=Z,5.7nm,0.6s,baz=332,slow=5.0,SNR=3.6								
STKA	Stephens Creek	35.94	158	P		P	03 12 39.3	-0.3	
	comp=Z,5.5nm,0.6s,baz=335,slow=8.7,SNR=14								
STKA	Stephens Creek	35.94	158	P		P	03 12 39.7	+0.1	
	baz=36,SNR=11								
KSAR	Wonju Array Be	36.02	2	P		P	03 12 40.7	+0.5	
KSAR	Wonju Array Be	36.02	2	P		P	03 12 40.7	+0.5	
KSRS	Korea Array	36.03	2	P		P	03 12 40.7	+0.5	
	comp=Z,4.1nm,0.7s,baz=181,slow=10.0,SNR=16								
KSRS				LR		LR	03 25 57.3		
	comp=Z,29nm,21.0s,baz=177,slow=34								
KSRS	Korea Array	36.03	2	P		P	03 12 40.7	+0.5	
KSRS				pmax		pmax			
	comp=Z,4.0nm,0.7s								
KSRS				MLR		MLR			
	comp=Z,29nm,21.0s								
HTT	Hallett	36.45	162	P		P	03 12 47.1	+3.1	
	baz=37,SNR=3.8								
CD2	Chengdu	36.50	326	P		P	03 12 44.4	0.0	
CD2				pP		pP	03 12 58.8	-0.5	
CD2				sP		sP	03 13 05.8	-0.5	
CD2				PP		PnPn	03 14 08.8	0.0	
CD2				S		S	03 18 23.8	+1.2	
CD2				sS		ScP	03 18 48.9	-0.1	
CD2				PMZ					
	comp=Z,20nm,1.0s								
CD2				PMZ					
	comp=Z,220nm,4.6s								
CD2				LN					
	comp=Z,660nm,6.6s								
CD2				LZ					
	comp=Z,320nm,7.2s								
MJAR	Matsushiro Arr	36.74	16	P		P	03 12 45.5	-0.9	
	comp=Z,8.7nm,0.9s,baz=191,slow=10,SNR=22								
MJAR				LR		LR	03 26 04.6		
	comp=Z,34nm,21.9s,baz=205,slow=33								
MAJO	Matsushiro	36.74	16	*c iP*		P	03 12 45.2	-1.2	
MAJO				pmax		pmax			
	comp=Z,60nm,1.0s								
MAJO	Matsushiro	36.74	16	eP		P	03 12 44.6	-1.7	
	comp=Z,9.4nm,0.7s								
MAT	Matsushiro	36.74	16	P		P	03 12 45.3	-1.1	
MAT				S		S	03 18 25.6	-0.4	
BJI	Beijing	39.72	348	P		P	03 13 11.4	+0.1	
BJI				S		S	03 19 13.1	+2.3	
BJI				PMZ					
	comp=Z,28nm,0.6s								
BJI				LN					
	comp=Z,160nm,5.9s								
BJI				LE					
	comp=Z,110nm,5.3s								
ARPS	Mount Arapiles	40.45	161	P		P	03 13 20.0	+2.6	
	baz=41,SNR=5.1								
LZH	Lanzhou	40.51	331	eP		P	03 13 19.9	+1.8	
LZH				pP		pP	03 13 32.1	-1.1	
LZH				sP		sP	03 13 39.1	-1.0	
LZH				PP		PnPn	03 14 56.0	-0.7	
LZH				*e*S		S	03 19 25.5	+2.4	
LZH				sS		sS	03 19 54.3	+5.7	
LZH				PMZ					
	comp=Z,19nm,1.0s								
LZH				PMZ					
	comp=Z,280nm,5.4s								
LZH				LN					
	comp=Z,440nm,15.0s								
LZH				LE					
	comp=Z,550nm,14.3s								
LZH				LZ					
	comp=Z,630nm,16.2s								
HHC	Hu-ho-hao-te	41.65	343	eP		P	03 13 28.4	+1.0	
HHC				S		S	03 19 41.3	+1.4	
HHC				sS		sS	03 20 07.3	+1.9	
HHC				PMZ					
	comp=Z,22nm,0.7s								
HHC				PMZ					
	comp=Z,100nm,9.3s								
HHC				LN					
	comp=Z,150nm,14.9s								
HHC				LE					
	comp=Z,100nm,14.8s								
HHC				LZ					
	comp=Z,71nm,14.1s								
USRK	Ussuriysk Ar.	43.03	6	P		P	03 13 39.0	+0.6	
	comp=Z,12nm,0.9s,baz=190,slow=7.5,SNR=22								
MDJ	Mudanjiang	43.25	3	P		P	03 13 41.0	+0.8	
MDJ				PMZ					
	comp=Z,23nm,0.9s								
MDJ				PMZ					
	comp=Z,60nm,7.2s								
MDJ	Mudanjiang	43.25	3	eP		P	03 13 41.0	+0.8	
	comp=Z,18nm,0.8s								
ERM	Erimo	43.26	18	eP		P	03 13 40.9	+0.7	
ERM				pmax		pmax			
	comp=Z,16nm,1.3s								
ASAJ	Asahikawa	45.01	16	P		P	03 13 55.0	+0.8	
	comp=Z,14nm,0.9s,baz=244,slow=12,SNR=18								
ASAJ	Asahikawa	45.01	16	P		P	03 13 55.0	+0.8	
ASAJ				pmax		pmax			
	comp=Z,15nm,0.9s								
ASAJ	Asahikawa	45.01	16	eP		P	03 13 54.2	0.0	
	comp=Z,9.0nm,1.0s								
GTA	Gaotai	45.09	331	eP		P	03 13 54.0	-1.1	
GTA				pP		pP	03 14 09.4	-1.0	
GTA				sP		sP	03 14 16.6	-0.6	
GTA				PcP		PcP	03 15 36.1	+1.1	
GTA				PMZ					
	comp=Z,4.0nm,1.3s								
DZM	Mont Dzumac	45.37	123	P		P	03 13 58.2	+0.6	
	comp=Z,6.7nm,0.8s,baz=270,slow=20								
YSS	Yuzh-Sakhalins	47.67	15	eP		P	03 14 15.0	0.0	
YSS				pmax		pmax			
	comp=Z,60nm,1.1s								
KLR	Kul'dur	48.00	5	eP		P	03 14 13.2	-4.4	
KLR				pmax		pmax			
	comp=Z,28nm,1.4s								
SONM	Songino Array	49.55	342	P		P	03 14 29.0	-0.6	
	comp=Z,3.1nm,0.8s,baz=158,slow=7.3,SNR=16								
SONM				LR		LR	03 36 20.7		
	comp=Z,30nm,19.9s,baz=73,slow=37								
ZAK	Zakamensk	52.76	342	eP		P	03 14 53.1	-0.6	
ZAK				*e*			03 16 02.9		
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.4s								
TLY	Talaya	53.78	343	eP		P	03 15 00.8	-0.2	
TLY				pmax		pmax			
	comp=Z,4.0nm,0.9s								
TLY				MLR		MLR			
	comp=Z,37nm,14.0s								
TLY	Talaya	53.78	343	eP		P	03 15 00.5	-0.5	
	comp=Z,3.1nm,0.8s								
WMQ	Urumqi	54.60	326	P		P	03 15 07.3	+0.1	
WMQ				pP		pP	03 15 24.4	+1.5	
WMQ				sP		sP	03 15 29.3	-0.3	
WMQ				PcP		PcP	03 16 09.5	-0.2	
WMQ				PMZ					
	comp=Z,14nm,0.6s								
WMQ				PMZ					
	comp=Z,81nm,4.2s								
WMQ				LN					
	comp=Z,37nm,22.8s								
WMQ				LE					
	comp=Z,58nm,25.6s								
HVS	Khovu-Aksy	56.86	336	eP		P	03 15 22.3	-1.0	
HVS				pmax		pmax			
	comp=Z,45nm,0.8s								
BOD	Bodaibo	57.25	352	eP		P	03 15 25.8	0.0	
BOD				pmax		pmax			
	comp=Z,14nm,0.9s								
PETK	Petropavlovsk-	57.79	22	P		P	03 15 30.6	+0.9	
	comp=Z,7.0nm,0.8s,baz=212,slow=5.1,SNR=5.9								
PDGK	Podgornoye	59.16	322	P		P	03 15 37.1	-2.3	
PDGK				pmax		pmax			
	comp=Z,7.0nm,0.7s								
MK31	Makanchi Array	59.44	326	eP		P	03 15 39.9	-1.4	
MK31				pmax		pmax			
	comp=Z,2.0nm,0.3s								
MK31	Makanchi Array	59.44	326	P		P	03 15 40.2	-1.1	
	baz=60,SNR=11								
MK31	Makanchi Array	59.44	326	eP		P	03 15 39.5	-1.8	
MKAR	Makanchi Array	59.44	326	P		P	03 15 40.0	-1.4	
	comp=Z,3.9nm,0.5s,baz=122,slow=8.5,SNR=40								
MKAR				LR		LR	03 43 15.1		
	comp=Z,55nm,19.5s,baz=68,slow=38								
MKAR	Makanchi Array	59.44	326	*ce*P		P	03 15 40.2	-1.1	
MKAR				pmax		pmax			
	comp=Z,4.0nm,0.5s								
MKAR	Makanchi Array	59.44	326	eP		P	03 15 39.9	-1.4	
KSH	Kashi	59.62	316	P		P	03 15 45.3	+2.5	
KSH				PMZ					
	comp=Z,170nm,5.6s								
YAK	Yakutsk	60.66	2	LR		LR	03 43 13.5		
	comp=Z,25nm,20.4s,baz=222,slow=37								
YAK	Yakutsk	60.66	2	eP		P	03 15 48.4	-0.9	
YAK				pmax		pmax			
	comp=Z,16nm,0.9s								
YAK				pmax		pmax			
	comp=N,7.0nm,1.0s								
YAK				pmax		pmax			
	comp=E,3.0nm,1.1s								
URZ	Urewera	60.94	136	P		P	03 15 52.2	+0.4	
	comp=E,5.1nm,0.8s,baz=276,slow=6.8,SNR=4.0								
MA2	Magadan	61.14	14	*i* P		P	03 15 52.2	-0.4	
TKM2	Tokmak 2	61.43	320	eP		P	03 15 53.9	-1.3	
TKM2				pmax		pmax			
	comp=Z,4.0nm,0.7s								
TKM2	Tokmak 2	61.43	320	eP		P	03 15 53.9	-1.3	
	comp=Z,3.8nm,0.7s								
EKS2	Erkin-Say	62.50	319	eP		P	03 16 01.6	-0.7	
EKS2				pmax		pmax			
	comp=Z,3.0nm,0.7s								
EKS2	Erkin-Say	62.50	319	eP		P	03 16 01.6	-0.7	
	comp=Z,2.8nm,0.7s								
ZALV	Zalesovo Beam	62.66	334	P		P	03 16 01.5	-1.4	
	comp=Z,2.1nm,0.4s,baz=123,slow=5.5,SNR=8.2								
ZALV				LR		LR	03 44 30.2		
	comp=Z,32nm,18.4s,baz=70,slow=37								
KURBB	Kurchatov Arra	63.67	328	P		P	03 16 09.0	-0.7	
	comp=Z,12nm,0.7s,baz=128,slow=6.3,SNR=6.6								
KURK	Kurchatov	63.68	328	P		P	03 16 08.0	-1.8	
KURK				pmax		pmax			
	comp=Z,8.0nm,0.7s								
KURK	Kurchatov	63.68	328	eP		P	03 16 08.4	-1.4	
	comp=Z,19nm,0.7s								
NVS	Novosibirsk	63.95	334	*i* P		P	03 16 10.2	-1.2	
SEY	Seymchan	64.47	13	*i* P		P	03 16 14.4	-0.3	
KK31	Karatay Array	64.86	318	eP		P	03 16 16.6	-1.1	
KK31				pmax		pmax			
	comp=Z,2.0nm,0.5s								
KKAR	Karatay Array	64.86	318	eP		P	03 16 16.1	-1.6	
KKAR				pmax		pmax			
	comp=Z,2.0nm,0.5s								
KKAR	Karatay Array	64.86	318	eP		P	03 16 16.1	-1.6	
	comp=Z,2.2nm,0.5s								
BVA0	Borovoye Array	69.24	328	*i* P		P	03 16 42.7	-2.6	
BVA0				pmax		pmax			
	comp=Z,10.0nm,1.2s								
BRVK	Borovoye	69.31	328	*c iP*		P	03 16 44.9	-0.8	
BRVK				pmax		pmax			
	comp=Z,9.0nm,1.0s								
BRVK	Borovoye	69.31	328	eP		P	03 16 45.4	-0.3	
	comp=Z,14nm,1.2s								
BILL	Bilibino	71.98	15	eP		P	03 17 00.9	-0.8	
BILL				*e*			03 17 18.6		
BILL				pmax		pmax			
	comp=Z,3.0nm,1.0s								
GEYT	Alibeck	72.24	309	P		P	03 17 03.4	-0.5	
	comp=Z,1.7nm,0.5s,baz=156,slow=7.4,SNR=3.0								
AB31	Akbulak array	73.89	321	*i* P		P	03 17 12.3	-1.0	
ABKAR	Akbulak array	73.89	321	eP		P	03 17 11.8	-1.5	
AKTO	Aktyubinsk	75.43	322	LR		LR	03 53 27.7		
	comp=Z,50nm,19.6s,baz=82,slow=38								
SVE	Sverdlovsk	75.92	329	eP		P	03 17 24.5	-0.4	
SVE				pmax		pmax			
	comp=Z,41nm,1.3s								
ARU	Arti	76.88	328	*c iP*		P	03 17 29.2	-1.1	
ARU				*e*S		S	03 27 16.3	+2.9	
ARU				pmax		pmax			
	comp=Z,20nm,1.0s								
ARU	Arti	76.88	328	eP		P	03 17 29.1	-1.1	
	comp=Z,18nm,1.0s								
SOKR	Solikamsk	78.73	331	eP		P	03 17 40.2	-0.3	
SOKR				pmax		pmax			
	comp=Z,10.0nm,0.9s								
VNDA	Vanda	81.03	173	P		P	03 17 52.0	-0.6	
	comp=Z,2.0nm,0.6s,baz=316,slow=7.6,SNR=11								
VNDA	Vanda	81.03	173	P		P	03 17 52.0	-0.6	
VNDA				pmax		pmax			
	comp=Z,2.0nm,0.6s								
VNDA	Vanda	81.03	173	eP		P	03 17 52.4	-0.3	
	comp=Z,2.4nm,0.7s								
MAW	Mawson	81.37	200	P		P	03 17 54.3	-0.2	
	comp=Z,1.4nm,0.7s,baz=33,slow=10.0,SNR=4.4								
ZEI	Tsey	83.69	313	eP		P	03 18 04.5	-3.0	
KBZ	Khabaz	84.48	314	P		P	03 18 10.6	-0.6	
	comp=Z,3.4nm,1.0s,baz=169,slow=4.8,SNR=4.3								
PRGR	Permogore	84.54	332	eP		P	03 18 08.4	-2.7	
PRGR				pmax		pmax			
	comp=Z,9.0nm,0.4s								
NEY	Neytrino	84.58	313	eP		P	03 18 11.8	-0.2	
KIV	Kislovodsk	84.65	314	*i* P		P	03 18 11.3	-0.9	
KIV				pmax		pmax			
	comp=Z,12nm,1.7s								
KIV				MLR		MLR			
	comp=Z,31nm,19.0s								
COLD	Coldfoot	86.25	23	eP		P	03 18 21.6	+2.1	
	comp=Z,5.5nm,0.9s								
MCK	McKinley	86.47	26	eP		P	03 18 19.7	-1.0	
MCK				pmax		pmax			
	comp=Z,3.0nm,0.6s								
MCK	McKinley	86.47	26	eP		P	03 18 19.7	-1.0	
	comp=Z,2.6nm,0.6s								
CCB	Clear Creek Bu	87.02	25	eP		P	03 18 23.4	0.0	
VSR	Storozhevoye	87.33	321	eP		P	03 18 22.4	-2.7	
VSR				pmax		pmax			
	comp=E,9.0nm,0.9s								
VSR				pmax		pmax			
	comp=Z,10.0nm,0.9s								
VSR				pmax		pmax			
	comp=N,8.0nm,0.8s								
ILAR	Eielson Array	87.42	25	P		P	03 18 24.1	-1.3	
	comp=N,0.7nm,0.8s,baz=253,slow=4.4,SNR=8.4								
PAX	Paxson	87.99	27	eP		P	03 18 29.3	+1.1	
PAX				pmax		pmax			
	comp=Z,7.0nm,1.4s								
PAX	Paxson	87.99	27	eP		P	03 18 29.3	+1.1	
	comp=Z,6.7nm,1.4s								
OBN	Obninsk	88.92	325	eP		P	03 18 30.8	-1.7	
OBN				pmax		pmax			
	comp=Z,10.0nm,1.3s								
KMBO	Kilima Mbogo	89.25	269	P		P	03 18 36.2	+0.9	
	comp=Z,0.8nm,0.3s,baz=63,slow=9.0,SNR=3.4								
EGAK	Eagle	89.88	25	eP		P	03 18 37.4	+0.6	
	comp=Z,26nm,2.4s								
BRTR	Keskin Array B	91.39	310	P		P	03 18 44.9	+0.2	
	comp=Z,1.1nm,0.8s,baz=134,slow=5.3,SNR=6.1								
BRTR				LR		LR	04 06 02.8		
	comp=Z,13nm,18.0s,baz=109,slow=40								
BRTR	Keskin Array B	91.39	310	*i* P		P	03 18 46.7	+2.0	
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
INK	Inuvik	92.53	21	eP		P	03 18 48.7	-0.4	
INK				pmax		pmax			
	comp=Z,10.0nm,1.3s								
INK	Inuvik	92.53	21	eP		P	03 18 48.7	-0.4	
	comp=Z,10nm,1.3s								
ARCES	ARCESS Array B	92.66	340	P		P	03 18 48.4	-1.3	
	comp=Z,5.3nm,1.1s,baz=74,slow=5.3,SNR=6.7								
AKASG	Malin Array Be	93.63	321	P		P	03 18 55.6	+1.1	
	comp=Z,0.6nm,0.4s,baz=68,slow=4.5,SNR=3.8								
AKASG				LR		LR	04 04 38.1		
	comp=Z,20nm,19.4s,baz=315,slow=38								
FINES	FINESS Array B	93.87	332	P		P	03 18 54.6	-0.8	
	comp=Z,2.2nm,0.7s,baz=90,slow=5.7,SNR=3.3								
FINES	FINESS Array B	93.87	332	*i* P		P	03 18 59.2	+3.8	
FINES				pmax		pmax			
	comp=Z,2.0nm,0.6s								
SCHQ	Schefferville	123.02	9	PKP		PKPdf	03 24 33.9	-0.5	
	comp=Z,2.6nm,0.9s,baz=301,slow=5.9,SNR=3.2								
TXAR	Lajitas Array	123.28	53	PKP		PKPdf	03 24 36.5	+0.7	
	comp=Z,0.3nm,0.6s,baz=151,slow=1.3,SNR=3.5								
TORD	Torodi Ar. Bea	123.41	287	PKP		PKPdf	03 24 35.4	-0.8	
	comp=Z,1.2nm,0.7s,baz=82,slow=1.4,SNR=6.6								

*ISCJB **16** 03:06:31.1±1.0,22.68S±0.07×69.0W±0.1,h111km±6km, mb3.7/3,Error ellipse: s-maj=21.4km s-min=11.6km az=168.8*

*IDC **16** 03:06:31.8±0.9,22.77S×68.63W,h88km±12km,mb3.6/3, mb1 3.4/6,mb1mx3.1/35,mbtmp3.7/6,MS2.3/1,Ms1 2.5/1, ms1mx2.1/15,Error ellipse: s-maj=34.6km s-min=23.1km az=112.0*

*SJA **16** 03:06:55.6±0.5,23.79S×66.58W,h226km±15km,ML2.5, MW2.7*

ISC 16 03:06:31.9±1.1,22.62S±0.10×69.0W±0.1,h101km±7km, n16,σ1s54/17,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LVC	Limon Verde	0.04	80	P		Pn	03 06 46.8	+0.6
	49µm,0.3s,baz=133,slow=5.1,SNR=8242							
LVC				S		Sn	03 06 56.9	0.0
	baz=210,slow=20							
HJA	Humahuaca	3.32	101	eP		Pn	03 07 24.2	+1.8
SLA	San Lorenzo	3.79	124	eP		Pn	03 07 31.2	+2.7
SLA				IAML			03 07 32.6	
	comp=Z,35nm,0.6s							
ASTB	Santa Barbara	4.32	109	eP		Pn	03 07 36.1	+0.5
FSA	Cafayete	4.38	143	eP		Pn	03 07 37.5	+1.1
ALOL	LOMAS DE OLMED	4.74	106	eP		Pn	03 07 40.5	-0.6
AHML	Horco Molle	5.29	142	eP		Pn	03 07 49.3	+0.6
AHML				*e*S		Sn	03 08 29.1	-19
AHML				IAML			03 08 33.5	
	comp=Z,5.3nm,0.5s							
VCA	Vinchina	6.13	174	eP		Pn	03 07 59.7	-0.4
LPAZ	La Paz	6.35	7	P		Pn	03 08 06.4	+2.8
	comp=Z,0.3nm,0.3s,baz=171,slow=6.5,SNR=8.7							
LPAZ				LR		LR	03 10 59.5	
	comp=Z,27nm,19.5s,baz=70,slow=41							
CFAA	Coronel Fontan	8.97	176	P		Pn	03 08 35.0	-3.7
	comp=Z,0.0nm,0.3s,baz=354,slow=14,SNR=3.8							
CFAA				S		Sn	03 10 09.3	-8.6
	comp=Z,0.1nm,0.3s,baz=238,slow=15,SNR=2.1							
SIV	San Ignacio	9.94	50	P		Pn	03 08 49.8	-2.1
	comp=Z,0.6nm,0.3s,baz=208,slow=17,SNR=11							
SIV				S		Sn	03 10 32.9	-8.7
	comp=Z,0.2nm,0.3s,baz=280,slow=18,SNR=2.2							
BDFB	Brasilia	20.95	74	P		P	03 11 05.5	-1.6
	comp=Z,3.7nm,0.8s,baz=252,slow=8.6,SNR=4.8							
PTGA	Pitinga	23.45	23	P		P	03 11 32.3	-0.2
	comp=Z,2.0nm,0.5s,baz=218,slow=18,SNR=3.9							
TORD	Torodi Ar. Bea	77.77	70	P		P	03 18 18.6	0.0
	comp=Z,0.9nm,0.7s,baz=250,slow=5.3,SNR=13							
TORD				pP		pP	03 18 44.0	-0.4
	comp=Z,0.8nm,0.7s,baz=254,slow=5.7,SNR=2.8							
WRA	Warramunga Arr	131.97	210	PKP		PKPdf	03 25 35.9	+1.4
	comp=Z,0.3nm,0.3s,baz=144,slow=1.8,SNR=2.9							
MKAR	Makanchi Array	146.56	37	PKPbc		PKPab	03 26 02.5	-0.4
	comp=Z,0.4nm,0.5s,baz=332,slow=2.9,SNR=3.9							
MKAR				pPKPbc	pPKPbc		03 26 28.6	-0.4
	comp=Z,0.6nm,0.8s,baz=272,slow=4.4,SNR=4.2							

IDC 16 03:09:27.9±7.5,17.84S×177.63W,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.6/32,mbtmp3.7/3,Error ellipse: s-maj=330.1km s-min=35.1km az=143.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.37	259	P		P	03 17 47.3	-1.1
	0.6nm,0.8s,baz=94,slow=8.3,SNR=2.5							
ASAR	Alice Springs	45.52

	baz=359								
BTK	**Batken**	**2.05**	**270**	*i* P		**Pg**	**03 17 59.2**	**-0.3**
	baz=270								
BTK				*e*S		**Sg**	**03 18 29.8**	**+3.7**
	baz=270								
UCH	**Uchtor**	**2.27**	**20**	P		**Pn**	**03 17 56.7**	**-1.6**
	SNR=81								
UCH	**Uchtor**	**2.27**	**20**	⇑*i*P		**Pn**	**03 17 56.6**	**-1.7**
	baz=15								
UCH				⇑*i*S		**Sn**	**03 18 24.3**	**-2.3**
	baz=15								
NRN	**Naryn**	**2.33**	**54**	*e*P		**Pn**	**03 17 58.8**	**-0.3**
	baz=51								
NRN				*e*S		**Sb**	**03 18 31.1**	**-0.6**
	baz=51								
KZA	**Kyzart**	**2.39**	**33**	P		**Pn**	**03 17 58.9**	**-1.1**
	SNR=33								
KZA	**Kyzart**	**2.39**	**33**	⇑*i*P		**Pn**	**03 17 59.1**	**-0.8**
	baz=30								
KZA				⇑*i*S		**Sn**	**03 18 29.8**	**+0.3**
	baz=30								
EKS2	**Erkin-Say**	**2.58**	**5**	P		**Pn**	**03 18 02.2**	**-0.1**
	SNR=12								
EKS2	**Erkin-Say**	**2.58**	**5**	⇑*i*P		**Pn**	**03 18 02.1**	**-0.1**
	baz=1.0								
EKS2				⇑*i*S		**Sn**	**03 18 35.3**	**+1.6**
	baz=1.0								
EKS	**Erkin-Say**	**2.58**	**5**	⇓*i*P		**Pn**	**03 18 03.1**	**+0.8**
	baz=1.0								
AAK	**Ala-Archa**	**2.65**	**16**	P		**Pn**	**03 18 03.3**	**0.0**
	SNR=36								
AAK	**Ala-Archa**	**2.65**	**16**	⇓Pn		**Pn**	**03 18 02.7**	**-0.5**
AAK				Sn		**Sn**	**03 18 36.7**	**+1.1**
	139nm,0.8s								
AAK	**Ala-Archa**	**2.65**	**16**	⇑*i*P		**Pn**	**03 18 02.8**	**-0.5**
	baz=13								
AAK				⇑*i*S		**Sn**	**03 18 36.9**	**+1.3**
	baz=13								
KBK	**Karagaybulak**	**2.79**	**23**	P		**Pn**	**03 18 05.3**	**+0.1**
	SNR=37								
KBK	**Karagaybulak**	**2.79**	**23**	⇑*i*P		**Pn**	**03 18 05.1**	**-0.1**
	baz=19								
KBK				⇑*i*S		**Sn**	**03 18 41.3**	**+2.3**
	baz=19								
FRU	**Bishkek**	**2.87**	**17**	*e*P		**Pn**	**03 18 06.0**	**-0.2**
	baz=13								
FRU				*e*S		**Sn**	**03 18 41.0**	**+0.2**
	baz=13								
ULHL	**Ulahol**	**2.99**	**43**	P		**Pn**	**03 18 07.6**	**-0.4**
	SNR=8.4								
ULHL	**Ulahol**	**2.99**	**43**	⇑*i*P		**Pn**	**03 18 06.9**	**-1.1**
	baz=41								
ULHL				⇑*i*S		**Sn**	**03 18 46.1**	**+2.0**
	baz=41								
CHMS	**Chumysh**	**3.06**	**18**	P		**Pn**	**03 18 09.0**	**+0.3**
	SNR=9.2								
CHMS	**Chumysh**	**3.06**	**18**	⇑*i*P		**Pn**	**03 18 08.4**	**-0.3**
	baz=14								
CHMS				⇑*i*S		**Sn**	**03 18 47.9**	**+2.5**
	baz=14								
TKM2	**Tokmak 2**	**3.24**	**29**	P		**Pn**	**03 18 11.3**	**-0.2**
	SNR=20								
TKM2	**Tokmak 2**	**3.24**	**29**	⇑Pn		**Pn**	**03 18 10.8**	**-0.7**
	20nm,0.8s								
TKM2				⇑Sn		**Sn**	**03 18 52.6**	**+2.4**
	125nm,0.6s								
TKM2	**Tokmak 2**	**3.24**	**29**	⇑*i*P		**Pn**	**03 18 11.2**	**-0.2**
	baz=26								
TKM2				⇑*i*S		**Sb**	**03 18 55.2**	**-2.5**
	baz=26								
USP	**Ospenovka**	**3.26**	**13**	P		**Pn**	**03 18 11.7**	**+0.1**
	SNR=8.2								
KK31	**Karatay Array**	**3.75**	**324**	⇑Pn		**Pn**	**03 18 15.9**	**-2.3**
	0.3nm,0.3s,baz=129,slow=12,SNR=39								
KK31				⇑Pg		**Pb**	**03 18 24.9**	**-1.7**
	3.1nm,0.5s,baz=147,slow=15,SNR=23								
KK31				⇑Sn		**Sn**	**03 19 02.0**	**-0.4**
	3.0nm,0.3s								
KK31				⇑Lg		Lg	03 19 16.7		
	17nm,0.7s,baz=145,slow=29,SNR=6.6								
DZET	**Dzherino**	**3.83**	**252**	⇓Pg		**Pb**	**03 18 25.8**	**-2.3**
	8.3nm,0.5s								
DZET				⇓Lg		Lg	03 19 14.0		
	38nm,0.5s								
PDGK	**Podgornoye**	**5.53**	**52**	⇑Pg		**Pb**	**03 18 59.6**	**+2.7**
	5.2nm,0.7s								
PDGK				⇑Lg		Lg	03 20 09.6		
	15nm,0.7s								
MKAR	**Makanchi Array**	**9.26**	**41**	Pn		Pn	03 19 42.5	+8.6	
	0.1nm,0.3s,baz=232,slow=14,SNR=4.3								
MKAR				Lg		Lg	03 22 07.6		
	0.0nm,0.3s,baz=229,slow=28,SNR=4.1								
MKAR				LR		LR	03 22 37.9		
	comp=Z,10nm,20.5s,baz=278,slow=33								
KURBB	**Kurchatov Arra**	**11.11**	**17**	Lg		Lg	03 22 51.5		
	0.1nm,0.3s,baz=205,slow=26,SNR=4.2								
BVAR	**Borovoye Array**	**13.11**	**352**	Pn		Pn	03 20 16.9	-10	
	0.2nm,0.3s,baz=170,slow=10,SNR=2.7								
ZALV	**Zalesovo Beam**	**15.84**	**25**	Pn		**Pn**	**03 21 03.9**	**+0.6**
	0.2nm,0.3s,baz=220,slow=11,SNR=11								
ASF	**Jabal al Asfar**	**30.43**	**267**	LR		LR	03 36 48.5		
	comp=Z,85nm,19.0s,baz=210,slow=40								
TORD	**Torodi Ar. Bea**	**67.76**	**269**	P		**P**	**03 28 16.8**	**-1.7**
	0.3nm,0.6s,baz=41,slow=5.7,SNR=5.2								

IDC 16 03:25:56.1±3.8, 5°.52N×125°.07E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/42, mbtmp3.4/3, Error ellipse: s-maj=428.3km s-min=27.2km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.89**	**160**	P		P	03 31 37.1	-1.9
	0.9nm,1.1s,baz=336,slow=9.2,SNR=2.7							
ASAR	**Alice Springs**	**30.26**	**164**	P		P	03 32 10.8	+1.9
	0.1nm,0.5s,baz=343,slow=9.1,SNR=2.7							
MKAR	**Makanchi Array**	**55.15**	**325**	P		P	03 35 30.4	-0.1
	0.7nm,0.7s,baz=116,slow=8.1,SNR=4.6							

IDC ***16*** *03:28:59.5±9.3, 39°.09N×74°.52E, h0km, mb3.3/1, mb1 3.3/3, mb1mx3.1/46, mbtmp3.3/3, ML2.9/2, MS3.4/1, Ms1 3.4/1, ms1mx2.3/26, Error ellipse: s-maj=324.1km s-min=26.7km az=140.0*

KRNET ***16*** *03:29:03.7±0.1, 39°.89N×73°.63E, mb3.6*

NNC ***16*** *03:29:04.2±0.7, 39°.99N×73°.24E, h5km±7km, mb3.6, mpv3.3, Error ellipse: s-maj=15.6km s-min=5.0km az=152.0*

ISC 16 03:29:05.9±1.0, 40°.19N±0°.04×73°.59E±0°.04, h0km±11km, n35, σ1=964/48, 22C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.18**	**202**	⇑P		**Pg**	**03 29 09.0**	**-0.5**
	165nm,0.5s							
SFK				⇓S		**Sg**	**03 29 12.7**	**+0.8**
	337nm,0.3s							
SFK	**Sufi-Kurgan**	**0.18**	**202**	*e*P		**Pg**	**03 29 09.0**	**-0.5**
	baz=321							
SFK				*e*S		**Sg**	**03 29 12.7**	**+0.8**
	baz=321							
FRG	**Fergana**	**1.40**	**279**	*e*P		**Pg**	**03 29 34.6**	**+1.9**
	baz=290							
FRG				*e*S		**Sg**	**03 29 54.0**	**+3.1**
	baz=290							
AML	**Almayashu**	**1.95**	**2**	P		**Pb**	**03 29 40.4**	**-2.1**
	SNR=69							
AML	**Almayashu**	**1.95**	**2**	⇑*i*P		**Pb**	**03 29 40.3**	**-2.2**
	baz=1.0							
AML				⇑*i*S		**Sb**	**03 30 06.5**	**-0.9**
	baz=1.0							
BTK	**Batken**	**2.13**	**267**	*e*P		**Pb**	**03 29 43.2**	**-2.3**
	baz=275							
BTK				*e*S		**Sg**	**03 30 12.5**	**-1.9**
	baz=275							
UCH	**Uchtor**	**2.16**	**18**	P		**Pb**	**03 29 44.7**	**-1.4**
	SNR=20							
UCH	**Uchtor**	**2.16**	**18**	⇑*i*P		**Pb**	**03 29 44.5**	**-1.6**
	baz=16							
UCH				⇑*i*S		**Sb**	**03 30 12.3**	**-1.2**
	baz=16							
NRN	**Naryn**	**2.21**	**55**	*e*P		**Pb**	**03 29 46.0**	**-0.9**
	baz=49							
NRN				*e*S		**Sg**	**03 30 17.3**	**+0.3**
	baz=49							
KZA	**Kyzart**	**2.27**	**33**	P		**Pb**	**03 29 46.6**	**-1.4**
	SNR=24							
KZA	**Kyzart**	**2.27**	**33**	⇑*i*P		**Pb**	**03 29 45.7**	**-2.3**
	baz=29							
KZA				⇑*i*S		**Sb**	**03 30 16.6**	**-0.1**
	baz=29							
EKS2	**Erkin-Say**	**2.48**	**3**	P		**Pb**	**03 29 49.6**	**-1.8**
	SNR=30							
EKS2	**Erkin-Say**	**2.48**	**3**	⇑*i*P		**Pb**	**03 29 49.2**	**-2.2**
	baz=2.0							
EKS2				⇑*i*S		**Sb**	**03 30 22.0**	**-0.5**
	baz=2.0							
EKS	**Erkin-Say**	**2.48**	**3**	*i* P		**Pb**	**03 29 50.0**	**-1.5**
	baz=2.0							
EKS				*e*S		**Sg**	**03 30 23.4**	**-2.4**
	baz=2.0							
AAK	**Ala-Archa**	**2.54**	**15**	P		**Pb**	**03 29 50.6**	**-1.8**
	SNR=22							
AAK	**Ala-Archa**	**2.54**	**15**	⇓Pn		**Pb**	**03 29 50.1**	**-2.3**
	24nm,0.5s							
AAK				⇓Sn		**Sb**	**03 30 24.4**	**+0.2**
	99nm,0.8s							
AAK	**Ala-Archa**	**2.54**	**15**	⇑*i*P		**Pb**	**03 29 50.4**	**-2.0**
	baz=13							
AAK				⇑*i*S		**Sb**	**03 30 24.4**	**+0.2**
	baz=13							
KBK	**Karagaybulak**	**2.67**	**22**	P		**Pb**	**03 29 52.8**	**-2.0**
	SNR=32							
KBK	**Karagaybulak**	**2.67**	**22**	⇑*i*P		**Pb**	**03 29 52.7**	**-2.0**
	baz=19							
KBK				⇑*i*S		**Sb**	**03 30 28.4**	**+0.3**
	baz=19							
FRU	**Bishkek**	**2.76**	**16**	*e*P		**Pb**	**03 29 54.0**	**-2.1**
	baz=14							
FRU				*e*S		**Sb**	**03 30 30.0**	**-0.4**
	baz=14							
ULHL	**Ulahol**	**2.87**	**43**	P		**Pn**	**03 29 53.8**	**+0.7**
	SNR=18							
ULHL	**Ulahol**	**2.87**	**43**	⇓*i*P		**Pn**	**03 29 54.3**	**+1.2**
	baz=39							
ULHL				⇓*i*S		**Sb**	**03 30 31.6**	**-2.2**
	baz=39							
CHMS	**Chumysh**	**2.94**	**17**	P		Pb	03 29 55.9	-3.3
	SNR=7.6							
CHMS	**Chumysh**	**2.94**	**17**	⇑*i*P		Pb	03 29 55.8	-3.4
	baz=15							
CHMS				⇑*i*S		**Sb**	**03 30 35.7**	**-0.1**
	baz=15							
TKM2	**Tokmak 2**	**3.12**	**28**	P		Pb	03 29 58.5	-3.8
	SNR=14							
TKM2	**Tokmak 2**	**3.12**	**28**	⇑Pn		**Pn**	**03 29 58.3**	**+1.8**
	14nm,0.8s							
TKM2				⇓Sn		**Sb**	**03 30 41.9**	**+0.9**
	87nm,0.9s							
TKM2	**Tokmak 2**	**3.12**	**28**	⇑*i*P		**Pn**	**03 29 58.1**	**+1.6**
	baz=25							
TKM2				⇑*i*S		**Sb**	**03 30 41.5**	**+0.5**
	baz=25							
USP	**Ospenovka**	**3.15**	**12**	P		Pb	03 29 58.8	-4.0
	SNR=7.7							
KK31	**Karatay Array**	**3.72**	**323**	⇑Pn		**Pn**	**03 30 01.8**	**-2.8**
	0.2nm,0.4s,baz=130,slow=13,SNR=7.2							
KK31				⇑Pg		**Pb**	**03 30 11.9**	**-0.6**
	1.6nm,0.4s,baz=148,slow=18,SNR=36							
KK31				⇓Lg		Lg	03 31 03.8		
	6.9nm,0.5s,baz=122,slow=28,SNR=4.0								
DZET	**Dzherino**	**3.94**	**251**	⇑Pg		Pb	03 30 11.7	-4.5	
	10.0nm,0.6s								
DZET				⇑Lg		Lg	03 31 01.1		
	29nm,0.7s								
PDGK	**Podgornoye**	**5.41**	**53**	⇓Pg		**Pg**	**03 30 47.4**	**-2.1**
	4.1nm,0.8s								
PDGK				⇓Lg		Lg	03 31 59.4		
	16nm,0.8s								
MKAR	**Makanchi Array**	**9.14**	**41**	Pn		**Pn**	**03 31 19.5**	**+0.5**
	0.0nm,0.3s,baz=226,slow=14,SNR=3.4								
MKAR				Lg		Lg	03 33 52.8		
	0.1nm,0.3s,baz=236,slow=30,SNR=2.9								
ZALV	**Zalesovo Beam**	**15.72**	**25**	Pn		**P**	**03 32 52.2**	**-0.4**
	0.5nm,0.3s,baz=204,slow=9.5,SNR=3.8								
SEY	**Seymchan**	**50.23**	**36**	LR		LR	04 00 24.5		
	comp=Z,34nm,20.1s,baz=120,slow=37								
TORD	**Torodi Ar. Bea**	**67.84**	**269**	P		**P**	**03 40 04.3**	**-1.9**
	0.4nm,0.9s,baz=48,slow=4.8,SNR=5.0								

IDC 16 03:29:13.7±1.7, 11°.13S×166°.28E, h0km, mb3.7/4, mb1 4.1/5, mb1mx3.7/35, mbtmp3.9/5, ML4.1/1, MS3.4/5, Ms1 3.4/5, ms1mx3.0/28, Error ellipse: s-maj=54.6km s-min=28.3km az=132.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.88**	**179**	Pn		Pn	03 31 50.5	-0.3
	1.3nm,0.3s,baz=360,slow=18,SNR=12							
DZM				Sn		Sn	03 33 48.0	-5.5
	0.1nm,0.3s,baz=176,slow=19,SNR=2.3							
PMG	**Port Moresby**	**18.89**	**273**	LR		LR	03 41 07.3		
	comp=Z,152nm,18.6s,baz=84,slow=38								
CTA	**Charters Tower**	**21.23**	**243**	P		P	03 34 03.4	+2.0	
	3.1nm,0.6s,baz=62,slow=14,SNR=3.7								
JAY	**Jayapura**	**26.77**	**287**	LR		LR	03 44 33.5		
	comp=Z,58nm,21.5s,baz=124,slow=34								
H11S2	**WAKE ISLAND Hy 29.43**	**1**		T		T	04 06 11.2		
	baz=181,slow=76,SNR=16								
H11S3	**WAKE ISLAND Hy 29.44**	**1**		T		T	04 06 13.9		
	baz=181,slow=76,SNR=15								
H11S1	**WAKE ISLAND Hy 29.45**	**1**		T		T	04 06 14.9		
	baz=181,slow=76,SNR=16								
H11N1	**WAKE ISLAND Hy 30.65**	**1**		T		T	04 07 42.8		
	baz=182,slow=76,SNR=9.2								
H11N3	**WAKE ISLAND Hy 30.66**	**1**		T		T	04 07 43.6		
	baz=182,slow=76,SNR=3.1								
H11N2	**WAKE ISLAND Hy 30.67**	**1**		T		T	04 07 49.5		
	baz=182,slow=76,SNR=3.3								
STKA	**Stephens Creek**	**30.74**	**224**	LR		LR	03 46 40.4		
	comp=Z,115nm,18.8s,baz=33,slow=34								
WRA	**Warramunga Arr**	**31.95**	**250**	P		P	03 35 41.0	-0.6	
	1.2nm,0.6s,baz=81,slow=9.0,SNR=5.3								
RPZ	**Rata Peaks**	**32.73**	**174**	LR		LR	03 45 54.1		
	comp=Z,52nm,20.9s,baz=359,slow=31								
ASAR	**Alice Springs**	**33.22**	**244**	P		P	03 35 51.9	-0.8	
	0.8nm,0.6s,baz=65,slow=11,SNR=12								
PETK	**Petropavlovsk-**	**64.40**	**354**	LR		LR	04 03 20.1		
	comp=Z,16nm,19.3s,baz=150,slow=32								
ILAR	**Eielson Array**	**83.43**	**18**	P		P	03 41 42.8	+0.2	
	0.2nm,0.7s,baz=232,slow=4.7,SNR=2.9								

MOS ***16*** *03:29:32.2±1.0, 50°.41N×156°.24E, h132km, mb4.2/2, Error ellipse: s-maj=31.5km s-min=7.0km az=71.9*

ISCJB ***16*** *03:29:33.1±0.8, 50°.50N±0°.10×156°.2E±0°.2, h132km±5km, mb3.3/4, Error ellipse: s-maj=23.3km s-min=7.9km az=40.8*

KRSC ***16*** *03:29:33.8±1.7, 50°.40N×156°.86E, h111km±18km, ML4.3*

IDC ***16*** *03:29:36.2±8.1, 50°.70N×156°.02E, h143km±50km, mb3.0/3, mb1 3.3/4, mb1mx3.0/42, mbtmp3.4/4, Error ellipse: s-maj=120.2km s-min=27.4km az=177.0*

ISC 16 03:29:33.7±1.2, 50°.4N±0°.1×156°.5E±0°.1, h126km±7km, n47, σ1=972/57, mb3.4/4, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.37**	**314**	*i* P		**Pn**	**03 29 51.9**	**+0.3**
SKR				*e*S		**Sn**	**03 30 04.9**	**-0.2**
SKR	**Severo-Kuril's**	**0.37**	**314**	*e*PN		**Pn**	**03 29 51.5**	**-0.1**
SKR				*e*S		**Sn**	**03 30 03.7**	**-1.4**
SKR				pmax	pmax			
	comp=E,840nm,0.2s							
SKR				pmax	pmax			
	comp=Z,860nm,0.2s							
SKR				smax	smax			
	comp=N,2μm,0.2s							
SKR				smax	smax			
	comp=E,1μm,0.2s							
PAU	**Pauzhetka**	**1.05**	**10**	*i* P		**Pn**	**03 29 57.1**	**+0.4**
PAU				*e*S		**Sn**	**03 30 15.1**	**+0.9**
PAU	**Pauzhetka**	**1.05**	**10**	PN		**Pn**	**03 29 57.1**	**+0.4**
PAU				S		**Sn**	**03 30 15.1**	**+0.9**
MIPR	**Malaya Ipel'ka**	**1.85**	**4**	*e*P		**Pn**	**03 30 06.0**	**+0.4**
MIPR				*e*S		**Sn**	**03 30 29.7**	**-0.4**
ASAK	**Asacha**	**2.14**	**23**	*e*P		**Pn**	**03 30 10.3**	**+1.2**
MTVR	**Mutnovka**	**2.30**	**26**	*e*P		**Pn**	**03 30 12.5**	**+1.2**
MTVR				*e*S		**Sn**	**03 30 40.8**	**+0.7**
RUS	**Russkaya**	**2.36**	**31**	*e*P		**Pn**	**03 30 11.9**	**+0.1**
RUS				*e*S		**Sn**	**03 30 40.9**	**-0.3**
RUS	**Russkaya**	**2.36**	**31**	PN		**Pn**	**03 30 11.9**	**+0.1**
RUS				S		**Sn**	**03 30 40.9**	**-0.3**
APC	**Apacha**	**2.53**	**9**	*e*P		**Pn**	**03 30 14.5**	**+0.5**
APC	**Apacha**	**2.53**	**9**	PN		**Pn**	**03 30 14.5**	**+0.5**
PETK	**Petropavlovsk-**	**2.78**	**15**	P		**Pn**	**03 30 18.6**	**+1.4**
	comp=E,1.7nm,0.3s,baz=179,slow=12,SNR=10							
PETK				S		**Sn**	**03 30 45.0**	**-5.8**
	comp=E,1.6nm,0.3s,baz=180,slow=18,SNR=5.1							
UGLR	**Uglovaya**	**3.13**	**26**	*e*P		**Pn**	**03 30 23.5**	**+1.7**
KOK	**Koryaka**	**3.15**	**24**	*e*P		**Pn**	**03 30 24.2**	**+2.1**
KOK	**Koryaka**	**3.15**	**24**	PN		**Pn**	**03 30 24.2**	**+2.1**
AVH	**Avacha**	**3.15**	**25**	*e*P		**Pn**	**03 30 24.1**	**+2.0**
AVH	**Avacha**	**3.15**	**25**	PN		**Pn**	**03 30 24.1**	**+2.0**
SMAR	**Somma**	**3.17**	**26**	*e*P		**Pn**	**03 30 24.2**	**+1.7**
SMAR	**Somma**	**3.17**	**26**	PN		**Pn**	**03 30 24.2**	**+1.7**
KRER	**Koryakskii**	**3.19**	**25**	*e*P		**Pn**	**03 30 24.3**	**+1.5**
KRER				*e*S		**Sn**	**03 31 01.0**	**+0.3**
SDLR	**Sedlovina**	**3.20**	**26**	*e*P		**Pn**	**03 30 23.8**	**+0.9**
SDLR				*e*S		**Sn**	**03 31 00.3**	**-0.6**
SDLR	**Sedlovina**	**3.20**	**26**	PN		**Pn**	**03 30 23.8**	**+0.9**
SDLR				S		**Sn**	**03 31 00.3**	**-0.6**
KRX	**Arik**	**3.21**	**23**	*e*P		**Pn**	**03 30 24.7**	**+1.7**
KRX				*e*S		**Sn**	**03 31 01.8**	**+0.7**
GNL	**Ganaly**	**3.38**	**14**	*e*P		**Pn**	**03 30 26.2**	**+1.0**
GNL	**Ganaly**	**3.38**	**14**	PN		**Pn**	**03 30 26.2**	**+1.0**
SPN	**Mys Shipunski**	**3.44**	**38**	*e*P		**Pn**	**03 30 26.1**	**+0.3**
SPN				*e*S		**Sn**	**03 31 03.5**	**-2.7**
SPN	**Mys Shipunski**	**3.44**	**38**	PN		**Pn**	**03 30 26.1**	**+0.3**
SPN				S		**Sn**	**03 31 03.5**	**-2.7**
MKZ	**Mys Kozlova**	**5.21**	**36**	*e*P		**Pn**	**03 30 48.8**	**-0.6**
MKZ				*e*S		**Sn**	**03 31 44.6**	**-3.8**
MKZ	**Mys Kozlova**	**5.21**	**36**	PN		**Pn**	**03 30 48.8**	**-0.6**
MKZ				S		**Sn**	**03 31 44.6**	**-3.8**
TUMR	**Tumrok**	**5.33**	**23**	*e*P		**Pn**	**03 30 53.2**	**+2.1**
TUMR	**Tumrok**	**5.33**	**23**	PN		**Pn**	**03 30 53.2**	**+2.1**
KBTR	**Krutoberegovo**	**6.90**	**31**	*e*P		**Pn**	**03 31 13.5**	**+1.3**
KBTR	**Krutoberegovo**	**6.90**	**31**	PN		**Pn**	**03 31 13.5**	**+1.3**
ERM	**Erimo**	**12.50**	**233**	PN		Pn	03 32 24.6	-2.4
H11N2	**WAKE ISLAND Hy 31.72**	**161**		T		T	04 09 48.1		
	baz=348,slow=76,SNR=4.1								
H11N3	**WAKE ISLAND Hy 31.73**	**161**		T		T	04 09 51.2		
	baz=348,slow=76,SNR=18								
H11N1	**WAKE ISLAND Hy 31.74**	**161**		T		T	04 09 51.4		
	baz=348,slow=76,SNR=5.4								
ILAR	**Eielson Array**	**32.27**	**42**	P		**P**	**03 35 50.4**	**+0.5**
	comp=E,0.2nm,0.6s,baz=262,slow=6.3,SNR=5.2								
ILAR	**Eielson Array**	**32.27**	**42**	*e*P		**P**	**03 35 50.8**	**+0.9**
H11S1	**WAKE ISLAND Hy 32.87**	**162**		T		T	04 11 09.4		
	baz=348,slow=76,SNR=19								
H11S3	**WAKE ISLAND Hy 32.88**	**162**		T		T	04 11 12.6		
	baz=348,slow=76,SNR=25								
H11S2	**WAKE ISLAND Hy 32.89**	**162**		T		T	04 11 05.7		
	baz=348,slow=76,SNR=15								
KURK	**Kurchatov**	**47.27**	**302**	⇓*e*P		**P**	**03 37 51.5**	**-2.3**
KURK				pmax	pmax				
	comp=Z,2.0nm,1.5s								
MKAR	**Makanchi Array**	**47.32**	**296**	P		**P**	**03 37 51.9**	**-2.4**
	comp=Z,0.2nm,0.4s,baz=55,slow=7.1,SNR=5.7								
MKAR	**Makanchi Array**	**47.32**	**296**	*e*P		**P**	**03 37 53.4**	**-0.9**
TXAR	**Lajitas Array**	**73.76**	**64**	P		**P**	**03 40 56.1**	**+2.0**
	comp=Z,0.7nm,0.8s,baz=298,slow=4.0,SNR=6.0								
TXAR	**Lajitas Array**	**73.76**	**64**	P		**P**	**03 40 56.1**	**+2.0**
TXAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								

NNC 16 03:35:45.4±4.4, 38°.02N×71°.84E, h0km, mb4.1, mpv3.8, 3C-5D, Error ellipse: s-maj=44.2km s-min=19.8km az=154.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.38**	**33**	⇓Pn		Pn	03 36 26.5	+0.6
	14nm,0.4s							
SFK				⇓Lg		Lg	03 37 01.5		
	50nm,0.4s							
DZET	**Dzherino**	**2.49**	**289**	⇓Pn		Pn	03 36 27.5	+0.2
	58nm,0.3s							
DZET				⇑Lg		Lg	03 37 03.3		
	87nm,0.4s							
AAK	**Ala-Archa**	**5.04**	**23**	⇓Sn		Sn	03 38 02.1	+0.6
	16nm,0.8s							
KK31	**Karatay Array**	**5.18**	**349**	⇓Pn		Pn	03 37 03.7	-0.5
	2.7nm,0.4s,baz=160,slow=11,SNR=41							
KK31				Sn		Sn	03 38 06.6	+2.0
	6.1nm,0.3s,baz=160,slow=21,SNR=23							
AB31	**Akbulak array**	**14.13**	**326**	⇑P		Pn	03 38 59.9	-6.8
	1.0nm,0.6s,baz=144,slow=12							
AKTO	**Aktyubinsk**	**15.85**	**326**	⇑P		Pn	03 39 20.3	-9.4
	1.2nm,0.5s							

ISCJB ***16*** *03:46:21.9±0.7, 45°.93N±0°.07×150°.52E±0°.10, h152km, mb3.5/8, Error ellipse: s-maj=12.1km s-min=7.1km az=139.3*

MOS ***16*** *03:46:23.0±1.1, 46°.23N×150°.23E, h74km, mb3.9/2, Error ellipse: s-maj=26.3km s-min=13.5km az=135.7*

SKHL ***16*** *03:46:23.7±0.4, 45°.98N×150°.23E, h170km±5km, mb4.6/4, msh4.9/2*

IDC ***16*** *03:46:27.7±3.0, 46°.39N×149°.84E, h202km±29km, mb3.1/7, mb1 3.3/9, mb1mx3.0/38, mbtmp3.7/9,

BMKR	**Bomnak**	**16.31**	**310**	*e*P	**Pn**	**03 50 00.5**	**-2.8**
KSRS	**Korea Array**	**18.83**	**251**	P	**Pn**	**03 50 33.9**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=52,slow=12,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**29.44**	**147**	T	T	04 23 35.5	
	baz=336,slow=76,SNR=23						
H11N1	**WAKE ISLAND Hy**	**29.45**	**147**	T	T	04 23 36.4	
	baz=336,slow=76,SNR=19						
H11N3	**WAKE ISLAND Hy**	**29.46**	**147**	T	T	04 23 37.8	
	baz=336,slow=76,SNR=23						
H11S1	**WAKE ISLAND Hy**	**30.48**	**149**	T	T	04 24 50.8	
	baz=336,slow=76,SNR=29						
H11S3	**WAKE ISLAND Hy**	**30.49**	**149**	T	T	04 24 54.8	
	baz=336,slow=76,SNR=23						
H11S2	**WAKE ISLAND Hy**	**30.50**	**149**	T	T	04 24 51.5	
	baz=336,slow=76,SNR=16						
ILAR	**Eielson Array**	**38.29**	**38**	P	**P**	**03 53 27.6**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=268,slow=8.2,SNR=5.6						
KURK	**Kurchatov**	**46.29**	**303**	P	P	03 54 29.0	-4.1
KURK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KURK	**Kurchatov**	**46.29**	**303**	*e*P	P	03 54 29.0	-4.1
KURBB	**Kurchatov Arra**	**46.38**	**303**	P	P	03 54 29.0	-4.9
	comp=Z,0.5nm,0.3s,baz=64,slow=8.5,SNR=3.4						
FINES	**FINESS Array B**	**63.97**	**334**	P	P	03 56 34.5	-5.0
	comp=Z,1.1nm,0.6s,baz=20,slow=6.3,SNR=7.3						
FINES	**FINESS Array B**	**63.97**	**334**	*e*P	P	03 56 33.6	-6.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**63.97**	**334**	*e*P	P	03 56 33.6	-6.0
NVAR	**Mina Array Bea**	**64.40**	**61**	P	**P**	**03 56 43.8**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=302,slow=8.4,SNR=3.0						
WRA	**Warramunga Arr**	**67.21**	**197**	P	**P**	**03 57 01.1**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=29,slow=6.7,SNR=3.0						
ASAR	**Alice Springs**	**70.92**	**196**	P	**P**	**03 57 25.3**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=5.8,slow=6.0,SNR=5.4						
TXAR	**Lajitas Array**	**79.45**	**59**	P	**P**	**03 58 12.7**	**0.0**
	comp=Z,0.3nm,0.5s,baz=306,slow=3.2,SNR=3.9						

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*IDC **16** 03:47:33.8±2.3, 39°.94N×73°.78E, h0km, mb3.6/1, mb1 3.5/6, mb1mx3.3/43, mbtmp3.5/6, ML2.9/5, Error ellipse: s-maj=36.6km s-min=19.9km az=149.0*
*NNC **16** 03:47:34.3±0.7, 39°.93N×73°.25E, h7km±5km, mb4.1, mpv3.8, Error ellipse: s-maj=12.4km s-min=5.0km az=144.0*
*KRNET **16** 03:47:36.0±0.1, 40°.11N×73°.72E, h10km, mb3.7*
ISC 16 03:47:37.0±1.5**, 40°.18N**±0°.06×**73°.56E**±0°.05**, h3**km±15km**, n34,** σ1s**16**/49**, 19C-12D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.17**	**195**	⇑P	**Pg**	**03 47 39.7**	**-0.7**
	211nm,0.3s						
SFK				⇓S	**Sg**	**03 47 43.4**	**+0.8**
	909nm,0.3s						
SFK	**Sufi-Kurgan**	**0.17**	**195**	*e*P	**Pg**	**03 47 39.7**	**-0.7**
	baz=240						
SFK				*e*S	**Sg**	**03 47 43.5**	**+0.8**
	baz=240						
FRG	**Fergana**	**1.37**	**279**	*e*P	**Pb**	**03 48 04.6**	**+1.2**
	baz=281						
FRG				*e*S	**Sn**	**03 48 24.0**	**+2.2**
	baz=281						
AML	**Almayashu**	**1.95**	**3**	P	**Pn**	**03 48 10.6**	**-0.8**
	SNR=100						
AML	**Almayashu**	**1.95**	**3**	⇑*i*P	**Pn**	**03 48 10.4**	**-1.0**
	baz=359						
AML				⇑*i*S	**Sn**	**03 48 36.6**	**0.0**
	baz=359						
UCH	**Uchtor**	**2.17**	**19**	P	**Pn**	**03 48 14.4**	**0.0**
	SNR=142						
UCH	**Uchtor**	**2.17**	**19**	⇑*i*P	**Pn**	**03 48 14.1**	**-0.3**
	baz=16						
UCH				⇑*i*S	**Sn**	**03 48 42.7**	**+0.7**
	baz=16						
NRN	**Naryn**	**2.23**	**55**	*e*P	**Pn**	**03 48 15.5**	**+0.3**
	baz=52						
NRN				*e*S	**Sb**	**03 48 47.0**	**+0.6**
	baz=52						
KZA	**Kyzart**	**2.29**	**33**	P	**Pn**	**03 48 16.4**	**+0.4**
	SNR=58						
KZA	**Kyzart**	**2.29**	**33**	⇓*i*P	**Pn**	**03 48 16.4**	**+0.4**
	baz=30						
KZA				⇓*i*S	**Sn**	**03 48 46.4**	**+1.5**
	baz=30						
EKS2	**Erkin-Say**	**2.48**	**4**	P	**Pn**	**03 48 19.8**	**+1.3**
	SNR=53						
EKS2	**Erkin-Say**	**2.48**	**4**	⇑*i*P	**Pn**	**03 48 19.9**	**+1.4**
	baz=1.0						
EKS2				⇑*i*S	**Sn**	**03 48 51.7**	**+2.3**
	baz=1.0						
EKS	**Erkin-Say**	**2.49**	**4**	⇓*i*P	**Pn**	**03 48 20.1**	**+1.6**
	baz=1.0						
EKS				⇓*e*S	**Sb**	**03 48 53.0**	**-0.6**
	baz=1.0						
AAK	**Ala-Archa**	**2.55**	**16**	P	**Pn**	**03 48 20.9**	**+1.5**
	SNR=44						
AAK	**Ala-Archa**	**2.55**	**16**	⇑Pn	**Pn**	**03 48 20.8**	**+1.5**
	61nm,0.6s						
AAK				⇓Sn	**Sb**	**03 48 55.2**	**-0.1**
	107nm,0.8s						
AAK	**Ala-Archa**	**2.55**	**16**	⇑*i*P	**Pn**	**03 48 20.9**	**+1.5**
	baz=13						
AAK				⇑*i*S	**Sb**	**03 48 54.9**	**-0.4**
	baz=13						
KBK	**Karagaybulak**	**2.69**	**22**	P	**Pn**	**03 48 23.3**	**+2.0**
	SNR=31						
KBK	**Karagaybulak**	**2.69**	**22**	⇑*i*P	**Pn**	**03 48 23.2**	**+2.0**
	baz=20						
KBK				⇑*i*S	**Sb**	**03 48 59.0**	**-0.2**
	baz=20						
ULHL	**Ulahol**	**2.89**	**44**	P	**Pn**	**03 48 25.5**	**+1.4**
	SNR=7.9						
ULHL	**Ulahol**	**2.89**	**44**	⇑*i*P	**Pn**	**03 48 24.8**	**+0.7**
	baz=41						
ULHL				⇑*i*S	**Sb**	**03 49 03.9**	**-1.2**
	baz=41						
CHMS	**Chumysh**	**2.95**	**17**	P	**Pn**	**03 48 26.0**	**+1.2**
	SNR=11						
CHMS	**Chumysh**	**2.95**	**17**	⇑*i*P	**Pn**	**03 48 26.0**	**+1.2**
	baz=15						
CHMS				⇑*i*S	**Sb**	**03 49 06.1**	**-0.7**
	baz=15						
TKM2	**Tokmak 2**	**3.14**	**29**	P	**Pn**	**03 48 28.8**	**+1.3**
	SNR=21						
TKM2	**Tokmak 2**	**3.14**	**29**	⇓Pn	**Pn**	**03 48 28.2**	**+0.7**
	24nm,1.1s						
TKM2				⇑Sn	**Sb**	**03 49 12.8**	**+0.5**
	94nm,0.8s						
USP	**Ospenovka**	**3.16**	**13**	P	**Pn**	**03 48 29.1**	**+1.4**
	SNR=12						
KK31	**Karatay Array**	**3.71**	**323**	⇑Pg	**Pb**	**03 48 43.3**	**+0.2**
	8.7nm,0.7s,baz=146,slow=17,SNR=15						
KK31				⇓Sn	**Sn**	**03 49 19.5**	**+0.1**
	6.0nm,0.3s						
KK31				⇓Lg	Lg	03 49 33.5	
	7.3nm,0.5s,baz=145,slow=32,SNR=4.2						
DZET	**Dzherino**	**3.91**	**251**	⇑Pg	**Pn**	**03 48 38.4**	**+0.3**
	16nm,0.6s						
DZET				⇓Lg	Lg	03 49 28.5	
	35nm,0.5s						
PDGK	**Podgornoye**	**5.43**	**53**	⇓Pn	**Pn**	**03 48 59.5**	**+0.7**
	14nm,1.3s						
PDGK				⇓Lg	Lg	03 50 26.6	
	18nm,1.1s						
MKAR	**Makanchi Array**	**9.16**	**41**	Pn	**Pn**	**03 49 49.5**	**-0.5**
	0.1nm,0.3s,baz=229,slow=13,SNR=3.7						
MKAR				Lg	Lg	03 52 17.6	
	0.2nm,0.3s,baz=232,slow=26,SNR=3.8						
KURBB	**Kurchatov Arra**	**11.01**	**17**	Pn	Pn	03 50 12.3	-2.9
	0.0nm,0.3s,baz=206,slow=12,SNR=2.9						
KURBB				Lg	Lg	03 53 19.0	
	0.0nm,0.3s,baz=202,slow=32,SNR=5.3						
BVAR	**Borovoye Array**	**13.03**	**351**	Pn	**Pn**	**03 50 41.2**	**-1.7**
	0.1nm,0.3s,baz=164,slow=16,SNR=7.7						
BVAR				Lg	Lg	03 54 28.0	
	0.3nm,0.3s,baz=161,slow=32,SNR=3.0						
AKTO	**Aktyubinsk**	**14.96**	**318**	Pn	**Pn**	**03 51 08.7**	**-0.5**
	0.1nm,0.3s,baz=136,slow=14,SNR=3.3						
ZALV	**Zalesovo Beam**	**15.73**	**25**	Pn	**Pn**	**03 51 20.4**	**+1.0**
	0.3nm,0.3s,baz=220,slow=11,SNR=9.4						
TORD	**Torodi Ar. Bea**	**67.82**	**269**	P	**P**	**03 58 34.6**	**-2.0**
	0.7nm,1.0s,baz=52,slow=6.4,SNR=5.3						

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*ISCJB **16** 04:05:55.1±1.0, 10°.5N±0°.1×93°.4E±0°.2, h123km, mb3.8/7, Error ellipse: s-maj=26.8km s-min=16.5km az=147.4*
*IDC **16** 04:06:02.9±8.3, 10°.77N×93°.72E, h174km±72km, mb3.4/7, mb1 3.5/8, mb1mx3.2/43, mbtmp3.9/8, Error ellipse: s-maj=80.8km s-min=15.0km az=52.0*
ISC 16 04:05:57.1±1.1**, 10°.5N**±0°.2×**93°.4E**±0°.2**, h123**km**, n11,** σ**0s86**/9**, mb3.6**/7**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.53**	**33**	P	**Pn**	**04 08 11.6**	**+0.3**
	1.3nm,0.3s,baz=225,slow=14,SNR=15						
H08S3	**Diego Garcia H**	**27.56**	**230**	T	T	04 39 15.9	
	baz=48,slow=74						
H08S2	**Diego Garcia H**	**27.57**	**230**	T	T	04 39 15.9	
	baz=48,slow=74						
H08S1	**Diego Carcia H**	**27.58**	**230**	T	T	04 39 15.4	
	baz=48						
MKAR	**Makanchi Array**	**37.38**	**347**	P	**P**	**04 12 57.3**	**-0.7**
	0.7nm,0.4s,baz=168,slow=8.4,SNR=7.6						
GEYT	**Alibeck**	**41.81**	**317**	P	**P**	**04 13 36.1**	**+1.4**
	4.2nm,0.5s,baz=161,slow=6.1,SNR=4.1						
KURBB	**Kurchatov Arra**	**41.84**	**346**	P	**P**	**04 13 34.4**	**-0.3**
	0.5nm,0.4s,baz=163,slow=7.6,SNR=5.3						
WRA	**Warramunga Arr**	**50.36**	**127**	P	**P**	**04 14 42.3**	**+0.3**
	0.3nm,0.3s,baz=301,slow=9.9,SNR=5.2						
WRA				PcP	**PcP**	**04 15 59.0**	**+0.1**
	0.4nm,0.9s,baz=314,slow=3.2,SNR=5.1						
ASAR	**Alice Springs**	**52.14**	**131**	P	**P**	**04 14 55.0**	**-0.2**
	0.3nm,0.5s,baz=307,slow=6.8,SNR=5.4						
FINES	**FINESS Array B**	**70.08**	**332**	P	**P**	**04 16 54.3**	**-1.3**
	0.6nm,0.6s,baz=104,slow=5.9,SNR=5.0						
ARCES	**ARCESS Array B**	**72.57**	**340**	P	**P**	**04 17 10.2**	**-0.3**
	1.6nm,0.8s,baz=87,slow=7.1,SNR=5.4						
TORD	**Torodi Ar. Bea**	**67.79**	**269**	P	**P**	**04 17 21.5**	**+0.1**
	0.3nm,0.7s,baz=49,slow=5.4,SNR=6.8						

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*IDC **16** 04:06:15.8±2.6, 38°.99N×74°.70E, h0km, mb3.4/1, mb1 3.4/5, mb1mx3.2/46, mbtmp3.4/5, ML3.2/4, MS3.2/2, Ms1 3.3/2, ms1mx2.5/24, Error ellipse: s-maj=48.3km s-min=25.3km az=137.0*
*KRNET **16** 04:06:20.5±0.1, 40°.08N×73°.89E, h10km, mb3.6*
*NNC **16** 04:06:21.5±0.9, 39°.88N×73°.45E, h14km±3km, mb3.8, mpv3.4, Error ellipse: s-maj=15.5km s-min=6.2km az=118.0*
*ISCJB **16** 04:06:22.3±1.0, 39°.93N±0°.07×73°.36E±0°.09, h20km±5km, mb3.4/1, MS3.2/2, Error ellipse: s-maj=13.5km s-min=9.3km az=39.6*
ISC 16 04:06:23.9±1.2**, 39°.98N**±0°.09×**73°.53E**±0°.05**, h15**km±5km**, n37,** σ**1s37**/50**, 21C-8D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.04**	**332**	⇓P	**Pg**	**04 06 26.5**	**-0.5**
	111nm,0.3s						
SFK				⇑S	**Sg**	**04 06 30.4**	**+1.3**
	853nm,0.5s						
SFK	**Sufi-Kurgan**	**0.04**	**332**	*e*P	**Pg**	**04 06 26.5**	**-0.5**
	baz=259						
SFK				*e*S	**Sg**	**04 06 30.3**	**+1.3**
	baz=259						
FRG	**Fergana**	**1.40**	**287**	*e*P	**Pg**	**04 06 52.3**	**+1.5**
	baz=282						
FRG				*e*S	Sg	04 07 15.9	+6.9
	baz=282						
BTK	**Batken**	**2.08**	**273**	*e*P	**Pb**	**04 07 00.6**	**-0.8**
	baz=271						
BTK				*e*S	**Sg**	**04 07 31.1**	**+0.2**
	baz=271						
AML	**Almayashu**	**2.15**	**3**	P	**Pn**	**04 06 57.7**	**-1.9**
	SNR=63						
AML	**Almayashu**	**2.15**	**3**	⇑*i*P	**Pn**	**04 06 57.2**	**-2.4**
	baz=356						
AML				⇑*i*S	**Sn**	**04 07 24.4**	**-1.9**
	baz=356						
UCH	**Uchtor**	**2.37**	**18**	P	**Pn**	**04 07 02.1**	**-0.5**
	SNR=30						
UCH	**Uchtor**	**2.37**	**18**	⇑*i*P	**Pn**	**04 07 01.1**	**-1.5**
	baz=12						
UCH				⇑*i*S	**Sn**	**04 07 29.7**	**-1.9**
	baz=12						
NRN	**Naryn**	**2.38**	**51**	*e*P	**Pn**	**04 07 03.3**	**+0.7**
	baz=49						
NRN				*e*S	**Sb**	**04 07 34.9**	**-0.9**
	baz=49						
KZA	**Kyzart**	**2.47**	**31**	P	**Pn**	**04 07 03.5**	**-0.5**
	SNR=40						
KZA	**Kyzart**	**2.47**	**31**	⇑*i*P	**Pn**	**04 07 02.8**	**-1.2**
	baz=27						
KZA				⇑*i*S	**Sn**	**04 07 33.2**	**-0.9**
	baz=27						
EKS2	**Erkin-Say**	**2.69**	**4**	P	**Pn**	**04 07 06.6**	**-0.1**
	SNR=32						
EKS2	**Erkin-Say**	**2.69**	**4**	⇑*i*P	**Pn**	**04 07 06.5**	**-0.2**
	baz=358						
EKS2				⇑*i*S	**Sn**	**04 07 39.5**	**+0.4**
	baz=358						
EKS	**Erkin-Say**	**2.69**	**4**	*i* P	**Pn**	**04 07 06.9**	**+0.1**
	baz=358						
EKS				*e*S	**Sn**	**04 07 40.9**	**+1.7**
	baz=358						
AAK	**Ala-Archa**	**2.75**	**15**	P	**Pn**	**04 07 08.0**	**+0.3**
	SNR=34						
AAK	**Ala-Archa**	**2.75**	**15**	⇑Pn	**Pn**	**04 07 07.7**	**+0.1**
	38nm,0.6s						
AAK				⇓Sn	**Sn**	**04 07 41.7**	**+1.0**
	108nm,0.9s						
AAK	**Ala-Archa**	**2.75**	**15**	⇑*i*P	**Pn**	**04 07 07.5**	**-0.1**
	baz=10.0						
AAK				⇑*i*S	**Sn**	**04 07 41.7**	**+1.0**
	baz=10.0						
KBK	**Karagaybulak**	**2.88**	**21**	P	**Pn**	**04 07 10.1**	**+0.6**
	SNR=26						
KBK	**Karagaybulak**	**2.88**	**21**	⇓*i*P	**Pn**	**04 07 09.7**	**+0.3**
	baz=17						
KBK				⇓*i*S	**Sn**	**04 07 45.9**	**+2.0**
	baz=17						
FRU	**Bishkek**	**2.97**	**16**	*e*P	**Pb**	**04 07 17.0**	**+0.5**
	baz=11						
FRU				*e*S	**Sn**	**04 07 49.0**	**+3.2**
	baz=11						
ULHL	**Ulahol**	**3.06**	**41**	P	**Pn**	**04 07 11.0**	**-0.8**
	SNR=21						
ULHL	**Ulahol**	**3.06**	**41**	⇑*i*P	**Pn**	**04 07 11.6**	**-0.3**
	baz=39						
ULHL				⇑*i*S	**Sn**	**04 07 49.8**	**+1.5**
	baz=39						
CHMS	**Chumysh**	**3.16**	**17**	P	**Pn**	**04 07 13.6**	**+0.6**
	SNR=7.7						
CHMS	**Chumysh**	**3.16**	**17**	⇓*i*P	**Pn**	**04 07 12.8**	**-0.3**
	baz=12						
CHMS				⇓*i*S	**Sn**	**04 07 53.0**	**+2.5**
	baz=12						
TKM2	**Tokmak 2**	**3.33**	**27**	P	**Pn**	**04 07 15.9**	**+0.3**
	SNR=17						
TKM2	**Tokmak 2**	**3.33**	**27**	⇑Pn	**Pn**	**04 07 15.3**	**-0.2**
TKM2				⇑Sn	**Sn**	**04 07 56.9**	**+2.0**
	66nm,0.8s						
USP	**Ospenovka**	**3.37**	**12**	P	**Pn**	**04 07 16.2**	**+0.2**
	SNR=6.3						
DZET	**Dzherino**	**3.83**	**254**	⇑Pg	Pb	04 07 31.8	+0.6
	14nm,0.8s						
DZET				⇑Lg	Lg	04 08 22.1	
	38nm,0.8s						
KK31	**Karatay Array**	**3.86**	**325**	⇑Pn	**Pn**	**04 07 21.2**	**-1.5**
	0.7nm,0.5s,baz=57,slow=1.5,SNR=2.5						
KK31				⇑Pg	**Pb**	**04 07 30.4**	**-1.2**
	2.9nm,0.5s,baz=137,slow=15,SNR=33						
KK31				⇓Lg	Lg	04 08 22.1	
	5.5nm,0.5s,baz=136,slow=15,SNR=5.1						
PDGK	**Podgornoye**	**5.58**	**51**	⇑Pg	Pb	04 08 05.4	+4.5
	6.6nm,1.0s						
PDGK				⇓Lg	Lg	04 09 15.2	
	12nm,1.1s						
MKAR	**Makanchi Array**	**9.33**	**40**	Pn	**Pn**	**04 08 35.6**	**-2.2**
	0.2nm,0.3s,baz=217,slow=12,SNR=3.2						
MKAR				Lg	Lg	04 11 08.0	
	0.1nm,0.3s,baz=240,slow=28,SNR=2.5						
BVAR	**Borovoye Array**	**13.23**	**352**	Pn	**P**	**04 09 38.3**	**-2.6**
	0.1nm,0.3s,baz=168,slow=15,SNR=4.1						
AKTO	**Aktyubinsk**	**15.10**	**319**	Pn	**P**	**04 10 04.3**	**+2.6**
	0.1nm,0.3s,baz=128,slow=12,SNR=4.2						
ZALV	**Zalesovo Beam**	**15.93**	**25**	Pn	**Pn**	**04 10 08.0**	**+0.7**
	0.3nm,0.3s,baz=208,slow=8.9,SNR=4.4						
CMAR	**Chiang Mai Arr**	**30.66**	**127**	LR	LR	04 26 22.8	
	comp=Z,14nm,20.2s,baz=220,slow=41						
SIJI	**Sorong**	**66.39**	**113**	LR	LR	04 47 15.3	
	comp=Z,67nm,20.9s,baz=260,slow=38						

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*IDC **16** 04:31:14.1±10.0, 22°.75S×178°.86W, h408km±93km, mb3.6/5, mb1 3.7/6, mb1mx3.3/38, mbtmp4.4/6, Error ellipse: s-maj=81.9km s-min=23.1km az=43.0*
ISC 16 04:31:16.2±2.3**, 22°.9S**±0°.3×**179°.0W**±0°.3**, h426**km**, n8,** σ**1s27**/8**, mb3.9**/5**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.67**	**192**	P	**P**	**04 34 34.4**	**-0.5**
	1.4nm,0.3s,baz=27,slow=2.3,SNR=9.5						
URZ				S	S	04 37 04.5	-15
	baz=82,slow=19,SNR=2.1						
CTA	**Charters Tower**	**32.44**	**268**	P	**P**	**04 37 11.2**	**+1.8**
	8.0nm,0.5s,baz=99,slow=14,SNR=12						
STKA	**Stephens Creek**	**35.98**	**247**	P	**P**	**04 37 37.9**	**-1.3**
	1.6nm,0.6s,baz=104,slow=12,SNR=4.5						
ASAR	**Alice Springs**	**43.14**	**259**	P	**P**	**04 38 37.4**	**-0.2**
	2.7nm,0.5s,baz=96,slow=7.0,SNR=28						
WRA	**Warramunga Arr**	**43.43**	**265**	P	**P**	**04 38 39.5**	**-0.3**
	3.1nm,0.3s,baz=95,slow=8.3,SNR=23						
QSPA	**South Pole Qui**	**67.17**	**180**	P	**P**	**04 41 27.1**	**+1.0**
	2.3nm,0.7s,baz=13,slow=4.8,SNR=5.6						
BRTR	**Keskin Array B**	**147.72**	**309**	PKPbc	**PKPbc**	**04 50 10.8**	**-1.3**
	1.0nm,0.7s,baz=41,slow=4.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**170.27**	**184**	PKPab	**PKPab**	**04 51 53.6**	**+0.1**
	0.3nm,0.7s,baz=166,slow=4.0,SNR=2.9						

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*BJI **16** 04:37:24.0, 53°.60N×158°.60W, h12km, mb4.7/9, mB4.9/8, Ms4.5/5, Ms7 4.1/4*
*IDC **16** 04:37:26.3±1.1, 53°.55N×158°.52W, h0km, mb3.9/15, mb1 4.2/18, mb1mx4.0/50, mbtmp4.0/18, ML4.5/3, MS3.3/7, Ms1 3.3/7, ms1mx2.9/38, Error ellipse: s-maj=28.9km s-min=14.4km az=15.0*
*ISCJB **16** 04:37:28.5±0.3, 53°.65N±0°.03×158°.59W±0°.03, h33km, mb3.9/30, MS3.4/3, Error ellipse: s-maj=4.6km s-min=2.4km az=171.3*
*NEIC **16** 04:37:30.0, 53°.62N×158°.60W, h22km, mb4.2/15, ML4.2(AEIC), After AEIC.*
ISC 16 04:37:30.4±0.6**, 53°.55N**±0°.07×**158°.64W**±0°.04**, h35**km**, n143,** σ**1s21**/142**, mb4.0**/30**, MS3.5**/3**, South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**2.10**	**330**	P	**Pn**	**04 38 01.9**	**-1.1**
SDPT				S	**Sn**	**04 38 27.2**	**-0.7**
VNKR	**Veniaminof 5**	**2.52**	**351**	P	**Pn**	**04 38 08.4**	**-0.6**
DRIA	**Deer Island**	**2.56**	**305**	P	**Pn**	**04 38 07.9**	**-1.4**
VNSW	**Veniaminof 7**	**2.58**	**348**	P	**Pn**	**04 38 08.9**	**-0.9**
VNSG	**Veniaminof 6**	**2.60**	**354**	P	**Pn**	**04 38 08.8**	**-1.1**
PS4A	**Pavlof South-4**	**2.60**	**315**	P	**Pn**	**04 38 09.4**	**-0.6**
PS1A	**Pavlof South-1**	**2.61**	**317**	P	**Pn**	**04 38 09.6**	**-0.4**
DT1	**Dutton Round H**	**2.64**	**308**	P	**Pn**	**04 38 09.2**	**-1.3**
DTNA	**Dutton South F**	**2.66**	**309**	P	**Pn**	**04 38 09.7**	**-1.0**
VNWF	**Veniaminof 8**	**2.66**	**349**	P	**Pn**	**04 38 09.0**	**-1.9**
PN6	**Pavlof North-6**	**2.70**	**316**	P	**Pn**	**04 38 11.7**	**+0.3**
PN6				S	**Sn**	**04 38 43.2**	**+0.3**
CHGN	**Chignik**	**2.76**	**3**	P	**Pn**	**04 38 11.0**	**-1.1**
BALA	**Baldy Mountain**	**2.93**	**306**	P	**Pn**	**04 38 14.9**	**+0.4**
FALS	**False Pass**	**3.10**	**297**	P	**Pn**	**04 38 16.4**	**-0.3**
FALS				S	**Sn**	**04 38 51.6**	**-0.9**
ISNN	**Isanotski Nort**	**3.28**	**295**	P	**Pn**	**04 38 19.4**	**+0.1**
AZAC	**Aniakchak**	**3.36**	**4**	P	**Pn**	**04 38 20.1**	**-0.4**
SSLS	**Shishaldin Sou**	**3.36**	**292**	P	**Pn**	**04 38 20.3**	**-0.2**
SSLS				S	**Sn**	**04 38 59.1**	**0.0**
ANNE	**Aniakchak Nort**	**3.39**	**5**	P	**Pn**	**04 38 20.7**	**-0.1**
ANNW	**Aniakchak Nort**	**3.43**	**4**	P	**Pn**	**04 38 20.8**	**-0.6**
SSLW	**Shishaldin Wes**	**3.45**	**293**	P	**Pn**	**04 38 21.3**	**-0.3**
SSBA	**Shishaldin**	**3.45**	**293**	P	**Pn**	**04 38 21.2**	**-0.5**
SSBA				S	**Sn**	**04 39 01.4**	**+0.1**
WESN	**West Dahl Nort**	**3.65**	**289**	P	**Pn**	**04 38 24.6**	**+0.3**
WESP	**Westdahl Peak**	**3.71**	**287**	P	**Pn**	**04 38 24.8**	**-0.5**
AKSA	**Akutan Strait**	**4.22**	**281**	P	**Pn**	**04 38 31.7**	**-0.5**
AKSA				S	**Sn**	**04 39 18.6**	**-1.7**
AKUT	**Akutan**	**4.27**	**281**	P	**Pn**	**04 38 32.5**	**-0.3**
AKUT				S	**Sn**	**04 39 19.9**	**-1.4**
HSB	**Akutan Spr's B**	**4.35**	**281**	P	**Pn**	**04 38 33.9**	**-0.2**
PLK3	**Peulik 3**	**4.36**	**17**	P	**Pn**	**04 38 33.6**	**-0.5**
PLK3				S	**Sn**	**04 39 23.8**	**+0.1**
ZRO	**Akutan Zero**	**4.38**	**280**	P	**Pn**	**04 38 34.5**	**+0.1**
AKGG	**Akutan Green G**	**4.40**	**281**	P	**Pn**	**04 38 34.7**	**0.0**
PLK1	**Peulik 1**	**4.42**	**14**	P	**Pn**	**04 38 33.8**	**-1.0**
LVA	**Lava Point**	**4.42**	**281**	P	**Pn**	**04 38 34.9**	**-0.1**
UNV	**Unalaska Valle**	**4.68**	**277**	P	**Pn**	**04 38 38.2**	**-0.4**
OHAK	**Old Harbor**	**4.78**	**37**	P	**Pn**	**04 38 37.9**	**-1.9**
MTBL	**Makushin Table**	**4.79**	**278**	P	**Pn**	**04 38 39.6**	**-0.5**
MSW	**Makushin Switc**	**4.85**	**278**	P	**Pn**	**04 38 40.5**	**-0.3**
MCIR	**Makushin Cirqu**	**4.92**	**278**	P	**Pn**	**04 38 41.6**	**-0.2**
ANCK	**Angle Creek**	**4.99**	**20**	P	**Pn**	**04 38 42.1**	**-0.6**
KABR	**Katmai Barrier**	**5.04**	**23**	P	**Pn**	**04 38 42.6**	**-0.8**
KCE	**Katmai Mt Cerb**	**5.09**	**21**	P	**Pn**	**04 38 43.3**	**-0.9**
KELA	**Mount Kelaz**	**5.17**	**17**	P	**Pn**	**04 38 43.9**	**-1.3**
KAKN	**Katmai Knife C**	**5.17**	**21**	P	**Pn**	**04 38 44.5**	**-0.7**
KVTA	**Katmai Vly 10**	**5.20**	**20**	P	**Pn**	**04 38 45.2**	**-0.4**
KDAK	**Kodiak Island**	**5.45**	**36**	P	**Pn**	**04 38 46.7**	**-2.4**
OKFG	**Magazine Ridge**	**5.54**	**272**	P	**Pn**	**04 38 49.8**	**-0.5**
OKTU	**Okmok Mt. Tuli**	**5.62**	**272**	P	**Pn**	**04 38 51.6**	**+0.1**
OKCE	**Okmok Cone E**	**5.69**	**273**	P	**Pn**	**04 38 52.4**	**0.0**
OKSP	**Okmok Steeple**	**5.78**	**271**	P	**Pn**	**04 38 53.2**	**-0.4**
NIKH	**Nikolski High**	**6.16**	**269**	P	**Pn**	**04 38 57.8**	**-1.0**
AUW	**Augustine West**	**6.50**	**24**	P	**Pn**	**04 39 02.6**	**-0.8**
ILW	**Iliamna West**	**7.19**	**23**	P	**Pn**	**04 39 12.2**	**-0.9**
CNPM	**China Poot**	**7.25**	**31**	P	**Pn**	**04 39 11.9**	**-1.8**
SPIA	**Saint Paul Isl**	**7.55**	**303**	P	**Pn**	**04 39 17.1**	**-0.7**
BRLK	**Bradley Lake**	**7.55**	**31**	P	**Pn**	**04 39 15.8**	**-2.1**
RSO	**Redoubt South**	**7.64**	**22**	P	**Pn**	**04 39 18.0**	**-1.3**
SVW2	**Sparrevohn**	**7.75**	**11**	*e*Pn	Pn	04 39 22.4	+1.9
SLKM	**Skilak Lake**	**8.34**	**30**	P	**Pn**	**04 39 26.3**	**-2.5**
SPBG	**Spurr Blockage**	**8.44**	**21**	P	**Pn**	**04 39 29.2**	**-0.9**
STLK	**Strandline Lak**	**8.77**	**22**	P	**Pn**	**04 39 33.1**	**-1.5**
RC01	**Rabbit Creek A**	**8.95**	**29**	P	**Pn**	**04 39 35.3**	**-1.8**
MID	**Middleton Isla**	**8.99**	**44**	P	**Pn**	**04 39 35.7**	**-1.9**
SUA	**Susitna One**	**8.99**	**25**	P	**Pn**	**04 39 35.9**	**-1.9**
PWL	**Port Wells**	**9.21**	**33**	P	**Pn**	**04 39 39.3**	**-1.3**
SKT	**Skwentna**	**9.26**	**21**	P	**Pn**	**04 39 39.5**	**-1.8**
TT01	**Tatalina**	**9.48**	**7**	P	**Pn**	**04 39 41.6**	**-2.7**
ATKA	**Atka Island**	**9.51**	**268**	P	**Pn**	**04 39 44.3**	**-0.4**
PMR	**Palmer**	**9.53**	**28**	P	**Pn**	**04 39 42.3**	**-2.7**
GLI	**Glacier Island**	**9.64**	**36**	P	**Pn**	**04 39 43.9**	**-2.6**
EYAK	**Cordova Ski Ar**	**9.91**	**40**	P	**Pn**	**04 39 48.4**	**-1.8**
CUT	**Chulitna**	**9.92**	**23**	P	**Pn**	**04 39 48.6**	**-1.7**
JPK	**Jack Peak**	**9.94**	**36**	P	**Pn**	**04 39 48.5**	**-2.1**
SML	**Sawmill**	**9.94**	**29**	P	**Pn**	**04 39 48.2**	**-2.3**
PPLA	**Purkeypile**	**9.97**	**17**	*e*Pn	**Pn**	**04 39 51.0**	**-0.1**
	8.1nm,0.7s						
CAST	**Castle Rocks**	**10.47**	**16**	*e*Pn	**Pn**	**04 39 58.1**	**+0.3**
KLU	**Klutina**	**10.48**	**36**	*e*Pn	**Pn**	**04 39 56.2**	**-1.8**
BMRM	**Bremner River**	**10.61**	**40**	*e*Pn	**Pn**	**04 39 58.4**	**-1.5**
BPAW	**Bear Paw Mtn.**	**11.29**	**17**	*e*Pn	Pn	04 40 05.3	-3.7
MCK	**McKinley**	**11.38**	**22**	*e*Pn	**Pn**	**04 40 09.4**	**-0.9**
HARP	**HAARP**	**11.38**	**33**	*e*Pn	**Pn**	**04 40 10.8**	**+0.5**
PAX	**Paxson**	**11.69**	**31**	*e*Pn	**Pn**	**04 40 12.3**	**-2.2**
PAX				*e*Sn	Sn	04 42 13.6	-10
MENT	**Mentasta**	**12.22**	**34**	*e*Pn	**Pn**	**04 40 21.0**	**-0.8**
HDA	**Harding Lake**	**12.41**	**24**	*e*Pn	**Pn**	**04 40 21.9**	**-2.5**
CCB	**Clear Creek Bu**	**12.42**	**22**	*e*Pn	Pn	04 40 19.2	-5.2
COLA	**College**	**12.60**	**21**	*e*Pn	**Pn**	**04 40 23.9**	**-3.0**
IM04	**Indian Mountai**	**12.70**	**9**	*e*Pn	**Pn**	**04 40 28.4**	**+0.1**
ILAR	**Eielson Array**	**12.73**	**23**	Pn	Pn	04 40 23.9	-4.8
	0.9nm,0.3s,baz=218,slow=14,SNR=36						
ILAR				Sn	Sn	04 42 37.5	-12
	0.7nm,0.3s,baz=195,slow=18,SNR=4.3						
ILAR				LR	LR	04 45 56.0	
	comp=Z,114nm,18.6s,baz=201,slow=40						
HYT	**Haines Junctio**	**13.53**	**49**	*e*Pn	**Pn**	**04 40 40.0**	**+0.2**
SKAG	**Skagway**	**14.12**	**56**	*e*Pn	**Pn**	**04 40 45.9**	**-1.8**
	48nm,0.8s						
BESE	**Bessie Mountai**	**14.17**	**60**	*e*Pn	**Pn**	**04 40 48.1**	**-0.3**
EGAK	**Eagle**	**14.32**	**31**	*e*Pn	**Pn**	**04 40 48.7**	**-1.7**
DAWY	**Dawson**	**14.43**	**36**	*e*Pn	**Pn**	**04 40 50.6**	**-1.3**
DLBC	**Dease Lake**	**16.66**	**61**	Pn	**P**	**04 41 21.8**	**-1.3**
	1.1nm,0.3s,baz=252,slow=13,SNR=14						
DLBC				LR	LR	04 46 46.6	
	comp=Z,43nm,18.9s,baz=131,slow=34						
DLBC	**Dease Lake**	**16.66**	**61**	*e*P	**P**	**04 41 23.1**	**0.0**
BBB	**Bella Bella**	**18.41**	**82**	LR	LR	04 46 44.2	
	comp=Z,86nm,18.9s,baz=148,slow=30						

INK	**Inuvik**	**18.95**	**29**	P		**Pn**	**04 41 48.5**	**-0.4**
	1.2nm,0.3s,baz=235,slow=14,SNR=30							
INK				S		**S**	**04 45 22.1**	**+1.0**
	0.2nm,0.3s,baz=233,slow=32,SNR=14							
INK				LR		LR	04 49 29.2	
	comp=Z,83nm,19.8s,baz=220,slow=38							
INK	**Inuvik**	**18.95**	**29**	*e*P		**Pn**	**04 41 49.3**	**+0.3**
	19nm,0.8s							
INK				S		**S**	**04 45 22.1**	**+1.0**
YKW3	**Yellowknife Ar**	**24.50**	**51**	*e*P		**P**	**04 42 45.7**	**-0.3**
	0.1nm,1.0s							
YKA	**Yellowknife Ar**	**24.51**	**51**	P		**P**	**04 42 46.1**	**0.0**
	3.6nm,0.7s,baz=269,slow=9.1,SNR=18							
B08A	**Colville Reser**	**25.06**	**86**	*e*P		**P**	**04 42 53.0**	**+1.7**
	3.7nm,0.7s							
PETK	**Petropavlovsk-**	**25.78**	**287**	P		**P**	**04 42 57.8**	**+0.1**
	2.5nm,0.6s,baz=84,slow=13,SNR=3.5							
NEW	**Newport**	**26.42**	**85**	P		**P**	**04 43 04.4**	**+0.8**
	2.8nm,0.7s,baz=285,slow=10,SNR=7.6							
NEW				LR		LR	04 51 19.5	
	comp=Z,52nm,18.5s,baz=318,slow=32							
NEW	**Newport**	**26.42**	**85**	*e*P		**P**	**04 43 05.0**	**+1.4**
	2.9nm,0.8s							
EDM	**Edmonton**	**26.67**	**72**	*e*P		**P**	**04 43 07.1**	**+1.3**
SEY	**Seymchan**	**26.78**	**310**	P		**P**	**04 43 06.8**	**+0.1**
	1.9nm,0.8s,baz=84,slow=12,SNR=4.4							
HLID	**Hailey**	**30.47**	**91**	*e*P		**P**	**04 43 40.6**	**+0.8**
	1.7nm,0.9s							
NVAR	**Mina Array Bea**	**31.36**	**102**	P		**P**	**04 43 47.9**	**+0.1**
	0.2nm,0.5s,baz=309,slow=10.0,SNR=3.2							
FFC	**Flin Flon**	**32.45**	**65**	*e*P		**P**	**04 43 56.4**	**-0.5**
	1.9nm,0.7s							
TPAW	**Teton Pass**	**32.58**	**88**	*e*P		**P**	**04 43 59.6**	**+1.1**
	1.6nm,0.8s							
RLMT	**Red Lodge**	**32.67**	**85**	*e*P		**P**	**04 44 00.3**	**+1.1**
	5.6nm,1.0s							
DUG	**Dugway**	**33.45**	**95**	*e*P		**P**	**04 44 06.7**	**+0.7**
	2.1nm,0.6s							
BW06	**Boulder Array**	**33.83**	**88**	*e*P		**P**	**04 44 09.8**	**+0.4**
	2.0nm,1.0s							
PDAR	**Pinedale Array**	**33.83**	**88**	P		**P**	**04 44 09.4**	**0.0**
	1.1nm,0.8s,baz=332,slow=5.0,SNR=9.5							
O20A	**White River Ci**	**36.21**	**91**	*e*P		**P**	**04 44 30.8**	**+0.9**
	4.4nm,0.8s							
RSSD	**Black Hills**	**36.33**	**82**	*e*P		**P**	**04 44 31.2**	**+0.3**
	3.3nm,0.8s							
PV01	**Paradox Valley**	**37.30**	**94**	*e*P		**P**	**04 44 39.3**	**+0.2**
ULM	**Lac du Bonnet**	**37.76**	**69**	*e*P		**P**	**04 44 42.3**	**-0.4**
	4.2nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**42.88**	**232**	T		T	05 32 42.5	
	baz=28,slow=75,SNR=4.0							
H11N3	**WAKE ISLAND Hy**	**42.89**	**232**	T		T	05 32 42.5	
	baz=28,slow=75,SNR=3.6							
H11N1	**WAKE ISLAND Hy**	**42.90**	**232**	T		T	05 32 42.5	
	baz=28,slow=75,SNR=4.9							
H11S1	**WAKE ISLAND Hy**	**44.03**	**231**	T		T	05 33 14.8	
	baz=28,slow=76,SNR=5.1							
H11S2	**WAKE ISLAND Hy**	**44.05**	**231**	T		T	05 33 14.6	
	baz=28,slow=76,SNR=3.7							
H11S3	**WAKE ISLAND Hy**	**44.05**	**231**	T		T	05 33 14.6	
	baz=28,slow=76,SNR=4.1							
WMOK	**Wichita Mounta**	**45.41**	**89**	*e*P		**P**	**04 45 45.7**	**+0.1**
	2.2nm,0.7s							
TXAR	**Lajitas Array**	**46.35**	**99**	P		**P**	**04 45 53.6**	**+0.5**
	0.9nm,0.7s,baz=297,slow=5.7,SNR=9.4							
CN2	**Changchun**	**48.80**	**291**	*e*P		**P**	**04 46 14.4**	**+2.6**
CN2				PMZ				
	10.0nm,0.6s							
OLIL	**Olney**	**49.04**	**78**	*e*P		**P**	**04 46 12.7**	**-1.0**
SCHQ	**Schefferville**	**49.94**	**49**	P		**P**	**04 46 20.1**	**-0.2**
	2.5nm,0.6s,baz=325,slow=7.5,SNR=5.3							
WVT	**Waverly**	**50.96**	**80**	*e*P		**P**	**04 46 27.7**	**-0.6**
	7.4nm,0.8s							
SONM	**Songino Array**	**56.07**	**306**	P		P	04 47 08.7	+2.9
	0.3nm,0.4s,baz=76,slow=6.1,SNR=3.0							
SONM				LR		LR	05 11 30.1	
	comp=Z,34nm,18.3s,baz=51,slow=36							
ARCES	**ARCESS Array B**	**57.19**	**358**	P		P	04 47 15.7	+2.5
	1.6nm,0.9s,baz=10,slow=6.5,SNR=2.7							
HHC	**Hu-ho-hao-te**	**58.37**	**297**	*e*P		**P**	**04 47 22.3**	**+0.2**
HHC				PP		**PP**	**04 49 32.1**	**+1.0**
HHC				S		**S**	**04 55 21.4**	**-0.8**
HHC				PMZ				
	11nm,0.9s							
HHC				PMZ				
	97nm,8.4s							
HHC				LN				
	140nm,15.1s							
HHC				LE				
	130nm,16.0s							
HHC				LZ				
	100nm,16.0s							
ZALV	**Zalesovo Beam**	**60.68**	**323**	LR		LR	05 16 21.9	
	comp=Z,30nm,18.8s,baz=70,slow=38							
FINES	**FINESS Array B**	**65.29**	**358**	P		**P**	**04 48 08.1**	**0.0**
	0.8nm,0.5s,baz=12,slow=8.5,SNR=5.0							
NOA	**NORSAR Array B**	**65.47**	**5**	P		**P**	**04 48 10.2**	**+0.9**
	1.0nm,0.8s,baz=355,slow=6.4,SNR=3.6							
GTA	**Gaotai**	**65.49**	**303**	*e*P		P	04 48 17.3	+7.4
GTA				pP		pP	04 48 21.9	+1.2
GTA				sP		sP	04 48 24.3	-0.5
GTA				pmax		pmax		
	comp=Z,2.0nm,1.2s							
MKAR	**Makanchi Array**	**67.43**	**319**	P		P	04 48 25.5	+3.4
	comp=Z,0.4nm,0.5s,baz=44,slow=7.3,SNR=3.8							
WMQ	**Urumqi**	**67.65**	**314**	*e*P		**P**	**04 48 25.3**	**+1.7**
WMQ				pP		**pP**	**04 48 30.3**	**-4.0**
WMQ				sP		sP	04 48 32.3	-6.1
WMQ				PMZ				
	comp=Z,8.0nm,1.0s							
WMQ				PMZ				
	comp=Z,76nm,4.0s							
WMQ				LN				
	comp=Z,34nm,22.0s							
CD2	**Chengdu**	**69.98**	**295**	P		**P**	**04 48 37.1**	**-1.2**
CD2				pP		pP	04 48 40.4	-8.7
CD2				PP		**PP**	**04 51 11.1**	**-1.8**
CD2				S		**S**	**04 57 46.8**	**+0.8**
CD2				SS		**SS**	**05 02 16.0**	**+1.1**
CD2				PMZ				
	comp=Z,10.0nm,0.5s							
CD2				PMZ				
	comp=Z,250nm,6.0s							
ABKAR	**Akbulak array**	**72.51**	**335**	*e*P		**P**	**04 48 53.8**	**+0.6**
EKS2	**Erkin-Say**	**74.14**	**323**	*e*P		**P**	**04 49 02.0**	**-1.0**
	comp=Z,2.0nm,0.8s							
KMI	**Kunming**	**75.06**	**292**	P		P	04 49 05.4	-3.4
KMI				PMZ				
	comp=Z,9.0nm,0.5s							
AKASG	**Malin Array Be**	**75.91**	**355**	P		**P**	**04 49 13.3**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=3.3,slow=5.9,SNR=4.5							
GERES	**GERESS Array B**	**77.78**	**5**	P		**P**	**04 49 24.6**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=337,slow=2.2,SNR=2.8							
TIP	**Timpagrande**	**87.56**	**4**	*e*P		**P**	**04 50 14.5**	**-0.1**

*ISCJB **16** 04:40:19.4±1.2,36°.16N±0°.04×21°.35E±0°.05,h6km±8km, Error ellipse: s-maj=8.0km s-min=5.5km az=-36.8*
*CSEM **16** 04:40:20.5±0.5,36°.21N×21°.39E,h5km,MD3.5, Error ellipse: s-maj=10.1km s-min=5.8km az=38.0*
*ATH **16** 04:40:21.6,36°.24N×21°.43E,h28km±1km,MD3.5/26*
*THE **16** 04:40:22.4,36°.21N×21°.49E,h9km±1km,ML3.2/5, Error ellipse: s-maj=2.6km s-min=1.4km az=251.0*

ISC 16 04:40:21.5±1.7,36°.23N±0°.05×21°.44E±0°.05,h10km±10km, n108,σ0s58/126,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PYL	**PYLOS**	**0.71**	**20**	*e*PN		**Pb**	**04 40 35.8**	**-0.3**
PYL				*e*SN		**Sb**	**04 40 45.9**	**0.0**
PYL	**PYLOS**	**0.71**	**20**	P		**Pb**	**04 40 35.8**	**-0.3**
PYL				S		**Sb**	**04 40 46.8**	**+0.9**
PYL	**PYLOS**	**0.71**	**20**	P		**Pb**	**04 40 35.8**	**-0.3**
PYL				S		**Sb**	**04 40 46.8**	**+0.9**
ITM	**Ithomi**	**1.03**	**22**	*e*PN		**Pg**	**04 40 40.8**	**-0.5**
ITM	**Ithomi**	**1.03**	**22**	P		**Pg**	**04 40 41.0**	**-0.3**
ITM				S		**Sn**	**04 40 56.7**	**+0.1**
ITM	**Ithomi**	**1.03**	**22**	P		**Pg**	**04 40 41.0**	**-0.3**
ITM				S		**Sn**	**04 40 56.7**	**+0.1**
SFD	**Strofades**	**1.08**	**342**	*e*PN		**Pg**	**04 40 42.0**	**-0.3**
SFD				*e*SN		**Sb**	**04 40 56.9**	**+0.4**
SFD	**Strofades**	**1.08**	**342**	*e*Pn		**Pg**	**04 40 42.0**	**-0.3**
SFD				*e*Sn		**Sb**	**04 40 56.9**	**+0.4**
KYTH	**Kithira**	**1.29**	**87**	*e*PN		**Pb**	**04 40 46.1**	**+0.1**
KYTH	**Kithira**	**1.29**	**87**	*e*Pn		**Pb**	**04 40 46.1**	**+0.1**
VLI	**Veliai**	**1.30**	**67**	*e*PN		**Pb**	**04 40 46.4**	**+0.3**
VLI				*e*SN		**Sg**	**04 41 03.9**	**+0.4**
VLI	**Veliai**	**1.30**	**67**	P		**Pn**	**04 40 45.7**	**-0.1**
VLI	**Veliai**	**1.30**	**67**	*e*Pn		**Pb**	**04 40 46.4**	**+0.3**
VLI				S		**Sb**	**04 41 02.8**	**-0.1**
VLI				*e*Sn		**Sg**	**04 41 03.9**	**+0.4**
VLI	**Veliai**	**1.30**	**67**	P		**Pn**	**04 40 45.7**	**-0.1**
VLI				S		**Sb**	**04 41 02.8**	**-0.1**
AMT	**Artemida-Makis**	**1.32**	**9**	*e*PN		**Pn**	**04 40 46.5**	**+0.4**
AMT	**Artemida-Makis**	**1.32**	**9**	*e*Pn		**Pn**	**04 40 46.5**	**+0.4**
AMT	**Artemida-Makis**	**1.32**	**9**	P		**Pb**	**04 40 46.8**	**+0.3**
AMT				S		**Sg**	**04 41 04.5**	**+0.4**
AMT	**Artemida-Makis**	**1.32**	**9**	P		**Pb**	**04 40 46.8**	**+0.3**
AMT				S		**Sg**	**04 41 04.5**	**+0.4**
VLX	**Vlachokerasia**	**1.37**	**33**	*e*PN		**Pn**	**04 40 47.1**	**+0.2**
VLX	**Vlachokerasia**	**1.37**	**33**	*e*Pn		**Pn**	**04 40 47.1**	**+0.2**
VLX				S		**Sg**	**04 41 05.9**	**+0.3**
VLX	**Vlachokerasia**	**1.37**	**33**	P		**Pn**	**04 40 47.0**	**+0.2**
VLX				S		**Sg**	**04 41 05.9**	**+0.3**
ANKY	**Antikythira Is**	**1.55**	**103**	*e*PN		**Pn**	**04 40 49.8**	**+0.6**
ANKY	**Antikythira Is**	**1.55**	**103**	*e*Pn		**Pn**	**04 40 49.8**	**+0.6**
ANKY				S		**Sn**	**04 41 09.3**	**-0.1**
ANKY	**Antikythira Is**	**1.55**	**103**	P		**Pb**	**04 40 50.0**	**-0.3**
ANKY				S		**Sn**	**04 41 09.3**	**-0.1**
ZKS	**Zakynthos**	**1.56**	**341**	*e*PB		**Pn**	**04 40 48.2**	**-1.2**
ZKS	**Zakynthos**	**1.56**	**341**	*e*Pb		**Pn**	**04 40 48.2**	**-1.2**
ZKS	**Zakynthos**	**1.56**	**341**	P		**Pn**	**04 40 48.9**	**-0.5**
DRO	**Drossia**	**1.74**	**7**	*e*PN		**Pn**	**04 40 52.1**	**+0.3**
DRO	**Drossia**	**1.74**	**7**	*e*Pn		**Pn**	**04 40 52.1**	**+0.3**
DRO	**Drossia**	**1.74**	**7**	P		**Pn**	**04 40 52.8**	**+1.0**
KRND	**KRANIDI**	**1.79**	**49**	*e*PB		**Pn**	**04 40 51.8**	**-0.8**
KRND	**KRANIDI**	**1.79**	**49**	*e*Pb		**Pn**	**04 40 51.8**	**-0.8**
RLS	**Riolos of Patr**	**1.83**	**1**	*e*PN		**Pn**	**04 40 53.3**	**+0.2**
RLS	**Riolos of Patr**	**1.83**	**1**	*e*Pn		**Pn**	**04 40 53.3**	**+0.2**
GUR	**Goura**	**1.85**	**23**	*e*PN		**Pn**	**04 40 54.0**	**+0.4**
GUR	**Goura**	**1.85**	**23**	P		**Pn**	**04 40 53.9**	**+0.4**
GUR				S		**Sb**	**04 41 18.9**	**0.0**
GUR	**Goura**	**1.85**	**23**	P		**Pn**	**04 40 53.9**	**+0.4**
GUR				S		**Sb**	**04 41 18.9**	**0.0**
DIDY	**Didyma**	**1.89**	**48**	*e*PN		**Pn**	**04 40 53.4**	**-0.6**
DIDY	**Didyma**	**1.89**	**48**	*e*Pn		**Pn**	**04 40 53.4**	**-0.6**
KLV	**Kalavryta, Ach**	**1.90**	**17**	*e*PN		**Pn**	**04 40 54.0**	**-0.1**
KLV	**Kalavryta, Ach**	**1.90**	**17**	*e*Pn		**Pn**	**04 40 54.0**	**-0.1**
KLV	**Kalavryta, Ach**	**1.90**	**17**	P		**Pn**	**04 40 54.2**	**+0.1**
DID	**Didima**	**1.93**	**48**	*e*PN		**Pn**	**04 40 53.8**	**-0.7**
DID	**Didima**	**1.93**	**48**	*e*Pn		**Pn**	**04 40 53.8**	**-0.7**
DID	**Didima**	**1.93**	**48**	P		**Pn**	**04 40 53.7**	**-0.7**
ACOR	**Acrocorinthos**	**2.02**	**34**	P		**Pn**	**04 40 55.4**	**-0.3**
THAL	**Thalero**	**2.06**	**28**	*e*PN		**Pn**	**04 40 56.2**	**0.0**
THAL	**Thalero**	**2.06**	**28**	*e*Pn		**Pn**	**04 40 56.2**	**0.0**
VLS	**Valsamata**	**2.06**	**341**	*e*PN		**Pn**	**04 40 56.5**	**+0.2**
VLS	**Valsamata**	**2.06**	**341**	*e*Pn		**Pn**	**04 40 56.5**	**+0.2**
LOUT	**Loutraki**	**2.15**	**34**	*e*PN		**Pn**	**04 40 57.4**	**0.0**
LOUT	**Loutraki**	**2.15**	**34**	*e*Pn		**Pn**	**04 40 57.4**	**0.0**
LTK	**Loutraki**	**2.17**	**34**	*e*PN		**Pn**	**04 40 57.4**	**-0.4**
LTK	**Loutraki**	**2.17**	**34**	*e*Pn		**Pn**	**04 40 57.4**	**-0.4**
LTK	**Loutraki**	**2.17**	**34**	P		**Pn**	**04 40 57.2**	**-0.6**
EFP	**Efpalio**	**2.23**	**9**	*e*PB		**Pn**	**04 40 59.1**	**+0.5**
EFP	**Efpalio**	**2.23**	**9**	*e*Pb		**Pn**	**04 40 59.1**	**+0.5**
KALE	**Kalithea**	**2.23**	**14**	*e*PB		**Pn**	**04 40 59.2**	**+0.5**
KALE	**Kalithea**	**2.23**	**14**	*e*Pb		**Pn**	**04 40 59.2**	**+0.5**
KALE	**Kalithea**	**2.23**	**14**	P		**Pn**	**04 40 59.6**	**+0.9**
KALE	**Kalithea**	**2.23**	**14**	P		**Pn**	**04 40 59.6**	**+0.9**
SERG	**Sergoula**	**2.24**	**13**	*e*PN		**Pn**	**04 40 58.7**	**0.0**
SERG	**Sergoula**	**2.24**	**13**	*e*Pn		**Pn**	**04 40 58.7**	**0.0**
NAIG	**Nisos Aigina**	**2.24**	**46**	*e*PN		**Pn**	**04 40 59.3**	**+0.5**
NAIG	**Nisos Aigina**	**2.24**	**46**	*e*Pn		**Pn**	**04 40 59.3**	**+0.5**
EXG	**Exogi**	**2.32**	**344**	*e*PN		**Pn**	**04 40 59.3**	**+0.4**
EXG	**Exogi**	**2.32**	**344**	*e*Pn		**Pn**	**04 41 00.3**	**+0.4**
DSF	**Desfina**	**2.35**	**21**	*e*PN		**Pn**	**04 40 59.9**	**-0.4**
DSF	**Desfina**	**2.35**	**21**	*e*Pn		**Pn**	**04 40 59.9**	**-0.4**
DESF	**Desfina**	**2.35**	**21**	*e*PN		**Pn**	**04 41 00.6**	**+0.3**
DESF	**Desfina**	**2.35**	**21**	*e*Pn		**Pn**	**04 41 00.6**	**+0.3**
PDO	**Prodromos**	**2.38**	**355**	*e*PB		**Pn**	**04 41 01.6**	**+1.0**
PDO	**Prodromos**	**2.38**	**355**	*e*Pb		**Pn**	**04 41 01.6**	**+1.0**
VAM	**Vamos**	**2.39**	**109**	*e*PN		**Pn**	**04 41 00.9**	**+0.2**
VAM	**Vamos**	**2.39**	**109**	*e*Pn		**Pn**	**04 41 00.9**	**+0.2**
VILL	**Villia**	**2.45**	**37**	*e*Pn		**Pn**	**04 41 01.6**	**0.0**
VIL2	**Platees**	**2.46**	**36**	*e*PN		**Pn**	**04 41 01.6**	**-0.2**
EVR	**Evrytania**	**2.70**	**6**	*e*PN		**Pn**	**04 41 05.9**	**+0.7**
EVR	**Evrytania**	**2.70**	**6**	*e*Pn		**Pn**	**04 41 05.9**	**+0.7**
AXAR	**Agios Charalam**	**2.72**	**21**	*e*PN		**Pn**	**04 41 05.3**	**0.0**
AXAR	**Agios Charalam**	**2.72**	**21**	*e*Pn		**Pn**	**04 41 05.3**	**0.0**
MAKR	**Makrakomi, Fth**	**2.84**	**11**	*e*PN		**Pn**	**04 41 07.8**	**+0.8**
MAKR	**Makrakomi, Fth**	**2.84**	**11**	*e*Pn		**Pn**	**04 41 07.8**	**+0.8**
AGG	**Agios Georgios**	**2.88**	**14**	*e*PN		**Pn**	**04 41 08.1**	**+0.5**
AGG	**Agios Georgios**	**2.88**	**14**	*e*Pn		**Pn**	**04 41 08.1**	**+0.5**
DSL	**Palaion Diasel**	**2.92**	**355**	*e*PN		**Pn**	**04 41 08.4**	**+0.4**
DSL	**Palaion Diasel**	**2.92**	**355**	*e*Pn		**Pn**	**04 41 08.4**	**+0.4**
SMIA	**Simia**	**3.00**	**27**	*e*PN		**Pn**	**04 41 09.7**	**+0.5**
SMIA	**Simia**	**3.00**	**27**	*e*Pn		**Pn**	**04 41 09.7**	**+0.5**
MRKA	**Markates**	**3.01**	**34**	*e*PN		**Pn**	**04 41 09.6**	**+0.3**
MRKA	**Markates**	**3.01**	**34**	*e*Pn		**Pn**	**04 41 09.6**	**+0.3**
THL	**Klokotos Trika**	**3.37**	**8**	*e*PN		**Pn**	**04 41 14.1**	**-0.1**
THL	**Klokotos Trika**	**3.37**	**8**	*e*Pn		**Pn**	**04 41 14.1**	**-0.1**
KEK	**Kerkira**	**3.71**	**340**	*e*PN		**Pn**	**04 41 19.5**	**+0.5**
KEK	**Kerkira**	**3.71**	**340**	*e*Pn		**Pn**	**04 41 19.5**	**+0.5**
LIT	**Litokhoron**	**3.96**	**12**	*e*PN		**Pn**	**04 41 22.1**	**-0.2**
LIT	**Litokhoron**	**3.96**	**12**	*e*Pn		**Pn**	**04 41 22.1**	**-0.2**
NEST	**Nestorio**	**4.19**	**356**	*e*PN		**Pn**	**04 41 26.5**	**+0.8**
NEST	**Nestorio**	**4.19**	**356**	*e*Pn		**Pn**	**04 41 26.5**	**+0.8**
FNA	**Florina**	**4.55**	**359**	*e*PN		**Pn**	**04 41 30.2**	**-0.3**
FNA	**Florina**	**4.55**	**359**	*e*Pn		**Pn**	**04 41 30.2**	**-0.3**
HORT	**Hortiatis**	**4.56**	**16**	*e*PN		**Pn**	**04 41 29.5**	**-1.1**
HORT	**Hortiatis**	**4.56**	**16**	*e*Pn		**Pn**	**04 41 29.5**	**-1.1**
KNT	**Kendrikon**	**5.06**	**13**	*e*PN		**Pn**	**04 41 37.5**	**0.0**
KNT	**Kendrikon**	**5.06**	**13**	*e*Pn		**Pn**	**04 41 37.5**	**0.0**
BARS	**Barje**	**6.59**	**2**	*e*Pn		**Pn**	**04 41 56.6**	**-1.9**
STON	**Ston**	**7.24**	**338**	*e*Pn		**Pn**	**04 42 04.5**	**-2.8**
STON						Sn	04 43 19.0	-11
NVLJ	**Novalja**	**9.71**	**331**			Sn	04 44 19.5	-11

*IDC **16** 04:42:41.4±1.6,5°.31S×134°.14E,h0km,mb3.5/1, mb1 3.7/5,mb1mx3.5/31,mbtmp3.6/5,ML3.3/4, Error ellipse: s-maj=41.8km s-min=27.6km az=74.0*
*ISCJB **16** 04:42:42.8±0.8,5°.33S±0°.06×134°.2E±0°.1,h32km,mb3.2/1, Error ellipse: s-maj=16.6km s-min=7.8km az=167.6*

ISC 16 04:42:44.5±1.0,5°.44S±0°.07×134°.1E±0°.1,h32km,n9, σ2s23/9,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FAKI	**Fak Fak**	**3.14**	**323**	P		**Pn**	**04 43 30.8**	**-1.0**
	baz=2.7,SNR=60							
SIJI	**Sorong**	**5.37**	**328**	Pn		**Pn**	**04 44 00.7**	**-1.9**
	5.2nm,0.3s,baz=176,slow=19,SNR=16							
SIJI				Sn		Sn	04 44 54.5	-8.9
	2.9nm,0.3s,baz=229,slow=19,SNR=3.4							
SWI	**Sorong**	**5.38**	**328**	P		**Pn**	**04 44 01.5**	**-1.1**
	baz=4.9,SNR=4.3							
JAY	**Jayapura**	**7.17**	**66**	Pn		**Pn**	**04 44 26.8**	**-0.4**
	0.3nm,0.3s,baz=242,slow=17,SNR=2.4							
KDU	**Kakadu**	**7.38**	**193**	P		Pn	04 44 36.6	+6.5
	baz=7.9,SNR=21							
MTN	**Manton Dam**	**7.93**	**202**	P		Pn	04 44 44.8	+7.2
	baz=8.4,SNR=15							
WRA	**Warramunga Arr**	**14.41**	**179**	Pn		**Pn**	**04 46 07.7**	**+1.2**
	0.1nm,0.3s,baz=358,slow=13,SNR=3.0							
WRA				Sn		**Sn**	**04 48 41.8**	**-3.5**
	0.3nm,0.3s,baz=341,slow=26,SNR=4.9							
ASAR	**Alice Springs**	**18.12**	**181**	P		**P**	**04 46 56.5**	**+2.4**
	0.1nm,0.3s,baz=5.4,slow=11,SNR=3.2							
ASAR				S		**Sn**	**04 50 13.8**	**-1.5**
	0.0nm,0.3s,baz=355,slow=20,SNR=3.0							
MKAR	**Makanchi Array**	**69.26**	**325**	P		**P**	**04 53 50.0**	**+1.4**
	0.1nm,0.3s,baz=132,slow=6.8,SNR=2.9							

*BJI **16** 05:09:12.1,51°.03N×179°.99E,h57km,mb4.8/12,mB4.8/6, Ms4.4/1*
*ISCJB **16** 05:09:17.0±0.4,51°.55N±0°.06×179°.67E±0°.04,h79km±2km, mb4.3/71,Error ellipse: s-maj=10.2km s-min=3.9km az=179.0*
*NEIC **16** 05:09:17.7±0.4,51°.47N×179°.61E,h68km±2km,mb4.4/62, ML4.0(AEIC),Error ellipse: s-maj=7.7km s-min=3.4km az=179.0*
*IDC **16** 05:09:17.1±0.9,51°.58N×179°.72E,h61km±6km,mb3.8/16, mb1 4.0/17,mb1mx3.8/44,mbtmp4.1/17,MS2.8/2,*
Ms1 2.8/2,ms1mx2.4/38,Error ellipse: s-maj=21.0km s-min=11.2km az=170.0

ISC 16 05:09:17.0±0.5,51°.45N±0°.10×179°.63E±0°.03,h65km±3km, h64km;pP-P,n365,σ0s86/380,mb4.4/71,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AMKA	**Amchitka**	**0.21**	**251**	P		**Pn**	**05 09 26.4**	**-0.7**
AMKA				S		**Sn**	**05 09 33.4**	**-1.0**
CESW	**Semis' Southwe**	**0.46**	**355**	P		**Pn**	**05 09 29.4**	**+0.4**
CERAA	**Semis' Rag'd T**	**0.46**	**4**	P		**Pn**	**05 09 29.4**	**+0.4**
CERB	**Semis' Cerberu**	**0.48**	**0**	P		**Pn**	**05 09 29.7**	**+0.5**
CEAP	**Semis' Anvil P**	**0.56**	**357**	P		**Pn**	**05 09 30.7**	**+0.7**
LSPA	**Little Sitkin**	**0.83**	**308**	P		**Pn**	**05 09 34.2**	**+1.0**
LSSA	**Little Sitkin**	**0.86**	**306**	P		**Pn**	**05 09 34.3**	**+0.8**
LSNW	**Little Sitkin**	**0.87**	**308**	P		**Pn**	**05 09 34.2**	**+0.6**
GALAA	**Gareloi Lava P**	**1.05**	**72**	P		**Pn**	**05 09 35.9**	**+0.1**
GAEA	**Gareloi East**	**1.07**	**71**	P		**Pn**	**05 09 36.1**	**0.0**
TANO	**Tanaga North**	**1.48**	**71**	P		**Pn**	**05 09 41.7**	**+0.2**
TASE	**Tanaga Southea**	**1.51**	**74**	P		**Pn**	**05 09 42.1**	**+0.2**
TAFP	**Tanaga Falls P**	**1.56**	**72**	P		**Pn**	**05 09 42.6**	**0.0**
TAFP				S		**Sn**	**05 10 01.5**	**-0.4**
KICM	**Kanaga Island**	**2.03**	**75**	P		**Pn**	**05 09 49.3**	**+0.3**
KIKV	**Kanaga Island**	**2.04**	**77**	P		**Pn**	**05 09 49.6**	**+0.5**
KIKV				S		**Sn**	**05 10 14.4**	**+0.8**
KIRH	**Kanaga Island**	**2.09**	**76**	P		**Pn**	**05 09 50.4**	**+0.6**
ETKA	**Kagalaska Isla**	**2.51**	**79**	P		**Pn**	**05 09 55.7**	**+0.3**
GSMY	**Great Sitkin M**	**2.75**	**76**	P		**Pn**	**05 09 58.6**	**-0.1**
GSTR	**Great Sitkin T**	**2.76**	**75**	*e*Pn		**Pn**	**05 09 58.7**	**-0.1**
GSTR				*e*Sn		**Sn**	**05 10 30.7**	**-0.3**
SMY	**Shemya**	**3.64**	**293**	P		**Pn**	**05 10 12.4**	**+1.5**
ATKA	**Atka Island**	**3.91**	**76**	P		**Pn**	**05 10 14.8**	**+0.3**
NIKH	**Nikolski High**	**7.24**	**73**	P		**Pn**	**05 11 01.7**	**+1.6**
OKTU	**Okmok Mt. Tuli**	**7.79**	**71**	P		**Pn**	**05 11 10.3**	**+2.7**
SPIA	**Saint Paul Isl**	**8.24**	**42**	P		**Pn**	**05 11 16.3**	**+2.6**
MSOM	**Makushin Julie**	**8.51**	**69**	P		**Pn**	**05 11 19.5**	**+2.2**
MSW	**Makushin Switc**	**8.62**	**68**	P		**Pn**	**05 11 20.8**	**+1.9**
MTBL	**Makushin Table**	**8.69**	**68**	P		**Pn**	**05 11 22.1**	**+2.1**
UNV	**Unalaska Valle**	**8.77**	**69**	P		**Pn**	**05 11 22.9**	**+2.0**
AKRB	**Akutan Reef Bi**	**9.07**	**67**	P		**Pn**	**05 11 27.9**	**+2.8**
AKGG	**Akutan Green G**	**9.13**	**67**	P		**Pn

MSO **Missoula** 42.37 69 *eP* P 05 17 04.4 -0.3
4.7nm,0.7s
CHMT **Chamberlain Mo** 42.72 69 *eP* P 05 17 06.7 -1.0
MFID **Camas Ranch** 43.10 74 *eP* P 05 17 11.0 +0.3
4.7nm,0.8s
HRY **Holter Researc** 43.66 68 *eP* P 05 17 14.6 -0.5
6.0nm,0.6s
WAKR **Walker** 43.77 82 *eP* P 05 17 16.9 +0.7
HLID **Hailey** 43.87 73 P P 05 17 17.1 +0.2
baz=44,SNR=16
HLID **Hailey** 43.87 73 *eP* P 05 17 17.2 +0.3
6.7nm,0.8s
BMN **Battle Mountai** 43.98 79 *eP* P 05 17 18.8 +0.9
4.3nm,0.5s
MCMT **McKenzie Canyo** 44.09 71 *eP* P 05 17 18.4 -0.4
EGMT **Eagleton** 44.15 65 P P 05 17 18.1 -0.9
baz=44
EGMT **Eagleton** 44.15 65 *eP* P 05 17 18.1 -0.9
4.1nm,0.7s
A19A **Klindworth Far** 44.24 64 P P 05 17 18.4 -1.4
baz=44
BOZ **Bozeman (W)** 44.35 69 P P 05 17 20.4 -0.3
baz=44,SNR=12
BOZ **Bozeman (W)** 44.35 69 *eP* P 05 17 20.4 -0.3
9.1nm,0.8s
B19A **Brinkman Farms** 44.38 64 P P 05 17 19.8 -1.0
baz=44
NVAR **Mina Array Bea** 44.52 82 P P 05 17 22.9 +0.6
3.0nm,0.7s,baz=289,slow=7.9,SNR=29
NVAR PcP PcP 05 19 05.0 +0.6
0.4nm,0.7s,baz=307,slow=3.3,SNR=2.8
FFC **Flin Flon** 44.90 54 *eP* P 05 17 23.6 -1.2
7.0nm,1.3s
B20A **Solberg Farm,** 44.91 64 P P 05 17 23.5 -1.5
baz=45
ELK **Elko** 45.00 77 *eP* P 05 17 26.6 +0.5
1.3nm,0.4s
A21A **Bergtoll Ranch** 45.23 63 P P 05 17 26.3 -1.2
baz=45
C20A **Veseth Ranch,** 45.31 65 P P 05 17 27.6 -0.6
baz=45
TPH **Tonopah** 45.41 81 *eP* P 05 17 29.6 +0.4
5.2nm,0.8s
B21A **Ellsworth Farm** 45.48 64 P P 05 17 28.3 -1.2
baz=45
H17A **Grant Village** 45.67 70 P P 05 17 32.3 +0.9
baz=46
H17A **Grant Village** 45.67 70 *eP* P 05 17 32.8 +1.5
6.0nm,0.8s
SONM **Songino Array** 45.73 296 P P 05 17 32.6 +1.0
1.2nm,0.6s,baz=63,slow=7.5,SNR=8.8
SONM pP pP 05 17 47.5 -0.5
0.6nm,0.7s,baz=52,slow=9.6,SNR=2.9
IMW **Indian Meadow** 45.75 71 *eP* P 05 17 32.1 +0.1
3.3nm,0.9s
C21A **Desert Coulee** 45.76 64 P P 05 17 31.3 -0.5
baz=46,SNR=5.0
HVU **Hansel Valley** 45.88 74 *eP* P 05 17 33.6 +0.7
11nm,0.6s
GRAC **Grapevine Rang** 45.99 83 P P 05 17 34.4 +0.7
baz=46
RLMT **Red Lodge** 46.03 69 P P 05 17 33.7 -0.4
baz=46,SNR=6.6
RLMT **Red Lodge** 46.03 69 *eP* P 05 17 33.6 -0.4
4.8nm,0.7s
ISA **Isabella** 46.15 85 P P 05 17 34.9 -0.1
baz=46
BGU **Big Grassy Mou** 46.24 76 *eP* P 05 17 36.1 +0.4
3.8nm,0.8s
R11A **Troy Canyon, C** 46.25 80 P P 05 17 36.0 +0.1
baz=46,SNR=12
R11A **Troy Canyon, C** 46.25 80 *eP* P 05 17 36.4 +0.5
4.1nm,0.6s
F20A **Billings** 46.29 67 P P 05 17 35.6 -0.4
baz=46
SPUT **South Promonto** 46.36 75 *eP* P 05 17 36.7 0.0
5.4nm,0.8s
H19A **Powell** 46.45 69 P P 05 17 37.1 -0.2
baz=46
MPMC **Manual Prospec** 46.51 84 P P 05 17 38.6 +0.7
baz=46
BSC **Santa Cruz Isl** 46.51 88 P P 05 17 37.6 -0.2
baz=46
G20A **Bridger** 46.58 68 P P 05 17 37.5 -0.8
baz=46,SNR=5.2
FURC **Furnace Creek,** 46.64 83 P P 05 17 39.6 +0.9
baz=46
D22A **Cohagen** 46.65 65 P P 05 17 38.3 -0.5
baz=46,SNR=6.6
HWUT **Hardware Ranch** 46.72 74 *eP* P 05 17 40.1 +0.6
9.5nm,1.4s
TPNV **Topopah Spring** 46.72 82 P P 05 17 39.9 +0.4
baz=47,SNR=17
HHC **Hu-ho-hao-te** 46.72 285 *eP* P 05 17 40.9 +1.5
HHC pP pP 05 17 57.8 +1.9
HHC sP sP 05 18 03.3 0.0
HHC PP PP 05 19 31.4 +1.6
HHC S S 05 24 23.8 -0.5
HHC PMZ
17nm,0.6s
HHC PMZ
95nm,7.7s
HHC LN
140nm,14.8s
HHC LE
140nm,14.4s
I19A **Meeteetse** 46.81 70 P P 05 17 39.7 -0.5
baz=47
DUG **Dugway** 46.81 76 P P 05 17 40.6 +0.4
baz=47,SNR=17
DUG **Dugway** 46.81 76 *eP* P 05 17 40.8 +0.6
8.9nm,0.8s
EDW2 **Edwards Air Fo** 46.96 85 P P 05 17 42.1 +0.8
baz=47
DGMT **Dagmar** 47.02 62 P P 05 17 41.4 -0.2
baz=47
TCUT **Toone Canyon** 47.10 74 *eP* P 05 17 43.2 +0.7
5.2nm,0.5s
H20A **Greybull** 47.13 69 P P 05 17 40.1 -2.5
baz=47
CTU **Camp Tracy** 47.15 75 *eP* P 05 17 43.2 +0.3
5.2nm,0.8s
G21A **Lodge Grass** 47.16 67 P P 05 17 41.9 -0.9
baz=47
E22A **Miles City** 47.19 65 P P 05 17 41.9 -1.0
baz=47
BW06 **Boulder Array** 47.22 71 *eP* P 05 17 42.9 -0.6
7.1nm,0.9s
PDAR **Pinedale Array** 47.22 71 P P 05 17 43.2 -0.3
7.4nm,0.8s,baz=330,slow=4.6,SNR=63
PDAR pP pP 05 17 59.3 -0.7
2.4nm,1.0s,baz=333,slow=5.0,SNR=4.1
J19A **Crowheart** 47.23 71 P P 05 17 43.8 +0.4
baz=47
A25A **Svangstu Ranch** 47.36 61 P P 05 17 43.1 -1.1
baz=47
I20A **Worland** 47.37 69 P P 05 17 44.6 +0.2
baz=47
JLU **Jordanelle** 47.39 75 *eP* P 05 17 45.7 +0.9
6.3nm,0.8s
NLU **North Lily Min** 47.41 76 *eP* P 05 17 45.7 +0.8
1.9nm,0.6s
GSC **Goldstone** 47.42 84 P P 05 17 45.2 +0.3
baz=47
C24A **Savage** 47.42 63 P P 05 17 44.1 -0.6
baz=47
E23A **Ismay** 47.52 65 P P 05 17 45.2 -0.2
baz=47
H21A **Big Horn, Sher** 47.60 68 P P 05 17 45.7 -0.6
baz=47
G22A **Birney** 47.69 67 P P 05 17 46.0 -0.9
baz=48
D24A **Glendive** 47.72 64 P P 05 17 46.5 -0.5
baz=48
NJ2 **Nanjing** 47.82 271 *eP* P 05 17 48.3 +0.4
NJ2 PMZ
20nm,0.6s
F23A **Volborg** 47.91 66 P P 05 17 47.7 -0.9
baz=48
I21A **Big Trails, Te** 47.94 69 P P 05 17 47.8 -1.1
baz=48
A26A **Wade Farm, Ken** 47.97 60 P P 05 17 47.6 -1.4
baz=48
C25A **Freed Ranch, W** 47.97 62 P P 05 17 48.6 -0.4
baz=48
H22A **Clearmont** 48.02 68 P P 05 17 48.8 -0.7
baz=48
E24A **Baker** 48.05 64 P P 05 17 49.1 -0.5
baz=48
CCUT **Cedar City** 48.12 79 *eP* P 05 17 51.0 +0.5
2.3nm,0.5s
G23A **Biddle** 48.22 66 P P 05 17 49.8 -1.2
baz=48
MSU **Marysvale** 48.24 78 *eP* P 05 17 52.1 +0.7
1.6nm,0.4s
I22A **9 Mile Ranch,** 48.36 68 P P 05 17 52.2 0.0
baz=48
GMRC **Granite Mounta** 48.48 84 P P 05 17 53.3 +0.2
baz=48
P17A **Butcher Ranch,** 48.51 76 *eP* P 05 17 54.4 +1.0
C26A **Wahner Farm, P** 48.55 62 P P 05 17 52.9 -0.5
baz=48
E25A **Miller Ranch,** 48.59 64 P P 05 17 52.9 -0.9
baz=48
J22A **Midwest** 48.65 69 P P 05 17 53.5 -0.9
baz=48,SNR=5.7
B27A **Peters Farms,** 48.67 61 P P 05 17 53.5 -0.9
baz=48
G24A **Alzada** 48.70 66 P P 05 17 53.8 -0.9
baz=48
BELC **Belle Mtn. Jos** 48.78 85 P P 05 17 55.0 -0.5
baz=49
SRU **San Rafael** 48.87 76 *eP* P 05 17 56.9 +0.7
11nm,0.7s
A28A **Rude Farm, Bot** 48.92 60 P P 05 17 55.4 -0.9
baz=49
H24A **Dirks Ranch, A** 48.97 66 P P 05 17 55.6 -1.2
baz=49
K22A **Casper** 49.08 70 P P 05 17 56.9 -0.9
baz=49
E26A **Carlson Angus** 49.13 63 P P 05 17 56.8 -1.1
baz=49
IRM **Iron Mountain** 49.20 84 P P 05 17 58.5 -0.1
baz=49
MONP **Monument Peak** 49.25 86 P P 05 17 58.9 -0.3
baz=49
BC3 **Big Chuckawall** 49.34 85 P P 05 17 59.6 -0.2
baz=49
G25A **Newell** 49.35 65 P P 05 17 59.6 0.0
baz=49
A29A **Manning Farm,** 49.47 59 P P 05 17 59.9 -0.5
baz=49
O20A **White River Ci** 49.61 73 P P 05 18 01.4 -0.4
baz=49,SNR=6.6
O20A **White River Ci** 49.61 73 *eP* P 05 18 01.8 0.0
12nm,0.6s
F27A **Lemmon** 49.74 64 P P 05 18 01.8 -0.8
baz=50
PDMCI **Parker Dam,Lak** 49.74 83 P P 05 18 02.6 0.0
baz=50
G26A **Maurine** 49.76 65 P P 05 18 01.8 -0.9
baz=50
D28A **Regan** 49.76 62 P P 05 18 01.9 -0.8
baz=50
I25A **Rochford** 49.88 67 P P 05 18 02.9 -0.9
baz=50
MDND **Maddock** 49.90 60 P P 05 18 03.0 -0.7
baz=50
MDND **Maddock** 49.90 60 *eP* P 05 18 02.4 -1.3
7.4nm,0.6s
A30A **Hoffart Farm,** 49.96 59 P P 05 18 03.5 -0.6
baz=50
E28A **Huff** 50.06 62 P P 05 18 04.3 -0.6
baz=50
H26A **Fairpoint** 50.06 65 P P 05 18 04.0 -1.0
baz=50
G27A **Dupree** 50.08 64 P P 05 18 04.0 -1.1
baz=50
J25A **Sunshine Ranch** 50.22 67 P P 05 18 05.7 -0.6
baz=50
B30A **Myrvik Farm, E** 50.23 59 P P 05 18 05.6 -0.6
baz=50
PV04 **Paradox Valley** 50.30 76 *eP* P 05 18 07.6 +0.5
I26A **New Underwood** 50.37 66 P P 05 18 06.6 -0.8
baz=50
F28A **McLaughlin** 50.43 63 P P 05 18 07.0 -0.7
baz=50
H27A **Howes** 50.45 65 P P 05 18 07.4 -0.5
baz=50
ULM **Lac du Bonnet** 50.47 56 P P 05 18 06.2 -1.7
1.9nm,0.6s,baz=328,slow=5.0,SNR=5.0
N23A **Red Feather La** 50.50 71 P P 05 18 08.2 -0.5
baz=50
WUAZ **Wupatki** 50.65 80 P P 05 18 10.0 +0.3
baz=50,SNR=7.4
WUAZ **Wupatki** 50.65 80 *eP* P 05 18 10.2 +0.5
6.9nm,0.6s
PV01 **Paradox Valley** 50.67 76 *eP* P 05 18 09.7 -0.2
590nm,0.7s
J26A **Sides Ranch, S** 50.69 67 P P 05 18 08.7 -1.0
baz=50
D30A **Buchanan** 50.80 61 P P 05 18 09.5 -1.0
baz=51
I27A **Quinn** 50.81 66 P P 05 18 10.0 -0.6
baz=51
G28A **Parade** 50.84 64 P P 05 18 10.1 -0.8
baz=51
F29A **Eureka** 50.98 63 P P 05 18 10.8 -1.1
baz=51
H28A **Mission Ridge** 51.02 64 P P 05 18 11.1 -1.1
baz=51,SNR=6.0
MVCO **Mesa Verde** 51.31 76 P P 05 18 14.9 +0.1
baz=51
G29A **Hoven** 51.32 63 P P 05 18 13.1 -1.4
baz=51
I28A **Midland** 51.35 65 P P 05 18 13.7 -1.0
baz=51,SNR=5.4
ISCO **Idaho Springs** 51.39 72 P P 05 18 15.7 +0.4
baz=51
ISCO **Idaho Springs** 51.39 72 *eP* P 05 18 15.8 +0.4
0.9nm,0.7s
H29A **Onida** 51.51 64 P P 05 18 15.1 -0.7
baz=51
J28A **Allard Ranch,** 51.67 66 P P 05 18 16.5 -0.6
baz=52
G30A **Faulkton** 51.80 63 P P 05 18 16.5 -1.5
baz=52
I29A **Vivian Onida** 51.83 65 P P 05 18 17.8 -0.5
baz=52
S22A **4UR Ranch, Cre** 51.98 75 P P 05 18 19.7 -0.1
baz=52,SNR=8.8
J29A **Okreek** 52.20 65 P P 05 18 20.8 -0.2
baz=52
I30A **Oacoma** 52.39 64 P P 05 18 21.4 -1.0
baz=52
K29A **Lazy Trails An** 52.61 66 P P 05 18 23.6 -0.5
baz=52
P26A **Davis Ranch, A** 52.89 71 P P 05 18 26.7 +0.4
baz=53
R26A **Arlington** 53.64 72 P P 05 18 32.2 +0.3
baz=54
KSCO **Kaye Shedlock'** 53.67 71 P P 05 18 32.4 +0.4
baz=54
T25A **Trinidad** 53.83 74 P P 05 18 33.8 +0.5
baz=54,SNR=9.5
O29A **4D Ranch, Culb** 54.02 69 P P 05 18 34.2 -0.2
baz=54
R27A **Eads** 54.04 72 P P 05 18 35.2 +0.5
baz=54
S26A **Kim** 54.07 73 P P 05 18 34.8 -0.2
baz=54,SNR=5.9
ECSD **EROS Data Cent** 54.08 63 P P 05 18 33.1 -1.7
baz=54
P29A **Atwood** 54.28 69 P P 05 18 36.3 -0.1
baz=54
LZH **Lanzhou** 54.41 285 *eP* P 05 18 39.4 +1.9
LZH pP pP 05 18 55.8 +1.5
LZH sP sP 05 19 02.9 +1.2
LZH PMZ
15nm,1.0s
GTA **Gaotai** 54.62 291 *eP* P 05 18 55.1 +16
GTA pP pP 05 18 58.5 +2.7
GTA sP sP 05 19 01.3 -1.8
GTA pmax pmax
comp=Z,5.0nm,1.3s
121A **Cookes Peak, D** 54.86 80 P P 05 18 41.2 +0.4
baz=55
T28A **Walsh** 55.22 72 P P 05 18 43.2 0.0
baz=55
P31A **Stockton** 55.24 68 P P 05 18 43.7 +0.4
baz=55
U27A **Thompson Grove** 55.26 73 P P 05 18 43.3 -0.2
baz=55
CBKS **Cedar Bluff** 55.50 69 P P 05 18 44.7 -0.4
baz=55
R30A **Dighton** 55.53 70 P P 05 18 45.3 -0.1
baz=55
U28A **Mallet** 55.64 73 P P 05 18 46.5 +0.1
baz=56
T29A **Hugoton** 55.68 72 P P 05 18 46.7 +0.2
baz=56
R31A **Burdett** 55.97 70 P P 05 18 48.5 -0.1
baz=56
V28A **Channing** 56.07 74 P P 05 18 49.4 0.0
baz=56
U29A **Oasis Ranch, S** 56.16 72 P P 05 18 50.1 +0.1
baz=56
O34A **Beatrice** 56.35 66 P P 05 18 50.4 -0.8
baz=56
R32A **Long Quarter,** 56.36 69 P P 05 18 50.5 -0.8
baz=56
Q33A **Connelly Farm,** 56.48 68 P P 05 18 52.0 -0.2
baz=56
N35A **Tabor** 56.50 65 P P 05 18 52.0 -0.2
baz=56
X28A **Dimmitt** 56.92 75 P P 05 18 55.2 -0.2
baz=57
MSTX **Muleshoe** 56.94 76 P P 05 18 55.7 +0.1
baz=57
P35A **Duane Minner,** 57.18 66 P P 05 18 56.1 -0.9
baz=57
R34A **Isabella, Hill** 57.29 68 P P 05 18 57.8 0.0
baz=57
Y28A **McKinney Farm,** 57.30 75 P P 05 18 58.7 +0.6
baz=57
Z28A **Tucker Farm, M** 57.64 76 P P 05 19 00.5 0.0
baz=58
Y29A **Porterfield Fa** 57.68 75 P P 05 19 01.0 +0.2
baz=58,SNR=9.6
X30A **Coker Ranch, T** 57.76 74 P P 05 19 01.4 +0.1
baz=58
CD2 **Chengdu** 57.99 281 P P 05 19 02.0 -0.9
CD2 pP pP 05 19 18.6 -1.3
CD2 sP sP 05 19 26.0 -1.2
CD2 PP PP 05 21 10.8 -0.9
CD2 S S 05 26 57.3 -1.1
CD2 sS sS 05 27 26.1 -1.1
CD2 SS SS 05 30 50.3 +0.4
CD2 PMZ
comp=Z,10.0nm,0.5s
128A **Castleberry Fa** 58.04 77 P P 05 19 03.4 +0.1
baz=58
Z29A **Hungry Hill Ra** 58.08 75 P P 05 19 03.3 -0.2
baz=58
Y30A **Stafford Cattl** 58.14 74 P P 05 19 03.9 0.0
baz=58,SNR=13
X31A **McDonald Ranch** 58.17 73 P P 05 19 04.0 -0.1
baz=58
T34A **McClaskey Farm** 58.19 69 P P 05 19 03.7 -0.5
baz=58
S35A **Otter Creek Ra** 58.25 68 P P 05 19 03.9 -0.6
baz=58
KURK **Kurchatov** 58.26 313 P P 05 19 04.9 +0.5
R36A **Gordon, Harris** 58.28 67 P P 05 19 04.2 -0.6
baz=58
228A **UT Block 9, Go** 58.33 77 P P 05 19 04.8 -0.5
baz=58
KURBB **Kurchatov Arra** 58.36 313 P P 05 19 04.9 -0.2
comp=Z,0.6nm,0.6s,baz=42,slow=6.8,SNR=4.8
Z30A **Sanderson Ranc** 58.41 75 P P 05 19 05.6 -0.2
baz=58,SNR=5.4
WMQ **Urumqi** 58.47 302 P P 05 19 09.3 +3.2
WMQ pP pP 05 19 25.3 +2.2
WMQ sP sP 05 19 32.3 +1.9
WMQ PMZ
comp=Z,9.0nm,0.8s
WMQ PMZ
comp=Z,79nm,4.1s
X32A **Elmer** 58.73 73 P P 05 19 07.5 -0.4
baz=59
V34A **Guthrie** 58.81 70 P P 05 19 08.3 -0.2
baz=59
U35A **Pawnee** 58.91 70 P P 05 19 08.9 -0.2
baz=59
Y32A **R-V Farms, Ver** 58.93 73 P P 05 19 09.3 -0.1
baz=59,SNR=6.7
Z31A **Sharp Cattle R** 58.98 74 P P 05 19 09.4 -0.3
baz=59
S37A **Fort Scott** 59.06 67 P P 05 19 09.2 -1.0
baz=59
329A **Wagon Wheel Ra** 59.14 77 P P 05 19 11.1 +0.2
baz=59
MK31 **Makanchi Array** 59.21 308 *eP* P 05 19 11.3 +0.1
MKAR **Makanchi Array** 59.21 308 P P 05 19 11.0 -0.2
comp=Z,0.3nm,0.5s,baz=53,slow=5.8,SNR=2.8
MKAR pP pP 05 19 27.2 -1.0
comp=Z,0.2nm,0.3s,baz=48,slow=7.2,SNR=2.4
131A **Roby** 59.28 75 P P 05 19 11.5 -0.3
baz=59
230A **Sterling City** 59.39 76 P P 05 19 12.4 -0.2
baz=59,SNR=11
Z32A **Haskell** 59.39 74 P P 05 19 12.2 -0.3
baz=59,SNR=8.3
Y33A **Hilltop Ranch,** 59.41 73 P P 05 19 12.8 +0.1
baz=59
T37A **Cheneyville 18** 59.45 68 P P 05 19 11.9 -1.0
baz=59
TXAR **Lajitas Array** 59.62 80 P P 05 19 14.1 -0.2
comp=Z,1.7nm,0.6s,baz=299,slow=4.7,SNR=23
W35A **Tecumseh** 59.66 71 P P 05 19 14.2 -0.2
baz=60
330A **Mertzon** 59.69 77 P P 05 19 14.6 0.0
baz=60
ABTX **Abilene, Hawle** 59.76 75 P P 05 19 15.2 +0.1
baz=60
ABTX **Abilene, Hawle** 59.76 75 *eP* P 05 19 14.9 -0.2
comp=Z,14nm,1.2s
V36A **Jenks** 59.77 69 P P 05 19 15.4 +0.3
baz=60
TUL1 **Tulsa** 59.77 69 P P 05 19 15.3 +0.2
baz=60
U37A **Salina** 59.82 68 P P 05 19 15.0 -0.5
baz=60
Z33A **Whitaker Ranch** 59.83 73 P P 05 19 15.3 -0.3
baz=60
231A **Bronte** 59.84 76 P P 05 19 16.4 +0.7
baz=60
Y34A **Reagan Ranch,** 59.97 72 P P 05 19 16.9 +0.5
baz=60
430A **Baggett Ranch,** 60.08 77 P P 05 19 16.9 -0.5
baz=60,SNR=5.7
X35A **Drake** 60.12 71 P P 05 19 17.3 -0.3
baz=60
V37A **Hulbert** 60.17 69 P P 05 19 17.4 -0.5
baz=60
BVAR **Borovoye Array** 60.19 319 P P 05 19 18.6 +0.8
comp=Z,0.4nm,0.4s,baz=28,slow=6.5,SNR=2.5
BVAR pP pP 05 19 33.4 -1.4
comp=Z,0.8nm,0.6s,baz=47,slow=11,SNR=2.8
331A **San Angelo** 60.21 76 P P 05 19 17.8 -0.4
baz=60
133A **Hamilton Ranch** 60.21 74 P P 05 19 19.1 +0.8
baz=60
HDIL **Hopedale** 60.25 61 P P 05 19 17.5 -0.8
baz=60
232A **Coleman** 60.28 75 P P 05 19 18.3 -0.4
baz=60,SNR=10
X36A **Centrahoma** 60.37 71 P P 05 19 19.6 +0.3
baz=60
530A **J-C Ranch, Com** 60.47 78 P P 05 19 20.2 +0.1
baz=60,SNR=8.4
W37A **Quinton** 60.52 70 P P 05 19 20.3 +0.1
baz=60
431A **Sonora** 60.54 77 P P 05 19 20.0 -0.5
baz=60,SNR=6.4
SCHQ **Schefferville** 60.55 38 P P 05 19 19.4 -0.9
comp=Z,1.6nm,0.4s,baz=291,slow=4.1,SNR=6.7
332A **Millersview** 60.57 76 P P 05 19 20.6 -0.1
baz=60,SNR=7.7
V38A **Canehill** 60.61 68 P P 05 19 20.0 -0.9
baz=60
233A **Rising Star** 60.64 75 P P 05 19 21.2 +0.1
baz=60,SNR=5.6
Z35A **Perchaven, San** 60.70 72 P P 05 19 21.5 0.0
baz=60
134A **White-Moore Ra** 60.74 74 P P 05 19 22.0 +0.2
baz=61,SNR=5.1
Y36A **Durant** 60.88 71 P P 05 19 22.8 +0.1
baz=61
432A **Menard** 60.90 76 P P 05 19 23.0 +0.1
baz=61
X37A **Clayton** 60.94 70 P P 05 19 23.0 -0.1
baz=61
531A **Rocksprings** 60.94 77 P P 05 19 22.9 -0.4

	baz=61							
333A	**Richland Sprin**	**61.07**	**75**	P		**P**	**05 19 24.1**	**0.0**
	baz=61							
W38A	**Poteau**	**61.10**	**69**	P		**P**	**05 19 24.4**	**+0.2**
	baz=61							
234A	**Clairette**	**61.10**	**74**	P		**P**	**05 19 24.6**	**+0.4**
	baz=61,SNR=6.9							
JCT	**Junction City**	**61.17**	**76**	P		**P**	**05 19 24.6**	**-0.2**
	baz=61							
X38A	**Whitesboro**	**61.20**	**70**	P		**P**	**05 19 24.7**	**-0.2**
	baz=61							
Z36A	**Blue Ridge**	**61.23**	**72**	P		**P**	**05 19 25.0**	**-0.1**
	baz=61							
532A	**Rocksprings**	**61.36**	**77**	P		**P**	**05 19 26.0**	**-0.1**
	baz=61							
433A	**Art**	**61.41**	**76**	P		**P**	**05 19 26.1**	**-0.2**
	baz=61							
631A	**Perdido Creek**	**61.46**	**78**	P		**P**	**05 19 26.1**	**-0.5**
	baz=61							
334A	**Lometa**	**61.52**	**75**	P		**P**	**05 19 27.2**	**+0.1**
	baz=61,SNR=10							
WHTX	**Lake Whitney**	**61.52**	**74**	P		**P**	**05 19 27.1**	**0.0**
	baz=61							
SFIN	**Scholer Farm**	**61.57**	**60**	P		**P**	**05 19 27.1**	**-0.2**
	baz=61							
434A	**Burnet**	**61.87**	**75**	P		**P**	**05 19 29.2**	**-0.2**
	baz=62,SNR=5.7							
632A	**Uvalde**	**61.87**	**77**	P		**P**	**05 19 28.8**	**-0.7**
	baz=62							
MIAR	**Mount Ida**	**62.02**	**69**	P		**P**	**05 19 30.5**	**+0.1**
	baz=62							
335A	**Moody**	**62.04**	**74**	P		**P**	**05 19 30.6**	**0.0**
	baz=62							
236A	**Katherine and**	**62.07**	**73**	P		**P**	**05 19 30.4**	**-0.3**
	baz=62							
534A	**Blanco**	**62.30**	**76**	P		**P**	**05 19 32.3**	**-0.1**
	baz=62							
732A	**Laxson Ranch,**	**62.31**	**78**	P		**P**	**05 19 31.8**	**-0.6**
	baz=62							
138A	**Matatall Enter**	**62.46**	**71**	P		**P**	**05 19 33.2**	**-0.1**
	baz=62							
KMI	**Kunming**	**62.74**	**277**	P		**P**	**05 19 37.5**	**+1.9**
KMI				pP		**pP**	**05 19 54.0**	**+1.2**
KMI				sP		**sP**	**05 20 01.0**	**+1.0**
KMI				PMZ				
	comp=Z,110.0nm,0.5s							
635A	**Leesville**	**63.18**	**76**	P		**P**	**05 19 38.7**	**+0.5**
	baz=63							
736A	**Circle Diamond**	**63.92**	**76**	P		**P**	**05 19 44.0**	**+1.0**
	baz=64							
340A	**Bronson**	**64.06**	**72**	P		**P**	**05 19 44.2**	**+0.3**
	baz=64							
NOA	**NORSAR Array B**	**67.48**	**354**	P		**P**	**05 20 04.7**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=14,slow=4.9,SNR=3.1							
WRAB	**Tennant Creek**	**81.38**	**223**	*e*P		**P**	**05 21 27.5**	**+1.0**
	comp=Z,29nm,1.7s							
WRA	**Warramunga Arr**	**81.39**	**223**	P		**P**	**05 21 26.6**	**0.0**
	comp=Z,0.8nm,0.6s,baz=31,slow=5.8,SNR=3.2							
ASAR	**Alice Springs**	**84.88**	**221**	P		**P**	**05 21 45.4**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=22,slow=6.0,SNR=4.3							
MAW	**Mawson**	**145.94**	**218**	PKPbc		**PKPbc**	**05 28 47.9**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=52,slow=2.7,SNR=5.1							
LBTB	**Lobatse**	**146.97**	**313**	PKPbc		**PKPab**	**05 28 52.9**	**-0.8**
	comp=Z,2.2nm,0.5s,baz=46,slow=1.4,SNR=5.3							
BOSA	**Boshof**	**150.19**	**310**	PKPbc		**PKPbc**	**05 29 00.6**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=37,slow=3.6,SNR=5.5							

IDC ***16*** *05:13:03.3±3.5, 22.°00S×178.°96W, h520km±38km, mb3.5/15, mb1 3.7/16, mb1mx3.6/28, mbtmp4.4/16, Error ellipse: s-maj=19.8km s-min=15.1km az=78.0*

ISCJB ***16*** *05:13:06.7±0.6, 22.°18S±0.°08×179.°1W±0.°1, h576km, mb3.9/15, Error ellipse: s-maj=12.8km s-min=9.6km az=26.9*

ISC 16 05:13:07.7±0.7, 22.°2S±0.°1×179.°0W±0.°1, h576km, n38, σ1§23/38, mb3.8/15, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.49**	**268**	P	P	05 15 58.0	-3.9
	0.5nm,0.3s,baz=90,slow=20,SNR=8.8						
URZ	**Urewera**	**16.31**	**191**	P	**P**	**05 16 24.7**	**-4.2**
	1.3nm,0.3s,baz=331,slow=2.0,SNR=8.2						
URZ				S	**S**	**05 19 09.4**	**-3.3**
	0.5nm,0.3s,baz=128,slow=18,SNR=2.7						
RPZ	**Rata Peaks**	**22.95**	**199**	P	**P**	**05 17 29.4**	**+0.6**
	10nm,0.6s,baz=38,slow=1.2,SNR=7.1						
RMQ	**Roma**	**29.63**	**255**	P	**P**	**05 18 28.7**	**+1.1**
	baz=28,SNR=6.9						
CNB	**Canberra Magne**	**30.50**	**238**	P	**P**	**05 18 36.3**	**+1.2**
	baz=30,SNR=8.0						
QLP	**Quilpie**	**33.68**	**255**	P	**P**	**05 19 01.9**	**-0.2**
	baz=32,SNR=12						
TOO	**Toolangi**	**34.13**	**235**	P	**P**	**05 19 06.5**	**+0.7**
	baz=33,SNR=8.5						
MTSU	**Mount Surprise**	**34.62**	**270**	P	**P**	**05 19 09.6**	**-0.5**
	baz=33,SNR=8.3						
STKA	**Stephens Creek**	**36.21**	**246**	P	**P**	**05 19 23.5**	**+0.4**
	7.1nm,0.8s,baz=88,slow=3.8,SNR=14						
STKA	**Stephens Creek**	**36.21**	**246**	P	**P**	**05 19 23.7**	**+0.6**
	baz=35,SNR=5.7						
QIS	**Mount Isa**	**38.50**	**265**	P	**P**	**05 19 40.9**	**-1.0**
	baz=37,SNR=3.9						
HTT	**Hallett**	**38.61**	**244**	P	**P**	**05 19 42.8**	**+0.2**
	baz=38,SNR=5.4						
BBOO	**Buckleboo**	**40.96**	**245**	P	**P**	**05 20 01.2**	**-0.1**
	baz=40,SNR=21						
ASAR	**Alice Springs**	**43.24**	**259**	P	**P**	**05 20 18.9**	**-0.4**
	13nm,0.8s,baz=92,slow=8.2,SNR=32						
ASAR				PcP	**PcP**	**05 21 56.7**	**+1.3**
	1.5nm,0.7s,baz=107,slow=3.8,SNR=6.2						
WRA	**Warramunga Arr**	**43.47**	**264**	P	**P**	**05 20 20.0**	**-1.2**
	7.3nm,0.6s,baz=98,slow=7.8,SNR=33						
WRA				PcP	**PcP**	**05 21 56.9**	**+0.7**
	1.1nm,0.8s,baz=100,slow=3.1,SNR=4.5						
JAY	**Jayapura**	**43.75**	**291**	P	**P**	**05 20 21.9**	**-1.5**
	24nm,0.7s,baz=126,slow=4.9,SNR=7.0						
KDU	**Kakadu**	**47.09**	**273**	P	**P**	**05 20 48.0**	**-0.8**
	baz=46,SNR=4.4						
FORT	**Forrest**	**47.77**	**248**	P	**P**	**05 20 53.8**	**+0.1**
	baz=47,SNR=17						
WRKA	**Warakurna**	**48.12**	**256**	P	**P**	**05 20 56.3**	**-0.2**
	baz=47,SNR=14						
MTN	**Manton Dam**	**48.28**	**272**	P	P	05 21 01.1	+3.4
	baz=47,SNR=3.5						
KNRA	**Kununurra**	**49.64**	**268**	P	**P**	**05 21 07.4**	**-0.3**
	baz=48,SNR=4.5						
VNDA	**Vanda**	**56.10**	**185**	P	**P**	**05 21 54.5**	**+1.8**
	0.8nm,0.6s,baz=15,slow=6.2,SNR=7.8						
MEEK	**Meekatharra**	**56.48**	**252**	P	**P**	**05 21 56.1**	**0.0**
	baz=55,SNR=3.7						
BLDU	**Ballidu**	**57.51**	**247**	P	**P**	**05 22 03.5**	**+0.5**
	baz=56,SNR=8.2						
MJAR	**Matsushiro Arr**	**71.07**	**325**	P	**P**	**05 23 27.7**	**-0.8**
	1.5nm,0.7s,baz=163,slow=7.1,SNR=3.8						
ASAJ	**Asahikawa**	**74.82**	**332**	P	**P**	**05 23 49.7**	**-0.1**
	4.8nm,0.5s,baz=90,slow=18,SNR=5.9						
MAW	**Mawson**	**79.62**	**200**	P	**P**	**05 24 17.0**	**+1.6**
	1.0nm,0.5s,baz=143,slow=5.1,SNR=3.5						
USRK	**Ussuriysk Ar.**	**79.89**	**327**	P	**P**	**05 24 17.4**	**+0.2**
	2.4nm,0.9s,baz=217,slow=3.1,SNR=4.5						
NVAR	**Mina Array Bea**	**82.92**	**44**	P	**P**	**05 24 32.5**	**-0.7**
	0.5nm,0.6s,baz=228,slow=9.5,SNR=5.3						
TXAR	**Lajitas Array**	**88.77**	**58**	P	**P**	**05 25 01.4**	**+0.2**
	1.1nm,0.9s,baz=212,slow=6.9,SNR=9.2						
CMAR	**Chiang Mai Arr**	**89.83**	**290**	P	**P**	**05 25 07.6**	**+1.5**
	1.5nm,0.8s,baz=138,slow=3.0,SNR=8.2						
ILAR	**Eielson Array**	**90.21**	**13**	P	**P**	**05 25 06.0**	**-1.0**
	0.7nm,1.1s,baz=219,slow=4.6,SNR=5.5						
PDAR	**Pinedale Array**	**90.86**	**44**	P	**P**	**05 25 09.8**	**-0.9**
	0.8nm,0.9s,baz=194,slow=3.1,SNR=5.9						
AKASG	**Malin Array Be**	**144.06**	**329**	PKP	PKPbc	05 31 37.0	-0.7
	0.2nm,0.3s,baz=44,slow=4.3,SNR=4.2						
BRTR	**Keskin Array B**	**147.28**	**310**	PKPbc	**PKPbc**	**05 31 47.5**	**+0.1**
	1.5nm,0.7s,baz=149,slow=3.1,SNR=8.3						
BRG	**Berggiesshubel**	**149.69**	**344**	*e*PKP	**PKPbc**	**05 31 53.9**	**+1.0**
	5.6nm,0.9s						
GERES	**GERESS Array B**	**151.59**	**342**	PKPbc	**PKPbc**	**05 31 57.5**	**0.0**
	0.3nm,0.2s,baz=17,slow=3.6,SNR=6.4						
TORD	**Torodi Ar. Bea**	**170.93**	**184**	PKPab	**PKPab**	**05 33 34.5**	**+0.6**
	1.3nm,0.9s,baz=171,slow=4.5,SNR=4.2						

IDC 16 05:30:34.0±3.2, 54.°24N×87.°31E, h0km, mb1 2.5/2, mb1mx2.5/30, mbtmp2.5/2, ML2.3/2, Error ellipse: s-maj=26.6km s-min=17.8km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.50**	**260**	*i*		05 39 20.0	
	baz=82,slow=314,SNR=4.4						
ZALV	**Zalesovo Beam**	**1.50**	**260**	Pn	Pn	05 31 00.7	-1.4
	1.4nm,0.3s,baz=78,slow=16,SNR=16						
ZALV				Lg	Lg	05 31 21.2	
	0.8nm,0.3s,baz=76,slow=28,SNR=4.7						
KURBB	**Kurchatov Arra**	**6.47**	**240**	Pn	Pn	05 32 11.8	+1.3
	0.0nm,0.3s,baz=56,slow=14,SNR=3.1						
KURBB				Lg	Lg	05 33 59.0	
	0.1nm,0.3s,baz=51,slow=30,SNR=5.5						
MKAR	**Makanchi Array**	**8.11**	**205**	Pn	Pn	05 32 34.0	+0.9
	0.1nm,0.3s,baz=26,slow=13,SNR=2.8						
MKAR				Sn	Sn	05 34 05.3	-0.1
	0.1nm,0.3s,baz=26,slow=30,SNR=2.8						
MKAR				Lg	Lg	05 34 54.4	
	0.1nm,0.3s,baz=25,slow=38,SNR=3.0						

MOS ***16*** *05:45:49.9±1.2, 8.°22S×118.°68E, h33km, mb5.2/21, Error ellipse: s-maj=10.8km s-min=6.9km az=116.1*

ISCJB ***16*** *05:45:49.7±0.7, 8.°26S±0.°02×118.°66E±0.°02, h28km±5km, mb4.8/69, MS4.1/29, Error ellipse: s-maj=3.8km s-min=3.2km az=33.5*

IDC ***16*** *05:45:51.5±3.1, 8.°24S×118.°61E, h33km±23km, mb4.3/22, mb1 4.4/24, mb1mx4.3/37, mbtmp4.4/24, ML4.5/2, MS4.1/30, Ms1 4.1/30, ms1mx4.0/46, Error ellipse: s-maj=16.8km s-min=10.2km az=73.0*

DJA ***16*** *05:45:51.2±0.1, 8.°3±2.°×11.°9E±.°, h10km, M5.1/53, mb5.1/53, mB5.6/24, MLv5.4/38, Mw(mB)5.1/24, Mwp6.0/2*

BJI ***16*** *05:45:51.7, 8.°30S×118.°60E, h36km, mb5.0/56, mB5.2/42, Ms4.8/42, Ms7 4.4/42*

NEIC ***16*** *05:45:52.5±0.6, 8.°28S×118.°58E, h40km±6km, mb5.0/28, Error ellipse: s-maj=7.0km s-min=4.7km az=225.0*

GCMT ***16*** *05:45:52.5±0.2, 8.°15S×118.°54E, h19km, MW5.1/79, Moment Tensor Solution. s51,c68; s79,c130; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=4.22±.18; Mθθ=-4.46±.12; Mϕϕ=0.23±.14; Mrθ=-3.52±.28; Mθϕ=-1.28±.10; Mϕr=2.74±.36; Best double couple: M=6.35600×10^16 NP1:ϕs=239.00000°, δ68.00000°, λ76.00000°. NP2: ϕs=93.00000°, δ26.00000°, λ121.00000°. Principal axes: T 6.2870, Plg64.0000°, Azm125.0000°; N 0.1380, Plg13.0000°, Azm244.0000°; P -6.4260, Plg22.0000°, Azm340.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

KLM ***16*** *05:45:54.7, 8.°15S×118.°89E, h30km, mb5.0, ML5.1, MS6.0*

ISC 16 05:45:52.1±0.4, 8.°30S±0.°03×118.°72E±0.°04, h34km±1km, n282, σ1§64/301, mb4.8/68, MS4.1/29, 18C-11D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**2.65**	**136**	P	**Pb**	**05 46 38.1**	**-0.8**
BSSI	**Bau Bau, Buton**	**2.77**	**39**	P	**Pn**	**05 46 33.7**	**-0.4**
BKSI	**Bulukumba**	**3.27**	**25**	P	**Pn**	**05 46 39.6**	**-1.4**
KAPI	**Kappang**	**3.42**	**18**	Pn	**Pn**	**05 46 41.0**	**-2.0**
	3µm,0.7s,SNR=40						
KAPI	**Kappang**	**3.42**	**18**	Pn	**Pn**	**05 46 41.4**	**-1.7**
	69nm,0.3s,baz=222,slow=13,SNR=93						
KAPI				Sn	**Sn**	**05 47 19.8**	**-2.7**
	225nm,0.3s,baz=12,slow=20,SNR=11						
KAPI				LR	LR	05 48 18.8	
	comp=Z,7µm,20.1s,baz=200,slow=43						
SRBI	**Singaraja**	**3.48**	**273**	P	**Pn**	**05 46 41.7**	**-2.1**
DNP	**Denpasar**	**3.49**	**264**	P	**Pn**	**05 46 44.5**	**+0.5**
MMRI	**Maumere**	**3.50**	**96**	P	**Pn**	**05 46 44.7**	**+0.6**
MMRI	**Maumere**	**3.50**	**96**	*e*Pn	**Pn**	**05 46 45.9**	**+1.7**
IGBI	**Denpasar**	**3.57**	**261**	P	**Pn**	**05 46 42.7**	**-2.4**
SPSI	**Sidrap Palu**	**4.43**	**14**	P	**Pn**	**05 46 56.4**	**-0.5**
ABJI	**Asem Bagus**	**4.47**	**276**	P	**Pn**	**05 46 57.8**	**+0.3**
JAGI	**Jajag, Banyuwa**	**4.52**	**267**	P	**Pn**	**05 46 56.5**	**-1.7**
JAGI	**Jajag, Banyuwa**	**4.52**	**267**	P	Pn	05 46 54.8	-3.4
	baz=4.4,SNR=15						
JAGI	**Jajag, Banyuwa**	**4.52**	**267**	*e*Pn	Pn	05 46 54.5	-3.7
BBSI	**Bau Bau**	**4.73**	**54**	P	**Pn**	**05 47 02.5**	**+1.4**
KMMI	**Kalianget**	**4.87**	**284**	P	**Pn**	**05 47 03.2**	**+0.2**
BLJI	**Banyuglugur**	**5.11**	**276**	P	**Pn**	**05 47 04.5**	**-1.7**
	850nm,0.7s,14µm4.6nm						
BATI	**Baumata**	**5.24**	**112**	P	Pn	05 47 12.7	+4.6
	203nm,0.8s,2µm0.9nm						
BATI	**Baumata**	**5.24**	**112**	Pn	Pn	05 47 12.8	+4.8
	11nm,0.3s,baz=326,slow=3.6,SNR=3.1						
BATI				Sn	Sb	05 48 16.6	-8.8
	3.1nm,0.3s,baz=162,slow=20,SNR=2.4						
BATI				LR	LR	05 49 35.8	
	comp=Z,6µm,20.6s,baz=344,slow=42						
TTSI	**Tana Toraja**	**5.33**	**12**	P	**Pn**	**05 47 08.6**	**-0.8**
	379nm,0.8s,5µm2.7nm						
KBKI	**Kotabaru**	**5.58**	**333**	P	**Pn**	**05 47 11.3**	**-1.4**
	596nm,1.0s,7µm5.6nm						
SOEI	**Soe**	**5.67**	**105**	P	Pn	05 47 19.5	+5.4
	486nm,1.1s,6µm2.8nm						
SOEI	**Soe**	**5.67**	**105**	⇑P	Pn	05 47 17.4	+3.3
	baz=5.8,SNR=5.3						
SOEI	**Soe**	**5.67**	**105**	*e*Pn	Pn	05 47 17.7	+3.6
KDI	**Kendari**	**5.80**	**42**	P	**Pn**	**05 47 16.8**	**+1.0**
	102nm,1.1s,0.4nm						
BBKI	**Banjar Baru**	**6.16**	**321**	P	**Pn**	**05 47 18.7**	**-2.1**
	599nm,1.0s,13µm5.4nm						
GRJI	**Gresik**	**6.34**	**282**	P	**Pn**	**05 47 22.2**	**-1.0**
	550nm,0.8s,5µm1.9nm						
BWJI	**Bawean**	**6.49**	**292**	P	**Pn**	**05 47 25.0**	**-0.3**
	242nm,0.9s,1.3nm						
PWJI	**Pagerwojo**	**6.85**	**272**	P	**Pn**	**05 47 30.4**	**+0.1**
	192nm,0.8s,1.3nm						
TBJI	**Tambak Boyo**	**6.97**	**282**	P	**Pn**	**05 47 31.7**	**-0.2**
	784nm,0.8s,30µm3.8nm						
BKB	**Balikpapan**	**7.22**	**345**	P	**Pn**	**05 47 36.0**	**+0.6**
	396nm,0.9s,5µm13µm3.0nm						
NGJI	**Ngawi**	**7.25**	**277**	P	Pn	05 47 39.4	+3.7
	219nm,1.2s,2.0nm						
PCI	**Palu**	**7.43**	**9**	P	**Pn**	**05 47 37.3**	**-0.9**
	151nm,1.1s,2µm0.8nm						
WOJI	**Wonogiri, Jawa**	**7.73**	**273**	P	Pn	05 47 48.8	+6.4
APSI	**Ampana**	**7.90**	**22**	P	**Pn**	**05 47 44.8**	**+0.2**
	93nm,1.0s,2µm0.7nm						
UWJI	**Ujung Watu**	**7.93**	**283**	P	**Pn**	**05 47 44.9**	**-0.2**
	346nm,1.3s,1.3nm						
UGM	**Wanagama**	**8.12**	**272**	P	**Pn**	**05 47 48.3**	**+0.5**
	303nm,1.0s						
LUWI	**Luwuk**	**8.26**	**29**	P	**Pn**	**05 47 49.9**	**+0.3**
	95nm,1.2s,3µm						
LUWI	**Luwuk**	**8.26**	**29**	*e*Pn	**Pn**	**05 47 50.3**	**+0.7**
SMRI	**Semarang**	**8.30**	**278**	P	**Pn**	**05 47 50.2**	**0.0**
	254nm,0.8s						
SMRI	**Semarang**	**8.30**	**278**	*e*Pn	Pn	05 47 54.2	+4.1
	229nm,0.9s						
MPSI	**Mapaga**	**8.66**	**8**	P	Pn	05 47 51.6	-3.5
	20nm,1.6s,592nm						
PBKI	**Pangkalan Bun**	**8.95**	**308**	P	**Pn**	**05 47 58.0**	**-1.1**
	265nm,1.0s,4µm						
MRSI	**Marisa**	**9.29**	**20**	P	**Pn**	**05 48 05.3**	**+1.6**
	86nm,0.8s						
SANI	**Sanana**	**9.53**	**50**	P	**Pn**	**05 48 08.7**	**+1.6**
	54nm,1.0s						
NLAI	**Namlea**	**9.73**	**59**	P	**Pn**	**05 48 11.9**	**+2.1**
	50nm,1.1s,3µm						
KPJI	**Karang Pucung**	**9.75**	**275**	P	**Pn**	**05 48 10.3**	**+0.3**
	86nm,0.8s						
CMJI	**Cimerak**	**10.18**	**272**	P	**Pn**	**05 48 16.3**	**+0.3**
	101nm,0.9s						
CISI	**Cisompet, Garu**	**10.83**	**273**	P	**Pn**	**05 48 25.1**	**+0.2**
	127nm,0.8s,3µm						
CISI	**Cisompet, Garu**	**10.83**	**273**	P	**Pn**	**05 48 23.1**	**-1.7**
	baz=11,SNR=5.6						
CISI	**Cisompet, Garu**	**10.83**	**273**	*e*Pn	**Pn**	**05 48 23.3**	**-1.6**
	93nm,0.7s						
STKI	**Sintang**	**11.01**	**319**	P	Pn	05 48 35.0	+7.7
LEM	**Lembang**	**11.10**	**277**	P	**Pn**	**05 48 28.9**	**+0.2**
	147nm,0.8s						
LEM	**Lembang**	**11.10**	**277**	Pn	**Pn**	**05 48 31.2**	**+2.4**
	2.7nm,0.3s,baz=253,slow=2.3,SNR=3.7						
LEM				LR	LR	05 53 16.2	
	comp=Z,2µm,20.0s,baz=84,slow=40						
CNJI	**Cibinong**	**11.53**	**274**	P	**Pn**	**05 48 34.3**	**-0.1**
	101nm,0.9s						
LBMI	**Labuha**	**11.59**	**49**	P	**Pn**	**05 48 36.8**	**+1.5**
	99nm,1.2s,1µm						
KNRA	**Kununurra**	**12.26**	**128**	P	**Pn**	**05 48 47.2**	**+2.9**
	baz=12,SNR=7.6						

TPI	**Tanjungpandan**	**12.31**	**296**	P		**P**	**05 48 55.3**	**-1.6**
SBUM	**Sibu**	**12.49**	**328**	⇓P		**Pn**	**05 48 46.7**	**-0.9**
SBUM	**Sibu**	**12.49**	**328**	*e*Pn		**Pn**	**05 48 46.3**	**-1.3**
TSM	**Tawau**	**12.54**	**356**	⇓P		**Pn**	**05 48 48.6**	**+0.4**
BTM	**Bintulu**	**12.73**	**334**	⇑P		**Pn**	**05 48 52.5**	**+1.6**
MBWA	**Marble Bar**	**12.82**	**176**	*e*Pn		**Pn**	**05 48 51.3**	**-0.8**
KSM	**Kuching**	**12.83**	**319**	P		**Pn**	**05 48 52.2**	**0.0**
	baz=13,SNR=3.7							
KSM	**Kuching**	**12.83**	**319**	⇑P		**Pn**	**05 48 52.3**	**+0.1**
KSM	**Kuching**	**12.83**	**319**	*e*Pn		**Pn**	**05 48 51.2**	**-1.0**
	41nm,1.1s							
MTN	**Manton Dam**	**13.01**	**111**	P		**Pn**	**05 48 54.5**	**-0.2**
	baz=13,SNR=28							
MTN	**Manton Dam**	**13.01**	**111**	*e*Pn		**Pn**	**05 48 55.1**	**+0.5**
CGJI	**Cibinong**	**13.03**	**277**	P		**P**	**05 49 04.8**	**0.0**
MYLDM	**Lahad Datu**	**13.39**	**359**	⇓P		Pn	05 49 03.7	+3.9
SDKM	**Sandakan**	**13.93**	**354**	⇑P		**Pn**	**05 49 09.2**	**+1.9**
PPBI	**Pangkal Pinang**	**13.93**	**295**	P		**P**	**05 49 15.5**	**+0.6**
KDU	**Kakadu**	**14.21**	**109**	P		**Pn**	**05 49 12.2**	**+1.2**
	baz=14,SNR=8.5							
KLSI		**14.35**	**284**	P		**Pn**	**05 49 10.0**	**-3.0**
	63nm,1.3s							
KASI	**Kota Agung**	**14.39**	**280**	P		**Pn**	**05 49 11.6**	**-1.9**
	119nm,1.1s							
KKM	**Kota Kinabalu**	**14.46**	**350**	⇓P		**Pn**	**05 49 15.1**	**+0.4**
KKM	**Kota Kinabalu**	**14.46**	**350**	*e*Pn		**Pn**	**05 49 14.0**	**-0.6**
	77nm,1.4s							
FAKI	**Fak Fak**	**14.48**	**69**	⇓P		**Pn**	**05 49 17.3**	**+2.5**
	baz=15,SNR=6.4							
FAKI	**Fak Fak**	**14.48**	**69**	*e*Pn		**P**	**05 49 19.1**	**-1.9**
SWI	**Sorong**	**14.51**	**60**	P		**P**	**05 49 18.6**	**-2.8**
	82nm,1.5s							
SIJI	**Sorong**	**14.51**	**60**	Pn		**P**	**05 49 22.1**	**+0.7**
	2.2nm,0.3s,baz=258,slow=5.1,SNR=26							
GIRL	**Giralia**	**14.90**	**196**	P		**Pn**	**05 49 18.8**	**-1.6**
	baz=15,SNR=21							
MDSI	**Maura Dua**	**14.94**	**284**	P		Pn	05 49 16.7	-4.2
	50nm,1.8s,1µm							
KDM	**Kudat**	**15.23**	**353**	⇑P		**P**	**05 49 27.3**	**-2.1**
LHSI	**Lahat**	**15.75**	**285**	P		**Pn**	**05 49 33.1**	**+1.6**
	133nm,1.0s,3µm							
KSI	**Kapahiang**	**16.69**	**285**	P		**Pn**	**05 49 44.1**	**+0.5**
	182nm,1.8s							
RKPI	**Ransiki, Papua**	**16.80**	**67**	P		**P**	**05 49 46.5**	**-0.4**
	122nm,1.7s							
MASI	**Maura Aman, Be**	**17.18**	**286**	P		P	05 49 57.5	+6.5
MYKOM	**Kota Tinggi**	**17.89**	**303**	⇑P		P	05 50 05.0	+6.1
MEEK	**Meekatharra**	**18.24**	**180**	P		**Pn**	**05 50 04.6**	**+1.9**
	baz=18,SNR=6.4							
KGM	**Kluang**	**18.46**	**303**	⇓P		Pn	05 50 10.5	+5.1
WRKA	**Warakurna**	**18.99**	**152**	P		**Pn**	**05 50 13.0**	**+1.2**
	baz=19,SNR=48							
WRA	**Warramunga Arr**	**19.04**	**129**	P		**P**	**05 50 11.7**	**+0.1**
	1.1nm,0.3s,baz=303,slow=13,SNR=44							
WRA				S		**Sn**	**05 53 40.9**	**-4.0**
	baz=306,slow=23,SNR=3.3							
WRA	**Warramunga Arr**	**19.04**	**129**	*i* P		**Pn**	**05 50 12.5**	**0.0**
WRA				pmax	pmax			
	comp=Z,5.0nm,0.5s							
WRAB	**Tennant Creek**	**19.05**	**129**	P		**Pn**	**05 50 12.6**	**+0.1**
	comp=Z,178nm,1.0s,SNR=13							
WRAB	**Tennant Creek**	**19.05**	**129**	P		**Pn**	**05 50 14.2**	**+1.7**
WRAB				pmax	pmax			
	comp=Z,210nm,2.5s							
WRAB				MLR	MLR			
	comp=Z,2µm,15.0s							
WRAB	**Tennant Creek**	**19.05**	**129**	*e*P		**P**	**05 50 11.9**	**+0.3**
	comp=Z,63nm,1.3s							
WB2	**Warramunga Arr**	**19.05**	**129**	⇓P		**Pn**	**05 50 12.3**	**-0.3**
	baz=19							
BKNI	**Bangkinang**	**19.59**	**295**	P		Pn	05 50 24.6	+5.5
BKNI	**Bangkinang**	**19.59**	**295**	*e*P		**Pn**	**05 50 18.7**	**-0.4**
	comp=Z,150nm,0.9s							
PPI	**Padang Panjang**	**19.85**	**292**	P		**Pn**	**05 50 25.4**	**+3.3**
KTGM	**Kuala Trenggan**	**20.61**	**311**	⇑P		**P**	**05 50 29.1**	**+0.5**
MORW	**Morawa**	**20.82**	**187**	⇑P		**P**	**05 50 30.7**	**-0.1**
	baz=21,SNR=7.4							
SMPI	**Sarmi**	**20.86**	**74**	P		Pn	05 50 35.1	+1.1

STKA Stephens Creek 31.67 141 P **P** 05 52 13.1 +0.6
comp=Z,8.0nm,0.7s,baz=323,slow=8.9,SNR=27
STKA LR LR 06 06 50.0
comp=Z,470nm,19.5s,baz=332,slow=40
STKA Stephens Creek 31.67 141 P **P** 05 52 13.1 +0.6
STKA pmax pmax
comp=Z,8.0nm,0.7s
STKA MLR MLR
comp=Z,470nm,19.5s
STKA Stephens Creek 31.67 141 ⇑P **P** 05 52 13.3 +0.9
baz=32,SNR=18
STKA Stephens Creek 31.67 141 *e*P **P** 05 52 13.3 +0.9
comp=Z,43nm,2.8s
LAMP Lampang 32.63 325 P **P** 05 52 23.2 +2.2
comp=Z,8.3nm,0.9s,comp=Z,61nm
SLVN Son La 32.84 334 *e*P **P** 05 52 22.9 0.0
comp=Z,13nm,1.0s
CMAR Chiang Mai Arr 32.98 324 P **P** 05 52 23.6 -0.5
comp=Z,2.2nm,0.4s,baz=147,slow=6.9,SNR=15
CMAR LR LR 06 09 16.6
comp=Z,562nm,18.4s,baz=152,slow=43
CMMT Chiang Mai 33.26 324 P **P** 05 52 27.9 +1.4
comp=Z,19nm,1.7s
CHTO Chiang Mai 33.26 324 P **P** 05 52 28.6 +2.1
comp=Z,66nm,1.1s
CHTO Chiang Mai 33.26 324 *e*P **P** 05 52 26.3 -0.2
CHTO pmax pmax
comp=Z,27nm,1.3s
CHTO Chiang Mai 33.26 324 *e*P **P** 05 52 26.2 -0.2
comp=Z,27nm,1.3s
MHMT Maesarieng 33.36 322 P P 05 52 32.4 +5.0
comp=Z,8.4nm,1.0s,comp=Z,411nm
CRAI Chiangrai 33.61 328 P **P** 05 52 29.4 -0.1
comp=Z,22nm,0.8s,comp=Z,2µm
CMAI Chiengmai2 34.09 326 P **P** 05 52 36.1 +2.2
comp=Z,21nm,1.4s,comp=Z,784nm
ARPS Mount Arapiles 35.28 147 ⇑P **P** 05 52 45.1 +1.3
baz=35,SNR=6.9
GYA Guiyang 36.48 342 P **P** 05 52 56.8 +2.5
GYA pP **pP** 05 53 05.6 +1.4
GYA PP **PP** 05 54 22.0 +4.2
GYA PcP **PcP** 05 55 20.4 +2.5
GYA S **S** 05 58 37.8 +3.5
GYA sS **sS** 05 58 52.3 +1.6
GYA ScP **ScP** 05 59 03.0 +0.9
GYA SS **SnSn** 06 01 04.6 -0.1
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,4.9s
GYA LN
comp=Z,520nm,17.0s
GYA LE
comp=Z,490nm,18.2s
GYA LZ
comp=Z,460nm,17.6s
KMI Kunming 36.69 335 P **P** 05 52 57.4 +1.2
KMI pP **pP** 05 53 07.4 +1.2
KMI sP **sP** 05 53 11.5 +1.2
KMI PP **PP** 05 54 24.8 +4.6
KMI S **S** 05 58 38.4 +0.7
KMI sS **sS** 05 58 54.0 -0.1
KMI SS **SnSn** 06 01 08.8 -1.1
KMI PMZ
comp=Z,25nm,1.3s
KMI PMZ
comp=Z,240nm,4.3s
KMI LN
comp=Z,870nm,12.5s
KMI LE
comp=Z,760nm,13.1s
KMI LZ
comp=Z,650nm,12.8s
WHN Wuhan 38.84 354 ⇑P P 05 53 19.3 +5.2
ENH Enshi 39.36 347 *e*P **P** 05 53 17.6 -0.9
comp=Z,17nm,0.7s
NJ2 Nanjing 40.12 0 *e*P P 05 53 33.9 +9.2
NJ2 Nanjing 40.12 0 *e*P P 05 53 30.8 +6.1
NJ2 PMZ
comp=Z,200nm,1.0s
PALK Pallekele 40.93 291 LR LR 06 10 06.7
comp=Z,519nm,20.8s,baz=115,slow=36
CD2 Chengdu 41.54 340 P **P** 05 53 36.0 -0.5
CD2 pP **pP** 05 53 44.9 -1.7
CD2 sP **sP** 05 53 48.8 -1.9
CD2 PP **PP** 05 55 12.6 -0.4
CD2 S **S** 05 59 51.4 +1.1
CD2 sS **sS** 06 00 06.6 -0.2
CD2 PMZ
comp=Z,150nm,1.0s
CD2 PMZ
comp=Z,300nm,4.9s
CD2 LN
comp=Z,690nm,8.4s
CD2 LZ
comp=Z,480nm,12.6s
SHL Shillong 42.60 323 *e*P **P** 05 53 45.0 -0.5
JNU Nakatsue 42.78 15 LR LR 06 11 24.3
comp=Z,233nm,21.0s,baz=189,slow=36
TIA Tai'an 44.30 358 ⇑P P 05 54 02.8 +4.1
TIA PMZ
comp=Z,20nm,2.0s
LSA Lhasa 46.16 326 P **P** 05 54 12.8 -1.4
LSA Lhasa 46.16 326 *e*P **P** 05 54 14.6 +0.4
LSA pmax pmax
comp=Z,82nm,1.3s
LSA Lhasa 46.16 326 *e*P **P** 05 54 14.6 +0.4
comp=Z,82nm,1.3s
KSAR Wonju Array Be 46.30 10 P **P** 05 54 14.8 +0.2
KSAR Wonju Array Be 46.30 10 P **P** 05 54 14.8 +0.2
ODAN Odare 46.31 320 *e*P **P** 05 54 14.2 -1.0
comp=Z,138nm,1.1s
LZH Lanzhou 46.31 343 P **P** 05 54 16.3 +1.4
LZH pP **pP** 05 54 25.5 +0.4
LZH sP **sP** 05 54 31.3 +2.2
LZH PP **PP** 05 56 02.4 -1.8
LZH *e*S **S** 06 01 01.3 +1.3
LZH sS **sS** 06 01 18.3 +1.6
LZH SS SS 06 04 18.8 -7.3
LZH PMZ
comp=Z,33nm,1.2s
LZH PMZ
comp=Z,240nm,4.4s
LZH LN
comp=Z,450nm,11.7s
LZH LE
comp=Z,370nm,12.3s
LZH LZ
comp=Z,580nm,14.2s
KSRS Korea Array 46.32 10 P **P** 05 54 14.8 +0.1
comp=Z,15nm,1.0s,baz=190,slow=8.1,SNR=22
KSRS LR LR 06 14 27.8
comp=Z,158nm,20.3s,baz=190,slow=37
KSRS Korea Array 46.32 10 P **P** 05 54 14.8 +0.1
KSRS pmax pmax
comp=Z,15nm,1.0s
KSRS MLR MLR
comp=Z,158nm,20.3s
TAPN Taplejung 46.45 321 *e*P **P** 05 54 15.6 -0.7
comp=Z,299nm,1.3s
RAMN Ramite 46.88 319 *e*P **P** 05 54 18.7 -0.9
comp=Z,144nm,1.2s
DZM Mont Dzumac 47.85 112 P **P** 05 54 27.8 +0.7
comp=Z,7.4nm,1.0s,baz=255,slow=20,SNR=4.3
GUN Gumba 48.00 320 *e*P **P** 05 54 27.3 -1.2
comp=Z,116nm,0.8s
PKI Pulchoki 48.07 319 *e*P **P** 05 54 27.2 -1.8
comp=Z,65nm,1.1s
PKIN Phulchoki 48.09 319 *e*P **P** 05 54 27.2 -1.8
BJI Beijing 48.15 357 P **P** 05 54 31.4 +2.5
BJI PP **PP** 05 56 25.0 +3.4
BJI S **S** 06 01 26.5 +0.9
BJI PMZ
comp=Z,16nm,0.9s
BJI PMZ
comp=Z,160nm,5.8s
BJI LN
comp=Z,320nm,16.6s
BJI LE
comp=Z,260nm,15.8s
BJI LZ
comp=Z,200nm,19.9s
MAJO Matsushiro 48.21 21⇑*e*P **P** 05 54 29.4 -0.1
MAJO pmax pmax
comp=Z,146nm,2.0s
MAJO Matsushiro 48.21 21 *e*P **P** 05 54 29.8 +0.3
comp=Z,16nm,0.9s
MAT Matsushiro 48.21 21 P **P** 05 54 28.9 -0.7
MAT S **S** 06 01 24.6 -2.1
MJAR Matsushiro Arr 48.21 21 P **P** 05 54 28.9 -0.7
comp=Z,1.5nm,0.4s,baz=203,slow=9.4,SNR=12
MJAR LR LR 06 13 47.7
comp=Z,122nm,21.9s,baz=200,slow=35
DMN Daman 48.30 319 *e*P **P** 05 54 28.8 -1.8
comp=Z,123nm,1.2s
KKN Kakani 48.30 319 *e*P **P** 05 54 29.1 -1.6
GKN Gorkha 48.87 319 *e*P **P** 05 54 32.9 -2.0
comp=Z,106nm,1.1s
HHC Hu-ho-hao-te 49.34 353 *e*P P 05 54 41.5 +3.2
HHC sP sP 05 54 54.8 +2.3
HHC S **S** 06 01 47.8 +5.1
HHC PMZ
comp=Z,14nm,0.6s
HHC PMZ
comp=Z,150nm,7.8s
HHC LN
comp=Z,260nm,18.5s
HHC LE
comp=Z,210nm,17.3s
HHC LZ
comp=Z,230nm,18.5s
KOLN Koldanda 49.39 318 *e*P **P** 05 54 37.0 -2.0
comp=Z,24nm,0.8s
GTA Gaotai 50.60 341 ⇓P **P** 05 54 48.6 +0.7
GTA pP **pP** 05 54 57.9 -0.2
GTA sP **sP** 05 55 01.8 -0.4
GTA PcP **PcP** 05 56 03.6 -1.6
GTA PcS **PcS** 06 00 01.4 -1.2
GTA S **S** 06 02 02.1 +1.7
GTA sS **sS** 06 02 19.3 +2.1
GTA ScS **ScS** 06 04 33.1 -3.4
GTA SS **SS** 06 05 35.3 +0.1
GTA PMZ
comp=Z,7.0nm,0.9s
GTA PMZ
comp=Z,47nm,4.3s
GTA LN
comp=Z,230nm,19.9s
GTA LE
comp=Z,390nm,21.7s
GTA LZ
comp=Z,300nm,20.4s
CN2 Changchun 52.21 6 *e*P **P** 05 54 58.6 -1.1
CN2 *es*P **sP** 05 55 11.9 -2.0
CN2 PMZ
comp=Z,10.0nm,0.5s
CN2 PMZ
comp=Z,200nm,5.0s
VLA Vladivostok 52.56 12⇑*e*P **P** 05 55 03.7 +1.5
VLA pmax pmax
comp=Z,99nm,2.2s
MDJ Mudanjiang 53.58 10 P P 05 55 14.3 +4.6
MDJ PMZ
comp=Z,53nm,0.8s
MDJ PMZ
comp=Z,93nm,7.1s
MDJ Mudanjiang 53.58 10 *e*P **P** 05 55 10.8 +1.1
comp=Z,49nm,0.9s
USRK Ussuriysk Ar. 53.62 12 P **P** 05 55 09.7 -0.3
comp=Z,4.3nm,0.8s,baz=182,slow=5.1,SNR=13
USRK LR LR 06 19 08.3
comp=Z,77nm,19.2s,baz=185,slow=37
ASAJ Asahikawa 56.47 20 LR LR 06 18 11.0
comp=Z,153nm,21.8s,baz=219,slow=34
ASAJ Asahikawa 56.47 20 *e*P **P** 05 55 30.2 -0.5
comp=Z,5.6nm,1.1s
SONM Songino Array 56.94 350 P **P** 05 55 33.4 -0.7
comp=Z,20nm,1.1s,baz=170,slow=7.5,SNR=20
SONM LR LR 06 23 26.7
comp=Z,155nm,18.2s,baz=186,slow=40
KLR Kul'dur 58.41 10 *e*P P 05 55 36.7 -7.6
WMQ Urumqi 59.01 334 P **P** 05 55 48.0 -0.6
WMQ pP **pP** 05 55 58.0 -1.0
WMQ sP **sP** 05 56 02.0 -1.0
WMQ S **S** 06 03 49.9 -3.1
WMQ sS **sS** 06 04 06.6 -3.5
WMQ SS **SS** 06 07 45.0 -2.5
WMQ PMZ
comp=Z,31nm,1.0s
WMQ PMZ
comp=Z,140nm,3.8s
WMQ LN
comp=Z,220nm,24.1s
WMQ LE
comp=Z,130nm,23.2s
WMQ LZ
comp=Z,210nm,27.4s
YSS Yuzh-Sakhalins 59.02 19 *e*P **P** 05 55 48.6 +0.1
ZAK Zakamensk 59.96 349⇑*i*P **P** 05 55 53.5 -1.6
ZAK pmax pmax
comp=Z,14nm,1.5s
TLY Talaya 61.13 349 *e*P **P** 05 56 02.3 -0.7
TLY pmax pmax
comp=Z,37nm,1.4s
TLY Talaya 61.13 349 *e*P **P** 05 56 02.5 -0.4
comp=Z,23nm,1.2s
KSH Kashi 61.88 323 P **P** 05 56 10.9 +2.5
KSH pP **pP** 05 56 21.0 +2.2
KSH PcP **PcP** 05 56 52.0 +2.9
KSH PP **PP** 05 58 30.1 +5.1
KSH ScP **ScP** 06 00 49.3 +0.8
KSH S **S** 06 04 30.9 +0.8
KSH sS **sS** 06 04 49.4 +2.1
KSH SS **SS** 06 08 36.4 +3.5
KSH PMZ
comp=Z,12nm,0.7s
KSH PMZ
comp=Z,230nm,3.3s
KSH LN
comp=Z,450nm,8.8s
KSH LE
comp=Z,220nm,5.8s
KSH LZ
comp=Z,290nm,5.0s
MKAR Makanchi Array 63.71 333 P **P** 05 56 18.2 -2.1
comp=Z,1.2nm,0.5s,baz=141,slow=7.8,SNR=16
MKAR LR LR 06 26 09.7
comp=Z,81nm,20.7s,baz=131,slow=38
TKM2 Tokmak 2 64.32 326 *e*P **P** 05 56 22.7 -2.0
TKM2 pmax pmax
comp=Z,2.0nm,0.6s
TKM2 Tokmak 2 64.32 326 *e*P **P** 05 56 22.7 -2.0
comp=Z,2.4nm,0.6s
EKS2 Erkin-Say 65.17 325 *e*P **P** 05 56 27.7 -2.4
EKS2 pmax pmax
comp=Z,12nm,1.0s
EKS2 Erkin-Say 65.17 325 *e*P **P** 05 56 27.6 -2.4
comp=Z,12nm,1.0s
BOD Bodaibo 66.00 357 *e*P **P** 05 56 33.8 -1.1
BOD pmax pmax
comp=Z,35nm,1.4s
KKAR Karatay Array 67.33 324 *e*P **P** 05 56 41.5 -2.3
KKAR pmax pmax
comp=Z,4.0nm,0.9s
KKAR Karatay Array 67.33 324 *e*P **P** 05 56 41.5 -2.3
comp=Z,4.5nm,0.9s
KRAR Krasnoyarsk 67.57 345 *i*P **P** 05 56 45.9 +1.0
KURK Kurchatov 68.25 334 *e*P **P** 05 56 47.7 -1.7
KURK pmax pmax
comp=Z,20nm,1.0s
KURK Kurchatov 68.25 334 *e*P **P** 05 56 47.7 -1.7
comp=Z,20nm,1.0s
ZALV Zalesovo Beam 68.29 339 P **P** 05 56 47.0 -2.6
comp=Z,2.9nm,0.6s,baz=148,slow=4.7,SNR=10
ZALV Zalesovo Beam 68.29 339 P **P** 05 56 47.0 -2.6
PETK Petropavlovsk- 69.55 24 P **P** 05 56 57.5 +0.1
comp=Z,2.1nm,0.7s,baz=185,slow=15,SNR=3.9
PETK LR LR 06 28 27.4
comp=Z,38nm,19.9s,baz=231,slow=37
NVS Novosibirsk 69.56 339 *e*P P 05 56 53.8 -3.6
NVS pmax pmax
comp=N,15nm,1.6s
NVS pmax pmax
comp=Z,27nm,1.6s
NVS pmax pmax
comp=E,10.0nm,1.0s
MAW Mawson 69.80 200 P **P** 05 56 59.5 +0.8
comp=E,3.6nm,0.9s,baz=74,slow=7.6,SNR=5.2
MAW LR LR 06 25 25.1
comp=E,170nm,18.1s,baz=60,slow=34
PET Petropavlovsk 69.87 24 *e*P **P** 05 56 59.1 -0.2
PET *e*S **S** 06 06 09.6 +3.0
PET *e*SS **SS** 06 10 35.6 -0.6
PET pmax pmax
comp=Z,44nm,1.4s
OPO Ambohidratompo 69.95 253 P **P** 05 57 00.4 -0.4
comp=Z,5.8nm,0.9s,baz=75,slow=14,SNR=5.7
YAK Yakutsk 70.63 5 LR LR 06 32 33.6
comp=Z,48nm,18.6s,baz=218,slow=40
YAK Yakutsk 70.63 5 *e*P P 05 57 08.0 +4.2
YAK *e* 05 57 25.6
YAK *e* 05 59 44.0
YAK *e*PPP PPP 06 01 29.8
YAK *e*S **S** **06 06 13.3 -1.9**
YAK *e**SS **SKSac** **06 06 58.9 -4.1**
YAK *e* 06 07 02.7
YAK *e*SS **SS** **06 10 42.9 -4.7**
YAK *e*SSS SSS 06 13 56.1
YAK pmax pmax
comp=Z,41nm,1.0s
YAK pmax pmax
comp=N,23nm,1.0s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=Z,78nm,3.2s
YAK pmax pmax
comp=E,35nm,3.2s
YAK pmax pmax
comp=N,15nm,2.8s
YAK smax smax
comp=N,76nm,2.5s
YAK smax smax
comp=E,40nm,2.7s
MA2 Magadan 72.33 16 *i*P **P** **05 57 13.6 -0.6**
VNDA Vanda 72.72 171 P **P** **05 57 16.8 +0.5**
comp=E,1.4nm,0.4s,baz=314,slow=8.9,SNR=17
VNDA LR LR 06 27 25.4
comp=E,297nm,20.3s,baz=336,slow=34
VNDA Vanda 72.72 171 *e*P **P** **05 57 17.4 +1.1**
comp=E,4.7nm,1.0s
GEYT Alibeck 72.76 314 P **P** **05 57 19.9 +2.6**
comp=E,1.5nm,0.4s,baz=15,slow=6.1,SNR=2.2
GEYT LR LR 06 35 33.3
comp=E,196nm,18.1s,baz=260,slow=41
BRVK Borovoye 73.62 332 *e*P **P** **05 57 19.7 -2.3**
BRVK pmax pmax
comp=Z,14nm,1.1s
BRVK Borovoye 73.62 332 *e*P **P** **05 57 19.7 -2.3**
comp=Z,14nm,1.1s
SBA Scott Base 73.72 171 *e*P **P** **05 57 23.3 +1.1**
SBA pmax pmax
comp=Z,2.0nm,0.6s
SBA Scott Base 73.72 171 *e*P **P** **05 57 23.3 +1.1**
comp=Z,2.3nm,0.6s
SEY Seymchan 75.56 15 P **P** **05 57 31.8 -1.1**
comp=Z,4.1nm,0.8s,baz=215,slow=7.8,SNR=5.9
ABKAR Akbulak array 76.83 325 *e*P **P** **05 57 37.8 -2.7**
comp=Z,5.5nm,0.9s
SYO Syowa Base 78.41 201⇑*e*P **P** **05 57 51.2 +2.3**
ARU Arti 81.12 331*d i*P **P** **05 58 04.4 +0.6**
ARU 06 01 06.8
ARU S **S** **06 08 14.9 +3.8**
ARU SS **SS** **06 13 27.4 +0.7**
ARU pmax pmax
comp=Z,12nm,1.7s
KMBO Kilima Mbogo 81.40 270 P **P** **05 58 05.0 -1.6**
comp=Z,0.7nm,0.3s,baz=63,slow=4.5,SNR=4.6
KMBO Kilima Mbogo 81.40 270 *i*P **P** **05 58 04.5 -2.1**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
QSPA South Pole Qui 81.69 180 P **P** **05 58 06.7 -0.2**
comp=Z,3.7nm,1.0s,baz=287,slow=2.2,SNR=6.0
QSPA South Pole Qui 81.69 180 *e*P **P** **05 58 06.8 -0.2**
comp=Z,13nm,1.2s
BILL Bilibino 83.20 16 *i*P **P** **05 58 13.3 -1.2**
BILL *e* 06 01 20.3
BILL pmax pmax
comp=Z,9.0nm,2.0s
BILL MLR MLR
comp=Z,75nm,18.0s
ZEI Tsey 84.62 314 *e*P **P** **05 58 24.0 +1.4**
ZEI pmax pmax
comp=Z,29nm,0.4s
KBZ Khabaz 85.58 315 P **P** **05 58 24.9 -2.2**
comp=Z,0.6nm,0.3s,baz=149,slow=5.0,SNR=3.2
KBZ LR LR 06 45 22.0
comp=Z,60nm,18.3s,baz=78,slow=42
KIV Kislovodsk 85.79 315 *e*P **P** **05 58 25.3 -3.0**
KIV pmax pmax
comp=Z,5.0nm,0.8s
GOF Gofitskoye 85.85 316 *e*P **P** **05 58 31.1 +2.7**
LSZ Lusaka 88.36 255 *e*P **P** **05 58 40.3 -1.1**
LSZ pmax pmax
comp=Z,30nm,1.3s
LSZ Lusaka 88.36 255 *e*P **P** **05 58 40.3 -1.1**
comp=Z,30nm,1.3s
EIL Elat 88.69 300 LR LR 06 41 07.0
comp=Z,157nm,18.5s,baz=88,slow=37
BOSA Boshof 89.10 241 LR LR 06 32 52.1
comp=Z,87nm,21.8s,baz=103,slow=32
VSR Storozhevoye 89.92 322 *e*P **P** **05 58 50.3 +2.6**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=E,8.0nm,0.7s
BRTR Keskin Array B 91.48 310 LR LR 06 45 22.8
comp=E,68nm,19.6s,baz=110,slow=39
OBN Obninsk 92.28 325 *e*P **P** **05 58 56.9 -1.7**
OBN *e* 06 02 44.7
OBN pmax pmax
comp=Z,7.0nm,1.2s
OBN MLR MLR
comp=Z,98nm,22.0s
VNA1 Neumayer--Stat 93.63 195 P **P** **05 59 04.5 -0.1**
AKASG Malin Array Be 96.03 320 LR LR 06 48 21.8
comp=Z,91nm,21.2s,baz=55,slow=39
IDI Anoyia 97.85 305 LR LR 06 48 25.0
comp=Z,30nm,21.4s,baz=86,slow=38
FINES FINESS Array B 98.49 331 LR LR 06 49 20.2
comp=Z,70nm,18.6s,baz=102,slow=39
ARCES ARCESS Array B 98.84 339 LR LR 06 51 54.1
comp=Z,115nm,18.0s,baz=116,slow=40
ILAR Eielson Array 99.32 26 P **Pdif** **05 59 29.9 -0.6**
comp=Z,0.4nm,0.9s,baz=242,slow=3.2,SNR=5.7
ILAR PKKPbc **PKKPbc** **06 15 58.0 +1.0**
comp=Z,0.5nm,0.9s,baz=98,slow=1.9,SNR=4.2
ILAR LR LR 06 43 42.9
comp=Z,34nm,19.7s,baz=318,slow=35
CLL Collm 106.25 321 *e*PKiKP **PKiKP** **06 04 11.0 -2.0**
CLL *e*PS **PS** **06 13 46.0 +1.4**
TORD Torodi Ar. Bea 118.06 280 PKP **PKPdf** **06 04 34.0 -2.5**
comp=Z,0.3nm,0.5s,baz=42,slow=2.3,SNR=5.2
NVAR Mina Array Bea 120.78 50 PKP **PKPdf** **06 04 40.9 -0.6**
comp=Z,0.1nm,0.3s,baz=270,slow=0.9,SNR=2.4
HLID Hailey 122.01 43 *e*PKPdf **PKPdf** **06 04 43.7 +0.1**
PDAR Pinedale Array 125.59 43 PKP **PKPdf** **06 04 50.3 -0.3**
comp=Z,0.3nm,0.6s,baz=75,slow=3.8,SNR=3.7
TXAR Lajitas Array 135.09 56 PKP **PKPdf** **06 05 07.8 -0.9**
comp=Z,0.2nm,0.8s,baz=250,slow=1.1,SNR=3.6
JCT Junction City 137.80 53 *e*PKiKP **PKPdf** **06 05 15.5 +1.8**
JCT Junction City 137.80 53 *e*PKPdf **PKPdf** **06 05 15.5 +1.8**
CFAA Coronel Fontan 139.77 171 PKiKP PKPpre 06 05 08.6
comp=Z,0.2nm,0.4s,baz=229,slow=4.2,SNR=3.6
WVT Waverly 143.21 37 *e*PKiKP **PKPdf** **06 05 24.3 +1.1**
WVT Waverly 143.21 37 *e*PKPdf **PKPdf** **06 05 24.3 +1.1**
CPUP Villa Florida 145.37 186 PKPbc **PKPbc** **06 05 27.2 +0.1**
comp=Z,19nm,1.1s,baz=213,slow=2.1,SNR=15
LRAL Lakeview Retre 145.77 40 *e*PKPdf **PKPdf** **06 05 26.8 -1.0**
LVC Limon Verde 148.38 166 PKPbc **PKPbc** **06 05 35.6 -0.6**
comp=Z,75nm,1.2s,baz=225,slow=8.7,SNR=3.7
BDFB Brasilia 152.83 209 PKPbc **PKPbc** **06 05 45.6 -1.2**
comp=Z,6.4nm,1.1s,baz=98,slow=3.9,SNR=4.1
BDFB PKPab **PKPab** **06 05 55.3 -2.3**
comp=Z,7.9nm,1.0s,baz=169,slow=5.2,SNR=3.9
LPAZ La Paz 154.65 164 PKP **PKPdf** **06 05 44.0 +1.2**
comp=Z,1.5nm,1.0s,baz=295,slow=3.7,SNR=3.0
SIV San Ignacio 155.87 180 PKP **PKPdf** **06 05 44.5 +0.7**
comp=Z,1.8nm,1.0s,baz=93,slow=1.8,SNR=3.6
OTAV Otavalo 161.11 114 *e*PKPdf **PKPdf** **06 05 49.8 -0.9**

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*ISCJB **16** 05:58:23.5±0.2, 8.°18S±0.°02×118.°61E±0.°02, h35km, mb4.8/62, MS3.9/10, Error ellipse: s-maj=3.5km s-min=2.8km az=42.1*

MOS ***16*** *05:58:23.1±1.4,8.˙16S×118.˙66E,h33km,mb5.1/19,Error ellipse: s-maj=11.8km s-min=7.1km az=117.3*
IDC ***16*** *05:58:24.8±3.0,8.˙18S×118.˙49E,h33km±22km,mb4.3/23, mb1 4.4/26,mb1mx4.3/41,mbtmp4.5/26,ML4.8/3,MS4.1/15, Ms1 4.1/15,ms1mx3.7/44,Error ellipse: s-maj=17.8km s-min=9.8km az=73.0*
DJA ***16*** *05:58:25.5±1.3,8.˙5±2.˚×11.˚9E±.˚,h28km±16km,M5.3/35, mb5.1/34,mB5.7/16,MLv5.3/35,Mw(mB)5.3/16*
GCMT ***16*** *05:58:26.4±0.3,8.˙10S×118.˙62E,h18km±1km,MW5.0/72, Moment Tensor Solution. s25,c29; s72,c106; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.06±.21; Mθθ-3.12±.13; Mφφ0.06±.13; Mrθ-2.85±.32; Mθφ-0.96±.09; Mφr-0.07±.40; Best double couple: Mo4.30800×10^16^ NP1:φs264.00000°,δ66.00000°,λ99.00000°. NP2: φs64.00000°,δ25.00000°,λ71.00000°. Principal axes: T 4.1930, Plg68.0000°, Azm191.0000°; N 0.2320, Plg8.0000°, Azm81.0000°; P -4.4230, Plg21.0000°, Azm348.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***16*** *05:58:26.4±0.6,8.˙23S×118.˙59E,h48km±6km,mb4.9/25 Error ellipse: s-maj=7.0km s-min=4.9km az=222.0*

ISC 16 05:58:25.6±0.3,**8.˚28S**±0.˚03×**118.˚63E**±0.˚04,**h35**km,**n234,**
σ1§**62**/256,**mb4.7**/**62**,**MS3.9**/10,**11C**,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**2.72**	**135**	P		P	Pn	05 59 10.0	+3.2
BSSI	**Bau Bau, Buton**	**2.81**	**41**	P		P	**Pn**	**05 59 07.0**	**-1.1**
BKSI	**Bulukumba**	**3.29**	**27**	P		P	**Pn**	**05 59 13.2**	**-1.5**
SRBI	**Singaraja**	**3.39**	**273**	P		P	**Pn**	**05 59 16.6**	**+0.6**
DNP	**Denpasar**	**3.41**	**263**	P		P	**Pn**	**05 59 18.3**	**+2.1**
KAPI	**Kappang**	**3.43**	**19**	Pn		P	**Pn**	**05 59 14.6**	**-2.0**
	3µm,0.4s,SNR=32								
KAPI	**Kappang**	**3.43**	**19**	Pn			**Pn**	**05 59 14.7**	**-1.9**
	84nm,0.3s,baz=212,slow=8.7,SNR=97								
KAPI					Sn		**Sn**	**05 59 52.2**	**-3.9**
	42nm,0.3s,baz=96,slow=23,SNR=4.7								
KAPI					LR		LR	06 00 50.6	
	comp=Z,5µm,20.0s,baz=203,slow=43								
IGBI	**Denpasar**	**3.49**	**261**	P		P	**Pn**	**05 59 17.2**	**-0.2**
MMRI	**Maumere**	**3.58**	**96**	P		P	**Pn**	**05 59 19.1**	**+0.4**
MMRI	**Maumere**	**3.58**	**96**	*e*Pn		P	**Pn**	**05 59 19.1**	**+0.4**
ABJI	**Asem Bagus**	**4.38**	**276**	P		P	**Pn**	**05 59 30.1**	**+0.5**
JAGI	**Jajag, Banyuwa**	**4.44**	**267**	P		P	**Pn**	**05 59 29.5**	**-0.9**
JAGI	**Jajag, Banyuwa**	**4.44**	**267**	P		P	**Pn**	**05 59 28.1**	**-2.4**
	baz=4.3,SNR=20								
JAGI	**Jajag, Banyuwa**	**4.44**	**267**	*e*Pn		P	**Pn**	**05 59 27.8**	**-2.6**
SPSI	**Sidrap Palu**	**4.44**	**15**	P		P	**Pn**	**05 59 28.7**	**-1.7**
KMMI	**Kaliangket**	**4.78**	**285**	P		P	**Pn**	**05 59 35.7**	**+0.5**
BLJI	**Banyuglugur**	**5.02**	**276**	P		P	**Pn**	**05 59 37.1**	**-1.3**
BATI	**Baumata**	**5.32**	**111**	P		P	**Pn**	**05 59 44.7**	**+2.1**
	162nm,1.0s,2µm0.6nm								
BATI	**Baumata**	**5.32**	**111**	Pn		P	**Pn**	**05 59 44.7**	**+2.1**
	46nm,0.3s,baz=91,slow=2.6,SNR=15								
BATI					Sn		Sn	06 00 49.8	+7.0
	4.5nm,0.3s,baz=90,slow=19,SNR=1.5								
BATI					LR		LR	06 02 10.1	
	comp=Z,3µm,21.6s,baz=348,slow=41								
TTSI	**Tana Toraja**	**5.33**	**13**	P		P	**Pn**	**05 59 42.2**	**-0.6**
	339nm,0.8s,4µm2.0nm								
KBKI	**Kotabaru**	**5.52**	**334**	P		P	**Pn**	**05 59 43.6**	**-1.8**
	491nm,0.8s,5µm4.5nm								
SOEI	**Soe**	**5.76**	**105**	P		P	**Pn**	**05 59 50.1**	**+1.4**
	404nm,1.1s,5µm1.8nm								
SOEI	**Soe**	**5.76**	**105**	⇑P		P	**Pn**	**05 59 49.7**	**+1.0**
	baz=5.8,SNR=27								
SOEI	**Soe**	**5.76**	**105**	*e*Pn			Pn	05 59 51.8	+3.1
KDI	**Kendari**	**5.85**	**43**	P		P	**Pn**	**05 59 48.9**	**-0.9**
	66nm,1.0s,0.3nm								
BBKI	**Banjar Baru**	**6.09**	**322**	P		P	**Pn**	**05 59 51.7**	**-1.5**
	618nm,1.0s,9µm3.2nm								
GRJI	**Gresik**	**6.25**	**282**	P		P	**Pn**	**05 59 54.7**	**-0.6**
	402nm,1.0s,5µm1.6nm								
PWJI	**Pagerwojo**	**6.76**	**272**	P		P	**Pn**	**06 00 03.1**	**+0.7**
	163nm,0.6s,0.9nm								
NGJI	**Ngawi**	**7.16**	**277**	P		P	**Pn**	**06 00 08.2**	**+0.3**
	145nm,1.1s,1.4nm								
BKB	**Balikpapan**	**7.19**	**346**	P		P	**Pn**	**06 00 08.4**	**+0.2**
	280nm,1.0s,1.7nm								
PCI	**Palu**	**7.43**	**9**	P		P	**Pn**	**06 00 09.8**	**-1.7**
	161nm,0.9s,1µm0.5nm								
WOJI	**Wonogiri, Jawa**	**7.64**	**273**	P		P	**Pn**	**06 00 15.0**	**+0.5**
	154nm,1.0s,8µm0.9nm								
APSI	**Ampana**	**7.92**	**22**	P		P	**Pn**	**06 00 16.6**	**-1.6**
	73nm,1.0s,0.5nm								
UGM	**Wanagama**	**8.04**	**272**	P		P	**Pn**	**06 00 20.5**	**+0.6**
	284nm,1.1s								
UGM	**Wanagama**	**8.04**	**272**	⇑P		P	**Pn**	**06 00 20.7**	**+0.8**
	baz=7.9,SNR=15								
UGM	**Wanagama**	**8.04**	**272**	*e*Pn		P	**Pn**	**06 00 22.2**	**+2.3**
SMRI	**Semarang**	**8.21**	**278**	P		P	**Pn**	**06 00 22.7**	**+0.4**
	158nm,1.3s								
SMRI	**Semarang**	**8.21**	**278**	*e*Pn		P	**Pn**	**06 00 24.6**	**+2.3**
LUWI	**Luwuk**	**8.29**	**30**	P		P	**Pn**	**06 00 21.9**	**-1.5**
	105nm,0.9s,4µm								
LUWI	**Luwuk**	**8.29**	**30**	*e*Pn		P	**Pn**	**06 00 24.6**	**+1.2**
	49nm,0.8s								
MPSI	**Mapaga**	**8.65**	**8**	P		P	**Pn**	**06 00 26.5**	**-1.9**
	22nm,2.1s								
PBKI	**Pangkalan Bun**	**8.87**	**308**	P		P	**Pn**	**06 00 30.4**	**-1.0**
	951nm,0.5s,23µm								
MRSI	**Marisa**	**9.30**	**21**	P		P	**Pn**	**06 00 35.6**	**-1.7**
	54nm,0.8s,2µm								
KPJI	**Karang Pucung**	**9.66**	**275**	P		P	**Pn**	**06 00 42.6**	**+0.5**
	77nm,0.7s								
NLAI	**Namlea**	**9.80**	**60**	P		P	**Pn**	**06 00 43.8**	**-0.3**
	56nm,0.9s								
CISI	**Cisompet, Garu**	**10.74**	**273**	*e*Pn		P	**Pn**	**06 00 56.9**	**-0.2**
	73nm,0.8s								
STKI	**Sintang**	**10.94**	**319**	P		P	**Pn**	**06 00 58.8**	**-0.9**
	50nm,1.0s,11µm								
LEM	**Lembang**	**11.01**	**277**	P		P	**Pn**	**06 01 01.3**	**+0.4**
	103nm,0.8s								
LEM	**Lembang**	**11.01**	**277**	Pn			Pn	06 01 04.7	+3.8
	3.6nm,0.3s,baz=3.1,slow=14,SNR=4.3								
LEM					LR		LR	06 05 38.5	
	comp=Z,2µm,18.8s,baz=106,slow=40								
CBJI	**Citeko**	**11.83**	**278**	P		P	**Pn**	**06 01 10.5**	**-1.4**
	160nm,0.8s,15µm								
TPI	**Tanjungpandan**	**12.22**	**296**	P		P	**Pn**	**06 01 16.6**	**-0.7**
	42nm,1.2s								
KNRA	**Kununurra**	**12.33**	**128**	⇑P		P	**Pn**	**06 01 19.5**	**+0.7**
	baz=12,SNR=11								
SBUM	**Sibu**	**12.43**	**329**	*e*Pn		P	**Pn**	**06 01 18.9**	**-1.2**
KSM	**Kuching**	**12.76**	**319**	*e*Pn		P	**Pn**	**06 01 24.6**	**-0.1**
	30nm,1.0s								
MBWA	**Marble Bar**	**12.85**	**175**	*e*Pn		P	**Pn**	**06 01 24.9**	**-0.9**
CGJI	**Cibinong**	**12.94**	**276**	P		P	**Pn**	**06 01 27.3**	**+0.3**
	84nm,1.4s,3µm								
MTN	**Manton Dam**	**13.10**	**111**	P		P	**Pn**	**06 01 27.9**	**-1.4**
	baz=13,SNR=44								
PPBI	**Pangkal Pinang**	**13.84**	**295**	P		P	**Pn**	**06 01 39.1**	**-0.4**
KDU	**Kakadu**	**14.29**	**109**	P		P	**Pn**	**06 01 47.4**	**+1.8**
	baz=14,SNR=4.2								
KKM	**Kota Kinabalu**	**14.43**	**350**	⇑P		P	**P**	**06 01 51.0**	**-2.9**
	baz=15,SNR=5.7								
KKM	**Kota Kinabalu**	**14.43**	**350**	*e*Pn		P	**Pn**	**06 01 47.7**	**+0.1**
FAKI	**Fak Fak**	**14.56**	**69**	P		P	**P**	**06 01 52.8**	**-2.5**
	baz=15,SNR=7.8								
FAKI	**Fak Fak**	**14.56**	**69**	*e*Pn		P	**Pn**	**06 01 51.5**	**+2.3**
SIJI	**Sorong**	**14.58**	**60**	Pn		P	**P**	**06 01 53.9**	**-1.6**
	2.1nm,0.3s,baz=281,slow=4.5,SNR=19								
SIJI					LR		LR	06 08 32.6	
	comp=Z,416nm,18.4s,baz=185,slow=42								
GIRL	**Giralia**	**14.89**	**196**	P		P	**Pn**	**06 01 51.8**	**-1.8**
	baz=15,SNR=33								
MYKOM	**Kota Tinggi**	**17.81**	**304**	*e*Pn		P	**Pn**	**06 02 29.4**	**-1.4**
	27nm,0.8s								
MEEK	**Meekatharra**	**18.26**	**180**	P		P	**Pn**	**06 02 37.3**	**+1.0**
	baz=18,SNR=47								
WRKA	**Warakurna**	**19.04**	**152**	P		P	**Pn**	**06 02 46.6**	**+0.8**
	baz=19,SNR=74								
WRA	**Warramunga Arr**	**19.12**	**129**	P		P	**P**	**06 02 45.3**	**-0.4**
	2.8nm,0.3s,baz=302,slow=12,SNR=146								
WRA					S		**Sn**	**06 06 16.2**	**-4.0**
	0.5nm,0.3s,baz=306,slow=23,SNR=4.5								
WRA					LR		LR	06 11 39.8	
	comp=Z,447nm,18.0s,baz=315,slow=41								
WRAB	**Tennant Creek**	**19.12**	**129**	P		P	**P**	**06 02 45.9**	**+0.1**
	197nm,0.5s,SNR=33								
WRAB	**Tennant Creek**	**19.12**	**129**	*e*P		P	**P**	**06 02 45.9**	**+0.1**
WRAB					pmax		pmax		
	comp=Z,23nm,0.8s								
WRAB	**Tennant Creek**	**19.12**	**129**	*e*P		P	**P**	**06 02 45.9**	**+0.1**
	comp=Z,23nm,0.8s								
BKNI	**Bangkinang**	**19.51**	**295**	*e*P		P	**Pn**	**06 02 55.5**	**+4.1**
	comp=Z,124nm,0.9s								
MORW	**Morawa**	**20.82**	**186**	⇑P		P	**P**	**06 03 04.9**	**+0.7**
	baz=21,SNR=9.5								
ASAR	**Alice Springs**	**21.17**	**138**	P		P	**P**	**06 03 08.4**	**+0.4**
	comp=Z,29nm,0.6s,baz=314,slow=8.7,SNR=86								
ASAR					S		**S**	**06 07 01.1**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=319,slow=24,SNR=2.8								
ASAR					ScP		**ScP**	**06 10 47.0**	**-0.5**
	comp=Z,3.7nm,1.1s,baz=338,slow=2.0,SNR=6.5								
ASAR					LR		LR	06 11 43.9	
	comp=Z,513nm,19.7s,baz=315,slow=37								
IPM	**Ipoh**	**21.66**	**305**	*e*P		P	**P**	**06 03 14.6**	**+1.3**
	comp=Z,71nm,1.1s								
BLDU	**Balliduq**	**22.29**	**184**	P		P	**P**	**06 03 20.6**	**+0.7**
	baz=22,SNR=19								
TGY	**Tagaytay City**	**22.36**	**6**	P		P	**P**	**06 03 20.6**	**-0.2**
	comp=Z,121nm,0.4s,baz=168,slow=9.3,SNR=2.4								
KULM	**Kulim**	**22.44**	**306**	*e*P		P	**P**	**06 03 23.0**	**+1.4**
	comp=Z,108nm,1.3s								
PSI	**Prapat**	**22.53**	**298**	P		P	**P**	**06 03 21.2**	**-1.6**
	comp=Z,16nm,1.0s,baz=158,slow=10,SNR=5.9								
PSI					LR		LR	06 12 57.0	
	comp=Z,1µm,18.6s,baz=128,slow=39								
PSI	**Prapat**	**22.53**	**298**	P		P	**P**	**06 03 21.2**	**-1.6**
PSI					pmax		pmax		
	comp=Z,16nm,1.0s								
PSI					MLR		MLR		
	comp=Z,1µm,18.6s								
PSI	**Prapat**	**22.53**	**298**	P		P	**P**	**06 03 23.0**	**+0.2**
	baz=22,SNR=6.0								
PSI	**Prapat**	**22.53**	**298**	*e*P		P	**P**	**06 03 22.9**	**+0.1**
	comp=Z,76nm,1.1s								
KMBL	**Kambalda**	**23.17**	**173**	P		P	**P**	**06 03 29.8**	**+0.7**
	baz=23,SNR=7.4								
KLBR	**Kellerberrin**	**23.21**	**182**	P		P	**P**	**06 03 29.7**	**+0.2**
	baz=23,SNR=9.9								
SKLT	**Songkhla**	**23.62**	**310**	P		P		06 03 39.3	+5.6
	comp=Z,52nm,0.9s								
QIS	**Mount Isa**	**23.66**	**123**	P		P	**P**	**06 03 34.1**	**+0.1**
	baz=24,SNR=24								
FORT	**Forrest**	**24.05**	**160**	P		P	**P**	**06 03 38.0**	**+0.4**
	baz=24,SNR=17								
FORT	**Forrest**	**24.05**	**160**	*e*P		P	**P**	**06 03 37.8**	**+0.2**
	comp=Z,47nm,0.9s								
NWAO	**Narrogin (SRO)**	**24.56**	**183**	P		P	**P**	**06 03 42.1**	**0.0**
	comp=Z,10.0nm,0.5s,baz=329,slow=12,SNR=11								
NWAO	**Narrogin (SRO)**	**24.56**	**183**	P		P	**P**	**06 03 42.5**	**+0.3**
	baz=24,SNR=3.8								
NWAO						P	**P**	**06 03 42.5**	**+0.3**
	baz=24,SNR=3.8								
COEN	**Coen**	**24.72**	**105**	P		P	**P**	**06 03 43.7**	**-0.2**
	baz=25,SNR=25								
COEN	**Coen**	**24.72**	**105**	*e*P		P	**P**	**06 03 43.7**	**-0.2**
	comp=Z,76nm,0.9s								
TRTT	**Trang**	**24.75**	**310**	P		P		06 03 51.6	+7.5
	comp=Z,48nm,1.1s								
MTSU	**Mount Surprise**	**26.82**	**114**	P		P	**P**	**06 04 03.4**	**+0.5**
	baz=27,SNR=11								
PMG	**Port Moresby**	**28.21**	**94**	LR		LR		06 18 15.5	
	comp=Z,328nm,18.1s,baz=248,slow=42								
QIZ	**Qiongzhong**	**28.49**	**342**	P		P	**P**	**06 04 19.0**	**+1.3**
QIZ						S	**S**	**06 09 05.8**	**+2.6**
QIZ						LZ			
	comp=Z,390nm,31.7s								
CTA	**Charters Tower**	**29.18**	**117**	P		P	**P**	**06 04 24.8**	**+0.8**
	comp=Z,7.4nm,0.8s,baz=293,slow=13,SNR=6.1								
CTAO	**Charters Tower**	**29.18**	**117**	*e*P		P	**P**	**06 04 23.7**	**-0.3**
CTAO						pmax	pmax		
	comp=Z,13nm,0.9s								
CTAO	**Charters Tower**	**29.18**	**117**	*e*P		P	**P**	**06 04 23.7**	**-0.3**
	comp=Z,14nm,0.9s								
BBOO	**Buckleboo**	**29.27**	**149**	P		P	**P**	**06 04 24.8**	**+0.2**
	baz=29,SNR=20								
BBOO	**Buckleboo**	**29.27**	**149**	*e*P		P	**P**	**06 04 24.7**	**+0.2**
	comp=Z,245nm,2.3s								
SRDT	**SRDT**	**29.67**	**319**	P		P		06 04 35.2	+7.0
	comp=Z,242nm,1.1s,comp=Z,23µm								
PBKT	**Sadao Pong**	**30.25**	**325**	P		P	**P**	**06 04 32.9**	**-0.4**
	comp=Z,26nm,0.9s,comp=Z,2µm								
KHLT	**Khaolaem Dam**	**30.34**	**319**	P		P		06 04 39.6	+5.4
	comp=Z,9.4nm,1.3s								
QLP	**Quilpie**	**30.35**	**130**	P		P	**P**	**06 04 35.3**	**+1.1**
	baz=30,SNR=4.6								
HTT	**Hallett**	**31.27**	**146**	P		P	**P**	**06 04 43.3**	**+1.0**
	baz=31,SNR=14								
UTTA	**Uttaradit**	**31.43**	**325**	P		P		06 04 49.6	+5.9
	comp=Z,6.2nm,0.9s,comp=Z,96nm								
STKA	**Stephens Creek**	**31.73**	**141**	P		P	**P**	**06 04 47.1**	**+0.7**
	comp=Z,14nm,0.5s,baz=318,slow=8.5,SNR=49								
STKA						LR	LR	06 17 32.6	
	comp=Z,440nm,19.0s,baz=341,slow=36								
STKA	**Stephens Creek**	**31.73**	**141**	P		P	**P**	**06 04 47.1**	**+0.7**
STKA						pmax	pmax		
	comp=Z,14nm,0.5s								
STKA						MLR	MLR		
	comp=Z,440nm,19.0s								
STKA	**Stephens Creek**	**31.73**	**141**	P		P	**P**	**06 04 47.1**	**+0.7**
	baz=32,SNR=44								
STKA	**Stephens Creek**	**31.73**	**141**	*e*P		P	**P**	**06 04 47.0**	**+0.7**
	comp=Z,4.7nm,0.9s								
LAMP	**Lampang**	**32.57**	**325**	P		P	**P**	**06 04 55.9**	**+2.1**
	comp=Z,9.1nm,0.8s,comp=Z,305nm								
CMAR	**Chiang Mai Arr**	**32.92**	**324**	P		P	**P**	**06 04 56.3**	**-0.5**
	comp=Z,2.5nm,0.7s,baz=150,slow=6.3,SNR=12								
CMAR						LR	LR	06 19 15.3	
	comp=Z,366nm,18.1s,baz=158,slow=38								
CMMT	**Chiang Mai**	**33.19**	**324**	P		P		06 05 04.0	+4.7
	comp=Z,15nm,0.9s								
CHTO	**Chiang Mai**	**33.20**	**324**	P		P		06 05 04.1	+4.8
	comp=Z,64nm,1.2s								
CHTO	**Chiang Mai**	**33.20**	**324**	*e*P		P	**P**	**06 05 00.9**	**+1.6**
CHTO						pmax	pmax		
	comp=Z,12nm,1.0s								
CHTO	**Chiang Mai**	**33.20**	**324**	*e*P		P	**P**	**06 05 00.9**	**+1.6**
	comp=Z,12nm,1.0s								
MHMT	**Maesarieng**	**33.30**	**322**	P		P		06 05 05.2	+5.0
	comp=Z,9.4nm,1.1s								
RMQ	**Roma**	**33.83**	**126**	P		P	**P**	**06 05 06.6**	**+1.8**
	baz=34,SNR=5.3								
CMAI	**Chiengmai2**	**34.03**	**326**	P		P		06 05 13.2	+6.5
	comp=Z,20nm,0.3s,comp=Z,1µm								
CMSA	**Cobar Meteorol**	**34.20**	**136**	P		P	**P**	**06 05 09.0**	**+1.1**
	baz=34,SNR=15								
ARPS	**Mount Arapiles**	**35.34**	**147**	P		P	**P**	**06 05 18.9**	**+1.2**
	baz=35,SNR=10								
GYA	**Guiyang**	**36.44**	**342**	P		P	**P**	**06 05 30.0**	**+2.7**
GYA						pP	**pP**	**06 05 40.3**	**+2.8**
GYA						PP	**PP**	**06 06 55.6**	**+4.9**
GYA						PcP	**PcP**	**06 07 52.3**	**+1.2**
GYA						S	**S**	**06 11 10.0**	**+3.1**
GYA						sS	**sS**	**06 11 26.8**	**+3.1**
GYA						ScP	**ScP**	**06 11 36.3**	**+1.2**
GYA						SS	**SnSn**	**06 13 36.5**	**-0.5**
GYA						PMZ			
	comp=Z,20nm,0.8s								
GYA						PMZ			
	comp=Z,120nm,5.0s								
GYA						LN			
	comp=Z,550nm,17.6s								
GYA						LE			
	comp=Z,470nm,18.0s								
GYA						LZ			
	comp=Z,510nm,17.8s								
KMI	**Kunming**	**36.63**	**335**	P		P	**P**	**06 05 30.3**	**+1.2**
KMI						pP	**pP**	**06 05 39.8**	**+0.5**
KMI						sP	**sP**	**06 05 44.5**	**+1.0**
KMI						PMZ			
	comp=Z,18nm,1.0s								
KMI						PMZ			
	comp=Z,190nm,4.1s								
KMI						LN			
	comp=Z,450nm,16.1s								
KMI						LE			
	comp=Z,390nm,15.8s								
KMI						LZ			
	comp=Z,420nm,17.5s								
YNG	**Young**	**37.67**	**138**	P		P	**P**	**06 05 39.1**	**+1.4**
	baz=38,SNR=5.8								
ARMA	**Armidale**	**37.90**	**130**	P		P	**P**	**06 05 42.0**	**+2.3**
	baz=38,SNR=7.0								
TOO	**Toolangi**	**37.96**	**144**	P		P	**P**	**06 05 42.2**	**+2.2**
	baz=38,SNR=6.1								
WHN	**Wuhan**	**38.82**	**354**	⇑P		P		06 05 52.3	+5.1
ENH	**Enshi**	**39.33**	**347**	*e*P		P	**P**	**06 05 50.8**	**-0.8**
	comp=Z,9.9nm,0.8s								
NJ2	**Nanjing**	**40.11**	**0**	*e*P		P		06 06 04.1	+6.2
NJ2						PMZ			
	comp=Z,70nm,0.9s								
CD2	**Chengdu**	**41.50**	**341**	P		P	**P**	**06 06 09.0**	**-0.5**
CD2						pP	**pP**	**06 06 19.1**	**-0.7**
CD2						sP	**sP**	**06 06 23.6**	**-0.4**
CD2						PP	**PP**	**06 07 45.8**	**-0.1**
CD2						S	**S**	**06 12 23.8**	**+0.9**
CD2						sS	**sS**	**06 12 41.1**	**+1.3**
CD2						PMZ			
	comp=Z,100nm,0.8s								
CD2						PMZ			
	comp=Z,310nm,5.1s								
CD2						LE			
	comp=Z,760nm,13.8s								
CD2						LZ			
	comp=Z,550nm,15.0s								
JCJ	**Chichijima**	**41.93**	**32**	LR		LR		06 25 58.9	
	comp=Z,94nm,19.0s,baz=120,slow=40								
JNU	**Nakatsue**	**42.79**	**15**	LR		LR		06 25 15.1	
	comp=Z,100nm,20.1s,baz=240,slow=38								
XAN	**Xi'an**	**43.09**	**348**	P		P		06 06 19.1	-3.3
XAN						PMZ			
	comp=Z,3.0nm,1.2s								
XAN						PMZ			
	comp=Z,41nm,6.0s								
LSA	**Lhasa**	**46.10**	**326**	P		P	**P**	**06 06 47.4**	**+0.3**
LSA	**Lhasa**	**46.10**	**326**	*e*P		P	**P**	**06 06 47.2**	**+0.2**
LSA						pmax	pmax		
	comp=Z,150nm,2.2s								
LSA	**Lhasa**	**46.10**	**326**	*e*P		P	**P**	**06 06 47.2**	**+0.2**
	comp=Z,150nm,2.2s								
ODAN	**Odare**	**46.24**	**320**	*e*P		P	**P**	**06 06 46.7**	**-1.2**
	comp=Z,102nm,1.0s								
LZH	**Lanzhou**	**46.27**	**343**	P		P	**P**	**06 06 51.0**	**+3.0**
LZH						pP	**pP**	**06 06 59.8**	**+1.4**
LZH						sP	**sP**	**06 07 04.6**	**+2.1**
LZH						S	**S**	**06 13 36.6**	**+3.9**
LZH						sS	**sS**	**06 13 49.0**	**-0.8**
LZH						SS	**SS**	**06 16 54.3**	**-4.4**
LZH						PMZ			
	comp=Z,39nm,1.2s								
LZH						PMZ			
	comp=Z,250nm,4.6s								
LZH						LN			
	comp=Z,470nm,12.1s								
LZH						LE			
	comp=Z,470nm,14.8s								
LZH						LZ			
	comp=Z,660nm,15.2s								
KSAR	**Wonju Array Be**	**46.30**	**10**	P		P	**P**	**06 06 48.1**	**+0.2**
KSAR	**Wonju Array Be**	**46.30**	**10**	P		P	**P**	**06 06 48.0**	**+0.2**
KSRS	**Korea Array**	**46.32**	**10**	P		P	**P**	**06 06 48.0**	**0.0**
	comp=Z,6.5nm,0.9s,baz=190,slow=8.5,SNR=15								
KSRS						LR	LR	06 26 28.2	
	comp=Z,101nm,20.3s,baz=199,slow=36								
KSRS	**Korea Array**	**46.32**	**10**	P		P	**P**	**06 06 48.1**	**0.0**
KSRS						pmax	pmax		
	comp=Z,7.0nm,0.9s								
KSRS						MLR	MLR		
	comp=Z,101nm,20.3s								
TAPN	**Taplejung**	**46.38**	**321**	*e*P		P	**P**	**06 06 47.4**	**-1.7**
	comp=Z,173nm,1.1s								
RAMN	**Ramite**	**46.81**	**320**	*e*P		P	**P**	**06 06 51.9**	**-0.5**
	comp=Z,70nm,1.0s								
GUN	**Gumba**	**47.93**	**320**	*e*P		P	**P**	**06 07 00.1**	**-1.2**
	comp=Z,205nm,1.1s								
PKI	**Pulchoki**	**48.00**	**319**	*e*P		P	**P**	**06 07 00.8**	**-1.0**
	comp=Z,43nm,1.0s								
PKIN	**Phulchoki**	**48.02**	**319**	*e*P		P	**P**	**06 07 00.9**	**-0.9**
	comp=Z,28nm,0.9s								
BJI	**Beijing**	**48.13**	**357**	P		P	**P**	**06 07 03.9**	**+1.8**
BJI						PMZ			
	comp=Z,9.0nm,0.6s								
DMN	**Daman**	**48.23**	**319**	*e*P		P	**P**	**06 07 02.6**	**-0.8**
	comp=Z,74nm,0.9s								
MAJO	**Matsushiro**	**48.23**	**21**	*i* P		P	**P**	**06 07 02.9**	**-0.1**
MAJO						pmax	pmax		
	comp=Z,69nm,1.7s								
MAT	**Matsushiro**	**48.23**	**21**	P		P	**P**	**06 07 01.9**	**-1.1**
MJAR	**Matsushiro Arr**	**48.23**	**21**	P		P	**P**	**06 07 01.9**	**-1

TLY	**Talaya**	**61.10**	**349**	P	**P**	**06 08 34.7**	**-1.4**
	comp=Z,3.3nm,0.6s,baz=239,slow=3.9,SNR=4.7							
TLY	**Talaya**	**61.10**	**349**	*e*P	**P**	**06 08 35.7**	**-0.4**
TLY				pmax	pmax			
	comp=Z,22nm,1.3s							
TLY	**Talaya**	**61.10**	**349**	*e*P	**P**	**06 08 36.2**	**+0.2**
	comp=Z,18nm,1.1s							
IRK	**Irkutsk**	**61.53**	**350**	*e*	**P**	**06 08 41.6**	**+2.7**
IRK				pmax	pmax			
	comp=Z,50nm,0.5s							
KSH	**Kashi**	**61.81**	**324**	P	P	06 08 44.6	+3.3
KSH				pP	pP	06 08 55.3	+3.3
KSH				PcP	**PcP**	**06 09 25.0**	**+2.9**
KSH				PP	PP	06 11 04.4	+6.6
KSH				S	**S**	**06 17 06.1**	**+3.6**
KSH				sS	sS	06 17 23.5	+3.4
KSH				PMZ				
	comp=Z,17nm,1.0s							
KSH				LN				
	comp=Z,280nm,6.8s							
KSH				LE				
	comp=Z,190nm,4.5s							
KSH				LZ				
	comp=Z,290nm,6.3s							
KBL	**Kabul**	**63.33**	**315**	*e*P	**P**	**06 08 49.2**	**-2.4**
KBL				pmax	pmax			
	comp=Z,12nm,1.0s							
KBL	**Kabul**	**63.33**	**315**	*e*P	**P**	**06 08 49.1**	**-2.4**
	comp=Z,12nm,1.0s							
MKAR	**Makanchi Array**	**63.66**	**333**	P	**P**	**06 08 51.5**	**-1.8**
	comp=Z,2.9nm,0.7s,baz=141,slow=7.7,SNR=26							
MKAR	**Makanchi Array**	**63.66**	**333**	*e*P	**P**	**06 08 51.5**	**-1.8**
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.7s							
MKAR	**Makanchi Array**	**63.66**	**333**	*e*P	**P**	**06 08 51.9**	**-1.4**
EKS2	**Erkin-Say**	**65.11**	**325**	*e*P	**P**	**06 09 02.1**	**-0.9**
EKS2				pmax	pmax			
	comp=Z,10.0nm,1.0s							
EKS2	**Erkin-Say**	**65.11**	**325**	*e*P	**P**	**06 09 02.1**	**-0.9**
	comp=Z,9.7nm,1.0s							
BOD	**Bodaibo**	**65.98**	**357**	*e*P	**P**	**06 09 06.5**	**-1.6**
BOD				pmax	pmax			
	comp=Z,19nm,1.5s							
KURBB	**Kurchatov Arra**	**68.17**	**334**	P	**P**	**06 09 19.9**	**-2.3**
	comp=Z,2.0nm,0.7s,baz=144,slow=5.7,SNR=16							
KURK	**Kurchatov**	**68.20**	**334**	*e*P	**P**	**06 09 21.4**	**-0.9**
KURK				pmax	pmax			
	comp=Z,30nm,1.5s							
KURK	**Kurchatov**	**68.20**	**334**	*e*P	**P**	**06 09 21.4**	**-0.9**
	comp=Z,30nm,1.5s							
ZAA0	**Zalesovo Array**	**68.25**	**339**	P	P	06 09 26.5	+3.9
	baz=69,SNR=4.8							
ZAA0	**Zalesovo Array**	**68.25**	**339**	*e*P	**P**	**06 09 19.9**	**-2.7**
ZALV	**Zalesovo Beam**	**68.25**	**339**	P	**P**	**06 09 20.4**	**-2.1**
	comp=Z,3.2nm,0.6s,baz=144,slow=5.1,SNR=13							
NVS	**Novosibirsk**	**69.52**	**339**	*e*P	**P**	**06 09 27.8**	**-2.7**
PETK	**Petropavlovsk-**	**69.57**	**24**	P	**P**	**06 09 30.4**	**-0.5**
	comp=Z,5.5nm,0.8s,baz=213,slow=9.8,SNR=6.0							
MAW	**Mawson**	**69.78**	**200**	P	**P**	**06 09 32.5**	**+0.5**
	comp=Z,7.4nm,1.0s,baz=57,slow=6.3,SNR=10							
MAW				LR	LR	06 35 07.7		
	comp=Z,80nm,20.0s,baz=60,slow=32							
MAW	**Mawson**	**69.78**	**200**	P	**P**	**06 09 33.1**	**+1.1**
	baz=70,SNR=6.2							
MAW	**Mawson**	**69.78**	**200**	*e*P	**P**	**06 09 33.0**	**+1.1**
	comp=Z,1.9nm,1.0s							
PET	**Petropavlovsk**	**69.89**	**24⇑**	*e*P	**P**	**06 09 33.0**	**+0.2**
PET				pmax	pmax			
	comp=Z,34nm,1.7s							
YAK	**Yakutsk**	**70.62**	**5**	*e*P	P	06 09 40.6	+3.5
YAK				*e*		06 09 59.6		
YAK				*e*		06 12 16.4		
YAK				*e*PPP	PPP	06 13 58.4		
YAK				*e*S	**S**	**06 18 46.8**	**-1.5**
YAK				*e**SS	**SKSac**	**06 19 30.1**	**-6.0**
YAK				*e*		06 19 31.4		
YAK				*e*SS	**SS**	**06 23 21.1**	**+0.4**
YAK				pmax	pmax			
	comp=Z,19nm,0.9s							
YAK				pmax	pmax			
	comp=N,9.0nm,1.0s							
YAK				pmax	pmax			
	comp=E,4.0nm,1.0s							
YAK				pmax	pmax			
	comp=Z,34nm,2.2s							
YAK				pmax	pmax			
	comp=N,17nm,2.7s							
YAK				pmax	pmax			
	comp=E,18nm,2.3s							
YAK				smax	smax			
	comp=N,30nm,2.3s							
YAK				smax	smax			
	comp=E,14nm,2.3s							
GEYT	**Alibeck**	**72.69**	**314**	P	**P**	**06 09 51.7**	**+1.6**
	comp=E,2.3nm,0.5s,baz=112,slow=12,SNR=2.5							
VNDA	**Vanda**	**72.75**	**171**	P	**P**	**06 09 50.6**	**+0.9**
	comp=E,1.9nm,0.4s,baz=308,slow=6.7,SNR=28							
VNDA	**Vanda**	**72.75**	**171**	P	**P**	**06 09 50.7**	**+0.9**
VNDA				pmax	pmax			
	comp=Z,2.0nm,0.4s							
VNDA	**Vanda**	**72.75**	**171**	*e*P	**P**	**06 09 50.5**	**+0.7**
	comp=Z,5.0nm,0.9s							
BVAR	**Borovoye Array**	**73.50**	**332**	P	**P**	**06 09 52.2**	**-2.4**
	comp=Z,1.6nm,0.7s,baz=142,slow=7.4,SNR=9.7							
SBA	**Scott Base**	**73.75**	**171**	*e*P	**P**	**06 09 57.3**	**+1.6**
SBA				pmax	pmax			
	comp=Z,27nm,1.6s							
SBA	**Scott Base**	**73.75**	**171**	*e*P	**P**	**06 09 57.3**	**+1.6**
	comp=Z,27nm,1.6s							
SEY	**Seymchan**	**75.57**	**15**	P	**P**	**06 10 05.5**	**-0.8**
	comp=Z,5.4nm,1.0s,baz=195,slow=9.3,SNR=9.1							
SEY	**Seymchan**	**75.57**	**15**	*i* P	**P**	**06 10 06.0**	**-0.3**
ABKAR	**Akbulak array**	**76.77**	**325**	*e*P	**P**	**06 10 10.8**	**-2.7**
SYO	**Syowa Base**	**78.39**	**201⇑**	*e*P	**P**	**06 10 21.3**	**-0.9**
AKTO	**Aktyubinsk**	**78.43**	**325**	P	**P**	**06 10 19.8**	**-3.0**
	comp=Z,1.9nm,0.8s,baz=78,slow=7.0,SNR=5.9							
ARU	**Arti**	**81.06**	**331**	*c i*P	P	06 10 33.6	-3.3
ARU						06 13 36.2		
ARU				S	**S**	**06 20 40.5**	**-3.2**
ARU				SS	**SS**	**06 25 54.7**	**-4.4**
ARU				pmax	pmax			
	comp=Z,10.0nm,1.7s							
KMBO	**Kilima Mbogo**	**81.31**	**270**	P	**P**	**06 10 37.3**	**-2.2**
	comp=Z,2.0nm,0.7s,baz=323,slow=1.5,SNR=3.8							
QSPA	**South Pole Qui**	**81.71**	**180**	*e*P	**P**	**06 10 40.5**	**+0.2**
	comp=Z,12nm,1.3s							
BILL	**Bilibino**	**83.21**	**16**	*e*P	**P**	**06 10 47.1**	**-0.8**
BILL				pmax	pmax			
	comp=Z,2.0nm,1.0s							
KBZ	**Khabaz**	**85.51**	**315**	P	**P**	**06 10 57.0**	**-3.0**
	comp=Z,1.6nm,0.9s,baz=106,slow=7.4,SNR=2.7							
KIV	**Kislovodsk**	**85.72**	**315**	*e*P	P	06 10 57.9	-3.4
KIV				*e*		06 14 15.1		
KIV				pmax	pmax			
	comp=Z,8.0nm,0.8s							
LSZ	**Lusaka**	**88.28**	**255**	*e*P	**P**	**06 11 12.7**	**-1.6**
LSZ				pmax	pmax			
	comp=Z,16nm,1.3s							
LSZ	**Lusaka**	**88.28**	**255**	*e*P	**P**	**06 11 12.7**	**-1.6**
	comp=Z,16nm,1.3s							
BOSA	**Boshof**	**89.03**	**241**	P	**P**	**06 11 17.1**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=56,slow=3.6,SNR=2.7							
BRTR	**Keskin Array B**	**91.40**	**310**	P	P	06 11 32.3	+3.8
	comp=Z,1.0nm,0.9s,baz=57,slow=5.3,SNR=3.3							
VNA1	**Neumayer--Stat**	**93.62**	**195**	P	**P**	**06 11 38.8**	**+0.9**
LVZ	**Lovozero**	**95.35**	**338**	*e*P	P	06 11 42.5	-3.3
LVZ				pmax	pmax			
	comp=Z,56nm,1.7s							
TORD	**Torodi Ar. Bea**	**117.97**	**280**	PKP	**PKPdf**	**06 17 07.3**	**-2.4**
	comp=Z,0.6nm,0.6s,baz=52,slow=1.9,SNR=5.5							
NVAR	**Mina Array Bea**	**120.84**	**50**	PKP	**PKPdf**	**06 17 14.3**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=245,slow=5.7,SNR=3.5							
HLID	**Hailey**	**122.06**	**43**	*e*PKPdf	**PKPdf**	**06 17 15.8**	**-1.2**
DUG	**Dugway**	**124.37**	**47**	*e*PKIKP	**PKPdf**	**06 17 20.9**	**-0.6**
DUG	**Dugway**	**124.37**	**47**	*e*PKPdf	**PKPdf**	**06 17 20.9**	**-0.6**
SNOW	**Snow King Moun**	**124.55**	**42**	*e*PKPdf	**PKPdf**	**06 17 21.1**	**-0.8**
CPUP	**Villa Florida**	**145.37**	**186**	PKPbc	**PKPdf**	**06 18 00.7**	**+0.1**
	comp=Z,25nm,1.0s,baz=199,slow=2.2,SNR=27							
LRAL	**Lakeview Retre**	**145.81**	**40**	*e*PKPdf	**PKPdf**	**06 17 59.9**	**-1.2**
LVC	**Limon Verde**	**148.42**	**167**	*e*PKPbc	**PKPbc**	**06 18 10.5**	**+0.8**
BDFB	**Brasilia**	**152.80**	**209**	PKP	**PKPdf**	**06 18 12.4**	**-0.5**
	comp=Z,2.5nm,0.8s,baz=289,slow=4.1,SNR=3.5							
BDFB				PKPbc	**PKPbc**	**06 18 19.3**	**-0.8**
	comp=Z,2.7nm,0.8s,baz=0.0,slow=2.0,SNR=3.5							
BDFB				PKPab	**PKPab**	**06 18 31.4**	**+0.5**
	comp=Z,4.8nm,0.8s,baz=136,slow=9.6,SNR=3.5							
LPAZ	**La Paz**	**154.69**	**165**	PKP	**PKPdf**	**06 18 15.1**	**-1.1**
	comp=Z,2.0nm,1.1s,baz=246,slow=11,SNR=3.8							
LPAZ				PKPbc	**PKPbc**	**06 18 24.7**	**0.0**
	comp=Z,1.4nm,0.8s,baz=298,slow=3.1,SNR=4.1							
LPAZ	**La Paz**	**154.69**	**165**	PKIKP	**PKPdf**	**06 18 15.1**	**-1.1**
LPAZ						06 18 24.7		
LPAZ				pmax	pmax			
	comp=Z,2.0nm,1.1s							
LPAZ	**La Paz**	**154.69**	**165**	*e*PKPdf	**PKPdf**	**06 18 16.3**	**+0.1**
LPAZ				PKPbc	**PKPbc**	**06 18 24.7**	**0.0**

IDC ***16*** *06:01:47.8±1.5, 24°.27S×66°.71W, h177km±22km, mb3.1/1, mb1 3.1/3, mb1mx2.9/21, mbtmp3.5/3, Error ellipse: s-maj=31.2km s-min=14.6km az=88.0*
SJA ***16*** *06:01:48.7±0.9, 24°.14S×66°.83W, h216km±9km, ML2.7, MW2.8*
ISCJB ***16*** *06:01:51.1±0.6, 24°.23S±0°.05×66°.96W±0°.08, h181km, mb3.2/1, Error ellipse: s-maj=10.7km s-min=6.0km az=152.9*

ISC 16 06:01:49.1±1.0, 24°.23S±0°.06×66°.96W±0°.07, h181km, n15, σ2s 78/21, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.42**	**110**	*e*P		**Pn**		**06 02 23.6**	**+3.1**
SLA				IAML				06 02 23.9	
	comp=Z,54nm,0.5s								
SLA				*e*S		**Sn**		**06 02 48.7**	**+3.9**
AZAP	**Zapla**	**1.73**	**90**	*e*P		**Pn**		**06 02 25.5**	**+1.8**
AZAP				IAML				06 02 25.7	
	comp=Z,93nm,0.2s								
HJA	**Humahuaca**	**1.75**	**55**	*e*P		**Pn**		**06 02 25.8**	**+1.7**
HJA				IAML				06 02 26.9	
FSA	**Cafayete**	**2.04**	**155**	*e*P		**Pn**		**06 02 29.9**	**+3.0**
FSA				*e*S		**Sn**		**06 02 58.7**	**+2.4**
FSA				IAML				06 03 01.1	
	comp=Z,10nm,0.5s								
ASTB	**Santa Barbara**	**2.28**	**83**	*e*P		**Pn**		**06 02 31.1**	**+1.6**
LVC	**Limon Verde**	**2.41**	**312**	P		**Pn**		**06 02 33.6**	**+2.5**
	comp=Z,573nm,0.3s,baz=128,slow=6.9,SNR=38								
LVC				S		**Sn**		**06 03 06.3**	**+2.7**
	comp=Z,645nm,0.3s,baz=131,slow=20,SNR=20								
LVC	**Limon Verde**	**2.41**	**312**	*e*P		**Pn**		**06 02 33.6**	**+2.5**
LVC				*e*S		**Sn**		**06 03 07.7**	**+4.0**
AHML	**Horco Molle**	**2.94**	**150**	*e*P		**Pn**		**06 02 39.2**	**+2.1**
AHML				IAML				06 02 40.0	
	comp=Z,13nm,0.6s								
AHML				*e*S		**Sn**		**06 03 16.5**	**+2.0**
CYA	**Choya**	**4.32**	**166**	*e*P		**Pn**		**06 02 57.3**	**+3.0**
CYA				IAML				06 02 58.0	
	comp=N,3.2nm,0.4s								
CYA				*e*S		**Sn**		**06 03 46.2**	**+0.7**
VCA	**Vinchina**	**4.62**	**194**	*e*P		Pn		06 03 03.2	+4.9
VCA				IAML				06 03 47.2	
	comp=Z,4.0nm,0.2s								
CFAA	**Coronel Fontan**	**7.43**	**188**	P		**Pn**		**06 03 35.1**	**+0.2**
	comp=Z,0.0nm,0.3s,baz=36,slow=19,SNR=16								
CFAA				S		**Sn**		**06 04 55.6**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=308,slow=18,SNR=17								
LPAZ	**La Paz**	**7.98**	**352**	P		**Pn**		**06 03 42.4**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=159,slow=8.0,SNR=9.6								
LPAZ				S		**Sn**		**06 05 08.1**	**-4.7**
	comp=Z,0.1nm,0.3s,baz=207,slow=18,SNR=2.5								
SIV	**San Ignacio**	**9.89**	**35**	P		Pn		06 04 04.2	-3.1
	comp=Z,0.2nm,0.3s,baz=235,slow=14,SNR=3.4								
TORD	**Torodi Ar. Bea**	**76.62**	**69**	P		**P**		**06 13 18.4**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=255,slow=5.9,SNR=3.4								
WRA	**Warramunga Arr**	**131.44**	**207**	PKP		**PKPdf**		**06 20 39.1**	**-1.6**
	comp=Z,0.6nm,1.0s,baz=154,slow=1.8,SNR=3.4								

IDC 16 06:04:54.5±2.6, 54°.06N×86°.46E, h0km, mb1 3.4/2, mb1mx3.1/46, mbtmp3.4/2, ML3.1/2, Error ellipse: s-maj=21.3km s-min=12.9km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.98**	**264**	*i*				06 10 22.4	
	baz=84,slow=312,SNR=1.9								
ZALV	**Zalesovo Beam**	**0.98**	**264**	Pg		Pg	Pg	06 05 11.9	-1.3
	3.5nm,0.3s,baz=81,slow=17,SNR=38								
ZALV				Lg		Lg	Lg	06 05 27.4	
	4.8nm,0.3s,baz=79,slow=30,SNR=15								
KURBB	**Kurchatov Arra**	**5.96**	**238**	Pn		Pn	Pn	06 06 25.1	+1.2
	0.4nm,0.3s,baz=55,slow=13,SNR=28								
KURBB				Lg		Lg	Lg	06 08 02.4	
	0.1nm,0.3s,baz=45,slow=29,SNR=4.1								
MKAR	**Makanchi Array**	**7.75**	**202**	Pn		Pn	Pn	06 06 49.1	+0.6
	0.4nm,0.3s,baz=18,slow=9.0,SNR=6.9								
MKAR				Sn		Sn	Sn	06 08 16.2	-0.7
	0.1nm,0.3s,baz=23,slow=27,SNR=2.5								

IDC 16 06:16:27.1±3.3, 53°.71N×90°.17E, h0km, mb1 2.8/3, mb1mx2.8/47, mbtmp2.8/3, ML1.9/2, Error ellipse: s-maj=26.9km s-min=22.0km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.18**	**276**	*i*				06 37 55.0	
	baz=92,slow=309,SNR=9.0								
ZALV	**Zalesovo Beam**	**3.18**	**276**	Pn		Pn	Pn	06 17 18.5	+0.2
	0.2nm,0.3s,baz=92,slow=15,SNR=5.1								
ZALV				Pg		Pb	Pb	06 17 21.7	-2.7
	0.9nm,0.3s,baz=93,slow=16,SNR=8.1								
ZALV				Lg		Lg	Lg	06 18 10.0	
	1.2nm,0.3s,baz=93,slow=25,SNR=8.8								
KURBB	**Kurchatov Arra**	**7.80**	**251**	Pn		Pn	Pn	06 18 19.6	-2.1
	0.1nm,0.3s,baz=65,slow=14,SNR=4.5								
KURBB				Sn		Sn	Sn	06 19 49.4	-1.3
	baz=45,slow=21,SNR=4.1								
KURBB				Lg		Lg	Lg	06 20 36.2	
	baz=66,slow=28,SNR=3.4								
MKAR	**Makanchi Array**	**8.57**	**219**	Pn		Pn	Pn	06 18 34.6	+2.3
	baz=37,slow=13,SNR=2.5								
MKAR				Sn		Sn	Sn	06 20 08.2	-1.5
	baz=36,slow=25,SNR=2.5								
MKAR				Lg		Lg	Lg	06 20 55.2	
	0.2nm,0.3s,baz=35,slow=33,SNR=3.8								
SONM	**Songino Array**	**11.83**	**113**	Lg		Lg	Lg	06 22 16.2	
	0.0nm,0.3s,baz=301,slow=26,SNR=3.6								

IDC 16 06:19:20.3±3.9, 53°.26N×88°.85E, h0km, mb1 2.8/2, mb1mx2.8/45, mbtmp2.8/2, ML1.5/1, Error ellipse: s-maj=34.9km s-min=18.9km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.50**	**288**	*i*				06 35 10.0	
	baz=102,slow=314,SNR=1.7								
ZALV	**Zalesovo Beam**	**2.50**	**288**	Pn		Pn	Pn	06 20 03.4	+1.2
	0.5nm,0.3s,baz=104,slow=14,SNR=4.9								
ZALV				Lg		Lg	Lg	06 20 39.1	
	1.6nm,0.3s,baz=102,slow=24,SNR=13								
KURBB	**Kurchatov Arra**	**6.91**	**252**	Lg		Lg	Lg	06 23 02.8	
	0.0nm,0.3s,baz=57,slow=31,SNR=2.5								
MKAR	**Makanchi Array**	**7.73**	**216**	Pn		Pn	Pn	06 21 15.0	+1.0
	baz=32,slow=14,SNR=4.3								
MKAR				Sn		Sn	Sn	06 22 41.6	-0.7
	0.2nm,0.3s,baz=34,slow=25,SNR=2.6								

ISCJB ***16*** *06:26:21.5±1.0, 33°.50S±0°.08×70°.7W±0°.1, h101km±6km, Error ellipse: s-maj=19.2km s-min=7.4km az=39.7*
SJA ***16*** *06:26:21.2±1.0, 33°.46S×70°.69W, h111km±18km, ML2.1, MW3.7*
GUC ***16*** *06:26:22.2±0.5, 33°.48S×70°.71W, h94km±2km, ML2.9*

ISC 16 06:26:22.2±2.0, 33°.49S±0°.09×70°.74W±0°.10, h97km±11km, n16, σ0s 52/28, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SAN	**Santiago**	**0.08**	**62**	*e*P		**Pn**		**06 26 35.5**	**-0.2**
SAN				*e*S		**Sn**		**06 26 45.6**	**-0.3**
SAN				AML		AML		06 26 46.6	
	comp=E,686nm,0.5s								
FSR	**Penalolen**	**0.18**	**87**	*e*P		**Pn**		**06 26 36.7**	**+0.6**
FSR				*e*S		**Sn**		**06 26 47.2**	**+0.8**
CLCH	**Cerro Calan**	**0.19**	**62**	*e*P		**Pn**		**06 26 35.8**	**-0.3**
CLCH				*e*S		**Sn**		**06 26 46.2**	**-0.3**
CLCH				AML		AML		06 26 46.6	
	comp=E,505nm,0.3s								
PCH	**Pirque**	**0.23**	**125**	*e*P		**Pn**		**06 26 36.2**	**-0.1**
PCH				*e*S		**Sn**		**06 26 46.3**	**-0.5**
TACH	**Talagante**	**0.23**	**225**	*e*P		**Pn**		**06 26 36.2**	**0.0**
TACH				*e*S		**Sn**		**06 26 46.6**	**0.0**
PEL	**Peldehue**	**0.35**	**8**	*e*P		**Pn**		**06 26 36.5**	**-0.2**
PEL				*e*S		**Sn**		**06 26 47.7**	**+0.1**
PEL				AML		AML		06 26 48.3	
	comp=N,1μm,0.3s								
CHCH	**Chadas Angostu**	**0.45**	**171**	*e*P		**Pn**		**06 26 37.3**	**-0.1**
CHCH				*e*S		**Sn**		**06 26 49.0**	**+0.2**
LNV	**Longovilo**	**0.73**	**230**	*e*P		**Pn**		**06 26 39.6**	**+0.1**
LNV				*e*S		**Sn**		**06 26 52.8**	**+0.2**
ARCO	**CERRO ARCO**	**1.65**	**67**	*e*P		**Pn**		**06 26 50.6**	**+0.3**
ARCO				IAML				06 26 51.0	
	comp=Z,16nm,0.2s								
AAGR	**Agrelo**	**1.65**	**76**	*e*P		**Pn**		**06 26 50.7**	**+0.4**
AUSP	**Uspallata**	**1.70**	**42**	*e*P		**Pn**		**06 26 51.5**	**+0.4**
AUSP				*e*S		**Sn**		**06 27 13.2**	**+0.1**
RTLS	**Leoncito**	**2.08**	**36**	*e*P		**Pn**		**06 26 56.8**	**+0.8**
RTLS				IAML				06 26 57.6	
RTLS				*e*S		**Sn**		**06 27 23.0**	**+1.4**
RTCV	**Cerro Valdivia**	**2.46**	**49**	*e*P		**Pn**		**06 27 00.6**	**-0.2**
CFAA	**Coronel Fontan**	**2.83**	**49**	*e*P		**Pn**		**06 27 05.0**	**-0.6**
CFAA				*e*S		**Sn**		**06 27 38.2**	**-0.9**
RTLL	**Cerro Villicun**	**2.88**	**42**	*e*P		**Pn**		**06 27 06.0**	**-0.3**
RTLL				*e*S		**Sn**		**06 27 39.7**	**-0.6**
AMOG	**MOGNA**	**3.18**	**37**	*e*P		**Pn**		**06 27 09.9**	**-0.4**

IDC ***16*** *06:51:58.8±1.0, 8°.25S×118°.36E, h0km, mb3.7/6, mb1 3.9/8, mb1mx3.7/37, mbtmp3.8/8, ML3.8/2, MS3.0/2, Ms1 3.0/2, ms1mx2.5/46, Error ellipse: s-maj=50.6km s-min=17.1km az=60.0*
DJA ***16*** *06:52:02.3±0.3, 8°.5S×3°×12°.0E±°, h182km±8km, M4.5/36, mb4.4/22, mB5.5/1, MLv4.6/36, Mw(mB)5.0/1*

ISC 16 06:52:00.3±0.6, 8°.17S±0°.06×118°.50E±0°.05, h10km, n44, σ1s 42/33, mb3.9/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**1.70**	**250**	P		P	**Sn**	**06 52 50.3**	**-1.5**
WSI	**Waingapu**	**2.32**	**130**	P		Pn	Pn	06 52 32.6	-6.0
BSSI	**Bau Bau, Buton**	**2.82**	**45**	P		P	**Pn**	**06 52 44.8**	**-0.7**
BASI	**Baing, Sumba**	**2.89**	**135**	P		P	Pn	06 52 37.6	-8.9
SRBI	**Singaraja**	**3.25**	**271**	P		P	Pg	06 53 11.1	+8.4
BKSI	**Bulukumba**	**3.26**	**30**	P		P	**Pn**	**06 52 52.4**	**+0.9**
DNP	**Denpasar**	**3.29**	**261**	P		P	Pg	06 53 10.5	+7.1
KAPI	**Kappang**	**3.37**	**22**	Pn		Pn	**Pn**	**06 52 53.8**	**+0.8**
	6.4nm,0.3s,baz=215,slow=6.3,SNR=20								
KAPI				Sn		Sn	**Sn**	**06 53 31.5**	**-1.6**
	14nm,0.3s,baz=181,slow=22,SNR=12								
KAPI				LR		LR	LR	06 54 28.6	
	comp=Z,129nm,19.5s,baz=197,slow=43								
IGBI	**Denpasar**	**3.38**	**259**	P		Pg		06 53 11.9	+6.8
ABJI	**Asem Bagus**	**4.24**	**275**	P		**Pg**		**06 53 22.0**	**+0.4**
	84nm,1.0s,0.8nm								
JAGI	**Jajag, Banyuwa**	**4.31**	**266**	P		**Pg**		**06 53 24.3**	**+1.3**
	97nm,0.5s,0.5nm								
JAGI	**Jajag, Banyuwa**	**4.31**	**266**	P		P	Pb	06 53 11.6	-4.6
	baz=4.2,SNR=5.3								
SPSI	**Sidrap Palu**	**4.36**	**17**	P		Pn	**Pn**	**06 53 08.3**	**+1.6**
KMMI	**Kalianget**	**4.63**	**284**	P		P	**Pg**	**06 53 29.6**	**+0.6**
	76nm,1.6s,0.4nm								
BLJI	**Banyuglugur**	**4.88**	**275**	P		**Pg**		**06 53 32.0**	**-1.8**
	72nm,0.8s,0.5nm								
TTSI	**Tana Toraja**	**5.26**	**15**	P		**Pn**		**06 53 20.9**	**+1.9**
	27nm,1.1s,0.1nm								
KBKI	**Kotabaru**	**5.36**	**334**	P		P	Pb	**06 53 32.4**	**-1.8**
	43nm,0.8s,0.2nm								
KDI	**Kendari**	**5.86**	**45**	P		P	Pn	06 53 18.7	-8.5
	25nm,0.8s,0.2nm								
BBKI	**Banjar Baru**	**5.92**	**322**	P		P	**Pb**	**06 53 41.5**	**-2.2**
	75nm,0.9s,0.5nm								
GRJI	**Gresik**	**6.10**	**281**	P		P	**Pb**	**06 53 47.5**	**+0.8**
	99nm,0.9s,0.4nm								
BWJI	**Bawean**	**6.24**	**291**	P		P	**Pb**	**06 53 49.8**	**+0.7**
	134nm,1.2s,0.6nm								
PWJI	**Pagerwojo**	**6.63**	**271**	P		P	**Pb**	**06 53 54.7**	**-1.1**
	44nm,2.1s,0.3nm								
TBJI	**Tambak Boyo**	**6.73**	**281**	P		P	**Pb**	**06 53 56.6**	**-0.9**
	193nm,1.9s								
NGJI	**Ngawi**	**7.02**	**276**	P		P	**Pb**	**06 54 00.2**	**-2.2**
BKB	**Balikpapan**	**7.05**	**347**	P		P	Pb	06 53 53.2	-10

2.5nm,0.3s,baz=73,slow=16,SNR=21
ZALV Lg Lg 07 12 31.7
4.1nm,0.3s,baz=76,slow=28,SNR=13
KURBB Kurchatov Arra 6.00 237 Pn Pn 07 13 30.8 +1.3
0.1nm,0.3s,baz=54,slow=13,SNR=8.8
KURBB Lg Lg 07 15 10.1
0.0nm,0.3s,baz=53,slow=33,SNR=3.5
MKAR Makanchi Array 7.85 201 Pn Pn 07 13 55.6 +0.7
0.1nm,0.3s,baz=24,slow=14,SNR=11
MKAR Lg Lg 07 16 09.4
0.1nm,0.3s,baz=22,slow=30,SNR=7.2

IDC 16 07:12:05.0±7.0, 17°.08S×179°.58E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/29, mbtmp3.7/3, Error ellipse: s-maj=313.8km s-min=34.9km az=143.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.90**	**259**	P	P	07 20 04.6	-1.2
	0.5nm,0.9s,baz=94,slow=8.4,SNR=3.0						
ASAR	**Alice Springs**	**43.17**	**253**	P	P	07 20 08.8	+0.8
	1.6nm,0.4s,baz=85,slow=8.4,SNR=31						
ILAR	**Eielson Array**	**85.53**	**14**	P	P	07 24 44.6	0.0
	0.2nm,0.9s,baz=225,slow=5.0,SNR=2.8						

*IDC **16** 07:22:52.8±1.4, 21°.91N×95°.76E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.5/29, mbtmp3.5/7, ML3.7/1, MS2.6/1, Ms1 2.8/1, ms1mx2.4/39, Error ellipse: s-maj=79.4km s-min=15.8km az=55.0*
*BKK **16** 07:23:17.5±2.3, 22°.2N±10°×97°.7E±°, h0km, M4.2/1, MLv4.2/1*
ISC 16 07:22:53.6±0.9, 21°.9N±0°.1×95°.8E±0°.1, h10km, n14, σ2$08/15, mb3.5/6, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**3.33**	**329**	*eP*	**Pb**	**07 23 51.0**	**-1.9**
IMP				*eS*	Sg	07 24 55.0	+14
CMAI	**Chiengmai2**	**3.61**	**123**	P	**Pn**	**07 23 50.1**	**+0.3**
CMAI				S	**Sb**	**07 24 44.9**	**+3.2**
MHMT	**Maesarieng**	**4.22**	**152**	S	**Sg**	**07 25 10.1**	**+0.7**
CMMT	**Chiang Mai**	**4.27**	**136**	S	**Sg**	**07 25 05.8**	**-5.0**
CMAR	**Chiang Mai Arr**	**4.53**	**139**	Pn	**Pn**	**07 24 03.5**	**+1.1**
	1.0nm,0.3s,baz=318,slow=13,SNR=15						
CMAR				Pg	**Pg**	**07 24 18.8**	**-1.7**
	2.6nm,0.3s,baz=314,slow=18,SNR=16						
CMAR				Lg	Lg	07 25 16.5	
	2.8nm,0.3s,baz=300,slow=34,SNR=5.4						
CMAR				LR	LR	07 25 29.1	
	comp=Z,72nm,21.8s,baz=319,slow=34						
CRAI	**Chiangrai**	**4.58**	**111**	S	**Sb**	**07 25 10.6**	**+1.2**
LAMP	**Lampang**	**4.93**	**133**	P	**Pg**	**07 24 26.8**	**-1.3**
LAMP				S	Sb	07 25 25.7	+6.2
SHL	**Shillong**	**5.11**	**316**	*eP*	Pn	07 24 15.0	+4.5
MKAR	**Makanchi Array**	**27.13**	**339**	P	**P**	**07 28 38.2**	**+1.3**
	0.7nm,0.6s,baz=154,slow=12,SNR=6.3						
KURBB	**Kurchatov Arra**	**31.69**	**339**	P	**P**	**07 29 18.1**	**+0.9**
	0.1nm,0.4s,baz=163,slow=6.8,SNR=4.1						
WRA	**Warramunga Arr**	**56.11**	**135**	P	**P**	**07 32 34.4**	**+0.9**
	1.1nm,0.8s,baz=326,slow=7.6,SNR=5.5						
ASAR	**Alice Springs**	**58.54**	**138**	P	**P**	**07 32 51.9**	**+1.3**
	0.6nm,0.6s,baz=330,slow=8.3,SNR=4.8						
AKASG	**Malin Array Be**	**58.60**	**317**	P	**P**	**07 32 50.4**	**-0.3**
	0.1nm,0.2s,baz=96,slow=8.4,SNR=4.4						
ILAR	**Eielson Array**	**81.21**	**23**	P	**P**	**07 35 09.9**	**+0.5**
	0.2nm,0.8s,baz=328,slow=6.4,SNR=2.6						

*IDC **16** 07:51:35.3±1.1, 5°.29S×146°.20E, h0km, mb3.8/5, mb1 4.0/8, mb1mx3.8/30, mbtmp3.9/8, ML3.7/2, MS2.8/1, Ms1 2.8/1, ms1mx2.5/30, Error ellipse: s-maj=48.1km s-min=19.2km az=95.0*
*ISCJB **16** 07:51:38.7±1.0, 5°.45S±0°.08×146°.5E±0°.2, h35km, mb3.7/6, Error ellipse: s-maj=23.0km s-min=11.0km az=176.1*
*NEIC **16** 07:51:40.0±0.7, 5°.36S×146°.47E, h35km, mb4.2/2, Error ellipse: s-maj=22.2km s-min=9.9km az=92.0*
ISC 16 07:51:40.3±1.0, 5°.44S±0°.09×146°.5E±0°.2, h35km, n14, σ1$26/14, mb3.9/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.99**	**171**	Pn	**Pn**	**07 52 39.9**	**+0.9**
	7.6nm,0.3s,baz=23,slow=7.7,SNR=14						
PMG				Sn	**Sn**	**07 53 22.4**	**-2.2**
	6.4nm,0.3s,baz=338,slow=10,SNR=3.0						
PMG				LR	LR	07 54 41.4	
	comp=Z,138nm,21.7s,baz=58,slow=44						
COEN	**Coen**	**9.09**	**201**	*e*Pn	**Pn**	**07 53 50.0**	**+0.9**
CTA	**Charters Tower**	**14.57**	**181**	Pn	**Pn**	**07 55 04.7**	**+0.7**
	0.3nm,0.3s,baz=354,slow=13,SNR=2.8						
CTAO	**Charters Tower**	**14.57**	**181**	*e*P	**Pn**	**07 55 04.3**	**+0.3**
	50nm,1.7s						
WRAB	**Tennant Creek**	**18.66**	**218**	*e*P	**Pn**	**07 55 56.3**	**+0.4**
	49nm,1.9s						
WRA	**Warramunga Arr**	**18.68**	**218**	P	**P**	**07 55 54.0**	**-1.6**
	0.2nm,0.3s,baz=42,slow=11,SNR=11						
ASAR	**Alice Springs**	**21.83**	**213**	P	**P**	**07 56 29.2**	**-0.6**
	0.6nm,0.6s,baz=41,slow=7.3,SNR=18						
FITZ	**Fitzroy Crossi**	**23.99**	**237**	*e*P	**P**	**07 56 52.9**	**+1.1**
	3.4nm,0.6s						
STKA	**Stephens Creek**	**26.71**	**189**	P	**P**	**07 57 17.6**	**+1.2**
	1.6nm,0.9s,baz=19,slow=10,SNR=2.7						
MKAR	**Makanchi Array**	**76.78**	**321**	P	**P**	**08 03 27.5**	**-0.9**
	0.5nm,0.6s,baz=99,slow=7.5,SNR=4.3						
ZALV	**Zalesovo Beam**	**78.30**	**328**	P	**P**	**08 03 34.9**	**-1.7**
	0.7nm,0.4s,baz=96,slow=4.3,SNR=3.0						
ILAR	**Eielson Array**	**85.15**	**23**	P	**P**	**08 04 13.5**	**+1.0**
	0.8nm,0.6s,baz=254,slow=4.8,SNR=22						
MDT	**Midelt**	**141.73**	**319**	PKP	**PKPdf**	**08 11 08.2**	**-0.7**
	1.2nm,0.4s,baz=41,slow=11						
TORD	**Torodi Ar. Bea**	**144.51**	**285**	PKP	PKPbc	08 11 12.4	-0.3
	0.9nm,0.8s,baz=87,slow=4.2,SNR=4.0						

*ISCJB **16** 08:10:35.5±0.4, 23°.95N±0°.02×122°.13E±0°.02, h20km±4km, mb3.5/2, Error ellipse: s-maj=3.7km s-min=2.0km az=151.6*
*JMA **16** 08:10:35.4±0.1, 23°.95N×122°.07E, h30km±3km, M3.2*
*TAP **16** 08:10:37.0, 24°.04N×122°.03E, h20km, ML3.7, D*
*IDC **16** 08:10:42.7±12.0, 22°.43N×122°.22E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.3/43, mbtmp3.4/3, ML3.9/1, Error ellipse: s-maj=413.5km s-min=33.8km az=108.0*
ISC 16 08:10:35.7±1.0, 23°.96N±0°.02×122°.09E±0°.02, h26km±10km, n63, σ0$67/106, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.44**	**273**	*e*P	**Pn**	**08 10 46.1**	**-0.2**
	baz=260						
HWA				*e*S	**Sn**	**08 10 52.6**	**-0.8**
	baz=260						
TWD	**Chiawan**	**0.47**	**286**	*i* P	**Pb**	**08 10 45.8**	**+0.4**
	baz=275						
TWD				S	**Sb**	**08 10 52.6**	**+0.6**
	baz=275						
ENA	**Nanau**	**0.57**	**326**	*e*P	**Pb**	**08 10 47.5**	**+0.3**
	baz=325						
ENA				*e*S	**Sb**	**08 10 54.0**	**-0.9**
	baz=325						
ESL	**Shilin**	**0.61**	**257**	*e*P	**Pb**	**08 10 47.8**	**-0.1**
	baz=247						
ESL				*e*S	**Sb**	**08 10 56.2**	**0.0**
	baz=247						
TWC	**Suao**	**0.69**	**342**	*e*P	**Pn**	**08 10 49.6**	**-0.1**
	baz=344						
TWC				*e*S	**Sb**	**08 10 57.9**	**-0.4**
	baz=344						
WHF	**Hehuan Shan**	**0.78**	**284**	P	**Pb**	**08 10 50.6**	**-0.3**
	baz=278						
WHF				*e*S	**Sb**	**08 11 00.1**	**-1.1**
	baz=278						
NNS	**Nan Shan**	**0.81**	**307**	P	**Pb**	**08 10 50.9**	**-0.4**
	baz=303						
NNS				*e*S	**Sb**	**08 11 01.5**	**-0.4**
	baz=303						
EHY	**Hungye**	**0.83**	**238**	*e*P	**Pb**	**08 10 51.3**	**-0.3**
	baz=230						
EHY				*e*S	**Sb**	**08 11 02.0**	**-0.3**
	baz=230						
ENTT	**Nioudou**	**0.83**	**325**	P	**Pb**	**08 10 51.2**	**-0.4**
	baz=324						
ENTT				*e*S	**Sb**	**08 11 02.1**	**-0.3**
	baz=324						
TWE	**Neicheng**	**0.85**	**333**	P	**Pn**	**08 10 52.0**	**0.0**
	baz=334						
TWE				*e*S	**Sb**	**08 11 03.3**	**+0.3**
	baz=334						
ILA	**Ilan**	**0.86**	**339**	*e*S	**Sn**	**08 11 04.3**	**+0.4**
	baz=340						
TWT	**Tachien**	**0.88**	**290**	*e*P	**Pb**	**08 10 52.4**	**-0.1**
	baz=284						
TWT				*e*S	**Sb**	**08 11 03.8**	**-0.3**
	baz=284						
WDT	**Danda**	**0.90**	**257**	*e*P	**Pb**	**08 10 52.7**	**-0.2**
	baz=250						
WDT				*e*S	**Sb**	**08 11 04.0**	**-0.5**
	baz=250						
EGS		**0.90**	**351**	*e*P	**Pn**	**08 10 52.7**	**+0.1**
	baz=354						
EGS				*e*S	**Sn**	**08 11 04.7**	**-0.1**
	baz=354						
JYNG	**Yonagunijimaku**	**0.93**	**58**	P	**Pb**	**08 10 52.9**	**-0.3**
JYNG				S	**Sb**	**08 11 04.9**	**-0.2**
TWF1	**Yuli**	**0.94**	**231**	*e*P	**Pn**	**08 10 53.1**	**-0.2**
	baz=224						
NSK	**Sanguang**	**0.98**	**317**	P	**Pn**	**08 10 53.5**	**-0.3**
	baz=315						
NSK				*e*S	**Sb**	**08 11 05.4**	**-1.3**
	baz=315						
YOJ	**Yonaguni jima**	**0.98**	**59**	P	**Pn**	**08 10 53.7**	**-0.1**
YOJ				S	**Sb**	**08 11 06.2**	**-0.5**
TWB1	**Santiao Chiao**	**1.05**	**355**	*e*P	**Pb**	**08 10 57.0**	**+1.7**
	baz=357						
TWB1				*e*S	**Sn**	**08 11 10.0**	**+1.4**
	baz=357						
CHKT	**Chengkung**	**1.08**	**218**	*e*S	**Sb**	**08 11 10.8**	**+1.4**
	baz=212						
SMLT	**Sun Moon Lake**	**1.09**	**266**	*e*P	**Pn**	**08 10 55.7**	**+0.3**
	baz=261						
SMLT				*e*S	**Sn**	**08 11 09.4**	**-0.2**
	baz=261						
TWA	**Mucha**	**1.12**	**336**	P	**Pb**	**08 10 56.3**	**-0.1**
	baz=336						
TWA				*e*S	**Sn**	**08 11 10.3**	**0.0**
	baz=336						
TYC	**Yuchr**	**1.13**	**268**	*e*P	**Pn**	**08 10 55.6**	**-0.1**
	baz=262						
TYC				*e*S	**Sn**	**08 11 10.4**	**0.0**
	baz=262						
NWF	**Wu-fen Shan**	**1.15**	**346**	*e*P	**Pn**	**08 10 56.5**	**+0.4**
	baz=347						
NWF				*e*S	**Sn**	**08 11 11.1**	**0.0**
	baz=347						
TAP1	**Taipei**	**1.20**	**335**	*e*S	**Sb**	**08 11 12.5**	**-0.2**
	baz=334						
NSTT	**Nanjuang**	**1.20**	**304**	*e*P	**Pb**	**08 10 57.4**	**-0.3**
	baz=302						
NSTT				*e*S	**Sn**	**08 11 12.2**	**0.0**
	baz=302						
TAP	**Taipei**	**1.20**	**334**	*e*S	**Sb**	**08 11 13.2**	**+0.2**
	baz=334						
ELDTW	**Lidau**	**1.24**	**232**	*e*P	**Pn**	**08 10 57.0**	**-0.5**
	baz=227						
ELDTW				*e*S	**Sn**	**08 11 12.2**	**-1.2**
	baz=227						
ALS	**Alishan**	**1.25**	**250**	P	**Pb**	**08 10 59.0**	**+0.1**
	baz=244						
ALS				*e*S	**Sn**	**08 11 14.1**	**+0.1**
	baz=244						
TWQ1	**Liyutan**	**1.26**	**288**	P	**Pb**	**08 10 58.8**	**-0.1**
	baz=284						
TWQ1				*e*S	**Sb**	**08 11 15.7**	**+1.0**
	baz=284						
WNT	**Mingjian**	**1.29**	**267**	*e*P	**Pb**	**08 10 59.6**	**+0.4**
	baz=262						
WNT				*e*S	**Sb**	**08 11 17.1**	**+1.7**
	baz=262						
TWS1	**Kuangyinshan**	**1.29**	**332**	*e*S	**Sb**	**08 11 15.2**	**-0.4**
	baz=332						
NSY	**Sanyi**	**1.29**	**291**	*e*P	**Pb**	**08 10 59.5**	**+0.1**
	baz=287						
NSY				*e*S	**Sb**	**08 11 16.6**	**+1.0**
	baz=287						
TCU	**Taichung**	**1.30**	**279**	*e*P	**Pb**	**08 10 59.9**	**+0.4**
	baz=274						
TCU				*e*S	**Sb**	**08 11 17.6**	**+1.7**
	baz=274						
HSN	**Hsinchu**	**1.32**	**310**	*e*S	**Sb**	**08 11 16.4**	**-0.1**
	baz=310						
CHN5	**Tsauling**	**1.34**	**255**	*e*P	**Pb**	**08 10 59.9**	**-0.3**
	baz=250						
CHN5				*e*S	**Sb**	**08 11 17.6**	**+0.6**
	baz=250						
TWY	**Chenhua**	**1.39**	**341**	*e*P	**Pn**	**08 11 00.2**	**+0.8**
	baz=342						
WGK	**Gukeng**	**1.42**	**259**	*e*S	**Sb**	**08 11 20.1**	**+0.9**
	baz=255						
STYT	**Tauyuan**	**1.45**	**237**	*e*P	**Pb**	**08 11 01.3**	**-0.8**
	baz=232						
STYT				*e*S	**Sn**	**08 11 19.1**	**+0.6**
	baz=232						
TWG	**Pinlang**	**1.46**	**220**	*e*S	**Sn**	**08 11 18.8**	**+0.1**
	baz=215						
CHN4	**Tsaushan**	**1.50**	**247**	*e*P	**Pb**	**08 11 03.0**	**+0.1**
	baz=242						
CHN4				*e*S	**Sb**	**08 11 22.4**	**+0.9**
	baz=242						
WTP	**Ta-pu**	**1.52**	**243**	*e*P	**Pb**	**08 11 02.8**	**-0.6**
	baz=238						
WTP				*e*S	**Sb**	**08 11 22.8**	**+0.5**
	baz=238						
CHN2	**Minshiung**	**1.54**	**254**	*e*S	**Sb**	**08 11 24.8**	**+2.3**
	baz=250						
IRIF	**Iriomote-Funau**	**1.55**	**76**	P	**Pn**	**08 11 01.9**	**+0.3**
IRIF				*e*S	**Sn**	**08 11 21.0**	**+0.2**
HATJ	**Hateruma jima**	**1.57**	**86**	P	**Pn**	**08 11 02.3**	**+0.4**
HATJ				*e*S	**Sn**	**08 11 21.6**	**+0.1**
CHY	**Chiayi**	**1.59**	**254**	*e*S	**Sn**	**08 11 22.1**	**+0.2**
	baz=249						
TWK	**Hsinying**	**1.62**	**245**	P	**Pb**	**08 11 04.4**	**-0.6**
	baz=241						
TWK				*e*S	**Sb**	**08 11 25.2**	**+0.2**
	baz=241						
CHN1	**Nanshi**	**1.62**	**242**	*e*P	**Pb**	**08 11 05.0**	**0.0**
	baz=238						
CHN1				*e*S	**Sb**	**08 11 25.1**	**0.0**
	baz=238						
SGST	**Jiashian**	**1.63**	**238**	*e*P	**Pb**	**08 11 05.2**	**0.0**
	baz=234						
SGST				*e*S	**Sb**	**08 11 25.5**	**+0.2**
	baz=234						
PCYT	**Pengchaiyu**	**1.67**	**360**	*e*P	**Pb**	**08 11 07.2**	**+1.4**
	baz=1.0						
WSF	**Szhu**	**1.74**	**260**	*e*S	**Sb**	**08 11 28.5**	**+0.1**
	baz=256						
JKRS	**Kuro-shima**	**1.78**	**81**	P	**Pn**	**08 11 05.4**	**+0.7**
JKRS				S	**Sn**	**08 11 26.9**	**+0.4**
SSD	**Sandimen**	**1.80**	**228**	*e*P	**Pn**	**08 11 06.3**	**+1.3**
	baz=224						
SSD				*e*S	**Sn**	**08 11 27.9**	**+0.9**
	baz=224						
TWM1	**Shoushan**	**1.90**	**234**	*e*S	**Sn**	**08 11 30.9**	**+1.4**
	baz=230						
JIJ	**Ishigaki jima**	**1.92**	**77**	P	**Pn**	**08 11 06.8**	**+0.1**
JIJ				S	**Sn**	**08 11 29.0**	**-1.0**
EAST	**Anshuo**	**1.94**	**216**	*e*P	**Pb**	**08 11 10.6**	**+0.2**
	baz=213						
EAST				*e*S	**Sb**	**08 11 34.7**	**+0.6**
	baz=213						
LAY	**Lan-yu**	**1.97**	**195**	*e*P	**Pn**	**08 11 07.2**	**-0.2**
	baz=192						
PNG	**Penghu**	**2.35**	**261**	*e*P	**Pn**	**08 11 13.3**	**+0.7**
	baz=258						
PNG				*e*S	**Sn**	**08 11 39.9**	**-0.8**
	baz=258						
JTJ	**Tarama**	**2.48**	**74**	P	**Pn**	**08 11 14.8**	**+0.4**
JTJ				*e*S	**Sn**	**08 11 43.7**	**-0.2**
JIRB	**Irabujima**	**2.94**	**72**	P	**Pn**	**08 11 21.3**	**+0.5**
JIRB				*e*S	**Sn**	**08 11 55.5**	**+0.2**
MJAR	**Matsushiro Arr**	**18.71**	**44**	P	Pn	08 15 14.4	+22
	0.4nm,0.3s,baz=226,slow=7.0,SNR=3.1						
WRA	**Warramunga Arr**	**45.24**	**164**	P	**P**	**08 18 50.0**	**-0.9**
	0.6nm,0.8s,baz=345,slow=8.7,SNR=5.0						
ASAR	**Alice Springs**	**48.71**	**166**	P	**P**	**08 19 17.2**	**-0.9**
	0.2nm,0.4s,baz=345,slow=6.7,SNR=4.1						

*SFS **16** 08:10:33.0, 36°.51N×28°.63E, h0km, ML5.6*
*HLW **16** 08:10:58.9, 36°.86N×26°.97E, h34km±26km, Md5.1, Ml5.3*
*BJI **16** 08:10:59.9, 36°.80N×26°.90E, h165km, mb5.4/63, mB5.1/39*
*ISCJB **16** 08:11:01.5±0.1, 36°.81N±0°.01×26°.890E±0°.010, h174km, mb5.0/223, Error ellipse: s-maj=1.9km s-min=1.2km az=15.0*
*PDG **16** 08:11:01.8±0.7, 36°.84N×26°.92E, h168km±2km, ML5.2/12, Error ellipse: s-maj=0.9km s-min=0.6km az=90.0*
*NEIC **16** 08:11:01.9, 36°.81N×26°.91E, h165km, mb4.9/124, After ATH.*
NEIC Felt [II] at Irakleion. Also felt at Gournai, Kifisia, Mourniai, Piraeus, Skopelos and Vari. Felt at Fethiye, Ortaca and Soke, Turkey.
*GCMT **16** 08:11:01.9±0.2, 36°.71N×26°.95E, h174km±1km, MW5.2/82, Moment Tensor Solution. s53,c63; s82,c129; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.73±.14; Mθθ-1.40±.17; Mφφ2.12±.17; Mrθ-1.29±.12; Mθφ4.86±.14; Mφr3.78±.12; Best double couple: M₀6.55800×10¹⁶ NP1:φs172.00000°, δ84.00000°, λ-143.00000°. NP2: φs77.00000°, δ53.00000°, λ-8.00000°. Principal axes: T 6.4200, Plg21.0000°, Azm299.0000°; N 0.2700, Plg52.0000°, Azm180.0000°; P -6.6960, Plg30.0000°, Azm41.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ATH **16** 08:11:01.9, 36°.81N×26°.91E, h165km±1km, ML5.1*
*IDC **16** 08:11:02.8±0.5, 36°.93N×26°.86E, h172km±3km, mb4.8/34, mb1 4.8/44, mb1mx4.8/48, mbtmp5.2/44, MS3.7/10, Ms1 3.7/10, ms1mx3.2/49, Error ellipse: s-maj=7.9km s-min=6.6km az=166.0*
*MOS **16** 08:11:02.7±1.0, 36°.94N×26°.91E, h182km, mb5.3/50, Error ellipse: s-maj=4.8km s-min=3.2km az=92.6*
*CSEM **16** 08:11:02.1±0.1, 36°.81N×26°.91E, h167km, mb4.9/99, Ms5.0, Error ellipse: s-maj=2.0km s-min=1.3km az=13.0*
*ISK **16** 08:11:03.8, 36°.85N×26°.95E, h137km, ML4.8*
*NIC **16** 08:11:03.2, 37°.14N×27°.22E, h94km, mb5.2, ML5.0*
*DDA **16** 08:11:04.7, 36°.69N×26°.55E, h43km, ML4.6*
*THE **16** 08:11:05.3, 36°.78N×27°.01E, h163km±1km, ML5.2/10, Error ellipse: s-maj=1.6km s-min=0.6km az=113.0*
ISC 16 08:11:02.0±0.2, 36°.83N±0°.03×26°.91E±0°.02, h167km±1km, h167km:pP-P, n1910, σ1$24/2249, mb5.0/237, 111C-77D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NISR	**Nisiros**	**0.28**	**142**	*e*P	**Pn**	**08 11 25.0**	**+0.4**
NISR				*e*S	**Sn**	**08 11 41.0**	**-0.7**
NISR	**Nisiros**	**0.28**	**142**	*e*P	**Pn**	**08 11 25.0**	**+0.4**
NISR				S	**Sn**	**08 11 41.3**	**-0.4**
NISR	**Nisiros**	**0.28**	**142**	P	**Pn**	**08 11 24.9**	**+0.4**
NISR				S	**Sn**	**08 11 41.3**	**-0.4**
NIS1	**Nisyros lsl.**	**0.31**	**137**	PG	**Pn**	**08 11 26.1**	**+1.4**
NIS1	**Nisyros lsl.**	**0.31**	**137**	*e*P	**Pn**	**08 11 25.3**	**+0.6**
NIS1				*e*S	**Sn**	**08 11 41.5**	**-0.5**
NIS1	**Nisyros lsl.**	**0.31**	**137**	*e*P	**Pn**	**08 11 25.3**	**+0.6**
NIS1	**Nisyros lsl.**	**0.31**	**137**	*i* Pg	**Pn**	**08 11 26.1**	**+1.4**
NIS1				*e*S	**Sn**	**08 11 41.5**	**-0.5**
NIS1	**Nisyros lsl.**	**0.31**	**137**	P	**Pn**	**08 11 25.3**	**+0.6**
NIS1				S	**Sn**	**08 11 41.5**	**-0.5**
BODT	**Bodrum**	**0.39**	**54**	PG	**Pn**	**08 11 25.6**	**+0.7**
BODT	**Bodrum**	**0.39**	**54**	Pg	**Pn**	**08 11 25.4**	**+0.5**
BODT				Sg	**Sn**	**08 11 37.4**	**-5.1**
BODT	**Bodrum**	**0.39**	**54**	Pg	**Pn**	**08 11 25.4**	**+0.5**
BODT				Sg	**Sn**	**08 11 37.4**	**-5.1**
BDRM	**Kayabasi**	**0.48**	**61**	*i* P	**Pn**	**08 11 26.0**	**+0.7**
BDRM				*i* S	**Sn**	**08 11 42.8**	**-0.3**
BDRM	**Kayabasi**	**0.48**	**61**	*i* P	**Pn**	**08 11 26.0**	**+0.7**
BDRM				*i* S	**Sn**	**08 11 42.8**	**-0.3**
SMG	**Samos**	**0.88**	**356**	*e*P	**Pn**	**08 11 28.1**	**+0.6**
SMG				*e*S	**Sn**	**08 11 46.7**	**-0.6**
SMG	**Samos**	**0.88**	**356**	*e*P	**Pn**	**08 11 28.1**	**+0.6**
SMG				*e*S	**Sn**	**08 11 46.7**	**-0.6**
SMG	**Samos**	**0.88**	**356**	P	**Pn**	**08 11 28.1**	**+0.6**
AYDN	**Tasoluk**	**1.13**	**43**	*i* P	**Pn**	**08 11 30.7**	**+1.2**
AYDN				*i* S	**Sn**	**08 11 50.3**	**-0.5**
AYDN	**Tasoluk**	**1.13**	**43**	*i* P	**Pn**	**08 11 30.7**	**+1.2**
AYDN				*i* S	**Sn**	**08 11 50.3**	**-0.5**
APE	**Apeiranthos**	**1.13**	**282**	*e*PN	**Pn**	**08 11 30.4**	**+0.8**
APE	**Apeiranthos**	**1.13**	**282**	‖*e*P	**Pn**	**08 11 30.1**	**+0.5**
APE	**Apeiranthos**	**1.13**	**282**	‖*i*P	**Pn**	**08 11 30.6**	**+1.0**
APE				S	**Sn**	**08 11 50.9**	**+0.1**
APE	**Apeiranthos**	**1.13**	**282**	*e*P	**Pn**	**08 11 30.7**	**+1.1**
APE				*e*S	**Sn**	**08 11 50.9**	**+0.1**
APE	**Apeiranthos**	**1.13**	**282**	*e*P	**Pn**	**08 11 30.1**	**+0.5**
APE	**Apeiranthos**	**1.13**	**282**	*e*Pn	**Pn**	**08 11 30.4**	**+0.8**
APE				S	**Sn**	**08 11 49.4**	**-1.4**
APE	**Apeiranthos**	**1.13**	**282**	P	**Pn**	**08 11 30.6**	**+1.0**
APE				S	**Sn**	**08 11 49.4**	**-1.4**
YER	**Yerkesik**	**1.14**	**74**	*e*PN	**Pn**	**08 11 30.4**	**+0.8**
YER				*e*SN	**Sn**	**08 11 48.0**	**-2.9**
YER	**Yerkesik**	**1.14**	**74**	P	**Pn**	**08 11 30.0**	**+0.4**
YER						08 11 48.0	
YER	**Yerkesik**	**1.14**	**74**	P	**Pn**	**08 11 30.0**	**+0.4**
YER				*e*Sn	**Sn**	**08 11 48.0**	**-2.9**
YER	**Yerkesik**	**1.14**	**74**	Pn	**Pn**	**08 11 30.0**	**+0.4**
YER				Sg	**Sn**	**08 11 48.0**	**-2.9**
ARG	**Arkhangelos**	**1.15**	**122**	*e*P	**Pn**	**08 11 30.4**	**+0.7**
ARG				*e*S	**Sn**	**08 11 50.5**	**-0.5**
ARG	**Arkhangelos**	**1.15**	**122**	*e*P	**Pn**	**08 11 30.4**	**+0.7**
ARG				*e*S	**Sn**	**08 11 50.5**	**-0.5**
ARG	**Arkhangelos**	**1.15**	**122**	P	**Pn**	**08 11 30.3**	**+0.6**
THR2	**Thira island,**	**1.25**	**253**	P	**Pn**	**08 11 31.6**	**+1.1**
THR2	**Thira island,**	**1.25**	**253**	P	**Pn**	**08 11 31.6**	**+1.1**
SANT	**Santorini**	**1.26**	**249**	*e*P	**Pn**	**08 11 31.4**	**+0.7**
SANT				*e*S	**Sn**	**08 11 52.5**	**-0.2**
SANT	**Santorini**	**1.26**	**249**	*e*Pn	**Pn**	**08 11 31.3**	**+0.5**
SANT				S	**Sn**	**08 11 50.9**	**-1.8**
SANT				*e*Sn	Sn	08 11 53.3	+0.6
SANT	**Santorini**	**1.26**	**249**	*e*Pn	**Pn**	**08 11 31.2**	**+0.5**
SANT				*e*Sn	**Sn**	**08 11 53.3**	**+0.6**
SANT	**Santorini**	**1.26**	**249**	P	**Pn**	**08 11 31.4**	**+0.7**
SANT				S	**Sn**	**08 11 50.9**	**-1.8**
THR1	**Thera Island**	**1.26**	**249**	*e*PN	**Pn**	**08 11 31.3**	**+0.6**
THR1	**Thera Island**	**1.26**	**249**	*e*Pn	**Pn**	**08 11 31.3**	**+0.6**
THR1	**Thera Island**	**1.26**	**249**	P	**Pn**	**08 11 31.5**	**+0.8**
THR7

NPS	Neapolis	1.89	214	P	Pn	08 11 36.9	-0.1
NPS				S	Sn	08 12 02.3	-1.7
DENT	Denizli	1.92	61	ePN	Pn	08 11 37.4	0.0
DENT	Denizli	1.92	61	ePn	Pn	08 11 37.4	0.0
MHLO	Agia Marina, M	2.02	267	P	Pn	08 11 39.9	+1.5
MHLO	Agia Marina, M	2.02	267	P	Pn	08 11 39.9	+1.5
LAST	Lasithi	2.03	215	eP	Pn	08 11 38.7	+0.1
LAST				eS	Sn	08 12 05.8	-1.2
LAST	Lasithi	2.03	215	P	Pn	08 11 38.8	+0.1
LAST				S	Sn	08 12 05.3	-1.7
LAST	Lasithi	2.03	215	P	Pn	08 11 38.8	+0.1
LAST				S	Sn	08 12 05.3	-1.7
IACM	Heraklion	2.13	225	eP	Pn	08 11 39.9	+0.2
IACM				eS	Sn	08 12 07.6	-1.2
IACM	Heraklion	2.13	225	eP	Pn	08 11 39.9	+0.2
IACM				eS	Sn	08 12 07.6	-1.2
GOLH	Golhisar	2.16	78	i P	Pn	08 11 41.6	+1.5
GOLH				i S	Sn	08 12 09.8	+0.3
GOLH	Golhisar	2.16	78	i P	Pn	08 11 41.6	+1.5
GOLH				i S	Sn	08 12 09.8	+0.3
AKS	Akhisar	2.16	19	ePN	Pn	08 11 40.5	+0.5
AKS	Akhisar	2.16	19	ePn	Pn	08 11 40.5	+0.5
AKAS	Kas	2.25	105	i P	Pn	08 11 41.3	+0.1
AKAS				i S	Sn	08 12 10.0	-1.4
AKAS	Kas	2.25	105	i P	Pn	08 11 41.3	+0.1
AKAS				i S	Sn	08 12 10.0	-1.4
IDI	Anoyia	2.25	227	P	Pn	08 11 40.8	-0.3
	baz=35,slow=13						
IDI				S	Sn	08 12 08.4	-3.0
	3µm,0.3s,baz=90,slow=20,SNR=19						
IDI	Anoyia	2.25	227	eP	Pn	08 11 41.0	-0.2
IDI	Anoyia	2.25	227	eP	Pn	08 11 41.0	-0.2
IDI				eSn	Sn	08 12 08.9	-2.5
IDI				S	Sn	08 12 09.4	-2.0
IDI	Anoyia	2.25	227	ePn	Pn	08 11 40.8	-0.3
IDI				eSn	Sn	08 12 08.9	-2.5
IDI				eSn	Sn	08 12 09.2	-2.3
IDI	Anoyia	2.25	227	P	Pn	08 11 40.8	-0.3
IDI				S	Sn	08 12 09.4	-2.0
KSL	Kastellorizon	2.26	107	eP	Pn	08 11 41.4	+0.3
KARY	Karystos	2.31	302	P	Pn	08 11 43.0	+1.3
ELL	Elmali	2.41	91	ePN	Pn	08 11 43.8	+0.8
ELL				eSN	Sn	08 12 12.2	-2.5
ELL	Elmali	2.41	91	ePn	Pn	08 11 43.8	+0.8
ELL				eSn	Sn	08 12 12.2	-2.5
PRK	Paraskevi	2.46	348	eP	Pn	08 11 44.5	+1.0
PRK	Paraskevi	2.46	348	eP	Pn	08 11 44.5	+1.0
PRK				S	Sn	08 12 15.7	-0.1
PRK	Paraskevi	2.46	348	P	Pn	08 11 44.5	+1.0
PRK				S	Sn	08 12 15.7	-0.1
SIVA	Sivas	2.49	224	eP	Pn	08 11 44.7	+0.8
SIVA	Sivas	2.49	224	eP	Pn	08 11 44.7	+0.8
SIGR	SIGRI	2.52	341	ePN	Pn	08 11 44.9	+0.7
SIGR				eSN	Sn	08 12 15.4	-1.5
SIGR	SIGRI	2.52	341	eP	Pn	08 11 45.2	+1.1
SIGR	SIGRI	2.52	341	ePn	Pn	08 11 44.9	+0.7
SIGR	SIGRI	2.52	341	eP	Pn	08 11 45.2	+1.1
SIGR				eSn	Sn	08 12 15.4	-1.5
SIGR				S	Sn	08 12 17.1	+0.2
SIGR	SIGRI	2.52	341	P	Pn	08 11 45.2	+1.1
SIGR				S	Sn	08 12 17.1	+0.2
KHL	Karahalli	2.55	54	ePN	Pn	08 11 45.6	+0.9
KHL	Karahalli	2.55	54	ePn	Pn	08 11 45.6	+0.9
KHAL	Karahalli	2.56	52	i P	Pn	08 11 45.9	+1.1
KHAL				i S	Sn	08 12 15.4	-2.6
KHAL	Karahalli	2.56	52	i P	Pn	08 11 45.9	+1.1
KHAL				i S	Sn	08 12 15.4	-2.6
VAM	Vamos	2.62	238	eP	Pn	08 11 45.4	0.0
VAM	Vamos	2.62	238	eP	Pn	08 11 45.4	0.0
PTL	Penteli	2.71	297	eP	Pn	08 11 48.0	+1.4
PTL	Penteli	2.71	297	eP	Pn	08 11 48.0	+1.4
PTL	Penteli	2.71	297	P	Pn	08 11 48.0	+1.4
ATHU	Athens Univers	2.74	295	P	Pn	08 11 48.3	+1.5
ATHU	Athens Univers	2.74	295	P	Pn	08 11 48.3	+1.5
KORT	Korkueli	2.76	85	i P	Pn	08 11 48.6	+1.4
KORT				i S	Sn	08 12 21.4	-0.9
KORT	Korkueli	2.76	85	i P	Pn	08 11 48.6	+1.4
KORT				i S	Sn	08 12 21.4	-0.9
ATH	Athens Observa	2.79	295	eP	Pn	08 11 49.1	+1.6
ATH	Athens Observa	2.79	295	P	Pn	08 11 49.0	+1.6
ATH	Athens Observa	2.79	295	P	Pn	08 11 49.0	+1.6
EREA	Eretria	2.85	305	eP	Pn	08 11 49.9	+1.7
EREA	Eretria	2.85	305	P	Pn	08 11 49.8	+1.6
EREA	Eretria	2.85	305	P	Pn	08 11 49.8	+1.6
NAIG	Nisos Aigina	2.88	290	eP	Pn	08 11 49.9	+1.3
NAIG	Nisos Aigina	2.88	290	eP	Pn	08 11 49.9	+1.3
ANTB	Antalya	3.00	88	ePN	Pn	08 11 51.5	+1.5
ANTB	Antalya	3.00	88	ePn	Pn	08 11 51.5	+1.5
BCK	Bucak	3.00	77	ePN	Pn	08 11 51.6	+1.5
BCK	Bucak	3.00	77	ePn	Pn	08 11 51.6	+1.5
DID	Didima	3.01	284	eP	Pn	08 11 51.4	+1.1
DID	Didima	3.01	284	P	Pn	08 11 51.3	+1.1
DID				S	Sn	08 12 28.8	+1.1
DID	Didima	3.01	284	P	Pn	08 11 51.3	+1.1
DID				S	Sn	08 12 28.8	+1.1
EZN	Ezine	3.02	351	ePN	Pn	08 11 51.3	+1.0
EZN	Ezine	3.02	351	ePn	Pn	08 11 51.3	+1.0
DIDY	Didyma	3.03	283	eP	Pn	08 11 51.6	+1.0
DIDY	Didyma	3.03	283	eP	Pn	08 11 51.6	+1.0
DIDY	Didyma	3.03	283	P	Pn	08 11 51.5	+1.0
GVD	Gavdhos	3.04	230	eP	Pn	08 11 51.0	+0.4
GVD	Gavdhos	3.04	230	ePn	Pn	08 11 50.8	+0.2
GVD	Gavdhos	3.04	230	P	Pn	08 11 51.2	+0.6
GVD				S	Sn	08 12 27.8	-0.4
GVD				eSn	Sn	08 12 29.0	+0.7
GVD	Gavdhos	3.04	230	ePn	Pn	08 11 50.8	+0.2
GVD				eSn	Sn	08 12 28.9	+0.7
GVD	Gavdhos	3.04	230	P	Pn	08 11 51.2	+0.6
GVD				S	Sn	08 12 27.8	-0.4
KRND	KRANIDI	3.06	281	eP	Pn	08 11 52.2	+1.4
KRND	KRANIDI	3.06	281	P	Pn	08 11 52.1	+1.3
KRND				S	Sn	08 12 29.2	+0.5
KRND	KRANIDI	3.06	281	P	Pn	08 11 52.1	+1.3
KRND				S	Sn	08 12 29.2	+0.5
ANKY	Antikythira Is	3.07	253	eP	Pn	08 11 51.1	+0.1
ANKY	Antikythira Is	3.07	253	eP	Pn	08 11 51.1	+0.1
ANKY	Antikythira Is	3.07	253	P	Pn	08 11 51.4	+0.5
DST	Dursunbey	3.08	25	ePN	Pn	08 11 52.2	+1.2
DST	Dursunbey	3.08	25	ePn	Pn	08 11 52.2	+1.2
VILL	Villia	3.16	296	P	Pn	08 11 53.7	+1.6
VILL	Villia	3.16	296	P	Pn	08 11 53.7	+1.6
KYTH	Kithira	3.17	261	eP	Pn	08 11 52.8	+0.6
KYTH	Kithira	3.17	261	eP	Pn	08 11 52.8	+0.6
KYTH	Kithira	3.17	261	P	Pn	08 11 52.8	+0.6
VLI	Veliai	3.19	269	eP	Pn	08 11 53.1	+0.6
VLI	Veliai	3.19	269	eP	Pn	08 11 53.1	+0.6
VLI	Veliai	3.19	269	P	Pn	08 11 52.9	+0.4
VIL2	Platees	3.21	297	eP	Pn	08 11 53.8	+1.1
TVSB	Tavsanli	3.30	37	ePN	Pn	08 11 54.6	+0.8
TVSB	Tavsanli	3.30	37	ePn	Pn	08 11 54.6	+0.8
LOUT	Loutraki	3.34	291	eP	Pn	08 11 55.9	+1.6
LOUT	Loutraki	3.34	291	P	Pn	08 11 55.7	+1.4
LOUT	Loutraki	3.34	291	P	Pn	08 11 55.7	+1.4
AOS	Alonnisos	3.34	315	ePN	Pn	08 11 56.1	+1.8
AOS	Alonnisos	3.34	315	eP	Pn	08 11 55.9	+1.6
AOS	Alonnisos	3.34	315	P	Pn	08 11 55.8	+1.5
AOS	Alonnisos	3.34	315	P	Pn	08 11 55.8	+1.5
LIA	Limnos Island	3.35	337	eP	Pn	08 11 55.7	+1.3
LIA	Limnos Island	3.35	337	P	Pn	08 11 55.5	+1.1
LIA	Limnos Island	3.35	337	P	Pn	08 11 55.5	+1.1
LTK	Loutraki	3.36	292	eP	Pn	08 11 56.1	+1.5
LTK	Loutraki	3.36	292	eP	Pn	08 11 56.1	+1.5
LTK	Loutraki	3.36	292	P	Pn	08 11 56.1	+1.5
ACOR	Acrocorinthos	3.39	289	P	Pn	08 11 56.2	+1.2
GADA	Gvkgeada	3.45	347	ePN	Pn	08 11 56.9	+1.3
GADA	Gvkgeada	3.45	347	ePn	Pn	08 11 56.9	+1.3
LPK	Lapseki	3.54	358	ePN	Pn	08 11 58.0	+1.2
LPK	Lapseki	3.54	358	ePn	Pn	08 11 58.0	+1.2
ORLT	Orhaneli	3.57	25	ePN	Pn	08 11 58.1	+1.0
ORLT	Orhaneli	3.57	25	ePn	Pn	08 11 58.2	+1.0
SMIA	Simia	3.57	306	eP	Pn	08 11 59.3	+2.1
SMIA	Simia	3.57	306	P	Pn	08 11 59.3	+2.0
SMIA	Simia	3.57	306	P	Pn	08 11 59.3	+2.0
GELI	Tayfur-Gelibol	3.58	355	ePN	Pn	08 11 58.4	+1.2
GELI	Tayfur-Gelibol	3.58	355	ePn	Pn	08 11 58.4	+1.2
EDC	Edincik	3.59	12	ePN	Pn	08 11 58.4	+1.0
EDC	Edincik	3.59	12	ePn	Pn	08 11 58.4	+1.0
THAL	Thalero	3.59	291	eP	Pn	08 11 58.9	+1.5
THAL	Thalero	3.59	291	P	Pn	08 11 58.8	+1.4
THAL	Thalero	3.59	291	P	Pn	08 11 58.8	+1.4
LKR	Lokris	3.59	302	eP	Pn	08 11 59.1	+1.6
LKR	Lokris	3.59	302	eP	Pn	08 11 59.1	+1.6
LKR	Lokris	3.59	302	P	Pn	08 11 59.1	+1.6
ATAL	Atalanti	3.60	302	P	Pn	08 11 59.3	+1.7
ATAL	Atalanti	3.60	302	P	Pn	08 11 59.3	+1.7
BNT	Bandirma	3.61	12	ePN	Pn	08 11 58.6	+1.0
BNT	Bandirma	3.61	12	ePn	Pn	08 11 58.6	+1.0
KCTX	Karacabey (Bur	3.61	18	ePN	Pn	08 11 58.0	+0.3
KCTX	Karacabey (Bur	3.61	18	ePn	Pn	08 11 58.0	+0.3
VLX	Vlachokerasia	3.67	280	eP	Pn	08 11 59.8	+1.3
VLX	Vlachokerasia	3.67	280	eP	Pn	08 11 59.8	+1.3
VLX	Vlachokerasia	3.67	280	P	Pn	08 11 59.8	+1.3
SMTH	Samothraki Isl	3.79	344	eP	Pn	08 12 00.9	+1.0
SMTH	Samothraki Isl	3.79	344	P	Pn	08 12 01.0	+1.0
SMTH	Samothraki Isl	3.79	344	P	Pn	08 12 01.0	+1.0
MRMT	Marmara Adasi	3.80	8	ePN	Pn	08 12 01.5	+1.3
MRMT	Marmara Adasi	3.80	8	ePn	Pn	08 12 01.5	+1.3
GUR	Goura	3.80	288	eP	Pn	08 12 01.7	+1.4
GUR	Goura	3.80	288	P	Pn	08 12 01.5	+1.2
GUR	Goura	3.80	288	P	Pn	08 12 01.5	+1.2
NEO	Neokhori	3.82	311	eP	Pn	08 12 02.0	+1.5
NEO	Neokhori	3.82	311	P	Pn	08 12 01.9	+1.5
NEO				S	Sn	08 12 45.7	-0.3
NEO	Neokhori	3.82	311	P	Pn	08 12 01.9	+1.5
NEO				S	Sn	08 12 45.7	-0.3
DSF	Desfina	3.82	296	eP	Pn	08 12 02.0	+1.5
DSF	Desfina	3.82	296	P	Pn	08 12 01.9	+1.5
DSF	Desfina	3.82	296	P	Pn	08 12 01.9	+1.5
ERIK	Erikli-Kesan	3.85	355	ePN	Pn	08 12 02.3	+1.6
ERIK	Erikli-Kesan	3.85	355	ePn	Pn	08 12 02.3	+1.6
ERIK				eSn	Sn	08 12 44.0	-2.5
MDNY	Mudanya-Bursa	3.85	23	ePN	Pn	08 12 01.7	+0.9
MDNY	Mudanya-Bursa	3.85	23	ePn	Pn	08 12 01.7	+0.9
RKY	Sarkoy-Tekirda	3.85	3	ePN	Pn	08 12 02.4	+1.6
RKY	Sarkoy-Tekirda	3.85	3	ePn	Pn	08 12 02.4	+1.6
RKY				eSn	Sn	08 12 44.8	-2.1
XOR	Xorichti	3.88	312	eP	Pn	08 12 02.5	+1.4
XOR	Xorichti	3.88	312	eP	Pn	08 12 02.5	+1.4
XOR	Xorichti	3.88	312	P	Pn	08 12 02.5	+1.4
AXAR	Agios Charalam	3.88	301	eP	Pn	08 12 03.3	+2.1
AXAR	Agios Charalam	3.88	301	P	Pn	08 12 03.1	+1.9
AXAR	Agios Charalam	3.88	301	P	Pn	08 12 03.1	+1.9
ENEZ	Enez	3.94	352	ePN	Pn	08 12 03.6	+1.7
ENEZ	Enez	3.94	352	ePn	Pn	08 12 03.6	+1.7
KLV	Kalavryta, Ach	3.98	289	eP	Pn	08 12 03.9	+1.4
KLV	Kalavryta, Ach	3.98	289	P	Pn	08 12 02.9	+0.4
KLV	Kalavryta, Ach	3.98	289	P	Pn	08 12 02.9	+0.4
PAIG	Paliouri	4.00	322	eP	Pn	08 12 04.1	+1.4
PAIG	Paliouri	4.00	322	P	Pn	08 12 04.0	+1.4
PAIG	Paliouri	4.00	322	P	Pn	08 12 04.0	+1.4
ITM	Ithomi	4.01	276	eP	Pn	08 12 03.8	+1.0
ITM	Ithomi	4.01	276	P	Pn	08 12 03.9	+1.1
ITM				S	Sn	08 12 49.8	-0.4
ITM	Ithomi	4.01	276	P	Pn	08 12 03.9	+1.1
ITM				S	Sn	08 12 49.8	-0.4
GEMT	Gemlik	4.01	26	ePN	Pn	08 12 04.0	+1.1
GEMT	Gemlik	4.01	26	ePn	Pn	08 12 04.0	+1.1
ARMT	Armutlu	4.03	22	ePN	Pn	08 12 03.6	+0.6
ARMT	Armutlu	4.03	22	ePn	Pn	08 12 03.6	+0.6
IZI	Iznik	4.03	29	ePN	Pn	08 12 04.5	+1.4
IZI	Iznik	4.03	29	ePn	Pn	08 12 04.6	+1.4
FYTO	Fytoko, Volos	4.05	311	P	Pn	08 12 04.9	+1.5
FYTO	Fytoko, Volos	4.05	311	P	Pn	08 12 04.9	+1.5
CAVI	Cavuskoy	4.07	33	ePN	Pn	08 12 05.2	+1.6
CAVI	Cavuskoy	4.07	33	ePn	Pn	08 12 05.2	+1.6
KALE	Kalithea	4.10	294	eP	Pn	08 12 05.3	+1.5
KALE	Kalithea	4.10	294	P	Pn	08 12 05.3	+1.3
KALE	Kalithea	4.10	294	P	Pn	08 12 05.3	+1.3
ESKT	Eskisehir	4.10	48	ePN	Pn	08 12 06.0	+1.9
ESKT	Eskisehir	4.10	48	ePn	Pn	08 12 06.0	+1.9
ALN	Alexandroupoli	4.12	351	ePN	Pn	08 12 05.0	+0.9
ALN	Alexandroupoli	4.12	351	eP	Pn	08 12 05.1	+0.9
ALN	Alexandroupoli	4.12	351	P	Pn	08 12 04.8	+0.7
ALN	Alexandroupoli	4.12	351	P	Pn	08 12 04.8	+0.7
TRIZ	Trizonia	4.14	293	eP	Pn	08 12 06.2	+1.8
TRIZ	Trizonia	4.14	293	P	Pn	08 12 05.7	+1.2
TRIZ				S	Sn	08 12 53.1	-0.1
TRIZ	Trizonia	4.14	293	P	Pn	08 12 05.7	+1.2
TRIZ				S	Sn	08 12 53.1	-0.1
PYL	PYLOS	4.15	272	P	Pn	08 12 04.4	-0.2
PYL				S	Sn	08 12 52.0	-1.5
PYL	PYLOS	4.15	272	P	Pn	08 12 04.4	-0.2
PYL				S	Sn	08 12 52.0	-1.5
LAKA	Lakka	4.17	291	eP	Pn	08 12 06.5	+1.6
LAKA	Lakka	4.17	291	P	Pn	08 12 05.8	+0.9
LAKA	Lakka	4.17	291	P	Pn	08 12 05.8	+0.9
SERG	Sergoula	4.17	294	P	Pn	08 12 06.2	+1.3
SERG				S	Sn	08 12 53.5	-0.5
SERG	Sergoula	4.17	294	P	Pn	08 12 06.2	+1.3
SERG				S	Sn	08 12 53.5	-0.5
TKR	Tekirdag	4.18	6	ePN	Pn	08 12 07.8	+2.8
TKR	Tekirdag	4.18	6	ePn	Pn	08 12 07.8	+2.8
OUR	Ouranopolis	4.18	328	ePN	Pn	08 12 06.8	+1.7
OUR	Ouranopolis	4.18	328	eP	Pn	08 12 06.8	+1.7
OUR	Ouranopolis	4.18	328	P	Pn	08 12 06.7	+1.7
OUR	Ouranopolis	4.18	328	P	Pn	08 12 06.7	+1.7
AMT	Artemida-Makis	4.21	281	eP	Pn	08 12 07.1	+1.6
AMT	Artemida-Makis	4.21	281	P	Pn	08 12 06.7	+1.2
AMT				S	Sn	08 12 53.9	-1.2
AMT	Artemida-Makis	4.21	281	P	Pn	08 12 06.7	+1.2
AMT				S	Sn	08 12 53.9	-1.2
AGG	Agios Georgios	4.23	302	ePN	Pn	08 12 07.6	+1.9
AGG	Agios Georgios	4.23	302	eP	Pn	08 12 07.9	+2.2
AGG	Agios Georgios	4.23	302	eP	Pn	08 12 07.9	+2.2
AGG	Agios Georgios	4.23	302	ePn	Pn	08 12 07.6	+1.9
AGG	Agios Georgios	4.23	302	P	Pn	08 12 07.8	+2.1
AGG	Agios Georgios	4.23	302	ePn	Pn	08 12 07.8	+2.1
AGG	Agios Georgios	4.23	302	P	Pn	08 12 07.8	+2.1
EFP	Efpalio	4.28	293	eP	Pn	08 12 08.1	+1.8
EFP	Efpalio	4.28	293	P	Pn	08 12 07.5	+1.2
EFP	Efpalio	4.28	293	P	Pn	08 12 07.5	+1.2
DRO	Drossia	4.29	287	eP	Pn	08 12 08.6	+2.1
DRO	Drossia	4.29	287	P	Pn	08 12 08.2	+1.7
DRO	Drossia	4.29	287	P	Pn	08 12 08.2	+1.7
CRLT	Corlu	4.34	8	ePN	Pn	08 12 08.4	+1.4
CRLT	Corlu	4.34	8	ePn	Pn	08 12 08.5	+1.4
GPA	Golpazari	4.36	37	ePN	Pn	08 12 09.5	+2.2
GPA	Golpazari	4.36	37	ePn	Pn	08 12 09.5	+2.2
MAKR	Makrakomi, Fth	4.36	301	eP	Pn	08 12 09.6	+2.2
MAKR	Makrakomi, Fth	4.36	301	eP	Pn	08 12 09.6	+2.2
GAZI	Gazipasa	4.39	96	i P	Pn	08 12 07.0	-0.8
GAZI				i S	Sn	08 12 54.2	-4.9
GAZI	Gazipasa	4.39	96	i P	Pn	08 12 07.0	-0.8
KIZT	Kizilcal	4.43	61	ePN	Pn	08 12 09.8	+1.4
KIZT	Kizilcal	4.43	61	ePn	Pn	08 12 09.8	+1.4
PLG	Polygyros	4.46	324	eP	Pn	08 12 09.7	+1.1
PLG	Polygyros	4.46	324	eP	Pn	08 12 09.7	+1.1
PLG	Polygyros	4.46	324	P	Pn	08 12 09.7	+1.1
HDMB	Hadim	4.47	87	ePN	Pn	08 12 10.2	+1.2
HDMB	Hadim	4.47	87	ePn	Pn	08 12 10.2	+1.2
SVRH	Sivrihisar-ESK	4.47	53	ePN	Pn	08 12 09.8	+0.9
SVRH	Sivrihisar-ESK	4.47	53	ePn	Pn	08 12 09.8	+0.9
KONT	Konya--Tatoy	4.48	74	ePN	Pn	08 12 10.4	+1.5
KONT	Konya--Tatoy	4.48	74	ePn	Pn	08 12 10.4	+1.5
RLS	Riolos of Patr	4.50	287	eP	Pn	08 12 11.6	+2.4
RLS	Riolos of Patr	4.50	287	P	Pn	08 12 10.9	+1.7
RLS	Riolos of Patr	4.50	287	P	Pn	08 12 10.9	+1.7
HRT	Hereke	4.53	28	ePN	Pn	08 12 10.4	+0.8
HRT	Hereke	4.53	28	ePn	Pn	08 12 10.4	+0.8
EVR	Evrytania	4.54	299	eP	Pn	08 12 11.5	+1.7
EVR	Evrytania	4.54	299	eP	Pn	08 12 11.5	+1.7
EVR	Evrytania	4.54	299	P	Pn	08 12 11.5	+1.7
ISK	Istanbul-Kandi	4.55	21	ePN	Pn	08 12 10.1	+0.4
ISK	Istanbul-Kandi	4.55	21	ePn	Pn	08 12 10.1	+0.4
ISK	Istanbul-Kandi	4.55	21	P	Pn	08 12 09.9	+0.2
KAVA	Kavala	4.56	336	eP	Pn	08 12 11.4	+1.5
KAVA	Kavala	4.56	336	P	Pn	08 12 11.3	+1.4
KAVA	Kavala	4.56	336	P	Pn	08 12 11.3	+1.4
GULT	Gulveren	4.57	37	ePN	Pn	08 12 11.7	+1.6
GULT	Gulveren	4.57	37	ePn	Pn	08 12 11.7	+1.6
CTKS	Kestanelik-??a	4.57	15	ePN	Pn	08 12 10.8	+0.8
CTKS	Kestanelik-??a	4.57	15	ePn	Pn	08 12 10.8	+0.8
SPNC	Sapanca-Adapaz	4.67	34	ePN	Pn	08 12 13.2	+1.8
SPNC	Sapanca-Adapaz	4.67	34	ePn	Pn	08 12 13.2	+1.8
VTN	Vitineika	4.69	285	P	Pn	08 12 13.3	+1.7
VTN	Vitineika	4.69	285	P	Pn	08 12 13.3	+1.7
KLYT	Kilyos	4.71	20	ePN	Pn	08 12 12.4	+0.5
KLYT	Kilyos	4.71	20	ePn	Pn	08 12 12.4	+0.5
THL	Klokotos Trika	4.73	307	eP	Pn	08 12 13.8	+1.7
THL	Klokotos Trika	4.73	307	P	Pn	08 12 13.5	+1.4
THL	Klokotos Trika	4.73	307	P	Pn	08 12 13.5	+1.4
AKMC	Akamas	4.75	111	i P	Pn	08 12 11.3	-1.2
	baz=298						
AKMC	Akamas	4.75	111	i P	Pn	08 12 11.3	-1.2
CTYL	Yal??k??y-??at	4.76	13	ePN	Pn	08 12 13.2	+0.7
CTYL	Yal??k??y-??at	4.76	13	ePn	Pn	08 12 13.2	+0.7
LIT	Litokhoron	4.76	315	eP	Pn	08 12 14.1	+1.5
LIT	Litokhoron	4.76	315	P	Pn	08 12 13.9	+1.3
LIT	Litokhoron	4.76	315	P	Pn	08 12 13.9	+1.3
HORT	Hortiatis	4.80	323	ePN	Pn	08 12 14.9	+1.8
HORT	Hortiatis	4.80	323	eP	Pn	08 12 14.9	+1.8
HORT	Hortiatis	4.80	323	P	Pn	08 12 14.8	+1.7
HORT	Hortiatis	4.80	323	P	Pn	08 12 14.8	+1.7
SILT	Sile	4.81	25	ePN	Pn	08 12 14.3	+1.2
SILT	Sile	4.81	25	ePn	Pn	08 12 14.3	+1.2
PHSR	Pinarhisar	4.81	5	ePN	Pn	08 12 14.8	+1.6
PHSR	Pinarhisar	4.81	5	ePn	Pn	08 12 14.8	+1.6
PPCY	Paphos	4.82	112	P	Pn	08 12 12.2	-1.1
	baz=299						
PPCY	Paphos	4.82	112	P	Pn	08 12 12.2	-1.1
SOH	Sokhos	4.86	326	eP	Pn	08 12 15.9	+2.1
SOH	Sokhos	4.86	326	P	Pn	08 12 15.8	+2.0
SOH	Sokhos	4.86	326	P	Pn	08 12 15.8	+2.0
PDO	Prodromos	4.87	293	eP	Pn	08 12 15.7	+1.7
PDO	Prodromos	4.87	293	P	Pn	08 12 15.3	+1.3
PDO				S	Sn	08 13 08.6	-1.8
PDO	Prodromos	4.87	293	P	Pn	08 12 15.3	+1.3
PDO				S	Sn	08 13 08.6	-1.8
THE	Thessaloniki	4.89	322	eP	Pn	08 12 16.1	+1.9
THE	Thessaloniki	4.89	322	eP	Pn	08 12 16.1	+1.9
THE	Thessaloniki	4.89	322	P	Pn	08 12 16.1	+1.9
ALFC	Alevga	4.90	108	P	Pn	08 12 12.9	-1.6
	baz=296						
ALFC				S	Sn	08 13 07.8	-3.4
ALFC	Alevga	4.90	108	P	Pn	08 12 12.9	-1.6
ALFC				S	Sn	08 13 07.8	-3.4
MDUB	Mudurnu	4.94	41	ePN	Pn	08 12 17.0	+2.0
MDUB	Mudurnu	4.94	41	ePn	Pn	08 12 17.0	+2.0
KDZ	Kurdzhali	4.95	347	i P	Pn	08 12 16.2	+1.2
KDZ	Kurdzhali	4.95	347	i P	Pn	08 12 16.2	+1.2
ZKS	Zakynthos	4.96	282	P	Pn	08 12 14.7	-0.5
ZKS	Zakynthos	4.96	282	P	Pn	08 12 14.7	-0.5
SRS	Serrai	5.00	330	eP	Pn	08 12 17.4	+1.7
SRS	Serrai	5.00	330	P	Pn	08 12 17.2	+1.5
SRS	Serrai	5.00	330	P	Pn	08 12 17.2	+1.5
EDRB	Edirne

PHP	Peshkopia	6.98	316	P		Pn	08 12 42.9	+1.1
CEYT	Ceyhan	7.08	86	ePN		Pn	08 12 44.0	+0.9
CEYT	Ceyhan	7.08	86	ePn		Pn	08 12 44.0	+0.9
TIR	Tirane	7.10	312	eP		Pn	08 12 43.8	+0.5
TIR				e			08 14 03.0	
TIR	Tirane	7.10	312	eP		Pn	08 12 43.8	+0.5
TIR				eS		Sn	08 14 03.0	-0.1
TIR	Tirane	7.10	312	ePn		Pn	08 12 43.8	+0.5
TIR				eSn		Sn	08 14 03.0	-0.1
TIR	Tirane	7.10	312	P		Pn	08 12 44.0	+0.7
KOZT	Kozan	7.15	82	ePN		Pn	08 12 44.4	+0.4
KOZT	Kozan	7.15	82	ePn		Pn	08 12 44.4	+0.4
BARS	Barje	7.15	328	ePn		Pn	08 12 44.6	+0.6
YOZ	Yozgat	7.18	64	ePN		Pn	08 12 46.7	+2.0
YOZ	Yozgat	7.18	64	ePn		Pn	08 12 46.7	+2.0
MSAB	Monastry St. A	7.28	5	⇓iP		Pn	08 12 46.1	+0.4
MSAB	Monastry St. A	7.28	5	⇓iP		Pn	08 12 46.1	+0.4
TAHT	Tahtakopru-Hat	7.47	91	ePN		Pn	08 12 48.1	-0.2
TAHT	Tahtakopru-Hat	7.47	91	ePn		Pn	08 12 48.1	-0.2
BZK	Bozkurt	7.50	45	ePN		Pn	08 12 50.1	+1.4
BZK	Bozkurt	7.50	45	ePn		Pn	08 12 50.1	+1.4
BYBT	Boyabat	7.66	50	ePN		Pn	08 12 50.8	+0.1
BYBT	Boyabat	7.66	50	ePn		Pn	08 12 50.8	+0.1
SWA2		7.67	190	P		Pn	08 12 49.6	-1.3
	baz=190							
SWA2				S		Sn	08 14 10.1	-6.8
	baz=190							
SWA2		7.67	190	P		Pn	08 12 49.6	-1.3
NAQL	Naqoura	7.70	116	eP		Pn	08 12 49.6	-1.8
NAQL	Naqoura	7.70	116	eP		Pn	08 12 49.6	-1.8
TIRR	Tirgusor	7.70	8	ePN		Pn	08 12 51.2	0.0
TIRR	Tirgusor	7.70	8	eP		Pn	08 12 50.4	-0.9
TIRR	Tirgusor	7.70	8	⇑iP		Pn	08 12 50.7	-0.6
TIRR	Tirgusor	7.70	8	⇑iP		Pn	08 12 50.7	-0.6
TIRR	Tirgusor	7.70	8	ePn		Pn	08 12 51.3	0.0
TIRR	Tirgusor	7.70	8	ePn		Pn	08 12 50.4	-0.9
BHL	Bhannes	7.71	110	eP		Pn	08 12 48.9	-2.8
DQRL	Deir Qamar	7.74	111	eP		Pn	08 12 49.6	-2.3
DQRL	Deir Qamar	7.74	111	eP		Pn	08 12 49.7	-2.3
HWQ	Hawqa	7.79	106	eP		Pn	08 12 51.3	-1.4
HWQ	Hawqa	7.79	106	eP		Pn	08 12 51.3	-1.4
HNAT	Natroun	7.82	156	P		Pn	08 12 51.7	-1.3
	baz=156							
HNAT	Natroun	7.82	156	P		Pn	08 12 51.7	-1.3
HUMR	Humele	7.83	350	⇑iP		Pn	08 12 53.2	+0.3
HUMR	Humele	7.83	350	⇑iP		Pn	08 12 53.2	+0.3
ULC	Ulcinj	7.84	313	⇑iPn		Pn	08 12 52.5	-0.7
ULC				eSn		Sn	08 14 18.8	-2.1
ULC	Ulcinj	7.84	313	⇑iPn		Pn	08 12 52.5	-0.7
BIDA	Albida	7.84	101	eP		Pn	08 12 51.8	-1.5
PVY	Plav	7.86	319	⇓iPn		Pn	08 12 55.5	+1.9
PVY				eSn		Sn	08 14 19.9	-1.7
HLW	Helwan	7.88	151	P		Pn	08 12 52.7	-1.1
	baz=151							
HLW	Helwan	7.88	151	P		Pn	08 12 52.7	-1.1
HARR	Harsova	7.89	5	⇓iP		Pn	08 12 53.3	-0.4
HARR	Harsova	7.89	5	⇓iP		Pn	08 12 53.3	-0.4
MMAI	Mount Meron Ar	7.94	116	P		Pn	08 12 53.2	-1.4
	comp=Z,484nm,0.3s,baz=306,slow=11,SNR=823							
MMAI				S		Sn	08 14 18.3	-5.2
	comp=Z,322nm,0.3s,baz=308,slow=26,SNR=12							
BOLS	Boljevac	7.95	333	ePn		Pn	08 12 54.2	-0.4
KMRS	Kahramanmaras	8.00	82	ePN		Pn	08 12 56.7	+1.3
KMRS	Kahramanmaras	8.00	82	ePn		Pn	08 12 56.7	+1.3
DRME	Dracevica, Mon	8.02	314	⇓iPn		Pn	08 12 55.8	+0.3
DRME				eSn		Sn	08 14 23.3	-1.8
DRME	Dracevica, Mon	8.02	314	⇓iPn		Pn	08 12 55.8	+0.3
DRME				eSn		Sn	08 14 23.3	-1.8
KOT	Kottamia	8.02	148	P		Pn	08 12 54.4	-1.3
	baz=148							
KOT	Kottamia	8.02	148	P		Pn	08 12 54.4	-1.3
DIKM	Dikmen	8.06	51	ePN		Pn	08 12 56.4	+0.3
DIKM	Dikmen	8.06	51	ePn		Pn	08 12 56.4	+0.3
BEY	Berane	8.09	320	⇓iPn		Pn	08 12 58.1	+1.5
IVA	Berane	8.09	320	⇓iPn		Pn	08 12 58.1	+1.5
IVA				eSn		Sn	08 14 30.6	+3.6
AMAG	Maghara	8.10	138	P		Pn	08 12 55.3	-1.4
	baz=138							
AMAG	Maghara	8.10	138	P		Pn	08 12 55.3	-1.4
HHAG	Hagoal	8.11	146	P		Pn	08 12 55.9	-1.0
	baz=146							
HHAG	Hagoal	8.11	146	P		Pn	08 12 55.9	-1.0
PDG	Podgorica	8.13	316	⇑iPn		Pn	08 12 57.2	+0.2
PDG				eSn		Sn	08 14 26.4	-1.4
PDG	Podgorica	8.13	316	P		Pn	08 12 57.0	0.0
TTG	Podgorica	8.13	316	⇑iPn		Pn	08 12 57.2	+0.2
TTG				eSn		Sn	08 14 26.4	-1.4
RSH		8.14	134	P		Pn	08 12 56.0	-1.3
	baz=134							
RSH		8.14	134	P		Pn	08 12 56.0	-1.3
BRBR	Barbar	8.15	112	iP		Pn	08 12 56.7	-0.9
HSAF	As Saff	8.18	150	P		Pn	08 12 56.5	-1.2
	baz=150							
HSAF	As Saff	8.18	150	P		Pn	08 12 56.5	-1.2
SECR		8.22	356	⇓iP		Pn	08 12 59.1	+0.9
SECR		8.22	356	⇓iP		Pn	08 12 59.1	+0.9
BUM	Brajici-Budva	8.26	314	⇑iPn		Pn	08 12 58.2	-0.5
BUM				eSn		Sn	08 14 29.4	-1.5
BUM	Brajici-Budva	8.26	314	⇑iPn		Pn	08 12 58.2	-0.5
BUM				eSn		Sn	08 14 29.4	-1.5
KVT	Kavak	8.28	56	ePN		Pn	08 13 00.6	+1.5
KVT	Kavak	8.28	56	ePn		Pn	08 13 00.6	+1.5
SRE	Strehaia	8.31	341	⇓iP		Pn	08 13 00.2	+0.8
SRE	Strehaia	8.31	341	⇓iP		Pn	08 13 00.2	+0.8
QASN	Qassioun	8.34	110	iP		Pn	08 12 59.4	-0.5
TIP	Timpagrande	8.35	289	ePn		Pn	08 12 58.2	-1.8
TIP				eSn		Sn	08 14 24.0	-9.2
TIP	Timpagrande	8.35	289	ePn		Pn	08 12 58.2	-1.8
TIP				eSn		Sn	08 14 24.1	-9.2
CFR	Carcaliu	8.39	6	⇑iP		Pn	08 13 00.1	-0.2
CFR	Carcaliu	8.39	6	⇑iP		Pn	08 13 00.1	-0.2
TLCR		8.47	9	⇑iP		Pn	08 13 01.6	+0.2
TLCR		8.47	9	⇑iP		Pn	08 13 01.6	+0.2
GRUS	Gruza	8.49	328	ePn		Pn	08 13 02.6	+0.9
IVAS	Ivanjica	8.49	325	ePn		Pn	08 13 03.0	+1.2
NKME	Niksic	8.52	317	⇑iPn		Pn	08 13 02.3	+0.1
NKME				eSn		Sn	08 14 35.8	-1.4
NKME	Niksic	8.52	317	⇑iPn		Pn	08 13 02.3	+0.1
NKME				eSn		Sn	08 14 35.8	-1.4
TCHB	Talchebab	8.53	116	iP		Pn	08 12 58.0	-4.3
NKY	Niksic	8.53	317	⇑iPn		Pn	08 13 02.7	+0.3
NKY				eSn		Sn	08 14 35.6	-1.9
NKY	Niksic	8.53	317	⇑iPn		Pn	08 13 02.7	+0.3
NKY				eSn		Sn	08 14 35.6	-1.9
TOTH	TOTAH	8.53	111	iP		Pn	08 12 58.4	-4.0
SUZ		8.55	143	P		Pn	08 13 01.6	-1.1
	baz=143							
SUZ		8.55	143	P		Pn	08 13 01.6	-1.1
HCY	Herceg Novi	8.58	313	⇑iPn		Pn	08 13 02.0	-0.9
HCY				eSn		Sn	08 14 36.9	-1.6
HCY	Herceg Novi	8.58	313	⇑iPn		Pn	08 13 02.0	-0.9
HCY				eSn		Sn	08 14 36.9	-1.6
AWBH		8.65	168	P		Pn	08 13 02.9	-1.1
	baz=168							
AWBH		8.65	168	P		Pn	08 13 02.9	-1.1
PLE	Pljevlja	8.68	321	⇑iPn		Pn	08 13 05.6	+1.2
PLE				eSn		Sn	08 14 39.5	-1.6
PLE	Pljevlja	8.68	321	⇑iPn		Pn	08 13 05.6	+1.2
PLE				eSn		Sn	08 14 39.5	-1.6
MLR	Muntele Rosu	8.68	355	P		Pn	08 13 05.3	+0.9
	comp=Z,0.2nm,0.3s,baz=177,slow=5.2,SNR=76							
MLR	Muntele Rosu	8.68	355	⇑iP		Pn	08 13 05.6	+1.2
ARR	Arges	8.70	349	⇓iP		Pn	08 13 04.9	+0.3
ARR	Arges	8.70	349	⇓iP		Pn	08 13 04.9	+0.3
VOIR		8.71	351	⇑iP		Pn	08 13 05.0	+0.3
VOIR		8.71	351	⇑iP		Pn	08 13 05.0	+0.3
BRIY	Bratogost	8.84	316	⇑iPn		Pn	08 13 06.0	-0.5
BRY				eSn		Sn	08 14 43.3	-1.7
BRY	Bratogost	8.84	316	⇑iPn		Pn	08 13 06.0	-0.5
BRY				eSn		Sn	08 14 43.3	-1.7
UPM	Unac-Piva	8.84	318	⇑iPn		Pn	08 13 07.5	+0.9
UPM				eSn		Sn	08 14 44.2	-0.9
UPM	Unac-Piva	8.84	318	⇑iPn		Pn	08 13 07.5	+0.9
UPM				eSn		Sn	08 14 44.2	-0.9
TRUS	Trudelj	8.89	328	⇑iPn		Pn	08 13 07.0	0.0
RSDY	Resadiye-TOKAT	8.89	63	ePN		Pn	08 13 08.9	+1.8
RSDY	Resadiye-TOKAT	8.89	63	ePn		Pn	08 13 08.9	+1.8
DIVS	Divibare	8.97	326	⇑iP		Pn	08 13 08.9	+0.7
DIVS	Divibare	8.97	326	⇑iPn		Pn	08 13 08.8	+0.6
PLOR	Plostina	9.01	359	⇓iP		Pn	08 13 09.5	+0.8
PLOR	Plostina	9.01	359	⇓iP		Pn	08 13 09.5	+0.8
VRI	Vrincioaia	9.03	359	ePN		Pn	08 13 06.3	-2.6
VRI	Vrincioaia	9.03	359	⇑iP		Pn	08 13 09.7	+0.9
VRI	Vrincioaia	9.03	359	⇑iP		Pn	08 13 09.7	+0.9
SALA	Sala	9.06	114	iP		Pn	08 13 11.2	+1.7
HNKL	Nakhl	9.07	137	S		Sn	08 14 43.8	-6.8
	baz=137							
DOPR	Dopca	9.20	353	⇑iP		Pn	08 13 11.5	+0.4
DOPR	Dopca	9.20	353	⇑iP		Pn	08 13 11.5	+0.4
MALT	Malatya	9.26	77	ePN		Pn	08 13 13.8	+1.8
MALT	Malatya	9.26	77	⇓iP		Pn	08 13 14.0	+1.9
MALT	Malatya	9.26	77	ePn		Pn	08 13 13.9	+1.8
CUC	Castrocucco	9.27	293	ePn		Pn	08 13 11.1	-1.0
CUC	Castrocucco	9.27	293	ePn		Pn	08 13 11.1	-1.0
STON	Ston	9.30	313	P		Pn	08 13 12.2	-2.3
STON	Ston	9.30	313	ePn		Pn	08 13 12.4	-0.1
STON				Sn		Sn	08 14 52.7	-3.1
STON	Ston	9.30	313	ePn		Pn	08 13 12.3	-0.1
JHLN	Al Jahlan	9.38	94	eP		Pn	08 13 10.7	-2.9
ZALF	Zalf	9.41	111	iP		Pn	08 13 10.2	-3.8
ASF	Jabal al Asfar	9.46	117	P		Pn	08 13 15.3	+0.5
	comp=Z,74nm,0.3s,baz=262,slow=5.0,SNR=376							
ASF				S		Sn	08 14 59.8	-0.1
	comp=Z,10nm,0.3s,baz=348,slow=14,SNR=3.2							
TEKS	Tekeris	9.53	326	ePn		Pn	08 13 16.1	+0.6
BZS	Buzias	9.64	337	ePN		Pn	08 13 16.8	-0.1
BZS	Buzias	9.64	337	⇓iP		Pn	08 13 17.6	+0.7
BZS	Buzias	9.64	337	ePn		Pn	08 13 16.8	-0.1
BZS	Buzias	9.64	337	⇓iP		Pn	08 13 17.6	+0.7
TESR	Tescani	9.67	359	⇓iP		Pn	08 13 17.4	+0.1
TESR	Tescani	9.67	359	⇓iP		Pn	08 13 17.4	+0.1
SIM	Simferopol'	9.77	32	deP		Pn	08 13 17.4	-1.2
SIM				pmax	pmax			
	comp=Z,388nm,1.8s							
SIM	Simferopol'	9.77	32	eP		Pn	08 13 17.4	-1.2
	comp=Z,388nm,1.8s							
KSRV	Kasrt alli	9.80	92	eP		Pn	08 13 16.5	-2.7
EIL	Elat	9.81	134	P		Pn	08 13 17.3	-2.0
	comp=Z,69nm,0.3s,baz=315,slow=3.5,SNR=278							
EIL				S		Sn	08 15 01.3	-7.0
	comp=Z,62nm,0.3s,baz=357,slow=16,SNR=9.4							
FGSL	Fruska Gora	9.89	329	ePn		Pn	08 13 20.5	+0.2
MNKR	ALMNKUR	10.00	91	eP		Pn	08 13 18.8	-3.0
WDD	Wield Dalam	10.04	268	eP		Pn	08 13 19.6	-2.7
WDD	Wield Dalam	10.04	268	ePn		Pn	08 13 19.6	-2.7
SIRR	Siria	10.21	339	⇓iP		Pn	08 13 26.3	+1.9
KIS	Kishinev	10.26	7	⇓iP		Pn	08 13 24.0	-1.0
	comp=Z,600nm,2.0s							
KIS	Kishinev	10.26	7	κ iP		Pn	08 13 24.0	-1.0
KIS				e			08 15 20.0	
KIS				pmax	pmax			
	comp=N,500nm,2.0s							
KIS				pmax	pmax			
	comp=Z,600nm,2.0s							
KIS				pmax	pmax			
	comp=N,1μm,3.0s							
KIS				pmax	pmax			
	comp=Z,900nm,3.0s							
KIS	Kishinev	10.26	7	iP		Pn	08 13 24.0	-1.0
KIS				eS		S	08 15 20.0	+0.4
DRGR		10.43	344	⇓iP		Pn	08 13 28.5	+1.1
DRGR		10.43	344	⇓iP		Pn	08 13 28.5	+1.1
GUMT	Gumushane	10.47	66	ePN		Pn	08 13 30.7	+2.7
GUMT	Gumushane	10.47	66	ePn		Pn	08 13 30.7	+2.7
MAZI	Mazidag	10.82	83	ePN		Pn	08 13 34.6	+2.0
MAZI	Mazidag	10.82	83	ePn		Pn	08 13 34.6	+2.0
KTUT	Trabzon	10.84	64	ePN		Pn	08 13 36.2	+3.5
BURAR	Bucovina Array	10.85	354	⇓iP		Pn	08 13 34.5	+1.7
BURAR	Bucovina Array	10.85	354	⇓iP		Pn	08 13 34.5	+1.7
BUR08	Bucovina Ar. S	10.88	354	ePn		Pn	08 13 33.9	+0.7
BUR08	Bucovina Ar. S	10.88	354	ePn		Pn	08 13 33.9	+0.7
BAYT	Ayd¯–ntepe-Bay	10.94	67	ePN		Pn	08 13 37.4	+3.2
CLTB	Caltabellotta	10.95	278	ePn		Pn	08 13 33.8	-0.5
CLTB	Caltabellotta	10.95	278	ePn		Pn	08 13 33.8	-0.5
BNGB	Bing¯ll	11.09	75	ePN		Pn	08 13 38.8	+2.7
HHRG	Al Ghardaqah	11.12	148	P		Pn	08 13 37.3	+0.9
	baz=148							
HHRG	Al Ghardaqah	11.12	148	P		Pn	08 13 37.3	+0.9
PKSM	Moragy	11.23	329	⇓iP		Pn	08 13 37.6	-0.1
PKSM	Moragy	11.23	329	⇓iP		Pn	08 13 37.6	-0.1
PKSM	Moragy	11.23	329	ePn		Pn	08 13 37.2	-0.5
ANN	Anapa	11.26	42	diP		Pn	08 13 37.2	-0.8
ANN				eS		Sn	08 15 42.3	-0.4
ANN				pmax	pmax			
	comp=Z,251nm,1.2s							
ANN	Anapa	11.26	42	iP		Pn	08 13 37.2	-0.8
	comp=Z,251nm,1.2s							
ANN				eS		Sn	08 15 42.3	-0.4
SORM	Soroca	11.35	5	⇑iP		P	08 13 47.4	+1.1
UDBI	Udbina	11.43	316	P		Pn	08 13 39.8	-0.6
UDBI	Udbina	11.43	316	ePn		Pn	08 13 40.9	+0.5
UDBI				Sn		Sn	08 15 46.0	-0.9
UDBI	Udbina	11.43	316	iP		Pn	08 13 40.8	-0.6
UDBI	Udbina	11.43	316	ePn		Pn	08 13 40.8	+0.5
UDBI				Sn		Sn	08 15 46.0	-0.9
VRTB	Varto-Mus	11.71	74	ePN		Pn	08 13 47.1	+3.0
VRTB	Varto-Mus	11.71	74	ePn		Pn	08 13 47.1	+3.0
AQU	L'Aquila	11.79	302	eP		Pn	08 13 45.8	+0.8
AQU	L'Aquila	11.79	302	eP		Pn	08 13 45.8	+0.8
AQU	L'Aquila	11.79	302	ePn		Pn	08 13 45.8	+0.8
SOC	Sochi	11.88	51	diP		Pn	08 13 46.1	0.0
SOC				e			08 15 58.5	
SOC				pmax	pmax			
	comp=Z,203nm,0.9s							
SOC	Sochi	11.88	51	eS		Sn	08 15 58.5	+0.8
NVLJ	Novalja	11.96	314	P		Pn	08 13 45.5	-1.5
NVLJ	Novalja	11.96	314	ePn		Pn	08 13 46.2	-0.9
NVLJ				Sn		Sn	08 15 57.1	-2.4
NVLJ	Novalja	11.96	314	ePn		Pn	08 13 46.2	-0.9
BUD	Budapest	12.14	334	⇑ePn		Pn	08 13 49.7	+0.3
PSZ	Piszkesteto	12.23	337	eP		Pn	08 13 51.3	+0.7
PSZ	Piszkesteto	12.23	337	⇑iP		Pn	08 13 51.5	+0.9
PSZ	Piszkesteto	12.23	337	ePn		Pn	08 13 51.3	+0.7
PSZ	Piszkesteto	12.23	337	ePn		Pn	08 13 51.3	+0.7
PSZ	Piszkesteto	12.23	337	⇑ePn		Pn	08 13 50.4	-0.2
BEHE	Becsehely	12.24	325	⇑ePn		Pn	08 13 50.2	-0.6
UZH	Uzhgorod	12.27	345	eP		P	08 13 54.2	-2.3
UZH				eS		Sn	08 16 11.2	+4.3
UZH	Uzhgorod	12.27	345	eP		P	08 13 54.2	-2.3
CSKK	Cs¯‡kako	12.32	331	ePn		Pn	08 13 51.2	-0.6
PKST	T¯'s	12.32	330	⇑ePn		Pn	08 13 51.8	0.0
CRES	Cresnjev	12.43	320	eP		Pn	08 13 52.2	-1.1
KOLS	Kolonicke sedl	12.56	346	eP		P	08 13 58.8	-1.0
KOLS	Kolonicke sedl	12.56	346	eP		P	08 13 58.8	-1.0
KOLS	Kolonicke sedl	12.56	346	eP		P	08 13 58.8	-1.0
KECS	Kecovo	12.56	340	eP		Pn	08 13 55.9	+1.0
KECS	Kecovo	12.56	340	eP		Pn	08 13 55.9	+1.0
KECS	Kecovo	12.56	340	ePN		Pn	08 13 55.9	+1.0
VISS	Visnje	12.74	318	eP		Pn	08 13 56.1	-1.1
VISS				eS		S	08 16 29.7	+1.9
AGRB	Hanur-Agry	12.94	73	ePN		P	08 14 03.8	-0.5
CHVG	Ch'k'valeri	13.06	59	P		P	08 14 03.4	-2.0
CHVG	Ch'k'valeri	13.06	59	⇑iP		P	08 14 03.4	-2.0
CHVG	Ch'k'valeri	13.06	59	P		P	08 14 03.4	-2.0
LJU	Ljubljana	13.06	319	eP		Pn	08 14 00.0	-1.3
LJU				eS		S	08 16 36.0	+1.3
LVV	L'vov	13.15	352	eP		P	08 14 08.0	+1.7
LVV	L'vov	13.15	352	eP		P	08 14 08.0	+1.7
KWP	Kalwaria Pacla	13.15	348	eP		P	08 14 09.2	+2.8
KWP				eS		S	08 16 44.6	+8.1
KWP	Kalwaria Pacla	13.15	348	eP		P	08 14 09.2	+2.8
KWP	Kalwaria Pacla	13.15	348	eP		P	08 14 09.2	+2.8
PERS	Pernice	13.16	322	eP		Pn	08 14 01.8	-0.7
KARS	Kars	13.16	68	ePN		P	08 14 06.6	-0.3
SOKA	Soboth	13.23	322	Pn		Pn	08 14 02.8	-0.7
	comp=Z,106nm,0.7s,SNR=134							
SOKA	Soboth	13.23	322	⇓iPn		Pn	08 14 02.8	-0.7
	comp=Z,106nm,0.7s,SNR=134							
SOP	Sopron	13.27	328	⇑eSKPdf		Pn	08 14 04.0	+0.2
TRI	Trieste	13.27	316	eP		Pn	08 14 03.8	-0.1
TRI	Trieste	13.27	316	ePn		Pn	08 14 03.8	-0.1
TRI	Trieste	13.27	316	ePn		Pn	08 14 03.8	-0.1
CUKT	Cukurca	13.35	83	ePN		P	08 14 07.8	-1.0
CUKT	Cukurca	13.35	83	ePn		P	08 14 07.8	-1.0
OBKA	Obir	13.36	320	Pn		Pn	08 14 04.0	-1.1
	comp=Z,63nm,0.6s,SNR=50							
OBKA	Obir	13.36	320	⇑iPn		Pn	08 14 04.0	-1.1
	comp=Z,63nm,0.6s,SNR=50							
ARSA	Arzberg	13.40	325	Pn		Pn	08 14 05.5	-0.1
	comp=Z,74nm,0.8s,SNR=53							
ARSA	Arzberg	13.40	325	⇑iPn		Pn	08 14 05.5	-0.1
	comp=Z,74nm,0.8s,SNR=53							
HKR	Hakkari	13.44	82	ePN		P	08 14 10.3	+0.5
NIE	Niedzica	13.46	341	eP		P	08 14 12.4	+2.6
NIE				eS		S	08 16 44.0	+0.8
NIE	Niedzica	13.46	341	eP		P	08 14 12.5	+2.6
NIE	Niedzica	13.46	341	eP		P	08 14 12.5	+2.6
NIE				eS		S	08 16 44.0	+0.8
CADS	Cadrg	13.61	318	eP		Pn	08 14 07.1	-1.1
CADS				eS		S	08 16 47.4	+1.1
CLDR	Caldiran	13.61	75	ePN		P	08 14 12.1	+0.2
AKH	Akhalkalaki	13.66	65	ePN		Pn	08 14 10.5	+1.5
AKH	Akhalkalaki	13.66	65	P		P	08 14 10.8	-1.4
AKH				S		Sn	08 16 43.1	+2.4
AKH	Akhalkalaki	13.66	65	⇑iP		P	08 14 10.9	-1.4
AKH	Akhalkalaki	13.66	65	ePn		Pn	08 14 10.5	+1.5
AKH	Akhalkalaki	13.66	65	P		P	08 14 10.8	-1.4
NEY	Neytrino	13.69	57	deP		P	08 14 11.4	-1.2
NEY	Neytrino	13.69	57	eP		P	08 14 11.4	-1.2
CONA	Conrad Observa	13.76	327	Pn		Pn	08 14 10.2	+0.1
	comp=Z,258nm,1.8s,SNR=46							
CONA	Conrad Observa	13.76	327	iPn		Pn	08 14 10.2	+0.1
	comp=Z,258nm,1.8s,SNR=46							
MYKA	Terra Mystica	13.91	319	Pn		Pn	08 14 11.5	-0.5
	comp=Z,215nm,0.8s,SNR=91							
MYKA	Terra Mystica	13.91	319	⇑iPn		Pn	08 14 11.5	-0.5
	comp=Z,215nm,0.8s,SNR=91							
KIEV	Kiev	13.96	6	diP		Pn	08 14 11.3	-1.1
KIEV	Kiev	13.96	6	ePn		Pn	08 14 12.1	-0.4
KIEV				eS		S	08 16 53.0	-0.6
KIEV	Kiev	13.96	6	ePn		Pn	08 14 12.1	-0.4
KIEV				eS		S	08 16 53.0	-0.6
KIV	Kislovodsk	13.96	54	ePN		P	08 14 16.7	+1.2
KIV	Kislovodsk	13.96	54	diP		Pn	08 14 13.7	+1.1
KIV				iS		Sn	08 16 48.4	+0.7
KIV				pmax	pmax			
	comp=Z,463nm,0.6s							
KIV	Kislovodsk	13.96	54	P		P	08 14 17.7	+2.3
	comp=Z,4μm,0.7s,SNR=36							
KIV	Kislovodsk	13.96	54	ePn		P	08 14 14.1	-1.3
KIV	Kislovodsk	13.96	54	P		P	08 14 16.8	+1.4
	SNR=59							
KIV	Kislovodsk	13.96	54	⇑iP		P	08 14 16.8	+1.4
	SNR=59							
KIV	Kislovodsk	13.96	54	ePn		P	08 14 14.1	-1.3
ONI	Oni	13.96	61	P		Pn	08 14 13.7	+1.0
ONI				S		Sn	08 16 49.2	+1.4
ONI	Oni	13.96	61	P		Pn	08 14 13.7	+1.0
AKASG	Malin Array Be	13.96	6	P		Pn	08 14 10.9	-1.6
	comp=Z,8.4nm,0.3s,baz=194,slow=11,SNR=84							
AKASG				S		Sn	08 16 50.6	+3.0
	baz=190,slow=21,SNR=7.8							
AKASG				ScP		ScP	08 22 36.6

GEC2	GERESS Array S	15.40	325	eP		P	08 14	31.6	+0.2
	comp=Z,160nm,0.9s								
GEC2	GERESS Array S	15.40	325	eP		P	08 14	36.0	+4.6
GEC2	GERESS Array S	15.40	325	eP		P	08 14	31.6	+0.2
	comp=Z,160nm,0.9s								
GEC2	GERESS Array S	15.40	325	ePn		P	08 14	36.0	+4.6
GEC2	GERESS Array S	15.40	325	ePn		P	08 14	36.0	+4.6
GERES	GERESS Array B	15.40	325	P		P	08 14	31.4	0.0
	comp=Z,5.6nm,0.3s,baz=139,slow=12,SNR=470								
GERES				S		S	08 17	24.1	+0.4
	baz=143,slow=5.7,SNR=2.1								
GERES				ScP		ScP	08 22	39.8	-1.4
	comp=Z,0.4nm,0.3s,baz=157,slow=2.2,SNR=16								
WATA	Walderalm	15.46	318	Pn		P	08 14	32.5	+0.4
	comp=Z,296nm,0.7s,SNR=101								
WATA	Walderalm	15.46	318	⇓iP		P	08 14	32.5	+0.4
	comp=Z,296nm,0.7s,SNR=101								
DPC	Dobruska-Polom	15.52	334	eP		P	08 14	32.9	+0.3
DPC				eS		Sn	08 17	24.5	-0.3
DPC	Dobruska-Polom	15.52	334	eP		P	08 14	32.9	+0.3
DPC				eS		Sn	08 17	24.5	-0.3
DPC	Dobruska-Polom	15.52	334	eP		P	08 14	32.9	+0.3
BEL	Belsk	15.62	346	eP		P	08 14	35.1	+1.4
BEL				eS		S	08 17	29.9	+2.4
BEL	Belsk	15.62	346	eP		P	08 14	35.2	+1.5
BEL	Belsk	15.62	346	eP		P	08 14	35.2	+1.5
BEL				eS		S	08 17	30.0	+2.4
ABSA	Djebel Ababsia	15.63	274	P		P	08 14	35.1	+1.0
ABSA	Djebel Ababsia	15.63	274	P		P	08 14	35.1	+1.0
CMAH	Djebel Manchou	15.64	275	P		P	08 14	34.7	+0.6
CMAH	Djebel Manchou	15.64	275	P		P	08 14	34.7	+0.6
KHC	Kasperske Hory	15.66	326	eP		P	08 14	34.7	+0.4
KHC				eS		Sn	08 17	26.2	-2.2
KHC	Kasperske Hory	15.66	326	eP		P	08 14	34.6	+0.3
KHC				pmax		pmax			
	comp=Z,93nm,1.0s								
KHC	Kasperske Hory	15.66	326	eP		P	08 14	34.6	+0.3
	comp=Z,93nm,1.0s								
KHC	Kasperske Hory	15.66	326	eP		P	08 14	34.6	+0.3
	comp=Z,94nm,1.0s								
MOTA	Moosalm	15.72	317	Pn		P	08 14	35.8	+0.8
	comp=Z,121nm,0.5s,SNR=94								
MOTA	Moosalm	15.72	317	⇓iP		P	08 14	35.8	+0.8
	comp=Z,121nm,0.5s,SNR=94								
FETA	Feichten	15.74	315	Pn		P	08 14	36.5	+1.2
	comp=Z,391nm,1.0s,SNR=241								
FETA	Feichten	15.74	315	⇑iP		P	08 14	36.5	+1.2
	comp=Z,391nm,1.0s,SNR=241								
GOPC	GO Pecny, Ondr	15.74	330	eP		P	08 14	34.9	-0.2
GOPC				eS		S	08 17	26.6	-3.4
GOPC	GO Pecny, Ondr	15.74	330	P		P	08 14	34.9	-0.2
UPC	Upice	15.76	334	eP		P	08 14	36.0	+0.8
UPC	Upice	15.76	334	eP		P	08 14	36.0	+0.8
UPC	Upice	15.76	334	eP		P	08 14	36.0	+0.8
FUORN	Ofenpass-Fuorn	15.79	313	ePn		P	08 14	36.7	+0.8
FUORN	Ofenpass-Fuorn	15.79	313	ePn		P	08 14	36.7	+0.8
PRU	Pruhonice	15.90	330	eP		P	08 14	37.1	+0.3
PRU				eS		S	08 17	31.4	-1.7
PRU	Pruhonice	15.90	330	eP		P	08 14	37.1	+0.3
PRU				eS		S	08 17	31.4	-1.7
PRU	Pruhonice	15.90	330	eP		P	08 14	37.1	+0.3
IBST	Bostanabad	15.93	81	eP		Pn	08 14	37.0	-0.3
IBST	Bostanabad	15.93	81	eP		Pn	08 14	37.0	-0.3
KSP	Ksiaz	15.94	335	eP		P	08 14	38.4	+1.2
KSP				eS		Sn	08 17	35.3	+0.4
KSP	Ksiaz	15.94	335	eP		P	08 14	38.5	+1.2
KSP				eS		Sn	08 17	35.4	+0.5
KSP	Ksiaz	15.94	335	eP		P	08 14	38.5	+1.2
KSP				eS		Sn	08 17	35.4	+0.5
RETA	Reutte	15.99	317	Pn		P	08 14	38.7	+0.8
	comp=Z,73nm,0.5s,SNR=76								
RETA	Reutte	15.99	317	iP		P	08 14	38.7	+0.8
	comp=Z,73nm,0.5s,SNR=76								
WET	Wettzell	15.99	325	eP		P	08 14	38.5	+0.6
	comp=Z,147nm,0.9s								
WET	Wettzell	15.99	325	eP		P	08 14	38.5	+0.6
	comp=Z,147nm,0.9s								
PRA	Prague	16.01	330	eP		P	08 14	38.6	+0.6
PRA				eS		S	08 17	34.7	-0.6
PRA	Prague	16.01	330	eP		P	08 14	38.6	+0.6
PRA				eS		S	08 17	34.7	-0.6
PRA	Prague	16.01	330	eP		P	08 14	38.6	+0.6
IHRS	Heris	16.03	79	eP		P	08 14	39.3	+0.7
IHRS	Heris	16.03	79	eP		P	08 14	39.3	+0.7
DAVOX	Davos/Dischmat	16.10	313	P		P	08 14	40.4	+1.1
	comp=Z,14nm,0.3s,baz=134,slow=11,SNR=70								
DAVOX				S		Sn	08 17	40.1	+1.2
	comp=Z,0.7nm,0.3s,baz=150,slow=20,SNR=2.2								
DAVOX				LR		LR	08 22	41.1	
	comp=Z,147nm,19.1s,baz=94,slow=44								
DAVOX				ScP		ScP	08 22	41.4	-1.2
	baz=170,slow=17								
DAVOX	Davos/Dischmat	16.10	313	P		P	08 14	40.4	+1.1
DAVOX				S		Sn	08 17	40.1	+1.2
DAVOX				ScP		ScP	08 22	41.4	-1.2
FUR	Furstenfeldbru	16.13	319	eP		P	08 14	39.8	+0.4
	comp=Z,439nm,1.1s								
FUR	Furstenfeldbru	16.13	319	eP		P	08 14	39.8	+0.4
	comp=Z,439nm,1.1s								
CKFL	Kef-Lekhel	16.22	275	P		Pn	08 14	42.1	+1.4
CKFL	Kef-Lekhel	16.22	275	P		Pn	08 14	42.1	+1.4
TUE	Stuetta	16.25	312	eP		Pn	08 14	42.3	+1.3
	comp=Z,140nm,0.6s								
TUE	Stuetta	16.25	312	eP		Pn	08 14	42.3	+1.3
	comp=Z,140nm,0.6s								
SAOF	Saorge	16.36	302	⇑eP		Pn	08 14	42.2	0.0
DAVA	Damuels	16.37	315	Pn		Pn	08 14	43.3	+0.9
	comp=Z,432nm,0.8s,SNR=138								
DAVA				Sn		S	08 17	44.2	+0.7
DAVA	Damuels	16.37	315	iPn		Pn	08 14	43.3	+0.9
	comp=Z,432nm,0.8s,SNR=138								
DAVA				⇓iS		S	08 17	44.2	+0.7
REVF	Revere	16.41	301	⇑eP		Pn	08 14	42.9	0.0
CASM	Ain Smara	16.43	274	P		Pn	08 14	44.2	+1.1
CASM	Ain Smara	16.43	274	P		Pn	08 14	44.2	+1.1
AUTN	L'Aution	16.45	302	⇑eP		Pn	08 14	43.7	+0.2
CTEI	Djebel Teioual	16.52	273	P		Pn	08 14	46.2	+1.9
CTEI	Djebel Teioual	16.52	273	P		Pn	08 14	46.2	+1.9
TOUF	Mont Tournerai	16.58	302	⇑eP		Pn	08 14	45.5	+0.5
MVIF	Mont Vial	16.61	301	⇑eP		Pn	08 14	45.5	+0.2
ROTZ	Rotzenmuhle	16.74	325	eP		Pn	08 14	46.7	0.0
	comp=Z,256nm,1.4s								
ROTZ	Rotzenmuhle	16.74	325	eP		Pn	08 14	46.7	0.0
	comp=Z,256nm,1.4s								
CALN	Calern	16.75	301	⇑eP		Pn	08 14	46.9	-0.1
VSR	Storozhevoye	16.83	27	eP		Pn	08 14	47.6	-0.1
VSR				pmax		pmax			
	comp=N,240nm,0.7s								
VSR				pmax		pmax			
	comp=E,130nm,0.7s								
VSR				pmax		pmax			
	comp=Z,390nm,0.7s								
VSR	Storozhevoye	16.83	27	eP		Pn	08 14	47.6	-0.1
BRG	Berggiesshubel	16.83	331	eP		Pn	08 14	47.8	0.0
	comp=Z,21nm,0.6s								
BRG				i			08 14	50.5	
	comp=Z,82nm,1.1s								
BRG				sP		sP	08 15	31.0	-5.4
BRG				S		S	08 17	49.0	-4.6
BRG				ePCP		PcP	08 19	27.1	+2.3
	comp=Z,13nm,1.2s								
BRG	Berggiesshubel	16.83	331	eP		ScP	08 22	42.9	-0.8
	comp=Z,6.9nm,1.1s								
BRG	Berggiesshubel	16.83	331	eP		Pn	08 14	47.7	0.0
	comp=Z,82nm,1.1s								
BRG	Berggiesshubel	16.83	331	eP		Pn	08 14	47.8	0.0
BRG				S		S	08 17	49.0	-4.6
BRG				pmax		pmax			
	comp=Z,21nm,0.6s								
BRG				pmax		pmax			
	comp=Z,13nm,1.2s								
BRG	Berggiesshubel	16.83	331	eP		Pn	08 14	47.7	0.0
	comp=Z,82nm,1.1s								
DFRA	Djebel Bou Aff	16.88	275	P		Pn	08 14	50.3	+1.7
DFRA	Djebel Bou Aff	16.88	275	P		Pn	08 14	50.3	+1.7
NKC	Novy Kostel	16.97	327	eP		Pn	08 14	49.3	-0.1
NKC	Novy Kostel	16.97	327	eP		Pn	08 14	49.3	-0.1
NKC	Novy Kostel	16.97	327	eP		Pn	08 14	49.3	-0.1
SURF	Saint Ours	17.03	303	⇑eP		P	08 14	49.6	0.0
TANN	Tannenbergstha	17.10	327	eP		Pn	08 14	50.9	-0.1
	comp=Z,151nm,1.2s								
TANN	Tannenbergstha	17.10	327	eP		Pn	08 14	50.9	-0.1
	comp=Z,151nm,1.2s								
GRA1	Grafenberg Arr	17.15	323	eP		P	08 14	51.0	+0.4
	comp=Z,270nm,1.0s								
GRF	Grafenberg Arr	17.15	323	eP		P	08 14	51.0	+0.4
	comp=Z,270nm,1.0s								
GRFO	Grafenberg	17.15	323	eP		P	08 14	51.1	+0.4
GRFO				pmax		pmax			
	comp=Z,912nm,1.8s								
GRFO	Grafenberg	17.15	323	eP		P	08 14	51.0	+0.4
	comp=Z,912nm,1.8s								
GRFO	Grafenberg	17.15	323	eP		P	08 14	51.0	+0.4
	comp=Z,912nm,1.8s								
CKHR	Kef el Ahmar	17.25	274	P		Pn	08 14	54.8	+1.8
VOR	Voronezh	17.26	26	P		Pn	08 14	53.0	+0.2
VOR				pmax		pmax			
	comp=Z,500nm,1.0s								
VOR	Voronezh	17.26	26	P		Pn	08 14	53.0	+0.2
	comp=Z,500nm,1.0s								
SET	Setif	17.31	274	P		Pn	08 14	55.0	+1.3
SET	Setif	17.31	274	P		Pn	08 14	55.0	+1.3
SUW	Suwalki	17.38	353	eP		Pn	08 14	53.8	-0.4
SUW				eS		S	08 18	05.2	+0.1
SUW	Suwalki	17.38	353	eP		Pn	08 14	53.8	-0.4
SUW				eS		S	08 18	05.2	+0.1
SUW	Suwalki	17.38	353	eP		Pn	08 14	53.8	-0.4
SUW				eS		S	08 18	05.2	+0.1
SPAK	Spaichingen-Ko	17.44	316	⇑eP		P	08 14	54.3	+0.5
SENIN	Lac Senin/Sane	17.45	309	eP		Pn	08 14	54.9	-0.5
SENIN	Lac Senin/Sane	17.45	309	eP		Pn	08 14	54.9	-0.5
LEPF	PUYLOUBIER	17.51	299	⇑eP		P	08 14	55.0	+0.4
CLL	Collm	17.54	330	eP		P	08 14	55.4	+0.6
	comp=Z,240nm,1.5s								
CLL	Collm	17.54	330	⇑iP		P	08 14	55.3	+0.5
CLL				eS		S	08 18	03.0	-5.5
CLL				pmax		pmax			
	comp=Z,244nm,1.5s								
CLL	Collm	17.54	330	eP		P	08 14	54.8	0.0
	comp=Z,336nm,1.5s								
CLL	Collm	17.54	330	eP		P	08 14	54.8	0.0
	comp=Z,336nm,1.5s								
CLL	Collm	17.54	330	⇑iP		P	08 14	55.3	+0.5
	comp=Z,244nm,1.5s								
CLL				e			08 15	07.0	
CLL				esP		sP	08 15	44.0	-0.3
CLL				eS		S	08 18	03.0	-5.5
	comp=N,600nm,36.5s								
CLL				eS		S	08 18	03.0	-5.5
	comp=E,700nm,19.3s								
CLL				e			08 19	29.0	
CLL				eScP		ScP	08 22	44.0	-1.2
CLL	Collm	17.54	330	⇑iP		ScP	08 22	44.0	-1.2
	comp=Z,12nm,1.2s								
RSL	Roselend	17.60	306	⇑eP		P	08 14	56.4	+0.7
STU	Stuttgart	17.60	318	eP		P	08 14	56.2	+0.7
	comp=Z,420nm,0.9s								
STU	Stuttgart	17.60	318	eP		Pn	08 14	56.5	-0.4
STU				pmax		pmax			
	comp=Z,385nm,0.9s								
STU	Stuttgart	17.60	318	eP		P	08 14	56.2	+0.7
	comp=Z,420nm,0.9s								
STU	Stuttgart	17.60	318	eP		Pn	08 14	56.5	-0.4
	comp=Z,385nm,0.9s								
MOX	Moxa	17.64	326	eP		P	08 14	56.6	+0.7
	comp=Z,256nm,1.2s								
MOX	Moxa	17.64	326	eP		P	08 14	56.6	+0.7
	comp=Z,256nm,1.2s								
MNK	Minsk	17.68	2	⇓eP		P	08 14	54.0	-2.3
MNK				eS		S	08 17	59.0	-12
MNK				pmax		pmax			
	comp=Z,110nm,0.5s								
MICGM	Minsk	17.68	2	⇓eP		P	08 14	54.0	-2.4
GDM	Grand'Maison	17.75	305	⇑eP		P	08 14	58.0	+0.6
FELD	Feldberg im Sc	17.76	314	⇑eP		P	08 14	57.3	-0.1
GKP	Gorka Klasztor	17.77	341	eP		Pn	08 14	59.1	+0.2
GKP				eS		S	08 18	11.8	-1.2
GKP	Gorka Klasztor	17.77	341	eP		Pn	08 14	59.1	+0.2
GKP				eS		S	08 18	11.9	-1.1
GKP	Gorka Klasztor	17.77	341	eP		Pn	08 14	59.1	+0.2
GKP				eS		S	08 18	11.9	-1.1
BFO	Black Forest	17.82	316	eP		P	08 14	58.5	+0.6
	comp=Z,280nm,1.4s								
BFO	Black Forest	17.82	316	P		P	08 14	58.7	+0.8
	comp=Z,1μm,0.7s,SNR=62								
BFO	Black Forest	17.82	316	iP		P	08 14	58.8	+0.8
BFO	Black Forest	17.82	316	eP		P	08 14	58.5	+0.6
	comp=Z,280nm,1.4s								
BFO	Black Forest	17.82	316	eP		P	08 14	58.5	+0.6
	comp=Z,142nm,0.8s								
OG01	Vacheresse	17.82	308	⇑eP		P	08 14	58.5	+0.4
BBS	Basel-Blauen	17.84	313	⇑eP		P	08 14	58.1	-0.1
NACGM	Naroch	18.07	360	eP		P	08 14	58.0	-2.6
OG26	St.-Nazaire-De	18.09	282	⇑eP		P	08 14	58.0	0.0
LIBD	Limburg	18.13	315	⇑eP		Pn	08 15	03.4	+0.2
RUE	Ruedersdorf	18.18	334	eP		P	08 15	02.6	+0.9
	comp=Z,476nm,1.2s								
RUE	Ruedersdorf	18.18	334	eP		P	08 15	02.6	+0.9
	comp=Z,476nm,1.2s								
LOMF	Lomont	18.19	312	⇑eP		P	08 15	02.3	+0.3
MOF	Molkenrain	18.25	313	⇑eP		P	08 15	02.7	0.0
KLNR	Kaliningrad	18.36	348	iP		P	08 15	04.2	+0.5
KLNR				pmax		pmax			
	comp=Z,2μm,1.4s								
KLNR	Kaliningrad	18.36	348	iP		P	08 15	04.2	+0.5
	comp=Z,2μm,1.4s								
ECH	Echery	18.42	314	eP		P	08 15	04.8	+0.3
ECH				pmax		pmax			
	comp=Z,200nm,1.3s								
ECH	Echery	18.42	314	eP		P	08 15	04.8	+0.3
	comp=Z,200nm,1.3s								
ECH	Echery	18.42	314	eP		P	08 15	04.8	+0.3
	comp=Z,200nm,1.3s								
LANF	Langenberg	18.47	317	⇑eP		P	08 15	05.8	+0.8
UBBA	Unterbreizbach	18.49	324	eP		P	08 15	03.9	-1.2
	comp=Z,110nm,1.6s								
UBBA	Unterbreizbach	18.49	324	eP		P	08 15	03.9	-1.2
	comp=Z,110nm,1.6s								
KTD	Kalmit	18.51	318	⇑eP		P	08 15	06.1	+0.6
IIGN	Ignalina	18.53	359	eP		P	08 15	05.1	-0.4
IIGN				IAmb		IAmb	08 15	07.2	
	comp=Z,77nm,0.7s								
IIGN	Ignalina	18.53	359	eP		P	08 15	05.1	-0.4
IRAZ	Razeghan	18.64	87	eP		Pn	08 15	08.5	-1.1
IRAZ	Razeghan	18.64	87	eP		Pn	08 15	08.5	-1.1
IGZV	Ghazvin	18.71	84	eP		P	08 15	07.8	-0.2
IGZV	Ghazvin	18.71	84	eP		P	08 15	07.8	-0.2
ISAL	Salakas	18.75	359	eP		P	08 15	07.5	-0.4
ISAL				IAmb		IAmb	08 15	09.4	
	comp=Z,80nm,0.5s								
ISAL	Salakas	18.75	359	eP		P	08 15	07.6	-0.4
SSB	Saint Sauveur	18.82	304	eP		P	08 15	07.8	-1.1
SSB				pmax		pmax			
	comp=Z,69nm,1.0s								
SSB	Saint Sauveur	18.82	304	eP		P	08 15	07.8	-1.1
	comp=Z,69nm,1.0s								
SSB	Saint Sauveur	18.82	304	eP		P	08 15	07.8	-1.1
	comp=Z,69nm,1.0s								
TNS	Taunus Mts	18.86	321	eP		P	08 15	09.6	+0.3
	comp=Z,333nm,1.1s								
TNS	Taunus Mts	18.86	321	eP		P	08 15	09.6	+0.3
	comp=Z,333nm,1.1s								
CLZ	Clausthal	19.04	327	eP		P	08 15	10.8	-0.4
	comp=Z,97nm,1.3s								
CLZ	Clausthal	19.04	327	eP		P	08 15	10.8	-0.4
	comp=Z,97nm,1.3s								
THEF	They Montfort	19.11	313	⇑eP		P	08 15	12.7	+0.8
IR5	Iran Long-Peri	19.20	88	eP		P	08 15	13.3	0.0
IR5	Iran Long-Peri	19.20	88	eP		P	08 15	13.3	0.0
EMHD	Djebel Mahouad	19.26	275	P		Pn	08 15	17.6	+0.9
OBN	Obninsk	19.44	17	P		P	08 15	14.9	-0.4
	comp=Z,24nm,0.3s,baz=201,slow=2.5,SNR=47								
OBN				S		S	08 18	40.9	-5.0
	comp=Z,3.9nm,0.3s,baz=171,slow=23,SNR=3.5								
OBN				ScP		ScP	08 22	47.4	-1.8
	comp=Z,5.1nm,0.3s,baz=21,slow=21,SNR=3.5								
OBN	Obninsk	19.44	17	diP		P	08 15	14.8	-0.6
OBN				iS		S	08 18	42.1	-3.8
OBN				pmax		pmax			
	comp=Z,230nm,0.8s								
OBN	Obninsk	19.44	17	P		P	08 15	15.0	-0.4
	comp=Z,4μm,1.0s,SNR=18								
OBN	Obninsk	19.44	17	eP		P	08 15	14.6	-0.8
	comp=Z,473nm,0.8s								
OBN	Obninsk	19.44	17	eP		P	08 15	14.6	-0.8
	comp=Z,473nm,0.8s								
OBN				S		S	08 18	40.9	-5.0
OBN				ScP		ScP	08 22	47.4	-1.8
COLF	Collangettes	19.46	304	⇑eP		P	08 15	15.7	-0.1
IR3	Iran Long-Peri	19.51	87	eP		P	08 15	17.2	+0.7
IR3	Iran Long-Peri	19.51	87	eP		P	08 15	17.2	+0.7
FILF	Fillols	19.56	295	⇑eP		P	08 15	17.6	+0.6
LRDF	Laroque-de-Fa	19.64	296	⇑eP		P	08 15	17.5	-0.2
PLDF	La Plantade	19.66	305	⇑eP		P	08 15	18.7	+0.7
LBL	Lubilhac	19.68	303	eP		P	08 15	19.4	+1.2
WLF	Walferdange	19.75	317	eP		P	08 15	18.6	-0.2
	comp=Z,166nm,1.2s								
WLF	Walferdange	19.75	317	eP		P	08 15	19.0	+0.2
WLF				pmax		pmax			
	comp=Z,88nm,0.7s								
WLF	Walferdange	19.75	317	eP		P	08 15	19.0	+0.2
	comp=Z,88nm,0.7s								
WLF	Walferdange	19.75	317	eP		P	08 15	19.0	+0.2
	comp=Z,88nm,0.7s								
CARF	Carcanieres	19.92	295	⇑eP		P	08 15	20.0	-0.9
PYM	Petit Puy Mans	19.99	304	⇑eP		P	08 15	22.5	+0.9
RGN	Rugen	20.04	336	eP		P	08 15	21.8	0.0
	comp=Z,129nm,0.8s								
RGN	Rugen	20.04	336	eP		P	08 15	21.8	0.0
	comp=Z,129nm,0.8s								
BSD	Bornholm Skovb	20.04	340	iP		P	08 15	20.4	-1.5
	comp=Z,55nm,0.6s								
BSD	Bornholm Skovb	20.04	340	iP		P	08 15	20.4	-1.5
BSD				pmax		pmax			
	comp=Z,55nm,0.6s								
BSD	Bornholm Skovb	20.04	340	iP		P	08 15	20.4	-1.5
	comp=Z,55nm,0.6s								
IPIR	Pirpir	20.11	95	eP		P	08 15	22.1	-1.1
IPIR	Pirpir	20.11	95	eP		P	08 15	22.1	-1.1
IVRN	Varamin	20.17	88	eP		P	08 15	23.5	-0.1
IVRN	Varamin	20.17	88	eP		P	08 15	23.5	-0.1
FRNF	Fournols	20.18	303	⇑eP		P	08 15	24.4	+0.8
BUG	Bochum--Univer	20.21	322	eP		P	08 15	22.0	-1.7
	comp=Z,138nm,1.2s								
BUG	Bochum--Univer	20.21	322	eP		P	08 15	22.0	-1.7
	comp=Z,138nm,1.2s								
MOS	Moscow	20.26	18	eP		P	08 15	21.0	-3.2
MOS				e			08 16	01.2	
MOS				eS		S	08 18	56.7	-5.4
MOS				pmax		pmax			
	comp=Z,700nm,1.9s								
MOS				pmax		pmax			
	comp=N,200nm,1.4s								
MOS				pmax		pmax			
	comp=E,200nm,1.2s								
MOS				pmax		pmax			
	comp=Z,357nm,1.4s								
MOS				pmax		pmax			
	comp=N,88nm,0.9s								
MOS				pmax		pmax			
	comp=E,107nm,1.0s								
MOS				smax		smax			
	comp=N,500nm,1.5s								
MOS				smax		smax			
	comp=E,1μm,3.3s								
MEM	Membach	20.35	319	P		P	08 15	26.1	+0.9
	comp=Z,74nm,1.1s								
MEM	Membach	20.35	319	eP		P	08 15	26.2	+0.9
MEM				pmax		pmax			
	comp=Z,210nm,1.2s								
MEM	Membach	20.35	319	P		P	08 15	26.1	+0.9
	comp=Z,74nm,1.1s								
MEM	Membach	20.35	319	eP		P	08 15	26.2	+0.9
	comp=Z,210nm,1.2s								
EBNR	Beni Rached	20.39	276	P		P	08 15	26.0	+0.2
EBNR	Beni Rached	20.39	276	P		P	08 15	26.0	+0.2
IKLH	Kolahrood	20.47	93	eP		P	08 15	29.1	+2.0
IKLH	Kolahrood	20.47	93	eP		P	08 15	29.0	+2.0
HGN	Heimansgroeve	20.48	319	eP		P	08 15	26.8	+0.2
	comp=Z,79nm,1.1s								
IBBN	Ibbenburen	20.53	325	eP		P	08 15	25.8	-1.3
	comp=Z,60nm,1.0s								
IBBN	Ibbenburen	20.53	325	eP		P	08 15	25.8	-1.3
	comp=Z,60nm,1.0s								
SALF	Salau	20.59	295	⇑eP		P	08 15	27.1	-0.9
BSEG	Bad Segeberg	20.61	331	eP		P	08 15	26.4	-1.5
	comp=Z,76nm,1.4s								
BSEG	Bad Segeberg	20.61	331	eP		P	08 15	26.4	-1.5
	comp=Z,76nm,1.4s								
BEBN	Eben Emael	20.63	319

JDG Jersey Dam (Ga 24.35 310 eP P 08 16 03.1 -1.2
JDG Jersey Dam (Ga 24.35 310 eP P 08 16 03.1 -1.2
ESDC Sonseca Array 24.36 286 P P 08 16 05.0 +0.5
comp=Z,137nm,0.5s,baz=80,slow=9.6,SNR=658
ESDC pP pP 08 16 38.7 +0.9
comp=Z,39nm,0.8s,baz=78,slow=9.6,SNR=3.2
ESDC ScP ScP 08 23 01.8 -0.4
comp=Z,7.4nm,0.9s,baz=60,slow=2.7,SNR=18
ESLA Sonseca Array 24.36 286 eP P 08 16 05.2 +0.7
comp=Z,58nm,0.8s
ESLA Sonseca Array 24.36 286 eP P 08 16 05.2 +0.7
comp=Z,58nm,0.8s
JSA Saint Aubin 24.43 310 eP P 08 16 03.8 -1.1
JSA AMB AMB 08 16 05.3
comp=Z,246nm,1.0s
JSA Saint Aubin 24.43 310 eP P 08 16 03.8 -1.1
ISHV Shirvan 24.49 79 eP P 08 16 06.4 +0.5
FIA1 FINESS Array S 24.64 359 eP P 08 16 06.1 -0.6
FIA1 FINESS Array S 24.64 359 eP P 08 16 06.1 -0.6
FIA1 e 08 18 17.1
FINES FINESS Array B 24.64 359 P P 08 16 06.5 -0.3
comp=Z,80nm,0.5s,baz=162,slow=12,SNR=209
FINES PcP PcP 08 19 39.4 0.0
comp=Z,5.6nm,0.6s,baz=133,slow=12,SNR=2.6
FINES S S 08 20 11.2 -4.3
comp=Z,5.6nm,0.6s,baz=146,slow=20,SNR=3.0
FINES ScP ScP 08 23 00.2 -2.2
comp=Z,19nm,0.8s,baz=134,slow=5.5,SNR=15
PAB San Pablo 24.66 286 eP P 08 16 08.0 +0.6
PAB pmax pmax
comp=Z,141nm,0.8s
PAB San Pablo 24.66 286 eP P 08 16 07.9 +0.6
comp=Z,141nm,0.8s
PAB San Pablo 24.66 286 eP P 08 16 08.0 +0.6
comp=Z,141nm,0.8s
WOL Wolverton 24.67 315 eP P 08 16 06.5 -0.7
WOL AMB AMB 08 16 08.7
comp=Z,202nm,0.8s
WOL Wolverton 24.67 315 eP P 08 16 06.5 -0.7
GEYT Alibeck 24.76 78 P P 08 16 09.3 +1.1
comp=Z,120nm,0.7s,baz=271,slow=8.5,SNR=113
GEYT PcP PcP 08 19 40.9 +0.7
comp=Z,4.7nm,0.6s,baz=270,slow=1.2,SNR=3.0
ABKT Ailbek 24.77 78 P P 08 16 09.9 +1.6
comp=Z,1µm,0.7s,SNR=29
ISFR Sfrayin 24.79 80 eP P 08 16 08.7 -0.1
ISFR Sfrayin 24.79 80 eP P 08 16 08.7 -0.1
HFS Hagfors 24.81 344 P P 08 16 07.9 -0.5
comp=Z,31nm,0.4s,baz=149,slow=12,SNR=169
HFS S S 08 20 16.2 -2.2
comp=Z,6.8nm,0.9s,baz=142,slow=15,SNR=2.8
HFS ScP ScP 08 23 01.1 -1.8
comp=Z,1.9nm,0.6s,baz=149,slow=5.9,SNR=3.7
HFS LR LR 08 27 47.8
comp=Z,145nm,18.0s,baz=146,slow=41
EMAL Malaga-Limoner 25.05 279 eP P 08 16 11.6 +0.9
SWN1 Swindon 25.08 315 eP P 08 16 10.4 -0.5
SWN1 AMB AMB 08 16 13.2
comp=Z,364nm,0.8s
SWN1 Swindon 25.08 315 eP P 08 16 10.4 -0.5
IEMG Emamgholi 25.25 79 eP P 08 16 13.2 +0.2
IEMG Emamgholi 25.25 79 eP P 08 16 13.2 +0.2
CWF Charnwood Fore 25.35 318 eP P 08 16 12.4 -0.9
CWF AMB AMB 08 16 13.2
comp=Z,50nm,1.6s
CWF Charnwood Fore 25.35 318 eP P 08 16 12.4 -0.9
STRD Stroud 25.40 315 eP P 08 16 13.4 -0.3
STRD AMB AMB 08 16 16.4
comp=Z,145nm,0.8s
STRD Stroud 25.40 315 eP P 08 16 13.4 -0.3
KONO Kongsberg 25.42 339 eP P 08 16 13.5 -0.4
KONO Kongsberg 25.42 339 eP P 08 16 13.3 -0.5
KONO pmax pmax
comp=Z,644nm,2.8s
KONO Kongsberg 25.42 339 eP P 08 16 13.3 -0.5
comp=Z,644nm,2.8s
KONO Kongsberg 25.42 339 eP P 08 16 13.3 -0.5
comp=Z,644nm,2.8s
TZK Tazeka 25.42 273 i P P 08 16 16.0 +1.6
IAKL Akhelmad 25.47 81 eP P 08 16 15.9 +1.0
IPAY Payeh 25.68 81 eP P 08 16 18.0 +1.2
IPAY Payeh 25.68 81 eP P 08 16 18.0 +1.2
REAL Reales 25.71 279 eP P 08 16 16.0 -0.9
MONM Monmouth 25.79 315 eP P 08 16 15.8 -1.4
MONM AMB AMB 08 16 17.1
comp=Z,147nm,1.4s
MONM Monmouth 25.79 315 eP P 08 16 15.8 -1.4
LIJA Lijar 25.79 280 eP P 08 16 17.0 -0.6
NC602 NORSAR Array S 25.84 343 eP P 08 16 15.5 -2.1
DYA Yadsworthy 25.92 311 eP P 08 16 17.4 -1.1
DYA Yadsworthy 25.92 311 eP P 08 16 18.3 -0.2
DYA Yadsworthy 25.92 311 eP P 08 16 18.3 -0.2
CEU Ceuta 25.95 278 eP P 08 16 16.8 -2.1
MCH1 Michaelchurch 25.96 315 eP P 08 16 17.4 -1.4
MCH1 AMB AMB 08 16 21.7
comp=Z,70nm,2.2s
MCH1 Michaelchurch 25.96 315 eP P 08 16 17.4 -1.4
LHO Holmfirth 26.02 319 eP P 08 16 18.7 -0.7
LHO Holmfirth 26.02 319 eP P 08 16 18.7 -0.7
DKH Dar Kharkhour 26.03 277 i P P 08 16 21.0 +1.2
AKTK Aktyubinsk 26.08 49 P P 08 16 20.2 +0.3
AKTO Aktyubinsk 26.08 49 P P 08 16 20.2 +0.3
comp=Z,41nm,0.6s,baz=254,slow=7.5,SNR=187
AKTO ScP ScP 08 23 06.0 -0.8
comp=Z,10nm,0.7s,baz=224,slow=4.6,SNR=7.5
ISRO Mashad 26.09 81 eP P 08 16 21.3 +1.0
ISRO Mashad 26.09 81 eP P 08 16 21.3 +1.0
NAO01 NORSAR Array S 26.10 342 eP P 08 16 19.1 -0.9
comp=Z,16nm,0.5s
NAO01 NORSAR Array S 26.10 342 eP P 08 16 19.1 -0.9
comp=Z,16nm,0.5s
HLM1 Long Mynd 26.11 316 eP P 08 16 19.4 -0.8
HLM1 Long Mynd 26.11 316 eP P 08 16 19.4 -0.8
TGT Taghat 26.12 274 i P P 08 16 23.0 +2.4
MDT Midelt 26.13 271 P P 08 16 22.0 +1.3
comp=Z,50nm,0.8s,baz=80,slow=12,SNR=55
MDT ScP ScP 08 23 06.5 -0.9
comp=Z,5.6nm,0.8s,baz=94,slow=4.7,SNR=5.1
MDT LR LR 08 27 09.9
comp=Z,112nm,21.8s,baz=82,slow=37
ZFT Errachidia 26.16 269 i P P 08 16 23.0 +1.9
NB2 NORSAR Subarra 26.19 343 P P 08 16 19.6 -1.2
comp=Z,9.3nm,0.6s,baz=146,slow=10
NB2 NORSAR Subarra 26.19 343 P P 08 16 19.6 -1.2
baz=146,slow=10
NB2 NORSAR Subarra 26.19 343 P P 08 16 19.6 -1.2
comp=Z,9.3nm,0.6s,SNR=0.6
NOA NORSAR Array B 26.19 343 P P 08 16 19.5 -1.3
comp=Z,7.8nm,0.5s,baz=147,slow=9.5,SNR=34
NOA PcP PcP 08 19 43.5 +0.5
comp=Z,1.3nm,0.5s,baz=149,slow=2.5,SNR=2.6
NOA ScP ScP 08 23 05.2 -1.8
comp=Z,6.2nm,0.7s,baz=136,slow=3.3,SNR=5.7
BLS5 Blasjo 26.20 336 eP P 08 16 20.1 -0.8
BLS5 Blasjo 26.20 336 eP P 08 16 20.1 -0.8
SNR=41
ITEG Tejag 26.35 89 eP P 08 16 23.7 +0.9
ITEG Tejag 26.35 89 eP P 08 16 23.7 +0.9
PBRG Braganca 26.40 291 eP P 08 16 23.0 0.0
comp=Z,129nm,1.3s
CNIL Conil 26.40 279 eP P 08 16 23.0 +0.1
FOEL Foel Wylfa 26.44 317 eP P 08 16 22.9 -0.3
FOEL Foel Wylfa 26.44 317 eP P 08 16 22.9 -0.3
HTL Hartland 26.44 312 eP P 08 16 22.4 -0.7
HTL AMB AMB 08 16 22.8
comp=Z,98nm,1.2s
HTL Hartland 26.44 312 eP P 08 16 22.4 -0.7
MIF Mishlifen 26.45 272 i P P 08 16 25.0 +1.3
TSY Tnine Yamani 26.54 277 i P P 08 16 25.0 +0.8
IMYA Miami 26.58 81 eP P 08 16 25.8 +1.0
IMYA Miami 26.58 81 eP P 08 16 25.8 +1.0
MVO Moncorvo 26.63 290 eP P 08 16 25.6 +0.6
comp=Z,161nm,0.8s
MVO Moncorvo 26.63 290 eP ScP 08 23 08.7 0.0
IKOO Kooshah 26.70 90 eP P 08 16 26.2 +0.2
IKOO Kooshah 26.70 90 eP P 08 16 26.2 +0.2
PBAR Barrancos 26.89 283 eP P 08 16 27.5 +0.2
comp=Z,226nm,1.2s
PBAR Barrancos 26.89 283 eP ScP 08 23 09.7 +0.3
AB31 Akbulak array 26.92 52 i P P 08 16 27.3 -0.1
AB31 pmax pmax
comp=Z,7.0nm,0.3s
AB31 Akbulak array 26.92 52 i P P 08 16 27.3 -0.1
comp=Z,7.0nm,0.3s
ABKAR Akbulak array 26.92 52 eP P 08 16 27.7 +0.3
comp=Z,21nm,0.6s
ABKAR Akbulak array 26.92 52 eP P 08 16 27.7 +0.3
comp=Z,21nm,0.6s
WPM1 Penmaenmawr 26.99 317 eP P 08 16 27.7 -0.3
WPM1 Penmaenmawr 26.99 317 eP P 08 16 27.7 -0.3
PCBR Castelo Branco 27.05 287 eP P 08 16 29.1 +0.4
comp=Z,127nm,1.3s
PCBR Castelo Branco 27.05 287 eP ScP 08 23 10.0 +0.1
MTE Manteigas 27.06 288 eP P 08 16 29.4 +0.5
comp=Z,131nm,0.9s
MTE epP pP 08 17 04.9 +1.5
MTE Manteigas 27.06 288 eP ScP 08 23 09.4 -0.6
MTE Manteigas 27.06 288 eP P 08 16 29.2 +0.4
comp=Z,90nm,0.6s
MTE Manteigas 27.06 288 eP P 08 16 29.2 +0.4
comp=Z,90nm,0.6s
DAMY Dhamar 27.10 140 eP P 08 16 31.6 +1.9
comp=Z,16nm,0.8s
DAMY Dhamar 27.10 140 eP P 08 16 31.6 +1.9
comp=Z,16nm,0.8s
PVRL Vila Real 27.14 290 eP P 08 16 30.2 +0.6
comp=Z,52nm,1.7s
ASUD Al Ashush, Dub 27.18 109 P P 08 16 31.7 +1.7
SNR=11
ASUD Al Ashush, Dub 27.18 109 ⇓ i P P 08 16 31.7 +1.7
SNR=11
POLO Lamas de Olo 27.20 290 eP P 08 16 30.5 +0.3
comp=Z,42nm,1.0s
POLO epP pP 08 17 05.8 +1.1
PESTR Estremoz 27.23 285 eP P 08 16 30.6 +0.3
comp=Z,142nm,1.1s
NAZ Nazwa, Dubai 27.24 108 P P 08 16 32.2 +1.7
SNR=7.0
NAZ Nazwa, Dubai 27.24 108 ⇓ i P P 08 16 32.2 +1.7
SNR=7.0
IDAH Dahanechah 27.29 89 eP P 08 16 32.4 +1.1
IDAH Dahanechah 27.29 89 eP P 08 16 32.4 +1.1
PVIS Viseu 27.30 289 eP P 08 16 32.2 +1.2
comp=Z,130nm,1.5s
PVIS Viseu 27.30 289 eP ScP 08 23 11.1 +0.4
FAQ Al Faqa, Dubai 27.32 108 P P 08 16 32.4 +1.2
SNR=6.3
FAQ Al Faqa, Dubai 27.32 108 i P P 08 16 32.4 +1.2
SNR=6.3
KIB El Ksiba 27.34 271 i P P 08 16 33.0 +1.5
PCAB Cabril 27.36 291 eP P 08 16 32.3 +0.8
comp=Z,88nm,1.4s
PRGR Permogore 27.46 19 eP P 08 16 29.2 -2.9
PRGR *PP pP 08 17 05.2 -1.4
PRGR eS S 08 20 55.9 -4.1
PRGR pmax pmax
comp=Z,90nm,0.8s
ECK Cauldkaine Hil 27.46 321 eP P 08 16 31.1 -1.1
ECK Cauldkaine Hil 27.46 321 eP P 08 16 31.1 -1.1
PVAQ Vaqueiros 27.53 282 eP P 08 16 33.2 +0.2
comp=Z,155nm,0.8s
PVAQ epP pP 08 17 07.7 +0.1
PVAQ Vaqueiros 27.53 282 eP ScP 08 23 11.6 +0.2
PGAV Gavieira, Arco 27.54 292 eP P 08 16 34.0 +0.8
comp=Z,97nm,1.5s
EKA Eskdalemuir Ar 27.55 322 P P 08 16 31.4 -1.5
comp=Z,11nm,0.5s,baz=120,slow=11,SNR=18
EKA ScP ScP 08 23 09.8 -1.3
comp=Z,7.2nm,0.8s,baz=116,slow=3.8,SNR=8.0
ESK Eskdalemuir 27.57 322 eP P 08 16 32.6 -0.6
ESK pmax pmax
comp=Z,78nm,1.4s
ESK Eskdalemuir 27.57 322 eP P 08 16 32.5 -0.6
comp=Z,78nm,1.4s
ESK Eskdalemuir 27.57 322 eP P 08 16 32.5 -0.6
comp=Z,78nm,1.4s
EVO Evora 27.60 284 eP P 08 16 33.8 +0.2
comp=Z,54nm,0.9s
UOSS Wadi Hilu 27.68 107 P P 08 16 35.4 +0.9
comp=Z,157nm,1.0s,SNR=9.8
PMTG Montargil 27.70 285 eP P 08 16 34.2 -0.3
comp=Z,87nm,1.1s
PBDV Barranco-do-Ve 27.73 281 eP P 08 16 35.4 +0.6
comp=Z,163nm,1.1s
PBDV epP pP 08 17 09.7 +0.3
PBDV Barranco-do-Ve 27.73 281 eP ScP 08 23 12.9 +0.8
PCVE Castro Verde 27.75 282 eP P 08 16 35.2 +0.2
comp=Z,16nm,1.4s
PCVE epP pP 08 17 10.7 +1.1
PTOM Tomar 27.78 287 eP P 08 16 35.5 +0.3
comp=Z,79nm,1.1s
PCAS Casmilo, Conde 27.81 288 eP P 08 16 35.8 +0.3
comp=Z,78nm,0.9s
TZC Tazercounte 27.84 270 i P P 08 16 37.0 +0.9
MESJ Messejana 27.86 283 eP P 08 16 35.6 -0.3
MESJ AMb AMB 08 16 37.6
comp=Z,101nm,1.6s
MESJ Messejana 27.86 283 eP P 08 16 36.5 +0.6
comp=Z,100nm,1.3s
MESJ Messejana 27.86 283 eP ScP 08 23 12.5 +0.1
MESJ Messejana 27.86 283 eP P 08 16 35.6 -0.3
MESJ Messejana 27.86 283 eP P 08 16 35.6 -0.3
PNCL Nicolau / Gran 28.06 283 eP P 08 16 38.5 +0.8
comp=Z,99nm,1.6s
PNCL epP pP 08 17 12.9 +0.6
TMCR Tamitsa 28.18 10 eP P 08 16 36.7 -1.7
TMCR e 08 17 33.1
TMCR eS S 08 21 08.0 -3.1
TMCR pmax pmax
comp=Z,19nm,0.4s
TMCR Tamitsa 28.18 10 eP P 08 16 36.7 -1.7
comp=Z,19nm,0.4s
PACT Alcochete 28.20 285 eP P 08 16 38.7 -0.3
comp=Z,317nm,1.0s
AKN Aaknes 28.23 340 eP P 08 16 39.1 +0.1
AKN Aaknes 28.23 340 eP P 08 16 39.1 +0.1
SNR=41
MORF Marmelete 28.28 282 eP P 08 16 39.8 0.0
MORF AMb AMB 08 16 47.7
comp=Z,71nm,1.5s
MORF Marmelete 28.28 282 eP P 08 16 39.8 0.0
MORF Marmelete 28.28 282 eP P 08 16 39.8 0.0
PTEO Sao Teotonio 28.30 282 eP P 08 16 40.5 +0.7
comp=Z,96nm,1.2s
PTEO epP pP 08 17 17.4 +2.9
FOO Floro 28.33 338 eP P 08 16 39.1 -0.7
FOO Floro 28.33 338 eP P 08 16 39.1 -0.7
SNR=41
PFVI Vila Bisbo 28.45 282 eP P 08 16 41.6 +0.4
comp=Z,97nm,1.8s
LIS Lisbon 28.46 285 eP P 08 16 41.1 -0.1
LIS AMb AMB 08 16 43.6
comp=Z,249nm,1.1s
LIS Lisbon 28.46 285 eP P 08 16 41.1 -0.1
PMST Lisbon--Monsan 28.48 285 eP P 08 16 40.9 -0.5
comp=Z,213nm,1.3s
PMST epP pP 08 17 16.9 +0.8
PMAFR Mafra 28.53 285 eP P 08 16 42.8 +0.9
comp=Z,143nm,1.8s
ARU Arti 28.87 37 d i P P 08 16 44.5 -0.1
ARU *PP pP 08 17 20.5 +1.1
ARU 08 17 41.8
ARU 08 19 49.3
ARU S S 08 21 21.6 -0.6
ARU pmax pmax
comp=Z,236nm,1.7s
ARU Arti 28.87 37 P P 08 16 44.3 -0.3
comp=Z,861nm,0.6s,SNR=9.8
ARU Arti 28.87 37 eP P 08 16 44.3 -0.3
comp=Z,318nm,1.5s
ARU Arti 28.87 37 PcP PcP 08 19 49.3 -0.3
ARU S S 08 21 21.6 -0.6
ARU Arti 28.87 37 eP P 08 16 44.3 -0.3
comp=Z,318nm,1.5s
NSS Namsos 29.14 347 eP P 08 16 46.6 -0.4
NSS IAmb IAmb 08 16 48.7
comp=Z,14nm,0.5s
NSS Namsos 29.14 347 eP P 08 16 46.6 -0.4
SNR=41
OUK Oukaimeden 29.26 269 i P P 08 16 50.0 +1.2
SOKR Solikamsk 29.80 31 d i P P 08 16 52.0 -0.8
SOKR pmax pmax
comp=Z,230nm,1.0s
SVE Sverdlovsk 30.07 38 c eP P 08 16 55.7 +0.5
SVE pmax pmax
comp=Z,199nm,0.8s
SVE Sverdlovsk 30.07 38 eP P 08 16 55.7 +0.5
comp=Z,199nm,0.8s
VAL Valentia 30.16 312 ⇓ i P P 08 16 56.6 +0.5
MOR8 Moi Rana 30.27 350 eP P 08 16 57.2 +0.3
MOR8 IAmb IAmb 08 16 58.1
comp=Z,36nm,0.8s
MOR8 Moi Rana 30.27 350 eP P 08 16 57.2 +0.3
SNR=40
FLOS Flostrand 30.58 349 eP P 08 17 00.2 +0.6
FLOS Flostrand 30.58 349 eP P 08 17 00.2 +0.6
SNR=40
KONS Konsvik 30.77 349 eP P 08 17 01.7 +0.5
KONS IAmb IAmb 08 17 02.0
comp=Z,55nm,1.1s
KONS Konsvik 30.77 349 eP P 08 17 01.7 +0.5
SNR=40
APA Apatity 31.00 5 ⇑ i P P 08 17 03.0 -0.3
APA i *PP pP 08 17 40.0 +1.7
APA i 08 18 10.0
APA eS S 08 21 58.0 +2.6
APA pmax pmax
comp=Z,70nm,0.5s
APA MLR MLR
comp=Z,400nm,8.0s
APA Apatity 31.00 5 i P P 08 17 03.0 -0.3
comp=Z,70nm,0.5s
APA eS S 08 21 58.0 +2.6
comp=Z,400nm,8.0s
LVZ Lovozero 31.42 6 ⇓ i P P 08 17 06.3 -0.7
LVZ pmax pmax
comp=Z,74nm,1.4s
LVZ Lovozero 31.42 6 P P 08 17 06.0 -1.0
comp=Z,339nm,0.6s,SNR=13
LVZ Lovozero 31.42 6 eP P 08 17 06.4 -0.6
comp=Z,52nm,0.7s
LVZ Lovozero 31.42 6 eP P 08 17 06.4 -0.6
comp=Z,52nm,0.7s
STEI Steigen 31.84 352 eP P 08 17 10.4 -0.2
STEI IAmb IAmb 08 17 11.7
comp=Z,63nm,0.7s
STEI Steigen 31.84 352 eP P 08 17 10.4 -0.2
SNR=40
LOF Lofoten 32.24 351 eP P 08 17 12.1 -2.0
TOA0 Torodi Ar. Sit 32.65 230 eP P 08 17 19.2 +0.9
TOA0 epP pP 08 17 54.2 +0.8
TOA0 Torodi Ar. Sit 32.65 230 eP P 08 17 19.2 +0.9
TOA0 epP pP 08 17 54.2 +0.8
TORD Torodi Ar. Bea 32.65 230 P P 08 17 19.4 +1.1
comp=Z,57nm,0.6s,baz=36,slow=8.9,SNR=611
TORD pP pP 08 17 53.5 +0.1
comp=Z,15nm,0.6s,baz=37,slow=8.4,SNR=3.9
TORD ScP ScP 08 23 28.0 -0.4
comp=Z,4.5nm,0.8s,baz=31,slow=3.3,SNR=8.5
TORD LR LR 08 32 31.4
comp=Z,169nm,20.0s,baz=35,slow=39
TOB5 Torodi Ar. Sit 32.66 230 eP P 08 17 17.5 -0.8
ARCES ARCESS Array B 32.77 359 P P 08 17 17.9 -0.9
comp=Z,16nm,0.6s,baz=167,slow=8.1,SNR=123
ARCES PP PnPn 08 18 33.8 0.0
comp=Z,10nm,0.6s,baz=172,slow=9.8,SNR=4.6
ARCES S S 08 22 21.1 -1.7
comp=Z,3.8nm,0.7s,baz=168,slow=23,SNR=3.1
ARCES ScP ScP 08 23 25.9 -2.1
comp=Z,7.4nm,0.8s,baz=158,slow=10.0,SNR=5.7
ARE0 ARCESS Array S 32.77 359 eP P 08 17 18.2 -0.5
ARE0 eS S 08 22 20.0 -2.8
ARE0 ARCESS Array S 32.77 359 eP P 08 17 17.8 -1.0
ARE0 ARCESS Array S 32.77 359 eP P 08 17 17.8 -1.0
KEV Kevo 32.98 0 eP P 08 17 20.5 0.0
KEV pmax pmax
comp=Z,50nm,1.3s
KEV Kevo 32.98 0 eP P 08 17 20.5 0.0
comp=Z,50nm,1.3s
KEV Kevo 32.98 0 eP P 08 17 20.5 0.0
comp=Z,50nm,1.3s
TRO Tromso 33.15 355 eP P 08 17 19.1 -2.9
KK31 Karatay Array 33.70 66 i P P 08 17 27.7 +0.5
KK31 pmax pmax
comp=Z,8.0nm,0.3s
KK31 Karatay Array 33.70 66 i P P 08 17 27.7 +0.5
comp=Z,8.0nm,0.3s
KKAR Karatay Array 33.70 66 eP P 08 17 28.1 +0.9
KKAR Karatay Array 33.70 66 eP P 08 17 28.1 +0.9
KKAR Karatay Array 33.70 66 eP P 08 17 28.1 +0.9
HAMF Hammerfest 33.92 358 eP P 08 17 29.4 +0.8
HAMF Hammerfest 33.92 358 eP P 08 17 29.4 +0.8
SNR=39
KBL Kabul 34.10 81 eP P 08 17 32.3 +1.3
KBL pmax pmax
comp=Z,40nm,1.0s
KBL Kabul 34.10 81 eP P 08 17 32.2 +1.3
comp=Z,40nm,1.0s
KBL Kabul 34.10 81 eP P 08 17 32.2 +1.3
comp=Z,40nm,1.0s
BRVK Borovoye 34.11 48 P P 08 17 31.3 +0.7
comp=Z,400nm,1.3s,SNR=36
BRVK Borovoye 34.11 48 d i P P 08 17 31.2 +0.7
BRVK pmax pmax
comp=Z,138nm,1.7s
BRVK Borovoye 34.11 48 i P P 08 17 31.2 +0.7
comp=Z,138nm,1.7s
BRVK Borovoye 34.11 48 eP P 08 17 31.3 +0.7
comp=Z,126nm,1.3s
BVA0 Borovoye Array 34.17 48 i P P 08 17 31.5 +0.4
BVA0 pmax pmax
comp=Z,99nm,1.3s
BVA0 Borovoye Array 34.17 48 i P P 08 17 31.5 +0.4
comp=Z,99nm,1.3s
BVAR Borovoye Array 34.17 48 P P 08 17 31.5 +0.4
comp=Z,21nm,0.6s,baz=256,slow=6.0,SNR=172
BVAR PP PnPn 08 18 42.2 -9.0
comp=Z,12nm,0.7s,baz=250,slow=11,SNR=3.8
BVAR ScP ScP 08 23 32.8 -0.4
comp=Z,5.7nm,0.7s,baz=276,slow=5.3,SNR=11
OTUK Ortayu 34.88 56 P P 08 17 38.2 +0.9
OTUK pmax pmax
comp=Z,372nm,1.0s
OTUK Ortayu 34.88 56 P P 08 17 38.2 +0.9
comp=Z,372nm,1.0s
EKS2 Erkin-Say 36.13 66 P P 08 17 49.9 +1.7
SNR=103
EKS2 Erkin-Say 36.13 66 eP P 08 17 49.8 +1.7
EKS2 pmax pmax
comp=Z,104nm,0.8s
EKS2 Erkin-Say 36.13 66 eP P 08 17 49.8 +1.7
comp=Z,104nm,0.8s
EKS2 Erkin-Say 36.13 66 eP P 08 17 49.8 +1.6
comp=Z,104nm,0.8s
AML Almayashu 36.13 67 P P 08 17 49.8 +1.3
SNR=15
AML Almayashu 36.13 67 P P 08 17 49.8 +1.3
SNR=15
SFK Sufi-Kurgan 36.32 70 P P 08 17 51.2 +1.3
SFK pmax pmax
comp=Z,140nm,0.6s
SFK Sufi-Kurgan 36.32 70 P P 08 17 51.2 +1.3
comp=Z,140nm,0.6s
USP Ospennovka 36.59 65 P P 08 17 52.8 +0.9
SNR=20
AAK Ala-Archa 36.66 66 P P 08 17 54.5 +1.8
SNR=49
AAK Ala-Archa 36.66 66 P P 08 17 54.1 +1.4
AAK pmax pmax
comp=Z,91nm,0.7s
AAK Ala-Archa 36.66 66 P P 08 17 54.1 +1.4
comp=Z,91nm,0.7s
AAK Ala-Archa 36.66 66 eP P 08 17 54.3 +1.7
comp=Z,106nm,0.7s
FRU Bishkek 36.72 65 ⇓ i P P 08 17 54.0 +1.0
FRU i 08 19 20.0
FRU pmax pmax
comp=Z,600nm,2.0s
FRU Bishkek 36.72 65 i P P 08 17 54.0 +1.0
comp=Z,600nm,2.0s
UCH Uchtor 36.73 67 P P 08 17 55.1 +1.5
SNR=59
CHMS Chumysh 36.80 65 P P 08 17 55.1 +1.4
SNR=69
KBK Karagaybulak 36.99 66 P P 08 17 56.9 +1.5
SNR=31
KZA Kyzart 37.29 67 P P 08 18 00.0 +1.7
SNR=109
TKM2 Tokmak 2 37.43 65 P P 08 18 00.3 +1.1
SNR=81
TKM2 Tokmak 2 37.43 65 eP P 08 18 00.3 +1.1
TKM2 pmax pmax
comp=Z,71nm,0.8s
TKM2 Tokmak 2 37.43 65 eP P 08 18 00.3 +1.1
comp=Z,71nm,0.8s
TKM2 Tokmak 2 37.43 65 eP P 08 18 00.3 +1.1

comp=Z,71nm,0.8s
ULHL Ulahol 37.99 66 P **P 08 18 06.0 +2.0**
SNR=117
KSH Kashi 38.28 71⇓ *i*P **P 08 18 06.1 -0.2**
KSH pP **pP 08 18 39.4 -2.7**
KSH PcP **PcP 08 20 17.1 +0.3**
KSH S **S 08 23 45.6 -2.3**
KSH ScP **ScP 08 23 49.3 +0.5**
KSH sS sS 08 24 45.3 -5.5
KSH ScS **ScS 08 27 57.3 -1.9**
KSH PMZ
comp=Z,120nm,0.7s
KSH LN
comp=Z,520nm,6.2s
KSH LE
comp=Z,310nm,6.3s
KSH LZ
comp=Z,220nm,5.8s
KMBO Kilima Mbogo 38.97 163 ScP **ScP 08 23 53.6 +1.8**
comp=Z,0.6nm,0.3s,baz=38,slow=1.7,SNR=3.7
KURBB Kurchatov Arra 38.97 53 P **P 08 18 12.5 +0.8**
comp=Z,206nm,0.6s,baz=278,slow=8.7,SNR=1445
KURBB PP **PnPn 08 19 46.9 -1.7**
comp=Z,24nm,0.9s,baz=274,slow=12,SNR=7.7
KURBB PcP **PcP 08 20 19.4 +0.8**
comp=Z,24nm,0.8s,baz=273,slow=3.9,SNR=7.7
KURBB ScP **ScP 08 23 51.0 0.0**
comp=Z,16nm,0.9s,baz=272,slow=4.5,SNR=23
KURK Kurchatov 39.03 52 P **P 08 18 13.3 +1.1**
comp=Z,2µm,0.7s
KURK Kurchatov 39.03 52 P **P 08 18 12.2 0.0**
KURK pmax pmax
comp=Z,129nm,0.9s
KURK Kurchatov 39.03 52 *e*P **P 08 18 12.9 +0.7**
comp=Z,131nm,0.9s
KURK Kurchatov 39.03 52 PP PP 08 19 46.9 +1.9
KURK Kurchatov 39.03 52 *e*P **P 08 18 12.9 +0.7**
comp=Z,131nm,0.9s
KURK PP **PP 08 19 46.9 +1.9**
KURK PcP **PcP 08 20 19.4 +0.6**
KURK ScP **ScP 08 23 51.0 -0.2**
PDGK Podgornoye 40.19 64 P **P 08 18 22.6 +0.8**
PDGK pmax pmax
comp=Z,90nm,0.6s
PDGK Podgornoye 40.19 64 P **P 08 18 22.6 +0.8**
comp=Z,90nm,0.6s
MK31 Makanchi Array 41.68 58 *e*P **P 08 18 34.9 +0.8**
MK31 pmax pmax
comp=Z,88nm,0.3s
MK31 Makanchi Array 41.68 58 *e*P **P 08 18 34.8 +0.8**
MK31 Makanchi Array 41.68 58 *e*P **P 08 18 34.8 +0.8**
MKAR Makanchi Array 41.68 58 P **P 08 18 35.0 +1.0**
comp=Z,208nm,0.5s,baz=278,slow=7.3,SNR=2089
MKAR PP **PP 08 20 10.4 -3.3**
comp=Z,14nm,0.8s,baz=269,slow=9.8,SNR=2.8
MKAR PcP **PcP 08 20 28.0 +0.5**
comp=Z,17nm,0.7s,baz=279,slow=3.1,SNR=3.2
MKAR ScP **ScP 08 24 01.6 -0.2**
comp=Z,15nm,0.7s,baz=267,slow=4.9,SNR=5.6
MKAR Makanchi Array 41.68 58 P **P 08 18 35.0 +1.0**
MKAR 08 20 10.4
MKAR 08 20 28.0
MKAR pmax pmax
comp=Z,208nm,0.5s
MKAR pmax pmax
comp=Z,14nm,0.8s
MKAR Makanchi Array 41.68 58 PcP **PcP 08 20 28.0 +0.5**
SPITS Spitsbergen Ar 41.69 357 P **P 08 18 34.3 +0.6**
comp=Z,21nm,0.7s,baz=153,slow=15,SNR=32
SPITS PP **PP 08 20 16.0 +2.6**
comp=Z,8.2nm,0.7s,baz=161,slow=14,SNR=2.6
SPITS ScP **ScP 08 23 59.2 -2.1**
comp=Z,5.0nm,0.8s,baz=79,slow=13,SNR=2.3
SPITS Spitsbergen Ar 41.69 357 PP PP 08 20 16.0 +2.6
DBIC Dimbokro 41.72 232 P **P 08 18 34.5 -0.1**
comp=Z,34nm,0.6s,baz=22,slow=9.1,SNR=44
DBIC ScP **ScP 08 24 02.1 -0.2**
comp=Z,12nm,1.0s,baz=17,slow=12,SNR=2.5
DBIC LR LR 08 37 09.1
comp=Z,63nm,19.4s,baz=48,slow=38
DBIC Dimbokro 41.72 232 P **P 08 18 34.5 -0.1**
comp=Z,63nm,19.4s
DBIC *ep*P **pP 08 19 09.9 -1.1**
DBIC Dimbokro 41.72 232 *e*P **P 08 18 35.3 +0.7**
comp=Z,38nm,0.6s
DBIC *ep*P **pP 08 19 09.9 -1.1**
DBIC ScP **ScP 08 24 02.1 -0.2**
TIC Toumodi 41.84 232 *e*P **P 08 18 36.1 +0.4**
KIC Kosan Boka 41.88 231 *e*P **P 08 18 36.6 +0.6**
comp=Z,105nm,0.8s
NVS Novosibirsk 41.90 46⇓ *i*P **P 08 18 36.8 +1.1**
NVS *i* 08 19 32.8
NVS *i* S **S 08 24 38.4 -2.6**
NVS pmax pmax
comp=E,164nm,0.7s
NVS pmax pmax
comp=Z,361nm,0.7s
NVS pmax pmax
comp=N,85nm,0.6s
NVS smax smax
comp=N,21nm,1.3s
NVS smax smax
comp=E,30nm,1.3s
NVS Novosibirsk 41.90 46 *i* P **P 08 18 36.8 +1.1**
comp=E,85nm,0.6s
LIC Lamto 42.17 232 *e*P **P 08 18 38.9 +0.6**
comp=E,71nm,0.6s
ZAA0 Zalesovo Array 42.83 47 *e*P **P 08 18 43.3 +0.2**
ZAA0 Zalesovo Array 42.83 47 *e*P **P 08 18 43.3 +0.2**
ZALV Zalesovo Beam 42.83 47 P **P 08 18 43.5 +0.3**
comp=E,250nm,0.5s,baz=266,slow=9.2,SNR=740
ZALV PP **PP 08 20 25.2 -0.5**
comp=E,13nm,0.8s,baz=284,slow=9.5,SNR=2.6
ZALV PcP **PcP 08 20 31.2 +0.1**
comp=E,16nm,0.6s,baz=274,slow=8.0,SNR=3.9
ZALV ScP **ScP 08 24 05.2 -1.0**
comp=E,6.5nm,0.7s,baz=262,slow=5.1,SNR=6.6
ZALV S **S 08 24 52.0 -2.5**
comp=E,1.7nm,0.5s,baz=224,slow=12,SNR=3.6
DAG Danmarks Havn 44.75 346 *i* P **P 08 18 58.0 -0.1**
DAG Danmarks Havn 44.75 346 *i* P **P 08 18 58.1 -0.1**
comp=E,16nm,0.5s
DAG Danmarks Havn 44.75 346 *i* P **P 08 18 58.0 -0.1**
WMQ Urumqi 45.95 62 P **P 08 19 10.1 +2.0**
WMQ pP **pP 08 19 45.9 +0.8**
WMQ sP **sP 08 20 04.1 +0.2**
WMQ PcP **PcP 08 20 43.6 +1.5**
WMQ PP **PP 08 20 59.8 +1.1**
WMQ S **S 08 25 41.1 +1.0**
WMQ SS **SS 08 29 02.3 -4.4**
WMQ PMZ
comp=E,220nm,1.1s
WMQ PMZ
comp=E,550nm,4.0s
WMQ LN
comp=E,120nm,20.8s
WMQ LE
comp=E,180nm,27.0s
WMQ LZ
comp=E,110nm,20.8s
KLRI Killari 47.33 99 *e*P **P 08 19 19.4 +0.3**
KLRI IAmb IAmb 08 19 20.7
comp=Z,97nm,0.7s
KLRI *ep*P **pP 08 19 55.9 -0.4**
KLRI *es*P **sP 08 20 13.9 -1.0**
KRAR Krasnoyarsk 47.36 44 *d* P **P 08 19 20.1 +1.3**
KRAR pmax pmax
comp=Z,281nm,0.9s
KRAR Krasnoyarsk 47.36 44 *i* P **P 08 19 20.1 +1.3**
comp=Z,281nm,0.9s
SUMG Summit 47.94 338 *i* P **P 08 19 23.8 +0.2**
comp=Z,25nm,0.7s
SUMG Summit 47.94 338 *e*P **P 08 19 23.8 +0.2**
SUMG pmax pmax
comp=Z,26nm,0.7s
SUMG Summit 47.94 338 *i* P **P 08 19 23.8 +0.2**
comp=Z,25nm,0.7s
SUMG Summit 47.94 338 *e*P **P 08 19 23.8 +0.2**
comp=Z,26nm,0.7s
DANN Dangsing 48.03 83 *e*P **P 08 19 26.2 +1.4**
comp=Z,132nm,0.7s
KOLN Koldanda 48.16 84 *e*P **P 08 19 26.5 +0.9**
comp=Z,223nm,0.7s
SRSP Sriramsagar 48.24 97 *e*P **P 08 19 25.6 -0.5**
SRSP IAML 08 19 28.0
comp=Z,17nm,0.7s
SRSP *ep*P **pP 08 20 02.9 -0.6**
SRSP *es*P **sP 08 20 20.6 -1.4**
SRSP *e*PcP **PcP 08 20 50.6 0.0**
GKN Gorkha 48.88 83 *e*P **P 08 19 31.8 +0.7**
comp=Z,428nm,0.7s
RPR Rampur 49.04 97 *e*P **P 08 19 31.8 -0.4**
RPR IAmb IAmb 08 19 32.8
comp=Z,21nm,0.8s
HYBB Hyderabad (bro 49.23 99 *e*P **P 08 19 33.3 -0.4**
HYBB IAmb IAmb 08 19 34.6
comp=Z,23nm,0.8s
HYBB *ep*P **pP 08 20 10.8 -0.4**
HYBB *es*P **sP 08 20 28.9 -0.8**
HYB Hyderabad 49.23 99 *i* P **P 08 19 33.0 -0.7**
HYB *ep*P **pP 08 20 11.0 -0.2**
HYB *es*P **sP 08 20 27.0 -2.8**
DMN Daman 49.43 83 *e*P **P 08 19 36.3 +0.9**
comp=Z,500nm,0.7s
KKN Kakani 49.48 83 *e*P **P 08 19 36.4 +0.6**
comp=Z,177nm,0.6s
URV Uravakonda 49.62 102 *e*P **P 08 19 35.8 -0.9**
URV IAmb IAmb 08 19 37.8
comp=Z,32nm,0.8s
PKIN Phulchoki 49.67 83 *e*P **P 08 19 37.8 +0.6**
PKI Pulchoki 49.68 83 *e*P **P 08 19 37.9 +0.5**
comp=Z,289nm,0.9s
GUN Gumba 49.91 82 *e*P **P 08 19 39.9 +0.8**
comp=Z,255nm,0.8s
SRLM Srisailam 50.24 100 *e*P **P 08 19 41.5 +0.1**
SRLM IAmb IAmb 08 19 43.1
comp=Z,49nm,0.9s
SRLM *ep*P **pP 08 20 18.5 -0.4**
SRLM *es*P **sP 08 20 34.4 -3.1**
NJS Nagarjunasagar 50.31 99 *e*P **P 08 19 41.3 -0.6**
NJS IAmb IAmb 08 19 42.7
comp=Z,42nm,1.1s
NJS *ep*P **pP 08 20 18.7 -0.7**
NJS *es*P **sP 08 20 36.5 -1.5**
NJS *e*PcP **PcP 08 20 58.4 +0.2**
RCLA Racherla 50.66 101 *e*P **P 08 19 44.5 +0.1**
RCLA IAmb IAmb 08 19 45.9
comp=Z,26nm,0.7s
RCLA *ep*P **pP 08 20 22.8 +0.7**
RCLA *es*P **sP 08 20 41.4 +0.8**
RCLA *e*PcP **PcP 08 20 59.6 +0.2**
RAMN Ramite 50.91 83 *e*P **P 08 19 46.8 +0.3**
comp=Z,436nm,0.8s
ADKI Addanki 51.24 99 *e*P **P 08 19 48.6 -0.1**
ADKI IAmb IAmb 08 19 49.6
comp=Z,26nm,0.9s
ADKI *ep*P **pP 08 20 25.8 -0.7**
ODAN Odare 51.58 83 *e*P **P 08 19 51.7 +0.2**
comp=Z,165nm,0.9s
TAPN Taplejung 51.61 82 *e*P **P 08 19 52.4 +0.6**
comp=Z,159nm,0.7s
PVM Polavaram 51.77 97 *e*P **P 08 19 52.5 -0.2**
PVM IAmb IAmb 08 19 54.0
comp=Z,23nm,0.9s
PVM *ep*P **pP 08 20 31.1 +0.6**
PVM *es*P **sP 08 20 46.6 -2.3**
PVM *e*PcP **PcP 08 21 01.8 -1.7**
SFJD Kangerlussuaq 51.91 331 P **P 08 19 51.7 -1.3**
comp=Z,5.8nm,0.4s,baz=96,slow=8.0,SNR=4.1
SKHT Srikalahasti 52.24 102 *e*P **P 08 19 56.6 +0.4**
SKHT IAmb IAmb 08 19 57.0
comp=Z,15nm,0.8s
SKHT *ep*P **pP 08 20 33.5 -0.5**
CHLP Challavanipeta 53.03 94 *e*P **P 08 20 01.7 -0.2**
CHLP IAmb IAmb 08 20 02.9
comp=Z,55nm,0.8s
CHLP *ep*P **pP 08 20 39.1 -0.8**
CHLP *es*P **sP 08 20 59.8 +1.4**
CHLP *e*PcP **PcP 08 21 09.0 +0.7**
LSA Lhasa 53.30 78 P **P 08 20 05.5 +1.1**
LSA Lhasa 53.30 78 *e*P **P 08 20 05.7 +1.3**
LSA pmax pmax
comp=Z,86nm,0.7s
LSA Lhasa 53.30 78 *e*P **P 08 20 05.7 +1.3**
comp=Z,86nm,0.7s
LSA Lhasa 53.30 78 *e*P **P 08 20 05.7 +1.3**
comp=Z,86nm,0.7s
TLY Talaya 54.43 48⇓ *i*P **P 08 20 13.1 +1.4**
TLY pmax pmax
comp=Z,62nm,0.9s
TLY MLR MLR
comp=Z,34nm,13.0s
TLY Talaya 54.43 48 P **P 08 20 13.0 +1.4**
comp=Z,350nm,0.9s,SNR=9.8
TLY Talaya 54.43 48 *i* P **P 08 20 13.1 +1.4**
comp=Z,34nm,13.0s
TLY Talaya 54.43 48 *e*P **P 08 20 13.3 +1.7**
comp=Z,65nm,1.0s
IRK Irkutsk 54.64 47 *e*P **P 08 20 11.8 -1.4**
IRK *e*S **S 08 27 40.4 +0.6**
IRK pmax pmax
comp=Z,159nm,1.4s
IRK Irkutsk 54.64 47 *e*P **P 08 20 11.8 -1.4**
comp=Z,159nm,1.4s
IRK *e*S **S 08 27 40.4 +0.6**
SHL Shillong 55.75 82 *i* P **P 08 20 22.0 +0.2**
SHL *ex* x 08 27 52.5
GTA Gaotai 55.93 63⇓ P **P 08 20 24.0 +1.2**
GTA pP **pP 08 21 02.1 +0.9**
GTA sP **sP 08 21 18.8 -0.7**
GTA ScP **ScP 08 25 03.3 +0.8**
GTA S **S 08 27 59.9 +2.3**
GTA sS **sS 08 29 05.8 +1.6**
GTA ScS **ScS 08 29 54.9 -0.4**
GTA SS **SS 08 31 50.1 +4.5**
GTA PMZ
comp=Z,82nm,1.1s
GTA PMZ
comp=Z,190nm,7.1s
GTA LN
comp=Z,140nm,21.9s
GTA LE
comp=Z,170nm,21.6s
GTA LZ
comp=Z,96nm,16.6s
PALK Pallekele 56.95 107 *e*P **P 08 20 31.6 +1.4**
PALK pmax pmax
comp=Z,26nm,0.8s
PALK Pallekele 56.95 107 *e*P **P 08 20 31.6 +1.4**
comp=Z,26nm,0.8s
PALK Pallekele 56.95 107 *e*P **P 08 20 31.6 +1.4**
comp=Z,26nm,0.8s
SONM Songino Array 57.33 52 P **P 08 20 33.1 +0.6**
comp=Z,62nm,0.7s,baz=285,slow=8.3,SNR=331
SONM pP **pP 08 21 12.3 +1.2**
comp=Z,8.0nm,0.8s,baz=290,slow=9.3,SNR=2.3
SONM ScP **ScP 08 25 08.5 -0.1**
comp=Z,5.2nm,0.9s,baz=261,slow=4.3,SNR=7.7
SONM LR LR 08 48 23.1
comp=Z,94nm,20.3s,baz=285,slow=39
BOD Bodaibo 58.26 39⇑ *i*P **P 08 20 38.0 -0.7**
BOD pmax pmax
comp=Z,77nm,0.8s
BOD Bodaibo 58.26 39 *i* P **P 08 20 38.0 -0.7**
comp=Z,77nm,0.8s
DRLN Deer Lake 59.86 311 *e*P **P 08 20 49.7 -0.1**
DRLN Deer Lake 59.86 311 *e*P **P 08 20 49.7 -0.1**
LZH Lanzhou 60.20 65⇓ P **P 08 20 53.5 +1.0**
LZH pP **PcP 08 21 37.3 +0.9**
LZH sP **sP 08 21 50.6 +0.9**
LZH PP **PP 08 23 07.1 +0.1**
LZH *e*S **S 08 28 47.3 -5.9**
LZH SS **SS 08 32 52.0 -0.8**
LZH PMZ
comp=Z,99nm,1.0s
LZH PMZ
comp=Z,400nm,4.5s
LZH LN
comp=Z,430nm,11.0s
LZH LE
comp=Z,310nm,13.4s
LZH LZ
comp=Z,560nm,15.5s
CD2 Chengdu 62.48 71⇓ *i*P **P 08 21 08.4 +0.6**
CD2 pP **PcP 08 21 45.9 +0.4**
CD2 sP **sP 08 22 03.5 -1.6**
CD2 PP **PP 08 23 27.3 +0.2**
CD2 S **S 08 29 22.3 +0.4**
CD2 sS **sS 08 30 29.0 -0.8**
CD2 SS **SS 08 33 29.8 +1.4**
CD2 PMZ
comp=Z,170nm,0.9s
CD2 PMZ
comp=Z,270nm,4.9s
SCHQ Schefferville 62.84 320 P **P 08 21 09.2 -0.5**
comp=Z,22nm,0.5s,baz=64,slow=5.2,SNR=76
SCHQ Schefferville 62.84 320 *e*P **P 08 21 08.8 -0.9**
comp=Z,35nm,0.8s
SCHQ Schefferville 62.84 320 *e*P **P 08 21 08.8 -0.9**
comp=Z,35nm,0.8s
HHC Hu-ho-hao-te 63.53 58 *e*P **P 08 21 15.6 +0.9**
HHC pP **pP 08 21 53.5 -0.5**
HHC sP **sP 08 22 09.5 -2.6**
HHC S **S 08 29 34.8 0.0**
HHC sS **sS 08 30 41.3 -1.6**
HHC PMZ
comp=Z,210nm,5.6s
YAK Yakutsk 63.72 31 *e*P **P 08 21 13.8 -1.5**
YAK *e* 08 21 47.3
YAK *e**PP pP 08 22 00.8 +6.2
YAK *e* 08 23 37.3
YAK *e*PPP PPP 08 25 10.2
YAK *e*S **S 08 29 33.9 -2.2**
YAK *e* 08 30 44.6
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=E,23nm,1.2s
YAK pmax pmax
comp=Z,76nm,0.8s
YAK pmax pmax
comp=Z,25nm,1.1s
YAK pmax pmax
comp=E,19nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK smax smax
comp=E,69nm,2.3s
YAK smax smax
comp=N,31nm,1.9s
YAK Yakutsk 63.72 31 *e*P **P 08 21 15.0 -0.3**
comp=N,179nm,0.8s
YAK Yakutsk 63.72 31 *e*P **P 08 21 15.0 -0.3**
comp=N,179nm,0.8s
CLNS Chul'man 64.06 37 *e*P **P 08 21 17.5 -0.2**
CLNS pmax pmax
comp=Z,32nm,0.9s
CLNS pmax pmax
comp=E,12nm,1.0s
CLNS pmax pmax
comp=N,16nm,1.0s
CLNS Chul'man 64.06 37 *e*P **P 08 21 17.5 -0.2**
comp=N,16nm,1.0s
CMAI Chiengmai2 64.28 84 P **P 08 21 19.8 -0.1**
comp=N,24nm,1.1s,comp=N,715nm
MHMT Maesarieng 64.33 86 P **P 08 21 20.7 +0.7**
comp=N,70nm,0.9s,comp=N,718nm
KMI Kunming 64.53 77 P **P 08 21 21.8 +0.3**
KMI PcP **PcP 08 21 55.3 +1.1**
KMI pP **pP 08 22 00.8 -0.1**
KMI sP **sP 08 22 16.8 -2.2**
KMI S **S 08 29 43.8 -3.9**
KMI SS **SS 08 33 58.8 -2.1**
KMI PMZ
comp=N,46nm,1.1s
KMI PMZ
comp=N,290nm,4.8s
KMI LZ
comp=N,41nm,23.7s
CHTO Chiang Mai 64.80 85 P **P 08 21 23.2 +0.2**
comp=N,203nm,1.1s
CHTO Chiang Mai 64.80 85 *e*P **P 08 21 23.3 +0.2**
CHTO pmax pmax
comp=Z,43nm,1.0s
CHTO Chiang Mai 64.80 85 *e*P **P 08 21 23.3 +0.2**
comp=Z,43nm,1.0s
CHTO Chiang Mai 64.80 85 *e*P **P 08 21 23.3 +0.3**
comp=Z,43nm,1.0s
CMMT Chiang Mai 64.80 85 P **P 08 21 23.2 +0.1**
comp=Z,58nm,1.0s
XAN Xi'an 64.83 65 P **P 08 21 23.8 +0.6**
XAN PMZ
comp=Z,18nm,0.6s
XAN PMZ
comp=Z,35nm,4.5s
HIA Hailar 64.84 46 *e*P **P 08 21 24.0 +1.0**
HIA pmax pmax
comp=Z,161nm,1.2s
HIA Hailar 64.84 46 *e*P **P 08 21 24.0 +1.0**
comp=Z,161nm,1.2s
HIA Hailar 64.84 46 *e*P **P 08 21 24.0 +1.0**
comp=Z,161nm,1.2s
CM31 Chiang Mai Arr 64.99 85 *e*P **P 08 21 24.9 +0.6**
comp=Z,36nm,0.8s
CM31 Chiang Mai Arr 64.99 85 *e*P **P 08 21 24.9 +0.6**
comp=Z,36nm,0.8s
CMAR Chiang Mai Arr 64.99 85 P **P 08 21 24.3 0.0**
comp=Z,46nm,0.8s,baz=301,slow=8.0,SNR=162
CMAR pP **pP 08 22 04.7 +0.9**
comp=Z,14nm,0.7s,baz=300,slow=8.5,SNR=5.2
CMAR Chiang Mai Arr 64.99 85 *i* P **P 08 21 24.7 +0.4**
CMAR pmax pmax
comp=Z,47nm,0.8s
BOSA Boshof 65.12 182 P **P 08 21 26.3 +1.4**
comp=Z,1.4nm,0.3s,baz=0.8,slow=8.6,SNR=3.7
BOSA Boshof 65.12 182 P **P 08 21 26.3 +1.4**
BOSA pmax pmax
comp=Z,1.0nm,0.3s
BOSA Boshof 65.12 182 *e*P **P 08 21 26.6 +1.7**
comp=Z,44nm,1.7s
CRAI Chiangrai 65.19 83 P **P 08 21 24.0 -1.6**
comp=Z,36nm,1.0s,comp=Z,745nm
LAMP Lampang 65.50 85 P **P 08 21 28.2 +0.6**
comp=Z,39nm,0.8s,comp=Z,345nm
UTTA Uttaradit 66.66 85 P **P 08 21 35.1 +0.1**
comp=Z,14nm,0.9s,comp=Z,147nm
KHLT Khaolaem Dam 66.70 89 P **P 08 21 35.6 +0.3**
comp=Z,16nm,1.0s
GYA Guiyang 66.89 74⇑ *i*P **P 08 21 37.5 +1.0**
GYA PcP **PcP 08 22 05.4 +1.5**
GYA pP **pP 08 22 16.0 -0.2**
GYA sP **sP 08 22 33.8 -0.4**
GYA PP **PP 08 24 07.3 +1.5**
GYA ScP 08 25 52.0
GYA PcS 08 26 07.6
GYA S **S 08 30 15.5 -0.6**
GYA SKS **SKSac 08 31 14.0 -3.7**
GYA sS **SKiKP 08 31 21.3 +1.0**
GYA SS **SS 08 34 37.8 +0.5**
GYA PMZ
comp=Z,50nm,0.9s
GYA PMZ
comp=Z,140nm,5.6s
GYA LN
comp=Z,740nm,19.6s
GYA LE
comp=Z,620nm,20.2s
GYA LZ
comp=Z,760nm,19.8s
BJI Beijing 67.02 56 P **P 08 21 37.3 +0.4**
BJI pP **pP 08 22 12.9 -3.7**
BJI S **S 08 30 18.4 +1.4**
BJI PMZ
comp=Z,50nm,0.8s
BJI LN
comp=Z,160nm,7.1s
BJI LE
comp=Z,69nm,5.6s
BJI LZ
comp=Z,41nm,28.5s
BJT Baijiatuao 67.03 57 *e*P **P 08 21 36.9 -0.1**
BJT pmax pmax
comp=Z,29nm,0.5s
BJT Baijiatuao 67.03 57 *e*P **P 08 21 36.9 -0.1**
comp=Z,29nm,0.5s
BJT Baijiatuao 67.03 57 *e*P **P 08 21 36.9 -0.1**
comp=Z,28nm,0.5s
ENH Enshi 67.10 69 *e*P **P 08 21 38.0 +0.3**
comp=Z,48nm,0.8s
ENH Enshi 67.10 69 *e*P **P 08 21 38.0 +0.3**
comp=Z,48nm,0.8s
PQI Presque Isle 67.34 312 *e*P **P 08 21 39.1 +0.3**
comp=Z,16nm,0.4s
PQI Presque Isle 67.34 312 *e*P **P 08 21 39.1 +0.3**
comp=Z,16nm,0.4s
SRDT SRDT 67.38 89 P **P 08 21 39.8 +0.3**

comp=Z,136nm,1.3s,comp=Z,18µm
SLVN Son La 67.40 80 *e*P **P** 08 21 40.4 +0.7
comp=Z,14nm,0.8s
SLVN Son La 67.40 80 *e*P **P** 08 21 40.4 +0.7
comp=Z,14nm,0.8s
EMMW East Machias 67.98 310 *e*P **P** 08 21 43.1 +0.2
comp=Z,24nm,0.8s
EMMW East Machias 67.98 310 *e*P **P** 08 21 43.1 +0.2
comp=Z,24nm,0.8s
PHET Kaeng Krachan 68.60 90 P **P** 08 21 47.4 +0.3
comp=Z,25nm,0.9s,comp=Z,288nm
PKME Peaks-Kenny Pk 68.82 311 *e*P **P** 08 21 48.8 +0.8
comp=Z,12nm,1.0s
PKME Peaks-Kenny Pk 68.82 311 *e*P **P** 08 21 48.8 +0.8
comp=Z,12nm,1.0s
PATY Pattaya 69.58 89 P **P** 08 21 53.9 +0.7
comp=Z,19nm,0.8s
TIA Tai'an 69.59 60 ⇓P **P** 08 21 53.4 +0.4
TIA PMZ
comp=Z,50nm,1.0s
SKNT Sakolnakorn 69.82 84 P **P** 08 21 54.9 +0.3
SURT Suratani 70.19 94 P **P** 08 21 57.7 +0.7
comp=Z,13nm,1.3s
WHN Wuhan 70.56 66 P **P** 08 21 59.8 +0.8
SNY Shenyang 70.91 52 ⇓P **P** 08 22 00.8 -0.1
SNY pP **pP** 08 22 38.9 -2.1
SNY sP **sP** 08 22 57.1 -1.9
SNY PMZ
comp=Z,33nm,1.0s
CN2 Changchun 71.00 49 *e*P **P** 08 22 01.5 +0.1
CN2 *e*S **S** 08 31 01.3 -2.4
CN2 PMZ
comp=Z,30nm,1.0s
CN2 PMZ
comp=Z,200nm,5.0s
BILL Bilibino 71.09 15 *e*P **P** 08 22 01.4 -0.1
BILL pmax pmax
comp=Z,37nm,0.6s
BILL Bilibino 71.09 15 *e*P **P** 08 22 01.4 -0.1
comp=Z,37nm,0.6s
BILL Bilibino 71.09 15 *e*P **P** 08 22 01.4 -0.1
comp=Z,37nm,0.6s
HNH Hanover 71.46 311 *e*P **P** 08 22 06.1 +1.9
comp=Z,20nm,0.7s
HNH Hanover 71.46 311 *e*P **P** 08 22 06.1 +1.9
comp=Z,20nm,0.7s
SEY Seymchan 71.47 23 P **P** 08 22 04.8 +0.9
comp=Z,40nm,0.6s,baz=316,slow=4.5,SNR=133
TRTT Trang 71.57 94 P **P** 08 22 05.5 +0.3
comp=Z,54nm,1.1s
KLR Kul'dur 71.57 42 *e*P P 08 22 00.0 -4.8
KLR pmax pmax
comp=E,34nm,1.2s
KLR pmax pmax
comp=Z,100nm,1.2s
MDV Middlebury 71.84 312 *e*P **P** 08 22 07.5 +1.1
MDV Middlebury 71.84 312 *e*P **P** 08 22 07.5 +1.1
BRYW Bryant College 71.99 309 *e*P **P** 08 22 08.9 +1.5
comp=Z,19nm,0.9s
BRYW Bryant College 71.99 309 *e*P **P** 08 22 08.9 +1.5
comp=Z,19nm,0.9s
LONY Lake Ozonia 72.33 313 *e*P **P** 08 22 10.1 +0.8
comp=Z,12nm,0.7s
LONY Lake Ozonia 72.33 313 *e*P **P** 08 22 10.1 +0.8
comp=Z,12nm,0.7s
ACCN Adirondack Com 72.47 311 *e*P **P** 08 22 11.7 +1.5
comp=Z,13nm,0.8s
ACCN Adirondack Com 72.47 311 *e*P **P** 08 22 11.7 +1.5
comp=Z,13nm,0.8s
SKLT Songkhla 72.70 94 P **P** 08 22 12.1 +0.1
comp=Z,69nm,0.9s
NJ2 Nanjing 73.01 63 *e*P **P** 08 22 14.9 +1.3
NJ2 PMZ
comp=Z,160nm,1.0s
MDJ Mudanjiang 73.02 47 P **P** 08 22 13.4 0.0
MDJ PMZ
comp=Z,19nm,0.8s
MDJ PMZ
comp=Z,54nm,6.5s
MDJ Mudanjiang 73.02 47 *e*P **P** 08 22 15.1 +1.7
comp=Z,25nm,1.2s
MDJ Mudanjiang 73.02 47 *e*P **P** 08 22 15.1 +1.7
comp=Z,25nm,1.2s
MA2 Magadan 73.36 26 *i* P **P** 08 22 15.7 +0.6
MA2 Magadan 73.36 26 *i* P **P** 08 22 15.7 +0.6
NKL Nikolayevsk 73.64 35 *e*P **P** 08 22 16.0 -0.8
NKL pmax pmax
comp=Z,83nm,0.8s
NKL Nikolayevsk 73.64 35 *e*P **P** 08 22 16.0 -0.8
comp=Z,83nm,0.8s
HABR Khabarovsk 73.78 41 *e*P **P** 08 22 17.2 -0.6
HABR *e* 08 22 31.7
HABR *e**PP **pP** 08 22 58.1 -0.1
HABR *e**SP **sP** 08 23 16.7 +0.7
HABR *e* 08 25 03.8
HABR *e*PPP PPP 08 26 49.3
HABR *e*S **S** 08 31 34.4 -0.6
HABR *e* 08 32 10.3
HABR *e* 08 32 24.1
HABR SS **SS** 08 36 21.2 -0.2
HABR pmax pmax
comp=E,34nm,1.9s
HABR pmax pmax
comp=Z,85nm,1.9s
HABR pmax pmax
comp=N,31nm,1.9s
HABR Khabarovsk 73.78 41 *e*P **P** 08 22 17.2 -0.6
comp=N,31nm,1.9s
HABR Khabarovsk 73.78 41 *e*PcP **PcP** 08 22 31.7 -0.8
HABR *e*S **S** 08 31 34.4 -0.6
KULM Kulim 73.83 96 *e*P **P** 08 22 18.6 0.0
comp=N,32nm,0.6s
KULM Kulim 73.83 96 *e*P **P** 08 22 18.6 0.0
comp=N,32nm,0.6s
PSI Prapat 73.95 99 P **P** 08 22 19.4 0.0
comp=N,27nm,0.8s,baz=279,slow=2.7,SNR=6.8
PSI Prapat 73.95 99 P **P** 08 22 19.4 0.0
PSI pmax pmax
comp=Z,27nm,0.8s
PSI Prapat 73.95 99 *e*P **P** 08 22 19.7 +0.2
INK Inuvik 74.15 353 P **P** 08 22 18.7 -0.9
comp=Z,3.1nm,0.5s,baz=1.6,slow=6.3,SNR=12
INK Inuvik 74.15 353 P **P** 08 22 18.7 -0.9
INK pmax pmax
comp=Z,3.0nm,0.5s
INK Inuvik 74.15 353 *e*P **P** 08 22 19.0 -0.6
comp=Z,4.5nm,0.7s
INK Inuvik 74.15 353 *e*P **P** 08 22 19.0 -0.6
comp=Z,4.5nm,0.7s
IPM Ipoh 74.61 96 *e*P **P** 08 22 22.4 -0.8
comp=Z,24nm,0.9s
IPM Ipoh 74.61 96 *e*P **P** 08 22 22.4 -0.8
comp=Z,24nm,0.9s
USRK Ussuriysk Ar. 74.66 46 P **P** 08 22 22.6 -0.3
comp=Z,63nm,0.6s,baz=294,slow=4.8,SNR=168
KSPA Keystone Colle 74.80 311 *e*P **P** 08 22 25.2 +1.4
KSPA Keystone Colle 74.80 311 *e*P **P** 08 22 25.2 +1.4
KSMUS Musan 75.14 54 P **P** 08 22 26.4 +0.6
SNR=7.2
YNCB YEONCHEON 75.16 54 P **P** 08 22 26.5 +0.6
SNR=9.5
VLA Vladivostok 75.24 47 *d i*P **P** 08 22 25.7 -0.6
VLA pmax pmax
comp=Z,109nm,1.1s
VLA Vladivostok 75.24 47 *i* P **P** 08 22 25.7 -0.6
comp=Z,109nm,1.1s
INCN Inchon 75.29 54 *e*P **P** 08 22 27.1 +0.4
comp=Z,35nm,0.8s
INCN Inchon 75.29 54 *e*P **P** 08 22 27.1 +0.4
comp=Z,35nm,0.8s
MMNY Mt. Morris Dam 75.38 313 *e*P **P** 08 22 27.7 +0.6
comp=Z,36nm,1.0s
MMNY Mt. Morris Dam 75.38 313 *e*P **P** 08 22 27.7 +0.6
comp=Z,36nm,1.0s
KSCWO Cheorwon 75.51 53 P **P** 08 22 29.0 +1.1
SNR=13
MNSI Mandailing Nat 75.68 100 P **P** 08 22 29.8 +0.6
SEHB SEOHWA 75.88 53 P **P** 08 22 30.8 +0.8
SNR=5.9
KSCHC Chuncheon 75.88 53 P **P** 08 22 30.7 +0.7
SNR=11
KSIJA INJE 75.95 53 P **P** 08 22 31.1 +0.7
SNR=8.6
MVL Millersville 76.07 310 *e*P **P** 08 22 32.4 +1.3
MVL Millersville 76.07 310 *e*P **P** 08 22 32.4 +1.3
KSAR Wonju Array Be 76.12 54 P **P** 08 22 31.8 +0.4
KSAR *PP **pP** 08 23 13.4 +1.4
KSAR Wonju Array Be 76.12 54 P **P** 08 22 31.8 +0.4
KSAR pP **pP** 08 23 13.4 +1.4
KSAR Wonju Array Be 76.12 54 P **P** 08 22 31.8 +0.4
KSAR pP **pP** 08 23 13.4 +1.4
KSRS Korea Array 76.14 54 P **P** 08 22 31.8 +0.3
comp=Z,36nm,0.8s,baz=308,slow=4.7,SNR=86
KSRS pP **pP** 08 23 13.4 +1.3
comp=Z,4.9nm,0.7s,baz=293,slow=5.2,SNR=2.3
KSRS LR LR 08 58 26.5
comp=Z,47nm,20.1s,baz=293,slow=37
KSRS Korea Array 76.14 54 P **P** 08 22 31.8 +0.3
KSRS *PP **pP** 08 23 13.4 +1.3
KSRS pmax pmax
comp=Z,36nm,0.8s
KSRS MLR MLR
comp=Z,47nm,20.1s
COLD Coldfoot 76.24 359 *e*P **P** 08 22 32.2 +0.7
comp=Z,10.0nm,0.8s
COLD Coldfoot 76.24 359 *e*P **P** 08 22 32.2 +0.7
comp=Z,10.0nm,0.8s
YKA Yellowknife Ar 76.29 343 P **P** 08 22 30.9 -1.0
comp=Z,3.6nm,0.6s,baz=29,slow=5.4,SNR=34
TJN Taejon 76.41 55 ⇓*i*P **P** 08 22 32.4 -0.6
TJN Taejon 76.41 55 *i* P **P** 08 22 32.4 -0.6
KSDGY Daegwallycong 76.49 53 P **P** 08 22 34.2 +0.7
SNR=7.7
KSCHJ Chungju 76.52 54 P **P** 08 22 34.3 +0.6
SNR=8.1
KSBON Boeun 76.62 54 P **P** 08 22 34.3 0.0
SNR=17
SSPA Standing Stone 76.63 311 *e*P **P** 08 22 35.2 +1.0
comp=Z,6.1nm,0.9s
SSPA Standing Stone 76.63 311 *e*P **P** 08 22 35.1 +1.0
comp=Z,6.1nm,0.9s
SDMD Soldier's Deli 76.72 309 *e*P **P** 08 22 35.3 +0.5
comp=Z,75nm,1.1s
SDMD Soldier's Deli 76.72 309 *e*P **P** 08 22 35.3 +0.5
comp=Z,75nm,1.1s
KSTBA Taebaek 77.00 53 P **P** 08 22 37.1 +0.6
SNR=7.4
IM04 Indian Mountai 77.52 0 *e*P **P** 08 22 39.1 +0.4
IM04 Indian Mountai 77.52 0 *e*P **P** 08 22 39.1 +0.4
KSULJ Uljin 77.54 53 P **P** 08 22 40.2 +0.8
SNR=6.8
CBN Corbin 77.78 309 *e*P **P** 08 22 41.2 +0.6
comp=Z,15nm,0.6s
CBN Corbin 77.78 309 *e*P **P** 08 22 41.2 +0.6
comp=Z,15nm,0.6s
EGAK Eagle 78.29 355 *e*P **P** 08 22 43.0 0.0
comp=Z,4.1nm,0.6s
EGAK Eagle 78.29 355 *e*P **P** 08 22 43.0 0.0
comp=Z,4.1nm,0.6s
JSRW J. Sargeant Re 78.41 308 *e*P **P** 08 22 44.5 +0.4
JSRW J. Sargeant Re 78.41 308 *e*P **P** 08 22 44.5 +0.4
MLY Manley 78.45 359 *e*P **P** 08 22 44.8 +0.8
MLY Manley 78.45 359 *e*P **P** 08 22 44.8 +0.8
COLA College 78.54 358 *i*P **P** 08 22 44.9 +0.6
COLA pmax pmax
comp=Z,63nm,2.0s
COLA College 78.54 358 *e*P **P** 08 22 44.5 +0.2
comp=Z,3.2nm,0.7s
COLA College 78.54 358 *e*P **P** 08 22 44.5 +0.2
comp=Z,3.2nm,0.7s
ILAR Eielson Array 78.61 357 P **P** 08 22 44.2 -0.6
comp=Z,3.2nm,0.8s,baz=344,slow=3.7,SNR=41
YSS Yuzh-Sakhalins 78.74 39 ⇓*i*P **P** 08 22 46.4 +0.7
YSS *e* 08 23 35.0
YSS *e* 08 25 49.0
YSS pmax pmax
comp=Z,120nm,1.0s
YSS Yuzh-Sakhalins 78.74 39 *i* P **P** 08 22 46.4 +0.7
comp=Z,120nm,1.0s
YSS Yuzh-Sakhalins 78.74 39 *e*P **P** 08 22 46.5 +0.8
comp=Z,60nm,0.7s
CCB Clear Creek Bu 78.77 358 *e*P **P** 08 22 45.2 -0.4
CCB Clear Creek Bu 78.77 358 *e*P **P** 08 22 45.2 -0.4
FFC Flin Flon 78.81 333 *e*P **P** 08 22 45.5 -0.6
FFC pmax pmax
comp=Z,11nm,0.9s
FFC Flin Flon 78.81 333 *e*P **P** 08 22 45.5 -0.6
comp=Z,11nm,0.9s
FFC Flin Flon 78.81 333 *e*P **P** 08 22 45.5 -0.6
comp=Z,11nm,0.9s
WRH Wood River Hil 78.95 358 *e*P **P** 08 22 46.4 -0.2
WRH Wood River Hil 78.95 358 *e*P **P** 08 22 46.4 -0.2
HDA Harding Lake 78.98 357 *e*P **P** 08 22 46.7 -0.1
HDA Harding Lake 78.98 357 *e*P **P** 08 22 46.7 -0.1
YHNB Yeheng 78.99 68 *e*P **P** 08 22 48.7 +1.1
comp=Z,33nm,0.9s
YHNB Yeheng 78.99 68 *e*P **P** 08 22 48.7 +1.1
comp=Z,33nm,0.9s
EYMN Ely 79.33 323 P **P** 08 22 48.6 -0.4
baz=79
BPAW Bear Paw Mtn. 79.39 359 *e*P **P** 08 22 48.5 -0.6
comp=Z,2.3nm,0.8s
BPAW Bear Paw Mtn. 79.39 359 *e*P **P** 08 22 48.5 -0.6
comp=Z,2.3nm,0.8s
YULB Yu-li 79.67 69 *e*P **P** 08 22 51.3 0.0
comp=Z,17nm,0.8s
YULB Yu-li 79.67 69 *e*P **P** 08 22 51.3 0.0
comp=Z,17nm,0.8s
ULM Lac du Bonnet 79.70 327 P **P** 08 22 50.0 -0.9
comp=Z,9.0nm,0.7s,baz=33,slow=4.9,SNR=7.4
MCK McKinley 79.72 358 *e*P **P** 08 22 50.3 -0.5
MCK pmax pmax
comp=Z,11nm,1.1s
MCK McKinley 79.72 358 *e*P **P** 08 22 50.3 -0.5
comp=Z,11nm,1.1s
MCK McKinley 79.72 358 *e*P **P** 08 22 50.3 -0.5
comp=Z,11nm,1.1s
ACSO Alum Creek Sta 79.92 313 *e*P **P** 08 22 52.5 +0.2
comp=Z,9.6nm,0.9s
ACSO Alum Creek Sta 79.92 313 *e*P **P** 08 22 52.5 +0.2
comp=Z,9.6nm,0.9s
TRF Thorofare Moun 80.03 359 *e*P **P** 08 22 51.9 -0.8
comp=Z,6.4nm,0.7s
TRF Thorofare Moun 80.03 359 *e*P **P** 08 22 51.9 -0.8
comp=Z,6.4nm,0.7s
CAST Castle Rocks 80.08 360 *e*P **P** 08 22 53.0 +0.2
CAST Castle Rocks 80.08 360 *e*P **P** 08 22 53.0 +0.2
MENT Mentasta 80.29 356 *e*P **P** 08 22 54.5 +0.6
MENT Mentasta 80.29 356 *e*P **P** 08 22 54.5 +0.6
ASAJ Asahikawa 80.58 41 P **P** 08 22 55.6 -0.2
comp=Z,13nm,0.6s,baz=323,slow=15
ASAJ Asahikawa 80.58 41 P **P** 08 22 55.6 -0.2
ASAJ pmax pmax
comp=Z,13nm,0.6s
ASAJ Asahikawa 80.58 41 *e*P **P** 08 22 55.0 -0.7
comp=Z,5.8nm,0.6s
ASAJ Asahikawa 80.58 41 *e*P **P** 08 22 55.0 -0.7
comp=Z,5.8nm,0.6s
JKA Kamikawa-asahi 80.58 41 P **P** 08 22 55.6 -0.2
comp=Z,13nm,0.6s
PPLA Purkeypile 80.61 360 *e*P **P** 08 22 55.8 +0.1
comp=Z,15nm,0.8s
PPLA Purkeypile 80.61 360 *e*P **P** 08 22 55.8 +0.1
comp=Z,15nm,0.8s
JNU Nakatsue 80.67 56 P **P** 08 22 56.5 0.0
comp=Z,28nm,0.9s,baz=70,slow=3.2,SNR=16
JNU Nakatsue 80.67 56 *e*P **P** 08 22 56.5 0.0
comp=Z,11nm,0.8s
JNU Nakatsue 80.67 56 *e*P **P** 08 22 56.5 0.0
comp=Z,11nm,0.8s
KSI Kapahiang 80.78 102 P **P** 08 22 58.7 +1.4
PETK Petropavlovsk- 80.78 28 P **P** 08 22 55.7 -1.0
comp=Z,8.8nm,0.7s,baz=349,slow=1.5,SNR=14
PETK PP **PP** 08 26 03.2 +0.9
comp=Z,5.4nm,1.0s,baz=58,slow=3.6,SNR=3.8
AGMN Agassiz Nation 81.12 325 *e*P **P** 08 22 58.3 -0.3
comp=Z,4.2nm,0.7s
AGMN Agassiz Nation 81.12 325 P **P** 08 22 57.6 -1.0
baz=81
AGMN Agassiz Nation 81.12 325 *e*P **P** 08 22 58.3 -0.3
comp=Z,4.2nm,0.7s
PET Petropavlovsk 81.20 27 *e*P **P** 08 22 57.7 -1.1
PET *e* 08 34 02.7
PET pmax pmax
comp=Z,13nm,0.7s
PET MLR MLR
comp=Z,100nm,21.0s
PET Petropavlovsk 81.20 27 *e*P **P** 08 22 57.7 -1.1
comp=Z,13nm,0.7s
SCM Sheep Creek Mo 81.57 357 *e*P **P** 08 23 01.3 +0.6
SCM Sheep Creek Mo 81.57 357 *e*P **P** 08 23 01.3 +0.6
SCM Sheep Creek Mo 81.57 357 *e*P **P** 08 23 01.3 +0.6
SML Sawmill 81.63 358 *e*P **P** 08 23 00.6 -0.4
SML pmax pmax
comp=Z,2.0nm,0.6s
SML Sawmill 81.63 358 *e*P **P** 08 23 00.6 -0.4
comp=Z,2.0nm,0.6s
SML Sawmill 81.63 358 *e*P **P** 08 23 00.6 -0.4
comp=Z,2.1nm,0.6s
A30A Hoffart Farm, 81.74 327 P **P** 08 23 01.2 -0.6
baz=82
HYT Haines Junctio 81.86 352 *e*P **P** 08 23 02.7 +0.4
comp=Z,11nm,1.1s
HYT Haines Junctio 81.86 352 *e*P **P** 08 23 02.7 +0.4
comp=Z,11nm,1.1s
PMR Palmer 81.87 358 *e*P **P** 08 23 01.9 -0.3
PMR pmax pmax
comp=Z,21nm,1.1s
PMR Palmer 81.87 358 *e*P **P** 08 23 01.9 -0.3
comp=Z,21nm,1.1s
PMR Palmer 81.87 358 *e*P **P** 08 23 01.9 -0.3
comp=Z,21nm,1.1s
SPMN St. Paul 81.88 322 *e*P **P** 08 23 03.2 +0.6
comp=Z,7.7nm,0.8s
SPMN St. Paul 81.88 322 P **P** 08 23 02.0 -0.6
baz=82
SPMN St. Paul 81.88 322 *e*P **P** 08 23 03.2 +0.6
comp=Z,7.7nm,0.8s
B30A Myrvik Farm, E 82.12 327 P **P** 08 23 03.4 -0.4
baz=82
A29A Manning Farm, 82.16 327 P **P** 08 23 03.0 -0.9
baz=82
JFWS Jewell Farm 82.19 319 *e*P **P** 08 23 04.7 +0.4
JFWS pmax pmax
comp=Z,6.0nm,0.7s
JFWS Jewell Farm 82.19 319 *e*P **P** 08 23 04.7 +0.4
comp=Z,6.0nm,0.7s
JFWS Jewell Farm 82.19 319 *e*P **P** 08 23 04.7 +0.4
comp=Z,5.8nm,0.7s
SFIN Scholer Farm 82.20 315 *e*P **P** 08 23 04.8 +0.5
comp=Z,6.1nm,0.7s
SFIN Scholer Farm 82.20 315 P **P** 08 23 04.2 -0.1
baz=82
SFIN Scholer Farm 82.20 315 *e*P **P** 08 23 04.8 +0.5
comp=Z,6.1nm,0.7s
BMRM Bremner River 82.30 356 *e*P **P** 08 23 04.4 -0.2
comp=Z,6.0nm,0.9s
BMRM Bremner River 82.30 356 *e*P **P** 08 23 04.4 -0.2
comp=Z,6.0nm,0.9s
ERM Erimo 82.32 42 P **P** 08 23 06.2 +1.3
comp=Z,174nm,1.4s,SNR=5.2
ERM Erimo 82.32 42 *c i*P **P** 08 23 05.6 +0.7
ERM pmax pmax
comp=Z,49nm,1.4s
ERM Erimo 82.32 42 *i* P **P** 08 23 05.6 +0.7
comp=Z,49nm,1.4s
ERM Erimo 82.32 42 *e*P **P** 08 23 05.8 +0.9
comp=Z,26nm,0.9s
SPU Mount Spurr 82.33 359 *e*P **P** 08 23 04.2 -0.5
SPU Mount Spurr 82.33 359 *e*P **P** 08 23 04.2 -0.5
SVW2 Sparrevohn 82.40 1 *e*P **P** 08 23 05.8 +0.8
SVW2 Sparrevohn 82.40 1 *e*P **P** 08 23 05.8 +0.8
B29A Wagenman Farm, 82.55 327 P **P** 08 23 05.2 -0.8
baz=82
A28A Rude Farm, Bot 82.61 328 P **P** 08 23 05.9 -0.5
baz=82
BLO Bloomington 82.68 314 *e*P **P** 08 23 07.3 +0.4
BLO pmax pmax
comp=Z,12nm,0.6s
BLO Bloomington 82.68 314 *e*P **P** 08 23 07.3 +0.4
comp=Z,12nm,0.6s
BLO Bloomington 82.68 314 *e*P **P** 08 23 07.3 +0.4
comp=Z,12nm,0.6s
JOW Kunigami 82.72 62 *e*P **P** 08 23 07.0 -0.3
comp=Z,13nm,0.8s
JOW Kunigami 82.72 62 *e*P **P** 08 23 07.0 -0.3
comp=Z,13nm,0.8s
C30A Mose, Pekin 82.75 326 P **P** 08 23 06.5 -0.6
baz=82
LWLI Liwa 82.76 102 P **P** 08 23 09.6 +1.8
B28A Dugan Ranch, T 83.00 328 P **P** 08 23 08.0 -0.3
baz=83
MDND Maddock 83.13 327 P **P** 08 23 08.7 -0.3
baz=83
DLBC Dease Lake 83.14 348 *e*P **P** 08 23 09.5 +0.5
comp=Z,4.2nm,0.8s
DLBC Dease Lake 83.14 348 *e*P **P** 08 23 09.5 +0.5
comp=Z,4.2nm,0.8s
MAJO Matsushiro 83.15 49 *d i*P **P** 08 23 09.1 -0.3
MAJO pmax pmax
comp=Z,312nm,1.2s
MAJO Matsushiro 83.15 49 *e*P **P** 08 23 09.3 -0.1
comp=Z,53nm,1.1s
MAJO Matsushiro 83.15 49 *e*P **P** 08 23 09.3 -0.1
comp=Z,53nm,1.1s
MAT Matsushiro 83.15 49 P **P** 08 23 08.8 -0.6
MJAR Matsushiro Arr 83.15 49 P **P** 08 23 09.4 +0.1
comp=Z,27nm,1.1s,baz=300,slow=5.7,SNR=55
MJAR LR LR 09 04 57.2
comp=Z,35nm,18.4s,baz=180,slow=39
D30A Buchanan 83.32 326 P **P** 08 23 09.6 -0.4
baz=83,SNR=5.8
A26A Wade Farm, Ken 83.36 329 P **P** 08 23 09.9 -0.3
baz=83
TKL Tuckaleechee C 83.36 310 *e*P **P** 08 23 11.7 +1.2
TKL Tuckaleechee C 83.36 310 *e*P **P** 08 23 11.7 +1.2
TKL Tuckaleechee C 83.36 310 *e*P **P** 08 23 11.7 +1.2
B27A Peters Farms, 83.42 328 P **P** 08 23 10.5 0.0
baz=83
C28A Hausauer Farms 83.57 327 P **P** 08 23 11.2 -0.1
baz=83
D29A Pettibone, Tap 83.73 326 P **P** 08 23 11.9 -0.2
baz=83
A25A Svangstu Ranch 83.77 329 P **P** 08 23 12.4 +0.1
baz=84
KSM Kuching 83.83 93 *e*P **P** 08 23 14.9 +1.8
comp=Z,23nm,0.9s
KSM Kuching 83.83 93 *e*P **P** 08 23 14.9 +1.8
comp=Z,23nm,0.9s
E30A Jud 83.84 326 P **P** 08 23 12.2 -0.6
baz=84
B26A Jensen Ranch, 83.85 329 P **P** 08 23 12.6 -0.1
baz=84
OLIL Olney 83.88 315 *e*P **P** 08 23 13.3 +0.3
comp=Z,17nm,0.8s
OLIL Olney 83.88 315 *e*P **P** 08 23 13.3 +0.3
comp=Z,17nm,0.8s
EDM Edmonton 83.92 337 *e*P **P** 08 23 12.4 -0.6
EDM pmax pmax
comp=Z,20nm,0.7s
EDM Edmonton 83.92 337 *e*P **P** 08 23 12.4 -0.6
comp=Z,20nm,0.7s
EDM Edmonton 83.92 337 *e*P **P** 08 23 12.4 -0.6
comp=Z,20nm,0.7s
CPCT Cooper Cave 83.96 310 *e*P **P** 08 23 14.7 +1.2
CPCT Cooper Cave 83.96 310 *e*P **P** 08 23 14.7 +1.2
D28A Regan 84.06 327 P **P** 08 23 13.4 -0.3
baz=84
C27A Sayler Ranch, 84.06 328 P **P** 08 23 14.0 +0.3
baz=84
E29A Napoleon 84.12 326 P **P** 08 23 13.9 -0.2
baz=84,SNR=6.3
C26A Wahner Farm, P 84.22 328 P **P** 08 23 14.4 -0.2
baz=84
B25A Knox Farm, Ray 84.32 329 P **P** 08 23 14.8 -0.2
baz=84
F30A Leola 84.40 325 P **P** 08 23 15.3 -0.2
baz=84,SNR=8.3
DGMT Dagmar 84.58 330 P **P** 08 23 15.3 -1.1
baz=84
E28A Huff 84.58 327 P **P** 08 23 16.4 -0.1
baz=84,SNR=5.8
GOGA Godfrey 84.64 308 *e*P **P** 08 23 18.5 +1.6
GOGA pmax pmax
comp=Z,26nm,1.5s
GOGA Godfrey 84.64 308 *e*P **P** 08 23 18.5 +1.6
comp=Z,26nm,1.5s
GOGA Godfrey 84.64 308 *e*P **P** 08 23 18.5 +1.6
comp=Z,26nm,1.5s
F29A Eureka 84.77 326 P **P** 08 23 17.4 0.0
baz=84
C25A Freed Ranch, W 84.80 329 P **P** 08 23 17.5 0.0
baz=84
ECSD EROS Data Cent 84.84 323 *e*P **P** 08 23 17.7 -0.1
comp=Z,11nm,0.7s
ECSD EROS Data Cent 84.84 323 P **P** 08 23 17.4 -0.4
baz=85,SNR=11
ECSD EROS Data Cent 84.84 323 *e*P **P** 08 23 17.7 -0.1
comp=Z,11nm,0.7s

SWET	Sewanee	84.97	311	*e*P		P	08 23 19.7	+1.1	
	comp=Z,2.5nm,0.4s								
SWET	Sewanee	84.97	311	*e*P		P	08 23 19.7	+1.1	
	comp=Z,2.6nm,0.4s								
D26A	Manning	84.99	328	P		P	08 23 18.1	-0.4	
	baz=85								
G30A	Faulkton	84.99	325	P		P	08 23 18.1	-0.4	
	baz=85,SNR=7.6								
E27A	Carson	85.08	327	P		P	08 23 19.1	+0.1	
	baz=85,SNR=5.7								
SDDR	Presa de Saban	85.14	290	*e*P		P	08 23 21.8	+2.1	
	comp=Z,7.8nm,0.5s								
SDDR	Presa de Saban	85.14	290	*e*P		P	08 23 21.8	+2.1	
	comp=Z,7.8nm,0.5s								
F28A	McLaughlin	85.19	326	P		P	08 23 19.4	-0.1	
	baz=85,SNR=11								
SIUC	Southern Illin	85.22	314	*e*P		P	08 23 20.6	+0.9	
	comp=Z,14nm,0.8s								
SIUC	Southern Illin	85.22	314	*e*P		P	08 23 20.6	+0.9	
	comp=Z,14nm,0.8s								
A21A	Bergtoll Ranch	85.23	332	P		P	08 23 19.1	-0.5	
	baz=85								
C24A	Savage	85.42	329	P		P	08 23 20.4	-0.3	
	baz=85,SNR=6.5								
E26A	Carlson Angus	85.44	328	P		P	08 23 20.5	-0.3	
	baz=85,SNR=7.4								
WVT	Waverly	85.50	312	*e*P		P	08 23 21.4	+0.2	
WVT				pmax		pmax			
	comp=Z,4.0nm,0.6s								
WVT	Waverly	85.50	312	*e*P		P	08 23 21.4	+0.2	
	comp=Z,4.0nm,0.6s								
WVT	Waverly	85.50	312	*e*P		P	08 23 21.4	+0.2	
	comp=Z,4.0nm,0.6s								
L35A	Bielow Farm, R	85.50	321	P		P	08 23 21.0	-0.1	
	baz=85								
F27A	Lemmon	85.71	327	P		P	08 23 21.8	-0.2	
	baz=85,SNR=8.6								
D24A	Glendive	85.71	329	P		P	08 23 21.9	-0.1	
	baz=85								
KDAK	Kodiak Island	85.74	360	*i* P		P	08 23 22.2	+0.3	
KDAK	Kodiak Island	85.74	360	*e*P		P	08 23 21.6	-0.3	
	comp=Z,12nm,0.8s								
KDAK	Kodiak Island	85.74	360	*e*P		P	08 23 21.6	-0.3	
	comp=Z,12nm,0.8s								
E25A	Miller Ranch,	85.81	328	P		P	08 23 22.6	0.0	
	baz=86								
G28A	Parade	85.84	326	P		P	08 23 22.8	0.0	
	baz=86,SNR=7.5								
H29A	Onida	85.87	325	P		P	08 23 22.2	-0.7	
	baz=86								
A19A	Klindworth Far	85.97	332	P		P	08 23 22.9	-0.5	
	baz=86,SNR=5.6								
TIGA	Tifton	86.01	307	P		P	08 23 23.6	-0.1	
	baz=86								
F26A	Lodgepole	86.01	327	P		P	08 23 23.2	-0.4	
	baz=86,SNR=8.5								
I30A	Oacoma	86.05	324	P		P	08 23 22.9	-0.8	
	baz=86								
G27A	Dupree	86.06	327	P		P	08 23 23.1	-0.7	
	baz=86								
B20A	Solberg Farm,	86.10	332	P		P	08 23 24.2	+0.2	
	baz=86,SNR=9.4								
H28A	Mission Ridge	86.20	326	P		P	08 23 24.4	-0.1	
	baz=86,SNR=5.8								
C21A	Desert Coulee	86.25	331	P		P	08 23 24.8	+0.1	
	baz=86,SNR=10								
F25A	Bowman	86.29	328	P		P	08 23 24.3	-0.7	
	baz=86								
L33A	Hoskins	86.33	322	P		P	08 23 24.9	-0.3	
	baz=86								
I29A	Vivian Onida	86.37	325	P		P	08 23 25.0	-0.3	
	baz=86								
G26A	Maurine	86.42	327	P		P	08 23 24.9	-0.6	
	baz=86,SNR=20								
B19A	Brinkman Farms	86.44	332	P		P	08 23 25.7	+0.1	
	baz=86,SNR=13								
D22A	Cohagen	86.44	330	P		P	08 23 25.2	-0.4	
	baz=86,SNR=10								
J30A	Dallas	86.53	324	P		P	08 23 26.0	-0.1	
	baz=86								
PBMO	Poplar Bluff	86.56	314	*e*P		P	08 23 27.5	+1.2	
PBMO	Poplar Bluff	86.56	314	*e*P		P	08 23 27.5	+1.2	
E23A	Ismay	86.61	329	P		P	08 23 26.3	-0.1	
	baz=86,SNR=6.5								
C20A	Veseth Ranch,	86.69	331	P		P	08 23 27.0	+0.1	
	baz=86,SNR=14								
H27A	Howes	86.70	326	P		P	08 23 26.5	-0.5	
	baz=86								
F24A	Ekalaka	86.77	328	P		P	08 23 27.3	-0.1	
	baz=86,SNR=5.6								
I28A	Midland	86.79	325	P		P	08 23 26.5	-0.8	
	baz=86								
G25A	Newell	86.85	327	P		P	08 23 27.1	-0.7	
	baz=87,SNR=5.3								
J29A	Okreek	86.86	324	P		P	08 23 27.4	-0.3	
	baz=87,SNR=8.0								
N34A	Lincoln	86.93	321	P		P	08 23 27.5	-0.6	
	baz=87								
H26A	Fairpoint	87.03	327	P		P	08 23 28.0	-0.5	
	baz=87,SNR=6.2								
K30A	Basset	87.08	324	P		P	08 23 28.6	-0.2	
	baz=87,SNR=6.6								
LRAL	Lakeview Retre	87.09	310	*e*P		P	08 23 29.6	+0.6	
	comp=Z,15nm,1.0s								
LRAL	Lakeview Retre	87.09	310	*e*P		P	08 23 29.6	+0.6	
	comp=Z,15nm,1.0s								
EGMT	Eagleton	87.10	333	*e*P		P	08 23 29.3	+0.4	
	comp=Z,17nm,0.8s								
EGMT	Eagleton	87.10	333	P		P	08 23 28.6	-0.2	
	baz=87,SNR=15								
EGMT	Eagleton	87.10	333	*e*P		P	08 23 29.3	+0.4	
	comp=Z,17nm,0.8s								
I27A	Quinn	87.13	326	P		P	08 23 28.8	-0.3	
	baz=87								
G24A	Alzada	87.17	328	P		P	08 23 28.8	-0.5	
	baz=87								
J28A	Allard Ranch,	87.26	325	P		P	08 23 29.1	-0.6	
	baz=87								
F23A	Volborg	87.28	329	P		P	08 23 29.3	-0.4	
	baz=87,SNR=6.8								
BGNE	Belgrade	87.33	322	P		P	08 23 29.7	-0.3	
	baz=87								
K29A	Lazy Trails An	87.35	324	P		P	08 23 30.4	+0.3	
	baz=87								
H25A	Fruitdale	87.38	327	P		P	08 23 29.9	-0.4	
	baz=87								
N33A	J Bar K, Exete	87.48	321	P		P	08 23 30.4	-0.4	
	baz=87								
O34A	Beatrice	87.51	320	P		P	08 23 30.6	-0.3	
	baz=87								
I26A	New Underwood	87.52	326	P		P	08 23 30.4	-0.5	
	baz=87								
F22A	Rosebud	87.58	329	P		P	08 23 31.1	0.0	
	baz=87								
BDFB	Brasilia	87.65	249	P		P	08 23 33.4	+1.5	
	comp=Z,12nm,0.8s,baz=71,slow=7.4,SNR=13								
P35A	Duane Minner,	87.65	319	P		P	08 23 31.4	-0.1	
	baz=87								
WALA	Waterton Lakes	87.68	335	*e*P		P	08 23 30.2	-1.5	
	comp=Z,3.5nm,0.6s								
WALA	Waterton Lakes	87.68	335	*e*P		P	08 23 30.2	-1.5	
	comp=Z,3.5nm,0.6s								
G23A	Biddle	87.69	328	P		P	08 23 31.3	-0.4	
	baz=87								
H24A	Dirks Ranch, A	87.70	328	P		P	08 23 31.3	-0.5	
	baz=87								
J27A	Elkhorn Farm,	87.75	325	P		P	08 23 32.0	0.0	
	baz=88								
M31A	Lambteckt Ranc	87.78	322	P		P	08 23 32.1	-0.1	
	baz=88								
K28A	Ten Mile Ranch	87.88	325	P		P	08 23 32.4	-0.3	
	baz=88,SNR=8.8								
I25A	Rochford	87.92	327	P		P	08 23 32.7	-0.3	
	baz=88,SNR=6.9								
PTGA	Pitinga	87.93	268	LR		LR	09 00 55.7		
	comp=Z,31nm,19.6s,baz=62,slow=34								
L29A	Maesberg Ranch	87.96	324	P		P	08 23 33.3	+0.2	
	baz=88								
SDPT	Sand Point	87.97	4	*e*P		P	08 23 31.8	-0.9	
	comp=Z,51nm,0.6s								
SDPT	Sand Point	87.97	4	*e*P		P	08 23 31.8	-0.9	
	comp=Z,51nm,0.6s								
RSSD	Black Hills	87.97	327	*e*P		P	08 23 33.2	-0.1	
RSSD				pmax		pmax			
	comp=Z,3.0nm,0.9s								
RSSD	Black Hills	87.97	327	*e*P		P	08 23 33.2	-0.1	
	comp=Z,3.0nm,0.9s								
RSSD	Black Hills	87.97	327	*e*P		P	08 23 33.2	-0.1	
	comp=Z,3.3nm,0.9s								
O33A	Hebron	88.05	321	P		P	08 23 32.9	-0.5	
	baz=88								
J26A	Sides Ranch, S	88.19	326	P		P	08 23 33.8	-0.3	
	baz=88,SNR=5.0								
K27A	Flueckinger Fa	88.28	325	P		P	08 23 34.3	-0.3	
	baz=88								
K26A	Motz Farm, Whi	88.72	326	P		P	08 23 36.6	-0.1	
	baz=88								
YBMT	Yellow Bay	88.75	335	*e*P		P	08 23 37.0	+0.3	
	comp=Z,8.5nm,0.8s								
YBMT	Yellow Bay	88.75	335	*e*P		P	08 23 37.0	+0.3	
	comp=Z,8.5nm,0.8s								
T37A	Cheneyville 18	88.83	317	P		P	08 23 36.7	-0.5	
	baz=89								
J24A	Dixon Ranch, L	88.88	327	P		P	08 23 37.4	0.0	
	baz=89								
M28A	Bar X Bar Ranc	88.90	324	P		P	08 23 37.8	+0.3	
	baz=89								
JTMT	Jette	88.94	335	*e*P		P	08 23 37.9	+0.3	
	comp=Z,6.3nm,0.8s								
JTMT	Jette	88.94	335	*e*P		P	08 23 37.9	+0.3	
	comp=Z,6.3nm,0.8s								
HRY	Holter Researc	88.97	333	*e*P		P	08 23 37.6	-0.1	
	comp=Z,4.2nm,0.7s								
HRY	Holter Researc	88.97	333	*e*P		P	08 23 37.6	-0.1	
	comp=Z,4.2nm,0.7s								
Q33A	Connelly Farm,	88.98	320	P		P	08 23 37.4	-0.4	
	baz=89								
BSMT	Bassoo Peak	89.02	335	*e*P		P	08 23 37.9	-0.2	
	comp=Z,1.5nm,0.6s								
BSMT	Bassoo Peak	89.02	335	*e*P		P	08 23 37.9	-0.2	
	comp=Z,1.5nm,0.6s								
U38A	Gravette	89.03	316	P		P	08 23 38.3	+0.1	
	baz=89								
SWMT	Swartz Lake	89.05	335	*e*P		P	08 23 38.4	+0.3	
	comp=Z,10nm,0.9s								
SWMT	Swartz Lake	89.05	335	*e*P		P	08 23 38.4	+0.3	
	comp=Z,10nm,0.9s								
K25A	Mack Ranch, Ha	89.10	326	P		P	08 23 38.2	-0.3	
	baz=89								
SLMT	Seeley Lake	89.10	334	*e*P		P	08 23 37.9	-0.6	
	comp=Z,7.6nm,1.1s								
SLMT	Seeley Lake	89.10	334	*e*P		P	08 23 37.9	-0.6	
	comp=Z,7.6nm,1.1s								
S35A	Otter Creek Ra	89.17	318	P		P	08 23 38.9	+0.1	
	baz=89								
R34A	Isabella, Hill	89.20	319	P		P	08 23 39.0	+0.1	
	baz=89								
O30A	MW Ranch, Wils	89.20	322	P		P	08 23 38.4	-0.5	
	baz=89								
I22A	9 Mile Ranch,	89.21	328	P		P	08 23 38.7	-0.3	
	baz=89								
RLMT	Red Lodge	89.33	331	P		P	08 23 39.5	-0.2	
	baz=89								
H20A	Greybull	89.35	330	P		P	08 23 39.6	0.0	
	baz=89								
Q32A	Meitler Ranch,	89.36	321	P		P	08 23 39.2	-0.4	
	baz=89								
P31A	Stockton	89.37	321	P		P	08 23 39.5	-0.2	
	baz=89								
NEW	Newport	89.42	337	*e*P		P	08 23 39.8	+0.1	
NEW				pmax		pmax			
	comp=Z,3.0nm,0.6s								
NEW	Newport	89.42	337	*e*P		P	08 23 39.8	+0.1	
	comp=Z,3.0nm,0.6s								
NEW	Newport	89.42	337	P		P	08 23 39.6	-0.1	
	baz=89								
NEW	Newport	89.42	337	*e*P		P	08 23 39.8	+0.1	
	comp=Z,3.5nm,0.6s								
U37A	Salina	89.46	317	P		P	08 23 40.1	0.0	
	baz=89								
V38A	Canehill	89.46	316	P		P	08 23 39.9	-0.2	
	baz=89								
N28A	Pribbeno Ranch	89.53	323	P		P	08 23 40.7	+0.2	
	baz=89								
J22A	Midwest	89.59	328	P		P	08 23 40.1	-0.7	
	baz=89								
I21A	Big Trails, Te	89.61	329	P		P	08 23 40.7	-0.2	
	baz=89								
MSO	Missoula	89.61	334	P		P	08 23 40.7	-0.1	
	baz=89								
BOZ	Bozeman (W)	89.79	332	*e*P		P	08 23 41.9	+0.2	
BOZ				pmax		pmax			
	comp=Z,3.0nm,0.7s								
BOZ	Bozeman (W)	89.79	332	*e*P		P	08 23 41.9	+0.2	
	comp=Z,3.0nm,0.7s								
BOZ	Bozeman (W)	89.79	332	P		P	08 23 41.8	+0.2	
	baz=90								
BOZ	Bozeman (W)	89.79	332	*e*P		P	08 23 41.9	+0.2	
	comp=Z,3.3nm,0.7s								
T35A	Sower Cattle	89.84	318	P		P	08 23 42.0	+0.1	
	baz=90								
I20A	Worland	89.84	329	P		P	08 23 41.4	-0.5	
	baz=90								
V37A	Hulbert	89.86	317	P		P	08 23 42.1	+0.2	
	baz=90								
R32A	Long Quarter,	89.87	320	P		P	08 23 41.6	-0.4	
	baz=90								
MIAR	Mount Ida	89.95	315	*e*P		P	08 23 43.5	+1.1	
MIAR				pmax		pmax			
	comp=Z,7.0nm,1.0s								
MIAR	Mount Ida	89.95	315	*e*P		P	08 23 43.5	+1.1	
	comp=Z,7.0nm,1.0s								
MIAR	Mount Ida	89.95	315	P		P	08 23 42.7	+0.3	
	baz=90								
MIAR	Mount Ida	89.95	315	*e*P		P	08 23 43.5	+1.1	
	comp=Z,6.6nm,1.0s								
LRM	Limekiln Ridge	89.95	333	*e*P		P	08 23 42.2	-0.3	
	comp=Z,33nm,1.1s								
LRM	Limekiln Ridge	89.95	333	*e*P		P	08 23 42.2	-0.3	
	comp=Z,33nm,1.1s								
J21A	Lysite	90.06	329	P		P	08 23 42.1	-0.9	
	baz=90								
W38A	Poteau	90.10	316	P		P	08 23 43.3	+0.2	
	baz=90								
M25A	Palm-Egli Farm	90.12	325	P		P	08 23 43.0	-0.3	
	baz=90								
I19A	Meeteetse	90.12	330	P		P	08 23 42.9	-0.4	
	baz=90								
T34A	McClaskey Farm	90.12	318	P		P	08 23 43.4	+0.2	
	baz=90								
TUL1	Tulsa	90.19	317	*e*P		P	08 23 43.4	-0.2	
	comp=Z,6.2nm,0.8s								
TUL1	Tulsa	90.19	317	P		P	08 23 43.1	-0.5	
	baz=90								
TUL1	Tulsa	90.19	317	*e*P		P	08 23 43.4	-0.2	
	comp=Z,6.2nm,0.8s								
K22A	Casper	90.23	328	P		P	08 23 43.2	-0.6	
	baz=90								
J20A	Shoshoni	90.32	329	P		P	08 23 43.6	-0.6	
	baz=90								
R31A	Burdett	90.38	321	P		P	08 23 44.0	-0.5	
	baz=90								
H17A	Grant Village	90.45	331	*e*P		P	08 23 46.5	+1.6	
	comp=Z,1.9nm,0.7s								
H17A	Grant Village	90.45	331	*e*P		P	08 23 46.5	+1.6	
	comp=Z,1.9nm,0.7s								
W37A	Quinton	90.56	316	P		P	08 23 45.4	+0.1	
	baz=90								
Q29A	Oakley	90.65	322	P		P	08 23 45.6	-0.1	
	baz=90								
O26A	Horse Wrangler	90.72	324	P		P	08 23 45.8	-0.3	
	baz=90								
SDV	Santo Domingo	90.72	282	*e*P		P	08 23 47.0	+0.5	
	comp=Z,4.6nm,0.8s								
SDV	Santo Domingo	90.72	282	*e*P		P	08 23 47.0	+0.5	
	comp=Z,4.6nm,0.8s								
U34A	Anderson Ranch	90.75	318	P		P	08 23 46.3	+0.2	
	baz=90								
PHWY	Pilot Hill	90.86	326	*e*P		P	08 23 46.7	-0.2	
	comp=Z,5.2nm,0.8s								
PHWY	Pilot Hill	90.86	326	*e*P		P	08 23 46.7	-0.2	
	comp=Z,5.2nm,0.8s								
V35A	Meyer Ranch, C	90.87	317	P		P	08 23 46.8	+0.1	
	baz=91								
P27A	Ficken Ranch,	90.91	323	P		P	08 23 46.8	-0.1	
	baz=91								
X37A	Clayton	90.93	316	P		P	08 23 47.3	+0.3	
	baz=91								
P26A	Davis Ranch, A	91.27	324	P		P	08 23 48.9	+0.2	
	baz=91								
W35A	Tecumseh	91.35	317	P		P	08 23 48.8	-0.1	
	baz=91								
TPAW	Teton Pass	91.36	331	*e*P		P	08 23 49.5	+0.4	
	comp=Z,2.0nm,0.8s								
TPAW	Teton Pass	91.36	331	*e*P		P	08 23 49.5	+0.4	
	comp=Z,2.0nm,0.8s								
KSCO	Kaye Shedlock'	91.36	323	P		P	08 23 48.7	-0.4	
	baz=91								
N23A	Red Feather La	91.40	326	P		P	08 23 48.3	-1.1	
	baz=91								
BW06	Boulder Array	91.41	330	*e*P		P	08 23 48.7	-0.6	
	comp=Z,8.4nm,1.7s								
BW06	Boulder Array	91.41	330	*e*P		P	08 23 48.7	-0.6	
	comp=Z,8.4nm,1.7s								
PDAR	Pinedale Array	91.41	330	P		P	08 23 48.0	-1.3	
	comp=Z,0.9nm,0.9s,baz=64,slow=5.1,SNR=9.0								
PDAR				LR		LR	09 07 24.6		
	comp=Z,42nm,18.4s,baz=29,slow=37								
S29A	Ulysses	91.70	321	P		P	08 23 50.3	-0.3	
	baz=91								
ISCO	Idaho Springs	92.14	325	*e*P		P	08 23 52.6	-0.3	
ISCO				pmax		pmax			
	comp=Z,1.0nm,0.7s								
ISCO	Idaho Springs	92.14	325	*e*P		P	08 23 52.5	-0.3	
	comp=Z,1.4nm,0.7s								
ISCO	Idaho Springs	92.14	325	P		P	08 23 52.6	-0.3	
	baz=92								
ISCO	Idaho Springs	92.14	325	*e*P		P	08 23 52.5	-0.3	
	comp=Z,1.4nm,0.7s								
R26A	Arlington	92.31	323	P		P	08 23 53.3	-0.1	
	baz=92								
BMO	Blue Mountains	92.49	335	*e*P		P	08 23 52.8	-1.3	
	comp=Z,3.0nm,0.8s								
BMO	Blue Mountains	92.49	335	*e*P		P	08 23 52.8	-1.3	
	comp=Z,3.0nm,0.8s								
HLID	Hailey	92.61	333	*e*P		P	08 23 54.5	-0.3	
	comp=Z,3.8nm,1.5s								
HLID	Hailey	92.61	333	P		P	08 23 54.6	-0.3	
	baz=92								
HLID	Hailey	92.61	333	*e*P		P	08 23 54.5	-0.3	
	comp=Z,3.8nm,1.5s								
WMOK	Wichita Mounta	92.69	318	*e*P		P	08 23 55.4	+0.2	
WMOK	Wichita Mounta	92.69	318	*e*P		P	08 23 55.4	+0.2	
WMOK	Wichita Mounta	92.69	318	*e*P		P	08 23 55.4	+0.2	
HWUT	Hardware Ranch	93.19	330	*e*P		P	08 23 56.7	-0.8	
	comp=Z,3.1nm,0.8s								
HWUT	Hardware Ranch	93.19	330	*e*P		P	08 23 56.7	-0.8	
	comp=Z,3.1nm,0.8s								
MFID	Camas Ranch	93.24	334	*e*P		P	08 23 57.7	0.0	
	comp=Z,3.7nm,1.0s								
MFID	Camas Ranch	93.24	334	*e*P		P	08 23 57.7	0.0	
	comp=Z,3.7nm,1.0s								
T25A	Trinidad	93.70	323	P		P	08 23 59.7	-0.3	
	baz=93								
SDCO	Great Sand Dun	93.73	324	*e*P		P	08 24 00.2	0.0	
	comp=Z,2.5nm,1.0s								
SDCO	Great Sand Dun	93.73	324	P		P	08 24 00.1	-0.1	
	baz=94								
SDCO	Great Sand Dun	93.73	324	*e*P		P	08 24 00.2	0.0	
	comp=Z,2.5nm,1.0s								
X30A	Coker Ranch, T	94.03	319	P		P	08 24 01.5	+0.2	
	baz=94								
Z32A	Haskell	94.15	317	P		P	08 24 01.9	0.0	
	baz=94								
I05D	Terrebonne, OR	94.23	338	P		P	08 24 02.1	0.0	
	baz=94								
S22A	4UR Ranch, Cre	94.35	325	P		P	08 24 02.4	-0.7	
	baz=94								
233A	Rising Star	94.81	316	P		P	08 24 05.1	+0.1	
	baz=95								
DUG	Dugway	94.89	330	P		P	08 24 05.0	-0.3	
	baz=95								
Y29A	Porterfield Fa	94.90	319	P		P	08 24 05.4	0.0	
	baz=95								
J05D	Fort Rock, OR	95.16	337	P		P	08 24 06.1	-0.4	
	baz=95								
332A	Millersview	95.76	316	P		P	08 24 09.8	+0.5	
	baz=96								
433A	Art	95.87	316	P		P	08 24 09.4	-0.4	
	baz=96								
735A	Kenedy	96.56	313	P		P	08 24 12.4	-0.5	
	baz=96								
M04C	Macdoel	96.71	337	P		P	08 24 13.2	-0.3	
	baz=96								
530A	J-C Ranch, Com	97.58	317	P		Pdif	08 24 17.8	+0.2	
	baz=97								
NVAR	Mina Array Bea	98.52	333	P		P	08 24 21.6	-0.2	
	comp=Z,0.8nm,0.9s,baz=30,slow=3.6,SNR=4.2								
TXAR	Lajitas Array	99.49	319	P		Pdif	08 24 26.0	-0.1	
	comp=Z,1.0nm,0.5s,baz=57,slow=6.0,SNR=4.7								
WRA	Warramunga Arr	115.37	97	PKP		PKPdf	08 29 23.8	-0.4	
	comp=Z,3.0nm,0.7s,baz=315,slow=1.7,SNR=25								
WRA				PP		PP	08 30 24.6	-3.4	
	comp=Z,2.1nm,0.8s,baz=311,slow=6.8,SNR=5.2								
WRA				SKP			08 32 42.8		
	comp=Z,1.4nm,0.8s,baz=316,slow=1.5,SNR=6.4								
WRAB	Tennant Creek	115.37	97	*e*PKIKP		PKPdf	08 29 24.0	-0.1	
WRAB	Tennant Creek	115.37	97	*e*PKPdf		PKPdf	08 29 24.0	-0.1	
ASAR	Alice Springs	116.95	100	PKP		PKPdf	08 29 26.9	-0.2	
	comp=Z,5.0nm,0.7s,baz=319,slow=1.5,SNR=50								
ASAR				SKP			08 32 45.6		
	comp=Z,2.1nm,0.7s,baz=318,slow=1.9,SNR=8.6								
CTAO	Charters Tower	124.98	90	*e*PKIKP		PKPdf	08 29 42.8	+0.2	
CTAO	Charters Tower	124.98	90	*e*PKIKP		PKPdf	08 29 42.8	+0.2	
CTAO	Charters Tower	124.98	90	*e*PKPdf		PKPdf	08 29 42.8	+0.2	
STKA	Stephens Creek	126.78	105	PKP		PKPdf	08 29 45.6	-0.1	
	comp=Z,7.0nm,0.9s,baz=316,slow=2.9,SNR=16								
STKA	Stephens Creek	126.78	105	PKIKP		PKPdf	08 29 45.6	-0.1	
STKA				pmax		pmax			
	comp=Z,7.0nm,0.9s								
STKA	Stephens Creek	126.78	105	*e*PKIKP		PKPdf	08 29 45.9	+0.2	
STKA	Stephens Creek	126.78	105	*e*PKPdf		PKPdf	08 29 45.9	+0.2	
VNDA	Vanda	134.90	167	SKPbc		SKPbc	08 33 14.3	0.0	
	comp=Z,1.0nm,0.6s,baz=250,slow=4.8,SNR=5.0								
MSVF	Nonsavu	148.25	61	*e*PKP2		PKPbc	08 30 30.3	+1.5	
MSVF	Nonsavu	148.25	61	*e*PKPbc		PKPbc	08 30 30.3	+1.5	
MSVF	Nonsavu	148.25	61	*e*PKPbc		PKPbc	08 30 30.3	+1.5	

**IDC 16 08:25:14.3±3.1, 53.60N×87.87E, h0km, mb1 2.8/1, mb1mx2.8/44, mbtmp2.8/1, ML2.0/1, Error ellipse: s-maj=28.2km s-min=15.0km az=63.0,

0.7nm,0.3s,baz=28,slow=13,SNR=12

MKAR				Sn	Sn	08 47 19.2	-0.3
	0.2nm,0.3s,baz=29,slow=28,SNR=3.3						
MKAR				Lg	Lg	08 48 01.5	
	0.2nm,0.3s,baz=26,slow=31,SNR=5.4						

NEIC 16 09:04:46.5±0.2, 39.18N×77.29W, h5km, mb3.5/1, MN3.6, ML3.3(LDO), **MW3.4**(SLM), **Error ellipse: s-maj=5.2km s-min=2.4km az=140.0, Virginia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDMD	**Soldier's Deli**	**0.41**	**57**	*e*Pg	Pb	09 04 56.2	-0.2
SDMD				*e*Sg	Sb	09 05 01.8	-1.2
CBN	**Corbin**	**0.98**	**184**	*e*Pg	Pb	09 05 06.3	+0.3
CBN				*e*Sg	Sb	09 05 19.0	-0.2
MVL	**Millersville**	**1.09**	**41**	P	Pg	09 05 06.9	-0.6
FMPA	**Franklin Colle**	**1.14**	**41**	P	Pg	09 05 07.6	-0.8
FMPA				S	Sg	09 05 22.5	-0.8
DEMA	**Delaware Emerg**	**1.31**	**84**	P	Pg	09 05 12.2	+0.6
DEMA				S	Sn	09 05 29.5	+0.2
NED	**Newark**	**1.33**	**67**	P	Pn	09 05 10.7	-1.0
NED				S	Sg	09 05 28.9	-0.5
BVD	**Bellevue State**	**1.50**	**66**	P	Pn	09 05 14.5	+0.3
BVD				S	Sn	09 05 30.8	-3.3
SSPA	**Standing Stone**	**1.52**	**343**	*e*Pn	Pn	09 05 13.9	-0.6
SSPA				*e*Sn	Sn	09 05 32.7	-1.9
JSRW	**J. Sargeant Re**	**1.56**	**198**	*e*Pn	Pn	09 05 14.5	-0.4
JSRW				*e*Sn	Sn	09 05 35.5	0.0
SCOM	**Sussex County**	**1.57**	**70**	P	Pg	09 05 17.3	+0.6
SCOM				S	Sg	09 05 38.3	+1.1
URVA	**University of**	**1.62**	**187**	P	Pn	09 05 15.7	-0.1
LUPA	**Lehigh Univers**	**2.04**	**46**	P	Pn	09 05 21.9	+0.3
LUPA				S	Sn	09 05 45.4	-2.1
PANJ	**Princeton**	**2.32**	**58**	P	Pn	09 05 25.3	-0.1
PANJ				S	Sn	09 05 52.3	-2.0
BRNJ	**Basking Ridge**	**2.57**	**54**	P	Pn	09 05 28.7	-0.2
BRNJ				S	Sn	09 05 59.3	-1.2
KSPA	**Keystone Colle**	**2.64**	**26**	P	Pn	09 05 29.3	-0.5
KSPA				S	Sn	09 05 59.4	-2.8
ODNJ	**Ogdensburg**	**2.80**	**46**	P	Pn	09 05 31.7	-0.3
ODNJ				S	Sn	09 06 05.0	-1.1
VWCC	**Virginia Weste**	**2.87**	**228**	*e*Pn	Pn	09 05 33.1	+0.1
VWCC				*e*Sn	Sn	09 06 06.8	-1.2
MSNJ	**Montclair St.**	**2.93**	**54**	P	Pn	09 05 33.9	+0.2
MSNJ				S	Sn	09 06 08.1	-1.2
CPNY	**Central Park**	**3.02**	**57**	*e*Pn	Pn	09 05 34.6	-0.4
CPNY				*e*Sn	Sn	09 06 12.5	+1.1
FOR	**Fordham**	**3.10**	**56**	P	Pn	09 05 35.9	-0.2
FOR				S	Sn	09 06 11.6	-2.0
BLA	**Blacksburg**	**3.16**	**232**	*e*Pn	Pn	09 05 37.6	+0.6
BLA				*e*Pg	Pg	09 05 46.0	-1.2
BLA				*e*Sg	Sg	09 06 27.2	-0.9
PAL	**Palisades**	**3.17**	**54**	P	Pn	09 05 28.7	-0.5
PAL				S	Sn	09 06 12.7	-2.5
ALLY	**Alegheny Colle**	**3.29**	**319**	*e*Pn	Pn	09 05 35.5	-3.3
PRNY	**Paleo Inst,Ith**	**3.33**	**10**	P	Pn	09 05 40.5	+1.3
PRNY				S	Sn	09 06 16.6	-2.6
BRNY	**Black Rk. Fore**	**3.35**	**47**	P	Pn	09 05 39.4	-0.2
BRNY				S	Sn	09 06 18.2	-1.6
NPNY	**Mohonk Preserv**	**3.51**	**42**	P	Pn	09 05 41.2	-0.6
NPNY				S	Sn	09 06 23.4	-0.4
MMNY	**Mt. Morris Dam**	**3.58**	**353**	P	Pn	09 05 43.5	+0.9
MMNY				S	Sn	09 06 21.3	-4.0
YLE	**Yale**	**3.95**	**56**	*e*Pn	Pn	09 05 48.7	+0.9
YLE				*e*Pg	Pg	09 06 03.0	+0.8
YLE				*e*Sn	Sn	09 06 32.4	-2.1
YLE				*e*Sg	Sg	09 06 49.4	-4.0
CNNC	**Cliffs of the**	**3.97**	**187**	*e*Pn	Pn	09 05 47.3	-0.7
CNNC				*e*Sn	Sn	09 06 35.6	+0.7
CNNC				*e*Sg	Sg	09 06 52.3	-1.7
HCNY	**Howe Caverns**	**4.13**	**31**	P	Pn	09 05 50.8	+0.4
TRY	**Troy**	**4.48**	**37**	*e*Pn	Pn	09 05 55.8	+0.8
TRY				*e*Sn	Sn	09 06 47.9	+0.4
ACSO	**Alum Creek Sta**	**4.51**	**285**	*e*Pn	Pn	09 05 55.4	-0.2
ACSO				*e*Sg	Sg	09 07 10.4	-1.2
QUA2	**Belchertown**	**4.86**	**49**	*e*Pn	Pn	09 06 00.4	+0.1
QUA2				*e*Pg	Pg	09 06 19.9	+0.2
QUA2				*e*Sn	Sn	09 06 54.3	-2.6
ACCN	**Adirondack Com**	**5.00**	**32**	*e*Pn	Pn	09 06 02.3	0.0
ACCN				*e*Sn	Sn	09 07 02.4	+1.9
ACCN				*e*Sg	Sg	09 07 26.9	-0.4
BRYW	**Bryant College**	**5.16**	**56**	*e*Pn	Pn	09 06 04.1	-0.4
BRYW				*e*Sn	Sn	09 06 59.2	-5.2
VHTN	**Van Hill**	**5.18**	**239**	P	Pn	09 06 05.7	+1.0
NCB	**Newcomb**	**5.30**	**25**	*e*Pn	Pn	09 06 04.2	-2.2
NCB				*e*Sn	Sn	09 07 00.8	-7.2
NCB				*e*Sg	Sb	09 07 26.1	+2.3
CCNC	**Camp Creek Bal**	**5.34**	**235**	P	Pn	09 06 07.1	-0.1
ROKY	**Rotten Point**	**5.36**	**258**	P	Pn	09 06 08.3	+1.1
HRV	**Adam Dziewonsk**	**5.47**	**51**	*e*Pn	Pn	09 06 05.0	-3.7
MDV	**Middlebury**	**5.71**	**31**	*e*Pn	Pn	09 06 11.0	-1.0
MDV				*e*Sn	Sn	09 07 14.6	-3.3
MDV				*e*Sg	Sb	09 07 37.2	+1.8
AAM	**Ann Arbor**	**5.75**	**305**	*e*Pn	Pn	09 06 13.6	+1.0
AAM				*e*Sn	Sn	09 07 20.7	+1.8
LONY	**Lake Ozonia**	**5.79**	**19**	*e*Pn	Pn	09 06 12.0	-1.2
LONY				*e*Sn	Sn	09 07 21.2	+1.2
LONY				*e*Sg	Sb	09 07 43.8	+5.9
HNH	**Hanover**	**5.88**	**38**	Pn	Pn	09 06 16.8	+2.5
HNH				*e*Sn	Sn	09 07 22.0	0.0
HNH				*e*Sg	Sg	09 07 50.8	-4.4
FFD	**Franklin Falls**	**6.03**	**43**	*e*Pn	Pn	09 06 16.9	+0.6
FFD				*e*Sn	Sn	09 07 26.0	+0.4
NHSC	**New Hope**	**6.50**	**202**	*e*Pn	Pn	09 06 21.4	-1.5
NHSC				*e*Sn	Sn	09 07 34.2	-3.1
NHSC				*e*Sg	Sg	09 08 08.4	-6.8
CSU	**Charleston Sou**	**6.58**	**201**	*e*Sg	Sg	09 08 09.8	-8.1
CPCT	**Cooper Cave**	**6.86**	**239**	*e*Pn	Pn	09 06 28.4	+0.5
CPCT				*e*Sn	Sn	09 07 45.3	-1.1
CPCT				*e*Sg	Sg	09 08 20.0	-7.0
BLO	**Bloomington**	**7.17**	**273**	*e*Pn	Pn	09 06 32.9	+0.8
BLO				*e*Sn	Sn	09 07 56.7	+2.7
GOGA	**Godfrey**	**7.62**	**223**	*e*Pn	Pn	09 06 37.1	-1.1
GOGA				*e*Sg	Sb	09 08 39.4	+9.1
SFIN	**Scholer Farm**	**7.65**	**282**	*e*Pn	Pn	09 06 37.7	-0.9
SFIN				*e*Sn	Sn	09 08 04.7	-1.0
SFIN				*e*Sg	Sg	09 08 43.2	-8.8
SWET	**Sewanee**	**7.95**	**243**	*e*Pn	Pn	09 06 42.2	-0.6
SWET				*e*Pg	Pb	09 07 06.2	+1.2
SWET				*e*Sg	Sb	09 08 48.4	+8.4
USIN	**University of**	**8.22**	**265**	Pn	Pn	09 06 47.4	+0.9
USIN				*e*Sg	Sb	09 08 57.1	+10
OLIL	**Olney**	**8.44**	**270**	*e*Pn	Pn	09 06 51.7	+2.3
OLIL				*e*Sn	Sn	09 08 18.1	-7.0
WVT	**Waverly**	**8.90**	**253**	*e*Pn	Pn	09 06 55.0	-0.8
WVT				*e*Sn	Sn	09 08 28.8	-7.6
WVT				*e*Sg	Sg	09 09 08.2	-24
EMMW	**East Machias**	**9.17**	**50**	Pn	Pn	09 06 59.5	+0.1
EMMW				*e*Sn	Sn	09 08 29.2	-14
EMMW				*e*Lg	Lg	09 09 30.2	
LRAL	**Lakeview Retre**	**9.96**	**235**	*e*Pn	Pn	09 07 09.6	-0.8
LRAL				*e*Sn	Sn	09 09 06.0	+3.4
PQI	**Presque Isle**	**10.10**	**39**	*e*Pn	Pn	09 07 10.3	-1.9
PQI				*e*Lg	Lg	09 09 54.8	
JFWS	**Jewell Farm**	**10.47**	**295**	*e*Pn	Pn	09 07 14.7	-2.7
JFWS				*e*Sn	Sn	09 09 05.5	-10
OXF	**Oxford**	**10.77**	**248**	*e*Pn	Pn	09 07 24.4	+3.0
SCIA	**State Center**	**12.42**	**288**	*e*Sn	Sn	09 09 59.6	-3.1
EYMN	**Ely**	**13.50**	**315**	Pn	Pn	09 07 54.1	-4.6
EYMN				*e*Sn	Sn	09 10 23.9	-5.2
MIAR	**Mount Ida**	**13.83**	**255**	Sn	Sn	09 10 35.7	-1.5
ECSD	**EROS Data Cent**	**15.18**	**294**	*e*Pn	Pn	09 08 22.6	+1.0
	1.4nm,0.6s						
ECSD				*e*Lg	Lg	09 12 30.3	

IDC 16 09:07:25.4±3.5, 3.42S×151.77E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.3/38, mbtmp3.6/2, Error ellipse: s-maj=144.7km s-min=45.8km az=116.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.64**	**225**	P	P	09 12 38.0	-0.6
	1.7nm,0.4s,baz=51,slow=9.9,SNR=31						
ASAR	**Alice Springs**	**26.52**	**219**	P	P	09 13 06.2	+1.2
	0.2nm,0.3s,baz=52,slow=8.9,SNR=8.4						
TORD	**Torodi Ar. Bea**	**148.88**	**290**	PKPbc	PKPbc	09 27 15.1	-1.2
	0.4nm,0.6s,baz=77,slow=2.9,SNR=3.1						

*IDC **16** 09:14:31.4±1.4, 32.71S×178.58W, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.9/32, mbtmp4.1/5, ML3.6/1, Error ellipse: s-maj=34.7km s-min=27.2km az=62.0*
*ISCJB **16** 09:14:33.9±1.2, 32.81S±0.10×178.15W±0.2, h33km, mb4.1/5, Error ellipse: s-maj=27.5km s-min=10.7km az=21.0*
*NEIC **16** 09:14:36.5±0.7, 32.73S×178.57W, h35km, mb4.2/2, Error ellipse: s-maj=18.7km s-min=12.5km az=112.0*

ISC 16 09:14:36.3±1.1, 32.7S±0.1×178.6W±0.2, h33km, n11, σ0.975/12, mb4.2/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.52**	**211**	Pn	**Pn**	**09 16 09.0**	**-0.8**
	1.2nm,0.3s,baz=86,slow=14,SNR=12						
URZ				Sn	**Sn**	**09 17 22.8**	**-0.3**
	2.7nm,0.3s,baz=90,slow=20,SNR=6.9						
AFI	**Afiamalu**	**19.75**	**20**	*e*P	**P**	**09 19 02.7**	**-0.9**
	13nm,0.8s						
CTA	**Charters Tower**	**33.73**	**283**	P	**P**	**09 21 14.6**	**-0.1**
	2.3nm,0.6s,baz=131,slow=11,SNR=2.6						
ASAR	**Alice Springs**	**42.51**	**270**	P	**P**	**09 22 29.1**	**+0.3**
	1.5nm,0.7s,baz=108,slow=7.7,SNR=16						
WRAB	**Tennant Creek**	**43.70**	**275**	*e*P	**P**	**09 22 39.2**	**+0.8**
	2.0nm,0.5s						
WRA	**Warramunga Arr**	**43.71**	**275**	P	**P**	**09 22 39.2**	**+0.7**
	1.8nm,0.5s,baz=114,slow=7.8,SNR=42						
QSPA	**South Pole Qui**	**57.38**	**180**	P	**P**	**09 24 22.1**	**+0.8**
	1.3nm,0.8s,baz=48,slow=2.7,SNR=5.9						
QSPA	**South Pole Qui**	**57.38**	**180**	*e*P	**P**	**09 24 22.4**	**+1.1**
FINES	**FINESS Array B**	**147.13**	**338**	PKPbc	**PKPbc**	**09 34 15.0**	**-0.1**
	2.5nm,0.6s,baz=54,slow=2.4,SNR=14						
BRTR	**Keskin Array B**	**153.16**	**294**	PKPbc	**PKPbc**	**09 34 30.9**	**+0.2**
	0.6nm,0.6s,baz=80,slow=3.5,SNR=2.5						
TORD	**Torodi Ar. Bea**	**160.50**	**181**	PKPab	**PKPab**	**09 35 13.7**	**-0.5**
	0.8nm,1.1s,baz=184,slow=4.3,SNR=2.6						

IDC 16 09:30:22.0±3.2, 54.77N×86.64E, h0km, mb1 2.8/2, mb1mx2.7/56, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=28.9km s-min=19.1km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.35**	**233**	*i*		09 38 30.0	
	baz=52,slow=316,SNR=4.1						
ZALV	**Zalesovo Beam**	**1.35**	**233**	Pg	Pg	09 30 46.1	-1.8
	0.9nm,0.3s,baz=54,slow=16,SNR=8.0						
ZALV				Lg	Lg	09 31 05.2	
	1.6nm,0.3s,baz=52,slow=26,SNR=11						
KURBB	**Kurchatov Arra**	**6.45**	**233**	Pn	Pn	09 31 58.5	+0.4
	0.2nm,0.3s,baz=50,slow=14,SNR=5.7						
MKAR	**Makanchi Array**	**8.45**	**201**	Pn	Pn	09 32 26.9	+1.2
	0.1nm,0.3s,baz=10,slow=13,SNR=2.5						
MKAR				Lg	Lg	09 34 51.4	
	0.1nm,0.3s,baz=22,slow=27,SNR=2.8						

IDC 16 09:31:21.4±1.6, 1.90N×128.39E, h0km, mb3.6/5, mb1 3.6/5, mb1mx3.4/23, mbtmp3.6/5, MS3.4/1, Ms1 3.4/1, ms1mx2.3/30, Error ellipse: s-maj=129.9km s-min=20.9km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**22.47**	**247**	LR	LR	09 46 49.8	
	comp=Z,99nm,19.7s,baz=203,slow=41						
WRA	**Warramunga Arr**	**22.48**	**165**	P	P	09 36 24.6	+2.0
	0.4nm,0.3s,baz=345,slow=11,SNR=28						
ASAR	**Alice Springs**	**25.97**	**168**	P	P	09 36 55.2	-0.8
	0.6nm,1.1s,baz=347,slow=8.1,SNR=4.6						
STKA	**Stephens Creek**	**35.85**	**161**	P	P	09 38 21.7	-1.4
	0.3nm,0.3s,baz=346,slow=8.3,SNR=5.0						
MKAR	**Makanchi Array**	**59.99**	**325**	P	P	09 41 30.3	+0.4
	0.5nm,0.4s,baz=119,slow=7.7,SNR=4.7						
KURBB	**Kurchatov Arra**	**64.16**	**327**	P	P	09 41 57.7	-0.1
	0.4nm,0.3s,baz=131,slow=5.9,SNR=3.1						

IDC 16 09:34:55.3±2.7, 53.68N×87.01E, h0km, mb1 2.7/2, mb1mx2.7/53, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=27.2km s-min=15.5km az=69.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.33**	**283**	*i*		09 43 20.0	
	baz=103,slow=316,SNR=1.2						
ZALV	**Zalesovo Beam**	**1.33**	**283**	Pg	Pg	09 35 19.9	-1.0
	0.7nm,0.3s,baz=98,slow=18,SNR=8.8						
ZALV				Lg	Lg	09 35 37.4	
	1.0nm,0.3s,baz=101,slow=30,SNR=5.8						
KURBB	**Kurchatov Arra**	**6.05**	**243**	Pn	Pn	09 36 27.2	+1.3
	0.0nm,0.3s,baz=59,slow=14,SNR=2.7						
MKAR	**Makanchi Array**	**7.52**	**206**	Pn	Pn	09 36 47.0	+0.8
	0.1nm,0.3s,baz=24,slow=14,SNR=3.2						
MKAR				Lg	Lg	09 38 55.0	
	baz=38,slow=31,SNR=3.0						

IDC 16 09:36:36.0±47.0, 14.64S×176.32W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/25, mbtmp3.9/3, Error ellipse: s-maj=883.8km s-min=159.4km az=76.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.00**	**238**	P	P	09 44 29.0	-0.2
	1.3nm,0.9s,baz=83,slow=10,SNR=3.3						
WRA	**Warramunga Arr**	**47.27**	**256**	P	P	09 45 11.3	-0.3
	0.5nm,0.9s,baz=90,slow=8.1,SNR=20						
ASAR	**Alice Springs**	**47.67**	**251**	P	P	09 45 14.7	+0.1
	4.7nm,0.5s,baz=84,slow=8.3,SNR=119						

IDC 16 10:32:23.2±8.4, 18.49S×169.90E, h271km±49km, mb3.5/3, mb1 3.7/3, mb1mx3.1/22, mbtmp4.2/3, Error ellipse: s-maj=115.5km s-min=79.0km az=117.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.81**	**222**	P	Pn	10 33 37.5	0.0
	0.2nm,0.3s,baz=90,slow=20,SNR=3.3						
DZM				S	S	10 34 37.3	+0.2
	0.2nm,0.3s,baz=90,slow=20,SNR=2.3						
STKA	**Stephens Creek**	**28.77**	**237**	P	P	10 37 56.2	-0.1
	1.6nm,0.7s,baz=70,slow=9.2,SNR=3.9						
WRA	**Warramunga Arr**	**33.57**	**262**	P	P	10 38 38.0	-0.3
	0.5nm,0.3s,baz=94,slow=8.7,SNR=37						
ASAR	**Alice Springs**	**33.91**	**255**	P	P	10 38 41.4	+0.1
	5.2nm,0.5s,baz=83,slow=9.0,SNR=111						

NNC 16 10:50:53.6±2.5, 38.91N×70.87E, h0km, mb3.9, mpv3.6, 9C-2D, Error ellipse: s-maj=41.5km s-min=11.2km az=159.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**1.60**	**267**	⇓Pn	Pn	10 51 20.4	-2.8
	86nm,0.5s						
DZET				⇑Sn	Sg	10 51 46.7	+1.5
	753nm,0.5s						
SFK	**Sufi-Kurgan**	**2.32**	**61**	⇑Pn	Pn	10 51 32.9	-0.4
	8.2nm,0.3s						
SFK				⇓Sn	Sb	10 52 05.6	-0.4
	67nm,0.3s						
KK31	**Karatay Array**	**4.20**	**356**	Pn	Pn	10 51 57.5	-1.4
	1.9nm,0.3s,baz=166,slow=10,SNR=57						
KK31				⇑Sn	Sn	10 52 49.6	+0.8
	10nm,0.5s,baz=187,slow=20,SNR=6.5						
KK31				⇑Lg	Lg	10 53 04.4	
	10nm,0.5s						
TKM2	**Tokmak 2**	**5.38**	**40**	⇑Pn	Pn	10 52 13.9	-1.4
	3.2nm,0.6s						
TKM2				⇑Sn	Sn	10 53 19.4	+1.3
	5.3nm,0.6s						
OTUK	**Ortayu**	**9.39**	**6**	⇑Sn	Sn	10 55 44.7	+48
	3.2nm,0.6s						
AB31	**Akbulak array**	**12.97**	**326**	⇑Pn	Pn	10 53 54.8	-4.3
	0.8nm,0.5s,baz=152,slow=12						
AB31				⇑Sn	Sn	10 56 15.3	-8.8
	1.3nm,0.6s,baz=154,slow=23						

MEX 16 10:58:40.4±0.7, 16.05N×97.13W, h20km±81km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.02**	**290**	*e*P	Pb	10 58 55.8	-3.6
PNIG				*i* S	Sb	10 59 09.0	-3.5
HUIG	**Huatulco**	**1.02**	**106**	*e*P	Pb	10 58 56.9	-2.6
HUIG				*e*S	Sb	10 59 08.3	-4.1
VHO	**Vista Hermosa**	**1.09**	**20**	*e*P	Pn	10 58 57.1	-3.7
VHO				*e*S	Sb	10 59 10.8	-4.0

*ISCJB **16** 11:01:03.8±0.4, 30.44N±0.04×138.79E±0.08, h411km, mb3.5/9, Error ellipse: s-maj=9.5km s-min=4.9km az=168.9*
*JMA **16** 11:01:03.4±0.2, 30.52N×139.08E, h444km, M3.5*
*IDC **16** 11:01:04.7±1.4, 30.58N×138.89E, h416km±18km, mb3.2/9, mb1 3.2/12, mb1mx3.1/28, mbtmp4.0/12, Error ellipse: s-maj=44.5km s-min=11.1km az=71.0*

ISC 16 11:01:04.5±0.7, 30.54N±0.07×138.9E±0.1, h411km, n28, σ1.968/36, mb3.5/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.64**	**17**	*e*S	**S**	**11 02 58.2**	**+2.9**
JHJ2	**Mitsune**	**2.68**	**17**	P	**P**	**11 02 08.6**	**+2.7**
JHJ2				*e*S	**S**	**11 02 58.1**	**+2.2**
TK02	**Tokai 2**	**3.53**	**345**	P	P	11 02 16.3	+3.8
TTO1	**TONANKAI O.B.S**	**3.55**	**330**	P	P	11 02 16.3	+3.6
JWZ	**Kozaga**	**4.01**	**319**	P	**P**	**11 02 19.3**	**+2.1**
JIE	**Ise**	**4.26**	**335**	P	**P**	**11 02 22.5**	**+3.1**
JKN2	**Miekihoku**	**4.30**	**330**	P	**P**	**11 02 22.4**	**+2.6**
BSO3	**Boso 3**	**4.46**	**17**	P	**P**	**11 02 22.4**	**+1.3**
BSO3				*e*S	**S**	**11 03 24.3**	**+0.5**
BSO1	**Boso 1**	**4.46**	**23**	P	**P**	**11 02 22.7**	**+1.9**
BSO1				S	**S**	**11 03 24.7**	**+1.4**
CBIJ	**Chichi jima**	**4.49**	**139**	P	**P**	**11 02 21.7**	**-0.2**
CBIJ				*e*S	**S**	**11 03 22.2**	**-2.8**
JCJ	**Chichijima**	**4.49**	**139**	P	**P**	**11 02 21.9**	**0.0**
	8.8nm,0.3s,baz=360,slow=15,SNR=20						
JCJ				S	**S**	**11 03 22.6**	**-2.4**
	33nm,0.3s,baz=288,slow=20,SNR=19						
BSO4	**Boso 4**	**4.60**	**15**	P	**P**	**11 02 24.2**	**+1.6**
BSO4				*e*S	**S**	**11 03 26.9**	**+0.3**
JEG	**Eigenji**	**5.04**	**336**	P	P	11 02 30.4	+3.2
JHU	**Hanno**	**5.31**	**3**	P	**P**	**11 02 30.5**	**+0.6**
JHU				*e*S	**S**	**11 03 38.3**	**-1.5**
JRY	**Ryogami san**	**5.46**	**0**	P	**P**	**11 02 33.2**	**+1.7**
JRY				*e*S	**S**	**11 03 42.0**	**-0.8**
JAG	**Ashikaga**	**5.89**	**4**	P	**P**	**11 02 36.2**	**+0.2**
JAG				S	**S**	**11 03 47.5**	**-3.5**
MJAR	**Matsushiro Arr**	**6.01**	**355**	P	**P**	**11 02 37.6**	**+0.3**
	2.0nm,0.3s,baz=172,slow=11,SNR=16						
MAT	**Matsushiro**	**6.01**	**355**	P	**P**	**11 02 38.3**	**+1.0**
MAT				*e*S	**S**	**11 03 52.7**	**-0.8**
KSRS	**Korea Array**	**11.41**	**310**	P	**P**	**11 03 38.1**	**+0.8**
	0.3nm,0.3s,baz=123,slow=9.9,SNR=7.3						
SONM	**Songino Array**	**30.24**	**314**	P	**P**	**11 06 39.0**	**-0.5**
	0.4nm,0.4s,baz=115,slow=7.6,SNR=2.3						
ZALV	**Zalesovo Beam**	**45.00**	**317**	P	**P**	**11 08 40.6**	**-0.5**
	0.4nm,0.3s,baz=92,slow=5.4,SNR=2.5						
MKAR	**Makanchi Array**	**46.07**	**307**	P	**P**	**11 08 48.7**	**-0.8**
	0.4nm,0.3s,baz=107,slow=4.1,SNR=7.3						
MKAR				PcP	**PcP**	**11 10 15.3**	**-2.5**
	0.3nm,0.3s,baz=108,slow=3.2,SNR=8.0						
WRA	**Warramunga Arr**	**50.38**	**186**	P	**P**	**11 09 22.3**	**+0.1**
	1.1nm,0.4s,baz=2.2,slow=8.0,SNR=35						
ASAR	**Alice Springs**	**54.11**	**186**	P	**P**	**11 09 49.5**	**+0.3**
	0.6nm,0.5s,baz=358,slow=6.3,SNR=19						
STKA	**Stephens Creek**	**62.13**	**177**	P	**P**	**11 10 43.9**	**+0.1**
	2.7nm,1.0s,baz=10,slow=11,SNR=2.8						
ARCES	**ARCESS Array B**	**69.33**	**340**	P	**P**	**11 11 28.7**	**0.0**
	3.5nm,1.0s,baz=73,slow=9.4,SNR=6.4						
FINES	**FINESS Array B**	**73.58**	**332**	P	**P**	**11 11 54.1**	**+0.3**
	2.4nm,1.0s,baz=93,slow=3.8,SNR=6.7						
BRTR	**Keskin Array B**	**81.55**	**311**	P	**P**	**11 12 37.6**	**-0.4**
	1.0nm,0.9s,baz=12,slow=7.4,SNR=3.1						

*HEL **16** 11:01:58.0±0.2, 59.22N×27.92E, h0km, ML1.8, ML1.3(UPP), Explosion*
*NAO **16** 11:01:58.1±1.6, 59.22N×27.53E, ML2.3*
*CSEM **16** 11:01:58.7±0.5, 59.26N×27.72E, h2km, ML2.3, Error ellipse: s-maj=9.9km s-min=4.3km az=100.0, Mining explosion.*
*HEL **16** 11:01:58.6, 59.23N×27.86E, h0km, ML1.8, Explosion*
*ISCJB **16** 11:01:59.2±0.8, 59.30N±0.03×27.36E±0.10, h0km, Error ellipse: s-maj=7.3km s-min=3.7km az=9.5*
*BER **16** 11:01:59.9±3.6, 59.20N×27.61E, h0km, ML2.3(NAO), Suspected explosion*
*UPP **16** 11:02:01.0, 59.26N×27.59E, h0km, ML1.3, Suspected Mining explosion.*

ISC 16 11:01:58.5±1.2, 59.26N±0.03×27.69E±0.06, h0km, n57, σ1.907/81, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.94**	**212**	Pg	**Pg**	**11 02 15.4**	**-1.0**
VSU				Lg	Lg	11 02 27.0	
VSU	**Vasula**	**0.94**	**212**	Pg	**Pg**	**11 02 15

SUF	**Sumiainen**	**3.55 348**	*e*S	**Sn**	**11 03 38.8**	**+1.3**
SUF	**Sumiainen**	**3.55 348**	S	**Sn**	**11 03 38.7**	**+1.3**
AAL	**Aland**	**4.01 287**	*e*SG	**Sg**	**11 04 04.9**	**-2.1**
AAL	**Aland**	**4.01 287**	Sg	**Sg**	**11 04 04.9**	**-2.1**
NRTU	**Norrtaelje**	**4.64 279**	*e*P	**Pn**	**11 03 10.9**	**+1.1**
NRTU	**Norrtaelje**	**4.64 279**	P	**Pn**	**11 03 10.8**	**+1.1**
GRAU	**Graesoe**	**4.75 287**	*e*P	**Pn**	**11 03 11.0**	**-0.2**
GRAU	**Graesoe**	**4.75 287**	P	**Pn**	**11 03 11.0**	**-0.2**
FLYU	**Flymyra**	**5.04 284**	*e*P	**Pn**	**11 03 15.2**	**0.0**
FLYU	**Flymyra**	**5.04 284**	P	**Pn**	**11 03 15.2**	**0.0**
BACU	**Backbrunna**	**5.42 281**	*e*P	**Pn**	**11 03 21.6**	**+1.3**
BACU	**Backbrunna**	**5.42 281**	P	**Pn**	**11 03 21.6**	**+1.3**
OSTU	**Oestervaala**	**5.43 285**	*e*P	**Pn**	**11 03 20.9**	**+0.4**
OSTU	**Oestervaala**	**5.43 285**	P	**Pn**	**11 03 20.9**	**+0.4**
IGGU	**Iggoen**	**5.44 292**	*e*P	**Pn**	**11 03 20.8**	**+0.1**
IGGU	**Iggoen**	**5.44 292**	P	**Pn**	**11 03 20.8**	**+0.1**
ARNU	**Arnoeviken**	**5.65 300**	*e*P	**Pn**	**11 03 24.6**	**+1.0**
ARNU	**Arnoeviken**	**5.65 300**	P	**Pn**	**11 03 24.6**	**+1.0**
UMAU	**Umeaa**	**5.72 327**	*e*P	**Pn**	**11 03 25.2**	**+0.7**
UMAU			*e*S	**Sn**	**11 04 30.4**	**-0.3**
UMAU	**Umeaa**	**5.72 327**	P	**Pn**	**11 03 25.2**	**+0.7**
UMAU			S	**Sn**	**11 04 30.4**	**-0.3**
VIKU	**Vikbolandet**	**5.75 267**	*e*P	**Pn**	**11 03 25.7**	**+0.8**
VIKU	**Vikbolandet**	**5.75 267**	P	**Pn**	**11 03 25.7**	**+0.8**
ESKU	**Eskilstuna**	**5.80 275**	*e*P	**Pn**	**11 03 26.6**	**+0.9**
ESKU			*e*S	**Sn**	**11 04 32.1**	**-0.6**
ESKU	**Eskilstuna**	**5.80 275**	P	**Pn**	**11 03 26.5**	**+0.9**
ESKU			S	**Sn**	**11 04 32.1**	**-0.6**
HEMU	**Hemsoen**	**5.82 310**	*e*P	**Pn**	**11 03 27.4**	**+1.6**
HEMU			*e*S	**Sn**	**11 04 33.6**	**+0.5**
HEMU	**Hemsoen**	**5.82 310**	P	**Pn**	**11 03 27.4**	**+1.6**
HEMU			S	**Sn**	**11 04 33.6**	**+0.5**
FALU	**Falun**	**6.10 287**	*e*P	**Pn**	**11 03 30.6**	**+0.9**
FALU	**Falun**	**6.10 287**	P	**Pn**	**11 03 30.6**	**+0.9**
BURU	**Burvik**	**6.12 334**	*e*P	**Pn**	**11 03 30.3**	**+0.4**
BURU			*e*S	**Sn**	**11 04 39.0**	**-1.5**
BURU	**Burvik**	**6.12 334**	P	**Pn**	**11 03 30.3**	**+0.4**
BURU			S	**Sn**	**11 04 39.0**	**-1.5**
HFS	**Hagfors** baz=98,slow=37	**7.14 283**	Lg	Lg	11 05 38.8	
HFS	**Hagfors** baz=98,slow=37	**7.14 283**	Lg	Lg	11 05 38.8	
NB2	**NORSAR Subarra** baz=118,slow=28	**8.41 289**	Lg	Lg	11 06 19.2	
NB2	**NORSAR Subarra** baz=118,slow=28	**8.41 289**	Lg	Lg	11 06 19.2	

MAN 16 11:11:40,20.72N×122.11E,h74km,mb5.4,ML4.4,MS4.7, Philippine Islands region

*HEL **16** 11:38:37.9±0.4,67.68N×34.06E,h0km,ML2.1,Explosion*
*NAO **16** 11:38:38.0±1.7,67.53N×33.92E,ML2.5*
*CSEM **16** 11:38:39.7±0.9,67.61N×33.59E,h2km,ML2.5,Error ellipse: s-maj=18.0km s-min=8.4km az=91.0,Mining explosion.*

ISC 16 11:38:39.2±2.2,67.65N±0.04×33.7E±0.1,h0km,n24, σ0.86/47,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.27**	**262**	Pg	**Pg**	**11 38 42.5**	**-1.9**
APA0				Lg	Lg	11 38 44.2	
APA0	baz=101,slow=16			Pg	**Pg**	**11 38 45.0**	**+0.7**
APA0				Rg	Rg	11 38 46.1	
APA0	baz=81,slow=37			Lg	Lg	11 38 50.1	
APA0	baz=86,slow=37			Rg	Rg	11 38 52.0	
APA0	**Apatity Array**	**0.27**	**262**	Pg	**Pg**	**11 38 42.5**	**-1.9**
APA0				Lg	Lg	11 38 44.2	
APA0	baz=101,slow=16			Pg	**Pg**	**11 38 45.0**	**+0.7**
APA0				Rg	Rg	11 38 46.1	
APA0	baz=81,slow=37			Lg	Lg	11 38 50.1	
APA0	baz=86,slow=37			Rg	Rg	11 38 52.0	
APA0	**Apatity Array** SNR=91	**0.27**	**262**	Pg	**Pg**	**11 38 45.0**	**+0.7**
APA0	SNR=50			Lg	Lg	11 38 50.1	
KU6	**Riekki**	**2.22**	**224**	*e*PG	**Pb**	**11 39 20.2**	**+0.2**
KU6				*e*S	**Sb**	**11 39 46.9**	**-1.1**
KU6	comp=Z,4.7nm,0.2s			MSG		11 39 50.8	
KU6	**Riekki**	**2.22**	**224**	Pg	**Pb**	**11 39 20.2**	**+0.2**
KU6				S	**Sb**	**11 39 46.9**	**-1.1**
MSF	**Maaselka**	**2.54**	**229**	*e*PG	**Pb**	**11 39 25.4**	**-0.2**
MSF				*e*SG	**Sg**	**11 40 00.1**	**-0.5**
MSF	**Maaselka**	**2.54**	**229**	Pg	**Pb**	**11 39 25.3**	**-0.2**
MSF				Sg	**Sg**	**11 40 00.1**	**-0.5**
SGF	**Sodankyl**	**2.76**	**269**	*e*PG	**Pb**	**11 39 29.7**	**+0.4**
SGF				*e*S	**Sn**	**11 40 00.1**	**+1.5**
SGF	**Sodankyl**	**2.76**	**269**	Pg	**Pb**	**11 39 29.6**	**+0.4**
SGF				S	**Sn**	**11 40 00.0**	**+1.5**
RNF	**Rovaniemi**	**3.18**	**254**	*e*P	**Pn**	**11 39 30.6**	**+0.4**
RNF				*e*S	**Sn**	**11 40 10.6**	**+1.8**
RNF	**Rovaniemi**	**3.18**	**254**	P	**Pn**	**11 39 30.6**	**+0.4**
RNF				S	**Sn**	**11 40 10.6**	**+1.8**
KEV	**Kevo**	**3.23**	**314**	*e*P	**Pn**	**11 39 31.9**	**+0.9**
KEV				*e*S	**Sn**	**11 40 10.6**	**+0.5**
KEV	comp=Z,8.9nm,0.3s			MSG		11 40 19.8	
KEV	**Kevo**	**3.23**	**314**	P	**Pn**	**11 39 31.9**	**+0.9**
KEV				S	**Sn**	**11 40 10.6**	**+0.5**
ARA0	**ARCESS Array S** baz=123,slow=16	**3.55**	**306**	Pn	**Pn**	**11 39 35.8**	**+0.3**
ARA0	baz=120,slow=28			Sn	**Sn**	**11 40 17.9**	**-0.2**
ARA0	baz=117,slow=37			Lg	Lg	11 40 28.2	
ARA0	**ARCESS Array S** baz=123,slow=16	**3.55**	**306**	Pn	**Pn**	**11 39 35.8**	**+0.3**
ARA0	baz=120,slow=28			Sn	**Sn**	**11 40 17.9**	**-0.2**
ARA0	baz=117,slow=37			Lg	Lg	11 40 28.2	
ARA0	**ARCESS Array S** SNR=50	**3.55**	**306**	Pn	**Pn**	**11 39 35.8**	**+0.3**
ARA0	SNR=50			Sn	**Sn**	**11 40 17.9**	**-0.2**
ARA0				Lg	Lg	11 40 28.2	
ARE0	**ARCESS Array S**	**3.55**	**306**	*e*P	**Pn**	**11 39 35.6**	**+0.2**
ARE0				*e*S	**Sn**	**11 40 17.0**	**-1.1**
ARE0	**ARCESS Array S**	**3.55**	**306**	P	**Pn**	**11 39 35.6**	**+0.2**
ARE0				S	**Sn**	**11 40 16.9**	**-1.1**
HEF	**Hetta**	**3.85**	**286**	*e*P	**Pn**	**11 39 39.8**	**+0.2**
HEF				*e*S	**Sn**	**11 40 26.2**	**+0.8**
HEF	comp=Z,3.1nm,0.2s			MSG		11 40 43.1	
HEF	**Hetta**	**3.85**	**286**	P	**Pn**	**11 39 39.7**	**+0.2**
HEF				S	**Sn**	**11 40 26.2**	**+0.8**
KJN	**Kajaani**	**4.34**	**217**	*e*P	**Pn**	**11 39 47.4**	**+1.1**
KJN				*e*S	**Sn**	**11 40 36.9**	**-0.5**
KJN	**Kajaani**	**4.34**	**217**	P	**Pn**	**11 39 47.3**	**+1.1**
KJN				S	**Sn**	**11 40 36.9**	**-0.5**
LANU	**Lannavaara**	**4.45**	**281**	*e*P	**Pn**	**11 39 47.8**	**0.0**
LANU				*e*S	**Sn**	**11 40 40.3**	**0.0**
LANU	**Lannavaara**	**4.45**	**281**	P	**Pn**	**11 39 47.8**	**0.0**
LANU				S	**Sn**	**11 40 40.2**	**0.0**

MEX 16 11:50:35.3±0.6,15.55N×93.29W,h75km±7km,MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.17**	**23**	*i* P	Pn	11 50 44.8	-1.7
PCIG				*i* S	Sn	11 50 53.2	-1.4
CCIG	**Comitan**	**1.33**	**56**	*e*P	Pn	11 50 57.0	-1.4
CCIG				*i* S	Sn	11 51 14.0	-1.9

IDC 16 11:52:11.8±2.4,54.18N×87.20E,h0km,mb1 3.5/3, mb1mx3.2/47,mbtmp3.5/3,ML3.3/3,Error ellipse: s-maj=21.4km s-min=14.4km az=69.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=79,slow=313,SNR=7.1	**1.43**	**262**	*i*		12 01 20.0	
ZALV	**Zalesovo Beam** 13nm,0.3s,baz=80,slow=16,SNR=74	**1.43**	**261**	Pg	Pn	11 52 37.6	-1.3
ZALV	6.5nm,0.3s,baz=75,slow=28,SNR=8.0			Lg	Lg	11 52 57.2	
KURBB	**Kurchatov Arra** 0.6nm,0.3s,baz=54,slow=14,SNR=20	**6.39**	**240**	Pn	Pn	11 53 48.8	+1.6
KURBB	0.1nm,0.3s,baz=42,slow=16,SNR=2.6			Sn	Sn	11 54 59.0	-1.8
KURBB	0.1nm,0.3s,baz=59,slow=34,SNR=4.4			Lg	Lg	11 55 34.5	
MKAR	**Makanchi Array** 0.4nm,0.3s,baz=22,slow=12,SNR=9.5	**8.03**	**205**	Pn	Pn	11 54 10.3	+0.6
MKAR	0.1nm,0.3s,baz=23,slow=26,SNR=3.4			Sn	Sn	11 55 41.2	-0.1
MKAR	0.1nm,0.3s,baz=28,slow=31,SNR=3.4			Lg	Lg	11 56 27.0	
BVAR	**Borovoye Array** 0.3nm,0.3s,baz=81,slow=18,SNR=2.7	**10.06**	**270**	Pn	Pn	11 54 36.2	-1.3

*ISCJB **16** 12:10:06.1±0.4,27.64S±0.03×179.87W±0.07,h450km, mb4.0/14,Error ellipse: s-maj=8.2km s-min=4.1km az=0.3*
*IDC **16** 12:10:08.6±0.7,27.55S×179.95W,h460km±7km,mb3.7/14, mb1 3.9/18,mb1mx3.7/36,mbtmp4.6/18,Error ellipse: s-maj=12.7km s-min=11.8km az=23.0*

ISC 16 12:10:07.8±0.5,27.63S±0.06×179.98W±0.08,h450km, n70,σ1s53/80,mb4.0/14,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 97nm,0.3s,baz=66,slow=12,SNR=9.2	**2.43**	**132**	P	**P**	**12 11 12.6**	**+1.7**
RAO	90nm,0.3s,baz=60,slow=20,SNR=3.0			S	**S**	**12 12 05.4**	**+3.4**
WMGZ	**Waiomatatini S**	**10.25**	**187**	*e*PN	**P**	**12 12 29.9**	**+2.4**
HAZ	**Te Kaha**	**10.27**	**190**	*e*PN	**P**	**12 12 29.1**	**+1.4**
HAZ				*e*SN	**S**	**12 14 20.5**	**-2.5**
PUZ	**Puketiti**	**10.52**	**188**	*e*PN	**P**	**12 12 32.3**	**+1.8**
PUZ				*e*SN	**S**	**12 14 25.0**	**-3.0**
TWGZ	**Tauwhareparae**	**10.65**	**189**	*e*PN	**P**	**12 12 32.9**	**+0.9**
URZ	**Urewera** 17nm,0.3s,baz=282,slow=3.0,SNR=59	**10.88**	**192**	P	**P**	**12 12 34.7**	**+0.4**
URZ	9.9nm,0.3s,baz=216,slow=19,SNR=21			S	**S**	**12 14 33.9**	**-1.2**
URZ	**Urewera**	**10.88**	**192**	*e*PN	**P**	**12 12 33.2**	**-1.2**
URZ				*e*SN	**S**	**12 14 32.7**	**-2.4**
MWZ	**Matawai**	**10.88**	**190**	*e*PN	**P**	**12 12 34.5**	**+0.1**
MWZ				*e*SN	**S**	**12 14 31.8**	**-3.4**
RAGZ	**Rawiri**	**11.05**	**191**	*e*PN	**P**	**12 12 34.9**	**-1.4**
RIGZ	**Rimuhau**	**11.21**	**189**	*e*PN	**P**	**12 12 38.7**	**+0.7**
RIGZ				*e*SN	**S**	**12 14 40.1**	**-1.6**
RAHZ	**Arahi**	**11.52**	**192**	*e*PN	**P**	**12 12 40.1**	**-1.2**
BKZ	**Black Stump Fm**	**11.88**	**193**	*e*PN	**P**	**12 12 42.8**	**-2.5**
BKZ				*e*SN	**S**	**12 14 53.4**	**-1.7**
KAHZ	**Kahuranaki**	**12.41**	**191**	*e*PN	**P**	**12 12 51.3**	**+0.3**
NIUE	**Niue** baz=12,SNR=4.2	**12.55**	**49**	P	P	12 12 58.7	+5.9
TSZ	**Takapari Road**	**12.85**	**194**	*e*SN	**S**	**12 15 13.1**	**-1.3**
BFZ	**Birch Farm**	**13.38**	**192**	*e*PN	**P**	**12 13 00.2**	**-1.3**
MRZ	**Mangatainoka R**	**13.51**	**195**	*e*PN	**P**	**12 13 00.6**	**-2.2**
MRZ				*e*SN	**S**	**12 15 23.5**	**-3.8**
DZM	**Mont Dzumac** 3.8nm,0.3s,baz=270,slow=24,SNR=54	**13.51**	**291**	P	**P**	**12 13 05.5**	**+2.3**
DZM	**Mont Dzumac**	**13.51**	**291**	*e*P	**P**	**12 13 04.1**	**+0.8**
NOUC	**Port Laguerre**	**13.61**	**291**	*e*P	**P**	**12 13 04.9**	**+0.6**
QRZ	**Quartz Range**	**14.54**	**203**	*e*PN	**P**	**12 13 14.4**	**+0.5**
THZ	**Tophouse**	**15.26**	**201**	*e*PN	**P**	**12 13 20.4**	**-1.2**
AFI	**Afiamalu** 5.3nm,0.3s,baz=198,slow=2.9,SNR=10	**15.65**	**31**	P	**P**	**12 13 23.0**	**-3.1**
AFI	3.5nm,0.3s,baz=165,slow=20,SNR=4.0			S	S	12 16 04.0	-5.9
KHZ	**Kahutara**	**15.67**	**198**	*e*PN	**P**	**12 13 25.0**	**-0.9**
LTZ	**Lake Taylor**	**16.38**	**201**	*e*PN	**P**	**12 13 32.0**	**-1.5**
OXZ	**Oxford**	**16.94**	**200**	*e*PN	**P**	**12 13 37.6**	**-1.7**
WVZ	**Waitaha Valley**	**17.15**	**204**	*e*PN	**P**	**12 13 39.8**	**-1.7**
RPZ	**Rata Peaks** 5.8nm,0.3s,baz=22,slow=6.2,SNR=28	**17.61**	**202**	P	**P**	**12 13 46.1**	**-0.3**
WHZ	**Wether Hill Ro**	**20.59**	**205**	*e*PN	**P**	**12 14 14.6**	**+0.2**
MGCD	**Mangrove Creek** baz=26,SNR=6.0	**25.50**	**250**	P	**P**	**12 15 01.6**	**+2.9**
EIDS	**Eidsvold** baz=26,SNR=10	**25.98**	**268**	P	**P**	**12 15 04.0**	**+1.0**
RMQ	**Roma** baz=28,SNR=5.1	**27.83**	**265**	P	**P**	**12 15 21.8**	**+2.4**
CMSA	**Cobar Meteorol** baz=30,SNR=4.7	**30.04**	**254**	P	**P**	**12 15 40.3**	**+1.7**
TOO	**Toolangi** baz=31,SNR=3.9	**30.59**	**242**	P	**P**	**12 15 45.4**	**+2.0**
CTA	**Charters Tower** 15nm,0.4s,baz=97,slow=11,SNR=31	**31.71**	**276**	P	**P**	**12 15 54.0**	**+0.8**
QLP	**Quilpie** baz=32,SNR=20	**31.81**	**263**	P	**P**	**12 15 54.4**	**+0.4**
STKA	**Stephens Creek** 2.1nm,0.5s,baz=103,slow=11,SNR=17	**33.51**	**253**	P	**P**	**12 16 09.2**	**+0.7**
STKA	4.3nm,0.9s,baz=54,slow=3.1,SNR=7.9			ScP	**ScP**	**12 21 38.7**	**+0.6**
STKA	**Stephens Creek** baz=34,SNR=14	**33.51**	**253**	P	**P**	**12 16 09.2**	**+0.7**
MTSU	**Mount Surprise** baz=34,SNR=20	**34.12**	**278**	P	**P**	**12 16 14.7**	**+0.8**
HTT	**Hallett** baz=36,SNR=7.6	**35.70**	**250**	P	**P**	**12 16 27.3**	**+0.3**
COEN	**Coen** baz=37,SNR=15	**36.88**	**284**	P	**P**	**12 16 38.1**	**+1.2**
QIS	**Mount Isa** baz=38,SNR=3.7	**37.44**	**272**	P	**P**	**12 16 41.3**	**-0.1**
BBOO	**Buckleboo** baz=38,SNR=4.6	**38.13**	**251**	P	**P**	**12 16 46.5**	**-0.6**
ASAR	**Alice Springs** 2.6nm,0.4s,baz=102,slow=8.0,SNR=81	**41.58**	**265**	P	**P**	**12 17 14.6**	**-0.5**
ASAR	1.1nm,0.7s,baz=114,slow=4.2,SNR=6.9			ScP	**ScP**	**12 22 08.8**	**-0.1**
WRA	**Warramunga Arr** 6.6nm,0.6s,baz=108,slow=6.2,SNR=106	**42.31**	**270**	P	**P**	**12 17 20.1**	**-0.8**
WRA	0.9nm,0.8s,baz=101,slow=3.7,SNR=4.1			ScP	**ScP**	**12 22 12.3**	**+0.4**
FORT	**Forrest** baz=45,SNR=13	**45.14**	**253**	P	**P**	**12 17 41.9**	**-0.9**
WRKA	**Warakurna** baz=46,SNR=18	**46.16**	**261**	P	**P**	**12 17 49.8**	**-1.0**
KDU	**Kakadu** baz=47,SNR=4.5	**46.76**	**279**	P	**P**	**12 17 55.2**	**-0.2**
KNRA	**Kununurra** baz=49,SNR=4.6	**48.80**	**273**	P	**P**	**12 18 10.7**	**-0.1**
VNDA	**Vanda** 0.7nm,0.7s,baz=8.5,slow=8.4,SNR=3.5	**50.68**	**185**	P	**P**	**12 18 24.6**	**+0.8**
GUMO	**Guam** 45nm,0.9s,baz=200,slow=23,SNR=4.0	**53.30**	**316**	P	**P**	**12 18 43.4**	**-0.2**
SIJI	**Sorong** 11nm,0.6s,baz=187,slow=20,SNR=5.7	**53.72**	**291**	P	**P**	**12 18 47.0**	**+0.2**
MEEK	**Meekatharra** baz=54,SNR=5.2	**54.14**	**256**	P	**P**	**12 18 48.4**	**-1.3**
MORW	**Morawa** baz=56,SNR=5.8	**55.69**	**252**	P	**P**	**12 18 59.4**	**-1.1**
QSPA	**South Pole Qui** 6.6nm,0.6s,baz=345,slow=0.6,SNR=39	**62.47**	**180**	P	**P**	**12 19 46.8**	**+1.1**
MAW	**Mawson** 3.7nm,0.5s,baz=133,slow=5.4,SNR=21	**74.28**	**201**	P	**P**	**12 20 57.9**	**+0.4**
MAW	**Mawson** baz=74,SNR=6.0	**74.28**	**201**	P	**P**	**12 20 58.1**	**+0.6**
ASAJ	**Asahikawa** 2.2nm,0.8s,baz=216,slow=7.3,SNR=5.3	**79.20**	**334**	P	**P**	**12 21 25.1**	**+0.3**
NVAR	**Mina Array Bea** 2.5nm,0.7s,baz=223,slow=8.3,SNR=25	**87.42**	**44**	P	**P**	**12 22 06.4**	**-0.1**
TXAR	**Lajitas Array** 0.5nm,0.7s,baz=212,slow=6.0,SNR=6.6	**92.38**	**58**	P	**P**	**12 22 29.4**	**-0.1**
PDAR	**Pinedale Array** 0.8nm,0.9s,baz=132,slow=2.2,SNR=5.4	**95.35**	**44**	P	**P**	**12 22 41.8**	**-1.1**
ILAR	**Eielson Array** 0.7nm,1.1s,baz=226,slow=4.2,SNR=7.7	**95.64**	**14**	P	**P**	**12 22 41.5**	**-1.9**
ARCES	**ARCESS Array B** 1.2nm,0.7s,baz=20,slow=2.9,SNR=4.2	**135.52**	**348**	PKhKP	PKPpre	12 28 25.5	
ARCES	1.9nm,0.5s,baz=46,slow=1.7,SNR=14			PKP	**PKPdf**	**12 28 33.5**	**-1.5**
ARCES	1.6nm,0.7s,baz=40,slow=3.5,SNR=4.4			SKP		12 31 22.9	
FINES	**FINESS Array B** 1.5nm,0.4s,baz=56,slow=3.9,SNR=15	**141.96**	**340**	PKhKP	PKPpre	12 28 40.8	
NB2	**NORSAR Subarra** comp=Z,3.2nm,0.5s,baz=12,slow=2.9	**145.75**	**350**	PKP	**PKPdf**	**12 28 53.1**	**-0.5**
NOA	**NORSAR Array B** comp=Z,6.3nm,0.8s,baz=15,slow=4.6,SNR=12	**145.75**	**350**	PKPbc	**PKPdf**	**12 28 53.2**	**-0.5**
AKASG	**Malin Array Be** comp=Z,5.3nm,0.4s,baz=43,slow=3.6,SNR=31	**148.05**	**324**	PKPbc	**PKPdf**	**12 29 00.3**	**+2.7**
BRTR	**Keskin Array B** comp=Z,0.7nm,0.5s,baz=105,slow=1.5,SNR=4.5	**149.71**	**302**	PKPbc	**PKPbc**	**12 29 05.0**	**-1.1**
GERES	**GERESS Array B** comp=Z,0.6nm,0.5s,baz=53,slow=5.0,SNR=3.6	**156.32**	**337**	PKPab	**PKPab**	**12 29 39.9**	**-1.1**
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.8s,baz=149,slow=3.2,SNR=3.3	**165.50**	**187**	PKPab	**PKPab**	**12 30 21.5**	**-0.2**

MAN 16 12:30:06,12.75N×120.81E,h4km,mb4.4,ML3.2,MS3.1, 1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.41**	**134**	*e*P	Pn	12 30 16.9	+1.1
SJMP				*e*S	Sb	12 30 22.9	+0.5
PGP	**Puerto Galera**	**0.76**	**10**	*e*P	Pg	12 30 21.3	+0.5
PGP				*i* S	Sg	12 30 30.9	+0.2
BUSP	**Coron**	**0.95**	**219**	*e*P	Pb	12 30 25.0	-0.1
BUSP				*e*S	Sn	12 30 40.8	+0.6
LUBP	**Lubang**	**1.13**	**331**	*e*P	Pn	12 30 29.7	+1.1
LUBP				*e*S	Sb	12 30 43.6	+0.5
OTRP	**Odiongan**	**1.24**	**108**	*e*P	Pg	12 30 28.9	-0.9
CUYO	**Cuyo Island**	**1.90**	**174**	*e*P	Pb	12 30 40.4	-0.8

*ISCJB **16** 12:34:34.8±1.2,34.70S±0.04×71.9W±0.1,h24km±8km, Error ellipse: s-maj=14.6km s-min=6.0km az=9.7*
*GUC **16** 12:34:35.6±0.3,34.72S×71.76W,h40km±1km,ML3.7*
*SJA **16** 12:34:50.6±0.3,33.83S×70.89W,h130km±12km,ML3.0, MW3.7*

ISC 16 12:34:33.7±2.2,34.70S±0.04×72.0W±0.1,h13km±11km, n18,σ1s09/27,2C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.67**	**117**	*i* P	**Pg**	**12 34 46.7**	**-0.1**
NICH				*i* S	**Sg**	**12 34 54.9**	**-0.8**
TALC	**Talca**	**0.75**	**159**	*i* P	**Pb**	**12 34 49.0**	**+0.4**
TALC				*e*S	**Sb**	**12 34 59.1**	**+0.4**
LNV	**Longovilo**	**0.87**	**32**	*i* P	**Pb**	**12 34 50.8**	**+0.2**
LNV				*i* S	**Sg**	**12 35 02.5**	**+0.7**
LNCH	**Linares**	**1.19**	**166**	*i* P	**Pn**	**12 34 55.9**	**-0.1**
LNCH				*i* S	**Sb**	**12 35 10.9**	**-0.4**
TACH	**Talagante**	**1.34**	**39**	*i* P	**Pn**	**12 34 57.8**	**-0.4**
TACH				*i* S	**Sb**	**12 35 14.8**	**-1.0**
PCH	**Pirque**	**1.61**	**49**	*i* P	**Pn**	**12 35 01.4**	**-0.5**
PCH				*i* S	**Sn**	**12 35 21.2**	**-1.4**
SAN	**Santiago**	**1.64**	**41**	*i* P	**Pn**	**12 35 01.9**	**-0.4**
SAN				*i* S	**Sn**	**12 35 21.9**	**-1.4**
FSR	**Penalolen**	**1.70**	**45**	*e*P	**Pn**	**12 35 02.8**	**-0.4**
FSR				*e*S	**Sn**	**12 35 23.3**	**-1.5**
LACH	**Col Las Americ** comp=N,965nm,0.4s	**1.72**	**44**	AML	AML	12 35 27.5	
YECH	**El Yeso**	**1.86**	**57**	*i* P	**Pg**	**12 35 09.1**	**-0.4**
YECH				*i* S	**Sb**	**12 35 31.5**	**+0.4**
YECH	comp=N,2μm,0.2s			AML	AML	12 35 37.9	
AAGR	**Agrelo**	**3.06**	**59**	*e*P	**Pn**	**12 35 24.2**	**+2.4**
ARCO	**CERRO ARCO**	**3.13**	**55**	*e*P	**Pn**	**12 35 24.5**	**+1.7**
ARCO	comp=Z,93nm,0.3s			IAML		12 35 43.5	
AUSP	**Uspallata**	**3.27**	**42**	*e*P	**Pn**	**12 35 26.6**	**+1.6**
RTLS	**Leoncito**	**3.65**	**38**	*e*P	**Pn**	**12 35 31.7**	**+1.6**
RTCV	**Cerro Valdivia**	**4.02**	**46**	*e*P	**Pn**	**12 35 35.3**	**+0.3**
RTCV				*e*S	**Sn**	**12 36 24.1**	**+2.0**
CFAA	**Coronel Fontan**	**4.39**	**46**	*e*P	**Pn**	**12 35 40.3**	**+0.3**
CFAA				*e*S	Sn	12 36 22.2	-8.8
RTLL	**Cerro Villicun**	**4.46**	**42**	*e*P	**Pn**	**12 35 41.2**	**+0.2**
RTLL				*e*S	Sn	12 36 18.6	-14
AMOG	**MOGNA**	**4.75**	**39**	*e*P	**Pn**	**12 35 45.1**	**0.0**
AMOG				*e*S	Sn	12 36 18.7	-21

*IDC **16** 12:47:33.4±0.6,37.73S×73.11W,h0km,mb4.3/10, mb1 4.4/12,mb1mx4.3/28,mbtmp4.3/12,ML4.0/2,MS3.5/8, Ms1 3.5/8,ms1mx3.3/17,Error ellipse: s-maj=27.4km s-min=17.1km az=86.0*
*ISCJB **16** 12:47:37.8±0.3,37.73S±0.03×73.14W±0.07,h33km, mb4.5/24,MS3.6/6,Error ellipse: s-maj=8.6km s-min=3.5km az=9.8*
*GUC **16** 12:47:37.3±0.3,37.73S×73.33W,h40km±2km,ML4.7*
*NEIC **16** 12:47:38.3±0.3,37.73S×73.15W,mb4.6/14,Error ellipse: s-maj=11.0km s-min=8.4km az=91.0*

ISC 16 12:47:38.4±0.5,37.72S±0.03×73.39W±0.08,h33km,n57, σ1s32/74,mb4.5/24,MS3.6/6,5D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U14B	**Concepcin**	**0.90**	**16**	*e*P	Pn	**12 47 53.8**	**-0.9**
U14B				*i* S	**Sn**	**12 48 06.0**	**-0.5**
U14B	**Concepcin**	**0.90**	**16**	*e*Pg	**Pn**	**12 47 53.9**	**-0.8**
U14B				*e*Sg	**Sn**	**12 48 06.5**	**0.0**
CCSP	**San Pedro de C**	**0.90**	**14**	*i* P	**Pn**	**12 47 53.9**	**-0.9**
CCSP				*e*S	**Sn**	**12 48 06.3**	**-0.3**
CCSP	comp=E,40μm,0.4s			AML	AML	12 48 07.9	
PSCH	**Puerto Saavedr**	**1.08**	**180**	*e*P	**Pn**	**12 47 56.4**	**-0.8**
PSCH				*i* S	**Sn**	**12 48 11.0**	**0.0**
CANA	**Caviahue**	**1.85**	**96**	*e*P	**Pn**	**12 48 07.8**	**-0.1**
VLCH	**Valdivia**	**2.08**	**177**	*e*P	**Pn**	**12 48 10.7**	**-0.3**
VLCH				*i* S	**Sn**	**12 48 36.0**	**+0.2**
TALC	**Talca**	**2.71**	**32**	*i* P	**Pn**	**12 48 19.0**	**-0.7**
TALC				*e*S	**Sn**	**12 48 50.9**	**-0.4**
U65B	**HualaæØ**	**3.04**	**26**	*e*Pn	**Pn**	**12 48 23.4**	**-0.8**
U65B				*e*Sg	**Sb**	**12 49 12.1**	**+3.6**
NICH	**Los Niches**	**3.22**	**33**	*i* S	**Sn**	**12 49 03.3**	**-0.7**
PLCA	**Paso Flores**	**3.73**	**145**	*e*P	**Pn**	**

comp=E,2.4nm,1.1s
ANMO Albuquerque 78.55 333 *e*P **P 12 59 38.0 +1.4**
comp=E,6.2nm,1.1s
ANMO *e*pP **pP 12 59 47.7 +0.8**
BOSA Boshof 79.31 118 P **P 12 59 39.7 -1.4**
comp=E,3.3nm,0.8s,baz=231,slow=6.7,SNR=4.1
BOSA LR LR 13 30 55.0
comp=E,34nm,18.2s,baz=217,slow=33
SDCO Great Sand Dun 80.73 335 *e*P **P 12 59 49.8 +1.3**
comp=E,4.3nm,1.6s
SDCO *e*PcP **PcP 12 59 54.9 -0.2**
PV01 Paradox Valley 82.16 333 *e*P **P 12 59 57.8 +1.8**
comp=E,160nm,1.0s
PV01 *e*pP **pP 13 00 07.8 +1.4**
SMCO Snowmass 82.52 334 *e*P **P 13 00 00.6 +2.5**
comp=E,8.0nm,1.2s
SMCO *e*pP **pP 13 00 09.4 +0.9**
ECSD EROS Data Cent 83.77 343 *e*P **P 13 00 04.0 +0.1**
comp=E,14nm,1.2s
ECSD *e*pP **pP 13 00 13.9 -0.4**
RSSD Black Hills 86.06 338 *e*P **P 13 00 16.3 +0.6**
comp=E,2.5nm,0.7s
RSSD *e*pP **pP 13 00 25.3 -0.9**
HWUT Hardware Ranch 86.31 332 *e*P **P 13 00 18.0 +1.1**
comp=E,3.8nm,0.8s
HWUT *e*pP **pP 13 00 28.2 +0.9**
NVAR Mina Array Bea 86.34 326 P **P 13 00 19.1 +2.0**
comp=E,1.0nm,0.7s,baz=161,slow=6.7,SNR=6.5
TORD Torodi Ar. Bea 86.49 71 P **P 13 00 16.8 -1.4**
comp=E,3.7nm,0.8s,baz=220,slow=4.6,SNR=8.6
PDAR Pinedale Array 86.61 334 P **P 13 00 19.1 +0.7**
comp=E,1.1nm,0.8s,baz=141,slow=5.2,SNR=8.3
HVU Hansel Valley 86.91 332 *e*P **P 13 00 20.6 +0.9**
comp=E,3.1nm,0.8s
HVU *e*pP **pP 13 00 30.4 +0.2**
TPAW Teton Pass 87.73 334 *e*P **P 13 00 24.9 +1.1**
comp=E,2.3nm,0.8s
TPAW *e*pP **pP 13 00 34.6 +0.3**
IMW Indian Meadow 88.08 334 *e*P **P 13 00 26.6 +1.0**
comp=E,3.6nm,1.1s
IMW *e*pP **pP 13 00 36.2 +0.1**
ASAR Alice Springs 113.76 207 PKiKP **PKiKP 13 06 13.3 -0.7**
comp=E,0.6nm,0.6s,baz=152,slow=1.8,SNR=6.7
WRA Warramunga Arr 116.99 209 PKP **PKPdf 13 06 19.7 -0.6**
comp=E,1.1nm,0.5s,baz=160,slow=1.6,SNR=34
ILAR Eielson Array 117.00 333 PKP **PKPdf 13 06 18.4 -0.3**
comp=E,0.4nm,0.8s,baz=164,slow=3.0,SNR=5.0
BRTR Keskin Array B 124.53 64 PKP **PKPdf 13 06 33.5 -0.7**
comp=E,1.2nm,0.8s,baz=184,slow=4.3,SNR=5.5
ARCES ARCESS Array B 127.84 26 PKP **PKPdf 13 06 38.7 -0.7**
comp=E,0.8nm,0.6s,baz=225,slow=1.1,SNR=3.5
ABKAR Akbulak array 144.76 56 *e*PKPdf **PKPab 13 07 10.0 -0.3**
BVAR Borovoye Array 150.69 47 PKPbc **PKPbc 13 07 26.0 -0.5**
comp=E,3.7nm,0.7s,baz=291,slow=3.6,SNR=9.8
CMAR Chiang Mai Arr 159.67 159 PKP **PKPdf 13 07 32.2 -1.9**
comp=E,0.4nm,0.3s,baz=250,slow=2.9,SNR=4.1
MKAR Makanchi Array 159.91 55 PKP **PKPdf 13 07 32.7 -0.9**
comp=E,0.3nm,0.4s,baz=255,slow=2.8,SNR=5.0
MKAR PKPab **PKPab 13 08 11.7 -1.5**
comp=E,0.7nm,0.5s,baz=278,slow=4.0,SNR=5.5

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*SJA **16** 12:47:38.8±1.1,22.62S×67.93W,h162km±12km,ML3.6, MW3.8*
*ISCJB **16** 12:47:39.6±0.4,22.48S±0.0S×67.82W±0.0S,h138km, mb4.0/8,Error ellipse: s-maj=8.0km s-min=4.6km az=137.5*
*NEIC **16** 12:47:39.7±0.9,22.65S×67.71W,h133km±10km,mb4.1/4, Error ellipse: s-maj=18.5km s-min=10.4km az=104.0*
*IDC **16** 12:47:40.3±0.8,22.53S×67.74W,h136km±10km,mb4.0/7, mb1 4.1/9,mb1mx3.7/25,mbtmp4.5/9,Error ellipse: s-maj=24.2km s-min=15.3km az=124.0*

ISC 16 12:47:40.4±0.6, 22.51S±0.06×67.82W±0.05, h138km, n33, σ1s92/35, mb4.3/8, 11D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LVC	**Limon Verde**	**1.01**	**264**	P		**Pn**	**12 48 05.4**	**+1.0**
	15μm,0.3s,baz=89,slow=5.1,SNR=4887							
LVC				S		**Sn**	**12 48 23.7**	**+1.0**
	16μm,0.3s,baz=225,slow=20,SNR=109							
LVC				LR		LR	12 48 40.9	
	comp=Z,392nm,20.9s,baz=130,slow=56							
LVC	**Limon Verde**	**1.01**	**264**	↓*e*P		**Pn**	**12 48 05.5**	**+1.0**
LVC				↓*e*S		**Sn**	**12 48 23.8**	**+1.2**
HJA	**Humahuaca**	**2.33**	**108**	↓*e*P		**Pn**	**12 48 21.5**	**+2.2**
AZAP	**Zapla**	**3.05**	**124**	↓*e*P		**Pn**	**12 48 28.9**	**+0.7**
AZAP				↓*e*S		**Sn**	**12 49 06.2**	**+1.1**
SLA	**San Lorenzo**	**3.06**	**136**	↓*e*P		**Pn**	**12 48 29.5**	**+1.3**
SLA				IAML			12 48 30.2	
	comp=Z,38nm,0.5s							
ASTB	**Santa Barbara**	**3.39**	**116**	*e*P		**Pn**	**12 48 33.6**	**+1.2**
ASTB				*e*S		**Sn**	**12 49 14.0**	**+1.2**
ALOL	**LOMAS DE OLMED**	**3.77**	**111**	↓*e*P		**Pn**	**12 48 37.1**	**-0.3**
ALOL				↓*e*S		**Sn**	**12 49 21.8**	**+0.1**
FSA	**Cafayete**	**3.93**	**155**	↓*e*P		**Pn**	**12 48 40.3**	**+0.7**
FSA				IAML			12 48 44.3	
	comp=Z,40nm,0.3s							
AHML	**Horco Molle**	**4.82**	**152**	↓*e*P		**Pn**	**12 48 51.0**	**-0.2**
AHML				IAML			12 48 52.4	
	comp=Z,24nm,0.4s							
LPAZ	**La Paz**	**6.20**	**357**	P		Pn	12 49 13.9	+3.7
	comp=Z,3.0nm,0.3s,baz=167,slow=7.2,SNR=68							
LPAZ				S		**Sn**	**12 50 22.0**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=343,slow=18.5,SNR=2.7							
VCA	**Vinchina**	**6.21**	**183**	↓*e*P		Pn	12 49 05.4	-4.5
VCA				IAML			12 50 20.0	
	comp=Z,33nm,0.6s							
ARE	**Arequipa**	**6.94**	**329**	*e*P		**Pn**	**12 49 21.0**	**+1.1**
ARE				*e*S		**Sn**	**12 50 36.0**	**-1.8**
LCO	**Las Campanas**	**6.97**	**201**	*e*Pn		Pn	12 49 15.1	-5.2
AVFE	**Valle Fertil**	**8.12**	**178**	*e*P		Pn	12 49 32.1	-3.4
AVFE				IAML			12 51 41.7	
	comp=Z,17nm,0.5s							
SIV	**San Ignacio**	**9.09**	**46**	P		Pn	12 49 47.1	-1.5
	comp=Z,31nm,0.3s,baz=245,slow=11,SNR=175							
SIV				S		Sn	12 51 24.1	-5.3
	comp=Z,5.5nm,0.3s,baz=142,slow=20,SNR=10							
SAML	**Samuel**	**14.20**	**19**	*e*P		**Pn**	**12 50 54.4**	**-1.1**
	comp=Z,6.9nm,1.2s							
TRQA	**Tornquist**	**16.29**	**163**	*e*Pn		**Pn**	**12 51 20.3**	**-0.9**
TRQA	**Tornquist**	**16.29**	**163**	*e*Sn		**Pn**	**12 51 20.4**	**-0.8**
BDFB	**Brasilia**	**19.92**	**73**	P		**P**	**12 52 01.5**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=237,slow=9.0,SNR=10							
PTGA	**Pitinga**	**22.96**	**21**	P		**P**	**12 52 32.0**	**-1.0**
	comp=Z,4.4nm,0.3s,baz=179,slow=23,SNR=9.5							
SNAA	**Sanae**	**61.00**	**161**	P		**P**	**12 57 38.6**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=290,slow=4.5,SNR=3.8							
QSPA	**South Pole Qui**	**67.69**	**180**	P		**P**	**12 58 22.5**	**0.0**
	comp=Z,6.1nm,0.5s,baz=299,slow=1.4,SNR=18							
QSPA	**South Pole Qui**	**67.69**	**180**	*e*P		**P**	**12 58 22.7**	**+0.2**
	comp=Z,5.3nm,0.5s							
DBIC	**Dimbokro**	**68.07**	**73**	P		**P**	**12 58 25.2**	**-0.4**
	comp=Z,4.5nm,0.8s,baz=222,slow=6.9,SNR=5.3							
DBIC	**Dimbokro**	**68.07**	**73**	*e*P		**P**	**12 58 24.8**	**-0.7**
	comp=Z,2.7nm,0.6s							
VNDA	**Vanda**	**76.03**	**190**	*e*P		**P**	**12 59 11.1**	**-0.8**
	comp=Z,0.2nm,0.3s							
TORD	**Torodi Ar. Bea**	**76.75**	**70**	P		**P**	**12 59 17.1**	**0.0**
	comp=Z,3.5nm,0.5s,baz=252,slow=5.6,SNR=58							
SCHQ	**Schefferville**	**77.03**	**1**	P		**P**	**12 59 18.5**	**+0.8**
	comp=Z,4.4nm,0.8s,baz=129,slow=1.9,SNR=4.1							
YKA	**Yellowknife Ar**	**92.47**	**340**	P		**P**	**13 00 36.0**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=126,slow=4.6,SNR=3.6							
YKA	**Yellowknife Ar**	**92.47**	**340**	P		**P**	**13 00 36.0**	**+0.8**
ASAR	**Alice Springs**	**129.47**	**206**	PKP		**PKPdf**	**13 06 32.0**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=144,slow=0.8,SNR=3.3							
WRA	**Warramunga Arr**	**132.58**	**209**	PKP		**PKPdf**	**13 06 39.9**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=162,slow=1.6,SNR=3.9							
MKAR	**Makanchi Array**	**145.84**	**38**	PKPbc		**PKPdf**	**13 07 03.1**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=321,slow=2.6,SNR=4.1							

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*IDC **16** 13:51:16.3±0.8,54.66N×164.43E,h0km,mb3.8/13, mb1 3.9/15,mb1mx3.7/33,mbtmp3.8/15,ML3.6/2,MS3.0/5, Ms1 3.0/5,ms1mx2.7/39,Error ellipse: s-maj=25.8km s-min=15.2km az=160.0*
*KRSC **16** 13:51:18.3±1.9,54.58N×164.29E,h55km±24km,ML4.9*
*NEIC **16** 13:51:19.8±3.4,54.69N×164.44E,h24km±25km,mb4.3/4, Error ellipse: s-maj=14.0km s-min=7.2km az=149.0*
*MOS **16** 13:51:19.4±0.9,54.63N×164.43E,h37km,mb4.8/6,Error ellipse: s-maj=8.5km s-min=7.0km az=139.6*
*ISCJB **16** 13:51:20.6±0.6,54.60N±0.03×164.25E±0.0S,h48km±5km, mb4.0/22,MS3.2/3,Error ellipse: s-maj=5.6km s-min=3.8km az=35.6*

ISC 16 13:51:21.1±0.8, 54.61N±0.04×164.41E±0.03, h41km±7km, n106, σ1s52/138, mb4.1/22, MS3.2/3, 1C-4D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BKI	**Bering**	**1.08**	**56**	*e*P		**Pn**	**13 51 38.8**	**-1.0**
BKI				*e*S		**Sn**	**13 51 51.8**	**-1.8**
BKI	**Bering**	**1.08**	**56**	PN		**Pn**	**13 51 38.8**	**-1.0**
BKI				S		**Sn**	**13 51 51.8**	**-1.8**
MKZ	**Mys Kozlova**	**1.56**	**269**	*i* P		**Pn**	**13 51 45.6**	**-0.7**
MKZ				*e*S		**Sn**	**13 52 03.2**	**-2.1**
MKZ	**Mys Kozlova**	**1.56**	**269**	PN		**Pn**	**13 51 45.6**	**-0.7**
MKZ				S		**Sn**	**13 52 03.2**	**-2.1**
KBTR	**Krutoberegovo**	**1.84**	**331**	*i* P		**Pn**	**13 51 48.4**	**-1.8**
KBTR				*e*S		**Sn**	**13 52 09.4**	**-2.9**
KBTR	**Krutoberegovo**	**1.84**	**331**	PN		**Pn**	**13 51 48.4**	**-1.8**
KBTR				S		**Sn**	**13 52 09.4**	**-2.9**
KZV	**Kizimen**	**2.43**	**284**	*i* P		**Pn**	**13 51 58.2**	**-0.3**
KZV				*e*S		**Sn**	**13 52 25.3**	**-1.7**
ZLN	**Zelenaya**	**2.50**	**306**	*e*P		**Pn**	**13 51 59.8**	**+0.5**
ZLN				*e*S		**Sn**	**13 52 29.6**	**+1.0**
ZLN	**Zelenaya**	**2.50**	**306**	PN		**Pn**	**13 51 59.8**	**+0.5**
ZLN				S		**Sn**	**13 52 29.6**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**2.51**	**304**	*e*P		**Pn**	**13 51 59.9**	**+0.4**
TUMR	**Tumrok**	**2.55**	**287**	*i* P		**Pn**	**13 52 00.2**	**+0.2**
TUMR	**Tumrok**	**2.55**	**287**	PN		**Pn**	**13 52 00.2**	**+0.2**
BZMR	**Bezymyannaya**	**2.61**	**302**	*e*P		**Pn**	**13 52 01.2**	**+0.3**
BZWR	**Bezymyannyi-We**	**2.62**	**303**	*e*P		**Pn**	**13 52 01.4**	**+0.4**
KMNR	**Kamenistaya**	**2.65**	**297**	*i* P		**Pn**	**13 52 01.5**	**0.0**
KMNR	**Kamenistaya**	**2.65**	**297**	PN		**Pn**	**13 52 01.5**	**0.0**
BDR	**Baidarnaya**	**2.67**	**319**	*e*P		**Pn**	**13 52 01.3**	**-0.4**
BDR				*e*S		**Sn**	**13 52 33.0**	**+0.1**
KIRR	**Kirishev**	**2.69**	**302**	*e*P		**Pn**	**13 52 02.8**	**+0.8**
KIRR				*e*S		**Sn**	**13 52 35.9**	**+2.6**
KLY	**Klyuchi**	**2.74**	**310**	*e*S		**Sn**	**13 52 32.5**	**-1.8**
SRKR	**Sorokina**	**2.75**	**320**	*e*P		**Pn**	**13 52 02.3**	**-0.5**
SRKR				*e*S		**Sn**	**13 52 32.2**	**-2.6**
SRKR	**Sorokina**	**2.75**	**320**	PN		**Pn**	**13 52 02.3**	**-0.5**
SRKR				S		**Sn**	**13 52 32.2**	**-2.6**
KII	**Karymskiy**	**2.96**	**261**	*e*P		**Pn**	**13 52 06.0**	**+0.4**
KII				*e*S		**Sn**	**13 52 38.7**	**-1.2**
KII	**Karymskiy**	**2.96**	**261**	PN		**Pn**	**13 52 06.0**	**+0.4**
KII				S		**Sn**	**13 52 38.7**	**-1.2**
KOZ	**Kozyrevsk**	**2.97**	**301**	*e*P		**Pn**	**13 52 06.3**	**+0.6**
KOZ				*e*S		**Sn**	**13 52 40.0**	**-0.1**
KOZ	**Kozyrevsk**	**2.97**	**301**	PN		**Pn**	**13 52 06.3**	**+0.6**
KOZ				S		**Sn**	**13 52 40.0**	**-0.1**
SPN	**Mys Shipunski**	**3.00**	**242**	*e*P		**Pn**	**13 52 05.4**	**-0.8**
SPN				*e*S		**Sn**	**13 52 37.4**	**-3.5**
SPN	**Mys Shipunski**	**3.00**	**242**	PN		**Pn**	**13 52 05.4**	**-0.8**
SRDR	**Sredinnyy**	**3.17**	**305**	*e*P		**Pn**	**13 52 08.1**	**-0.4**
SRDR				*e*S		**Sn**	**13 52 42.1**	**-3.0**
SRDR	**Sredinnyy**	**3.17**	**305**	PN		**Pn**	**13 52 08.1**	**-0.4**
NLC	**Nalytchevo**	**3.32**	**246**	*e*P		**Pn**	**13 52 10.0**	**-0.5**
NLC				*e*S		**Sn**	**13 52 45.9**	**-2.8**
NLC	**Nalytchevo**	**3.32**	**246**	PN		**Pn**	**13 52 10.0**	**-0.5**
ESO	**Esso**	**3.52**	**294**	*e*P		**Pn**	**13 52 13.0**	**-0.3**
ESO				*e*S		**Sn**	**13 52 51.5**	**-2.2**
ESO	**Esso**	**3.52**	**294**	PN		**Pn**	**13 52 13.0**	**-0.3**
SDLR	**Sedlovina**	**3.52**	**250**	*e*P		**Pn**	**13 52 13.5**	**+0.1**
SDLR				*e*S		**Sn**	**13 52 52.3**	**-1.6**
SDLR	**Sedlovina**	**3.52**	**250**	PN		**Pn**	**13 52 13.5**	**+0.1**
SMAR	**Somma**	**3.58**	**250**	*e*P		**Pn**	**13 52 14.5**	**+0.3**
SMAR				*e*S		**Sn**	**13 52 53.2**	**-2.1**
SMAR	**Somma**	**3.58**	**250**	PN		**Pn**	**13 52 14.5**	**+0.3**
UGLR	**Uglovaya**	**3.59**	**249**	*e*P		**Pn**	**13 52 14.6**	**+0.3**
UGLR				*e*S		**Sn**	**13 52 53.3**	**-2.1**
KRER	**Koryakskii**	**3.59**	**251**	*e*P		**Pn**	**13 52 15.0**	**+0.6**
KRER				*e*S		**Sn**	**13 52 54.1**	**-1.5**
AVH	**Avacha**	**3.61**	**250**	*e*P		**Pn**	**13 52 15.2**	**+0.6**
AVH				*e*S		**Sn**	**13 52 55.0**	**-0.9**
AVH	**Avacha**	**3.61**	**250**	PN		**Pn**	**13 52 15.2**	**+0.6**
AVH				S		**Sn**	**13 52 55.0**	**-0.9**
KRX	**Arik**	**3.62**	**252**	*e*P		**Pn**	**13 52 15.8**	**+0.6**
KRX				*e*S		**Sn**	**13 52 54.4**	**-1.9**
KOK	**Koryaka**	**3.66**	**251**	*e*P		**Pn**	**13 52 15.8**	**+0.6**
KOK				*e*S		**Sn**	**13 52 55.8**	**-1.3**
KOK	**Koryaka**	**3.66**	**251**	PN		**Pn**	**13 52 15.8**	**+0.6**
PET	**Petropavlovsk**	**3.76**	**247**	*e*P		**Pn**	**13 52 16.9**	**+0.4**
PET				*e*S		**Sn**	**13 52 56.4**	**-3.1**
PET	**Petropavlovsk**	**3.76**	**247**	↓*i*PN		**Pn**	**13 52 16.9**	**+0.4**
PET				*e*S		**Sn**	**13 52 56.4**	**-3.1**
PET				pmax		pmax		
	comp=Z,66nm,0.4s							
PET				smax		smax		
	comp=E,7.0nm,0.8s							
PET				MLR		MLR		
	comp=Z,100nm,16.0s							
PET	**Petropavlovsk**	**3.76**	**247**	*e*Pn		**Pn**	**13 52 16.6**	**0.0**
PET				*e*Sn		**Sn**	**13 52 57.0**	**-2.5**
GNL	**Ganaly**	**3.91**	**259**	*e*P		**Pn**	**13 52 19.7**	**+1.0**
GNL				*e*S		**Sn**	**13 53 02.7**	**-0.7**
GNL	**Ganaly**	**3.91**	**259**	PN		**Pn**	**13 52 19.7**	**+1.0**
RUS	**Russkaya**	**4.14**	**241**	*e*P		**Pn**	**13 52 21.8**	**+0.1**
RUS				*e*S		**Sn**	**13 53 05.2**	**-3.6**
RUS	**Russkaya**	**4.14**	**241**	PN		**Pn**	**13 52 21.8**	**+0.1**
PETK	**Petropavlovsk-**	**4.25**	**252**	Pn		**Pn**	**13 52 24.0**	**+0.7**
	comp=Z,11nm,0.3s,baz=71,slow=18,SNR=296							
PETK				Sn		**Sn**	**13 53 11.0**	**-0.5**
	comp=Z,15nm,0.3s,baz=302,slow=28,SNR=6.6							
PETK				LR		LR	13 54 19.3	
	comp=Z,65nm,19.1s,baz=51,slow=43							
PETK	**Petropavlovsk-**	**4.25**	**252**	PN		**Pn**	**13 52 24.0**	**+0.7**
MTVR	**Mutnovka**	**4.28**	**243**	*e*P		**Pn**	**13 52 24.6**	**+0.8**
MTVR				*e*S		**Sn**	**13 53 09.6**	**-2.9**
ASAK	**Asacha**	**4.48**	**243**	*e*P		**Pn**	**13 52 27.8**	**+1.3**
ASAK				*e*S		**Sn**	**13 53 15.8**	**-1.5**
APC	**Apacha**	**4.62**	**252**	*e*P		**Pn**	**13 52 30.0**	**+1.7**
APC				*e*S		**Sn**	**13 53 20.7**	**+0.1**
APC	**Apacha**	**4.62**	**252**	PN		**Pn**	**13 52 30.0**	**+1.7**
MIPR	**Malaya Ipel'ka**	**5.13**	**246**	*e*P		**Pn**	**13 52 36.8**	**+1.4**
PAU	**Pauzhetka**	**5.56**	**239**	*e*P		**Pn**	**13 52 41.7**	**+0.5**
PAU	**Pauzhetka**	**5.56**	**239**	PN		**Pn**	**13 52 41.7**	**+0.5**
SKR	**Severo-Kuril's**	**6.39**	**235**	*e*P		**Pn**	**13 52 52.3**	**-0.4**
SKR				*e*S		**Sn**	**13 53 59.2**	**-5.1**
SKR	**Severo-Kuril's**	**6.39**	**235**	*e*PN		**Pn**	**13 52 51.5**	**-1.2**
SKR				pmax		pmax		
	comp=Z,40nm,0.4s							
BILL	**Bilibino**	**13.51**	**3**	*e*PN		Pn	13 54 33.6	+3.7
BILL				pmax		pmax		
	comp=Z,4.0nm,1.0s							
YUK	**Yuzh-Kuril'sk**	**16.01**	**236**	P		**Pn**	**13 55 02.6**	**-0.6**
ERM	**Erimo**	**18.84**	**237**	↓*e*P		**P**	**13 55 36.0**	**-1.3**
HABR	**Khabarovsk**	**19.17**	**263**	*e*P		**P**	**13 55 38.7**	**-2.2**
HABR				*e*S		**Sn**	**13 59 12.4**	**-3.3**
HABR				pmax		pmax		
	comp=Z,24nm,1.8s							
YAK	**Yakutsk**	**19.49**	**306**	P		**P**	**13 55 44.5**	**+0.2**
	comp=Z,0.0nm,0.3s,baz=85,slow=11,SNR=4.9							
YAK				LR		LR	14 02 41.0	
	comp=Z,31nm,19.3s,baz=252,slow=35							
YAK	**Yakutsk**	**19.49**	**306**	*e*P		**P**	**13 55 43.3**	**-0.9**
YAK				*e*S		**S**	**13 59 18.9**	**-3.0**
YAK				pmax		pmax		
	comp=E,8.0nm,1.0s							
YAK				pmax		pmax		
	comp=Z,18nm,1.0s							
YAK				pmax		pmax		
	comp=N,3.0nm,1.1s							
YAK				smax		smax		
	comp=E,14nm,2.3s							
YAK				smax		smax		
	comp=N,15nm,1.6s							
KLR	**Kul'dur**	**20.72**	**268**	*e*P		**P**	**13 55 56.0**	**-1.8**
COLD	**Coldfoot**	**24.74**	**41**	*e*P		**P**	**13 56 37.6**	**-0.7**
	comp=N,5.1nm,0.9s							
MAJO	**Matsushiro**	**25.50**	**236**	↓*e*P		**P**	**13 56 46.9**	**+1.5**
MAJO				pmax		pmax		
	comp=Z,56nm,2.1s							
MAJO	**Matsushiro**	**25.50**	**236**	*e*P		**P**	**13 56 46.1**	**+0.6**
	comp=Z,7.6nm,0.7s							
MAT	**Matsushiro**	**25.50**	**236**	P		P	13 56 53.4	+8.0
MJAR	**Matsushiro Arr**	**25.50**	**236**	P		**P**	**13 56 45.9**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=44,slow=7.9,SNR=2.4							
COLA	**College**	**25.51**	**47**	↓*e*P		**P**	**13 56 46.6**	**+1.4**
COLA				pmax		pmax		
	comp=Z,16nm,1.1s							
ILAR	**Eielson Array**	**25.92**	**47**	P		**P**	**13 56 49.1**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=261,slow=8.4,SNR=22							
EGAK	**Eagle**	**28.37**	**47**	*e*P		**P**	**13 57 09.9**	**-1.0**
	comp=Z,2.3nm,0.8s							
KSRS	**Korea Array**	**30.14**	**250**	P		**P**	**13 57 29.0**	**+2.1**
	comp=Z,1.4nm,0.8s,baz=37,slow=8.7,SNR=4.5							
KSRS				LR		LR	14 09 06.8	
	comp=Z,22nm,18.3s,baz=352,slow=35							
KSAR	**Wonju Array Be**	**30.17**	**250**	P		**P**	**13 57 29.0**	**+1.9**
KSAR	**Wonju Array Be**	**30.17**	**250**	P		**P**	**13 57 29.0**	**+1.9**
INK	**Inuvik**	**31.09**	**40**	P		**P**	**13 57 35.0**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=288,slow=6.4,SNR=3.6							
H11N2	**WAKE ISLAND Hy**	**34.87**	**176**	T		T	14 36 10.3	
	baz=359,slow=76,SNR=30							
H11N3	**WAKE ISLAND Hy**	**34.88**	**176**	T		T	14 36 35.8	
	baz=359,slow=76,SNR=34							
H11N1	**WAKE ISLAND Hy**	**34.88**	**176**	T		T	14 36 38.2	
	baz=359,slow=76,SNR=28							
SONM	**Songino Array**	**36.03**	**284**	P		**P**	**13 58 19.4**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=54,slow=9.5,SNR=5.4							
H11S1	**WAKE ISLAND Hy**	**36.08**	**176**	T		T	14 38 18.1	
	baz=352							
H11S3	**WAKE ISLAND Hy**	**36.09**	**176**	T		T	14 37 28.8	
	baz=352							
H11S2	**WAKE ISLAND Hy**	**36.09**	**176**	T		T	14 38 04.1	
	baz=352							
HHC	**Hu-ho-hao-te**	**37.20**	**271**	*e*P		**P**	**13 58 27.1**	**-1.2**
HHC				sP		**sP**	**13 58 47.3**	**+2.7**
HHC				S		S	14 04 05.5	-6.6
HHC				SS		SnSn	14 06 37.3	-12
HHC				PMZ				
	comp=Z,12nm,0.7s							
HHC				PMZ				
	comp=Z,75nm,11.7s							
NVS	**Novosibirsk**	**44.35**	**305**	*e*P		**P**	**13 59 24.3**	**-2.5**
NVS				pmax		pmax		
	comp=Z,18nm,1.9s							
GTA	**Gaotai**	**44.95**	**278**	*e*P		**P**	**13 59 34.0**	**+2.0**
GTA				PMZ				
	comp=Z,4.0nm,1.2s							
KURK	**Kurchatov**	**49.08**	**303**	*e*P		**P**	**14 00 03.7**	**-0.1**
KURK				pmax		pmax		
	comp=Z,29nm,1.4s							
KURK	**Kurchatov**	**49.08**	**303**	*e*P		**P**	**14 00 03.7**	**-0.1**
	comp=Z,29nm,1.4s							
KURBB	**Kurchatov Arra**	**49.18**	**303**	P		**P**	**14 00 05.0**	**+0.4**
	comp=Z,5.4nm,0.7s,baz=56,slow=7.9,SNR=46							
MKAR	**Makanchi Array**	**49.77**	**297**	P		**P**	**14 00 09.5**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=58,slow=7.7,SNR=17							
BVAR	**Borovoye Array**	**51.42**	**310**	P		**P**	**14 00 22.1**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=53,slow=7.8,SNR=9.6							
BRVK	**Borovoye**	**51.45**	**310**	↓*e*P		**P**	**14 00 22.8**	**+1.1**
BRVK				pmax		pmax		
	comp=Z,7.0nm,1.6s							
NVAR	**Mina Array Bea**	**52.84**	**74**	P		**P**	**14 00 34.0**	**+1.4**
	comp=Z,0.2nm,0.7s,baz=294,slow=7.7,SNR=2.2							
PDAR	**Pinedale Array**	**54.56**	**64**	LR		LR	14 22 30.4	
	comp=Z,22nm,18.9s,baz=42,slow=34							
CMAR	**Chiang Mai Arr**	**60.97**	**261**	P		**P**	**14 01 32.2**	**+2.1**
	comp=Z,1.1nm,0.8s,baz=31,slow=6.9,SNR=9.3							
OBN	**Obninsk**	**62.57**	**329**	*e*P		**P**	**14 01 39.8**	**-0.5**
OBN				pmax		pmax		
	comp=Z,4.0nm,1.0s							
TXAR	**Lajitas Array**	**67.71**	**71**	P		**P**	**14 02 15.8**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=312,slow=4.7,SNR=3.7							
KIV	**Kislovodsk**	**70.02**	**319**	*e*P		**P**	**14 02 26.5**	**-1.8**
KIV				pmax		pmax		
	comp=Z,4.0nm,1.0s							
BRTR	**Keskin Array B**	**77.01**	**323**	LR		LR	14 42 53.5	
	comp=Z,19nm,18.8s,baz=114,slow=40							
WRA	**Warramunga Arr**	**78.59**	**209**	P		**P**	**14 03 18.7**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=25,slow=5.9,SNR=3.7							
ASAR	**Alice Springs**	**82.25**	**208**	P		**P**	**14 03 38.9**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=19,slow=6.0,

σ1§17/49, **mb4.1**/9, **MS3.1**/4, **Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**2.29**	**130**	P	Pn	14 45 35.6	+3.1
BSSI	**Bau Bau, Buton**	**2.81**	**44**	P	**Pn**	**14 45 39.8**	**+0.2**
BKSI	**Bulukumba**	**3.25**	**29**	P	**Pn**	**14 45 45.9**	**+0.2**
BKSI				S	**Sn**	**14 46 22.9**	**-0.3**
SRBI	**Singaraja**	**3.28**	**271**	P	**Pn**	**14 45 45.8**	**-0.3**
KAPI	**Kappang**	**3.37**	**21**	Pn	**Pn**	**14 45 47.8**	**+0.4**
	36nm,0.3s,baz=185,slow=7.1,SNR=81						
KAPI				Sn	**Sn**	**14 46 25.3**	**-0.9**
	74nm,0.3s,baz=30,slow=20,SNR=18						
IGBI	**Denpasar**	**3.40**	**259**	P	**Pn**	**14 45 48.4**	**+0.6**
MMRI	**Maumere**	**3.70**	**97**	P	**Pn**	**14 45 51.6**	**-0.3**
MMRI	**Maumere**	**3.70**	**97**	*e*Pn	**Pn**	**14 45 51.4**	**-0.5**
MMRI				*e*Sn	**Sn**	**14 46 37.5**	**+3.2**
BLJI	**Banyuglugur**	**4.90**	**275**	P	**Pn**	**14 46 09.2**	**+0.8**
TTSI	**Tana Toraja**	**5.26**	**14**	P	**Pn**	**14 46 15.2**	**+1.9**
	62nm,0.4s,1μm0.5nm						
BATI	**Baumata**	**5.46**	**112**	P	**Pn**	**14 46 18.2**	**+2.1**
	52nm,1.5s,0.3nm						
BATI	**Baumata**	**5.46**	**112**	Pn	**Pn**	**14 46 18.1**	**+2.0**
	9.8nm,0.3s,baz=14,slow=2.6,SNR=12						
BATI				Sn	Sn	14 47 28.2	+10
	5.1nm,0.3s,baz=285,slow=19,SNR=2.2						
SOEI	**Soe**	**5.89**	**106**	*e*Pn	**Pn**	**14 46 22.3**	**+0.2**
BBKI	**Banjar Baru**	**5.95**	**322**	P	**Pn**	**14 46 23.7**	**+0.9**
LEM	**Lembang**	**10.90**	**276**	LR	LR	14 52 21.5	
	comp=Z,190nm,18.4s,baz=40,slow=42						
FITZ	**Fitzroy Crossi**	**12.05**	**146**	P	**Pn**	**14 47 45.7**	**-0.8**
	baz=11,SNR=7.2						
FITZ	**Fitzroy Crossi**	**12.05**	**146**	*e*Pn	**Pn**	**14 47 45.5**	**-1.0**
	25nm,0.9s						
KNRA	**Kununurra**	**12.48**	**128**	P	**Pn**	**14 47 51.0**	**-1.4**
	baz=11,SNR=22						
MBWA	**Marble Bar**	**12.96**	**175**	*e*Pn	**Pn**	**14 47 56.1**	**-2.9**
	5.6nm,0.4s						
MBWA				*e*Sn	Sn	14 50 13.3	-8.6
MTN	**Manton Dam**	**13.23**	**112**	P	**Pn**	**14 47 59.9**	**-2.8**
	baz=12,SNR=20						
KDU	**Kakadu**	**14.43**	**109**	P	**Pn**	**14 48 18.1**	**-0.9**
	baz=13,SNR=8.8						
FAKI	**Fak Fak**	**14.62**	**70**	P	**P**	**14 48 25.9**	**-1.6**
	baz=14,SNR=5.7						
GIRL	**Giralia**	**14.96**	**196**	P	**Pn**	**14 48 28.0**	**+1.9**
	baz=14,SNR=6.2						
MEEK	**Meekatharra**	**18.36**	**180**	P	**Pn**	**14 49 10.3**	**+1.2**
	baz=18,SNR=15						
WRKA	**Warakurna**	**19.18**	**152**	P	**Pn**	**14 49 18.7**	**-0.5**
	baz=18,SNR=24						
WRA	**Warramunga Arr**	**19.27**	**129**	P	**P**	**14 49 17.6**	**-1.4**
	0.6nm,0.3s,baz=302,slow=13,SNR=35						
WRA				S	Sn	14 52 44.0	-11
	0.1nm,0.3s,baz=303,slow=24,SNR=4.1						
WRAB	**Tennant Creek**	**19.27**	**129**	*e*P	**P**	**14 49 17.9**	**-1.1**
	3.0nm,0.6s						
MORW	**Morawa**	**20.91**	**186**	P	Pn	14 49 39.7	+0.3
	baz=20,SNR=7.6						
ASAR	**Alice Springs**	**21.32**	**138**	P	**P**	**14 49 40.8**	**-0.5**
	5.1nm,0.6s,baz=318,slow=9.2,SNR=37						
ASAR				S	**S**	**14 53 35.9**	**-0.3**
	0.9nm,0.8s,baz=308,slow=23,SNR=2.9						
PSI	**Prapat**	**22.39**	**298**	LR	LR	14 59 23.0	
	comp=Z,126nm,20.7s,baz=96,slow=39						
JAY	**Jayapura**	**22.78**	**77**	LR	LR	15 01 27.5	
	comp=Z,26nm,19.1s,baz=347,slow=43						
QIS	**Mount Isa**	**23.80**	**123**	P	**P**	**14 50 06.1**	**-1.0**
	baz=23,SNR=5.0						
COEN	**Coen**	**24.85**	**106**	P	**P**	**14 50 16.5**	**-0.2**
	baz=24,SNR=9.9						
MTSU	**Mount Surprise**	**26.96**	**114**	P	**P**	**14 50 36.0**	**+0.3**
	baz=26,SNR=6.4						
BBOO	**Buckleboo**	**29.41**	**149**	P	**P**	**14 50 57.0**	**-0.4**
	baz=28,SNR=6.5						
QLP	**Quilpie**	**30.50**	**130**	P	**P**	**14 51 07.4**	**+0.3**
	baz=29,SNR=4.1						
HTT	**Hallett**	**31.41**	**146**	P	**P**	**14 51 15.5**	**+0.3**
	baz=30,SNR=6.0						
STKA	**Stephens Creek**	**31.88**	**141**	P	**P**	**14 51 19.2**	**0.0**
	5.1nm,0.6s,baz=316,slow=10,SNR=21						
STKA	**Stephens Creek**	**31.88**	**141**	P	**P**	**14 51 19.2**	**0.0**
	baz=31,SNR=9.3						
CMAR	**Chiang Mai Arr**	**32.77**	**324**	LR	LR	15 04 57.7	
	comp=Z,27nm,19.4s,baz=205,slow=37						
HHC	**Hu-ho-hao-te**	**49.20**	**353**	*e*P	**P**	**14 53 41.5**	**-0.6**
HHC				PP	**PP**	**14 55 36.0**	**-0.3**
HHC				S	**S**	**15 00 45.6**	**0.0**
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				pmax	pmax		
	comp=Z,160nm,9.1s						
HHC				LR	LR		
	comp=N,99nm,14.8s						
HHC				LR	LR		
	comp=E,100nm,14.8s						
HHC				LR	LR		
	comp=Z,67nm,14.8s						
USRK	**Ussuriysk Ar.**	**53.54**	**12**	P	**P**	**14 54 15.4**	**+1.0**
	comp=Z,1.4nm,0.5s,baz=194,slow=7.1,SNR=4.5						
SONM	**Songino Array**	**56.79**	**350**	P	**P**	**14 54 39.1**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=164,slow=7.1,SNR=4.5						
MKAR	**Makanchi Array**	**63.52**	**333**	P	**P**	**14 55 24.0**	**0.0**
	comp=Z,0.7nm,0.6s,baz=146,slow=7.5,SNR=12						
KURBB	**Kurchatov Arra**	**68.03**	**334**	P	**P**	**14 55 52.5**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=141,slow=5.4,SNR=6.0						
KURK	**Kurchatov**	**68.06**	**334**	P	**P**	**14 55 52.5**	**-0.6**
ZALV	**Zalesovo Beam**	**68.11**	**339**	P	**P**	**14 55 52.7**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=140,slow=4.7,SNR=4.5						
VNDA	**Vanda**	**72.87**	**171**	P	**P**	**14 56 22.8**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=309,slow=7.6,SNR=5.7						
CPUP	**Villa Florida**	**145.46**	**187**	PKPbc	**PKPab**	**15 04 33.0**	**+0.5**
	comp=Z,3.5nm,0.7s,baz=209,slow=1.8,SNR=4.7						

IDC 16 14:50:57.6±27.0, **19.52S**×**173.70W**, **h0**km, **mb3.8**/4, **mb1 4.0**/4, **mb1mx3.7**/20, **mbtmp3.8**/4, **Error ellipse: s-maj=493.9km s-min=156.2km az=74.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.62**	**262**	P	P	14 58 15.7	+1.3
	5.2nm,1.1s,baz=95,slow=12,SNR=3.4						
STKA	**Stephens Creek**	**41.85**	**244**	P	P	14 58 48.6	-0.9
	1.0nm,0.6s,baz=97,slow=8.1,SNR=4.4						
ASAR	**Alice Springs**	**48.68**	**255**	P	P	14 59 43.4	-0.6
	0.9nm,0.8s,baz=95,slow=8.4,SNR=9.3						
WRA	**Warramunga Arr**	**48.75**	**260**	P	P	14 59 44.2	-0.3
	0.3nm,0.3s,baz=94,slow=8.0,SNR=17						

*ISCJB **16** 14:52:27.4±0.9, 30.81N±0.07×49.67E±0.09, h10km, mb3.4/5, Error ellipse: s-maj=12.6km s-min=7.9km az=138.0*
*IDC **16** 14:52:28.0±2.2, 30.95N×49.71E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.4/39, mbtmp3.6/7, ML3.4/1, MS2.6/1, Ms1 2.6/1, ms1mx2.1/37, Error ellipse: s-maj=58.2km s-min=23.4km az=150.0*
*CSEM **16** 14:52:30.2±0.3, 30.89N×49.90E, h2km, ML3.5, Error ellipse: s-maj=8.9km s-min=5.1km az=44.0*
*TEH **16** 14:52:30.4, 30.85N×49.78E, h9km, ML3.5*
*ISN **16** 14:52:34.7±14.0, 30.20N×48.77E, h0km±81km, ML3.5*
ISC 16 14:52:29.3±0.9, **30.84N**±0.06×**49.78E**±0.05, **h10**km, **n37, σ0§96/38, mb3.5/5, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIR	**Pirpir**	**2.07**	**27**	*e*	**Sg**	**14 53 34.2**	**-1.6**
	comp=Z,5μm,0.2s						
IPIR				*e*Pn	**Pn**	**14 53 05.0**	**+0.6**
IPIR				*e*Sg	**Sb**	**14 53 34.5**	**+1.5**
IKAZ	**Kazeroun**	**2.07**	**120**	*e*Sg	**Sg**	**14 53 35.5**	**-0.3**
IKAZ				*e*Pn	**Pn**	**14 53 05.5**	**+1.1**
IKAZ				*e*		14 53 39.8	
	comp=Z,7μm,0.2s						
IKLH	**Kolahrood**	**2.91**	**31**	*e*Pn	**Pn**	**14 53 17.8**	**+1.9**
IKLH				*e*		14 53 19.4	
	comp=Z,2μm,0.1s						
IKLH	**Kolahrood**	**2.91**	**31**	*e*Pn	**Pn**	**14 53 17.8**	**+1.9**
IZEF	**Zefreh**	**2.98**	**46**	*e*Pn	**Pn**	**14 53 18.3**	**+1.4**
IZEF				*e*		14 53 24.7	
	comp=Z,1μm,0.2s						
IZEF	**Zefreh**	**2.98**	**46**	*e*Pn	**Pn**	**14 53 18.3**	**+1.4**
NSR	**Nassriya**	**3.13**	**274**	*e*Pg	x	14 53 19.0	
	baz=110						
NSR				*e*Sg	x	14 53 58.0	
NSR	**Nassriya**	**3.13**	**274**	*e*Pg	**Pn**	**14 53 19.0**	**+0.3**
	SNR=9.0						
NSR				*e*Sg	**Sn**	**14 53 58.0**	**+1.9**
	SNR=9.0						
ISRV	**Sarvestan**	**3.23**	**116**	*e*Pn	**Pn**	**14 53 20.6**	**+0.2**
ISRV				*e*		14 54 25.2	
	comp=Z,961nm,0.2s						
ISRV	**Sarvestan**	**3.23**	**116**	*e*Pn	**Pn**	**14 53 20.6**	**+0.2**
ISAD	**Sadrabad**	**3.51**	**71**	*e*Pn	**Pn**	**14 53 25.2**	**+1.1**
ISAD				*e*		14 53 41.5	
	comp=Z,1μm,0.2s						
ISAD	**Sadrabad**	**3.51**	**71**	*e*Pn	**Pn**	**14 53 25.2**	**+1.1**
IBDR	**Badra**	**3.98**	**306**	*e*Pn	x	14 53 37.0	
IBDR				*e*Sn	x	14 54 27.0	
IMEH	**Mehriz**	**4.18**	**81**	*e*Pn	**Pn**	**14 53 33.8**	**+0.4**
IMEH				*e*		14 53 49.2	
	comp=Z,372nm,0.2s						
IMEH	**Mehriz**	**4.18**	**81**	*e*Pn	**Pn**	**14 53 33.8**	**+0.4**
ICHK	**Chekchek**	**4.19**	**69**	*e*Pn	**Pn**	**14 53 34.3**	**+0.8**
ICHK				*e*		14 54 35.4	
	comp=Z,451nm,0.2s						
ICHK	**Chekchek**	**4.19**	**69**	*e*Pn	**Pn**	**14 53 34.3**	**+0.8**
IR5	**Iran Long-Peri**	**4.41**	**9**	*e*Pn	**Pn**	**14 53 37.2**	**+0.7**
IR5	**Iran Long-Peri**	**4.41**	**9**	*e*Pn	**Pn**	**14 53 37.2**	**+0.7**
IVRN	**Varamin**	**4.46**	**21**	*e*Pn	**Pn**	**14 53 37.7**	**+0.7**
IVRN				*e*		14 53 41.9	
	comp=Z,398nm,0.1s						
IVRN	**Varamin**	**4.46**	**21**	*e*Pn	**Pn**	**14 53 37.7**	**+0.7**
IRAZ	**Razeghan**	**4.55**	**2**	*e*Pn	**Pn**	**14 53 39.0**	**+0.5**
IRAZ	**Razeghan**	**4.55**	**2**	*e*Pn	**Pn**	**14 53 39.0**	**+0.5**
IBAF	**Bafgh**	**5.01**	**80**	*e*Pn	**Pn**	**14 53 45.0**	**+0.3**
IBAF				*e*		14 54 12.4	
	comp=Z,192nm,0.2s						
IBAF	**Bafgh**	**5.01**	**80**	*e*Pn	**Pn**	**14 53 45.0**	**+0.3**
IDMV	**Damavand**	**5.09**	**21**	*e*Pn	**Pn**	**14 53 46.2**	**+0.3**
IDMV				*e*		14 53 48.4	
	comp=Z,270nm,0.1s						
IDMV	**Damavand**	**5.09**	**21**	*e*Pn	**Pn**	**14 53 46.2**	**+0.3**
IGZV	**Ghazvin**	**5.54**	**4**	*e*Pn	**Pn**	**14 53 52.3**	**+0.2**
IGZV				*e*		14 54 19.9	
	comp=Z,153nm,0.2s						
IGZV	**Ghazvin**	**5.54**	**4**	*e*Pn	**Pn**	**14 53 52.3**	**+0.2**
GEYT	**Alibeck**	**9.87**	**42**	Pn	**Pn**	**14 54 52.2**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=243,slow=13,SNR=4.1						
GNI	**Garni**	**10.15**	**338**	LR	LR	14 59 22.1	
	comp=Z,34nm,19.2s,baz=212,slow=41						
AKTO	**Aktyubinsk**	**20.52**	**15**	P	**P**	**14 57 07.4**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=207,slow=9.0,SNR=3.4						
BVAR	**Borovoye Array**	**26.77**	**28**	P	**P**	**14 58 09.4**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=218,slow=9.1,SNR=5.8						
KURBB	**Kurchatov Arra**	**29.13**	**39**	P	**P**	**14 58 29.8**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=243,slow=10,SNR=3.1						
MKAR	**Makanchi Array**	**29.66**	**48**	P	**P**	**14 58 34.5**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=248,slow=7.6,SNR=4.3						
FINES	**FINESS Array B**	**34.33**	**340**	P	**P**	**14 59 14.4**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=146,slow=10,SNR=13						
TORD	**Torodi Ar. Bea**	**47.55**	**259**	P	**P**	**15 01 05.4**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=64,slow=6.6,SNR=2.8						

*CSEM **16** 14:59:32.8, 38.44N×29.07E, h7km, MD2.5*
DDA 16 14:59:32.8, 38.44N×29.07E, h7km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHAL	**Karahalli**	**0.34**	**102**	*i* P	Pg	14 59 40.1	+0.4
KHAL				*i* S	Sb	14 59 48.4	+1.2
KHAL	**Karahalli**	**0.34**	**102**	*i* P	Pg	14 59 40.1	+0.5
KHAL				*i* S	Sb	14 59 48.4	+1.3
MANT	**Manisa**	**0.40**	**277**	*i* P	Pg	14 59 40.7	-0.2
MANT				*i* S	Sg	14 59 47.5	+1.1
MANT	**Manisa**	**0.40**	**277**	*i* P	Pg	14 59 40.7	-0.2
MANT				*i* S	Sg	14 59 47.5	+1.1
DEMI	**Demirci**	**0.66**	**336**	*i* P	Pg	14 59 45.8	+0.2
DEMI				*i* S	Sg	14 59 55.0	+0.7
DEMI	**Demirci**	**0.66**	**336**	*i* P	Pg	14 59 45.8	+0.2
DEMI				*i* S	Sg	14 59 55.0	+0.7
GDZ	**Gediz**	**0.72**	**27**	*i* P	Pg	14 59 46.4	-0.4
GDZ				*i* S	Sb	14 59 58.7	+0.6
GDZ	**Gediz**	**0.72**	**27**	*i* P	Pg	14 59 46.4	-0.5
GDZ				*i* S	Sb	14 59 58.7	+0.5

*ISCJB **16** 15:00:39.0±0.3, 41.77N±0.01×22.33E±0.02, h4km±3km, Error ellipse: s-maj=2.3km s-min=2.1km az=156.3*
*SKO **16** 15:00:39.9, 41.73N×22.36E, h24km, M3.2, ML3.5*
*CSEM **16** 15:00:40.1±0.1, 41.74N×22.32E, h5km, ML3.5, Error ellipse: s-maj=2.1km s-min=2.0km az=61.0*
*THE **16** 15:00:40.2, 41.73N×22.34E, h1km±1km, ML3.2/6, Error ellipse: s-maj=1.2km s-min=0.4km az=12.0*
*ATH **16** 15:00:40.5, 41.71N×22.38E, h20km±1km, MD3.1/16*
*SOF **16** 15:00:40.4, 41.78N×22.38E, h8km, MD2.7*
*BEO **16** 15:00:40.3±0.3, 41.75N×22.32E, h7km±2km, ML2.8/1*
*TIR **16** 15:00:45.0, 41.72N×22.34E, h4km, ML3.4*
ISC 16 15:00:40.0±1.1, **41.74N**±0.01×**22.34E**±0.01, **h3**km±9km, **n187, σ0§68/243, 9C-15D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.46**	**157**	*i* Pg	**Pb**	**15 00 49.7**	**-0.9**
VAY				*e*Sg	**Sg**	**15 00 55.9**	**+1.3**
VAY				*e*Lg	Lg	15 00 55.9	
	comp=E,2μm,0.3s						
VAY				*e*Lg	Lg	15 00 56.0	
	comp=N,3μm,0.4s						
VAY	**Valandovo**	**0.46**	**157**	*e*Pg	**Pg**	**15 00 49.0**	**+0.2**
VAY				*e*Sg	**Sg**	**15 00 55.3**	**+0.7**
VAY	**Valandovo**	**0.46**	**157**	P	**Pg**	**15 00 48.7**	**-0.1**
VAY	**Valandovo**	**0.46**	**157**	*e*Pg	**Pg**	**15 00 49.0**	**+0.2**
VAY				S	**Sg**	**15 00 55.0**	**+0.4**
VAY				*e*Lg	Lg	15 00 56.0	
	comp=N,3μm,0.4s						
VAY	**Valandovo**	**0.46**	**157**	P	**Pg**	**15 00 48.7**	**-0.1**
VAY				S	**Sg**	**15 00 55.0**	**+0.4**
KKB	**Krupnik**	**0.57**	**77**	*i* P	**Pg**	**15 00 51.8**	**+0.8**
KKB				*i* Pg	**Pb**	**15 00 52.3**	**-0.4**
KKB	**Krupnik**	**0.57**	**77**	*i* P	**Pb**	**15 00 52.5**	**-0.2**
KKB	**Krupnik**	**0.57**	**77**	*i* P	**Pg**	**15 00 51.8**	**+0.8**
SKO	**Skopje**	**0.71**	**289**	*e*Pg	**Pg**	**15 00 54.6**	**-0.4**
SKO				*e*Sg	**Sb**	**15 01 04.2**	**-0.9**
SKO	**Skopje**	**0.71**	**289**	*e*Pg	**Pg**	**15 00 53.8**	**+0.2**
SKO				*e*Sg	**Sg**	**15 01 02.9**	**+0.1**
SKO	**Skopje**	**0.71**	**289**	P	**Pg**	**15 00 52.7**	**-0.9**
SKO	**Skopje**	**0.71**	**289**	*e*Pg	**Pg**	**15 00 53.8**	**+0.2**
SKO				S	**Sg**	**15 01 01.1**	**-1.7**
SKO				*e*Sg	**Sg**	**15 01 02.9**	**+0.1**
SKO	**Skopje**	**0.71**	**289**	P	**Pg**	**15 00 52.7**	**-0.9**
SKO				S	**Sg**	**15 01 01.1**	**-1.7**
KNT	**Kendrikon**	**0.72**	**144**	*e*P	**Pg**	**15 00 53.7**	**-0.1**
KNT	**Kendrikon**	**0.72**	**144**	*e*PN	**Pg**	**15 00 54.0**	**+0.2**
KNT				*e*SN	**Sg**	**15 01 03.2**	**+0.2**
KNT	**Kendrikon**	**0.72**	**144**	P	**Pg**	**15 00 53.5**	**-0.3**
KNT				S	**Sg**	**15 01 03.7**	**+0.7**
MMB	**Musomiste**	**1.05**	**98**	*i* P	**Pb**	**15 01 00.6**	**-0.4**
MMB	**Musomiste**	**1.05**	**98**	S	**Sb**	**15 01 15.8**	**+0.7**
MMB	**Musomiste**	**1.05**	**98**	*i* P	**Pb**	**15 01 00.5**	**-0.4**
MMB	**Musomiste**	**1.05**	**98**	*i* P	**Pb**	**15 01 00.7**	**-0.2**
MMB	**Musomiste**	**1.05**	**98**	*i* P	**Pb**	**15 01 00.5**	**-0.4**
VTS	**Vitosha**	**1.07**	**37**	*e*Pg	**Pg**	**15 01 00.5**	**0.0**
VTS				*e*Sg	**Sg**	**15 01 14.8**	**+0.4**
VTS	**Vitosha**	**1.07**	**37**	*i* P	**Pg**	**15 01 00.5**	**0.0**
VTS	**Vitosha**	**1.07**	**37**	S	**Sg**	**15 01 14.9**	**+0.5**
VTS	**Vitosha**	**1.07**	**37**	*i* P	**Pg**	**15 01 00.5**	**0.0**
VTS	**Vitosha**	**1.07**	**37**	*i* P	**Pb**	**15 01 01.1**	**-0.1**
VTS	**Vitosha**	**1.07**	**37**	*i* P	**Pg**	**15 01 00.5**	**0.0**
VTS				*e*Sg	**Sg**	**15 01 14.8**	**+0.4**
VTS				S	**Sb**	**15 01 15.5**	**-0.2**
VTS	**Vitosha**	**1.07**	**37**	P	**Pg**	**15 01 00.5**	**0.0**
VTS				S	**Sb**	**15 01 15.5**	**-0.2**
SRS	**Serrai**	**1.13**	**123**	*e*PN	**Pg**	**15 01 01.0**	**-0.8**
SRS				*e*SN	**Sg**	**15 01 16.2**	**-0.2**
SRS	**Serrai**	**1.13**	**123**	P	**Pg**	**15 01 00.9**	**-0.8**
SRS	**Serrai**	**1.13**	**123**	P	**Pg**	**15 01 00.9**	**-0.8**
SRS				S	**Sn**	**15 01 18.1**	**-0.7**
BARS	**Barje**	**1.14**	**340**	*e*Pg	**Pg**	**15 01 01.1**	**-0.8**
BARS				*e*Sg	**Sg**	**15 01 15.5**	**-1.2**
SOH	**Sokhos**	**1.20**	**140**	*e*PN	**Pg**	**15 01 02.5**	**-0.5**
SOH				*e*SN	**Sb**	**15 01 19.0**	**-0.2**
SOH	**Sokhos**	**1.20**	**140**	P	**Pg**	**15 01 02.3**	**-0.7**
SOH	**Sokhos**	**1.20**	**140**	P	**Pg**	**15 01 02.3**	**-0.7**
SOH				S	**Sb**	**15 01 19.5**	**+0.3**
FNA	**Florina**	**1.20**	**217**	*e*P	**Pg**	**15 01 03.2**	**+0.2**
FNA	**Florina**	**1.20**	**217**	*e*PN	**Pg**	**15 01 02.6**	**-0.4**
FNA				*e*SN	**Sn**	**15 01 20.0**	**-0.5**
FNA	**Florina**	**1.20**	**217**	P	**Pg**	**15 01 02.6**	**-0.4**
FNA				*e*Sn	**Sn**	**15 01 20.0**	**-0.5**
FNA	**Florina**	**1.20**	**217**	P	**Pg**	**15 01 02.6**	**-0.4**
FNA				S	**Sb**	**15 01 19.8**	**+0.5**
THE	**Thessaloniki**	**1.21**	**157**	*e*PN	**Pg**	**15 01 02.1**	**-1.1**
THE				*e*SN	**Sg**	**15 01 18.2**	**-0.5**
THE	**Thessaloniki**	**1.21**	**157**	P	**Pg**	**15 01 02.0**	**-1.1**
THE				*e*Sn	**Sg**	**15 01 18.2**	**-0.5**
THE				S	**Sb**	**15 01 19.2**	**-0.2**
THE	**Thessaloniki**	**1.21**	**157**	P	**Pg**	**15 01 02.0**	**-1.1**
THE				S	**Sb**	**15 01 19.2**	**-0.2**
NVR	**Nevrokopi**	**1.21**	**108**	*e*PN	**Pg**	**15 01 03.0**	**-0.2**
NVR				*e*SN	**Sg**	**15 01 18.3**	**-0.6**
NVR	**Nevrokopi**	**1.21**	**108**	P	**Pg**	**15 01 02.8**	**-0.4**
NVR				S	**Sn**	**15 01 20.0**	**-0.7**
NVR	**Nevrokopi**	**1.21**	**108**	P	**Pg**	**15 01 02.8**	**-0.4**
NVR				S	**Sn**	**15 01 20.0**	**-0.7**
HORT	**Hortiatis**	**1.28**	**153**	*e*P	**Pg**	**15 01 03.9**	**-0.7**
HORT	**Hortiatis**	**1.28**	**153**	*e*PN	**Pg**	**15 01 03.8**	**-0.7**
HORT				*e*SN	**Sg**	**15 01 20.1**	**-1.0**
HORT	**Hortiatis**	**1.28**	**153**	P	**Pg**	**15 01 03.5**	**-1.0**
HORT	**Hortiatis**	**1.28**	**153**	*e*Pn	**Pg**	**15 01 03.8**	**-0.7**
HORT	**Hortiatis**	**1.28**	**153**	P	**Pg**	**15 01 03.5**	**-1.0**
HORT				S	**Sb**	**15 01 21.8**	**+0.2**
PHP	**Peshkopia**	**1.42**	**268**	*i* PG	**Pn**	**15 01 06.3**	**-0.5**
PHP				*i* SG	**Sg**	**15 01 27.6**	**+1.9**
PHP	**Peshkopia**	**1.42**	**268**	S	**Sg**	**15 01 26.1**	**+0.4**
PHP				*i* Sg	**Sg**	**15 01 27.6**	**+1.9**
PHP	**Peshkopia**	**1.42**	**268**	P	**Pn**	**15 01 05.9**	**-0.9**
PHP				S	**Sg**	**15 01 26.1**	**+0.4**
KZN	**Kozani**	**1.50**	**197**	*e*PN	**Pn**	**15 01 07.7**	**-0.1**
KZN	**Kozani**	**1.50**	**197**	P	**Pn**	**15 01 06.9**	**-0.9**
KZN	**Kozani**	**1.50**	**197**	*e*Pn	**Pn**	**15 01 07.7**	**-0.1**
KZN				S	**Sg**	**15 01 28.5**	**+0.4**
KZN	**Kozani**	**1.50**	**197**	P	**Pn**	**15 01 06.9**	**-0.9**
KZN				S	**Sg**	**15 01 28.5**	**+0.4**
ZAPS	**Zavoj**	**1.55**	**8**	*e*Pn	**Pb**	**15 01 08.9**	**-0.4**
ZAPS				*e*Sg	**Sb**	**15 01 29.2**	**-0.1**
PLG	**Polygyros**	**1.60**	**148**	*e*PN	**Pn**	**15 01 09.4**	**+0.2**
PLG	**Polygyros**	**1.60**	**148**	P	**Pn**	**15 01 08.9**	**-0.3**
PLG	**Polygyros**	**1.60**	**148**	*e*Pn	**Pn**	**15 01 09.4**	**+0.2**
PLG				S	**Sb**	**15 01 30.7**	**-0.2**
PLG	**Polygyros**	**1.60**	**148**	P	**Pn**	**15 01 08.9**	**-0.3**
PLG				S	**Sb**	**15 01 30.7**	**-0.2**
KBN	**Korca**	**1.62**	**227**	*i* PG	**Pg**	**15 01 12.8**	**+1.8**
KBN	**Korca**	**1.62**	**227**	*i* Pg	**Pg**	**15 01 12.8**	**+1.8**
LIT	**Litokhoron**	**1.64**	**176**	*e*PN	**Pn**	**15 01 09.5**	**-0.3**
LIT	**Litokhoron**	**1.64**	**176**	*e*Pn	**Pn**	**15 01 09.5**	**-0.3**
LIT	**Litokhoron**	**1.64**	**176**	P	**Pn**	**15 01 09.3**	**-0.5**
NEST	**Nestorio**	**1.64**	**217**	*e*PN	**Pb**	**15 01 10.9**	**-0.1**
NEST	**Nestorio**	**1.64**	**217**	*e*Pn	**Pb**	**15 01 10.9**	**-0.1**
SELS	**Selova**	**1.73**	**329**	*e*Pn	**Pn**	**15 01 10.0**	**-1.0**
SELS				*e*Sg	**Sb**	**15 01 35.0**	**+0.4**
RZN	**Rozhen**	**1.78**	**91**	*i* P	**Pg**	**15 01 14.4**	**+0.2**
RZN	**Rozhen**	**1.78**	**91**	*i* P	**Pg**	**15 01 14.4**	**+0.2**
KAVA	**Kavala**	**1.80**	**114**	*e*PN	**Pn**	**15 01 12.0**	**+0.1**
KAVA				*e*SN	**Sn**	**15 01 35.5**	**+0.3**
KAVA	**Kavala**	**1.80**	**114**	P	**Pn**	**15 01 11.7**	**-0.2**
KAVA	**Kavala**	**1.80**	**114**	*e*Pn	**Pn**	**15 01 12.0**	**+0.1**
KAVA				S	**Sn**	**15 01 35.5**	**+0.3**
KAVA	**

EDRB	**Edirne**	**3.30**	**87**	P		**Pn**	**15 01 32.5**	**0.0**
EDRB	**Edirne**	**3.30**	**87**	*P*		**Pn**	**15 01 32.5**	**0.0**
ERIK	**Erikli-Kesan**	**3.33**	**107**	*eP*		**Pn**	**15 01 32.8**	**-0.1**
ERIK	**Erikli-Kesan**	**3.33**	**107**	*eP*		**Pn**	**15 01 32.8**	**-0.1**
KALE	**Kalithea**	**3.35**	**183**	P		**Pn**	**15 01 33.4**	**+0.1**
KALE	**Kalithea**	**3.35**	**183**	P		**Pn**	**15 01 33.4**	**+0.1**
GELI	**Tayfur-Gelibol**	**3.40**	**112**	*eP*		**Pn**	**15 01 34.2**	**+0.3**
GELI	**Tayfur-Gelibol**	**3.40**	**112**	*eP*		**Pn**	**15 01 34.2**	**+0.3**
TEKS	**Tekeris**	**3.48**	**325**	*e*Pn		**Pn**	**15 01 34.3**	**-0.7**
BZS	**Buzias**	**3.91**	**353**	*e*Pn		**Pn**	**15 01 39.4**	**-1.4**
BZS	**Buzias**	**3.91**	**353**	⇓ *i*P		**Pn**	**15 01 39.5**	**-1.4**
BZS	**Buzias**	**3.91**	**353**	⇓ *i*P		**Pn**	**15 01 39.5**	**-1.4**
BZS				S		**Sn**	**15 02 27.5**	**+0.2**
ARR	**Arges**	**3.99**	**24**	⇓ *i*P		**Pn**	**15 01 42.0**	**-0.1**
ARR	**Arges**	**3.99**	**24**	⇓ *i*P		**Pn**	**15 01 42.0**	**-0.1**
MRMT	**Marmara Adasi**	**4.13**	**104**	*eP*		**Pn**	**15 01 44.0**	**0.0**
MRMT	**Marmara Adasi**	**4.13**	**104**	*eP*		**Pn**	**15 01 44.0**	**0.0**
VOIR		**4.19**	**27**	⇓ *i*P		**Pn**	**15 01 45.3**	**+0.5**
VOIR		**4.19**	**27**	⇓ *i*P		**Pn**	**15 01 45.3**	**+0.5**
MLR	**Muntele Rosu**	**4.57**	**34**	⇑ *i*P		**Pn**	**15 01 50.0**	**-0.1**
MLR	**Muntele Rosu**	**4.57**	**34**	S		**Sn**	**15 02 44.4**	**+0.6**
MLR	**Muntele Rosu**	**4.57**	**34**	⇑ *i*P		**Pn**	**15 01 50.0**	**-0.1**
PLOR	**Plostina**	**5.16**	**36**	⇓ *i*P		**Pn**	**15 01 58.8**	**+0.7**
PLOR	**Plostina**	**5.16**	**36**	⇓ *i*P		**Pn**	**15 01 58.8**	**+0.7**
PKSM	**Moragy**	**5.20**	**330**	*e*Pn		**Pn**	**15 01 58.0**	**-0.6**
PKSM	**Moragy**	**5.20**	**330**	⇓ *i*P		**Pn**	**15 01 58.1**	**-0.6**
VRI	**Vrincioaia**	**5.21**	**36**	⇓ *i*P		**Pn**	**15 01 59.6**	**+0.9**
VRI	**Vrincioaia**	**5.21**	**36**	⇓ *i*P		**Pn**	**15 01 59.6**	**+0.9**
TIRR	**Tirgusor**	**5.21**	**57**	S		**Sn**	**15 03 01.3**	**+2.0**
TIRR	**Tirgusor**	**5.21**	**57**	S		**Sn**	**15 03 01.3**	**+2.0**

*ISCJB **16** 15:23:06.7±0.9,31°.20N±0°.10×102°.54E±0°.07,h10^km,*
mb3.5/5,Error ellipse: s-maj=14.2km s-min=7.8km
az=15.1
*IDC **16** 15:23:06.8±1.2,31°.90N×103°.75E,h0^km,mb3.5/5,*
mb1 3.7/5,mb1mx3.4/29,mbtmp3.6/5,Error ellipse:
s-maj=50.1km s-min=22.1km az=56.0
*BJI **16** 15:23:09.0,31°.23N×102°.54E,h5^km,ML3.2/13*

ISC 16 15:23:08.4±1.3,31°.23N±0°.10×102°.56E±0°.09,h10km,n8,
σ1§24/9,mb3.5/5,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
CD2	**Chengdu**	**1.08**	**107**	Pg	**Pb**		**15 23 28.8**	**-0.4**
CD2				Sg	**Sg**		**15 23 43.6**	**+0.3**
CD2				SMN				
	1μm,0.6s							
CD2				SME				
	1μm,0.7s							
LZH	**Lanzhou**	**4.96**	**12**	*e*P	**Pg**		**15 24 42.5**	**-0.9**
LZH				pP	pP		15 24 46.4	
LZH				sP	sP		15 24 49.3	
LZH				pmax	pmax			
	comp=Z,12nm,1.0s							
XAN	**Xi'an**	**6.05**	**61**	Pn	**Pn**		**15 24 37.0**	**-1.0**
XAN				Sn	**Sn**		**15 25 49.6**	**+2.2**
XAN				Sg	Sb		15 26 15.3	+8.7
XAN				SMN				
	comp=Z,20nm,0.8s							
XAN				SME				
	comp=Z,12nm,1.0s							
MKAR	**Makanchi Array**	**22.02**	**321**	P	**P**		**15 28 04.2**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=131,slow=12,SNR=5.4							
KURBB	**Kurchatov Arra**	**26.35**	**324**	P	**P**		**15 28 45.2**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=126,slow=11,SNR=5.6							
PETK	**Petropavlovsk-**	**45.02**	**44**	P	P		15 31 14.4	-10
	comp=Z,3.5nm,0.9s,baz=273,slow=9.5,SNR=3.7							
WRA	**Warramunga Arr**	**59.33**	**145**	P	**P**		**15 33 10.8**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=338,slow=7.3,SNR=7.3							
ASAR	**Alice Springs**	**62.30**	**147**	P	**P**		**15 33 30.8**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=332,slow=6.9,SNR=4.9							

IDC 16 15:38:06.9±1.9,3°.91N×124°.41E,h0km,mb3.4/3,
mb1 3.5/3,mb1mx3.3/45,mbtmp3.4/3,MS3.1/1,Ms1 3.3/1,
ms1mx2.4/21,Error ellipse: s-maj=194.4km
s-min=25.4km az=64.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**25.64**	**158**	P	P		15 43 38.5	0.0
	0.3nm,0.6s,baz=336,slow=11,SNR=6.0							
CMAR	**Chiang Mai Arr**	**28.80**	**302**	LR	LR		15 56 17.6	
	comp=Z,31nm,18.1s,baz=178,slow=38							
ASAR	**Alice Springs**	**28.93**	**162**	P	P		15 44 08.0	0.0
	0.4nm,0.9s,baz=346,slow=6.6,SNR=3.1							
MKAR	**Makanchi Array**	**56.10**	**326**	P	P		15 47 48.1	-0.1
	0.4nm,0.5s,baz=120,slow=6.9,SNR=8.2							

MEX 16 15:41:24.5±0.5,16°.79N×99°.76W,h16km±9km,MD3.5,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
CAIG	**El Cayaco**	**0.55**	**298**	*eP*	Pg		15 41 33.6	-1.8
CAIG				*i* S	Sg		15 41 40.0	-2.8
MEIG	**Mezcala**	**1.14**	**7**	*i* P	Pn		15 41 41.8	-4.1
MEIG				*e*S	Sb		15 41 55.3	-5.3
TLIG	**Tlapa**	**1.38**	**56**	*i* P	Pn		15 41 45.3	-3.9
TLIG				*i* S	Sn		15 42 01.6	-5.6
ARIG	**Puente Sto Nin**	**1.58**	**339**	*eP*	Pn		15 41 48.7	-3.3
ARIG				*i* S	Sn		15 42 07.0	-5.2
PLIG	**Platanillo**	**1.61**	**9**	*eP*	Pn		15 41 49.2	-3.3
PLIG				*i* S	Sn		15 42 08.2	-4.8

*ISCJB **16** 15:45:31.2±0.8,21°.2S±0°.2×178°.5W±0°.1,h550^km,mb3.8/7,*
Error ellipse: s-maj=25.4km s-min=10.2km az=140.1
*IDC **16** 15:45:31.3±2.2,21°.28S×178°.57W,h536^km±25^km,mb3.3/7,*
mb1 3.5/9,mb1mx3.1/31,mbtmp4.3/9,Error ellipse:
s-maj=28.3km s-min=17.4km az=146.0

ISC 16 15:45:32.0±1.0,21°.2S±0°.2×178°.4W±0°.2,h550km,n13,
σ1§40/14,mb3.7/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
AFI	**Afiamalu**	**9.62**	**42**	P	**P**		**15 47 46.9**	**+0.6**
	3.2nm,0.3s,baz=147,slow=18,SNR=6.7							
AFI				S	**S**		**15 49 33.4**	**-3.1**
	1.4nm,0.3s,baz=298,slow=18,SNR=2.7							
URZ	**Urewera**	**17.45**	**192**	P	**P**		**15 49 03.9**	**-0.7**
	0.9nm,0.3s,baz=277,slow=3.4,SNR=10							
CTA	**Charters Tower**	**33.02**	**265**	P	**P**		**15 51 21.9**	**-0.6**
	2.4nm,0.3s,baz=88,slow=12,SNR=8.0							
JAY	**Jayapura**	**43.88**	**289**	P	**P**		**15 52 50.0**	**-0.5**
	14nm,0.5s,baz=124,slow=7.3,SNR=12							
ASAR	**Alice Springs**	**43.97**	**257**	P	**P**		**15 52 50.1**	**-1.0**
	2.5nm,0.5s,baz=91,slow=8.3,SNR=97							
ASAR				PcP	**PcP**		**15 54 24.9**	**+0.1**
	0.5nm,0.6s,baz=96,slow=4.6,SNR=6.5							
WRA	**Warramunga Arr**	**44.11**	**263**	P	**P**		**15 52 50.5**	**-1.7**
	0.7nm,0.3s,baz=96,slow=7.5,SNR=101							
SEY	**Seymchan**	**86.95**	**347**	P	**P**		**15 57 19.5**	**+1.1**
	0.6nm,0.5s,baz=168,slow=9.3,SNR=3.5							
ILAR	**Eielson Array**	**89.07**	**13**	P	**P**		**15 57 29.1**	**+0.9**
	0.4nm,0.7s,baz=216,slow=4.5,SNR=3.9							
CMAR	**Chiang Mai Arr**	**89.96**	**290**	P	**P**		**15 57 34.7**	**+1.2**
	0.7nm,0.9s,baz=112,slow=4.1,SNR=3.9							
ARCES	**ARCESS Array B**	**129.51**	**349**	PKP	**PKPdf**		**16 03 38.1**	**+0.3**
	3.4nm,1.1s,baz=2.9,slow=1.8,SNR=5.5							
FINES	**FINESS Array B**	**136.31**	**343**	PKP	**PKPdf**		**16 03 52.4**	**+1.6**
	1.4nm,0.8s,baz=101,slow=6.0,SNR=4.4							
AKASG	**Malin Array Be**	**143.41**	**330**	PKP	PKPbc		16 04 02.2	-0.3
	1.0nm,0.4s,baz=42,slow=4.0,SNR=19							
GERES	**GERESS Array B**	**150.74**	**343**	PKPbc	**PKPbc**		**16 04 23.0**	**+0.6**
	0.7nm,0.6s,baz=5.7,slow=2.0,SNR=6.1							

PRE 16 16:02:10.9±2.7,26°.39S×27°.46E,h2km,ML2.1,South
Africa

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
WDLM	**Western Deep L**	**0.05**	**224**	*eP*	Pg		16 02 11.8	-0.4
WDLM				*e*S	Sg		16 02 14.4	+1.2
WDLM				AML	AML		16 02 15.3	
	comp=Z,3μm,0.1s							
KLOF	**Kloof**	**0.14**	**75**	*eP*	Pg		16 02 12.6	-1.3
KLOF				*e*S	Sg		16 02 16.6	+0.8
KLOF				AML	AML		16 02 17.0	
	comp=Z,2μm,0.1s							
PRYS	**Parys**	**0.55**	**190**	*eP*	Pg		16 02 21.7	+0.1
PRYS				*e*S	Sg		16 02 27.8	-1.1
ERPM	**east rand prop**	**0.70**	**87**	*eP*	Pb		16 02 25.6	-0.5
ERPM				*e*S	Sg		16 02 32.8	-1.1
ERPM				AML	AML		16 02 34.0	
	comp=Z,50nm,0.5s							
KSR	**Koster**	**0.74**	**316**	*eP*	Pb		16 02 26.2	-0.5
KSR				*e*S	Sg		16 02 33.9	-1.1
KSR				AML	AML		16 02 42.5	
	comp=Z,18nm,0.1s							
BFSD	**Buffelsfontein**	**0.77**	**232**	*eP*	Pb		16 02 27.2	-0.1
BFSD				*e*S	Sg		16 02 36.1	0.0
BFSD				AML	AML		16 02 43.3	
	comp=Z,77nm,0.1s							
MOAB	**Moab Khotsong**	**0.84**	**225**	*eP*	Pb		16 02 28.8	+0.3
MOAB				*e*S	Sg		16 02 37.9	-0.6
MOAB				AML	AML		16 02 45.1	
	comp=Z,98nm,0.2s							
TLEK	**Tau Lekoa**	**0.91**	**231**	*eP*	Pg		16 02 28.7	+0.1
TLEK				*e*S	Sg		16 02 40.2	-0.4
TLEK				AML	AML		16 02 47.1	
	comp=Z,57nm,0.4s							
SWZ	**Schweizer**	**2.06**	**247**	*eP*	Pn		16 02 47.3	+0.5
SWZ				*e*S	Sn		16 03 12.3	-0.9
SWZ				AML	AML		16 03 16.2	
	comp=Z,24nm,0.2s							

*ISCJB **16** 16:03:11.6±0.2,23°.33S±0°.03×66°.71W±0°.03,h212^km±2^km,*
mb4.0/16,Error ellipse: s-maj=5.1km s-min=3.8km
az=38.0
*NEIC **16** 16:03:11.2±0.5,23°.34S×66°.56W,h200^km±5^km,mb4.4/5,*
Error ellipse: s-maj=8.7km s-min=6.4km az=90.0
*SJA **16** 16:03:11.7±0.6,23°.32S×66°.65W,h218^km±5^km,ML4.2,*
MW3.5
*IDC **16** 16:03:11.6±0.9,23°.23S×66°.53W,h198^km±8^km,mb3.9/13,*
mb1 4.0/18,mb1mx3.9/25,mbtmp4.4/18,Error ellipse:
s-maj=15.7km s-min=11.4km az=15.0

ISC 16 16:03:12.3±0.6,23°.33S±0°.05×66°.69W±0°.04,h209km±5km,
n245,σ1§11/257,mb4.2/16,7C-12D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
HJA	**Humahuaca**	**1.19**	**84**	⇓ *eP*	**Pn**		**16 03 45.3**	**+0.5**
HJA				*e*S	**S**		**16 04 10.7**	**+0.9**
YJA	**Yavi**	**1.58**	**44**	⇓ *eP*	**Pn**		**16 03 48.7**	**+0.6**
YJA				*e*S	**S**		**16 04 16.6**	**+1.0**
AZAP	**Zapla**	**1.73**	**121**	⇓ *eP*	**Pn**		**16 03 49.4**	**+0.2**
AZAP				⇓ *e*S	**S**		**16 04 17.8**	**+0.1**
SLA	**San Lorenzo**	**1.76**	**142**	⇓ *eP*	**Pn**		**16 03 50.8**	**+1.4**
SLA				⇓ *e*S	**S**		**16 04 19.9**	**+2.0**
ASTB	**Santa Barbara**	**2.12**	**107**	⇓ *eP*	**Pn**		**16 03 53.1**	**+0.2**
ASTB				*e*S	**S**		**16 04 22.5**	**-1.6**
LVC	**Limon Verde**	**2.17**	**289**	P	**Pn**		**16 03 54.4**	**+0.8**
	4μm,0.3s,baz=109,slow=6.2,SNR=696							
LVC				S	**S**		**16 04 25.4**	**+0.3**
	1μm,0.3s,baz=130,slow=7.8,SNR=5.8							
LVC	**Limon Verde**	**2.17**	**289**	⇓ *eP*	**Pn**		**16 03 54.8**	**+1.2**
LVC				*e*S	**S**		**16 04 25.7**	**+0.6**
ALOL	**LOMAS DE OLMED**	**2.54**	**101**	⇓ *eP*	**Pn**		**16 03 56.9**	**-0.4**
PB06	**IPOC Station P**	**2.73**	**283**	⇑ *i*P	**Pn**		**16 03 60.0**	**+0.5**
PB06				*e*S	**S**		**16 04 35.1**	**-0.7**
PB06				AML	AML		16 04 38.3	
	comp=N,3μm,0.3s							
PB04	**IPOC Station P**	**2.79**	**292**	⇑ *i*P	Pn		16 04 06.7	+6.7
PB04				*i* S	S		16 04 45.7	+8.8
PB04				AML	AML		16 04 49.6	
	comp=N,3μm,0.6s							
PB09	**IPOC Station P**	**2.81**	**302**	⇑ *i*P	**Pn**		**16 04 01.3**	**+0.9**
PB09				*i* S	**S**		**16 04 37.0**	**-0.6**
PB09				AML	AML		16 04 41.4	
	comp=E,5μm,0.7s							
FSA	**Cafayete**	**2.82**	**167**	⇓ *eP*	**Pn**		**16 04 01.6**	**+1.1**
MACH	**Maria Elena**	**3.05**	**291**	⇑ *i*P	**Pn**		**16 04 03.5**	**+0.2**
MACH				*i* S	**S**		**16 04 40.8**	**-1.8**
PB07	**IPOC Station P**	**3.36**	**298**	⇑ *i*P	**Pn**		**16 04 06.8**	**0.0**
PB07				*e*S	**S**		**16 04 46.4**	**-2.7**
ANCH	**Antofagasta**	**3.43**	**263**	⇓ *eP*	**Pn**		**16 04 08.0**	**+0.5**
ANCH				*i* S	**S**		**16 04 48.8**	**-1.5**
PB01	**IPOC Station P**	**3.45**	**311**	*eP*	**Pn**		**16 04 08.4**	**+0.5**
PB01				AML	AML		16 04 51.4	
	comp=N,2μm,0.3s							
PB10	**IPOC Station P**	**3.55**	**266**	⇑ *i*P	**Pn**		**16 04 09.2**	**+0.2**
PB10				*i* S	**S**		**16 04 50.3**	**-2.7**
AHML	**Horco Molle**	**3.65**	**161**	⇓ *eP*	**Pn**		**16 04 10.7**	**+0.5**
CYA	**Choya**	**5.15**	**171**	*eP*	**Pn**		**16 04 29.9**	**+1.0**
CYA				IAML			16 04 30.3	
	comp=Z,30nm,0.5s							
VCA	**Vinchina**	**5.55**	**194**	⇓ *eP*	**Pn**		**16 04 35.5**	**+1.4**
ACLC	**CERRO LA CRUZ**	**6.07**	**182**	*eP*	**Pn**		**16 04 40.6**	**-0.2**
LCO	**Las Campanas**	**6.70**	**212**	*e*Pn	**Pn**		**16 04 47.4**	**-1.6**
	comp=Z,12nm,0.4s							
LCO				*e*Sn	**S**		**16 06 05.5**	**-0.1**
APLL	**PUNTA DE LOS L**	**7.04**	**179**	*eP*	**Pn**		**16 04 52.3**	**-0.8**
LPAZ	**La Paz**	**7.14**	**349**	P	**Pn**		**16 04 55.3**	**+0.2**
	comp=Z,13nm,0.3s,baz=156,slow=6.3,SNR=221							
LPAZ				S	S		16 06 11.6	-5.0
	baz=354,slow=13,SNR=1.3							
AVFE	**Valle Fertil**	**7.33**	**185**	*eP*	**Pn**		**16 04 55.2**	**-1.7**
AVFE				IAML			16 06 16.8	
	comp=Z,40nm,0.5s							
RTLL	**Cerro Villicun**	**8.12**	**191**	*eP*	**Pn**		**16 05 05.7**	**-1.4**
CFAA	**Coronel Fontan**	**8.35**	**189**	P	**Pn**		**16 05 07.5**	**-2.6**
	comp=Z,0.8nm,0.3s,baz=52,slow=3.4,SNR=85							
CFAA				S	S		16 06 36.6	-7.7
	comp=Z,1.9nm,0.3s,baz=238,slow=15,SNR=22							
ACAN	**Cantantal**	**8.92**	**183**	*eP*	**Pn**		**16 05 15.0**	**-2.5**
CPUP	**Villa Florida**	**9.01**	**111**	P	**Pn**		**16 05 16.8**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=284,slow=11,SNR=9.9							
SIV	**San Ignacio**	**9.02**	**37**	P	Pn		16 05 16.7	-2.2
	comp=Z,3.9nm,0.3s,baz=227,slow=11,SNR=32							
SIV				S	S		16 06 47.3	-13
	comp=Z,0.3nm,0.3s,baz=256,slow=20,SNR=4.3							
ARCO	**CERRO ARCO**	**9.68**	**191**	*eP*	**Pn**		**16 05 26.8**	**-0.6**
ARCO				IAML			16 05 27.8	
	comp=Z,22nm,0.4s							
SAML	**Samuel**	**14.69**	**14**	*e*Pn	**Pn**		**16 06 29.3**	**-1.3**
	comp=Z,14nm,0.8s							
TRQA	**Tornquist**	**15.22**	**166**	*e*Pn	**Pn**		**16 06 35.5**	**-1.3**
BDFB	**Brasilia**	**19.19**	**70**	P	**P**		**16 07 18.2**	**-2.4**
	comp=Z,0.7nm,0.3s,baz=244,slow=11,SNR=6.3							
PTGA	**Pitinga**	**23.40**	**17**	P	**P**		**16 08 00.9**	**-1.7**
	comp=Z,10nm,0.9s,baz=191,slow=9.0,SNR=15							
RCBR	**Riachuelo**	**34.38**	**64**	P	**P**		**16 09 39.0**	**-0.9**
	comp=Z,10nm,1.0s,baz=235,slow=16,SNR=4.0							
936A	**North Padre Is**	**58.48**	**328**	P	**P**		**16 12 47.6**	**+1.0**
	baz=59							
SNAA	**Sanae**	**59.88**	**161**	*eP*	**P**		**16 12 56.5**	**+0.7**
833A	**Chaparral WMA,**	**60.26**	**327**	P	**P**		**16 12 59.6**	**+0.8**
	baz=61							
832A	**Faith Ranch, C**	**60.52**	**326**	P	**P**		**16 13 01.8**	**+1.2**
	baz=61							
732A	**Laxson Ranch,**	**60.88**	**327**	P	**P**		**16 13 04.3**	**+1.3**
	baz=61							
633A	**Saathoff Ranch**	**61.09**	**328**	P	**P**		**16 13 05.0**	**+0.6**
	baz=61							
239A	**Gary**	**61.12**	**333**	P	**P**		**16 13 05.4**	**+1.0**
	baz=62							
238A	**Jacksonville**	**61.38**	**333**	P	**P**		**16 13 06.8**	**+0.6**
	baz=62							
632A	**Uvalde**	**61.43**	**327**	P	**P**		**16 13 07.2**	**+0.5**
	baz=62							
435B	**Jarrell**	**61.43**	**330**	P	**P**		**16 13 07.6**	**+1.0**
	baz=62							
336A	**Riesel**	**61.60**	**331**	P	**P**		**16 13 08.8**	**+1.1**
	baz=62							
631A	**Perdido Creek**	**61.75**	**326**	P	**P**		**16 13 09.5**	**+0.7**
	baz=62							
434A	**Burnet**	**61.77**	**329**	P	**P**		**16 13 09.7**	**+0.8**
	baz=62							
138A	**Matatall Enter**	**61.93**	**333**	P	**P**		**16 13 11.1**	**+1.2**
	baz=62							
532A	**Rocksprings**	**61.99**	**327**	P	**P**		**16 13 11.3**	**+0.9**
	baz=62							
433A	**Art**	**62.11**	**329**	P	**P**		**16 13 11.4**	**+0.2**
	baz=62,SNR=5.9							
137A	**Heron Place, G**	**62.16**	**332**	P	**P**		**16 13 12.3**	**+0.9**
	baz=62							
334A	**Lometa**	**62.19**	**330**	P	**P**		**16 13 12.6**	**+0.9**
	baz=62							
JCT	**Junction City**	**62.23**	**328**	P	**P**		**16 13 12.2**	**+0.2**
	baz=63							
JCT	**Junction City**	**62.23**	**328**	*eP*	**P**		**16 13 12.2**	**+0.2**
	comp=Z,4.3nm,0.6s							
531A	**Rocksprings**	**62.34**	**327**	P	**P**		**16 13 13.6**	**+0.8**
	baz=63							
WHTX	**Lake Whitney**	**62.39**	**331**	P	**P**		**16 13 13.2**	**+0.2**
	baz=63							
333A	**Richland Sprin**	**62.53**	**329**	P	**P**		**16 13 13.9**	**-0.1**
	baz=63							
432A	**Menard**	**62.55**	**328**	P	**P**		**16 13 14.7**	**+0.6**
	baz=63,SNR=5.2							
Z37A	**Pogue Cattle C**	**62.62**	**333**	P	**P**		**16 13 14.5**	**0.0**
	baz=63							
234A	**Clairette**	**62.71**	**330**	P	**P**		**16 13 15.7**	**+0.6**
	baz=63							
530A	**J-C Ranch, Com**	**62.73**	**326**	P	**P**		**16 13 15.9**	**+0.6**
	baz=63							
431A	**Sonora**	**62.79**	**327**	P	**P**		**16 13 16.1**	**+0.4**
	baz=63							
332A	**Millersview**	**62.95**	**328**	P	**P**		**16 13 17.2**	**+0.5**
	baz=63,SNR=8.2							
MIAR	**Mount Ida**	**62.97**	**335**	P	**P**		**16 13 16.9**	**+0.2**
	baz=63							
MIAR	**Mount Ida**	**62.97**	**335**	*eP*	**P**		**16 13 15.7**	**-1.1**
	comp=Z,2.6nm,0.4s							
Z36A	**Blue Ridge**	**63.03**	**332**	P	**P**		**16 13 17.8**	**+0.7**
	baz=63							
233A	**Rising Star**	**63.07**	**329**	P	**P**		**16 13 17.9**	**+0.4**
	baz=63							
134A	**White-Moore Ra**	**63.16**	**330**	P	**P**		**16 13 18.4**	**+0.4**
	baz=64							
529A	**Stev Forest Ra**	**63.16**	**326**	P	**P**		**16 13 19.6**	**+1.4**
	baz=64							
430A	**Baggett Ranch,**	**63.19**	**327**	P	**P**		**16 13 19.1**	**+0.7**
	baz=64							
331A	**San Angelo**	**63.22**	**328**	P	**P**		**16 13 18.9**	**+0.4**
	baz=64							
TXAR	**Lajitas Array**	**63.30**	**324**	P	**P**		**16 13 19.5**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=149,slow=8.6,SNR=7.0							
232A	**Coleman**	**63.32**	**329**	P	**P**		**16 13 18.9**	**-0.2**
	baz=64,SNR=8.3							
Z35A	**Perchaven, San**	**63.43**	**332**	P	**P**		**16 13 20.4**	**+0.6**
	baz=64							
133A	**Hamilton Ranch**	**63.57**	**330**	P	**P**		**16 13 21.4**	**+0.7**
	baz=64							
X38A	**Whitesboro**	**63.57**	**334**	P	**P**		**16 13 21.8**	**+1.1**
	baz=64							
231A	**Bronte**	**63.68**	**328**	P	**P**		**16 13 21.7**	**+0.2**
	baz=64							
X37A	**Clayton**	**63.72**	**334**	P	**P**		**16 13 22.9**	**+1.2**
	baz=64							
Z34A	**Collier Ranch,**	**63.76**	**331**	P	**P**		**16 13 22.6**	**+0.6**
	baz=64							
W38A	**Poteau**	**63.80**	**335**	P	**P**		**16 13 22.8**	**+0.6**
	baz=64							
Y35A	**Marietta**	**63.83**	**332**	P	**P**		**16 13 23.6**	**+1.2**
	baz=64							
ABTX	**Abilene, Hawle**	**63.92**	**329**	P	**P**		**16 13 23.9**	**+0.8**
	baz=64							
230A	**Sterling City**	**64.03**	**328**	P	**P**		**16 13 25.1**	**+1.3**
	baz=64							
Z33A	**Whitaker Ranch**	**64.07**	**330**	P	**P**		**16 13 24.6**	**+0.6**
	baz=64							
X36A	**Centrahoma**	**64.11**	**333**	P	**P**		**16 13 24.2**	**0.0**
	baz=64							
329A	**Wagon Wheel Ra**	**64.13**	**327**	P	**P**		**16 13 25.8**	**+1.3**
	baz=64							
Y34A	**Reagan Ranch,**	**64.19**	**332**	P	**P**		**16 13 25.1**	**+0.3**
	baz=64							
W37A	**Quinton**	**64.22**	**334**	P	**P**		**16 13 25.6**	**+0.7**
	baz=65							
X35A	**Drake**	**64.22**	**332**	P	**P**		**16 13 25.8**	**+0.8**
	baz=65							
131A	**Roby**	**64.32**	**329**	P	**P**		**16 13 26.3**	**+0.6**
	baz=65							
Z32A	**Haskell**	**64.41**	**330**	P	**P**		**16 13 26.6**	**+0.4**
	baz=65							
229A	**Bryant Ranch,**	**64.44**	**327**	P	**P**		**16 13 27.3**	**+0.8**
	baz=65							
V38A	**Canehill**	**64.45**	**335**	P	**P**		**16 13 26.3**	**-0.1**
	baz=65							
130A	**Snyder**	**64.53**	**328**	P	**P**		**16 13 27.9**	**+0.9**
	baz=65							
W36A	**Wetumka**	**64.55**	**333**	P	**P**		**16 13 27.0**	**0.0**
	baz=65							
Y33A	**Hilltop Ranch,**	**64.61**	**331**	P	**P**		**16 13 28.2**	**+0.7**
	baz=65							
Z31A	**Sharp Cattle R**	**64.73**	**329**	P	**P**		**16 13 28.9**	**+0.6**
	baz=65							
V37A	**Hulbert**	**64.75

R35A	Emporia Munici baz=68	67.29	335	P	P	16 13 45.1 +0.6
DBIC	Dimbokro comp=Z,3.6nm,0.8s,baz=247,slow=3.2,SNR=2.7	67.33	72	P	P	16 13 43.6 -1.6
R34A	Isabella, Hill baz=68	67.69	334	P	P	16 13 47.6 +0.6
Q35A	Mercer Eighty, baz=68	67.70	336	P	P	16 13 47.6 +0.6
R33A	Olander Ranch, baz=68	67.99	334	P	P	16 13 49.4 +0.5
121A	Cookes Peak, D baz=68	68.01	323	P	P	16 13 50.8 +1.5
P36A	Good Intent, A baz=68	68.06	337	P	P	16 13 49.6 +0.4
U28A	Mallet baz=69	68.22	330	P	P	16 13 51.4 +1.0
P35A	Duane Minner, baz=69	68.28	336	P	P	16 13 50.9 +0.3
R32A	Long Quarter, baz=69	68.38	333	P	P	16 13 51.9 +0.6
T28A	Walsh baz=69	68.77	330	P	P	16 13 54.5 +0.6
Q32A	Meitler Ranch, baz=69	68.80	334	P	P	16 13 54.2 +0.3
T27A	Campo baz=69,SNR=7.5	69.00	330	P	P	16 13 56.3 +1.0
CBKS	Cedar Bluff baz=70	69.14	333	P	P	16 13 57.1 +1.1
O33A	Hebron baz=70	69.35	335	P	P	16 13 57.9 +0.7
R29A	Marienthal baz=70	69.41	332	P	P	16 13 58.9 +1.2
Q30A	Quinter baz=70	69.48	333	P	P	16 13 59.3 +1.2
T26A	Comanche Natio baz=70,SNR=5.8	69.50	329	P	P	16 13 59.1 +0.7
R28A	Tribune baz=70	69.64	331	P	P	16 14 00.2 +1.1
S26A	Kim baz=70,SNR=9.1	69.81	330	P	P	16 14 01.5 +1.2
T25A	Trinidad baz=70	69.86	329	P	P	16 14 02.1 +1.5
R26A	Arlington baz=71,SNR=5.3	70.34	330	P	P	16 14 04.2 +0.7
214A	Organ Pipe Nat baz=71	70.48	319	P	P	16 14 06.3 +2.0
N31A	Bailey Ranch, baz=71	70.53	335	P	P	16 14 05.4 +1.0
SDCO	Great Sand Dun baz=71,SNR=9.3	70.87	328	P	P	16 14 08.7 +1.8
S22A	4UR Ranch, Cre baz=72	71.52	327	P	P	16 14 12.1 +1.4
O26A	Horse Wrangler baz=72	71.86	331	P	P	16 14 13.8 +1.3
ECSD	EROS Data Cent baz=72	72.17	338	P	P	16 14 14.7 +0.6
WUAZ	Wupatki baz=72	72.22	323	P	P	16 14 16.3 +1.5
ISCO	Idaho Springs baz=73	72.55	330	P	P	16 14 18.5 +1.7
BC3	Big Chuckawall baz=74	73.25	319	P	P	16 14 23.0 +2.2
IRM	Iron Mountain baz=74	73.42	320	P	P	16 14 24.1 +2.4
N23A	Red Feather La baz=74	73.58	330	P	P	16 14 24.5 +1.7
J28A	Allard Ranch, baz=74	73.63	334	P	P	16 14 23.8 +1.0
J27A	Elkhorn Farm, baz=74	73.79	334	P	P	16 14 25.4 +1.6
GMRC	Granite Mounta baz=74	74.15	320	P	P	16 14 28.2 +2.1
J26A	Sides Ranch, S baz=75	74.28	333	P	P	16 14 28.0 +1.4
K24A	Anderson Ranch baz=75	74.53	332	P	P	16 14 29.5 +1.4
J25A	Sunshine Ranch baz=75	74.65	333	P	P	16 14 30.4 +1.7
TUQ	Turquoise Moun baz=75	74.76	320	P	P	16 14 31.7 +2.1
K23A	Bowen Ranch, D baz=75	74.92	331	P	P	16 14 31.4 +1.1
BFSC	Mount Baldy Ra baz=75	74.99	318	P	P	16 14 33.2 +2.3
I25A	Rochford baz=76	75.13	333	P	P	16 14 33.1 +1.5
J22A	Midwest baz=76,SNR=5.4	75.82	331	P	P	16 14 36.2 +0.8
D30A	Buchanan baz=76	75.85	338	P	P	16 14 36.4 +1.0
TPNV	Topopah Spring baz=76	76.00	321	P	P	16 14 38.5 +1.9
FURC	Furnace Creek, baz=76	76.02	320	P	P	16 14 38.5 +2.0
H24A	Dirks Ranch, A baz=76	76.06	333	P	P	16 14 37.5 +0.8
TORD	Torodi Ar. Bea comp=Z,2.1nm,0.5s,baz=255,slow=5.6,SNR=36	76.07	69	P	P	16 14 36.0 -1.2
MPMC	Manual Prospec baz=76	76.12	320	P	P	16 14 39.1 +1.7
J21A	Lysite baz=76,SNR=5.3	76.20	331	P	P	16 14 39.0 +1.4
I22A	9 Mile Ranch, baz=76,SNR=5.6	76.20	332	P	P	16 14 38.4 +0.8
F26A	Lodgepole baz=77	76.22	335	P	P	16 14 38.4 +0.9
SBC	Santa Barbara baz=77	76.39	317	P	P	16 14 41.8 +3.2
DUG	Dugway baz=77	76.42	325	P	P	16 14 40.2 +1.3
ISA	Isabella baz=77	76.44	319	P	P	16 14 41.5 +2.5
G24A	Alzada baz=77	76.48	334	P	P	16 14 40.1 +1.1
J20A	Shoshoni baz=77	76.49	330	P	P	16 14 40.8 +1.6
I21A	Big Trails, Te baz=77,SNR=11	76.49	331	P	P	16 14 40.1 +0.9
R11A	Troy Canyon, C baz=77	76.59	322	P	P	16 14 41.9 +1.9
PDAR	Pinedale Array comp=Z,1.4nm,0.7s,baz=120,slow=6.7,SNR=13	76.72	329	P	P	16 14 41.3 +0.7
MDND	Maddock baz=77	76.78	338	P	P	16 14 42.0 +1.5
G23A	Biddle baz=77	76.78	333	P	P	16 14 41.9 +1.2
J19A	Crowheart baz=77,SNR=8.8	76.87	330	P	P	16 14 42.9 +1.5
I20A	Worland baz=77	76.98	331	P	P	16 14 43.6 +1.7
H21A	Big Horn, Sher baz=77	77.03	332	P	P	16 14 43.1 +0.9
G22A	Birney baz=78	77.18	332	P	P	16 14 43.4 +0.5
F23A	Volborg baz=78	77.21	333	P	P	16 14 44.3 +1.2
H20A	Greybull baz=78	77.34	331	P	P	16 14 45.4 +1.5
I19A	Meeteetse baz=78,SNR=6.5	77.44	330	P	P	16 14 45.8 +1.2
E24A	Baker baz=78	77.45	334	P	P	16 14 45.9 +1.5
G21A	Lodge Grass baz=78	77.57	332	P	P	16 14 46.5 +1.4
F22A	Rosebud baz=78	77.61	333	P	P	16 14 46.6 +1.3
ULM	Lac du Bonnet comp=Z,2.3nm,0.5s,baz=162,slow=6.5,SNR=4.1	77.69	341	P	P	16 14 45.2 -0.3
E23A	Ismay baz=78	77.80	334	P	P	16 14 47.3 +1.0
SCHQ	Schefferville comp=Z,6.1nm,0.6s,baz=197,slow=3.9,SNR=13	77.84	360	P	P	16 14 45.5 -0.8
H19A	Powell baz=78	77.92	331	P	P	16 14 48.3 +1.2
G20A	Bridger baz=78,SNR=11	78.01	331	P	P	16 14 48.4 +0.8
NVAR	Mina Array Bea comp=Z,0.6nm,0.6s,baz=140,slow=6.4,SNR=6.2	78.20	321	P	P	16 14 49.9 +1.0
RLMT	Red Lodge baz=79,SNR=9.4	78.40	331	P	P	16 14 51.1 +1.3
DGMT	Dagmar baz=79	78.97	336	P	P	16 14 54.2 +1.6
C21A	Desert Coulee baz=80	79.59	334	P	P	16 14 57.4 +1.4
HLID	Hailey baz=80	79.69	327	P	P	16 14 59.1 +2.2
C20A	Veseth Ranch, baz=80	79.88	333	P	P	16 14 58.0 +0.5
B21A	Ellsworth Farm baz=80	80.04	334	P	P	16 14 59.6 +1.2
BOSA	Boshof comp=Z,4.2nm,0.9s,baz=234,slow=8.7,SNR=3.2	80.78	117	P	P	16 15 03.5 +0.4
B19A	Brinkman Farms baz=81	80.85	333	P	P	16 15 03.7 +1.0
EGMT	Eagleton baz=81	80.86	332	P	P	16 15 03.5 +0.6
MAW	Mawson comp=Z,1.2nm,0.6s,baz=243,slow=9.0,SNR=6.3	81.98	163	P	P	16 15 09.1 +0.7
J05D	Fort Rock, OR baz=83	83.09	323	P	P	16 15 16.3 +1.6
ESDC	Sonseca Array comp=Z,0.1nm,0.3s,baz=220,slow=4.3,SNR=5.8	85.72	43	P	P	16 15 28.1 +0.2
YKA	Yellowknife Ar comp=Z,1.0nm,0.5s,baz=131,slow=4.6,SNR=15	93.60	340	P	P	16 16 04.0 -0.1
YKA	Yellowknife Ar	93.60	340	P	P	16 16 04.0 -0.1
STKA	Stephens Creek comp=Z,1.0nm,0.8s,baz=352,slow=7.1,SNR=4.4	118.79	207	PKP	PKPdf	16 21 37.0 +0.9
ASAR	Alice Springs comp=Z,0.7nm,0.8s,baz=134,slow=2.0,SNR=6.4	129.18	205	PKP	PKPdf	16 21 56.3 0.0
WRA	Warramunga Arr comp=Z,0.3nm,0.4s,baz=157,slow=1.7,SNR=15	132.34	207	PKP	PKPdf	16 22 02.8 +0.4
BVAR	Borovoye Array comp=Z,0.5nm,0.5s,baz=251,slow=4.5,SNR=4.3	136.09	36	PKP	PKPdf	16 22 09.4 +1.1
KURK	Kurchatov	141.67	36	PKP	PKPdf	16 22 16.0 -2.5
KURBB	Kurchatov Arra comp=Z,0.4nm,0.6s,baz=297,slow=2.7,SNR=4.3	141.68	36	PKP	PKPdf	16 22 16.0 -2.5
ZALV	Zalesovo Beam comp=Z,2.8nm,0.5s,baz=302,slow=4.3,SNR=12	142.67	28	PKhKP	PKPpre	16 22 15.8
MKAR	Makanchi Array comp=Z,10nm,0.8s,baz=308,slow=3.1,SNR=104	145.83	39	PKPbc	PKPdf	16 22 26.7 +0.8
TLY	Talaya comp=Z,2.0nm,0.4s,baz=250,slow=5.4,SNR=3.8	150.73	12	PKPbc	PKPbc	16 22 39.3 -0.2
SONM	Songino Array comp=Z,0.7nm,1.0s,baz=25,slow=0.6,SNR=3.2	154.93	11	PKP	PKPdf	16 22 40.9 +0.7
SONM				PKPab	PKPab	16 23 06.0 +0.8
CMAR	Chiang Mai Arr comp=Z,1.3nm,0.7s,baz=322,slow=3.7,SNR=8.1	165.73	107	PKPab	PKPab	16 23 53.1 0.0
	comp=Z,1.2nm,0.7s,baz=254,slow=5.6,SNR=8.8					

*THE **16** 16:17:07.3,38.68N×22.80E,h5km±3km,ML1.5/5, Error ellipse: s-maj=3.1km s-min=0.4km az=8.0*
*CSEM **16** 16:17:07.6±0.1,38.68N×22.80E,h2km,ML1.5, Error ellipse: s-maj=4.0km s-min=2.3km az=153.0*
ATH 16 16:17:07.5,38.67N×22.79E, h5km±1km, MD2.2/4, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AXAR	Agios Charalam	0.14	313	ePB	Pg	16 17 10.3	-0.1
AXAR				eSB	Sg	16 17 12.7	+0.3
AXAR	Agios Charalam	0.14	313	ePG	Pg	16 17 10.5	+0.1
AXAR				eSG	Sg	16 17 12.8	+0.4
AXAR	Agios Charalam	0.14	313	P	Pg	16 17 10.1	-0.3
AXAR	Agios Charalam	0.14	313	ePg	Pg	16 17 10.5	+0.1
AXAR				S	Sg	16 17 12.4	0.0
AXAR	Agios Charalam	0.14	313	P	Pg	16 17 10.1	-0.3
AXAR				S	Sg	16 17 12.4	0.0
LKR	Lokris	0.17	97	ePB	Pg	16 17 10.7	-0.1
LKR				eSB	Sg	16 17 13.6	+0.6
LKR	Lokris	0.17	97	ePG	Pg	16 17 10.6	-0.2
LKR				eSG	Sg	16 17 13.6	+0.6
LKR	Lokris	0.17	97	P	Pg	16 17 10.6	-0.2
LKR				S	Sg	16 17 13.1	+0.1
LKR	Lokris	0.17	97	P	Pg	16 17 10.6	-0.2
LKR				S	Sg	16 17 13.1	+0.1
ATAL	Atalanti	0.18	83	P	Pg	16 17 10.8	-0.4
ATAL				S	Sg	16 17 13.3	-0.3
ATAL	Atalanti	0.18	83	P	Pg	16 17 10.8	-0.4
ATAL				S	Sg	16 17 13.3	-0.3
DESF	Desfina	0.33	218	ePB	Pg	16 17 13.7	-0.3
DESF				eSB	Sg	16 17 19.6	+1.3
DSF	Desfina	0.33	219	ePB	Pg	16 17 13.8	-0.2
DSF				eSB	Sg	16 17 19.8	+1.4
DSF	Desfina	0.33	219	ePG	Pg	16 17 13.8	-0.2
DSF				eSB	Sg	16 17 18.9	+0.5
DSF	Desfina	0.33	219	ePg	Pg	16 17 13.8	-0.2
DSF				S	Sg	16 17 18.9	+0.5
DSF	Desfina	0.33	219	P	Pg	16 17 13.6	-0.4
DSF				S	Sg	16 17 18.9	+0.5
SMIA	Simia	0.39	57	ePB	Pg	16 17 15.5	+0.4
SMIA				eSB	Sg	16 17 21.0	+0.8
SMIA	Simia	0.39	57	P	Pg	16 17 14.3	-0.8
SMIA	Simia	0.39	57	ePb	Pg	16 17 15.5	+0.4
SMIA				S	Sg	16 17 19.9	-0.3
SMIA				eSb	Sb	16 17 21.0	-2.3
SMIA	Simia	0.39	57	P	Pg	16 17 14.3	-0.8
SMIA				S	Sg	16 17 19.9	-0.3
KALE	Kalithea	0.58	242	ePN	Pg	16 17 19.2	+0.4
KALE				eSN	Sb	16 17 27.7	-1.2
KALE	Kalithea	0.58	242	ePB	Pg	16 17 19.5	+0.7
KALE				eSB	Sb	16 17 27.7	-1.2
KALE	Kalithea	0.58	242	ePb	Pg	16 17 19.5	+0.7
KALE				eSb	Sb	16 17 27.7	-1.2
XOR	Xorichti	0.76	24	P	Pg	16 17 21.8	-0.4
XOR	Xorichti	0.76	24	P	Pg	16 17 21.8	-0.4

MAN 16 16:36:47,18.25N×121.67E, h32km, mb4.4, ML3.3, MS3.2, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	Conner	0.56	227	eP	Pn	16 36 58.6	-0.1
APYP				eS	Sb	16 37 05.0	-1.3
ABRA	Dolores	1.09	237	eP	Pb	16 37 07.5	+0.2
ABRA				eS	Sn	16 37 19.6	-0.3
CAUP	Cauayan	1.30	173	eP	Pb	16 37 10.4	-0.5
BALP	Baler	2.49	182	eP	Pn	16 37 26.4	+1.1

*NEIC **16** 17:17:15.5, 16.75N×99.29W, h16km, MD4.0(MEX), After MEX.*
MEX 16 16:17:15.5±0.5, 16.75N×99.29W, h16km±999km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.98	288	eP	Pb	17 17 30.6	-3.5
CAIG				i S	Sb	17 17 42.3	-4.5
CAIG	El Cayaco	0.98	288	eP	Pb	17 17 30.6	-3.5
CAIG				i S	Sb	17 17 42.3	-4.5
TLIG	Tlapa	1.06	41	i P	Pb	17 17 32.1	-3.7
TLIG				i S	Sb	17 17 44.8	-4.7
PNIG	Pinotepa	1.18	108	i P	Pn	17 17 33.5	-3.8
PNIG				i S	Sb	17 17 47.7	-4.8
PNIG	Pinotepa	1.18	108	i P	Pn	17 17 33.5	-3.8
PNIG				i S	Sb	17 17 47.7	-4.8
MEIG	Mezcala	1.21	345	i P	Pn	17 17 34.0	-3.8
MEIG				eS	Sb	17 17 48.4	-5.2
MEIG	Mezcala	1.21	345	i P	Pn	17 17 34.0	-3.8
MEIG				eS	Sb	17 17 48.4	-5.2
PLIG	Platanillo	1.64	353	eP	Pn	17 17 40.9	-3.0
PLIG				i S	Sn	17 17 59.5	-5.3
PLIG	Platanillo	1.64	353	eP	Pn	17 17 40.9	-3.0
PLIG				i S	Sn	17 17 59.5	-5.3
ARIG	Puente Sto Nin	1.82	327	eP	Pn	17 17 43.5	-2.7
ARIG				i S	Sn	17 18 04.2	-4.8

*IDC **16** 17:28:27.8±9.0, 9.61N×94.18E, h0km, mb3.8/6, mb1 3.7/7, mb1mx3.4/49, mbtmp3.6/7, ML2.8/1, MS3.3/4, Ms1 3.3/4, ms1mx2.7/39, Error ellipse: s-maj=177.9km s-min=38.9km az=151.0*
*ISCJB **16** 17:28:33.0±1.4, 10.1N±0.2×94.0E±0.1, h25km, mb3.8/9, MS3.3/3, Error ellipse: s-maj=26.6km s-min=17.9km az=19.6*
*NEIC **16** 17:28:35.1±1.3, 9.98N×93.97E, h35km, mb4.0/4, Error ellipse: s-maj=25.2km s-min=16.1km az=203.0*
ISC 16 17:28:34.3±1.8, 10.0N±0.2×94.0E±0.2, h25km, n15, σ1°24/13, mb3.9/9, MS3.4/3, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	9.69	29	Pn	Pn	17 30 53.0	+0.8
CMAR	0.0nm,0.3s,baz=217,slow=14,SNR=2.5			LR	LR	17 34 30.3	
LSA	comp=Z,117nm,18.1s,baz=212,slow=36 Lhasa 3.8nm,0.9s	19.80	353	eP	P	17 33 02.0	-1.5
KKM	Kota Kinabalu	22.32	98	P	P	17 33 30.4	-0.1
EKS2	45nm,1.2s Erkin-Say 2.0nm,0.8s	37.06	335	P	P	17 35 43.0	+0.4
MKAR	Makanchi Array 1.0nm,0.9s,baz=152,slow=7.4,SNR=7.2	38.02	347	P	P	17 35 49.6	-0.9
SONM	Songino Array 0.2nm,0.4s,baz=192,slow=12,SNR=3.4	39.15	13	P	P	17 36 00.5	+0.4
SONM				LR	LR	17 53 36.8	
KSRS	comp=Z,49nm,18.4s,baz=240,slow=38 Korea Array	40.99	43	LR	LR	17 54 49.7	
KURBB	comp=Z,9.7nm,20.4s,baz=248,slow=38 Kurchatov Arra 0.4nm,0.9s,baz=163,slow=8.7,SNR=4.5	42.49	345	P	P	17 36 27.1	-0.4
KURK	Kurchatov	42.55	346	P	P	17 36 27.1	-0.9
GEYT	Alibeck 5.0nm,0.7s,baz=155,slow=7.9,SNR=9.5	42.57	317	P	P	17 36 30.4	+2.0
ZAA0	Zalesovo Array	44.47	352	P	P	17 36 41.0	-2.3
ZALV	Zalesovo Beam 1.5nm,0.8s,baz=177,slow=9.9,SNR=8.0	44.47	352	P	P	17 36 43.2	-0.1
ABKAR	Akbulak array 1.0nm,0.6s	48.34	331	eP	P	17 37 13.9	+0.1
BRTR	Keskin Array B 0.7nm,0.8s,baz=108,slow=9.3,SNR=3.2	60.98	310	P	P	17 38 45.0	-0.9
MAW	Mawson comp=Z,45nm,19.0s,baz=61,slow=32	80.56	192	LR	LR	18 10 46.5	

*IDC **16** 17:29:32.9±0.9, 10.51N×93.83E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.7/28, mbtmp3.8/10, Error ellipse: s-maj=41.6km s-min=20.1km az=57.0*
*ISCJB **16** 17:29:34.0±0.8, 10.5N±0.2×93.9E±0.2, h19km, mb3.8/10, Error ellipse: s-maj=33.7km s-min=15.7km az=146.8*
ISC 16 17:29:35.9±1.0, 10.5N±0.2×93.9E±0.2, h19km, n13, σ0°86/10, mb3.8/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	Diego Garcia H baz=54	27.88	231	T	T	18 03 42.2	
H08S2	Diego Garcia H baz=54	27.89	231	T	T	18 03 37.3	
H08S1	Diego Carcia H baz=54	27.90	231	T	T	18 03 36.4	
MKAR	Makanchi Array 0.3nm,0.4s,baz=157,slow=7.8,SNR=3.5	37.46	347	P	P	17 36 47.8	-0.4
KURBB	Kurchatov Arra 0.3nm,0.8s,baz=166,slow=8.2,SNR=3.7	41.92	345	P	P	17 37 25.5	+0.2
GEYT	Alibeck 4.2nm,0.6s,baz=131,slow=7.9,SNR=6.9	42.07	316	P	P	17 37 28.4	+1.6
ZALV	Zalesovo Beam 0.5nm,0.4s,baz=177,slow=8.7,SNR=3.7	43.91	352	P	P	17 37 41.5	+0.3
WRA	Warramunga Arr 0.4nm,0.7s,baz=307,slow=8.5,SNR=2.9	50.05	127	P	P	17 38 30.0	+0.2
ASAR	Alice Springs 0.5nm,0.7s,baz=311,slow=7.3,SNR=5.3	51.85	131	P	P	17 38 43.5	+0.1
BRTR	Keskin Array B 0.8nm,0.6s,baz=127,slow=7.4,SNR=4.2	60.51	310	P	P	17 39 44.4	-0.8
FINES	FINESS Array B 3.1nm,1.1s,baz=134,slow=8.0,SNR=6.6	70.25	332	P	P	17 40 46.4	-1.3
ARCES	ARCESS Array B 1.2nm,0.8s,baz=77,slow=7.6,SNR=5.1	72.69	340	P	P	17 41 02.1	-0.2
BOSA	Boshof 6.6nm,1.1s,baz=67,slow=7.7,SNR=3.5	76.75	237	P	P	17 41 26.6	-0.1

MEX 16 17:32:54.3±0.8, 17.34N×94.95W, h145km±9km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.25	165	i P	Pn	17 33 13.2	-1.0
CMIG				eS	Sn	17 33 26.5	-2.7
VHO	Vista Hermosa	1.72	261	eP	Pn	17 33 25.1	-1.1
VHO				i S	Sn	17 33 49.1	-1.5
HUIG	Huatulco	1.91	216	i P	Pn	17 33 26.2	-1.9
HUIG				i S	Sn	17 33 52.7	-1.4
PNIG	Pinotepa	3.18	253	i P	Pn	17 33 42.2	-1.7
PNIG				i S	Sn	17 34 20.0	-2.2

*IDC **16** 17:58:34.8±3.7, 38.31N×73.68E, h100km±29km, mb3.6/7, mb1 3.7/13, mb1mx3.5/33, mbtmp4.0/13, Error ellipse: s-maj=31.5km s-min=16.9km az=166.0*
*ISCJB **16** 17:58:35.3±0.3, 38.23N±0.02×73.76E±0.04, h140km, mb3.6/7, Error ellipse: s-maj=4.9km s-min=3.2km az=162.2*
*BJI **16** 17:58:36.7, 38.38N×73.86E, h137km, mb3.7/3*
*NNC **16** 17:58:39.4±1.8, 38.53N×73.56E, h148km±13km, mb3.2, mpv4.1, Error ellipse: s-maj=20.9km s-min=8.6km az=149.0*
ISC 16 17:58:35.5±0.6, 38.22N±0.04×73.73E±0.06, h140km, n57, σ2°31/61, mb3.6/7, 6C-9D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan 334nm,0.5s	1.79	354	⇓P	Pn	17 59 08.8	+1.0
SFK				⇓S	Sn	17 59 31.5	-1.2
KSH	2µm,0.3s Kashi	2.18	53	⇓i P	Pn	17 59 08.3	-4.0
KSH				S	Sn	17 59 27.4	-13
KSH				SMN			
KSH	2µm,0.2s			SME			
DZET	2µm,0.2s Dzherino 19nm,0.4s	3.89	280	⇑P	Pn	17 59 35.4	+1.3
DZET				⇓S	Sn	18 00 20.2	+0.6
AML	208nm,0.5s Almayashu SNR=214	3.90	360	P	Pn	17 59 35.0	+0.5
KZA	Kyzart SNR=22	4.02	16	P	Pn	17 59 36.4	+0.3
UCH	Uchtor SNR=150	4.04	8	P	Pn	17 59 37.1	+0.7
EKS2	Erkin-Say SNR=38	4.43	0	P	Pn	17 59 42.5	+1.2
AAK	Ala-Archa 12nm,0.5s	4.44	7	⇓P	Pn	17 59 42.2	+0.8
AAK				⇓S	Sn	18 00 31.1	-1.6
ULHL	123nm,0.8s Ulahol SNR=34	4.45	25	P	Pn	17 59 42.1	+0.5
KBK	Karagaybulak SNR=15	4.52	11	P	Pn	17 59 43.7	+1.1
CHCP	Chirah Chowk	4.57	185	P	Pn	17 59 47.9	+4.8
CEP	Cherat	4.63	199	P	Pn	17 59 48.3	+4.3
CHMS	Chumysh SNR=8.6	4.83	9	P	Pn	17 59 47.5	+1.0
TKM2	Tokmak 2 SNR=23	4.90	16	P	Pn	17 59 48.4	+0.8
TKM2	Tokmak 2 6.7nm,0.3s	4.90	16	⇑P	Pn	17 59 48.1	+0.5
TKM2				⇑S	Sn	18 00 42.4	-1.3
USP	56nm,1.1s Ospenovka SNR=5.9	5.07	6	P	Pn	17 59 51.4	+1.7
KK31	Karatay Array 6.2nm,0.3s,baz=140,slow=12,SNR=493	5.45	334	⇓P	Pn	17 59 55.5	+0.8
KK31				⇓S	Sn	18 00 52.6	-4.0
KNDC	46nm,0.4s,baz=150,slow=23,SNR=21 Almaty 20nm,0.6s	5.56	25	⇑P	Pn	17 59 58.2	+2.0
THW	Thamme Wali	5.65	197	P	Pn	18 00 01.4	+3.9
DLH	Dalhousie	5.96	161	eP	Pn	18 00 04.0	+2.2
DLH				eS	Sn	18 01 07.0	-2.1
PDGK	Podgornoye 11nm,0.6s	6.71	39	⇑P	Pn	18 00 11.3	-0.3
PDGK				⇓S	Sn	18 01 28.5	+1.8
BHK	15nm,0.8s Bhakra	7.14	161	ex	Sn	18 01 37.5	+0.2
SDNR	Sundarnagar	7.22	157	eP	Pn	18 00 21.0	+2.5
SDNR				eS	Sn	18 01 34.0	-5.1
SMLA	Simla	7.62	157	i P	Pn	18 00 24.9	+1.0
SMLA				i S	Sn	18 01 43.9	-4.9
SMLA				i S	Sn	18 01 44.0	-4.9
SMLA	comp=N,2µm,0.4s			AML	AML	18 01 45.0	
SMLA	comp=E,2µm,0.4s			AML	AML	18 01 45.5	
JOSI	Joshimath	9.04	146	eP	Pn	18 00 43.7	+0.6
JOSI				eS	Sn	18 02 14.1	-9.2
JOSI	comp=E,328nm,0.3s			AML	AML	18 02 18.7	

JOSI					AML	AML	18 02 26.5	
	comp=N,284nm,1.1s							
KALG	**Kalgarh**	**9.64**	**153**	*e*P		**Pn**	**18 00 50.7**	**-0.2**
KALG				*e*S		Sn	18 02 30.2	-7.5
NDI	**New Delhi**	**9.95**	**162**	*e*S		Sn	18 02 36.0	-9.1
ASOR	**Ausora**	**10.03**	**159**	*e*S		Sn	18 02 40.6	-6.3
OTUK	**Ortayu**	**10.07**	**355**	⇑P		**Pn**	**18 00 55.8**	**-0.7**
	comp=N,7.9nm,0.9s							
BISR	**Bishrakh**	**10.11**	**161**	*ex*		**Sn**	**18 02 45.6**	**-3.4**
KHET	**Khetri**	**10.27**	**170**	*e*S		**Sn**	**18 02 47.5**	**-5.3**
KHET					AML	AML	18 02 51.6	
	comp=E,186nm,0.2s							
KHET					AML	AML	18 02 51.9	
	comp=N,146nm,0.1s							
KUDL	**Kundal**	**10.31**	**166**	*e*P		**Pn**	**18 01 01.0**	**+1.1**
KUDL				*e*S		Sn	18 02 46.2	-7.6
MKAR	**Makanchi Array**	**10.64**	**34**	P		**Pn**	**18 01 04.7**	**+0.7**
	comp=N,0.5nm,0.3s,baz=200,slow=14,SNR=51							
GEYT	**Alibeck**	**12.31**	**273**	P		**Pn**	**18 01 26.0**	**-0.1**
	comp=N,0.9nm,0.3s,baz=105,slow=9.6,SNR=4.7							
GEYT				S		**Sn**	**18 03 40.4**	**-1.6**
	comp=N,1.2nm,0.3s,baz=304,slow=37,SNR=5.7							
KURBB	**Kurchatov Arra**	**12.86**	**14**	P		**Pn**	**18 01 31.4**	**-1.6**
	comp=N,0.1nm,0.3s,baz=201,slow=12,SNR=11							
DANN	**Dangsing**	**12.93**	**137**	*e*P		**Pn**	**18 01 33.8**	**-0.6**
KOLN	**Koldanda**	**13.31**	**139**	*e*P		**Pn**	**18 01 37.8**	**-1.4**
	comp=N,9.8nm,0.3s							
GKN	**Gorkha**	**13.68**	**135**	*e*P		**Pn**	**18 01 43.4**	**-0.5**
	comp=N,51nm,0.4s							
KKN	**Kakani**	**14.21**	**134**	*e*P		**Pn**	**18 01 49.6**	**-1.1**
	comp=N,31nm,0.6s							
DMN	**Daman**	**14.25**	**135**	*e*P		**Pn**	**18 01 50.2**	**-1.0**
	comp=N,7.3nm,0.2s							
PKIN	**Phulchoki**	**14.44**	**134**	*e*P		**Pn**	**18 01 54.0**	**+0.4**
	comp=N,22nm,0.4s							
PKI	**Pulchoki**	**14.45**	**134**	*e*P		**Pn**	**18 01 53.7**	**-0.1**
	comp=N,18nm,0.3s							
BVAR	**Borovoye Array**	**14.98**	**352**	P		**Pn**	**18 01 59.9**	**0.0**
	comp=N,3.3nm,0.3s,baz=154,slow=11,SNR=11							
BVAR				S		**Sn**	**18 04 39.9**	**-6.0**
	comp=N,0.0nm,0.3s,baz=169,slow=24,SNR=2.2							
RAMN	**Ramite**	**15.60**	**132**	*e*P		**Pn**	**18 02 07.3**	**-0.8**
	comp=N,18nm,0.5s							
ODAN	**Odare**	**16.14**	**131**	*e*P		**P**	**18 02 15.8**	**+0.5**
	comp=N,9.6nm,0.4s							
AKTO	**Aktyubinsk**	**16.55**	**323**	P		**P**	**18 02 20.4**	**+1.0**
	comp=N,0.9nm,0.3s,baz=123,slow=12,SNR=12							
AKTO				S		**Sn**	**18 05 17.7**	**-5.9**
	comp=N,0.2nm,0.3s,baz=170,slow=20,SNR=6.4							
ZALV	**Zalesovo Beam**	**17.47**	**22**	P		**Pn**	**18 02 30.5**	**+0.2**
	comp=N,2.3nm,0.3s,baz=227,slow=10,SNR=36							
GTA	**Gaotai**	**20.34**	**79**	*e*P		Pn	18 03 08.0	+3.5
GTA				PMZ				
	comp=N,4.0nm,1.2s							
ARU	**Arti**	**20.83**	**336**	P		**P**	**18 03 07.7**	**+1.9**
	baz=126,slow=8.7							
SONM	**Songino Array**	**25.57**	**57**	P		**P**	**18 03 54.1**	**+2.6**
	comp=N,1.4nm,0.8s,baz=259,slow=10,SNR=9.8							
FINES	**FINESS Array B**	**37.31**	**324**	P		**P**	**18 05 36.8**	**+3.1**
	comp=N,1.1nm,0.3s,baz=124,slow=11,SNR=17							
ARCES	**ARCESS Array B**	**40.42**	**336**	P		**P**	**18 06 02.5**	**+3.0**
	comp=N,1.7nm,0.5s,baz=109,slow=8.4,SNR=18							
NB2	**NORSAR Subarra**	**44.34**	**322**	P		**P**	**18 06 34.0**	**+2.6**
	comp=Z,0.8nm,0.5s,baz=91,slow=7.9							
NOA	**NORSAR Array B**	**44.34**	**322**	P		**P**	**18 06 34.0**	**+2.6**
	comp=Z,0.4nm,0.5s,baz=102,slow=7.0,SNR=5.1							
TORD	**Torodi Ar. Bea**	**67.92**	**270**	P		**P**	**18 09 22.2**	**+2.9**
	comp=Z,0.4nm,0.3s,baz=49,slow=5.4,SNR=9.8							
ILAR	**Eielson Array**	**72.51**	**17**	P		**P**	**18 09 48.9**	**+2.3**
	comp=Z,0.4nm,0.7s,baz=330,slow=6.6,SNR=4.6							
YKA	**Yellowknife Ar**	**79.40**	**4**	P		P	18 10 28.9	+3.4
	comp=Z,0.6nm,0.7s,baz=341,slow=6.4,SNR=2.8							

*ISCJB **16** 18:01:07.5±0.2, 43.67N±0.02×105.35W±0.02, h0km, mb3.9/3, Error ellipse: s-maj=2.7km s-min=2.2km az=163.3*
*NEIC **16** 18:01:07.3±0.4, 43.71N×105.19W, h0km, ML3.4, Error ellipse: s-maj=6.2km s-min=5.1km az=162.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.
*IDC **16** 18:01:08.3±0.9, 43.94N×105.65W, h0km, mb3.8/3, mb1 3.9/7, mb1mx3.6/37, mbtmp3.7/7, ML3.7/4, Error ellipse: s-maj=21.5km s-min=7.7km az=144.0*

ISC 16 18:01:07.1±0.6, 43.71N±0.02×105.35W±0.02, h0km, n102, σ1§36/108, mb4.1/3, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.27**	**342**	P	**Pb**	**18 01 14.3**	**-0.6**
	baz=0.3,SNR=82						
J23A	**Dilts Ranch, B**	**0.34**	**206**	P	**Pg**	**18 01 14.4**	**+0.8**
	baz=0.4,SNR=548						
I24A	**Kuemmerle Ranc**	**0.55**	**74**	P	**Pg**	**18 01 18.1**	**+0.6**
	baz=0.4,SNR=560						
J24A	**Dixon Ranch, L**	**0.63**	**127**	P	**Pg**	**18 01 19.0**	**-0.1**
	baz=0.5,SNR=152						
I22A	**9 Mile Ranch,**	**0.84**	**283**	P	**Pb**	**18 01 24.2**	**-0.4**
	baz=1.0,SNR=223						
H23A	**Clabaugh Cattl**	**0.85**	**358**	P	**Pg**	**18 01 24.3**	**+0.8**
	baz=0.9,SNR=42						
J22A	**Midwest**	**0.87**	**251**	P	**Pg**	**18 01 24.1**	**+0.3**
	baz=1.0,SNR=339						
K23A	**Bowen Ranch, D**	**0.97**	**192**	P	**Pg**	**18 01 25.3**	**-0.4**
	baz=1.0,SNR=52						
RSSD	**Black Hills**	**1.03**	**66**	*e*Pn	**Pg**	**18 01 26.7**	**-0.2**
K24A	**Anderson Ranch**	**1.06**	**158**	P	**Pg**	**18 01 26.9**	**-0.5**
	baz=1.0,SNR=188						
H22A	**Clearmont**	**1.14**	**321**	P	**Pb**	**18 01 29.9**	**+0.1**
	baz=1.2,SNR=201						
J25A	**Sunshine Ranch**	**1.17**	**105**	P	**Pg**	**18 01 29.0**	**-0.5**
	baz=1.1,SNR=175						
H24A	**Dirks Ranch, A**	**1.19**	**29**	P	**Pg**	**18 01 29.7**	**-0.2**
	baz=1.1,SNR=299						
I25A	**Rochford**	**1.21**	**75**	P	**Pg**	**18 01 29.9**	**-0.4**
	baz=1.1,SNR=157						
K22A	**Casper**	**1.36**	**219**	P	**Pg**	**18 01 32.5**	**-0.7**
	baz=1.4						
K22A	**Casper**	**1.36**	**219**	*e*Pn	**Pg**	**18 01 32.2**	**-1.0**
I21A	**Big Trails, Te**	**1.41**	**275**	P	**Pn**	**18 01 33.4**	**-0.8**
	baz=1.5,SNR=434						
I21A				S	**Sn**	**18 01 53.4**	**-0.2**
	baz=1.5						
G23A	**Biddle**	**1.49**	**359**	P	**Pb**	**18 01 35.4**	**+0.2**
	baz=1.5,SNR=190						
G23A				S	**Sn**	**18 01 57.8**	**+2.3**
	baz=1.5						
H21A	**Big Horn, Sher**	**1.53**	**308**	P	**Pg**	**18 01 36.5**	**+0.1**
	baz=1.6,SNR=63						
K25A	**Mack Ranch, Ha**	**1.54**	**135**	P	**Pn**	**18 01 35.5**	**-0.4**
	baz=1.5,SNR=94						
H25A	**Fruitdale**	**1.56**	**53**	P	**Pn**	**18 01 36.5**	**+0.4**
	baz=1.5,SNR=48						
J21A	**Lysite**	**1.57**	**257**	P	**Pn**	**18 01 36.1**	**-0.3**
	baz=1.7,SNR=332						
J21A				S	**Sg**	**18 01 57.9**	**+0.4**
	baz=1.7						
G22A	**Birney**	**1.65**	**336**	P	**Pb**	**18 01 38.6**	**+0.1**
	baz=1.7,SNR=117						
J26A	**Sides Ranch, S**	**1.70**	**103**	P	**Pn**	**18 01 38.4**	**+0.3**
	baz=1.6,SNR=140						
J26A				Sb	**Sg**	**18 02 03.2**	**+1.4**
	baz=1.6						
G24A	**Alzada**	**1.75**	**22**	P	**Pn**	**18 01 39.6**	**+0.8**
	baz=1.7,SNR=26						
I26A	**New Underwood**	**1.83**	**79**	P	**Pn**	**18 01 40.7**	**+0.8**
	baz=1.7,SNR=38						
F23A	**Volborg**	**2.01**	**359**	P	**Pn**	**18 01 43.5**	**+1.1**
	baz=2.0,SNR=131						
G21A	**Lodge Grass**	**2.02**	**319**	P	**Pn**	**18 01 43.6**	**+1.1**
	baz=2.1,SNR=36						
J20A	**Shoshoni**	**2.02**	**261**	Pb	**Pb**	**18 01 45.0**	**+0.2**
	baz=2.1						
I20A	**Worland**	**2.02**	**278**	Pb	**Pb**	**18 01 44.6**	**-0.2**
	baz=2.1,SNR=504						
I20A				Sb	**Sg**	**18 02 12.7**	**+0.6**
	baz=2.1						
G25A	**Newell**	**2.03**	**42**	P	**Pn**	**18 01 44.1**	**+1.5**
	baz=1.9						
G25A				Sb	**Sg**	**18 02 14.1**	**+1.8**
	baz=1.9						
H20A	**Greybull**	**2.06**	**293**	P	**Pn**	**18 01 44.1**	**+1.0**
	baz=2.2,SNR=58						
H26A	**Fairpoint**	**2.06**	**63**	P	**Pn**	**18 01 44.7**	**+1.6**
	baz=2.0,SNR=122						
H26A				Sb	**Sg**	**18 02 15.0**	**+1.6**
	baz=2.0						
F22A	**Rosebud**	**2.17**	**343**	P	**Pn**	**18 01 45.8**	**+1.3**
	baz=2.2,SNR=63						
F24A	**Ekalaka**	**2.23**	**16**	P	**Pn**	**18 01 46.8**	**+1.4**
	baz=2.2,SNR=42						
PHWY	**Pilot Hill**	**2.41**	**182**	*e*Pn	**Pn**	**18 01 48.6**	**+0.6**
I27A	**Quinn**	**2.41**	**80**	P	**Pn**	**18 01 49.6**	**+1.7**
	baz=2.3,SNR=16						
F21A	**Absaloka Mine,**	**2.46**	**330**	P	**Pn**	**18 01 49.4**	**+0.8**
	baz=2.5						
M25A	**Palm-Egli Farm**	**2.47**	**157**	P	**Pn**	**18 01 49.8**	**+1.1**
	baz=2.4						
J27A	**Elkhorn Farm,**	**2.48**	**99**	P	**Pn**	**18 01 51.0**	**+2.2**
	baz=2.4,SNR=18						
K27A	**Flueckinger Fa**	**2.49**	**113**	P	**Pn**	**18 01 51.3**	**+2.3**
	baz=2.4						
G26A	**Maurine**	**2.53**	**50**	P	**Pn**	**18 01 51.1**	**+1.6**
	baz=2.4,SNR=65						
G26A				Sb	**Sg**	**18 02 28.2**	**-0.1**
	baz=2.4						
H27A	**Howes**	**2.53**	**67**	P	**Pn**	**18 01 52.1**	**+2.6**
	baz=2.4,SNR=21						
G20A	**Bridger**	**2.55**	**307**	P	**Pn**	**18 01 50.3**	**+0.5**
	baz=2.6						
F25A	**Bowman**	**2.59**	**31**	P	**Pn**	**18 01 52.4**	**+2.0**
	baz=2.5,SNR=89						
I19A	**Meeteetse**	**2.66**	**278**	P	**Pn**	**18 01 53.1**	**+1.8**
	baz=2.8						
J19A	**Crowheart**	**2.73**	**262**	P	**Pn**	**18 01 54.7**	**+2.3**
	baz=2.8						
E22A	**Miles City**	**2.76**	**351**	P	**Pn**	**18 01 53.7**	**+1.0**
	baz=2.8						
H19A	**Powell**	**2.79**	**291**	P	**Pn**	**18 01 54.6**	**+1.6**
	baz=2.9						
E23A	**Ismay**	**2.79**	**1**	P	**Pn**	**18 01 53.8**	**+0.8**
	baz=2.8,SNR=35						
N23A	**Red Feather La**	**2.85**	**189**	P	**Pn**	**18 01 55.1**	**+1.1**
	baz=2.9						
N23A				Sb	**Sb**	**18 02 35.4**	**+1.0**
	baz=2.9						
F26A	**Lodgepole**	**2.87**	**41**	P	**Pn**	**18 01 55.7**	**+1.5**
	baz=2.8						
F26A				Sb	**Sg**	**18 02 38.4**	**-0.9**
	baz=2.8						
F20A	**Billings**	**2.89**	**317**	P	**Pn**	**18 01 55.1**	**+0.6**
	baz=3.0						
F20A				Sb	**Sg**	**18 02 38.9**	**-1.0**
	baz=3.0						
E24A	**Baker**	**2.95**	**14**	P	**Pn**	**18 01 56.5**	**+1.3**
	baz=2.9						
G27A	**Dupree**	**2.96**	**54**	P	**Pn**	**18 01 56.1**	**+0.7**
	baz=2.9						
J28A	**Allard Ranch,**	**3.00**	**94**	P	**Pn**	**18 01 57.6**	**+1.6**
	baz=2.9						
LAO	**LASA Array**	**3.04**	**349**	*e*Pn	**Pn**	**18 01 57.0**	**+0.5**
E21A	**Keefer Ranch,**	**3.08**	**337**	P	**Pn**	**18 01 58.0**	**+0.9**
	baz=3.1						
E25A	**Miller Ranch,**	**3.11**	**26**	P	**Pn**	**18 01 59.4**	**+1.9**
	baz=3.1						
RLMT	**Red Lodge**	**3.14**	**298**	*e*Pn	**Pn**	**18 01 58.6**	**+0.5**
BW06	**Boulder Array**	**3.22**	**254**	*e*Pn	**Pn**	**18 01 59.9**	**+0.8**
PDAR	**Pinedale Array**	**3.22**	**254**	Pn	**Pn**	**18 02 01.1**	**+2.0**
	8.9nm,0.3s,baz=70,slow=22,SNR=102						
PDAR				Lg	Lg	18 02 45.0	
	20nm,0.3s,baz=75,slow=35,SNR=7.9						
OGNE	**Ogallala**	**3.70**	**137**	*e*Pn	**Pn**	**18 02 06.3**	**+0.7**
GCMT	**Greycliff**	**3.71**	**306**	*e*Pn	**Pn**	**18 02 07.4**	**+1.5**
LKWY	**Lake**	**3.73**	**285**	*e*Pn	**Pn**	**18 02 08.6**	**+2.3**
LOHW	**Long Hollow**	**3.81**	**270**	*e*Pn	**Pn**	**18 02 08.6**	**+1.3**
H17A	**Grant Village**	**3.83**	**282**	*e*Pn	**Pn**	**18 02 10.4**	**+2.8**
FLWY	**Flagg Ranch**	**3.88**	**277**	*e*Pn	**Pn**	**18 02 09.1**	**+0.8**
ISCO	**Idaho Springs**	**3.91**	**183**	*e*Pn	**Pn**	**18 02 09.7**	**+1.0**
MOOW	**Moose Ponds**	**3.91**	**272**	*e*Pn	**Pn**	**18 02 11.0**	**+2.4**
SNOW	**Snow King Moun**	**3.94**	**268**	*e*Pn	**Pn**	**18 02 12.1**	**+3.1**
REDW	**Red Top Meadow**	**4.02**	**267**	*e*Pn	**Pn**	**18 02 11.9**	**+1.8**
YFT	**Old Faithful**	**4.02**	**283**	*e*Pn	Pn	18 02 13.8	+3.7
IMW	**Indian Meadow**	**4.05**	**275**	*e*Pn	Pn	18 02 13.8	+3.2
TPAW	**Teton Pass**	**4.07**	**269**	*e*Pn	**Pn**	**18 02 12.8**	**+1.9**
YMR	**Madison River**	**4.15**	**285**	Pn	**Pn**	**18 02 09.8**	**-2.1**
O20A	**White River Ci**	**4.17**	**212**	*e*Pn	**Pn**	**18 02 13.3**	**+1.1**
AHID	**Auburn Hatcher**	**4.31**	**259**	*e*Pn	Pn	18 02 10.4	-3.7
QLMT	**Earthquake Lak**	**4.51**	**287**	*e*Pn	**Pn**	**18 02 18.9**	**+2.1**
DGMT	**Dagmar**	**4.83**	**9**	*e*Pn	**Pn**	**18 02 21.8**	**+0.7**
BOZ	**Bozeman (W)**	**4.88**	**296**	*e*Pn	Pn	18 02 13.5	-8.3
HWUT	**Hardware Ranch**	**5.04**	**248**	*e*Pn	**Pn**	**18 02 24.7**	**+0.6**
	22nm,0.4s						
KSCO	**Kaye Shedlock'**	**5.12**	**156**	*e*Pn	**Pn**	**18 02 25.1**	**0.0**
	55nm,0.4s						
TCUT	**Toone Canyon**	**5.18**	**242**	*e*Pn	Pn	**18 02 28.4**	**+2.4**
	39nm,0.4s						
EGMT	**Eagleton**	**5.30**	**326**	*e*Pn	Pn	**18 02 29.0**	**+1.4**
	29nm,0.5s						
LRM	**Limekiln Ridge**	**5.48**	**295**	*e*Pn	Pn	**18 02 31.9**	**+1.7**
	34nm,0.4s						
JLU	**Jordanelle**	**5.49**	**238**	*e*Pn	Pn	**18 02 30.6**	**+0.2**
	7.6nm,0.4s						
MCMT	**McKenzie Canyo**	**5.50**	**284**	*e*Pn	Pn	18 02 34.4	+3.9
	2.3nm,0.4s						
CTU	**Camp Tracy**	**5.63**	**240**	*e*Pn	Pn	**18 02 34.0**	**+1.8**
	12nm,0.4s						
MDND	**Maddock**	**5.77**	**42**	*e*Pn	Pn	**18 02 34.8**	**+0.8**
	55nm,0.4s						
HVU	**Hansel Valley**	**5.80**	**253**	*e*Pn	Pn	**18 02 35.1**	**+0.6**
	11nm,0.5s						
ECSD	**EROS Data Cent**	**6.33**	**87**	*e*Pn	Pn	**18 02 40.4**	**-1.3**
	14nm,0.4s						
CBKS	**Cedar Bluff**	**6.46**	**137**	Pn	Pn	18 02 39.9	-3.6
	28nm,0.4s						
WALA	**Waterton Lakes**	**7.98**	**315**	*e*Pn	Pn	**18 03 02.8**	**-1.6**
AGMN	**Agassiz Nation**	**8.04**	**52**	*e*Pn	Pn	**18 03 04.0**	**-1.1**
	29nm,0.5s						
ULM	**Lac du Bonnet**	**9.20**	**41**	Pn	Pn	**18 03 19.4**	**-1.6**
	5.0nm,0.3s,baz=232,slow=12,SNR=19						
ULM				Sn	**Sn**	**18 05 00.8**	**-4.3**
	0.4nm,0.3s,baz=143,slow=20,SNR=1.7						
ULM				Lg	Lg	18 05 51.0	
	0.3nm,0.3s,baz=140,slow=17,SNR=1.8						
FFC	**Flin Flon**	**11.24**	**10**	*e*Pn	Pn	**18 03 47.5**	**-1.5**
TXAR	**Lajitas Array**	**14.41**	**174**	Pn	**P**	**18 04 38.8**	**-0.8**
	0.1nm,0.3s,baz=356,slow=8.8,SNR=4.8						
TXAR				Lg	Lg	18 08 43.4	
	0.0nm,0.3s,baz=350,slow=30,SNR=3.4						
YKA	**Yellowknife Ar**	**19.58**	**347**	P	**P**	**18 05 35.9**	**-0.5**
	0.1nm,0.3s,baz=160,slow=11,SNR=3.6						
ARCES	**ARCESS Array B**	**61.46**	**18**	P	**P**	**18 11 24.2**	**-0.6**
	1.1nm,0.4s,baz=331,slow=6.3,SNR=17						
FINES	**FINESS Array B**	**68.08**	**23**	P	**P**	**18 12 08.7**	**+0.6**
	1.1nm,0.8s,baz=355,slow=8.4,SNR=4.0						
MKAR	**Makanchi Array**	**89.63**	**355**	P	**P**	**18 14 06.8**	**+0.2**
	0.1nm,0.5s,baz=20,slow=4.7,SNR=2.9						

*IDC **16** 18:05:35.1±0.9, 1.98S×136.33E, h0km, mb3.8/6, mb1 4.1/9, mb1mx3.9/21, mbtmp3.9/9, ML4.0/2, MS2.8/2, Ms1 2.8/2, ms1mx2.4/29, Error ellipse: s-maj=22.8km s-min=13.8km az=79.0*
*ISCJB **16** 18:05:38.3±0.5, 2.07S±0.06×136.31E±0.04, h33km, mb3.9/10, MS4.5/1, Error ellipse: s-maj=8.7km s-min=5.9km az=15.1*
*NEIC **16** 18:05:38.6±3.5, 2.05S×136.31E, h23km±26km, mb4.1/5, Error ellipse: s-maj=11.5km s-min=10.7km az=63.0*

ISC 16 18:05:40.7±0.7, 2.10S±0.09×136.28E±0.06, h35km, n25, σ1§19/25, mb4.0/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.11**	**258**	P	**Pn**	**18 06 41.1**	**+0.1**
	baz=4.0,SNR=34						
FAKI	**Fak Fak**	**4.11**	**258**	*e*Pn	**Pn**	**18 06 40.8**	**-0.2**
FAKI				*e*Sn	**Sn**	**18 07 24.5**	**-3.3**
JAY	**Jayapura**	**4.44**	**95**	Pn	**Pn**	**18 06 45.0**	**-0.7**
	0.3nm,0.3s,baz=251,slow=14,SNR=2.5						
JAY				Sn	**Sn**	**18 07 36.1**	**-0.1**
	0.6nm,0.3s,baz=165,slow=20,SNR=2.0						
SIJI	**Sorong**	**5.16**	**284**	Pn	Pn	**18 06 54.8**	**-0.6**
	2.2nm,0.3s,baz=86,slow=22,SNR=11						
SIJI				Sn	**Sn**	**18 07 55.5**	**+1.7**
	2.7nm,0.3s,baz=302,slow=23,SNR=5.6						
SIJI				LR	LR	18 09 01.2	
	comp=Z,79nm,20.3s,baz=38,slow=40						
SWI	**Sorong**	**5.16**	**284**	P	**Pn**	**18 06 56.9**	**+1.4**
	baz=5.2,SNR=4.6						
KDU	**Kakadu**	**11.18**	**200**	P	**Pn**	**18 08 17.9**	**-0.2**
	baz=11,SNR=32						
MTN	**Manton Dam**	**11.83**	**205**	P	**Pn**	**18 08 27.9**	**+0.9**
	baz=12,SNR=28						
KNRA	**Kununurra**	**15.39**	**208**	P	**Pn**	**18 09 16.9**	**+1.5**
	baz=15,SNR=4.5						
GUMO	**Guam**	**17.76**	**28**	LR	LR	18 14 36.9	
	comp=Z,39nm,21.8s,baz=204,slow=31						
WRAB	**Tennant Creek**	**17.83**	**186**	*e*Pn	**Pn**	**18 09 45.9**	**-0.2**
	21nm,1.1s						
WRAB				*e*Sn	Sn	18 12 53.5	-10
WRA	**Warramunga Arr**	**17.84**	**186**	Pn	**Pn**	**18 09 44.6**	**-1.6**
	0.7nm,0.3s,baz=10,slow=12,SNR=28						
WRA				Sn	Sn	18 12 52.3	-12
	0.2nm,0.3s,baz=6.4,slow=22,SNR=6.0						
AS31	**Alice Springs**	**21.57**	**186**	*e*Pn	**P**	**18 10 27.5**	**+0.2**
ASAR	**Alice Springs**	**21.57**	**186**	P	**P**	**18 10 28.1**	**+0.8**
	9.9nm,0.6s,baz=12,slow=11,SNR=74						
ASAR				S	Sn	18 14 30.2	-3.9
	0.7nm,0.7s,baz=1.2,slow=27,SNR=4.6						
MBWA	**Marble Bar**	**24.88**	**219**	*e*P	**P**	**18 11 01.9**	**+1.6**
	5.3nm,0.9s						
STKA	**Stephens Creek**	**30.04**	**171**	P	**P**	**18 11 46.5**	**0.0**
	0.6nm,0.5s,baz=329,slow=10,SNR=3.1						
STKA	**Stephens Creek**	**30.04**	**171**	P	**P**	**18 11 45.4**	**-1.1**
CMAR	**Chiang Mai Arr**	**42.03**	**301**	P	**P**	**18 13 28.8**	**-0.3**
	0.3nm,0.7s,baz=119,slow=6.5,SNR=3.3						
MK31	**Makanchi Array**	**67.83**	**323**	*e*P	**P**	**18 16 34.9**	**-0.4**
MKAR	**Makanchi Array**	**67.83**	**323**	P	**P**	**18 16 35.5**	**+0.1**
	1.0nm,0.7s,baz=111,slow=7.5,SNR=11						
ZALV	**Zalesovo Beam**	**70.20**	**331**	P	**P**	**18 16 48.5**	**-1.3**
	0.3nm,0.4s,baz=94,slow=4.8,SNR=2.2						
KURK	**Kurchatov**	**71.83**	**326**	P	P	18 16 55.8	-4.0
	1.3nm,0.7s						
VNDA	**Vanda**	**76.61**	**174**	*e*P	**P**	**18 17 28.1**	**+0.9**
	2.0nm,1.0s						
BRVK	**Borovoye**	**77.50**	**326**	P	**P**	**18 17 32.4**	**-0.2**
	1.4nm,0.8s						
ILAR	**Eielson Array**	**86.29**	**25**	P	**P**	**18 18 17.6**	**-1.0**
	1.0nm,0.9s,baz=266,slow=4.8,SNR=7.6						
KBZ	**Khabaz**	**93.88**	**314**	LR	LR	19 07 24.6	
	comp=Z,161nm,19.5s,baz=272,slow=40						

GUC 16 18:23:19.8±0.6, 34.88S×72.39W, h35km±3km, ML3.5, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.80**	**130**	⇑*i*P	Pn	18 23 37.1	+2.5
TALC				*i* S	Sn	18 23 49.0	+3.6
LNV	**Longovilo**	**1.23**	**41**	⇑*i*P	Pn	18 23 42.0	+1.6
LNV				*i* S	Sn	18 23 58.7	+2.9
COCH	**Cobquecura**	**1.29**	**195**	*e*P	Pn	18 23 42.8	+1.5
COCH				*e*S	Sn	18 24 00.3	+3.0
CLCH	**Cerro Calan**	**2.13**	**47**	*e*P	Pn	18 23 55.5	+2.5
CLCH				*i* S	Sn	18 24 23.4	+5.0
CLCH				AML	AML	18 24 36.4	
	comp=N,339nm,0.7s						
PEL	**Peldehue**	**2.24**	**40**	*e*P	Pn	18 23 57.4	+3.0
PEL				*e*S	Sn	18 24 25.6	+4.7
PEL				AML	AML	18 24 32.6	
	comp=N,409nm,0.7s						

*CSEM **16** 18:34:18.8, 40.82N×15.17E, h14km, ML1.1/3*
ROM 16 18:34:18.8±0.2, 40.82N×15.17E, h14km±2km, MI1.1/3, Error ellipse: s-maj=4.0km s-min=1.2km az=85.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCRV	**Calabrutti - M**	**0.04**	**184**	Pg	Pg	18 34 21.8	+0.2
MCRV				Sg	Sg	18 34 23.8	+0.3
	233nm,0.1s						
MCRV	**Calabrutti - M**	**0.04**	**184**	Pg	Pg	18 34 21.8	+0.2
MCRV				Sg	Sg	18 34 23.8	+0.3
	233nm,0.1s						
SNAL	**S. Angelo Dei**	**0.11**	**15**	Pg	Pg	18 34 22.2	0.0
SNAL				Sg	Sg	18 34 24.8	+0.3
	82nm,0.5s						
SNAL	**S. Angelo Dei**	**0.11**	**15**	Pg	Pg	18 34 22.2	0.0
SNAL				Sg	Sg	18 34 24.8	+0.3
	82nm,0.5s						
CAFE	**Carife**	**0.21**	**13**	Pg	Pg	18 34 23.9	+0.1
CAFE				Sg	Sb	18 34 28.2	-0.3
	29nm,0.4s						
CAFE	**Carife**	**0.21**	**13**	Pg	Pg	18 34 23.9	+0.1
CAFE				Sg	Sb	18 34 28.2	-0.3
	29nm,0.4s

DESF	**Desfina**	**0.42**	**89**	*e*Pg		**Pg**	18 34 46.3	**0.0**
DESF				*e*Sb		**Sg**	18 34 52.7	**+0.8**
PVO	**Paravola**	**0.43**	**300**	P		**Pg**	18 34 47.1	**+0.6**
PVO				S		**Sb**	18 34 53.8	**-0.8**
PVO	**Paravola**	**0.43**	**300**	P		**Pg**	18 34 47.1	**+0.6**
PVO				S		**Sb**	18 34 53.8	**-0.8**
DRO	**Drossia**	**0.50**	**207**	P		**Pg**	18 34 47.6	**-0.3**
DRO				S		**Sg**	18 34 55.2	**+0.7**
DRO	**Drossia**	**0.50**	**207**	P		**Pg**	18 34 47.6	**-0.3**
DRO				S		**Sg**	18 34 55.2	**+0.7**
EVR	**Evrytania**	**0.53**	**344**	*e*PB		**Pg**	18 34 48.7	**+0.2**
EVR				*e*SB		**Sg**	18 34 55.9	**+0.3**
EVR	**Evrytania**	**0.53**	**344**	P		**Pg**	18 34 48.5	**0.0**
EVR				*e*Sb		**Sg**	18 34 55.9	**+0.3**
EVR				S		**Sb**	18 34 56.5	**+0.9**
EVR	**Evrytania**	**0.53**	**344**	P		**Pg**	18 34 48.5	**0.0**
EVR				S		**Sg**	18 34 56.5	**+0.9**
GUR	**Goura**	**0.54**	**150**	*e*PB		**Pg**	18 34 49.0	**+0.4**
GUR	**Goura**	**0.54**	**150**	P		**Pg**	18 34 48.1	**-0.5**
GUR	**Goura**	**0.54**	**150**	*e*Pb		**Pg**	18 34 49.0	**+0.4**
GUR				S		**Sg**	18 34 55.7	**0.0**
GUR	**Goura**	**0.54**	**150**	P		**Pg**	18 34 48.1	**-0.5**
GUR				S		**Sg**	18 34 55.7	**0.0**
RLS	**Riolos of Patr**	**0.54**	**231**	*e*PB		**Pg**	18 34 49.0	**+0.3**
RLS				*e*SB		**Sg**	18 34 56.2	**+0.4**
RLS	**Riolos of Patr**	**0.54**	**231**	P		**Pg**	18 34 48.6	**-0.1**
RLS	**Riolos of Patr**	**0.54**	**231**	*e*Pb		**Pg**	18 34 49.0	**+0.3**
RLS				*e*Sb		**Sg**	18 34 56.2	**+0.4**
RLS				S		**Sb**	18 34 57.2	**-0.6**
RLS	**Riolos of Patr**	**0.54**	**231**	P		**Pg**	18 34 48.6	**-0.1**
RLS				S		**Sb**	18 34 57.2	**-0.6**
MAKR	**Makrakomi, Fth**	**0.62**	**10**	*e*PB		**Pg**	18 34 50.6	**+0.5**
MAKR	**Makrakomi, Fth**	**0.62**	**10**	*e*Pb		**Pg**	18 34 50.6	**+0.5**
MAKR				S		**Sg**	18 34 59.0	**+0.8**
MAKR	**Makrakomi, Fth**	**0.62**	**10**	P		**Pg**	18 34 50.4	**+0.3**
MAKR				S		**Sg**	18 34 59.0	**+0.8**
AXAR	**Agios Charalam**	**0.63**	**55**	*e*PB		**Pg**	18 34 50.1	**-0.3**
AXAR				*e*SB		**Sb**	18 35 00.2	**-0.2**
AXAR	**Agios Charalam**	**0.63**	**55**	P		**Pg**	18 34 49.9	**-0.5**
AXAR				S		**Sb**	18 34 59.7	**-0.7**
AXAR				*e*Sb		**Sb**	18 35 00.2	**-0.2**
AXAR	**Agios Charalam**	**0.63**	**55**	P		**Pg**	18 34 49.9	**-0.5**
AXAR				S		**Sb**	18 34 59.7	**-0.7**
THAL	**Thalero**	**0.64**	**125**	*e*PB		**Pb**	18 34 51.2	**-0.3**
THAL	**Thalero**	**0.64**	**125**	*e*Pb		**Pb**	18 34 51.2	**-0.3**
AGG	**Agios Georgios**	**0.67**	**23**	*e*PB		**Pg**	18 34 50.7	**-0.4**
AGG	**Agios Georgios**	**0.67**	**23**	P		**Pg**	18 34 50.5	**-0.6**
AGG				S		**Sg**	18 35 00.6	**+0.7**
AGG	**Agios Georgios**	**0.67**	**23**	P		**Pg**	18 34 50.5	**-0.6**
AGG				S		**Sg**	18 35 00.6	**+0.7**
PDO	**Prodromos**	**0.67**	**287**	P		**Pg**	18 34 51.6	**+0.5**
PDO				S		**Sb**	18 35 01.4	**-0.1**
PDO	**Prodromos**	**0.67**	**287**	P		**Pg**	18 34 51.6	**+0.5**
PDO				S		**Sb**	18 35 01.4	**-0.1**
LKR	**Lokris**	**0.82**	**72**	*e*PG		**Pg**	18 34 53.8	**-0.2**
LKR				*e*SB		**Sb**	18 35 06.2	**+0.3**
LKR	**Lokris**	**0.82**	**72**	P		**Pg**	18 34 52.7	**-1.3**
LKR	**Lokris**	**0.82**	**72**	*e*Pg		**Pg**	18 34 53.8	**-0.2**
LKR				S		**Sg**	18 35 04.8	**+0.1**
LKR				*e*Sb		**Sb**	18 35 06.2	**+0.3**
LKR	**Lokris**	**0.82**	**72**	P		**Pg**	18 34 52.7	**-1.3**
LKR				S		**Sg**	18 35 04.8	**+0.1**
LTK	**Loutraki**	**0.85**	**116**	*e*PG		**Pg**	18 34 54.5	**0.0**
LTK	**Loutraki**	**0.85**	**116**	*e*Pg		**Pg**	18 34 54.5	**0.0**
ATAL	**Atalanti**	**0.85**	**70**	P		**Pg**	18 34 53.2	**-1.3**
ATAL				S		**Sg**	18 35 05.7	**+0.1**
ATAL	**Atalanti**	**0.85**	**70**	P		**Pg**	18 34 53.2	**-1.3**
ATAL				S		**Sg**	18 35 05.7	**+0.1**
LOUT	**Loutraki**	**0.87**	**118**	*e*PB		**Pb**	18 34 55.4	**-0.1**
LOUT	**Loutraki**	**0.87**	**118**	*e*Pb		**Pb**	18 34 55.4	**-0.1**
AMT	**Artemida-Makis**	**0.90**	**195**	*e*PG		**Pg**	18 34 55.2	**-0.2**
AMT	**Artemida-Makis**	**0.90**	**195**	P		**Pg**	18 34 55.1	**-0.3**
AMT				S		**Sb**	18 35 08.5	**+0.4**
AMT	**Artemida-Makis**	**0.90**	**195**	P		**Pg**	18 34 55.1	**-0.3**
AMT				S		**Sb**	18 35 08.5	**+0.4**
KFL	**Anninata**	**1.00**	**253**	P		**Pg**	18 34 56.9	**-0.4**
KFL				S		**Sn**	18 35 12.5	**-0.2**
KFL	**Anninata**	**1.00**	**253**	P		**Pg**	18 34 56.9	**-0.4**
KFL				S		**Sn**	18 35 12.5	**-0.2**
VIL2	**Platees**	**1.02**	**100**	*e*PN		**Pn**	18 34 59.2	**+0.5**
SMIA	**Simia**	**1.06**	**63**	*e*PB		**Pg**	18 34 58.6	**+0.1**
SMIA				*e*SB		**Sn**	18 35 14.2	**0.0**
SMIA	**Simia**	**1.06**	**63**	*e*Pb		**Pg**	18 34 58.6	**+0.1**
SMIA				*e*Sb		**Sn**	18 35 14.2	**0.0**
VILL	**Villia**	**1.06**	**103**	P		**Pg**	18 34 57.6	**-0.9**
VILL	**Villia**	**1.06**	**103**	*e*Pn		**Pn**	18 34 59.2	**+0.1**
VILL	**Villia**	**1.06**	**103**	P		**Pg**	18 34 57.6	**-0.9**
EXG	**Exogi**	**1.07**	**274**	*e*PG		**Pg**	18 34 58.1	**-0.7**
EXG	**Exogi**	**1.07**	**274**	*e*Pg		**Pg**	18 34 58.1	**-0.7**
EXG	**Exogi**	**1.07**	**274**	P		**Pg**	18 34 58.1	**-0.7**
VLS	**Valsamata**	**1.13**	**259**	P		**Pg**	18 34 58.6	**-1.3**
VLS				S		**Sn**	18 35 16.8	**+0.8**
VLS	**Valsamata**	**1.13**	**259**	P		**Pg**	18 34 58.6	**-1.3**
VLS				S		**Sn**	18 35 16.8	**+0.8**
THL	**Klokotos Trika**	**1.16**	**1**	*e*PB		**Pn**	18 35 00.8	**+0.2**
THL	**Klokotos Trika**	**1.16**	**1**	P		**Pg**	18 35 00.1	**-0.3**
THL	**Klokotos Trika**	**1.16**	**1**	*e*Pb		**Pn**	18 35 00.8	**+0.2**
THL				S		**Sn**	18 35 17.1	**+0.4**
THL	**Klokotos Trika**	**1.16**	**1**	P		**Pg**	18 35 00.1	**-0.3**
THL				S		**Sn**	18 35 17.1	**+0.4**
ZKS	**Zakynthos**	**1.19**	**234**	P		**Pb**	18 34 59.9	**-1.0**
ZKS				S		**Sn**	18 35 18.1	**+0.7**
ZKS	**Zakynthos**	**1.19**	**234**	P		**Pb**	18 34 59.9	**-1.0**
ZKS				S		**Sn**	18 35 18.1	**+0.7**
ITM	**Ithomi**	**1.22**	**183**	*e*PB		**Pg**	18 35 02.4	**+0.8**
ITM	**Ithomi**	**1.22**	**183**	P		**Pb**	18 35 00.2	**-1.3**
ITM	**Ithomi**	**1.22**	**183**	*e*Pb		**Pg**	18 35 02.4	**+0.8**
ITM	**Ithomi**	**1.22**	**183**	P		**Pb**	18 35 00.2	**-1.3**
MRKA	**Markates**	**1.28**	**76**	*e*PB		**Pg**	18 35 03.2	**+0.5**
MRKA				*e*SB		**Sn**	18 35 21.1	**+1.4**
MRKA	**Markates**	**1.28**	**76**	*e*Pb		**Pg**	18 35 03.2	**+0.5**
MRKA				*e*Sb		**Sn**	18 35 21.1	**+1.4**
NEO	**Neokhori**	**1.31**	**46**	*e*PG		**Pb**	18 35 03.1	**0.0**
NEO	**Neokhori**	**1.31**	**46**	*e*Pg		**Pb**	18 35 03.1	**0.0**
XOR	**Xorichti**	**1.34**	**44**	*e*PG		**Pb**	18 35 03.5	**0.0**
XOR	**Xorichti**	**1.34**	**44**	P		**Pn**	18 35 01.9	**-1.2**
XOR	**Xorichti**	**1.34**	**44**	*e*Pg		**Pb**	18 35 03.5	**0.0**
XOR	**Xorichti**	**1.34**	**44**	P		**Pn**	18 35 01.9	**-1.2**
KRND	**KRANIDI**	**1.37**	**138**	*e*PB		**Pg**	18 35 05.1	**+0.8**
KRND	**KRANIDI**	**1.37**	**138**	*e*Pb		**Pg**	18 35 05.1	**+0.8**
PYL	**PYLOS**	**1.52**	**188**	*e*PG		**Pb**	18 35 06.8	**+0.3**
PYL	**PYLOS**	**1.52**	**188**	*e*Pg		**Pb**	18 35 06.8	**+0.3**

CSEM ***16*** *18:34:57.5, 40°.83N×15°.19E, h11km, ML1.3/4*
ROM 16 18:34:57.5±0.2, 40°.83N×15°.19E, h11km±2km, Ml1.3/4, Error ellipse: s-maj=6.4km s-min=2.4km az=88.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCRV	**Calabrutti - M**	**0.05**	**198**	Pg	Pg	18 34 59.8	**-0.1**
MCRV				Sg	Sg	18 35 02.1	**+0.5**
MCRV	**Calabrutti - M**	**0.05**	**198**	Pg	Pg	18 34 59.8	**-0.1**
MCRV				Sg	Sg	18 35 02.1	**+0.5**
SNAL	**S. Angelo Dei**	**0.09**	**9**	Pg	Pg	18 35 00.1	**-0.2**
SNAL				Sg	Sg	18 35 03.1	**+0.8**
	186nm,0.5s						
SNAL	**S. Angelo Dei**	**0.09**	**9**	Pg	Pg	18 35 00.1	**-0.2**
SNAL				Sg	Sg	18 35 03.1	**+0.8**
	186nm,0.5s						
CAFE	**Carife**	**0.20**	**10**	Pg	Pg	18 35 01.7	**-0.2**
CAFE				Sg	Sg	18 35 06.3	**+1.4**
	93nm,0.7s						
CAFE	**Carife**	**0.20**	**10**	Pg	Pg	18 35 01.7	**-0.2**
CAFE				Sg	Sg	18 35 06.3	**+1.4**
	93nm,0.7s						
MRLC	**Muro Lucano**	**0.24**	**109**	Pg	Pg	18 35 02.4	**-0.2**
MRLC				Sg	Sg	18 35 07.2	**+1.2**
	32nm,0.2s						
MRLC	**Muro Lucano**	**0.24**	**109**	Pg	Pg	18 35 02.4	**-0.2**
MRLC				Sg	Sg	18 35 07.2	**+1.2**
	32nm,0.2s						
SGO	**Sicignano**	**0.29**	**162**	Pg	Pb	18 35 04.9	**+0.1**
SGO				Sg	Sb	18 35 08.9	**-0.7**
	14nm,0.2s						
SGO	**Sicignano**	**0.29**	**162**	Pg	Pb	18 35 04.9	**+0.1**
SGO				Sg	Sb	18 35 08.9	**-0.7**
	14nm,0.2s						
SGTA	**Sant Agata di**	**0.33**	**24**	Pg	Pb	18 35 05.0	**-0.5**
SGTA	**Sant Agata di**	**0.33**	**24**	Pg	Pb	18 35 05.0	**-0.5**
CDRU	**Civita di Ruta**	**0.35**	**166**	Pg	Pg	18 35 04.4	**-0.3**
	14nm,0.2s						
CDRU	**Civita di Ruta**	**0.35**	**166**	Pg	Pg	18 35 04.4	**-0.3**
	14nm,0.2s						

CSEM ***16*** *18:38:52.7, 38°.21N×20°.64E, h5km, MD3.5*
ATH 16 18:38:52.7, 38°.21N×20°.64E, h5km, MD3.5/8, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.05**	**230**	*e*PG	Pg	18 38 54.3	**+0.2**
VLS	**Valsamata**	**0.05**	**230**	*e*Pg	Pg	18 38 54.3	**+0.2**
RLS	**Riolos of Patr**	**0.67**	**103**	*e*PB	Pg	18 39 05.1	**-0.5**
RLS	**Riolos of Patr**	**0.67**	**103**	*e*Pb	Pg	18 39 05.1	**-0.5**
DRO	**Drossia**	**0.88**	**107**	*e*PG	Pg	18 39 09.1	**-0.6**
DRO	**Drossia**	**0.88**	**107**	*e*Pg	Pg	18 39 09.1	**-0.6**
DSL	**Palaion Diasel**	**0.99**	**21**	*e*PB	Pg	18 39 11.5	**-0.3**
DSL	**Palaion Diasel**	**0.99**	**21**	*e*Pb	Pg	18 39 11.5	**-0.3**
EFP	**Efpalio**	**1.02**	**77**	*e*PG	Pg	18 39 11.8	**-0.5**
EFP	**Efpalio**	**1.02**	**77**	*e*Pg	Pg	18 39 11.8	**-0.5**
LAKA	**Lakka**	**1.05**	**88**	*e*PG	Pg	18 39 12.3	**-0.7**
LAKA				*e*SB	Sb	18 39 27.5	**-0.2**
LAKA	**Lakka**	**1.05**	**88**	*e*Pg	Pg	18 39 12.3	**-0.7**
LAKA				*e*Sb	Sb	18 39 27.5	**-0.2**
AMT	**Artemida-Makis**	**1.08**	**128**	*e*PN	Pb	18 39 14.1	**+0.1**
AMT	**Artemida-Makis**	**1.08**	**128**	*e*Pn	Pb	18 39 14.1	**+0.1**
SERG	**Sergoula**	**1.13**	**79**	*e*PG	Pg	18 39 13.7	**-0.8**
SERG	**Sergoula**	**1.13**	**79**	*e*Pg	Pg	18 39 13.7	**-0.8**
EVR	**Evrytania**	**1.16**	**52**	*e*PB	Pg	18 39 14.9	**-0.2**
EVR	**Evrytania**	**1.16**	**52**	*e*Pb	Pg	18 39 14.9	**-0.2**
KALE	**Kalithea**	**1.19**	**81**	*e*PN	Pg	18 39 14.5	**-1.2**
KALE	**Kalithea**	**1.19**	**81**	*e*Pn	Pg	18 39 14.5	**-1.2**
KLV	**Kalavryta, Ach**	**1.20**	**97**	*e*PN	Pg	18 39 14.6	**-1.3**
KLV				*e*SB	Sb	18 39 32.1	**+0.1**
KLV	**Kalavryta, Ach**	**1.20**	**97**	*e*Pn	Pg	18 39 14.6	**-1.3**
KLV				*e*Sb	Sb	18 39 32.1	**+0.1**
GUR	**Goura**	**1.37**	**101**	*e*PB	Pb	18 39 18.9	**-0.1**
GUR	**Goura**	**1.37**	**101**	*e*Pb	Pb	18 39 18.9	**-0.1**
MAKR	**Makrakomi, Fth**	**1.42**	**55**	*e*PB	Pb	18 39 19.7	**0.0**
MAKR	**Makrakomi, Fth**	**1.42**	**55**	*e*Pb	Pb	18 39 19.7	**0.0**
ITM	**Ithomi**	**1.45**	**135**	*e*PG	Pn	18 39 19.5	**-0.1**
ITM	**Ithomi**	**1.45**	**135**	*e*Pg	Pn	18 39 19.5	**-0.1**
VLX	**Vlachokerasia**	**1.61**	**121**	*e*PB	Pb	18 39 23.4	**+0.3**
VLX	**Vlachokerasia**	**1.61**	**121**	*e*Pb	Pb	18 39 23.4	**+0.3**
THL	**Klokotos Trika**	**1.73**	**38**	*e*PG	Pb	18 39 24.6	**-0.3**
THL	**Klokotos Trika**	**1.73**	**38**	*e*Pg	Pb	18 39 24.6	**-0.3**
LTK	**Loutraki**	**1.84**	**95**	*e*PN	Pb	18 39 27.4	**+0.4**
LTK	**Loutraki**	**1.84**	**95**	*e*Pn	Pb	18 39 27.4	**+0.4**
VIL2	**Platees**	**2.07**	**89**	*e*PN	Pb	18 39 30.8	**0.0**
VILL	**Villia**	**2.11**	**90**	*e*Pn	Pb	18 39 30.8	**-0.7**

CSEM ***16*** *18:39:42.1, 45°.48N×14°.67E, h0km, ML0.8*
LJU 16 18:39:42.1, 45°.48N×14°.67E, h15km, ML0.8, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBRS	**Gornja Briga**	**0.11**	**63**	*i* Pg	Pb	18 39 45.8	**-0.2**
GBRS				*i* Sg	Sg	18 39 47.7	**-0.1**
	16nm,0.1s						
KNDS	**Knezji Dol**	**0.21**	**283**	*i* Sg	Sg	18 39 50.8	**+0.4**
KNDS	**Knezji Dol**	**0.21**	**283**	*i* Sg	Sg	18 39 50.8	**+0.4**
VISS	**Visnje**	**0.34**	**20**	*i* Sg	Sg	18 39 54.5	**+0.5**
	comp=Z,1.0nm,0.1s						
VISS	**Visnje**	**0.34**	**20**	*i* Sg	Sg	18 39 54.5	**+0.5**
	comp=Z,1.0nm,0.1s						
SKDS	**Skadanscina**	**0.47**	**278**	*i* Pg	Pg	18 39 51.4	**-0.1**
SKDS				*i* Sg	Sb	18 39 58.6	**-0.4**
	comp=Z,2.0nm,0.1s						
SKDS	**Skadanscina**	**0.47**	**278**	*i* Pg	Pg	18 39 51.4	**-0.1**
SKDS				*i* Sg	Sb	18 39 58.6	**-0.3**
	comp=Z,2.0nm,0.1s						

ISCJB ***16*** *18:47:23.6±0.7, 25°.14S±0°.03×179°.76E±0°.07, h509km±8km, mb4.4/39, Error ellipse: s-maj=9.6km s-min=5.4km az=178.6*
BJI ***16*** *18:47:23.1, 25°.20S×179°.80E, h507km, mb4.5/16, mB4.8/10*
IDC ***16*** *18:47:23.8±1.2, 25°.11S×179°.73E, h502km±12km, mb4.0/17, mb1 4.0/19, mb1mx3.9/25, mbtmp4.8/19, Error ellipse: s-maj=13.0km s-min=11.3km az=168.0*
NEIC ***16*** *18:47:24.1±0.8, 25°.21S×179°.81E, h509km±8km, mb4.5/25, Error ellipse: s-maj=9.9km s-min=9.3km az=113.0*
ISC 16 18:47:24.9±0.5, 25°.27S±0°.05×179°.83E±0°.07, h516km±4km, h517km:pP-P, n159, ɛ1935/184, mb4.5/39, 12C-3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.44**	**154**	P	**P**	**18 48 47.7**	**-0.1**
	204nm,0.3s,baz=100,slow=9.1,SNR=23						
RAO				S	**S**	18 49 50.2	**-5.5**
	49nm,0.3s,baz=342,slow=20,SNR=2.1						
RAO	**Raoul Island**	**4.44**	**154**	*e*P	**P**	18 48 48.2	**+0.3**
RAO				*e*S	S	18 49 47.4	-8.3
MSVF	**Nonsavu**	**7.68**	**347**	*e*P	**P**	18 49 16.3	**-2.4**
HAZ	**Te Kaha**	**12.57**	**187**	PN	**P**	18 50 10.7	**+1.6**
HAZ				*e*SN	**S**	18 52 25.8	**+1.3**
DZM	**Mont Dzumac**	**12.68**	**282**	P	**P**	18 50 11.5	**+0.8**
	1.5nm,0.3s,baz=90,slow=24,SNR=22						
URZ	**Urewera**	**13.15**	**189**	P	**P**	18 50 12.5	**-2.8**
	0.7nm,0.3s,baz=34,slow=7.3,SNR=6.2						
URZ				S	**S**	18 52 35.8	**0.0**
	0.7nm,0.3s,baz=45,slow=17,SNR=5.3						
URZ	**Urewera**	**13.15**	**189**	*e*PN	**P**	18 50 13.8	**-1.5**
URZ				*e*SN	**S**	18 52 36.1	**+0.3**
URZ	**Urewera**	**13.15**	**189**	*e*P	**P**	18 50 13.8	**-2.5**
URZ				*e*S	**S**	18 52 35.2	**-0.6**
MWZ	**Matawai**	**13.17**	**188**	*e*PN	**P**	18 50 15.4	**-0.1**
MWZ				*e*SN	**S**	18 52 37.8	**+1.6**
BKZ	**Black Stump Fm**	**14.14**	**191**	*e*P	**P**	18 50 23.5	**-2.2**
BKZ				*e*S	**S**	18 52 52.6	**-2.2**
BFZ	**Birch Farm**	**15.66**	**190**	*e*PN	**P**	18 50 41.1	**-0.3**
BFZ				*e*SN	**S**	18 53 22.0	**-1.3**
MRZ	**Mangatainoka R**	**15.75**	**192**	*e*PN	**P**	18 50 39.1	**-3.3**
MRZ				*e*SN	**S**	18 53 22.6	**-2.5**
NNZ	**Nelson**	**16.79**	**197**	*e*PN	**P**	18 50 51.7	**-1.1**
NNZ				*e*SN	**S**	18 53 40.8	**-2.3**
THZ	**Tophouse**	**17.42**	**198**	*e*PN	**P**	18 50 58.7	**-0.3**
THZ				*e*SN	**S**	18 53 52.3	**-1.5**
DSZ	**Denniston Nort**	**17.73**	**200**	*e*PN	**P**	18 51 02.6	**+0.9**
OXZ	**Oxford**	**19.11**	**198**	*e*PN	**P**	18 51 13.7	**-0.6**
WVZ	**Waitaha Valley**	**19.27**	**201**	*e*PN	**P**	18 51 16.6	**+1.0**
RPZ	**Rata Peaks**	**19.75**	**199**	P	**P**	18 51 20.2	**+0.1**
	0.6nm,0.3s,baz=349,slow=5.2,SNR=4.5						
EIDS	**Eidsvold**	**25.97**	**264**	P	**P**	18 52 17.4	**+1.3**
	baz=26,SNR=3.5						
EIDS	**Eidsvold**	**25.97**	**264**	*e*P	**P**	18 52 16.9	**+0.8**
	14nm,1.0s						
MGCD	**Mangrove Creek**	**26.22**	**246**	P	**P**	18 52 21.1	**+2.9**
	baz=26,SNR=7.6						
RMQ	**Roma**	**27.95**	**261**	P	**P**	18 52 35.9	**+2.4**
	baz=28,SNR=5.7						
MILA	**Mila**	**28.63**	**238**	P	**P**	18 52 41.9	**+2.5**
	baz=28,SNR=7.6						
CMSA	**Cobar Meteorol**	**30.59**	**250**	P	**P**	18 52 57.6	**+1.3**
	baz=30,SNR=23						
CTA	**Charters Tower**	**31.36**	**273**	P	**P**	18 53 03.1	**0.0**
	26nm,0.3s,baz=95,slow=11,SNR=72						
CTAO	**Charters Tower**	**31.36**	**273**	*e*P	**P**	18 53 02.8	**-0.3**
	33nm,0.8s						
TOO	**Toolangi**	**31.59**	**239**	P	**P**	18 53 06.5	**+1.6**
	baz=31,SNR=7.4						
TAU	**Tasmania Unive**	**31.90**	**228**	P	**P**	18 53 09.4	**+2.1**
	19nm,0.8s						
QLP	**Quilpie**	**31.98**	**260**	P	**P**	18 53 08.4	**+0.1**
	baz=32,SNR=55						
MTSU	**Mount Surprise**	**33.68**	**275**	P	**P**	18 53 23.2	**+0.3**
	baz=33,SNR=50						
STKA	**Stephens Creek**	**34.09**	**250**	P	**P**	18 53 25.9	**-0.2**
	7.2nm,0.5s,baz=95,slow=9.3,SNR=54						
STKA	**Stephens Creek**	**34.09**	**250**	P	**P**	18 53 26.6	**+0.4**
	baz=34,SNR=45						
STKA	**Stephens Creek**	**34.09**	**250**	*e*P	**P**	18 53 26.1	**0.0**
	1.8nm,0.5s						
STKA				*e*pP	**pP**	18 54 54.5	**-0.6**
HTT	**Hallett**	**36.39**	**247**	P	**P**	18 53 45.7	**+0.3**
	baz=36,SNR=13						
QIS	**Mount Isa**	**37.25**	**269**	P	**P**	18 53 53.0	**+0.5**
	baz=37,SNR=5.0						
QIS	**Mount Isa**	**37.25**	**269**	P	**P**	18 53 53.0	**+0.5**
	baz=33,SNR=5.0						
BBOO	**Buckleboo**	**38.78**	**248**	P	**P**	18 54 05.2	**+0.3**
	baz=38,SNR=12						
BBOO	**Buckleboo**	**38.78**	**248**	*e*P	**P**	18 54 05.0	**+0.1**
	29nm,0.6s						
AS31	**Alice Springs**	**41.68**	**262**	*e*P	**P**	18 54 28.4	**+0.1**
ASAR	**Alice Springs**	**41.68**	**262**	P	**P**	18 54 27.9	**-0.3**
	7.5nm,0.4s,baz=96,slow=7.1,SNR=82						
ASAR				S	**S**	19 00 07.5	**-0.2**
	0.9nm,0.7s,baz=97,slow=15,SNR=5.7						
WRAB	**Tennant Creek**	**42.17**	**268**	*e*P	**P**	18 54 31.4	**-0.8**
	22nm,0.8s						
WRA	**Warramunga Arr**	**42.18**	**268**	P	**P**	18 54 31.2	**-1.0**
	16nm,0.3s,baz=100,slow=7.0,SNR=78						
WRA				ScP	**ScP**	18 59 18.9	**+3.0**
	1.8nm,1.0s,baz=119,slow=4.2,SNR=4.7						
WRA				S	**S**	19 00 12.2	**-2.6**
	1.6nm,1.0s,baz=100,slow=14,SNR=4.0						
JAY	**Jayapura**	**43.93**	**295**	P	**P**	18 54 44.4	**-1.6**
	4.6nm,0.3s,baz=203,slow=5.9,SNR=9.8						
FORT	**Forrest**	**45.70**	**251**	P	**P**	18 54 59.4	**0.0**
	baz=45,SNR=15						
FORT	**Forrest**	**45.70**	**251**	*e*P	**P**	18 54 58.6	**-0.8**
	91nm,0.7s						
KDU	**Kakadu**	**46.28**	**277**	P	**P**	18 55 03.2	**-0.7**
	baz=46,SNR=7.3						
KNRA	**Kununurra**	**48.55**	**271**	P	**P**	18 55 20.6	**-0.4**
	baz=48,SNR=24						
FITZ	**Fitzroy Crossi**	**50.59**	**267**	P	**P**	18 55 37.1	**+1.1**
	baz=50,SNR=7.4						
FITZ	**Fitzroy Crossi**	**50.59**	**267**	*e*P	**P**	18 55 36.8	**+0.7**
	14nm,0.6s						
FAKI	**Fak Fak**	**50.85**	**288**	P	**P**	18 55 38.0	**0.0**
	baz=50,SNR=3.8						
SIJI	**Sorong**	**52.74**	**290**	P	**P**	18 55 50.4	**-1.3**
	39nm,0.6s,baz=121,slow=6.6,SNR=29						
SWI	**Sorong**	**52.75**	**290**	P	**P**	18 55 51.3	**-0.4**
	baz=52,SNR=6.5						
KLBR	**Kellerberrin**	**54.33**	**248**	P	**P**	18 56 03.1	**+0.4**
	baz=54,SNR=8.3						
MEEK	**Meekatharra**	**54.58**	**254**	P	**P**	18 56 04.4	**-0.2**
	baz=54,SNR=3.4						
SOEI	**Soe**	**54.82**	**276**	P	**P**	18 56 08.2	**+1.6**
	baz=54,SNR=3.0						
MBWA	**Marble Bar**	**55.00**	**261**	*e*P	**P**	18 56 06.2	**-1.4**
	14nm,1.0s						
BATI	**Baumata**	**55.18**	**275**	P	**P**	18 56 06.8	**-2.1**
	24nm,0.6s,baz=90,slow=2.0						
BLDU	**Ballidu**	**55.39**	**249**	P	**P**	18 56 10.3	**+0.2**
	baz=55,SNR=13						
MORW	**Morawa**	**56.27**	**251**	P	**P**	18 56 16.5	**+0.2**
	baz=56,SNR=7.2						
TNTI	**Ternate**	**56.92**	**289**	*e*P	**P**	18 56 19.6	**-1.4**
	26nm,0.9s						
CASY	**Casey**	**58.82**	**206

KURBB	**Kurchatov Arra**	**116.12**	**316**	PKP		**PKPdf**	19 05 07.7	**-1.1**
	comp=Z,1.5nm,0.7s,baz=100,slow=1.9,SNR=7.3							
KKAR	**Karatay Array**	**120.56**	**307**	*e*PKPdf		**PKPdf**	19 05 15.2	**-2.5**
BVAR	**Borovoye Array**	**121.36**	**318**	PKP		**PKPdf**	19 05 18.1	**-0.8**
	comp=Z,2.0nm,0.4s,baz=117,slow=2.2,SNR=14							
PKME	**Peaks-Kenny Pk**	**121.90**	**51**	*e*PKPdf		**PKPdf**	19 05 22.1	**+2.0**
BBSR	**BB Station**	**123.76**	**67**	*e*PKPdf		**PKPdf**	19 05 27.0	**+3.0**
SPITS	**Spitsbergen Ar**	**126.47**	**356**	PKP		**PKPdf**	19 05 27.9	**0.0**
	comp=Z,4.8nm,0.9s,baz=322,slow=13,SNR=3.2							
ARU	**Arti**	**127.89**	**323**	PKP		**PKPdf**	19 05 30.8	**-0.4**
	baz=117,slow=4.5							
AKTO	**Aktyubinsk**	**129.17**	**315**	PKP		**PKPdf**	19 05 33.7	**-0.2**
	comp=Z,1.1nm,0.6s,baz=112,slow=4.4,SNR=5.7							
GEYT	**Alibeck**	**129.51**	**299**	PKP		**PKPdf**	19 05 35.1	**+0.2**
	comp=Z,0.9nm,0.4s,baz=64,slow=3.4,SNR=3.9							
LSZ	**Lusaka**	**131.13**	**217**	PKP		**PKPdf**	19 05 39.2	**+0.4**
	comp=Z,0.9nm,0.5s,baz=34,slow=3.6,SNR=3.4							
ARCES	**ARCESS Array B**	**133.19**	**348**	PKP		**PKPdf**	19 05 40.2	**-0.7**
	comp=Z,1.9nm,0.6s,baz=74,slow=1.4,SNR=14							
ARCES				SKPbc		**SKPbc**	19 08 21.3	**+0.8**
	comp=Z,2.5nm,0.7s,baz=20,slow=3.9,SNR=6.5							
FINES	**FINESS Array B**	**139.69**	**341**	PKhKP		PKPpre	19 05 43.9	
	comp=Z,1.1nm,0.5s,baz=68,slow=5.1,SNR=14							
FINES				SKPbc		**SKPbc**	19 08 40.8	**+0.8**
	comp=Z,3.7nm,0.9s,baz=66,slow=3.5,SNR=5.9							
NB2	**NORSAR Subarra**	**143.41**	**351**	PKP		PKPab	19 05 56.9	-1.1
	comp=Z,5.4nm,0.8s,baz=19,slow=3.7							
NOA	**NORSAR Array B**	**143.41**	**351**	PKP		PKPab	19 05 57.2	-0.8
	comp=Z,7.8nm,0.8s,baz=15,slow=4.9,SNR=17							
HFS	**Hagfors**	**143.85**	**348**	PKP		**PKPbc**	19 05 58.0	-1.6
	comp=Z,20nm,0.6s,baz=64,slow=3.8,SNR=66							
NACGM	**Naroch**	**144.36**	**333**	*e*P		PKPbc	19 05 59.0	-2.4
AKASG	**Malin Array Be**	**146.03**	**326**	PKPbc		**PKPbc**	19 06 05.6	**-0.9**
	comp=Z,6.0nm,0.5s,baz=45,slow=4.4,SNR=14							
KIEV	**Kiev**	**146.04**	**326**	*e*PKPdf		**PKPdf**	19 06 05.0	**+0.5**
SUW	**Suwalki**	**146.44**	**335**	*e*PKP		**PKPbc**	19 06 06.6	**-0.9**
ASF	**Jabal al Asfar**	**146.90**	**291**	PKPbc		**PKPbc**	19 06 09.8	**+0.2**
	comp=Z,6.9nm,0.8s,baz=113,slow=3.0,SNR=11							
MMAI	**Mount Meron Ar**	**148.10**	**292**	PKPbc		**PKPbc**	19 06 13.6	**+0.9**
	comp=Z,8.7nm,0.4s,baz=76,slow=7.0,SNR=63							
BR131	**Keskin Array S**	**148.26**	**305**	*e*PKPbc		**PKPbc**	19 06 12.0	**-0.9**
BRTR	**Keskin Array B**	**148.26**	**305**	PKPbc		**PKPbc**	19 06 12.6	**-0.4**
	comp=Z,3.2nm,0.6s,baz=139,slow=3.3,SNR=18							
EIL	**Elat**	**148.61**	**286**	PKPbc		**PKPbc**	19 06 14.8	**+0.9**
	comp=Z,5.9nm,0.7s,baz=90,slow=2.6,SNR=9.9							
TLCR		**149.35**	**318**	⇑*i*P		**PKPbc**	19 06 15.3	**+0.1**
CSS	**Prodhromos**	**149.58**	**296**	*e*PKPbc		**PKPbc**	19 06 16.0	**-0.1**
CFR	**Carcaliu**	**149.76**	**318**	⇑*i*P		**PKPbc**	19 06 16.4	**+0.2**
KWP	**Kalwaria Pacla**	**149.88**	**330**	*e*PKP		**PKPbc**	19 06 16.6	**+0.3**
EKA	**Eskdalemuir Ar**	**149.89**	**3**	PKPbc		**PKPbc**	19 06 15.4	**-0.8**
	comp=Z,0.7nm,0.4s,baz=4.5,slow=4.4,SNR=6.3							
BUR08	**Bucovina Ar. S**	**150.00**	**325**	*e*PKPbc		**PKPbc**	19 06 17.0	**+0.2**
HARR	**Harsova**	**150.14**	**318**	⇑*i*P		**PKPbc**	19 06 17.7	**+0.6**
VRI	**Vrincioaia**	**150.22**	**320**	⇑*i*P		**PKPbc**	19 06 17.8	**+0.5**
PLOR	**Plostina**	**150.27**	**321**	⇓*i*P		**PKPbc**	19 06 17.6	**+0.2**
MSAB	**Monastry St. A**	**150.51**	**317**	⇓*i*P		**PKPbc**	19 06 18.5	**+0.5**
OJC	**Ojcow**	**150.70**	**333**	*e*PKP		**PKPbc**	19 06 18.2	**0.0**
OJC	**Ojcow**	**150.70**	**333**	*e*PKPbc		**PKPbc**	19 06 17.9	**-0.3**
MLR	**Muntele Rosu**	**150.88**	**320**	⇑*i*P		**PKPbc**	19 06 18.8	**-0.2**
DOPR	**Dopca**	**150.92**	**322**	⇑*i*P		**PKPbc**	19 06 19.5	**+0.6**
NIE	**Niedzica**	**151.10**	**332**	*e*PKP		**PKPbc**	19 06 19.7	**+0.5**
VOIR		**151.43**	**321**	⇓*i*P		**PKPbc**	19 06 19.9	**-0.2**
KSP	**Ksiaz**	**151.50**	**338**	*e*PKP		**PKPbc**	19 06 20.4	**+0.4**
DRGR		**151.84**	**326**	⇑*i*P		**PKPbc**	19 06 21.1	**+0.1**
UPC	**Upice**	**151.88**	**338**	⇑*e*PKP		**PKPbc**	19 06 21.0	**+0.1**
UPC				*e*PKPAB		**PKPab**	19 06 32.7	**+0.2**
DPC	**Dobruska-Polom**	**151.91**	**337**	⇑*e*PKP		**PKPbc**	19 06 21.2	**+0.2**
DPC				*e*PKPAB		**PKPab**	19 06 32.9	**+0.2**
CLL	**Collm**	**152.11**	**342**	*e*PKPbc		**PKPbc**	19 06 20.4	**-1.0**
CLL	**Collm**	**152.11**	**342**	*i* PKPbc		**PKPbc**	19 06 20.9	**-0.4**
	comp=Z,11nm,0.7s							
CLL				⇑*i*PKPab		**PKPab**	19 06 32.9	**-0.5**
	comp=Z,6.0nm,0.9s							
BRG	**Berggiesshubel**	**152.23**	**341**	*i* PKP		**PKPbc**	19 06 21.5	**-0.2**
	comp=Z,6.8nm,0.6s							
BRG				*e*			19 06 33.6	
	comp=Z,5.4nm,0.8s							
KHC	**Kasperske Hory**	**153.87**	**339**	*e*PKPAB		**PKPab**	19 06 41.0	**0.0**
GERES	**GERESS Array B**	**154.08**	**339**	PKP		**PKPdf**	19 06 16.6	**-0.6**
	comp=Z,0.5nm,0.7s,baz=240,slow=3.3,SNR=3.2							
GERES				PKPbc		**PKPbc**	19 06 25.1	**-0.7**
	comp=Z,0.6nm,0.6s,baz=33,slow=3.2,SNR=5.4							
GERES				PKPab		**PKPab**	19 06 40.9	**-1.2**
	comp=Z,1.0nm,0.7s,baz=35,slow=4.9,SNR=6.7							
PKSM	**Moragy**	**154.25**	**329**	⇑*i*P		**PKPbc**	19 06 25.4	**-0.7**
DIVS	**Divibare**	**155.07**	**324**	⇑*i*P		**PKPab**	19 06 46.4	**0.0**
DAVOX	**Davos/Dischmat**	**157.09**	**342**	PKPab		**PKPab**	19 06 54.8	**-0.3**
	comp=Z,3.5nm,0.6s,baz=348,slow=4.6,SNR=6.1							
ESDC	**Sonseca Array**	**165.29**	**12**	PKPab		**PKPab**	19 07 29.9	**-1.2**
	comp=Z,0.1nm,0.3s,baz=346,slow=3.4,SNR=4.1							
TORD	**Torodi Ar. Bea**	**167.81**	**189**	PKPab		**PKPab**	19 07 43.3	**+0.7**
	comp=Z,0.7nm,0.5s,baz=182,slow=1.8,SNR=4.9							

*ISCJB **16** 18:47:35.4±0.5, 9.55N±0.02×126.37E±0.04, h65km±4km, mb4.4/46, Error ellipse: s-maj=6.8km s-min=3.5km az=159.0*
*MAN **16** 18:47:35, 9.53N×126.36E, h42km, mb5.3, ML4.3, MS4.6*
MAN INTENSITY IV - BRGY HONRADO SOCORRO GENERAL LUNA & PILAR SURIGAO DELNORTE; INTENSITY III -CORTEZ SURIGAO DEL SUR.
*IDC **16** 18:47:37.7±2.5, 9.52N×126.20E, h73km±23km, mb4.0/25, mb1 4.1/27, mb1mx4.0/35, mbtmp4.3/27, MS3.3/11, Ms1 3.3/11, ms1mx3.1/52, Error ellipse: s-maj=18.7km s-min=9.9km az=75.0*
*NEIC **16** 18:47:38.6±0.9, 9.53N×126.29E, h82km±8km, mb4.6/25, Error ellipse: s-maj=8.5km s-min=5.2km az=73.0*

ISC 16 18:47:37.1±0.9, 9.55N±0.04×126.33E±0.06, h66km±8km, n137, σ1§14/139, mb4.5/47, 3C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.90**	**230**	*e*P		**Pn**		**18 47 52.2**	**-2.0**
BUTP				*e*S		**Sn**		**18 48 05.4**	**-1.4**
BIPH	**Bislig**	**1.36**	**179**	⇑*i*P		**Pn**		**18 47 57.7**	**-2.3**
BIPH				*i* S		**Sn**		**18 48 14.9**	**-2.3**
MSLP	**Maasin**	**1.56**	**292**	*e*P		**Pn**		**18 48 02.3**	**-0.4**
MSLP				*e*S		**Sn**		**18 48 22.3**	**+0.3**
CGP	**Cagayan de Oro**	**1.94**	**236**	⇑*i*P		**Pn**		**18 48 06.8**	**-1.2**
CGP				*i* S		**Sn**		**18 48 30.4**	**-0.9**
BUKP	**Musuan**	**2.08**	**217**	*e*P		**Pn**		**18 48 10.1**	**+0.3**
BUKP				*e*S		**Sn**		**18 48 36.7**	**+2.0**
PLP	**Palo**	**2.08**	**321**	⇓*e*P		**Pn**		**18 48 08.6**	**-1.2**
PLP				*e*S		**Sn**		**18 48 32.7**	**-2.1**
OCLP	**Ormoc**	**2.25**	**312**	*e*P		**Pn**		**18 48 12.6**	**+0.4**
DAV	**Davao City (W)**	**2.57**	**197**	*e*Pn		Pn		18 48 17.5	+1.1
MATI	**Mati**	**2.59**	**182**	*e*P		**Pn**		**18 48 15.1**	**-1.6**
DCPH	**Dipolog City**	**3.09**	**252**	⇑*e*P		**Pn**		**18 48 23.8**	**+0.3**
DCPH				*e*S		**Sn**		**18 48 59.1**	**-0.2**
CTBH	**Cotabato--PC H**	**3.10**	**222**	⇓*i*P		**Pn**		**18 48 23.6**	**0.0**
PAGZ	**Pagadian**	**3.37**	**240**	*e*P		**Pn**		**18 48 28.1**	**+0.8**
GSPH	**General Santos**	**3.70**	**202**	*e*P		**Pn**		**18 48 32.2**	**+0.3**
GUIM	**Jordan**	**3.83**	**287**	*e*P		**Pn**		**18 48 33.7**	**0.0**
IPIL	**Ipil**	**4.10**	**245**	⇓*i*P		**Pn**		**18 48 37.7**	**+0.3**
PVCP	**Virac**	**4.55**	**332**	⇓*e*P		**Pn**		**18 48 42.5**	**-1.0**
TGY	**Tagaytay City**	**6.95**	**311**	P		**Pn**		**18 49 16.9**	**+0.5**
	81nm,0.3s,baz=32,slow=2.3,SNR=9.7								
TGY				LR		LR		18 52 26.7	
	comp=Z,17nm,18.4s,baz=16,slow=42								
TNTI	**Ternate**	**8.78**	**173**	*e*Pn		**Pn**		**18 49 42.2**	**+0.8**
TNTI				*e*Sn		**Sn**		**18 51 18.7**	**-0.2**
MYLDM	**Lahad Datu**	**8.89**	**241**	*e*Pn		Pn		18 49 45.5	+2.5
KKM	**Kota Kinabalu**	**10.61**	**252**	*e*Pn		**Pn**		**18 50 08.1**	**+1.6**
SIJI	**Sorong**	**11.46**	**154**	P		**Pn**		**18 50 18.5**	**+0.4**
	2.2nm,0.3s,baz=167,slow=24,SNR=8.2								
SIJI				S		Sn		18 52 16.2	-8.3
	0.9nm,0.3s,baz=159,slow=23,SNR=7.3								
FAKI	**Fak Fak**	**13.72**	**154**	P		**P**		**18 50 56.7**	**+1.5**
	baz=14,SNR=4.9								
TPUB	**Ta-pu**	**14.72**	**339**	*e*Pn		Pn		18 51 03.6	+1.7
SBUM	**Sibu**	**15.69**	**244**	*e*Pn		**P**		**18 51 15.6**	**-1.6**
	24nm,0.9s								
YHNB	**Yeheng**	**15.76**	**343**	Pn		**Pn**		**18 51 14.5**	**-0.7**
KAPI	**Kappang**	**15.88**	**205**	LR		LR		18 57 43.5	
	comp=Z,71nm,20.5s,baz=25,slow=38								
KSM	**Kuching**	**17.84**	**244**	P		**P**		**18 51 42.4**	**+1.5**
	20nm,1.4s								
QIZ	**Qiongzhong**	**18.53**	**302**	P		**Pn**		**18 51 50.9**	**+1.5**
QIZ				S		**Sn**		**18 55 17.1**	**+1.0**
QIZ				LZ					
	180nm,25.6s								
GUMO	**Guam**	**18.60**	**76**	LR		LR		18 57 16.4	
	comp=Z,152nm,21.5s,baz=243,slow=31								

JAY	**Jayapura**	**18.68**	**129**	P		**Pn**	**18 51 51.4**	**+0.2**
	0.4nm,0.3s,baz=309,slow=11,SNR=3.6							
SOEI	**Soe**	**19.29**	**186**	P		**Pn**	**18 51 58.7**	**+0.2**
	baz=19,SNR=14							
BATI	**Baumata**	**19.80**	**188**	P		**Pn**	**18 52 04.2**	**-0.3**
	9.3nm,0.3s,baz=39,slow=1.7,SNR=16							
BATI				LR		LR	19 01 42.2	
	comp=Z,257nm,18.2s,baz=200,slow=43							
MTN	**Manton Dam**	**22.75**	**168**	P		**P**	**18 52 33.3**	**-0.8**
	baz=23,SNR=24							
KDU	**Kakadu**	**22.92**	**164**	P		**P**	**18 52 34.7**	**-1.1**
	baz=23,SNR=13							
NJ2	**Nanjing**	**23.44**	**344**	*e*P		**P**	**18 52 40.8**	**+0.1**
NJ2				PMZ				
	20nm,1.0s							
MYKOM	**Kota Tinggi**	**23.64**	**252**	*e*P		**P**	**18 52 44.4**	**+1.6**
	15nm,0.8s							
JNU	**Nakatsue**	**23.83**	**9**	LR		LR	19 02 05.6	
	comp=Z,16nm,21.0s,baz=152,slow=36							
LEM	**Lembang**	**24.74**	**230**	LR		LR	19 04 04.0	
	comp=Z,100nm,18.1s,baz=186,slow=40							
KNRA	**Kununurra**	**25.18**	**174**	P		**P**	**18 52 56.5**	**-0.1**
	baz=25,SNR=77							
KULM	**Kulim**	**25.80**	**262**	P		**P**	**18 52 59.9**	**-2.5**
	24nm,1.4s							
KMI	**Kunming**	**27.25**	**308**	P		**P**	**18 53 19.3**	**+3.7**
KMI				pP		pP	18 53 38.8	+7.4
KMI				sP		sP	18 53 49.5	+10
KMI				S		**S**	**18 57 48.6**	**-1.9**
KMI				PMZ				
	6.0nm,1.4s							
KMI				LN				
	290nm,10.8s							
KMI				LE				
	220nm,12.0s							
KMI				LZ				
	170nm,19.6s							
FITZ	**Fitzroy Crossi**	**27.48**	**181**	P		**P**	**18 53 17.3**	**0.0**
	baz=28,SNR=32							
FITZ	**Fitzroy Crossi**	**27.48**	**181**	*e*P		**P**	**18 53 17.3**	**0.0**
	26nm,1.0s							
KSAR	**Wonju Array Be**	**27.81**	**3**	P		**P**	**18 53 20.2**	**+0.2**
KSRS	**Korea Array**	**27.82**	**3**	P		**P**	**18 53 20.2**	**+0.1**
	1.6nm,0.7s,baz=178,slow=11,SNR=8.1							
KSRS				LR		LR	19 07 22.8	
	comp=Z,25nm,18.3s,baz=194,slow=43							
CM31	**Chiang Mai Arr**	**27.97**	**291**	P		**P**	**18 53 19.9**	**-1.9**
CMAR	**Chiang Mai Arr**	**27.97**	**291**	P		**P**	**18 53 21.3**	**-0.6**
	1.5nm,0.8s,baz=96,slow=7.1,SNR=11							
CMAR				PcP		**PcP**	**18 56 35.4**	**-0.5**
	0.5nm,0.7s,baz=88,slow=1.4,SNR=4.6							
CMAR				LR		LR	19 04 26.5	
	comp=Z,82nm,18.6s,baz=90,slow=36							
PMG	**Port Moresby**	**28.01**	**132**	P		**P**	**18 53 20.0**	**-2.2**
	25nm,1.0s,baz=254,slow=3.7,SNR=3.6							
MJAR	**Matsushiro Arr**	**28.96**	**20**	P		**P**	**18 53 29.3**	**-1.1**
	0.7nm,0.6s,baz=201,slow=9.8,SNR=5.2							
MJAR				LR		LR	19 05 12.2	
	comp=Z,40nm,18.6s,baz=230,slow=36							
CD2	**Chengdu**	**29.88**	**319**	P		**P**	**18 53 38.8**	**+0.1**
CD2				pP		pP	18 53 59.4	+4.8
CD2				sP		sP	18 54 10.3	+8.0
CD2				sS		sS	18 59 07.1	+8.6
CD2				PMZ				
	10.0nm,0.5s							
CD2				PMZ				
	180nm,4.5s							
CD2				LN				
	540nm,5.7s							
CD2				LZ				
	360nm,5.1s							
WRAB	**Tennant Creek**	**30.34**	**165**	*e*P		**P**	**18 53 40.9**	**-1.9**
	7.0nm,0.8s							
WRA	**Warramunga Arr**	**30.35**	**165**	P		**P**	**18 53 41.3**	**-1.5**
	0.9nm,0.3s,baz=343,slow=8.5,SNR=35							
WRA				LR		LR	19 08 55.4	
	comp=Z,54nm,19.6s,baz=100,slow=42							
MBWA	**Marble Bar**	**31.20**	**192**	*e*P		**P**	**18 53 49.5**	**-0.8**
	16nm,1.3s							
LZH	**Lanzhou**	**33.40**	**326**	*e*P		**P**	**18 54 11.5**	**+1.8**
LZH				pP		pP	18 54 33.8	+8.1
LZH				sP		sP	18 54 45.0	+12
LZH				PMZ				
	14nm,1.0s							
HHC	**Hu-ho-hao-te**	**33.81**	**340**	*e*P		**P**	**18 54 15.5**	**+2.4**
HHC				pP		pP	18 54 37.6	+8.5
HHC				sP		sP	18 54 48.9	+12
HHC				PP		**PP**	**18 55 31.8**	**+1.1**
HHC				S		**S**	**18 59 32.3**	**-0.2**
HHC				PMZ				
	23nm,0.8s							
HHC				PMZ				
	150nm,6.9s							
HHC				LN				
	99nm,17.3s							
HHC				LE				
	83nm,17.3s							
AS31	**Alice Springs**	**33.83**	**167**	*e*P		**P**	**18 54 12.2**	**-1.2**
ASAR	**Alice Springs**	**33.83**	**167**	P		**P**	**18 54 12.6**	**-0.8**
	1.4nm,0.3s,baz=348,slow=7.4,SNR=94							
ASAR				PcP		**PcP**	**18 56 51.4**	**+0.2**
	1.2nm,0.8s,baz=16,slow=2.8,SNR=4.3							
WRKA	**Warakurna**	**34.43**	**177**	P		**P**	**18 54 18.6**	**+0.1**
	baz=34,SNR=92							
USRK	**Ussuriysk Ar.**	**34.87**	**7**	P		**P**	**18 54 23.2**	**+1.1**
	3.7nm,0.8s,baz=181,slow=5.5,SNR=6.5							
MDJ	**Mudanjiang**	**35.05**	**4**	P		**P**	**18 54 23.8**	**+0.2**
	5.6nm,0.6s							
CTAO	**Charters Tower**	**35.38**	**146**	P		**P**	**18 54 26.6**	**-0.2**
	16nm,1.0s							
MEEK	**Meekatharra**	**36.74**	**192**	P		**P**	**18 54 38.7**	**+0.4**
	baz=37,SNR=11							
ASAJ	**Asahikawa**	**37.22**	**19**	P		**P**	**18 54 43.6**	**+1.4**
	2.4nm,0.6s,baz=224,slow=9.9							
ASAJ	**Asahikawa**	**37.22**	**19**	*e*P		**P**	**18 54 43.5**	**+1.3**
	9.1nm,1.4s							
GTA	**Gaotai**	**38.00**	**326**	*e*P		P	18 55 14.4	+25
GTA				pP		pP	18 55 18.5	+13
GTA				sP		sP	18 55 21.4	+8.5
GTA				pmax		pmax		
	comp=Z,3.0nm,1.1s							
GTA	**Gaotai**	**38.00**	**326**	*e*P		P	18 54 55.1	+6.1
GTA				pP		pP	18 55 14.4	+9.1
GTA				sP		sP	18 55 24.4	+12
GTA				PcP		**PcP**	**18 57 05.5**	**+2.0**
GTA				S		**ScP**	**19 00 45.1**	**-0.6**
GTA				PMZ				
	comp=Z,2.0nm,1.2s							
GTA				PMZ				
	comp=Z,120nm,5.0s							
GTA				LN				
	comp=Z,100nm,18.1s							
GTA				LE				
	comp=Z,100nm,15.7s							
GTA				LZ				
	comp=Z,130nm,18.1s							
HNR	**Honiara**	**38.41**	**118**	LR		LR	19 08 36.4	
	comp=Z,45nm,21.0s,baz=276,slow=33							
LSA	**Lhasa**	**38.49**	**306**	*e*P		**P**	**18 54 53.2**	**-0.5**
	comp=Z,9.8nm,1.5s							
MORW	**Morawa**	**39.65**	**194**	P		**P**	**18 55 03.1**	**+0.3**
	baz=40,SNR=10							
QLP	**Quilpie**	**39.91**	**155**	P		**P**	**18 55 02.8**	**-2.0**
	baz=40,SNR=4.3							
H11S3	**WAKE ISLAND Hy**	**40.08**	**73**	T		T	19 38 09.4	
	baz=262,slow=75,SNR=272							
H11S1	**WAKE ISLAND Hy**	**40.09**	**73**	T		T	19 38 10.0	
	baz=262,slow=75,SNR=24							
H11S2	**WAKE ISLAND Hy**	**40.09**	**73**	T		T	19 38 04.2	
	baz=262,slow=75,SNR=21							
FORT	**Forrest**	**40.13**	**178**	P		**P**	**18 55 07.5**	**+0.8**
	baz=40,SNR=7.9							
H11N1	**WAKE ISLAND Hy**	**40.43**	**71**	T		T	19 38 35.4	
	baz=264,slow=74,SNR=182							
H11N2	**WAKE ISLAND Hy**	**40.44**	**71**	T		T	19 38 29.1	
	baz=264,slow=74,SNR=146							
H11N3	**WAKE ISLAND Hy**	**40.45**	**71**	T		T	19 38 37.4	
	baz=264,slow=74,SNR=176							
TAPN	**Taplejung**	**40.47**	**301**	*e*P		**P**	**18 55 10.3**	**+0.3**
	comp=Z,18nm,0.4s							
ODAN	**Odare**	**40.59**	**300**	*e*P		**P**	**18 55 11.0**	**+0.1**
	comp=Z,32nm,0.6s							
KMBL	**Kambalda**	**40.90**	**186**	P		**P**	**18 55 13.5**	**+0.5**
	baz=41,SNR=5.6							
RAMN	**Ramite**	**41.28**	**300**	*e*P		**P**	**18 55 16.6**	**-0.1**
	comp=Z,18nm,0.6s							
SONM	**Songino Array**	**41.71**	**340**	P		**P**	**18 55 19.2**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=157,slow=9.2,SNR=6.4							
SONM				PcP		**PcP**	**18 57 13.4**	**-1.7**
	comp=Z,0.5nm,0.5s,baz=152,slow=2.4,SNR=3.8							
KLBR	**Kellerberrin**	**41.72**	**191**	P		**P**	**18 55 20.2**	**+0.5**
	baz=42,SNR=6.6							
PKI	**Pulchoki**	**42.48**	**301**	*e*P		**P**	**18 55 25.7**	**-0.8**
	comp=Z,8.0nm,0.5s							
PKIN	**Phulchoki**	**42.49**	**301**	*e*P		**P**	**18 55 25.9**	**-0.6**
	comp=Z,6.8nm,0.4s							
KKN	**Kakani**	**42.65**	**301**	*e*P		**P**	**18 55 27.5**	**-0.3**
	comp=Z,5.0nm,0.4s							
DMN	**Daman**	**42.75**	**301**	*e*P		**P**	**18 55 28.2**	**-0.4**
	comp=Z,8.3nm,0.5s							
NWAO	**Narrogin (SRO)**	**43.12**	**191**	P		**P**	**18 55 31.7**	**+0.6**
	comp=Z,17nm,1.0s,baz=329,slow=5.8,SNR=8.9							
NWAO	**Narrogin (SRO)**	**43.12**	**191**	P		**P**	**18 55 31.9**	**+0.8**
	baz=43,SNR=6.2							
NWAO				P		**P**	**18 55 31.9**	**+0.8**
	baz=43,SNR=6.2							
BBOO	**Buckleboo**	**43.13**	**168**	P		**P**	**18 55 31.4**	**+0.2**
	baz=43,SNR=35							
BBOO	**Buckleboo**	**43.13**	**168**	*e*P		**P**	**18 55 31.1**	**-0.1**
	comp=Z,16nm,0.4s							
GKN	**Gorkha**	**43.26**	**301**	*e*P		**P**	**18 55 32.0**	**-0.6**
	comp=Z,7.7nm,0.4s							
STKA	**Stephens Creek**	**43.70**	**161**	P		**P**	**18 55 35.8**	**0.0**
	comp=Z,3.9nm,0.5s,baz=348,slow=6.0,SNR=12							
STKA	**Stephens Creek**	**43.70**	**161**	P		**P**	**18 55 35.8**	**0.0**
	baz=44,SNR=5.7							
STKA	**Stephens Creek**	**43.70**	**161**	*e*P		**P**	**18 55 35.4**	**-0.5**
	comp=Z,12nm,2.2s							
KOLN	**Koldanda**	**44.08**	**300**	*e*P		**P**	**18 55 38.8**	**-0.4**
	comp=Z,13nm,0.7s							
HTT	**Hallett**	**44.39**	**165**	P		**P**	**18 55 42.3**	**+0.9**
	baz=44,SNR=5.4							
RKGY	**Rocky Gully**	**44.80**	**191**	P		**P**	**18 55 46.2**	**+1.7**
	baz=54,SNR=15							
RKGY	**Rocky Gully**	**44.80**	**191**	P		**P**	**18 55 46.2**	**+1.7**
	baz=45,SNR=15							
CMSA	**Cobar Meteorol**	**44.87**	**156**	P		**P**	**18 55 45.9**	**+0.8**
	baz=45,SNR=4.7							
WMQ	**Urumqi**	**47.82**	**322**	P		**P**	**18 56 09.3**	**+1.0**
WMQ				pP		pP	18 56 32.3	+7.3
WMQ				sP		sP	18 56 42.8	+10
WMQ				PP		**PP**	**18 58 02.0**	**+1.4**
WMQ				S		**S**	**19 02 58.0**	**-2.5**
WMQ				sS		sS	19 03 38.4	+10
WMQ				ScS		ScS	19 05 49.9	-5.9
WMQ				PMZ				
	comp=Z,9.0nm,1.0s							
WMQ				PMZ				
	comp=Z,64nm,4.3s							
WMQ				LN				
	comp=Z,370nm,22.4s							
WMQ				LE				
	comp=Z,240nm,28.0s							
WMQ				LZ				
	comp=Z,200nm,26.3s							
ARPS	**Mount Arapiles**	**48.32**	**163**	P		**P**	**18 56 12.7**	**+0.7**
	baz=48,SNR=13							
TOO	**Toolangi**	**50.19**	**160**	P		**P**	**18 56 27.8**	**+1.4**
	baz=50,SNR=4.8							
PETK	**Petropavlovsk-**	**50.27**	**24**	P		**P**	**18 56 28.5**	**+1.7**
	comp=Z,4.0nm,0.6s,baz=197,slow=1.5,SNR=7.1							
YAK	**Yakutsk**	**52.44**	**2**	*e*P		**P**	**18 56 43.1**	**+0.3**
	comp=Z,11nm,0.7s							
MKAR	**Makanchi Array**	**52.63**	**323**	P		**P**	**18 56 43.7**	**-0.9**
	comp=Z,2.2nm,0.5s,baz=116,slow=7.0,SNR=34							
ZALV	**Zalesovo Beam**	**55

0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.40±.14; $M_{\theta\theta}$3.52±.11; $M_{\phi\phi}$-2.11±.10; $M_{r\theta}$1.38±.31; $M_{r\phi}$1.52±.09; $M_{\theta\phi}$-0.03±.34; Best double couple: $M_0$3.42700×10^{16} NP1:$\phi_1$298.00000°, δ85.00000°, λ-25.00000°. NP2: $\phi_2$30.00000°, δ66.00000°, λ-174.00000°. Principal axes: T 4.2200, Plg13.0000°, Azm347.0000°; N -1.5770, Plg65.0000°, Azm107.0000°; P -2.6330, Plg21.0000°, Azm251.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

CSEM **16** *18:53:10.6±0.1,39°.32N×24°.00E, h10km, mb5.0/81, Ms4.1 Error ellipse: s-maj=1.9km s-min=1.8km az=22.0*

SFS **16** *18:53:10.4, 39°.31N×23°.99E, h0km, ML5.1*

PDG **16** *18:53:10.3±0.5, 39°.32N×24°.03E, h21km, ML4.6/12, Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*

THE **16** *18:53:10.5, 39°.32N×24°.05E, h5km±1km, ML5.2/12, Error ellipse: s-maj=1.2km s-min=0.5km az=299.0*

MOS **16** *18:53:11.5±1.3, 39°.41N×24°.00E, h26km, mb5.1/39, MS4.4/31, Error ellipse: s-maj=4.5km s-min=2.7km az=99.4*

SKO **16** *18:53:12.3, 39°.46N×24°.07E, h4km*

DDA **16** *18:53:19.7, 39°.21N×24°.97E, h25km, ML4.9*

ISC 16 18:53:12.2±0.3, 39°.34N±0°.01×23°.99E±0°.01, h19km±1km, h19km:pP-P, n1446, σ1§43/1614, mb4.9/146, MS4.3/35, 77C-64D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AOS	**Alonnisos**	**0.19**	**207**	P	**Pg**	**18 53 15.1**	**-2.1**
AOS				S	**Sg**	**18 53 18.2**	**-2.3**
AOS	**Alonnisos**	**0.19**	**207**	P	**Pg**	**18 53 15.1**	**-2.1**
AOS				S	**Sg**	**18 53 18.2**	**-2.3**
NEO	**Neokhori**	**0.60**	**267**	*e*PN	**Pg**	**18 53 23.5**	**-0.6**
NEO				*e*SN	**Sb**	**18 53 32.3**	**+0.3**
NEO	**Neokhori**	**0.60**	**267**	*e*Pn	**Pg**	**18 53 23.5**	**-0.6**
NEO				S	**Sg**	**18 53 31.9**	**-0.3**
NEO				*e*Sn	**Sb**	**18 53 32.3**	**+0.3**
NEO	**Neokhori**	**0.60**	**267**	P	**Pg**	**18 53 23.5**	**-0.6**
NEO	**Neokhori**	**0.60**	**267**	P	**Pg**	**18 53 23.5**	**-0.6**
NEO				S	**Sg**	**18 53 31.9**	**-0.3**
XOR	**Xorichti**	**0.62**	**273**	*e*PN	**Pg**	**18 53 23.1**	**-1.5**
XOR				*e*SN	**Sb**	**18 53 33.5**	**+0.9**
XOR	**Xorichti**	**0.62**	**273**	P	**Pg**	**18 53 23.2**	**-1.4**
XOR				S	**Sb**	**18 53 32.9**	**+0.3**
XOR				*e*Sn	**Sb**	**18 53 33.5**	**+0.9**
XOR	**Xorichti**	**0.62**	**273**	P	**Pg**	**18 53 23.2**	**-1.4**
XOR	**Xorichti**	**0.62**	**273**	P	**Pg**	**18 53 23.2**	**-1.4**
XOR				S	**Sb**	**18 53 32.9**	**+0.3**
PAIG	**Paliouri**	**0.63**	**338**	P	**Pg**	**18 53 23.9**	**-0.9**
PAIG				S	**Sb**	**18 53 34.0**	**+1.0**
PAIG	**Paliouri**	**0.63**	**338**	*e*PN	**Pg**	**18 53 24.0**	**-0.9**
PAIG				*e*SN	**Sb**	**18 53 34.3**	**+1.3**
PAIG	**Paliouri**	**0.63**	**338**	*e*Pn	**Pg**	**18 53 24.0**	**-0.9**
PAIG				S	**Sb**	**18 53 34.0**	**+1.0**
PAIG	**Paliouri**	**0.63**	**338**	P	**Pg**	**18 53 23.9**	**-0.9**
PAIG				S	**Sb**	**18 53 34.0**	**+1.0**
PAIG	**Paliouri**	**0.63**	**338**	P	**Pg**	**18 53 23.9**	**-0.9**
PAIG				S	**Sb**	**18 53 34.0**	**+1.0**
MRKA	**Markates**	**0.71**	**206**	*e*PN	**Pg**	**18 53 24.5**	**-1.7**
MRKA				*e*SN	**Sg**	**18 53 34.7**	**-1.0**
MRKA	**Markates**	**0.71**	**206**	P	**Pg**	**18 53 24.1**	**-2.1**
MRKA	**Markates**	**0.71**	**206**	*e*Pn	**Pg**	**18 53 24.5**	**-1.7**
MRKA				S	**Sg**	**18 53 33.6**	**-2.1**
MRKA				*e*Sn	**Sg**	**18 53 34.7**	**-1.0**
MRKA	**Markates**	**0.71**	**206**	P	**Pg**	**18 53 24.1**	**-2.1**
MRKA				S	**Sg**	**18 53 33.6**	**-2.1**
SMIA	**Simia**	**0.76**	**233**	*e*PN	**Pg**	**18 53 25.8**	**-1.4**
SMIA				*e*SN	**Sb**	**18 53 37.5**	**+0.6**
SMIA	**Simia**	**0.76**	**233**	P	**Pg**	**18 53 25.6**	**-1.6**
SMIA				*e*Sn	**Sb**	**18 53 37.5**	**+0.6**
SMIA	**Simia**	**0.76**	**233**	P	**Pg**	**18 53 25.6**	**-1.6**
FYTO	**Fytoko, Volos**	**0.82**	**275**	P	**Pg**	**18 53 27.2**	**-1.0**
FYTO				S	**Sg**	**18 53 38.4**	**-0.7**
FYTO	**Fytoko, Volos**	**0.82**	**275**	P	**Pg**	**18 53 27.2**	**-1.0**
FYTO	**Fytoko, Volos**	**0.82**	**275**	P	**Pg**	**18 53 27.2**	**-1.0**
FYTO				S	**Sg**	**18 53 38.4**	**-0.7**
EREA	**Eretria**	**0.92**	**183**	*e*PN	**Pb**	**18 53 27.8**	**-1.8**
EREA				*e*SN	**Sb**	**18 53 40.3**	**-1.1**
EREA	**Eretria**	**0.92**	**183**	P	**Pb**	**18 53 27.6**	**-2.0**
EREA				*e*Sn	**Sb**	**18 53 40.3**	**-1.1**
EREA				S	**Sb**	**18 53 41.2**	**-0.2**
EREA	**Eretria**	**0.92**	**183**	P	**Pb**	**18 53 27.6**	**-2.0**
EREA				S	**Sb**	**18 53 41.2**	**-0.2**
OUR	**Ouranopolis**	**0.99**	**360**	*e*PG	**Pb**	**18 53 30.1**	**-0.7**
OUR	**Ouranopolis**	**0.99**	**360**	P	**Pb**	**18 53 29.8**	**-1.0**
OUR	**Ouranopolis**	**0.99**	**360**	*e*PN	**Pb**	**18 53 29.7**	**-1.0**
OUR				*e*SN	**Sg**	**18 53 43.9**	**-0.7**
OUR	**Ouranopolis**	**0.99**	**360**	P	**Pb**	**18 53 29.8**	**-1.0**
OUR				S	**Sb**	**18 53 43.1**	**-0.3**
OUR	**Ouranopolis**	**0.99**	**360**	P	**Pb**	**18 53 29.8**	**-1.0**
OUR	**Ouranopolis**	**0.99**	**360**	P	**Pb**	**18 53 29.8**	**-1.0**
OUR				S	**Sb**	**18 53 43.1**	**-0.3**
ATAL	**Atalanti**	**1.00**	**230**	P	**Pb**	**18 53 29.3**	**-1.5**
ATAL				S	**Sg**	**18 53 44.0**	**-0.7**
ATAL	**Atalanti**	**1.00**	**230**	P	**Pb**	**18 53 29.3**	**-1.5**
ATAL				S	**Sg**	**18 53 44.0**	**-0.7**
ATAL	**Atalanti**	**1.00**	**230**	P	**Pb**	**18 53 29.3**	**-1.5**
ATAL				S	**Sg**	**18 53 44.0**	**-0.7**
LKR	**Lokris**	**1.04**	**229**	*e*PN	**Pb**	**18 53 30.6**	**-0.9**
LKR				*e*SN	**Sg**	**18 53 45.2**	**-0.8**
LKR	**Lokris**	**1.04**	**229**	P	**Pb**	**18 53 30.1**	**-1.4**
LKR	**Lokris**	**1.04**	**229**	*e*Pn	**Pb**	**18 53 30.6**	**-0.9**
LKR				*e*Sn	**Sg**	**18 53 45.2**	**-0.8**
LKR				S	**Sn**	**18 53 46.2**	**+0.6**
LKR	**Lokris**	**1.04**	**229**	P	**Pb**	**18 53 30.1**	**-1.4**
LKR	**Lokris**	**1.04**	**229**	P	**Pb**	**18 53 30.1**	**-1.4**
LKR				S	**Sn**	**18 53 46.2**	**+0.6**
LIA	**Limnos Island**	**1.07**	**58**	*e*PN	**Pb**	**18 53 30.8**	**-1.4**
LIA				*e*SN	**Sb**	**18 53 45.8**	**-0.1**
LIA	**Limnos Island**	**1.07**	**58**	P	**Pb**	**18 53 30.8**	**-1.4**
LIA				*e*Sn	**Sb**	**18 53 45.8**	**-0.1**
LIA	**Limnos Island**	**1.07**	**58**	P	**Pb**	**18 53 30.8**	**-1.4**
LIA	**Limnos Island**	**1.07**	**58**	P	**Pb**	**18 53 30.8**	**-1.4**
LIA				S	**Sb**	**18 53 45.7**	**-0.1**
PLG	**Polygyros**	**1.11**	**338**	P	**Pb**	**18 53 31.5**	**-1.4**
PLG				S	**Sb**	**18 53 47.7**	**+0.7**
PLG	**Polygyros**	**1.11**	**338**	*e*PN	**Pb**	**18 53 31.7**	**-1.2**
PLG				*e*SN	**Sb**	**18 53 47.2**	**+0.2**
PLG	**Polygyros**	**1.11**	**338**	P	**Pb**	**18 53 31.5**	**-1.4**
PLG				*e*Sn	**Sb**	**18 53 47.2**	**+0.2**
PLG	**Polygyros**	**1.11**	**338**	P	**Pb**	**18 53 31.5**	**-1.4**
PLG				S	**Sb**	**18 53 47.7**	**+0.7**
PLG	**Polygyros**	**1.11**	**338**	P	**Pb**	**18 53 31.5**	**-1.4**
PLG				S	**Sb**	**18 53 47.7**	**+0.7**
AXAR	**Agios Charalam**	**1.19**	**241**	*e*PN	**Pn**	**18 53 32.8**	**-1.0**
AXAR	**Agios Charalam**	**1.19**	**241**	*e*Pn	**Pn**	**18 53 32.8**	**-1.0**
AXAR	**Agios Charalam**	**1.19**	**241**	P	**Pn**	**18 53 32.8**	**-1.0**
AXAR	**Agios Charalam**	**1.19**	**241**	P	**Pn**	**18 53 32.8**	**-1.0**
VIL2	**Platees**	**1.26**	**207**	*e*PN	**Pn**	**18 53 33.8**	**-1.0**
VILL	**Villia**	**1.29**	**205**	P	**Pn**	**18 53 33.9**	**-1.3**
VILL				S	**Sn**	**18 53 52.6**	**+0.6**
VILL	**Villia**	**1.29**	**205**	P	**Pn**	**18 53 33.9**	**-1.3**
VILL				S	**Sn**	**18 53 52.6**	**+0.6**
PTL	**Penteli**	**1.29**	**184**	*e*PN	**Pn**	**18 53 34.0**	**-1.3**
PTL				*e*SN	**Sb**	**18 53 50.1**	**-2.1**
PTL	**Penteli**	**1.29**	**184**	*e*Pn	**Pn**	**18 53 34.0**	**-1.3**
PTL				*e*Sn	**Sb**	**18 53 50.1**	**-2.1**
PTL	**Penteli**	**1.29**	**184**	P	**Pn**	**18 53 33.8**	**-1.5**
PTL	**Penteli**	**1.29**	**184**	P	**Pn**	**18 53 33.8**	**-1.5**
AGG	**Agios Georgios**	**1.33**	**257**	*e*P	**Pn**	**18 53 34.3**	**-1.5**
AGG				*e*		18 53 55.9	
AGG	**Agios Georgios**	**1.33**	**257**	*e*PN	**Pn**	**18 53 34.8**	**-1.0**
AGG	**Agios Georgios**	**1.33**	**257**	*e*P	**Pn**	**18 53 34.3**	**-1.5**
AGG	**Agios Georgios**	**1.33**	**257**	*e*Pn	**Pn**	**18 53 34.8**	**-1.0**
AGG				S	**Sg**	**18 53 54.3**	**-1.0**
AGG				*e*Sn	**Sg**	**18 53 55.9**	**+0.6**
AGG	**Agios Georgios**	**1.33**	**257**	*e*Pn	**Pn**	**18 53 34.3**	**-1.5**
AGG				*e*Sn	**Sg**	**18 53 55.9**	**+0.6**
AGG	**Agios Georgios**	**1.33**	**257**	P	**Pn**	**18 53 34.7**	**-1.0**
AGG				S	**Sg**	**18 53 54.3**	**-1.0**
KARY	**Karystos**	**1.35**	**165**	P	**Pn**	**18 53 34.4**	**-1.7**
ATHU	**Athens Univers**	**1.38**	**187**	P	**Pn**	**18 53 35.1**	**-1.4**
ATHU	**Athens Univers**	**1.38**	**187**	P	**Pn**	**18 53 35.1**	**-1.4**
ATHU	**Athens Univers**	**1.38**	**187**	P	**Pn**	**18 53 35.1**	**-1.4**
ATH	**Athens Observa**	**1.38**	**189**	P	**Pn**	**18 53 35.8**	**-0.7**
ATH	**Athens Observa**	**1.38**	**189**	*e*PN	**Pn**	**18 53 35.3**	**-1.2**
ATH				*e*SN	**Sn**	**18 53 52.9**	**-1.3**
ATH	**Athens Observa**	**1.38**	**189**	*e*Pn	**Pn**	**18 53 35.3**	**-1.2**
ATH	**Athens Observa**	**1.38**	**189**	P	**Pn**	**18 53 35.8**	**-0.7**
ATH				*e*Sn	**Sn**	**18 53 52.9**	**-1.3**
ATH	**Athens Observa**	**1.38**	**189**	P	**Pn**	**18 53 35.8**	**-0.7**
ATH	**Athens Observa**	**1.38**	**189**	P	**Pn**	**18 53 35.8**	**-0.7**
LIT	**Litokhoron**	**1.38**	**304**	P	**Pn**	**18 53 35.8**	**-0.7**
LIT	**Litokhoron**	**1.38**	**304**	*e*PN	**Pn**	**18 53 35.8**	**-0.7**
LIT	**Litokhoron**	**1.38**	**304**	*e*Pn	**Pn**	**18 53 35.8**	**-0.7**
LIT	**Litokhoron**	**1.38**	**304**	P	**Pn**	**18 53 35.8**	**-0.7**
LIT	**Litokhoron**	**1.38**	**304**	P	**Pn**	**18 53 35.8**	**-0.7**
HORT	**Hortiatis**	**1.43**	**332**	*e*PN	**Pn**	**18 53 36.6**	**-0.6**
HORT	**Hortiatis**	**1.43**	**332**	*e*PN	**Pn**	**18 53 37.0**	**-0.2**
HORT	**Hortiatis**	**1.43**	**332**	P	**Pn**	**18 53 36.6**	**-0.6**
HORT	**Hortiatis**	**1.43**	**332**	*e*Pn	**Pn**	**18 53 37.0**	**-0.2**
HORT	**Hortiatis**	**1.43**	**332**	P	**Pn**	**18 53 36.6**	**-0.6**
HORT	**Hortiatis**	**1.43**	**332**	P	**Pn**	**18 53 36.6**	**-0.6**
SIGR	**SIGRI**	**1.45**	**95**	*e*PN	**Pn**	**18 53 37.3**	**-0.1**
SIGR	**SIGRI**	**1.45**	**95**	*e*PN	**Pn**	**18 53 36.2**	**-1.2**
SIGR	**SIGRI**	**1.45**	**95**	P	**Pn**	**18 53 36.2**	**-1.2**
SIGR				S	**Sn**	**18 53 54.6**	**-1.3**
SIGR	**SIGRI**	**1.45**	**95**	P	**Pn**	**18 53 36.2**	**-1.2**
SIGR				S	**Sn**	**18 53 54.6**	**-1.3**
SIGR	**SIGRI**	**1.45**	**95**	P	**Pn**	**18 53 36.2**	**-1.2**
SIGR				S	**Sn**	**18 53 54.6**	**-1.3**
DSF	**Desfina**	**1.47**	**231**	P	**Pn**	**18 53 36.2**	**-1.6**
DSF				S	**Sg**	**18 53 58.7**	**-1.2**
DSF	**Desfina**	**1.47**	**231**	P	**Pn**	**18 53 36.2**	**-1.6**
DSF				S	**Sg**	**18 53 58.7**	**-1.2**
DSF	**Desfina**	**1.47**	**231**	P	**Pn**	**18 53 36.2**	**-1.6**
DSF				S	**Sg**	**18 53 58.7**	**-1.2**
MAKR	**Makrakomi, Fth**	**1.48**	**258**	*e*PN	**Pn**	**18 53 37.4**	**-0.5**
MAKR	**Makrakomi, Fth**	**1.48**	**258**	P	**Pn**	**18 53 37.2**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.48**	**258**	P	**Pn**	**18 53 37.2**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.48**	**258**	P	**Pn**	**18 53 37.2**	**-0.7**
THE	**Thessaloniki**	**1.51**	**329**	P	**Pn**	**18 53 37.5**	**-0.7**
THE	**Thessaloniki**	**1.51**	**329**	*e*PN	**Pn**	**18 53 38.1**	**-0.1**
THE	**Thessaloniki**	**1.51**	**329**	P	**Pn**	**18 53 37.5**	**-0.7**
THE	**Thessaloniki**	**1.51**	**329**	*e*Pn	**Pn**	**18 53 38.1**	**-0.1**
THE	**Thessaloniki**	**1.51**	**329**	P	**Pn**	**18 53 37.5**	**-0.7**
THE	**Thessaloniki**	**1.51**	**329**	P	**Pn**	**18 53 37.5**	**-0.7**
LTK	**Loutraki**	**1.54**	**212**	*e*PB	**Pn**	**18 53 37.1**	**-1.6**
LTK	**Loutraki**	**1.54**	**212**	*e*Pb	**Pn**	**18 53 37.1**	**-1.6**
LTK	**Loutraki**	**1.54**	**212**	P	**Pn**	**18 53 37.5**	**-1.2**
LTK	**Loutraki**	**1.54**	**212**	P	**Pn**	**18 53 37.5**	**-1.2**
LTK	**Loutraki**	**1.54**	**212**	P	**Pn**	**18 53 37.5**	**-1.2**
THL	**Klokotos Trika**	**1.55**	**279**	*e*PN	**Pn**	**18 53 38.1**	**-0.6**
THL	**Klokotos Trika**	**1.55**	**279**	*e*Pn	**Pn**	**18 53 38.1**	**-0.6**
THL	**Klokotos Trika**	**1.55**	**279**	P	**Pn**	**18 53 38.0**	**-0.6**
SOH	**Sokhos**	**1.56**	**342**	P	**Pn**	**18 53 38.2**	**-0.7**
SOH	**Sokhos**	**1.56**	**342**	*e*PN	**Pn**	**18 53 38.4**	**-0.5**
SOH	**Sokhos**	**1.56**	**342**	P	**Pn**	**18 53 38.2**	**-0.7**
SOH	**Sokhos**	**1.56**	**342**	P	**Pn**	**18 53 38.2**	**-0.7**
SOH	**Sokhos**	**1.56**	**342**	P	**Pn**	**18 53 38.2**	**-0.7**
LOUT	**Loutraki**	**1.57**	**211**	*e*PN	**Pn**	**18 53 38.0**	**-1.0**
LOUT	**Loutraki**	**1.57**	**211**	P	**Pn**	**18 53 37.6**	**-1.4**
LOUT	**Loutraki**	**1.57**	**211**	*e*Pn	**Pn**	**18 53 38.0**	**-1.0**
LOUT				S	**Sb**	**18 54 01.0**	**+1.0**
LOUT	**Loutraki**	**1.57**	**211**	P	**Pn**	**18 53 37.6**	**-1.4**
LOUT				S	**Sb**	**18 54 01.0**	**+1.0**
NAIG	**Nisos Aigina**	**1.63**	**194**	*e*PB	**Pn**	**18 53 38.8**	**-1.1**
NAIG	**Nisos Aigina**	**1.63**	**194**	*e*Pb	**Pn**	**18 53 38.8**	**-1.1**
SMTH	**Samothraki Isl**	**1.64**	**46**	*e*PN	**Pn**	**18 53 38.0**	**-2.0**
SMTH	**Samothraki Isl**	**1.64**	**46**	P	**Pn**	**18 53 37.8**	**-2.2**
SMTH				S	**Sn**	**18 54 01.4**	**+0.9**
SMTH	**Samothraki Isl**	**1.64**	**46**	P	**Pn**	**18 53 37.8**	**-2.2**
SMTH	**Samothraki Isl**	**1.64**	**46**	P	**Pn**	**18 53 37.8**	**-2.2**
SMTH				S	**Sn**	**18 54 01.4**	**+0.9**
THAL	**Thalero**	**1.67**	**219**	*e*PB	**Pn**	**18 53 39.0**	**-0.9**
THAL	**Thalero**	**1.67**	**219**	P	**Pn**	**18 53 39.0**	**-0.9**
THAL	**Thalero**	**1.67**	**219**	*e*Pb	**Pn**	**18 53 39.5**	**-0.9**
THAL	**Thalero**	**1.67**	**219**	P	**Pn**	**18 53 39.0**	**-1.4**
BOZC	**Bozcaada**	**1.67**	**72**	*i* P	**Pn**	**18 53 39.3**	**-1.1**
BOZC				*i* S	**Sb**	**18 54 04.1**	**+1.1**
ACOR	**Acrocorinthos**	**1.69**	**212**	P	**Pn**	**18 53 39.2**	**-1.6**
ACOR				S	**Sb**	**18 54 03.5**	**-0.2**
GADA	**Gvkgeada**	**1.70**	**59**	*e*PN	**Pn**	**18 53 39.5**	**-1.3**
KAVA	**Kavala**	**1.70**	**13**	*e*PN	**Pn**	**18 53 39.6**	**-1.2**
KAVA	**Kavala**	**1.70**	**13**	*e*Pn	**Pn**	**18 53 39.6**	**-1.2**
KALE	**Kalithea**	**1.73**	**237**	*e*PN	**Pn**	**18 53 40.5**	**-0.8**
KALE	**Kalithea**	**1.73**	**237**	*e*Pn	**Pn**	**18 53 40.5**	**-0.8**
KALE	**Kalithea**	**1.73**	**237**	P	**Pn**	**18 53 40.4**	**-0.8**
KALE	**Kalithea**	**1.73**	**237**	P	**Pn**	**18 53 40.4**	**-0.8**
EVR	**Evrytania**	**1.75**	**257**	*e*PB	**Pn**	**18 53 41.1**	**-0.5**
EVR	**Evrytania**	**1.75**	**257**	P	**Pn**	**18 53 41.2**	**-0.4**
EVR	**Evrytania**	**1.75**	**257**	P	**Pn**	**18 53 41.2**	**-0.4**
EVR	**Evrytania**	**1.75**	**257**	P	**Pn**	**18 53 41.2**	**-0.4**
PRK	**Paraskevi**	**1.77**	**92**	P	**Pn**	**18 53 40.7**	**-1.1**
PRK	**Paraskevi**	**1.77**	**92**	*e*PB	**Pn**	**18 53 40.8**	**-1.1**
PRK	**Paraskevi**	**1.77**	**92**	P	**Pn**	**18 53 40.7**	**-1.1**
PRK	**Paraskevi**	**1.77**	**92**	P	**Pn**	**18 53 40.7**	**-1.1**
PRK	**Paraskevi**	**1.77**	**92**	P	**Pn**	**18 53 40.7**	**-1.1**
SERG	**Sergoula**	**1.77**	**239**	P	**Pn**	**18 53 40.8**	**-1.0**
SERG	**Sergoula**	**1.77**	**239**	P	**Pn**	**18 53 40.8**	**-1.0**
TRIZ	**Trizonia**	**1.79**	**238**	*e*PN	**Pn**	**18 53 41.1**	**-0.9**
TRIZ	**Trizonia**	**1.79**	**238**	*e*Pn	**Pn**	**18 53 41.1**	**-0.9**
TRIZ	**Trizonia**	**1.79**	**238**	P	**Pn**	**18 53 40.9**	**-1.1**
SRS	**Serrai**	**1.80**	**350**	P	**Pn**	**18 53 41.3**	**-0.9**
SRS	**Serrai**	**1.80**	**350**	*e*PN	**Pn**	**18 53 41.1**	**-1.1**
SRS	**Serrai**	**1.80**	**350**	P	**Pn**	**18 53 41.3**	**-0.9**
SRS	**Serrai**	**1.80**	**350**	P	**Pn**	**18 53 41.3**	**-0.9**
SRS	**Serrai**	**1.80**	**350**	P	**Pn**	**18 53 41.3**	**-0.9**
EFP	**Efpalio**	**1.87**	**241**	P	**Pn**	**18 53 42.6**	**-0.5**
EFP	**Efpalio**	**1.87**	**241**	P	**Pn**	**18 53 42.6**	**-0.5**
CHOS	**Chios island**	**1.87**	**120**	*e*PN	**Pn**	**18 53 42.2**	**-1.1**
CHOS	**Chios island**	**1.87**	**120**	*e*PN	**Pn**	**18 53 42.1**	**-1.2**
CHOS	**Chios island**	**1.87**	**120**	*e*Pn	**Pn**	**18 53 42.1**	**-1.2**
CHOS	**Chios island**	**1.87**	**120**	P	**Pn**	**18 53 42.0**	**-1.2**
CHOS	**Chios island**	**1.87**	**120**	P	**Pn**	**18 53 42.0**	**-1.2**
GUR	**Goura**	**1.91**	**223**	P	**Pn**	**18 53 42.8**	**-1.0**
GUR	**Goura**	**1.91**	**223**	P	**Pn**	**18 53 42.8**	**-1.0**
GUR	**Goura**	**1.91**	**223**	P	**Pn**	**18 53 42.8**	**-1.0**
LAKA	**Lakka**	**1.92**	**236**	*e*PN	**Pn**	**18 53 43.3**	**-0.6**
LAKA	**Lakka**	**1.92**	**236**	P	**Pn**	**18 53 43.4**	**-0.5**
LAKA	**Lakka**	**1.92**	**236**	P	**Pn**	**18 53 43.4**	**-0.5**
LAKA	**Lakka**	**1.92**	**236**	P	**Pn**	**18 53 43.4**	**-0.5**
DID	**Didima**	**1.93**	**198**	P	**Pn**	**18 53 42.7**	**-1.3**
DID	**Didima**	**1.93**	**198**	P	**Pn**	**18 53 42.7**	**-1.3**
DID	**Didima**	**1.93**	**198**	P	**Pn**	**18 53 42.7**	**-1.3**
KLV	**Kalavryta, Ach**	**1.94**	**229**	*e*PN	**Pn**	**18 53 43.4**	**-0.8**
KLV	**Kalavryta, Ach**	**1.94**	**229**	*e*Pn	**Pn**	**18 53 43.4**	**-0.8**
KLV	**Kalavryta, Ach**	**1.94**	**229**	P	**Pn**	**18 53 43.2**	**-1.0**
KLV	**Kalavryta, Ach**	**1.94**	**229**	P	**Pn**	**18 53 43.2**	**-1.0**
DIDY	**Didyma**	**1.96**	**198**	*e*PN	**Pn**	**18 53 43.2**	**-1.3**
DIDY	**Didyma**	**1.96**	**198**	*e*Pn	**Pn**	**18 53 43.2**	**-1.3**
DIDY	**Didyma**	**1.96**	**198**	P	**Pn**	**18 53 43.0**	**-1.5**
KZN	**Kozani**	**1.96**	**300**	P	**Pn**	**18 53 44.3**	**-0.2**
KZN	**Kozani**	**1.96**	**300**	*e*PN	**Pn**	**18 53 44.5**	**0.0**
KZN	**Kozani**	**1.96**	**300**	P	**Pn**	**18 53 44.3**	**-0.2**
KZN	**Kozani**	**1.96**	**300**	P	**Pn**	**18 53 44.3**	**-0.2**
KZN	**Kozani**	**1.96**	**300**	P	**Pn**	**18 53 44.3**	**-0.2**
KNT	**Kendrikon**	**2.00**	**336**	*e*PN	**Pn**	**18 53 44.6**	**-0.4**
KNT	**Kendrikon**	**2.00**	**336**	P	**Pn**	**18 53 44.9**	**-0.1**
KNT	**Kendrikon**	**2.00**	**336**	*e*PB	**Pn**	**18 53 45.1**	**+0.1**
KNT	**Kendrikon**	**2.00**	**336**	P	**Pn**	**18 53 44.9**	**-0.1**
KNT	**Kendrikon**	**2.00**	**336**	P	**Pn**	**18 53 44.9**	**-0.1**
KNT	**Kendrikon**	**2.00**	**336**	P	**Pn**	**18 53 44.9**	**-0.1**
NVR	**Nevrokopi**	**2.01**	**357**	*e*PN	**Pn**	**18 53 44.0**	**-1.1**
NVR	**Nevrokopi**	**2.01**	**357**	P	**Pn**	**18 53 43.7**	**-1.4**
NVR	**Nevrokopi**	**2.01**	**357**	*e*Pn	**Pn**	**18 53 44.0**	**-1.1**
NVR	**Nevrokopi**	**2.01**	**357**	P	**Pn**	**18 53 43.7**	**-1.4**
NVR	**Nevrokopi**	**2.01**	**357**	P	**Pn**	**18 53 43.7**	**-1.4**
KRND	**KRANIDI**	**2.06**	**199**	*e*PN	**Pn**	**18 53 44.7**	**-1.1**
KRND	**KRANIDI**	**2.06**	**199**	P	**Pn**	**18 53 44.4**	**-1.4**
KRND	**KRANIDI**	**2.06**	**199**	*e*Pn	**Pn**	**18 53 44.7**	**-1.1**
KRND	**KRANIDI**	**2.06**	**199**	P	**Pn**	**18 53 44.4**	**-1.4**
AYVA	**Ayvalik**	**2.09**	**90**	*i* P	**Pn**	**18 53 45.8**	**-0.4**
AYVA				*i* S	**Sg**	**18 54 18.3**	**-1.3**
AYVA	**Ayvalik**	**2.09**	**90**	*i* P	**Pn**	**18 53 45.8**	**-0.4**
AYVA				*i* S	**Sg**	**18 54 18.3**	**-1.3**
RDO	**Rodhopi**	**2.16**	**33**	*e*PN	**Pn**	**18 53 45.4**	**-1.7**
RDO	**Rodhopi**	**2.16**	**33**	*e*Pn	**Pn**	**18 53 45.4**	**-1.7**
RDO	**Rodhopi**	**2.16**	**33**	*e*Pn	**Pn**	**18 53 45.2**	**-1.9**
GELI	**Tayfur-Gelibol**	**2.18**	**60**	*e*PN	**Pn**	**18 53 46.1**	**-1.4**
ALN	**Alexandroupoli**	**2.21**	**45**	*e*PN	**Pn**	**18 53 46.9**	**-0.9**
ALN	**Alexandroupoli**	**2.21**	**45**	P	**Pn**	**18 53 45.7**	**-2.2**
ALN	**Alexandroupoli**	**2.21**	**45**	*e*PN	**Pn**	**18 53 46.0**	**-1.9**
ALN	**Alexandroupoli**	**2.21**	**45**	P	**Pn**	**18 53 45.7**	**-2.2**
ALN	**Alexandroupoli**	**2.21**	**45**	*e*Pn	**Pn**	**18 53 46.0**	**-1.9**
ALN	**Alexandroupoli**	**2.21**	**45**	P	**Pn**	**18 53 45.7**	**-2.2**
ALN	**Alexandroupoli**	**2.21**	**45**	P	**Pn**	**18 53 45.7**	**-2.2**
ZEY	**˜zmir**	**2.25**	**119**	*i* P	**Pn**	**18 53 47.4**	**-1.0**
ZEY				*i* S	**Sg**	**18 54 23.3**	**-1.3**
MMB	**Musomiste**	**2.25**	**355**	‖*i*P	**Pn**	**18 53 47.6**	**-0.9**
MMB	**Musomiste**	**2.25**	**355**	S	**Sn**	**18 54 15.4**	**-0.4**
VAY	**Valandovo**	**2.26**	**332**	*e*P	**Pn**	**18 53 48.7**	**+0.2**
VAY	**Valandovo**	**2.26**	**332**	*e*P	**Pn**	**18 53 48.7**	**+0.2**
URLA	**Izmir**	**2.26**	**115**	*i* P	**Pn**	**18 53 47.2**	**-1.3**
URLA				*i* S	**Sg**	**18 54 24.0**	**-0.8**
URLA	**Izmir**	**2.26**	**115**	*i* P	**Pn**	**18 53 47.2**	**-1.3**
URLA				*i* S	**Sg**	**18 54 24.0**	**-0.8**
DSL	**Palaion Diasel**	**2.26**	**266**	P	**Pn**	**18 53 49.0**	**+0.5**
DSL	**Palaion Diasel**	**2.26**	**266**	P	**Pn**	**18 53 49.0**	**+0.5**
DSL	**Palaion Diasel**	**2.26**	**266**	P	**Pn**	**18 53 49.0**	**+0.5**
DRO	**Drossia**	**2.26**	**233**	P	**Pn**	**18 53 47.9**	**-0.7**
DRO	**Drossia**	**2.26**	**233**	P	**Pn**	**18 53 47

BDRM *i* S **Sg** 18 55 09.3 +3.3
BDRM Kayabasi 3.54 129 *i* P **Pn** 18 54 05.6 -0.6
BDRM *i* S **Sg** 18 55 09.3 +3.3
DST Dursunbey 3.59 84 *e*PN **Pn** 18 54 06.5 -0.3
MANT Manisa 3.66 102 *i* P **Pn** 18 54 07.4 -0.6
MANT *i* S **Sg** 18 55 06.3 -3.6
MANT Manisa 3.66 102 *i* P **Pn** 18 54 07.4 -0.6
MANT *i* S **Sg** 18 55 06.3 -3.6
DEMI Demirci 3.68 93 *i* P **Pn** 18 54 08.3 +0.1
DEMI *i* S **Sg** 18 55 09.3 -1.2
DEMI Demirci 3.68 93 *i* P **Pn** 18 54 08.3 +0.1
DEMI *i* S **Sg** 18 55 09.3 -1.2
JMB Yambol 3.69 31 ⇓ *i*P **Pn** 18 54 06.8 -1.4
JMB Yambol 3.69 31 S **Sn** 18 54 53.3 +2.2
NIS1 Nisyros Isl. 3.72 136 *e*PN **Pn** 18 54 09.6 +1.0
NIS1 Nisyros Isl. 3.72 136 *e*PN **Pn** 18 54 08.2 -0.4
NIS1 Nisyros Isl. 3.72 136 *e*Pn **Pn** 18 54 08.2 -0.4
KULA Kula-Manisa 3.73 101 *e*PN **Pn** 18 54 09.2 +0.4
KULA Kula-Manisa 3.73 101 P **Pn** 18 54 08.9 0.0
KULA Kula-Manisa 3.73 101 P **Pn** 18 54 08.9 0.0
KULA Kula-Manisa 3.73 101 P **Pn** 18 54 08.9 0.0
TIR Tirane 3.74 304 *e*P **Pn** 18 54 10.5 +1.7
TIR Tirane 3.74 304 *e*Pn **Pn** 18 54 10.5 +1.7
TIR Tirane 3.74 304 *e*Pn **Pn** 18 54 10.5 +1.7
SLVT Silivri 3.74 58 *i* P Pb 18 54 13.1 -4.5
SLVT *i* S **Sb** 18 55 03.2 +0.8
ORLT Orhaneli 3.85 78 *e*PN **Pn** 18 54 10.0 -0.4
VAM Vamos 3.93 178 *e*PN **Pn** 18 54 11.1 -0.4
VAM Vamos 3.93 178 *e*Pn **Pn** 18 54 11.1 -0.4
ARMT Armutlu 3.94 70 *e*PN **Pn** 18 54 11.0 -0.6
CTKS Kestanelik-??a 3.94 60 *e*PN **Pn** 18 54 11.4 -0.2
YER Yerkesik 4.03 122 *e*PN **Pn** 18 54 13.3 +0.3
ULDT Uludag 4.05 77 *i* P **Pn** 18 54 13.6 +0.3
ULDT Uludag 4.05 77 *i* P **Pn** 18 54 13.6 +0.3
IDI Anoyia 4.11 170 Pn **Pn** 18 54 13.2 -0.9
39nm,0.3s,baz=355,slow=9.8,SNR=94
IDI Sn **Sn** 18 54 59.5 -2.1
30nm,0.3s,baz=324,slow=17,SNR=4.2
IDI Lg Lg 18 55 19.6
40nm,0.3s,baz=24,slow=20,SNR=2.0
IACM Heraklion 4.12 168 *e*PN **Pn** 18 54 13.7 -0.4
IACM Heraklion 4.12 168 *e*Pn **Pn** 18 54 13.7 -0.4
GEMT Gemlik 4.14 73 *e*PN **Pn** 18 54 14.1 -0.3
BUY Buyukada 4.21 67 *i* P **Pn** 18 54 14.0 -1.3
BUY *i* S **Sg** 18 55 22.9 -4.5
BUY Buyukada 4.21 67 *i* P **Pn** 18 54 14.0 -1.3
BUY *i* S **Sg** 18 55 22.9 -4.5
TVSB Tavsanli 4.24 87 *e*PN **Pn** 18 54 16.7 +0.9
ISK Istanbul-Kandi 4.25 64 *e*PN **Pn** 18 54 15.8 -0.1
ISK Istanbul-Kandi 4.25 64 P **Pn** 18 54 15.7 -0.1
ISK Istanbul-Kandi 4.25 64 P **Pn** 18 54 15.7 -0.1
ISK Istanbul-Kandi 4.25 64 P **Pn** 18 54 15.7 -0.1
ISK Istanbul-Kandi 4.25 64 P **Pn** 18 54 15.7 -0.1
DENT Denizli 4.26 110 *e*PN **Pn** 18 54 15.8 -0.3
GDZ Gediz 4.27 92 *i* P **Pn** 18 54 16.1 -0.2
GDZ *i* S **Sg** 18 55 27.5 -1.9
GDZ Gediz 4.27 92 *i* P **Pn** 18 54 16.1 -0.2
GDZ *i* S **Sg** 18 55 27.5 -1.9
NPS Neapolis 4.27 162 P **Pn** 18 54 15.1 -1.1
NPS Neapolis 4.27 162 *e*PN **Pn** 18 54 15.2 -1.0
NPS Neapolis 4.27 162 *e*Pn **Pn** 18 54 15.2 -1.0
NPS Neapolis 4.27 162 P **Pn** 18 54 15.1 -1.1
NPS Neapolis 4.27 162 P **Pn** 18 54 15.1 -1.1
KLYT Kilyos 4.31 62 *e*PN **Pn** 18 54 16.9 +0.2
IZI Iznik 4.33 75 *e*PN **Pn** 18 54 17.1 0.0
TURN Turunc 4.39 123 *i* P **Pn** 18 54 14.9 -2.9
TURN *i* S **Sg** 18 55 28.1 -5.1
TURN Turunc 4.39 123 *i* P **Pn** 18 54 14.9 -2.9
TURN *i* S **Sg** 18 55 28.1 -5.1
KHAL Karahalli 4.40 101 *i* P **Pn** 18 54 18.9 +0.8
KHAL *i* S **Sb** 18 55 27.0 +5.3
KHAL Karahalli 4.40 101 *i* P **Pn** 18 54 18.9 +0.8
KHAL *i* S **Sb** 18 55 27.0 +5.3
ZIMR 4.43 13 ⇑ *i*P **Pn** 18 54 18.3 -0.1
KHL Karahalli 4.44 102 *e*PN **Pn** 18 54 18.5 0.0
PVY Plav 4.46 318 ⇓ *i*Pn **Pn** 18 54 19.4 +0.5
PVY *e*Sn **Sn** 18 55 10.3 0.0
PVY Plav 4.46 318 ⇓ *i*Pn **Pn** 18 54 19.4 +0.5
PVY *e*Sn **Sn** 18 55 10.3 0.0
DALY Dalyan (Mu˘la 4.46 123 *e*PN **Pn** 18 54 20.3 +1.6
ULC Ulcinj 4.46 307 ⇑ *i*Pn **Pn** 18 54 20.3 +1.5
ULC *e*Sn **Sn** 18 55 10.5 +0.3
ULC Ulcinj 4.46 307 ⇑ *i*Pn **Pn** 18 54 20.3 +1.5
ULC *e*Sn **Sn** 18 55 10.5 +0.3
ARG Arkhangelos 4.52 132 *e*PN **Pn** 18 54 19.4 -0.2
ARG Arkhangelos 4.52 132 *e*Pn **Pn** 18 54 19.4 -0.2
KARP Karpathos 4.55 145 *e*PN **Pn** 18 54 19.4 -0.7
KARP Karpathos 4.55 145 *e*Pn **Pn** 18 54 19.4 -0.7
CAVI Cavuskoy 4.59 77 *e*PN **Pn** 18 54 20.3 -0.3
HRT Hereke 4.60 69 *e*PN **Pn** 18 54 21.0 +0.3
DRME Dracevica, Mon 4.63 309 ⇓ *i*Pn **Pn** 18 54 21.9 +0.8
DRME *e*Sn **Sn** 18 55 13.9 -0.3
DRME Dracevica, Mon 4.63 309 ⇓ *i*Pn **Pn** 18 54 21.9 +0.8
DRME *e*Sn **Sn** 18 55 13.9 -0.3
SILT Sile 4.69 65 *e*PN **Pn** 18 54 22.4 +0.5
BEY Berane 4.69 320 *e*Pn **Pn** 18 54 22.5 +0.5
BEY *e*Sn **Sn** 18 55 15.2 -0.8
IVA Berane 4.69 320 *e*Pn **Pn** 18 54 22.5 +0.5
IVA *e*Sn **Sn** 18 55 15.2 -0.8
AUKUT KUTAHYA 4.70 81 *i* P **Pn** 18 54 23.5 +1.4
AUKUT *i* S **Sg** 18 55 42.1 -0.9
PDG Podgorica 4.73 312 ⇑ *i*Pn **Pn** 18 54 23.8 +1.3
PDG Podgorica 4.73 312 P **Pn** 18 54 24.1 +1.6
PDG *e*Sn **Sn** 18 55 16.6 -0.2
PDG Podgorica 4.73 312 P **Pn** 18 54 24.1 +1.6
TTG Podgorica 4.73 312 ⇑ *i*Pn **Pn** 18 54 23.8 +1.3
TTG *e*Sn **Sn** 18 55 16.6 -0.2
TTG Podgorica 4.73 312 P **Pn** 18 54 24.1 +1.6
TTG Podgorica 4.73 312 P **Pn** 18 54 24.1 +1.6
TTG Podgorica 4.73 312 P **Pn** 18 54 24.1 +1.6
GOLH Golhisar 4.86 114 *i* P **Pn** 18 54 25.7 +1.3
GOLH *i* S **Sg** 18 55 52.6 +4.4
GOLH Golhisar 4.86 114 *i* P **Pn** 18 54 25.7 +1.3
GOLH *i* S **Sg** 18 55 52.6 +4.4
BUM Brajici-Budva 4.87 309 ⇑ *i*Pn **Pn** 18 54 24.7 +0.3
BUM *e*Sn **Sn** 18 55 20.0 -0.3
BUM Brajici-Budva 4.87 309 ⇑ *i*Pn **Pn** 18 54 24.7 +0.3
BUM *e*Sn **Sn** 18 55 20.0 -0.3
GPA Golpazari 4.96 77 *e*PN **Pn** 18 54 26.1 +0.4
BORA Eskisehir 5.02 82 *i* P **Pn** 18 54 26.5 -0.1
BORA *i* S **Sg** 18 55 52.6 -0.7
BORA Eskisehir 5.02 82 *i* P **Pn** 18 54 26.5 -0.1
BORA *i* S **Sg** 18 55 52.6 -0.7
SPNC Sapanca-Adapaz 5.03 73 *e*PN **Pn** 18 54 27.6 +1.0
AUKIR K¨–rka- Seyitg 5.07 89 *i* P **Pn** 18 54 28.5 +1.2
AUKIR *i* S **Sg** 18 55 53.3 -1.7
NKME Niksic 5.12 314 ⇓ *i*Pn **Pn** 18 54 28.8 +0.9
NKME *e*Sn **Sn** 18 55 26.1 -0.4
NKME Niksic 5.12 314 ⇓ *i*Pn **Pn** 18 54 28.8 +0.9
NKME *e*Sn **Sn** 18 55 26.1 -0.4
NKY Niksic 5.13 314 ⇓ *i*Pn **Pn** 18 54 28.8 +0.8
NKY *e*Sn **Sn** 18 55 25.5 -1.2
NKY Niksic 5.13 314 ⇓ *i*Pn **Pn** 18 54 28.8 +0.8
NKY *e*Sn **Sn** 18 55 25.5 -1.2
GULT Gulveren 5.13 76 *e*PN **Pn** 18 54 29.3 +1.1
HCY Herceg Novi 5.19 308 ⇓ *i*Pn **Pn** 18 54 29.4 +0.5
HCY *e*Sn **Sn** 18 55 27.7 -0.5
HCY Herceg Novi 5.19 308 ⇓ *i*Pn **Pn** 18 54 29.4 +0.5
HCY *e*Sn **Sn** 18 55 27.7 -0.5
HUMR Humele 5.24 8 ⇑ *i*P **Pn** 18 54 29.2 -0.2
PLE Pljevlja 5.28 320 ⇑ *i*Pn **Pn** 18 54 30.2 +0.1
PLE *e*Sn **Sn** 18 55 30.0 -0.5
PLE Pljevlja 5.28 320 ⇑ *i*Pn **Pn** 18 54 30.2 +0.1
PLE *e*Sn **Sn** 18 55 30.0 -0.5
ESKT Eskisehir 5.31 86 *e*PN **Pn** 18 54 31.6 +1.0
SEYT Eskypehyr 5.31 86 *i* P **Pn** 18 54 31.3 +0.7
SEYT Eskypehyr 5.31 86 *i* P **Pn** 18 54 31.3 +0.7
ELL Elmali 5.34 117 *e*PN **Pn** 18 54 31.8 +0.8
SRE Strehaia 5.35 354 ⇓ *i*P **Pn** 18 54 31.0 0.0
PSN Preselentsi 5.36 35 ⇓ *i*P **Pn** 18 54 29.7 -1.4
UPM Unac-Piva 5.44 317 ⇓ *i*Pn **Pn** 18 54 33.3 +0.9
UPM *e*Sn **Sn** 18 55 33.3 -1.2
UPM Unac-Piva 5.44 317 ⇓ *i*Pn **Pn** 18 54 33.3 +0.9
UPM *e*Sn **Sn** 18 55 33.3 -1.2
BRY Bratogost 5.44 313 ⇑ *i*Pn **Pn** 18 54 33.0 +0.6
BRY *e*Sn **Sn** 18 55 34.4 -0.1
BRY Bratogost 5.44 313 ⇑ *i*Pn **Pn** 18 54 33.0 +0.6
BRY *e*Sn **Sn** 18 55 34.4 -0.1
BOLV Bolvadin 5.45 94 *i* P **Pn** 18 54 34.3 +1.7

BOLV Bolvadin 5.45 94 *i* P **Pn** 18 54 34.3 +1.7
KSL Kastellorizon 5.46 124 *e*PN **Pn** 18 54 32.3 -0.2
BAGO Egridir - ISPA 5.49 102 *i* P **Pn** 18 54 33.7 +0.7
BCK Bucak 5.51 108 *e*PN **Pn** 18 54 35.0 +1.7
BTAS Taskesti 5.52 75 *i* P **Pn** 18 54 33.9 +0.4
BTAS *i* S **Sg** 18 56 06.1 -3.3
BTAS Taskesti 5.52 75 *i* P **Pn** 18 54 33.9 +0.4
BTAS *i* S **Sg** 18 56 06.1 -3.3
KORT Korkueli 5.53 113 *i* P **Pn** 18 54 35.7 +2.1
KORT Korkueli 5.53 113 *i* P **Pn** 18 54 35.7 +2.1
MSAB Monastry St. A 5.54 30 ⇓ *i*P **Pn** 18 54 32.1 -1.5
SULR 5.59 17 ⇑ *i*P **Pn** 18 54 34.6 +0.3
DIVS Divibare 5.62 329 ⇑ *i*P **Pn** 18 54 35.1 +0.4
TIP Timpagrande 5.62 271 ⇓ *i*Pn **Pn** 18 54 34.6 -0.1
TIP Timpagrande 5.62 271 ⇓ *i*Pn **Pn** 18 54 34.6 -0.1
ANTB Antalya 5.79 113 *e*PN **Pn** 18 54 38.2 +1.2
AUMIH MIHALICIK 5.81 82 *i* P **Pn** 18 54 37.4 -0.1
AUMIH *i* S **Sg** 18 56 13.8 -4.9
SVRH Sivrihisar-ESK 5.83 87 *e*PN **Pn** 18 54 38.7 +1.0
SECR 5.89 14 ⇑ *i*P **Pn** 18 54 39.3 +0.8
STON Ston 5.92 309 *e*Pn **Pn** 18 54 40.1 +1.4
STON Sn **Sn** 18 55 44.2 -1.8
MTUR Matau 5.93 7 ⇓ *i*P **Pn** 18 54 39.8 +0.7
KDZE Karadeniz Ereo 6.03 69 *e*PN **Pn** 18 54 41.0 +0.7
ARR Arges 6.04 4 ⇓ *i*P **Pn** 18 54 40.7 +0.2
TIRR Tirgusor 6.08 311 ⇑ *e*P **Pn** 18 54 39.5 -1.6
TIRR pmax pmax
comp=Z,295nm,1.1s
TIRR Tirgusor 6.08 311 ⇑ *e*Pn **Pn** 18 54 39.5 -1.6
comp=Z,295nm,1.1s
TIRR *e*Sg **Sg** 18 56 23.6 -3.7
TIRR Tirgusor 6.08 311 ⇑ *e*Pn **Pn** 18 54 39.5 -1.6
comp=Z,295nm,1.1s
TIRR *e*Sg **Sg** 18 56 23.6 -3.7
HARR Harsova 6.10 27 ⇓ *i*P **Pn** 18 54 40.8 -0.4
LOT Lotru 6.11 359 *e*PN **Pn** 18 54 42.4 +1.0
LOT Lotru 6.11 359 ⇑ *i*P **Pn** 18 54 41.3 -0.2
VOIR 6.14 7 ⇑ *i*P **Pn** 18 54 41.5 -0.4
KIZT Kizilcal 6.15 92 *e*PN **Pn** 18 54 43.2 +1.1
MLR Muntele Rosu 6.31 13 Pn **Pn** 18 54 45.0 +0.7
comp=Z,2.4nm,0.3s,baz=205,slow=5.5,SNR=190
MLR Sn **Sn** 18 55 57.8 +1.8
comp=Z,2.4nm,0.3s,baz=226,slow=17,SNR=1.8
MLR Lg Lg 18 56 31.3
baz=82,slow=19,SNR=1.6
MLR LR LR 18 57 29.0
comp=Z,350nm,21.5s,baz=196,slow=41
MLR Muntele Rosu 6.31 13 ⇓ *i*P **Pn** 18 54 44.9 +0.6
CUC Castrocucco 6.34 278 ⇓ *i*Pn **Pn** 18 54 45.5 +0.8
CUC *e*Sn **Sn** 18 55 53.1 -3.5
CUC Castrocucco 6.34 278 ⇓ *i*Pn **Pn** 18 54 45.5 +0.8
CUC *e*Sn **Sn** 18 55 53.1 -3.5
BCAM Yenicaga 6.37 74 *i* P **Pn** 18 54 46.0 +0.9
BCAM Yenicaga 6.37 74 *i* P **Pn** 18 54 46.0 +0.9
BZS Buzias 6.51 345 *e*PN **Pn** 18 54 48.3 +1.3
BZS Buzias 6.51 345 ⇓ *i*P **Pn** 18 54 45.8 -1.1
KONT Konya--Tatoy 6.70 99 *e*PN **Pn** 18 54 50.6 +1.0
DOPR Dopca 6.70 8 ⇑ *i*P **Pn** 18 54 50.2 +0.6
PLOR Plostina 6.79 16 ⇑ *i*P **Pn** 18 54 51.9 +1.0
LOD Lodumlu 6.80 83 *e*PN **Pn** 18 54 52.0 +1.1
MDB Medias 6.80 2 ⇓ *i*P **Pn** 18 54 51.7 +0.8
VRI Vrincioaia 6.83 16 *e*PN **Pn** 18 54 52.3 +1.0
VRI Vrincioaia 6.83 16 ⇓ *i*P **Pn** 18 54 51.3 0.0
TLCR 6.85 30 ⇑ *i*P **Pn** 18 54 50.7 -0.8
GIUM Giurgiulesti 6.88 26 ⇑ *i*P **Pn** 18 54 53.0 +1.0
CHBY Cihanbeyli 6.98 93 *e*PN **Pn** 18 54 54.1 +0.6
KULU Kulu 7.01 90 *e*PN **Pn** 18 54 54.4 +0.6
SIRR Siria 7.13 347 ⇑ *i*P **Pn** 18 54 55.0 -0.5
CJR Cluj-Napoca 7.37 358 ⇑ *i*P **Pn** 18 54 59.3 +0.5
TESR Tescani 7.43 14 ⇓ *i*P **Pn** 18 55 00.2 +0.7
SERE Serefiikochisa 7.45 90 *e*PN **Pn** 18 55 00.3 +0.4
BR131 Keskin Array S 7.47 84 *e*Pn **Pn** 18 55 00.3 +0.1
comp=Z,32nm,0.6s
BR131 *e*Sg **Sg** 18 57 10.6 -1.1
BR131 Keskin Array S 7.47 84 *e*Pn **Pn** 18 55 00.3 +0.1
comp=Z,32nm,0.6s
BR131 *e*Sg **Sg** 18 57 10.6 -1.1
BRTR Keskin Array B 7.47 84 Pn **Pn** 18 55 00.8 +0.5
comp=Z,3.8nm,0.3s,baz=260,slow=13,SNR=93
BRTR Pg Pg 18 55 30.2 -4.9
comp=Z,3.0nm,0.3s,baz=306,slow=19,SNR=7.1
BRTR Sn **Sn** 18 56 21.1 -3.4
baz=285,slow=16,SNR=2.0
BRTR Lg Lg 18 57 09.1
baz=295,slow=17,SNR=2.7
CANT Cankiri 7.50 77 *e*PN **Pn** 18 55 00.9 +0.3
SULT Sultanhani-AKS 7.53 96 *e*PN **Pn** 18 55 02.3 +1.3
KAMT Kaman 7.53 87 *e*PN **Pn** 18 55 01.6 +0.5
YAYX Yaylak 7.64 90 *e*PN **Pn** 18 54 55.0 -7.6
ARCR ARCALIA 7.75 2 ⇑ *i*P **Pn** 18 55 04.4 +0.5
YESY Yesilyurt 7.80 98 *e*PN **Pn** 18 55 05.2 +0.5
SLUM 7.90 172 P **Pn** 18 55 02.5 -3.5
baz=172
SLUM S Sn 18 56 26.9 -7.8
baz=172
SLUM 7.90 172 P **Pn** 18 55 02.5 -3.5
SLUM S Sn 18 56 26.9 -7.8
PKSM Moragy 7.91 332 ⇑ *i*P **Pn** 18 55 05.4 -0.7
PKSM Moragy 7.91 332 ⇓ *e*Pn **Pn** 18 55 06.1 0.0
PKS2 Kecel 7.96 335 *e*PN **Pn** 18 55 07.8 +1.0
UDBI Udbina 8.03 313 *i* Pn **Pn** 18 55 08.7 +0.9
UDBI Sn **Sn** 18 56 36.3 -1.7
BZK Bozkurt 8.05 68 *e*PN **Pn** 18 55 08.5 +0.5
WDD Wield Dalam 8.28 248 *e*PN **Pn** 18 55 09.9 -1.3
WDD *e*Sn **Sn** 18 56 38.6 -5.5
WDD Wield Dalam 8.28 248 *e*PN **Pn** 18 55 09.8 -1.3
WDD *e*Sn **Sn** 18 56 38.6 -5.5
BURAR Bucovina Array 8.32 6 ⇓ *i*P **Pn** 18 55 12.8 +1.0
BMR Baia Mare 8.34 358 ⇓ *i*P **Pn** 18 55 12.2 +0.2
PKS9 Tamasi 8.36 332 *e*PN **Pn** 18 55 12.1 -0.2
NIG Nigde 8.39 95 *e*PN **Pn** 18 55 13.3 +0.3
KIS Kishinev 8.42 23 ⇓ *i*P **Pn** 18 55 12.0 -1.2
comp=Z,300nm,1.0s
KIS *e*S **Sn** 18 56 44.0 -3.7
KIS *i* LQ LQ 18 57 54.0
KIS LRM MLR 18 59 28.0
comp=Z,3μm,12.0s
KIS Kishinev 8.42 23 ⇓ *i*P **Pn** 18 55 12.0 -1.2
KIS *e*S **Sn** 18 56 44.0 -3.7
KIS pmax pmax
comp=Z,300nm,1.0s
KIS MLR MLR
comp=Z,3μm,9.5s
KIS Kishinev 8.42 23 *i* P **Pn** 18 55 12.0 -1.2
comp=Z,300nm,1.0s
KIS *e*S **Sn** 18 56 44.0 -3.7
comp=Z,3μm,9.5s
NVLJ Novalja 8.56 310 *e*Pn **Pn** 18 55 14.1 -0.9
NVLJ Sn **Sn** 18 56 46.1 -5.0
AQU L'Aquila 8.57 294 ⇑ *e*P **Pn** 18 55 14.9 -0.4
AQU L'Aquila 8.57 294 ⇑ *e*Pn **Pn** 18 55 14.9 -0.4
AQU L'Aquila 8.57 294 ⇑ *e*Pn **Pn** 18 55 14.9 -0.4
CLTB Caltabellotta 8.63 262 *e*Pn **Pn** 18 55 16.1 -0.1
CLTB Caltabellotta 8.63 262 *e*Pn **Pn** 18 55 16.1 -0.1
CSS Prodhromos 8.64 117 *e*PN **Pn** 18 55 17.5 +1.2
CSS Prodhromos 8.64 117 *e*Pn **Pn** 18 55 16.0 -0.2
CSS Prodhromos 8.64 117 *e*Pn **Pn** 18 55 16.0 -0.2
MERS Mersin 8.66 103 *e*PN **Pn** 18 55 17.4 +0.9
BEHE Becsehely 8.87 326 *e*Pn **Pn** 18 55 19.6 +0.3
SEV Sevastopol' 8.89 51 P **Pn** 18 55 16.4 -3.1
SEV *e*S Sn 18 56 53.1 -5.9
SEV smax smax
comp=N,34nm,0.6s
SEV Sevastopol' 8.89 51 P **Pn** 18 55 16.4 -3.1
comp=N,34nm,0.6s
SEV *e*S Sn 18 56 53.1 -5.9
BOJS Bojanci 8.92 316 *e*Pn **Pn** 18 55 20.3 +0.2
KARA Karaisali 8.94 100 *e*PN **Pn** 18 55 20.9 +0.6
PKSG 9.02 335 ⇑ *e*Pn **Pn** 18 55 21.4 +0.1
PKST T˜˜s 9.02 333 ⇓ *e*Pn **Pn** 18 55 22.4 +1.0
CSKK Cs˘˘tkako 9.04 334 ⇓ *e*Pn **Pn** 18 55 20.6 -1.0
PSZ Piszkesteto 9.07 342 *e*P **Pn** 18 55 20.5 -1.6
PSZ Piszkesteto 9.07 342 ⇓ *i*P **Pn** 18 55 21.4 -0.7
PSZ Piszkesteto 9.07 342 *e*Pn **Pn** 18 55 20.5 -1.6
PSZ Piszkesteto 9.07 342 *e*Pn **Pn** 18 55 20.5 -1.6
PSZ Piszkesteto 9.07 342 ⇓ *e*Pn Pn 18 55 14.8 -7.3
YAL Yalta 9.15 53 *e*P Pn 18 55 26.7 +3.6
YAL *e*S **Sn** 18 57 09.9 +4.3
YAL pmax pmax
comp=Z,23nm,0.9s
YAL smax smax
comp=N,50nm,1.1s
YAL smax smax
comp=E,15nm,1.1s
YAL Yalta 9.15 53 *e*P Pn 18 55 26.7 +3.6
comp=E,23nm,0.9s
YAL *e*S **Sn** 18 57 09.9 +4.3
UZH Uzhgorod 9.37 353 *e*P **Pn** 18 55 26.4 +0.3
UZH *e*S **Sn** 18 57 12.4 +1.6
UZH MLR MLR
comp=N,2μm,9.0s
UZH MLR MLR
comp=E,3μm,9.0s
UZH MLR MLR
comp=Z,1μm,9.0s
UZH Uzhgorod 9.37 353 *e*P **Pn** 18 55 26.4 +0.3
UZH *e*S **Sn** 18 57 12.4 +1.6
SIM Simferopol' 9.37 50 *e*P Pn 18 55 23.0 -3.2
SIM *e*S **Sn** 18 57 08.6 -2.4
SIM pmax pmax
comp=Z,53nm,0.8s
SIM smax smax
comp=N,71nm,1.1s
SIM smax smax
comp=E,44nm,1.1s
SIM smax smax
comp=E,112nm,1.1s
SIM MLR MLR
comp=Z,660nm,11.9s
SIM Simferopol' 9.37 50 *e*P Pn 18 55 23.0 -3.2
comp=Z,53nm,0.8s
SIM *e*S **Sn** 18 57 08.6 -2.4
comp=Z,660nm,11.9s
ALU Alushta 9.40 52 *e*P **Pn** 18 55 24.9 -1.7
ALU *e*S **Sn** 18 57 11.7 0.0
ALU pmax pmax
comp=Z,15nm,0.2s
ALU smax smax
comp=N,28nm,1.2s
ALU smax smax
comp=E,103nm,1.2s
ALU Alushta 9.40 52 *e*P **Pn** 18 55 24.9 -1.7
comp=E,15nm,0.2s
ALU *e*S **Sn** 18 57 11.7 0.0
KOZT Kozan 9.47 98 *e*PN **Pn** 18 55 28.5 +0.8
KECS Kecovo 9.48 346 *e*P **Pn** 18 55 27.4 -0.3
KECS Kecovo 9.48 346 *e*P **Pn** 18 55 27.4 -0.3
KECS Kecovo 9.48 346 *e*PN **Pn** 18 55 27.4 -0.3
KECS *e* 18 58 20.6
SKDS Skadanscina 9.63 313 *e*Pn **Pn** 18 55 28.6 -1.1
LJU Ljubljana 9.66 317 *e*Pn **Pn** 18 55 28.1 -2.0
KOLS Kolonicke sedl 9.67 353 *e*P **Pn** 18 55 29.8 -0.4
KOLS Kolonicke sedl 9.67 353 *e*P **Pn** 18 55 29.8 -0.4
KOLS Kolonicke sedl 9.67 353 *e*PN **Pn** 18 55 29.8 -0.4
KOLS *e* 18 58 23.7
PERS Pernice 9.76 321 *e*Pn **Pn** 18 55 32.4 +0.8
SOKA Soboth 9.83 321 ⇓ *i*Pn **Pn** 18 55 33.1 +0.5
SNH=37
TRI Trieste 9.87 313 *e*P **Pn** 18 55 31.9 -1.0
TRI Trieste 9.87 313 *e*Pn **Pn** 18 55 31.9 -1.0
TRI Trieste 9.87 313 *e*Pn **Pn** 18 55 31.9 -1.0
SUDU Sudak 9.88 52 ⇑ *e*P **Pn** 18 55 30.9 -2.2
SUDU *e*S **Sn** 18 57 19.8 -3.5
SUDU pmax pmax
comp=Z,17nm,0.4s
SUDU smax smax
comp=N,121nm,0.8s
SUDU smax smax
comp=E,62nm,0.8s
SUDU Sudak 9.88 52 *e*P **Pn** 18 55 30.9 -2.2
comp=E,17nm,0.4s
SUDU *e*S **Sn** 18 57 19.8 -3.5
SOP Sopron 9.93 330 ⇑ *e*Pn **Pn** 18 55 35.0 +1.2
OBKA Obir 9.96 319 ⇑ *i*Pn **Pn** 18 55 34.2 -0.1
SNH=12
ARSA Arzberg 10.02 325 ⇓ *i*Pn **Pn** 18 55 35.4 +0.3
SNH=36
SVSK Karacayir 10.05 83 *e*PN **Pn** 18 55 35.4 -0.1
SWA2 10.15 173 P **Pn** 18 55 33.9 -2.9
baz=172
SWA2 AMP 18 57 00.0
comp=N,190μm,0.9s,logA/T=5.3,baz=172
SWA2 10.15 173 P **Pn** 18 55 33.9 -2.9
FEO Feodosiya 10.18 52 P Pn 18 55 42.4 +5.2
FEO *e*S Sn 18 57 37.9 +7.1
FEO pmax pmax
comp=Z,79nm,0.8s
FEO smax smax
comp=N,79nm,0.8s
FEO smax smax
comp=E,28nm,0.8s
FEO Feodosiya 10.18 52 P Pn 18 55 42.4 +5.2
comp=E,79nm,0.8s
FEO *e*S Sn 18 57 37.9 +7.1
CADS Cadrg 10.20 316 *e*Pn **Pn** 18 55 36.5 -1.1
KWP Kalwaria Pacla 10.33 355 *e*P **Pn** 18 55 41.3 +2.0
KWP Kalwaria Pacla 10.33 355 *e*P **Pn** 18 55 41.3 +2.0
KWP Kalwaria Pacla 10.33 355 *e*P **Pn** 18 55 41.3 +2.0
CONA Conrad Observa 10.40 328 ⇓ *i*Pn **Pn** 18 55 41.3 +0.9
SNR=16
NIE Niedzica 10.41 347 *e*P **Pn** 18 55 41.1 +0.7
NIE Niedzica 10.41 347 *e*P **Pn** 18 55 41.1 +0.7
NIE Niedzica 10.41 347 *e*P **Pn** 18 55 41.1 +0.7
LVV L'vov 10.48 0 *i*P **Pn** 18 55 42.3 +1.0
LVV *e*S Sn 18 57 44.3 +6.3
LVV MLR MLR
comp=Z,2μm,10.0s
LVV L'vov 10.48 0 *i* P **Pn** 18 55 42.3 +1.0
comp=Z,2μm,10.0s
LVV *e*S Sn 18 57 44.3 +6.3
MYKA Terra Mystica 10.51 317 ⇑ *i*Pn **Pn** 18 55 41.3 -0.5
SNR=7.9
KBA Koelnbreinsper 10.95 318 ⇓ *i*Pn **Pn** 18 55 48.0 0.0
SNR=27
MOA Molln 11.04 324 ⇑ *i*Pn **Pn** 18 55 50.4 +1.4
SNR=25
HNAT Natroun 11.12 149 P **Pn** 18 55 47.6 -2.5
baz=148
HNAT Natroun 11.12 149 P **Pn** 18 55 47.6 -2.5
MMAI Mount Meron Ar 11.17 121 Pn **Pn** 18 55 49.0 -1.9
comp=Z,4.3nm,0.3s,baz=307,slow=12,SNR=41
MMAI Sn Sn 18 57 45.8 -10
comp=Z,0.6nm,0.3s,baz=305,slow=23,SNR=2.5
MMAI LR LR 19 00 44.6
comp=Z,971nm,18.6s,baz=290,slow=41
ABTA Abfaltersbach 11.19 315 ⇑ *i*Pn **Pn** 18 55 50.3 -0.8
SNR=29
VLC Villacollemand 11.24 300 *e*Pn Pn 18 55 48.6 -3.2
VLC Villacollemand 11.24 300 *e*Pn Pn 18 55 48.6 -3.2
OJC Ojcow 11.28 346 *e*P **Pn** 18 55 54.3 +2.1
OJC Ojcow 11.28 346 *e*P **Pn** 18 55 52.0 -0.2
OJC Ojcow 11.28 346 *e*Pn **Pn** 18 55 52.0 -0.2
OJC Ojcow 11.28 346 *e*Pn **Pn** 18 55 52.0 -0.2
VRAC Vranov 11.28 334 Pn **Pn** 18 55 51.2 -1.0
comp=Z,0.5nm,0.3s,baz=169,slow=12,SNR=8.8
VRAC LR LR 19 00 58.0
comp=Z,675nm,18.5s,baz=167,slow=42
OKC Ostrava-Krasne 11.29 340 *e*P **Pn** 18 55 54.8 +2.5
OKC *e*x x 18 56 04.2
OKC *e*S Sn 18 58 07.4 +10
OKC AMS AMS 19 01 30.0
comp=Z,5μm,10.8s
OKC Ostrava-Krasne 11.29 340 *e*P **Pn** 18 55 54.8 +2.5
OKC *e*S Sn 18 58 07.4 +10
OKC MLR MLR
comp=Z,5μm,10.8s
OKC Ostrava-Krasne 11.29 340 *e*P **Pn** 18 55 54.8 +2.5
OKC *e*S Sn 18 58 07.4 +10
comp=Z,5μm,10.8s
BRBR Barbar 11.31 118 *i* P **Pn** 18 55 52.2 -0.7
VSL Villasalto 11.31 275 *e*Pn **Pn** 18 55 50.6 -2.1
VSL Villasalto 11.31 275 *e*Pn **Pn** 18 55 50.6 -2.1
ANN Anapa 11.38 57 *e*P **Pn** 18 55 51.3 -2.3
ANN *e*S **Sn** 18 57 58.7 -1.4
ANN pmax pmax
comp=Z,41nm,1.4s
ANN MLR MLR
comp=Z,923nm,13.0s
ANN Anapa 11.38 57 *e*P **Pn** 18 55 51.3 -2.3
comp=Z,41nm,1.4s
ANN *e*S **Sn** 18 57 58.7 -1.4
comp=Z,923nm,13.0s
MORC Moravsky Berou 11.40 338 *e*P **Pn** 18 55 52.9 -1.0
MORC Moravsky Berou 11.40 338 *e*Pn **Pn** 18 55 52.9 -1.0
MORC Moravsky Berou 11.40 338 *e*Pn **Pn** 18 55 52.9 -1.0
HSAF As Saff 11.53 145 P **Pn** 18 55 53.7 -2.1
baz=145

HSAF As Saff 11.53 145 P **Pn 18 55 53.7 -2.1**
RSH 11.54 133 P **Pn 18 55 54.0 -1.9**
baz=133
RSH 11.54 133 P **Pn 18 55 54.0 -1.9**
TREC Trest 11.66 331 *e*P **Pn 18 55 57.7 +0.2**
TREC *ex* x 18 56 04.0
TREC AMS AMS 19 01 30.0
comp=Z,2µm,12.1s
TREC Trest 11.66 331 *e*P **Pn 18 55 57.7 +0.2**
TREC MLR MLR
comp=Z,2µm,12.1s
TREC Trest 11.66 331 *e*P **Pn 18 55 57.7 +0.2**
comp=Z,2µm,12.1s
TOTH TOTAH 11.66 117 *i* P **Pn 18 55 57.5 -0.2**
RJOB Jochberg 11.67 320 *e*P **Pn 18 55 58.2 +0.5**
comp=Z,46nm,0.9s
RJOB Jochberg 11.67 320 *e*P **Pn 18 55 58.2 +0.5**
comp=Z,46nm,0.9s
TCHB Talchebab 11.76 121 *i* P **Pn 18 55 56.0 -2.9**
ROOS tl_alroos 11.85 112 *i* P **Pn 18 56 00.8 +0.6**
KRLC Kraliky 11.89 337 *e*P Pn 18 56 04.5 +3.9
KRLC Kraliky 11.89 337 *e*P Pn 18 56 04.5 +3.9
KRLC Kraliky 11.89 337 *e*P Pn 18 56 04.5 +3.9
KIEV Kiev 11.93 16⇑ *e*P **Pn 18 55 58.8 -2.4**
KIEV Kiev 11.93 16⇑ *e*Pn Pn 18 55 58.2 -3.0
KIEV Kiev 11.93 16 *e*P **Pn 18 55 58.8 -2.4**
KIEV Kiev 11.93 16⇑ *e*Pn Pn 18 55 58.2 -3.0
TAMR Tamra 11.93 264 P Pn 18 56 12.2 +11
AKASG Malin Array Be 11.94 16 Pn **Pn 18 55 58.9 -2.4**
comp=Z,2.7nm,0.3s,baz=202,slow=13,SNR=12
AKASG Sn **Sn 18 58 09.9 -4.0**
comp=Z,2.7nm,0.3s,baz=200,slow=21,SNR=3.6
AKASG LR LR 19 00 33.8
comp=Z,1µm,20.5s,baz=200,slow=37
AKASG Malin Array Be 11.94 16 *i* P **Pn 18 55 59.4 -1.9**
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKASG Malin Array Be 11.94 16 *i* P **Pn 18 55 59.4 -1.9**
comp=Z,6.0nm,0.6s
AKASG Sn **Sn 18 58 09.9 -4.0**
WTTA Wattenberg 11.98 315⇑ *i*Pn **Pn 18 56 02.1 +0.1**
SNR=8.1
GERES GERESS Array B 12.03 326 Pn **Pn 18 56 03.4 +0.8**
comp=Z,0.4nm,0.3s,baz=146,slow=13,SNR=47
GERES LR LR 19 01 00.4
comp=Z,1µm,19.6s,baz=142,slow=39
WATA Walderalm 12.05 316⇓ *i*Pn **Pn 18 56 02.9 0.0**
SNR=14
KEST Kesra 12.17 257 Pn **Pn 18 56 04.5 -0.1**
comp=Z,0.5nm,0.3s,baz=339,slow=3.4,SNR=25
KEST Kesra 12.17 257 *e*Pn **Pn 18 56 04.1 -0.5**
KEST Kesra 12.17 257 *e*Pn **Pn 18 56 04.1 -0.5**
SALA Sala 12.25 119 *i* P **Pn 18 56 03.6 -2.2**
ZAF 12.27 142 P **Pn 18 56 04.1 -1.8**
baz=142
ZAF 12.27 142 P **Pn 18 56 04.1 -1.8**
DPC Dobruska-Polom 12.27 336 *e*P Pn 18 56 09.1 +3.3
DPC AMS AMS 19 02 00.0
comp=Z,4µm,11.3s
DPC Dobruska-Polom 12.27 336 *e*P Pn 18 56 09.1 +3.3
DPC MLR MLR
comp=Z,4µm,11.3s
DPC Dobruska-Polom 12.27 336 *e*P Pn 18 56 09.1 +3.3
comp=Z,4µm,11.3s
NBNS Bani Suef 12.28 148 S Sn 18 58 13.3 -9.2
baz=148
NBNS AMP 18 58 00.0
comp=E,30µm,1.3s,logA/T=4.4,baz=148
NBNS Bani Suef 12.28 148 S Sn 18 58 13.3 -9.2
KHC Kasperske Hory 12.30 326 *e*P **Pn 18 56 06.5 +0.3**
KHC *ex* x 18 56 18.1
KHC *ex* x 18 56 53.0
KHC *e*S **Sn 18 58 25.0 +2.3**
KHC AMS AMS 19 01 10.0
comp=E,3µm,13.8s
KHC Kasperske Hory 12.30 326 *e*P **Pn 18 56 06.5 +0.3**
KHC *e*S **Sn 18 58 25.0 +2.3**
KHC MLR MLR
comp=Z,3µm,13.8s
KHC Kasperske Hory 12.30 326⇑ *e*Pn **Pn 18 56 05.9 -0.3**
KHC Kasperske Hory 12.30 326 *e*P **Pn 18 56 06.5 +0.3**
comp=Z,3µm,13.8s
KHC *e*S **Sn 18 58 25.0 +2.3**
KHC Kasperske Hory 12.30 326⇑ *e*Pn **Pn 18 56 06.0 -0.3**
MOTA Moosalm 12.32 315⇓ *i*Pn **Pn 18 56 05.4 -1.2**
SNR=14
FETA Feichten 12.34 313⇓ *i*Pn **Pn 18 56 06.2 -0.8**
SNR=10
ZNM 12.35 141 P **Pn 18 56 04.9 -2.1**
baz=141
ZNM 12.35 141 P **Pn 18 56 04.9 -2.1**
FUORN Ofenpass-Fuorn 12.40 310 *e*Pn **Pn 18 56 08.4 +0.6**
FUORN Ofenpass-Fuorn 12.40 310 *e*Pn **Pn 18 56 08.4 +0.6**
KSRV Kasrt alli 12.40 102 *i* P **Pn 18 56 10.6 +3.0**
GOPC GO Pecny, Ondr 12.43 331 *e*P **Pn 18 56 10.2 +2.2**
GOPC *ex* x 18 56 16.0
GOPC AMS AMS 19 02 00.0
comp=Z,3µm,10.7s
HNKL Nakhl 12.47 136 P **Pn 18 56 06.4 -2.3**
baz=135
HNKL Nakhl 12.47 136 P **Pn 18 56 06.4 -2.3**
UPC Upice 12.51 336 *e*P P 18 56 15.4 -5.2
UPC AMS AMS 19 02 00.0
comp=Z,3µm,13.8s
UPC Upice 12.51 336 *e*P P 18 56 15.4 -5.2
UPC MLR MLR
comp=Z,3µm,13.8s
UPC Upice 12.51 336 *e*P P 18 56 15.4 -5.2
comp=Z,3µm,13.8s
SOC Sochi 12.53 65 *e*P **Pn 18 56 08.8 -0.6**
SOC *e* 18 58 30.0
SOC pmax pmax
comp=Z,17nm,1.1s
SOC MLR MLR
comp=Z,601nm,12.0s
SOC Sochi 12.53 65 *e*P **Pn 18 56 08.8 -0.6**
comp=Z,17nm,1.1s
SOC *e*S **Sn 18 58 30.0 +1.6**
comp=Z,601nm,12.0s
PRU Pruhonice 12.58 331 *e*P **Pn 18 56 10.2 +0.2**
PRU AMS AMS 19 02 00.0
comp=Z,3µm,10.7s
PRU Pruhonice 12.58 331 *e*P **Pn 18 56 10.2 +0.2**
PRU MLR MLR
comp=Z,3µm,10.7s
PRU Pruhonice 12.58 331 *e*P **Pn 18 56 10.2 +0.2**
comp=Z,3µm,10.7s
WET Wettzell 12.62 325 *e*P **Pn 18 56 10.3 -0.3**
comp=Z,28nm,1.7s
WET Wettzell 12.62 325 *e*P **Pn 18 56 10.3 -0.3**
comp=Z,28nm,1.7s
ASF Jabal al Asfar 12.68 120 Pn **Pn 18 56 11.5 -0.1**
comp=Z,0.6nm,0.3s,baz=183,slow=2.8,SNR=10
ASF Sn **Sn 18 58 31.9 -0.5**
comp=Z,0.2nm,0.3s,baz=260,slow=17,SNR=1.6
HFRF Wahat Farafira 12.68 162 P Pn 18 56 07.7 -3.8
baz=162
HFRF AMP 18 58 06.6
comp=E,80µm,1.8s,logA/T=4.7,baz=162
HFRF S Sn 18 58 22.9 -9.3
baz=162
HFRF Wahat Farafira 12.68 162 P Pn 18 56 07.7 -3.8
HFRF S Sn 18 58 22.9 -9.3
PRA Prague 12.69 331 *e*P **Pn 18 56 12.2 +0.7**
PRA AMS AMS 19 02 20.0
comp=E,3µm,10.0s
PRA Prague 12.69 331 *e*P **Pn 18 56 12.2 +0.7**
PRA MLR MLR
comp=Z,3µm,10.0s
PRA Prague 12.69 331 *e*P **Pn 18 56 12.2 +0.7**
comp=Z,3µm,10.0s
BEL Belsk 12.69 351 *e*P **Pn 18 56 13.3 +1.7**
BEL Belsk 12.69 351 *e*P **Pn 18 56 13.3 +1.7**
BEL Belsk 12.69 351 *e*P **Pn 18 56 13.3 +1.7**
DAVOX Davos/Dischmat 12.71 310 Pn **Pn 18 56 11.7 -0.3**
comp=Z,1.8nm,0.3s,baz=139,slow=14,SNR=22
DAVOX Sn **Sn 18 58 31.2 -1.7**
comp=Z,0.5nm,0.3s,baz=14,slow=18,SNR=3.2
DAVOX LR LR 19 01 36.9
comp=Z,2µm,19.7s,baz=118,slow=40
DAVOX Davos/Dischmat 12.71 310 P **Pn 18 56 11.7 -0.3**
DAVOX 18 58 31.2
DAVOX pmax pmax
comp=Z,2.0nm,0.3s
DAVOX smax smax
comp=N,1.0nm,0.3s
DAVOX MLR MLR
comp=Z,2µm,19.7s
KSP Ksiaz 12.71 337 *e*P **Pn 18 56 13.9 +2.1**
KSP Ksiaz 12.71 337 *e*P **Pn 18 56 14.0 +2.1**
KSP Ksiaz 12.71 337 *e*P **Pn 18 56 14.0 +2.1**
TUE Stuetta 12.87 308 *e*Pn **Pn 18 56 14.0 -0.3**
comp=Z,35nm,1.1s
TUE *e*Sn Sn 18 58 30.1 -6.9
TUE Stuetta 12.87 308 *e*Pn **Pn 18 56 14.0 -0.3**
comp=Z,35nm,1.1s
TUE *e*Sn Sn 18 58 30.1 -6.9
DAVA Damuels 12.97 312⇓ *i*Pn **Pn 18 56 14.4 -1.2**
SAOF Saorge 13.13 296⇑ *e*P **Pn 18 56 18.0 +0.4**
EIL Elat 13.21 134 *e*PN **Pn 18 56 16.8 -1.9**
EIL Elat 13.21 134 Pn **Pn 18 56 16.5 -2.2**
comp=Z,1.3nm,0.3s,baz=340,slow=8.7,SNR=43
GRB Gharib 13.23 144 P Pn 18 56 16.0 -3.1
baz=144
GRB Gharib 13.23 144 P Pn 18 56 16.0 -3.1
KBSD Kabsdagh 13.23 95 *i* P **Pn 18 56 17.1 -1.9**
CMAH Djebel Manchou 13.35 263 P **Pn 18 56 21.5 +0.8**
CMAH Djebel Manchou 13.35 263 P **Pn 18 56 21.5 +0.8**
TOUF Mont Tournerai 13.35 296⇑ *e*P **Pn 18 56 21.3 +0.5**
ROTZ Rotzenmuhle 13.37 325 *e*P **Pn 18 56 21.1 +0.3**
comp=Z,18nm,1.8s
ROTZ Rotzenmuhle 13.37 325 *e*P **Pn 18 56 21.1 +0.3**
comp=Z,18nm,1.8s
MVIF Mont Vial 13.39 295⇑ *e*P **Pn 18 56 22.1 +0.8**
ABSA Djebel Ababsia 13.41 262 P **Pn 18 56 22.5 +0.9**
ABSA Djebel Ababsia 13.41 262 P **Pn 18 56 22.5 +0.9**
BRG Berggiesshubel 13.52 332 *e*P **Pn 18 56 22.4 -0.5**
comp=Z,16nm,1.3s
comp=N,2µm,12.6s
comp=E,2µm,13.5s
comp=Z,2µm,12.3s
BRG Berggiesshubel 13.52 332 *e*P **Pn 18 56 22.5 -0.4**
comp=Z,16nm,1.3s
BRG Berggiesshubel 13.52 332 *e*P **Pn 18 56 22.4 -0.5**
BRG pmax pmax
comp=Z,16nm,1.3s
BRG MLR MLR
comp=N,2µm,12.6s
BRG MLR MLR
comp=E,2µm,13.5s
BRG MLR MLR
comp=Z,2µm,12.3s
BRG Berggiesshubel 13.52 332 *e*P **Pn 18 56 22.5 -0.4**
comp=Z,16nm,1.3s
CALN Calern 13.54 294⇑ *e*P **Pn 18 56 22.8 -0.5**
NKC Novy Kostel 13.61 327 *e*P **Pn 18 56 23.8 -0.3**
NKC *ex* x 18 56 32.9
NKC AMS AMS 19 03 40.0
comp=Z,3µm,13.7s
NKC Novy Kostel 13.61 327 *e*P **Pn 18 56 23.8 -0.3**
NKC MLR MLR
comp=Z,3µm,13.7s
NKC Novy Kostel 13.61 327 *e*P **Pn 18 56 23.8 -0.3**
comp=Z,3µm,13.7s
TANN Tannenbergstha 13.74 327 *e*P **Pn 18 56 27.3 +1.4**
comp=Z,12nm,1.1s
TANN Tannenbergstha 13.74 327 *e*P **Pn 18 56 27.3 +1.4**
comp=Z,12nm,1.1s
GRA1 Grafenberg Arr 13.77 323 *e*P **Pn 18 56 27.9 +1.7**
comp=Z,21nm,0.9s
GRF Grafenberg Arr 13.77 323 *e*P **Pn 18 56 27.9 +1.7**
comp=Z,21nm,0.9s
GRF *e*L L 19 02 38.6
comp=Z,2µm,18.3s
GRFO Grafenberg 13.77 323 *e*P Pn 18 56 22.8 -3.4
GRFO Grafenberg 13.77 323 *e*Pn Pn 18 56 22.8 -3.4
GRFO Grafenberg 13.77 323 *e*Pn Pn 18 56 22.8 -3.4
CKFL Kef-Lekhel 13.96 263 P Pn 18 56 24.7 -4.3
CKFL Kef-Lekhel 13.96 263 P Pn 18 56 24.7 -4.3
SPAK Spaichingen-Ko 14.04 314⇑ *e*P **Pn 18 56 27.9 -2.1**
SENIN Lac Senin/Sane 14.10 305 *e*Pn Pn 18 56 25.6 -5.4
SENIN Lac Senin/Sane 14.10 305 *e*P **Pn 18 56 30.8 -0.2**
SENIN Lac Senin/Sane 14.10 305 *e*Pn Pn 18 56 25.6 -5.4
SENIN *e*P **Pn 18 56 30.8 -0.2**
CASM Ain Smara 14.18 263 P **Pn 18 56 30.2 -1.8**
CASM Ain Smara 14.18 263 P **Pn 18 56 30.2 -1.8**
STU Stuttgart 14.19 316 *e*P **Pn 18 56 31.2 -0.9**
STU Stuttgart 14.19 316 *e*Pn **Pn 18 56 31.1 -0.9**
STU Stuttgart 14.19 316 *e*Pn **Pn 18 56 31.1 -0.9**
CLL Collm 14.22 331 *e*P **Pn 18 56 32.0 -0.5**
comp=Z,24nm,1.1s
CLL Collm 14.22 331 *e*P **Pn 18 56 31.0 -1.5**
CLL pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 14.22 331 *e*P **Pn 18 56 31.0 -1.5**
comp=Z,5.0nm,1.0s
CLL Collm 14.22 331 *e*Pn **Pn 18 56 31.5 -0.9**
CLL Collm 14.22 331 *e*Pn **Pn 18 56 31.6 -0.9**
CLL Collm 14.22 331 *e*P **Pn 18 56 31.0 -1.5**
comp=Z,5.0nm,1.0s
CLL *i* PP **PnPn 18 56 41.2 +0.9**
CLL *i* 18 56 46.1
CLL *i* 18 57 41.6
CLL *e* 18 59 42.0
CLL Lmax 19 04 00.0
MOX Moxa 14.27 326 *e*P **Pn 18 56 33.5 +0.3**
comp=Z,47nm,0.1s
MOX *e*L L 19 02 08.5
comp=Z,1µm,19.3s
MOX Moxa 14.27 326 *e*P **Pn 18 56 33.5 +0.3**
comp=Z,47nm,0.1s
RSL Roselend 14.28 302⇑ *e*P **Pn 18 56 33.4 0.0**
CTEI Djebel Teioual 14.30 262 P **Pn 18 56 32.5 -1.3**
CTEI Djebel Teioual 14.30 262 P **Pn 18 56 32.5 -1.3**
LEPF PUYLOUBIER 14.34 293⇑ *e*P **Pn 18 56 35.6 +1.5**
BFO Black Forest 14.42 314 *e*P **Pn 18 56 35.0 -0.2**
comp=Z,16nm,1.0s
BFO Black Forest 14.42 314 *e*P Pn 18 56 32.1 -3.1
BFO Black Forest 14.42 314 *e*Pn Pn 18 56 32.1 -3.1
BFO Black Forest 14.42 314 *e*P **Pn 18 56 35.0 -0.2**
comp=Z,16nm,1.0s
BFO Black Forest 14.42 314 *e*Pn Pn 18 56 32.1 -3.1
OG01 Vacheresse 14.48 304⇑ *e*P **Pn 18 56 35.7 -0.4**
NEY Neytrino 14.61 68 *de*P **P 18 56 42.1 -2.1**
NEY pmax pmax
comp=Z,13nm,2.1s
NEY Neytrino 14.61 68 *e*P **P 18 56 42.1 -2.1**
comp=Z,13nm,2.1s
GKP Gorka Klasztor 14.68 344 *e*P **Pn 18 56 38.1 -0.6**
GKP Gorka Klasztor 14.68 344 *e*P **Pn 18 56 38.2 -0.5**
SUW Suwalki 14.69 358 *e*P **Pn 18 56 37.9 -0.8**
SUW Suwalki 14.69 358 *e*P **Pn 18 56 38.0 -0.8**
SUW Suwalki 14.69 358 *e*P **Pn 18 56 38.0 -0.8**
KIV Kislovodsk 14.71 66 *e*P **Pn 18 56 40.5 +1.2**
KIV Kislovodsk 14.71 66 P **Pn 18 56 42.0 +2.7**
comp=Z,452nm,1.0s,SNR=6.4
KIV Kislovodsk 14.71 66 *e*Pn **Pn 18 56 40.5 +1.2**
KIV Kislovodsk 14.71 66⇓ *i*P P 18 56 48.7 +3.4
SNR=9.3
KIV Kislovodsk 14.71 66 *e*Pn **Pn 18 56 40.5 +1.2**
LOMF Lomont 14.81 308⇑ *e*P **Pn 18 56 39.9 -0.7**
KBZ Khabaz 14.82 67 Pn **P 18 56 44.3 -2.0**
comp=Z,0.1nm,0.3s,baz=282,slow=11,SNR=14
MOF Molkenrain 14.86 310⇑ *e*P **Pn 18 56 39.7 -1.6**
RUE Ruedersdorf 14.92 335 *e*Pn **Pn 18 56 43.1 +1.3**
RUE Ruedersdorf 14.92 335 *e*Pn **Pn 18 56 43.1 +1.3**
AKH Akhalkalaki 15.01 76 P **P 18 56 47.0 -1.7**
ECH Echery 15.03 312 *e*P **Pn 18 56 40.7 -2.7**
ECH pmax pmax
comp=Z,12nm,1.0s
ECH Echery 15.03 312 *e*Pn **Pn 18 56 40.7 -2.7**
comp=Z,12nm,1.0s
ECH Echery 15.03 312 *e*Pn **Pn 18 56 40.7 -2.7**
comp=Z,12nm,1.0s
SET Setif 15.03 264 P **Pn 18 56 46.0 +2.3**
SET Setif 15.03 264 P **Pn 18 56 46.0 +2.3**
ONI Oni 15.05 71 P **P 18 56 47.3 -1.8**
UBBA Unterbreizbach 15.11 324 *e*P **Pn 18 56 43.3 -1.1**
comp=Z,40nm,2.1s
MAHO Mahon 15.21 278 *e*P Pn 18 56 41.1 -4.8
GOF Gofitskoye 15.22 62 *e*P **P 18 56 51.9 +1.1**
GOF pmax pmax
comp=Z,80nm,1.1s
GOF Gofitskoye 15.22 62 *e*P **P 18 56 51.9 +1.1**
comp=Z,80nm,1.1s
NCK Nalchik 15.28 68⇓ *e*P **P 18 56 51.2 -0.3**
NCK Nalchik 15.28 68 *e*P **P 18 56 51.2 -0.3**
MNK Minsk 15.39 8 *e*P Pn 18 56 41.0 -7.1
MNK MLR MLR
comp=Z,4µm,8.0s
MICGM Minsk 15.39 9 *e* Pn 18 56 41.0 -7.2
TNS Taunus Mts 15.46 320 *e*P **P 18 56 52.5 -1.1**
comp=Z,40nm,1.1s
TNS Taunus Mts 15.46 320 *e*P **P 18 56 52.5 -1.1**
comp=Z,40nm,1.1s
SSB Saint Sauveur 15.55 299 *e*P **Pn 18 56 47.5 -2.8**
SSB pmax pmax
comp=Z,18nm,1.0s
SSB Saint Sauveur 15.55 299 *e*Pn **Pn 18 56 47.5 -2.8**
comp=Z,18nm,1.0s
SSB Saint Sauveur 15.55 299 *e*Pn **Pn 18 56 47.5 -2.8**
comp=Z,18nm,1.0s
NACGM Naroch 15.68 6 *e*P Pn 18 56 46.0 -5.9
CLZ Clausthal 15.69 327 *e*P **Pn 18 56 53.1 +1.1**
comp=Z,36nm,1.1s
CLZ Clausthal 15.69 327 *e*P **Pn 18 56 53.1 +1.1**
comp=Z,36nm,1.1s
RUP Ruppelstein 15.87 316⇑ *e*P **Pn 18 56 54.0 -0.5**
VSR Storozhevoye 15.93 37 *e*P **Pn 18 56 52.9 -2.2**
VSR pmax pmax
comp=N,80nm,1.0s
VSR pmax pmax
comp=E,90nm,1.0s
VSR pmax pmax
comp=Z,40nm,1.0s
VSR MLR MLR
comp=N,2µm,17.0s
VSR MLR MLR
comp=E,1µm,17.0s
VSR MLR MLR
comp=Z,3µm,17.0s
TBLG Delisi 15.95 75 P **P 18 56 58.3 -0.7**
TBLG Delisi 15.95 75 P **P 18 56 58.3 -0.7**
TBLG Delisi 15.95 75 P **P 18 56 58.3 -0.7**
IDID Didziasalis 16.09 6 *e*P **Pn 18 56 53.8 -3.3**
IDID IAmb IAmb 18 56 55.4
comp=Z,28nm,1.2s
IIGN Ignalina 16.09 5 *e*P **Pn 18 56 54.0 -3.1**
IIGN IAmb IAmb 18 56 55.6
comp=Z,44nm,1.0s
COLF Collangettes 16.19 299⇑ *e*P **P 18 57 01.5 -0.1**
VOR Voronezh 16.30 36 P **Pn 18 56 57.0 -2.8**
VOR pmax pmax
comp=Z,250nm,1.0s
VOR Voronezh 16.30 36 P **Pn 18 56 57.0 -2.8**
comp=Z,250nm,1.0s
ISAL Salakas 16.30 4 *e*P **Pn 18 56 56.9 -2.9**
ISAL IAmb IAmb 18 56 58.3
comp=Z,32nm,1.1s
ISAL Salakas 16.30 4 *e*P **Pn 18 56 56.9 -2.9**
SNR=40
WLF Walferdange 16.34 315 P **Pn 18 57 01.0 +0.5**
comp=Z,23nm,1.7s
WLF Walferdange 16.34 315 *e*P **P 18 57 05.5 +2.2**
comp=Z,25nm,1.1s
WLF Walferdange 16.34 315 *e*P **Pn 18 57 01.0 +0.5**
WLF pmax pmax
comp=Z,40nm,1.3s
WLF Walferdange 16.34 315 *e*Pn **Pn 18 57 01.0 +0.5**
comp=Z,40nm,1.3s
WLF Walferdange 16.34 315 *e*P **P 18 57 05.5 +2.2**
comp=Z,25nm,1.1s
WLF Walferdange 16.34 315 *e*Pn **Pn 18 57 01.0 +0.5**
comp=Z,40nm,1.3s
PLDF La Plantade 16.36 300⇑ *e*P **P 18 57 04.8 +1.2**
LBL Lubilhac 16.42 298 *e*P **P 18 57 06.2 +1.9**
IZAR Zarasai 16.49 4 *e*P **Pn 18 56 58.9 -3.3**
IZAR IAmb IAmb 18 57 00.4
comp=Z,31nm,1.0s
FILF Fillols 16.50 288⇑ *e*P **Pn 18 57 01.8 -0.8**
LRDF Laroque-de-Fa 16.55 289⇑ *e*P **Pn 18 57 02.5 -0.6**
LPSR Galich'ya Gora 16.79 33 *e*P **Pn 18 57 04.0 -2.1**
LPSR pmax pmax
comp=N,10.0nm,0.9s
LPSR pmax pmax
comp=E,20nm,0.9s
LPSR pmax pmax
comp=Z,60nm,0.9s
LPSR MLR MLR
comp=E,1µm,20.0s
LPSR MLR MLR
comp=Z,1µm,20.0s
LPSR MLR MLR
comp=N,620nm,16.0s
LPSR Galich'ya Gora 16.79 33 *e*P **Pn 18 57 04.0 -2.1**
comp=N,620nm,16.0s
IMRD Marand 16.88 85 *e*P **P 18 57 12.6 +3.1**
IMRD Marand 16.88 85 *e*P **P 18 57 12.6 +3.1**
BSD Bornholm Skovb 16.92 342 *i* P **Pn 18 57 05.6 -2.0**
BSD Bornholm Skovb 16.92 342 *e*P **Pn 18 57 05.6 -2.0**
FRNF Fournols 16.93 298⇑ *e*P **Pn 18 57 06.8 -1.1**
MEM Membach 16.95 318 P **P 18 57 11.1 +1.2**
comp=Z,13nm,1.4s
MEM Membach 16.95 318 *e*P **P 18 57 11.9 +2.0**
MEM pmax pmax
comp=Z,27nm,1.0s
MEM Membach 16.95 318 *e*Pn **P 18 57 11.9 +2.0**
comp=Z,27nm,1.0s
IBBN Ibbenburen 17.16 324 *e*P **P 18 57 15.7 +3.5**
comp=Z,23nm,1.0s
IAZR Azarshahr 17.29 89 *e*P **P 18 57 16.3 +2.2**
IAZR Azarshahr 17.29 89 *e*P **P 18 57 16.3 +2.2**
BSEG Bad Segeberg 17.31 332 *e*P **Pn 18 57 11.4 -1.1**
comp=Z,46nm,1.1s
BSEG Bad Segeberg 17.31 332 *e*P **Pn 18 57 11.4 -1.1**
comp=Z,46nm,1.1s
DOU Dourbes 17.43 314 P **P 18 57 15.8 +0.5**
MLS Moulis 17.61 289⇑ *e*P **Pn 18 57 15.2 -1.2**
SNF Seneffe 17.81 315 P **P 18 57 21.4 +1.9**
OBN Obninsk 17.89 24 Pn **Pn 18 57 16.8 -3.0**
baz=213,slow=6.8,SNR=9.4
OBN LR LR 19 03 59.5
comp=Z,1µm,18.3s,baz=224,slow=36
OBN Obninsk 17.89 24⇑ *i*P **Pn 18 57 17.0 -2.8**
OBN *e*S **Sn 19 00 36.3 -2.3**
OBN pmax pmax
comp=Z,55nm,1.7s
OBN MLR MLR
comp=Z,1µm,20.0s
OBN Obninsk 17.89 24 *e*Pn **Pn 18 57 16.4 -3.4**
comp=Z,102nm,1.2s
OBN Obninsk 17.89 24 *i* P **Pn 18 57 17.0 -2.8**
comp=Z,55nm,1.7s
OBN Obninsk 17.89 24 *e*Pn **Pn 18 57 16.4 -3.4**
comp=Z,102nm,1.2s
IBST Bostanabad 17.99 88 *e*P **P 18 57 24.6 +2.8**
IBST Bostanabad 17.99 88 *e*P **P 18 57 24.6 +2.8**
MAK Makhachkala 18.06 71 *e*P **Pn 18 57 20.1 -1.8**
MAK *e*S **Sn 19 00 43.7 +0.9**
MAK pmax pmax
comp=Z,121nm,1.1s
MAK MLR MLR
comp=Z,590nm,10.0s
MAK Makhachkala 18.06 71 *e*P **Pn 18 57 20.1 -1.8**
comp=Z,121nm,1.1s
LABF Labassere 18.36 289⇑ *e*P **P 18 57 25.4 -0.3**
VIEF Viey 18.39 289⇑ *e*P **P 18 57 25.2 -0.8**
EANR 'Ain N'Sour 18.43 267 P **Pn 18 57 27.0 +0.4**
EANR 'Ain N'Sour 18.43 267 P **Pn 18 57 27.0 +0.4**
ETRT Tiaret 18.45 265 P **P 18 57 25.0 -1.8**
ETRT Tiaret 18.45 265 P **P 18 57 25.0 -1.8**
IDHR Dehrash 18.46 98 *e*P **Pn 18 57 27.8 +0.7**
IDHR Dehrash 18.46 98 *e*P **Pn 18 57 27.8 +0.7**
ISRB Sarab 18.56 87 *e*P **Pn 18 57 30.9 +2.5**
ISRB Sarab 18.56 87 *e*P **Pn 18 57 30.9 +2.5**
REYF Montagne du Re 18.70 289⇑ *e*P **P 18 57 28.9 -0.6**
MOS Moscow 18.75 25 *e*P P 18 57 24.1 -5.6
MOS *e*S **Sn 19 00 52.8 -6.5**
MOS pmax pmax
comp=Z,400nm,1.9s
MOS pmax pmax
comp=Z,250nm,1.9s
MOS MLR MLR
comp=N,2µm,13.0s
MOS MLR MLR
comp=Z,2µm,13.0s
IVIS Veis 18.88 98 *e*P **Pn 18 57 33.5 +1.4**
IVIS Veis 18.88 98 *e*P **Pn 18 57 33.5 +1.4**
ATE Arette 18.93 289⇑ *e*P **P 18 57 31.5 -0.4**
VSU Vasula 19.22 4 *c* P **P 18 57 34.1 -0.7**
VSU pmax pmax
comp=Z,278nm,1.7s
VSU Vasula 19.22 4 *i* P **P 18 57 34.1 -0.7**
comp=Z,278nm,1.7s

IKOM Komasi 19.52 98 *e*P **Pn 18 57 40.7 +0.9**
IKOM Komasi 19.52 98 *e*P **Pn 18 57 40.7 +0.9**
MUD Monsted U'grnd 19.72 335 *i* P **P 18 57 40.8 +0.5**
MUD Monsted U'grnd 19.72 335 *e*P **P 18 57 40.8 +0.5**
MUD Monsted U'grnd 19.72 335 *e*P **P 18 57 40.8 +0.5**
IGZV Ghazvin 20.89 90 *e*P Pn 18 57 56.5 +0.3
IGZV Ghazvin 20.89 90 *e*P Pn 18 57 56.5 +0.3
IRAZ Razeghan 20.96 93 *e*P Pn 18 57 57.9 +1.0
IRAZ Razeghan 20.96 93 *e*P Pn 18 57 57.9 +1.0
WOL Wolverton 21.27 313 *e*P **P 18 57 59.9 +2.7**
WOL AMB AMB 18 58 04.7
comp=Z,137nm,1.9s
WOL Wolverton 21.27 313 *e*P **P 18 57 59.9 +2.7**
ESDC Sonseca Array 21.54 280 P **P 18 57 59.0 -1.3**
comp=Z,27nm,0.7s,baz=74,slow=11,SNR=52
ESDC LR LR 19 06 20.2
comp=Z,479nm,18.9s,baz=80,slow=37
ESLA Sonseca Array 21.54 280 *e*P **P 18 57 58.9 -1.4**
comp=Z,148nm,1.8s
ESLA Sonseca Array 21.54 280 *e*P **P 18 57 58.9 -1.4**
comp=Z,148nm,1.8s
IR3 Iran Long-Peri 21.79 92 *e*P **P 18 58 06.0 +3.0**
IR3 Iran Long-Peri 21.79 92 *e*P **P 18 58 06.0 +3.0**
HFS Hagfors 21.80 346 P **P 18 58 02.1 -0.7**
comp=Z,12nm,0.7s,baz=164,slow=5.9,SNR=28
HFS LR LR 19 06 57.7
comp=Z,858nm,19.6s,baz=170,slow=38
PAB San Pablo 21.86 280 *e*P **P 18 58 01.5 -2.2**
PAB pmax pmax
comp=Z,50nm,0.9s
PAB San Pablo 21.86 280 *e*P **P 18 58 01.5 -2.2**
comp=Z,50nm,0.9s
PAB San Pablo 21.86 280 *e*P **P 18 58 01.5 -2.2**
comp=Z,50nm,0.9s
CWF Charnwood Fore 21.94 316 *e*P **P 18 58 05.6 +1.2**
CWF AMB AMB 18 58 11.3
comp=Z,40nm,1.2s
CWF Charnwood Fore 21.94 316 *e*P **P 18 58 05.6 +1.2**
STRD Stroud 22.00 313 *e*P **P 18 58 05.8 +0.8**
STRD AMB AMB 18 58 11.0
comp=Z,149nm,1.6s
STRD Stroud 22.00 313 *e*P **P 18 58 05.8 +0.8**
FINES FINESS Array B 22.17 3 P **P 18 58 05.0 -1.7**
comp=Z,11nm,0.9s,baz=157,slow=10,SNR=19
FINES LR LR 19 07 37.8
comp=Z,839nm,20.1s,baz=182,slow=39
FINES FINESS Array B 22.17 3 *i* P **P 18 58 05.5 -1.2**
FINES pmax pmax
comp=Z,11nm,0.9s
FINES FINESS Array B 22.17 3 *i* P **P 18 58 05.5 -1.2**
comp=Z,11nm,0.9s
FIA1 FINESS Array S 22.17 3 *e*P **P 18 58 04.4 -2.3**
FIA1 FINESS Array S 22.17 3 *e*P **P 18 58 04.4 -2.3**
KONO Kongsberg 22.28 341 *e*P **P 18 58 07.3 -0.6**
KONO Kongsberg 22.28 341 *e*P **P 18 58 07.3 -0.6**
KONO Kongsberg 22.28 341 *e*P **P 18 58 07.3 -0.6**
MONM Monmouth 22.39 313 *e*P **P 18 58 08.7 -0.5**
MONM Monmouth 22.39 313 *e*P **P 18 58 08.7 -0.5**
IVRN Varamin 22.48 92 *e*P **P 18 58 13.6 +3.1**
IVRN Varamin 22.48 92 *e*P **P 18 58 13.6 +3.1**
EMAL Malaga-Limoner 22.49 272 *e*P **P 18 58 08.6 -1.8**
EMAL *e*S **S 19 02 21.5 +5.2**
IDMV Damavand 22.54 91 *e*P **P 18 58 14.2 +2.9**
IDMV Damavand 22.54 91 *e*P **P 18 58 14.2 +2.9**
MCH1 Michaelchurch 22.56 313 *e*P **P 18 58 10.4 -0.6**
MCH1 AMB AMB 18 58 14.1
comp=Z,76nm,1.8s
MCH1 Michaelchurch 22.56 313 *e*P **P 18 58 10.4 -0.6**
IPRN Peran 22.58 89 *e*P **P 18 58 14.3 +2.8**
STNC Stoke 22.59 316 *e*P **P 18 58 12.6 +1.3**
STNC Stoke 22.59 316 *e*P **P 18 58 12.6 +1.3**
LHO Holmfirth 22.61 317 *e*P **P 18 58 11.6 0.0**
LHO Holmfirth 22.61 317 *e*P **P 18 58 11.6 0.0**
HPK Haverah Park 22.70 319 *e*P **P 18 58 12.6 +0.1**
HPK AMB AMB 18 58 14.4
comp=Z,97nm,1.3s
HPK Haverah Park 22.70 319 *e*P **P 18 58 12.6 +0.1**
IPIR Pirpir 22.70 99 *e*P **P 18 58 12.9 -0.1**
IPIR Pirpir 22.70 99 *e*P **P 18 58 12.9 -0.1**
HLM1 Long Mynd 22.71 314 *e*P **P 18 58 13.4 +0.8**
HLM1 AMB AMB 18 58 14.8
comp=Z,44nm,1.1s
HLM1 Long Mynd 22.71 314 *e*P **P 18 58 13.4 +0.8**
TAM Tamanrasset 22.78 229⇓ *i*P **P 18 58 13.8 0.0**
TAM pmax pmax
comp=Z,84nm,1.0s
TAM Tamanrasset 22.78 229⇓ *i*P **P 18 58 13.8 0.0**
comp=Z,84nm,1.0s
TAM Tamanrasset 22.78 229⇓ *i*P **P 18 58 13.8 0.0**
comp=Z,84nm,1.0s
PVLZ Pæen de 22.86 268 *e*P **P 18 58 15.9 +1.6**
PVLZ *e*S Sn 19 02 35.8 -2.5
IKLH Kolahrood 22.97 97 *e*P **P 18 58 18.4 +2.5**
IKLH Kolahrood 22.97 97 *e*P **P 18 58 18.4 +2.5**
IALA Alasht 22.99 89 *e*P **P 18 58 19.0 +3.0**
IALA Alasht 22.99 89 *e*P **P 18 58 19.0 +3.0**
NAO01 NORSAR Array S 23.02 344 *e*P **P 18 58 15.3 -0.5**
comp=Z,35nm,0.8s
NAO01 NORSAR Array S 23.02 344 *e*P **P 18 58 15.3 -0.5**
comp=Z,35nm,0.8s
FOEL Foel Wylfa 23.04 315 *e*P **P 18 58 15.6 -0.5**
FOEL Foel Wylfa 23.04 315 *e*P **P 18 58 15.6 -0.5**
NB2 NORSAR Subarra 23.13 344 P **P 18 58 16.6 -0.3**
comp=Z,64nm,1.2s,baz=152,slow=11
NB2 NORSAR Subarra 23.13 344 P **P 18 58 16.6 -0.3**
comp=Z,64nm,1.2s,SNR=6.1
NOA NORSAR Array B 23.13 344 P **P 18 58 17.1 +0.2**
comp=Z,19nm,0.9s,baz=154,slow=11,SNR=30
NOA LR LR 19 08 10.2
comp=Z,425nm,18.7s,baz=155,slow=39
REAL Reales 23.17 272 *e*P **P 18 58 17.0 -0.7**
LIJA Lijar 23.21 273 *e*P **P 18 58 16.0 -2.0**
ILAS Lasjerd 23.31 91 *e*P **P 18 58 21.8 +2.5**
ILAS Lasjerd 23.31 91 *e*P **P 18 58 21.8 +2.5**
PBRG Braganca 23.41 286 *e*P **P 18 58 18.8 -1.2**
comp=Z,74nm,1.7s
ISHM Shahmirzad 23.44 89 *e*P **P 18 58 23.5 +2.9**
CEU Ceuta 23.46 271 *e*P P 18 58 13.5 -7.0
CEU *e*S S 19 02 24.4 -8.6
WPM1 Penmaenmawr 23.58 315 *e*P **P 18 58 21.1 -0.4**
WPM1 Penmaenmawr 23.58 315 *e*P **P 18 58 21.1 -0.4**
IGLO Ghaloghah 23.66 87 *e*P **P 18 58 25.5 +2.9**
MVO Moncorvo 23.69 284 *e*P **P 18 58 21.4 -1.3**
comp=Z,84nm,1.3s
MVO *e*S **S 19 02 37.9 +1.2**
MVO *e*LR LR 19 08 04.3
comp=Z,498nm,16.0s
IZEF Zefreh 23.72 97 *e*P **P 18 58 24.8 +1.5**
IZEF Zefreh 23.72 97 *e*P **P 18 58 24.8 +1.5**
MDT Midelt 23.96 263 P **P 18 58 23.7 -1.7**
comp=Z,14nm,0.8s,baz=84,slow=12,SNR=18
MDT LR LR 19 09 04.0
comp=Z,256nm,18.5s,baz=72,slow=40
ECK Cauldkaine Hil 24.06 320 *e*P **P 18 58 26.1 0.0**
ECK Cauldkaine Hil 24.06 320 *e*P **P 18 58 26.1 0.0**
RAYN Ar Rayn 24.11 125 P **P 18 58 28.0 +1.2**
comp=Z,239nm,1.0s,SNR=17
EKA Eskdalemuir Ar 24.16 320 P **P 18 58 26.7 -0.2**
comp=Z,18nm,0.7s,baz=121,slow=9.2,SNR=25
EKA LR LR 19 08 52.1
comp=Z,465nm,18.6s,baz=55,slow=39
MTE Manteigas 24.16 283 *e*P **P 18 58 26.1 -1.1**
comp=Z,101nm,1.2s
MTE *e*S **S 19 02 46.0 +1.7**
MTE *e*LR LR 19 07 49.3
comp=Z,904nm,18.0s
MTE Manteigas 24.16 283 *e*P **P 18 58 24.9 -2.3**
comp=Z,48nm,0.8s
MTE Manteigas 24.16 283 *e*P **P 18 58 24.9 -2.3**
comp=Z,48nm,0.8s
ESK Eskdalemuir 24.17 320 *e*P **P 18 58 27.1 0.0**
ESK Eskdalemuir 24.17 320 *e*P **P 18 58 27.0 0.0**
ESK pmax pmax
comp=Z,61nm,1.1s
ESK Eskdalemuir 24.17 320 *e*P **P 18 58 27.0 0.0**
ESK Eskdalemuir 24.17 320 *e*P **P 18 58 27.0 0.0**
comp=Z,61nm,1.1s
PBAR Barrancos 24.17 277 *e*P **P 18 58 25.9 -1.3**
comp=Z,163nm,1.8s
PCBR Castelo Branco 24.20 281 *e*P **P 18 58 27.6 +0.2**
comp=Z,85nm,1.6s
POLO Lamas de Olo 24.24 285 *e*P **P 18 58 27.2 -0.7**
comp=Z,21nm,1.5s
PCAB Cabril 24.38 286 *e*P **P 18 58 27.5 -1.6**
comp=Z,71nm,1.8s
PVIS Viseu 24.39 283 *e*P **P 18 58 28.4 -0.8**
comp=Z,46nm,1.4s
PESTR Estremoz 24.45 279 *e*P **P 18 58 28.3 -1.5**
comp=Z,45nm,2.6s
PGAV Gavieira, Arco 24.54 287 *e*P **P 18 58 29.8 -0.9**
comp=Z,99nm,1.7s
PGAV *e*S **S 19 02 49.3 -1.1**
PGAV *e*LR LR 19 07 31.5
comp=Z,797nm,18.0s
EDU Dundee 24.72 323 *e*P **P 18 58 31.5 -0.5**
EDU Dundee 24.72 323 *e*P **P 18 58 31.5 -0.5**
IKAZ Kazeroun 24.76 104 *e*P **P 18 58 34.8 +1.8**
IKAZ Kazeroun 24.76 104 *e*P **P 18 58 34.8 +1.8**
PTO Porto 24.87 285 *e*P **P 18 58 33.8 +0.3**
comp=Z,67nm,1.2s
PVAQ Vaqueiros 24.87 276 *e*P **P 18 58 32.8 -0.8**
comp=Z,126nm,1.6s
PVAQ *e*S **S 19 02 53.8 -1.8**
PVAQ *e*LR LR 19 10 16.1
comp=Z,332nm,16.0s
PMTG Montargil 24.90 280 *e*P **P 18 58 32.6 -1.2**
comp=Z,58nm,1.6s
PCAS Casmilo, Conde 24.94 282 *e*P **P 18 58 33.9 -0.3**
comp=Z,36nm,1.5s
PTOM Tomar 24.94 281 *e*P **P 18 58 34.0 -0.2**
comp=Z,72nm,1.8s
PCVE Castro Verde 25.06 276 *e*P **P 18 58 34.5 -0.8**
comp=Z,28nm,1.8s
PBDV Barranco-do-Ve 25.08 275 *e*P **P 18 58 34.8 -0.7**
comp=Z,276nm,1.0s
MESJ Messejana 25.16 277 *e*P **P 18 58 35.4 -0.7**
MESJ AMb AMB 18 58 37.6
comp=Z,94nm,1.3s
MESJ *e*S **S 19 03 01.2 +1.1**
MESJ Messejana 25.16 277 *e*P **P 18 58 35.5 -0.7**
comp=Z,103nm,1.4s
MESJ Messejana 25.16 277 *e*P **P 18 58 35.4 -0.7**
MESJ *e*S **S 19 03 01.2 +1.1**
MESJ Messejana 25.16 277 *e*P **P 18 58 35.4 -0.7**
ISAD Sadrabad 25.17 98 *e*P **P 18 58 39.9 +3.2**
ISAD Sadrabad 25.17 98 *e*P **P 18 58 39.9 +3.2**
PNCL Nicolau / Gran 25.33 278 *e*P **P 18 58 37.5 -0.2**
comp=Z,67nm,1.5s
PTEO Sao Teotonio 25.61 276 *e*P **P 18 58 37.8 -2.5**
comp=Z,182nm,1.7s
MORF Marmelete 25.62 276 *e*P **P 18 58 39.7 -0.7**
MORF AMb AMB 18 58 42.8
comp=Z,81nm,1.8s
MORF *e*S **S 19 03 08.8 +1.2**
MORF Marmelete 25.62 276 *e*P **P 18 58 39.5 -0.9**
comp=Z,90nm,1.7s
MORF Marmelete 25.62 276 *e*P **P 18 58 39.7 -0.7**
MORF *e*S **S 19 03 08.8 +1.2**
MORF Marmelete 25.62 276 *e*P **P 18 58 39.7 -0.7**
IPAR Pars 25.64 103 *e*P **P 18 58 43.4 +2.5**
IPAR Pars 25.64 103 *e*P **P 18 58 43.4 +2.5**
LIS Lisbon 25.68 279 *e*P **P 18 58 40.5 -0.3**
LIS AMb AMB 18 58 43.2
comp=Z,144nm,0.8s
LIS Lisbon 25.68 279 *e*P **P 18 58 40.5 -0.3**
PFVI Vila Bisbo 25.80 276 *e*P **P 18 58 41.5 -0.5**
comp=Z,125nm,1.6s
PRGR Permogore 25.98 24 *e*P **P 18 58 42.5 -0.8**
PRGR pmax pmax
comp=Z,32nm,0.8s
PRGR Permogore 25.98 24 *e*P **P 18 58 42.5 -0.8**
comp=Z,32nm,0.8s
IMEH Mehriz 26.11 98 *e*P **P 18 58 46.2 +1.1**
IMEH Mehriz 26.11 98 *e*P **P 18 58 46.2 +1.1**
TMCR Tamitsa 26.21 14 *e*P P 18 58 50.6 +5.2
TMCR *e* 18 59 30.2
TMCR pmax pmax
comp=Z,105nm,1.5s
AKTK Aktyubinsk 26.31 54 P **P 18 58 46.8 +0.3**
AKTO Aktyubinsk 26.31 54 P **P 18 58 46.8 +0.3**
comp=Z,11nm,0.9s,baz=259,slow=9.3,SNR=19
AKTO LR LR 19 10 39.4
comp=Z,195nm,19.2s,baz=258,slow=40
GEYT Alibeck 26.61 82 P **P 18 58 51.6 +2.3**
comp=Z,16nm,1.0s,baz=284,slow=12,SNR=30
GEYT LR LR 19 12 22.0
comp=Z,384nm,19.4s,baz=265,slow=43
ABKT Ailbek 26.61 82 P **P 18 58 52.6 +3.2**
comp=Z,135nm,1.0s,SNR=8.0
IBAF Bafgh 26.76 97 *e*P **P 18 58 53.6 +2.8**
IBAF Bafgh 26.76 97 *e*P **P 18 58 53.7 +2.8**
IKRD Kardeh 27.21 84 *e*P P 18 59 04.8 +10
IKRD Kardeh 27.21 84 *e*P P 18 59 04.8 +10
ABKAR Akbulak array 27.34 57 *e*P **P 18 58 58.6 +2.8**
ABKAR Akbulak array 27.34 57 *e*P **P 18 58 58.6 +2.8**
IAKL Akhelmad 27.44 85 *e*P **P 18 59 00.6 +3.5**
IPAY Payeh 27.67 85 *e*P **P 18 59 02.5 +3.3**
IPAY Payeh 27.67 85 *e*P **P 18 59 02.5 +3.3**
ISRO Mashad 28.08 85 *e*P P 18 59 06.5 +3.9
ISRO Mashad 28.08 85 *e*P P 18 59 06.5 +3.9
ARU Arti 28.39 42 P **P 18 59 05.4 +0.3**
baz=245,slow=7.9
ARU Arti 28.39 42*d i*P **P 18 59 05.2 +0.1**
ARU 18 59 51.6
ARU S **S 19 03 55.0 +4.2**
ARU SS **SnSn 19 05 11.3 +2.3**
ARU pmax pmax
comp=Z,18nm,0.8s
ARU MLR MLR
comp=Z,668nm,15.0s
ARU Arti 28.39 42 P **P 18 59 05.5 +0.4**
comp=Z,129nm,0.8s,SNR=5.6
ARU Arti 28.39 42 *i* P **P 18 59 05.2 +0.1**
comp=Z,18nm,0.8s
ARU Arti 28.39 42 *e*P **P 18 59 05.4 +0.4**
comp=Z,21nm,0.9s
IMYA Miami 28.56 85 *e*P **P 18 59 09.2 +2.2**
IMYA Miami 28.56 85 *e*P **P 18 59 09.2 +2.2**
SOKR Solikamsk 28.94 35*d i*P **P 18 59 10.5 +0.7**
SOKR S S 19 04 05.6 +6.4
SOKR pmax pmax
comp=Z,7.0nm,0.5s
SOKR MLR MLR
comp=Z,1μm,15.0s
SOKR Solikamsk 28.94 35 *i* P **P 18 59 10.5 +0.7**
comp=Z,7.0nm,0.5s
SVE Sverdlovsk 29.60 42⇑ *e*P **P 18 59 16.6 +0.8**
SVE pmax pmax
comp=Z,38nm,1.0s
SVE MLR MLR
comp=Z,807nm,12.0s
SVE Sverdlovsk 29.60 42 *e*P **P 18 59 16.6 +0.8**
comp=Z,807nm,12.0s
NAZ Nazwa, Dubai 30.21 109⇓ *i*P **P 18 59 24.6 +3.1**
SNR=12
ARCES ARCESS Array B 30.27 1 P **P 18 59 20.2 -1.4**
comp=Z,4.6nm,0.9s,baz=191,slow=8.1,SNR=11
UOSS Wadi Hilu 30.64 108 P **P 18 59 27.0 +1.7**
comp=Z,171nm,0.9s,SNR=5.4
HATD Hatta, Dubai 30.65 109⇓ *i*P **P 18 59 27.8 +2.3**
SNR=8.4
TORD Torodi Ar. Bea 32.69 223 P **P 18 59 42.9 -0.5**
comp=Z,65nm,0.6s,baz=33,slow=9.1,SNR=508
TORD LR LR 19 14 38.1
comp=Z,455nm,18.1s,baz=30,slow=40
TOB5 Torodi Ar. Sit 32.69 223 *e*P **P 18 59 41.4 -2.0**
TOB4 Torodi Ar. Sit 32.70 223 *e*P **P 18 59 42.0 -1.5**
BRVK Borovoye 34.23 51 P **P 18 59 57.4 +0.9**
comp=Z,76nm,1.1s,SNR=5.6
BRVK Borovoye 34.23 51*c i*P **P 18 59 57.3 +0.9**
BRVK pmax pmax
comp=Z,26nm,2.2s
BRVK Borovoye 34.23 51 *i* P **P 18 59 57.3 +0.9**
comp=Z,26nm,2.2s
BRVK Borovoye 34.23 51 *e*P **P 18 59 57.4 +0.9**
comp=Z,14nm,1.0s
BVAR Borovoye Array 34.29 51 P **P 18 59 58.4 +1.4**
comp=Z,4.8nm,0.8s,baz=275,slow=5.2,SNR=15
KKAR Karatay Array 34.84 68 *e*P **P 19 00 03.6 +1.7**
KKAR pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 34.84 68 *e*P **P 19 00 03.6 +1.7**
comp=Z,4.3nm,0.6s
KKAR Karatay Array 34.84 68 *e*P **P 19 00 03.6 +1.7**
comp=Z,4.3nm,0.6s
KBL Kabul 36.04 83 *e*P **P 19 00 15.3 +2.7**
KBL pmax pmax
comp=Z,9.0nm,1.0s
KBL Kabul 36.04 83 *e*P **P 19 00 15.2 +2.7**
comp=Z,9.0nm,1.0s
EKS2 Erkin-Say 37.28 68 *e*P **P 19 00 22.9 -0.1**
EKS2 *e* 19 01 50.3
EKS2 pmax pmax
comp=Z,13nm,0.9s
EKS2 Erkin-Say 37.28 68 *e*P **P 19 00 22.9 -0.1**
comp=Z,13nm,0.9s
EKS2 Erkin-Say 37.28 68 *e*PP PP 19 01 50.3 +2.3
EKS2 Erkin-Say 37.28 68 *e*P **P 19 00 22.9 -0.1**
comp=Z,13nm,0.9s
EKS2 *e*PP **PnPn 19 01 50.3 +1.7**
AAK Ala-Archa 37.81 68 *e*P P 19 00 31.2 +3.7
AAK Ala-Archa 37.81 68 *e*P P 19 00 31.2 +3.7
FRU Bishkek 37.85 68 *i* P **P 19 00 30.0 +2.3**
FRU pmax pmax
comp=Z,100nm,1.6s
FRU Bishkek 37.85 68 *i* P **P 19 00 30.0 +2.3**
comp=Z,100nm,1.6s
TKM2 Tokmak 2 38.54 68 *e*P **P 19 00 34.0 +0.4**
TKM2 *e* 19 02 05.3
TKM2 pmax pmax
comp=Z,8.0nm,1.1s
TKM2 Tokmak 2 38.54 68 *e*P **P 19 00 34.0 +0.4**
comp=Z,7.9nm,1.1s
TKM2 Tokmak 2 38.54 68 *e*P **P 19 00 34.0 +0.4**
comp=Z,7.9nm,1.1s
TKM2 *e*PP **PnPn 19 02 05.3 +1.5**
KURBB Kurchatov Arra 39.35 55 P **P 19 00 40.9 +0.8**
comp=Z,13nm,0.8s,baz=282,slow=8.5,SNR=46
KURK Kurchatov 39.40 55 *e*P **P 19 00 40.5 0.0**
KURK pmax pmax
comp=Z,17nm,1.0s
KURK Kurchatov 39.40 55 *e*P **P 19 00 40.5 0.0**
comp=Z,17nm,1.0s
KURK Kurchatov 39.40 55 *e*P **P 19 00 40.5 0.0**
comp=Z,17nm,1.0s
KSH Kashi 39.68 73 P **P 19 00 45.3 +2.1**
KSH PP **PnPn 19 02 17.3 -0.1**
KSH PcP **PcP 19 02 52.3 +2.6**
KSH ScP **ScP 19 06 40.8 +3.4**
KSH S **S 19 06 47.9 +2.2**
KSH SS SS 19 09 31.3 -10
KSH ScS **ScS 19 10 51.0 +0.9**
KSH PMZ
comp=Z,18nm,0.9s
KSH LN
comp=Z,350nm,6.3s
KSH LE
comp=Z,340nm,7.7s
KSH LZ
comp=Z,300nm,5.9s
MBAR Mbarara 40.23 170 *e*P **P 19 00 47.5 -0.4**
MBAR Mbarara 40.23 170 *e*P **P 19 00 47.5 -0.4**
MBAR Mbarara 40.23 170 *e*P **P 19 00 47.5 -0.4**
DBIC Dimbokro 41.62 226 P **P 19 00 59.0 -0.2**
comp=Z,88nm,0.9s,baz=14,slow=9.6,SNR=56
DBIC LR LR 19 19 23.2
comp=Z,288nm,18.5s,baz=16,slow=38
DBIC Dimbokro 41.62 226 P **P 19 00 59.0 -0.2**
DBIC pmax pmax
comp=Z,88nm,0.9s
DBIC MLR MLR
comp=Z,288nm,18.5s
DBIC Dimbokro 41.62 226 *e*P **P 19 00 58.5 -0.7**
comp=Z,106nm,1.1s
DBIC Dimbokro 41.62 226 *e*P **P 19 00 58.5 -0.7**
comp=Z,106nm,1.1s
TIC Toumodi 41.73 226 *e*P **P 19 00 59.6 -0.6**
TIC Toumodi 41.73 226 *e*P **P 19 00 59.7 -0.5**
KIC Kosan Boka 41.81 226 *e*P **P 19 01 00.2 -0.6**
comp=Z,218nm,1.0s
KIC Kosan Boka 41.81 226 *e*P **P 19 01 00.2 -0.6**
comp=Z,218nm,1.0s
NVS Novosibirsk 41.89 48⇑ *i*P **P 19 01 02.0 +1.0**
NVS pmax pmax
comp=Z,46nm,1.4s
NVS pmax pmax
comp=E,18nm,0.9s
NVS Novosibirsk 41.89 48 *i* P **P 19 01 02.0 +1.0**
comp=E,46nm,1.4s
LIC Lamto 42.08 226 *e*P **P 19 01 02.7 -0.3**
comp=E,263nm,1.1s
LIC Lamto 42.08 226 *e*P **P 19 01 02.7 -0.3**
comp=E,263nm,1.1s
MKAR Makanchi Array 42.38 60 P **P 19 01 05.8 +0.6**
comp=E,22nm,0.8s,baz=284,slow=5.6,SNR=81
ZAA0 Zalesovo Array 42.89 49 *e*P **P 19 01 09.1 0.0**
ZAA0 Zalesovo Array 42.89 49 *e*P **P 19 01 09.1 0.0**
ZALV Zalesovo Beam 42.89 49 P **P 19 01 09.6 +0.5**
comp=E,25nm,0.8s,baz=270,slow=8.3,SNR=46
ZALV Zalesovo Beam 42.89 49 *i* P **P 19 01 09.6 +0.5**
ZALV pmax pmax
comp=Z,25nm,0.8s
SUMG Summit 44.75 338 *i* P **P 19 01 26.2 +1.8**
comp=Z,10nm,1.1s
SUMG Summit 44.75 338 P **P 19 01 25.1 +0.7**
SUMG pmax pmax
comp=Z,11nm,1.0s
SUMG Summit 44.75 338 P **P 19 01 25.1 +0.7**
comp=Z,11nm,1.0s
SUMG Summit 44.75 338 P **P 19 01 25.1 +0.7**
comp=Z,11nm,1.0s
WMQ Urumqi 46.82 63 P **P 19 01 43.4 +2.7**
WMQ pP **pP 19 01 48.4 +1.7**
WMQ sP **sP 19 01 49.8 +0.7**
WMQ S **S 19 08 33.9 +3.9**
WMQ SS **SS 19 11 52.9 -3.4**
WMQ PMZ
comp=Z,23nm,1.0s
WMQ PMZ
comp=Z,160nm,4.0s
WMQ LN
comp=Z,360nm,20.8s
WMQ LE
comp=Z,250nm,29.0s
WMQ LZ
comp=Z,200nm,27.0s
SACV Santiago Islan 48.13 253 P **P 19 01 50.9 -0.2**
comp=Z,67nm,1.2s
SACV Santiago Islan 48.13 253 P **P 19 01 50.9 -0.2**
comp=Z,67nm,1.2s
DANN Dangsing 50.03 84 *e*P P 19 02 09.8 +3.9
KOLN Koldanda 50.19 84 *e*P **P 19 02 09.3 +2.3**
comp=Z,16nm,0.6s
GKN Gorkha 50.87 83 *e*P **P 19 02 14.4 +2.3**
DMN Daman 51.43 84 *e*P **P 19 02 18.4 +2.0**
comp=Z,26nm,0.8s
KKN Kakani 51.47 83 *e*P **P 19 02 18.7 +2.0**
PKIN Phulchoki 51.67 83 *e*P **P 19 02 19.8 +1.6**
comp=Z,18nm,1.0s
PKI Pulchoki 51.68 83 *e*P **P 19 02 20.5 +2.1**
RAMN Ramite 52.91 84 *e*P **P 19 02 27.6 +0.2**
comp=Z,24nm,0.8s
MOY Mondy 52.94 50 *e*P P 19 02 30.9 +3.7
ODAN Odare 53.56 83 *e*P **P 19 02 33.4 +1.2**
comp=Z,17nm,0.9s
TAPN Taplejung 53.56 82 *e*P **P 19 02 34.8 +2.5**
LSZ Lusaka 54.47 175 P **P 19 02 38.8 +0.2**
comp=Z,2.8nm,0.8s,baz=356,slow=8.4,SNR=6.9
LSZ Lusaka 54.47 175 *e*P **P 19 02 38.8 +0.2**
LSZ pmax pmax
comp=Z,17nm,1.5s
LSZ Lusaka 54.47 175 *e*P **P 19 02 38.8 +0.2**
comp=Z,17nm,1.5s
LSZ Lusaka 54.47 175 *e*P **P 19 02 38.8 +0.2**
comp=Z,17nm,1.5s
TLY Talaya 54.49 49 *e*P **P 19 02 41.5 +3.1**
TLY *e*S **S 19 10 18.1 +1.9**
TLY pmax pmax
comp=Z,14nm,1.5s
TLY MLR MLR
comp=Z,184nm,13.0s
TLY Talaya 54.49 49 *e*P **P 19 02 41.5 +3.1**
comp=Z,14nm,1.5s
TLY *e*S **S 19 10 18.1 +1.9**
comp=Z,184nm,13.0s
IRK Irkutsk 54.66 48 *e*P **P 19 02 40.2 +0.6**
IRK pmax pmax
comp=Z,32nm,1.6s
IRK Irkutsk 54.66 48 *e*P **P 19 02 40.2 +0.6**
comp=Z,32nm,1.6s
ZAK Zakamensk 54.74 50 *e*P **P 19 02 41.6 +1.3**
ZAK pmax pmax
comp=Z,6.0nm,1.6s

ZAK	**Zakamensk**	**54.74**	**50**	*e*P		**P**		**19 02 41.6**	**+1.3**
	comp=Z,6.0nm,1.6s									
LSA	**Lhasa**	**55.03**	**78**	*e*P		**P**		**19 02 45.3**	**+2.2**
LSA				pmax		pmax				
	comp=Z,6.0nm,0.6s									
LSA	**Lhasa**	**55.03**	**78**	*e*P		**P**		**19 02 45.3**	**+2.2**
	comp=Z,6.3nm,0.6s									
LSA	**Lhasa**	**55.03**	**78**	*e*P		**P**		**19 02 45.3**	**+2.2**
	comp=Z,6.3nm,0.6s									
GTA	**Gaotai**	**56.88**	**64**	*e*P		**P**		**19 02 56.8**	**+0.9**
GTA				pP		**pP**		**19 03 03.3**	**+1.3**
GTA				sP		**sP**		**19 03 06.3**	**+1.9**
GTA				S		**S**		**19 10 50.8**	**+2.2**
GTA				sS		**sS**		**19 11 00.8**	**+2.0**
GTA				SS		**SS**		**19 14 41.6**	**+5.1**
GTA				PMZ						
	comp=Z,3.0nm,1.0s									
GTA				PMZ						
	comp=Z,75nm,4.3s									
GTA				LN						
	comp=Z,220nm,21.4s									
GTA				LE						
	comp=Z,200nm,18.5s									
GTA				LZ						
	comp=Z,290nm,17.1s									
SONM	**Songino Array**	**57.61**	**52**	P		**P**		**19 03 01.8**	**+0.9**
	comp=Z,6.3nm,0.8s,baz=282,slow=8.0,SNR=36									
SONM				LR		LR		19 30 32.2		
	comp=Z,210nm,18.1s,baz=298,slow=39									
BOD	**Bodaibo**	**57.77**	**39**	*e*P		**P**		**19 03 01.2**	**-0.5**
BOD				pmax		pmax				
	comp=Z,9.0nm,1.1s									
BOD	**Bodaibo**	**57.77**	**39**	*e*P		**P**		**19 03 01.2**	**-0.5**
	comp=Z,9.0nm,1.1s									
TSUM	**Tsumeb**	**58.54**	**187**	P		**P**		**19 03 06.9**	**-0.7**
	comp=Z,5.7nm,1.0s,baz=337,slow=8.3,SNR=4.1									
TSUM	**Tsumeb**	**58.54**	**187**	*e*P		**P**		**19 03 06.6**	**-1.0**
	comp=Z,8.6nm,1.0s									
TSUM	**Tsumeb**	**58.54**	**187**	*e*P		**P**		**19 03 06.6**	**-1.0**
	comp=Z,8.6nm,1.0s									
SCHQ	**Schefferville**	**59.43**	**318**	P		**P**		**19 03 13.2**	**-0.1**
	comp=Z,6.5nm,0.8s,baz=156,slow=3.4,SNR=6.4									
SCHQ				LR		LR		19 28 20.9		
	comp=Z,172nm,18.1s,baz=81,slow=36									
SCHQ	**Schefferville**	**59.43**	**318**	*e*P		**P**		**19 03 12.8**	**-0.6**
	comp=Z,5.8nm,0.6s									
SCHQ	**Schefferville**	**59.43**	**318**	*e*P		**P**		**19 03 12.8**	**-0.6**
	comp=Z,5.8nm,0.6s									
LZH	**Lanzhou**	**61.25**	**65**	*e*P		**P**		**19 03 27.0**	**+0.7**
LZH				pP		**pP**		**19 03 33.1**	**+0.6**
LZH				sP		**sP**		**19 03 35.9**	**+1.1**
LZH				*e*S		**S**		**19 11 44.1**	**-1.4**
LZH				sS		**sS**		**19 11 55.4**	**-0.3**
LZH				PMZ						
	comp=Z,29nm,1.0s									
LZH				PMZ						
	comp=Z,140nm,4.3s									
LZH				LN						
	comp=Z,360nm,15.3s									
LZH				LE						
	comp=Z,380nm,15.4s									
LZH				LZ						
	comp=Z,490nm,16.0s									
OPO	**Ambohidratompo**	**61.56**	**155**	P		**P**		**19 03 28.0**	**-0.4**
	comp=Z,3.8nm,0.7s,baz=324,slow=5.6,SNR=6.9									
OPO	**Ambohidratompo**	**61.56**	**155**	P		**P**		**19 03 28.0**	**-0.4**
YAK	**Yakutsk**	**62.74**	**31**	*e*P		**P**		**19 03 34.8**	**-0.8**
YAK				*e**PP		pP		19 03 47.3	+5.5
YAK				*e*				19 04 13.7		
YAK				*e*				19 06 00.8		
YAK				*e*PPP		PPP		19 07 23.5		
YAK				*e*S		**S**		**19 12 00.9**	**-2.2**
YAK				*e***SS**		**sS**		**19 12 16.0**	**+2.7**
YAK				*e*				19 13 22.0		
YAK				*e*SS		**SS**		**19 16 06.7**	**-0.4**
YAK				pmax		pmax				
	comp=N,2.0nm,1.1s									
YAK				pmax		pmax				
	comp=Z,12nm,1.0s									
YAK				pmax		pmax				
	comp=E,3.0nm,1.0s									
YAK				pmax		pmax				
	comp=Z,53nm,3.0s									
YAK				pmax		pmax				
	comp=E,17nm,3.0s									
YAK				pmax		pmax				
	comp=N,22nm,3.0s									
YAK				smax		smax				
	comp=E,70nm,5.3s									
YAK				MLR		MLR				
	comp=Z,332nm,17.0s									
YAK				MLR		MLR				
	comp=N,213nm,16.0s									
YAK				MLR		MLR				
	comp=E,160nm,16.0s									
YAK	**Yakutsk**	**62.74**	**31**	*e*P		**P**		**19 03 34.8**	**-0.8**
	comp=E,12nm,1.0s									
YAK	**Yakutsk**	**62.74**	**31**	*e*PcP		**PcP**		**19 04 13.7**	**-0.4**
YAK	**Yakutsk**	**62.74**	**31**	*e*P		**P**		**19 03 34.5**	**-1.1**
	comp=E,14nm,0.8s									
CD2	**Chengdu**	**63.82**	**70**	P		**P**		**19 03 46.0**	**+2.6**
CD2				pP		**pP**		**19 03 51.8**	**+2.2**
CD2				sP		**sP**		**19 03 54.6**	**+2.7**
CD2				PP		**PP**		**19 06 06.0**	**+2.4**
CD2				S		**S**		**19 12 21.1**	**+3.4**
CD2				sS		**sS**		**19 12 29.9**	**+2.0**
CD2				SS		**SS**		**19 16 29.0**	**+3.5**
CD2				PMZ						
	comp=E,40nm,1.0s									
CD2				PMZ						
	comp=E,280nm,4.7s									
CD2				LN						
	comp=E,480nm,4.7s									
CD2				LZ						
	comp=E,270nm,5.8s									
LBTB	**Lobatse**	**64.04**	**178**	P		**P**		**19 03 45.5**	**+0.8**
	comp=E,29nm,0.8s,baz=359,slow=7.0,SNR=24									
LBTB	**Lobatse**	**64.04**	**178**	*e*P		**P**		**19 03 45.4**	**+0.8**
LBTB				pmax		pmax				
	comp=Z,34nm,1.0s									
LBTB	**Lobatse**	**64.04**	**178**	*e*P		**P**		**19 03 45.4**	**+0.8**
	comp=Z,34nm,1.0s									
LBTB	**Lobatse**	**64.04**	**178**	*e*P		**P**		**19 03 45.4**	**+0.8**
	comp=Z,34nm,1.0s									
HHC	**Hu-ho-hao-te**	**64.13**	**57**	*e*P		**P**		**19 03 45.3**	**0.0**
HHC				sP		**sP**		**19 03 51.5**	**-2.4**
HHC				PP		**PP**		**19 06 08.3**	**+2.2**
HHC				S		**S**		**19 12 19.8**	**-1.6**
HHC				SS		**SS**		**19 16 31.8**	**+1.8**
HHC				PMZ						
	comp=Z,32nm,0.9s									
HHC				PMZ						
	comp=Z,87nm,5.6s									
HHC				LN						
	comp=Z,310nm,18.5s									
HHC				LE						
	comp=Z,250nm,17.3s									
HHC				LZ						
	comp=Z,180nm,17.3s									
DGAR	**Diego Garcia**	**64.59**	**125**	P		**P**		**19 03 51.5**	**+3.1**
DGAR	**Diego Garcia**	**64.59**	**125**	P		**P**		**19 03 51.5**	**+3.1**
HIA	**Hailar**	**64.78**	**46**	*e*P		**P**		**19 03 50.0**	**+0.7**
HIA				pmax		pmax				
	comp=Z,9.0nm,0.8s									
HIA	**Hailar**	**64.78**	**46**	*e*P		**P**		**19 03 50.0**	**+0.7**
	comp=Z,9.3nm,0.8s									
HIA	**Hailar**	**64.78**	**46**	*e*P		**P**		**19 03 50.0**	**+0.7**
	comp=Z,9.3nm,0.8s									
KMI	**Kunming**	**66.19**	**76**	P		**P**		**19 04 01.4**	**+2.4**
KMI				pP		**pP**		**19 04 09.0**	**+3.7**
KMI				sP		**sP**		**19 04 11.0**	**+3.4**
KMI				S		**S**		**19 12 46.3**	**-0.9**
KMI				PMZ						
	comp=Z,10.0nm,1.5s									
KMI				PMZ						
	comp=Z,110nm,3.7s									
KMI				LN						
	comp=Z,160nm,14.5s									
KMI				LE						
	comp=Z,160nm,12.2s									
KMI				LZ						
	comp=Z,250nm,24.5s									
MHMT	**Maesarieng**	**66.44**	**85**	P		**P**		**19 04 03.6**	**+3.2**
	comp=Z,10nm,0.9s									
CHTO	**Chiang Mai**	**66.85**	**84**	P		**P**		**19 04 05.3**	**+2.2**
	comp=Z,43nm,3.5s									
CHTO	**Chiang Mai**	**66.85**	**84**	*e*P		**P**		**19 04 02.8**	**-0.3**
CHTO				pmax		pmax				
	comp=Z,12nm,1.3s									
CHTO	**Chiang Mai**	**66.85**	**84**	*e*P		**P**		**19 04 02.8**	**-0.3**
	comp=Z,12nm,1.3s									
CHTO	**Chiang Mai**	**66.85**	**84**	*e*P		**P**		**19 04 02.8**	**-0.3**
	comp=Z,12nm,1.3s									
CMMT	**Chiang Mai**	**66.86**	**84**	P		**P**		**19 04 05.3**	**+2.2**
	comp=Z,42nm,2.5s									
CM31	**Chiang Mai Arr**	**67.06**	**84**	*e*P		**P**		**19 04 03.9**	**-0.5**
	comp=Z,5.9nm,0.9s									
CM31	**Chiang Mai Arr**	**67.06**	**84**	*e*P		**P**		**19 04 03.9**	**-0.5**
	comp=Z,5.9nm,0.9s									
CMAR	**Chiang Mai Arr**	**67.06**	**84**	P		**P**		**19 04 04.4**	**0.0**
	comp=Z,3.7nm,0.9s,baz=302,slow=7.6,SNR=18									
CMAR				LR		LR		19 37 35.9		
	comp=Z,110nm,20.3s,baz=264,slow=40									
BJI	**Beijing**	**67.55**	**56**	P		**P**		**19 04 07.1**	**-0.1**
BJI				PP		**PP**		**19 06 33.1**	**-2.7**
BJI				S		**S**		**19 13 02.6**	**-0.2**
BJI				SS		**SS**		**19 17 23.5**	**+0.7**
BJI				PMZ						
	comp=Z,10.0nm,0.6s									
BJI				LN						
	comp=Z,150nm,6.7s									
BJI				LE						
	comp=Z,370nm,15.4s									
BJI				LZ						
	comp=Z,180nm,29.1s									
LAMP	**Lampang**	**67.55**	**84**	P		P		19 04 10.9	+3.4	
	comp=Z,3.7nm,1.1s									
BJT	**Baijiatuan**	**67.56**	**56**	P		**P**		**19 04 06.6**	**-0.7**
BJT				pmax		pmax				
	comp=Z,27nm,0.9s									
BJT	**Baijiatuan**	**67.56**	**56**	P		**P**		**19 04 06.6**	**-0.7**
	comp=Z,27nm,0.9s									
BJT	**Baijiatuan**	**67.56**	**56**	P		**P**		**19 04 06.6**	**-0.7**
	comp=Z,27nm,0.9s									
BOSA	**Boshof**	**67.62**	**179**	P		**P**		**19 04 07.9**	**+0.2**
	comp=Z,16nm,0.9s,baz=357,slow=6.6,SNR=13									
BOSA				LR		LR		19 37 26.6		
	comp=Z,384nm,18.0s,baz=354,slow=39									
BOSA	**Boshof**	**67.62**	**179**	P		**P**		**19 04 07.9**	**+0.2**
BOSA				pmax		pmax				
	comp=Z,16nm,0.9s									
BOSA				MLR		MLR				
	comp=Z,384nm,18.0s									
BOSA	**Boshof**	**67.62**	**179**	*e*P		**P**		**19 04 07.8**	**+0.2**
	comp=Z,24nm,1.1s									
ENH	**Enshi**	**68.32**	**68**	*e*P		**P**		**19 04 12.0**	**-0.3**
	comp=Z,15nm,0.9s									
ENH	**Enshi**	**68.32**	**68**	*e*P		**P**		**19 04 12.0**	**-0.3**
	comp=Z,15nm,0.9s									
GYA	**Guiyang**	**68.38**	**73**	*e*P		**P**		**19 04 14.0**	**+1.2**
GYA				PP		**PP**		**19 06 46.4**	**+2.9**
GYA				ScP				19 08 42.3		
GYA				S		**S**		**19 13 14.0**	**+0.6**
GYA				SKS		**SKSac**		**19 14 09.3**	**-1.7**
GYA				SS		**SS**		**19 17 39.8**	**+3.2**
GYA				PMZ						
	comp=Z,20nm,1.0s									
GYA				PMZ						
	comp=Z,120nm,5.0s									
GYA				LN						
	comp=Z,520nm,19.5s									
GYA				LE						
	comp=Z,480nm,20.0s									
GYA				LZ						
	comp=Z,460nm,19.4s									
LONY	**Lake Ozonia**	**68.94**	**311**	*e*P		**P**		**19 04 16.5**	**+0.7**
	comp=Z,9.2nm,1.0s									
LONY	**Lake Ozonia**	**68.94**	**311**	*e*P		**P**		**19 04 16.5**	**+0.7**
	comp=Z,9.2nm,1.0s									
ACCN	**Adirondack Com**	**69.10**	**309**	*e*P		**P**		**19 04 18.0**	**+1.2**
	comp=Z,17nm,0.9s									
ACCN	**Adirondack Com**	**69.10**	**309**	*e*P		**P**		**19 04 18.0**	**+1.2**
	comp=Z,17nm,0.9s									
SEY	**Seymchan**	**70.05**	**22**‖	*e*P		**P**		**19 04 23.6**	**+1.2**
SEY	**Seymchan**	**70.05**	**22**	*e*P		**P**		**19 04 23.6**	**+1.2**
TIA	**Tai'an**	**70.30**	**59**	‖P		**P**		**19 04 24.8**	**+0.4**
TIA				PMZ						
	comp=Z,30nm,1.0s									
CN2	**Changchun**	**71.10**	**49**	*e*P		**P**		**19 04 29.9**	**+0.8**
CN2				*es*P		**sP**		**19 04 36.8**	**-0.9**
CN2				*e*S		**S**		**19 13 43.3**	**-1.2**
CN2				PMZ						
	comp=Z,10.0nm,0.8s									
CN2				PMZ						
	comp=Z,200nm,5.0s									
CN2				LN						
	comp=Z,400nm,15.0s									
CN2				LE						
	comp=Z,400nm,15.0s									
CN2				LZ						
	comp=Z,200nm,16.0s									
KLR	**Kul'dur**	**71.23**	**41**	*e*P		**P**		**19 04 27.3**	**-2.5**
KLR	**Kul'dur**	**71.23**	**41**	*e*P		**P**		**19 04 27.3**	**-2.5**
INK	**Inuvik**	**71.35**	**351**	P		**P**		**19 04 30.5**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=10,slow=9.3,SNR=3.3									
SUR	**Sutherland**	**71.42**	**183**	*e*P		**P**		**19 04 31.7**	**+0.5**
	comp=Z,14nm,0.6s									
SUR	**Sutherland**	**71.42**	**183**	*e*P		**P**		**19 04 31.7**	**+0.5**
	comp=Z,14nm,0.6s									
WHN	**Wuhan**	**71.63**	**65**	P		**P**		**19 04 32.5**	**0.0**
MA2	**Magadan**	**72.11**	**25**‖	*e*P		**P**		**19 04 37.6**	**+2.7**
MA2	**Magadan**	**72.11**	**25**	*e*P		**P**		**19 04 37.6**	**+2.7**
YKA	**Yellowknife Ar**	**73.19**	**341**	P		**P**		**19 04 41.0**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=28,slow=5.3,SNR=4.9									
SSPA	**Standing Stone**	**73.25**	**309**	*e*P		**P**		**19 04 42.7**	**+0.6**
	comp=Z,18nm,1.0s									
SSPA	**Standing Stone**	**73.25**	**309**	*e*P		**P**		**19 04 42.7**	**+0.6**
	comp=Z,18nm,1.0s									
HABR	**Khabarovsk**	**73.39**	**40**	P		**P**		**19 04 40.9**	**-1.8**
HABR				*e**SP		**sP**		**19 04 47.7**	**-3.6**
HABR				*e**SP		**sP**		**19 04 47.7**	**-3.6**
HABR				*e*				19 04 56.8		
HABR				*e*				19 07 24.1		
HABR				*e*PPP		PPP		19 09 08.8		
HABR				*e*S		**S**		**19 14 10.0**	**-0.6**
HABR				*e*				19 14 49.2		
HABR				*e*SS		**SS**		**19 18 53.3**	**+1.3**
HABR				MLR		MLR				
	comp=Z,259nm,17.0s									
HABR	**Khabarovsk**	**73.39**	**40**	P		**P**		**19 04 40.9**	**-1.8**
HABR	**Khabarovsk**	**73.39**	**40**	*e*PcP		**PcP**		**19 04 56.8**	**-2.1**
HABR				*e*S		**S**		**19 14 10.0**	**-0.6**
HABR				*e*ScS		**SKKSac**		**19 14 49.2**	**+1.2**
NJ2	**Nanjing**	**73.88**	**62**	*e*P		**P**		**19 04 47.3**	**+1.4**
NJ2				PMZ						
	comp=Z,20nm,1.0s									
USRK	**Ussuriysk Ar.**	**74.55**	**45**	P		**P**		**19 04 50.2**	**+0.6**
	comp=Z,4.3nm,0.8s,baz=319,slow=6.3,SNR=6.3									
IM04	**Indian Mountai**	**75.00**	**359**	*e*P		**P**		**19 04 52.4**	**+0.5**
IM04	**Indian Mountai**	**75.00**	**359**	*e*P		**P**		**19 04 52.4**	**+0.5**
JSRW	**J. Sargeant Re**	**75.05**	**307**	*e*P		**P**		**19 04 53.5**	**+0.9**
JSRW	**J. Sargeant Re**	**75.05**	**307**	*e*P		**P**		**19 04 53.5**	**+0.9**
FFC	**Flin Flon**	**75.52**	**331**	*e*P		**P**		**19 04 55.1**	**+0.1**
FFC				pmax		pmax				
	comp=Z,13nm,1.1s									
FFC	**Flin Flon**	**75.52**	**331**	*e*P		**P**		**19 04 55.1**	**+0.1**
	comp=Z,13nm,1.1s									
FFC	**Flin Flon**	**75.52**	**331**	*e*P		**P**		**19 04 55.1**	**+0.1**
	comp=Z,13nm,1.1s									
ILAR	**Eielson Array**	**75.98**	**356**	P		**P**		**19 04 58.2**	**+0.8**
	comp=Z,0.9nm,0.9s,baz=0.1,slow=4.6,SNR=8.0									
ILAR				LR		LR		19 42 56.9		
	comp=Z,86nm,18.9s,baz=350,slow=39									
DAWY	**Dawson**	**76.09**	**353**	*e*P		**P**		**19 04 58.3**	**+0.1**
DAWY	**Dawson**	**76.09**	**353**	*e*P		**P**		**19 04 58.3**	**+0.1**
ULM	**Lac du Bonnet**	**76.34**	**325**	P		**P**		**19 04 59.6**	**-0.1**
	comp=Z,19nm,1.1s,baz=39,slow=4.8,SNR=6.1									
ULM				LR		LR		19 38 40.8		
	comp=Z,156nm,19.7s,baz=178,slow=36									
KSAR	**Wonju Array Be**	**76.47**	**53**	P		**P**		**19 05 01.4**	**+0.7**
KSAR	**Wonju Array Be**	**76.47**	**53**	P		**P**		**19 05 01.4**	**+0.7**
KSAR	**Wonju Array Be**	**76.47**	**53**	P		**P**		**19 05 01.4**	**+0.7**
KSRS	**Korea Array**	**76.48**	**53**	P		**P**		**19 05 01.4**	**+0.6**
	comp=Z,7.9nm,0.8s,baz=310,slow=4.7,SNR=21									
KSRS				LR		LR		19 43 44.9		
	comp=Z,212nm,19.2s,baz=324,slow=40									
KSRS	**Korea Array**	**76.48**	**53**	P		**P**		**19 05 01.4**	**+0.6**
KSRS				pmax		pmax				
	comp=Z,8.0nm,0.8s									
KSRS				MLR		MLR				
	comp=Z,212nm,19.2s									
ACSO	**Alum Creek Sta**	**76.53**	**311**	P		**P**		**19 05 00.4**	**-0.6**
ACSO	**Alum Creek Sta**	**76.53**	**311**	P		**P**		**19 05 00.4**	**-0.6**
TJN	**Taejon**	**76.81**	**54**‖	*e*P		**P**		**19 05 01.8**	**-0.9**
TJN	**Taejon**	**76.81**	**54**	*e*P		**P**		**19 05 01.8**	**-0.9**
MCK	**McKinley**	**77.11**	**357**	P		**P**		**19 05 04.3**	**+0.4**
MCK	**McKinley**	**77.11**	**357**	P		**P**		**19 05 04.3**	**+0.4**
MCK	**McKinley**	**77.11**	**357**	P		**P**		**19 05 04.3**	**+0.4**
YSS	**Yuzh-Sakhalins**	**78.21**	**38**‖	*e*P		**P**		**19 05 11.0**	**+0.7**
YSS				*e*				19 05 27.0		
YSS				*e*S		**S**		**19 15 04.0**	**+0.1**
YSS				pmax		pmax				
	comp=Z,60nm,1.0s									
YSS				MLR		MLR				
	comp=Z,400nm,14.0s									
YSS	**Yuzh-Sakhalins**	**78.21**	**38**	*e*P		**P**		**19 05 10.9**	**+0.7**
	comp=Z,33nm,0.9s									
YSS				*e*S		**S**		**19 15 04.0**	**+0.1**
	comp=Z,400nm,14.0s									
YSS	**Yuzh-Sakhalins**	**78.21**	**38**	*e*P		**P**		**19 05 10.9**	**+0.7**
	comp=Z,33nm,0.9s									
A30A	**Hoffart Farm,**	**78.37**	**325**	P		**P**		**19 05 11.2**	**0.0**
	baz=78									
A29A	**Manning Farm,**	**78.79**	**326**	P		**P**		**19 05 13.5**	**0.0**
	baz=78									
SFIN	**Scholer Farm**	**78.80**	**313**	P		**P**		**19 05 13.4**	**-0.2**
	baz=78									
HYT	**Haines Junctio**	**79.04**	**351**	P		**P**		**19 05 17.0**	**+2.2**
	comp=Z,5.2nm,1.1s									
HYT	**Haines Junctio**	**79.04**	**351**	P		**P**		**19 05 17.0**	**+2.2**
	comp=Z,5.2nm,1.1s									
B29A	**Wagenman Farm,**	**79.19**	**326**	P		**P**		**19 05 15.4**	**-0.3**
	baz=79									
PMR	**Palmer**	**79.26**	**357**	P		**P**		**19 05 18.7**	**+2.9**
PMR	**Palmer**	**79.26**	**357**	P		**P**		**19 05 18.7**	**+2.9**
PMR	**Palmer**	**79.26**	**357**	P		**P**		**19 05 18.7**	**+2.9**
PETK	**Petropavlovsk-**	**79.59**	**26**	P		**P**		**19 05 17.3**	**-0.5**
	comp=Z,4.3nm,1.0s,baz=10,slow=9.0,SNR=3.9									
PETK				LR		LR		19 44 18.2		
	comp=Z,105nm,18.6s,baz=317,slow=38									
HDIL	**Hopedale**	**79.90**	**315**	P		**P**		**19 05 19.2**	**-0.5**
	baz=80									
D30A	**Buchanan**	**79.94**	**324**	P		**P**		**19 05 19.2**	**-0.7**
	baz=80									
TKL	**Tuckaleechee C**	**79.99**	**308**	LR		LR		19 39 06.2		
	comp=Z,141nm,21.4s,baz=62,slow=34									
A26A	**Wade Farm, Ken**	**80.02**	**327**	P		**P**		**19 05 19.8**	**-0.4**
	baz=80									
YHNB	**Yeheng**	**80.13**	**66**	*e*P		**P**		**19 05 23.8**	**+2.5**
	comp=Z,22nm,0.8s									
YHNB	**Yeheng**	**80.13**	**66**	*e*P		**P**		**19 05 23.8**	**+2.5**
	comp=Z,22nm,0.8s									
ASAJ	**Asahikawa**	**80.18**	**40**	*e*P		**P**		**19 05 20.6**	**-0.5**
	comp=Z,4.1nm,0.9s									
ASAJ	**Asahikawa**	**80.18**	**40**	*e*P		**P**		**19 05 20.6**	**-0.5**
	comp=Z,4.1nm,0.9s									
DLBC	**Dease Lake**	**80.19**	**346**	P		**P**		**19 05 21.9**	**+0.9**
	comp=Z,2.0nm,0.2s,baz=315,slow=11									
DLBC				LR		LR		19 42 31.2		
	comp=Z,230nm,20.7s,baz=322,slow=37									
DLBC	**Dease Lake**	**80.19**	**346**	P		**P**		**19 05 21.4**	**+0.4**
DLBC	**Dease Lake**	**80.19**	**346**	P		**P**		**19 05 21.4**	**+0.4**
D29A	**Pettibone, Tap**	**80.36**	**325**	P		**P**		**19 05 21.9**	**-0.2**
	baz=80									
RSO	**Redoubt South**	**80.51**	**358**	P		**P**		**19 05 21.5**	**-1.4**
	comp=Z,12nm,0.9s									
RSO	**Redoubt South**	**80.51**	**358**	P		**P**		**19 05 21.5**	**-1.4**
	comp=Z,12nm,0.9s									
EDM	**Edmonton**	**80.70**	**336**	*e*P		**P**		**19 05 23.5**	**-0.3**
EDM				pmax		pmax				
	comp=Z,9.0nm,0.8s									
EDM	**Edmonton**	**80.70**	**336**	*e*P		**P**		**19 05 23.5**	**-0.3**
	comp=Z,8.9nm,0.8s									
EDM	**Edmonton**	**80.70**	**336**	*e*P		**P**		**19 05 23.5**	**-0.3**
	comp=Z,9.0nm,0.8s									
E29A	**Napoleon**	**80.75**	**324**	P		**P**		**19 05 24.7**	**+0.5**
	baz=80									
JNU	**Nakatsue**	**81.12**	**54**	LR		LR		19 45 12.4		
	comp=Z,192nm,18.5s,baz=332,slow=38									
ECSD	**EROS Data Cent**	**81.44**	**321**	*e*P		**P**		**19 05 27.8**	**-0.1**
	comp=Z,13nm,1.2s									
ECSD	**EROS Data Cent**	**81.44**	**321**	P		**P**		**19 05 27.9**	**0.0**
	baz=81									
ECSD	**EROS Data Cent**	**81.44**	**321**	*e*P		**P**		**19 05 27.8**	**-0.1**
	comp=Z,13nm,1.2s									
SIUC	**Southern Illin**	**81.82**	**313**	P		**P**		**19 05 29.7**	**-0.3**
SIUC	**Southern Illin**	**81.82**	**313**	P		**P**		**19 05 29.7**	**-0.3**
ERM	**Erimo**	**81.99**	**41**	*ce*P		**P**		**19 05 28.4**	**-2.3**
ERM				pmax		pmax				
	comp=Z,11nm,1.4s									
ERM	**Erimo**	**81.99**	**41**	*e*P		**P**		**19 05 28.4**	**-2.3**
	comp=Z,11nm,1.4s									
E26A	**Carlson Angus**	**82.08**	**326**	P		**P**		**19 05 30.9**	**-0.3**
	baz=82									
WVT	**Waverly**	**82.11**	**311**	*e*P		**P**		**19 05 30.7**	**-0.8**
WVT				pmax		pmax				
	comp=Z,27nm,1.4s									
WVT	**Waverly**	**82.11**	**311**	*e*P		**P**		**19 05 30.7**	**-0.8**
	comp=Z,27nm,1.4s									
WVT	**Waverly**	**82.11**	**311**	*e*P		**P**		**

WALA	Waterton Lakes	84.43 334	eP	P	19 05 43.9	+0.5	
WALA	Waterton Lakes	84.43 334	eP	P	19 05 43.9	+0.5	
N32A	Stulken Farm, baz=84	84.49 320	P	P	19 05 44.0	+0.2	
K28A	Ten Mile Ranch baz=84	84.49 323	P	P	19 05 44.8	+0.9	
R37A	Teagarden Farm baz=84	84.51 316	P	P	19 05 43.2	-0.6	
I25A	Rochford baz=84	84.55 325	P	P	19 05 44.6	+0.4	
RSSD	Black Hills	84.61 325	eP	P	19 05 44.9	+0.3	
RSSD	comp=Z,3.0nm,0.6s		pmax	pmax			
RSSD	Black Hills comp=Z,2.9nm,0.6s	84.61 325	eP	P	19 05 44.9	+0.3	
RSSD	Black Hills comp=Z,2.9nm,0.6s	84.61 325	eP	P	19 05 44.9	+0.3	
O33A	Hebron baz=84	84.65 319	P	P	19 05 44.6	+0.1	
P34A	Walnut Farm, R baz=84	84.65 318	P	P	19 05 44.6	0.0	
Q35A	Mercer Eighty, baz=84	84.75 317	P	P	19 05 45.0	-0.1	
R36A	Gordon, Harris baz=85	84.86 317	P	P	19 05 45.8	+0.1	
S37A	Fort Scott baz=85	84.91 316	P	P	19 05 45.9	0.0	
I24A	Kuemmerle Ranc baz=85	85.07 325	P	P	19 05 46.8	0.0	
J25A	Sunshine Ranch baz=85	85.08 325	P	P	19 05 46.9	+0.1	
P33A	Williams Farm, baz=85	85.18 319	P	P	19 05 47.2	0.0	
S36A	Lake Cedric, C baz=85	85.35 316	P	P	19 05 48.4	+0.3	
T37A	Cheneyville 18 baz=85	85.42 315	P	P	19 05 48.4	0.0	
H21A	Big Horn, Sher baz=85	85.50 327	P	P	19 05 49.2	+0.3	
G20A	Bridger baz=85	85.50 328	P	P	19 05 48.1	-0.8	
U38A	Gravette baz=85	85.63 315	P	P	19 05 49.5	-0.1	
BBB	Bella Bella comp=Z,200nm,18.2s,baz=18,slow=37	85.67 343	LR	LR	19 46 23.6		
HRY	Holter Researc	85.67 331	P	P	19 05 49.8	+0.1	
HRY	Holter Researc	85.67 331	P	P	19 05 49.8	+0.1	
JTMT	Jette comp=Z,11nm,1.0s	85.68 333	eP	P	19 05 50.4	+0.7	
JTMT	Jette comp=Z,11nm,1.0s	85.68 333	eP	P	19 05 50.4	+0.7	
BSMT	Bassoo Peak comp=Z,6.0nm,1.0s	85.77 334	eP	P	19 05 50.6	+0.4	
BSMT	Bassoo Peak comp=Z,6.0nm,1.0s	85.77 334	eP	P	19 05 50.6	+0.4	
S35A	Otter Creek Ra baz=86	85.77 317	P	P	19 05 49.8	-0.4	
SWMT	Swartz Lake comp=Z,18nm,1.2s	85.78 333	eP	P	19 05 50.8	+0.5	
SWMT	Swartz Lake comp=Z,18nm,1.2s	85.78 333	eP	P	19 05 50.8	+0.5	
R34A	Isabella, Hill baz=86	85.80 318	P	P	19 05 50.3	0.0	
T36A	Boggs Farm, Ca baz=86	85.99 316	P	P	19 05 51.3	0.0	
RLMT	Red Lodge comp=Z,15nm,1.2s	86.00 329	eP	P	19 05 50.3	-1.2	
RLMT	Red Lodge comp=Z,15nm,1.2s	86.00 329	eP	P	19 05 50.3	-1.2	
CHMT	Chamberlain Mo comp=Z,6.1nm,1.4s	86.02 332	eP	P	19 05 51.3	-0.2	
CHMT	Chamberlain Mo comp=Z,6.1nm,1.4s	86.02 332	eP	P	19 05 51.4	-0.2	
U37A	Salina baz=86	86.06 315	P	P	19 05 51.7	0.0	
V38A	Canehill baz=86	86.06 314	P	P	19 05 51.4	-0.3	
NEW	Newport comp=Z,2.5nm,0.7s,baz=343,slow=6.3,SNR=3.7	86.19 335	P	P	19 05 52.5	+0.4	
NEW	comp=Z,218nm,20.6s,baz=28,slow=36		LR	LR	19 45 32.0		
NEW	Newport comp=Z,3.0nm,0.7s	86.19 335	P	P	19 05 52.5	+0.4	
NEW	comp=Z,218nm,20.6s		pmax	pmax			
NEW	Newport comp=Z,7.8nm,1.1s	86.19 335	eP	P	19 05 52.2	0.0	
NEW	Newport baz=86	86.19 335	P	P	19 05 52.5	+0.4	
NEW	Newport comp=Z,7.8nm,1.1s	86.19 335	eP	P	19 05 52.2	0.0	
J22A	Midwest baz=86	86.24 326	P	P	19 05 52.0	-0.6	
I21A	Big Trails, Te baz=86	86.26 327	P	P	19 05 52.7	0.0	
T35A	Sooner Cattle baz=86	86.44 316	P	P	19 05 54.4	+0.8	
V37A	Hulbert baz=86	86.45 315	P	P	19 05 53.7	+0.1	
BDFB	Brasilia comp=Z,8.3nm,0.8s,baz=78,slow=4.6,SNR=7.8	86.47 247	P	P	19 05 55.2	+1.3	
BDFB	comp=Z,178nm,18.2s,baz=348,slow=37		LR	LR	19 46 21.6		
BOZ	Bozeman (W)	86.49 331	eP	P	19 05 53.7	-0.1	
BOZ	comp=Z,6.0nm,1.0s		pmax	pmax			
BOZ	Bozeman (W) comp=Z,6.4nm,1.0s	86.49 331	eP	P	19 05 53.7	-0.1	
BOZ	Bozeman (W) baz=86	86.49 331	P	P	19 05 54.5	+0.7	
BOZ	Bozeman (W) comp=Z,6.4nm,1.0s	86.49 331	eP	P	19 05 53.7	-0.1	
I20A	Worland baz=86	86.50 328	P	P	19 05 54.0	+0.1	
MIAR	Mount Ida	86.55 313	eP	P	19 05 54.8	+0.7	
MIAR	comp=Z,24nm,1.1s		pmax	pmax			
MIAR	Mount Ida comp=Z,24nm,1.1s	86.55 313	eP	P	19 05 54.8	+0.7	
MIAR	Mount Ida baz=86	86.55 313	P	P	19 05 54.8	+0.7	
MIAR	Mount Ida comp=Z,24nm,1.1s	86.55 313	eP	P	19 05 54.8	+0.7	
LRM	Limekiln Ridge comp=Z,40nm,1.0s	86.65 331	eP	P	19 05 53.5	-1.2	
LRM	Limekiln Ridge comp=Z,40nm,1.0s	86.65 331	eP	P	19 05 53.5	-1.2	
W38A	Poteau baz=86	86.70 314	P	P	19 05 55.1	+0.2	
J21A	Lysite baz=86	86.71 327	P	P	19 05 54.5	-0.5	
K22A	Casper comp=Z,12nm,1.0s	86.87 326	eP	P	19 05 54.8	-1.0	
K22A	Casper baz=87	86.87 326	P	P	19 05 55.4	-0.3	
K22A	Casper comp=Z,12nm,1.0s	86.87 326	eP	P	19 05 54.8	-1.0	
DLMT	Dillon comp=Z,13nm,1.4s	87.10 331	eP	P	19 05 56.3	-0.5	
DLMT	Dillon comp=Z,13nm,1.4s	87.10 331	eP	P	19 05 56.3	-0.5	
QLMT	Earthquake Lak	87.10 330	P	P	19 05 57.0	+0.1	
QLMT	Earthquake Lak	87.10 330	P	P	19 05 57.0	+0.1	
H17A	Grant Village	87.13 329	P	P	19 05 58.1	+1.0	
H17A	Grant Village	87.13 329	P	P	19 05 58.1	+1.0	
X38A	Whitesboro baz=87	87.17 314	P	P	19 05 57.6	+0.5	
PHWY	Pilot Hill comp=Z,13nm,0.9s	87.48 324	eP	P	19 05 58.4	-0.5	
PHWY	Pilot Hill comp=Z,13nm,0.9s	87.48 324	eP	P	19 05 58.4	-0.5	
X37A	Clayton baz=87	87.53 314	P	P	19 05 59.3	+0.5	
MCMT	McKenzie Canyo comp=Z,1.0nm,0.7s	87.64 331	eP	P	19 05 59.8	+0.3	
MCMT	McKenzie Canyo comp=Z,1.0nm,0.7s	87.64 331	eP	P	19 05 59.8	+0.3	
T31A	Randall Ranch, baz=88	87.97 318	P	P	19 06 00.8	-0.2	
SDV	Santo Domingo comp=Z,19nm,0.8s	87.99 280	eP	P	19 06 01.7	+0.1	
SDV	Santo Domingo comp=Z,19nm,0.8s	87.99 280	eP	P	19 06 01.7	+0.1	
N23A	Red Feather La baz=88	88.03 324	P	P	19 06 02.0	+0.5	
BW06	Boulder Array	88.07 328	P	P	19 06 00.7	-0.9	
BW06	Boulder Array	88.07 328	P	P	19 06 00.7	-0.9	
PDAR	Pinedale Array comp=Z,0.6nm,0.5s,baz=57,slow=5.5,SNR=4.9	88.07 328	P	P	19 06 01.2	-0.4	
PDAR	comp=Z,139nm,18.1s,baz=34,slow=38		LR	LR	19 48 19.3		
X35A	Drake baz=88	88.56 315	P	P	19 06 03.5	-0.3	
BMO	Blue Mountains comp=Z,2.0nm,0.7s	89.23 334	eP	P	19 06 06.0	-0.9	
BMO	Blue Mountains comp=Z,2.0nm,0.7s	89.23 334	eP	P	19 06 06.0	-0.9	
WMOK	Wichita Mounta	89.29 316	eP	P	19 06 07.4	+0.2	
WMOK	comp=Z,9.0nm,1.0s		pmax	pmax			
WMOK	Wichita Mounta comp=Z,9.1nm,1.0s	89.29 316	eP	P	19 06 07.4	+0.2	
WMOK	Wichita Mounta comp=Z,9.1nm,1.0s	89.29 316	eP	P	19 06 07.4	+0.2	
HWUT	Hardware Ranch comp=Z,3.7nm,0.8s	89.86 328	eP	P	19 06 08.2	-1.8	
HWUT	Hardware Ranch comp=Z,3.7nm,0.8s	89.86 328	eP	P	19 06 08.2	-1.8	
MFID	Camas Ranch comp=Z,11nm,1.3s	89.96 332	eP	P	19 06 10.4	+0.1	
MFID	Camas Ranch comp=Z,11nm,1.3s	89.96 332	eP	P	19 06 10.4	+0.1	
T25A	Trinidad baz=90	90.31 321	P	P	19 06 12.1	-0.1	
SDCO	Great Sand Dun comp=Z,6.6nm,1.0s	90.35 322	eP	P	19 06 11.9	-0.6	
SDCO	Great Sand Dun baz=90	90.35 322	P	P	19 06 12.1	-0.3	
SDCO	Great Sand Dun comp=Z,6.6nm,1.0s	90.35 322	eP	P	19 06 11.9	-0.6	
Z33A	Whitaker Ranch baz=90	90.38 315	P	P	19 06 12.8	+0.5	
X30A	Coker Ranch, T baz=90	90.62 317	P	P	19 06 13.8	+0.3	
WHTX	Lake Whitney baz=90	90.62 314	P	P	19 06 14.0	+0.5	
Z32A	Haskell baz=90	90.75 316	P	P	19 06 15.0	+1.0	
S22A	4UR Ranch, Cre baz=91	90.97 323	P	P	19 06 15.3	-0.1	
PV04	Paradox Valley	91.39 325	eP	P	19 06 15.5	-1.7	
PV04	Paradox Valley	91.39 325	eP	P	19 06 15.5	-1.7	
PV01	Paradox Valley	91.45 324	eP	P	19 06 17.8	+0.3	
PV01	Paradox Valley	91.45 324	eP	P	19 06 17.8	+0.3	
PV10	Paradox Valley	91.46 325	eP	P	19 06 13.7	-3.9	
DUG	Dugway	91.56 328	P	P	19 06 15.8	-2.0	
DUG	comp=Z,4.0nm,1.0s		pmax	pmax			
DUG	Dugway comp=Z,3.5nm,1.0s	91.56 328	P	P	19 06 15.8	-2.0	
DUG	Dugway comp=Z,3.5nm,1.0s	91.56 328	P	P	19 06 15.8	-2.0	
334A	Lometa baz=91	91.56 314	P	P	19 06 18.1	+0.3	
Z30A	Sanderson Ranc baz=91	91.65 317	P	P	19 06 18.5	+0.2	
232A	Coleman baz=92	91.92 315	P	P	19 06 20.1	+0.5	
434A	Burnet baz=92	91.96 313	P	P	19 06 19.7	0.0	
332A	Millersview baz=92	92.36 315	P	P	19 06 21.8	+0.2	
433A	Alt baz=92	92.47 314	P	P	19 06 21.5	-0.6	
MSU	Marysvale	92.71 327	eP	P	19 06 26.1	+2.8	
MSU	comp=Z,2.0nm,0.9s		pmax	pmax			
MSU	Marysvale comp=Z,2.4nm,0.9s	92.71 327	eP	P	19 06 26.1	+2.8	
MSU	Marysvale comp=Z,2.4nm,0.9s	92.71 327	eP	P	19 06 26.1	+2.8	
ANMO	Albuquerque	93.05 321	eP	P	19 06 23.1	-1.8	
ANMO	comp=Z,5.0nm,0.9s		pmax	pmax			
ANMO	Albuquerque comp=Z,4.7nm,0.9s	93.05 321	eP	P	19 06 23.1	-1.8	
ANMO	Albuquerque comp=Z,4.7nm,0.9s	93.05 321	eP	P	19 06 23.1	-1.8	
ROSC	El Rosal comp=Z,56nm,19.0s,baz=44,slow=34	93.37 279	LR	LR	19 45 53.0		
431A	Sonora baz=93	93.37 315	P	P	19 06 26.4	+0.1	
532A	Rocksprings baz=93	93.40 314	P	P	19 06 26.7	+0.2	
531A	Rocksprings baz=94	93.73 314	P	P	19 06 28.4	+0.4	
632A	Uvalde baz=94	93.81 313	P	P	19 06 28.7	+0.5	
M02C	Callahan baz=94	94.16 336	P	P	19 06 29.7	-0.1	
530A	J-C Ranch, Com baz=94	94.18 315	P	P	19 06 29.8	-0.2	
833A	Chaparral WMA, baz=94	94.48 312	P	P	19 06 32.1	+0.7	
529A	Stev Forest Ra baz=94	94.68 315	P	P	19 06 31.4	-1.0	
832A	Faith Ranch, C baz=95	94.84 313	P	P	19 06 33.2	+0.1	
NVAR	Mina Array Bea comp=Z,1.2nm,0.8s,baz=43,slow=1.3,SNR=5.4	95.22 331	P	P	19 06 35.0	+0.1	
TXAR	Lajitas Array comp=Z,1.8nm,0.9s,baz=74,slow=2.7,SNR=14	96.08 316	P	P	19 06 39.1	+0.4	
TXAR	comp=Z,111nm,19.1s,baz=0.0,slow=35		LR	LR	19 49 30.1		
CPUP	Villa Florida comp=Z,178nm,19.2s,baz=55,slow=36	99.99 244	LR	LR	19 53 49.6		
WRA	Warramunga Arr comp=Z,0.9nm,0.9s,baz=289,slow=2.6,SNR=4.1	117.89 94	PKP	PKPdf	19 11 55.8	-1.9	
WRA	comp=Z,1.2nm,1.0s,baz=126,slow=3.4,SNR=4.9		PKKPbc	PKKPbc	19 22 14.4	-2.4	
ASAR	Alice Springs comp=Z,1.0nm,0.7s,baz=322,slow=1.2,SNR=17	119.62 97	PKP	PKPdf	19 11 59.4	-1.6	
ASAR	comp=Z,0.9nm,0.8s,baz=111,slow=3.7,SNR=6.5		PKKPbc	PKKPbc	19 22 11.2	+0.5	
QSPA	South Pole Qui comp=Z,3.8nm,1.1s,baz=251,slow=0.5,SNR=5.7	129.19 180	PKP	PKPdf	19 12 16.4	-1.6	
STKA	Stephens Creek comp=Z,1.6nm,0.9s,baz=288,slow=6.5,SNR=2.9	129.61 102	PKP	PKPdf	19 12 19.4	-0.4	
VNDA	Vanda comp=Z,0.7nm,0.8s,baz=288,slow=3.5,SNR=3.5	137.85 167	PKP	PKPdf	19 12 32.4	-1.6	

KRSC 16 19:17:10.6±1.6, 48°29N×157°62E, h30km±27km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	2.59	338	eP	Pn	19 17 52.2	+1.8
SKR				eS	Sn	19 18 23.2	+2.4
PAU	Pauzhetka	3.23	351	eP	Pn	19 18 02.5	+3.3
PAU				eS	Sn	19 18 41.2	+4.7
ASAK	Asacha	4.11	2	eP	Pn	19 18 15.5	+4.1
RUS	Russkaya	4.19	8	eP	Pn	19 18 16.5	+4.1
AVH	Avacha	5.03	8	eP	Pn	19 18 28.8	+4.7
KOK	Koryaka	5.05	7	eP	Pn	19 18 30.1	+5.7
SDLR	Sedlovina	5.06	9	eP	Pn	19 18 28.6	+4.0
KRER	Koryakskii	5.07	8	eP	Pn	19 18 29.9	+5.1
GNL	Ganaly	5.42	2	eP	Pn	19 18 34.6	+5.1
MKZ	Mys Kozlova	6.78	21	eP	Pn	19 18 53.6	+5.6

*IDC **16** 19:30:39.5±1.6, 38°80S×73°93W, h0km, mb4.0/5, mb1 4.1/6, mb1mx4.0/16, mbtmp4.0/6, ML5.1/1, Error ellipse: s-maj=47.5km s-min=38.4km az=80.0*
*SJA **16** 19:30:40.2±0.6, 38°23S×74°12W, h33km, MD3.5*
*GUC **16** 19:30:41.3±0.6, 38°24S×74°16W, h28km±2km, ML4.8*
*NEIC **16** 19:30:43.6±6.7, 38°10S×73°68W, h14km±40km, mb4.3/9, ML4.8(GUC), Error ellipse: s-maj=28.0km s-min=11.8km az=83.0*
NEIC Felt [IV] at Tirua and [III] at Contulmo, Puerto Saavedra and Temuco.

ISC 16 19:30:41.6±2.8, 38°22S±0°04×73°88W±0°08, h5km±17km, n41, σ1°863/48, mb4.2/12, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U14B	Concepcin	1.50	25	*i* P	Pn	19 31 08.7	-0.5
U14B				*i* S	Sg	19 31 30.2	+0.5
U14B				AML	AML	19 31 35.6	
U14B	comp=N,15μm,0.4s						
U14B	Concepcin	1.50	25	*e*Pn	Pn	19 31 04.5	-4.6
U14B				*e*Sn	Sb	19 31 29.3	+0.1
CCSP	San Pedro de C	1.50	24	*i* P	Pn	19 31 08.9	-0.3
CCSP				*i* S	Sg	19 31 29.9	0.0
VLCH	Valdivia	1.66	163	*e*P	Pn	19 31 10.4	-1.0
VLCH				*i* S	Sn	19 31 32.2	-0.9
CANA	Caviahue	2.25	82	*e*P	Pn	19 31 20.8	+1.1
CANA				*e*S	Sb	19 31 50.0	-1.1
OSCH	Osorno	2.43	166	*e*P	Pn	19 31 21.0	-0.8
OSCH				*i* S	Sn	19 31 50.7	-1.2
OSCH				AML	AML	19 32 04.5	
TALC	comp=E,10μm,0.7s Talca	3.34	33	*e*P	Pn	19 31 34.7	+0.2
TALC				*i* S	Sn	19 32 15.1	+0.5
TALC				AML	AML	19 32 46.1	
PLCA	comp=E,1μm,0.3s Paso Flores	3.60	135	*e*P	Pn	19 31 38.5	+0.4
PLCA				*e*S	Sb	19 32 30.4	+0.6
U65B	HualaæØ	3.66	28	*e*Pn	Pn	19 31 38.9	+0.1
U73B	San Pedro	4.73	26	*e*Pn	Pn	19 31 52.0	-1.6
AUSP	Uspallata	7.02	33	*e*P	Pn	19 32 26.4	+1.1
CFAA	Coronel Fontan comp=E,0.1nm,0.3s,baz=201,slow=2.6,SNR=12	8.06	37	Pn	Pn	19 32 39.5	+0.2
CFAA	Coronel Fontan	8.06	37	*e*P	Pn	19 32 39.6	+0.2
RTLL	Cerro Villicun	8.19	34	*e*P	Pn	19 32 42.5	+1.4
AMOG	MOGNA	8.51	33	*e*P	Pn	19 32 44.5	-1.1
TRQA	Tornquist comp=E,5.0nm,0.6s	9.38	93	*e*Pn	Pn	19 32 57.5	+0.1
LCO	Las Campanas comp=E,23nm,0.8s	9.56	17	*e*Pn	Pn	19 32 58.3	-1.8
LVC	Limon Verde comp=E,6.4nm,0.3s,baz=114,slow=10.0,SNR=2.6	16.13	17	Pn	P	19 34 36.1	+3.4
LVC	Limon Verde	16.13	17	Pn	Pn	19 34 26.9	-2.4
EFI	East Falkland comp=E,71nm,1.2s	17.45	146	*e*Pn	P	19 34 46.4	-0.5
CPUP	Villa Florida	18.31	54	P	Pn	19 34 53.1	-3.3
LPAZ	La Paz comp=E,3.1nm,0.8s,baz=161,slow=8.1,SNR=8.7	22.43	15	P	P	19 35 45.2	+3.3
LPAZ	La Paz comp=E,3.7nm,0.8s	22.43	15	*e*P	P	19 35 43.9	+2.0
SIV	San Ignacio comp=E,3.4nm,0.8s,baz=210,slow=20,SNR=9.9	24.85	30	P	P	19 36 09.5	+4.4
OTAV	Otavalo comp=E,5.8nm,1.1s	38.50	353	*e*P	P	19 38 12.8	+7.5
SDV	Santo Domingo	46.96	4	P	P	19 39 11.2	-2.5
SNAA	Sanae comp=E,2.1nm,1.0s	48.29	156	*e*P	P	19 39 23.4	+0.1
QSPA	South Pole Qui comp=E,6.0nm,0.9s	52.02	180	*e*P	P	19 39 53.0	+1.2
SBA	Scott Base comp=E,2.3nm,1.0s	58.65	192	*e*P	P	19 40 41.4	+2.2
VNDA	Vanda comp=E,3.5nm,1.3s	59.68	192	P	P	19 40 48.0	+1.6
TXAR	Lajitas Array comp=E,0.3nm,0.6s,baz=150,slow=7.4,SNR=5.5	72.74	333	P	P	19 42 12.0	+1.1
SWET	Sewanee comp=E,11nm,1.0s	73.92	350	*e*P	P	19 42 17.9	+0.3
MIAR	Mount Ida comp=E,3.3nm,1.0s	74.67	343	*e*P	P	19 42 28.4	+6.5
DBIC	Dimbokro comp=E,8.1nm,1.0s,baz=194,slow=12,SNR=3.8	77.94	72	P	P	19 42 40.9	-0.1
TORD	Torodi Ar. Bea comp=E,0.7nm,0.7s,baz=216,slow=4.1,SNR=3.6	87.03	71	P	P	19 43 26.4	-2.0
ABKAR	Akbulak array	145.37	56	*e*PKPdf	PKPbc	19 50 19.9	0.0
BRVK	Borovoye	151.24	47	*e*PKPbc	PKPbc	19 50 36.1	+0.7
BVAR	Borovoye Array comp=E,1.7nm,0.6s,baz=290,slow=2.6,SNR=14	151.31	47	PKPbc	PKPbc	19 50 36.7	+1.0
KURBB	Kurchatov Arra comp=E,0.2nm,0.6s,baz=252,slow=1.8,SNR=3.0	156.87	49	PKP	PKPdf	19 50 35.0	-2.5
KURBB				PKPab	PKPab	19 51 07.1	-0.3
KURK	comp=E,0.8nm,0.9s,baz=291,slow=5.5,SNR=6.0 Kurchatov	156.89	48	PKP	PKPdf	19 50 35.0	-2.6
KURK				PKPab	PKPab	19 51 07.1	-0.4
SONM	Songino Array comp=E,0.3nm,0.8s,baz=4.3,slow=5.8,SNR=3.4	170.39	359	PKPab	PKPab	19 52 08.4	+1.6

WEL 16 20:05:09.4±0.8, 47°61S×165°39E, h33km, ML3.8/8, 1D, Error ellipse: s-maj=8.2km s-min=6.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APZ	The Paps	1.93	67	PN	Pn	20 05 38.5	-1.6
APZ				SN	Sn	20 06 01.4	-1.9
APZ				AML	AML	20 06 05.7	
DCZ	Deep Cove	2.46	30	*e*PN	Pn	20 05 46.0	-1.1
DCZ				AML	AML	20 06 27.7	
DCZ				AML	AML	20 08 17.6	
WHZ	Wether Hill Ro	2.46	47	||PN	Pn	20 06 46.1	-1.1
WHZ				SN	Sn	20 06 15.0	-1.1
WHZ				AML	AML	20 06 23.1	
SYZ	Scrubby Hill	2.78	69	PN	Pn	20 05 51.1	-0.5
SYZ				AML	AML	20 06 30.4	
SYZ				AML	AML	20 06 33.7	
MLZ	Mavora Lakes	2.97	41	PN	Pn	20 05 53.4	-0.9
MLZ				SN	Sn	20 06 28.1	-0.7
MLZ				AML	AML	20 06 38.7	
TUZ	Tuapeka	3.35	62	PN	Pn	20 05 58.8	-0.6
MSZ	Milford Sound	3.43	32	*e*PN	Pn	20 06 02.1	+1.6
MSZ				AML	AML	20 06 15.9	
MSZ				AML	AML	20 06 38.7	
EAZ	Earnscleugh	3.61	50	*e*PN	Pn	20 06 02.0	-1.0
EAZ				AML	AML	20 06 48.2	
EAZ				AML	AML	20 06 49.8	
WKZ	Wanaka	3.75	43	PN	Pn	20 06 05.4	+0.4
JCZ	Jackson Bay	4.25	35	*e*PN	Pn	20 06 12.9	+0.9
JCZ				AML	AML	20 06 43.9	
DSZ	Denniston Nort	7.43	40	*e*PN	Pn	20 06 55.5	-0.1

MEX 16 20:09:16.2±0.5, 14°30N×93°20W, h16km±25km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		1.40	359	*i* P	Pn	20 09 37.2	-3.9
PCIG				*i* S	Sn	20 09 53.8	-5.3
CCIG	Comitan	2.22	27	*e*P	Pn	20 09 50.1	-2.5
CCIG				*i* S	Sn	20 10 15.7	-4.3
CMIG	Matias Romero	3.21	330	*i* P	Pn	20 10 04.1	-1.9
CMIG				*i* S	Sn	20 10 39.8	-4.3

*ISCJB **16** 20:28:17.2±0.5, 3°06S±0°05×137°03E±0°04, h32km, mb3.5/1, Error ellipse: s-maj=6.5km s-min=5.0km az=3.0*
*DJA **16** 20:28:20.9±0.4, 3°S±6°×13°7E±°, h74km±13km, M4.1/9, mb4.4/1, MLv3.9/9*
*IDC **16** 20:28:20.1±2.2, 2°89S×137°12E, h75km±35km, mb3.3/2, mb1 3.8/5, mb1mx3.3/35, mbtmp3.9/5, ML3.8/3, Error ellipse: s-maj=27.6km s-min=18.7km az=6.0*

ISC 16 20:28:18.4±0.9, 2°98S±0°08×137°03E±0°04, h32km, n18, σ1°49/23, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	Serui, Papua	1.36	324	P	Pn	20 28 41.9	+0.8
SRPI				S	Sn	20 28 58.4	+0.4
SMPI	Sarmi	1.95	60	P	Pn	20 28 50.0	+0.8
SMPI				S	Sn	20 29 12.8	+0.2
BAKI	Biak	2.00	333	P	Pn	20 28 50.8	+0.8
GENI	Genyem	3.16	83	P	Pn	20 29 07.1	+1.2
RKPI	Ransiki, Papua	3.20	297	P	Pn	20 29 07.0	+0.5
RKPI				S	Sn	20 29 44.5	+0.9
JAY	Jayapura	3.70	83	P	Pn	20 29 15.4	+2.0
JAY	Jayapura 5.9nm,0.3s,baz=254,slow=13,SNR=42	3.70	83	P	Pn	20 29 15.0	+1.6
JAY				S	Sn	20 29 54.8	-1.2
JAY	4.9nm,0.3s,baz=300,slow=20,SNR=6.4 Jayapura baz=3.7,SNR=6.6	3.70	83	P	Pn	20 29 15.3	+2.0
FAKI	Fak Fak baz=4.8,SNR=7.9	4.77	271	P	Pn	20 29 29.2	+1.1
SIJI	Sorong 3.1nm,0.3s,baz=213,slow=23,SNR=39	6.13	290	P	Pn	20 29 48.7	+1.9
SIJI				S	Sn	20 30 53.3	-2.6
SWI	1.4nm,0.3s,baz=308,slow=21,SNR=6.7 Sorong	6.14	290	P	Pn	20 29 48.6	+1.7
SWI	Sorong baz=6.1,SNR=6.3	6.14	290	P	Pn	20 29 48.9	+2.0
KDU	Kakadu baz=11,SNR=4.7	10.64	205	P	Pn	20 30 49.5	+0.7
MTN	Manton Dam baz=12,SNR=11	11.40	210	P	Pn	20 31 00.8	+1.7
KNRA	Kununurra baz=15,SNR=7.5	15.01	212	P	Pn	20 31 48.2	-0.1
WRA	Warramunga Arr	17.06	189	P	Pn	20 32 13.8	-0.9

0.3nm,0.3s,baz=8.5,slow=12,SNR=22
WRA S Sn 20 35 12.5 -11
0.1nm,0.3s,baz=6.1,slow=23,SNR=4.5
ASAR Alice Springs 20.78 188 P **P 20 32 56.8 -0.2**
1.6nm,0.4s,baz=20,slow=10,SNR=19
CMAR Chiang Mai Arr 43.13 301 P **P 20 36 13.8 -2.3**
0.7nm,0.8s,baz=122,slow=6.6,SNR=7.3

IDC ***16*** *20:32:18.9±1.4,2°.23S×139°.56E,h0km,mb3.6/2, mb1 3.9/3,mb1mx3.5/31,mbtmp3.6/3,ML3.8/1,MS2.6/1, Ms1 2.6/1,ms1mx2.2/26,Error ellipse: s-maj=36.5km s-min=13.8km az=20.0*
ISCJB ***16*** *20:32:21.8±0.8,2°.00S±0°.07×139°.68E±0°.05,h27km, mb3.6/2,Error ellipse: s-maj=10.4km s-min=5.9km az=26.2*
DJA ***16*** *20:32:22.6±0.5,2°.5S×6°×14°.0E±°,h15km±8km,M4.2/6, MLv4.2/6*
ISC 16 20:32:22.5±0.9,2°.18S±0°.07×139°.65E±0°.05,h27km,n11, σ1§14/13,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.66**	**128**	P	**Pn**	**20 32 35.6**	**-0.4**
GENI				S	**Sn**	**20 32 46.3**	**+0.8**
SMPI	**Sarmi**	**0.96**	**281**	P	**Pn**	**20 32 38.8**	**-1.4**
SMPI				S	**Sn**	**20 32 52.1**	**-0.9**
JAY	**Jayapura**	**1.10**	**107**	P	**Pb**	**20 32 42.3**	**-0.7**
JAY	**Jayapura**	**1.10**	**107**	Pg	**Pb**	**20 32 42.2**	**-0.7**
	69nm,0.3s,baz=244,slow=11,SNR=172						
JAY				Lg	Lg	20 32 57.1	
	76nm,0.3s,baz=131,slow=19,SNR=21						
JAY				LR	LR	20 33 19.0	
	comp=Z,226nm,18.5s,baz=69,slow=51						
WAMI	**Wamena**	**1.93**	**209**	P	**Pb**	**20 32 56.5**	**-0.6**
WAMI				S	**Sb**	**20 33 22.1**	**+1.3**
SRPI	**Serui, Papua**	**3.42**	**275**	P	**Pn**	**20 33 14.4**	**+0.3**
BAKI	**Biak**	**3.68**	**285**	P	**Pn**	**20 33 18.7**	**+1.1**
GUMO	**Guam**	**16.50**	**18**	LR	LR	20 43 02.0	
	comp=Z,19nm,18.1s,baz=194,slow=39						
WRA	**Warramunga Arr**	**18.40**	**196**	P	**P**	**20 36 34.2**	**-1.4**
	0.3nm,0.3s,baz=16,slow=7.1,SNR=6.2						
MKAR	**Makanchi Array**	**69.95**	**322**	P	**P**	**20 43 33.3**	**+1.8**
	0.8nm,0.7s,baz=119,slow=7.1,SNR=6.2						
ILAR	**Eielson Array**	**84.97**	**24**	P	**P**	**20 44 54.8**	**-0.3**
	0.2nm,0.6s,baz=269,slow=4.1,SNR=3.4						

MEX 16 20:40:14.1±0.7,16°.88N×96°.26W,h32km±9km,MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**0.49**	**293**	*i* P	Pb	20 40 22.1	-2.7
VHO				*i* S	Sb	20 40 30.5	-1.7
HUIG	**Huatulco**	**1.11**	**173**	*e*P	Pn	20 40 31.7	-1.9
HUIG				*i* S	Sn	20 40 44.5	-3.2
HUIG				*i* S	Sn	20 40 45.2	-2.6
CMIG	**Matias Romero**	**1.33**	**81**	*e*P	Pn	20 40 34.7	-1.8
CMIG				*i* S	Sn	20 40 50.4	-2.7
PNIG	**Pinotepa**	**1.86**	**255**	*i* P	Pn	20 40 42.1	-1.7
PNIG				*i* S	Sn	20 41 03.2	-3.0

JMA ***16*** *20:43:59.4±0.2,34°.24N×141°.63E,h49km±2km,M3.4*
IDC ***16*** *20:44:03.0±1.5,33°.45N×139°.46E,h0km,mb3.5/5, mb1 3.7/7,mb1mx3.4/52,mbtmp3.6/7,ML3.8/2,Error ellipse: s-maj=51.6km s-min=17.5km az=69.0*
ISC 16 20:43:58.5±2.9,34°.23N±0°.06×141°.7E±0°.1,h26km±19km, n18,σ1§14/28,mb3.6/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.76**	**304**	P	**Pn**	**20 44 12.9**	**-0.2**
BSO1				S	**Sb**	**20 44 22.3**	**-0.2**
BSO2	**Boso 2**	**0.97**	**303**	S	**Sn**	**20 44 28.7**	**-0.2**
BSO3	**Boso 3**	**1.17**	**300**	P	**Pn**	**20 44 19.0**	**+0.1**
BSO3				S	**Sn**	**20 44 33.3**	**-0.6**
BSO4	**Boso 4**	**1.38**	**304**	P	**Pn**	**20 44 22.4**	**+0.3**
BSO4				S	**Sn**	**20 44 39.0**	**-0.5**
KTR	**Katsuura**	**1.49**	**308**	P	**Pn**	**20 44 24.0**	**+0.4**
KTR				S	**Sn**	**20 44 41.6**	**-0.6**
CHOJ	**Chosi**	**1.64**	**334**	P	**Pn**	**20 44 25.7**	**0.0**
TATJ	**Tateyama 2**	**1.72**	**298**	P	**Pn**	**20 44 26.5**	**-0.3**
TATJ				S	**Sn**	**20 44 46.5**	**-1.5**
JCN	**Nagara**	**1.73**	**313**	P	**Pn**	**20 44 27.3**	**+0.3**
JCN				S	**Sn**	**20 44 47.9**	**-0.4**
JHJ2	**Mitsune**	**1.96**	**236**	P	**Pn**	**20 44 31.0**	**+1.0**
JHJ2				S	**Sn**	**20 44 53.6**	**-0.2**
JIM2	**Oshima 3**	**1.97**	**285**	P	**Pn**	**20 44 29.1**	**-1.2**
MJAR	**Matsushiro Arr**	**3.69**	**310**	Pn	**Pn**	**20 44 55.1**	**+1.1**
	2.7nm,0.3s,baz=163,slow=13,SNR=26						
MJAR				Sn	**Sn**	**20 45 36.1**	**-0.6**
	5.5nm,0.3s,baz=161,slow=29,SNR=9.5						
MAT	**Matsushiro**	**3.70**	**310**	P	**Pn**	**20 44 54.6**	**+0.6**
MAT				S	**Sn**	**20 45 34.3**	**-2.4**
JCJ	**Chichijima**	**7.12**	**177**	Pn	**Pn**	**20 45 42.8**	**+1.7**
	7.6nm,0.3s,baz=284,slow=22,SNR=6.8						
JCJ				Sn	**Sn**	**20 46 58.0**	**-3.2**
	6.1nm,0.3s,baz=323,slow=20,SNR=3.1						
SONM	**Songino Array**	**29.65**	**308**	P	**P**	**20 50 02.5**	**+0.5**
	0.1nm,0.4s,baz=112,slow=9.2,SNR=3.6						
MKAR	**Makanchi Array**	**45.88**	**304**	P	**P**	**20 52 18.6**	**0.0**
	0.2nm,0.7s,baz=90,slow=8.6,SNR=2.7						
KURBB	**Kurchatov Arra**	**47.97**	**310**	P	**P**	**20 52 34.2**	**-0.7**
	0.5nm,0.6s,baz=86,slow=7.7,SNR=7.9						
WRA	**Warramunga Arr**	**54.33**	**189**	P	**P**	**20 53 23.8**	**+0.9**
	0.4nm,0.3s,baz=3.7,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**58.06**	**188**	P	**P**	**20 53 51.1**	**+1.6**
	0.2nm,0.3s,baz=6.3,slow=9.3,SNR=4.2						

IDC 16 20:53:07.1±8.0,18°.64S×168°.84E,h134km±77km,mb3.6/2, mb1 3.8/3,mb1mx3.2/32,mbtmp3.9/3,Error ellipse: s-maj=103.8km s-min=49.7km az=160.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.09**	**213**	P	Pn	20 54 09.2	+1.0
	3.9nm,0.3s,baz=73,slow=19,SNR=43						
DZM				S	Sn	20 54 55.3	-0.3
	5.0nm,0.3s,baz=73,slow=20,SNR=5.5						
DZM	**Mont Dzumac**	**4.09**	**213**	*e*P	Pn	20 54 07.9	-0.3
DZM				*e*S	Sn	20 54 53.5	-2.2
WRA	**Warramunga Arr**	**32.56**	**262**	P	P	20 59 25.6	-0.2
	0.6nm,0.8s,baz=87,slow=8.5,SNR=8.2						
ASAR	**Alice Springs**	**32.91**	**255**	P	P	20 59 29.1	+0.2
	2.4nm,0.4s,baz=83,slow=8.7,SNR=53						
ARCES	**ARCESS Array B**	**124.40**	**345**	PKP	PKPdf	21 11 48.9	-0.7
	0.3nm,0.4s,baz=33,slow=3.5,SNR=3.6						

ISCJB ***16*** *22:31:43.1±1.0,16°.9S±0°.2×173°.6W±0°.3,h52km,mb4.2/5, MS3.3/2,Error ellipse: s-maj=43.6km s-min=8.9km az=36.7*
IDC ***16*** *22:31:44.0±2.6,16°.97S×173°.53W,h44km±31km,mb4.0/5, mb1 4.2/6,mb1mx3.7/29,mbtmp4.2/6,ML4.1/1,MS3.1/4, Ms1 3.1/4,ms1mx2.8/28,Error ellipse: s-maj=54.8km s-min=17.6km az=120.0*
ISC 16 22:31:44.7±1.3,17°.0S±0°.2×173°.5W±0°.3,h52km,n9, σ1§14/9,mb4.4/5,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.50**	**29**	P	**Pn**	**22 32 37.6**	**+1.0**
	19nm,0.3s,baz=239,slow=5.9,SNR=8.8						
AFI				S	**Sn**	**22 33 16.0**	**-0.8**
	119nm,0.3s,baz=162,slow=19,SNR=19						
AFI				LR	LR	22 33 51.9	
	comp=Z,172nm,21.4s,baz=170,slow=37						
RAO	**Raoul Island**	**12.85**	**198**	LR	LR	22 39 00.9	
	comp=Z,88nm,19.7s,baz=330,slow=34						
URZ	**Urewera**	**22.73**	**199**	P	**P**	**22 36 41.7**	**-0.6**
	9.8nm,0.4s,baz=37,slow=4.8,SNR=25						
HNR	**Honiara**	**26.88**	**283**	LR	LR	22 46 33.5	
	comp=Z,59nm,19.8s,baz=38,slow=33						
STKA	**Stephens Creek**	**43.16**	**241**	P	**P**	**22 39 40.5**	**+0.1**
	0.9nm,0.5s,baz=83,slow=12,SNR=4.5						
WRA	**Warramunga Arr**	**49.38**	**258**	P	**P**	**22 40 29.0**	**-0.6**
	2.1nm,0.5s,baz=96,slow=7.0,SNR=49						
WRA				PcP	**PcP**	**22 41 53.0**	**+1.5**
	1.4nm,1.1s,baz=84,slow=2.6,SNR=2.9						
ASAR	**Alice Springs**	**49.52**	**253**	P	**P**	**22 40 30.4**	**-0.2**
	9.8nm,0.5s,baz=89,slow=8.6,SNR=114						
ASAR				PcP	**PcP**	**22 41 53.3**	**+1.4**
	1.0nm,0.7s,baz=86,slow=5.9,SNR=2.6						
TXAR	**Lajitas Array**	**81.59**	**56**	LR	LR	23 15 26.1	
	comp=Z,15nm,18.1s,baz=0.0,slow=32						
ILAR	**Eielson Array**	**84.02**	**11**	P	**P**	**22 44 08.0**	**-1.1**
	0.2nm,0.6s,baz=204,slow=4.0,SNR=3.2						

IDC ***16*** *23:06:15.8±1.2,6°.78N×72°.99W,h158km±19km,mb3.2/3, mb1 3.6/5,mb1mx3.2/27,mbtmp3.8/5,MS2.8/1,Ms1 2.8/1, ms1mx2.2/14,Error ellipse: s-maj=34.4km s-min=15.4km az=147.0*
ISCJB ***16*** *23:06:19.2±1.0,7°.40N±0°.09×72°.99W±0°.06,h166km, mb3.4/3,Error ellipse: s-maj=12.3km s-min=8.1km az=164.2*
FUNV ***16*** *23:06:20.1,7°.17N×73°.02W,h152km,MW3.8*
ISC 16 23:06:18.5±1.2,7°.25N±0°.10×72°.97W±0°.08,h166km,n18, σ1§52/24,mb3.4/3,1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**0.89**	**46**	*i* P	**Pn**	**23 06 44.3**	**0.0**
CAPV				*e*S	**Sn**	**23 07 02.7**	**-1.4**
VIGV	**El Vigia**	**2.24**	**45**	*e*P	**Pn**	**23 06 58.7**	**+1.3**
VIGV				*e*S	**Sn**	**23 07 27.3**	**-0.3**
SOCV	**Socops**	**2.33**	**64**	*e*P	**Pn**	**23 06 59.0**	**+0.6**
SOCV				*e*S	**Sn**	**23 07 28.0**	**-1.4**
ROSC	**El Rosal**	**2.73**	**210**	P	Pn	23 06 56.6	-7.1
	29nm,0.3s,baz=91,slow=18,SNR=66						
ROSC				S	Sn	23 07 26.8	-12
	73nm,0.3s,baz=90,slow=20,SNR=26						
VIRV	**Villa del Rosa**	**3.28**	**10**	*e*P	**Pn**	**23 07 10.4**	**+0.3**
VIRV				*e*S	**Sn**	**23 07 48.5**	**-1.8**
ELOV	**Elorza**	**3.46**	**94**	*e*S	**Sn**	**23 07 51.8**	**-2.5**
QARV	**Quebrada Arrib**	**3.81**	**39**	*e*P	**Pn**	**23 07 17.9**	**+1.1**
QARV				*e*S	**Sn**	**23 08 00.2**	**-2.0**
CURV	**Curarigua**	**4.05**	**47**	*e*P	**Pn**	**23 07 20.9**	**+1.0**
CURV				*e*S	**Sn**	**23 08 06.2**	**-1.6**
DABV	**Dabajuro**	**4.32**	**32**	*e*P	**Pn**	**23 07 24.7**	**+1.4**
DABV				*e*S	**Sn**	**23 08 11.2**	**-2.8**
MONV	**Montecano**	**5.53**	**32**	*e*P	**Pn**	**23 07 40.5**	**+1.3**
JACV	**Jacura**	**5.59**	**47**	*e*P	**Pn**	**23 07 40.4**	**+0.4**
TURV	**Turiamo**	**5.98**	**57**	*e*P	**Pn**	**23 07 45.5**	**+0.3**
PCRV	**Puerto La Cruz**	**8.73**	**70**	P	**Pn**	**23 08 22.8**	**+1.1**
	1.4nm,0.3s,baz=277,slow=4.0,SNR=8.2						
PCRV				S	**Sn**	**23 10 01.0**	**+1.9**
	1.2nm,0.3s,baz=348,slow=20,SNR=3.2						
ATAH	**Atahualpa**	**15.28**	**201**	LR	LR	23 16 31.3	
	comp=Z,36nm,21.1s,baz=168,slow=42						
TXAR	**Lajitas Array**	**36.30**	**311**	P	**P**	**23 13 06.8**	**+0.5**
	0.4nm,0.4s,baz=123,slow=9.1,SNR=8.2						
PDAR	**Pinedale Array**	**47.83**	**324**	P	**P**	**23 14 40.7**	**+1.0**
	0.3nm,0.5s,baz=126,slow=9.1,SNR=3.0						
YKA	**Yellowknife Ar**	**62.92**	**340**	P	**P**	**23 16 27.5**	**+0.6**
	0.9nm,0.7s,baz=132,slow=6.4,SNR=5.2						
WRA	**Warramunga Arr**	**150.67**	**242**	PKPbc	**PKPbc**	**23 25 49.4**	**-2.5**
	0.3nm,0.3s,baz=108,slow=2.4,SNR=2.9						

CSEM ***16*** *23:08:20.1±0.6,73°.81N×8°.94E,h10km,ML2.0,Error ellipse: s-maj=21.6km s-min=5.3km az=75.0*
BER ***16*** *23:08:22.6±3.3,73°.80N×9°.50E,h10km,ML2.0, ML3.5(NAO)*
NAO ***16*** *23:08:26.6±4.3,74°.06N×11°.71E,ML3.5*
HEL ***16*** *23:08:27.3,73°.41N×9°.70E,h10km,ML2.7,ML3.5(NAO), ML2.0(BER)*
ISC 16 23:08:20.3±1.6,73°.76N±0°.08×9°.6E±0°.1,h10km,n42, σ2§09/47,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HSPB	**Hornsund (broa**	**3.59**	**22**	Pn	**Pn**	**23 09 15.8**	**-0.1**
HSPB	**Hornsund (broa**	**3.59**	**22**	Pn	**Pn**	**23 09 15.8**	**-0.1**
	SNR=50						
HSP	**Hornsund**	**3.60**	**22**	Pn	**Pn**	**23 09 15.8**	**-0.2**
SPA0	**Spitsbergen Ar**	**4.74**	**17**	Pn	**Pn**	**23 09 32.2**	**+0.6**
	baz=184,slow=16						
SPA0	**Spitsbergen Ar**	**4.74**	**17**	Pn	**Pn**	**23 09 32.2**	**+0.6**
	baz=184,slow=16						
SPA0	**Spitsbergen Ar**	**4.74**	**17**	*e*	**Pn**	**23 09 32.2**	**+0.6**
	baz=184,slow=16						
SPA0	**Spitsbergen Ar**	**4.74**	**17**	Pn	**Pn**	**23 09 32.2**	**+0.6**
	baz=184,slow=14,SNR=50						
TRO	**Tromso**	**5.08**	**140**	*e*P	**Pn**	**23 09 36.5**	**+0.1**
TRO				*e*S	Sn	23 10 31.4	-3.6
TRO	**Tromso**	**5.08**	**140**	*e*P	**Pn**	**23 09 36.5**	**+0.1**
TRO				*e*S	Sn	23 10 31.4	-3.6
TRO	**Tromso**	**5.08**	**140**	*e*P	**Pn**	**23 09 36.5**	**+0.1**
	SNR=49						
KBS	**Kingsbay**	**5.22**	**5**	Pn	**Pn**	**23 09 37.3**	**-1.0**
KBS	**Kingsbay**	**5.22**	**5**	Pn	**Pn**	**23 09 37.3**	**-1.0**
KBS	**Kingsbay**	**5.22**	**5**	*e*	**Pn**	**23 09 37.3**	**-1.0**
KBS	**Kingsbay**	**5.22**	**5**	Pn	**Pn**	**23 09 37.3**	**-1.0**
	SNR=50						
HAMF	**Hammerfest**	**5.33**	**119**	*e*P	**Pn**	**23 09 39.5**	**-0.3**
HAMF				*e*S	Sn	23 10 37.8	-3.4
HAMF				IAML		23 10 39.7	
	comp=Z,6.4nm,0.4s						
LOF	**Lofoten**	**5.80**	**165**	*e*P	**Pn**	**23 09 48.4**	**+2.1**
LOF				*e*S	Sn	23 10 47.8	-5.0
LOF				IAML		23 10 51.2	
	comp=Z,3.0nm,0.5s						
LOF	**Lofoten**	**5.80**	**165**	*e*P	**Pn**	**23 09 48.4**	**+2.1**
LOF				*e*S	Sn	23 10 47.8	-5.0
LOF				IAML		23 10 51.2	
	comp=Z,3.0nm,0.5s						
LOF	**Lofoten**	**5.80**	**165**	*e*P	**Pn**	**23 09 48.4**	**+2.1**
	SNR=49						
KIF	**Kilpisjarvi**	**5.97**	**138**	*e*P	**Pn**	**23 09 50.9**	**+2.4**
KIF				*e*S	**Sn**	**23 10 55.2**	**-1.6**
KIF				MSN		23 10 56.0	
	comp=Z,7.0nm,0.3s						
KIF	**Kilpisjarvi**	**5.97**	**138**	P	Pn	**23 09 50.9**	**+2.4**
ARA0	**ARCESS Array S**	**6.56**	**122**	Pn	**Pn**	**23 09 59.5**	**+2.8**
	baz=325,slow=12						
ARA0				Sn	**Sn**	**23 11 09.1**	**-2.4**
	baz=320,slow=22						
ARA0	**ARCESS Array S**	**6.56**	**122**	Pn	**Pn**	**23 09 59.5**	**+2.8**
	baz=325,slow=12						
ARA0				Sn	**Sn**	**23 11 09.1**	**-2.4**
	baz=320,slow=22						
ARA0	**ARCESS Array S**	**6.56**	**122**	Pn	**Pn**	**23 09 59.5**	**+2.8**
	baz=325,slow=12,SNR=50						
ARE0	**ARCESS Array S**	**6.56**	**122**	*e*Pn	**Pn**	**23 09 59.4**	**+2.7**
ARE0				*e*Sn	**Sn**	**23 11 09.3**	**-2.2**
ARE0				IAML		23 11 14.1	
	comp=Z,2.6nm,0.3s						
ARE0	**ARCESS Array S**	**6.56**	**122**	*e*P	**Pn**	**23 09 59.4**	**+2.7**
ARE0				*e*S	**Sn**	**23 11 08.8**	**-2.6**
ARE0	**ARCESS Array S**	**6.56**	**122**	P	**Pn**	**23 09 59.4**	**+2.7**
KEV	**Kevo**	**6.77**	**118**	*e*P	**Pn**	**23 10 02.5**	**+3.0**
KEV				MSN		23 11 19.4	
	comp=Z,2.5nm,0.2s						
KEV	**Kevo**	**6.77**	**118**	P	**Pn**	**23 10 02.5**	**+3.0**
LANU	**Lannavaara**	**7.02**	**139**	*e*P	**Pn**	**23 10 05.8**	**+2.8**
LANU				*e*S	Sn	23 11 19.9	-2.8
LANU	**Lannavaara**	**7.02**	**139**	P	**Pn**	**23 10 05.8**	**+2.8**
HEF	**Hetta**	**7.04**	**133**	*e*P	**Pn**	**23 10 05.9**	**+2.6**
HEF				*e*S	Sn	23 11 20.4	-2.8
HEF				MSN		23 11 22.9	
	comp=Z,0.9nm,0.3s						
HEF	**Hetta**	**7.04**	**133**	P	**Pn**	**23 10 05.8**	**+2.6**
SGF	**Sodankyl**	**8.45**	**130**	*e*P	**Pn**	**23 10 24.9**	**+2.3**
SGF				*e*S	Sn	23 11 54.5	-3.3
SGF	**Sodankyl**	**8.45**	**130**	P	**Pn**	**23 10 24.8**	**+2.3**
RNF	**Rovaniemi**	**9.05**	**134**	*e*P	**Pn**	**23 10 32.7**	**+1.9**
RNF				*e*S	Sn	23 12 08.0	-4.6
RNF	**Rovaniemi**	**9.05**	**134**	P	**Pn**	**23 10 32.7**	**+1.9**
MSF	**Maaselka**	**10.29**	**130**	*e*P	**Pn**	**23 10 50.0**	**+2.3**
MSF				*e*S	Sn	23 12 38.3	-4.6
MSF	**Maaselka**	**10.29**	**130**	P	**Pn**	**23 10 50.0**	**+2.3**
KUG	**Riekki**	**10.38**	**128**	*e*P	**Pn**	**23 10 51.1**	**+2.1**
KUG				*e*S	Sn	23 12 38.8	-6.2
KUG				MSN		23 12 45.8	
	comp=Z,0.4nm,0.2s						
KUG	**Riekki**	**10.38**	**128**	P	**Pn**	**23 10 51.0**	**+2.1**
KJN	**Kajaani**	**11.62**	**137**	*e*P	**Pn**	**23 11 07.5**	**+1.5**
KJN				*e*S	Sn	23 13 09.4	-6.2
KJN	**Kajaani**	**11.62**	**137**	P	**Pn**	**23 11 07.5**	**+1.5**

ISCJB ***16*** *23:31:33.6±0.5,36°.01N±0°.03×70°.74E±0°.06,h100km, mb3.5/8,Error ellipse: s-maj=7.1km s-min=3.8km az=154.5*
IDC ***16*** *23:31:33.2±4.0,35°.98N×70°.67E,h67km±33km,mb3.4/9, mb1 3.6/14,mb1mx3.4/41,mbtmp3.8/14,ML3.6/5,Error ellipse: s-maj=29.1km s-min=19.1km az=167.0*
NNC ***16*** *23:31:39.5±1.7,36°.49N×70°.37E,h149km±14km,mb3.5, mpv4.5,Error ellipse: s-maj=16.2km s-min=8.6km az=174.0*
ISC 16 23:31:34.3±0.7,35°.98N±0°.06×70°.59E±0°.06,h100km,n50, σ1§72/54,mb3.5/8,8C-10D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**3.15**	**334**	⇓P	**Pn**	**23 32 22.1**	**-0.1**
	18nm,0.5s						
DZET				⇓S	**Sn**	**23 32 55.8**	**-3.2**
	141nm,0.5s						
SFK	**Sufi-Kurgan**	**4.63**	**29**	⇓P	**Pn**	**23 32 43.9**	**+1.6**
	109nm,0.3s						
SFK				⇑S	**Sn**	**23 33 34.9**	**-0.1**
	34nm,0.3s						
DLH	**Dalhousie**	**5.62**	**126**	*e*P	Pn	23 32 58.0	+2.4
DLH				*e*S	**Sn**	**23 33 58.0**	**-1.0**
AML	**Almayashu**	**6.60**	**21**	P	**Pn**	**23 33 08.8**	**-0.2**
	SNR=48						
SDNR	**Sundarnagar**	**6.94**	**128**	*ex*	x	23 33 41.0	
SDNR				*e*S	**Sn**	**23 34 29.0**	**-1.9**
UCH	**Uchtor**	**6.94**	**25**	P	**Pn**	**23 33 13.5**	**-0.2**
	SNR=35						
KZA	**Kyzart**	**7.08**	**29**	P	**Pn**	**23 33 15.2**	**-0.4**
	SNR=24						
EKS2	**Erkin-Say**	**7.11**	**19**	P	**Pn**	**23 33 15.8**	**+0.1**
	SNR=27						
KK09	**Karatay Array**	**7.13**	**359**	⇑P	**Pn**	**23 33 15.2**	**-0.7**
	17nm,0.4s						
KK09				⇓S	Sn	23 34 27.3	-8.1
	4.3nm,0.4s						
AAK	**Ala-Archa**	**7.30**	**23**	P	**Pn**	**23 33 18.6**	**+0.3**
	SNR=26						
AAK	**Ala-Archa**	**7.30**	**23**	⇑P	**Pn**	**23 33 18.4**	**+0.1**
	20nm,0.4s						
AAK				⇓S	**Sn**	**23 34 36.8**	**-2.8**
	12nm,0.7s						
SMLA	**Simla**	**7.32**	**130**	*i* P	**Pn**	**23 33 19.8**	**+1.4**
SMLA				*i* S	**Sn**	**23 34 38.1**	**-1.8**
SMLA				*i* S	**Sn**	**23 34 38.1**	**-1.8**
SMLA				AML	AML	23 34 41.6	
	comp=E,836nm,0.3s						
SMLA				AML	AML	23 34 41.8	
	comp=N,700nm,0.3s						
SMLA	**Simla**	**7.32**	**130**	*i* P	**Pn**	**23 33 19.8**	**+1.4**
SMLA				*i* S	**Sn**	**23 34 38.1**	**-1.8**
SMLA				*i* S	**Sn**	**23 34 38.1**	**-1.8**
SMLA				AML	AML	23 34 41.6	
	comp=E,836nm,0.3s						
SMLA				AML	AML	23 34 41.8	
	comp=N,700nm,0.3s						
KBK	**Karagaybulak**	**7.47**	**26**	P	**Pn**	**23 33 21.2**	**+0.5**
	SNR=12						
ULHL	**Ulahol**	**7.64**	**33**	P	**Pn**	**23 33 22.5**	**-0.6**
	SNR=11						
CHMS	**Chumysh**	**7.71**	**23**	P	**Pn**	**23 33 23.5**	**-0.3**
	SNR=41						
USP	**Ospenovka**	**7.88**	**21**	P	**Pn**	**23 33 25.4**	**-0.6**
	SNR=17						
TKM2	**Tokmak 2**	**7.94**	**28**	P	**Pn**	**23 33 27.1**	**+0.1**
	SNR=17						
TKM2	**Tokmak 2**	**7.94**	**28**	⇑P	**Pn**	**23 33 26.6**	**-0.4**
	comp=N,12nm,0.5s						
TKM2				⇑S	**Sn**	**23 34 54.3**	**-0.9**
	comp=N,6.3nm,0.7s						
KHET	**Khetri**	**9.04**	**149**	*e*S	Sn	23 35 14.6	-7.3
KHET				AML	AML	23 35 18.5	
	comp=E,182nm,0.2s						
KHET				AML	AML	23 35 19.8	
	comp=N,182nm,0.2s						
KUDL	**Kundal**	**9.28**	**146**	*e*S	Sn	23 35 20.8	-6.9
KALG	**Kalgarh**	**9.43**	**131**	*e*S	**Sn**	**23 35 26.4**	**-4.9**
PDGK	**Podgornoye**	**10.04**	**40**	⇓P	**Pn**	**23 33 54.4**	**-0.9**
	comp=N,4.3nm,1.1s						
GEYT	**Alibeck**	**10.17**	**285**	P	**Pn**	**23 33 58.3**	**+1.0**
	comp=N,0.4nm,0.3s,baz=114,slow=8.1,SNR=4.1						
GEYT				S	**Sn**	**23 35 46.1**	**-3.3**
	comp=N,1.9nm,0.3s,baz=84,slow=20,SNR=8.8						
OTUK	**Ortayu**	**12.32**	**5**	⇓P	**Pn**	**23 34 24.2**	**-2.0**
	comp=N,2.1nm,0.6s						
KOLN	**Koldanda**	**13.74**	**123**	*e*P	**Pn**	**23 34 44.5**	**-0.6**
	comp=N,4.8nm,0.3s						
MK31	**Makanchi Array**	**13.90**	**35**	⇓P	**Pn**	**23 34 47.5**	**+0.6**
	comp=N,0.6nm,0.4s,baz=216,slow=14,SNR=11						
MKAR	**Makanchi Array**	**13.90**	**35**	P	**Pn**	**23 34 46.2**	**-0.6**
	comp=N,0.2nm,0.3s,baz=220,slow=12,SNR=13						
GKN	**Gorkha**	**14.32**	**120**	*e*P	**Pn**	**23 34 50.9**	**-1.6**
	comp=N,8.4nm,0.3s						
DMN	**Daman**	**14.89**	**120**	*e*P	**Pn**	**23 34 57.8**	**-2.0**
	comp=N,4.3nm,0.3s						
KKN	**Kakani**	**14.90**	**119**	*e*P	**Pn**	**23 34 58.4**	**-1.6**
	comp=N,7.6nm,0.4s						
PKIN	**Phulchoki**	**15.11**	**120**	*e*P	**Pn**	**23 35 01.6**	**-1.1**
	comp=N,5.2nm,0.3s	

ARHZ	**Aropaoanui**	**1.26**	**142**	PN	Pn	23 39 52.3	+0.5
MCHZ	**McNeill Hill**	**1.29**	**156**	PN	Pn	23 39 52.6	+0.5
VRZ	**Vera Road**	**1.30**	**228**	PN	Pn	23 39 52.5	+0.4
KRHZ	**Kereru**	**1.41**	**168**	⇑PN	Pn	23 39 53.0	-0.3
RIGZ	**Rimuhau**	**1.45**	**108**	PN	Pn	23 39 54.2	+0.4
HAZ	**Te Kaha**	**1.49**	**71**	⇑PN	Pn	23 39 53.6	-0.6
HAZ				SN	Sn	23 40 14.9	-0.9
KNZ	**Kokohu**	**1.51**	**121**	PN	Pn	23 39 54.2	-0.1
KAHZ	**Kahuranaki**	**1.67**	**156**	PN	Pn	23 39 55.9	-0.4
WAZ	**Wanganui**	**1.69**	**208**	PN	Pn	23 39 56.0	-0.4
TSZ	**Takapari Road**	**1.79**	**181**	⇑PN	Pn	23 39 56.5	-1.2
PXZ	**Pawanui**	**1.89**	**160**	PN	Pn	23 39 57.7	-1.0
WMGZ	**Waiomatatini S**	**1.95**	**78**	PN	Pn	23 39 59.0	-0.5
DVHZ	**Dannevirke**	**2.04**	**177**	⇑PN	Pn	23 39 58.8	-1.7
POWZ	**Post Office Ro**	**2.13**	**185**	PN	Pn	23 39 59.8	-1.9
ANWZ	**Angora Road**	**2.22**	**171**	PN	Pn	23 40 01.3	-1.5
PRWZ	**Pori Road**	**2.29**	**181**	PN	Pn	23 40 01.8	-1.8
MRZ	**Mangatainoka R**	**2.42**	**188**	⇑PN	Pn	23 40 02.8	-2.4
MRZ				AML	AML	23 40 33.8	
BFZ	**Birch Farm**	**2.42**	**176**	PN	Pn	23 40 03.0	-2.3
TIWZ	**Tintock**	**2.51**	**182**	PN	Pn	23 40 04.0	-2.5
OGWZ	**Otaki Gorge**	**2.63**	**194**	PN	Pn	23 40 05.3	-2.5
HOWZ	**Holdsworth Sta**	**2.66**	**188**	PN	Pn	23 40 05.3	-2.9
KIW	**Kapiti Island**	**2.73**	**198**	PN	Pn	23 40 06.1	-3.0
TMWZ	**Te Maipa**	**2.84**	**182**	PN	Pn	23 40 07.6	-3.0
CAW	**Cannon Point**	**2.93**	**194**	PN	Pn	23 40 08.5	-3.2
PAWZ	**Paruwai Farm**	**3.15**	**188**	AML	AML	23 41 04.6	
MSWZ	**Moikau Station**	**3.20**	**190**	PN	Pn	23 40 11.4	-3.8
MSWZ				AML	AML	23 40 49.9	
PLWZ	**Palliser**	**3.35**	**190**	PN	Pn	23 40 13.1	-4.1
TUWZ	**Tuamarina**	**3.54**	**206**	AML	AML	23 40 58.1	
QRZ	**Quartz Range**	**3.71**	**225**	PN	Pn	23 40 17.7	-4.2
KHZ	**Kahutara**	**4.56**	**204**	ePN	Pn	23 40 28.7	-4.3
OXZ	**Oxford**	**5.88**	**210**	ePN	Pn	23 40 44.0	-6.8
MQZ	**McQueen's Vall**	**6.00**	**204**	ePN	Pn	23 40 45.6	-6.7

GUC 17 00:19:03.0±0.7,**34°99S**×**72°55W,h35**km±4km,**ML3.9,**
1C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.85**	**119**	*eP*	Pn	00 19 17.9	-0.6
TALC				*i* S	Sn	00 19 29.8	0.0
LNCH	**Linares**	**1.16**	**138**	⇓*i*P	Pn	00 19 23.3	+0.6
LNCH				*e*S	Sn	00 19 38.9	+1.7
COCH	**Cobquecura**	**1.16**	**190**	*eP*	Pn	00 19 22.3	-0.5
COCH				*i* S	Sn	00 19 37.3	-0.1
CHCH	**Chadas Angostu**	**1.88**	**57**	*eP*	Pn	00 19 34.7	+1.9
CLCH	**Cerro Calan**	**2.30**	**47**	AML	AML	00 20 20.8	
	comp=N,850nm,0.6s						
PEL	**Peldehue**	**2.40**	**41**	⇑*i*P	Pn	00 19 41.5	+1.6
PEL				*i* S	Sn	00 20 10.0	+1.8
PEL				AML	AML	00 20 21.1	
	comp=E,914nm,0.3s						

IDC ***17*** *00:19:14.1±3.8,14°.56S×167°.31E,h110km±34km, mb3.9/12,mb1 4.0/13,mb1mx3.9/32,mbtmp4.2/13,Error ellipse: s-maj=27.0km s-min=20.0km az=88.0*
ISCJB ***17*** *00:19:16.2±0.8,14°.68S±0°.08×167°.4E±0°.1,h150km, mb4.0/11,Error ellipse: s-maj=20.2km s-min=10.1km az=13.6*

ISC 17 00:19:18.3±0.9,**14°.82S**±0°.08×**167°.4E**±0°.2,**h150**km,**n26,**
σ1=28/24,mb3.9/11,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.27**	**187**	P	**Pn**	**00 21 02.9**	**+0.8**
	5.2nm,0.3s,baz=90,slow=24,SNR=53						
DZM				S	**Sn**	**00 22 22.6**	**-1.0**
	4.2nm,0.3s,baz=90,slow=20,SNR=2.9						
DZM	**Mont Dzumac**	**7.27**	**187**	*eP*	**Pn**	**00 21 02.3**	**+0.3**
DZM				*eS*	**Sn**	**00 22 19.9**	**-3.6**
EIDS	**Eidsvold**	**18.58**	**233**	P	**P**	**00 23 25.5**	**+1.5**
	baz=17,SNR=9.0						
CTA	**Charters Tower**	**20.87**	**252**	P	**P**	**00 23 48.2**	**-0.4**
	6.2nm,0.7s,baz=98,slow=9.2,SNR=5.5						
RMQ	**Roma**	**20.95**	**233**	P	**P**	**00 23 50.4**	**+0.9**
	baz=19,SNR=14						
MTSU	**Mount Surprise**	**22.41**	**258**	P	**P**	**00 24 04.1**	**-0.6**
	baz=21,SNR=4.3						
QLP	**Quilpie**	**24.61**	**238**	P	**P**	**00 24 25.7**	**+0.9**
	baz=23,SNR=3.6						
CMSA	**Cobar Meteorol**	**25.93**	**226**	P	**P**	**00 24 37.7**	**+1.1**
	baz=24,SNR=7.6						
STKA	**Stephens Creek**	**29.06**	**230**	P	**P**	**00 25 06.0**	**+1.5**
	4.3nm,0.4s,baz=60,slow=8.7,SNR=30						
STKA	**Stephens Creek**	**29.06**	**230**	P	**P**	**00 25 06.0**	**+1.5**
	baz=27,SNR=23						
WRA	**Warramunga Arr**	**31.96**	**256**	P	P	00 25 28.1	-2.1
	0.7nm,0.8s,baz=85,slow=9.3,SNR=3.5						
BBOO	**Buckleboo**	**33.65**	**232**	P	**P**	**00 25 46.0**	**+1.1**
	baz=32,SNR=9.2						
WRKA	**Warakurna**	**38.05**	**248**	P	**P**	**00 26 21.7**	**-0.8**
	baz=36,SNR=12						
MEEK	**Meekatharra**	**46.90**	**247**	P	**P**	**00 27 33.8**	**-0.1**
	baz=45,SNR=3.5						
MJAR	**Matsushiro Arr**	**58.06**	**332**	P	P	00 28 53.4	-2.4
	2.0nm,0.6s,baz=168,slow=8.3,SNR=7.0						
VNDA	**Vanda**	**62.78**	**181**	P	**P**	**00 29 28.6**	**+1.4**
	1.0nm,0.7s,baz=17,slow=4.2,SNR=6.2						
KSRS	**Korea Array**	**63.90**	**326**	P	P	00 29 33.0	-2.2
	1.3nm,0.8s,baz=152,slow=8.2,SNR=4.3						
CMAR	**Chiang Mai Arr**	**75.13**	**294**	P	**P**	**00 30 42.9**	**-1.6**
	1.6nm,0.4s,baz=122,slow=4.8,SNR=4.5						
SEY	**Seymchan**	**78.39**	**353**	P	**P**	**00 31 01.2**	**-0.6**
	0.8nm,0.3s,baz=174,slow=5.5,SNR=7.2						
SONM	**Songino Array**	**82.66**	**324**	P	**P**	**00 31 25.3**	**+0.3**
	0.5nm,0.3s,baz=141,slow=6.0,SNR=4.2						
ILAR	**Eielson Array**	**86.56**	**18**	P	**P**	**00 31 43.1**	**-1.0**
	1.3nm,0.8s,baz=241,slow=5.4,SNR=14						
MKAR	**Makanchi Array**	**97.38**	**316**	P	**P**	**00 32 34.5**	**-0.2**
	1.1nm,0.7s,baz=96,slow=5.7,SNR=11						
ZALV	**Zalesovo Beam**	**97.56**	**324**	P	P	00 32 32.8	-2.5
	1.1nm,0.7s,baz=108,slow=4.8,SNR=5.5						
ARCES	**ARCESS Array B**	**120.38**	**345**	PKP	**PKPdf**	**00 37 51.8**	**+0.6**
	1.5nm,0.4s,baz=85,slow=2.5,SNR=42						
BOSA	**Boshof**	**123.41**	**220**	PKP	**PKPdf**	**00 37 59.4**	**+0.9**
	1.7nm,0.8s,baz=232,slow=12,SNR=2.7						
FINES	**FINESS Array B**	**125.86**	**338**	PKP	**PKPdf**	**00 38 02.4**	**+0.5**
	2.1nm,0.9s,baz=56,slow=4.8,SNR=6.4						

IDC ***17*** *00:41:43.3±0.8,12°.17N×143°.95E,h0km,mb4.2/14, mb1 4.4/15,mb1mx4.2/33,mbtmp4.2/15,ML4.3/1,MS3.2/3, Ms1 3.3/3,ms1mx2.8/34,Error ellipse: s-maj=24.8km s-min=15.8km az=120.0*
NEIC ***17*** *00:41:44.7±0.5,12°.20N×143°.97E,h10km,mb4.5/4,Error ellipse: s-maj=15.5km s-min=9.6km az=114.0*
ISCJB ***17*** *00:41:45.7±0.5,12°.15N±0°.08×143°.84E±0°.10,h26km, mb4.2/18,MS3.1/3,Error ellipse: s-maj=16.0km s-min=7.7km az=33.6*

ISC 17 00:41:47.0±0.7,**12°.18N**±0°.10×**144°.0E**±0°.1,**h26**km,**n29,**
σ1=05/27,mb4.3/18,MS3.0/3,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.62**	**30**	Pn	**Pb**	**00 42 15.4**	**-0.9**
	208nm,0.3s,baz=195,slow=4.2,SNR=84						
GUMO				Sn	**Sb**	**00 42 35.9**	**-0.5**
	116nm,0.3s,baz=195,slow=22,SNR=6.6						
GUMO				LR	LR	00 42 55.0	
	comp=Z,351nm,19.9s,baz=190,slow=43						
GUMO	**Guam**	**1.62**	**30**	*e*Pg	**Pb**	**00 42 15.2**	**-1.1**
GUMO				*e*Sg	**Sb**	**00 42 36.6**	**+0.2**
SIJI	**Sorong**	**18.13**	**225**	P	**Pn**	**00 45 55.7**	**-1.5**
	1.1nm,0.3s,baz=108,slow=19,SNR=1.9						
H11N1	**WAKE ISLAND Hy**	**23.20**	**68**	T	T	01 11 21.3	
	baz=255,slow=75,SNR=7.3						
H11N2	**WAKE ISLAND Hy**	**23.21**	**68**	T	T	01 11 11.1	
	baz=255,slow=75,SNR=8.4						
H11N3	**WAKE ISLAND Hy**	**23.22**	**68**	T	T	01 11 23.0	
	baz=255,slow=75,SNR=7.3						
MJAR	**Matsushiro Arr**	**24.82**	**349**	LR	LR	00 54 42.8	
	comp=Z,320nm,20.6s,baz=175,slow=31						
WRAB	**Tennant Creek**	**33.30**	**197**	*eP*	**P**	**00 48 22.9**	**+0.1**
WRA	**Warramunga Arr**	**33.31**	**197**	P	**P**	**00 48 22.5**	**-0.4**
	1.6nm,0.8s,baz=18,slow=9.5,SNR=11						
PETK	**Petropavlovsk-**	**42.27**	**12**	LR	LR	01 05 12.7	
	comp=Z,220nm,21.6s,baz=174,slow=33						
CMAR	**Chiang Mai Arr**	**43.85**	**284**	P	**P**	**00 49 52.1**	**+0.7**
	1.0nm,0.3s,baz=98,slow=2.9,SNR=5.8						
CMAR				LR	LR	01 08 32.4	
	comp=Z,63nm,18.1s,baz=182,slow=37						
STKA	**Stephens Creek**	**43.87**	**183**	P	**P**	**00 49 50.8**	**-0.5**
	3.8nm,1.0s,baz=30,slow=6.9,SNR=3.0						
SONM	**Songino Array**	**47.43**	**326**	P	**P**	**00 50 20.1**	**+0.6**
	0.6nm,0.6s,baz=145,slow=7.4,SNR=4.8						
SONM				PcP	**PcP**	**00 51 50.7**	**+0.9**
	0.7nm,0.8s,baz=121,slow=3.6,SNR=4.3						
SEY	**Seymchan**	**51.03**	**5**	P	**P**	**00 50 46.1**	**-0.5**
	1.2nm,0.2s,baz=176,slow=18,SNR=3.7						
MK31	**Makanchi Array**	**61.95**	**317**	*eP*	**P**	**00 52 04.7**	**-0.1**
MKAR	**Makanchi Array**	**61.95**	**317**	P	**P**	**00 52 05.3**	**+0.6**
	0.7nm,0.6s,baz=83,slow=9.9,SNR=9.2						
ZALV	**Zalesovo Beam**	**62.30**	**325**	P	**P**	**00 52 05.0**	**-1.9**
	1.0nm,0.6s,baz=102,slow=6.2,SNR=4.2						
KURK	**Kurchatov**	**65.14**	**320**	*eP*	**P**	**00 52 25.7**	**0.0**
	6.8nm,1.0s						
ILAR	**Eielson Array**	**70.18**	**25**	P	**P**	**00 52 56.8**	**-0.5**
	1.6nm,0.5s,baz=252,slow=5.8,SNR=16						
BRVK	**Borovoye**	**70.60**	**322**	*eP*	**P**	**00 52 59.6**	**-0.4**
	2.5nm,0.6s						
ABKAR	**Akbulak array**	**77.04**	**318**	*eP*	**P**	**00 53 37.4**	**-0.4**
	1.9nm,0.6s						
GEYT	**Alibeck**	**79.44**	**307**	P	**P**	**00 53 52.4**	**+0.9**
	0.7nm,0.3s,baz=297,slow=6.5,SNR=3.8						
YKA	**Yellowknife Ar**	**84.48**	**27**	P	**P**	**00 54 18.3**	**+1.0**
	1.5nm,0.4s,baz=286,slow=5.1,SNR=16						
ARCES	**ARCESS Array B**	**88.17**	**342**	P	**P**	**00 54 35.4**	**0.0**
	1.8nm,0.9s,baz=56,slow=6.5,SNR=5.5						
NVAR	**Mina Array Bea**	**88.43**	**51**	P	**P**	**00 54 40.2**	**+2.7**
	2.4nm,0.7s,baz=262,slow=6.4,SNR=11						
TPH	**Tonopah**	**89.34**	**51**	*eP*	**P**	**00 54 43.5**	**+1.7**
	1.8nm,0.6s						
FINES	**FINESS Array B**	**92.09**	**335**	P	**P**	**00 54 52.7**	**-1.1**
	1.6nm,0.5s,baz=70,slow=5.6,SNR=21						
PDAR	**Pinedale Array**	**93.53**	**45**	P	**P**	**00 55 02.2**	**+1.0**
	0.3nm,0.7s,baz=322,slow=2.8,SNR=2.4						
TORD	**Torodi Ar. Bea**	**134.97**	**303**	PKP	**PKPdf**	**01 01 03.8**	**-1.1**
	0.6nm,0.9s,baz=20,slow=1.9,SNR=4.0						

BJI ***17*** *01:03:48.1,5°.84S×147°.10E,h71km,mb4.8/35,mB5.1/27, Ms4.8/16,Ms7 4.5/13*
IDC ***17*** *01:03:49.7±0.6,5°.82S×147°.18E,h70km±5km,mb4.3/18, mb1 4.5/24,mb1mx4.5/30,mbtmp4.7/24,MS3.6/23, Ms1 3.7/23,ms1mx3.6/28,Error ellipse: s-maj=16.5km s-min=7.3km az=86.0*
NEIC ***17*** *01:03:49.7±0.2,5°.78S×147°.11E,mb5.0/39,Error ellipse: s-maj=6.5km s-min=4.6km az=100.0*
MOS ***17*** *01:03:50.8±1.0,5°.80S×147°.01E,h92km,mb4.9/17,Error ellipse: s-maj=13.7km s-min=6.4km az=91.9*
ISCJB ***17*** *01:03:50.4±0.6,5°.82S±0°.02×147°.14E±0°.03,h89km±5km, mb4.8/60,Error ellipse: s-maj=5.7km s-min=3.9km az=4.7*
DJA ***17*** *01:03:54.1±1.2,6°S±8°×174°E±1°2,h79km±11km,MS3.1/5, mb5.0/15,mB5.9/5,MLv5.5/3,Mw(mB)5.5/5*

ISC 17 01:03:50.3±0.3,**5°.84S**±0°.03×**147°.11E**±0°.05,**h77**km±2km,
h76km:**pP-P,n210,σ1=47/238,mb4.9/59,15C-19D,Eastern**
New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.54**	**179**	P	**Pn**	**01 04 43.3**	**+0.3**
	63nm,0.3s,baz=3.4,slow=5.1,SNR=74						
PMG				S	**Sn**	**01 05 24.3**	**+0.6**
	136nm,0.3s,baz=174,slow=23,SNR=8.9						
PMG	**Port Moresby**	**3.54**	**179**	⇓P	**Pn**	**01 04 43.4**	**+0.4**
	baz=3.6,SNR=68						
PMG				⇓P	**Pn**	**01 04 43.4**	**+0.4**
	baz=3.6,SNR=68						
PMG				⇓P	**Pn**	**01 04 43.4**	**+0.4**
	baz=3.6,SNR=68						
PMG	**Port Moresby**	**3.54**	**179**	*e*Pn	**Pn**	**01 04 43.5**	**+0.5**
PMG				*e*Sn	Sn	01 05 18.0	-5.7
PMG				S	**Sn**	**01 05 24.3**	**+0.6**
MANU	**Manus Island**	**3.78**	**4**	⇑P	**Pn**	**01 04 46.7**	**+0.4**
	baz=3.8						
RABL	**Rabaul**	**5.29**	**72**	⇓P	**Pn**	**01 05 07.8**	**+0.9**
	baz=5.3						
JAY	**Jayapura**	**7.20**	**297**	P	Pn	01 05 38.3	+5.4
	79nm,0.9s,7μm0.3nm						
JAY	**Jayapura**	**7.20**	**297**	P	**Pn**	**01 05 34.6**	**+1.7**
	6.5nm,0.3s,baz=94,slow=4.3,SNR=25						
JAY				S	**Sn**	**01 06 58.0**	**+4.7**
	1.0nm,0.3s,baz=312,slow=16,SNR=1.5						
JAY				LR	LR	01 08 55.3	
	comp=Z,486nm,18.7s,baz=82,slow=42						
JAY	**Jayapura**	**7.20**	**297**	P	Pn	01 05 36.4	+3.5
	baz=7.2,SNR=4.5						
GENI	**Genyem**	**7.64**	**295**	P	Pn	01 05 42.4	+3.4
	220nm,1.1s,6μm1.5nm						
COEN	**Coen**	**8.95**	**205**	P	**Pn**	**01 05 57.8**	**+1.0**
	baz=9.0,SNR=71						
COEN	**Coen**	**8.95**	**205**	*e*Pn	**Pn**	**01 05 57.7**	**+0.9**
COEN				*e*Sn	**Sn**	**01 07 35.2**	**-0.9**
SMPI	**Sarmi**	**9.21**	**294**	P	Pn	01 06 06.0	+5.5
	117nm,1.2s,42μm						
MTSU	**Mount Surprise**	**12.52**	**192**	⇑P	**Pn**	**01 06 46.3**	**+0.7**
	baz=13,SNR=14						
HNR	**Honiara**	**13.21**	**106**	LR	LR	01 11 47.6	
	comp=Z,82nm,19.1s,baz=298,slow=36						
RKPI	**Ransiki, Papua**	**13.61**	**288**	P	**Pn**	**01 07 02.7**	**+2.6**
	132nm,0.9s,7μm						
CTA	**Charters Tower**	**14.19**	**183**	P	**Pn**	**01 07 09.2**	**+1.5**
	2.1nm,0.3s,baz=1.2,slow=14,SNR=17						
CTA				S	**Sn**	**01 09 45.5**	**+1.8**
	0.4nm,0.3s,baz=274,slow=16,SNR=2.4						
CTA	**Charters Tower**	**14.19**	**183**	⇓P	**P**	**01 07 10.5**	**-2.3**
	baz=14						
CTAO	**Charters Tower**	**14.19**	**183**	*e*P	**Pn**	**01 07 10.0**	**+2.3**
CTAO	**Charters Tower**	**14.19**	**183**	*e*Pn	**Pn**	**01 07 10.0**	**+2.3**
FAKI	**Fak Fak**	**15.10**	**280**	⇑P	**Pn**	**01 07 19.5**	**0.0**
	baz=15,SNR=3.4						
FAKI	**Fak Fak**	**15.10**	**280**	*e*Pn	**Pn**	**01 07 19.2**	**-0.3**
KDU	**Kakadu**	**15.96**	**244**	⇓P	**Pn**	**01 07 29.7**	**-0.7**
	baz=16,SNR=11						
QIS	**Mount Isa**	**16.34**	**206**	⇓P	**P**	**01 07 38.5**	**+1.7**
	baz=16,SNR=47						
SIJI	**Sorong**	**16.57**	**287**	P	**P**	**01 07 39.8**	**+0.5**
	2.7nm,0.3s,baz=84,slow=12,SNR=12						
SWI	**Sorong**	**16.58**	**287**	P	**P**	**01 07 41.1**	**+1.7**
	88nm,0.8s,3μm						
PATS	**Pohnpei**	**16.84**	**42**	⇑P	**P**	**01 07 42.7**	**+0.5**
	baz=17						
MTN	**Manton Dam**	**17.23**	**245**	P	**P**	**01 07 46.9**	**+0.4**
	baz=17,SNR=5.1						
PALU	**Palau**	**18.18**	**316**	⇓P	**Pn**	**01 08 00.1**	**+2.4**
	baz=18,SNR=5.9						
WRAB	**Tennant Creek**	**18.71**	**220**	P	**P**	**01 08 03.3**	**+0.4**
	313nm,0.8s,SNR=13						
WRAB	**Tennant Creek**	**18.71**	**220**	⇑*i*P	**Pn**	**01 08 05.8**	**+1.7**
WRAB				pmax	pmax		
	comp=Z,103nm,0.8s						
WRAB	**Tennant Creek**	**18.71**	**220**	*e*P	**P**	**01 08 03.2**	**+0.3**
WRAB				*e*S	**S**	**01 11 28.3**	**-3.5**
WRA	**Warramunga Arr**	**18.73**	**220**	P	**P**	**01 08 03.5**	**+0.4**
	comp=Z,1.8nm,0.3s,baz=47,slow=10,SNR=59						
WRA				S	**S**	**01 11 29.2**	**-2.8**
	comp=Z,0.5nm,0.3s,baz=46,slow=24,SNR=5.8						
WRA				LR	LR	01 16 27.0	
	comp=Z,778nm,21.0s,baz=40,slow=40						
AAI	**Ambon**	**18.97**	**276**	P	**Pn**	**01 08 08.5**	**+1.2**
	comp=Z,192nm,0.8s						
GUMO	**Guam**	**19.43**	**353**	P	**Pn**	**01 08 12.1**	**-0.5**
	comp=Z,5.1nm,0.3s,baz=165,slow=12,SNR=6.1						
GUMO				LR	LR	01 14 08.6	
	comp=Z,240nm,19.8s,baz=162,slow=32						
EIDS	**Eidsvold**	**19.79**	**169**	P	**Pn**	**01 08 16.3**	**-0.4**
	baz=20,SNR=10						
EIDS	**Eidsvold**	**19.79**	**169**	*e*P	**Pn**	**01 08 16.3**	**-0.4**
	comp=Z,45nm,0.9s						
KNRA	**Kununurra**	**20.49**	**240**	⇓P	**P**	**01 08 23.1**	**+0.9**
	baz=20,SNR=8.6						
RMQ	**Roma**	**20.59**	**176**	P	Pn	01 08 25.5	-0.7
	baz=21,SNR=17						
TNTI	**Ternate**	**20.78**	**288**	*e*P	**P**	**01 08 25.9**	**+0.5**
	comp=Z,57nm,0.9s						
QLP	**Quilpie**	**20.81**	**187**	P	**P**	**01 08 26.8**	**+1.3**
	baz=21,SNR=40						
AS31	**Alice Springs**	**21.81**	**214**	*e*P	**P**	**01 08 37.1**	**+0.7**
ASAR	**Alice Springs**	**21.81**	**214**	P	**P**	**01 08 37.0**	**+0.7**
	comp=Z,10nm,0.7s,baz=48,slow=8.4,SNR=69						
ASAR				S	**S**	**01 12 31.9**	**-1.6**
	comp=Z,5.7nm,0.8s,baz=32,slow=21,SNR=7.8						
ASAR				LR	LR	01 18 11.8	
	comp=Z,338nm,19.0s,baz=350,slow=39						
SOEI	**Soe**	**22.96**	**259**	P	**P**	**01 08 50.0**	**+1.2**
	baz=23,SNR=3.8						
SOEI	**Soe**	**22.96**	**259**	*e*P	**P**	**01 08 48.8**	**0.0**
	comp=Z,140nm,0.9s						
BATI	**Baumata**	**23.62**	**258**	P	**P**	**01 08 56.8**	**+2.0**
	comp=Z,155nm,0.6s,baz=125,slow=2.4,SNR=18						
DZM	**Mont Dzumac**	**24.69**	**133**	*e*LR	LR	01 15 17.9	
	comp=Z,794nm,31.9s						
DZM	**Mont Dzumac**	**24.69**	**133**	P	**P**	**01 09 04.2**	**-0.3**
	comp=Z,17nm,1.0s,baz=270,slow=24,SNR=5.7						
DZM	**Mont Dzumac**	**24.69**	**133**	*e*P	**P**	**01 09 03.8**	**-0.6**
	comp=Z,19nm,1.0s						
LUWI	**Luwuk**	**24.75**	**280**	*e*P	**P**	**01 09 05.4**	**+0.4**
ARMA	**Armidale**	**24.82**	**171**	⇑P	**P**	**01 09 06.5**	**+1.0**
	baz=25,SNR=15						
ARMA	**Armidale**	**24.82**	**171**	*e*P	**P**	**01 09 05.3**	**-0.2**
	comp=Z,41nm,1.1s						
MMRI	**Maumere**	**24.83**	**262**	*e*P	**P**	**01 09 05.6**	**-0.1**
	comp=Z,114nm,0.8s						
CMSA	**Cobar Meteorol**	**25.60**	**183**	⇓P	**P**	**01 09 13.5**	**+1.0**
	baz=26,SNR=5.7						
WRKA	**Warakurna**	**26.26**	**221**	P	**P**	**01 09 19.2**	**+0.6**
	baz=26,SNR=18						
STKA	**Stephens Creek**	**26.41**	**191**	P	**P**	**01 09 19.8**	**-0.1**
	comp=Z,8.9nm,0.8s,baz=1.8,slow=7.5,SNR=13						
STKA				LR	LR	01 19 49.4	
	comp=Z,459nm,21.1s,baz=25,slow=36						
STKA	**Stephens Creek**	**26.41**	**191**	P	**P**	**01 09 19.8**	**-0.1**
STKA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
STKA				MLR	MLR		
	comp=Z,459nm,21.1s						
STKA	**Stephens Creek**	**26.41**	**191**	⇑P	**P**	**01 09 20.5**	**+0.7**
	baz=26,SNR=9.2						
STKA	**Stephens Creek**	**26.41**	**191**	*e*P	**P**	**01 09 19.5**	**-0.4**
	comp=Z,5.4nm,1.0s						
KAPI	**Kappang**	**27.25**	**270**	P	**P**	**01 09 28.1**	**+0.5**
	comp=Z,32nm,0.9s,baz=141,slow=14,SNR=3.9						
KAPI	**Kappang**	**27.25**	**270**	*e*P	**P**	**01 09 25.9**	**-1.7**
	comp=Z,76nm,1.3s						
HTT	**Hallett**	**28.49**	**194**	⇓P	**P**	**01 09 40.1**	**+1.7**
	baz=29,SNR=7.3						
CAN	**Canberra**	**29.39**	**177**	⇓P	**P**	**01 09 48.0**	**+1.6**
	baz=30						
MBWA	**Marble Bar**	**30.59**	**238**	*e*P	**P**	**01 09 56.3**	**-0.8**
	comp=Z,26nm,0.7s						
FORT	**Forrest**	**30.59**	**214**	P	**P**	**01 09 58.5**	**+1.4**
	baz=31						
H11S3	**WAKE ISLAND Hy**	**30.94**	**38**	T	T	01 42 19.3	
	baz=218,slow=74						
H11S2	**WAKE ISLAND Hy**	**30.95**	**38**	T	T	01 42 24.2	
	baz=218,slow=74						
H11S1	**WAKE ISLAND Hy**	**30.96**	**38**	T	T	01 42 35.8	
	baz=218						
ARPS	**Mount Arapiles**	**31.16**	**188**	⇑P	**P**	**01 10 03.1**	**+1.1**
	baz=31						
TOO	**Toolangi**	**31.62**	**182**	P	**P**	**01 10 07.6**	**+1.6**
	baz=32,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**32.00**	**37**	T	T	01 44 22.8	
	baz=218,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**32.01**	**37**	T	T	01 44 23.9	
	baz=218,slow=76,SNR=15						
H11N2	**WAKE ISLAND Hy**	**32.01**	**37**	T	T	01 44 24.1	
	baz=218,slow=76,SNR=26						
JCJ	**Chichijima**	**33.09**	**352**	P	**P**	**01 10 19.0**	**0.0**
	comp=Z,106nm,0.8s,baz=247,slow=15,SNR=3.4						
JCJ				LR	LR	01 21 33.2	
	comp=Z,201nm,20.8s,baz=126,slow=32						
CBIJ	**Chichi jima**	**33.09**	**352**	P	**P**	**01 10 19.0**	**0.0**
MEEK	**Meekatharra**	**34.14**	**230**	P	**P**	**01 10 29.2**	**+1.0**
	baz=34,SNR=24						
KMBL	**Kambalda**	**34.70**	**220**	P	**P**	**01 10 33.7**	**+0.8**
	baz=35,SNR=17						
KLBR	**Kellerberrin**	**37.56**	**223**	P	**P**	**01 10 58.1**	**+0.6**
	baz=38,SNR=15						

YSS	**Yuzh-Sakhalins**	**52.71**	**356**	*e*P		**P**	**01 12 57.7**	**+0.7**
	comp=Z,26nm,0.9s							
KMI	**Kunming**	**52.99**	**307**	P		**P**	**01 13 00.5**	**+0.7**
KMI				PMZ				
	comp=Z,10.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**53.27**	**298**	P		**P**	**01 13 01.9**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=126,slow=6.5,SNR=5.7							
CMAR	**Chiang Mai Arr**	**53.27**	**298**	*e*P		P	01 13 05.9	+4.2
XAN	**Xi'an**	**53.63**	**320**	P		**P**	**01 13 03.9**	**-0.2**
XAN				PMZ				
	comp=Z,4.0nm,1.1s							
XAN				PMZ				
	comp=Z,27nm,5.5s							
HABR	**Khabarovsk**	**55.11**	**350**	*e*P		**P**	**01 13 13.8**	**-0.7**
HABR				*e**PP		**pP**	**01 13 35.9**	**+2.0**
HABR				*e**SP		**sP**	**01 13 46.3**	**+3.8**
HABR				*e*			01 14 13.9	
HABR				*e*			01 15 18.0	
HABR				PPP		PPP	01 16 31.6	
HABR				*e*S		**S**	**01 20 50.2**	**-1.3**
HABR				*e*			01 22 53.9	
HABR				SS		**SS**	**01 24 36.9**	**+0.2**
HABR				pmax		pmax		
	comp=Z,30nm,1.3s							
HABR				MLR		MLR		
	comp=Z,59nm,21.0s							
CD2	**Chengdu**	**55.25**	**314**	P		**P**	**01 13 16.3**	**+0.4**
CD2				pP		**pP**	**01 13 34.3**	**-1.0**
CD2				sP		**sP**	**01 13 42.3**	**-1.6**
CD2				PP		**PP**	**01 15 20.5**	**+0.2**
CD2				S		**S**	**01 20 55.5**	**+1.5**
CD2				sS		**sS**	**01 21 26.6**	**-0.5**
CD2				PMZ				
	comp=Z,20nm,0.7s							
CD2				PMZ				
	comp=Z,140nm,3.9s							
CD2				LN				
	comp=Z,420nm,4.1s							
CD2				LZ				
	comp=Z,250nm,5.1s							
KLR	**Kul'dur**	**56.46**	**348**	*e*P		P	01 13 20.4	-3.7
KLR				*e*			01 13 40.2	
KLR				pmax		pmax		
	comp=Z,40nm,1.6s							
HHC	**Hu-ho-hao-te**	**56.76**	**328**	*e*P		**P**	**01 13 27.6**	**+1.0**
HHC				pP		**pP**	**01 13 43.9**	**-2.2**
HHC				sP		**sP**	**01 13 57.3**	**+2.6**
HHC				PP		**PP**	**01 15 34.5**	**+0.8**
HHC				S		**S**	**01 21 11.4**	**-2.5**
HHC				sS		**sS**	**01 21 48.8**	**+1.7**
HHC				SS		**SS**	**01 24 59.9**	**-3.3**
HHC				PMZ				
	comp=Z,16nm,1.2s							
HHC				PMZ				
	comp=Z,80nm,6.9s							
HHC				LN				
	comp=Z,120nm,16.6s							
HHC				LE				
	comp=Z,140nm,16.6s							
SKR	**Severo-Kuril's**	**56.83**	**7**‖	*e*P		**P**	**01 13 27.9**	**+1.2**
LZH	**Lanzhou**	**58.16**	**319**	*e*P		**P**	**01 13 39.0**	**+2.4**
LZH				pP		**pP**	**01 13 57.6**	**+1.4**
LZH				sP		**sP**	**01 14 06.5**	**+1.7**
LZH				*e*S		**S**	**01 21 27.0**	**-5.6**
LZH				SS		**SS**	**01 25 21.0**	**-4.6**
LZH				PMZ				
	comp=Z,23nm,1.0s							
LZH				PMZ				
	comp=Z,180nm,4.6s							
LZH				LN				
	comp=Z,420nm,13.0s							
LZH				LE				
	comp=Z,530nm,14.2s							
LZH				LZ				
	comp=Z,710nm,15.6s							
PETK	**Petropavlovsk-**	**59.41**	**7**	P		**P**	**01 13 45.8**	**+1.1**
	comp=Z,14nm,0.8s,baz=170,slow=9.0,SNR=17							
PETK				LR		LR	01 35 52.5	
	comp=Z,82nm,21.4s,baz=182,slow=32							
GTA	**Gaotai**	**62.69**	**320**	*e*P		**P**	**01 14 07.6**	**+0.2**
GTA				pP		**pP**	**01 14 23.6**	**-3.6**
GTA				sP		**sP**	**01 14 30.8**	**-4.9**
GTA				PMZ				
	comp=Z,3.0nm,1.1s							
PPT	**Papeete**	**62.83**	**107**	LR		LR	01 38 09.7	
	comp=Z,31nm,19.7s,baz=191,slow=33							
PPT2	**Papeete2**	**62.83**	**107**	*e*LR		LR	01 33 02.2	
	comp=Z,85nm,27.2s							
TBI	**Tubuai**	**63.33**	**113**	*e*LQ		LQ	01 30 33.0	
	comp=Z,333nm,35.5s							
TBI				*e*LR		LR	01 33 16.0	
	comp=Z,107nm,30.0s							
SONM	**Songino Array**	**64.32**	**331**	P		**P**	**01 14 18.5**	**+0.6**
	comp=Z,5.0nm,0.8s,baz=150,slow=6.2,SNR=30							
SONM				LR		LR	01 41 41.4	
	comp=Z,80nm,20.8s,baz=145,slow=35							
SONM				PKP2bc			01 43 12.8	
	comp=Z,1.4nm,0.9s,baz=301,slow=2.5,SNR=10.0							
MA2	**Magadan**	**65.28**	**2**‖	*e*P		**P**	**01 14 24.0**	**+0.3**
CASY	**Casey**	**65.44**	**195**	*e*P		**P**	**01 14 25.0**	**+0.2**
	comp=Z,13nm,1.1s							
ZAK	**Zakamensk**	**67.56**	**331**⇑	*i*P		**P**	**01 14 38.6**	**0.0**
ZAK				pmax		pmax		
	comp=Z,11nm,1.0s							
SEY	**Seymchan**	**68.70**	**3**	P		**P**	**01 14 46.2**	**+0.9**
	comp=Z,8.0nm,0.8s,baz=171,slow=4.8,SNR=29							
BOD	**Bodaibo**	**68.86**	**342**	*e*P		**P**	**01 14 46.0**	**-0.5**
BOD				pmax		pmax		
	comp=Z,6.0nm,0.8s							
YAK	**Yakutsk**	**69.00**	**351**	LR		LR	01 41 58.0	
	comp=Z,34nm,21.3s,baz=150,slow=33							
YAK	**Yakutsk**	**69.00**	**351**⇓	*i*P		**P**	**01 14 48.1**	**+0.8**
YAK				pmax		pmax		
	comp=Z,18nm,0.8s							
MOY	**Mondy**	**69.49**	**331**	*e*P		**P**	**01 14 51.3**	**+0.6**
VNDA	**Vanda**	**72.06**	**177**	P		**P**	**01 15 06.3**	**+0.5**
	comp=Z,13nm,1.0s,baz=326,slow=6.2,SNR=51							
VNDA				pP		**pP**	**01 15 25.2**	**-0.8**
	comp=Z,4.1nm,0.7s,baz=311,slow=6.7,SNR=4.9							
VNDA				LR		LR	01 45 47.1	
	comp=Z,37nm,18.0s,baz=322,slow=35							
VNDA	**Vanda**	**72.06**	**177**	P		**P**	**01 15 06.3**	**+0.5**
VNDA				*PP		**pP**	**01 15 25.2**	**-0.8**
VNDA				pmax		pmax		
	comp=Z,13nm,1.0s							
VNDA				pmax		pmax		
	comp=Z,4.0nm,0.7s							
VNDA	**Vanda**	**72.06**	**177**	*e*P		**P**	**01 15 06.7**	**+0.9**
	comp=Z,20nm,1.1s							
VNDA				pP		**pP**	**01 15 25.2**	**-0.8**
WMQ	**Urumqi**	**72.75**	**319**	P		**P**	**01 15 10.5**	**0.0**
WMQ				pP		**pP**	**01 15 30.5**	**-0.2**
WMQ				sP		**sP**	**01 15 38.5**	**-0.6**
WMQ				PMZ				
	comp=Z,11nm,0.8s							
WMQ				PMZ				
	comp=Z,99nm,3.7s							
WMQ				LN				
	comp=Z,26nm,18.6s							
WMQ				LE				
	comp=Z,27nm,22.0s							
BILL	**Bilibino**	**74.94**	**7**⇑	*e*P		**P**	**01 15 23.1**	**+0.4**
BILL				*i*			01 15 36.2	
BILL				*i*	*PP	pP	01 15 49.7	+6.7
BILL				*i*			01 18 16.3	
BILL				*e*S		**SKiKP**	**01 24 45.6**	**+5.7**
BILL				pmax		pmax		
	comp=Z,16nm,1.7s							
MK31	**Makanchi Array**	**77.45**	**320**	*e*P		**P**	**01 15 35.7**	**-1.7**
MK31	**Makanchi Array**	**77.45**	**320**	*e*P		**P**	**01 15 35.7**	**-1.7**
MKAR	**Makanchi Array**	**77.45**	**320**	P		**P**	**01 15 36.5**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=97,slow=7.4,SNR=9.2							
MKAR				LR		LR	01 52 14.0	
	comp=Z,14nm,18.2s,baz=43,slow=38							
MKAR	**Makanchi Array**	**77.45**	**320**	*e*P		**P**	**01 15 37.0**	**-0.5**
ZAA0	**Zalesovo Array**	**78.94**	**328**	*e*P		**P**	**01 15 43.9**	**-1.6**
ZAA0				*e*pP		**pP**	**01 16 04.0**	**-2.0**
ZALV	**Zalesovo Beam**	**78.94**	**328**	P		**P**	**01 15 43.8**	**-1.6**
	comp=Z,1.9nm,0.5s,baz=112,slow=6.6,SNR=14							
ZALV				pP		**pP**	**01 16 03.7**	**-2.3**
	comp=Z,5.0nm,0.8s,baz=107,slow=5.0,SNR=5.5							
ZALV				LR		LR	01 50 02.6	
	comp=Z,52nm,20.5s,baz=70,slow=35							
ZALV	**Zalesovo Beam**	**78.94**	**328**	*i* P		**P**	**01 15 43.7**	**-1.7**
ZALV				pmax		pmax		
	comp=Z,2.0nm,0.5s							
KDAK	**Kodiak Island**	**79.71**	**28**	*e*P		**P**	**01 15 49.6**	**+0.1**
KDAK				pmax		pmax		
	comp=Z,25nm,1.3s							
KDAK	**Kodiak Island**	**79.71**	**28**	*e*P		**P**	**01 15 49.6**	**+0.1**
	comp=Z,24nm,1.3s							
SVW2	**Sparrevohn**	**80.06**	**25**	*e*P		**P**	**01 15 51.1**	**-0.3**
	comp=Z,7.1nm,0.8s							
NVS	**Novosibirsk**	**80.16**	**328**	*e*P		**P**	**01 15 51.1**	**-0.9**
NVS				*e*			01 16 11.0	
NVS				pmax		pmax		
	comp=Z,13nm,1.6s							
NVS				pmax		pmax		
	comp=E,8.0nm,1.2s							
TKM2	**Tokmak 2**	**80.61**	**315**	*e*P		**P**	**01 15 55.5**	**+0.5**
TKM2				pmax		pmax		
	comp=Z,3.0nm,0.7s							
TKM2	**Tokmak 2**	**80.61**	**315**	*e*P		**P**	**01 15 55.5**	**+0.5**
	comp=Z,3.0nm,0.7s							
KURK	**Kurchatov**	**81.15**	**323**	*e*P		**P**	**01 15 57.8**	**+0.4**
KURK				pmax		pmax		
	comp=Z,3.0nm,1.1s							
KURK	**Kurchatov**	**81.15**	**323**	*e*P		**P**	**01 15 57.8**	**+0.4**
	comp=Z,3.1nm,1.1s							
KURK				*e*pP		**pP**	**01 16 16.3**	**-1.8**
EKS2	**Erkin-Say**	**81.83**	**314**	*e*P		**P**	**01 16 01.1**	**-0.3**
EKS2				pmax		pmax		
	comp=Z,3.0nm,0.8s							
EKS2	**Erkin-Say**	**81.83**	**314**	*e*P		**P**	**01 16 01.1**	**-0.3**
	comp=Z,3.4nm,0.8s							
MAW	**Mawson**	**82.44**	**203**	P		**P**	**01 16 04.1**	**+0.2**
	comp=Z,9.9nm,0.9s,baz=78,slow=7.4,SNR=16							
MAW				LR		LR	01 50 14.5	
	comp=Z,80nm,21.3s,baz=61,slow=34							
MAW	**Mawson**	**82.44**	**203**	P		**P**	**01 16 04.4**	**+0.5**
	baz=82,SNR=11							
RC01	**Rabbit Creek A**	**82.53**	**26**	*e*P		**P**	**01 16 04.5**	**0.0**
	comp=Z,19nm,1.1s							
IM04	**Indian Mountai**	**83.29**	**21**	*e*P		**P**	**01 16 08.6**	**+0.3**
SML	**Sawmill**	**83.45**	**26**	*e*P		**P**	**01 16 08.7**	**-0.6**
SML				pmax		pmax		
	comp=Z,5.0nm,1.1s							
SML	**Sawmill**	**83.45**	**26**	*e*P		**P**	**01 16 08.7**	**-0.6**
	comp=Z,5.0nm,1.1s							
SCM	**Sheep Creek Mo**	**83.90**	**26**	*e*P		**P**	**01 16 11.5**	**-0.1**
SCM				pmax		pmax		
	comp=Z,19nm,1.0s							
SCM	**Sheep Creek Mo**	**83.90**	**26**	*e*P		**P**	**01 16 11.5**	**-0.1**
	comp=Z,19nm,1.0s							
MLY	**Manley**	**83.93**	**22**	*e*P		**P**	**01 16 11.8**	**+0.1**
MCK	**McKinley**	**84.04**	**24**	*e*P		**P**	**01 16 12.7**	**+0.5**
MCK				pmax		pmax		
	comp=Z,17nm,1.0s							
MCK	**McKinley**	**84.04**	**24**	*e*P		**P**	**01 16 12.7**	**+0.5**
	comp=Z,17nm,1.0s							
QSPA	**South Pole Qui**	**84.12**	**180**	LR		LR	01 54 06.0	
	comp=Z,68nm,18.2s,baz=30,slow=36							
QSPA	**South Pole Qui**	**84.12**	**180**	*e*P		**P**	**01 16 12.6**	**-0.2**
	comp=Z,31nm,0.8s							
KLU	**Klutina**	**84.37**	**26**	*e*P		**P**	**01 16 14.3**	**+0.3**
	comp=Z,18nm,1.0s							
RAGM	**Ragged Mountai**	**84.51**	**28**	*e*P		**P**	**01 16 14.8**	**+0.1**
	comp=Z,21nm,1.2s							
WRH	**Wood River Hil**	**84.69**	**23**	*e*P		**P**	**01 16 14.5**	**-1.0**
BMRM	**Bremner River**	**84.76**	**27**	*e*P		**P**	**01 16 16.0**	**0.0**
	comp=Z,18nm,1.1s							
CCB	**Clear Creek Bu**	**84.88**	**23**	*e*P		**P**	**01 16 15.2**	**-1.2**
COLA	**College**	**84.96**	**23**	*e*P		**P**	**01 16 16.1**	**-0.6**
COLA				pmax		pmax		
	comp=Z,7.0nm,0.7s							
COLA	**College**	**84.96**	**23**	*e*P		**P**	**01 16 16.1**	**-0.6**
	comp=Z,7.0nm,0.7s							
COLD	**Coldfoot**	**85.15**	**20**	*e*P		**P**	**01 16 19.0**	**+1.3**
	comp=Z,16nm,1.5s							
ILAR	**Eielson Array**	**85.29**	**23**	P		**P**	**01 16 16.9**	**-1.5**
	comp=Z,6.9nm,0.8s,baz=252,slow=4.8,SNR=48							
ILAR				LR		LR	01 49 21.5	
	comp=Z,40nm,21.4s,baz=283,slow=32							
ILAR	**Eielson Array**	**85.29**	**23**	P		**P**	**01 16 17.0**	**-1.5**
BRVK	**Borovoye**	**86.78**	**324**	*e*P		**P**	**01 16 23.6**	**-2.5**
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.7s							
BRVK	**Borovoye**	**86.78**	**324**	*e*P		**P**	**01 16 23.6**	**-2.5**
	comp=Z,2.0nm,0.7s							
EGAK	**Eagle**	**87.58**	**24**	*e*P		**P**	**01 16 29.5**	**-0.1**
	comp=Z,14nm,1.1s							
HYT	**Haines Junctio**	**88.00**	**28**	*e*P		**P**	**01 16 32.6**	**+0.6**
HYT				*e*pP		**pP**	**01 16 51.4**	**-1.4**
DAWY	**Dawson**	**88.08**	**25**	*e*P		**P**	**01 16 32.7**	**+0.6**
SYO	**Syowa Base**	**90.78**	**200**‖	*e*P		**P**	**01 16 43.0**	**-1.6**
INK	**Inuvik**	**91.47**	**21**	*e*P		**P**	**01 16 48.9**	**+1.1**
INK	**Inuvik**	**91.47**	**21**	*e*P		**P**	**01 16 48.9**	**+1.1**
ABKAR	**Akbulak array**	**92.53**	**319**	*e*P		**P**	**01 16 51.4**	**-1.8**
AKTO	**Aktyubinsk**	**93.88**	**320**	LR		LR	01 59 30.9	
	comp=Z,12nm,21.3s,slow=36							
NVAR	**Mina Array Bea**	**97.18**	**52**	P		Pdif	01 17 16.4	+1.3
	comp=Z,0.1nm,0.3s,baz=264,slow=5.7,SNR=3.8							
NEW	**Newport**	**98.16**	**42**	*e*P		**P**	**01 17 18.9**	**0.0**
NEW	**Newport**	**98.16**	**42**	*e*P		**P**	**01 17 18.9**	**0.0**
CBKC	**Canebrake**	**98.70**	**58**	*e*P		Pdif	01 17 23.6	+1.9
BELC	**Belle Mtn. Jos**	**98.94**	**57**	*e*P		Pdif	01 17 24.1	+1.2
CRR	**Carrizo Plain**	**98.94**	**58**	*e*P		Pdif	01 17 23.4	+0.7
SNAA	**Sanae**	**100.17**	**189**	*e*P		**Pdif**	**01 17 25.8**	**-1.7**
SNAA				pmax		pmax		
	comp=Z,2.0nm,1.1s							
SNAA	**Sanae**	**100.17**	**189**	*e*P		**Pdif**	**01 17 25.8**	**-1.7**
	comp=Z,2.1nm,1.1s							
VNA1	**Neumayer--Stat**	**101.90**	**188**	P		**Pdif**	**01 17 40.7**	**+5.6**
TXAR	**Lajitas Array**	**109.59**	**61**	PKKPab		PKKPab	01 33 29.9	+0.6
	comp=Z,0.9nm,1.0s,baz=101,slow=6.5,SNR=4.3							
STHS	**Stebnicka Huta**	**117.21**	**323**	*e*PKIKP		**PKPdf**	**01 22 27.7**	**+0.8**
STHS	**Stebnicka Huta**	**117.21**	**323**	*e*PKP		**PKPdf**	**01 22 27.7**	**+0.8**
CLL	**Collm**	**120.89**	**328**	*e*PKIKP		**PKPdf**	**01 22 34.0**	**+0.2**
CLL				pmax		pmax		
	comp=Z,3.0nm,0.9s							
CLL	**Collm**	**120.89**	**328**	*e*PKPdf		**PKPdf**	**01 22 34.0**	**+0.2**
	comp=Z,3.0nm,0.9s							
GERES	**GERESS Array B**	**121.84**	**326**	PKP		**PKPdf**	**01 22 34.1**	**-1.8**
	comp=Z,0.8nm,0.5s,baz=71,slow=2.0,SNR=12							
AQU	**L'Aquila**	**125.27**	**319**	*e*PKIKP		**PKPdf**	**01 22 42.5**	**-0.1**
AQU	**L'Aquila**	**125.27**	**319**	*e*PKPdf		**PKPdf**	**01 22 42.5**	**-0.1**
LCO	**Las Campanas**	**129.76**	**136**	*e*PKPdf		**PKPdf**	**01 22 52.4**	**+0.4**
CPUP	**Villa Florida**	**140.19**	**145**	PKP		**PKPdf**	**01 23 10.9**	**-0.1**
	comp=Z,6.0nm,0.9s,baz=291,slow=3.6,SNR=9.0							
CPUP	**Villa Florida**	**140.19**	**145**	PKIKP		**PKPdf**	**01 23 11.0**	**-0.1**
SDV	**Santo Domingo**	**142.45**	**83**	*e*PKPdf		**PKPdf**	**01 23 12.7**	**-3.0**
CRPR	**Cabo Rojo, PR**	**144.48**	**67**	*e*PKPdf		**PKPab**	**01 23 15.9**	**-1.4**
TORD	**Torodi Ar. Bea**	**145.16**	**285**	PKPbc		**PKPbc**	**01 23 18.6**	**-1.2**
	comp=Z,4.5nm,0.7s,baz=71,slow=1.8,SNR=42							
SAML	**Samuel**	**146.41**	**116**	*e*PKPbc		**PKPdf**	**01 23 22.9**	**+0.6**
BDFB	**Brasilia**	**153.92**	**145**	PKP		**PKPdf**	**01 23 34.2**	**0.0**
	comp=Z,2.6nm,0.7s,baz=89,slow=4.3,SNR=3.3							
BDFB				PKPbc		**PKPbc**	**01 23 41.9**	**-0.3**
	comp=Z,21nm,0.8s,baz=196,slow=1.7,SNR=24							
BDFB				PKPab		**PKPab**	**01 23 54.8**	**-0.6**
	comp=Z,9.9nm,1.1s,baz=318,slow=1.4,SNR=3.6							

NIED **17** *01:33:00,24.˚90N×126.˚90E,h5km,Mw4.0 Best double couple: M0 9.44000×10^14 NP1:φ=279.00000°,δ38.00000°, λ175.00000°. NP2:φ=13.00000°,δ87.00000°,λ52.00000°.*
IDC **17** *01:33:14.9± 1.0,24.˚93N×126.˚71E,h0km,mb3.9/9, mb1 4.0/10,mb1mx3.8/40,mbtmp3.9/10,ML3.7/1,MS2.9/2, Ms1 2.9/2,ms1mx2.5/40,Error ellipse: s-maj=52.7km s-min=15.9km az=68.0*
ISCJB **17** *01:33:17.0± 0.4,24.˚89N±0.˚04×126.˚94E±0.˚04,h28km, mb4.0/13,Error ellipse: s-maj=7.3km s-min=3.5km az=147.8*
NEIC **17** *01:33:19.0± 2.6,24.˚96N×126.˚81E,h27km± 19km,mb4.3/4, Error ellipse: s-maj=10.0km s-min=7.5km az=86.0*
JMA **17** *01:33:18.0± 0.2,24.˚89N×126.˚92E,h68km,M3.5*
ISC 17 01:33:18.6±0.7,24.˚93N±0.˚06×126.˚93E±0.˚05,h28km,n40, σ0 s97/45,mb4.1/13,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.39**	**355**	P		P	**Pn**	**01 33 42.4**	**+0.2**
JOGS	**Gusukube**	**1.39**	**263**	P		P	**Pn**	**01 33 41.8**	**-0.4**
JOGS				*e*S		S	**Sn**	**01 33 59.5**	**-0.2**
JMJ	**Miyako jima 2**	**1.49**	**266**	P		P	**Pn**	**01 33 43.2**	**-0.3**
JMJ				*e*S		S	**Sn**	**01 34 02.0**	**-0.1**
JIKM	**Ikemajima**	**1.53**	**270**	P		P	**Pn**	**01 33 43.6**	**-0.4**
JIKM				*e*S		S	**Sn**	**01 34 02.6**	**-0.4**
JIRB	**Irabujima**	**1.60**	**267**	P		P	**Pn**	**01 33 44.2**	**-0.8**
JIRB				*e*S		S	**Sn**	**01 34 03.7**	**-1.0**
JAGN	**Aguni-jima**	**1.67**	**10**	P		P	**Pn**	**01 33 46.9**	**+0.8**
JAGN				*e*S		S	**Sb**	**01 34 07.6**	**-1.9**
JNTH	**Nagotoyohara**	**1.86**	**32**	*e*S		S	**Sn**	**01 34 11.3**	**0.0**
JTJ	**Tarama**	**2.04**	**262**	P		P	**Pn**	**01 33 50.4**	**-0.8**
JOW	**Kunigami**	**2.25**	**32**	P		P	**Pn**	**01 33 54.3**	**+0.3**
JOW	**Kunigami**	**2.25**	**32**	*e*Pn		P	**Pn**	**01 33 55.1**	**+1.2**
JIH	**Iheya**	**2.29**	**24**	P		P	**Pn**	**01 33 55.1**	**+0.5**
JIJ	**Ishigaki jima**	**2.60**	**258**	P		P	**Pn**	**01 33 57.5**	**-1.3**
JKRS	**Kuro-shima**	**2.75**	**256**	P		P	**Pn**	**01 34 01.2**	**+0.4**
JOKE	**Okinoerabujima**	**2.83**	**31**	P		P	**Pn**	**01 34 03.4**	**+1.3**
IRIF	**Iriomote-Funau**	**2.97**	**259**	P		P	**Pn**	**01 34 02.7**	**-1.2**
JTK	**Tokunoshima**	**3.37**	**32**	P		P	**Pn**	**01 34 10.2**	**+0.7**
YOJ	**Yonaguni jima**	**3.59**	**263**	P		P	**Pn**	**01 34 12.2**	**-0.3**
JYNG	**Yonagunijimaku**	**3.65**	**263**	P		P	**Pn**	**01 34 12.1**	**-1.2**
JAMN	**Amaminishikomi**	**3.86**	**31**	P		P	**Pn**	**01 34 16.5**	**+0.3**
JMZ	**Minamidaito 2**	**3.98**	**76**	P		P	**Pn**	**01 34 15.9**	**-1.9**
JMZ				*e*S		S	Sn	01 34 58.3	-5.3
JAM	**Amami Oshima**	**4.21**	**34**	P		P	**Pn**	**01 34 21.0**	**0.0**
JAM				*e*S		S	**Sn**	**01 35 06.7**	**-2.6**
JTAJ	**Takarajima**	**4.67**	**25**	P		P	**Pn**	**01 34 27.9**	**+0.6**
YHNB	**Yeheng**	**5.05**	**268**	*e*Pn		P	**Pn**	**01 34 31.7**	**-1.0**
JNU	**Nakatsue**	**8.86**	**22**	Pn		P	**Pn**	**01 35 25.7**	**+0.8**
	0.7nm,0.3s,baz=220,slow=12,SNR=4.1								
JNU				LR		LR	01 39 11.4		
	comp=Z,104nm,20.5s,baz=152,slow=40								
KSRS	**Korea Array**	**12.51**	**4**	LR		LR	01 41 40.7		
	comp=Z,49nm,19.9s,baz=172,slow=40								
KKM	**Kota Kinabalu**	**21.41**	**210**	*e*P		**P**	**01 38 04.8**	**+0.3**
	60nm,1.2s								
SONM	**Songino Array**	**28.04**	**330**	P		**P**	**01 39 07.3**	**-0.2**
	2.0nm,0.7s,baz=152,slow=12,SNR=13								
MK31	**Makanchi Array**	**41.54**	**313**	*e*P		**P**	**01 41 03.3**	**-0.4**
MKAR	**Makanchi Array**	**41.54**	**313**	P		**P**	**01 41 03.3**	**-0.4**
	2.9nm,0.6s,baz=99,slow=10,SNR=33								
ZALV	**Zalesovo Beam**	**42.59**	**324**	P		**P**	**01 41 10.8**	**-1.3**
	0.9nm,0.4s,baz=108,slow=8.2,SNR=4.6								
KURK	**Kurchatov**	**44.97**	**318**	P		**P**	**01 41 29.8**	**-1.5**
KURBB	**Kurchatov Arra**	**45.00**	**318**	P		**P**	**01 41 29.8**	**-1.7**
	0.9nm,0.4s,baz=105,slow=8.8,SNR=6.1								
WRAB	**Tennant Creek**	**45.18**	**170**	*e*P		**P**	**01 41 34.2**	**+1.0**
	8.1nm,1.1s								
WRA	**Warramunga Arr**	**45.19**	**170**	P		**P**	**01 41 33.7**	**+0.5**
	0.7nm,0.6s,baz=351,slow=8.7,SNR=5.7								
TKM2	**Tokmak 2**	**45.48**	**306**	*e*P		**P**	**01 41 36.4**	**+0.7**
	1.7nm,0.8s								
ASAR	**Alice Springs**	**48.78**	**171**	P		**P**	**01 42 02.1**	**+0.8**
	0.3nm,0.6s,baz=355,slow=9.3,SNR=4.4								
ABKAR	**Akbulak array**	**56.68**	**314**	*e*P		**P**	**01 43 00.1**	**+0.6**
	1.1nm,0.5s								
STKA	**Stephens Creek**	**58.20**	**165**	P		**P**	**01 43 10.9**	**+0.7**
	1.6nm,0.8s,baz=342,slow=14,SNR=2.3								
FINES	**FINESS Array B**	**73.41**	**331**	P		**P**	**01 44 48.2**	**+0.3**
	1.4nm,0.7s,baz=69,slow=4.2,SNR=9.0								
BRTR	**Keskin Array B**	**76.90**	**308**	P		**P**	**01 45 09.7**	**+1.0**
	0.9nm,0.9s,baz=116,slow=2.9,SNR=3.5								

SJA **17** *01:39:25.4± 0.8,35.˚52S×74.˚40W,h33km,ML4.3,MW3.9*
IDC **17** *01:39:36.4± 0.7,35.˚59S×72.˚62W,h0km,mb4.1/10, mb1 4.3/12,mb1mx4.1/26,mbtmp4.1/12,ML3.5/2,MS3.6/4, Ms1 3.5/4,ms1mx3.2/19,Error ellipse: s-maj=28.0km s-min=16.1km az=90.0*
GUC **17** *01:39:40.3± 0.7,35.˚53S×72.˚73W,h34km± 5km,ML4.6*
NEIC **17** *01:39:40.0,35.˚53S×72.˚73W,h34km,mb4.4/16, ML4.6(GUC),After GUC.*
NEIC Felt [IV] at Cauquenes, [III] at Chanco and [II] at Empedrado and Talca.
ISC 17 01:39:38.0±2.5,35.˚57S±0.˚04×72.˚77W±0.˚06,h11km± 15km, n60,σ0 s95/67,mb4.3/24,2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.94**	**80**‖	*i*P		P	**Pb**	**01 39 56.9**	**+0.5**
TALC				*e*S		S	**Sb**	**01 40 09.3**	**+0.5**
LNCH	**Linares**	**0.99**	**107**‖	*i*P		P	**Pb**	**01 39 57.1**	**-0.1**
LNCH				*e*S		S	**Sb**	**01 40 10.1**	**-0.1**
U65B	**HualaæØ**	**1.00**	**53**	*e*Pn		P	**P

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LAZ	**Ladron**	**76.66**	**331**	*e*P	**P**	**01 51 30.0**	**+1.0**
ANMO	**Albuquerque**	**76.88**	**332**	*e*P	**P**	**01 51 30.6**	**+0.4**
	comp=Z,2.1nm,1.0s						
CASY	**Casey**	**78.44**	**181**	*e*P	**P**	**01 51 38.9**	**+0.6**
	comp=Z,2.5nm,0.9s						
SDCO	**Great Sand Dun**	**79.01**	**334**	*e*P	**P**	**01 51 42.2**	**+0.1**
	comp=Z,2.3nm,1.0s						
WUAZ	**Wupatki**	**79.35**	**329**	*e*P	**P**	**01 51 44.6**	**+0.7**
	comp=Z,4.1nm,0.9s						
BOSA	**Boshof**	**79.88**	**118**	P	**P**	**01 51 45.5**	**-1.6**
	comp=Z,2.3nm,0.8s,baz=242,slow=8.3,SNR=4.8						
ISCO	**Idaho Springs**	**80.88**	**335**	*e*P	**P**	**01 51 52.3**	**+0.1**
	comp=Z,1.4nm,0.8s						
DUG	**Dugway**	**83.93**	**330**	*e*P	**P**	**01 52 09.4**	**+1.5**
	comp=Z,2.6nm,1.3s						
HWUT	**Hardware Ranch**	**84.64**	**332**	*e*P	**P**	**01 52 11.8**	**+0.3**
	comp=Z,3.4nm,1.0s						
NVAR	**Mina Array Bea**	**84.83**	**326**	P	**P**	**01 52 13.9**	**+1.3**
	comp=Z,1.1nm,0.7s,baz=153,slow=5.6,SNR=7.2						
PDAR	**Pinedale Array**	**84.89**	**334**	P	**P**	**01 52 13.3**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=115,slow=8.0,SNR=3.2						
TORD	**Torodi Ar. Bea**	**85.31**	**70**	P	**P**	**01 52 14.9**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=236,slow=4.7,SNR=6.7						
ELK	**Elko**	**85.39**	**329**	LR	LR	02 27 11.0	
	comp=Z,30nm,18.9s,baz=219,slow=33						
ULM	**Lac du Bonnet**	**87.86**	**345**	P	**P**	**01 52 25.9**	**-1.1**
	comp=Z,2.6nm,0.8s,baz=148,slow=4.8,SNR=3.4						
BVAR	**Borovoye Array**	**148.83**	**44**	PKPbc	**PKPbc**	**01 59 24.6**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=224,slow=4.1,SNR=4.5						
KULM	**Kulim**	**149.26**	**167**	*e*PKPbc	**PKPbc**	**01 59 26.9**	**-0.4**
KURBB	**Kurchatov Arra**	**154.41**	**45**	PKPbc	**PKPbc**	**01 59 37.9**	**0.0**
	comp=Z,0.5nm,0.6s,baz=277,slow=1.5,SNR=4.5						
KURK	**Kurchatov**	**154.42**	**45**	*e*PKPdf	**PKPdf**	**01 59 27.8**	**-1.8**
KURK				PKPbc	**PKPbc**	**01 59 37.9**	**-0.1**

IDC 17 01:41:24.3±2.1**, 7°.07S**×**155°.67E, h0km, mb3.7**/5**, mb1 4.0**/5**, mb1mx3.6**/29**, mbtmp3.7**/5**, MS2.7**/1**, Ms1 2.7**/1**, ms1mx2.3**/32**, Error ellipse: s-maj=68.6km s-min=28.0km az=126.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.84**	**119**	LR	LR	01 44 39.8	
	comp=Z,87nm,19.1s,baz=322,slow=40						
WRA	**Warramunga Arr**	**24.33**	**236**	P	P	01 46 43.5	-0.6
	1.4nm,0.7s,baz=58,slow=9.4,SNR=7.7						
ASAR	**Alice Springs**	**26.63**	**229**	P	P	01 47 04.9	0.0
	0.7nm,0.9s,baz=59,slow=11,SNR=3.9						
H11S3	**WAKE ISLAND Hy**	**27.63**	**23**	T	T	02 15 40.8	
	baz=203,slow=75,SNR=17						
H11S2	**WAKE ISLAND Hy**	**27.63**	**23**	T	T	02 15 32.1	
	baz=203,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**27.64**	**23**	T	T	02 15 37.2	
	baz=203,slow=75,SNR=9.2						
CMAR	**Chiang Mai Arr**	**61.42**	**295**	P	P	01 51 44.0	+1.0
	0.9nm,0.3s,baz=120,slow=5.0,SNR=7.0						
ILAR	**Eielson Array**	**83.19**	**21**	P	P	01 53 51.9	-0.2
	0.2nm,0.5s,baz=233,slow=3.9,SNR=3.3						
MKAR	**Makanchi Array**	**83.90**	**319**	P	P	01 53 55.9	-0.3
	0.4nm,0.7s,baz=109,slow=5.2,SNR=3.6						

*IDC **17** 01:51:59.6±5.7, 36°.31N×70°.98E, h161km±51km, mb3.3/10, mb1 3.4/14, mb1mx3.2/40, mbtmp3.8/14, MS2.8/1, Ms1 2.8/1, ms1mx2.3/22, Error ellipse: s-maj=27.6km s-min=16.1km az=19.0*

*ISCJB **17** 01:52:02.9±0.5, 36°.58N±0°.04×70°.98E±0°.06, h188km, mb3.5/9, Error ellipse: s-maj=7.6km s-min=4.0km az=152.7*

*NNC **17** 01:52:09.1±1.4, 37°.04N×70°.91E, h203km±9km, mb3.1, mpv4.3, Error ellipse: s-maj=13.9km s-min=6.2km az=166.0*

*NDI **17** 01:53:38.8±1.8, 32°.98N×73°.97E, h10km, ML3.5*

ISC 17 01:52:03.9±0.6**, 36°.65N**±0°.05×**71°.05E**±0°.06**, h188km, n53, σ1s.50**/53**, mb3.5**/9**, 11C-6D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.78**	**321**	⇓P	**Pn**	**01 52 52.6**	**+2.2**
	82nm,0.3s						
DZET				⇑S	**Sn**	**01 53 26.3**	**-0.5**
	479nm,0.5s						
CEP	**Cherat**	**2.90**	**166**	⇓P	**Pn**	**01 52 54.4**	**+2.5**
CEP				S	**Sn**	**01 53 31.0**	**+1.7**
CHCP	**Chirah Chowk**	**3.49**	**148**	P	**Pn**	**01 53 01.6**	**+2.7**
SFK	**Sufi-Kurgan**	**3.88**	**29**	⇑P	**Pn**	**01 53 06.0**	**+2.2**
	15nm,0.4s						
SFK				⇑S	**Sn**	**01 53 52.4**	**+1.5**
	9.7nm,0.2s						
THW	**Thamme Wali**	**3.88**	**171**	⇓P	**Pn**	**01 53 05.8**	**+2.0**
DLH	**Dalhousie**	**5.76**	**134**	*e*x	x	01 53 28.0	
DLH				*e*S	**Sn**	**01 54 32.0**	**-2.4**
AML	**Almayashu**	**5.85**	**20**	P	**Pn**	**01 53 31.0**	**+1.7**
	SNR=66						
UCH	**Uchtor**	**6.19**	**25**	P	**Pn**	**01 53 35.4**	**+1.7**
	SNR=68						
KZA	**Kyzart**	**6.33**	**30**	P	**Pn**	**01 53 36.5**	**+1.0**
	SNR=6.8						
EKS2	**Erkin-Say**	**6.37**	**18**	P	**Pn**	**01 53 37.6**	**+1.8**
	SNR=19						
KK09	**Karatay Array**	**6.48**	**356**	⇑P	**Pn**	**01 53 38.4**	**+1.2**
	14nm,0.4s						
KK09				⇑S	**Sn**	**01 54 48.3**	**-2.7**
	16nm,0.6s						
AAK	**Ala-Archa**	**6.54**	**23**	P	**Pn**	**01 53 40.0**	**+1.9**
	SNR=8.7						
AAK	**Ala-Archa**	**6.54**	**23**	⇑P	**Pn**	**01 53 39.7**	**+1.6**
	5.2nm,0.3s						
AAK				⇓S	**Sn**	**01 54 50.6**	**-2.1**
	26nm,1.1s						
KBK	**Karagaybulak**	**6.71**	**25**	P	**Pn**	**01 53 42.5**	**+2.2**
	SNR=12						
BHK	**Bhakra**	**6.86**	**138**	*e*S	Sn	01 54 48.0	-12
ULHL	**Ulahol**	**6.89**	**34**	P	**Pn**	**01 53 44.4**	**+1.8**
	SNR=7.1						
CHMS	**Chumysh**	**6.96**	**23**	P	**Pn**	**01 53 44.8**	**+1.4**
	SNR=5.8						
USP	**Ospenovka**	**7.12**	**21**	P	**Pn**	**01 53 47.3**	**+1.7**
	SNR=9.5						
TKM2	**Tokmak 2**	**7.18**	**28**	P	**Pn**	**01 53 47.8**	**+1.4**
	SNR=55						
TKM2	**Tokmak 2**	**7.18**	**28**	⇑P	**Pn**	**01 53 47.7**	**+1.2**
	51nm,0.8s						
TKM2				⇑S	**Sn**	**01 55 05.9**	**-1.8**
	17nm,1.1s						
JOSI	**Joshimath**	**9.34**	**128**	*e*P	Pn	01 54 58.1	+43
JOSI				*e*x	x	01 55 46.7	
JOSI				AML	AML	01 55 54.1	
	comp=E,103nm,0.6s						
JOSI				AML	AML	01 55 55.0	
	comp=N,111nm,0.8s						
BHGR	**Bahadurgarh**	**9.36**	**146**	*e*S	Sn	01 55 47.3	-12
KHET	**Khetri**	**9.44**	**153**	*e*S	Sn	01 55 52.6	-9.0
KHET				AML	AML	01 55 57.5	
	comp=N,70nm,0.1s						
KHET				AML	AML	01 55 58.2	
	comp=E,66nm,0.0s						
BISR	**Bishrakh**	**9.69**	**144**	*e*S	Sn	01 55 56.5	-11
ASOR	**Ausora**	**9.69**	**142**	*e*S	Sn	01 55 55.1	-12
MK31	**Makanchi Array**	**13.15**	**36**	P	**Pn**	**01 55 04.6**	**+1.1**
	comp=E,0.6nm,0.5s,baz=219,slow=12,SNR=11						
MKAR	**Makanchi Array**	**13.15**	**36**	P	**Pn**	**01 55 03.9**	**+0.4**
	comp=E,0.1nm,0.3s,baz=224,slow=9.4,SNR=7.8						
KOLN	**Koldanda**	**13.82**	**126**	*e*P	**Pn**	**01 55 12.4**	**+0.2**
	comp=E,5.5nm,0.4s						
GKN	**Gorkha**	**14.35**	**123**	*e*P	**Pn**	**01 55 18.9**	**+0.1**
	comp=E,6.5nm,0.3s						
DMN	**Daman**	**14.92**	**123**	*e*P	**Pn**	**01 55 25.3**	**-0.6**
	comp=E,7.5nm,0.3s						
KKN	**Kakani**	**14.92**	**122**	*e*P	**Pn**	**01 55 26.4**	**+0.5**
	comp=E,15nm,0.7s						
KURBB	**Kurchatov Arra**	**14.97**	**19**	⇑P	**Pn**	**01 55 24.1**	**-1.9**
	comp=E,3.8nm,1.4s						
KURBB	**Kurchatov Arra**	**14.97**	**19**	P	**Pn**	**01 55 25.6**	**-0.4**
	comp=E,0.0nm,0.3s,baz=206,slow=11,SNR=4.6						
AB31	**Akbulak array**	**14.98**	**331**	⇑P	**Pn**	**01 55 25.3**	**-0.8**
	comp=E,4.4nm,0.7s,baz=155,slow=12,SNR=4.1						
AB31				⇓S	Sn	01 58 07.9	-5.4
	comp=E,1.7nm,0.8s,baz=150,slow=23,SNR=6.5						
PKIN	**Phulchoki**	**15.14**	**123**	*e*P	**Pn**	**01 55 29.0**	**+0.4**
	comp=E,6.9nm,0.3s						
PKI	**Pulchoki**	**15.15**	**123**	*e*P	**Pn**	**01 55 29.4**	**+0.6**
	comp=E,5.8nm,0.3s						
RAMN	**Ramite**	**16.36**	**122**	*e*P	**P**	**01 55 42.3**	**-0.5**
	comp=E,8.3nm,0.4s						
BVAR	**Borovoye Array**	**16.39**	**359**	P	**P**	**01 55 43.6**	**+1.0**
	comp=E,0.3nm,0.3s,baz=156,slow=10,SNR=8.1						
AKTO	**Aktyubinsk**	**16.67**	**330**	⇓P	**P**	**01 55 46.4**	**+0.7**
	comp=E,6.8nm,1.1s						
AKTO				⇑S	**S**	**01 58 49.0**	**-1.0**
	comp=E,2.7nm,1.1s						
AKTO	**Aktyubinsk**	**16.67**	**330**	P	**P**	**01 55 46.6**	**+0.9**
	comp=E,0.5nm,0.3s,baz=128,slow=9.9,SNR=10.0						
ODAN	**Odare**	**16.96**	**120**	*e*P	**P**	**01 55 50.3**	**+0.9**
	comp=E,14nm,0.7s						
ZALV	**Zalesovo Beam**	**19.77**	**25**	P	**P**	**01 56 20.0**	**+0.7**
	comp=E,1.7nm,0.6s,baz=224,slow=11,SNR=6.3						
SONM	**Songino Array**	**28.22**	**56**	P	**P**	**01 57 40.2**	**+1.0**
	comp=E,0.3nm,0.5s,baz=251,slow=9.0,SNR=3.3						
BRTR	**Keskin Array B**	**29.43**	**288**	LR	LR	02 13 28.4	
	comp=E,20nm,21.6s,baz=84,slow=44						
FINES	**FINESS Array B**	**37.38**	**326**	P	**P**	**01 58 59.0**	**+0.8**
	comp=E,0.7nm,0.3s,baz=128,slow=11,SNR=19						
ARCES	**ARCESS Array B**	**41.03**	**338**	P	**P**	**01 59 29.3**	**+1.1**
	comp=E,0.9nm,0.4s,baz=115,slow=7.8,SNR=16						
NB2	**NORSAR Subarra**	**44.29**	**323**	P	**P**	**01 59 54.7**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.29**	**323**	P	**P**	**01 59 54.8**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=101,slow=7.3,SNR=6.7						
TORD	**Torodi Ar. Bea**	**65.76**	**269**	P	**P**	**02 02 26.7**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=52,slow=5.6,SNR=19						
ILAR	**Eielson Array**	**74.63**	**16**	P	**P**	**02 03 21.6**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=316,slow=4.6,SNR=5.2						
YKA	**Yellowknife Ar**	**81.10**	**3**	P	**P**	**02 03 57.9**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=350,slow=5.4,SNR=5.8						
WRA	**Warramunga Arr**	**82.03**	**122**	P	**P**	**02 04 01.4**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=324,slow=4.9,SNR=12						
ASAR	**Alice Springs**	**84.31**	**125**	P	**P**	**02 04 13.1**	**-1.7**
	comp=Z,0.7nm,0.7s,baz=306,slow=5.5,SNR=6.1						

*SJA **17** 02:04:54.9±0.4, 37°.96S×76°.48W, h33km, ML4.0, MW3.4*

*GUC **17** 02:05:34.3±0.5, 36°.48S×73°.34W, h6km±2km, ML3.5*

ISC 17 02:05:34.0±2.4**, 36°.48S**±0°.07×**73°.4W**±0°.2**, h10km, n11, σ0s.73**/16**, 2C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.41**	**152**	⇓*i*P	**Pg**	**02 05 42.6**	**+0.5**
CCSP				*i* S	**Sb**	**02 05 48.9**	**-0.8**
CCSP				AML	AML	02 05 49.9	
	comp=N,8μm,0.3s						
COCH	**Cobquecura**	**0.57**	**53**	⇑*i*P	**Pb**	**02 05 45.9**	**-0.1**
COCH				*i* S	**Sb**	**02 05 54.4**	**+0.2**
LNCH	**Linares**	**1.55**	**66**	⇑*i*P	**Pn**	**02 06 01.1**	**-0.5**
LNCH				*i* S	**Sb**	**02 06 22.4**	**0.0**
TALC	**Talca**	**1.76**	**53**	*e*P	**Pn**	**02 06 05.0**	**+0.5**
TALC				*i* S	**Sb**	**02 06 28.0**	**-0.4**
AAGR	**Agrelo**	**5.03**	**49**	*e*P	**Pn**	**02 06 50.7**	**+1.1**
ARCO	**CERRO ARCO**	**5.14**	**46**	*e*P	**Pn**	**02 06 52.5**	**+1.4**
ARCO				IAML		02 07 23.7	
	comp=Z,12nm,0.4s						
ARCO				*e*S	**Sg**	**02 08 18.6**	**-0.4**
AUSP	**Uspallata**	**5.36**	**39**	*e*P	**Pn**	**02 06 54.6**	**+0.3**
RTLS	**Leoncito**	**5.75**	**37**	*e*P	**Pn**	**02 06 59.9**	**+0.3**
RTLS				*e*S	Sg	02 08 31.9	-6.7
RTCV	**Cerro Valdivia**	**6.09**	**42**	*e*P	**Pn**	**02 07 03.8**	**-0.3**
RTLL	**Cerro Villicun**	**6.54**	**40**	*e*P	**Pn**	**02 07 09.3**	**-1.0**
AMOG	**MOGNA**	**6.85**	**38**	*e*P	**Pn**	**02 07 13.6**	**-0.9**

*DDA **17** 02:30:33.9, 39°.40N×23°.91E, h26km, ML4.6*

*IDC **17** 02:30:34.0±0.7, 39°.29N×24°.01E, h0km, mb3.9/11, mb1 3.9/20, mb1mx3.8/56, mbtmp3.9/20, ML3.6/9, MS3.1/14, Ms1 3.1/14, ms1mx2.9/47, Error ellipse: s-maj=12.1km s-min=9.9km az=102.0*

*ISK **17** 02:30:35.1, 39°.31N×24°.01E, h16km, ML4.3*

*ATH **17** 02:30:35.6, 39°.33N×24°.02E, h34km±2km, MD3.3/38, ML4.5*

*MOS **17** 02:30:35.5±1.1, 39°.35N×24°.06E, h21km, mb4.2/5, Error ellipse: s-maj=7.5km s-min=4.4km az=96.8*

*PDG **17** 02:30:35.8±0.6, 39°.33N×24°.00E, h22km, ML3.9/11, Error ellipse: s-maj=0.5km s-min=0.5km az=0.0*

*ISCJB **17** 02:30:36.1±0.2, 39°.366N±0°.010×24°.01E±0°.01, h27km±2km, mb3.9/14, MS3.1/10, Error ellipse: s-maj=1.6km s-min=1.5km az=176.6*

*THE **17** 02:30:36.0, 39°.33N×24°.03E, h13km, ML4.4/26, Error ellipse: s-maj=1.0km s-min=0.5km az=284.0*

*NEIC **17** 02:30:36.0, 39°.33N×24°.03E, h13km, mb4.0/3, ML4.4(THE), After THE.*

*CSEM **17** 02:30:36.2±0.1, 39°.32N×24°.01E, h15km, mb4.0/4, Error ellipse: s-maj=1.5km s-min=1.4km az=175.0*

*SKO **17** 02:30:37.5, 39°.50N×24°.00E, h0km, M3.7, ML4.1*

ISC 17 02:30:36.5±0.4**, 39°.32N**±0°.01×**24°.01E**±0°.01**, h18km**±1km**, n657, σ1s.05**/788**, mb3.9**/14**, MS3.0**/10**, 42C-49D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.18**	**214**	P	**Pg**	**02 30 40.0**	**-1.2**
AOS				S	**Sg**	**02 30 43.6**	**-0.7**
AOS	**Alonnisos**	**0.18**	**214**	P	**Pg**	**02 30 40.0**	**-1.2**
AOS				S	**Sg**	**02 30 43.6**	**-0.7**
AOS	**Alonnisos**	**0.18**	**214**	P	**Pg**	**02 30 40.0**	**-1.2**
AOS				S	**Sg**	**02 30 43.6**	**-0.7**
NEO	**Neokhori**	**0.61**	**269**	*e*PN	**Pb**	**02 30 48.9**	**+0.3**
NEO				*e*SN	**Sb**	**02 30 58.3**	**+1.4**
NEO	**Neokhori**	**0.61**	**269**	P	**Pg**	**02 30 47.9**	**-0.8**
NEO	**Neokhori**	**0.61**	**269**	*e*Pn	**Pb**	**02 30 48.9**	**+0.3**
NEO				S	**Sb**	**02 30 57.5**	**+0.6**
NEO				*e*Sn	**Sb**	**02 30 58.3**	**+1.4**
NEO	**Neokhori**	**0.61**	**269**	P	**Pg**	**02 30 47.9**	**-0.8**
NEO				S	**Sb**	**02 30 57.5**	**+0.6**
NEO	**Neokhori**	**0.61**	**269**	P	**Pg**	**02 30 47.9**	**-0.8**
NEO				S	**Sb**	**02 30 57.5**	**+0.6**
XOR	**Xorichti**	**0.64**	**275**	*e*PN	**Pg**	**02 30 48.8**	**-0.3**
XOR				*e*SN	**Sb**	**02 30 58.5**	**+0.9**
XOR	**Xorichti**	**0.64**	**275**	P	**Pg**	**02 30 48.8**	**-0.3**
XOR				S	**Sb**	**02 30 58.3**	**+0.7**
XOR	**Xorichti**	**0.64**	**275**	P	**Pg**	**02 30 48.8**	**-0.3**
XOR				S	**Sb**	**02 30 58.3**	**+0.7**
XOR	**Xorichti**	**0.64**	**275**	P	**Pg**	**02 30 48.8**	**-0.3**
XOR				S	**Sb**	**02 30 58.3**	**+0.7**
PAIG	**Paliouri**	**0.66**	**337**	P	**Pg**	**02 30 48.9**	**-0.6**
PAIG				S	**Sb**	**02 30 58.7**	**+0.4**
PAIG	**Paliouri**	**0.66**	**337**	*e*PN	**Pg**	**02 30 49.0**	**-0.6**
PAIG				*e*SN	**Sb**	**02 30 59.2**	**+0.9**
PAIG	**Paliouri**	**0.66**	**337**	P	**Pg**	**02 30 48.9**	**-0.6**
PAIG				S	**Sb**	**02 30 58.7**	**+0.4**
PAIG				*e*Sn	**Sb**	**02 30 59.2**	**+0.9**
PAIG	**Paliouri**	**0.66**	**337**	P	**Pg**	**02 30 48.9**	**-0.6**
PAIG				S	**Sb**	**02 30 58.7**	**+0.4**
PAIG	**Paliouri**	**0.66**	**337**	P	**Pg**	**02 30 48.9**	**-0.6**
PAIG				S	**Sb**	**02 30 58.7**	**+0.4**
MRKA	**Markates**	**0.69**	**208**	*e*PN	**Pb**	**02 30 49.1**	**-1.0**
MRKA				*e*SN	**Sg**	**02 30 59.5**	**+0.1**
MRKA	**Markates**	**0.69**	**208**	P	**Pb**	**02 30 48.9**	**-1.2**
MRKA				S	**Sb**	**02 30 58.9**	**-0.4**
MRKA				*e*Sn	**Sg**	**02 30 59.5**	**+0.1**
MRKA	**Markates**	**0.69**	**208**	P	**Pb**	**02 30 48.9**	**-1.2**
MRKA				S	**Sb**	**02 30 58.9**	**-0.4**
SMIA	**Simia**	**0.76**	**235**	*e*PN	**Pb**	**02 30 50.7**	**-0.6**
SMIA	**Simia**	**0.76**	**235**	P	**Pb**	**02 30 50.6**	**-0.7**
SMIA				S	**Sg**	**02 31 02.0**	**+0.4**
SMIA	**Simia**	**0.76**	**235**	P	**Pb**	**02 30 50.6**	**-0.7**
SMIA				S	**Sg**	**02 31 02.0**	**+0.4**
FYTO	**Fytoko, Volos**	**0.83**	**277**	P	**Pb**	**02 30 52.2**	**-0.3**
FYTO				S	**Sg**	**02 31 04.2**	**+0.3**
FYTO	**Fytoko, Volos**	**0.83**	**277**	P	**Pb**	**02 30 52.2**	**-0.3**
FYTO	**Fytoko, Volos**	**0.83**	**277**	P	**Pb**	**02 30 52.2**	**-0.3**
FYTO				S	**Sg**	**02 31 04.2**	**+0.3**
EREA	**Eretria**	**0.90**	**184**	P	**Pb**	**02 30 52.5**	**-1.1**
EREA				S	**Sg**	**02 31 06.4**	**+0.5**
EREA	**Eretria**	**0.90**	**184**	P	**Pb**	**02 30 52.5**	**-1.1**
EREA				S	**Sg**	**02 31 06.4**	**+0.5**
ATAL	**Atalanti**	**0.99**	**231**	P	**Pb**	**02 30 54.6**	**-0.6**
ATAL				S	**Sb**	**02 31 08.1**	**+0.2**
ATAL	**Atalanti**	**0.99**	**231**	P	**Pb**	**02 30 54.6**	**-0.6**
ATAL	**Atalanti**	**0.99**	**231**	P	**Pb**	**02 30 54.6**	**-0.6**
ATAL				S	**Sb**	**02 31 08.1**	**+0.2**
OUR	**Ouranopolis**	**1.01**	**359**	*e*PG	**Pn**	**02 30 55.8**	**-0.1**
OUR				*e*SG	**Sg**	**02 31 08.9**	**-0.6**
OUR	**Ouranopolis**	**1.01**	**359**	P	**Pb**	**02 30 54.9**	**-0.7**
OUR	**Ouranopolis**	**1.01**	**359**	*e*PN	**Pb**	**02 30 54.9**	**-0.7**
OUR	**Ouranopolis**	**1.01**	**359**	P	**Pb**	**02 30 54.9**	**-0.7**
OUR	**Ouranopolis**	**1.01**	**359**	*e*Pg	**Pn**	**02 30 55.8**	**-0.1**
OUR				S	**Sb**	**02 31 08.3**	**-0.3**
OUR				*e*Sg	**Sg**	**02 31 09.0**	**-0.6**
OUR	**Ouranopolis**	**1.01**	**359**	P	**Pb**	**02 30 54.9**	**-0.7**
OUR	**Ouranopolis**	**1.01**	**359**	P	**Pb**	**02 30 54.9**	**-0.7**
OUR				S	**Sb**	**02 31 08.3**	**-0.3**
LKR	**Lokris**	**1.03**	**230**	*e*PN	**Pb**	**02 30 55.3**	**-0.5**
LKR	**Lokris**	**1.03**	**230**	P	**Pb**	**02 30 55.1**	**-0.7**
LKR				S	**Sg**	**02 31 09.9**	**-0.2**
LKR	**Lokris**	**1.03**	**230**	P	**Pb**	**02 30 55.1**	**-0.7**
LKR	**Lokris**	**1.03**	**230**	P	**Pb**	**02 30 55.1**	**-0.7**
LKR				S	**Sg**	**02 31 09.9**	**-0.2**
LIA	**Limnos Island**	**1.08**	**57**	*e*PN	**Pb**	**02 30 55.7**	**-0.9**
LIA	**Limnos Island**	**1.08**	**57**	P	**Pb**	**02 30 55.6**	**-1.0**
LIA				S	**Sb**	**02 31 10.2**	**-0.1**
LIA	**Limnos Island**	**1.08**	**57**	P	**Pb**	**02 30 55.6**	**-1.0**
LIA				S	**Sb**	**02 31 10.2**	**-0.1**
LIA	**Limnos Island**	**1.08**	**57**	P	**Pb**	**02 30 55.6**	**-1.0**
LIA				S	**Sb**	**02 31 10.2**	**-0.1**
PLG	**Polygyros**	**1.14**	**338**	P	**Pn**	**02 30 56.6**	**-1.0**
PLG				S	**Sb**	**02 31 12.1**	**-0.2**
PLG	**Polygyros**	**1.14**	**338**	*e*PN	**Pn**	**02 30 56.7**	**-0.9**
PLG	**Polygyros**	**1.14**	**338**	P	**Pn**	**02 30 56.6**	**-1.0**
PLG				S	**Sb**	**02 31 12.1**	**-0.2**
PLG	**Polygyros**	**1.14**	**338**	P	**Pn**	**02 30 56.6**	**-1.0**
PLG				S	**Sb**	**02 31 12.1**	**-0.2**
PLG	**Polygyros**	**1.14**	**338**	P	**Pn**	**02 30 56.6**	**-1.0**
PLG				S	**Sb**	**02 31 12.1**	**-0.2**
AXAR	**Agios Charalam**	**1.19**	**243**	*e*PN	**Pn**	**02 30 57.6**	**-0.7**
AXAR	**Agios Charalam**	**1.19**	**243**	*e*Pn	**Pn**	**02 30 57.6**	**-0.7**
AXAR				S	**Sg**	**02 31 15.4**	**+0.4**
AXAR	**Agios Charalam**	**1.19**	**243**	P	**Pn**	**02 30 57.5**	**-0.7**
AXAR				S	**Sg**	**02 31 15.4**	**+0.4**
AXAR	**Agios Charalam**	**1.19**	**243**	P	**Pn**	**02 30 57.5**	**-0.7**
AXAR				S	**Sg**	**02 31 15.4**	**+0.4**
VIL2	**Platees**	**1.25**	**208**	*e*PN	**Pn**	**02 30 59.0**	**-0.1**
PTL	**Penteli**	**1.27**	**185**	*e*PN	**Pn**	**02 30 58.9**	**-0.5**
PTL	**Penteli**	**1.27**	**185**	*e*Pn	**Pn**	**02 30 58.9**	**-0.5**
PTL	**Penteli**	**1.27**	**185**	P	**Pn**	**02 30 58.8**	**-0.6**
PTL	**Penteli**	**1.27**	**185**	P	**Pn**	**02 30 58.8**	**-0.6**
VILL	**Villia**	**1.27**	**206**	*e*Pn	**Pn**	**02 30 59.0**	**-0.5**
VILL				S	**Sb**	**02 31 16.0**	**-0.1**
VILL	**Villia**	**1.27**	**206**	P	**Pn**	**02 30 58.9**	**-0.5**
VILL				S	**Sb**	**02 31 16.0**	**-0.1**
KARY	**Karystos**	**1.33**	**165**	P	**Pn**	**02 30 59.6**	**-0.6**
KARY				S	**Sn**	**02 31 16.2**	**-1.1**
AGG	**Agios Georgios**	**1.34**	**258**	*e*PN	**Pn**	**02 30 59.6**	**-0.7**
AGG	**Agios Georgios**	**1.34**	**258**	P	**Pn**	**02 30 59.8**	**-0.6**
AGG				S	**Sb**	**02 31 18.2**	**+0.3**
AGG	**Agios Georgios**	**1.34**	**258**	P	**Pn**	**02 30 59.8**	**-0.6**
AGG				S	**Sb**	**02 31 18.2**	**+0.3**
AGG	**Agios Georgios**	**1.34**	**258**	P	**Pn**	**02 30 59.8**	**-0.6**
AGG				S	**Sb**	**02 31 18.2**	**+0.3**
AGG	**Agios Georgios**	**1.34**	**258**	P	**Pn**	**02 30 59.8**	**-0.6**
AGG				S	**Sb**	**02 31 18.2**	**+0.3**
ATHU	**Athens Univers**	**1.36**	**188**	P	**Pn**	**02 30 59.9**	**-0.7**
ATHU				S	**Sb**	**02 31 18.7**	**+0.2**
ATHU	**Athens Univers**	**1.36**	**188**	P	**Pn**	**02 30 59.9**	**-0.7**
ATHU				S	**Sb**	**02 31 18.7**	**+0.2**
ATHU	**Athens Univers**	**1.36**	**188**	P	**Pn**	**02 30 59.9**	**-0.7**
ATHU				S	**Sb**	**02 31 18.7**	**+0.2**
ATH	**Athens Observa**	**1.36**	**190**	P	**Pn**	**02 31 00.2**	**-0.4**
ATH				S	**Sb**	**02 31 19.0**	**+0.4**
ATH	**Athens Observa**	**1.36**	**190**	*e*PN	**Pn**	**02 31 00.2**	**-0.4**
ATH	**Athens Observa**	**1.36**	**190**	P	**Pn**	**02 31 00.2**	**-0.4**
ATH				S	**Sb**	**02 31 19.0**	**+0.4**
ATH	**Athens Observa**	**1.36**	**190**	P	**Pn**	**02 31 00.2**	**-0.4**
ATH				S	**Sb**	**02 31 19.0**	**+0.4**
ATH	**Athens Observa**	**1.36**	**190**	P	**Pn**	**02 31 00.2**	**-0.4**
ATH				S	**Sb**	**02 31 19.0**	**+0.4**
LIT	**Litokhoron**	**1.41**	**304**	P	**Pn**	**02 31 00.6**	**-0.7**
LIT				S	**Sn**	**02 31 18.3**	**-1.2**
LIT	**Litokhoron**	**1.41**	**304**	*e*PN	**Pn**	**02 31 00.7**	**-0.6**
LIT	**Litokhoron**	**1.41**	**304**	*e*Pn	**Pn**	**02 31 00.7**	**-0.6**
LIT				S	**Sn**	**02 31 18.3**	**-1.2**
LIT	**Litokhoron**	**1.41**	**304**	P	**Pn**	**02 31 00.6**	**-0.7**
LIT				S	**Sn**	**02 31 18.3**	**-1.2**
LIT	**Litokhoron**	**1.41**	**304**	P	**Pn**	**02 31 00.6**	**-0.7**
LIT				S	**Sn**	**02 31 18.3**	**-1.2**
SIGR	**SIGRI**	**1.44**	**94**	*e*PN	**Pn**	**02 31 01.1**	**-0.5**
SIGR	**SIGRI**	**1.44**	**94**	*e*PN	**Pb**	**02 31 02.2**	**-0.5**
SIGR	**SIGRI**	**1.44**	**94**	*e*Pn	**Pn**	**02 31 01.1**	**-0.5**
SIGR	**SIGRI**	**1.44**	**94**	P	**Pn**	**02 31 01.4**	**-0.2**
SIGR				S	**Sb**	**02 31 20.3**	**-0.4**
SIGR	**SIGRI**	**1.44**	**94**	P	**Pn**	**02 31 01.4**	**-0.2**
SIGR				S	**Sb**	**02 31 20.3**	**-0.4**
SIGR	**SIGRI**	**1.44**	**94**	P	**Pn**	**02 31 01.4**	**-0.2**
SIGR				S	**Sb**	**02 31 20.3**	**-0.4**
HORT	**Hortiatis**	**1.46**	**332**	*e*PN	**Pn**	**02 31 01.5**	**-0.6**
HORT	**Hortiatis**	**1.46**	**332**	*e*Pn	**Pn**	**02 31 01.5**	**-0.6**
HORT				S	**Sn**	**02 31 20.0**	**-0.7**
HORT	**Hortiatis**	**1.46**	**332**	P	**Pn**	**02 31 01.4**	**-0.6**
HORT				S	**Sn**	**02 31 20.0**	**-0.7**
HORT	**Hortiatis**	**1.46**	**332**	P	**Pn**	**02 31 01.4**	**-0.6**
HORT				S	**Sn**	**02 31 20.0**	**-0.7**
DSF	**Desfina**	**1.47**	**232**	P	**Pn**	**02 31 01.0**	**-1.2**
DSF				S	**Sg**	**02 31 23.0**	**-1.0**
DSF	**Desfina**	**1.47**	**232**	P	**Pn**	**02 31 01.0**	**-1.2**
DSF				S	**Sg**	**02 31 23.0**	**-1.0**
DSF	**Desfina**	**1.47**	**232**	P	**Pn**	**02 31 01.0**	**-1.2**
DSF				S	**Sg**	**02 31 23.0**	**-1.0**
MAKR	**Makrakomi, Fth**	**1.49**	**259**	*e*PN	**Pn**	**02 31 02.2**	**-0.3**
MAKR	**Makrakomi, Fth**	**1.49**	**259**	P	**Pn**	**02 31 01.9**	**-0.6**
MAKR	**Makrakomi, Fth**	**1.49**	**259**	*e*Pn	**Pn**	**02 31 02.2**	**-0.3**
MAKR				S	**Sn**	**02 31 21.3**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.49**	**259**	P	**Pn**	**02 31 01.9**	**-0.6**
MAKR				S	**Sn**	**02 31 21.3**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.49**	**259**	P	**Pn**	**02 31 01.9**	**-0.6**
MAKR				S	**Sn**	**02 31 21.3**	**-0.2**
LTK	**Loutraki**	**1.53**	**213**	P	**Pn**	**02 31 02.2**	**-0.8**
LTK	**Loutraki**	**1.53**	**213**	P	**Pn**	**02 31 02.2**	**-0.8**
LTK	**Loutraki**	**1.53**	**213**	P	**Pn**	**02 31 02.2**	**-0.8**
THE	**Thessaloniki**	**1.54**	**329**	P	**Pn**	**02 31 02.8**	**-0.3**
THE				S	**Sn**	**02 31 21.8**	**-0.8**
THE	**Thessaloniki**	**1.54**	**329**	*e*PN	**Pn**	**02 31 02.8**	**-0.3**
THE	**Thessaloniki**	**1.54**	**329**	P	**Pn**	**02 31 02.8**	**-0.3**
THE				S	**Sn**	**02 31 21.8**	**-0.8**
THE	**Thessaloniki**	**1.54**	**329**	P	**Pn**	**02 31 02.8**	**-0.3**
THE				S	**Sn**	**02 31 21.8**	**-0.8**
THE	**Thessaloniki**	**1.54**	**329**	P	**Pn**	**02 31 02.8**	**-0.3**
THE				S	**Sn**	**02 31 21.8**	**-0.8**
LOUT	**Loutraki**	**1.56**	**212**	*e*PB	**Pn**	**02 31 02.8**	**-0.5**
LOUT	**Loutraki**	**1.56**	**212**	P	**Pn**	**02 31 02.8**	**-0.5**
LOUT				S	**Sb**	**02 31 24.2**	**+0.1**
LOUT	**Loutraki**	**1.56**	**212**	P	**Pn**	**02 31 02.8**	**-0.5**
LOUT				S	**Sb**	**02 31 24.2**	**+0.1**
THL	**Klokotos Trika**	**1.56**	**280**	*e*PB	**Pn**	**02 31 03.0**	**-0.4**
THL	**Klokotos Trika**	**1.56**	**280**	P	**Pn**	**02 31 02.8**	**-0.6**
THL	**Klokotos Trika**	**1.56**	**280**	P	**Pn**	**02 31 02.8**	**-0.6**
SOH	**Sokhos**	**1.58**	**342**	P	**Pn**	**02 31 03.6**	**-0.2**
SOH	**Sokhos**	**1.58**	**342**	*e*PN	**Pn**	**02 31 03.4**	**-0.4**
SOH	**Sokhos**	**1.58**	**342**	P	**Pn**	**02 31 03.6**	**-0.2**
SOH	**Sokhos**	**1.58**	**342**	P	**Pn**	**02 31 03.6**	**-0.2**
SOH	**Sokhos**	**1.58**	**342**	P	**Pn**	**02 31 03.6**	**-0.2**
SMTH	**Samothraki Isl**	**1.64**	**45**	*e*PN	**Pn**	**02 31 02.9**	**-1.6**
SMTH	**Samothraki Isl**	**1.64**	**45**	*e*Pn	**Pn**	**02 31 02.9**	**-1.6**
SMTH				S	**Sn**	**02 31 23.7**	**-1.5**
SMTH	**Samothraki Isl**	**1.64**	**45**	P	**Pn**	**02 31 02.8**	**-1.7**
SMTH				S	**Sn**	**02 31 23.7**	**-1.5**
SMTH	**Samothraki Isl**	**1.64**	**45**	P	**Pn**	**02 31 02.8**	**-1.7**
SMTH				S	**Sn**	**02 31 23.7**	**-1.5**
THAL	**Thalero**	**1.66**	**220**	*e*PN	**Pn**	**02 31 04.3**	**-0.4**
THAL	**Thalero**	**1.66**	**220**	*e*Pn	**Pn**	**02 31 04.3**	**-0.4**
BOZC	**Bozcaada**	**1.66**	**71**	*i* P	**Pn**	**02 31 03.9**	**-0.9**
BOZC				*i* S	**Sg**	**02 31 28.7**	**-1.5**
ACOR	**Acrocorinthos**	**1.68**	**212**	P	**Pn**	**02 31 04.5**	**-0.6**
GADA	**Gvkgeada**	**1.70**	**58**	*e*PN	**Pn**	**02 31 05.2**	**0.0**
GADA	**Gvkgeada**	**1.70**	**58**	*e*Pn	**Pn**	**02 31 05.2**	**0.0**
KAVA	**Kavala**	**1.72**	**13**	*e*PN	**Pn**	**02 31 04.2**	**-1.4**
KAVA	**Kavala**	**1.72**	**13**	*e*Pn	**Pn**	**02 31 04.2**	**-1.4**
KAVA	**Kavala**	**1.72**	**13**	P	**Pn**	**02 31 04.1**	**-1.5**
KAVA	**Kavala**	**1.72**	**13**	P	**Pn**	**02 31 04.1**	**-1.5**
KALE	**Kalithea**	**1.73**	**238**	*e*PN	**Pn**	**02 31 05.3**	**-0.4**
KALE	**Kalithea**	**1.73**	**238**	P	**Pn**	**02 31 05.3**	**-0.4**
KALE				S	**Sb**	**02 31 29.0**	**-0.2**
KALE	**Kalithea**	**1.73**	**238**	P	**Pn**	**02 31 05.3**	**-0.4**

KALE				S	Sb	02 31 29.0 -0.2	AKHS	Akhisar	2.99	97	*i* P	Pn	02 31 24.0 +0.9	GULT	Gulveren	5.13	75	*e*Pn	Pn	02 31 54.0 +1.5
KALE	**Kalithea**	**1.73**	**238**	P	Pn	02 31 05.3 -0.4	AKHS				*i* S	Sg	02 32 11.7 -1.0	**NKME**	**Niksic**	**5.15**	**314**	⇓*i*Pn	Pn	02 31 53.4 +0.7
KALE				S	Sb	02 31 29.0 -0.2	**AKHS**	**Akhisar**	**2.99**	**97**	*i* P	Pn	02 31 24.0 +0.9	NKME				*e*Sn	Sn	02 32 50.5 -1.1
PRK	**Paraskevi**	**1.76**	**92**	P	Pn	02 31 05.7 -0.3	**MRMT**	**Marmara Adasi**	**3.04**	**64**	*e*PN	Pn	02 31 24.4 +0.7	**NKME**	**Niksic**	**5.15**	**314**	⇓*i*Pn	Pn	02 31 53.4 +0.7
PRK	**Paraskevi**	**1.76**	**92**	*e*PB	Pn	02 31 05.9 -0.1	**MRMT**	**Marmara Adasi**	**3.04**	**64**	*e*Pn	Pn	02 31 24.5 +0.7	NKME				*e*Sn	Sn	02 32 50.5 -1.1
PRK	**Paraskevi**	**1.76**	**92**	P	Pn	02 31 05.7 -0.3	**THR5**	**Thira Island,**	**3.08**	**160**	*e*PN	Pn	02 31 24.5 +0.2	**IVAS**	**Ivanjica**	**5.15**	**327**	⇑*i*Pn	Pn	02 31 53.5 +0.8
PRK	**Paraskevi**	**1.76**	**92**	P	Pn	02 31 05.7 -0.3	**THR5**	**Thira Island,**	**3.08**	**160**	P	Pn	02 31 24.1 -0.2	**NKY**	**Niksic**	**5.15**	**314**	⇑*i*Pn	Pn	02 31 53.9 +1.0
PRK	**Paraskevi**	**1.76**	**92**	P	Pn	02 31 05.7 -0.3	**THR5**	**Thira Island,**	**3.08**	**160**	*e*Pn	Pn	02 31 24.5 +0.2	NKY				*e*Sn	Sn	02 32 51.1 -0.8
TRIZ	**Trizonia**	**1.79**	**238**	*e*PN	Pn	02 31 06.2 -0.3	**THR5**	**Thira Island,**	**3.08**	**160**	P	Pn	02 31 24.1 -0.2	**NKY**	**Niksic**	**5.15**	**314**	⇑*i*Pn	Pn	02 31 53.9 +1.0
TRIZ	**Trizonia**	**1.79**	**238**	*e*Pn	Pn	02 31 06.2 -0.3	**THR3**	**Thira Island,**	**3.11**	**159**	P	Pn	02 31 24.7 +0.1	NKY				*e*Sn	Sn	02 32 51.1 -0.8
TRIZ	**Trizonia**	**1.79**	**238**	P	Pn	02 31 06.0 -0.5	**THR3**	**Thira Island,**	**3.11**	**159**	P	Pn	02 31 24.7 +0.1	**GRUS**	**Gruza**	**5.19**	**333**	⇓*i*Pn	Pn	02 31 53.6 +0.3
SRS	**Serrai**	**1.82**	**350**	P	Pn	02 31 06.1 -0.9	**THR3**	**Thira Island,**	**3.11**	**159**	P	Pn	02 31 24.7 +0.1	**HCY**	**Herceg Novi**	**5.22**	**309**	*e*Pn	Pn	02 31 53.9 +0.2
SRS	**Serrai**	**1.82**	**350**	*e*PN	Pn	02 31 06.2 -0.8	**KYTH**	**Kithira**	**3.13**	**195**	P	Pn	02 31 25.2 +0.2	HCY				*e*Sn	Sn	02 32 52.4 -1.0
SRS	**Serrai**	**1.82**	**350**	*e*Pn	Pn	02 31 06.2 -0.8	**KYTH**	**Kithira**	**3.13**	**195**	P	Pn	02 31 25.2 +0.2	**HCY**	**Herceg Novi**	**5.22**	**309**	*e*Pn	Pn	02 31 53.9 +0.2
SRS	**Serrai**	**1.82**	**350**	P	Pn	02 31 06.1 -0.9	**KYTH**	**Kithira**	**3.13**	**195**	P	Pn	02 31 25.2 +0.2	HCY				*e*Sn	Sn	02 32 52.4 -1.0
SRS	**Serrai**	**1.82**	**350**	P	Pn	02 31 06.1 -0.9	**EDC**	**Edincik**	**3.14**	**70**	*e*PN	Pn	02 31 26.5 +1.4	**HUMR**	**Humele**	**5.26**	**8**	⇓*i*P	Pn	02 31 54.3 +0.1
CHOS	**Chios island**	**1.85**	**120**	*e*PN	Pn	02 31 07.0 -0.4	**EDC**	**Edincik**	**3.14**	**70**	*e*PN	Pn	02 31 26.5 +1.4	**HUMR**	**Humele**	**5.26**	**8**	⇓*i*P	Pn	02 31 54.3 +0.1
CHOS	**Chios island**	**1.85**	**120**	*e*PB	Pn	02 31 07.4 0.0	**THR6**	**Thira Island,**	**3.15**	**159**	P	Pn	02 31 25.5 +0.2	**SEYT**	**Eskypehyr**	**5.30**	**86**	*i* P	Pn	02 31 57.2 +2.3
CHOS	**Chios island**	**1.85**	**120**	*e*Pn	Pn	02 31 07.0 -0.4	**THR6**	**Thira Island,**	**3.15**	**159**	P	Pn	02 31 25.5 +0.2	SEYT				*i* S	Sg	02 33 30.1 +3.3
CHOS	**Chios island**	**1.85**	**120**	*e*Pb	Pn	02 31 07.4 0.0	**THR6**	**Thira Island,**	**3.15**	**159**	P	Pn	02 31 25.5 +0.2	**SEYT**	**Eskypehyr**	**5.30**	**86**	*i* P	Pn	02 31 57.2 +2.3
CHOS				S	Sn	02 31 30.1 -0.2	**SANT**	**Santorini**	**3.16**	**158**	*e*Pn	Pn	02 31 25.2 -0.1	**PLE**	**Pljevlja**	**5.31**	**321**	⇑*i*Pn	Pn	02 31 55.6 +0.6
CHOS	**Chios island**	**1.85**	**120**	P	Pn	02 31 07.3 -0.1	**SANT**	**Santorini**	**3.16**	**158**	*e*Pg	Pg	02 31 35.3 -1.8	PLE				*e*Sn	Sn	02 32 54.2 -1.5
CHOS				S	Sn	02 31 30.1 -0.2	**SANT**	**Santorini**	**3.16**	**158**	*e*Pn	Pn	02 31 25.2 -0.1	**PLE**	**Pljevlja**	**5.31**	**321**	⇑*i*Pn	Pn	02 31 55.6 +0.6
CHOS	**Chios island**	**1.85**	**120**	P	Pn	02 31 07.3 -0.1	SANT				*e*Pg	Pg	02 31 35.3 -1.8	PLE				*e*Sn	Sn	02 32 54.2 -1.5
CHOS				S	Sn	02 31 30.1 -0.2	**TKR**	**Tekirdag**	**3.18**	**57**	*e*PN	Pn	02 31 27.0 +1.4	**PSN**	**Preselentsi**	**5.37**	**34**	⇓*i*P	Pn	02 31 54.5 -1.2
EFP	**Efpalio**	**1.87**	**242**	P	Pn	02 31 07.3 -0.3	**TKR**	**Tekirdag**	**3.18**	**57**	*e*Pn	Pn	02 31 27.0 +1.4	**PSN**	**Preselentsi**	**5.37**	**34**	⇓*i*P	Pn	02 31 54.5 -1.2
EFP	**Efpalio**	**1.87**	**242**	P	Pn	02 31 07.3 -0.3	**EDRB**	**Edirne**	**3.27**	**39**	*e*PN	Pn	02 31 27.0 +0.1	**SRE**	**Strehaia**	**5.37**	**354**	⇓*i*P	Pn	02 31 56.7 +0.9
DID	**Didima**	**1.91**	**199**	P	Pn	02 31 07.5 -0.7	**EDRB**	**Edirne**	**3.27**	**39**	*e*Pn	Pn	02 31 27.0 +0.1	**SRE**	**Strehaia**	**5.37**	**354**	⇓*i*P	Pn	02 31 56.7 +0.9
DID				S	Sn	02 31 31.9 +0.1	**KEK**	**Kerkira**	**3.28**	**278**	*e*PN	Pn	02 31 27.0 0.0	**AKAS**	**Kas**	**5.40**	**123**	*i* P	Pn	02 31 59.5 +3.3
DID	**Didima**	**1.91**	**199**	P	Pn	02 31 07.5 -0.7	**KEK**	**Kerkira**	**3.28**	**278**	*e*Pn	Pn	02 31 27.0 0.0	AKAS				*i* S	Sb	02 33 21.5 +6.7
DID				S	Sn	02 31 31.9 +0.1	**SKO**	**Skopje**	**3.29**	**324**	*e*Pn	Pn	02 31 28.5 +1.2	**AKAS**	**Kas**	**5.40**	**123**	*i* P	Pn	02 31 59.5 +3.3
DID	**Didima**	**1.91**	**199**	P	Pn	02 31 07.5 -0.7	**SKO**	**Skopje**	**3.29**	**324**	*e*Pn	Pn	02 31 28.4 +1.2	**BOLV**	**Bolvadin**	**5.44**	**94**	*i* P	Pn	02 31 59.4 +2.6
DID				S	Sn	02 31 31.9 +0.1	**VTS**	**Vitosha**	**3.33**	**350**	⇑*i*P	Pn	02 31 28.7 +0.9	BOLV				*i* S	Sg	02 33 40.7 +10
LAKA	**Lakka**	**1.92**	**237**	*e*PN	Pn	02 31 08.2 -0.1	**VTS**	**Vitosha**	**3.33**	**350**	⇑*i*P	Pn	02 31 28.7 +0.9	**UPM**	**Unac-Piva**	**5.46**	**317**	*e*Pn	Pn	02 31 58.1 +0.9
LAKA	**Lakka**	**1.92**	**237**	P	Pn	02 31 08.2 -0.1	**AYDB**	**Zeytinkoy-Aydi**	**3.33**	**113**	*e*PN	Pn	02 31 27.8 -0.1	UPM				*e*Sn	Sn	02 32 58.4 -1.3
LAKA	**Lakka**	**1.92**	**237**	P	Pn	02 31 08.2 -0.1	**AYDB**	**Zeytinkoy-Aydi**	**3.33**	**113**	*e*Pn	Pn	02 31 27.8 -0.1	**UPM**	**Unac-Piva**	**5.46**	**317**	*e*Pn	Pn	02 31 58.1 +0.9
LAKA	**Lakka**	**1.92**	**237**	P	Pn	02 31 08.2 -0.1	**CRLT**	**Corlu**	**3.38**	**56**	*e*PN	Pn	02 31 29.1 +0.8	UPM				*e*Sn	Sn	02 32 58.4 -1.3
KLV	**Kalavryta, Ach**	**1.93**	**229**	*e*PN	Pn	02 31 08.1 -0.5	**CRLT**	**Corlu**	**3.38**	**56**	*e*Pn	Pn	02 31 29.1 +0.8	**BRY**	**Bratogost**	**5.47**	**313**	*e*Pn	Pn	02 31 58.0 +0.8
KLV	**Kalavryta, Ach**	**1.93**	**229**	*e*Pn	Pn	02 31 08.1 -0.5	**BODT**	**Bodrum**	**3.44**	**130**	*e*PN	Pn	02 31 29.1 -0.1	BRY				*e*Sn	Sn	02 32 58.1 -1.6
KLV	**Kalavryta, Ach**	**1.93**	**229**	P	Pn	02 31 08.0 -0.5	**BODT**	**Bodrum**	**3.44**	**130**	*e*Pn	Pn	02 31 29.1 -0.1	**BRY**	**Bratogost**	**5.47**	**313**	*e*Pn	Pn	02 31 58.0 +0.8
KLV	**Kalavryta, Ach**	**1.93**	**229**	P	Pn	02 31 08.0 -0.5	**AYDN**	**Tasoluk**	**3.46**	**117**	*i* P	Pn	02 31 30.8 +1.3	BRY				*e*Sn	Sn	02 32 58.1 -1.6
KZN	**Kozani**	**1.99**	**301**	P	Pn	02 31 09.6 +0.3	AYDN				*i* S	Sg	02 32 26.9 -0.8	**BTAS**	**Taskesti**	**5.52**	**75**	*i* P	Pn	02 31 57.6 -0.2
KZN	**Kozani**	**1.99**	**301**	*e*PN	Pn	02 31 09.3 0.0	**AYDN**	**Tasoluk**	**3.46**	**117**	*i* P	Pn	02 31 30.8 +1.3	**BTAS**	**Taskesti**	**5.52**	**75**	*i* P	Pn	02 31 57.6 -0.2
KZN	**Kozani**	**1.99**	**301**	*e*Pn	Pn	02 31 09.3 0.0	**DURS**	**Dursunbey**	**3.47**	**84**	*i* P	Pn	02 31 30.1 +0.4	**MSAB**	**Monastry St. A**	**5.56**	**30**	⇓*i*P	Pn	02 31 57.9 -0.4
KZN	**Kozani**	**1.99**	**301**	P	Pn	02 31 09.6 +0.3	DURS				*i* S	Sg	02 32 31.2 +3.2	**MSAB**	**Monastry St. A**	**5.56**	**30**	⇓*i*P	Pn	02 31 57.9 -0.4
KZN	**Kozani**	**1.99**	**301**	P	Pn	02 31 09.6 +0.3	**DURS**	**Dursunbey**	**3.47**	**84**	*i* P	Pn	02 31 30.1 +0.4	**TRUS**	**Trudelj**	**5.59**	**332**	⇓*i*Pn	Pn	02 31 57.9 -0.9
KZN	**Kozani**	**1.99**	**301**	P	Pn	02 31 09.6 +0.3	**KCTX**	**Karacabey (Bur**	**3.48**	**73**	*e*PN	Pn	02 31 30.1 +0.4	**TIP**	**Timpagrande**	**5.63**	**271**	*e*Pn	Pn	02 32 00.2 +0.8
KNT	**Kendrikon**	**2.03**	**336**	*e*PN	Pn	02 31 09.6 -0.2	**KCTX**	**Karacabey (Bur**	**3.48**	**73**	*e*Pn	Pn	02 31 30.2 +0.4	**TIP**	**Timpagrande**	**5.63**	**271**	*e*Pn	Pn	02 32 00.2 +0.8
KNT	**Kendrikon**	**2.03**	**336**	P	Pn	02 31 09.4 -0.4	**ANKY**	**Antikythira Is**	**3.49**	**189**	P	Pn	02 31 29.6 -0.3	**DIVS**	**Divibare**	**5.64**	**329**	⇓*i*P	Pn	02 32 00.1 +0.5
KNT	**Kendrikon**	**2.03**	**336**	*e*PN	Pn	02 31 09.8 0.0	**ANKY**	**Antikythira Is**	**3.49**	**189**	P	Pn	02 31 29.6 -0.3	**DIVS**	**Divibare**	**5.64**	**329**	⇓*i*Pn	Pn	02 32 00.0 +0.5
KNT	**Kendrikon**	**2.03**	**336**	P	Pn	02 31 09.4 -0.4	**ANKY**	**Antikythira Is**	**3.49**	**189**	P	Pn	02 31 29.6 -0.3	**MDUB**	**Mudurnu**	**5.65**	**76**	*e*PN	Pn	02 32 01.7 +2.1
KNT	**Kendrikon**	**2.03**	**336**	*e*Pn	Pn	02 31 09.8 0.0	**BDRM**	**Kayabasi**	**3.52**	**129**	*i* P	Pn	02 31 31.3 +1.0	**MDUB**	**Mudurnu**	**5.65**	**76**	*e*Pn	Pn	02 32 01.7 +2.1
KNT	**Kendrikon**	**2.03**	**336**	P	Pn	02 31 09.4 -0.4	BDRM				*i* S	Sg	02 32 28.6 -1.0	**MANR**	**Mangalia**	**5.66**	**36**	⇑*i*P	Pn	02 32 00.0 +0.4
KNT	**Kendrikon**	**2.03**	**336**	P	Pn	02 31 09.4 -0.4	**BDRM**	**Kayabasi**	**3.52**	**129**	*i* P	Pn	02 31 31.3 +1.0	**MANR**	**Mangalia**	**5.66**	**36**	⇑*i*P	Pn	02 32 00.0 +0.4
NVR	**Nevrokopi**	**2.03**	**357**	P	Pn	02 31 09.0 -0.9	**PHSR**	**Pinarhisar**	**3.54**	**48**	*e*PN	Pn	02 31 31.2 +0.6	**BBLS**	**Lazići**	**5.71**	**324**	*e*Pn	Pn	02 32 01.5 +1.1
NVR	**Nevrokopi**	**2.03**	**357**	P	Pn	02 31 09.0 -0.9	**PHSR**	**Pinarhisar**	**3.54**	**48**	*e*Pn	Pn	02 31 31.2 +0.6	**AUMIH**	**MIHALICIK**	**5.80**	**82**	*i* P	Pn	02 32 03.0 +1.3
NVR	**Nevrokopi**	**2.03**	**357**	P	Pn	02 31 09.0 -0.9	**DST**	**Dursunbey**	**3.58**	**84**	*e*PN	Pn	02 31 31.2 0.0	AUMIH				*i* S	Sg	02 33 39.2 -3.7
KRND	**KRANIDI**	**2.05**	**200**	P	Pn	02 31 09.4 -0.6	**DST**	**Dursunbey**	**3.58**	**84**	*e*Pn	Pn	02 31 31.2 0.0	**SVRH**	**Sivrihisar-ESK**	**5.82**	**86**	*e*PN	Pn	02 32 04.3 +2.3
KRND				S	Sn	02 31 35.6 +0.5	**MANT**	**Manisa**	**3.64**	**102**	*i* P	Pn	02 31 35.3 +3.1	**SVRH**	**Sivrihisar-ESK**	**5.82**	**86**	*e*Pn	Pn	02 32 04.3 +2.3
KRND	**KRANIDI**	**2.05**	**200**	P	Pn	02 31 09.4 -0.6	MANT				*i* S	Sg	02 32 34.8 +0.9	**STON**	**Ston**	**5.94**	**309**	*e*Pn	Pn	02 32 04.1 +0.5
KRND				S	Sn	02 31 35.6 +0.5	**MANT**	**Manisa**	**3.64**	**102**	*i* P	Pn	02 31 35.3 +3.1	STON				Sn	Sn	02 33 08.1 -3.1
AYVA	**Ayvalik**	**2.08**	**89**	*i* P	Pn	02 31 10.5 0.0	**DEMI**	**Demirci**	**3.67**	**93**	*i* P	Pn	02 31 33.8 +1.4	**STON**	**Ston**	**5.94**	**309**	*e*Pn	Pn	02 32 04.1 +0.5
AYVA				*i* S	Sg	02 31 44.5 +1.1	DEMI				*i* S	Sg	02 32 37.0 +2.5	**MTUR**	**Matau**	**5.96**	**7**	⇑*i*P	Pn	02 32 04.6 +0.8
AYVA	**Ayvalik**	**2.08**	**89**	*i* P	Pn	02 31 10.5 0.0	**DEMI**	**Demirci**	**3.67**	**93**	*i* P	Pn	02 31 33.8 +1.4	**MTUR**	**Matau**	**5.96**	**7**	⇑*i*P	Pn	02 32 04.6 +0.8
RDO	**Rodhopi**	**2.17**	**32**	*e*PN	Pn	02 31 10.4 -1.3	**NIS1**	**Nisyros Isl.**	**3.69**	**136**	*e*PN	Pn	02 31 32.9 +0.2	**TIRR**	**Tirgusor**	**6.10**	**31**	*e*P	Pn	02 32 04.1 -1.6
RDO	**Rodhopi**	**2.17**	**32**	*e*Pn	Pn	02 31 10.4 -1.3	**NIS1**	**Nisyros Isl.**	**3.69**	**136**	*e*Pn	Pn	02 31 32.9 +0.2	TIRR				pmax	pmax	
RDO	**Rodhopi**	**2.17**	**32**	*e*Pn	Pn	02 31 09.6 -2.1	**JMB**	**Yambol**	**3.70**	**31**	⇓*i*P	Pn	02 31 31.6 -1.2		comp=Z,59nm,1.0s					
ENEZ	**Enez**	**2.17**	**49**	*e*PN	Pn	02 31 10.9 -0.8	**JMB**	**Yambol**	**3.70**	**31**	S	Sb	02 32 23.9 -2.0	**TIRR**	**Tirgusor**	**6.10**	**31**	*e*P	Pn	02 32 04.1 -1.6
ENEZ	**Enez**	**2.17**	**49**	*e*Pn	Pn	02 31 10.9 -0.8	**JMB**	**Yambol**	**3.70**	**31**	⇓*i*P	Pn	02 31 31.6 -1.2		comp=Z,59nm,1.0s					
GELI	**Tayfur-Gelibol**	**2.18**	**60**	*e*PN	Pn	02 31 11.6 -0.3	**TIR**	**Tirane**	**3.76**	**304**	*e*P	Pn	02 31 35.7 +2.1	**TIRR**	**Tirgusor**	**6.10**	**31**	*e*Pn	Pn	02 32 04.1 -1.6
GELI	**Tayfur-Gelibol**	**2.18**	**60**	*e*Pn	Pn	02 31 11.6 -0.3	**TIR**	**Tirane**	**3.76**	**304**	*e*Pn	Pn	02 31 35.7 +2.1		comp=Z,59nm,1.0s					
ALN	**Alexandroupoli**	**2.22**	**44**	*e*PN	Pn	02 31 12.1 -0.3	**TIR**	**Tirane**	**3.76**	**304**	*e*Pn	Pn	02 31 35.6 +2.1	TIRR				*e*Sg	Sg	02 33 45.0 -7.1
ALN	**Alexandroupoli**	**2.22**	**44**	P	Pn	02 31 10.7 -1.7	**BARS**	**Barje**	**3.87**	**335**	⇑*i*Pn	Pn	02 31 35.3 +0.2	**HARR**	**Harsova**	**6.11**	**27**	⇑*i*P	Pn	02 32 05.8 -0.1
ALN				S	Sn	02 31 39.9 +0.5	**MDNY**	**Mudanya-Bursa**	**3.90**	**73**	*e*PN	Pn	02 31 35.8 +0.4	**HARR**	**Harsova**	**6.11**	**27**	⇑*i*P	Pn	02 32 05.8 -0.1
ALN	**Alexandroupoli**	**2.22**	**44**	*e*PN	Pn	02 31 11.0 -1.4	**MDNY**	**Mudanya-Bursa**	**3.90**	**73**	*e*Pn	Pn	02 31 35.8 +0.4	**LOT**	**Lotru**	**6.13**	**358**	*e*PN	Pn	02 32 06.2 0.0
ALN	**Alexandroupoli**	**2.22**	**44**	P	Pn	02 31 10.7 -1.7	**ARMT**	**Armutlu**	**3.93**	**70**	*e*PN	Pn	02 31 36.3 +0.3	**LOT**	**Lotru**	**6.13**	**358**	⇓*i*P	Pn	02 32 05.9 -0.4
ALN	**Alexandroupoli**	**2.22**	**44**	*e*Pn	Pn	02 31 12.1 -0.3	**ARMT**	**Armutlu**	**3.93**	**70**	*e*Pn	Pn	02 31 36.3 +0.3	**LOT**	**Lotru**	**6.13**	**358**	⇓*i*P	Pn	02 32 05.9 -0.4
ALN				S	Sn	02 31 39.9 +0.5	**CTKS**	**Kestanelik-??a**	**3.94**	**59**	*e*PN	Pn	02 31 36.9 +0.9	**LOT**	**Lotru**	**6.13**	**358**	*e*Pn	Pn	02 32 06.3 0.0
ALN	**Alexandroupoli**	**2.22**	**44**	P	Pn	02 31 10.7 -1.7	**CTKS**	**Kestanelik-??a**	**3.94**	**59**	*e*Pn	Pn	02 31 36.9 +0.9	**KIZT**	**Kizilcal**	**6.14**	**92**	*e*PN	Pn	02 32 08.8 +2.1
ALN				S	Sn	02 31 39.9 +0.5	**YER**	**Yerkesik**	**4.01**	**122**	*e*PN	Pn	02 31 38.1 +1.0	**KIZT**	**Kizilcal**	**6.14**	**92**	*e*Pn	Pn	02 32 08.5 +2.1
ALN	**Alexandroupoli**	**2.22**	**44**	P	Pn	02 31 10.7 -1.7	**YER**	**Yerkesik**	**4.01**	**122**	*e*Pn	Pn	02 31 38.1 +1.0	**VOIR**		**6.16**	**7**	⇑*i*P	Pn	02 32 07.2 +0.5
ALN				S	Sn	02 31 39.9 +0.5	**ULDT**	**Uludag**	**4.04**	**77**	*i* P	Pn	02 31 39.3 +1.7	**VOIR**		**6.16**	**7**	⇑*i*P	Pn	02 32 07.2 +0.5
ZEY	**¯zmir**	**2.23**	**118**	*i* P	Pn	02 31 12.8 +0.3	ULDT				*i* S	Sb	02 32 35.6 -0.2	**TEKS**	**Tekeris**	**6.20**	**329**	⇑*i*Pn	Pn	02 32 07.7 +0.5
ZEY				*i* S	Sg	02 31 48.8 +0.6	**ULDT**	**Uludag**	**4.04**	**77**	*i* P	Pn	02 31 39.3 +1.7	**MLR**	**Muntele Rosu**	**6.33**	**12**	Pn	Pn	02 32 09.2 +0.2
URLA	**Izmir**	**2.23**	**115**	*i* P	Pn	02 31 12.5 -0.2	**IDI**	**Anoyia**	**4.08**	**170**	Pn	Pn	02 31 38.2 0.0		comp=Z,0.6nm,0.3s,baz=196,slow=5.6,SNR=71					
URLA				*i* S	Sg	02 31 49.7 +1.2		comp=N,15nm,0.3s,baz=345,slow=11,SNR=64						MLR				Sn	Sn	02 33 20.9 -0.1
URLA	**Izmir**	**2.23**	**115**	*i* P	Pn	02 31 12.5 -0.2	IDI				Sn	Sn	02 32 22.8 -2.7		comp=Z,0.3nm,0.3s,baz=128,slow=19,SNR=1.7					
DRO	**Drossia**	**2.26**	**234**	P	Pn	02 31 13.3 +0.3		comp=N,3.8nm,0.3s,baz=342,slow=20,SNR=2.0						MLR				Lg	Lg	02 33 59.6
DRO	**Drossia**	**2.26**	**234**	P	Pn	02 31 13.3 +0.3	IDI				Lg	Lg	02 32 42.1		baz=68,slow=19,SNR=2.7					
DSL	**Palaion Diasel**	**2.27**	**266**	P	Pn	02 31 13.7 +0.5		baz=15,slow=17,SNR=1.9						**MLR**	**Muntele Rosu**	**6.33**	**12**	⇑*i*P	Pn	02 32 09.7 +0.6
DSL	**Palaion Diasel**	**2.27**	**266**	P	Pn	02 31 13.7 +0.5	**IDI**	**Anoyia**	**4.08**	**170**	P	Pn	02 31 38.1 0.0	**BCAM**	**Yenicaga**	**6.36**	**74**	*i* P	Pn	02 32 10.8 +1.4
DSL	**Palaion Diasel**	**2.27**	**266**	P	Pn	02 31 13.7 +0.5	**GEMT**	**Gemlik**	**4.14**	**73**	*e*PN	Pn	02 31 40.0 +1.2	**BCAM**	**Yenicaga**	**6.36**	**74**	*i* P	Pn	02 32 10.8 +1.4
MMB	**Musomiste**	**2.28**	**355**	⇑*i*P	Pn	02 31 12.4 -0.9	**GEMT**	**Gemlik**	**4.14**	**73**	*e*Pn	Pn	02 31 40.0 +1.2	**CUC**	**Castrocucco**	**6.36**	**279**	*e*PN	Pn	02 32 10.5 +1.1
MMB	**Musomiste**	**2.28**	**355**	S	Sn	02 31 38.0 -2.9	**BUY**	**Buyukada**	**4.21**	**67**	*i* P	Pn	02 31 39.5 -0.3	**CUC**	**Castrocucco**	**6.36**	**279**	*e*Pn	Pn	02 32 10.5 +1.1
MMB	**Musomiste**	**2.28**	**355**	⇑*i*P	Pn	02 31 12.4 -0.9	BUY				*i* S	Sg	02 32 51.7 +0.1	**GRER**		**6.44**	**19**	⇑*i*P	Pn	02 32 10.1 -0.4
VAY	**Valandovo**	**2.28**	**332**	*e*Pn	Pn	02 31 14.6 +1.3	**BUY**	**Buyukada**	**4.21**	**67**	*i* P	Pn	02 31 39.5 -0.3	**GRER**		**6.44**	**19**	⇑*i*P	Pn	02 32 10.1 -0.4
VAY				*e*Sn	Sn	02 31 42.4 +1.4	**TVSB**	**Tavsanli**	**4.23**	**86**	*e*PN	Pn	02 31 41.2 +1.1	**BZS**	**Buzias**	**6.54**	**345**	⇓*i*P	Pn	02 32 10.8 -1.0
VAY				*e*Lg	Lg	02 31 49.3	**TVSB**	**Tavsanli**	**4.23**	**86**	*e*Pn	Pn	02 31 41.2 +1.1	**BZS**	**Buzias**	**6.54**	**345**	⇓*i*P	Pn	02 32 10.8 -1.0
	comp=E,1µm,0.7s						**ISK**	**Istanbul-Kandi**	**4.24**	**64**	*e*PN	Pn	02 31 41.5 +1.3	**CFR**	**Carcaliu**	**6.61**	**26**	⇓*i*P	Pn	02 32 12.8 +0.1
VAY				*e*Lg	Lg	02 31 52.0	**ISK**	**Istanbul-Kandi**	**4.24**	**64**	*e*Pn	Pn	02 31 41.5 +1.3	**CFR**	**Carcaliu**	**6.61**	**26**	⇓*i*P	Pn	02 32 12.8 +0.1
	comp=N,1µm,0.9s						**GDZ**	**Gediz**	**4.26**	**91**	*i* P	Pn	02 31 37.6 -2.9	**DEV**	**Deva**	**6.61**	**353**	⇓*i*P	Pn	02 32 13.8 +1.0
VAY	**Valandovo**	**2.28**	**332**	*e*Pn	Pn	02 31 14.6 +1.3	GDZ				*i* S	Sg	02 32 56.3 +2.9	**DEV**	**Deva**	**6.61**	**353**	⇓*i*P	Pn	02 32 13.8 +1.0
VAY				*e*Sn	Sn	02 31 42.3 +1.4	**GDZ**	**Gediz**	**4.26**	**91**	*i* P	Pn	02 31 37.6 -2.9	**FGSL**	**Fruska Gora**	**6.61**	**333**	⇑*i*Pn	Pn	02 32 13.0 +0.2
VAY				*e*Lg	Lg	02 31 49.3	**KLYT**	**Kilyos**	**4.31**	**62**	*e*PN	Pn	02 31 43.1 +2.0	**KONT**	**Konya--Tatoy**	**6.68**	**99**	*e*PN	Pn	02 32 16.2 +2.4
	comp=N,1µm,0.7s						**KLYT**	**Kilyos**	**4.31**	**62**	*e*Pn	Pn	02 31 43.1 +2.0	**KONT**	**Konya--Tatoy**	**6.68**	**99**	*e*Pn	Pn	02 32 16.2 +2.4
PDO	**Prodromos**	**2.32**	**253**	P	Pn	02 31 14.8 +1.0	**IZI**	**Iznik**	**4.33**	**75**	*e*PN	Pn	02 31 42.6 +1.1	**DOPR**	**Dopca**	**6.72**	**8**	⇑*i*P	Pn	02 32 15.1 +0.8
PDO	**Prodromos**	**2.32**	**253**	P	Pn	02 31 14.8 +1.0	**IZI**	**Iznik**	**4.33**	**75**	*e*Pn	Pn	02 31 42.6 +1.1	**DOPR**	**Dopca**	**6.72**	**8**	⇑*i*P	Pn	02 32 15.1 +0.8
ERIK	**Erikli-Kesan**	**2.35**	**54**	*e*PN	Pn	02 31 12.9 -1.3	**TURN**	**Turunc**	**4.37**	**123**	*i* P	Pn	02 31 40.3 -1.6	**BR231**	**Keskin MP Arra**	**6.79**	**83**	*e*Pn	Pn	02 32 14.2 -1.2
ERIK	**Erikli-Kesan**	**2.35**	**54**	*e*Pn	Pn	02 31 12.9 -1.3	TURN				*i* S	Sg	02 32 56.8 0.0	**BR231**	**Keskin MP Arra**	**6.79**	**83**	*e*Pn	Pn	02 32 14.2 -1.2
LPK	**Lapseki**	**2.37**	**63**	*e*PN	Pn	02 31 14.4 0.0	**TURN**	**Turunc**	**4.37**	**123**	*i* P	Pn	02 31 40.3 -1.6	**PLOR**	**Plostina**	**6.81**	**16**	⇓*i*P	Pn	02 32 17.1 +1.5
LPK	**Lapseki**	**2.37**	**63**	*e*Pn	Pn	02 31 14.4 0.0	**KHAL**	**Karahalli**	**4.38**	**101**	*i* P	Pn	02 31 43.2 +0.9	**PLOR**	**Plostina**	**6.81**	**16**	⇓*i*P	Pn	02 32 17.1 +1.5
JAN	**Janina**	**2.47**	**279**	*e*PN	Pn	02 31 16.3 +0.4	KHAL				*i* S	Sg	02 32 51.7 -5.7	**VRI**	**Vrincioaia**	**6.84**	**16**	⇓*i*P	Pn	02 32 17.0 +1.0
JAN	**Janina**	**2.47**	**279**	*e*Pn	Pn	02 31 16.3 +0.4	**KHAL**	**Karahalli**	**4.38**	**101**	*i* P	Pn	02 31 43.2 +0.9	**VRI**	**Vrincioaia**	**6.84**	**16**	⇓*i*P	Pn	02 32 17.0 +1.0
FNA	**Florina**	**2.50**	**307**	*e*PN	Pn	02 31 16.6 +0.3	**KHL**	**Karahalli**	**4.42**	**101**	*e*PN	Pn	02 31 42.7 0.0	**TLCR**			**6.86**	**30**	⇑*i*P	Pn	02 32 16.0 -0.2
FNA	**Florina**	**2.50**	**307**	P	Pn	02 31 16.

BUR03	**Bucovina Ar. S**	**8.33**	**6**	*e*Pn		**Pn**	**02 32 36.5**	**0.0**
BUR03	**Bucovina Ar. S**	**8.33**	**6**	*e*Pn		**Pn**	**02 32 36.5**	**0.0**
BUR09	**Bucovina Ar. S**	**8.34**	**6**	*e*Pn		**Pn**	**02 32 36.6**	**0.0**
BUR09	**Bucovina Ar. S**	**8.34**	**6**	*e*Pn		**Pn**	**02 32 36.6**	**0.0**
BUR01	**Bucovina Ar. S**	**8.34**	**6**	*e*Pn		**Pn**	**02 32 37.0**	**+0.4**
BUR01	**Bucovina Ar. S**	**8.34**	**6**	*e*Pn		**Pn**	**02 32 37.0**	**+0.4**
BURAR	**Bucovina Array**	**8.34**	**6⇓**	*i*P		**Pn**	**02 32 37.7**	**+1.1**
BURAR	**Bucovina Array**	**8.34**	**6⇓**	*i*P		**Pn**	**02 32 37.7**	**+1.1**
BUR02	**Bucovina Ar. S**	**8.34**	**6**	*e*Pn		**Pn**	**02 32 36.5**	**-0.1**
BUR02	**Bucovina Ar. S**	**8.34**	**6**	*e*Pn		**Pn**	**02 32 36.5**	**-0.1**
BUR06	**Bucovina Ar. S**	**8.34**	**6**	*e*Pn		**Pn**	**02 32 36.0**	**-0.6**
BUR06	**Bucovina Ar. S**	**8.34**	**6**	*e*Pn		**Pn**	**02 32 36.0**	**-0.6**
BUR05	**Bucovina Ar. S**	**8.36**	**6**	*e*Pn		**Pn**	**02 32 36.6**	**-0.2**
BUR05	**Bucovina Ar. S**	**8.36**	**6**	*e*Pn		**Pn**	**02 32 36.6**	**-0.2**
BUR08	**Bucovina Ar. S**	**8.37**	**6**	*e*Pn		**Pn**	**02 32 36.5**	**-0.5**
BUR08	**Bucovina Ar. S**	**8.37**	**6**	*e*Pn		**Pn**	**02 32 36.5**	**-0.5**
BUR07	**Bucovina Ar. S**	**8.37**	**6**	*e*Pn		**Pn**	**02 32 36.0**	**-1.0**
BUR07	**Bucovina Ar. S**	**8.37**	**6**	*e*Pn		**Pn**	**02 32 36.0**	**-1.0**
NVLJ	**Novalja**	**8.59**	**311**	*e*Pn		**Pn**	**02 32 39.5**	**-0.4**
NVLJ				Sn		**Sn**	**02 34 10.9**	**-5.4**
NVLJ	**Novalja**	**8.59**	**311**	*e*Pn		**Pn**	**02 32 39.5**	**-0.4**
AQU	**L'Aquila**	**8.59**	**294**	*e*P		**Pn**	**02 32 40.3**	**+0.3**
AQU	**L'Aquila**	**8.59**	**294**	*e*P		**Pn**	**02 32 40.3**	**+0.3**
AQU	**L'Aquila**	**8.59**	**294**	*e*Pn		**Pn**	**02 32 40.3**	**+0.3**
CLTB	**Caltabellotta**	**8.65**	**262**	*e*Pn		**Pn**	**02 32 41.5**	**+0.7**
CLTB	**Caltabellotta**	**8.65**	**262**	*e*Pn		**Pn**	**02 32 41.5**	**+0.7**
BEHE	**Becsehely**	**8.90**	**326⇑**	*e*Pn		**Pn**	**02 32 46.8**	**+2.6**
BEHE				*e*Sn		**Sn**	**02 34 24.5**	**+0.6**
BEHE	**Becsehely**	**8.90**	**326⇑**	*e*Pn		**Pn**	**02 32 46.8**	**+2.6**
BEHE				*e*Sn		**Sn**	**02 34 24.5**	**+0.6**
PKSG		**9.05**	**335⇓**	*e*Pn		**Pn**	**02 32 47.2**	**+1.1**
PKSG		**9.05**	**335⇓**	*e*Pn		**Pn**	**02 32 47.2**	**+1.1**
PKSG				*e*Sn		**Sn**	02 34 20.9	-6.6
PKST	**T˜'s**	**9.05**	**333⇓**	*e*Pn		**Pn**	**02 32 47.2**	**+1.0**
PKST	**T˜'s**	**9.05**	**333⇓**	*e*Pn		**Pn**	**02 32 47.2**	**+1.0**
PKST				*e*Sn		**Sn**	**02 34 22.7**	**-4.9**
CSKK	**Cs˘‡kako**	**9.06**	**334⇑**	*e*Pn		**Pn**	**02 32 46.6**	**+0.2**
CSKK				*e*Sn		**Sn**	**02 34 23.4**	**-4.5**
PSZ	**Piszkesteto**	**9.10**	**342**	*e*P		**Pn**	**02 32 47.2**	**+0.3**
PSZ	comp=Z,9.0nm,0.8s			pmax	pmax			
PSZ	**Piszkesteto**	**9.10**	**342**	*e*P		**Pn**	**02 32 47.2**	**+0.3**
	comp=Z,9.0nm,0.8s							
PSZ	**Piszkesteto**	**9.10**	**342**	*e*Pn		**Pn**	**02 32 47.2**	**+0.3**
	comp=Z,8.8nm,0.8s							
PSZ	**Piszkesteto**	**9.10**	**342**	*e*Sn		Sn	02 34 22.0	-6.9
CESS	**Cesta pri Krsk**	**9.15**	**319**	*e*Pn		**Pn**	**02 32 48.0**	**+0.4**
CESS	**Cesta pri Krsk**	**9.15**	**319**	*e*Pn		**Pn**	**02 32 48.0**	**+0.4**
UZH	**Uzhgorod**	**9.39**	**353**	*e*P		**Pn**	**02 32 51.9**	**+1.0**
UZH				*e*S		**Sn**	**02 34 37.3**	**+1.4**
UZH				MLR	MLR			
	comp=N,400nm,8.0s							
UZH				MLR	MLR			
	comp=E,300nm,8.0s							
UZH				MLR	MLR			
	comp=Z,200nm,8.0s							
UZH	**Uzhgorod**	**9.39**	**353**	*e*P		**Pn**	**02 32 51.9**	**+1.0**
UZH				*e*S		**Sn**	**02 34 37.3**	**+1.4**
KOLS	**Kolonicke sedl**	**9.69**	**353**	*e*P		Pn	02 32 58.5	+3.5
KOLS	**Kolonicke sedl**	**9.69**	**353**	*e*PN		Pn	02 32 58.5	+3.5
KOLS				*e*			02 33 39.0	
KOLS				*e*			02 35 43.6	
SOKA	**Soboth**	**9.86**	**321**	Pn		**Pn**	**02 32 58.1**	**+0.7**
	SNR=7.7							
SOKA	**Soboth**	**9.86**	**321⇓**	*i*Pn		**Pn**	**02 32 58.1**	**+0.7**
	SNR=7.7							
ARSA	**Arzberg**	**10.05**	**325**	Pn		**Pn**	**02 33 01.2**	**+1.2**
	SNR=8.5							
ARSA	**Arzberg**	**10.05**	**325⇑**	*i*Pn		**Pn**	**02 33 01.2**	**+1.2**
	SNR=8.5							
MMAI	**Mount Meron Ar**	**11.15**	**121**	Pn		**Pn**	**02 33 15.2**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=310,slow=12,SNR=11							
ABTA	**Abfaltersbach**	**11.21**	**315**	Pn		**Pn**	**02 33 15.4**	**-0.5**
	SNR=5.8							
ABTA	**Abfaltersbach**	**11.21**	**315⇑**	*i*Pn		**Pn**	**02 33 15.4**	**-0.5**
	SNR=5.8							
VRAC	**Vranov**	**11.31**	**334**	LR		LR	02 37 50.2	
	comp=Z,70nm,20.9s,baz=152,slow=38							
VSL	**Villasalto**	**11.32**	**276**	*e*Pn		**Pn**	**02 33 15.8**	**-1.6**
	comp=Z,6.8nm,0.8s							
VSL	**Villasalto**	**11.32**	**276**	*e*Pn		**Pn**	**02 33 15.8**	**-1.6**
	comp=Z,6.8nm,0.8s							
AK13	**Malin Array Si**	**11.84**	**16**	*e*Pn		**Pn**	**02 33 23.5**	**-0.9**
AK13	**Malin Array Si**	**11.84**	**16**	*e*Pn		**Pn**	**02 33 23.5**	**-0.9**
AK06	**Malin Array Si**	**11.85**	**16**	*e*Pn		**Pn**	**02 33 23.2**	**-1.2**
AK06	**Malin Array Si**	**11.85**	**16**	*e*Pn		**Pn**	**02 33 23.2**	**-1.2**
AK14	**Malin Array Si**	**11.87**	**16**	*e*Pn		**Pn**	**02 33 24.2**	**-0.6**
AK14	**Malin Array Si**	**11.87**	**16**	*e*Pn		**Pn**	**02 33 24.2**	**-0.6**
AK10	**Malin Array Si**	**11.87**	**16**	*e*Pn		**Pn**	**02 33 24.1**	**-0.7**
AK10	**Malin Array Si**	**11.87**	**16**	*e*Pn		**Pn**	**02 33 24.1**	**-0.7**
AK05	**Malin Array Si**	**11.88**	**16**	*e*Pn		**Pn**	**02 33 24.5**	**-0.4**
AK05	**Malin Array Si**	**11.88**	**16**	*e*Pn		**Pn**	**02 33 24.5**	**-0.4**
AK12	**Malin Array Si**	**11.89**	**16**	*e*Pn		**Pn**	**02 33 24.6**	**-0.5**
AK12	**Malin Array Si**	**11.89**	**16**	*e*Pn		**Pn**	**02 33 24.6**	**-0.5**
AK09	**Malin Array Si**	**11.89**	**17**	*e*Pn		**Pn**	**02 33 23.1**	**-2.0**
AK09	**Malin Array Si**	**11.89**	**17**	*e*Pn		**Pn**	**02 33 23.1**	**-2.0**
AK08	**Malin Array Si**	**11.90**	**16**	*e*Pn		**Pn**	**02 33 24.3**	**-0.9**
AK08	**Malin Array Si**	**11.90**	**16**	*e*Pn		**Pn**	**02 33 24.3**	**-0.9**
AK17	**Malin Array Si**	**11.91**	**16**	*e*Pn		**Pn**	**02 33 24.4**	**-0.9**
AK17	**Malin Array Si**	**11.91**	**16**	*e*Pn		**Pn**	**02 33 24.4**	**-0.9**
AK01	**Malin Array Si**	**11.95**	**16**	*e*Pn		**Pn**	**02 33 25.3**	**-0.6**
AK01	**Malin Array Si**	**11.95**	**16**	*e*Pn		**Pn**	**02 33 25.3**	**-0.6**
KIEV	**Kiev**	**11.95**	**16⇑**	*e*P		**Pn**	**02 33 24.8**	**-1.1**
KIEV	**Kiev**	**11.95**	**16**	*e*P		**Pn**	**02 33 24.8**	**-1.1**
KIEV	**Kiev**	**11.95**	**16**	*e*Pn		**Pn**	**02 33 25.4**	**-0.5**
KIEV	**Kiev**	**11.95**	**16**	*e*Pn		**Pn**	**02 33 25.4**	**-0.5**
AKASG	**Malin Array Be**	**11.96**	**16**	Pn		**Pn**	**02 33 25.2**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=204,slow=11,SNR=2.9							
AKBB	**Malin Array Si**	**11.96**	**16**	*e*P		**Pn**	**02 33 25.5**	**-0.5**
AKBB	**Malin Array Si**	**11.96**	**16**	*e*P		**Pn**	**02 33 25.5**	**-0.5**
AKBB	**Malin Array Si**	**11.96**	**16**	*e*Pn		**Pn**	**02 33 25.4**	**-0.5**
GERES	**GERESS Array B**	**12.06**	**326**	Pn		**Pn**	**02 33 28.1**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=138,slow=14,SNR=8.5							
GERES				LR		LR	02 38 47.9	
	comp=Z,118nm,19.4s,baz=140,slow=41							
KEST	**Kesra**	**12.18**	**257**	Pn		**Pn**	**02 33 29.4**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=357,slow=5.8,SNR=5.6							
KEST	**Kesra**	**12.18**	**257**	*e*Pn		**Pn**	**02 33 29.2**	**0.0**
KEST	**Kesra**	**12.18**	**257**	*e*Pn		**Pn**	**02 33 29.2**	**0.0**
KHC	**Kasperske Hory**	**12.32**	**326**	*e*P		**Pn**	**02 33 33.5**	**+2.4**
KHC				*ex*		x	02 33 39.0	
KHC				AMS		AMS	02 40 10.0	
	comp=Z,300nm,7.6s							
KHC	**Kasperske Hory**	**12.32**	**326**	*e*P		**Pn**	**02 33 33.5**	**+2.4**
KHC				MLR		MLR		
	comp=Z,300nm,7.6s							
KHC	**Kasperske Hory**	**12.32**	**326**	*e*Pn		**Pn**	**02 33 30.8**	**-0.3**
KHC	**Kasperske Hory**	**12.32**	**326**	*e*P		**Pn**	**02 33 33.5**	**+2.4**
	comp=Z,300nm,7.6s							
KHC	**Kasperske Hory**	**12.32**	**326**	*e*Pn		**Pn**	**02 33 30.8**	**-0.3**
FUORN	**Ofenpass-Fuorn**	**12.42**	**310**	*e*Pn		**Pn**	**02 33 34.8**	**+2.2**
FUORN	**Ofenpass-Fuorn**	**12.42**	**310**	*e*Pn		**Pn**	**02 33 34.8**	**+2.2**
DAVOX	**Davos/Dischmat**	**12.73**	**310**	Pn		**Pn**	**02 33 36.6**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=144,slow=18,SNR=4.4							
DAVOX				LR		LR	02 38 49.9	
	comp=Z,139nm,20.6s,baz=116,slow=39							
EIL	**Elat**	**13.18**	**134**	Pn		**Pn**	**02 33 41.7**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=353,slow=16,SNR=2.5							
CLL	**Collm**	**14.25**	**331**	*e*PP		**P**	**02 34 06.0**	**+1.5**
CLL				Lmax			02 39 00.0	
KIV	**Kislovodsk**	**14.71**	**66⇑**	*e*P		**Pn**	**02 34 02.4**	**-1.3**
KIV				*e*S		**Sn**	**02 36 40.4**	**-5.8**
KIV				pmax	pmax			
	comp=Z,6.0nm,1.1s							
VSR	**Storozhevoye**	**15.94**	**37**	*e*P		**Pn**	**02 34 20.5**	**+0.8**
VSR				pmax	pmax			
	comp=N,3.0nm,0.6s							
VSR				pmax	pmax			
	comp=E,3.0nm,0.6s							
VSR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
LPSR	**Galich'ya Gora**	**16.81**	**33**	*e*P		**P**	**02 34 33.0**	**+0.2**
LPSR				pmax	pmax			
	comp=Z,7.0nm,0.8s							
LPSR				pmax	pmax			
	comp=N,4.0nm,0.5s							
LPSR				pmax	pmax			
	comp=E,3.0nm,0.6s							
LPSR	**Galich'ya Gora**	**16.81**	**33**	*e*P		**P**	**02 34 33.0**	**+0.2**
	comp=E,4.0nm,0.5s							
OBN	**Obninsk**	**17.91**	**24**	LR		LR	02 40 52.7	
	comp=E,29nm,20.0s,baz=276,slow=34							
OBN	**Obninsk**	**17.91**	**24⇑**	*e*P		**P**	**02 34 45.2**	**+0.2**
OBN				*e*S		**Sn**	**02 37 58.6**	**-4.9**
OBN				pmax	pmax			
	comp=Z,36nm,2.5s							
OBN	**Obninsk**	**17.91**	**24**	*e*P		**P**	**02 34 45.2**	**+0.2**
	comp=Z,36nm,2.5s							
ESDC	**Sonseca Array**	**21.56**	**280**	P		**P**	**02 35 24.2**	**-0.8**
	comp=Z,4.7nm,0.7s,baz=77,slow=10,SNR=24							
ESLA	**Sonseca Array**	**21.56**	**280**	*e*P		**P**	**02 35 25.7**	**+0.7**
	comp=Z,1.8nm,0.9s							
ESLA	**Sonseca Array**	**21.56**	**280**	*e*P		**P**	**02 35 25.7**	**+0.7**
	comp=Z,1.8nm,0.9s							
HFS	**Hagfors**	**21.83**	**346**	P		**P**	**02 35 28.5**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=157,slow=8.0,SNR=7.7							
HFS				LR		LR	02 45 31.6	
	comp=Z,47nm,19.6s,baz=166,slow=41							
FINES	**FINESS Array B**	**22.19**	**3**	P		**P**	**02 35 30.9**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=188,slow=8.4,SNR=5.1							
FINES				LR		LR	02 44 58.6	
	comp=Z,59nm,20.0s,baz=191,slow=39							
FINES	**FINESS Array B**	**22.19**	**3**	*e*P		P	02 35 36.6	+5.2
FINES				pmax	pmax			
	comp=Z,3.0nm,0.9s							
TAM	**Tamanrasset**	**22.78**	**229**	*e*P		**P**	**02 35 39.1**	**+0.9**
TAM				pmax	pmax			
	comp=Z,5.0nm,1.0s							
TAM	**Tamanrasset**	**22.78**	**229**	*e*P		**P**	**02 35 39.1**	**+0.9**
	comp=Z,5.5nm,1.0s							
TAM	**Tamanrasset**	**22.78**	**229**	*e*P		**P**	**02 35 39.1**	**+0.9**
	comp=Z,5.5nm,1.0s							
NB2	**NORSAR Subarra**	**23.15**	**344**	P		**P**	**02 35 42.4**	**+0.7**
	comp=Z,3.9nm,1.0s,baz=154,slow=11							
NB2	**NORSAR Subarra**	**23.15**	**344**	P		**P**	**02 35 42.4**	**+0.7**
	comp=Z,3.9nm,1.0s,SNR=6.6							
NOA	**NORSAR Array B**	**23.15**	**344**	P		**P**	**02 35 42.5**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=154,slow=11,SNR=6.5							
NOA				LR		LR	02 46 22.0	
	comp=Z,45nm,18.3s,baz=160,slow=41							
NOA	**NORSAR Array B**	**23.15**	**344**	*e*P		**P**	**02 35 45.3**	**+3.6**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
EKA	**Eskdalemuir Ar**	**24.18**	**320**	P		**P**	**02 35 51.7**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=115,slow=10,SNR=6.9							
AKTO	**Aktyubinsk**	**26.31**	**54**	LR		LR	02 51 10.8	
	comp=Z,34nm,18.1s,baz=271,slow=47							
ARU	**Arti**	**28.40**	**41**	LR		LR	02 47 33.6	
	comp=Z,32nm,19.5s,baz=156,slow=36							
ARCES	**ARCESS Array B**	**30.29**	**1**	LR		LR	02 50 38.5	
	comp=Z,31nm,18.8s,baz=184,slow=40							
TORD	**Torodi Ar. Bea**	**32.68**	**223**	P		**P**	**02 37 08.0**	**+0.2**
	comp=Z,5.0nm,0.6s,baz=33,slow=9.0,SNR=75							
KURBB	**Kurchatov Arra**	**39.35**	**55**	P		**P**	**02 38 05.2**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=282,slow=8.5,SNR=4.1							
KURK	**Kurchatov**	**39.40**	**55**	P		**P**	**02 38 05.2**	**+0.2**
KURK	**Kurchatov**	**39.40**	**55**	P		**P**	**02 38 05.2**	**+0.2**
KURK	**Kurchatov**	**39.40**	**55**	P		**P**	**02 38 05.2**	**+0.2**
DBIC	**Dimbokro**	**41.62**	**226**	P		**P**	**02 38 23.8**	**+0.1**
	comp=Z,4.8nm,0.6s,baz=1.1,slow=8.6,SNR=9.7							
DBIC	**Dimbokro**	**41.62**	**226**	*e*P		**P**	**02 38 23.0**	**-0.7**
DBIC				pmax	pmax			
	comp=Z,5.0nm,0.6s							
DBIC	**Dimbokro**	**41.62**	**226**	*e*P		**P**	**02 38 23.0**	**-0.7**
	comp=Z,5.5nm,0.6s							
DBIC	**Dimbokro**	**41.62**	**226**	*e*P		**P**	**02 38 23.0**	**-0.7**
	comp=Z,5.5nm,0.6s							
NVS	**Novosibirsk**	**41.90**	**48**	*e*P		**P**	**02 38 26.5**	**+1.0**
NVS	**Novosibirsk**	**41.90**	**48**	*e*P		**P**	**02 38 26.5**	**+1.0**
MK31	**Makanchi Array**	**42.38**	**60**	*e*P		**P**	**02 38 30.7**	**+1.1**
MK31	**Makanchi Array**	**42.38**	**60**	*e*P		**P**	**02 38 30.7**	**+1.1**
MK31	**Makanchi Array**	**42.38**	**60**	*e*P		**P**	**02 38 30.7**	**+1.1**
MKAR	**Makanchi Array**	**42.38**	**60**	P		**P**	**02 38 30.2**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=277,slow=6.8,SNR=12							
MKAR				LR		LR	03 02 10.8	
	comp=Z,21nm,18.6s,baz=214,slow=45							
MKAR	**Makanchi Array**	**42.38**	**60**	*e*P		**P**	**02 38 30.7**	**+1.1**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ZAA0	**Zalesovo Array**	**42.89**	**49**	*e*P		**P**	**02 38 33.1**	**-0.6**
ZAA0	**Zalesovo Array**	**42.89**	**49**	*e*P		**P**	**02 38 33.1**	**-0.6**
ZALV	**Zalesovo Beam**	**42.89**	**49**	P		**P**	**02 38 33.6**	**-0.1**
	comp=Z,1.7nm,0.5s,baz=284,slow=8.5,SNR=7.0							
ZALV				LR		LR	02 58 25.7	
	comp=Z,34nm,18.4s,baz=250,slow=39							
ZALV	**Zalesovo Beam**	**42.89**	**49**	*e*P		**P**	**02 38 34.7**	**+1.1**
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.5s							
SONM	**Songino Array**	**57.62**	**52**	P		**P**	**02 40 25.7**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=283,slow=7.2,SNR=3.2							
HHC	**Hu-ho-hao-te**	**64.13**	**57**	*e*P		**P**	**02 41 10.5**	**+0.7**
HHC				PP		**PP**	**02 43 32.8**	**+2.2**
HHC				S		**S**	**02 49 44.1**	**-1.9**
HHC				ScS		**SKSac**	**02 50 59.9**	**-3.1**
HHC	**Hu-ho-hao-te**	**64.13**	**57**	SS		SS	02 53 54.3	-0.3
HHC				pmax	pmax			
	comp=Z,20nm,1.2s							
HHC				pmax	pmax			
	comp=Z,80nm,5.4s							
HHC				LR	LR			
	comp=N,77nm,14.9s							
HHC				LR	LR			
	comp=E,81nm,14.5s							
HHC				LR	LR			
	comp=Z,73nm,15.9s							
CMAR	**Chiang Mai Arr**	**67.05**	**84**	LR		LR	03 14 35.0	
	comp=Z,20nm,20.0s,baz=160,slow=39							
WHN	**Wuhan**	**71.63**	**65**	P		P	02 41 47.6	-9.4

*KRSC **17** 02:32:03.7±0.4, 55.°14N×160.°34E, h-2km±3km, ML4.2*
*MOS **17** 02:32:04.5±0.7, 55.°15N×160.°29E, h7km, mb4.2/4, Error ellipse: s-maj=15.9km s-min=5.3km az=83.7*
*IDC **17** 02:32:05.8±1.2, 55.°34N×160.°05E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/30, mbtmpb3.5/6, ML2.4/1, Error ellipse: s-maj=26.8km s-min=15.8km az=128.0*
ISC 17 02:32:04.2±1.1, 55.°13N±0.°02×160.°32E±0.°03, h1km±8km, n65, σ0.°86/81, mb3.8/6, 1C, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**0.02**	**221**	*i* P	**Pg**	**02 32 05.1**	**+0.3**
TUMR	**Tumrok**	**0.18**	**327**	*i* P	**Pg**	**02 32 08.5**	**+0.8**
TUMR	**Tumrok**	**0.18**	**327**	PN	**Pg**	**02 32 08.5**	**+0.8**
KMNR	**Kamenistaya**	**0.63**	**356**	*e*P	**Pb**	**02 32 17.1**	**-0.9**
KMNR	**Kamenistaya**	**0.63**	**356**	PN	**Pb**	**02 32 17.1**	**-0.9**
BZMR	**Bezymyannaya**	**0.81**	**7**	*e*P	**Pb**	**02 32 21.1**	**-0.1**
KIRR	**Kirishev**	**0.82**	**1**	*e*P	**Pb**	**02 32 21.5**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**0.84**	**15**	*e*P	**Pb**	**02 32 21.3**	**-0.3**
BZWR	**Bezymyannyi-We**	**0.84**	**7**	*e*P	**Pg**	**02 32 20.8**	**+0.5**
KOZ	**Kozyrevsk**	**0.96**	**345**	*e*P	**Pb**	**02 32 23.2**	**-0.5**
KOZ	**Kozyrevsk**	**0.96**	**345**	PN	**Pb**	**02 32 23.2**	**-0.5**
MKZ	**Mys Kozlova**	**1.00**	**125**	*e*P	**Pg**	**02 32 23.2**	**-0.1**
MKZ				*e*S	**Sn**	**02 32 39.1**	**-0.8**
MKZ	**Mys Kozlova**	**1.00**	**125**	PN	**Pg**	**02 32 23.2**	**-0.1**
MKZ				S	**Sn**	**02 32 39.1**	**-0.8**
KLY	**Klyuchi**	**1.20**	**9**	*e*P	**Pg**	**02 32 28.6**	**+0.6**
ESO	**Esso**	**1.22**	**311**	*e*P	**Pg**	**02 32 26.4**	**-1.1**
ESO				*e*S	**Sb**	**02 32 43.2**	**-1.0**
ESO	**Esso**	**1.22**	**311**	PN	**Pg**	**02 32 26.4**	**-1.1**
ESO				S	**Sb**	**02 32 43.2**	**-1.0**
SRDR	**Sredinnyy**	**1.24**	**344**	*e*P	**Pb**	**02 32 27.6**	**-0.8**
SRDR	**Sredinnyy**	**1.24**	**344**	PN	**Pb**	**02 32 27.6**	**-0.8**
BDR	**Baidarnaya**	**1.52**	**19**	*e*P	**Pb**	**02 32 33.1**	**-0.2**
SMKR	**Semkarok**	**1.59**	**23**	*e*P	**Pg**	**02 32 34.7**	**0.0**
SMKR	**Semkarok**	**1.59**	**23**	PN	**Pg**	**02 32 34.7**	**0.0**
SRKR	**Sorokina**	**1.60**	**17**	*e*P	**Pb**	**02 32 33.9**	**-0.6**
SRKR	**Sorokina**	**1.60**	**17**	PN	**Pb**	**02 32 33.9**	**-0.6**
KBTR	**Krutoberegovo**	**1.78**	**52**	*e*P	**Pn**	**02 32 36.0**	**0.0**
KBTR				*e*S	**Sg**	**02 33 01.1**	**-0.2**
KBTR	**Krutoberegovo**	**1.78**	**52**	PN	**Pn**	**02 32 36.0**	**0.0**
KBTR				S	**Sg**	**02 33 01.1**	**-0.2**
GNL	**Ganaly**	**2.00**	**225**	*e*P	**Pn**	**02 32 39.5**	**+0.3**
GNL				*e*S	**Sb**	**02 33 07.4**	**+0.6**
GNL	**Ganaly**	**2.00**	**225**	PN	**Pn**	**02 32 39.5**	**+0.3**
GNL				S	**Sb**	**02 33 07.4**	**+0.6**
KRX	**Arik**	**2.03**	**210**	*e*P	**Pb**	**02 32 40.8**	**-1.1**
KRX				*e*S	**Sg**	**02 33 09.6**	**+0.3**
SDLR	**Sedlovina**	**2.04**	**205**	*e*P	**Pb**	**02 32 40.9**	**-1.1**
SDLR				*e*S	**Sg**	**02 33 09.9**	**+0.3**
SDLR	**Sedlovina**	**2.04**	**205**	PN	**Pb**	**02 32 40.9**	**-1.1**
SDLR				S	**Sg**	**02 33 09.9**	**+0.3**
SPN	**Mys Shipunski**	**2.04**	**185**	*e*P	**Pn**	**02 32 39.0**	**-0.6**
SPN				*e*S	**Sn**	**02 33 06.5**	**+0.8**
SPN	**Mys Shipunski**	**2.04**	**185**	PN	**Pn**	**02 32 39.0**	**-0.6**
SPN				S	**Sn**	**02 33 06.5**	**+0.8**
NLC	**Nalytchevo**	**2.05**	**197**	*e*P	**Pn**	**02 32 40.0**	**+0.4**
NLC				*e*S	**Sb**	**02 33 08.3**	**+0.4**
NLC	**Nalytchevo**	**2.05**	**197**	PN	**Pn**	**02 32 40.0**	**+0.4**
NLC				S	**Sb**	**02 33 08.3**	**+0.4**
KRER	**Koryakskii**	**2.05**	**207**	*e*P	**Pn**	**02 32 40.8**	**+0.9**
SMAR	**Somma**	**2.07**	**206**	*e*P	**Pn**	**02 32 41.4**	**+1.1**
SMAR				*e*S	**Sg**	**02 33 10.7**	**0.0**
SMAR	**Somma**	**2.07**	**206**	PN	**Pn**	**02 32 41.4**	**+1.1**
SMAR				S	**Sg**	**02 33 10.7**	**0.0**
AVH	**Avacha**	**2.09**	**207**	*e*P	**Pb**	**02 32 42.1**	**-0.8**
AVH	**Avacha**	**2.09**	**207**	PN	**Pb**	**02 32 42.1**	**-0.8**
KOK	**Koryaka**	**2.09**	**209**	*e*P	**Pb**	**02 32 42.2**	**-0.7**
KOK				*e*S	**Sg**	**02 33 12.2**	**+0.9**
KOK	**Koryaka**	**2.09**	**209**	PN	**Pb**	**02 32 42.2**	**-0.7**
KOK				S	**Sg**	**02 33 12.2**	**+0.9**
UGLR	**Uglovaya**	**2.12**	**205**	*e*P	**Pn**	**02 32 41.9**	**+1.1**
PET	**Petropavlovsk**	**2.33**	**206**	*e*P	**Pn**	**02 32 43.8**	**+0.3**
PET	**Petropavlovsk**	**2.33**	**206⇑**	*e*PN	**Pn**	**02 32 44.2**	**+0.7**
PET				*e*S	**Sg**	**02 33 18.8**	**-0.1**
PET				smax	smax		
	comp=N,266nm,0.9s						
PET				smax	smax		
	comp=E,205nm,1.0s						
I44RU	**PETROPAVLOVSK-**	**2.54**	**218**	*i*		02 47 00.0	
	baz=34,slow=314,SNR=0.7						
PETK	**Petropavlovsk-**	**2.55**	**218**	Pn	**Pn**	**02 32 47.7**	**+1.1**
	comp=E,3.6nm,0.3s,baz=57,slow=16,SNR=37						
PETK				Sn	**Sb**	**02 33 23.2**	**+0.8**
	comp=E,5.3nm,0.3s,baz=62,slow=23,SNR=4.6						
PETK				Lg	Lg	02 33 30.9	
	comp=E,4.8nm,0.3s,baz=41,slow=39,SNR=5.5						
PETK	**Petropavlovsk-**	**2.55**	**218**	PN	**Pn**	**02 32 47.7**	**+1.1

ESO	**Esso**	**1.23**	**312**	PN	**Pg**	**02 57 30.9**	**-1.8**
ESO				S	**Sb**	**02 57 49.5**	**0.0**
SRDR	**Sredinnyy**	**1.25**	**344**	P	**Pg**	**02 57 32.2**	**-1.0**
SRDR				S	**Sn**	**02 57 51.3**	**-0.1**
SRDR	**Sredinnyy**	**1.25**	**344**	PN	**Pg**	**02 57 32.2**	**-1.0**
SRDR				S	**Sn**	**02 57 51.3**	**-0.1**
BDR	**Baidarnaya**	**1.54**	**19**	P	**Pn**	**02 57 38.0**	**+0.2**
SMKR	**Semkarok**	**1.61**	**23**	P	**Pn**	**02 57 38.6**	**-0.2**
SMKR	**Semkarok**	**1.61**	**23**	PN	**Pn**	**02 57 38.6**	**-0.2**
SRKR	**Sorokina**	**1.61**	**17**	P	**Pn**	**02 57 38.7**	**-0.2**
SRKR	**Sorokina**	**1.61**	**17**	PN	**Pn**	**02 57 38.7**	**-0.2**
KBTR	**Krutoberegovo**	**1.79**	**51**	P	**Pn**	**02 57 40.2**	**-1.0**
KBTR				S	**Sn**	**02 58 04.3**	**-0.2**
KBTR	**Krutoberegovo**	**1.79**	**51**	PN	**Pn**	**02 57 40.2**	**-1.0**
KBTR				S	**Sn**	**02 58 04.3**	**-0.2**
GNL	**Ganaly**	**1.99**	**225**	P	**Pn**	**02 57 43.6**	**-0.4**
GNL				S	**Sn**	**02 58 10.7**	**+1.1**
GNL	**Ganaly**	**1.99**	**225**	PN	**Pn**	**02 57 43.6**	**-0.4**
GNL				S	**Sn**	**02 58 10.7**	**+1.1**
KRX	**Arik**	**2.02**	**210**	P	**Pn**	**02 57 45.4**	**+1.0**
SDLR	**Sedlovina**	**2.02**	**205**	P	**Pn**	**02 57 45.4**	**+0.9**
SDLR	**Sedlovina**	**2.02**	**205**	PN	**Pn**	**02 57 45.4**	**+0.9**
SPN	**Mys Shipunski**	**2.03**	**185**	P	**Pn**	**02 57 43.6**	**-0.9**
SPN				S	**Sb**	**02 58 11.6**	**-0.9**
SPN	**Mys Shipunski**	**2.03**	**185**	PN	**Pn**	**02 57 43.6**	**-0.9**
SPN				S	**Sb**	**02 58 11.6**	**-0.9**
NLC	**Nalytchevo**	**2.03**	**197**	P	**Pn**	**02 57 44.7**	**+0.2**
NLC				S	**Sb**	**02 58 12.5**	**0.0**
NLC	**Nalytchevo**	**2.03**	**197**	PN	**Pn**	**02 57 44.7**	**+0.2**
NLC				S	**Sb**	**02 58 12.5**	**0.0**
KRER	**Koryakskii**	**2.04**	**208**	P	**Pb**	**02 57 46.3**	**-0.7**
SMAR	**Somma**	**2.06**	**206**	P	**Pn**	**02 57 45.9**	**+0.8**
SMAR	**Somma**	**2.06**	**206**	PN	**Pn**	**02 57 45.9**	**+0.8**
AVH	**Avacha**	**2.07**	**207**	P	**Pn**	**02 57 46.0**	**+0.8**
AVH	**Avacha**	**2.07**	**207**	PN	**Pn**	**02 57 46.0**	**+0.8**
KOK	**Koryaka**	**2.08**	**209**	P	**Pb**	**02 57 46.5**	**-1.2**
KOK	**Koryaka**	**2.08**	**209**	PN	**Pb**	**02 57 46.5**	**-1.2**
UGLR	**Uglovaya**	**2.10**	**205**	P	**Pn**	**02 57 45.8**	**+0.2**
PET	**Petropavlovsk**	**2.31**	**206**	P	**Pn**	**02 57 49.6**	**+1.2**
PET				S	**Sb**	**02 58 20.7**	**0.0**
PET	**Petropavlovsk**	**2.31**	**206**	*e*PN	**Pb**	**02 57 50.7**	**-1.0**
PET				*e*S	**Sg**	**02 58 26.0**	**+2.6**
PET				pmax	pmax		
	comp=Z,96nm,0.6s						
PET				smax	smax		
	comp=N,195nm,0.9s						
PET				smax	smax		
	comp=E,300nm,1.1s						
PET				smax	smax		
	comp=E,295nm,0.8s						
I44RU	**PETROPAVLOVSK-** baz=34,slow=323,SNR=1.0	**2.53**	**218**	*i*		03 12 10.0	
PETK	**Petropavlovsk-** comp=E,4.6nm,0.3s,baz=58,slow=14,SNR=22	**2.54**	**219**	Pn	**Pn**	**02 57 51.8**	**+0.3**
PETK				Sn	**Sn**	**02 58 23.7**	**+0.8**
PETK	comp=E,3.2nm,0.3s,baz=52,slow=17,SNR=4.2			LR	LR	02 59 14.8	
	comp=E,175nm,20.4s,baz=28,slow=50						
PETK	**Petropavlovsk-**	**2.54**	**219**	PN	**Pn**	**02 57 51.8**	**+0.3**
PETK						02 58 23.7	
PETK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
PETK				smax	smax		
	comp=N,3.0nm,0.3s						
APC	**Apacha**	**2.88**	**222**	P	**Pn**	**02 57 56.9**	**+0.8**
APC	**Apacha**	**2.88**	**222**	PN	**Pn**	**02 57 56.9**	**+0.8**
RUS	**Russkaya**	**2.89**	**202**	P	**Pn**	**02 57 57.4**	**+1.1**
RUS				S	**Sb**	**02 58 34.8**	**-2.6**
RUS	**Russkaya**	**2.89**	**202**	PN	**Pn**	**02 57 57.4**	**+1.1**
RUS				S	**Sb**	**02 58 34.8**	**-2.6**
MTVR	**Mutnovka**	**2.93**	**207**	P	**Pb**	**02 57 59.8**	**-2.4**
ASAK	**Asacha**	**3.09**	**209**	P	**Pb**	**02 58 03.6**	**-1.4**
MIPR	**Malaya Ipel'ka**	**3.55**	**218**	P	**Pn**	**02 58 07.4**	**+2.1**
PAU	**Pauzhetka**	**4.22**	**211**	P	Pn	02 58 18.6	+4.1
PAU	**Pauzhetka**	**4.22**	**211**	PN	Pn	02 58 18.6	+4.1
OSSR	**Ossora**	**4.41**	**19**	P	Pb	02 58 23.4	-3.9
SKR	**Severo-Kuril's**	**5.12**	**212**	*e*PN	Pb	02 58 36.1	-3.3
MJAR	**Matsushiro Arr** comp=N,28nm,21.3s,baz=350,slow=36	**23.95**	**228**	LR	LR	03 11 31.0	
ILAR	**Eielson Array** comp=N,0.3nm,0.8s,baz=262,slow=6.9,SNR=4.2	**27.33**	**48**	P	**P**	**03 02 55.9**	**+0.8**
H11N2	**WAKE ISLAND Hy** baz=355,slow=76,SNR=14	**35.68**	**169**	T	T	03 41 30.0	
H11N3	**WAKE ISLAND Hy** baz=355,slow=76,SNR=17	**35.69**	**169**	T	T	03 41 17.9	
H11N1	**WAKE ISLAND Hy** baz=355,slow=76,SNR=17	**35.69**	**169**	T	T	03 41 15.9	
MKAR	**Makanchi Array** comp=N,0.3nm,0.4s,baz=58,slow=7.9,SNR=5.1	**47.42**	**294**	P	**P**	**03 05 44.8**	**-0.1**
NVAR	**Mina Array Bea** comp=N,0.4nm,0.6s,baz=296,slow=6.9,SNR=4.5	**54.95**	**72**	P	**P**	**03 06 41.9**	**+0.1**
PDAR	**Pinedale Array** comp=N,0.3nm,0.5s,baz=308,slow=3.0,SNR=3.6	**56.44**	**62**	P	**P**	**03 06 52.4**	**0.0**
FINES	**FINESS Array B** comp=N,1.1nm,0.8s,baz=38,slow=7.2,SNR=3.5	**58.32**	**336**	P	**P**	**03 07 05.8**	**+0.7**
FINES	**FINESS Array B**	**58.32**	**336**	P	**P**	**03 07 05.8**	**+0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array** comp=Z,0.3nm,0.5s,baz=323,slow=5.1,SNR=5.2	**69.73**	**68**	P	**P**	**03 08 21.1**	**+0.3**
WRA	**Warramunga Arr** comp=Z,0.5nm,0.8s,baz=17,slow=5.9,SNR=3.5	**77.97**	**205**	P	**P**	**03 09 08.3**	**-0.5**
WRA	**Warramunga Arr**	**77.97**	**205**	P	**P**	**03 09 08.3**	**-0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*IDC **17** 03:02:30.4±2.3, 52°.39N×160°.93E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.4/33, mbtmp3.6/5, ML2.7/1, Error ellipse: s-maj=79.8km s-min=23.0km az=7.0*
*KRSC **17** 03:02:31.3±1.7, 52°.40N×160°.95E, h51km±22km, ML3.9*
*MOS **17** 03:02:32.9±1.6, 52°.31N×160°.83E, h57km, mb4.3/1, Error ellipse: s-maj=14.8km s-min=7.7km az=112.1*

ISC 17 03:02:30.6±1.8, 52°.32N±0°.06×160°.91E±0°.04, h10km±10km, n46, σ1s45/71, mb3.5/4, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.95**	**325**	*e*P	**Pg**	**03 02 48.9**	**+0.1**
SPN				*e*S	**Sg**	**03 03 00.0**	**-1.1**
SPN	**Mys Shipunski**	**0.95**	**325**	PN	**Pg**	**03 02 48.9**	**+0.1**
SPN				S	**Sg**	**03 03 00.0**	**-1.1**
NLC	**Nalytchevo**	**1.28**	**312**	*e*P	**Pn**	**03 02 54.1**	**-0.4**
NLC				*e*S	**Sb**	**03 03 09.0**	**-2.2**
NLC	**Nalytchevo**	**1.28**	**312**	PN	**Pn**	**03 02 54.1**	**-0.4**
NLC				S	**Sb**	**03 03 09.0**	**-2.2**
RUS	**Russkaya**	**1.48**	**275**	*e*P	**Pn**	**03 02 56.7**	**-0.6**
RUS				*e*S	**Sn**	**03 03 13.4**	**-3.2**
RUS	**Russkaya**	**1.48**	**275**	PN	**Pn**	**03 02 56.7**	**-0.6**
RUS				S	**Sn**	**03 03 13.4**	**-3.2**
PET	**Petropavlovsk**	**1.54**	**298**	*e*P	**Pn**	**03 02 58.4**	**+0.2**
PET				*e*S	**Sn**	**03 03 16.3**	**-2.0**
PET	**Petropavlovsk**	**1.54**	**298**	*e*PN	**Pn**	**03 02 58.0**	**-0.2**
PET				*e*S	**Sn**	**03 03 17.1**	**-1.2**
PET				pmax	pmax		
	comp=Z,145nm,0.6s						
PET				smax	smax		
	comp=E,522nm,0.6s						
PET				smax	smax		
	comp=N,487nm,0.6s						
UGLR	**Uglovaya**	**1.55**	**306**	*e*P	**Pn**	**03 02 58.5**	**+0.1**
SDLR	**Sedlovina**	**1.56**	**309**	*e*P	**Pn**	**03 02 58.6**	**0.0**
SDLR				*e*S	**Sn**	**03 03 16.4**	**-2.5**
SDLR	**Sedlovina**	**1.56**	**309**	PN	**Pn**	**03 02 58.6**	**0.0**
SDLR				S	**Sn**	**03 03 16.4**	**-2.5**
SMAR	**Somma**	**1.59**	**307**	*e*P	**Pn**	**03 03 00.2**	**+1.1**
SMAR	**Somma**	**1.59**	**307**	PN	**Pn**	**03 03 00.2**	**+1.1**
AVH	**Avacha**	**1.62**	**306**	*e*P	**Pn**	**03 03 00.0**	**+0.6**
AVH				*e*S	**Sn**	**03 03 18.4**	**-2.0**
AVH	**Avacha**	**1.62**	**306**	PN	**Pn**	**03 03 00.0**	**+0.6**
AVH				S	**Sn**	**03 03 18.4**	**-2.0**
KRER	**Koryakskii**	**1.64**	**308**	*e*P	**Pn**	**03 03 00.9**	**+1.2**
KRER				*e*S	**Sn**	**03 03 20.9**	**-0.1**
MTVR	**Mutnovka**	**1.68**	**277**	*e*P	**Pn**	**03 03 00.2**	**0.0**
MTVR				*e*S	**Sn**	**03 03 19.5**	**-2.4**
KOK	**Koryaka**	**1.69**	**306**	*e*P	**Pn**	**03 03 00.8**	**+0.5**
KOK				*e*S	**Sn**	**03 03 20.9**	**-1.2**
KOK	**Koryaka**	**1.69**	**306**	PN	**Pn**	**03 03 00.8**	**+0.5**
KOK				S	**Sn**	**03 03 20.9**	**-1.2**
KRX	**Arik**	**1.72**	**308**	*e*P	**Pn**	**03 03 01.3**	**+0.5**
KRX				*e*S	**Sn**	**03 03 21.5**	**-1.4**
ASAK	**Asacha**	**1.85**	**273**	*e*P	**Pn**	**03 03 02.7**	**+0.2**
ASAK				*e*S	**Sn**	**03 03 24.5**	**-1.5**
PETK	**Petropavlovsk-** comp=N,12nm,0.3s,baz=112,slow=18,SNR=43	**2.11**	**293**	Pn	**Pn**	**03 03 06.5**	**+0.6**
PETK				Sn	**Sg**	**03 03 40.0**	**+1.7**
	comp=N,12nm,0.3s,baz=103,slow=17,SNR=7.6						
GNL	**Ganaly**	**2.26**	**309**	*e*P	**Pn**	**03 03 09.6**	**+1.4**
GNL				*e*S	**Sn**	**03 03 36.1**	**-0.1**
GNL	**Ganaly**	**2.26**	**309**	PN	**Pn**	**03 03 09.6**	**+1.4**
GNL				S	**Sn**	**03 03 36.1**	**-0.1**
MKZ	**Mys Kozlova**	**2.29**	**12**	*e*P	**Pn**	**03 03 08.2**	**-0.3**
MKZ				*e*S	**Sn**	**03 03 33.7**	**-3.0**
MKZ	**Mys Kozlova**	**2.29**	**12**	PN	**Pn**	**03 03 08.2**	**-0.3**
MKZ				S	**Sn**	**03 03 33.7**	**-3.0**
APC	**Apacha**	**2.37**	**286**	*e*P	**Pn**	**03 03 10.5**	**+1.0**
APC				*e*S	**Sn**	**03 03 38.5**	**-0.1**
APC	**Apacha**	**2.37**	**286**	PN	**Pn**	**03 03 10.5**	**+1.0**
APC				S	**Sn**	**03 03 38.5**	**-0.1**
MIPR	**Malaya Ipel'ka**	**2.55**	**271**	*e*P	**Pn**	**03 03 13.0**	**+0.9**
TUMR	**Tumrok**	**3.00**	**352**	*e*P	**Pn**	**03 03 19.9**	**+1.5**
TUMR				*e*S	**Sn**	**03 03 53.5**	**-0.9**
TUMR	**Tumrok**	**3.00**	**352**	PN	**Pn**	**03 03 19.9**	**+1.5**
TUMR				S	**Sn**	**03 03 53.5**	**-0.9**
SKR	**Severo-Kuril's**	**3.42**	**243**	*e*PN	**Pn**	**03 03 21.9**	**-2.0**
SKR				pmax	pmax		
	comp=Z,20nm,0.5s						
KMNR	**Kamenistaya**	**3.46**	**354**	*e*P	**Pn**	**03 03 25.5**	**+0.8**
KMNR	**Kamenistaya**	**3.46**	**354**	PN	**Pn**	**03 03 25.5**	**+0.8**
ESO	**Esso**	**3.84**	**341**	*e*P	**Pn**	**03 03 30.2**	**+0.4**
ESO	**Esso**	**3.84**	**341**	PN	**Pn**	**03 03 30.2**	**+0.4**
BKI	**Bering**	**4.16**	**44**	*e*P	**Pn**	**03 03 34.5**	**+0.3**
BKI				*e*S	**Sn**	**03 04 19.0**	**-3.9**
BKI	**Bering**	**4.16**	**44**	PN	**Pn**	**03 03 34.5**	**+0.3**
H11N2	**WAKE ISLAND Hy** baz=347	**32.86**	**170**	T	T	03 45 27.7	
H11N3	**WAKE ISLAND Hy** baz=347,slow=74	**32.88**	**170**	T	T	03 44 57.6	
H11N1	**WAKE ISLAND Hy** baz=347,slow=74	**32.88**	**170**	T	T	03 45 01.2	
MKAR	**Makanchi Array** comp=Z,0.2nm,0.5s,baz=53,slow=6.2,SNR=2.2	**48.94**	**297**	P	**P**	**03 11 18.4**	**+1.6**
NVAR	**Mina Array Bea** comp=Z,0.3nm,0.6s,baz=294,slow=7.8,SNR=3.5	**55.54**	**70**	P	**P**	**03 12 08.0**	**+1.8**
FINES	**FINESS Array B** comp=Z,1.9nm,0.9s,baz=20,slow=6.1,SNR=4.0	**61.02**	**337**	P	**P**	**03 12 44.3**	**+0.5**
FINES	**FINESS Array B**	**61.02**	**337**	P	**P**	**03 12 44.3**	**+0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TXAR	**Lajitas Array** comp=Z,0.2nm,0.5s,baz=305,slow=4.2,SNR=4.8	**70.48**	**67**	P	**P**	**03 13 45.8**	**+0.4**

*ATH **17** 03:13:16.6, 40°.60N×20°.77E, h15km±2km, MD2.7/6*
*ISCJB **17** 03:13:17.8±0.6, 40°.65N±0°.03×20°.87E±0°.03, h1km±4km, Error ellipse: s-maj=5.0km s-min=4.3km az=172.7*
*CSEM **17** 03:13:17.7±0.2, 40°.63N×20°.81E, h5km, ML1.9, Error ellipse: s-maj=4.6km s-min=4.0km az=40.0*
*THE **17** 03:13:18.0, 40°.64N×20°.87E, h1km±2km, ML1.9/6, Error ellipse: s-maj=2.2km s-min=0.7km az=285.0*

ISC 17 03:13:18.1±0.8, 40°.62N±0°.03×20°.83E±0°.03, h8km±5km, n27, σ0s77/48, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBN	**Korca**	**0.04**	**269**	*i* PG	**Pg**	**03 13 19.4**	**-0.4**
KBN				*i* SG	**Sg**	**03 13 20.8**	**-0.1**
KBN	**Korca** SNR=145	**0.04**	**269**	*i* Pg	**Pg**	**03 13 19.4**	**-0.4**
KBN	SNR=145			*i* Sg	**Sg**	**03 13 20.8**	**-0.1**
KBN				S	**Sg**	**03 13 21.2**	**+0.3**
KBN	**Korca**	**0.04**	**269**	P	**Pg**	**03 13 19.4**	**-0.4**
KBN				S	**Sg**	**03 13 21.2**	**+0.3**
NEST	**Nestorio**	**0.27**	**142**	*e*PB	**Pg**	**03 13 22.7**	**-0.8**
NEST				*e*SB	**Sg**	**03 13 27.1**	**+0.1**
NEST	**Nestorio**	**0.27**	**142**	*e*Pb	**Pg**	**03 13 22.7**	**-0.8**
NEST				S	**Sg**	**03 13 27.1**	**+0.1**
NEST	**Nestorio**	**0.27**	**142**	P	**Pg**	**03 13 22.6**	**-0.8**
NEST				S	**Sg**	**03 13 27.1**	**+0.1**
FNA	**Florina**	**0.44**	**69**	*e*PN	**Pg**	**03 13 26.4**	**-0.4**
FNA				*e*SN	**Sg**	**03 13 33.8**	**+1.2**
FNA	**Florina**	**0.44**	**69**	*e*Pn	**Pg**	**03 13 26.4**	**-0.4**
FNA				S	**Sg**	**03 13 33.0**	**+0.4**
FNA	**Florina**	**0.44**	**69**	P	**Pg**	**03 13 26.3**	**-0.5**
FNA				S	**Sg**	**03 13 33.0**	**+0.4**
KZN	**Kozani**	**0.78**	**114**	*e*PN	**Pg**	**03 13 32.2**	**-1.0**
KZN				*e*SN	**Sg**	**03 13 43.3**	**-0.1**
KZN	**Kozani**	**0.78**	**114**	P	**Pg**	**03 13 32.2**	**-1.0**
KZN				*e*Sn	**Sg**	**03 13 43.3**	**-0.1**
KZN	**Kozani**	**0.78**	**114**	P	**Pg**	**03 13 32.2**	**-1.0**
KZN				S	**Sg**	**03 13 43.7**	**+0.3**
PHP	**Peshkopia**	**1.10**	**345**	*i* PG	**Pg**	**03 13 38.4**	**-0.9**
PHP	**Peshkopia**	**1.10**	**345**	P	**Pg**	**03 13 37.5**	**-1.8**
PHP	**Peshkopia** SNR=91	**1.10**	**345**	*i* Pg	**Pg**	**03 13 38.4**	**-0.9**
PHP				S	**Sb**	**03 13 54.4**	**+0.4**
PHP	**Peshkopia**	**1.10**	**345**	P	**Pg**	**03 13 37.5**	**-1.8**
PHP				S	**Sb**	**03 13 54.4**	**+0.4**
IGT	**Igoumenitsa**	**1.16**	**200**	P	**Pg**	**03 13 39.1**	**-1.2**
IGT	**Igoumenitsa**	**1.16**	**200**	P	**Pg**	**03 13 39.1**	**-1.2**
IGT				S	**Sn**	**03 13 57.7**	**+1.1**
KEK	**Kerkira**	**1.21**	**221**	P	**Pn**	**03 13 41.7**	**+0.4**
KEK	**Kerkira**	**1.21**	**221**	P	**Pn**	**03 13 41.7**	**+0.4**
KEK				S	**Sn**	**03 13 59.4**	**+1.5**
LIT	**Litokhoron**	**1.37**	**112**	*e*PN	**Pn**	**03 13 43.2**	**-0.3**
LIT				*e*SN	**Sn**	**03 14 03.1**	**+1.1**
LIT	**Litokhoron**	**1.37**	**112**	P	**Pn**	**03 13 43.3**	**-0.3**
LIT				S	**Sn**	**03 14 02.5**	**+0.5**
LIT				*e*Sn	**Sn**	**03 14 03.1**	**+1.1**
LIT	**Litokhoron**	**1.37**	**112**	P	**Pn**	**03 13 43.3**	**-0.3**
LIT				S	**Sn**	**03 14 02.5**	**+0.5**
KNT	**Kendrikon**	**1.66**	**70**	*e*PN	**Pb**	**03 13 48.7**	**-0.2**
KNT	**Kendrikon**	**1.66**	**70**	*e*Pn	**Pb**	**03 13 48.7**	**-0.2**
HORT	**Hortiatis**	**1.73**	**90**	*e*PN	**Pn**	**03 13 48.4**	**-0.2**
HORT	**Hortiatis**	**1.73**	**90**	*e*Pn	**Pn**	**03 13 48.4**	**-0.2**

*NEIC **17** 03:39:18.0, 36°.84S×73°.36W, h25km, mb4.2/3, ML4.6(GUC), After GUC.*
NEIC Felt [IV] at Chiguayante, Concepcion and Talcahuano.

GUC 17 03:39:18.1±0.8, 36°.84S×73°.36W, h25km±7km, ML4.6, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.20**	**92**↑	*i* P	Pb	03 39 24.0	+0.3
CCSP				*i* S	Sb	03 39 27.6	+0.2
CCSP				AML	AML	03 39 28.8	
	comp=E,76μm,0.2s						
U14B	**Concepcin**	**0.22**	**95**↑	*i* P	Pb	03 39 24.1	+0.1
U14B				*i* S	Sb	03 39 27.8	-0.2
U14B				AML	AML	03 39 28.4	
	comp=E,241μm,0.2s						
U14B	**Concepcin**	**0.22**	**95**	*e*Pg	Pb	03 39 24.0	0.0
U14B				*e*Sg	Sb	03 39 27.3	-0.7
LNCH	**Linares**	**1.73**	**56**	*e*P	Pn	03 39 47.6	+1.0
LNCH				*i* S	Sb	03 40 09.9	-0.5
TALC	**Talca**	**2.00**	**45**↑	*i* P	Pn	03 39 51.6	+1.3
TALC				*i* S	Sb	03 40 16.9	-1.4
U65B	**HualaæØ**	**2.26**	**35**	*e*Pn	Pn	03 39 54.5	+0.6
U73B	**San Pedro**	**3.32**	**29**	*e*Pn	Pn	03 40 08.8	+0.3
U73B				*e*Sn	Sn	03 40 46.6	-0.5
CLCH	**Cerro Calan**	**4.14**	**35**↓	*i* P	Pn	03 40 20.8	+0.9
CLCH				*e*S	Sn	03 41 08.7	+1.1
LCO	**Las Campanas**	**8.12**	**17**	*e*Pn	Pn	03 41 18.9	-0.8
LCO				*e*Sn	Sn	03 42 45.1	-0.9
TRQA	**Tornquist**	**9.13**	**101**	*e*Pn	Pn	03 41 28.8	+0.5
LPAZ	**La Paz** comp=E,18nm,1.8s	**20.99**	**14**	*e*P	P	03 44 00.2	-0.2
WVT	**Waverly** comp=E,1.3nm,0.6s	**73.83**	**348**	*e*P	P	03 50 50.0	-0.4
HWUT	**Hardware Ranch** comp=E,1.0nm,0.6s	**85.53**	**332**	*e*P	P	03 51 53.0	-1.0

IDC 17 03:45:14.9±4.6, 12°.33S×167°.58E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/25, mbtmp3.8/3, Error ellipse: s-maj=228.1km s-min=30.6km az=140.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** comp=0.4nm,0.4s,baz=84,slow=8.9,SNR=9.6	**32.77**	**252**	P	P	03 51 49.6	-0.3
ASAR	**Alice Springs** 0.5nm,0.7s,baz=72,slow=9.9	**33.87**	**246**	P	P	03 51 59.8	+0.3
ILAR	**Eielson Array** 1.0nm,0.6s,baz=229,slow=4.5,SNR=19	**84.17**	**18**	P	P	03 57 47.6	0.0

GUC 17 03:48:04.6±0.6, 35°.47S×73°.33W, h34km±6km, ML4.2, 1C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.79**	**146**↓	*i* P	Pn	03 48 19.6	+0.2
COCH				*i* S	Sn	03 48 30.1	+0.1
CCSP	**San Pedro de C** comp=E,3μm,0.5s	**1.38**	**172**	AML	AML	03 48 55.7	
TALC	**Talca**	**1.39**	**87**↑	*i* P	Pn	03 48 28.4	+0.8
TALC				*i* S	Sb	03 48 46.9	-0.6
LNCH	**Linares**	**1.46**	**105**↓	*i* P	Pn	03 48 29.9	+1.3
LNCH				*i* S	Sb	03 48 49.1	-0.3
NICH	**Los Niches**	**1.79**	**75**	*e*P	Pn	03 48 34.6	+1.5
NICH				*i* S	Sb	03 48 57.2	-1.6
CLCH	**Cerro Calan** comp=N,938nm,1.1s	**3.10**	**49**	AML	AML	03 49 54.6	
PEL	**Peldehue**	**3.19**	**44**	*e*P	Pn	03 48 53.7	+1.2
PEL				AML	AML	03 49 50.1	
	comp=E,567nm,0.4s						

*ISCJB **17** 04:33:58.9±0.6, 20°.68S±0°.05×178°.85W±0°.03, h598km±7km, mb4.7/150, Error ellipse: s-maj=7.3km s-min=3.9km az=163.8*
*MOS **17** 04:33:58.7±0.8, 20°.62S×178°.79W, h596km, mb4.8/29, Error ellipse: s-maj=9.7km s-min=8.1km az=63.9*
*IDC **17** 04:33:59.1±1.0, 20°.72S×178°.70W, h596km±12km, mb4.1/20, mb1 4.3/25, mb1mx4.2/30, mbtmp5.0/25, Error ellipse: s-maj=12.4km s-min=9.8km az=145.0*
*BJI **17** 04:33:59.7, 20°.33S×178°.49W, h612km, mb4.9/36, mB5.0/22*
*GCMT **17** 04:34:00.5±0.6, 20°.79S×178°.82W, h597km±4km, MW5.3/48, Moment Tensor Solution. s48,c57; Duration: 1s0 Moment tensor: Scale 10¹⁷Nm; Mrr-0.61±.04; Mθθ0.40±.07; Mφφ0.21±.08; Mrθ-0.65±.10; Mrφ0.34±.07; Mθφ-0.23±.10; Best double couple: M₀0.93900×10¹⁷ NP1:φ66.00000°, δ69.00000°, λ-80.00000°. NP2: φ219.00000°, δ23.00000°, λ-115.00000°. Principal axes: T 0.9440, Plg23.0000°, Azm148.0000°; N -0.0100, Plg10.0000°, Azm242.0000°; P -0.9340, Plg65.0000°, Azm353.0000°; nsta1 refers to body waves, cutoff=40s.*
*NEIC **17** 04:34:00.5±0.5, 20°.68S×178°.86W, h608km±5km, mb4.8/123 Error ellipse: s-maj=5.9km s-min=3.6km az=155.0*
*SZGRF **17** 04:34:01.4, 20°.80S×178°.35W, h623km, Fiji Islands region*

ISC 17 04:33:59.7±0.3, 20°.75S±0°.05×178°.72W±0°.05, h605km±3km, h605km:pP-P, n809, σ1s07/899, mb4.8/149, 68C-38D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.28**	**314**	*e*P	**P**	**04 35 27.6**	**-0.1**
MSVF	**Nonsavu**	**4.28**	**314**	*e*P	**P**	**04 35 27.6**	**-0.1**
RAO	**Raoul Island** 42nm,0.3s,baz=252,slow=20,SNR=5.2	**8.50**	**175**	P	**P**	**04 36 03.3**	**-0.5**
RAO				S	**S**	**04 37 42.1**	**-3.5**
	130nm,0.3s,baz=95,slow=21,SNR=11						
AFI	**Afiamalu** 7.6nm,0.3s,baz=225,slow=4.3,SNR=4.1	**9.50**	**45**	P	**P**	**04 36 11.3**	**-2.5**
AFI				S	S	04 37 54.7	-9.1
	9.1nm,0.3s,baz=161,slow=18,SNR=5.6						
DZM	**Mont Dzumac** 5.7nm,0.3s,baz=90,slow=24,SNR=38	**13.88**	**262**	P	**P**	**04 36 57.3**	**-0.2**
DZM	**Mont Dzumac** 102nm,1.1s	**13.88**	**262**	*e*P	**P**	**04 36 56.9**	**-0.5**
OUZ	**Omahuta** 74nm,0.8s	**15.92**	**204**	*e*P	**P**	**04 37 18.6**	**+2.6**
RAR	**Rarotonga** 0.9nm,0.3s,baz=221,slow=5.9,SNR=5.6	**17.70**	**95**	P	**P**	**04 37 32.7**	**+0.3**
URZ	**Urewera** 3.8nm,0.3s,baz=16,slow=3.5,SNR=15	**17.82**	**191**	P	**P**	**04 37 32.3**	**-1.0**
URZ				S	**S**	**04 40 20.9**	**-5.8**
	2.3nm,0.3s,baz=221,slow=23,SNR=9.7						
URZ	**Urewera** 46nm,0.7s	**17.82**	**191**	*e*P	**P**	**04 37 32.5**	**-0.7**
URZ				S	**S**	**04 40 20.9**	**-5.8**
RPZ	**Rata Peaks** 4.0nm,0.4s,baz=34,slow=6.7,SNR=5.8	**24.44**	**198**	P	**P**	**04 38 32.3**	**-0.2**
TBI	**Tubuai** 124nm,28.5s	**27.22**	**101**	*e*S	**S**	**04 42 51.1**	**-4.2**
TBI				*e*LR	LR	04 45 01.0	
	181nm,28.0s						
WHZ	**Wether Hill Ro** 37nm,0.6s	**27.36**	**201**	*e*P	**P**	**04 38 59.8**	**+1.6**
PPT	**Papeete** 16nm,0.4s,baz=356,slow=4.5,SNR

KIP	**Kipapa**	**46.54**	**27**	*ce*P		**P**		**04 41 34.0**	**-0.6**
KIP					pmax	pmax				
	comp=Z,31nm,0.9s									
KDU	**Kakadu**	**47.28**	**272**	P		**P**		**04 41 40.4**	**+0.1**
	baz=47,SNR=7.8									
MTN	**Manton Dam**	**48.49**	**271**	P		**P**		**04 41 49.0**	**-0.3**
	baz=48,SNR=7.2									
MTN	**Manton Dam**	**48.49**	**271**	*e*P		**P**		**04 41 49.4**	**+0.2**
	comp=Z,32nm,0.7s									
FORT	**Forrest**	**48.58**	**247**	P		**P**		**04 41 49.9**	**+0.2**
	baz=49,SNR=15									
FORT	**Forrest**	**48.58**	**247**	*e*P		**P**		**04 41 49.9**	**+0.2**
	comp=Z,49nm,0.7s									
WRKA	**Warakurna**	**48.75**	**254**	P		**P**		**04 41 51.3**	**+0.2**
	baz=49,SNR=50									
KNRA	**Kununurra**	**49.97**	**267**	P		**P**		**04 42 00.5**	**+0.4**
	baz=50,SNR=5.2									
FAKI	**Fak Fak**	**50.90**	**284**	*e*P		**P**		**04 42 06.8**	**-0.1**
SWI	**Sorong**	**52.66**	**285**	P		**P**		**04 42 20.1**	**+0.6**
	baz=53,SNR=7.7									
SOEI	**Soe**	**55.83**	**272**	P		**P**		**04 42 43.7**	**+1.8**
	baz=56,SNR=8.4									
SOEI	**Soe**	**55.83**	**272**	*e*P		**P**		**04 42 40.7**	**-1.1**
	comp=Z,115nm,0.9s									
TNTI	**Ternate**	**56.87**	**285**	*e*P		**P**		**04 42 48.4**	**-0.4**
	comp=Z,118nm,1.0s									
MBWA	**Marble Bar**	**57.14**	**258**	*e*P		**P**		**04 42 50.3**	**-0.2**
	comp=Z,33nm,0.8s									
MEEK	**Meekatharra**	**57.20**	**251**	P		**P**		**04 42 50.4**	**-0.5**
	baz=57,SNR=12									
KLBR	**Kellerberrin**	**57.34**	**245**	P		**P**		**04 42 51.7**	**0.0**
	baz=57,SNR=16									
SBA	**Scott Base**	**57.58**	**184**	*e*P		P		04 42 56.2	+3.7
SBA					pmax	pmax				
	comp=Z,12nm,1.0s									
SBA	**Scott Base**	**57.58**	**184**	*e*P		P		04 42 56.2	+3.7
	comp=Z,12nm,1.0s									
VNDA	**Vanda**	**57.60**	**185**	*e*P		**P**		**04 42 54.4**	**+1.7**
VNDA				*e*				04 43 38.2		
VNDA	**Vanda**	**57.60**	**185**	*e*P		**P**		**04 42 54.4**	**+1.7**
VNDA					*e*PcP	**PcP**		**04 43 38.2**	**+0.8**
VNDA					*e*ScP	**ScP**		**04 46 40.4**	**+0.5**
NWAO	**Narrogin (SRO)**	**57.65**	**244**	P		**P**		**04 42 54.5**	**+0.6**
	baz=58,SNR=5.5									
NWAO				P		**P**		**04 42 54.5**	**+0.6**
	baz=58,SNR=5.5									
RKGY	**Rocky Gully**	**57.73**	**242**	P		**P**		**04 42 55.1**	**+0.8**
	baz=58,SNR=9.0									
MMRI	**Maumere**	**58.09**	**273**	*e*P		**P**		**04 42 56.7**	**-0.4**
BLDU	**Ballidu**	**58.34**	**246**	P		**P**		**04 42 58.5**	**0.0**
	baz=58,SNR=16									
MORW	**Morawa**	**59.11**	**248**	P		**P**		**04 43 03.9**	**+0.3**
	baz=59,SNR=3.9									
LUWI	**Luwuk**	**60.32**	**281**	*e*P		**P**		**04 43 11.3**	**-0.6**
KAPI	**Kappang**	**61.63**	**276**	*e*P		**P**		**04 43 20.3**	**-0.2**
GIRL	**Giralia**	**61.83**	**255**	P		**P**		**04 43 22.6**	**+1.0**
	baz=62,SNR=3.9									
CASY	**Casey**	**63.45**	**205**	*e*P		**P**		**04 43 32.2**	**+1.0**
	comp=Z,10nm,1.1s									
MYLDM	**Lahad Datu**	**66.75**	**285**	*e*P		**P**		**04 43 53.0**	**+0.2**
KKM	**Kota Kinabalu**	**69.17**	**285**	*e*P		**P**		**04 44 07.7**	**+0.1**
	comp=Z,31nm,0.8s									
UGM	**Wanagama**	**69.28**	**269**	P		**P**		**04 44 08.1**	**-0.1**
	baz=69,SNR=5.2									
QSPA	**South Pole Qui**	**69.32**	**180**	*e*P		**P**		**04 44 09.2**	**+1.6**
	comp=Z,8.1nm,1.0s									
JOW	**Kunigami**	**69.81**	**311**	*e*P		**P**		**04 44 10.2**	**-0.8**
	comp=Z,12nm,0.8s									
MJAR	**Matsushiro Arr**	**70.01**	**324**	P		**P**		**04 44 11.8**	**-0.2**
	comp=Z,8.9nm,0.5s,baz=162,slow=6.1,SNR=25									
MAJO	**Matsushiro**	**70.02**	**324**	*d* /P		**P**		**04 44 11.6**	**-0.4**
MAJO					pmax	pmax				
	comp=Z,92nm,0.8s									
MAJO	**Matsushiro**	**70.02**	**324**	*e*P		**P**		**04 44 11.7**	**-0.3**
	comp=Z,14nm,0.7s									
MAT	**Matsushiro**	**70.02**	**324**	P		**P**		**04 44 11.9**	**-0.1**
MAT				*e*S		**S**		**04 52 35.6**	**+0.1**
SBUM	**Sibu**	**71.38**	**280**	*e*P		**P**		**04 44 20.3**	**-0.2**
	comp=Z,14nm,1.0s									
JNU	**Nakatsue**	**72.00**	**317**	P		**P**		**04 44 22.9**	**-0.8**
	comp=Z,17nm,0.8s,baz=113,slow=3.0,SNR=12									
JNU	**Nakatsue**	**72.00**	**317**	*e*P		**P**		**04 44 23.8**	**+0.2**
	comp=Z,17nm,1.1s									
KUR	**Kuril'sk**	**72.37**	**336**	*ce*P		**P**		**04 44 27.1**	**+1.6**
ATKA	**Atka Island**	**72.75**	**3**	*e*P		**P**		**04 44 26.9**	**-0.5**
	comp=Z,87nm,1.0s									
KSM	**Kuching**	**72.78**	**278**	P		**P**		**04 44 29.6**	**+1.1**
	baz=73,SNR=9.6									
KSM	**Kuching**	**72.78**	**278**	*e*P		**P**		**04 44 28.9**	**+0.4**
	comp=Z,48nm,1.0s									
TWG	**Pinlang**	**72.95**	**303**	*e*P		**P**		**04 44 27.5**	**-1.8**
	comp=Z,56nm,0.5s									
TPUB	**Ta-pu**	**73.55**	**303**	*e*P		**P**		**04 44 30.9**	**-1.8**
	comp=Z,68nm,0.8s									
SSLB	**Suanglung**	**73.55**	**304**	*e*P		**P**		**04 44 31.8**	**-0.9**
	comp=Z,23nm,0.5s									
ASAJ	**Asahikawa**	**73.63**	**332**	*e*P		**P**		**04 44 33.9**	**+1.3**
	comp=Z,15nm,1.0s									
SKR	**Severo-Kuril's**	**74.51**	**344**	‖*e*P		**P**		**04 44 37.6**	**+0.2**
YSS	**Yuzh-Sakhalins**	**75.82**	**334**	‖*e*P		**P**		**04 44 45.7**	**+0.9**
YSS					pmax	pmax				
	comp=Z,30nm,1.1s									
PETK	**Petropavlovsk-**	**76.34**	**346**	P		**P**		**04 44 47.6**	**+0.1**
	comp=Z,20nm,0.7s,baz=144,slow=8.1,SNR=27									
KSRS	**Korea Array**	**76.63**	**319**	P		**P**		**04 44 50.1**	**+0.6**
	comp=Z,5.3nm,0.7s,baz=135,slow=6.1,SNR=17									
KSRS	**Korea Array**	**76.63**	**319**	P		**P**		**04 44 50.1**	**+0.6**
KSRS					pmax	pmax				
	comp=Z,5.0nm,0.7s									
KSAR	**Wonju Array Be**	**76.64**	**319**	P		**P**		**04 44 50.1**	**+0.5**
KSAR	**Wonju Array Be**	**76.64**	**319**	P		**P**		**04 44 50.1**	**+0.5**
MNAI	**Manna**	**77.56**	**270**	*e*P		**P**		**04 44 54.9**	**-0.2**
MSHR	**Mys Shultsa**	**78.13**	**325**	‖*e*P		**P**		**04 44 58.4**	**+1.0**
CHGN	**Chignik**	**78.65**	**11**	*e*P		**P**		**04 44 59.3**	**-0.6**
USRK	**Ussuriysk Ar.**	**78.79**	**326**	P		**P**		**04 45 02.0**	**+1.1**
	comp=Z,14nm,0.7s,baz=137,slow=3.4,SNR=26									
MYKOM	**Kota Tinggi**	**78.89**	**276**	*e*P		**P**		**04 45 03.2**	**+1.0**
	comp=Z,33nm,0.8s									
KCPM	**Cahto Peak**	**79.12**	**40**	*e*P		**P**		**04 45 04.7**	**+1.7**
	comp=Z,7.3nm,0.8s									
KMRM	**Mail Ridge**	**79.38**	**40**	*e*P		**P**		**04 45 05.6**	**+1.4**
	comp=Z,84nm,0.9s									
ARVC	**Arvin**	**79.45**	**46**	P		**P**		**04 45 06.3**	**+1.6**
	baz=80									
NJ2	**Nanjing**	**79.52**	**310**	*e*P		**P**		**04 45 05.3**	**+0.2**
NJ2					PMZ					
	comp=Z,20nm,1.0s									
MURC	**Murrieta**	**79.72**	**48**	P		**P**		**04 45 07.2**	**+1.1**
	baz=80									
BFSC	**Mount Baldy Ra**	**79.75**	**47**	P		**P**		**04 45 07.6**	**+1.1**
	baz=80									
KHMM	**Horse Mountain**	**79.77**	**39**	*e*P		**P**		**04 45 07.8**	**+1.4**
EDW2	**Edwards Air Fo**	**79.88**	**47**	P		**P**		**04 45 08.3**	**+1.3**
	baz=80,SNR=11									
MONP	**Monument Peak**	**79.88**	**49**	P		**P**		**04 45 09.0**	**+1.7**
	baz=80,SNR=8.7									
ISA	**Isabella**	**79.99**	**46**	*e*P		**P**		**04 45 09.1**	**+1.5**
ISA					pmax	pmax				
	comp=Z,29nm,1.2s									
ISA	**Isabella**	**79.99**	**46**	P		**P**		**04 45 09.2**	**+1.5**
	baz=80,SNR=11									
ISA	**Isabella**	**79.99**	**46**	*e*P		**P**		**04 45 09.1**	**+1.5**
	comp=Z,29nm,1.2s									
CMB	**Columbia Colle**	**80.10**	**43**	*e*P		**P**		**04 45 08.8**	**+0.7**
CMB					pmax	pmax				
	comp=Z,35nm,1.3s									
CMB	**Columbia Colle**	**80.10**	**43**	*e*P		**P**		**04 45 08.8**	**+0.7**
	comp=Z,35nm,1.3s									
PFO	**Pinyon Flat Ob**	**80.25**	**49**	P		**P**		**04 45 10.0**	**+1.0**
	baz=80									
WDC	**Whiskeytown Da**	**80.30**	**40**	*e*P		**P**		**04 45 09.9**	**+1.0**
WDC					pmax	pmax				
	comp=Z,32nm,1.1s									
WDC	**Whiskeytown Da**	**80.30**	**40**	*e*P		**P**		**04 45 09.9**	**+1.0**
	comp=Z,32nm,1.1s									
HABR	**Khabarovsk**	**80.33**	**331**	*e*P		**P**		**04 45 07.9**	**-1.0**
HABR				*e**PP		**pP**		**04 47 13.3**	**-2.4**
HABR				*e**SP		**sP**		**04 48 14.4**	**-2.4**
HABR				*e*				04 48 21.2		
HABR					PPP	PPP		04 50 16.5		
HABR				*e*S		**S**		**04 54 25.5**	**-0.2**
HABR				*e*SS		**SS**		**04 59 54.7**	**-1.4**
HABR				*e*SSS		SSS		05 03 28.3		
HABR					pmax	pmax				
	comp=E,5.0nm,0.6s									
HABR					pmax	pmax				
	comp=N,16nm,1.4s									
HABR					pmax	pmax				
	comp=Z,59nm,1.4s									
HABR					MLR	MLR				
	comp=Z,53nm,20.0s									
MDJ	**Mudanjiang**	**80.34**	**325**	P		**P**		**04 45 10.4**	**+1.4**
MDJ				pP		**pP**		**04 47 16.3**	**+0.4**
MDJ				sP		**sP**		**04 48 18.3**	**+1.3**
MDJ				S		**S**		**04 54 27.3**	**+1.3**
MDJ				ScS		**ScS**		**04 54 41.3**	**+0.9**
MDJ				PMZ						
	comp=Z,26nm,1.0s									
MDJ				PMZ						
	comp=Z,70nm,6.6s									
MDJ	**Mudanjiang**	**80.34**	**325**	*e*P		**P**		**04 45 10.0**	**+1.0**
	comp=Z,16nm,0.9s									
SWSC	**Sam W. Stewart**	**80.35**	**49**	P		**P**		**04 45 11.2**	**+1.8**
	baz=81									
LRMC	**Laurel Mountai**	**80.42**	**46**	P		**P**		**04 45 11.6**	**+1.7**
	baz=81									
OHAK	**Old Harbor**	**80.55**	**14**	*e*P		**P**		**04 45 09.9**	**+0.1**
	comp=Z,63nm,1.4s									
M02C	**Callahan**	**80.61**	**39**	P		**P**		**04 45 12.7**	**+2.1**
	baz=81,SNR=16									
L02D	**Cave Junction,**	**80.65**	**38**	P		**P**		**04 45 12.4**	**+1.6**
	baz=81									
CWC	**Cottonwood Cre**	**80.69**	**45**	P		**P**		**04 45 12.8**	**+1.5**
	baz=81,SNR=8.6									
BELC	**Belle Mtn. Jos**	**80.78**	**48**	P		**P**		**04 45 13.2**	**+1.5**
	baz=81,SNR=8.4									
MLAC	**Mammoth Lakes**	**80.87**	**44**	P		**P**		**04 45 13.6**	**+1.3**
	baz=81									
MPMC	**Manual Prospec**	**80.88**	**46**	P		**P**		**04 45 13.6**	**+1.3**
	baz=81,SNR=14									
YBH	**Yreka Blue Hor**	**80.91**	**39**	*e*P		**P**		**04 45 13.4**	**+1.2**
YBH					pmax	pmax				
	comp=Z,28nm,0.9s									
YBH	**Yreka Blue Hor**	**80.91**	**39**	*e*P		**P**		**04 45 13.4**	**+1.2**
	comp=Z,28nm,0.9s									
GSC	**Goldstone**	**80.92**	**47**	*e*P		**P**		**04 45 13.7**	**+1.3**
GSC					pmax	pmax				
	comp=Z,18nm,1.1s									
GSC	**Goldstone**	**80.92**	**47**	P		**P**		**04 45 13.8**	**+1.3**
	baz=81,SNR=7.2									
GSC	**Goldstone**	**80.92**	**47**	*e*P		**P**		**04 45 13.7**	**+1.3**
	comp=Z,18nm,1.1s									
TIN	**Tinemaha**	**80.94**	**45**	P		**P**		**04 45 13.8**	**+1.3**
	baz=81									
BC3	**Big Chuckawall**	**80.97**	**49**	P		**P**		**04 45 14.0**	**+1.3**
	baz=81									
WAKR	**Walker**	**80.98**	**43**	*e*P		**P**		**04 45 13.8**	**+1.0**
HEC	**Hector,Ludlow**	**80.99**	**48**	P		**P**		**04 45 13.9**	**+1.1**
	baz=81									
GLA	**Glamis**	**81.10**	**50**	*e*P		**P**		**04 45 14.7**	**+1.4**
GLA					pmax	pmax				
	comp=Z,31nm,1.4s									
GLA	**Glamis**	**81.10**	**50**	P		**P**		**04 45 15.4**	**+2.1**
	baz=81,SNR=5.2									
GLA	**Glamis**	**81.10**	**50**	*e*P		**P**		**04 45 14.7**	**+1.4**
	comp=Z,32nm,1.4s									
MAW	**Mawson**	**81.10**	**200**	P		**P**		**04 45 13.7**	**+1.1**
	comp=Z,4.3nm,0.8s,baz=146,slow=7.3,SNR=9.9									
MAW	**Mawson**	**81.10**	**200**	P		**P**		**04 45 13.7**	**+1.1**
	baz=81,SNR=5.0									
KDAK	**Kodiak Island**	**81.22**	**14**	*e*P		**P**		**04 45 13.0**	**-0.2**
KDAK					pmax	pmax				
	comp=Z,81nm,1.7s									
KDAK	**Kodiak Island**	**81.22**	**14**	*e*P		**P**		**04 45 13.0**	**-0.2**
	comp=Z,81nm,1.7s									
HUMO	**Hull Mountain**	**81.31**	**38**	*e*P		**P**		**04 45 16.1**	**+2.0**
	comp=Z,39nm,1.1s									
GMRC	**Granite Mounta**	**81.43**	**48**	P		**P**		**04 45 16.4**	**+1.4**
	baz=82,SNR=6.8									
M04C	**Macdoel**	**81.45**	**39**	P		**P**		**04 45 16.4**	**+1.4**
	baz=82,SNR=13									
IRM	**Iron Mountain**	**81.46**	**49**	P		**P**		**04 45 16.8**	**+1.7**
	baz=82,SNR=6.1									
GRAC	**Grapevine Rang**	**81.48**	**45**	P		**P**		**04 45 16.8**	**+1.6**
	baz=82,SNR=8.6									
FURC	**Furnace Creek,**	**81.53**	**46**	P		**P**		**04 45 16.5**	**+1.2**
	baz=82,SNR=6.0									
SHOC	**Shoshone**	**81.61**	**47**	P		**P**		**04 45 17.3**	**+1.4**
	baz=82									
NVAR	**Mina Array Bea**	**81.67**	**44**	P		**P**		**04 45 17.3**	**+1.0**
	comp=Z,9.0nm,0.6s,baz=226,slow=7.7,SNR=92									
Y12C	**Blythe**	**81.68**	**49**	P		**P**		**04 45 18.4**	**+2.2**
	baz=82									
I03D	**Drain, OR**	**81.76**	**37**	P		**P**		**04 45 18.2**	**+1.9**
	baz=82									
LDFC	**Landfair**	**81.97**	**48**	*e*P		**P**		**04 45 19.8**	**+2.0**
	comp=Z,47nm,1.0s									
214A	**Organ Pipe Nat**	**82.00**	**52**	P		**P**		**04 45 19.9**	**+2.0**
	baz=82									
214A	**Organ Pipe Nat**	**82.00**	**52**	*e*P		**P**		**04 45 19.3**	**+1.4**
	comp=Z,54nm,1.7s									
K04D	**Chiloquin, OR**	**82.02**	**39**	P		**P**		**04 45 19.6**	**+1.7**
	baz=82									
CN2	**Changchun**	**82.09**	**323**	*e*P		**P**		**04 45 18.0**	**0.0**
CN2					PMZ					
	comp=Z,20nm,1.1s									
NEE2	**Needles Airpor**	**82.15**	**48**	P		**P**		**04 45 20.2**	**+1.7**
	baz=82									
MPOR	**Mary's Peak**	**82.16**	**36**	P		**P**		**04 45 20.2**	**+1.7**
TPH	**Tonopah**	**82.17**	**44**	*e*P		**P**		**04 45 19.6**	**+0.7**
TPH					pmax	pmax				
	comp=Z,37nm,1.2s									
TPH	**Tonopah**	**82.17**	**44**	*e*P		**P**		**04 45 19.6**	**+0.7**
	comp=Z,37nm,1.2s									
J04D	**Umpqua Nationa**	**82.19**	**38**	P		**P**		**04 45 20.4**	**+1.6**
	baz=82,SNR=16									
TPNV	**Topopah Spring**	**82.20**	**46**	P		**P**		**04 45 20.3**	**+1.3**
	baz=82,SNR=22									
PDMCI	**Parker Dam,Lak**	**82.24**	**49**	P		**P**		**04 45 20.3**	**+1.3**
	baz=82,SNR=7.6									
I04A	**Tendick Farm,**	**82.35**	**37**	P		**P**		**04 45 20.6**	**+1.2**
	baz=83,SNR=7.6									
KLR	**Kul'dur**	**82.40**	**330**	*e*P		P		04 45 16.0	-3.4
HBO	**Huckleberry Mo**	**82.44**	**37**	P		**P**		**04 45 21.3**	**+1.3**
MOD	**Modoc**	**82.44**	**40**	*e*P		**P**		**04 45 20.9**	**+0.8**
	comp=Z,25nm,0.8s									
IPM	**Ipoh**	**82.49**	**278**	*e*P		**P**		**04 45 21.4**	**+0.7**
	comp=Z,35nm,0.8s									
K05A	**Summer Lake**	**82.58**	**39**	*e*P		**P**		**04 45 21.9**	**+1.1**
	comp=Z,76nm,1.0s									
SHPR	**Sheep Range**	**82.70**	**47**	*e*P		**P**		**04 45 22.4**	**+0.9**
J05D	**Fort Rock, OR**	**82.72**	**38**	P		**P**		**04 45 22.7**	**+1.3**
	baz=83,SNR=42									
G03D	**McMinnville, O**	**82.76**	**36**	P		**P**		**04 45 23.1**	**+1.7**
	baz=83									
TIA	**Tai'an**	**82.95**	**313**	‖P		**P**		**04 45 22.5**	**0.0**
TIA					PMZ					
	comp=Z,20nm,1.4s									
KULM	**Kulim**	**83.14**	**278**	*e*P		**P**		**04 45 25.1**	**+1.1**
	comp=Z,27nm,0.9s									
I05D	**Terrebonne, OR**	**83.30**	**37**	P		**P**		**04 45 25.6**	**+1.5**
	baz=84,SNR=9.8									
BRLK	**Bradley Lake**	**83.39**	**14**	*e*P		**P**		**04 45 24.3**	**+0.2**
	comp=Z,44nm,1.0s									
R11A	**Troy Canyon, C**	**83.40**	**45**	P		**P**		**04 45 25.9**	**+0.9**
	baz=84,SNR=7.4									
R11A	**Troy Canyon, C**	**83.40**	**45**	*e*P		**P**		**04 45 25.7**	**+0.7**
	comp=Z,12nm,1.5s									
E03A	**Lebam**	**83.44**	**35**	*e*P		**P**		**04 45 26.4**	**+1.7**
	comp=Z,46nm,1.0s									
BMN	**Battle Mountai**	**83.49**	**42**	*e*P		**P**		**04 45 26.6**	**+1.3**
BMN					pmax	pmax				
	comp=Z,20nm,0.9s									
BMN	**Battle Mountai**	**83.49**	**42**	*e*P		**P**		**04 45 26.6**	**+1.3**
	comp=Z,20nm,0.9s									
RSO	**Redoubt South**	**83.63**	**13**	*e*P		**P**		**04 45 24.4**	**-1.2**
	comp=Z,55nm,0.9s									
TUC	**Tucson**	**83.66**	**52**	*e*P		**P**		**04 45 27.9**	**+1.6**
TUC					pmax	pmax				
	comp=Z,21nm,1.1s									
TUC	**Tucson**	**83.66**	**52**	*e*P		**P**		**04 45 27.9**	**+1.6**
	comp=Z,21nm,1.1s									
SVW2	**Sparrevohn**	**83.67**	**11**	*e*P		**P**		**04 45 24.9**	**-0.6**
WVOR	**Wild Horse Val**	**83.75**	**40**	*e*P		**P**		**04 45 27.7**	**+1.2**
WVOR					pmax	pmax				
	comp=Z,26nm,1.1s									
WVOR	**Wild Horse Val**	**83.75**	**40**	*e*P		**P**		**04 45 27.7**	**+1.2**
	comp=Z,26nm,1.1s									
PSI	**Prapat**	**83.84**	**275**	*e*P		**P**		**04 45 27.3**	**-0.3**
PSI					pmax	pmax				
	comp=Z,24nm,0.9s									
PSI	**Prapat**	**83.84**	**275**	*e*P		**P**		**04 45 27.3**	**-0.3**
	comp=Z,24nm,0.9s									
MA2	**Magadan**	**83.85**	**345**	⇑*i*P		**P**		**04 45 25.4**	**-1.0**
SKLT	**Songkhla**	**83.85**	**280**	P		**P**		**04 45 29.4**	**+1.9**
	comp=Z,48nm,0.9s									
G05D	**Wamic, OR**	**83.86**	**37**	P		**P**		**04 45 28.1**	**+1.3**
	baz=84									
CROR	**Criterion Ridg**	**83.89**	**37**	P		**P**		**04 45 28.1**	**+1.1**
OSD	**Olympics--Snow**	**84.18**	**34**	P		**P**		**04 45 30.2**	**+1.6**
VTHM	**Trough**	**84.25**	**37**	P		**P**		**04 45 29.9**	**+1.1**
CCUT	**Cedar City**	**84.47**	**47**	*e*P		**P**		**04 45 31.6**	**+1.3**
	comp=Z,4.8nm,0.8s									
LON	**Longmire**	**84.51**	**35**	*e*P		**P**		**04 45 30.9**	**+0.8**
LON					pmax	pmax				
	comp=Z,31nm,1.7s									
LON	**Longmire**	**84.51**	**35**	*e*P		**P**		**04 45 30.9**	**+0.8**
	comp=Z,31nm,1.7s									
D05A	**Enumclaw**	**84.69**	**35**	*e*P		**P**		**04 45 32.6**	**+1.8**
	comp=Z,80nm,1.3s									
WUAZ	**Wupatki**	**84.82**	**49**	P		**P**		**04 45 32.6**	**+0.6**
	baz=85									
WUAZ	**Wupatki**	**84.82**	**49**	*e*P		**P**		**04 45 33.5**	**+1.6**
JBO	**Jordan Butte**	**84.83**	**37**	P		**P**		**04 45 32.7**	**+1.1**
RC01	**Rabbit Creek A**	**84.84**	**14**	*e*P		**P**		**04 45 30.9**	**-0.3**
	comp=Z,51nm,1.2s									
ELK	**Elko**	**84.92**	**43**	*e*P		**P**		**04 45 32.7**	**+0.3**
ELK					pmax	pmax				
	comp=Z,3.0nm,0.8s									
ELK	**Elko**	**84.92**	**43**	*e*P		**P**		**04 45 32.7**	**+0.3**
	comp=Z,3.2nm,0.8s									
TRW	**Toppenish Ridg**	**84.93**	**36**	P		**P**		**04 45 33.3**	**+1.3**
G08A	**Pilot Rock**	**85.22**	**38**	*e*P		**P**		**04 45 34.4**	**+0.8**
	comp=Z,33nm,1.0s									
EYAK	**Cordova Ski Ar**	**85.31**	**16**	*e*P		**P**		**04 45 33.5**	**+0.1**
	comp=Z,27nm,1.1s									
CMW	**Cultus Mountai**	**85.38**	**34**	P		**P**		**04 45 35.6**	**+1.4**
PMR	**Palmer**	**85.42**	**14**	*e*P		**P**		**04 45 33.1**	**-0.8**
PMR					pmax	pmax				
	comp=Z,50nm,1.2s									
PMR	**Palmer**	**85.42**	**14**	*e*P		**P**		**04 45 33.1**	**-0.8**
	comp=Z,50nm,1.2s									
RSW	**Rattlesnake Hi**	**85.52**	**37**	P		**P**		**04 45 36.3**	**+1.3**
SNIWA	**Snively Ranch**	**85.52**	**36**	P		**P**		**04 45 36.3**	**+1.5**
BJI	**Beijing**	**85.60**	**316**	P		**P**		**04 45 35.9**	**+0.6**
BJI				pP		**pP**		**04 47 44.3**	**-0.1**
BJI				sP		**sP**		**04 48 45.1**	**+0.2**
BJI				S		**S**		**04 55 18.8**	**+1.0**
BJI				PMZ						
	comp=Z,19nm,0.6s									
BJI				PMZ						
	comp=Z,130nm,4.0s									
ENH	**Enshi**	**85.62**	**304**	*e*P		**P**		**04 45 36.6**	**+0.8**
	comp=Z,15nm,0.8s									
MVU	**Marysvale**	**85.74**	**46**	*e*P		**P**		**04 45 37.7**	**+1.3**
	comp=Z,4.7nm,0.8s									
MSU	**Marysvale**	**85.77**	**46**	*e*P		**P**		**04 45 37.4**	**+0.9**
MSU					pmax	pmax				
	comp=Z,6.0nm,0.9s									
MSU	**Marysvale**	**85.77**	**46**	*e*P		**P**		**04 45 37.4**	**+0.9**
	comp=Z,6.0nm,0.9s									
SML	**Sawmill**	**85.79**	**14**	*e*P		**P**		**04 45 35.3**	**-0.5**
SML					pmax	pmax				
	comp=Z,4.0nm,1.2s									
SML	**Sawmill**	**85.79**	**14**	*e*P		**P**		**04 45 35.2**	**-0.5**
	comp=Z,4.4nm,1.2s									
W18A	**Petrified Fore**	**85.79**	**50**	P		**P**		**04 45 37.5**	**+0.8**
	baz=86									
BMO	**Blue Mountains**	**85.93**	**39**	*e*P		**P**		**04 45 37.0**	**0.0**
	comp=Z,6.4nm,0.7s									
BMRM	**Bremner River**	**85.96**	**16**	*e*P		**P**		**04 45 36.6**	**0.0**
	comp=Z,43nm,1.2s									
121A	**Cookes

NEW Newport 87.97 36 eP P 04 45 47.0 +0.6
comp=Z,8.6nm,0.9s
PV01 Paradox Valley 88.05 48 eP P 04 45 47.7 +0.4
ANMO Albuquerque 88.09 52 d i P P 04 45 48.0 +0.6
ANMO pmax pmax
comp=Z,68nm,1.3s
ANMO Albuquerque 88.09 52 eP P 04 45 48.0 +0.6
comp=Z,14nm,1.1s
CCB Clear Creek Bu 88.41 13 eP P 04 45 46.8 -1.1
IM04 Indian Mountai 88.50 10 eP P 04 45 47.9 -0.5
HIA Hailar 88.51 325 eP P 04 45 48.7 -0.1
HIA Hailar 88.51 325 eP P 04 45 48.7 -0.1
DLBC Dease Lake 88.55 23 eP P 04 45 49.7 +0.8
MCMT McKenzie Canyo 88.58 41 eP P 04 45 50.6 +1.0
SUKH Sukhothai 88.59 289 P P 04 45 51.7 +1.8
comp=Z,7.9nm,1.0s,comp=Z,76nm
COLA College 88.60 13 d i P P 04 45 47.7 -1.1
COLA College 88.60 13 eP P 04 45 48.1 -0.7
comp=Z,34nm,0.8s
VNA1 Neumayer--Stat 88.60 177 P P 04 45 49.5 +0.5
VNA1 Neumayer--Stat 88.60 177 P pP 04 48 03.5 +4.6
AHID Auburn Hatcher 88.62 43 eP P 04 45 50.7 +1.0
comp=Z,16nm,1.0s
ILAR Eielson Array 88.71 13 P P 04 45 48.2 -1.2
comp=Z,6.6nm,0.4s,baz=216,slow=5.0,SNR=112
ILAR PKiKP PKiKP 04 50 43.6 -1.1
comp=Z,0.3nm,0.4s,baz=280,slow=3.2,SNR=4.9
KMI Kunming 88.86 297 P P 04 45 53.3 +2.0
KMI PMZ
comp=Z,20nm,1.1s
MSO Missoula 88.98 38 P P 04 45 52.2 +1.0
baz=89
MSO Missoula 88.98 38 eP P 04 45 51.3 +0.1
comp=Z,14nm,1.5s
DLMT Dillon 89.01 40 eP P 04 45 51.6 +0.2
comp=Z,12nm,1.0s
HHC Hu-ho-hao-te 89.05 315 eP P 04 45 51.1 -0.5
HHC pP pP 04 48 01.6 -0.3
HHC sP sP 04 49 04.8 +2.6
HHC PP PP 04 49 35.8 +2.4
HHC S S 04 55 48.9 -1.2
HHC SS SS 05 02 01.3 -1.8
HHC PMZ
comp=Z,19nm,1.2s
HHC PMZ
comp=Z,91nm,8.1s
BSMT Bassoo Peak 89.05 37 eP P 04 45 51.8 +0.2
comp=Z,3.6nm,0.7s
REDW Red Top Meadow 89.07 43 eP P 04 45 52.5 +0.7
comp=Z,27nm,1.0s
TPAW Teton Pass 89.07 42 eP P 04 45 52.9 +0.9
comp=Z,17nm,1.1s
S22A 4UR Ranch, Cre 89.09 49 P P 04 45 53.5 +1.3
baz=89
FXWY Fox Creek 89.10 42 eP P 04 45 53.3 +1.3
comp=Z,8.7nm,1.0s
SNOW Snow King Moun 89.18 42 eP P 04 45 53.6 +1.2
comp=Z,27nm,1.0s
BILL Bilibino 89.22 354 d eP P 04 45 51.2 -0.4
BILL i *PP pP 04 47 59.6 -2.4
BILL i 04 49 31.0
BILL eS SKSac 04 55 23.0 -0.9
BILL pmax pmax
comp=Z,12nm,1.3s
O20A White River Ci 89.22 46 P P 04 45 53.3 +0.7
baz=89
O20A White River Ci 89.22 46 eP P 04 45 53.6 +1.0
comp=Z,14nm,0.8s
529A Stev Forest Ra 89.23 57 P P 04 45 53.5 +0.8
baz=89
IMW Indian Meadow 89.28 42 eP P 04 45 53.8 +0.9
comp=Z,19nm,0.9s
MOOW Moose Ponds 89.33 42 eP P 04 45 53.7 +0.7
comp=Z,18nm,1.5s
LRM Limekiln Ridge 89.33 40 eP P 04 45 53.6 +0.5
comp=Z,26nm,0.9s
LOHW Long Hollow 89.35 42 eP P 04 45 53.7 +0.5
comp=Z,3.6nm,0.5s
QLMT Earthquake Lak 89.45 41 eP P 04 45 55.2 +1.7
comp=Z,3.1nm,1.2s
FLWY Flagg Ranch 89.53 42 eP P 04 45 54.5 +0.6
comp=Z,26nm,1.1s
CMAR Chiang Mai Arr 89.56 290 P P 04 45 56.0 +1.7
comp=Z,16nm,0.9s,baz=123,slow=3.2,SNR=59
BW06 Boulder Array 89.61 43 eP P 04 45 54.4 0.0
comp=Z,21nm,1.1s
PDAR Pinedale Array 89.61 43 P P 04 45 54.9 +0.5
comp=Z,9.7nm,0.7s,baz=219,slow=1.9,SNR=70
CMMT Chiang Mai 89.69 290 P P 04 45 56.4 +1.4
comp=Z,30nm,1.0s
CHTO Chiang Mai 89.69 290 P P 04 45 56.5 +1.5
comp=Z,102nm,0.9s
CHTO Chiang Mai 89.69 290 eP P 04 45 56.0 +1.0
BOZ Bozeman (W) 89.74 40 eP P 04 45 55.8 +1.0
BOZ pmax pmax
comp=Z,16nm,1.1s
BOZ Bozeman (W) 89.74 40 P P 04 45 55.5 +0.7
baz=90
BOZ Bozeman (W) 89.74 40 eP P 04 45 55.8 +1.0
comp=Z,16nm,1.1s
H17A Grant Village 89.76 42 P P 04 45 57.2 +2.2
baz=90,SNR=6.5
H17A Grant Village 89.76 42 eP P 04 45 57.5 +2.4
comp=Z,11nm,1.0s
228A UT Block 9, Go 89.77 55 P P 04 45 55.8 +0.6
baz=90
DAWY Dawson 89.89 16 eP P 04 45 54.9 0.0
530A J-C Ranch, Com 89.94 58 P P 04 45 56.2 +0.2
baz=90
329A Wagon Wheel Ra 89.98 56 P P 04 45 56.9 +0.8
baz=90
EGAK Eagle 90.02 15 eP P 04 45 55.5 +0.1
SDCO Great Sand Dun 90.03 49 P P 04 45 56.8 +0.3
baz=90
SDCO Great Sand Dun 90.03 49 eP P 04 45 56.6 +0.1
comp=Z,11nm,1.3s
128A Castleberry Fa 90.06 55 P P 04 45 57.4 +0.9
baz=90
HRY Holter Researc 90.16 39 eP P 04 45 57.2 +0.5
comp=Z,4.8nm,0.5s
J19A Crowheart 90.17 43 P P 04 45 57.7 +0.8
baz=90,SNR=15
WALA Waterton Lakes 90.19 37 eP P 04 45 57.2 +0.5
COLD Coldfoot 90.25 11 eP P 04 45 57.2 +0.8
comp=Z,14nm,1.0s
631A Perdido Creek 90.25 59 P P 04 45 58.6 +1.2
baz=90
430A Baggett Ranch, 90.28 57 P P 04 45 58.1 +0.6
baz=90
832A Faith Ranch, C 90.28 60 P P 04 45 58.4 +0.9
baz=90,SNR=14
229A Bryant Ranch, 90.31 56 P P 04 45 58.6 +1.0
baz=90
CD2 Chengdu 90.36 303 P P 04 45 57.0 -0.9
CD2 pP pP 04 48 08.1 -0.4
CD2 sP sP 04 49 08.8 +0.3
CD2 PP PP 04 49 42.1 -1.7
CD2 SKS SKSac 04 55 29.9 -2.3
CD2 S S 04 56 00.3 -1.8
CD2 sS sS 04 59 55.4 -0.1
CD2 SS SS 05 02 20.5 -1.6
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,210nm,4.6s
MSTX Muleshoe 90.40 54 P P 04 45 58.6 +0.5
baz=91
MSTX Muleshoe 90.40 54 eP P 04 45 58.5 +0.4
Z28A Tucker Farm, M 90.41 54 P P 04 45 58.7 +0.6
baz=91
732A Laxson Ranch, 90.46 59 P P 04 45 59.4 +1.1
baz=91,SNR=5.8
129A Stewart Farms, 90.54 55 P P 04 45 59.7 +1.0
baz=91
T25A Trinidad 90.54 50 P P 04 45 59.7 +0.9
baz=91
531A Rocksprings 90.57 58 P P 04 46 00.1 +1.2
baz=91,SNR=11
330A Mertzon 90.58 57 P P 04 45 59.8 +0.9
baz=91
I19A Meeteetse 90.58 43 P P 04 46 00.0 +1.2
baz=91,SNR=5.9
933A Laredo 90.59 61 P P 04 46 00.2 +1.3
baz=91
431A Sonora 90.73 57 P P 04 46 00.3 +0.7
baz=91
833A Chaparral WMA, 90.77 60 P P 04 46 00.8 +1.1
baz=91,SNR=7.6
Y28A McKinney Farm, 90.77 54 P P 04 46 00.3 +0.5
baz=91
Q24A Divide 90.81 48 P P 04 46 00.9 +0.8
baz=91
230A Sterling City 90.82 56 P P 04 46 00.6 +0.6
baz=91
J20A Shoshoni 90.83 43 P P 04 46 01.0 +1.1
baz=91,SNR=15
034A Hebbronville 90.86 61 P P 04 46 01.7 +1.5
baz=91
ISCO Idaho Springs 90.86 47 eP P 04 46 00.2 -0.1
ISCO pmax pmax
comp=Z,26nm,2.0s
ISCO Idaho Springs 90.86 47 P P 04 46 01.1 +0.7
baz=91,SNR=5.5
ISCO Idaho Springs 90.86 47 eP P 04 46 00.2 -0.1
comp=Z,26nm,2.0s
H19A Powell 90.89 42 P P 04 46 01.3 +1.2
baz=91
632A Uvalde 90.92 59 P P 04 46 01.5 +1.1
baz=91,SNR=11
Z29A Hungry Hill Ra 90.92 55 P P 04 46 01.2 +0.7
baz=91
RLMT Red Lodge 90.93 42 P P 04 46 01.4 +1.1
baz=91
733A Divot King Ran 91.00 60 P P 04 46 02.6 +1.8
baz=91
X28A Dimmitt 91.06 53 P P 04 46 02.0 +0.9
baz=91
532A Rocksprings 91.07 58 P P 04 46 02.2 +1.0
baz=91,SNR=7.7
I20A Worland 91.09 43 P P 04 46 02.2 +1.1
baz=91
V27A Dan Oppiter Fa 91.10 52 P P 04 46 02.1 +0.8
baz=91
331A San Angelo 91.12 57 P P 04 46 02.5 +1.1
baz=91
N23A Red Feather La 91.12 46 P P 04 46 02.4 +1.0
baz=91,SNR=11
Y29A Porterfield Fa 91.19 54 P P 04 46 02.6 +0.9
baz=91,SNR=8.7
934A Benavides 91.20 61 P P 04 46 03.5 +1.7
baz=91
130A Snyder 91.22 56 P P 04 46 02.7 +0.9
baz=91
J21A Lysite 91.24 44 P P 04 46 02.9 +1.0
baz=92,SNR=7.7
JCT Junction City 91.29 58 eP P 04 46 01.4 -0.8
JCT pmax pmax
comp=Z,6.0nm,0.8s
JCT Junction City 91.29 58 P P 04 46 03.1 +0.9
baz=92
JCT Junction City 91.29 58 eP P 04 46 01.4 -0.8
comp=Z,6.1nm,0.8s
035A Encino 91.29 62 P P 04 46 03.2 +1.1
baz=92
Z30A Sanderson Ranc 91.37 55 P P 04 46 03.5 +1.0
baz=92
834A Tilden 91.38 61 P P 04 46 04.2 +1.6
baz=92
633A Saathoff Ranch 91.39 59 P P 04 46 03.7 +1.1
baz=92,SNR=12
U27A Thompson Grove 91.39 51 P P 04 46 03.0 +0.4
baz=92
X29A Tulia 91.41 54 P P 04 46 03.5 +0.8
baz=92
H20A Greybull 91.42 43 P P 04 46 03.2 +0.7
baz=92
S26A Kim 91.43 50 P P 04 46 03.4 +0.6
baz=92,SNR=11
432A Menard 91.45 58 P P 04 46 03.3 +0.4
baz=92,SNR=11
231A Bronte 91.46 56 P P 04 46 03.2 +0.3
baz=92,SNR=11
K22A Casper 91.53 45 P P 04 46 03.9 +0.7
baz=92,SNR=5.2
K22A Casper 91.53 45 eP P 04 46 03.8 +0.7
comp=Z,15nm,1.1s
V28A Channing 91.55 52 P P 04 46 03.8 +0.5
baz=92
I21A Big Trails, Te 91.56 43 P P 04 46 03.7 +0.4
baz=92,SNR=7.4
G20A Bridger 91.63 42 P P 04 46 04.2 +0.7
baz=92
734A La Parita Cree 91.65 60 P P 04 46 04.5 +0.7
baz=92
332A Millersview 91.69 57 P P 04 46 04.6 +0.6
baz=92,SNR=14
131A Roby 91.70 56 P P 04 46 04.5 +0.5
baz=92
W29A Amraillo 91.72 53 P P 04 46 04.7 +0.6
baz=92
R26A Arlington 91.73 50 P P 04 46 04.7 +0.6
baz=92,SNR=14
T27A Campo 91.73 51 P P 04 46 04.9 +0.8
baz=92
533A Kerrville 91.74 59 P P 04 46 05.0 +0.8
baz=92
U28A Mat 91.81 52 P P 04 46 05.1 +0.6
baz=92
S27A Las Animas 91.86 50 P P 04 46 05.2 +0.4
baz=92
J22A Midwest 91.90 44 P P 04 46 05.4 +0.6
baz=92,SNR=9.4
Q26A Hugo 91.94 49 P P 04 46 05.9 +0.7
baz=92
433A Art 91.96 58 P P 04 46 05.8 +0.6
baz=92
232A Coleman 91.96 57 P P 04 46 05.8 +0.6
baz=92
835A Beeville 92.03 61 P P 04 46 06.3 +0.7
baz=92
EGMT Eagleton 92.04 39 P P 04 46 06.4 +1.1
baz=92
H21A Big Horn, Sher 92.09 43 P P 04 46 06.4 +0.7
baz=92
YAK Yakutsk 92.09 338 i eP P 04 46 05.3 +0.3
YAK pmax pmax
comp=Z,15nm,0.7s
I22A 9 Mile Ranch, 92.11 44 P P 04 46 06.5 +0.7
baz=92
V29A Stinnett 92.12 52 P P 04 46 06.4 +0.5
baz=92
Z31A Sharp Cattle R 92.14 55 P P 04 46 06.9 +0.9
baz=92
K23A Bowen Ranch, D 92.17 45 P P 04 46 06.8 +0.7
baz=92
534A Blanco 92.17 59 P P 04 46 07.0 +0.8
baz=92,SNR=15
R27A Eads 92.19 50 P P 04 46 06.9 +0.7
baz=92,SNR=7.0
T28A Walsh 92.20 51 P P 04 46 06.8 +0.5
baz=92
ABTX Abilene, Hawle 92.25 56 P P 04 46 07.1 +0.5
baz=92
ABTX Abilene, Hawle 92.25 56 eP P 04 46 06.5 0.0
comp=Z,24nm,1.5s
735A Kenedy 92.26 60 P P 04 46 07.2 +0.6
baz=92
G21A Lodge Grass 92.26 42 P P 04 46 07.6 +1.2
baz=92
333A Richland Sprin 92.26 57 P P 04 46 07.3 +0.6
baz=92
Y31A Rekieta Farm, 92.31 55 P P 04 46 07.4 +0.7
baz=92
P26A Davis Ranch, A 92.33 48 P P 04 46 07.9 +1.0
baz=92
LZH Lanzhou 92.39 308 eP P 04 46 08.4 +1.2
LZH pP pP 04 48 18.8 +0.8
LZH sP sP 04 49 16.4 -1.6
LZH PMZ
comp=Z,22nm,1.0s
LZH PMZ
comp=Z,85nm,4.3s
635A Leesville 92.49 60 P P 04 46 08.6 +1.0
baz=93
J23A Dilts Ranch, B 92.50 44 P P 04 46 08.3 +0.7
baz=93
H22A Clearmont 92.52 43 P P 04 46 08.4 +0.9
baz=93
U29A Oasis Ranch, S 92.55 52 P P 04 46 08.6 +0.8
baz=93
S28A Manter 92.55 51 P P 04 46 08.8 +0.9
baz=93
W30A Crocket Farms 92.55 53 P P 04 46 08.8 +0.9
baz=93
F21A Absaloka Mine, 92.59 42 P P 04 46 08.7 +0.9
baz=93
233A Rising Star 92.60 57 P P 04 46 09.0 +0.8
baz=93
KSCO Kaye Shedlock' 92.61 49 P P 04 46 09.2 +1.1
baz=93
KSCO Kaye Shedlock' 92.61 49 eP P 04 46 09.1 +0.9
comp=Z,14nm,0.8s
434A Burnet 92.63 58 P P 04 46 09.1 +0.8
baz=93
O26A Horse Wrangler 92.65 48 P P 04 46 09.3 +1.0
baz=93
Z32A Haskell 92.65 55 P P 04 46 09.1 +0.8
baz=93,SNR=6.6
K24A Anderson Ranch 92.69 45 P P 04 46 09.3 +0.9
baz=93
V30A Spur Ranch, Mi 92.70 53 P P 04 46 09.5 +0.9
baz=93
B19A Brinkman Farms 92.72 39 P P 04 46 09.8 +1.5
baz=93
133A Hamilton Ranch 92.81 56 P P 04 46 09.7 +0.6
baz=93
334A Lometa 92.86 58 P P 04 46 09.9 +0.6
baz=93,SNR=6.2
P27A Ficken Ranch, 92.87 49 P P 04 46 10.1 +0.7
baz=93
R28A Tribune 92.92 50 P P 04 46 10.5 +0.9
baz=93,SNR=15
C20A Veseth Ranch, 92.93 40 P P 04 46 10.5 +1.2
baz=93
E21A Keefer Ranch, 92.95 41 P P 04 46 10.8 +1.4
baz=93
Y32A R-V Farms, Ver 92.95 55 P P 04 46 10.4 +0.7
baz=93
L25A Engebretsen Ra 93.01 46 P P 04 46 11.2 +1.3
baz=93
W31A Holland Ranch, 93.03 54 P P 04 46 11.0 +1.0
baz=93
A19A Klindworth Far 93.06 38 P P 04 46 11.1 +1.2
baz=93
F22A Rosebud 93.11 42 P P 04 46 11.2 +1.0
baz=93
S29A Ulysses 93.13 51 P P 04 46 11.7 +1.2
baz=93
435B Jarrell 93.17 58 P P 04 46 12.1 +1.4
baz=93
Z33A Whitaker Ranch 93.19 56 P P 04 46 11.6 +0.8
baz=93
234A Clairette 93.19 57 P P 04 46 11.5 +0.7
baz=93
Q28A Sharon Springs 93.20 49 P P 04 46 11.8 +1.0
baz=93
O27A Beecher Island 93.20 48 P P 04 46 11.9 +1.1
baz=93
X32A Elmer 93.23 54 P P 04 46 11.9 +0.9
baz=93
B20A Solberg Farm, 93.25 39 P P 04 46 11.8 +1.1
baz=94
K25A Mack Ranch, Ha 93.27 46 P P 04 46 12.5 +1.4
baz=94
M26A McRoberts Ranc 93.28 47 P P 04 46 12.2 +1.1
baz=94
V31A Spring Creek L 93.33 53 P P 04 46 12.8 +1.3
baz=94
G23A Biddle 93.40 43 P P 04 46 12.3 +0.7
baz=94
N27A Anderson Farm, 93.42 48 P P 04 46 12.4 +0.6
baz=94
R29A Marienthal 93.44 50 P P 04 46 13.0 +1.1
baz=94
134A White-Moore Ra 93.45 57 P P 04 46 13.2 +1.2
baz=94
P28A Saint Francis 93.46 49 P P 04 46 13.4 +1.4
baz=94,SNR=5.8
335A Moody 93.48 58 P P 04 46 13.2 +1.0
baz=94
A20A Cobblestone Ra 93.52 39 P P 04 46 13.2 +1.2
baz=94
LAO LASA Array 93.54 41 P P 04 46 14.0 +1.9
baz=94
H24A Dirks Ranch, A 93.74 43 P P 04 46 13.8 +0.7
baz=94
Q29A Oakley 93.74 50 P P 04 46 14.2 +0.9
baz=94,SNR=5.3
K26A Motz Farm, Whi 93.77 46 P P 04 46 14.3 +1.0
baz=94
RSSD Black Hills 93.80 44 eP P 04 46 13.9 +0.3
RSSD pmax pmax
comp=Z,7.0nm,1.1s
RSSD Black Hills 93.80 44 eP P 04 46 13.9 +0.3
comp=Z,7.2nm,1.1s
B21A Ellsworth Farm 93.84 39 P P 04 46 14.5 +1.0
baz=94
I25A Rochford 93.96 44 P P 04 46 15.0 +0.7
baz=94
R30A Dighton 94.00 51 P P 04 46 15.3 +0.8
baz=94
E23A Ismay 94.02 42 P P 04 46 15.1 +0.8
baz=94
P29A Atwood 94.05 49 P P 04 46 15.7 +1.0
baz=94
N28A Pribbeno Ranch 94.06 48 P P 04 46 15.7 +1.0
baz=94
G24A Alzada 94.07 43 P P 04 46 15.3 +0.7
baz=94
J26A Sides Ranch, S 94.09 45 P P 04 46 15.7 +0.9
baz=94
A21A Bergtoll Ranch 94.15 39 P P 04 46 15.8 +0.9
baz=94
F24A Ekalaka 94.28 42 P P 04 46 16.4 +0.8
baz=94
H25A Fruitdale 94.30 44 P P 04 46 16.5 +0.9
baz=94
Q30A Quinter 94.31 50 P P 04 46 17.0 +1.2
baz=94
O29A 4D Ranch, Culb 94.36 49 P P 04 46 17.1 +1.1
baz=95
P30A Selden 94.52 49 P P 04 46 17.8 +1.0
baz=95
R31A Burdett 94.55 51 P P 04 46 17.9 +1.0
baz=95
INK Inuvik 94.69 15 P P 04 46 16.0 -0.7
comp=Z,5.4nm,0.9s,baz=205,slow=4.5,SNR=9.1
INK Inuvik 94.69 15 P P 04 46 16.0 -0.7
INK pmax pmax
comp=Z,5.0nm,0.9s
INK Inuvik 94.69 15 eP P 04 46 15.9 -0.8
comp=Z,8.6nm,1.1s
J27A Elkhorn Farm, 94.78 46 P P 04 46 18.9 +1.0
baz=95
H26A Fairpoint 94.83 44 P P 04 46 19.1 +1.0
baz=95
D24A Glendive 94.89 41 P P 04 46 19.3 +1.0
baz=95
SONM Songino Array 95.50 319 P P 04 46 20.3 -0.8
comp=Z,0.7nm,0.8s,baz=124,slow=2.7,SNR=5.1
GTA Gaotai 96.61 310 eP P 04 46 26.8 +0.5
GTA pP pP 04 48 37.9 +0.4
GTA sP sP 04 49 35.0 -2.4
GTA PMZ
comp=Z,5.0nm,1.4s
NNA Nana 96.65 105 eP P 04 46 28.5 +1.6
NNA Nana 96.65 105 eP P 04 46 28.5 +1.6
comp=Z,89nm,1.6s
YKA Yellowknife Ar 97.02 25 P Pdif 04 46 27.1 -0.2
comp=Z,1.2nm,0.7s,baz=234,slow=4.6,SNR=6.1
YKA Yellowknife Ar 97.02 25 P Pdif 04 46 27.1 -0.2
YKA pmax pmax
comp=Z,1.0nm,0.7s
ZAA0 Zalesovo Array 110.26 321 ePKP PKiKP 04 51 22.1 -1.5
ZALV Zalesovo Beam 110.26 321 PKiKP PKiKP 04 51 22.1 -1.5
comp=Z,3.8nm,0.6s,baz=192,slow=1.1,SNR=15
MK31 Makanchi Array 110.88 313 ePKIKP PKiKP 04 51 23.9 -1.2
MK31 Makanchi Array 110.88 313 ePKP PKiKP 04 51 23.9 -1.2
MKAR Makanchi Array 110.88 313 PKiKP PKiKP 04 51 24.1 -1.0
comp=Z,2.2nm,0.3s,baz=155,slow=0.7,SNR=27
NVS Novosibirsk 111.29 322 ePKIKP PKiKP 04 51 23.8 -1.7
KURK Kurchatov 113.72 317 ePKIKP PKiKP 04 51 29.0 -1.3
KURK Kurchatov 113.72 317 ePKP PKiKP 04 51 29.0 -1.3
KURBB Kurchatov Arra 113.77 317 PKIKP PKiKP 04 51 29.0 -1.4
comp=Z,2.2nm,0.4s,baz=93,slow=1.9,SNR=40
TKM2 Tokmak 2 115.14 309 ePKIKP PKPdf 04 51 32.5 -1.1
TKM2 Tokmak 2 115.14 309 ePKP PKPdf 04 51 32.5 -1.1
EKS2 Erkin-Say 116.45 308 ePKIKP PKPdf 04 51 35.6 -0.5
EKS2 Erkin-Say 116.45 308 ePKPdf PKPdf 04 51 35.5 -0.5
BVAR Borovoye Array 118.83 320 PKP PKPdf 04 51 39.5 -0.6
comp=Z,11nm,0.3s,baz=121,slow=2.7,SNR=70

BRVK Borovoye 118.90 320 *d i* PKIKP **PKPdf** 04 51 39.4 -0.8
BRVK pmax pmax
comp=Z,14nm,1.0s
BRVK Borovoye 118.90 320 *e* PKPdf **PKPdf** 04 51 38.9 -1.4
SCHQ Schefferville 119.28 38 PKP **PKPdf** 04 51 39.7 -1.2
comp=Z,1.3nm,0.7s,baz=336,slow=10.0,SNR=3.0
KBL Kabul 119.42 299 *e* PKIKP **PKPdf** 04 51 41.9 -0.2
KBL Kabul 119.42 299 *e* PKPdf **PKPdf** 04 51 41.9 -0.2
ILULI Ilulissat 122.20 20 *i* P **PKPdf** 04 51 44.9 -1.2
comp=Z,27nm,0.9s
DAG Danmarks Havn 123.05 5 *i* P **PKPdf** 04 51 45.9 -1.7
comp=Z,3.8nm,0.6s
DAG Danmarks Havn 123.05 5 *i* PKIKP **PKPdf** 04 51 45.9 -1.7
DAG pmax pmax
comp=Z,3.0nm,0.6s
SUMG Summit 123.55 13 *i* P **PKPdf** 04 51 48.4 -0.7
comp=Z,4.5nm,0.8s
SUMG Summit 123.55 13 *i* PKIKP **PKPdf** 04 51 48.4 -0.7
SUMG pmax pmax
comp=Z,5.0nm,0.8s
SVE Sverdlovsk 123.81 325 *e* PKIKP **PKPdf** 04 51 49.2 -0.3
SVE pmax pmax
comp=Z,27nm,1.0s
SOKR Solikamsk 124.95 329 *e* PKIKP **PKPdf** 04 51 51.7 +0.1
SOKR pmax pmax
comp=Z,20nm,0.8s
ARU Arti 125.02 325 PKP **PKPdf** 04 51 51.6 -0.2
baz=120,slow=18
ARU Arti 125.02 325 ⇑ *i* PKIKP **PKPdf** 04 51 51.7 -0.2
ARU pmax pmax
comp=Z,36nm,1.7s
ARU Arti 125.02 325 *e* PKPdf **PKPdf** 04 51 51.3 -0.5
BOSA Boshof 125.74 206 PKP **PKPdf** 04 51 54.6 +0.2
comp=Z,6.6nm,1.0s,baz=91,slow=8.1,SNR=4.0
BOSA Boshof 125.74 206 PKIKP **PKPdf** 04 51 54.6 +0.2
BOSA pmax pmax
comp=Z,7.0nm,1.0s
BOSA Boshof 125.74 206 *e* PKPdf **PKPdf** 04 51 54.8 +0.4
ABKAR Akbulak array 125.80 316 *e* PKPdf **PKPdf** 04 51 53.2 -0.4
AKTO Aktyubinsk 126.80 318 PKP **PKPdf** 04 51 55.3 -0.2
comp=Z,8.1nm,0.8s,baz=60,slow=1.6,SNR=26
GEYT Alibeck 128.35 302 PKP **PKPdf** 04 51 58.8 -0.1
comp=Z,7.2nm,0.7s,baz=119,slow=1.9,SNR=9.1
PRGR Permogore 128.98 335 PKIKP **PKPdf** 04 51 57.5 -1.7
PRGR pmax pmax
comp=Z,10.0nm,0.9s
ARCES ARCESS Array B 129.04 349 PKhKP PKPpre 04 51 46.4
comp=Z,2.3nm,0.9s,baz=242,slow=0.5,SNR=9.3
ARCES PKP **PKPdf** 04 51 58.5 -0.7
comp=Z,6.5nm,0.6s,baz=75,slow=1.0,SNR=39
LSZ Lusaka 135.50 219 *e* PKIKP **PKPdf** 04 52 13.6 +0.5
LSZ Lusaka 135.50 219 *e* PKPdf **PKPdf** 04 52 13.6 +0.5
FINES FINESS Array B 135.82 343 PKhKP PKPpre 04 52 00.6
comp=Z,0.8nm,0.3s,baz=53,slow=2.0,SNR=13
FINES PKP **PKPdf** 04 52 11.8 -0.3
comp=Z,4.8nm,0.6s,baz=77,slow=3.0,SNR=12
FINES SKPbc **SKPbc** 04 54 48.9 +1.1
comp=Z,5.6nm,0.8s,baz=95,slow=4.6,SNR=10
OBN Obninsk 136.65 331 *c i* PKIKP **PKPdf** 04 52 13.2 -0.6
OBN *i* 04 55 04.4
OBN pmax pmax
comp=Z,31nm,1.4s
LPSR Galich'ya Gora 136.98 327 *e* PKIKP **PKPdf** 04 52 14.9 +0.4
LPSR pmax pmax
comp=N,3.0nm,1.0s
LPSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR pmax pmax
comp=E,5.0nm,0.9s
VSR Storozhevoye 137.59 325 *e* PKIKP **PKPdf** 04 52 15.0 -0.7
VSR pmax pmax
comp=E,3.0nm,0.5s
VSR pmax pmax
comp=Z,9.0nm,0.5s
VSR pmax pmax
comp=N,4.0nm,0.4s
KMBO Kilima Mbogo 138.63 243 *e* PKIKP **PKPdf** 04 52 21.8 +2.7
KMBO Kilima Mbogo 138.63 243 *e* PKPdf **PKPdf** 04 52 21.8 +2.7
NB2 NORSAR Subarra 139.14 353 PKP PKPpre 04 52 09.3
comp=Z,1.1nm,0.5s,baz=10,slow=3.2
NB2 NORSAR Subarra 139.14 353 PKP PKPpre 04 52 09.4
comp=Z,2.4nm,0.8s,baz=10,slow=3.2
NOA NORSAR Array B 139.14 353 PKhKP PKPpre 04 52 08.7
comp=Z,2.6nm,0.6s,baz=12,slow=2.3,SNR=10
NOA PKP **PKPdf** 04 52 17.8 -0.6
comp=Z,0.8nm,0.5s,baz=14,slow=4.1,SNR=6.6
NOA SKPbc **SKPbc** 04 54 56.7 -0.7
comp=Z,2.2nm,0.9s,baz=15,slow=4.3,SNR=3.9
NAO01 NORSAR Array S 139.37 353 *e* PKPdf PKPpre 04 52 11.5
BNGB Bing¶ll 141.66 307 *e* P **PKPdf** 04 52 19.0 -4.6
GUMT Gumushane 142.08 310 *e* P **PKPdf** 04 52 21.5 -2.8
SUW Suwalki 142.83 339 *e* PKP **PKPdf** 04 52 21.5 -3.5
AKASG Malin Array Be 142.90 330 PKhKP **PKPdf** 04 52 21.9 -3.3
comp=Z,22nm,0.3s,baz=42,slow=3.3,SNR=73
AKBB Malin Array Si 142.90 330 *e* PKPdf **PKPdf** 04 52 21.7 -3.5
AK01 Malin Array Si 142.91 330 *e* PKPdf **PKPdf** 04 52 21.7 -3.6
KIEV Kiev 142.91 330 *e* PKPdf **PKPdf** 04 52 21.8 -3.4
AK02 Malin Array Si 142.94 330 *e* PKPdf **PKPdf** 04 52 21.9 -3.4
KAC Achnashellach 142.98 6 *e* P **PKPdf** 04 52 23.0 -2.2
MCD Coleburn Disti 143.06 4 *e* P PKPab 04 52 22.5 -0.8
KPL Plockton 143.10 6 *e* P PKPab 04 52 23.0 -0.4
MDO Dochfour 143.12 5 *e* P PKPab 04 52 22.7 -0.8
KSB Sheil Bridge 143.25 6 *e* P PKPab 04 52 23.6 -0.4
MME1 Meikle Cairn 143.35 4 *e* P PKPab 04 52 23.2 -1.2
MALT Malatya 143.54 307 *e* P **PKPdf** 04 52 27.4 +0.4
MALT Malatya 143.54 307 ⇑ PKIKP **PKPdf** 04 52 27.0 0.0
MALT Malatya 143.54 307 ⇑ *i* P **PKPdf** 04 52 27.0 0.0
SIM Simferopol' 143.75 319 *d i* PKHKP PKPbc 04 52 24.1 -2.1
SIM pmax pmax
comp=Z,107nm,0.9s
DRUM Mains of Drumt 143.78 3 *e* P PKPbc 04 52 25.1 -0.8
KSRV Kasrt alli 143.78 303 *i* P PKPbc 04 52 23.1 -3.5
MUD Monsted U'grnd 143.86 353 *i* P PKPbc 04 52 26.0 -0.1
comp=Z,110nm,1.1s
MUD Monsted U'grnd 143.86 353 *i* PKIKP PKPbc 04 52 26.0 -0.1
MUD pmax pmax
comp=Z,110nm,1.1s
SVSK Karacayir 144.05 310 *e* P **PKPab** 04 52 28.1 +0.5
EDU Dundee 144.11 4 *e* P PKPbc 04 52 26.4 -0.5
DARE Darende-Malaty 144.16 308 *e* P **PKPab** 04 52 28.8 +0.5
BSD Bornholm Skovb 144.18 347 ⇓ *i* P PKPbc 04 52 26.5 -0.7
comp=Z,87nm,0.8s
BSD Bornholm Skovb 144.18 347 ⇓ *i* PKIKP PKPbc 04 52 26.5 -0.7
BSD pmax pmax
comp=Z,87nm,0.8s
PGBU Glenifferbraes 144.72 6 *e* P **PKPdf** 04 52 28.2 -0.1
ESY Stoneypath 144.76 4 *e* P **PKPdf** 04 52 28.5 +0.2
EBL Broad Law 144.88 4 *e* P **PKPdf** 04 52 28.9 +0.3
GKP Gorka Klasztor 145.29 343 *e* PKP **PKPbc** 04 52 30.3 -0.3
GKP Gorka Klasztor 145.29 343 *e* PKIKP **PKPbc** 04 52 30.3 -0.3
ESK Eskdalemuir 145.32 5 *e* P **PKPdf** 04 52 29.5 +0.2
ESK Eskdalemuir 145.32 5 *e* PKIKP **PKPbc** 04 52 30.0 -0.6
ESK Eskdalemuir 145.32 5 *e* PKPbc **PKPbc** 04 52 30.0 -0.6
BEL Belsk 145.44 339 *e* PKP **PKPdf** 04 52 30.1 +0.5
BEL Belsk 145.44 339 *e* PKIKP **PKPdf** 04 52 30.1 +0.5
ECK Cauldkaine Hil 145.46 4 *e* P **PKPdf** 04 52 30.3 +0.7
KIS Kishinev 145.57 326 ⇓ PKP **PKPdf** 04 52 30.0 0.0
KIS M M 04 52 30.5
comp=Z,200nm,1.0s
KIS Kishinev 145.57 326 *x i* PKIKP **PKPdf** 04 52 30.0 0.0
KIS *e* 04 54 40.0
KIS pmax pmax
comp=Z,200nm,1.0s
TOS Tosya 145.68 313 *e* P **PKPbc** 04 52 33.1 +0.8
KOZT Kozan 145.76 307 *e* P **PKPdf** 04 52 29.5 -1.2
ZALF Zalf 145.78 298 *i* P **PKPbc** 04 52 32.0 -0.7
LVV L'vov 145.83 334 *e* PKIKP **PKPbc** 04 52 31.6 -0.7
WRDH Warideh 145.91 303 *i* P **PKPdf** 04 52 30.9 -0.1
KESW Keswick, Cumbr 146.05 5 *e* P **PKPdf** 04 52 32.2 -0.5
BIDA Albida 146.11 302 *i* P **PKPdf** 04 52 31.1 -0.3
ARNB Al Arnab 146.15 304 *i* P **PKPdf** 04 52 31.8 +0.3
BSEG Bad Segeberg 146.16 350 *e* PKPbc **PKPbc** 04 52 33.2 +0.2
TOTH TOTAH 146.43 299 *i* P **PKPdf** 04 52 33.1 +1.1
BR131 Keskin Array S 146.50 312 *e* PKPbc **PKPbc** 04 52 34.3 -0.4
BRTR Keskin Array B 146.50 312 PKPbc **PKPbc** 04 52 34.3 -0.4
comp=Z,17nm,0.8s,baz=91,slow=2.9,SNR=55
KWP Kalwaria Pacla 146.52 334 *e* PKP **PKPbc** 04 52 33.9 -0.3
KWP Kalwaria Pacla 146.52 334 *e* PKP2 **PKPbc** 04 52 33.9 -0.3
KAMT Kaman 146.60 311 *e* P **PKPbc** 04 52 34.8 -0.1
GULA Gulagac 146.63 309 *e* P **PKPbc** 04 52 35.4 +0.4
TLCR 146.71 323 ⇑ PKIKP **PKPbc** 04 52 34.4 -0.4
TLCR 146.71 323 ⇑ *i* P **PKPbc** 04 52 34.3 -0.5
HPK Haverah Park 146.77 3 *e* P **PKPbc** 04 52 34.7 +0.1
BRBR Barbar 146.81 300 *i* P **PKPbc** 04 52 35.2 -0.5

RUE Ruedersdorf 146.88 346 *e* PKPbc **PKPbc** 04 52 35.1 +0.1
BUR08 Bucovina Ar. S 146.93 330 *e* PKPbc **PKPbc** 04 52 35.7 +0.2
BURAR Bucovina Array 146.94 330 ⇓ PKP2 **PKPbc** 04 52 36.2 +0.7
BURAR Bucovina Array 146.94 330 ⇓ *i* P **PKPbc** 04 52 36.2 +0.7
MERS Mersin 146.94 306 *e* P **PKPbc** 04 52 35.8 0.0
TESR Tescani 147.01 327 ⇑ *i* P **PKPbc** 04 52 35.8 +0.2
CFR Carcaliu 147.09 324 ⇑ PKP2 **PKPbc** 04 52 36.1 +0.3
CFR Carcaliu 147.09 324 ⇑ *i* P **PKPbc** 04 52 36.0 +0.3
OJC Ojcow 147.14 338 *e* PKP **PKPbc** 04 52 34.8 -1.0
OJC Ojcow 147.14 338 *e* PKIKP **PKPbc** 04 52 34.8 -1.0
LHO Holmfirth 147.17 3 *e* P **PKPbc** 04 52 35.1 -0.7
SULT Sultanhani-AKS 147.21 309 *e* P **PKPdf** 04 52 33.0 -0.2
WLF1 Llynfaes 147.22 6 *e* P **PKPbc** 04 52 35.1 -0.7
YRC Rhoscolyn 147.25 7 *e* P **PKPbc** 04 52 35.0 -0.9
VRI Vrincioaia 147.40 326 ⇑ PKP2 **PKPbc** 04 52 36.8 +0.2
VRI Vrincioaia 147.40 326 ⇑ *i* P **PKPbc** 04 52 36.8 +0.2
PLOR Plostina 147.45 326 ⇓ PKIKP **PKPbc** 04 52 36.4 -0.4
PLOR Plostina 147.45 326 ⇓ *i* P **PKPbc** 04 52 36.4 -0.4
UZH Uzhgorod 147.47 334 *e* PKP2 **PKPbc** 04 52 36.5 -0.2
KBI1 Birley Grange 147.48 3 *e* P **PKPbc** 04 52 35.2 -1.4
STNC Stoke 147.60 4 *e* P **PKPbc** 04 52 35.6 -1.3
NIE Niedzica 147.62 337 *e* PKP **PKPbc** 04 52 37.5 +0.4
NIE Niedzica 147.62 337 *e* PKP2 **PKPbc** 04 52 37.5 +0.4
KSP Ksiaz 147.72 342 *e* PKP **PKPbc** 04 52 37.4 +0.2
KSP Ksiaz 147.72 342 *e* PKP2 **PKPbc** 04 52 37.5 +0.2
FOEL Foel Wylfa 147.73 5 *e* P **PKPbc** 04 52 36.8 -0.4
MDUB Mudurnu 147.84 314 *e* P **PKPbc** 04 52 37.9 -0.1
MSAB Monastry St. A 147.94 323 ⇑ *i* P **PKPbc** 04 52 38.6 +0.6
PSN Preselentsi 147.99 322 ⇓ PKP2 **PKPbc** 04 52 39.0 +0.9
PSN Preselentsi 147.99 322 ⇓ *i* P **PKPbc** 04 52 39.0 +0.9
ISR Istrita 147.99 325 ⇑ PKP2 **PKPbc** 04 52 38.6 +0.4
ISR Istrita 147.99 325 ⇑ *i* P **PKPbc** 04 52 38.6 +0.4
CWF Charnwood Fore 148.01 3 *e* P **PKPbc** 04 52 37.2 -0.7
DOPR Dopca 148.02 327 ⇑ *i* P **PKPbc** 04 52 39.2 +1.0
OKC Ostrava-Krasne 148.03 339 ⇑ *e* PKP **PKPbc** 04 52 38.1 0.0
OKC *e* PKPAB **PKPab** 04 52 43.4 +0.3
OKC Ostrava-Krasne 148.03 339 *e* PKP2 **PKPbc** 04 52 38.1 0.0
MLR Muntele Rosu 148.06 326 ⇑ PKP2 **PKPbc** 04 52 38.4 -0.1
MLR Muntele Rosu 148.06 326 ⇑ *i* P **PKPbc** 04 52 38.4 -0.1
UPC Upice 148.10 342 ⇑ *e* PKP **PKPbc** 04 52 38.5 +0.3
UPC *e* PKPAB **PKPab** 04 52 44.1 +0.7
UPC Upice 148.10 342 *e* PKP2 **PKPbc** 04 52 38.5 +0.3
HLM1 Long Mynd 148.13 5 *e* P **PKPbc** 04 52 37.8 -0.5
KONT Konya--Tatoy 148.14 309 *e* P **PKPdf** 04 52 36.5 +1.9
CLL Collm 148.15 346 *e* PKPdf **PKPdf** 04 52 34.1 -0.1
CLL *e* PKPbc **PKPbc** 04 52 38.1 -0.2
CLL *e* PKPab **PKPab** 04 52 43.2 -0.3
CLL *e* pPKPbc **pPKPbc** 04 55 00.0 +3.7
CLL Collm 148.15 346 *e* PKPdf **PKPdf** 04 52 34.0 -0.1
comp=Z,8.0nm,1.2s
CLL ⇓ *i* PKPbc **PKPbc** 04 52 37.8 -0.5
comp=Z,65nm,0.9s
CLL *i* PKPab **PKPab** 04 52 42.3 -1.2
comp=Z,25nm,0.8s
CLL *e* pPKPbc **pPKPbc** 04 55 00.0 +3.7
DPC Dobruska-Polom 148.16 342 ⇑ *e* PKP **PKPbc** 04 52 38.9 +0.5
DPC *e* PKPAB **PKPab** 04 52 43.8 +0.1
DPC Dobruska-Polom 148.16 342 *e* PKP2 **PKPbc** 04 52 38.9 +0.5
CLZ Clausthal 148.17 349 *e* PKPbc **PKPbc** 04 52 38.6 +0.2
LFK Lefkose 148.22 304 *e* P **PKPbc** 04 52 37.2 -1.9
KRLC Kraliky 148.26 341 ⇑ *e* PKP **PKPbc** 04 52 38.9 +0.2
KRLC Kraliky 148.26 341 *e* PKP2 **PKPbc** 04 52 38.9 +0.2
MORC Moravsky Berou 148.28 340 ⇓ P **PKPbc** 04 52 39.0 +0.3
MORC Moravsky Berou 148.28 340 *e* PKPdf **PKPdf** 04 52 34.4 -0.1
MORC *e* PKPbc **PKPbc** 04 52 39.0 +0.3
MORC *e* PKPab **PKPab** 04 52 44.4 +0.1
SECR 148.30 326 ⇑ *i* P **PKPbc** 04 52 39.5 +0.6
GULT Gulveren 148.31 315 *e* P **PKPbc** 04 52 39.0 -0.2
BRG Berggiesshubel 148.33 345 *e* PKP **PKPdf** 04 52 34.5 +0.1
comp=Z,11nm,1.4s
BRG *i* 04 52 38.8
comp=Z,36nm,1.0s
BRG *i* 04 52 44.3
comp=Z,16nm,0.8s
BRG *es* PKP 04 54 39.4
comp=Z,2.2nm,0.8s
BRG *e* 04 54 56.4
comp=Z,3.9nm,1.0s
BRG Berggiesshubel 148.33 345 *e* PKPdf **PKPdf** 04 52 34.6 +0.1
BRG *e* PKPbc **PKPbc** 04 52 38.7 -0.1
BRG *e* PKPab **PKPab** 04 52 44.4 +0.1
CJR Cluj-Napoca 148.36 330 ⇑ PKP2 **PKPbc** 04 52 39.7 +0.7
CJR Cluj-Napoca 148.36 330 ⇑ *i* P **PKPbc** 04 52 39.7 +0.7
CSS Prodhromos 148.48 304 *e* P **PKPbc** 04 52 39.8 +0.1
CSS Prodhromos 148.48 304 *e* PKPbc **PKPbc** 04 52 39.5 -0.2
WTSB Winterswijk 148.55 353 *e* PKPdf **PKPbc** 04 52 39.1 -0.2
comp=Z,63nm,0.7s
VOIR 148.56 327 ⇑ *i* P **PKPbc** 04 52 39.8 +0.2
MCH1 Michaelchurch 148.63 5 *e* P **PKPbc** 04 52 38.8 -0.7
PCED Cedros 148.64 49 *e* PKPdf **PKPbc** 04 52 40.8 +0.9
CALA Caldeira 148.66 49 *e* PKPdf **PKPbc** 04 52 42.2 +2.1
HRT Hereke 148.67 316 *e* P **PKPbc** 04 52 39.7 -0.3
DRGR 148.71 331 ⇑ *i* P **PKPbc** 04 52 39.4 -0.5
MONM Monmouth 148.81 5 *e* P **PKPbc** 04 52 39.2 -0.7
ARR Arges 148.82 327 ⇑ *i* P **PKPbc** 04 52 41.3 +1.1
PCAN Candelaria 148.87 49 *e* PKPdf **PKPbc** 04 52 41.1 +0.6
ROSA Rosais 148.93 48 *e* PKPdf **PKPbc** 04 52 41.1 +0.5
PRA Prague 148.94 343 ⇑ *e* PKP **PKPbc** 04 52 40.7 +0.4
PGRA Graciosa 148.97 48 *e* PKPdf **PKPbc** 04 52 41.0 +0.3
PRU Pruhonice 148.98 343 ⇑ *e* PKP **PKPbc** 04 52 40.5 +0.1
PRU *e* PKPAB **PKPab** 04 52 47.3 +0.2
GOPC GO Pecny, Ondr 148.98 343 ⇑ *e* PKP **PKPbc** 04 52 40.7 +0.3
VRAC Vranov 148.99 340 ⇓ PKP2 **PKPbc** 04 52 41.1 +0.6
VRAC Vranov 148.99 340 ⇓ *i* P **PKPbc** 04 52 41.1 +0.6
PSZ Piszkesteto 149.01 335 *e* PKIKP **PKPdf** 04 52 35.1 -0.6
PSZ *e* 04 52 46.1
PSZ Piszkesteto 149.01 335 ⇑ *i* P **PKPbc** 04 52 40.7 +0.1
PSZ Piszkesteto 149.01 335 *e* PKPdf **PKPdf** 04 52 35.1 -0.6
PSZ *e* PKPbc **PKPbc** 04 52 40.5 -0.1
PSZ *e* PKPab **PKPab** 04 52 46.1 -1.3
PSZ Piszkesteto 149.01 335 ⇓ *e* S **PKPbc** 04 52 40.5 -0.1
BUG Bochum--Univer 149.01 353 *e* PKPbc **PKPbc** 04 52 40.5 +0.1
IZI Iznik 149.05 315 *e* P **PKPbc** 04 52 40.8 -0.2
MOX Moxa 149.07 347 *e* PKPdf **PKPdf** 04 52 35.8 +0.1
MOX *e* PKPbc **PKPbc** 04 52 40.4 -0.2
PMAN Manadas 149.07 48 *e* PKPdf **PKPbc** 04 52 41.5 +0.5
TANN Tannenbergstha 149.10 346 *e* PKPdf **PKPdf** 04 52 35.9 +0.1
TANN *e* PKPbc **PKPbc** 04 52 40.8 0.0
TANN *e* PKPab **PKPab** 04 52 47.5 -0.1
LOT Lotru 149.19 328 ⇓ *i* P **PKPbc** 04 52 40.8 -0.4
CTKS Kestanelik-??a 149.20 318 *e* P **PKPbc** 04 52 40.8 -0.4
UBBA Unterbreizbach 149.22 349 *e* PKPbc **PKPbc** 04 52 40.8 0.0
HUMR Humele 149.22 326 ⇑ *i* P **PKPbc** 04 52 40.3 -0.8
NKC Novy Kostel 149.28 346 ⇑ *e* PKP **PKPbc** 04 52 41.5 +0.4
NKC *e* PKPAB **PKPab** 04 52 48.5 +0.2
DEV Deva 149.29 330 ⇑ *i* P **PKPbc** 04 52 41.6 +0.3
TREC Trest 149.34 342 ⇑ *e* PKP **PKPbc** 04 52 41.5 +0.2
TVSB Tavsanli 149.50 314 *e* P **PKPbc** 04 52 42.1 0.0
SIRR Siria 149.57 332 ⇑ *i* P **PKPbc** 04 52 42.5 +0.5
ADH Angra Heroismo 149.66 48 *e* PKPdf **PKPbc** 04 52 42.3 0.0
BUD Budapest 149.70 336 ⇓ *e* S **PKPbc** 04 52 41.9 -0.3
ROTZ Rotzenmuhle 149.77 346 *e* PKPbc **PKPbc** 04 52 42.3 0.0
ROTZ *e* PKPab **PKPab** 04 52 50.4 +0.1
HGN Heimansgroeve 149.82 354 *e* PKPdf **PKPbc** 04 52 42.3 0.0
comp=Z,24nm,1.0s
HGN *e* PKPab **PKPab** 04 52 50.2 -0.3
MEM Membach 149.97 354 P **PKPdf** 04 52 37.1 +0.1
MEM Membach 149.97 354 PKPbc **PKPbc** 04 52 42.8 +0.1
MEM Membach 149.97 354 PKPab **PKPab** 04 52 50.7 -0.5
KHL Karahalli 150.00 312 *e* P **PKPbc** 04 52 43.2 -0.1
PKSG 150.02 336 ⇑ *e* S **PKPbc** 04 52 42.8 -0.1
KHC Kasperske Hory 150.02 344 *e* PKPDF **PKPdf** 04 52 36.9 -0.4
KHC ⇑ *e* PKP **PKPbc** 04 52 42.9 -0.1
KHC *e* PKPAB **PKPab** 04 52 52.3 +0.8
KHC Kasperske Hory 150.02 344 *e* PKIKP **PKPdf** 04 52 36.9 -0.4
KHC *e* 04 52 52.3
KHC Kasperske Hory 150.02 344 *e* PKPdf **PKPdf** 04 52 37.1 -0.1
KHC *e* PKPbc **PKPbc** 04 52 43.0 +0.1
KHC *e* PKPab **PKPab** 04 52 51.6 +0.1
SRE Strehaia 150.03 328 ⇑ *i* P **PKPbc** 04 52 43.8 +0.7
TNS Taunus Mts 150.05 351 *e* PKPbc **PKPbc** 04 52 42.9 -0.1
TNS *e* PKPab **PKPab** 04 52 51.2 -0.4
GRF Grafenberg Arr 150.06 347 *e* PKPbc **PKPbc** 04 52 43.0 0.0
GRFO Grafenberg 150.06 347 *e* PKIKP **PKPdf** 04 52 37.0 -0.2
GRFO *e* 04 52 51.9
GRFO Grafenberg 150.06 347 *e* PKPdf **PKPdf** 04 52 37.0 -0.2
GRFO *e* PKPbc **PKPbc** 04 52 42.5 -0.5
GRFO *e* PKPab **PKPab** 04 52 51.9 +0.3
CSKK Cs˙‡kako 150.09 337 ⇑ *e* S **PKPbc** 04 52 39.1 -4.0
BZS Buzias 150.09 331 ⇑ *i* P **PKPbc** 04 52 43.4 +0.2

WET Wettzell 150.19 345 *e* PKPdf **PKPdf** 04 52 37.4 -0.1
WET *e* PKPbc **PKPbc** 04 52 43.2 -0.1
WET *e* PKPab **PKPab** 04 52 52.3 +0.1
SNF Seneffe 150.21 356 PKPbc **PKPbc** 04 52 43.6 +0.4
SNF PKPab **PKPab** 04 52 52.2 +0.1
GEC2 GERESS Array S 150.25 343 *e* PKPbc **PKPbc** 04 52 43.2 -0.4
GERES GERESS Array B 150.25 343 PKP **PKPdf** 04 52 37.2 -0.4
comp=Z,1.2nm,0.9s,baz=48,slow=2.0,SNR=9.7
GERES PKPbc **PKPbc** 04 52 43.2 -0.4
comp=Z,9.1nm,0.7s,baz=30,slow=2.4,SNR=68
GERES PKPab **PKPab** 04 52 52.4 -0.1
comp=Z,3.5nm,0.9s,baz=22,slow=1.4,SNR=6.6
PKST T˜˜s 150.26 337 ⇑ *e* S **PKPbc** 04 52 43.1 -0.4
SOP Sopron 150.42 339 ⇓ *e* S **PKPbc** 04 52 43.9 0.0
CONA Conrad Observa 150.44 340 ⇑ *i* PKPdf **PKPdf** 04 52 37.7 -0.3
comp=Z,5.3nm,1.3s
CONA *i* PKiKP **PKiKP** 04 52 44.5 +0.1
comp=Z,24nm,0.7s,SNR=18
CONA ⇑ *i* PKPab **PKPab** 04 52 54.0 +0.7
comp=Z,25nm,1.1s
DOU Dourbes 150.60 356 PKPbc **PKPbc** 04 52 44.5 +0.3
KDZ Kurdzhali 150.84 321 ⇑ PKIKP **PKPbc** 04 52 45.3 +0.3
KDZ Kurdzhali 150.84 321 ⇑ *i* P **PKPbc** 04 52 45.3 +0.3
WLF Walferdange 150.89 353 PKP **PKPdf** 04 52 39.8 +1.3
WLF PKPbc **PKiKP** 04 52 45.6 +0.4
WLF PKPab **PKPab** 04 52 55.7 +0.7
WLF Walferdange 150.89 353 *e* PKIKP **PKPbc** 04 52 45.3 +0.4
PKSM Moragy 150.90 335 ⇑ PKIKP **PKPbc** 04 52 44.8 -0.2
PKSM Moragy 150.90 335 ⇑ *i* P **PKPbc** 04 52 44.8 -0.2
PKSM Moragy 150.90 335 ⇓ *e* S **PKPbc** 04 52 44.4 -0.6
ALN Alexandroupoli 150.92 319 *e* P **PKPbc** 04 52 44.0 -1.2
GELI Tayfur-Gelibol 150.94 318 *e* P **PKPbc** 04 52 44.6 -0.7
MOA Molln 151.00 342 ⇓ *i* PKPdf **PKPdf** 04 52 38.8 +0.1
comp=Z,2.2nm,0.9s
MOA *i* PKPbc **PKPbc** 04 52 45.2 0.0
comp=Z,7.2nm,0.5s,SNR=5.3
DALY Dalyan (Mu˘la 151.30 310 *e* P **PKPbc** 04 52 45.9 -0.3
AYDB Zeytinkoy-Aydi 151.31 312 *e* P **PKPbc** 04 52 45.6 -0.8
STU Stuttgart 151.33 349 *e* PKPbc **PKPbc** 04 52 46.2 +0.3
STU Stuttgart 151.33 349 *e* PKIKP **PKPbc** 04 52 46.2 +0.3
STU Stuttgart 151.33 349 *e* PKPdf **PKPbc** 04 52 46.2 +0.3
BEHE Becsehely 151.39 337 ⇓ *e* S **PKPbc** 04 52 45.8 -0.3
VTS Vitosha 151.48 325 ⇑ PKIKP **PKPbc** 04 52 46.9 +0.3
VTS Vitosha 151.48 325 ⇑ *i* P **PKPbc** 04 52 46.9 +0.3
FUR Furstenfeldbru 151.49 346 *e* PKPbc **PKPbc** 04 52 46.4 +0.1
FUR *e* PKPab **PKPab** 04 52 57.8 +0.2
RJOB Jochberg 151.51 344 *e* PKPbc **PKPbc** 04 52 46.1 -0.3
RJOB *e* PKPab **PKPab** 04 52 58.3 +0.5
IZM Izmir 151.51 314 *e* P **PKPbc** 04 52 46.2 -0.5
SOKA Soboth 151.81 340 ⇑ *i* PKPdf **PKPdf** 04 52 39.7 -0.4
comp=Z,2.4nm,0.8s
SOKA ⇓ *i* PKPbc **PKPbc** 04 52 46.6 -0.5
comp=Z,18nm,1.2s,SNR=8.4
SOKA ⇑ *i* PKPab **PKPab** 04 52 58.8 -0.3
comp=Z,14nm,1.2s
MMB Musomiste 151.86 323 ⇑ PKIKP **PKPbc** 04 52 47.2 -0.2
MMB Musomiste 151.86 323 ⇑ *i* P **PKPbc** 04 52 47.2 -0.2
BFO Black Forest 151.90 350 *e* PKPbc **PKPbc** 04 52 47.2 0.0
BFO *e* PKPab **PKPab** 04 52 59.0 -0.4
BFO Black Forest 151.90 350 *e* PKIKP **PKPbc** 04 52 46.7 -0.5
BFO *e* 04 52 58.8
BFO Black Forest 151.90 350 *e* PKPbc **PKPbc** 04 52 46.7 -0.5
BFO *e* PKPab **PKPab** 04 52 58.8 -0.6
DIVS Divibare 152.00 331 ⇑ *i* P **PKPbc** 04 52 47.5 -0.1
BODT Bodrum 152.14 311 *e* P **PKPbc** 04 52 47.4 -0.7
WATA Walderalm 152.19 345 ⇑ *i* PKPdf **PKPdf** 04 52 40.1 -0.6
comp=Z,2.9nm,0.6s
WATA *i* PKPbc **PKPbc** 04 52 47.4 -0.6
comp=Z,7.5nm,0.4s,SNR=5.3
WATA ⇓ *i* PKPab **PKPab** 04 53 00.1 -0.7
comp=Z,34nm,1.3s
WTTA Wattenberg 152.24 345 ⇓ *i* PKPdf **PKPdf** 04 52 40.7 -0.1
comp=Z,2.9nm,0.7s
WTTA *i* PKPbc **PKPbc** 04 52 47.9 -0.3
comp=Z,13nm,0.4s,SNR=9.3
WTTA ⇓ *i* PKPab **PKPab** 04 53 01.4 +0.3
comp=Z,24nm,0.9s
MYKA Terra Mystica 152.28 342 *i* PKPbc **PKPbc** 04 52 47.0 -1.2
comp=Z,8.0nm,0.5s,SNR=6.5
MYKA ⇑ *i* PKPab **PKPab** 04 53 00.8 -0.3
comp=Z,5.1nm,0.6s
MOTA Moosalm 152.30 346 ⇑ *i* PKPdf **PKPdf** 04 52 40.3 -0.5
comp=Z,5.7nm,1.1s
MOTA ⇑ *i* PKPbc **PKPbc** 04 52 47.7 -0.5
comp=Z,14nm,0.8s,SNR=9.4
MOTA ⇑ *i* PKPab **PKPab** 04 53 01.3 0.0
comp=Z,10nm,0.6s
ABTA Abfaltersbach 152.50 343 ⇑ *i* PKPdf **PKPdf** 04 52 40.0 -1.1
comp=Z,9.9nm,1.2s
ABTA *i* PKPbc **PKPbc** 04 52 47.6 -1.1
comp=Z,34nm,1.1s,SNR=7.4
ABTA ⇑ *i* PKPab **PKPab** 04 53 01.2 -0.9
comp=Z,7.4nm,0.6s
LJU Ljubljana 152.53 340 *i* PKPbc **PKPbc** 04 52 48.4 -0.3
CRNS Crni Vrh 152.58 340 *i* P **PKPbc** 04 52 47.9 -0.9
ROBS Robic 152.67 341 *e* PKPdf **PKPdf** 04 52 40.5 -0.7
ROBS *e* PKPbc **PKPbc** 04 52 48.0 -0.9
ROBS *i* 04 52 50.2
ROBS *e* PKPab **PKPab** 04 53 01.6 -1.1
BOJS Bojanci 152.76 338 *e* PKPdf **PKPdf** 04 52 41.1 -0.3
BOJS *e* PKPbc **PKiKP** 04 52 49.2 0.0
BOJS *e* PKPab **PKPab** 04 53 03.0 -0.1
DAVOX Davos/Dischmat 153.10 347 PKP **PKPdf** 04 52 41.6 -0.5
comp=Z,4.2nm,0.9s,baz=162,slow=3.8,SNR=6.1
DAVOX PKPbc **PKiKP** 04 52 50.1 0.0
comp=Z,12nm,0.5s,baz=251,slow=3.1,SNR=30
DAVOX PKPab **PKPab** 04

IDC ***17*** *04:34:19.8±0.8, 16°.64N×46°.72W, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.8/41, mbtmp3.9/11, MS3.6/1, Ms1 3.6/1, ms1mx2.7/33, Error ellipse: s-maj=23.8km s-min=18.1km az=126.0*

ISCJB ***17*** *04:34:20.2±0.4, 16°.58N±0°.08×46°.64W±0°.08, h13km, mb4.2/34, Error ellipse: s-maj=12.0km s-min=9.8km az=34.3*

NEIC ***17*** *04:34:21.4±0.3, 16°.56N×46°.61W, h10km, mb4.5/26, Error ellipse: s-maj=9.3km s-min=7.7km az=29.0*

ISC 17 04:34:21.9±0.5, 16°.6N±0°.1×46°.6W±0°.1, h13km, n48, σ0s83/40, mb4.4/34, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H05S1	**Guadeloupe/Mar**	**13.86**	**263**	T	T	04 52 23.2	
	SNR=15						
SJG	**San Juan**	**18.70**	**278**	LR	LR	04 44 27.0	
	comp=Z,188nm,21.6s,baz=90,slow=33						
PTGA	**Pitinga**	**21.65**	**219**	P	**P**	**04 39 11.9**	**-0.3**
	1.2nm,0.5s,baz=40,slow=16,SNR=3.4						
LPAZ	**La Paz**	**38.93**	**214**	P	**P**	**04 41 48.8**	**+0.3**
	1.8nm,0.9s,baz=302,slow=2.6,SNR=4.3						
LPAZ	**La Paz**	**38.93**	**214**	*eP*	**P**	**04 41 48.9**	**+0.4**
	2.0nm,0.8s						
H10N3	**ASCENSION HYDR**	**39.98**	**125**	T	T	05 24 11.9	
	baz=307,slow=75,SNR=125						
H10N2	**ASCENSION HYDR**	**39.98**	**125**	T	T	05 24 12.2	
	baz=307,slow=75,SNR=117						
H10N1	**ASCENSION HYDR**	**40.00**	**125**	T	T	05 24 13.4	
	baz=307,slow=75,SNR=168						
H10S3	**ASCENSION HYDR**	**40.53**	**126**	T	T	05 24 56.1	
	baz=309,slow=75,SNR=99						
H10S1	**ASCENSION HYDR**	**40.54**	**126**	T	T	05 24 56.4	
	baz=309,slow=75,SNR=93						
H10S2	**ASCENSION HYDR**	**40.55**	**126**	T	T	05 24 58.6	
	baz=309,slow=75,SNR=103						
WVT	**Waverly**	**41.37**	**306**	*eP*	**P**	**04 42 09.7**	**+1.8**
	2.2nm,0.9s						
ESDC	**Sonseca Array**	**43.58**	**49**	P	**P**	**04 42 26.3**	**+0.5**
	0.7nm,0.7s,baz=258,slow=7.4,SNR=4.4						
CPUP	**Villa Florida**	**43.89**	**194**	P	**P**	**04 42 28.7**	**+0.4**
	5.5nm,0.8s,baz=17,slow=7.9,SNR=14						
CPUP	**Villa Florida**	**43.89**	**194**	*eP*	**P**	**04 42 28.5**	**+0.2**
	0.2nm,0.9s						
TORD	**Torodi Ar. Bea**	**46.74**	**87**	P	**P**	**04 42 50.7**	**-0.5**
	2.0nm,1.1s,baz=270,slow=5.3,SNR=6.2						
LCO	**Las Campanas**	**50.94**	**207**	*eP*	**P**	**04 43 23.4**	**-0.1**
	4.4nm,0.8s						
TXAR	**Lajitas Array**	**53.58**	**294**	P	**P**	**04 43 41.1**	**-2.0**
	0.3nm,0.8s,baz=94,slow=9.1,SNR=2.2						
ISCO	**Idaho Springs**	**55.85**	**307**	*eP*	**P**	**04 44 01.6**	**+1.9**
	4.6nm,1.2s						
FFC	**Flin Flon**	**56.83**	**325**	*eP*	**P**	**04 44 03.7**	**-2.3**
	3.6nm,0.9s						
LAO	**LASA Array**	**57.34**	**315**	*eP*	**P**	**04 44 10.5**	**+0.7**
	7.1nm,1.0s						
BW06	**Boulder Array**	**59.13**	**310**	*eP*	**P**	**04 44 22.6**	**-0.1**
	2.5nm,1.0s						
PDAR	**Pinedale Array**	**59.13**	**310**	P	**P**	**04 44 21.1**	**-1.5**
	1.7nm,1.1s,baz=88,slow=7.7,SNR=8.1						
LOHW	**Long Hollow**	**59.98**	**311**	*eP*	**P**	**04 44 28.5**	**+0.1**
	1.9nm,0.8s						
TPAW	**Teton Pass**	**60.22**	**311**	*eP*	**P**	**04 44 30.5**	**+0.3**
	6.7nm,1.3s						
IMW	**Indian Meadow**	**60.25**	**311**	*eP*	**P**	**04 44 30.7**	**+0.3**
	3.2nm,0.7s						
HWUT	**Hardware Ranch**	**60.52**	**309**	*eP*	**P**	**04 44 32.3**	**+0.1**
	3.7nm,0.8s						
MORC	**Moravsky Berou**	**60.88**	**42**	*eP*	**P**	**04 44 33.9**	**-0.4**
	7.0nm,0.8s						
SPUT	**South Promonto**	**61.17**	**308**	*eP*	**P**	**04 44 36.9**	**+0.3**
	7.6nm,1.2s						
LRM	**Limekiln Ridge**	**61.50**	**313**	*eP*	**P**	**04 44 39.5**	**+0.6**
	15nm,0.7s						
SLMT	**Seeley Lake**	**62.35**	**315**	*eP*	**P**	**04 44 44.6**	**+0.2**
HLID	**Hailey**	**62.73**	**311**	*eP*	**P**	**04 44 48.0**	**+0.9**
	2.1nm,1.0s						
WALA	**Waterton Lakes**	**62.81**	**317**	*eP*	**P**	**04 44 46.7**	**-0.7**
	42nm,2.5s						
ELK	**Elko**	**63.26**	**308**	*eP*	**P**	**04 44 51.0**	**+0.3**
	2.4nm,0.9s						
MFID	**Camas Ranch**	**63.76**	**311**	*eP*	**P**	**04 44 54.6**	**+0.8**
	4.0nm,1.0s						
NEW	**Newport**	**64.86**	**316**	*eP*	**P**	**04 45 00.9**	**0.0**
	4.6nm,1.0s						
ARCES	**ARCESS Array B**	**68.36**	**21**	P	**P**	**04 45 23.0**	**+0.2**
	1.2nm,0.8s,baz=282,slow=7.3,SNR=5.1						
ARCES	**ARCESS Array B**	**68.36**	**21**	P	**P**	**04 45 23.0**	**+0.2**
BR131	**Keskin Array S**	**72.21**	**53**	*eP*	**P**	**04 45 47.5**	**+0.4**
	1.2nm,0.7s						
BRTR	**Keskin Array B**	**72.21**	**53**	P	**P**	**04 45 47.0**	**-0.1**
	0.8nm,0.7s,baz=224,slow=5.2,SNR=4.6						
TSUM	**Tsumeb**	**72.44**	**117**	*eP*	**P**	**04 45 48.9**	**+0.2**
	3.8nm,0.7s						
INK	**Inuvik**	**73.60**	**337**	P	**P**	**04 45 54.7**	**+0.2**
	1.4nm,0.7s,baz=63,slow=10,SNR=5.0						
INK	**Inuvik**	**73.60**	**337**	*eP*	**P**	**04 45 53.9**	**-0.6**
	6.5nm,1.3s						
ILAR	**Eielson Array**	**79.47**	**335**	P	**P**	**04 46 27.9**	**0.0**
	2.0nm,0.8s,baz=64,slow=5.8,SNR=11						
LSZ	**Lusaka**	**80.31**	**109**	*eP*	**P**	**04 46 33.0**	**-0.4**
	4.4nm,1.0s						
LBTB	**Lobatse**	**81.58**	**119**	*eP*	**P**	**04 46 40.0**	**0.0**
	5.3nm,1.0s						
BOSA	**Boshof**	**82.69**	**123**	*eP*	**P**	**04 46 45.3**	**-0.5**
	14nm,1.3s						
ABKAR	**Akbulak array**	**88.00**	**39**	*eP*	**P**	**04 47 12.7**	**+0.9**
	0.3nm,0.5s						

CSEM ***17*** *04:40:18.4, 40°.73N×15°.44E, h10km, MD1.7/4*

ROM 17 04:40:18.4±0.4, 40°.73N×15°.44E, h10km±4km, Md1.7/4, Ml0.8/1, Error ellipse: s-maj=6.3km s-min=3.0km az=15.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRLC	**Muro Lucano**	**0.04**	**58**	Pg	Pg	04 40 20.4	0.0
MRLC				Sg	Sg	04 40 22.5	+0.7
MRLC	**Muro Lucano**	**0.04**	**58**	Pg	Pg	04 40 20.4	0.0
MRLC				Sg	Sg	04 40 22.5	+0.7
SGO	**Sicignano**	**0.20**	**210**	Pg	Pg	04 40 23.1	+0.5
	3.0nm,0.2s						
SGO	**Sicignano**	**0.20**	**210**	Pg	Pg	04 40 23.1	+0.5
	3.0nm,0.2s						
MCRV	**Calabrutti - M**	**0.21**	**284**	Pg	Pg	04 40 23.7	+0.7
MCRV				Sg	Sg	04 40 27.1	+1.0
MCRV	**Calabrutti - M**	**0.21**	**284**	Pg	Pg	04 40 23.7	+0.7
MCRV				Sg	Sg	04 40 27.1	+1.0
CDRU	**Civita di Ruta**	**0.26**	**203**	Pg	Pg	04 40 24.1	+0.2
CDRU				Sg	Sb	04 40 29.7	-0.4
	12nm,0.1s						
CDRU	**Civita di Ruta**	**0.26**	**203**	Pg	Pg	04 40 24.1	+0.2
CDRU				Sg	Sb	04 40 29.7	-0.4
	12nm,0.1s						

IDC ***17*** *04:44:47.8±0.7, 16°.65N×46°.59W, h0km, mb4.1/14, mb1 4.3/15, mb1mx4.1/39, mbtmp4.1/15, ML4.2/1, MS3.7/24, Ms1 3.7/24, ms1mx3.6/34, Error ellipse: s-maj=20.4km s-min=16.8km az=131.0*

ISCJB ***17*** *04:44:48.9±0.3, 16°.64N±0°.06×46°.46W±0°.05, h13km, mb4.6/69, MS3.7/23, Error ellipse: s-maj=9.0km s-min=5.9km az=21.5*

NEIC ***17*** *04:44:49.9±0.2, 16°.59N×46°.49W, h10km, mb4.8/56, Error ellipse: s-maj=6.8km s-min=4.9km az=13.0*

ISC 17 04:44:50.3±0.4, 16°.55N±0°.08×46°.49W±0°.08, h13km, n277, σ0s85/223, mb4.7/69, MS3.7/23, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H05S1	**Guadeloupe/Mar**	**13.99**	**263**	T	T	05 02 24.4	
	SNR=16						
SJG	**San Juan**	**18.84**	**278**	P	**P**	**04 49 08.8**	**-1.2**
	0.8nm,0.3s,baz=62,slow=12,SNR=2.3						
SJG				LR	LR	04 55 06.9	
	comp=Z,429nm,21.6s,baz=101,slow=33						
PTGA	**Pitinga**	**21.72**	**219**	P	**P**	**04 49 41.7**	**+0.4**
	4.5nm,0.8s,baz=31,slow=14,SNR=5.3						
RCBR	**Riachuelo**	**24.57**	**154**	LR	LR	04 57 15.5	
	comp=Z,321nm,21.6s,baz=342,slow=30						
ROSC	**El Rosal**	**29.67**	**250**	LR	LR	05 04 44.9	
	comp=Z,146nm,18.9s,baz=162,slow=40						
SAML	**Samuel**	**30.24**	**214**	*eP*	**P**	**04 51 01.3**	**+0.3**
	1.5nm,0.6s						
BDFB	**Brasilia**	**32.02**	**183**	LR	LR	05 03 20.2	
	comp=Z,78nm,20.5s,baz=35,slow=35						
OTAV	**Otavalo**	**35.43**	**246**	*eP*	**P**	**04 51 48.3**	**+1.4**
	24nm,1.7s						
JTS	**JuntasAbangare**	**37.88**	**266**	*eP*	**P**	**04 52 07.1**	**-0.3**
	44nm,1.4s						
LPAZ	**La Paz**	**38.99**	**214**	P	**P**	**04 52 16.3**	**-1.0**
	2.0nm,0.9s,baz=349,slow=2.9,SNR=6.3						
LPAZ	**La Paz**	**38.99**	**214**	*eP*	**P**	**04 52 17.1**	**-0.2**
	10nm,1.6s						
H10N3	**ASCENSION HYDR**	**39.86**	**125**	T	T	05 34 59.5	
	baz=307,slow=75,SNR=244						
H10N2	**ASCENSION HYDR**	**39.86**	**125**	T	T	05 35 01.5	
	baz=307,slow=75,SNR=229						
H10N1	**ASCENSION HYDR**	**39.88**	**125**	T	T	05 35 02.7	
	baz=307,slow=75,SNR=265						
H10S3	**ASCENSION HYDR**	**40.42**	**127**	T	T	05 35 23.4	
	baz=309,slow=75,SNR=138						
H10S1	**ASCENSION HYDR**	**40.42**	**126**	T	T	05 35 33.5	
	baz=309,slow=75,SNR=131						
H10S2	**ASCENSION HYDR**	**40.44**	**127**	T	T	05 35 17.1	
	baz=309,slow=75,SNR=135						
SCHQ	**Schefferville**	**41.31**	**342**	LR	LR	05 05 48.2	
	comp=Z,76nm,21.7s,baz=5.0,slow=31						
DBIC	**Dimbokro**	**41.87**	**99**	LR	LR	05 06 40.9	
	comp=Z,249nm,21.7s,baz=263,slow=31						
DBIC	**Dimbokro**	**41.87**	**99**	*eP*	**P**	**04 52 40.4**	**-0.2**
	32nm,1.3s						
ESDC	**Sonseca Array**	**43.49**	**49**	LR	LR	05 08 32.4	
	comp=Z,94nm,18.4s,baz=215,slow=33						
CPUP	**Villa Florida**	**43.91**	**194**	P	**P**	**04 52 56.8**	**0.0**
	10.0nm,0.9s,baz=26,slow=8.8,SNR=18						
CPUP	**Villa Florida**	**43.91**	**194**	*eP*	**P**	**04 52 56.7**	**0.0**
	0.5nm,1.0s						
Y39A	**Lockesburg**	**45.98**	**301**	P	**P**	**04 53 14.6**	**+1.2**
	baz=46						
CMIG	**Matias Romero**	**46.23**	**278**	LR	LR	05 12 17.3	
	comp=Z,102nm,19.3s,baz=78,slow=36						
W38A	**Poteau**	**46.53**	**303**	P	**P**	**04 53 19.0**	**+1.4**
	baz=46						
V38A	**Canehill**	**46.59**	**304**	P	**P**	**04 53 17.4**	**-0.8**
	baz=46						
TORD	**Torodi Ar. Bea**	**46.62**	**87**	P	**P**	**04 53 18.7**	**+0.1**
	4.3nm,1.1s,baz=284,slow=6.6,SNR=7.7						
TORD				LR	LR	05 10 30.5	
	comp=Z,214nm,20.2s,baz=265,slow=33						
X38A	**Whitesboro**	**46.70**	**302**	P	**P**	**04 53 20.2**	**+1.1**
	baz=47						
X37A	**Clayton**	**47.13**	**302**	P	**P**	**04 53 22.9**	**+0.5**
	baz=47						
T37A	**Cheneyville 18**	**47.25**	**305**	P	**P**	**04 53 22.8**	**-0.5**
	baz=47						
U37A	**Salina**	**47.26**	**304**	P	**P**	**04 53 23.3**	**-0.1**
	baz=47						
W37A	**Quinton**	**47.27**	**303**	P	**P**	**04 53 23.7**	**+0.2**
	baz=47						
V36A	**Jenks**	**47.80**	**303**	P	**P**	**04 53 28.0**	**+0.4**
	baz=48						
SPMN	**St. Paul**	**48.05**	**317**	*eP*	**P**	**04 53 29.7**	**+0.3**
	4.8nm,0.9s						
Q36A	**Arnold C. Orve**	**48.08**	**308**	P	**P**	**04 53 28.4**	**-1.3**
	baz=48						
Y35A	**Marietta**	**48.39**	**301**	P	**P**	**04 53 34.6**	**+2.4**
	baz=48						
X35A	**Drake**	**48.41**	**301**	P	**P**	**04 53 33.5**	**+1.1**
	baz=48						
535A	**Dale**	**48.44**	**296**	P	P	04 53 38.2	+5.6
	baz=48						
W35A	**Tecumseh**	**48.44**	**302**	P	**P**	**04 53 33.7**	**+1.1**
	baz=48						
S35A	**Otter Creek Ra**	**48.46**	**306**	P	**P**	**04 53 32.3**	**-0.4**
	baz=48						
T35A	**Sooner Cattle**	**48.46**	**305**	P	**P**	**04 53 32.7**	**0.0**
	baz=48						
Q35A	**Mercer Eighty,**	**48.49**	**308**	P	**P**	**04 53 32.8**	**-0.1**
	baz=48						
Z35A	**Perchaven, San**	**48.49**	**300**	P	**P**	**04 53 35.3**	**+2.3**
	baz=48						
035A	**Encino**	**48.76**	**291**	P	P	04 53 44.6	+9.4
	baz=49						
Y34A	**Reagan Ranch,**	**48.99**	**301**	P	**P**	**04 53 38.7**	**+1.9**
	baz=49						
T34A	**McClaskey Farm**	**49.01**	**305**	P	**P**	**04 53 37.0**	**+0.1**
	baz=49						
S34A	**Willow Spring**	**49.08**	**306**	P	**P**	**04 53 37.5**	**+0.1**
	baz=49						
934A	**Benavides**	**49.15**	**292**	P	P	04 53 46.9	+8.8
	baz=49						
834A	**Tilden**	**49.19**	**293**	P	P	04 53 45.9	+7.5
	baz=49						
734A	**La Parita Cree**	**49.23**	**294**	P	P	04 53 46.6	+7.9
	baz=49						
034A	**Hebbronville**	**49.28**	**292**	P	P	04 53 48.2	+9.1
	baz=49						
O34A	**Beatrice**	**49.29**	**309**	P	**P**	**04 53 38.6**	**-0.4**
	baz=49						
R34A	**Isabella, Hill**	**49.30**	**307**	P	**P**	**04 53 39.3**	**+0.1**
	baz=49						
L34A	**Svendsen Farm,**	**49.50**	**311**	P	**P**	**04 53 39.4**	**-1.2**
	baz=50						
233A	**Rising Star**	**49.73**	**298**	P	P	04 53 47.0	+4.4
	baz=50						
633A	**Saathoff Ranch**	**49.80**	**295**	P	P	04 53 48.7	+5.6
	baz=50						
733A	**Divot King Ran**	**49.87**	**294**	P	P	04 53 50.7	+7.1
	baz=50						
R33A	**Olander Ranch,**	**49.87**	**306**	P	**P**	**04 53 43.8**	**+0.3**
	baz=50						
Q33A	**Connelly Farm,**	**49.89**	**307**	P	**P**	**04 53 43.4**	**-0.2**
	baz=50						
WMOK	**Wichita Mounta**	**49.93**	**302**	*eP*	**P**	**04 53 43.2**	**-0.8**
	5.3nm,1.1s						
M33A	**Taylor Creek F**	**49.99**	**311**	P	**P**	**04 53 44.2**	**-0.2**
	baz=50						
ECSD	**EROS Data Cent**	**50.15**	**314**	P	**P**	**04 53 44.7**	**-0.9**
	baz=50						
X32A	**Elmer**	**50.31**	**301**	P	**P**	**04 53 48.8**	**+1.9**
	baz=50						
632A	**Uvalde**	**50.33**	**295**	P	P	04 53 53.7	+6.6
	baz=50						
U32A	**Winter Ranch,**	**50.34**	**304**	P	**P**	**04 53 47.9**	**+0.8**
	baz=50						
Z32A	**Haskell**	**50.34**	**300**	P	P	04 53 50.3	+3.1
	baz=50						
W32A	**Sentinel**	**50.36**	**302**	P	**P**	**04 53 48.4**	**+1.1**
	baz=50						
Y32A	**R-V Farms, Ver**	**50.39**	**301**	P	P	04 53 50.6	+3.1
	baz=50						
JCT	**Junction City**	**50.39**	**296**	P	P	04 53 53.7	+6.1
	baz=50						
332A	**Millersview**	**50.40**	**297**	P	P	04 53 53.1	+5.4
	baz=50						
ABTX	**Abilene, Hawle**	**50.41**	**299**	P	P	04 53 51.2	+3.5
	baz=50						
Q32A	**Meitler Ranch,**	**50.45**	**307**	P	**P**	**04 53 47.8**	**0.0**
	baz=50						
832A	**Faith Ranch, C**	**50.45**	**293**	P	P	04 53 55.7	+7.7
	baz=50						
R32A	**Long Quarter,**	**50.45**	**306**	P	**P**	**04 53 48.2**	**+0.2**
	baz=50						
732A	**Laxson Ranch,**	**50.46**	**294**	P	P	04 53 55.2	+7.1
	baz=50						
SFJD	**Kangerlussuaq**	**50.49**	**358**	LR	LR	05 11 18.1	
	comp=Z,51nm,18.5s,baz=154,slow=32						
Z31A	**Sharp Cattle R**	**50.90**	**300**	P	P	04 53 54.9	+3.5
	baz=51						
331A	**San Angelo**	**50.98**	**297**	P	P	04 53 57.2	+5.2
	baz=51						
131A	**Roby**	**51.05**	**299**	P	P	04 53 56.3	+3.8
	baz=51						
Y31A	**Rekieta Farm,**	**51.06**	**300**	P	**P**	**04 53 54.9**	**+2.4**
	baz=51						
R31A	**Burdett**	**51.06**	**306**	P	**P**	**04 53 52.5**	**0.0**
	baz=51						
Q31A	**Ellis**	**51.09**	**307**	P	**P**	**04 53 53.5**	**+0.8**
	baz=51						
AGMN	**Agassiz Nation**	**51.12**	**319**	P	**P**	**04 53 51.2**	**-1.5**
	baz=51						
P31A	**Stockton**	**51.17**	**308**	P	**P**	**04 53 54.2**	**+0.8**
	baz=51						
O31A	**Woolen Ranch,**	**51.25**	**308**	P	**P**	**04 53 53.9**	**0.0**
	baz=51						
230A	**Sterling City**	**51.60**	**298**	P	P	04 54 01.2	+4.5
	baz=52						
R30A	**Dighton**	**51.64**	**306**	P	**P**	**04 53 57.4**	**+0.5**
	baz=52						
U30A	**WK&E Inc. Balk**	**51.68**	**304**	P	**P**	**04 53 58.1**	**+0.9**
	baz=52						
530A	**J-C Ranch, Com**	**51.70**	**296**	P	P	04 54 03.4	+5.9
	baz=52						
Q30A	**Quinter**	**51.72**	**307**	P	**P**	**04 53 57.8**	**+0.4**
	baz=52						
Z30A	**Sanderson Ranc**	**51.72**	**300**	P	P	04 54 00.8	+3.2
	baz=52						
O30A	**MW Ranch, Wils**	**51.81**	**308**	P	**P**	**04 53 57.9**	**-0.2**
	baz=52						
P30A	**Selden**	**51.83**	**308**	P	**P**	**04 53 58.7**	**+0.4**
	baz=52						
ULM	**Lac du Bonnet**	**51.84**	**322**	LR	LR	05 12 41.5	
	comp=Z,100nm,21.3s,baz=252,slow=32						
L30A	**Spencer Herefo**	**51.92**	**311**	P	**P**	**04 53 58.3**	**-0.6**
	baz=52						
K30A	**Basset**	**52.00**	**312**	P	**P**	**04 53 58.3**	**-1.2**
	baz=52						
J30A	**Dallas**	**52.07**	**312**	P	**P**	**04 53 59.4**	**-0.6**
	baz=52						
I30A	**Oacoma**	**52.16**	**313**	P	**P**	**04 54 00.0**	**-0.7**
	baz=52						
X29A	**Tulia**	**52.29**	**301**	P	P	04 54 05.0	+3.1
	baz=52						
329A	**Wagon Wheel Ra**	**52.31**	**297**	P	P	04 54 07.4	+5.3
	baz=52						
R29A	**Marienthal**	**52.33**	**306**	P	**P**	**04 54 02.6**	**+0.5**
	baz=52						
O29A	**4D Ranch, Culb**	**52.36**	**308**	P	**P**	**04 54 02.1**	**-0.1**
	baz=52						
E30A	**Jud**	**52.50**	**316**	P	**P**	**04 54 02.5**	**-0.6**
	baz=52						
K29A	**Lazy Trails An**	**52.53**	**311**	P	**P**	**04 54 02.3**	**-1.2**
	baz=52						
D30A	**Buchanan**	**52.58**	**317**	P	**P**	**04 54 03.3**	**-0.4**
	baz=52						
B30A	**Myrvik Farm, E**	**52.72**	**319**	P	**P**	**04 54 04.1**	**-0.6**
	baz=53						
I29A	**Vivian Onida**	**52.80**	**313**	P	**P**	**04 54 04.7**	**-0.7**
	baz=53						
S28A	**Manter**	**52.81**	**305**	P	**P**	**04 54 06.6**	**+0.9**
	baz=53						
R28A	**Tribune**	**52.84**	**306**	P	**P**	**04 54 06.3**	**+0.4**
	baz=53						
A30A	**Hoffart Farm,**	**52.86**	**319**	P	**P**	**04 54 05.5**	**-0.2**
	baz=53						
228A	**UT Block 9, Go**	**52.87**	**298**	P	P	04 54 11.4	+5.3
	baz=53						
H29A	**Onida**	**52.89**	**314**	P	**P**	**04 54 05.5**	**-0.5**
	baz=53						
T28A	**Walsh**	**52.92**	**304**	P	**P**	**04 54 07.6**	**+1.1**
	baz=53						
KEST	**Kesra**	**52.93**	**58**	LR	LR	05 16 31.2	
	comp=Z,41nm,18.0s,baz=276,slow=36						
KEST	**Kesra**	**52.93**	**58**	*eP*	**P**	**04 54 04.4**	**-2.1**
F29A	**Eureka**	**52.93**	**315**	P	**P**	**04 54 06.2**	**-0.1**
	baz=53						
Q28A	**Sharon Springs**	**52.97**	**307**	P	**P**	**04 54 07.4**	**+0.6**
	baz=53						
P28A	**Saint Francis**	**52.99**	**307**	P	**P**	**04 54 07.8**	**+0.9**
	baz=53						
E29A	**Napoleon**	**53.01**	**316**	P	**P**	**04 54 06.9**	**0.0**
	baz=53						
N28A	**Pribbeno Ranch**	**53.01**	**309**	P	**P**	**04 54 07.6**	**+0.5**
	baz=53						
O28A	**Krusinger Ran**	**53.09**	**308**	P	**P**	**04 54 08.1**	**+0.4**
	baz=53						
D29A	**Pettibone, Tap**	**53.11**	**317**	P	**P**	**04 54 06.9**	**-0.7**
	baz=53						
MSTX	**Muleshoe**	**53.14**	**300**	P	P	04 54 11.5	+3.4
	baz=53						
MSTX	**Muleshoe**	**53.14**	**300**	*eP*	**P**	**04 54 07.8**	**-0.4**
	24nm,1.3s						
L28A	**Connealy Angus**	**53.24**	**310**	P	**P**	**04 54 09.2**	**+0.4**
	baz=53						
K28A	**Ten Mile Ranch**	**53.27**	**311**	P	**P**	**04 54 09.5**	**+0.5**
	baz=53						
J28A	**Allard Ranch,**	**53.33**	**312**	P	**P**	**04 54 09.3**	**0.0**
	baz=53						
MDND	**Maddock**	**53.35**	**318**	P	**P**	**04 54 09.2**	**-0.2**
	baz=53						
I28A	**Midland**	**53.41**	**313**	P	**P**	**04 54 09.6**	**-0.3**
	baz=53						
OGNE	**Ogallala**	**53.43**	**309**	P	**P**	**04 54 10.8**	**+0.6**
	baz=53						
A29A	**Manning Farm,**	**53.44**	**319**	P	**P**	**04 54 09.3**	**-0.7**
	baz=53						
G28A	**Parade**	**53.48**	**314**	P	**P**	**04 54 10.0**	**-0.5**
	baz=53						
F28A	**McLaughlin**	**53.59**	**315**	P	**P**	**04 54 11.2**	**-0.1**
	baz=54						
R27A	**Eads**	**53.61**	**306**	P	**P**	**04 54 12.8**	**+1.2**
	baz=54						
E28A	**Huff**	**53.71**	**316**	P	**P**	**04 54 12.0**	**0.0**
	baz=54						
TXAR	**Lajitas Array**	**53.71**	**294**	P	**P**	**04 54 11.3**	**-1.1**
	0.5nm,0.9s,baz=91,slow=5.0,SNR=4.4						
TXAR				PcP	**PcP**	**04 55 18.4**	**-0.2**
	0.5nm,0.8s,baz=104,slow=5.3,SNR=4.2						
TXAR				LR	LR	05 18 09.9	
	comp=Z,60nm,18.7s,baz=0.0,slow=37						
N27A	**Anderson Farm,**	**53.78**	**309**	P	**P**	**04 54 13.5**	**+0.7**
	baz=54						
C28A	**Hausauer Farms**	**53.81**	**317**	P	**P**	**04 54 12.6**	**-0.2**
	baz=54						
J27A	**Elkhorn Farm,**	**53.84**	**312**	P	**P**	**04 54 14.0**	**+0.8**
	baz=54						
K27A	**Flueckinger Fa**	**53.90**	**311**	P	**P**	**04 54 14.4**	**+0.8**
	baz=54						
I27A	**Quinn**	**54.05**	**313**	P	**P**	**04 54 14.7**	**+0.1**
	baz=54						
S26A	**Kim**	**54.05**	**305**	P	**P**	**04 54 16.6**	**+1.8**
	baz=54						
A28A	**Rude Farm, Bot**	**54.08**	**319**	P	**P**	**04 54 15.1**	**+0.4**
	baz=54						
T26A	**Comanche Natio**	**54.10**	**304**	P	**P**	**04 54 16.9**	**+1.6**
	baz=54						
R26A	**Arlington**	**54.11**	**306**	P	**P**	**04 54 16.5**	**+1.2**
	baz=54,SNR=6.4						
H27A	**Howes**	**54.18**	**313**	P	**P**	**04 54 15.8**	**+0.2**
	baz=54						
P26A	**Davis Ranch, A**	**54.20**	**307**	P	**P**	**04 54 16.4**	**+0.5**
	baz=54						
G27A	**Dupree**	**54.25**	**314**	P	**P**	**04 54 15.4**	**-0.6**
	baz=54						
E27A	**Carson**	**54.25**	**316**	P	**P**	**04 54 15.9**	**-0.

baz=56
G24A **Alzada** 55.95 314 P P 04 54 28.9 +0.5
baz=56
ISCO **Idaho Springs** 55.97 307 P P 04 54 30.6 +1.7
baz=56,SNR=7.8
ISCO **Idaho Springs** 55.97 307 *eP* P 04 54 29.8 +1.0
20nm,1.4s
F24A **Ekalaka** 56.07 314 P P 04 54 29.0 -0.3
baz=56
SUMG **Summit** 56.22 3 *i* P P 04 54 30.3 +0.1
11nm,1.1s
N23A **Red Feather La** 56.35 308 P P 04 54 32.9 +1.4
baz=56
K23A **Bowen Ranch, D** 56.37 311 P P 04 54 31.7 +0.2
baz=56
C24A **Savage** 56.41 316 P P 04 54 32.4 +0.8
baz=56
G23A **Biddle** 56.60 314 P P 04 54 33.6 +0.5
baz=56
F23A **Volborg** 56.71 314 P P 04 54 33.9 +0.1
baz=57
LAZ **Ladron** 56.78 301 *eP* P 04 54 35.0 +0.4
2.1nm,1.2s
E23A **Ismay** 56.79 315 P P 04 54 35.2 +0.9
baz=57,SNR=12
AQU **L'Aquila** 56.86 50 *eP* P 04 54 34.8 -0.1
FFC **Flin Flon** 56.92 325 *eP* P 04 54 34.4 -0.6
20nm,1.4s
I22A **9 Mile Ranch,** 57.16 312 P P 04 54 37.2 +0.1
baz=57
E22A **Miles City** 57.21 315 P P 04 54 37.6 +0.3
baz=57
G22A **Birney** 57.23 313 P P 04 54 37.6 0.0
baz=57
121A **Cookes Peak, D** 57.27 298 *eP* P 04 54 39.2 +1.1
34nm,2.0s
F22A **Rosebud** 57.31 314 P P 04 54 38.3 +0.3
baz=57
LAO **LASA Array** 57.45 315 P P 04 54 39.8 +0.8
baz=57
LAO **LASA Array** 57.45 315 *eP* P 04 54 39.1 +0.1
10.0nm,0.9s
I21A **Big Trails, Te** 57.73 312 P P 04 54 40.8 -0.3
baz=58,SNR=12
J21A **Lysite** 57.77 311 P P 04 54 41.6 +0.1
baz=58,SNR=7.9
G21A **Lodge Grass** 57.87 313 P P 04 54 42.2 +0.1
baz=58
MVCO **Mesa Verde** 58.01 304 P P 04 54 46.3 +3.0
baz=58
O20A **White River Ci** 58.01 307 P P 04 54 45.2 +2.0
baz=58
PV01 **Paradox Valley** 58.12 305 *eP* P 04 54 45.1 +1.1
J20A **Shoshoni** 58.23 311 P P 04 54 45.2 +0.5
baz=58,SNR=8.5
C21A **Desert Coulee** 58.24 316 P P 04 54 45.7 +1.2
baz=58
B21A **Ellsworth Farm** 58.30 317 P P 04 54 46.5 +1.6
baz=58
H20A **Greybull** 58.32 312 P P 04 54 45.5 +0.3
baz=58
I20A **Worland** 58.34 312 P P 04 54 46.2 +0.8
baz=58,SNR=5.8
A21A **Bergtoll Ranch** 58.35 318 P P 04 54 46.5 +1.2
baz=58,SNR=8.0
G20A **Bridger** 58.58 313 P P 04 54 47.1 +0.1
baz=58,SNR=10
F20A **Billings** 58.62 314 P P 04 54 47.9 +0.7
baz=58
C20A **Veseth Ranch,** 58.82 316 P P 04 54 49.6 +1.0
baz=59
J19A **Crowheart** 58.93 311 P P 04 54 50.8 +1.2
baz=59,SNR=6.5
B20A **Solberg Farm,** 58.96 317 P P 04 54 50.5 +0.9
baz=59,SNR=6.0
I19A **Meeteetse** 58.97 312 P P 04 54 51.2 +1.4
baz=59,SNR=9.8
JMIC **Jan Mayen** 58.99 14 LR LR 05 13 34.1
comp=Z,70nm,21.2s,baz=249,slow=29
H19A **Powell** 59.05 312 P P 04 54 51.0 +0.7
baz=59,SNR=7.4
BW06 **Boulder Array** 59.24 310 *eP* P 04 54 50.8 -1.1
5.7nm,1.1s
PDAR **Pinedale Array** 59.24 310 P P 04 54 51.2 -0.6
3.6nm,1.0s,baz=94,slow=5.3,SNR=16
PDAR LR LR 05 17 43.4
comp=Z,127nm,21.8s,baz=114,slow=33
RLMT **Red Lodge** 59.30 313 P P 04 54 53.6 +1.4
baz=59
RLMT **Red Lodge** 59.30 313 *eP* P 04 54 51.8 -0.4
8.5nm,1.2s
A19A **Klindworth Far** 59.52 317 P P 04 54 54.4 +1.0
baz=59
SRU **San Rafael** 59.70 306 *eP* P 04 54 55.5 +0.6
8.0nm,1.1s
NAO01 **NORSAR Array S** 60.00 28 *eP* P 04 54 56.0 -0.4
8.6nm,0.9s
LOHW **Long Hollow** 60.09 311 *eP* P 04 54 56.9 -0.7
9.9nm,1.2s
FLWY **Flagg Ranch** 60.20 312 *eP* P 04 54 58.4 0.0
16nm,1.2s
MOOW **Moose Ponds** 60.20 311 *eP* P 04 54 57.8 -0.6
6.4nm,1.3s
NOA **NORSAR Array B** 60.22 28 LR LR 05 16 50.8
comp=Z,23nm,18.4s,baz=20,slow=32
REDW **Red Top Meadow** 60.24 311 *eP* P 04 54 58.4 -0.3
16nm,1.5s
WUAZ **Wupatki** 60.28 302 P P 04 55 05.8 +6.8
baz=60
WUAZ **Wupatki** 60.28 302 *eP* P 04 55 00.2 +1.2
19nm,1.4s
TPAW **Teton Pass** 60.33 311 *eP* P 04 54 58.7 -0.6
6.2nm,0.9s
IMW **Indian Meadow** 60.35 311 *eP* P 04 54 59.3 -0.2
8.8nm,0.8s
YMR **Madison River** 60.45 312 *eP* P 04 55 01.2 +1.1
13nm,1.1s
JLU **Jordanelle** 60.49 308 *eP* P 04 55 00.9 +0.4
26nm,1.7s
HWUT **Hardware Ranch** 60.64 309 *eP* P 04 55 00.6 -0.7
9.2nm,0.9s
NLU **North Lily Min** 60.94 307 *eP* P 04 55 03.9 +0.4
11nm,1.3s
MSU **Marysvale** 60.97 305 *eP* P 04 55 04.4 +0.7
1.2nm,0.9s
BOZ **Bozeman (W)** 61.02 313 P P 04 55 07.1 +3.3
baz=61
BOZ **Bozeman (W)** 61.02 313 *eP* P 04 55 03.1 -0.7
2.4nm,0.9s
SPUT **South Promonto** 61.28 308 *eP* P 04 55 05.5 -0.2
26nm,1.3s
DUG **Dugway** 61.51 307 *eP* P 04 55 07.7 +0.5
16nm,1.5s
DLMT **Dillon** 61.67 313 *eP* P 04 55 08.3 0.0
6.6nm,1.3s
BGU **Big Grassy Mou** 61.70 308 *eP* P 04 55 08.7 +0.1
20nm,1.3s
MCMT **McKenzie Canyo** 61.80 312 *eP* P 04 55 09.9 +0.6
0.4nm,0.8s
SLMT **Seeley Lake** 62.45 315 *eP* P 04 55 13.2 -0.3
6.0nm,1.0s
HLID **Hailey** 62.84 311 P P 04 55 21.0 +4.8
baz=63,SNR=6.9
HLID **Hailey** 62.84 311 *eP* P 04 55 16.2 0.0
3.6nm,1.0s
EDM **Edmonton** 63.08 322 *eP* P 04 55 17.3 -0.1
64nm,1.8s
ELK **Elko** 63.38 308 *eP* P 04 55 20.2 +0.4
8.8nm,1.3s
R11A **Troy Canyon, C** 63.64 305 P P 04 55 28.4 +6.8
baz=64
R11A **Troy Canyon, C** 63.64 305 *eP* P 04 55 21.4 -0.2
21nm,2.0s
MFID **Camas Ranch** 63.87 311 *eP* P 04 55 22.8 -0.1
19nm,1.4s
TPH **Tonopah** 64.94 305 *eP* P 04 55 30.7 +0.6
2.9nm,0.8s
NEW **Newport** 64.97 316 *eP* P 04 55 29.6 -0.4
8.0nm,0.9s
YKA **Yellowknife Ar** 65.38 332 P P 04 55 30.2 -2.0
1.2nm,0.8s,baz=104,slow=5.9,SNR=2.9
NVAR **Mina Array Bea** 65.78 305 P P 04 55 33.5 -2.1
0.3nm,0.7s,baz=85,slow=7.5,SNR=3.6
FINES **FINESS Array B** 67.28 30 P P 04 55 43.5 -0.9
3.1nm,1.0s,baz=311,slow=11,SNR=5.2
FINES LR LR 05 20 04.7
comp=Z,41nm,19.9s,baz=241,slow=32
ARCES **ARCESS Array B** 68.33 21 P P 04 55 51.1 +0.1
1.6nm,0.9s,baz=243,slow=6.0,SNR=3.8
ARCES LR LR 05 20 29.0
comp=Z,36nm,19.3s,baz=268,slow=31
KIEV **Kiev** 68.34 42 *eP* P 04 55 50.5 -0.8
3.3nm,0.9s
BR131 **Keskin Array S** 72.12 53 *eP* P 04 56 15.5 +0.6
1.9nm,0.8s
BRTR **Keskin Array B** 72.12 53 P P 04 56 14.8 -0.2
1.7nm,0.8s,baz=244,slow=5.4,SNR=5.9
BRTR LR LR 05 25 16.4
comp=Z,20nm,21.7s,baz=266,slow=34
TSUM **Tsumeb** 72.32 117 *eP* P 04 56 17.1 +0.8
16nm,1.5s
INK **Inuvik** 73.67 337 P P 04 56 21.7 -1.6
2.3nm,0.8s,baz=76,slow=10,SNR=6.8
INK **Inuvik** 73.67 337 *eP* P 04 56 22.2 -1.1
15nm,1.4s
HYT **Haines Junctio** 76.21 330 *eP* P 04 56 39.6 +1.2
17nm,1.2s
ILAR **Eielson Array** 79.54 335 P P 04 56 55.7 -0.9
3.8nm,0.8s,baz=74,slow=4.8,SNR=35
ILAR LR LR 05 33 05.1
comp=Z,38nm,18.1s,baz=132,slow=36
COLA **College** 79.90 335 *eP* P 04 56 58.7 +0.1
9.9nm,1.1s
LSZ **Lusaka** 80.18 109 *eP* P 04 57 02.7 +1.6
6.5nm,1.0s
LBTB **Lobatse** 81.45 119 *eP* P 04 57 08.4 +0.6
10nm,1.2s
IM04 **Indian Mountai** 81.86 337 *eP* P 04 57 09.7 +0.6
BOSA **Boshof** 82.57 123 LR LR 05 25 59.2
comp=Z,59nm,18.6s,baz=354,slow=30
BOSA **Boshof** 82.57 123 *eP* P 04 57 13.4 -0.1
18nm,1.2s
KMBO **Kilima Mbogo** 84.32 93 LR LR 05 33 40.2
comp=Z,128nm,19.3s,baz=270,slow=35
KMBO **Kilima Mbogo** 84.32 93 *eP* P 04 57 23.6 +0.5
5.7nm,1.2s
ARU **Arti** 84.43 33 *eP* P 04 57 23.1 +0.6
4.3nm,0.8s
AKTO **Aktyubinsk** 86.33 38 P P 04 57 32.2 +0.1
2.3nm,0.8s,baz=262,slow=7.2,SNR=6.6
ABKAR **Akbulak array** 87.93 39 *eP* P 04 57 41.0 +1.1
4.0nm,1.2s
BRVK **Borovoye** 92.01 33 *eP* P 04 57 60.0 +1.1
4.2nm,1.1s
SNAA **Sanae** 92.81 167 *eP* P 04 58 01.8 -0.3
0.8nm,0.8s
ZALV **Zalesovo Beam** 98.39 27 LR LR 05 42 57.2
comp=Z,21nm,18.2s,baz=250,slow=36

*NNC **17** 04:45:43.2±7.0,53.06N×87.19E,h0km,mb3.2,mpv2.8, Error ellipse: s-maj=67.8km s-min=47.5km az=154.0*

IDC 17 04:45:43.0±2.3,54.17N×86.29E,h0km,mb1 3.0/2, mb1mx2.9/31,mbtmp3.0/2,ML2.9/2,6C-1D,Error ellipse: s-maj=17.9km s-min=11.7km az=59.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.89**	**257**	*i*		04 51 40.0	
	baz=72,slow=309,SNR=4.1						
ZALV	**Zalesovo Beam**	**0.89**	**256**	Pg	Pg	04 45 58.7	-1.4
	4.4nm,0.3s,baz=75,slow=17,SNR=47						
ZALV				Lg	Lg	04 46 13.3	
	8.3nm,0.3s,baz=78,slow=30,SNR=32						
KURK	**Kurchatov**	**5.82**	**237**	⇓Pn	Pn	04 47 09.3	-1.2
	0.2nm,0.5s						
KURK				⇑Sn	Sn	04 48 17.2	-0.8
	0.6nm,0.9s						
KURK				⇑Lg	Lg	04 48 48.1	
	0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**5.93**	**236**	⇑Pn	Pn	04 47 12.8	+0.9
	0.8nm,0.3s,baz=55,slow=15						
KURBB				⇑Sn	Sn	04 48 23.0	+2.5
	1.4nm,0.5s						
KURBB				⇑Lg	Lg	04 48 49.6	
	2.7nm,0.7s,baz=64,slow=32						
KURBB	**Kurchatov Arra**	**5.93**	**236**	Pn	Pn	04 47 12.9	+1.0
	0.2nm,0.3s,baz=52,slow=13,SNR=17						
KURBB				Sn	Sn	04 48 19.4	-1.1
	baz=53,slow=25,SNR=2.7						
KURBB				Lg	Lg	04 48 51.4	
	0.1nm,0.3s,baz=61,slow=33,SNR=5.6						
MK31	**Makanchi Array**	**7.81**	**201**	⇑Lg	Lg	04 49 25.3	
	0.1nm,0.3s,baz=61,slow=28,SNR=12						
MKAR	**Makanchi Array**	**7.81**	**201**	Pn	Pn	04 47 38.9	+1.1
	0.2nm,0.3s,baz=23,slow=13,SNR=8.6						
MKAR				Lg	Lg	04 49 48.9	
	0.1nm,0.3s,baz=31,slow=25,SNR=3.6						

KRSC 17 04:46:00.3±0.4,55.10N×160.27E,h1km±2km,ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZV	**Kizimen**	**0.02**	**41**	*i* P	Pg	04 46 01.3	+0.3
KZV				*eS*	Sg	04 46 02.6	+1.1
TUMR	**Tumrok**	**0.20**	**339**	*i* P	Pg	04 46 04.7	+0.3
KMNR	**Kamenistaya**	**0.66**	**358**	*eP*	Pg	04 46 13.6	+0.4
KMNR				*eS*	Sb	04 46 23.7	-1.0
BZMR	**Bezymyannaya**	**0.85**	**8**	*eP*	Pn	04 46 19.1	-0.6
KIRR	**Kirishev**	**0.86**	**3**	*eP*	Pb	04 46 17.7	-0.6
KIRR				*eS*	Sb	04 46 31.3	+0.8
BZWR	**Bezymyannyi-We**	**0.88**	**8**	*eP*	Pb	04 46 19.3	+0.6
KOZ	**Kozyrevsk**	**0.99**	**347**	*eP*	Pb	04 46 20.7	+0.4
KOZ				*eS*	Sn	04 46 35.5	-0.6
MKZ	**Mys Kozlova**	**1.00**	**122**	*eP*	Pg	04 46 20.0	+0.4
MKZ				*eS*	Sb	04 46 34.9	+0.7
KII	**Karymskiy**	**1.17**	**205**	*eP*	Pn	04 46 23.7	-0.2
ESO	**Esso**	**1.22**	**314**	*eP*	Pg	04 46 22.6	-1.2
ESO				*eS*	Sg	04 46 39.9	+0.3
KLY	**Klyuchi**	**1.24**	**10**	*eP*	Pn	04 46 25.4	+0.6
KLY				*eS*	Sn	04 46 43.8	+1.7
BDR	**Baidarnaya**	**1.57**	**19**	*eP*	Pg	04 46 30.9	+0.4
BDR				*eS*	Sg	04 46 54.4	+3.5
SMKR	**Semkarok**	**1.64**	**24**	*eP*	Pb	04 46 31.2	-0.2
SRKR	**Sorokina**	**1.64**	**18**	*eP*	Pn	04 46 30.9	+0.5
KBTR	**Krutoberegovo**	**1.82**	**51**	*eP*	Pn	04 46 32.7	-0.1
KBTR				*eS*	Sb	04 46 57.4	-0.4
GNL	**Ganaly**	**1.96**	**225**	*eP*	Pn	04 46 35.5	+0.7
GNL				*eS*	Sg	04 47 02.8	-0.7
KRX	**Arik**	**1.98**	**209**	*eP*	Pb	04 46 37.4	-0.1
SDLR	**Sedlovina**	**2.00**	**205**	*eP*	Pb	04 46 36.9	-0.7
SDLR				*eS*	Sg	04 47 04.8	0.0
NLC	**Nalytchevo**	**2.00**	**196**	*eP*	Pn	04 46 36.4	+1.1
NLC				*eS*	Sb	04 47 03.7	+0.7
KRER	**Koryakskii**	**2.01**	**207**	*eP*	Pb	04 46 36.8	-1.1
KRER				*eS*	Sb	04 47 04.0	+0.4
SPN	**Mys Shipunski**	**2.01**	**184**	*eP*	Pn	04 46 34.9	-0.5
SPN				*eS*	Sn	04 47 01.2	+0.1
SMAR	**Somma**	**2.03**	**206**	*eP*	Pb	04 46 37.2	-1.1
SMAR				*eS*	Sb	04 47 05.1	+0.8
AVH	**Avacha**	**2.04**	**207**	*eP*	Pb	04 46 38.0	-0.4
KOK	**Koryaka**	**2.05**	**209**	*eP*	Pb	04 46 37.6	-0.9
UGLR	**Uglovaya**	**2.08**	**205**	*eP*	Pb	04 46 37.7	-1.2
APC	**Apacha**	**2.85**	**221**	P	Pn	04 46 48.5	+1.6
RUS	**Russkaya**	**2.87**	**202**	*eP*	Pn	04 46 48.7	+1.6
ASAK	**Asacha**	**3.06**	**208**	*eP*	Pb	04 46 56.1	+0.4

*ISCJB **17** 05:03:18.7±0.5,16.55N±0.09×46.51W±0.07,h13km, mb4.4/48,MS3.5/15,Error ellipse: s-maj=13.2km s-min=10.0km az=12.4*

*IDC **17** 05:03:18.4±0.7,16.60N×46.56W,h0km,mb3.9/12, mb1 4.1/12,mb1mx3.8/45,mbtmp3.9/12,MS3.5/16, Ms1 3.5/16,ms1mx3.3/33,Error ellipse: s-maj=22.6km s-min=16.6km az=132.0*

*NEIC **17** 05:03:20.1±0.3,16.54N×46.50W,h10km,mb4.7/34,Error ellipse: s-maj=9.2km s-min=6.9km az=191.0*

ISC 17 05:03:20.5±0.6,16.6N±0.1×46.5W±0.1,h13km,n67, σ0°76/49,mb4.6/48,MS3.5/15,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H05S1	**Guadeloupe/Mar**	**13.96**	**263**	T	T	05 20 56.1	
	SNR=9.1						
SJG	**San Juan**	**18.81**	**278**	LR	LR	05 13 41.1	
	comp=Z,211nm,21.5s,baz=92,slow=33						
PTGA	**Pitinga**	**21.70**	**219**	P	P	**05 08 11.4**	**-0.1**
	2.8nm,0.7s,baz=31,slow=11,SNR=6.5						
PTGA				LR	LR	05 15 44.3	
	comp=Z,212nm,21.0s,baz=40,slow=34						
SACV	**Santiago Islan**	**22.10**	**91**	*eP*	P	**05 08 16.6**	**+0.8**
	43nm,0.9s						
RCBR	**Riachuelo**	**24.59**	**154**	LR	LR	05 16 19.9	
	comp=Z,87nm,18.9s,baz=328,slow=32						
ROSC	**El Rosal**	**29.65**	**250**	LR	LR	05 22 32.9	
	comp=Z,98nm,19.0s,baz=132,slow=39						
LPAZ	**La Paz**	**38.98**	**214**	LR	LR	05 26 19.6	
	comp=Z,55nm,22.0s,baz=10.0,slow=35						
H10N3	**ASCENSION HYDR**	**39.88**	**125**	T	T	05 53 28.6	
	baz=307,slow=75,SNR=236						
H10N2	**ASCENSION HYDR**	**39.89**	**125**	T	T	05 53 27.3	
	baz=307,slow=75,SNR=287						
H10N1	**ASCENSION HYDR**	**39.91**	**125**	T	T	05 53 18.0	
	baz=307,slow=75,SNR=279						
H10S3	**ASCENSION HYDR**	**40.44**	**127**	T	T	05 54 05.6	
	baz=309,slow=75,SNR=118						
H10S1	**ASCENSION HYDR**	**40.45**	**126**	T	T	05 54 13.5	
	baz=309,slow=75,SNR=119						
H10S2	**ASCENSION HYDR**	**40.46**	**126**	T	T	05 54 13.1	
	baz=309,slow=75,SNR=110						
NNA	**Nana**	**41.27**	**229**	LR	LR	05 27 08.3	
	comp=Z,61nm,20.8s,baz=22,slow=35						
SCHQ	**Schefferville**	**41.29**	**342**	LR	LR	05 24 34.1	
	comp=Z,61nm,19.8s,baz=352,slow=31						
DBIC	**Dimbokro**	**41.89**	**99**	LR	LR	05 25 35.5	
	comp=Z,109nm,19.9s,baz=268,slow=32						
ESDC	**Sonseca Array**	**43.50**	**49**	LR	LR	05 26 29.5	
	comp=Z,43nm,19.8s,baz=165,slow=32						
CPUP	**Villa Florida**	**43.91**	**194**	P	P	**05 11 27.6**	**+0.6**
	5.2nm,0.9s,baz=18,slow=8.1,SNR=8.4						
CPUP				LR	LR	05 32 30.1	
	comp=Z,27nm,18.1s,baz=297,slow=40						
CPUP	**Villa Florida**	**43.91**	**194**	*eP*	P	**05 11 27.3**	**+0.3**
	0.3nm,0.8s						
LVC	**Limon Verde**	**44.67**	**210**	LR	LR	05 31 24.5	
	comp=Z,114nm,20.2s,baz=9.0,slow=38						
JFWS	**Jewell Farm**	**45.47**	**315**	*eP*	P	**05 11 40.3**	**+0.8**
	13nm,0.9s						
TORD	**Torodi Ar. Bea**	**46.64**	**87**	P	P	**05 11 48.3**	**-0.7**
	1.4nm,1.0s,baz=257,slow=12,SNR=4.4						
TORD				LR	LR	05 28 33.5	
	comp=Z,129nm,20.9s,baz=260,slow=32						
CFAA	**Coronel Fontan**	**52.23**	**204**	P	P	**05 12 31.1**	**-0.4**
	0.2nm,0.9s,baz=13,slow=14,SNR=2.5						
KEST	**Kesra**	**52.95**	**58**	LR	LR	05 32 31.1	
	comp=Z,28nm,20.5s,baz=334,slow=33						
MSTX	**Muleshoe**	**53.11**	**300**	*eP*	P	**05 12 37.7**	**-0.6**
	9.1nm,1.0s						
TXAR	**Lajitas Array**	**53.68**	**294**	P	P	**05 12 41.9**	**-0.5**
	0.3nm,0.9s,baz=105,slow=7.4,SNR=3.0						
TXAR				LR	LR	05 37 22.2	
	comp=Z,29nm,18.9s,baz=0.0,slow=38						
SDCO	**Great Sand Dun**	**55.64**	**305**	*eP*	P	**05 12 57.2**	**+0.4**
	3.4nm,1.0s						
ISCO	**Idaho Springs**	**55.94**	**307**	*eP*	P	**05 13 00.7**	**+1.7**
	8.9nm,1.0s						
LAO	**LASA Array**	**57.42**	**315**	*eP*	P	**05 13 09.9**	**+0.9**
	11nm,0.8s						
PV01	**Paradox Valley**	**58.09**	**305**	*eP*	P	**05 13 15.3**	**+1.2**
	410nm,0.9s						
GERES	**GERESS Array B**	**58.18**	**42**	P	P	**05 13 14.9**	**+0.5**
	0.1nm,0.3s,baz=285,slow=7.6,SNR=2.3						
PDAR	**Pinedale Array**	**59.22**	**310**	P	P	**05 13 21.1**	**-0.7**
	1.4nm,0.9s,baz=97,slow=6.1,SNR=10						
PDAR				LR	LR	05 36 17.2	
	comp=Z,55nm,21.6s,baz=111,slow=34						
BW06	**Boulder Array**	**59.22**	**310**	*eP*	P	**05 13 21.6**	**-0.4**
	8.1nm,1.2s						
GCMT	**Greycliff**	**59.64**	**314**	*eP*	P	**05 13 25.5**	**+0.8**
	2.7nm,0.9s						
SRU	**San Rafael**	**59.67**	**306**	*eP*	P	**05 13 26.2**	**+1.2**
	4.5nm,0.9s						
TUC	**Tucson**	**59.79**	**298**	*eP*	P	**05 13 28.1**	**+2.2**
	1.2nm,0.8s						
LOHW	**Long Hollow**	**60.06**	**311**	*eP*	P	**05 13 27.4**	**-0.3**
	6.6nm,0.9s						
SNOW	**Snow King Moun**	**60.16**	**311**	*eP*	P	**05 13 29.1**	**+0.7**
	16nm,1.4s						
FLWY	**Flagg Ranch**	**60.18**	**312**	*eP*	P	**05 13 29.3**	**+0.9**
	20nm,1.4s						
MOOW	**Moose Ponds**	**60.18**	**311**	*eP*	P	**05 13 28.6**	**+0.1**
	4.3nm,1.1s						
REDW	**Red Top Meadow**	**60.22**	**311**	*eP*	P	**05 13 27.7**	**-1.0**
	6.8nm,0.6s						
NOA	**NORSAR Array B**	**60.23**	**28**	LR	LR	05 34 18.2	
	comp=Z,12nm,19.0s,baz=225,slow=31						
TPAW	**Teton Pass**	**60.30**	**311**	*eP*	P	**05 13 29.0**	**-0.4**
	3.6nm,0.3s						
IMW	**Indian Meadow**	**60.33**	**311**	*eP*	P	**05 13 29.5**	**-0.1**
	9.0nm,0.8s						
JLU	**Jordanelle**	**60.47**	**308**	*eP*	P	**05 13 32.4**	**+1.9**
	3.4nm,0.8s						
HWUT	**Hardware Ranch**	**60.61**	**309**	*eP*	P	**05 13 31.1**	**-0.3**
	7.8nm,0.8s						
MSU	**Marysvale**	**60.94**	**305**	*eP*	P	**05 13 34.4**	**+0.6**
	3.4nm,1.1s						
MVU	**Marysvale**	**60.97**	**305**	*eP*	P	**05 13 34.7**	**+0.7**
	3.8nm,1.0s						
SPUT	**South Promonto**	**61.26**	**308**	*eP*	P	**05 13 35.5**	**-0.3**
	12nm,1.0s						
DUG	**Dugway**	**61.49**	**307**	*eP*	P	**05 13 37.5**	**+0.2**
	6.5nm,1.3s						
HVU	**Hansel Valley**	**61.53**	**309**	*eP*	P	**05 13 37.2**	**-0.4**
	12nm,1.5s						
BGU	**Big Grassy Mou**	**61.68**	**308**	*eP*	P	**05 13 38.8**	**+0.1**
	13nm,1.1s						
CCUT	**Cedar City**	**61.86**	**304**	*eP*	P	**05 13 40.5**	**+0.4**
	5.6nm,1.0s						
SLMT	**Seeley Lake**	**62.43**	**315**	*eP*	P	**05 13 43.0**	**-0.5**
	7.5nm,1.0s						
HLID	**Hailey**	**62.82**	**311**	*eP*	P	**05 13 46.4**	**+0.1**
	1.9nm,0.9s						
EDM	**Edmonton**	**63.05**	**322**	*eP*	P	**05 13 47.2**	**-0.2**
	19nm,1.3s						
ELK	**Elko**	**63.35**	**308**	*eP*	P	**05 13 50.2**	**+0.3**
	2.9nm,1.0s						
R11A	**Troy Canyon, C**	**63.62**	**305**	*eP*	P	**05 13 52.3**	**+0.6**
	1.5nm,0.8s						
MFID	**Camas Ranch**	**63.84**	**311**	*eP*	P	**05 13 53.9**	**+0.9**
	9.4nm,1.0s						
NEW	**Newport**	**64.95**	**316**	*eP*	P	**05 13 59.5**	**-0.5**
	7.6nm,1.0s						
NVAR	**Mina Array Bea**	**65.75**	**305**	P	P	**05 14 05.0**	**-0.7**
	0.4nm,0.7s,baz=98,slow=7.4,SNR=3.1						
FINES	**FINESS Array B**	**67.28**	**30**	P	P	**05 14 15.1**	**+0.4**
	2.8nm,0.9s,baz=254,slow=7.3,SNR=2.0						
ARCES	**ARCESS Array B**	**68.33**	**21**	P	P	**05 14 20.9**	**-0.3**
	0.8nm,0.8s,baz=246,slow=7.0,SNR=3.2						
AKASG	**Malin Array Be**	**68.36**	**42**	P	P	**05 14 21.3**	**-0.4**
	2.7nm,0.3s,baz=267,slow=9.2,SNR=2.8						
BRTR	**Keskin Array B**	**72.14**	**53**	P	P	**05 14 45.1**	**-0.2**
	1.2nm,0.8s,baz=282,slow=6.2,SNR=3.6						
DAWY	**Dawson**	**76.52**	**333**	*eP*	P	**05 15 10.0**	**-0.2**
	4.6nm,1.4s						
ILAR	**Eielson Array**	**79.52**	**335**	P	P	**05 15 26.6**	**-0.2**
	1.4nm,0.8s,baz=71,slow=4.3,SNR=18						

IDC 17 05:06:10.6±7.6,3.19N×128.90E,h204km±78km,mb3.5/9, mb1 3.7/9,mb1mx3.4/34,mbtmp4.0/9,Error ellipse: s-maj=50.2km s-min=11.8km az=80.0,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.60**	**167**	P	P	05 11 03.2	0.0
	1.7nm,0.3s,baz=344,slow=10,SNR=41						
ASAR	**Alice Springs**	**27.14**	**170**	P	P	05 11 34.8	-0.3
	1.0nm,0.4s,baz=352,slow=7.3,SNR=22						
ASAR				PcP	PcP	05 14 50.5	0.0
	0.2nm,0.4s,baz=355,slow=2.1,SNR=4.1						
MJAR	**Matsushiro Arr**	**34.28**	**13**	P	P	05 12 38.3	+0.8
	1.3nm,0.4s,baz=185,slow=10,SNR=5.2						
STKA	**Stephens Creek**	**36.91**	**162**	P	P	05 13 00.0	+0.1
	3.1nm,0.4s,baz=349,slow=7.0,SNR=20						
USRK	**Ussuriysk Ar.**	**40.93**	**3**	P	P	05 13 32.0	-1.1
	1.4nm,0.6s,baz=176,slow=26,SNR=4.3						
SONM	**Songino Array**	**48.52**	**340**	P	P	05 14 33.0	-0.2
	0.4nm,0.4s,baz=150,slow=8.6,SNR=3.2						
MKAR	**Makanchi Array**	**59.24**	**324**	P	P	05 15 50.3	-0.3
	0.6nm,0.5s,baz=120,slow=8.0,SNR=7.0						
ZALV	**Zalesovo Beam**	**62.06**	**332**	P	P	05 16 10.4	+1.0
	0.4nm,0.4s,baz=98,slow=5.1,SNR=3.0						
ARCES	**ARCESS Array B**	**91.69**	**340**	P	P	05 18 53.4	-1.1
	2.0nm,1.0s,baz=68,slow=7.2,SNR=3.3						

ISCJB **17** *05:06:37.5±1.0, 16°.51S±0°.09×73°.83W±0°.08, h30km, mb4.2/1, MS3.3/2, Error ellipse: s-maj=15.8km s-min=7.5km az=38.8*
IDC **17** *05:06:39.9±3.7, 16°.43S×73°.65W, h35km±29km, mb4.1/1, mb1 4.1/6, mb1mx3.6/32, mbtmp4.2/6, ML4.0/3, MS3.4/3, Ms1 3.5/3, ms1mx3.0/21, Error ellipse: s-maj=40.4km s-min=21.4km az=50.0*
ISC 17 05:06:38.5±0.9, **16°.65S**±0°.09×**73°.84W**±0°.10, **h30**km, **n10,** σ1⅋**62**/11, **Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**5.47**	**327**	Pn	**Pn**	**05 07 58.8**	**+0.8**
	1.7nm,0.3s,baz=132,slow=15,SNR=4.9						
NNA				Sn	**Sn**	**05 08 58.8**	**-1.2**
	3.3nm,0.3s,baz=193,slow=19,SNR=2.2						
LPAZ	**La Paz**	**5.49**	**87**	Pn	**Pn**	**05 07 59.4**	**+0.5**
	5.9nm,0.3s,baz=270,slow=9.8,SNR=74						
LPAZ				Sn	**Sn**	**05 09 02.9**	**+1.6**
	baz=345,slow=20,SNR=1.1						
LPAZ				LR	LR	05 10 18.1	
	comp=Z,350nm,18.2s,baz=300,slow=41						
LVC	**Limon Verde**	**7.54**	**143**	Pn	**Pn**	**05 08 28.8**	**+2.2**
	101nm,0.3s,baz=324,slow=10,SNR=36						
LVC				Sn	**Sn**	**05 09 48.9**	**-2.3**
	276nm,0.3s,baz=72,slow=20,SNR=14						
LVC				Lg	Lg	05 10 39.8	
	37nm,0.3s,baz=252,slow=20,SNR=1.9						
SIV	**San Ignacio**	**12.28**	**89**	Pn	**Pn**	**05 09 29.6**	**-1.8**
	1.3nm,0.3s,baz=273,slow=13,SNR=17						
CFAA	**Coronel Fontan**	**15.74**	**162**	Pn	**P**	**05 10 22.2**	**+0.3**
	0.0nm,0.3s,baz=332,slow=11,SNR=3.7						
PCRV	**Puerto La Cruz**	**28.16**	**19**	LR	LR	05 24 28.4	
	comp=Z,105nm,19.6s,baz=128,slow=38						
JTS	**JuntasAbangare**	**28.93**	**337**	LR	LR	05 22 57.4	
	comp=Z,62nm,19.5s,baz=112,slow=34						
TORD	**Torodi Ar. Bea**	**80.28**	**73**	P	**P**	**05 18 46.0**	**-1.1**
	2.5nm,0.8s,baz=255,slow=5.5,SNR=12						
WRA	**Warramunga Arr**	**134.30**	**218**	PKP	**PKPdf**	**05 25 55.5**	**+1.2**
	0.8nm,0.8s,baz=152,slow=1.5,SNR=9.2						
SONM	**Songino Array**	**148.90**	**360**	PKPbc	**PKPbc**	**05 26 23.2**	**-0.3**
	1.2nm,0.8s,baz=0.0,slow=1.4,SNR=8.6						

ISCJB **17** *05:11:23.9±0.3, 39°.13N±0°.01×23°.73E±0°.02, h9km±2km, Error ellipse: s-maj=2.3km s-min=1.9km az=23.0*
ATH **17** *05:11:23.5, 39°.13N×23°.74E, h21km, MD3.4/59, ML3.2*
THE **17** *05:11:24.6, 39°.11N×23°.71E, h6km, ML3.2/16, Error ellipse: s-maj=0.8km s-min=0.4km az=214.0*
CSEM **17** *05:11:24.2±0.1, 39°.12N×23°.70E, h8km, MD3.4, Error ellipse: s-maj=2.8km s-min=2.2km az=111.0*
ISC 17 05:11:24.4±0.8, **39°.12N**±0°.01×**23°.72E**±0°.01, **h10**km±6km, **n191,** σ0⅋**64**/277, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.14**	**68**	*e*PB	**Pg**	**05 11 27.4**	**-0.1**
AOS				*e*SB	**Sg**	**05 11 29.7**	**+0.1**
AOS	**Alonnisos**	**0.14**	**68**	*e*Pb	**Pg**	**05 11 27.4**	**-0.1**
AOS				S	**Sg**	**05 11 29.5**	**-0.1**
AOS	**Alonnisos**	**0.14**	**68**	P	**Pg**	**05 11 27.3**	**-0.2**
AOS				S	**Sg**	**05 11 29.6**	**-0.1**
MRKA	**Markates**	**0.42**	**194**	*e*PB	**Pg**	**05 11 32.7**	**0.0**
MRKA				*e*SB	**Sg**	**05 11 38.7**	**+0.4**
MRKA	**Markates**	**0.42**	**194**	*e*Pb	**Pg**	**05 11 32.7**	**0.0**
MRKA				*e*Sb	**Sg**	**05 11 38.7**	**+0.4**
MRKA				S	**Sg**	**05 11 39.0**	**+0.7**
MRKA	**Markates**	**0.42**	**194**	P	**Pg**	**05 11 32.5**	**-0.2**
MRKA				S	**Sg**	**05 11 39.0**	**+0.7**
NEO	**Neokhori**	**0.43**	**296**	*e*PB	**Pg**	**05 11 33.1**	**+0.3**
NEO				*e*SB	**Sg**	**05 11 38.8**	**+0.3**
NEO	**Neokhori**	**0.43**	**296**	P	**Pg**	**05 11 32.9**	**+0.1**
NEO				*e*Sb	**Sg**	**05 11 38.8**	**+0.3**
NEO	**Neokhori**	**0.43**	**296**	P	**Pg**	**05 11 32.9**	**+0.1**
NEO				S	**Sg**	**05 11 39.0**	**+0.5**
SMIA	**Simia**	**0.46**	**239**	*e*PB	**Pg**	**05 11 33.7**	**+0.3**
SMIA				*e*SB	**Sb**	**05 11 40.9**	**-0.7**
SMIA	**Simia**	**0.46**	**239**	P	**Pg**	**05 11 33.6**	**+0.2**
SMIA				S	**Sb**	**05 11 40.8**	**-0.8**
SMIA	**Simia**	**0.46**	**239**	P	**Pg**	**05 11 33.6**	**+0.2**
SMIA				S	**Sb**	**05 11 40.8**	**-0.8**
XOR	**Xorichti**	**0.48**	**301**	*e*PB	**Pg**	**05 11 33.9**	**+0.2**
XOR				*e*SB	**Sg**	**05 11 40.8**	**+0.7**
XOR	**Xorichti**	**0.48**	**301**	P	**Pg**	**05 11 33.8**	**+0.1**
XOR				S	**Sg**	**05 11 40.7**	**+0.7**
XOR	**Xorichti**	**0.48**	**301**	P	**Pg**	**05 11 33.8**	**+0.1**
XOR				S	**Sg**	**05 11 40.7**	**+0.7**
FYTO	**Fytoko, Volos**	**0.67**	**296**	P	**Pg**	**05 11 37.5**	**+0.1**
FYTO	**Fytoko, Volos**	**0.67**	**296**	P	**Pg**	**05 11 37.5**	**+0.1**
FYTO				S	**Sb**	**05 11 46.8**	**-0.8**
ATAL	**Atalanti**	**0.69**	**232**	P	**Pg**	**05 11 37.5**	**-0.2**
ATAL	**Atalanti**	**0.69**	**232**	P	**Pg**	**05 11 37.5**	**-0.2**
ATAL				S	**Sg**	**05 11 47.1**	**+0.3**
EREA	**Eretria**	**0.72**	**167**	*e*PN	**Pg**	**05 11 38.1**	**-0.2**
EREA	**Eretria**	**0.72**	**167**	P	**Pg**	**05 11 38.0**	**-0.2**
EREA				S	**Sg**	**05 11 48.0**	**+0.4**
ERA	**Eretria**	**0.72**	**167**	S	**Pg**	**05 11 38.0**	**-0.2**
EREA				S	**Sg**	**05 11 48.0**	**+0.4**
LKR	**Lokris**	**0.73**	**230**	*e*PN	**Pg**	**05 11 38.3**	**-0.2**
LKR				*e*SN	**Sg**	**05 11 48.2**	**+0.2**
LKR	**Lokris**	**0.73**	**230**	P	**Pg**	**05 11 38.2**	**-0.2**
LKR	**Lokris**	**0.73**	**230**	P	**Pg**	**05 11 38.2**	**-0.2**
LKR				S	**Sg**	**05 11 48.3**	**+0.2**
PAIG	**Paliouri**	**0.81**	**358**	*e*PN	**Pg**	**05 11 39.9**	**-0.1**
PAIG				*e*SN	**Sg**	**05 11 50.1**	**-0.4**
PAIG	**Paliouri**	**0.81**	**358**	*e*Pn	**Pg**	**05 11 39.9**	**-0.1**
PAIG	**Paliouri**	**0.81**	**358**	P	**Pb**	**05 11 40.6**	**+0.1**
PAIG				S	**Sb**	**05 11 52.3**	**+0.8**
PAIG	**Paliouri**	**0.81**	**358**	P	**Pb**	**05 11 40.6**	**+0.1**
PAIG				S	**Sb**	**05 11 52.3**	**+0.8**
AXAR	**Agios Charalam**	**0.90**	**247**	*e*PN	**Pg**	**05 11 41.5**	**-0.2**
AXAR				*e*SN	**Sg**	**05 11 53.4**	**0.0**
AXAR	**Agios Charalam**	**0.90**	**247**	P	**Pg**	**05 11 41.7**	**0.0**
AXAR				*e*Sn	**Sg**	**05 11 53.4**	**0.0**
AXAR				S	**Sb**	**05 11 54.5**	**+0.4**
AXAR	**Agios Charalam**	**0.90**	**247**	S	**Pg**	**05 11 41.7**	**0.0**
AXAR				S	**Sb**	**05 11 54.5**	**+0.4**
VIL2	**Platees**	**0.97**	**201**	*e*PN	**Pn**	**05 11 44.1**	**0.0**
VIL2				*e*SN	**Sn**	**05 11 57.6**	**-0.4**
VILL	**Villia**	**1.00**	**199**	*e*PN	**Pb**	**05 11 44.1**	**+0.1**
VILL				*e*Sn	**Sb**	**05 11 57.6**	**+0.4**
VILL	**Villia**	**1.00**	**199**	P	**Pb**	**05 11 44.0**	**+0.1**
VILL				S	**Sb**	**05 11 57.7**	**+0.5**
PTL	**Penteli**	**1.07**	**174**	*e*PN	**Pg**	**05 11 44.6**	**-0.4**
PTL				*e*SN	**Sg**	**05 11 58.7**	**-0.3**
PTL	**Penteli**	**1.07**	**174**	*e*Pn	**Pg**	**05 11 44.6**	**-0.4**
PTL				*e*Sn	**Sg**	**05 11 58.7**	**-0.3**
AGG	**Agios Georgios**	**1.08**	**265**	*e*PN	**Pg**	**05 11 44.0**	**-1.2**
AGG				*e*SN	**Sn**	**05 12 00.8**	**0.0**
AGG	**Agios Georgios**	**1.08**	**265**	*e*PN	**Pg**	**05 11 44.4**	**-0.8**
AGG	**Agios Georgios**	**1.08**	**265**	P	**Pg**	**05 11 44.4**	**-0.8**
AGG				*e*Sn	**Sn**	**05 12 00.9**	**0.0**
AGG	**Agios Georgios**	**1.08**	**265**	P	**Pg**	**05 11 44.4**	**-0.8**
ATH	**Athens Observa**	**1.15**	**180**	*e*PN	**Pg**	**05 11 45.9**	**-0.5**
ATH				*e*SN	**Sn**	**05 12 02.1**	**-0.1**
ATH	**Athens Observa**	**1.15**	**180**	P	**Pg**	**05 11 45.9**	**-0.5**
ATH				*e*Sn	**Sn**	**05 12 02.1**	**-0.1**
ATH	**Athens Observa**	**1.15**	**180**	P	**Pg**	**05 11 45.9**	**-0.5**
ATH				S	**Sb**	**05 12 01.4**	**+0.2**
ATHU	**Athens Univers**	**1.15**	**177**	P	**Pg**	**05 11 45.9**	**-0.6**
ATHU	**Athens Univers**	**1.15**	**177**	P	**Pg**	**05 11 45.9**	**-0.6**
DESF	**Desfina**	**1.17**	**233**	*e*PN	**Pg**	**05 11 46.0**	**-0.8**
DESF				*e*SN	**Sb**	**05 12 02.4**	**+0.5**
DESF	**Desfina**	**1.17**	**233**	*e*Pn	**Pg**	**05 11 46.0**	**-0.8**
DESF				*e*Sn	**Sb**	**05 12 02.4**	**+0.5**
DSF	**Desfina**	**1.17**	**233**	*e*PN	**Pg**	**05 11 45.8**	**-1.1**
DSF				*e*SN	**Sn**	**05 12 02.6**	**-0.4**
DSF	**Desfina**	**1.17**	**233**	P	**Pg**	**05 11 45.7**	**-1.1**
DSF				*e*Sn	**Sn**	**05 12 02.6**	**-0.4**
DSF	**Desfina**	**1.17**	**233**	P	**Pg**	**05 11 45.7**	**-1.1**
DSF				S	**Sn**	**05 12 02.5**	**-0.4**
KARY	**Karystos**	**1.22**	**152**	P	**Pg**	**05 11 48.2**	**+0.4**
OUR	**Ouranopolis**	**1.23**	**9**	*e*PN	**Pg**	**05 11 48.1**	**+0.1**
OUR	**Ouranopolis**	**1.23**	**9**	*e*PN	**Pn**	**05 11 47.1**	**-0.6**
OUR				*e*SN	**Sb**	**05 12 03.0**	**-0.7**
OUR	**Ouranopolis**	**1.23**	**9**	*e*Pn	**Pn**	**05 11 47.1**	**-0.6**
OUR				*e*Sn	**Sb**	**05 12 03.0**	**-0.7**
OUR	**Ouranopolis**	**1.23**	**9**	P	**Pn**	**05 11 47.0**	**-0.6**
MAKR	**Makrakomi, Fth**	**1.24**	**266**	*e*PN	**Pb**	**05 11 47.9**	**0.0**
MAKR	**Makrakomi, Fth**	**1.24**	**266**	*e*Pn	**Pb**	**05 11 47.9**	**0.0**
LTK	**Loutraki**	**1.24**	**209**	*e*PN	**Pn**	**05 11 47.7**	**-0.2**
LTK				*e*SN	**Sn**	**05 12 05.3**	**+0.6**
LTK	**Loutraki**	**1.24**	**209**	*e*Pn	**Pn**	**05 11 47.7**	**-0.2**
LTK				S	**Sn**	**05 12 05.0**	**+0.3**
LTK	**Loutraki**	**1.24**	**209**	P	**Pn**	**05 11 47.5**	**-0.4**
LTK				S	**Sn**	**05 12 05.0**	**+0.3**
PLG	**Polygyros**	**1.27**	**351**	P	**Pn**	**05 11 47.6**	**-0.7**
PLG	**Polygyros**	**1.27**	**351**	P	**Pn**	**05 11 47.6**	**-0.7**
LOUT	**Loutraki**	**1.27**	**208**	*e*PN	**Pn**	**05 11 47.8**	**-0.4**
LOUT				*e*SN	**Sn**	**05 12 06.4**	**+1.0**
LOUT	**Loutraki**	**1.27**	**208**	P	**Pn**	**05 11 48.0**	**-0.2**
LOUT				*e*Sn	**Sn**	**05 12 06.4**	**+1.0**
LOUT	**Loutraki**	**1.27**	**208**	P	**Pn**	**05 11 48.0**	**-0.2**
LOUT				S	**Sn**	**05 12 06.8**	**+1.4**
THAL	**Thalero**	**1.36**	**218**	*e*PN	**Pn**	**05 11 49.1**	**-0.3**
THAL				*e*SN	**Sg**	**05 12 08.8**	**+0.6**
THAL	**Thalero**	**1.36**	**218**	*e*Pn	**Pn**	**05 11 49.1**	**-0.3**
THAL				*e*Sn	**Sg**	**05 12 08.8**	**+0.6**
LIT	**Litokhoron**	**1.36**	**316**	*e*PN	**Pn**	**05 11 49.0**	**-0.6**
LIT				*e*SN	**Sg**	**05 12 08.8**	**+0.5**
LIT	**Litokhoron**	**1.36**	**316**	P	**Pn**	**05 11 49.0**	**-0.6**
LIT				*e*Sn	**Sg**	**05 12 08.8**	**+0.5**
LIT	**Litokhoron**	**1.36**	**316**	P	**Pn**	**05 11 49.0**	**-0.6**
LIT				S	**Sg**	**05 12 08.9**	**+0.6**
NAIG	**Nisos Aigina**	**1.37**	**188**	*e*PN	**Pn**	**05 11 49.3**	**-0.3**
NAIG	**Nisos Aigina**	**1.37**	**188**	*e*Pn	**Pn**	**05 11 49.3**	**-0.3**
LIA	**Limnos Island**	**1.37**	**55**	*e*PN	**Pn**	**05 11 49.6**	**-0.1**
LIA				*e*SN	**Sb**	**05 12 07.6**	**-0.2**
LIA	**Limnos Island**	**1.37**	**55**	P	**Pn**	**05 11 49.5**	**-0.1**
LIA				*e*Sn	**Sb**	**05 12 07.6**	**-0.2**
LIA				S	**Sg**	**05 12 09.0**	**+0.4**
LIA	**Limnos Island**	**1.37**	**55**	P	**Pn**	**05 11 49.5**	**-0.1**
LIA				S	**Sg**	**05 12 09.0**	**+0.4**
THL	**Klokotos Trika**	**1.40**	**289**	*e*PN	**Pn**	**05 11 50.0**	**+0.1**
THL	**Klokotos Trika**	**1.40**	**289**	P	**Pn**	**05 11 50.0**	**+0.1**
THL				S	**Sg**	**05 12 08.9**	**-0.3**
THL	**Klokotos Trika**	**1.40**	**289**	P	**Pn**	**05 11 50.0**	**+0.1**
THL				S	**Sg**	**05 12 08.9**	**-0.3**
KALE	**Kalithea**	**1.43**	**240**	*e*PN	**Pn**	**05 11 50.1**	**-0.4**
KALE	**Kalithea**	**1.43**	**240**	*e*Pn	**Pn**	**05 11 50.1**	**-0.4**
KALE	**Kalithea**	**1.43**	**240**	P	**Pn**	**05 11 50.5**	**0.0**
KALE				S	**Sg**	**05 12 10.9**	**+0.4**
KALE	**Kalithea**	**1.43**	**240**	P	**Pn**	**05 11 50.5**	**0.0**
KALE				S	**Sg**	**05 12 10.9**	**+0.4**
SERG	**Sergoula**	**1.48**	**242**	*e*PN	**Pn**	**05 11 51.0**	**-0.1**
SERG				*e*SN	**Sg**	**05 12 11.6**	**-0.3**
SERG	**Sergoula**	**1.48**	**242**	*e*Pn	**Pn**	**05 11 51.0**	**-0.1**
SERG				*e*Sn	**Sg**	**05 12 11.6**	**-0.3**
TRIZ	**Trizonia**	**1.49**	**240**	*e*PN	**Pn**	**05 11 51.4**	**+0.2**
TRIZ	**Trizonia**	**1.49**	**240**	*e*Pn	**Pn**	**05 11 51.4**	**+0.2**
EVR	**Evrytania**	**1.50**	**263**	*e*PN	**Pn**	**05 11 52.1**	**-0.3**
EVR	**Evrytania**	**1.50**	**263**	*e*Pn	**Pb**	**05 11 52.1**	**-0.3**
HORT	**Hortiatis**	**1.55**	**342**	*e*PN	**Pn**	**05 11 51.9**	**-0.3**
HORT	**Hortiatis**	**1.55**	**342**	*e*PN	**Pn**	**05 11 51.9**	**-0.3**
HORT				*e*SN	**Sn**	**05 12 12.0**	**-0.4**
HORT	**Hortiatis**	**1.55**	**342**	P	**Pn**	**05 11 51.8**	**-0.4**
HORT				*e*Sn	**Sn**	**05 12 12.0**	**-0.4**
HORT	**Hortiatis**	**1.55**	**342**	P	**Pn**	**05 11 51.8**	**-0.4**
HORT				S	**Sn**	**05 12 12.3**	**-0.1**
EFP	**Efpalio**	**1.58**	**245**	*e*PN	**Pn**	**05 11 52.8**	**+0.4**
EFP				*e*SN	**Sb**	**05 12 13.3**	**-0.3**
EFP	**Efpalio**	**1.58**	**245**	*e*Pn	**Pn**	**05 11 52.8**	**+0.4**
EFP				*e*Sn	**Sb**	**05 12 13.3**	**-0.3**
GUR	**Goura**	**1.60**	**223**	*e*PN	**Pn**	**05 11 52.9**	**0.0**
GUR				*e*SN	**Sn**	**05 12 13.7**	**+0.1**
GUR	**Goura**	**1.60**	**223**	*e*Pn	**Pn**	**05 11 52.9**	**0.0**
GUR				*e*Sn	**Sn**	**05 12 13.7**	**+0.1**
GUR				S	**Sb**	**05 12 14.6**	**+0.2**
GUR	**Goura**	**1.60**	**223**	P	**Pn**	**05 11 53.1**	**+0.2**
GUR				S	**Sb**	**05 12 14.6**	**+0.2**
THE	**Thessaloniki**	**1.62**	**339**	*e*PN	**Pn**	**05 11 52.9**	**-0.1**
THE	**Thessaloniki**	**1.62**	**339**	*e*Pn	**Pn**	**05 11 52.9**	**-0.1**
LAKA	**Lakka**	**1.62**	**238**	*e*PN	**Pn**	**05 11 53.3**	**+0.2**
LAKA	**Lakka**	**1.62**	**238**	*e*Pn	**Pn**	**05 11 53.3**	**+0.2**
KLV	**Kalavryta, Ach**	**1.63**	**229**	*e*PN	**Pn**	**05 11 53.3**	**0.0**
KLV				*e*SN	**Sb**	**05 12 15.7**	**+0.4**
KLV	**Kalavryta, Ach**	**1.63**	**229**	*e*Pn	**Pn**	**05 11 53.3**	**0.0**
KLV				*e*Sn	**Sb**	**05 12 15.7**	**+0.4**
KLV	**Kalavryta, Ach**	**1.63**	**229**	P	**Pn**	**05 11 53.4**	**+0.1**
DID	**Didima**	**1.65**	**193**	*e*PN	**Pn**	**05 11 53.2**	**-0.3**
DID				*e*SN	**Sn**	**05 12 15.2**	**+0.3**
DID	**Didima**	**1.65**	**193**	*e*Pn	**Pn**	**05 11 53.2**	**-0.3**
DID				S	**Sn**	**05 12 14.7**	**-0.2**
DID				*e*Sn	**Sn**	**05 12 15.2**	**+0.3**
DID	**Didima**	**1.65**	**193**	P	**Pn**	**05 11 53.1**	**-0.4**
DID				S	**Sn**	**05 12 14.7**	**-0.2**
SIGR	**SIGRI**	**1.66**	**86**	*e*PN	**Pn**	**05 11 54.1**	**+0.5**
SIGR	**SIGRI**	**1.66**	**86**	*e*PN	**Pn**	**05 11 53.7**	**+0.1**
SIGR				*e*SN	**Sn**	**05 12 14.3**	**-0.7**
SIGR	**SIGRI**	**1.66**	**86**	*e*Pn	**Pn**	**05 11 53.7**	**+0.1**
SIGR				*e*Sn	**Sn**	**05 12 14.3**	**-0.7**
DIDY	**Didyma**	**1.69**	**194**	*e*PN	**Pn**	**05 11 54.2**	**+0.1**
DIDY	**Didyma**	**1.69**	**194**	*e*Pn	**Pn**	**05 11 54.2**	**+0.1**
SOH	**Sokhos**	**1.72**	**351**	*e*PN	**Pn**	**05 11 54.4**	**-0.1**
SOH	**Sokhos**	**1.72**	**351**	P	**Pn**	**05 11 54.4**	**-0.1**
SOH	**Sokhos**	**1.72**	**351**	P	**Pn**	**05 11 54.4**	**-0.1**
KRND	**KRANIDI**	**1.79**	**195**	*e*PN	**Pn**	**05 11 55.4**	**0.0**
KRND	**KRANIDI**	**1.79**	**195**	*e*Pn	**Pn**	**05 11 55.4**	**0.0**
KZN	**Kozani**	**1.91**	**309**	*e*PN	**Pn**	**05 11 57.1**	**-0.1**
KZN	**Kozani**	**1.91**	**309**	*e*Pn	**Pn**	**05 11 57.1**	**-0.1**
DRO	**Drossia**	**1.96**	**234**	*e*PN	**Pn**	**05 11 58.6**	**+0.9**
DRO	**Drossia**	**1.96**	**234**	*e*Pn	**Pn**	**05 11 58.6**	**+0.9**
CHOS	**Chios island**	**1.97**	**111**	*e*PN	**Pn**	**05 11 58.0**	**-0.1**
CHOS	**Chios island**	**1.97**	**111**	*e*PN	**Pn**	**05 11 57.8**	**-0.1**
CHOS	**Chios island**	**1.97**	**111**	*e*Pn	**Pn**	**05 11 57.8**	**-0.1**
KAVA	**Kavala**	**1.97**	**18**	*e*PB	**Pn**	**05 11 56.5**	**-1.4**
KAVA	**Kavala**	**1.97**	**18**	*e*Pb	**Pn**	**05 11 56.5**	**-1.4**
PRK	**Paraskevi**	**1.99**	**86**	*e*PN	**Pn**	**05 11 58.6**	**+0.5**
PRK	**Paraskevi**	**1.99**	**86**	*e*Pn	**Pn**	**05 11 58.6**	**+0.5**
GADA	**Gvkgeada**	**1.99**	**57**	*e*PN	**Pb**	**05 11 59.7**	**-1.1**
GADA	**Gvkgeada**	**1.99**	**57**	*e*Pn	**Pb**	**05 11 59.7**	**-1.1**
SRS	**Serrai**	**2.00**	**357**	*e*PN	**Pn**	**05 11 57.8**	**-0.5**
SRS				*e*SN	**Sn**	**05 12 22.8**	**-0.5**
SRS	**Serrai**	**2.00**	**357**	P	**Pn**	**05 11 57.8**	**-0.5**
SRS				*e*Sn	**Sn**	**05 12 22.8**	**-0.5**
SRS	**Serrai**	**2.00**	**357**	P	**Pn**	**05 11 57.8**	**-0.5**
DSL	**Palaion Diasel**	**2.04**	**271**	*e*PN	**Pn**	**05 11 59.1**	**+0.3**
DSL	**Palaion Diasel**	**2.04**	**271**	*e*Pn	**Pn**	**05 11 59.1**	**+0.3**
VLX	**Vlachokerasia**	**2.04**	**212**	*e*PN	**Pn**	**05 11 59.7**	**+0.8**
VLX	**Vlachokerasia**	**2.04**	**212**	*e*Pn	**Pn**	**05 11 59.7**	**+0.8**
PDO	**Prodromos**	**2.05**	**256**	*e*PB	**Pn**	**05 11 59.0**	**+0.1**
PDO	**Prodromos**	**2.05**	**256**	*e*Pb	**Pn**	**05 11 59.0**	**+0.1**
RLS	**Riolos of Patr**	**2.06**	**240**	*e*PN	**Pb**	**05 12 00.7**	**-1.1**
RLS	**Riolos of Patr**	**2.06**	**240**	*e*Pn	**Pb**	**05 12 00.7**	**-1.1**
KNT	**Kendrikon**	**2.13**	**343**	*e*PN	**Pn**	**05 12 00.5**	**+0.4**
KNT	**Kendrikon**	**2.13**	**343**	*e*PN	**Pn**	**05 12 00.5**	**+0.4**
KNT	**Kendrikon**	**2.13**	**343**	P	**Pn**	**05 12 00.5**	**+0.4**
KNT	**Kendrikon**	**2.13**	**343**	P	**Pn**	**05 12 00.5**	**+0.4**
NVR	**Nevrokopi**	**2.23**	**3**	*e*PB	**Pn**	**05 12 01.1**	**-0.4**
NVR	**Nevrokopi**	**2.23**	**3**	*e*Pb	**Pn**	**05 12 01.1**	**-0.4**
AMT	**Artemida-Makis**	**2.24**	**226**	*e*PB	**Pn**	**05 12 02.2**	**+0.6**
AMT	**Artemida-Makis**	**2.24**	**226**	*e*Pb	**Pn**	**05 12 02.2**	**+0.6**
JAN	**Janina**	**2.29**	**284**	*e*PB	**Pn**	**05 12 02.9**	**+0.7**
JAN	**Janina**	**2.29**	**284**	*e*Pb	**Pn**	**05 12 02.9**	**+0.7**
ITM	**Ithomi**	**2.40**	**217**	*e*PB	**Pn**	**05 12 05.2**	**+1.5**
ITM	**Ithomi**	**2.40**	**217**	*e*Pb	**Pn**	**05 12 05.2**	**+1.5**
NEST	**Nestorio**	**2.43**	**303**	*e*PB	**Pn**	**05 12 05.8**	**+1.5**
NEST	**Nestorio**	**2.43**	**303**	*e*Pb	**Pn**	**05 12 05.8**	**+1.5**
FNA	**Florina**	**2.45**	**313**	*e*PN	**Pn**	**05 12 03.3**	**-1.2**
FNA	**Florina**	**2.45**	**313**	*e*PB	**Pn**	**05 12 05.3**	**+0.8**
FNA	**Florina**	**2.45**	**313**	*e*Pn	**Pn**	**05 12 03.3**	**-1.2**
FNA	**Florina**	**2.45**	**313**	*e*Pb	**Pn**	**05 12 05.3**	**+0.8**
VLI	**Veliai**	**2.48**	**195**	*e*PN	**Pn**	**05 12 04.5**	**-0.3**
VLI	**Veliai**	**2.48**	**195**	*e*Pn	**Pn**	**05 12 04.5**	**-0.3**
GELI	**Tayfur-Gelibol**	**2.48**	**58**	*e*P	**Pn**	**05 12 06.7**	**+1.9**
GELI	**Tayfur-Gelibol**	**2.48**	**58**	*e*P	**Pn**	**05 12 06.7**	**+1.9**
APE	**Apeiranthos**	**2.50**	**145**	*e*PN	**Pn**	**05 12 03.8**	**-1.3**
APE	**Apeiranthos**	**2.50**	**145**	*e*Pn	**Pn**	**05 12 03.8**	**-1.3**
EXG	**Exogi**	**2.50**	**256**	*e*PB	**Pn**	**05 12 06.8**	**+1.7**
EXG	**Exogi**	**2.50**	**256**	*e*Pb	**Pn**	**05 12 06.8**	**+1.7**
ALN	**Alexandroupoli**	**2.52**	**44**	*e*P	**Pg**	**05 12 13.6**	**+0.9**
ALN	**Alexandroupoli**	**2.52**	**44**	*e*PB	**Pn**	**05 12 05.8**	**+0.4**
ALN	**Alexandroupoli**	**2.52**	**44**	*e*Pb	**Pn**	**05 12 05.8**	**+0.4**
VLS	**Valsamata**	**2.62**	**250**	*e*PN	**Pn**	**05 12 07.5**	**+0.6**
VLS	**Valsamata**	**2.62**	**250**	*e*Pn	**Pn**	**05 12 07.5**	**+0.6**
ERIK	**Erikli-Kesan**	**2.65**	**53**	*e*P	**Pn**	**05 12 09.3**	**+2.1**
ERIK	**Erikli-Kesan**	**2.65**	**53**	*e*P	**Pn**	**05 12 09.3**	**+2.1**
IGT	**Igoumenitsa**	**2.66**	**280**	*e*PN	**Pn**	**05 12 07.5**	**+0.2**
IGT	**Igoumenitsa**	**2.66**	**280**	*e*Pn	**Pn**	**05 12 07.5**	**+0.2**
ZKS	**Zakynthos**	**2.71**	**239**	*e*PN	**Pn**	**05 12 08.2**	**+0.2**
ZKS	**Zakynthos**	**2.71**	**239**	*e*Pn	**Pn**	**05 12 08.2**	**+0.2**
PYL	**PYLOS**	**2.71**	**216**	*e*PN	**Pn**	**05 12 08.9**	**+0.8**
PYL	**PYLOS**	**2.71**	**216**	*e*Pn	**Pn**	**05 12 08.9**	**+0.8**
SMG	**Samos**	**2.83**	**119**	*e*PN	**Pn**	**05 12 10.1**	**+0.5**
SMG	**Samos**	**2.83**	**119**	*e*Pn	**Pn**	**05 12 10.1**	**+0.5**
KYTH	**Kithira**	**2.88**	**191**	*e*PN	**Pn**	**05 12 10.8**	**+0.4**
KYTH	**Kithira**	**2.88**	**191**	*e*Pn	**Pn**	**05 12 10.8**	**+0.4**
BODT	**Bodrum**	**3.50**	**125**	*e*P	**Pn**	**05 12 18.9**	**0.0**
BODT	**Bodrum**	**3.50**	**125**	*e*P	**Pn**	**05 12 18.9**	**0.0**
EDRB	**Edirne**	**3.57**	**39**	*e*P	**Pn**	**05 12 22.4**	**+2.6**
EDRB	**Edirne**	**3.57**	**39**	*e*P	**Pn**	**05 12 22.4**	**+2.6**
BARS	**Barje**	**3.96**	**339**	*e*Pn	**Pn**	**05 12 25.8**	**+0.5**
BOLS	**Boljevac**	**4.89**	**345**	*e*Pn	**Pn**	**05 12 37.6**	**-0.4**

ISCJB **17** *05:24:12.2±0.8, 20°.75S±0°.05×68°.6W±0°.1, h117km, mb3.7/2, Error ellipse: s-maj=14.8km s-min=6.8km az=14.8*
IDC **17** *05:24:12.5±1.0, 20°.75S×68°.64W, h112km±12km, mb3.5/2, mb1 3.6/5, mb1mx3.3/20, mbtmp3.9/5, Error ellipse: s-maj=29.5km s-min=9.1km az=101.0*
ISC 17 05:24:12.8±1.1, **20°.77S**±0°.06×**68°.6W**±0°.1, **h117**km, **n8,** σ0⅋**79**/11, **Chile

PLG					*e*Sn	**Sb**	**05 37 35.1**	**-0.6**
LIA	**Limnos Island**	**1.37**	**55**	*e*PN	**Pg**	**05 37 21.0**	**-0.4**
LIA	**Limnos Island**	**1.37**	**55**	P	**Pn**	**05 37 20.4**	**+0.1**
LIA	**Limnos Island**	**1.37**	**55**	*e*Pn	**Pg**	**05 37 21.0**	**-0.4**
LIA				S	**Sg**	**05 37 40.6**	**+1.5**
LIA	**Limnos Island**	**1.37**	**55**	P	**Pn**	**05 37 20.4**	**+0.1**
LIA				S	**Sg**	**05 37 40.6**	**+1.5**
LIT	**Litokhoron**	**1.37**	**316**	*e*PN	**Pn**	**05 37 19.7**	**-0.7**
LIT				*e*SN	**Sg**	**05 37 39.6**	**+0.3**
LIT	**Litokhoron**	**1.37**	**316**	P	**Pn**	**05 37 19.7**	**-0.7**
LIT				*e*Sn	**Sg**	**05 37 39.6**	**+0.3**
LIT	**Litokhoron**	**1.37**	**316**	P	**Pn**	**05 37 19.7**	**-0.7**
LIT				S	**Sg**	**05 37 39.9**	**+0.6**
NAIG	**Nisos Aigina**	**1.37**	**188**	*e*PN	**Pn**	**05 37 20.0**	**-0.4**
NAIG	**Nisos Aigina**	**1.37**	**188**	*e*Pn	**Pn**	**05 37 20.0**	**-0.4**
THL	**Klokotos Trika**	**1.40**	**289**	*e*PN	**Pn**	**05 37 21.1**	**+0.3**
THL				*e*SN	**Sn**	**05 37 40.0**	**+0.6**
THL	**Klokotos Trika**	**1.40**	**289**	P	**Pn**	**05 37 20.9**	**+0.1**
THL				S	**Sn**	**05 37 39.7**	**+0.3**
THL				*e*Sn	**Sn**	**05 37 40.0**	**+0.6**
THL	**Klokotos Trika**	**1.40**	**289**	P	**Pn**	**05 37 20.9**	**+0.1**
THL				S	**Sn**	**05 37 39.7**	**+0.3**
HORT	**Hortiatis**	**1.56**	**342**	*e*PN	**Pn**	**05 37 22.7**	**-0.3**
HORT				*e*SN	**Sb**	**05 37 44.6**	**+0.7**
HORT	**Hortiatis**	**1.56**	**342**	*e*Pn	**Pn**	**05 37 22.7**	**-0.3**
HORT				*e*Sn	**Sb**	**05 37 44.6**	**+0.7**
EFP	**Efpalio**	**1.58**	**245**	*e*PN	**Pb**	**05 37 24.2**	**-0.3**
EFP	**Efpalio**	**1.58**	**245**	*e*Pn	**Pb**	**05 37 24.2**	**-0.3**
GUR	**Goura**	**1.61**	**223**	*e*PN	**Pn**	**05 37 23.7**	**0.0**
GUR	**Goura**	**1.61**	**223**	*e*Pn	**Pn**	**05 37 23.7**	**0.0**
KLV	**Kalavryta, Ach**	**1.64**	**230**	*e*PN	**Pn**	**05 37 24.8**	**+0.7**
KLV	**Kalavryta, Ach**	**1.64**	**230**	*e*Pn	**Pn**	**05 37 24.8**	**+0.7**
DID	**Didima**	**1.66**	**194**	*e*PN	**Pn**	**05 37 24.1**	**-0.2**
DID				*e*SN	**Sb**	**05 37 47.1**	**+0.4**
DID	**Didima**	**1.66**	**194**	*e*Pn	**Pn**	**05 37 24.1**	**-0.2**
DID				*e*Sn	**Sb**	**05 37 47.1**	**+0.4**
SOH	**Sokhos**	**1.73**	**350**	*e*PN	**Pn**	**05 37 25.1**	**-0.2**
SOH	**Sokhos**	**1.73**	**350**	*e*Pn	**Pn**	**05 37 25.1**	**-0.2**
SRS	**Serrai**	**2.00**	**357**	*e*PN	**Pn**	**05 37 29.2**	**+0.2**
SRS	**Serrai**	**2.00**	**357**	*e*Pn	**Pn**	**05 37 29.2**	**+0.2**
KNT	**Kendrikon**	**2.14**	**343**	*e*PB	**Pn**	**05 37 31.3**	**+0.3**

DDA ***17*** *05:39:08.9, 37.˚55N×35.˚55E, h15km, MD2.7*
ISK ***17*** *05:39:08.8, 37.˚48N×35.˚57E, h16km, MD2.6*
ISCJB ***17*** *05:39:09.2±0.6, 37.˚48N±0.˚03×35.˚56E±0.˚04, h12km±5km, Error ellipse: s-maj=5.6km s-min=5.1km az=177.5*
CSEM ***17*** *05:39:09.2±0.2, 37.˚48N×35.˚58E, h15km, MD2.6, Error ellipse: s-maj=5.8km s-min=5.6km az=26.0*

ISC 17 05:39:09.6±1.1, 37.˚47N±0.˚03×35.˚60E±0.˚03, h18km±5km, n23, σ0=95/37, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.18**	**87**		*e*PG		**Pb**	**05 39 14.0**	**-0.2**
KOZT					*e*SG		**Sb**	**05 39 17.6**	**+0.3**
KOZT	**Kozan**	**0.18**	**87**		*e*Pg		**Pb**	**05 39 14.0**	**-0.2**
KOZT					*e*Sg		**Sb**	**05 39 17.6**	**+0.3**
KARA	**Karaisali**	**0.48**	**244**		*e*PG		**Pg**	**05 39 18.8**	**-0.6**
KARA					*e*SG		**Sg**	**05 39 25.4**	**-0.5**
KARA	**Karaisali**	**0.48**	**244**		*e*Pg		**Pg**	**05 39 18.8**	**-0.6**
KARA					*e*Sg		**Sg**	**05 39 25.4**	**-0.5**
ANDN	**Andirin**	**0.60**	**79**		*i* P		**Pb**	**05 39 20.9**	**-0.9**
ANDN					*i* S		**Sg**	**05 39 30.8**	**+1.0**
YURE	**YUREGIR**	**0.64**	**177**		*i* P		**Pb**	**05 39 22.5**	**+0.2**
YURE					*i* S		**Sn**	**05 39 33.8**	**+0.1**
YURE	**YUREGIR**	**0.64**	**177**		*i* P		**Pb**	**05 39 22.5**	**+0.2**
YURE					*i* S		**Sn**	**05 39 33.8**	**+0.1**
NIG	**Nigde**	**1.01**	**310**		*e*PG		**Pb**	**05 39 27.7**	**-1.0**
NIG	**Nigde**	**1.01**	**310**		*e*Pg		**Pb**	**05 39 27.7**	**-1.0**
MERS	**Mersin**	**1.05**	**235**		*e*PG		**Pb**	**05 39 29.3**	**0.0**
MERS	**Mersin**	**1.05**	**235**		*e*Pg		**Pb**	**05 39 29.3**	**0.0**
TAHT	**Tahtakopru-Hat**	**1.19**	**156**		*e*PN		**Pn**	**05 39 31.2**	**-0.2**
TAHT	**Tahtakopru-Hat**	**1.19**	**156**		*e*Pn		**Pn**	**05 39 31.2**	**-0.2**
PINB	**Pinarbasi**	**1.36**	**28**		*i* P		**Pn**	**05 39 33.9**	**-0.1**
PINB					*i* S		**Sg**	**05 39 56.0**	**+2.2**
PINB	**Pinarbasi**	**1.36**	**28**		*i* P		**Pn**	**05 39 33.9**	**-0.1**
PINB					*i* S		**Sg**	**05 39 56.0**	**+2.2**
GULA	**Gulagac**	**1.39**	**309**		*e*PN		**Pn**	**05 39 34.1**	**-0.1**
GULA	**Gulagac**	**1.39**	**309**		*e*Pn		**Pn**	**05 39 34.1**	**-0.1**
AVNT	**Avonos**	**1.43**	**336**		*i* P		**Pn**	**05 39 35.4**	**+0.5**
AVNT					*i* S		**Sn**	**05 39 52.9**	**-0.5**
AVNT	**Avonos**	**1.43**	**336**		*i* P		**Pn**	**05 39 35.4**	**+0.5**
AVNT					*i* S		**Sn**	**05 39 52.9**	**-0.5**
YAYL	**Yayladag**	**1.49**	**164**		*i* P		**Pn**	**05 39 34.2**	**-1.5**
YAYL					*i* S		**Sn**	**05 39 54.7**	**0.0**
YAYL	**Yayladag**	**1.49**	**164**		*i* P		**Pn**	**05 39 34.2**	**-1.5**
YAYL					*i* S		**Sn**	**05 39 54.7**	**0.0**
KIZK	**Mersin**	**1.53**	**230**		*i* P		**Pn**	**05 39 37.7**	**+1.7**
KIZK					*i* S		**Sg**	**05 40 00.9**	**+2.0**
KIZK	**Mersin**	**1.53**	**230**		*i* P		**Pn**	**05 39 37.7**	**+1.7**

SJA ***17*** *06:07:40.0±0.7, 24.˚85S×70.˚41W, h34km±17km, ML5.3, MW5.1*
ISCJB ***17*** *06:07:41.0±0.4, 24.˚70S±0.˚02×69.˚97W±0.˚03, h45km±4km, mb5.6/247, MS4.6/26, Error ellipse: s-maj=5.4km s-min=3.2km az=155.1*
GCMT ***17*** *06:07:42.9±0.1, 24.˚85S×70.˚49W, h58km±1km, MW5.5/104, Moment Tensor Solution. s97,c168; s104,c208; Duration: 1s4 Moment tensor: Scale 10^17Nm; Mrr1.19±.03; Mθθ0.30±.02; Mϕϕ-1.50±.03; Mrθ0.56±.02; Mθϕ-0.18±.02; Mϕr-1.59±.03; Best double couple: M☐2.17900×10^17 NP1:ϕs165.00000°, δ72.00000°, λ74.00000°. NP2:ϕs29.00000°, δ24.00000°, λ130.00000°. Principal axes: T 2.1170, Plg60.0000°, Azm52.0000°; N 0.1140, Plg15.0000°, Azm171.0000°; P -2.2400, Plg25.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
MOS ***17*** *06:07:43.0±1.1, 24.˚56S×69.˚94W, h55km, mb5.9/50 Error ellipse: s-maj=11.7km s-min=6.0km az=108.7*
IDC ***17*** *06:07:43.5±0.4, 24.˚79S×70.˚01W, h56km±3km, mb5.2/22, mb1 5.2/27, mb1mx5.2/30, mbtmp5.4/27, MS4.5/23, Ms1 4.5/23, ms1mx4.4/26, Error ellipse: s-maj=13.0km s-min=9.2km az=68.0*
NEIC ***17*** *06:07:43.5±0.1, 24.˚72S×69.˚82W, h55km, mb5.6/191, ME5.4, MW5.5, Error ellipse: s-maj=5.1km s-min=3.0km az=69.0, Moment Tensor Solution. s28 Moment tensor: Scale 10^17Nm; Mrr1.70; Mθθ-0.16; Mϕϕ-1.54; Mrθ1.26; Mθϕ-0.05; Mϕr-1.47; Best double couple: M☐2.50000×10^17 NP1:ϕs153.00000°, δ71.00000°, λ74.00000°. NP2: ϕs15.00000°, δ25.00000°, λ129.00000°. Principal axes: T 2.7600, Plg60.0000°, Azm38.0000°; N -0.5600, Plg15.0000°, Azm158.0000°; P -2.2000, Plg24.0000°, Azm255.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt [V] at Copiapo; [IV] at Antofagasta, Diego de Almagro, El Salvador, Taltal and Tierra Amarilla; [III] at Baquedano, Mejillones, San Pedro de Atacama and Sierra Gorda; [II] at Calama, Inca de Oro, Oficina Maria Elena and Tocopilla. Also felt at Iquique.
BJI ***17*** *06:07:44.0, 24.˚70S×69.˚80W, h49km, mB5.5/33, Ms5.4/30, Ms7 5.2/35*
GUC ***17*** *06:07:47.7±0.5, 24.˚30S×70.˚32W, h86km±7km, ML6.0*

ISC 17 06:07:42.8±0.2, 24.˚78S±0.˚03×70.˚02W±0.˚04, h51km±1km, h51km:pP-P, n1222, σ1916/1511, mb5.6/257, MS4.7/28, 49C-11D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ANCH	**Antofagasta**	**1.15**	**342**	⇑	*i* P		**Pn**	**06 08 03.2**	**+0.6**
ANCH					*i* S		**Sn**	**06 08 14.9**	**-2.4**
PB10	**IPOC Station P**	**1.36**	**339**	⇑	*i* P		**Pn**	**06 08 05.2**	**-0.1**
PB10					*i* S		**Sn**	**06 08 18.6**	**-3.7**
PB10					AML		AML	06 08 28.0	
	comp=E,283μm,0.5s								
PB06	**IPOC Station P**	**2.11**	**11**	⇑	*i* P		**Pn**	**06 08 17.4**	**+1.5**
PB06					AML		AML	06 08 52.2	
	comp=N,105μm,0.5s								
LVC	**Limon Verde**	**2.39**	**25**		P		**Pn**	**06 08 21.9**	**+2.2**
	comp=N,69μm,0.3s,baz=226,slow=10,SNR=3776								
LVC					S		**Sn**	**06 08 52.3**	**+4.4**
	comp=N,109μm,0.3s,baz=243,slow=12,SNR=5.3								
LVC					LR		LR	06 09 00.6	
	comp=N,47μm,19.3s,baz=213,slow=32								
LVC	**Limon Verde**	**2.39**	**25**		*e*Pn		Pn	06 08 23.1	+3.4
LVC					S		**Sn**	**06 08 52.3**	**+4.4**
LVC					*e*Sn		Sn	06 08 57.9	+10
LVC	**Limon Verde**	**2.39**	**25**	⇓	*e*P		**Pn**	**06 08 22.7**	**+3.0**
LVC				⇓	*e*S		Sn	06 08 54.3	+6.4
PB04	**IPOC Station P**	**2.55**	**11**	⇑	*i* P		**Pn**	**06 08 20.7**	**-1.1**
PB04					AML		AML	06 09 04.1	
	comp=N,165μm,0.4s								
PB07	**IPOC Station P**	**3.04**	**2**	⇑	*i* P		**Pn**	**06 08 28.8**	**+0.2**
PB07					AML		AML	06 09 23.3	
	comp=E,90μm,0.4s								
PB01	**IPOC Station P**	**3.75**	**8**	⇑	*i* P		**Pn**	**06 08 38.7**	**+0.4**
PB01					*i* S		**Sn**	**06 09 20.5**	**-0.8**
PB01					AML		AML	06 09 40.0	
	comp=E,47μm,0.5s								
FSA	**Cafayete**	**3.85**	**111**		*e*P		Pn	06 08 44.5	+4.8
FSA					IAML			06 08 51.1	
	comp=Z,2μm,0.7s								
SLA	**San Lorenzo**	**4.10**	**90**		*e*P		Pn	06 08 49.3	+6.1
SLA					IAML			06 08 52.9	
	comp=Z,2μm,0.6s								
LCO	**Las Campanas**	**4.25**	**188**		*e*Pn		**Pn**	**06 08 43.7**	**-1.6**
LCO	**Las Campanas**	**4.25**	**188**		*e*P		**Pn**	**06 08 43.4**	**-1.9**
LCO					*e*S		Sn	06 09 41.7	+7.8
HJA	**Humahuaca**	**4.50**	**71**		*e*P		Pn	06 08 55.3	+6.6
HJA					IAML			06 08 57.2	
AZAP	**Zapla**	**4.54**	**84**		*e*P		Pn	06 08 56.4	+7.1
AHML	**Horco Molle**	**4.67**	**116**	⇓	*e*P		Pn	06 08 54.7	+3.9
YJA	**Yavi**	**4.88**	**59**		*e*P		Pn	06 08 59.9	+5.8
ASTB	**Santa Barbara**	**5.12**	**82**		*e*P		Pn	06 09 01.0	+4.0
CYA	**Choya**	**5.25**	**135**		*e*P		**Pn**	**06 09 01.4**	**+2.7**
CYA					IAML			06 09 05.7	
	comp=Z,1μm,0.6s								
ACLC	**CERRO LA CRUZ**	**5.37**	**150**		*e*P		**Pn**	**06 09 03.4**	**+2.9**
MNMC	**Minimini**	**5.64**	**4**		*e*P		**Pn**	**06 09 04.0**	**-0.4**
AMOG	**MOGNA**	**6.28**	**168**		*e*P		**Pn**	**06 09 14.0**	**+1.1**
AVFE	**Valle Fertil**	**6.28**	**159**		*e*P		**Pn**	**06 09 14.2**	**+1.3**
RTLL	**Cerro Villicun**	**6.66**	**169**		*e*P		**Pn**	**06 09 19.1**	**+1.0**
SJA	**San Juan**	**6.84**	**169**		*e*P		**Pn**	**06 09 23.6**	**+3.0**
CFAA	**Coronel Fontan**	**6.97**	**167**		P		**Pn**	**06 09 23.5**	**+1.1**
	comp=Z,2.3nm,0.3s,baz=345,slow=11,SNR=138								
CFAA					S		**Sn**	**06 10 44.0**	**+3.6**
	comp=Z,11nm,0.3s,baz=200,slow=13,SNR=6.6								
CFAA					LR		LR	06 12 12.6	
	comp=Z,828nm,20.5s,baz=344,slow=39								
CFAA	**Coronel Fontan**	**6.97**	**167**		*e*P		**Pn**	**06 09 22.8**	**+0.4**
RTLS	**Leoncito**	**7.02**	**175**		*e*P		**Pn**	**06 09 25.1**	**+1.9**
RTCV	**Cerro Valdivia**	**7.17**	**170**		*e*P		**Pn**	**06 09 25.5**	**+0.4**
AUSP	**Uspallata**	**7.43**	**176**		*e*P		**Pn**	**06 09 28.2**	**-0.7**
ACAN	**Cantantal**	**7.87**	**162**		*e*P		**Pn**	**06 09 36.7**	**+2.1**
ARCO	**CERRO ARCO**	**8.09**	**173**		*e*P		**Pn**	**06 09 41.8**	**+4.0**
TCA	**Tanti**	**8.10**	**145**		*e*P		**Pn**	**06 09 38.1**	**+0.3**
MRA	**San Martin**	**8.49**	**155**		*e*P		**Pn**	**06 09 43.3**	**0.0**
MRA					IAML			06 12 03.5	
	comp=Z,642nm,0.7s								
LPAZ	**La Paz**	**8.63**	**12**		P		**Pn**	**06 09 46.6**	**+0.8**
	comp=Z,11nm,0.3s,baz=194,slow=5.9,SNR=380								
LPAZ					S		Sn	06 11 34.1	+12
	comp=Z,5.9nm,0.3s,baz=216,slow=18,SNR=1.6								
LPAZ					LR		LR	06 13 40.8	
	comp=Z,7μm,20.6s,baz=206,slow=41								
LPAZ	**La Paz**	**8.63**	**12**	⇑	*i* P		**Pn**	**06 09 46.4**	**+0.7**
LPAZ	**La Paz**	**8.63**	**12**		*e*Pn		**Pn**	**06 09 46.9**	**+1.2**
LPAZ					S		Sn	06 11 34.1	+12
LPAZ	**La Paz**	**8.63**	**12**		*e*P		**Pn**	**06 09 46.8**	**+1.0**
SJAB	**San Pedro**	**9.18**	**187**		*e*Pn		**Pn**	**06 09 54.5**	**+1.9**
	comp=Z,94nm,0.8s								
SUCO	**SUCO**	**9.64**	**153**	⇓	*e*P		**Pn**	**06 09 59.5**	**+0.6**
U65B	**HualaæØ**	**10.26**	**188**		*e*Pn		Pn	06 10 10.6	+3.3
	comp=Z,440nm,0.8s								
CPUP	**Villa Florida**	**11.56**	**100**		P		**Pn**	**06 10 25.6**	**+0.5**
	comp=Z,3.6nm,0.3s,baz=277,slow=12,SNR=92								
CPUP					S		Sn	06 12 41.2	+8.4
	comp=Z,0.9nm,0.3s,baz=324,slow=17,SNR=1.8								
CPUP					LR		LR	06 15 37.1	
	comp=Z,5μm,18.1s,baz=282,slow=41								
CPUP	**Villa Florida**	**11.56**	**100**		P		**Pn**	**06 10 25.6**	**+0.5**
CPUP					S		Sn	06 12 41.2	+8.4
CPUP					pmax		pmax		
	comp=Z,4.0nm,0.3s								
CPUP					smax		smax		
	comp=N,1.0nm,0.3s								
CPUP					MLR		MLR		
	comp=Z,5μm,18.1s								
CPUP	**Villa Florida**	**11.56**	**100**		*e*Pn		**Pn**	**06 10 25.2**	**+0.1**
CPUP					S		Sn	06 12 41.2	+8.4
SIV	**San Ignacio**	**12.11**	**45**		P		**Pn**	**06 10 31.3**	**-1.5**
	comp=Z,46nm,0.3s,baz=254,slow=10,SNR=388								
SIV					S		**Sn**	**06 12 43.6**	**-2.9**
	baz=252,slow=15,SNR=3.9								
NNA	**Nana**	**14.27**	**332**		P		**Pn**	**06 11 03.0**	**+0.8**
	comp=Z,1.3nm,0.3s,baz=182,slow=15,SNR=4.1								
NNA					S		**Sn**	**06 13 35.6**	**-3.6**
	comp=Z,4.6nm,0.3s,baz=271,slow=8.2,SNR=6.4								
NNA					LR		LR	06 15 55.0	
	comp=Z,1μm,20.9s,baz=162,slow=34								
NNA	**Nana**	**14.27**	**332**		P		**Pn**	**06 11 03.0**	**+0.8**
NNA					S		**Sn**	**06 13 35.6**	**-3.6**
NNA					pmax		pmax		
	comp=Z,1.0nm,0.3s								
NNA					smax		smax		
	comp=N,5.0nm,0.3s								
NNA					MLR		MLR		
	comp=Z,1μm,20.9s								
NNA	**Nana**	**14.27**	**332**		*e*Pn		**Pn**	**06 11 03.9**	**+1.7**
NNA					S		**Sn**	**06 13 35.6**	**-3.6**
TRQA	**Tornquist**	**14.89**	**155**		*e*Pn		**Pn**	**06 11 08.0**	**-2.2**
SAML	**Samuel**	**17.04**	**24**		*e*Pn		**Pn**	**06 11 34.5**	**-3.2**
SAML					*e*P		**P**	**06 11 40.2**	**+1.4**
ATAH	**Atahualpa**	**19.29**	**334**		P		**Pn**	**06 12 05.7**	**+0.3**
	comp=Z,1.4nm,0.3s,baz=185,slow=7.2,SNR=12								
ATAH					LR		LR	06 19 57.8	
	comp=Z,848nm,19.4s,baz=160,slow=38								
BB16B	**Bebedouro**	**20.09**	**84**	⇑	*i* P		**P**	**06 12 10.0**	**-2.3**
BB16B					*i*			06 12 13.7	
BB16B					*i*			06 12 16.5	
BB16B					*i*			06 12 25.1	
BB16B					*i*			06 12 36.2	
BDFB	**Brasilia**	**22.54**	**70**		P		**P**	**06 12 38.2**	**-0.5**
	comp=Z,513nm,0.9s,baz=240,slow=11,SNR=103								
BDFB					LR		LR	06 22 28.1	
	comp=Z,3μm,21.6s,baz=238,slow=39								
BDFB	**Brasilia**	**22.54**	**70**		P		**P**	**06 12 38.2**	**-0.5**
BDFB					pmax		pmax		
	comp=Z,513nm,1.0s								
BDFB					MLR		MLR		
	comp=Z,3μm,21.6s								
BDFB	**Brasilia**	**22.54**	**70**		*e*P		**P**	**06 12 37.0**	**-1.7**
PTGA	**Pitinga**	**25.81**	**24**		P		**P**	**06 13 09.0**	**-0.4**
	comp=Z,80nm,0.4s,baz=207,slow=16,SNR=155								
PTGA					LR		LR	06 24 09.9	
	comp=Z,3μm,21.4s,baz=204,slow=38								
PTGA	**Pitinga**	**25.81**	**24**		*e*P		**P**	**06 13 09.3**	**0.0**
	comp=Z,506nm,1.3s								
OTAV	**Otavalo**	**26.18**	**341**		*e*P		**P**	**06 13 14.7**	**+1.5**
	comp=Z,105nm,0.8s								
EFI	**East Falkland**	**28.37**	**164**		*e*P		**P**	**06 13 30.7**	**-1.2**
EFI					pmax		pmax		
	comp=Z,43nm,0.8s								
EFI	**East Falkland**	**28.37**	**164**		*e*P		**P**	**06 13 30.7**	**-1.2**
	comp=Z,44nm,0.8s								
ROSC	**El Rosal**	**29.76**	**351**		P		**P**	**06 13 45.8**	**+0.7**
	comp=Z,20nm,0.5s,baz=114,slow=23,SNR=22								
ROSC					LR		LR	06 26 21.2	
	comp=Z,1μm,19.3s,baz=186,slow=38								
ROSC	**El Rosal**	**29.76**	**351**		*e*P		**P**	**06 13 46.3**	**+1.3**
USHA	**Ushuaia**	**30.04**	**178**		P		**P**	**06 13 46.5**	**-0.2**
	comp=Z,30nm,1.0s,baz=339,slow=6.0,SNR=8.1								
PAYG	**Puerto Ayora**	**30.96**	**318**		*e*P		**P**	**06 13 57.5**	**+2.2**
	comp=Z,105nm,1.2s								
SDV	**Santo Domingo**	**33.47**	**359**		*e*P		**P**	**06 14 16.1**	**-1.3**
	comp=Z,28nm,0.8s								
BCIP	**Isla Barro Col**	**35.08**	**343**		*e*P		**P**	**06 14 32.7**	**+1.5**
	comp=Z,92nm,0.7s								
BCIP					*e*pP		pP	06 14 53.1	+8.7
PCRV	**Puerto La Cruz**	**35.14**	**9**		P		**P**	**06 14 31.1**	**-0.7**
	comp=Z,22nm,0.5s,baz=228,slow=2.5,SNR=29								
TRN	**Trinidad (W)**	**36.20**	**14**	⇑	*i* P		**P**	**06 14 40.6**	**-0.2**
TOSP	**Speyside**	**37.04**	**16**	⇑	*i* P		**P**	**06 14 47.2**	**-0.7**
RCBR	**Riachuelo**	**37.75**	**66**		P		**P**	**06 14 54.5**	**+0.5**
	comp=Z,379nm,1.0s,baz=228,slow=11								
RCBR	**Riachuelo**	**37.75**	**66**		*e*P		**P**	**06 14 55.1**	**+1.0**
	comp=Z,394nm,0.9s								
JTS	**JuntasAbangare**	**37.78**	**336**		P		**P**	**06 14 55.5**	**+1.3**
	comp=Z,16nm,0.7s,baz=210,slow=2.3,SNR=11								
JTS	**JuntasAbangare**	**37.78**	**336**		*c* iP		**P**	**06 14 56.2**	**+1.9**
JTS					pmax		pmax		
	comp=Z,40nm,1.0s								
JTS	**JuntasAbangare**	**37.78**	**336**		*e*P		**P**	**06 14 56.1**	**+1.9**
	comp=Z,28nm,0.9s								
HOPE	**Hope Point**	**38.56**	**149**		P		**P**	**06 15 00.5**	**+0.2**
	comp=Z,1μm,0.9s,SNR=8.1								
HOPE	**Hope Point**	**38.56**	**149**		*e*P		**P**	**06 15 00.9**	**+0.5**
	comp=Z,180nm,0.9s								
HOPE					*e*S		**S**	**06 20 50.9**	**-1.7**
SVB	**Belmont**	**38.78**	**14**		*e*P		**P**	**06 15 00.4**	**-2.2**
MCLT	**Moule a Chique**	**39.27**	**14**		*e*P		**P**	**06 15 05.0**	**-1.7**
BIM	**Bigot**	**40.02**	**14**		*e*P		**P**	**06 15 11.4**	**-1.6**
FDF	**Fort de France**	**40.22**	**13**		*e*P		**P**	**06 15 12.4**	**-2.2**
FDF	**Fort de France**	**40.22**	**13**		*e*P		**P**	**06 15 11.8**	**-2.8**
FDF					*e**PP		**pP**	**06 15 25.8**	**-2.3**
FDF					pmax		pmax		
	comp=Z,135nm,0.8s								
FDF	**Fort de France**	**40.22**	**13**		*e*P		**P**	**06 15 11.8**	**-2.8**
	comp=Z,135nm,0.8s								
FDF					*e*pP		**pP**	**06 15 25.8**	**-2.3**
ICMP	**Isla Caja de M**	**42.55**	**5**		*e*P		**P**	**06 15 32.0**	**-1.6**
CRPR	**Cabo Rojo, PR**	**42.62**	**4**		*e*P		**P**	**06 15 32.3**	**-1.9**
	comp=Z,72nm,0.8s								
CRPR					*e*pP		**pP**	**06 15 46.6**	**-1.2**
OBIP	**Obispado Ponce**	**42.70**	**5**		*e*P		**P**	**06 15 33.1**	**-1.8**
	comp=Z,109nm,0.8s								
OBIP					*e*pP		**pP**	**06 15 46.8**	**-1.5**
CELP	**Cerrillos**	**42.73**	**5**		*e*P		**P**	**06 15 33.3**	**-1.8**
LSP	**Las Mesas**	**42.80**	**4**		*e*P		**P**	**06 15 34.1**	**-1.6**
LSP					*e*pP		**pP**	**06 15 48.0**	**-1.2**
SJG	**San Juan**	**42.80**	**5**		P		**P**	**06 15 33.6**	**-2.1**
	comp=Z,82nm,0.7s,baz=126,slow=7.2,SNR=31								
SJG	**San Juan**	**42.80**	**5**		P		**P**	**06 15 33.6**	**-2.1**
SJG					pmax		pmax		
	comp=Z,82nm,0.7s								
SJG	**San Juan**	**42.80**	**5**		*e*P		**P**	**06 15 33.2**	**-2.4**
	comp=Z,373nm,0.7s								
SJG					*e*pP		**pP**	**06 15 47.2**	**-2.0**
MPR	**Mayaguez**	**42.83**	**4**		*e*P		**P**	**06 15 34.1**	**-1.7**
	comp=Z,44nm,0.8s								
PCJ	**Portland Cotta**	**42.84**	**350**		*i* P		pP	06 15 51.5	+2.0
AOPR	**Arecibo Observ**	**42.99**	**5**		*e*P		**P**	**06 15 35.3**	**-1.9**
	comp=Z,136nm,1.4s								
HOJ	**Hope**	**43.03**	**351**		*i* P		pP	06 15 53.7	+2.6
MCJ	**Malvern**	**43.10**	**349**		*i* P		pP	06 15 53.5	+1.7
SMRT	**St. Maarten**	**43.11**	**10**		*e*P		P	06 15 35.0	-3.2
	comp=Z,87nm,0.5s								
STH	**Stony Hill**	**43.11**	**351**		*i* P		pP	06 15 53.5	+1.7
CVJ	**Coleyville**	**43.37**	**350**		*i* P		pP	06 15 56.0	+2.0
MTDJ	**Mount Denham**	**43.37**	**350**		*e*P		**P**	**06 15 41.3**	**+0.9**
	comp=Z,345nm,0.8s								
MTDJ					*e*pP		**pP**	**06 15 55.9**	**+1.9**
SDDR	**Presa de Saban**	**43.52**	**358**		*e*P		**P**	**06 15 42.2**	**+0.7**
	comp=Z,40nm,0.9s								
SMN1	**Samana, DR**	**43.71**	**1**		*e*P		**P**	**06 15 41.3**	**-1.7**
SMN1					*e*pP		**pP**	**06 15 55.5**	**-1.1**
GTBY	**Guant

baz=60,SNR=33
634A China Grove, S 60.34 332 P P 06 17 47.1 +0.5
baz=61,SNR=5.4
438A Sam Houston St 60.37 335 P P 06 17 47.7 +1.0
baz=61
340A Bronson 60.37 337 P P 06 17 47.4 +0.7
baz=61,SNR=14
536A Bastrop 60.40 333 P P 06 17 47.3 +0.4
baz=61,SNR=7.1
732A Laxson Ranch, 60.51 330 P P 06 17 48.2 +0.5
baz=61,SNR=86
339A Huntington 60.54 336 P P 06 17 48.5 +0.7
baz=61,SNR=12
KMSC Kings Mountain 60.56 349 P P 06 17 48.1 +0.2
baz=61
535A Dale 60.57 333 P P 06 17 48.7 +0.6
baz=61,SNR=12
633A Saathoff Ranch 60.77 331 P P 06 17 49.9 +0.4
baz=61,SNR=30
338A Crockett 60.84 335 P P 06 17 51.2 +1.3
baz=61,SNR=7.6
436A Wall Ranch, Ga 60.91 334 P P 06 17 50.8 +0.5
baz=61,SNR=8.8
534A Blanco 60.96 332 P P 06 17 50.4 -0.3
baz=61,SNR=24
NATX Nacogdoches 60.96 336 P P 06 17 51.5 +0.8
baz=61,SNR=9.3
NATX Nacogdoches 60.96 336 *e*P P 06 17 50.9 +0.2
comp=Z,28nm,0.6s
NATX *e*pP pP 06 18 05.6 +0.7
632A Uvalde 61.09 330 P P 06 17 52.1 +0.5
baz=61,SNR=36
239A Gary 61.12 336 P P 06 17 52.4 +0.6
baz=61,SNR=9.1
533A Kerrville 61.24 331 P P 06 17 52.9 +0.2
baz=62,SNR=9.1
435B Jarrell 61.24 333 P P 06 17 53.2 +0.6
baz=62,SNR=6.7
238A Jacksonville 61.35 336 P P 06 17 54.1 +0.8
baz=62,SNR=12
631A Perdido Creek 61.36 330 P P 06 17 53.8 +0.3
baz=62,SNR=51
CPCT Cooper Cave 61.46 347 *e*P P 06 17 53.4 -0.6
CPCT *e*pP pP 06 18 07.8 -0.4
336A Riesel 61.47 334 P P 06 17 54.4 +0.3
baz=62,SNR=20
TKL Tuckaleechee C 61.51 347 P P 06 17 53.4 -0.9
comp=Z,46nm,0.6s,baz=165,slow=7.9,SNR=89
TKL Tuckaleechee C 61.51 347 P P 06 17 53.4 -0.9
TKL pmax pmax
comp=Z,46nm,0.6s
SWET Sewanee 61.55 345 *e*P P 06 17 53.9 -0.8
SWET *e*pP pP 06 18 08.5 -0.4
434A Burnet 61.55 332 P P 06 17 54.6 -0.2
baz=62,SNR=14
237A Washetta, Mont 61.61 335 P P 06 17 55.8 +0.7
baz=62,SNR=8.7
335A Moody 61.61 333 P P 06 17 55.4 +0.3
baz=62,SNR=13
532A Rocksprings 61.67 331 P P 06 17 56.2 +0.6
baz=62,SNR=43
139A Bunkhouse Ranc 61.69 337 P P 06 17 56.7 +1.0
baz=62
OXF Oxford 61.78 342 *e*P P 06 17 54.7 -1.5
OXF *e**PP pP 06 18 09.2 -1.1
OXF pmax pmax
comp=Z,279nm,0.9s
OXF Oxford 61.78 342 *e*P P 06 17 54.7 -1.5
comp=Z,279nm,0.9s
OXF *e*pP pP 06 18 09.2 -1.1
SLBS Sierra La Lagu 61.80 318 *e*P P 06 17 58.4 +1.8
comp=Z,67nm,1.4s
433A Art 61.85 332 P P 06 17 57.0 +0.2
baz=62,SNR=15
236A Katherine and 61.88 335 P P 06 17 57.3 +0.4
baz=62
JCT Junction City 61.92 331 *e*P P 06 17 57.4 +0.1
JCT *e**PP pP 06 18 11.6 +0.1
JCT pmax pmax
comp=Z,116nm,0.7s
JCT Junction City 61.92 331 P P 06 17 57.6 +0.3
baz=62,SNR=42
JCT Junction City 61.92 331 *e*P P 06 17 57.4 +0.1
comp=Z,116nm,0.7s
JCT *e*pP pP 06 18 11.6 +0.1
138A Matatall Enter 61.93 336 P P 06 17 57.7 +0.5
baz=62,SNR=14
531A Rocksprings 61.99 330 P P 06 17 58.3 +0.6
baz=62,SNR=77
334A Lometa 61.99 333 P P 06 17 57.5 -0.2
baz=62,SNR=10
137A Heron Place, G 62.12 336 P P 06 17 59.7 +1.2
baz=62,SNR=29
Z39A Irene McRaven, 62.12 337 P P 06 17 59.4 +0.8
baz=62
WHTX Lake Whitney 62.24 334 P P 06 17 59.7 +0.4
baz=62,SNR=18
WHTX Lake Whitney 62.24 334 *e*P P 06 17 59.3 -0.1
comp=Z,93nm,0.8s
WHTX *e*pP pP 06 18 13.8 +0.2
432A Menard 62.26 331 P P 06 17 59.9 +0.4
baz=63,SNR=92
333A Richland Sprin 62.30 332 P P 06 17 59.8 0.0
baz=63,SNR=48
136A Ennis 62.30 335 P P 06 17 59.8 +0.1
baz=63,SNR=8.2
TZTN Tazewell 62.32 348 *e*P P 06 17 58.8 -1.0
comp=Z,36nm,0.8s
530A J-C Ranch, Com 62.34 329 P P 06 18 00.6 +0.5
baz=63,SNR=53
Z38A Mt. Pleasant 62.42 336 P P 06 18 00.7 +0.2
baz=63,SNR=7.8
BLA Blacksburg 62.44 351 *e*P P 06 18 00.6 0.0
BLA *e**PP pP 06 18 15.1 +0.3
BLA pmax pmax
comp=Z,59nm,0.8s
BLA Blacksburg 62.44 351 *e*P P 06 18 00.6 0.0
comp=Z,59nm,0.8s
BLA *e*pP pP 06 18 15.1 +0.3
431A Sonora 62.46 330 P P 06 18 01.1 +0.3
baz=63,SNR=29
MET Memphis--Engin 62.50 342 *e*P P 06 18 00.2 -0.8
comp=Z,197nm,0.8s
MET *e*pP pP 06 18 14.6 -0.6
234A Clairette 62.53 333 P P 06 18 01.4 0.0
baz=63,SNR=80
Z37A Pogue Cattle C 62.61 336 P P 06 18 01.8 +0.1
baz=63,SNR=7.0
332A Millersview 62.67 331 P P 06 18 02.5 +0.2
baz=63,SNR=61
Y39A Lockesburg 62.72 338 P P 06 18 02.6 +0.1
baz=63,SNR=31
135A Vickery Place, 62.72 334 P P 06 18 02.4 -0.1
baz=63,SNR=5.6
529A Stev Forest Ra 62.73 329 P P 06 18 03.4 +0.7
baz=63,SNR=13
TXAR Lajitas Array 62.77 327 P P 06 18 03.4 +0.3
comp=Z,8.4nm,0.7s,baz=151,slow=8.7,SNR=126
TXAR LR LR 06 41 17.1
comp=Z,292nm,21.7s,baz=0.0,slow=32
TXAR PKP2bc 06 47 09.3
comp=Z,1.6nm,0.9s,baz=307,slow=1.5,SNR=10
430A Baggett Ranch, 62.83 330 P P 06 18 03.6 +0.3
baz=63,SNR=48
233A Rising Star 62.86 333 P P 06 18 03.5 0.0
baz=63,SNR=49
WVT Waverly 62.88 344 *e*P P 06 18 02.2 -1.3
WVT *e**PP pP 06 18 16.9 -0.8
WVT pmax pmax
comp=Z,174nm,0.8s
WVT Waverly 62.88 344 *e*P P 06 18 02.2 -1.3
comp=Z,174nm,0.8s
WVT *e*pP pP 06 18 16.9 -0.8
UALR University of 62.91 339 *e*P P 06 18 03.0 -0.7
comp=Z,76nm,0.8s
UALR *e*pP pP 06 18 17.8 -0.1
331A San Angelo 62.91 331 P P 06 18 03.8 0.0
baz=63,SNR=46
Y38A Idabel 62.94 337 P P 06 18 03.7 -0.2
baz=63,SNR=12
Z36A Blue Ridge 62.98 335 P P 06 18 04.4 +0.2
baz=63,SNR=50
134A White-Moore Ra 63.01 334 P P 06 18 04.2 -0.3
baz=63,SNR=9.5
CBN Corbin 63.03 354 *e*P P 06 18 04.8 +0.3
comp=Z,177nm,1.5s
CBN *e*pP pP 06 18 18.9 +0.2

232A Coleman 63.06 332 P P 06 18 05.1 +0.2
baz=63,SNR=37
MIAR Mount Ida 63.10 338 *e*P P 06 18 04.5 -0.5
MIAR *e**PP pP 06 18 19.1 -0.2
MIAR pmax pmax
comp=Z,109nm,0.8s
MIAR Mount Ida 63.10 338 P P 06 18 04.7 -0.3
baz=63,SNR=62
MIAR Mount Ida 63.10 338 *e*P P 06 18 04.5 -0.5
comp=Z,109nm,0.8s
MIAR *e*pP pP 06 18 19.1 -0.2
HBAR Harrisburg 63.11 341 *e*P P 06 18 04.8 -0.2
HBAR *e*pP pP 06 18 18.3 -1.0
Y37A Hugo 63.30 336 P P 06 18 06.8 +0.4
baz=64,SNR=8.0
GNAR Gosnell 63.31 342 *e*P P 06 18 06.3 0.0
GNAR *e*pP pP 06 18 20.5 -0.1
330A Mertzon 63.33 330 P P 06 18 06.3 -0.4
baz=64,SNR=32
Z35A Perchaven, San 63.34 335 P P 06 18 06.6 0.0
baz=64,SNR=6.1
UTMT University of 63.35 343 *e*P P 06 18 06.2 -0.4
comp=Z,172nm,0.8s
UTMT *e*pP pP 06 18 20.5 -0.3
133A Hamilton Ranch 63.38 333 P P 06 18 06.8 -0.2
baz=64,SNR=32
GLAT Glass 63.39 343 *e*P P 06 18 06.5 -0.4
GLAT *e*pP pP 06 18 20.6 -0.6
231A Bronte 63.40 331 P P 06 18 06.8 -0.3
baz=64,SNR=16
Y36A Durant 63.48 336 P P 06 18 07.3 -0.2
baz=64
Z34A Collier Ranch, 63.64 334 P P 06 18 08.6 0.0
baz=64,SNR=55
PVMO Portageville 63.64 342 *e*P P 06 18 08.6 +0.1
comp=Z,598nm,0.9s
PVMO *e*pP pP 06 18 22.4 -0.3
X38A Whitesboro 63.64 337 P P 06 18 08.7 +0.1
baz=64,SNR=38
ABTX Abilene, Hawle 63.70 332 P P 06 18 09.2 +0.1
baz=64,SNR=47
ABTX Abilene, Hawle 63.70 332 *e*P P 06 18 09.0 0.0
comp=Z,139nm,0.9s
ABTX *e*pP pP 06 18 23.6 +0.3
230A Sterling City 63.71 331 P P 06 18 08.9 -0.2
baz=64,SNR=10.0
329A Wagon Wheel Ra 63.76 330 P P 06 18 09.6 0.0
baz=64
X37A Clayton 63.76 337 P P 06 18 09.5 +0.1
baz=64,SNR=45
Y35A Marietta 63.77 335 P P 06 18 09.6 +0.2
baz=64,SNR=33
PARMO Parma 63.89 342 *e*P P 06 18 09.9 -0.3
PARMO *e*pP pP 06 18 24.1 -0.3
W38A Poteau 63.90 338 P P 06 18 10.6 +0.3
baz=64,SNR=41
Z33A Whitaker Ranch 63.91 333 P P 06 18 10.6 +0.2
baz=64,SNR=42
131A Roby 64.06 332 P P 06 18 11.6 +0.1
baz=64,SNR=58
229A Bryant Ranch, 64.09 330 P P 06 18 11.5 -0.2
baz=64,SNR=24
Y34A Reagan Ranch, 64.09 335 P P 06 18 11.5 -0.1
baz=64,SNR=28
X36A Centrahoma 64.10 336 P P 06 18 10.9 -0.7
baz=64,SNR=29
NVL N'lazarevskaya 64.15 159*c* *i*P P 06 18 11.5 0.0
NVL pmax pmax
comp=Z,97nm,0.9s
SDMD Soldier's Deli 64.18 354 *e*P P 06 18 12.2 +0.2
SDMD *e*pP pP 06 18 27.3 +1.1
X35A Drake 64.18 335 P P 06 18 11.5 -0.6
baz=64,SNR=55
PBMO Poplar Bluff 64.19 342 *e*P P 06 18 11.4 -0.7
comp=Z,145nm,0.8s
Z32A Haskell 64.22 333 P P 06 18 12.4 -0.1
baz=64,SNR=20
130A Snyder 64.24 331 P P 06 18 12.7 0.0
baz=64,SNR=36
W37A Quinton 64.28 337 P P 06 18 12.8 0.0
baz=65,SNR=76
Y33A Hilltop Ranch, 64.48 334 P P 06 18 13.9 -0.2
baz=65,SNR=15
Z31A Sharp Cattle R 64.51 332 P P 06 18 14.6 +0.2
baz=65,SNR=99
W36A Wetumka 64.56 336 P P 06 18 13.8 -0.8
baz=65,SNR=36
228A UT Block 9, Go 64.57 330 P P 06 18 15.0 +0.1
baz=65,SNR=30
V38A Canehill 64.58 338 P P 06 18 14.4 -0.3
baz=65,SNR=130
USIN University of 64.58 345 *e*P P 06 18 12.5 -2.1
comp=Z,144nm,1.0s
USIN *e*pP pP 06 18 27.9 -1.0
129A Stewart Farms, 64.67 330 P P 06 18 15.3 -0.2
baz=65
X34A Smith Ranch, M 64.69 335 P P 06 18 15.5 0.0
baz=65,SNR=31
MVL Millersville 64.72 355 *e*P P 06 18 15.9 +0.4
comp=Z,50nm,0.9s
SIUC Southern Illin 64.73 343 *e*P P 06 18 14.9 -0.7
comp=Z,197nm,0.8s
SIUC *e*pP pP 06 18 29.5 -0.5
Y32A R-V Farms, Ver 64.81 333 P P 06 18 16.4 +0.2
baz=65,SNR=31
W35A Tecumseh 64.81 336 P P 06 18 14.6 -1.7
baz=65
X33A Lawton 64.90 334 P P 06 18 16.0 -0.9
baz=65,SNR=14
Z30A Sanderson Ranc 64.90 331 P P 06 18 16.6 -0.3
baz=65,SNR=47
128A Castleberry Fa 64.94 330 P P 06 18 17.2 -0.1
baz=65,SNR=42
V36A Jenks 65.04 337 P P 06 18 17.4 -0.3
baz=65,SNR=60
U38A Gravette 65.09 338 P P 06 18 17.7 -0.4
baz=65,SNR=42
TUL1 Tulsa 65.10 337 P P 06 18 17.6 -0.5
baz=65,SNR=45
TUL1 Tulsa 65.10 337 *e*P P 06 18 17.6 -0.5
comp=Z,153nm,0.8s
TUL1 *e*pP pP 06 18 32.1 -0.3
X32A Elmer 65.11 334 P P 06 18 17.9 -0.4
baz=65,SNR=17
Y31A Rekieta Farm, 65.11 333 P P 06 18 18.3 0.0
baz=65,SNR=74
Z29A Hungry Hill Ra 65.13 331 P P 06 18 18.1 -0.4
baz=65,SNR=33
WMOK Wichita Mounta 65.18 334 *e*P P 06 18 17.7 -1.0
WMOK *e**PP pP 06 18 32.4 -0.6
WMOK pmax pmax
comp=Z,17nm,0.9s
WMOK Wichita Mounta 65.18 334 *e*P P 06 18 17.7 -1.0
comp=Z,17nm,0.9s
WMOK *e*pP pP 06 18 32.4 -0.6
W34A Bridge Creek, 65.22 335 P P 06 18 18.4 -0.5
baz=66,SNR=7.3
W34A Bridge Creek, 65.22 335 *e*P P 06 18 18.6 -0.3
comp=Z,51nm,0.9s
W34A *e*pP pP 06 18 33.3 +0.1
LUPA Lehigh Univers 65.24 356 *e*P P 06 18 19.2 +0.3
comp=Z,3.5nm,0.8s
LUPA *e*pP pP 06 18 34.5 +1.3
BRNJ Basking Ridge 65.27 356 *e*P P 06 18 19.5 +0.4
BRNJ *e*pP pP 06 18 30.8 -2.5
CLNB Carlsbad 65.29 329 *e*P P 06 18 20.4 +0.8
comp=Z,3.1nm,0.6s
CLNB *e*pP pP 06 18 34.5 +0.6
Y30A Stafford Cattl 65.31 332 P P 06 18 19.3 -0.3
baz=66,SNR=9.6
U37A Salina 65.31 338 P P 06 18 19.0 -0.5
baz=66,SNR=43
V35A Meyer Ranch, C 65.34 336 P P 06 18 19.0 -0.7
baz=66,SNR=14
OLIL Olney 65.42 345 *e*P P 06 18 18.6 -1.4
comp=Z,82nm,0.8s
OLIL *e*pP pP 06 18 33.2 -1.2
W33A Caddo, Fort Co 65.42 335 P P 06 18 20.4 +0.2
baz=66,SNR=70
QSPA South Pole Qui 65.42 180 *e*P P 06 18 20.2 +0.1
comp=Z,171nm,1.1s
QSPA *e*pP pP 06 18 35.5 +1.2
Z28A Tucker Farm, M 65.46 330 P P 06 18 20.2 -0.4
baz=66,SNR=35
BLO Bloomington 65.47 346 *e*P P 06 18 19.1 -1.3
BLO *e**PP pP 06 18 33.0 -1.7
BLO pmax pmax

comp=Z,91nm,0.6s
BLO Bloomington 65.47 346 *e*P P 06 18 19.1 -1.3
comp=Z,91nm,0.6s
BLO *e*pP pP 06 18 33.0 -1.7
SSPA Standing Stone 65.49 353 *e*P P 06 18 20.6 0.0
comp=Z,55nm,0.9s
SSPA *e*pP pP 06 18 34.6 -0.2
U36A Oologah 65.51 337 P P 06 18 20.2 -0.6
baz=66
X31A McDonald Ranch 65.57 333 P P 06 18 20.8 -0.5
baz=66,SNR=87
Y29A Porterfield Fa 65.63 331 P P 06 18 21.6 0.0
baz=66,SNR=53
V34A Guthrie 65.66 336 P P 06 18 21.2 -0.6
baz=66
V34A Guthrie 65.66 336 *e*P P 06 18 21.1 -0.6
comp=Z,31nm,0.5s
V34A *e*pP pP 06 18 35.8 -0.3
ODNJ Ogdensburg 65.67 356 *e*P P 06 18 22.2 +0.5
comp=Z,94nm,1.6s
W32A Sentinel 65.70 334 P P 06 18 21.8 -0.3
baz=66,SNR=64
X30A Coker Ranch, T 65.79 332 P P 06 18 22.2 -0.4
baz=66,SNR=33
ACSO Alum Creek Sta 65.80 349 *e*P P 06 18 21.7 -0.9
comp=Z,166nm,0.8s
ACSO *e*pP pP 06 18 36.3 -0.5
YLE Yale 65.82 358 *e*P P 06 18 23.2 +0.7
comp=Z,250nm,1.5s
YLE *e*pP pP 06 18 38.0 +1.1
U35A Pawnee 65.85 337 P P 06 18 22.8 -0.1
baz=66,SNR=46
SLM Saint Louis 65.87 343 *e*P P 06 18 22.5 -0.5
SLM *e**PP pP 06 18 37.1 -0.2
SLM Saint Louis 65.87 343 *e*P P 06 18 22.5 -0.5
SLM *e*pP pP 06 18 37.1 -0.2
T37A Cheneyville 18 65.89 338 P P 06 18 22.8 -0.4
baz=66,SNR=43
CPRX Cap Rock 65.92 329 *e*P P 06 18 24.0 +0.3
comp=Z,5.4nm,0.9s
CPRX *e*pP pP 06 18 38.6 +0.6
Y28A McKinney Farm, 65.92 331 P P 06 18 23.1 -0.5
baz=66,SNR=8.9
V33A Lossen Ranch, 65.94 335 P P 06 18 23.3 -0.2
baz=66,SNR=37
W31A Holland Ranch, 66.04 333 P P 06 18 23.9 -0.4
baz=66,SNR=13
X29A Tulia 66.14 332 P P 06 18 24.7 -0.3
baz=66,SNR=42
V32A Arapaho 66.14 334 P P 06 18 25.0 +0.1
baz=66,SNR=13
T36A Boggs Farm, Ca 66.16 338 P P 06 18 24.5 -0.4
baz=66,SNR=40
U34A Anderson Ranch 66.20 336 P P 06 18 24.8 -0.4
baz=66,SNR=14
U34A Anderson Ranch 66.20 336 *e*P P 06 18 24.9 -0.3
comp=Z,92nm,0.8s
U34A *e*pP pP 06 18 39.4 -0.1
MSTX Muleshoe 66.21 331 P P 06 18 25.5 0.0
baz=66,SNR=65
MSTX Muleshoe 66.21 331 *e*P P 06 18 25.2 -0.2
comp=Z,156nm,0.8s
MSTX *e*pP pP 06 18 40.0 +0.2
KSPA Keystone Colle 66.22 355 *e*P P 06 18 26.0 +0.8
comp=Z,51nm,0.9s
T35A Sooner Cattle 66.25 337 P P 06 18 25.4 -0.2
baz=67,SNR=19
W30A Crocket Farms 66.29 333 P P 06 18 25.6 -0.3
baz=67
BRYW Bryant College 66.38 359 *e*P P 06 18 26.8 +0.6
comp=Z,129nm,0.8s
BRYW *e*pP pP 06 18 41.4 +0.9
U33A Lingo Farm, Me 66.41 336 P P 06 18 25.7 -0.8
baz=67
X28A Dimmitt 66.42 331 P P 06 18 26.6 -0.2
baz=67,SNR=29
S37A Fort Scott 66.44 339 P P 06 18 26.3 -0.4
baz=67,SNR=32
V31A Spring Creek L 66.51 334 P P 06 18 27.8 +0.6
baz=67,SNR=27
T34A McClaskey Farm 66.59 337 P P 06 18 27.7 0.0
baz=67,SNR=22
S36A Lake Cedric, C 66.66 338 P P 06 18 27.8 -0.3
baz=67,SNR=75
W29A Amraillo 66.69 332 P P 06 18 28.1 -0.4
baz=67,SNR=12
U32A Winter Ranch, 66.70 335 P P 06 18 28.4 0.0
baz=67,SNR=13
SFIN Scholer Farm 66.75 346 P P 06 18 26.9 -1.7
baz=67,SNR=19
SFIN Scholer Farm 66.75 346 *e*P P 06 18 26.8 -1.8
comp=Z,55nm,0.8s
SFIN *e*pP pP 06 18 41.5 -1.4
QUA2 Belchertown 66.76 358 *e*P P 06 18 29.0 +0.4
comp=Z,27nm,0.7s
V30A Spur Ranch, Mi 66.84 333 P P 06 18 29.8 +0.4
baz=67,SNR=13
S35A Otter Creek Ra 66.87 338 P P 06 18 29.1 -0.4
baz=67,SNR=40
R37A Teagarden Farm 66.94 339 P P 06 18 29.4 -0.5
baz=67,SNR=18
HRV Adam Dziewonsk 66.97 359 *e*P P 06 18 30.6 +0.7
HRV *e**PP pP 06 18 45.6 +1.3
HRV pmax pmax
comp=Z,89nm,0.7s
HRV Adam Dziewonsk 66.97 359 *e*P P 06 18 30.6 +0.7
comp=Z,89nm,0.7s
HRV *e*pP pP 06 18 45.6 +1.3
U31A Nine Bar Ranch 67.03 334 P P 06 18 30.4 -0.2
baz=67
T33A Patterson Ranc 67.03 336 P P 06 18 30.6 +0.1
baz=67,SNR=15
W28A Vega 67.05 332 P P 06 18 30.8 0.0
baz=67,SNR=8.1
S34A Willow Spring 67.17 337 P P 06 18 31.0 -0.4
baz=68
R36A Gordon, Harris 67.17 338 P P 06 18 31.0 -0.4
baz=68,SNR=8.2
TRY Troy 67.26 357 *e*P P 06 18 32.7 +1.0
comp=Z,251nm,1.3s
TRY *e*pP pP 06 18 47.5 +1.4
V29A Stinnett 67.28 333 P P 06 18 32.0 -0.2
baz=68
Q37A Longview Farm, 67.33 340 P P 06 18 31.7 -0.7
baz=68,SNR=14
T32A Huddle Ranch, 67.38 335 P P 06 18 33.0 +0.3
baz=68,SNR=15
S33A Kaszmaul Farm, 67.40 336 P P 06 18 32.7 -0.1
baz=68,SNR=7.2
R35A Emporia Munici 67.41 338 P P 06 18 32.6 -0.3
baz=68,SNR=5.2
121A Cookes Peak, D 67.43 326 P P 06 18 34.6 +1.2
baz=68,SNR=19
121A Cookes Peak, D 67.43 326 *e*P P 06 18 34.5 +1.2
comp=Z,62nm,0.9s
121A *e*pP pP 06 18 49.2 +1.5
HDIL Hopedale 67.43 344 P P 06 18 31.8 -1.2
baz=68,SNR=21
HDIL Hopedale 67.43 344 *e*P P 06 18 31.7 -1.2
comp=Z,8.9nm,0.8s
HDIL *e*pP pP 06 18 46.4 -1.0
V28A Channing 67.47 332 P P 06 18 33.7 +0.3
baz=68,SNR=44
U30A WK&E Inc. Balk 67.49 334 P P 06 18 33.8 +0.3
baz=68,SNR=8.7
MMNY Mt. Morris Dam 67.57 354 *e*P P 06 18 33.8 0.0
comp=Z,426nm,1.3s
U29A Oasis Ranch, S 67.67 333 P P 06 18 35.1 +0.4
baz=68
Q36A Arnold C. Orve 67.74 339 P P 06 18 34.0 -0.9
baz=68
V27A Dan Oppiter Fa 67.74 332 P P 06 18 35.4 +0.2
baz=68,SNR=20
R34A Isabella, Hill 67.75 337 P P 06 18 34.8 -0.2
baz=68,SNR=26
Q35A Mercer Eighty, 67.83 338 P P 06 18 34.7 -0.8
baz=68,SNR=10
S32A Newby Ranch, P 67.84 336 P P 06 18 36.2 +0.6
baz=68
T30A Plains 67.89 334 P P 06 18 36.1 +0.1
baz=68
ACCN Adirondack Com 67.91 357 *e*P P 06 18 36.5 +0.6
comp=Z,96nm,1.3s
ACCN *e*pP pP 06 18 51.3 +1.0
AAM Ann Arbor 67.93 349 *e*P P 06 18 35.0 -1.0
AAM *e**PP pP 06 18 49.7 -0.7
AAM pmax pmax

comp=Z,47nm,0.6s
AAM **Ann Arbor** 67.93 349 *e*P P 06 18 35.0 -1.0
comp=Z,47nm,0.6s
AAM *e*pP pP 06 18 49.7 -0.7
FFD **Franklin Falls** 67.93 359 *e*P P 06 18 36.8 +0.8
comp=Z,156nm,1.2s
FFD *e*pP pP 06 18 51.9 +1.6
S31A **Mullinville** 67.97 335 P P 06 18 36.8 +0.3
baz=68,SNR=28
U28A **Mallet** 68.01 332 P P 06 18 36.9 +0.1
baz=68,SNR=6.9
R33A **Olander Ranch,** 68.02 337 P P 06 18 36.8 0.0
baz=68,SNR=21
BNM **Barren Site** 68.15 328 *e*P P 06 18 39.0 +1.0
HNH **Hanover** 68.18 358 *e*P P 06 18 38.8 +1.2
comp=Z,165nm,1.2s
HNH *e*pP pP 06 18 53.5 +1.6
Q34A **Chapman** 68.20 338 P P 06 18 37.4 -0.4
baz=68
Y22D **IRIS PASSCAL I** 68.23 328 P P 06 18 39.3 +1.0
baz=68
P36A **Good Intent, A** 68.25 339 P P 06 18 37.3 -0.8
baz=69,SNR=16
LPM **Los Pinos Moun** 68.28 328 *e*P P 06 18 39.8 +1.1
LPM *e*pP pP 06 18 54.1 +1.1
T29A **Hugoton** 68.29 333 P P 06 18 38.7 +0.2
baz=69,SNR=10
U27A **Thompson Grove** 68.30 332 P P 06 18 39.2 +0.6
baz=69,SNR=15
LENM **Lemitar** 68.33 328 *e*P P 06 18 40.6 +1.6
S30A **Montezuma** 68.37 334 P P 06 18 39.5 +0.5
baz=69,SNR=22
R32A **Long Quarter,** 68.39 336 P P 06 18 39.2 +0.1
baz=69,SNR=40
P35A **Duane Minner,** 68.43 339 P P 06 18 38.6 -0.7
baz=69,SNR=20
MDV **Middlebury** 68.51 358 *e*P P 06 18 40.0 +0.4
MDV *e*pP pP 06 18 54.7 +0.8
NCB **Newcomb** 68.53 357 *e*P P 06 18 39.8 +0.1
comp=Z,88nm,1.2s
NCB *e*pP pP 06 18 54.8 +0.7
R31A **Burdett** 68.58 335 P P 06 18 40.3 +0.1
baz=69,SNR=28
Q33A **Connelly Farm,** 68.58 337 P P 06 18 40.1 -0.1
baz=69,SNR=14
T28A **Walsh** 68.59 333 P P 06 18 40.2 -0.2
baz=69
LAZ **Ladron** 68.60 328 *e*P P 06 18 41.9 +1.2
LAZ *e*pP pP 06 18 56.3 +1.2
S29A **Ulysses** 68.61 334 P P 06 18 41.0 +0.4
baz=69,SNR=19
O36A **Bolckow** 68.64 340 P P 06 18 39.4 -1.1
baz=69,SNR=23
ANMO **Albuquerque** 68.72 328*c i*P P 06 18 42.3 +1.0
ANMO pmax pmax
comp=Z,219nm,1.8s
ANMO **Albuquerque** 68.72 328 *e*P P 06 18 42.4 +1.0
comp=Z,43nm,0.8s
ANMO *e*pP pP 06 18 56.8 +1.1
P34A **Walnut Farm, R** 68.72 338 P P 06 18 40.9 -0.2
baz=69,SNR=9.8
T27A **Campo** 68.80 332 P P 06 18 41.8 0.0
baz=69,SNR=6.7
TUC **Tucson** 68.83 324 *e*P P 06 18 43.0 +1.0
TUC *e**PP pP 06 18 57.4 +1.0
TUC pmax pmax
comp=Z,62nm,1.0s
TUC **Tucson** 68.83 324 *e*P P 06 18 43.0 +1.0
comp=Z,62nm,1.0s
TUC *e*pP pP 06 18 57.4 +1.0
Q32A **Meitler Ranch,** 68.83 336 P P 06 18 42.1 +0.3
baz=69,SNR=28
R30A **Dighton** 68.86 335 P P 06 18 42.2 +0.2
baz=69,SNR=23
S28A **Manter** 68.91 333 P P 06 18 42.6 +0.2
baz=69,SNR=57
P33A **Williams Farm,** 68.92 337 P P 06 18 42.7 +0.3
baz=69
WVL **Waterville** 69.01 0 *e*P P 06 18 43.9 +1.2
comp=Z,100nm,1.1s
WVL *e*pP pP 06 18 58.9 +1.7
O35A **Humboldt** 69.06 339 P P 06 18 42.2 -1.0
baz=69,SNR=8.5
CBKS **Cedar Bluff** 69.12 336 *e*P P 06 18 43.9 +0.3
CBKS *e**PP pP 06 18 58.7 +0.7
CBKS pmax pmax
comp=Z,370nm,0.9s
CBKS **Cedar Bluff** 69.12 336 P P 06 18 44.4 +0.8
baz=69,SNR=28
CBKS **Cedar Bluff** 69.12 336 *e*P P 06 18 43.9 +0.3
comp=Z,370nm,0.9s
CBKS *e*pP pP 06 18 58.7 +0.7
Q31A **Ellis** 69.16 336 P P 06 18 44.3 +0.5
baz=70,SNR=23
LONY **Lake Ozonia** 69.19 357 *e*P P 06 18 44.1 +0.2
comp=Z,86nm,1.0s
LONY *e*pP pP 06 18 58.9 +0.6
EMMW **East Machias** 69.19 2 *e*P P 06 18 44.5 +0.7
EMMW *e*pP pP 06 18 59.8 +1.6
O34A **Beatrice** 69.25 338 P P 06 18 43.8 -0.5
baz=70,SNR=27
T26A **Comanche Natio** 69.26 332 P P 06 18 45.1 +0.4
baz=70,SNR=40
R29A **Marienthal** 69.32 334 P P 06 18 45.2 +0.3
baz=70,SNR=11
S27A **Las Animas** 69.40 333 P P 06 18 46.3 +0.8
baz=70
P32A **Huiting Farm,** 69.41 337 P P 06 18 45.9 +0.6
baz=70
Q30A **Quinter** 69.44 335 P P 06 18 45.9 +0.3
baz=70,SNR=37
O33A **Hebron** 69.45 338 P P 06 18 45.7 0.0
baz=70,SNR=14
R28A **Tribune** 69.51 334 P P 06 18 46.5 +0.4
baz=70,SNR=22
N35A **Tabor** 69.52 340 P P 06 18 45.5 -0.5
baz=70,SNR=15
S26A **Kim** 69.59 332 P P 06 18 47.6 +1.0
baz=70,SNR=68
T25A **Trinidad** 69.59 331 P P 06 18 47.8 +1.0
baz=70,SNR=37
T25A **Trinidad** 69.59 331 *e*P P 06 18 47.8 +1.0
comp=Z,75nm,0.8s
P31A **Stockton** 69.60 336 P P 06 18 47.0 +0.4
baz=70,SNR=48
Q29A **Oakley** 69.66 335 P P 06 18 47.2 +0.2
baz=70,SNR=18
214A **Organ Pipe Nat** 69.67 322 P P 06 18 48.8 +1.6
baz=70
214A **Organ Pipe Nat** 69.67 322 *e*P P 06 18 48.2 +1.1
comp=Z,99nm,1.1s
214A *e*pP pP 06 19 03.0 +1.4
PKME **Peaks-Kenny Pk** 69.71 1 *e*P P 06 18 47.8 +0.7
comp=Z,86nm,1.3s
PKME *e*pP pP 06 19 02.7 +1.2
SCIA **State Center** 69.74 342 *e*P P 06 18 47.0 -0.3
comp=Z,105nm,1.0s
SCIA *e*pP pP 06 19 01.0 -0.7
N34A **Lincoln** 69.77 339 P P 06 18 47.3 -0.3
baz=70
O32A **Brockman Farm,** 69.86 337 P P 06 18 48.2 +0.1
baz=70,SNR=8.3
R27A **Eads** 69.87 333 P P 06 18 48.1 -0.2
baz=70,SNR=19
JFWS **Jewell Farm** 69.89 344 *e*P P 06 18 47.6 -0.6
JFWS *e**PP pP 06 19 02.4 -0.3
JFWS pmax pmax
comp=Z,112nm,0.7s
JFWS **Jewell Farm** 69.89 344 *e*P P 06 18 47.6 -0.6
comp=Z,112nm,0.7s
JFWS *e*pP pP 06 19 02.4 -0.3
P30A **Selden** 69.94 336 P P 06 18 48.6 -0.1
baz=70,SNR=11
N33A **J Bar K, Exete** 70.00 338 P P 06 18 49.2 +0.3
baz=70,SNR=6.8
M35A **Neola** 70.08 340 P P 06 18 49.5 +0.1
baz=70,SNR=24
O31A **Woolen Ranch,** 70.14 336 P P 06 18 50.4 +0.6
baz=70
Q28A **Sharon Springs** 70.14 334 P P 06 18 50.4 +0.4
baz=70,SNR=11
R26A **Arlington** 70.15 333 P P 06 18 50.6 +0.6
baz=70,SNR=34
P29A **Atwood** 70.26 335 P P 06 18 51.1 +0.5
baz=71,SNR=10
LIC **Lamto** 70.30 73 *e*P P 06 18 50.7 -0.7
comp=Z,207nm,1.0s

N32A **Stulken Farm,** 70.31 338 P P 06 18 51.1 +0.2
baz=71
M34A **Aspy Farms, Fr** 70.40 339 P P 06 18 51.5 +0.1
baz=71,SNR=18
KSCO **Kaye Shedlock'** 70.42 334 P P 06 18 52.4 +0.8
baz=71,SNR=20
KSCO **Kaye Shedlock'** 70.42 334 *e*P P 06 18 52.5 +0.8
comp=Z,186nm,0.8s
KSCO *e*pP pP 06 19 07.1 +0.9
O30A **MW Ranch, Wils** 70.43 336 P P 06 18 52.4 +0.8
baz=71,SNR=12
W18A **Petrified Fore** 70.46 326 P P 06 18 53.6 +1.5
baz=71,SNR=7.2
W18A **Petrified Fore** 70.46 326 *e*P P 06 18 53.4 +1.2
W18A *e*pP pP 06 19 08.0 +1.5
TIC **Toumodi** 70.51 73 *e*P P 06 18 51.9 -0.8
GLMI **Grayling** 70.54 349 *e*P P 06 18 51.5 -0.6
comp=Z,129nm,0.9s
P28A **Saint Francis** 70.55 334 P P 06 18 53.5 +1.0
baz=71,SNR=12
SDCO **Great Sand Dun** 70.57 331 P P 06 18 53.7 +0.8
baz=71,SNR=93
SDCO **Great Sand Dun** 70.57 331 *e*P P 06 18 53.8 +0.8
comp=Z,105nm,1.1s
SDCO *e*pP pP 06 19 08.3 +1.0
N31A **Bailey Ranch,** 70.60 337 P P 06 18 53.3 +0.6
baz=71
KIC **Kosan Boka** 70.61 73 *e*P P 06 18 52.7 -0.6
comp=Z,214nm,0.6s
L35A **Bielow Farm, R** 70.62 340 P P 06 18 52.3 -0.4
baz=71,SNR=9.5
O29A **4D Ranch, Culb** 70.66 335 P P 06 18 53.9 +0.8
baz=71,SNR=10
DBIC **Dimbokro** 70.66 73 *i*P P 06 18 53.8 +0.3
DBIC **Dimbokro** 70.66 73 P P 06 18 53.9 +0.3
comp=Z,198nm,0.9s,baz=219,slow=6.5,SNR=80
DBIC *p*P pP 06 19 09.5 +1.5
comp=Z,81nm,0.8s,baz=222,slow=6.8,SNR=5.6
DBIC LR LR 06 47 43.2
comp=Z,1µm,21.5s,baz=216,slow=34
DBIC **Dimbokro** 70.66 73 *e*P P 06 18 53.8 +0.3
comp=Z,247nm,0.9s
DBIC *e*pP pP 06 19 09.2 +1.2
M33A **Taylor Creek F** 70.66 339 P P 06 18 52.8 -0.2
baz=71,SNR=9.2
Q26A **Hugo** 70.71 333 P P 06 18 54.2 +0.7
baz=71,SNR=20
L34A **Svendsen Farm,** 70.75 339 P P 06 18 53.2 -0.3
baz=71,SNR=43
BGNE **Belgrade** 70.84 338 P P 06 18 54.3 +0.3
baz=71,SNR=9.1
BGNE **Belgrade** 70.84 338 *e*P P 06 18 54.2 +0.2
comp=Z,454nm,0.8s
BGNE *e*pP pP 06 19 08.7 +0.2
P27A **Ficken Ranch,** 70.86 334 P P 06 18 55.2 +0.8
baz=71,SNR=20
N30A **Hueftle Ranch,** 70.98 336 P P 06 18 55.5 +0.5
baz=71,SNR=5.9
O28A **Krutsinger Ran** 71.03 335 P P 06 18 56.4 +1.0
baz=71,SNR=25
M31A **Lambtecht Ranc** 71.06 337 P P 06 18 56.1 +0.6
baz=71,SNR=12
PQI **Presque Isle** 71.14 1 *e*P P 06 18 56.2 +0.5
comp=Z,64nm,1.1s
PQI *e*pP pP 06 19 11.2 +1.0
S22A **4UR Ranch, Cre** 71.17 330 P P 06 18 57.6 +1.1
baz=72,SNR=29
S22A **4UR Ranch, Cre** 71.17 330 *e*P P 06 18 57.3 +0.8
comp=Z,22nm,0.9s
P26A **Davis Ranch, A** 71.17 333 P P 06 18 57.3 +1.0
baz=72,SNR=17
N29A **Votaw Ranch, W** 71.20 336 P P 06 18 57.2 +0.8
baz=72,SNR=16
L33A **Hoskins** 71.22 339 P P 06 18 56.6 +0.2
baz=72
O27A **Beecher Island** 71.36 334 P P 06 18 58.4 +1.0
baz=72,SNR=32
N28A **Pribbeno Ranch** 71.43 335 P P 06 18 58.5 +0.8
baz=72,SNR=11
Q24A **Divide** 71.43 332 P P 06 18 59.3 +1.2
baz=72,SNR=19
Q24A **Divide** 71.43 332 *e*P P 06 18 59.0 +0.9
comp=Z,134nm,0.8s
TBI **Tubuai** 71.50 252 *e*S S 06 28 18.3 +4.5
comp=Z,411nm,31.8s
TBI **Tubuai** 71.50 252 *e*LR LR 06 40 39.1
comp=Z,1µm,28.8s,baz=108
TBI **Tubuai** 71.50 252 *e*T T 07 36 17.9
comp=Z,6.4nm,0.2s
MVCO **Mesa Verde** 71.52 328 P P 06 18 59.9 +1.3
baz=72,SNR=40
MVCO **Mesa Verde** 71.52 328 *e*P P 06 18 59.5 +0.9
comp=Z,95nm,0.9s
MVCO *e*pP pP 06 19 13.7 +0.7
M30A **Dale-Ortello V** 71.55 337 P P 06 18 59.8 +1.3
baz=72
WUAZ **Wupatki** 71.61 325 P P 06 19 00.6 +1.5
baz=72,SNR=8.1
WUAZ **Wupatki** 71.61 325 *e*P P 06 19 00.6 +1.5
WUAZ *e*pP pP 06 19 15.2 +1.6
GLA **Glamis** 71.62 321 *e*P P 06 19 00.6 +1.6
GLA *e**PP pP 06 19 14.7 +1.2
GLA **Glamis** 71.62 321 P P 06 19 00.5 +1.4
baz=72
GLA **Glamis** 71.62 321 *e*P P 06 19 00.6 +1.6
GLA *e*pP pP 06 19 14.7 +1.2
O26A **Horse Wrangler** 71.74 334 P P 06 19 00.8 +1.1
baz=72,SNR=21
L31A **Butterfield Fa** 71.75 338 P P 06 19 00.4 +0.8
baz=72,SNR=47
M29A **Burnside Ranch** 71.77 336 P P 06 19 00.6 +0.8
baz=72,SNR=9.2
OGNE **Ogallala** 71.84 335 P P 06 19 01.1 +0.9
baz=72,SNR=6.1
OGNE **Ogallala** 71.84 335 *e*P P 06 19 00.4 +0.2
comp=Z,91nm,0.9s
OGNE *e*pP pP 06 19 15.3 +0.6
L30A **Spencer Herefo** 71.86 337 P P 06 19 01.1 +0.9
baz=72,SNR=19
N27A **Anderson Farm,** 71.92 335 P P 06 19 01.5 +0.8
baz=72,SNR=8.7
Y12C **Blythe** 71.97 322 P P 06 19 02.2 +1.2
baz=72,SNR=15
M28A **Bar X Bar Ranc** 71.98 336 P P 06 19 02.1 +1.0
baz=72,SNR=6.5
SWSC **Sam W. Stewart** 72.09 321 P P 06 19 03.3 +1.5
baz=72
PDMCI **Parker Dam,Lak** 72.16 323 P P 06 19 03.6 +1.4
baz=72
N26A **Koester Ranch,** 72.20 334 P P 06 19 03.7 +1.2
baz=72,SNR=7.8
L29A **Maesberg Ranch** 72.23 337 P P 06 19 03.3 +0.8
baz=72,SNR=8.1
PV01 **Paradox Valley** 72.29 329 *e*P P 06 19 04.3 +1.1
PV01 *e*pP pP 06 19 19.1 +1.5
ISCO **Idaho Springs** 72.32 332 *e*P P 06 19 04.2 +0.8
ISCO *e**PP pP 06 19 18.9 +1.0
ISCO pmax pmax
comp=Z,47nm,0.8s
ISCO **Idaho Springs** 72.32 332 P P 06 19 04.4 +1.0
baz=73,SNR=24
ISCO **Idaho Springs** 72.32 332 *e*P P 06 19 04.2 +0.8
comp=Z,47nm,0.8s
ISCO *e*pP pP 06 19 18.9 +1.0
SMCO **Snowmass** 72.41 331 *e*P P 06 19 05.2 +1.2
comp=Z,95nm,0.8s
SMCO *e*pP pP 06 19 19.9 +1.4
BAR **Barrett** 72.41 320 *e*P P 06 19 05.2 +1.4
comp=Z,41nm,1.0s
BAR *e*pP pP 06 19 19.4 +1.1
MONP **Monument Peak** 72.42 320 P P 06 19 05.1 +1.1
baz=73
BC3 **Big Chuckawall** 72.42 321 P P 06 19 04.7 +0.8
baz=73,SNR=15
ECSD **EROS Data Cent** 72.42 340 P P 06 19 03.3 -0.3
baz=73,SNR=72
ECSD **EROS Data Cent** 72.42 340 *e*P P 06 19 03.2 -0.3
comp=Z,109nm,0.9s
ECSD *e*pP pP 06 19 17.6 -0.5
SBA **Scott Base** 72.43 191 *e*P P 06 19 04.4 +1.2
SBA pmax pmax
comp=Z,232nm,2.5s
SBA **Scott Base** 72.43 191 *e*P P 06 19 04.4 +1.2
comp=Z,232nm,2.5s
K30A **Basset** 72.46 338 P P 06 19 04.5 +0.6
baz=73,SNR=40
M27A **Reverse DX Ran** 72.48 335 P P 06 19 05.0 +0.9
baz=73
PV05 **Paradox Valley** 72.49 329 *e*P P 06 19 05.2 +0.8
L28A **Connealy Angus** 72.56 336 P P 06 19 05.9 +1.3
baz=73
IRM **Iron Mountain** 72.62 322 P P 06 19 06.1 +1.1
baz=73,SNR=14
PV04 **Paradox Valley** 72.65 329 *e*P P 06 19 06.6 +1.3
PV04 *e*pP pP 06 19 20.7 +1.0
PV10 **Paradox Valley** 72.70 329 *e*P P 06 19 06.3 +0.6
PV10 *e*pP pP 06 19 20.8 +0.7
SPMN **St. Paul** 72.70 343 P P 06 19 04.5 -0.7
baz=73,SNR=60
SPMN **St. Paul** 72.70 343 *e*P P 06 19 04.2 -0.9
comp=Z,81nm,0.9s
SPMN *e*pP pP 06 19 19.2 -0.4
M26A **McRoberts Ranc** 72.72 335 P P 06 19 06.9 +1.4
baz=73
K29A **Lazy Trails An** 72.78 337 P P 06 19 06.9 +1.2
baz=73,SNR=50
PV09 **Paradox Valley** 72.85 329 *e*P P 06 19 07.6 +1.0
L27A **T5 Ranch, Ells** 72.93 335 P P 06 19 07.8 +1.1
baz=73,SNR=17
PFO **Pinyon Flat Ob** 72.96 321 *e*P P 06 19 08.3 +1.2
PFO *e**PP PcP 06 19 22.9 -0.9
PFO pmax pmax
comp=Z,28nm,1.0s
PFO **Pinyon Flat Ob** 72.96 321 P P 06 19 08.5 +1.4
baz=73
PFO **Pinyon Flat Ob** 72.96 321 *e*P P 06 19 08.3 +1.2
comp=Z,28nm,1.0s
PFO *e*pP PcP 06 19 22.9 -0.9
BELC **Belle Mtn. Jos** 72.98 321 P P 06 19 08.5 +1.2
baz=73,SNR=6.6
J30A **Dallas** 72.99 338 P P 06 19 07.3 +0.3
baz=73,SNR=52
M25A **Palm-Egli Farm** 73.05 334 P P 06 19 08.7 +1.2
baz=73
K28A **Ten Mile Ranch** 73.12 336 P P 06 19 09.0 +1.2
baz=73
L26A **Underwood Farm** 73.18 335 P P 06 19 09.6 +1.4
baz=74,SNR=8.1
J29A **Okreek** 73.35 337 P P 06 19 09.8 +0.7
baz=74,SNR=114
GMRC **Granite Mounta** 73.36 322 P P 06 19 10.6 +1.2
baz=74,SNR=18
N23A **Red Feather La** 73.37 332 P P 06 19 10.5 +0.9
baz=74,SNR=30
N23A **Red Feather La** 73.37 332 *e*P P 06 19 10.4 +0.9
comp=Z,67nm,0.8s
MURC **Murrieta** 73.38 320 P P 06 19 10.7 +1.2
baz=74,SNR=6.3
EKU **East Kanab** 73.39 326 *e*P P 06 19 11.3 +1.7
H07S1 **FLORES T-PHASE** 73.41 30 *e*P P 06 19 09.7 +0.2
K27A **Flueckinger Fa** 73.43 336 P P 06 19 10.7 +1.1
baz=74,SNR=38
VNDA **Vanda** 73.45 190 P P 06 19 10.0 +0.7
comp=Z,15nm,1.1s,baz=134,slow=4.8,SNR=43
VNDA LR LR 06 49 29.2
comp=Z,223nm,19.6s,baz=140,slow=34
VNDA **Vanda** 73.45 190 *e*P P 06 19 10.4 +1.1
VNDA pmax pmax
comp=Z,19nm,1.1s
VNDA **Vanda** 73.45 190 *e*P P 06 19 10.4 +1.1
comp=Z,19nm,1.1s
I30A **Oacoma** 73.49 338 P P 06 19 10.1 +0.2
baz=74,SNR=25
KNB **Kanab** 73.51 325 *e*P P 06 19 12.0 +1.7
KNB pmax pmax
comp=Z,170nm,1.2s
KNB **Kanab** 73.51 325 *e*P P 06 19 12.0 +1.7
comp=Z,170nm,1.2s
PHWY **Pilot Hill** 73.51 333 *e*P P 06 19 11.1 +0.7
comp=Z,53nm,0.9s
PHWY *e*pP pP 06 19 25.6 +0.7
BTU **Barney Top** 73.59 327 *e*P P 06 19 11.1 +0.1
PPT2 **Papeete2** 73.60 258 *e*S S 06 28 42.0 +3.9
comp=Z,666nm,28.8s
PPT2 **Papeete2** 73.60 258 *e*LR LR 06 41 40.3
comp=Z,5µm,29.5s,baz=114
PPT **Papeete** 73.61 258 LR LR 06 44 51.9
comp=Z,161nm,20.1s,baz=112,slow=30
L25A **Engebretsen Ra** 73.62 334 P P 06 19 12.3 +1.4
baz=74
MMU **Miners Mountai** 73.65 327 *e*P P 06 19 09.6 -1.7
J28A **Allard Ranch,** 73.69 337 P P 06 19 12.0 +0.9
baz=74,SNR=86
BBRC **Big Bear Solar** 73.69 321 P P 06 19 12.5 +0.9
baz=74
H07N1 **FLORES T-PHASE** 73.70 30 *e*P P 06 19 12.1 +0.9
SCI **San Clemente I** 73.73 319 P P 06 19 12.9 +1.4
baz=74
O20A **White River Ci** 73.75 330 P P 06 19 13.1 +1.4
baz=74,SNR=56
O20A **White River Ci** 73.75 330 *e*P P 06 19 12.7 +1.0
comp=Z,130nm,0.8s
O20A *e*pP PcP 06 19 27.3 +0.2
HEC **Hector,Ludlow** 73.77 322 P P 06 19 13.3 +1.5
baz=74,SNR=14
K26A **Motz Farm, Whi** 73.78 335 P P 06 19 12.9 +1.2
baz=74
SYO **Syowa Base** 73.80 159 *i*P P 06 19 09.7 -1.7
J27A **Elkhorn Farm,** 73.82 336 P P 06 19 13.2 +1.3
baz=74,SNR=30
I29A **Vivian Onida** 73.89 338 P P 06 19 12.5 +0.3
baz=74,SNR=34
CIS **Catalina Islan** 73.95 319 P P 06 19 12.8 0.0
baz=74
CALA **Caldeira** 73.97 33 *e*P P 06 19 15.0 +2.1
K25A **Mack Ranch, Ha** 73.97 335 P P 06 19 14.2 +1.4
baz=74
PCAN **Candelaria** 73.98 33 *e*P P 06 19 14.0 +1.1
comp=Z,125nm,1.2s
TUQ **Turquoise Moun** 73.99 322 P P 06 19 14.6 +1.5
baz=74
SRU **San Rafael** 73.99 328 *e*P P 06 19 13.9 +0.8
SRU *e**PP PcP 06 19 28.6 +0.4
SRU pmax pmax
comp=Z,79nm,0.8s
SRU **San Rafael** 73.99 328 *e*P P 06 19 13.9 +0.8
comp=Z,78nm,0.8s
SRU *e*pP PcP 06 19 28.6 +0.4
PCED **Cedros** 74.00 33 *e*P P 06 19 14.2 +1.2
comp=Z,69nm,1.3s
FMP **Fort Macarthur** 74.10 320 P P 06 19 14.5 +0.9
baz=74
BFSC **Mount Baldy Ra** 74.10 320 P P 06 19 15.2 +1.4
baz=74,SNR=7.2
I28A **Midland** 74.17 337 P P 06 19 14.6 +0.7
baz=74,SNR=26
RRX **Edison Barstow** 74.19 321 P P 06 19 15.3 +1.1
baz=74
CCUT **Cedar City** 74.19 325 *e*P P 06 19 16.2 +1.8
comp=Z,119nm,0.9s
CCUT *e*pP PcP 06 19 31.1 +1.9
J26A **Sides Ranch, S** 74.27 336 P P 06 19 15.6 +1.1
baz=75,SNR=16
ROSA **Rosais** 74.30 33 *e*P P 06 19 16.0 +1.3
comp=Z,146nm,1.1s
PMAN **Manadas** 74.31 33 *e*P P 06 19 16.0 +1.3
comp=Z,209nm,1.2s
MWC **Mount Wilson** 74.32 320 *e*P P 06 19 16.2 +1.0
MWC *e**PP PcP 06 19 31.0 +1.2
MWC **Mount Wilson** 74.32 320 *e*P P 06 19 16.1 +1.0
MWC *e*pP PcP 06 19 30.9 +1.2
MSU **Marysvale** 74.33 327 *e*P P 06 19 15.8 +0.6
MSU *e**PP pP 06 19 31.3 +1.6
MSU **Marysvale** 74.33 327 *e*P P 06 19 15.8 +0.6
MSU *e*pP pP 06 19 31.3 +1.6
MVU **Marysvale** 74.34 327 *e*P P 06 19 16.6 +1.3
comp=Z,66nm,0.9s
MVU *e*pP pP 06 19 31.6 +1.8
SHPR **Sheep Range** 74.36 324 *e*P P 06 19 16.6 +1.3
SHPR *e*pP pP 06 19 31.1 +1.3
PASC **Pasadena Art C** 74.36 320 *e*P P 06 19 16.8 +1.6
PASC *e*pP pP 06 19 31.3 +1.6
GSC **Goldstone** 74.38 322 *e*P P 06 19 16.7 +1.3
GSC *e**PP pP 06 19 31.6 +1.7
GSC pmax pmax
comp=Z,32nm,0.8s
GSC **Goldstone** 74.38 322 P P 06 19 17.1 +1.7
baz=75,SNR=10
GSC **Goldstone** 74.38 322 *e*P P 06 19 16.7 +1.3
comp=Z,32nm,0.8s
GSC *e*pP pP 06 19 31.6 +1.7
H29A **Onida** 74.39 338 P P 06 19 15.5 +0.4
baz=75,SNR=44

K24A **Anderson Ranch** 74.44 334 P P 06 19 16.9 +1.2
baz=75
BLKC **Black Mountain** 74.46 321 eP P 06 19 12.3 -3.5
TMUT **Trail Mountain** 74.47 328 eP P 06 19 17.1 +1.1
comp=Z,236nm,2.3s
TMUT epP pP 06 19 31.8 +1.2
G30A **Faulkton** 74.48 339 P P 06 19 15.7 +0.1
baz=75,SNR=13
DECC **Green Verdugo** 74.50 320 P P 06 19 17.4 +1.4
baz=75
SHOC **Shoshone** 74.52 323 P P 06 19 17.1 +1.0
baz=75
I27A **Quinn** 74.54 337 P P 06 19 16.5 +0.4
baz=75,SNR=37
DRLN **Deer Lake** 74.55 8 eP P 06 19 16.2 +0.4
comp=Z,92nm,0.8s
SGU **Sterling** 74.59 328 eP P 06 19 18.3 +1.6
J25A **Sunshine Ranch** 74.61 335 P P 06 19 17.4 +0.8
baz=75,SNR=6.1
PSMN **Pico do Norte,** 74.62 36 eP P 06 19 19.0 +2.4
comp=Z,44nm,1.7s
PGRA **Graciosa** 74.67 33 eP P 06 19 18.3 +1.5
comp=Z,115nm,1.6s
H28A **Mission Ridge** 74.71 338 P P 06 19 17.6 +0.6
baz=75,SNR=23
ADH **Angra Heroismo** 74.75 33 eP P 06 19 18.8 +1.5
comp=Z,145nm,1.1s
EDW2 **Edwards Air Fo** 74.75 321 P P 06 19 17.8 +0.3
baz=75,SNR=8.9
G29A **Hoven** 74.79 339 P P 06 19 17.8 +0.3
baz=75,SNR=28
K23A **Bowen Ranch, D** 74.79 334 P P 06 19 18.4 +0.8
baz=75,SNR=30
I26A **New Underwood** 74.81 336 P P 06 19 18.5 +0.9
baz=75,SNR=14
BLG **Laguna Peak** 74.83 320 P P 06 19 18.6 +0.6
baz=75
J24A **Dixon Ranch, L** 74.89 335 P P 06 19 19.5 +1.4
baz=75,SNR=18
PSET **Sete Cidades** 74.89 35 eP P 06 19 20.3 +2.1
comp=Z,108nm,1.2s
EYMN **Ely** 74.93 345 P P 06 19 17.7 -0.4
baz=75,SNR=18
EYMN **Ely** 74.93 345 eP P 06 19 17.2 -0.9
comp=Z,50nm,0.8s
EYMN epP PcP 06 19 31.8 +0.1
OSI **Osito Adit** 74.99 320 P P 06 19 20.0 +1.2
baz=75
OSI **Osito Adit** 74.99 320 eP P 06 19 19.8 +1.0
OSI epP pP 06 19 34.8 +1.4
LRMC **Laurel Mountai** 75.01 321 P P 06 19 20.3 +1.2
baz=75,SNR=6.6
G28A **Parade** 75.02 338 P P 06 19 19.5 +0.7
baz=75,SNR=29
H27A **Howes** 75.04 337 P P 06 19 19.5 +0.6
baz=75,SNR=36
F30A **Leola** 75.07 339 P P 06 19 19.4 +0.4
baz=75,SNR=13
K22A **Casper** 75.07 333 P P 06 19 20.3 +1.0
baz=75,SNR=17
K22A **Casper** 75.07 333 eP P 06 19 20.1 +0.8
comp=Z,606nm,2.5s
K22A epP pP 06 19 35.1 +1.2
BSC **Santa Cruz Isl** 75.09 319 P P 06 19 20.6 +1.2
baz=75
I25A **Rochford** 75.12 336 P P 06 19 20.8 +1.2
baz=75,SNR=58
BART **Pico Bartolome** 75.15 35 eP P 06 19 19.4 -0.3
comp=Z,93nm,1.3s
MPU **Maple Canyon** 75.23 328 eP P 06 19 21.3 +1.0
comp=Z,216nm,1.0s
MPU epP pP 06 19 36.0 +1.1
FURC **Furnace Creek,** 75.26 323 P P 06 19 21.6 +1.4
baz=76,SNR=22
TPNV **Topopah Spring** 75.27 323 eP P 06 19 22.2 +1.6
TPNV pmax pmax
comp=Z,54nm,0.8s
TPNV **Topopah Spring** 75.27 323 P P 06 19 22.0 +1.4
baz=76,SNR=33
TPNV **Topopah Spring** 75.27 323 eP P 06 19 22.2 +1.6
comp=Z,54nm,0.8s
H26A **Fairpoint** 75.28 336 P P 06 19 21.4 +1.1
baz=76,SNR=22
J23A **Dilts Ranch, B** 75.31 334 P P 06 19 21.1 +0.5
baz=76
MPMC **Manual Prospec** 75.31 322 P P 06 19 21.9 +1.1
baz=76,SNR=8.8
RSSD **Black Hills** 75.32 335 eP P 06 19 21.1 +0.4
RSSD e*PP pP 06 19 36.1 +0.8
RSSD pmax pmax
comp=Z,69nm,0.8s
RSSD **Black Hills** 75.32 335 eP P 06 19 21.1 +0.4
comp=Z,69nm,0.8s
RSSD epP pP 06 19 36.1 +0.8
F29A **Eureka** 75.32 339 P P 06 19 20.9 +0.4
baz=76,SNR=16
I24A **Kuemmerle Ranc** 75.33 335 P P 06 19 21.6 +0.9
baz=76,SNR=12
NLU **North Lily Min** 75.40 328 eP P 06 19 22.4 +1.1
comp=Z,143nm,1.8s
NLU epP pP 06 19 37.0 +1.2
ARVC **Arvin** 75.41 320 P P 06 19 22.8 +1.6
baz=76
SBC **Santa Barbara** 75.45 319 P P 06 19 22.3 +0.9
baz=76
DAC **Darwin (Calif)** 75.53 322 eP P 06 19 22.8 +0.7
DAC e*PP pP 06 19 37.7 +1.0
DAC pmax pmax
comp=Z,50nm,1.0s
DAC **Darwin (Calif)** 75.53 322 eP P 06 19 22.8 +0.7
comp=Z,50nm,1.0s
DAC epP pP 06 19 37.7 +1.0
HTU **Hoyt Peak** 75.55 329 eP P 06 19 23.4 +1.2
H25A **Fruitdale** 75.58 336 P P 06 19 23.0 +1.0
baz=76,SNR=27
ISA **Isabella** 75.59 321 eP P 06 19 23.5 +1.2
ISA e*PP pP 06 19 38.2 +1.3
ISA pmax pmax
comp=Z,44nm,0.8s
ISA **Isabella** 75.59 321 P P 06 19 23.3 +1.0
baz=76,SNR=12
ISA **Isabella** 75.59 321 eP P 06 19 23.5 +1.2
comp=Z,44nm,0.8s
ISA epP pP 06 19 38.1 +1.3
JLU **Jordanelle** 75.60 329 eP P 06 19 23.4 +0.9
comp=Z,52nm,0.8s
JLU epP pP 06 19 38.2 +1.1
E30A **Jud** 75.62 340 P P 06 19 22.5 +0.4
baz=76,SNR=18
G27A **Dupree** 75.64 337 P P 06 19 22.7 +0.4
baz=76,SNR=49
F28A **McLaughlin** 75.66 338 P P 06 19 23.1 +0.7
baz=76,SNR=16
J22A **Midwest** 75.69 333 P P 06 19 23.2 +0.4
baz=76,SNR=29
I23A **Meade Ranch, G** 75.74 334 P P 06 19 23.7 +0.6
baz=76
G26A **Maurine** 75.80 337 P P 06 19 23.5 +0.3
baz=76,SNR=55
CTU **Camp Tracy** 75.82 329 eP P 06 19 24.5 +0.9
comp=Z,18nm,0.8s
CTU epP pP 06 19 38.9 +0.7
PKM **Peak Mountain** 75.83 320 P P 06 19 25.2 +1.4
baz=76,SNR=13
FSU **Fish Springs** 75.86 327 eP P 06 19 25.4 +1.5
E29A **Napoleon** 75.91 339 P P 06 19 23.8 -0.1
baz=76,SNR=8.8
CWC **Cottonwood Cre** 75.92 322 P P 06 19 25.7 +1.4
baz=76,SNR=13
GRAC **Grapevine Rang** 75.92 323 P P 06 19 25.1 +0.9
baz=76,SNR=7.4
DUG **Dugway** 75.94 328 eP P 06 19 25.3 +1.0
DUG e*PP pP 06 19 40.2 +1.3
DUG pmax pmax
comp=Z,58nm,0.9s
DUG **Dugway** 75.94 328 P P 06 19 25.5 +1.2
baz=76,SNR=32
DUG **Dugway** 75.94 328 eP P 06 19 25.3 +1.0
comp=Z,58nm,0.9s
DUG epP pP 06 19 40.2 +1.3
R11A **Troy Canyon, C** 75.95 325 P P 06 19 26.1 +1.6
baz=76,SNR=43
R11A **Troy Canyon, C** 75.95 325 eP P 06 19 25.7 +1.3
comp=Z,41nm,0.9s
R11A epP pP 06 19 40.3 +1.3
TCUT **Toone Canyon** 75.99 329 eP P 06 19 25.2 +0.5
comp=Z,48nm,0.8s
TCUT epP pP 06 19 40.3 +1.1
G25A **Newell** 76.01 336 P P 06 19 25.1 +0.7
baz=76,SNR=28
J21A **Lysite** 76.03 333 P P 06 19 25.2 +0.4
baz=76,SNR=18
H24A **Dirks Ranch, A** 76.05 335 P P 06 19 24.9 +0.1
baz=76,SNR=56
VES **Vestal, Richgr** 76.06 321 P P 06 19 15.3 -10
baz=76
KOMG **Komaggas** 76.08 117⇑ iP P 06 19 26.5 +1.1
KOMG IAmb IAmb 06 19 27.4
comp=Z,116nm,1.0s
I22A **9 Mile Ranch,** 76.08 334 P P 06 19 25.7 +0.7
baz=76,SNR=38
F27A **Lemmon** 76.10 338 P P 06 19 25.5 +0.5
baz=76,SNR=49
D30A **Buchanan** 76.12 340 P P 06 19 25.2 +0.2
baz=76,SNR=43
H23A **Clabaugh Cattl** 76.22 335 P P 06 19 26.0 +0.3
baz=76,SNR=5.1
SMMC **Simmler** 76.22 320 P P 06 19 27.4 +1.6
baz=76,SNR=5.9
PMOZ **Porto Moniz, M** 76.25 44 eP P 06 19 27.8 +1.6
comp=Z,101nm,1.4s
PMOZ **Porto Moniz, M** 76.25 44 eLR LR 06 44 33.4
comp=Z,237nm,24.0s
E28A **Huff** 76.26 339 P P 06 19 26.4 +0.6
baz=77,SNR=26
CER **Ceres** 76.27 121⇑ iP P 06 19 27.2 +0.8
CER IAmb IAmb 06 19 28.0
comp=Z,164nm,0.9s
NAIU **Northern Antel** 76.30 328 eP P 06 19 26.9 +0.7
J20A **Shoshoni** 76.30 332 P P 06 19 27.5 +1.2
baz=77,SNR=39
MCU **Monte Cristo P** 76.30 329 eP P 06 19 28.0 +1.5
F26A **Lodgepole** 76.31 337 P P 06 19 26.7 +0.6
baz=77,SNR=35
SNUT **Stansbury Nort** 76.33 328 eP P 06 19 28.0 +1.5
D29A **Pettibone, Tap** 76.34 340 P P 06 19 26.5 +0.3
baz=77
I21A **Big Trails, Te** 76.35 333 P P 06 19 26.8 +0.3
baz=77,SNR=69
AGMN **Agassiz Nation** 76.35 343 P P 06 19 25.9 -0.4
baz=77,SNR=48
AGMN **Agassiz Nation** 76.35 343 eP P 06 19 25.9 -0.4
comp=Z,62nm,0.7s
AGMN epP pP 06 19 40.8 -0.1
RSUT **Red Spur Mount** 76.40 329 eP P 06 19 28.0 +0.9
E27A **Carson** 76.42 338 P P 06 19 27.6 +0.9
baz=77,SNR=12
TIN **Tinemaha** 76.44 322 P P 06 19 28.7 +1.6
baz=77
HWUT **Hardware Ranch** 76.44 329 eP P 06 19 27.6 +0.4
comp=Z,54nm,0.8s
HWUT epP pP 06 19 42.5 +0.8
BW06 **Boulder Array** 76.46 331 eP P 06 19 27.4 +0.1
PDAR **Pinedale Array** 76.46 331 P P 06 19 27.3 0.0
comp=Z,7.8nm,0.5s,baz=122,slow=7.4,SNR=99
PDAR LR LR 06 55 39.8
comp=Z,52nm,18.6s,baz=153,slow=38
RCTC **Rector, Farmer** 76.48 321 P P 06 19 27.9 +0.6
baz=77,SNR=6.1
G24A **Alzada** 76.49 336 P P 06 19 27.7 +0.5
baz=77,SNR=35
C30A **Mose, Pekin** 76.56 341 P P 06 19 28.0 +0.5
baz=77,SNR=33
BGU **Big Grassy Mou** 76.61 328 eP P 06 19 28.6 +0.6
comp=Z,31nm,1.0s
BGU epP pP 06 19 43.1 +0.4
H22A **Clearmont** 76.62 334 P P 06 19 28.5 +0.5
baz=77,SNR=6.1
TPH **Tonopah** 76.62 323 eP P 06 19 29.4 +1.1
TPH e*PP pP 06 19 44.3 +1.4
TPH pmax pmax
comp=Z,50nm,1.0s
TPH **Tonopah** 76.62 323 eP P 06 19 29.4 +1.1
comp=Z,50nm,1.0s
TPH epP pP 06 19 44.3 +1.4
SPUT **South Promonto** 76.63 329 eP P 06 19 28.8 +0.6
comp=Z,65nm,0.9s
SPUT epP pP 06 19 43.7 +0.9
J19A **Crowheart** 76.64 332 P P 06 19 29.0 +0.7
baz=77,SNR=64
F25A **Bowman** 76.65 337 P P 06 19 28.7 +0.6
baz=77,SNR=25
EPU **East Promontor** 76.67 329 eP P 06 19 29.1 +0.7
HDU **Hyde Park** 76.69 329 eP P 06 19 29.0 +0.4
G23A **Biddle** 76.75 335 P P 06 19 29.2 +0.5
baz=77,SNR=43
D28A **Regan** 76.76 339 P P 06 19 29.3 +0.7
baz=77,SNR=5.4
E26A **Carlson Angus** 76.77 338 P P 06 19 29.3 +0.5
baz=77,SNR=22
I20A **Worland** 76.81 333 P P 06 19 29.6 +0.5
baz=77,SNR=39
MTUM **Tungsten Hills** 76.84 322 eP P 06 19 30.5 +1.0
H21A **Big Horn, Sher** 76.92 334 P P 06 19 30.2 +0.5
baz=77,SNR=7.9
F24A **Ekalaka** 76.94 336 P P 06 19 30.3 +0.6
baz=77,SNR=54
MTUT **Morton Thiokol** 76.94 329 eP P 06 19 30.3 +0.4
D27A **Center** 77.00 339 P P 06 19 30.7 +0.7
baz=77
MLI **Malad Range** 77.03 329 eP P 06 19 31.1 +0.6
MDND **Maddock** 77.04 340 P P 06 19 30.7 +0.5
baz=77,SNR=11
MDND **Maddock** 77.04 340 eP P 06 19 30.7 +0.5
MDND epP pP 06 19 45.1 +0.3
G22A **Birney** 77.11 335 P P 06 19 30.9 +0.1
baz=77,SNR=11
E25A **Miller Ranch,** 77.12 337 P P 06 19 31.5 +0.8
baz=77,SNR=31
AHID **Auburn Hatcher** 77.14 330 eP P 06 19 31.9 +0.7
comp=Z,83nm,0.8s
AHID epP pP 06 19 46.5 +0.7
HVU **Hansel Valley** 77.15 329 eP P 06 19 31.6 +0.5
HVU e*PP pP 06 19 46.3 +0.6
HVU pmax pmax
comp=Z,46nm,0.9s
HVU **Hansel Valley** 77.15 329 eP P 06 19 31.6 +0.5
comp=Z,46nm,0.9s
HVU epP pP 06 19 46.3 +0.6
C28A **Hausauer Farms** 77.17 340 P P 06 19 31.5 +0.6
baz=78,SNR=8.7
MLAC **Mammoth Lakes** 77.19 322 P P 06 19 33.3 +1.7
baz=78,SNR=7.9
B30A **Myrvik Farm, E** 77.19 341 P P 06 19 31.5 +0.5
baz=78,SNR=71
H20A **Greybull** 77.19 333 P P 06 19 31.8 +0.6
baz=78,SNR=51
F23A **Volborg** 77.19 335 P P 06 19 31.7 +0.5
baz=78,SNR=44
I19A **Meeteetse** 77.24 332 P P 06 19 32.4 +0.8
baz=78,SNR=55
D26A **Manning** 77.24 338 P P 06 19 31.8 +0.5
baz=78,SNR=17
NPI **North Pocatell** 77.31 329 eP P 06 19 32.5 +0.5
NVAR **Mina Array Bea** 77.47 323 P P 06 19 33.7 +0.6
comp=Z,8.3nm,0.8s,baz=153,slow=6.4,SNR=63
NVAR pP pP 06 19 49.0 +1.3
comp=Z,19nm,0.8s,baz=158,slow=6.4,SNR=24
NVAR PKKPbc PKKPbc 06 38 37.9 -1.1
comp=Z,0.1nm,0.3s,baz=226,slow=2.8,SNR=3.9
NVAR PKPPKP P'P'df 06 46 42.1 +4.7
comp=Z,0.3nm,0.4s,baz=283,slow=2.5,SNR=6.1
G21A **Lodge Grass** 77.48 334 P P 06 19 33.5 +0.7
baz=78,SNR=20
E24A **Baker** 77.50 337 P P 06 19 34.0 +1.2
baz=78,SNR=40
REDW **Red Top Meadow** 77.50 331 eP P 06 19 33.9 +0.7
comp=Z,56nm,0.8s
REDW epP pP 06 19 48.6 +0.8
B29A **Wagenman Farm,** 77.51 340 P P 06 19 33.5 +0.7
baz=78,SNR=26
C27A **Sayler Ranch,** 77.53 339 P P 06 19 33.9 +1.0
baz=78
SNOW **Snow King Moun** 77.54 331 eP P 06 19 34.2 +0.9
comp=Z,69nm,0.8s
SNOW epP pP 06 19 49.0 +1.0
ELK **Elko** 77.56 326 eP P 06 19 34.4 +0.8
ELK e*PP pP 06 19 49.1 +0.9
ELK pmax pmax
comp=Z,41nm,0.9s
ELK **Elko** 77.56 326 eP P 06 19 34.4 +0.8
comp=Z,41nm,0.9s
ELK epP pP 06 19 49.1 +0.9
F22A **Rosebud** 77.57 335 P P 06 19 33.9 +0.7
baz=78,SNR=31
LRV **Little Rabbit** 77.59 320 eP P 06 19 35.3 +1.8
LOHW **Long Hollow** 77.59 331 eP P 06 19 34.4 +0.8
comp=Z,64nm,1.1s
LOHW epP pP 06 19 48.8 +0.6
A30A **Hoffart Farm,** 77.62 341 P P 06 19 33.6 +0.2
baz=78,SNR=26
TPAW **Teton Pass** 77.65 331 eP P 06 19 34.7 +0.7
comp=Z,66nm,0.9s
TPAW epP pP 06 19 49.3 +0.7
D25A **Fairfield** 77.65 337 P P 06 19 34.7 +1.0
baz=78,SNR=23
H19A **Powell** 77.75 333 P P 06 19 35.3 +0.9
baz=78,SNR=26
MOOW **Moose Ponds** 77.76 331 eP P 06 19 35.2 +0.6
comp=Z,24nm,0.9s
MOOW epP pP 06 19 49.3 0.0
FXWY **Fox Creek** 77.80 331 eP P 06 19 35.5 +0.7
comp=Z,43nm,1.1s
B28A **Dugan Ranch, T** 77.81 340 P P 06 19 35.5 +1.1
baz=78,SNR=26
SUR **Sutherland** 77.82 120 P P 06 19 36.6 +1.3
comp=Z,1µm,0.9s,SNR=16
SUR **Sutherland** 77.82 120 eP P 06 19 36.6 +1.3
comp=Z,208nm,0.9s
C26A **Wahner Farm, P** 77.82 339 P P 06 19 35.4 +0.9
baz=78
G20A **Bridger** 77.88 333 P P 06 19 35.5 +0.5
baz=78,SNR=57
A29A **Manning Farm,** 77.88 341 P P 06 19 35.1 +0.3
baz=78,SNR=81
F21A **Absaloka Mine,** 77.94 334 P P 06 19 36.3 +1.0
baz=78,SNR=5.6
IMW **Indian Meadow** 77.97 331 eP P 06 19 36.6 +0.8
comp=Z,111nm,1.4s
IMW epP pP 06 19 51.7 +1.3
D24A **Glendive** 77.98 337 P P 06 19 36.5 +1.1
baz=78,SNR=18
E22A **Miles City** 78.00 335 P P 06 19 36.0 +0.4
baz=78,SNR=19
FLWY **Flagg Ranch** 78.01 331 eP P 06 19 36.4 +0.5
comp=Z,101nm,0.8s
FLWY epP pP 06 19 52.0 +1.4
B27A **Peters Farms,** 78.05 339 P P 06 19 36.6 +0.8
baz=78,SNR=8.7
YTP **The Promontory** 78.08 332 eP P 06 19 37.6 +1.3
C25A **Freed Ranch, W** 78.11 338 P P 06 19 36.9 +0.7
baz=78,SNR=13
ULM **Lac du Bonnet** 78.14 343 P P 06 19 35.8 -0.5
comp=Z,31nm,0.5s,baz=160,slow=6.3,SNR=57
ULM **Lac du Bonnet** 78.14 343 P P 06 19 35.8 -0.5
ULM pmax pmax
comp=Z,31nm,0.5s
ULM **Lac du Bonnet** 78.14 343 eP P 06 19 35.7 -0.5
comp=Z,210nm,1.5s
ULM epP pP 06 19 50.5 -0.4
WAKR **Walker** 78.14 322 eP P 06 19 38.1 +1.4
WAKR epP pP 06 19 52.8 +1.4
A28A **Rude Farm, Bot** 78.18 340 P P 06 19 37.0 +0.5
baz=78,SNR=10
H17A **Grant Village** 78.20 332 P P 06 19 38.5 +1.4
baz=78,SNR=18
H17A **Grant Village** 78.20 332 eP P 06 19 38.0 +0.9
comp=Z,23nm,0.8s
H17A epP pP 06 19 53.0 +1.3
RLMT **Red Lodge** 78.23 333 P P 06 19 38.4 +1.3
baz=78,SNR=39
RLMT **Red Lodge** 78.23 333 eP P 06 19 37.9 +0.7
comp=Z,76nm,0.8s
RLMT epP pP 06 19 52.8 +1.0
LKWY **Lake** 78.26 332 eP P 06 19 39.3 +1.9
LKWY pmax pmax
comp=Z,51nm,1.0s
LKWY **Lake** 78.26 332 eP P 06 19 39.3 +1.9
comp=Z,51nm,1.0s
MCID **Moose Creek** 78.31 331 eP P 06 19 38.8 +1.2
LAO **LASA Array** 78.31 335 P P 06 19 38.1 +0.7
baz=79
F20A **Billings** 78.33 334 P P 06 19 38.1 +0.6
baz=78,SNR=8.6
BMN **Battle Mountai** 78.34 325 eP P 06 19 38.7 +0.9
BMN e*PP pP 06 19 52.6 +0.2
BMN pmax pmax
comp=Z,19nm,1.0s
BMN **Battle Mountai** 78.34 325 eP P 06 19 38.7 +0.9
comp=Z,19nm,1.0s
BMN epP pP 06 19 52.6 +0.2
B26A **Jensen Ranch,** 78.34 339 P P 06 19 38.3 +0.9
baz=79
CMB **Columbia Colle** 78.34 322 eP P 06 19 38.3 +0.6
CMB e*PP pP 06 19 52.0 -0.4
CMB pmax pmax
comp=Z,20nm,1.0s
CMB **Columbia Colle** 78.34 322 eP P 06 19 38.3 +0.6
comp=Z,20nm,1.0s
CMB epP pP 06 19 52.0 -0.4
YFT **Old Faithful** 78.36 331 eP P 06 19 40.2 +2.3
comp=Z,59nm,0.9s
YFT epP pP 06 19 54.7 +2.1
YNR **Norris Junctio** 78.50 332 eP P 06 19 40.7 +2.0
comp=Z,35nm,0.9s
YNR epP pP 06 19 54.7 +1.4
E21A **Keefer Ranch,** 78.52 335 P P 06 19 39.5 +1.0
baz=79,SNR=16
A27A **Ledoux Ranch,** 78.53 340 P P 06 19 39.5 +1.1
baz=79
B25A **Knox Farm, Ray** 78.56 338 P P 06 19 39.8 +1.2
baz=79,SNR=6.4
YMR **Madison River** 78.59 332 eP P 06 19 41.0 +1.9
comp=Z,118nm,0.9s
YMR epP pP 06 19 55.4 +1.6
YMC **Maple Creek** 78.68 332 eP P 06 19 41.1 +1.5
A26A **Wade Farm, Ken** 78.73 339 P P 06 19 40.2 +0.7
baz=79,SNR=13
CRMT **Chrome Mountai** 78.87 332 eP P 06 19 41.3 +0.5
QLMT **Earthquake Lak** 78.92 331 eP P 06 19 42.4 +1.4
QLMT epP pP 06 19 57.2 +1.6
GCMT **Greycliff** 78.94 333 eP P 06 19 40.7 -0.2
GCMT epP pP 06 19 56.2 +0.7
A25A **Svangstu Ranch** 79.12 338 P P 06 19 42.3 +0.6
baz=79,SNR=14
HLID **Hailey** 79.29 329 P P 06 19 44.4 +1.5
baz=80
HLID **Hailey** 79.29 329 eP P 06 19 44.1 +1.2
comp=Z,77nm,0.9s
HLID epP pP 06 19 59.2 +1.6
SCHQ **Schefferville** 79.33 2 P P 06 19 42.6 -0.1
comp=Z,32nm,0.6s,baz=200,slow=5.0,SNR=91
SCHQ LR LR 06 55 38.1
comp=Z,257nm,21.9s,baz=238,slow=36
SCHQ **Schefferville** 79.33 2 eP P 06 19 42.6 -0.1
comp=Z,72nm,1.0s
SCHQ epP pP 06 19 57.9 +0.5
TORD **Torodi Ar. Bea** 79.42 70 P P 06 19 44.0 0.0
comp=Z,136nm,0.8s,baz=260,slow=5.0,SNR=775
TORD pP pP 06 19 59.9 +1.2
comp=Z,59nm,0.6s,baz=256,slow=5.5,SNR=7.0
TORD PKKPbc PKKPbc 06 38 33.4 +0.5
comp=Z,0.3nm,0.4s,baz=47,slow=2.4,SNR=7.8
TORD LR LR 06 53 47.0
comp=Z,814nm,20.0s,baz=250,slow=35
TOB3 **Torodi Ar. Sit** 79.42 70 eP P 06 19 41.9 -2.2
MCMT **McKenzie Canyo** 79.55 331 eP P 06 19 45.6 +1.2
MCMT epP pP 06 20 00.6 +1.5
C21A **Desert Coulee** 79.59 336 P P 06 19 44.7 +0.3
baz=80,SNR=40
BOZ **Bozeman (W)** 79.65 332 eP P 06 19 45.0 +0.2
BOZ e*PP pP 06 20 00.1 +0.6
BOZ pmax pmax
comp=Z,48nm,1.2s
BOZ **Bozeman (W)** 79.65 332 P P 06 19 45.1 +0.3
baz=80,SNR=19
BOZ **Bozeman (W)** 79.65 332 eP P 06 19 45.0 +0.2
comp=Z,48nm,1.2s
BOZ epP pP 06 20 00.1 +0.6
UPI **Upington** 79.67 116⇑ iP P 06 19 46.0 +0.6
UPI IAmb IAmb 06 19 47.0
comp=Z,170nm,0.9s
C20A **Veseth Ranch,** 79.84 335 P P 06 19 45.7 0.0
baz=80,SNR=23
DLMT **Dillon** 79.85 331 eP P 06 19 46.9 +1.0
comp=Z,46nm,0.9s
DLMT epP pP 06 20 01.6 +1.0
MFID **Camas Ranch** 79.85 328 eP P 06 19 46.8 +0.9
comp=Z,112nm,1.4s
MFID epP pP 06 20 01.4 +0.8

OHCM	**Honcut**	**79.86**	**322**	*e*P		**P**	**06 19 46.6**	**+0.7**
LCCM	**Lewis and Clar**	**79.91**	**332**	*e*P		**P**	**06 19 47.0**	**+0.8**
NSHM	**Saint Helena R**	**79.94**	**321**	*e*P		**P**	**06 19 47.2**	**+0.8**
NSHM				*e*pP		**pP**	**06 20 01.9**	**+0.9**
B21A	**Ellsworth Farm**	**80.06**	**336**	P		**P**	**06 19 47.4**	**+0.6**
	baz=80,SNR=33							
TSUM	**Tsumeb**	**80.08**	**107**	*e*P		**P**	**06 19 48.7**	**+0.8**
	comp=Z,156nm,1.1s							
LRM	**Limekiln Ridge**	**80.15**	**331**	*e*P		**P**	**06 19 48.5**	**+0.9**
LRM				*e*pP		**pP**	**06 20 03.6**	**+1.3**
B20A	**Solberg Farm,**	**80.45**	**335**	P		**P**	**06 19 49.5**	**+0.5**
	baz=81,SNR=31							
A21A	**Bergtoll Ranch**	**80.50**	**336**	P		**P**	**06 19 49.6**	**+0.4**
	baz=81,SNR=28							
WVOR	**Wild Horse Val**	**80.53**	**326**	*e*P		**P**	**06 19 50.0**	**+0.4**
WVOR				*e**PP		**pP**	**06 20 04.9**	**+0.6**
WVOR				pmax		pmax		
	comp=Z,50nm,1.4s							
WVOR	**Wild Horse Val**	**80.53**	**326**	*e*P		**P**	**06 19 50.0**	**+0.4**
	comp=Z,50nm,1.4s							
WVOR				*e*pP		**pP**	**06 20 04.9**	**+0.6**
HRY	**Holter Researc**	**80.58**	**332**	*e*P		**P**	**06 19 50.7**	**+1.0**
HRY				*e*pP		**pP**	**06 20 05.5**	**+1.0**
EGMT	**Eagleton**	**80.78**	**334**	P		**P**	**06 19 51.2**	**+0.5**
	baz=81,SNR=23							
EGMT	**Eagleton**	**80.78**	**334**	*e*P		**P**	**06 19 50.8**	**+0.1**
	comp=Z,105nm,1.1s							
EGMT				*e*pP		**pP**	**06 20 05.9**	**+0.4**
B19A	**Brinkman Farms**	**80.81**	**335**	P		**P**	**06 19 51.6**	**+0.7**
	baz=81,SNR=59							
MOD	**Modoc**	**81.01**	**324**	*e*P		**P**	**06 19 52.8**	**+0.6**
	comp=Z,65nm,1.0s							
MOD				*e*pP		**pP**	**06 20 08.0**	**+1.1**
A19A	**Klindworth Far**	**81.12**	**335**	P		**P**	**06 19 52.7**	**+0.1**
	baz=81,SNR=24							
KCPM	**Cahto Peak**	**81.29**	**321**	*e*P		**P**	**06 19 55.1**	**+1.4**
	comp=Z,16nm,0.7s							
KCPM				*e*pP		**pP**	**06 20 09.2**	**+0.8**
WDC	**Whiskeytown Da**	**81.31**	**322**	*e*P		**P**	**06 19 52.9**	**-0.8**
WDC				*e**PP		**pP**	**06 20 07.6**	**-0.8**
WDC				pmax		pmax		
	comp=Z,39nm,0.8s							
WDC	**Whiskeytown Da**	**81.31**	**322**	*e*P		**P**	**06 19 52.9**	**-0.8**
	comp=Z,39nm,0.8s							
WDC				*e*pP		**pP**	**06 20 07.6**	**-0.8**
CHMT	**Chamberlain Mo**	**81.34**	**332**	*e*P		**P**	**06 19 54.6**	**+0.6**
CHMT				*e*pP		**pP**	**06 20 09.4**	**+0.8**
MAW	**Mawson**	**81.49**	**164**	P		**P**	**06 19 54.5**	**+0.3**
	comp=Z,126nm,0.8s,baz=214,slow=6.2,SNR=209							
MAW				pP		**pP**	**06 20 09.6**	**+0.6**
	comp=Z,60nm,0.7s,baz=210,slow=6.8,SNR=8.4							
MAW				LR		LR	06 57 13.2	
	comp=Z,316nm,20.4s,baz=232,slow=36							
MSO	**Missoula**	**81.58**	**331**	P		**P**	**06 19 55.9**	**+0.9**
	baz=82							
MSO	**Missoula**	**81.58**	**331**	*e*P		**P**	**06 19 55.8**	**+0.8**
	comp=Z,79nm,1.5s							
BMO	**Blue Mountains**	**81.63**	**328**	*e*P		**P**	**06 19 55.5**	**+0.1**
	comp=Z,71nm,1.3s							
BMO				*e*pP		**pP**	**06 20 10.6**	**+0.5**
N02D	**Trinity Center**	**81.67**	**323**	P		**P**	**06 19 55.6**	**0.0**
	baz=82,SNR=8.0							
SLMT	**Seeley Lake**	**81.70**	**332**	*e*P		**P**	**06 19 56.3**	**+0.5**
SLMT				*e*pP		**pP**	**06 20 11.3**	**+0.8**
KMRM	**Mail Ridge**	**81.72**	**321**	*e*P		**P**	**06 19 57.6**	**+1.6**
KMRM				*e*pP		**pP**	**06 20 12.5**	**+1.8**
M04C	**Macdoel**	**81.75**	**324**	P		**P**	**06 19 56.7**	**+0.6**
	baz=82,SNR=14							
K05A	**Summer Lake**	**81.90**	**325**	P		**P**	**06 19 57.9**	**+0.9**
M02C	**Callahan**	**82.04**	**323**	P		**P**	**06 19 58.2**	**+0.6**
	baz=82							
SWMT	**Swartz Lake**	**82.13**	**332**	*e*P		**P**	**06 19 58.5**	**+0.6**
SWMT				*e*pP		**pP**	**06 20 13.8**	**+1.1**
YBH	**Yreka Blue Hor**	**82.19**	**323**	LR		LR	06 51 56.3	
	comp=Z,131nm,20.3s,baz=76,slow=32							
YBH	**Yreka Blue Hor**	**82.19**	**323**	*e*P		**P**	**06 19 57.8**	**-0.6**
YBH				*e**PP		**pP**	**06 20 13.0**	**-0.1**
YBH				pmax		pmax		
	comp=Z,23nm,0.8s							
YBH	**Yreka Blue Hor**	**82.19**	**323**	*e*P		**P**	**06 19 57.8**	**-0.6**
	comp=Z,23nm,0.8s							
YBH				*e*pP		**pP**	**06 20 12.9**	**-0.1**
K04D	**Chiloquin, OR**	**82.29**	**324**	P		**P**	**06 19 59.6**	**+0.7**
	baz=83							
YBMT	**Yellow Bay**	**82.41**	**332**	*e*P		**P**	**06 20 00.1**	**+0.7**
YBMT				*e*pP		**pP**	**06 20 15.1**	**+0.9**
F10A	**Beach Ranch, E**	**82.42**	**329**	*e*P		**P**	**06 19 59.9**	**+0.4**
	comp=Z,91nm,1.3s							
JTMT	**Jette**	**82.43**	**332**	*e*P		**P**	**06 20 00.2**	**+0.7**
JTMT				*e*pP		**pP**	**06 20 15.2**	**+0.9**
J05D	**Fort Rock, OR**	**82.47**	**325**	P		**P**	**06 20 00.5**	**+0.6**
	baz=83,SNR=14							
BLMT	**Blacktail Moun**	**82.67**	**332**	*e*P		**P**	**06 20 01.5**	**+0.6**
BLMT				*e*pP		**pP**	**06 20 16.4**	**+0.8**
BSMT	**Bassoo Peak**	**82.73**	**331**	*e*P		**P**	**06 20 01.7**	**+0.5**
BSMT				*e*pP		**pP**	**06 20 16.6**	**+0.7**
G08A	**Pilot Rock**	**82.75**	**328**	*e*P		**P**	**06 20 01.7**	**+0.4**
	comp=Z,82nm,1.8s							
BOSA	**Boshof**	**82.81**	**118**	⇑*i*P		**P**	**06 20 01.9**	**-0.3**
BOSA				IAmb		IAmb	06 20 02.9	
	comp=Z,178nm,1.0s							
BOSA	**Boshof**	**82.81**	**118**	P		**P**	**06 20 01.9**	**-0.2**
	comp=Z,147nm,1.0s,baz=246,slow=4.8,SNR=91							
BOSA				LR		LR	06 53 48.5	
	comp=Z,368nm,18.8s,baz=230,slow=33							
BOSA	**Boshof**	**82.81**	**118**	P		**P**	**06 20 02.0**	**-0.2**
BOSA				pmax		pmax		
	comp=Z,147nm,1.0s							
J04D	**Umpqua Nationa**	**82.90**	**324**	P		**P**	**06 20 02.7**	**+0.5**
	baz=83							
HUMO	**Hull Mountain**	**82.92**	**324**	*e*P		**P**	**06 20 02.0**	**0.0**
	comp=Z,109nm,2.1s							
HUMO				*e*pP		**pP**	**06 20 16.3**	**-0.5**
L02D	**Cave Junction,**	**82.97**	**323**	P		**P**	**06 20 03.4**	**+1.1**
	baz=83							
E09A	**Wood Farm, Sta**	**83.25**	**329**	*e*P		**P**	**06 20 03.4**	**-0.3**
	comp=Z,97nm,2.1s							
I05D	**Terrebonne, OR**	**83.27**	**326**	P		**P**	**06 20 04.9**	**+1.0**
	baz=84,SNR=26							
WALA	**Waterton Lakes**	**83.29**	**333**	*e*P		**P**	**06 20 04.2**	**+0.3**
WALA				*e*pP		**pP**	**06 20 19.0**	**+0.3**
I04A	**Tendick Farm,**	**83.44**	**325**	P		**P**	**06 20 04.9**	**+0.1**
	baz=84							
SWZ	**Schweizer**	**83.46**	**117**	*e*P		**P**	**06 20 03.2**	**-2.4**
SWZ				IAmb		IAmb	06 20 04.8	
	comp=Z,27nm,1.1s							
G06A	**Carlson Farm,**	**83.54**	**327**	*e*P		**P**	**06 20 06.2**	**+1.0**
	comp=Z,30nm,1.1s							
FFC	**Flin Flon**	**83.81**	**342**	P		**P**	**06 20 05.2**	**-1.1**
	comp=Z,157nm,1.2s,SNR=8.9							
FFC	**Flin Flon**	**83.81**	**342**	*e*P		**P**	**06 20 05.7**	**-0.6**
FFC				*e**PP		**pP**	**06 20 21.1**	**0.0**
FFC				pmax		pmax		
	comp=Z,64nm,1.1s							
FFC	**Flin Flon**	**83.81**	**342**	*e*P		**P**	**06 20 05.7**	**-0.6**
	comp=Z,64nm,1.1s							
FFC				*e*pP		**pP**	**06 20 21.1**	**0.0**
HAWA	**Hanford**	**83.82**	**328**	*e*P		**P**	**06 20 07.2**	**+0.6**
	comp=Z,31nm,0.8s							
HAWA				*e*pP		**pP**	**06 20 22.3**	**+0.9**
KEBM	**Edson Butte**	**83.85**	**323**	*e*P		**P**	**06 20 07.7**	**+0.9**
KEBM				*e*pP		**pP**	**06 20 23.6**	**+1.9**
I03D	**Drain, OR**	**83.87**	**324**	P		**P**	**06 20 07.4**	**+0.6**
	baz=84							
G05D	**Wamic, OR**	**83.89**	**326**	P		**P**	**06 20 08.1**	**+1.2**
	baz=84,SNR=5.8							
H04A	**Detroit Lake**	**83.94**	**325**	*e*P		**P**	**06 20 07.3**	**0.0**
	comp=Z,38nm,1.0s							
D08A	**Wollman Farm,**	**84.01**	**329**	*e*P		**P**	**06 20 07.7**	**+0.1**
	comp=Z,390nm,2.8s							
NEW	**Newport**	**84.07**	**331**	*e*P		**P**	**06 20 07.4**	**-0.5**
NEW				*e**PP		**pP**	**06 20 22.1**	**-0.6**
NEW				pmax		pmax		
	comp=Z,15nm,0.8s							
NEW	**Newport**	**84.07**	**331**	P		**P**	**06 20 07.9**	**0.0**
	baz=84							
NEW	**Newport**	**84.07**	**331**	*e*P		**P**	**06 20 07.4**	**-0.5**
	comp=Z,15nm,0.8s							
NEW				*e*pP		**pP**	**06 20 22.1**	**-0.6**
C09A	**Chrisman Ranch**	**84.25**	**330**	P		**P**	**06 20 09.0**	**+0.2**
PFVI	**Vila Bisbo**	**84.29**	**45**	*i* P		**P**	**06 20 10.5**	**+1.3**
	comp=Z,181nm,1.5s							
PFVI				*e*pP		**pP**	**06 20 26.4**	**+2.4**
COR	**Corvallis**	**84.45**	**325**	*e*P		**P**	**06 20 11.1**	**+1.3**
COR				*e**PP		**pP**	**06 20 26.3**	**+1.7**
COR	**Corvallis**	**84.45**	**325**	*e*P		**P**	**06 20 11.1**	**+1.3**
COR				*e*pP		**pP**	**06 20 26.3**	**+1.7**
MORF	**Marmelete**	**84.51**	**45**	*e*P		**P**	**06 20 10.7**	**+0.4**
MORF				AMb		AMB	06 20 14.1	
	comp=Z,168nm,1.5s							
MORF				*e*S		**S**	**06 30 28.1**	**-5.1**
MORF	**Marmelete**	**84.51**	**45**	*i* P		**P**	**06 20 11.6**	**+1.3**
	comp=Z,161nm,1.9s							
MORF				*e*pP		**pP**	**06 20 29.5**	**+4.4**
MORF	**Marmelete**	**84.51**	**45**	*e*P		**P**	**06 20 10.7**	**+0.4**
MORF				*e*S		**S**	**06 30 28.1**	**-5.1**
LBTB	**Lobatse**	**84.57**	**115**	⇑*i*P		**P**	**06 20 11.2**	**-0.1**
LBTB				IAmb		IAmb	06 20 12.1	
	comp=Z,124nm,0.9s							
LBTB	**Lobatse**	**84.57**	**115**	*e*P		**P**	**06 20 11.1**	**-0.1**
LBTB				pmax		pmax		
	comp=Z,117nm,0.8s							
LBTB	**Lobatse**	**84.57**	**115**	*e*P		**P**	**06 20 11.1**	**-0.1**
	comp=Z,117nm,0.8s							
PTEO	**Sao Teotonio**	**84.60**	**44**	*e*P		**P**	**06 20 12.3**	**+1.6**
	comp=Z,246nm,1.1s							
SEK	**Senekal**	**84.83**	**119**	*e*P		**P**	**06 20 12.3**	**-0.2**
SEK				IAmb		IAmb	06 20 13.2	
	comp=Z,85nm,1.1s							
G03D	**McMinnville, O**	**84.86**	**325**	P		**P**	**06 20 12.7**	**+0.8**
	baz=85							
F04A	**Amboy**	**84.92**	**326**	*e*P		**P**	**06 20 12.6**	**+0.5**
F04A				*e*pP		**pP**	**06 20 27.6**	**+0.7**
PBDV	**Barranco-do-Ve**	**84.93**	**45**	*i* P		**P**	**06 20 13.8**	**+1.3**
	comp=Z,251nm,1.2s							
PBDV				*e*pP		**pP**	**06 20 29.6**	**+2.3**
PMST	**Lisbon--Monsan**	**85.03**	**43**	*e*P		**P**	**06 20 14.1**	**+1.2**
	comp=Z,157nm,1.7s							
PNCL	**Nicolau / Gran**	**85.07**	**44**	*e*P		**P**	**06 20 14.0**	**+1.0**
	comp=Z,106nm,1.2s							
PCVE	**Castro Verde**	**85.09**	**45**	*i* P		**P**	**06 20 14.7**	**+1.5**
	comp=Z,31nm,1.3s							
PCVE				*e*pP		**pP**	**06 20 30.3**	**+2.3**
MESJ	**Messejana**	**85.10**	**44**	*e*P		**P**	**06 20 13.0**	**-0.3**
MESJ				AMb		AMB	06 20 16.2	
	comp=Z,187nm,1.4s							
MESJ				*e*S		S	06 30 32.2	-6.7
MESJ	**Messejana**	**85.10**	**44**	*i* P		**P**	**06 20 14.6**	**+1.4**
	comp=Z,182nm,1.2s							
MESJ				*e*pP		**pP**	**06 20 29.8**	**+1.8**
MESJ	**Messejana**	**85.10**	**44**	*e*P		**P**	**06 20 12.9**	**-0.3**
MESJ				*e*S		S	06 30 32.2	-6.7
PMAFR	**Mafra**	**85.10**	**43**	*i* P		**P**	**06 20 14.3**	**+1.1**
	comp=Z,158nm,1.2s							
B08A	**Colville Reser**	**85.15**	**329**	*e*P		**P**	**06 20 12.9**	**-0.4**
	comp=Z,60nm,1.5s							
PVAQ	**Vaqueiros**	**85.16**	**45**	*i* P		**P**	**06 20 14.7**	**+1.1**
	comp=Z,153nm,1.7s							
PVAQ				*e*pP		**pP**	**06 20 29.2**	**+0.8**
PVAQ	**Vaqueiros**	**85.16**	**45**	*e*S		S	06 31 04.5	+25
PVAQ	**Vaqueiros**	**85.16**	**45**	*e*LR		LR	06 47 55.2	
	comp=Z,329nm,22.7s							
LON	**Longmire**	**85.19**	**327**	*e*P		**P**	**06 20 13.5**	**0.0**
LON				*e**PP		**pP**	**06 20 28.5**	**+0.1**
LON	**Longmire**	**85.19**	**327**	*e*P		**P**	**06 20 13.5**	**0.0**
LON				*e*pP		**pP**	**06 20 28.5**	**+0.1**
PRYS	**Parys**	**85.21**	**117**	*e*P		**P**	**06 20 13.7**	**-0.7**
PRYS				IAmb		IAmb	06 20 14.7	
	comp=Z,32nm,1.2s							
KSR	**Koster**	**85.29**	**116**	*e*P		**P**	**06 20 14.7**	**-0.2**
KSR				IAmb		IAmb	06 20 15.5	
	comp=Z,100nm,1.0s							
WDLM	**Western Deep L**	**85.47**	**117**	*e*P		**P**	**06 20 15.7**	**-0.1**
WDLM				IAmb		IAmb	06 20 16.4	
	comp=Z,41nm,1.1s							
D05A	**Enumclaw**	**85.58**	**327**	*e*P		**P**	**06 20 15.4**	**+0.1**
	comp=Z,60nm,1.3s							
FCC	**Fort Churchill**	**85.60**	**348**	*e*P		**P**	**06 20 15.3**	**+0.1**
FCC				*e**PP		**pP**	**06 20 30.7**	**+0.7**
FCC	**Fort Churchill**	**85.60**	**348**	*e*P		**P**	**06 20 15.3**	**+0.1**
FCC				*e*pP		**pP**	**06 20 30.7**	**+0.7**
EVO	**Evora**	**85.64**	**44**	*i* P		**P**	**06 20 16.8**	**+0.9**
	comp=Z,76nm,1.4s							
PMTG	**Montargil**	**85.83**	**43**	*i* P		**P**	**06 20 17.8**	**+1.0**
	comp=Z,129nm,1.7s							
PMTG				*e*pP		**pP**	**06 20 32.9**	**+1.2**
E03A	**Lebam**	**85.92**	**326**	*e*P		**P**	**06 20 17.6**	**+0.5**
	comp=Z,57nm,0.9s							
PTOM	**Tomar**	**86.04**	**43**	*e*P		**P**	**06 20 18.7**	**+0.8**
	comp=Z,106nm,1.6s							
PTOM				*e*pP		**pP**	**06 20 36.2**	**+3.5**
DRV	**Dumont d'Urvil**	**86.05**	**192**	S		S	06 30 19.0	-29
DRV				SS		SS	06 36 07.0	-18
DRV				L		L	06 43 00.0	
DRV				R			06 48 00.0	
PBAR	**Barrancos**	**86.05**	**45**	*i* P		**P**	**06 20 18.9**	**+0.9**
	comp=Z,162nm,1.1s							
PESTR	**Estremoz**	**86.11**	**44**	*e*P		**P**	**06 20 18.8**	**+0.6**
	comp=Z,78nm,1.8s							
PESTR				*e*pP		pP	06 20 39.8	+6.7
ERPM	**east rand prop**	**86.17**	**117**	*e*P		**P**	**06 20 18.7**	**-0.6**
ERPM				IAmb		IAmb	06 20 20.2	
	comp=Z,21nm,1.0s							
PCAS	**Casmilo, Conde**	**86.25**	**43**	*i* P		**P**	**06 20 19.6**	**+0.7**
	comp=Z,44nm,2.6s							
B06A	**Marblemount**	**86.27**	**329**	*e*P		**P**	**06 20 17.9**	**-0.9**
	comp=Z,31nm,0.8s							
EDM	**Edmonton**	**86.30**	**336**	*e*P		**P**	**06 20 17.7**	**-1.2**
EDM				*e**PP		**pP**	**06 20 32.8**	**-0.9**
EDM	**Edmonton**	**86.30**	**336**	*e*P		**P**	**06 20 17.7**	**-1.2**
EDM				*e*pP		**pP**	**06 20 32.8**	**-0.9**
SLR	**Silverton**	**86.46**	**117**	*e*P		**P**	**06 20 20.1**	**-0.5**
SLR				IAmb		IAmb	06 20 31.7	
	comp=Z,23nm,0.9s							
NLWA	**Neilton Lookou**	**86.65**	**327**	*e*P		**P**	**06 20 21.0**	**+0.2**
	comp=Z,18nm,0.9s							
NLWA				*e*pP		**pP**	**06 20 36.6**	**+1.0**
PCBR	**Castelo Branco**	**86.75**	**43**	*e*P		**P**	**06 20 22.1**	**+0.8**
PTO	**Porto**	**86.83**	**42**	*e*P		**P**	**06 20 22.7**	**+1.0**
A05A	**Maple Falls**	**86.89**	**329**	*e*P		**P**	**06 20 21.5**	**-0.3**
	comp=Z,129nm,1.4s							
PVIS	**Viseu**	**87.01**	**42**	*e*P		**P**	**06 20 23.0**	**+0.3**
	comp=Z,40nm,0.9s							
MTE	**Manteigas**	**87.04**	**43**	*e*P		**P**	**06 20 22.8**	**0.0**
	comp=Z,42nm,1.1s							
MTE	**Manteigas**	**87.04**	**43**	*e*S		**S**	**06 30 52.4**	**-5.5**
MTE	**Manteigas**	**87.04**	**43**	*e*LR		LR	06 49 16.5	
	comp=Z,470nm,20.0s							
MTE	**Manteigas**	**87.04**	**43**	*e*P		**P**	**06 20 23.5**	**+0.7**
	comp=Z,41nm,1.2s							
TAM	**Tamanrasset**	**87.20**	**63**	*e*P		**P**	**06 20 24.3**	**+0.2**
TAM				*e**PP		**pP**	**06 20 35.1**	**-3.9**
TAM				pmax		pmax		
	comp=Z,43nm,1.1s							
TAM	**Tamanrasset**	**87.20**	**63**	*e*P		**P**	**06 20 24.3**	**+0.2**
	comp=Z,43nm,1.1s							
TAM				*e*pP		**pP**	**06 20 35.1**	**-3.9**
PGC	**Sidney**	**87.30**	**328**	*e*P		**P**	**06 20 24.3**	**+0.6**
PGC				*e*pP		**pP**	**06 20 39.5**	**+0.9**
PVRL	**Vila Real**	**87.45**	**42**	*e*P		**P**	**06 20 25.1**	**+0.3**
POLO	**Lamas de Olo**	**87.46**	**42**	*e*P		**P**	**06 20 25.3**	**+0.4**
	comp=Z,15nm,1.0s							
PCAB	**Cabril**	**87.52**	**41**	*e*P		**P**	**06 20 25.4**	**+0.3**
	comp=Z,46nm,1.1s							
PGAV	**Gavieira, Arco**	**87.53**	**41**	*i* P		**P**	**06 20 25.8**	**+0.6**
	comp=Z,41nm,1.2s							
PGAV	**Gavieira, Arco**	**87.53**	**41**	*e*LR		LR	06 49 42.2	
	comp=Z,366nm,15.2s							
MVO	**Moncorvo**	**87.80**	**42**	*e*P		**P**	**06 20 26.7**	**+0.2**
	comp=Z,30nm,1.4s							
MVO	**Moncorvo**	**87.80**	**42**	*e*S		S	06 31 13.7	+8.5
MVO	**Moncorvo**	**87.80**	**42**	*e*LR		LR	06 49 41.6	
	comp=Z,448nm,15.2s							
PBRG	**Braganca**	**88.35**	**42**	*e*P		**P**	**06 20 29.6**	**+0.5**
	comp=Z,39nm,1.4s							
PAB	**San Pablo**	**88.56**	**45**	*e*P		**P**	**06 20 30.5**	**+0.4**
PAB				pmax		pmax		
	comp=Z,25nm,0.9s							
PAB	**San Pablo**	**88.56**	**45**	*e*P		**P**	**06 20 30.5**	**+0.4**
	comp=Z,25nm,0.9s							
ESDC	**Sonseca Array**	**88.88**	**45**	P		**P**	**06 20 31.8**	**+0.2**
	comp=Z,9.1nm,0.9s,baz=257,slow=4.1,SNR=43							
ESDC				LR		LR	06 57 58.9	
	comp=Z,235nm,20.2s,baz=225,slow=34							
ESLA	**Sonseca Array**	**88.88**	**45**	*e*P		**P**	**06 20 31.6**	**0.0**
	comp=Z,2.8nm,0.9s							
ESLA				*e*pP		**pP**	**06 20 48.9**	**+2.4**
CASY	**Casey**	**89.22**	**180**	*e*P		**P**	**06 20 33.3**	**+0.5**
	comp=Z,68nm,0.8s							
CASY				*e*pP		**pP**	**06 20 48.4**	**+0.7**
MSNA	**Messina**	**89.38**	**114**	⇑*i*P		**P**	**06 20 35.3**	**+0.8**
MSNA				IAmb		IAmb	06 20 36.2	
	comp=Z,77nm,0.9s							
LSZ	**Lusaka**	**90.92**	**107**	*e*P		**P**	**06 20 43.8**	**+1.9**
LSZ				pmax		pmax		
	comp=Z,46nm,1.4s							
LSZ	**Lusaka**	**90.92**	**107**	*e*P		**P**	**06 20 43.8**	**+1.9**
	comp=Z,46nm,1.4s							
BKZ	**Black Stump Fm**	**91.11**	**225**	*e*pP		pP	06 20 60.0	+2.8
BBB	**Bella Bella**	**91.88**	**328**	LR		LR	07 01 15.0	
	comp=Z,64nm,20.3s,baz=120,slow=35							
YKA	**Yellowknife Ar**	**93.94**	**341**	P		**P**	**06 20 54.1**	**-0.3**
	comp=Z,18nm,0.6s,baz=140,slow=4.3,SNR=78							
YKA				pP		**pP**	**06 21 09.6**	**+0.3**
	comp=Z,38nm,0.8s,baz=136,slow=4.9,SNR=29							
YKA	**Yellowknife Ar**	**93.94**	**341**	P		**P**	**06 20 54.1**	**-0.3**
YKA				*PP		**pP**	**06 21 09.6**	**+0.3**
YKA				pmax		pmax		
	comp=Z,18nm,0.6s							
YKA				pmax		pmax		
	comp=Z,38nm,0.8s							
YKW3	**Yellowknife Ar**	**93.99**	**341**	*e*P		**P**	**06 20 54.2**	**-0.5**
	comp=Z,0.7nm,0.7s							
YKW3				*e*pP		**pP**	**06 21 09.4**	**-0.2**
KEST	**Kesra**	**96.08**	**54**	P		**P**	**06 21 04.8**	**-0.3**
	comp=Z,2.0nm,0.9s,baz=213,slow=1.9,SNR=6.7							
KEST				LR		LR	07 07 09.4	
	comp=Z,85nm,18.8s,baz=196,slow=37							
KEST	**Kesra**	**96.08**	**54**	*e*P		**P**	**06 21 06.1**	**+1.1**
WRAK	**Wrangell Islan**	**96.43**	**330**	*e*P		**P**	**06 21 06.0**	**0.0**
WRAK				*e*pP		**pP**	**06 21 21.4**	**+0.5**
DLBC	**Dease Lake**	**96.64**	**333**	LR		LR	07 06 45.0	
	comp=Z,75nm,20.1s,baz=150,slow=37							
DLBC	**Dease Lake**	**96.64**	**333**	*e*P		**P**	**06 21 07.0**	**+0.1**
DLBC				*e*pP		**pP**	**06 21 22.4**	**+0.4**
BORG	**Borgarnes**	**96.84**	**19**	*i* P		**P**	**06 21 09.6**	**+2.0**
SSB	**Saint Sauveur**	**97.14**	**43**	*e*P		**P**	**06 21 08.9**	**-0.7**
SSB				pmax		pmax		
	comp=Z,10.0nm,1.3s							
SSB	**Saint Sauveur**	**97.14**	**43**	*e*P		**P**	**06 21 08.9**	**-0.7**
	comp=Z,9.5nm,1.3s							
VSL	**Villasalto**	**97.74**	**50**	*e*P		Pdif	06 21 12.8	+0.4
	comp=Z,12nm,1.0s							
PAF	**Port-aux-Franc**	**98.14**	**155**	S		S	06 32 12.0	-25
PAF				SS		SS	06 38 50.0	-29
PAF				L		L	06 48 00.0	
PAF				R			06 54 00.0	
SNF	**Seneffe**	**99.43**	**39**	P		**Pdif**	**06 21 19.8**	**+0.2**
WLF	**Walferdange**	**100.12**	**40**	P		**Pdif**	**06 21 23.5**	**+0.8**
	comp=Z,16nm,1.3s							
TUE	**Stuetta**	**100.68**	**44**	*e*P		**Pdif**	**06 21 26.0**	**+0.4**
	comp=Z,12nm,1.3s							
FUORN	**Ofenpass-Fuorn**	**101.32**	**44**	*e*Pdif		**Pdif**	**06 21 29.2**	**+0.7**
GRF	**Grafenberg Arr**	**103.13**	**41**	*e*L		L	07 08 12.5	
	comp=Z,187nm,19.1s							
DAWY	**Dawson**	**103.51**	**335**	*e*Pdif		**Pdif**	**06 21 37.2**	**-0.3**
INK	**Inuvik**	**103.66**	**340**	PKKPbc		PKKPbc	06 37 29.3	-3.0
	comp=Z,3.4nm,0.9s,baz=294,slow=1.4,SNR=9.6							
INK	**Inuvik**	**103.66**	**340**	*e*P		**Pdif**	**06 21 37.7**	**-0.3**
INK	**Inuvik**	**103.66**	**340**	*e*Pdif		**Pdif**	**06 21 37.7**	**-0.3**
INK				PKKPbc		**PKKPbc**	**06 37 29.3**	**-3.0**
MOX	**Moxa**	**103.72**	**40**	*e*L		L	07 07 52.2	
	comp=Z,293nm,20.1s							
GERES	**GERESS Array B**	**104.32**	**43**	Pdiff		**Pdif**	**06 21 40.3**	**-1.2**
	comp=Z,1.2nm,1.0s,baz=222,slow=1.8,SNR=7.3							
GERES				PKiKP		**PKiKP**	**06 25 57.8**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=198,slow=3.5,SNR=5.9							
KHC	**Kasperske Hory**	**104.34**	**42**	AMS		AMS	07 03 00.0	
	comp=Z,800nm,26.5

SOC *e* 06 33 25.1
SOC pmax pmax
comp=Z,40nm,1.0s
SOC MLR MLR
comp=Z,251nm,23.0s
LPSR Galich'ya Gora 120.69 42 *e*PKIKP **PKPdf** **06 26 28.4 -0.3**
LPSR pmax pmax
comp=E,10.0nm,0.9s
LPSR pmax pmax
comp=Z,40nm,0.9s
LPSR pmax pmax
comp=N,8.0nm,0.7s
VSR Storozhevoye 120.80 44 *e*PKIKP **PKPdf** **06 26 28.1 -0.8**
VSR pmax pmax
comp=Z,30nm,1.0s
VSR pmax pmax
comp=N,7.0nm,0.9s
VSR pmax pmax
comp=E,4.0nm,0.8s
KIV Kislovodsk 122.80 52⇓ *i*PKIKP **PKPdf** **06 26 32.7 -0.5**
KIV *e* 06 28 10.9
KIV *e*PPP PPP 06 30 47.5
KIV pmax pmax
comp=Z,30nm,1.0s
KIV Kislovodsk 122.80 52 *e*PKPdf **PKPdf** **06 26 33.1 -0.1**
KBZ Khabaz 122.94 53 PKP **PKPdf** **06 26 33.4 +0.1**
comp=Z,22nm,0.9s,baz=236,slow=3.0,SNR=31
GOF Gofitskoye 123.12 51 *e*PKIKP **PKPdf** **06 26 33.3 -0.3**
ONI Oni 123.26 54 P **PKPdf** **06 26 33.8 -0.2**
PRGR Permogore 123.65 31 *e*PKIKP **PKPdf** **06 26 33.6 -0.5**
PRGR pmax pmax
comp=Z,47nm,0.9s
DGRG David-gareji 124.61 56 P **PKPdf** **06 26 37.0 +0.4**
IDHR Dehrash 124.70 64 *e*P **PKPdf** **06 26 37.3 +0.1**
BILL Bilibino 125.17 337⇑ *i*PKIKP **PKPdf** **06 26 36.7 -0.1**
BILL *i* 06 28 25.4
BILL pmax pmax
comp=Z,10.0nm,1.2s
IBST Bostanabad 125.46 60 *e*P **PKPdf** **06 26 37.9 -0.8**
AS31 Alice Springs 126.54 208 *e*PKPdf **PKPdf** **06 26 39.8 -1.2**
ASAR Alice Springs 126.54 208 PKP **PKPdf** **06 26 40.3 -0.7**
comp=Z,13nm,0.7s,baz=132,slow=1.6,SNR=114
H11S2 WAKE ISLAND Hyf 27.21 275 T T 08 46 29.5
baz=107,slow=75,SNR=1303
H11S1 WAKE ISLAND Hyf 27.22 275 T T 08 46 29.0
baz=107,slow=75,SNR=1745
H11S3 WAKE ISLAND Hyf 27.23 275 T T 08 46 30.9
baz=107,slow=75,SNR=1657
H11N3 WAKE ISLAND Hyf 27.38 277 T T 08 46 42.9
baz=107,slow=75,SNR=324
H11N2 WAKE ISLAND Hyf 27.39 277 T T 08 46 45.2
baz=107,slow=75,SNR=309
H11N1 WAKE ISLAND Hyf 27.40 277 T T 08 46 42.1
baz=107,slow=75,SNR=232
IPIR Pirpir 128.16 67 *e*P **PKPdf** **06 26 43.1 -0.9**
IVRN Varamin 129.10 64 *e*P **PKPdf** **06 26 46.1 +0.6**
IZEF Zefreh 129.38 67 *e*P **PKPdf** **06 26 45.2 -1.1**
WRA Warramunga Arr 129.62 210 PKP **PKPdf** **06 26 46.3 -0.6**
comp=Z,15nm,0.8s,baz=151,slow=1.8,SNR=128
WRA pPKP **pPKPdf** **06 27 02.4 +0.1**
comp=Z,9.7nm,0.9s,baz=135,slow=1.5,SNR=7.2
WRAB Tennant Creek 129.62 210*d* *i*PKIKP **PKPdf** **06 26 46.7 -0.2**
WRAB pmax pmax
comp=Z,76nm,1.7s
WRAB Tennant Creek 129.62 210 *e*PKPdf **PKPdf** **06 26 46.5 -0.4**
ILAS Lasjerd 130.13 64 *e*P **PKPdf** **06 26 47.5 -0.2**
ISAD Sadrabad 130.41 68 *e*P **PKPdf** **06 26 47.3 -1.0**
ISHM Shahmirzad 130.44 63 *e*P **PKPdf** **06 26 48.9 +0.6**
ASUD Al Ashush, Dub 130.64 78 *i* PKPdf **PKPdf** **06 26 49.1 +0.5**
SNR=19
ASUD Al Ashush, Dub 130.64 78 *i* P **PKPdf** **06 26 49.1 +0.5**
SNR=19
IKIA Kiasar 130.78 63 *e*P **PKPdf** **06 26 49.9 +1.0**
FAQ Al Faqa, Dubai 130.90 78 *i* PKPdf **PKPdf** **06 26 49.1 0.0**
SNR=13
FAQ Al Faqa, Dubai 130.90 78 *i* P **PKPdf** **06 26 49.1 0.0**
SNR=13
IANJ Anjilo 130.92 64 *e*P **PKPdf** **06 26 49.7 +0.6**
ICHK Chekchek 131.06 68 *e*P **PKPdf** **06 26 49.1 -0.3**
IMEH Mehriz 131.13 69 *e*P **PKPdf** **06 26 49.2 -0.4**
HATD Hatta, Dubai 131.40 78⇑ *i*PKPdf **PKPdf** **06 26 49.8 -0.3**
SNR=9.1
HATD Hatta, Dubai 131.40 78⇑ *i*P **PKPdf** **06 26 49.8 -0.3**
SNR=9.1
ARU Arti 131.42 35 *e*PKIKP **PKPdf** **06 26 49.5 +0.4**
ARU Arti 131.42 35 *e*PKPdf **PKPdf** **06 26 49.5 +0.4**
IBAF Bafgh 131.47 69 *e*P **PKPdf** **06 26 50.3 -0.8**
SVE Sverdlovsk 132.36 34 *e*PKIKP **PKPdf** **06 26 51.9 +1.1**
SVE pmax pmax
comp=Z,30nm,1.3s
SEY Seymchan 132.67 335 PKP **PKPdf** **06 26 51.9 +0.7**
comp=Z,9.9nm,0.6s,baz=109,slow=2.2,SNR=30
MBWA Marble Bar 133.36 193 *e*PKPdf **PKPdf** **06 26 53.5 -0.4**
AB31 Akbulak array 134.22 44 *i* PKIKP **PKPdf** **06 26 54.2 -0.4**
AB31 pmax pmax
comp=Z,4.0nm,0.5s
ABKAR Akbulak array 134.22 44 *e*PKPdf **PKPdf** **06 26 54.7 +0.1**
ISFR Sfrayin 134.27 62 *e*P **PKPdf** **06 26 55.6 +0.1**
GEYT Ailbeck 134.35 60 PKP **PKPdf** **06 26 55.2 0.0**
comp=Z,5.0nm,0.5s,baz=343,slow=1.5,SNR=8.0
PEA0B Petropavlovsk- 134.53 321 *e*PKPdf **PKPdf** **06 26 55.1 +0.1**
PETK Petropavlovsk- 134.53 321 PKhKP PKPpre 06 26 48.5
comp=Z,2.7nm,0.6s,baz=116,slow=3.4,SNR=4.8
PETK PKP **PKPdf** **06 26 55.6 +0.5**
comp=Z,4.5nm,0.6s,baz=122,slow=3.1,SNR=9.6
IEMG Emamgholi 134.78 61 *e*P **PKPdf** **06 26 56.9 +0.5**
SKR Severo-Kuril's 136.25 318 *i* PKIKP **PKPdf** **06 26 59.4 +1.1**
BRVK Borovoye 138.98 36 *e*PKIKP **PKPdf** **06 27 03.9 +0.6**
BRVK Borovoye 138.98 36 *e*PKPdf **PKPdf** **06 27 04.2 +0.9**
BVAR Borovoye Array 139.05 36 PKhKP PKPpre 06 26 55.0
comp=Z,3.0nm,0.8s,baz=268,slow=3.9,SNR=12
BVAR PKP **PKPdf** **06 27 04.1 +0.6**
comp=Z,12nm,0.8s,baz=279,slow=2.9,SNR=33
BVAR pPKP pPKPdf 06 27 20.9 +2.0
comp=Z,5.0nm,0.7s,baz=241,slow=2.7,SNR=4.9
YAK Yakutsk 140.45 346 *e*PKIKP **PKPdf** **06 27 06.6 +0.9**
YAK pmax pmax
comp=Z,22nm,1.1s
YAK pmax pmax
comp=N,5.0nm,0.8s
SOEI Soe 142.95 204 *e*PKPdf **PKPdf** **06 27 12.8 +0.9**
KUR Kuril'sk 143.31 313 *e*PKHKP PKPpre 06 27 06.7
KUR *e* 06 30 27.0
KUR *e*SS SS 06 48 55.2 -4.2
KBL Kabul 143.33 65 *e*PKIKP PKPbc 06 27 09.0 -0.2
KBL Kabul 143.33 65 *e*PKPpre PKPab 06 27 09.0 +1.0
NKL Nikolayevsk 143.47 329 *e*PKHKP PKPab 06 27 06.5 -1.1
NVS Novosibirsk 144.06 26⇑ *i*PKIKP **PKPab** **06 27 10.0 +0.1**
NVS *e* 06 27 26.5
NVS pmax pmax
comp=Z,126nm,1.5s
NVS pmax pmax
comp=N,16nm,1.4s
NVS pmax pmax
comp=E,32nm,1.2s
KURK Kurchatov 144.61 35 PKIKP PKPbc 06 27 12.5 +0.3
KURK pmax pmax
comp=Z,111nm,1.1s
KURK Kurchatov 144.61 35 *e*PKPdf **PKPdf** **06 27 13.1 -0.3**
KURK pPKP **pPKPdf** **06 27 29.2 +0.3**
KURBB Kurchatov Arra 144.62 35 PKP PKPbc 06 27 12.8 +0.6
comp=Z,134nm,0.9s,baz=303,slow=3.3,SNR=673
KURBB pPKP pPKPdf 06 27 29.2 +0.3
comp=Z,36nm,0.6s,baz=304,slow=3.5,SNR=7.9
FAKI Fak Fak 144.99 221 *e*PKPbc PKPbc 06 27 14.8 +0.3
FAKI *ep*PKPdf pPKPdf 06 27 30.4 -0.2
YUK Yuzh-Kuril'sk 145.08 312*c* *i*PKIKP **PKPbc** **06 27 12.4 -1.6**
YUK *i* 06 27 28.7
YUK *i* 06 30 35.1
YUK *i*SS SS 06 49 19.7 -0.1
YUK *i*SSS SSS 06 54 45.6
EKS2 Erkin-Say 145.34 50 P **PKPab** **06 27 16.2 +0.9**
SNR=130
EKS2 Erkin-Say 145.34 50 *e*PKIKP **PKPab** **06 27 16.1 +0.9**
EKS2 Erkin-Say 145.34 50 *e*PKPbc **PKPab** **06 27 16.1 +0.9**
ZAA0 Zalesovo Array 145.34 26 *e*PKPdf **PKPab** **06 27 14.9 +0.2**
ZALV Zalesovo Beam 145.34 26 PKPbc **PKPab** **06 27 15.0 +0.3**
comp=Z,455nm,0.9s,baz=306,slow=4.5,SNR=868
ZALV pPKPbc pPKPbc 06 27 31.0 +1.1
comp=Z,240nm,0.7s,baz=310,slow=4.4,SNR=17
AML Almayashu 145.45 51 P **PKPab** **06 27 16.8 +0.8**
SNR=39
USP Ospenovka 145.63 49 P **PKPab** **06 27 16.6 +0.4**
SNR=43
YSS Yuzh-Sakhalins 145.82 319⇑ *i*PKP2 **PKPdf** **06 27 15.8 +0.2**
YSS pmax pmax
comp=Z,370nm,2.0s
YSS Yuzh-Sakhalins 145.82 319 *e*PKPdf **PKPbc** **06 27 16.4 +0.3**
YSS *ep*PKPdf **pPKPdf** **06 27 31.7 +0.7**
AAK Ala-Archa 145.84 50 P **PKPab** **06 27 17.4 +0.2**
SNR=84
AAK Ala-Archa 145.84 50 PKP2 **PKPbc** **06 27 17.1 +0.4**
AAK pmax pmax
comp=Z,432nm,1.4s
AAK Ala-Archa 145.84 50 *e*PKPdf **PKPab** **06 27 18.3 +1.1**
FRU Bishkek 145.86 49 *i* PKP2 **PKPdf** **06 27 16.0 +0.1**
FRU pmax pmax
comp=Z,700nm,2.0s
CHMS Chumysh 145.89 49 P **PKPbc** **06 27 16.9 +0.3**
SNR=46
POO Poona 145.92 93⇑ *i*P **PKPdf** **06 27 16.0 -0.7**
comp=Z,100nm,1.0s
SFK Sufi-Kurgan 145.93 55 PKP2 **PKPbc** **06 27 17.5 +0.4**
SFK pmax pmax
comp=Z,520nm,1.2s
UCH Uchtor 145.99 50 P **PKPbc** **06 27 17.9 +0.3**
SNR=150
KBK Karagaybulak 146.15 49 P **PKPbc** **06 27 17.7 +0.1**
SNR=95
CLNS Chul'man 146.20 345 *e*PKIKP **PKPdf** **06 27 15.8 -0.2**
CLNS pmax pmax
comp=N,23nm,1.0s
CLNS pmax pmax
comp=E,17nm,1.0s
CLNS pmax pmax
comp=Z,58nm,1.0s
TKM2 Tokmak 2 146.50 49 P **PKPdf** **06 27 17.9 +0.7**
SNR=78
TKM2 Tokmak 2 146.50 49 *e*PKP2 **PKPdf** **06 27 17.9 +0.7**
TKM2 Tokmak 2 146.50 49 *e*PKPdf **PKPdf** **06 27 17.9 +0.7**
KZA Kyzart 146.56 50 P **PKPbc** **06 27 18.7 -0.5**
SNR=75
JAGJ Jajag, Banyuwa 146.70 188 *e*PKPdf **PKPbc** **06 27 19.1 -0.7**
BOD Bodaibo 146.87 356 *e*PKIKP **PKPdf** **06 27 16.1 -0.9**
BOD pmax pmax
comp=Z,46nm,0.9s
PALK Pallekele 147.03 117 PKPbc **PKPbc** **06 27 20.3 -0.5**
comp=Z,40nm,0.8s,baz=261,slow=3.8,SNR=11
PALK Pallekele 147.03 117 PKP2 **PKPbc** **06 27 20.3 -0.5**
PALK pmax pmax
comp=Z,40nm,0.8s
PALK Pallekele 147.03 117⇓ *i*PKPdf **PKPdf** **06 27 19.6 +0.8**
SNR=5.9
PALK Pallekele 147.03 117⇓ *i*P **PKPdf** **06 27 19.6 +0.8**
SNR=5.9
PALK Pallekele 147.03 117 *e*PKPdf **PKPbc** **06 27 20.8 0.0**
ULHL Ulahol 147.19 50 P **PKPbc** **06 27 19.8 -0.9**
SNR=128
SIJI Sorong 147.20 222 PKPbc **PKPbc** **06 27 20.5 -0.8**
comp=Z,29nm,0.8s,baz=64,slow=3.7,SNR=11
ASAJ Asahikawa 147.21 314 *e*PKPbc **PKPbc** **06 27 20.8 +0.5**
ERM Erimo 147.66 310 *e*PKP2 **PKPbc** **06 27 22.2 +0.5**
ERM Erimo 147.66 310 *e*PKPdf **PKPbc** **06 27 22.2 +0.5**
URV Uravakonda 147.78 101 *e*PKPbc **PKPdf** **06 27 20.4 +0.6**
URV *e*PKPab **PKPbc** **06 27 23.0 +0.2**
CISI Cisompet, Garu 147.79 176 *e*PKPdf **PKPbc** **06 27 22.4 -0.5**
KSH Kashi 147.89 54⇑ *i*PKPbc **PKPdf** **06 27 20.1 +0.6**
KSH pPKP **pPKPdf** **06 27 32.0 -3.0**
KSH PKS **PKSdf** **06 30 55.0 +0.2**
KSH SKS **SKSdf** **06 34 24.3 +0.3**
KSH SKKS **SKKSac** **06 37 39.1 +1.3**
KSH SS **SS** **06 49 53.1 +0.6**
KSH LN
comp=Z,210nm,7.6s
KSH LE
comp=Z,150nm,4.7s
KSH LZ
comp=Z,640nm,18.7s
KLRI Killari 148.27 96 *e*PKPdf **PKPdf** **06 27 19.6 -1.0**
KLRI *e*PKPbc **PKPbc** **06 27 23.0 -1.1**
KLRI *ep*PKPdf **pPKPdf** **06 27 34.2 -1.9**
SMRI Semarang 148.36 181 *e*PKPbc **PKPbc** **06 27 24.6 +0.2**
LEM Lembang 148.50 176 PKPbc **PKPbc** **06 27 25.4 +0.5**
baz=116,slow=8.5
MK31 Makanchi Array 148.86 38 *i* PKP2 **PKPbc** **06 27 24.3 -0.4**
MK31 pmax pmax
comp=Z,55nm,0.6s
MK31 Makanchi Array 148.86 38 *e*PKPdf **PKPdf** **06 27 20.8 +0.1**
MK31 *e*PKPbc **PKPbc** **06 27 25.0 +0.3**
MKAR Makanchi Array 148.86 38 PKPbc **PKPbc** **06 27 24.7 0.0**
comp=Z,87nm,0.8s,baz=327,slow=2.0,SNR=114
MKAR Makanchi Array 148.86 38 PKP2 **PKPbc** **06 27 24.7 0.0**
MKAR pmax pmax
comp=Z,87nm,0.8s
MKAR Makanchi Array 148.86 38 *e*PKPdf **PKPdf** **06 27 21.4 +0.7**
MKAR *e*PKPbc **PKPbc** **06 27 25.2 +0.5**
KAPI Kappang 148.89 199 *e*PKPdf **PKPdf** **06 27 18.5 -3.3**
KAPI *e*PKPbc **PKPbc** **06 27 25.5 -0.2**
PDGK Podgornoye 148.93 46 PKIKP **PKPdf** **06 27 21.5 +0.6**
PDGK pmax pmax
comp=Z,158nm,1.2s
HABR Khabarovsk 149.21 327*ce* PKHKP PKPpre 06 27 19.9
HABR *e* 06 30 57.3
HABR *e*PPP PPP 06 34 17.5
HABR *e* 06 34 24.0
HABR *e*SS SS 06 50 07.5 +1.9
HABR *e*SSS SSS 06 55 45.7
HABR pmax pmax
comp=E,24nm,1.8s
HABR pmax pmax
comp=Z,116nm,1.8s
HABR pmax pmax
comp=N,5.0nm,0.9s
DLH Dalhousie 149.27 68 *ex* **PKPbc** **06 27 25.0 -1.4**
SKHT Srikalahasti 149.46 105 *e*PKPbc **PKPbc** **06 27 26.3 -0.7**
SKHT *e*PKiKP **PKiKP** **06 27 27.3 -0.9**
RCLA Racherla 149.49 102 *e*PKPdf **PKPdf** **06 27 22.4 -0.3**
RCLA *e*PKPbc **PKPbc** **06 27 26.2 -0.9**
RCLA *ep*PKPdf **PKPab** **06 27 34.8 +2.7**
RCLA *ep*PKPbc **pPKPbc** **06 27 40.9 -1.6**
SRLM Srisailam 149.67 101 *e*PKPdf **PKPdf** **06 27 22.7 -0.2**
SRLM *e*PKiKP **PKPbc** **06 27 27.4 -0.2**
SRLM *e*PKPab **PKPab** **06 27 32.3 -0.6**
SRLM *ep*PKPab **pPKPab** **06 27 44.5 -3.4**
SRLM *es*PKPab **sPKPab** **06 27 50.6 -3.0**
BHK Bhakra 149.74 70 *e*P **PKPdf** **06 27 21.5 -1.1**
HYB Hyderabad 149.83 98 *i* PKP **PKPdf** **06 27 22.0 -1.2**
HYB *e* 06 27 27.0
HYB *e* 06 27 32.0
HYB *ep*PKP **pPKPdf** **06 27 44.0 +5.4**
HYBB Hyderabad (bro 149.83 98 *e*PKPdf **PKPdf** **06 27 23.0 -0.1**
HYBB *e*PKPbc **PKPbc** **06 27 26.8 -1.2**
HYBB *e*PKPab **PKPab** **06 27 32.6 -0.9**
HYBB *ep*PKPdf **pPKPdf** **06 27 36.9 -1.7**
HYBB *ep*PKPbc **pPKPbc** **06 27 41.5 -1.9**
SRSP Sriramsagar 150.11 95 *e*PKPbc **PKPbc** **06 27 27.3 -1.3**
SRSP *e*PKiKP **PKiKP** **06 27 28.6 -0.8**
NJS Nagarjunasagar 150.21 100 *e*PKPdf **PKPdf** **06 27 23.3 -0.4**
NJS *e*PKPbc **PKPbc** **06 27 28.1 -0.8**
NJS *e*PKPab **PKPab** **06 27 34.2 -0.8**
SDNR Sundarnagar 150.21 69 *e*P **PKPdf** **06 27 20.6 -2.8**
KLR Kul'dur 150.25 331 *e*PKIKP **PKPdf** **06 27 18.7 -4.1**
SMLA Simla 150.41 70 *i* P **PKPdf** **06 27 20.2 -3.4**
NDI New Delhi 150.53 75 *e*P **PKPdf** **06 27 24.0 +0.1**
ADKI Addanki 150.54 102 *e*PKPdf **PKPdf** **06 27 24.3 +0.1**
ADKI *e*PKPbc **PKPbc** **06 27 28.9 -0.8**
ADKI *e*PKPab **PKPab** **06 27 34.5 -1.9**
ADKI *ep*PKPbc **pPKPbc** **06 27 42.6 -2.4**
ADKI *es*PKPbc **sPKPbc** **06 27 49.0 -1.5**
RPR Rampur 150.95 96 *e*PKiKP **PKPbc** **06 27 30.2 -0.3**
RPR *ep*PKiKP **pPKiKP** **06 27 46.5 -0.1**
CBIJ Chichi jima 150.99 282 PKPbc **PKPbc** **06 27 29.5 -0.9**
JCJ Chichijima 150.99 282 PKPbc **PKPbc** **06 27 29.5 -0.9**
comp=N,48nm,0.7s,baz=299,slow=2.1,SNR=5.7
IRK Irkutsk 152.24 8 *e*PKIKP **PKPdf** **06 27 25.9 +0.1**
IRK *e* 06 31 10.5
IRK pmax pmax
comp=Z,123nm,1.5s
MOY Mondy 152.29 12 *e*PKIKP **PKPdf** **06 27 27.4 +1.4**
MOY pmax pmax
comp=Z,60nm,2.1s
PVM Polavaram 152.53 100 *e*PKPdf **PKPdf** **06 27 26.8 -0.4**
PVM *e*PKPbc **PKPbc** **06 27 33.0 -1.2**
CIT Chita 152.67 355 *e*PKIKP **PKPbc** **06 27 34.0 +0.4**
CIT *e* 06 27 40.0
CIT *e* 06 27 50.2
CIT *e* 06 27 55.4
CIT pmax pmax
comp=Z,148nm,1.6s
TLY Talaya 152.71 9 PKP **PKPdf** **06 27 26.2 -0.3**
comp=Z,2.1nm,0.2s,baz=183,slow=4.8,SNR=8.2
TLY PKPbc **PKiKP** **06 27 34.2 +0.4**
comp=Z,15nm,0.4s,baz=248,slow=2.2,SNR=28
TLY PKPab **PKPab** **06 27 44.8 +0.3**
comp=Z,21nm,0.7s,baz=11,slow=3.3,SNR=16
TLY Talaya 152.71 9 *e*PKIKP **PKPdf** **06 27 27.4 +0.9**
TLY *e* 06 27 45.7
TLY Talaya 152.71 9 *e*PKPdf **PKPdf** **06 27 27.4 +0.9**
TLY *e*PKPbc **PKiKP** **06 27 34.3 +0.4**
TLY *e*PKPab **PKPab** **06 27 45.6 +1.2**
MJAR Matsushiro Arr 153.14 303 PKP **PKPdf** **06 27 27.1 -0.5**
comp=Z,0.6nm,0.4s,baz=228,slow=1.8,SNR=7.4
MJAR PKPbc **PKPbc** **06 27 34.3 -0.7**
comp=Z,10nm,0.8s,baz=138,slow=1.0,SNR=24
MJAR PKPab **PKPab** **06 27 45.9 -1.0**
comp=Z,6.3nm,0.9s,baz=141,slow=1.2,SNR=6.4
MAJO Matsushiro 153.14 303 *e*PKIKP **PKPbc** **06 27 34.7 -0.4**
MAJO Matsushiro 153.14 303 *e*PKPbc **PKPbc** **06 27 34.7 -0.4**
LGTI Lohaghat 153.17 73 *ex* **PKPbc** **06 27 35.2 -0.1**
USRK Ussuriysk Ar. 153.61 323 PKPbc **PKPbc** **06 27 35.6 -0.2**
comp=Z,11nm,0.7s,baz=325,slow=0.7,SNR=16
USRK PKPab **PKPab** **06 27 50.0 +1.5**
comp=Z,6.7nm,0.7s,baz=338,slow=1.4,SNR=7.3
WMQ Urumqi 153.69 38 PKPbc **PKPdf** **06 27 27.8 -0.5**
WMQ PKPab **PKPab** **06 27 51.3 +2.3**
WMQ PP **PP** **06 31 26.6 +3.5**
WMQ SKS **SKSdf** **06 34 29.5 -1.5**
WMQ SS **SS** **06 50 57.0 +1.5**
WMQ PPMZ
comp=Z,170nm,3.8s
WMQ LN
comp=Z,580nm,29.5s
WMQ LE
comp=Z,430nm,27.8s
WMQ LZ
comp=Z,410nm,26.5s
ZAK Zakamensk 153.92 10⇓ *i*PKIKP **PKPdf** **06 27 28.3 -0.1**
ZAK *e* 06 27 49.7
ZAK pmax pmax
comp=Z,8.0nm,1.2s
BKNI Bangkinang 154.19 159 *e*PKPbc **PKPbc** **06 27 36.5 -1.4**
MDJ Mudanjiang 154.60 326 PKPbc **PKPdf** **06 27 29.0 -0.4**
MDJ pPKP **pPKPdf** **06 27 43.9 -1.0**
MDJ sPKP 06 27 49.6
MDJ PP **PP** **06 31 31.8 +3.9**
MDJ SKS **SKSdf** **06 34 33.4 +1.6**
MDJ SS **SS** **06 51 05.9 +1.0**
MDJ LN
comp=Z,61nm,28.4s
MDJ LE
comp=Z,150nm,32.0s
MDJ LZ
comp=Z,210nm,27.4s
MDJ Mudanjiang 154.60 326 *e*PKPdf **PKPdf** **06 27 26.1 -3.3**
CHLP Challavanipeta 155.13 99 *e*PKiKP PKPdf 06 27 39.1 +8.2
KOLN Koldanda 156.17 77 *e*P **PKPdf** **06 27 31.9 -0.4**
DANN Dangsing 156.30 76 *e*P **PKPdf** **06 27 32.8 +0.2**
SONM Songino Array 156.82 6 PKP **PKPdf** **06 27 32.3 -0.2**
comp=Z,12nm,1.1s,baz=209,slow=0.6,SNR=39
SONM PKPab **PKPab** **06 28 02.4 +0.2**
comp=Z,17nm,0.9s,baz=336,slow=4.3,SNR=15
SONM pPKPab **pPKPab** **06 28 18.5 +1.3**
comp=Z,15nm,0.9s,baz=337,slow=3.5,SNR=7.9
SONM PP **PP** **06 31 40.2 +0.3**
comp=Z,4.4nm,1.1s,baz=336,slow=3.3,SNR=5.4
KSM Kuching 156.82 181 *e*PKPdf **PKPdf** **06 27 33.0 -0.3**
KSM *e*PKPab **PKPab** **06 28 03.4 +0.5**
GKN Gorkha 157.08 76 *e*P **PKPdf** **06 27 33.0 -0.5**
CN2 Changchun 157.20 330 *e*PKP PKPdf 06 27 27.0 -5.9
CN2 *e*PP **PP** **06 31 40.3 -1.9**
DMN Daman 157.51 77 *e*P **PKPdf** **06 27 33.8 -0.3**
KKN Kakani 157.66 77 *e*P **PKPdf** **06 27 33.9 -0.4**
PKIN Phulchoki 157.77 77 *e*P **PKPdf** **06 27 34.2 -0.3**
PKI Pulchoki 157.78 77 *e*P **PKPdf** **06 27 33.9 -0.7**
IPM Ipoh 158.05 155 *e*PKPdf **PKPdf** **06 27 34.6 -0.3**
GUN Gumba 158.19 77 *e*P **PKPdf** **06 27 34.7 -0.4**
RAMN Ramite 158.85 79 *e*P **PKPdf** **06 27 35.8 0.0**
ODAN Odare 159.56 79 *e*P **PKPdf** **06 27 36.6 0.0**
TAPN Taplejung 159.83 78 *e*P **PKPdf** **06 27 36.7 -0.3**
KSRS Korea Array 160.16 314 PKP **PKPdf** **06 27 36.5 -0.1**
comp=Z,6.3nm,0.9s,baz=60,slow=0.6,SNR=18
KSRS PKPab **PKPab** **06 28 16.6 -0.2**
comp=Z,7.2nm,0.8s,baz=60,slow=3.9,SNR=11
KSRS pPKPab **pPKPab** **06 28 33.1 +1.2**
comp=Z,16nm,0.8s,baz=61,slow=4.7,SNR=15
KSRS Korea Array 160.16 314 PKIKP **PKPdf** **06 27 36.5 -0.1**
KSRS 06 28 16.7
KSRS pmax pmax
comp=Z,6.0nm,1.0s
KSRS pmax pmax
comp=Z,7.0nm,0.8s
KSAR Wonju Array Be 160.19 314 PKIKP **PKPdf** **06 27 36.5 -0.1**
KSAR 06 28 16.7
KSAR Wonju Array Be 160.19 314 PKP **PKPdf** **06 27 36.5 -0.1**
KSAR PKPab **PKPab** **06 28 16.6 -0.4**
KSAR pPKPab **pPKPab** **06 28 33.1 +1.1**
LSA Lhasa 162.56 70 PKP **PKPdf** **06 27 40.6 +0.6**
LSA Lhasa 162.56 70 *e*PKIKP **PKPdf** **06 27 40.6 +0.6**
LSA Lhasa 162.56 70 *e*PKPdf **PKPdf** **06 27 40.6 +0.6**
GTA Gaotai 163.08 28 PKP **PKPdf** **06 27 40.3 +0.5**
GTA pPKP **pPKPdf** **06 27 50.3 -5.0**
GTA PKPab **PKPab** **06 28 30.3 +0.6**
GTA PKS **PKSdf** **06 31 13.3 +0.4**
GTA PPMZ
comp=Z,88nm,8.8s
GTA LN
comp=Z,260nm,19.5s
GTA LE
comp=Z,320nm,19.0s
GTA LZ
comp=Z,280nm,24.9s
BJI Beijing 163.92 343 PKP **PKPdf** **06 27 40.3 0.0**
BJI SKS **SKSdf** **06 34 39.1 -1.5**
BJI SS **SS** **06 52 45.3 +2.7**
BJI PPMZ
comp=Z,73nm,5.1s
BJI LN
comp=Z,160nm,21.1s
BJI LE
comp=Z,160nm,27.7s
BJI LZ
comp=Z,320nm,28.6s
HHC Hu-ho-hao-te 163.92 356 *e*PKP **PKPdf** **06 27 41.4 +0.9**
HHC pPKP **pPKPdf** **06 27 51.3 -4.7**
HHC PKS **PKSdf** **06 31 10.9 -2.6**
HHC PP **PP** **06 32 18.1 0.0**
HHC SKS **SKSdf** **06 34 35.0 -5.9**
HHC SS **SS** **06 52 42.5 -0.1**
HHC PPMZ
comp=Z,140nm,9.5s
HHC LN
comp=Z,180nm,20.5s
HHC LE
comp=Z,160nm,20.8s
HHC LZ
comp=Z,290nm,21.3s
IMP Imphal 165.42 87 *e*P **PKPdf** **06 27 41.0 -1.2**
IMP *ex* x 06 32 27.0
TIA Tai'an 167.06 333⇑ PKP **PKPdf** **06 27 42.8 -0.3**
LZH Lanzhou 167.56 24 *e*PKP **PKPdf** **06 27 45.0 +1.3**
LZH pPKP **pPKPdf** **06 27 55.0 -4.2**
LZH sPKP 06 28 01.1
LZH PKPab **PKPab** **06 28 50.8 +1.3**
LZH PP **PP** **06 32 36.1 -1.2**
LZH SKKS 06 39 19.5
LZH SS **SS** **06 53 20.0 -0.3**
LZH PPMZ
comp=Z,350nm,5.1s
LZH LN
comp=Z,520nm,16.1s
LZH LE
comp=Z,610nm,18.7s
LZH LZ
comp=Z,790nm,20.1s
CMAR Chiang Mai Arr 167.96 119 PKP **PKPdf** **06 27 44.1 -0.1**
comp=Z,7.5nm,1.0s,baz=266,slow=2.0,SNR=28
CMAR PKPab **PKPab** **06 28 51.4 -0.4**
comp=Z,14nm,1.0s,baz=249,slow=4.2,SNR=22
CMAR PP **PP** **06 32 40.4 -0.1**
comp=Z,3.4nm,1.1s,baz=289,slow=8.9,SNR=4.1
CHTO Chiang Mai 168.15 118 *e*PKIKP **PKPdf** **06 27 44.1 -0.2**
CHTO *e* 06 28 52.2

CHTO	**Chiang Mai**	**168.15**	**118**	*e*PKPdf	**PKPdf**	**06 27 44.1**	**-0.2**
CHTO				*e*PKPab	**PKPab**	**06 28 52.2**	**-0.4**
SSE	**Sheshan**	**168.27**	**305**	*e*PKP	**PKPdf**	**06 27 48.9**	**+4.8**
SSLB	**Suanglung**	**169.94**	**267**	*e*PKPdf	**PKPdf**	**06 27 45.9**	**+0.5**
CD2	**Chengdu**	**171.78**	**41**	PKP	**PKPdf**	**06 27 46.4**	**+0.2**
CD2				pPKP	**pPKPdf**	**06 28 02.3**	**+0.6**
CD2				sPKP		06 28 08.3	
CD2				PP	**PP**	**06 33 00.0**	**+1.0**
CD2				SKS	**SKSdf**	**06 34 45.3**	**-0.2**
CD2				SKKS	**SKKSac**	**06 39 41.6**	**-0.4**
CD2				SS	**SS**	**06 54 04.5**	**+1.4**
CD2				PPMZ			
	comp=Z,330nm,5.4s						
CD2				LN			
	comp=Z,840nm,6.4s						
CD2				LZ			
	comp=Z,330nm,16.8s						
WHN	**Wuhan**	**173.08**	**327**	PKP	**PKPdf**	**06 27 45.1**	**-1.6**
KMI	**Kunming**	**173.42**	**86**	PKP	**PKPdf**	**06 27 44.9**	**-2.4**
KMI				pPKP	**pPKPdf**	**06 28 01.8**	**-1.0**
QIZ	**Qiongzhong**	**174.27**	**179**	PKP	**PKPdf**	**06 27 47.4**	**0.0**
QIZ				PP	**PP**	**06 33 12.0**	**+1.8**
QIZ				SS	SS	06 54 28.8	+3.4
QIZ				LZ			
	comp=Z,310nm,27.1s						
GYA	**Guiyang**	**176.57**	**60**	PKP	**PKPdf**	**06 27 47.0**	**-1.0**
GYA				sPKP		06 28 08.3	
GYA				PKPab	**PKPab**	**06 29 30.6**	**+0.6**
GYA				PKS	**PKSdf**	**06 31 17.0**	**-3.4**
GYA				PP	**PP**	**06 33 24.3**	**+1.3**
GYA				SKKS		06 40 03.4	
GYA				SS	**SS**	**06 54 45.6**	**-5.2**
GYA				PPMZ			
	comp=Z,150nm,8.2s						
GYA				LN			
	comp=Z,240nm,24.8s						
GYA				LE			
	comp=Z,190nm,25.0s						
GYA				LZ			
	comp=Z,210nm,24.6s						

IDC ***17*** *07:01:34.5±0.5, 19°.60N×73°.13W, h0km, mb3.8/18, mb1 4.0/22, mb1mx4.0/37, mbtmp3.9/22, ML4.2/3, MS3.3/5, Ms1 3.3/5, ms1mx2.9/31, Error ellipse: s-maj=16.5km s-min=13.5km az=53.0*

ISCJB ***17*** *07:01:35.0±0.2, 19°.57N±0°.03×73°.23W±0°.03, h10km, mb4.0/41, MS3.3/2, Error ellipse: s-maj=5.0km s-min=3.9km az=16.8*

NEIC ***17*** *07:01:36.5±0.2, 19°.60N×73°.23W, h10km, mb4.2/27, Error ellipse: s-maj=5.7km s-min=3.8km az=212.0*

NEIC Felt at Baie de Henne and Jean-Rabel.

JSN ***17*** *07:01:37.6±1.3, 19°.93N×73°.52W, h0km±999km, MD4.7*

BJI ***17*** *07:01:43.6, 19°.30N×72°.90W, h39km*

ISC 17 07:01:36.3±0.4, 19°.57N±0°.05×73°.24W±0°.04, h10km, n83, σ1§34/82, mb4.1/41, 1D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSYH	**La Gonave Hosp**	**0.81**	**154**	*e*Pn	**Pn**	**07 01 54.3**	**+0.5**
LGNH	**LÖogne**	**1.21**	**150**	*e*Pn	**Pg**	**07 02 00.1**	**+0.5**
GTBY	**Guantanamo Bay**	**1.80**	**282**	*e*Pn	**Pn**	**07 02 06.0**	**-1.4**
SDDR	**Presa de Saban**	**1.93**	**107**	*e*Pn	**Pn**	**07 02 09.5**	**+0.2**
SDDR				*e*Sn	**Sb**	**07 02 37.5**	**+1.6**
GRTK	**Grand Turk**	**2.76**	**45**	*e*Pn	**Pn**	**07 02 20.4**	**-0.2**
GRTK				*e*		07 02 29.9	
YHJ	**Yallahs**	**3.51**	**242**	*i* P	**Pn**	**07 02 32.5**	**+1.4**
GWJ	**Greenwich**	**3.63**	**246**	*i* P	**Pn**	**07 02 33.2**	**+0.5**
HOJ	**Hope**	**3.67**	**245**	*i* P	**Pn**	**07 02 33.2**	**-0.1**
STH	**Stony Hill**	**3.70**	**247**	*i* P	**Pn**	**07 02 32.9**	**-0.7**
SMN1	**Samana, DR**	**3.76**	**95**	*e*Pn	**Pn**	**07 02 35.2**	**+0.7**
CVJ	**Coleyville**	**4.28**	**253**	*i* P	**Pn**	**07 02 41.1**	**-0.6**
MTDJ	**Mount Denham**	**4.28**	**253**	*e*Pn	**Pn**	**07 02 41.0**	**-0.7**
MCJ	**Malvern**	**4.52**	**250**	*i* P	**Pn**	**07 02 45.4**	**+0.4**
MCJ				*i* S	**Sn**	**07 03 35.2**	**-2.5**
AGPR	**Aguadilla, PR**	**5.90**	**100**	*e*Pn	**Pn**	**07 03 04.1**	**+0.3**
LSP	**Las Mesas**	**5.99**	**102**	*e*Pn	**Pn**	**07 03 07.0**	**+2.0**
CRPR	**Cabo Rojo, PR**	**6.01**	**104**	*e*Pn	**Pn**	**07 03 06.1**	**+0.8**
AOPR	**Arecibo Observ**	**6.25**	**100**	*e*Pn	**Pn**	**07 03 09.8**	**+1.1**
OBIP	**Obispado Ponce**	**6.46**	**103**	*e*Pn	**Pn**	**07 03 11.5**	**0.0**
CELP	**Cerrillos**	**6.48**	**102**	*e*Pn	**Pn**	**07 03 12.5**	**+0.7**
SJG	**San Juan**	**6.87**	**101**	Pn	**Pn**	**07 03 16.4**	**-0.7**
	3.2nm,0.3s,baz=296,slow=12,SNR=6.7						
SJG				Sn	**Sn**	**07 04 31.3**	**-4.0**
	12nm,0.3s,baz=54,slow=18,SNR=6.1						
SJG	**San Juan**	**6.87**	**101**	*e*Pn	**Pn**	**07 03 19.4**	**+2.2**
SJG				Sn	**Sn**	**07 04 31.3**	**-4.0**
BCIP	**Isla Barro Col**	**12.16**	**213**	*e*Pn	**Pn**	**07 04 30.3**	**+0.6**
	16nm,0.5s						
PCRV	**Puerto La Cruz**	**12.50**	**137**	Pn	**Pn**	**07 04 35.1**	**+0.7**
	1.8nm,0.3s,baz=305,slow=4.3,SNR=8.8						
PCRV				LR	LR	07 09 17.3	
	comp=Z,114nm,19.7s,baz=322,slow=37						
JTS	**JuntasAbangare**	**14.60**	**232**	Pn	**Pn**	**07 05 04.7**	**+1.6**
	1.5nm,0.3s,baz=76,slow=18,SNR=12						
JTS				LR	LR	07 10 49.0	
	comp=Z,110nm,19.6s,baz=36,slow=38						
ROSC	**El Rosal**	**14.66**	**184**	Pn	**Pn**	**07 05 05.0**	**+0.6**
	0.5nm,0.3s,baz=254,slow=20,SNR=1.9						
ROSC				Sn	**Sn**	**07 07 46.1**	**-1.2**
	0.4nm,0.3s,baz=252,slow=20,SNR=2.8						
TKL	**Tuckaleechee C**	**18.52**	**332**	LR	LR	07 13 50.7	
	comp=Z,59nm,19.2s,baz=79,slow=40						
TZTN	**Tazewell**	**19.18**	**334**	*e*P	Pn	07 06 07.8	+6.7
	16nm,1.2s						
OTAV	**Otavalo**	**19.88**	**196**	*e*P	**Pn**	**07 06 10.9**	**+0.8**
	5.0nm,1.0s						
WVT	**Waverly**	**20.90**	**325**	*e*P	**P**	**07 06 19.8**	**+1.0**
	14nm,1.4s						
ACSO	**Alum Creek Sta**	**22.23**	**340**	*e*P	**P**	**07 06 36.0**	**+2.8**
	20nm,1.0s						
ACSO				*e*		07 06 43.0	
BLO	**Bloomington**	**22.66**	**332**	*e*P	P	07 06 47.4	+10
	4.1nm,0.6s						
PBMO	**Poplar Bluff**	**22.82**	**322**	*e*P	P	07 06 46.6	+7.2
	10nm,1.2s						
OLIL	**Olney**	**23.03**	**329**	P	**P**	**07 06 41.7**	**+0.1**
	22nm,1.1s						
OLIL				*e*		07 06 49.6	
PTGA	**Pitinga**	**24.01**	**146**	P	**P**	**07 06 52.0**	**+0.5**
	2.6nm,0.6s,baz=348,slow=14,SNR=6.4						
TUL1	**Tulsa**	**25.66**	**314**	*e*P	**P**	**07 07 05.8**	**-0.6**
	14nm,0.8s						
TUL1				*e*		07 07 14.3	
V34A	**Guthrie**	**26.81**	**312**	*e*P	P	07 07 23.9	+7.1
	4.3nm,0.6s						
ATAH	**Atahualpa**	**27.02**	**191**	LR	LR	07 19 10.5	
	comp=Z,54nm,19.0s,baz=15,slow=39						
WMOK	**Wichita Mounta**	**27.19**	**309**	P	**P**	**07 07 20.5**	**+0.3**
	2.9nm,0.8s						
WMOK				*e*		07 07 30.1	
TXAR	**Lajitas Array**	**29.28**	**295**	P	**P**	**07 07 41.2**	**+2.1**
	0.2nm,0.7s,baz=96,slow=8.3,SNR=3.5						
SAML	**Samuel**	**30.02**	**160**	*e*P	**P**	**07 07 45.7**	**+0.2**
	4.5nm,1.0s						
LPM	**Los Pinos Moun**	**33.02**	**303**	*e*P	**P**	**07 08 12.2**	**+0.1**
	4.2nm,0.9s						
SDCO	**Great Sand Dun**	**33.38**	**310**	*e*P	**P**	**07 08 16.2**	**+0.9**
	3.0nm,0.9s						
SDCO				*e*		07 08 23.3	
ISCO	**Idaho Springs**	**34.33**	**313**	*e*P	**P**	**07 08 24.2**	**+0.6**
	2.1nm,0.8s						
ISCO				*i*		07 08 31.6	
PV01	**Paradox Valley**	**35.77**	**309**	*e*P	P	07 08 44.4	+8.5
LPAZ	**La Paz**	**35.99**	**172**	P	**P**	**07 08 39.1**	**+0.8**
	3.5nm,0.9s,baz=57,slow=3.9,SNR=10						
LPAZ	**La Paz**	**35.99**	**172**	*e*P	**P**	**07 08 38.2**	**-0.1**
	5.3nm,1.1s						
WUAZ	**Wupatki**	**37.10**	**303**	*e*P	**P**	**07 08 47.7**	**+0.5**
	3.1nm,0.9s						
WUAZ				*e*		07 08 55.1	
PDAR	**Pinedale Array**	**38.30**	**315**	P	**P**	**07 08 57.5**	**+0.1**
	0.2nm,0.6s,baz=114,slow=11,SNR=3.2						
JLU	**Jordanelle**	**38.74**	**311**	*e*P	**P**	**07 09 00.0**	**-1.2**
	3.6nm,0.9s						
JLU				*e*		07 09 08.8	
HWUT	**Hardware Ranch**	**39.20**	**313**	*e*P	P	07 09 11.4	+6.5
	1.9nm,0.9s						
LOHW	**Long Hollow**	**39.36**	**316**	*e*P	**P**	**07 09 06.5**	**+0.3**
	3.6nm,0.8s						
LOHW				*e*		07 09 13.8	
REDW	**Red Top Meadow**	**39.42**	**315**	*e*P	**P**	**07 09 07.0**	**+0.2**
	7.2nm,0.9s						
REDW				*e*		07 09 14.3	
MOOW	**Moose Ponds**	**39.51**	**316**	*e*P	**P**	**07 09 08.2**	**+0.7**
	3.7nm,0.8s						
MOOW				*e*		07 09 14.9	
TPAW	**Teton Pass**	**39.53**	**316**	*e*P	**P**	**07 09 08.6**	**+0.8**
	2.3nm,0.7s						
DUG	**Dugway**	**39.58**	**310**	*e*P	**P**	**07 09 07.9**	**-0.1**
	3.3nm,0.9s						
DUG				*e*		07 09 15.8	
SPUT	**South Promonto**	**39.70**	**312**	*e*P	**P**	**07 09 09.4**	**+0.3**
	1.6nm,0.8s						
SPUT				*e*		07 09 16.6	
TPH	**Tonopah**	**42.27**	**305**	P	**P**	**07 09 31.7**	**+1.3**
	3.0nm,1.1s						
TPH				*i*		07 09 38.9	
BDFB	**Brasilia**	**42.89**	**143**	P	**P**	**07 09 34.9**	**-0.6**
	2.5nm,0.8s,baz=321,slow=11,SNR=4.1						
NVAR	**Mina Array Bea**	**43.18**	**306**	P	**P**	**07 09 39.4**	**+1.6**
	0.2nm,0.6s,baz=96,slow=8.3,SNR=2.9						
CPUP	**Villa Florida**	**48.17**	**161**	P	**P**	**07 10 16.9**	**-0.1**
	1.5nm,0.8s,baz=358,slow=9.3,SNR=4.2						
CPUP				LR	LR	07 33 58.6	
	comp=Z,53nm,18.8s,baz=104,slow=40						
DLBC	**Dease Lake**	**56.30**	**328**	P	**P**	**07 11 18.1**	**+0.9**
	1.6nm,0.6s,baz=308,slow=3.6,SNR=3.7						
SUMG	**Summit**	**56.58**	**12**	*e*P	P	07 11 26.0	+6.7
	6.7nm,1.0s						
INK	**Inuvik**	**61.13**	**338**	*e*P	**P**	**07 11 52.2**	**+1.7**
	6.1nm,1.4s						
ESDC	**Sonseca Array**	**62.01**	**55**	P	**P**	**07 11 55.9**	**-1.2**
	0.2nm,0.3s,baz=277,slow=7.0,SNR=3.2						
ILAR	**Eielson Array**	**65.50**	**333**	P	**P**	**07 12 18.6**	**-0.9**
	0.5nm,0.8s,baz=99,slow=4.4,SNR=6.3						
NB2	**NORSAR Subarra**	**70.41**	**31**	P	**P**	**07 12 51.0**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=277,slow=6.5						
NOA	**NORSAR Array B**	**70.41**	**31**	P	**P**	**07 12 51.1**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=274,slow=6.2,SNR=3.3						
TORD	**Torodi Ar. Bea**	**71.70**	**82**	P	**P**	**07 12 57.2**	**-1.9**
	comp=Z,1.0nm,1.0s,baz=301,slow=5.8,SNR=4.3						
KEST	**Kesra**	**72.98**	**58**	P	**P**	**07 13 05.7**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=63,slow=3.9,SNR=4.4						
GERES	**GERESS Array B**	**73.55**	**43**	P	**P**	**07 13 09.5**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=235,slow=3.5,SNR=3.4						
ARCES	**ARCESS Array B**	**74.85**	**21**	P	**P**	**07 13 16.4**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=294,slow=3.9,SNR=18						
FINES	**FINESS Array B**	**77.37**	**29**	P	**P**	**07 13 30.8**	**-0.4**
	comp=Z,1.9nm,1.0s,baz=262,slow=6.9,SNR=5.1						
MLR	**Muntele Rosu**	**82.48**	**44**	⇓*i*P	**P**	**07 14 00.9**	**+1.5**
BRTR	**Keskin Array B**	**89.95**	**48**	P	**P**	**07 14 34.5**	**-1.9**
	comp=Z,0.8nm,0.7s,baz=347,slow=5.1,SNR=4.0						
SEY	**Seymchan**	**90.32**	**341**	P	**P**	**07 14 37.3**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=132,slow=4.0,SNR=4.2						
WMQ	**Urumqi**	**114.54**	**15**	PKP	PKPdf	07 20 21.0	+3.9
HHC	**Hu-ho-hao-te**	**119.73**	**356**	*e*PKP	**PKPdf**	**07 20 26.8**	**-0.4**
HHC				PP	PP	07 22 00.6	+12
HHC				SS	SS	07 38 18.1	+5.8
LZH	**Lanzhou**	**124.58**	**3**	*e*PKP	**PKPdf**	**07 20 40.1**	**+3.4**
LZH				sPKP		07 20 54.4	
JOW	**Kunigami**	**129.37**	**335**	*e*PKPdf	**PKPdf**	**07 20 48.4**	**+2.5**
CD2	**Chengdu**	**129.73**	**3**	PKP	**PKPdf**	**07 20 48.6**	**+2.1**
STKA	**Stephens Creek**	**146.46**	**242**	PKPbc	**PKPdf**	**07 21 17.3**	**+0.4**
	comp=Z,3.6nm,0.7s,baz=118,slow=7.3,SNR=4.3						
WRA	**Warramunga Arr**	**154.46**	**264**	PKP	**PKPdf**	**07 21 27.2**	**-1.9**
	comp=Z,0.5nm,0.9s,baz=104,slow=0.6,SNR=3.7						
WRA				PKPbc	**PKPbc**	**07 21 35.2**	**-1.9**
	comp=Z,0.8nm,0.4s,baz=16,slow=1.0,SNR=26						
WRA				PKPab	**PKPab**	**07 21 49.5**	**-1.2**
	comp=Z,1.1nm,0.9s,baz=87,slow=2.7,SNR=5.2						
ASAR	**Alice Springs**	**154.46**	**256**	PKP	**PKPdf**	**07 21 28.4**	**-1.3**
	comp=Z,0.9nm,1.1s,baz=85,slow=2.8,SNR=3.4						
ASAR				PKPbc	**PKPbc**	**07 21 36.5**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=101,slow=3.0,SNR=8.9						
ASAR				PKPab	**PKPab**	**07 21 51.5**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=79,slow=2.4,SNR=4.0						

IDC ***17*** *07:43:19.6±3.7, 14°.30N×92°.99W, h0km, mb3.6/3, mb1 3.9/6, mb1mx3.6/33, mbtmp3.5/6, ML3.3/3, Error ellipse: s-maj=57.1km s-min=36.7km az=171.0*

MEX ***17*** *07:43:26.6±0.5, 14°.46N×93°.11W, h16km±38km, MD3.9*

ISC 17 07:43:28.4±2.0, 14°.6N±0°.2×93°.07W±0°.08, h51km, n8, σ2§05/12, mb3.4/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.12**	**353**	*e*P	**Pn**	**07 43 45.9**	**-1.8**
PCIG				*i* S	**Sn**	**07 44 00.3**	**-1.7**
CCIG	**Comitan**	**1.91**	**28**	*e*P	**Pn**	**07 43 57.6**	**-1.0**
CCIG				*i* S	**Sn**	**07 44 21.8**	**+0.2**
CMIG	**Matias Romero**	**3.04**	**325**	Pn	**Pn**	**07 44 12.6**	**-1.4**
	5.1nm,0.3s,baz=151,slow=13,SNR=24						
CMIG				Sn	**Sn**	**07 44 52.4**	**+3.3**
	5.8nm,0.3s,baz=109,slow=21,SNR=6.0						
TEIG	**Tepich**	**7.23**	**39**	Pn	**Pn**	**07 45 10.1**	**-1.4**
	0.3nm,0.3s,baz=8.1,slow=22,SNR=11						
TEIG				Sn	**Sn**	**07 46 35.7**	**+3.4**
	baz=0.0,slow=20,SNR=2.8						
TXAR	**Lajitas Array**	**17.64**	**328**	P	**P**	**07 47 31.3**	**+0.2**
	0.0nm,0.3s,baz=139,slow=12,SNR=2.8						
NVAR	**Mina Array Bea**	**32.56**	**322**	P	**P**	**07 49 57.0**	**+1.9**
	0.4nm,0.6s,baz=141,slow=7.8,SNR=5.0						
YKA	**Yellowknife Ar**	**50.22**	**347**	P	**P**	**07 52 17.9**	**-1.0**
	0.9nm,0.7s,baz=151,slow=7.7,SNR=3.9						
ILAR	**Eielson Array**	**61.89**	**337**	P	**P**	**07 53 42.0**	**-0.3**
	0.3nm,0.9s,baz=128,slow=5.3,SNR=4.4						

CSEM ***17*** *08:29:39.5, 37°.67N×14°.98E, h17km, ML2.6/25*

ROM 17 08:29:39.5±0.1, 37°.67N×14°.98E, h17km±2km, MI2.6/25, 6C-3D, Error ellipse: s-maj=1.6km s-min=1.2km az=104.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.02**	**348**	Pg	Pg	08 29 42.4	-0.3
ESLN				Sg	Sg	08 29 45.0	+0.1
	2µm,0.3s						
ESLN	**Serra La Nave**	**0.02**	**348**	Pg	Pg	08 29 42.4	-0.3
ESLN				Sg	Sg	08 29 45.0	+0.1
	2µm,0.3s						
ECNV	**Catenanuova**	**0.23**	**250**	Pg	Pg	08 29 44.7	-0.1
ECNV				Sg	Sg	08 29 48.6	+0.3
	2µm,0.7s						
ECNV	**Catenanuova**	**0.23**	**250**	Pg	Pg	08 29 44.7	-0.1
ECNV				Sg	Sg	08 29 48.6	+0.3
	2µm,0.7s						
GALF	**Gagliano Caste**	**0.33**	**277**	Pg	Pg	08 29 46.4	-0.2
GALF				Sg	Sb	08 29 53.1	+0.9
	1µm,0.6s						
GALF	**Gagliano Caste**	**0.33**	**277**	Pg	Pg	08 29 46.4	-0.2
GALF				Sg	Sb	08 29 53.1	+0.9
	1µm,0.6s						
HLNI	**Lentini**	**0.34**	**195**	Pg	Pg	08 29 46.1	-0.4
HLNI				Sg	Sb	08 29 52.1	0.0
	786nm,0.4s						
HLNI	**Lentini**	**0.34**	**195**	Pg	Pg	08 29 46.1	-0.4
HLNI				Sg	Sb	08 29 52.1	0.0
	786nm,0.4s						
MMME	**Mongiuffi-Meli**	**0.34**	**39**	Pg	Pg	08 29 46.8	0.0
MMME				Sg	Sb	08 29 53.3	+0.7
	577nm,0.4s						
MMME	**Mongiuffi-Meli**	**0.34**	**39**	Pg	Pg	08 29 46.8	0.0
MMME				Sg	Sb	08 29 53.3	+0.7
	577nm,0.4s						
MNO	**Monte Soro**	**0.34**	**319**	⇑*i*Pg	Pg	08 29 46.6	-0.4
MNO				Sg	Sb	08 29 52.8	-0.2
	124nm,0.2s						
MNO	**Monte Soro**	**0.34**	**319**	⇑*i*Pg	Pg	08 29 46.6	-0.4
MNO				Sg	Sb	08 29 52.8	-0.2
	124nm,0.2s						
NOV	**Novara**	**0.38**	**19**	⇓*i*Pg	Pg	08 29 47.2	-0.2
NOV				Sg	Sb	08 29 54.0	+0.4
	575nm,0.7s						
CAGR	**Agira**	**0.38**	**263**	Pg	Pb	08 29 48.6	+0.6
	1µm,0.7s						
CAGR	**Agira**	**0.38**	**263**	Pg	Pb	08 29 48.6	+0.6
	1µm,0.7s						
HCRL	**Carlentini**	**0.39**	**174**	Pg	Pg	08 29 47.5	0.0
HCRL				Sg	Sb	08 29 54.3	+0.5
	2µm,0.4s						
HCRL	**Carlentini**	**0.39**	**174**	Pg	Pg	08 29 47.5	0.0
HCRL				Sg	Sb	08 29 54.3	+0.5
	2µm,0.4s						
SSY	**Sortino**	**0.52**	**172**	⇑*i*Pg	Pg	08 29 49.8	-0.2
SSY				Sg	Sb	08 29 58.4	+0.7
	850nm,0.5s						
SSY	**Sortino**	**0.52**	**172**	⇑*i*Pg	Pg	08 29 49.8	-0.2
SSY				Sg	Sb	08 29 58.4	+0.7
	850nm,0.5s						
HVZN	**Vizzini**	**0.54**	**203**	Pg	Pg	08 29 49.7	-0.6
HVZN				Sg	Sb	08 29 58.3	+0.2
	1µm,0.8s						
HVZN	**Vizzini**	**0.54**	**203**	Pg	Pg	08 29 49.7	-0.6
HVZN				Sg	Sb	08 29 58.3	+0.2
	1µm,0.8s						
MILZ	**Milazzo**	**0.63**	**18**	⇓*i*Pg	Pg	08 29 51.5	-0.4
MILZ				Sg	Sb	08 30 02.0	+1.3
	232nm,0.4s						
MILZ	**Milazzo**	**0.63**	**18**	⇓*i*Pg	Pg	08 29 51.5	-0.4
MILZ				Sg	Sb	08 30 02.0	+1.3
	232nm,0.4s						
MTTG	**Motta San Giov**	**0.65**	**60**	Pg	Pg	08 29 52.4	-0.1
	136nm,0.6s						
MTTG	**Motta San Giov**	**0.65**	**60**	Pg	Pg	08 29 52.4	-0.1
	136nm,0.6s						
RAFF	**Raffo Rosso**	**0.67**	**228**	Pg	Pg	08 29 52.0	-0.6
	305nm,0.3s						
RAFF	**Raffo Rosso**	**0.67**	**228**	Pg	Pg	08 29 52.0	-0.6
	305nm,0.3s						
HAVL	**Avola**	**0.72**	**171**	⇑*i*Pg	Pg	08 29 53.0	-0.7
HAVL				Sg	Sb	08 30 04.2	+0.9
	607nm,0.2s						
HAVL	**Avola**	**0.72**	**171**	⇑*i*Pg	Pg	08 29 53.0	-0.7
HAVL				Sg	Sb	08 30 04.2	+0.9
	607nm,0.2s						
MSRU	**Castanea**	**0.72**	**35**	Pg	Pg	08 29 53.0	-0.7
	166nm,0.4s						
MSRU	**Castanea**	**0.72**	**35**	Pg	Pg	08 29 53.0	-0.7
	166nm,0.4s						
HMDC	**Modica**	**0.73**	**193**	Pg	Pb	08 29 52.8	-1.1
HMDC				Sg	Sb	08 30 04.5	+0.9
HMDC	**Modica**	**0.73**	**193**	Pg	Pb	08 29 52.8	-1.1
HMDC				Sg	Sb	08 30 04.5	+0.9
RESU	**Resuttano**	**0.73**	**268**	Pg	Pn	08 29 54.7	-0.5
	95nm,0.5s						
RESU	**Resuttano**	**0.73**	**268**	Pg	Pn	08 29 54.7	-0.5
	95nm,0.5s						
GIB	**Gibilmanna**	**0.82**	**293**	Pg	Pg	08 29 55.6	0.0
	253nm,0.6s						
GIB	**Gibilmanna**	**0.82**	**293**	Pg	Pg	08 29 55.6	0.0
	253nm,0.6s						
MSCL	**Scilla**	**0.85**	**49**	Pg	Pb	08 29 55.7	-0.3
	170nm,0.6s						
MSCL	**Scilla**	**0.85**	**49**	Pg	Pb	08 29 55.7	-0.3
	170nm,0.6s						
MPAZ	**Palizzi**	**0.86**	**71**	Pg	Pb	08 29 56.1	0.0
	137nm,0.8s						
MPAZ	**Palizzi**	**0.86**	**71**	Pg	Pb	08 29 56.1	0.0
	137nm,0.8s						
SOI	**Samo**	**0.94**	**65**	Pg	Pb	08 29 57.1	-0.3
	58nm,0.4s						
SOI	**Samo**	**0.94**	**65**	Pg	Pb	08 29 57.1	-0.3
	58nm,0.4s						
IFIL	**Filicudi i Eol**	**0.95**	**340**	Pg	Pb	08 29 56.5	-1.0
	380nm,0.8s						
IFIL	**Filicudi i Eol**	**0.95**	**340**	Pg	Pb	08 29 56.5	-1.0
	380nm,0.8s						
IACL	**Alicudi**	**0.99**	**330**	Pg	Pb	08 29 57.4	-0.9
	208nm,0.7s						
IACL	**Alicudi**	**0.99**	**330**	Pg	Pb	08 29 57.4	-0.9
	208nm,0.7s						
STR4	**STROMBOLI 4**	**1.11**	**9**	Pg	Pb	08 29 59.1	-1.3
STR4	**STROMBOLI 4**	**1.11**	**9**	Pg	Pb	08 29 59.1	-1.3
CORL	**Corleone**	**1.35**	**280**	Pg	Pg	08 30 05.2	-0.4
	23nm,0.8s						
CORL	**Corleone**	**1.35**	**280**	Pg	Pg	08 30 05.2	-0.4
	23nm,0.8s						
PLAC	**Placanica**	**1.39**	**56**	Pg	Pb	08 30 04.8	-0.3
	63nm,0.5s						
PLAC	**Placanica**	**1.39**	**56**	Pg	Pb	08 30 04.8	-0.3
	63nm,0.5s						
CAR1	**CAROLEI**	**1.85**	**31**	Pg	Pn	08 30 09.9	-0.7
	52nm,0.6s						
CAR1	**CAROLEI**	**1.85**	**31**	Pg	Pn	08 30 09.9	-0.7
	52nm,0.6s						
SERS	**Sersale**	**1.91**	**44**	Pg	Pn	08 30 12.7	+1.2
	15nm,0.6s						
SERS	**Sersale**	**1.91**	**44**	Pg	Pn	08 30 12.7	+1.2
	15nm,0.6s						

CSEM ***17*** *08:30:32.3, 37°.68N×14°.96E, h16km, ML2.4/16*

ROM 17 08:30:32.3±0.1, 37°.68N×14°.96E, h16km±2km, MI2.4/16, 1D, Error ellipse: s-maj=2.0km s-min=1.2km az=109.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.02**	**31**	Pg	Pg	08 30 35.0	-0.4

MSRU	**Castanea** 166nm,0.4s	**0.73**	**36**	Pg	Pg	08 30 46.2 -0.4
MSRU	**Castanea** 166nm,0.4s	**0.73**	**36**	Pg	Pg	08 30 46.2 -0.4
HMDC	**Modica**	**0.73**	**191**	Pg	Pg	08 30 46.1 -0.5
HMDC				Sg	Sb	08 30 57.2 +0.6
HMDC	**Modica**	**0.73**	**191**	Pg	Pg	08 30 46.1 -0.5
HMDC				Sg	Sb	08 30 57.2 +0.6
MPAZ	**Palizzi** 137nm,0.8s	**0.87**	**71**	Pg	Pb	08 30 49.2 0.0
MPAZ	**Palizzi** 137nm,0.8s	**0.87**	**71**	Pg	Pb	08 30 49.2 0.0
IACL	**Alicudi** 208nm,0.7s	**0.98**	**331**	Pg	Pb	08 30 50.2 -0.8
IACL	**Alicudi** 208nm,0.7s	**0.98**	**331**	Pg	Pb	08 30 50.2 -0.8

IDC ***17*** *08:59:27.1±0.4, 18°.44N×62°.37W, h0km, mb4.5/26, mb1 4.7/28, mb1mx4.7/34, mbtmp4.5/28, ML4.4/2, MS4.0/29, Ms1 4.0/29, ms1mx3.8/48, Error ellipse: s-maj=11.8km s-min=10.2km az=93.0*

ISCJB ***17*** *08:59:30.6±0.1, 18°.57N±0°.02×62°.37W±0°.02, h26km, mb4.8/157, MS4.0/30, Error ellipse: s-maj=3.1km s-min=2.0km az=154.5*

TRN ***17*** *08:59:31.4, 18°.30N×62°.42W, h7km, MD4.5*

MOS ***17*** *08:59:31.0±0.9, 18°.46N×62°.40W, h33km, mb5.0/47, Error ellipse: s-maj=8.4km s-min=5.4km az=129.3*

BJI ***17*** *08:59:31.7, 18°.40N×62°.40W, h32km, mB5.1/4, Ms5.1/4, Ms7 4.6/3*

NEIC ***17*** *08:59:33.6±0.5, 18°.45N×62°.40W, h40km±4km, mb4.9/125, MD4.5(TRN), Error ellipse: s-maj=5.3km s-min=3.0km az=225.0*

ISC 17 08:59:31.6±0.3,**18°.49N**±0°.04×**62°.35W**±0°.04,**h26km**,**n759**, **s0°82**/756,**mb4.8**/157,**MS4.0**/30,**16C-9D**,**Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SMRT	**St. Maarten**	**0.81**	**238**	*e*P		**Pb**	**08 59 47.3**	**+0.1**
SMRT				*e*S		**Sn**	**08 59 58.4**	**-0.2**
SMRT	**St. Maarten**	**0.81**	**238**	*e*Pn		**Pb**	**08 59 47.2**	**+0.1**
SMRT				*e*Sn		**Sn**	**08 59 59.8**	**+1.2**
ANWB	**Willy Bob**	**0.98**	**146**	*e*Pn		**Pn**	**08 59 49.4**	**-0.2**
ANWB				*e*Sn		**Sn**	**09 00 03.7**	**+1.0**
SEUS	**St. Eustatius**	**1.16**	**211**	i/*e*P		**Pb**	**08 59 53.1**	**+0.2**
SEUS				*e*S		**Sb**	**09 00 09.6**	**+2.0**
SABA	**Saba**	**1.21**	**225**	*e*Pn		**Pb**	**08 59 54.0**	**+0.1**
MBLG		**1.76**	**174**	*e*P		**Pb**	**09 00 02.3**	**-1.0**
MLYT	**Lee's Yard**	**1.76**	**175**	*e*P		**Pb**	**09 00 02.5**	**-0.8**
MLYT	**Lee's Yard**	**1.76**	**175**	*e*P		**Pb**	**09 00 02.7**	**-0.6**
MBRY		**1.78**	**174**	*e*P		**Pb**	**09 00 03.0**	**-0.7**
MBBY		**1.79**	**175**	*e*P		**Pb**	**09 00 02.9**	**-0.8**
SEG	**Port Louis**	**2.23**	**159**	*e*P		**Pn**	**09 00 07.8**	**+0.9**
LZG	**Guadaloupe-1**	**2.40**	**167**	*e*P		**Pn**	**09 00 10.8**	**+1.6**
CDVI	**St. Croix**	**2.41**	**253**	*e*Pn		**Pn**	**09 00 10.7**	**+1.3**
STVI	**Saint Thomas**	**2.47**	**267**	*e*Pn		**Pn**	**09 00 10.3**	**0.0**
H05N1	**Guadeloupe/Mar**	**2.49**	**150**	Pn		**Pn**	**09 00 10.4**	**-0.1**
H05N1	SNR=1453			Sn		**Sn**	**09 00 41.6**	**+1.6**
MLG	**Mont-d'or**	**2.49**	**166**	i*e*P		**Pn**	**09 00 12.1**	**+1.6**
LKG	**Breislack**	**2.52**	**165**	*e*P		**Pn**	**09 00 13.2**	**+2.2**
TBG	**Guadaloupe-3**	**2.71**	**165**	i*e*P		**Pn**	**09 00 15.1**	**+1.6**
MGG	**Marie-Galante**	**2.74**	**159**	*e*P		**Pn**	**09 00 15.4**	**+1.5**
MGG	**Marie-Galante**	**2.74**	**159**	*e*P		**Pn**	**09 00 15.4**	**+1.5**
MDN	**Morne-Daniel**	**3.28**	**164**	*e*P		**Pn**	**09 00 23.8**	**+2.3**
MDN	**Morne-Daniel**	**3.28**	**164**	*e*P		**Pn**	**09 00 23.8**	**+2.3**
DBCT	**Belle View Cho**	**3.34**	**163**	*e*P		**Pn**	**09 00 24.8**	**+2.5**
DBCT	**Belle View Cho**	**3.34**	**163**	*e*P		**Pn**	**09 00 24.8**	**+2.5**
DSHT	**Scott's Head**	**3.39**	**164**	*e*P		**Pn**	**09 00 25.4**	**+2.6**
DSHT	**Scott's Head**	**3.39**	**164**	*e*P		**Pn**	**09 00 25.4**	**+2.6**
SJG	**San Juan** 33nm,0.3s,baz=78,slow=10.0,SNR=40	**3.63**	**265**	Pn		**Pn**	**09 00 26.2**	**0.0**
SJG	78nm,0.3s,baz=283,slow=19,SNR=3.4			Sn		**Sn**	**09 01 09.0**	**+0.9**
SJG	**San Juan**	**3.63**	**265**	P		**Pn**	**09 00 26.2**	**0.0**
SJG							09 01 09.0	
SJG	comp=Z,33nm,0.3s			pmax		pmax		
SJG	comp=N,78nm,0.3s			smax		smax		
SJG	**San Juan**	**3.63**	**265**	*e*Pn		**Pn**	**09 00 27.1**	**+0.9**
SJG				Sn		**Sn**	**09 01 09.0**	**+0.9**
FDF	**Fort de France**	**3.91**	**163**	*e*P		**Pn**	**09 00 31.7**	**+1.6**
FDF				*e*S		**Sn**	**09 01 16.2**	**+1.1**
FDF	**Fort de France**	**3.91**	**163**	*e*P		**Pn**	**09 00 30.6**	**+0.6**
FDF	**Fort de France**	**3.91**	**163**	*e*Pn		**Pn**	**09 00 30.6**	**+0.6**
BVM	**Bellevue**	**3.93**	**161**	*e*P		Pn	09 00 33.7	+3.3
ICMP	**Isla Caja de M**	**4.01**	**262**	*e*Pn		**Pn**	**09 00 32.3**	**+0.8**
CELP	**Cerrillos**	**4.04**	**265**	*e*Pn		**Pn**	**09 00 31.9**	**+0.1**
OBIP	**Obispado Ponce**	**4.07**	**264**	*e*Pn		**Pn**	**09 00 32.4**	**+0.2**
BIM	**Bigot**	**4.13**	**163**	*e*P		Pn	09 00 36.6	+3.4
H05S1	**Guadeloupe/Mar**	**4.29**	**160**	Pn		**Pn**	**09 00 35.5**	**+0.2**
H05S1	SNR=930			Sn		**Sn**	**09 01 24.8**	**+0.3**
LSP	**Las Mesas**	**4.51**	**267**	*e*Pn		**Pn**	**09 00 38.1**	**-0.2**
AGPR	**Aguadilla, PR**	**4.52**	**271**	*e*Pn		**Pn**	**09 00 37.6**	**-0.8**
CRPR	**Cabo Rojo, PR**	**4.55**	**265**	*e*Pn		**Pn**	**09 00 39.0**	**+0.2**
MCLT	**Moule a Chique**	**4.94**	**164**	*e*P		**Pn**	**09 00 46.5**	**+2.3**
SVV	**Soufriere Volc**	**5.25**	**168**	*e*P		**Pn**	**09 00 51.1**	**+2.5**
SVB	**Belmont**	**5.28**	**168**	*e*P		**Pn**	**09 00 50.3**	**+1.2**
FCV	**Fort Charlotte**	**5.41**	**168**	*e*P		**Pn**	**09 00 53.4**	**+2.8**
BBGH	**Gun Hill**	**5.95**	**153**	*e*P		**Pn**	**09 01 00.1**	**+2.0**
SMN1	**Samana, DR**	**6.59**	**277**	*e*Pn		**Pn**	**09 01 05.3**	**-1.6**
TOSP	**Speyside**	**7.36**	**166**	*e*P		**Pn**	**09 01 20.3**	**+2.9**
TOSP	**Speyside**	**7.36**	**166**	*e*S		**Sn**	**09 02 40.0**	**-0.1**
SDDR	**Presa de Saban**	**8.48**	**275**	*e*Pn		**Pn**	**09 01 32.1**	**-0.8**
SDDR				*e*Sn		**Sn**	**09 03 06.2**	**-1.7**
PCRV	**Puerto La Cruz** comp=N,2.1nm,0.3s,baz=319,slow=6.0,SNR=18	**8.55**	**195**	Pn		**Pn**	**09 01 36.6**	**+2.7**
PCRV				LR		LR	09 05 15.7	
	comp=N,2μm,18.6s,baz=330,slow=41							
LGNH	**LOogne**	**9.73**	**272**	*e*Pn		**Pn**	**09 01 49.1**	**-0.8**
WSYH	**La Gonave Hosp**	**9.97**	**274**	*e*Pn		**Pn**	**09 01 51.0**	**-2.2**
GTBY	**Guantanamo Bay**	**12.14**	**279**	*e*Pn		Pn	09 02 19.7	-3.3
SDV	**Santo Domingo** comp=N,18nm,0.6s	**12.48**	**221**	*e*Pn		**Pn**	**09 02 30.0**	**+2.1**
MTDJ	**Mount Denham** comp=N,177nm,1.3s	**14.42**	**271**	*e*P		**P**	**09 03 00.6**	**-0.3**
ROSC	**El Rosal** comp=N,4.6nm,0.3s,baz=96,slow=9.9,SNR=20	**17.90**	**222**	P		**P**	**09 03 40.6**	**+0.7**
ROSC				LR		LR	09 11 14.4	
	comp=N,1μm,21.6s,baz=18,slow=40							
ROSC	**El Rosal**	**17.90**	**222**	*e*P		**P**	**09 03 41.2**	**+1.4**
PTGA	**Pitinga** comp=N,1.0nm,0.3s,baz=358,slow=13,SNR=34	**19.24**	**173**	P		**P**	**09 03 54.0**	**-0.2**
PTGA				LR		LR	09 11 54.8	
	comp=N,302nm,20.6s,baz=352,slow=39							
BCIP	**Isla Barro Col** comp=N,16nm,0.6s	**19.32**	**244**	*e*P		**P**	**09 03 55.0**	**0.0**
TIGA	**Tifton** baz=23	**23.12**	**308**	P		**P**	**09 04 37.0**	**+1.2**
TIGA	**Tifton** comp=N,114nm,1.6s	**23.12**	**308**	*e*P		**P**	**09 04 36.1**	**+0.4**
JTS	**JuntasAbangare** comp=N,24nm,0.9s,baz=58,slow=9.8,SNR=9.3	**23.34**	**253**	P		**P**	**09 04 36.2**	**-1.9**
JTS				LR		LR	09 13 44.1	
	comp=N,253nm,19.9s,baz=54,slow=37							
JTS	**JuntasAbangare**	**23.34**	**253**	i/*e*P		**P**	**09 04 37.3**	**-0.8**
JTS	comp=Z,65nm,1.2s			pmax		pmax		
JTS	**JuntasAbangare** comp=Z,48nm,1.1s	**23.34**	**253**	*e*P		**P**	**09 04 36.9**	**-1.3**
GOGA	**Godfrey**	**24.04**	**312**	*e*P		**P**	**09 04 45.1**	**+0.4**
GOGA	comp=Z,18nm,0.7s			pmax		pmax		
GOGA	**Godfrey** comp=Z,18nm,0.7s	**24.04**	**312**	*e*P		**P**	**09 04 45.1**	**+0.4**
OTAV	**Otavalo** comp=Z,116nm,1.6s	**24.06**	**223**	*e*P		**P**	**09 04 44.9**	**-0.6**
BLA	**Blacksburg**	**24.48**	**323**	*e*P		**P**	**09 04 49.2**	**+0.5**
BLA	comp=Z,40nm,1.1s			pmax		pmax		
BLA	**Blacksburg** comp=Z,40nm,1.1s	**24.48**	**323**	*e*P		**P**	**09 04 49.2**	**+0.5**
TEIG	**Tepich** comp=Z,0.4nm,0.4s,baz=359,slow=23,SNR=4.5	**24.51**	**278**	P		**P**	**09 04 48.7**	**-0.5**
TEIG	**Tepich** comp=Z,31nm,1.2s	**24.51**	**278**	*e*P		**P**	**09 04 48.5**	**-0.7**
PAL	**Palisades**	**24.54**	**339**	*e*P		**P**	**09 04 50.3**	**+1.2**
PAL	comp=Z,28nm,1.0s			pmax		pmax		
PAL	**Palisades** comp=Z,28nm,1.0s	**24.54**	**339**	*e*P		**P**	**09 04 50.3**	**+1.2**
LUPA	**Lehigh Univers** comp=Z,5.6nm,0.9s	**24.72**	**336**	*e*P		**P**	**09 04 51.9**	**+1.1**
ODNJ	**Ogdensburg** comp=Z,61nm,1.8s	**24.85**	**338**	*e*P		**P**	**09 04 52.8**	**+0.8**
TKL	**Tuckaleechee C** comp=Z,15nm,1.1s,baz=137,slow=9.8,SNR=9.1	**25.53**	**316**	P		**P**	**09 04 57.5**	**-0.6**
TKL				LR		LR	09 14 40.6	
	comp=Z,304nm,20.7s,baz=147,slow=36							
BRAL	**Brewton** comp=Z,65nm,1.1s	**25.60**	**304**	*e*P		**P**	**09 04 59.9**	**+1.1**
SSPA	**Standing Stone** comp=Z,34nm,1.3s	**25.80**	**332**	*e*P		**P**	**09 05 00.6**	**0.0**
CPCT	**Cooper Cave**	**25.90**	**315**	*e*P		**P**	**09 05 01.4**	**-0.2**
TZTN	**Tazewell** comp=Z,22nm,1.0s	**25.92**	**318**	*e*P		**P**	**09 05 02.3**	**+0.5**
LRAL	**Lakeview Retre** comp=Z,15nm,1.1s	**26.42**	**308**	*e*P		**P**	**09 05 06.3**	**0.0**
SWET	**Sewanee** comp=Z,14nm,1.0s	**26.73**	**313**	*e*P		**P**	**09 05 09.3**	**+0.1**
SAML	**Samuel** comp=Z,4.6nm,1.0s	**27.27**	**182**	*e*P		**P**	**09 05 12.8**	**-1.3**
ACSO	**Alum Creek Sta** comp=Z,9.6nm,1.0s	**28.03**	**325**	*e*P		**P**	**09 05 20.8**	**+0.1**
WVT	**Waverly**	**28.52**	**313**	*e*P		**P**	**09 05 24.4**	**-0.8**
WVT	comp=Z,12nm,1.1s			pmax		pmax		
WVT	**Waverly** comp=Z,12nm,1.1s	**28.52**	**313**	*e*P		**P**	**09 05 24.4**	**-0.8**
VBMS	**Vicksburg** baz=29	**28.79**	**304**	P		**P**	**09 05 28.4**	**+0.9**
OXF	**Oxford**	**28.88**	**309**	*e*P		**P**	**09 05 28.3**	**+0.1**
OXF	comp=Z,30nm,0.8s			pmax		pmax		
OXF	**Oxford** comp=Z,30nm,0.8s	**28.88**	**309**	*e*P		**P**	**09 05 28.3**	**+0.1**
BLO	**Bloomington** comp=Z,10.0nm,0.8s	**29.39**	**320**	*e*P		**P**	**09 05 33.4**	**+0.6**
BLO				pmax		pmax		
BLO	**Bloomington** comp=Z,9.5nm,0.8s	**29.39**	**320**	*e*P		**P**	**09 05 33.4**	**+0.6**
USIN	**University of** comp=Z,37nm,1.0s	**29.41**	**317**	*e*P		**P**	**09 05 33.6**	**+0.7**
SADO	**Sadowa** comp=Z,15nm,0.8s,baz=160,slow=7.5,SNR=10	**29.73**	**335**	P		**P**	**09 05 35.3**	**-0.4**
SADO	comp=Z,256nm,20.1s,baz=160,slow=34			LR		LR	09 16 24.5	
ATAH	**Atahualpa** comp=Z,28nm,0.7s,baz=31,slow=6.0,SNR=18	**29.98**	**213**	P		**P**	**09 05 38.6**	**0.0**
ATAH				LR		LR	09 19 36.2	
	comp=Z,520nm,18.2s,baz=38,slow=40							
OLIL	**Olney** comp=Z,19nm,1.0s	**30.12**	**317**	*e*P		**P**	**09 05 40.1**	**+0.8**
SIUC	**Southern Illin** comp=Z,20nm,0.7s	**30.30**	**315**	*e*P		**P**	**09 05 40.9**	**0.0**
SFIN	**Scholer Farm** baz=30	**30.48**	**321**	P		**P**	**09 05 43.5**	**+1.1**
PBMO	**Poplar Bluff** comp=Z,11nm,0.8s	**30.66**	**312**	*e*P		**P**	**09 05 44.1**	**0.0**
540A	**Vidor** baz=31	**30.98**	**298**	P		**P**	**09 05 47.7**	**+0.7**
CMIG	**Matias Romero** comp=Z,183nm,21.0s,baz=70,slow=36	**30.99**	**273**	LR		LR	09 18 01.4	
440A	**Kirbyville** baz=31	**31.11**	**299**	P		**P**	**09 05 49.3**	**+1.3**
340A	**Bronson** baz=31	**31.24**	**300**	P		**P**	**09 05 50.0**	**+0.8**
339A	**Huntington** baz=32,SNR=8.3	**31.76**	**300**	P		**P**	**09 05 54.9**	**+1.1**
239A	**Gary** baz=32	**31.89**	**301**	P		**P**	**09 05 55.8**	**+0.9**
HDIL	**Hopedale** baz=32,SNR=6.3	**31.93**	**319**	P		**P**	**09 05 56.1**	**+0.9**
HDIL	**Hopedale** comp=Z,20nm,0.7s	**31.93**	**319**	*e*P		**P**	**09 05 55.8**	**+0.6**
NATX	**Nacogdoches** baz=32,SNR=6.1	**31.97**	**301**	P		**P**	**09 05 56.9**	**+1.2**
NATX	**Nacogdoches** comp=Z,52nm,0.8s	**31.97**	**301**	*e*P		**P**	**09 05 56.8**	**+1.2**
MIAR	**Mount Ida**	**32.02**	**306**	*e*P		**P**	**09 05 55.5**	**-0.6**
MIAR	comp=Z,64nm,2.5s			pmax		pmax		
MIAR	**Mount Ida** baz=32	**32.02**	**306**	P		**P**	**09 05 56.4**	**+0.3**
MIAR	**Mount Ida** comp=Z,64nm,2.5s	**32.02**	**306**	*e*P		**P**	**09 05 55.5**	**-0.6**
139A	**Bunkhouse Ranc** baz=32	**32.02**	**302**	P		**P**	**09 05 56.9**	**+0.8**
Z39A	**Irene McRaven,** baz=32	**32.04**	**304**	P		**P**	**09 05 57.3**	**+1.1**
GLMI	**Grayling** comp=Z,37nm,0.9s	**32.17**	**330**	*e*P		**P**	**09 05 58.4**	**+1.1**
Y39A	**Locksburg** baz=32	**32.21**	**305**	P		**P**	**09 05 58.5**	**+0.8**
338A	**Crockett** baz=32	**32.39**	**300**	P		**P**	**09 05 59.9**	**+0.6**
HKT	**Hockley**	**32.48**	**297**	*e*P		**P**	**09 06 00.7**	**+0.6**
HKT	comp=Z,15nm,1.4s			pmax		pmax		
HKT	**Hockley** comp=Z,14nm,1.4s	**32.48**	**297**	*e*P		**P**	**09 06 00.7**	**+0.6**
138A	**Matatall Enter** baz=33,SNR=10	**32.58**	**302**	P		**P**	**09 06 01.7**	**+0.7**
Z38A	**Mt. Pleasant** baz=33	**32.68**	**303**	P		**P**	**09 06 02.7**	**+0.9**
Y38A	**Idabel** baz=33,SNR=12	**32.70**	**304**	P		**P**	**09 06 02.9**	**+0.9**
737A	**Port Lavaca** baz=33	**32.76**	**295**	P		**P**	**09 06 03.2**	**+0.6**
637A	**Eagle Lake** baz=33,SNR=8.4	**32.80**	**296**	P		**P**	**09 06 03.6**	**+0.7**
537A	**Green Hill Far** baz=33	**32.92**	**297**	P		**P**	**09 06 04.7**	**+0.7**
W38A	**Poteau** baz=33,SNR=8.7	**32.94**	**307**	P		**P**	**09 06 05.0**	**+0.8**
237A	**Washetta, Mont** baz=33,SNR=7.5	**32.97**	**301**	P		**P**	**09 06 04.9**	**+0.5**
X38A	**Whitesboro** baz=33,SNR=19	**33.03**	**306**	P		**P**	**09 06 05.7**	**+0.8**
137A	**Heron Place, G** baz=33,SNR=9.7	**33.10**	**302**	P		**P**	**09 06 06.6**	**+1.0**
V38A	**Canehill** baz=33,SNR=12	**33.16**	**308**	P		**P**	**09 06 06.5**	**+0.4**
736A	**Circle Diamond** baz=33,SNR=22	**33.34**	**295**	P		**P**	**09 06 08.8**	**+1.2**
U38A	**Gravette** baz=33	**33.37**	**309**	P		**P**	**09 06 07.6**	**-0.3**
Y37A	**Hugo** baz=33,SNR=19	**33.41**	**304**	P		**P**	**09 06 09.1**	**+0.8**
X37A	**Clayton** baz=33,SNR=14	**33.42**	**305**	P		**P**	**09 06 09.2**	**+0.9**
636A	**Smothers Creek** baz=33	**33.43**	**296**	P		**P**	**09 06 08.9**	**+0.4**
NNA	**Nana** comp=Z,330nm,18.2s,baz=358,slow=42	**33.48**	**206**	LR		LR	09 23 00.2	
NNA	**Nana**	**33.48**	**206**	*e*P		**P**	**09 06 08.0**	**-1.1**
NNA	comp=Z,17nm,0.8s			pmax		pmax		
NNA	**Nana** comp=Z,17nm,0.8s	**33.48**	**206**	*e*P		**P**	**09 06 08.0**	**-1.1**
536A	**Bastrop** baz=34	**33.55**	**297**	P		**P**	**09 06 10.0**	**+0.5**
236A	**Katherine and** baz=34	**33.56**	**300**	P		**P**	**09 06 10.3**	**+0.7**
W37A	**Quinton** baz=34,SNR=8.6	**33.66**	**306**	P		**P**	**09 06 11.1**	**+0.7**
336A	**Riesel** baz=34	**33.66**	**299**	P		**P**	**09 06 10.1**	**-0.4**
136A	**Ennis** baz=34,SNR=7.8	**33.69**	**301**	P		**P**	**09 06 11.3**	**+0.6**
V37A	**Hulbert** baz=34,SNR=10	**33.71**	**308**	P		**P**	**09 06 11.3**	**+0.4**
Z36A	**Blue Ridge** baz=34,SNR=5.4	**33.84**	**303**	P		**P**	**09 06 12.5**	**+0.5**
035Z	**Hargill** baz=34	**33.86**	**290**	P		**P**	**09 06 12.4**	**+0.2**
835A	**Beeville** baz=34,SNR=15	**33.88**	**293**	P		**P**	**09 06 13.7**	**+1.2**
U37A	**Salina** baz=34	**33.90**	**308**	P		**P**	**09 06 12.9**	**+0.5**
JFWS	**Jewell Farm**	**33.90**	**322**	*e*P		**P**	**09 06 12.4**	**0.0**
JFWS	comp=Z,7.0nm,0.8s			pmax		pmax		
JFWS	**Jewell Farm** comp=Z,7.4nm,0.8s	**33.90**	**322**	*e*P		**P**	**09 06 12.4**	**0.0**
Y36A	**Durant** baz=34	**33.91**	**304**	P		**P**	**09 06 13.1**	**+0.5**
035A	**Encino** baz=34	**33.94**	**291**	P		**P**	**09 06 13.0**	**0.0**
735A	**Kenedy** baz=34,SNR=9.4	**33.96**	**294**	P		**P**	**09 06 13.6**	**+0.5**
535A	**Dale** baz=34,SNR=7.4	**33.97**	**296**	P		**P**	**09 06 13.4**	**+0.2**
635A	**Leesville** baz=34,SNR=7.0	**34.02**	**295**	P		**P**	**09 06 14.0**	**+0.4**
T37A	**Cheneyville 18** baz=34,SNR=6.7	**34.03**	**310**	P		**P**	**09 06 14.1**	**+0.4**
H07S1	**FLORES T-PHASE** SNR=6.3	**34.04**	**46**	T		T	09 42 03.4	
335A	**Moody** baz=34,SNR=6.4	**34.12**	**299**	P		**P**	**09 06 14.8**	**+0.3**
435B	**Jarrell** baz=34	**34.14**	**298**	P		**P**	**09 06 15.2**	**+0.5**
X36A	**Centrahoma** baz=34,SNR=23	**34.18**	**305**	P		**P**	**09 06 15.3**	**+0.4**
TUL1	**Tulsa** baz=34,SNR=8.9	**34.22**	**307**	P		**P**	**09 06 15.6**	**+0.4**
TUL1	**Tulsa** comp=Z,26nm,1.0s	**34.22**	**307**	*e*P		**P**	**09 06 15.4**	**+0.2**
S37A	**Fort Scott** baz=34,SNR=6.3	**34.23**	**311**	P		**P**	**09 06 15.5**	**+0.1**
W36A	**Wetumka** baz=34,SNR=8.9	**34.27**	**306**	P		**P**	**09 06 16.0**	**+0.2**
V36A	**Jenks** baz=34,SNR=16	**34.28**	**307**	P		**P**	**09 06 16.3**	**+0.5**
SIV	**San Ignacio** comp=Z,10nm,0.7s,baz=20,slow=9.4,SNR=31	**34.28**	**178**	P		**P**	**09 06 14.9**	**-1.0**
WHTX	**Lake Whitney** baz=34	**34.32**	**300**	P		**P**	**09 06 16.5**	**+0.3**
WHTX	**Lake Whitney** comp=Z,15nm,0.8s	**34.32**	**300**	*e*P		**P**	**09 06 16.5**	**+0.3**
U36A	**Oologah** baz=34	**34.35**	**308**	P		**P**	**09 06 17.2**	**+0.8**
934A	**Benavides** baz=34,SNR=33	**34.39**	**292**	P		**P**	**09 06 17.6**	**+0.8**
135A	**Vickery Place,** baz=34	**34.43**	**301**	P		**P**	**09 06 17.9**	**+0.8**
Q37A	**Longview Farm,** baz=34,SNR=11	**34.46**	**313**	P		**P**	**09 06 17.4**	**+0.1**
034A	**Hebbronville** baz=34,SNR=16	**34.47**	**291**	P		**P**	**09 06 18.1**	**+0.5**
R37A	**Teagarden Farm** baz=34,SNR=25	**34.47**	**312**	P		**P**	**09 06 17.6**	**+0.2**
834A	**Tilden** baz=34,SNR=15	**34.49**	**293**	P		**P**	**09 06 18.4**	**+0.7**
Y35A	**Marietta** baz=34,SNR=10.0	**34.51**	**303**	P		**P**	**09 06 18.4**	**+0.6**
Z35A	**Perchaven, San** baz=34,SNR=9.4	**34.51**	**302**	P		**P**	**09 06 18.4**	**+0.6**
634A	**China Grove, S** baz=34	**34.52**	**295**	P		**P**	**09 06 18.2**	**+0.2**
734A	**La Parita Cree** baz=35,SNR=8.8	**34.61**	**294**	P		**P**	**09 06 18.7**	**0.0**
X35A	**Drake** baz=35,SNR=17	**34.61**	**304**	P		**P**	**09 06 18.5**	**-0.2**
T36A	**Boggs Farm, Ca** baz=35,SNR=6.5	**34.72**	**309**	P		**P**	**09 06 19.6**	**+0.1**
434A	**Burnet** baz=35,SNR=5.2	**34.72**	**298**	P		**P**	**09 06 19.5**	**-0.2**
534A	**Blanco** baz=35,SNR=11	**34.74**	**296**	P		**P**	**09 06 19.9**	**0.0**
S36A	**Lake Cedric, C** baz=35,SNR=7.5	**34.77**	**310**	P		**P**	**09 06 19.7**	**-0.3**
W35A	**Tecumseh** baz=35,SNR=17	**34.78**	**305**	P		**P**	**09 06 20.3**	**+0.2**
334A	**Lometa** baz=35,SNR=15	**34.81**	**299**	P		**P**	**09 06 20.3**	**-0.2**
234A	**Clairette** baz=35	**34.88**	**300**	P		**P**	**09 06 21.3**	**+0.3**
V35A	**Meyer Ranch, C** baz=35,SNR=9.6	**34.96**	**307**	P		**P**	**09 06 22.0**	**+0.4**
R36A	**Gordon, Harris** baz=35,SNR=11	**34.96**	**311**	P		**P**	**09 06 21.4**	**-0.2**
134A	**White-Moore Ra** baz=35,SNR=12	**34.98**	**301**	P		**P**	**09 06 22.4**	**+0.5**
LPAZ	**La Paz** comp=Z,8.1nm,0.9s,baz=360,slow=7.5,SNR=23	**35.02**	**190**	P		**P**	**09 06 21.2**	**-1.8**
LPAZ				LR		LR	09 21 43.7	
	comp=Z,536nm,19.6s,baz=36,slow=38							
Z34A	**Collier Ranch,** baz=35,SNR=24	**35.06**	**302**	P		**P**	**09 06 23.3**	**+0.7**
933A	**Laredo** baz=35,SNR=14	**35.06**	**292**	P		**P**	**09 06 22.7**	**0.0**
U35A	**Pawnee** baz=35	**35.09**	**308**	P		**P**	**09 06 23.2**	**+0.4**
Y34A	**Reagan Ranch,** baz=35,SNR=11	**35.10**	**303**	P		**P**	**09 06 23.1**	**+0.2**
T35A	**Spoonerr Cattle** baz=35,SNR=15	**35.13**	**309**	P		**P**	**09 06 23.3**	**+0.2**
SCIA	**State Center** comp=Z,44nm,1.3s	**35.13**	**318**	*e*P		**P**	**09 06 23.4**	**+0.4**
Q36A	**Arnold C. Orve** baz=35	**35.20**	**312**	P		**P**	**09 06 23.4**	**-0.3**
733A	**Divot King Ran** baz=35,SNR=7.9	**35.22**	**294**	P		**P**	**09 06 23.8**	**-0.2**
533A	**Kerrville** baz=35,SNR=6.7	**35.23**	**296**	P		**P**	**09 06 24.1**	**0.0**
633A	**Saathoff Ranch** baz=35,SNR=11	**35.24**	**295**	P		**P**	**09 06 24.4**	**+0.2**
833A	**Chaparral WMA,** baz=35,SNR=24	**35.26**	**293**	P		**P**	**09 06 24.3**	**0.0**
S35A	**Otter Creek Ra** baz=35	**35.28**	**310**	P		**P**	**09 06 25.1**	**+0.6**
P36A	**Good Intent, A** baz=35,SNR=9.1	**35.32**	**314**	P		**P**	**09 06 24.6**	**-0.1**
X34A	**Smith Ranch, M** baz=35,SNR=13	**35.35**	**304**	P		**P**	**09 06 25.3**	**+0.3**
O36A	**Bolckow** baz=35,SNR=21	**35.39**	**314**	P		**P**	**09 06 25.3**	**0.0**
433A	**Art** baz=35	**35.40**	**297**	P		**P**	**09 06 25.1**	**-0.5**
333A	**Richland Sprin** baz=35,SNR=13	**35.43**	**298**	P		**P**	**09 06 25.4**	**-0.4**
R35A	**Emporia Munici** baz=35	**35.45**	**311**	P		**P**	**09 06 25.8**	**-0.1**
V34A	**Guthrie** baz=36,SNR=8.8	**35.50**	**306**	P		**P**	**09 06 26.6**	**+0.3**
V34A	**Guthrie** comp=Z,83nm,1.3s	**35.50**	**306**	*e*P		**P**	**09 06 26.5**	**+0.2**
W34A	**Bridge Creek,** baz=36,SNR=6.1	**35.50**	**305**	P		**P**	**09 06 26.5**	**+0.1**
W34A	**Bridge Creek,** comp=Z,18nm,0.6s	**35.50**	**305**	*e*P		**P**	**09 06 26.4**	**0.0**
233A	**Rising Star** baz=36,SNR=27	**35.52**	**299**	P		**P**	**09 06 26.5**	**-0.1**
Q35A	**Mercer Eighty,** baz=36,SNR=9.1	**35.56**	**312**	P		**P**	**09 06 26.4**	**-0.4**
133A	**Hamilton Ranch** baz=36,SNR=8.1	**35.67**	**300**	P		**

baz=36,SNR=14
V33A **Lossen Ranch,** 36.08 306 P P 09 06 31.6 +0.2
baz=36,SNR=7.8
O35A **Humboldt** 36.09 314 P P 09 06 31.1 -0.2
baz=36,SNR=5.4
232A **Coleman** 36.11 299 P P 09 06 31.6 -0.1
baz=36,SNR=18
WMOK **Wichita Mounta** 36.13 304 eP P 09 06 31.3 -0.5
WMOK pmax pmax
comp=Z,9.0nm,0.6s
WMOK **Wichita Mounta** 36.13 304 eP P 09 06 31.3 -0.5
comp=Z,9.1nm,0.6s
U33A **Lingo Farm, Me** 36.16 307 P P 09 06 32.5 +0.6
baz=36
N35A **Tabor** 36.19 315 P P 09 06 32.5 +0.3
baz=36
R34A **Isabella, Hill** 36.20 310 P P 09 06 32.3 0.0
baz=36
Q34A **Chapman** 36.23 311 P P 09 06 31.8 -0.8
baz=36
ABTX **Abilene, Hawle** 36.27 300 P P 09 06 33.2 +0.2
baz=36,SNR=12
ABTX **Abilene, Hawle** 36.27 300 eP P 09 06 32.8 -0.2
comp=Z,26nm,0.7s
Z32A **Haskell** 36.30 301 P P 09 06 33.5 +0.2
baz=36,SNR=16
P34A **Walnut Farm, R** 36.41 312 P P 09 06 33.9 -0.2
baz=36
631A **Perdido Creek** 36.44 295 P P 09 06 34.4 -0.1
baz=36,SNR=7.4
SCHQ **Schefferville** 36.44 356 P P 09 06 34.7 +0.6
comp=Z,5.5nm,0.7s,baz=173,slow=7.6,SNR=7.4
SCHQ LR LR 09 19 37.8
comp=Z,235nm,19.7s,baz=200,slow=33
SCHQ **Schefferville** 36.44 356 eP P 09 06 34.1 -0.1
comp=Z,22nm,1.3s
X32A **Elmer** 36.44 303 P P 09 06 34.6 +0.1
baz=36,SNR=25
Y32A **R-V Farms, Ver** 36.45 303 P P 09 06 34.8 +0.3
baz=36
T33A **Patterson Ranc** 36.48 308 P P 09 06 35.1 +0.4
baz=36
S33A **Kaszmaul Farm,** 36.48 309 P P 09 06 35.3 +0.6
baz=36
M35A **Neola** 36.51 316 P P 09 06 35.4 +0.5
baz=36
531A **Rocksprings** 36.53 296 P P 09 06 35.1 -0.2
baz=36,SNR=14
O34A **Beatrice** 36.59 314 P P 09 06 35.2 -0.4
baz=37
W32A **Sentinel** 36.61 304 P P 09 06 36.0 +0.1
baz=37,SNR=28
V32A **Arapaho** 36.64 305 P P 09 06 36.6 +0.5
baz=37
331A **San Angelo** 36.64 298 P P 09 06 36.2 0.0
baz=37
231A **Bronte** 36.67 299 P P 09 06 36.2 -0.2
baz=37,SNR=7.8
431A **Sonora** 36.67 297 P P 09 06 36.3 -0.2
baz=37,SNR=22
L35A **Bielow Farm, R** 36.73 317 P P 09 06 36.8 +0.1
baz=37
BDFB **Brasilia** 36.73 156 P P 09 06 37.9 +0.8
comp=Z,4.5nm,0.7s,baz=316,slow=8.0,SNR=7.5
BDFB LR LR 09 24 32.0
comp=Z,115nm,18.1s,baz=312,slow=41
R33A **Olander Ranch,** 36.74 310 P P 09 06 37.1 +0.2
baz=37,SNR=8.5
N34A **Lincoln** 36.75 315 P P 09 06 36.9 -0.1
baz=37
SPMN **St. Paul** 36.76 323 P P 09 06 37.1 +0.1
baz=37,SNR=5.7
SPMN **St. Paul** 36.76 323 eP P 09 06 36.5 -0.4
comp=Z,9.8nm,0.7s
U32A **Winter Ranch,** 36.81 306 P P 09 06 38.2 +0.6
baz=37
Z31A **Sharp Cattle R** 36.84 301 P P 09 06 38.1 +0.2
baz=37
131A **Roby** 36.89 300 P P 09 06 38.3 0.0
baz=37
Q33A **Connelly Farm,** 36.90 311 P P 09 06 38.3 0.0
baz=37,SNR=11
P33A **Williams Farm,** 36.97 312 P P 09 06 38.8 -0.1
baz=37
T32A **Huddler Ranch,** 37.02 308 P P 09 06 39.9 +0.5
baz=37
X31A **McDonald Ranch** 37.05 303 P P 09 06 39.7 +0.1
baz=37,SNR=49
Y31A **Rekieta Farm,** 37.10 302 P P 09 06 40.3 +0.2
baz=37,SNR=29
M34A **Aspy Farms, Fr** 37.11 316 P P 09 06 40.6 +0.6
baz=37
O33A **Hebron** 37.16 313 P P 09 06 41.2 +0.7
baz=37
W31A **Holland Ranch,** 37.18 304 P P 09 06 40.8 0.0
baz=37,SNR=8.6
L34A **Svendsen Farm,** 37.20 316 P P 09 06 40.8 +0.1
baz=37
530A **J-C Ranch, Com** 37.20 296 P P 09 06 40.9 -0.1
baz=37,SNR=23
S32A **Newby Ranch, P** 37.21 309 P P 09 06 41.3 +0.3
baz=37
430A **Baggett Ranch,** 37.22 297 P P 09 06 41.0 -0.2
baz=37,SNR=7.4
V31A **Spring Creek L** 37.27 305 P P 09 06 42.2 +0.7
baz=37,SNR=22
330A **Mertzon** 37.28 298 P P 09 06 41.5 -0.2
baz=37,SNR=11
R32A **Long Quarter,** 37.31 310 P P 09 06 42.1 +0.3
baz=37,SNR=8.0
230A **Sterling City** 37.33 299 P P 09 06 42.0 0.0
baz=37
130A **Snyder** 37.35 300 P P 09 06 42.4 +0.2
baz=37
N33A **J Bar K, Exete** 37.35 314 P P 09 06 42.4 +0.3
baz=37
Q32A **Meitler Ranch,** 37.41 311 P P 09 06 42.6 0.0
baz=37
U31A **Nine Bar Ranch** 37.46 306 P P 09 06 43.3 +0.2
baz=37
M33A **Taylor Creek F** 37.55 315 P P 09 06 44.3 +0.5
baz=38
Y30A **Stafford Cattl** 37.59 302 P P 09 06 44.3 +0.1
baz=38
S31A **Mullinville** 37.59 308 P P 09 06 44.7 +0.5
baz=38,SNR=9.8
Z30A **Sanderson Ranc** 37.64 301 P P 09 06 44.6 0.0
baz=38,SNR=17
P32A **Huiting Farm,** 37.69 312 P P 09 06 45.0 0.0
baz=38
X30A **Coker Ranch, T** 37.71 303 P P 09 06 45.1 -0.2
baz=38,SNR=8.4
O32A **Brockman Farm,** 37.72 313 P P 09 06 45.3 +0.1
baz=38
EYMN **Ely** 37.76 328 P P 09 06 46.1 +0.6
baz=38
EYMN **Ely** 37.76 328 eP P 09 06 45.8 +0.4
comp=Z,8.4nm,0.9s
R31A **Burdett** 37.86 309 P P 09 06 46.7 +0.3
baz=38,SNR=8.8
L33A **Hoskins** 37.88 316 P P 09 06 46.6 +0.1
baz=38
229A **Bryant Ranch,** 37.92 298 P P 09 06 46.9 -0.2
baz=38
V30A **Spur Ranch, Mi** 37.93 305 P P 09 06 47.6 +0.5
baz=38,SNR=5.5
529A **Stev Forest Ra** 37.96 295 P P 09 06 47.4 0.0
baz=38
329A **Wagon Wheel Ra** 37.98 298 P P 09 06 47.3 -0.3
baz=38,SNR=10.0
Q31A **Ellis** 38.02 310 P P 09 06 47.9 +0.1
baz=38
129A **Stewart Farms,** 38.10 300 P P 09 06 48.6 0.0
baz=38
Z29A **Hungry Hill Ra** 38.10 301 P P 09 06 48.6 0.0
baz=38,SNR=14
BGNE **Belgrade** 38.12 315 P P 09 06 48.1 -0.5
baz=38
BGNE **Belgrade** 38.12 315 eP P 09 06 48.0 -0.5
comp=Z,60nm,0.7s
U30A **WK&E Inc. Balk** 38.12 306 P P 09 06 49.2 +0.5
baz=38,SNR=13
T30A **Plains** 38.19 307 P P 09 06 50.0 +0.7
baz=38
CBKS **Cedar Bluff** 38.20 310 eP P 09 06 49.5 +0.2
CBKS pmax pmax
comp=Z,21nm,1.0s
CBKS **Cedar Bluff** 38.20 310 P P 09 06 48.7 -0.7
baz=38
CBKS **Cedar Bluff** 38.20 310 eP P 09 06 49.5 +0.2
comp=Z,21nm,1.0s
P31A **Stockton** 38.20 311 P P 09 06 49.1 -0.2
baz=38,SNR=8.0
Y29A **Porterfield Fa** 38.21 302 P P 09 06 49.5 0.0
baz=38,SNR=35
ECSD **EROS Data Cent** 38.22 319 P P 09 06 49.5 +0.1
baz=38,SNR=16
ECSD **EROS Data Cent** 38.22 319 eP P 09 06 49.0 -0.4
comp=Z,16nm,0.7s
S30A **Montezuma** 38.33 308 P P 09 06 50.9 +0.4
baz=38,SNR=8.8
X29A **Tulia** 38.38 302 P P 09 06 51.0 +0.1
baz=38,SNR=13
R30A **Dighton** 38.41 309 P P 09 06 51.1 0.0
baz=38,SNR=9.0
O31A **Woolen Ranch,** 38.41 312 P P 09 06 51.6 +0.5
baz=38
W29A **Amraillo** 38.50 303 P P 09 06 52.4 +0.4
baz=38,SNR=22
U29A **Oasis Ranch, S** 38.58 306 P P 09 06 53.0 +0.4
baz=39
228A **UT Block 9, Go** 38.60 299 P P 09 06 52.5 -0.3
baz=39,SNR=6.9
V29A **Stinnett** 38.61 305 P P 09 06 53.4 +0.6
baz=39,SNR=6.2
128A **Castleberry Fa** 38.61 299 P P 09 06 52.6 -0.3
baz=39
Q30A **Quinter** 38.61 310 P P 09 06 53.2 +0.4
baz=39,SNR=6.8
M31A **Lambtecht Ranc** 38.66 314 P P 09 06 53.1 -0.1
baz=39,SNR=11
Z28A **Tucker Farm, M** 38.66 300 P P 09 06 52.9 -0.5
baz=39,SNR=6.9
Y28A **McKinney Farm,** 38.69 301 P P 09 06 53.5 0.0
baz=39,SNR=7.9
X28A **Dimmitt** 38.79 302 P P 09 06 54.0 -0.4
baz=39,SNR=9.1
T29A **Hugoton** 38.80 307 P P 09 06 54.9 +0.5
baz=39,SNR=5.7
S29A **Ulysses** 38.82 308 P P 09 06 54.7 +0.2
baz=39
P30A **Selden** 38.84 311 P P 09 06 54.8 +0.1
baz=39,SNR=6.3
L31A **Butterfield Fa** 38.92 315 P P 09 06 55.5 +0.1
baz=39,SNR=12
O30A **MW Ranch, Wils** 38.94 312 P P 09 06 55.6 +0.1
baz=39,SNR=6.1
W28A **Vega** 38.98 304 P P 09 06 56.1 +0.1
baz=39
R29A **Marienthal** 39.09 309 P P 09 06 56.7 -0.2
baz=39,SNR=14
TXAR **Latias Array** 39.10 294 P P 09 06 56.9 -0.2
comp=Z,6.4nm,0.6s,baz=109,slow=7.7,SNR=75
TXAR PcP PcP 09 09 07.2 +0.5
comp=Z,2.5nm,1.1s,baz=114,slow=5.3,SNR=3.5
TXAR LR LR 09 28 23.6
comp=Z,88nm,18.8s,baz=0.0,slow=44
V28A **Channing** 39.12 304 P P 09 06 57.4 +0.2
baz=39
MSTX **Muleshoe** 39.13 301 P P 09 06 56.7 -0.5
baz=39,SNR=11
MSTX **Muleshoe** 39.13 301 eP P 09 06 57.0 -0.2
comp=Z,20nm,1.0s
Q29A **Oakley** 39.13 309 P P 09 06 57.3 +0.1
baz=39,SNR=9.0
U28A **Mallet** 39.29 305 P P 09 06 59.0 +0.4
baz=39
M30A **Dale-Ortello V** 39.35 314 P P 09 06 59.2 +0.3
baz=39
P29A **Atwood** 39.35 311 P P 09 06 59.2 +0.2
baz=39
S28A **Manter** 39.40 307 P P 09 06 59.5 0.0
baz=39,SNR=10
L30A **Spencer Herefo** 39.42 315 P P 09 06 59.6 +0.1
baz=39
T28A **Walsh** 39.42 306 P P 09 06 59.7 +0.1
baz=39
O29A **4D Ranch, Culb** 39.44 311 P P 09 06 59.7 0.0
baz=39
R28A **Tribune** 39.57 308 P P 09 07 01.1 +0.2
baz=40,SNR=17
N29A **Votaw Ranch, W** 39.59 312 P P 09 07 01.4 +0.5
baz=40
V27A **Dan Oppiter Fa** 39.60 304 P P 09 07 01.4 +0.2
baz=40,SNR=11
K30A **Basset** 39.66 316 P P 09 07 01.7 +0.3
baz=40,SNR=5.8
U27A **Thompson Grove** 39.77 305 P P 09 07 02.5 -0.1
baz=40,SNR=17
Q28A **Sharon Springs** 39.82 309 P P 09 07 03.1 +0.2
baz=40,SNR=9.1
J30A **Dallas** 39.86 317 P P 09 07 03.2 +0.1
baz=40,SNR=21
T27A **Campo** 39.87 306 P P 09 07 03.4 -0.1
baz=40,SNR=30
M29A **Burnside Ranch** 39.87 313 P P 09 07 03.2 -0.1
baz=40
P28A **Saint Francis** 39.94 310 P P 09 07 03.9 0.0
baz=40,SNR=5.6
L29A **Maesberg Ranch** 39.98 314 P P 09 07 04.3 +0.1
baz=40,SNR=5.6
I30A **Oacoma** 40.09 317 P P 09 07 04.8 -0.2
baz=40
O28A **Krutsinger Ran** 40.14 311 P P 09 07 05.8 +0.2
baz=40
K29A **Lazy Trails An** 40.16 315 P P 09 07 05.9 +0.2
baz=40
N28A **Pribbeno Ranch** 40.18 312 P P 09 07 06.1 +0.2
baz=40
AGMN **Agassiz Nation** 40.27 325 P P 09 07 06.3 -0.1
baz=40,SNR=9.3
AGMN **Agassiz Nation** 40.27 325 eP P 09 07 06.0 -0.5
comp=Z,11nm,0.8s
R27A **Eads** 40.29 308 P P 09 07 06.8 -0.1
baz=40,SNR=9.4
M28A **Bar K Bar Ranc** 40.33 313 P P 09 07 07.2 +0.1
baz=40
KSCO **Kaye Shedlock'** 40.39 309 P P 09 07 07.8 +0.1
baz=40,SNR=8.8
KSCO **Kaye Shedlock'** 40.39 309 eP P 09 07 08.0 +0.3
comp=Z,19nm,0.8s
J29A **Okreek** 40.44 316 P P 09 07 08.0 0.0
baz=40,SNR=20
G30A **Faulkton** 40.48 319 P P 09 07 07.9 -0.4
baz=40,SNR=5.5
P27A **Ficken Ranch,** 40.53 310 P P 09 07 08.8 0.0
baz=40,SNR=10
T26A **Comanche Natio** 40.57 306 P P 09 07 09.3 0.0
baz=40,SNR=13
S26A **Kim** 40.60 307 P P 09 07 09.7 +0.2
baz=41
OGNE **Ogallala** 40.62 312 P P 09 07 09.9 +0.4
baz=41
OGNE **Ogallala** 40.62 312 eP P 09 07 10.0 +0.4
comp=Z,20nm,1.0s
O27A **Beecher Island** 40.67 311 P P 09 07 10.5 +0.5
baz=41
I29A **Vivian Onida** 40.70 317 P P 09 07 10.1 0.0
baz=41
R26A **Arlington** 40.78 308 P P 09 07 11.1 +0.1
baz=41,SNR=11
K28A **Ten Mile Ranch** 40.84 315 P P 09 07 11.7 +0.3
baz=41
H29A **Onida** 40.92 318 P P 09 07 11.9 0.0
baz=41
N27A **Anderson Farm,** 40.93 312 P P 09 07 12.1 0.0
baz=41,SNR=5.2
G29A **Hoven** 41.00 319 P P 09 07 12.3 -0.2
baz=41
Q26A **Hugo** 41.02 309 P P 09 07 13.2 +0.3
baz=41
J28A **Allard Ranch,** 41.05 316 P P 09 07 13.4 +0.4
baz=41,SNR=11
M27A **Reverse DX Ran** 41.08 313 P P 09 07 13.6 +0.2
baz=41
P26A **Davis Ranch, A** 41.09 310 P P 09 07 14.0 +0.5
baz=41,SNR=9.7
T25A **Trinidad** 41.19 306 P P 09 07 14.8 +0.4
baz=41,SNR=30
D30A **Buchanan** 41.24 322 P P 09 07 14.4 -0.1
baz=41
F29A **Eureka** 41.24 320 P P 09 07 14.0 -0.5
baz=41
I28A **Midland** 41.25 317 P P 09 07 14.7 0.0
baz=41,SNR=8.9
O26A **Horse Wrangler** 41.29 310 P P 09 07 15.7 +0.6
baz=41
LVC **Limon Verde** 41.35 189 P P 09 07 13.3 -2.5
comp=Z,49nm,0.6s,baz=10,slow=5.4,SNR=24
LVC **Limon Verde** 41.35 189 eP P 09 07 13.1 -2.7
comp=Z,11nm,0.7s
C30A **Mose, Pekin** 41.39 323 P P 09 07 15.7 -0.1
baz=41
N26A **Koester Ranch,** 41.42 311 P P 09 07 16.7 +0.5
baz=41
K27A **Flueckinger Fa** 41.43 314 P P 09 07 15.8 -0.4
baz=41
ULM **Lac du Bonnet** 41.45 328 P P 09 07 14.8 -1.2
comp=Z,12nm,0.6s,baz=135,slow=8.5,SNR=14
ULM LR LR 09 27 11.2
comp=Z,214nm,18.1s,baz=65,slow=40
ULM **Lac du Bonnet** 41.45 328 P P 09 07 14.9 -1.2
ULM pmax pmax
comp=Z,12nm,0.6s
ULM MLR MLR
comp=Z,214nm,18.1s
ULM **Lac du Bonnet** 41.45 328 eP P 09 07 15.4 -0.7
comp=Z,11nm,0.7s
H28A **Mission Ridge** 41.45 318 P P 09 07 16.3 0.0
baz=42,SNR=8.7
E29A **Napoleon** 41.49 321 P P 09 07 16.6 0.0
baz=42
J27A **Elkhorn Farm,** 41.49 315 P P 09 07 16.8 +0.1
baz=42,SNR=8.1
G28A **Parade** 41.56 318 P P 09 07 17.4 +0.2
baz=42
M26A **McRoberts Ranc** 41.59 312 P P 09 07 18.0 +0.4
baz=42
D29A **Pettibone, Tap** 41.71 322 P P 09 07 18.9 +0.6
baz=42
B30A **Myrvik Farm, E** 41.71 324 P P 09 07 18.0 -0.4
baz=42
F28A **McLaughlin** 41.85 319 P P 09 07 19.4 -0.1
baz=42
I27A **Quinn** 41.86 316 P P 09 07 19.8 +0.1
baz=42,SNR=5.4
A30A **Hoffart Farm,** 41.97 325 P P 09 07 20.0 -0.4
baz=42,SNR=6.1
K26A **Motz Farm, Whi** 42.07 314 P P 09 07 21.6 +0.2
baz=42
H27A **Howes** 42.11 317 P P 09 07 21.4 -0.3
baz=42,SNR=12
MDND **Maddock** 42.12 323 P P 09 07 22.3 +0.7
baz=42
E28A **Huff** 42.13 320 P P 09 07 21.5 -0.3
baz=42
SDCO **Great Sand Dun** 42.18 306 P P 09 07 22.5 -0.1
baz=42,SNR=44
SDCO **Great Sand Dun** 42.18 306 eP P 09 07 22.9 +0.2
comp=Z,16nm,0.8s
M25A **Palm-Egli Farm** 42.22 312 P P 09 07 22.7 -0.1
baz=42
J26A **Sides Ranch, S** 42.23 315 P P 09 07 22.9 +0.1
baz=42
Q24A **Divide** 42.24 308 P P 09 07 23.9 +0.7
baz=42
B29A **Wagenman Farm,** 42.30 323 P P 09 07 23.3 +0.2
baz=42
ANMO **Albuquerque** 42.31 302 LR LR 09 28 17.7
comp=Z,183nm,18.2s,baz=117,slow=41
ANMO **Albuquerque** 42.31 302 *c iP* P 09 07 23.6 0.0
ANMO pmax pmax
comp=Z,69nm,0.9s
ANMO **Albuquerque** 42.31 302 eP P 09 07 24.4 +0.7
comp=Z,23nm,0.9s
LPM **Los Pinos Moun** 42.33 301 eP P 09 07 24.5 +0.7
comp=Z,43nm,1.4s
G27A **Dupree** 42.34 318 P P 09 07 23.8 +0.3
baz=42,SNR=7.0
I26A **New Underwood** 42.37 316 P P 09 07 24.1 +0.2
baz=42,SNR=13
L25A **Engebretsen Ra** 42.41 313 P P 09 07 25.4 +1.1
baz=42
A29A **Manning Farm,** 42.47 324 P P 09 07 24.1 -0.4
baz=42,SNR=13
C28A **Hausauer Farms** 42.50 322 P P 09 07 24.8 0.0
baz=42,SNR=7.3
K25A **Mack Ranch, Ha** 42.51 314 P P 09 07 25.4 +0.3
baz=42
Y22D **IRIS PASSCAL I** 42.53 300 P P 09 07 26.6 +1.2
baz=42
H26A **Fairpoint** 42.56 317 P P 09 07 25.3 0.0
baz=43,SNR=8.6
E27A **Carson** 42.59 320 P P 09 07 25.9 +0.4
baz=43
F27A **Lemmon** 42.62 319 P P 09 07 26.1 +0.3
baz=43,SNR=5.7
G26A **Maurine** 42.73 318 P P 09 07 26.8 +0.1
baz=43,SNR=19
J25A **Sunshine Ranch** 42.75 315 P P 09 07 27.4 +0.4
baz=43
LAZ **Ladron** 42.76 301 eP P 09 07 27.4 +0.1
comp=Z,2.1nm,0.8s
ISCO **Idaho Springs** 42.83 309 eP P 09 07 28.6 +0.7
ISCO pmax pmax
comp=Z,11nm,1.0s
ISCO **Idaho Springs** 42.83 309 P P 09 07 28.2 +0.3
baz=43,SNR=13
ISCO **Idaho Springs** 42.83 309 eP P 09 07 28.6 +0.7
comp=Z,11nm,1.0s
B28A **Dugan Ranch, T** 42.86 323 P P 09 07 28.3 +0.6
baz=43
D27A **Center** 42.88 321 P P 09 07 28.3 +0.4
baz=43
I25A **Rochford** 42.95 316 P P 09 07 29.3 +0.6
baz=43
121A **Cookes Peak, D** 43.01 298 P P 09 07 30.2 +0.8
baz=43,SNR=27
F26A **Lodgepole** 43.02 318 P P 09 07 29.2 +0.2
baz=43,SNR=5.4
A28A **Rude Farm, Bot** 43.05 324 P P 09 07 28.8 -0.4
baz=43
H25A **Fruitdale** 43.10 316 P P 09 07 29.5 -0.2
baz=43,SNR=22
E26A **Carlson Angus** 43.16 319 P P 09 07 30.3 +0.1
baz=43,SNR=6.5
PHWY **Pilot Hill** 43.17 311 eP P 09 07 30.9 +0.2
comp=Z,14nm,1.1s
RSSD **Black Hills** 43.19 316 eP P 09 07 30.7 +0.1
RSSD pmax pmax
comp=Z,4.0nm,0.9s
RSSD **Black Hills** 43.19 316 eP P 09 07 30.7 +0.1
comp=Z,3.7nm,0.9s
S22A **4UR Ranch, Cre** 43.20 306 P P 09 07 31.2 +0.3
baz=43,SNR=16
G25A **Newell** 43.21 317 P P 09 07 30.5 -0.1
baz=43,SNR=14
B27A **Peters Farms,** 43.35 322 P P 09 07 31.6 -0.1
baz=43
N23A **Red Feather La** 43.40 310 P P 09 07 32.3 -0.1
baz=43
D26A **Manning** 43.40 320 P P 09 07 32.7 +0.6
baz=43
I24A **Kuemmerle Ranc** 43.48 315 P P 09 07 32.6 -0.3
baz=44
F25A **Bowman** 43.55 318 P P 09 07 33.8 +0.5
baz=44
C26A **Wahner Farm, P** 43.56 321 P P 09 07 34.2 +0.8
baz=44
A27A **Ledoux Ranch,** 43.62 323 P P 09 07 33.6 -0.2
baz=44
SMCO **Snowmass** 43.67 308 eP P 09 07 35.1 +0.2
comp=Z,19nm,1.3s
E25A **Miller Ranch,** 43.76 319 P P 09 07 35.3 +0.2
baz=44
K23A **Bowen Ranch, D** 43.77 313 P P 09 07 35.7 +0.4
baz=44
H24A **Dirks Ranch, A** 43.77 316 P P 09 07 34.9 -0.3
baz=44,SNR=8.4
B26A **Jensen Ranch,** 43.91 322 P P 09 07 37.1 +0.9
baz=44
G24A **Alzada** 43.91 317 P P 09 07 36.6 +0.3
baz=44
D25A **Fairfield** 43.99 320 P P 09 07 37.5 +0.6
baz=44
A26A **Wade Farm, Ken** 44.05 323 P P 09 07 37.4 +0.2
baz=44,SNR=5.9
K22A **Casper** 44.36 313 P P 09 07 40.4 +0.3
baz=44,SNR=8.4
K22A **Casper** 44.36 313 eP P 09 07 40.4 +0.3
comp=Z,18nm,1.1s
MVCO **Mesa Verde** 44.38 305 P P 09 07 40.6 +0.3
baz=44
MVCO **Mesa Verde** 44.38 305 eP P 09 07 40.6 +0.3
comp=Z,5.3nm,0.8s

G23A	Biddle	44.50	316	P		P	09 07 41.4	+0.4	
	baz=44,SNR=7.6								
J22A	Midwest	44.58	314	P		P	09 07 41.8	0.0	
	baz=45								
D24A	Glendive	44.59	319	P		P	09 07 42.0	+0.3	
	baz=45								
PV01	Paradox Valley	44.63	306	*e*P		P	09 07 43.1	+0.8	
	comp=Z,1µm,1.1s								
A25A	Svangstu Ranch	44.69	322	P		P	09 07 42.6	+0.2	
	baz=45,SNR=6.8								
F23A	Volborg	44.71	317	P		P	09 07 43.0	+0.3	
	baz=45								
CPUP	Villa Florida	44.82	174	P		P	09 07 41.7	-1.8	
	comp=Z,6.4nm,0.7s,baz=353,slow=8.1,SNR=17								
CPUP				PcP		PcP	09 09 25.0	-0.2	
	comp=Z,1.7nm,0.6s,baz=341,slow=2.9,SNR=3.0								
CPUP				LR		LR	09 27 53.2		
	comp=Z,132nm,18.1s,baz=346,slow=38								
CPUP	Villa Florida	44.82	174	P		P	09 07 41.7	-1.8	
CPUP							09 09 25.0		
CPUP				pmax		pmax			
	comp=Z,6.0nm,0.7s								
CPUP				MLR		MLR			
	comp=Z,133nm,18.1s								
CPUP	Villa Florida	44.82	174	*e*P		P	09 07 41.9	-1.6	
	comp=Z,0.2nm,0.8s								
CPUP				PcP		PcP	09 09 25.0	-0.2	
LPIG	La Paz	44.86	286	LR		LR	09 29 18.5		
	comp=Z,27nm,21.3s,baz=68,slow=40								
O20A	White River Ci	44.86	309	P		P	09 07 44.7	+0.5	
	baz=45								
O20A	White River Ci	44.86	309	*e*P		P	09 07 45.0	+0.9	
H22A	Clearmont	44.91	315	P		P	09 07 44.6	+0.3	
	baz=45								
PV04	Paradox Valley	44.95	306	*e*P		P	09 07 45.7	+0.9	
E23A	Ismay	44.95	318	P		P	09 07 44.8	+0.3	
	baz=45								
W18A	Petrified Fore	44.99	301	P		P	09 07 45.8	+0.6	
	baz=45,SNR=18								
PV10	Paradox Valley	45.05	306	*e*P		P	09 07 46.2	+0.5	
	comp=Z,1µm,1.0s								
G22A	Birney	45.09	316	P		P	09 07 46.2	+0.5	
	baz=45,SNR=16								
J21A	Lysite	45.23	313	P		P	09 07 47.2	+0.2	
	baz=45,SNR=8.5								
I21A	Big Trails, Te	45.27	314	P		P	09 07 47.6	+0.3	
	baz=45								
F22A	Rosebud	45.28	317	P		P	09 07 47.5	+0.3	
	baz=45,SNR=10								
E22A	Miles City	45.33	318	P		P	09 07 47.8	+0.2	
	baz=45,SNR=6.9								
H21A	Big Horn, Sher	45.38	315	P		P	09 07 48.1	0.0	
	baz=45,SNR=8.9								
TUC	Tucson	45.50	297	*e*P		P	09 07 50.1	+0.9	
TUC				pmax		pmax			
	comp=Z,26nm,1.0s								
TUC	Tucson	45.50	297	*e*P		P	09 07 50.1	+0.9	
	comp=Z,26nm,1.0s								
LAO	LASA Array	45.61	318	P		P	09 07 50.2	+0.4	
	baz=46								
J20A	Shoshoni	45.67	313	P		P	09 07 50.8	+0.4	
	baz=46,SNR=20								
G21A	Lodge Grass	45.70	316	P		P	09 07 50.8	+0.2	
	baz=46								
F21A	Absaloka Mine,	45.86	317	P		P	09 07 52.1	+0.3	
	baz=46								
I20A	Worland	45.89	314	P		P	09 07 52.6	+0.4	
	baz=46,SNR=5.7								
H20A	Greybull	45.98	315	P		P	09 07 52.5	-0.2	
	baz=46,SNR=9.0								
E21A	Keefer Ranch,	46.09	318	P		P	09 07 54.7	+1.1	
	baz=46								
J19A	Crowheart	46.32	313	P		P	09 07 55.7	+0.2	
	baz=46,SNR=38								
SRU	San Rafael	46.34	307	*e*P		P	09 07 56.0	+0.2	
SRU				pmax		pmax			
	comp=Z,7.0nm,0.6s								
SRU	San Rafael	46.34	307	*e*P		P	09 07 56.0	+0.2	
	comp=Z,6.7nm,0.6s								
WUAZ	Wupatki	46.37	302	P		P	09 07 56.5	+0.4	
	baz=46,SNR=22								
WUAZ	Wupatki	46.37	302	*e*P		P	09 07 57.0	+0.9	
	comp=Z,24nm,1.0s								
FCC	Fort Churchill	46.40	338	*e*P		P	09 07 55.6	-0.1	
FCC	Fort Churchill	46.40	338	*e*P		P	09 07 55.5	-0.1	
I19A	Meeteetse	46.51	314	P		P	09 07 57.5	+0.4	
	baz=46,SNR=8.3								
F20A	Billings	46.52	316	P		P	09 07 57.5	+0.5	
	baz=46,SNR=6.4								
BW06	Boulder Array	46.53	312	*e*P		P	09 07 57.3	0.0	
	comp=Z,18nm,1.0s								
PDAR	Pinedale Array	46.53	312	P		P	09 07 57.3	0.0	
	comp=Z,11nm,0.9s,baz=101,slow=9.4,SNR=78								
PDAR				LR		LR	09 28 48.9		
	comp=Z,171nm,19.4s,baz=122,slow=38								
P17A	Butcher Ranch,	46.58	307	*e*P		P	09 07 58.4	+0.7	
C21A	Desert Coulee	46.60	319	P		P	09 07 58.5	+0.9	
	baz=47								
H19A	Powell	46.70	315	P		P	09 07 58.8	+0.3	
	baz=47,SNR=6.8								
B21A	Ellsworth Farm	46.79	320	P		P	09 07 59.9	+0.9	
	baz=47								
TMUT	Trail Mountain	46.90	307	*e*P		P	09 08 00.9	+0.6	
	comp=Z,29nm,1.1s								
A21A	Bergtoll Ranch	46.97	321	P		P	09 08 01.3	+0.9	
	baz=47,SNR=5.8								
RLMT	Red Lodge	47.03	315	P		P	09 08 01.7	+0.5	
	baz=47,SNR=12								
RLMT	Red Lodge	47.03	315	*e*P		P	09 08 01.7	+0.5	
	comp=Z,29nm,1.3s								
FFC	Flin Flon	47.10	330	*e*P		P	09 08 00.7	-0.6	
FFC				pmax		pmax			
	comp=Z,38nm,2.0s								
FFC	Flin Flon	47.10	330	*e*P		P	09 08 00.7	-0.6	
	comp=Z,38nm,2.0s								
C20A	Veseth Ranch,	47.12	319	P		P	09 08 02.7	+1.1	
	baz=47								
214A	Organ Pipe Nat	47.19	297	P		P	09 08 02.8	+0.4	
	baz=47,SNR=9.8								
JLU	Jordanelle	47.35	309	*e*P		P	09 08 04.8	+0.9	
	comp=Z,22nm,0.8s								
B20A	Solberg Farm,	47.41	320	P		P	09 08 05.0	+1.2	
	baz=47,SNR=11								
TCUT	Toone Canyon	47.44	309	*e*P		P	09 08 05.1	+0.6	
	comp=Z,18nm,0.9s								
LOHW	Long Hollow	47.50	313	*e*P		P	09 08 05.0	+0.2	
	comp=Z,13nm,1.1s								
MVU	Marysvale	47.51	306	*e*P		P	09 08 05.8	+0.8	
	comp=Z,20nm,1.3s								
A20A	Cobblestone Ra	47.52	320	P		P	09 08 05.5	+0.8	
	baz=48,SNR=7.2								
SNOW	Snow King Moun	47.56	312	*e*P		P	09 08 05.7	+0.3	
	comp=Z,29nm,1.4s								
CTU	Camp Tracy	47.60	309	*e*P		P	09 08 06.7	+1.0	
	comp=Z,28nm,0.9s								
REDW	Red Top Meadow	47.60	312	*e*P		P	09 08 05.9	+0.3	
	comp=Z,46nm,1.7s								
MOOW	Moose Ponds	47.63	313	*e*P		P	09 08 06.1	+0.2	
	comp=Z,3.5nm,0.8s								
HWUT	Hardware Ranch	47.67	310	*e*P		P	09 08 06.3	+0.2	
	comp=Z,22nm,0.9s								
NLU	North Lily Min	47.69	308	*e*P		P	09 08 07.3	+1.0	
	comp=Z,10nm,1.0s								
FLWY	Flagg Ranch	47.70	313	*e*P		P	09 08 06.2	-0.2	
	comp=Z,4.9nm,0.6s								
H17A	Grant Village	47.70	314	*e*P		P	09 08 09.3	+2.9	
TPAW	Teton Pass	47.71	312	*e*P		P	09 08 06.7	+0.2	
	comp=Z,11nm,0.9s								
FXWY	Fox Creek	47.80	313	*e*P		P	09 08 07.3	+0.1	
	comp=Z,4.6nm,0.8s								
IMW	Indian Meadow	47.81	313	*e*P		P	09 08 07.5	+0.1	
	comp=Z,4.0nm,0.5s								
LCO	Las Campanas	47.90	190	*e*P		P	09 08 06.5	-1.6	
	comp=Z,14nm,0.9s								
A19A	Klindworth Far	48.04	320	P		P	09 08 09.5	+0.7	
	baz=48								
YMR	Madison River	48.05	314	*e*P		P	09 08 09.5	+0.4	
	comp=Z,13nm,0.9s								
SPUT	South Promonto	48.25	309	*e*P		P	09 08 10.8	+0.1	
	comp=Z,9.9nm,0.7s								
DUG	Dugway	48.29	308	*e*P		P	09 08 11.6	+0.6	
DUG				pmax		pmax			
	comp=Z,26nm,1.0s								
DUG	Dugway	48.29	308	P		P	09 08 11.5	+0.6	
	baz=48,SNR=31								
DUG	Dugway	48.29	308	*e*P		P	09 08 11.6	+0.6	
	comp=Z,26nm,1.0s								
EGMT	Eagleton	48.33	319	P		P	09 08 11.7	+0.7	
	baz=48,SNR=7.3								
EGMT	Eagleton	48.33	319	*e*P		P	09 08 11.7	+0.7	
	comp=Z,13nm,1.1s								
QLMT	Earthquake Lak	48.41	314	*e*P		P	09 08 13.4	+1.5	
	comp=Z,9.1nm,1.3s								
PDMCI	Parker Dam,Lak	48.49	300	P		P	09 08 13.2	+0.8	
	baz=48								
HVU	Hansel Valley	48.59	310	*e*P		P	09 08 13.5	+0.3	
HVU	Hansel Valley	48.59	310	*e*P		P	09 08 13.5	+0.3	
Y12C	Blythe	48.76	299	P		P	09 08 15.3	+0.9	
	baz=49								
BOZ	Bozeman (W)	48.78	315	*e*P		P	09 08 15.1	+0.4	
BOZ				pmax		pmax			
	comp=Z,10.0nm,0.9s								
BOZ	Bozeman (W)	48.78	315	P		P	09 08 15.3	+0.7	
	baz=49,SNR=19								
BOZ	Bozeman (W)	48.78	315	*e*P		P	09 08 15.1	+0.4	
	comp=Z,9.8nm,0.9s								
NEE2	Needles Airpor	48.92	300	P		P	09 08 16.9	+1.1	
	baz=49								
GLA	Glamis	48.96	298	*e*P		P	09 08 17.4	+1.3	
GLA				pmax		pmax			
	comp=Z,11nm,1.1s								
GLA	Glamis	48.96	298	P		P	09 08 17.1	+1.0	
	baz=49								
GLA	Glamis	48.96	298	*e*P		P	09 08 17.4	+1.3	
	comp=Z,11nm,1.1s								
HRY	Holter Researc	49.23	316	*e*P		P	09 08 18.2	+0.2	
	comp=Z,8.6nm,0.7s								
IRM	Iron Mountain	49.31	299	P		P	09 08 19.9	+1.2	
	baz=49,SNR=12								
DLMT	Dillon	49.35	314	*e*P		P	09 08 20.1	+1.0	
	comp=Z,37nm,1.3s								
LDFC	Landfair	49.35	301	*e*P		P	09 08 21.3	+2.2	
	comp=Z,23nm,1.1s								
MCMT	McKenzie Canyo	49.38	314	*e*P		P	09 08 20.6	+1.2	
LRM	Limekiln Ridge	49.38	315	*e*P		P	09 08 19.7	+0.3	
	comp=Z,64nm,1.1s								
BC3	Big Chuckawall	49.52	299	P		P	09 08 21.5	+1.0	
	baz=50,SNR=12								
SHPR	Sheep Range	49.54	302	*e*P		P	09 08 22.0	+1.4	
SWSC	Sam W. Stewart	49.77	298	P		P	09 08 23.6	+1.4	
	baz=50								
GMRC	Granite Mounta	49.78	300	P		P	09 08 23.3	+0.9	
	baz=50,SNR=6.5								
BELC	Belle Mtn. Jos	50.00	299	P		P	09 08 25.5	+1.4	
	baz=50,SNR=9.6								
IBP	Imperial Bould	50.00	297	P		P	09 08 25.4	+1.3	
	baz=50								
TUQ	Turquoise Moun	50.05	301	P		P	09 08 25.5	+1.0	
	baz=50								
R11A	Troy Canyon, C	50.10	305	P		P	09 08 25.9	+1.0	
	baz=50,SNR=16								
R11A	Troy Canyon, C	50.10	305	*e*P		P	09 08 25.8	+0.8	
	comp=Z,17nm,1.4s								
HLID	Hailey	50.16	312	P		P	09 08 26.0	+0.7	
	baz=50,SNR=16								
HLID	Hailey	50.16	312	*e*P		P	09 08 25.9	+0.7	
	comp=Z,57nm,2.1s								
ELK	Elko	50.21	308	*e*P		P	09 08 26.1	+0.4	
ELK				pmax		pmax			
	comp=Z,21nm,1.4s								
ELK	Elko	50.21	308	*e*P		P	09 08 26.1	+0.4	
	comp=Z,22nm,1.4s								
MONP	Monument Peak	50.29	298	P		P	09 08 27.9	+1.5	
	baz=51,SNR=29								
HEC	Hector,Ludlow	50.33	300	P		P	09 08 27.6	+1.0	
	baz=50								
PFO	Pinyon Flat Ob	50.35	299	P		P	09 08 27.5	+0.7	
	baz=50								
SHOC	Shoshone	50.38	302	P		P	09 08 28.2	+1.3	
	baz=50								
TPNV	Topopah Spring	50.46	303	P		P	09 08 29.0	+1.4	
	baz=50,SNR=24								
BAR	Barrett	50.49	297	*e*P		P	09 08 29.1	+1.4	
	comp=Z,23nm,1.1s								
MSO	Missoula	50.66	316	P		P	09 08 29.0	+0.2	
	baz=51								
MSO	Missoula	50.66	316	*e*P		P	09 08 28.8	0.0	
	comp=Z,16nm,1.8s								
GSC	Goldstone	50.76	301	*e*P		P	09 08 31.1	+1.3	
GSC	Goldstone	50.76	301	P		P	09 08 31.4	+1.6	
	baz=51,SNR=6.9								
GSC	Goldstone	50.76	301	*e*P		P	09 08 31.1	+1.3	
BBRC	Big Bear Solar	50.78	299	P		P	09 08 31.4	+1.2	
	baz=51								
109C	Camp Elliot, M	50.87	298	P		P	09 08 32.0	+1.5	
	baz=51								
SWMT	Swartz Lake	50.88	317	*e*P		P	09 08 30.7	+0.1	
	comp=Z,6.3nm,0.8s								
RRX	Edison Barstow	50.88	300	P		P	09 08 32.3	+1.6	
	baz=51								
FURC	Furnace Creek,	50.90	302	P		P	09 08 31.8	+1.1	
	baz=51,SNR=6.4								
MURC	Mina	50.98	299	P		P	09 08 32.6	+1.2	
	baz=51,SNR=5.9								
JTMT	Jette	51.13	317	*e*P		P	09 08 33.1	+0.7	
MFID	Camas Ranch	51.14	311	*e*P		P	09 08 32.8	+0.2	
	comp=Z,25nm,1.4s								
BLMT	Blacktail Moun	51.26	317	*e*P		P	09 08 34.2	+0.8	
WALA	Waterton Lakes	51.28	319	*e*P		P	09 08 33.2	-0.3	
TPH	Tonopah	51.35	304	*e*P		P	09 08 35.2	+0.9	
TPH				pmax		pmax			
	comp=Z,13nm,1.2s								
TPH	Tonopah	51.35	304	*e*P		P	09 08 35.2	+0.9	
	comp=Z,13nm,1.2s								
GRAC	Grapevine Rang	51.36	303	P		P	09 08 35.5	+1.3	
	baz=51,SNR=18								
MPMC	Manual Prospec	51.37	302	P		P	09 08 35.6	+1.0	
	baz=51,SNR=6.8								
BFSC	Mount Baldy Ra	51.39	299	P		P	09 08 35.4	+0.8	
	baz=51,SNR=5.1								
DAC	Darwin (Calif)	51.47	302	*e*P		P	09 08 36.0	+0.7	
DAC				pmax		pmax			
	comp=Z,15nm,1.2s								
DAC	Darwin (Calif)	51.47	302	*e*P		P	09 08 36.0	+0.7	
	comp=Z,15nm,1.2s								
BSMT	Bassoo Peak	51.49	317	*e*P		P	09 08 35.1	-0.1	
	comp=Z,9.1nm,1.0s								
LRMC	Laurel Mountai	51.49	301	P		P	09 08 36.2	+0.8	
	baz=51								
BMN	Battle Mountai	51.65	307	*e*P		P	09 08 37.3	+0.8	
BMN				pmax		pmax			
	comp=Z,67nm,1.5s								
BMN	Battle Mountai	51.65	307	*e*P		P	09 08 37.3	+0.8	
	comp=Z,67nm,1.5s								
EDW2	Edwards Air Fo	51.70	300	P		P	09 08 37.7	+0.9	
	baz=52,SNR=8.9								
PASC	Pasadena Art C	51.82	299	*e*P		P	09 08 38.7	+1.0	
CWC	Cottonwood Cre	51.88	302	P		P	09 08 39.6	+1.3	
	baz=52								
DECC	Green Verdugo	51.95	299	P		P	09 08 39.6	+1.0	
	baz=52								
CIS	Catalina Islan	51.97	298	P		P	09 08 40.3	+1.5	
	baz=52								
ISA	Isabella	52.14	301	*e*P		P	09 08 40.9	+0.8	
ISA				pmax		pmax			
	comp=Z,7.0nm,1.2s								
ISA	Isabella	52.14	301	P		P	09 08 41.4	+1.3	
	baz=52								
ISA	Isabella	52.14	301	*e*P		P	09 08 40.9	+0.8	
	comp=Z,7.3nm,1.2s								
NVAR	Mina Array Bea	52.23	305	P		P	09 08 41.5	+0.6	
	comp=Z,7.9nm,0.7s,baz=93,slow=7.0,SNR=75								
EDM	Edmonton	52.34	324	*e*P		P	09 08 41.1	-0.2	
EDM	Edmonton	52.34	324	*e*P		P	09 08 41.1	-0.2	
ARVC	Arvin	52.40	300	P		P	09 08 43.4	+1.5	
	baz=52								
BMO	Blue Mountains	52.47	313	*e*P		P	09 08 41.8	-0.7	
	comp=Z,7.7nm,1.1s								
RCTC	Rector, Farmer	52.80	302	P		P	09 08 46.0	+1.1	
	baz=53,SNR=8.4								
WVOR	Wild Horse Val	53.00	310	*e*P		P	09 08 46.2	-0.2	
WVOR				pmax		pmax			
	comp=Z,11nm,1.3s								
WVOR	Wild Horse Val	53.00	310	*e*P		P	09 08 46.1	-0.2	
	comp=Z,11nm,1.3s								
SBC	Santa Barbara	53.10	300	P		P	09 08 46.0	-1.1	
	baz=53								
NEW	Newport	53.11	317	*e*P		P	09 08 46.8	-0.2	
NEW				pmax		pmax			
	comp=Z,17nm,0.8s								
NEW	Newport	53.11	317	P		P	09 08 47.1	+0.1	
	baz=53,SNR=21								
NEW	Newport	53.11	317	*e*P		P	09 08 46.8	-0.2	
	comp=Z,17nm,0.8s								
WAKR	Walker	53.13	305	*e*P		P	09 08 48.6	+1.1	
PKM	Peak Mountain	53.20	300	P		P	09 08 47.9	-0.2	
	baz=53,SNR=5.0								
SMMC	Simmler	53.37	301	P		P	09 08 50.1	+0.9	
	baz=53,SNR=7.4								
G08A	Pilot Rock	53.70	313	*e*P		P	09 08 51.7	+0.1	
	comp=Z,13nm,1.4s								
CMB	Columbia Colle	53.83	304	*e*P		P	09 08 53.2	+0.7	
CMB				pmax		pmax			
	comp=Z,5.0nm,1.0s								
CMB	Columbia Colle	53.83	304	*e*P		P	09 08 53.2	+0.7	
	comp=Z,4.7nm,1.0s								
H10N3	ASCENSION HYDR	53.97	115	T		T	10 07 07.8		
	baz=299,slow=74,SNR=567								
H10N2	ASCENSION HYDR	53.97	115	T		T	10 07 08.2		
	baz=299,slow=74,SNR=553								
H10N1	ASCENSION HYDR	53.99	115	T		T	10 07 09.3		
	baz=299,slow=74,SNR=527								
MOD	Modoc	54.15	309	*e*P		P	09 08 54.4	-0.5	
	comp=Z,5.6nm,1.0s								
ESDC	Sonseca Array	54.24	54	P		P	09 08 55.5	0.0	
	comp=Z,0.4nm,0.4s,baz=269,slow=4.8,SNR=5.6								
ESDC				LR		LR	09 26 30.5		
	comp=Z,100nm,21.8s,baz=180,slow=30								
H10S3	ASCENSION HYDR	54.38	116	T		T	10 07 36.4		
	baz=300,slow=75,SNR=438								
H10S1	ASCENSION HYDR	54.38	116	T		T	10 07 36.9		
	baz=300,slow=75,SNR=486								
H10S2	ASCENSION HYDR	54.40	116	T		T	10 07 38.4		
	baz=300,slow=75,SNR=418								
B08A	Colville Reser	54.57	317	*e*P		P	09 08 57.2	-0.4	
	comp=Z,12nm,1.4s								
K05A	Summer Lake	54.69	310	*e*P		P	09 08 59.9	+1.0	
	comp=Z,21nm,0.9s								
J05D	Fort Rock, OR	55.01	310	P		P	09 09 01.7	+0.6	
	baz=55,SNR=8.1								
M04C	Macdoel	55.28	308	P		P	09 09 04.0	+0.9	
	baz=55								
G05D	Wamic, OR	55.34	313	P		P	09 09 04.0	+0.7	
	baz=55								
J04D	Umpqua Nationa	55.64	310	P		P	09 09 06.3	+0.6	
	baz=56								
WDC	Whiskeytown Da	55.70	307	*e*P		P	09 09 04.6	-1.3	
WDC				pmax		pmax			
	comp=Z,10.0nm,0.8s								
WDC	Whiskeytown Da	55.70	307	*e*P		P	09 09 04.6	-1.3	
	comp=Z,10.0nm,0.8s								
SUMG	Summit	55.81	8	*i* P		P	09 09 07.0	+0.3	
	comp=Z,14nm,1.1s								
SUMG	Summit	55.81	8	*e*P		P	09 09 06.9	+0.3	
SUMG				pmax		pmax			
	comp=Z,11nm,1.0s								
SUMG	Summit	55.81	8	*e*P		P	09 09 06.9	+0.3	
	comp=Z,11nm,1.0s								
N02D	Trinity Center	55.85	307	P		P	09 09 06.4	-0.7	
	baz=56								
YBH	Yreka Blue Hor	55.92	308	*e*P		P	09 09 06.9	-0.7	
YBH				pmax		pmax			
	comp=Z,10.0nm,0.8s								
YBH	Yreka Blue Hor	55.92	308	*e*P		P	09 09 06.9	-0.7	
	comp=Z,9.9nm,0.8s								
M02C	Callahan	56.00	308	P		P	09 09 07.8	-0.4	
	baz=56								
YKA	Yellowknife Ar	56.71	334	P		P	09 09 11.9	-0.8	
	comp=Z,7.3nm,0.8s,baz=103,slow=7.4,SNR=19								
YKA				PcP		PcP	09 10 07.9	-0.6	
	comp=Z,2.9nm,0.8s,baz=104,slow=5.0,SNR=3.8								
DBIC	Dimbokro	57.12	94	P		P	09 09 16.1	-0.3	
	comp=Z,3.0nm,0.6s,baz=313,slow=7.9,SNR=5.4								
DBIC				LR		LR	09 29 48.0		
	comp=Z,196nm,20.8s,baz=276,slow=32								
TORD	Torodi Ar. Bea	61.59	85	P		P	09 09 46.3	-1.1	
	comp=Z,1.5nm,0.7s,baz=278,slow=6.0,SNR=11								
TORD				LR		LR	09 33 24.2		
	comp=Z,254nm,19.9s,baz=280,slow=33								
DAG	Danmarks Havn	62.31	10	*i* P		P	09 09 51.7	+0.6	
	comp=Z,3.8nm,0.9s								
DAG	Danmarks Havn	62.31	10	*i* P		P	09 09 51.7	+0.6	
DAG				pmax		pmax			
	comp=Z,3.0nm,0.9s								
DLBC	Dease Lake	62.76	327	*e*P		P	09 09 55.1	+0.5	
ECH	Echery	62.84	45	*e*P		P	09 09 55.3	+0.1	
ECH				pmax		pmax			
	comp=Z,5.0nm,0.8s								
ECH	Echery	62.84	45	*e*P		P	09 09 55.3	+0.1	
	comp=Z,4.8nm,0.8s								
KEST	Kesra	64.80	59	P		P	09 10 09.1	+0.6	
	comp=Z,1.4nm,0.7s,baz=235,slow=5.4,SNR=5.6								
KEST				LR		LR	09 35 57.8		
	comp=Z,58nm,19.2s,baz=296,slow=34								
KEST	Kesra	64.80	59	*e*P		P	09 10 11.6	+3.1	
FUORN	Ofenpass-Fuorn	64.93	47	*e*P		P	09 10 11.2	+1.9	
INK	Inuvik	66.02	337	*e*P		P	09 10 14.6	-1.0	
INK				pmax		pmax			
	comp=Z,18nm,1.0s								
INK	Inuvik	66.02	337	*e*P		P	09 10 14.6	-1.0	
	comp=Z,18nm,1.0s								
NB2	NORSAR Subarra	66.05	31	P		P	09 10 16.6	+0.6	
	comp=Z,12nm,1.4s,baz=265,slow=6.9								
NOA	NORSAR Array B	66.05	31	P		P	09 10 16.8	+0.8	
	comp=Z,2.1nm,0.8s,baz=266,slow=6.5,SNR=9.5								
NOA				LR		LR	09 35 23.1		
	comp=Z,127nm,19.5s,baz=45,slow=33								
CLL	Collm	66.67	41	*e*P		P	09 10 20.0	-0.1	
CLL				*i*			09 10 25.5		
CLL				pmax		pmax			
	comp=Z,3.0nm,0.8s								
CLL	Collm	66.67	41	*e*P		P	09 10 20.0	-0.1	
	comp=Z,3.0nm,0.8s								
CLL				*i*			09 10 25.5		
KHC	Kasperske Hory	67.10	44	*e

ARCES					LR	LR	09 36 12.7			
	comp=Z,56nm,21.4s,baz=266,slow=31									
ARE0	**ARCESS Array S**	**72.09**	**22**	*eP*	**P**		**09 10 53.1**	**-0.2**		
PMR	**Palmer**	**72.40**	**330**	*eP*	**P**		**09 10 54.3**	**-1.0**		
PMR				pmax	pmax					
	comp=Z,9.0nm,1.1s									
PMR	**Palmer**	**72.40**	**330**	*eP*	**P**		**09 10 54.3**	**-1.0**		
	comp=Z,9.5nm,1.1s									
BZS	**Buzias**	**72.87**	**47**	⇓P	P		09 11 03.6	+5.2		
BZS	**Buzias**	**72.87**	**47**	⇓*i*P	P		09 11 03.6	+5.2		
BPAW	**Bear Paw Mtn.**	**72.96**	**333**	*eP*	**P**		**09 10 57.5**	**-1.1**		
	comp=Z,3.1nm,0.9s									
FINES	**FINESS Array B**	**73.21**	**30**	P	**P**		**09 11 00.2**	**+0.1**		
	comp=Z,2.8nm,0.6s,baz=255,slow=3.6,SNR=21									
FINES				LR	LR		09 38 25.5			
	comp=Z,167nm,21.0s,baz=284,slow=32									
DRGR		**73.44**	**46**	⇑P	**P**		**09 11 02.6**	**+0.7**		
DRGR		**73.44**	**46**	⇑*i*P	**P**		**09 11 02.5**	**+0.7**		
KDAK	**Kodiak Island**	**74.69**	**326**	*i* P	**P**		**09 11 08.8**	**0.0**		
BUR08	**Bucovina Ar. S**	**74.95**	**44**	*eP*	**P**		**09 11 12.4**	**+1.7**		
BURAR	**Bucovina Array**	**74.97**	**44**	⇓P	**P**		**09 11 11.4**	**+0.6**		
BURAR	**Bucovina Array**	**74.97**	**44**	⇓*i*P	**P**		**09 11 11.4**	**+0.6**		
ARR	**Arges**	**75.01**	**47**	⇓*i*P	P		09 11 15.6	+4.6		
MLR	**Muntele Rosu**	**75.89**	**46**	⇑P	**P**		**09 11 17.6**	**+1.5**		
MLR	**Muntele Rosu**	**75.89**	**46**	⇑*i*P	**P**		**09 11 17.6**	**+1.5**		
VRI	**Vrincioaia**	**76.34**	**46**	⇑P	P		09 11 23.9	+5.3		
VRI	**Vrincioaia**	**76.34**	**46**	⇑*i*P	P		09 11 23.9	+5.3		
KIEV	**Kiev**	**76.89**	**41**	⇓*e*P	**P**		**09 11 23.4**	**+1.9**		
AKASG	**Malin Array Be**	**76.90**	**41**	P	**P**		**09 11 20.8**	**-0.8**		
	comp=Z,2.7nm,0.3s,baz=282,slow=4.5,SNR=3.3									
AKASG				LR	LR		09 43 10.9			
	comp=Z,182nm,19.2s,baz=270,slow=34									
OBN	**Obninsk**	**80.01**	**35**	LR	LR		09 44 56.3			
	comp=Z,102nm,18.9s,baz=272,slow=34									
OBN	**Obninsk**	**80.01**	**35**	P	**P**		**09 11 40.1**	**+1.4**		
OBN				pmax	pmax					
	comp=Z,7.0nm,0.8s									
PRGR	**Permogore**	**82.12**	**27**	*eP*	**P**		**09 11 49.4**	**-0.4**		
PRGR				*e*			09 11 54.5			
PRGR				pmax	pmax					
	comp=Z,5.0nm,0.4s									
VSR	**Storozhevoye**	**82.77**	**38**	*ceP*	**P**		**09 11 54.8**	**+1.4**		
VSR				pmax	pmax					
	comp=Z,6.0nm,0.9s									
BRTR	**Keskin Array B**	**82.86**	**51**	P	**P**		**09 11 53.6**	**-0.7**		
	comp=Z,1.6nm,0.8s,baz=290,slow=5.5,SNR=6.6									
BRTR				LR	LR		09 46 04.0			
	comp=Z,53nm,20.1s,baz=280,slow=34									
BRTR	**Keskin Array B**	**82.86**	**51**	*i* P	**P**		**09 11 54.7**	**+0.4**		
BRTR				pmax	pmax					
	comp=Z,2.0nm,0.8s									
BILL	**Bilibino**	**86.79**	**344**	⇑*eP*	**P**		**09 12 14.2**	**+0.9**		
BILL				pmax	pmax					
	comp=Z,9.0nm,1.8s									
GOF	**Gofitskoye**	**87.49**	**43**	*eP*	P		09 12 21.8	+4.6		
KIV	**Kislovodsk**	**87.70**	**44**	⇑P	**P**		**09 12 19.8**	**+1.5**		
KIV				pmax	pmax					
	comp=Z,3.0nm,0.9s									
KBZ	**Khabaz**	**87.93**	**44**	P	**P**		**09 12 20.8**	**+1.6**		
	comp=Z,0.6nm,0.5s,baz=268,slow=8.3,SNR=2.0									
MKAR	**Makanchi Array**	**107.62**	**25**	PKKPbc	PKKPbc		09 29 09.6	-2.4		
	comp=Z,0.4nm,0.7s,baz=104,slow=6.1,SNR=4.7									
WMQ	**Urumqi**	**112.19**	**23**	*e*PKP	**PKiKP**		**09 18 05.4**	**+0.1**		
WMQ				LN						
	comp=Z,73nm,22.0s									
HHC	**Hu-ho-hao-te**	**120.70**	**5**	*e*PKP	**PKPdf**		**09 18 20.0**	**-1.7**		
HHC				sPKP			09 18 30.0			
HHC				PP	**PP**		**09 19 50.6**	**+2.4**		
HHC				SS	SS		09 36 15.1	-1.0		
HHC				PPMZ						
	comp=Z,70nm,9.5s									
HHC				LN						
	comp=Z,140nm,20.0s									
HHC				LE						
	comp=Z,210nm,20.5s									
HHC				LZ						
	comp=Z,140nm,20.9s									
MJAR	**Matsushiro Arr**	**121.92**	**341**	PKP	**PKPdf**		**09 18 23.0**	**-1.1**		
	comp=Z,0.8nm,0.5s,baz=90,slow=0.9,SNR=5.7									
MJAR	**Matsushiro Arr**	**121.92**	**341**	PKIKP	**PKPdf**		**09 18 23.0**	**-1.1**		
MJAR				pmax	pmax					
	comp=Z,1.0nm,0.5s									
LZH	**Lanzhou**	**124.17**	**14**	*e*PKP	**PKPdf**		**09 18 26.4**	**-2.2**		
LZH				sPKP			09 18 40.8			
LZH				LN						
	comp=Z,160nm,17.4s									
LZH				LE						
	comp=Z,160nm,16.6s									
LZH				LZ						
	comp=Z,200nm,19.8s									
CD2	**Chengdu**	**129.10**	**15**	PKP	**PKPdf**		**09 18 36.6**	**-1.4**		
NJ2	**Nanjing**	**129.74**	**359**	*e*PKP	**PKPdf**		**09 18 38.8**	**-0.3**		
GYA	**Guiyang**	**134.07**	**14**	*e*Pdif	**Pdif**		**09 15 44.8**	**-2.0**		
GYA				PKP	**PKPdf**		**09 18 46.0**	**-1.6**		
GYA				sPKP			09 19 01.5			
GYA				PP	**PP**		**09 21 20.6**	**+4.0**		
GYA				PPMZ						
	comp=Z,110nm,7.8s									
KMI	**Kunming**	**134.29**	**19**	PKP	**PKPdf**		**09 18 47.1**	**-1.1**		
KMI				sPKP			09 19 01.9			
CMAR	**Chiang Mai Arr**	**138.94**	**28**	PKP	**PKPdf**		**09 18 57.2**	**+0.5**		
	comp=Z,0.9nm,0.4s,baz=312,slow=2.0,SNR=6.2									
ARMA	**Armidale**	**146.99**	**242**	*e*PKPbc	**PKPbc**		**09 19 12.8**	**+0.1**		
EIDS	**Eidsvold**	**148.30**	**252**	*e*PKPbc	**PKPbc**		**09 19 16.4**	**+0.2**		
STKA	**Stephens Creek**	**154.63**	**234**	PKP	**PKPdf**		**09 19 21.9**	**-0.3**		
	comp=Z,1.5nm,0.7s,baz=180,slow=2.0,SNR=3.9									
STKA				PKPbc	**PKPbc**		**09 19 30.0**	**-0.7**		
	comp=Z,3.5nm,0.7s,baz=38,slow=3.2,SNR=9.3									
STKA				PKPab	**PKPab**		**09 19 44.9**	**-0.6**		
	comp=Z,1.9nm,0.7s,baz=80,slow=6.1,SNR=2.9									
ASAR	**Alice Springs**	**163.98**	**248**	PKP	**PKPdf**		**09 19 31.8**	**-1.5**		
	comp=Z,0.7nm,0.8s,baz=101,slow=1.3,SNR=4.8									
ASAR				PKPab	**PKPab**		**09 20 25.6**	**-0.8**		
	comp=Z,2.7nm,0.7s,baz=111,slow=4.4,SNR=25									
WRAB	**Tennant Creek**	**164.16**	**262**	*e*PKIKP	**PKPdf**		**09 19 32.3**	**-1.2**		
WRAB	**Tennant Creek**	**164.16**	**262**	*e*PKPdf	**PKPdf**		**09 19 32.3**	**-1.2**		
WRA	**Warramunga Arr**	**164.17**	**262**	PKP	**PKPdf**		**09 19 32.5**	**-1.0**		
	comp=Z,1.0nm,0.9s,baz=67,slow=0.9,SNR=5.8									
WRA				PKPab	**PKPab**		**09 20 25.6**	**-1.7**		
	comp=Z,1.4nm,0.8s,baz=84,slow=3.6,SNR=5.4									

NIED ***17*** *09:04:00, 23.˚50N× 121.˚70E, h53km, Mw4.7 Best double couple: M0 1.07000× 10^16 NP1:φ=244.00000°, δ=18.00000°, λ=146.00000°. NP2:φ=6.00000°, δ=80.00000°, λ=75.00000°.*

JMA ***17*** *09:04:16.6±0.2, 23.˚46N× 121.˚66E, h49km±4km, M5.0*

ISCJB ***17*** *09:04:16.7±0.1, 23.˚46N±0.˚01× 121.˚72E±0.˚01, h66km±1km, mb4.7/90, Error ellipse: s-maj=2.3km s-min=1.7km az=135.3*

NEIC ***17*** *09:04:17.2±0.4, 23.˚44N× 121.˚70E, h55km±3km, mb4.8/31, Error ellipse: s-maj=5.8km s-min=4.3km az=119.0*

NEIC Felt [II] at T'ai-chung. Also felt at Kao-hsiung and T'ai-nan. Recorded [3 TAP] in Chang-hua, Hua-lien and T'ai-tung; [2 TAP] in Chia-i, I-lan, Kao-hsiung, Miao-li, Nan-t'ou, P'ing-tung, T'ai-nan and Yun-lin; [1 TAP] in P'eng-hu.

TAP ***17*** *09:04:17.7, 23.˚48N× 121.˚66E, h49km, ML5.2, B*

BJI ***17*** *09:04:17.8, 23.˚57N× 121.˚58E, h55km, mb4.7/51, mB4.6/38, ML4.9/10, Ms4.3/47, Ms7 3.9/48*

MOS ***17*** *09:04:18.3±1.0, 23.˚48N× 121.˚74E, h82km, mb4.9/39, Error ellipse: s-maj=8.5km s-min=5.6km az=115.9*

IDC ***17*** *09:04:18.3±0.9, 23.˚47N× 121.˚69E, h67km±7km, mb4.2/24, mb1 4.3/27, mb1mx4.2/39, mbtmp4.5/27, MS3.6/17, Ms1 3.7/17, ms1mx3.4/45, Error ellipse: s-maj=14.9km s-min=11.9km az=67.0*

SZGRF ***17*** *09:04:27.8, 25.˚45N× 120.˚13E, h33km, mb5.0, Taiwan region*

ISC 17 09:04:17.2±0.4, 23.˚46N±0.˚02× 121.˚71E±0.˚02, h53km±2km, h53km:pP-P, n390, σ1$49/494, mb4.8/90, MS3.9/18, 52C-23D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TEGC	**Jichi Village**	**0.29**	**327**	*eP*		**Pn**	**09 04 27.2**	**+0.7**
	baz=344							
TEGC				*eS*		**Sn**	**09 04 34.0**	**+0.7**
	baz=344							
EHY	**Hungye**	**0.36**	**277**	⇑*iP*		**Pn**	**09 04 26.8**	**-0.4**
	baz=274							
EHY				S		**Sn**	**09 04 33.0**	**-1.5**
	baz=274							
YULB	**Yu-li**	**0.39**	**259**	*e*Pn		**Pn**	**09 04 26.9**	**-0.6**
TWF1	**Yuli**	**0.40**	**254**	⇑*iP*		**Pn**	**09 04 27.4**	**-0.2**
	baz=259							
ESL	**Shilin**	**0.43**	**324**	⇑*iP*		**Pn**	**09 04 27.5**	**-0.5**
	baz=323							
ESL				*e*S		**Sn**	**09 04 34.6**	**-1.1**
	baz=323							
ESF	**Shoufeng Towns**	**0.45**	**335**	*eP*		**Pn**	**09 04 28.6**	**+0.5**
	baz=333							
ESF				*e*S		**Sn**	**09 04 36.5**	**+0.6**
	baz=333							
CHKT	**Chengkung**	**0.48**	**221**	⇓*iP*		**Pn**	**09 04 28.4**	**-0.1**
	baz=207							
CHKT				*i* S		**Sn**	**09 04 36.2**	**-0.5**
	baz=207							
HWA	**Hwalien**	**0.52**	**349**	⇓*iP*		**Pn**	**09 04 28.9**	**0.0**
	baz=356							
WDT	**Danda**	**0.61**	**299**	⇑*iP*		**Pn**	**09 04 30.0**	**-0.2**
	baz=304							
TWD	**Chiawan**	**0.62**	**350**	⇓*iP*		**Pn**	**09 04 30.0**	**-0.2**
	baz=6.0							
TWD				S		**Sn**	**09 04 39.7**	**+0.2**
	baz=6.0							
ELDTW	**Lidau**	**0.70**	**247**	⇑*iP*		**Pn**	**09 04 30.7**	**-0.5**
	baz=238							
ELDTW				*e*S		**Sn**	**09 04 41.3**	**0.0**
	baz=238							
NACB	**Ninganchiao**	**0.71**	**351**	*ePn*		**Pn**	**09 04 30.8**	**-0.5**
NACB				*eSn*		**Sn**	**09 04 40.9**	**-0.7**
SSLB	**Suanglung**	**0.77**	**295**	*ePn*		**Pn**	**09 04 31.8**	**-0.2**
WHF	**Hehuan Shan**	**0.79**	**329**	⇑*iP*		**Pn**	**09 04 32.3**	**-0.4**
	baz=333							
ALS	**Alishan**	**0.84**	**273**	⇑*iP*		**Pn**	**09 04 33.9**	**+0.7**
	baz=279							
ALS				*e*S		**Sn**	**09 04 44.4**	**-0.3**
	baz=279							
EHP	**Heping Village**	**0.84**	**2**	*eP*		**Pn**	**09 04 33.7**	**+0.8**
	baz=8.0							
EHP				*e*S		**Sn**	**09 04 45.6**	**+1.1**
	baz=8.0							
SMLT	**Sun Moon Lake**	**0.85**	**299**	⇑*iP*		**Pn**	**09 04 33.6**	**+0.4**
	baz=301							
SMLT				*e*S		**Sn**	**09 04 45.7**	**+0.7**
	baz=301							
TWG	**Pinlang**	**0.87**	**223**	⇑*iP*		**Pn**	**09 04 32.9**	**-0.4**
	baz=225							
TWG				*e*S		**Sn**	**09 04 44.5**	**-0.7**
	baz=225							
TWG	**Pinlang**	**0.87**	**223**	*ePn*		**Pn**	**09 04 32.5**	**-0.8**
TTN	**Taitung**	**0.88**	**217**	P		**Pn**	**09 04 34.0**	**+0.6**
	baz=220							
TTN				*e*S		**Sn**	**09 04 46.8**	**+1.5**
	baz=220							
TYC	**Yuchr**	**0.90**	**299**	⇑*iP*		**Pn**	**09 04 34.2**	**+0.5**
	baz=301							
TYC				*e*S		**Sn**	**09 04 46.0**	**+0.2**
	baz=301							
TWT	**Tachien**	**0.93**	**328**	⇑*iP*		**Pn**	**09 04 34.9**	**+0.6**
	baz=335							
TWT				*e*S		**Sn**	**09 04 45.9**	**-0.8**
	baz=335							
STYT	**Tauyuan**	**0.93**	**251**	⇑*iP*		**Pn**	**09 04 34.7**	**+0.5**
	baz=244							
STYT				*e*S		**Sn**	**09 04 47.1**	**+0.5**
	baz=244							
CHN5	**Tsauling**	**0.96**	**278**	⇑*iP*		**Pn**	**09 04 35.4**	**+0.8**
	baz=277							
ENA	**Nanau**	**0.96**	**1**	*eP*		**Pn**	**09 04 34.5**	**0.0**
	baz=17							
ENA				*e*S		**Sn**	**09 04 47.8**	**+0.6**
	baz=17							
NNS	**Nan Shan**	**1.02**	**342**	⇑P		**Pn**	**09 04 35.6**	**+0.2**
	baz=354							
NNS				*e*S		**Sn**	**09 04 48.3**	**-0.6**
	baz=354							
WNT	**Mingjian**	**1.03**	**294**	⇑*iP*		**Pn**	**09 04 36.4**	**+0.9**
	baz=283							
WNT				*e*S		**Sn**	**09 04 50.5**	**+1.6**
	baz=283							
WTP	**Ta-pu**	**1.03**	**258**	⇑*iP*		**Pn**	**09 04 36.5**	**+1.0**
	baz=255							
WGK	**Gukeng**	**1.08**	**282**	⇑*iP*		**Pn**	**09 04 37.0**	**+1.0**
	baz=281							
WGK				S		**Sn**	**09 04 51.4**	**+1.4**
	baz=281							
SGST	**Jiashian**	**1.11**	**250**	⇑P		**Pn**	**09 04 37.7**	**+1.3**
	baz=247							
SGST				S		**Sn**	**09 04 52.6**	**+1.8**
	baz=247							
ECL	**Taimali**	**1.11**	**219**	P		**Pn**	**09 04 35.7**	**-0.8**
	baz=214							
CHN1	**Nanshi**	**1.12**	**256**	⇑*iP*		**Pn**	**09 04 38.0**	**+1.3**
	baz=253							
CHN1				*e*S		**Sn**	**09 04 52.5**	**+1.3**
	baz=253							
CHN2	**Minshiung**	**1.14**	**274**	*eP*		**Pn**	**09 04 38.0**	**+1.1**
	baz=272							
CHN2				*e*S		**Sn**	**09 04 52.9**	**+1.4**
	baz=272							
TWK	**Hsinying**	**1.14**	**260**	⇑*iP*		**Pn**	**09 04 38.0**	**+1.0**
	baz=257							
TWK				*e*S		**Sn**	**09 04 52.7**	**+1.0**
	baz=257							
TWC	**Suao**	**1.15**	**6**	⇓P		**Pn**	**09 04 37.6**	**+0.7**
	baz=13							
TWC				S		**Sn**	**09 04 52.4**	**+0.8**
	baz=13							
TCU	**Taichung**	**1.17**	**306**	⇑*iP*		**Pn**	**09 04 38.7**	**+1.4**
	baz=308							
TCU				*e*S		**Sn**	**09 04 53.9**	**+1.7**
	baz=308							
ENTT	**Nioudou**	**1.18**	**353**	⇑*iP*		**Pn**	**09 04 37.7**	**+0.3**
	baz=360							
ENTT				*e*S		**Sn**	**09 04 53.1**	**+0.6**
	baz=360							
CHY	**Chiayi**	**1.19**	**272**	⇑*iP*		**Pn**	**09 04 38.5**	**+1.0**
	baz=270							
CHY				S		**Sn**	**09 04 53.3**	**+0.7**
	baz=270							
SSD	**Sandimen**	**1.23**	**235**	*eP*		**Pn**	**09 04 38.8**	**+0.7**
	baz=239							
SSD				*e*S		**Sn**	**09 04 54.6**	**+1.1**
	baz=239							
TWQ1	**Liyutan**	**1.23**	**316**	⇑*iP*		**Pn**	**09 04 39.4**	**+1.2**
	baz=319							
TWQ1				*e*S		**Sn**	**09 04 55.3**	**+1.5**
	baz=319							
YHNB	**Yeheng**	**1.24**	**346**	*ePn*		**Pn**	**09 04 38.5**	**+0.2**
NSK	**Sanguang**	**1.25**	**345**	⇑*iP*		**Pn**	**09 04 39.1**	**+0.6**
	baz=359							
NSK				S		**Sn**	**09 04 54.3**	**0.0**
	baz=359							
TWE	**Neicheng**	**1.25**	**358**	P		**Pn**	**09 04 39.0**	**+0.6**
	baz=356							
TWE				*e*S		**Sn**	**09 04 55.2**	**+1.0**
	baz=356							
NSY	**Sanyi**	**1.29**	**318**	⇑*iP*		**Pn**	**09 04 40.2**	**+1.3**
	baz=321							
NSY				*e*S		**Sn**	**09 04 56.4**	**+1.3**
	baz=321							
ILA	**Ilan**	**1.30**	**1**	*eP*		**Pn**	**09 04 40.0**	**+1.0**
	baz=357							
ILA				*e*S		**Sn**	**09 04 56.9**	**+1.6**
	baz=357							
NSTT	**Nanjuang**	**1.33**	**331**	⇑*iP*		**Pn**	**09 04 40.7**	**+1.2**
	baz=323							
NSTT				S		**Sn**	**09 04 57.8**	**+1.6**
	baz=323							
TAW	**Tawu**	**1.33**	**215**	*eP*		**Pn**	**09 04 39.2**	**-0.3**
	baz=209							
TAW				*e*S		**Sn**	**09 04 55.4**	**-0.8**
	baz=209							
EAST	**Anshuo**	**1.34**	**217**	⇓*iP*		**Pn**	**09 04 39.4**	**-0.3**
	baz=206							
SGLT	**Jiouru**	**1.34**	**237**	*i* P		**Pn**	**09 04 42.5**	**+2.8**
	baz=232							
SGLT				*e*S		**Sn**	**09 05 00.9**	**+4.5**
	baz=232							
WTCT	**Ta-ch'eng**	**1.37**	**287**	*i* P		**Pn**	**09 04 40.9**	**+0.8**
	baz=277							
WTCT				*i* S		**Sn**	**09 04 58.4**	**+1.2**
	baz=277							
WSF	**Szhu**	**1.38**	**277**	*eP*		**Pn**	**09 04 40.5**	**+0.4**
	baz=276							
WSF				S		**Sn**	**09 04 57.5**	**+0.2**
	baz=276							
CHN8	**Yiju**	**1.39**	**265**	⇑*iP*		**Pn**	**09 04 41.0**	**+0.8**
	baz=263							
CHN8				S		**Sn**	**09 04 58.3**	**+0.9**
	baz=263							
EGS		**1.39**	**8**	⇓*iP*		**Pn**	**09 04 41.5**	**+1.3**
	baz=15							
EGS				*e*S		**Sn**	**09 04 59.2**	**+1.7**
	baz=15							
LAY	**Lan-yu**	**1.43**	**186**	⇑*iP*		**Pn**	**09 04 40.8**	**0.0**
	baz=176							
LAY				*e*S		**Sn**	**09 04 56.9**	**-1.6**
	baz=176							
SCLT	**Jiali**	**1.43**	**259**	P		**Pn**	**09 04 42.0**	**+1.2**
	baz=255							
SCLT				S		**Sn**	**09 04 59.9**	**+1.5**
	baz=255							
TAI1	**Yung-k'ang**	**1.43**	**253**	*eP*		**Pn**	**09 04 42.3**	**+1.5**
	baz=249							
TAI1				*e*S		**Sn**	**09 05 00.0**	**+1.5**
	baz=249							
SCZT	**Fangliau**	**1.48**	**223**	⇓*iP*		**Pn**	**09 04 42.5**	**+1.0**
	baz=209							
SCZT				*e*S		**Sn**	**09 05 01.3**	**+1.5**
	baz=209							
JYNG	**Yonagunijimaku**	**1.50**	**49**	P		**Pn**	**09 04 43.0**	**+1.3**
JYNG				S		**Sn**	**09 05 02.0**	**+1.9**
HSN	**Hsinchu**	**1.50**	**333**	*eP*		**Pn**	**09 04 43.0**	**+1.3**
	baz=327							
HSN				*e*S		**Sn**	**09 05 01.9**	**+1.8**
	baz=327							
TWA	**Mucha**	**1.51**	**356**	*eP*		**Pn**	**09 04 43.0**	**+1.0**
	baz=3.0							
TWA				S		**Sn**	**09 05 01.9**	**+1.3**
	baz=3.0							
TATO	**Taipei**	**1.52**	**352**	*ePn*		**Pn**	**09 04 42.6**	**+0.6**
YOJ	**Yonaguni jima**	**1.55**	**50**	P		**Pn**	**09 04 43.8**	**+1.5**
YOJ				S		**Sn**	**09 05 03.4**	**+2.0**
YOJ	**Yonaguni jima**	**1.55**	**50**	*eP*		**Pn**	**09 04 43.9**	**+1.5**
YOJ				*e*			09 05 03.6	
YOJ	**Yonaguni jima**	**1.55**	**50**	⇑*iP*		**Pn**	**09 04 43.9**	**+1.5**
	baz=52							
YOJ				S		**Sn**	**09 05 02.5**	**+1.1**
	baz=52							
YOJ	**Yonaguni jima**	**1.55**	**50**	*ePn*		**Pn**	**09 04 43.9**	**+1.5**
YOJ				*eSn*		**Sn**	**09 05 03.6**	**+2.2**
TWB1	**Santiao Chiao**	**1.56**	**9**	P		**Pn**	**09 04 43.8**	**+1.2**
	baz=17							
TWB1				*e*S		**Sn**	**09 05 03.1**	**+1.5**
	baz=17							
KAU	**Kaohsiung**	**1.57**	**236**	*eP*		**Pn**	**09 04 44.4**	**+1.6**
	baz=246							
NCU	**National Centr**	**1.57**	**342**	*eP*		**Pn**	**09 04 43.9**	**+1.1**
	baz=349							
NCU				*e*S		**Sn**	**09 05 03.1**	**+1.1**
	baz=349							
TAP1	**Taipei**	**1.58**	**354**	*eP*		**Pn**	**09 04 44.0**	**+1.3**
	baz=1.0							
TAP1				*e*S		**Sn**	**09 05 02.4**	**+0.3**
	baz=1.0							
TAP	**Taipei**	**1.58**	**353**	*eP*		**Pn**	**09 04 44.5**	**+1.7**
	baz=1.0							
TAP				*e*S		**Sn**	**09 05 03.0**	**+0.9**
	baz=1.0							
NWF	**Wu-fen Shan**	**1.60**	**2**	*eP*		**Pn**	**09 04 44.4**	**+1.2**
	baz=358							
NWF				S		**Sn**	**09 05 04.6**	**+1.8**
	baz=358							
TWS1	**Kuangyinshan**	**1.65**	**351**	*eP*		**Pn**	**09 04 44.8**	**+0.9**
	baz=8.0							
TWS1				*e*S		**Sn**	**09 05 05.9**	**+2.0**
	baz=8.0							
TWP	**Hsiaoliuchiu**	**1.67**	**228**	*eP*		**Pn**	**09 04 46.7**	**+2.6**
	baz=223							
HEN	**Hengchun**	**1.71**	**212**	*eP*		**Pn**	**09 04 45.6**	**+1.0**
	baz=207							
HEN				*e*S		**Sn**	**09 05 06.4**	**+1.0**
	baz=207							
TSEB	**Hengchuen, Pin**	**1.73**	**206**	P		**Pn**	**09 04 45.9**	**+1.0**
	baz=193							
TSEB				S		**Sn**	**09 05 06.5**	**+0.7**
	baz=193							
TWK1	**Hengchun**	**1.73**	**209**	P		**Pn**	**09 04 45.4**	**+0.5**
	baz=204							
TWK1				*e*S		**Sn**	**09 05 06.8**	**+1.0**
	baz=204							
TWY	**Chenhua**	**1.81**	**357**	*eP*		**Pn**	**09 04 46.5**	**+0.6**
	baz=4.0							
WDGT	**Dungji**	**1.90**	**264**	⇑*iP*		**Pn**	**09 04 47.2**	**0.0**
	baz=262							
WDGT				*e*S		**Sn**	**09 05 08.3**	**-1.7**
	baz=262							
PNG	**Penghu**	**1.98**	**273**	⇑*iP*		**Pn**	**09 04 48.5**	**+0.2**
	baz=271							
PNG				*e*S		**Sn**	**09 05 11.0**	**-1.0**
	baz=271							
HATJ	**Hateruma jima**	**2.00**	**72**	P		**Pn**	**09 04 49.5**	**+0.9**
HATJ				S		**Sn**	**09 05 13.9**	**+1.4**
IRIF	**Iriomote-Funau**	**2.04**	**64**	P		**Pn**	**09 04 50.6**	**+1.5**
IRIF				S		**Sn**	**09 05 15.3**	**+1.9**
PCYT	**Pengchaiyu**	**2.18**	**9**	⇓*eP*		**Pn**	**09 04 51.9**	**+0.9**
	baz=17							
JKRS	**Kuro-shima**	**2.24**	**69**	P		**Pn**	**09 04 53.5**	**+1.7**
JKRS				S		**Sn**	**09 05 20.4**	**+2.1**
JIJ	**Ishigaki jima**	**2.40**	**68**	P		**Pn**	**09 04 55.1**	**+1.1**
JIJ				*e*S		**Sn**	**09 05 23.0**	**+0.8**
JISG	**Ishigakijimahi**	**2.62**	**64**	P		**Pn**	**09 04 58.2**	**+1.1**
JISG				*e*S		**Sn**	**09 05 28.3**	**+0.6**
JTJ	**Tarama**	**2.97**	**66**	P		**Pn**	**09 05 03.4**	**+1.5**
JTJ				*e*S		**Sn**	**09 05 37.5**	**+1.2**
KNM	**Kinmen**	**3.15**	**288**	*eP*		**Pn**	**09 05 05.

NJ2 comp=E,380nm,0.9s SME
NJ2 comp=E,250nm,1.0s LN
NJ2 comp=E,2µm,15.4s LE
NJ2 comp=E,1µm,14.8s LZ
NJ2 comp=E,1µm,19.9s
JMZ Minamidaito 2 8.96 73 P **Pn 09 06 21.0 -3.0**
JMZ *eS* Sn 09 07 55.1 -8.4
WHN Wuhan 9.63 319 ⇑ *i*P **Pn 09 06 31.6 -1.5**
WHN PMZ
WHN comp=E,140nm,0.8s LN
WHN comp=E,3µm,7.2s LE
WHN comp=E,3µm,6.8s LZ
WHN comp=E,2µm,16.0s
QIZ Qiongzhong 11.91 250 P **Pn 09 07 03.3 -1.1**
QIZ S **Sn 09 09 15.1 -0.8**
QIZ LZ
comp=E,540nm,27.8s
JNU Nakatsue 12.55 38 P **Pn 09 07 14.4 +1.3**
comp=E,0.4nm,0.3s,baz=190,slow=8.6,SNR=3.9
JNU LR LR 09 13 35.9
comp=E,132nm,18.6s,baz=180,slow=44
TIA Tai'an 13.31 344 *e*P **Pn 09 07 22.6 -0.8**
TIA S **Sn 09 09 50.3 +0.5**
TIA LN
comp=E,300nm,15.0s
TIA LE
comp=E,530nm,15.0s
TIA LZ
comp=E,300nm,15.0s
GYA Guiyang 13.97 285 *e*P **Pn 09 07 34.6 +2.0**
GYA PP **PnPn 09 07 43.0 +2.3**
GYA S **Sn 09 10 06.0 -0.2**
GYA sS **S 09 10 19.8 -5.5**
GYA SS **SnSn 09 10 23.3 +4.3**
GYA PMZ
comp=E,10.0nm,0.8s
GYA LN
comp=E,590nm,8.1s
GYA LE
comp=E,750nm,9.0s
GYA LZ
comp=E,880nm,8.7s
KSAR Wonju Array Be 14.91 19 P **Pn 09 07 46.3 +1.7**
KSAR Wonju Array Be 14.91 19 P **Pn 09 07 46.3 +1.7**
KSRS Korea Array 14.93 20 P **Pn 09 07 46.3 +1.4**
comp=E,0.7nm,0.3s,baz=200,slow=11,SNR=18
KSRS LR LR 09 14 47.6
comp=E,108nm,18.4s,baz=201,slow=42
XAN Xi'an 15.38 316 P **Pn 09 07 50.3 -0.5**
XAN pP P 09 07 59.8 +5.3
XAN sP sP 09 08 04.0 -9.1
XAN PMZ
comp=E,19nm,5.9s
BJT Baijiatuau 17.16 345 *e*P **P 09 08 14.2 +0.1**
BJT pmax pmax
comp=Z,12nm,0.5s
BJT Baijiatuau 17.16 345 *e*P **P 09 08 14.2 +0.1**
comp=Z,12nm,0.5s
BJI Beijing 17.18 345 P **P 09 08 14.3 0.0**
BJI S **Sn 09 11 25.3 +1.7**
BJI PMZ
comp=Z,9.0nm,0.5s
BJI LE
comp=Z,390nm,22.6s
BJI LZ
comp=Z,140nm,24.7s
KMI Kunming 17.38 279 P **P 09 08 19.8 +2.8**
KMI pP **pP 09 08 27.0 -1.8**
KMI sP sP 09 08 30.0 -5.6
KMI S **Sn 09 11 25.3 -3.7**
KMI sS S 09 11 43.3 +8.2
KMI SS **SnSn 09 11 50.3 +7.4**
KMI PMZ
comp=Z,20nm,2.0s
KMI PMZ
comp=Z,350nm,3.4s
KMI LN
comp=Z,680nm,19.5s
KMI LE
comp=Z,520nm,21.4s
KMI LZ
comp=Z,640nm,17.5s
CD2 Chengdu 17.60 299 P **P 09 08 19.8 +0.6**
CD2 pP **pP 09 08 31.4 +0.3**
CD2 sP **sP 09 08 37.8 0.0**
CD2 S **Sn 09 11 34.4 +0.4**
CD2 SS **SnSn 09 11 55.5 +7.4**
CD2 PMZ
comp=Z,30nm,0.8s
CD2 PMZ
comp=Z,370nm,4.5s
CD2 LN
comp=Z,1µm,7.8s
CD2 LZ
comp=Z,740nm,11.4s
JCJ Chichijima 18.86 75 LR LR 09 16 03.5
comp=Z,149nm,18.4s,baz=165,slow=37
MJAR Matsushiro Arr 19.30 44 P **Pn 09 08 39.5 +0.2**
comp=Z,0.2nm,0.3s,baz=228,slow=11,SNR=6.7
MJAR LR LR 09 16 25.0
comp=Z,118nm,20.8s,baz=210,slow=38
HHC Hu-ho-hao-te 19.32 336 *e*P **Pn 09 08 40.0 +0.5**
HHC pP **pP 09 08 53.0 +3.0**
HHC sP **sP 09 08 57.3 +0.5**
HHC PP PnPn 09 09 01.5 +7.5
HHC S **S 09 12 11.0 -3.0**
HHC sS **sS 09 12 28.6 -4.7**
HHC PMZ
comp=Z,20nm,0.7s
HHC PMZ
comp=Z,100nm,3.8s
HHC LN
comp=Z,240nm,11.6s
HHC LE
comp=Z,450nm,10.2s
HHC LZ
comp=Z,220nm,11.8s
LZH Lanzhou 19.93 313 *e*P **Pn 09 08 46.9 0.0**
LZH PP **PnPn 09 09 07.6 +5.2**
LZH S **S 09 12 21.3 -5.0**
LZH SS **SnSn 09 12 53.8 +8.4**
LZH PMZ
comp=Z,81nm,1.1s
LZH PMZ
comp=Z,230nm,4.4s
LZH LN
comp=Z,800nm,10.1s
LZH LE
comp=Z,870nm,12.9s
LZH LZ
comp=Z,950nm,13.4s
CN2 Changchun 20.52 8 *e*P Pn 09 08 55.8 +2.3
CN2 *ep*P pP 09 09 06.6 +3.7
CN2 *eS* **S 09 12 38.5 +1.1**
CN2 PMZ
comp=Z,10.0nm,0.6s
CN2 PMZ
comp=Z,200nm,3.0s
CN2 LN
comp=Z,150nm,16.0s
CN2 LE
comp=Z,270nm,16.0s
CN2 LZ
comp=Z,100nm,14.0s
CHTO Chiang Mai 21.73 262 *e*P **P 09 09 05.6 +1.4**
CHTO pmax pmax
comp=Z,21nm,0.8s
CHTO Chiang Mai 21.73 262 *e*P **P 09 09 05.6 +1.4**
comp=Z,21nm,0.8s
CMAR Chiang Mai Arr 21.83 261 P **P 09 09 06.5 +1.2**
comp=Z,6.2nm,0.7s,baz=55,slow=7.5,SNR=23
CMAR LR LR 09 18 07.6
comp=Z,202nm,20.5s,baz=92,slow=38
MDJ Mudanjiang 22.06 15 P **P 09 09 09.9 +2.4**
MDJ PMZ
comp=Z,9.0nm,0.7s
MDJ PMZ
comp=Z,37nm,5.3s
MDJ LN
comp=Z,110nm,16.2s
MDJ LE
comp=Z,200nm,19.0s
MDJ LZ
comp=Z,180nm,14.3s
USRK Ussuriysk Ar. 22.34 20 P **P 09 09 11.7 +1.3**
comp=Z,4.2nm,0.8s,baz=211,slow=9.9,SNR=7.4
USRK LR LR 09 18 09.9
comp=Z,84nm,18.2s,baz=185,slow=37
SBUM Sibu 22.82 205 *e*P **P 09 09 14.8 -1.0**
comp=Z,20nm,1.0s
MRSI Marisa 22.85 179 P P 09 09 23.9 +7.8
GTA Gaotai 24.44 316 *e*P **P 09 09 32.0 +0.9**
GTA pP **pP 09 09 42.8 -1.7**
GTA sP **sP 09 09 48.4 -2.5**
GTA S **S 09 13 44.8 -2.7**
GTA sS sS 09 14 03.5 -6.6
GTA PMZ
comp=Z,21nm,1.0s
GTA PMZ
comp=Z,140nm,4.5s
GTA LN
comp=Z,200nm,13.3s
GTA LE
comp=Z,240nm,16.6s
GTA LZ
comp=Z,340nm,16.6s
KSM Kuching 24.50 208 *e*P **P 09 09 31.5 -0.1**
comp=Z,48nm,1.0s
STKI Simang 25.30 205 P P 09 09 32.8 -6.1
KLR Kul'dur 26.91 15 *e*P **P 09 09 49.0 -4.1**
KLR MLR MLR
comp=Z,500nm,12.0s
SONM Songino Array 27.22 337 P **P 09 09 54.9 -1.2**
comp=Z,5.1nm,0.7s,baz=152,slow=9.9,SNR=30
SONM pP **pP 09 10 11.9 +2.3**
comp=Z,3.7nm,0.8s,baz=157,slow=11,SNR=6.2
SONM LR LR 09 21 52.7
comp=Z,208nm,18.6s,baz=143,slow=39
IPM Ipoh 27.48 230 *e*P **P 09 09 58.5 -0.1**
comp=Z,17nm,1.0s
MYKOM Kota Tinggi 27.64 221 *e*P **P 09 10 00.9 +0.9**
comp=Z,22nm,0.8s
LSA Lhasa 27.98 289 *e*P **P 09 10 04.8 +1.3**
LSA pmax pmax
comp=Z,18nm,0.6s
LSA Lhasa 27.98 289 *e*P **P 09 10 04.8 +1.3**
comp=Z,18nm,0.6s
KAPI Kappang 28.37 184 LR LR 09 21 17.5
comp=Z,100nm,21.6s,baz=12,slow=36
YSS Yuzh-Sakhalins 28.89 31 *e*P P 09 10 15.0 +4.2
PSI Prapat 30.14 230 *e*P **P 09 10 22.6 +0.2**
PSI pmax pmax
comp=Z,14nm,1.0s
PSI Prapat 30.14 230 *e*P **P 09 10 22.6 +0.2**
comp=Z,14nm,1.0s
KUR Kuril'sk 30.39 38 *e*P **P 09 10 23.9 -0.2**
ZAK Zakamensk 30.47 336 *e*P P 09 10 19.0 -5.9
TAPN Taplejung 30.90 284 *e*P **P 09 10 30.3 +1.0**
comp=Z,54nm,0.8s
MNSI Mandailing Nat 31.13 227 P **P 09 10 31.3 +0.3**
comp=Z,53nm,1.0s,comp=Z,4µm
ODAN Odare 31.20 283 *e*P **P 09 10 32.5 +0.7**
comp=Z,28nm,0.7s
TLY Talaya 31.42 338 *e*P **P 09 10 32.1 -1.1**
TLY *e* 09 11 34.5
TLY *eS* **S 09 15 33.1 -4.0**
TLY pmax pmax
comp=Z,3.0nm,0.6s
TLY MLR MLR
comp=Z,104nm,16.0s
PPI Padang Panjang 31.54 224 P **P 09 10 35.3 +0.7**
comp=Z,29nm,1.3s
RAMN Ramite 31.90 284 *e*P **P 09 10 38.8 +0.8**
comp=Z,61nm,1.0s
GUN Gumba 32.52 285 *e*P **P 09 10 44.3 +0.8**
comp=Z,62nm,0.7s
KLSI 32.52 213 P **P 09 10 43.7 +0.5**
comp=Z,63nm,1.0s
MDSI Maura Dua 32.63 214 P **P 09 10 44.9 +0.8**
comp=Z,29nm,1.1s
KSI Kapahiang 32.77 217 P **P 09 10 46.5 +1.1**
comp=Z,115nm,0.7s,comp=Z,7µm
PKI Pulchoki 32.94 285 *e*P **P 09 10 47.3 +0.1**
comp=Z,22nm,0.8s
PKIN Phulchoki 32.95 285 *e*P **P 09 10 47.6 +0.4**
KKN Kakani 33.05 285 *e*P **P 09 10 48.4 +0.3**
comp=Z,40nm,0.8s
DMN Daman 33.21 285 *e*P **P 09 10 49.8 +0.3**
GKN Gorkha 33.62 286 *e*P **P 09 10 53.0 +0.1**
comp=Z,27nm,0.6s
DANN Dangsing 34.39 286 *e*P **P 09 11 00.4 +0.7**
WMQ Urumqi 34.50 314 P **P 09 11 01.9 +1.6**
WMQ pP **pP 09 11 14.1 +0.1**
WMQ sP **sP 09 11 19.4 -0.9**
WMQ PMZ
comp=Z,9.0nm,0.8s
WMQ PMZ
comp=Z,70nm,4.0s
WMQ LN
comp=Z,83nm,18.0s
WMQ LE
comp=Z,100nm,18.0s
WMQ LZ
comp=Z,73nm,18.8s
KOLN Koldanda 34.54 285 *e*P **P 09 11 01.2 +0.2**
comp=Z,35nm,0.8s
MK31 Makanchi Array 39.19 316 *i* P **P 09 11 39.7 -0.3**
MK31 pmax pmax
comp=Z,11nm,0.6s
MK31 Makanchi Array 39.19 316 *e*P **P 09 11 40.1 +0.1**
MKAR Makanchi Array 39.19 316 P **P 09 11 40.1 +0.1**
comp=Z,10nm,0.6s,baz=104,slow=10,SNR=92
MKAR pP **pP 09 11 55.9 +2.0**
comp=Z,3.9nm,0.7s,baz=110,slow=10,SNR=2.9
MKAR PcP **PcP 09 13 46.9 -1.6**
comp=Z,1.8nm,0.8s,baz=116,slow=3.4,SNR=3.7
MKAR LR LR 09 29 22.0
comp=Z,192nm,18.1s,baz=95,slow=38
MKAR Makanchi Array 39.19 316 P **P 09 11 40.1 +0.1**
MKAR *PP **pP 09 11 55.9 +2.0**
MKAR 09 13 46.9
MKAR pmax pmax
comp=Z,10.0nm,0.6s
MKAR MLR MLR
comp=Z,193nm,18.1s
PDGK Podgornoye 39.92 310 P **P 09 11 46.4 +0.3**
PDGK pmax pmax
comp=Z,33nm,1.0s
PETK Petropavlovsk- 40.20 33 P **P 09 11 49.6 +1.4**
comp=Z,1.5nm,0.6s,baz=206,slow=9.6,SNR=3.3
PETK LR LR 09 28 12.1
comp=Z,57nm,21.6s,baz=231,slow=36
ZAA0 Zalesovo Array 41.11 327 *e*P **P 09 11 54.4 -1.3**
ZALV Zalesovo Beam 41.11 327 P **P 09 11 54.5 -1.2**
comp=Z,6.5nm,0.4s,baz=118,slow=7.8,SNR=20
ZALV LR LR 09 30 14.5
comp=Z,123nm,18.5s,baz=70,slow=38
MA2 Magadan 41.47 22 *i* P **P 09 11 58.8 +0.2**
KSH Kashi 41.70 304 P P 09 12 04.4 +3.4
KSH pP pP 09 12 17.1 +2.2
KSH PP **PnPn 09 13 45.1 +1.8**
KSH PcP **PcP 09 14 01.1 +4.3**
KSH S **S 09 18 19.1 +4.9**
KSH sS sS 09 18 40.1 +2.4
KSH SS **SS 09 21 21.0 -0.2**
KSH PMZ
comp=Z,17nm,0.7s
KSH PMZ
comp=Z,270nm,4.5s
KSH LN
comp=Z,190nm,5.8s
KSH LE
comp=Z,170nm,4.3s
KSH LZ
comp=Z,210nm,6.6s
ULHL Ulahol 41.98 308 P **P 09 12 04.3 +0.9**
SNR=11
H11N1 WAKE ISLAND Hy 42.05 86 T T 09 57 21.7
baz=283,slow=74,SNR=66
H11N2 WAKE ISLAND Hy 42.05 86 T T 09 57 17.5
baz=283,slow=74,SNR=61
H11N3 WAKE ISLAND Hy 42.06 86 T T 09 57 23.2
baz=283,slow=74,SNR=74
H11S3 WAKE ISLAND Hy 42.16 88 T T 09 57 42.7
baz=284,slow=75,SNR=93
H11S1 WAKE ISLAND Hy 42.16 88 T T 09 57 28.8
baz=284,slow=75,SNR=78
H11S2 WAKE ISLAND Hy 42.17 88 T T 09 57 37.8
baz=284,slow=75,SNR=96
NVS Novosibirsk 42.37 328 *e*P **P 09 12 03.8 -2.2**
NVS pmax pmax
comp=Z,5.0nm,0.8s
NVS pmax pmax
comp=E,3.0nm,0.6s
TKM2 Tokmak 2 42.59 309 P **P 09 12 09.0 +0.7**
SNR=25
TKM2 Tokmak 2 42.59 309 P **P 09 12 09.0 +0.7**
TKM2 pmax pmax
comp=Z,23nm,0.8s
TKM2 Tokmak 2 42.59 309 *e*P **P 09 12 09.2 +0.9**
comp=Z,24nm,0.8s
KZA Kyzart 42.67 307 P **P 09 12 10.7 +1.5**
SNR=5.8
KURK Kurchatov 42.95 320 P **P 09 12 10.1 -0.7**
KURK pmax pmax
comp=Z,3.0nm,0.4s
KURK Kurchatov 42.95 320 *e*P **P 09 12 10.5 -0.3**
comp=Z,7.6nm,0.4s
KURBB Kurchatov Arra 42.97 320 P **P 09 12 10.2 -0.7**
comp=Z,7.9nm,0.6s,baz=112,slow=9.3,SNR=41
KBK Karagaybulak 43.00 308 P **P 09 12 12.9 +1.3**
SNR=8.7
CHMS Chumysh 43.21 308 P **P 09 12 13.8 +0.7**
SNR=7.9
UCH Uchtor 43.24 307 P **P 09 12 15.3 +1.5**
SNR=18
AAK Ala-Archa 43.33 308 *e*P **P 09 12 15.0 +0.8**
AAK pmax pmax
comp=Z,7.0nm,0.7s
AAK Ala-Archa 43.33 308 *e*P **P 09 12 15.0 +0.8**
comp=Z,6.9nm,0.7s
USP Ospenovka 43.45 309 P **P 09 12 15.5 +0.5**
SNR=5.0
SFK Sufi-Kurgan 43.65 304 P **P 09 12 17.8 +0.9**
SFK pmax pmax
comp=Z,10.0nm,0.6s
EKS2 Erkin-Say 43.85 308 P **P 09 12 19.3 +0.9**
SNR=9.5
EKS2 Erkin-Say 43.85 308 *e*P **P 09 12 19.3 +0.9**
EKS2 pmax pmax
comp=Z,8.0nm,0.7s
EKS2 Erkin-Say 43.85 308 *e*P **P 09 12 19.3 +0.9**
comp=Z,7.8nm,0.7s
SEY Seymchan 44.49 19 *e*P **P 09 12 24.0 +1.1**
WRA Warramunga Arr 44.87 163 P **P 09 12 25.3 -1.2**
comp=Z,2.8nm,0.5s,baz=344,slow=8.6,SNR=57
KK31 Karatay Array 46.29 308 *e*P **P 09 12 38.2 +0.6**
KK31 pmax pmax
comp=Z,6.0nm,0.4s
KKAR Karatay Array 46.29 308 *e*P **P 09 12 38.2 +0.6**
KKAR pmax pmax
comp=Z,8.0nm,0.4s
KKAR Karatay Array 46.29 308 *e*P **P 09 12 38.2 +0.6**
comp=Z,7.5nm,0.4s
KBL Kabul 46.91 296 *e*P **P 09 12 43.8 +1.0**
KBL pmax pmax
comp=Z,28nm,0.8s
KBL Kabul 46.91 296 *e*P **P 09 12 43.8 +1.0**
comp=Z,28nm,0.8s
DZET Dzherino 47.15 302 P **P 09 12 44.8 +0.3**
DZET pmax pmax
comp=Z,21nm,0.7s
AS31 Alice Springs 48.32 165 *e*P **P 09 12 53.1 -0.4**
ASAR Alice Springs 48.32 165 P **P 09 12 53.0 -0.5**
comp=Z,0.8nm,0.3s,baz=340,slow=6.7,SNR=34
BVA0 Borovoye Array 48.54 321 *i* P **P 09 12 53.9 -0.9**
BVA0 pmax pmax
comp=Z,6.0nm,0.8s
BVAR Borovoye Array 48.54 321 P **P 09 12 54.5 -0.3**
comp=Z,4.2nm,0.5s,baz=104,slow=8.6,SNR=21
BVAR PcP **PcP 09 14 19.1 -0.9**
comp=Z,2.9nm,0.8s,baz=124,slow=2.1,SNR=5.2
BRVK Borovoye 48.61 321 *c i*P **P 09 12 55.1 -0.2**
BRVK pmax pmax
comp=Z,14nm,1.0s
BRVK Borovoye 48.61 321 *e*P **P 09 12 55.2 -0.2**
comp=Z,11nm,0.8s
BILL Bilibino 52.20 20 ||*e*P **P 09 13 22.6 +0.4**
BILL *e* 09 14 33.9
BILL *e* 09 15 20.5
BILL *eS* S 09 21 01.8 +19
BILL pmax pmax
comp=Z,10.0nm,1.0s
BILL MLR MLR
comp=Z,484nm,23.0s
AB31 Akbulak array 54.29 315 *i* P **P 09 13 37.6 -0.3**
AB31 pmax pmax
comp=Z,13nm,0.6s
ABKAR Akbulak array 54.29 315 *e*P **P 09 13 38.0 +0.1**
SVE Sverdlovsk 54.91 324 ⇑ *i*P **P 09 13 42.2 -0.1**
SVE pmax pmax
comp=Z,14nm,0.8s
GEYT Alibeck 55.58 301 P **P 09 13 48.2 +0.8**
comp=Z,12nm,0.6s,baz=82,slow=3.1,SNR=19
GEYT LR LR 09 41 46.2
comp=Z,153nm,18.2s,baz=80,slow=40
AKTO Aktyubinsk 55.63 316 LR LR 09 39 25.9
comp=Z,102nm,19.6s,slow=38
AKTO Aktyubinsk 55.63 316 P **P 09 13 47.2 -0.4**
AKTO pmax pmax
comp=Z,9.0nm,1.0s
ARU Arti 55.97 323 *c i*P **P 09 13 49.0 -0.9**
ARU S **S 09 21 32.7 -1.3**
ARU SS SS 09 25 11.7 -8.5
ARU pmax pmax
comp=Z,28nm,1.7s
ARU Arti 55.97 323 *e*P **P 09 13 49.1 -0.9**
STKA Stephens Creek 58.22 160 P **P 09 14 05.8 -0.3**
comp=Z,2.7nm,0.5s,baz=344,slow=5.1,SNR=15
STKA LR LR 09 45 25.8
comp=Z,19nm,18.0s,baz=3.7,slow=42
IKIA Kiasar 59.29 299 *e*P **P 09 14 14.8 +0.9**
IVRN Varamin 61.05 298 *e*P **P 09 14 25.9 +0.1**
IGZV Ghazvin 62.03 300 *e*P **P 09 14 33.3 +0.8**
IPIR Pirpir 62.15 296 *e*P **P 09 14 32.9 -0.6**
PRGR Permogore 63.04 329 *e*P P 09 14 34.5 -4.0
PRGR 09 15 12.8
PRGR pmax pmax
comp=Z,9.0nm,0.4s
IBST Bostanabad 64.42 302 *e*P **P 09 14 48.1 -0.2**
DGRG David-gareji 64.91 306 P **P 09 14 52.0 +0.7**
IVIS Veis 65.08 298 *e*P **P 09 14 52.1 -0.5**
IMRD Marand 65.15 303 *e*P **P 09 14 53.0 0.0**
IDHR Dehrash 65.42 299 *e*P **P 09 14 54.1 -0.8**
ONI Oni 66.11 308 P **P 09 15 00.0 +1.0**
AKH Akhalkalaki 66.30 306 P **P 09 15 01.5 +1.1**
AKH Akhalkalaki 66.30 306 ||*i*P **P 09 15 01.5 +1.1**
KBZ Khabaz 66.31 309 P **P 09 15 00.1 0.0**
comp=Z,11nm,0.8s,baz=110,slow=5.4,SNR=23
TMCR Tamitsa 66.41 332 *e*P **P 09 14 59.7 -0.7**
TMCR pmax pmax
comp=Z,31nm,1.3s
KIV Kislovodsk 66.42 309 *c i*P **P 09 15 01.1 +0.2**
KIV *e* 09 15 31.0
KIV *e* 09 17 25.4
KIV *eS* S 09 24 23.2 +36
KIV pmax pmax
comp=Z,32nm,1.0s
KIV MLR MLR
comp=Z,83nm,21.0s
KIV Kislovodsk 66.42 309 *e*P **P 09 15 01.1 +0.2**
comp=Z,18nm,0.8s
IM04 Indian Mountai 66.59 26 *e*P **P 09 15 01.5 -0.1**
LPSR Galich'ya Gora 67.41 319 *e*P **P 09 15 06.3 -0.7**
LPSR pmax pmax
comp=N,8.0nm,0.9s
LPSR pmax pmax
comp=E,9.0nm,0.9s
LPSR pmax pmax
comp=Z,30nm,0.9s
VSR Storozhevoye 67.50 318 *e*P **P 09 15 06.4 -1.1**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VSR pmax pmax
comp=Z,20nm,0.9s
OHAK Old Harbor 67.93 36 *e*P **P 09 15 10.4 +0.2**
comp=Z,9.5nm,1.0s
BPAW Bear Paw Mtn. 68.00 28 *e*P **P 09 15 11.0 +0.5**
comp=Z,3.9nm,1.3s

KDAK	Kodiak Island	68.21	35	*ce*P		P	09 15 13.2	+1.3	
OBN	Obninsk	68.36	322	⇓ *e*P		P	09 15 12.1	-0.8	
OBN				*e*			09 15 36.4		
OBN				*e*			09 17 40.8		
OBN				*e*S		S	09 23 57.0	-13	
OBN				pmax	pmax				
	comp=Z,14nm,0.5s								
OBN				MLR	MLR				
	comp=Z,115nm,21.0s								
MCK	McKinley	68.95	28	*e*P		P	09 15 17.0	+0.5	
MCK				pmax	pmax				
	comp=Z,18nm,1.2s								
MCK	McKinley	68.95	28	*e*P		P	09 15 17.0	+0.5	
	comp=Z,18nm,1.2s								
COLA	College	69.20	27	*e*P		P	09 15 17.0	-0.9	
PMR	Palmer	69.26	31	*e*P		P	09 15 17.7	-0.6	
PMR				pmax	pmax				
	comp=Z,10.0nm,1.0s								
PMR	Palmer	69.26	31	*e*P		P	09 15 17.7	-0.6	
	comp=Z,9.7nm,1.0s								
ILAR	Eielson Array	69.63	27	P		P	09 15 19.4	-1.2	
	comp=Z,1.1nm,0.7s,baz=291,slow=7.0,SNR=12								
ANN	Anapa	69.93	311	*e*P		P	09 15 21.3	-1.5	
ANN				pmax	pmax				
	comp=Z,69nm,1.3s								
SPITS	Spitsbergen Ar	70.29	348	LR		LR	09 50 03.1		
	comp=Z,59nm,19.3s,baz=315,slow=39								
MSEY	Mahe Island	70.32	256	*i* P		P	09 15 26.8	+1.1	
ARCES	ARCESS Array B	70.38	338	P		P	09 15 24.0	-1.2	
	comp=Z,1.6nm,0.7s,baz=57,slow=8.8,SNR=6.9								
MALT	Malatya	70.80	304	⇓ *i*P		P	09 15 29.1	+0.7	
MENT	Mentasta	71.42	29	*e*P		P	09 15 32.4	+0.8	
BMRM	Bremner River	71.53	31	*e*P		P	09 15 32.4	+0.1	
	comp=Z,13nm,1.1s								
BMRM				*e*PP		PP	09 18 08.4	-2.8	
SIM	Simferopol'	72.18	312	P		P	09 15 33.8	-2.6	
SIM				pmax	pmax				
	comp=Z,23nm,0.9s								
FINES	FINESS Array B	72.31	330	P		P	09 15 35.8	-1.1	
	comp=Z,9.5nm,0.6s,baz=63,slow=5.0,SNR=78								
DAWY	Dawson	72.95	27	*e*P		P	09 15 41.0	+0.2	
	comp=Z,8.5nm,0.9s								
AKASG	Malin Array Be	73.73	319	P		P	09 15 44.0	-1.5	
	comp=Z,5.0nm,0.4s,baz=59,slow=6.3,SNR=7.2								
AKASG	Malin Array Be	73.73	319	P		P	09 15 44.0	-1.5	
AK01	Malin Array Si	73.74	319	*e*P		P	09 15 44.0	-1.6	
KIEV	Kiev	73.74	319	*e*P		P	09 15 44.0	-1.5	
AK02	Malin Array Si	73.75	319	*e*P		P	09 15 44.2	-1.4	
BR131	Keskin Array S	73.99	307	*e*P		P	09 15 46.8	-0.7	
	comp=Z,12nm,0.8s								
BRTR	Keskin Array B	73.99	307	P		P	09 15 46.8	-0.7	
	comp=Z,10nm,0.7s,baz=120,slow=5.2,SNR=44								
ANTO	Ankara	74.57	307	*e*P		P	09 15 50.8	+0.1	
ANTO				pmax	pmax				
	comp=Z,17nm,0.8s								
ANTO	Ankara	74.57	307	*e*P		P	09 15 50.8	+0.1	
	comp=Z,18nm,0.8s								
CSS	Prodhromos	75.69	302	*e*P		P	09 15 56.7	-0.5	
	comp=Z,8.6nm,0.7s								
CFR	Carcaliu	76.15	313 ⇑	*i* P		P	09 15 58.8	-0.8	
SUW	Suwalki	76.16	323	*e*P		P	09 15 58.8	-0.6	
SUW	Suwalki	76.16	323	*e*P		P	09 15 58.8	-0.6	
HARR	Harsova	76.45	313 ⇑	*i*P		P	09 16 01.0	-0.3	
TESR	Tescani	76.68	315 ⇑	*i*P		P	09 16 02.0	-0.6	
VRI	Vrincioaia	76.85	314 ⇑	*i*P		P	09 16 03.9	+0.3	
PLOR	Plostina	76.91	314 ⇓	*i*P		P	09 16 03.9	0.0	
BUR08	Bucovina Ar. S	77.22	316	*e*P		P	09 16 05.2	-0.5	
BURAR	Bucovina Array	77.22	316	⇓ *i*P		P	09 16 05.3	-0.4	
MLR	Muntele Rosu	77.50	314	⇓ *i*P		P	09 16 07.1	-0.3	
DOPR	Dopca	77.69	315 ⇑	*i*P		P	09 16 08.1	-0.2	
ARCR	ARCALIA	77.95	316 ⇑	*i*P		P	09 16 09.9	+0.2	
KWP	Kalwaria Pacla	78.03	319	*e*P		P	09 16 09.8	-0.3	
KWP	Kalwaria Pacla	78.03	319	*e*P		P	09 16 09.8	-0.3	
VOIR		78.11	314 ⇑	*i*P		P	09 16 10.1	-0.6	
JMB	Yambol	78.14	311 ⇑	*i*P		P	09 16 10.4	-0.4	
ARR	Arges	78.40	314 ⇓	*i*P		P	09 16 12.1	-0.2	
KOLS	Kolonicke sedl	78.56	318	*e*P		P	09 16 12.4	-0.6	
KOLS				pmax	pmax				
	comp=Z,2.0nm,0.8s								
KOLS	Kolonicke sedl	78.56	318	*e*P		P	09 16 12.4	-0.6	
LOT	Lotru	78.91	315 ⇑	*i*P		P	09 16 14.9	-0.4	
NB2	NORSAR Subarra	79.08	332	P		P	09 16 14.1	-1.6	
	comp=Z,9.2nm,0.8s,baz=61,slow=5.3								
NOA	NORSAR Array B	79.08	332	P		P	09 16 14.1	-1.6	
	comp=Z,8.6nm,0.7s,baz=60,slow=5.6,SNR=26								
NOA				pP		pP	09 16 33.0	+2.1	
	comp=Z,1.9nm,0.7s,baz=58,slow=5.6,SNR=3.0								
NOA				LR		LR	09 54 41.5		
	comp=Z,82nm,20.0s,baz=255,slow=38								
DRGR		79.11	316 ⇓	*i*P		P	09 16 15.6	-0.6	
DLBC	Dease Lake	79.31	31	*e*P		P	09 16 17.8	+0.8	
	comp=Z,28nm,1.8s								
NAO01	NORSAR Array S	79.32	332	*e*P		P	09 16 15.2	-1.7	
	comp=Z,2.0nm,0.5s								
DEV	Deva	79.33	315 ⇓	*i*P		P	09 16 17.5	+0.2	
OJC	Ojcow	79.53	320	*e*P		P	09 16 18.0	-0.3	
OJC	Ojcow	79.53	320	*e*P		P	09 16 18.0	-0.3	
NIE	Niedzica	79.55	319	*e*P		P	09 16 18.6	+0.1	
NIE	Niedzica	79.55	319	*e*P		P	09 16 18.6	+0.1	
CHOS	Chios island	80.00	307	*e*P		P	09 16 27.9	+6.7	
VTS	Vitosha	80.41	312 ⇑	*i*P		P	09 16 23.2	-0.2	
NVR	Nevrokopi	80.44	311	*e*P		P	09 16 22.1	-1.3	
MMB	Musomiste	80.44	311	⇓ *i*P		P	09 16 22.9	-0.5	
SRS	Serrai	80.72	311	*e*P		P	09 16 23.5	-1.4	
MORC	Moravsky Berou	81.04	320 ⇑	*i*P		P	09 16 26.0	-0.5	
PLG	Polygyros	81.11	310	*e*P		P	09 16 25.4	-1.6	
KNT	Kendrikon	81.18	311	*e*P		P	09 16 26.6	-0.7	
KSP	Ksiaz	81.29	322	*e*P		P	09 16 27.5	-0.2	
KSP	Ksiaz	81.29	322	*e*P		P	09 16 27.5	-0.2	
KRLC	Kraliky	81.35	321	*i* P		P	09 16 27.8	-0.3	
KRLC	Kraliky	81.35	321	*i* P		P	09 16 27.8	-0.3	
DPC	Dobruska-Polom	81.50	321	*i* P		P	09 16 28.8	-0.1	
DPC	Dobruska-Polom	81.50	321	*i* P		P	09 16 28.8	-0.1	
VRAC	Vranov	81.80	320 ⇓	*i*P		P	09 16 29.6	-0.9	
LIT	Litokhoron	81.89	310	*e*P		P	09 16 29.6	-1.5	
PKSM	Moragy	81.91	317 ⇓	*i*P		P	09 16 30.2	-0.9	
DIVS	Divibare	81.94	315 ⇑	*i*P		P	09 16 30.4	-1.0	
LKR	Lokris	82.11	309	*e*P		P	09 16 29.9	-2.4	
KZN	Kozani	82.31	311	*e*P		P	09 16 31.8	-1.6	
FNA	Florina	82.39	311	*e*P		P	09 16 31.9	-1.9	
AGG	Agios Georgios	82.44	309	*e*P		P	09 16 31.2	-2.8	
THL	Klokotos Trika	82.44	310	*e*P		P	09 16 30.9	-3.1	
VAM	Vamos	82.52	305	*e*P		P	09 16 33.8	-0.7	
GOPC	GO Pecny, Ondr	82.58	321	*i* P		P	09 16 34.1	-0.4	
MAKR	Makrakomi, Fth	82.58	309	*e*P		P	09 16 32.5	-2.3	
BRG	Berggiesshubel	82.60	323	*e*P		P	09 16 33.5	-1.1	
	comp=Z,6.1nm,0.8s								
BRG	Berggiesshubel	82.60	323	*e*P		P	09 16 33.8	-0.8	
	comp=Z,6.0nm,0.8s								
BRG	Berggiesshubel	82.60	323	*e*P		P	09 16 33.5	-1.1	
BRG				pmax	pmax				
	comp=Z,6.0nm,0.8s								
PRU	Pruhonice	82.68	322	*i* P		P	09 16 34.4	-0.6	
PRU	Pruhonice	82.68	322	*i* P		P	09 16 34.4	-0.6	
NEST	Nestorio	82.77	311	*e*P		P	09 16 34.3	-1.5	
EVR	Evrytania	82.85	309	*e*P		P	09 16 33.8	-2.5	
CLL	Collm	82.92	323	*e*P		P	09 16 35.3	-1.0	
	comp=Z,13nm,0.9s								
CLL	Collm	82.92	323 ⇑	*i*P		P	09 16 35.2	-1.0	
CLL				pmax	pmax				
	comp=Z,13nm,0.9s								
CLL	Collm	82.92	323 ⇑	*i*P		P	09 16 35.2	-1.0	
	comp=Z,13nm,0.9s								
CLL				*e*sP		sP	09 16 58.0	+0.6	
VLI	Veliai	82.93	307	*e*P		P	09 16 31.6	-5.0	
KLV	Kalavryta, Ach	82.96	308	*e*P		P	09 16 33.7	-3.1	
EFP	Efpalio	82.98	309	*e*P		P	09 16 33.4	-3.4	
LAKA	Lakka	83.01	309	*e*P		P	09 16 35.4	-1.6	
DSL	Palaion Diasel	83.27	310	*e*P		P	09 16 36.4	-1.9	
PDO	Prodromos	83.43	309	*e*P		P	09 16 37.5	-1.6	
YKA	Yellowknife Ar	83.44	23	P		P	09 16 37.8	-0.8	
	comp=Z,0.7nm,0.4s,baz=307,slow=4.7,SNR=14								
ITM	Ithomi	83.48	308	*e*P		P	09 16 37.7	-1.7	
AMT	Artemida-Makis	83.49	308	*e*P		P	09 16 38.2	-1.3	
IGT	Igoumenitsa	83.64	310	*e*P		P	09 16 37.7	-2.5	
KHC	Kasperske Hory	83.64	321	*i* P		P	09 16 39.7	-0.4	
KHC	Kasperske Hory	83.64	321	*e*P		P	09 16 39.2	-0.9	
KHC				pmax	pmax				
	comp=Z,6.0nm,1.4s								
KHC	Kasperske Hory	83.64	321	*e*P		P	09 16 39.2	-0.9	
	comp=Z,6.2nm,1.4s								
TANN	Tannenbergstha	83.65	323	*e*P		P	09 16 39.0	-1.1	
	comp=Z,4.0nm,1.0s								
SGD	Sagiada	83.67	310	*e*P		P	09 16 38.5	-1.8	
GEC2	GERESS Array S	83.70	321	*e*P		P	09 16 39.9	-0.6	
	comp=Z,14nm,0.9s								
GERES	GERESS Array B	83.70	321	P		P	09 16 39.5	-0.9	
	comp=Z,7.9nm,0.8s,baz=57,slow=4.9,SNR=70								
PYL	PYLOS	83.73	307	*e*P		P	09 16 38.5	-2.2	
NKC	Novy Kostel	83.75	322	*e*P		P	09 16 39.9	-0.7	
NKC	Novy Kostel	83.75	322	*e*P		P	09 16 39.9	-0.7	
EXG	Exogi	83.88	309	*e*P		P	09 16 39.3	-2.1	
KEK	Kerkira	83.93	311	*e*P		P	09 16 40.0	-1.7	
MOX	Moxa	84.01	323	*e*P		P	09 16 41.1	-0.8	
	comp=Z,8.0nm,1.0s								
ABPO	Ambohimpanom	84.02	246	*e*P		P	09 16 42.6	0.0	
ABPO				pmax	pmax				
	comp=Z,25nm,1.3s								
ABPO	Ambohimpanom	84.02	246	*e*P		P	09 16 42.6	0.0	
	comp=Z,25nm,1.3s								
VLS	Valsamata	84.03	309	*e*P		P	09 16 39.8	-2.4	
WET	Wettzell	84.03	321	*e*P		P	09 16 41.9	-0.2	
	comp=Z,19nm,1.7s								
CLZ	Clausthal	84.08	324	*e*P		P	09 16 41.8	-0.4	
	comp=Z,16nm,0.9s								
ROTZ	Rotzenmuhle	84.11	322	*e*P		P	09 16 42.2	-0.2	
	comp=Z,16nm,1.2s								
VISS	Visnje	84.46	318	*i* P		P	09 16 43.5	-0.7	
GRF	Grafenberg Arr	84.70	322	*e*P		P	09 16 45.1	-0.3	
	comp=Z,10.0nm,0.8s								
RJOB	Jochberg	84.77	320	*e*P		P	09 16 45.0	-0.9	
	comp=Z,8.0nm,0.9s								
KMBO	Kilima Mbogo	85.36	267	P		P	09 16 50.2	+0.6	
	comp=Z,4.6nm,0.9s,baz=35,slow=7.7,SNR=9.2								
KMBO	Kilima Mbogo	85.36	267	*e*P		P	09 16 50.4	+0.8	
KMBO				pmax	pmax				
	comp=Z,27nm,1.6s								
KMBO	Kilima Mbogo	85.36	267	*e*P		P	09 16 50.4	+0.8	
	comp=Z,27nm,1.6s								
FUR	Furstenfeldbru	85.44	321	*e*P		P	09 16 48.8	-0.4	
	comp=Z,22nm,0.9s								
BUG	Bochum--Univer	85.93	325	*e*P		P	09 16 51.3	-0.1	
	comp=Z,22nm,1.2s								
WLF	Walferdange	87.51	324	*e*P		P	09 16 59.4	+0.2	
	comp=Z,28nm,1.3s								
CASY	Casey	89.86	184	*e*P		P	09 17 09.4	-0.2	
	comp=Z,8.9nm,1.0s								
KEST	Kesra	93.10	311	P		P	09 17 25.3	-0.4	
	comp=Z,1.4nm,0.9s,baz=79,slow=8.6,SNR=3.6								
NVAR	Mina Array Bea	96.62	43	P		P	09 17 42.3	+0.3	
	comp=Z,0.3nm,0.6s,baz=276,slow=3.4,SNR=4.0								
ESDC	Sonseca Array	99.30	321	LR		LR	10 05 13.8		
	comp=Z,41nm,18.0s,baz=255,slow=37								

ISCJB ***17*** *09:13:41.0±0.9, 14°.04N±0°.08×91°.91W±0°.06, h86km±7km, mb4.0/5, Error ellipse: s-maj=16.3km s-min=5.4km az=33.8*

CASC ***17*** *09:13:43.0±2.2, 13°.84N×91°.70W, h13km±20km, MD3.9, ML3.7*

IDC ***17*** *09:13:43.4±2.8, 14°.58N×91°.34W, h59km±27km, mb3.7/4, mb1 4.0/7, mb1mx3.6/23, mbtmp3.9/7, ML3.6/3, Error ellipse: s-maj=57.7km s-min=24.6km az=37.0*

MEX ***17*** *09:13:47.5±0.6, 14°.25N×92°.17W, h12km±128km, MD3.9*

ISC 17 09:13:41.0±1.2, 13°.99N±0°.09×91°.96W±0°.06, h77km±10km, n27,σ1°70/35, mb4.0/5, 4C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	Jato	0.45	44 ⇓	*i*P	Pn	09 13 54.8	+0.8
FUG	Fuego 3	1.17	67 ⇓	*e*P	Pn	09 14 01.9	-0.2
PCG	Pacaya	1.37	73 ⇑	*e*P	Pn	09 14 05.1	+0.4
PCG				*e*S	Sn	09 14 21.6	-1.0
NBG	Las Nubes	1.67	69	*e*P	Pn	09 14 10.3	+1.6
NBG				*e*S	Sn	09 14 32.0	+2.4
PCIG		2.10	325	*e*P	Pn	09 14 14.7	+0.6
PCIG				*e*S	Sn	09 14 35.4	-3.9
RBDL	Robledal	2.21	87	*e*P	Pn	09 14 15.9	+0.2
RTR	El Retiro	2.25	92	*e*P	Pn	09 14 16.5	+0.2
SBLS	San Blas	2.27	94 ⇑	*e*P	Pn	09 14 16.5	-0.1
SBLS				*e*S	Sn	09 14 43.6	-0.3
CCIG	Comitan	2.29	356	*i* P	Pn	09 14 19.0	+2.2
CCIG				*i* S	Sn	09 14 42.4	-1.8
SNJE	San Jose	2.29	93 ⇑	*e*P	Pn	09 14 17.0	+0.1
SNJE				*e*S	Sn	09 14 43.9	-0.4
MRL	Marmol	2.44	64	*e*P	Pn	09 14 19.9	+1.1
BOQS	Boqueron	2.61	95	*e*P	Pn	09 14 21.4	+0.2
SNET	Serv Nac Est T	2.66	96	*e*P	Pn	09 14 22.1	+0.3
SNET				AML	AML	09 14 56.6	
	comp=Z,615nm,0.2s						
LFU	La Fuente	2.77	95	*e*P	Pn	09 14 23.9	+0.7
LFRS	El Faro	2.84	97 ⇑	*i*P	Pn	09 14 24.7	+0.5
LFRS				*e*S	Sn	09 14 56.7	-0.7
LBRS	Las Brisas	2.84	95	*e*P	Pn	09 14 24.2	0.0
CMIG	Matias Romero	4.18	318	P	Pn	09 14 43.5	+1.2
	comp=Z,1.8nm,0.3s,baz=157,slow=10,SNR=59						
CMIG				S	Sn	09 15 30.6	+0.6
	comp=Z,9.5nm,0.3s,baz=62,slow=17,SNR=6.5						
TEIG	Tepich	7.13	29	P	Pn	09 15 22.6	0.0
	comp=Z,0.2nm,0.3s,baz=243,slow=15,SNR=5.1						
TEIG				S	Sn	09 16 38.2	-3.9
	baz=248,slow=14,SNR=2.7						
JTS	SantaAbangare	7.77	117	P	Pn	09 15 31.5	0.0
	comp=Z,1.8nm,0.3s,baz=307,slow=23,SNR=12						
JTS				S	Sn	09 16 53.4	-4.6
	comp=Z,0.3nm,0.3s,baz=292,slow=19,SNR=2.1						
TXAR	Lajitas Array	18.73	326	P	Pn	09 17 57.9	+2.9
	comp=Z,0.1nm,0.3s,baz=154,slow=12,SNR=10						
TKL	Tuckaleechee C	22.80	17	P	P	09 18 37.5	+0.2
	comp=Z,4.1nm,0.7s,baz=180,slow=11,SNR=6.7						
NVAR	Mina Array Bea	33.70	321	P	P	09 20 19.6	+4.4
	comp=Z,1.0nm,0.7s,baz=130,slow=8.7,SNR=11						
SCHQ	Schefferville	45.22	20	P	P	09 21 48.9	-1.5
	comp=Z,5.6nm,1.0s,baz=219,slow=14,SNR=3.3						
YKA	Yellowknife Ar	51.04	347	P	P	09 22 35.6	+0.5
	comp=Z,1.4nm,0.6s,baz=153,slow=7.7,SNR=6.8						
ILAR	Eielson Array	62.86	337	P	P	09 24 00.4	+1.8
	comp=Z,0.5nm,0.5s,baz=113,slow=5.2,SNR=10						
WRA	Warramunga Arr	135.43	256	PKP	PKPdf	09 33 00.4	+7.4
	comp=Z,0.2nm,0.5s,baz=86,slow=2.6,SNR=4.1						
CMAR	Chiang Mai Arr	146.01	341	PKPbc	PKPab	09 33 13.9	+0.4
	comp=Z,1.2nm,0.4s,baz=338,slow=3.1,SNR=7.8						

ISK ***17*** *09:37:32.6, 38°.63N×38°.24E, h15km, MD2.7*

CSEM ***17*** *09:37:34.8±0.3, 38°.33N×38°.06E, h8km, MD2.7, Error ellipse: s-maj=12.9km s-min=5.1km az=10.0*

DDA ***17*** *09:37:34.9, 38°.29N×38°.10E, h7km, MD2.6*

ISCJB ***17*** *09:37:35.2±0.7, 38°.34N±0°.09×38°.07E±0°.05, h11km±7km, Error ellipse: s-maj=15.0km s-min=6.1km az=9.0*

ISC 17 09:37:35.1±1.0, 38°.34N±0°.08×38°.08E±0°.04, h12km±9km, n10,σ0°71/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKCD	Akcadag	0.13	253	*i* P	Pg	09 37 38.2	-0.3
AKCD				*i* S	Sg	09 37 40.8	-0.1
AKCD	Akcadag	0.13	253	*i* P	Pg	09 37 38.2	-0.3
MALT	Malatya	0.27	94	*e*PG	Pg	09 37 40.4	-0.3
MALT				*e*SG	Sb	09 37 45.6	-1.0
MALT	Malatya	0.27	94	*e*Pg	Pg	09 37 40.4	-0.3
MALT				*e*Sg	Sb	09 37 45.6	-1.0
DARE	Darende-Malaty	0.53	297	*e*PG	Pg	09 37 44.6	-0.8
DARE				*e*SG	Sg	09 37 53.4	+0.9
DARE	Darende-Malaty	0.53	297	*e*Pg	Pg	09 37 44.6	-0.8
DARE				*e*Sg	Sg	09 37 53.4	+0.9
ELZG	Elazig	0.72	77	*i* P	Pg	09 37 48.8	-0.4
ELZG				*i* S	Sb	09 38 00.2	+0.4
ELZG	Elazig	0.72	77	*i* P	Pg	09 37 48.8	-0.4
ELZG				*i* S	Sb	09 38 00.2	+0.4
URFA	Urfa	1.07	147	*e*PN	Pn	09 37 56.4	+0.4
URFA	Urfa	1.07	147	*e*Pn	Pn	09 37 56.4	+0.4

ISCJB ***17*** *09:53:24.4±1.7, 27°.82N±0°.04×127°.67E±0°.05, h5km±11km, mb3.4/4, MS3.3/4, Error ellipse: s-maj=7.5km s-min=6.0km az=41.3*

JMA ***17*** *09:53:25.6±0.3, 27°.83N×127°.69E, h19km±4km, M3.3*

IDC ***17*** *09:53:26.1±1.2, 27°.46N×127°.08E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.4/40, mbtmp3.5/6, ML3.0/2, MS3.1/7, Ms1 3.1/7, ms1mx2.9/29, Error ellipse: s-maj=38.6km s-min=21.4km az=76.0*

ISC 17 09:53:25.7±2.5, 27°.79N±0°.05×127°.76E±0°.06, h10km±17km, n21,σ0°75/22, mb3.6/4, MS3.4/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIH	Iheya	0.77	166	P	Pb	09 53 41.2	0.0
JIH				*e*S	Sb	09 53 52.2	+0.4
JOKE	Okinoerabujima	0.84	120	P	Pb	09 53 42.4	+0.1
JOKE				*e*S	Sb	09 53 54.6	+0.9
JTK	Tokunoshima	1.06	90	P	Pb	09 53 46.3	+0.2
JTK				S	Sb	09 54 00.5	+0.5
JOW	Kunigami	1.06	154	P	Pn	09 53 45.6	-1.0
JOW				*e*S	Sn	09 54 01.1	-0.3
JAGN	Aguni-jima	1.28	201	P	Pn	09 53 48.8	-0.8
JAGN				*e*S	Sb	09 54 06.2	-0.2
JNTH	Nagotoyohara	1.29	169	P	Pn	09 53 49.5	-0.2
JNTH				*e*S	Sn	09 54 05.7	-1.3
JAMN	Amaminishikomi	1.33	70	P	Pn	09 53 49.2	-1.1
JJT2	Tamagusuku 2	1.64	180	P	Pb	09 53 56.1	0.0
JKE	Kume jima 2	1.69	211	P	Pn	09 53 54.8	-0.6
JAM	Amami Oshima	1.75	69	P	Pb	09 53 56.7	-1.1
JAM				*e*S	Sg	09 54 22.1	+0.2
JNU	Nakatsue	5.96	26	Pn	Pb	09 55 02.1	-7.6
	0.4nm,0.3s,baz=249,slow=8.6,SNR=5.3						
JNU				LR	LR	09 57 22.2	
	comp=Z,48nm,21.5s,baz=222,slow=36						
KSRS	Korea Array	9.64	1	LR	LR	09 59 30.3	
	comp=Z,42nm,18.2s,baz=171,slow=36						
MJAR	Matsushiro Arr	12.42	43	Pn	P	09 56 35.4	+0.7
	0.1nm,0.3s,baz=235,slow=10,SNR=5.4						
MJAR				LR	LR	10 01 59.8	
	comp=Z,46nm,18.9s,baz=235,slow=39						
SONM	Songino Array	26.03	326	P	P	09 59 00.3	+1.3
	0.7nm,0.7s,baz=141,slow=9.3,SNR=3.0						
TLY	Talaya	29.96	329	LR	LR	10 13 10.3	
	comp=Z,40nm,18.8s,baz=356,slow=40						
MKAR	Makanchi Array	40.19	311	P	P	10 01 02.1	-0.1
	0.1nm,0.3s,baz=97,slow=8.7,SNR=3.1						
WRA	Warramunga Arr	47.88	172	P	P	10 02 04.1	+0.1
	0.5nm,0.7s,baz=355,slow=8.4,SNR=4.2						
ASAR	Alice Springs	51.50	173	P	P	10 02 31.5	-0.1
	0.8nm,0.9s,baz=343,slow=8.1,SNR=4.1						
ARU	Arti	55.92	321	LR	LR	10 29 20.9	
	comp=Z,40nm,18.2s,baz=309,slow=39						
GEYT	Alibeck	58.16	299	LR	LR	10 31 40.8	
	comp=Z,39nm,19.0s,baz=100,slow=40						
NOA	NORSAR Array B	77.73	334	LR	LR	10 45 59.3	
	comp=Z,9.9nm,18.1s,baz=85,slow=41						

IDC 17 09:56:16.0±2.5, 16°.02S×173°.49W, h0km, mb3.5/5, mb1 3.9/6, mb1mx3.7/28, mbtmp3.5/6, ML3.4/1, Error ellipse: s-maj=142.3km s-min=21.5km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	2.68	38	Pn	Pn	09 56 58.9	-1.6
	7.2nm,0.3s,baz=54,slow=6.7,SNR=14						
AFI				Sn	Sn	09 57 27.3	-6.5
	22nm,0.3s,baz=88,slow=20,SNR=9.5						
H11N3	WAKE ISLAND Hy	40.41	331	T	T	10 46 46.8	
	baz=150,slow=76,SNR=6.4						
H11N1	WAKE ISLAND Hy	40.41	331	T	T	10 46 39.8	
	baz=150,slow=76,SNR=6.2						
H11N2	WAKE ISLAND Hy	40.43	331	T	T	10 46 42.6	
	baz=150,slow=76,SNR=5.9						
WRA	Warramunga Arr	49.82	257	P	P	10 05 08.9	-0.8
	0.3nm,0.6s,baz=96,slow=6.6,SNR=6.8						
ASAR	Alice Springs	49.84	252	P	P	10 05 10.8	-0.6
	0.7nm,0.6s,baz=89,slow=8.3,SNR=11						
NVAR	Mina Array Bea	74.85	42	P	P	10 07 59.0	+0.1
	0.2nm,0.4s,baz=282,slow=6.3,SNR=1.8						
PDAR	Pinedale Array	82.79	42	P	P

az=21.1

ISC 17 10:13:25.4±1.1, 33°6S±0.1×178.1W±0.2, h34km, n18, σ0§88/23, mb3.7/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.30**	**2**	Sn	**Sn**	**10 15 16.5**	**-0.9**
	49nm,0.3s,baz=122,slow=19,SNR=3.5						
WMGZ	**Waiomatatini S**	**5.12**	**213**	PN	**Pn**	**10 14 39.7**	**0.0**
HAZ	**Te Kaha**	**5.38**	**218**	PN	**Pn**	**10 14 45.1**	**+1.9**
HAZ				SN	**Sn**	**10 15 45.7**	**+1.8**
PUZ	**Puketiti**	**5.40**	**213**	PN	**Pn**	**10 14 43.2**	**-0.4**
PUZ				SN	**Sn**	**10 15 44.2**	**-0.3**
TWGZ	**Tauwhareparae**	**5.61**	**214**	PN	**Pn**	**10 14 46.5**	**+0.1**
MWZ	**Matawai**	**5.95**	**216**	PN	**Pn**	**10 14 51.2**	**+0.1**
MWZ				SN	**Sn**	**10 15 57.5**	**-0.6**
URZ	**Urewera**	**6.10**	**218**	Pn	**Pn**	**10 14 53.3**	**+0.1**
	0.9nm,0.3s,baz=263,slow=4.1,SNR=14						
URZ				Sn	**Sn**	**10 16 00.2**	**-1.6**
	6.9nm,0.3s,baz=186,slow=23,SNR=12						
URZ	**Urewera**	**6.10**	**218**	PN	**Pn**	**10 14 53.3**	**+0.1**
RAGZ	**Rawiri**	**6.13**	**215**	PN	**Pn**	**10 14 53.7**	**0.0**
SNGZ	**Shannon Statio**	**6.39**	**214**	SN	**Sn**	**10 16 09.1**	**0.0**
BKZ	**Black Stump Fm**	**7.11**	**217**	*e*PN	**Pn**	**10 15 06.2**	**-0.8**
RPZ	**Rata Peaks**	**13.22**	**217**	Pn	**Pn**	**10 16 29.4**	**-1.3**
	0.8nm,0.3s,baz=51,slow=6.0,SNR=5.2						
RPZ				Sn	Sn	10 18 41.5	-15
	0.7nm,0.3s,baz=112,slow=21,SNR=6.9						
ASAR	**Alice Springs**	**42.98**	**270**	P	**P**	**10 21 22.6**	**+1.0**
	0.4nm,0.5s,baz=107,slow=7.2,SNR=8.9						
ASAR				PcP	**PcP**	**10 23 11.6**	**-0.1**
	0.3nm,0.6s,baz=121,slow=4.0,SNR=3.7						
WRA	**Warramunga Arr**	**44.25**	**275**	P	**P**	**10 21 32.0**	**+0.2**
	0.6nm,0.5s,baz=117,slow=7.6,SNR=17						
NVAR	**Mina Array Bea**	**90.59**	**43**	P	**P**	**10 26 25.2**	**+0.9**
	0.5nm,0.7s,baz=220,slow=8.3,SNR=4.3						
MKAR	**Makanchi Array**	**119.73**	**309**	PKP	**PKPdf**	**10 32 11.1**	**-0.5**
	0.1nm,0.4s,baz=169,slow=1.5,SNR=3.2						
FINES	**FINESS Array B**	**148.07**	**338**	PKPbc	**PKPbc**	**10 33 06.5**	**-0.1**
	2.1nm,0.9s,baz=70,slow=2.2,SNR=5.4						
TORD	**Torodi Ar. Bea**	**159.67**	**179**	PKPab	**PKPab**	**10 33 59.3**	**-0.4**
	0.3nm,0.7s,baz=177,slow=3.3,SNR=2.6						

IDC 17 10:23:03.9±3.5, 53°74N×88°12E, h0km, mb1 3.0/2, mb1mx2.9/31, mbtmp3.0/2, ML2.8/2, 4C-2D, Error ellipse: s-maj=35.6km s-min=19.4km az=84.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.97**	**278**	*i*		10 35 30.0	
	baz=92,slow=317,SNR=26						
ZALV	**Zalesovo Beam**	**1.97**	**278**	Pn	Pn	10 23 38.6	0.0
	3.2nm,0.3s,baz=93,slow=17,SNR=47						
ZALV				Sn	Sb	10 24 05.3	-0.5
	4.6nm,0.3s,baz=96,slow=20,SNR=26						
KURBB	**Kurchatov Arra**	**6.67**	**246**	⇑Pn	Pn	10 24 43.7	+0.5
	1.1nm,0.4s,baz=63,slow=15						
KURBB				⇑Sn	Sn	10 25 58.1	-1.7
	5.6nm,0.7s						
KURBB				⇑Lg	Lg	10 26 33.7	
	4.4nm,0.6s,baz=65,slow=35						
KURBB	**Kurchatov Arra**	**6.67**	**246**	Pn	Pn	10 24 43.6	+0.5
	0.2nm,0.3s,baz=63,slow=14,SNR=8.3						
KURBB				Lg	Lg	10 26 35.3	
	0.0nm,0.3s,baz=60,slow=32,SNR=4.7						
MK31	**Makanchi Array**	**7.89**	**211**	⇓Pn	Pn	10 25 01.0	+1.1
	0.3nm,0.6s,baz=56,slow=9.7,SNR=3.9						
MK31				⇓Sn	Sn	10 26 28.2	-1.6
	1.4nm,0.8s						
MK31				⇑Lg	Lg	10 27 10.4	
	1.2nm,0.8s						
MKAR	**Makanchi Array**	**7.89**	**211**	Pn	Pn	10 25 01.0	+1.1
	0.1nm,0.3s,baz=31,slow=14,SNR=4.8						
MKAR				Sn	Sn	10 26 29.3	-0.5
	0.2nm,0.3s,baz=29,slow=25,SNR=5.5						
MKAR				Lg	Lg	10 27 13.0	
	0.1nm,0.3s,baz=22,slow=31,SNR=2.6						

ATH 17 10:35:01.1, 34°78N×24°12E, h26km±2km, MD3.6/23
ISCJB 17 10:35:03.0±1.2, 34°85N±0°09×24°11E±0°04, h27km, Error ellipse: s-maj=12.4km s-min=5.0km az=6.9
CSEM 17 10:35:02.5±0.5, 34°83N×24°14E, h12km, MD3.6, Error ellipse: s-maj=10.5km s-min=4.2km az=9.0
THE 17 10:35:02.6, 34°82N×24°19E, h0km±7km, ML3.1/1, Error ellipse: s-maj=11.3km s-min=1.7km az=187.0

ISC 17 10:35:05.9±1.8, 35°0N±0°1×24°24E±0°05, h27km, n82, σ1§05/91, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAM	**Vamos**	**0.44**	**356**	*e*PN	**Pb**	**10 35 13.8**	**-1.4**
VAM				*e*SN	**Sn**	**10 35 23.5**	**-0.1**
VAM	**Vamos**	**0.44**	**356**	*e*Pn	**Pb**	**10 35 13.8**	**-1.4**
VAM				*e*Sn	**Sn**	**10 35 23.5**	**-0.1**
IDI	**Anoyia**	**0.62**	**59**	*e*PB	**Pb**	**10 35 16.3**	**-2.0**
IDI				*e*SN	**Sn**	**10 35 28.9**	**+0.8**
IDI	**Anoyia**	**0.62**	**59**	P	**Pb**	**10 35 16.2**	**-2.0**
IDI				S	**Sn**	**10 35 28.6**	**+0.5**
IDI	**Anoyia**	**0.62**	**59**	P	**Pb**	**10 35 16.2**	**-2.0**
IDI				S	**Sn**	**10 35 28.6**	**+0.5**
IACM	**Heraklion**	**0.76**	**63**	*e*PN	**Pb**	**10 35 19.5**	**-1.0**
IACM	**Heraklion**	**0.76**	**63**	*e*Pn	**Pb**	**10 35 19.5**	**-1.0**
ANKY	**Antikythira Is**	**1.18**	**320**	*e*PN	**Pn**	**10 35 25.6**	**-1.0**
ANKY	**Antikythira Is**	**1.18**	**320**	*e*Pn	**Pn**	**10 35 25.6**	**-1.0**
ANKY	**Antikythira Is**	**1.18**	**320**	P	**Pn**	**10 35 26.1**	**-0.5**
ANKY				S	**Sb**	**10 35 45.2**	**+2.7**
ANKY	**Antikythira Is**	**1.18**	**320**	P	**Pn**	**10 35 26.1**	**-0.5**
ANKY				S	**Sb**	**10 35 45.2**	**+2.7**
KYTH	**Kithira**	**1.64**	**324**	*e*PN	**Pn**	**10 35 32.9**	**0.0**
KYTH	**Kithira**	**1.64**	**324**	P	**Pn**	**10 35 32.8**	**-0.1**
KYTH	**Kithira**	**1.64**	**324**	P	**Pn**	**10 35 32.8**	**-0.1**
THR6	**Thira Island,**	**1.68**	**34**	P	**Pb**	**10 35 34.6**	**-1.4**
THR6	**Thira Island,**	**1.68**	**34**	P	**Pb**	**10 35 34.6**	**-1.4**
THR5	**Thira Island,**	**1.71**	**32**	P	**Pb**	**10 35 35.0**	**-1.5**
THR5	**Thira Island,**	**1.71**	**32**	P	**Pb**	**10 35 35.0**	**-1.5**
SANT	**Santorini**	**1.72**	**35**	*e*PN	**Pb**	**10 35 35.0**	**-1.8**
SANT	**Santorini**	**1.72**	**35**	*e*Pn	**Pb**	**10 35 35.0**	**-1.8**
THR3	**Thira Island,**	**1.72**	**33**	P	**Pb**	**10 35 34.9**	**-1.9**
THR3	**Thira Island,**	**1.72**	**33**	P	**Pb**	**10 35 34.9**	**-1.9**
VLI	**Veliai**	**2.04**	**329**	*e*PB	**Pn**	**10 35 39.2**	**+0.7**
VLI	**Veliai**	**2.04**	**329**	P	**Pn**	**10 35 39.1**	**+0.6**
VLI	**Veliai**	**2.04**	**329**	P	**Pn**	**10 35 39.1**	**+0.6**
APE	**Apeiranthos**	**2.34**	**26**	*e*PN	**Pn**	**10 35 42.2**	**-0.5**
APE	**Apeiranthos**	**2.34**	**26**	P	**Pn**	**10 35 42.4**	**-0.3**
APE	**Apeiranthos**	**2.34**	**26**	P	**Pn**	**10 35 42.4**	**-0.3**
KARP	**Karpathos**	**2.46**	**76**	*e*PN	**Pn**	**10 35 44.6**	**+0.4**
KARP	**Karpathos**	**2.46**	**76**	*e*Pn	**Pn**	**10 35 44.6**	**+0.4**
KARP	**Karpathos**	**2.46**	**76**	P	**Pn**	**10 35 45.0**	**+0.8**
KARP	**Karpathos**	**2.46**	**76**	P	**Pn**	**10 35 45.0**	**+0.8**
KRND	**KRANIDI**	**2.57**	**340**	*e*PN	**Pn**	**10 35 44.2**	**-1.5**
KRND	**KRANIDI**	**2.57**	**340**	*e*Pn	**Pn**	**10 35 44.2**	**-1.5**
DIDY	**Didyma**	**2.64**	**342**	*e*PN	**Pn**	**10 35 46.3**	**-0.5**
DIDY	**Didyma**	**2.64**	**342**	*e*Pn	**Pn**	**10 35 46.3**	**-0.5**
DID	**Didima**	**2.66**	**343**	*e*PN	**Pn**	**10 35 46.5**	**-0.5**
DID				*e*SN	**Sn**	**10 36 19.8**	**+1.4**
DID	**Didima**	**2.66**	**343**	*e*Pn	**Pn**	**10 35 46.5**	**-0.5**
DID				*e*Sn	**Sn**	**10 36 19.8**	**+1.4**
PYL	**PYLOS**	**2.79**	**314**	*e*PN	**Pn**	**10 35 46.5**	**-2.3**
PYL	**PYLOS**	**2.79**	**314**	*e*Pn	**Pn**	**10 35 46.5**	**-2.3**
VLX	**Vlachokerasia**	**2.83**	**328**	*e*PB	**Pn**	**10 35 50.2**	**+0.8**
VLX	**Vlachokerasia**	**2.83**	**328**	*e*Pb	**Pn**	**10 35 50.2**	**+0.8**
ITM	**Ithomi**	**2.90**	**320**	*e*PB	**Pn**	**10 35 50.5**	**+0.3**
ITM	**Ithomi**	**2.90**	**320**	*e*Pb	**Pn**	**10 35 50.5**	**+0.3**
LTK	**Loutraki**	**3.22**	**342**	*e*PN	**Pn**	**10 35 54.2**	**-0.4**
LTK	**Loutraki**	**3.22**	**342**	*e*Pn	**Pn**	**10 35 54.2**	**-0.4**
VILL	**Villia**	**3.28**	**347**	*e*PN	**Pn**	**10 35 54.9**	**-0.6**
VIL2	**Platees**	**3.33**	**347**	*e*PN	**Pn**	**10 35 54.9**	**-1.3**
GUR	**Goura**	**3.33**	**333**	*e*PN	**Pn**	**10 35 55.8**	**-0.5**
GUR	**Goura**	**3.33**	**333**	*e*Pn	**Pn**	**10 35 55.8**	**-0.5**
GUR	**Goura**	**3.33**	**333**	P	**Pn**	**10 35 56.2**	**-0.1**
GUR	**Goura**	**3.33**	**333**	P	**Pn**	**10 35 56.2**	**-0.1**
ARG	**Arkhangelos**	**3.40**	**67**	*e*PN	**Pn**	**10 35 57.4**	**+0.2**
ARG	**Arkhangelos**	**3.40**	**67**	*e*Pn	**Pn**	**10 35 57.4**	**+0.2**
EREA	**Eretria**	**3.46**	**356**	*e*PN	**Pn**	**10 35 57.8**	**-0.1**
EREA	**Eretria**	**3.46**	**356**	*e*Pn	**Pn**	**10 35 57.8**	**-0.1**
KLV	**Kalavryta, Ach**	**3.50**	**332**	*e*PN	**Pn**	**10 35 58.4**	**-0.2**
KLV	**Kalavryta, Ach**	**3.50**	**332**	*e*Pn	**Pn**	**10 35 58.4**	**-0.2**
DSF	**Desfina**	**3.70**	**339**	*e*PN	**Pn**	**10 36 00.0**	**-1.3**
DSF	**Desfina**	**3.70**	**339**	*e*Pn	**Pn**	**10 36 00.0**	**-1.3**
CHOS	**Chios island**	**3.71**	**23**	*e*PN	**Pn**	**10 36 01.2**	**-0.3**
CHOS	**Chios island**	**3.71**	**23**	*e*Pn	**Pn**	**10 36 01.2**	**-0.3**
LAKA	**Lakka**	**3.74**	**332**	*e*PN	**Pn**	**10 36 01.5**	**-0.3**
LAKA	**Lakka**	**3.74**	**332**	*e*Pn	**Pn**	**10 36 01.5**	**-0.3**
MRKA	**Markates**	**3.77**	**352**	*e*PN	**Pn**	**10 36 01.8**	**-0.4**
MRKA	**Markates**	**3.77**	**352**	*e*Pn	**Pn**	**10 36 01.8**	**-0.4**
LKR	**Lokris**	**3.81**	**345**	*e*PN	**Pn**	**10 36 02.0**	**-0.7**
LKR	**Lokris**	**3.81**	**345**	*e*Pn	**Pn**	**10 36 02.0**	**-0.7**
KALE	**Kalithea**	**3.81**	**334**	*e*PN	**Pn**	**10 36 01.9**	**-0.9**
KALE	**Kalithea**	**3.81**	**334**	*e*Pn	**Pn**	**10 36 01.9**	**-0.9**
EFP	**Efpalio**	**3.93**	**332**	*e*PN	**Pn**	**10 36 03.5**	**-0.9**
EFP	**Efpalio**	**3.93**	**332**	*e*Pn	**Pn**	**10 36 03.5**	**-0.9**
AXAR	**Agios Charalam**	**4.00**	**342**	*e*PN	**Pn**	**10 36 05.8**	**+0.4**
AXAR	**Agios Charalam**	**4.00**	**342**	*e*Pn	**Pn**	**10 36 05.8**	**+0.4**
AGG	**Agios Georgios**	**4.33**	**340**	*e*PN	**Pn**	**10 36 09.2**	**-0.7**
AGG	**Agios Georgios**	**4.33**	**340**	*e*Pn	**Pn**	**10 36 09.2**	**-0.7**
MAKR	**Makrakomi, Fth**	**4.38**	**338**	*e*PN	**Pn**	**10 36 10.2**	**-0.4**
MAKR	**Makrakomi, Fth**	**4.38**	**338**	*e*Pn	**Pn**	**10 36 10.2**	**-0.4**
PDO	**Prodromos**	**4.38**	**327**	*e*PN	**Pn**	**10 36 10.2**	**-0.3**
PDO	**Prodromos**	**4.38**	**327**	*e*Pn	**Pn**	**10 36 10.2**	**-0.3**
EXG	**Exogi**	**4.53**	**321**	*e*PN	**Pn**	**10 36 12.9**	**+0.2**
EXG	**Exogi**	**4.53**	**321**	*e*Pn	**Pn**	**10 36 12.9**	**+0.2**

NNC 17 11:10:35.9±2.0, 42°09N×80°94E, h0km, mb3.7, mpv3.3, 13C-4D, Error ellipse: s-maj=13.6km s-min=10.1km az=157.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**1.64**	**319**	⇑P	Pn	11 11 05.2	-0.6
	22nm,0.4s						
PDGK				⇑S	Sg	11 11 28.3	-0.1
	46nm,0.4s						
KNDC	**Almaty**	**3.14**	**292**	⇑Pg	Pb	11 11 32.5	-0.2
	20nm,0.3s						
KNDC				⇓Lg	Lg	11 12 12.5	
	55nm,0.5s						
TKM2	**Tokmak 2**	**4.04**	**284**	⇓Pn	Pn	11 11 41.2	+1.9
	3.0nm,0.6s						
TKM2				⇓Lg	Lg	11 12 42.1	
	21nm,0.5s						
MK31	**Makanchi Array**	**4.80**	**11**	⇑Pn	Pn	11 11 49.8	+0.4
	1.3nm,0.6s,baz=238,slow=28,SNR=3.6						
MK31				⇓Pg	Pb	11 11 59.1	-1.7
	1.3nm,0.5s,baz=194,slow=13,SNR=4.8						
MK31				⇓Sn	Sn	11 12 47.6	+1.8
	5.4nm,0.6s,baz=190,slow=22,SNR=10						
MK31				⇑Lg	Lg	11 13 05.1	
	5.5nm,0.5s,baz=192,slow=28,SNR=3.7						
AAK	**Ala-Archa**	**4.81**	**279**	⇑Pg	Pb	11 12 04.3	+3.1
	4.1nm,0.7s						
AAK				⇑Lg	Lg	11 13 06.8	
	16nm,0.7s						
KK31	**Karatay Array**	**7.76**	**281**	⇑Lg	Lg	11 14 40.3	
	2.4nm,0.4s,baz=86,slow=29,SNR=6.6						
KURBB	**Kurchatov Arra**	**8.69**	**350**	⇑Sn	Sn	11 14 24.9	+3.4
	4.3nm,0.6s						
KURBB				⇑Lg	Lg	11 15 08.0	
	9.6nm,0.8s						
KURK	**Kurchatov**	**8.77**	**350**	⇑Sn	Sn	11 14 24.9	+1.5
	1.7nm,1.2s						
KURK				⇑Lg	Lg	11 15 09.6	
	2.4nm,0.8s						

NIED 17 11:11:00, 22°.40N×123°.70E, h8km, Mw4.0 Best double couple: Mo1.28000×10^15 NP1:φ=229.00000°, δ60.00000°, λ178.00000°. NP2:φ=320.00000°, δ88.00000°, λ30.00000°.
IDC 17 11:11:11.2±1.2, 22°.33N×124°.09E, h0km, mb3.6/8, mb1 3.8/9, mb1mx3.6/60, mbtmp3.7/9, ML4.4/2, MS3.0/6, Ms1 3.0/6, ms1mx2.7/30, Error ellipse: s-maj=40.9km s-min=16.7km az=72.0
ISCJB 17 11:11:13.9±0.3, 22°.34N±0°.02×123°.89E±0°.04, h33km, mb3.7/10, MS2.9/4, Error ellipse: s-maj=5.2km s-min=3.0km az=20.0
NEIC 17 11:11:14.4±0.6, 22°.40N×123°.73E, h10km, mb4.3/3, Error ellipse: s-maj=9.9km s-min=7.9km az=110.0
JMA 17 11:11:14.6±0.6, 22°.36N×123°.74E, h53km, M4.2

ISC 17 11:11:16.2±0.7, 22°41N±0°05×123°90E±0°05, h35km, n56, σ1§81/72, mb3.6/10, MS2.9/4, 1D, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**1.64**	**357**	P	**Pn**	**11 11 42.8**	**+0.3**
HATJ				S	**Sn**	**11 12 02.6**	**+0.2**
JKRS	**Kuro-shima**	**1.82**	**3**	P	**Pn**	**11 11 45.4**	**+0.4**
JKRS				S	**Sn**	**11 12 07.7**	**+0.9**
IRIF	**Iriomote-Funau**	**1.92**	**356**	P	**Pn**	**11 11 47.1**	**+0.7**
IRIF				S	**Sn**	**11 12 09.7**	**+0.4**
JIJ	**Ishigaki jima**	**1.96**	**7**	P	**Pn**	**11 11 47.0**	**+0.1**
JIJ				S	**Sn**	**11 12 09.5**	**-0.7**
YOJ	**Yonaguni jima**	**2.19**	**338**	P	**Pn**	**11 11 50.7**	**+0.5**
YOJ				S	**Sn**	**11 12 15.6**	**-0.5**
YOJ	**Yonaguni jima**	**2.19**	**338**	*e*Pn	**Pn**	**11 11 50.4**	**+0.2**
YOJ				*e*Sn	**Sn**	**11 12 15.8**	**-0.3**
JISG	**Ishigakijimahi**	**2.20**	**10**	P	**Pn**	**11 11 52.0**	**0.0**
JISG				S	**Sn**	**11 12 16.4**	**+0.2**
JYNG	**Yonagunijimaku**	**2.21**	**337**	P	**Pn**	**11 11 50.7**	**+0.3**
JYNG				S	**Sn**	**11 12 16.5**	**+0.1**
JTJ	**Tarama**	**2.34**	**18**	P	**Pn**	**11 11 52.3**	**+0.2**
JTJ				S	**Sn**	**11 12 21.0**	**+1.4**
YULB	**Yu-li**	**2.59**	**293**	*e*Pn	**Pn**	**11 11 53.3**	**-2.3**
YULB				*e*Sn	Sn	11 12 18.9	-6.9
TWG	**Pinlang**	**2.64**	**279**	*e*Pn	Pn	11 11 53.2	-3.1
TWG				*e*Sn	**Sn**	**11 12 23.6**	**-3.5**
JIRB	**Irabujima**	**2.67**	**26**	P	**Pn**	**11 11 56.9**	**+0.1**
JIRB				*e*S	**Sn**	**11 12 29.3**	**+1.3**
JMJ	**Miyako jima 2**	**2.71**	**28**	P	**Pn**	**11 11 58.6**	**+1.3**
JMJ				*e*S	**Sn**	**11 12 30.3**	**+1.4**
JOGS	**Gusukube**	**2.72**	**30**	P	**Pn**	**11 11 58.2**	**+0.8**
JOGS				*e*S	**Sn**	**11 12 30.5**	**+1.5**
NACB	**Ninganchiao**	**2.75**	**310**	*e*Pn	**Pn**	**11 11 56.5**	**-1.3**
JIKM	**Ikemajima**	**2.79**	**26**	P	**Pn**	**11 12 00.4**	**+2.0**
JIKM				*e*S	**Sn**	**11 12 30.7**	**+1.9**
SSLB	**Suanglung**	**3.03**	**297**	*e*Pn	**Pn**	**11 11 50.3**	**-1.4**
SSLB				*e*Sn	Sn	11 12 26.5	-10
YHNB	**Yeheng**	**3.22**	**315**	*e*Pn	**Pn**	**11 12 04.8**	**+0.4**
SGCP	**Mt. Cagua**	**4.50**	**203**	*e*P	**Pn**	**11 12 19.1**	**-2.7**
SGCP				*e*S	Sn	11 12 48.8	-24
JKE	**Kume jima 2**	**4.70**	**34**	P	**Pn**	**11 12 24.5**	**-0.2**
JKE				*e*S	**Sn**	**11 13 16.8**	**-1.2**
CVP	**Callao Caves**	**5.08**	**203**	⇓*e*P	**Pn**	**11 12 27.4**	**-2.4**
JJT2	**Tamagusuku 2**	**5.11**	**43**	P	**Pn**	**11 12 31.2**	**+0.9**
JAGN	**Aguni-jima**	**5.16**	**36**	P	**Pn**	**11 12 30.4**	**-0.5**
JAGN				*e*S	**Sn**	**11 13 27.8**	**-1.3**
APYP	**Conner**	**5.17**	**209**	*e*P	Pn	11 12 26.5	-4.6
JNTH	**Nagotoyohara**	**5.55**	**42**	P	**Pn**	**11 12 35.9**	**-0.5**
JNTH				*e*S	**Sn**	**11 13 33.7**	**-5.3**
CAUP	**Cauayan**	**5.78**	**200**	*e*P	**Pn**	**11 12 38.6**	**-0.9**
SZP	**Santa**	**5.82**	**214**	*e*Pn	**Pn**	**11 12 39.9**	**-0.1**
	109nm,0.6s						
JIH	**Iheya**	**5.91**	**38**	P	**Pn**	**11 12 40.6**	**-0.6**
JIH				*e*S	**Sn**	**11 13 44.1**	**-3.5**
JOW	**Kunigami**	**5.94**	**41**	P	**Pn**	**11 12 41.2**	**-0.4**
JOW				*e*S	**Sn**	**11 13 46.7**	**-1.7**
JOW	**Kunigami**	**5.94**	**41**	*e*Pn	**Pn**	**11 12 41.4**	**-0.3**
	9.7nm,0.4s						
JOW				*e*Sn	**Sn**	**11 13 45.1**	**-3.3**
JOKE	**Okinoerabujima**	**6.50**	**40**	P	**Pn**	**11 12 47.8**	**-1.6**
JOKE				*e*S	**Sn**	**11 14 01.0**	**-1.4**
BALP	**Baler**	**6.99**	**199**	*e*P	**Pn**	**11 12 54.9**	**-1.2**
JTK	**Tokunoshima**	**7.04**	**40**	P	**Pn**	**11 12 55.3**	**-1.5**
JTK				*e*S	Sn	11 14 10.0	-5.7
JMZ	**Minamidaito 2**	**7.50**	**62**	*e*S	Sn	11 14 20.6	-6.4
JAMN	**Amaminishikomi**	**7.52**	**38**	P	**Pn**	**11 13 01.2**	**-2.1**
JAMN				*e*S	**Sn**	**11 14 22.7**	**-4.6**
JAM	**Amami Oshima**	**7.89**	**40**	P	**Pn**	**11 13 06.7**	**-1.8**
JAM				*e*S	**Sn**	**11 14 32.9**	**-3.7**
TGY	**Tagaytay City**	**8.73**	**199**	Pn	**Pn**	**11 13 20.5**	**+0.4**
	19nm,0.3s,baz=45,slow=2.0,SNR=7.1						
JNU	**Nakatsue**	**12.32**	**29**	LR	LR	11 19 49.7	
	comp=Z,74nm,18.1s,baz=176,slow=42						
KSAR	**Wonju Array Be**	**15.37**	**12**	Pn	**P**	**11 14 51.7**	**-3.0**
KSRS	**Korea Array**	**15.39**	**12**	Pn	**Pn**	**11 14 51.7**	**+1.0**
	0.4nm,0.3s,baz=190,slow=13,SNR=15						
KSRS				LR	LR	11 21 05.6	
	comp=Z,49nm,18.3s,baz=233,slow=39						
MAJO	**Matsushiro**	**18.77**	**38**	*e*P	**Pn**	**11 15 36.4**	**+3.4**
	14nm,0.8s						
MAT	**Matsushiro**	**18.77**	**38**	P	Pn	11 15 37.4	+4.4
MAT				*e*S	**S**	**11 19 06.8**	**+2.7**
MJAR	**Matsushiro Arr**	**18.77**	**38**	P	Pn	11 15 37.0	+4.0
	0.4nm,0.3s,baz=227,slow=10,SNR=36						
TNTI	**Ternate**	**21.77**	**171**	*e*P	**P**	**11 16 05.4**	**+0.3**
	83nm,0.8s						
CMAR	**Chiang Mai Arr**	**23.70**	**265**	P	**P**	**11 16 26.3**	**+1.3**
	0.4nm,0.3s,baz=71,slow=8.7,SNR=2.9						
CMAR				LR	LR	11 27 58.7	
	comp=Z,20nm,18.1s,baz=134,slow=42						
ASAJ	**Asahikawa**	**26.58**	**31**	*e*P	**P**	**11 16 54.5**	**+3.5**
	2.8nm,0.9s						
SONM	**Songino Array**	**28.99**	**335**	P	**P**	**11 17 13.9**	**+1.3**
	1.8nm,0.9s,baz=146,slow=8.3,SNR=2.8						
SONM				LR	LR	11 29 42.0	
	comp=Z,37nm,20.1s,baz=159,slow=38						
PETK	**Petropavlovsk-**	**40.00**	**31**	LR	LR	11 35 13.5	
	comp=Z,12nm,19.8s,baz=261,slow=36						
MKAR	**Makanchi Array**	**41.34**	**316**	P	**P**	**11 19 00.0**	**+1.4**
	0.6nm,0.6s,baz=104,slow=8.9,SNR=4.4						
ZALV	**Zalesovo Beam**	**43.08**	**327**	P	**P**	**11 19 14.2**	**+1.6**
	1.4nm,0.8s,baz=112,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**43.32**	**166**	P	**P**	**11 19 13.4**	**-1.5**
	0.9nm,0.6s,baz=346,slow=9.2,SNR=9.3						
SEY	**Seymchan**	**44.83**	**18**	LR	LR	11 40 37.6	
	comp=Z,29nm,18.4s,baz=2.5,slow=39						
KURK	**Kurchatov**	**45.04**	**320**	P	**P**	**11 19 30.1**	**+1.7**
KURBB	**Kurchatov Arra**	**45.06**	**320**	P	**P**	**11 19 30.2**	**+1.6**
	0.6nm,0.8s,baz=112,slow=8.3,SNR=3.5						
ASAR	**Alice Springs**	**46.83**	**167**	P	**P**	**11 19 42.0**	**-0.8**
	0.5nm,0.8s,baz=350,slow=7.6,SNR=7.5						
BVAR	**Borovoye Array**	**50.61**	**321**	P	**P**	**11 20 12.9**	**+1.3**
	0.3nm,0.5s,baz=81,slow=4.5,SNR=2.3						

DDA 17 11:30:09.9, 38°.56N×26°.71E, h7km, MD2.6

ISC 17 11:30:06.4±3.5, 38°75N±0°09×26°7E±0°2, h12km, n4, σ0§26/6, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.40**	**195**	*i* P	**Pg**	**11 30 14.5**	**+0.2**
URLA				*i* S	**Sb**	**11 30 21.1**	**-0.3**
ZEY	**˙zmir**	**0.54**	**199**	*i* P	**Pg**	**11 30 16.9**	**+0.1**
ZEY				*i* S	**Sb**	**11 30 25.2**	**-0.1**
CHOS	**Chios island**	**0.64**	**236**	*e*PG	**Pg**	**11 30 18.9**	**+0.2**
SIGR	**SIGRI**	**0.82**	**305**	*e*PG	**Pg**	**11 30 22.3**	**+0.1**

ISCJB 17 11:39:34.2±0.6, 30°.77N±0°.07×103°.6E±0°.1, h10km, mb3.5/6, Error ellipse: s-maj=13.8km s-min=8.0km az=152.6
IDC 17 11:39:34.0±1.0, 30°.62N×103°.39E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.4/44, mbtmp3.6/7, ML3.1/1, Error ellipse: s-maj=40.9km s-min=18.0km az=57.0
BJI 17 11:39:38.8, 30°.72N×103°.37E, h22km, ML3.3/19

ISC 17 11:39:35.8±1.0, 30°73N±0°06×103°52E±0°08, h10km, n12, σ1§46/14, mb3.6/6, Sichuan

| Code | Station Name | Δ° |

*THE **17** 12:34:44.8, 39°.29N×24°.08E, h6km±1km, ML2.5/9, Error ellipse: s-maj=1.4km s-min=0.8km az=36.0*

ISC 17 12:34:44.2±0.9, 39°.30N±0°.02×24°.09E±0°.02, h16km±6km, n100, σ0.61/150, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
AOS	**Alonnisos**	**0.21**	**231**	*e*PB **Pg**	**12 34 49.1**	**0.0**
AOS	**Alonnisos**	**0.21**	**231**	*e*Pb **Pg**	**12 34 49.1**	**0.0**
AOS	**Alonnisos**	**0.21**	**231**	P **Pg**	**12 34 49.0**	**0.0**
AOS				S **Sg**	**12 34 52.1**	**-0.3**
NEO	**Neokhori**	**0.67**	**271**	*e*PN **Pb**	**12 34 58.1**	**+0.5**
NEO				*e*SN **Sg**	**12 35 06.3**	**0.0**
NEO	**Neokhori**	**0.67**	**271**	P **Pb**	**12 34 58.0**	**+0.5**
NEO				S **Sg**	**12 35 06.4**	**+0.1**
NEO	**Neokhori**	**0.67**	**271**	P **Pb**	**12 34 58.0**	**+0.5**
NEO				S **Sg**	**12 35 06.4**	**+0.1**
XOR	**Xorichti**	**0.70**	**276**	*e*PN **Pb**	**12 34 58.0**	**0.0**
XOR				*e*SN **Sg**	**12 35 07.2**	**0.0**
XOR	**Xorichti**	**0.70**	**276**	*e*Pn **Pb**	**12 34 58.0**	**0.0**
XOR	**Xorichti**	**0.70**	**276**	P **Pb**	**12 34 58.5**	**+0.5**
XOR				*e*Sn **Sg**	**12 35 07.2**	**0.0**
XOR	**Xorichti**	**0.70**	**276**	P **Pb**	**12 34 58.5**	**+0.5**
XOR				S **Sb**	**12 35 07.5**	**+0.1**
PAIG	**Paliouri**	**0.70**	**333**	*e*PN **Pb**	**12 34 58.0**	**-0.1**
PAIG				*e*SN **Sb**	**12 35 08.2**	**+0.7**
PAIG	**Paliouri**	**0.70**	**333**	P **Pb**	**12 34 58.0**	**-0.1**
PAIG				*e*Sn **Sb**	**12 35 08.2**	**+0.7**
PAIG				S **Sn**	**12 35 09.1**	**-0.9**
PAIG	**Paliouri**	**0.70**	**333**	P **Pb**	**12 34 58.0**	**-0.1**
PAIG				S **Sn**	**12 35 09.1**	**-0.9**
MRKA	**Markates**	**0.71**	**213**	*e*PN **Pg**	**12 34 58.0**	**-0.1**
MRKA				*e*SN **Sg**	**12 35 07.7**	**+0.2**
MRKA	**Markates**	**0.71**	**213**	P **Pg**	**12 34 58.0**	**-0.1**
MRKA				*e*Sn **Sg**	**12 35 07.7**	**+0.2**
MRKA				S **Sb**	**12 35 08.3**	**+0.5**
MRKA	**Markates**	**0.71**	**213**	P **Pg**	**12 34 58.0**	**-0.1**
MRKA				S **Sb**	**12 35 08.3**	**+0.5**
SMIA	**Simia**	**0.80**	**239**	*e*PN **Pg**	**12 35 00.2**	**+0.3**
SMIA				*e*SN **Sn**	**12 35 11.6**	**-0.9**
SMIA	**Simia**	**0.80**	**239**	P **Pg**	**12 35 00.2**	**+0.3**
SMIA				S **Sg**	**12 35 11.0**	**+0.5**
SMIA	**Simia**	**0.80**	**239**	P **Pg**	**12 35 00.2**	**+0.3**
SMIA				S **Sg**	**12 35 11.0**	**+0.5**
EREA	**Eretria**	**0.89**	**188**	*e*PN **Pn**	**12 35 02.6**	**+0.5**
EREA				*e*SN **Sg**	**12 35 13.4**	**+0.3**
EREA	**Eretria**	**0.89**	**188**	P **Pn**	**12 35 02.3**	**+0.2**
EREA	**Eretria**	**0.89**	**188**	*e*Pn **Pn**	**12 35 02.6**	**+0.5**
EREA				*e*Sn **Sg**	**12 35 13.4**	**+0.3**
EREA	**Eretria**	**0.89**	**188**	P **Pn**	**12 35 02.3**	**+0.2**
EREA				S **Sg**	**12 35 13.7**	**+0.6**
ATAL	**Atalanti**	**1.03**	**234**	P **Pb**	**12 35 03.8**	**+0.1**
ATAL				S **Sn**	**12 35 18.8**	**+0.7**
ATAL	**Atalanti**	**1.03**	**234**	P **Pb**	**12 35 03.8**	**+0.1**
ATAL				S **Sn**	**12 35 18.8**	**+0.7**
LIA	**Limnos Island**	**1.03**	**54**	*e*PN **Pg**	**12 35 04.4**	**+0.2**
LIA				*e*SN **Sn**	**12 35 18.5**	**+0.3**
LIA	**Limnos Island**	**1.03**	**54**	*e*Pn **Pg**	**12 35 04.6**	**+0.2**
LIA	**Limnos Island**	**1.03**	**54**	P **Pg**	**12 35 04.7**	**+0.5**
LIA				*e*Sn **Sn**	**12 35 18.5**	**+0.3**
LIA	**Limnos Island**	**1.03**	**54**	P **Pg**	**12 35 04.7**	**+0.5**
LIA				S **Sn**	**12 35 18.8**	**+0.6**
OUR	**Ouranopolis**	**1.04**	**355**	*e*PN **Pb**	**12 35 03.4**	**-0.4**
OUR				*e*SN **Sg**	**12 35 17.5**	**-0.3**
OUR	**Ouranopolis**	**1.04**	**355**	*e*Pn **Pb**	**12 35 03.4**	**-0.4**
OUR				*e*Sn **Sg**	**12 35 17.5**	**-0.3**
LKR	**Lokris**	**1.07**	**233**	*e*PN **Pb**	**12 35 04.2**	**0.0**
LKR				*e*SN **Sg**	**12 35 18.8**	**-0.1**
LKR	**Lokris**	**1.07**	**233**	P **Pb**	**12 35 04.3**	**0.0**
LKR				*e*Sn **Sg**	**12 35 18.8**	**-0.1**
LKR	**Lokris**	**1.07**	**233**	P **Pb**	**12 35 04.3**	**0.0**
PLG	**Polygyros**	**1.18**	**335**	*e*PN **Pn**	**12 35 05.6**	**-0.5**
PLG				*e*SN **Sn**	**12 35 21.7**	**-0.2**
PLG	**Polygyros**	**1.18**	**335**	*e*Pn **Pn**	**12 35 05.6**	**-0.5**
PLG				*e*Sn **Sn**	**12 35 21.7**	**-0.2**
VIL2	**Platees**	**1.26**	**211**	*e*PN **Pb**	**12 35 08.0**	**-0.4**
VIL2				*e*SN **Sg**	**12 35 25.3**	**+0.3**
VILL	**Villia**	**1.29**	**208**	P **Pb**	**12 35 08.0**	**-0.1**
VILL				*e*Sn **Sn**	**12 35 25.3**	**+0.8**
VILL	**Villia**	**1.29**	**208**	P **Pb**	**12 35 08.0**	**-0.1**
VILL				S **Sg**	**12 35 25.8**	**0.0**
ATH	**Athens Observa**	**1.36**	**193**	*e*PN **Pg**	**12 35 10.3**	**-0.1**
ATH				*e*SN **Sn**	**12 35 21.9**	**-4.2**
ATH	**Athens Observa**	**1.36**	**193**	*e*Pn **Pg**	**12 35 10.3**	**-0.1**
SIGR	**SIGRI**	**1.37**	**93**	*e*PN **Pn**	**12 35 08.9**	**+0.2**
SIGR	**SIGRI**	**1.37**	**93**	*e*Pn **Pn**	**12 35 08.9**	**+0.2**
AGG	**Agios Georgios**	**1.40**	**259**	*e*PN **Pn**	**12 35 09.1**	**+0.1**
AGG				*e*SN **Sg**	**12 35 29.1**	**-0.2**
AGG	**Agios Georgios**	**1.40**	**259**	P **Pn**	**12 35 09.2**	**+0.2**
AGG				*e*Sn **Sg**	**12 35 29.1**	**-0.2**
AGG	**Agios Georgios**	**1.40**	**259**	P **Pn**	**12 35 09.2**	**+0.2**
AGG				S **Sg**	**12 35 29.7**	**+0.4**
LIT	**Litokhoron**	**1.47**	**303**	*e*PB **Pn**	**12 35 09.7**	**-0.4**
LIT				*e*SN **Sn**	**12 35 28.2**	**-0.8**
LIT	**Litokhoron**	**1.47**	**303**	*e*Pb **Pn**	**12 35 09.7**	**-0.4**
LIT				*e*Sn **Sn**	**12 35 28.2**	**-0.8**
HORT	**Hortiatis**	**1.50**	**330**	*e*PN **Pn**	**12 35 11.0**	**+0.4**
HORT	**Hortiatis**	**1.50**	**330**	*e*Pn **Pn**	**12 35 11.0**	**+0.4**
DESF	**Desfina**	**1.50**	**234**	*e*PN **Pb**	**12 35 11.6**	**-0.2**
DESF	**Desfina**	**1.50**	**234**	*e*Pn **Pb**	**12 35 11.6**	**-0.2**
DSF	**Desfina**	**1.51**	**234**	*e*PN **Pn**	**12 35 10.7**	**+0.1**
DSF				*e*SN **Sn**	**12 35 30.1**	**+0.1**
DSF	**Desfina**	**1.51**	**234**	P **Pn**	**12 35 10.8**	**+0.1**
DSF				*e*Sn **Sn**	**12 35 30.1**	**+0.1**
DSF	**Desfina**	**1.51**	**234**	P **Pn**	**12 35 10.8**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.55**	**260**	*e*PN **Pb**	**12 35 12.9**	**+0.4**
MAKR				*e*SN **Sb**	**12 35 31.6**	**-0.3**
MAKR	**Makrakomi, Fth**	**1.55**	**260**	*e*Pn **Pb**	**12 35 12.9**	**+0.4**
MAKR				*e*Sn **Sb**	**12 35 31.6**	**-0.3**
MAKR	**Makrakomi, Fth**	**1.55**	**260**	P **Pb**	**12 35 13.0**	**+0.4**
MAKR				S **Sg**	**12 35 33.6**	**-0.5**
LTK	**Loutraki**	**1.55**	**215**	*e*PN **Pb**	**12 35 13.0**	**+0.5**
LTK	**Loutraki**	**1.55**	**215**	*e*Pn **Pb**	**12 35 13.0**	**+0.5**
LOUT	**Loutraki**	**1.57**	**214**	*e*PN **Pn**	**12 35 11.8**	**+0.3**
LOUT	**Loutraki**	**1.57**	**214**	*e*Pn **Pn**	**12 35 11.8**	**+0.3**
NAIG	**Nisos Aigina**	**1.61**	**197**	*e*PN **Pb**	**12 35 12.9**	**-0.7**
NAIG	**Nisos Aigina**	**1.61**	**197**	*e*Pn **Pb**	**12 35 12.9**	**-0.7**
SMTH	**Samothraki Isl**	**1.61**	**43**	*e*PB **Pn**	**12 35 11.8**	**-0.2**
SMTH	**Samothraki Isl**	**1.61**	**43**	*e*Pb **Pn**	**12 35 11.8**	**-0.2**
SOH	**Sokhos**	**1.62**	**340**	*e*PN **Pn**	**12 35 12.7**	**+0.5**
SOH				*e*SN **Sn**	**12 35 32.1**	**-0.7**
SOH	**Sokhos**	**1.62**	**340**	*e*Pn **Pn**	**12 35 12.7**	**+0.5**
SOH				*e*Sn **Sn**	**12 35 32.1**	**-0.7**
THL	**Klokotos Trika**	**1.63**	**280**	*e*PB **Pn**	**12 35 12.2**	**0.0**
THL				*e*SN **Sn**	**12 35 32.2**	**-0.6**
THL	**Klokotos Trika**	**1.63**	**280**	*e*Pb **Pn**	**12 35 12.2**	**0.0**
THL				*e*Sn **Sn**	**12 35 32.2**	**-0.6**
KAVA	**Kavala**	**1.73**	**11**	*e*PB **Pn**	**12 35 13.5**	**0.0**
KAVA	**Kavala**	**1.73**	**11**	*e*Pb **Pn**	**12 35 13.5**	**0.0**
KALE	**Kalithea**	**1.77**	**240**	*e*PN **Pn**	**12 35 15.3**	**+1.0**
KALE	**Kalithea**	**1.77**	**240**	*e*Pn **Pn**	**12 35 15.3**	**+1.0**
EVR	**Evrytania**	**1.81**	**259**	*e*PN **Pn**	**12 35 15.6**	**+0.7**
EVR	**Evrytania**	**1.81**	**259**	*e*Pn **Pn**	**12 35 15.6**	**+0.7**
TRIZ	**Trizonia**	**1.83**	**240**	*e*PN **Pb**	**12 35 16.6**	**-0.7**
TRIZ	**Trizonia**	**1.83**	**240**	*e*Pn **Pb**	**12 35 16.6**	**-0.7**
SRS	**Serrai**	**1.85**	**348**	*e*PB **Pn**	**12 35 15.7**	**+0.4**
SRS	**Serrai**	**1.85**	**348**	*e*Pb **Pn**	**12 35 15.7**	**+0.4**
DID	**Didima**	**1.91**	**201**	*e*PN **Pn**	**12 35 16.5**	**+0.3**
DID	**Didima**	**1.91**	**201**	*e*Pn **Pn**	**12 35 16.5**	**+0.3**
GUR	**Goura**	**1.93**	**226**	*e*PB **Pn**	**12 35 17.1**	**+0.6**
GUR	**Goura**	**1.93**	**226**	*e*Pb **Pn**	**12 35 17.1**	**+0.6**
DIDY	**Didyma**	**1.95**	**201**	*e*PN **Pn**	**12 35 17.0**	**+0.3**
DIDY	**Didyma**	**1.95**	**201**	*e*Pn **Pn**	**12 35 17.0**	**+0.3**
KLV	**Kalavryta, Ach**	**1.97**	**231**	*e*PN **Pn**	**12 35 16.5**	**-0.5**
KLV	**Kalavryta, Ach**	**1.97**	**231**	*e*Pn **Pn**	**12 35 16.5**	**-0.5**
KNT	**Kendrikon**	**2.07**	**334**	*e*PB **Pn**	**12 35 19.3**	**+1.0**
KNT	**Kendrikon**	**2.07**	**334**	*e*Pb **Pn**	**12 35 19.3**	**+1.0**
ALN	**Alexandroupoli**	**2.19**	**43**	*e*PN **Pn**	**12 35 20.0**	**+0.1**
ALN	**Alexandroupoli**	**2.19**	**43**	*e*Pn **Pn**	**12 35 20.0**	**+0.1**
DRO	**Drossia**	**2.30**	**235**	*e*PN **Pn**	**12 35 22.5**	**+1.0**
DRO	**Drossia**	**2.30**	**235**	*e*Pn **Pn**	**12 35 22.5**	**+1.0**
PDO	**Prodromos**	**2.37**	**254**	*e*PB **Pb**	**12 35 25.2**	**-1.3**
PDO	**Prodromos**	**2.37**	**254**	*e*Pb **Pb**	**12 35 25.2**	**-1.3**
FNA	**Florina**	**2.56**	**306**	*e*PN **Pn**	**12 35 25.7**	**+0.7**
FNA	**Florina**	**2.56**	**306**	*e*Pn **Pn**	**12 35 25.7**	**+0.7**
PYL	**PYLOS**	**3.03**	**218**	*e*PB **Pb**	**12 35 36.7**	**-1.1**
PYL	**PYLOS**	**3.03**	**218**	*e*Pb **Pb**	**12 35 36.7**	**-1.1**

IDC 17 12:44:46.0±2.1, 54°.22N×86°.04E, h0km, mb1 3.4/3, mb1mx3.1/32, mbtmp3.4/3, ML3.2/3, 4C-1D, Error ellipse: s-maj=16.7km s-min=10.5km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.77**	**250**	*i*	12 50 10.0	
	baz=67,slow=319,SNR=3.9					
ZALV	**Zalesovo Beam**	**0.77**	**250**	Pg Pg	12 44 59.3	-1.5
	3.5nm,0.3s,baz=68,slow=18,SNR=18					
ZALV				Lg Lg	12 45 12.1	
	7.9nm,0.3s,baz=66,slow=28,SNR=34					
ZALV				Rg Rg	12 45 15.7	
	14nm,0.5s,baz=66,slow=35,SNR=25					
KURK	**Kurchatov**	**5.73**	**235**	⇓S Pn	12 46 18.6	+6.2
	0.3nm,0.4s					
KURK				⇑Rg Rg	12 46 23.9	
	15nm,1.2s					
KURBB	**Kurchatov Arra**	**5.84**	**235**	⇑S Pn	12 46 15.1	+1.3
	4.8nm,0.8s					
KURBB				⇑Rg Rg	12 46 21.0	
	44nm,1.4s					
KURBB	**Kurchatov Arra**	**5.84**	**235**	Pn Pn	12 46 15.0	+1.2
	0.2nm,0.3s,baz=52,slow=13,SNR=8.1					
KURBB				Lg Lg	12 47 51.2	
	0.0nm,0.3s,baz=48,slow=34,SNR=3.5					
MK31	**Makanchi Array**	**7.81**	**199**	Pn Pn	12 46 41.9	+1.0
	1.7nm,0.7s,baz=27,slow=14,SNR=13					
MK31				⇑Lg Lg	12 47 40.1	
	1.1nm,0.8s,baz=79,slow=33					
MKAR	**Makanchi Array**	**7.81**	**199**	Pn Pn	12 46 41.4	+0.4
	0.7nm,0.3s,baz=23,slow=13,SNR=20					
MKAR				Lg Lg	12 48 49.9	
	baz=23,slow=27,SNR=2.6					
BVAR	**Borovoye Array**	**9.38**	**269**	Pn Pn	12 47 02.8	+0.4
	0.3nm,0.3s,baz=79,slow=15,SNR=3.9					

IDC 17 13:00:24.8±1.6, 1°.34S×127°.17E, h0km, mb3.3/2, mb1 3.4/4, mb1mx3.3/33, mbtmp3.3/4, ML3.2/2, MS3.5/1, Ms1 3.5/1, ms1mx2.4/19, Error ellipse: s-maj=35.4km s-min=27.3km az=55.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
SIJI	**Sorong**	**4.13**	**83**	Pn Pn	13 01 30.5	+1.3
	1.0nm,0.3s,baz=260,slow=18,SNR=8.0					
SIJI				Sn Sn	13 02 18.7	+0.5
	0.4nm,0.3s,baz=135,slow=20,SNR=2.1					
WRA	**Warramunga Arr**	**19.77**	**160**	P P	13 04 56.5	-0.2
	0.1nm,0.3s,baz=341,slow=12,SNR=11					
ASAR	**Alice Springs**	**23.13**	**164**	P P	13 05 32.7	-0.1
	0.3nm,0.4s,baz=343,slow=10.0,SNR=7.2					
JCJ	**Chichijima**	**31.76**	**26**	LR LR	13 17 44.1	
	comp=Z,93nm,20.9s,baz=122,slow=33					
MKAR	**Makanchi Array**	**61.98**	**327**	P P	13 10 46.5	-0.2
	0.4nm,0.6s,baz=116,slow=8.3,SNR=3.7					

*ISCJB **17** 13:13:54.3±0.9, 76°.8N±0°.1×18°.4E±0°.3, h16km, Error ellipse: s-maj=15.8km s-min=7.4km az=23.8*
*CSEM **17** 13:13:54.0±0.2, 76°.95N×18°.57E, h5km, ML3.6, Error ellipse: s-maj=5.2km s-min=3.2km az=52.0*
*NAO **17** 13:13:55.7±2.7, 76°.90N×18°.14E, h18km±21km, ML3.6*
*BER **17** 13:13:57.9±3.4, 76°.96N×18°.21E, h23km±22km, MD2.1, ML2.4, ML3.6(NAO)*

ISC 17 13:13:55.5±0.9, 77°.01N±0°.05×18°.31E±0°.06, h16km, n17, σ0.67/23, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
HSP	**Hornsund**	**0.62**	**271**	Pg **Pg**	**13 14 07.6**	**-0.1**
HSP				Lg Lg	13 14 15.8	
HSP	**Hornsund**	**0.62**	**271**	Pg **Pg**	**13 14 07.6**	**-0.1**
HSP				Lg Lg	13 14 15.8	
HSPB	**Hornsund (broa**	**0.63**	**270**	*e*P **Pg**	**13 14 07.6**	**-0.2**
HSPB				Sg **Sg**	**13 14 15.8**	**-0.3**
HSPB	**Hornsund (broa**	**0.63**	**270**	*e*P **Pg**	**13 14 07.6**	**-0.2**
	SNR=62					
HSPB				Sg **Sg**	**13 14 15.8**	**-0.3**
	SNR=107					
SPA0	**Spitsbergen Ar**	**1.25**	**341**	Pn **Pg**	**13 14 19.4**	**0.0**
	baz=151,slow=16					
SPA0				Lg Lg	13 14 36.6	
	baz=162,slow=28					
SPA0	**Spitsbergen Ar**	**1.25**	**341**	Pn **Pg**	**13 14 19.4**	**0.0**
	baz=151,slow=16					
SPA0				Lg Lg	13 14 36.6	
	baz=162,slow=28					
SPA0	**Spitsbergen Ar**	**1.25**	**341**	Pn **Pg**	**13 14 19.4**	**0.0**
	SNR=737					
SPA0				Lg Lg	13 14 36.6	
	SNR=127					
HOPEN	**Hopen**	**1.62**	**105**	*e*P **Pn**	**13 14 22.7**	**-0.6**
HOPEN				IAML	13 14 50.4	
	comp=Z,70nm,0.3s					
HOPEN	**Hopen**	**1.62**	**105**	*e*P **Pn**	**13 14 22.7**	**-0.6**
	SNR=62					
KBS	**Kingsbay**	**2.34**	**328**	Pn **Pn**	**13 14 33.8**	**+0.6**
KBS				Pg **Pg**	**13 14 39.9**	**-0.4**
KBS				Lg Lg	13 15 12.2	
KBS	**Kingsbay**	**2.34**	**328**	Pn **Pn**	**13 14 33.8**	**+0.6**
KBS				Pg **Pg**	**13 14 39.9**	**-0.4**
KBS				Lg Lg	13 15 12.2	
KBS				IAML	13 15 18.2	
	comp=Z,62nm,0.4s					
KBS	**Kingsbay**	**2.34**	**328**	Pn **Pn**	**13 14 33.8**	**+0.6**
BJO	**Bjornoya**	**2.53**	**175**	*e*Pg **Pb**	**13 14 41.3**	**+0.9**
BJO				*e*Sg **Sb**	**13 15 11.6**	**+0.4**
BJO				IAML	13 15 16.0	
	comp=Z,26nm,0.4s					
BJO	**Bjornoya**	**2.53**	**175**	*e*Pg **Pb**	**13 14 41.3**	**+0.9**
	SNR=92					
BJO				*e*Sg **Sb**	**13 15 11.6**	**+0.4**
	SNR=92					
ARA0	**ARCESS Array S**	**7.79**	**161**	Pn **Pn**	**13 15 46.7**	**-1.2**
	baz=355,slow=11					
ARA0				Sn Sn	13 17 05.6	-10
	baz=1.1,slow=22					
ARA0	**ARCESS Array S**	**7.79**	**161**	P **Pn**	**13 15 46.7**	**-1.2**
	baz=355,slow=11					
ARA0				S Sn	13 17 05.6	-10
	baz=1.1,slow=22					
ARA0	**ARCESS Array S**	**7.79**	**161**	P **Pn**	**13 15 46.7**	**-1.2**
	SNR=57					

*ISCJB **17** 13:33:34.6±0.8, 7°.01S×129°.51E±0°.08, h139km, mb3.3/1, Error ellipse: s-maj=12.4km s-min=8.8km az=35.8*
*IDC **17** 13:33:35.8±2.1, 6°.98S×129°.54E, h178km±25km, mb3.1/1, mb1 3.1/5, mb1mx2.9/33, mbtmp3.6/5, Error ellipse: s-maj=35.0km s-min=21.6km az=93.0*

ISC 17 13:33:35.1±1.0, 6°.92S±0°.08×129°.51E±0°.09, h139km, n9, σ1.85/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
FAKI	**Fak Fak**	**4.82**	**35**	P **Pn**	**13 34 47.1**	**+1.2**
	baz=4.9,SNR=4.1					
MTN	**Manton Dam**	**6.10**	**165**	P **Pn**	**13 35 03.8**	**+0.8**
	baz=6.1,SNR=5.6					
SIJI	**Sorong**	**6.26**	**16**	P **Pn**	**13 35 07.2**	**+2.0**
	0.6nm,0.3s,baz=198,slow=20,SNR=6.6					
SIJI				S **Sn**	**13 36 12.4**	**-3.2**
	0.9nm,0.3s,baz=207,slow=22,SNR=6.5					
KDU	**Kakadu**	**6.43**	**153**	P **Pn**	**13 35 08.4**	**+1.0**
	baz=6.4,SNR=21					
BATI	**Baumata**	**6.64**	**240**	P **Pn**	**13 35 11.4**	**+1.1**
	0.7nm,0.3s,baz=122,slow=19,SNR=4.1					
BATI				S **Sn**	**13 36 24.1**	**-0.8**
	3.0nm,0.3s,baz=223,slow=19,SNR=4.4					
KNRA	**Kununurra**	**8.74**	**185**	P **Pn**	**13 35 37.6**	**-0.8**
	baz=8.7,SNR=4.1					
WRA	**Warramunga Arr**	**13.77**	**161**	P Pn	13 36 40.9	-3.7
	0.1nm,0.3s,baz=342,slow=13,SNR=4.8					
WRA				S Sn	13 39 06.8	-10
	0.2nm,0.3s,baz=339,slow=22,SNR=5.8					
ASAR	**Alice Springs**	**17.18**	**166**	P **P**	**13 37 25.1**	**-1.2**
	0.2nm,0.3s,baz=344,slow=9.6,SNR=23					
MKAR	**Makanchi Array**	**67.89**	**327**	P P	13 44 15.4	-3.2
	0.2nm,0.3s,baz=120,slow=5.8,SNR=3.0					

SJA 17 13:37:51.7±2.8, 27°.32S×70°.86W, h19km±71km, ML4.2, MW3.9, 16D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
LCO	**Las Campanas**	**1.69**	**175**	*e*P Pb	13 38 22.6	+0.1
LCO				⇓*e*S Sn	13 38 41.5	-0.4
ACLC	**CERRO LA CRUZ**	**4.03**	**122**	⇓*e*P Pn	13 38 55.8	+3.2
AMOG	**MOGNA**	**4.15**	**151**	*e*P Pn	13 38 57.7	+3.5
AVFE	**Valle Fertil**	**4.46**	**139**	⇓*e*P Pn	13 39 00.7	+2.2
AVFE				⇓*e*S Sn	13 39 51.7	+1.7
AVFE				IAML	13 40 00.7	
	comp=Z,126nm,0.4s					
RTLL	**Cerro Villicun**	**4.50**	**153**	*e*P Pn	13 39 02.5	+3.5
RTLL				*e*S Sn	13 39 52.6	+1.8
FSA	**Cafayete**	**4.50**	**75**	*e*P Pb	13 39 07.3	-3.1
CYA	**Choya**	**4.61**	**105**	⇓*e*P Pn	13 39 03.2	+2.8
RTLS	**Leoncito**	**4.66**	**163**	⇓*e*P Pn	13 39 05.6	+4.2
RTLS				⇓*e*S Sn	13 40 00.4	+5.1
CFAA	**Coronel Fontan**	**4.84**	**152**	⇓*e*P Pn	13 39 07.5	+4.0
APLL	**PUNTA DE LOS L**	**4.88**	**130**	*e*P Pn	13 39 07.0	+2.8
RTCV	**Cerro Valdivia**	**4.95**	**157**	⇓*e*P Pn	13 39 08.9	+3.7
RTCV				*e*S Sn	13 40 06.6	+4.7
AHML	**Horco Molle**	**4.95**	**85**	⇓*e*P Pn	13 39 09.2	+4.0
AUSP	**Uspallata**	**5.05**	**166**	⇓*e*P Pn	13 39 10.4	+3.6
AUSP				⇓*e*S Sb	13 40 16.7	-3.8
ARCO	**CERRO ARCO**	**5.75**	**164**	⇓*e*P Pn	13 39 19.6	+3.4
ARCO				IAML	13 40 36.3	
	comp=Z,170nm,0.7s					
ACAN	**Cantantal**	**5.87**	**148**	*e*P Pn	13 39 19.8	+2.0
AAGR	**Agrelo**	**6.00**	**164**	⇓*e*P Pn	13 39 23.5	+3.8
MRA	**San Martin**	**6.76**	**140**	⇓*e*P Pn	13 39 30.5	+0.4
MRA				IAML	13 40 53.9	
	comp=Z,41nm,0.6s					
TCA	**Tanti**	**6.77**	**128**	⇓*e*P Pn	13 39 30.7	+0.5

*ISCJB **17** 14:12:07.4±1.3, 6°.8N±0°.2×124°.8E±0°.2, h400km, mb3.2/4, Error ellipse: s-maj=31.5km s-min=18.6km az=152.5*
*IDC **17** 14:12:10.1±2.5, 6°.71N×124°.86E, h414km±24km, mb2.9/4, mb1 3.2/7, mb1mx2.9/39, mbtmp4.1/7, Error ellipse: s-maj=57.4km s-min=19.4km az=63.0*

ISC 17 14:12:08.8±1.3, 6.8N±0°.2×124°.9E±0°.2, h400km, n7, σ1.14/9, mb3.2/4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
SIJI	**Sorong**	**9.95**	**140**	P **Pn**	**14 14 27.9**	**+1.5**
	0.5nm,0.3s,baz=343,slow=6.4,SNR=3.2					
KAPI	**Kappang**	**12.81**	**204**	P **P**	**14 14 58.3**	**+0.7**
	0.7nm,0.3s,baz=29,slow=10,SNR=4.2					
BATI	**Baumata**	**16.95**	**184**	P **P**	**14 15 42.5**	**+0.1**
	4.4nm,0.3s,baz=19,slow=3.4,SNR=5.0					
WRA	**Warramunga Arr**	**28.17**	**161**	P **P**	**14 17 25.2**	**-1.5**
	0.3nm,0.5s,baz=343,slow=9.6,SNR=10					
WRA				ScP **ScP**	**14 23 30.2**	**-1.2**
	0.4nm,1.0s,baz=334,slow=3.5,SNR=4.4					
ASAR	**Alice Springs**	**31.55**	**164**	P **P**	**14 17 55.5**	**-0.7**
	1.0nm,0.3s,baz=332,slow=6.6,SNR=22					
ASAR				PcP **PcP**	**14 20 37.0**	**-0.7**
	0.1nm,0.3s,baz=347,slow=3.8,SNR=3.3					
STKA	**Stephens Creek**	**41.65**	**158**	P **P**	**14 19 20.2**	**-0.1**
	0.7nm,0.4s,baz=352,slow=6.8,SNR=4.0					
MKAR	**Makanchi Array**	**53.98**	**325**	P **P**	**14 20 53.9**	**+0.5**
	0.4nm,0.5s,baz=123,slow=8.2,SNR=4.8					

KRSC 17 14:21:01.6±0.5, 54°.75N×162°.41E, h37km±10km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.44**	**244**	*i* P Pn	14 21 12.2	+1.0
MKZ				*e*S Sn	14 21 18.7	+0.6
KZV	**Kizimen**	**1.27**	**287**	*e*P Pn	14 21 24.5	+1.4
KZV				*e*S Sn	14 21 40.5	+1.5
TUMR	**Tumrok**	**1.41**	**293**	*e*P Pn	14 21 26.8	+1.9
KBTR	**Krutoberegovo**	**1.48**	**9**	*e*P Pn	14 21 28.5	+2.8
KBTR				*e*S Sn	14 21 47.5	+3.8
KMNR	**Kamenistaya**

POWZ	**Post Office Ro**	**2.83**	**182**	PN	Pn	14 22 34.4	-2.0
MRZ	**Mangatainoka R**	**3.10**	**184**	PN	Pn	14 22 37.0	-2.5
BFZ	**Birch Farm**	**3.12**	**175**	PN	Pn	14 22 37.4	-2.5
OGWZ	**Otaki Gorge**	**3.29**	**189**	PN	Pn	14 22 39.4	-2.4
HOWZ	**Holdsworth Sta**	**3.34**	**185**	PN	Pn	14 22 39.5	-2.9
KIW	**Kapiti Island**	**3.38**	**193**	PN	Pn	14 22 40.1	-2.7
CAW	**Cannon Point**	**3.59**	**190**	PN	Pn	14 22 42.4	-3.0
MTW	**Mount Morrison**	**3.60**	**185**	PN	Pn	14 22 42.0	-3.5
PLWZ	**Palliser**	**4.03**	**187**	PN	Pn	14 22 46.7	-4.0
NNZ	**Nelson**	**4.13**	**207**	PN	Pn	14 22 48.4	-3.5
TUWZ	**Tuamarina**	**4.14**	**201**	PN	Pn	14 22 48.9	-3.1
QRZ	**Quartz Range**	**4.17**	**218**	PN	Pn	14 22 49.0	-3.3
THZ	**Tophouse**	**4.78**	**208**	PN	Pn	14 22 56.9	-3.2
MQZ	**McQueen's Vall**	**6.61**	**201**	PN	Pn	14 23 17.6	-5.5

*DDA **17** 14:23:16.8, 38°.78N×37°.45E, h7km, MD2.7*
*CSEM **17** 14:23:17.1±0.3, 38°.68N×37°.46E, h2km, MD2.4, Error ellipse: s-maj=7.8km s-min=5.6km az=33.0*
*ISK **17** 14:23:17.0, 38°.68N×37°.50E, h6km, MD2.4*
ISC 17 14:23:17.5±1.3, **38°.68N**±0°.04×**37°.47E**±0°.04, **h2**km±11km, **n15**, σ0**°58**/24, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DARE	**Darende-Malaty**	**0.11**	**175**	*e*PG	**Pg**	**14 23 19.3**	**-0.3**
DARE				*e*SG	**Sg**	**14 23 21.9**	**+0.8**
DARE	**Darende-Malaty**	**0.11**	**175**	*e*Pg	**Pg**	**14 23 19.3**	**-0.3**
DARE				*e*Sg	**Sg**	**14 23 21.9**	**+0.8**
CUGUR	**Gurin_S¨VAS**	**0.16**	**285**	*i* P	**Pg**	**14 23 19.8**	**-0.9**
CUGUR				*i* S	**Sg**	**14 23 23.3**	**+0.5**
AKCD	**Akcadag**	**0.52**	**137**	*i* P	**Pg**	**14 23 27.7**	**+0.2**
AKCD				*i* S	**Sb**	**14 23 37.9**	**+0.4**
AKCD	**Akcadag**	**0.52**	**137**	*i* P	**Pg**	**14 23 27.7**	**+0.2**
AKCD				*i* S	**Sb**	**14 23 37.9**	**+0.4**
MALT	**Malatya**	**0.83**	**116**	*e*PG	**Pg**	**14 23 33.0**	**-0.5**
MALT	**Malatya**	**0.83**	**116**	*e*Pg	**Pg**	**14 23 33.0**	**-0.5**
PINB	**Pinarbasi**	**0.84**	**270**	*i* P	**Pg**	**14 23 33.3**	**-0.2**
PINB	**Pinarbasi**	**0.84**	**270**	*i* P	**Pg**	**14 23 33.3**	**-0.2**
ELZG	**Elazig**	**1.20**	**98**	*i* P	**Pg**	**14 23 39.5**	**-1.0**
ELZG				*i* S	**Sn**	**14 23 58.8**	**+0.4**
ELZG	**Elazig**	**1.20**	**98**	*i* P	**Pg**	**14 23 39.5**	**-1.0**
ELZG				*i* S	**Sn**	**14 23 58.8**	**+0.4**
KMRS	**Kahramanmaras**	**1.26**	**201**	*e*PN	**Pn**	**14 23 41.5**	**-0.6**
KMRS	**Kahramanmaras**	**1.26**	**201**	*e*Pn	**Pn**	**14 23 41.5**	**-0.6**
SVSK	**Karacayir**	**1.29**	**344**	*e*PN	**Pg**	**14 23 42.5**	**+0.4**
SVSK				*e*SN	**Sn**	**14 24 00.4**	**+0.1**
SVSK	**Karacayir**	**1.29**	**344**	*e*Pn	**Pg**	**14 23 42.5**	**+0.4**
SVSK				*e*Sn	**Sn**	**14 24 00.4**	**+0.1**

*SJA **17** 14:29:16.2±0.7, 34°.83S×73°.19W, h33km, ML3.5, MW3.8*
*GUC **17** 14:29:29.6±0.7, 34°.74S×71°.76W, h41km±2km, ML3.9*
ISC 17 14:29:27.8±2.3, **34°.67S**±0°.04×**71°.85W**±0°.09, **h8**km±17km, **n22**, σ1**°19**/37, **1C-5D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.61**	**123**	⇓*i*P	**Pb**	**14 29 40.8**	**0.0**
NICH				*i* S	**Sb**	**14 29 49.2**	**-0.4**
TALC	**Talca**	**0.75**	**166**	⇓*i*P	**Pb**	**14 29 42.8**	**-0.4**
TALC				*i* S	**Sg**	**14 29 52.3**	**+0.2**
LNV	**Longovilo**	**0.80**	**27**	⇓*i*P	**Pn**	**14 29 45.2**	**-0.2**
LNV				*e*S	**Sn**	**14 29 56.9**	**-0.6**
LNCH	**Linares**	**1.20**	**170**	*e*P	**Pn**	**14 29 51.4**	**+0.6**
LNCH				*i* S	**Sn**	**14 30 06.7**	**-0.7**
CHCH	**Chadas Angostu**	**1.23**	**54**	⇑*i*P	**Pn**	**14 29 51.2**	**-0.2**
CHCH				*e*S	**Sb**	**14 30 07.0**	**-0.5**
TACH	**Talagante**	**1.26**	**37**	⇓*i*P	**Pn**	**14 29 52.1**	**+0.3**
PCH	**Pirque**	**1.52**	**47**	⇓*i*P	**Pn**	**14 29 55.9**	**+0.4**
PCH				*i* S	**Sn**	**14 30 14.8**	**-0.7**
SAN	**Santiago**	**1.56**	**40**	*e*P	**Pn**	**14 29 55.7**	**-0.3**
SAN				*i* S	**Sn**	**14 30 15.9**	**-0.5**
FSR	**Penalolen**	**1.62**	**43**	*e*P	**Pb**	**14 29 58.1**	**+0.2**
FSR				*e*S	**Sb**	**14 30 18.9**	**+0.3**
IHA	**Instituto Hidr**	**1.65**	**6**	*e*P	**Pn**	**14 29 57.8**	**+0.7**
CLCH	**Cerro Calan**	**1.67**	**41**	*e*P	**Pn**	**14 29 57.5**	**0.0**
CLCH				*i* S	**Sn**	**14 30 19.5**	**+0.2**
CLCH				AML	AML	14 30 27.1	
	comp=N,2μm,0.4s						
YECH	**El Yeso**	**1.77**	**56**	*e*P	**Pb**	**14 30 01.2**	**+0.4**
YECH				*i* S	**Sn**	**14 30 23.4**	**+1.3**
YECH				AML	AML	14 30 31.9	
	comp=N,1μm,0.5s						
PEL	**Peldehue**	**1.80**	**33**	*e*P	**Pn**	**14 29 60.0**	**+0.7**
PEL				*e*S	**Sn**	**14 30 22.6**	**+0.2**
PEL				AML	AML	14 30 28.5	
	comp=N,2μm,0.6s						
AAGR	**Agrelo**	**2.97**	**59**	*e*P	**Pb**	**14 30 18.8**	**-2.3**
ARCO	**CERRO ARCO**	**3.04**	**54**	*e*P	**Pn**	**14 30 19.5**	**+3.1**
ARCO				IAML		14 30 36.0	
	comp=Z,66nm,0.3s						
AUSP	**Uspallata**	**3.19**	**41**	*e*P	**Pn**	**14 30 21.0**	**+2.4**
AUSP				*e*S	**Sb**	**14 31 05.4**	**+1.3**
RTLS	**Leoncito**	**3.57**	**38**	*e*P	**Pn**	**14 30 26.1**	**+2.2**
RTLS				*e*S	**Sb**	**14 31 16.6**	**+1.5**
RTCV	**Cerro Valdivia**	**3.94**	**46**	*e*P	**Pn**	**14 30 29.5**	**+0.8**
RTLL	**Cerro Villicun**	**4.37**	**41**	*e*P	**Pn**	**14 30 35.6**	**+0.9**
RTLL				*e*S	**Sb**	**14 31 35.6**	**-2.3**
AMOG	**MOGNA**	**4.67**	**38**	*e*P	**Pn**	**14 30 39.4**	**+0.6**
AMOG				*e*S	**Sb**	**14 31 44.9**	**-1.7**
AVFE	**Valle Fertil**	**5.45**	**44**	*e*P	**Pn**	**14 30 48.6**	**-0.8**
AVFE				IAML		14 32 04.3	
	comp=Z,18nm,0.3s						
MRA	**San Martin**	**5.59**	**68**	*e*P	**Pn**	**14 30 52.1**	**+0.7**
MRA				IAML		14 31 16.2	
	comp=Z,8.4nm,0.4s						

*BJI **17** 14:44:11.5, 52°.80N×169°.70W, h8km, mb4.8/6, mB4.8/2*
*ISCJB **17** 14:44:14.6±0.3, 52°.71N±0°.07×169°.77W±0°.05, h10km, mb4.0/14, MS3.0/9, Error ellipse: s-maj=10.5km s-min=3.1km az=159.0*
*IDC **17** 14:44:14.3±0.9, 52°.51N×169°.84W, h0km, mb3.9/8, mb1 4.1/10, mb1mx3.7/50, mbtmp3.8/10, ML3.5/2, MS3.0/10, Ms1 3.0/10, ms1mx2.8/44, Error ellipse: s-maj=27.8km s-min=17.4km az=166.0*
*NEIC **17** 14:44:15.3, 52°.69N×169°.71W, h6km, mb4.1/12, ML4.0(AEIC), After AEIC.*
ISC 17 14:44:16.0±0.7, **52°.7N**±0°.1×**169°.66W**±0°.05, **h10**km, **n87**, σ1**°05**/73, **mb4.0**/14, **MS3.0**/9, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.57**	**59**	*e*Pg	**Pg**	**14 44 27.1**	**0.0**
OKSP	**Okmok Steeple**	**1.00**	**55**	P	**Pg**	**14 44 34.7**	**-0.6**
OKWR	**Okmok West Rim**	**1.16**	**49**	P	**Pn**	**14 44 37.9**	**-0.4**
OKCE	**Okmok Cone E**	**1.17**	**50**	P	**Pb**	**14 44 37.1**	**-1.2**
OKTU	**Okmok Mt. Tuli**	**1.20**	**54**	P	**Pn**	**14 44 38.1**	**-0.9**
OKFG	**Magazine Ridge**	**1.28**	**55**	P	**Pn**	**14 44 38.9**	**-1.1**
OKFG				S	**Sb**	**14 44 56.2**	**-0.5**
MSOM	**Makushin Julie**	**1.98**	**54**	P	**Pn**	**14 44 49.8**	**+0.2**
MGOD	**Makushin Gods**	**2.01**	**55**	P	**Pn**	**14 44 50.4**	**+0.4**
MCIR	**Makushin Cirqu**	**2.09**	**52**	P	**Pn**	**14 44 51.5**	**+0.4**
MSW	**Makushin Switc**	**2.12**	**53**	P	**Pn**	**14 44 51.7**	**+0.1**
MSW				S	**Sn**	**14 45 18.9**	**+0.9**
MTBL	**Makushin Table**	**2.20**	**53**	P	**Pn**	**14 44 53.0**	**+0.3**
UNV	**Unalaska Valle**	**2.22**	**57**	P	**Pn**	**14 44 52.6**	**-0.4**
UNV				S	**Sn**	**14 45 20.6**	**+0.2**
AKRB	**Akutan Reef Bi**	**2.59**	**55**	P	**Pn**	**14 44 59.0**	**+1.0**
ZRO	**Akutan Zero**	**2.62**	**56**	P	**Pn**	**14 44 59.4**	**+1.1**
LVA	**Lava Point**	**2.62**	**54**	P	**Pn**	**14 44 59.4**	**+0.9**
AKV	**Akutan Volcano**	**2.64**	**55**	P	**Pn**	**14 44 59.9**	**+1.1**
AKGG	**Akutan Green G**	**2.67**	**54**	P	**Pn**	**14 44 59.8**	**+0.8**
AKUT	**Akutan**	**2.74**	**56**	P	**Pn**	**14 45 01.0**	**+0.9**
ATKA	**Atka Island**	**2.82**	**262**	*e*Pn	**Pn**	**14 45 00.3**	**-0.8**
WECS	**Westdahl Cape**	**3.45**	**56**	P	**Pn**	**14 45 10.9**	**+1.1**
WESP	**Westdahl Peak**	**3.46**	**56**	P	**Pn**	**14 45 11.3**	**+1.4**
GSTR	**Great Sitkin T**	**3.96**	**264**	*e*Pn	**Pn**	**14 45 16.9**	**0.0**
GSMY	**Great Sitkin M**	**3.97**	**263**	P	**Pn**	**14 45 16.8**	**-0.2**
GSTD	**Great Sitkin T**	**4.03**	**264**	P	**Pn**	**14 45 17.6**	**-0.2**
GSCK	**Great Sitkin C**	**4.04**	**263**	P	**Pn**	**14 45 17.9**	**-0.1**
ISLZ	**Isanotski Laza**	**4.08**	**58**	P	**Pn**	**14 45 19.4**	**+0.9**
ETKA	**Kagalaska Isla**	**4.22**	**261**	P	**Pn**	**14 45 20.8**	**+0.3**
FALS	**False Pass**	**4.30**	**57**	P	**Pn**	**14 45 22.7**	**+1.3**
ADAG	**Mount Adagdak**	**4.32**	**263**	P	**Pn**	**14 45 22.4**	**+0.7**
SPIA	**Saint Paul Isl**	**4.51**	**356**	*e*Pn	**Pn**	**14 45 24.4**	**+0.1**
DTNA	**Dutton South F**	**5.03**	**58**	P	**Pn**	**14 45 32.4**	**+1.0**
SDPT	**Sand Point**	**6.03**	**60**	*e*Pn	**Pn**	**14 45 46.9**	**+1.6**
LSPA	**Little Sitkin**	**7.25**	**269**	P	**Pn**	**14 46 02.2**	**+0.3**
CHGN	**Chignik**	**7.48**	**57**	*e*Pn	**Pn**	**14 46 04.7**	**-0.4**
OHAK	**Old Harbor**	**10.45**	**58**	*e*Pn	**Pn**	**14 46 44.3**	**-1.4**
BPAW	**Bear Paw Mtn.**	**14.98**	**33**	*e*Pn	Pn	14 47 43.4	-4.2
	6.0nm,1.3s						
SCM	**Sheep Creek Mo**	**15.08**	**44**	*e*Pn	**Pn**	**14 47 48.2**	**-0.8**
	12nm,0.9s						
KLU	**Klutina**	**15.54**	**46**	*e*Pn	**Pn**	**14 47 54.6**	**-0.5**
	6.0nm,0.6s						
BMRM	**Bremner River**	**15.94**	**49**	*e*Pn	**Pn**	**14 47 60.0**	**-0.2**
	11nm,1.2s						
PAX	**Paxson**	**16.38**	**42**	*e*Pn	**Pn**	**14 48 05.1**	**-0.7**
	2.4nm,0.7s						
CCB	**Clear Creek Bu**	**16.40**	**35**	*e*Pn	**Pn**	**14 48 05.3**	**-0.7**
	3.7nm,0.9s						
ILAR	**Eielson Array**	**16.79**	**35**	Pn	**Pn**	**14 48 09.3**	**-1.7**
	0.1nm,0.3s,baz=225,slow=11,SNR=14						
EGAK	**Eagle**	**18.90**	**39**	*e*P	**P**	**14 48 34.8**	**-1.7**
	11nm,1.5s						
HYT	**Haines Junctio**	**19.25**	**52**	*e*P	**Pn**	**14 48 41.5**	**+0.2**
PETK	**Petropavlovsk-**	**19.61**	**284**	P	**P**	**14 48 43.6**	**-0.6**
	0.4nm,0.3s,baz=85,slow=14,SNR=4.1						
PETK				LR	LR	14 57 07.3	
	comp=Z,23nm,18.7s,baz=84,slow=40						
SKAG	**Skagway**	**20.14**	**57**	*e*P	Pn	14 48 51.0	-0.9
	18nm,0.8s						
H02N1	**VAN INLET T-PH**	**22.20**	**74**	T	T	15 12 16.8	
H02S1	**DAWSON INLET T**	**22.25**	**74**	T	T	15 12 20.5	
SEY	**Seymchan**	**22.32**	**312**	P	**P**	**14 49 13.6**	**+0.1**
	4.5nm,0.7s,baz=74,slow=14,SNR=5.4						
DLBC	**Dease Lake**	**22.88**	**60**	P	**P**	**14 49 21.8**	**+2.3**
	2.6nm,0.7s,baz=242,slow=7.1,SNR=8.9						
DLBC	**Dease Lake**	**22.88**	**60**	*e*P	**P**	**14 49 18.9**	**-0.5**
INK	**Inuvik**	**23.18**	**34**	P	**P**	**14 49 25.6**	**+3.2**
	2.3nm,0.7s,baz=220,slow=8.0,SNR=3.8						
INK				LR	LR	14 57 48.7	
	comp=Z,53nm,18.8s,baz=323,slow=35						
YKA	**Yellowknife Ar**	**30.17**	**49**	P	P	14 50 30.2	+4.4
	0.6nm,0.6s,baz=274,slow=7.8,SNR=4.1						
NEW	**Newport**	**33.10**	**76**	*e*P	**P**	**14 50 49.9**	**-2.1**
	2.3nm,0.5s						
BSMT	**Bassoo Peak**	**34.68**	**75**	*e*P	**P**	**14 51 06.2**	**+0.4**
CHMT	**Chamberlain Mo**	**36.05**	**76**	*e*P	**P**	**14 51 17.1**	**-0.5**
MCMT	**McKenzie Canyo**	**37.39**	**79**	*e*P	**P**	**14 51 29.2**	**+0.2**
H11N2	**WAKE ISLAND Hy**	**37.59**	**218**	T	T	15 31 18.3	
	baz=25,slow=76,SNR=26						
H11N3	**WAKE ISLAND Hy**	**37.60**	**218**	T	T	15 31 18.7	
	baz=25,slow=76,SNR=28						
H11N1	**WAKE ISLAND Hy**	**37.61**	**218**	T	T	15 31 17.4	
	baz=25,slow=76,SNR=19						
NVAR	**Mina Array Bea**	**37.85**	**91**	P	**P**	**14 51 34.3**	**+1.3**
	0.8nm,0.7s,baz=301,slow=7.0,SNR=8.1						
ELK	**Elko**	**38.29**	**86**	P	**P**	**14 51 37.2**	**+0.5**
	2.3nm,0.8s						
USRK	**Ussuriysk Ar.**	**38.66**	**281**	LR	LR	15 06 39.6	
	comp=Z,22nm,19.6s,baz=54,slow=35						
H11S1	**WAKE ISLAND Hy**	**38.78**	**217**	T	T	15 32 47.3	
	baz=22,slow=76,SNR=692						
H11S2	**WAKE ISLAND Hy**	**38.80**	**217**	T	T	15 32 47.3	
	baz=22,slow=76,SNR=675						
H11S3	**WAKE ISLAND Hy**	**38.80**	**217**	T	T	15 32 46.7	
	baz=22,slow=76,SNR=444						
MJAR	**Matsushiro Arr**	**39.53**	**267**	LR	LR	15 07 32.8	
	comp=Z,14nm,20.5s,baz=20,slow=36						
WHFM	**Hanning Flat**	**39.59**	**95**	*e*P	**P**	**14 51 48.0**	**+0.5**
PDAR	**Pinedale Array**	**40.52**	**79**	P	**P**	**14 51 55.6**	**+0.3**
	0.8nm,0.5s,baz=334,slow=2.5,SNR=11						
MVU	**Marysvale**	**41.51**	**86**	*e*P	**P**	**14 52 04.2**	**+0.7**
	29nm,2.4s						
PV01	**Paradox Valley**	**43.95**	**84**	*e*P	**P**	**14 52 23.2**	**-0.1**
WUAZ	**Wupatki**	**43.95**	**89**	*e*P	**P**	**14 52 23.8**	**+0.5**
	4.2nm,0.8s						
KSRS	**Korea Array**	**45.19**	**276**	LR	LR	15 12 22.3	
	comp=Z,9.9nm,19.2s,baz=240,slow=37						
TUC	**Tucson**	**46.49**	**92**	*e*P	**P**	**14 52 44.7**	**+1.4**
	2.3nm,0.9s						
SPITS	**Spitsbergen Ar**	**49.35**	**358**	LR	LR	15 14 15.5	
	comp=Z,25nm,18.7s,baz=285,slow=36						
TLY	**Talaya**	**50.01**	**306**	LR	LR	15 17 12.3	
	comp=Z,25nm,18.3s,baz=4.0,slow=40						
HHC	**Hu-ho-hao-te**	**52.64**	**291**	*e*P	**P**	**14 53 29.6**	**-0.6**
HHC				S	S	15 00 48.6	-8.9
HHC				PMZ			
	22nm,1.2s						
HHC				PMZ			
	80nm,7.5s						
TXAR	**Lajitas Array**	**52.92**	**89**	P	**P**	**14 53 32.6**	**+0.3**
	2.4nm,0.8s,baz=296,slow=5.1,SNR=30						
ZALV	**Zalesovo Beam**	**57.07**	**317**	LR	LR	15 20 55.7	
	comp=Z,16nm,18.9s,baz=68,slow=38						
LZH	**Lanzhou**	**60.31**	**291**	*e*P	**P**	**14 54 24.0**	**-0.9**
LZH				pP	**pP**	**14 54 29.1**	**+1.0**
LZH				sP	**sP**	**14 54 31.4**	**+2.1**
LZH				PMZ			
	12nm,1.0s						
WMQ	**Urumqi**	**63.20**	**308**	P	**P**	**14 54 46.0**	**+1.8**
CD2	**Chengdu**	**64.11**	**288**	P	**P**	**14 54 48.3**	**-2.0**
CD2				PMZ			
	10.0nm,0.5s						
ARU	**Arti**	**64.26**	**333**	LR	LR	15 27 50.1	
	comp=Z,15nm,18.4s,baz=108,slow=41						
KMI	**Kunming**	**69.02**	**284**	P	**P**	**14 55 20.5**	**-1.5**
KMI				PMZ			
	4.0nm,0.9s						
AKASG	**Malin Array Be**	**75.76**	**348**	LR	LR	15 34 57.0	
	comp=Z,7.7nm,18.7s,baz=200,slow=40						
WRA	**Warramunga Arr**	**87.06**	**231**	P	**P**	**14 57 00.0**	**-1.7**
	0.5nm,0.9s,baz=38,slow=5.3,SNR=5.4						
ASAR	**Alice Springs**	**90.46**	**230**	P	**P**	**14 57 16.9**	**-0.9**
	0.8nm,0.7s,baz=28,slow=4.7,SNR=11						

MEX 17 14:46:20.3±0.8, **16°.46N×98°.51W, h12**km±8km, **MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.37**	**101**	*i* P	Pg	14 46 27.3	-0.5
PNIG				*e*S	Sg	14 46 32.5	-0.3
TLIG	**Tlapa**	**1.09**	**357**	*i* P	Pb	14 46 37.5	-3.9
TLIG				*i* S	Sb	14 46 50.6	-5.1
CAIG	**El Cayaco**	**1.79**	**289**	*i* P	Pn	14 46 47.7	-3.2
CAIG				*i* S	Sn	14 47 08.7	-4.9
CAIG				*i* S	Sb	14 47 09.3	-6.0
MEIG	**Mezcala**	**1.80**	**324**	*i* P	Pn	14 46 47.3	-4.0
MEIG				*i* S	Sn	14 47 09.3	-4.9
PLIG	**Platanillo**	**2.14**	**334**	*i* P	Pn	14 46 53.6	-2.4
PLIG				*i* S	Sn	14 47 18.4	-4.2
PLIG				*e*S	Sb	14 47 18.9	-6.9

*SOF **17** 14:46:32.9, 42°.17N×23°.45E, h7km, MD2.9*
*THE **17** 14:46:33.8, 42°.16N×23°.40E, h2km±1km, ML2.9/6, Error ellipse: s-maj=1.7km s-min=0.8km az=272.0*
*CSEM **17** 14:46:33.2±0.1, 42°.18N×23°.44E, h2km, MD2.9, Error ellipse: s-maj=3.6km s-min=2.2km az=65.0*
*SKO **17** 14:46:34.4, 42°.15N×23°.40E, h1km, M2.5, ML2.9*
*BEO **17** 14:46:35.0±0.4, 42°.19N×23°.34E, h6km±2km, ML2.4/8*
ISC 17 14:46:33.5±1.0, **42°.18N**±0°.01×**23°.46E**±0°.02, **h5**km±9km, **n106**, σ0**°97**/137, **10C-10D, Bulgaria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.42**	**222**	*i* P	**Pg**	**14 46 41.3**	**-0.3**
KKB	**Krupnik**	**0.42**	**222**	*i* P	**Pg**	**14 46 41.3**	**-0.3**
VTS	**Vitosha**	**0.45**	**335**	*e*Pg	**Pg**	**14 46 42.5**	**+0.3**
VTS				*e*Sg	**Sg**	**14 46 48.9**	**+0.8**
VTS	**Vitosha**	**0.45**	**335**	⇑*i*P	**Pg**	**14 46 42.4**	**+0.3**
VTS	**Vitosha**	**0.45**	**335**	S	**Sg**	**14 46 48.9**	**+0.8**
VTS	**Vitosha**	**0.45**	**335**	*i* P	**Pg**	**14 46 42.5**	**+0.3**
VTS	**Vitosha**	**0.45**	**335**	P	**Pg**	**14 46 42.0**	**-0.2**
VTS	**Vitosha**	**0.45**	**335**	*e*Pg	**Pg**	**14 46 42.5**	**+0.3**
VTS				S	**Sg**	**14 46 48.9**	**+0.8**
VTS	**Vitosha**	**0.45**	**335**	P	**Pg**	**14 46 42.0**	**-0.2**
VTS				S	**Sg**	**14 46 48.9**	**+0.8**
MMB	**Musomiste**	**0.63**	**161**	⇑*i*P	**Pg**	**14 46 45.8**	**+0.3**
MMB	**Musomiste**	**0.63**	**161**	S	**Sg**	**14 46 54.8**	**+1.2**
MMB	**Musomiste**	**0.63**	**161**	*i* P	**Pg**	**14 46 46.3**	**+0.8**
MMB	**Musomiste**	**0.63**	**161**	*i* P	**Pg**	**14 46 46.3**	**+0.8**
PGB	**Panagyurishte**	**0.64**	**55**	*i* P	**Pg**	**14 46 45.9**	**+0.1**
PGB	**Panagyurishte**	**0.64**	**55**	*i* P	**Pg**	**14 46 45.9**	**+0.1**
NVR	**Nevrokopi**	**0.89**	**160**	*e*P	**Pg**	**14 46 49.6**	**-0.8**
NVR	**Nevrokopi**	**0.89**	**160**	P	**Pg**	**14 46 50.1**	**-0.3**
NVR				S	**Sg**	**14 47 02.9**	**+1.0**
NVR	**Nevrokopi**	**0.89**	**160**	P	**Pg**	**14 46 50.1**	**-0.3**
NVR				S	**Sg**	**14 47 02.9**	**+1.0**
PLD	**Plovdiv**	**0.93**	**94**	*i* P	**Pg**	**14 46 51.2**	**0.0**
PLD	**Plovdiv**	**0.93**	**94**	*i* P	**Pg**	**14 46 51.2**	**0.0**
PLD				*e*Sg	**Sn**	**14 47 07.5**	**+0.7**
RZN	**Rozhen**	**1.06**	**117**	*i* P	**Pg**	**14 46 53.4**	**-0.4**
RZN	**Rozhen**	**1.06**	**117**	*i* P	**Pg**	**14 46 53.4**	**-0.4**
SRS	**Serrai**	**1.07**	**175**	*e*P	**Pg**	**14 46 53.0**	**-1.0**
SRS	**Serrai**	**1.07**	**175**	P	**Pg**	**14 46 53.0**	**-1.0**
SRS				S	**Sg**	**14 47 08.0**	**+0.2**
SRS	**Serrai**	**1.07**	**175**	P	**Pg**	**14 46 53.0**	**-1.0**
SRS				S	**Sg**	**14 47 08.0**	**+0.2**
VAY	**Valandovo**	**1.09**	**218**	⇓*i*Pg	**Pg**	**14 46 54.2**	**-0.1**
VAY				*i* Sg	**Sg**	**14 47 08.4**	**-0.1**
VAY				*e*Lg	Lg	14 47 11.4	
	comp=N,300nm,0.7s						
VAY				*e*Lg	Lg	14 47 11.5	
	comp=E,191nm,0.5s						
VAY	**Valandovo**	**1.09**	**218**	*e*Pg	**Pg**	**14 46 53.8**	**-0.5**
VAY				*e*Sg	**Sg**	**14 47 07.7**	**-0.8**
VAY	**Valandovo**	**1.09**	**218**	*e*Pg	**Pg**	**14 46 53.8**	**-0.5**
VAY				S	**Sg**	**14 47 07.7**	**-0.8**
VAY				*e*Lg	Lg	14 47 11.5	
	comp=E,191nm,0.5s						
VAY	**Valandovo**	**1.09**	**218**	P	**Pg**	**14 46 53.6**	**-0.7**
VAY				S	**Sg**	**14 47 07.7**	**-0.8**
KNT	**Kendrikon**	**1.10**	**203**	*e*P	**Pg**	**14 46 53.4**	**-1.2**
KNT	**Kendrikon**	**1.10**	**203**	P	**Pg**	**14 46 53.5**	**-1.2**
KNT	**Kendrikon**	**1.10**	**203**	P	**Pg**	**14 46 53.5**	**-1.2**
ZAPS	**Zavoj**	**1.25**	**331**	*e*Pg	**Pg**	**14 46 57.4**	**0.0**
ZAPS				*e*Sg	**Sg**	**14 47 12.9**	**-0.7**
SOH	**Sokhos**	**1.36**	**183**	*e*P	**Pn**	**14 46 58.2**	**-0.9**
SOH	**Sokhos**	**1.36**	**183**	P	**Pn**	**14 46 58.3**	**-0.9**
SOH	**Sokhos**	**1.36**	**183**	P	**Pn**	**14 46 58.3**	**-0.9**
BARS	**Barje**	**1.37**	**298**	*e*Pg	**Pn**	**14 46 59.1**	**-0.2**
BARS				*e*Sg	**Sg**	**14 47 17.1**	**-0.4**
BARS	**Barje**	**1.37**	**298**	*e*Pg	**Pn**	**14 46 59.1**	**-0.2**
BARS				*e*Sg	**Sg**	**14 47 17.1**	**-0.4**
KAVA	**Kavala**	**1.43**	**146**	*e*P	**Pn**	**14 47 00.2**	**+0.2**
KAVA	**Kavala**	**1.43**	**146**	P	**Pn**	**14 47 00.1**	**+0.1**
KAVA				S	**Sn**	**14 47 19.8**	**+0.7**
KAVA	**Kavala**	**1.43**	**146**	P	**Pn**	**14 47 00.1**	**+0.1**
KAVA				S	**Sn**	**14 47 19.8**	**+0.7**
KDZ	**Kurdzhali**	**1.55**	**109**	⇑*i*P	**Pb**	**14 47 03.1**	**+0.4**
KDZ	**Kurdzhali**	**1.55**	**109**	S	**Sb**	**14 47 23.4**	**+0.7**
KDZ	**Kurdzhali**	**1.55**	**109**	⇑*i*P	**Pb**	**14 47 03.1**	**+0.4**
THE	**Thessaloniki**	**1.59**	**194**	*e*P	**Pn**	**14 47 02.8**	**+0.5**
THE	**Thessaloniki**	**1.59**	**194**	P	**Pn**	**14 47 02.8**	**+0.5**
THE				S	**Sn**	**14 47 23.5**	**+0.2**
THE	**Thessaloniki**	**1.59**	**194**	P	**Pn**	**14 47 02.8**	**+0.5**
THE				S	**Sn**	**14 47 23.5**	**+0.2**
HORT	**Hortiatis**	**1.61**	**190**	*e*P	**Pn**	**14 47 02.5**	**-0.2**
HORT	**Hortiatis**	**1.61**	**190**	P	**Pn**	**14 47 02.4**	**-0.2**
HORT				S	**Sn**	**14 47 23.7**	**0.0**
HORT	**Hortiatis**

SSY				Sg	Sb	14 52 37.1	+0.6		
SSY	**Sortino**	**0.53**	**171**	Pg	Pg	14 52 28.3	-0.5		
SSY				Sg	Sb	14 52 37.1	+0.6		
HVZN	**Vizzini**	**0.54**	**202**	Pg	Pg	14 52 28.9	-0.1		
HVZN				Sg	Sb	14 52 37.3	+0.4		
HVZN	**Vizzini**	**0.54**	**202**	Pg	Pg	14 52 28.9	-0.1		
HVZN				Sg	Sb	14 52 37.3	+0.4		
RAFF	**Raffo Rosso**	**0.66**	**227**	Pg	Pg	14 52 31.3	+0.1		
RAFF	**Raffo Rosso**	**0.66**	**227**	Pg	Pg	14 52 31.3	+0.1		
HAVL	**Avola**	**0.73**	**170**	Pg	Pg	14 52 31.6	-0.9		
HAVL				Sg	Sb	14 52 42.9	+0.7		
HAVL	**Avola**	**0.73**	**170**	Pg	Pg	14 52 31.6	-0.9		
HAVL				Sg	Sb	14 52 42.9	+0.7		
HMDC	**Modica**	**0.73**	**192**	Pg	Pg	14 52 32.5	-0.1		
HMDC				Sg	Sb	14 52 43.2	+0.8		
HMDC	**Modica**	**0.73**	**192**	Pg	Pg	14 52 32.5	-0.1		
HMDC				Sg	Sb	14 52 43.2	+0.8		

CSEM ***17*** *14:52:53.8,37˚.68N×14˚.99E,h15km,ML2.0/5*

ROM 17 14:52:53.8±0.1, 37˚.68N×14˚.99E, h15km±2km, Ml2.0/5, Error ellipse: s-maj=2.2km s-min=1.7km az=112.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.02**	**320**	Pg	Pg	14 52 56.4	-0.4
ESLN				Sg	Sg	14 52 59.0	+0.1
ESLN	**Serra La Nave**	**0.02**	**320**	Pg	Pg	14 52 56.4	-0.4
ESLN				Sg	Sg	14 52 59.0	+0.1
ECNV	**Catenanuova**	**0.24**	**251**	Pg	Pg	14 52 59.1	0.0
ECNV				Sg	Sb	14 53 04.2	+0.3
	287nm,0.7s						
ECNV	**Catenanuova**	**0.24**	**251**	Pg	Pg	14 52 59.1	0.0
ECNV				Sg	Sb	14 53 04.2	+0.3
	287nm,0.7s						
MMME	**Mongiuffi-Meli**	**0.33**	**38**	Pg	Pg	14 53 00.8	0.0
MMME				Sg	Sb	14 53 07.2	+0.4
	114nm,0.8s						
MMME	**Mongiuffi-Meli**	**0.33**	**38**	Pg	Pg	14 53 00.8	0.0
MMME				Sg	Sb	14 53 07.2	+0.4
	114nm,0.8s						
GALF	**Gagliano Caste**	**0.34**	**276**	Pg	Pg	14 53 00.8	-0.2
GALF				Sg	Sb	14 53 07.2	+0.2
GALF	**Gagliano Caste**	**0.34**	**276**	Pg	Pg	14 53 00.8	-0.2
GALF				Sg	Sb	14 53 07.2	+0.2
HLNI	**Lentini**	**0.34**	**197**	Pg	Pg	14 53 00.3	-0.5
HLNI				Sg	Sb	14 53 06.2	-0.5
HLNI	**Lentini**	**0.34**	**197**	Pg	Pg	14 53 00.3	-0.5
HLNI				Sg	Sb	14 53 06.2	-0.5
MNO	**Monte Soro**	**0.35**	**317**	Pg	Pg	14 53 00.8	-0.5
MNO				Sg	Sg	14 53 06.5	0.0
MNO	**Monte Soro**	**0.35**	**317**	Pg	Pg	14 53 00.8	-0.5
MNO				Sg	Sg	14 53 06.5	0.0
NOV	**Novara**	**0.37**	**18**	Pg	Pg	14 53 01.5	0.0
NOV				Sg	Sb	14 53 07.9	+0.1
	71nm,0.6s						
HCRL	**Carlentini**	**0.39**	**176**	Pg	Pg	14 53 01.6	-0.2
HCRL				Sg	Sb	14 53 08.8	+0.5
	386nm,0.5s						
HCRL	**Carlentini**	**0.39**	**176**	Pg	Pg	14 53 01.6	-0.2
HCRL				Sg	Sb	14 53 08.8	+0.5
	386nm,0.5s						
CAGR	**Agira**	**0.40**	**262**	Pg	Pb	14 53 02.9	+0.3
CAGR	**Agira**	**0.40**	**262**	Pg	Pb	14 53 02.9	+0.3
SSY	**Sortino**	**0.52**	**173**	Pg	Pg	14 53 03.9	-0.4
SSY				Sg	Sb	14 53 12.7	+0.6
	182nm,0.7s						
SSY	**Sortino**	**0.52**	**173**	Pg	Pg	14 53 03.9	-0.4
SSY				Sg	Sb	14 53 12.7	+0.6
	182nm,0.7s						
HAVL	**Avola**	**0.72**	**172**	Pg	Pg	14 53 07.1	-0.8
HAVL				Sg	Sb	14 53 18.6	+0.8
HAVL	**Avola**	**0.72**	**172**	Pg	Pg	14 53 07.1	-0.8
HAVL				Sg	Sb	14 53 18.6	+0.8

IDC ***17*** *14:59:44.2±1.6,1˚.90N×126˚.18E,h0km,mb3.9/3, mb1 4.1/4,mb1mx3.5/45,mbtmp3.9/4,ML3.5/1,MS3.5/1, Ms1 3.5/1,ms1mx2.3/36,Error ellipse: s-maj=73.3km s-min=25.7km az=58.0*

ISC 17 14:59:45.9±1.3, 2˚.0N±0˚.2×126˚.2E±0˚.2, h10km,n11, σ1s56/9,mb4.1/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**5.78**	**119**	P	**Pn**	**15 01 13.4**	**+1.7**
	baz=5.3,SNR=3.4						
SIJI	**Sorong**	**5.78**	**119**	Pn	**Pn**	**15 01 10.9**	**-0.9**
	1.4nm,0.3s,baz=294,slow=20,SNR=9.9						
BATI	**Baumata**	**12.39**	**192**	LR	LR	15 08 44.8	
	comp=Z,204nm,18.6s,baz=152,slow=44						
FITZ	**Fitzroy Crossi**	**19.98**	**182**	P	Pn	15 04 23.5	+3.2
	baz=20,SNR=6.1						
WRA	**Warramunga Arr**	**23.21**	**160**	P	**P**	**15 04 52.8**	**-0.4**
	1.8nm,0.3s,baz=338,slow=10,SNR=54						
QIS	**Mount Isa**	**25.97**	**150**	P	**P**	**15 05 19.7**	**+0.8**
	baz=26,SNR=4.8						
ASAR	**Alice Springs**	**26.58**	**164**	PcP	**PcP**	**15 08 47.0**	**-1.9**
	0.2nm,0.4s,baz=355,slow=2.0,SNR=8.6						
WRKA	**Warakurna**	**26.95**	**176**	P	**P**	**15 05 29.8**	**+2.0**
	baz=27,SNR=8.0						
STKA	**Stephens Creek**	**36.71**	**158**	P	**P**	**15 06 52.1**	**-1.1**
	2.9nm,0.7s,baz=342,slow=7.1,SNR=9.2						
STKA	**Stephens Creek**	**36.71**	**158**	P	**P**	**15 06 52.5**	**-0.8**
	baz=37,SNR=6.2						
MKAR	**Makanchi Array**	**58.70**	**326**	P	**P**	**15 09 44.2**	**+0.5**
	0.5nm,1.0s,baz=122,slow=8.0,SNR=3.6						

IDC ***17*** *15:13:30.4±3.9,36˚.23N×71˚.30E,h64km±34km,mb3.5/9, mb1 3.7/13,mb1mx3.4/52,mbtmp3.9/13,ML3.9/4,Error ellipse: s-maj=26.6km s-min=20.1km az=29.0*

ISCJB ***17*** *15:13:33.5±0.3,36˚.40N±0˚.03×71˚.27E±0˚.04,h114km, mb3.7/12,Error ellipse: s-maj=5.3km s-min=3.4km az=147.7*

NEIC ***17*** *15:13:36.6±1.0,36˚.54N×71˚.33E,h116km±9km,mb4.5/4, Error ellipse: s-maj=14.8km s-min=10.5km az=115.0*

MOS ***17*** *15:13:36.0±1.3,36˚.55N×71˚.33E,h122km,mb4.1/4,Error ellipse: s-maj=18.9km s-min=8.0km az=90.5*

NNC ***17*** *15:13:40.9±2.2,36˚.91N×71˚.01E,h145km±18km,mb3.5, mpv4.3,Error ellipse: s-maj=19.9km s-min=8.9km az=168.0*

ISC 17 15:13:35.3±0.6, 36˚.49N±0˚.05×71˚.32E±0˚.05, h114km,n72, σ1s87/82,mb3.7/12,7C-10D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.69**	**224**	*e*PN	**Pn**	**15 14 20.3**	**+2.7**
KBL				*e*		15 14 53.3	
KBL	**Kabul**	**2.69**	**224**	*e*Pn	**Pn**	**15 14 20.3**	**+2.7**
KBL				*e*Sn	**Sn**	**15 14 53.3**	**+3.3**
DZET	**Dzherino**	**3.05**	**320**	⇓P	**Pn**	**15 14 22.2**	**+0.1**
	176nm,0.5s						
DZET				⇓S	**Sn**	**15 14 55.6**	**-2.6**
	555nm,0.4s						
SFK	**Sufi-Kurgan**	**3.92**	**25**	⇓P	**Pn**	**15 14 36.6**	**+2.8**
	20nm,0.5s						
SFK				⇓S	**Sn**	**15 15 21.8**	**+2.7**
	45nm,0.6s						
DLH	**Dalhousie**	**5.49**	**134**	*e*P	**Pn**	**15 14 56.0**	**+0.9**
DLH				*e*S	**Sn**	**15 15 56.0**	**-1.1**
AML	**Almayashu**	**5.93**	**17**	P	**Pn**	**15 15 02.2**	**+1.1**
	SNR=21						
UCH	**Uchtor**	**6.24**	**22**	P	**Pn**	**15 15 06.5**	**+1.2**
	SNR=27						
KZA	**Kyzart**	**6.36**	**27**	P	**Pn**	**15 15 07.9**	**+1.0**
	SNR=6.0						
EKS2	**Erkin-Say**	**6.45**	**16**	P	**Pn**	**15 15 09.0**	**+1.2**
	SNR=16						
EKS2	**Erkin-Say**	**6.45**	**16**	*e*PN	**Pn**	**15 15 08.8**	**+0.9**
EKS2				pmax	pmax		
	comp=Z,11nm,0.5s						
EKS2	**Erkin-Say**	**6.45**	**16**	*e*Pn	**Pn**	**15 15 08.8**	**+0.9**
	comp=Z,11nm,0.5s						
EKS2				*e*Sn	**Sn**	**15 16 21.0**	**+0.9**
AAK	**Ala-Archa**	**6.61**	**21**	P	**Pn**	**15 15 11.8**	**+1.7**
	SNR=13						
AAK	**Ala-Archa**	**6.61**	**21**	⇓P	**Pn**	**15 15 11.3**	**+1.3**
	comp=Z,10nm,0.3s						
AAK				⇓S	**Sn**	**15 16 22.2**	**-1.8**
	comp=Z,12nm,0.6s						
KK31	**Karatay Array**	**6.64**	**355**	⇓P	**Pn**	**15 15 10.9**	**+0.6**
	comp=Z,15nm,0.3s,baz=180,slow=13,SNR=890						
KK31				⇓S	**Sn**	**15 16 20.7**	**-3.8**
	comp=Z,3.9nm,0.3s,baz=189,slow=22,SNR=6.1						
KKAR	**Karatay Array**	**6.64**	**355**	*e*PN	**Pn**	**15 15 10.9**	**+0.6**
KKAR				pmax	pmax		
	comp=Z,47nm,0.3s						
KKAR	**Karatay Array**	**6.64**	**355**	*e*Pn	**Pn**	**15 15 10.9**	**+0.6**
	comp=Z,47nm,0.3s						
KKAR				*e*Sn	**Sn**	**15 16 20.9**	**-3.6**
KBK	**Karagaybulak**	**6.77**	**23**	P	**Pn**	**15 15 13.6**	**+1.4**
	SNR=7.8						
CHMS	**Chumysh**	**7.02**	**21**	P	**Pn**	**15 15 16.7**	**+1.2**
	SNR=8.7						
USP	**Ospenovka**	**7.20**	**19**	P	**Pn**	**15 15 18.9**	**+1.0**
	SNR=14						
TKM2	**Tokmak 2**	**7.22**	**26**	P	**Pn**	**15 15 19.5**	**+1.1**
	SNR=12						
TKM2	**Tokmak 2**	**7.22**	**26**	⇑P	**Pn**	**15 15 19.2**	**+0.8**
	comp=Z,5.8nm,0.5s						
TKM2				⇑S	**Sn**	**15 16 39.0**	**+0.2**
	comp=Z,9.3nm,1.1s						
TKM2	**Tokmak 2**	**7.22**	**26**	*e*PN	**Pn**	**15 15 19.4**	**+1.1**
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
TKM2	**Tokmak 2**	**7.22**	**26**	*e*Pn	**Pn**	**15 15 19.4**	**+1.1**
	comp=Z,8.2nm,0.5s						
SMLA	**Simla**	**7.22**	**136**	*i* P	**Pn**	**15 15 19.5**	**+1.2**
SMLA				*i* S	**Sn**	**15 16 36.6**	**-2.2**
SMLA				*i* S	**Sn**	**15 16 36.6**	**-2.2**
SMLA				AML	AML	15 16 41.2	
	comp=N,2μm,0.3s						
SMLA				AML	AML	15 16 42.6	
	comp=E,1μm,0.3s						
IMYA	**Miami**	**9.05**	**272**	*e*P	**Pn**	**15 15 41.1**	**-2.0**
IAKL	**Akhelmad**	**10.11**	**274**	*e*P	**Pn**	**15 15 56.0**	**-1.6**
IEMG	**Emamgholi**	**10.19**	**279**	*e*P	**Pn**	**15 15 57.6**	**-1.0**
GEYT	**Alibeck**	**10.63**	**282**	P	Pn	15 16 00.9	-3.6
	comp=E,2.0nm,0.3s,baz=79,slow=7.6,SNR=6.7						
GEYT				S	**Sn**	**15 17 57.1**	**-4.4**
	comp=E,1.6nm,0.3s,baz=111,slow=21,SNR=4.8						
MKAR	**Makanchi Array**	**13.15**	**35**	*i* P	**Pn**	**15 16 38.0**	**+0.4**
	comp=E,0.1nm,0.3s,baz=215,slow=12,SNR=4.6						
MKAR	**Makanchi Array**	**13.15**	**35**	*i* P	**Pn**	**15 16 38.2**	**+0.6**
KOLN	**Koldanda**	**13.54**	**126**	*e*P	**Pn**	**15 16 41.4**	**-1.6**
	comp=E,14nm,0.4s						
GKN	**Gorkha**	**14.08**	**123**	*e*P	**Pn**	**15 16 48.7**	**-1.1**
	comp=E,56nm,0.8s						
DMN	**Daman**	**14.65**	**123**	*e*P	**Pn**	**15 16 55.6**	**-1.6**
	comp=E,18nm,0.3s						
KKN	**Kakani**	**14.65**	**122**	*e*P	**Pn**	**15 16 55.7**	**-1.5**
	comp=E,19nm,0.5s						
PKIN	**Phulchoki**	**14.86**	**123**	*e*P	**Pn**	**15 16 58.7**	**-1.3**
	comp=E,13nm,0.3s						
PKI	**Pulchoki**	**14.88**	**123**	*e*P	**Pn**	**15 16 58.8**	**-1.4**
	comp=E,28nm,0.7s						
GUN	**Gumba**	**14.98**	**121**	*e*P	**Pn**	**15 17 00.1**	**-1.5**
KURBB	**Kurtchatov Arra**	**15.05**	**18**	P	**Pn**	**15 16 59.4**	**-2.5**
	comp=E,0.0nm,0.3s,baz=208,slow=10,SNR=2.7						
KURK	**Kurchatov**	**15.16**	**18**	P	**Pn**	**15 16 59.4**	**-3.8**
KURK	**Kurchatov**	**15.16**	**18**	P	**Pn**	**15 16 59.4**	**-3.8**
AB31	**Akbulak array**	**15.22**	**331**	P	**Pn**	**15 17 02.7**	**-1.3**
	comp=E,2.6nm,0.3s,baz=140,slow=12,SNR=186						
AB31				⇑S	Sn	15 19 41.7	-11
	comp=E,1.2nm,0.5s,baz=150,slow=23,SNR=4.7						
ABKAR	**Akbulak array**	**15.22**	**331**	*e*Pn	**Pn**	**15 17 02.1**	**-1.9**
	comp=E,6.4nm,0.3s						
RAMN	**Ramite**	**16.09**	**122**	*e*P	**Pn**	**15 17 12.2**	**-3.0**
	comp=E,10nm,0.3s						
BVA0	**Borovoye Array**	**16.55**	**358**	P	**P**	**15 17 21.7**	**+0.7**
	comp=E,2.8nm,0.8s,baz=164,slow=12,SNR=9.3						
BVAR	**Borovoye Array**	**16.55**	**358**	P	**P**	**15 17 21.0**	**0.0**
	comp=E,0.5nm,0.3s,baz=168,slow=11,SNR=12						
BVAR	**Borovoye Array**	**16.55**	**358**	P	**P**	**15 17 21.0**	**0.0**
BRVK	**Borovoye**	**16.59**	**358**	⇑P	**P**	**15 17 22.6**	**+1.2**
	comp=E,5.1nm,0.8s						
BRVK	**Borovoye**	**16.59**	**358**	*e*P	**P**	**15 17 21.6**	**+0.2**
TAPN	**Taplejung**	**16.61**	**119**	*e*P	**Pn**	**15 17 19.4**	**-2.3**
	comp=E,16nm,0.4s						
ODAN	**Odare**	**16.69**	**121**	*e*P	**Pn**	**15 17 19.3**	**-3.3**
AKTO	**Aktyubinsk**	**16.92**	**330**	⇓P	**P**	**15 17 25.5**	**+0.4**
	comp=E,3.5nm,0.6s						
AKTO				⇑S	Sn	15 20 24.4	-8.8
	comp=E,4.6nm,1.2s						
AKTO	**Aktyubinsk**	**16.92**	**330**	P	**Pn**	**15 17 24.8**	**-0.2**
	comp=E,1.0nm,0.3s,baz=155,slow=13,SNR=16						
AKTO				S	Sn	15 20 22.7	-10
	comp=E,0.2nm,0.3s,baz=232,slow=18,SNR=4.1						
ZAA0	**Zalesovo Array**	**19.82**	**24**	*e*Pn	**P**	**15 17 56.1**	**-0.6**
ZALV	**Zalesovo Beam**	**19.82**	**24**	P	**P**	**15 17 57.4**	**+0.6**
	comp=E,1.8nm,0.3s,baz=212,slow=11,SNR=11						
ZALV	**Zalesovo Beam**	**19.82**	**24**	*e*P	**P**	**15 17 57.9**	**+1.2**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ARU	**Arti**	**21.73**	**341**	*d i*P	**P**	**15 18 15.8**	**-1.4**
ARU						15 18 48.4	
ARU				S	S	15 22 00.2	-10
ARU				pmax	pmax		
	comp=Z,6.0nm,2.5s						
NCK	**Nalchik**	**22.30**	**297**	*e*P	P	15 18 30.4	+7.1
KIV	**Kislovodsk**	**23.02**	**298**	⇑*e*P	P	15 18 35.8	+5.2
KIV				*e**PP	pP	15 19 02.1	+9.3
KIV				*e*S	S	15 22 13.4	-19
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
VSR	**Storozhevoye**	**27.20**	**313**	*e*P	**P**	**15 19 11.7**	**+3.6**
VSR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
OBN	**Obninsk**	**30.12**	**319**	⇓*e*P	**P**	**15 19 33.3**	**-0.6**
OBN				*e**PP	pP	15 20 04.3	+5.4
OBN				*e*		15 20 36.4	
OBN				*e*S	**S**	**15 24 25.4**	**+1.3**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
FINES	**FINESS Array B**	**37.64**	**326**	P	**P**	**15 20 40.9**	**+2.0**
	comp=Z,0.6nm,0.3s,baz=127,slow=10,SNR=17						
FINES	**FINESS Array B**	**37.64**	**326**	*e*P	**P**	**15 20 41.0**	**+2.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARCES	**ARCESS Array B**	**41.26**	**338**	P	**P**	**15 21 10.8**	**+2.0**
	comp=Z,0.7nm,0.5s,baz=111,slow=9.2,SNR=13						
ARCES	**ARCESS Array B**	**41.26**	**338**	*e*P	**P**	**15 21 11.1**	**+2.3**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**43.24**	**322**	P	**P**	**15 21 26.6**	**+1.7**
	comp=Z,2.4nm,0.6s,baz=97,slow=11,SNR=13						
NB2	**NORSAR Subarra**	**44.55**	**323**	P	**P**	**15 21 37.0**	**+1.6**
	comp=Z,0.9nm,0.5s,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.55**	**323**	P	**P**	**15 21 37.1**	**+1.7**
	comp=Z,1.7nm,0.6s,baz=96,slow=7.8,SNR=8.5						
NOA	**NORSAR Array B**	**44.55**	**323**	*e*P	**P**	**15 21 37.1**	**+1.6**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**65.98**	**269**	P	**P**	**15 24 09.6**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=54,slow=6.1,SNR=6.9						
YKA	**Yellowknife Ar**	**81.25**	**3**	P	**P**	**15 25 40.4**	**+2.2**
	comp=Z,0.3nm,0.4s,baz=352,slow=5.1,SNR=3.5						
WRA	**Warramunga Arr**	**81.76**	**122**	P	**P**	**15 25 41.9**	**+0.3**
	comp=Z,0.8nm,1.1s,baz=326,slow=4.8,SNR=4.2						
ASAR	**Alice Springs**	**84.03**	**125**	P	**P**	**15 25 53.7**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=314,slow=4.5,SNR=4.3						

CSEM ***17*** *15:17:11.7±0.7,36˚.20N×21˚.78E,h0km±1km,MD3.5,Error ellipse: s-maj=12.8km s-min=5.8km az=47.0*

THE ***17*** *15:17:11.8,36˚.19N×21˚.78E,h0km±3km,ML3.1/3,Error ellipse: s-maj=4.4km s-min=1.3km az=207.0*

ATH ***17*** *15:17:12.0,36˚.22N×21˚.77E,h5km±1km,MD3.5/16*

ISC 17 15:17:12.0±1.7, 36˚.23N±0˚.05×21˚.79E±0˚.05, h2km±12km, n56, σ0s69/73,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.67**	**357**	*e*PB	**Pg**	**15 17 25.0**	**+0.2**
PYL				*e*SB	**Sb**	**15 17 35.0**	**-1.0**
PYL	**PYLOS**	**0.67**	**357**	*e*Pb	**Pg**	**15 17 25.0**	**+0.2**
PYL				*e*Sb	**Sb**	**15 17 35.0**	**-1.0**
PYL	**PYLOS**	**0.67**	**357**	P	**Pg**	**15 17 25.2**	**+0.4**
PYL				S	**Sb**	**15 17 35.7**	**-0.3**
ITM	**Ithomi**	**0.95**	**7**	*e*PB	**Pg**	**15 17 30.8**	**+0.5**
ITM				*e*SB	**Sb**	**15 17 44.2**	**-0.1**
ITM	**Ithomi**	**0.95**	**7**	P	**Pg**	**15 17 29.8**	**-0.5**
ITM	**Ithomi**	**0.95**	**7**	*e*Pb	**Pg**	**15 17 30.8**	**+0.5**
ITM				*e*Sb	**Sb**	**15 17 44.2**	**-0.1**
ITM	**Ithomi**	**0.95**	**7**	P	**Pg**	**15 17 29.8**	**-0.5**
KYTH	**Kithira**	**1.01**	**87**	*e*PN	**Pg**	**15 17 31.9**	**+0.5**
KYTH	**Kithira**	**1.01**	**87**	P	**Pg**	**15 17 31.9**	**+0.5**
KYTH	**Kithira**	**1.01**	**87**	P	**Pg**	**15 17 31.9**	**+0.5**
VLI	**Veliai**	**1.05**	**62**	*e*PB	**Pg**	**15 17 32.6**	**+0.5**
VLI				*e*SB	**Sb**	**15 17 47.5**	**+0.5**
VLI	**Veliai**	**1.05**	**62**	P	**Pg**	**15 17 32.5**	**+0.5**
VLI				*e*Sb	**Sb**	**15 17 47.5**	**+0.5**
VLI				S	**Sn**	**15 17 48.2**	**-0.6**
VLI	**Veliai**	**1.05**	**62**	P	**Pg**	**15 17 32.5**	**+0.5**
VLI				S	**Sn**	**15 17 48.2**	**-0.6**
VLX	**Vlachokerasia**	**1.23**	**22**	*e*PB	**Pn**	**15 17 36.3**	**0.0**
VLX				*e*SB	**Sb**	**15 17 52.8**	**+0.3**
VLX	**Vlachokerasia**	**1.23**	**22**	P	**Pg**	**15 17 35.5**	**-0.2**
VLX	**Vlachokerasia**	**1.23**	**22**	*e*Pb	**Pn**	**15 17 36.3**	**0.0**
VLX				*e*Sb	**Sb**	**15 17 52.8**	**+0.3**
VLX				S	**Sn**	**15 17 54.4**	**+0.8**
VLX	**Vlachokerasia**	**1.23**	**22**	P	**Pg**	**15 17 35.5**	**-0.2**
VLX				S	**Sn**	**15 17 54.4**	**+0.8**
ANKY	**Antikythira Is**	**1.28**	**106**	*e*PB	**Pn**	**15 17 36.7**	**-0.1**
ANKY				*e*SB	**Sn**	**15 17 54.5**	**0.0**
ANKY	**Antikythira Is**	**1.28**	**106**	P	**Pn**	**15 17 35.3**	**-1.5**
ANKY	**Antikythira Is**	**1.28**	**106**	*e*Pb	**Pn**	**15 17 36.7**	**-0.1**
ANKY				*e*Sb	**Sn**	**15 17 54.5**	**0.0**
ANKY	**Antikythira Is**	**1.28**	**106**	P	**Pn**	**15 17 35.3**	**-1.5**
AMT	**Artemida-Makis**	**1.30**	**357**	*e*PB	**Pn**	**15 17 36.8**	**-0.4**
AMT	**Artemida-Makis**	**1.30**	**357**	P	**Pn**	**15 17 36.8**	**-0.4**
AMT				S	**Sn**	**15 17 57.4**	**+2.2**
AMT	**Artemida-Makis**	**1.30**	**357**	P	**Pn**	**15 17 36.8**	**-0.4**
AMT				S	**Sn**	**15 17 57.4**	**+2.2**
KRND	**KRANIDI**	**1.59**	**43**	*e*PB	**Pg**	**15 17 42.7**	**+0.3**
KRND	**KRANIDI**	**1.59**	**43**	*e*Pb	**Pg**	**15 17 42.7**	**+0.3**
ZKS	**Zakynthos**	**1.67**	**332**	*e*PB	**Pb**	**15 17 43.6**	**+0.2**
ZKS	**Zakynthos**	**1.67**	**332**	*e*Pb	**Pb**	**15 17 43.6**	**+0.2**
DIDY	**Didyma**	**1.69**	**42**	*e*PG	**Pb**	**15 17 44.0**	**+0.2**
DIDY	**Didyma**	**1.69**	**42**	*e*Pg	**Pb**	**15 17 44.0**	**+0.2**
DRO	**Drossia**	**1.72**	**358**	*e*PN	**Pb**	**15 17 44.7**	**+0.4**
DRO	**Drossia**	**1.72**	**358**	*e*Pn	**Pb**	**15 17 44.7**	**+0.4**
DID	**Didima**	**1.73**	**42**	*e*PN	**Pb**	**15 17 44.8**	**+0.4**
DID	**Didima**	**1.73**	**42**	P	**Pn**	**15 17 41.4**	**-1.6**
DID	**Didima**	**1.73**	**42**	*e*Pn	**Pb**	**15 17 44.8**	**+0.4**
DID	**Didima**	**1.73**	**42**	P	**Pn**	**15 17 41.4**	**-1.6**
GUR	**Goura**	**1.76**	**14**	*e*PG	**Pb**	**15 17 45.0**	**0.0**
GUR	**Goura**	**1.76**	**14**	*e*Pg	**Pb**	**15 17 45.0**	**0.0**
KLV	**Kalavryta, Ach**	**1.83**	**9**	*e*PN	**Pb**	**15 17 46.8**	**+0.5**
KLV	**Kalavryta, Ach**	**1.83**	**9**	*e*Pn	**Pb**	**15 17 46.8**	**+0.5**
RLS	**Riolos of Patr**	**1.84**	**352**	*e*PG	**Pb**	**15 17 46.5**	**+0.1**
RLS	**Riolos of Patr**	**1.84**	**352**	*e*Pg	**Pb**	**15 17 46.5**	**+0.1**
THAL	**Thalero**	**1.94**	**21**	*e*PN	**Pg**	**15 17 48.8**	**-0.3**
LAKA	**Lakka**	**2.01**	**4**	*e*PG	**Pb**	**15 17 49.5**	**+0.2**
LAKA	**Lakka**	**2.01**	**4**	*e*Pg	**Pb**	**15 17 49.5**	**+0.2**
LTK	**Loutraki**	**2.02**	**27**	*e*PG	**Pb**	**15 17 49.9**	**+0.4**
LTK	**Loutraki**	**2.02**	**27**	*e*Pg	**Pb**	**15 17 49.9**	**+0.4**
VAM	**Vamos**	**2.13**	**112**	*e*PG	**Pb**	**15 17 51.6**	**+0.4**
VAM	**Vamos**	**2.13**	**112**	*e*Pg	**Pb**	**15 17 51.6**	**+0.4**
KALE	**Kalithea**	**2.18**	**7**	*e*PN	**Pb**	**15 17 51.4**	**-0.7**
KALE	**Kalithea**	**2.18**	**7**	*e*Pn	**Pb**	**15 17 51.4**	**-0.7**
EFP	**Efpalio**	**2.19**	**2**	*e*PN	**Pb**	**15 17 52.4**	**0.0**
DSF	**Desfina**	**2.26**	**15**	*e*PN	**Pb**	**15 17 52.8**	**-0.7**
DSF	**Desfina**	**2.26**	**15**	*e*Pn	**Pb**	**15 17 52.8**	**-0.7**
VIL2	**Platees**	**2.31**	**30**	*e*PN	**Pb**	**15 17 53.8**	**-0.5**
PDO	**Prodromos**	**2.41**	**349**	*e*PN	**Pb**	**15 17 55.4**	**-0.7**

MEX 17 15:44:22.0±0.4, 14˚.41N×92˚.55W, h17km±999km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.44**	**333**	*i* P	Pn	15 44 43.4	-3.9
PCIG				*i* S	Sn	15 45 01.0	-4.8
TGIG		**2.42**	**347**	*i* P	Pn	15 44 58.3	-2.6
TGIG				*i* S	Sn	15 45 26.

comp=Z,1μm,2.5s
LIFNC LIFOU 17.51 250 *e*P **P 16 24 08.8 +1.3**
DZM Mont Dzumac 18.57 247 *e*P **Pn 16 24 20.0 +0.4**
comp=Z,851nm,1.4s
DZM *e*LR LR 16 28 37.6
comp=Z,22μm,24.9s
DZM Mont Dzumac 18.57 247 P **P 16 24 18.3 -1.1**
comp=Z,0.6nm,0.3s,baz=360,slow=2.3,SNR=35
DZM LR LR 16 30 15.5
comp=Z,11μm,21.0s,baz=357,slow=33
DZM Mont Dzumac 18.57 247 *e*P **P 16 24 19.2 -0.1**
NOUC Port Laguerre 18.71 247 *e*P **P 16 24 20.1 -0.6**
TARA Tarawa 20.62 324 PFAKE 16 24 50.0 +6.0
TARA LR LR
comp=Z,9μm,21.0s
URZ Urewera 23.54 195 P **P 16 25 12.2 -0.2**
comp=Z,23nm,1.0s,baz=5.6,slow=6.7,SNR=7.7
URZ LR LR 16 33 57.9
comp=Z,11μm,18.6s,baz=24,slow=35
URZ Urewera 23.54 195 *e*P **P 16 25 12.5 +0.1**
comp=Z,110nm,1.5s
PAE Paea 24.54 98 *e*T T 16 50 41.3
comp=Z,6.9nm,0.3s
PPT Papeete 24.55 98 LR LR 16 32 25.7
comp=Z,4μm,20.0s,baz=268,slow=30
PPT2 Papeete2 24.55 98 *e*LQ LQ 16 30 17.7
comp=Z,17μm,26.0s
PPT2 *e*LR LR 16 31 22.2
comp=Z,12μm,25.5s,baz=263
TIAR Tiarei 24.77 98 *e*T T 16 50 57.9
comp=Z,7.7nm,0.4s
XMAS Kiritimati 24.79 46 PFAKE 16 25 40.0 +16
XMAS LR LR
comp=Z,4μm,20.0s
TVO Taravao 24.86 99 *e*T T 16 51 05.0
comp=Z,2.5nm,0.3s
HNR Honiara 25.10 281 LR LR 16 33 39.4
comp=Z,10μm,20.5s,baz=117,slow=33
HNR Honiara 25.10 281 PFAKE 16 25 40.0 +13
HNR LR LR
comp=Z,8μm,20.0s
TBI Tubuai 25.34 112 *e*LQ LQ 16 30 41.4
comp=Z,22μm,27.0s
TBI *e*LR LR 16 31 50.0
comp=Z,9μm,27.2s,baz=287
TBI Tubuai 25.34 112 *e*T T 16 51 42.5
comp=Z,27nm,0.5s
PMOR Pomariorio Ree 26.26 92 *e*T T 16 52 49.0
comp=Z,7.4nm,0.4s
SNZO South Karori 27.04 197 PFAKE 16 26 00.0 +16
SNZO LR LR
comp=Z,6μm,20.0s
EIDS Eidsvold 33.02 247 ⇑P **P 16 26 35.8 -1.7**
baz=33,SNR=4.3
EIDS Eidsvold 33.02 247 *e*P **P 16 26 37.9 +0.3**
comp=Z,21nm,1.1s
ARMA Armidale 33.80 238 ⇑P **P 16 26 43.9 -0.5**
baz=34,SNR=10
ARMA Armidale 33.80 238 *e*P **P 16 26 43.6 -0.8**
comp=Z,35nm,1.3s
TAOE Nuku Hiva Isla 34.80 83 *e*T T 17 03 26.8
comp=Z,240nm,0.3s
RMQ Roma 35.28 246 ⇓P **P 16 26 56.2 -0.9**
baz=35,SNR=7.6
CTAO Charters Tower 36.97 257 PFAKE 16 27 20.0 +8.3
CTAO LR LR
comp=Z,4μm,19.0s
PMG Port Moresby 37.30 275 P **P 16 27 12.8 -1.8**
comp=Z,40nm,0.9s,baz=117,slow=4.5,SNR=4.6
PMG LR LR 16 42 00.0
comp=Z,2μm,18.7s,baz=86,slow=36
PMG Port Moresby 37.30 275 *e*P **P 16 27 13.9 -0.7**
PMG MLR MLR
comp=Z,3μm,19.0s
PMG Port Moresby 37.30 275 *e*P **P 16 27 13.8 -0.7**
PMG LR LR
comp=Z,3μm,19.0s
CAN Canberra 37.57 232 PFAKE 16 27 30.0 +13
CAN LR LR
comp=Z,4μm,19.0s
H11S2 WAKE ISLAND Hy 38.36 332 T T 17 08 04.8
baz=149,slow=76,SNR=47
H11S3 WAKE ISLAND Hy 38.37 331 T T 17 08 05.7
baz=149,slow=76,SNR=21
H11S1 WAKE ISLAND Hy 38.38 332 T T 17 08 13.3
baz=149,slow=76,SNR=14
RKT Rikitea 38.49 108 *e*S **S 16 33 24.3 +4.5**
comp=Z,485nm,24.1s
RKT *e*LQ LQ 16 36 08.2
comp=Z,3μm,26.0s
RKT *e*LR LR 16 37 53.4
comp=Z,6μm,27.2s,baz=276
MTSU Mount Surprise 38.84 260 ⇓P **P 16 27 26.9 -0.7**
baz=39,SNR=6.6
CMSA Cobar Meteor 39.00 239 ⇑P **P 16 27 27.1 -1.6**
baz=39,SNR=7.6
WAKE Wake Island 39.08 332 PFAKE 16 27 40.0 +11
WAKE LR LR
comp=Z,3μm,19.0s
QLP Quilpie 39.30 247 ⇑P **P 16 27 29.3 -1.9**
baz=39,SNR=10
H11N3 WAKE ISLAND Hy 39.34 333 T T 17 09 04.4
baz=151,slow=76,SNR=56
H11N1 WAKE ISLAND Hy 39.35 333 T T 17 09 17.3
baz=151,slow=76,SNR=127
H11N2 WAKE ISLAND Hy 39.36 333 T T 17 09 07.4
baz=151,slow=76,SNR=91
POHA Pohakuloa 40.11 29 PFAKE 16 27 50.0 +12
POHA LR LR
comp=Z,2μm,22.0s
COEN Coen 40.31 267 ⇑P **P 16 27 40.1 +0.3**
baz=40,SNR=5.9
COEN Coen 40.31 267 *e*P **P 16 27 37.1 -2.7**
comp=Z,110nm,1.3s
KIP Kipapa 40.49 25 PFAKE 16 27 50.0 +8.9
KIP LR LR
comp=Z,2μm,21.0s
TAU Tasmania Unive 42.02 222 PFAKE 16 28 00.0 +6.5
TAU LR LR
comp=Z,4μm,21.0s
STKA Stephens Creek 42.48 240 P **P 16 27 56.5 -0.9**
comp=Z,22nm,1.0s,baz=83,slow=6.7,SNR=7.0
STKA PcP **PcP 16 29 49.0 -1.2**
comp=Z,6.5nm,0.9s,baz=117,slow=2.3,SNR=4.1
STKA LR LR 16 43 38.8
comp=Z,3μm,21.0s,baz=75,slow=33
STKA Stephens Creek 42.48 240 P **P 16 27 56.5 -0.9**
STKA 16 29 49.0
STKA pmax pmax
comp=Z,22nm,1.0s
STKA pmax pmax
comp=Z,7.0nm,0.9s
STKA MLR MLR
comp=Z,3μm,21.0s
STKA Stephens Creek 42.48 240 P **P 16 27 56.9 -0.5**
baz=42,SNR=11
STKA Stephens Creek 42.48 240 *e*P **P 16 27 56.0 -1.4**
comp=Z,17nm,1.4s
STKA PcP **PcP 16 29 49.0 -1.2**
MIDW Midway 43.66 357 PFAKE 16 28 20.0 +13
MIDW LR LR
comp=Z,4μm,20.0s
JAY Jayapura 45.42 282 LR LR 16 45 40.3
comp=Z,2μm,21.0s,slow=34
WRAB Tennant Creek 48.16 257 P **P 16 28 40.2 -2.5**
comp=Z,322nm,1.2s,SNR=9.0
WRAB Tennant Creek 48.16 257 *e*P **P 16 28 40.8 -1.9**
WRAB pmax pmax
comp=Z,268nm,1.7s
WRAB Tennant Creek 48.16 257 *e*P **P 16 28 40.1 -2.7**
comp=Z,93nm,1.3s
WRAB LR LR
comp=Z,3μm,22.0s
WRA Warramunga Ar 48.17 257 P **P 16 28 40.3 -2.5**
comp=Z,36nm,1.0s,baz=90,slow=7.8,SNR=36
WRA PcP **PcP 16 30 09.6 -0.6**
comp=Z,2.5nm,1.0s,baz=95,slow=3.4,SNR=3.2
WRA LR LR 16 46 47.4
comp=Z,4μm,21.9s,baz=105,slow=33
ASAR Alice Springs 48.46 252 P **P 16 28 43.1 -1.9**
comp=Z,12nm,0.9s,baz=89,slow=7.5,SNR=37
ASAR PcP **PcP 16 30 10.5 -0.7**
comp=Z,3.0nm,0.9s,baz=92,slow=4.7,SNR=3.2
ASAR LR LR 16 47 17.3
comp=Z,7μm,20.9s,baz=90,slow=34
GUMO Guam 49.09 304 LR LR 16 46 19.8
comp=Z,1μm,21.1s,baz=112,slow=32

MTN Manton Dam 52.06 266 ⇑P **P 16 29 11.9 -0.4**
baz=52,SNR=3.9
FAKI Fak Fak 53.31 278 *e*P **P 16 29 22.1 +0.5**
comp=Z,26nm,1.0s
KNRA Kununurra 53.89 262 ⇑P **P 16 29 25.9 0.0**
baz=54,SNR=4.0
SIJI Sorong 54.87 280 LR LR 16 51 43.5
comp=Z,2μm,20.7s,baz=189,slow=35
SWI Sorong 54.88 280 P **P 16 29 35.7 +2.7**
baz=55,SNR=14
DRV Dumont d'Urvil 58.81 199 S S 16 37 55.0 -10
DRV L L 16 44 00.0
DRV R 16 48 00.0
SOEI Soe 59.26 268 *e*P **P 16 30 02.1 -2.2**
JCJ Chichijima 59.35 315 LR LR 16 51 32.6
comp=Z,3μm,20.4s,baz=132,slow=32
BATI Baumata 59.75 267 LR LR 16 54 33.1
comp=Z,2μm,20.0s,slow=35
MBWA Marble Bar 61.70 254 *e*P **P 16 30 21.2 +0.5**
comp=Z,362nm,2.8s
MBWA LR LR
comp=Z,2μm,20.0s
SBA Scott Base 62.87 184 *e*P **P 16 30 28.4 +0.8**
comp=Z,36nm,1.1s
SBA LR LR
comp=Z,1μm,20.0s
DAV Davao City (W) 62.91 287 PFAKE 16 30 40.0 +11
DAV LR LR
comp=Z,840nm,20.0s
VNDA Vanda 62.96 185 P **P 16 30 28.8 +0.6**
comp=Z,10nm,1.0s,baz=16,slow=7.2,SNR=12
VNDA LR LR 16 55 11.6
comp=Z,521nm,19.5s,baz=29,slow=34
VNDA Vanda 62.96 185 *e*P **P 16 30 27.9 -0.3**
comp=Z,41nm,1.5s
KAPI Kappang 64.73 272 PFAKE 16 30 50.0 +9.1
KAPI LR LR
comp=Z,668nm,22.0s
MJAR Matsushiro Arr 68.08 321 P **P 16 30 58.7 -3.1**
comp=Z,0.4nm,0.5s,baz=172,slow=3.4,SNR=3.9
MJAR LR LR 16 55 07.9
comp=Z,1μm,21.4s,baz=120,slow=31
MAJO Matsushiro 68.08 321 *e*P P 16 31 05.9 +4.0
MAJO pmax pmax
comp=Z,22nm,1.2s
MAJO Matsushiro 68.08 321 PFAKE 16 31 10.0 +8.1
MAJO LR LR
comp=Z,2μm,22.0s
MYLDM Lahad Datu 68.88 282 *e*P **P 16 31 07.3 -0.1**
comp=Z,57nm,1.3s
ERM Erimo 69.08 328 PFAKE 16 31 20.0 +12
ERM LR LR
comp=Z,2μm,19.0s
YUK Yuzh-Kuril'sk 69.26 331 *c i*P **P 16 31 07.0 -2.1**
YUK *i* 16 31 29.2
YUK *i* 16 33 37.4
YUK *i* S **S 16 40 12.9 -1.9**
YUK *i* *SS sS 16 40 34.1 +11
YUK pmax pmax
comp=Z,170nm,6.1s
KUR Kuril'sk 69.28 333 *d i*P P 16 31 05.1 -4.0
KUR *i* PPP PPP 16 35 19.1
KUR *i* S **S 16 40 10.2 -4.8**
KUR *i* *SS sS 16 40 33.1 +10
KUR pmax pmax
comp=Z,42nm,4.9s
CASY Casey 69.49 205 *e*P **P 16 31 08.6 -1.6**
comp=Z,236nm,3.0s
CASY LR LR
comp=Z,2μm,21.0s
JNU Nakatsue 70.77 314 LR LR 16 58 39.4
comp=Z,737nm,18.8s,baz=120,slow=33
KKM Kota Kinabalu 71.31 282 *e*P **P 16 31 22.8 +0.3**
comp=Z,92nm,1.8s
KKM LR LR
comp=Z,759nm,20.0s
PET Petropavlovsk 72.04 344 *e*P P 16 31 21.9 -3.9
PET *e* 16 33 56.9
PET *e*S S 16 40 38.2 -8.6
PET *e*PS **PnS 16 41 09.4 -8.1**
PET *e*PS 16 41 21.8
PET pmax pmax
comp=Z,200nm,13.6s
PET MLR MLR
comp=Z,2μm,19.0s
PET Petropavlovsk 72.04 344 PFAKE 16 31 40.0 +14
PET LR LR
comp=Z,2μm,22.0s
PETK Petropavlovsk- 72.38 343 P **P 16 31 26.5 -1.4**
comp=Z,11nm,0.8s,baz=132,slow=8.2,SNR=9.8
PETK LR LR 16 57 02.6
comp=Z,2μm,21.9s,baz=147,slow=31
YSS Yuzh-Sakhalins 72.90 331 *e*P **P 16 31 30.0 -1.0**
YSS *e* 16 31 42.3
YSS *e*PS **PnS 16 41 28.0 -1.0**
YSS pmax pmax
comp=Z,400nm,5.0s
YSS MLR MLR
comp=Z,600nm,18.0s
YSS Yuzh-Sakhalins 72.90 331 *e*P **P 16 31 32.7 +1.7**
comp=Z,49nm,1.5s
YSS LR LR
comp=Z,485nm,20.0s
CHGN Chignik 73.04 10 *e*P **P 16 31 31.5 -0.2**
MWC Mount Wilson 73.50 46 *e*P **P 16 31 35.8 +0.6**
MWC pmax pmax
comp=Z,55nm,1.6s
MWC Mount Wilson 73.50 46 *e*P **P 16 31 35.8 +0.6**
comp=Z,55nm,1.6s
YHNB Yeheng 73.76 302 PFAKE 16 31 50.0 +13
YHNB LR LR
comp=Z,1μm,21.0s
TATO Taipei 73.80 302 PFAKE 16 31 50.0 +13
TATO LR LR
comp=Z,7.0nm,20.0s
EDW2 Edwards Air Fo 73.90 46 P **P 16 31 38.0 +0.6**
baz=74,SNR=11
MONP Monument Peak 73.97 48 P **P 16 31 38.3 +0.3**
baz=74
ISA Isabella 74.00 45 P **P 16 31 38.9 +1.0**
baz=74
SBUM Sibu 74.01 277 *e*P **P 16 31 38.2 -0.2**
comp=Z,176nm,2.9s
CMB Columbia Colle 74.05 42 *e*P **P 16 31 37.8 -0.4**
CMB pmax pmax
comp=Z,12nm,1.2s
CMB Columbia Colle 74.05 42 *e*P **P 16 31 37.8 -0.4**
comp=Z,12nm,1.2s
WDC Whiskeytown Da 74.21 39 *e*P **P 16 31 38.8 -0.1**
WDC pmax pmax
comp=Z,45nm,1.7s
WDC Whiskeytown Da 74.21 39 *e*P **P 16 31 38.8 -0.1**
comp=Z,45nm,1.7s
PFO Pinyon Flat Ob 74.31 48 P **P 16 31 40.8 +0.9**
baz=74
PFO Pinyon Flat Ob 74.31 48 PFAKE 16 31 50.0 +10
PFO LR LR
comp=Z,1μm,20.0s
QSPA South Pole Qui 74.39 180 PFAKE 16 31 50.0 +10
QSPA LR LR
comp=Z,1μm,19.0s
LRMC Laurel Mountai 74.43 46 P **P 16 31 41.5 +1.0**
baz=75
SWSC Sam W. Stewart 74.44 49 P **P 16 31 41.5 +1.0**
baz=75
M02C Callahan 74.51 38 P **P 16 31 42.7 +1.9**
baz=75
LPIG La Paz 74.58 59 LR LR 16 58 16.9
comp=Z,777nm,18.7s,baz=238,slow=31
MLAC Mammoth Lakes 74.84 43 P **P 16 31 44.3 +1.3**
baz=75
BELC Belle Mtn. Jos 74.84 48 P **P 16 31 44.0 +1.0**
baz=75
MTUM Tungsten Hills 74.86 44 *e*P **P 16 31 43.9 +0.8**
MPMC Manual Prospec 74.88 45 P **P 16 31 44.0 +0.7**
baz=75,SNR=14
WAKR Walker 74.94 42 *e*P **P 16 31 42.7 -0.8**
GSC Goldstone 74.95 46 *e*P **P 16 31 43.9 +0.4**
GSC pmax pmax
comp=Z,20nm,1.3s
GSC Goldstone 74.95 46 P **P 16 31 44.6 +1.1**
baz=75,SNR=8.4
GSC Goldstone 74.95 46 *e*P **P 16 31 43.9 +0.4**
comp=Z,20nm,1.3s
HEC Hector,Ludlow 75.03 47 P **P 16 31 44.5 +0.5**
baz=75

BC3 Big Chuckawall 75.05 48 P **P 16 31 44.9 +0.7**
baz=75
KSRS Korea Array 75.19 316 P **P 16 31 43.0 -1.7**
comp=Z,1.2nm,0.9s,baz=126,slow=6.2,SNR=2.6
KSRS LR LR 17 01 47.5
comp=Z,876nm,19.4s,baz=123,slow=33
GLA Glamis 75.20 49 P **P 16 31 45.9 +0.9**
baz=75
KSAR Wonju Array Be 75.21 316 P **P 16 31 43.0 -1.8**
KSAR Wonju Array Be 75.21 316 P **P 16 31 43.0 -1.8**
M04C Macdoel 75.36 38 P **P 16 31 47.3 +1.5**
baz=76
GRAC Grapevine Rang 75.47 44 P **P 16 31 48.0 +1.6**
baz=76,SNR=12
GMRC Granite Mounta 75.48 47 P **P 16 31 47.7 +1.1**
baz=76
KDAK Kodiak Island 75.51 12 *e*P **P 16 31 44.5 -1.5**
KDAK pmax pmax
comp=Z,13nm,1.1s
KDAK MLR MLR
comp=Z,2μm,22.0s
KDAK Kodiak Island 75.51 12 *e*P **P 16 31 44.5 -1.5**
comp=Z,13nm,1.1s
KDAK LR LR
comp=Z,2μm,22.0s
IRM Iron Mountain 75.53 48 P **P 16 31 47.8 +1.0**
baz=76,SNR=13
FURC Furnace Creek, 75.53 45 P **P 16 31 47.5 +0.9**
baz=76
KSM Kuching 75.56 276 *e*P **P 16 31 46.2 -1.2**
comp=Z,52nm,1.3s
KSM LR LR
comp=Z,340nm,21.0s
SHOC Shoshone 75.63 46 P **P 16 31 48.0 +0.7**
baz=76
NVAR Mina Array Bea 75.63 43 P **P 16 31 45.5 -2.0**
comp=Z,4.2nm,1.1s,baz=227,slow=9.5,SNR=19
TUQ Turquoise Moun 75.63 46 P **P 16 31 48.3 +0.8**
baz=76,SNR=11
I03D Drain, OR 75.65 36 P **P 16 31 48.4 +1.2**
baz=76
Y12C Blythe 75.77 48 P **P 16 31 48.9 +0.7**
baz=76
TYV Tymovskoe 75.84 334 *e*P **P 16 31 46.0 -2.1**
TYV *e*S **S 16 41 29.0 -0.7**
TYV smax smax
comp=E,500nm,10.0s
LDFC Landfair 76.02 47 *e*P **P 16 31 49.8 +0.1**
comp=E,68nm,1.4s
INCN Inchon 76.07 316 PFAKE 16 32 00.0 +10
INCN LR LR
comp=Z,1μm,20.0s
J04D Umpqua Nationa 76.08 37 P **P 16 31 50.7 +0.7**
baz=76
TPH Tonopah 76.15 44 *e*P **P 16 31 47.8 -2.6**
TPH pmax pmax
comp=Z,33nm,1.5s
TPH Tonopah 76.15 44 *e*P **P 16 31 47.8 -2.6**
comp=Z,33nm,1.5s
214A Organ Pipe Nat 76.15 51 P **P 16 31 50.8 +0.4**
baz=76
TPNV Topopah Spring 76.20 45 *e*P **P 16 31 51.4 +0.7**
TPNV pmax pmax
comp=Z,48nm,1.8s
TPNV Topopah Spring 76.20 45 P **P 16 31 51.5 +0.7**
baz=76,SNR=9.8
TPNV Topopah Spring 76.20 45 *e*P **P 16 31 51.4 +0.7**
comp=Z,48nm,1.8s
PDMCI Parker Dam,Lak 76.32 48 P **P 16 31 52.0 +0.8**
baz=77
USRK Ussuriysk Ar. 76.60 324 P **P 16 31 50.0 -2.6**
comp=Z,0.5nm,0.5s,baz=94,slow=12,SNR=2.2
USRK LR LR 16 59 12.3
comp=Z,4μm,21.8s,baz=118,slow=31
J05D Fort Rock, OR 76.62 37 P **P 16 31 53.6 +0.6**
baz=77
SHPR Sheep Range 76.72 46 *e*P **P 16 31 53.9 +0.2**
SSE Sheshan 76.80 308 *e*P **P 16 31 53.3 -0.7**
SSE PcP **PcP 16 32 03.9 -1.3**
SSE S **S 16 41 42.5 +1.4**
SSE sS **sS 16 41 47.8 -1.6**
SSE PMZ
comp=Z,42nm,0.7s
SSE PMZ
comp=Z,71nm,3.9s
SSE LN
comp=Z,350nm,20.7s
SSE LE
comp=Z,550nm,20.7s
SSE LZ
comp=Z,540nm,19.7s
I05D Terrebonne, OR 77.19 36 P **P 16 31 57.0 +0.9**
baz=78
F04D Rainier, OR 77.33 34 P **P 16 31 58.0 +1.3**
baz=78
R11A Troy Canyon, C 77.39 44 P **P 16 31 58.1 +0.6**
baz=78
R11A Troy Canyon, C 77.39 44 *e*P **P 16 31 55.6 -1.8**
comp=Z,28nm,1.8s
BMN Battle Mountai 77.43 41 *e*P **P 16 31 57.9 +0.3**
BMN pmax pmax
comp=Z,37nm,1.7s
BMN Battle Mountai 77.43 41 *e*P **P 16 31 57.9 +0.3**
comp=Z,37nm,1.7s
WVOR Wild Horse Val 77.67 39 PFAKE 16 32 10.0 +11
WVOR LR LR
comp=Z,1μm,19.0s
HABR Khabarovsk 77.68 329 *de*P **P 16 31 55.8 -2.7**
HABR *e* 16 32 06.2
HABR *e**PP **PcP 16 32 12.3 +3.7**
HABR *e* 16 34 49.8
HABR *e*PPP PPP 16 36 37.2
HABR *e*S S 16 41 40.9 -9.0
HABR *e* 16 42 01.9
HABR *e* 16 42 07.9
HABR *e*SS SS 16 46 39.9 -10
HABR MLR MLR
comp=Z,735nm,19.0s
NLWA Neilton Lookou 77.70 33 PFAKE 16 32 10.0 +11
NLWA LR LR
comp=Z,1μm,20.0s
G05D Wamic, OR 77.75 36 P **P 16 32 00.1 +1.1**
baz=78
TUC Tucson 77.84 51 P **P 16 31 57.6 -2.4**
TUC pmax pmax
comp=Z,12nm,1.1s
TUC MLR MLR
comp=Z,1μm,20.0s
TUC Tucson 77.84 51 P **P 16 31 57.6 -2.4**
comp=Z,12nm,1.1s
TUC LR LR
comp=Z,1μm,20.0s
G06A Carlson Farm, 78.13 36 *e*P **P 16 32 03.3 +2.1**
comp=Z,52nm,1.8s
MDJ Mudanjiang 78.22 323 P **P 16 32 03.6 +1.9**
MDJ S **S 16 41 59.4 +3.4**
MDJ PMZ
comp=Z,4.0nm,1.7s
MDJ PMZ
comp=Z,240nm,4.8s
MDJ LN
comp=Z,920nm,23.1s
MDJ LE
comp=Z,2μm,27.8s
MDJ LZ
comp=Z,3μm,24.7s
MDJ Mudanjiang 78.22 323 PFAKE 16 32 10.0 +8.3
MDJ LR LR
comp=Z,2μm,20.0s
NKL Nikolayevsk 78.35 335 *e*P **P 16 32 04.0 +1.9**
NKL *e* 16 42 00.5
NKL MLR MLR
comp=N,500nm,18.0s
NKL MLR MLR
comp=E,600nm,18.0s
NKL MLR MLR
comp=Z,1μm,18.0s
CCUT Cedar City 78.48 46 *e*P **P 16 32 04.2 +0.5**
comp=Z,15nm,1.4s
D05A Enumclaw 78.57 34 *e*P **P 16 32 04.3 +0.8**
comp=Z,241nm,2.3s
KNB Kanab 78.59 46 *e*P **P 16 32 05.2 +1.0**
KNB pmax pmax
comp=Z,53nm,1.6s
KNB Kanab 78.59 46 *e*P **P 16 32 05.2 +1.0**
comp=Z,53nm,1.6s
ELK Elko 78.87 42 *e*P **P 16 32 06.3 +0.6**

ELK pmax pmax
comp=Z,85nm,3.0s
ELK Elko 78.87 42 *e*P **P 16 32 06.2 +0.6**
comp=Z,85nm,3.0s
WUAZ Wupatki 78.90 48 P **P 16 32 06.3 +0.5**
baz=79,SNR=10
WUAZ Wupatki 78.90 48 *e*P **P 16 32 06.2 +0.3**
comp=Z,29nm,1.3s
WUAZ LR LR
comp=Z,850nm,20.0s
NJ2 Nanjing 79.00 308 *e*P **P 16 32 06.8 +0.5**
NJ2 S **S 16 42 06.0 +1.1**
NJ2 PMZ
comp=Z,20nm,0.7s
NJ2 LN
comp=Z,2µm,23.4s
NJ2 LE
comp=Z,2µm,23.6s
NJ2 LZ
comp=Z,2µm,23.6s
G08A Pilot Rock 79.12 37 *e*P **P 16 32 06.8 0.0**
comp=Z,40nm,1.6s
HAWA Hanford 79.44 36 *e*P **P 16 32 08.7 +0.4**
comp=Z,53nm,1.6s
HAWA LR LR
comp=Z,913nm,19.0s
RAGM Ragged Mountai 79.64 15 *e*P **P 16 32 09.3 +0.1**
comp=Z,38nm,1.5s
PMR Palmer 79.71 12 *e*P **P 16 32 09.5 +0.1**
PMR pmax pmax
comp=Z,33nm,1.5s
PMR Palmer 79.71 12 *e*P **P 16 32 09.5 +0.1**
comp=Z,33nm,1.5s
MVU Marysvale 79.75 45 *e*P **P 16 32 11.6 +1.1**
comp=Z,15nm,1.3s
MSU Marysvale 79.77 45 *e*P **P 16 32 10.3 -0.4**
MSU Marysvale 79.77 45 *e*P **P 16 32 10.3 -0.4**
BMO Blue Mountains 79.83 38 PFAKE 16 32 20.0 +9.3
BMO LR LR
comp=Z,1µm,19.0s
KLR Kul'dur 79.84 328 *e*P **P 16 32 09.0 -1.4**
KLR *e*S **S 16 42 13.0 -0.1**
W18A Petrified Fore 79.90 49 P **P 16 32 11.6 +0.3**
baz=80
MA2 Magadan 79.92 343 PFAKE 16 32 20.0 +9.4
MA2 LR LR
comp=Z,1.0nm,21.0s
MFID Camas Ranch 79.93 40 *e*P **P 16 32 11.3 0.0**
comp=Z,27nm,1.7s
DIV Divide 80.03 14 P **P 16 32 09.8 -1.5**
D08A Wollman Farm, 80.17 35 *e*P **P 16 32 12.0 -0.3**
comp=Z,73nm,1.8s
BMRM Bremner River 80.17 15 *e*P **P 16 32 12.2 +0.2**
comp=Z,43nm,1.2s
DUG Dugway 80.18 43 *e*P **P 16 32 13.0 +0.3**
DUG pmax pmax
comp=Z,22nm,1.7s
DUG MLR MLR
comp=Z,890nm,20.0s
DUG Dugway 80.18 43 P **P 16 32 13.3 +0.6**
baz=80
DUG Dugway 80.18 43 *e*P **P 16 32 13.0 +0.3**
comp=Z,22nm,1.7s
DUG LR LR
comp=Z,890nm,20.0s
DL2 Dalian 80.18 315 *e*P **P 16 32 15.4 +2.9**
DL2 S S 16 42 23.5 +6.5
DL2 PMZ
comp=Z,28nm,1.6s
DL2 PMZ
comp=Z,260nm,4.7s
DL2 LN
comp=Z,470nm,17.2s
DL2 LE
comp=Z,470nm,18.6s
121A Cookes Peak, D 80.21 52 P **P 16 32 14.0 +0.9**
baz=80
121A Cookes Peak, D 80.21 52 *e*P **P 16 32 12.9 -0.2**
comp=Z,18nm,1.3s
WRAK Wrangell Islan 80.21 23 PFAKE 16 32 20.0 +7.8
WRAK LR LR
comp=Z,1µm,22.0s
CN2 Changchun 80.22 321 *e*P **P 16 32 15.5 +2.8**
CN2 *es*P **sP 16 32 22.5 +3.0**
CN2 *e*S **S 16 42 19.8 +2.5**
CN2 PMZ
comp=Z,10.0nm,0.7s
CN2 PMZ
comp=Z,200nm,3.0s
CN2 LN
comp=Z,350nm,21.0s
CN2 LE
comp=Z,830nm,21.0s
CN2 LZ
comp=Z,280nm,21.0s
SCM Sheep Creek Mo 80.31 13 *e*P **P 16 32 13.0 +0.2**
SCM Sheep Creek Mo 80.31 13 *e*P **P 16 32 13.0 +0.2**
KLU Klutina 80.32 14 *e*P **P 16 32 12.9 0.0**
comp=Z,28nm,1.6s
F10A Beach Ranch, E 80.50 37 *e*P **P 16 32 14.1 -0.2**
comp=Z,99nm,2.0s
B08A Colville Reser 80.70 34 *e*P **P 16 32 14.5 -0.7**
comp=Z,31nm,1.6s
HLID Hailey 80.88 40 P **P 16 32 17.4 +1.0**
baz=81
HLID Hailey 80.88 40 *e*P **P 16 32 17.1 +0.7**
comp=Z,28nm,1.5s
HLID LR LR
comp=Z,450nm,20.0s
HVU Hansel Valley 81.00 42 *e*P **P 16 32 17.6 +0.5**
HVU pmax pmax
comp=Z,16nm,1.3s
HVU Hansel Valley 81.00 42 *e*P **P 16 32 17.6 +0.5**
comp=Z,16nm,1.3s
TRF Thorofare Moun 81.18 11 *e*P **P 16 32 17.3 -0.2**
comp=Z,55nm,1.6s
RND Reindeer 81.41 12 *e*P **P 16 32 18.7 +0.1**
RND pmax pmax
comp=Z,38nm,1.2s
RND Reindeer 81.41 12 *e*P **P 16 32 18.7 +0.1**
comp=Z,38nm,1.2s
QIZ Qiongzhong 81.47 292 P **P 16 32 20.5 +0.7**
QIZ S **S 16 42 33.9 +2.6**
QIZ SS **SS 16 47 52.8 +4.5**
QIZ LN
comp=Z,1µm,26.7s
QIZ LZ
comp=Z,1µm,19.6s
QIZ Qiongzhong 81.47 292 PFAKE 16 32 30.0 +10
QIZ LR LR
comp=Z,1µm,22.0s
LAZ Ladron 81.50 51 *e*P **P 16 32 21.0 +1.0**
TCUT Toone Canyon 81.56 43 *e*P **P 16 32 21.0 +0.8**
comp=Z,68nm,1.6s
MCK McKinley 81.69 11 *e*P **P 16 32 19.2 -0.8**
MCK pmax pmax
comp=Z,46nm,1.4s
MCK McKinley 81.69 11 *e*P **P 16 32 19.2 -0.8**
comp=Z,46nm,1.4s
PV05 Paradox Valley 81.70 47 *e*P **P 16 32 21.8 +0.8**
MVCO Mesa Verde 81.73 48 PFAKE 16 32 30.0 +8.8
MVCO LR LR
comp=Z,1µm,21.0s
BNM Barren Site 81.77 51 *e*P **P 16 32 21.9 +0.4**
NEW Newport 81.86 35 P **P 16 32 22.7 +1.4**
baz=82
NEW Newport 81.86 35 PFAKE 16 32 30.0 +8.7
NEW LR LR
comp=Z,634nm,19.0s
PV09 Paradox Valley 81.87 46 *e*P **P 16 32 22.7 +0.7**
WHN Wuhan 81.87 305 P **P 16 32 21.3 -0.4**
HYT Haines Junctio 81.94 18 *e*P **P 16 32 22.7 +1.1**
PV01 Paradox Valley 82.10 47 *e*P **P 16 32 23.3 +0.2**
TXAR Lajitas Array 82.13 57 P **P 16 32 23.5 +0.3**
comp=Z,3.7nm,1.1s,baz=227,slow=5.0,SNR=21
TXAR LR LR 17 02 40.4
comp=Z,591nm,18.0s,baz=0.0,slow=31
ANMO Albuquerque 82.24 51 LR LR 17 02 21.0
comp=Z,1µm,19.4s,baz=244,slow=31
ANMO Albuquerque 82.24 51 ⇑*i*P **P 16 32 24.6 +0.8**
ANMO pmax pmax
comp=Z,28nm,1.2s
ANMO Albuquerque 82.24 51 *e*P **P 16 32 24.0 +0.1**
comp=Z,31nm,1.4s
ANMO LR LR
comp=Z,1µm,20.0s

SEY Seymchan 82.34 346 P **P 16 32 21.6 -1.9**
comp=Z,6.2nm,1.0s,baz=144,slow=6.7,SNR=10.0
SEY LR LR 17 04 32.9
comp=Z,2µm,20.3s,baz=154,slow=32
MCMT McKenzie Canyo 82.50 39 *e*P **P 16 32 25.1 +0.1**
DLBC Dease Lake 82.55 22 *e*P **P 16 32 25.7 +1.0**
CCB Clear Creek Bu 82.73 11 *e*P **P 16 32 24.8 -0.6**
comp=Z,30nm,1.4s
MSO Missoula 82.88 37 P **P 16 32 27.7 +0.9**
baz=83
MSO Missoula 82.88 37 *e*P **P 16 32 26.8 0.0**
comp=Z,28nm,1.5s
DLMT Dillon 82.92 39 *e*P **P 16 32 28.1 +0.9**
comp=Z,26nm,1.3s
COLA College 82.93 11 *c i*P **P 16 32 24.3 -2.1**
COLA pmax pmax
comp=Z,26nm,1.0s
COLA College 82.93 11 *e*P **P 16 32 25.4 -1.1**
comp=Z,48nm,1.4s
COLA LR LR
comp=Z,2µm,20.0s
BSMT Bassoo Peak 82.94 36 *e*P **P 16 32 27.4 +0.2**
IM04 Indian Mountai 82.95 9 *e*P **P 16 32 26.0 -0.6**
TPAW Teton Pass 83.01 41 *e*P **P 16 32 28.3 +0.6**
comp=Z,31nm,1.4s
REDW Red Top Meadow 83.01 41 *e*P **P 16 32 27.8 +0.1**
comp=Z,30nm,1.4s
ILAR Eielson Array 83.02 12 P **P 16 32 26.1 -0.9**
comp=Z,2.3nm,0.8s,baz=230,slow=6.3,SNR=14
ILAR LR LR 17 02 26.7
comp=Z,1µm,21.7s,baz=213,slow=31
FXWY Fox Creek 83.04 41 *e*P **P 16 32 28.4 +0.5**
comp=Z,17nm,1.4s
SNOW Snow King Moun 83.12 41 *e*P **P 16 32 29.3 +0.9**
comp=Z,77nm,1.8s
S22A 4UR Ranch, Cre 83.16 48 P **P 16 32 28.8 +0.1**
baz=83
S22A 4UR Ranch, Cre 83.16 48 *e*P **P 16 32 29.6 +0.9**
comp=Z,39nm,1.5s
O20A White River Ci 83.23 45 P **P 16 32 29.4 +0.5**
baz=84
LRM Limekiln Ridge 83.24 39 *e*P **P 16 32 29.5 +0.6**
CHMT Chamberlain Mo 83.33 37 *e*P **P 16 32 28.9 -0.4**
QLMT Earthquake Lak 83.37 40 *e*P **P 16 32 30.6 +1.0**
FLWY Flagg Ranch 83.46 41 *e*P **P 16 32 30.9 +0.9**
comp=Z,37nm,1.4s
BW06 Boulder Array 83.56 42 *e*P **P 16 32 30.4 -0.2**
comp=Z,20nm,1.4s
BW06 LR LR
comp=Z,921nm,21.0s
PDAR Pinedale Array 83.56 42 P **P 16 32 30.4 -0.2**
comp=Z,3.5nm,0.8s,baz=235,slow=1.6,SNR=28
PDAR LR LR 17 05 17.7
comp=Z,687nm,18.8s,baz=250,slow=32
529A Stev Forest Ra 83.59 56 P **P 16 32 31.1 +0.3**
baz=84
BOZ Bozeman (W) 83.65 39 *e*P **P 16 32 30.5 -0.4**
BOZ pmax pmax
comp=Z,28nm,1.5s
BOZ MLR MLR
comp=Z,827nm,19.0s
BOZ Bozeman (W) 83.65 39 P **P 16 32 31.3 +0.4**
baz=84
BOZ Bozeman (W) 83.65 39 *e*P **P 16 32 30.5 -0.4**
comp=Z,28nm,1.5s
BOZ LR LR
comp=Z,827nm,19.0s
SMCO Snowmass 83.68 47 *e*P **P 16 32 31.9 +0.5**
comp=Z,15nm,1.1s
429A Davenport Ranc 84.04 56 P **P 16 32 33.5 +0.4**
baz=84,SNR=12
228A UT Block 9, Go 84.05 54 P **P 16 32 33.4 +0.2**
baz=84
HRY Holter Researc 84.06 38 *e*P **P 16 32 33.6 +0.7**
DAWY Dawson 84.08 15 *e*P **P 16 32 32.7 +0.2**
SDCO Great Sand Dun 84.11 48 P **P 16 32 33.9 +0.2**
baz=84
SDCO Great Sand Dun 84.11 48 *e*P **P 16 32 33.8 +0.2**
comp=Z,11nm,1.4s
SDCO LR LR
comp=Z,928nm,19.0s
J19A Crowheart 84.12 42 P **P 16 32 33.7 +0.3**
baz=84
329A Wagon Wheel Ra 84.30 55 P **P 16 32 35.6 +1.2**
baz=84
530A J-C Ranch, Com 84.31 57 P **P 16 32 35.6 +1.2**
baz=84
128A Castleberry Fa 84.33 54 P **P 16 32 35.5 +0.9**
baz=84
BJT Baijiatuau 84.44 314 PFAKE 16 32 50.0 +15
BJT LR LR
comp=Z,707nm,20.0s
BJI Beijing 84.45 314 P **P 16 32 35.6 +0.8**
BJI S **S 16 43 03.5 +2.7**
BJI SS **SS 16 48 28.8 -3.0**
BJI PMZ
comp=Z,13nm,1.4s
BJI LN
comp=Z,720nm,18.6s
BJI LE
comp=Z,630nm,25.6s
BJI LZ
comp=Z,1µm,24.7s
I19A Meeteetse 84.52 41 P **P 16 32 36.1 +0.7**
baz=85
PMSA Palmer Station 84.61 156 PFAKE 16 32 50.0 +15
PMSA LR LR
comp=Z,2µm,20.0s
MSTX Muleshoe 84.62 53 P **P 16 32 36.2 +0.2**
baz=85
430A Baggett Ranch, 84.63 56 P **P 16 32 36.3 +0.2**
baz=85
T25A Trinidad 84.65 49 P **P 16 32 36.8 +0.5**
baz=85
T25A Trinidad 84.65 49 *e*P **P 16 32 36.7 +0.5**
comp=Z,7.2nm,1.1s
COLD Coldfoot 84.66 9 *e*P **P 16 32 36.4 +1.1**
comp=Z,24nm,1.1s
Z28A Tucker Farm, M 84.66 53 P **P 16 32 36.4 +0.2**
baz=85
631A Perdido Creek 84.66 58 P **P 16 32 36.5 +0.3**
baz=85
832A Faith Ranch, C 84.75 59 P **P 16 32 37.0 +0.3**
baz=85
J20A Shoshoni 84.79 42 P **P 16 32 37.4 +0.7**
baz=85
129A Stewart Farms, 84.82 54 P **P 16 32 37.5 +0.5**
baz=85
H19A Powell 84.82 41 P **P 16 32 38.0 +1.2**
baz=85
PAYG Puerto Ayora 84.84 89 PFAKE 16 32 50.0 +13
PAYG LR LR
comp=Z,537nm,20.0s
RLMT Red Lodge 84.86 40 P **P 16 32 38.0 +0.9**
baz=85
RLMT Red Lodge 84.86 40 P **P 16 32 35.8 -1.3**
comp=Z,22nm,1.5s
RLMT LR LR
comp=Z,737nm,19.0s
Q24A Divide 84.88 47 P **P 16 32 38.0 +0.6**
baz=85
ISCO Idaho Springs 84.90 46 P **P 16 32 38.0 +0.4**
baz=85
330A Mertzon 84.91 56 P **P 16 32 37.3 -0.2**
baz=85
732A Laxson Ranch, 84.91 58 P **P 16 32 38.7 +1.3**
baz=85
531A Rocksprings 84.96 57 P **P 16 32 38.2 +0.5**
baz=85,SNR=11
Y28A McKinney Farm, 85.00 53 P **P 16 32 38.3 +0.4**
baz=85
I20A Worland 85.03 42 P **P 16 32 37.9 0.0**
baz=85
431A Sonora 85.09 56 P **P 16 32 38.4 0.0**
baz=85
933A Laredo 85.10 60 P **P 16 32 38.9 +0.5**
baz=85
230A Sterling City 85.13 55 P **P 16 32 38.6 0.0**
baz=85
N23A Red Feather La 85.14 45 P **P 16 32 39.1 +0.4**
baz=85
N23A Red Feather La 85.14 45 *e*P **P 16 32 39.5 +0.8**
comp=Z,16nm,1.4s
Z29A Hungry Hill Ra 85.18 54 P **P 16 32 38.9 +0.1**
baz=85
J21A Lysite 85.20 43 P **P 16 32 39.4 +0.5**
baz=85

833A Chaparral WMA, 85.25 59 P **P 16 32 39.2 +0.1**
baz=85
T26A Comanche Natio 85.27 49 P **P 16 32 39.0 -0.3**
baz=86
IPM Ipoh 85.30 276 *e*P **P 16 32 40.1 +0.4**
comp=Z,26nm,1.1s
632A Uvalde 85.34 58 P **P 16 32 40.0 +0.3**
baz=86
034A Hebbronville 85.40 60 P **P 16 32 39.6 -0.3**
baz=86
Y29A Porterfield Fa 85.43 53 P **P 16 32 40.1 0.0**
baz=86
532A Rocksprings 85.46 57 P **P 16 32 40.6 +0.3**
baz=86
331A San Angelo 85.47 56 P **P 16 32 40.2 0.0**
baz=86
733A Divot King Ran 85.47 59 P **P 16 32 40.5 +0.3**
baz=86
K22A Casper 85.50 44 P **P 16 32 40.3 0.0**
baz=86
130A Snyder 85.51 55 P **P 16 32 40.8 +0.4**
baz=86
I21A Big Trails, Te 85.51 42 P **P 16 32 40.6 +0.3**
baz=86
S26A Kim 85.53 49 P **P 16 32 40.6 +0.1**
baz=86
U27A Thompson Grove 85.54 50 P **P 16 32 40.6 0.0**
baz=86
G20A Bridger 85.56 41 P **P 16 32 41.2 +0.7**
baz=86
X29A Tulia 85.63 53 P **P 16 32 41.3 +0.3**
baz=86
Z30A Sanderson Ranc 85.64 54 P **P 16 32 41.8 +0.8**
baz=86
ENH Enshi 85.66 303 PFAKE 16 32 50.0 +8.8
ENH LR LR
comp=Z,36nm,21.0s
JCT Junction City 85.67 57 P **P 16 32 41.7 +0.4**
baz=86
JCT Junction City 85.67 57 PFAKE 16 32 50.0 +8.7
JCT LR LR
comp=Z,711nm,19.0s
934A Benavides 85.72 60 P **P 16 32 41.3 -0.2**
baz=86
231A Bronte 85.78 55 P **P 16 32 42.0 +0.2**
baz=86
432A Menard 85.82 57 P **P 16 32 42.1 +0.1**
baz=86
633A Saathoff Ranch 85.82 58 P **P 16 32 42.2 +0.3**
baz=86
R26A Arlington 85.82 48 P **P 16 32 42.0 0.0**
baz=86
035A Encino 85.85 61 P **P 16 32 42.4 +0.2**
baz=86
T27A Campo 85.86 50 P **P 16 32 42.3 +0.1**
baz=86
J22A Midwest 85.87 43 P **P 16 32 42.4 +0.4**
baz=86
F20A Billings 85.87 40 P **P 16 32 42.4 +0.4**
baz=86
834A Tilden 85.87 59 P **P 16 32 42.3 +0.1**
baz=86
KULM Kulim 85.88 277 PFAKE 16 32 50.0 +7.4
KULM LR LR
comp=Z,673nm,19.0s
W29A Amraillo 85.92 52 P **P 16 32 42.8 +0.3**
baz=86
EGMT Eagleton 85.94 38 P **P 16 32 42.9 +0.7**
baz=86
EGMT Eagleton 85.94 38 *e*P **P 16 32 44.6 +2.3**
comp=Z,51nm,1.8s
EGMT LR LR
comp=Z,835nm,22.0s
131A Roby 85.99 55 P **P 16 32 42.8 -0.1**
baz=86
Q26A Hugo 86.02 48 P **P 16 32 42.9 0.0**
baz=86
Y30A Stafford Cattl 86.03 53 P **P 16 32 42.9 -0.1**
baz=86
H21A Big Horn, Sher 86.04 42 P **P 16 32 43.1 +0.2**
baz=86
332A Millersview 86.04 56 P **P 16 32 43.3 +0.2**
baz=86,SNR=13
I22A 9 Mile Ranch, 86.07 42 P **P 16 32 44.7 +1.6**
baz=86
K23A Bowen Ranch, D 86.15 44 P **P 16 32 44.8 +1.3**
baz=86
533A Kerrville 86.15 57 P **P 16 32 43.9 +0.2**
baz=86
TIY Taiyuan 86.15 311 *e*P P 16 32 50.0 +6.5
TIY Taiyuan 86.15 311 S **S 16 43 18.4 +0.4**
TIY Taiyuan 86.15 311 SS SS 16 49 00.0 +2.8
TIY pmax pmax
comp=Z,320nm,5.5s
TIY LR LR
comp=N,400nm,13.0s
TIY LR LR
comp=E,1µm,24.3s
TIY LR LR
comp=Z,1µm,20.9s
R27A Eads 86.28 49 P **P 16 32 44.5 +0.3**
baz=86
232A Coleman 86.29 56 P **P 16 32 44.5 +0.2**
baz=86
433A Art 86.34 57 P **P 16 32 44.5 0.0**
baz=86,SNR=15
HIA Hailar 86.41 323 PFAKE 16 33 00.0 +16
HIA LR LR
comp=Z,3µm,21.0s
Z31A Sharp Cattle R 86.42 54 P **P 16 32 46.0 +1.2**
baz=87
H22A Clearmont 86.46 42 P **P 16 32 46.6 +1.6**
baz=87
F21A Absaloka Mine, 86.52 41 P **P 16 32 47.1 +2.0**
baz=87
ABTX Abilene, Hawle 86.56 55 P **P 16 32 47.2 +1.6**
baz=87
ABTX Abilene, Hawle 86.56 55 *e*P **P 16 32 46.2 +0.7**
comp=Z,37nm,1.2s
EDM Edmonton 86.57 32 *e*P **P 16 32 47.6 +2.4**
EDM Edmonton 86.57 32 *e*P **P 16 32 47.6 +2.4**
534A Blanco 86.59 58 P **P 16 32 46.3 +0.5**
baz=87
B19A Brinkman Farms 86.62 38 P **P 16 32 47.4 +1.8**
baz=87
333A Richland Sprin 86.63 56 P **P 16 32 46.0 +0.1**
baz=87
GYA Guiyang 86.70 298 P **P 16 32 48.0 +1.4**
GYA PP **PP 16 36 12.3 +3.2**
GYA SKS **SKSac 16 43 12.8 -0.6**
GYA S **S 16 43 24.4 +0.5**
GYA SS **SS 16 49 08.9 +3.1**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,130nm,5.0s
GYA LN
comp=Z,780nm,20.2s
GYA LE
comp=Z,650nm,21.0s
GYA LZ
comp=Z,720nm,20.0s
735A Kenedy 86.74 59 P **P 16 32 46.1 -0.4**
baz=87
G22A Birney 86.78 41 P **P 16 32 47.8 +1.4**
baz=87
C20A Veseth Ranch, 86.83 39 P **P 16 32 48.4 +1.8**
baz=87
PSI Prapat 86.86 274 LR LR 17 09 05.3
comp=Z,386nm,21.6s,slow=34
PSI Prapat 86.86 274 *e*P **P 16 32 48.0 +0.4**
PSI pmax pmax
comp=Z,18nm,1.2s
PSI Prapat 86.86 274 *e*P **P 16 32 48.0 +0.4**
comp=Z,18nm,1.2s
E21A Keefer Ranch, 86.87 40 P **P 16 32 48.6 +1.8**
baz=87
Z32A Haskell 86.93 54 P **P 16 32 48.9 +1.5**
baz=87,SNR=5.8
233A Rising Star 86.93 56 P **P 16 32 49.2 +1.7**
baz=87
635A Leesville 86.94 59 P **P 16 32 48.5 +1.0**
baz=87
MAW Mawson 87.02 199 P **P 16 32 47.0 -0.2**
comp=Z,1.9nm,0.7s,baz=81,slow=8.5,SNR=3.8
MAW LR LR 17 10 46.3
comp=Z,706nm,18.2s,baz=114,slow=35
MAW Mawson 87.02 199 P **P 16 32 47.0 -0.2**

434A **Burnet** 87.03 57 P **P** 16 32 48.4 +0.5
baz=87
133A **Hamilton Ranch** 87.13 55 P **P** 16 32 49.2 +0.9
baz=87
334A **Lometa** 87.23 57 P **P** 16 32 49.0 +0.1
baz=87
LAO **LASA Array** 87.46 40 PFAKE 16 33 00.0 +10
LAO LR LR
comp=Z,594nm,20.0s
T30A **Plains** 87.48 51 P **P** 16 32 51.6 +1.6
baz=88
Z33A **Whitaker Ranch** 87.48 55 P **P** 16 32 51.2 +1.2
baz=88
234A **Clairette** 87.54 56 P **P** 16 32 51.4 +1.0
baz=88
H24A **Dirks Ranch, A** 87.69 42 P **P** 16 32 51.3 +0.4
baz=88
B21A **Ellsworth Farm** 87.75 38 P **P** 16 32 53.0 +2.0
baz=88
134A **White-Moore Ra** 87.78 55 P **P** 16 32 52.7 +1.2
baz=88
OGNE **Ogallala** 87.86 46 PFAKE 16 33 00.0 +8.2
OGNE LR LR
comp=Z,770nm,21.0s
WMOK **Wichita Mounta** 87.98 53 PFAKE 16 33 00.0 +7.6
WMOK LR LR
comp=Z,1μm,20.0s
HHC **Hu-ho-hao-te** 87.99 313 *e*P **P** 16 32 52.1 -0.3
HHC pP **pP** 16 32 57.8 +0.3
HHC sP **sP** 16 33 02.0 +2.7
HHC PP PP 16 36 24.5 +5.4
HHC SKS **SKSac** 16 43 19.8 -0.8
HHC S **ScS** 16 43 41.8 -0.2
HHC sS **sS** 16 43 43.3 -0.8
HHC PMZ
comp=Z,20nm,1.4s
HHC PMZ
comp=Z,280nm,8.2s
HHC LN
comp=Z,530nm,17.6s
HHC LE
comp=Z,680nm,17.2s
HHC LZ
comp=Z,590nm,17.6s
YAK **Yakutsk** 88.70 337 PFAKE 16 33 10.0 +15
YAK LR LR
comp=Z,807nm,21.0s
CBKS **Cedar Bluff** 88.71 49 PFAKE 16 33 10.0 +14
CBKS LR LR
comp=Z,984nm,19.0s
PBKT **Sadao Pong** 88.74 287 P P 16 33 01.1 +4.8
comp=Z,14nm,2.2s
BTO **Baotou** 88.98 313 *e*P **P** 16 32 56.8 -0.3
KMI **Kunming** 89.65 296 P **P** 16 33 02.3 +1.6
KMI pP **pP** 16 33 06.3 +0.5
KMI sP **sP** 16 33 07.8 +0.2
KMI SKS **SKSac** 16 43 31.8 +0.5
KMI S **S** 16 43 51.8 -0.3
KMI sS **ScS** 16 43 58.0 +1.4
KMI PMZ
comp=Z,10.0nm,1.7s
KMI PMZ
comp=Z,160nm,4.1s
KMI LN
comp=Z,570nm,19.1s
KMI LE
comp=Z,730nm,22.5s
KMI LZ
comp=Z,1μm,23.7s
CD2 **Chengdu** 90.53 302 P **P** 16 33 04.5 0.0
CD2 pP **pP** 16 33 07.9 -1.7
CD2 PP **PP** 16 36 39.3 -0.3
CD2 SKS **SKSac** 16 43 35.5 -0.4
CD2 S **S** 16 44 00.4 +0.6
CD2 sS **sS** 16 44 06.3 -1.9
CD2 SS **SS** 16 50 02.9 +1.6
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,200nm,6.1s
CD2 LN
comp=Z,640nm,18.6s
CD2 LZ
comp=Z,730nm,20.4s
YKA **Yellowknife Ar** 90.99 24 P **P** 16 33 06.1 +0.2
comp=Z,1.7nm,0.9s,baz=241,slow=4.6,SNR=6.6
CMAR **Chiang Mai Arr** 91.12 289 P **P** 16 33 07.8 +0.3
comp=Z,5.0nm,1.1s,baz=102,slow=2.7,SNR=8.6
CMAR LR LR 17 09 30.2
comp=Z,280nm,21.6s,baz=110,slow=33
CMAR **Chiang Mai Arr** 91.12 289 *i* P P 16 33 11.6 +4.1
CMAR pmax pmax
comp=Z,5.0nm,1.1s
CMMT **Chiang Mai** 91.22 289 P P 16 33 14.4 +6.5
comp=Z,14nm,2.1s
CHTO **Chiang Mai** 91.22 289 P P 16 33 14.4 +6.5
comp=Z,36nm,2.2s
CHTO **Chiang Mai** 91.22 289 *e*P **P** 16 33 07.8 -0.1
CHTO pmax pmax
comp=Z,19nm,1.6s
CHTO MLR MLR
comp=Z,646nm,22.0s
CHTO **Chiang Mai** 91.22 289 *e*P **P** 16 33 07.8 -0.1
comp=Z,19nm,1.6s
CHTO LR LR
comp=Z,646nm,22.0s
MIAR **Mount Ida** 91.97 55 PFAKE 16 33 20.0 +8.9
MIAR LR LR
comp=Z,846nm,19.0s
SYO **Syowa Base** 92.02 192⇑ *e*X **P** 16 33 08.0 -2.6
LZH **Lanzhou** 92.05 307 *e*P **P** 16 33 13.0 +1.4
LZH pP **pP** 16 33 18.3 +1.6
LZH sP **sP** 16 33 21.4 +2.9
LZH PP **PP** 16 36 51.0 -0.6
LZH SKS **SKSac** 16 43 42.0 -2.5
LZH S **S** 16 44 12.0 -1.5
LZH sS **sS** 16 44 23.0 +1.0
LZH SS **SS** 16 50 24.3 +1.2
LZH PMZ
comp=Z,21nm,1.0s
LZH PMZ
comp=Z,82nm,4.3s
LZH LN
comp=Z,380nm,14.7s
LZH LE
comp=Z,290nm,13.8s
LZH LZ
comp=Z,430nm,15.9s
MDND **Maddock** 92.06 41 *e*P **P** 16 33 11.6 +0.4
comp=Z,34nm,0.5s
ECSD **EROS Data Cent** 92.61 45 *e*P **P** 16 33 15.9 +2.1
comp=Z,29nm,1.8s
ECSD LR LR
comp=Z,1μm,22.0s
JTS **JuntasAbangare** 92.89 80 PFAKE 16 33 30.0 +14
JTS LR LR
comp=Z,2μm,20.0s
FFC **Flin Flon** 93.23 34 PFAKE 16 33 30.0 +14
FFC LR LR
comp=Z,826nm,20.0s
VNA1 **Neumayer--Stat** 93.43 176 P **P** 16 33 17.6 +0.5
ULN **Ulaanbaatar** 93.53 319 PFAKE 16 33 30.0 +12
ULN LR LR
comp=Z,643nm,20.0s
EFI **East Falkland** 93.61 146 PFAKE 16 33 30.0 +12
EFI LR LR
comp=Z,911nm,21.0s
NVL **N'lazarevskaya** 93.67 182 *e*P P 16 33 31.9 +14
NVL *e*S **SKSac** 16 43 55.7 +3.7
NVL pmax pmax
comp=Z,17nm,1.5s
NVL MLR MLR
comp=Z,688nm,17.0s
SONM **Songino Array** 93.93 319 P **P** 16 33 19.7 -0.3
comp=Z,0.2nm,0.3s,baz=122,slow=5.4,SNR=3.2
SONM LR LR 17 10 42.4
comp=Z,658nm,21.6s,baz=106,slow=32
SCIA **State Center** 94.42 48 PFAKE 16 33 30.0 +7.8
SCIA LR LR
comp=Z,1μm,20.0s
ATAH **Atahualpa** 94.52 99 LR LR 17 06 16.0
comp=Z,2μm,21.3s,baz=250,slow=29
AGMN **Agassiz Nation** 94.57 41 PFAKE 16 33 30.0 +7.3
AGMN LR LR
comp=Z,1μm,21.0s
NNA **Nana** 94.61 104 LR LR 17 06 35.2
comp=Z,508nm,21.1s,baz=250,slow=30
NNA **Nana** 94.61 104 PFAKE 16 33 40.0 +16
NNA LR LR
comp=Z,724nm,21.0s
LCO **Las Campanas** 94.63 122 PFAKE 16 33 40.0 +16
LCO LR LR
comp=Z,1μm,21.0s
ULM **Lac du Bonnet** 95.17 39 LR LR 17 10 32.3
comp=Z,886nm,20.0s,baz=259,slow=32
GTA **Gaotai** 96.05 309 *e*P **P** 16 33 28.9 -1.0
GTA pP **pP** 16 33 33.5 -1.5
GTA sP **sP** 16 33 36.6 -0.2
GTA SKS **SKSac** 16 44 06.8 +0.7
GTA S **S** 16 44 43.4 -5.1
GTA SS **SS** 16 51 18.8 -1.3
GTA PMZ
comp=Z,2.0nm,1.2s
GTA PMZ
comp=Z,49nm,5.7s
GTA LN
comp=Z,530nm,20.2s
GTA LE
comp=Z,1μm,24.0s
GTA LZ
comp=Z,2μm,23.3s
BRAL **Brewton** 96.28 60 PFAKE 16 33 40.0 +9.1
BRAL LR LR
comp=Z,536nm,20.0s
OTAV **Otavalo** 96.48 92 PFAKE 16 33 40.0 +7.1
OTAV LR LR
comp=Z,665nm,21.0s
ZAK **Zakamensk** 96.66 320 *e*P P 16 33 37.1 +4.8
ZAK pmax pmax
comp=Z,1.0nm,1.4s
TLY **Talaya** 96.80 322 PFAKE 16 33 40.0 +7.2
TLY LR LR
comp=Z,2μm,21.0s
JFWS **Jewell Farm** 96.81 47 PFAKE 16 33 40.0 +6.9
JFWS LR LR
comp=Z,1μm,20.0s
HDIL **Hopedale** 96.90 50 PFAKE 16 33 40.0 +6.5
HDIL LR LR
comp=Z,916nm,20.0s
EYMN **Ely** 97.27 42 PFAKE 16 33 50.0 +15
EYMN LR LR
comp=Z,612nm,20.0s
BCIP **Isla Barro Col** 97.47 83 PFAKE 16 33 50.0 +13
BCIP LR LR
comp=Z,686nm,22.0s
TRQA **Tornquist** 97.71 133 PFAKE 16 33 50.0 +13
TRQA LR LR
comp=Z,726nm,20.0s
LVC **Limon Verde** 98.39 116 PFAKE 16 33 50.0 +8.9
LVC LR LR
comp=Z,454nm,20.0s
GOGA **Godfrey** 99.80 58 PFAKE 16 34 00.0 +13
GOGA LR LR
comp=Z,649nm,20.0s
LSA **Lhasa** 100.76 298 PFAKE 16 34 00.0 +8.3
LSA LR LR
comp=Z,416nm,22.0s
GLMI **Grayling** 101.21 47 PFAKE 16 34 00.0 +7.3
GLMI LR LR
comp=Z,2μm,20.0s
AAM **Ann Arbor** 101.42 49 PFAKE 16 34 10.0 +16
AAM LR LR
comp=Z,793nm,19.0s
ACSO **Alum Creek Sta** 101.54 51 PFAKE 16 34 10.0 +16
ACSO LR LR
comp=Z,1μm,20.0s
MTDJ **Mount Denham** 101.78 74 PFAKE 16 34 10.0 +14
MTDJ LR LR
comp=Z,607nm,20.0s
HOPE **Hope Point** 101.93 157 PFAKE 16 34 10.0 +14
HOPE LR LR
comp=Z,2μm,20.0s
NHSC **New Hope** 102.44 59 PFAKE 16 34 10.0 +12
NHSC LR LR
comp=Z,625nm,19.0s
BLA **Blacksburg** 102.97 55 PFAKE 16 34 10.0 +9.2
BLA LR LR
comp=Z,966nm,20.0s
GTBY **Guantanamo Bay** 104.38 73 PFAKE 16 34 20.0 +13
GTBY LR LR
comp=Z,707nm,20.0s
CNNC **Cliffs of the** 104.67 57 PFAKE 16 34 20.0 +12
CNNC LR LR
comp=Z,1μm,19.0s
CBN **Corbin** 105.51 54 PFAKE 16 38 40.0
CBN LR LR
comp=Z,1μm,21.0s
WMQ **Urumqi** 105.80 312 Pdif **Pdif** 16 34 14.5 +1.3
WMQ PP **PP** 16 38 40.3 +4.0
WMQ S **Sdif** 16 46 05.5 -4.6
WMQ SS **SS** 16 53 34.9 -0.4
WMQ PPMZ
comp=Z,110nm,4.0s
WMQ LN
comp=Z,480nm,18.0s
WMQ LE
comp=Z,400nm,20.0s
WMQ LZ
comp=Z,620nm,24.0s
SDV **Santo Domingo** 106.22 85 PFAKE 16 38 40.0
SDV LR LR
comp=Z,548nm,20.0s
SDDR **Presa de Saban** 107.73 75 PFAKE 16 38 40.0
SDDR LR LR
comp=Z,2μm,20.0s
LONY **Lake Ozonia** 108.27 48 PFAKE 16 38 40.0
LONY LR LR
comp=Z,916nm,20.0s
SAML **Samuel** 108.31 105 PFAKE 16 38 40.0
SAML LR LR
comp=Z,506nm,20.0s
GRTK **Grand Turk** 108.33 72 PFAKE 16 38 40.0
GRTK LR LR
comp=Z,693nm,21.0s
NCB **Newcomb** 108.48 48 PFAKE 16 38 40.0
NCB LR LR
comp=Z,668nm,19.0s
DGAR **Diego Garcia** 109.28 256 PFAKE 16 38 40.0
DGAR LR LR
comp=Z,1μm,21.0s
MKAR **Makanchi Array** 109.82 315 PKiKP **PKiKP** 16 38 34.3 +0.9
comp=Z,0.7nm,0.7s,baz=63,slow=1.1,SNR=6.5
KURK **Kurchatov** 112.24 319 PFAKE 16 38 50.0
KURK LR LR
comp=Z,1μm,19.0s
SJG **San Juan** 112.38 77 PFAKE 16 38 50.0
SJG LR LR
comp=Z,571nm,20.0s
PTGA **Pitinga** 113.95 98 PFAKE 16 38 50.0
PTGA LR LR
comp=Z,1μm,19.0s
TKM2 **Tokmak 2** 114.56 310 PFAKE 16 38 50.0 +7.3
TKM2 LR LR
comp=Z,718nm,20.0s
BBSR **BB Station** 115.30 61 PFAKE 16 39 00.0 +16
BBSR LR LR
comp=Z,533nm,21.0s
AAK **Ala-Archa** 115.38 310 PFAKE 16 39 00.0 +16
AAK LR LR
comp=Z,883nm,22.0s
GRGR **Grenville** 115.54 84 PFAKE 16 39 00.0 +15
GRGR LR LR
comp=Z,359nm,20.0s
EKS2 **Erkin-Say** 115.91 310 PFAKE 16 39 00.0 +15
EKS2 LR LR
comp=Z,565nm,20.0s
ANWB **Willy Bob** 116.40 78 PFAKE 16 39 00.0 +13
ANWB LR LR
comp=Z,539nm,20.0s
FDF **Fort de France** 116.51 81 PFAKE 16 39 00.0 +13
FDF LR LR
comp=Z,567nm,20.0s
KBS **Kingsbay** 116.61 358 PFAKE 16 39 00.0 +15
KBS LR LR
comp=Z,669nm,19.0s
BRVK **Borovoye** 117.12 322 *i* PKIKP **PKPdf** 16 38 47.8 +0.8
BRVK **Borovoye** 117.12 322 PFAKE 16 39 00.0 +13
BRVK LR LR
comp=Z,1μm,20.0s
SFJD **Kangerlussuaq** 117.45 21 PFAKE 16 39 00.0 +13
SFJD LR LR
comp=Z,1μm,19.0s
BBGH **Gun Hill** 117.74 83 PFAKE 16 39 00.0 +11
BBGH LR LR
comp=Z,2μm,21.0s
ARU **Arti** 122.68 328 *i* PKIKP **PKPdf** 16 38 57.9 +0.3
ARU 16 40 33.9
ARU PPP PPP 16 43 07.3
ARU 16 45 51.9
ARU SS SS 16 57 06.3 -10
ARU MLR MLR
comp=Z,2μm,20.0s
ARU **Arti** 122.68 328 PFAKE 16 39 10.0 +12
ARU LR LR
comp=Z,2μm,21.0s
KEV **Kevo** 124.19 351 PFAKE 16 39 10.0 +10
KEV LR LR
comp=Z,1μm,21.0s
LVZ **Lovozero** 124.38 347 PFAKE 16 39 10.0 +9.4
LVZ LR LR
comp=Z,1μm,20.0s
ARCES **ARCESS Array B** 124.62 351 PKP **PKPdf** 16 39 00.2 -0.8
comp=Z,1.8nm,0.9s,baz=13,slow=11,SNR=5.8
ARCES **ARCESS Array B** 124.62 351 PKIKP **PKPdf** 16 39 00.2 -0.8
ARCES pmax pmax
comp=Z,2.0nm,0.9s
APA **Apatity** 124.92 347 *e*PKIKP **PKPdf** 16 39 00.0 -1.6
APA MLR MLR
comp=Z,1μm,24.0s
PRGR **Permogore** 125.74 337 PKIKP **PKPdf** 16 39 03.7 +0.4
PRGR pmax pmax
comp=Z,4.0nm,0.6s
ABPO **Ambohimpanom** 125.93 232 PFAKE 16 39 20.0 +15
ABPO LR LR
comp=Z,1μm,20.0s
MSEY **Mahe Island** 126.00 252 PFAKE 16 39 20.0 +15
MSEY LR LR
comp=Z,1μm,20.0s
BORG **Borgarnes** 127.81 14 PFAKE 16 39 20.0 +13
BORG LR LR
comp=Z,2μm,20.0s
OBN **Obninsk** 133.67 335 *i* PKIKP **PKPdf** 16 39 19.4 +0.9
OBN *e* 16 41 47.2
OBN *e*SS SS 16 59 20.9 -11
OBN pmax pmax
comp=Z,6.0nm,1.1s
OBN MLR MLR
comp=Z,884nm,20.0s
OBN **Obninsk** 133.67 335 PFAKE 16 39 30.0 +11
OBN LR LR
comp=Z,954nm,21.0s
RCBR **Riachuelo** 134.32 115 PFAKE 16 39 30.0 +8.9
RCBR LR LR
comp=Z,892nm,21.0s
KONO **Kongsberg** 135.94 357 PFAKE 16 39 30.0 +7.3
KONO LR LR
comp=Z,660nm,20.0s
KIV **Kislovodsk** 137.32 319⇓ *i* PKIKP **PKPdf** 16 39 26.6 +0.7
KIV *e* 16 42 08.3
KIV *e* 16 46 29.9
KIV pmax pmax
comp=Z,5.0nm,0.9s
KIV **Kislovodsk** 137.32 319 PFAKE 16 39 40.0 +14
KIV LR LR
comp=Z,819nm,22.0s
ESK **Eskdalemuir** 139.93 7 PFAKE 16 39 40.0 +10
ESK LR LR
comp=Z,1μm,19.0s
KIEV **Kiev** 139.93 336 PFAKE 16 39 40.0 +10
KIEV LR LR
comp=Z,638nm,20.0s
LSZ **Lusaka** 141.60 218 PFAKE 16 39 50.0 +15
LSZ LR LR
comp=Z,786nm,20.0s
TSUM **Tsumeb** 143.18 200 PFAKE 16 39 50.0 +13
TSUM LR LR
comp=Z,1μm,21.0s
CLL **Collm** 143.84 351 *e*PKIKP PKPbc 16 39 36.0 +1.1
CLL MLR MLR
comp=Z,900nm,21.6s
CLL **Collm** 143.84 351 *e*PKPdf PKPbc 16 39 36.0 +1.1
CLL *e*PKiKP **PKiKP** 16 39 40.0 -0.7
CLL *e* 16 39 55.0
CLL *e*PPS PPS 16 55 36.0
CLL *e*PSS PSS 17 02 06.0
CLL *e*SSS SSS 17 07 06.0
CLL LmV 17 41 00.0
comp=Z,900nm,21.6s
KOLS **Kolonicke sedl** 143.88 340 *e*PKIKP **PKPdf** 16 39 41.3 +3.8
KOLS **Kolonicke sedl** 143.88 340 *e*PKP **PKPdf** 16 39 41.3 +3.8
KMBO **Kilima Mbogo** 143.93 245 PKP PKPbc 16 39 36.4 -0.3
comp=Z,24nm,0.6s,baz=90,slow=2.1,SNR=5.1
KMBO **Kilima Mbogo** 143.93 245 PKP PKPbc 16 39 36.4 -0.3
KMBO *e*PKPdf **PKPdf** 16 39 39.1 +0.2
KMBO LR LR
comp=Z,691nm,19.0s
BURAR **Bucovina Array** 143.96 336⇓ *i* P PKPab 16 39 34.1 -0.9
UPC **Upice** 144.09 348 AMS AMS 17 41 50.0
comp=Z,1μm,20.9s
BRG **Berggiesshubel** 144.12 350 *e*PKP **PKPdf** 16 39 41.4 +3.6
comp=Z,10nm,1.4s
comp=N,436nm,29.0s
comp=E,1μm,21.5s
comp=Z,1μm,26.7s
BRG **Berggiesshubel** 144.12 350 *e*PKIKP **PKPdf** 16 39 41.4 +3.6
BRG pmax pmax
comp=Z,10.0nm,1.4s
BRG MLR MLR
comp=E,1μm,21.5s
BRG MLR MLR
comp=Z,1μm,26.7s
UZH **Uzhgorod** 144.14 340 *e*PKIKP PKPbc 16 39 36.3 +0.4
UZH *e* 16 39 40.7
DPC **Dobruska-Polom** 144.17 347 *e*PKP PKPbc 16 39 36.9 +0.8
DPC *e*pPKP **PKiKP** 16 39 40.0 -1.5
DPC AMS AMS 17 41 50.0
comp=Z,2μm,22.0s
DPC **Dobruska-Polom** 144.17 347 *e*PKIKP PKPbc 16 39 36.9 +0.8
DPC MLR MLR
comp=Z,2μm,22.0s
PVCC **Panska Ves** 144.34 349 AMS AMS 17 42 10.0
comp=Z,1μm,20.7s
MORC **Moravsky Berou** 144.44 346⇑ *i* PKIKP **PKPdf** 16 39 38.3 -0.2
MORC **Moravsky Berou** 144.44 346⇑ *i* P **PKPdf** 16 39 38.3 -0.2
MORC **Moravsky Berou** 144.44 346 *e*PKPdf PKPbc 16 39 37.6 +0.7
CFR **Carcaliu** 144.65 331⇑ *e*PKIKP **PKPdf** 16 39 40.9 +2.0
CFR **Carcaliu** 144.65 331⇑ *i* P **PKPdf** 16 39 40.9 +2.0
MOX **Moxa** 144.68 353 *e*L L 17 42 07.4
comp=Z,637nm,21.6s
VRI **Vrincioaia** 144.75 333⇓ *e*PKIKP **PKPdf** 16 39 39.3 +0.2
VRI **Vrincioaia** 144.75 333⇓ *i* P **PKPdf** 16 39 39.3 +0.2
TANN **Tannenbergstha** 144.79 352 *e*PKPbc PKPbc 16 39 38.0 0.0
PLOR **Plostina** 144.79 333⇑ *e*PKIKP **PKPdf** 16 39 40.5 +1.3
PLOR **Plostina** 144.79 333⇑ *i* P **PKPdf** 16 39 40.5 +1.3
PRA **Prague** 144.81 349 AMS AMS 17 43 10.0
comp=Z,1μm,20.3s
PRU **Pruhonice** 144.87 349 *e*PKP **PKPdf** 16 39 40.1 +1.0
PRU *e*pPKP **pPKPdf** 16 39 44.5 +0.1
PRU *e*x x 17 02 15.2
PRU AMS AMS 17 43 10.0
comp=Z,1μm,19.5s
PRU **Pruhonice** 144.87 349 *e*PKIKP **PKPdf** 16 39 40.1 +1.0
PRU *e* 16 39 44.5
PRU *e* 17 02 15.2
PRU MLR MLR
comp=Z,1μm,19.5s
GOPC **GO Pecny, Ondr** 144.89 349 *e*PKP **PKPdf** 16 39 40.4 +1.2
BEBN **Eben Emael** 144.94 359 PKP **PKPdf** 16 39 43.0 +3.8
TIRR **Tirgusor** 145.05 330⇑ *e*PKIKP **PKPdf** 16 39 40.8 +1.2
TIRR **Tirgusor** 145.05 330⇑ *i* P **PKPdf** 16 39 40.8 +1.2
VRAC **Vranov** 145.10 347 PKP **PKPbc** 16 39 38.3 -0.7
comp=Z,1.2nm,0.3s,baz=359,slow=3.9,SNR=6.0
VRAC **Vranov** 145.10 347⇑ *i* P **PKPdf** 16 39 42.1 +2.5
HARR **Harsova** 145.11 331⇑ *e*PKIKP **PKPdf** 16 39 42.0 +2.3
HARR **Harsova** 145.11 331⇑ *i* P **PKPdf** 16 39 42.0 +2.3
MEM **Membach** 145.12 359 PKP **PKPdf** 16 39 41.0 +1.5
SNF **Seneffe** 145.23 1 PKP **PKPdf** 16 39 41.7 +2.0
DOPR **Dopca** 145.24 335⇓ *i* P **PKPbc** 16 39 38.0 -1.6
BR131 **Keskin Array S** 145.29 319 *e*PKPdf **PKPbc** 16 39 39.0 -1.1
BRTR **Keskin Array B** 145.29 319 PKPbc **PKPbc** 16 39 39.1 -1.0
comp=Z,19nm,0.9s,baz=106,slow=1.8,SNR=42
BCLA **Clavier** 145.32 360 PKP **PKPdf** 16 39 40.8 +0.9
CJR **Cluj-Napoca** 145.33 337⇑ *e*PKIKP **PKPdf** 16 39 41.3 +1.2
CJR **Cluj-Napoca** 145.33 337⇑ *i* P **PKPdf** 16 39 41.3 +1.2
TREC **Trest** 145.35 348 *e*PKP **PKPdf** 16 39 41.5 +1.5

TREC AMS AMS 17 42 00.0
comp=Z,1μm,22.0s
TREC Trest 145.35 348 *e*PKIKP **PKPdf 16 39 41.5 +1.5**
TREC MLR MLR
comp=Z,1μm,22.0s
MLR Muntele Rosu 145.38 334 ⇑PKIKP **PKPbc 16 39 39.5 -0.7**
MLR Muntele Rosu 145.38 334 ⇑*i*P **PKPbc 16 39 39.5 -0.7**
TNS Taunus Mts 145.40 356 *e*PKPbc **PKPbc 16 39 38.9 -1.1**
ISR Istrita 145.41 333 ⇑PKIKP **PKPab 16 39 42.1 +1.7**
ISR Istrita 145.41 333 ⇑*i*P **PKPab 16 39 42.1 +1.7**
ROTZ Rotzenmuhle 145.46 352 *e*PKPbc **PKPbc 16 39 39.4 -0.7**
PSZ Piszkesteto 145.52 342 *e*PKIKP **PKPdf 16 39 40.4 0.0**
PSZ MLR MLR
comp=Z,2μm,21.0s
PSZ Piszkesteto 145.52 342 ⇓*i*P **PKPab 16 39 42.1 +1.4**
PSZ Piszkesteto 145.52 342 *e*PKPbc **PKPdf 16 39 40.4 0.0**
PSZ LR LR
comp=Z,2μm,21.0s
DRGR 145.59 338 ⇑PKIKP **PKPdf 16 39 40.4 -0.2**
DRGR 145.59 338 ⇑*i*P **PKPdf 16 39 40.4 -0.2**
MSAB Monastry St. A 145.61 330 ⇑*i*P **PKPab 16 39 43.6 +2.6**
DOU Dourbes 145.65 0 PKP **PKPab 16 39 42.5 +1.5**
GRF Grafenberg Arr 145.66 353 *e*PKPbc **PKPbc 16 39 40.7 -0.1**
GRF *e*L L 17 50 14.9
comp=Z,719nm,19.3s
GRFO Grafenberg 145.66 353 *e*PKIKP **PKPdf 16 39 40.2 -0.3**
GRFO Grafenberg 145.66 353 *e*PKPbc **PKPdf 16 39 40.2 -0.3**
ANTO Ankara 145.73 320 *e*PKIKP **PKPdf 16 39 41.2 +0.2**
ANTO MLR MLR
comp=Z,482nm,20.0s
ANTO Ankara 145.73 320 *e*PKPdf **PKPdf 16 39 41.2 +0.2**
ANTO LR LR
comp=Z,482nm,20.0s
VOIR 145.80 334 ⇓PKIKP **PKPab 16 39 42.2 +0.3**
VOIR 145.80 334 ⇓*i*P **PKPab 16 39 42.2 +0.3**
KHC Kasperske Hory 145.86 350 *e*PKP **PKPab 16 39 43.0 +1.1**
KHC Kasperske Hory 145.86 350 *e*PKIKP **PKPab 16 39 43.0 +1.1**
WET Wettzell 145.97 351 *e*PKPbc **PKPbc 16 39 41.5 -0.3**
ARR Arges 146.03 335 ⇓*i*P **PKPab 16 39 42.6 -0.1**
WLF Walferdange 146.06 359 PKP **PKPab 16 39 44.3 +1.7**
WLF Walferdange 146.06 359 *e*PKPbc **PKPab 16 39 42.8 +0.2**
WLF Walferdange 146.06 359 PFAKE 16 39 50.0 +7.4
WLF LR LR
comp=Z,2μm,21.0s
GEC2 GERESS Array S 146.12 350 *e*PKPbc **PKPdf 16 39 40.8 -0.6**
GERES GERESS Array B 146.12 350 PKPbc **PKPdf 16 39 41.4 0.0**
comp=Z,2.5nm,0.8s,baz=29,slow=3.0,SNR=17
LOT Lotru 146.31 336 ⇓*i*P **PKPab 16 39 42.0 +0.1**
SIRR Siria 146.41 339 ⇓*i*P **PKPab 16 39 45.0 +1.0**
PRD Provadia 146.48 330 ⇓PKIKP **PKPab 16 39 46.1 +1.8**
PRD Provadia 146.48 330 ⇓*i*P **PKPab 16 39 46.1 +1.8**
PRD Provadia 146.48 330 *e*P **PKPbc 16 39 43.7 +0.3**
CONA Conrad Observa 146.56 347 ⇑*i*PKPdf **PKPdf 16 39 40.5 -1.7**
comp=Z,22nm,1.1s
STU Stuttgart 146.78 355 *e*PKPbc **PKPdf 16 39 43.0 +0.6**
MOA Molln 146.97 348 ⇑*i*sPKPdf **PKPab 16 39 46.1 -0.1**
comp=Z,22nm,1.1s
BZS Buzias 146.98 338 ⇓PKP2 **PKPbc 16 39 45.3 +0.5**
BZS Buzias 146.98 338 ⇓*i*P **PKPbc 16 39 45.3 +0.5**
SZH Strazhica 147.13 331 *e*P **PKPbc 16 39 44.5 -0.8**
FUR Furstenfeldbru 147.15 352 *e*PKPbc **PKPbc 16 39 44.2 -1.1**
ARSA Arzberg 147.28 347 ⇓*i*sPKPdf **PKPbc 16 39 46.5 +0.9**
comp=Z,17nm,1.3s
BFO Black Forest 147.29 356 *e*PKPbc **PKPbc 16 39 45.6 -0.1**
BFO Black Forest 147.29 356 *e*PKIKP **PKPdf 16 39 42.9 -0.5**
BFO MLR MLR
comp=Z,617nm,20.0s
BFO Black Forest 147.29 356 *e*PKPdf **PKPdf 16 39 42.9 -0.5**
BFO LR LR
comp=Z,617nm,20.0s
RJOB Jochberg 147.34 350 *e*PKPbc **PKPab 16 39 46.9 -0.8**
PKSM Moragy 147.43 342 ⇓PKP2 **PKPab 16 39 47.1 -0.9**
PKSM Moragy 147.43 342 ⇓*i*P **PKPab 16 39 47.1 -0.9**
ECH Echery 147.47 357 *e*PKP2 **PKPab 16 39 47.6 -0.5**
ECH MLR MLR
comp=Z,1μm,22.0s
ECH Echery 147.47 357 *e*PKPab **PKPab 16 39 47.6 -0.5**
ECH LR LR
comp=Z,1μm,22.0s
SOKA Soboth 147.93 347 ⇑*i*pPKPdf **PKPbc 16 39 46.7 -0.9**
comp=Z,20nm,1.5s
CSS Prodhromos 148.07 312 *e*PKPbc **PKPbc 16 39 48.7 +0.5**
CSS LR LR
comp=Z,121nm,20.0s
DAVA Damuels 148.19 354 ⇑*i*sPKPdf **PKPbc 16 39 48.0 -0.3**
comp=Z,27nm,1.0s
FETA Feichten 148.35 352 ⇑*i*PKPbc **PKPdf 16 39 46.8 +1.5**
comp=Z,16nm,1.3s
ABTA Abfaltersbach 148.35 350 ⇓*i*pPKPdf **PKPbc 16 39 47.3 -1.4**
comp=Z,12nm,1.0s
GOLS Golise 148.42 346 *e*PKPbc **PKPbc 16 39 49.2 +0.5**
CADS Cadrg 148.63 348 *e*PKPbc **PKPab 16 39 51.2 -1.6**
LJU Ljubljana 148.64 347 *e*PKPbc **PKPbc 16 39 49.7 +0.4**
DIVS Divibare 148.88 339 ⇑*i*P **PKPab 16 39 54.3 +0.4**
VTS Vitosha 148.89 333 ⇑PKP2 **PKPab 16 39 52.2 -1.9**
VTS Vitosha 148.89 333 ⇑*i*P **PKPab 16 39 52.2 -1.9**
VTS Vitosha 148.89 333 *e*P **PKPbc 16 39 49.1 -1.1**
RZN Rozhen 148.92 331 *e*P **PKPbc 16 39 51.7 +1.3**
TUE Stuetta 149.05 354 *e*PKPdf **PKPdf 16 39 46.6 +0.1**
TUE *e*PKPbc **PKPbc 16 39 50.5 -0.1**
TUE *e*PKPab **PKPab 16 39 54.3 -0.4**
TUE LR LR
comp=Z,883nm,22.0s
MMB Musomiste 149.46 332 ⇑PKP2 **PKPbc 16 39 51.0 -0.6**
MMB Musomiste 149.46 332 ⇑*i*P **PKPbc 16 39 51.0 -0.6**
MMB Musomiste 149.46 332 *e*P **PKPbc 16 39 52.9 +1.3**
MBAR Mbarara 149.78 240 PFAKE 16 40 00.0 +1.3
MBAR LR LR
comp=Z,961nm,21.0s
SSB Saint Sauveur 150.47 0 *e*PKIKP **PKPdf 16 39 47.8 -0.8**
SSB *e* 16 39 55.0
SSB MLR MLR
comp=Z,789nm,20.0s
SSB Saint Sauveur 150.47 0 *e*PKPdf **PKPdf 16 39 47.8 -0.8**
SSB *e*PKPbc **PKiKP 16 39 55.0 +0.3**
SSB LR LR
comp=Z,789nm,20.0s
VLC Villacollemand 151.20 352 PFAKE 16 40 00.0 -3.4
VLC LR LR
comp=Z,1μm,21.0s
PGAV Gavieira, Arco 151.43 21 *e*LR LR 17 31 33.2
comp=Z,790nm,20.0s
POLO Lamas de Olo 152.12 21 *e*PKPdf **PKPdf 16 39 53.6 +2.3**
AQU L'Aquila 152.40 346 PFAKE 16 40 00.0 +1.5
AQU LR LR
comp=Z,1μm,20.0s
SANT Santorini 152.41 322 PFAKE 16 40 00.0 +1.3
SANT LR LR
comp=Z,367nm,20.0s
SACV Santiago Islan 152.52 88 PFAKE 16 40 00.0 +0.6
SACV LR LR
comp=Z,480nm,19.0s
MVO Moncorvo 152.56 20 *e*PKPbc **PKPbc 16 40 01.3 +2.4**
MVO Moncorvo 152.56 20 *e*LR LR 17 32 14.3
MVO A A 17 47 04.7
comp=Z,805nm,18.0s
MTE Manteigas 153.07 21 *e*LR LR 17 31 44.4
comp=Z,499nm,24.0s
MTE Manteigas 153.07 21 PFAKE 16 40 00.0 -0.1
MTE LR LR
comp=Z,620nm,20.0s
CUC Castrocucco 153.94 341 PFAKE 16 40 00.0 -1.9
CUC LR LR
comp=Z,650nm,21.0s
PMRV Marv??o 153.99 22 *e*LR LR 17 32 01.9
comp=Z,678nm,20.0s
TIP Timpagrande 154.35 338 *e*PKPdf **PKPdf 16 39 54.3 -0.3**
TIP *e*PKPbc **PKPbc 16 40 02.7 -0.2**
TIP LR LR
comp=Z,492nm,20.0s
ESDC Sonseca Array 154.85 16 PKPbc **PKPbc 16 40 02.7 -1.2**
comp=Z,0.1nm,0.2s,baz=336,slow=2.3,SNR=3.5
PAB San Pablo 154.86 17 PFAKE 16 40 10.0 +6.1
PAB LR LR
comp=Z,814nm,20.0s
PVAQ Vaqueiros 155.63 25 *e*LR LR 17 33 00.4
comp=Z,681nm,20.0s
VSL Villasalto 155.92 351 PFAKE 16 40 10.0 +13
VSL LR LR
comp=Z,1μm,20.0s
CLTB Caltabellotta 156.95 343 PFAKE 16 40 10.0 +12
CLTB LR LR
comp=Z,967nm,20.0s
WDD Wield Dalam 158.10 339 PFAKE 16 40 10.0 +11
WDD LR LR
comp=Z,1μm,21.0s
TAM Tamanrasset 172.87 355 PFAKE 16 40 20.0 +7.7
TAM LR LR
comp=Z,948nm,22.0s
TOA0 Torodi Ar. Sit 176.03 128 *e*PKPdf **PKPdf 16 40 13.5 +0.2**
TORD Torodi Ar. Bea 176.03 128 PKP **PKPdf 16 40 12.4 -0.9**
comp=Z,3.7nm,1.2s,baz=319,slow=1.1,SNR=8.5

IDC ***17*** *16:52:21.4±2.4, 13.˚86N×92.˚23W, h0km, mb3.6/2, mb1 3.8/5, mb1mx3.5/24, mbtmp3.5/5, ML3.4/3, MS4.6/1, Ms1 4.5/1, ms1mx2.8/30, Error ellipse: s-maj=57.1km s-min=27.9km az=43.0*
ISCJB ***17*** *16:52:23.4±1.2, 13.˚8N±0.˚1×92.˚06W±0.˚06, h35km, mb3.6/2, MS4.6/1, Error ellipse: s-maj=18.7km s-min=5.6km az=20.6*
MEX ***17*** *16:52:23.5±0.4, 14.˚14N×92.˚43W, h109km±23km, MD3.9*
CASC ***17*** *16:52:26.2±1.9, 13.˚80N×91.˚79W, h20km±23km, MD3.8*
ISC 17 16:52:23.5±1.4, 13.˚6N±0.˚1×92.˚13W±0.˚06, h35km, n21, σ1ˢ75/22, 1D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.83**	**35**		⇓*e*P	**Pn**	**16 52 37.9**	**-0.9**
FUG	**Fuego 3**	**1.49**	**57**		*e*P	**Pn**	**16 52 46.4**	**-1.5**
PCG	**Pacaya**	**1.66**	**63**		*e*P	**Pn**	**16 52 49.6**	**-0.8**
IXG	**Ixpaco**	**1.71**	**71**		*e*P	**Pn**	**16 52 48.8**	**-2.1**
IXG					*e*S	**Sn**	**16 53 08.2**	**-3.5**
NBG	**Las Nubes**	**1.97**	**61**		*e*P	**Pn**	**16 52 55.0**	**+0.3**
NBG					*e*S	**Sn**	**16 53 21.3**	**+3.0**
PCIG		**2.31**	**333**		*e*P	Pn	16 52 52.6	-6.5
PCIG					*i* S	Sn	16 53 13.8	-13
RBDL	**Robledal**	**2.42**	**78**		*e*P	**Pn**	**16 52 59.9**	**-0.8**
RBDL					*e*S	**Sn**	**16 53 26.0**	**-3.2**
SBLS	**San Blas**	**2.44**	**85**		*e*P	**Pn**	**16 53 00.2**	**-0.9**
SNJE	**San Jose**	**2.46**	**84**		*e*P	**Pn**	**16 53 01.1**	**-0.2**
MRL	**Marmol**	**2.76**	**59**		*e*P	**Pn**	**16 53 04.8**	**-0.5**
BOQS	**Boqueron**	**2.77**	**88**		*e*P	**Pn**	**16 53 04.8**	**-0.8**
LFU	**La Fuente**	**2.93**	**87**		*e*P	**Pn**	**16 53 07.3**	**-0.4**
LFRS	**El Faro**	**2.98**	**90**		*e*P	**Pn**	**16 53 07.9**	**-0.5**
TGIG		**3.27**	**343**		*i* P	Pn	16 53 04.8	-7.6
TGIG					*i* S	Sn	16 53 36.4	-14
CMIG	**Matias Romero**	**4.35**	**323**		Pn	**Pn**	**16 53 24.7**	**-2.4**
	2.1nm,0.3s,baz=146,slow=13,SNR=18							
CMIG					Sn	**Sn**	**16 54 14.8**	**-1.8**
	3.5nm,0.3s,baz=152,slow=8.0,SNR=4.8							
CMIG					Lg	Lg	16 54 29.8	
	7.9nm,0.3s,baz=270,slow=22,SNR=8.7							
TEIG	**Tepich**	**7.52**	**29**		Pn	**Pn**	**16 54 10.4**	**-0.3**
	0.3nm,0.3s,baz=7.0,slow=24,SNR=6.8							
TXAR	**Lajitas Array**	**18.93**	**327**		P	**Pn**	**16 56 43.4**	**+1.0**
	0.0nm,0.3s,baz=152,slow=12,SNR=11							
ANMO	**Albuquerque**	**24.86**	**331**		P	**P**	**16 57 44.1**	**+1.1**
	1.1nm,0.6s,baz=156,slow=8.7,SNR=5.2							
NVAR	**Mina Array Bea**	**33.88**	**322**		P	**P**	**16 59 05.0**	**+1.8**
	0.7nm,0.8s,baz=133,slow=7.5,SNR=4.5							
SCHQ	**Schefferville**	**45.61**	**20**		LR	LR	17 22 52.9	
	comp=Z,633nm,18.5s,baz=287,slow=40							
CMAR	**Chiang Mai Arr**	**146.30**	**341**		PKPbc	**PKPab**	**17 12 02.2**	**+0.2**
	1.2nm,0.8s,baz=331,slow=3.4,SNR=9.0							

IDC ***17*** *17:03:53.9±2.8, 3.˚47N×125.˚60E, h50km±24km, mb3.9/18, mb1 4.0/19, mb1mx3.9/26, mbtmp4.1/19, ML4.5/1, Error ellipse: s-maj=25.6km s-min=10.2km az=75.0*
ISCJB ***17*** *17:03:56.9±0.3, 3.˚51N±0.˚03×126.˚04E±0.˚04, h97km±4km, mb4.1/26, Error ellipse: s-maj=7.5km s-min=4.1km az=159.8*
NEIC ***17*** *17:03:59.5±0.9, 3.˚49N×126.˚03E, h105km±8km, mb4.4/12, Error ellipse: s-maj=12.2km s-min=6.9km az=77.0*
DJA ***17*** *17:03:59.9±0.3, 3.˚N±4.˚×12.˚6E±.˚, h43km±9km, M4.7/17, mb4.7/17, mB5.2/9, MLv4.8/14, MLv4.8/17, Mw(mB)4.5/9*
ISC 17 17:03:58.0±0.8, 3.˚53N±0.˚04×126.˚02E±0.˚06, h88km±7km, n80, σ1ˢ33/88, mb4.2/26, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.51**	**287**		P	**Pn**	**17 04 12.4**	**-0.2**
SGSI					S	**Sn**	**17 04 23.3**	**-0.2**
GSPH	**General Santos**	**2.75**	**337**		*e*P	**Pn**	**17 04 40.4**	**+0.1**
GSPH					*e*S	**Sn**	**17 05 12.0**	**-0.7**
TNTI	**Ternate**	**3.06**	**154**		P	**Pn**	**17 04 43.9**	**-0.4**
TNTI	**Ternate**	**3.06**	**154**		*e*Pn	**Pn**	**17 04 43.7**	**-0.6**
MATI	**Mati**	**3.40**	**4**		*e*P	**Pn**	**17 04 49.5**	**+0.5**
DAV	**Davao City (W)**	**3.54**	**353**		Pn	Pn	17 04 54.3	+3.5
DAV					*e*Sn	Sn	17 05 38.7	+7.0
KMSI	**Cibinong**	**3.58**	**215**		P	**Pn**	**17 04 52.5**	**+1.2**
CTBH	**Cotabato--PC H**	**4.07**	**334**		⇑*i*P	**Pn**	**17 04 59.4**	**+1.4**
LBMI	**Labuha**	**4.40**	**160**		P	**Pn**	**17 05 02.3**	**-0.2**
BUKP	**Musuan**	**4.42**	**348**		*e*P	**Pn**	**17 05 05.2**	**+2.4**
BUKP					*e*S	Sn	17 05 41.1	-12
PAGZ	**Pagadian**	**5.02**	**329**		*e*P	**Pn**	**17 05 11.6**	**+0.6**
MRSI	**Marisa**	**5.08**	**233**		P	**Pn**	**17 05 12.8**	**+1.0**
	302nm,0.5s,5μm1.4nm1.4nm							
IPIL	**Ipil**	**5.44**	**321**		⇓*e*P	**Pn**	**17 05 17.8**	**+1.1**
IPIL					*e*S	**Sn**	**17 06 15.5**	**-2.5**
SANI	**Sanana**	**5.55**	**180**		P	**Pn**	**17 05 18.4**	**+0.3**
	48nm,1.1s,2μm0.4nm							
LUWI	**Luwuk**	**5.58**	**216**		P	**Pn**	**17 05 21.1**	**+2.5**
	163nm,1.1s,2μm1.0nm							
LUWI	**Luwuk**	**5.58**	**216**		P	Pn	17 05 23.5	+4.8
	baz=5.7,SNR=14							
LUWI	**Luwuk**	**5.58**	**216**		*e*Pn	Pn	17 05 22.3	+3.6
	167nm,0.9s							
TOLI	**Toli-Toli**	**5.74**	**245**		*e*Pn	**Pn**	**17 05 20.0**	**-0.8**
	196nm,0.6s							
TOLI					*e*Sn	**Sn**	**17 06 20.9**	**-4.5**
APSI	**Ampana**	**6.21**	**225**		P	Pn	17 05 31.2	+4.1
	77nm,0.9s,1μm0.7nm0.7nm							
NLAI	**Namlea**	**6.81**	**171**		P	**Pn**	**17 05 34.0**	**-1.4**
	49nm,0.7s,3μm0.9nm0.9nm							
SWI	**Sorong**	**6.82**	**130**		P	**Pn**	**17 05 36.2**	**+0.7**
	26nm,0.6s,670nm0.1nm0.1nm							
SWI	**Sorong**	**6.82**	**130**		P	**Pn**	**17 05 36.3**	**+0.7**
	baz=6.8,SNR=11							
SIJI	**Sorong**	**6.83**	**130**		P	**Pn**	**17 05 35.9**	**+0.3**
	7.8nm,0.3s,baz=334,slow=19,SNR=32							
SIJI					S	**Sn**	**17 06 51.0**	**-1.0**
	0.8nm,0.3s,baz=270,slow=20,SNR=2.6							
MPSI	**Mapaga**	**6.89**	**243**		P	**Pn**	**17 05 36.3**	**-0.1**
	27nm,0.8s,656nm0.1nm0.1nm							
FAKI	**Fak Fak**	**8.94**	**136**		P	**Pn**	**17 06 04.6**	**+0.2**
	42nm,1.3s							
FAKI	**Fak Fak**	**8.94**	**136**		P	**Pn**	**17 06 05.1**	**+0.7**
	baz=8.9,SNR=12							
TTSI	**Tana Toraja**	**9.00**	**224**		P	**Pn**	**17 06 06.7**	**+1.4**
	16nm,1.1s							
RKPI	**Ransiki, Papua**	**9.57**	**121**		P	**Pn**	**17 06 13.4**	**+0.3**
	56nm,0.9s							
SPSI	**Sidrap Palu**	**9.72**	**220**		P	**Pn**	**17 06 17.5**	**+2.5**
KKM	**Kota Kinabalu**	**10.08**	**285**		P	Pn	17 06 23.5	+3.5
	baz=10,SNR=16							
KKM	**Kota Kinabalu**	**10.08**	**285**		*e*Pn	**Pn**	**17 06 23.2**	**+3.2**
	18nm,0.4s							
BATI	**Baumata**	**13.85**	**190**		P	**Pn**	**17 07 10.6**	**-0.1**
	1.8nm,0.3s,baz=334,slow=13,SNR=3.8							
KSM	**Kuching**	**15.82**	**263**		*e*Pn	**P**	**17 07 40.1**	**+2.2**
	16nm,1.0s							
MTN	**Manton Dam**	**17.05**	**163**		P	**Pn**	**17 07 50.2**	**-0.8**
	baz=17,SNR=6.8							
KDU	**Kakadu**	**17.34**	**158**		P	**Pn**	**17 07 52.8**	**-1.8**
	baz=17,SNR=4.4							
KNRA	**Kununurra**	**19.28**	**172**		P	**P**	**17 08 15.8**	**-0.2**
	baz=19,SNR=8.9							
YHNB	**Yeheng**	**21.48**	**348**		P	**P**	**17 08 38.6**	**-1.2**
FITZ	**Fitzroy Crossi**	**21.50**	**181**		P	**P**	**17 08 39.1**	**-0.8**
	baz=22,SNR=16							
PMG	**Port Moresby**	**24.68**	**122**		P	**P**	**17 09 10.2**	**-0.8**
WRAB	**Tennant Creek**	**24.72**	**161**		*e*P	**P**	**17 09 10.3**	**-1.0**
	7.1nm,0.8s							
WRA	**Warramunga Arr**	**24.72**	**161**		P	**P**	**17 09 10.7**	**-0.6**
	2.7nm,0.5s,baz=343,slow=9.9,SNR=17							
WRA					PcP	**PcP**	**17 12 46.9**	**+0.5**
	0.7nm,0.6s,baz=324,slow=2.1,SNR=5.6							
WRA					S	**S**	**17 13 32.1**	**+4.9**
	1.7nm,0.8s,baz=344,slow=18,SNR=9.9							
MBWA	**Marble Bar**	**25.30**	**194**		*e*P	**P**	**17 09 15.9**	**-0.7**
	18nm,1.3s							
KULM	**Kulim**	**25.35**	**275**		*e*P	**P**	**17 09 19.5**	**+2.4**
	7.1nm,0.7s							
AS31	**Alice Springs**	**28.11**	**165**		*e*P	**P**	**17 09 41.2**	**-0.6**
WRKA	**Warakurna**	**28.49**	**176**		P	**P**	**17 09 44.8**	**-0.3**
	baz=29,SNR=16							
CMAR	**Chiang Mai Arr**	**30.36**	**301**		P	P	17 09 58.4	-3.4
	0.2nm,0.4s,baz=123,slow=6.6,SNR=2.7							
CHTO	**Chiang Mai**	**30.52**	**302**		P	**P**	**17 10 04.1**	**+0.9**
MEEK	**Meekatharra**	**30.84**	**193**		P	**P**	**17 10 05.4**	**-0.5**
	baz=31,SNR=4.7							
KSAR	**Wonju Array Be**	**33.79**	**3**		P	**P**	**17 10 31.6**	**0.0**
KSRS	**Korea Array**	**33.80**	**3**		P	**P**	**17 10 31.6**	**-0.1**
	2.9nm,0.6s,baz=181,slow=10.0,SNR=20							
MJAR	**Matsushiro Arr**	**34.72**	**17**		P	**P**	**17 10 39.6**	**-0.1**
	1.0nm,0.8s,baz=191,slow=11,SNR=5.3							
KLBR	**Kellerberrin**	**35.80**	**192**		P	P	**17 10 48.5**	**-0.5**
	baz=36,SNR=9.7							
NWAO	**Narrogin (SRO)**	**37.20**	**192**		P	P	**17 10 59.5**	**-1.4**
	14nm,1.1s,baz=327,slow=11,SNR=9.7							
BBOO	**Buckleboo**	**37.38**	**166**		P	P	**17 11 02.5**	**+0.1**
	baz=38,SNR=9.3							
STKA	**Stephens Creek**	**38.20**	**158**		P	P	**17 11 09.5**	**+0.1**
	2.5nm,0.7s,baz=8.9,slow=6.3,SNR=7.3							
STKA					PcP	**PcP**	**17 13 21.9**	**-0.4**
	3.5nm,1.1s,baz=0.0,slow=1.0,SNR=3.1							
STKA	**Stephens Creek**	**38.20**	**158**		P	**P**	**17 11 09.8**	**+0.4**
	baz=38,SNR=4.5							
STKA	**Stephens Creek**	**38.20**	**158**		*e*P	**P**	**17 11 09.4**	**0.0**
	1.4nm,1.0s							
STKA					PcP	**PcP**	**17 13 21.9**	**-0.4**
USRK	**Ussuriysk Ar.**	**40.84**	**7**		P	**P**	**17 11 32.2**	**+1.1**
	3.0nm,0.7s,baz=204,slow=8.8,SNR=6.1							
MDJ	**Mudanjiang**	**41.03**	**4**		*e*P	**P**	**17 11 33.2**	**+0.5**
	5.8nm,0.6s							
ASAJ	**Asahikawa**	**42.99**	**18**		P	**P**	**17 11 50.6**	**+2.0**
	2.3nm,0.8s,baz=241,slow=8.9							
SONM	**Songino Array**	**47.26**	**342**		P	**P**	**17 12 22.2**	**-0.4**
	0.3nm,0.5s,baz=146,slow=7.2,SNR=3.0							
SONM					PcP	**PcP**	**17 13 52.8**	**+0.3**
	0.9nm,0.6s,baz=169,slow=3.4,SNR=7.6							
MK31	**Makanchi Array**	**57.31**	**326**		P	**P**	**17 13 36.4**	**-0.5**
	baz=58,SNR=6.0							
MK31	**Makanchi Array**	**57.31**	**326**		*e*P	**P**	**17 13 35.8**	**-1.0**
MK31					*e*PcP	**PcP**	**17 14 29.7**	**-0.4**
MKAR	**Makanchi Array**	**57.31**	**326**		P	**P**	**17 13 36.2**	**-0.7**
	0.9nm,0.4s,baz=124,slow=7.6,SNR=19							
MKAR					PcP	**PcP**	**17 14 29.8**	**-0.4**
	3.1nm,0.6s,baz=141,slow=3.2,SNR=20							
YAK	**Yakutsk**	**58.43**	**2**		*e*P	**P**	**17 13 44.8**	**+0.5**
	15nm,0.6s							
ZALV	**Zalesovo Beam**	**60.44**	**333**		P	**P**	**17 13 56.8**	**-1.5**
	0.4nm,0.3s,baz=143,slow=8.9,SNR=3.4							
ZALV					PcP	**PcP**	**17 14 41.2**	**-1.1**
	0.3nm,0.3s,baz=129,slow=2.1,SNR=4.1							
KURK	**Kurchatov**	**61.52**	**328**		*e*P	**P**	**17 14 05.2**	**-0.6**
	4.0nm,0.6s							
KURK					*e*PcP	**PcP**	**17 14 45.7**	**-1.0**
SEY	**Seymchan**	**62.38**	**13**		P	**P**	**17 14 13.1**	**+1.8**
	1.6nm,1.0s,baz=205,slow=6.1,SNR=4.6							
BRVK	**Borovoye**	**67.17**	**327**		P	**P**	**17 14 41.5**	**-1.1**
	1.9nm,0.7s							
CASY	**Casey**	**70.54**	**187**		P	**P**	**17 15 02.4**	**-0.8**
	2.2nm,0.7s							
ABKAR	**Akbulak array**	**71.85**	**321**		*e*P	**P**	**17 15 10.1**	**-1.4**
VNDA	**Vanda**	**83.32**	**173**		P	**P**	**17 16 14.8**	**+0.1**
	0.8nm,0.4s,baz=332,slow=6.9,SNR=6.0							
ILAR	**Eielson Array**	**85.58**	**25**		P	**P**	**17 16 26.2**	**-0.2**
	0.5nm,0.4s,baz=251,slow=4.6,SNR=8.8							
BRTR	**Keskin Array B**	**89.60**	**310**		P	**P**	**17 16 44.1**	**-2.3**
	0.6nm,0.8s,baz=72,slow=4.7,SNR=2.9							
ARCES	**ARCESS Array B**	**90.39**	**340**		P	**P**	**17 16 48.5**	**-0.8**
	3.5nm,0.7s,baz=85,slow=5.2,SNR=15							
FINES	**FINESS Array B**	**91.67**	**332**		P	**P**	**17 16 54.2**	**-1.1**
	1.3nm,0.6s,baz=98,slow=4.1,SNR=15							
NOA	**NORSAR Array B**	**98.64**	**333**		P	**P**	**17 17 26.0**	**-1.2**
	1.4nm,0.6s,baz=68,slow=4.5,SNR=5.2							
TXAR	**Lajitas Array**	**122.28**	**52**		PKP	**PKPdf**	**17 22 44.9**	**+1.2**
	0.7nm,0.7s,baz=359,slow=0.8,SNR=8.2							
TORD	**Torodi Ar. Bea**	**122.30**	**288**		PKP	**PKPdf**	**17 22 43.8**	**-0.2**
	0.2nm,0.3s,baz=98,slow=1.9,SNR=7.1							
LCO	**Las Campanas**	**150.09**	**150**		*e*PKPbc	**PKPbc**	**17 23 40.8**	**+1.0**

MOS ***17*** *17:11:17.1±1.1, 55.˚08N×165.˚59E, h29km, mb4.2/1, Error ellipse: s-maj=13.5km s-min=9.3km az=154.0*
KRSC 17 17:11:16.6±1.7, 55.05N×165.32E, h40km±14km, ML4.1, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.40**	**67**		*e*P	Pn	17 11 25.8	-0.2
BKI					*e*S	Sn	17 11 30.8	-1.8
BKI	**Bering**	**0.40**	**67**		PN	Pn	17 11 25.8	-0.2
BKI					S	Sn	17 11 30.8	-1.8
KBTR	**Krutoberegovo**	**1.84**	**310**		*e*P	Pn	17 11 46.4	+0.8
KBTR					*e*S	Sn	17 12 08.6	+1.0
KBTR	**Krutoberegovo**	**1.84**	**310**		PN	Pn	17 11 46.4	+0.8
KBTR					S	Sn	17 12 08.6	+1.0
MKZ	**Mys Kozlova**	**2.14**	**258**		*e*P	Pn	17 11 53.2	+3.5
MKZ					*e*S	Sn	17 12 18.3	+3.4
MKZ	**Mys Kozlova**	**2.14**	**258**		PN	Pn	17 11 53.2	+3.5
MKZ					S	Sn	17 12 18.3	+3.4
SMKR	**Semkarok**	**2.66**	**307**		*e*P	Pn	17 11 59.9	+2.8
SMKR					*e*S	Sn	17 12 31.1	+2.9
SMKR	**Semkarok**	**2.66**	**307**		PN	Pn	17 11 59.9	+2.8
SMKR					S	Sn	17 12 31.1	+2.9
BDR	**Baidarnaya**	**2.78**	**305**		*e*P	Pn	17 12 01.8	+3.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSTBA	**Taebaek** SNR=16	**0.61**	**244**	⇓P	Pg	17 29 14.4	-0.9
KSTBA				⇑S	Sg	17 29 20.9	-2.4
KSTBA	**Taebaek** SNR=16	**0.61**	**244**	⇓P	Pg	17 29 14.4	-0.9
KSULJ	**Uljin** SNR=31	**0.71**	**195**	⇑P	Pg	17 29 17.3	+0.2
KSULJ				⇑S	Sg	17 29 26.3	-0.1
KSULJ	**Uljin** SNR=31	**0.71**	**195**	⇑P	Pg	17 29 17.3	+0.2
KSDGY	**Daegwallycong** SNR=20	**0.82**	**292**	⇓P	Pg	17 29 19.3	-0.1
KSDGY	**Daegwallycong** SNR=20	**0.82**	**292**	⇓P	Pg	17 29 19.3	-0.1
KSJMJ	**Jumunjin** SNR=25	**0.85**	**305**	⇓P	Pg	17 29 20.5	+0.5
KSJMJ	**Jumunjin** SNR=25	**0.85**	**305**	⇓P	Pg	17 29 20.5	+0.5
KSPHA	**Pohang** SNR=13	**1.21**	**190**	⇓P	Pg	17 29 26.6	-0.1
KSPHA	**Pohang** SNR=13	**1.21**	**190**	⇓P	Pg	17 29 26.6	-0.1
KSIJA	**INJE** SNR=11	**1.35**	**297**	⇓P	Pg	17 29 29.4	-0.1
KSIJA	**INJE** SNR=11	**1.35**	**297**	⇓P	Pg	17 29 29.4	-0.1
SEHB	**SEOHWA** SNR=17	**1.40**	**309**	⇑P	Pn	17 29 30.5	0.0
SEHB	**SEOHWA** SNR=17	**1.40**	**309**	⇑P	Pn	17 29 30.5	0.0
KSCHJ	**Chungju** SNR=33	**1.42**	**249**	P	Pn	17 29 29.4	-1.3
KSCHJ				⇑P	Pg	17 29 29.5	-1.4
KSCHJ	**Chungju** SNR=33	**1.42**	**249**	P	Pn	17 29 29.4	-1.3
KSCHC	**Chuncheon** SNR=23	**1.50**	**286**	⇑P	Pn	17 29 31.5	-0.2
KSBON	**Boeun** SNR=15	**1.72**	**239**	P	Pn	17 29 34.2	-0.5
KSDAG	**Daegu** SNR=16	**1.72**	**200**	P	Pn	17 29 35.1	+0.3

IDC ***17*** *18:00:27.1±2.6, 7.°17N×91.°49E, h0km, mb3.3/5, mb1 3.4/6, mb1mx3.3/28, mbtmp3.3/6, ML3.3/1, Error ellipse: s-maj=87.6km s-min=23.3km az=66.0*

ISCJB ***17*** *18:00:28.6±1.7, 7.°2N±0.°2×91.°6E±0.°3, h20km, mb3.2/5, Error ellipse: s-maj=43.8km s-min=19.3km az=162.4*

ISC 17 18:00:30.2±1.9, 7.°2N±0.°2×91.°5E±0.°3, h20km, n6, σ0.°99/6, mb3.3/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=217,slow=15,SNR=3.1	**13.34**	**32**	Pn	**Pn**	**18 03 38.8**	**+0.1**
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=144,slow=9.9,SNR=2.8	**40.26**	**350**	P	**P**	**18 08 06.9**	**+1.1**
SONM	**Songino Array** 0.4nm,0.6s,baz=196,slow=9.8,SNR=3.9	**42.45**	**15**	P	**P**	**18 08 23.6**	**-0.3**
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=172,slow=7.6,SNR=3.1	**46.95**	**355**	P	**P**	**18 08 58.5**	**-1.0**
WRA	**Warramunga Arr** 0.5nm,0.9s,baz=301,slow=8.7,SNR=3.1	**50.02**	**123**	P	**P**	**18 09 24.3**	**+0.6**
ASAR	**Alice Springs** 0.1nm,0.7s,baz=301,slow=7.5,SNR=2.9	**51.51**	**128**	P	**P**	**18 09 34.6**	**-0.4**

MAN 17 18:07:08, 6.°13N×124.°77E, h97km, mb4.8, ML3.7, MS3.7, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.18**	**105**	⇓*e*P	Pn	18 07 26.0	+4.0
CTBH	**Cotabato--PC H**	**1.20**	**334**	⇓*i*P	Pn	18 07 31.0	+0.5
MATI	**Mati**	**1.68**	**61**	*e*P	Pn	18 07 37.7	+1.3
MATI				*e*S	Sn	18 07 56.7	-1.3
BUKP	**Musuan**	**1.76**	**9**	*e*P	Pn	18 07 40.0	+2.6
BUKP				*e*S	Sn	18 08 01.1	+1.3
PAGZ	**Pagadian**	**2.19**	**321**	*e*P	Pn	18 07 44.1	+1.1

NIED ***17*** *18:08:00, 30.°60N×142.°20E, h5km, Mw3.7 Best double couple: M0=4.09000×10^14 NP1:φs=159.00000°, δ67.00000°, λ13.00000°. NP2:φs=64.00000°, δ78.00000°, λ156.00000°.*

IDC ***17*** *18:08:47.0±0.7, 30.°55N×142.°15E, h0km, mb3.9/13, mb1 4.1/15, mb1mx4.0/31, mbtmp3.9/15, ML4.0/2, MS3.8/1, Ms1 3.8/1, ms1mx2.6/30, Error ellipse: s-maj=23.7km s-min=16.5km az=79.0*

ISCJB ***17*** *18:08:48.4±0.4, 30.°64N±0.°03×141.°99E±0.°10, h23km, mb4.0/15, MS3.8/1, Error ellipse: s-maj=12.5km s-min=3.8km az=165.4*

NEIC ***17*** *18:08:48.0±3.3, 30.°57N×142.°12E, h7km±21km, mb4.3/4, MW3.7(NIED), Error ellipse: s-maj=12.3km s-min=6.5km az=84.0*

JMA ***17*** *18:08:48.8±0.1, 30.°64N×142.°17E, h43km, M4.2*

ISC 17 18:08:50.1±0.5, 30.°60N±0.°05×142.°1E±0.°1, h23km, n37, σ1s70/48, mb3.9/15, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.17**	**323**	P	**Pn**	**18 09 37.6**	**-1.0**
CBIJ	**Chichi jima**	**3.50**	**179**	P	**Pn**	**18 09 42.9**	**-0.1**
CBIJ				*e*S	**Sn**	**18 10 20.1**	**-3.6**
CBIJ	**Chichi jima**	**3.50**	**179**	Pn	**Pn**	**18 09 43.0**	**-0.1**
CBIJ				Sn	**Sn**	**18 10 20.1**	**-3.6**
JCJ	**Chichijima** 21nm,0.3s,baz=292,slow=22,SNR=19	**3.50**	**179**	Pn	**Pn**	**18 09 43.0**	**-0.1**
JCJ				Sn	**Sn**	**18 10 20.1**	**-3.6**
	42nm,0.3s,baz=113,slow=24,SNR=7.8						
JHHJ	**Haha-jima-NKT**	**3.96**	**179**	*e*S	**Sn**	**18 10 34.5**	**-0.6**
BSO1	**Boso 1**	**4.15**	**347**	P	**Pn**	**18 09 51.0**	**-0.5**
BSO1				*e*S	**Sn**	**18 10 36.7**	**-2.4**
JOD2	**Odawara 2**	**5.30**	**332**	P	**Pn**	**18 10 08.6**	**+0.8**
JOD2				*e*S	**Sn**	**18 11 07.9**	**-0.2**
JHU	**Hanno**	**5.75**	**336**	P	**Pn**	**18 10 14.5**	**+0.6**
JHU				*e*S	**Sn**	**18 11 16.3**	**-2.9**
JRY	**Ryogami san**	**6.03**	**334**	P	**Pn**	**18 10 18.8**	**+0.9**
JRY				*e*S	**Sn**	**18 11 24.5**	**-1.7**
JHO	**Hitachi**	**6.13**	**348**	P	**Pn**	**18 10 18.2**	**-1.0**
JHO				*e*S	**Sn**	**18 11 22.8**	**-5.8**
JAG	**Ashikaga**	**6.22**	**340**	*e*S	**Sn**	**18 11 27.5**	**-3.2**
MJAR	**Matsushiro Arr** 1.6nm,0.3s,baz=162,slow=12,SNR=22	**6.76**	**332**	Pn	**Pn**	**18 10 28.8**	**+0.9**
MJAR				Sn	**Sn**	**18 11 43.0**	**-1.2**
	1.3nm,0.3s,baz=162,slow=19,SNR=7.4						
MAJO	**Matsushiro** 15nm,0.4s	**6.76**	**332**	*e*Pn	**Pn**	**18 10 27.6**	**-0.3**
MAT	**Matsushiro**	**6.76**	**332**	P	**Pn**	**18 10 29.0**	**+1.1**
MAT				S	**Sn**	**18 11 43.2**	**-1.0**
JMK	**Ichinoseki**	**8.36**	**355**	P	**Pn**	**18 10 48.8**	**-1.0**
ASAJ	**Asahikawa** baz=186,slow=19	**13.49**	**1**	Pn	**Pn**	**18 11 57.3**	**-2.8**
YSS	**Yuzh-Sakhalins** 8.9nm,0.9s	**16.33**	**2**	P	**Pn**	**18 12 37.0**	**-0.8**
YHNB	**Yeheng** 14nm,0.8s	**19.29**	**257**	*e*P	**Pn**	**18 13 13.7**	**-0.8**
SONM	**Songino Array** 0.5nm,0.7s,baz=108,slow=9.3,SNR=2.6	**32.22**	**312**	P	**P**	**18 15 17.6**	**+1.0**
SEY	**Seymchan** 0.7nm,0.6s,baz=185,slow=7.7,SNR=5.1	**33.01**	**9**	P	**P**	**18 15 23.9**	**+0.7**
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=96,slow=8.9,SNR=2.7	**46.84**	**317**	P	P	18 17 20.8	+2.8
ZALV				PcP	**PcP**	**18 18 51.2**	**+0.5**
	0.7nm,0.4s,baz=85,slow=3.4,SNR=4.9						
MK31	**Makanchi Array**	**48.25**	**307**	*e*P	**P**	**18 17 28.9**	**-0.2**
MKAR	**Makanchi Array** 0.5nm,0.4s,baz=99,slow=7.3,SNR=12	**48.25**	**307**	P	**P**	**18 17 29.6**	**+0.4**
MKAR				PcP	**PcP**	**18 18 56.9**	**+1.0**
	0.1nm,0.3s,baz=91,slow=4.8,SNR=2.4						
MKAR				LR	LR	18 39 43.5	
	comp=Z,99nm,19.2s,baz=280,slow=38						
CTAO	**Charters Tower**	**50.56**	**175**	P	**P**	**18 17 47.5**	**+0.7**
WRAB	**Tennant Creek** 8.6nm,0.9s	**50.80**	**189**	*e*P	**P**	**18 17 48.0**	**-0.7**
WRA	**Warramunga Arr** 3.7nm,0.5s,baz=6.4,slow=7.6,SNR=100	**50.81**	**189**	P	**P**	**18 17 48.5**	**-0.3**
AS31	**Alice Springs**	**54.53**	**189**	*e*P	**P**	**18 18 15.9**	**-0.4**
ILAR	**Eielson Array** 0.7nm,0.9s,baz=275,slow=5.4,SNR=5.7	**54.69**	**30**	P	**P**	**18 18 16.8**	**-0.2**
STKA	**Stephens Creek** 4.3nm,1.2s,baz=0.0,slow=8.1,SNR=4.5	**62.14**	**180**	P	**P**	**18 19 09.6**	**+0.3**
ABKAR	**Akbulak array**	**62.63**	**313**	*e*P	**P**	**18 19 12.6**	**0.0**
	1.0nm,0.4s						
FINES	**FINESS Array B** 0.8nm,0.4s,baz=73,slow=4.8,SNR=22	**74.79**	**333**	P	**P**	**18 20 28.8**	**+0.7**
NVAR	**Mina Array Bea** 1.0nm,0.7s,baz=286,slow=5.4,SNR=9.3	**78.42**	**52**	P	**P**	**18 20 50.9**	**+1.6**
NOA	**NORSAR Array B** 0.7nm,0.5s,baz=41,slow=5.4,SNR=2.8	**80.34**	**338**	P	**P**	**18 20 59.6**	**+0.5**
PDAR	**Pinedale Array** 0.4nm,0.6s,baz=356,slow=2.1,SNR=5.3	**81.78**	**45**	P	**P**	**18 21 07.8**	**+0.4**
BRTR	**Keskin Array B** 0.5nm,0.6s,baz=46,slow=6.2,SNR=2.8	**83.58**	**313**	P	**P**	**18 21 17.5**	**+0.8**
TXAR	**Lajitas Array** 1.1nm,0.9s,baz=319,slow=3.4,SNR=8.7	**93.55**	**53**	P	**P**	**18 22 06.5**	**+1.9**
TORD	**Torodi Ar. Bea** 0.2nm,0.4s,baz=48,slow=1.5,SNR=7.6	**122.20**	**313**	PKP	**PKPdf**	**18 27 43.8**	**+0.1**

KMA 17 18:30:22.2, 37.°87N×129.°27E, h4km, 4C, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSJMJ	**Jumunjin** SNR=48	**0.40**	**271**	P	Pg	18 30 30.0	0.0
KSJMJ	**Jumunjin** SNR=48	**0.40**	**271**	P	Pg	18 30 30.0	0.0
KSDGY	**Daegwallycong** SNR=41	**0.50**	**249**	P	Pg	18 30 31.1	-1.0
KSDGY	**Daegwallycong** SNR=41	**0.50**	**249**	P	Pg	18 30 31.1	-1.0
KSTBA	**Taebaek** SNR=12	**0.79**	**199**	P	Pg	18 30 37.2	-0.3
KSTBA	**Taebaek** SNR=12	**0.79**	**199**	P	Pg	18 30 37.2	-0.3
SEHB	**SEOHWA** SNR=40	**0.89**	**297**	⇑P	Pg	18 30 39.8	+0.4
SEHB	**SEOHWA** SNR=40	**0.89**	**297**	⇑P	Pg	18 30 39.8	+0.4
KSIJA	**INJE** SNR=19	**0.92**	**277**	⇑P	Pg	18 30 39.5	-0.4
KSIJA	**INJE** SNR=19	**0.92**	**277**	⇑P	Pg	18 30 39.5	-0.4
KSCHC	**Chuncheon** SNR=14	**1.15**	**266**	P	Pg	18 30 44.2	-0.2
KSULJ	**Uljin** SNR=63	**1.18**	**174**	P	Pb	18 30 45.0	-0.1
KSCWO	**Cheorwon** SNR=7.2	**1.40**	**279**	P	Pb	18 30 48.8	-0.2
KSCHJ	**Chungju** SNR=36	**1.43**	**226**	P	Pn	18 30 48.9	-0.1
KSPHA	**Pohang** SNR=17	**1.68**	**177**	P	Pb	18 30 53.7	+0.1
KSBON	**Boeun** SNR=14	**1.80**	**221**	P	Pn	18 30 53.5	-0.6
KSCEA	**Cheonan** SNR=8.5	**1.91**	**237**	P	Pn	18 30 55.5	-0.1
KSDAG	**Daegu** SNR=13	**2.12**	**188**	P	Pb	18 31 01.1	-0.2

IDC 17 18:48:18.7±5.6, 3.°91S×137.°64E, h65km±51km, mb3.6/1, mb1 3.6/3, mb1mx3.2/17, mbtmp3.7/3, ML3.7/2, Error ellipse: s-maj=133.8km s-min=17.1km az=89.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=17,slow=13,SNR=19	**16.26**	**191**	P	Pn	18 52 03.4	+0.3
WRA				S	Sn	18 54 58.5	-4.3
	0.4nm,0.3s,baz=4.9,slow=23,SNR=6.1						
ASAR	**Alice Springs** 0.2nm,0.3s,baz=18,slow=9.2,SNR=32	**19.97**	**190**	P	P	18 52 46.9	+1.0
ASAR				S	S	18 56 27.9	+0.7
	0.1nm,0.3s,baz=19,slow=24,SNR=5.0						
MKAR	**Makanchi Array** 0.7nm,0.6s,baz=118,slow=7.5,SNR=8.5	**70.08**	**323**	P	P	18 59 23.8	-0.2

KMA 17 19:00:11.7±2.2, 38.°22N×129.°17E, h0km, 6C-4D, Error ellipse: s-maj=19.0km s-min=5.6km az=57.0, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSJMJ	**Jumunjin** SNR=40	**0.47**	**224**	P	Pg	19 00 20.8	+0.1
KSJMJ	**Jumunjin** SNR=40	**0.47**	**224**	P	Pg	19 00 20.8	+0.1
KSDGY	**Daegwallycong** SNR=22	**0.66**	**217**	⇑P	Pg	19 00 24.3	-0.1
KSDGY	**Daegwallycong** SNR=22	**0.66**	**217**	⇑P	Pg	19 00 24.3	-0.1
SEHB	**SEOHWA** SNR=36	**0.72**	**274**	P	Pg	19 00 25.5	-0.1
SEHB	**SEOHWA** SNR=36	**0.72**	**274**	P	Pg	19 00 25.5	-0.1
KSIJA	**INJE** SNR=36	**0.87**	**255**	⇑P	Pg	19 00 27.9	-0.5
KSIJA	**INJE** SNR=36	**0.87**	**255**	⇑P	Pg	19 00 27.9	-0.5
KSCHC	**Chuncheon** SNR=31	**1.16**	**248**	⇓P	Pg	19 00 33.3	-0.6
KSCHC	**Chuncheon** SNR=31	**1.16**	**248**	⇓P	Pg	19 00 33.3	-0.6
KSCWO	**Cheorwon** SNR=10	**1.31**	**265**	⇑P	Pg	19 00 36.3	-0.6
KSCWO	**Cheorwon** SNR=10	**1.31**	**265**	⇑P	Pg	19 00 36.3	-0.6
KSCHJ	**Chungju** SNR=13	**1.65**	**216**	⇓P	Pn	19 00 42.0	+0.1
KSCHJ	**Chungju** SNR=13	**1.65**	**216**	⇓P	Pn	19 00 42.0	+0.1

IDC ***17*** *19:24:53.1±5.4, 36.°16S×176.°66E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.5/15, mbtmp3.4/3, Error ellipse: s-maj=238.0km s-min=56.7km az=167.0*

ISCJB ***17*** *19:25:22.6±0.7, 37.°60S±0.°06×176.°38E±0.°08, h319km±5km, mb2.8/3, Error ellipse: s-maj=10.2km s-min=9.0km az=28.3*

WEL ***17*** *19:25:26.0±0.4, 37.°46S×176.°48E, h280km±3km, ML4.6/21, Error ellipse: s-maj=3.5km s-min=3.1km az=0.0*

ISC 17 19:25:24.0±1.0, 37.°70S±0.°10×176.°31E±0.°09, h302km±7km, n110, σ1s50/115, mb2.9/3, 36C-6D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOZ	**Tahuroa Road**	**0.64**	**267**	⇑PN	**Pn**	**19 26 03.9**	**+0.8**
RRRZ	**Republican Roa**	**0.66**	**166**	PN	**Pn**	**19 26 03.6**	**+0.3**
PRRZ	**Plateau Road**	**0.80**	**175**	PN	**Pn**	**19 26 04.4**	**+0.7**
URZ	**Urewera**	**0.85**	**132**	PN	**Pn**	**19 26 03.4**	**-0.4**
URZ				SN	**S**	**19 26 33.3**	**-2.3**
URZ				AML	AML	19 26 35.7	
ALRZ	**Allen Road**	**0.86**	**178**	PN	**Pn**	**19 26 04.8**	**+0.8**
TLZ	**Tolley Road**	**0.87**	**224**	PN	**Pn**	**19 26 05.4**	**+1.4**
MKAZ	**Moumakai**	**1.08**	**303**	⇓PN	**Pn**	**19 26 04.9**	**-0.1**
MKAZ				SN	**S**	**19 26 37.5**	**-0.1**
WATZ	**Wairara**	**1.10**	**204**	PN	**Pn**	**19 26 06.5**	**+1.4**
MWZ	**Matawai**	**1.16**	**124**	⇑PN	**Pn**	**19 26 05.2**	**-0.1**
MWZ				SN	**S**	**19 26 36.0**	**-2.2**
MWZ				AML	AML	19 26 37.8	
MWZ				AML	AML	19 26 37.9	
MWZ				AML	AML	19 26 39.5	
HAZ	**Te Kaha**	**1.17**	**93**	PN	**Pn**	**19 26 04.1**	**-1.3**
HAZ				SN	**S**	**19 26 33.9**	**-4.4**
RATZ	**Rangitukua**	**1.24**	**200**	⇑PN	**Pn**	**19 26 07.1**	**+1.3**
RITZ	**Rihia Road**	**1.32**	**195**	PN	**Pn**	**19 26 08.0**	**+1.7**
SNGZ	**Shannon Statio**	**1.35**	**143**	PN	**Pn**	**19 26 07.5**	**+1.1**
SNGZ				SN	**S**	**19 26 39.8**	**-0.4**
KATZ	**Kakaramea**	**1.36**	**200**	PN	**Pn**	**19 26 07.9**	**+1.3**
RAHZ	**Arahi**	**1.36**	**153**	⇑PN	**Pn**	**19 26 07.9**	**+1.4**
HIZ	**Hauiti**	**1.40**	**234**	PN	**Pn**	**19 26 08.5**	**+1.8**
TWGZ	**Tauwhareparae**	**1.41**	**110**	⇑PN	**Pn**	**19 26 07.1**	**+0.3**
TKGZ	**Te Karaka**	**1.42**	**122**	PN	**Pn**	**19 26 07.2**	**+0.4**
BKZ	**Black Stump Fm**	**1.47**	**174**	PN	**Pn**	**19 26 08.3**	**+1.1**
BKZ				AML	AML	19 26 08.9	
BKZ				AML	AML	19 26 44.7	
KRVZ	**Karewarewa**	**1.49**	**200**	PN	**Pn**	**19 26 08.7**	**+1.4**
WTVZ	**West Tongariro**	**1.52**	**201**	PN	**Pn**	**19 26 09.0**	**+1.4**
RIGZ	**Rimuhau**	**1.52**	**132**	⇑PN	**Pn**	**19 26 08.4**	**+0.9**
TWVZ	**Taurewa**	**1.53**	**206**	PN	**Pn**	**19 26 09.1**	**+1.5**
OTVZ	**Oturere**	**1.55**	**199**	PN	**Pn**	**19 26 09.4**	**+1.6**
WHHZ	**Waihua**	**1.56**	**152**	PN	**Pn**	**19 26 09.1**	**+1.4**
NGZ	**Ngauruhoe**	**1.57**	**200**	PN	**Pn**	**19 26 09.6**	**+1.6**
PUZ	**Puketiti**	**1.59**	**104**	⇓PN	**Pn**	**19 26 07.5**	**-0.4**
PUZ				AML	AML	19 26 42.6	
PUZ				AML	AML	19 26 42.8	
MXZ	**Matakaoa Point**	**1.59**	**86**	⇑PN	**Pn**	**19 26 06.9**	**-1.1**
MXZ				AML	AML	19 26 42.1	
MXZ				AML	AML	19 26 42.1	
MXZ				AML	AML	19 26 42.3	
MXZ				AML	AML	19 26 42.4	
COVZ	**Chateau Observ**	**1.61**	**202**	PN	**Pn**	**19 26 09.7**	**+1.5**
WPVZ	**Whakapapa**	**1.62**	**201**	⇑PN	**Pn**	**19 26 09.7**	**+1.5**
TUVZ	**Tukino**	**1.65**	**198**	PN	**Pn**	**19 26 10.0**	**+1.6**
ARHZ	**Aropaoanui**	**1.65**	**161**	⇑PN	**Pn**	**19 26 10.0**	**+1.7**
FWVZ	**Far West T-bar**	**1.66**	**201**	PN	**Pn**	**19 26 10.1**	**+1.5**
WMGZ	**Waiomatatini S**	**1.68**	**95**	⇑PN	**Pn**	**19 26 08.0**	**-0.5**
WHVZ	**Whangaehu Hut**	**1.68**	**199**	⇑PN	**Pn**	**19 26 10.3**	**+1.5**
DRZ	**Dome Shelter**	**1.68**	**200**	PN	**Pn**	**19 26 10.5**	**+1.7**
CNGZ	**Carnagh Statio**	**1.69**	**118**	PN	**Pn**	**19 26 09.3**	**+0.7**
KNZ	**Kokohu**	**1.70**	**141**	PN	**Pn**	**19 26 09.5**	**+0.9**
WNVZ	**Wahianoa**	**1.72**	**199**	⇑PN	**Pn**	**19 26 10.4**	**+1.5**
KWHZ	**Kaweka Forest**	**1.72**	**177**	⇑PN	**Pn**	**19 26 10.6**	**+1.8**
PRGZ	**Paritu Road**	**1.74**	**135**	PN	**Pn**	**19 26 10.2**	**+1.2**
PKVZ	**Pokaka**	**1.76**	**205**	⇑PN	**Pn**	**19 26 10.6**	**+1.5**
MOVZ	**Moawhango**	**1.76**	**194**	⇑PN	**Pn**	**19 26 10.3**	**+1.2**
MCHZ	**McNeill Hill**	**1.77**	**170**	PN	**Pn**	**19 26 11.1**	**+2.0**
BHHZ	**Black Hill Sta**	**1.80**	**186**	⇑PN	**Pn**	**19 26 10.9**	**+1.5**
MTVZ	**Mangateitei**	**1.81**	**201**	PN	**Pn**	**19 26 11.3**	**+1.8**
VRZ	**Vera Road**	**1.87**	**220**	PN	**Pn**	**19 26 11.9**	**+2.0**
KRHZ	**Kereru**	**1.94**	**179**	⇑PN	**Pn**	**19 26 12.0**	**+1.5**
CKHZ	**Cape Kidnapper**	**2.05**	**163**	PN	**Pn**	**19 26 13.2**	**+2.0**
KAHZ	**Kahuranaki**	**2.14**	**168**	⇑PN	**Pn**	**19 26 14.0**	**+1.9**
PNHZ	**Pukenui**	**2.21**	**182**	⇑PN	**Pn**	**19 26 14.1**	**+1.5**
WAZ	**Wanganui**	**2.30**	**206**	⇑PN	**Pn**	**19 26 15.2**	**+1.9**
LREZ	**Lake Rotokare**	**2.30**	**220**	PN	**Pn**	**19 26 15.7**	**+2.4**
NEZ	**North Egmont**	**2.34**	**227**	PN	**Pn**	**19 26 16.4**	**+2.6**
PKE	**Pukeiti**	**2.35**	**230**	PN	**Pn**	**19 26 16.5**	**+2.7**
WPHZ	**Waipukurau**	**2.37**	**177**	PN	**Pn**	**19 26 15.2**	**+1.3**
PXZ	**Pawanui**	**2.37**	**170**	⇑PN	**Pn**	**19 26 15.6**	**+1.8**
PXZ				AML	AML	19 26 56.6	
PXZ				AML	AML	19 26 56.7	
PXZ				AML	AML	19 26 56.8	
PXZ				AML	AML	19 26 56.8	
TSZ	**Takapari Road**	**2.37**	**186**	PN	**Pn**	**19 26 15.5**	**+1.5**
TSZ				AML	AML	19 26 59.1	
TSZ				AML	AML	19 27 00.3	
KHEZ	**Kahui Hut**	**2.40**	**228**	PN	**Pn**	**19 26 17.0**	**+2.7**
NWEZ	**Newall Road**	**2.48**	**230**	PN	**Pn**	**19 26 17.6**	**+2.8**
PRHZ	**Porangahau**	**2.58**	**174**	⇑PN	**Pn**	**19 26 17.6**	**+1.8**
DVHZ	**Dannevirke**	**2.60**	**182**	PN	**Pn**	**19 26 17.4**	**+1.3**
POWZ	**Post Office Ro**	**2.72**	**189**	PN	**Pn**	**19 26 18.5**	**+1.4**
ANWZ	**Angora Road**	**2.76**	**177**	⇑PN	**Pn**	**19 26 18.5**	**+2.0**
PRWZ	**Pori Road**	**2.86**	**185**	⇓PN	**Pn**	**19 26 20.1**	**+1.9**
BFZ	**Birch Farm**	**2.98**	**181**	PN	**Pn**	**19 26 21.2**	**+1.7**
MRZ	**Mangatainoka R**	**3.01**	**191**	PN	**Pn**	**19 26 21.2**	**+1.3**
MRZ				AML	AML	19 27 09.0	
MRZ				AML	AML	19 27 09.8	
TIWZ	**Tintock**	**3.09**	**186**	⇑PN	**Pn**	**19 26 22.2**	**+1.5**
TIWZ				AML	AML	19 27 12.3	
TIWZ				AML	AML	19 27 13.2	
CPWZ	**Castlepoint**	**3.21**	**181**	⇓PN	**Pn**	**19 26 24.3**	**+2.4**
OGWZ	**Otaki Gorge**	**3.24**	**195**	⇑PN	**Pn**	**19 26 23.6**	**+1.5**
HOWZ	**Holdsworth Sta**	**3.25**	**191**	⇑PN	**Pn**	**19 26 23.4**	**+1.1**
KIW	**Kapiti Island**	**3.34**	**198**	PN	**Pn**	**19 26 24.6**	**+1.4**
KIW				AML	AML	19 27 13.6	
KIW				AML	AML	19 27 13.9	
TMWZ	**Te Maipa**	**3.42**	**185**	⇑PN	**Pn**	**19 26 25.5**	**+1.5**
MTW	**Mount Morrison**	**3.51**	**190**	⇑PN	**Pn**	**19 26 26.1**	**+1.1**
MTW				AML	AML	19 27 18.0	
MTW				AML	AML	19 27 18.2	
CAW	**Cannon Point**	**3.54**	**195**	PN	**Pn**	**19 26 26.3**	**+1.1**
CAW				AML	AML	19 27 19.0	
CAW				AML	AML	19 27 19.2	
TRWZ	**Traveller**	**3.73**	**187**	⇑PN	**Pn**	**19 26 28.8**	**+1.5**
TRWZ				AML	AML	19 27 22.6	
TRWZ				AML	AML	19 27 24.6	
PAWZ	**Paruwai Farm**	**3.74**	**190**	⇑PN	**Pn**	**19 26 28.6**	**+1.2**
PAWZ				AML	AML	19 27 22.1	
PAWZ				AML	AML	19 27 23.7	
WEL	**Wellington**	**3.77**	**198**	PN	**Pn**	**19 26 29.1**	**+1.3**
WEL				AML	AML	19 27 25.0	
MSWZ	**Moikau Station**	**3.80**	**192**	⇑PN	**Pn**	**19 26 29.1**	**+1.1**
MSWZ				AML	AML	19 27 24.3	
MSWZ				AML	AML	19 27 25.1	
BHW	**Baring Head**	**3.87**	**196**	⇓PN	**Pn**	**19 26 29.9**	**+1.1**
BHW				AML	AML	19 27 24.2	
BHW				AML	AML	19 27 24.9	
PLWZ	**Palliser**	**3.95**	**192**	⇑PN	**Pn**	**19 26 30.8**	**+1.0**
TUWZ	**Tuamarina**	**4.15**	**205**	PN	**Pn**	**19 26 32.9**	**+1.0**
TUWZ				AML	AML	19 27 29.8	
TUWZ				AML	AML	19 27 29.9	
NNZ	**Nelson**	**4.18**	**212**	⇑PN	**Pn**	**19 26 32.7**	**+0.5**
QRZ	**Quartz Range**	**4.28**	**222**	⇑PN	**Pn**	**19 26 33.2**	**-0.1**
CMWZ	**Cape Campbell**	**4.35**	**201**	PN	**Pn**	**19 26 36.4**	**+2.3**
CMWZ				AML	AML	19 27 37.1	
CMWZ				AML	AML	19 27 37.8	
BSWZ	**Blackbirch Sta**	**4.42**	**204**	PN	**Pn**	**19 26 36.3**	**+1.4**
BSWZ				AML	AML	19 27 35.8	
BSWZ				AML	AML	19 27 36.6	
THZ	**Tophouse**	**4.83**	**212**	PN	**Pn**	**19 26 40.1**	**+0.4**
KHZ	**Kahutara**	**5.17**	**203**	PN	**Pn**	**19 26 44.9**	**+1.5**
KHZ				AML	AML	19 27 51.5	
KHZ				AML	AML	19 27 52.6	
DSZ	**Denniston Nort**	**5.33**

IDC 17 20:35:24.2±26.0, 22°90S×173°56W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.9/19, mbtmp4.2/4, Error ellipse: s-maj=478.4km s-min=138.0km az=78.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.42**	**266**	P	P	20 42 40.0	+0.6
	2.9nm,0.4s,baz=94,slow=10,SNR=9.6						
STKA	**Stephens Creek**	**40.58**	**247**	P	P	20 43 04.6	-1.1
	0.9nm,0.4s,baz=93,slow=8.5,SNR=8.2						
ASAR	**Alice Springs**	**48.03**	**258**	P	P	20 44 05.3	-0.3
	0.6nm,0.3s,baz=96,slow=8.2,SNR=49						
WRA	**Warramunga Arr**	**48.39**	**263**	P	P	20 44 08.7	+0.3
	1.8nm,0.3s,baz=100,slow=8.2,SNR=81						

IDC 17 20:35:29.8±0.5, 54°25S×136°79W, h0km, mb4.6/15, mb1 4.7/15, mb1mx4.5/35, mbtmp4.6/15, MS4.7/17, Ms1 4.7/17, ms1mx4.7/19, Error ellipse: s-maj=20.3km s-min=13.8km az=170.0

GCMT 17 20:35:31.3±0.1, 54°42S×136°61W, h15km, MW5.3/102, Moment Tensor Solution. s75,c120; s102,c167; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr=0.25±.02; Mθθ 1.00±.03; Mϕϕ=-0.75±.02; Mrθ 0.09±.05; Mθϕ 0.84±.02; Mrϕ 0.23±.04; Best double couple: M0 1.24200×10^17 NP1:ϕs 204.00000°, δ 86.00000°, λ -167.00000°. NP2:ϕs 113.00000°, δ 77.00000°, λ -4.00000°. Principal axes: T 1.3560, Plg6.0000°, Azm338.0000°; N -0.2270, Plg77.0000°, Azm220.0000°; P -1.1280, Plg12.0000°, Azm69.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NEIC 17 20:35:31.3±0.3, 54°30S×136°74W, h10km, mb5.2/22 Error ellipse: s-maj=12.2km s-min=8.6km az=163.0

ISCJB 17 20:35:32.3±0.3, 54°51S±0°06×136°7W±0°1, h23km, mb4.9/33, MS4.7/17, Error ellipse: s-maj=10.1km s-min=8.2km az=42.9

BJI 17 20:35:33.8, 54°30S×136°60W, h10km, mB5.4/9, Ms5.1/12, Ms7 4.7/11

ISC 17 20:35:34.2±0.3, 54°39S±0°10×136°32W±0°07, h23km, n157, σ1§79/144, mb5.1/33, MS4.8/17, 6C-4D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**30.65**	**200**	*eP*	**P**	**20 41 47.6**	**+1.4**
	115nm,2.5s						
RKT	**Rikitea**	**31.24**	**2**	*e*LR	LR	20 49 51.2	
	4μm,28.5s,baz=181						
RKT	**Rikitea**	**31.24**	**2**	*e*T	T	21 14 05.4	
	23nm,0.3s						
VNDA	**Vanda**	**31.60**	**201**	P	**P**	**20 41 55.7**	**+1.1**
	2.3nm,1.1s,baz=75,slow=4.6,SNR=4.0						
VNDA				LR	LR	20 51 26.0	
	comp=Z,1μm,21.3s,baz=82,slow=30						
VNDA	**Vanda**	**31.60**	**201**	*e*P	**P**	**20 41 55.5**	**+0.9**
	8.9nm,1.2s						
TBI	**Tubuai**	**32.53**	**337**	*e*S	S	20 47 09.5	-7.5
	229nm,27.0s						
TBI				*e*LR	LR	20 50 15.7	
	5μm,28.8s,baz=168						
TBI	**Tubuai**	**32.53**	**337**	*e*T	T	21 15 39.8	
	184nm,0.4s						
URZ	**Urewera**	**35.24**	**278**	LR	LR	20 53 15.8	
	comp=Z,1μm,20.4s,baz=138,slow=30						
RPZ	**Rata Peaks**	**35.31**	**265**	LR	LR	20 53 29.5	
	comp=Z,2μm,19.5s,baz=118,slow=31						
QSPA	**South Pole Qui**	**35.78**	**180**	P	**P**	**20 42 32.6**	**+1.3**
	9.0nm,0.9s,baz=79,slow=3.9,SNR=21						
QSPA				LR	LR	20 55 30.3	
	comp=Z,3μm,18.4s,baz=71,slow=33						
QSPA	**South Pole Qui**	**35.78**	**180**	*e*P	**P**	**20 42 32.4**	**+1.1**
	131nm,2.0s						
RAR	**Rarotonga**	**37.59**	**322**	LR	LR	20 54 26.7	
	comp=Z,836nm,18.9s,baz=116,slow=30						
TVO	**Taravao**	**37.87**	**340**	*e*T	T	21 22 19.3	
	6.0nm,0.3s						
USHA	**Ushuaia**	**37.91**	**119**	P	**P**	**20 42 50.9**	**+1.7**
	26nm,0.9s,baz=229,slow=9.4,SNR=6.9						
PAE	**Paea**	**38.06**	**339**	*e*T	T	21 22 35.3	
	7.5nm,0.4s						
PPT2	**Papeete2**	**38.13**	**339**	*e*S	S	20 48 36.1	-7.1
	358nm,26.5s						
PPT2				*e*LR	LR	20 52 52.5	
	5μm,26.0s,baz=172						
PPT	**Papeete**	**38.15**	**339**	LR	LR	20 54 08.9	
	comp=Z,1μm,19.0s,baz=186,slow=30						
RAO	**Raoul Island**	**39.05**	**293**	LR	LR	20 54 37.9	
	comp=Z,477nm,19.6s,baz=208,slow=30						
VAH	**Vaihoa**	**40.05**	**343**	*e*T	T	21 25 10.2	
	72nm,0.3s						
PMOR	**Pomariorio Ree**	**40.33**	**343**	*e*T	T	21 25 25.5	
	6.1nm,0.3s						
EFI	**East Falkland**	**44.86**	**120**	*e*P	**P**	**20 43 46.9**	**+0.6**
	71nm,1.0s						
U65B	**Hualaæø**	**47.99**	**94**	*e*P	**P**	**20 44 12.0**	**+1.0**
	89nm,1.8s						
CASY	**Casey**	**49.55**	**209**	*e*P	**P**	**20 44 22.7**	**+0.1**
	17nm,1.0s						
VNA1	**Neumayer--Stat**	**49.87**	**160**	P	**P**	**20 44 25.6**	**+0.6**
SNAA	**Sanae**	**50.05**	**163**	*e*P	**P**	**20 44 25.9**	**-0.6**
	15nm,1.4s						
TRQA	**Tornquist**	**51.50**	**104**	*e*P	**P**	**20 44 39.0**	**+1.2**
	49nm,1.3s						
LCO	**Las Campanas**	**52.93**	**89**	*e*P	**P**	**20 44 48.2**	**-0.5**
	37nm,1.3s						
DZM	**Mont Dzumac**	**53.37**	**284**	*e*SS	SS	20 55 36.6	-26
	362nm,27.8s						
DZM				*e*LR	LR	20 59 28.5	
	1μm,22.5s						
SYO	**Syowa Base**	**56.88**	**178⇑**	*e*P	**P**	**20 45 15.0**	**-1.4**
MAW	**Mawson**	**57.49**	**189**	P	**P**	**20 45 20.7**	**0.0**
	7.5nm,0.8s,baz=169,slow=9.5,SNR=17						
MAW				LR	LR	21 09 26.1	
	comp=Z,640nm,18.1s,baz=154,slow=35						
LVC	**Limon Verde**	**58.82**	**86**	*e*P	**P**	**20 45 32.1**	**+1.1**
	54nm,1.1s						
EIDS	**Eidsvold**	**59.74**	**268**	*e*P	**P**	**20 45 34.3**	**-2.8**
	18nm,1.2s						
STKA	**Stephens Creek**	**60.34**	**256**	P	**P**	**20 45 39.4**	**-1.8**
	6.4nm,1.1s,baz=64,slow=2.1,SNR=3.8						
STKA				LR	LR	21 07 40.8	
	comp=Z,453nm,19.7s,baz=157,slow=32						
STKA	**Stephens Creek**	**60.34**	**256**	*e*P	**P**	**20 45 39.4**	**-1.8**
	3.3nm,1.3s						
CPUP	**Villa Florida**	**62.74**	**98**	P	**P**	**20 45 57.2**	**-0.1**
	17nm,1.1s,baz=231,slow=8.4,SNR=17						
CPUP				LR	LR	21 08 56.2	
	comp=Z,1μm,19.6s,baz=222,slow=32						
CPUP	**Villa Florida**	**62.74**	**98**	*e*P	**P**	**20 45 57.4**	**+0.1**
NNA	**Nana**	**62.74**	**71**	*e*P	**P**	**20 45 58.2**	**+0.7**
	41nm,1.0s						
LPAZ	**La Paz**	**64.23**	**82**	P	**P**	**20 46 09.1**	**+1.1**
	34nm,1.2s,baz=211,slow=4.8,SNR=36						
LPAZ				LR	LR	21 07 45.2	
	comp=Z,357nm,21.1s,baz=208,slow=30						
CTA	**Charters Tower**	**66.63**	**268**	P	P	20 46 19.1	-3.7
	9.2nm,0.9s,baz=141,slow=15,SNR=4.4						
CTAO	**Charters Tower**	**66.63**	**268**	*e*P	P	20 46 18.6	-4.2
	26nm,1.2s						
ASAR	**Alice Springs**	**70.98**	**256**	P	**P**	**20 46 47.0**	**-2.9**
	3.6nm,0.9s,baz=140,slow=6.6,SNR=19						
AS31	**Alice Springs**	**70.98**	**256**	*e*P	P	20 46 46.7	-3.2
BB16B	**Bebedouro**	**71.88**	**101**	*e*P	**P**	**20 46 53.7**	**-1.6**
OTAV	**Otavalo**	**72.08**	**63**	*e*P	**P**	**20 46 57.6**	**+0.6**
	36nm,1.4s						
H01W1	**Cape Leeuwin H**	**72.47**	**234**	T	T	22 06 57.8	
	baz=143,slow=76,SNR=60						
H01W2	**Cape Leeuwin H**	**72.48**	**234**	T	T	22 06 58.3	
	baz=143,slow=76,SNR=47						
H01W3	**Cape Leeuwin H**	**72.49**	**234**	T	T	22 06 59.2	
	baz=143,slow=76,SNR=39						
SAML	**Samuel**	**72.96**	**81**	*e*P	**P**	**20 47 00.8**	**-1.0**
	23nm,1.1s						
WRA	**Warramunga Arr**	**73.66**	**259**	P	**P**	**20 47 03.1**	**-2.8**
	4.7nm,0.9s,baz=142,slow=5.1,SNR=15						
WRA				LR	LR	21 16 26.5	
	comp=Z,699nm,18.8s,baz=155,slow=34						
WRAB	**Tennant Creek**	**73.66**	**259**	*e*P	**P**	**20 47 03.6**	**-2.3**
	15nm,1.2s						
PMG	**Port Moresby**	**74.56**	**275**	P	**P**	**20 47 09.5**	**-1.7**
BDFB	**Brasilia**	**76.47**	**98**	P	**P**	**20 47 22.4**	**+0.1**
	13nm,0.8s,baz=212,slow=4.8,SNR=13						
BDFB				LR	LR	21 16 59.4	
	comp=Z,784nm,21.4s,baz=205,slow=32						
BDFB	**Brasilia**	**76.47**	**98**	*e*P	**P**	**20 47 22.2**	**0.0**
JTS	**JuntasAbangare**	**77.56**	**52**	*e*P	**P**	**20 47 25.7**	**-2.5**
ROSC	**El Rosal**	**78.14**	**64**	P	**P**	**20 47 33.1**	**+1.2**
	5.8nm,0.3s,baz=249,slow=2.2,SNR=13						
ROSC				LR	LR	21 17 28.8	
	comp=Z,262nm,18.1s,baz=199,slow=32						
MBWA	**Marble Bar**	**80.83**	**247**	P	**P**	**20 47 48.2**	**+2.1**
PTGA	**Pitinga**	**81.47**	**79**	*e*P	**P**	**20 47 49.6**	**+0.1**
	23nm,1.3s						
SDV	**Santo Domingo**	**83.48**	**65**	P	**P**	**20 47 59.3**	**-0.9**
034A	**Hebbronville**	**87.37**	**33**	P	**P**	**20 48 19.7**	**+0.7**
	baz=88						
933A	**Laredo**	**87.69**	**32**	P	**P**	**20 48 22.2**	**+1.7**
	baz=88						
TXAR	**Lajitas Array**	**88.01**	**28**	P	**P**	**20 48 23.0**	**+0.8**
	1.6nm,1.0s,baz=190,slow=6.6,SNR=5.8						
TXAR				LR	LR	21 21 32.8	
	comp=Z,108nm,18.2s,baz=0.0,slow=31						
TXAR	**Lajitas Array**	**88.01**	**28**	P	**P**	**20 48 23.0**	**+0.8**
H11N3	**WAKE ISLAND Hy**	**88.28**	**308**	T	T	22 25 57.7	
	baz=134,slow=74,SNR=13						
H11N1	**WAKE ISLAND Hy**	**88.29**	**308**	T	T	22 25 52.7	
	baz=134,slow=74,SNR=16						
H11N2	**WAKE ISLAND Hy**	**88.30**	**308**	T	T	22 25 59.3	
	baz=134,slow=74,SNR=15						
833A	**Chaparral WMA,**	**88.31**	**32**	P	**P**	**20 48 23.9**	**+0.4**
	baz=89						
SCI	**San Clemente I**	**88.35**	**15**	P	**P**	**20 48 24.3**	**+0.8**
	baz=89						
834A	**Tilden**	**88.39**	**33**	P	**P**	**20 48 25.5**	**+1.6**
	baz=89						
732A	**Laxson Ranch,**	**88.52**	**31**	P	**P**	**20 48 26.1**	**+1.7**
	baz=89						
TUC	**Tucson**	**89.11**	**21**	*e*P	**P**	**20 48 28.4**	**+1.2**
	10nm,1.4s						
632A	**Uvalde**	**89.30**	**31**	P	**P**	**20 48 28.4**	**+0.2**
	baz=90						
530A	**J-C Ranch, Com**	**89.44**	**30**	P	**P**	**20 48 29.9**	**+1.1**
	baz=90						
BFSC	**Mount Baldy Ra**	**89.72**	**15**	P	**P**	**20 48 30.5**	**+0.4**
	baz=90						
532A	**Rocksprings**	**89.84**	**31**	P	**P**	**20 48 32.3**	**+1.6**
	baz=90						
LRRC	**Littlerock Res**	**89.95**	**15**	*e*P	**P**	**20 48 32.4**	**+1.5**
430A	**Baggett Ranch,**	**90.07**	**30**	P	**P**	**20 48 33.2**	**+1.4**
	baz=90						
431A	**Sonora**	**90.15**	**30**	P	**P**	**20 48 33.0**	**+0.9**
	baz=90						
JCT	**Junction City**	**90.20**	**31**	P	**P**	**20 48 33.2**	**+0.8**
	baz=90						
JCT	**Junction City**	**90.20**	**31**	*e*P	**P**	**20 48 32.0**	**-0.4**
	18nm,1.3s						
432A	**Menard**	**90.58**	**31**	P	**P**	**20 48 35.5**	**+1.4**
	baz=91						
ABTX	**Abilene, Hawle**	**92.25**	**30**	P	**P**	**20 48 43.4**	**+1.6**
	baz=93						
ABTX	**Abilene, Hawle**	**92.25**	**30**	*e*P	**P**	**20 48 42.7**	**+0.9**
	6.9nm,0.8s						
Z30A	**Sanderson Ranc**	**92.45**	**29**	P	**P**	**20 48 44.0**	**+1.3**
	baz=93						
TPNV	**Topopah Spring**	**92.60**	**16**	P	**P**	**20 48 45.8**	**+2.3**
	baz=93						
ANMO	**Albuquerque**	**92.63**	**24**	*e*P	**P**	**20 48 43.2**	**-0.5**
NSHM	**Saint Helena R**	**93.29**	**11**	*e*P	**P**	**20 48 47.0**	**+0.6**
NVAR	**Mina Array Bea**	**93.74**	**14**	P	**P**	**20 48 46.9**	**-1.8**
	0.1nm,0.3s,baz=180,slow=2.7,SNR=2.0						
R11A	**Troy Canyon, C**	**94.08**	**16**	P	**P**	**20 48 51.5**	**+1.3**
	baz=94						
R11A	**Troy Canyon, C**	**94.08**	**16**	*e*P	**P**	**20 48 50.6**	**+0.3**
	28nm,2.6s						
BOSA	**Boshof**	**95.82**	**164**	P	**P**	**20 48 57.0**	**-1.8**
	2.3nm,1.0s,baz=209,slow=13,SNR=3.1						
BOSA				LR	LR	21 26 28.0	
	comp=Z,835nm,21.3s,baz=185,slow=32						
PDAR	**Pinedale Array**	**99.45**	**20**	LR	LR	21 26 06.2	
	comp=Z,352nm,19.7s,baz=213,slow=30						
ILAR	**Eielson Array**	**119.11**	**355**	PKP	**PKPdf**	**20 54 19.7**	**+0.1**
	0.5nm,0.8s,baz=212,slow=1.8,SNR=5.1						
QIZ	**Qiongzhong**	**119.11**	**262**	PKP	**PKPdf**	**20 54 23.8**	**+2.8**
QIZ				PP	**PP**	**20 55 43.3**	**+2.0**
PETK	**Petropavlovsk-**	**120.24**	**320**	PKP	**PKPdf**	**20 54 21.9**	**-0.2**
	4.3nm,0.9s,baz=130,slow=13,SNR=3.3						
CMAR	**Chiang Mai Arr**	**124.86**	**252**	PKP	**PKPdf**	**20 54 31.2**	**-0.9**
	0.3nm,0.5s,baz=180,slow=2.5,SNR=3.1						
GYA	**Guiyang**	**126.70**	**265**	*e*Pdif	**Pdif**	**20 51 17.8**	**+1.8**
GYA				PKP	**PKiKP**	**20 54 37.0**	**+1.0**
GYA				PP	**PP**	**20 56 37.8**	**+5.1**
GYA				PKS	**PKSdf**	**20 58 11.3**	**-1.0**
GYA				SKKS		21 03 28.4	
GYA				SS	**SS**	**21 13 41.0**	**+3.6**
GYA				PPMZ			
	120nm,7.6s						
GYA				LN			
	140nm,22.6s						
GYA				LE			
	120nm,23.5s						
GYA				LZ			
	150nm,22.3s						
TORD	**Torodi Ar. Bea**	**127.36**	**125**	PKP	**PKPdf**	**20 54 35.8**	**-1.1**
	2.5nm,0.9s,baz=284,slow=0.2,SNR=13						
ENH	**Enshi**	**127.89**	**270**	*e*PKPdf	**PKPdf**	**20 54 32.7**	**-4.8**
KMI	**Kunming**	**127.96**	**260**	PKP	**PKPdf**	**20 54 35.8**	**-2.3**
KMI				sPKP		20 54 47.5	
KMI				PP	**PP**	**20 56 45.8**	**+4.7**
KMI				PPMZ			
	80nm,12.8s						
KMI				LN			
	180nm,20.8s						
KMI				LE			
	150nm,19.2s						
KMI				LZ			
	240nm,33.1s						
BJI	**Beijing**	**130.91**	**284**	PKP	**PKPdf**	**20 54 46.4**	**+3.5**
BJI				PP	PP	20 57 07.0	+6.9
BJI				PPMZ			
	70nm,4.1s						
BJI				LN			
	120nm,19.1s						
BJI				LE			
	160nm,19.8s						
CD2	**Chengdu**	**131.71**	**266**	PKP	**PKPdf**	**20 54 46.0**	**+1.2**
CD2				sPKP		20 54 53.8	
CD2				PP	**PP**	**20 57 06.9**	**+1.5**
CD2				SKS	**SKSdf**	**21 01 56.5**	**+1.9**
CD2				SKKS	**SKKSac**	**21 04 01.1**	**+1.4**
CD2				SS	**SS**	**21 14 43.5**	**+4.4**
CD2				PPMZ			
	110nm,5.1s						
CD2				LN			
	150nm,6.0s						
CD2				LZ			
	190nm,12.0s						
RES	**Resolute Bay**	**131.71**	**14**	PKPdf	PKPdf	20 54 37.6	-5.7
HHC	**Hu-ho-hao-te**	**134.07**	**282**	*e*PKP	**PKPdf**	**20 54 50.3**	**+1.3**
HHC				PP	**PP**	**20 57 21.4**	**+0.8**
HHC				PKS	**PKSdf**	**20 58 23.0**	**-2.4**
HHC				SKS	**SKSdf**	**21 01 59.3**	**+0.8**
HHC				SS	**SS**	**21 15 12.6**	**+4.7**
HHC				PPMZ			
	52nm,9.1s						
HHC				LN			
	130nm,21.2s						
HHC				LE			
	110nm,21.4s						
HHC				LZ			
	130nm,21.0s						
LZH	**Lanzhou**	**135.35**	**271**	*e*PKP	**PKPdf**	**20 54 53.8**	**+2.2**
LZH				LN			
	170nm,18.7s						
LZH				LE			
	150nm,16.2s						
LZH				LZ			
	200nm,20.1s						
TAM	**Tamanrasset**	**137.46**	**123**	*e*PKPdf	**PKPdf**	**20 54 53.9**	**-2.0**
LSA	**Lhasa**	**138.06**	**254**	PKPdf	**PKPdf**	**20 54 57.7**	**+0.5**
SONM	**Songino Array**	**141.26**	**287**	PKhKP	PKPpre	20 54 55.8	
	0.1nm,0.4s,baz=128,slow=4.2,SNR=2.2						
SONM				PKP	**PKPdf**	**20 55 01.9**	**-0.1**
	0.5nm,0.7s,baz=117,slow=3.5,SNR=5.4						
PVAQ	**Vaqueiros**	**141.37**	**95**	*e*LR	LR	21 46 16.0	
	110nm,20.0s						
PMRV	**Marv??o**	**142.91**	**92**	*e*LR	LR	21 48 51.8	
	203nm,20.0s						
MTE	**Manteigas**	**143.45**	**91**	*e*LR	LR	21 44 18.3	
	183nm,18.0s						
PGAV	**Gavieira, Arco**	**144.02**	**88**	*e*LR	LR	21 44 58.4	
	152nm,22.0s						
MVO	**Moncorvo**	**144.24**	**90**	*e*PKPdf	PKPbc	20 55 06.1	+0.3
MVO	**Moncorvo**	**144.24**	**90**	*e*LR	LR	21 44 18.7	
	225nm,20.0s						
PAB	**San Pablo**	**144.77**	**95**	*e*PKPdf	**PKPab**	**20 55 07.4**	**0.0**
TLY	**Talaya**	**144.79**	**291**	PKP	**PKPab**	**20 55 06.0**	**-1.1**
	2.5nm,0.7s,baz=185,slow=1.8,SNR=5.1						
TLY	**Talaya**	**144.79**	**291**	*e*PKPdf	**PKPab**	**20 55 05.1**	**-1.9**
PBRG	**Braganca**	**144.81**	**90**	*e*PKPab	**PKPdf**	**20 55 08.4**	**0.0**
ESDC	**Sonseca Array**	**145.07**	**95**	PKPbc	**PKPdf**	**20 55 08.9**	**-0.1**
	7.6nm,0.9s,baz=240,slow=3.0,SNR=31						
ESLA	**Sonseca Array**	**145.07**	**95**	*e*PKPdf	**PKPab**	**20 55 08.7**	**+0.2**
RAYN	**Ar Rayn**	**149.15**	**183**	*e*PKPbc	**PKPbc**	**20 55 19.7**	**-0.8**
WMQ	**Urumqi**	**149.78**	**268**	PKPbc	**PKPdf**	**20 55 18.4**	**+1.7**
WMQ				LN			
	120nm,26.1s						
WMQ				LE			
	110nm,29.4s						
WMQ				LZ			
	140nm,28.0s						
KEST	**Kesra**	**149.83**	**114**	PKPbc	**PKPbc**	**20 55 21.7**	**-0.1**
	3.3nm,0.9s,baz=112,slow=1.0,SNR=8.2						
KEST	**Kesra**	**149.83**	**114**	*e*PKPdf	**PKPdf**	**20 55 18.0**	**+1.0**
KEST				*e*PKPbc	**PKPbc**	**20 55 21.2**	**-0.6**
KBL	**Kabul**	**153.39**	**232**	*e*PKPbc	**PKPbc**	**20 55 31.1**	**+0.9**
KSH	**Kashi**	**153.70**	**249**	PKPbc	**PKPbc**	**20 55 32.5**	**+1.9**
KSH				SKS		20 55 39.1	
KSH				pPKP	**PKPab**	**20 55 42.5**	**-1.0**
KSH				PKS	PKSdf	20 59 04.3	+7.2
KSH				PP		20 59 37.1	+19
MK31	**Makanchi Array**	**154.60**	**269**	*e*PKPab	**PKPab**	**20 55 45.3**	**-1.8**
MKAR	**Makanchi Array**	**154.60**	**269**	PKPab	**PKPab**	**20 55 45.1**	**-1.9**
	2.7nm,1.0s,baz=114,slow=6.5,SNR=7.1						
MKAR	**Makanchi Array**	**154.60**	**269**	*e*PKPab	**PKPab**	**20 55 44.1**	**-2.9**
SENIN	**Lac Senin/Sane**	**155.68**	**94**	*ep*PKPdf	pPKPdf	20 55 33.0	-0.2
ZAA0	**Zalesovo Array**	**156.15**	**286**	*e*PKPab	**PKPab**	**20 55 50.3**	**-3.1**
ZALV	**Zalesovo Beam**	**156.15**	**286**	PKPab	**PKPab**	**20 55 50.6**	**-2.8**
	2.6nm,0.8s,baz=116,slow=3.4,SNR=12						
TIP	**Timpagrande**	**156.30**	**119**	*e*PKPab	**PKPab**	**20 55 53.9**	**-0.6**
EKS2	**Erkin-Say**	**157.06**	**252**	*e*PKPdf	PKPdf	20 55 32.6	+5.4
EKS2				*e*PKPab	**PKPab**	**20 55 56.1**	**-1.7**
EKS2				*e*PKPab	**PKPab**	**20 55 56.1**	**-1.7**
GRF	**Grafenberg Arr**	**159.60**	**90**	*e*PKPab	**PKPab**	**20 56 10.5**	**+2.0**
ROHR	**Rohrbach**	**160.47**	**89**	*e*PKPab	**PKPab**	**20 56 13.9**	**+1.6**
PLN	**Plauen**	**160.48**	**89**	*e*PKPab	**PKPab**	**20 56 13.0**	**+0.7**
NEUB	**Neuenburg**	**160.54**	**86**	*e*PKPab	**PKPab**	**20 56 14.7**	**+2.2**
GERES	**GERESS Array B**	**160.67**	**94**	PKP	**PKPdf**	**20 55 31.6**	**+0.3**
	1.3nm,1.0s,baz=237,slow=4.0,SNR=5.0						
GERES				PKPab	**PKPab**	**20 56 13.8**	**+0.5**
	0.2nm,0.5s,baz=197,slow=3.1,SNR=3.5						
GERES				PP	**PP**	**20 59 56.9**	**+0.2**
	0.5nm,0.8s,baz=223,slow=6.8,SNR=7.3						
GEYT	**Alibeck**	**160.81**	**217**	PKPab	**PKPab**	**20 56 13.3**	**-0.7**
	0.5nm,0.4s,baz=134,slow=6.2,SNR=2.5						
CLL	**Collm**	**161.29**	**87**	*e*PKPab	**PKPab**	**20 56 16.4**	**+0.6**
CLL	**Collm**	**161.29**	**87**	*e*PKPdf	PKPdf	20 55 37.8	+6.1
CLL				*e*PKPab	**PKPab**	**20 56 12.4**	**-3.4**
DIVS	**Divibare**	**161.51**	**114⇑**	*i*P	**PKPdf**	**20 55 32.6**	**+0.3**
MMB	**Musomiste**	**161.59**	**126⇓**	*i*P	**PKPab**	**20 56 17.0**	**-0.4**
BRG	**Berggiesshubel**	**161.68**	**89**	*e*(P)	**PKPdf**	**20 55 36.1**	**+4.0**
	5.1nm,1.5s						
PKSM	**Moragy**	**162.11**	**107⇓**	*i*P	**PKPdf**	**20 55 34.0**	**+1.3**
BZS	**Buzias**	**163.38**	**113⇑**	*i*P	**PKPdf**	**20 55 34.8**	**+0.9**
MALT	**Malatya**	**163.53**	**165⇑**	*i*P	**PKPab**	**20 56 25.9**	**-0.1**
BRTR	**Keskin Array B**	**163.84**	**151**	PKP	**PKPdf**	**20 55 33.3**	**-1.5**
	1.0nm,0.8s,baz=132,slow=1.8,SNR=4.5						
BRTR				PKPab	**PKPab**	**20 56 26.4**	**-0.9**
	3.2nm,0.7s,baz=180,slow=7.1,SNR=14						
VOIR		**165.06**	**119⇑**	*i*P	**PKPab**	**20 56 30.5**	**-2.1**
STHS	**Stebnicka Huta**	**165.31**	**101**	*e*PKP	**PKPdf**	**20 55 36.8**	**+1.2**
STHS				*e*		20 56 33.8	
MLR	**Muntele Rosu**	**165.56**	**121⇓**	*i*P	PKPdf	20 55 44.3	+8.2
VRI	**Vrincioaia**	**166.21**	**121⇑**	*i*P	**PKPab**	**20 56 34.5**	**-3.1**
CFR	**Carcaliu**	**166.40**	**126⇓**	*i*P	**PKPab**	**20 56 39.3**	**+1.0**
KBZ	**Khabaz**	**169.32**	**177**	PKPab	**PKPab**	**20 56 50.3**	**-0.9**
	2.4nm,1.0s,baz=204,slow=5.9,SNR=3.5						
KIV	**Kislovodsk**	**169.54**	**176**	*e*PKPab	**PKPab**	**20 56 49.5**	**-2.9**
AKTO	**Aktyubinsk**	**170.39**	**252**	PKPab	**PKPab**	**20 56 54.6**	**-1.3**
	1.3nm,0.8s,baz=116,slow=1.7,SNR=3.7						
ARU	**Arti**	**171.29**	**290**	PKPdf	**PKPdf**	**20 55 39.8**	**+0.5**
ARU				*e*PKPab	**PKPab**	**20 56 55.7**	**-4.1**

ISCJB 17 20:38:29.5±0.3, 20°33S±0°07×67°03E±0°07, h10km, mb4.2/29, MS3.8/4, Error ellipse: s-maj=9.7km s-min=9.2km az=157.7

IDC 17 20:38:30.0±0.5, 20°33S×66°97E, h0km, mb4.2/20, mb1 4.3/20, mb1mx4.1/33, mbtmp4.2/20, MS3.8/5, Ms1 3.9/5, ms1mx3.3/31, Error ellipse: s-maj=16.6km s-min=14.5km az=172.0

NEIC 17 20:38:31.2±0.3, 20°33S×66°96E, h10km, mb4.5/12, Error ellipse: s-maj=8.0km s-min=6.9km az=155.0

ISC 17 20:38:31.4±0.5, 20°33S±0°09×66°95E±0°09, h10km, n67, σ0§91/55, mb4.3/29, MS3.7/4, 4C-5D, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**13.70**	**24**	T	T	20 55 37.0	
	baz=202,slow=75,SNR=135						
H08S2	**Diego Garcia H**	**13.70**	**24**	T	T	20 55 37.

1.7nm,0.8s,baz=311,slow=10.0,SNR=3.3
BRTR Keskin Array B 67.36 333 P **P** **20 49 26.8 -0.1**
2.0nm,1.0s,baz=153,slow=8.3,SNR=7.4
KBZ Khabaz 67.46 341 P **P** **20 49 27.9 +0.7**
2.2nm,0.9s,baz=123,slow=4.0,SNR=2.8
KIV Kislovodsk 67.73 341 P **P** **20 49 30.1 +1.0**
12nm,1.2s
MKAR Makanchi Array 68.23 11 LR LR 21 18 01.0
comp=Z,57nm,21.6s,baz=204,slow=35
ABKAR Akbulak array 69.55 355 *eP* **P** **20 49 40.0 -0.3**
2.7nm,0.9s
QSPA South Pole Qui 69.78 180 P **P** **20 49 42.1 +0.3**
3.7nm,1.0s,baz=292,slow=4.5,SNR=8.1
QSPA South Pole Qui 69.78 180 P **P** **20 49 42.0 +0.2**
9.5nm,1.0s
AKTO Aktyubinsk 70.89 354 P **P** **20 49 48.6 +0.2**
1.7nm,0.9s,baz=157,slow=4.8,SNR=5.3
VNDA Vanda 71.36 167 LR LR 21 16 49.5
comp=Z,100nm,19.0s,baz=251,slow=32
VNDA Vanda 71.36 167 P **P** **20 49 50.6 -0.4**
KURBB Kurchatov Arra 71.38 8 P **P** **20 49 51.5 +0.2**
1.2nm,0.9s,baz=205,slow=6.7,SNR=7.0
KURK Kurchatov 71.48 8 P **P** **20 49 51.5 -0.4**
TOA0 Torodi Ar. Sit 72.27 292 *eP* **P** **20 49 57.5 -0.1**
TORD Torodi Ar. Bea 72.27 292 P **P** **20 49 57.8 +0.3**
1.3nm,0.8s,baz=100,slow=5.5,SNR=7.7
BVAR Borovoye Array 73.11 2 P **P** **20 50 01.5 -0.2**
1.3nm,0.8s,baz=189,slow=7.5,SNR=8.0
BRVK Borovoye 73.14 2 *eP* **P** **20 50 00.6 -1.2**
3.5nm,0.8s
CTAO Charters Tower 73.64 106 P **P** **20 50 05.4 -0.3**
CFR Carcaliu 74.16 333 ⇓*iP* **P** **20 50 09.5 +1.5**
VRI Vrincioaia 75.31 332 ⇓*iP* **P** **20 50 16.1 +1.4**
PLOR Plostina 75.33 332 ⇓*iP* **P** **20 50 16.3 +1.4**
MLR Muntele Rosu 75.36 332 ⇓*iP* **P** **20 50 13.5 -1.7**
ZAA0 Zalesovo Array 75.56 11 *eP* **P** **20 50 15.5 -0.5**
ZALV Zalesovo Beam 75.56 11 P **P** **20 50 16.1 +0.2**
1.6nm,0.8s,baz=217,slow=5.9,SNR=9.1
VOIR 75.73 331 ⇑*iP* **P** **20 50 17.9 +0.7**
SONM Songino Array 76.52 26 P **P** **20 50 22.8 +1.1**
1.8nm,0.8s,baz=215,slow=5.6,SNR=17
ARU Arti 76.78 355 P **P** **20 50 22.4 -0.5**
DIVS Divibare 77.17 327 ⇑*iP* **P** **20 50 26.5 +1.0**
BURAR Bucovina Array 77.32 333 ⇓*iP* **P** **20 50 26.1 -0.1**
BZS Buzias 77.47 329 ⇑*iP* **P** **20 50 27.9 +0.9**
AKBB Malin Array Si 78.14 337 P **P** **20 50 29.3 -1.3**
PKSM Moragy 79.34 328 ⇑*iP* **P** **20 50 38.0 +0.7**
MJAR Matsushiro Arr 87.82 50 P **P** **20 51 21.8 +0.7**
2.0nm,0.8s,baz=229,slow=6.4,SNR=12
ULM Lac du Bonnet 147.18 340 PKPbc **PKPbc** **20 58 13.7 -1.1**
1.1nm,0.5s,baz=29,slow=8.1,SNR=3.4
TXAR Lajitas Array 167.64 318 PKP **PKPdf** **20 58 39.2 +0.6**
0.3nm,0.9s,baz=110,slow=4.2,SNR=3.8
TXAR PKPab **PKPab** **20 59 45.3 +0.7**
0.4nm,0.8s,baz=72,slow=4.1,SNR=5.1

ISK ***17*** *20:43:48.0,35°.87N×31°.46E,h17km, MD3.2*
ISCJB ***17*** *20:43:49.1±0.8,35°.90N±0°.03×31°.47E±0°.03, h21km±8km, Error ellipse: s-maj=6.2km s-min=4.0km az=23.5*
DDA ***17*** *20:43:49.5,36°.18N×31°.42E,h6km,ML3.3*
CSEM ***17*** *20:43:49.7±0.1,35°.89N×31°.48E,h20km,ML3.3, Error ellipse: s-maj=4.9km s-min=2.8km az=27.0*
NIC ***17*** *20:43:51.9,35°.98N×31°.97E,h5km,ML3.5*
ISC 17 20:43:47.7±1.2,35°.96N±0°.03×31°.44E±0°.02,h13km±10km, n69,σ1°42/84,4C,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.76**	**69**	*iP*	**Pb**	**20 44 04.1**	**+1.2**
GAZI				*iS*	**Sg**	**20 44 13.2**	**+0.6**
GAZI	**Gazipasa**	**0.76**	**69**	*iP*	**Pb**	**20 44 04.1**	**+1.2**
GAZI				*iS*	**Sg**	**20 44 13.2**	**+0.6**
ANTB	**Antalya**	**1.13**	**326**	*e*PN	**Pn**	**20 44 10.7**	**+1.5**
ANTB	**Antalya**	**1.13**	**326**	*e*Pn	**Pn**	**20 44 10.7**	**+1.5**
AKMC	**Akamas**	**1.18**	**142**	P	**Pn**	**20 44 10.7**	**+0.7**
baz=342							
AKMC	**Akamas**	**1.18**	**142**	P	**Pn**	**20 44 10.7**	**+0.7**
ALFC	**Alevga**	**1.24**	**130**	⇑P	**Pn**	**20 44 10.6**	**-0.2**
baz=328							
ALFC				S	**Sb**	**20 44 24.4**	**-2.5**
ALFC	**Alevga**	**1.24**	**130**	⇑P	**Pn**	**20 44 10.6**	**-0.2**
ALFC				S	**Sb**	**20 44 24.4**	**-2.5**
PPCY	**Paphos**	**1.30**	**145**	⇑P	**Pb**	**20 44 13.8**	**+1.7**
baz=344							
PPCY	**Paphos**	**1.30**	**145**	⇑P	**Pb**	**20 44 13.8**	**+1.7**
HDMB	**Hadim**	**1.31**	**40**	*e*PN	**Pg**	**20 44 13.3**	**+0.3**
HDMB	**Hadim**	**1.31**	**40**	*e*Pn	**Pg**	**20 44 13.3**	**+0.3**
ERMK	**Ermenek**	**1.37**	**60**	*e*P	**Pg**	**20 44 14.9**	**+0.8**
ERMK				*e*S	**Sb**	**20 44 29.5**	**-1.5**
ERMK	**Ermenek**	**1.37**	**60**	*e*P	**Pg**	**20 44 14.9**	**+0.8**
ERMK				*e*S	**Sb**	**20 44 29.5**	**-1.5**
AKDN	**Akdeniz- K¯–br**	**1.41**	**117**	*e*PN	**Pn**	**20 44 12.8**	**-0.3**
AKDN				*e*SN	**Sn**	**20 44 30.8**	**-0.8**
AKDN	**Akdeniz- K¯–br**	**1.41**	**117**	*e*Pn	**Pn**	**20 44 12.8**	**-0.3**
AKDN				*e*Sn	**Sn**	**20 44 30.8**	**-0.8**
LEF	**Lefka**	**1.45**	**125**	*e*PN	**Pn**	**20 44 12.6**	**-1.0**
LEF	**Lefka**	**1.45**	**125**	*e*Pn	**Pn**	**20 44 12.6**	**-1.0**
ELL	**Elmali**	**1.46**	**303**	*e*PN	**Pg**	**20 44 16.2**	**+0.4**
ELL	**Elmali**	**1.46**	**303**	*e*Pn	**Pg**	**20 44 16.2**	**+0.4**
AKAS	**Kas**	**1.51**	**281**	*e*P	**Pb**	**20 44 16.5**	**+0.9**
AKAS				*e*S	**Sn**	**20 44 33.8**	**-0.3**
AKAS	**Kas**	**1.51**	**281**	*e*P	**Pb**	**20 44 16.5**	**+0.9**
AKAS				*e*S	**Sn**	**20 44 33.8**	**-0.3**
BCK	**Bucak**	**1.65**	**336**	*e*PN	**Pg**	**20 44 18.2**	**-1.1**
BCK	**Bucak**	**1.65**	**336**	*e*Pn	**Pg**	**20 44 18.2**	**-1.1**
MAMC	**Mammari**	**1.65**	**118**	P	**Pn**	**20 44 16.6**	**+0.2**
baz=308							
MAMC	**Mammari**	**1.65**	**118**	P	**Pn**	**20 44 16.6**	**+0.2**
LFK	**Lefkose**	**1.84**	**111**	*e*PN	**Pn**	**20 44 19.1**	**0.0**
LFK	**Lefkose**	**1.84**	**111**	*e*Pn	**Pn**	**20 44 19.1**	**0.0**
CSS	**Prodhromos**	**1.84**	**122**	P	**Pn**	**20 44 18.7**	**-0.3**
baz=312							
CSS	**Prodhromos**	**1.84**	**122**	*e*PN	**Pn**	**20 44 19.0**	**0.0**
CSS	**Prodhromos**	**1.84**	**122**	P	**Pn**	**20 44 18.7**	**-0.3**
CSS	**Prodhromos**	**1.84**	**122**	*e*Pn	**Pn**	**20 44 19.0**	**0.0**
GOLH	**Golhisar**	**1.98**	**311**	*e*P	**Pg**	**20 44 25.0**	**-0.6**
GOLH				*e*S	**Sg**	**20 44 49.7**	**-1.5**
GOLH	**Golhisar**	**1.98**	**311**	*e*P	**Pg**	**20 44 25.0**	**-0.6**
GOLH				*e*S	**Sg**	**20 44 49.7**	**-1.5**
BAGO	**Egridir - ISPA**	**2.09**	**346**	*e*P	**Pb**	**20 44 24.9**	**-0.7**
BAGO				*e*S	**Sb**	**20 44 50.6**	**-0.9**
KONT	**Konya--Tatoy**	**2.12**	**20**	*e*PN	**Pb**	**20 44 24.8**	**-1.1**
KONT	**Konya--Tatoy**	**2.12**	**20**	*e*Pn	**Pb**	**20 44 24.8**	**-1.1**
KIZK	**Mersin**	**2.25**	**76**	*e*P	**Pn**	**20 44 25.7**	**+1.1**
KIZK				*e*S	**Sn**	**20 44 53.5**	**+1.2**
KIZK	**Mersin**	**2.25**	**76**	*e*P	**Pn**	**20 44 25.7**	**+1.1**
KIZK				*e*S	**Sn**	**20 44 53.5**	**+1.2**
DALY	**Dalyan (Mu¯la**	**2.40**	**292**	*e*PN	**Pn**	**20 44 28.4**	**+1.7**
DALY	**Dalyan (Mu¯la**	**2.40**	**292**	*e*Pn	**Pn**	**20 44 28.4**	**+1.7**
YESY	**Yesilyurt**	**2.59**	**45**	*e*PN	**Pn**	**20 44 31.2**	**+1.8**
YESY	**Yesilyurt**	**2.59**	**45**	*e*Pn	**Pn**	**20 44 31.3**	**+1.8**
KDHN	**Kadinhani**	**2.61**	**12**	*e*P	**Pb**	**20 44 32.1**	**-2.4**
KDHN	**Kadinhani**	**2.61**	**12**	*e*P	**Pb**	**20 44 32.1**	**-2.4**
MERS	**Mersin**	**2.65**	**69**	*e*PN	**Pn**	**20 44 31.4**	**+1.2**
MERS	**Mersin**	**2.65**	**69**	*e*Pn	**Pn**	**20 44 31.4**	**+1.2**
YER	**Yerkesik**	**2.80**	**296**	*e*PN	**Pn**	**20 44 34.2**	**+2.0**
YER	**Yerkesik**	**2.80**	**296**	*e*Pn	**Pn**	**20 44 34.2**	**+2.0**
KHL	**Karahalli**	**2.81**	**328**	*e*PN	**Pn**	**20 44 34.5**	**+2.1**
KHL	**Karahalli**	**2.81**	**328**	*e*Pn	**Pn**	**20 44 34.5**	**+2.1**
KIZT	**Kizilcal**	**2.94**	**7**	*e*PN	**Pn**	**20 44 36.3**	**+2.1**
KIZT	**Kizilcal**	**2.94**	**7**	*e*Pn	**Pn**	**20 44 36.3**	**+2.1**
AYDN	**Tasoluk**	**3.32**	**302**	*e*P	**Pn**	**20 44 40.7**	**+1.3**
AYDN	**Tasoluk**	**3.32**	**302**	*e*P	**Pn**	**20 44 40.7**	**+1.3**
BDRM	**Kayabasi**	**3.40**	**290**	*e*P	**Pn**	**20 44 42.3**	**+1.8**
BDRM	**Kayabasi**	**3.40**	**290**	*e*P	**Pn**	**20 44 42.3**	**+1.8**
AYDB	**Zeytinkoy-Aydi**	**3.46**	**306**	*e*PN	**Pn**	**20 44 43.5**	**+2.1**
AYDB	**Zeytinkoy-Aydi**	**3.46**	**306**	*e*Pn	**Pn**	**20 44 43.5**	**+2.1**
BODT	**Bodrum**	**3.50**	**290**	*e*PN	**Pn**	**20 44 43.5**	**+1.7**
BODT	**Bodrum**	**3.50**	**290**	*e*Pn	**Pn**	**20 44 43.5**	**+1.7**
YAYX	**Yaylak**	**3.52**	**32**	*e*PN	**Pn**	**20 44 43.8**	**+1.5**
YAYX	**Yaylak**	**3.52**	**32**	*e*Pn	**Pn**	**20 44 43.8**	**+1.5**
ESKT	**Eskisehir**	**3.58**	**353**	*e*PN	**Pn**	**20 44 45.3**	**+2.2**
ESKT	**Eskisehir**	**3.58**	**353**	*e*Pn	**Pn**	**20 44 45.3**	**+2.2**
TVSB	**Tavsanli**	**3.82**	**336**	*e*PN	**Pn**	**20 44 48.2**	**+2.0**
TVSB	**Tavsanli**	**3.82**	**336**	*e*Pn	**Pn**	**20 44 48.3**	**+2.0**
TAHT	**Tahtakopru-Hat**	**3.87**	**82**	*e*PN	**Pn**	**20 44 48.5**	**+1.6**
TAHT	**Tahtakopru-Hat**	**3.87**	**82**	*e*Pn	**Pn**	**20 44 48.5**	**+1.6**

ISCJB ***17*** *20:51:12.2±0.6,26°.22S±0°.07×177°.4W±0°.1, h98km, mb4.1/13, Error ellipse: s-maj=14.4km s-min=10.1km az=163.1*
IDC ***17*** *20:51:12.7±3.7,26°.15S×177°.32W, h94km±31km, mb3.8/8, mb1 4.1/10, mb1mx3.9/18, mbtmp4.2/10, MS4.0/4, Ms1 4.1/4, ms1mx3.4/25, Error ellipse: s-maj=28.5km s-min=23.6km az=2.0*
NEIC ***17*** *20:51:13.9±1.3, 26°.20S×177°.30W, h106km±11km, mb4.6/6, Error ellipse: s-maj=15.7km s-min=11.0km az=79.0*
ISC 17 20:51:13.2±0.6,26°.15S±0°.07×177°.2W±0°.1,h98km,n42, σ1°30/40,mb4.2/13,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.15**	**191**	P	**Pn**	**20 51 59.4**	**-1.5**
166nm,0.3s,baz=30,slow=11,SNR=10							
RAO				S	**Sn**	**20 52 40.5**	**+2.8**
594nm,0.3s,baz=127,slow=23,SNR=12							
RAO	**Raoul Island**	**3.15**	**191**	P	**Pn**	**20 51 59.4**	**-1.5**
RAO				*e*Sn	**Sn**	**20 52 39.5**	**+1.7**
MSVF	**Nonsavu**	**9.45**	**331**	*e*Pn	**Pn**	**20 53 28.1**	**+1.5**
14nm,0.8s							
NIUE	**Niue**	**9.74**	**45**	P	Pn	20 53 23.4	-7.1
baz=9.2,SNR=9.9							
URZ	**Urewera**	**12.99**	**200**	P	**Pn**	**20 54 14.5**	**+0.5**
0.7nm,0.3s,baz=329,slow=5.9,SNR=4.5							
URZ				S	Sn	20 56 26.4	-10
1.3nm,0.3s,baz=246,slow=23,SNR=8.7							
URZ	**Urewera**	**12.99**	**200**	P	**Pn**	**20 54 14.4**	**+0.5**
URZ				*e*Sn	Sn	20 56 20.9	-16
AFI	**Afiamalu**	**13.21**	**24**	LR	LR	20 58 59.4	
comp=Z,618nm,21.3s,baz=150,slow=35							
EIDS	**Eidsvold**	**28.52**	**265**	P	**P**	**20 56 59.8**	**+0.1**
CTAO	**Charters Tower**	**34.05**	**272**	*e*P	**P**	**20 57 49.3**	**+1.0**
11nm,0.9s							
STKA	**Stephens Creek**	**36.30**	**251**	P	**P**	**20 58 06.5**	**-1.0**
2.5nm,0.9s,baz=103,slow=13,SNR=3.1							
QIS	**Mount Isa**	**39.89**	**269**	P	**P**	**20 58 39.2**	**+1.5**
baz=40,SNR=3.5							
AS31	**Alice Springs**	**44.19**	**262**	*e*P	**P**	**20 59 11.3**	**-1.5**
ASAR	**Alice Springs**	**44.19**	**262**	P	**P**	**20 59 12.1**	**-0.7**
2.9nm,0.9s,baz=102,slow=7.0,SNR=29							
WRAB	**Tennant Creek**	**44.79**	**267**	*e*P	**P**	**20 59 16.1**	**-1.4**
6.4nm,0.9s							
WRA	**Warramunga Arr**	**44.80**	**267**	P	**P**	**20 59 16.5**	**-1.1**
2.5nm,0.4s,baz=104,slow=7.8,SNR=50							
WRKA	**Warakurna**	**48.84**	**259**	P	**P**	**20 59 47.6**	**-1.4**
baz=49,SNR=7.3							
KDU	**Kakadu**	**49.01**	**276**	P	**P**	**20 59 51.2**	**+0.8**
baz=50,SNR=4.8							
KNRA	**Kununurra**	**51.21**	**270**	P	**P**	**21 00 06.9**	**-0.1**
baz=52,SNR=14							
VNDA	**Vanda**	**52.38**	**186**	P	**P**	**21 00 16.4**	**+1.6**
FITZ	**Fitzroy Crossi**	**53.19**	**266**	P	**P**	**21 00 20.6**	**-1.0**
baz=54,SNR=6.7							
SWI	**Sorong**	**55.54**	**288**	P	P	21 00 32.7	-6.0
baz=56,SNR=20							
MBWA	**Marble Bar**	**57.48**	**261**	*e*P	**P**	**21 00 50.6**	**-1.9**
MORW	**Morawa**	**58.49**	**251**	P	**P**	**21 00 58.1**	**-1.3**
baz=59,SNR=3.9							
CASY	**Casey**	**59.22**	**207**	*e*P	**P**	**21 01 02.4**	**-1.3**
5.8nm,0.7s							
QSPA	**South Pole Qui**	**63.95**	**180**	*e*P	**P**	**21 01 36.0**	**+0.3**
7.2nm,1.0s							
SMRI	**Semarang**	**71.09**	**271**	P	**P**	**21 02 24.3**	**+2.9**
baz=72,SNR=3.3							
MJAR	**Matsushiro Arr**	**75.18**	**324**	P	**P**	**21 02 44.2**	**-0.7**
0.3nm,0.4s,baz=146,slow=3.4,SNR=2.9							
MAW	**Mawson**	**76.52**	**200**	P	**P**	**21 02 52.2**	**+0.1**
3.4nm,0.5s,baz=139,slow=13,SNR=19							
MAW	**Mawson**	**76.52**	**200**	P	**P**	**21 02 52.7**	**+0.6**
baz=77,SNR=9.5							
PETK	**Petropavlovsk-**	**81.89**	**345**	LR	LR	21 35 49.6	
comp=Z,88nm,20.7s,baz=145,slow=33							
SNAA	**Sanae**	**82.37**	**178**	*e*P	**P**	**21 03 22.6**	**-1.4**
1.5nm,0.8s							
VNA1	**Neumayer--Stat**	**83.15**	**176**	P	**P**	**21 03 27.9**	**0.0**
USRK	**Ussuriysk Ar.**	**84.02**	**326**	LR	LR	21 37 21.2	
comp=Z,67nm,21.0s,baz=119,slow=33							
NVAR	**Mina Array Bea**	**84.66**	**42**	P	**P**	**21 03 36.8**	**+0.6**
0.6nm,0.8s,baz=216,slow=6.4,SNR=4.0							
TXAR	**Lajitas Array**	**89.51**	**57**	P	**P**	**21 04 01.0**	**+1.2**
0.1nm,0.3s,baz=200,slow=7.6,SNR=4.1							
CMAR	**Chiang Mai Arr**	**92.65**	**289**	P	**P**	**21 04 15.6**	**+1.0**
0.4nm,0.7s,baz=152,slow=4.1,SNR=4.0							
CMAR				LR	LR	21 45 00.5	
comp=Z,93nm,21.1s,baz=176,slow=35							
MKAR	**Makanchi Array**	**115.52**	**312**	PKP	**PKPdf**	**21 09 42.0**	**-1.6**
0.1nm,0.4s,baz=305,slow=0.2,SNR=5.6							
FINES	**FINESS Array B**	**141.36**	**342**	PKhKP	PKPpre	21 10 23.8	
0.6nm,0.7s,baz=53,slow=5.4,SNR=3.6							
NB2	**NORSAR Subarra**	**144.65**	**353**	PKP	**PKPab**	**21 10 35.5**	**-1.2**
comp=Z,1.2nm,0.5s,baz=11,slow=3.5							
NOA	**NORSAR Array B**	**144.65**	**353**	PKP	**PKPab**	**21 10 35.8**	**-0.9**
comp=Z,2.3nm,0.8s,baz=8.2,slow=2.3,SNR=8.6							
BRTR	**Keskin Array B**	**150.93**	**305**	PKPbc	**PKPbc**	**21 10 53.9**	**-0.9**
comp=Z,0.9nm,0.7s,baz=140,slow=3.6,SNR=5.1							
BRTR				PKPab	**PKPab**	**21 11 02.5**	**0.0**
comp=Z,1.0nm,0.6s,baz=79,slow=4.1,SNR=5.8							
TORD	**Torodi Ar. Bea**	**167.03**	**175**	PKP	**PKPdf**	**21 11 07.0**	**-1.2**
comp=Z,0.3nm,0.7s,baz=260,slow=4.2,SNR=2.7							
TORD				PKPab	**PKPab**	**21 12 11.7**	**-0.5**
comp=Z,0.5nm,0.5s,baz=184,slow=3.4,SNR=8.4							

WEL 17 21:08:15.1±0.3,43°.68S×168°.28E,h5km,ML3.5/8,3C-1D, Error ellipse: s-maj=2.4km s-min=2.2km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCZ	**Jackson Bay**	**0.53**	**140**	⇓PG	Pg	21 08 25.8	+0.4
JCZ				AML	AML	21 08 33.8	
JCZ				SG	Sb	21 08 33.8	-1.3
FOZ	**Fox Glacier**	**1.03**	**84**	P*	Pn	21 08 35.9	-0.2
FOZ				S*	Sn	21 08 50.5	-0.3
FOZ				AML	AML	21 08 51.0	
FOZ				AML	AML	21 08 51.0	
FOZ				AML	AML	21 08 51.0	
MSZ	**Milford Sound**	**1.03**	**194**	P*	Pg	21 08 34.4	-0.5
MSZ				S*	Sg	21 08 47.9	-0.3
MSZ				AML	AML	21 08 48.3	
MSZ				AML	AML	21 08 48.3	
MSZ				AML	AML	21 08 48.4	
WKZ	**Wanaka**	**1.27**	**156**	P*	Pg	21 08 38.8	-0.7
WKZ				AML	AML	21 08 56.3	
WKZ				AML	AML	21 08 56.3	
WKZ				AML	AML	21 08 57.8	
WKZ				AML	AML	21 08 57.8	
LBZ	**Lake Benmore**	**1.54**	**118**	⇑PN	Pn	21 08 42.7	-0.6
LBZ				AML	AML	21 09 06.0	
MLZ	**Mavora Lakes**	**1.68**	**183**	PN	Pn	21 08 45.0	-0.2
EAZ	**Earnscleugh**	**1.72**	**155**	⇑PN	Pn	21 08 46.1	+0.3
EAZ				AML	AML	21 09 09.7	
EAZ				AML	AML	21 09 09.8	
EAZ				AML	AML	21 09 09.8	
EAZ				AML	AML	21 09 09.8	
WVZ	**Waitaha Valley**	**1.89**	**72**	AML	AML	21 09 21.2	
RPZ	**Rata Peaks**	**2.01**	**92**	PN	Pn	21 08 49.0	-0.7
RPZ				AML	AML	21 09 27.3	
ODZ	**Otahua Downs**	**2.18**	**130**	PN	Pn	21 08 51.5	-0.5
WHZ	**Wether Hill Ro**	**2.23**	**186**	PN	Pn	21 08 52.1	-0.7
TUZ	**Tuapeka**	**2.48**	**158**	*e*PN	Pn	21 08 56.8	+0.8
OXZ	**Oxford**	**2.75**	**84**	⇑PN	Pn	21 08 57.8	-2.1
SYZ	**Scrubby Hill**	**2.93**	**168**	PN	Pn	21 09 04.2	+2.0
LTZ	**Lake Taylor**	**3.04**	**74**	PN	Pn	21 09 02.2	-1.8
APZ	**The Paps**	**3.17**	**184**	PN	Pn	21 09 07.3	+1.7
MQZ	**McQueen's Vall**	**3.17**	**92**	PN	Pn	21 09 02.7	-2.9
DSZ	**Denniston Nort**	**3.23**	**55**	PN	Pn	21 09 03.7	-2.8
THZ	**Tophouse**	**3.90**	**62**	PN	Pn	21 09 13.6	-2.1
QRZ	**Quartz Range**	**4.25**	**49**	PN	Pn	21 09 17.5	-2.9

ISCJB ***17*** *21:17:52.9±1.0,50°.1N±0°.2×29°.3W±0°.3, h10km, mb3.6/5, MS3.1/3, Error ellipse: s-maj=34.9km s-min=19.0km az=33.8*
IDC ***17*** *21:17:53.5±1.2,50°.16N×29°.25W, h0km, mb3.4/6, mb1 3.7/6, mb1mx3.4/36, mbtmp3.5/6, MS3.2/3, Ms1 3.2/3, ms1mx2.9/23, Error ellipse: s-maj=39.0km s-min=24.6km az=34.0*
ISC 17 21:17:55.0±1.1,50°.2N±0°.2×29°.3W±0°.2,h10km,n10, σ0°40/7,mb3.6/5,MS3.1/3,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC

ESDC	**Sonseca Array**	**20.65**	**111**	P	**P**	**21 22 34.4**	**-0.2**
1.1nm,1.0s,baz=297,slow=11,SNR=5.0							
NOA	**NORSAR Array B**	**24.91**	**49**	LR	LR	21 32 32.2	
comp=Z,39nm,18.5s,baz=180,slow=35							
GERES	**GERESS Array B**	**27.65**	**76**	LR	LR	21 32 51.2	
comp=Z,48nm,19.2s,baz=149,slow=32							
AKASG	**Malin Array Be**	**36.41**	**66**	LR	LR	21 40 10.7	
comp=Z,46nm,20.4s,baz=5.0,slow=37							
TORD	**Torodi Ar. Bea**	**44.72**	**135**	P	**P**	**21 26 08.5**	**+0.2**
1.4nm,1.0s,baz=331,slow=6.0,SNR=5.1							
ILAR	**Eielson Array**	**55.68**	**333**	P	**P**	**21 27 30.8**	**-0.1**
0.4nm,0.9s,baz=34,slow=8.2,SNR=3.6							
TXAR	**Lajitas Array**	**58.40**	**279**	P	**P**	**21 27 50.7**	**0.0**
0.4nm,0.8s,baz=56,slow=6.7,SNR=4.1							
MKAR	**Makanchi Array**	**66.80**	**44**	P	**P**	**21 28 46.5**	**+0.1**
0.3nm,0.6s,baz=320,slow=2.6,SNR=2.1							
SONM	**Songino Array**	**75.19**	**29**	P	**P**	**21 29 37.8**	**+0.4**
0.2nm,0.3s,baz=300,slow=3.2,SNR=3.1							
ASAR	**Alice Springs**	**150.48**	**33**	PKPab	**PKPab**	**21 37 52.6**	**-0.6**
0.6nm,0.9s,baz=316,slow=5.2,SNR=3.8							

CSEM ***17*** *21:42:42.5,38°.72N×29°.02W, h5km, ML1.6*
PDA 17 21:42:42.5±0.9,38°.72N×29°.02W,h5km±5km,MD2.9, ML1.6,Error ellipse: s-maj=9.3km s-min=6.2km az=56.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.26**	**110**	*i*P	Pg	21 42 45.8	-1.8
PCED				*e*S	Sg	21 42 48.9	-2.2
PCED	**Cedros**	**0.26**	**110**	*e*P	Pg	21 42 47.3	-0.3
PCED				*e*S	Sg	21 42 50.7	-0.4
PCED				A	A	21 42 51.4	
35nm,0.2s							
PCED	**Cedros**	**0.26**	**110**	*e*P	Pg	21 42 47.3	-0.3
PCED				*e*S	Sg	21 42 50.7	-0.4
CALA	**Caldeira**	**0.28**	**119**	*e*S	Sg	21 42 49.9	-2.0
CALA	**Caldeira**	**0.28**	**119**	*e*S	Sg	21 42 51.8	-0.1
CALA	**Caldeira**	**0.28**	**119**	*e*S	Sg	21 42 49.9	-2.0
CALA	**Caldeira**	**0.28**	**119**	*e*S	Sg	21 42 51.8	-0.1
PCAN	**Candelaria**	**0.49**	**121**	*e*P	Pg	21 42 50.5	-1.4
PCAN				*e*S	Sg	21 42 55.7	-2.6
PCAN	**Candelaria**	**0.49**	**121**	*e*P	Pg	21 42 50.7	-1.2
PCAN				*e*S	Sg	21 42 57.4	-0.9
PCAN				A	A	21 42 59.0	
11nm,0.1s							
PCAN	**Candelaria**	**0.49**	**121**	*e*P	Pg	21 42 50.5	-1.4
PCAN				*e*S	Sg	21 42 55.7	-2.6
PCAN	**Candelaria**	**0.49**	**121**	*e*P	Pg	21 42 50.7	-1.2
PCAN				*e*S	Sg	21 42 57.4	-0.9
ROSA	**Rosais**	**0.61**	**90**	*e*P	Pg	21 42 51.9	-2.3
ROSA				*e*S	Sg	21 42 58.3	-3.8
ROSA	**Rosais**	**0.61**	**90**	*e*P	Pg	21 42 53.0	-1.2
ROSA				*e*S	Sg	21 43 00.3	-1.8
ROSA				A	A	21 43 01.3	
18nm,0.1s							
ROSA	**Rosais**	**0.61**	**90**	*e*P	Pg	21 42 51.9	-2.3
ROSA				*e*S	Sg	21 42 58.3	-3.8
ROSA	**Rosais**	**0.61**	**90**	*e*P	Pg	21 42 53.0	-1.2
ROSA				*e*S	Sg	21 43 00.3	-1.8
PMAN	**Manadas**	**0.73**	**96**	*e*P	Pb	21 42 58.0	+0.3
PGRA	**Graciosa**	**0.87**	**69**	*e*P	Pg	21 42 58.3	-0.9

ISCJB ***17*** *22:23:48.9±0.4,55°.90N±0°.03×161°.08E±0°.07, h134km±2km, mb3.2/7, Error ellipse: s-maj=6.6km s-min=5.2km az=32.4*
MOS ***17*** *22:23:48.5±0.7,55°.97N×161°.00E, h134km, mb3.9/2, Error ellipse: s-maj=19.5km s-min=7.1km az=74.1*
KRSC ***17*** *22:23:48.8±0.7,55°.87N×161°.11E, h129km±6km, ML3.7*
IDC ***17*** *22:23:50.8±2.7,55°.94N×160°.74E, h135km±26km, m

RUS	**Russkaya**	**3.77**	**205**	PN	**Pn**	**22 24 46.9 +0.2**
ASAJ	**Asahikawa**	**16.66**	**233**	P	**P**	**22 27 36.3 +0.4**
	baz=30,slow=8.1					
ERM	**Erimo**	**18.11**	**227**	*e*P	**P**	**22 27 52.2 +0.3**
MSHR	**Mys Shultsa**	**23.41**	**248**	*e*P	**P**	**22 28 50.7 +3.5**
ILAR	**Eielson Array**	**26.50**	**49**	P	**P**	**22 29 15.6 +0.6**
	comp=Z,0.3nm,0.5s,baz=258,slow=7.8,SNR=5.6					
ILAR	**Eielson Array**	**26.50**	**49**	*e*P	**P**	**22 29 19.2 +4.2**
MKAR	**Makanchi Array**	**47.50**	**294**	P	**P**	**22 32 10.1 -1.7**
	comp=Z,0.5nm,0.7s,baz=60,slow=5.5,SNR=5.5					
MKAR	**Makanchi Array**	**47.50**	**294**	*e*P	**P**	**22 32 10.3 -1.5**
MKAR				pmax	pmax	
	comp=Z,1.0nm,0.7s					
BVAR	**Borovoye Array**	**49.13**	**307**	P	**P**	**22 32 22.6 -1.5**
	comp=Z,0.3nm,0.4s,baz=57,slow=10,SNR=3.2					
FINES	**FINESS Array B**	**57.78**	**336**	P	**P**	**22 33 26.4 -0.7**
	comp=Z,0.9nm,0.9s,baz=12,slow=7.7,SNR=4.9					
FINES	**FINESS Array B**	**57.78**	**336**	P	**P**	**22 33 26.4 -0.7**
FINES				pmax	pmax	
	comp=Z,1.0nm,0.9s					
TXAR	**Lajitas Array**	**69.05**	**69**	P	**P**	**22 34 43.4 +1.6**
	comp=Z,0.1nm,0.6s,baz=306,slow=5.2,SNR=4.1					
WRA	**Warramunga Arr**	**78.85**	**206**	P	**P**	**22 35 38.3 -0.4**
	comp=Z,0.5nm,0.8s,baz=11,slow=6.0,SNR=2.9					
ASAR	**Alice Springs**	**82.54**	**205**	P	**P**	**22 35 58.0 -0.2**
	comp=Z,0.5nm,0.9s,baz=1.8,slow=5.8,SNR=3.0					
ASAR	**Alice Springs**	**82.54**	**205**	P	**P**	**22 35 58.0 -0.2**

*ISCJB **17** 22:41:34.7±0.6, 8°.54S±0°.09×157°.51E±0°.08, h17km, mb4.0/10, MS3.3/1, Error ellipse: s-maj=13.4km s-min=10.7km az=158.2*

*IDC **17** 22:41:42.6±10.0, 8°.79S×157°.64E, h75km±87km, mb3.8/9, mb1 4.1/10, mb1mx3.8/31, mbtmp4.2/10, ML3.9/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/21, Error ellipse: s-maj=36.9km s-min=23.4km az=84.0*

ISC 17 22:41:35.9±0.7, 8°.6S±0°.1×157°.58E±0°.08, h17km, n24, σ1§31/23, mb4.0/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.48**	**109**	*e*P	**Pn**	**22 42 16.0**	**+0.5**
HNR				*i* S	**Sb**	**22 42 51.0**	**+0.7**
PMG	**Port Moresby**	**10.32**	**265**	LR	LR	22 47 57.8	
	comp=Z,101nm,20.7s,baz=84,slow=36						
CTA	**Charters Tower**	**15.81**	**223**	P	**P**	**22 45 21.2**	**-0.4**
	0.3nm,0.3s,baz=39,slow=11,SNR=6.2						
RMQ	**Roma**	**19.64**	**204**	P	**P**	**22 46 06.2**	**+2.3**
	baz=20,SNR=5.4						
QIS	**Mount Isa**	**21.02**	**234**	P	**P**	**22 46 21.1**	**+2.0**
	baz=22,SNR=4.7						
QLP	**Quilpie**	**21.89**	**214**	P	**P**	**22 46 30.5**	**+2.3**
	baz=22,SNR=4.2						
ARMA	**Armidale**	**22.39**	**194**	P	**P**	**22 46 35.3**	**+1.7**
	baz=23,SNR=12						
KDU	**Kakadu**	**24.99**	**259**	P	P	22 47 18.7	+20
	baz=26,SNR=3.5						
WRA	**Warramunga Arr**	**25.14**	**241**	P	**P**	**22 47 00.6**	**+0.3**
	10nm,0.6s,baz=66,slow=9.3,SNR=100						
CMSA	**Cobar Meteorol**	**25.34**	**204**	P	**P**	**22 47 01.5**	**-0.6**
	baz=26,SNR=12						
ASAR	**Alice Springs**	**27.15**	**234**	P	**P**	**22 47 17.3**	**-1.3**
	2.1nm,0.8s,baz=66,slow=8.3,SNR=19						
STKA	**Stephens Creek**	**27.50**	**210**	P	**P**	**22 47 21.8**	**+0.3**
	7.7nm,0.7s,baz=44,slow=13,SNR=14						
STKA				LR	LR	22 57 44.3	
	comp=Z,73nm,18.4s,baz=24,slow=35						
STKA	**Stephens Creek**	**27.50**	**210**	P	**P**	**22 47 23.3**	**+1.7**
	baz=28,SNR=9.7						
WRKA	**Warakurna**	**32.32**	**236**	P	**P**	**22 48 03.6**	**-0.9**
	baz=33,SNR=11						
FITZ	**Fitzroy Crossi**	**32.42**	**250**	P	**P**	**22 48 05.9**	**+0.6**
	baz=33,SNR=4.3						
MEEK	**Meekatharra**	**41.01**	**239**	P	**P**	**22 49 18.7**	**+0.3**
	baz=42,SNR=3.6						
CMAR	**Chiang Mai Arr**	**63.79**	**295**	P	**P**	**22 52 09.2**	**+1.6**
	0.7nm,0.4s,baz=120,slow=5.3,SNR=2.9						
SONM	**Songino Array**	**72.08**	**327**	P	**P**	**22 52 59.6**	**+0.2**
	0.2nm,0.5s,baz=133,slow=6.1,SNR=1.8						
QSPA	**South Pole Qui**	**81.36**	**180**	P	**P**	**22 53 50.0**	**-1.6**
	1.1nm,0.7s,baz=30,slow=2.9,SNR=7.3						
MAW	**Mawson**	**83.89**	**203**	P	**P**	**22 54 03.5**	**-1.0**
	2.6nm,0.8s,baz=97,slow=8.1,SNR=4.9						
ILAR	**Eielson Array**	**83.96**	**21**	P	**P**	**22 54 04.0**	**-0.9**
	0.4nm,0.5s,baz=251,slow=5.0,SNR=8.8						
MKAR	**Makanchi Array**	**86.31**	**318**	P	**P**	**22 54 17.4**	**+0.3**
	0.3nm,0.5s,baz=104,slow=4.8,SNR=4.7						
NVAR	**Mina Array Bea**	**90.72**	**51**	P	**P**	**22 54 39.0**	**+0.5**
	0.2nm,0.3s,baz=248,slow=9.6,SNR=2.7						
BDFB	**Brasilia**	**145.02**	**133**	PKP	**PKPbc**	**23 01 11.3**	**-1.6**
	2.6nm,0.7s,baz=203,slow=8.2,SNR=4.6						

MEX 17 22:57:14.3±0.4, 17°.28N×101°.58W, h11km±9km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.34**	**19**	*i* P	Pg	22 57 20.8	-0.4
ZIIG				*e*S	Sg	22 57 25.6	-0.2
CAIG	**El Cayaco**	**1.28**	**100**	*i* P	Pn	22 57 34.6	-3.6
CAIG				*i* S	Sb	22 57 49.7	-5.1
ARIG	**Puente Sto Nin**	**1.54**	**50**	*i* P	Pn	22 57 38.1	-3.8
ARIG				*e*S	Sn	22 57 56.8	-5.1
PLIG	**Platanillo**	**2.27**	**60**	*i* P	Pn	22 57 49.6	-2.3
PLIG				*i* S	Sn	22 58 16.2	-3.8

*IDC **17** 23:14:22.7±0.7, 18°.60N×62°.19W, h0km, mb3.8/12, mb1 4.1/16, mb1mx3.9/29, mbtmp3.9/16, ML3.5/4, MS3.5/6, Ms1 3.6/6, ms1mx2.9/33, Error ellipse: s-maj=18.6km s-min=17.3km az=89.0*

*ISCJB **17** 23:14:25.2±0.5, 18°.62N±0°.04×62°.28W±0°.04, h26km, mb3.8/12, MS3.6/4, Error ellipse: s-maj=5.8km s-min=4.9km az=146.1*

*TRN **17** 23:14:26.5, 18°.36N×62°.43W, h11km, M3.9(FDF)*

ISC 17 23:14:26.5±0.6, 18°.55N±0°.05×62°.27W±0°.04, h26km, n40, σ1§22/32, mb3.9/12, MS3.5/4, 1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRT	**St. Maarten**	**0.92**	**237**	*e*P	**Pb**	**23 14 42.2**	**-1.5**
SMRT				*e*S	**Sb**	**23 14 54.4**	**-1.1**
ANWB	**Willy Bob**	**0.99**	**152**	*i*P	**Pn**	**23 14 44.0**	**-0.7**
ANWB				*e*S	**Sn**	**23 14 57.2**	**-0.6**
SEUS	**St. Eustatius**	**1.25**	**213**	*e*P	**Pb**	**23 14 48.3**	**-1.2**
SEUS				*e*S	**Sb**	**23 15 04.6**	**-0.5**
SABA	**Saba**	**1.31**	**225**	*e*P	**Pn**	**23 14 48.9**	**-0.2**
H05N1	**Guadeloupe/Mar**	**2.50**	**152**	Pn	**Pn**	**23 15 07.0**	**+1.5**
	SNR=134						
MLG	**Mont-d'or**	**2.53**	**168**	*e*P	**Pn**	**23 15 07.5**	**+1.6**
TAG	**Tarade**	**2.56**	**167**	*e*P	Pb	23 15 08.5	-3.3
SCG	**Saint Claude**	**2.57**	**167**	*e*P	**Pb**	**23 15 09.2**	**-2.6**
MGG	**Marie-Galante**	**2.77**	**161**	*e*P	**Pn**	**23 15 10.3**	**+1.2**
SJG	**San Juan**	**3.71**	**264**	Pn	**Pn**	**23 15 22.0**	**-0.1**
	9.9nm,0.3s,baz=80,slow=11,SNR=17						
SJG				Sn	**Sn**	**23 16 06.1**	**+1.0**
	21nm,0.3s,baz=61,slow=19,SNR=4.6						
SJG				LR	LR	23 16 57.4	
	comp=Z,556nm,18.4s,baz=71,slow=41						
FDF	**Fort de France**	**3.94**	**164**	*e*P	Pn	23 15 28.2	+2.9
FDF				*e*S	**Sn**	**23 16 11.5**	**+0.7**
BVM	**Bellevue**	**3.96**	**163**	*e*P	Pb	23 15 31.8	-4.0
LPMF	**Morne Lapointe**	**4.14**	**162**	*e*P	**Pn**	**23 15 30.4**	**+2.3**
TRMF	**Trois Ilets**	**4.16**	**164**	*e*P	Pb	23 15 34.1	-4.8
MVM	**Montagne Vaucl**	**4.18**	**162**	*e*P	**Pn**	**23 15 30.8**	**+2.1**
H05S1	**Guadeloupe/Mar**	**4.32**	**161**	Pn	**Pn**	**23 15 32.0**	**+1.5**
	SNR=16						
PCRV	**Puerto La Cruz**	**8.63**	**196**	Pn	**Pn**	**23 16 32.0**	**+2.2**
	0.4nm,0.3s,baz=80,slow=12,SNR=2.3						
ROSC	**El Rosal**	**18.00**	**222**	P	**P**	**23 18 35.7**	**-0.1**
	0.9nm,0.3s,baz=77,slow=18,SNR=3.0						
ROSC				LR	LR	23 26 21.2	
	comp=Z,128nm,20.5s,baz=22,slow=40						
PTGA	**Pitinga**	**19.29**	**173**	P	**P**	**23 18 49.4**	**-0.1**
	0.3nm,0.3s,baz=9.3,slow=15,SNR=4.5						
ATAH	**Atahualpa**	**30.07**	**213**	P	**P**	**23 20 36.0**	**+1.6**
	4.4nm,0.6s,baz=39,slow=10,SNR=3.2						
LPAZ	**La Paz**	**35.10**	**190**	LR	LR	23 36 39.7	
	comp=Z,69nm,19.4s,baz=322,slow=38						
TXAR	**Lajitas Array**	**39.15**	**294**	P	**P**	**23 21 52.0**	**-0.3**
	0.9nm,0.6s,baz=104,slow=10,SNR=13						
LVC	**Limon Verde**	**41.42**	**189**	LR	LR	23 40 43.5	
	comp=Z,329nm,19.9s,baz=5.0,slow=38						
ULM	**Lac du Bonnet**	**41.44**	**328**	P	**P**	**23 22 10.5**	**-0.4**
	1.7nm,0.7s,baz=126,slow=8.7,SNR=2.5						
CPUP	**Villa Florida**	**44.87**	**174**	P	**P**	**23 22 38.6**	**-0.2**
	1.3nm,0.7s,baz=355,slow=14,SNR=4.0						
PDAR	**Pinedale Array**	**46.55**	**312**	P	**P**	**23 22 52.6**	**+0.3**
	1.3nm,0.8s,baz=98,slow=11,SNR=7.2						
NVAR	**Mina Array Bea**	**52.27**	**305**	P	**P**	**23 23 36.5**	**+0.5**
	0.5nm,0.7s,baz=107,slow=6.7,SNR=5.1						
H10N3	**ASCENSION HYDR**	**53.92**	**115**	T	T	00 22 02.7	
	baz=300,slow=74,SNR=41						
H10N2	**ASCENSION HYDR**	**53.92**	**115**	T	T	00 22 03.0	
	baz=300,slow=74,SNR=42						
H10N1	**ASCENSION HYDR**	**53.94**	**115**	T	T	00 22 03.4	
	baz=300,slow=74,SNR=43						
H10S3	**ASCENSION HYDR**	**54.33**	**116**	T	T	00 22 38.6	
	baz=300,slow=75,SNR=102						
H10S1	**ASCENSION HYDR**	**54.34**	**116**	T	T	00 22 31.9	
	baz=300,slow=75,SNR=106						
H10S2	**ASCENSION HYDR**	**54.35**	**116**	T	T	00 22 32.8	
	baz=300,slow=75,SNR=76						
YKA	**Yellowknife Ar**	**56.69**	**334**	P	**P**	**23 24 09.0**	**+1.6**
	1.2nm,0.8s,baz=135,slow=11,SNR=3.3						
DBIC	**Dimbokro**	**57.04**	**94**	LR	LR	23 44 01.3	
	comp=Z,20nm,21.1s,baz=148,slow=31						
TORD	**Torodi Ar. Bea**	**61.50**	**85**	P	**P**	**23 24 41.0**	**-0.5**
	0.7nm,0.7s,baz=290,slow=6.9,SNR=7.0						
TORD				LR	LR	23 48 35.5	
	comp=Z,41nm,19.3s,baz=165,slow=33						
NOA	**NORSAR Array B**	**65.95**	**31**	P	**P**	**23 25 10.0**	**-0.3**
	0.7nm,0.8s,baz=282,slow=8.8,SNR=2.9						
GERES	**GERESS Array B**	**67.09**	**44**	P	**P**	**23 25 17.7**	**0.0**
	0.3nm,0.5s,baz=296,slow=7.5,SNR=3.4						
ILAR	**Eielson Array**	**71.11**	**333**	P	**P**	**23 25 42.6**	**+0.3**
	0.3nm,0.7s,baz=79,slow=4.7,SNR=5.2						
BRTR	**Keskin Array B**	**82.76**	**51**	P	**P**	**23 26 49.0**	**+0.3**
	0.4nm,0.7s,baz=248,slow=3.8,SNR=3.4						

*ISCJB **17** 23:20:21.0±0.8, 5°.75S±0°.05×147°.9E±0°.1, h60km, mb3.9/10, Error ellipse: s-maj=16.4km s-min=7.7km az=179.6*

*IDC **17** 23:20:26.7±1.7, 5°.89S×147°.70E, h96km±15km, mb3.7/10, mb1 3.9/15, mb1mx3.8/23, mbtmp4.2/15, MS2.3/1, Ms1 2.3/1, ms1mx2.1/30, Error ellipse: s-maj=25.5km s-min=11.2km az=96.0*

ISC 17 23:20:23.3±0.8, 5.77S±0°.07×147.8E±0°.1, h60km, n20, σ1§83/24, mb3.9/10, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.67**	**190**	P	**Pn**	**23 21 20.4**	**+2.8**
	7.0nm,0.3s,baz=231,slow=14,SNR=23						
PMG				S	**Sn**	**23 22 00.8**	**+1.1**
	26nm,0.3s,baz=224,slow=23,SNR=14						
PMG				LR	LR	23 22 33.5	
	comp=Z,48nm,21.2s,baz=302,slow=36						
PMG	**Port Moresby**	**3.67**	**190**	P	**Pn**	**23 21 20.4**	**+2.8**
	baz=3.6,SNR=23						
PMG				P	**Pn**	**23 21 20.4**	**+2.8**
	baz=3.6,SNR=23						
PMG				P	**Pn**	**23 21 20.4**	**+2.8**
	baz=3.6,SNR=23						
JAY	**Jayapura**	**7.79**	**294**	P	**Pn**	**23 22 15.8**	**+1.7**
	1.2nm,0.3s,baz=139,slow=6.8,SNR=5.8						
COEN	**Coen**	**9.33**	**209**	P	**Pn**	**23 22 36.7**	**+1.6**
	baz=9.2,SNR=18						
CTA	**Charters Tower**	**14.31**	**186**	P	**Pn**	**23 23 43.5**	**+0.6**
	0.2nm,0.3s,baz=356,slow=13,SNR=2.8						
SIJI	**Sorong**	**17.21**	**286**	P	**Pn**	**23 24 20.3**	**+0.5**
	0.6nm,0.8s,baz=112,slow=19,SNR=2.1						
WRA	**Warramunga Arr**	**19.24**	**222**	P	**P**	**23 24 41.5**	**-1.3**
	2.3nm,0.3s,baz=48,slow=11,SNR=114						
ASAR	**Alice Springs**	**22.27**	**216**	P	**P**	**23 25 14.9**	**-0.6**
	28nm,0.7s,baz=26,slow=12,SNR=171						
ASAR				S	**S**	**23 29 13.3**	**-3.8**
	2.0nm,0.7s,baz=35,slow=22,SNR=6.6						
BATI	**Baumata**	**24.31**	**258**	P	**P**	**23 25 35.5**	**+0.1**
	16nm,0.5s,baz=138,slow=6.2,SNR=3.8						
FITZ	**Fitzroy Crossi**	**24.88**	**239**	P	**P**	**23 25 39.6**	**-1.0**
	baz=24,SNR=36						
STKA	**Stephens Creek**	**26.62**	**192**	P	**P**	**23 25 55.0**	**-1.2**
	3.7nm,0.7s,baz=348,slow=7.0,SNR=5.1						
WRKA	**Warakurna**	**26.78**	**222**	P	**P**	**23 25 56.8**	**-0.9**
	baz=26,SNR=7.0						
MJAR	**Matsushiro Arr**	**43.04**	**349**	P	**P**	**23 28 18.4**	**+1.3**
	0.4nm,0.5s,baz=166,slow=9.8,SNR=4.2						
SONM	**Songino Array**	**64.60**	**330**	P	**P**	**23 30 55.2**	**+0.7**
	0.3nm,0.6s,baz=132,slow=6.0,SNR=3.1						
VNDA	**Vanda**	**72.10**	**177**	P	**P**	**23 31 39.2**	**-1.5**
	1.1nm,0.8s,baz=310,slow=5.5,SNR=3.0						
MKAR	**Makanchi Array**	**77.83**	**320**	P	**P**	**23 32 13.2**	**-1.2**
	0.4nm,0.7s,baz=89,slow=8.8,SNR=3.4						
ZALV	**Zalesovo Beam**	**79.25**	**328**	P	**P**	**23 32 20.3**	**-1.7**
	0.5nm,0.4s,baz=113,slow=5.3,SNR=3.2						
MAW	**Mawson**	**82.77**	**203**	P	**P**	**23 32 38.9**	**-1.6**
	0.6nm,0.5s,baz=90,slow=1.0,SNR=3.3						
ILAR	**Eielson Array**	**84.95**	**23**	P	**P**	**23 32 52.0**	**+0.4**
	0.6nm,0.5s,baz=253,slow=4.7,SNR=5.2						
TORD	**Torodi Ar. Bea**	**145.81**	**285**	PKPbc	**PKPdf**	**23 39 55.2**	**-1.0**
	0.8nm,0.6s,baz=52,slow=3.5,SNR=9.4						

KRSC 17 23:33:19.8±1.3, 52°.20N×160°.02E, h41km±14km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.90**	**0**	*e*P	Pn	23 33 37.8	+1.9
SPN				*e*S	Sn	23 33 49.5	+1.8
RUS	**Russkaya**	**0.95**	**285**	*e*P	Pn	23 33 37.0	+0.4
RUS				*e*S	Sn	23 33 48.5	-0.5
NLC	**Nalytchevo**	**1.05**	**337**	*e*P	Pn	23 33 39.3	+1.3
NLC				*e*S	Sn	23 33 52.1	+0.7
MTVR	**Mutnovka**	**1.16**	**285**	*e*P	Pn	23 33 40.6	+0.9
MTVR				*e*S	Sn	23 33 54.4	-0.1
PET	**Petropavlovsk**	**1.17**	**315**	*e*P	Pn	23 33 41.0	+1.4
PET				*e*S	Sn	23 33 55.2	+0.8
UGLR	**Uglovaya**	**1.24**	**325**	*e*P	Pn	23 33 42.4	+1.6
UGLR				*e*S	Sn	23 33 58.0	+1.6
SDLR	**Sedlovina**	**1.28**	**328**	*e*P	Pn	23 33 42.6	+1.3
SDLR				*e*S	Sn	23 33 58.7	+1.3
SMAR	**Somma**	**1.29**	**326**	*e*P	Pn	23 33 43.0	+1.4
ASAK	**Asacha**	**1.31**	**279**	*e*P	Pn	23 33 43.2	+1.5
ASAK				*e*S	Sn	23 33 58.9	+0.8
AVH	**Avacha**	**1.32**	**324**	*e*P	Pn	23 33 43.7	+1.9
AVH				*e*S	Sn	23 34 00.2	+2.0
KRER	**Koryakskii**	**1.34**	**325**	*e*P	Pn	23 33 44.3	+2.0
KRER				*e*S	Sn	23 34 00.4	+1.2
KOK	**Koryaka**	**1.38**	**323**	*e*P	Pn	23 33 44.8	+2.2
KRX	**Arik**	**1.43**	**325**	*e*P	Pn	23 33 44.9	+1.5
KRX				*e*S	Sn	23 34 02.0	+1.0
APC	**Apacha**	**1.89**	**294**	*e*P	Pn	23 33 52.3	+2.8
APC				*e*S	Sn	23 34 14.8	+2.7
GNL	**Ganaly**	**1.95**	**321**	*e*P	Pn	23 33 53.2	+2.7
GNL				*e*S	Sn	23 34 17.6	+3.7
MIPR	**Malaya Ipel'ka**	**2.01**	**273**	*e*P	Pn	23 33 54.2	+3.1
PAU	**Pauzhetka**	**2.12**	**251**	*e*P	Pn	23 33 56.1	+3.4
PAU				*e*S	Sn	23 34 21.7	+3.9
MKZ	**Mys Kozlova**	**2.57**	**23**	*e*P	Pn	23 34 01.5	+2.7
MKZ				*e*S	Sn	23 34 30.6	+1.8
SKR	**Severo-Kuril's**	**2.88**	**240**	*e*S	Sn	23 34 38.8	+2.4
KZV	**Kizimen**	**2.92**	**3**	*e*P	Pn	23 34 08.2	+4.3
KZV				*e*S	Sn	23 34 42.7	+4.9
TUMR	**Tumrok**	**3.09**	**1**	*e*P	Pn	23 34 10.2	+4.1
TUMR				*e*S	Sn	23 34 47.1	+5.3
KBTR	**Krutoberegovo**	**4.33**	**21**	*e*P	Pn	23 34 27.0	+3.9
KBTR				*e*S	Sn	23 35 16.8	+4.5
BKI	**Bering**	**4.64**	**47**	*e*P	Pn	23 34 30.1	+2.9

*IDC **17** 23:42:06.5±0.4, 3°.78N×126°.68E, h0km, mb4.4/27, mb1 4.4/28, mb1mx4.4/31, mbtmp4.4/28, ML4.4/1, MS3.7/13, Ms1 3.7/13, ms1mx3.4/37, Error ellipse: s-maj=19.4km s-min=8.4km az=75.0*

*BJI **17** 23:42:09.3, 3°.32N×126°.98E, h54km, mb4.7/34, mB4.9/25, Ms4.3/27, Ms7 4.0/25*

*ISCJB **17** 23:42:12.3±0.5, 3°.81N±0°.02×126°.81E±0°.03, h56km±4km, mb4.6/60, MS3.8/13, Error ellipse: s-maj=6.0km s-min=3.5km az=152.3*

*MOS **17** 23:42:12.0±1.0, 3°.82N×126°.74E, h53km, mb4.9/24, Error ellipse: s-maj=14.2km s-min=6.6km az=114.1*

*DJA **17** 23:42:14.5±0.4, 4°.4N±4°×12°.7E±°, h10km, M4.8/21, mb4.9/21, mB5.3/16, MLv4.9/9, MLv5.0/18, Mw(mB)4.7/16*

*NEIC **17** 23:42:14.1±0.6, 3°.84N×126°.79E, h56km±6km, mb4.6/21, Error ellipse: s-maj=7.3km s-min=5.0km az=64.0*

ISC 17 23:42:14.7±0.3, 3°.84N±0°.03×126°.85E±0°.05, h59km±2km, h58km:pP-P, n230, σ1§64/276, mb4.6/60, MS3.7/13, 23C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.32**	**264**	P	**Pn**	**23 42 33.9**	**-3.1**
SGSI				S	**Sn**	**23 42 53.4**	**-0.3**
GSPH	**General Santos**	**2.93**	**320**	*e*P	Pn	23 42 55.6	-3.3
TNTI	**Ternate**	**3.09**	**170**	P	**Pn**	**23 43 00.2**	**-0.8**
TNTI	**Ternate**	**3.09**	**170**	*e*Pn	**Pn**	**23 43 00.1**	**-1.0**
TNTI				*e*Sn	**Sn**	**23 43 36.0**	**-0.8**
MATI	**Mati**	**3.14**	**349**	*e*P	**Pn**	**23 43 02.5**	**+0.7**
MATI				*e*S	**Sn**	**23 43 33.0**	**-5.2**
DAV	**Davao City (W)**	**3.45**	**339**	*e*Pn	**Pn**	**23 43 05.1**	**-0.9**
CTBH	**Cotabato--PC H**	**4.24**	**323**	*i*P	**Pn**	**23 43 17.9**	**+1.0**
KMSI	**Cibinong**	**4.32**	**222**	P	**Pn**	**23 43 17.1**	**-0.9**
BIPH	**Bislig**	**4.35**	**354**	*i*P	Pn	23 43 33.3	+15
BUKP	**Musuan**	**4.39**	**336**	*e*P	**Pn**	**23 43 17.9**	**-1.1**
LBMI	**Labuha**	**4.49**	**172**	P	**Pn**	**23 43 19.5**	**-0.8**
CGP	**Cagayan de Oro**	**5.06**	**335**	*e*P	Pn	23 43 44.8	+17
PAGZ	**Pagadian**	**5.27**	**319**	*e*P	**Pn**	**23 43 30.8**	**-0.1**
SANI	**Sanana**	**5.91**	**188**	P	**Pn**	**23 43 38.0**	**-1.7**
	79nm,0.8s,1µm0.4nm						
MRSI	**Marisa**	**5.93**	**236**	P	**Pn**	**23 43 39.4**	**-0.6**
	241nm,0.6s,3µm0.9nm						
LUWI	**Luwuk**	**6.33**	**220**	P	**Pn**	**23 43 45.3**	**-0.2**
	516nm,1.2s,5µm1.7nm						
LUWI	**Luwuk**	**6.33**	**220**	P	Pn	23 43 49.2	+3.7
	baz=6.5,SNR=7.9						
LUWI	**Luwuk**	**6.33**	**220**	*e*Pn	**Pn**	**23 43 45.3**	**-0.2**
SWI	**Sorong**	**6.42**	**137**	P	**Pn**	**23 43 47.3**	**+0.6**
	70nm,0.9s,1µm0.3nm						
SWI	**Sorong**	**6.42**	**137**	P	P	**23 43 48.2**	**+1.5**
	baz=6.4,SNR=5.1						
SIJI	**Sorong**	**6.43**	**137**	Pn	**Pn**	**23 43 45.1**	**-1.8**
	8.5nm,0.3s,baz=158,slow=21,SNR=8.9						
SIJI				Sn	**Sn**	**23 44 58.3**	**-0.7**
	0.6nm,0.3s,baz=49,slow=19,SNR=3.4						
SIJI				LR	LR	23 46 39.1	
	comp=Z,554nm,18.0s,baz=14,slow=42						
TOLI	**Toli-Toli**	**6.62**	**246**	*e*Pn	**Pn**	**23 43 47.3**	**-2.1**
TOLI				*e*Sn	**Sn**	**23 44 59.9**	**-3.7**
APSI	**Ampana**	**7.01**	**228**	P	**Pn**	**23 43 54.5**	**-0.4**
	470nm,1.0s,4µm1.4nm						
NLAI	**Namlea**	**7.03**	**178**	P	**Pn**	**23 43 54.5**	**-0.6**
	77nm,0.6s,1µm0.5nm						
MSAI	**Masohi**	**7.43**	**164**	P	**Pn**	**23 44 00.6**	**0.0**
	18nm,0.7s,2µm0.1nm						
MPSI	**Mapaga**	**7.76**	**244**	P	**Pn**	**23 44 03.8**	**-1.3**
	40nm,0.8s,556nm0.1nm0.1nm						
MYLDM	**Lahad Datu**	**8.43**	**279**	*e*Pn	**Pn**	**23 44 14.6**	**+0.4**
MYLDM				*e*Sn	**Sn**	**23 45 43.5**	**-4.4**
PCI	**Palu**	**8.44**	**236**	P	**Pn**	**23 44 14.5**	**+0.1**
	60nm,0.9s						
FAKI	**Fak Fak**	**8.61**	**141**	P	**Pn**	**23 44 17.3**	**+0.5**
	38nm,1.4s						
FAKI	**Fak Fak**	**8.61**	**141**	P	**Pn**	**23 44 16.6**	**-0.2**
	baz=8.6,SNR=9.2						
FAKI	**Fak Fak**	**8.61**	**141**	*e*Pn	**Pn**	**23 44 15.4**	**-1.4**
TTSI	**Tana Toraja**	**9.80**	**226**	P	**Pn**	**23 44 33.8**	**+0.8**
	73nm,0.9s,893nm						
BBSI	**Bau Bau**	**10.20**	**205**	P	**Pn**	**23 44 38.5**	**0.0**
	54nm,0.9s						
SPSI	**Sidrap Palu**	**10.49**	**222**	P	Pn	23 44 33.2	-9.2
	27nm,1.1s,747nm						
KKM	**Kota Kinabalu**	**10.82**	**282**	P	**Pn**	**23 44 50.0**	**+3.0**
	baz=11,SNR=4.8						
KKM	**Kota Kinabalu**	**10.82**	**282**	*e*Pn	**Pn**	**23 44 47.2**	**+0.2**
KAPI	**Kappang**	**11.29**	**219**	Pn	**Pn**	**23 44 52.2**	**-1.2**
	0.4nm,0.3s,baz=30,slow=18,SNR=2.4						

WHN Wuhan 29.07 337 P P 23 48 08.8 -0.8
GYA Guiyang 29.66 321 eP P 23 48 17.8 +2.7
GYA pP pP 23 48 31.6 +1.9
GYA sP sP 23 48 38.0 +1.4
GYA PP PnPn 23 49 15.3 +2.8
GYA S S 23 53 08.4 +1.5
GYA sS sS 23 53 33.0 +1.4
GYA SS SnSn 23 54 45.8 +5.0
GYA PMZ
comp=N,10.0nm,0.8s
GYA PMZ
comp=N,90nm,4.7s
GYA LN
comp=N,440nm,17.8s
GYA LE
comp=N,390nm,18.0s
GYA LZ
comp=N,450nm,17.6s
CMAR Chiang Mai Arr 30.92 300 P P 23 48 24.7 -1.6
comp=N,2.4nm,0.8s,baz=122,slow=8.0,SNR=12
CMAR ScP ScP 23 55 05.4 +5.6
comp=N,1.3nm,0.6s,baz=144,slow=2.1,SNR=8.2
CMAR Chiang Mai Arr 30.92 300 ceP P 23 48 25.1 -1.1
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMMT Chiang Mai 31.06 301 P P 23 48 27.2 -0.3
comp=Z,16nm,1.2s
CMMT Chiang Mai 31.06 301 P P 23 48 27.2 -0.3
comp=Z,16nm,1.2s
CHTO Chiang Mai 31.07 301 P P 23 48 27.2 -0.3
comp=Z,31nm,0.9s
CHTO Chiang Mai 31.07 301 P P 23 48 27.2 -0.3
comp=Z,31nm,0.9s
CHTO Chiang Mai 31.07 301 eP P 23 48 25.5 -2.0
CHTO pmax pmax
comp=Z,18nm,1.5s
CHTO Chiang Mai 31.07 301 eP P 23 48 25.5 -2.0
comp=Z,18nm,1.5s
MEEK Meekatharra 31.32 194 P P 23 48 28.6 -1.1
baz=32,SNR=10.0
KMI Kunming 31.39 315 P P 23 48 32.8 +2.3
KMI pP pP 23 48 49.0 +3.9
KMI sP sP 23 48 54.5 +2.5
KMI S S 23 53 34.3 +0.1
KMI sS sS 23 53 59.9 +0.9
KMI SS SnSn 23 55 24.6 +1.6
KMI PMZ
comp=Z,9.0nm,0.6s
KMI PMZ
comp=Z,120nm,3.5s
KMI LN
comp=Z,160nm,23.1s
KMI LE
comp=Z,210nm,17.6s
KMI LZ
comp=Z,210nm,22.6s
KSAR Wonju Array Be 33.46 2 P P 23 48 48.3 +0.1
KSAR 23 51 29.4
KSAR Wonju Array Be 33.46 2 P P 23 48 48.3 +0.1
KSAR PcP PcP 23 51 29.4 +1.1
KSRS Korea Array 33.47 2 P P 23 48 48.3 0.0
comp=Z,1.7nm,0.7s,baz=181,slow=10,SNR=4.0
KSRS PcP PcP 23 51 29.4 +1.1
comp=Z,3.9nm,0.8s,baz=180,slow=3.2,SNR=11
KSRS LR LR 00 05 53.1
comp=Z,83nm,18.1s,baz=193,slow=43
KSRS Korea Array 33.47 2 P P 23 48 48.3 0.0
KSRS 23 51 29.4
KSRS pmax pmax
comp=Z,2.0nm,0.7s
KSRS MLR MLR
comp=Z,83nm,18.1s
MJAR Matsushiro Arr 34.19 16 P P 23 48 52.7 -1.9
comp=Z,0.4nm,0.5s,baz=212,slow=10.0,SNR=3.4
MJAR PcP PcP 23 51 31.9 +1.4
comp=Z,2.2nm,0.7s,baz=195,slow=3.7,SNR=7.7
XAN Xi'an 34.37 333 P P 23 48 53.8 -2.5
XAN PMZ
comp=Z,3.0nm,1.0s
XAN PMZ
comp=Z,19nm,5.9s
XAN LN
comp=Z,150nm,16.6s
XAN LE
comp=Z,28nm,16.6s
FORT Forrest 34.44 178 P P 23 48 55.8 -1.0
baz=35,SNR=11
QLP Quilpie 34.60 152 P P 23 48 57.1 -1.2
baz=35,SNR=4.2
CD2 Chengdu 34.63 324 P P 23 48 57.1 -1.4
CD2 pP pP 23 49 11.1 -2.1
CD2 sP sP 23 49 18.0 -2.1
CD2 PP PnPn 23 50 16.6 +0.8
CD2 S S 23 54 24.0 0.0
CD2 sS sS 23 54 48.3 -0.7
CD2 PMZ
comp=Z,20nm,0.8s
CD2 PMZ
comp=Z,150nm,7.2s
CD2 LN
comp=Z,240nm,10.2s
CD2 LZ
comp=Z,250nm,18.6s
BLDU Balliduu 35.60 195 P P 23 49 06.4 -0.4
baz=36,SNR=7.4
KLBR Kellerberrin 36.28 193 P P 23 49 11.8 -0.8
baz=36,SNR=8.3
BJI Beijing 37.31 346 P P 23 49 21.8 +0.6
BJI pP pP 23 49 35.8 -0.3
BJI sP sP 23 49 42.3 -0.6
BJI PcP PcP 23 51 40.6 +1.0
BJI S S 23 55 11.3 +6.6
BJI PMZ
comp=Z,28nm,0.7s
BJI LN
comp=Z,86nm,10.5s
BJI LE
comp=Z,120nm,14.2s
BJI LZ
comp=Z,55nm,19.0s
BBOO Buckleboo 37.48 167 P P 23 49 22.3 -0.5
baz=38,SNR=17
NWAO Narrogin (SRO) 37.68 193 P P 23 49 22.4 -2.1
comp=Z,13nm,1.0s,baz=332,slow=4.9,SNR=6.0
STKA Stephens Creek 38.19 159 P P 23 49 28.1 -0.7
comp=Z,17nm,0.8s,baz=329,slow=7.8,SNR=33
STKA PcP PcP 23 51 43.5 +1.1
comp=Z,3.3nm,0.7s,baz=5.5,slow=3.5,SNR=3.0
STKA Stephens Creek 38.19 159 P P 23 49 28.1 -0.7
STKA 23 51 43.5
STKA pmax pmax
comp=Z,17nm,0.8s
STKA pmax pmax
comp=Z,3.0nm,0.7s
STKA Stephens Creek 38.19 159 P P 23 49 29.2 +0.4
baz=38,SNR=7.7
LZH Lanzhou 38.47 329 eP P 23 49 31.3 0.0
LZH pP pP 23 49 46.0 -0.2
LZH sP sP 23 49 54.6 +1.6
LZH PP PnPn 23 51 07.5 +4.8
LZH eS S 23 55 21.3 -1.5
LZH PMZ
comp=Z,17nm,1.0s
LZH PMZ
comp=Z,75nm,4.4s
LZH LN
comp=Z,460nm,13.0s
LZH LE
comp=Z,480nm,12.6s
LZH LZ
comp=Z,560nm,14.0s
HTT Hallett 38.79 164 P P 23 49 33.9 +0.1
baz=39,SNR=3.9
HHC Hu-ho-hao-te 39.33 342 eP P 23 49 41.8 +3.4
HHC PP PnPn 23 51 17.9 +5.0
HHC S S 23 55 38.3 +2.8
HHC SS SS 23 58 29.0 -2.2
HHC ScS ScS 23 59 40.4 -1.4
HHC PMZ
comp=Z,12nm,1.1s
HHC PMZ
comp=Z,40nm,5.5s
HHC LN
comp=Z,170nm,16.1s
HHC LE
comp=Z,88nm,15.3s
HHC LZ
comp=Z,74nm,14.7s
CMSA Cobar Meteorol 39.49 154 P P 23 49 40.2 +0.5
baz=40,SNR=5.8
SHL Shillong 39.91 306 eP P 23 49 45.5 +2.0
USRK Ussuriysk Ar. 40.45 6 P P 23 49 47.2 -0.3
comp=Z,3.4nm,0.7s,baz=189,slow=5.7,SNR=7.8
ARMA Armidale 41.49 147 P P 23 49 57.0 +0.7
baz=42,SNR=9.9
ARMA Armidale 41.49 147 eP P 23 49 57.1 +0.7
comp=Z,79nm,1.8s
LSA Lhasa 42.46 311 eP P 23 50 03.7 -1.0
LSA pmax pmax
comp=Z,6.0nm,0.6s
LSA Lhasa 42.46 311 eP P 23 50 03.7 -1.0
comp=Z,6.4nm,0.6s
ARPS Mount Arapiles 42.75 162 P P 23 50 07.0 +0.7
baz=43,SNR=10
GTA Gaotai 43.06 329 eP P 23 50 04.3 -4.8
GTA pP pP 23 50 19.3 -4.9
GTA sP sP 23 50 26.3 -4.7
GTA pmax pmax
comp=Z,2.0nm,0.8s
TAPN Taplejung 44.05 306 eP P 23 50 15.8 -1.6
ODAN Odare 44.10 305 eP P 23 50 16.2 -1.6
comp=Z,18nm,0.7s
CNB Canberra Magne 44.31 153 P P 23 50 20.7 +1.6
baz=44,SNR=8.2
RAMN Ramite 44.78 305 eP P 23 50 21.5 -1.7
comp=Z,10nm,0.6s
HABR Khabarovsk 45.02 8 eP P 23 50 23.1 -1.3
HABR e*PP pP 23 50 36.4 -3.2
HABR e*SP sP 23 50 42.9 -3.5
HABR e 23 52 02.8
HABR e 23 52 09.4
HABR ePPP PPP 23 52 48.9
HABR eS S 23 56 59.3 +0.4
HABR e*SS sS 23 57 22.5 -2.0
HABR e 00 00 16.0
HABR eSSS SSS 00 01 12.2
HABR pmax pmax
comp=Z,10.0nm,1.5s
HABR MLR MLR
comp=Z,61nm,18.0s
KLR Kul'dur 45.42 5 eP P 23 50 24.0 -3.6
GUN Gumba 45.76 306 eP P 23 50 27.7 -3.3
comp=Z,18nm,0.5s
PKI Pulchoki 46.00 305 eP P 23 50 30.9 -2.1
KKN Kakani 46.19 305 eP P 23 50 32.4 -1.9
DMN Daman 46.26 305 eP P 23 50 33.1 -1.8
GKN Gorkha 46.80 305 eP P 23 50 36.3 -2.7
comp=Z,4.7nm,0.4s
SONM Songino Array 47.23 341 P P 23 50 41.3 -0.8
comp=Z,1.1nm,0.6s,baz=160,slow=7.8,SNR=12
SONM PcP PcP 23 52 12.9 +0.3
comp=Z,3.7nm,1.0s,baz=168,slow=3.5,SNR=5.4
KOLN Koldanda 47.56 305 eP P 23 50 43.2 -1.8
comp=Z,14nm,0.4s
ZAK Zakamensk 50.46 341 eP P 23 51 09.4 +2.7
ZAK e 23 52 24.5
TLY Talaya 51.47 342 P P 23 51 14.4 +0.3
comp=Z,2.3nm,0.6s,baz=114,slow=8.3,SNR=4.3
TLY Talaya 51.47 342 ||eP P 23 51 15.0 +0.9
TLY pmax pmax
comp=Z,10.0nm,1.5s
TLY Talaya 51.47 342 eP P 23 51 13.2 -0.9
comp=Z,4.4nm,0.6s
WMQ Urumqi 52.70 325 P P 23 51 24.5 +1.0
WMQ pP pP 23 51 39.8 +0.8
WMQ sP sP 23 51 47.3 +1.6
WMQ PMZ
comp=Z,18nm,0.8s
WMQ PMZ
comp=Z,96nm,4.4s
WMQ LN
comp=Z,300nm,16.8s
WMQ LE
comp=Z,190nm,22.0s
WMQ LZ
comp=Z,160nm,20.3s
BOD Bodaibo 54.78 352 eP P 23 51 38.0 -0.3
BOD pmax pmax
comp=Z,5.0nm,1.0s
PETK Petropavlovsk- 55.29 22 P P 23 51 43.0 +0.9
comp=Z,4.8nm,0.7s,baz=200,slow=6.9,SNR=7.4
PETK LR LR 00 15 05.9
comp=Z,34nm,19.8s,baz=215,slow=36
PET Petropavlovsk 55.59 23 ||eP P 23 51 45.3 +1.1
PET pmax pmax
comp=Z,6.0nm,1.0s
MK31 Makanchi Array 57.53 325 P P 23 51 57.4 -0.8
baz=58,SNR=6.6
MKAR Makanchi Array 57.53 325 P P 23 51 57.1 -1.1
comp=Z,3.1nm,0.6s,baz=122,slow=7.9,SNR=32
MKAR PcP PcP 23 52 50.4 -0.7
comp=Z,2.7nm,0.8s,baz=131,slow=4.4,SNR=3.9
MKAR LR LR 00 18 44.2
comp=Z,155nm,18.4s,baz=113,slow=38
MKAR Makanchi Array 57.53 325 eP P 23 51 57.4 -0.8
MKAR PcP PcP 23 52 50.4 -0.7
KSH Kashi 58.05 315 P P 23 52 02.9 +0.8
KSH pP pP 23 52 20.3 +2.5
KSH PcP PcP 23 52 54.3 +0.8
KSH PP PP 23 54 16.3 +5.0
KSH S S 23 59 54.4 -4.4
KSH sS sS 00 00 26.3 +1.0
KSH SS SS 00 03 55.4 +4.4
KSH PMZ
comp=Z,170nm,4.1s
KSH LN
comp=Z,72nm,4.5s
KSH LE
comp=Z,88nm,4.4s
KSH LZ
comp=Z,260nm,6.2s
YAK Yakutsk 58.10 2 P P 23 52 01.4 -0.4
comp=Z,2.9nm,0.4s,baz=180,slow=9.1,SNR=5.8
YAK Yakutsk 58.10 2 eP P 23 52 00.7 -1.1
YAK pmax pmax
comp=Z,23nm,1.0s
TKM2 Tokmak 2 59.74 318 eP P 23 52 12.4 -1.5
TKM2 pmax pmax
comp=Z,5.0nm,1.0s
TKM2 Tokmak 2 59.74 318 eP P 23 52 12.4 -1.5
comp=Z,5.1nm,1.0s
ZALV Zalesovo Beam 60.55 333 P P 23 52 17.1 -1.8
comp=Z,1.1nm,0.4s,baz=131,slow=6.6,SNR=6.1
ZALV LR LR 00 19 49.2
comp=Z,56nm,18.5s,baz=70,slow=37
EKS2 Erkin-Say 60.85 318 eP P 23 52 21.1 -0.3
EKS2 pmax pmax
comp=Z,5.0nm,0.8s
EKS2 Erkin-Say 60.85 318 eP P 23 52 21.1 -0.3
comp=Z,5.1nm,0.8s
KBL Kabul 61.55 307 eP P 23 52 25.3 -1.0
KBL pmax pmax
comp=Z,6.0nm,0.8s
KBL Kabul 61.55 307 eP P 23 52 25.3 -1.0
comp=Z,6.2nm,0.8s
KURK Kurchatov 61.71 327 eP P 23 52 25.9 -1.0
KURK pmax pmax
comp=Z,6.0nm,0.9s
KURK Kurchatov 61.71 327 eP P 23 52 25.9 -1.0
comp=Z,6.0nm,0.9s
NVS Novosibirsk 61.83 333 eP P 23 52 26.6 -0.9
NVS pmax pmax
comp=Z,6.0nm,1.0s
NVS pmax pmax
comp=N,3.0nm,0.8s
NVS pmax pmax
comp=E,3.0nm,0.8s
SEY Seymchan 61.90 13 P P 23 52 27.8 -0.1
comp=E,2.8nm,0.9s,baz=190,slow=13,SNR=6.7
SEY LR LR 00 18 51.5
comp=E,44nm,20.9s,baz=171,slow=36
SEY Seymchan 61.90 13 ||eP P 23 52 29.7 +1.8
KKAR Karatay Array 63.23 317 eP P 23 52 36.5 -0.7
KKAR Karatay Array 63.23 317 eP P 23 52 36.5 -0.7
BRVK Borovoye 67.37 327 ||eP P 23 53 03.4 -0.3
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BRVK Borovoye 67.37 327 eP P 23 53 02.8 -0.9
comp=Z,8.8nm,1.2s
IMYA Miami 69.06 307 eP P 23 53 14.1 -0.8
IPAY Payeh 69.96 307 eP P 23 53 18.5 -2.0
IKRD Kardeh 70.40 308 eP P 23 53 18.2 -5.0
IEMG Emamgholi 70.41 308 eP P 23 53 23.1 -0.2
GEYT Alibeck 70.92 309 P P 23 53 26.6 +0.5
comp=Z,1.7nm,0.4s,baz=132,slow=2.2,SNR=5.7
ABKAR Akbulak array 72.14 321 eP P 23 53 32.1 -1.1
ARU Arti 74.91 328 diP P 23 53 49.4 +0.2
ARU S S 00 03 24.3 +2.3
ARU SS SS 00 08 13.8 +2.6
ARU pmax pmax
comp=Z,3.0nm,0.6s
ARU Arti 74.91 328 eP P 23 53 48.2 -1.1
comp=Z,5.5nm,0.9s
IPIR Pirpir 76.12 303 eP P 23 53 53.9 -3.2
IKOM Komasi 79.03 304 eP P 23 54 11.2 -2.0
ISRB Sarab 79.11 308 eP P 23 54 13.1 -0.5
OPO Ambohidratompo 81.44 251 P P 23 54 25.6 -0.7
comp=Z,3.6nm,0.8s,baz=80,slow=11,SNR=3.8
PRGR Permogore 82.46 332 eP P 23 54 29.0 -1.6
PRGR pmax pmax
comp=Z,12nm,0.8s
KIV Kislovodsk 83.15 314 ↑iP P 23 54 34.3 -0.4
KIV pmax pmax
comp=Z,8.0nm,1.7s
MLY Manley 83.33 25 eP P 23 54 35.4 +0.2
comp=Z,9.2nm,1.1s
TRF Thorofare Moun 83.39 27 eP P 23 54 35.6 -0.1
comp=Z,16nm,1.4s
VNDA Vanda 83.52 173 P P 23 54 36.6 +0.9
comp=Z,4.0nm,0.9s,baz=308,slow=5.7,SNR=14
VNDA Vanda 83.52 173 eP P 23 54 36.0 +0.2
VNDA pmax pmax
comp=Z,5.0nm,1.1s
VNDA Vanda 83.52 173 eP P 23 54 36.0 +0.2
comp=Z,5.2nm,1.1s
MAW Mawson 83.89 200 P P 23 54 38.6 +0.8
comp=Z,2.9nm,0.9s,baz=82,slow=8.9,SNR=4.3
ILAR Eielson Array 84.96 25 P P 23 54 44.0 +0.6
comp=Z,1.1nm,0.9s,baz=240,slow=5.4,SNR=11
VSR Storozhevoye 85.58 321 eP P 23 54 45.2 -1.5
VSR pmax pmax
comp=N,9.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR Galich'ya Gora 85.71 322 eP P 23 54 46.9 -0.4
LPSR pmax pmax
comp=N,4.0nm,1.0s
LPSR pmax pmax
comp=E,7.0nm,1.0s
LPSR pmax pmax
comp=Z,10.0nm,1.0s
TMCR Tamitsa 86.05 334 eP P 23 54 49.7 +0.9
TMCR pmax pmax
comp=Z,20nm,1.2s
MOS Moscow 86.42 325 e P 23 54 49.3 -1.4
MOS pmax pmax
comp=Z,36nm,0.9s
OBN Obninsk 87.04 325 ||iP P 23 54 53.1 -0.7
OBN e 23 58 20.5
OBN pmax pmax
comp=Z,17nm,1.2s
OBN MLR MLR
comp=Z,76nm,18.0s
OBN Obninsk 87.04 325 eP P 23 54 52.6 -1.1
comp=Z,117nm,2.0s
KMBO Kilima Mbogo 89.67 269 P P 23 55 06.9 -0.6
comp=Z,1.5nm,0.6s,baz=55,slow=7.8,SNR=6.0
EIL Elat 89.77 300 P P 23 55 07.6 +0.3
baz=90,SNR=3.8
BRTR Keskin Array B 90.04 310 P P 23 55 07.5 -1.0
comp=Z,2.7nm,0.9s,baz=127,slow=5.3,SNR=14
BRTR LR LR 00 41 44.0
comp=Z,20nm,19.6s,baz=90,slow=40
ARCES ARCESS Array B 90.39 340 P P 23 55 08.6 -0.8
comp=Z,1.3nm,0.5s,baz=77,slow=6.2,SNR=16
FINES FINESS Array B 91.79 332 P P 23 55 15.5 -0.5
comp=Z,0.9nm,0.5s,baz=78,slow=4.6,SNR=15
AKASG Malin Array Be 91.88 321 P P 23 55 15.3 -1.3
comp=Z,2.7nm,0.3s,baz=73,slow=3.7,SNR=4.8
AKASG LR LR 00 39 01.0
comp=Z,36nm,20.0s,baz=70,slow=37
KIEV Kiev 91.89 321 ||eP P 23 55 15.7 -1.0
QSPA South Pole Qui 93.74 180 P P 23 55 25.7 +0.7
comp=Z,1.2nm,0.6s,baz=278,slow=4.9,SNR=4.3
TESR Tescani 94.24 317 ↑iP P 23 55 27.5 -0.2
VRI Vrincioaia 94.30 316 ↑P P 23 55 28.1 +0.1
VRI Vrincioaia 94.30 316 ↑iP P 23 55 28.1 +0.1
PLOR Plostina 94.35 316 ↑P P 23 55 27.2 -1.0
PLOR Plostina 94.35 316 ↑iP P 23 55 27.2 -1.0
MLR Muntele Rosu 94.90 316 ↓P P 23 55 30.0 -0.9
MLR Muntele Rosu 94.90 316 ↓iP P 23 55 30.0 -0.9
BURAR Bucovina Array 95.00 318 ↑P P 23 55 31.4 +0.2
BURAR Bucovina Array 95.00 318 ↑iP P 23 55 31.4 +0.2
ARCR ARCALIA 95.68 318 ↑iP P 23 55 34.8 +0.6
ARR Arges 95.83 316 ↓iP P 23 55 34.3 -0.8
BBB Bella Bella 96.15 37 LR LR 00 30 05.9
comp=Z,260nm,20.8s,baz=228,slow=30
CJR Cluj-Napoca 96.26 318 ↓P P 23 55 37.2 +0.2
CJR Cluj-Napoca 96.26 318 ↓iP P 23 55 37.2 +0.2
LOT Lotru 96.41 316 ↑iP P 23 55 37.9 +0.1
UZH Uzhgorod 96.69 320 eP P 23 55 38.2 -0.6
UZH e 23 55 49.0
DRGR 96.84 318 ↑P P 23 55 39.4 -0.2
DRGR 96.84 318 ↑iP P 23 55 39.4 -0.2
MMB Musomiste 97.23 313 ↓P P 23 55 39.6 -1.9
MMB Musomiste 97.23 313 ↓iP P 23 55 39.6 -1.9
SIRR Siria 97.67 318 ↑iP Pdif 23 55 43.5 +0.2
BZS Buzias 97.85 317 ↑P P 23 55 43.3 -0.8
BZS Buzias 97.85 317 ↑iP P 23 55 43.3 -0.8
NB2 NORSAR Subarra 98.74 334 P P 23 55 46.9 -0.9
comp=Z,3.3nm,1.1s,baz=68,slow=4.6
NOA NORSAR Array B 98.74 334 P P 23 55 46.9 -0.9
comp=Z,1.2nm,0.7s,baz=67,slow=4.6,SNR=6.2
NOA LR LR 00 46 01.4
comp=Z,69nm,18.7s,baz=65,slow=39
PKSM Moragy 99.71 318 ↑P Pdif 23 55 52.0 -0.4
PKSM Moragy 99.71 318 ↑iP Pdif 23 55 52.0 -0.4
GERES GERESS Array B 102.07 322 P Pdif 23 56 02.6 -0.4
comp=Z,0.8nm,1.0s,baz=79,slow=2.9,SNR=4.0
PDAR Pinedale Array 111.20 41 PKKPbc PKKPbc 00 11 45.6 +5.6
comp=Z,0.5nm,0.8s,baz=98,slow=11,SNR=4.4
TXAR Lajitas Array 121.44 52 PKP PKPdf 00 01 04.1 +1.7
comp=Z,0.8nm,0.8s,baz=237,slow=0.7,SNR=10
TXAR Lajitas Array 121.44 52 PKIKP PKPdf 00 01 04.1 +1.7
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TORD Torodi Ar. Bea 123.00 288 PKP PKPdf 00 01 04.9 -0.7
comp=Z,1.4nm,0.7s,baz=56,slow=1.7,SNR=15
DBIC Dimbokro 130.67 282 SKPbc SKPab 00 04 41.9 +2.4
comp=Z,7.5nm,1.0s,baz=60,slow=4.5,SNR=4.6
CPUP Villa Florida 157.28 170 PKPab PKPab 00 02 37.5 +1.7
comp=Z,1.6nm,0.9s,baz=188,slow=3.9,SNR=5.3
CPUP Villa Florida 157.28 170 PKP2 PKPab 00 02 37.5 +1.7
CPUP pmax pmax
comp=Z,2.0nm,1.0s

NIED ***18*** *00:04:00,26.00N×128.60E,h20km,Mw3.7 Best double couple: M0 3.81000×10^14 NP1:φ=74.00000°,δ=79.00000°, λ=6.00000°. NP2:φ=343.00000°,δ=84.00000°,λ=169.00000°.*
ISCJB ***18*** *00:04:06.9±0.5,25.91N±0.03×128.61E±0.04,h27km, mb3.5/5,Error ellipse: s-maj=5.8km s-min=3.6km az=37.6*
JMA ***18*** *00:04:09.6±0.3,26.02N×128.60E,h44km±5km,M3.8*
IDC ***18*** *00:04:11.1±1.0,26.02N×128.67E,h38km±7km, mb3.3/5, mb1 3.5/6,mb1mx3.3/26,mbtmp3.6/6,ML4.0/1,Error ellipse: s-maj=49.2km s-min=16.9km az=76.0*

ISC 18 00:04:10.1±0.8,26.03N±0.05×128.50E±0.05,h27km,n27, σ1°51/44,mb3.5/5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.65	318	P	Pn	00 04 23.2	-0.3
JNTH				eS	Sn	00 04 33.2	+0.3
JJT2	Tamagusuku 2	0.69	279	P	Pn	00 04 24.4	+0.4
JOW	Kunigami	0.82	346	P	Pb	00 04 25.7	-0.1
JOW				eS	Sn	00 04 37.2	0.0
JIH	Iheya	1.11	334	P	Pb	00 04 30.4	-0.2
JIH				S	Sb	00 04 45.3	+0.7
JAGN	Aguni-jima	1.26	296	P	Pb	00 04 32.8	-0.4
JOKE	Okinoerabujima	1.33	3	P	Pn	00 04 32.4	-0.4
JOKE				S	Sn	00 04 49.1	-0.5
JKE	Kume jima 2	1.57	281	P	Pn	00 04 36.3	+0.1
JKE				S	Sb	00 04 56.4	-1.5
JTK	Tokunoshima	1.79	13	P	Pn	00 04 38.4	-0.8

JTK				S	Sn	00 04 58.9	-2.2		
JAMN	**Amaminishikomi**	**2.28**	**15**	P	**Pn**	**00 04 44.9**	**-1.1**		
JMZ	**Minamidaito 2**	**2.46**	**94**	P	Pn	00 04 43.4	-5.0		
JMZ				S	Sn	00 05 07.6	-10		
JAM	**Amami Oshima**	**2.57**	**22**	P	**Pn**	**00 04 48.3**	**-1.6**		
JAM				S	**Sn**	**00 05 18.0**	**-2.2**		
JOGS	**Gusukube**	**3.07**	**246**	P	**Pn**	**00 04 56.7**	**-0.1**		
JIKM	**Ikemajima**	**3.14**	**250**	P	**Pn**	**00 04 57.3**	**-0.5**		
JIKM				eS	**Sn**	**00 05 32.5**	**-1.9**		
JMJ	**Miyako jima 2**	**3.14**	**248**	eS	**Sn**	**00 05 34.3**	**-0.2**		
JIRB	**Irabujima**	**3.24**	**249**	P	**Pn**	**00 04 58.5**	**-0.6**		
JIRB				eS	**Sn**	**00 05 35.4**	**-1.4**		
JTJ	**Tarama**	**3.71**	**249**	P	**Pn**	**00 05 04.7**	**-0.9**		
JTJ				S	**Sn**	**00 05 45.8**	**-2.6**		
JNN	**Nakanoshima**	**3.98**	**17**	P	**Pn**	**00 05 08.8**	**-0.6**		
JISG	**Ishigakijimahi**	**4.06**	**250**	P	**Pn**	**00 05 09.4**	**-1.0**		
JISG				eS	**Sn**	**00 05 54.2**	**-2.8**		
JIJ	**Ishigaki jima**	**4.28**	**248**	P	**Pn**	**00 05 11.9**	**-1.6**		
JIJ				eS	**Sn**	**00 05 59.0**	**-3.6**		
JKRS	**Kuro-shima**	**4.45**	**247**	P	**Pn**	**00 05 15.1**	**-0.6**		
IRIF	**Iriomote-Funau**	**4.64**	**250**	P	**Pn**	**00 05 16.8**	**-1.6**		
IRIF				eS	**Sn**	**00 06 08.7**	**-2.7**		
JNU	**Nakatsue**	**7.36**	**16**	Pn	**Pn**	**00 05 56.2**	**+0.4**		
	2.4nm,0.3s,baz=204,slow=8.7,SNR=33								
JNU				Sn	**Sn**	**00 07 17.0**	**-1.5**		
	0.2nm,0.3s,baz=254,slow=22,SNR=1.1								
MKAR	**Makanchi Array**	**41.85**	**312**	P	**P**	**00 11 57.2**	**-0.5**		
	0.3nm,0.4s,baz=87,slow=8.5,SNR=4.1								
WRA	**Warramunga Arr**	**46.05**	**172**	P	**P**	**00 12 30.2**	**-1.5**		
	0.5nm,0.9s,baz=352,slow=8.6,SNR=3.2								
WRA				pP	**pP**	**00 12 41.7**	**+1.9**		
	0.3nm,0.7s,baz=354,slow=8.4,SNR=2.5								
ASAR	**Alice Springs**	**49.68**	**174**	P	**P**	**00 12 59.0**	**-0.7**		
	0.3nm,0.8s,baz=4.2,slow=14,SNR=3.2								
ASAR				pP	**pP**	**00 13 10.7**	**+2.7**		
	0.4nm,0.8s,baz=4.4,slow=13,SNR=2.3								
FINES	**FINESS Array B**	**73.16**	**331**	P	**P**	**00 15 38.6**	**+0.6**		
	2.3nm,1.0s,baz=30,slow=14,SNR=2.9								
FINES				pP	**pP**	**00 15 48.6**	**+2.0**		
	2.6nm,1.1s,baz=61,slow=6.5,SNR=2.5								
BRTR	**Keskin Array B**	**77.35**	**308**	P	**P**	**00 16 03.4**	**+0.7**		
	0.2nm,0.4s,baz=51,slow=12,SNR=2.9								
BRTR				pP	**PcP**	**00 16 15.6**	**+2.4**		
	0.4nm,0.6s,baz=57,slow=10,SNR=2.7								

IDC 18 00:12:40.4±4.8, 5°49S×149°55E, h0km, mb2.9/2, mb1 3.3/2, mb1mx3.1/30, mbtmp3.0/2, Error ellipse: s-maj=205.1km s-min=48.3km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.62**	**224**	P	P	00 17 20.9	-0.7
	0.5nm,0.9s,baz=51,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**23.53**	**218**	P	P	00 17 53.1	+0.6
	0.3nm,0.7s,baz=49,slow=8.5,SNR=2.9						
TORD	**Torodi Ar. Bea**	**147.41**	**286**	PKPbc	PKPbc	00 32 26.6	-0.8
	0.6nm,1.1s,baz=88,slow=2.1,SNR=7.6						

*NEIC **18** 00:30:09.1±0.9, 33.01S×179.59E, h231km±10km, mb4.6/7, Error ellipse: s-maj=17.0km s-min=9.1km az=107.0*
*IDC **18** 00:30:14.8±1.8, 32.79S×179.62E, h285km±16km, mb4.1/7, mb1 4.2/8, mb1mx3.8/18, mbtmp4.7/8, Error ellipse: s-maj=14.3km s-min=11.6km az=142.0*

ISC 18 00:30:09.3±0.6, 33°03S±0°05×179°76E±0°08, h250km, n126, σ1§84/133, mb4.4/10, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.26**	**28**	P	**Pn**	**00 31 15.8**	**-0.4**
	63nm,0.3s,baz=306,slow=19,SNR=2.4						
RAO				S	**S**	**00 32 05.6**	**-3.7**
	363nm,0.3s,baz=46,slow=23,SNR=8.8						
RAO	**Raoul Island**	**4.26**	**28**	ePn	**Pn**	**00 31 14.7**	**-1.5**
RAO				eS	**S**	**00 32 07.7**	**-1.7**
MXZ	**Matakaoa Point**	**4.67**	**194**	ePN	**Pn**	**00 31 23.7**	**+2.7**
MXZ				SN	**S**	**00 32 18.2**	**0.0**
WMGZ	**Waiomatatini S**	**4.90**	**193**	PN	**Pn**	**00 31 25.8**	**+2.1**
WMGZ				SN	**S**	**00 32 24.5**	**+1.4**
WIZ	**White Island**	**4.95**	**204**	ePN	Pn	00 31 29.3	+4.9
HAZ	**Te Kaha**	**4.98**	**198**	PN	**Pn**	**00 31 27.0**	**+2.3**
HAZ				SN	**S**	**00 32 26.4**	**+1.5**
PUZ	**Puketiti**	**5.18**	**193**	PN	**Pn**	**00 31 27.9**	**+0.8**
PUZ				SN	**S**	**00 32 29.4**	**+0.1**
TWGZ	**Tauwhareparae**	**5.33**	**195**	ePN	**Pn**	**00 31 30.8**	**+1.7**
OPRZ	**Ohinepanea**	**5.47**	**208**	ePN	**Pn**	**00 31 33.4**	**+2.7**
OUZ	**Omahuta**	**5.56**	**245**	ePn	Pn	00 31 35.4	+3.5
OUZ				eS	**S**	**00 32 40.8**	**+3.0**
CNGZ	**Carnagh Statio**	**5.59**	**193**	PN	**Pn**	**00 31 33.8**	**+1.6**
MWZ	**Matawai**	**5.59**	**198**	PN	**Pn**	**00 31 33.7**	**+1.4**
URZ	**Urewera**	**5.64**	**202**	P	**Pn**	**00 31 33.0**	**+0.1**
	24nm,0.3s,baz=281,slow=4.6,SNR=206						
URZ				S	**S**	**00 32 39.1**	**-0.7**
	78nm,0.3s,baz=172,slow=9.1,SNR=22						
URZ	**Urewera**	**5.64**	**202**	ePN	**Pn**	**00 31 34.6**	**+1.7**
URZ				SN	**S**	**00 32 39.8**	**+0.1**
URZ	**Urewera**	**5.64**	**202**	ePn	**Pn**	**00 31 34.5**	**+1.7**
URZ				eS	**S**	**00 32 37.0**	**-2.8**
RAGZ	**Rawiri**	**5.78**	**199**	PN	**Pn**	**00 31 37.4**	**+2.8**
TARZ	**Mount Tarawera**	**5.83**	**206**	PN	Pn	00 31 40.1	+4.9
RIGZ	**Rimuhau**	**5.89**	**195**	PN	**Pn**	**00 31 37.9**	**+1.9**
RRRZ	**Republican Roa**	**5.92**	**206**	PN	Pn	00 31 40.8	+4.5
RRRZ				SN	**S**	**00 32 47.7**	**+1.8**
SNGZ	**Shannon Statio**	**6.06**	**198**	PN	**Pn**	**00 31 40.5**	**+2.4**
SNGZ				SN	**S**	**00 32 48.7**	**-0.6**
PRGZ	**Paritu Road**	**6.07**	**194**	ePN	**Pn**	**00 31 40.1**	**+1.9**
PRRZ	**Plateau Road**	**6.10**	**206**	PN	Pn	00 31 42.6	+4.0
ALRZ	**Allen Road**	**6.18**	**206**	PN	Pn	00 31 43.1	+3.6
KNZ	**Kokohu**	**6.21**	**195**	PN	**Pn**	**00 31 41.8**	**+1.9**
RAHZ	**Arahi**	**6.26**	**200**	PN	**Pn**	**00 31 42.3**	**+1.8**
RAHZ				SN	**S**	**00 32 51.7**	**-2.0**
WHHZ	**Waihua**	**6.37**	**198**	PN	**Pn**	**00 31 44.9**	**+3.0**
ARHZ	**Aropaoanui**	**6.61**	**199**	ePN	**Pn**	**00 31 46.3**	**+1.5**
BKZ	**Black Stump Fm**	**6.67**	**202**	PN	**Pn**	**00 31 45.9**	**+0.2**
BKZ	**Black Stump Fm**	**6.67**	**202**	ePn	**Pn**	**00 31 45.9**	**+0.2**
BKZ				eS	**S**	**00 33 04.4**	**+1.4**
HIZ	**Hauiti**	**6.77**	**215**	PN	Pn	00 31 50.6	+3.7
KATZ	**Kakaramea**	**6.78**	**208**	PN	Pn	00 31 50.9	+3.7
MCHZ	**McNeill Hill**	**6.86**	**200**	PN	**Pn**	**00 31 49.8**	**+1.7**
KRVZ	**Karewarewa**	**6.91**	**208**	PN	**Pn**	**00 31 51.1**	**+2.3**
KWHZ	**Kaweka Forest**	**6.92**	**202**	PN	**Pn**	**00 31 48.4**	**-0.6**
WTVZ	**West Tongariro**	**6.95**	**208**	PN	**Pn**	**00 31 51.7**	**+2.5**
CKHZ	**Cape Kidnapper**	**6.96**	**197**	PN	**Pn**	**00 31 51.6**	**+2.3**
OTVZ	**Oturere**	**6.96**	**207**	PN	**Pn**	**00 31 50.6**	**+1.1**
TWVZ	**Taurewa**	**6.97**	**209**	PN	**Pn**	**00 31 52.0**	**+2.4**
NGZ	**Ngauruhoe**	**6.99**	**208**	PN	**Pn**	**00 31 52.9**	**+3.0**
WPVZ	**Whakapapa**	**7.04**	**208**	PN	**Pn**	**00 31 53.4**	**+3.0**
TUVZ	**Tukino**	**7.05**	**207**	PN	**Pn**	**00 31 52.4**	**+1.8**
WHVZ	**Whangaehu Hut**	**7.09**	**207**	PN	**Pn**	**00 31 52.3**	**+1.1**
DRZ	**Dome Shelter**	**7.09**	**207**	PN	**Pn**	**00 31 53.9**	**+2.5**
BHHZ	**Black Hill Sta**	**7.10**	**204**	PN	**Pn**	**00 31 51.3**	**+0.1**
WNVZ	**Wahianoa**	**7.13**	**207**	PN	**Pn**	**00 31 51.4**	**-0.2**
KAHZ	**Kahuranaki**	**7.14**	**198**	PN	**Pn**	**00 31 52.2**	**+0.6**
MOVZ	**Moawhango**	**7.14**	**206**	PN	**Pn**	**00 31 52.0**	**+0.4**
KRHZ	**Kereru**	**7.14**	**202**	PN	**Pn**	**00 31 50.5**	**-1.2**
PKVZ	**Pokaka**	**7.19**	**208**	PN	**Pn**	**00 31 54.4**	**+2.1**
MTVZ	**Mangateitei**	**7.23**	**207**	PN	**Pn**	**00 31 55.3**	**+2.6**
VRZ	**Vera Road**	**7.30**	**212**	ePN	**Pn**	**00 31 56.6**	**+3.0**
PXZ	**Pawanui**	**7.37**	**198**	ePN	**Pn**	**00 31 53.7**	**-0.7**
PNHZ	**Pukenui**	**7.44**	**202**	PN	**Pn**	**00 31 56.0**	**+0.5**
WPHZ	**Waipukurau**	**7.51**	**200**	PN	**Pn**	**00 31 57.7**	**+1.4**
PRHZ	**Porangahau**	**7.64**	**198**	PN	**Pn**	**00 31 57.6**	**-0.3**
TSZ	**Takapari Road**	**7.65**	**202**	PN	**Pn**	**00 31 59.1**	**+1.1**
WAZ	**Wanganui**	**7.74**	**208**	PN	**Pn**	**00 32 00.2**	**+1.1**
LREZ	**Lake Rotokare**	**7.74**	**212**	PN	Pn	00 32 02.4	+3.3
DVHZ	**Dannevirke**	**7.81**	**201**	PN	**Pn**	**00 31 59.5**	**-0.5**
ANWZ	**Angora Road**	**7.87**	**199**	PN	**Pn**	**00 32 01.9**	**+1.1**
POWZ	**Post Office Ro**	**8.02**	**202**	PN	**Pn**	**00 32 02.4**	**-0.2**
PRWZ	**Pori Road**	**8.10**	**201**	PN	**Pn**	**00 32 04.4**	**+0.7**
BFZ	**Birch Farm**	**8.14**	**199**	PN	**Pn**	**00 32 03.1**	**-1.0**
MRZ	**Mangatainoka R**	**8.32**	**203**	PN	**Pn**	**00 32 05.3**	**-1.2**
MRZ				eSN	S	00 33 29.6	-11
TIWZ	**Tintock**	**8.33**	**201**	PN	**Pn**	**00 32 06.1**	**-0.5**
CPWZ	**Castlepoint**	**8.36**	**199**	PN	**Pn**	**00 32 08.7**	**+1.7**
HOWZ	**Holdsworth Sta**	**8.55**	**202**	PN	**Pn**	**00 32 07.9**	**-1.5**
HOWZ				eSN	S	00 33 37.6	-8.9
OGWZ	**Otaki Gorge**	**8.60**	**204**	PN	**Pn**	**00 32 08.2**	**-1.7**
OGWZ				SN	S	00 33 38.9	-8.5
TMWZ	**Te Maipa**	**8.63**	**200**	PN	**Pn**	**00 32 08.9**	**-1.6**

KIW	**Kapiti Island**	**8.72**	**205**	PN	**Pn**	**00 32 09.2**	**-2.4**		
CAW	**Cannon Point**	**8.89**	**204**	ePN	**Pn**	**00 32 10.9**	**-2.8**		
TRWZ	**Traveller**	**8.96**	**200**	PN	**Pn**	**00 32 12.9**	**-1.6**		
PAWZ	**Paruwai Farm**	**9.02**	**201**	PN	**Pn**	**00 32 14.1**	**-1.3**		
MSWZ	**Moikau Station**	**9.11**	**202**	PN	**Pn**	**00 32 15.1**	**-1.4**		
WEL	**Wellington**	**9.15**	**204**	PN	**Pn**	**00 32 16.0**	**-0.9**		
SNZO	**South Karori**	**9.19**	**205**	ePn	**Pn**	**00 32 15.5**	**-2.0**		
SNZO				eS	S	00 33 53.9	-7.4		
BHW	**Baring Head**	**9.22**	**204**	PN	**Pn**	**00 32 15.7**	**-2.2**		
PLWZ	**Palliser**	**9.25**	**202**	PN	**Pn**	**00 32 16.2**	**-2.0**		
TUWZ	**Tuamarina**	**9.58**	**207**	PN	**Pn**	**00 32 19.9**	**-2.4**		
NNZ	**Nelson**	**9.63**	**210**	ePN	**Pn**	**00 32 20.7**	**-2.2**		
QRZ	**Quartz Range**	**9.69**	**215**	PN	**Pn**	**00 32 23.1**	**-0.8**		
BSWZ	**Blackbirch Sta**	**9.85**	**207**	PN	**Pn**	**00 32 24.6**	**-1.2**		
THZ	**Tophouse**	**10.28**	**210**	PN	**Pn**	**00 32 30.1**	**-1.2**		
KHZ	**Kahutara**	**10.58**	**206**	PN	**Pn**	**00 32 33.2**	**-1.8**		
KHZ	**Kahutara**	**10.58**	**206**	ePn	**Pn**	**00 32 33.1**	**-1.9**		
DSZ	**Denniston Nort**	**10.75**	**214**	ePN	**Pn**	**00 32 35.0**	**-2.2**		
DSZ				SN	S	00 34 27.8	-10		
CTZ	**Chatham Island**	**11.06**	**166**	PN	P	00 32 50.0	+4.9		
LTZ	**Lake Taylor**	**11.38**	**209**	PN	**Pn**	**00 32 43.5**	**-1.5**		
LTZ				eSN	S	00 34 42.7	-10		
OXZ	**Oxford**	**11.93**	**208**	PN	**Pn**	**00 32 49.2**	**-2.7**		
OXZ				SN	S	00 34 51.5	-13		
MQZ	**McQueen's Vall**	**12.02**	**206**	PN	**Pn**	**00 32 50.2**	**-2.7**		
WVZ	**Waitaha Valley**	**12.28**	**213**	PN	**Pn**	**00 32 54.4**	**-1.8**		
RPZ	**Rata Peaks**	**12.66**	**210**	P	**Pn**	**00 32 58.7**	**-2.2**		
	4.7nm,0.3s,baz=1.4,slow=0.7,SNR=23								
RPZ				S	S	00 35 10.2	-11		
	8.5nm,0.3s,baz=57,slow=15,SNR=13								
RPZ	**Rata Peaks**	**12.66**	**210**	PN	**Pn**	**00 32 58.6**	**-2.2**		
RPZ	**Rata Peaks**	**12.66**	**210**	ePn	**Pn**	**00 32 58.8**	**-2.0**		
RPZ				eS	S	00 35 13.2	-8.4		
FOZ	**Fox Glacier**	**13.15**	**214**	PN	Pn	00 33 03.0	-3.8		
LBZ	**Lake Benmore**	**13.57**	**211**	PN	**Pn**	**00 33 10.2**	**-1.8**		
JCZ	**Jackson Bay**	**13.97**	**215**	PN	**Pn**	**00 33 14.7**	**-2.3**		
WKZ	**Wanaka**	**14.43**	**212**	PN	**Pn**	**00 33 20.0**	**-2.4**		
EAZ	**Earnscleugh**	**14.62**	**211**	ePN	**Pn**	**00 33 22.0**	**-2.7**		
MSZ	**Milford Sound**	**14.82**	**215**	PN	**P**	**00 33 25.0**	**-1.9**		
TUZ	**Tuapeka**	**15.07**	**208**	PN	**Pn**	**00 33 30.3**	**+0.2**		
MLZ	**Mavora Lakes**	**15.21**	**213**	PN	**P**	**00 33 30.7**	**-0.6**		
MSVF	**Nonsavu**	**15.31**	**354**	eP	**Pn**	**00 33 33.7**	**+0.3**		
	34nm,0.9s								
WHZ	**Wether Hill Ro**	**15.73**	**212**	PN	**P**	**00 33 36.4**	**-0.5**		
WHZ	**Wether Hill Ro**	**15.73**	**212**	eP	**P**	**00 33 36.9**	**0.0**		
	46nm,1.2s								
WHZ				eS	**S**	**00 36 23.9**	**-5.7**		
SYZ	**Scrubby Hill**	**15.75**	**208**	PN	**Pn**	**00 33 38.1**	**0.0**		
DCZ	**Deep Cove**	**15.78**	**214**	PN	**P**	**00 33 36.9**	**-0.6**		
DZM	**Mont Dzumac**	**16.07**	**309**	P	**Pn**	**00 33 42.0**	**-0.3**		
	1.1nm,0.3s,baz=181,slow=14,SNR=13								
APZ	**The Paps**	**16.45**	**210**	PN	**Pn**	**00 33 45.9**	**-0.6**		
AFI	**Afiamalu**	**20.54**	**24**	P	**P**	**00 34 30.8**	**+1.6**		
	20nm,0.4s,baz=315,slow=5.7,SNR=3.9								
AFI				S	**S**	**00 38 01.9**	**-2.1**		
	18nm,0.2s,baz=132,slow=3.4,SNR=6.3								
STKA	**Stephens Creek**	**32.11**	**262**	P	**P**	**00 36 15.7**	**+2.3**		
	7.1nm,0.7s,baz=82,slow=8.5,SNR=11								
STKA	**Stephens Creek**	**32.11**	**262**	eP	**P**	**00 36 12.6**	**-0.8**		
	2.6nm,0.9s								
AS31	**Alice Springs**	**41.15**	**271**	eP	**P**	**00 37 30.2**	**+0.7**		
ASAR	**Alice Springs**	**41.15**	**271**	P	**P**	**00 37 30.6**	**+1.0**		
	13nm,0.7s,baz=108,slow=7.4,SNR=173								
ASAR				ScP	**ScP**	**00 42 46.6**	**-2.9**		
	0.5nm,0.7s,baz=118,slow=4.0,SNR=4.5								
ASAR				S	**S**	**00 43 22.6**	**-1.2**		
	2.9nm,0.8s,baz=114,slow=15,SNR=17								
WRAB	**Tennant Creek**	**42.38**	**276**	eP	**P**	**00 37 39.9**	**+0.5**		
	16nm,0.6s								
WRA	**Warramunga Arr**	**42.39**	**276**	P	**P**	**00 37 40.2**	**+0.7**		
	21nm,0.6s,baz=114,slow=7.8,SNR=302								
WRA				ScP	**ScP**	**00 42 51.4**	**-3.0**		
	0.8nm,0.9s,baz=118,slow=3.7,SNR=4.6								
WRA				S	**S**	**00 43 39.9**	**-2.0**		
	3.6nm,1.1s,baz=116,slow=15,SNR=5.6								
FORT	**Forrest**	**43.59**	**258**	eP	**P**	**00 37 49.1**	**+0.1**		
	52nm,0.6s								
VNDA	**Vanda**	**45.30**	**185**	P	P	00 38 05.8	+4.0		
	0.5nm,0.6s,baz=353,slow=7.9,SNR=4.5								
CASY	**Casey**	**51.92**	**209**	eP	**P**	**00 38 52.7**	**+0.5**		
	6.5nm,0.5s								
QSPA	**South Pole Qui**	**57.08**	**180**	P	P	00 39 33.1	+3.8		
	22nm,0.7s,baz=27,slow=4.1,SNR=135								
SNAA	**Sanae**	**75.57**	**179**	eP	**P**	**00 41 27.2**	**+1.1**		
	0.9nm,0.5s								
VNA2	**Neumayer--Watz**	**76.21**	**178**	P	**P**	**00 41 32.4**	**+2.8**		
	baz=167,slow=4.9								
VNA1	**Neumayer--Stat**	**76.45**	**177**	P	**P**	**00 41 33.3**	**+2.4**		
NVAR	**Mina Array Bea**	**91.46**	**44**	P	**P**	**00 42 50.3**	**+3.0**		
	0.9nm,0.7s,baz=219,slow=7.0,SNR=7.6								
FINES	**FINESS Array B**	**146.89**	**337**	PKPbc	**PKPbc**	**00 49 21.2**	**-0.1**		
	2.2nm,0.8s,baz=44,slow=4.4,SNR=17								
TORD	**Torodi Ar. Bea**	**160.13**	**186**	PKPab	**PKPab**	**00 50 21.6**	**+1.3**		
	1.2nm,0.8s,baz=164,slow=4.5,SNR=9.5								

*ISCJB **18** 00:40:23.0±0.6, 5.33S±0.05×129.35E±0.08, h200km, mb3.7/4, Error ellipse: s-maj=11.5km s-min=6.5km az=4.6*
*IDC **18** 00:40:25.0±1.2, 5.32S×129.35E, h215km±13km, mb3.6/4, mb1 3.9/8, mb1mx3.4/43, mbtmp4.4/8, Error ellipse: s-maj=20.3km s-min=9.9km az=95.0*

ISC 18 00:40:24.8±0.7, 5°40S±0°06×129°37E±0°08, h200km, n16, σ1§99/18, mb3.8/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**3.78**	**49**	P	**Pn**	**00 41 27.1**	**+3.1**
	baz=3.7,SNR=7.6						
SIJI	**Sorong**	**4.88**	**23**	P	**Pn**	**00 41 39.6**	**+1.8**
	18nm,0.3s,baz=178,slow=23,SNR=80						
SIJI				S	**Sn**	**00 42 34.1**	**-1.2**
	19nm,0.3s,baz=247,slow=23,SNR=25						
SWI	**Sorong**	**4.89**	**23**	P	**Pn**	**00 41 40.0**	**+2.2**
	baz=4.9,SNR=25						
BATI	**Baumata**	**7.40**	**229**	P	**Pn**	**00 42 12.5**	**+2.2**
	4.6nm,0.3s,baz=99,slow=13,SNR=4.3						
BATI				S	**Sn**	**00 43 34.9**	**+0.7**
	1.4nm,0.3s,baz=295,slow=22,SNR=1.9						
MTN	**Manton Dam**	**7.60**	**167**	P	**Pn**	**00 42 14.0**	**+1.2**
	baz=7.5,SNR=15						
KDU	**Kakadu**	**7.86**	**157**	P	**Pn**	**00 42 16.9**	**+0.7**
	baz=7.8,SNR=22						
WRA	**Warramunga Arr**	**15.24**	**162**	P	**Pn**	**00 43 49.1**	**-1.0**
	2.0nm,0.3s,baz=333,slow=13,SNR=76						
WRA				S	**S**	**00 46 34.5**	**-4.9**
	0.8nm,0.3s,baz=338,slow=22,SNR=7.9						
COEN	**Coen**	**16.04**	**123**	P	**Pn**	**00 44 00.4**	**+0.7**
	baz=16,SNR=6.5						
QIS	**Mount Isa**	**18.05**	**147**	P	**P**	**00 44 21.7**	**+0.4**
	baz=18,SNR=11						
ASAR	**Alice Springs**	**18.68**	**167**	P	**P**	**00 44 27.9**	**-0.1**
	3.4nm,0.3s,baz=349,slow=12,SNR=220						
ASAR				S	**S**	**00 47 51.4**	**+1.1**
	0.1nm,0.3s,baz=345,slow=21,SNR=3.8						
WRKA	**Warakurna**	**19.55**	**183**	P	**P**	**00 44 37.1**	**-0.3**
	baz=20,SNR=12						
SONM	**Songino Array**	**56.74**	**342**	P	**P**	**00 49 46.7**	**-1.1**
	0.5nm,0.5s,baz=168,slow=7.2,SNR=3.9						
MKAR	**Makanchi Array**	**66.56**	**327**	P	**P**	**00 50 51.3**	**-2.0**
	2.0nm,0.4s,baz=121,slow=8.1,SNR=24						
ZAA0	**Zalesovo Array**	**69.88**	**334**	P	P	00 51 09.8	-3.9
	baz=70,SNR=6.5						
ZALV	**Zalesovo Beam**	**69.88**	**334**	P	P	00 51 10.9	-2.9
	1.2nm,0.5s,baz=133,slow=5.8,SNR=5.7						
SEY	**Seymchan**	**70.36**	**11**	P	**P**	**00 51 15.6**	**-1.0**
	0.9nm,0.6s,baz=218,slow=19,SNR=4.4						

*JMA **18** 00:46:15.8±0.1, 23.75N×121.62E, h32km±3km, M3.0*
*ISCJB **18** 00:46:16.7±0.3, 23.73N±0.02×121.66E±0.02, h28km±2km, Error ellipse: s-maj=3.3km s-min=2.1km az=141.9*
*TAP **18** 00:46:16.6, 23.75N×121.63E, h32km, ML3.8, B*

ISC 18 00:46:17.1±0.9, 23.75N±0.02×121.61E±0.02, h33km±4km, n61, σ0§82/105, 5C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.08**	**237**	eP	**Pb**	**00 46 23.2**	**+0.4**
	baz=240						
ESF	**Shoufeng Towns**	**0.15**	**320**	eP	**Pb**	**00 46 23.5**	**+0.2**
	baz=303						
ESF				eS	**Sb**	**00 46 28.0**	**+0.5**
	baz=303						
ESL	**Shilin**	**0.17**	**290**	eP	**Pn**	**00 46 22.7**	**+0.4**
	baz=289						
ESL				eS	**Sn**	**00 46 27.0**	**+3.3**
	baz=289						
HWA	**Hwalien**	**0.22**	**358**	eP	**Pb**	**00 46 23.4**	**-0.6**
	baz=2.0						
HWA				eS	**Sb**	**00 46 29.6**	**+0.9**
	baz=2.0						
TWD	**Chiawan**	**0.33**	**357**	⇓P	**Pb**	**00 46 24.6**	**-0.7**
	baz=3.0						
TWD				S	**Sb**	**00 46 30.6**	**-0.2**
	baz=3.0						
EHY	**Hungye**	**0.36**	**227**	eP	**Pb**	**00 46 24.8**	**-1.0**
	baz=238						
EHY				eS	**Sb**	**00 46 30.8**	**-0.8**
	baz=238						
TWF1	**Yuli**	**0.49**	**216**	⇓*i*P	**Pb**	**00 46 26.7**	**-0.9**
	baz=227						
WHF	**Hehuan Shan**	**0.50**	**321**	P	**Pb**	**00 46 27.1**	**-1.0**
	baz=319						
WHF				eS	**Sb**	**00 46 34.4**	**-1.4**
	baz=319						
TWT	**Tachien**	**0.64**	**321**	eP	**Pb**	**00 46 29.7**	**-0.3**
	baz=314						
TWT				S	**Sb**	**00 46 38.0**	**-1.0**
	baz=314						
ENA	**Nanau**	**0.68**	**10**	eP	**Pb**	**00 46 29.8**	**-0.7**
	baz=15						
CHKT	**Chengkung**	**0.69**	**199**	eP	**Pb**	**00 46 30.5**	**-0.4**
	baz=187						
CHKT				eS	**Sn**	**00 46 41.2**	**+1.1**
	baz=187						
TYC	**Yuchr**	**0.71**	**282**	⇑*i*P	**Pn**	**00 46 30.4**	**-0.4**
	baz=286						
TYC				*i* S	**Sn**	**00 46 40.5**	**0.0**
	baz=286						
NNS	**Nan Shan**	**0.72**	**342**	eP	**Pn**	**00 46 30.4**	**-0.7**
	baz=341						
NNS				eS	**Sn**	**00 46 39.3**	**-1.7**
	baz=341						
ALS	**Alishan**	**0.78**	**252**	⇑*i*P	**Pb**	**00 46 32.2**	**-0.3**
	baz=252						
ALS				eS	**Sn**	**00 46 42.1**	**-0.7**
	baz=252						
ELDTW	**Lidau**	**0.78**	**224**	⇓P	**Pb**	**00 46 30.9**	**-1.1**
	baz=225						
WNT	**Mingjian**	**0.86**	**278**	⇑*i*P	**Pb**	**00 46 33.8**	**+0.1**
	baz=277						
WNT				eS	**Sb**	**00 46 45.6**	**+0.7**
	baz=277						
CHN5	**Tsauling**	**0.87**	**260**	⇑*i*P	**Pb**	**00 46 33.8**	**-0.1**
	baz=260						
CHN5				S	**Sb**	**00 46 45.6**	**+0.3**
	baz=260						
TWC	**Suao**	**0.88**	**14**	eP	**Pb**	**00 46 33.6**	**-0.4**
	baz=23						
TWC				eS	**Sb**	**00 46 46.2**	**

TWK1	**Hengchun** baz=194	**1.95**	**203**	*e*P	**Pn**	**00 46 48.3**	**+0.4**
TSEB	**Hengchuen, Pin** baz=194	**1.96**	**200**	*e*P	**Pn**	**00 46 49.0**	**+0.9**
IRIF	**Iriomote-Funau**	**2.02**	**73**	P	**Pn**	**00 46 49.0**	**+0.1**
IRIF				*e*S	**Sn**	**00 47 14.1**	**+1.1**
HATJ	**Hateruma jima**	**2.03**	**81**	P	**Pn**	**00 46 48.9**	**-0.1**
HATJ				*e*S	**Sn**	**00 47 13.5**	**+0.3**
JKRS	**Kuro-shima**	**2.24**	**77**	P	**Pn**	**00 46 52.4**	**+0.5**
JKRS				*e*S	**Sn**	**00 47 19.1**	**+0.6**
JIJ	**Ishigaki jima**	**2.39**	**75**	P	**Pn**	**00 46 53.9**	**-0.1**
JIJ				*e*S	**Sn**	**00 47 21.4**	**-0.7**
JISG	**Ishigakijimahi**	**2.60**	**71**	P	**Pn**	**00 46 55.6**	**-1.2**
JISG				*e*S	**Sn**	**00 47 26.9**	**-0.4**
JTJ	**Tarama**	**2.96**	**72**	P	**Pn**	**00 47 01.6**	**-0.1**
JTJ				*e*S	**Sn**	**00 47 36.9**	**+0.8**
KNM	**Kinmen** baz=282	**2.98**	**283**	*e*P	**Pn**	**00 47 02.4**	**+0.4**

*ISCJB **18** 00:56:04.0±0.6, 7.°71N±0.°08×92.°03E±0.°08, h24km, mb3.8/9, MS3.3/2, Error ellipse: s-maj=14.9km s-min=7.0km az=44.9*
*IDC **18** 00:56:08.1±1.0, 7.°75N×92.°04E, h36km±5km, mb3.6/9, mb1 3.8/12, mb1mx3.5/52, mbtmp3.9/12, ML4.0/3, MS3.2/5, Ms1 3.3/5, ms1mx2.8/43, Error ellipse: s-maj=29.1km s-min=16.0km az=48.0*

ISC 18 00:56:06.9±0.7, 7.°73N±0.°10×91.°99E±0.°09, h24km, n28, σ1°58/29, mb3.8/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat** 2.9nm,0.3s,baz=296,slow=10,SNR=19	**8.46**	**125**	Pn	**Pn**	**00 58 08.5**	**+0.2**
PSI				Sn	**Sn**	**00 59 41.5**	**-1.6**
	0.8nm,0.3s,baz=334,slow=16,SNR=2.6						
PSI				LR	LR	01 02 10.9	
	comp=Z,249nm,18.5s,baz=210,slow=43						
PALK	**Pallekele** 1.2nm,0.3s,baz=102,slow=11,SNR=10	**11.20**	**268**	Pn	**Pn**	**00 58 46.0**	**+0.2**
PALK				Sn	Sn	01 00 36.5	-14
	3.6nm,0.3s,baz=174,slow=22,SNR=4.5						
PALK				LR	LR	01 02 41.8	
	comp=Z,76nm,18.7s,baz=102,slow=35						
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=226,slow=15,SNR=4.3	**12.62**	**32**	Pn	**Pn**	**00 59 05.2**	**+0.1**
CMAR				LR	LR	01 03 57.3	
	comp=Z,60nm,18.6s,baz=202,slow=37						
ODAN	**Odare** 26nm,0.5s	**19.52**	**348**	*e*P	**Pn**	**01 00 34.6**	**+0.3**
RAMN	**Ramite** 22nm,0.4s	**19.79**	**346**	*e*P	**Pn**	**01 00 38.0**	**+0.5**
TAPN	**Taplejung** 42nm,0.7s	**19.93**	**349**	*e*P	**P**	**01 00 35.1**	**-2.4**
PKI	**Pulchoki** 17nm,0.3s	**20.69**	**343**	*e*P	**P**	**01 00 45.8**	**0.0**
PKIN	**Phulchoki** 16nm,0.4s	**20.70**	**343**	*e*P	**P**	**01 00 45.8**	**0.0**
DMN	**Daman** 13nm,0.5s	**20.82**	**343**	*e*P	**P**	**01 00 47.3**	**+0.2**
GUN	**Gumba** 34nm,0.7s	**20.89**	**345**	*e*P	**P**	**01 00 45.0**	**-2.9**
KKN	**Kakani** 14nm,0.8s	**20.94**	**343**	*e*P	**P**	**01 00 47.0**	**-1.3**
LEM	**Lembang** comp=Z,99nm,21.2s,baz=254,slow=38	**21.26**	**132**	LR	LR	01 09 36.1	
GKN	**Gorkha** 19nm,0.3s	**21.33**	**342**	*e*P	**P**	**01 00 50.6**	**-1.9**
KOLN	**Koldanda** 36nm,0.7s	**21.45**	**339**	*e*P	**P**	**01 00 53.7**	**-0.2**
H08S3	**Diego Garcia H** baz=48,slow=75,SNR=84	**24.72**	**232**	T	T	01 27 35.0	
H08S2	**Diego Garcia H** baz=48,slow=75	**24.73**	**232**	T	T	01 27 33.3	
H08S1	**Diego Garcia H** baz=48,slow=75,SNR=60	**24.74**	**232**	T	T	01 27 33.9	
MKAR	**Makanchi Array** 0.8nm,0.4s,baz=163,slow=8.5,SNR=10.0	**39.80**	**350**	P	**P**	**01 03 37.3**	**-0.8**
MKAR				pP	**pP**	**01 03 48.0**	**+2.6**
	0.8nm,0.6s,baz=156,slow=8.6,SNR=3.5						
SONM	**Songino Array** 0.5nm,0.6s,baz=182,slow=10,SNR=2.8	**41.80**	**15**	P	**P**	**01 03 54.4**	**-0.4**
SONM				pP	**pP**	**01 04 04.3**	**+2.3**
	1.8nm,1.0s,baz=193,slow=7.9,SNR=5.6						
GEYT	**Alibeck** 4.4nm,0.7s,baz=147,slow=8.9,SNR=11	**42.91**	**320**	P	**P**	**01 04 04.8**	**+1.0**
KURBB	**Kurchatov Arra** 0.7nm,0.6s,baz=170,slow=7.0,SNR=14	**44.20**	**348**	P	**P**	**01 04 13.3**	**-0.6**
KURBB				pP	**pP**	**01 04 24.4**	**+3.2**
	0.8nm,0.6s,baz=174,slow=7.4,SNR=5.2						
ZALV	**Zalesovo Beam** 1.2nm,0.6s,baz=153,slow=10.0,SNR=6.8	**46.45**	**354**	P	**P**	**01 04 30.4**	**-1.3**
ZALV				pP	**pP**	**01 04 41.4**	**+2.3**
	0.5nm,0.4s,baz=160,slow=9.0,SNR=3.4						
WRA	**Warramunga Arr** 0.6nm,1.0s,baz=303,slow=8.6,SNR=4.7	**49.93**	**124**	P	**P**	**01 04 59.1**	**0.0**
WRA				pP	**pP**	**01 05 09.1**	**+2.5**
	1.1nm,0.7s,baz=305,slow=8.6,SNR=4.3						
AKTO	**Aktyubinsk** 0.8nm,0.5s,baz=136,slow=5.2,SNR=4.8	**51.07**	**333**	P	**P**	**01 05 06.2**	**-1.1**
ASAR	**Alice Springs** 0.8nm,0.8s,baz=302,slow=7.3,SNR=4.1	**51.48**	**128**	pP	pP	01 05 22.8	+4.5
ARU	**Arti** comp=Z,30nm,18.4s,baz=166,slow=38	**55.21**	**338**	LR	LR	01 31 00.4	
FINES	**FINESS Array B** 0.7nm,0.6s,baz=122,slow=9.3,SNR=4.7	**71.85**	**323**	P	**P**	**01 07 26.0**	**-1.6**
GERES	**GERESS Array B** 0.7nm,0.8s,baz=115,slow=5.1,SNR=4.0	**76.51**	**318**	P	**P**	**01 07 54.7**	**-0.6**
GERES				pP	**PcP**	**01 08 05.8**	**-1.0**
	0.2nm,0.5s,baz=84,slow=9.0,SNR=2.0						

*IDC **18** 01:09:31.2±2.6, 20.°63S×177.°96W, h486km±29km, mb3.4/11, mb1 3.6/12, mb1mx3.4/21, mbtmp4.3/12, Error ellipse: s-maj=17.5km s-min=15.1km az=115.0*
*ISCJB **18** 01:09:34.7±0.7, 20.°8S±0.°2×178.°1W±0.°2, h534km, mb3.8/11, Error ellipse: s-maj=22.5km s-min=17.9km az=135.0*

ISC 18 01:09:35.5±0.7, 20.°7S±0.°1×178.°1W±0.°2, h534km, n17, σ0°99/16, mb3.8/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu** 4.0nm,0.3s,baz=242,slow=15,SNR=3.6	**9.03**	**43**	P	P	01 11 36.3	-7.1
AFI				S	S	01 13 14.7	-14
	5.9nm,0.3s,baz=36,slow=20,SNR=2.8						
JAY	**Jayapura** 16nm,0.6s,baz=186,slow=22,SNR=11	**44.06**	**289**	P	**P**	**01 16 56.0**	**-0.5**
ASAR	**Alice Springs** 2.8nm,0.6s,baz=96,slow=7.8,SNR=40	**44.42**	**257**	P	**P**	**01 16 59.0**	**-0.1**
ASAR				PcP	**PcP**	**01 18 32.0**	**+0.7**
	0.4nm,0.6s,baz=100,slow=3.8,SNR=4.6						
WRA	**Warramunga Arr** 1.0nm,0.6s,baz=97,slow=6.6,SNR=18	**44.52**	**262**	P	**P**	**01 16 59.2**	**-0.7**
VNDA	**Vanda** 0.4nm,0.7s,baz=34,slow=12,SNR=1.7	**57.70**	**185**	P	**P**	**01 18 33.6**	**-1.0**
QSPA	**South Pole Qui** 2.5nm,0.6s,baz=336,slow=1.2,SNR=19	**69.36**	**180**	P	**P**	**01 19 50.8**	**+1.4**
PETK	**Petropavlovsk-** 3.1nm,0.8s,baz=134,slow=10,SNR=2.9	**76.45**	**345**	P	**P**	**01 20 30.4**	**+0.3**
NVAR	**Mina Array Bea** 0.7nm,0.7s,baz=212,slow=8.3,SNR=4.0	**81.21**	**43**	P	**P**	**01 20 56.9**	**+0.9**
SEY	**Seymchan** 2.2nm,0.6s,baz=170,slow=11,SNR=8.0	**86.56**	**347**	P	**P**	**01 21 21.6**	**+0.1**
ILAR	**Eielson Array** 1.5nm,1.0s,baz=223,slow=5.7,SNR=7.2	**88.52**	**13**	P	**P**	**01 21 30.0**	**-0.7**
PDAR	**Pinedale Array** 0.3nm,0.6s,baz=222,slow=2.0,SNR=3.6	**89.14**	**43**	P	**P**	**01 21 34.0**	**-0.5**
CMAR	**Chiang Mai Arr** 1.3nm,0.3s,baz=140,slow=4.4,SNR=5.2	**90.14**	**290**	P	**P**	**01 21 41.0**	**+1.7**
BVAR	**Borovoye Array** 0.4nm,0.5s,baz=130,slow=2.3,SNR=4.2	**119.20**	**320**	PKP	**PKPdf**	**01 27 23.6**	**-0.1**
AKASG	**Malin Array Be** 2.8nm,0.3s,baz=42,slow=4.4,SNR=9.9	**143.17**	**331**	PKP	PKPab	01 28 06.0	-0.4
BRTR	**Keskin Array B** 0.5nm,0.5s,baz=140,slow=6.2,SNR=5.2	**146.94**	**312**	PKPbc	**PKPbc**	**01 28 18.9**	**+0.3**
GERES	**GERESS Array B** 0.4nm,0.5s,baz=42,slow=1.6,SNR=4.6	**150.39**	**344**	PKPbc	**PKPbc**	**01 28 24.8**	**-1.8**
TORD	**Torodi Ar. Bea** 0.5nm,0.9s,baz=167,slow=6.8,SNR=2.9	**172.48**	**178**	PKPab	**PKPab**	**01 30 11.8**	**-0.7**

*IDC **18** 01:12:16.1±0.5, 30.°01S×177.°77W, h0km, mb4.3/12, mb1 4.5/12, mb1mx4.4/18, mbtmp4.3/12, MS3.2/2,*
Ms1 3.2/2, ms1mx2.8/24, Error ellipse: s-maj=20.9km s-min=12.7km az=84.0
*NEIC **18** 01:12:18.5±7.6, 29.°97S×177.°71W, h18km±44km, mb4.7/12, Error ellipse: s-maj=15.6km s-min=11.6km az=71.0*
*ISCJB **18** 01:12:21.2±0.4, 30.°10S±0.°06×177.°75W±0.°08, h46km, mb4.5/21, MS3.1/2, Error ellipse: s-maj=9.8km s-min=8.0km az=172.4*

ISC 18 01:12:22.5±0.5, 30.°23S±0.°06×177.°9W±0.°1, h46km, n91, σ1°60/81, mb4.7/21, 1C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island** 798nm,0.3s,baz=89,slow=21,SNR=15	**0.97**	**357**	Pn	Pn	01 12 33.5	-6.3
RAO				Sn	**Sn**	**01 12 49.2**	**-3.2**
	5µm,0.3s,baz=21,slow=23,SNR=13						
HAZ	**Te Kaha**	**8.33**	**205**	*e*PN	**Pn**	**01 14 17.8**	**-2.8**
PUZ	**Puketiti**	**8.46**	**201**	SN	**Sn**	**01 15 53.9**	**-2.6**
TWGZ	**Tauwhareparae**	**8.64**	**202**	*e*PN	Pn	01 14 20.5	-4.5
OUZ	**Omahuta**	**8.75**	**233**	*e*Pn	Pn	01 14 33.3	+6.9
URZ	**Urewera** 0.8nm,0.3s,baz=278,slow=5.1,SNR=6.6	**9.03**	**206**	Pn	**Pn**	**01 14 28.1**	**-2.1**
URZ				Sn	**Sn**	**01 16 07.2**	**-3.2**
	4.7nm,0.3s,baz=241,slow=15,SNR=6.0						
URZ	**Urewera**	**9.03**	**206**	PN	Pn	01 14 26.5	-3.6
URZ				SN	**Sn**	**01 16 09.1**	**-1.3**
SNGZ	**Shannon Statio**	**9.40**	**204**	SN	**Sn**	**01 16 16.4**	**-3.4**
DZM	**Mont Dzumac** 11nm,0.6s	**16.25**	**296**	*e*Pn	**Pn**	**01 16 05.3**	**-2.4**
ARMA	**Armidale** baz=27,SNR=8.9	**26.30**	**262**	P	**P**	**01 17 58.2**	**+4.3**
MGCD	**Mangrove Creek** baz=27,SNR=6.2	**26.51**	**255**	P	**P**	**01 18 00.1**	**+4.3**
EIDS	**Eidsvold** baz=28,SNR=4.7	**27.84**	**272**	P	**P**	**01 18 10.1**	**+2.4**
CNB	**Canberra Magne** baz=28,SNR=5.8	**27.94**	**251**	P	P	01 18 12.0	+3.4
PPT	**Papeete** comp=Z,17nm,21.2s,baz=218,slow=32	**28.68**	**70**	LR	LR	01 27 14.0	
RMQ	**Roma** baz=30,SNR=10	**29.55**	**269**	P	P	01 18 26.6	+3.7
TOO	**Toolangi** baz=32,SNR=3.8	**31.14**	**247**	P	P	01 18 40.3	+3.4
CMSA	**Cobar Meteorol** baz=32,SNR=11	**31.21**	**258**	P	**P**	**01 18 40.2**	**+2.7**
TARA	**Tarawa**	**32.61**	**343**	*e*P	P	01 18 45.1	-4.8
QLP	**Quilpie** baz=34,SNR=11	**33.43**	**267**	P	**P**	**01 18 59.0**	**+1.9**
CTA	**Charters Tower** 27nm,0.6s,baz=103,slow=11,SNR=34	**33.88**	**279**	P	**P**	**01 19 02.7**	**+1.6**
CTAO	**Charters Tower** 31nm,0.8s	**33.88**	**279**	*e*P	**P**	**01 19 03.1**	**+2.0**
STKA	**Stephens Creek** 15nm,0.7s,baz=100,slow=10,SNR=27	**34.63**	**257**	P	**P**	**01 19 09.0**	**+1.6**
STKA				LR	LR	01 32 03.7	
	comp=Z,122nm,18.1s,baz=180,slow=34						
STKA	**Stephens Creek** baz=35,SNR=18	**34.63**	**257**	P	**P**	**01 19 09.9**	**+2.5**
STKA	**Stephens Creek** 2.9nm,0.7s	**34.63**	**257**	*e*P	**P**	**01 19 09.6**	**+2.2**
MTSU	**Mount Surprise** baz=37,SNR=4.9	**36.38**	**281**	P	**P**	**01 19 25.1**	**+2.6**
HTT	**Hallett** baz=37,SNR=13	**36.66**	**254**	P	**P**	**01 19 26.8**	**+1.9**
BBOO	**Buckleboo** baz=40,SNR=7.7	**39.13**	**254**	P	**P**	**01 19 47.1**	**+1.5**
COEN	**Coen**	**39.34**	**286**	*e*P	**P**	**01 19 49.2**	**+1.7**
AS31	**Alice Springs**	**43.23**	**267**	*e*P	**P**	**01 20 19.9**	**+0.4**
ASAR	**Alice Springs** 5.9nm,0.6s,baz=105,slow=7.1,SNR=67	**43.23**	**267**	P	**P**	**01 20 19.3**	**-0.2**
ASAR				PcP	**PcP**	**01 22 07.6**	**-0.6**
	0.6nm,0.5s,baz=114,slow=4.1,SNR=4.2						
WRAB	**Tennant Creek** 15nm,0.8s	**44.20**	**272**	*e*P	**P**	**01 20 27.2**	**-0.1**
WRA	**Warramunga Arr** 8.7nm,0.3s,baz=110,slow=8.1,SNR=211	**44.21**	**272**	P	**P**	**01 20 27.2**	**-0.1**
WRKA	**Warakurna** baz=48,SNR=9.0	**47.62**	**263**	P	**P**	**01 20 53.3**	**-0.9**
VNDA	**Vanda** 1.0nm,0.6s,baz=342,slow=7.2,SNR=9.5	**48.28**	**186**	P	**P**	**01 21 01.2**	**+2.7**
VNDA	**Vanda** 1.2nm,0.6s	**48.28**	**186**	*e*P	P	01 21 01.7	+3.2
MEEK	**Meekatharra** baz=56,SNR=3.1	**55.33**	**257**	P	**P**	**01 21 51.7**	**-0.2**
CASY	**Casey** 6.1nm,0.6s	**55.35**	**208**	*e*P	**P**	**01 21 51.3**	**+0.1**
MBWA	**Marble Bar** 10nm,0.7s	**56.36**	**264**	*e*P	**P**	**01 21 58.0**	**-1.2**
QSPA	**South Pole Qui** 4.3nm,0.7s,baz=25,slow=2.6,SNR=17	**59.88**	**180**	P	**P**	**01 22 26.0**	**+2.6**
KKM	**Kota Kinabalu** 8.0nm,0.8s	**72.61**	**288**	*e*P	**P**	**01 23 45.5**	**-0.1**
SYO	**Syowa Base**	**77.31**	**193**	*e*P	**P**	**01 24 11.4**	**-0.3**
MJAR	**Matsushiro Arr** 0.7nm,0.6s,baz=174,slow=8.5,SNR=4.8	**78.17**	**325**	P	**P**	**01 24 16.5**	**-0.4**
SNAA	**Sanae** 1.2nm,0.8s,baz=135,slow=2.8,SNR=3.8	**78.32**	**178**	P	**P**	**01 24 18.0**	**+0.6**
SNAA	**Sanae** 1.4nm,0.9s	**78.32**	**178**	*e*P	**P**	**01 24 17.8**	**+0.3**
VNA2	**Neumayer--Watz** baz=181,slow=4.0	**78.91**	**177**	P	**P**	**01 24 21.3**	**+0.7**
VNA1	**Neumayer--Stat**	**79.13**	**176**	P	**P**	**01 24 23.0**	**+1.3**
KSRS	**Korea Array** 1.2nm,0.8s,baz=128,slow=4.3,SNR=3.0	**84.29**	**320**	P	**P**	**01 24 48.6**	**-0.7**
KSAR	**Wonju Array Be**	**84.30**	**320**	P	**P**	**01 24 48.6**	**-0.7**
PETK	**Petropavlovsk-** 3.0nm,0.7s,baz=122,slow=6.1,SNR=8.5	**85.67**	**346**	P	**P**	**01 24 55.9**	**0.0**
USRK	**Ussuriysk Ar.** 1.0nm,0.7s,baz=131,slow=8.8,SNR=4.2	**87.08**	**326**	P	**P**	**01 25 04.1**	**+1.1**
NVAR	**Mina Array Bea** 1.2nm,0.8s,baz=221,slow=8.1,SNR=6.3	**88.03**	**43**	P	**P**	**01 25 09.1**	**+1.1**
CFAA	**Coronel Fontan** 0.2nm,0.6s,baz=255,slow=7.1,SNR=4.5	**89.25**	**127**	P	**P**	**01 25 15.0**	**+1.1**
TRQA	**Tornquist** 11nm,1.3s	**89.47**	**135**	*e*P	**P**	**01 25 13.7**	**-1.1**
WVOR	**Wild Horse Val** 3.6nm,1.0s	**90.51**	**40**	*e*P	**P**	**01 25 18.1**	**-1.3**
LVC	**Limon Verde** 1.9nm,0.6s	**93.92**	**119**	*e*P	**P**	**01 25 34.5**	**-1.5**
ILAR	**Eielson Array** 0.3nm,0.9s,baz=206,slow=6.0,SNR=3.1	**97.73**	**13**	P	**P**	**01 25 50.9**	**-0.9**
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=180,slow=1.0,SNR=2.9	**117.75**	**310**	PKP	**PKPdf**	**01 31 02.8**	**-0.6**
KURK	**Kurchatov**	**121.01**	**314**	*e*PKPdf	**PKPdf**	**01 31 08.7**	**-0.9**
KURBB	**Kurchatov Arra** 1.8nm,0.6s,baz=106,slow=1.9,SNR=20	**121.05**	**314**	PKP	**PKPdf**	**01 31 08.6**	**-1.0**
MATP	**Matopo** 2.4nm,0.8s,baz=136,slow=7.6,SNR=6.7	**123.61**	**210**	PKP	**PKPdf**	**01 31 15.0**	**-0.7**
KKAR	**Karatay Array**	**125.07**	**304**	*e*PKPdf	**PKPdf**	**01 31 17.3**	**-0.3**
BVAR	**Borovoye Array** 2.3nm,0.7s,baz=110,slow=1.5,SNR=15	**126.36**	**316**	PKP	**PKPdf**	**01 31 19.3**	**-0.4**
BRVK	**Borovoye**	**126.43**	**316**	*e*PKPdf	**PKPdf**	**01 31 19.4**	**-0.4**
LSZ	**Lusaka**	**128.26**	**213**	*e*PKPdf	**PKPdf**	**01 31 26.0**	**+1.3**
ABKAR	**Akbulak array**	**132.88**	**311**	*e*PKPdf	**PKPdf**	**01 31 33.0**	**+0.7**
ARU	**Arti** baz=180,slow=3.0	**133.03**	**321**	PKP	**PKPdf**	**01 31 33.2**	**+0.9**
ARU	**Arti**	**133.03**	**321**	*e*PKPdf	**PKPdf**	**01 31 32.9**	**+0.6**
AKTO	**Aktyubinsk** 1.1nm,0.7s,baz=151,slow=2.1,SNR=5.3	**134.07**	**313**	PKP	**PKPdf**	**01 31 33.5**	**-0.9**
H10S2	**ASCENSION HYDR** baz=204,slow=75,SNR=73	**137.83**	**155**	T	T	04 06 15.7	
H10S3	**ASCENSION HYDR** baz=204,slow=75,SNR=105	**137.83**	**155**	T	T	04 06 14.6	
H10S1	**ASCENSION HYDR** baz=204,slow=75,SNR=84	**137.85**	**155**	T	T	04 06 13.7	
ARCES	**ARCESS Array B** 0.8nm,0.9s,baz=67,slow=3.2,SNR=3.6	**138.44**	**348**	PKhKP	PKPpre	01 31 31.9	
ARCES				PKP	**PKPdf**	**01 31 42.2**	**+0.2**
	1.5nm,0.8s,baz=93,slow=2.7,SNR=4.8						
H10N3	**ASCENSION HYDR** baz=203,slow=75,SNR=77	**138.92**	**154**	T	T	04 07 40.3	
H10N1	**ASCENSION HYDR** baz=203,slow=75,SNR=92	**138.92**	**154**	T	T	04 07 38.7	
H10N2	**ASCENSION HYDR** baz=203,slow=75,SNR=96	**138.93**	**154**	T	T	04 07 41.6	
FIA1	**FINESS Array S**	**145.02**	**340**	*e*PKPdf	**PKPbc**	**01 31 52.4**	**-1.0**
FINES	**FINESS Array B** 15nm,0.6s,baz=86,slow=2.8,SNR=123	**145.02**	**340**	PKP	**PKPbc**	**01 31 52.6**	**-0.8**
KBZ	**Khabaz** 1.7nm,0.7s,baz=180,slow=5.1,SNR=4.8	**145.11**	**304**	PKPbc	**PKPdf**	**01 31 54.6**	**0.0**
NB2	**NORSAR Subarra** comp=Z,3.5nm,0.7s,baz=14,slow=2.8	**148.60**	**352**	PKP	**PKPbc**	**01 32 02.9**	**-0.9**
NOA	**NORSAR Array B** comp=Z,4.0nm,0.8s,baz=16,slow=4.4,SNR=10	**148.60**	**352**	PKPbc	**PKPbc**	**01 32 03.3**	**-0.5**
NAO01	**NORSAR Array S**	**148.83**	**352**	*e*PKPbc	**PKPbc**	**01 32 03.4**	**-0.9**
ASF	**Jabal al Asfar** comp=Z,1.6nm,0.6s,baz=63,slow=6.8,SNR=3.3	**150.28**	**283**	PKPbc	**PKPbc**	**01 32 10.4**	**+1.5**
AKASG	**Malin Array Be** comp=Z,5.2nm,0.5s,baz=49,slow=2.7,SNR=7.7	**151.23**	**323**	PKPbc	**PKPbc**	**01 32 10.1**	**-0.3**
KIEV	**Kiev**	**151.24**	**323**	*e*PKPbc	**PKPbc**	**01 32 09.7**	**-0.7**
EIL	**Elat** baz=46,slow=4.2	**151.61**	**277**	PKPbc	**PKPbc**	**01 32 13.2**	**+1.2**
BR131	**Keskin Array S**	**152.62**	**299**	*e*PKPbc	**PKPbc**	**01 32 13.6**	**-0.6**
BR131				*e*PKPab	**PKPab**	**01 32 24.8**	**-0.1**
BRTR	**Keskin Array B** comp=Z,1.3nm,0.8s,baz=144,slow=5.3,SNR=8.1	**152.62**	**299**	PKPbc	**PKPbc**	**01 32 13.5**	**-0.6**
CSS	**Prodhromos**	**153.36**	**288**	*e*PKPbc	**PKPbc**	**01 32 15.7**	**-0.1**
CSS				*e*PKPab	**PKPab**	**01 32 26.1**	**-2.0**
GERES	**GERESS Array B** comp=Z,0.4nm,0.6s,baz=29,slow=2.2,SNR=4.5	**159.42**	**338**	PKPab	**PKPab**	**01 32 53.5**	**-0.1**
WLF	**Walferdange**	**160.35**	**352**	*e*PKPdf	**PKPdf**	**01 32 16.6**	**0.0**
TORD	**Torodi Ar. Bea** comp=Z,1.6nm,0.8s,baz=180,slow=3.1,SNR=11	**163.00**	**179**	PKPab	**PKPab**	**01 33 10.6**	**+0.7**

*SJA **18** 01:12:10.4±0.9, 35.°72S×72.°86W, h33km, ML4.4, MW4.0*
*ISCJB **18** 01:12:24.7±0.4, 35.°15S±0.°03×71.°95W±0.°07, h56km±4km, mb4.2/14, Error ellipse: s-maj=10.0km s-min=4.4km az=17.7*
*GUC **18** 01:12:25.5±0.5, 35.°12S×71.°90W, h44km±1km, ML4.3*
*IDC **18** 01:12:25.8±0.7, 35.°17S×71.°87W, h49km±5km, mb3.9/12, mb1 4.0/15, mb1mx3.9/23, mbtmp4.1/15, MS3.2/2, Ms1 3.2/2, ms1mx2.8/23, Error ellipse: s-maj=19.9km s-min=11.6km az=102.0*
*NEIC **18** 01:12:25.0, 35.°12S×71.°90W, h44km, mb4.4/6, After GUC.*
NEIC Felt [IV] at Curico, Molina, Pencahue and Talca; [III] at Cauquenes, Linares, Romeral, Sagrada Familia and San Javier; [II] at Iloca and San Fernando.

ISC 18 01:12:25.4±0.6, 35.°13S±0.°03×71.°99W±0.°06, h46km±4km, n61, σ1°34/77, mb4.4/14, 4C-8D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
U65B	**HualaæØ**	**0.23**	**45**	*e*Pn	**Pn**	**01 12 33.4**	**-0.1**
U65B				*e*Sn	**Sn**	**01 12 38.8**	**-0.4**
TALC	**Talca**	**0.40**	**132**	↓*i*P	Pn	**01 12 35.0**	**-0.1**
TALC				*i* S	**Sn**	**01 12 41.6**	**-0.5**
NICH	**Los Niches**	**0.64**	**79**	↓*i*P	**Pn**	**01 12 37.5**	**-0.7**
NICH				*i* S	**Sn**	**01 12 46.5**	**-0.8**
LNCH	**Linares**	**0.78**	**156**	↓*i*P	Pn	**01 12 40.2**	**+0.1**
LNCH				*i* S	**Sn**	**01 12 51.7**	**+0.9**
LNV	**Longovilo**	**1.27**	**22**	↓*i*P	**Pn**	**01 12 47.1**	**+0.5**
U73B	**San Pedro**	**1.30**	**21**	*e*Pn	**Pn**	**01 12 46.8**	**-0.3**
U73B				*e*Sn	**Sn**	**01 12 59.1**	**-4.2**
CHCH	**Chadas Angostu**	**1.63**	**43**	↑*i*P	**Pn**	**01 12 51.5**	**-0.2**
TACH	**Talagante**	**1.71**	**31**	↓*i*P	**Pn**	**01 12 52.9**	**+0.1**
U14B	**Concepcin**	**1.94**	**207**	*e*Pn	**Pn**	**01 12 56.6**	**+0.8**
U14B				*e*Sn	**Sn**	**01 13 19.9**	**+1.0**
PCH	**Pirque**	**1.94**	**39**	↑*i*P	**Pn**	**01 12 56.3**	**+0.4**
PCH				*i* S	**Sn**	**01 13 19.7**	**+0.5**
SAN	**Santiago**	**2.00**	**34**	↓*i*P	**Pn**	**01 12 57.1**	**+0.3**
SAN				*i* S	**Sn**	**01 13 21.0**	**+0.4**
LACH	**Col Las Americ**	**2.07**	**36**	↓*i*P	**Pn**	**01 12 57.7**	**+0.1**
LACH				*i* S	**Sn**	**01 13 22.6**	**+0.4**
CLCH	**Cerro Calan**	**2.11**	**35**	↑*i*P	**Pn**	**01 12 58.3**	**+0.1**
CLCH				AML	AML	01 13 30.5	
	comp=N,4µm,0.6s						
IHA	**Instituto Hidr**	**2.12**	**8**	↑*i*P	**Pn**	**01 12 58.6**	**+0.3**
YECH	**El Yeso**	**2.15**	**48**	*e*P	**Pn**	**01 12 59.4**	**+0.4**
YECH				AML	AML	01 13 38.0	
	comp=N,2µm,0.4s						
PEL	**Peldehue**	**2.26**	**29**	↓*i*P	**Pn**	**01 13 00.7**	**+0.4**
PEL				AML	AML	01 13 33.8	
	comp=N,3µm,0.6s						
AAGR	**Agrelo**	**3.32**	**53**	*e*P	**Pn**	**01 13 16.7**	**+1.7**
ARCO	**CERRO ARCO**	**3.42**	**49**	*e*P	**Pn**	**01 13 18.3**	**+2.0**
ARCO				IAML		01 13 37.2	
	comp=Z,436nm,0.7s						
AUSP	**Uspallata**	**3.62**	**38**	*e*P	**Pn**	**01 13 21.3**	**+2.1**
RTLS	**Leoncito**	**4.01**	**35**	*e*P	**Pn**	**01 13 26.6**	**+2.0**
RTLS				*e*S	Sn	01 14 22.4	+12
RTCV	**Cerro Valdivia**	**4.35**	**42**	*e*P	**Pn**	**01 13 29.9**	**+0.8**
RTCV				*e*S	Sn	01 14 29.3	+11
CFAA	**Coronel Fontan** comp=Z,0.7nm,0.3s,baz=197,slow=13,SNR=52	**4.71**	**43**	P	**Pn**	**01 13 33.4**	**-0.6**
CFAA				S	**Sn**	**01 14 30.4**	**+2.9**
	comp=Z,0.5nm,0.3s,baz=225,slow=15,SNR=3.2						
CFAA	**Coronel Fontan**	**4.71**	**43**	*e*P	**Pn**	**01 13 34.4**	**+0.4**
CFAA				*e*S	Sn	01 14 37.8	+10
RTLL	**Cerro Villicun**	**4.80**	**39**	*e*P	**Pn**	**01 13 35.9**	**+0.7**
RTLL				*e*S	Sn	01 14 37.5	+7.9
ACAN	**Cantantal**	**4.91**	**56**	*

comp=Z,0.2nm,0.5s,baz=110,slow=7.8,SNR=2.9
MATP Matopo 86.63 113 P **P 01 25 03.3 -1.2**
comp=Z,1.6nm,0.5s,baz=234,slow=2.2,SNR=9.3
WRA Warramunga Arr 119.79 209 PKP **PKPdf 01 31 09.9 -1.2**
comp=Z,0.5nm,0.9s,baz=148,slow=1.6,SNR=5.6
WRA pPKP **pPKPdf 01 31 24.2 -0.9**
comp=Z,1.2nm,1.2s,baz=141,slow=1.7,SNR=2.1
BVAR Borovoye Array 148.07 44 PKPbc **PKPbc 01 32 05.6 +0.2**
comp=Z,0.9nm,0.6s,baz=327,slow=2.4,SNR=4.5
BVAR pPKPbc **pPKPbc 01 32 19.9 +0.5**
comp=Z,1.3nm,0.8s,baz=298,slow=3.2,SNR=1.8
EKS2 Erkin-Say 152.46 64 *e*PKPbc **PKPbc 01 32 16.5 0.0**

ISCJB ***18*** *01:14:45.9±1.3, 41°.38N±0°.08×22°.48E±0°.05, h7km±5km, Error ellipse: s-maj=13.4km s-min=6.1km az=173.1*
CSEM ***18*** *01:14:45.9±0.1, 41°.38N×22°.47E, h12km, MD2.8, Error ellipse: s-maj=3.2km s-min=1.5km az=172.0*
SKO ***18*** *01:14:45.3, 41°.32N×22°.43E, h15km, M1.4, ML1.7*
ATH ***18*** *01:14:46.3, 41°.37N×22°.47E, h9km×7km, MD2.8/6*
ISC 18 01:14:45.7±1.4, 41°.41N±0°.08×22°.47E±0°.03, h11km±7km, n16, σ0°24/29, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.11**	**138**	⇑*i* Pg	**Pg**	**01 14 48.8**	**+0.1**
VAY				*i* Sg	**Sg**	**01 14 50.1**	**-0.7**
VAY				*e*Lg	Lg	01 14 50.1	
	comp=E,350nm,0.3s						
VAY				*e*Lg	Lg	01 14 50.1	
	comp=N,879nm,0.3s						
VAY	**Valandovo**	**0.11**	**138**	⇑*i* Pg	**Pg**	**01 14 48.7**	**+0.1**
VAY				*e*Lg	Lg	01 14 50.1	
	comp=N,879nm,0.3s						
KNT	**Kendrikon**	**0.41**	**127**	*e*PB	**Pg**	**01 14 53.8**	**+0.1**
KNT				*e*SB	**Sg**	**01 14 59.5**	**+0.4**
KNT	**Kendrikon**	**0.41**	**127**	*e*Pb	**Pg**	**01 14 53.8**	**+0.1**
KNT				*e*Sb	**Sg**	**01 14 59.5**	**+0.4**
THE	**Thessaloniki**	**0.86**	**154**	*e*PG	**Pg**	**01 15 01.9**	**-0.4**
THE	**Thessaloniki**	**0.86**	**154**	*e*Pg	**Pg**	**01 15 01.9**	**-0.4**
SOH	**Sokhos**	**0.89**	**131**	*e*PG	**Pg**	**01 15 02.6**	**-0.2**
SOH				*e*SB	**Sg**	**01 15 14.6**	**+0.2**
SOH	**Sokhos**	**0.89**	**131**	*e*Pg	**Pg**	**01 15 02.6**	**-0.2**
SOH				*e*Sb	**Sg**	**01 15 14.6**	**+0.2**
SRS	**Serrai**	**0.89**	**108**	*e*PB	**Pb**	**01 15 03.2**	**0.0**
SRS				*e*SB	**Sb**	**01 15 15.1**	**0.0**
SRS	**Serrai**	**0.89**	**108**	*e*Pb	**Pb**	**01 15 03.2**	**0.0**
SRS				*e*Sb	**Sb**	**01 15 15.1**	**0.0**
HORT	**Hortiatis**	**0.94**	**149**	*e*PB	**Pg**	**01 15 03.6**	**-0.2**
HORT				*e*SB	**Sb**	**01 15 16.6**	**+0.2**
HORT	**Hortiatis**	**0.94**	**149**	*e*Pb	**Pg**	**01 15 03.6**	**-0.2**
HORT				*e*Sb	**Sb**	**01 15 16.6**	**+0.2**
FNA	**Florina**	**1.03**	**233**	*e*PB	**Pg**	**01 15 05.6**	**0.0**
FNA				*e*SB	**Sb**	**01 15 19.3**	**+0.1**
FNA	**Florina**	**1.03**	**233**	*e*Pb	**Pg**	**01 15 05.6**	**0.0**
FNA				*e*Sb	**Sb**	**01 15 19.3**	**+0.1**
NVR	**Nevrokopi**	**1.05**	**93**	*e*PB	**Pn**	**01 15 06.2**	**-0.1**
NVR				*e*SB	**Sb**	**01 15 19.6**	**0.0**
NVR	**Nevrokopi**	**1.05**	**93**	*e*Pb	**Pn**	**01 15 06.2**	**-0.1**
NVR				*e*Sb	**Sb**	**01 15 19.6**	**0.0**

NNC 18 01:44:15.5±2.3, 39°.11N×69°.80E, h0km, mb3.8, mpv3.5, 4C-5D, Error ellipse: s-maj=37.9km s-min=10.2km az=147.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**0.82**	**248**	⇑P	Pg	01 44 29.2	-2.1
	68nm,0.4s						
DZET				⇓S	Sb	01 44 44.0	-0.5
	168nm,0.4s						
SFK	**Sufi-Kurgan**	**3.00**	**71**	⇑Pn	Pn	01 45 03.1	-1.6
	9.5nm,0.4s						
SFK				⇓Sn	Sb	01 45 44.7	-2.9
	47nm,0.5s						
KK31	**Karatay Array**	**4.02**	**7**	⇓Pn	Pn	01 45 20.0	+1.6
	1.1nm,0.3s,baz=190,slow=12,SNR=52						
KK31				⇓Sn	Sb	01 46 12.4	-4.1
	1.7nm,0.3s,baz=173,slow=32,SNR=3.6						
AAK	**Ala-Archa**	**5.00**	**44**	Pn	Pn	01 45 31.5	-0.6
	3.7nm,0.3s						
AAK				⇓Sn	Sn	01 46 37.3	+6.5
	5.1nm,0.7s						
AB31	**Akbulak array**	**12.35**	**328**	Pn	Pn	01 47 11.0	-1.5
	0.4nm,0.3s,baz=140,slow=13,SNR=22						
AB31				Sn	Sn	01 49 28.5	-2.3
AKTO	**Aktyubinsk**	**14.05**	**327**	⇑Pn	P	01 47 44.0	+0.1
	2.8nm,0.8s						
AKTO				⇑Sn	Sn	01 50 14.3	+1.9
	3.5nm,1.0s						

NIED ***18*** *01:52:00, 38°.90N×139°.60E, h5km, Mw3.7 Best double couple: M0=4.62000×10^14 NP1:φs=178.00000°, δ29.00000°, λ25.00000°. NP2:φs=66.00000°, δ78.00000°, λ116.00000°.*
IDC ***18*** *01:52:10.1±0.8, 38°.83N×139°.40E, h0km, mb3.6/7, mb1 3.8/10, mb1mx3.7/29, mbtmp3.5/10, ML2.7/3, MS2.2/2, Ms1 2.2/2, ms1mx2.0/29, Error ellipse: s-maj=34.1km s-min=13.4km az=113.0*
ISCJB ***18*** *01:52:11.2±0.6, 38°.92N±0°.03×139°.55E±0°.05, h14km±4km, mb3.6/7, Error ellipse: s-maj=6.1km s-min=4.2km az=17.6*
JMA ***18*** *01:52:11.4, 38°.91N×139°.57E, h15km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs=259.00000°, δ88.00000°, λ169.00000°. NP2: φs=350.00000°, δ79.00000°, λ2.00000°. Principal axes: T Plg9.0000°, Azm214.0000°; N Plg79.0000°, Azm68.0000°; P Plg6.0000°, Azm305.0000°;*
JMA Felt I J1.
ISC 18 01:52:10.8±1.2, 38°.87N±0°.03×139°.55E±0°.04, h3km±9km, n19, σ0°69/29, mb3.6/7, 4C-4D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYA	**Atsumi**	**0.30**	**155**	⇓P	**Pb**	**01 52 18.2**	**-0.7**
JYA				S	**Sb**	**01 52 23.2**	**-1.1**
JTB	**Tobi-shima**	**0.33**	**1**	⇑P	**Pg**	**01 52 17.5**	**+0.4**
JTB				S	**Sg**	**01 52 22.0**	**+0.7**
JAW	**Awa shima**	**0.48**	**210**	⇑P	**Pb**	**01 52 21.9**	**+0.1**
JAW				S	**Sb**	**01 52 29.5**	**+0.2**
JYK	**Kaneyama**	**0.63**	**85**	⇓P	**Pg**	**01 52 23.1**	**+0.1**
JYK				S	**Sg**	**01 52 31.3**	**+0.1**
JYS	**Shirataka**	**0.76**	**148**	⇓P	**Pg**	**01 52 26.1**	**+0.6**
JYS				S	**Sb**	**01 52 36.8**	**-0.7**
JRG	**Rokugo**	**0.99**	**58**	⇑P	**Pg**	**01 52 29.2**	**-0.7**
JRG				S	**Sg**	**01 52 42.6**	**-0.1**
JOU	**Okura**	**1.01**	**120**	⇓P	**Pg**	**01 52 30.1**	**0.0**
JOU				S	**Sg**	**01 52 43.8**	**+0.6**
JNS	**Sasagawa**	**1.07**	**190**	⇑P	**Pb**	**01 52 32.1**	**+0.2**
JNS				S	**Sb**	**01 52 46.8**	**+0.6**
MAT	**Matsushiro**	**2.56**	**205**	P	**Pn**	**01 52 53.7**	**+0.5**
MAT				S	**Sn**	**01 53 25.4**	**+0.6**
MJAR	**Matsushiro Arr**	**2.56**	**205**	Pn	**Pn**	**01 52 53.6**	**+0.4**
	3.4nm,0.3s,baz=8.7,slow=17,SNR=35						
MJAR				Pg	**Pg**	**01 52 58.8**	**-1.0**
	6.8nm,0.3s,baz=18,slow=15,SNR=52						
MJAR				Lg	Lg	01 53 26.0	
	10nm,0.3s,baz=353,slow=25,SNR=12						
MJAR				LR	LR	01 53 42.6	
	comp=Z,21nm,21.4s,baz=65,slow=37						
USRK	**Ussuriysk Ar.**	**7.78**	**316**	Pn	**Pn**	**01 54 03.6**	**-1.3**
	0.2nm,0.3s,baz=126,slow=13,SNR=3.7						
KSRS	**Korea Array**	**9.27**	**265**	Pn	**Pn**	**01 54 24.0**	**-1.3**
	0.2nm,0.3s,baz=89,slow=14,SNR=3.6						
KSRS				LR	LR	01 57 33.3	
	comp=Z,31nm,21.3s,baz=110,slow=35						
SEY	**Seymchan**	**25.32**	**14**	P	**P**	**01 57 39.1**	**+0.7**
	0.5nm,0.4s,baz=174,slow=10,SNR=3.5						
ILAR	**Eielson Array**	**48.75**	**33**	P	**P**	**02 00 56.1**	**-0.3**
	0.4nm,0.7s,baz=282,slow=5.9,SNR=6.4						
WRA	**Warramunga Arr**	**58.71**	**186**	P	**P**	**02 02 09.3**	**-0.5**
	0.7nm,0.6s,baz=1.3,slow=7.0,SNR=11						
ASAR	**Alice Springs**	**62.43**	**186**	P	**P**	**02 02 35.4**	**+0.2**
	0.4nm,0.6s,baz=17,slow=14,SNR=4.0						
NVAR	**Mina Array Bea**	**75.06**	**53**	P	**P**	**02 03 55.2**	**+1.0**
	0.4nm,0.6s,baz=327,slow=6.5,SNR=3.7						
PDAR	**Pinedale Array**	**77.42**	**45**	P	**P**	**02 04 07.2**	**-0.4**
	0.4nm,0.7s,baz=3.7,slow=4.6,SNR=5.1						
TXAR	**Lajitas Array**	**90.14**	**51**	P	**P**	**02 05 13.1**	**+0.3**
	0.4nm,0.8s,baz=298,slow=2.7,SNR=5.0						

IDC 18 01:53:40.8±7.3, 5°.25S×151°.51E, h168km±49km, mb3.0/2, mb1 3.2/3, mb1mx3.0/19, mbtmp3.5/3, Error ellipse: s-maj=125.9km s-min=49.9km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.98**	**226**	P	Pn	01 55 07.8	+0.4
	1.5nm,0.3s,baz=15,slow=12,SNR=4.3						
PMG				S	Sn	01 56 15.6	+0.2
	4.3nm,0.3s,baz=182,slow=14,SNR=3.9						
WRA	**Warramunga Arr**	**22.20**	**227**	P	P	01 58 23.3	-0.4
	0.4nm,0.3s,baz=53,slow=9.9,SNR=14						
ASAR	**Alice Springs**	**24.97**	**221**	P	P	01 58 49.6	+0.6
	0.7nm,0.7s,baz=57,slow=9.0,SNR=8.5						
TORD	**Torodi Ar. Bea**	**149.22**	**287**	PKPbc	PKPbc	02 13 09.8	-0.8
	0.3nm,0.7s,baz=68,slow=2.7,SNR=3.8						

IDC ***18*** *01:54:40.5±0.6, 29°.85N×70°.11E, h0km, mb4.2/25, mb1 4.3/27, mb1mx4.2/49, mbtmp4.2/27, ML3.8/2, MS3.6/22, Ms1 3.7/22, ms1mx3.5/43, Error ellipse: s-maj=15.5km s-min=12.0km az=14.0*
NDI ***18*** *01:54:42.5±2.8, 29°.79N×70°.00E, h10km, ML4.5, mb4.5(NEIC)*
MOS ***18*** *01:54:43.6±1.1, 30°.01N×70°.27E, h25km, mb4.6/25, Error ellipse: s-maj=8.1km s-min=4.7km az=98.1*
NEIC ***18*** *01:54:44.6±2.8, 29°.95N×70°.16E, h24km±20km, mb4.5/19, Error ellipse: s-maj=7.9km s-min=5.3km az=198.0*
BJI ***18*** *01:54:44.5, 30°.14N×70°.02E, h37km, mb4.6/28, mB4.5/20, Ms4.2/18, Ms7 3.8/14*
ISC 18 01:54:45.8±0.4, 29°.82N±0°.04×70°.20E±0°.03, h39km±2km, h39km:pP-P, n232, σ1s87/267, mb4.3/52, MS3.6/26, 14C-8D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARP	**Sargodha**	**2.99**	**45**	P	**Pn**	**01 55 31.2**	**+0.6**
THW	**Thamme Wali**	**3.25**	**24**	P	**Pn**	**01 55 35.1**	**+0.8**
CEP	**Cherat**	**4.25**	**20**	P	**Pn**	**01 55 48.8**	**+0.7**
CHCP	**Chirah Chowk**	**4.63**	**33**	P	**Pn**	**01 55 54.1**	**+0.8**
KBL	**Kabul**	**4.81**	**349**	*e*P	**Pn**	**01 55 56.2**	**+0.3**
KBL	**Kabul**	**4.81**	**349**	*e*Pn	**Pn**	**01 55 56.2**	**+0.3**
KHET	**Khetri**	**5.21**	**108**	*e*P	**Pn**	**01 56 01.2**	**0.0**
KHET				*e*S	**Sn**	**01 57 02.0**	**+1.9**
KHET				AML	AML	01 57 39.4	
	comp=E,701nm,0.4s						
KHET				AML	AML	01 57 39.6	
	comp=N,726nm,0.1s						
BHK	**Bhakra**	**5.59**	**72**	*e*P	**Pn**	**01 56 09.4**	**+3.0**
BHK				*ex*	**Sn**	**01 57 14.0**	**+4.6**
DLH	**Dalhousie**	**5.64**	**60**	*e*P	**Pn**	**01 56 09.0**	**+1.7**
DLH				*ex*	**Sn**	**01 57 13.0**	**+2.1**
DHRM	**DHARAMSHALA**	**5.77**	**64**	*e*P	**Pn**	**01 56 11.1**	**+2.0**
DHRM				*e*S	**Sn**	**01 57 14.6**	**+0.4**
DHRM				AML	AML	01 58 00.4	
	comp=N,1μm,0.4s						
DHRM				AML	AML	01 58 07.7	
	comp=E,2μm,0.1s						
BHGR	**Bahadurgarh**	**6.00**	**99**	*e*P	**Pn**	**01 56 12.8**	**+0.9**
BHGR				*e*S	**Sn**	**01 57 19.1**	**-0.3**
SDNR	**Sundarnagar**	**6.07**	**72**	*e*P	**Pn**	**01 56 15.0**	**+2.0**
SDNR				*ex*	**Sn**	**01 57 25.6**	**+4.4**
SMLA	**Simla**	**6.15**	**76**	*e*P	**Pn**	**01 56 15.6**	**+1.4**
SMLA				*e*S	**Sn**	**01 57 25.2**	**+1.9**
SMLA				AML	AML	01 58 12.4	
	comp=N,623nm,0.4s						
SMLA				AML	AML	01 58 13.8	
	comp=E,605nm,0.6s						
AYAN	**Aya Nagar**	**6.20**	**101**	*e*P	**Pn**	**01 56 15.3**	**+0.5**
NDI	**New Delhi**	**6.23**	**99**	*e*P	**Pn**	**01 56 16.0**	**+0.7**
NDI				*ex*	**Sn**	**01 57 28.0**	**+2.7**
BISR	**Bishrakh**	**6.45**	**99**	*e*P	**Pn**	**01 56 18.8**	**+0.5**
BISR				*e*S	**Sn**	**01 57 31.5**	**+0.9**
BHJ	**Bhuj**	**6.56**	**184**	*e*P	**Pn**	**01 56 18.2**	**-1.5**
BHJ				*e*S	**Sn**	**01 57 29.4**	**-3.8**
DDI	**Dehra Dun**	**6.83**	**84**	*e*P	**Pn**	**01 56 22.6**	**-0.9**
DDI				*ex*	x	01 58 38.0	
AGRA	**Agra**	**7.28**	**109**	*ex*	x	01 57 01.4	
AGRA				*e*S	**Sn**	**01 57 47.9**	**-3.1**
AGRA				AML	AML	01 58 54.4	
	comp=E,301nm,1.1s						
AGRA				AML	AML	01 58 55.9	
	comp=N,194nm,0.7s						
JOSI	**Joshimath**	**8.13**	**82**	*e*P	**Pn**	**01 56 41.3**	**-0.3**
JOSI				*ex*	Sn	01 58 04.8	-7.5
JOSI				AML	AML	01 58 24.2	
	comp=E,717nm,0.6s						
JOSI				AML	AML	01 58 24.9	
	comp=N,458nm,0.6s						
LGTI	**Lohaghat**	**8.75**	**90**	*e*P	**Pn**	**01 56 48.3**	**-1.5**
LGTI				*ex*	**Sn**	**01 58 26.2**	**-1.0**
BHPL	**Bhopal**	**9.20**	**134**	*e*P	**Pn**	**01 56 56.5**	**+0.4**
BHPL				*ex*	**Sn**	**01 58 39.2**	**+0.7**
SFK	**Sufi-Kurgan**	**10.53**	**14**	P	**Pn**	**01 57 14.1**	**-0.2**
SFK				pmax	pmax		
	comp=Z,45nm,0.6s						
IMYA	**Miami**	**10.68**	**310**	*e*P	**Pn**	**01 57 16.0**	**-0.3**
KSH	**Kashi**	**10.78**	**25**	P	Pn	01 57 12.8	-4.8
KSH				pP		01 57 21.1	
KSH				PP	**PnPn**	**01 57 23.3**	**-2.2**
KSH				S	Sn	01 59 04.6	-13
KSH				sS		01 59 19.3	
KSH				LN			
	comp=Z,750nm,6.2s						
KSH				LE			
	comp=Z,1μm,8.3s						
KSH				LZ			
	comp=Z,1μm,10.1s						
POO	**Poona**	**11.72**	**163**	*ex*	**Pn**	**01 57 31.0**	**+0.4**
	comp=Z,30nm,1.0s						
NGP	**Nagpur**	**11.76**	**135**	*ex*	**Pn**	**01 57 31.0**	**0.0**
	comp=Z,105nm,1.0s						
NGP				*e*P	**Pn**	**01 57 31.3**	**+0.3**
	comp=Z,105nm,1.0s						
NGP				*ex*	**Sn**	**01 59 42.0**	**+1.0**
KOLN	**Koldanda**	**11.93**	**97**	*e*P	**Pn**	**01 57 32.5**	**-1.0**
	comp=Z,164nm,1.2s						
DANN	**Dangsing**	**11.95**	**94**	*e*P	**Pn**	**01 57 33.0**	**-0.9**
	comp=Z,12nm,0.5s						
IKRD	**Kardeh**	**11.98**	**308**	*e*P	Pn	01 57 25.1	-9.1
AML	**Almayashu**	**12.61**	**12**	P	**Pn**	**01 57 40.7**	**-2.2**
	SNR=13						
GKN	**Gorkha**	**12.78**	**95**	*e*P	**Pn**	**01 57 43.0**	**-2.1**
	comp=Z,38nm,0.4s						
UCH	**Uchtor**	**12.86**	**15**	P	**Pn**	**01 57 44.0**	**-2.4**
	SNR=56						
GEYT	**Alibeck**	**12.88**	**312**	Pn	**Pn**	**01 57 44.0**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=134,slow=10,SNR=3.9						
GEYT				LR	LR	02 02 49.8	
	comp=Z,216nm,19.4s,baz=130,slow=38						
KZA	**Kyzart**	**12.90**	**17**	P	**Pn**	**01 57 45.4**	**-1.5**
	SNR=17						
ISHV	**Shirvan**	**12.94**	**310**	*e*P	**Pn**	**01 57 49.0**	**+1.8**
KLRI	**Killari**	**13.07**	**152**	*e*Pn	**Pn**	**01 57 46.4**	**-2.7**
KLRI				IAmb	IAmb	01 57 58.5	
	comp=Z,33nm,0.8s						
KLRI				Sn	**Sn**	**02 00 16.4**	**+3.2**
KLRI				IVMs_BB	IVMs_BB	02 04 33.3	
	comp=Z,1μm,4.5s						
SRSP	**Sriramsagar**	**13.13**	**144**	*e*Pn	Pn	01 57 46.5	-3.3
SRSP				IAmb	IAmb	01 57 58.4	
	comp=Z,67nm,0.9s						
SRSP				Sn	**Sn**	**02 00 10.2**	**-4.4**
SRSP				IVMs_BB	IVMs_BB	02 05 47.8	
	comp=Z,487nm,4.0s						
EKS2	**Erkin-Say**	**13.14**	**12**	P	**Pn**	**01 57 47.6**	**-2.2**
	SNR=20						
EKS2	**Erkin-Say**	**13.14**	**12**	*e*P	**Pn**	**01 57 47.1**	**-2.8**
EKS2				*e*		02 00 06.3	
EKS2				pmax	pmax		
	comp=Z,17nm,0.7s						
EKS2	**Erkin-Say**	**13.14**	**12**	*e*Pn	**Pn**	**01 57 47.0**	**-2.8**
	comp=Z,17nm,0.7s						
EKS2				*e*Sn	Sn	02 00 06.3	-8.4
AAK	**Ala-Archa**	**13.25**	**14**	P	**Pn**	**01 57 49.5**	**-1.9**
	SNR=13						
AAK	**Ala-Archa**	**13.25**	**14**	P	**Pn**	**01 57 49.1**	**-2.3**
AAK				pmax	pmax		
	comp=Z,18nm,0.6s						
KK31	**Karatay Array**	**13.26**	**1**	*e*P	**Pn**	**01 57 48.5**	**-3.0**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.3s						
KKAR	**Karatay Array**	**13.26**	**1**	*e*P	**Pn**	**01 57 48.7**	**-2.8**
KKAR	**Karatay Array**	**13.26**	**1**	*e*Pn	**Pn**	**01 57 48.7**	**-2.8**
DMN	**Daman**	**13.27**	**96**	*e*P	**Pn**	**01 57 50.4**	**-1.5**
	comp=Z,88nm,0.8s						
ULHL	**Ulahol**	**13.32**	**20**	P	**Pn**	**01 57 52.0**	**-0.5**
	SNR=11						
KBK	**Karagaybulak**	**13.37**	**15**	P	**Pn**	**01 57 52.8**	**-0.3**
	SNR=12						
KKN	**Kakani**	**13.38**	**95**	*e*P	**Pn**	**01 57 51.7**	**-1.6**
	comp=Z,62nm,0.7s						
FRU	**Bishkek**	**13.46**	**14**	*e*P	**Pn**	**01 57 53.0**	**-1.3**
IMEH	**Mehriz**	**13.52**	**281**	*e*P	**Pn**	**01 57 54.6**	**-0.7**
PKIN	**Phulchoki**	**13.53**	**96**	*e*P	**Pn**	**01 57 52.9**	**-2.5**
	comp=Z,33nm,0.5s						
PKI	**Pulchoki**	**13.54**	**96**	*e*P	**Pn**	**01 57 53.2**	**-2.4**
	comp=Z,85nm,0.8s						
CHMS	**Chumysh**	**13.65**	**14**	P	**Pn**	**01 57 54.5**	**-2.3**
	SNR=8.0						
RPR	**Rampur**	**13.69**	**141**	*e*Pn	**Pn**	**01 57 57.5**	**0.0**
RPR				IAmb	IAmb	01 58 08.3	
	comp=Z,39nm,0.7s						
RPR				Sn	**Sn**	**02 00 33.0**	**+4.7**
RPR				IVMs_BB	IVMs_BB	02 05 54.2	
	comp=Z,779nm,4.2s						
TKM2	**Tokmak 2**	**13.78**	**17**	P	**Pn**	**01 57 56.9**	**-1.7**
	SNR=28						
TKM2	**Tokmak 2**	**13.78**	**17**	P	**Pn**	**01 57 56.6**	**-2.1**
TKM2				pmax	pmax		
	comp=Z,22nm,0.8s						
TKM2	**Tokmak 2**	**13.78**	**17**	*e*Pn	**Pn**	**01 57 56.1**	**-2.5**
	comp=Z,35nm,1.0s						
GUN	**Gumba**	**13.87**	**94**	*e*P	**Pn**	**01 57 58.3**	**-1.9**
	comp=Z,512nm,0.8s						
HYBB	**Hyderabad (bro**	**14.51**	**146**	*e*Pn	**Pn**	**01 58 10.3**	**+1.6**
HYBB				IAmb	IAmb	01 58 16.0	
	comp=Z,39nm,1.0s						
HYBB				Sn	Sn	02 00 55.7	+7.4
HYBB				IVMs_BB	IVMs_BB	02 05 06.5	
	comp=Z,638nm,5.2s						
HYB	**Hyderabad**	**14.52**	**146**	*i* P	**P**	**01 58 14.5**	**-0.2**
HYB				*e*S	**Sn**	**02 00 50.0**	**+1.6**
RAMN	**Ramite**	**14.72**	**97**	*e*P	Pn	01 58 07.4	-4.2
	comp=Z,77nm,0.6s						
IGLO	**Ghaloghah**	**15.23**	**300**	*e*P	**P**	**01 58 24.2**	**+1.4**
PDGK	**Podgornoye**	**15.39**	**26**	P	**Pn**	**01 58 17.6**	**-2.5**
PDGK				pmax	pmax		
	comp=Z,29nm,1.0s						
ISHM	**Shahmirzad**	**15.41**	**297**	*e*P	**Pn**	**01 58 22.0**	**+1.3**
ODAN	**Odare**	**15.42**	**97**	*e*P	**Pn**	**01 58 17.1**	**-3.7**
	comp=Z,88nm,0.9s						
ILAS	**Lasjerd**	**15.55**	**295**	*e*P	**P**	**01 58 25.6**	**-0.7**
IZEF	**Zefreh**	**15.57**	**286**	*e*P	**Pn**	**01 58 22.9**	**+0.1**
TAPN	**Taplejung**	**15.58**	**95**	*e*P	**Pn**	**01 58 20.6**	**-2.3**
	comp=Z,40nm,0.6s						
NJS	**Nagarjunasagar**	**15.62**	**146**	*e*Pn	**Pn**	**01 58 19.6**	**-3.6**
NJS				IAmb	IAmb	01 58 30.9	
	comp=Z,27nm,0.9s						
NJS				Sn	**Sn**	**02 01 18.0**	**+2.8**
NJS				IVMs_BB	IVMs_BB	02 05 51.9	
	comp=Z,460nm,5.4s						
SRLM	**Srisailam**	**15.82**	**148**	*e*Pn	**Pn**	**01 58 23.1**	**-2.7**
SRLM				IAmb	IAmb	01 58 34.1	
	comp=Z,26nm,1.0s						
SRLM				*e*Sn	**Sn**	**02 01 24.6**	**+4.6**
SRLM				IVMs_BB	IVMs_BB	02 06 28.3	
	comp=Z,1μm,4.8s						
IALA	**Alasht**	**15.87**	**298**	*e*P	**P**	**01 58 30.9**	**+0.9**
IKAZ	**Kazeroun**	**15.94**	**274**	*e*P	**Pn**	**01 58 26.4**	**-1.2**
URV	**Uravakonda**	**16.17**	**155**	*e*Pn	**P**	**01 58 31.7**	**-1.4**
URV				IAmb	IAmb	01 58 34.7	
	comp=Z,70nm,1.3s						
URV				*e*Sn	**Sn**	**02 01 31.9**	**+3.3**
URV				IVMs_BB	IVMs_BB	02 08 17.7	
	comp=Z,667nm,4.6s						
IKLH	**Kolahrood**	**16.25**	**287**	*e*P	**P**	**01 58 33.5**	**-0.6**
PVM	**Polavaram**	**16.30**	**138**	*e*Pn	**Pn**	**01 58 30.7**	**-1.3**
PVM				IAmb	IAmb	01 58 44.1	
	comp=Z,22nm,1.0s						
PVM				Sn	**Sn**	**02 01 31.6**	**-0.1**
PVM				IVMsBB		02 07 00.9	
	comp=Z,422nm,4.4s						
IDMV	**Damavand**	**16.33**	**295**	*e*P	**Pn**	**01 58 33.7**	**+1.2**
RCLA	**Racherla**	**16.41**	**149**	*e*Pn	**Pn**	**01 58 30.5**	**-2.8**
RCLA				IAmb	IAmb	01 58 37.8	
	comp=Z,27nm,1.1s						
RCLA				Sn	**S**	**02 01 40.9**	**-4.6**
RCLA				IVMsBB		02 07 13.4	
	comp=Z,1μm,4.5s						
ADKI	**Addanki**	**16.55**	**145**	*e*Pn	**P**	**01 58 36.5**	**-0.8**
ADKI				IAmb	IAmb	01 58 44.2	
	comp=Z,20nm,0.7s						
ADKI				Sn	**Sn**	**02 01 38.5**	**+0.7**
ADKI				IVMs_BB	IVMs_BB	02 07 30.0	
	comp=Z,594nm,4.2s						
IPIR	**Pirpir**	**16.76**	**285**	*e*P	**Pn**	**01 58 34.8**	**-3.1**
CHLP	**Challavanipeta**	**16.91**	**129**	*e*Pn	**Pn**	**01 58 37.7**	**-2.0**
CHLP				IAmb	IAmb	01 58 52.8	
	comp=Z,26nm,0.7s						
CHLP				Sn	**S**	**02 01 53.1**	**-2.6**
CHLP				IVMs_BB	IVMs_BB	02 06 48.8	
	comp=Z,738nm,8.3s						
IRAZ	**Razeghan**	**17.95**	**293**	*e*P	**P**	**01 58 54.0**	**+1.1**
IGZV	**Ghazvin**	**17.96**	**297**	*e*P	**P**	**01 58 55.1**	**+2.0**
**SK

comp=Z,18nm,0.9s
BVAR Borovoye Array 23.19 0 P **P 01 59 47.9 -1.1**
comp=Z,14nm,0.7s,baz=170,slow=10,SNR=88
DGRG David-gareji 23.19 307 P **P 01 59 50.7 +1.5**
BRVK Borovoye 23.22 0*c iP* **P 01 59 48.4 -0.9**
BRVK pmax pmax
comp=Z,26nm,1.0s
BRVK Borovoye 23.22 0 *e*P **P 01 59 47.8 -1.5**
comp=Z,22nm,0.9s
TBLG Delisi 23.74 307 P sP 02 00 11.0 +1.3
TBLG Delisi 23.74 307 P sP 02 00 11.0 +1.3
PALK Pallekele 24.51 154 LR LR 02 08 51.6
comp=Z,171nm,18.4s,baz=355,slow=35
ONI Oni 24.95 308 P P 01 59 58.1 -7.4
NEY Neytrino 25.69 309 *e*P **P 02 00 13.4 +1.0**
NEY pmax pmax
comp=Z,2.0nm,0.6s
KBZ Khabaz 25.76 310 P **P 02 00 14.2 +1.4**
comp=Z,5.0nm,0.9s,baz=136,slow=9.4,SNR=6.7
KIV Kislovodsk 25.99 310 *i* P **P 02 00 14.8 -0.2**
KIV *i* 02 00 26.6
KIV pmax pmax
comp=Z,7.0nm,1.2s
GTA Gaotai 26.09 61 *e*P P 02 00 09.4 -6.6
GTA pP pP 02 00 18.8 -7.9
GTA sP sP 02 00 22.9 -8.5
GTA S S 02 04 35.0 -10
GTA sS sS 02 04 50.8 -12
GTA SS **SnSn 02 05 39.9 -4.9**
GTA pmax pmax
comp=Z,3.0nm,0.7s
GTA pmax pmax
comp=Z,41nm,5.0s
GTA LR LR
comp=N,330nm,19.0s
GTA LR LR
comp=E,120nm,13.8s
GTA LR LR
comp=Z,100nm,13.1s
ZAA0 Zalesovo Array 26.35 20 *e*P **P 02 00 16.7 -1.3**
ZALV Zalesovo Beam 26.35 20 P **P 02 00 18.1 +0.1**
comp=Z,5.2nm,0.4s,baz=211,slow=9.5,SNR=19
ZALV LR LR 02 11 59.5
comp=Z,142nm,19.7s,baz=250,slow=39
SVE Sverdlovsk 27.82 349 *e*P **P 02 00 31.7 +0.5**
SVE pmax pmax
comp=Z,9.0nm,1.2s
SVE MLR MLR
comp=Z,249nm,15.0s
ARU Arti 27.84 346 P **P 02 00 31.1 -0.3**
baz=153,slow=14
ARU LR LR 02 13 12.7
comp=Z,174nm,18.2s,baz=154,slow=40
ARU Arti 27.84 346*c iP* **P 02 00 31.5 +0.1**
ARU S **S 02 05 13.9 +2.1**
ARU pmax pmax
comp=Z,12nm,1.7s
ARU Arti 27.84 346 *e*P **P 02 00 31.9 +0.5**
comp=Z,7.3nm,0.9s
SOC Sochi 27.86 308 *e*P **P 02 00 34.3 +2.6**
SOC *e* 02 00 41.1
SOC *e*S **S 02 05 19.4 +7.0**
SOC pmax pmax
comp=Z,29nm,1.8s
CHTO Chiang Mai 28.32 106 *e*P **P 02 00 37.1 +1.0**
CHTO pmax pmax
comp=Z,4.0nm,0.7s
CHTO Chiang Mai 28.32 106 *e*P **P 02 00 37.1 +1.0**
comp=Z,4.3nm,0.7s
CMAR Chiang Mai Arr 28.48 107 P **P 02 00 39.1 +1.6**
comp=Z,1.5nm,0.3s,baz=293,slow=18,SNR=9.6
CMAR LR LR 02 13 28.9
comp=Z,79nm,18.8s,baz=305,slow=40
LZH Lanzhou 28.82 69 *e*P **P 02 00 42.1 +1.5**
LZH pP **pP 02 00 51.8 +0.5**
LZH sP **sP 02 00 56.4 +0.4**
LZH PMZ
comp=Z,12nm,1.0s
CD2 Chengdu 28.92 79 P **P 02 00 39.3 -2.0**
CD2 pP **pP 02 00 49.6 -2.5**
CD2 sP **sP 02 00 54.4 -2.4**
CD2 S **S 02 05 27.3 -2.1**
CD2 sS **sS 02 05 45.3 -2.0**
CD2 PMZ
comp=Z,30nm,0.6s
CD2 PMZ
comp=Z,390nm,5.4s
CD2 LE
comp=Z,450nm,12.0s
CD2 LZ
comp=Z,220nm,7.8s
KMI Kunming 29.19 91 P P 02 00 47.8 +3.8
KMI PMZ
comp=Z,11nm,0.6s
MMAI Mount Meron Ar 29.79 285 LR LR 02 14 55.4
comp=Z,142nm,18.1s,baz=75,slow=41
ANN Anapa 29.81 309 *e*P **P 02 00 51.3 +2.3**
ANN MLR MLR
comp=Z,127nm,16.0s
BR131 Keskin Array S 31.43 298 *e*P **P 02 01 03.1 -0.4**
comp=Z,2.4nm,0.7s
BRTR Keskin Array B 31.43 298 P **P 02 01 03.0 -0.6**
comp=Z,2.8nm,0.8s,baz=119,slow=8.3,SNR=14
BRTR LR LR 02 15 35.8
comp=Z,57nm,19.1s,baz=120,slow=40
BRTR Keskin Array B 31.43 298 P **P 02 01 03.0 -0.6**
ZAK Zakamensk 32.20 41 *e*P **P 02 01 11.2 +1.1**
ZAK pmax pmax
comp=Z,2.0nm,0.9s
GYA Guiyang 32.24 87 *e*P **P 02 01 13.0 +2.2**
GYA PMZ
comp=Z,10.0nm,0.8s
SONM Songino Array 33.06 47 P **P 02 01 20.0 +2.2**
comp=Z,2.9nm,0.7s,baz=248,slow=9.2,SNR=15
SONM LR LR 02 17 41.9
comp=Z,217nm,18.1s,baz=241,slow=42
SONM Songino Array 33.06 47 P **P 02 01 20.0 +2.2**
OBN Obninsk 34.85 326 *e*P **P 02 01 35.7 +2.7**
OBN *e*S **S 02 06 58.4 -2.7**
OBN pmax pmax
comp=Z,4.0nm,1.0s
OBN MLR MLR
comp=Z,264nm,20.0s
HHC Hu-ho-hao-te 35.20 60 *e*P **P 02 01 37.5 +1.1**
HHC PP **PP 02 02 55.9 -0.7**
HHC S **S 02 07 02.3 -4.9**
HHC sS **sS 02 07 27.6 +2.3**
HHC ScS **ScS 02 11 51.3 -2.4**
HHC PMZ
comp=Z,16nm,1.1s
HHC PMZ
comp=Z,90nm,5.2s
HHC LN
comp=Z,190nm,13.3s
HHC LE
comp=Z,120nm,14.1s
HHC LZ
comp=Z,91nm,15.5s
CFR Carcaliu 36.29 307 ⇑P **P 02 01 43.8 -1.6**
CFR Carcaliu 36.29 307 ⇑*iP* **P 02 01 43.8 -1.6**
AK02 Malin Array Si 36.96 316 *e*P **P 02 01 50.0 -1.1**
AKASG Malin Array Be 36.96 316 P **P 02 01 49.9 -1.2**
comp=Z,3.0nm,0.3s,baz=101,slow=7.1,SNR=12
AKASG LR LR 02 20 52.3
comp=Z,94nm,18.6s,baz=95,slow=43
AKASG Malin Array Be 36.96 316 *i* P **P 02 01 52.5 +1.4**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKBB Malin Array Si 36.96 316 *e*P **P 02 01 50.4 -0.7**
AKBB Malin Array Si 36.96 316 *e*P **P 02 01 50.4 -0.7**
AK01 Malin Array Si 36.96 316 *e*P **P 02 01 50.0 -1.1**
KIEV Kiev 36.97 316 *e*P **P 02 01 50.1 -1.1**
KIEV pmax pmax
comp=Z,10.0nm,0.9s
KIEV Kiev 36.97 316 *e*P **P 02 01 50.0 -1.1**
comp=Z,10nm,0.9s
VRI Vrincioaia 37.38 308 ⇓P **P 02 01 55.0 +0.2**
VRI Vrincioaia 37.38 308 ⇓*iP* **P 02 01 55.0 +0.2**
PLOR Plostina 37.43 308 ⇑P **P 02 01 57.7 +2.4**
PLOR Plostina 37.43 308 ⇑*iP* **P 02 01 57.7 +2.4**
KULM Kulim 37.69 124 *e*P **P 02 01 59.3 +1.6**
comp=Z,17nm,1.0s
MLR Muntele Rosu 37.86 307 ⇑P **P 02 02 01.7 +2.7**
MLR Muntele Rosu 37.86 307 ⇑*iP* **P 02 02 01.7 +2.7**
IPM Ipoh 38.52 125 *e*P **P 02 02 06.2 +1.5**
comp=Z,28nm,1.0s
BJI Beijing 38.68 62 P **P 02 02 05.1 -0.7**
BJI S **S 02 07 56.8 -3.1**
BJI PMZ
comp=Z,10.0nm,0.6s
BJI LN
comp=Z,290nm,22.0s
BJI LE
comp=Z,79nm,22.0s
BURAR Bucovina Array 38.72 310 ⇓P **P 02 02 07.2 +1.0**
BURAR Bucovina Array 38.72 310 ⇓*iP* **P 02 02 07.2 +1.0**
BUR08 Bucovina Ar. S 38.74 310 *e*P **P 02 02 05.7 -0.6**
ARR Arges 38.76 306 ⇑*iP* **P 02 02 08.7 +2.2**
ARCR ARCALIA 39.21 309 ⇑*iP* P 02 02 15.9 +5.8
VTS Vitosha 39.52 302 ⇑P **P 02 02 12.0 -1.0**
VTS Vitosha 39.52 302 ⇑*iP* **P 02 02 12.0 -1.0**
DRGR 40.27 308 ⇓P **P 02 02 20.7 +1.6**
DRGR 40.27 308 ⇓*iP* **P 02 02 20.7 +1.6**
KOLS Kolonicke sedl 40.89 312 *e*P **P 02 02 24.8 +0.7**
KOLS pmax pmax
comp=Z,20nm,2.3s
KOLS Kolonicke sedl 40.89 312 *e*P **P 02 02 24.8 +0.7**
KOLS *e* 02 04 27.5
BOD Bodaibo 41.10 34 *e*P **P 02 02 26.3 +0.7**
BOD pmax pmax
comp=Z,4.0nm,1.0s
NJ2 Nanjing 41.52 74 *e*P **P 02 02 30.4 +1.0**
NJ2 LN
comp=Z,320nm,14.2s
NJ2 LE
comp=Z,440nm,14.1s
DIVS Divibare 41.94 304 ⇑*iP* **P 02 02 33.5 +0.6**
PSZ Piszkesteto 42.32 310 *e*P **P 02 02 36.5 +0.7**
PSZ pmax pmax
comp=Z,6.0nm,1.0s
PSZ Piszkesteto 42.32 310 ⇓*iP* **P 02 02 37.1 +1.3**
PSZ Piszkesteto 42.32 310 *e*P **P 02 02 36.5 +0.7**
comp=Z,5.9nm,1.0s
MYKOM Kota Tinggi 42.40 125 *e*P **P 02 02 39.0 +2.2**
FINES FINESS Array B 42.81 331 P **P 02 02 38.2 -1.3**
comp=Z,2.2nm,0.9s,baz=101,slow=9.9,SNR=8.0
FINES LR LR 02 22 36.0
comp=Z,193nm,18.3s,baz=115,slow=39
FINES FINESS Array B 42.81 331 *i* P **P 02 02 39.9 +0.4**
FINES pmax pmax
comp=Z,2.0nm,0.9s
OKC Ostrava-Krasne 43.69 312 *e*P **P 02 02 45.8 -1.1**
OKC *ex* x 02 02 48.8
OKC *es*P **sP 02 02 59.0 -3.5**
OKC Ostrava-Krasne 43.69 312 *e*P **P 02 02 45.8 -1.1**
OKC *e* 02 02 48.8
OKC *e* 02 02 59.0
KMBO Kilima Mbogo 43.99 232 P **P 02 02 50.8 +0.8**
comp=Z,2.8nm,0.7s,baz=57,slow=10,SNR=7.5
KMBO LR LR 02 24 51.8
comp=Z,48nm,18.1s,baz=2.5,slow=41
KMBO Kilima Mbogo 43.99 232 *i* P P 02 02 53.7 +3.8
KMBO pmax pmax
comp=Z,3.0nm,0.7s
MORC Moravsky Berou 44.08 312 *e*P **P 02 02 51.0 +1.0**
MORC pmax pmax
comp=Z,6.0nm,0.6s
MORC Moravsky Berou 44.08 312 *e*P **P 02 02 51.0 +1.0**
comp=Z,6.0nm,0.6s
TIP Timpagrande 44.47 297 *e*P **P 02 02 54.1 +0.8**
comp=Z,2.5nm,1.0s
DPC Dobruska-Polom 44.92 313 *e*P **P 02 02 55.6 -1.1**
DPC *ex* x 02 03 09.6
DPC Dobruska-Polom 44.92 313 *e*P **P 02 02 55.6 -1.1**
DPC *e* 02 03 09.6
CUC Castrocucco 45.13 298 *e*P **P 02 02 58.9 +0.4**
comp=Z,4.0nm,0.8s
UPC Upice 45.13 313 AMS AMS 02 26 40.0
comp=Z,100nm,16.0s
GOPC GO Pecny, Ondr 45.86 312 AMS AMS 02 26 20.0
comp=Z,100nm,16.3s
PRU Pruhonice 46.03 312 *e*P **P 02 03 05.3 -0.1**
PRU *ep*P **pP 02 03 12.4 -4.2**
PRU Pruhonice 46.03 312 *e*P **P 02 03 05.3 -0.1**
PRU *e* 02 03 12.4
GERES GERESS Array B 46.51 311 P **P 02 03 09.8 +0.4**
comp=Z,0.3nm,0.6s,baz=99,slow=5.8,SNR=4.3
GERES PcP **PcP 02 04 46.0 +2.7**
comp=Z,1.1nm,1.1s,baz=76,slow=5.6,SNR=3.6
GERES LR LR 02 25 20.0
comp=Z,31nm,18.1s,baz=68,slow=40
ARCES ARCESS Array B 47.12 340 P **P 02 03 14.0 +0.3**
comp=Z,4.6nm,0.5s,baz=131,slow=7.8,SNR=48
ARCES LR LR 02 25 54.3
comp=Z,76nm,18.2s,baz=122,slow=40
ARE0 ARCESS Array S 47.12 340 *e*P **P 02 03 13.7 0.0**
KSAR Wonju Array Be 47.99 65 P **P 02 03 21.0 +0.1**
KSAR Wonju Array Be 47.99 65 P **P 02 03 21.0 +0.1**
KSRS Korea Array 48.02 65 P **P 02 03 21.0 -0.1**
comp=Z,1.4nm,0.6s,baz=274,slow=7.0,SNR=6.8
KSRS LR LR 02 24 55.4
comp=Z,49nm,18.5s,baz=285,slow=38
KSRS Korea Array 48.02 65 P **P 02 03 21.0 -0.1**
KSRS pmax pmax
comp=Z,1.0nm,0.6s
KSRS MLR MLR
comp=Z,49nm,18.5s
GRFO Grafenberg 48.16 312 *e*P **P 02 03 22.3 +0.2**
GRFO pmax pmax
comp=Z,3.0nm,0.7s
GRFO Grafenberg 48.16 312 *e*P **P 02 03 22.3 +0.2**
comp=Z,2.7nm,0.7s
NB2 NORSAR Subarra 49.45 327 P **P 02 03 30.9 -0.9**
comp=Z,4.2nm,1.1s,baz=104,slow=7.9
NOA NORSAR Array B 49.45 327 P **P 02 03 30.6 -1.3**
comp=Z,1.5nm,0.7s,baz=104,slow=7.7,SNR=5.7
NOA LR LR 02 28 19.8
comp=Z,216nm,18.4s,baz=105,slow=41
YAK Yakutsk 49.88 32 P **P 02 03 35.1 +0.1**
comp=Z,1.8nm,0.4s,baz=137,slow=18,SNR=2.2
YAK Yakutsk 49.88 32 *e*P **P 02 03 34.8 -0.2**
YAK pmax pmax
comp=Z,22nm,0.9s
YAK Yakutsk 49.88 32 *e*P **P 02 03 35.6 +0.5**
comp=Z,29nm,0.9s
KEST Kesra 50.80 294 P **P 02 03 43.3 +0.7**
comp=Z,0.9nm,0.6s,baz=46,slow=2.2,SNR=13
KEST Kesra 50.80 294 *e*P **P 02 03 43.5 +1.0**
JNU Nakatsue 51.23 70 LR LR 02 27 17.7
comp=Z,72nm,19.4s,baz=310,slow=38
MJAR Matsushiro Arr 56.26 64 P **P 02 04 23.9 +1.4**
comp=Z,0.3nm,0.4s,baz=278,slow=8.5,SNR=3.4
MJAR LR LR 02 30 08.6
comp=Z,25nm,21.8s,baz=295,slow=38
TAM Tamanrasset 57.75 279 *e*P **P 02 04 34.5 +1.1**
TAM pmax pmax
comp=Z,4.0nm,1.3s
TAM Tamanrasset 57.75 279 *e*P **P 02 04 34.5 +1.1**
comp=Z,3.6nm,1.3s
ESDC Sonseca Array 60.16 301 P **P 02 04 48.0 -1.7**
comp=Z,0.5nm,0.5s,baz=67,slow=6.7,SNR=7.6
SEY Seymchan 60.40 31 P **P 02 04 51.8 +1.0**
comp=Z,7.7nm,1.0s,baz=262,slow=4.1,SNR=14
SEY Seymchan 60.40 31 ⇓*iP* **P 02 04 52.1 +1.3**
TORD Torodi Ar. Bea 65.04 271 P **P 02 05 21.3 -1.2**
comp=Z,1.7nm,0.5s,baz=60,slow=5.2,SNR=42
TORD LR LR 02 38 06.8
comp=Z,99nm,18.1s,baz=125,slow=40
PETK Petropavlovsk- 65.32 42 LR LR 02 37 32.1
comp=Z,56nm,18.4s,baz=263,slow=39
LBTB Lobatse 69.31 223 *e*P **P 02 05 51.7 +2.2**
LBTB pmax pmax
comp=Z,6.0nm,1.0s
LBTB Lobatse 69.31 223 *e*P **P 02 05 51.7 +2.2**
comp=Z,6.2nm,1.0s
WRA Warramunga Arr 79.11 120 P **P 02 06 47.2 +0.6**
comp=Z,3.3nm,0.7s,baz=321,slow=5.1,SNR=44
WRAB Tennant Creek 79.12 120 *e*P **P 02 06 47.6 +1.0**
WRAB pmax pmax
comp=Z,6.0nm,0.8s
WRAB Tennant Creek 79.12 120 *e*P **P 02 06 47.6 +1.0**
comp=Z,6.3nm,0.8s
INK Inuvik 80.59 9 P **P 02 06 54.7 +0.9**
comp=Z,2.5nm,0.8s,baz=46,slow=11,SNR=3.4
AS31 Alice Springs 81.05 124 *e*P **P 02 06 57.8 +0.7**
ASAR Alice Springs 81.05 124 P **P 02 06 57.8 +0.7**
comp=Z,3.3nm,0.7s,baz=309,slow=5.3,SNR=42
COLA College 81.07 15 *e*P **P 02 06 56.7 +0.2**
COLA pmax pmax
comp=Z,8.0nm,1.1s
COLA College 81.07 15 *e*P **P 02 06 56.7 +0.2**
comp=Z,8.5nm,1.1s
ILAR Eielson Array 81.38 15 P **P 02 06 57.8 -0.4**
comp=Z,1.1nm,0.9s,baz=311,slow=3.8,SNR=10
ILAR LR LR 02 46 31.3
comp=Z,20nm,21.3s,baz=244,slow=38

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*SKHL **18** 01:58:58.2±4.6, 49°.00N×154°.04E, h168km±5km, mb4.5/3, Ms3.2/3, msh4.3/1*
*MOS **18** 01:58:59.9±1.6, 49°.41N×153°.59E, h184km, mb4.0/3, Error ellipse: s-maj=20.4km s-min=5.4km az=61.3*
*KRSC **18** 01:59:01.4±2.5, 49°.13N×154°.89E, h226km±24km, ML4.3*
*IDC **18** 01:59:02.7±2.0, 49°.52N×153°.29E, h195km±19km, mb3.1/10, mb1 3.3/13, mb1mx3.1/46, mbtmp3.6/13, MS3.0/1, Ms1 3.1/1, ms1mx2.5/9, Error ellipse: s-maj=18.4km s-min=12.4km az=140.0*
ISC 18 01:58:58.8±0.8, 49°.17N±0°.09×153°.92E±0°.08, h200km, n95, σ1s85/97, mb3.2/10, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.08**	**42**	*e*P	**Pn**	**01 59 39.0**	**+1.0**
SKR				*e*S	**Sn**	**02 00 09.8**	**+1.2**
SKR	**Severo-Kuril's**	**2.08**	**42**	*e*PN	**Pn**	**01 59 37.5**	**-0.5**
SKR				*e*S	**Sn**	**02 00 07.0**	**-1.6**
SKR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
SKR	**Severo-Kuril's**	**2.08**	**42**	*e*P	**Pn**	**01 59 37.5**	**-0.5**
SKR				AMB	AMB	01 59 45.7	
	comp=Z,160nm,1.2s						
SKR				AMB	AMB	02 00 03.5	
	comp=Z,230nm,11.0s						
SKR				*e*S	**Sn**	**02 00 07.0**	**-1.6**
SKR				A	A	02 00 26.0	
	comp=Z,120nm,0.3s						
SKR				A	A	02 00 26.0	
	comp=Z,60nm,0.3s						
PAU	**Pauzhetka**	**2.95**	**38**	*e*P	**Pn**	**01 59 48.7**	**+1.0**
PAU				*e*S	**Sn**	**02 00 26.5**	**+0.3**
PAU	**Pauzhetka**	**2.95**	**38**	*e*PN	**Pn**	**01 59 48.7**	**+1.0**
PAU				*e*S	**Sn**	**02 00 31.1**	**+5.0**
PAU				MLR	MLR		
	comp=E,24μm,21.9s						
PAU				MLR	MLR		
	comp=Z,12μm,21.9s						
PAU	**Pauzhetka**	**2.95**	**38**	*e*P	**Pn**	**01 59 48.7**	**+1.0**
PAU				AMB	AMB	01 59 52.8	
	comp=Z,150nm,1.1s						
PAU				*e*S	**Sn**	**02 00 31.1**	**+5.0**
PAU				A	A	02 00 38.8	
	comp=Z,160nm,0.3s						
PAU				AMS	AMS	02 00 38.9	
	comp=Z,200nm,22.0s						
PAU				AMS	AMS	02 00 38.9	
	comp=Z,100nm,22.0s						
MIPR	**Malaya Ipel'ka**	**3.59**	**29**	*e*P	**Pn**	**01 59 56.3**	**+0.8**
MIPR				*e*S	**Sn**	**02 00 39.0**	**-1.0**
ASAK	**Asacha**	**4.09**	**37**	*e*P	**Pn**	**02 00 03.0**	**+1.4**
APC	**Apacha**	**4.28**	**27**	*e*P	**Pn**	**02 00 05.0**	**+1.1**
APC	**Apacha**	**4.28**	**27**	PN	**Pn**	**02 00 05.0**	**+1.1**
MTVR	**Mutnovka**	**4.28**	**38**	*e*P	**Pn**	**02 00 05.6**	**+1.5**
MTVR				*e*S	**Sn**	**02 00 53.2**	**-2.3**
RUS	**Russkaya**	**4.38**	**40**	*e*P	**Pn**	**02 00 05.9**	**+0.8**
RUS				*e*S	**Sn**	**02 00 55.4**	**-2.0**
RUS	**Russkaya**	**4.38**	**40**	PN	**Pn**	**02 00 05.9**	**+0.8**
RUS				S	**Sn**	**02 00 55.4**	**-2.0**
RUS	**Russkaya**	**4.38**	**40**	*e*P	**Pn**	**02 00 05.9**	**+0.8**
RUS				*e*S	**Sn**	**02 00 55.4**	**-2.0**
PETK	**Petropavlovsk-**	**4.60**	**30**	P	**Pn**	**02 00 09.6**	**+1.5**
	comp=Z,1.3nm,0.3s,baz=189,slow=12,SNR=16						
PETK	**Petropavlovsk-**	**4.60**	**30**	PN	**Pn**	**02 00 09.6**	**+1.5**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PET	**Petropavlovsk**	**4.88**	**36**	*e*S	**Sn**	**02 01 06.1**	**-2.7**
PET	**Petropavlovsk**	**4.88**	**36**	*e*PN	**Pn**	**02 00 10.9**	**-0.5**
PET				*e*S	**Sn**	**02 01 09.0**	**+0.2**
PET				pmax	pmax		
	comp=Z,300nm,3.8s						
PET				smax	smax		
	comp=N,200nm,3.4s						
PET	**Petropavlovsk**	**4.88**	**36**	*e*P	**Pn**	**02 00 11.3**	**-0.1**
PET				AMB	AMB	02 00 16.5	
	comp=N,300nm,4.0s						
PET				*e*S	**Sn**	**02 01 09.0**	**+0.2**
PET				A	A	02 01 17.3	
	comp=N,20nm,0.4s						
PET				A	A	02 01 40.5	
	comp=N,200nm,3.5s						
PET				AMS	AMS	02 07 16.1	
	comp=N,100nm,18.0s						
PET				AMS	AMS	02 07 16.1	
	comp=N,200nm,18.0s						
KOK	**Koryaka**	**5.08**	**34**	*e*P	**Pn**	**02 00 16.6**	**+2.4**
KOK	**Koryaka**	**5.08**	**34**	PN	**Pn**	**02 00 16.6**	**+2.4**
KOK	**Koryaka**	**5.08**	**34**	*e*P	**Pn**	**02 00 16.6**	**+2.4**
UGLR	**Uglovaya**	**5.08**	**35**	*e*P	**Pn**	**02 00 16.6**	**+2.4**
UGLR				*e*S	**Sn**	**02 01 11.6**	**-2.2**
AVH	**Avacha**	**5.10**	**35**	*e*P	**Pn**	**02 00 16.4**	**+2.0**
AVH				*e*S	**Sn**	**02 01 12.3**	**-1.7**
AVH	**Avacha**	**5.10**	**35**	PN	**Pn**	**02 00 16.4**	**+2.0**
AVH				S	**Sn**	**02 01 12.3**	**-1.7**
AVH	**Avacha**	**5.10**	**35**	*e*P	**Pn**	**02 00 17.4**	**+2.5**
SMAR	**Somma**	**5.12**	**35**	*e*P	**Pn**	**02 00 17.3**	**+2.5**
SMAR	**Somma**	**5.12**	**35**	PN	**Pn**	**02 00 17.3**	**+2.5**
KRER	**Koryakskii**	**5.13**	**34**	*e*P	**Pn**	**02 00 17.1**	**+2.2**
KRX	**Arik**	**5.14**	**34**	*e*P	**Pn**	**02 00 17.3**	**+2.4**
KRX				*e*S	**Sn**	**02 01 13.3**	**-1.8**
SDLR	**Sedlovina**	**5.16**	**35**	*e*P	**Pn**	**02 00 17.1**	**+1.9**
SDLR				*e*S	**Sn**	**02 01 13.0**	**-2.6**
SDLR	**Sedlovina**	**5.16**	**35**	PN	**Pn**	**02 00 17.1**	**+1.9**
SDLR				S	**Sn**	**02 01 13.0**	**-2.6**
GNL	**Ganaly**	**5.18**	**28**	*e*P	**Pn**	**02 00 16.8**	**+1.3**
GNL	**Ganaly**	**5.18**	**28**	PN	**Pn**	**02 00 16.8**	**+1.3**
NLC	**Nalytchevo**	**5.26**	**38**	*e*P	**Pn**	**02 00 15.8**	**-0.6**
NLC				*e*S	Sn	02 01 11.3	-6.4
NLC	**Nalytchevo**	**5.26**	**38**	PN	**Pn**	**02 00 15.8**	**-0.6**
NLC				S	Sn	02 01 11.3	-6.4
NLC	**Nalytchevo**	**5.26**	**38**	*e*P	**Pn**	**02 00 15.8**	**-0.6**
SPN	**Mys Shipunski**	**5.50**	**42**	*e*P	**Pn**	**02 00 20.0**	**+0.6**
SPN				*e*S	Sn	02 01 16.0	-6.9
SPN	**Mys Shipunski**	**5.50**	**42**	PN	**Pn**	**02 00 20.0**	**+0.6**
SPN	**Mys Shipunski**	**5.50**	**42**	*e*P	**Pn**	**02 00 20.0**	**+0.6**
KUR	**Kuril'sk**	**5.70**	**229**	⇑*i*PN	**Pn**	**02 00 25.1**	**+3.0**
KUR	**Kuril'sk**	**5.70**	**229**	*e*P	**Pn**	**02 00 22.0**	**-0.1**
KUR				AMB	AMB	02 00 26.0	
	comp=N,190nm,1.0s						
KUR				*e*S	**Sn**	**02 01 29.0**	**+1.0**
KUR				A	A	02 01 35.9	
	comp=N,110nm,0.8s						
KZV	**Kizimen**	**7.12**	**31**	*e*P	**Pn**	**02 00 42.7**	**+2.1**
SHO	**Shikotan**	**7.21**	**225**	*e*PN	**Pn**	**02 00 40.7**	**-1.0**
SHO				*e*S	**Sn**	**02 01 59.9**	**-3.5**
SHO				pmax	pmax		
	comp=Z,890nm,11.1s						
SHO				MLR	MLR		
	comp=N,90μm,20.6s						
SHO				MLR	MLR		
	comp=E,14μm,20.6s						
SHO				MLR	MLR		
	comp=Z,32μm,20.6s						
SHO	**Shikotan**	**7.21**	**225**	*e*P	**Pn**	**02 00 40.7**	**-1.0**
SHO				AMB	AMB	02 00 41.5	
	comp=Z,110nm,0.7s						
SHO				AMB	AMB	02 01 23.1	
	comp=Z,900nm,11.0s						
SHO				*e*S	**Sn**	**02 01 59.9**	**-3.5**
SHO				A	A	02 02 16.5	
	comp=Z,200nm,1.0s						
SHO				AMS	AMS	02 05 12.5	
	comp=Z,900nm,21.0s						
SHO				AMS	AMS	02 05 12.5	
	comp=Z,100nm,21.0s						
SHO				AMS	AMS	02 05 12.5	
	comp=Z,300nm,21.0s						
TUMR	**Tumrok**	**7.21**	**30**	*e*P	**Pn**	**02 00 44.1**	**+2.4**
TUMR	**Tumrok**	**7.21**	**30**	PN	**Pn**	**02 00 44.1**	**+2.4**
MKZ	**Mys Kozlova**	**7.24**	**39**	*e*P	**Pn**	**02 00 41.7**	**-0.2**
MKZ				*e*S	Sn	02 01 54.9	-9.0
MKZ	**Mys Kozlova**	**7.24**	**39**	PN	**Pn**	**02 00 41.7**	**-0.2**
MKZ	**Mys Kozlova**	**7.24**	**39**	*e*P	**Pn**	**02 00 41.7**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**7.56**	**230**	*e*PN	**Pn**	**02 00 48.2**	**+2.0**
YUK	**Yuzh-Kuril'sk**	**7.56**	**230**	*e*P	**Pn**	**02 00 48.2**	**+2.0**
UGL	**Uglegorsk**	**7.78**	**274**	*e*P	Pn	02 00 51.4	+2.4

UGL					AMB	AMB	02 00 51.9	
	comp=Z,40nm,0.6s							
YSS	**Yuzh-Sakhalins**	**7.80**	**258**	*e*PN	Pn		02 00 52.2	+2.9
YSS	**Yuzh-Sakhalins**	**7.80**	**258**	*e*P	**Pn**		**02 00 50.5**	**+1.2**
YSS					AMB	AMB	02 00 52.3	
	comp=Z,30nm,1.0s							
OKH	**Okha**	**8.15**	**307**	*e*P	**Pn**		**02 00 53.8**	**0.0**
OKH					AMB	AMB	02 00 54.7	
	comp=Z,170nm,0.8s							
KBTR	**Krutoberegovo**	**8.88**	**34**	*e*P	**Pn**		**02 01 02.7**	**-0.5**
KBTR	**Krutoberegovo**	**8.88**	**34**	PN	**Pn**		**02 01 02.7**	**-0.5**
JKA	**Kamikawa-asahi**	**9.28**	**241**	*e*P	Pn		02 01 12.2	+3.6
ASAJ	**Asahikawa**	**9.28**	**241**	P	Pn		02 01 12.2	+3.6
	baz=63,slow=14							
BKI	**Bering**	**9.55**	**46**	*e*P	**Pn**		**02 01 12.9**	**+1.0**
BKI				*e*S	Sn		02 02 46.5	-12
BKI	**Bering**	**9.55**	**46**	PN	**Pn**		**02 01 12.9**	**+1.0**
ERM	**Erimo**	**10.39**	**230**	*e*PN	**Pn**		**02 01 22.6**	**-0.4**
ERM				pmax	pmax			
	comp=Z,4.0nm,0.3s							
ERM	**Erimo**	**10.39**	**230**	*e*P	**Pn**		**02 01 22.6**	**-0.4**
EKMR	**Ekimchan**	**13.72**	**294**	*e*P	**P**		**02 02 06.0**	**-1.3**
EKMR					AMB	AMB	02 02 10.4	
	comp=Z,10.0nm,0.6s							
YASR	**Yasnyy**	**16.72**	**294**	*i*P	**Pn**		**02 02 39.9**	**-1.6**
YASR					AMB	AMB	02 02 40.5	
	comp=Z,10.0nm,0.5s							
MJA0	**Matsu Arr-Jizo**	**17.02**	**228**	*e*P	Pn		02 02 50.7	+5.4
MAJO	**Matsushiro**	**17.04**	**228**	*e*P	**Pn**		**02 02 49.7**	**+4.2**
MJAR	**Matsushiro Arr**	**17.04**	**228**	P	**Pn**		**02 02 48.0**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=22,slow=10,SNR=8.0							
MJAR	**Matsushiro Arr**	**17.04**	**228**	P	**Pn**		**02 02 48.0**	**+2.5**
MJAR	**Matsushiro Arr**	**17.04**	**228**	P	**Pn**		**02 02 48.0**	**+2.5**
YAK	**Yakutsk**	**18.64**	**323**	*e*P	**Pn**		**02 03 01.6**	**-2.3**
YAK				pmax	pmax			
	comp=Z,11nm,0.9s							
YAK	**Yakutsk**	**18.64**	**323**	*e*P	**Pn**		**02 03 01.6**	**-2.3**
H11N2	**WAKE ISLAND Hy**	**31.17**	**156**	T	T		02 37 21.9	
	baz=326							
H11N1	**WAKE ISLAND Hy**	**31.18**	**156**	T	T		02 37 25.0	
	baz=326							
H11N3	**WAKE ISLAND Hy**	**31.18**	**156**	T	T		02 37 33.3	
	baz=326							
H11S1	**WAKE ISLAND Hy**	**32.29**	**157**	T	T		02 38 53.4	
	baz=348,slow=74,SNR=6.4							
H11S3	**WAKE ISLAND Hy**	**32.30**	**157**	T	T		02 39 00.3	
	baz=348,slow=74,SNR=5.4							
H11S2	**WAKE ISLAND Hy**	**32.30**	**157**	T	T		02 38 53.4	
	baz=348							
ILAR	**Eielson Array**	**34.34**	**41**	P	P		02 05 31.1	+5.1
	comp=Z,0.2nm,0.7s,baz=257,slow=8.2,SNR=3.6							
ILAR				LR	LR		02 19 47.2	
	comp=Z,23nm,18.0s,baz=163,slow=36							
KURK	**Kurchatov**	**46.50**	**302**	P	**P**		**02 07 06.5**	**+0.8**
KURK	**Kurchatov**	**46.50**	**302**	*e*P	**P**		**02 07 06.5**	**+0.8**
KURBB	**Kurchatov Arra**	**46.60**	**302**	P	**P**		**02 07 06.5**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=66,slow=8.3,SNR=2.9							
BVAR	**Borovoye Array**	**49.76**	**308**	P	**P**		**02 07 31.2**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=55,slow=8.5,SNR=4.0							
NVAR	**Mina Array Bea**	**60.86**	**64**	P	P		02 08 56.3	+6.1
	comp=Z,0.2nm,0.6s,baz=297,slow=10.0,SNR=2.5							
FINES	**FINESS Array B**	**62.08**	**335**	P	**P**		**02 08 57.7**	**0.0**
	comp=Z,0.9nm,0.6s,baz=36,slow=4.5,SNR=5.9							
FINES	**FINESS Array B**	**62.08**	**335**	P	**P**		**02 08 57.7**	**0.0**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
PDAR	**Pinedale Array**	**62.90**	**55**	P	P		02 09 09.5	+5.7
	comp=Z,0.3nm,0.8s,baz=14,slow=4.0,SNR=3.4							
WRA	**Warramunga Arr**	**70.98**	**199**	P	P		02 09 59.2	+4.7
	comp=Z,0.5nm,0.6s,baz=18,slow=6.2,SNR=5.7							
WRA	**Warramunga Arr**	**70.98**	**199**	*e*P	P		02 09 59.4	+4.9
WRA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
WRA	**Warramunga Arr**	**70.98**	**199**	*e*P	P		02 09 59.4	+4.9
ASAR	**Alice Springs**	**74.68**	**199**	P	P		02 10 21.8	+5.6
	comp=Z,0.8nm,0.4s,baz=13,slow=5.5,SNR=14							
ASAR	**Alice Springs**	**74.68**	**199**	P	P		02 10 21.8	+5.6
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
TXAR	**Lajitas Array**	**75.85**	**62**	P	P		02 10 28.6	+5.5
	comp=Z,0.4nm,0.5s,baz=298,slow=5.3,SNR=14							
GERES	**GERESS Array B**	**76.51**	**334**	P	**P**		**02 10 28.8**	**+2.3**
	comp=Z,0.1nm,0.4s,baz=278,slow=6.8,SNR=4.2							

*CSEM **18** 02:23:07.0±0.1,37.°52N×21.°73E,h2km,ML2.8, Error ellipse: s-maj=2.7km s-min=2.1km az=40.0*
*THE **18** 02:23:07.2,37.°51N×21.°73E,h0km±1km,ML3.0/16, Error ellipse: s-maj=1.3km s-min=0.4km az=244.0*
*ATH **18** 02:23:07.1,37.°52N×21.°75E,h5km±1km,ML2.8*

ISC 18 02:23:07.2±0.9,37.°52N±0.°02×21.°73E±0.°02,h2km±6km, n113,σ0§76/181,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMT	**Artemida-Makis**	**0.02**	**310**	*e*PG	**Pg**	**02 23 07.8**	**0.0**
AMT				*e*SG	**Sg**	**02 23 08.4**	**+0.3**
AMT	**Artemida-Makis**	**0.02**	**310**	P	**Pg**	**02 23 07.8**	**0.0**
AMT				S	**Sg**	**02 23 08.5**	**+0.3**
AMT	**Artemida-Makis**	**0.02**	**310**	P	**Pg**	**02 23 07.8**	**0.0**
AMT				S	**Sg**	**02 23 08.5**	**+0.3**
ITM	**Ithomi**	**0.37**	**155**	*e*PB	**Pg**	**02 23 12.2**	**-0.1**
ITM				*e*SB	**Sg**	**02 23 20.5**	**+1.4**
ITM	**Ithomi**	**0.37**	**155**	*e*Pb	**Pg**	**02 23 14.2**	**-0.1**
ITM				S	**Sg**	**02 23 20.3**	**+1.2**
ITM	**Ithomi**	**0.37**	**155**	P	**Pg**	**02 23 14.3**	**-0.1**
ITM				S	**Sg**	**02 23 20.3**	**+1.2**
DRO	**Drossia**	**0.43**	**358**	*e*PB	**Pg**	**02 23 15.4**	**-0.2**
DRO				*e*SB	**Sg**	**02 23 22.9**	**+1.7**
DRO	**Drossia**	**0.43**	**358**	*e*Pb	**Pg**	**02 23 15.4**	**-0.2**
DRO				S	**Sg**	**02 23 22.9**	**+1.7**
DRO	**Drossia**	**0.43**	**358**	P	**Pg**	**02 23 15.3**	**-0.3**
DRO				S	**Sg**	**02 23 22.9**	**+1.7**
VLX	**Vlachokerasia**	**0.54**	**106**	*e*PB	**Pg**	**02 23 17.9**	**+0.4**
VLX				*e*SB	**Sg**	**02 23 25.3**	**+0.9**
VLX	**Vlachokerasia**	**0.54**	**106**	P	**Pg**	**02 23 17.5**	**0.0**
VLX	**Vlachokerasia**	**0.54**	**106**	*e*Pb	**Pg**	**02 23 17.9**	**+0.4**
VLX				S	**Sg**	**02 23 25.0**	**+0.6**
VLX	**Vlachokerasia**	**0.54**	**106**	P	**Pg**	**02 23 17.5**	**0.0**
VLX				S	**Sg**	**02 23 25.0**	**+0.6**
RLS	**Riolos of Patr**	**0.58**	**339**	*e*PB	**Pg**	**02 23 17.7**	**-0.6**
RLS				*e*SB	**Sb**	**02 23 27.4**	**-1.4**
RLS	**Riolos of Patr**	**0.58**	**339**	*e*Pb	**Pg**	**02 23 17.7**	**-0.6**
RLS	**Riolos of Patr**	**0.58**	**339**	P	**Pg**	**02 23 18.1**	**-0.2**
RLS				S	**Sb**	**02 23 27.4**	**-1.4**
RLS	**Riolos of Patr**	**0.58**	**339**	P	**Pg**	**02 23 18.1**	**-0.2**
RLS				S	**Sb**	**02 23 27.4**	**-1.4**
VTN	**Vitineika**	**0.59**	**313**	*e*PB	**Pg**	**02 23 19.0**	**+0.5**
VTN	**Vitineika**	**0.59**	**313**	*e*Pb	**Pg**	**02 23 19.0**	**+0.5**
PYL	**PYLOS**	**0.62**	**179**	*e*PB	**Pg**	**02 23 18.5**	**-0.6**
PYL	**PYLOS**	**0.62**	**179**	P	**Pg**	**02 23 18.5**	**-0.6**
PYL				S	**Sb**	**02 23 28.5**	**-1.4**
PYL	**PYLOS**	**0.62**	**179**	P	**Pg**	**02 23 18.5**	**-0.6**
PYL				S	**Sb**	**02 23 28.5**	**-1.4**
KLV	**Kalavryta, Ach**	**0.62**	**32**	*e*PG	**Pg**	**02 23 18.7**	**-0.4**
KLV				*e*SB	**Sb**	**02 23 29.0**	**-1.1**
KLV	**Kalavryta, Ach**	**0.62**	**32**	*e*Pg	**Pg**	**02 23 18.7**	**-0.4**
KLV				S	**Sb**	**02 23 28.8**	**-1.3**
KLV	**Kalavryta, Ach**	**0.62**	**32**	P	**Pg**	**02 23 18.6**	**-0.5**
KLV				S	**Sb**	**02 23 28.8**	**-1.3**
SFD	**Strofades**	**0.63**	**245**	*e*PB	**Pb**	**02 23 20.4**	**-0.5**
SFD	**Strofades**	**0.63**	**245**	*e*Pb	**Pb**	**02 23 20.4**	**-0.5**
GUR	**Goura**	**0.64**	**49**	*e*PB	**Pg**	**02 23 18.8**	**-0.7**
GUR				*e*SB	**Sg**	**02 23 28.9**	**+1.1**
GUR	**Goura**	**0.64**	**49**	*e*Pb	**Pg**	**02 23 18.8**	**-0.7**
GUR				S	**Sg**	**02 23 28.8**	**+1.0**
GUR	**Goura**	**0.64**	**49**	P	**Pg**	**02 23 18.7**	**-0.7**
GUR				S	**Sg**	**02 23 28.8**	**+1.0**
LAKA	**Lakka**	**0.75**	**15**	*e*PG	**Pg**	**02 23 21.0**	**-0.5**
LAKA	**Lakka**	**0.75**	**15**	P	**Pg**	**02 23 21.1**	**-0.5**
LAKA				S	**Sb**	**02 23 33.1**	**-0.6**
LAKA	**Lakka**	**0.75**	**15**	P	**Pg**	**02 23 21.1**	**-0.5**
LAKA				S	**Sb**	**02 23 33.1**	**-0.6**
UPR	**University Cam**	**0.77**	**3**	*e*PB	**Pg**	**02 23 21.9**	**0.0**
UPR	**University Cam**	**0.77**	**3**	*e*Pb	**Pg**	**02 23 21.9**	**0.0**
UPR	**University Cam**	**0.77**	**3**	P	**Pg**	**02 23 22.1**	**+0.2**
ZKS	**Zakynthos**	**0.77**	**284**	*e*PG	**Pg**	**02 23 21.7**	**-0.3**
ZKS				*e*SB	**Sb**	**02 23 34.2**	**-0.2**
ZKS	**Zakynthos**	**0.77**	**284**	*e*Pg	**Pg**	**02 23 21.7**	**-0.3**
ZKS	**Zakynthos**	**0.77**	**284**	P	**Pg**	**02 23 22.0**	**0.0**
ZKS				S	**Sb**	**02 23 35.1**	**+0.7**
ZKS	**Zakynthos**	**0.77**	**284**	P	**Pg**	**02 23 22.0**	**0.0**
ZKS				S	**Sb**	**02 23 35.1**	**+0.7**
TRIZ	**Trizonia**	**0.89**	**18**	*e*PG	**Pg**	**02 23 23.6**	**-0.7**
TRIZ				*e*SB	**Sb**	**02 23 37.5**	**-0.2**
TRIZ	**Trizonia**	**0.89**	**18**	P	**Pg**	**02 23 23.7**	**-0.6**
TRIZ				*e*Sb	**Sb**	**02 23 37.5**	**-0.2**
TRIZ	**Trizonia**	**0.89**	**18**	P	**Pg**	**02 23 23.7**	**-0.6**
EFP	**Efpalio**	**0.92**	**9**	*e*PG	**Pg**	**02 23 24.2**	**-0.6**
EFP				*e*SB	**Sb**	**02 23 38.5**	**-0.1**
EFP	**Efpalio**	**0.92**	**9**	*e*Pg	**Pg**	**02 23 24.2**	**-0.6**
EFP				*e*Sb	**Sb**	**02 23 38.5**	**-0.1**
EFP	**Efpalio**	**0.92**	**9**	P	**Pg**	**02 23 24.1**	**-0.7**
EFP				S	**Sb**	**02 23 38.7**	**+0.1**
KALE	**Kalithea**	**0.93**	**20**	*e*PG	**Pg**	**02 23 24.3**	**-0.8**
KALE				*e*SB	**Sb**	**02 23 38.5**	**-0.5**
KALE	**Kalithea**	**0.93**	**20**	*e*Pg	**Pg**	**02 23 24.3**	**-0.8**
KALE				*e*Sb	**Sb**	**02 23 38.5**	**-0.5**
KALE				S	**Sb**	**02 23 39.5**	**+0.5**
KALE	**Kalithea**	**0.93**	**20**	P	**Pg**	**02 23 24.2**	**-0.8**
KALE				S	**Sb**	**02 23 39.5**	**+0.5**
KFL	**Anninata**	**0.95**	**309**	*e*PG	**Pg**	**02 23 25.2**	**-0.3**
KFL	**Anninata**	**0.95**	**309**	*e*Pg	**Pg**	**02 23 25.2**	**-0.3**
ACOR	**Acrocorinthos**	**0.98**	**67**	P	**Pg**	**02 23 25.0**	**-0.9**
DSF	**Desfina**	**1.09**	**35**	*e*PG	**Pg**	**02 23 26.8**	**-1.3**
DSF	**Desfina**	**1.09**	**35**	*e*Pg	**Pg**	**02 23 26.8**	**-1.3**
LTK	**Loutraki**	**1.10**	**62**	*e*PG	**Pg**	**02 23 27.4**	**-0.9**
LTK				*e*SB	**Sb**	**02 23 43.5**	**-0.4**
LTK	**Loutraki**	**1.10**	**62**	*e*Pg	**Pg**	**02 23 27.4**	**-0.9**
LTK	**Loutraki**	**1.10**	**62**	P	**Pg**	**02 23 27.7**	**-0.6**
LTK				S	**Sb**	**02 23 43.5**	**-0.4**
LTK	**Loutraki**	**1.10**	**62**	P	**Pg**	**02 23 27.7**	**-0.6**
LTK				S	**Sb**	**02 23 43.5**	**-0.4**
PVO	**Paravola**	**1.11**	**352**	*e*PG	**Pg**	**02 23 27.8**	**-0.7**
PVO	**Paravola**	**1.11**	**352**	*e*Pg	**Pg**	**02 23 27.8**	**-0.7**
VLS	**Valsamata**	**1.12**	**306**	*e*PG	**Pg**	**02 23 27.6**	**-1.1**
VLS	**Valsamata**	**1.12**	**306**	P	**Pg**	**02 23 27.6**	**-1.1**
VLS	**Valsamata**	**1.12**	**306**	P	**Pg**	**02 23 27.6**	**-1.1**
KRND	**KRANIDI**	**1.14**	**96**	*e*PB	**Pg**	**02 23 28.8**	**-0.2**
KRND				*e*SB	**Sb**	**02 23 44.3**	**-0.5**
KRND	**KRANIDI**	**1.14**	**96**	P	**Pg**	**02 23 28.8**	**-0.2**
KRND				*e*Sb	**Sb**	**02 23 44.3**	**-0.5**
KRND	**KRANIDI**	**1.14**	**96**	P	**Pg**	**02 23 28.8**	**-0.2**
KRND				S	**Sb**	**02 23 44.9**	**+0.1**
PDO	**Prodromos**	**1.16**	**338**	*e*PN	**Pg**	**02 23 28.9**	**-0.6**
PDO	**Prodromos**	**1.16**	**338**	P	**Pg**	**02 23 28.9**	**-0.6**
PDO				S	**Sn**	**02 23 47.1**	**0.0**
PDO	**Prodromos**	**1.16**	**338**	P	**Pg**	**02 23 28.9**	**-0.6**
PDO				S	**Sn**	**02 23 47.1**	**0.0**
DIDY	**Didyma**	**1.18**	**92**	*e*PB	**Pg**	**02 23 29.4**	**-0.4**
DIDY	**Didyma**	**1.18**	**92**	*e*Pb	**Pg**	**02 23 29.4**	**-0.4**
DIDY	**Didyma**	**1.18**	**92**	P	**Pg**	**02 23 29.2**	**-0.6**
DID	**Didima**	**1.20**	**90**	*e*PG	**Pg**	**02 23 29.3**	**-0.8**
DID	**Didima**	**1.20**	**90**	P	**Pg**	**02 23 29.3**	**-0.8**
DID				S	**Sn**	**02 23 47.2**	**-0.7**
DID	**Didima**	**1.20**	**90**	P	**Pg**	**02 23 29.3**	**-0.8**
DID				S	**Sn**	**02 23 47.2**	**-0.7**
VLI	**Veliai**	**1.25**	**129**	*e*PB	**Pg**	**02 23 30.7**	**-0.5**
VLI	**Veliai**	**1.25**	**129**	*e*Pb	**Pg**	**02 23 30.7**	**-0.5**
VLI				S	**Sn**	**02 23 49.8**	**+0.6**
VLI	**Veliai**	**1.25**	**129**	P	**Pg**	**02 23 30.5**	**-0.7**
VLI				S	**Sn**	**02 23 49.8**	**+0.6**
EXG	**Exogi**	**1.28**	**318**	*e*PB	**Pg**	**02 23 31.7**	**-0.1**
EXG	**Exogi**	**1.28**	**318**	P	**Pg**	**02 23 31.0**	**-0.8**
EXG	**Exogi**	**1.28**	**318**	*e*Pb	**Pg**	**02 23 31.7**	**-0.1**
EXG	**Exogi**	**1.28**	**318**	P	**Pg**	**02 23 31.0**	**-0.8**
EVR	**Evrytania**	**1.40**	**2**	P	**Pn**	**02 23 33.0**	**-0.9**
EVR				S	**Sn**	**02 23 53.2**	**+0.2**
EVR	**Evrytania**	**1.40**	**2**	P	**Pn**	**02 23 33.0**	**-0.9**
EVR				S	**Sn**	**02 23 53.2**	**+0.2**
VIL2	**Platees**	**1.40**	**60**	*e*PG	**Pn**	**02 23 33.3**	**-0.5**
VIL2				*e*SB	**Sn**	**02 23 53.4**	**+0.5**
VILL	**Villia**	**1.41**	**62**	*e*Pg	**Pn**	**02 23 33.3**	**-0.7**
VILL	**Villia**	**1.41**	**62**	P	**Pn**	**02 23 33.6**	**-0.4**
VILL				*e*Sb	**Sn**	**02 23 53.4**	**+0.2**
VILL	**Villia**	**1.41**	**62**	P	**Pn**	**02 23 33.6**	**-0.4**
VILL				S	**Sn**	**02 23 53.9**	**+0.7**
AXAR	**Agios Charalam**	**1.45**	**30**	*e*PB	**Pb**	**02 23 34.6**	**-0.3**
AXAR				*e*SB	**Sn**	**02 23 55.6**	**+1.5**
AXAR	**Agios Charalam**	**1.45**	**30**	P	**Pn**	**02 23 33.6**	**-0.9**
AXAR	**Agios Charalam**	**1.45**	**30**	*e*Pb	**Pb**	**02 23 34.6**	**-0.3**
AXAR				S	**Sn**	**02 23 55.3**	**+1.2**
AXAR	**Agios Charalam**	**1.45**	**30**	P	**Pn**	**02 23 33.6**	**-0.9**
AXAR				S	**Sn**	**02 23 55.3**	**+1.2**
LKR	**Lokris**	**1.51**	**41**	P	**Pn**	**02 23 34.3**	**-1.0**
LKR				S	**Sg**	**02 23 57.1**	**+1.4**
LKR	**Lokris**	**1.51**	**41**	P	**Pn**	**02 23 34.3**	**-1.4**
LKR				S	**Sg**	**02 23 57.1**	**+1.4**
MAKR	**Makrakomi, Fth**	**1.53**	**12**	*e*PG	**Pg**	**02 23 35.6**	**0.0**
MAKR				*e*SB	**Sg**	**02 23 57.6**	**+1.3**
MAKR	**Makrakomi, Fth**	**1.53**	**12**	P	**Pn**	**02 23 35.7**	**+0.1**
MAKR				S	**Sg**	**02 23 57.3**	**+1.0**
MAKR	**Makrakomi, Fth**	**1.53**	**12**	P	**Pn**	**02 23 35.7**	**+0.1**
MAKR				S	**Sg**	**02 23 57.3**	**+1.0**
ATAL	**Atalanti**	**1.55**	**41**	P	**Pn**	**02 23 35.1**	**-0.8**
ATAL				S	**Sg**	**02 23 58.1**	**+1.0**
ATAL	**Atalanti**	**1.55**	**41**	P	**Pn**	**02 23 35.1**	**-0.8**
ATAL				S	**Sg**	**02 23 58.1**	**+1.0**
AGG	**Agios Georgios**	**1.57**	**17**	*e*PG	**Pn**	**02 23 36.0**	**-0.3**
AGG				*e*SB	**Sg**	**02 24 00.0**	**+2.2**
AGG	**Agios Georgios**	**1.57**	**17**	P	**Pn**	**02 23 35.7**	**-0.6**
AGG	**Agios Georgios**	**1.57**	**17**	*e*Pg	**Pn**	**02 23 36.0**	**-0.3**
AGG				*e*Sb	**Sg**	**02 24 00.0**	**+2.2**
AGG	**Agios Georgios**	**1.57**	**17**	P	**Pn**	**02 23 35.7**	**-0.6**
KYTH	**Kithira**	**1.62**	**139**	*e*PB	**Pg**	**02 23 38.9**	**+0.7**
KYTH	**Kithira**	**1.62**	**139**	*e*Pb	**Pg**	**02 23 38.9**	**+0.7**
ATH	**Athens Observa**	**1.64**	**73**	*e*PB	**Pb**	**02 23 38.2**	**+0.1**
ATH				*e*SB	**Sg**	**02 24 00.7**	**+0.9**
ATH	**Athens Observa**	**1.64**	**73**	*e*Pb	**Pb**	**02 23 38.2**	**+0.1**
ATH				*e*Sb	**Sg**	**02 24 00.7**	**+0.9**
DSL	**Palaion Diasel**	**1.69**	**343**	P	**Pn**	**02 23 37.9**	**+0.1**
DSL	**Palaion Diasel**	**1.69**	**343**	P	**Pn**	**02 23 37.9**	**+0.1**
EREA	**Eretria**	**1.96**	**62**	P	**Pn**	**02 23 41.9**	**+0.4**
EREA	**Eretria**	**1.96**	**62**	P	**Pn**	**02 23 41.9**	**+0.4**
XOR	**Xorichti**	**2.17**	**31**	P	**Pn**	**02 23 44.3**	**-0.2**
XOR	**Xorichti**	**2.17**	**31**	P	**Pn**	**02 23 44.3**	**-0.2**

*IDC **18** 02:34:36.2±1.7,3.°66S×141.°03E,h0km,mb3.7/2, mb1 4.1/3,mb1mx3.6/24,mbtmp3.8/3,ML3.8/1, Error ellipse: s-maj=57.5km s-min=13.9km az=82.0*
*ISCJB **18** 02:34:39.2±0.9,3.°74S±0.°05×140.°59E±0.°09,h33km, mb3.7/1, Error ellipse: s-maj=12.8km s-min=6.9km az=177.9*
*DJA **18** 02:34:39.9±1.0,4.°5S±5.°×14.°1E±.°,h10km,M3.7/4,MLv3.7/4*

ISC 18 02:34:39.2±1.3,3.°77S±0.°07×140.°67E±0.°10,h35km,n10, σ§22/11,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.24**	**2**	P	**Pn**	**02 34 58.3**	**-1.8**
JAY	**Jayapura**	**1.24**	**2**	Pg	**Pn**	**02 34 59.5**	**-0.6**
	32nm,0.3s,baz=233,slow=15,SNR=100						
JAY				Lg	Lg	02 35 14.2	
	41nm,0.3s,baz=127,slow=15,SNR=6.3						
JAY				LR	LR	02 35 16.1	
	comp=Z,32nm,21.1s,baz=129,slow=34						
GENI	**Genyem**	**1.27**	**337**	P	**Pn**	**02 34 59.7**	**-0.7**
GENI				S	**Sn**	**02 35 13.7**	**-2.5**
WAMI	**Wamena**	**1.96**	**266**	P	**Pn**	**02 35 09.6**	**-0.3**
WAMI				S	**Sn**	**02 35 29.6**	**-3.6**
SMPI	**Sarmi**	**2.63**	**312**	P	**Pn**	**02 35 20.8**	**+1.6**
SMPI				S	**Sn**	**02 35 52.1**	**+2.1**
SRPI	**Serui, Papua**	**4.81**	**293**	P	Pn	02 36 11.2	+22
BAKI	**Biak**	**5.23**	**299**	P	Pn	02 35 48.3	-6.6
WRA	**Warramunga Arr**	**17.22**	**201**	P	**P**	**02 38 40.2**	**+1.7**
	0.4nm,0.3s,baz=23,slow=12,SNR=20						
WRA				S	**Sn**	**02 41 46.0**	**-1.9**
	0.2nm,0.3s,baz=14,slow=24,SNR=5.4						
ASAR	**Alice Springs**	**20.84**	**198**	P	Pn	02 39 22.4	+1.8
	3.6nm,0.8s,baz=27,slow=10,SNR=29						
ILAR	**Eielson Array**	**85.98**	**24**	P	**P**	**02 47 17.0**	**+1.3**
	0.3nm,0.6s,baz=246,slow=4.4,SNR=5.7						

*ISCJB **18** 02:39:25.9±0.9,39.°51N±0.°06×34.°43E±0.°06,h7km±8km, Error ellipse: s-maj=10.8km s-min=7.6km az=26.5*
*CSEM **18** 02:39:25.3±0.5,39.°55N×34.°46E,h10km,MD2.8, Error ellipse: s-maj=11.3km s-min=3.5km az=31.0*
*DDA **18** 02:39:25.7,39.°52N×34.°39E,h7km,MD2.6*
*ISK **18** 02:39:26.1,39.°53N×34.°37E,h16km,MD2.8*

ISC 18 02:39:26.0±1.1,39.°52N±0.°09×34.°4E±0.°1,h8km±16km,n13, σ§40/22,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDAG	**Cicekdag**	**0.11**	**0**	*i*Pg	**Pg**	**02 39 28.6**	**0.0**
CDAG				*i*Sg	**Sg**	**02 39 30.4**	**0.0**
KAMT	**Kaman**	**0.53**	**254**	*e*PG	**Pb**	**02 39 37.3**	**-0.3**
KAMT				*e*SG	**Sb**	**02 39 45.2**	**-0.2**
KAMT	**Kaman**	**0.53**	**254**	*e*Pg	**Pb**	**02 39 37.3**	**-0.3**
KAMT				*e*Sg	**Sb**	**02 39 45.2**	**-0.2**
AVNT	**Avonos**	**0.83**	**153**	*e*P	**Pg**	**02 39 41.4**	**-0.5**
AVNT				*e*S	**Sg**	**02 39 53.4**	**+0.7**
AVNT	**Avonos**	**0.83**	**153**	*e*P	**Pg**	**02 39 41.4**	**-0.5**
AVNT				*e*S	**Sg**	**02 39 53.4**	**+0.7**
SERE	**Sereflikochisa**	**0.85**	**228**	*e*PG	**Pb**	**02 39 43.1**	**+0.1**
SERE	**Sereflikochisa**	**0.85**	**228**	*e*Pg	**Pb**	**02 39 43.1**	**+0.1**
BBAL	**Bala**	**0.97**	**272**	*e*P	**Pn**	**02 39 45.8**	**-0.1**
BBAL				*e*S	**Sb**	**02 39 58.7**	**+0.7**
BBAL	**Bala**	**0.97**	**272**	*e*P	**Pn**	**02 39 45.8**	**-0.1**
BBAL				*e*S	**Sb**	**02 39 58.7**	**+0.7**
KULU	**Kulu**	**1.16**	**246**	*e*PN	**Pb**	**02 39 48.3**	**-0.1**
KULU	**Kulu**	**1.16**	**246**	*e*Pn	**Pb**	**02 39 48.3**	**-0.1**
GULA	**Gulagac**	**1.18**	**185**	*e*PN	**Pn**	**02 39 48.7**	**-0.1**
GULA				*e*SN	**Sn**	**02 40 05.2**	**+0.1**
GULA	**Gulagac**	**1.18**	**185**	*e*Pn	**Pn**	**02 39 48.7**	**-0.1**
GULA				*e*Sn	**Sn**	**02 40 05.2**	**+0.1**

*SJA **18** 02:43:37.5±1.2,30.°58S×71.°68W,h6km±10km,ML4.9, MW4.3*
*GUC **18** 02:43:43.6±0.6,30.°69S×71.°36W,h44km±2km,ML4.8*
*IDC **18** 02:43:43.2±0.5,30.°69S×71.°51W,h41km±3km,mb4.4/11, mb1 4.6/15,mb1mx4.4/20,mbtmp4.6/15,ML4.6/4,MS3.7/9, Ms1 3.6/9,ms1mx3.5/17, Error ellipse: s-maj=15.5km s-min=9.8km az=35.0*
*NEIC **18** 02:43:43.5±0.1,30.°75S×71.°28W,mb4.7/54, Error ellipse: s-maj=5.9km s-min=3.5km az=80.0*
NEIC Felt [IV] at Coquimbo, La Serena, Ovalle, Punitaqui, Rio Hurtado and Vicuna; [III] at Andacollo, Combarbala, Illapel and La Higuera.
*ISCJB **18** 02:43:43.5±0.4,30.°70S±0.°02×71.°48W±0.°05,h56km±4km, mb4.7/63,MS3.8/7, Error ellipse: s-maj=6.6km s-min=3.4km az=175.2*
*BJI **18** 02:43:45.7,30.°70S×71.°20W,h46km,mB5.2/1,Ms5.0/3, Ms7 4.9/3*

ISC 18 02:43:43.3±0.4,30.°71S±0.°03×71.°58W±0.°05,h42km±3km, h42km:pP-P,n464,σ1§05/486,mb4.7/63,MS3.8/7,5C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.85**	**20**	*i*P	**Pn**	**02 43 58.7**	**-0.2**
LSCH				*i*S	**Sn**	**02

QSPA South Pole Qui 59.51 180 eP P 02 53 42.4 +0.4
comp=Z,12nm,0.9s
035A Encino 62.68 333 P P 02 54 05.9 +2.2
baz=63
034A Hebbronville 63.02 333 P P 02 54 08.3 +2.4
baz=64
934A Benavides 63.44 333 P P 02 54 10.8 +2.1
baz=64
933A Laredo 63.74 333 P P 02 54 12.4 +1.6
baz=64,SNR=5.5
834A Tilden 63.92 334 P P 02 54 13.8 +1.9
baz=64,SNR=12
736A Circle Diamond 64.11 335 P P 02 54 15.2 +2.0
baz=65
637A Eagle Lake 64.30 336 P P 02 54 16.3 +2.0
baz=65
735A Kenedy 64.30 335 P P 02 54 16.5 +2.1
baz=65
833A Chaparral WMA, 64.42 333 P P 02 54 16.7 +1.5
baz=65,SNR=19
734A La Parita Cree 64.57 334 P P 02 54 17.9 +1.8
baz=65
636A Smothers Creek 64.59 335 P P 02 54 18.0 +1.8
baz=65
832A Faith Ranch, C 64.62 332 P P 02 54 17.7 +1.2
baz=65,SNR=18
733A Divot King Ran 64.74 333 P P 02 54 18.6 +1.4
baz=65
635A Leesville 64.76 335 P P 02 54 18.5 +1.1
baz=65
537A Green Hill Far 64.88 336 P P 02 54 19.5 +1.4
baz=65
732A Laxson Ranch, 65.01 333 P P 02 54 20.3 +1.2
baz=66,SNR=21
439A Center Grove, 65.01 338 P P 02 54 20.4 +1.4
baz=66
LRAL Lakeview Retre 65.06 346 eP P 02 54 18.6 -0.6
VBMS Vicksburg 65.11 342 P P 02 54 20.7 +1.1
baz=66
536A Bastrop 65.13 336 P P 02 54 21.2 +1.4
baz=66
438A Sam Houston St 65.20 337 P P 02 54 21.5 +1.3
baz=66
535A Dale 65.27 335 P P 02 54 22.1 +1.4
baz=66
340A Bronson 65.32 339 P P 02 54 22.2 +1.3
baz=66
633A Saathoff Ranch 65.35 334 P P 02 54 22.1 +0.9
baz=66,SNR=14
339A Huntington 65.45 338 P P 02 54 22.8 +1.0
baz=66
534A Blanco 65.60 334 P P 02 54 23.5 +0.6
baz=66
632A Uvalde 65.63 333 P P 02 54 24.2 +1.1
baz=66,SNR=8.8
533A Kerrville 65.85 334 P P 02 54 25.6 +1.1
baz=66,SNR=7.4
631A Perdido Creek 65.86 332 P P 02 54 25.5 +1.0
baz=66,SNR=7.4
337A Centerville 65.86 337 P P 02 54 24.9 +0.4
baz=66
NATX Nacogdoches 65.88 339 P P 02 54 25.2 +0.6
baz=66
435B Jarrell 65.96 336 P P 02 54 26.2 +1.1
baz=66
239A Gary 66.05 339 P P 02 54 26.5 +0.8
baz=66
KMSC Kings Mountain 66.14 351 P P 02 54 26.3 +0.1
baz=67
532A Rocksprings 66.23 333 P P 02 54 28.1 +1.2
baz=67,SNR=25
434A Burnet 66.23 335 P P 02 54 27.6 +0.7
baz=67,SNR=16
238A Jacksonville 66.25 338 P P 02 54 27.8 +0.9
baz=67
336A Riesel 66.25 337 P P 02 54 27.7 +0.8
baz=67
335A Moody 66.36 336 P P 02 54 28.8 +1.1
baz=67,SNR=7.5
237A Washetta, Mont 66.47 338 P P 02 54 29.6 +1.3
baz=67
JCT Junction City 66.51 334 P P 02 54 29.6 +0.9
baz=67,SNR=7.4
JCT Junction City 66.51 334 eP P 02 54 29.9 +1.2
comp=Z,13nm,0.7s
531A Rocksprings 66.52 333 P P 02 54 30.3 +1.5
baz=67,SNR=8.4
334A Lometa 66.69 335 P P 02 54 30.8 +1.0
baz=67,SNR=17
236A Katherine and 66.70 337 P P 02 54 30.7 +0.9
baz=67
530A J-C Ranch, Com 66.82 332 P P 02 54 32.1 +1.4
baz=67,SNR=12
138A Matatall Enter 66.84 339 P P 02 54 31.9 +1.1
baz=67
432A Menard 66.86 334 P P 02 54 31.9 +0.9
baz=67,SNR=6.5
333A Richland Sprin 66.96 335 P P 02 54 32.4 +0.8
baz=67,SNR=11
SWET Sewanee 66.96 347 eP P 02 54 30.8 -0.6
comp=Z,23nm,1.3s
137A Heron Place, G 67.00 338 P P 02 54 32.9 +1.1
baz=67,SNR=5.1
431A Sonora 67.00 333 P P 02 54 32.6 +0.8
baz=68,SNR=5.5
WHTX Lake Whitney 67.01 336 P P 02 54 32.5 +0.6
baz=68
WHTX Lake Whitney 67.01 336 eP P 02 54 33.2 +1.4
OXF Oxford 67.02 344 eP P 02 54 31.5 -0.3
comp=Z,30nm,1.0s
TXAR Lajitas Array 67.08 330 P P 02 54 33.4 +1.0
comp=Z,4.3nm,0.7s,baz=153,slow=8.1,SNR=66
TXAR pP pP 02 54 45.9 +1.0
comp=Z,1.2nm,0.8s,baz=115,slow=18,SNR=5.9
Z39A Irene McRaven, 67.10 340 P P 02 54 33.8 +1.4
baz=68
136A Ennis 67.14 337 P P 02 54 33.8 +1.2
baz=68
529A Stev Forest Ra 67.16 331 P P 02 54 34.0 +1.1
baz=68
234A Clairette 67.26 336 P P 02 54 34.2 +0.7
baz=68,SNR=8.7
332A Millersview 67.29 334 P P 02 54 34.4 +0.7
baz=68
430A Baggett Ranch, 67.34 333 P P 02 54 34.9 +0.9
baz=68,SNR=9.1
Z38A Mt. Pleasant 67.36 339 P P 02 54 34.7 +0.8
baz=68
VNDA Vanda 67.39 191 P P 02 54 35.1 +1.4
comp=Z,1.5nm,0.8s,baz=122,slow=5.5,SNR=6.7
VNDA LR LR 03 20 52.3
comp=Z,36nm,18.0s,baz=278,slow=33
VNDA Vanda 67.39 191 eP P 02 54 34.6 +0.9
comp=Z,4.8nm,1.1s
429A Davenport Ranc 67.46 332 P P 02 54 36.2 +1.4
baz=68,SNR=13
331A San Angelo 67.48 333 P P 02 54 35.5 +0.6
baz=68,SNR=9.0
135A Vickery Place, 67.51 337 P P 02 54 35.6 +0.6
baz=68
233A Rising Star 67.55 335 P P 02 54 35.9 +0.6
baz=68,SNR=13
232A Coleman 67.71 334 P P 02 54 37.0 +0.7
baz=68,SNR=18
Y39A Lockesburg 67.72 340 P P 02 54 37.0 +0.8
baz=68
Z36A Blue Ridge 67.84 338 P P 02 54 37.8 +0.8
baz=68,SNR=10
330A Mertzon 67.86 333 P P 02 54 37.7 +0.4
baz=68,SNR=9.5
Y38A Idabel 67.91 339 P P 02 54 38.2 +0.8
baz=68
231A Bronte 68.00 334 P P 02 54 38.8 +0.7
baz=68,SNR=10.0
133A Hamilton Ranch 68.09 335 P P 02 54 39.5 +0.8
baz=68,SNR=8.2
MIAR Mount Ida 68.14 341 P P 02 54 39.4 +0.5
baz=69,SNR=5.2
MIAR Mount Ida 68.14 341 eP P 02 54 39.8 +0.9
comp=Z,9.4nm,1.2s
Z35A Perchaven, San 68.17 337 P P 02 54 39.8 +0.8
baz=69,SNR=11
WVT Waverly 68.22 346 eP P 02 54 38.2 -1.2
comp=Z,17nm,1.1s
Y37A Hugo 68.23 339 P P 02 54 40.1 +0.6
baz=69
329A Wagon Wheel Ra 68.25 332 P P 02 54 40.4 +0.6
baz=69
230A Sterling City 68.27 333 P P 02 54 40.2 +0.4
baz=69
ABTX Abilene, Hawle 68.37 335 P P 02 54 41.0 +0.6
baz=69,SNR=6.9
ABTX Abilene, Hawle 68.37 335 eP P 02 54 41.1 +0.7
comp=Z,11nm,0.8s
Y36A Durant 68.37 338 P P 02 54 41.1 +0.8
baz=69
Z34A Collier Ranch, 68.43 336 P P 02 54 41.3 +0.6
baz=69,SNR=13
TBI Tubuai 68.50 255 eLR LR 03 15 25.1
comp=Z,85nm,28.2s
TBI Tubuai 68.50 255 eT T 04 09 16.1
comp=Z,18nm,0.3s
229A Bryant Ranch, 68.61 333 P P 02 54 42.5 +0.5
baz=69
Y35A Marietta 68.62 337 P P 02 54 42.8 +0.9
baz=69
X38A Whitesboro 68.62 340 P P 02 54 42.8 +0.9
baz=69,SNR=5.5
Z33A Whitaker Ranch 68.65 336 P P 02 54 42.8 +0.7
baz=69
131A Roby 68.69 334 P P 02 54 43.1 +0.7
baz=69,SNR=6.4
X37A Clayton 68.72 339 P P 02 54 43.2 +0.8
baz=69
SYO Syowa Base 68.78 159 eP P 02 54 40.4 -2.1
130A Snyder 68.84 334 P P 02 54 43.8 +0.4
baz=69
W38A Poteau 68.91 340 P P 02 54 44.2 +0.5
baz=69
Y34A Reagan Ranch, 68.91 337 P P 02 54 44.1 +0.4
baz=69
Z32A Haskell 68.92 335 P P 02 54 44.9 +1.1
baz=69,SNR=9.1
X36A Centrahoma 69.01 338 P P 02 54 44.4 +0.1
baz=70,SNR=8.1
228A UT Block 9, Go 69.05 332 P P 02 54 45.5 +0.7
baz=70,SNR=7.6
Z31A Sharp Cattle R 69.17 335 P P 02 54 46.2 +0.8
baz=70,SNR=12
W37A Quinton 69.24 339 P P 02 54 46.5 +0.8
baz=70,SNR=6.6
Y33A Hilltop Ranch, 69.25 336 P P 02 54 46.0 +0.1
baz=70
PBMO Poplar Bluff 69.42 344 eP P 02 54 47.1 +0.3
comp=Z,12nm,0.8s
128A Castleberry Fa 69.45 332 P P 02 54 47.7 +0.5
baz=70
Z30A Sanderson Ranc 69.51 334 P P 02 54 47.8 +0.3
baz=70,SNR=8.2
X34A Smith Ranch, M 69.52 337 P P 02 54 48.3 +0.9
baz=70,SNR=6.5
Y32A R-V Farms, Ver 69.53 336 P P 02 54 47.7 +0.1
baz=70
V38A Canehill 69.61 340 P P 02 54 48.0 0.0
baz=70,SNR=11
X33A Lawton 69.69 337 P P 02 54 48.4 -0.1
baz=70
W35A Tecumseh 69.71 338 P P 02 54 48.4 -0.2
baz=70
MEH Mehetia 69.71 261 eT T 04 10 52.4
comp=Z,59nm,0.2s
Z29A Hungry Hill Ra 69.71 333 P P 02 54 49.2 +0.4
baz=70,SNR=5.4
Y31A Rekieta Farm, 69.79 335 P P 02 54 49.9 +0.7
baz=70,SNR=8.8
V37A Hulbert 69.85 340 P P 02 54 49.6 +0.1
baz=70
X32A Elmer 69.86 336 P P 02 54 50.2 +0.6
baz=70
Y30A Stafford Cattl 69.95 334 P P 02 54 50.6 +0.4
baz=70
V36A Jenks 70.00 339 P P 02 54 50.5 +0.1
baz=70,SNR=12
Z28A Tucker Farm, M 70.00 333 P P 02 54 50.8 +0.2
baz=70
TUL1 Tulsa 70.07 339 P P 02 54 50.9 +0.1
baz=70,SNR=9.1
TUL1 Tulsa 70.07 339 eP P 02 54 51.2 +0.4
comp=Z,20nm,0.8s
W34A Bridge Creek, 70.08 337 P P 02 54 50.5 -0.4
baz=70
U38A Gravette 70.14 341 P P 02 54 51.1 -0.1
baz=71
Y29A Porterfield Fa 70.23 334 P P 02 54 52.7 +0.7
baz=71,SNR=6.7
W33A Caddo, Fort Co 70.23 337 P P 02 54 52.2 +0.4
baz=71,SNR=7.6
V35A Meyer Ranch, C 70.26 338 P P 02 54 51.9 -0.1
baz=71
X31A McDonald Ranch 70.29 335 P P 02 54 52.8 +0.6
baz=71,SNR=7.0
U37A Salina 70.32 340 P P 02 54 52.3 -0.1
baz=71,SNR=5.6
X30A Coker Ranch, T 70.45 335 P P 02 54 53.6 +0.3
baz=71
W32A Sentinel 70.48 336 P P 02 54 54.2 +0.8
baz=71,SNR=7.6
Y28A McKinney Farm, 70.49 333 P P 02 54 54.0 +0.4
baz=71
V34A Guthrie 70.54 338 P P 02 54 54.1 +0.4
baz=71
MSTX Muleshoe 70.75 333 P P 02 54 55.7 +0.4
baz=71,SNR=8.2
MSTX Muleshoe 70.75 333 eP P 02 54 55.6 +0.4
TVO Taravao 70.76 260 eT T 04 12 03.4
comp=Z,1.2nm,0.2s
X29A Tulia 70.76 334 P P 02 54 55.2 0.0
baz=71
W31A Holland Ranch, 70.78 336 P P 02 54 55.3 +0.1
baz=71
V33A Lossen Ranch, 70.78 337 P P 02 54 55.7 +0.5
baz=71
U35A Pawnee 70.78 339 P P 02 54 55.2 0.0
baz=71
OLIL Olney 70.78 346 eP P 02 54 55.1 0.0
BLO Bloomington 70.91 348 eP P 02 54 55.8 -0.1
T37A Cheneyville 18 70.93 340 P P 02 54 56.2 +0.1
baz=71,SNR=8.5
TIAR Tiarei 70.94 261 eT T 04 12 25.2
comp=Z,17nm,0.3s
V32A Arapaho 70.94 337 P P 02 54 56.8 +0.6
baz=71
U34A Anderson Ranch 71.10 338 P P 02 54 57.6 +0.5
baz=72
PPT2 Papeete2 71.12 260 eLR LR 03 16 45.0
comp=Z,98nm,25.2s
T36A Boggs Farm, Ca 71.16 340 P P 02 54 57.7 +0.3
baz=72
T35A Sooner Cattle 71.22 339 P P 02 54 58.0 +0.2
baz=72
V31A Spring Creek L 71.27 336 P P 02 54 58.8 +0.6
baz=72
U33A Lingo Farm, Me 71.28 338 P P 02 54 58.7 +0.5
baz=72
W29A Amarillo 71.34 334 P P 02 54 58.9 +0.2
baz=72
ACSO Alum Creek Sta 71.37 351 eP P 02 54 58.7 +0.1
comp=Z,22nm,0.8s
S37A Fort Scott 71.50 341 P P 02 54 59.6 +0.1
baz=72,SNR=8.3
T34A McClaskey Farm 71.52 339 P P 02 55 00.1 +0.5
baz=72,SNR=6.1
U32A Winter Ranch, 71.53 337 P P 02 55 00.4 +0.7
baz=72
121A Cookes Peak, D 71.64 328 P P 02 55 02.2 +1.5
baz=72,SNR=13
121A Cookes Peak, D 71.64 328 eP P 02 55 02.2 +1.5
comp=Z,13nm,0.9s
S36A Lake Cedric, C 71.69 340 P P 02 55 00.7 +0.1
baz=72,SNR=6.4
S35A Otter Creek Ra 71.86 340 P P 02 55 01.9 +0.2
baz=72,SNR=6.7
R37A Teagarden Farm 72.02 341 P P 02 55 02.4 -0.1
baz=72,SNR=6.4
T32A Huddler Ranch, 72.23 337 P P 02 55 04.4 +0.4
baz=73
V27A Dan Oppiter Fa 72.35 334 P P 02 55 05.0 +0.2
baz=73
R35A Emporia Munici 72.42 340 P P 02 55 04.9 -0.1
baz=73
LPM Los Pinos Moun 72.64 330 eP P 02 55 08.3 +1.7
comp=Z,2.9nm,0.8s
R34A Isabella, Hill 72.72 339 P P 02 55 07.5 +0.7
baz=73,SNR=5.4
S31A Mullinville 72.81 337 P P 02 55 08.3 +0.9
baz=73
Q35A Mercer Eighty, 72.87 340 P P 02 55 08.3 +0.6
baz=73
R33A Olander Ranch, 72.95 339 P P 02 55 09.0 +0.8
baz=73
T29A Hugoton 73.02 336 P P 02 55 09.6 +0.9
baz=74
ANMO Albuquerque 73.10 331 eP P 02 55 11.0 +1.6
comp=Z,6.7nm,1.2s
Q34A Chapman 73.19 340 P P 02 55 10.6 +1.0
baz=74
R32A Long Quarter, 73.29 338 P P 02 55 10.2 +0.1
baz=74
P36A Good Intent, A 73.34 341 P P 02 55 09.9 -0.5
baz=74,SNR=5.9
S29A Ulysses 73.38 336 P P 02 55 11.6 +0.9
baz=74,SNR=5.1
LIC Lamto 73.39 72 eP P 02 55 05.4 -5.9
comp=Z,82nm,1.5s
R31A Burdett 73.43 337 P P 02 55 11.1 0.0
baz=74
T27A Campo 73.46 334 P P 02 55 11.4 0.0
baz=74
P35A Duane Minner, 73.48 341 P P 02 55 11.0 -0.3
baz=74,SNR=5.1
Q33A Connelly Farm, 73.54 339 P P 02 55 11.8 +0.2
baz=74
214A Organ Pipe Nat 73.56 324 P P 02 55 13.3 +1.3
baz=74,SNR=7.3
214A Organ Pipe Nat 73.56 324 eP P 02 55 13.9 +1.9
comp=Z,2.2nm,0.6s
S28A Manter 73.63 335 P P 02 55 13.0 +0.7
baz=74,SNR=11
TIC Toumodi 73.63 72 eP P 02 55 11.6 -1.1
KIC Kosan Boka 73.70 72 eP P 02 55 07.5 -5.6
comp=Z,29nm,0.8s
P34A Walnut Farm, R 73.74 340 P P 02 55 12.7 0.0
baz=74
O36A Bolckow 73.75 342 P P 02 55 12.2 -0.6
baz=74
Q32A Meitler Ranch, 73.76 338 P P 02 55 13.5 +0.6
baz=74
DBIC Dimbokro 73.78 72 P P 02 55 12.6 -1.0
comp=Z,13nm,0.6s,baz=210,slow=6.4,SNR=32
DBIC LR LR 03 24 59.1
comp=Z,72nm,20.0s,baz=170,slow=34
DBIC Dimbokro 73.78 72 eP P 02 55 12.4 -1.2
comp=Z,17nm,0.7s
T26A Comanche Natio 73.89 334 P P 02 55 14.6 +0.7
baz=74
CBKS Cedar Bluff 73.98 337 P P 02 55 14.3 0.0
baz=74
Q31A Ellis 74.04 338 P P 02 55 15.1 +0.5
baz=74
R29A Marienthal 74.10 336 P P 02 55 16.1 +1.1
baz=75
T25A Trinidad 74.17 333 P P 02 55 17.3 +1.7
baz=75,SNR=12
S26A Kim 74.23 334 P P 02 55 17.1 +1.3
baz=75,SNR=11
R28A Tribune 74.27 336 P P 02 55 16.5 +0.5
baz=75
O34A Beatrice 74.29 340 P P 02 55 16.4 +0.5
baz=75
Q30A Quinter 74.29 337 P P 02 55 16.9 +0.9
baz=75,SNR=10
O33A Hebron 74.45 340 P P 02 55 17.1 +0.2
baz=75,SNR=5.2
Q29A Oakley 74.47 337 P P 02 55 17.1 0.0
baz=75
P31A Stockton 74.50 338 P P 02 55 18.1 +0.8
baz=75,SNR=5.9
R27A Eads 74.57 335 P P 02 55 18.5 +0.7
baz=75,SNR=6.1
N35A Tabor 74.62 341 P P 02 55 18.1 +0.2
baz=75
W18A Petrified Fore 74.68 328 P P 02 55 19.5 +0.9
baz=75
R26A Arlington 74.82 335 P P 02 55 20.3 +1.0
baz=75
N34A Lincoln 74.84 341 P P 02 55 19.3 +0.2
baz=75
O31A Woolen Ranch, 75.06 338 P P 02 55 21.3 +0.8
baz=76
SDCO Great Sand Dun 75.12 333 P P 02 55 22.5 +1.3
baz=76,SNR=11
SDCO Great Sand Dun 75.12 333 eP P 02 55 23.1 +1.8
comp=Z,4.7nm,0.9s
JFWS Jewell Farm 75.25 346 eP P 02 55 21.8 +0.3
comp=Z,20nm,1.2s
O30A MW Ranch, Wils 75.32 338 P P 02 55 22.7 +0.8
baz=76
S22A 4UR Ranch, Cre 75.65 332 P P 02 55 25.6 +1.3
baz=76
WUAZ Wupatki 75.76 327 P P 02 55 26.4 +1.7
baz=76,SNR=7.7
WUAZ Wupatki 75.76 327 eP P 02 55 27.0 +2.2
comp=Z,12nm,1.0s
L34A Svendsen Farm, 75.85 341 P P 02 55 25.1 +0.2
baz=76
Y12C Blythe 75.86 324 P P 02 55 27.0 +1.8
baz=76
SWSC Sam W. Stewart 75.87 323 P P 02 55 26.9 +1.7
baz=76
MVCO Mesa Verde 75.89 330 P P 02 55 26.6 +1.0
baz=76,SNR=6.3
MVCO Mesa Verde 75.89 330 eP P 02 55 26.7 +1.1
comp=Z,11nm,1.0s
M31A Lambtecht Ranc 76.03 339 P P 02 55 27.7 +1.6
baz=76
Q24A Divide 76.04 334 P P 02 55 27.9 +1.4
baz=76
N29A Votaw Ranch, W 76.08 338 P P 02 55 27.7 +1.4
baz=76
PDMCI Parker Dam,Lak 76.11 325 P P 02 55 27.8 +1.2
baz=77
O27A Beecher Island 76.14 336 P P 02 55 28.0 +1.2
baz=77
MONP Monument Peak 76.16 322 P P 02 55 28.5 +1.3
baz=77
MAW Mawson 76.22 164 P P 02 55 26.5 -0.3
comp=Z,4.2nm,0.5s,baz=208,slow=6.7,SNR=27
MAW LR LR 03 32 16.8
comp=Z,36nm,18.6s,baz=235,slow=38
BC3 Big Chuckawall 76.26 323 P P 02 55 28.6 +1.0
baz=77,SNR=6.7
IRM Iron Mountain 76.50 324 P P 02 55 30.1 +1.2
baz=77
PV01 Paradox Valley 76.70 331 eP P 02 55 31.3 +1.1
N27A Anderson Farm, 76.71 336 P P 02 55 30.7 +0.7
baz=77
PFO Pinyon Flat Ob 76.74 323 P P 02 55 31.6 +1.3
baz=77,SNR=5.7
L31A Butterfield Fa 76.75 340 P P 02 55 31.2 +1.1
baz=77
BELC Belle Mtn. Jos 76.81 323 P P 02 55 32.0 +1.2
baz=77
SMCO Snowmass 76.94 332 eP P 02 55 33.6 +1.9
comp=Z,16nm,1.0s
ISCO Idaho Springs 76.95 334 P P 02 55 32.8 +1.3
baz=77,SNR=8.2
ISCO Idaho Springs 76.95 334 eP P 02 55 33.4 +1.8
MURC Murrieta 77.12 322 P P 02 55 33.8 +1.5
baz=78
LDFC Landfair 77.21 325 eP P 02 55 35.1 +2.2
comp=Z,12nm,0.9s
GMRC Granite Mounta 77.25 324 P P 02 55 35.1 +1.9
baz=78,SNR=7.5
K30A Basset 77.44 339 P P 02 55 35.4 +1.5
baz=78
ECSD EROS Data Cent 77.55 342 P P 02 55 34.8 +0.3
baz=78,SNR=34
ECSD EROS Data Cent 77.55 342 eP P 02 55 34.8 +0.3
comp=Z,28nm,0.8s
HEC Hector,Ludlow 77.63 324 P P 02 55 36.8 +1.6
baz=78
K29A Lazy Trails An 77.74 339 P P 02 55 36.6 +1.0
baz=78
FMP Fort Macarthur 77.79 322 P P 02 55 37.0 +1.0
baz=78
M25A Palm-Egli Farm 77.80 336 P P 02 55 37.1 +0.9
baz=78
BFSC Mount Baldy Ra 77.86 322 P P 02 55 37.7 +1.1
baz=78
TUQ Turquoise Moun 77.90 324 P P 02 55 38.1 +1.4
baz=78
SPMN St. Paul 78.00 345 P P 02 55 36.4 -0.6
baz=78
SPMN St. Paul 78.00 345 eP P 02 55 37.0 0.0

comp=Z,12nm,0.7s
N23A Red Feather La 78.02 334 P **P** 02 55 39.2 +1.7
baz=78
K28A Ten Mile Ranch 78.03 338 P **P** 02 55 38.6 +1.3
baz=78
GSC Goldstone 78.24 324 P **P** 02 55 39.7 +1.0
baz=79
O20A White River Ci 78.27 332 P **P** 02 55 39.7 +0.9
baz=79,SNR=5.9
O20A White River Ci 78.27 332 *eP* **P** 02 55 40.2 +1.4
comp=Z,13nm,1.3s
J29A Okreek 78.33 339 P **P** 02 55 39.7 +0.9
baz=79,SNR=6.2
CCUT Cedar City 78.34 327 *eP* **P** 02 55 41.3 +2.0
comp=Z,8.7nm,1.0s
SRU San Rafael 78.35 330 *eP* **P** 02 55 40.1 +0.8
comp=Z,7.4nm,0.9s
SHPR Sheep Range 78.36 325 *eP* **P** 02 55 41.2 +1.8
L25A Engebretsen Ra 78.41 336 P **P** 02 55 40.5 +1.1
baz=79
I30A Oacoma 78.52 340 P **P** 02 55 40.2 +0.4
baz=79
EDW2 Edwards Air Fo 78.53 323 P **P** 02 55 41.0 +0.8
baz=79
MSU Marysvale 78.58 329 *eP* **P** 02 55 41.9 +1.3
comp=Z,7.8nm,1.2s
MVU Marysvale 78.59 329 *eP* **P** 02 55 41.9 +1.2
comp=Z,9.2nm,1.3s
J28A Allard Ranch, 78.62 338 P **P** 02 55 41.6 +1.1
baz=79
OSI Osito Adit 78.71 322 P **P** 02 55 42.3 +1.2
baz=79
J27A Elkhorn Farm, 78.72 338 P **P** 02 55 42.4 +1.3
baz=79
P17A Butcher Ranch, 78.75 330 *eP* **P** 02 55 43.1 +1.6
P17A *epP* **pP** 02 55 56.8 +2.7
LRMC Laurel Mountai 78.83 323 P **P** 02 55 43.1 +1.2
baz=79
I29A Vivian Onida 78.88 339 P **P** 02 55 42.0 +0.1
baz=79
J26A Sides Ranch, S 79.12 337 P **P** 02 55 44.4 +1.2
baz=80
FURC Furnace Creek, 79.18 324 P **P** 02 55 44.9 +1.3
baz=80,SNR=5.7
MPMC Manual Prospec 79.18 324 P **P** 02 55 44.8 +0.9
baz=80
TPNV Topopah Spring 79.25 325 P **P** 02 55 45.7 +1.4
baz=80,SNR=9.1
ISA Isabella 79.38 323 P **P** 02 55 46.1 +1.3
baz=80
ISA Isabella 79.38 323 *eP* **P** 02 55 47.2 +2.3
DAC Darwin (Calif) 79.40 324 *eP* **P** 02 55 46.1 +1.0
comp=Z,7.3nm,1.0s
J25A Sunshine Ranch 79.44 337 P **P** 02 55 46.0 +1.0
baz=80
I27A Quinn 79.47 338 P **P** 02 55 46.1 +1.0
baz=80
PKM Peak Mountain 79.51 321 P **P** 02 55 46.9 +1.2
baz=80
K23A Bowen Ranch, D 79.52 335 P **P** 02 55 47.0 +1.4
baz=80
J24A Dixon Ranch, L 79.68 336 P **P** 02 55 47.6 +1.2
baz=80
O16A Springville 79.68 330 *eP* P 02 55 41.9 -4.7
H28A Mission Ridge 79.69 339 P **P** 02 55 47.5 +1.2
baz=80
NLU North Lily Min 79.72 330 *eP* **P** 02 55 47.4 +0.5
comp=Z,7.7nm,1.2s
TSUM Tsumeb 79.75 106 *eP* **P** 02 55 46.8 -0.7
comp=Z,8.0nm,0.9s
K22A Casper 79.76 335 P **P** 02 55 47.8 +0.9
baz=80,SNR=5.1
CWC Cottonwood Cre 79.77 324 P **P** 02 55 48.0 +0.9
baz=80
G29A Hoven 79.83 340 P **P** 02 55 47.5 +0.5
baz=80
GRAC Grapevine Rang 79.85 324 P **P** 02 55 48.6 +1.3
baz=80
I25A Rochford 79.97 337 P **P** 02 55 49.1 +1.1
baz=80,SNR=6.7
H27A Howes 79.98 338 P **P** 02 55 48.8 +0.9
baz=80
JLU Jordanelle 79.99 330 *eP* **P** 02 55 48.6 +0.4
comp=Z,5.8nm,0.7s
G28A Parade 80.02 339 P **P** 02 55 48.8 +0.8
baz=80
R11A Troy Canyon, C 80.03 326 P **P** 02 55 49.9 +1.4
baz=80,SNR=7.1
R11A Troy Canyon, C 80.03 326 *eP* **P** 02 55 49.9 +1.4
comp=Z,6.3nm,1.3s
R11A *epP* **pP** 02 56 03.8 +2.7
RSSD Black Hills 80.16 337 *eP* **P** 02 55 50.4 +1.3
DUG Dugway 80.25 329 P **P** 02 55 50.8 +1.2
baz=81,SNR=5.8
DUG Dugway 80.25 329 *eP* **P** 02 55 50.8 +1.2
comp=Z,4.7nm,0.9s
DUG *epP* **pP** 02 56 04.5 +2.2
EYMN Ely 80.32 347 P **P** 02 55 49.7 +0.2
baz=81
EYMN Ely 80.32 347 *eP* **P** 02 55 49.5 0.0
F29A Eureka 80.38 340 P **P** 02 55 50.3 +0.3
baz=81
J22A Midwest 80.40 335 P **P** 02 55 50.3 0.0
baz=81
G27A Dupree 80.60 339 P **P** 02 55 51.7 +0.5
baz=81
TPH Tonopah 80.61 325 *eP* **P** 02 55 52.6 +1.0
comp=Z,11nm,1.3s
TPH *epP* **pP** 02 56 05.8 +1.5
F28A McLaughlin 80.68 340 P **P** 02 55 52.1 +0.6
baz=81
J21A Lysite 80.70 334 P **P** 02 55 52.3 +0.3
baz=81
E30A Jud 80.73 341 P **P** 02 55 52.3 +0.4
baz=81
G26A Maurine 80.73 338 P **P** 02 55 52.3 +0.4
baz=81,SNR=7.0
BART Pico Bartolome 80.77 36 *eS* **S** 03 05 57.5 +0.4
BART A A 03 05 58.8
comp=Z,14nm,0.1s
I22A 9 Mile Ranch, 80.82 335 P **P** 02 55 52.8 +0.3
baz=81
HWUT Hardware Ranch 80.87 331 *eP* **P** 02 55 53.7 +0.8
comp=Z,8.1nm,0.8s
H24A Dirks Ranch, A 80.89 337 P **P** 02 55 53.0 +0.2
baz=81
G25A Newell 80.91 338 P **P** 02 55 53.5 +0.6
baz=81,SNR=9.0
J20A Shoshoni 80.95 334 P **P** 02 55 54.0 +0.8
baz=81
PDAR Pinedale Array 81.02 333 P **P** 02 55 54.1 +0.4
comp=Z,1.8nm,0.9s,baz=123,slow=5.5,SNR=11
PDAR LR LR 03 28 42.6
comp=Z,24nm,19.4s,baz=130,slow=33
I21A Big Trails, Te 81.04 335 P **P** 02 55 53.9 +0.1
baz=82
F27A Lemmon 81.07 339 P **P** 02 55 53.8 +0.2
baz=82
J19A Crowheart 81.24 333 P **P** 02 55 55.3 +0.5
baz=82,SNR=8.0
D30A Buchanan 81.25 342 P **P** 02 55 55.0 +0.4
baz=82,SNR=8.2
F26A Lodgepole 81.25 339 P **P** 02 55 55.1 +0.4
baz=82
BOSA Boshof 81.26 118 P **P** 02 55 54.7 -0.7
comp=Z,7.4nm,0.8s,baz=255,slow=3.3,SNR=13
BOSA *pP* **pP** 02 56 06.8 -1.3
comp=Z,2.5nm,0.7s,baz=266,slow=2.5,SNR=2.5
BOSA LR LR 03 27 36.3
comp=Z,50nm,18.4s,baz=190,slow=32
E28A Huff 81.31 340 P **P** 02 55 55.3 +0.4
baz=82
G24A Alzada 81.36 337 P **P** 02 55 55.4 +0.1
baz=82
H22A Clearmont 81.38 336 P **P** 02 55 55.4 -0.1
baz=82
NVAR Mina Array Bea 81.42 325 P **P** 02 55 57.0 +1.1
comp=Z,2.3nm,0.8s,baz=161,slow=6.5,SNR=14
NVAR *pP* **pP** 02 56 09.8 +1.2
comp=Z,1.8nm,0.8s,baz=162,slow=7.0,SNR=7.4
E27A Carson 81.43 340 P **P** 02 55 56.0 +0.4
baz=82
I20A Worland 81.47 334 P **P** 02 55 56.4 +0.4
baz=82
HVU Hansel Valley 81.52 330 *eP* **P** 02 55 57.3 +1.0
comp=Z,5.8nm,0.7s
F25A Bowman 81.57 338 P **P** 02 55 56.9 +0.5
baz=82

G23A Biddle 81.57 337 P **P** 02 55 56.1 -0.3
baz=82
AGMN Agassiz Nation 81.61 344 P **P** 02 55 56.5 +0.1
baz=82,SNR=6.4
AGMN Agassiz Nation 81.61 344 *eP* **P** 02 55 56.6 +0.2
comp=Z,9.9nm,0.6s
AGMN *epP* **pP** 02 56 10.1 +0.9
H21A Big Horn, Sher 81.66 335 P **P** 02 55 56.8 -0.1
baz=82
ELK Elko 81.78 328 *eP* **P** 02 55 58.6 +0.8
comp=Z,3.4nm,0.9s
ELK *epP* **pP** 02 56 11.3 +0.8
F24A Ekalaka 81.82 337 P **P** 02 55 58.0 +0.3
baz=82
D28A Regan 81.83 340 P **P** 02 55 57.9 +0.3
baz=82
H20A Greybull 81.88 335 P **P** 02 55 58.1 0.0
baz=82,SNR=6.7
F23A Volborg 82.03 337 P **P** 02 55 59.0 +0.2
baz=82
E25A Miller Ranch, 82.06 338 P **P** 02 55 59.4 +0.5
baz=82
MDND Maddock 82.16 341 P **P** 02 55 60.0 +0.7
baz=83,SNR=5.1
G21A Lodge Grass 82.23 335 P **P** 02 56 00.2 +0.3
baz=83
D26A Manning 82.24 339 P **P** 02 56 00.3 +0.5
baz=83
C28A Hausauer Farms 82.25 341 P **P** 02 56 00.1 +0.3
baz=83
B30A Myrvik Farm, E 82.37 342 P **P** 02 56 00.8 +0.4
baz=83,SNR=21
F22A Rosebud 82.38 336 P **P** 02 56 00.8 +0.2
baz=83
E24A Baker 82.41 338 P **P** 02 56 01.1 +0.3
baz=83
H19A Powell 82.41 334 P **P** 02 56 01.4 +0.5
baz=83
C27A Sayler Ranch, 82.57 340 P **P** 02 56 02.2 +0.6
baz=83
G20A Bridger 82.59 335 P **P** 02 56 01.9 +0.1
baz=83,SNR=6.1
D25A Fairfield 82.62 339 P **P** 02 56 02.8 +1.0
baz=83
B29A Wagenman Farm, 82.65 342 P **P** 02 56 02.2 +0.3
baz=83,SNR=5.3
E23A Ismay 82.68 337 P **P** 02 56 02.4 +0.2
baz=83
TOB5 Torodi Ar. Sit 82.72 70 *eP* **P** 02 56 01.5 -1.5
TORD Torodi Ar. Bea 82.73 70 P **P** 02 56 01.9 -1.2
comp=Z,4.9nm,0.7s,baz=278,slow=6.1,SNR=174
TORD *pP* **pP** 02 56 14.4 -1.4
comp=Z,7.3nm,0.9s,baz=256,slow=4.8,SNR=14
TORD LR LR 03 30 53.9
comp=Z,73nm,19.3s,baz=230,slow=34
D24A Glendive 82.90 338 P **P** 02 56 04.0 +0.7
baz=83
B28A Dugan Ranch, T 82.91 341 P **P** 02 56 04.1 +0.9
baz=83
A29A Manning Farm, 83.04 342 P **P** 02 56 04.6 +0.8
baz=84
B27A Peters Farms, 83.13 341 P **P** 02 56 04.9 +0.5
baz=84
LAO LASA Array 83.16 337 P **P** 02 56 05.1 +0.4
baz=84
LAO LASA Array 83.16 337 *eP* **P** 02 56 04.8 +0.2
comp=Z,3.0nm,0.6s
C24A Savage 83.30 338 P **P** 02 56 06.4 +1.1
baz=84,SNR=8.6
A28A Rude Farm, Bot 83.31 341 P **P** 02 56 05.6 +0.4
baz=84
CASY Casey 83.31 181 *eP* **P** 02 56 05.0 -0.2
comp=Z,12nm,0.9s
CASY *epP* **pP** 02 56 18.1 +0.1
LBTB Lobatse 83.34 115 *eP* **P** 02 56 05.0 -1.4
comp=Z,14nm,0.9s
ULM Lac du Bonnet 83.44 345 P **P** 02 56 05.5 -0.4
comp=Z,11nm,0.8s,baz=170,slow=5.1,SNR=11
ULM *pP* **pP** 02 56 18.4 -0.3
comp=Z,7.7nm,1.0s,baz=155,slow=5.1,SNR=3.9
HLID Hailey 83.68 330 P **P** 02 56 08.7 +1.2
baz=84,SNR=5.8
HLID Hailey 83.68 330 *eP* **P** 02 56 08.3 +0.8
comp=Z,8.0nm,1.5s
A26A Wade Farm, Ken 83.79 340 P **P** 02 56 07.6 -0.1
baz=84
MCMT McKenzie Canyo 84.05 332 *eP* **P** 02 56 10.0 +0.5
comp=Z,1.0nm,0.7s
MCMT *epP* **pP** 02 56 24.6 +2.3
BOZ Bozeman (W) 84.24 333 P **P** 02 56 10.6 +0.3
baz=85
C21A Desert Coulee 84.44 337 P **P** 02 56 11.2 0.0
baz=85
C20A Veseth Ranch, 84.65 336 P **P** 02 56 12.1 -0.1
baz=85
LRM Limekiln Ridge 84.71 333 *eP* **P** 02 56 12.8 0.0
comp=Z,38nm,1.3s
B21A Ellsworth Farm 84.93 337 P **P** 02 56 13.8 +0.2
baz=85
B19A Brinkman Farms 85.61 336 P **P** 02 56 17.0 0.0
baz=86
J05D Fort Rock, OR 86.56 326 P **P** 02 56 22.2 +0.2
baz=87
BSMT Bassoo Peak 87.30 333 *eP* **P** 02 56 26.0 +0.5
comp=Z,2.1nm,0.8s
LSZ Lusaka 90.46 108 *eP* **P** 02 56 40.8 -0.4
comp=Z,3.8nm,1.1s
WRA Warramunga Arr 123.81 210 PKP **PKPdf** 03 02 35.6 -1.6
comp=Z,0.5nm,0.5s,baz=155,slow=1.8,SNR=13
WRA pPKP **pPKPdf** 03 02 48.7 -1.8
comp=Z,0.3nm,0.3s,baz=153,slow=1.8,SNR=3.2
H11S2 WAKE ISLAND Hyl 26.14 271 T T 05 21 28.5
baz=115,slow=74,SNR=202
H11S1 WAKE ISLAND Hyl 26.16 271 T T 05 21 28.6
baz=115,slow=74,SNR=234
H11S3 WAKE ISLAND Hyl 26.16 271 T T 05 21 29.6
baz=115,slow=74,SNR=221
H11N3 WAKE ISLAND Hyl 26.47 273 T T 05 21 53.6
baz=116,slow=75,SNR=43
H11N1 WAKE ISLAND Hyl 26.49 273 T T 05 21 54.7
baz=116,slow=75,SNR=13
H11N2 WAKE ISLAND Hyl 26.49 273 T T 05 21 54.4
baz=116,slow=75,SNR=95
ABKAR Akbulak array 139.29 49 *e*PKPdf **PKPdf** 03 03 05.1 -0.3
BRVK Borovoye 144.50 40 *e*PKPdf PKPbc 03 03 13.2 0.0
BVAR Borovoye Array 144.57 40 PKP **PKPab** 03 03 13.4 +0.1
comp=Z,6.4nm,0.5s,baz=290,slow=3.1,SNR=38
BVAR pPKP **pPKPdf** 03 03 26.3 -1.7
comp=Z,2.0nm,0.6s,baz=307,slow=3.2,SNR=5.0
PALK Pallekele 145.12 126 *e*PKPdf **PKPbc** 03 03 15.9 -0.5
YAK Yakutsk 145.75 342 PKPbc **PKPbc** 03 03 16.9 0.0
comp=Z,1.9nm,0.4s,baz=222,slow=13,SNR=5.1
YAK pPKPbc pPKPbc 03 03 29.6 -0.5
comp=Z,1.8nm,0.3s,baz=252,slow=3.2,SNR=2.5
YAK Yakutsk 145.75 342 *e*PKPdf **PKPdf** 03 03 16.5 +0.1
YAK pPKPbc pPKPbc 03 03 29.6 -0.5
KKAR Karatay Array 147.54 57 *e*PKPbc **PKPbc** 03 03 21.8 -1.0
EKS2 Erkin-Say 149.98 57 *e*PKPbc **PKPbc** 03 03 28.9 -0.2
KURBB Kurchatov Arra 150.16 40 PKPbc **PKPbc** 03 03 28.6 -0.5
comp=Z,5.8nm,0.7s,baz=300,slow=3.1,SNR=48
KURBB pPKPbc **pPKPbc** 03 03 41.4 -1.0
comp=Z,1.4nm,0.5s,baz=302,slow=3.1,SNR=5.8
KURK Kurchatov 150.16 39 *e*PKPbc **PKPbc** 03 03 28.7 -0.5
KURK pPKPbc **pPKPbc** 03 03 41.4 -1.0
PSI Prapat 150.82 160 PKPab **PKPab** 03 03 38.5 -0.5
comp=Z,14nm,0.8s,baz=197,slow=5.0,SNR=12
KSM Kuching 150.86 184 *e*PKPbc **PKPbc** 03 03 31.9 -0.1
KSM *e*PKPab **PKPab** 03 03 39.6 +0.6
ZAA0 Zalesovo Array 151.21 29 *e*PKPbc **PKPbc** 03 03 30.9 -0.6
ZALV Zalesovo Beam 151.21 29 PKP **PKPdf** 03 03 25.3 -0.3
comp=Z,1.2nm,0.7s,baz=282,slow=3.7,SNR=4.4
ZALV PKPbc **PKPbc** 03 03 31.0 -0.5
comp=Z,24nm,0.6s,baz=308,slow=3.6,SNR=82
ZALV pPKPbc **pPKPbc** 03 03 42.8 -2.0
comp=Z,3.8nm,0.6s,baz=303,slow=3.6,SNR=4.9
KSH Kashi 152.16 63 PKPbc **PKPbc** 03 03 33.1 -1.3
KSH pPKP **pPKPdf** 03 03 41.1 +0.1
KSH PKS **PKSdf** 03 07 04.1 +1.8
KSH PP **PP** 03 07 20.0 +3.3
KSH SKS **SKSdf** 03 10 33.3 +1.6
KSH SKKS **SKKSac** 03 14 04.0 +0.4
KSH SS **SS** 03 26 40.3 -2.2
KSH PPMZ
comp=Z,78nm,4.2s
KSH LN
comp=Z,66nm,4.2s
KSH LE
comp=Z,70nm,4.0s
KSH LZ
comp=Z,270nm,5.3s
MKAR Makanchi Array 154.23 44 PKPab **PKPab** 03 03 52.6 +0.1
comp=Z,2.4nm,0.9s,baz=304,slow=3.3,SNR=2.4
MKAR pPKPab **pPKPab** 03 04 05.2 -0.3
comp=Z,2.1nm,0.7s,baz=280,slow=4.2,SNR=3.3
MJAR Matsushiro Arr 154.58 291 PKPab **PKPab** 03 03 55.0 +0.7
comp=Z,3.7nm,0.7s,baz=129,slow=2.1,SNR=18
MJAR pPKPab **pPKPab** 03 04 08.2 +0.9
comp=Z,1.1nm,0.7s,baz=110,slow=2.0,SNR=3.3
MAJO Matsushiro 154.58 291 *e*PKPab **PKPab** 03 03 55.4 +1.0
WMQ Urumqi 159.02 46 PKP **PKPdf** 03 03 35.6 -1.0
WMQ LN
comp=Z,56nm,22.0s
WMQ LZ
comp=Z,29nm,20.0s
SONM Songino Array 162.83 5 PKPab **PKPab** 03 04 30.3 +0.6
comp=Z,0.5nm,0.4s,baz=316,slow=6.0,SNR=4.1
CMAR Chiang Mai Arr 165.07 143 PKPab **PKPab** 03 04 39.0 -1.2
comp=Z,1.0nm,0.3s,baz=235,slow=5.4,SNR=6.1
HHC Hu-ho-hao-te 169.57 347 *e*PKP **PKPdf** 03 03 48.4 +2.2
NJ2 Nanjing 170.98 281 *e*PKP **PKPdf** 03 03 48.6 +1.5
KMI Kunming 172.50 137 PKP **PKPdf** 03 03 48.5 +0.2
CD2 Chengdu 175.99 86 PKP **PKPdf** 03 03 47.9 -1.2

NNC 18 03:00:13.7±3.8, 42°.80N×82°.49E, h0km, mb3.6, mpv3.2, 6C-3D, Error ellipse: s-maj=38.7km s-min=13.6km az=155.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**2.27**	**285**	⇑P	Pn	03 00 53.9	+1.5
	15nm,0.4s						
PDGK				⇓S	Sb	03 01 22.7	-1.3
	62nm,0.4s						
MK31	**Makanchi Array**	**4.00**	**358**	⇓Pn	Pn	03 01 18.5	+2.2
	0.3nm,0.2s,baz=189,slow=13,SNR=17						
MK31				⇑Pg	Pb	03 01 26.9	+1.9
	1.9nm,0.3s,baz=182,slow=18,SNR=37						
MK31				⇑Lg	Lg	03 02 19.2	
	2.6nm,0.3s,baz=154,slow=35,SNR=3.5						
TKM2	**Tokmak 2**	**5.07**	**274**	⇑Pg	Pb	03 01 45.8	+2.2
	1.8nm,0.4s						
TKM2				⇑Lg	Lg	03 02 47.9	
	8.4nm,0.5s						
AAK	**Ala-Archa**	**5.89**	**271**	⇓Pn	Pn	03 01 40.0	-2.5
	1.2nm,0.5s						
AAK				⇑Lg	Lg	03 03 15.6	
	7.5nm,0.9s						

WEL 18 03:06:07.0±0.3, 39°.50S×174°.29E, h250km±2km, ML3.9/18, 5C-23D, Error ellipse: s-maj=2.8km s-min=1.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LREZ	**Lake Rotokare**	**0.10**	**69**	PN	Pn	03 06 39.0	-0.2
LREZ				SN	S	03 07 04.4	0.0
NEZ	**North Egmont**	**0.27**	**327**	PN	Pn	03 06 39.5	-0.1
KHEZ	**Kahui Hut**	**0.29**	**314**	PN	Pn	03 06 39.4	-0.2
NMEZ	**Namu Road**	**0.33**	**284**	PN	Pn	03 06 39.4	0.0
VRZ	**Vera Road**	**0.52**	**45**	⇓PN	Pn	03 06 39.2	-0.8
VRZ				SN	S	03 07 04.8	-1.0
WAZ	**Wanganui**	**0.60**	**116**	⇓PN	Pn	03 06 40.8	+0.5
WAZ				SN	S	03 07 06.5	+0.1
MTVZ	**Mangateitei**	**0.93**	**84**	⇓PN	Pn	03 06 41.6	-0.1
MTVZ				SN	S	03 07 07.2	-1.8
TWVZ	**Taurewa**	**0.99**	**65**	⇓PN	Pn	03 06 41.6	-0.5
WPVZ	**Whakapapa**	**1.02**	**74**	⇓PN	Pn	03 06 42.2	-0.2
WPVZ				SN	S	03 07 07.9	-2.1
WNVZ	**Wahianoa**	**1.03**	**81**	⇓PN	Pn	03 06 42.3	-0.1
WNVZ				SN	S	03 07 07.9	-2.3
WHVZ	**Whangaehu Hut**	**1.03**	**79**	⇓PN	Pn	03 06 42.3	-0.2
NGZ	**Ngauruhoe**	**1.07**	**73**	⇓PN	Pn	03 06 42.4	-0.2
HIZ	**Hauiti**	**1.08**	**25**	PN	Pn	03 06 41.6	-1.0
WTVZ	**West Tongariro**	**1.08**	**70**	⇓PN	Pn	03 06 42.5	-0.2
WTVZ				SN	S	03 07 08.7	-2.0
TUVZ	**Tukino**	**1.08**	**78**	PN	Pn	03 06 42.7	0.0
OTVZ	**Oturere**	**1.12**	**73**	⇓PN	Pn	03 06 42.9	0.0
KRVZ	**Karewarewa**	**1.13**	**70**	⇓PN	Pn	03 06 42.8	-0.2
MOVZ	**Moawhango**	**1.14**	**86**	PN	Pn	03 06 42.5	-0.5
KATZ	**Kakaramea**	**1.21**	**65**	PN	Pn	03 06 43.2	-0.3
BHHZ	**Black Hill Sta**	**1.38**	**90**	⇓PN	Pn	03 06 44.1	-0.5
TSZ	**Takapari Road**	**1.41**	**114**	PN	Pn	03 06 44.8	+0.1
KIW	**Kapiti Island**	**1.45**	**161**	PN	Pn	03 06 44.7	-0.2
KIW				AML	AML	03 07 14.1	
KIW				AML	AML	03 07 14.1	
POWZ	**Post Office Ro**	**1.45**	**129**	PN	Pn	03 06 44.9	0.0
OGWZ	**Otaki Gorge**	**1.48**	**153**	⇓PN	Pn	03 06 45.1	0.0
MRZ	**Mangatainoka R**	**1.53**	**140**	⇓PN	Pn	03 06 45.3	-0.2
MRZ				AML	AML	03 07 15.6	
MRZ				AML	AML	03 07 16.3	
PNHZ	**Pukenui**	**1.54**	**106**	PN	Pn	03 06 45.7	+0.1
KRHZ	**Kereru**	**1.62**	**96**	PN	Pn	03 06 46.4	+0.1
DVHZ	**Dannevirke**	**1.66**	**120**	⇓PN	Pn	03 06 46.5	0.0
KWHZ	**Kaweka Forest**	**1.66**	**88**	PN	Pn	03 06 46.9	+0.2
PRWZ	**Pori Road**	**1.67**	**130**	PN	Pn	03 06 47.0	+0.3
HOWZ	**Holdsworth Sta**	**1.69**	**146**	⇓PN	Pn	03 06 46.5	-0.3
CAW	**Cannon Point**	**1.72**	**160**	⇓PN	Pn	03 06 46.8	-0.3
CAW				AML	AML	03 07 18.0	
CAW				AML	AML	03 07 18.6	
BKZ	**Black Stump Fm**	**1.74**	**80**	⇓PN	Pn	03 06 47.0	-0.4
BKZ				AML	AML	03 07 16.2	
BKZ				AML	AML	03 07 16.2	
WPHZ	**Waipukurau**	**1.76**	**110**	⇓PN	Pn	03 06 47.6	+0.3
TIWZ	**Tintock**	**1.77**	**137**	⇓PN	Pn	03 06 47.5	-0.1
TIWZ				AML	AML	03 07 20.4	
TIWZ				AML	AML	03 07 21.3	
WEL	**Wellington**	**1.83**	**168**	AML	AML	03 07 19.8	
WEL				AML	AML	03 07 20.4	
NNZ	**Nelson**	**1.85**	**202**	⇑PN	Pn	03 06 47.6	-0.5
MCHZ	**McNeill Hill**	**1.87**	**89**	PN	Pn	03 06 49.0	+0.7
QRZ	**Quartz Range**	**1.89**	**225**	PN	Pn	03 06 47.4	-1.1
MTW	**Mount Morrison**	**1.91**	**151**	⇓PN	Pn	03 06 48.3	-0.3
MTW				AML	AML	03 07 19.6	
MTW				AML	AML	03 07 20.4	
BFZ	**Birch Farm**	**1.92**	**129**	⇓PN	Pn	03 06 48.6	-0.1
ANWZ	**Angora Road**	**1.94**	**121**	PN	Pn	03 06 49.2	+0.3
TUWZ	**Tuamarina**	**1.95**	**188**	PN	Pn	03 06 48.4	-0.5
TUWZ				AML	AML	03 07 21.7	
TUWZ				AML	AML	03 07 21.7	
BHW	**Baring Head**	**1.96**	**167**	PN	Pn	03 06 48.6	-0.4
BHW				AML	AML	03 07 21.5	
BHW				AML	AML	03 07 23.0	
PRHZ	**Porangahau**	**1.97**	**114**	PN	Pn	03 06 49.4	+0.3
KAHZ	**Kahuranaki**	**2.02**	**99**	PN	Pn	03 06 50.3	+0.6
TMWZ	**Te Maipa**	**2.03**	**143**	PN	Pn	03 06 49.5	-0.2
MSWZ	**Moikau Station**	**2.06**	**159**	PN	Pn	03 06 49.5	-0.4
MSWZ				AML	AML	03 07 23.3	
MSWZ				AML	AML	03 07 24.3	
PXZ	**Pawanui**	**2.06**	**106**	⇓PN	Pn	03 06 50.2	+0.3
PXZ				AML	AML	03 07 23.7	
PXZ				AML	AML	03 07 25.1	
PXZ				AML	AML	03 07 25.3	
PXZ				AML	AML	03 07 25.7	
PAWZ	**Paruwai Farm**	**2.08**	**156**	PN	Pn	03 06 49.7	-0.4
PAWZ				AML	AML	03 07 22.5	
PAWZ				AML	AML	03 07 24.2	
ARHZ	**Aropaoanui**	**2.11**	**85**	PN	Pn	03 06 50.9	+0.4
TRWZ	**Traveller**	**2.18**	**151**	PN	Pn	03 06 50.9	-0.2
TRWZ				AML	AML	03 07 26.2	
TRWZ				AML	AML	03 07 26.2	
PLWZ	**Palliser**	**2.20**	**161**	PN	Pn	03 06 50.9	-0.5
BSWZ	**Blackbirch Sta**	**2.24**	**188**	PN	Pn	03 06 51.2	-0.4
BSWZ				AML	AML	03 07 26.6	
BSWZ				AML	AML	03 07 27.3	
RAHZ	**Arahi**	**2.25**	**76**	PN	Pn	03 06 52.1	+0.2
SNGZ	**Shannon Statio**	**2.48**	**74**	PN	Pn	03 06 53.8	-0.3
THZ	**Tophouse**	**2.50**	**204**	⇑PN	Pn	03 06 53.3	-1.0
URZ	**Urewera**	**2.53**	**62**	PN	Pn	03 06 53.0	-1.6
URZ				AML	AML	03 07 29.8	
URZ				AML	AML	03 07 29.9	
KNZ	**Kokohu**	**2.67**	**81**	⇑PN	Pn	03 06 55.8	-0.2
MWZ	**Matawai**	**2.78**	**66**	⇑PN	Pn	03 06 56.1	-1.1
MWZ				AML	AML	03 07 34.8	
MWZ				AML	AML	03 07 36.1	
RIGZ	**Rimuhau**	**2.82**	**75**	PN	Pn	03 06 57.1	-0.5
DSZ	**Denniston Nort**	**2.94**	**219**	⇑PN	Pn	03 06 57.2	-1.7
TKGZ	**Te Karaka**	**2.97**	**70**	PN	Pn	03 06 58.8	-0.4

KHZ	Kahutara	2.97	191	PN	Pn	03 06 58.0	-1.1
KHZ				AML	AML	03 07 37.6	
KHZ				AML	AML	03 07 37.8	
TWGZ	Tauwhareparae	3.17	67	PN	Pn	03 07 00.7	-0.8
CNGZ	Carnagh Station	3.22	73	PN	Pn	03 07 01.4	-0.5
HAZ	Te Kaha	3.24	59	PN	Pn	03 06 59.9	-2.3
LTZ	Lake Taylor	3.62	204	PN	Pn	03 07 04.6	-1.8
MXZ	Matakaoa Point	3.70	60	PN	Pn	03 07 05.8	-1.5
MXZ				AML	AML	03 07 11.8	
OXZ	Oxford	4.18	203	PN	Pn	03 07 10.5	-2.4
MQZ	McQueen's Vall	4.38	196	PN	Pn	03 07 12.3	-2.9
WVZ	Waitaha Valley	4.47	216	PN	Pn	03 07 13.8	-2.5
RPZ	Rata Peaks	4.86	209	PN	Pn	03 07 18.7	-2.4
FOZ	Fox Glacier	5.33	219	PN	Pn	03 07 22.4	-4.3
LBZ	Lake Benmore	5.76	211	PN	Pn	03 07 29.1	-3.0
JCZ	Jackson Bay	6.16	220	PN	Pn	03 07 33.3	-3.9
WKZ	Wanaka	6.61	215	PN	Pn	03 07 38.6	-4.1
EAZ	Earnscleugh	6.81	211	PN	Pn	03 07 41.0	-4.2
TUZ	Tuapeka	7.31	206	PN	Pn	03 07 48.8	-2.6
WHZ	Wether Hill Ro	7.92	214	PN	Pn	03 07 54.8	-4.4
APZ	The Paps	8.65	210	PN	Pn	03 08 05.1	-3.4

*ISCJB **18** 03:08:43.0±0.5,36°.92N±0°.08×24°.13W±0°.06,h22km,Error ellipse: s-maj=12.2km s-min=3.9km az=29.2*
*PDA **18** 03:08:48.3±1.2,36°.78N×24°.33W,h5km,MD4.2,ML3.3, Error ellipse: s-maj=7.9km s-min=5.3km az=54.0*
*CSEM **18** 03:08:48.3,36°.78N×24°.33W,h5km,ML3.3*
ISC 18 03:08:45.4±1.4,36°.8N±0°.1×24°.34W±0°.09,h22km,n30, σ1§46/43,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	Pico do Norte,	0.62	289	*i* P	Pb	03 08 58.5	+1.0
PSMN				*eS*	Sb	03 09 07.1	+1.3
PSMN				A	A	03 09 12.8	
	238nm,0.5s						
PSMA	Santa Maria	0.66	287	*i* P	Pb	03 08 59.1	+0.8
PSMA				*eS*	Sb	03 09 07.9	+0.8
PSMA				A	A	03 09 10.0	
	494nm,0.2s						
BART	Pico Bartolome	1.18	326	*eP*	Pn	03 09 06.5	-0.1
BART				*eS*	Sn	03 09 20.8	-1.2
BART				A	A	03 09 24.9	
	268nm,0.4s						
BART	Pico Bartolome	1.18	326	*eP*	Pn	03 09 06.5	-0.1
BART				*eS*	Sn	03 09 20.8	-1.2
GRON	Grota Negra	1.36	316	*eP*	Pn	03 09 08.0	-1.0
GRON				*eS*	Sn	03 09 23.5	-2.9
GRON				A	A	03 09 26.1	
	58nm,0.2s						
PDA	Ponta Delgada	1.42	312	*i* P	Pn	03 09 09.8	0.0
PDA				*eS*	Sn	03 09 26.2	-1.6
PDA				A	A	03 09 28.3	
	85nm,0.3s						
PSET	Sete Cidades	1.50	313	*i* P	Pn	03 09 11.3	+0.3
PSET				*eS*	Sn	03 09 28.9	-1.0
PSET				A	A	03 09 32.7	
	149nm,0.3s						
ADH	Angra Heroismo	2.95	310	*eP*	Pn	03 09 32.1	+1.2
ADH				*eS*	Sn	03 10 03.9	-1.7
ADH				A	A	03 10 10.0	
	33nm,0.3s						
ADH	Angra Heroismo	2.95	310	*eP*	Pn	03 09 32.1	+1.2
ADH				*eS*	Sn	03 10 03.9	-1.7
PMAN	Manadas	3.49	303	*eP*	Pn	03 09 39.1	+0.8
PMAN				*eS*	Sn	03 10 16.8	-2.1
PMAN				A	A	03 10 20.6	
	15nm,0.2s						
PMAN	Manadas	3.49	303	*eP*	Pn	03 09 39.1	+0.8
PMAN				*eS*	Sn	03 10 16.8	-2.1
PPNO	Prainha do Nor	3.53	299	*eP*	Pn	03 09 39.9	+0.9
PPNO	Prainha do Nor	3.53	299	*eP*	Pn	03 09 39.9	+0.9
ROSA	Rosais	3.64	303	*eP*	Pn	03 09 41.4	+1.1
ROSA				*eS*	Sn	03 10 20.7	-1.9
ROSA				A	A	03 10 31.0	
	11nm,0.3s						
ROSA	Rosais	3.64	303	*eP*	Pn	03 09 41.4	+1.1
ROSA				*eS*	Sn	03 10 20.7	-1.9
PGRA	Graciosa	3.64	309	*eP*	Pn	03 09 41.4	+1.0
PGRA				*eS*	Sn	03 10 20.8	-1.8
PGRA				A	A	03 10 33.0	
	14nm,0.5s						
PGRA	Graciosa	3.64	309	*eP*	Pn	03 09 41.4	+1.0
PGRA				*eS*	Sn	03 10 20.8	-1.8
PCAN	Candelaria	3.69	298	*eP*	Pn	03 09 41.8	+0.8
PCAN				*eS*	Sn	03 10 21.5	-2.3
PCAN				A	A	03 10 26.9	
	20nm,0.3s						
PCAN	Candelaria	3.69	298	*eP*	Pn	03 09 41.8	+0.8
PCAN				*eS*	Sn	03 10 21.5	-2.3
HOR	Horta	3.82	298	*eP*	Pn	03 09 43.7	+0.9
HOR	Horta	3.82	298	*eP*	Pn	03 09 43.7	+0.9
CALA	Caldeira	3.89	298	*eP*	Pn	03 09 44.3	+0.4
CALA				*eS*	Sn	03 10 27.1	-1.8
CALA	Caldeira	3.89	298	*eP*	Pn	03 09 44.3	+0.4
CALA				*eS*	Sn	03 10 27.1	-1.8
PCED	Cedros	3.91	299	*eP*	Pn	03 09 44.9	+0.8
PCED				*eS*	Sn	03 10 26.8	-2.5
PCED				A	A	03 10 28.9	
	17nm,0.4s						
PCED	Cedros	3.91	299	*eP*	Pn	03 09 44.9	+0.8
PCED				*eS*	Sn	03 10 26.8	-2.5
PMOZ	Porto Moniz, M	7.09	122	*eP*	Pn	03 10 27.5	-0.3
PMAR	Madeira	7.34	121	*eP*	Pn	03 10 29.7	-1.7
PMAR				*eS*	Sn	03 11 43.3	-11
PMAR				A	A	03 11 48.0	
	9.7nm,0.5s						
FUL	Funchal	7.40	122	*eP*	Pn	03 10 31.5	-0.5
PMPST	Porto Santo, M	7.55	117	*eP*	Pn	03 10 32.1	-2.0
PMPS	Porto Santo	7.56	117	*eP*	Pn	03 10 32.1	-2.1

*CSEM **18** 03:21:05.7,38°.56N×26°.60W,h0km,ML3.2*
PDA 18 03:21:05.7±1.0,38°.56N×26°.60W,h0km±4km,MD4.0, ML3.2,Error ellipse: s-maj=9.1km s-min=1.5km az=31.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADH	Angra Heroismo	0.51	281	*i* P	Pg	03 21 14.8	-0.7
ADH				*eS*	Sg	03 21 22.0	-0.1
ADH				A	A	03 21 25.6	
	2µm,0.3s						
PSET	Sete Cidades	1.01	137	*i* P	Pg	03 21 22.2	-2.9
PSET				*eS*	Sg	03 21 34.7	-3.6
PSET				A	A	03 21 37.0	
	152nm,0.3s						
PDA	Ponta Delgada	1.10	138	*eP*	Pg	03 21 23.5	-3.2
PDA				*eS*	Sg	03 21 36.9	-4.1
PDA				A	A	03 21 38.4	
	112nm,0.2s						
PDA	Ponta Delgada	1.10	138	*eP*	Pg	03 21 23.5	-3.2
PDA				*eS*	Sg	03 21 36.9	-4.1
GRON	Grota Negra	1.16	133	*eP*	Pg	03 21 25.4	-2.5
GRON				*eS*	Sg	03 21 40.0	-2.9
GRON				A	A	03 21 45.3	
	30nm,0.3s						
PMAN	Manadas	1.17	274	*i* P	Pg	03 21 24.0	-4.2
PMAN				*eS*	Sg	03 21 38.6	-4.8
PMAN				A	A	03 21 41.0	
	307nm,0.2s						
PGRA	Graciosa	1.18	294	*i* P	Pg	03 21 24.9	-3.4
PGRA				*eS*	Sg	03 21 38.9	-4.7
PGRA				A	A	03 21 43.8	
	331nm,0.3s						
ROSA	Rosais	1.30	277	*eP*	Pg	03 21 26.1	-4.5
ROSA				*eS*	Sg	03 21 41.8	-5.7
ROSA				A	A	03 21 45.7	
	215nm,0.2s						
ROSA	Rosais	1.30	277	*eP*	Pg	03 21 26.1	-4.5
ROSA				*eS*	Sg	03 21 41.8	-5.7
PPNO	Prainha do Nor	1.31	267	*eP*	Pg	03 21 26.5	-4.4
PPNO				*eS*	Sg	03 21 41.7	-6.3
PPNO				A	A	03 21 45.2	
	346nm,0.2s						
PPNO	Prainha do Nor	1.31	267	*eP*	Pg	03 21 26.5	-4.4
PPNO				*eS*	Sg	03 21 41.7	-6.3
BART	Pico Bartolome	1.37	124	*eP*	Pg	03 21 27.2	-4.9
BART				*eS*	Sg	03 21 43.3	-6.7
BART				A	A	03 21 47.5	
	66nm,0.4s						
BART	Pico Bartolome	1.37	124	*eP*	Pg	03 21 27.2	-4.9
BART				*eS*	Sg	03 21 43.3	-6.7
PCAN	Candelaria	1.48	267	*eP*	Pn	03 21 28.5	-5.2
PCAN				*eS*	Sg	03 21 45.9	-7.6
PCAN				A	A	03 21 51.1	
	221nm,0.3s						
PCAN	Candelaria	1.48	267	*eP*	Pn	03 21 28.5	-5.2
PCAN				*eS*	Sg	03 21 45.9	-7.6
HOR	Horta	1.59	269	*eP*	Pn	03 21 30.4	-4.8
HOR				*eS*	Sn	03 21 48.9	-7.5
HOR	Horta	1.59	269	*eP*	Pn	03 21 30.4	-4.8
HOR				*eS*	Sn	03 21 48.9	-7.5
CALA	Caldeira	1.65	271	*eP*	Pn	03 21 31.4	-4.7
CALA				*eS*	Sn	03 21 50.4	-7.7
CALA	Caldeira	1.65	271	*eP*	Pn	03 21 31.4	-4.7
CALA				*eS*	Sn	03 21 50.4	-7.7
PCED	Cedros	1.65	273	*i* P	Pn	03 21 30.7	-5.2
PCED				*eS*	Sn	03 21 50.0	-7.9
PCED				A	A	03 21 52.3	
	178nm,0.3s						
PSMA	Santa Maria	1.95	143	*eP*	Pn	03 21 35.4	-4.7
PSMA				*eS*	Sn	03 21 57.7	-7.5
PSMA				A	A	03 22 03.4	
	21nm,0.2s						
PSMN	Pico do Norte,	1.97	142	*eP*	Pn	03 21 35.8	-4.6
PSMN				*eS*	Sn	03 21 58.1	-7.8
PSMN				A	A	03 22 01.6	
	14nm,0.3s						
PSMN	Pico do Norte,	1.97	142	*eP*	Pn	03 21 35.8	-4.6
PSMN				*eS*	Sn	03 21 58.1	-7.8

*CSEM **18** 03:23:49.3,37°.62N×25°.29W,h0km,ML1.6*
PDA 18 03:23:49.3±0.9,37°.62N×25°.29W,h0km±4km,MD3.5, ML1.6,Error ellipse: s-maj=3.0km s-min=2.1km az=71.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BART	Pico Bartolome	0.18	32	*i* P	Pg	03 23 52.8	-0.1
BART				*eS*	Sg	03 23 55.9	+0.5
BART				A	A	03 23 57.9	
	108nm,0.3s						
GRON	Grota Negra	0.24	307	*eP*	Pg	03 23 52.9	-1.1
GRON				*eS*	Sg	03 23 55.1	-2.2
GRON				A	A	03 23 56.9	
	28nm,0.2s						
PDA	Ponta Delgada	0.32	293	*eP*	Pg	03 23 55.3	-0.2
PDA				*eS*	Sg	03 24 00.3	+0.6
PDA				A	A	03 24 01.2	
	41nm,0.2s						
PDA	Ponta Delgada	0.32	293	*eP*	Pg	03 23 55.3	-0.2
PDA				*eS*	Sg	03 24 00.3	+0.6
PSET	Sete Cidades	0.40	300	*eP*	Pg	03 23 56.7	-0.3
PSET				*eS*	Sg	03 24 01.9	-0.3
PSET				A	A	03 24 03.8	
	32nm,0.3s						
PSET	Sete Cidades	0.40	300	*eP*	Pg	03 23 56.7	-0.3
PSET				*eS*	Sg	03 24 01.9	-0.3
PSMA	Santa Maria	0.64	168	*eP*	Pg	03 24 00.5	-1.1
PSMN	Pico do Norte,	0.64	164	*eP*	Pg	03 24 00.7	-1.0
PSMN	Pico do Norte,	0.64	164	*eP*	Pg	03 24 00.7	-1.0

*ISCJB **18** 03:29:36.0±0.2,41°.77S±0°.03×73°.34W±0°.07,h37km, mb4.9/74,MS4.0/10,Error ellipse: s-maj=7.1km s-min=4.3km az=12.5*
*MOS **18** 03:29:36.1±1.0,41°.77S×73°.41W,h33km,mb5.1/25,Error ellipse: s-maj=20.9km s-min=9.2km az=100.8*
*GUC **18** 03:29:37.2±0.5,41°.95S×73°.84W,h45km±2km,ML5.1*
*BJI **18** 03:29:37.6,41°.80S×73°.40W,h30km,mB5.0/8,Ms5.2/7, Ms7 5.0/7*
*IDC **18** 03:29:37.8±0.4,41°.84S×73°.42W,h38km±3km,mb4.3/16, mb1 4.5/18,mb1mx4.4/24,mbtmp4.6/18,ML5.4/2,MS3.8/10, Ms1 3.8/10,ms1mx3.6/19,Error ellipse: s-maj=18.1km s-min=10.5km az=92.0*
*NEIC **18** 03:29:37.0,41°.95S×73°.84W,h45km,mb5.0/65,After GUC.*
NEIC Felt [IV] at Maullin; [III] at Ancud, Castro, Chonchi, Curaco, Frutillar, Llanquihue, Puerto Montt and Puerto Varas; [II] at Calbuco, Dalcahue, Fresia, Los Muermos, Osorno, Puerto Octay, Puqueldon, Purranque, Puyehue, Queilen, Quellon, Quemchi, Quinchao, Rio Negro, San Juan de la Costa and San Pablo.
ISC 18 03:29:37.4±0.3,41°.88S±0°.04×73°.75W±0°.07,h39km±2km, h39km:pP-P,n515,σ1§03/546,mb5.0/74,MS4.0/10,5C-9D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMCH	Puerto Montt	0.75	59	*i* P	Pn	03 29 53.2	+1.8
PMCH				*i* S	Sn	03 30 05.0	+3.5
HOCH	HornopirØn	1.00	92	*eP*	Pn	03 29 56.6	+1.7
HOCH				*i* S	Sn	03 30 10.8	+3.0
PUEL	Puelo Alto	1.11	79	*i* P	Pn	03 29 58.5	+2.2
PUEL				*i* S	Sn	03 30 14.4	+4.1
QLLN	Quelln	1.23	176	*i* P	Pn	03 29 57.6	-0.3
QLLN				*i* S	Sn	03 30 11.9	-1.4
OSCH	Osorno	1.39	20	*eP*	Pn	03 30 02.2	+2.1
OSCH				*i* S	Sn	03 30 20.6	+3.4
OSCH				AML	AML	03 30 30.9	
	comp=E,48µm,0.7s						
VLCH	Valdivia	2.11	11	*i* P	Pn	03 30 11.7	+1.7
VLCH				*i* S	Sn	03 30 37.8	+2.8
PLCA	Paso Flores	2.67	66	*eP*	Pn	03 30 21.6	+3.7
PSCH	Puerto Saavedr	3.09	5	*i* P	Pn	03 30 25.0	+1.4
CANA	Caviahue	4.49	28	*eP*	Pn	03 30 45.5	+2.5
U14B	Concepcin	5.04	6	*e*Pn	Pn	03 30 50.2	-0.2
	comp=E,328nm,0.5s						
U65B	HualaaeØ	7.08	13	*e*Pn	Pn	03 31 17.8	-0.5
	comp=E,83nm,0.6s						
U73B	San Pedro	8.16	14	*e*Pn	Pn	03 31 31.2	-2.0
	comp=E,35nm,0.4s						
U73B				*e*Sn	Sn	03 33 01.2	-2.9
AAGR	Agrelo	9.61	26	*eP*	Pn	03 31 53.0	-0.1
ARCO	CERRO ARCO	9.80	25	*eP*	Pn	03 31 55.9	0.0
TRQA	Tornquist	9.81	71	*e*Pn	Pn	03 31 59.2	+3.4
TRQA				*e*Lg	Lg	03 34 15.2	
AUSP	Uspallata	10.25	21	*eP*	Pn	03 32 00.9	-1.1
RTLS	Leoncito	10.67	21	*eP*	Pn	03 32 07.2	-0.7
RTCV	Cerro Valdivia	10.83	24	*eP*	Pn	03 32 07.3	-2.6
ACAN	Cantantal	10.92	31	*eP*	Pn	03 32 11.1	0.0
CFAA	Coronel Fontan	11.16	25	Pn	Pn	03 32 11.7	-2.8
	comp=E,2.6nm,0.3s,baz=189,slow=14,SNR=99						
CFAA				Sn	Sn	03 34 13.2	-4.7
	comp=E,0.1nm,0.3s,baz=18,slow=13,SNR=2.9						
CFAA				LR	LR	03 37 07.2	
	comp=E,103nm,20.2s,baz=186,slow=41						
CFAA	Coronel Fontan	11.16	25	*eP*	Pn	03 32 12.0	-2.5
RTLL	Cerro Villicun	11.35	24	*eP*	Pn	03 32 15.0	-2.0
MRA	San Martin	11.41	37	*eP*	Pn	03 32 17.7	-0.1
AMOG	MOGNA	11.71	23	*eP*	Pn	03 32 19.2	-2.7
AVFE	Valle Fertil	12.29	26	*eP*	Pn	03 32 26.2	-3.6
LCO	Las Campanas	13.08	12	*e*Pn	Pn	03 32 37.7	-3.0
LCO	Las Campanas	13.08	12	*eP*	Pn	03 32 38.2	-2.6
VCA	Vinchina	13.87	21	*eP*	Pn	03 32 48.6	-2.9
EFI	East Falkland	14.51	138	*eP*	Pn	03 32 58.5	-1.4
EFI	East Falkland	14.51	138	*e*Pn	Pn	03 32 58.5	-1.4
LVC	Limon Verde	19.64	13	*e*Pn	Pn	03 34 04.2	-0.3
	comp=E,96nm,0.3s,baz=202,slow=12,SNR=17						
LVC	Limon Verde	19.64	13	*e*Pn	Pn	03 34 04.5	0.0
	comp=E,33nm,0.9s						
CPUP	Villa Florida	20.57	46	P	P	03 34 09.9	-2.7
	comp=E,16nm,0.6s,baz=229,slow=8.7,SNR=30						
CPUP				LR	LR	03 42 56.2	
	comp=E,463nm,18.7s,baz=220,slow=39						
CPUP	Villa Florida	20.57	46	P	P	03 34 10.0	-2.7
CPUP				pmax	pmax		
	comp=Z,16nm,0.6s						
CPUP				MLR	MLR		
	comp=Z,463nm,18.7s						
CPUP	Villa Florida	20.57	46	*eP*	P	03 34 11.6	-1.1
	comp=Z,0.4nm,0.6s						
LPAZ	La Paz	25.96	12	P	P	03 35 07.4	+0.5
	comp=Z,2.9nm,0.7s,baz=176,slow=6.6,SNR=13						
LPAZ	La Paz	25.96	12	P	P	03 35 07.4	+0.5
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LPAZ	La Paz	25.96	12	*eP*	P	03 35 07.2	+0.4
	comp=Z,9.9nm,0.8s						
SIV	San Ignacio	28.02	27	P	P	03 35 24.4	-0.3
	comp=Z,4.1nm,0.8s,baz=221,slow=8.8,SNR=11						
SAML	Samuel	34.10	19	*eP*	P	03 36 17.5	-0.8
	comp=Z,4.5nm,1.0s						
BDFB	Brasilia	34.28	48	P	P	03 36 18.6	-1.4
	comp=Z,20nm,0.6s,baz=206,slow=6.6,SNR=42						
BDFB				pP	pP	03 36 28.8	-2.1
	comp=Z,23nm,0.8s,baz=199,slow=8.1,SNR=9.7						
BDFB				LR	LR	03 51 42.4	
	comp=Z,435nm,18.5s,baz=212,slow=39						
OTAV	Otavalo	42.14	353	*eP*	P	03 37 27.6	+1.2
	comp=Z,16nm,1.6s						
VNA1	Neumayer--Stat	43.09	154	P	P	03 37 33.0	0.0
VNA2	Neumayer--Watz	43.40	154	P	P	03 37 35.8	+0.2
	baz=266,slow=8.4						
SNAA	Sanae	44.91	155	P	P	03 37 48.0	+0.3
	comp=Z,3.1nm,0.9s,baz=283,slow=7.7,SNR=24						
SNAA				pP	pP	03 37 57.9	-1.1
	comp=Z,9.9nm,1.0s,baz=282,slow=6.6,SNR=23						
ROSC	El Rosal	46.52	359	P	P	03 38 03.0	+1.6
	comp=Z,2.7nm,0.4s,baz=103,slow=15,SNR=4.1						
ROSC	El Rosal	46.52	359	*eP*	P	03 38 02.8	+1.5
QSPA	South Pole Qui	48.37	180	P	P	03 38 16.0	+1.0
	comp=Z,10nm,0.8s,baz=160,slow=1.6,SNR=50						
QSPA				pP	pP	03 38 27.1	+0.9
	comp=Z,5.9nm,0.8s,baz=136,slow=5.4,SNR=7.4						
QSPA	South Pole Qui	48.37	180	*eP*	P	03 38 15.8	+0.9
	comp=Z,12nm,0.9s						
QSPA				pP	pP	03 38 27.1	+0.9
NVL	N'lazarevskaya	49.72	154	*eP*	P	03 38 36.5	+11
NVL				pmax	pmax		
	comp=Z,15nm,0.6s						
SDV	Santo Domingo	50.60	4	*eP*	P	03 38 32.1	-0.4
JTS	JuntasAbangare	52.92	346	*eP*	P	03 38 51.3	+1.6
JTS				pmax	pmax		
	comp=Z,37nm,1.7s						
JTS	JuntasAbangare	52.92	346	*eP*	P	03 38 50.9	+1.2
	comp=Z,17nm,1.1s						
SBA	Scott Base	55.10	193	*eP*	P	03 39 07.3	+2.5
SBA				pmax	pmax		
	comp=Z,82nm,2.4s						
SBA	Scott Base	55.10	193	*eP*	P	03 39 07.3	+2.5
	comp=Z,82nm,2.4s						
VNDA	Vanda	56.12	192	P	P	03 39 14.2	+2.0
	comp=Z,2.8nm,1.0s,baz=152,slow=6.6,SNR=7.8						
VNDA	Vanda	56.12	192	P	P	03 39 14.2	+2.0
VNDA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
VNDA	Vanda	56.12	192	*eP*	P	03 39 14.0	+1.8
	comp=Z,9.1nm,1.3s						
SYO	Syowa Base	59.08	157	*eP*	P	03 39 31.8	-1.2
GTBY	Guantanamo Bay	61.51	359	*eP*	P	03 39 50.0	-0.1
	comp=Z,29nm,0.9s						
MAW	Mawson	66.03	163	P	P	03 40 19.9	+0.6
	comp=Z,7.2nm,0.9s,baz=233,slow=8.2,SNR=11						
MAW				pP	pP	03 40 31.4	+0.3
	comp=Z,10nm,1.0s,baz=216,slow=7.8,SNR=8.9						
MAW				LR	LR	04 11 09.8	
	comp=Z,128nm,18.4s,baz=242,slow=38						
MAW	Mawson	66.03	163	*eP*	P	03 40 19.9	+0.6
MAW				*PP	pP	03 40 31.4	+0.3
MAW				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MAW	Mawson	66.03	163	*eP*	P	03 40 19.9	+0.6
	comp=Z,3.0nm,1.1s						
MAW				pP	pP	03 40 31.4	+0.3
PPT2	Papeete2	68.03	266	*e*LR	LR	04 01 13.6	
	comp=Z,133nm,25.8s						
035A	Encino	72.08	337	P	P	03 40 58.5	+1.1
	baz=72						
CASY	Casey	72.12	182	*eP*	P	03 40 57.5	+0.4
	comp=Z,7.9nm,0.9s						
034A	Hebbronville	72.37	337	P	P	03 41 00.1	+1.0
	baz=73						
934A	Benavides	72.83	337	P	P	03 41 02.9	+1.1
	baz=73						
933A	Laredo	73.06	336	P	P	03 41 04.2	+1.0
	baz=73						
738A	Farr-Stevens R	73.22	340	P	P	03 41 05.6	+1.5
	baz=74						
835A	Beeville	73.28	338	P	P	03 41 05.9	+1.5
	baz=74						
834A	Tilden	73.33	337	P	P	03 41 05.8	+1.0
	baz=74,SNR=6.7						
737A	Port Lavaca	73.35	339	P	P	03 41 06.7	+1.9
	baz=74						
736A	Circle Diamond	73.70	339	P	P	03 41 08.5	+1.7
	baz=74						
833A	Chaparral WMA,	73.76	337	P	P	03 41 07.8	+0.5
	baz=74,SNR=7.8						
735A	Kenedy	73.81	338	P	P	03 41 08.7	+1.2
	baz=74						
832A	Faith Ranch, C	73.90	336	P	P	03 41 08.4	+0.3
	baz=74,SNR=6.9						
734A	La Parita Cree	74.01	337	P	P	03 41 09.8	+1.0
	baz=74						
733A	Divot King Ran	74.11	337	P	P	03 41 11.3	+2.0
	baz=74						
636A	Smothers Creek	74.20	339	P	P	03 41 10.9	+1.2
	baz=75						
539A	Cross D Ranch,	74.20	341	P	P	03 41 11.2	+1.4
	baz=75						
732A	Laxson Ranch,	74.32	336	P	P	03 41 11.0	+0.5
	baz=75,SNR=13						
536A	Bastrop	74.76	339	P	P	03 41 13.6	+0.6
	baz=75						
633A	Saathoff Ranch	74.77	337	P	P	03 41 13.8	+0.6
	baz=75,SNR=7.8						
535A	Dale	74.85	339	P	P	03 41 14.3	+0.7
	baz=75						
439A	Center Grove,	74.87	341	P	P	03 41 14.9	+1.3
	baz=75						
632A	Uvalde	74.99	337	P	P	03 41 14.9	+0.5
	baz=75,SNR=8.0						
534A	Blanco	75.10	338	P	P	03 41 15.3	+0.3
	baz=76						
631A	Perdido Creek	75.14	336	P	P	03 41 15.7	+0.4
	baz=76						
340A	Bronson	75.26	342	P	P	03 41 16.4	+0.6
	baz=76						
533A	Kerrville	75.30	337	P	P	03 41 16.6	+0.4
	baz=76,SNR=11						
339A	Huntington	75.33	342	P	P	03 41 17.0	+0.7
	baz=76						
436A	Wall Ranch, Ga	75.35	340	P	P	03 41 17.4	+0.9
	baz=76						
GOGA	Godfrey	75.45	352	*eP*	P	03 41 16.9	-0.1
GOGA				pmax	pmax		
	comp=Z,14nm,1.1s						
GOGA	Godfrey	75.45	352	*eP*	P	03 41 16.9	-0.1
	comp=Z,14nm,1.1s						
338A	Crockett	75.54	341	P	P	03 41 18.3	+0.8
	baz=76						
LRAL	Lakeview Retre	75.54	349	*eP*	P	03 41 17.8	+0.3
	comp=Z,19nm,1.0s						
435B	Jarrell	75.57	339	P	P	03 41 18.5	+0.8
	baz=76						
532A	Rocksprings	75.61

334A **Lometa** 76.27 339 P P 03 41 22.1 +0.4
baz=77,SNR=16
432A **Menard** 76.28 337 P P 03 41 21.8 0.0
baz=77,SNR=9.6
431A **Sonora** 76.33 336 P P 03 41 22.2 +0.1
baz=77,SNR=9.5
236A **Katherine and** 76.45 340 P P 03 41 22.8 +0.1
baz=77
333A **Richland Sprin** 76.47 338 P P 03 41 22.7 -0.1
baz=77,SNR=10
430A **Baggett Ranch,** 76.62 336 P P 03 41 24.0 +0.2
baz=77,SNR=16
429A **Davenport Ranc** 76.67 335 P P 03 41 24.7 +0.6
baz=77,SNR=25
WHTX **Lake Whitney** 76.68 339 P P 03 41 24.6 +0.6
baz=77
WHTX **Lake Whitney** 76.68 339 eP P 03 41 24.6 +0.6
comp=Z,20nm,0.9s
332A **Millersview** 76.74 337 P P 03 41 24.6 +0.3
baz=77
137A **Heron Place, G** 76.83 341 P P 03 41 25.4 +0.6
baz=77
331A **San Angelo** 76.87 337 P P 03 41 25.2 +0.1
baz=77,SNR=14
234A **Clairette** 76.88 339 P P 03 41 25.3 +0.2
baz=77,SNR=9.1
136A **Ennis** 76.91 340 P P 03 41 25.7 +0.5
baz=77
Z39A **Irene McRaven,** 77.08 343 P P 03 41 26.4 +0.2
baz=78
233A **Rising Star** 77.10 338 P P 03 41 26.4 0.0
baz=78,SNR=11
330A **Mertzon** 77.18 336 P P 03 41 26.8 -0.1
baz=78,SNR=6.5
232A **Coleman** 77.18 338 P P 03 41 27.0 +0.1
baz=78,SNR=16
135A **Vickery Place,** 77.21 340 P P 03 41 27.0 +0.1
baz=78
Z38A **Mt. Pleasant** 77.27 342 P P 03 41 28.0 +0.7
baz=78
134A **White-Moore Ra** 77.40 339 P P 03 41 27.6 -0.4
baz=78,SNR=6.5
231A **Bronte** 77.42 337 P P 03 41 28.0 -0.2
baz=78,SNR=6.5
329A **Wagon Wheel Ra** 77.50 336 P P 03 41 29.3 +0.6
baz=78
SWET **Sewanee** 77.53 350 eP P 03 41 28.5 -0.3
comp=Z,37nm,1.4s
230A **Sterling City** 77.61 336 P P 03 41 29.0 -0.3
baz=78
BOSA **Boshof** 77.64 117 P P 03 41 29.6 -0.3
comp=Z,6.2nm,0.8s,baz=230,slow=3.3,SNR=14
BOSA pP PcP 03 41 40.1 +0.1
comp=Z,6.7nm,0.6s,baz=223,slow=4.6,SNR=8.5
BOSA LR LR 04 14 15.8
comp=Z,39nm,18.5s,baz=192,slow=35
BOSA **Boshof** 77.64 117 eP P 03 41 29.4 -0.4
comp=Z,33nm,1.6s
BOSA pP PcP 03 41 40.1 +0.1
Z36A **Blue Ridge** 77.64 341 P P 03 41 29.6 +0.3
baz=78,SNR=8.3
133A **Hamilton Ranch** 77.66 338 P P 03 41 29.7 +0.2
baz=78,SNR=6.2
Y39A **Lockesburg** 77.73 343 P P 03 41 30.4 +0.6
baz=78
Y38A **Idabel** 77.86 342 P P 03 41 30.9 +0.3
baz=78,SNR=6.1
ABTX **Abilene, Hawle** 77.88 338 P P 03 41 30.7 0.0
baz=78,SNR=7.6
ABTX **Abilene, Hawle** 77.88 338 eP P 03 41 31.0 +0.3
comp=Z,17nm,0.9s
229A **Bryant Ranch,** 77.90 336 P P 03 41 31.1 +0.2
baz=78,SNR=7.7
Z35A **Perchaven, San** 77.90 340 P P 03 41 30.6 -0.2
baz=78,SNR=6.6
Y37A **Hugo** 78.12 342 P P 03 41 31.8 -0.2
baz=78
131A **Roby** 78.13 337 P P 03 41 32.7 +0.5
baz=78,SNR=9.5
MIAR **Mount Ida** 78.20 343 eP P 03 41 32.1 -0.3
MIAR pmax pmax
comp=Z,6.0nm,1.0s
MIAR **Mount Ida** 78.20 343 P P 03 41 32.4 -0.1
baz=79
MIAR **Mount Ida** 78.20 343 eP P 03 41 32.1 -0.3
comp=Z,6.3nm,1.0s
Y36A **Durant** 78.20 341 P P 03 41 32.9 +0.4
baz=79
130A **Snyder** 78.23 337 P P 03 41 32.6 -0.1
baz=79
Z33A **Whitaker Ranch** 78.26 339 P P 03 41 33.0 +0.2
baz=79
228A **UT Block 9, Go** 78.28 335 P P 03 41 33.2 +0.2
baz=79,SNR=5.7
Y35A **Marietta** 78.39 340 P P 03 41 33.2 -0.3
baz=79
Z32A **Haskell** 78.47 338 P P 03 41 34.3 +0.3
baz=79,SNR=14
129A **Stewart Farms,** 78.53 336 P P 03 41 34.6 +0.2
baz=79,SNR=5.6
TZTN **Tazewell** 78.56 352 eP P 03 41 34.1 -0.3
X38A **Whitesboro** 78.60 342 P P 03 41 34.8 +0.2
baz=79,SNR=5.4
Y34A **Reagan Ranch,** 78.63 340 P P 03 41 34.7 -0.1
baz=79,SNR=5.6
X37A **Clayton** 78.64 342 P P 03 41 35.3 +0.4
baz=79
Z31A **Sharp Cattle R** 78.67 338 P P 03 41 35.1 0.0
baz=79
WVT **Waverly** 78.70 348 eP P 03 41 34.9 -0.2
WVT pmax pmax
comp=Z,35nm,1.5s
WVT **Waverly** 78.70 348 eP P 03 41 34.9 -0.2
comp=Z,35nm,1.5s
128A **Castleberry Fa** 78.71 336 P P 03 41 35.7 +0.3
baz=79,SNR=6.6
X35A **Drake** 78.85 341 P P 03 41 35.9 -0.1
baz=79
X36A **Centrahoma** 78.86 341 P P 03 41 35.9 -0.2
baz=79
Y33A **Hilltop Ranch,** 78.90 339 P P 03 41 36.2 -0.1
baz=79
W38A **Poteau** 78.91 343 P P 03 41 36.8 +0.4
baz=79,SNR=5.4
Z30A **Sanderson Ranc** 78.92 337 P P 03 41 36.4 -0.1
baz=79,SNR=11
DBIC **Dimbokro** 79.03 71 P P 03 41 37.8 +0.3
comp=Z,3.1nm,0.5s,baz=199,slow=6.4,SNR=5.5
DBIC LR LR 04 14 23.5
comp=Z,25nm,18.0s,baz=151,slow=34
DBIC **Dimbokro** 79.03 71 eP P 03 41 37.4 -0.1
comp=Z,27nm,1.4s
Z29A **Hungry Hill Ra** 79.07 336 P P 03 41 37.1 -0.3
baz=79,SNR=15
Y32A **R-V Farms, Ver** 79.12 338 P P 03 41 37.7 +0.2
baz=80,SNR=5.2
W37A **Quinton** 79.18 342 P P 03 41 37.6 -0.2
baz=80
X34A **Smith Ranch, M** 79.26 340 P P 03 41 38.4 +0.2
baz=80,SNR=8.3
Z28A **Tucker Farm, M** 79.30 336 P P 03 41 38.2 -0.4
baz=80
Y31A **Rekieta Farm,** 79.31 338 P P 03 41 38.6 0.0
baz=80
W36A **Wetumka** 79.37 341 P P 03 41 38.4 -0.4
baz=80
X33A **Lawton** 79.37 339 P P 03 41 38.3 -0.6
baz=80
Y30A **Stafford Cattl** 79.41 337 P P 03 41 39.3 +0.1
baz=80
X32A **Elmer** 79.47 339 P P 03 41 39.7 +0.3
baz=80,SNR=8.8
PARMO **Parma** 79.53 347 eP P 03 41 40.3 +0.7
W35A **Tecumseh** 79.54 341 P P 03 41 39.5 -0.3
baz=80
Y29A **Porterfield Fa** 79.62 337 P P 03 41 40.3 -0.1
baz=80
WMOK **Wichita Mounta** 79.63 339 eP P 03 41 39.9 -0.4
WMOK pmax pmax
comp=Z,14nm,1.1s
WMOK **Wichita Mounta** 79.63 339 eP P 03 41 39.9 -0.4
comp=Z,14nm,1.1s
V38A **Canehill** 79.65 343 P P 03 41 40.1 -0.2
baz=80,SNR=6.8
PBMO **Poplar Bluff** 79.76 346 eP P 03 41 41.0 +0.1
comp=Z,12nm,0.9s
V37A **Hulbert** 79.83 342 P P 03 41 40.8 -0.6
baz=80,SNR=5.3

Y28A **McKinney Farm,** 79.83 336 P P 03 41 41.5 -0.1
baz=80,SNR=8.6
W34A **Bridge Creek,** 79.84 340 P P 03 41 41.2 -0.2
baz=80
W34A **Bridge Creek,** 79.84 340 eP P 03 41 41.6 +0.2
comp=Z,12nm,0.7s
X31A **McDonald Ranch** 79.86 338 P P 03 41 41.9 +0.4
baz=80,SNR=7.7
V36A **Jenks** 79.92 342 P P 03 41 42.1 +0.3
baz=80,SNR=19
X30A **Coker Ranch, T** 79.93 338 P P 03 41 42.5 +0.5
baz=80,SNR=7.7
W33A **Caddo, Fort Co** 79.94 340 P P 03 41 42.6 +0.7
baz=80,SNR=10
TUL1 **Tulsa** 80.01 342 P P 03 41 42.3 +0.1
baz=80,SNR=15
TUL1 **Tulsa** 80.01 342 eP P 03 41 42.4 +0.1
comp=Z,33nm,0.8s
MSTX **Muleshoe** 80.05 336 P P 03 41 43.0 +0.3
baz=80,SNR=9.1
MSTX **Muleshoe** 80.05 336 eP P 03 41 43.1 +0.4
comp=Z,22nm,0.8s
V35A **Meyer Ranch, C** 80.11 341 P P 03 41 43.0 +0.2
baz=80,SNR=6.1
W32A **Sentinel** 80.12 339 P P 03 41 43.2 +0.3
baz=80,SNR=15
X29A **Tulia** 80.17 337 P P 03 41 43.5 +0.2
baz=81,SNR=11
U38A **Gravette** 80.20 343 P P 03 41 43.2 -0.1
baz=81
LBTB **Lobatse** 80.23 115 eP P 03 41 43.7 -0.5
LBTB pmax pmax
comp=Z,10.0nm,0.8s
LBTB **Lobatse** 80.23 115 eP P 03 41 43.7 -0.5
comp=Z,9.8nm,0.8s
U37A **Salina** 80.33 343 P P 03 41 44.0 +0.1
baz=81
V34A **Guthrie** 80.35 341 P P 03 41 44.2 0.0
baz=81,SNR=9.2
V34A **Guthrie** 80.35 341 eP P 03 41 44.2 0.0
comp=Z,25nm,0.9s
W31A **Holland Ranch,** 80.37 338 P P 03 41 44.6 +0.2
baz=81
X28A **Dimmitt** 80.39 336 P P 03 41 45.0 +0.5
baz=81
121A **Cookes Peak, D** 80.40 331 P P 03 41 45.0 +0.3
baz=81
USIN **University of** 80.48 349 eP P 03 41 44.5 -0.3
V33A **Lossen Ranch,** 80.53 340 P P 03 41 45.8 +0.7
baz=81,SNR=6.1
V32A **Arapaho** 80.63 339 P P 03 41 46.2 +0.5
baz=81,SNR=6.0
U35A **Pawnee** 80.67 341 P P 03 41 46.0 +0.2
baz=81,SNR=11
W29A **Amraillo** 80.79 337 P P 03 41 46.9 +0.3
baz=81
V31A **Spring Creek L** 80.89 339 P P 03 41 48.0 +0.9
baz=81,SNR=6.7
U34A **Anderson Ranch** 80.92 341 P P 03 41 47.4 +0.2
baz=81
U34A **Anderson Ranch** 80.92 341 eP P 03 41 47.3 +0.2
comp=Z,15nm,1.0s
T37A **Cheneyville 18** 80.97 343 P P 03 41 47.4 -0.1
baz=81
U33A **Lingo Farm, Me** 81.06 340 P P 03 41 48.0 0.0
baz=82
T36A **Boggs Farm, Ca** 81.13 342 P P 03 41 48.3 +0.1
baz=82,SNR=6.0
T35A **Sooner Cattle** 81.14 342 P P 03 41 48.6 +0.3
baz=82,SNR=12
U32A **Winter Ranch,** 81.24 340 P P 03 41 49.2 +0.3
baz=82
TUC **Tucson** 81.31 329 eP P 03 41 50.8 +1.3
TUC pmax pmax
comp=Z,6.0nm,1.1s
TUC **Tucson** 81.31 329 eP P 03 41 50.8 +1.3
comp=Z,6.1nm,1.1s
T34A **McClaskey Farm** 81.40 341 P P 03 41 50.2 +0.5
baz=82,SNR=15
S37A **Fort Scott** 81.56 343 P P 03 41 50.3 -0.2
baz=82,SNR=6.2
LPM **Los Pinos Moun** 81.61 333 eP P 03 41 52.4 +1.2
comp=Z,1.8nm,0.5s
S36A **Lake Cedric, C** 81.70 343 P P 03 41 51.4 +0.2
baz=82,SNR=12
T33A **Patterson Ranc** 81.71 340 P P 03 41 52.0 +0.7
baz=82,SNR=11
V27A **Dan Oppiter Fa** 81.73 336 P P 03 41 52.0 +0.4
baz=82
214A **Organ Pipe Nat** 81.80 327 P P 03 41 53.0 +0.9
baz=82
S35A **Otter Creek Ra** 81.82 342 P P 03 41 52.5 +0.5
baz=82,SNR=14
U30A **WK&E Inc. Balk** 81.82 338 P P 03 41 52.6 +0.6
baz=82,SNR=8.5
LAZ **Ladron** 81.87 333 eP P 03 41 53.8 +1.3
comp=Z,9.1nm,1.3s
T32A **Huddler Ranch,** 81.98 340 P P 03 41 53.7 +0.9
baz=82
S34A **Willow Spring** 82.02 341 P P 03 41 53.2 +0.2
baz=82
R37A **Teagarden Farm** 82.10 343 P P 03 41 53.1 -0.2
baz=82
U28A **Mallet** 82.13 337 P P 03 41 53.5 -0.2
baz=82
ANMO **Albuquerque** 82.13 333 iP P 03 41 55.1 +1.2
ANMO pmax pmax
comp=Z,73nm,1.2s
ANMO **Albuquerque** 82.13 333 eP P 03 41 55.0 +1.2
comp=Z,18nm,1.0s
S33A **Kaszmaul Farm,** 82.14 341 P P 03 41 53.6 0.0
baz=82
ACSO **Alum Creek Sta** 82.16 353 eP P 03 41 53.1 -0.5
comp=Z,26nm,1.1s
R36A **Gordon, Harris** 82.25 343 P P 03 41 54.4 +0.3
baz=83
T30A **Plains** 82.28 339 P P 03 41 54.9 +0.5
baz=83
U27A **Thompson Grove** 82.34 337 P P 03 41 55.5 +0.6
baz=83,SNR=8.3
R35A **Emporia Munici** 82.41 342 P P 03 41 55.5 +0.5
baz=83,SNR=9.6
S32A **Newby Ranch, P** 82.47 340 P P 03 41 55.5 +0.1
baz=83,SNR=5.5
S31A **Mullinville** 82.54 340 P P 03 41 56.1 +0.4
baz=83
Q37A **Longview Farm,** 82.56 344 P P 03 41 55.8 0.0
baz=83
T29A **Hugoton** 82.59 338 P P 03 41 56.0 -0.1
baz=83
R34A **Isabella, Hill** 82.63 342 P P 03 41 56.5 +0.4
baz=83,SNR=9.0
SFIN **Scholer Farm** 82.77 350 P P 03 41 55.7 -1.1
baz=83
R33A **Olander Ranch,** 82.81 341 P P 03 41 57.4 +0.3
baz=83
S30A **Montezuma** 82.81 339 P P 03 41 57.8 +0.6
baz=83
Q36A **Arnold C. Orve** 82.85 343 P P 03 41 57.6 +0.3
baz=83
Q35A **Mercer Eighty,** 82.88 343 P P 03 41 57.5 0.0
baz=83
T27A **Campo** 82.91 337 P P 03 41 58.0 +0.2
baz=83
S29A **Ulysses** 82.97 338 P P 03 41 58.7 +0.7
baz=83
R32A **Long Quarter,** 83.10 340 P P 03 41 59.1 +0.5
baz=84,SNR=6.9
Q34A **Chapman** 83.15 342 P P 03 41 59.2 +0.4
baz=84
S28A **Manter** 83.16 338 P P 03 41 59.5 +0.4
baz=84,SNR=13
R31A **Burdett** 83.18 340 P P 03 41 59.4 +0.4
baz=84,SNR=5.5
HDIL **Hopedale** 83.26 348 P P 03 41 59.3 0.0
baz=84
T26A **Comanche Natio** 83.27 336 P P 03 42 00.8 +1.0
baz=84,SNR=18
W18A **Petrified Fore** 83.43 331 P P 03 42 01.5 +0.9
baz=84
Q33A **Connelly Farm,** 83.43 341 P P 03 42 01.0 +0.8
baz=84
P36A **Good Intent, A** 83.43 343 P P 03 41 59.8 -0.5
baz=84,SNR=5.3
T25A **Trinidad** 83.48 336 P P 03 42 02.1 +1.2
baz=84
P35A **Duane Minner,** 83.52 343 P P 03 42 01.0 +0.3
baz=84,SNR=13

Q32A **Meitler Ranch,** 83.60 341 P P 03 42 01.7 +0.5
baz=84
S26A **Kim** 83.65 337 P P 03 42 02.7 +1.1
baz=84,SNR=17
P34A **Walnut Farm, R** 83.72 342 P P 03 42 02.5 +0.8
baz=84,SNR=5.2
CBKS **Cedar Bluff** 83.73 340 eP P 03 42 02.1 +0.2
CBKS pmax pmax
comp=Z,62nm,1.2s
CBKS **Cedar Bluff** 83.73 340 P P 03 42 02.4 +0.6
baz=84,SNR=5.2
CBKS **Cedar Bluff** 83.73 340 eP P 03 42 02.1 +0.2
comp=Z,62nm,1.2s
R29A **Marienthal** 83.73 339 P P 03 42 02.6 +0.7
baz=84,SNR=8.4
Q31A **Ellis** 83.82 340 P P 03 42 02.8 +0.5
baz=84,SNR=5.9
R28A **Tribune** 83.84 338 P P 03 42 03.2 +0.6
baz=84,SNR=27
O36A **Bolckow** 83.87 344 P P 03 42 02.0 -0.5
baz=84,SNR=6.3
SWSC **Sam W. Stewart** 83.89 326 P P 03 42 03.4 +0.6
baz=84
Q30A **Quinter** 84.01 340 P P 03 42 04.0 +0.7
baz=84,SNR=15
Y12C **Blythe** 84.07 327 P P 03 42 05.0 +1.3
baz=84
R27A **Eads** 84.07 337 P P 03 42 04.1 +0.4
baz=84,SNR=8.6
MONP **Monument Peak** 84.12 325 P P 03 42 05.1 +0.9
baz=84
Q29A **Oakley** 84.13 339 P P 03 42 04.2 +0.3
baz=84,SNR=6.4
P32A **Huiting Farm,** 84.21 341 P P 03 42 04.9 +0.6
baz=85,SNR=6.3
R26A **Arlington** 84.27 337 P P 03 42 05.3 +0.6
baz=85,SNR=14
O34A **Beatrice** 84.30 343 P P 03 42 04.9 +0.3
baz=85,SNR=15
P31A **Stockton** 84.31 340 P P 03 42 05.4 +0.6
baz=85,SNR=5.0
BC3 **Big Chuckawall** 84.37 326 P P 03 42 06.2 +0.9
baz=85
SDCO **Great Sand Dun** 84.38 335 P P 03 42 05.9 +0.4
baz=85
SDCO **Great Sand Dun** 84.38 335 eP P 03 42 06.5 +0.9
comp=Z,6.7nm,1.0s
WUAZ **Wupatki** 84.39 330 P P 03 42 07.1 +1.6
baz=85
WUAZ **Wupatki** 84.39 330 eP P 03 42 07.4 +2.0
PDMCI **Parker Dam,Lak** 84.39 327 P P 03 42 06.9 +1.6
baz=85
O33A **Hebron** 84.40 342 P P 03 42 05.9 +0.7
baz=85
P30A **Selden** 84.55 340 P P 03 42 06.6 +0.6
baz=85,SNR=7.2
IRM **Iron Mountain** 84.68 327 P P 03 42 08.3 +1.5
baz=85
KSCO **Kaye Shedlock'** 84.69 338 P P 03 42 07.7 +0.8
baz=85
N35A **Tabor** 84.72 344 P P 03 42 06.6 -0.1
baz=85,SNR=6.7
PFO **Pinyon Flat Ob** 84.75 325 eP P 03 42 08.6 +1.3
PFO pmax pmax
comp=Z,22nm,1.3s
PFO **Pinyon Flat Ob** 84.75 325 P P 03 42 08.2 +0.9
baz=85,SNR=5.9
PFO **Pinyon Flat Ob** 84.75 325 eP P 03 42 08.6 +1.3
comp=Z,22nm,1.3s
P29A **Atwood** 84.78 339 P P 03 42 07.9 +0.7
baz=85
S22A **4UR Ranch, Cre** 84.80 334 P P 03 42 08.4 +0.7
baz=85
Q26A **Hugo** 84.87 337 P P 03 42 08.4 +0.7
baz=85
MVCO **Mesa Verde** 84.87 333 P P 03 42 08.8 +0.8
baz=85
MVCO **Mesa Verde** 84.87 333 eP P 03 42 09.4 +1.5
comp=Z,13nm,1.1s
N34A **Lincoln** 84.88 343 P P 03 42 07.7 +0.1
baz=85,SNR=11
O31A **Woolen Ranch,** 84.89 341 P P 03 42 08.4 +0.7
baz=85
BELC **Belle Mtn. Jos** 84.89 326 P P 03 42 09.0 +1.0
baz=85
P28A **Saint Francis** 84.98 339 P P 03 42 09.0 +0.8
baz=85
O30A **MW Ranch, Wils** 85.10 340 P P 03 42 09.7 +0.9
baz=86,SNR=6.2
SCI **San Clemente I** 85.12 324 P P 03 42 08.8 -0.2
baz=85
Q24A **Divide** 85.39 336 P P 03 42 10.8 +0.2
baz=86
GMRC **Granite Mounta** 85.42 327 P P 03 42 12.5 +1.9
baz=86,SNR=6.4
LDFC **Landfair** 85.46 327 eP P 03 42 13.3 +2.5
O28A **Krutsinger Ran** 85.50 339 P P 03 42 11.2 +0.4
baz=86
M34A **Aspy Farms, Fr** 85.53 343 P P 03 42 11.1 +0.2
baz=86
JFWS **Jewell Farm** 85.71 348 eP P 03 42 11.6 -0.1
JFWS **Jewell Farm** 85.71 348 eP P 03 42 11.6 -0.1
PV01 **Paradox Valley** 85.73 333 eP P 03 42 13.2 +1.0
HEC **Hector,Ludlow** 85.75 326 P P 03 42 13.7 +1.6
baz=86
N29A **Votaw Ranch, W** 85.84 340 P P 03 42 12.5 0.0
baz=86
L35A **Bielow Farm, R** 85.90 344 P P 03 42 12.7 +0.1
baz=86
L34A **Svendsen Farm,** 85.93 343 P P 03 42 12.7 -0.1
baz=86
O26A **Horse Wrangler** 86.03 338 P P 03 42 14.3 +0.8
baz=86
TUQ **Turquoise Moun** 86.10 327 P P 03 42 15.8 +1.9
baz=86,SNR=15
SMCO **Snowmass** 86.15 335 eP P 03 42 15.9 +1.4
comp=Z,13nm,1.0s
ISCO **Idaho Springs** 86.30 336 eP P 03 42 16.2 +1.1
ISCO **Idaho Springs** 86.30 336 P P 03 42 15.9 +0.8
baz=87
ISCO **Idaho Springs** 86.30 336 eP P 03 42 16.2 +1.1
N27A **Anderson Farm,** 86.34 339 P P 03 42 15.8 +0.8
baz=87
GSC **Goldstone** 86.35 326 eP P 03 42 17.2 +2.1
GSC pmax pmax
comp=Z,8.0nm,1.0s
GSC **Goldstone** 86.35 326 P P 03 42 16.2 +1.1
baz=87
GSC **Goldstone** 86.35 326 eP P 03 42 17.2 +2.1
comp=Z,8.0nm,1.0s
EDW2 **Edwards Air Fo** 86.49 325 P P 03 42 17.4 +1.6
baz=87
SHOC **Shoshone** 86.64 327 P P 03 42 17.6 +1.1
baz=87
L30A **Spencer Herefo** 86.68 341 P P 03 42 17.7 +1.2
baz=87
L31A **Butterfield Fa** 86.69 342 P P 03 42 17.7 +1.2
baz=87
SHPR **Sheep Range** 86.72 328 eP P 03 42 18.7 +1.7
LRMC **Laurel Mountai** 86.87 325 P P 03 42 19.1 +1.4
baz=87
CCUT **Cedar City** 86.93 330 eP P 03 42 19.7 +1.6
comp=Z,12nm,1.3s
SRU **San Rafael** 87.28 332 eP P 03 42 20.6 +0.9
SRU pmax pmax
comp=Z,12nm,0.7s
SRU **San Rafael** 87.28 332 eP P 03 42 20.6 +0.9
comp=Z,12nm,0.7s
MPMC **Manual Prospec** 87.28 326 P P 03 42 21.2 +1.4
baz=88
PKM **Peak Mountain** 87.30 324 P P 03 42 21.7 +1.8
baz=88
MSU **Marysvale** 87.33 331 eP P 03 42 21.3 +1.3
MSU pmax pmax
comp=Z,17nm,1.2s
MSU **Marysvale** 87.33 331 eP P 03 42 21.3 +1.3
comp=Z,16nm,1.2s
K30A **Basset** 87.34 341 P P 03 42 20.4 +0.7
baz=88
M25A **Palm-Egli Farm** 87.35 338 P P 03 42 21.4 +1.5
baz=88
ISA **Isabella** 87.36 325 eP P 03 42 22.3 +2.2
ISA **Isabella** 87.36 325 P P 03 42 21.8 +1.8
baz=88
ISA **Isabella** 87.36 325 eP P 03 42 22.3 +2.2
FURC **Furnace Creek,** 87.37 327 P P 03 42 21.2 +1.3
baz=88,SNR=7.0
N23A **Red Feather La** 87.40 336 P P 03 42 21.1 +0.7

baz=88
O20A White River Ci 87.43 334 P **P** 03 42 21.5 +1.1
baz=88
O20A White River Ci 87.43 334 *e*P **P** 03 42 20.9 +0.5
comp=Z,14nm,1.3s
TPNV Topopah Spring 87.54 327 P **P** 03 42 22.5 +1.5
baz=88,SNR=9.0
ECSD EROS Data Cent 87.67 344 P **P** 03 42 21.6 +0.3
baz=88,SNR=31
ECSD EROS Data Cent 87.67 344 *e*P **P** 03 42 21.6 +0.3
comp=Z,30nm,0.6s
P17A Butcher Ranch, 87.68 332 *e*P **P** 03 42 22.8 +1.2
K28A Ten Mile Ranch 87.81 340 P **P** 03 42 23.1 +1.1
baz=88
CWC Cottonwood Cre 87.86 326 P **P** 03 42 23.9 +1.4
baz=88
J30A Dallas 87.93 342 P **P** 03 42 23.0 +0.5
baz=88
GRAC Grapevine Rang 88.04 326 P **P** 03 42 24.6 +1.4
baz=88
TORD Torodi Ar. Bea 88.14 71 P **P** 03 42 23.4 -0.7
comp=Z,0.6nm,0.9s,baz=218,slow=5.1,SNR=6.0
TORD pP **pP** 03 42 35.4 -0.9
comp=Z,0.9nm,0.5s,baz=222,slow=5.3,SNR=5.2
TORD PKKPbc **PKKPbc** 04 00 08.1 +1.0
comp=Z,0.2nm,0.5s,baz=92,slow=1.6,SNR=8.8
TORD LR LR 04 20 11.8
comp=Z,22nm,18.1s,baz=140,slow=34
J29A Okreek 88.20 341 P **P** 03 42 24.1 +0.3
baz=89
SPMN St. Paul 88.38 347 P **P** 03 42 24.6 +0.1
baz=89
SPMN St. Paul 88.38 347 *e*P **P** 03 42 24.1 -0.4
comp=Z,9.7nm,0.9s
J28A Allard Ranch, 88.45 340 P **P** 03 42 25.2 +0.2
baz=89
I30A Oacoma 88.47 342 P **P** 03 42 25.1 0.0
baz=89
MPU Maple Canyon 88.47 332 *e*P **P** 03 42 26.5 +1.1
comp=Z,20nm,0.9s
R11A Troy Canyon, C 88.48 328 P **P** 03 42 26.7 +1.3
baz=89,SNR=7.0
LSZ Lusaka 88.56 109 *e*P **P** 03 42 27.2 +0.7
LSZ pmax pmax
comp=Z,5.0nm,1.0s
LSZ Lusaka 88.56 109 *e*P **P** 03 42 27.1 +0.7
comp=Z,5.2nm,1.0s
NLU North Lily Min 88.57 332 *e*P **P** 03 42 26.5 +0.6
comp=Z,8.4nm,1.0s
O16A Springville 88.59 332 *e*P **P** 03 42 21.7 -4.3
J26A Sides Ranch, S 88.82 339 P **P** 03 42 26.9 +0.1
baz=89
TPH Tonopah 88.90 327 *e*P **P** 03 42 29.0 +1.5
TPH pmax pmax
comp=Z,17nm,1.2s
TPH Tonopah 88.90 327 *e*P **P** 03 42 29.0 +1.5
comp=Z,17nm,1.2s
JLU Jordanelle 88.93 332 *e*P **P** 03 42 28.0 +0.4
comp=Z,5.6nm,0.9s
I28A Midland 88.97 341 P **P** 03 42 27.7 +0.3
baz=89
K23A Bowen Ranch, D 89.01 337 P **P** 03 42 28.6 +0.7
baz=89
DUG Dugway 89.05 331 *e*P **P** 03 42 29.4 +1.3
DUG pmax pmax
comp=Z,10.0nm,1.1s
DUG Dugway 89.05 331 P **P** 03 42 28.8 +0.7
baz=89,SNR=7.9
DUG Dugway 89.05 331 *e*P **P** 03 42 29.4 +1.3
comp=Z,9.5nm,1.1s
K22A Casper 89.18 336 P **P** 03 42 29.1 +0.5
baz=90,SNR=6.8
K22A Casper 89.18 336 *e*P **P** 03 42 29.2 +0.6
comp=Z,22nm,1.3s
MLAC Mammoth Lakes 89.18 326 P **P** 03 42 30.8 +1.9
baz=90
NVAR Mina Array Bea 89.64 327 P **P** 03 42 32.2 +1.3
comp=Z,3.8nm,0.9s,baz=152,slow=5.8,SNR=23
I25A Rochford 89.65 339 P **P** 03 42 30.6 -0.2
baz=90
H27A Howes 89.79 340 P **P** 03 42 31.3 0.0
baz=90
G29A Hoven 89.79 342 P **P** 03 42 31.4 +0.2
baz=90
HWUT Hardware Ranch 89.86 333 *e*P **P** 03 42 32.0 +0.1
comp=Z,17nm,1.0s
J22A Midwest 89.87 337 P **P** 03 42 31.7 -0.1
baz=90
G28A Parade 89.92 341 P **P** 03 42 32.0 +0.1
baz=90
J21A Lysite 90.09 336 P **P** 03 42 33.5 +0.6
baz=90
H25A Fruitdale 90.17 339 P **P** 03 42 33.7 +0.6
baz=91
WAKR Walker 90.18 326 *e*P **P** 03 42 35.3 +1.9
comp=Z,12nm,1.2s
CMB Columbia Colle 90.18 325 *e*P **P** 03 42 34.5 +1.2
CMB pmax pmax
comp=Z,9.0nm,1.3s
CMB Columbia Colle 90.18 325 *e*P **P** 03 42 34.5 +1.2
comp=Z,8.8nm,1.3s
BW06 Boulder Array 90.23 334 *e*P **P** 03 42 33.6 0.0
comp=Z,14nm,1.3s
PDAR Pinedale Array 90.23 334 P **P** 03 42 33.8 +0.1
comp=Z,5.8nm,0.8s,baz=124,slow=5.2,SNR=46
PDAR LR LR 04 17 43.5
comp=Z,73nm,20.8s,baz=164,slow=32
J20A Shoshoni 90.30 336 P **P** 03 42 34.8 +1.0
baz=91,SNR=7.6
I22A 9 Mile Ranch, 90.31 337 P **P** 03 42 33.7 -0.1
baz=91
F29A Eureka 90.38 342 P **P** 03 42 33.9 -0.1
baz=91
HVU Hansel Valley 90.43 332 *e*P **P** 03 42 34.6 +0.1
HVU pmax pmax
comp=Z,7.0nm,1.0s
HVU Hansel Valley 90.43 332 *e*P **P** 03 42 34.6 +0.1
comp=Z,7.1nm,1.0s
G27A Dupree 90.45 341 P **P** 03 42 34.2 -0.1
baz=91
I21A Big Trails, Te 90.47 336 P **P** 03 42 34.6 0.0
baz=91,SNR=11
J19A Crowheart 90.52 335 P **P** 03 42 35.1 +0.2
baz=91,SNR=22
G26A Maurine 90.54 340 P **P** 03 42 34.1 -0.6
baz=91,SNR=5.4
H24A Dirks Ranch, A 90.55 339 P **P** 03 42 34.6 -0.3
baz=91
G25A Newell 90.66 340 P **P** 03 42 35.7 +0.4
baz=91
E30A Jud 90.80 343 P **P** 03 42 36.1 +0.2
baz=91
I20A Worland 90.85 336 P **P** 03 42 36.5 +0.2
baz=91
E29A Napoleon 91.03 342 P **P** 03 42 36.6 -0.3
baz=91
H21A Big Horn, Sher 91.14 337 P **P** 03 42 37.2 -0.5
baz=92
REDW Red Top Meadow 91.18 334 *e*P **P** 03 42 38.1 +0.1
comp=Z,3.9nm,0.8s
I19A Meeteetse 91.19 335 P **P** 03 42 38.1 +0.1
baz=92
G23A Biddle 91.20 338 P **P** 03 42 37.4 -0.4
baz=92
E28A Huff 91.28 342 P **P** 03 42 38.4 +0.3
baz=92
TPAW Teton Pass 91.33 334 *e*P **P** 03 42 39.0 +0.3
comp=Z,6.7nm,0.9s
D30A Buchanan 91.35 343 P **P** 03 42 38.2 -0.2
baz=92
E27A Carson 91.35 341 P **P** 03 42 38.4 -0.1
baz=92
F25A Bowman 91.35 340 P **P** 03 42 38.1 -0.4
baz=92
E26A Carlson Angus 91.61 341 P **P** 03 42 39.4 -0.2
baz=92
F23A Volborg 91.68 338 P **P** 03 42 39.8 -0.3
baz=92
IMW Indian Meadow 91.69 334 *e*P **P** 03 42 40.9 +0.4
comp=Z,9.1nm,1.0s
H19A Powell 91.76 336 P **P** 03 42 41.1 +0.5
baz=92,SNR=5.4
FLWY Flagg Ranch 91.78 334 *e*P **P** 03 42 41.6 +0.8
comp=Z,14nm,0.9s
D28A Regan 91.83 342 P **P** 03 42 40.3 -0.3
baz=92
C30A Mose, Pekin 91.85 344 P **P** 03 42 40.6 -0.1
baz=92

AGMN Agassiz Nation 91.90 345 P **P** 03 42 41.0 +0.1
baz=92
G20A Bridger 92.03 336 P **P** 03 42 42.3 +0.5
baz=92,SNR=5.2
D26A Manning 92.12 341 P **P** 03 42 42.3 +0.3
baz=92
RLMT Red Lodge 92.26 336 P **P** 03 42 43.0 0.0
baz=93,SNR=6.8
RLMT Red Lodge 92.26 336 *e*P **P** 03 42 43.1 +0.1
comp=Z,15nm,1.3s
B30A Myrvik Farm, E 92.53 344 P **P** 03 42 44.3 +0.4
baz=93
HLID Hailey 92.58 332 P **P** 03 42 45.2 +0.8
baz=93
HLID Hailey 92.58 332 *e*P **P** 03 42 45.2 +0.8
comp=Z,3.5nm,0.9s
C24A Savage 93.09 340 P **P** 03 42 46.4 -0.1
baz=94
MCMT McKenzie Canyo 93.15 333 *e*P **P** 03 42 47.8 +0.7
comp=Z,4.7nm,1.3s
B25A Knox Farm, Ray 93.46 341 P **P** 03 42 48.0 -0.1
baz=94
BOZ Bozeman (W) 93.47 334 P **P** 03 42 48.4 0.0
baz=94
ULM Lac du Bonnet 93.78 346 P **P** 03 42 48.3 -1.2
comp=Z,0.9nm,0.5s,baz=182,slow=4.5,SNR=3.2
MSO Missoula 95.27 334 P **P** 03 42 56.9 +0.2
baz=96
STKA Stephens Creek 99.71 210 LR LR 04 22 17.3
comp=Z,69nm,18.2s,baz=201,slow=32
GERES GERESS Array B 118.51 49 PKP **PKPdf** 03 48 19.8 -0.5
comp=Z,1.0nm,0.7s,baz=174,slow=1.2,SNR=10
GERES pPKP **pPKPdf** 03 48 32.1 -0.6
comp=Z,0.9nm,0.7s,baz=191,slow=1.4,SNR=5.9
ILAR Eielson Array 120.54 332 PKP **PKPdf** 03 48 23.0 -0.6
comp=Z,1.2nm,0.7s,baz=167,slow=2.4,SNR=16
ILAR pPKP **pPKPdf** 03 48 35.5 -0.5
comp=Z,0.8nm,0.9s,baz=191,slow=3.0,SNR=4.7
NOA NORSAR Array B 123.31 35 PKP **PKPdf** 03 48 29.9 +0.9
comp=Z,0.7nm,0.8s,baz=247,slow=2.3,SNR=3.0
NOA pPKP **pPKPdf** 03 48 41.3 -0.2
comp=Z,1.3nm,0.9s,baz=253,slow=1.9,SNR=3.1
H11S2 WAKE ISLAND Hyl 24.00 265 T T 06 04 16.1
baz=130,slow=75,SNR=20
H11S1 WAKE ISLAND Hyl 24.01 265 T T 06 04 14.7
baz=130,slow=75,SNR=14
H11S3 WAKE ISLAND Hyl 24.01 265 T T 06 04 17.7
baz=130,slow=75,SNR=18
BR131 Keskin Array S 126.55 66 *e*PKPdf **PKPdf** 03 48 36.0 0.0
BRTR Keskin Array B 126.55 66 PKP **PKPdf** 03 48 35.6 -0.5
comp=Z,1.9nm,0.8s,baz=212,slow=3.2,SNR=9.1
BRTR pPKP **pPKPdf** 03 48 48.0 -0.5
comp=Z,1.1nm,0.7s,baz=205,slow=3.5,SNR=4.8
KIEV Kiev 128.30 52 *e*PKIKP **PKPdf** 03 48 37.9 -0.9
KIEV Kiev 128.30 52 *e*PKIdf **PKPdf** 03 48 38.2 -0.6
AKASG Malin Array Be 128.31 52 PKP **PKPdf** 03 48 37.7 -1.1
comp=Z,2.6nm,0.3s,baz=262,slow=2.3,SNR=4.5
AKASG pPKP **pPKPdf** 03 48 49.7 -1.6
comp=Z,0.4nm,0.3s,baz=260,slow=2.4,SNR=1.9
AKASG Malin Array Be 128.31 52 *i* PKIKP **PKPdf** 03 48 39.5 +0.7
AKASG pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 130.13 38 PKP **PKPdf** 03 48 42.3 +0.4
comp=Z,1.0nm,0.8s,baz=242,slow=3.0,SNR=3.5
ARCES ARCESS Array B 131.67 28 PKP **PKPdf** 03 48 44.4 -0.3
comp=Z,0.7nm,0.6s,baz=234,slow=1.0,SNR=5.6
OBN Obninsk 133.90 48 *e*PKIKP **PKPdf** 03 48 48.9 -0.3
OBN pmax pmax
comp=Z,20nm,1.5s
OBN MLR MLR
comp=Z,49nm,22.0s
KIV Kislovodsk 134.44 65 *e*PKIKP **PKPdf** 03 48 50.8 0.0
KIV pmax pmax
comp=Z,4.0nm,1.0s
IPM Ipoh 142.47 171 *e*PKPdf **PKPdf** 03 49 07.4 +1.0
GEYT Alibeck 143.25 80 PKhKP PKPpre 03 49 03.6
comp=Z,5.5nm,0.6s,baz=260,slow=4.2,SNR=10.0
URV Uravakonda 143.31 128 *e*PKPdf PKPbc 03 49 05.8 +0.9
PEA0B Petropavlovsk- 144.21 306 *e*PKPdf **PKPab** 03 49 05.9 -0.1
PETK Petropavlovsk- 144.21 306 PKP **PKPab** 03 49 06.2 +0.2
comp=Z,16nm,0.7s,baz=120,slow=7.1,SNR=34
RCLA Racherla 144.69 130 *e*PKPdf **PKPab** 03 49 08.3 -0.6
SOKR Solikamsk 145.04 42 *e*PKIKP **PKPbc** 03 49 08.7 -0.1
SOKR pmax pmax
comp=Z,20nm,1.0s
SRLM Srisailam 145.17 129 *e*PKPdf **PKPbc** 03 49 09.4 -1.2
KLRI Killari 145.32 124 *e*PKPab **PKPbc** 03 49 10.2 -0.8
ADKI Addanki 145.58 131 *e*PKPdf **PKPdf** 03 49 09.2 -2.4
NJS Nagarjunasagar 145.77 129 *e*PKPab **PKPdf** 03 49 12.0 +0.1
SEY Seymchan 145.91 324 PKPbc **PKPbc** 03 49 11.6 +0.1
comp=Z,20nm,0.8s,baz=107,slow=5.1,SNR=42
HYB Hyderabad 146.01 127 *i* PKP **PKPdf** 03 49 12.0 -0.4
HYB *e* 03 59 24.5
HYBB Hyderabad (bro 146.01 127 *e*PKPab **PKPdf** 03 49 12.1 -0.3
ARU Arti 146.33 48 *i* PKP2 **PKPdf** 03 49 12.0 +0.3
ARU Arti 146.33 48 *e*PKPbc **PKPbc** 03 49 12.7 -0.3
SRSP Sriramsagar 147.05 125 *e*PKPab **PKPbc** 03 49 15.4 -0.7
ABKAR Akbulak array 147.19 61 *e*PKPbc **PKPbc** 03 49 15.1 -0.5
SVE Sverdlovsk 147.43 47 *e*PKP2 **PKPbc** 03 49 16.5 +0.4
SVE pmax pmax
comp=Z,19nm,1.4s
RPR Rampur 147.57 127 *e*PKPab **PKPbc** 03 49 17.0 -0.5
PVM Polavaram 147.64 132 *e*PKPbc **PKPdf** 03 49 16.3 +1.3
BRVK Borovoye 153.52 53 *e*PKIKP **PKPbc** 03 49 31.4 +0.6
BRVK Borovoye 153.52 53 *e*PKPbc **PKPbc** 03 49 31.4 +0.6
MJAR Matsushiro Arr 154.76 268 PKPbc **PKPbc** 03 49 33.0 -1.0
comp=Z,0.9nm,0.8s,baz=111,slow=6.9,SNR=4.7
MJAR pPKPbc **PKPab** 03 49 48.8 -0.4
comp=Z,2.9nm,0.9s,baz=165,slow=3.6,SNR=8.9
CMAR Chiang Mai Arr 155.83 163 PKP **PKPdf** 03 49 28.4 +1.1
comp=Z,1.1nm,0.3s,baz=202,slow=4.5,SNR=4.5
CMAR PKPbc PKPbc 03 49 37.0
comp=Z,0.6nm,0.3s,baz=243,slow=3.4,SNR=5.0
CMAR pPKPbc pPKPbc 03 49 49.5 +0.2
comp=Z,1.2nm,0.4s,baz=222,slow=3.5,SNR=1.3
KSH Kashi 156.98 86 PKP **PKPdf** 03 49 28.1 -0.3
KSH pPKP **pPKPdf** 03 49 40.3 -0.7
KSH sPKP 03 49 43.1
KSH PKS **PKSdf** 03 53 02.1 -0.2
KSH SKS **SKSdf** 03 56 30.1 -1.2
KSH SKKS **SKKSac** 04 00 22.0 -1.7
KSH PPMZ
comp=Z,100nm,3.8s
KSH LN
comp=Z,81nm,5.1s
KSH LE
comp=Z,66nm,4.0s
KSH LZ
comp=Z,100nm,4.3s
KURK Kurchatov 159.06 56 *e*PKIKP **PKPdf** 03 49 30.7 +0.3
KURK *e* 03 50 07.1
KURK Kurchatov 159.06 56 *e*PKPdf **PKPdf** 03 49 30.7 +0.3
KURK *e*PKPab **PKPab** 03 50 07.1 -0.2
NVS Novosibirsk 160.07 42 *e*PKIKP **PKPdf** 03 49 31.9 +0.5
ZAA0 Zalesovo Array 161.32 42 *e*PKPdf **PKPdf** 03 49 32.5 -0.3
ZALV Zalesovo Beam 161.32 42 PKP **PKPdf** 03 49 32.2 -0.6
comp=Z,0.6nm,0.3s,baz=253,slow=1.5,SNR=4.6
ZALV pPKP **pPKPdf** 03 49 44.0 -1.3
comp=Z,1.2nm,0.8s,baz=149,slow=3.0,SNR=1.9
ZALV PKPab **PKPab** 03 50 17.2 +0.2
comp=Z,1.2nm,0.7s,baz=296,slow=7.9,SNR=3.5
MKAR Makanchi Array 162.20 66 PKPab **PKPab** 03 50 20.9 -0.3
comp=Z,1.5nm,0.9s,baz=261,slow=4.8,SNR=5.1
MKAR pPKPab **pPKPab** 03 50 32.3 -1.1
comp=Z,0.6nm,0.5s,baz=261,slow=3.5,SNR=3.0
MDJ Mudanjiang 162.79 287 PKP **PKPdf** 03 49 36.0 +1.4
KMI Kunming 163.03 169 PKP **PKPdf** 03 49 38.1 +2.3
BOD Bodaibo 163.30 345 *e*PKP2 **PKPab** 03 50 23.7 -1.8
BOD pmax pmax
comp=Z,3.0nm,0.9s
GYA Guiyang 164.61 181 PKP **PKPdf** 03 49 37.0 -0.1
GYA sPKP 03 49 53.0
GYA PKPab **PKPab** 03 50 34.4 +2.2
GYA PKS **PKSdf** 03 53 09.6 -0.6
GYA PPMZ
comp=Z,120nm,8.0s
NJ2 Nanjing 165.95 230 *e*PKP **PKPdf** 03 49 39.1 +1.3
WMQ Urumqi 166.25 76 PKP **PKPdf** 03 49 38.3 +0.5
WHN Wuhan 166.94 213 PKPbc PKPdf 03 49 48.0 +9.4
CD2 Chengdu 168.87 169 PKP **PKPdf** 03 49 39.8 -0.3
CD2 pPKP **pPKPdf** 03 49 51.1 -1.5
CD2 sPKP 03 49 55.3
CD2 SKS **SKSdf** 03 56 40.8 +0.2
CD2 SKKS **SKKSac** 04 01 24.3 +0.3
CD2 SS **SS** 04 15 32.6 +3.0
CD2 PPMZ
comp=Z,110nm,6.3s
CD2 LN
comp=Z,240nm,6.0s
CD2 LZ
comp=Z,130nm,8.4s
ZAK Zakamensk 171.25 13 *e*PKP2 PKPab 03 51 12.9 +12
ZAK pmax pmax
comp=Z,2.0nm,2.1s
LZH Lanzhou 173.92 161 *e*PKP **PKPdf** 03 49 42.6 0.0
LZH pPKP **pPKPdf** 03 49 53.8 -1.3
LZH sPKP 03 49 57.1
LZH LN
comp=Z,150nm,16.2s
LZH LE
comp=Z,170nm,17.2s
LZH LZ
comp=Z,190nm,19.8s
SONM Songino Array 174.04 359 PKP **PKPdf** 03 49 40.1 -2.1
comp=Z,0.3nm,0.5s,baz=297,slow=0.9,SNR=2.4
SONM PKPab **PKPab** 03 51 14.1 +0.6
comp=Z,1.7nm,0.8s,baz=323,slow=6.2,SNR=8.9
SONM pPKPab **pPKPab** 03 51 25.8 +0.2
comp=Z,2.4nm,1.1s,baz=355,slow=2.6,SNR=6.4
HHC Hu-ho-hao-te 175.87 257 *e*PKP **PKPdf** 03 49 43.5 +0.6
HHC pPKP **pPKPdf** 03 49 53.3 -2.2
HHC PP **PP** 03 55 20.0 +4.6
HHC SS SS 04 16 43.8 +3.1
HHC PPMZ
comp=Z,47nm,7.4s
HHC LN
comp=Z,120nm,18.5s
HHC LE
comp=Z,150nm,19.7s
HHC LZ
comp=Z,91nm,17.3s

BJI ***18*** *04:10:57.6, 46.09N×132.85E, h6km, ML3.9/8*
SKHL ***18*** *04:10:59.0±1.6, 46.10N×132.91E, h22km±2km, mb4.5/3, Ms3.6/1*
ISC 18 04:10:58.1±0.8**, 46.08N**±0.03×**132.92E**±0.04**, h10**km**, n9, σ2s82/18, 1C, Northeastern China**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRTR	**Gornotajezhnoj**	**2.43**	**193**	⇑*i*	Pn	**04 11 38.3**	**+0.4**
GRTR				*e*	Pg	**04 11 43.7**	**+1.8**
GRTR				*e*	Sg	**04 12 15.3**	**+3.4**
TEY	**Ternei**	**2.79**	**111**	*e*	Pn	**04 11 42.6**	**-0.2**
TEY					Pn	**04 11 48.2**	**+0.2**
TEY				*e*	Pg	**04 11 49.7**	**-1.9**
TEY					AMB	04 11 52.5	
	157nm,0.5s						
TEY				*e*	Sn	**04 12 15.5**	**-1.0**
TEY				*e*	Sg	**04 12 25.9**	**+3.6**
TEY					A	04 12 31.8	
	525nm,0.5s						
TEY					AMS	04 12 46.5	
	500nm,4.0s						
KHBR	**Khabarovsk**	**2.81**	**31**	*e*	Pn	**04 11 43.1**	**+0.1**
KHBR				*e*	Sg	**04 12 24.9**	**+2.3**
KLR	**Kul'dur**	**3.25**	**346**	*e*	Pn	**04 11 49.8**	**+0.7**
KLR					AMB	04 11 57.3	
	100nm,0.2s						
KLR					pPn	**04 12 01.1**	**+0.8**
KLR					eSg	**04 12 38.1**	**+2.7**
KLR					eSn	**04 12 39.8**	**-2.6**
KLR					eSg	04 12 54.0	+26
KLR					A	04 12 58.1	
	256nm,0.4s						
CN2	**Changchun**	**5.77**	**249**	*e*	Pg	04 12 43.1	+4.3
CN2					Sg	**04 13 58.3**	**-4.9**
CN2					SMN		
	50nm,0.7s						
CN2					SME		
	40nm,0.7s						
EKMR	**Ekimchan**	**7.00**	**0**	*e*	Pn	**04 12 43.5**	**+2.9**
EKMR					pPn	04 12 50.8	+7.8
EKMR					Pb	04 13 04.7	+5.0
EKMR					eSg	**04 14 37.1**	**-5.5**
EKMR					A	04 14 52.1	
	18nm,0.5s						
EKMR					A	04 14 52.1	
	16nm,0.5s						
NKL	**Nikolayevsk**	**8.69**	**33**	*e*	Sg	04 15 30.5	-6.1
NKL					A	04 15 48.1	
	20nm,0.8s						
BMKR	**Bomnak**	**9.02**	**345**	*e*	Sg	04 15 41.5	+52
BMKR					A	04 15 59.0	
	10.0nm,0.6s						
KROS	**Kirovskiy**	**9.19**	**338**	*e*	Pn	**04 13 12.7**	**+2.1**
KROS					AMB	04 13 14.0	
	3.0nm,0.5s						
KROS					eSg	04 15 41.6	+48
KROS					A	04 15 50.2	
	5.0nm,0.6s						

JMA ***18*** *04:27:16.7±0.1, 24.51N×122.70E, h103km±1km, M2.2*
ISCJB ***18*** *04:27:17.1±0.6, 24.52N±0.04×122.73E±0.02, h97km±5km, Error ellipse: s-maj=6.1km s-min=2.8km az=173.7*
TAP ***18*** *04:27:17.1, 24.50N×122.78E, h85km±1km, ML3.6, D*
ISC 18 04:27:17.4±1.4**, 24.52N**±0.05×**122.72E**±0.03**, h98**km±9km**, n43, σ0s61/75, 2C-3D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.21**	**109**	P	Pn	**04 27 31.5**	**+0.1**
JYNG				S	Sn	**04 27 42.4**	**+0.6**
YOJ	**Yonaguni jima**	**0.27**	**103**	P	Pn	**04 27 31.7**	**+0.1**
YOJ				S	Sn	**04 27 42.7**	**+0.5**
TWC	**Suao**	**0.80**	**276**	*i* P	Pn	**04 27 35.2**	**-0.4**
	baz=277						
TWC				S	Sn	**04 27 48.6**	**-0.6**
	baz=277						
TWB1	**Santiao Chiao**	**0.83**	**306**	*i* P	Pn	**04 27 35.6**	**-0.2**
	baz=305						
TWB1				*i* S	Sn	**04 27 48.8**	**-0.9**
	baz=305						
ENA	**Nanau**	**0.90**	**264**	P	Pn	**04 27 36.7**	**+0.1**
	baz=265						
ENA				*e*S	Sn	**04 27 50.6**	**-0.4**
	baz=265						
IRIF	**Iriomote-Funau**	**0.94**	**101**	P	Pn	**04 27 37.0**	**0.0**
IRIF				S	Sn	**04 27 52.4**	**+0.7**
TWE	**Neicheng**	**0.98**	**282**	*i* P	Pn	**04 27 37.4**	**0.0**
	baz=282						
TWE				*e*S	Sn	**04 27 52.1**	**-0.5**
	baz=282						
NWF	**Wu-fen Shan**	**1.02**	**303**	*i* P	Pn	**04 27 37.9**	**0.0**
	baz=301						
NWF				S	Sn	**04 27 53.2**	**-0.2**
	baz=301						
ENTT	**Nioudou**	**1.06**	**277**	*e*P	Pn	**04 27 38.3**	**0.0**
	baz=276						
ENTT				*e*S	Sn	**04 27 53.8**	**-0.4**
	baz=276						
HATJ	**Hateruma jima**	**1.09**	**115**	*e*S	Sn	**04 27 55.8**	**+1.1**
TWD	**Chiawan**	**1.12**	**247**	*i* P	Pn	**04 27 38.7**	**-0.3**
	baz=248						
TWD				*i* S	Sn	**04 27 55.1**	**-0.2**
	baz=248						
HWA	**Hwalien**	**1.16**	**242**	*e*P	Pn	**04 27 39.4**	**0.0**
	baz=243						
HWA				*e*S	Sn	**04 27 55.6**	**-0.4**
	baz=243						
JKRS	**Kuro-shima**	**1.21**	**103**	P	Pn	**04 27 40.6**	**+0.6**
JKRS				S	Sn	**04 27 57.7**	**+0.7**
NNS	**Nan Shan**	**1.23**	**266**	⇑*i*	P	**04 27 40.5**	**+0.1**
	baz=267						
NNS				S	Sn	**04 27 57.8**	**-0.1**
	baz=267						
PCYT	**Pengchaiyu**	**1.25**	**332**	*i* P	Pn	**04 27 40.6**	**0.0**
	baz=330						
NSK	**Sanguang**	**1.25**	**277**	⇓*i*	P	**04 27 40.8**	**+0.2**
	baz=277						
NSK				S	Sn	**04 27 57.8**	**-0.4**
	baz=277						
JIJ	**Ishigaki jima**	**1.30**	**97**	P	Pn	**04 27 41.2**	**+0.1**
JIJ				S	Sn	**04 27 58.5**	**-0.6**
ESL	**Shilin**	**1.37**	**239**	P	Pn	**04 27 41.8**	**-0.3**
	baz=240						
ESL				S	Sn	**04 28 00.4**	**-0.3**
	baz=240						

WHF	**Hehuan Shan**	**1.38**	**255**	*i* P		**Pn**	**04 27 42.6**	**+0.1**
	baz=255								
WHF				S		**Sn**	**04 28 01.2**	**-0.3**
	baz=255								
TWT	**Tachien**	**1.44**	**260**	*i* P		**Pn**	**04 27 43.6**	**+0.7**
	baz=260								
TWT				S		**Sn**	**04 28 02.4**	**+0.1**
	baz=260								
JISG	**Ishigakijimahi**	**1.45**	**87**	P		**Pn**	**04 27 43.0**	**+0.1**
JISG				*e*S		**Sn**	**04 28 01.6**	**-0.6**
NCU	**National Centr**	**1.47**	**288**	*e*S		**Sn**	**04 28 03.0**	**+0.3**
	baz=287								
NSTT	**Nanjuang**	**1.57**	**274**	*e*P		**Pn**	**04 27 44.3**	**-0.1**
	baz=274								
NSTT				*e*S		**Sn**	**04 28 04.6**	**-0.4**
	baz=274								
EHY	**Hungye**	**1.63**	**232**⇓	*e*P		**Pn**	**04 27 44.8**	**-0.4**
	baz=233								
EHY				*e*S		**Sn**	**04 28 06.2**	**-0.2**
	baz=233								
TWF1	**Yuli**	**1.75**	**229**	⇓P		**Pn**	**04 27 46.6**	**-0.1**
	baz=229								
TWF1				*e*S		**Sn**	**04 28 08.8**	**-0.2**
	baz=229								
TWQ1	**Liyutan**	**1.79**	**265**	S		**Sn**	**04 28 09.9**	**+0.1**
	baz=265								
NSY	**Sanyi**	**1.79**	**267**	*e*S		**Sn**	**04 28 10.8**	**+0.9**
	baz=267								
JTJ	**Tarama**	**1.80**	**86**	P		**Pn**	**04 27 47.4**	**0.0**
JTJ				*e*S		**Sn**	**04 28 09.1**	**-1.1**
TYC	**Yuchr**	**1.81**	**251**	P		**Pn**	**04 27 47.9**	**+0.4**
	baz=251								
TYC				*e*S		**Sn**	**04 28 10.2**	**-0.2**
	baz=251								
CHKT	**Chengkung**	**1.89**	**222**	*e*P		**Pn**	**04 27 47.6**	**-0.8**
	baz=222								
CHKT				*e*S		**Sn**	**04 28 11.6**	**-0.4**
	baz=222								
ALS	**Alishan**	**2.02**	**241**	*e*P		**Pn**	**04 27 51.6**	**+1.1**
	baz=241								
ALS				*e*S		**Sn**	**04 28 16.1**	**+0.4**
	baz=241								
ELDTW	**Lidau**	**2.05**	**230**	⇑P		**Pn**	**04 27 50.7**	**0.0**
	baz=230								
CHN5	**Tsauling**	**2.08**	**244**	*e*P		**Pn**	**04 27 52.3**	**+1.2**
	baz=244								
CHN5				*e*S		**Sn**	**04 28 16.9**	**+0.1**
	baz=244								
JIRB	**Irabujima**	**2.25**	**82**	P		**Pn**	**04 27 53.2**	**+0.1**
JIRB				*e*S		**Sn**	**04 28 19.7**	**-0.8**
STYT	**Tauyuan**	**2.25**	**233**	*e*P		**Pn**	**04 27 54.3**	**+1.1**
	baz=234								
STYT				*e*S		**Sn**	**04 28 20.6**	**-0.2**
	baz=234								
TWG	**Pinlang**	**2.27**	**222**	*e*P		**Pn**	**04 27 53.4**	**-0.1**
	baz=222								
WTP	**Ta-pu**	**2.31**	**237**	*e*P		**Pn**	**04 27 54.6**	**+0.6**
	baz=237								
TWK	**Hsinying**	**2.40**	**239**	*e*P		**Pn**	**04 27 56.2**	**+1.1**
	baz=239								
TWK				*e*S		**Sn**	**04 28 25.1**	**+1.0**
	baz=239								
CHN1	**Nanshi**	**2.41**	**237**	*e*P		**Pn**	**04 27 56.8**	**+1.4**
	baz=237								
CHN1				*e*S		**Sn**	**04 28 24.2**	**-0.2**
	baz=237								
SGST	**Jiashian**	**2.43**	**234**	*e*P		**Pn**	**04 27 57.0**	**+1.4**
	baz=234								
ECL	**Taimali**	**2.51**	**221**	*e*P		**Pn**	**04 27 55.9**	**-0.7**
	baz=221								
LAY	**Lan-yu**	**2.70**	**204**	*e*P		**Pn**	**04 27 58.7**	**-0.5**
	baz=204								
LAY				*e*S		**Sn**	**04 28 29.2**	**-2.0**
	baz=204								
SCZT	**Fangliau**	**2.88**	**223**	*e*P		**Pn**	**04 28 02.1**	**+0.5**
	baz=223								

*ISCJB **18** 04:39:22.8±0.5, 65°.28N±0°.04×133°.4W±0°.1, h10km, mb3.2/2, MS3.0/2, Error ellipse: s-maj=7.1km s-min=4.9km az=26.1*

*IDC **18** 04:39:24.1±0.8, 65°.35N×133°.71W, h0km, mb3.4/2, mb1 3.6/7, mb1mx3.3/48, mbtmp3.3/7, ML3.3/5, MS2.9/2, Ms1 3.1/2, ms1mx2.4/28, Error ellipse: s-maj=10.9km s-min=8.6km az=20.0*

*PGC **18** 04:39:25.7±0.0, 65°.29N×133°.58W, h1km, ML3.2/4, 242km Sse of Fort McPherson, Nt Northern Yukon Territory, Canada*

ISC 18 04:39:24.2±0.8, 65°.29N±0°.04×133°.53W±0°.05, h10km, n16, σ1ᵽ89/23, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DAWY	**Dawson**	**2.80**	**247**	Pn		**Pn**	**04 40 10.6**	**+1.5**
DAWY				Sn		**Sn**	**04 40 44.4**	**+1.5**
INK	**Inuvik**	**3.03**	**0**	Pn		**Pn**	**04 40 13.6**	**+1.5**
	1.1nm,0.3s,baz=180,slow=18,SNR=31							
INK				Pg		**Pg**	**04 40 20.8**	**-1.3**
	3.7nm,0.3s,baz=178,slow=14,SNR=27							
INK				Sn		**Sn**	**04 40 48.9**	**+0.5**
	5.3nm,0.3s,baz=77,slow=16,SNR=6.5							
INK				Lg		Lg	04 40 57.2	
	12nm,0.3s,baz=75,slow=24,SNR=6.7							
INK	**Inuvik**	**3.03**	**0**	Pn		**Pn**	**04 40 13.9**	**+1.8**
INK				Sn		**Sn**	**04 40 50.2**	**+1.8**
WHY	**Whitehorse**	**4.69**	**188**	Pn		**Pn**	**04 40 36.7**	**+1.7**
WHY				Sn		**Sn**	**04 41 30.2**	**+0.7**
HYT	**Haines Junctio**	**4.83**	**204**	Pn		**Pn**	**04 40 38.0**	**+1.0**
HYT				Sn		**Sn**	**04 41 33.0**	**0.0**
ILAR	**Eielson Array**	**5.68**	**271**	Pn		**Pn**	**04 40 47.8**	**-0.8**
	0.1nm,0.3s,baz=82,slow=12,SNR=6.7							
ILAR				Pg		Pb	04 40 55.5	-7.8
	0.2nm,0.3s,baz=76,slow=13,SNR=9.6							
ILAR				Sn		**Sn**	**04 41 50.3**	**-3.5**
	0.3nm,0.3s,baz=167,slow=32,SNR=4.9							
ILAR				Lg		Lg	04 42 18.2	
	0.5nm,0.3s,baz=103,slow=25,SNR=3.7							
DLBC	**Dease Lake**	**7.07**	**165**	Pn		**Pn**	**04 41 09.5**	**+1.8**
	1.4nm,0.3s,baz=353,slow=14,SNR=5.8							
YKW3	**Yellowknife Ar**	**8.76**	**99**	Pn		**Pn**	**04 41 31.4**	**+0.8**
YKW3				Sn		**Sn**	**04 43 05.3**	**-4.0**
YKA	**Yellowknife Ar**	**8.79**	**100**	Pn		**Pn**	**04 41 31.1**	**0.0**
	0.4nm,0.3s,baz=297,slow=12,SNR=13							
YKA				Sn		**Sn**	**04 43 06.1**	**-4.0**
	0.3nm,0.3s,baz=299,slow=22,SNR=4.8							
SNLN	**Sandy Lake, NW**	**11.57**	**90**	Pn		**Pn**	**04 42 10.0**	**+0.8**
SNLN				Sn		Sn	04 44 12.4	-5.8
GDLN	**Gardenia Lake,**	**12.60**	**92**	Pn		**Pn**	**04 42 23.3**	**0.0**
RES	**Resolute Bay**	**15.85**	**37**	Pn		**Pn**	**04 43 06.1**	**-0.8**
	0.3nm,0.3s,baz=224,slow=7.7,SNR=8.6							
TXAR	**Lajitas Array**	**40.49**	**138**	P		**P**	**04 47 04.1**	**+1.1**
	0.1nm,0.7s,baz=324,slow=5.4,SNR=2.3							
NOA	**NORSAR Array B**	**51.27**	**21**	LR		LR	05 13 22.4	
	comp=Z,6.6nm,18.7s,baz=110,slow=40							
FINES	**FINESS Array B**	**52.67**	**12**	P		**P**	**04 48 38.8**	**+1.0**
	0.7nm,0.6s,baz=3.6,slow=8.8,SNR=6.1							
CMAR	**Chiang Mai Arr**	**87.56**	**311**	LR		LR	05 38 34.4	
	comp=Z,11nm,18.1s,baz=150,slow=41							

*ISCJB **18** 05:00:19.8±0.5, 39°.32N±0°.01×23°.99E±0°.02, h13km±3km, mb3.5/2, Error ellipse: s-maj=2.6km s-min=2.0km az=33.4*

*ATH **18** 05:00:19.6, 39°.32N×24°.02E, h29km, MD3.4/30, ML3.8*

*THE **18** 05:00:20.1, 39°.31N×24°.04E, h12km±1km, ML3.6/9, Error ellipse: s-maj=1.1km s-min=0.5km az=281.0*

*CSEM **18** 05:00:20.5±0.1, 39°.30N×23°.97E, h15km, ML3.6, Error ellipse: s-maj=3.0km s-min=2.4km az=129.0*

*IDC **18** 05:00:20.9±2.2, 38°.60N×24°.43E, h0km, mb3.5/2, mb1 3.4/3, mb1mx3.1/28, mbtmp3.4/3, ML2.8/1, Error ellipse: s-maj=139.0km s-min=25.7km az=147.0*

*SKO **18** 05:00:21.8, 39°.55N×24°.01E, h1km*

ISC 18 05:00:20.2±0.9, 39°.31N±0°.01×24°.02E±0°.02, h10km±7km, n232, σ0ᵽ96/277, 6C-3D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AOS	**Alonnisos**	**0.18**	**217**	P		**Pb**	**05 00 25.2**	**-0.3**
AOS	**Alonnisos**	**0.18**	**217**	P		**Pg**	**05 00 24.1**	**+0.1**
AOS	**Alonnisos**	**0.18**	**217**	P		**Pg**	**05 00 24.1**	**+0.1**
AOS				S		**Sg**	**05 00 27.2**	**+0.6**
NEO	**Neokhori**	**0.61**	**270**	*e*PN		**Pg**	**05 00 31.8**	**-0.3**
NEO				*e*SN		**Sb**	**05 00 42.5**	**+0.8**
NEO	**Neokhori**	**0.61**	**270**	*e*Pn		**Pg**	**05 00 31.8**	**-0.3**
NEO	**Neokhori**	**0.61**	**270**	P		**Pb**	**05 00 33.0**	**0.0**
NEO				S		**Sb**	**05 00 41.5**	**-0.2**
NEO				*e*Sn		**Sb**	**05 00 42.5**	**+0.8**
NEO	**Neokhori**	**0.61**	**270**	P		**Pb**	**05 00 33.0**	**0.0**
NEO				S		**Sb**	**05 00 41.5**	**-0.2**
XOR	**Xorichti**	**0.64**	**275**	*e*PN		**Pg**	**05 00 32.2**	**-0.4**
XOR				*e*SN		**Sb**	**05 00 43.1**	**+0.6**
XOR	**Xorichti**	**0.64**	**275**	*e*Pn		**Pg**	**05 00 32.2**	**-0.4**
XOR	**Xorichti**	**0.64**	**275**	P		**Pb**	**05 00 33.5**	**0.0**
XOR				S		**Sb**	**05 00 42.5**	**0.0**
XOR				*e*Sn		**Sb**	**05 00 43.1**	**+0.6**
XOR	**Xorichti**	**0.64**	**275**	P		**Pb**	**05 00 33.5**	**0.0**
XOR				S		**Sb**	**05 00 42.5**	**0.0**
PAIG	**Paliouri**	**0.67**	**337**	*e*PN		**Pg**	**05 00 33.1**	**0.0**
PAIG	**Paliouri**	**0.67**	**337**	P		**Pg**	**05 00 33.1**	**0.0**
PAIG				S		**Sb**	**05 00 43.7**	**+0.5**
PAIG	**Paliouri**	**0.67**	**337**	P		**Pg**	**05 00 33.1**	**0.0**
PAIG				S		**Sb**	**05 00 43.7**	**+0.5**
MRKA	**Markates**	**0.69**	**209**	*e*PN		**Pg**	**05 00 33.2**	**-0.4**
MRKA	**Markates**	**0.69**	**209**	P		**Pg**	**05 00 33.1**	**-0.5**
MRKA				S		**Sg**	**05 00 43.0**	**+0.4**
MRKA	**Markates**	**0.69**	**209**	P		**Pg**	**05 00 33.1**	**-0.5**
MRKA				S		**Sg**	**05 00 43.0**	**+0.4**
SMIA	**Simia**	**0.76**	**236**	*e*PN		**Pg**	**05 00 34.9**	**0.0**
SMIA				*e*SN		**Sb**	**05 00 46.9**	**+0.9**
SMIA	**Simia**	**0.76**	**236**	P		**Pg**	**05 00 34.8**	**-0.1**
SMIA				S		**Sb**	**05 00 46.5**	**+0.5**
SMIA	**Simia**	**0.76**	**236**	P		**Pg**	**05 00 34.8**	**-0.1**
SMIA				S		**Sb**	**05 00 46.5**	**+0.5**
FYTO	**Fytoko, Volos**	**0.84**	**277**	P		**Pg**	**05 00 36.4**	**0.0**
FYTO				S		**Sb**	**05 00 48.2**	**+0.1**
FYTO	**Fytoko, Volos**	**0.84**	**277**	P		**Pg**	**05 00 36.4**	**0.0**
FYTO				S		**Sb**	**05 00 48.2**	**+0.1**
EREA	**Eretria**	**0.89**	**184**	*e*PN		**Pg**	**05 00 37.0**	**-0.4**
EREA				*e*SN		**Sb**	**05 00 50.2**	**+0.5**
EREA	**Eretria**	**0.89**	**184**	*e*Pn		**Pg**	**05 00 37.0**	**-0.4**
EREA				*e*Sn		**Sb**	**05 00 50.2**	**+0.5**
OUR	**Ouranopolis**	**1.02**	**359**	*e*P		**Pb**	**05 00 40.1**	**+0.2**
OUR	**Ouranopolis**	**1.02**	**359**	*e*PN		**Pg**	**05 00 39.1**	**-0.7**
OUR				*e*SN		**Sg**	**05 00 53.0**	**-0.1**
OUR	**Ouranopolis**	**1.02**	**359**	P		**Pg**	**05 00 39.1**	**-0.7**
OUR				*e*Sn		**Sg**	**05 00 53.0**	**-0.1**
OUR	**Ouranopolis**	**1.02**	**359**	P		**Pg**	**05 00 39.1**	**-0.7**
LKR	**Lokris**	**1.03**	**230**	*e*PN		**Pb**	**05 00 39.3**	**-0.9**
LKR				*e*SN		**Sb**	**05 00 54.1**	**+0.4**
LKR	**Lokris**	**1.03**	**230**	P		**Pb**	**05 00 39.2**	**-0.9**
LKR				*e*Sn		**Sb**	**05 00 54.1**	**+0.4**
LKR				S		**Sn**	**05 00 55.1**	**0.0**
LKR	**Lokris**	**1.03**	**230**	P		**Pb**	**05 00 39.2**	**-0.9**
LKR				S		**Sn**	**05 00 55.1**	**0.0**
LIA	**Limnos Island**	**1.07**	**57**	*e*PN		**Pb**	**05 00 39.5**	**-1.3**
LIA				*e*SN		**Sb**	**05 00 54.7**	**-0.2**
LIA	**Limnos Island**	**1.07**	**57**	*e*Pn		**Pb**	**05 00 39.5**	**-1.3**
LIA	**Limnos Island**	**1.07**	**57**	P		**Pb**	**05 00 39.8**	**-1.0**
LIA				S		**Sb**	**05 00 54.7**	**-0.2**
LIA	**Limnos Island**	**1.07**	**57**	P		**Pb**	**05 00 39.8**	**-1.0**
LIA				S		**Sb**	**05 00 54.7**	**-0.2**
PLG	**Polygyros**	**1.15**	**338**	*e*PN		**Pb**	**05 00 40.8**	**-1.3**
PLG				*e*SN		**Sb**	**05 00 56.8**	**-0.2**
PLG	**Polygyros**	**1.15**	**338**	*e*Pn		**Pb**	**05 00 40.8**	**-1.3**
PLG				*e*Sn		**Sb**	**05 00 56.8**	**-0.2**
PLG	**Polygyros**	**1.15**	**338**	P		**Pb**	**05 00 40.6**	**-1.5**
PLG				S		**Sb**	**05 00 56.9**	**-0.1**
AXAR	**Agios Charalam**	**1.19**	**243**	*e*PN		**Pn**	**05 00 42.0**	**-0.8**
AXAR	**Agios Charalam**	**1.19**	**243**	*e*Pn		**Pn**	**05 00 42.0**	**-0.8**
VIL2	**Platees**	**1.25**	**208**	*e*PN		**Pn**	**05 00 42.9**	**-0.7**
VIL2				*e*SN		**Sg**	**05 01 01.1**	**+0.8**
PTL	**Penteli**	**1.27**	**185**	*e*PN		**Pn**	**05 00 42.9**	**0.0**
PTL				*e*SN		**Sb**	**05 00 59.7**	**-0.8**
PTL	**Penteli**	**1.27**	**185**	*e*Pn		**Pn**	**05 00 43.9**	**0.0**
PTL				*e*Sn		**Sb**	**05 00 59.7**	**-0.8**
VILL	**Villia**	**1.27**	**206**	*e*Pn		**Pn**	**05 00 42.9**	**-1.1**
VILL				*e*Sn		**Sn**	**05 01 01.1**	**0.0**
VILL	**Villia**	**1.27**	**206**	P		**Pn**	**05 00 42.8**	**-1.2**
VILL				S		**Sb**	**05 01 00.9**	**+0.3**
KARY	**Karystos**	**1.32**	**165**	P		**Pn**	**05 00 43.8**	**-0.8**
AGG	**Agios Georgios**	**1.34**	**258**	*e*PB		**Pn**	**05 00 43.8**	**-1.2**
AGG	**Agios Georgios**	**1.34**	**258**	P		**Pn**	**05 00 43.8**	**-1.2**
AGG	**Agios Georgios**	**1.34**	**258**	P		**Pn**	**05 00 43.8**	**-1.2**
ATH	**Athens Observa**	**1.36**	**190**	*e*PN		**Pb**	**05 00 45.5**	**-0.2**
ATH				*e*SN		**Sb**	**05 01 02.4**	**-0.7**
ATH	**Athens Observa**	**1.36**	**190**	P		**Pn**	**05 00 44.4**	**-0.7**
ATH	**Athens Observa**	**1.36**	**190**	*e*Pn		**Pb**	**05 00 45.5**	**-0.2**
ATH				S		**Sb**	**05 01 01.5**	**-1.6**
ATH				*e*Sn		**Sb**	**05 01 02.4**	**-0.7**
ATH	**Athens Observa**	**1.36**	**190**	P		**Pn**	**05 00 44.4**	**-0.7**
ATH				S		**Sb**	**05 01 01.5**	**-1.6**
LIT	**Litokhoron**	**1.42**	**304**	*e*PN		**Pn**	**05 00 45.1**	**-0.9**
LIT	**Litokhoron**	**1.42**	**304**	*e*Pn		**Pn**	**05 00 45.1**	**-0.9**
LIT	**Litokhoron**	**1.42**	**304**	P		**Pn**	**05 00 44.9**	**-1.1**
SIGR	**SIGRI**	**1.43**	**93**	*e*P		**Pb**	**05 00 47.0**	**+0.1**
SIGR	**SIGRI**	**1.43**	**93**	*e*PN		**Pn**	**05 00 46.2**	**+0.1**
SIGR				*e*SN		**Sn**	**05 01 04.9**	**-0.1**
SIGR	**SIGRI**	**1.43**	**93**	*e*Pn		**Pn**	**05 00 46.2**	**+0.1**
SIGR	**SIGRI**	**1.43**	**93**	*e*P		**Pb**	**05 00 47.0**	**+0.1**
SIGR				*e*Sn		**Sn**	**05 01 04.9**	**-0.1**
HORT	**Hortiatis**	**1.46**	**332**	*e*PN		**Pn**	**05 00 45.9**	**-0.8**
HORT	**Hortiatis**	**1.46**	**332**	P		**Pn**	**05 00 45.9**	**-0.8**
HORT	**Hortiatis**	**1.46**	**332**	P		**Pn**	**05 00 45.9**	**-0.8**
DSF	**Desfina**	**1.47**	**233**	*e*PB		**Pn**	**05 00 45.5**	**-1.2**
DSF	**Desfina**	**1.47**	**233**	P		**Pn**	**05 00 45.3**	**-1.4**
DSF	**Desfina**	**1.47**	**233**	P		**Pn**	**05 00 45.3**	**-1.4**
MAKR	**Makrakomi, Fth**	**1.50**	**259**	*e*PN		**Pn**	**05 00 46.6**	**-0.5**
MAKR				*e*SN		**Sn**	**05 01 06.7**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.50**	**259**	P		**Pn**	**05 00 46.5**	**-0.5**
MAKR				*e*Sn		**Sn**	**05 01 06.7**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.50**	**259**	P		**Pn**	**05 00 46.5**	**-0.5**
LTK	**Loutraki**	**1.53**	**213**	*e*PB		**Pn**	**05 00 46.4**	**-1.1**
LTK	**Loutraki**	**1.53**	**213**	P		**Pn**	**05 00 46.4**	**-1.1**
LTK	**Loutraki**	**1.53**	**213**	P		**Pn**	**05 00 46.4**	**-1.1**
THE	**Thessaloniki**	**1.54**	**329**	*e*PN		**Pn**	**05 00 47.2**	**-0.5**
THE				*e*SN		**Sn**	**05 01 06.7**	**-1.1**
THE	**Thessaloniki**	**1.54**	**329**	P		**Pn**	**05 00 46.9**	**-0.8**
THE	**Thessaloniki**	**1.54**	**329**	*e*Pn		**Pn**	**05 00 47.2**	**-0.5**
THE				*e*Sn		**Sn**	**05 01 06.7**	**-1.1**
THE	**Thessaloniki**	**1.54**	**329**	P		**Pn**	**05 00 46.9**	**-0.8**
LOUT	**Loutraki**	**1.56**	**212**	*e*PB		**Pn**	**05 00 46.9**	**-0.9**
LOUT				*e*SN		**Sn**	**05 01 07.8**	**-0.2**
LOUT	**Loutraki**	**1.56**	**212**	P		**Pn**	**05 00 46.8**	**-1.0**
LOUT				*e*Sn		**Sn**	**05 01 07.8**	**-0.2**
LOUT	**Loutraki**	**1.56**	**212**	P		**Pn**	**05 00 46.8**	**-1.0**
THL	**Klokotos Trika**	**1.57**	**280**	*e*PB		**Pn**	**05 00 47.1**	**-1.0**
THL				*e*SN		**Sn**	**05 01 07.7**	**-0.7**
THL	**Klokotos Trika**	**1.57**	**280**	P		**Pn**	**05 00 47.0**	**-1.0**
THL				*e*Sn		**Sn**	**05 01 07.7**	**-0.7**
THL	**Klokotos Trika**	**1.57**	**280**	P		**Pn**	**05 00 47.0**	**-1.0**
SOH	**Sokhos**	**1.59**	**342**	*e*PN		**Pn**	**05 00 47.7**	**-0.7**
SOH	**Sokhos**	**1.59**	**342**	*e*Pn		**Pn**	**05 00 47.7**	**-0.7**
SOH	**Sokhos**	**1.59**	**342**	P		**Pn**	**05 00 47.5**	**-0.9**
SMTH	**Samothraki Isl**	**1.64**	**45**	*e*PB		**Pn**	**05 00 47.2**	**-1.9**
SMTH	**Samothraki Isl**	**1.64**	**45**	P		**Pn**	**05 00 47.0**	**-2.1**
SMTH	**Samothraki Isl**	**1.64**	**45**	P		**Pn**	**05 00 47.0**	**-2.1**
THAL	**Thalero**	**1.66**	**220**	*e*PN		**Pn**	**05 00 48.7**	**-0.5**
THAL	**Thalero**	**1.66**	**220**	*e*Pn		**Pn**	**05 00 48.7**	**-0.5**
BOZC	**Bozcaada**	**1.66**	**71**	*i* P		**Pn**	**05 00 48.5**	**-0.8**
BOZC				*i* S		**Sg**	**05 01 12.6**	**-0.9**
ACOR	**Acrocorinthos**	**1.68**	**213**	P		**Pn**	**05 00 49.4**	**-1.1**
GADA	**Gvkgeada**	**1.69**	**58**	*e*P		**Pn**	**05 00 49.4**	**-0.4**
GADA	**Gvkgeada**	**1.69**	**58**	*e*P		**Pn**	**05 00 49.4**	**-0.4**
KAVA	**Kavala**	**1.72**	**13**	*e*PB		**Pn**	**05 00 49.0**	**-1.2**
KAVA	**Kavala**	**1.72**	**13**	P		**Pn**	**05 00 48.9**	**-1.2**
KAVA	**Kavala**	**1.72**	**13**	P		**Pn**	**05 00 48.9**	**-1.2**
KALE	**Kalithea**	**1.73**	**238**	*e*PB		**Pn**	**05 00 49.7**	**-0.6**
KALE	**Kalithea**	**1.73**	**238**	P		**Pn**	**05 00 49.3**	**-1.0**
KALE	**Kalithea**	**1.73**	**238**	*e*Pb		**Pn**	**05 00 49.7**	**-0.6**
KALE	**Kalithea**	**1.73**	**238**	P		**Pn**	**05 00 49.3**	**-1.0**
EVR	**Evrytania**	**1.76**	**258**	*e*PN		**Pn**	**05 00 50.5**	**-0.3**
EVR	**Evrytania**	**1.76**	**258**	P		**Pn**	**05 00 49.1**	**-1.7**
EVR	**Evrytania**	**1.76**	**258**	*e*Pn		**Pn**	**05 00 50.5**	**-0.3**
EVR	**Evrytania**	**1.76**	**258**	P		**Pn**	**05 00 49.1**	**-1.7**
TRIZ	**Trizonia**	**1.79**	**239**	*e*PB		**Pn**	**05 00 50.6**	**-0.4**
TRIZ	**Trizonia**	**1.79**	**239**	P		**Pn**	**05 00 50.4**	**-0.6**
TRIZ	**Trizonia**	**1.79**	**239**	P		**Pn**	**05 00 50.4**	**-0.6**
SRS	**Serrai**	**1.83**	**350**	*e*PN		**Pn**	**05 00 50.9**	**-0.7**
SRS	**Serrai**	**1.83**	**350**	*e*Pn		**Pn**	**05 00 50.9**	**-0.7**
SRS	**Serrai**	**1.83**	**350**	P		**Pn**	**05 00 51.0**	**-0.7**
CHOS	**Chios island**	**1.84**	**120**	*e*PB		**Pn**	**05 00 51.5**	**-0.4**
CHOS	**Chios island**	**1.84**	**120**	P		**Pn**	**05 00 51.4**	**-0.4**
CHOS	**Chios island**	**1.84**	**120**	P		**Pn**	**05 00 51.4**	**-0.4**
EZN	**Ezine**	**1.86**	**73**	*e*P		**Pb**	**05 00 53.8**	**-0.4**
EZN	**Ezine**	**1.86**	**73**	*e*P		**Pb**	**05 00 53.8**	**-0.4**
EFP	**Efpalio**	**1.87**	**242**	*e*PN		**Pn**	**05 00 51.7**	**-0.4**
EFP	**Efpalio**	**1.87**	**242**	*e*Pn		**Pn**	**05 00 51.7**	**-0.4**
EFP	**Efpalio**	**1.87**	**242**	P		**Pn**	**05 00 51.8**	**-0.4**
GUR	**Goura**	**1.90**	**224**	*e*PN		**Pn**	**05 00 51.9**	**-0.8**
GUR	**Goura**	**1.90**	**224**	*e*Pn		**Pn**	**05 00 51.9**	**-0.8**
GUR	**Goura**	**1.90**	**224**	P		**Pn**	**05 00 51.8**	**-0.9**
DID	**Didima**	**1.91**	**199**	*e*PN		**Pn**	**05 00 51.7**	**-1.0**
DID	**Didima**	**1.91**	**199**	P		**Pn**	**05 00 51.7**	**-1.0**
DID	**Didima**	**1.91**	**199**	P		**Pn**	**05 00 51.7**	**-1.0**
LAKA	**Lakka**	**1.92**	**237**	*e*PN		**Pn**	**05 00 52.5**	**-0.4**
LAKA	**Lakka**	**1.92**	**237**	*e*Pn		**Pn**	**05 00 52.5**	**-0.4**
KLV	**Kalavryta, Ach**	**1.93**	**230**	*e*PN		**Pn**	**05 00 52.2**	**-0.9**
KLV	**Kalavryta, Ach**	**1.93**	**230**	P		**Pn**	**05 00 52.4**	**-0.7**
KLV	**Kalavryta, Ach**	**1.93**	**230**	P		**Pn**	**05 00 52.4**	**-0.7**
KZN	**Kozani**	**1.99**	**301**	*e*PB		**Pn**	**05 00 53.8**	**-0.2**
KZN	**Kozani**	**1.99**	**301**	P		**Pn**	**05 00 53.6**	**-0.4**
KZN	**Kozani**	**1.99**	**301**	P		**Pn**	**05 00 53.6**	**-0.4**
KNT	**Kendrikon**	**2.04**	**335**	*e*PB		**Pn**	**05 00 54.3**	**-0.2**
KNT	**Kendrikon**	**2.04**	**335**	P		**Pn**	**05 00 54.1**	**-0.4**
KNT	**Kendrikon**	**2.04**	**335**	P		**Pn**	**05 00 54.1**	**-0.4**
NVR	**Nevrokopi**	**2.04**	**357**	*e*PN		**Pn**	**05 00 53.6**	**-0.9**
NVR	**Nevrokopi**	**2.04**	**357**	*e*Pn		**Pn**	**05 00 53.6**	**-0.9**
NVR	**Nevrokopi**	**2.04**	**357**	P		**Pn**	**05 00 53.4**	**-1.1**
KRND	**KRANIDI**	**2.04**	**200**	*e*PN		**Pn**	**05 00 54.2**	**-0.4**
KRND	**KRANIDI**	**2.04**	**200**	P		**Pn**	**05 00 53.5**	**-1.1**
KRND	**KRANIDI**	**2.04**	**200**	*e*Pn		**Pn**	**05 00 54.2**	**-0.4**
KRND	**KRANIDI**	**2.04**	**200**	P		**Pn**	**05 00 53.5**	**-1.1**
AYVA	**Ayvalik**	**2.07**	**89**	*i* P		Pn	05 00 51.0	-4.0
AYVA				*i* S		**Sg**	**05 01 26.0**	**-0.8**
AYVA	**Ayvalik**	**2.07**	**89**	*i* P		Pn	05 00 51.0	-4.0
ENEZ	**Enez**	**2.17**	**48**	*e*P		**Pb**	**05 00 58.3**	**-1.2**
ENEZ	**Enez**	**2.17**	**48**	*e*P		**Pb**	**05 00 58.3**	**-1.2**
GELI	**Tayfur-Gelibol**	**2.18**	**59**	*e*P		**Pb**	**05 00 58.5**	**-1.2**
GELI	**Tayfur-Gelibol**	**2.18**	**59**	*e*P		**Pb**	**05 00 58.5**	**-1.2**
ALN	**Alexandroupoli**	**2.22**	**44**	*e*PN		**Pn**	**05 00 56.0**	**-1.0**
ALN	**Alexandroupoli**	**2.22**	**44**	P		**Pn**	**05 00 55.2**	**-1.8**
**AL

12nm,1.1s,baz=29,slow=27,SNR=4.4
MKAR Makanchi Array 8.04 207 Pn Pn 05 21 44.5 +1.1
0.2nm,0.3s,baz=28,slow=16,SNR=5.5
MKAR Sn Sn 05 23 14.4 -0.5
0.2nm,0.3s,baz=26,slow=24,SNR=5.0
MKAR Lg Lg 05 23 59.3
0.2nm,0.3s,baz=32,slow=27,SNR=5.5
BVAR Borovoye Array 10.27 271 Sn Sn 05 24 02.1 -7.4
0.4nm,0.3s,baz=75,slow=29,SNR=3.2
SONM Songino Array 13.41 110 Lg Lg 05 26 54.2
0.1nm,0.3s,baz=310,slow=21,SNR=7.4

*IDC **18** 05:56:42.1±0.2,52.86N×169.85W,h0km,mb5.7/46, mb1 5.7/48,mb1mx5.7/48,mbtmp5.7/48,ML5.3/2,MS6.6/53, Ms1 6.6/53,ms1mx6.5/60,Error ellipse: s-maj=9.6km s-min=6.3km az=163.0*
*ISCJB **18** 05:56:43.8±0.3,52.81N±0.02×169.80W±0.01,h17km±2km, mb6.0/439,MS6.7/263,Error ellipse: s-maj=2.6km s-min=1.3km az=179.6*
*BJI **18** 05:56:43.1,52.92N×170.21W,h10km,mb5.9/47, mB6.3/66,Ms7.0/94,Ms7 6.9/84*
*NEIC **18** 05:56:44.9±0.1,52.88N×169.85W,h14km,mb6.3/229, ME7.0,MS6.7/151,MW6.6,MW6.6,MW6.6,ML6.3(AEIC), Error ellipse: s-maj=2.6km s-min=1.4km az=172.0, Moment Tensor Solution. s114 Moment tensor: Scale 10^18^Nm; Mrr=1.92; Mθθ=3.00; Mϕϕ=4.93; Mrθ=2.67; Mθϕ=-6.87; Mϕr=1.50; Best double couple: M=8.70000×10^18^ NP1: ϕs=288.00000°,δ73.00000°,λ-161.00000°. NP2: ϕs=192.00000°,δ72.00000°,λ-18.00000°. Principal axes: T 8.9000, Plg0.0000°, Azm59.0000°; N -0.4800, Plg64.0000°, Azm329.0000°; P -8.4100, Plg25.0000°, Azm150.0000°; Broadband fault plane solution: P waves. NP1:ϕs279.00000°,δ76.00000°,λ-164.00000°. NP2: ϕs185.00000°,δ75.00000°,λ-15.00000°. Principal axes: T Plg0.0000°, Azm52.0000°; N Plg0.0000°, Azm0.0000°; P Plg21.0000°, Azm142.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at Unalaska and [II] at Dutch Harbor. Also felt at Nikolski and on Unimak Island.
*NEIC **18** 05:56:45.0±0.0,52.78N×169.35W,h13km Best double couple: NP1:ϕs181.00000°,δ75.00000°,λ-28.00000°. NP2:ϕs279.00000°,δ62.00000°,λ-163.00000°. Principal axes: T 1.2500, Plg8.0000°, Azm232.0000°; N -0.3800, Plg57.0000°, Azm336.0000°; P -0.8700, Plg30.0000°, Azm137.0000°;*
*MOS **18** 05:56:45.9±0.9,52.88N×169.86W,h35km,mb6.2/111, MS6.7/87 Error ellipse: s-maj=6.1km s-min=5.3km az=78.7*
*GCMT **18** 05:56:47.3±0.1,52.66N×169.64W,h12km,MW6.7/133, Moment Tensor Solution. s128,c307; s133,c613; Duration: 5±3 Moment tensor: Scale 10^19^Nm; Mrr=0.66±.01; Mθθ0.13±.01; Mϕϕ0.53±.01; Mrθ0.33±.02; Mθϕ-1.08±.00; Mϕr0.16±.02; Best double couple: M0 1.25200×10^19^ NP1:ϕs283.00000°,δ65.00000°, λ-147.00000°. NP2:ϕs178.00000°,δ61.00000°, λ-30.00000°. Principal axes: T 1.4320, Plg2.0000°, Azm50.0000°; N -0.3580, Plg49.0000°, Azm317.0000°; P -1.0730, Plg41.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*SZGRF **18** 05:56:49.3,53.28N×169.21W,h33km,mb5.7,MS6.6,Fox Islands, Aleutian Islands, United States*
*NEIC **18** 05:57:02.2±0.0,52.76N×169.78W,h10km Best double couple: NP1:ϕs181.00000°,δ54.00000°,λ-24.00000°. NP2:ϕs286.00000°,δ70.00000°,λ-140.00000°. Principal axes: T 1.3100, Plg10.0000°, Azm50.0000°; N -0.4100, Plg47.0000°, Azm309.0000°; P -0.9000, Plg40.0000°, Azm149.0000°;*

ISC 18 05:56:45.8±0.2,52.75N±0.03×169.77W±0.02,h21km±2km, h21km:pP-P,n2401,σ1945/2826,mb6.1/457,MS6.7/282, 65C-91D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.60**	**68**	P			**Pb**	**05 56 55.0**	**-2.7**
NIKH				S			**Sb**	**05 57 04.2**	**-1.6**
OKSP	**Okmok Steeple**	**1.03**	**60**	P			**Pb**	**05 57 02.7**	**-2.2**
OKWE	**Okmok W'ng Wal**	**1.17**	**51**	P			**Pn**	**05 57 05.7**	**-1.3**
OKTU	**Okmok Mt. Tuli**	**1.22**	**58**	P			**Pn**	**05 57 06.1**	**-1.5**
MCIR	**Makushin Cirqu**	**2.10**	**54**	P			**Pn**	**05 57 19.3**	**-0.5**
MSW	**Makushin Switc**	**2.14**	**56**	P			**Pn**	**05 57 19.5**	**-0.8**
MTBL	**Makushin Table**	**2.22**	**55**	P			**Pn**	**05 57 20.9**	**-0.5**
UNV	**Unalaska Valle**	**2.25**	**60**	P			**Pn**	**05 57 20.5**	**-1.2**
UNV				S			**Sn**	**05 57 47.8**	**-1.0**
AKRB	**Akutan Reef Bi**	**2.61**	**57**	P			**Pn**	**05 57 26.7**	**0.0**
AKRB				S			**Sn**	**05 57 58.7**	**+0.9**
ZRO	**Akutan Zero**	**2.64**	**58**	P			**Pn**	**05 57 27.0**	**-0.1**
AKGG	**Akutan Green G**	**2.68**	**56**	P			**Pn**	**05 57 27.8**	**+0.1**
AKGG				S			**Sn**	**05 57 59.8**	**+0.2**
AKUT	**Akutan**	**2.77**	**58**	*e*Pn			**Pn**	**05 57 28.5**	**-0.3**
AKUT				S			**Sn**	**05 58 03.3**	**+1.8**
AKUT				*e*Sn			**Sb**	**05 58 08.0**	**+0.1**
WESP	**Westdahl Peak**	**3.48**	**58**	P			**Pn**	**05 57 38.9**	**+0.2**
WESN	**West Dahl Nort**	**3.58**	**57**	P			**Pn**	**05 57 40.1**	**0.0**
GSTR	**Great Sitkin T**	**3.90**	**263**	*e*Pn			**Pn**	**05 57 44.7**	**+0.2**
GSMY	**Great Sitkin M**	**3.91**	**262**	P			**Pn**	**05 57 44.8**	**+0.1**
SSLW	**Shishaldin Wes**	**3.92**	**57**	P			**Pn**	**05 57 44.2**	**-0.4**
GSTD	**Great Sitkin T**	**3.96**	**262**	P			**Pn**	**05 57 45.0**	**-0.4**
GSTC	**Great Sitkin C**	**3.98**	**262**	P			**Pn**	**05 57 45.3**	**-0.3**
SSLN	**Shishaldin Nor**	**4.00**	**57**	P			**Pn**	**05 57 45.4**	**-0.4**
ISNN	**Isanotski Nort**	**4.12**	**57**	P			**Pn**	**05 57 48.0**	**+0.5**
ETKA	**Kagalaska Isla**	**4.17**	**260**	P			**Pn**	**05 57 48.3**	**+0.2**
ADAG	**Mount Adagdak**	**4.26**	**262**	P			**Pn**	**05 57 50.2**	**+0.9**
FALS	**False Pass**	**4.32**	**58**	P			**Pn**	**05 57 50.1**	**0.0**
FALS				*e*Sn			**Sn**	**05 58 40.1**	**+0.4**
FALS				S			**Sn**	**05 58 40.9**	**+1.2**
SPIA	**Saint Paul Isl**	**4.44**	**357**	P			**Pn**	**05 57 52.5**	**+0.7**
SPIA				S			**Sn**	**05 58 45.2**	**+2.4**
KIRH	**Kanaga Island**	**4.57**	**262**	P			**Pn**	**05 57 54.2**	**+0.6**
KIKV	**Kanaga Island**	**4.62**	**262**	P			**Pn**	**05 57 54.8**	**+0.5**
TAPA	**Tanaga Point A**	**5.02**	**262**	P			**Pn**	**05 58 00.9**	**+1.0**
TAFP	**Tanaga Falls P**	**5.11**	**264**	P			**Pn**	**05 58 02.3**	**+1.2**
TASE	**Tanaga Southea**	**5.16**	**263**	P			**Pn**	**05 58 02.7**	**+1.0**
TANO	**Tanaga North**	**5.19**	**264**	P			**Pn**	**05 58 03.3**	**+1.2**
GAEA	**Gareloi East**	**5.59**	**264**	P			**Pn**	**05 58 09.0**	**+1.3**
SDPT	**Sand Point**	**6.06**	**61**	P			**Pn**	**05 58 15.1**	**+1.0**
CEAP	**Semis' Anvil P**	**6.56**	**268**	P			**Pn**	**05 58 21.4**	**+0.4**
CESW	**Semis' Southwe**	**6.59**	**267**	P			**Pn**	**05 58 21.9**	**+0.5**
AMKA	**Amchitka**	**6.88**	**263**	P			**Pn**	**05 58 26.1**	**+0.9**
VNKR	**Veniaminof 5**	**6.91**	**57**	P			**Pn**	**05 58 27.0**	**+1.3**
LSNW	**Little Sitkin**	**7.21**	**268**	P			**Pn**	**05 58 31.2**	**+1.3**
LSSA	**Little Sitkin**	**7.22**	**268**	P			**Pn**	**05 58 31.5**	**+1.5**
CHGN	**Chignik**	**7.50**	**57**	P			**Pn**	**05 58 35.0**	**+1.1**
AZAC	**Aniakchak**	**7.85**	**54**	P			**Pn**	**05 58 40.8**	**+2.1**
ANNW	**Aniakchak Nort**	**7.89**	**53**	P			**Pn**	**05 58 41.5**	**+2.3**
PLK1	**Peulik 1**	**9.05**	**51**	P			**Pn**	**05 58 57.3**	**+2.3**
KELA	**Mount Kelaz**	**9.76**	**49**	P			**Pn**	**05 59 05.9**	**+1.0**
SMY	**Shemya**	**9.78**	**276**	P			**Pn**	**05 59 05.4**	**+0.3**
SMY	**Shemya**	**9.78**	**276**	Pn			**Pn**	**05 59 05.4**	**+0.3**
KVTA	**Katmai Vly 10**	**9.94**	**50**	P			**Pn**	**05 59 08.6**	**+1.3**
KABR	**Katmai Barrier**	**9.98**	**51**	P			**Pn**	**05 59 08.4**	**+0.6**
KAKN	**Katmai Knife C**	**10.01**	**50**	P			**Pn**	**05 59 09.1**	**+0.8**
OHAK	**Old Harbor**	**10.47**	**58**	*e*Pn			**Pn**	**05 59 13.1**	**-1.4**
OHAK				*e*Sn			**Sn**	**06 01 16.5**	**+5.6**
KDAK	**Kodiak Island** 6µm,0.6s	**11.01**	**56**	Pn			**Pn**	**05 59 20.1**	**-1.8**
KDAK	**Kodiak Island**	**11.01**	**56**	*i* P			**Pn**	**05 59 20.1**	**-1.8**
KDAK	**Kodiak Island**	**11.01**	**56**	*e*Pn			**Pn**	**05 59 20.8**	**-1.0**
KDAK				*e*Sn			Sn	06 01 30.9	+6.7
SVW2	**Sparrevohn**	**11.38**	**37**	*e*Pn			**Pn**	**05 59 27.9**	**+1.0**
RSO	**Redoubt South** 570nm,0.9s	**12.12**	**44**	*e*Pn			**Pn**	**05 59 36.2**	**-0.9**
BRLK	**Bradley Lake**	**12.60**	**49**	*e*Pn			**Pn**	**05 59 43.3**	**-0.3**
SPU	**Mount Spurr**	**12.79**	**42**	*e*Pn			**Pn**	**05 59 48.1**	**+1.8**
TNA	**Tin City** 2µm,1.2s	**12.88**	**3**	Pn			**Pn**	**05 59 46.9**	**-0.5**
RC01	**Rabbit Creek A**	**13.71**	**45**	*e*Pn			**Pn**	**05 59 57.7**	**-1.1**
PPLA	**Purkeypile**	**13.77**	**36**	*e*Pn			**Pn**	**06 00 01.4**	**+1.7**
PPLA				*e*Sn			Sn	06 02 40.9	+9.2
CAST	**Castle Rocks**	**14.14**	**34**	*e*Pn			**Pn**	**06 00 05.8**	**+1.2**
PMR	**Palmer**	**14.21**	**43**	*e*P			**Pn**	**06 00 05.1**	**-0.4**
PMR	**Palmer**	**14.21**	**43**	*e*Pn			**Pn**	**06 00 05.1**	**-0.4**
PMR				*e*S			S	06 02 53.4	-9.4
MID	**Middleton Isla**	**14.63**	**54**	*e*P			**Pn**	**06 00 08.9**	**-2.4**
MID	**Middleton Isla**	**14.63**	**54**	*e*Pn			**Pn**	**06 00 08.9**	**-2.4**
SML	**Sawmill**	**14.65**	**43**	*e*P			**Pn**	**06 00 10.5**	**-1.1**
SML	**Sawmill**	**14.65**	**43**	*e*Pn			**Pn**	**06 00 10.4**	**-1.1**
SML				*e*S			S	06 03 02.8	-9.0
TRF	**Thorofare Moun**	**14.79**	**36**	*e*Pn			**Pn**	**06 00 14.3**	**+0.8**
TRF				*e*S			**S**	**06 03 15.1**	**+0.2**
BPAW	**Bear Paw Mtn.** 6µm,1.0s	**14.96**	**33**	*e*Pn			**Pn**	**06 00 17.1**	**+1.4**
EYAK	**Cordova Ski Ar**	**15.27**	**50**	*e*Pn			**Pn**	**06 00 16.2**	**-3.6**
RND	**Reindeer**	**15.28**	**38**	*e*P			**Pn**	**06 00 19.8**	**-0.3**
RND				pmax			pmax		
	comp=Z,3µm,1.5s								
RND	**Reindeer**	**15.28**	**38**	*e*Pn			**Pn**	**06 00 19.8**	**-0.3**
	comp=Z,3µm,1.5s								
MCK	**McKinley**	**15.44**	**36**	*e*P			**Pn**	**06 00 22.7**	**+0.6**
MCK				pmax			pmax		
	comp=Z,3µm,1.3s								
MCK	**McKinley**	**15.44**	**36**	*e*Pn			**Pn**	**06 00 22.7**	**+0.6**
	comp=Z,3µm,1.3s								
DIV	**Divide**	**15.47**	**48**	*e*Pn			**Pn**	**06 00 19.5**	**-3.0**
	comp=Z,2µm,1.4s								
DIV				*e*Sn			**Sn**	**06 03 09.6**	**-3.5**
IM04	**Indian Mountai**	**15.49**	**25**	*e*Pn			**Pn**	**06 00 22.1**	**-0.5**
BWN	**Browne**	**15.52**	**35**	*e*Pn			**P**	**06 00 25.8**	**-1.5**
	comp=Z,14µm,1.5s								
KLU	**Klutina**	**15.55**	**46**	*e*Pn			**Pn**	**06 00 20.1**	**-3.4**
	comp=Z,3µm,1.6s								
MLY	**Manley**	**15.66**	**31**	*e*Pn			Pn	06 00 14.5	-10
MLY				*es*P			**Pn**	**06 00 26.1**	**+1.1**
DHY	**Denali Highway**	**15.67**	**40**	*e*Pn			**Pn**	**06 00 25.7**	**+0.5**
	comp=Z,701nm,1.0s								
RAGM	**Ragged Mountai**	**15.72**	**51**	*e*Pn			**Pn**	**06 00 23.0**	**-2.8**
	comp=Z,890nm,0.6s								
BMRM	**Bremner River**	**15.94**	**49**	*e*Pn			**Pn**	**06 00 25.2**	**-3.5**
	comp=Z,3µm,1.5s								
WRH	**Wood River Hil**	**16.18**	**35**	*e*Pn			Pn	06 00 26.6	-5.0
	comp=Z,7µm,2.1s								
HARP	**HAARP**	**16.25**	**44**	*e*Pn			**Pn**	**06 00 31.5**	**-1.0**
	comp=Z,15µm,2.2s								
PAX	**Paxson**	**16.38**	**42**	*e*P			**Pn**	**06 00 32.5**	**-1.6**
PAX				pmax			pmax		
	comp=Z,2µm,1.6s								
PAX	**Paxson**	**16.38**	**42**	*e*Pn			**Pn**	**06 00 32.5**	**-1.6**
	comp=Z,2µm,1.6s								
CCB	**Clear Creek Bu**	**16.38**	**35**	*e*Pn			**Pn**	**06 00 32.7**	**-1.4**
	comp=Z,3µm,1.7s								
MDM	**Murphy Dome**	**16.43**	**34**	*e*Pn			**Pn**	**06 00 34.7**	**0.0**
	comp=Z,3µm,1.4s								
I53US	**FAIRBANKS INFR** baz=242,slow=12,SNR=3.0	**16.50**	**34**	Pn			**P**	**06 00 39.8**	**+1.7**
COLA	**College**	**16.50**	**34**	*i* P			**Pn**	**06 00 35.0**	**-0.6**
COLA				MLR			MLR		
	comp=Z,1855µm,16.0s								
COLA	**College**	**16.50**	**34**	*e*Pn			**Pn**	**06 00 34.5**	**-1.1**
HDA	**Harding Lake**	**16.54**	**36**	*e*Pn			**Pn**	**06 00 35.8**	**-0.4**
	comp=Z,1µm,1.1s								
ILAR	**Eielson Array**	**16.78**	**35**	Pn			**Pn**	**06 00 36.4**	**-2.7**
	comp=Z,12nm,0.3s,baz=232,slow=8.9,SNR=158								
ILAR				PcP			**PcP**	**06 05 26.6**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=295,slow=2.8,SNR=5.9								
ILAR				ScP			**ScP**	**06 08 59.9**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=307,slow=3.3,SNR=4.8								
ILAR				P3KPbc				06 35 34.8	
	comp=Z,0.1nm,0.3s,baz=32,slow=2.1,SNR=4.3								
MENT	**Mentasta**	**17.08**	**43**	*e*Pn			**Pn**	**06 00 42.5**	**-0.5**
COLD	**Coldfoot**	**17.37**	**26**	*e*P			**P**	**06 00 48.3**	**+0.5**
COLD				*e*S			**S**	**06 04 04.0**	**-3.3**
YKU2	**Yakutat**	**17.97**	**56**	*e*Pn			**P**	**06 00 55.5**	**+1.1**
FYU	**Fort Yukon**	**18.39**	**32**	*e*Pn			**P**	**06 00 57.7**	**-1.3**
	comp=Z,7µm,1.4s								
EGAK	**Eagle**	**18.89**	**39**	*e*P			**P**	**06 01 03.0**	**-1.5**
	comp=Z,1µm,1.4s								
PET	**Petropavlovsk**	**18.98**	**283**	*ce*P			**P**	**06 01 05.7**	**+0.2**
PET				*e*S			**Sn**	**06 04 32.4**	**-5.6**
PET				pmax			pmax		
	comp=Z,23µm,13.2s								
PET				pmax			pmax		
	comp=Z,26µm,13.5s								
PET				pmax			pmax		
	comp=Z,513nm,0.9s								
PET				MLR			MLR		
	comp=Z,101µm,18.0s								
PET				MLR			MLR		
	comp=Z,126µm,18.0s								
PET	**Petropavlovsk**	**18.98**	**283**	*e*P			**P**	**06 01 04.4**	**-1.1**
PET				*e*S			**Sn**	**06 04 31.3**	**-6.6**
HYT	**Haines Junctio**	**19.26**	**52**	*e*P			**P**	**06 01 08.7**	**0.0**
DAWY	**Dawson**	**19.31**	**42**	*e*P			**P**	**06 01 07.8**	**-1.4**
I44RU	**PETROPAVLOVSK** baz=79,slow=312,SNR=0.5	**19.52**	**284**	*i*				07 47 40.0	
PEA0B	**Petropavlovsk-**	**19.52**	**284**	*e*P			**P**	**06 01 11.3**	**-0.3**
PEA0B				*e*S			**Sn**	**06 04 52.2**	**+1.0**
PETK	**Petropavlovsk-**	**19.52**	**284**	P			**P**	**06 01 10.4**	**-1.1**
	comp=Z,9.0nm,0.3s,baz=92,slow=13,SNR=47								
PETK				ScP			**ScP**	**06 09 07.0**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=93,slow=5.8,SNR=8.3								
SKAG	**Skagway**	**20.16**	**57**	*e*P			**P**	**06 01 18.4**	**0.0**
	comp=Z,3µm,0.7s								
BESE	**Bessie Mountai**	**20.37**	**59**	*e*P			**P**	**06 01 21.4**	**+0.7**
	comp=Z,2µm,1.3s								
SKR	**Severo-Kuril's**	**21.12**	**278**	*i* P			**P**	**06 01 26.0**	**-2.8**
SKR				*i*				06 01 54.0	
SKR				*e*				06 06 18.0	
SKR				*i* S			Sn	06 05 32.0	+2.5
SKR				*i* SS			SnSn	06 06 04.0	+20
SKR				pmax			pmax		
	comp=Z,480nm,1.2s								
SKR				pmax			pmax		
	comp=Z,18µm,14.0s								
SKR				pmax			pmax		
	comp=N,7µm,16.0s								
SKR				pmax			pmax		
	comp=E,21µm,16.0s								
SKR				MLR			MLR		
	comp=Z,95µm,20.0s								
SKR				MLR			MLR		
	comp=N,118µm,16.0s								
SKR				MLR			MLR		
	comp=E,107µm,18.0s								
CRAG	**Craig**	**21.50**	**68**	*e*P			**P**	**06 01 34.2**	**+1.4**
	comp=E,8µm,2.4s								
WRAK	**Wrangell Islan**	**21.81**	**65**	*e*P			**P**	**06 01 37.8**	**+1.6**
WRAK				*e*S			**S**	**06 05 39.6**	**+3.5**
WRAK				LR			LR		
	comp=Z,157µm,19.0s								
SEY	**Seymchan**	**22.23**	**312**	P			**P**	**06 01 40.5**	**-0.1**
	comp=Z,117nm,1.0s,baz=106,slow=8.7,SNR=124								
SEY				PcP			**PcP**	**06 05 36.6**	**+0.5**
	comp=Z,45nm,0.5s,baz=212,slow=2.8,SNR=9.1								
SEY				ScP			**ScP**	**06 09 12.3**	**+0.4**
	comp=Z,82nm,0.8s,baz=112,slow=3.5,SNR=16								
SEY				LR			LR	06 10 12.7	
	comp=Z,208µm,20.6s,baz=102,slow=37								
SEY				P3KPbc				06 35 22.2	
	comp=Z,2.4nm,0.8s,baz=17,slow=3.3,SNR=3.5								
H02N1	**VAN INLET T-PH**	**22.25**	**74**	P			**P**	**06 01 41.7**	**+0.6**
H02N1				S			**S**	**06 05 40.5**	**-4.2**
H02N1				T			T	06 24 26.3	
	SNR=3318								
H02S1	**DAWSON INLET T**	**22.30**	**74**	P			**P**	**06 01 41.9**	**+0.4**
H02S1				S			**S**	**06 05 40.9**	**-4.5**
H02S1				T			T	06 24 46.1	
	SNR=5727								
MA2	**Magadan**	**22.72**	**303**	*i* P			**P**	**06 01 46.9**	**+1.0**
DLBC	**Dease Lake**	**22.90**	**60**	P			**P**	**06 01 48.4**	**+0.5**
	comp=Z,875nm,1.0s,baz=270,slow=10,SNR=120								
DLBC				LR			LR	06 10 56.4	
	comp=Z,185µm,20.4s,baz=280,slow=37								
DLBC	**Dease Lake**	**22.90**	**60**	*e*P			**P**	**06 01 47.7**	**-0.3**
DLBC				*e*S			**S**	**06 05 57.5**	**+1.1**
INK	**Inuvik**	**23.16**	**34**	P			**P**	**06 01 48.0**	**-2.3**
	comp=Z,109nm,0.6s,baz=237,slow=8.7,SNR=102								
INK				PcP			**PcP**	**06 05 38.1**	**+0.2**
	comp=Z,41nm,0.6s,baz=276,slow=1.6,SNR=5.1								
INK				S			**S**	**06 05 56.6**	**-3.8**
	comp=Z,144nm,1.1s,baz=232,slow=18,SNR=4.9								
INK				ScP			**ScP**	**06 09 15.3**	**+1.0**
	comp=Z,23nm,0.8s,baz=356,slow=5.1,SNR=4.8								
INK				LR			LR	06 11 21.0	
	comp=Z,207µm,19.7s,baz=242,slow=38								
INK				P3KPbc				06 35 11.6	
	comp=Z,1.4nm,1.0s,baz=79,slow=5.2,SNR=2.3								
BBB	**Bella Bella**	**25.14**	**74**	P			**P**	**06 02 09.5**	**+0.5**
	comp=Z,368nm,0.9s,baz=286,slow=10,SNR=64								
BBB				PcP			**PcP**	**06 05 43.1**	**+0.7**
	comp=Z,49nm,0.8s,baz=252,slow=2.0,SNR=4.3								
MIDW	**Midway**	**25.15**	**196**	*e*P			**P**	**06 02 10.3**	**+1.0**
	comp=Z,328nm,1.0s								
MIDW				*e*PcP			**PcP**	**06 05 44.2**	**+1.3**
MIDW				*e*S			S	06 06 41.5	+8.5
MIDW				LR			LR		
	comp=Z,83µm,20.0s								
KUR	**Kuril'sk**	**28.45**	**272**	*e*P			P	06 02 44.6	+5.8
KUR				*e*S			S	06 07 30.6	+5.8
KUR				*e*SS			**SnSn**	**06 08 41.4**	**-2.1**
KUR				pmax			pmax		
	comp=Z,48nm,0.1s								
KUR				pmax			pmax		
	comp=E,179nm,1.7s								
KUR				pmax			pmax		
	comp=Z,139nm,1.7s								
KUR				pmax			pmax		
	comp=N,111nm,1.8s								
KUR				MLR			MLR		
	comp=N,32µm,18.0s								
KUR				MLR			MLR		
	comp=E,24µm,18.0s								
KUR				MLR			MLR		
	comp=Z,2µm,18.0s								
PGC	**Sidney**	**29.22**	**79**	*e*P			**P**	**06 02 47.7**	**+2.0**
SNB	**Saturna Island**	**29.34**	**79**	P			**P**	**06 02 48.7**	**+1.9**
NKL	**Nikolayevsk**	**29.38**	**291**	*e*P			**P**	**06 02 46.0**	**-1.0**
NKL				pmax			pmax		
	comp=Z,870nm,2.0s								
NKL				pmax			pmax		
	comp=N,2µm,15.0s								
NKL				pmax			pmax		
	comp=E,4µm,15.0s								
NKL				pmax			pmax		
	comp=Z,6µm,15.0s								
NLWA	**Neilton Lookou**	**29.54**	**82**	*e*P			**P**	**06 02 50.0**	**+1.4**
NLWA				*e*S			S	06 07 48.6	+6.6
NLWA				LR			LR		
	comp=Z,97µm,21.0s								
BLN	**Blyn Mountain**	**29.80**	**80**	*e*P			**P**	**06 02 52.6**	**+1.8**
A05A	**Maple Falls**	**29.89**	**78**	P			**P**	**06 02 53.0**	**+1.4**
GNW	**Green Mountain**	**30.09**	**81**	*e*P			**P**	**06 02 55.4**	**+2.0**
CMW	**Cultus Mountai**	**30.12**	**79**	P			**P**	**06 02 55.5**	**+1.7**
E03A	**Lebam**	**30.13**	**83**	*e*P			**P**	**06 02 55.8**	**+2.0**
	comp=Z,590nm,0.9s								
YKW3	**Yellowknife Ar**	**30.16**	**49**	*e*P			**P**	**06 02 52.5**	**-1.4**
	comp=Z,1.8nm,0.6s								
YKW3				*e*S			**S**	**06 07 47.3**	**-4.1**
YKA	**Yellowknife Ar**	**30.18**	**49**	P			**P**	**06 02 52.8**	**-1.2**
	comp=Z,41nm,0.6s,baz=273,slow=8.4,SNR=71								
YKA				PcP			**PcP**	**06 05 55.0**	**+0.5**
	comp=Z,27nm,0.7s,baz=285,slow=2.5,SNR=8.1								
YKA				ScP			**ScP**	**06 09 35.7**	**+0.5**
	comp=Z,5.7nm,0.6s,baz=292,slow=3.4,SNR=3.8								
YKA				P3KPbc				06 34 47.5	
	comp=Z,3.1nm,0.7s,baz=95,slow=5.2,SNR=9.5								
YUK	**Yuzh-Kuril'sk**	**30.29**	**271**	*d* P			P	06 02 59.6	+4.4
YUK				*i* *SP			sP	06 03 14.5	+10
YUK				*i*				06 03 58.9	
YUK				*i* S			**S**	**06 07 56.7**	**+2.9**
YUK				pmax			pmax		
	comp=N,89nm,1.5s								
YUK				pmax			pmax		
	comp=Z,343nm,1.5s								
YUK				pmax			pmax		
	comp=E,58nm,0.5s								
YUK				pmax			pmax		
	comp=Z,2µm,13.2s								
YUK				MLR			MLR		
	comp=N,32µm,18.0s								
YUK				MLR			MLR		
	comp=E,54µm,18.0s								
YUK				MLR			MLR		
	comp=Z,57µm,18.0s								
JCW	**Jim Creek**	**30.34**	**79**	*e*P			**P**	**06 02 57.2**	**+1.6**
BMW	**Boistfort Moun**	**30.36**	**83**	P			**P**	**06 02 57.7**	**+1.8**
BMW	**Boistfort Moun**	**30.36**	**83**	P			**P**	**06 02 57.7**	**+1.8**
F03A	**Seaside**	**30.43**	**84**	*e*P			**P**	**06 02 58.6**	**+2.2**
	comp=Z,2µm,1.6s								
B06A	**Marblemount**	**30.45**	**78**	*e*P			**P**	**06 02 57.6**	**+1.0**
	comp=Z,584nm,1.6s								
RPW	**Rockport**	**30.47**	**78**	*e*P			**P**	**06 02 58.0**	**+1.1**
F04D	**Rainier, OR** baz=31,SNR=41	**30.69**	**83**	P			**P**	**06 03 00.4**	**+1.7**
YSS	**Yuzh-Sakhalins**	**30.69**	**278**	*d* P			**P**	**06 02 56.0**	**-2.7**
YSS				*e*				06 03 03.5	
YSS				*e*				06 06 03.0	
YSS				*e*S			S	06 07 48.0	-12

comp=Z,129µm,21.0s
HUMO Hull Mountain 32.58 89 *e*P **P** **06 03 17.4 +2.1**
comp=Z,452nm,1.4s
BBOR Butler Butte 32.59 88 *e*P **P** **06 03 18.1 +2.4**
RSW Rattlesnake Hi 32.59 81 *e*P **P** **06 03 16.6 +1.1**
I05D Terrebonne, OR 32.60 85 P **P** **06 03 17.6 +2.0**
baz=32,SNR=243
HAWA Hanford 32.63 81 *e*P **P** **06 03 16.6 +0.8**
HAWA ePP **PnPn** **06 04 24.6 +1.0**
HAWA eS **S** **06 08 29.2 -1.1**
HAWA LR LR
comp=Z,84µm,19.0s
HON Honolulu 32.66 159 *e*P **P** **06 03 16.8 +0.6**
HON Honolulu 32.66 159 *e*P **P** **06 03 16.8 +0.6**
D08A Wollman Farm, 32.67 79 *e*P **P** **06 03 16.6 +0.4**
comp=Z,404nm,1.1s
C09A Chrisman Ranch 32.69 78 *e*P **P** **06 03 16.3 -0.1**
comp=Z,1µm,1.6s
YAK Yakutsk 32.73 311 P **P** **06 03 16.2 -0.3**
comp=Z,12nm,0.6s,baz=256,slow=21,SNR=13
YAK PcP **PcP** **06 06 00.2 -1.1**
comp=Z,4.8nm,0.3s,baz=253,slow=19,SNR=4.1
YAK S **S** **06 08 29.9 -1.6**
comp=Z,1.6nm,0.3s,baz=232,slow=19,SNR=1.6
YAK ScP **ScP** **06 09 43.5 -0.2**
comp=Z,3.1nm,0.4s,baz=195,slow=20,SNR=3.3
YAK LR LR 06 16 37.9
comp=Z,181µm,20.3s,baz=96,slow=37
YAK Yakutsk 32.73 311 *e*P **P** **06 03 15.3 -1.2**
YAK e*PP **pP** **06 03 25.0 +2.0**
YAK *e* 06 04 26.8
YAK ePPP PPP 06 04 38.8
YAK *e* 06 06 01.3
YAK e*S* **S** **06 08 32.4 +0.9**
YAK e*SS **sS** **06 08 46.7 +4.4**
YAK eSS **SnSn** **06 10 33.6 +6.3**
YAK eSSS SSS 06 10 49.9
YAK *e* 06 13 40.6
YAK pmax pmax
comp=Z,358nm,1.0s
YAK pmax pmax
comp=E,254nm,1.3s
YAK pmax pmax
comp=N,280nm,1.9s
YAK pmax pmax
comp=E,3µm,5.4s
YAK pmax pmax
comp=Z,3µm,5.1s
YAK smax smax
comp=N,5µm,6.3s
YAK smax smax
comp=E,11µm,8.9s
YAK MLR MLR
comp=Z,106µm,16.0s
YAK MLR MLR
comp=E,98µm,19.0s
YAK MLR MLR
comp=N,56µm,16.0s
YAK Yakutsk 32.73 311 *e*P **P** **06 03 15.9 -0.6**
comp=N,387nm,0.9s
YAK PcP **PcP** **06 06 00.2 -1.1**
YAK S **S** **06 08 29.9 -1.6**
YAK ScP **ScP** **06 09 43.5 -0.2**
J04D Umpqua Nationa 32.73 87 P **P** **06 03 18.8 +1.9**
baz=33,SNR=105
ERM Erimo 33.07 270 P **P** **06 03 20.1 +0.5**
comp=N,625nm,0.7s,SNR=17
ERM Erimo 33.07 270 *e*P **P** **06 03 20.1 +0.5**
ERM eS S 06 08 28.5 -8.6
ERM pmax pmax
comp=Z,598nm,2.0s
ERM MLR MLR
comp=Z,133µm,20.0s
ERM Erimo 33.07 270 *e*P **P** **06 03 20.1 +0.5**
comp=Z,598nm,2.0s
ERM eS S 06 08 28.5 -8.6
ERM eScP **ScP** **06 09 46.6 +1.4**
ERM LR LR
comp=Z,133µm,20.0s
KHMM Horse Mountain 33.11 92 *e*P **P** **06 03 22.8 +2.5**
comp=Z,458nm,1.1s
NEW Newport 33.16 76 P **P** **06 03 21.6 +1.2**
comp=Z,373nm,0.7s,baz=298,slow=7.6,SNR=662
NEW P3KPbc 06 34 35.6
comp=Z,1.7nm,0.8s,baz=173,slow=8.1,SNR=2.8
NEW Newport 33.16 76 P **P** **06 03 21.2 +0.8**
baz=33,SNR=573
NEW Newport 33.16 76 *e*P **P** **06 03 20.8 +0.4**
comp=Z,3µm,1.8s
EDM Edmonton 33.22 66 *e*P **P** **06 03 19.4 -1.5**
EDM *e* 06 04 31.8
EDM eS **S** **06 08 38.9 -0.4**
EDM Edmonton 33.22 66 *e*P **P** **06 03 19.4 -1.5**
EDM ePP **PnPn** **06 04 31.8 +0.8**
EDM eS **S** **06 08 38.9 -0.4**
YBH Yreka Blue Hor 33.23 90 P **P** **06 03 22.7 +1.5**
comp=Z,186nm,0.9s,baz=314,slow=4.2,SNR=96
YBH LR LR 06 14 11.2
comp=Z,49µm,20.2s,baz=302,slow=32
YBH P3KPbc 06 34 35.0
comp=Z,2.8nm,0.9s,baz=90,slow=2.0,SNR=2.6
J05D Fort Rock, OR 33.24 87 P **P** **06 03 23.5 +2.1**
baz=33,SNR=270
K04D Chiloquin, OR 33.30 88 P **P** **06 03 23.8 +1.9**
baz=33,SNR=50
M02C Callahan 33.34 91 P **P** **06 03 24.7 +2.6**
baz=33,SNR=73
E09A Wood Farm, Sta 33.40 80 *e*P **P** **06 03 22.9 +0.4**
comp=Z,725nm,1.3s
KMRM Mail Ridge 33.52 93 *e*P **P** **06 03 26.2 +2.5**
comp=Z,3µm,2.3s
G08A Pilot Rock 33.53 82 *e*P **P** **06 03 24.0 +0.1**
comp=Z,406nm,1.2s
HLK Haleakala 33.61 157 *e*P **P** **06 03 27.8 +3.0**
N02D Trinity Center 33.68 91 P **P** **06 03 27.6 +2.5**
baz=34,SNR=73
M04C Macdoel 33.73 89 P **P** **06 03 27.8 +2.2**
baz=34,SNR=272
K05A Summer Lake 33.76 87 *e*P **P** **06 03 27.9 +2.0**
comp=Z,729nm,0.8s
KIPM Iron Peak 33.91 94 *e*P **P** **06 03 28.5 +1.3**
KIPM ePcP **PcP** **06 06 06.1 +0.8**
KCPM Cahto Peak 33.93 94 *e*P **P** **06 03 29.2 +1.9**
KCPM ePP **PP** **06 04 45.0 +0.9**
KCPM eS **S** **06 08 49.2 -1.6**
WDC Whiskeytown Da 34.01 92 *e*P **P** **06 03 29.8 +1.9**
WDC pmax pmax
comp=Z,4µm,2.9s
WDC Whiskeytown Da 34.01 92 *e*P **P** **06 03 29.8 +1.9**
comp=Z,4µm,2.9s
F10A Beach Ranch, E 34.22 80 *e*P **P** **06 03 29.7 -0.1**
comp=Z,674nm,1.4s
HABR Khabarovsk 34.54 286*c iP* **P** **06 03 30.7 -1.7**
HABR e*PP **pP** **06 03 40.4 +1.5**
HABR e*SP **sP** **06 03 44.6 +3.0**
HABR *e* 06 04 46.3
HABR *e* 06 06 05.0
HABR eS **S** **06 08 57.5 -2.3**
HABR e*SS **sS** **06 09 14.1 +3.5**
HABR eSS **SnSn** **06 11 11.4 -0.1**
HABR *e* 06 13 50.2
HABR pmax pmax
comp=N,36nm,1.2s
HABR pmax pmax
comp=E,94nm,1.1s
HABR pmax pmax
comp=Z,183nm,1.1s
HABR pmax pmax
comp=Z,756nm,2.0s
HABR MLR MLR
comp=Z,69µm,20.0s
HABR MLR MLR
comp=N,99µm,16.0s
HABR MLR MLR
comp=E,90µm,20.0s
MOD Modoc 34.59 88 *e*P **P** **06 03 34.4 +1.3**
WALA Waterton Lakes 34.67 73 *e*P **P** **06 03 33.9 +0.2**
WALA ePP **PP** **06 04 52.2 0.0**
WALA eS **S** **06 09 02.7 +0.7**
KKH Kailua Kona 34.72 157 *e*P **P** **06 03 36.9 +2.8**
KKH Kailua Kona 34.72 157 *e*P **P** **06 03 36.9 +2.8**
BSMT Bassoo Peak 34.73 76 *e*P **P** **06 03 34.5 +0.2**
BSMT ePcP **PcP** **06 06 08.3 +0.7**
POHA Pohakuloa 34.74 156 *e*P **P** **06 03 35.5 +0.9**
comp=E,504nm,0.9s
POHA LR LR
comp=Z,82µm,19.0s
BMO Blue Mountains 34.76 82 *e*P **P** **06 03 35.4 +0.9**
comp=Z,960nm,1.7s
BMO ePP **PP** **06 04 56.0 +2.7**
BMO eS **S** **06 09 00.6 -2.9**
BMO LR LR
comp=Z,67µm,19.0s
BLMT Blacktail Moun 34.90 75 *e*P **P** **06 03 36.2 +0.4**
JTMT Jette 35.08 75 *e*P **P** **06 03 37.5 +0.3**
YBMT Yellow Bay 35.18 75 *e*P **P** **06 03 38.3 +0.2**
YBMT ePcP **PcP** **06 06 10.5 +1.7**
YBMT eS **S** **06 09 11.2 +1.3**
STCH Steam Cracks 35.20 156 *e*P **P** **06 03 39.4 +1.0**
STCH eS **S** **06 09 14.9 +4.4**
NSHM Saint Helena R 35.25 95 *e*P **P** **06 03 40.0 +1.4**
WVOR Wild Horse Val 35.30 86 *e*P **P** **06 03 40.3 +1.2**
WVOR *e* 06 05 03.0
WVOR eS **S** **06 09 16.1 +4.2**
WVOR MLR MLR
comp=Z,54µm,19.0s
WVOR Wild Horse Val 35.30 86 *e*P **P** **06 03 40.3 +1.2**
WVOR ePP **PP** **06 05 03.0 +3.8**
WVOR eS **S** **06 09 16.1 +4.2**
WVOR LR LR
comp=Z,54µm,19.0s
MCCM Marconi Confer 35.32 95 *e*P **P** **06 03 40.2 +1.0**
SWMT Swartz Lake 35.36 76 *e*P **P** **06 03 39.5 -0.1**
SWMT ePcP **PcP** **06 06 10.1 +0.8**
MSO Missoula 35.74 77 P **P** **06 03 43.6 +0.7**
baz=36,SNR=376
MSO Missoula 35.74 77 *e*P **P** **06 03 42.6 -0.3**
SLMT Seeley Lake 35.79 76 *e*P **P** **06 03 43.6 +0.2**
comp=Z,406nm,1.6s
SLMT ePcP **PcP** **06 06 11.3 +0.6**
SAC San Andreas 35.96 96 *e*P **P** **06 03 45.3 +0.6**
SAC pmax pmax
comp=Z,320nm,1.3s
SAC San Andreas 35.96 96 *e*P **P** **06 03 45.3 +0.6**
comp=Z,320nm,1.3s
BDM Black Diamond 36.06 95 *e*P **P** **06 03 47.2 +1.6**
KLR Kul'dur 36.10 288 *e*P P 06 03 40.5 -5.3
KLR pmax pmax
comp=Z,4µm,12.5s
CHMT Chamberlain Mo 36.10 76 *e*P **P** **06 03 45.9 -0.2**
CHMT ePcP **PcP** **06 06 12.2 +0.5**
RES Resolute Bay 36.13 26 P **P** **06 03 44.9 -0.9**
comp=Z,5.6nm,0.5s,baz=259,slow=13,SNR=27
RES PcP **PcP** **06 06 10.1 -0.8**
comp=Z,84nm,0.8s,baz=280,slow=2.1,SNR=9.5
RES LR LR 06 21 05.7
comp=Z,165µm,19.4s,baz=260,slow=41
MFID Camas Ranch 36.44 83 *e*P **P** **06 03 49.0 +0.1**
comp=Z,493nm,1.1s
CLNS Chul'man 36.60 303 *e*P **P** **06 03 50.6 +0.6**
CLNS e*PP pP 06 04 05.9 +9.3
CLNS *e* 06 05 14.6
CLNS *e* 06 06 11.3
CLNS eS **S** **06 09 29.2 -2.2**
CLNS eSS SnSn 06 11 49.5 -12
CLNS *e* 06 13 58.6
CLNS pmax pmax
comp=Z,83nm,1.1s
CLNS pmax pmax
comp=N,23nm,0.9s
CLNS pmax pmax
comp=E,78nm,1.5s
CLNS pmax pmax
comp=Z,21nm,0.8s
CLNS pmax pmax
comp=E,28nm,0.9s
CLNS pmax pmax
comp=N,83nm,1.0s
CLNS smax smax
comp=E,6µm,15.5s
CLNS smax smax
comp=N,6µm,13.4s
CMB Columbia Colle 36.90 93 *e*P **P** **06 03 54.2 +1.4**
CMB *e* 06 06 15.4
CMB eS S 06 09 42.9 +6.5
CMB Columbia Colle 36.90 93 *e*P **P** **06 03 54.2 +1.4**
CMB ePcP **PcP** **06 06 15.3 +1.4**
CMB eS S 06 09 42.9 +6.5
HRY Holter Researc 37.04 75 *e*P **P** **06 03 54.3 +0.3**
comp=N,556nm,0.9s
LRM Limekiln Ridge 37.14 77 *e*P **P** **06 03 55.2 +0.2**
LRM ePcP **PcP** **06 06 15.3 +0.5**
WAKR Walker 37.18 92 *e*P **P** **06 03 56.9 +1.5**
WAKR eS **S** **06 09 41.8 +0.9**
HLID Hailey 37.21 82 P **P** **06 03 56.9 +1.3**
baz=37,SNR=219
HLID Hailey 37.21 82 *e*P **P** **06 03 55.8 +0.3**
comp=N,934nm,1.6s
HLID LR LR
comp=Z,63µm,19.0s
DLMT Dillon 37.30 78 *e*P **P** **06 03 56.5 +0.2**
DLMT ePcP **PcP** **06 06 17.5 +2.3**
BMN Battle Mountai 37.34 88 *e*P **P** **06 03 57.3 +0.7**
BMN *e* 06 06 16.5
BMN pmax pmax
comp=Z,340nm,0.8s
BMN Battle Mountai 37.34 88 *e*P **P** **06 03 57.3 +0.7**
comp=Z,340nm,0.8s
BMN ePcP **PcP** **06 06 16.5 +1.1**
MCMT McKenzie Canyo 37.44 79 *e*P **P** **06 03 57.6 0.0**
MCMT ePcP **PcP** **06 06 17.5 +1.7**
LCCM Lewis and Clar 37.48 77 *e*P **P** **06 03 58.2 +0.5**
LRV Little Rabbit 37.57 96 *e*P **P** **06 04 00.2 +1.7**
EGMT Eagleton 37.59 72 P **P** **06 03 59.1 +0.6**
baz=37,SNR=619
EGMT Eagleton 37.59 72 *e*P **P** **06 03 58.6 0.0**
EGMT ePP **PP** **06 05 22.1 -2.2**
EGMT eS **S** **06 09 48.0 +1.3**
EGMT LR LR
comp=Z,59µm,20.0s
H11N2 WAKE ISLAND Hy 37.60 218 P **P** **06 03 58.3 -0.2**
H11N2 T T 06 43 50.7
baz=24,slow=75
H11N3 WAKE ISLAND Hy 37.61 218 P **P** **06 03 58.4 -0.2**
H11N3 T T 06 43 44.9
baz=24
H11N1 WAKE ISLAND Hy 37.62 218 T T 06 43 52.7
baz=24,slow=75
BGMT Barton Gulch 37.70 78 *e*P **P** **06 04 00.5 +0.7**
A19A Klindworth Far 37.72 71 P **P** **06 03 59.8 +0.2**
baz=38,SNR=202
BOZ Bozeman (W) 37.72 77 *e*P **P** **06 04 00.1 +0.2**
BOZ *e* 06 05 31.0
BOZ *e* 06 06 18.2
BOZ eS **S** **06 09 49.1 +0.2**
BOZ MLR MLR
comp=Z,54µm,19.0s
BOZ Bozeman (W) 37.72 77 P **P** **06 04 00.6 +0.7**
baz=38,SNR=818
BOZ Bozeman (W) 37.72 77 *e*P **P** **06 04 00.1 +0.2**
BOZ ePP **PnPn** **06 05 31.0 +4.0**
BOZ ePcP **PcP** **06 06 18.2 +1.7**
BOZ eS **S** **06 09 49.1 +0.2**
BOZ LR LR
comp=Z,54µm,19.0s
B19A Brinkman Farms 37.84 71 P **P** **06 04 01.0 +0.4**
baz=38,SNR=86
NVAR Mina Array Bea 37.92 91 P **P** **06 04 02.5 +0.8**
comp=Z,224nm,0.8s,baz=295,slow=7.6,SNR=497
NVAR PcP **PcP** **06 06 17.7 +0.4**
comp=Z,60nm,0.7s,baz=271,slow=1.7,SNR=9.8
NVAR ScP **ScP** **06 10 03.9 +0.6**
comp=Z,10nm,0.8s,baz=292,slow=2.8,SNR=5.1
NVAR P3KPbc 06 34 19.4
comp=Z,0.4nm,0.5s,baz=116,slow=6.1,SNR=4.2
WAKE Wake Island 38.10 218 *e*P P 06 04 08.5 +5.5
WAKE ePP **PnPn** **06 05 33.6 +1.8**
WAKE eS **S** **06 09 54.9 +0.3**
WAKE LR LR
comp=Z,107µm,22.0s
MLAC Mammoth Lakes 38.10 93 P **P** **06 04 05.5 +2.2**
baz=38,SNR=47
TPMT Tepee Creek 38.20 78 *e*P **P** **06 04 05.2 +1.1**
A20A Cobblestone Ra 38.21 70 P **P** **06 04 04.1 +0.3**
baz=38,SNR=106
BZMT Bozeman Pass 38.22 76 *e*P **P** **06 04 05.5 +1.5**
QLMT Earthquake Lak 38.29 78 *e*P **P** **06 04 05.1 +0.4**
QLMT ePcP **PcP** **06 06 19.9 +1.5**
ELK Elko 38.35 86 *e*P **P** **06 04 05.9 +0.6**
ELK *e* 06 05 36.3
ELK *e* 06 06 19.1
ELK eS **S** **06 10 01.4 +2.7**
ELK pmax pmax
comp=Z,332nm,0.8s
ELK Elko 38.35 86 *e*P **P** **06 04 05.9 +0.6**
comp=Z,332nm,0.8s
ELK ePP **PnPn** **06 05 36.3 +1.6**
ELK ePcP **PcP** **06 06 19.1 +0.4**
ELK eS **S** **06 10 01.4 +2.7**
B20A Solberg Farm, 38.38 71 P **P** **06 04 05.4 +0.2**
baz=38,SNR=316
MTUM Tungsten Hills 38.45 93 *e*P **P** **06 04 07.6 +1.5**
YHB Horse Butte 38.47 78 *e*P **P** **06 04 05.8 -0.4**
USRK Ussuriysk Ar. 38.57 281 P **P** **06 04 04.8 -1.9**
comp=Z,22nm,1.1s,baz=62,slow=8.3,SNR=14
USRK PcP **PcP** **06 06 18.8 -0.1**
comp=Z,95nm,0.9s,baz=46,slow=4.2,SNR=14
USRK ScP **ScP** **06 10 06.0 +0.6**
comp=Z,7.2nm,0.7s,baz=30,slow=2.2,SNR=6.5
USRK LR LR 06 19 35.2
comp=Z,75µm,21.0s,baz=55,slow=36
YMC Maple Creek 38.58 78 *e*P **P** **06 04 06.7 -0.4**
YMR Madison River 38.65 78 *e*P **P** **06 04 08.1 +0.3**
comp=Z,706nm,0.8s
YMR ePP **PnPn** **06 05 43.5 +5.2**
YMR ePcP **PcP** **06 06 21.5 +2.0**
YHH Holmes Hill 38.65 78 *e*P **P** **06 04 07.4 -0.5**
CRMT Chrome Mountai 38.71 76 *e*P **P** **06 04 11.3 +3.0**
YPM Purple Mountai 38.72 78 *e*P **P** **06 04 08.8 +0.4**
RCTC Rector, Farmer 38.72 95 P **P** **06 04 09.2 +1.1**
baz=39,SNR=23
A21A Bergtoll Ranch 38.72 70 P **P** **06 04 08.8 +0.7**
baz=39,SNR=171
FFC Flin Flon 38.73 59 P **P** **06 04 08.1 +0.1**
comp=Z,1µm,1.6s,SNR=58
FFC Flin Flon 38.73 59 *e*P **P** **06 04 08.5 +0.5**
FFC *e* 06 05 39.4
FFC eS S 06 09 57.2 -6.5
FFC MLR MLR
comp=Z,158µm,22.0s
FFC Flin Flon 38.73 59 *e*P **P** **06 04 08.5 +0.5**
FFC ePP **PnPn** **06 05 39.4 +0.5**
FFC eS S 06 09 57.2 -6.5
FFC LR LR
comp=Z,158µm,22.0s
C20A Veseth Ranch, 38.76 72 P **P** **06 04 09.5 +1.1**
baz=39,SNR=1000
MCID Moose Creek 38.79 79 *e*P **P** **06 04 09.3 +0.4**
H11S1 WAKE ISLAND Hy 38.80 217 P **P** **06 04 09.8 +1.2**
H11S1 T T 06 45 18.1
baz=23,slow=76
YNR Norris Junctio 38.80 78 *e*P **P** **06 04 10.1 +1.1**
YNR ePcP **PcP** **06 06 23.0 +3.0**
TPH Tonopah 38.80 91 *e*P **P** **06 04 09.5 +0.5**
TPH *e* 06 05 42.2
TPH *e* 06 06 21.6
TPH eS **S** **06 10 07.6 +2.2**
TPH pmax pmax
comp=Z,1µm,1.4s
TPH Tonopah 38.80 91 *e*P **P** **06 04 09.5 +0.5**
comp=Z,1µm,1.4s
TPH ePP **PnPn** **06 05 42.2 +2.1**
TPH ePcP **PcP** **06 06 21.6 +1.6**
TPH eS **S** **06 10 07.6 +2.2**
GCMT Greycliff 38.80 75 *e*P **P** **06 04 09.2 +0.2**
GCMT ePcP **PcP** **06 06 21.1 +1.3**
H11S2 WAKE ISLAND Hy 38.81 217 P **P** **06 04 10.0 +1.2**
H11S2 T T 06 45 18.1
baz=23,slow=76
H11S3 WAKE ISLAND Hy 38.81 217 P **P** **06 04 10.0 +1.2**
H11S3 T T 06 45 17.0
baz=23,slow=76
TIN Tinemaha 38.84 93 P **P** **06 04 11.4 +2.1**
baz=39,SNR=47
YFT Old Faithful 38.85 78 *e*P **P** **06 04 11.1 +1.6**
YFT ePcP **PcP** **06 06 23.7 +3.6**
YML Mary Lake 38.88 78 *e*P **P** **06 04 10.9 +1.2**
SMMC Simmler 38.93 96 P **P** **06 04 11.9 +2.0**
baz=39,SNR=46
B21A Ellsworth Farm 38.96 70 P **P** **06 04 10.7 +0.7**
baz=39,SNR=43
YPP Pitchstone Pla 38.97 78 *e*P P 06 04 14.0 +3.5
YLT Little Thumb C 39.01 78 *e*P **P** **06 04 13.2 +2.4**
CARC Carrizo Plain 39.02 96 *e*P **P** **06 04 12.6 +1.9**
H17A Grant Village 39.03 78 P **P** **06 04 13.0 +2.0**
baz=39,SNR=301
H17A Grant Village 39.03 78 *e*P **P** **06 04 12.5 +1.5**
comp=Z,436nm,0.9s
H17A ePcP **PcP** **06 06 23.9 +3.2**
H17A eScP **S** **06 10 08.9 0.0**
LKWY Lake 39.05 78 *e*P **P** **06 04 12.8 +1.7**
LKWY pmax pmax
comp=Z,621nm,0.8s
LKWY MLR MLR
comp=Z,101µm,19.0s
LKWY Lake 39.05 78 *e*P **P** **06 04 12.8 +1.7**
comp=Z,621nm,0.8s
LKWY LR LR
comp=Z,101µm,19.0s
YMP Mirror Lake Pl 39.09 77 *e*P **P** **06 04 13.6 +2.1**
IMW Indian Meadow 39.10 79 *e*P **P** **06 04 12.2 +0.6**
comp=Z,289nm,0.8s
IMW ePP **PnPn** **06 05 50.5 +6.8**
IMW ePcP **PcP** **06 06 22.9 +1.9**
VES Vestal, Richgr 39.12 95 P P 06 03 59.2 -12
baz=39
FLWY Flagg Ranch 39.14 78 *e*P **P** **06 04 12.1 +0.3**
FLWY *e* 06 10 10.0
NPI North Pocatell 39.16 82 *e*P **P** **06 04 12.8 +0.8**
FXWY Fox Creek 39.19 79 *e*P **P** **06 04 12.8 +0.4**
comp=Z,115nm,0.7s
YTP The Promontory 39.21 78 *e*P P 06 04 15.8 +3.3
C21A Desert Coulee 39.22 71 P **P** **06 04 13.2 +0.9**
baz=39,SNR=326
HVU Hansel Valley 39.22 83 *e*P **P** **06 04 12.8 +0.3**
HVU pmax pmax
comp=Z,351nm,1.0s
HVU Hansel Valley 39.22 83 *e*P **P** **06 04 12.8 +0.3**
comp=Z,351nm,1.0s
VLA Vladivostok 39.25 280*d iP* **P** **06 04 12.1 -0.3**
MOOW Moose Ponds 39.30 79 *e*P **P** **06 04 13.4 +0.3**
comp=Z,1µm,2.3s
PKM Peak Mountain 39.31 97 P **P** **06 04 15.5 +2.1**
baz=39,SNR=63
TPAW Teton Pass 39.32 79 *e*P **P** **06 04 13.1 -0.3**
CWC Cottonwood Cre 39.34 93 P **P** **06 04 15.3 +1.8**
baz=39,SNR=71
GRAC Grapevine Rang 39.40 92 P **P** **06 04 16.0 +2.1**
baz=39,SNR=18
PTU Portage 39.41 82 *e*P **P** **06 04 15.0 +0.9**
RLMT Red Lodge 39.41 76 P **P** **06 04 15.2 +1.1**
baz=39,SNR=554
RLMT Red Lodge 39.41 76 *e*P **P** **06 04 14.2 +0.2**
comp=Z,2µm,0.8s
RLMT ePcP **PcP** **06 06 24.6 +2.7**
RLMT LR LR
comp=Z,95µm,19.0s
REDW Red Top Meadow 39.46 79 *e*P **P** **06 04 15.1 +0.6**
SNOW Snow King Moun 39.46 79 *e*P **P** **06 04 15.2 +0.7**
comp=Z,3µm,2.6s
MTUT Morton Thiokol 39.46 83 *e*P **P** **06 04 14.9 +0.5**
LOHW Long Hollow 39.46 79 *e*P **P** **06 04 14.8 +0.3**
comp=Z,111nm,0.7s
MJAR Matsushiro Arr 39.47 267 P **P** **06 04 14.4 0.0**
comp=Z,25nm,0.7s,baz=52,slow=6.6,SNR=75
MJAR PcP **PcP** **06 06 23.2 +1.3**
comp=Z,69nm,1.1s,baz=84,slow=1.5,SNR=5.2
MJAR ScP **ScP** **06 10 09.2 +0.2**
comp=Z,9.3nm,0.8s,baz=44,slow=2.1,SNR=7.7
MJAR LR LR 06 18 35.9
comp=Z,74µm,21.9s,baz=55,slow=33
MJAR PKP2ab 06 38 14.2
comp=Z,3.5nm,1.3s,baz=216,slow=6.0,SNR=4.4
MAJO Matsushiro 39.47 267*ceP* **P** **06 04 13.9 -0.5**
MAJO Matsushiro 39.47 267 *e*P **P** **06 04 13.8 -0.5**
comp=Z,416nm,1.0s
MAJO LR LR
comp=Z,145µm,22.0s
MAT Matsushiro 39.47 267 P **P** **06 04 14.2 -0.2**
MAT S **S** **06 10 16.0 +0.9**
MLI Malad Range 39.47 82 *e*P **P** **06 04 15.1 +0.6**
BGU Big Grassy Mou 39.58 84 *e*P **P** **06 04 16.4 +1.0**
comp=Z,423nm,0.4s
BGU ePP **PnPn** **06 05 51.9 +2.6**

BGU e 06 10 16.8
ISA Isabella 39.61 95 *e*P **P 06 04 16.4 +0.7**
ISA e 06 05 44.8
ISA pmax pmax
comp=Z,364nm,1.2s
ISA Isabella 39.61 95 P **P 06 04 16.8 +1.1**
baz=40,SNR=144
ISA Isabella 39.61 95 *e*P **P 06 04 16.4 +0.7**
comp=Z,364nm,1.2s
ISA ePP **PP 06 05 44.8 -1.9**
R11A Troy Canyon, C 39.62 89 P **P 06 04 17.2 +1.3**
baz=40,SNR=1000
R11A Troy Canyon, C 39.62 89 *e*P **P 06 04 16.6 +0.7**
comp=Z,530nm,0.9s
R11A *e*PcP **PcP 06 06 23.7 +1.1**
R11A *e*S **S 06 10 20.9 +3.2**
BEI Bear River Ran 39.62 82 *e*P **P 06 04 16.4 +0.5**
AHID Auburn Hatcher 39.65 80 *e*P **P 06 04 16.4 +0.3**
AHID LR LR
comp=Z,66µm,19.0s
LTU Little Mountai 39.65 83 *e*P **P 06 04 16.9 +0.9**
EPU East Promontor 39.67 83 *e*P **P 06 04 16.8 +0.6**
SBC Santa Barbara 39.69 97 P **P 06 04 17.8 +1.6**
baz=40
F20A Billings 39.69 75 P **P 06 04 17.0 +0.7**
baz=40,SNR=151
SPUT South Promonto 39.70 83 *e*P **P 06 04 17.0 +0.6**
DAC Darwin (Calif) 39.74 93 *e*P **P 06 04 18.0 +1.1**
DAC *e* 06 06 24.2
DAC pmax pmax
comp=Z,286nm,1.1s
DAC Darwin (Calif) 39.74 93 *e*P **P 06 04 18.0 +1.1**
comp=Z,286nm,1.1s
DAC *e*PcP **PcP 06 06 24.2 +1.2**
ARVC Arvin 39.76 96 P **P 06 04 17.2 +0.4**
baz=40,SNR=20
MDJ Mudanjiang 39.76 283 P **P 06 04 15.0 -1.7**
MDJ sP sP 06 04 19.8 -6.2
MDJ PP **PP 06 05 44.9 -3.1**
MDJ ScP **ScP 06 10 10.8 +0.8**
MDJ PcS **PcS 06 10 12.3 -0.4**
MDJ S **S 06 10 18.4 -0.9**
MDJ sS sS 06 10 23.6 -6.6
MDJ ScS **ScS 06 14 22.9 +0.3**
MDJ LN
comp=Z,158µm,30.5s
MDJ LE
comp=Z,76µm,26.9s
MDJ LZ
comp=Z,109µm,16.1s
MDJ Mudanjiang 39.76 283 *e*P **P 06 04 15.5 -1.2**
comp=Z,80nm,1.5s
MDJ LR LR
comp=Z,112µm,19.0s
WVUT Wellsville 39.81 82 *e*P **P 06 04 17.9 +0.5**
HDU Hyde Park 39.82 82 *e*P **P 06 04 18.0 +0.5**
H19A Powell 39.82 77 P **P 06 04 18.5 +1.1**
baz=40,SNR=358
HONU Honeyville 39.84 82 *e*P **P 06 04 17.8 +0.2**
E21A Keefer Ranch, 39.91 73 P **P 06 04 19.2 +1.1**
baz=40,SNR=105
GZU Grizzly Peak 39.92 83 *e*P **P 06 04 18.8 +0.3**
SNUT Stansbury Nort 39.92 84 *e*P **P 06 04 18.6 +0.3**
MPMC Manual Prospec 39.95 93 P **P 06 04 20.2 +1.6**
baz=40,SNR=276
G20A Bridger 39.97 75 P **P 06 04 19.1 +0.4**
baz=40,SNR=503
MSHR Mys Shultsa 40.00 280⇑ *e*P **P 06 04 17.9 -0.8**
NAIU Northern Antel 40.01 83 *e*P **P 06 04 19.1 +0.1**
BSC Santa Cruz Isl 40.04 98 P **P 06 04 20.0 +0.8**
baz=40,SNR=6.6
CLC China Lake 40.04 94 *e*P **P 06 04 20.6 +1.3**
CLC China Lake 40.04 94 *e*P **P 06 04 20.6 +1.3**
BMUT Black Mountain 40.05 81 *e*P **P 06 04 20.0 +0.6**
HWUT Hardware Ranch 40.05 82 *e*P **P 06 04 19.7 +0.3**
HWUT *e*PcP **PcP 06 06 26.1 +2.2**
HWUT *e*ScP **ScP 06 10 11.0 -0.5**
HWUT LR LR
comp=Z,58µm,19.0s
FURC Furnace Creek, 40.06 92 P **P 06 04 21.0 +1.8**
baz=40,SNR=338
FSU Fish Springs 40.09 86 *e*P **P 06 04 20.4 +0.6**
TPNV Topopah Spring 40.12 91 *e*P **P 06 04 20.4 +0.4**
TPNV pmax pmax
comp=Z,774nm,0.9s
TPNV Topopah Spring 40.12 91 P **P 06 04 21.5 +1.5**
baz=40,SNR=775
TPNV Topopah Spring 40.12 91 *e*P **P 06 04 20.4 +0.4**
comp=Z,774nm,0.9s
RSUT Red Spur Mount 40.13 82 *e*P **P 06 04 20.8 +0.6**
SAIU Southern Antel 40.13 83 *e*P **P 06 04 20.1 0.0**
DUG Dugway 40.15 85 *e*P **P 06 04 20.7 +0.5**
DUG pmax pmax
comp=Z,26nm,1.0s
DUG MLR MLR
comp=Z,50µm,21.0s
DUG Dugway 40.15 85 P **P 06 04 21.7 +1.4**
baz=40,SNR=652
DUG Dugway 40.15 85 *e*P **P 06 04 20.7 +0.5**
comp=Z,26nm,1.0s
DUG LR LR
comp=Z,50µm,21.0s
OSI Osito Adit 40.17 96 P **P 06 04 21.7 +1.5**
baz=40,SNR=5.1
OSI Osito Adit 40.17 96 *e*P **P 06 04 21.8 +1.5**
comp=Z,235nm,0.9s
MCU Monte Cristo P 40.18 82 *e*P **P 06 04 21.0 +0.4**
I19A Meeteetse 40.18 77 P **P 06 04 21.0 +0.5**
baz=40,SNR=187
LRMC Laurel Mountai 40.21 94 P **P 06 04 21.7 +0.9**
baz=40,SNR=58
FPU Francis Peak 40.24 83 *e*P **P 06 04 21.3 +0.1**
ALE Alert 40.24 11 P **P 06 04 20.3 0.0**
comp=Z,425nm,1.2s,SNR=14
WSHM Spangler Hills 40.25 94 *e*P **P 06 04 22.3 +1.3**
F21A Absaloka Mine, 40.28 74 P **P 06 04 21.6 +0.5**
baz=40,SNR=52
NOQ North Oquirrh 40.29 84 *e*P **P 06 04 22.4 +1.0**
BLG Laguna Peak 40.31 97 P **P 06 04 22.6 +1.3**
baz=40
LAO LASA Array 40.33 72 P **P 06 04 22.8 +1.3**
baz=40,SNR=183
LAO LASA Array 40.33 72 *e*P **P 06 04 22.1 +0.5**
comp=Z,317nm,0.6s
LAO *e*PcP **PcP 06 06 26.5 +1.9**
LAO LR LR
comp=Z,78µm,19.0s
RBU Red Butte Cany 40.40 83 *e*P **P 06 04 22.5 +0.2**
CWU Camp Williams 40.43 84 *e*P **P 06 04 23.4 +0.8**
EDW2 Edwards Air Fo 40.43 95 P **P 06 04 23.6 +1.1**
baz=40,SNR=105
TCUT Toone Canyon 40.44 83 *e*P **P 06 04 23.3 +0.5**
comp=Z,396nm,0.8s
MHD Mile High Driv 40.48 83 *e*P **P 06 04 23.8 +0.8**
CTU Camp Tracy 40.49 83 *e*P **P 06 04 23.4 +0.3**
comp=Z,313nm,1.0s
H20A Greybull 40.51 76 P **P 06 04 23.2 +0.1**
baz=40,SNR=274
GMU Granite Mounta 40.56 84 *e*P **P 06 04 23.7 +0.1**
G21A Lodge Grass 40.56 75 P **P 06 04 23.7 +0.2**
baz=40,SNR=341
BW06 Boulder Array 40.57 79 *e*P **P 06 04 23.7 -0.1**
BW06 LR LR
comp=Z,45µm,19.0s
PDAR Pinedale Array 40.57 79 P **P 06 04 23.8 0.0**
comp=Z,367nm,0.7s,baz=329,slow=4.0,SNR=1184
PDAR PcP **PcP 06 06 27.3 +1.7**
comp=Z,19nm,0.8s,baz=330,slow=3.1,SNR=3.1
PDAR ScP **ScP 06 10 14.6 +1.0**
comp=Z,4.7nm,0.9s,baz=52,slow=3.5,SNR=3.3
PDAR LR LR 06 20 39.4
comp=Z,38µm,18.2s,baz=327,slow=35
PDAR P3KPbc 06 34 04.5
comp=Z,2.5nm,1.0s,baz=103,slow=4.7,SNR=12
J19A Crowheart 40.59 78 P **P 06 04 24.8 +1.0**
baz=40,SNR=340
E22A Miles City 40.62 72 P **P 06 04 24.9 +1.0**
baz=40,SNR=145
DECC Green Verdugo 40.65 96 P **P 06 04 25.3 +1.1**
baz=41,SNR=48
RCJ Ross Creek 40.70 83 *e*P **P 06 04 25.9 +1.0**
JLU Jordanelle 40.73 83 *e*P **P 06 04 25.9 +0.7**
comp=Z,190nm,0.4s
KLJ Keetly 40.74 83 *e*P **P 06 04 25.8 +0.6**
I20A Worland 40.74 77 P **P 06 04 26.0 +1.0**
baz=41
NLU North Lily Min 40.75 84 *e*P **P 06 04 26.0 +0.7**
comp=Z,17nm,0.5s
HLJ Hailstone 40.75 83 *e*P **P 06 04 25.9 +0.6**
BLKC Black Mountain 40.76 94 *e*P **P 06 04 26.8 +1.6**
LDJ Lady 40.77 83 *e*P **P 06 04 25.9 +0.5**
SHOC Shoshone 40.79 93 P **P 06 04 26.8 +1.5**
baz=41,SNR=201
PASC Pasadena Art C 40.79 96 *e*P **P 06 04 26.3 +0.9**
comp=Z,2µm,2.5s
HOLC Holcomb Ridge 40.80 95 *e*P **P 06 04 27.2 +1.6**
F22A Rosebud 40.81 73 P **P 06 04 25.8 +0.3**
baz=41,SNR=241
JHJ2 Mitsune 40.81 262 *e*P **P 06 04 25.2 -0.3**
WMUT West Mountain 40.82 84 *e*P **P 06 04 26.0 +0.2**
HTU Hoyt Peak 40.82 83 *e*P **P 06 04 26.5 +0.5**
MWC Mount Wilson 40.84 96 *e*P **P 06 04 26.9 +1.0**
MWC Mount Wilson 40.84 96 *e*P **P 06 04 26.9 +1.0**
GSC Goldstone 40.87 94 *e*P **P 06 04 26.6 +0.5**
GSC pmax pmax
comp=Z,607nm,0.9s
GSC Goldstone 40.87 94 P **P 06 04 27.5 +1.4**
baz=41,SNR=140
GSC Goldstone 40.87 94 *e*P **P 06 04 26.6 +0.5**
comp=Z,607nm,0.9s
FCC Fort Churchill 40.88 50 *e*P **P 06 04 25.9 +0.1**
FCC Fort Churchill 40.88 50 *e*P **P 06 04 25.9 +0.1**
A25A Svangstu Ranch 40.91 68 P **P 06 04 26.3 +0.1**
baz=41,SNR=204
C24A Savage 40.91 70 P **P 06 04 27.5 +1.3**
baz=41,SNR=451
IMU Iron Mountain 40.92 87 *e*P **P 06 04 27.5 +0.9**
DAU Daniels Canyon 40.96 83 *e*P **P 06 04 27.7 +0.6**
DAU Daniels Canyon 40.96 83 *e*P **P 06 04 27.7 +0.6**
E23A Ismay 40.96 72 P **P 06 04 27.4 +0.7**
baz=41,SNR=637
MPU Maple Canyon 40.98 84 *e*P **P 06 04 27.6 +0.5**
comp=Z,2µm,1.4s
H21A Big Horn, Sher 40.99 75 P **P 06 04 27.4 +0.3**
baz=41,SNR=154
RRX Edison Barstow 41.03 94 P **P 06 04 28.8 +1.5**
baz=41,SNR=30
FMP Fort Macarthur 41.04 97 P **P 06 04 28.4 +0.9**
baz=41
FLU Fool Peak 41.05 85 *e*P **P 06 04 28.2 +0.5**
SSK Sunset Peak 41.06 96 *e*P **P 06 04 29.1 +1.3**
BFSC Mount Baldy Ra 41.07 96 P **P 06 04 28.9 +1.1**
baz=41,SNR=145
SHPR Sheep Range 41.07 91 *e*P **P 06 04 28.7 +0.8**
comp=Z,160nm,0.4s
G22A Birney 41.10 74 P **P 06 04 28.2 +0.3**
baz=41,SNR=185
J20A Shoshoni 41.11 78 P **P 06 04 29.1 +1.0**
baz=41,SNR=281
LEVU Levan 41.18 85 *e*P **P 06 04 29.4 +0.6**
CIS Catalina Islan 41.19 97 P **P 06 04 29.7 +1.0**
baz=41,SNR=19
D24A Glendive 41.19 71 P **P 06 04 29.9 +1.3**
baz=41,SNR=662
B25A Knox Farm, Ray 41.23 68 P **P 06 04 29.0 +0.1**
baz=41,SNR=114
ARUT Antelope Range 41.28 88 *e*P **P 06 04 30.1 +0.5**
ARUT Antope Range 41.28 88 *e*P **P 06 04 30.1 +0.5**
TUQ Turquoise Moun 41.31 93 P **P 06 04 31.0 +1.2**
baz=41,SNR=56
I21A Big Trails, Te 41.31 77 P **P 06 04 29.9 +0.2**
baz=41,SNR=377
F23A Volborg 41.34 73 P **P 06 04 30.4 +0.6**
baz=41,SNR=531
WCU Willow Creek 41.35 86 *e*P **P 06 04 31.3 +1.0**
SCI San Clemente I 41.40 98 P **P 06 04 31.6 +1.2**
baz=41,SNR=17
ICU Indian Springs 41.40 89 *e*P **P 06 04 31.5 +0.9**
H22A Clearmont 41.42 75 P **P 06 04 30.3 -0.3**
baz=41
SNO Snow College 41.47 85 *e*P **P 06 04 32.4 +1.1**
HEC Hector,Ludlow 41.47 94 P **P 06 04 32.2 +1.2**
baz=41,SNR=67
C25A Freed Ranch, W 41.48 69 P **P 06 04 31.4 +0.5**
baz=41,SNR=99
CCUT Cedar City 41.48 88 *e*P **P 06 04 31.4 +0.1**
comp=Z,1µm,0.4s
SGU Sterling 41.49 85 *e*P **P 06 04 32.9 +1.5**
J21A Lysite 41.49 77 P **P 06 04 31.7 +0.4**
baz=41,SNR=167
BBRC Big Bear Solar 41.50 95 P **P 06 04 32.6 +1.2**
baz=41,SNR=40
E24A Baker 41.51 71 P **P 06 04 32.0 +0.8**
baz=41,SNR=183
A26A Wade Farm, Ken 41.53 67 P **P 06 04 31.2 -0.1**
baz=41,SNR=142
BOD Bodaibo 41.56 308 *e*P **P 06 04 30.3 -1.1**
BOD pmax pmax
comp=Z,370nm,1.9s
MVU Marysvale 41.57 86 *e*P **P 06 04 32.6 +0.5**
MVU ePP **PP 06 06 08.9 +0.9**
MVU *e*S **S 06 10 46.7 -0.2**
MSU Marysvale 41.59 86 *e*P **P 06 04 33.1 +1.0**
MSU *e* 06 06 30.2
MSU pmax pmax
comp=Z,71nm,1.0s
MSU Marysvale 41.59 86 *e*P **P 06 04 33.1 +1.0**
comp=Z,71nm,1.0s
MSU ePcP **PcP 06 06 30.2 +1.2**
G23A Biddle 41.64 74 P **P 06 04 32.6 +0.3**
baz=42,SNR=209
TMUT Trail Mountain 41.68 85 *e*P **P 06 04 33.8 +0.8**
comp=Z,274nm,0.4s
TMUT ePP **PP 06 06 09.8 +0.5**
B26A Jensen Ranch, 41.70 68 P **P 06 04 33.0 +0.2**
baz=42,SNR=18
I22A 9 Mile Ranch, 41.74 76 P **P 06 04 34.0 +0.7**
baz=42,SNR=307
D25A Fairfield 41.75 70 P **P 06 04 33.8 +0.6**
baz=42,SNR=81
ARGU Argyle Ridge 41.76 84 *e*P **P 06 04 33.9 +0.3**
BHU Blowhard Mount 41.76 88 *e*P **P 06 04 34.2 +0.4**
MURC Murrieta 41.78 96 P **P 06 04 34.8 +1.2**
baz=42,SNR=63
F24A Ekalaka 41.82 72 P **P 06 04 34.2 +0.4**
baz=42,SNR=358
HMTC Hemet 41.83 96 *e*P **P 06 04 34.9 +1.0**
DGR Domenigoni Val 41.86 96 *e*P **P 06 04 35.0 +0.8**
BACC Bachelor Mtn. 41.87 96 *e*P **P 06 04 34.9 +0.7**
GMRC Granite Mounta 41.91 93 P **P 06 04 36.2 +1.5**
baz=42,SNR=265
A27A Ledoux Ranch, 41.95 67 P **P 06 04 35.1 +0.4**
baz=42
H23A Clabaugh Cattl 41.99 74 P **P 06 04 35.1 -0.2**
baz=42,SNR=15
J22A Midwest 42.03 77 P **P 06 04 36.4 +0.8**
baz=42,SNR=723
LDFC Landfair 42.05 92 *e*P **P 06 04 36.2 +0.4**
comp=Z,1µm,0.9s
LDFC ePcP **PcP 06 06 31.3 +0.9**
LDFC *e*S **S 06 10 56.7 +3.0**
E25A Miller Ranch, 42.06 71 P **P 06 04 36.5 +0.8**
baz=42,SNR=307
C26A Wahner Farm, P 42.08 68 P **P 06 04 36.0 +0.2**
baz=42,SNR=109
CRY Cary Ranch 42.09 95 *e*P **P 06 04 37.5 +1.4**
G24A Alzada 42.13 73 P **P 06 04 36.3 -0.1**
baz=42,SNR=108
KNB Kanab 42.16 88 *e*P **P 06 04 37.6 +0.9**
KNB pmax pmax
comp=Z,329nm,0.8s
KNB Kanab 42.16 88 *e*P **P 06 04 37.6 +0.9**
comp=Z,329nm,0.8s
SNDA J Saunders Pla 42.17 95 *e*P **P 06 04 37.9 +1.0**
DANC Danby, Needles 42.18 93 *e*P **P 06 04 38.4 +1.6**
SRU San Rafael 42.21 84 *e*P **P 06 04 37.9 +0.7**
SRU *e* 06 06 34.2
SRU pmax pmax
comp=Z,409nm,0.6s
SRU San Rafael 42.21 84 *e*P **P 06 04 37.9 +0.7**
comp=Z,409nm,0.6s
SRU ePcP **PcP 06 06 34.2 +3.2**
FRD Ford Ranch 42.22 95 *e*P **P 06 04 38.2 +1.0**
PFO Pinyon Flat Ob 42.23 95 P **P 06 04 37.5 +0.2**
comp=Z,1µm,0.8s,SNR=70
PFO Pinyon Flat Ob 42.23 95 P **P 06 04 38.1 +0.8**
comp=Z,221nm,0.9s,baz=324,slow=6.3,SNR=128
PFO LR LR 06 18 37.2
comp=Z,47µm,20.1s,baz=298,slow=31
PFO Pinyon Flat Ob 42.23 95 *e*P **P 06 04 37.8 +0.5**
PFO pmax pmax
comp=Z,687nm,1.4s
PFO Pinyon Flat Ob 42.23 95 P **P 06 04 38.5 +1.2**
baz=42,SNR=131
PFO Pinyon Flat Ob 42.23 95 *e*P **P 06 04 37.8 +0.5**
comp=Z,687nm,1.4s
B27A Peters Farms, 42.23 67 P **P 06 04 37.6 +0.6**
baz=42,SNR=95
BELC Belle Mtn. Jos 42.23 94 P **P 06 04 38.2 +0.8**
baz=42,SNR=199
BTU Barney Top 42.25 87 *e*P **P 06 04 38.9 +1.1**
I23A Meade Ranch, G 42.31 75 P **P 06 04 38.0 +0.2**
baz=42,SNR=11
EKU East Kanab 42.31 88 *e*P **P 06 04 38.9 +0.9**
D26A Manning 42.32 70 P **P 06 04 38.1 +0.3**
baz=42,SNR=26
MMU Miners Mountai 42.32 86 *e*P **P 06 04 38.9 +0.7**
109C Camp Elliot, M 42.33 97 P **P 06 04 39.4 +1.4**
baz=42,SNR=101
F25A Bowman 42.35 72 P **P 06 04 38.5 +0.4**
baz=42,SNR=127
H24A Dirks Ranch, A 42.38 74 P **P 06 04 38.1 -0.3**
baz=42,SNR=263
K22A Casper 42.45 77 P **P 06 04 39.0 -0.1**
baz=42,SNR=208
K22A Casper 42.45 77 *e*P **P 06 04 38.5 -0.6**
comp=Z,2µm,1.9s
C27A Sayler Ranch, 42.47 68 P **P 06 04 39.6 +0.6**
baz=42,SNR=78
EML El Monte Cty P 42.48 96 *e*P **P 06 04 40.6 +1.3**
A28A Rude Farm, Bot 42.51 66 P **P 06 04 39.4 0.0**
baz=42,SNR=277
NEE2 Needles Airpor 42.55 92 P **P 06 04 40.8 +1.0**
baz=42,SNR=46
J23A Dilts Ranch, B 42.58 76 P **P 06 04 40.6 +0.5**
baz=42,SNR=50
E26A Carlson Angus 42.62 70 P **P 06 04 40.6 +0.4**
baz=42,SNR=201
HAY Hayfield 42.62 94 *e*P **P 06 04 41.4 +1.0**
HAY Hayfield 42.62 94 *e*P **P 06 04 41.4 +1.0**
IRM Iron Mountain 42.64 94 P **P 06 04 41.7 +1.2**
baz=43,SNR=232
CN2 Changchun 42.67 285 ⇓P **P 06 04 40.1 -0.5**
CN2 *e*pP **pP 06 04 47.6 +0.3**
CN2 *e*sP **sP 06 04 51.0 +1.1**
CN2 ScP **ScP 06 10 20.6 -0.9**
CN2 PcS **PcS 06 10 23.5 -0.7**
CN2 *e*sS **sS 06 11 13.5 0.0**
CN2 *e*SS SS 06 14 05.4 -7.4
CN2 LN
comp=Z,43µm,18.0s
CN2 LE
comp=Z,59µm,18.0s
CN2 LZ
comp=Z,20µm,17.0s
B28A Dugan Ranch, T 42.71 67 P **P 06 04 41.3 +0.3**
baz=42,SNR=192
BAR Barrett 42.74 96 *e*P **P 06 04 42.2 +0.9**
BAR *e*PcP **PcP 06 06 31.1 -1.5**
BAR *e*S **S 06 11 08.8 +5.1**
MONP Monument Peak 42.74 96 P **P 06 04 43.0 +1.3**
baz=43,SNR=177
G25A Newell 42.79 72 P **P 06 04 41.6 -0.1**
baz=43,SNR=168
D27A Center 42.79 69 P **P 06 04 41.8 +0.1**
baz=43,SNR=47
BC3 Big Chuckawall 42.80 94 P **P 06 04 42.5 +0.6**
baz=43,SNR=124
CBKC Canebrake 42.84 96 *e*P **P 06 04 43.1 +0.9**
F26A Lodgepole 42.84 71 P **P 06 04 42.4 +0.3**
baz=43,SNR=222
I24A Kuemmerle Ranc 42.86 75 P **P 06 04 42.2 -0.1**
baz=43,SNR=65
HIA Hailar 42.86 295 *e*P **P 06 04 42.8 +0.6**
HIA pmax pmax
comp=Z,478nm,1.7s
HIA MLR MLR
comp=Z,142µm,21.0s
HIA Hailar 42.86 295 *e*P **P 06 04 42.8 +0.6**
comp=Z,478nm,1.7s
HIA LR LR
comp=Z,142µm,21.0s
K23A Bowen Ranch, D 42.92 77 P **P 06 04 42.8 -0.1**
baz=43,SNR=135
O20A White River Ci 42.95 82 P **P 06 04 43.7 +0.5**
baz=43,SNR=1000
O20A White River Ci 42.95 82 *e*P **P 06 04 43.0 -0.2**
O20A *e*PcP **PcP 06 06 32.4 -1.1**
O20A *e*S **S 06 11 05.5 -1.6**
H25A Fruitdale 43.01 73 P **P 06 04 43.4 -0.1**
baz=43,SNR=349
CRR Carrizo Plain 43.02 96 *e*P **P 06 04 44.4 +0.8**
RSSD Black Hills 43.05 74 *e*P **P 06 04 43.3 -0.7**
RSSD *e* 06 06 34.5
RSSD Black Hills 43.05 74 *e*P **P 06 04 43.3 -0.7**
RSSD *e*PcP **PcP 06 06 34.5 +0.8**
A29A Manning Farm, 43.08 66 P **P 06 04 43.9 -0.1**
baz=43,SNR=346
SWSC Sam W. Stewart 43.09 95 P **P 06 04 45.1 +1.0**
baz=43,SNR=101
C28A Hausauer Farms 43.10 68 P **P 06 04 44.7 +0.6**
baz=43,SNR=107
IBP Imperial Bould 43.10 96 P **P 06 04 45.5 +1.2**
baz=43,SNR=44
J24A Dixon Ranch, L 43.15 75 P **P 06 04 44.6 -0.1**
baz=43,SNR=98
E27A Carson 43.15 70 P **P 06 04 44.8 +0.2**
baz=43,SNR=184
PDMCI Parker Dam,Lak 43.16 93 P **P 06 04 45.8 +1.1**
baz=43,SNR=238
G26A Maurine 43.20 72 P **P 06 04 45.4 +0.4**
baz=43,SNR=189
F27A Lemoon 43.21 71 P **P 06 04 45.2 +0.1**
baz=43,SNR=177
YUH Yuha Desert 43.21 96 *e*P **P 06 04 45.8 +0.6**
B29A Wagenman Farm, 43.26 66 P **P 06 04 45.5 +0.1**
baz=43,SNR=93
I25A Rochford 43.28 74 P **P 06 04 45.5 -0.3**
baz=43,SNR=138
D28A Regan 43.29 68 P **P 06 04 46.2 +0.6**
baz=43,SNR=149
Y12C Blythe 43.30 93 P **P 06 04 46.6 +0.8**
baz=43,SNR=243
K24A Anderson Ranch 43.42 76 P **P 06 04 46.8 -0.1**
baz=43,SNR=25
PV09 Paradox Valley 43.44 84 *e*P **P 06 04 47.0 -0.3**
MDND Maddock 43.47 67 P **P 06 04 47.3 +0.2**
baz=43,SNR=148
MDND Maddock 43.47 67 *e*P **P 06 04 46.9 -0.2**
MDND *e*S **S 06 11 14.2 +0.1**
H26A Fairpoint 43.49 73 P **P 06 04 47.1 -0.3**
baz=43,SNR=183
G27A Dupree 43.54 71 P **P 06 04 47.5 -0.2**
baz=43,SNR=355
E28A Huff 43.56 69 P **P 06 04 48.3 +0.4**
baz=43,SNR=142
PV10 Paradox Valley 43.57 84 *e*P **P 06 04 48.6 +0.3**
A30A Hoffart Farm, 43.59 65 P **P 06 04 47.3 -0.7**
baz=43,SNR=121
GLA Glamis 43.59 94 *e*P **P 06 04 48.7 +0.4**
GLA *e* 06 06 38.7
GLA Glamis 43.59 94 P **P 06 04 49.6 +1.3**
baz=44,SNR=143
GLA Glamis 43.59 94 *e*P **P 06 04 48.7 +0.4**
GLA *e*PcP **PcP 06 06 38.7 +3.2**
J25A Sunshine Ranch 43.62 75 P **P 06 04 47.9 -0.6**
baz=44,SNR=52
PV04 Paradox Valley 43.64 84 *e*P **P 06 04 49.1 +0.3**
PV04 *e* 06 06 32.9
PV05 Paradox Valley 43.73 84 *e*P **P 06 04 49.6 0.0**
CBlJ Chichi jima 43.78 253 P **P 06 04 49.4 -0.4**
JCJ Chichijima 43.78 253 P **P 06 04 49.4 -0.4**
comp=Z,246nm,0.6s,baz=328,slow=7.7,SNR=17
JCJ LR LR 06 20 23.3
comp=Z,40µm,21.6s,baz=46,slow=32
I26A New Underwood 43.79 74 P **P 06 04 49.9 +0.2**
baz=44,SNR=86
B30A Myrvik Farm, E 43.84 66 P **P 06 04 50.1 +0.1**
baz=44,SNR=240
N23A Red Feather La 43.86 79 P **P 06 04 51.1 +0.5**
baz=44,SNR=253
N23A Red Feather La 43.86 79 *e*P **P 06 04 50.2 -0.3**
comp=Z,768nm,1.3s
H27A Howes 43.89 72 P **P 06 04 50.6 +0.1**
baz=44,SNR=86
PHWY Pilot Hill 43.90 78 *e*P **P 06 04 50.2 -0.7**
PHWY *e*S **S 06 11 22.5 +1.4**

D29A **Pettibone, Tap** 43.91 68 P P 06 04 50.8 +0.1
baz=44,SNR=29
F28A **McLaughlin** 43.92 70 P P 06 04 50.9 +0.1
baz=44,SNR=208
PV01 **Paradox Valley** 44.01 84 eP P 06 04 51.7 -0.1
comp=Z,952nm,0.4s
WUAZ **Wupatki** 44.02 89 P P 06 04 53.4 +1.6
baz=44,SNR=757
WUAZ **Wupatki** 44.02 89 eP P 06 04 52.6 +0.7
WUAZ eS S 06 11 26.3 +3.5
WUAZ LR LR
comp=Z,35µm,21.0s
K25A **Mack Ranch, Ha** 44.04 76 P P 06 04 51.9 0.0
baz=44,SNR=53
J26A **Sides Ranch, S** 44.09 74 P P 06 04 51.9 -0.3
baz=44,SNR=88
E29A **Napoleon** 44.16 69 P P 06 04 52.7 0.0
baz=44,SNR=34
C30A **Mose, Pekin** 44.17 67 P P 06 04 52.7 0.0
baz=44,SNR=81
ULM **Lac du Bonnet** 44.19 62 P P 06 04 52.5 -0.3
comp=Z,212nm,1.1s,baz=299,slow=9.0,SNR=98
ULM PcP PcP 06 06 37.5 +0.3
comp=Z,32nm,0.5s,baz=27,slow=4.5,SNR=5.2
ULM S S 06 11 22.8 -1.7
comp=Z,4.3nm,0.5s,baz=60,slow=20,SNR=5.2
ULM LR LR 06 23 20.1
comp=Z,80µm,21.2s,baz=326,slow=36
ULM **Lac du Bonnet** 44.19 62 P P 06 04 52.5 -0.3
ULM 06 06 37.5
ULM S S 06 11 22.8 -1.7
ULM pmax pmax
comp=Z,454nm,1.0s
ULM **Lac du Bonnet** 44.19 62 P P 06 04 52.5 -0.3
comp=Z,454nm,1.0s
ULM PcP PcP 06 06 37.5 +0.3
ULM S S 06 11 22.8 -1.7
KSSKC **Sokcho** 44.22 276 P P 06 04 53.8 +0.6
SNR=10
KSSKC **Sokcho** 44.22 276 P P 06 04 53.8 +0.6
SNR=10
I27A **Quinn** 44.23 73 P P 06 04 53.5 +0.2
baz=44,SNR=202
L25A **Engebretsen Ra** 44.26 76 P P 06 04 54.2 +0.6
baz=44,SNR=203
G28A **Parade** 44.30 71 P P 06 04 54.0 +0.2
baz=44,SNR=96
SMCO **Snowmass** 44.31 82 eP P 06 04 54.3 -0.1
comp=Z,209nm,0.8s
SMCO e 06 06 39.6
KSJMJ **Jumunjin** 44.34 276 P P 06 04 54.6 +0.5
SNR=12
KSJMJ **Jumunjin** 44.34 276 P P 06 04 54.6 +0.5
SNR=12
D30A **Buchanan** 44.36 68 P P 06 04 53.9 -0.3
baz=44,SNR=202
SEHB **SEOHWA** 44.39 277 P P 06 04 55.3 +0.7
SNR=7.4
SEHB **SEOHWA** 44.39 277 P P 06 04 55.3 +0.7
SNR=7.4
K26A **Motz Farm, Whi** 44.39 75 P P 06 04 54.1 -0.5
baz=44,SNR=52
H28A **Mission Ridge** 44.48 72 P P 06 04 55.0 -0.2
baz=44,SNR=57
F29A **Eureka** 44.48 70 P P 06 04 55.0 -0.2
baz=44,SNR=73
E30A **Jud** 44.62 68 P P 06 04 55.9 -0.4
baz=44,SNR=72
M25A **Palm-Egli Farm** 44.65 77 P P 06 04 57.7 +0.9
baz=44,SNR=263
MVCO **Mesa Verde** 44.65 85 P P 06 04 57.3 +0.3
baz=44,SNR=285
MVCO **Mesa Verde** 44.65 85 eP P 06 04 56.8 -0.1
MVCO LR LR
comp=Z,38µm,22.0s
KSIJA **INJE** 44.66 276 P P 06 04 57.3 +0.6
SNR=14
KSIJA **INJE** 44.66 276 P P 06 04 57.3 +0.6
SNR=14
CIT **Chita** 44.69 301 eP P 06 05 02.0 +5.1
CIT e 06 05 12.5
CIT e 06 05 18.1
CIT pmax pmax
comp=Z,437nm,3.1s
KSULJ **Uljin** 44.71 274 P P 06 04 57.8 +0.7
SNR=7.3
KSULJ **Uljin** 44.71 274 P P 06 04 57.8 +0.7
SNR=7.3
KSTBA **Taebaek** 44.71 275 P P 06 04 57.9 +0.7
SNR=24
KSTBA **Taebaek** 44.71 275 P P 06 04 57.9 +0.7
SNR=24
ISCO **Idaho Springs** 44.73 80 eP P 06 04 58.1 +0.4
ISCO e 06 06 41.5
ISCO eS S 06 11 33.2 -0.2
ISCO pmax pmax
comp=Z,421nm,0.5s
ISCO MLR MLR
comp=Z,91µm,19.0s
ISCO **Idaho Springs** 44.73 80 P P 06 04 58.3 +0.6
baz=45,SNR=234
ISCO **Idaho Springs** 44.73 80 eP P 06 04 58.1 +0.4
comp=Z,421nm,0.5s
ISCO e 06 06 41.5
ISCO eS S 06 11 33.2 -0.2
ISCO LR LR
comp=Z,91µm,19.0s
J27A **Elkhorn Farm,** 44.75 74 P P 06 04 57.6 +0.2
baz=45,SNR=122
I28A **Midland** 44.79 73 P P 06 04 57.8 +0.1
baz=45,SNR=336
G29A **Hoven** 44.80 70 P P 06 04 57.3 -0.5
baz=45,SNR=86
L26A **Underwood Farm** 44.86 76 P P 06 04 58.3 -0.1
baz=45,SNR=30
F30A **Leola** 44.94 69 P P 06 04 58.2 -0.6
baz=45,SNR=18
K27A **Flueckinger Fa** 44.95 75 P P 06 04 58.4 -0.7
baz=45,SNR=107
KSCWO **Cheorwon** 44.95 277 P P 06 04 60.0 +0.9
SNR=15
KSCWO **Cheorwon** 44.95 277 P P 06 04 60.0 +0.9
SNR=15
SNY **Shenyang** 44.96 284 ⇓P P 06 04 59.8 +0.8
SNY S S 06 11 32.5 -3.3
SNY sS sS 06 11 46.8 0.0
SNY PMZ
comp=Z,800nm,2.2s
SNY LN
comp=Z,86µm,20.7s
SNY LE
comp=Z,44µm,18.9s
SNY LZ
comp=Z,70µm,20.1s
H29A **Onida** 44.97 71 P P 06 04 59.2 +0.1
baz=45,SNR=192
KSCHC **Chuncheon** 44.97 276 P P 06 05 00.1 +0.9
SNR=12
KSCHC **Chuncheon** 44.97 276 P P 06 05 00.1 +0.9
SNR=12
J28A **Allard Ranch,** 45.09 73 P P 06 05 00.5 +0.3
baz=45,SNR=406
KSRS **Korea Array** 45.12 276 P P 06 04 59.3 -1.0
comp=Z,36nm,0.9s,baz=55,slow=7.5,SNR=59
KSRS PcP PcP 06 06 42.2 +1.7
comp=Z,42nm,0.9s,baz=57,slow=3.1,SNR=7.8
KSRS ScP ScP 06 10 30.9 -0.7
comp=Z,3.7nm,0.8s,baz=87,slow=4.5,SNR=3.6
KSRS LR LR 06 23 55.1
comp=Z,66µm,19.5s,baz=56,slow=36
KSAR **Wonju Array Be** 45.15 276 P P 06 04 59.3 -1.3
KSAR 06 06 42.3
KSAR **Wonju Array Be** 45.15 276 P P 06 04 59.3 -1.3
KSAR PcP PcP 06 06 42.2 +1.6
KSAR ScP ScP 06 10 30.9 -0.9
M26A **McRoberts Ranc** 45.17 77 P P 06 05 01.6 +0.7
baz=45,SNR=28
I29A **Vivian Onida** 45.28 72 P P 06 05 01.7 +0.1
baz=45,SNR=213
L27A **T5 Ranch, Ells** 45.28 75 P P 06 05 01.7 -0.1
baz=45,SNR=12
W18A **Petrified Fore** 45.28 88 P P 06 05 03.2 +1.2
baz=45,SNR=113
W18A **Petrified Fore** 45.28 88 eP P 06 05 02.7 +0.8
comp=Z,576nm,0.8s
G30A **Faulkton** 45.28 70 P P 06 05 01.5 -0.1
baz=45,SNR=159

AGMN **Agassiz Nation** 45.29 65 P P 06 05 00.9 -0.7
baz=45,SNR=448
AGMN **Agassiz Nation** 45.29 65 eP P 06 05 01.1 -0.4
AGMN eS S 06 11 39.5 -1.0
AGMN LR LR
comp=Z,71µm,22.0s
S22A **4UR Ranch, Cre** 45.31 83 P P 06 05 03.2 +0.9
baz=45,SNR=437
S22A **4UR Ranch, Cre** 45.31 83 eP P 06 05 02.8 +0.5
comp=Z,879nm,1.5s
K28A **Ten Mile Ranch** 45.45 74 P P 06 05 03.3 +0.3
baz=45,SNR=205
KSCHJ **Chungju** 45.46 275 P P 06 05 03.6 +0.5
SNR=13
KSCHJ **Chungju** 45.46 275 P P 06 05 03.6 +0.5
SNR=13
N26A **Koester Ranch,** 45.52 77 P P 06 05 04.6 +1.0
baz=45,SNR=43
KSICN **Icheon** 45.53 276 P P 06 05 04.2 +0.6
SNR=11
KSICN **Icheon** 45.53 276 P P 06 05 04.2 +0.6
SNR=11
Q24A **Divide** 45.54 81 P P 06 05 04.8 +0.7
baz=45,SNR=119
Q24A **Divide** 45.54 81 eP P 06 05 04.2 +0.1
comp=Z,188nm,1.0s
M27A **Reverse DX Ran** 45.58 76 P P 06 05 04.4 +0.3
baz=45,SNR=157
214A **Organ Pipe Nat** 45.58 94 P P 06 05 05.3 +1.1
baz=46,SNR=455
214A **Organ Pipe Nat** 45.58 94 eP P 06 05 04.6 +0.5
comp=Z,745nm,1.0s
214A ePP PP 06 06 50.9 +0.1
J29A **Okreek** 45.63 73 P P 06 05 04.3 -0.2
baz=46,SNR=808
KSSAJ **Sangju** 45.66 275 P P 06 05 05.2 +0.5
SNR=10
KSSAJ **Sangju** 45.66 275 P P 06 05 05.2 +0.5
SNR=10
KSSEO **Seoul** 45.70 277 P P 06 05 05.6 +0.7
SNR=9.1
KSSEO **Seoul** 45.70 277 P P 06 05 05.6 +0.7
SNR=9.1
L28A **Connealy Angus** 45.79 75 P P 06 05 05.8 +0.1
baz=46,SNR=8.5
KSBON **Boeun** 45.81 275 P P 06 05 06.5 +0.6
SNR=18
KSSWO **Suwon** 45.81 277 P P 06 05 06.6 +0.7
SNR=6.9
O26A **Horse Wrangler** 45.83 78 P P 06 05 06.8 +0.6
baz=46,SNR=152
KSGAH **Ganghwa** 45.84 277 P P 06 05 06.6 +0.6
SNR=6.3
I30A **Oacoma** 45.85 72 P P 06 05 05.9 -0.2
baz=46,SNR=47
INCN **Inchon** 45.88 277 eP P 06 05 05.8 -0.6
comp=Z,151nm,0.8s
INCN eScP ScP 06 10 36.1 +1.4
INCN LR LR
comp=Z,52µm,20.0s
KSCPR **CHUPUNGNYEONG** 45.89 275 P P 06 05 07.4 +0.8
SNR=18
KSCPR **CHUPUNGNYEONG** 45.89 275 P P 06 05 07.3 +0.8
SNR=11
N27A **Anderson Farm,** 45.94 77 P P 06 05 07.7 +0.7
baz=46,SNR=203
K29A **Lazy Trails An** 46.03 73 P P 06 05 07.9 +0.3
baz=46,SNR=122
SDCO **Great Sand Dun** 46.12 82 P P 06 05 09.0 +0.4
baz=46,SNR=886
SDCO **Great Sand Dun** 46.12 82 eP P 06 05 09.0 +0.4
SDCO eS S 06 11 54.7 +1.4
SDCO LR LR
comp=Z,29µm,20.0s
OGNE **Ogallala** 46.15 76 P P 06 05 09.0 +0.4
baz=46,SNR=216
OGNE **Ogallala** 46.15 76 eP P 06 05 08.8 +0.2
comp=Z,939nm,0.9s
OGNE eS S 06 11 52.4 -0.9
OGNE LR LR
comp=Z,54µm,21.0s
TJN **Taejon** 46.16 275 *c* iP P 06 05 08.6 0.0
KSTEJ **Daejeon** 46.16 275 P P 06 05 09.4 +0.8
SNR=12
J30A **Dallas** 46.17 72 P P 06 05 08.7 +0.1
baz=45,SNR=280
JNU **Nakatsue** 46.22 269 P P 06 05 09.1 -0.1
comp=Z,91nm,0.8s,baz=34,slow=6.5,SNR=31
JNU S S 06 11 53.4 -0.9
comp=Z,2.9nm,0.7s,baz=273,slow=17,SNR=1.4
JNU LR LR 06 23 26.9
comp=Z,81µm,21.2s,baz=50,slow=35
JNU **Nakatsue** 46.22 269 P P 06 05 09.1 -0.1
comp=Z,22nm,1.0s
JNU S S 06 11 53.4 -0.9
JNU eS S 06 11 55.4 +1.0
KSKOJ **Gongju** 46.23 276 P P 06 05 09.7 +0.5
SNR=12
P26A **Davis Ranch, A** 46.24 79 P P 06 05 10.3 +0.9
baz=46,SNR=790
M28A **Bar X Bar Ranc** 46.26 76 P P 06 05 09.8 +0.3
baz=46,SNR=92
O27A **Beecher Island** 46.36 78 P P 06 05 10.6 +0.4
baz=46,SNR=120
L29A **Maesberg Ranch** 46.37 74 P P 06 05 10.2 -0.1
baz=46,SNR=18
K30A **Basset** 46.49 73 P P 06 05 11.4 +0.2
baz=46,SNR=190
Q26A **Hugo** 46.55 80 P P 06 05 12.7 +0.9
baz=46,SNR=150
TUC **Tucson** 46.56 92 eP P 06 05 12.9 +1.0
TUC e 06 07 02.6
TUC eS S 06 12 01.1 +1.7
TUC pmax pmax
comp=Z,531nm,1.0s
TUC MLR MLR
comp=Z,47µm,20.0s
TUC **Tucson** 46.56 92 eP P 06 05 12.9 +1.0
comp=Z,531nm,1.0s
TUC ePP PP 06 07 02.6 +1.2
TUC eS S 06 12 01.1 +1.7
TUC LR LR
comp=Z,47µm,20.0s
KSJIN **Jinju** 46.56 274 P P 06 05 12.7 +0.9
SNR=10
N28A **Pribbeno Ranch** 46.60 76 P P 06 05 12.6 +0.5
baz=46,SNR=58
M29A **Burnside Ranch** 46.63 75 P P 06 05 12.2 -0.2
baz=46,SNR=78
P27A **Ficken Ranch,** 46.70 78 P P 06 05 13.4 +0.4
baz=47,SNR=150
KSGUS **GUNSAN** 46.74 275 P P 06 05 13.7 +0.6
SNR=7.5
O28A **Krutsinger Ran** 46.82 77 P P 06 05 14.0 +0.1
baz=47,SNR=201
KSNAH **Namhae** 46.86 273 P P 06 05 14.9 +0.8
SNR=9.8
L30A **Spencer Herefo** 46.88 74 P P 06 05 14.4 +0.1
baz=47,SNR=61
R26A **Arlington** 46.99 80 P P 06 05 15.9 +0.7
baz=47,SNR=636
KSJEU **Jeongeup** 47.01 275 P P 06 05 16.2 +0.9
SNR=10
KSCO **Kaye Shedlock'** 47.02 79 P P 06 05 16.3 +0.8
baz=47,SNR=246
KSCO **Kaye Shedlock'** 47.02 79 eP P 06 05 15.7 +0.1
comp=Z,628nm,0.7s
M30A **Dale-Ortello V** 47.05 74 P P 06 05 15.4 -0.2
baz=47,SNR=11
N29A **Votaw Ranch, W** 47.06 76 P P 06 05 15.8 +0.1
baz=47,SNR=78
T25A **Trinidad** 47.17 82 P P 06 05 17.7 +0.9
baz=47,SNR=874
T25A **Trinidad** 47.17 82 eP P 06 05 17.0 +0.2
comp=Z,624nm,0.8s
P28A **Saint Francis** 47.18 78 P P 06 05 17.3 +0.6
baz=47,SNR=208
KSKWJ **Gwangju** 47.20 274 P P 06 05 17.4 +0.6
SNR=9.4
L31A **Butterfield Fa** 47.25 73 P P 06 05 17.2 +0.1
baz=47,SNR=66
LAZ **Ladron** 47.34 87 eP P 06 05 19.1 +0.9
comp=Z,244nm,0.8s
N30A **Hueftle Ranch,** 47.38 75 P P 06 05 18.3 +0.1
baz=47,SNR=23
R27A **Eads** 47.39 80 P P 06 05 19.2 +0.8
baz=47,SNR=365
ANMO **Albuquerque** 47.39 86 P P 06 05 19.1 +0.6
comp=Z,104nm,1.0s,baz=316,slow=8.4,SNR=178
ANMO PcP PcP 06 06 50.3 +1.4
comp=Z,129nm,1.0s,baz=280,slow=3.4,SNR=6.0
ANMO LR LR 06 22 18.1
comp=Z,52µm,21.2s,baz=320,slow=32
ANMO **Albuquerque** 47.39 86 *d* iP P 06 05 18.6 +0.1
ANMO pmax pmax
comp=Z,1µm,1.7s
ANMO MLR MLR
comp=Z,224µm,17.0s
ANMO **Albuquerque** 47.39 86 eP P 06 05 19.1 +0.6
ANMO PcP PcP 06 06 50.3 +1.4
ANMO ePcP PcP 06 06 51.2 +2.3
ANMO eS S 06 12 14.6 +3.2
O29A **4D Ranch, Culb** 47.40 77 P P 06 05 18.6 +0.3
baz=47,SNR=200
S26A **Kim** 47.42 81 P P 06 05 18.9 +0.3
baz=47,SNR=660
Q28A **Sharon Springs** 47.46 78 P P 06 05 19.6 +0.7
baz=47,SNR=183
ECSD **EROS Data Cent** 47.57 70 P P 06 05 18.3 -1.3
baz=47,SNR=384
ECSD **EROS Data Cent** 47.57 70 eP P 06 05 18.1 -1.5
comp=Z,326nm,0.8s
ECSD LR LR
comp=Z,63µm,19.0s
LENM **Lemitar** 47.60 87 eP P 06 05 20.9 +0.7
comp=Z,558nm,1.2s
T26A **Comanche Natio** 47.64 81 P P 06 05 20.7 +0.3
baz=48,SNR=312
P29A **Atwood** 47.65 77 P P 06 05 20.9 +0.5
baz=48,SNR=168
M31A **Lambtecht Ranc** 47.69 74 P P 06 05 20.2 -0.4
baz=48,SNR=54
Y22D **IRIS PASSCAL I** 47.70 87 P P 06 05 22.6 +1.8
baz=48,SNR=105
LPM **Los Pinos Moun** 47.71 87 eP P 06 05 21.6 +0.6
comp=Z,218nm,0.8s
S27A **Las Animas** 47.72 80 P P 06 05 21.4 +0.4
baz=48,SNR=10
O30A **MW Ranch, Wils** 47.80 76 P P 06 05 21.8 +0.4
baz=48,SNR=89
BNM **Barren Site** 47.82 87 eP P 06 05 22.3 +0.4
EYMN **Ely** 47.87 63 P P 06 05 21.2 -0.6
baz=48,SNR=112
EYMN **Ely** 47.87 63 eP P 06 05 21.2 -0.6
EYMN ePP PP 06 07 21.1 +7.6
EYMN eS S 06 12 16.2 -1.3
EYMN LR LR
comp=Z,70µm,22.0s
R28A **Tribune** 47.94 79 P P 06 05 23.2 +0.6
baz=48,SNR=290
DL2 **Dalian** 47.95 282 ⇑P P 06 05 22.0 -0.5
DL2 S S 06 12 19.4 +0.6
DL2 PMZ
comp=Z,110nm,1.1s
DL2 PMZ
comp=Z,3µm,6.6s
DL2 LN
comp=Z,25µm,16.5s
DL2 LE
comp=Z,28µm,17.9s
DL2 LZ
comp=Z,41µm,18.9s
N31A **Bailey Ranch,** 48.04 75 P P 06 05 23.3 0.0
baz=48,SNR=34
Q29A **Oakley** 48.08 78 P P 06 05 24.0 +0.3
baz=48,SNR=170
P30A **Selden** 48.09 77 P P 06 05 24.3 +0.5
baz=48,SNR=337
BGNE **Belgrade** 48.14 73 P P 06 05 23.7 -0.2
baz=48,SNR=55
BGNE **Belgrade** 48.14 73 eP P 06 05 23.8 -0.2
BGNE eS S 06 12 20.4 -1.1
L33A **Hoskins** 48.17 72 P P 06 05 23.4 -0.8
baz=48,SNR=18
121A **Cookes Peak, D** 48.23 89 P P 06 05 26.3 +1.3
baz=48,SNR=497
121A **Cookes Peak, D** 48.23 89 eP P 06 05 25.6 +0.6
comp=Z,663nm,0.8s
T27A **Campo** 48.23 81 P P 06 05 25.0 +0.1
baz=48,SNR=85
O31A **Woolen Ranch,** 48.25 76 P P 06 05 25.0 +0.2
baz=48,SNR=65
R29A **Marienthal** 48.29 78 P P 06 05 25.6 +0.3
baz=48,SNR=167
S28A **Manter** 48.38 80 P P 06 05 26.7 +0.7
baz=48,SNR=306
N32A **Stulken Farm,** 48.46 74 P P 06 05 26.3 -0.2
baz=48,SNR=47
Q30A **Quinter** 48.47 77 P P 06 05 27.2 +0.6
baz=48,SNR=41
KBS **Kingsbay** 48.58 360 eP P 06 05 28.3 +1.4
KBS eS S 06 12 29.9 +3.1
KBS IAMs_20 IAMs_20 06 26 06.7
comp=Z,338µm,19.2s
KBS **Kingsbay** 48.58 360 eP P 06 05 26.6 -0.2
KBS pmax pmax
comp=Z,134nm,0.8s
KBS MLR MLR
comp=Z,85µm,20.0s
KBS **Kingsbay** 48.58 360 eP P 06 05 26.6 -0.2
comp=Z,134nm,0.8s
KBS LR LR
comp=Z,85µm,20.0s
M33A **Taylor Creek F** 48.59 73 P P 06 05 26.7 -0.8
baz=48,SNR=16
U27A **Thompson Grove** 48.60 82 P P 06 05 28.1 +0.4
baz=48,SNR=302
P31A **Stockton** 48.62 76 P P 06 05 27.8 0.0
baz=48,SNR=102
O32A **Brockman Farm,** 48.79 75 P P 06 05 28.6 -0.5
baz=49,SNR=18
SPMN **St. Paul** 48.80 66 P P 06 05 28.5 -0.5
baz=49,SNR=145
SPMN **St. Paul** 48.80 66 eP P 06 05 28.5 -0.5
SPMN eScP ScP 06 10 49.5 +2.5
SPMN eS S 06 12 29.3 -1.4
FRB **Frobisher Bay** 48.81 35 LR LR 06 28 12.9
comp=Z,207µm,18.6s,baz=303,slow=39
L34A **Svendsen Farm,** 48.81 72 P P 06 05 28.5 -0.7
baz=49,SNR=42
S29A **Ulysses** 48.83 79 P P 06 05 29.9 +0.5
baz=49,SNR=80
CBKS **Cedar Bluff** 48.87 77 eP P 06 05 29.6 -0.1
CBKS pmax pmax
comp=Z,751nm,0.8s
CBKS MLR MLR
comp=Z,56µm,19.0s
CBKS **Cedar Bluff** 48.87 77 P P 06 05 30.3 +0.6
baz=49,SNR=106
CBKS **Cedar Bluff** 48.87 77 eP P 06 05 29.6 -0.1
comp=Z,751nm,0.8s
CBKS LR LR
comp=Z,56µm,19.0s
R30A **Dighton** 48.89 78 P P 06 05 30.4 +0.5
baz=49,SNR=320
Q31A **Ellis** 48.95 77 P P 06 05 30.2 -0.1
baz=49,SNR=104
N33A **J Bar K, Exete** 48.97 74 P P 06 05 29.9 -0.5
baz=49,SNR=35
U28A **Mallet** 48.98 81 P P 06 05 30.8 +0.1
baz=49,SNR=88
M34A **Aspy Farms, Fr** 48.99 72 P P 06 05 30.1 -0.4
baz=49,SNR=12
P32A **Huitting Farm,** 49.01 76 P P 06 05 30.8 +0.1
baz=49,SNR=117
T29A **Hugoton** 49.03 80 P P 06 05 31.6 +0.6
baz=49,SNR=155
V27A **Dan Oppiter Fa** 49.03 82 P P 06 05 31.5 +0.4
baz=49,SNR=112
L35A **Bielow Farm, R** 49.20 71 P P 06 05 31.3 -0.8
baz=49,SNR=27
S30A **Montezuma** 49.20 79 P P 06 05 32.5 +0.2
baz=49,SNR=163
IRK **Irkutsk** 49.26 306 eP P 06 05 32.0 -0.5
IRK e 06 06 53.6
IRK pmax pmax
comp=Z,618nm,2.0s
SPA0 **Spitsbergen Ar** 49.28 358 eP P 06 05 31.3 -1.0
SPA0 eS S 06 12 36.4 -0.3
SPA0 IAMs_20 IAMs_20 06 26 30.8
comp=Z,134µm,20.5s
SPITS **Spitsbergen Ar** 49.28 358 LR LR 06 27 04.7
comp=Z,115µm,18.6s,baz=0,slow=37
O33A **Hebron** 49.32 74 P P 06 05 32.5 -0.6
baz=49,SNR=137

R31A Burdett 49.33 78 P P 06 05 33.5 +0.2
baz=49,SNR=233
V28A Channing 49.41 82 P P 06 05 34.1 +0.2
baz=49,SNR=21
DAG Danmarks Havn 49.45 8 *i* P P 06 05 32.5 -1.0
comp=Z,153nm,1.1s
comp=Z,101µm,19.0s
DAG Danmarks Havn 49.45 8 *i* P P 06 05 32.5 -1.0
DAG pmax pmax
comp=Z,190nm,1.1s
DAG MLR MLR
comp=Z,110µm,19.0s
Q32A Meitler Ranch, 49.45 76 P P 06 05 34.1 -0.1
baz=49,SNR=134
N34A Lincoln 49.46 73 P P 06 05 33.2 -1.0
baz=49,SNR=20
U29A Oasis Ranch, S 49.51 81 P P 06 05 34.8 +0.1
baz=49,SNR=56
M35A Neola 49.52 72 P P 06 05 34.2 -0.4
baz=49,SNR=70
T30A Plains 49.55 79 P P 06 05 35.1 +0.1
baz=49,SNR=59
P33A Williams Farm, 49.67 75 P P 06 05 35.3 -0.4
baz=50,SNR=39
R32A Long Quarter, 49.73 77 P P 06 05 36.2 0.0
baz=50,SNR=164
V29A Stinnett 49.75 81 P P 06 05 36.3 -0.2
baz=50
W28A Vega 49.75 82 P P 06 05 37.2 +0.7
baz=50,SNR=85
O34A Beatrice 49.77 74 P P 06 05 35.8 -0.7
baz=50,SNR=261
S31A Mullinville 49.80 78 P P 06 05 36.6 -0.3
baz=50,SNR=99
U30A WK&E Inc. Balk 49.83 80 P P 06 05 37.1 0.0
baz=50,SNR=315
Q33A Connelly Farm, 49.87 76 P P 06 05 37.0 -0.3
baz=50,SNR=120
TLY Talaya 49.91 306 P P 06 05 37.9 +0.5
comp=Z,42nm,0.9s,baz=30,slow=7.6,SNR=37
TLY ScP **ScP** 06 10 51.2 -0.4
comp=Z,10nm,0.8s,baz=240,slow=8.1,SNR=5.9
TLY LR LR 06 29 53.9
comp=Z,88µm,18.1s,baz=44,slow=40
TLY Talaya 49.91 306 *e* *i* P P 06 05 37.3 -0.2
TLY *e* 06 06 59.5
TLY *e* 06 07 38.9
TLY *e*S **S** 06 12 45.9 -0.3
TLY pmax pmax
comp=Z,267nm,1.3s
TLY MLR MLR
comp=Z,95µm,20.0s
TLY Talaya 49.91 306 P P 06 05 38.0 +0.5
comp=Z,852nm,1.3s,SNR=79
TLY Talaya 49.91 306 *e*P P 06 05 37.5 0.0
comp=Z,134nm,0.8s
TLY *e*PcP **PcP** 06 07 00.6 +3.1
TLY *e*PP PP 06 07 38.6 +6.6
TLY ScP **ScP** 06 10 51.2 -0.4
TLY *e*S S 06 12 52.5 +6.4
N35A Tabor 49.94 72 P P 06 05 37.7 -0.1
baz=50,SNR=155
S32A Newby Ranch, P 50.07 78 P P 06 05 38.5 -0.4
baz=50,SNR=17
P34A Walnut Farm, R 50.10 74 P P 06 05 38.2 -0.8
baz=50,SNR=43
O35A Humboldt 50.17 73 P P 06 05 38.5 -1.1
baz=50,SNR=33
W29A Amraillo 50.18 82 P P 06 05 39.8 +0.1
baz=50,SNR=36
R33A Olander Ranch, 50.23 76 P P 06 05 39.9 -0.2
baz=50,SNR=76
X28A Dimmitt 50.26 83 P P 06 05 40.1 -0.3
baz=50,SNR=130
MSTX Muleshoe 50.28 84 P P 06 05 40.9 +0.2
baz=50,SNR=328
MSTX Muleshoe 50.28 84 *e*P P 06 05 40.8 +0.2
comp=Z,757nm,1.1s
MSTX *e*S **S** 06 12 54.3 +2.3
V30A Spur Ranch, Mi 50.32 81 P P 06 05 40.6 -0.2
baz=50,SNR=31
ILULI Ilulissat 50.38 24 *i* P P 06 05 40.9 +0.2
U31A Nine Bar Ranch 50.41 80 P P 06 05 41.8 +0.3
baz=50,SNR=149
T32A Huddler Ranch, 50.42 78 P P 06 05 41.3 -0.2
baz=50,SNR=103
BJI Beijing 50.43 287 P P 06 05 41.1 -0.4
BJI S **S** 06 12 52.9 -0.6
BJI PMZ
comp=Z,52nm,0.8s
BJI LN
comp=Z,153µm,20.1s
BJI LE
comp=Z,89µm,18.7s
BJI LZ
comp=Z,92µm,24.3s
BJT Baijiatuau 50.45 287 *e*P P 06 05 41.2 -0.4
BJT pmax pmax
comp=Z,93nm,0.8s
BJT MLR MLR
comp=Z,88µm,21.0s
BJT Baijiatuau 50.45 287 *e*P P 06 05 41.1 -0.4
comp=Z,93nm,0.8s
BJT LR LR
comp=Z,88µm,21.0s
Q34A Chapman 50.45 75 P P 06 05 41.0 -0.7
baz=50,SNR=43
HSPB Hornsund (broa 50.47 358 *e*P P 06 05 43.3 +2.0
HSPB *e*S **S** 06 12 53.3 +0.1
HSPB IAMs_20 IAMs_20 06 27 17.3
comp=Z,139µm,19.0s
ULN Ulaanbaatar 50.53 300 PFAKE 06 05 50.0 +7.6
ULN LR LR
comp=Z,89µm,20.0s
P35A Duane Minner, 50.59 74 P P 06 05 42.1 -0.6
baz=50,SNR=141
X29A Tulia 50.60 83 P P 06 05 43.4 +0.3
baz=50,SNR=183
Y28A McKinney Farm, 50.64 84 P P 06 05 43.2 -0.1
baz=50,SNR=270
SCIA State Center 50.66 70 *e*P P 06 05 42.7 -0.6
comp=Z,705nm,1.0s
SCIA LR LR
comp=Z,80µm,20.0s
R34A Isabella, Hill 50.67 76 P P 06 05 43.0 -0.4
baz=50,SNR=80
S33A Kaszmaul Farm, 50.70 77 P P 06 05 43.0 -0.6
baz=50,SNR=41
W30A Crocket Farms 50.78 81 P P 06 05 44.6 +0.3
baz=51,SNR=52
O36A Bolckow 50.81 73 P P 06 05 43.5 -0.9
baz=51,SNR=39
V31A Spring Creek L 50.82 80 P P 06 05 44.8 +0.2
baz=51,SNR=176
SONM Songino Array 50.89 300 P P 06 05 45.3 +0.2
comp=Z,7.4nm,0.7s,baz=52,slow=8.9,SNR=23
SONM PcP **PcP** 06 07 01.7 +0.4
comp=Z,73nm,0.8s,baz=62,slow=2.2,SNR=12
SONM ScP **ScP** 06 10 55.5 -0.5
comp=Z,43nm,0.8s,baz=45,slow=3.2,SNR=23
SONM LR LR 06 30 05.9
comp=Z,82µm,18.2s,baz=52,slow=39
SONM P4KPbc 06 43 18.7
comp=Z,1.4nm,1.0s,baz=61,slow=3.0,SNR=5.5
T33A Patterson Ranc 50.90 78 P P 06 05 44.7 -0.3
baz=51,SNR=18
ZAK Zakamensk 50.90 305 *e*P P 06 05 44.7 -0.3
ZAK *e* 06 07 01.7
ZAK pmax pmax
comp=Z,108nm,1.3s
U32A Winter Ranch, 50.91 79 P P 06 05 45.4 +0.2
baz=51,SNR=57
Z28A Tucker Farm, M 50.98 84 P P 06 05 45.8 -0.1
baz=51,SNR=276
P36A Good Intent, A 51.00 73 P P 06 05 44.9 -1.0
baz=51,SNR=254
Q35A Mercer Eighty, 51.02 75 P P 06 05 44.7 -1.3
baz=51,SNR=51
Y29A Porterfield Fa 51.02 83 P P 06 05 46.4 +0.2
baz=51,SNR=293
X30A Coker Ranch, T 51.10 82 P P 06 05 46.8 +0.1
baz=51,SNR=96
S34A Willow Spring 51.15 76 P P 06 05 45.9 -1.1
baz=51,SNR=104
W31A Holland Ranch, 51.16 81 P P 06 05 47.2 +0.1
baz=51,SNR=227
MOY Mondy 51.22 307 *e*P P 06 05 47.8 +0.4

R35A Emporia Munici 51.28 75 P P 06 05 47.3 -0.7
baz=51,SNR=65
Q36A Arnold C. Orve 51.29 74 P P 06 05 46.9 -1.1
baz=51,SNR=35
V32A Arapaho 51.33 80 P P 06 05 48.7 +0.3
baz=51,SNR=65
128A Castleberry Fa 51.39 85 P P 06 05 49.5 +0.6
baz=51,SNR=602
U33A Lingo Farm, Me 51.41 78 P P 06 05 48.2 -0.7
baz=51,SNR=169
Z29A Hungry Hill Ra 51.41 84 P P 06 05 49.1 0.0
baz=51,SNR=702
Y30A Stafford Cattl 51.48 83 P P 06 05 49.8 +0.3
baz=51,SNR=222
X31A McDonald Ranch 51.51 81 P P 06 05 50.0 +0.3
baz=51,SNR=233
T34A McClaskey Farm 51.56 77 P P 06 05 49.5 -0.6
baz=51,SNR=294
XMAS Kiritimati 51.57 164 *e*P P 06 05 51.4 +1.2
comp=Z,409nm,1.3s
XMAS *e*PcP **PcP** 06 07 07.7 +3.7
XMAS LR LR
comp=Z,44µm,19.0s
W32A Sentinel 51.62 80 P P 06 05 51.1 +0.6
baz=52,SNR=197
S35A Otter Creek Ra 51.63 76 P P 06 05 50.0 -0.6
baz=52,SNR=204
228A UT Block 9, Go 51.67 86 P P 06 05 51.4 +0.3
baz=52,SNR=96
R36A Gordon, Harris 51.69 75 P P 06 05 50.3 -0.7
baz=52,SNR=262
JFWS Jewell Farm 51.69 67 *e*P P 06 05 49.5 -1.5
JFWS *e* 06 07 57.0
JFWS *e*S S 06 13 01.1 -10
JFWS MLR MLR
comp=Z,93µm,19.0s
JFWS Jewell Farm 51.69 67 *e*P P 06 05 49.5 -1.5
JFWS *e*PP PP 06 07 57.0 +8.7
JFWS *e*S S 06 13 01.1 -10
JFWS LR LR
comp=Z,93µm,19.0s
V33A Lossen Ranch, 51.72 79 P P 06 05 50.8 -0.4
baz=52,SNR=87
Z30A Sanderson Ranc 51.75 83 P P 06 05 51.9 +0.3
baz=52,SNR=477
U34A Anderson Ranch 51.75 78 P P 06 05 51.0 -0.4
baz=52,SNR=97
U34A Anderson Ranch 51.75 78 *e*P P 06 05 50.6 -0.9
comp=Z,659nm,0.8s
129A Stewart Farms, 51.75 85 P P 06 05 51.6 -0.1
baz=52
Y31A Rekieta Farm, 51.80 82 P P 06 05 52.0 0.0
baz=52,SNR=60
Q37A Longview Farm, 51.93 74 P P 06 05 51.6 -1.2
baz=52,SNR=79
T35A Sooner Cattle 52.03 77 P P 06 05 53.0 -0.6
baz=52,SNR=119
S36A Lake Cedric, C 52.03 75 P P 06 05 52.8 -0.8
baz=52,SNR=182
W33A Caddo, Fort Co 52.06 80 P P 06 05 54.6 +0.7
baz=52,SNR=211
X32A Elmer 52.07 81 P P 06 05 54.1 +0.1
baz=52,SNR=62
R37A Teagarden Farm 52.09 74 P P 06 05 52.5 -1.4
baz=52,SNR=63
SFJD Kangerlussuaq 52.13 26 *e*P P 06 05 53.3 -0.6
SFJD pmax pmax
comp=Z,79nm,0.9s
SFJD MLR MLR
comp=Z,109µm,19.0s
SFJD Kangerlussuaq 52.13 26 *e*P P 06 05 53.3 -0.6
comp=Z,80nm,0.9s
SFJD LR LR
comp=Z,109µm,19.0s
WMOK Wichita Mounta 52.16 80 *e*P P 06 05 54.5 -0.1
WMOK *e*S **S** 06 13 19.3 +1.6
WMOK pmax pmax
comp=Z,655nm,0.9s
WMOK MLR MLR
comp=Z,45µm,19.0s
WMOK Wichita Mounta 52.16 80 *e*P P 06 05 54.5 -0.1
comp=Z,655nm,0.9s
WMOK *e*S **S** 06 13 19.3 +1.6
WMOK LR LR
comp=Z,45µm,19.0s
V34A Guthrie 52.17 78 P P 06 05 54.3 -0.3
baz=52,SNR=289
V34A Guthrie 52.17 78 *e*P P 06 05 53.8 -0.9
comp=Z,474nm,0.8s
KRAR Krasnoyarsk 52.17 315 ⇑*i*P P 06 05 56.5 +2.2
KRAR pmax pmax
comp=Z,129nm,1.7s
KRAR MLR MLR
comp=Z,53µm,16.0s
229A Bryant Ranch, 52.25 85 P P 06 05 55.4 +0.1
baz=52,SNR=64
Y32A R-V Farms, Ver 52.27 82 P P 06 05 55.3 -0.1
baz=52,SNR=337
U35A Pawnee 52.27 77 P P 06 05 54.9 -0.5
baz=52,SNR=190
JOW Kunigami 52.27 266 *e*P P 06 05 55.8 +0.3
T36A Boggs Farm, Ca 52.31 76 P P 06 05 54.7 -1.0
baz=52,SNR=90
Z31A Sharp Cattle R 52.32 83 P P 06 05 55.7 -0.1
baz=52
130A Snyder 52.32 84 P P 06 05 56.3 +0.5
baz=52,SNR=140
TIA Tai'an 52.41 282 ⇓P P 06 05 56.4 0.0
TIA PcP **PcP** 06 07 08.9 +1.9
TIA S S 06 13 26.9 +5.8
TIA PMZ
comp=Z,70nm,1.0s
TIA PMZ
comp=Z,5µm,11.0s
TIA LN
comp=Z,43µm,19.0s
TIA LE
comp=Z,88µm,19.0s
TIA LZ
comp=Z,91µm,21.0s
W34A Bridge Creek, 52.42 79 P P 06 05 56.6 +0.1
baz=52,SNR=133
W34A Bridge Creek, 52.42 79 *e*P P 06 05 56.4 -0.1
W34A *e*PP **PP** 06 07 56.3 +1.2
W34A *e*S **S** 06 13 22.0 +0.7
S37A Fort Scott 52.46 75 P P 06 05 55.5 -1.3
baz=52,SNR=298
X33A Lawton 52.46 80 P P 06 05 57.0 +0.1
baz=52,SNR=109
329A Wagon Wheel Ra 52.48 86 P P 06 05 57.5 +0.4
baz=52
HHC Hu-ho-hao-te 52.55 290 ⇑P P 06 05 57.8 +0.3
HHC pP **pP** 06 06 03.3 -1.0
HHC PP PP 06 07 50.5 -5.8
HHC S **S** 06 13 21.0 -2.1
HHC ScS **ScS** 06 15 46.6 +0.7
HHC PMZ
comp=Z,3µm,8.6s
HHC LN
comp=Z,100µm,21.0s
HHC LE
comp=Z,107µm,19.7s
HHC LZ
comp=Z,98µm,23.4s
131A Roby 52.62 83 P P 06 05 57.9 -0.2
baz=52,SNR=129
V35A Meyer Ranch, C 52.62 78 P P 06 05 57.5 -0.4
baz=52,SNR=218
Z32A Haskell 52.73 82 P P 06 05 58.7 -0.1
baz=53,SNR=922
230A Sterling City 52.73 85 P P 06 05 58.7 -0.1
baz=53,SNR=342
Y33A Hilltop Ranch, 52.76 81 P P 06 05 59.0 0.0
baz=53,SNR=39
LPIG La Paz 52.80 99 LR LR 06 25 11.4
comp=Z,19µm,18.7s,baz=320,slow=32
X34A Smith Ranch, M 52.82 80 P P 06 05 59.6 +0.1
baz=53,SNR=144
T37A Cheneyville 18 52.84 76 P P 06 05 58.5 -1.0
baz=53,SNR=287
U36A Oologah 52.85 77 P P 06 05 58.9 -0.7
baz=53,SNR=12
BJO Bjornoya 52.88 357 *e*P P 06 05 56.2 -3.1
BJO *e*S **S** 06 13 29.9 +3.4
BJO IAMs_20 IAMs_20 06 30 54.5
comp=Z,73µm,19.8s
TXAR Lajitas Array 52.99 89 P P 06 06 00.7 -0.2
comp=Z,642nm,0.8s,baz=304,slow=4.1,SNR=1080
TXAR PKPPKP **P'P'df** 06 36 26.9 -1.6
comp=Z,2.4nm,0.9s,baz=72,slow=5.8,SNR=6.0
TXAR PKP2bc 06 36 43.5
comp=Z,2.8nm,1.0s,baz=150,slow=2.7,SNR=3.9
TXAR P4KPbc 06 43 27.2
comp=Z,1.0nm,0.8s,baz=292,slow=2.8,SNR=12
W35A Tecumseh 53.02 79 P P 06 06 00.6 -0.3
baz=53,SNR=243
330A Mertzon 53.03 85 P P 06 06 01.1 0.0
baz=53,SNR=226
GUMO Guam 53.08 240 P P 06 06 00.1 -1.4
comp=Z,318nm,0.6s,baz=158,slow=6.6,SNR=19
GUMO LR LR 06 25 05.3
comp=Z,36µm,21.8s,baz=54,slow=32
GUMO Guam 53.08 240 *e*P P 06 06 00.8 -0.7
comp=Z,819nm,0.9s
ABTX Abilene, Hawle 53.10 83 P P 06 06 01.9 +0.3
baz=53,SNR=166
ABTX Abilene, Hawle 53.10 83 *e*P P 06 06 01.6 0.0
comp=Z,1µm,1.3s
ABTX *e*S **S** 06 13 31.5 +0.9
V36A Jenks 53.14 77 P P 06 06 01.1 -0.7
baz=53,SNR=133
TUL1 Tulsa 53.14 77 P P 06 06 01.2 -0.6
baz=53,SNR=131
TUL1 Tulsa 53.14 77 *e*P P 06 06 00.8 -1.0
comp=Z,405nm,1.1s
429A Davenport Ranc 53.15 86 P P 06 06 02.1 +0.2
baz=53,SNR=572
Z33A Whitaker Ranch 53.17 82 P P 06 06 02.0 -0.1
baz=53,SNR=443
231A Bronte 53.18 84 P P 06 06 01.6 -0.5
baz=53,SNR=178
U37A Salina 53.20 76 P P 06 06 01.3 -1.0
baz=53,SNR=266
TARA Tarawa 53.22 202 *e*P P 06 06 03.2 +0.7
TARA LR LR
comp=Z,50µm,19.0s
529A Stev Forest Ra 53.30 87 P P 06 06 03.7 +0.6
baz=53,SNR=163
Y34A Reagan Ranch, 53.31 80 P P 06 06 03.1 0.0
baz=53,SNR=362
SLBS Sierra La Lagu 53.33 99 *e*P P 06 06 03.7 +0.3
comp=Z,462nm,0.9s
W36A Wetumka 53.41 78 P P 06 06 03.6 -0.2
baz=53,SNR=151
430A Baggett Ranch, 53.43 86 P P 06 06 04.3 +0.3
baz=53,SNR=776
X35A Drake 53.47 79 P P 06 06 04.3 0.0
baz=53,SNR=157
SSE Sheshan 53.52 275 P P 06 06 04.3 -0.3
SSE S **S** 06 13 35.8 -0.3
SSE sS **sS** 06 13 42.5 -4.8
SSE PMZ
comp=Z,170nm,1.1s
SSE PMZ
comp=Z,5µm,11.5s
SSE LN
comp=Z,50µm,24.6s
SSE LE
comp=Z,43µm,24.6s
SSE LZ
comp=Z,55µm,23.0s
GLMI Grayling 53.53 62 *e*P P 06 06 04.2 -0.4
comp=Z,1µm,1.1s
GLMI LR LR
comp=Z,92µm,19.0s
V37A Hulbert 53.55 77 P P 06 06 03.9 -0.8
baz=53,SNR=72
133A Hamilton Ranch 53.55 82 P P 06 06 05.3 +0.5
baz=53,SNR=647
331A San Angelo 53.55 85 P P 06 06 04.9 0.0
baz=53,SNR=440
BTO Baotou 53.59 291 *e*P P 06 06 04.4 -0.8
BTO S **S** 06 13 38.6 +1.4
U38A Gravette 53.61 76 P P 06 06 04.3 -1.0
baz=54,SNR=161
232A Coleman 53.62 84 P P 06 06 05.5 +0.1
baz=54,SNR=281
Z34A Collier Ranch, 53.62 81 P P 06 06 05.4 0.0
baz=54,SNR=504
X36A Centrahoma 53.73 79 P P 06 06 06.3 +0.2
baz=54,SNR=199
Y35A Marietta 53.78 80 P P 06 06 07.0 +0.5
baz=54,SNR=254
HDIL Hopedale 53.78 69 P P 06 06 05.3 -1.1
baz=54,SNR=204
HDIL Hopedale 53.78 69 *e*P P 06 06 05.1 -1.3
HDIL *e*S **S** 06 13 36.0 -3.5
HDIL LR LR
comp=Z,57µm,21.0s
530A J-C Ranch, Com 53.82 86 P P 06 06 07.5 +0.6
baz=54,SNR=1000
431A Sonora 53.88 85 P P 06 06 07.2 -0.2
baz=54,SNR=1000
W37A Quinton 53.89 78 P P 06 06 07.6 +0.3
baz=54,SNR=222
332A Millersview 53.91 84 P P 06 06 07.7 +0.1
baz=54
233A Rising Star 53.97 83 P P 06 06 08.0 0.0
baz=54,SNR=863
V38A Canehill 53.99 76 P P 06 06 07.4 -0.6
baz=54,SNR=252
Z35A Perchaven, San 54.05 81 P P 06 06 08.5 +0.1
baz=54,SNR=107
134A White-Moore Ra 54.08 82 P P 06 06 09.3 +0.6
baz=54,SNR=473
TIY Taiyuan 54.15 287 *e*P P 06 06 13.3 +4.0
TIY S **S** 06 13 48.3 +3.5
TIY PMZ
comp=Z,220nm,1.6s
TIY LN
comp=Z,83µm,16.1s
TIY LE
comp=Z,17µm,16.2s
TIY LZ
comp=Z,63µm,18.6s
Y36A Durant 54.23 79 P P 06 06 10.1 +0.3
baz=54,SNR=248
432A Menard 54.24 85 P P 06 06 09.9 -0.1
baz=54,SNR=307
NJ2 Nanjing 54.25 277 *e*P P 06 06 09.6 -0.3
NJ2 pP **pP** 06 06 13.3 -3.4
NJ2 sP **sP** 06 06 15.1 -4.2
NJ2 ScP **ScP** 06 11 11.8 +1.1
NJ2 S **S** 06 13 44.5 -1.6
NJ2 sS sS 06 13 51.0 -6.2
NJ2 PMZ
comp=Z,190nm,1.2s
NJ2 PMZ
comp=Z,8µm,7.1s
NJ2 LN
comp=Z,116µm,25.1s
NJ2 LE
comp=Z,168µm,23.5s
NJ2 LZ
comp=Z,130µm,22.6s
531A Rocksprings 54.29 86 P P 06 06 10.1 -0.2
baz=54,SNR=373
X37A Clayton 54.30 78 P P 06 06 10.4 +0.1
baz=54,SNR=507
333A Richland Sprin 54.41 84 P P 06 06 11.1 -0.1
baz=54,SNR=596
234A Clairette 54.44 82 P P 06 06 11.9 +0.5
baz=54,SNR=433
W38A Poteau 54.47 77 P P 06 06 11.2 -0.3
baz=54,SNR=260
135A Vickery Place, 54.49 81 P P 06 06 12.2 +0.5
baz=54,SNR=200
JCT Junction City 54.52 85 *e*P P 06 06 11.3 -0.7
JCT *e*S **S** 06 13 46.9 -2.9
JCT MLR MLR
comp=Z,49µm,19.0s
JCT Junction City 54.52 85 P P 06 06 11.8 -0.2
baz=54,SNR=342
JCT Junction City 54.52 85 *e*P P 06 06 11.3 -0.7
JCT *e*S **S** 06 13 46.9 -2.9
JCT LR LR
comp=Z,49µm,19.0s
SLM Saint Louis 54.53 71 *e*P P 06 06 11.4 -0.5
SLM pmax pmax
comp=Z,894nm,1.3s
SLM Saint Louis 54.53 71 *e*P P 06 06 11.4 -0.5
comp=Z,894nm,1.3s
X38A Whitesboro 54.56 78 P P 06 06 12.6 +0.3
baz=54,SNR=140

Y37A	**Hugo**	54.57	79	P		P	06 06 12.5	+0.3
	baz=54,SNR=105							
Z36A	**Blue Ridge**	54.58	80	P		P	06 06 12.3	-0.1
	baz=54,SNR=213							
532A	**Rocksprings**	54.70	85	P		P	06 06 12.8	-0.6
	baz=55,SNR=192							
433A	**Art**	54.75	84	P		P	06 06 13.3	-0.3
	baz=55,SNR=21							
631A	**Perdido Creek**	54.81	86	P		P	06 06 13.6	-0.5
	baz=55,SNR=379							
334A	**Lometa**	54.86	83	P		P	06 06 14.8	+0.4
	baz=55,SNR=1000							
WHTX	**Lake Whitney**	54.86	82	P		P	06 06 14.8	+0.4
	baz=55,SNR=278							
WHTX	**Lake Whitney**	54.86	82	*e*P		P	06 06 14.6	+0.1
	comp=Z,274nm,0.5s							
SCO	**Scoresbysund**	54.90	13	*i* P		P	06 06 13.9	-0.2
	comp=Z,58nm,0.9s							
SCO	**Scoresbysund**	54.90	13	*i* P		P	06 06 13.9	-0.2
SCO				pmax		pmax		
	comp=Z,58nm,0.9s							
SCO				MLR		MLR		
	comp=Z,120µm,18.0s							
136A	**Ennis**	55.08	81	P		P	06 06 15.9	0.0
	baz=55,SNR=78							
Z37A	**Pogue Cattle C**	55.12	80	P		P	06 06 16.0	-0.2
	baz=55,SNR=92							
SFIN	**Scholer Farm**	55.14	67	P		P	06 06 15.6	-0.7
	baz=55,SNR=114							
SFIN	**Scholer Farm**	55.14	67	*e*P		P	06 06 15.0	-1.3
	comp=Z,1µm,1.3s							
Y38A	**Idabel**	55.14	78	P		P	06 06 15.9	-0.5
	baz=55,SNR=154							
434A	**Burnet**	55.20	83	P		P	06 06 17.1	+0.1
	baz=55,SNR=758							
632A	**Uvalde**	55.22	86	P		P	06 06 16.6	-0.4
	baz=55,SNR=370							
533A	**Kerrville**	55.27	85	P		P	06 06 17.2	-0.2
	baz=55,SNR=124							
SCHQ	**Schefferville**	55.33	43	P		P	06 06 16.5	-0.9
	comp=Z,86nm,1.1s,baz=46,slow=5.6,SNR=31							
SCHQ				LR		LR	06 31 14.7	
	comp=Z,91µm,18.2s,baz=322,slow=38							
SCHQ	**Schefferville**	55.33	43	*e*P		P	06 06 16.6	-0.8
	comp=Z,103nm,0.9s							
335A	**Moody**	55.38	82	P		P	06 06 18.3	+0.1
	baz=55,SNR=105							
MIAR	**Mount Ida**	55.40	77	*e*P		P	06 06 17.3	-0.9
MIAR				pmax		pmax		
	comp=Z,850nm,1.4s							
MIAR				MLR		MLR		
	comp=Z,95µm,19.0s							
MIAR	**Mount Ida**	55.40	77	P		P	06 06 18.0	-0.2
	baz=55,SNR=263							
MIAR	**Mount Ida**	55.40	77	*e*P		P	06 06 17.3	-0.9
	comp=Z,850nm,1.4s							
MIAR				LR		LR		
	comp=Z,95µm,19.0s							
236A	**Katherine and**	55.41	81	P		P	06 06 18.6	+0.2
	baz=55,SNR=110							
137A	**Heron Place, G**	55.46	80	P		P	06 06 19.0	+0.3
	baz=55,SNR=9.5							
Z38A	**Mt. Pleasant**	55.46	79	P		P	06 06 18.7	0.0
	baz=55,SNR=69							
Y39A	**Lockesburg**	55.51	78	P		P	06 06 18.7	-0.4
	baz=55,SNR=87							
633A	**Saathoff Ranch**	55.62	85	P		P	06 06 19.7	-0.3
	baz=56,SNR=35							
435B	**Jarrell**	55.64	83	P		P	06 06 20.3	+0.3
	baz=56,SNR=165							
534A	**Blanco**	55.64	84	P		P	06 06 19.8	-0.3
	baz=56,SNR=191							
336A	**Riesel**	55.66	82	P		P	06 06 20.3	+0.1
	baz=56,SNR=212							
732A	**Laxson Ranch,**	55.67	87	P		P	06 06 20.3	+0.1
	baz=56,SNR=253							
OLIL	**Olney**	55.69	70	*e*P		P	06 06 19.1	-1.2
OLIL				*e*S		S	06 14 03.4	-1.9
PBMO	**Poplar Bluff**	55.69	73	*e*P		P	06 06 18.0	-2.3
	comp=Z,828nm,1.5s							
AAM	**Ann Arbor**	55.74	64	*e*P		P	06 06 20.3	-0.2
AAM				pmax		pmax		
	comp=Z,726nm,1.8s							
AAM				MLR		MLR		
	comp=Z,75µm,22.0s							
AAM	**Ann Arbor**	55.74	64	*e*P		P	06 06 20.3	-0.2
	comp=Z,726nm,1.8s							
AAM				LR		LR		
	comp=Z,75µm,22.0s							
SIUC	**Southern Illin**	55.75	71	*e*P		P	06 06 19.4	-1.3
SIUC				*e*S		S	06 14 03.5	-2.5
138A	**Matatall Enter**	55.81	80	P		P	06 06 21.5	+0.3
	baz=56,SNR=102							
JMIC	**Jan Mayen**	55.84	7	*e*P		P	06 06 21.8	+0.9
JMIC				*e*S		S	06 14 09.5	+3.1
JMIC				IAMs_20		IAMs_20	06 29 22.8	
	comp=Z,61µm,19.2s							
JMIC	**Jan Mayen**	55.84	7	LR		LR	06 29 31.4	
	comp=Z,66µm,21.1s,baz=348,slow=35							
JMIC				P4KPbc			06 43 36.8	
	comp=Z,102nm,0.5s,baz=240,slow=3.0,SNR=4.1							
237A	**Washetta, Mont**	55.85	81	P		P	06 06 21.7	+0.2
	baz=56,SNR=46							
Z39A	**Irene McRaven,**	55.95	78	P		P	06 06 22.2	0.0
	baz=56,SNR=49							
UALR	**University of**	55.96	76	*e*P		P	06 06 21.1	-1.2
	comp=Z,426nm,1.4s							
UALR				*e*S		S	06 14 10.1	+1.2
832A	**Faith Ranch, C**	55.98	87	P		P	06 06 22.8	+0.3
	baz=56,SNR=622							
733A	**Divot King Ran**	56.08	86	P		P	06 06 23.9	+0.7
	baz=56,SNR=132							
436A	**Wall Ranch, Ga**	56.12	82	P		P	06 06 24.4	+0.9
	baz=56,SNR=137							
PARMO	**Parma**	56.17	72	*e*P		P	06 06 22.4	-1.3
634A	**China Grove, S**	56.18	85	P		P	06 06 24.1	+0.2
	baz=56,SNR=14							
535A	**Dale**	56.19	84	P		P	06 06 24.4	+0.5
	baz=56,SNR=154							
139A	**Bunkhouse Ranc**	56.21	79	P		P	06 06 24.4	+0.3
	baz=56							
238A	**Jacksonville**	56.26	80	P		P	06 06 24.9	+0.5
	baz=56,SNR=78							
337A	**Centerville**	56.28	81	P		P	06 06 25.5	+0.9
	baz=56							
BLO	**Bloomington**	56.28	68	*e*P		P	06 06 23.4	-1.1
BLO				pmax		pmax		
	comp=Z,343nm,0.9s							
BLO	**Bloomington**	56.28	68	*e*P		P	06 06 23.4	-1.1
	comp=Z,343nm,0.9s							
833A	**Chaparral WMA,**	56.31	86	P		P	06 06 25.3	+0.4
	baz=56,SNR=265							
PVMO	**Portageville**	56.37	73	*e*P		P	06 06 23.8	-1.4
	comp=Z,1µm,1.1s							
HBAR	**Harrisburg**	56.41	74	*e*P		P	06 06 24.8	-0.7
HBAR				*e*PcP		PcP	06 07 24.6	+2.3
734A	**La Parita Cree**	56.44	85	P		P	06 06 26.4	+0.7
	baz=56,SNR=168							
536A	**Bastrop**	56.46	83	P		P	06 06 26.7	+0.8
	baz=56,SNR=39							
USIN	**University of**	56.47	70	*e*P		P	06 06 24.8	-1.1
	comp=Z,611nm,0.6s							
USIN				*e*S		S	06 14 13.4	-2.1
437A	**Phantom Ranch,**	56.48	82	P		P	06 06 27.0	+1.0
	baz=56,SNR=45							
GNAR	**Gosnell**	56.50	73	*e*P		P	06 06 24.8	-1.3
H06E1	**SOCORRO T-PHAS**	56.50	104	P		P	06 06 27.2	+0.9
H06E1				T		T	07 07 25.3	
	SNR=1492							
H06S1	**SOCORRO T**	56.51	104	P		P	06 06 27.3	+0.9
H06S1				T		T	07 07 29.1	
	SNR=47							
635A	**Leesville**	56.52	84	P		P	06 06 26.6	+0.2
	baz=56,SNR=129							
HAMF	**Hammerfest**	56.53	355	*e*P		P	06 06 24.0	-1.8
HAMF				*e*S		S	06 14 15.8	+0.3
HAMF				IAMs_20		IAMs_20	06 29 00.8	
	comp=Z,98µm,21.5s							
338A	**Crockett**	56.60	81	P		P	06 06 27.7	+0.9
	baz=56							
239A	**Gary**	56.63	80	P		P	06 06 27.2	+0.1
	baz=56,SNR=30							
NATX	**Nacogdoches**	56.70	80	P		P	06 06 27.7	+0.1
	baz=57,SNR=65							
NATX	**Nacogdoches**	56.70	80	*e*P		P	06 06 27.6	+0.1
	comp=Z,371nm,0.8s							
NATX				LR		LR		
	comp=Z,57µm,20.0s							
GLAT	**Glass**	56.71	72	*e*P		P	06 06 26.7	-0.9
735A	**Kenedy**	56.89	85	P		P	06 06 29.8	+0.9
	baz=57,SNR=104							
636A	**Smothers Creek**	56.89	84	P		P	06 06 30.2	+1.2
	baz=57,SNR=91							
933A	**Laredo**	56.90	87	P		P	06 06 30.0	+1.0
	baz=57,SNR=239							
537A	**Green Hill Far**	56.91	83	P		P	06 06 30.2	+1.2
	baz=57							
HALT	**Halls**	56.93	73	*e*P		P	06 06 28.1	-1.0
438A	**Sam Houston St**	56.94	81	P		P	06 06 30.6	+1.4
	baz=57,SNR=80							
834A	**Tilden**	56.96	86	P		P	06 06 30.9	+1.4
	baz=57,SNR=138							
ZAA0	**Zalesovo Array**	56.97	317	*e*P		P	06 06 28.9	-0.2
ZAA0				*e*PcP		PcP	06 07 22.8	-1.4
ZALV	**Zalesovo Beam**	56.97	317	P		P	06 06 28.0	-1.2
	comp=Z,5.6nm,0.7s,baz=30,slow=6.8,SNR=21							
ZALV				LR		LR	06 31 58.2	
	comp=Z,83µm,21.1s,baz=30,slow=37							
ZALV				PKPPKP		P'P'df	06 36 22.2	-4.6
	comp=Z,6.4nm,1.0s,baz=226,slow=3.8,SNR=6.8							
ZALV	**Zalesovo Beam**	56.97	317	P		P	06 06 28.0	-1.2
NVS	**Novosibirsk**	56.98	319	*e*P		P	06 06 27.6	-1.6
NVS				*e*			06 07 21.6	
NVS				*e*PPP		PPP	06 09 54.7	
NVS				*e*S		S	06 14 27.5	+5.7
NVS				pmax		pmax		
	comp=N,170nm,2.0s							
NVS				pmax		pmax		
	comp=E,182nm,2.0s							
NVS				pmax		pmax		
	comp=Z,419nm,2.0s							
339A	**Huntington**	57.07	80	P		P	06 06 30.6	+0.4
	baz=57							
MET	**Memphis--Engin**	57.13	74	*e*P		P	06 06 29.7	-0.9
	comp=Z,659nm,0.6s							
MET				*e*S		S	06 14 21.2	-3.3
KEV	**Kevo**	57.19	353	*e*P		P	06 06 30.3	-0.2
KEV				*e*S		S	06 14 23.1	-1.1
KEV				pmax		pmax		
	comp=Z,88nm,0.9s							
KEV				MLR		MLR		
	comp=Z,82µm,19.0s							
KEV	**Kevo**	57.19	353	*e*P		P	06 06 30.3	-0.2
	comp=Z,88nm,0.9s							
KEV				*e*S		S	06 14 23.1	-1.1
KEV				LR		LR		
	comp=Z,82µm,19.0s							
YOJ	**Yonaguni jima**	57.22	268	*e*P		P	06 06 30.3	-1.0
YOJ				pmax		pmax		
	comp=Z,327nm,0.9s							
YOJ	**Yonaguni jima**	57.22	268	*e*P		P	06 06 30.3	-1.0
	comp=Z,327nm,0.9s							
736A	**Circle Diamond**	57.26	84	P		P	06 06 32.8	+1.3
	baz=57,SNR=76							
835A	**Beeville**	57.28	85	P		P	06 06 33.3	+1.5
	baz=57,SNR=115							
HKT	**Hockley**	57.29	82	*e*P		P	06 06 32.0	+0.3
HKT				pmax		pmax		
	comp=Z,762nm,1.4s							
HKT	**Hockley**	57.29	82	*e*P		P	06 06 32.0	+0.3
	comp=Z,762nm,1.4s							
538A	**Harpers Horsep**	57.30	82	P		P	06 06 33.3	+1.4
	baz=57,SNR=29							
439A	**Center Grove,**	57.33	81	P		P	06 06 32.5	+0.5
	baz=57,SNR=38							
637A	**Eagle Lake**	57.36	83	P		P	06 06 33.6	+1.3
	baz=57							
934A	**Benavides**	57.36	86	P		P	06 06 33.5	+1.2
	baz=57,SNR=218							
340A	**Bronson**	57.41	80	P		P	06 06 32.6	0.0
	baz=57,SNR=76							
EBZ	**Ebenezer Churc**	57.46	73	*e*P		P	06 06 33.1	+0.2
ARCES	**ARCESS Array B**	57.51	354	P		P	06 06 32.0	-0.8
	comp=Z,18nm,0.7s,baz=20,slow=5.3,SNR=30							
ARCES				PcP		PcP	06 07 26.7	+0.6
	comp=Z,45nm,0.8s,baz=12,slow=6.2,SNR=5.4							
ARCES				ScP		ScP	06 11 24.3	-0.1
	comp=Z,11nm,0.8s,baz=12,slow=4.8,SNR=7.0							
ARCES				LR		LR	06 33 25.0	
	comp=Z,104µm,18.6s,baz=1.5,slow=38							
ARCES				PKPPKP		P'P'df	06 36 22.9	-4.2
	comp=Z,8.2nm,0.8s,baz=186,slow=2.4,SNR=8.4							
ARCES				PKP2bc			06 36 30.8	
	comp=Z,12nm,1.0s,baz=174,slow=1.2,SNR=6.9							
ARE0	**ARCESS Array S**	57.51	354	*e*P		P	06 06 32.4	-0.4
ARE0				*e*S		S	06 14 29.4	+0.9
ARE0				IAMs_20		IAMs_20	06 33 07.0	
	comp=Z,116µm,19.7s							
ARE0	**ARCESS Array S**	57.51	354	*e*P		P	06 06 32.0	-0.8
ACSO	**Alum Creek Sta**	57.53	65	*e*P		P	06 06 32.2	-1.1
ACSO				LR		LR		
	comp=Z,66µm,20.0s							
WVT	**Waverly**	57.65	72	*e*P		P	06 06 33.4	-0.8
WVT				*e*S		S	06 14 29.5	-1.7
WVT	**Waverly**	57.65	72	*e*P		P	06 06 33.4	-0.8
WVT				*e*S		S	06 14 29.5	-1.7
034A	**Hebbronville**	57.65	87	P		P	06 06 35.7	+1.4
	baz=58,SNR=92							
TATO	**Taipei**	57.76	270	*e*P		P	06 06 38.9	+3.8
	comp=Z,93nm,0.8s							
TRO	**Tromso**	57.76	356	*e*P		P	06 06 32.5	-2.0
TRO				*e*S		S	06 14 33.4	+1.6
TRO				IAMs_20		IAMs_20	06 31 34.5	
	comp=Z,68µm,19.3s							
737A	**Port Lavaca**	57.78	84	P		P	06 06 36.8	+1.6
	baz=58,SNR=23							
539A	**Cross D Ranch,**	57.84	81	P		P	06 06 37.2	+1.5
	baz=58,SNR=14							
440A	**Kirbyville**	57.85	80	P		P	06 06 35.9	+0.3
	baz=58,SNR=88							
OXF	**Oxford**	57.87	74	*e*P		P	06 06 34.5	-1.3
OXF				*e*S		S	06 14 31.8	-2.3
OXF	**Oxford**	57.87	74	*e*P		P	06 06 34.5	-1.3
OXF				*e*S		S	06 14 31.8	-2.3
WHN	**Wuhan**	58.03	280	⇑*i*P		P	06 06 36.4	-0.5
WHN				S		S	06 14 36.4	+0.1
WHN				PMZ				
	comp=Z,10µm,6.7s							
WHN				LN				
	comp=Z,42µm,15.4s							
WHN				LE				
	comp=Z,66µm,16.3s							
WHN				LZ				
	comp=Z,134µm,24.8s							
YHNB	**Yeheng**	58.05	269	*e*P		P	06 06 36.7	-0.6
YHNB				*e*S		S	06 14 34.6	-2.3
YHNB				LR		LR		
	comp=Z,81µm,22.0s							
035A	**Encino**	58.10	87	P		P	06 06 38.8	+1.4
	baz=58,SNR=132							
738A	**Farr-Stevens R**	58.20	83	P		P	06 06 39.8	+1.6
	baz=58							
540A	**Vidor**	58.22	81	P		P	06 06 39.8	+1.5
	baz=58,SNR=8.0							
936A	**North Padre Is**	58.23	86	P		P	06 06 39.5	+1.1
	baz=58							
NACB	**Ninganchiao**	58.29	269	*e*P		P	06 06 38.1	-0.8
NACB				*e*S		S	06 14 29.0	-11
LVZ	**Lovozero**	58.29	349	*e*P		P	06 06 37.6	-0.8
LVZ				*e*			06 08 48.5	
LVZ				*e*S		S	06 14 45.5	+6.6
LVZ				pmax		pmax		
	comp=Z,158nm,1.0s							
LVZ				MLR		MLR		
	comp=Z,66µm,19.0s							
LVZ	**Lovozero**	58.29	349	P		P	06 06 38.8	+0.5
	comp=Z,792nm,0.6s,SNR=15							
LVZ	**Lovozero**	58.29	349	*e*P		P	06 06 37.5	-0.8
	comp=Z,158nm,1.0s							
LVZ				*e*PP		PP	06 08 48.5	+1.6
LVZ				*e*S		S	06 14 45.5	+6.6
LVZ				LR		LR		
	comp=Z,66µm,19.0s							
035Z	**Hargill**	58.47	87	P		P	06 06 40.8	+0.8
	baz=58,SNR=98							
MMNY	**Mt. Morris Dam**	58.51	60	*e*P		P	06 06 40.2	0.0
	comp=Z,468nm,0.9s							
APA	**Apatity**	58.74	350	⇑*i*P		P	06 06 43.0	+1.6
APA				*i*			06 07 34.0	
APA				*i*			06 09 00.0	
APA				*i* PPP		PPP	06 10 22.0	
APA				*i* S		S	06 14 44.0	-0.6
APA				*i* SS		SS	06 18 42.0	+5.2
APA				pmax		pmax		
	comp=Z,134nm,1.5s							
APA				MLR		MLR		
	comp=Z,54µm,18.0s							
XAN	**Xi'an**	58.75	286	P		P	06 06 41.6	-0.4
XAN				pP		pP	06 06 52.1	+3.2
XAN				sP		sP	06 06 55.4	+3.9
XAN				S		S	06 14 37.6	-8.2
XAN				LN				
	comp=Z,56µm,19.2s							
XAN				LE				
	comp=Z,10µm,19.2s							
XAN				LZ				
	comp=Z,24µm,17.4s							
VBMS	**Vicksburg**	58.84	77	P		P	06 06 42.5	-0.1
	baz=59,SNR=16							
VBMS	**Vicksburg**	58.84	77	*e*P		P	06 06 42.5	-0.1
	comp=Z,1µm,1.4s							
LONY	**Lake Ozonia**	58.90	56	*e*P		P	06 06 42.0	-0.9
LONY				LR		LR		
	comp=Z,79µm,20.0s							
SSLB	**Suanglung**	58.97	269	*e*P		P	06 06 42.9	-0.7
SSLB				*e*S		S	06 14 48.3	-0.4
YULB	**Yu-li**	59.05	269	*e*P		P	06 06 42.6	-1.6
YULB				*e*S		S	06 14 45.2	-4.6
SWET	**Sewanee**	59.39	71	*e*P		P	06 06 44.8	-1.6
LOF	**Lofoten**	59.41	359	*e*P		P	06 06 48.8	+2.8
NCB	**Newcomb**	59.54	56	*e*P		P	06 06 47.0	-0.4
	comp=Z,228nm,1.0s							
NCB				LR		LR		
	comp=Z,89µm,19.0s							
QZH	**Quanzhou**	59.54	272	⇑*i*P		P	06 06 47.3	-0.2
QZH				S		S	06 14 58.3	+2.2
QZH				PMZ				
	comp=Z,1µm,2.0s							
QZH				PMZ				
	comp=Z,10µm,5.7s							
QZH				LN				
	comp=Z,52µm,18.2s							
QZH				LE				
	comp=Z,32µm,17.2s							
QZH				LZ				
	comp=Z,90µm,20.8s							
STEI	**Steigen**	59.58	358	*e*P		P	06 06 49.0	+1.9
TWG	**Pinlang**	59.62	268	*e*P		P	06 06 42.0	-6.1
TWG				*e*S		S	06 15 00.1	+3.0
TZTN	**Tazewell**	59.80	68	*e*P		P	06 06 48.3	-1.0
	comp=Z,409nm,1.1s							
SSPA	**Standing Stone**	60.01	61	*e*P		P	06 06 50.0	-0.5
	comp=Z,374nm,1.0s							
SSPA				*e*S		S	06 15 00.2	-1.5
CPCT	**Cooper Cave**	60.03	70	*e*P		P	06 06 49.2	-1.6
MDV	**Middlebury**	60.05	56	*e*P		P	06 06 50.0	-0.8
GTA	**Gaotai**	60.08	297	*e*P		P	06 06 50.8	-0.5
GTA				pP		pP	06 06 55.0	-3.1
GTA				sP		sP	06 06 57.9	-2.8
GTA				S		S	06 15 06.9	+3.9
GTA				sS		sS	06 15 16.3	+2.0
GTA				PMZ				
	comp=Z,2µm,9.3s							
GTA				LN				
	comp=Z,116µm,20.7s							
GTA				LE				
	comp=Z,109µm,19.5s							
GTA				LZ				
	comp=Z,144µm,20.4s							
LZH	**Lanzhou**	60.22	291	⇑P		P	06 06 53.1	+0.8
LZH				pP		pP	06 06 57.5	-1.6
LZH				sP		sP	06 07 00.1	-1.6
LZH				PcP		PcP	06 07 38.6	+1.0
LZH				PP		PP	06 09 05.5	+0.7
LZH				S		S	06 15 03.5	-1.4
LZH				sS		sS	06 15 14.0	-2.1
LZH				SS		SS	06 18 55.4	-6.2
LZH				PMZ				
	comp=Z,1µm,1.0s							
LZH				PMZ				
	comp=Z,3µm,4.2s							
LZH				LN				
	comp=Z,70µm,16.9s							
LZH				LE				
	comp=Z,71µm,17.4s							
LZH				LZ				
	comp=Z,96µm,18.4s							
ACCN	**Adirondack Com**	60.24	57	*e*P		P	06 06 51.9	-0.2
TKL	**Tuckaleechee C**	60.30	69	*e*P		P	06 06 51.5	-1.2
TKL	**Tuckaleechee C**	60.30	69	*e*P		P	06 06 51.5	-1.2
BORG	**Borgarnes**	60.32	15	*e*P		P	06 06 51.8	-0.5
BORG				pmax		pmax		
	comp=Z,212nm,1.5s							
BORG				MLR		MLR		
	comp=Z,93µm,19.0s							
BORG	**Borgarnes**	60.32	15	*e*P		P	06 06 51.8	-0.5
	comp=Z,212nm,1.5s							
BORG				LR		LR		
	comp=Z,93µm,19.0s							
LRAL	**Lakeview Retre**	60.33	74	*e*P		P	06 06 51.2	-1.6
	comp=Z,12nm,0.6s							
KSPA	**Keystone Colle**	60.47	59	*e*P		P	06 06 55.4	+1.7
	comp=Z,478nm,1.3s							
PQI	**Presque Isle**	60.63	51	*e*P		P	06 06 54.1	-0.6
HNH	**Hanover**	60.71	56	*e*P		P	06 06 55.5	+0.3
	comp=Z,126nm,1.2s							
TRY	**Troy**	60.71	57	*e*P		P	06 06 55.6	+0.3
	comp=Z,108nm,0.8s							
PKME	**Peaks-Kenny Pk**	61.05	53	*e*P		P	06 06 57.0	-0.6
	comp=Z,94nm,1.0s							
PKME				LR		LR		
	comp=Z,154µm,21.0s							
KONS	**Konsvik**	61.05	359	*e*P		P	06 06 58.4	+1.1
BLA	**Blacksburg**	61.08	66	*e*P		P	06 06 57.4	-0.6
BLA				pmax		pmax		
	comp=Z,655nm,0.9s							
BLA				MLR		MLR		
	comp=Z,67µm,21.0s							
BLA	**Blacksburg**	61.08	66	*e*P		P	06 06 57.4	-0.6
	comp=Z,655nm,0.9s							
BLA				LR		LR		
	comp=Z,67µm,21.0s							
ENH	**Enshi**	61.12	283	*e*P		P	06 06 58.4	0.0
	comp=Z,52nm,0.8s							
ENH				LR		LR		
	comp=Z,1µm,22.0s							
FFD	**Franklin Falls**	61.19	55	*e*P		P	06 06 58.8	+0.2
	comp=Z,111nm,0.9s							
MVL	**Millersville**	61.28	61	*e*P		P	06 06 59.2	0.0
	comp=Z,220nm,0.9s							
MOR8	**Moi Rana**	61.36	358	*e*P		P	06 06 58.6	-0.8
LUPA	**Lehigh Univers**	61.37	60	*e*P		P	06 07 00.1	+0.3
	comp=Z,59nm,0.9s							
WVL	**Waterville**	61.38	53	*e*P		P	06 06 59.6	-0.2
ODNJ	**Ogdensburg**	61.42	59	*e*P		P	06 07 00.1	-0.1
	comp=Z,473nm,1.5s							
TMCR	**Tamitsa**	61.43	347	*e*P		P	06 06 59.7	-0.1
TMCR				*e*S		S	06 15 21.1	+2.0
TMCR				pmax		pmax		
	comp=Z,173nm,1.5s							
SDMD	**Soldier's Deli**	61.45	62	*e*P		P	06 06 59.5	-0.8
	comp=Z,914nm,1.0s							
QUA2	**Belchertown**	61.71	57	*e*P		P	06 07 02.0	-0.1
	comp=Z,303nm,1.4s							
BRNJ	**Basking Ridge**	61.73	59	*e*P		P	06 07 02.2	0.0
	comp=Z,89nm,0.8s						

KURK *e*PP PP 06 09 21.0 +1.8
KURK *e*S **S** **06 15 25.5 -0.3**
KURK P'P' 06 36 12.9
KURK LR LR
comp=Z,140µm,20.0s
HRV Adam Dziewonsk 61.94 56 *e*P **P** **06 07 03.1 -0.6**
HRV pmax pmax
comp=Z,169nm,1.1s
HRV Adam Dziewonsk 61.94 56 *e*P **P** **06 07 03.1 -0.6**
comp=Z,169nm,1.1s
CPNY Central Park 61.96 59 *e*P **P** **06 07 03.6 -0.2**
comp=Z,718nm,1.1s
KURBB Kurchatov Arra 62.03 318 P **P** **06 07 03.5 -0.7**
comp=Z,42nm,0.8s,baz=43,slow=6.6,SNR=88
KURBB PP **PP** **06 09 19.1 -1.1**
comp=Z,15nm,0.8s,baz=42,slow=10,SNR=2.8
KURBB PKPPKP P'P'df 06 36 12.9 -5.8
comp=Z,13nm,1.1s,baz=224,slow=2.6,SNR=9.8
CBN Corbin 62.03 63 *e*P **P** **06 07 04.2 -0.1**
comp=Z,346nm,0.8s
CBN LR LR
comp=Z,119µm,21.0s
KMSC Kings Mountain 62.06 68 P **P** **06 07 03.8 -0.8**
baz=62
KMSC Kings Mountain 62.06 68 *e*P **P** **06 07 03.5 -1.0**
GOGA Godfrey 62.10 71 *e*P **P** **06 07 03.3 -1.5**
GOGA *e* 06 09 23.4
GOGA *e*S S 06 15 18.5 -10
GOGA MLR MLR
comp=Z,87µm,20.0s
GOGA Godfrey 62.10 71 *e*P **P** **06 07 03.3 -1.5**
GOGA *e*PP **PP** **06 09 23.4 +2.2**
GOGA *e*S S 06 15 18.5 -10
GOGA LR LR
comp=Z,87µm,20.0s
YLE Yale 62.11 58 *e*P **P** **06 07 04.9 +0.1**
EMMW East Machias 62.34 52 *e*P **P** **06 07 05.6 -0.6**
comp=Z,194nm,0.7s
BRYW Bryant College 62.38 56 *e*P **P** **06 07 06.7 0.0**
comp=Z,389nm,1.4s
PRGR Permogore 62.54 342 *e*P **P** **06 07 06.2 -1.1**
PRGR 06 09 24.5
PRGR pmax pmax
comp=Z,166nm,1.3s
JSC Jenkinsville 62.72 69 *e*P **P** **06 07 08.1 -0.9**
JSC pmax pmax
comp=Z,529nm,1.1s
JSC Jenkinsville 62.72 69 *e*P **P** **06 07 08.1 -0.9**
comp=Z,529nm,1.1s
NSS Namsos 63.04 359 *e*P **P** **06 07 11.3 +0.7**
NSS *e*S **S** **06 15 41.3 +1.8**
NSS IAMs_20 IAMs_20 06 35 28.6
comp=Z,45µm,18.7s
CVP Callao Caves 63.05 264‖ *e*P **P** **06 07 11.4 0.0**
WMQ Urumqi 63.10 308 P **P** **06 07 13.3 +1.8**
WMQ pP **pP** **06 07 20.0 +1.6**
WMQ PcP **PcP** **06 07 50.5 +1.5**
WMQ PP **PP** **06 09 33.5 +3.6**
WMQ PcS 06 11 53.3
WMQ S **S** **06 15 40.3 -0.7**
WMQ SS **SS** **06 19 48.3 +2.2**
WMQ PMZ
comp=Z,120nm,1.8s
WMQ PMZ
comp=Z,3µm,5.2s
WMQ LN
comp=Z,116µm,16.0s
WMQ LE
comp=Z,66µm,14.4s
WMQ LZ
comp=Z,68µm,21.4s
SVE Sverdlovsk 63.23 332‖ *e*P **P** **06 07 10.9 -1.1**
SVE *e* 06 09 32.8
SVE *e*S **S** **06 15 44.0 +1.9**
SVE pmax pmax
comp=Z,332nm,2.0s
SVE pmax pmax
comp=Z,4µm,13.5s
SVE MLR MLR
comp=Z,83µm,18.0s
SVE MLR MLR
comp=N,34µm,17.0s
SVE MLR MLR
comp=E,44µm,18.0s
BVA0 Borovoye Array 63.25 324 *i* P **P** **06 07 12.3 +0.1**
BVA0 pmax pmax
comp=Z,746nm,2.1s
BVAR Borovoye Array 63.25 324 P **P** **06 07 10.7 -1.5**
comp=Z,42nm,0.8s,baz=52,slow=7.2,SNR=53
BVAR PKPPKP P'P'df 06 36 08.5 -8.6
comp=Z,6.2nm,0.9s,baz=222,slow=2.0,SNR=7.8
BVAR LR LR 06 37 38.8
comp=Z,153µm,18.6s,baz=44,slow=39
BRVK Borovoye 63.26 324 P **P** **06 07 12.0 -0.3**
comp=Z,657nm,1.3s,SNR=28
BRVK Borovoye 63.26 324 *d* iP **P** **06 07 11.4 -0.9**
BRVK pmax pmax
comp=Z,138nm,1.7s
BRVK MLR MLR
comp=Z,167µm,18.0s
BRVK Borovoye 63.26 324 *e*P **P** **06 07 11.9 -0.3**
BRVK LR LR
comp=Z,173µm,19.0s
APYP Conner 63.28 264 *e*P **P** **06 07 11.0 -1.9**
DRLN Deer Lake 63.32 43 *e*P **P** **06 07 12.7 -0.1**
comp=Z,170nm,0.9s
MK31 Makanchi Array 63.36 313 P **P** **06 07 13.2 +0.1**
MK31 Makanchi Array 63.36 313 *e*P **P** **06 07 12.4 -0.8**
MKAR Makanchi Array 63.36 313 P **P** **06 07 12.6 -0.6**
comp=Z,12nm,0.8s,baz=56,slow=3.1,SNR=28
MKAR LR LR 06 35 23.2
comp=Z,86µm,20.3s,baz=35,slow=37
MKAR PKPPKP P'P'df 06 36 07.3 -9.0
comp=Z,4.5nm,0.9s,baz=260,slow=4.0,SNR=7.5
MKAR PKP2bc 06 36 16.2
comp=Z,14nm,1.0s,baz=224,slow=3.3,SNR=6.0
MKAR Makanchi Array 63.36 313 *i* P **P** **06 07 10.3 -2.8**
MKAR pmax pmax
comp=Z,9.0nm,0.8s
TIGA Tifton 63.47 72 P **P** **06 07 12.7 -1.3**
baz=63,SNR=22
TIGA Tifton 63.47 72 *e*P **P** **06 07 12.6 -1.4**
TIGA *e*PP **PP** **06 09 34.3 +1.0**
ABRA Dolores 63.76 265 *e*P **P** **06 07 16.3 +0.3**
CNNC Cliffs of the 63.91 66 *e*P **P** **06 07 16.6 -0.2**
CNNC LR LR
comp=Z,63µm,20.0s
SZP Santa 63.99 265 *e*P **P** **06 07 17.6 0.0**
CD2 Chengdu 64.02 287 P **P** **06 07 18.1 +0.4**
CD2 pP **pP** **06 07 28.6 +4.0**
CD2 PP **PP** **06 09 38.8 +0.6**
CD2 S **S** **06 15 52.0 -0.7**
CD2 SKS **SKKSac** **06 17 09.3 -0.9**
CD2 SS **SS** **06 20 02.0 +1.0**
CD2 PMZ
comp=Z,140nm,1.0s
CD2 PMZ
comp=Z,5µm,11.2s
CD2 LN
comp=Z,66µm,27.6s
CD2 LZ
comp=Z,58µm,19.2s
GZH Guangzhou 64.11 275 *e*P P 06 07 14.9 -3.4
GZH sP sP 06 07 30.9 +3.1
GZH S S 06 15 46.4 -7.5
GZH SS **SS** **06 19 59.6 -3.0**
GZH PMZ
comp=Z,8µm,6.0s
GZH LN
comp=Z,37µm,17.8s
GZH LE
comp=Z,55µm,21.1s
GZH LZ
comp=Z,102µm,24.0s
ARU Arti 64.16 333 P **P** **06 07 17.7 -0.5**
baz=25,slow=5.0
ARU LR LR 06 39 19.4
comp=Z,49µm,19.6s,baz=28,slow=40
ARU Arti 64.16 333 *d* iP **P** **06 07 17.1 -1.1**
ARU 06 07 51.5
ARU 06 09 43.5
ARU PPP PPP 06 11 13.9
ARU S **S** **06 15 52.5 -1.2**
ARU 06 17 05.2
ARU SS **SS** **06 19 57.1 -4.8**
ARU pmax pmax
comp=Z,144nm,1.7s
ARU pmax pmax
comp=Z,4µm,15.3s
ARU Arti 64.16 333 P **P** **06 07 18.1 -0.1**
comp=Z,888nm,1.2s,SNR=37
ARU Arti 64.16 333 P **P** **06 07 17.7 -0.5**
comp=Z,21nm,1.3s
HKC Hong Kong Obse 64.20 273‖ *i*P **P** **06 07 18.0 -0.9**
NHSC New Hope 64.20 69 *e*P **P** **06 07 18.7 0.0**
comp=Z,2µm,1.1s
NHSC LR LR
comp=Z,76µm,19.0s
RGRS Roger Stewart 64.33 69 *e*P **P** **06 07 19.7 +0.1**
comp=Z,23nm,0.6s
TBLU Trondheim 64.33 360 *e*P **P** **06 07 18.5 -0.7**
TBLU *e*S **S** **06 15 55.6 0.0**
BCPH Baguio City Da 64.82 264‖ *i*P **P** **06 07 21.1 -2.1**
PVCP Virac 64.84 259‖ *e*P **P** **06 07 24.6 +1.5**
MOL Molde 65.00 1 *e*P **P** **06 07 25.7 +2.2**
MOL IAMs_20 IAMs_20 06 35 48.6
comp=Z,58µm,20.4s
BOLP Bolinao 65.22 265 *e*P **P** **06 07 23.9 -1.7**
AKN Aaknes 65.38 2 *e*P **P** **06 07 26.4 +0.3**
AKN IAMs_20 IAMs_20 06 38 29.2
comp=Z,56µm,18.8s
FINES FINESS Array B 65.45 352 P **P** **06 07 26.0 -0.5**
comp=Z,54nm,0.8s,baz=35,slow=7.0,SNR=73
FINES PKPPKP P'P'df 06 36 06.5 -7.7
comp=Z,8.4nm,0.7s,baz=167,slow=3.3,SNR=11
FINES LR LR 06 38 15.9
comp=Z,72µm,19.1s,baz=8.0,slow=38
GYA Guiyang 65.61 282‖ *i*P **P** **06 07 28.1 -0.1**
GYA PcP **PcP** **06 08 00.3 +0.7**
GYA PP **PP** **06 09 54.8 +2.5**
GYA ScP 06 12 02.4
GYA S **S** **06 16 12.3 -0.2**
GYA SKS **SKSac** **06 17 20.8 -1.7**
GYA SS **SS** **06 20 26.3 +0.2**
GYA PMZ
comp=Z,80nm,0.8s
GYA PMZ
comp=Z,3µm,11.4s
GYA LN
comp=Z,38µm,19.2s
GYA LE
comp=Z,40µm,18.9s
GYA LZ
comp=Z,36µm,18.9s
GQP Guinayangan 65.62 261‖ *e*P **P** **06 07 28.8 +0.6**
FOO Floro 65.92 3 *e*P P 06 07 34.3 +4.8
FOO IAMs_20 IAMs_20 06 37 39.2
comp=Z,33µm,19.4s
PLP Palo 66.27 257‖ *i*P **P** **06 07 32.9 +0.6**
TGY Tagaytay City 66.37 262 P **P** **06 07 33.8 +0.7**
comp=Z,3µm,1.1s,baz=172,slow=2.7,SNR=32
TAOE Nuku Hiva Isla 66.38 148 *e*P **P** **06 07 32.9 -0.2**
comp=Z,691nm,1.2s
TAOE *e*S **S** **06 16 18.7 -3.1**
comp=Z,11µm,28.3s
TAOE *e*SS **SS** **06 20 39.2 +0.3**
comp=Z,12µm,27.6s
TAOE *e*LQ LQ 06 24 26.0
comp=Z,42µm,27.4s
TAOE *e*LR LR 06 27 39.6
comp=Z,66µm,21.6s,baz=352
TAOE Nuku Hiva Isla 66.38 148 *e*T T 07 19 29.5
comp=Z,3µm,0.3s
TAOE Nuku Hiva Isla 66.38 148 *e*P **P** **06 07 33.1 0.0**
comp=Z,309nm,1.1s
HYA Hoyanger 66.38 2 *e*P **P** **06 07 34.9 +2.5**
OTUK Ortayu 66.39 320 P **P** **06 07 31.9 -0.9**
OTUK pmax pmax
comp=Z,339nm,2.3s
AFI Afiamalu 66.41 182 LR LR 06 34 58.0
comp=Z,8µm,18.2s,baz=6.5,slow=34
AFI Afiamalu 66.41 182 *e*P **P** **06 07 32.2 -1.0**
AFI Afiamalu 66.41 182 *e*P **P** **06 07 32.2 -1.0**
SUE Sulen 66.45 3 *e*P **P** **06 07 35.1 +2.2**
NB2 NORSAR Subarra 66.55 359 P **P** **06 07 33.2 -0.4**
comp=Z,57nm,1.1s,baz=1.4,slow=6.5
NB2 NORSAR Subarra 66.55 359 P **P** **06 07 33.2 -0.4**
baz=1.4,slow=6.5
NOA NORSAR Array B 66.55 359 P **P** **06 07 32.5 -1.1**
comp=Z,19nm,0.8s,baz=0.8,slow=6.3,SNR=61
NOA PKPPKP P'P'df 06 36 03.5 -8.9
comp=Z,9.1nm,1.0s,baz=161,slow=3.2,SNR=8.9
NOA LR LR 06 36 09.7
comp=Z,26µm,20.6s,baz=345,slow=36
PUL Pulkovo 66.67 349‖ *e*P **P** **06 07 35.1 +0.8**
PUL pmax pmax
comp=Z,161nm,0.4s
PUL MLR MLR
comp=Z,57µm,23.0s
NC602 NORSAR Array S 66.86 359 *e*P **P** **06 07 34.2 -1.3**
NC602 *e*S **S** **06 16 29.1 +2.6**
NC602 IAMs_20 IAMs_20 06 40 16.2
comp=Z,44µm,18.1s
LRW Lerwick 67.09 6 *e*P **P** **06 07 37.3 +0.4**
LRW AMS AMS 06 37 04.6
comp=Z,47µm,20.4s
HNR Honiara 67.13 213 LR LR 06 34 45.2
comp=Z,20µm,18.8s,baz=12,slow=34
BER Bergen 67.14 3 *e*P **P** **06 07 38.8 +1.5**
BER *e*S **S** **06 16 28.9 -1.0**
MSLP Maasin 67.15 256 *e*P P 06 07 32.4 -5.6
PDGK Podgornoye 67.30 312 P **P** **06 07 38.1 -0.5**
PDGK pmax pmax
comp=Z,279nm,2.5s
BUTP Butuan 67.64 255 *e*P **P** **06 07 40.7 -0.4**
ODD1 Odda 67.65 2 *e*P **P** **06 07 41.6 +1.0**
OSL Oslo 67.66 360 *e*P **P** **06 07 41.3 +0.7**
KONO Kongsberg 67.95 0 *e*P P 06 07 45.8 +3.4
comp=Z,44µm,22.6s
KONO *e*S **S** **06 16 41.1 +1.5**
KONO Kongsberg 67.95 0 *e*P **P** **06 07 43.2 +0.8**
KONO pmax pmax
comp=Z,96nm,1.1s
KONO MLR MLR
comp=Z,43µm,20.0s
KONO Kongsberg 67.95 0 *e*P **P** **06 07 43.2 +0.8**
comp=Z,96nm,1.1s
KONO LR LR
comp=Z,43µm,20.0s
GUIM Jordan 68.11 258 *e*P **P** **06 07 45.3 +1.2**
BLS5 Blasjo 68.14 2 *e*P **P** **06 07 45.6 +1.9**
BLS5 *e*S **S** **06 16 42.2 +0.3**
KMY Karmoy 68.32 3 *e*P **P** **06 07 46.9 +2.1**
VSU Vasula 68.33 351 *d* iP **P** **06 07 45.0 +0.2**
VSU pmax pmax
comp=Z,263nm,0.7s
VSU MLR MLR
comp=Z,169µm,20.0s
AAA Alma-Ata 68.47 314 *i* P P 06 07 49.4 +3.3
AAA *i* S **SKiKP** **06 17 31.4 -6.5**
AAA pmax pmax
comp=Z,2µm,3.0s
AAA MLR MLR
comp=Z,62µm,9.0s
BUKP Musuan 68.83 255 *e*P **P** **06 07 50.2 +1.6**
JAY Jayapura 68.92 235 P **P** **06 07 51.0 +1.8**
JAY Jayapura 68.92 235 P **P** **06 07 48.1 -1.0**
comp=Z,30nm,0.9s,baz=347,slow=2.6,SNR=11
JAY LR LR 06 32 28.5
comp=Z,24µm,21.8s,baz=1.0,slow=31
KMI Kunming 68.93 284 P **P** **06 07 49.9 +0.5**
KMI pP **pP** **06 07 54.3 -2.1**
KMI sP **sP** **06 07 57.0 -1.9**
KMI PP **PP** **06 10 22.8 +1.4**
KMI S **S** **06 16 51.5 -1.3**
KMI SKS **SKSac** **06 17 44.0 -4.0**
KMI PMZ
comp=Z,71nm,1.2s
KMI PMZ
comp=Z,3µm,6.4s
KMI LN
comp=Z,36µm,18.0s
KMI LE
comp=Z,22µm,18.0s
KMI LZ
comp=Z,45µm,18.0s
MVH1 Achvaich 69.06 8 *e*P **P** **06 07 48.8 -0.5**
TEIG Tepich 69.06 84 *e*P **P** **06 07 49.7 -0.2**
comp=Z,7.5nm,0.8s
TEIG LR LR
comp=Z,1µm,20.0s
GENI Genyem 69.26 235 P **P** **06 07 52.1 +0.9**
QIZ Qiongzhong 69.30 274 P **P** **06 07 50.8 -0.7**
QIZ S **S** **06 16 57.1 +0.3**
QIZ sS sS 06 17 02.0 -6.3
QIZ ScS **ScS** **06 17 51.4 +0.1**
QIZ PMZ
comp=Z,67nm,1.1s
QIZ PMZ
comp=Z,4µm,9.7s
QIZ LN
comp=Z,26µm,19.6s
QIZ LZ
comp=Z,31µm,23.6s
QIZ Qiongzhong 69.30 274 *e*P **P** **06 07 52.8 +1.3**
comp=Z,587nm,2.1s
QIZ LR LR
comp=Z,28µm,20.0s
HOMB Homborsund 69.33 1 *e*P **P** **06 07 50.2 -0.8**
HOMB IAMs_20 IAMs_20 06 40 48.0
comp=Z,49µm,18.4s
TKM2 Tokmak 2 69.34 314 P **P** **06 07 51.6 -0.1**
SNR=23
TKM2 Tokmak 2 69.34 314 P **P** **06 07 50.2 -1.5**
TKM2 pmax pmax
comp=Z,156nm,2.1s
TKM2 Tokmak 2 69.34 314 *e*P **P** **06 07 51.6 -0.1**
comp=Z,130nm,1.4s
TKM2 LR LR
comp=Z,69µm,20.0s
MCD Coleburn Disti 69.47 8 *e*P **P** **06 07 51.5 -0.5**
SMPI Sarmi 69.47 237 P **P** **06 07 54.8 +2.3**
KPL Plockton 69.50 9 *e*P **P** **06 07 54.1 +2.0**
KPL AMS AMS 06 37 32.7
comp=Z,60µm,21.6s
MDO Dochfour 69.52 8 *e*P **P** **06 07 51.5 -0.8**
MOS Moscow 69.53 344 *e*P **P** **06 07 52.0 -0.3**
MOS *e* 06 08 12.8
MOS *i* 06 10 24.8
MOS *e*PPP PPP 06 12 11.4
MOS *i* S **S** **06 16 53.8 -4.7**
MOS *i* 06 17 53.0
MOS pmax pmax
comp=Z,129nm,0.9s
MOS pmax pmax
comp=N,2µm,5.3s
MOS pmax pmax
comp=Z,2µm,5.9s
MOS pmax pmax
comp=E,500nm,4.0s
MOS smax smax
comp=N,7µm,13.0s
MOS smax smax
comp=E,4µm,10.0s
MOS MLR MLR
comp=N,66µm,20.0s
MOS MLR MLR
comp=Z,71µm,20.0s
MOS MLR MLR
comp=E,36µm,21.0s
USP Ospenovka 69.54 315 P **P** **06 07 52.8 +0.1**
SNR=26
AKTO Aktyubinsk 69.55 330 P **P** **06 07 50.4 -2.2**
comp=E,10nm,0.6s,baz=51,slow=6.9,SNR=33
AKTO PKPPKP P'P'df 06 35 54.7 -12
comp=E,8.4nm,1.1s,baz=170,slow=5.9,SNR=11
AKTO LR LR 06 42 46.0
comp=E,50µm,18.8s,slow=40
AKTO Aktyubinsk 69.55 330 P **P** **06 07 50.5 -2.1**
AKTO pmax pmax
comp=Z,68nm,0.8s
ULHL Ulahol 69.61 314 P **P** **06 07 53.8 +0.4**
SNR=10
CHMS Chumysh 69.65 315 P **P** **06 07 56.3 +2.9**
SNR=11
FRU Bishkek 69.84 315 *e*P **P** **06 07 55.0 +0.5**
FRU *i* 06 10 35.0
FRU *i* S **S** **06 17 08.0 +5.4**
FRU pmax pmax
comp=Z,580nm,2.2s
FRU MLR MLR
comp=Z,48µm,17.0s
CTBH Cotabato--PC H 69.84 255‖ *i*P **P** **06 07 56.4 +1.6**
KBK Karagaybulak 69.84 315 P **P** **06 07 55.2 +0.5**
SNR=19
PAGZ Pagadian 69.85 256 *e*P P 06 07 50.9 -3.9
AB31 Akbulak array 69.98 328 *i* P **P** **06 07 53.6 -1.6**
AB31 pmax pmax
comp=Z,76nm,0.9s
ABKAR Akbulak array 69.98 328 *e*P **P** **06 07 53.7 -1.5**
AAK Ala-Archa 70.05 315 P **P** **06 07 55.9 -0.2**
SNR=21
AAK Ala-Archa 70.05 315 P **P** **06 07 55.2 -0.8**
AAK pmax pmax
comp=Z,85nm,0.9s
AAK Ala-Archa 70.05 315 *e*P **P** **06 07 56.0 0.0**
comp=Z,76nm,0.9s
AAK LR LR
comp=Z,43µm,20.0s
PMOR Pomariorio Ree 70.08 157 *e*P **P** **06 07 56.0 0.0**
comp=Z,440nm,1.1s
PMOR Pomariorio Ree 70.08 157 *e*T T 07 24 13.6
comp=Z,406nm,0.3s
KZA Kyzart 70.18 314 P **P** **06 07 57.7 +0.6**
SNR=15
DRUM Mains of Drumt 70.20 7 *e*P **P** **06 07 55.4 -1.0**
DRUM AMS AMS 06 37 24.3
comp=Z,53µm,21.9s
OBN Obninsk 70.31 344 PKP2ab P'P'ab 06 35 57.2 -6.4
comp=Z,16nm,0.3s,baz=86,slow=3.4,SNR=12
OBN Obninsk 70.31 344 *c* iP **P** **06 07 55.8 -1.3**
OBN *i* 06 08 16.9
OBN *i* 06 10 37.8
OBN *i* S **S** **06 17 05.5 -2.0**
OBN *i* SS **SS** **06 21 32.6 -4.2**
OBN pmax pmax
comp=Z,216nm,1.7s
OBN MLR MLR
comp=Z,52µm,22.0s
OBN Obninsk 70.31 344 P **P** **06 07 57.5 +0.4**
comp=Z,619nm,1.0s,SNR=9.8
OBN Obninsk 70.31 344 *e*P **P** **06 07 56.6 -0.5**
OBN P'P'ab P'P'ab 06 35 57.2 -6.4
OBN LR LR
comp=Z,47µm,20.0s
EKS2 Erkin-Say 70.34 315 P **P** **06 07 57.6 -0.1**
SNR=25
EKS2 Erkin-Say 70.34 315 *e*P **P** **06 07 57.8 +0.1**
EKS2 pmax pmax
comp=Z,66nm,0.9s
EKS2 MLR MLR
comp=Z,44µm,21.0s
EKS2 Erkin-Say 70.34 315 *e*P **P** **06 07 57.8 +0.1**
comp=Z,66nm,0.9s
EKS2 LR LR
comp=Z,44µm,21.0s
VAH Vaihoa 70.36 157 *e*P **P** **06 07 57.5 -0.3**
comp=Z,483nm,1.1s
VAH Vaihoa 70.36 157 *e*T T 07 24 28.3
comp=Z,38nm,0.4s
UCH Uchtor 70.38 315 P **P** **06 07 58.4 0.0**
SNR=17
EDU Dundee 70.52 8 *e*P **P** **06 07 58.1 -0.3**
SRPI Serui, Papua 70.64 239 P **P** **06 08 02.0 +2.3**
comp=Z,446nm,1.3s,comp=Z,10µm
MSVF Nonsavu 70.98 192 P **P** **06 08 03.5 +1.9**
comp=Z,887nm,1.1s,SNR=8.2
MSVF Nonsavu 70.98 192 *e*P **P** **06 08 02.3 +0.7**
MSVF MLR MLR
comp=Z,37µm,19.0s
MSVF Nonsavu 70.98 192 *e*P **P** **06 08 02.3 +0.7**
MSVF LR LR
comp=Z,37µm,19.0s
IZAR Zarasai 71.06 351 *e*P **P** **06 08 01.5 -0.2**
IZAR IAmb IAmb 06 08 10.9
comp=Z,80nm,1.3s
WAMI Wamena 71.10 236 P P 06 08 05.8 +3.4
PGBU Glenifferbraes 71.12 9 *e*P **P** **06 08 01.3 -0.7**
PGBU AMB AMB 06 08 06.4
comp=Z,141nm,1.7s
PGBU AMS AMS 06 44 04.8
comp=Z,70µm,18.0s
SLVN Son La 71.12 280 *e*P **P** **06 08 03.4 +0.8**
comp=Z,51nm,1.1s
MUD Monsted U'grnd 71.15 1 *i* P **P** **06 08 03.7 +1.5**
comp=Z,58nm,1.0s

MUD **Monsted U'grnd** **71.15** **1** *i* P **P** **06 08 03.7 +1.5**
MUD pmax pmax
comp=Z,58nm,1.0s
MUD MLR MLR
comp=Z,41µm,18.0s
ISAL **Salakas** **71.24 351** *e*P **P** **06 08 02.5 -0.3**
ISAL IAmb IAmb 06 08 12.1
comp=Z,49nm,1.0s
EBL **Broad Law** **71.28** **8** *e*P **P** **06 08 02.7 -0.4**
KK31 **Karatay Array** **71.34 318** *i* P **P** **06 08 01.5 -2.1**
KK31 pmax pmax
comp=Z,57nm,0.8s
KKAR **Karatay Array** **71.34 318** *e*P **P** **06 08 02.9 -0.7**
KKAR *e* 06 10 37.3
KKAR **Karatay Array** **71.34 318** *e*P **P** **06 08 02.9 -0.7**
KKAR *e*PP **PP** **06 10 37.3 -4.0**
RKPI **Ransiki, Papua** **71.42 241** P **P** **06 08 06.1 +1.7**
comp=Z,293nm,1.8s,comp=Z,55µmcomp=Z,32µm
IDID **Didziasalis** **71.43 350** *e*P **P** **06 08 03.7 -0.2**
IDID IAmb IAmb 06 08 13.1
comp=Z,64nm,1.1s
IIGN **Ignalina** **71.45 350** *e*P **P** **06 08 03.9 -0.2**
IIGN IAmb IAmb 06 08 12.2
comp=Z,47nm,0.8s
EKA **Eskdalemuir Ar** **71.71** **8** PKPPKP P'P'bc 06 35 53.4 -6.0
comp=Z,11nm,1.1s,baz=157,slow=3.0,SNR=8.1
EKA LR LR 06 39 02.3
comp=Z,33µm,20.6s,baz=320,slow=36
ESK **Eskdalemuir** **71.72** **8** *e*P **P** **06 08 05.6 -0.1**
ESK AMS AMS 06 38 23.4
comp=Z,41µm,22.5s
ESK **Eskdalemuir** **71.72** **8** *e*P **P** **06 08 04.7 -1.0**
ESK pmax pmax
comp=Z,327nm,1.8s
ESK MLR MLR
comp=Z,48µm,20.0s
ESK **Eskdalemuir** **71.72** **8** *e*P **P** **06 08 04.7 -1.0**
comp=Z,327nm,1.8s
ESK LR LR
comp=Z,48µm,20.0s
NACGM **Naroch** **71.83 350** *e*P **P** **06 08 04.0 -2.4**
ECK **Cauldkaine Hil** **71.86** **8** *e*P **P** **06 08 05.0 -1.6**
COP **Copenhagen** **71.91 359** *i* P **P** **06 08 07.7 +0.9**
comp=Z,34nm,0.9s
COP **Copenhagen** **71.91 359** *i* P **P** **06 08 07.7 +0.9**
COP pmax pmax
comp=Z,34nm,0.9s
COP MLR MLR
comp=Z,18µm,21.0s
KSH **Kashi** **71.93 312** P **P** **06 08 09.8 +2.4**
KSH pP **pP** **06 08 14.3 -0.1**
KSH PcP **PcP** **06 08 28.3 +2.2**
KSH PP **PP** **06 10 51.1 +4.4**
KSH S **S** **06 17 29.1 +1.9**
KSH sS **sS** **06 17 37.3 -1.4**
KSH SKS **SKSac** **06 18 08.1 -2.0**
KSH SS **SS** **06 22 07.3 +4.4**
KSH PMZ
comp=Z,96nm,0.8s
KSH PMZ
comp=Z,4µm,6.2s
KSH LN
comp=Z,14µm,12.3s
KSH LE
comp=Z,32µm,17.5s
KSH LZ
comp=Z,6µm,12.5s
PMG **Port Moresby** **71.99 225** P **P** **06 08 07.6 -0.2**
comp=Z,257nm,1.1s,baz=127,slow=5.8,SNR=8.6
PMG LR LR 06 35 52.6
comp=Z,37µm,20.7s,baz=33,slow=33
PMG **Port Moresby** **71.99 225***c* *i* P **P** **06 08 08.6 +0.9**
PMG pmax pmax
comp=Z,1µm,1.0s
PMG **Port Moresby** **71.99 225** *e*P **P** **06 08 07.9 +0.1**
LSA **Lhasa** **72.06 295** P **P** **06 08 09.0 +0.2**
LSA S **S** **06 17 27.8 -1.9**
LSA LN
comp=Z,32µm,27.9s
LSA LE
comp=Z,63µm,27.9s
LSA **Lhasa** **72.06 295** *e*P **P** **06 08 09.8 +1.0**
LSA pmax pmax
comp=Z,334nm,1.7s
LSA MLR MLR
comp=Z,54µm,21.0s
LSA **Lhasa** **72.06 295** *e*P **P** **06 08 09.8 +1.0**
comp=Z,334nm,1.7s
LSA LR LR
comp=Z,54µm,21.0s
MICGM **Minsk** **72.11 349**⇑ *e*P **P** **06 08 07.0 -1.0**
MNK **Minsk** **72.12 349**⇑ *e*P **P** **06 08 07.0 -1.1**
MNK *e* 06 10 46.0
MNK *e*PPP PPP 06 12 30.0
MNK *e*S **S** **06 17 24.0 -4.6**
MNK *e*PS **PnS** **06 18 00.0 +0.7**
MNK pmax pmax
comp=Z,210nm,1.1s
MNK pmax pmax
comp=Z,4µm,9.0s
MNK smax smax
comp=N,11µm,12.0s
MNK MLR MLR
comp=N,100µm,22.0s
MNK MLR MLR
comp=N,64µm,20.0s
MNK MLR MLR
comp=Z,94µm,20.0s
PPT **Papeete** **72.19 160** P **P** **06 08 09.7 +0.9**
comp=Z,78nm,0.7s,baz=348,slow=1.9,SNR=6.9
PPT LR LR 06 32 26.9
comp=Z,13µm,21.5s,baz=344,slow=30
PPT2 **Papeete2** **72.21 160** *e*S **S** **06 17 28.2 -2.2**
comp=Z,69µm,28.2s
PPT2 *e*SS **SS** **06 22 09.1 +0.4**
comp=Z,8µm,24.2s
PPT2 *e*LQ LQ 06 26 40.2
comp=Z,116µm,28.0s
PPT2 *e*LR LR 06 30 18.5
comp=Z,49µm,25.0s,baz=348
TIAR **Tiarei** **72.22 160** *e*P **P** **06 08 08.8 -0.3**
comp=Z,165nm,0.9s
TIAR **Tiarei** **72.22 160** *e*T T 07 26 51.6
comp=Z,59nm,0.3s
PAE **Paea** **72.28 160** *e*P **P** **06 08 08.9 -0.4**
comp=Z,51nm,1.3s
PAE **Paea** **72.28 160** *e*T T 07 26 51.5
comp=Z,29nm,0.3s
LPSR **Galich'ya Gora** **72.30 342** *e*P **P** **06 08 08.3 -0.9**
LPSR *e*PPP PPP 06 12 37.8
LPSR *e*S **S** **06 17 28.5 -2.2**
LPSR *e* 06 18 18.3
LPSR pmax pmax
comp=N,10.0nm,1.1s
LPSR pmax pmax
comp=Z,70nm,1.1s
LPSR pmax pmax
comp=E,10.0nm,0.9s
LPSR smax smax
comp=N,290nm,3.2s
LPSR smax smax
comp=E,590nm,3.2s
LPSR smax smax
comp=Z,160nm,3.2s
LPSR MLR MLR
comp=N,40µm,23.0s
LPSR MLR MLR
comp=E,11µm,23.0s
LPSR MLR MLR
comp=Z,46µm,23.0s
BSD **Bornholm Skovb** **72.43 357** *i* P **P** **06 08 12.4 +2.5**
BSD **Bornholm Skovb** **72.43 357** *i* P **P** **06 08 12.4 +2.5**
BSD MLR MLR
comp=Z,49µm,25.0s
KESW **Keswick, Cumbr** **72.45** **8** *e*P **P** **06 08 11.7 +1.6**
KESW AMS AMS 06 45 07.8
comp=Z,55µm,19.1s
SWI **Sorong** **72.46 244** P **P** **06 08 11.3 +0.7**
SIJI **Sorong** **72.46 244** P **P** **06 08 10.9 +0.2**
comp=Z,484nm,1.1s,baz=16,slow=8.4,SNR=34
SIJI LR LR 06 35 32.3
comp=Z,32µm,21.1s,baz=14,slow=32
TVO **Taravao** **72.46 159** *e*P **P** **06 08 10.5 0.0**
comp=Z,41nm,0.8s
TVO **Taravao** **72.46 159** *e*T T 07 26 57.7
comp=Z,9.5nm,0.3s

SFK **Sufi-Kurgan** **72.62 314** P **P** **06 08 11.8 +0.1**
SFK pmax pmax
comp=Z,117nm,1.2s
MEH **Mehetia** **72.81 158** *e*T T 07 27 40.0
comp=Z,57nm,0.3s
RGN **Rugen** **73.03 358** *e*P **P** **06 08 13.0 -0.5**
SUW **Suwalki** **73.06 352** *e*P **P** **06 08 12.7 -1.0**
SUW *e*S **S** **06 17 37.4 -1.8**
SUW LMZ LR 06 41 00.9
SUW **Suwalki** **73.06 352** *e*P **P** **06 08 12.7 -1.0**
SUW *e*S **S** **06 17 37.5 -1.8**
SUW MLR MLR
comp=Z,70µm,21.8s
BBSR **BB Station** **73.18** **59** *e*P **P** **06 08 14.7 -0.1**
BBSR *e*PP **PP** **06 10 58.8 +1.4**
BBSR *e*S **SKiKP** **06 17 44.0 -1.1**
BBSR LR LR
comp=Z,34µm,21.0s
HPK **Haverah Park** **73.20** **7** *e*P **P** **06 08 15.2 +0.7**
HPK AMS AMS 06 41 01.7
comp=Z,44µm,21.6s
TNTI **Ternate** **73.27 248** P **P** **06 08 16.2 +0.7**
TNTI **Ternate** **73.27 248** *e*P **P** **06 08 15.9 +0.5**
TNTI *e*S **S** **06 17 43.7 +1.0**
DSB **Dublin** **73.46** **10** *e*P **P** **06 08 15.8 -0.3**
WME **Myndd Eilian** **73.53** **9** *e*P **P** **06 08 15.5 -0.9**
VSR **Storozhevoye** **73.57 342** *e*P **P** **06 08 15.8 -1.0**
VSR *e**PP **pP** **06 08 25.1 +1.3**
VSR *e*PPP PPP 06 12 40.5
VSR *e*S **S** **06 17 41.9 -3.3**
VSR *e* 06 18 24.4
VSR *e*SS **SS** **06 22 24.4 -2.5**
VSR *e*SSS SSS 06 25 42.1
VSR pmax pmax
comp=N,20nm,0.9s
VSR pmax pmax
comp=Z,70nm,0.9s
VSR pmax pmax
comp=E,5.0nm,0.6s
VSR smax smax
comp=N,2µm,5.6s
VSR smax smax
comp=Z,1µm,5.6s
VSR smax smax
comp=E,540nm,4.8s
LHO **Holmfirth** **73.59** **7** *e*P **P** **06 08 17.0 +0.2**
WLF1 **Llynfaes** **73.62** **9** *e*P **P** **06 08 16.9 -0.1**
WLF1 AMB AMB 06 08 22.6
comp=Z,99nm,1.6s
WLF1 AMS AMS 06 39 56.6
comp=Z,51µm,21.8s
FAKI **Fak Fak** **73.64 242** P **P** **06 08 18.4 +0.8**
FAKI **Fak Fak** **73.64 242** *e*P **P** **06 08 17.5 -0.1**
FAKI *e*PP **PP** **06 11 03.0 +0.9**
FAKI *e*S **SKiKP** **06 17 42.4 -3.7**
BSEG **Bad Segeberg** **73.68 360** *e*P **P** **06 08 16.6 -0.7**
comp=Z,76nm,1.2s
BSEG *e*S **SKiKP** **06 17 43.8 -1.4**
WPM1 **Penmaenmawr** **73.70** **9** *e*P **P** **06 08 14.6 -2.9**
LMK **Market Rasen** **73.79** **7** *e*P **P** **06 08 17.8 -0.2**
LMK AMS AMS 06 46 09.2
comp=Z,37µm,18.1s
KBI1 **Birley Grange** **73.91** **7** *e*P **P** **06 08 17.5 -1.2**
STNC **Stoke** **74.01** **8** *e*P **P** **06 08 20.4 +1.1**
STNC AMS AMS 06 45 56.0
comp=Z,57µm,17.7s
FOEL **Foel Wylfa** **74.13** **8** *e*P **P** **06 08 19.3 -0.7**
FOEL AMB AMB 06 08 23.8
comp=Z,135nm,2.0s
RAR **Rarotonga** **74.17 170** LR LR 06 33 34.4
comp=Z,21µm,21.6s,baz=355,slow=30
RAR **Rarotonga** **74.17 170** *e*P **P** **06 08 21.2 +0.8**
RAR pmax pmax
comp=Z,656nm,2.0s
RAR **Rarotonga** **74.17 170** *e*P **P** **06 08 21.2 +0.8**
comp=Z,656nm,2.0s
GKP **Gorka Klasztor** **74.18 356** *e*P **P** **06 08 19.1 -1.2**
GKP *e*S **S** **06 17 51.8 -0.2**
GKP LMZ LR 06 36 54.2
GKP **Gorka Klasztor** **74.18 356** *e*P **P** **06 08 19.1 -1.2**
GKP *e*S **S** **06 17 51.9 -0.1**
VAL **Valentia** **74.27** **13** *e*P **P** **06 08 22.4 +1.6**
VAL **Valentia** **74.27** **13**⇓ *i*S **S** **06 17 55.2 +2.2**
LBMI **Labuha** **74.35 247** P **P** **06 08 23.1 +1.3**
SKNT **Sakolnakorn** **74.42 278** P **P** **06 08 21.9 -0.4**
comp=Z,236nm,0.9s,comp=Z,7µm
CWF **Charnwood Fore** **74.44** **7** *e*P **P** **06 08 20.8 -1.0**
CWF AMS AMS 06 41 37.9
comp=Z,42µm,22.3s
KDM **Kudat** **74.49 261**⇓ P **P** **06 08 24.7 +2.1**
KDM **Kudat** **74.49 261**⇓ P **P** **06 08 24.7 +2.1**
HLM1 **Long Mynd** **74.53** **8** *e*P **P** **06 08 21.7 -0.6**
UBPT **Khong Chiam** **74.84 275** P **P** **06 08 25.0 +0.4**
comp=Z,201nm,1.5s,comp=Z,9µm
SHL **Shillong** **74.86 292** *e*P **P** **06 08 24.2 -0.7**
SHL AMB AMB 06 09 14.9
comp=Z,172nm,0.0s
SHL *e*x x 06 17 58.0
MYLDM **Lahad Datu** **74.87 258**⇑ P P 06 08 28.3 +3.5
MYLDM **Lahad Datu** **74.87 258**⇑ P P 06 08 28.3 +3.5
MCH1 **Michaelchurch** **75.03** **8** *e*P **P** **06 08 25.1 -0.2**
MCH1 AMS AMS 06 46 29.9
comp=Z,44µm,19.7s
RUE **Ruedersdorf** **75.10 358** *e*P **P** **06 08 24.7 -0.9**
comp=Z,174nm,1.6s
RUE **Ruedersdorf** **75.10 358** *e*P **P** **06 08 24.6 -1.0**
comp=Z,88nm,1.0s
MONM **Monmouth** **75.20** **8** *e*P **P** **06 08 26.8 +0.5**
MONM AMS AMS 06 46 36.9
comp=Z,40µm,19.4s
SDKM **Sandakan** **75.28 260**⇓ P **P** **06 08 28.1 +0.8**
SDKM **Sandakan** **75.28 260**⇓ P **P** **06 08 28.1 +0.8**
IBBN **Ibbenburen** **75.29** **2** *e*P **P** **06 08 25.8 -0.9**
comp=Z,100nm,1.1s
IBBN *e*S **S** **06 17 59.5 -4.9**
STRD **Stroud** **75.32** **8** *e*P **P** **06 08 27.7 +0.8**
STRD AMB AMB 06 08 33.0
comp=Z,184nm,1.6s
STRD AMS AMS 06 46 43.3
comp=Z,62µm,18.7s
KMSI **Cibinong** **75.36 251** P **P** **06 08 28.9 +1.3**
BEL **Belsk** **75.40 353** *e*P **P** **06 08 27.5 +0.2**
BEL *e*S **S** **06 18 05.4 -0.3**
BEL LMZ LR 06 43 58.3
BEL **Belsk** **75.40 353** *e*P **P** **06 08 27.6 +0.2**
BEL *e*S **S** **06 18 05.4 -0.3**
BEL MLR MLR
comp=Z,51µm,20.1s
OLDB **Oldbury-Upon-S** **75.40** **8** *e*P **P** **06 08 29.7 +2.3**
OLDB AMB AMB 06 08 36.4
comp=Z,131nm,4.0s
OLDB AMS AMS 06 46 54.2
comp=Z,53µm,18.6s
KKM **Kota Kinabalu** **75.55 261**⇓ P **P** **06 08 31.4 +2.6**
KKM **Kota Kinabalu** **75.55 261**⇓ P **P** **06 08 31.4 +2.6**
KKM **Kota Kinabalu** **75.55 261** *e*P **P** **06 08 29.2 +0.3**
KKM LR LR
comp=Z,19µm,20.0s
DLV **T Lat** **75.60 271** *e*P **P** **06 08 30.2 +0.9**
WTSB **Winterswijk** **75.61** **2** *e*P **P** **06 08 27.0 -1.5**
comp=Z,279nm,2.1s
SWN1 **Swindon** **75.61** **8** *e*P **P** **06 08 28.4 -0.2**
SWN1 AMB AMB 06 08 32.5
comp=Z,159nm,1.8s
SWN1 AMS AMS 06 47 02.8
comp=Z,68µm,18.7s
DZET **Dzherino** **75.63 316** P **P** **06 08 27.4 -1.7**
DZET pmax pmax
comp=Z,77nm,0.6s
BATH **Bath** **75.64** **8** *e*P **P** **06 08 28.2 -0.6**
BATH AMS AMS 06 47 02.2
comp=Z,55µm,19.0s
LOEI **Loei** **75.64 280** P **P** **06 08 27.3 -2.0**
comp=Z,78nm,1.1s,comp=Z,3µm
AKASG **Malin Array Be** **75.68 348** P **P** **06 08 26.7 -2.3**
comp=Z,48nm,0.7s,baz=14,slow=5.6,SNR=35
AKASG PKPPKP P'P'df 06 35 49.0 -7.0
comp=Z,6.1nm,0.9s,baz=215,slow=1.6,SNR=5.8
AKASG LR LR 06 46 05.0
comp=Z,44µm,19.2s,baz=5.0,slow=39
AKASG **Malin Array Be** **75.68 348** *i* P **P** **06 08 27.7 -1.3**
AKASG pmax pmax
comp=Z,48nm,0.7s
AKBB **Malin Array Si** **75.68 348** *e*P **P** **06 08 27.7 -1.3**

AKBB **Malin Array Si** **75.68 348** *e*P **P** **06 08 27.7 -1.3**
KIEV **Kiev** **75.69 348** *e*P **P** **06 08 27.6 -1.4**
KIEV MLR MLR
comp=Z,56µm,19.0s
KIEV **Kiev** **75.69 348** *e*P **P** **06 08 27.6 -1.4**
KIEV LR LR
comp=Z,56µm,19.0s
AK01 **Malin Array Si** **75.69 348** *e*P **P** **06 08 27.7 -1.4**
AK02 **Malin Array Si** **75.72 348** *e*P **P** **06 08 27.8 -1.5**
TAPN **Taplejung** **75.78 296** *e*P **P** **06 08 30.1 -0.2**
comp=Z,413nm,1.3s
CLZ **Clausthal** **75.78 360** *e*P **P** **06 08 28.9 -0.7**
comp=Z,96nm,1.2s
CLZ *e*S **S** **06 18 06.5 -3.5**
MSAI **Masohi** **75.80 245** P **P** **06 08 32.1 +2.0**
WOL **Wolverton** **75.86** **7** *e*P **P** **06 08 28.5 -1.5**
WOL AMB AMB 06 08 33.7
comp=Z,180nm,1.8s
HTL **Hartland** **75.88** **10** *e*P **P** **06 08 30.5 +0.4**
HTL AMS AMS 06 41 15.3
comp=Z,55µm,20.9s
TSM **Tawau** **75.95 258**⇓ P **P** **06 08 32.9 +1.9**
TSM **Tawau** **75.95 258**⇓ P **P** **06 08 32.9 +1.9**
CMMT **Chiang Mai** **76.01 283** P **P** **06 08 31.1 -0.3**
comp=Z,112nm,1.4s,comp=Z,5µm
CHTO **Chiang Mai** **76.02 283** P **P** **06 08 31.1 -0.3**
comp=Z,357nm,1.6s,comp=Z,16µm
CHTO **Chiang Mai** **76.02 283** *e*P **P** **06 08 30.3 -1.1**
CHTO pmax pmax
comp=Z,291nm,1.8s
CHTO MLR MLR
comp=Z,38µm,19.0s
CHTO **Chiang Mai** **76.02 283** *e*P **P** **06 08 30.3 -1.1**
comp=Z,291nm,1.8s
CHTO LR LR
comp=Z,38µm,19.0s
BUG **Bochum--Univer** **76.15** **2** *e*P **P** **06 08 30.3 -1.3**
comp=Z,81nm,1.3s
BUG *e*S **S** **06 18 09.9 -4.0**
BNDI **Bandanaira** **76.24 243** P P 06 08 36.6 +4.0
comp=Z,808nm,1.2s,comp=Z,13µm
CLL **Collm** **76.29 358** *e*P **P** **06 08 31.1 -1.3**
comp=Z,73nm,1.5s
CLL *e*S **S** **06 18 11.4 -4.0**
CLL **Collm** **76.29 358** *e*P **P** **06 08 31.9 -0.5**
CLL pmax pmax
comp=Z,96nm,1.1s
CLL **Collm** **76.29 358** *e*P **P** **06 08 31.9 -0.5**
comp=Z,96nm,1.1s
CLL **Collm** **76.29 358**⇑ *i*P **P** **06 08 31.9 -0.5**
comp=Z,87nm,1.5s
CLL *e*Pmax 06 08 33.0
CLL *i* (sP) **sP** **06 08 40.1 -1.9**
CLL *i* 06 08 58.1
CLL *i* PP **PP** **06 11 21.0 -2.0**
CLL *e* 06 11 33.0
CLL *e*PPP PPP 06 13 18.0
CLL *e*PPPP 06 14 18.0
CLL *e*S **S** **06 18 18.0 +2.5**
CLL *e*PS **PnS** **06 18 52.0 -1.5**
CLL *e*PPS PPS 06 19 07.0
CLL *e* 06 20 06.0
CLL *e*(SS) 06 23 00.0
CLL *e* 06 24 12.0
CLL *e*SSS SSS 06 26 30.0
CLL *e*PKPPKPdf P'P'df 06 35 42.0 -13
comp=Z,135nm,2.9s
CLL *e*SKPPKP 06 39 20.0
CLL LmV 06 42 00.0
comp=Z,46µm,21.8s
CM31 **Chiang Mai Arr** **76.29 282** *e*P **P** **06 08 33.1 +0.1**
comp=Z,54nm,0.7s
CMAR **Chiang Mai Arr** **76.29 282** P **P** **06 08 31.8 -1.3**
comp=Z,36nm,0.9s,baz=25,slow=6.7,SNR=106
CMAR PKKP **PKKPdf** **06 27 31.1 +1.2**
comp=Z,1.0nm,0.4s,baz=217,slow=28,SNR=5.1
CMAR PKKPbc **PKKPbc** **06 27 43.8 +0.3**
comp=Z,0.7nm,0.3s,baz=30,slow=8.5,SNR=4.4
CMAR PKPPKP **P'P'df** **06 35 47.9 -3.4**
comp=Z,1.1nm,0.6s,baz=224,slow=3.8,SNR=6.0
CMAR LR LR 06 45 25.2
comp=Z,50µm,19.1s,baz=52,slow=38
CMAR **Chiang Mai Arr** **76.29 282** *i* P **P** **06 08 31.7 -1.3**
CMAR pmax pmax
comp=Z,38nm,0.9s
GUN **Gumba** **76.32 298** *e*P **P** **06 08 33.0 -0.5**
comp=Z,474nm,1.1s
ODAN **Odare** **76.34 296** *e*P **P** **06 08 33.5 +0.1**
comp=Z,67nm,0.7s
NEUB **Neuenburg** **76.40 359** *e*P **P** **06 08 32.1 -1.0**
comp=Z,155nm,1.5s
HMNX **Herstmonceux** **76.42** **6** *e*P **P** **06 08 34.5 +1.3**
HMNX AMS AMS 06 43 04.8
comp=Z,41µm,21.9s
CHAI **Chaiyaphum** **76.46 278** P **P** **06 08 34.1 +0.2**
comp=Z,26nm,0.8s,comp=Z,330nm
DYA **Yadsworthy** **76.49** **9** *e*P **P** **06 08 35.0 +1.4**
DYA AMS AMS 06 41 43.6
comp=Z,56µm,21.0s
PBKT **Sadao Pong** **76.55 280** P **P** **06 08 34.5 +0.1**
comp=Z,98nm,0.8s,comp=Z,4µm
MRSI **Marisa** **76.62 253** P **P** **06 08 34.5 -0.3**
KSP **Ksiaz** **76.65 356** *e*P **P** **06 08 34.0 -0.5**
KSP *e*S **S** **06 18 18.7 -0.7**
KSP LMZ LR 06 38 04.8
KSP **Ksiaz** **76.65 356** *e*P **P** **06 08 34.1 -0.5**
KSP *e*S **S** **06 18 18.8 -0.7**
FBE **Freiberg** **76.67 358** *e*P **P** **06 08 33.8 -0.8**
comp=Z,128nm,1.3s
RAMN **Ramite** **76.69 297** *e*P **P** **06 08 34.7 -0.8**
comp=Z,243nm,0.9s
BRG **Berggiesshubel** **76.70 358** *i* P **P** **06 08 34.6 -0.2**
comp=Z,69nm,1.1s
BRG S **S** **06 18 19.0 -1.0**
BRG SS SS 06 23 06.0 -8.3
BRG *e*PKKP **PKKPbc** **06 27 39.3 -3.4**
comp=Z,10nm,1.6s
BRG *e*PKPPKP **P'P'df** **06 35 49.9 -4.4**
comp=Z,10nm,1.2s
BRG **Berggiesshubel** **76.70 358** *e*P **P** **06 08 33.6 -1.2**
comp=Z,69nm,1.0s
BRG *e*S **S** **06 18 16.7 -3.3**
BRG **Berggiesshubel** **76.70 358** *i* P **P** **06 08 34.6 -0.2**
BRG S **S** **06 18 19.0 -1.0**
BRG pmax pmax
comp=Z,69nm,1.1s
BRG MLR MLR
comp=N,32µm,19.7s
BRG MLR MLR
comp=E,26µm,18.9s
BRG MLR MLR
comp=Z,37µm,19.9s
MBJ **Montego Bay** **76.71** **77** *i* P **P** **06 08 36.9 +1.5**
MBJ *i* S **PcP** **06 08 45.2 -1.5**
NLAI **Namlea** **76.72 246** P **P** **06 08 37.5 +2.2**
comp=Z,177nm,1.4s,comp=Z,7µmcomp=Z,29µm
KKN **Kakani** **76.74 298** *e*P **P** **06 08 36.0 +0.3**
comp=Z,93nm,0.8s
BEBN **Eben Emael** **76.75** **3** P **P** **06 08 34.3 -0.8**
HGN **Heimansgroeve** **76.79** **3** *i* P **P** **06 08 35.0 -0.3**
comp=Z,326nm,2.2s
HGN *e*S **S** **06 18 23.1 +2.1**
HGN *e*SS **SS** **06 23 09.7 -5.9**
HGN *e*SSS SSS 06 27 03.3
HGN *e*SSSS 06 29 13.0
UBBA **Unterbreizbach** **76.80** **0** *e*P **P** **06 08 34.2 -1.0**
comp=Z,82nm,1.6s
UBBA *e*S **S** **06 18 18.3 -2.6**
PKI **Pulchoki** **76.84 298** *e*P **P** **06 08 35.9 -0.5**
comp=Z,152nm,1.1s
PKIN **Phulchoki** **76.84 298** *e*P **P** **06 08 35.7 -0.7**
comp=Z,102nm,1.0s
GKN **Gorkha** **76.91 299** *e*P **P** **06 08 36.2 -0.4**
comp=Z,154nm,1.0s
MEM **Membach** **76.95** **3** P P **06 08 35.9 -0.3**
comp=Z,46nm,1.5s
MEM **Membach** **76.95** **3** *e*P **P** **06 08 36.3 +0.1**
MEM pmax pmax
comp=Z,86nm,1.1s
MEM **Membach** **76.95** **3** *e*P **P** **06 08 36.3 +0.1**
comp=Z,86nm,1.1s
MOX **Moxa** **76.97 359** *e*P **P** **06 08 35.4 -1.0**
comp=Z,163nm,1.9s
MOX *e*S **S** **06 18 20.5 -2.5**
MOX *e*L L 06 45 46.6

comp=Z,36µm,21.1s
DMN Daman 76.97 298 *e*P **P** **06 08 36.8 -0.3**
comp=Z,319nm,1.3s
SNF Seneffe 76.99 4 P **P** **06 08 35.4 -1.0**
UPC Upice 77.00 356 *e*P **P** **06 08 36.2 -0.3**
UPC *ex* x 06 09 13.3
UPC *ex* x 06 09 44.3
UPC *e*PP PP 06 11 34.3 +5.3
UPC *ex* x 06 13 25.4
UPC *e*S **S** **06 18 21.2 -2.1**
UPC *e*SS **SS** **06 23 14.8 -4.0**
UPC *ex* x 06 35 38.9
UPC *e*PKPPKP P'P'df 06 35 47.3 -6.4
UPC AMS AMS 06 44 00.0
comp=Z,50µm,21.4s
UPC Upice 77.00 356 *e*P **P** **06 08 36.2 -0.3**
UPC *e* 06 11 34.3
UPC *e* 06 13 25.4
UPC *e*S **S** **06 18 21.2 -2.1**
UPC *e*SS **SS** **06 23 14.8 -4.0**
UPC MLR MLR
comp=Z,50µm,21.4s
PVCC Panska Ves 77.03 357 *e*P **P** **06 08 34.9 -1.8**
PVCC *ex* x 06 09 00.0
PVCC *ex* x 06 09 43.7
PVCC *e*PP **PP** **06 11 33.1 +3.8**
PVCC *ex* x 06 13 19.6
PVCC *e*S **S** **06 18 21.9 -1.7**
PVCC AMS AMS 06 48 40.0
comp=Z,36µm,17.3s
PVCC Panska Ves 77.03 357 *e*P **P** **06 08 34.9 -1.8**
PVCC *e* 06 11 33.1
PVCC *e* 06 13 19.6
PVCC *e*S **S** **06 18 21.9 -1.7**
PVCC MLR MLR
comp=Z,36µm,17.3s
CVJ Coleyville 77.04 77 *i*P **P** **06 08 38.1 +0.7**
MTDJ Mount Denham 77.04 77 *e*P **P** **06 08 37.2 -0.1**
MTDJ LR LR
comp=Z,43µm,19.0s
OJC Ojcow 77.08 354 *e*P **P** **06 08 36.1 -0.9**
OJC *e*S **S** **06 18 24.0 -0.2**
OJC LMZ LR 06 44 42.0
OJC Ojcow 77.08 354 *e*P **P** **06 08 36.8 -0.2**
OJC pmax pmax
comp=Z,175nm,1.5s
OJC Ojcow 77.08 354 *e*P **P** **06 08 36.8 -0.2**
comp=Z,175nm,1.5s
DANN Dangsing 77.10 300 *e*P **P** **06 08 37.5 -0.3**
comp=Z,43nm,1.0s
MHMT Maesarieng 77.11 283 P **P** **06 08 37.7 +0.1**
comp=Z,113nm,0.8s,comp=Z,2µm
PLN Plauen 77.12 359 *e*P **P** **06 08 36.4 -0.8**
LVV L'vov 77.14 351 *e*P **P** **06 08 37.3 0.0**
LVV *e* 06 11 25.1
LVV *e*S **S** **06 18 22.3 -2.5**
LVV *e*PS **PnS** **06 19 05.5 +1.0**
LVV *e*SS **SS** **06 23 25.6 +4.7**
LVV MLR MLR
comp=Z,69µm,20.5s
LVV MLR MLR
comp=N,55µm,21.0s
LVV MLR MLR
comp=E,32µm,20.0s
DPC Dobruska-Polom 77.14 356 *e*P **P** **06 08 36.1 -1.3**
DPC *ex* x 06 08 37.5
DPC *ex* x 06 09 00.9
DPC *e*PP PP 06 11 35.7 +5.4
DPC *e*S **S** **06 18 22.2 -2.8**
DPC *e*SS **SS** **06 23 15.5 -5.6**
DPC *e*PKKP **PKKPbc** **06 27 38.4 -3.5**
DPC *e*PKPPKP P'P'df 06 35 45.5 -8.0
DPC AMS AMS 06 44 20.0
comp=E,42µm,20.1s
DPC Dobruska-Polom 77.14 356 *e*P **P** **06 08 36.1 -1.3**
DPC *e* 06 11 35.7
DPC *e*S **S** **06 18 22.2 -2.8**
DPC *e*SS **SS** **06 23 15.5 -5.6**
DPC MLR MLR
comp=Z,42µm,20.1s
GTBY Guantanamo Bay 77.14 74 *e*P **P** **06 08 36.8 -0.9**
GTBY LR LR
comp=Z,70µm,20.0s
MCJ Malvern 77.18 77 *i*P **P** **06 08 38.7 +0.6**
TANN Tannenbergstha 77.19 359 *e*P **P** **06 08 36.8 -0.9**
comp=Z,59nm,1.4s
TANN *e*S **S** **06 18 23.0 -2.5**
GUNZ Gunzen 77.24 359 *e*P **P** **06 08 37.1 -0.8**
comp=Z,67nm,1.5s
RAC Raciborz 77.32 355 *e*P P 06 08 34.8 -3.5
RAC *e*S **S** **06 18 22.9 -3.8**
RAC MLR MLR
comp=Z,48µm,20.9s
WERN Wernitzgruen 77.32 359 *e*P **P** **06 08 37.6 -0.8**
comp=Z,56nm,1.0s
DZM Mont Dzumac 77.33 203 *e*P **P** **06 08 38.9 +0.3**
comp=Z,864nm,1.3s
DZM *e*S **S** **06 18 25.8 -1.7**
comp=Z,38µm,30.1s
DZM Mont Dzumac 77.33 203 *e*LQ LQ 06 29 08.6
comp=Z,33µm,26.1s
DZM *e*LR LR 06 32 15.6
comp=Z,103µm,32.1s
DZM Mont Dzumac 77.33 203 LR LR 06 36 09.0
comp=Z,33µm,21.7s,baz=0.0,slow=31
DZM Mont Dzumac 77.33 203 *e*P **P** **06 08 39.0 +0.3**
comp=Z,432nm,1.2s
LUWI Luwuk 77.37 251 P **P** **06 08 38.2 -0.8**
comp=Z,881nm,1.2s,comp=Z,9µmcomp=Z,34µm
LUWI Luwuk 77.37 251 *e*P **P** **06 08 38.8 -0.3**
LUWI *e*S **S** **06 18 33.7 +5.5**
NKC Novy Kostel 77.37 359 *e*P **P** **06 08 37.3 -1.3**
NKC *ex* x 06 09 46.0
NKC *e*PP **PP** **06 11 37.1 +4.9**
NKC *ex* x 06 13 25.4
NKC *e*S **S** **06 18 25.5 -1.9**
NKC *e*SS SS 06 23 34.1 +10
NKC *e*PKPPKP P'P'df 06 35 44.4 -8.7
NKC AMS AMS 06 44 30.0
comp=Z,43µm,19.7s
NKC Novy Kostel 77.37 359 *e*P **P** **06 08 37.3 -1.3**
NKC *e* 06 11 37.1
NKC *e* 06 13 25.4
NKC *e*S **S** **06 18 25.5 -1.9**
NKC MLR MLR
comp=Z,43µm,19.7s
TNS Taunus Mts 77.39 1 *e*P **P** **06 08 37.7 -1.1**
comp=Z,47nm,1.2s
TNS *e*S **S** **06 18 26.0 -1.7**
KRLC Kraliky 77.40 356 *e*P **P** **06 08 37.5 -1.3**
KRLC *ex* x 06 09 01.9
KRLC *ex* x 06 09 15.1
KRLC *e*PKPPKP P'P'df 06 35 45.3 -7.8
KRLC Kraliky 77.40 356 *e*P **P** **06 08 37.5 -1.3**
NOUC Port Laguerre 77.40 203 *e*P **P** **06 08 38.4 -0.5**
DOU Dourbes 77.42 4 P **P** **06 08 38.4 -0.4**
comp=Z,31nm,1.9s
KWP Kalwaria Pacla 77.44 352 *e*P **P** **06 08 38.1 -0.9**
KWP *e*S **S** **06 18 28.1 -0.1**
KWP LMZ LR 06 41 49.5
KWP Kalwaria Pacla 77.44 352 *e*P **P** **06 08 38.2 -0.8**
KWP *e*S **S** **06 18 28.1 -0.1**
PRA Prague 77.49 357 *e*P **P** **06 08 38.1 -1.1**
PRA *ex* x 06 08 39.3
PRA *ex* x 06 09 05.0
PRA *e*PP **PP** **06 11 36.1 +3.0**
PRA *ex* x 06 13 23.8
PRA *e*S **S** **06 18 25.8 -2.8**
PRA *ex* x 06 19 00.8
PRA *ex* x 06 23 16.2
PRA AMS AMS 06 50 50.0
comp=Z,42µm,19.4s
PRA Prague 77.49 357 *e*P **P** **06 08 38.1 -1.1**
PRA *e* 06 11 36.1
PRA *e* 06 13 23.8
PRA *e*S **S** **06 18 25.8 -2.8**
PRA *e* 06 19 00.8
PRA MLR MLR
comp=Z,42µm,19.4s
OKC Ostrava-Krasne 77.56 355 *e*P **P** **06 08 37.6 -2.1**
OKC *ex* x 06 09 02.7
OKC *e*PP **PP** **06 11 36.5 +2.7**
OKC *e*S **S** **06 18 29.6 +0.2**
OKC *e*SS **SS** **06 23 25.2 -2.1**
OKC *e*PKKP **PKKPbc** **06 27 40.5 -0.4**
OKC *e*PKPPKP P'P'df 06 35 42.6 -10
OKC AMS AMS 06 44 30.0
comp=Z,38µm,20.7s
OKC Ostrava-Krasne 77.56 355 *e*P **P** **06 08 37.6 -2.1**
OKC *e* 06 11 36.5
OKC *e*S **S** **06 18 29.6 +0.2**
OKC *e*SS **SS** **06 23 25.2 -2.1**
OKC MLR MLR
comp=Z,38µm,20.7s
PRU Pruhonice 77.57 357 *e*P **P** **06 08 39.6 -0.1**
PRU *ex* x 06 09 05.5
PRU *ex* x 06 09 47.6
PRU *e*PP **PP** **06 11 36.3 +2.5**
PRU *ex* x 06 13 25.0
PRU *e*S **S** **06 18 28.4 -1.1**
PRU *ex* x 06 19 00.8
PRU *ex* x 06 23 18.6
PRU *e*PKKP **PKKPbc** **06 27 43.8 +2.9**
PRU *e*PKPPKP P'P'df 06 35 39.1 -14
PRU AMS AMS 06 50 50.0
comp=Z,35µm,19.6s
PRU Pruhonice 77.57 357 *e*P **P** **06 08 39.6 -0.1**
PRU *e* 06 11 36.3
PRU *e* 06 13 25.0
PRU *e*S **S** **06 18 28.4 -1.1**
PRU *e* 06 19 00.8
PRU MLR MLR
comp=Z,35µm,19.6s
STH Stony Hill 77.58 77 *i*P **P** **06 08 41.0 +0.7**
MANZ Manzenberg 77.62 359 *e*P **P** **06 08 39.1 -1.0**
comp=Z,62nm,1.5s
GOPC GO Pecny, Ondr 77.64 357 *e*P **P** **06 08 38.5 -1.6**
GOPC *ex* x 06 08 40.1
GOPC *ex* x 06 09 04.7
GOPC *e*PP **PP** **06 11 36.6 +2.2**
GOPC *ex* x 06 13 25.1
GOPC *e*S **S** **06 18 29.1 -1.2**
GOPC *ex* x 06 19 00.6
GOPC *e*PKPPKP P'P'df 06 35 42.9 -10
GOPC AMS AMS 06 46 30.0
comp=Z,37µm,20.7s
GWJ Greenwich 77.64 77 *i*P **P** **06 08 41.5 +0.8**
KOLN Koldanda 77.65 300 *e*P **P** **06 08 40.4 -0.4**
comp=Z,66nm,0.7s
MORC Moravsky Berou 77.66 355 *e*P **P** **06 08 39.9 -0.4**
MORC Moravsky Berou 77.66 355⇑ *i*P **P** **06 08 40.3 0.0**
MORC Moravsky Berou 77.66 355 *e*P **P** **06 08 39.9 -0.4**
HOJ Hope 77.68 77 *i*P **P** **06 08 41.1 +0.4**
DHRM DHARAMSHALA 77.71 308 *e*P **P** **06 08 40.5 -0.6**
DHRM AMB AMB 06 08 58.2
comp=Z,130nm,0.5s
COEN Coen 77.78 227 *e*P **P** **06 08 40.8 -0.4**
comp=Z,356nm,1.3s
TBI Tubuai 77.82 161 *e*P **P** **06 08 40.8 -0.4**
comp=Z,256nm,1.1s
TBI *e*S **S** **06 18 29.8 -2.7**
comp=Z,37µm,29.8s
TBI *e*SS **SS** **06 23 33.4 -0.4**
comp=Z,7µm,25.5s
TBI *e*LQ LQ 06 28 58.8
comp=Z,49µm,26.8s
TBI *e*LR LR 06 32 25.4
comp=Z,32µm,34.0s,baz=341
TBI Tubuai 77.82 161 *e*T T 07 33 52.8
comp=Z,509nm,0.3s
ROTZ Rotzenmuhle 77.84 359 *e*P **P** **06 08 40.7 -0.5**
comp=Z,131nm,1.8s
ROTZ *e*S **S** **06 18 31.2 -1.3**
NIE Niedzica 77.84 353 *e*P **P** **06 08 40.8 -0.5**
NIE *e*S **S** **06 18 33.5 +0.9**
NIE LMZ LR 06 44 43.1
JSA Saint Aubin 77.89 8 *e*P **P** **06 08 44.0 +2.6**
JSA AMS AMS 06 47 56.7
comp=Z,41µm,19.3s
WLF Walferdange 77.90 3 P **P** **06 08 41.6 +0.1**
comp=Z,52nm,1.9s
WLF Walferdange 77.90 3 *e*P **P** **06 08 40.9 -0.6**
comp=Z,125nm,1.6s
WLF *e*S **S** **06 18 31.7 -1.4**
WLF Walferdange 77.90 3 *e*P **P** **06 08 41.0 -0.6**
WLF MLR MLR
comp=Z,50µm,20.0s
WLF Walferdange 77.90 3 *e*P **P** **06 08 41.0 -0.5**
WLF LR LR
comp=Z,50µm,20.0s
APSI Ampana 77.91 252 P **P** **06 08 42.8 +0.7**
YHJ Yallahs 77.92 76 *i*P **P** **06 08 43.3 +1.2**
MPSI Mapaga 77.92 254 P **P** **06 08 41.2 -0.9**
GRF Grafenberg Arr 77.93 359 *e*P **P** **06 08 41.2 -0.5**
comp=Z,239nm,1.6s
GRF *e*S **S** **06 18 31.9 -1.5**
GRF *e* 06 35 32.0
GRF *e*L L 06 45 20.6
comp=Z,31µm,21.7s
GRFO Grafenberg 77.93 359 *e*P **P** **06 08 41.6 -0.1**
GRFO Grafenberg 77.93 359 *e*P **P** **06 08 41.6 -0.1**
SDNR Sundarnagar 78.00 307 *e*P **P** **06 08 44.0 +1.5**
LGTI Lohaghat 78.04 303 *e*P **P** **06 08 45.1 +2.5**
NAYO Nakonayok 78.09 278 P **P** **06 08 43.9 +0.8**
comp=Z,83nm,1.8s,comp=Z,4µm
VRAC Vranov 78.17 356⇓ *i*P **P** **06 08 43.8 +0.7**
KOLS Kolonicke sedl 78.17 352 *e*P **P** **06 08 42.7 -0.4**
KOLS pmax pmax
comp=Z,19nm,1.1s
KOLS Kolonicke sedl 78.17 352 *e*P **P** **06 08 42.7 -0.4**
KOLS *e*S **S** **06 18 34.9 -1.2**
GRTK Grand Turk 78.20 70 *e*P **P** **06 08 44.0 +0.4**
GRTK LR LR
comp=Z,59µm,20.0s
SMLA Simla 78.21 306 *i*P **P** **06 08 43.1 -0.4**
SMLA AMB AMB 06 08 52.2
comp=Z,390nm,0.4s
SMLA *i* x x 06 18 30.3
TREC Trest 78.23 356 *e*PP PP 06 11 40.2 +0.8
TREC *ex* x 06 13 23.9
TREC *e*S **S** **06 18 35.9 -0.8**
TREC *e*SS **SS** **06 23 33.2 -4.2**
TREC *e*PKPPKP P'P'df 06 35 42.8 -8.7
TREC AMS AMS 06 48 20.0
comp=Z,52µm,20.3s
UTHA Uthaitani 78.25 280 P **P** **06 08 44.7 +0.7**
comp=Z,38nm,1.0s,comp=Z,364nm
SORM Soroca 78.31 348⇑ *i*P **P** **06 08 44.0 +0.2**
SAUI Saumlaki 78.39 240 P **P** **06 08 47.5 +2.8**
SAUI Saumlaki 78.39 240 *e*P P 06 08 49.9 +5.2
comp=Z,3µm,1.4s
DDI Dehra Dun 78.43 305 *e*P **P** **06 08 45.0 +0.1**
KHC Kasperske Hory 78.45 358 *e*P **P** **06 08 44.0 -0.7**
KHC *e*sP **sP** **06 08 52.5 -1.8**
KHC Kasperske Hory 78.45 358 *e*P **P** **06 08 44.0 -0.7**
KHC *e* 06 08 52.5
WET Wettzell 78.45 358 *e*P **P** **06 08 44.0 -0.7**
comp=Z,102nm,1.7s
WET *e*S **S** **06 18 38.2 -0.9**
UZH Uzhgorod 78.47 352⇑ *i*P **P** **06 08 44.6 -0.1**
UZH *e* 06 08 50.8
UZH *i* 06 09 00.2
UZH *e*S **S** **06 18 33.8 -5.4**
UZH MLR MLR
comp=N,34µm,20.0s
UZH MLR MLR
comp=E,22µm,20.0s
UZH MLR MLR
comp=Z,12µm,20.0s
GOF Gofitskoye 78.57 337⇑ *i*P **P** **06 08 45.7 +0.3**
GOF *e*S **S** **06 18 41.6 +1.1**
GOF pmax pmax
comp=Z,396nm,1.2s
GEC2 GERESS Array S 78.73 358 *e*P **P** **06 08 45.3 -1.0**
comp=Z,104nm,1.5s
GEC2 *e*S **S** **06 18 40.6 -1.7**
GERES GERESS Array B 78.73 358 P **P** **06 08 45.1 -1.2**
comp=Z,16nm,0.7s,baz=15,slow=4.6,SNR=44
GERES PKKP **PKKPdf** **06 27 27.0 +2.2**
comp=Z,0.2nm,0.5s,baz=153,slow=0.9,SNR=3.4
GERES PKKPbc **PKKPbc** **06 27 38.4 -0.1**
comp=Z,2.0nm,0.7s,baz=228,slow=1.2,SNR=11
GERES PKP2ab 06 35 23.9
comp=Z,0.7nm,0.9s,baz=151,slow=3.0,SNR=4.6
GERES PKPPKP P'P'df 06 35 44.8 -5.9
comp=Z,3.3nm,1.0s,baz=181,slow=2.1,SNR=6.3
JTS JuntasAbangare 78.76 88 P **P** **06 08 45.5 -1.3**
comp=Z,322nm,0.6s,SNR=5.7
JTS JuntasAbangare 78.76 88*d* *i*P **P** **06 08 45.6 -1.3**
JTS pmax pmax
comp=Z,79nm,1.0s
JTS MLR MLR
comp=Z,86µm,23.0s
JTS JuntasAbangare 78.76 88 *e*P **P** **06 08 45.7 -1.2**
JTS LR LR
comp=Z,23µm,22.0s
KECS Kecovo 78.76 353 *e*P **P** **06 08 45.2 -1.2**
KECS pmax pmax
comp=Z,19nm,0.8s
KECS Kecovo 78.76 353 *e*P **P** **06 08 45.2 -1.2**
STU Stuttgart 78.85 1 *e*P **P** **06 08 45.7 -1.1**
comp=Z,129nm,1.7s
STU *e*S **S** **06 18 40.5 -2.8**
STU Stuttgart 78.85 1 *e*P **P** **06 08 47.6 +0.8**
STU pmax pmax
comp=Z,88nm,1.3s
STU Stuttgart 78.85 1 *e*P **P** **06 08 47.6 +0.8**
comp=Z,88nm,1.3s
PCI Palu 78.96 254 P **P** **06 08 48.2 +0.3**
KBL Kabul 79.14 314 *e*P **P** **06 08 48.1 -0.9**
KBL Kabul 79.14 314 *e*P **P** **06 08 48.1 -0.9**
BUR08 Bucovina Ar. S 79.17 350 *e*P **P** **06 08 47.6 -1.2**
BURAR Bucovina Array 79.19 350⇓ *i*P **P** **06 08 48.7 -0.2**
BFO Black Forest 79.28 1 *e*P **P** **06 08 48.1 -1.1**
comp=Z,72nm,1.4s
BFO *e*S S 06 18 39.2 -8.8
BFO Black Forest 79.28 1 P **P** **06 08 49.2 0.0**
comp=Z,174nm,1.8s,SNR=12
BFO Black Forest 79.28 1 *e*P **P** **06 08 48.9 -0.4**
BFO MLR MLR
comp=Z,33µm,20.0s
BFO Black Forest 79.28 1 *e*P **P** **06 08 48.9 -0.4**
BFO LR LR
comp=Z,33µm,20.0s
WSYH La Gonave Hosp 79.31 73 *e*P **P** **06 08 50.8 +1.0**
BMR Baia Mare 79.31 351⇓ *i*P **P** **06 08 50.7 +1.3**
PRAR RASCA 79.33 349⇓ *i*P **P** **06 08 50.7 +1.2**
KIS Kishinev 79.36 347⇓ *i*P **P** **06 08 49.0 -0.6**
comp=Z,400nm,2.0s
KIS Kishinev 79.36 347 *i*PcP PcP 06 09 04.0 +6.2
KIS Kishinev 79.36 347 *i*PP PP 06 11 54.0 +5.2
comp=Z,3µm,16.0s
KIS Kishinev 79.36 347 *e*PPP PPP 06 13 44.0
KIS *i*S S 06 18 42.0 -6.8
KIS *i*SS SS 06 24 05.0 +11
KIS LRM MLR 06 47 28.0
comp=Z,48µm,20.0s
KIS Kishinev 79.36 347K *i*P **P** **06 08 49.0 -0.6**
KIS *i* 06 09 04.0
KIS *i* 06 11 54.0
KIS *e*PPP PPP 06 13 44.0
KIS *i*S S 06 18 42.0 -6.8
KIS pmax pmax
comp=Z,400nm,2.0s
KIS pmax pmax
comp=Z,4µm,12.0s
KIS pmax pmax
comp=Z,3µm,16.0s
KIS MLR MLR
comp=Z,57µm,17.0s
KIS MLR MLR
comp=N,40µm,18.0s
KIS MLR MLR
comp=E,26µm,18.0s
KIS MLR MLR
comp=Z,48µm,20.0s
PSZ Piszkesteto 79.37 353 *e*P **P** **06 08 49.6 -0.2**
PSZ *e* 06 11 43.6
PSZ MLR MLR
comp=Z,41µm,19.0s
PSZ Piszkesteto 79.37 353⇑ *i*P **P** **06 08 50.4 +0.6**
PSZ Piszkesteto 79.37 353 *e*P **P** **06 08 49.6 -0.2**
PSZ *e*PP PP 06 11 43.6 -5.3
PSZ LR LR
comp=Z,41µm,19.0s
PSZ Piszkesteto 79.37 353 *e*P **P** **06 08 50.3 +0.5**
ECH Echery 79.37 2 *e*P **P** **06 08 48.9 -0.8**
ECH pmax pmax
comp=Z,72nm,1.1s
ECH MLR MLR
comp=Z,31µm,19.0s
ECH Echery 79.37 2 *e*P **P** **06 08 48.9 -0.8**
comp=Z,72nm,1.1s
ECH LR LR
comp=Z,31µm,19.0s
SRDT SRDT 79.39 280 P **P** **06 08 50.8 +0.6**
comp=Z,348nm,1.5s,comp=Z,19µm
MAK Makhachkala 79.39 333 *e*P **P** **06 08 50.5 +0.7**
MAK *e* 06 11 55.9
MAK *e*PPP PPP 06 13 41.1
MAK *e*S **S** **06 18 47.6 -1.6**
MAK *e* 06 19 24.8
MAK pmax pmax
comp=Z,386nm,1.3s
MAK pmax pmax
comp=Z,275nm,1.3s
MAK pmax pmax
comp=N,171nm,0.9s
MAK pmax pmax
comp=E,137nm,0.6s
MAK smax smax
comp=N,5µm,8.1s
MAK smax smax
comp=E,3µm,8.6s
PATY Pattaya 79.45 277 P P 06 08 54.0 +3.4
comp=E,42nm,0.7s,comp=E,3µm
FUR Furstenfeldbru 79.45 359 *e*P **P** **06 08 49.4 -0.8**
comp=Z,249nm,1.9s
FUR *e*S **S** **06 18 45.8 -4.0**
CONA Conrad Observa 79.58 356 *i*pP **P** **06 08 51.4 +0.5**
comp=Z,148nm,1.2s,SNR=54
BOK Bokaro 79.59 296 *e*P **P** **06 08 51.3 0.0**
BTM Bintulu 79.68 262⇓ *e*P **P** **06 08 52.7 +0.8**
BTM Bintulu 79.68 262⇓ *e*P **P** **06 08 52.7 +0.8**
KIV Kislovodsk 79.70 337 *e*P **P** **06 08 54.0 +2.4**
KIV Kislovodsk 79.70 337*d* *i*P **P** **06 08 51.4 -0.3**
KIV *i* 06 08 57.4
KIV *i*S **S** **06 18 50.7 -2.0**
KIV pmax pmax
comp=Z,42nm,0.9s
KIV Kislovodsk 79.70 337 P **P** **06 08 52.4 +0.7**
comp=Z,547nm,0.7s,SNR=14
KIV Kislovodsk 79.70 337⇑ *i*P **P** **06 08 52.5 +0.9**
SNR=14
KIV Kislovodsk 79.70 337⇑ *i*P **P** **06 08 52.5 +0.9**
SNR=14
KIV Kislovodsk 79.70 337 *e*P **P** **06 08 51.0 -0.7**
KIV LR LR
comp=Z,45µm,20.0s
LGNH LØogne 79.71 73 *e*P **P** **06 08 53.8 +1.8**
MOA Mollin 79.72 357 *i*P **P** **06 08 51.6 0.0**
comp=Z,49nm,1.5s,SNR=20
SOP Sopron 79.80 356 *e*P **P** **06 08 52.6 +0.6**
ARCR ARCALIA 79.81 350⇑ *i*P **P** **06 08 53.0 +0.9**
KDI Kendari 79.83 250 P **P** **06 08 54.0 +1.4**
comp=Z,252nm,1.6s,comp=Z,7µm
BUD Budapest 79.86 354 *e*P **P** **06 08 53.2 +0.9**
KBZ Khabaz 79.86 337 P **P** **06 08 53.0 +0.6**
comp=Z,30nm,0.9s,baz=200,slow=0.9,SNR=41
KBZ PKKPbc **PKKPbc** **06 27 36.8 +1.1**
comp=Z,6.1nm,0.9s,baz=187,slow=1.3,SNR=7.1
KBZ LR LR 06 49 57.6
comp=Z,45µm,18.4s,baz=7.0,slow=40
KBZ Khabaz 79.86 337 P **P** **06 08 53.0 +0.6**
RJOB Jochberg 79.86 358 *e*P **P** **06 08 51.6 -0.9**
comp=Z,54nm,1.0s
RJOB *e*S **S** **06 18 53.9 -0.3**
NCK Nalchik 79.91 336⇓ *i*P **P** **06 08 53.2 +0.5**
CSKK Cs˙‡kako 80.03 354 *e*P **P** **06 08 54.5 +1.3**
ANN Anapa 80.05 341 *e*P **P** **06 08 52.9 -0.5**
ANN *e*PPP PPP 06 13 41.2
ANN *e*S **S** **06 18 54.7 -1.4**
ANN pmax pmax
comp=N,82nm,1.5s
ANN pmax pmax
comp=Z,200nm,1.5s
ANN pmax pmax
comp=E,34nm,1.5s
ANN pmax pmax
comp=N,1µm,6.9s
ANN pmax pmax
comp=E,627nm,7.3s

ANN					pmax	pmax			
	comp=Z,4µm,7.0s								
ANN					smax	smax			
	comp=E,4µm,12.8s								
ANN					smax	smax			
	comp=Z,4µm,12.8s								
ANN					smax	smax			
	comp=N,9µm,12.8s								
SDDR	**Presa de Saban**	**80.10**	**72**	*e*P		**P**	**06 08 54.3**	**+0.2**	
SDDR				LR		LR			
	comp=Z,36µm,19.0s								
TESR	**Tescani**	**80.12**	**349**	⇓*i*P		**P**	**06 08 53.9**	**+0.1**	
RETA	**Reutte**	**80.14**	**360**	⇑*i*P		**P**	**06 08 53.9**	**0.0**	
	comp=Z,53nm,1.3s,SNR=16								
NDI	**New Delhi**	**80.19**	**305**	*e*P		**P**	**06 08 53.0**	**-1.4**	
PHET	**Kaeng Krachan**	**80.20**	**278**	P		**P**	**06 08 55.4**	**+0.7**	
	comp=Z,38nm,0.9s,comp=Z,335nm								
CJR	**Cluj-Napoca**	**80.25**	**351**	⇓*i*P		**P**	**06 08 55.5**	**+0.9**	
DRGR		**80.26**	**351**	⇓*i*P		**P**	**06 08 54.3**	**-0.3**	
ARSA	**Arzberg**	**80.27**	**356**	⇑*i*P		**P**	**06 08 54.1**	**-0.5**	
	comp=Z,63nm,1.2s,SNR=23								
MOTA	**Moosalm**	**80.28**	**359**	⇑*i*P		**P**	**06 08 54.8**	**0.0**	
	comp=Z,82nm,1.1s,SNR=39								
WATA	**Walderalm**	**80.28**	**359**	⇓*i*P		**P**	**06 08 54.3**	**-0.6**	
	comp=Z,34nm,0.7s,SNR=34								
DAVA	**Damuels**	**80.34**	**0**	⇑*i*P		**P**	**06 08 54.1**	**-1.0**	
	comp=Z,66nm,1.4s,SNR=15								
WTTA	**Wattenberg**	**80.35**	**359**	⇑*i*P		**P**	**06 08 54.9**	**-0.3**	
	comp=Z,207nm,1.6s,SNR=50								
NEY	**Neytrino**	**80.35**	**337**	*de*P		**P**	**06 08 56.8**	**+1.5**	
KBA	**Koelnbreinsper**	**80.51**	**358**	*i* pP		**P**	**06 08 56.8**	**+0.7**	
	comp=Z,410nm,1.4s,SNR=75								
SIM	**Simferopol'**	**80.53**	**343**	*de*P		**P**	**06 08 57.2**	**+1.2**	
SIM				*e*PPP		PPP	06 13 53.0		
SIM				*i* S		**S**	**06 19 05.3**	**+4.1**	
SIM				*e*PS		**PnS**	**06 19 51.0**	**+3.5**	
SIM				*e*SS		**SS**	**06 24 16.0**	**+3.9**	
SIM				pmax	pmax				
	comp=Z,81nm,0.7s								
SIM				MLR		MLR			
	comp=N,50µm,19.7s								
ABKT	**Ailbek**	**80.57**	**324**	P		**P**	**06 08 56.8**	**+0.4**	
	comp=N,403nm,1.0s,SNR=20								
GEYT	**Alibeck**	**80.57**	**324**	P		**P**	**06 08 55.6**	**-0.8**	
	comp=N,34nm,0.9s,baz=309,slow=5.0,SNR=25								
GEYT				PP		**PP**	**06 12 03.2**	**+3.9**	
	comp=N,16nm,1.0s,baz=344,slow=4.7,SNR=3.8								
GEYT				PKKPbc		**PKKPbc**	**06 27 34.9**	**+0.7**	
	comp=N,4.2nm,0.7s,baz=239,slow=10.0,SNR=4.5								
GEYT				LR		LR	06 51 10.8		
	comp=N,57µm,18.4s,baz=30,slow=41								
FETA	**Feichten**	**80.60**	**360**	⇑*i*P		**P**	**06 08 55.8**	**-0.8**	
	comp=N,108nm,1.3s,SNR=35								
TTSI	**Tana Toraja**	**80.70**	**252**	P		**P**	**06 08 57.1**	**-0.2**	
	comp=N,380nm,1.8s,comp=N,8µm								
SOC	**Sochi**	**80.73**	**339**	*e*P		**P**	**06 08 58.7**	**+1.6**	
SOC				*e*			06 09 09.2		
SOC				*e*			06 11 56.6		
SOC				*e*PPP		PPP	06 13 47.0		
SOC				*e*S		**S**	**06 19 02.3**	**-1.0**	
SOC				pmax	pmax				
	comp=Z,83nm,1.2s								
SOC				MLR		MLR			
	comp=Z,71µm,19.0s								
VRI	**Vrincioaia**	**80.74**	**348**	⇑*i*P		**P**	**06 08 57.2**	**0.0**	
PLOR	**Plostina**	**80.77**	**348**	⇓*i*P		**P**	**06 08 58.7**	**+1.4**	
ONI	**Oni**	**80.80**	**336**	P		**P**	**06 08 58.5**	**+0.9**	
ONI				S		S	06 19 10.9	+6.7	
SBUM	**Sibu**	**80.80**	**262**	⇓P		**P**	**06 08 59.8**	**+1.9**	
SBUM	**Sibu**	**80.80**	**262**	⇓P		**P**	**06 08 59.8**	**+1.9**	
SBUM	**Sibu**	**80.80**	**262**	*e*P		**P**	**06 08 57.3**	**-0.5**	
	comp=Z,431nm,1.5s								
DOPR	**Dopca**	**80.80**	**349**	⇓*i*P		**P**	**06 08 58.0**	**+0.5**	
DAVOX	**Davos/Dischmat**	**80.84**	**0**	PKKPbc		PKKPbc	06 27 34.1	+0.2	
	comp=Z,3.6nm,0.6s,baz=177,slow=21,SNR=6.1								
DAVOX				PKPPKP		**P'P'df**	**06 35 42.3**	**-4.6**	
	comp=Z,5.9nm,1.0s,baz=198,slow=3.5,SNR=7.0								
ABTA	**Abfaltersbach**	**80.86**	**358**	⇑*i*P		**P**	**06 08 57.8**	**0.0**	
	comp=Z,99nm,1.3s,SNR=31								
SOKA	**Soboth**	**80.86**	**357**	*i* P		**P**	**06 08 58.1**	**+0.2**	
	comp=Z,219nm,1.6s,SNR=66								
SIRR	**Siria**	**80.87**	**352**	⇓*i*P		**P**	**06 08 58.9**	**+1.1**	
PERS	**Pernice**	**80.90**	**357**	*e*P		**P**	**06 08 58.2**	**+0.1**	
MYKA	**Terra Mystica**	**80.95**	**358**	⇑*i*P		**P**	**06 08 58.0**	**-0.3**	
	comp=Z,121nm,1.7s,SNR=22								
BKB	**Balikpapan**	**80.97**	**256**	P		**P**	**06 09 00.4**	**+1.7**	
BEHE	**Becsehely**	**81.00**	**355**	*e*P		**P**	**06 09 01.1**	**+2.6**	
FUORN	**Ofenpass-Fuorn**	**81.00**	**360**	*e*P		**P**	**06 08 59.1**	**+0.3**	
	comp=Z,326nm,1.6s								
KOGS	**Kog**	**81.04**	**356**	*e*P		**P**	**06 08 58.8**	**+0.1**	
OBKA	**Obir**	**81.05**	**357**	⇑*i*P		**P**	**06 08 58.9**	**+0.1**	
	comp=Z,78nm,0.9s,SNR=20								
SMN1	**Samana, DR**	**81.10**	**70**	*e*P		**P**	**06 08 59.6**	**+0.2**	
BBSI	**Bau Bau**	**81.11**	**249**	P		**P**	**06 09 02.4**	**+3.0**	
PKSM	**Moragy**	**81.15**	**354**	⇑*i*P		**P**	**06 08 59.2**	**-0.1**	
PKSM	**Moragy**	**81.15**	**354**	*e*P		**P**	**06 08 59.1**	**-0.2**	
TUE	**Stuetta**	**81.15**	**1**	*e*P		**P**	**06 08 59.1**	**-0.5**	
	comp=Z,143nm,1.4s								
TUE				LR		LR			
	comp=Z,39µm,20.0s								
H07N1	**FLORES T-PHASE**	**81.20**	**31**	*e*P		**P**	**06 09 01.0**	**+1.3**	
H07N1	**FLORES T-PHASE**	**81.20**	**31**	P		**P**	**06 09 01.1**	**+1.3**	
MLR	**Muntele Rosu**	**81.21**	**349**	PKKPbc		PKKPbc	06 27 32.0	-1.0	
	comp=Z,0.7nm,0.6s,baz=256,slow=2.6,SNR=6.3								
MLR				PKPPKP		P'P'df	06 35 37.8	-8.3	
	comp=Z,2.4nm,1.2s,baz=306,slow=3.5,SNR=7.2								
MLR	**Muntele Rosu**	**81.21**	**349**	⇓*i*P		**P**	**06 09 00.4**	**+0.6**	
SENIN	**Lac Senin/Sane**	**81.23**	**2**	*e*P		**P**	**06 09 00.5**	**+0.5**	
CFR	**Carcaliu**	**81.24**	**347**	⇑*i*P		**P**	**06 08 59.8**	**0.0**	
TBLG	**Delisi**	**81.27**	**335**	P		**P**	**06 09 01.0**	**+0.9**	
TBLG				S		**S**	**06 19 10.1**	**+1.0**	
TBLG	**Delisi**	**81.27**	**335**	P		**P**	**06 09 01.0**	**+0.9**	
TBLG				S		**S**	**06 19 10.1**	**+1.0**	
CADS	**Cadrg**	**81.35**	**358**	*i* P		**P**	**06 08 57.7**	**-2.7**	
VOIR		**81.36**	**350**	⇓*i*P		**P**	**06 09 01.5**	**+0.9**	
DGRG	**David-gareji**	**81.37**	**334**	P		**P**	**06 09 01.6**	**+1.0**	
DGRG				S		**S**	**06 19 14.8**	**+4.7**	
RKT	**Rikitea**	**81.40**	**148**	*e*P		**P**	**06 09 00.0**	**-0.7**	
	comp=Z,472nm,1.2s								
RKT	**Rikitea**	**81.40**	**148**	*e*S		**S**	**06 19 07.8**	**-2.6**	
	comp=Z,11µm,32.2s								
RKT				*e*SS		**SS**	**06 24 26.7**	**-0.9**	
	comp=Z,7µm,25.8s								
RKT	**Rikitea**	**81.40**	**148**	*e*LR		LR	06 34 32.7		
	comp=Z,57µm,22.8s,baz=342								
RKT	**Rikitea**	**81.40**	**148**	*e*T		T	07 38 18.9		
	comp=Z,92nm,0.4s								
H07S1	**FLORES T-PHASE**	**81.46**	**31**	*e*P		**P**	**06 08 59.6**	**-1.5**	
H07S1	**FLORES T-PHASE**	**81.46**	**31**	P		**P**	**06 09 01.7**	**+0.6**	
ARR	**Arges**	**81.48**	**350**	⇓*i*P		**P**	**06 09 02.6**	**+1.5**	
PDKS	**Podkum**	**81.48**	**357**	*e*P		**P**	**06 09 03.8**	**+2.7**	
LOT	**Lotru**	**81.49**	**350**	⇑*i*P		**P**	**06 09 01.8**	**+0.5**	
ISR	**Istrita**	**81.50**	**348**	⇑*i*P		**P**	**06 09 02.0**	**+0.7**	
LJU	**Ljubljana**	**81.51**	**357**	*e*P		**P**	**06 09 01.9**	**+0.6**	
LJU				*e*			06 11 55.9		
LJU				*e*S		**S**	**06 19 09.6**	**-1.8**	
LJU				*e*			06 24 46.8		
LJU				*e*			06 30 29.3		
BZS	**Buzias**	**81.52**	**352**	⇓*i*P		**P**	**06 09 01.4**	**+0.1**	
MTUR	**Matau**	**81.57**	**349**	⇑*i*P		**P**	**06 09 03.2**	**+1.5**	
HARR	**Harsova**	**81.75**	**347**	⇓*i*P		**P**	**06 09 02.4**	**-0.1**	
AKH	**Akhalkalaki**	**81.90**	**335**	P		**P**	**06 09 05.1**	**+1.5**	
AKH				S		**S**	**06 19 16.8**	**+0.9**	
AKH	**Akhalkalaki**	**81.90**	**335**	⇑*i*P		**P**	**06 09 05.5**	**+1.9**	
TIRR	**Tirgusor**	**81.91**	**347**	*e*P		**P**	**06 09 02.9**	**-0.4**	
TIRR				pmax	pmax				
	comp=Z,43nm,0.7s								
TIRR	**Tirgusor**	**81.91**	**347**	⇓*i*P		**P**	**06 09 03.3**	**0.0**	
TIRR	**Tirgusor**	**81.91**	**347**	*e*P		**P**	**06 09 02.9**	**-0.4**	
	comp=Z,43nm,0.7s								
CTA	**Charters Tower**	**81.95**	**221**	P		**P**	**06 09 03.4**	**-0.4**	
	comp=Z,219nm,1.0s,baz=27,slow=7.1,SNR=52								
CTA				LR		LR	06 40 15.9		
	comp=Z,27µm,21.9s,baz=31,slow=32								
CTAO	**Charters Tower**	**81.95**	**221**	*e*P		**P**	**06 09 03.1**	**-0.6**	
CTAO				MLR		MLR			
	comp=Z,31µm,20.0s								
CTAO	**Charters Tower**	**81.95**	**221**	*e*P		**P**	**06 09 03.0**	**-0.6**	
CTAO				LR		LR			
	comp=Z,31µm,20.0s								
RAO	**Raoul Island**	**81.97**	**187**	LR		LR	06 43 02.4		
	comp=Z,18µm,18.6s,baz=8.5,slow=34								
SISC	**Sisak**	**82.01**	**356**	P		**P**	**06 09 05.1**	**+1.2**	
SKDS	**Skadanscina**	**82.02**	**357**	*e*P		**P**	**06 09 05.4**	**+1.4**	
BOJS	**Bojanci**	**82.03**	**356**	*e*P		**P**	**06 09 03.6**	**-0.4**	
SSB	**Saint Sauveur**	**82.22**	**4**	*e*P		**P**	**06 09 04.6**	**-0.5**	
SSB				pmax	pmax				
	comp=Z,89nm,1.1s								
SSB				MLR		MLR			
	comp=Z,26µm,20.0s								
SSB	**Saint Sauveur**	**82.22**	**4**	*e*P		**P**	**06 09 04.6**	**-0.5**	
	comp=Z,89nm,1.1s								
SSB				LR		LR			
	comp=Z,26µm,20.0s								
BCA	**Borcka**	**82.32**	**337**	*e*P		**P**	**06 09 06.9**	**+1.3**	
KAPI	**Kappang**	**82.33**	**251**	P		**P**	**06 09 08.6**	**+2.7**	
	comp=Z,1µm,1.4s,SNR=15								
KAPI	**Kappang**	**82.33**	**251**	P		**P**	**06 09 06.2**	**+0.3**	
	comp=Z,69nm,0.7s,baz=34,slow=3.4,SNR=25								
KAPI	**Kappang**	**82.33**	**251**	P		**P**	**06 09 06.2**	**+0.3**	
KAPI				LR		LR			
	comp=Z,16µm,20.0s								
DBOC	**Borcka**	**82.41**	**337**	*i* P		**P**	**06 09 07.3**	**+1.2**	
ARTV	**Artvin**	**82.50**	**336**	*i* P		**P**	**06 09 08.3**	**+1.5**	
EAK	**Akyaka**	**82.55**	**335**	*i* P		**P**	**06 09 07.3**	**+0.4**	
DAGI	**Agillar**	**82.60**	**336**	*i* P		**P**	**06 09 08.3**	**+1.1**	
PSN	**Preselentsi**	**82.70**	**347**	P		P	06 09 11.2	+3.7	
DBAD	**Bademkaya**	**82.71**	**337**	*i* P		**P**	**06 09 07.3**	**-0.4**	
KSM	**Kuching**	**82.72**	**263**	⇑P		**P**	**06 09 09.9**	**+1.9**	
KSM	**Kuching**	**82.72**	**263**	⇑P		**P**	**06 09 09.9**	**+1.9**	
KSM	**Kuching**	**82.72**	**263**	*e*P		**P**	**06 09 08.6**	**+0.6**	
	comp=Z,899nm,1.6s								
KSM				LR		LR			
	comp=Z,17µm,20.0s								
KARS	**Kars**	**82.74**	**335**	*e*P		P	06 09 11.7	+3.8	
BCIP	**Isla Barro Col**	**82.74**	**84**	*e*P		**P**	**06 09 07.5**	**-0.6**	
BCIP				LR		LR			
	comp=Z,17µm,21.0s								
PGRA	**Graciosa**	**82.76**	**29**	*e*P		**P**	**06 09 10.8**	**+2.9**	
	comp=Z,449nm,1.5s								
PGRA	**Graciosa**	**82.76**	**29**	*e*LQ		LQ	06 31 11.1		
PGRA				*e*LR		LR	06 34 56.3		
	comp=Z,1µm,17.7s								
DIGO	**Kars**	**82.86**	**335**	*i* P		P	06 09 10.2	+1.4	
AGPR	**Aguadilla, PR**	**82.90**	**69**	*e*P		**P**	**06 09 08.9**	**0.0**	
	comp=Z,1µm,1.3s								
PCED	**Cedros**	**82.92**	**30**	*e*P		**P**	**06 09 09.4**	**+0.7**	
	comp=Z,201nm,1.1s								
AGP	**Aguadilla**	**82.93**	**69**	*e*P		**P**	**06 09 10.6**	**+1.5**	
	comp=Z,2µm,1.5s								
ROSA	**Rosais**	**82.97**	**29**	*e*P		**P**	**06 09 09.4**	**+0.4**	
	comp=Z,237nm,1.6s								
ROSA	**Rosais**	**82.97**	**29**	*e*LQ		LQ	06 31 20.9		
ROSA				*e*LR		LR	06 34 41.6		
	comp=Z,4µm,17.9s								
UDBI	**Udbina**	**82.98**	**356**	P		**P**	**06 09 08.8**	**-0.2**	
MPR	**Mayaguez**	**83.09**	**69**	*e*P		**P**	**06 09 11.0**	**+1.2**	
	comp=Z,86nm,0.8s								
PMAN	**Manadas**	**83.10**	**29**	*e*P		**P**	**06 09 09.0**	**-0.6**	
	comp=Z,333nm,1.7s								
PCAN	**Candelaria**	**83.13**	**30**	*e*P		**P**	**06 09 11.4**	**+1.5**	
	comp=Z,208nm,1.4s								
LSP	**Las Mesas**	**83.15**	**69**	*e*P		**P**	**06 09 09.2**	**-1.0**	
DIVS	**Divibare**	**83.16**	**353**	⇓*i*P		**P**	**06 09 10.1**	**+0.1**	
DIVS	**Divibare**	**83.16**	**353**	P		**P**	**06 09 10.2**	**+0.2**	
PPNO	**Prainha do Nor**	**83.19**	**29**	*e*P		**P**	**06 09 12.6**	**+2.4**	
	comp=Z,354nm,1.3s								
KTUT	**Trabzon**	**83.19**	**338**	*e*P		**P**	**06 09 10.4**	**+0.3**	
AOPR	**Arecibo Observ**	**83.20**	**69**	*e*P		**P**	**06 09 11.0**	**+0.5**	
	comp=Z,319nm,0.9s								
CRPR	**Cabo Rojo, PR**	**83.27**	**69**	*e*P		**P**	**06 09 10.7**	**-0.1**	
PRD	**Provadia**	**83.28**	**347**	⇑*i*P		**P**	**06 09 12.1**	**+1.6**	
PRD	**Provadia**	**83.28**	**347**	P		**P**	**06 09 13.3**	**+2.8**	
ADH	**Angra Heroismo**	**83.33**	**29**	*e*P		**P**	**06 09 11.2**	**+0.4**	
	comp=Z,336nm,1.5s								
SZH	**Strazhica**	**83.40**	**349**	P		**P**	**06 09 12.7**	**+1.6**	
BZK	**Bozkurt**	**83.45**	**342**	*e*P		**P**	**06 09 13.5**	**+2.1**	
VLC	**Villacollemand**	**83.47**	**360**	*e*P		**P**	**06 09 11.6**	**+0.2**	
VLC				LR		LR			
	comp=Z,36µm,21.0s								
DIKM	**Dikmen**	**83.51**	**341**	*e*P		**P**	**06 09 12.6**	**+0.9**	
CELP	**Cerrillos**	**83.52**	**69**	*e*P		**P**	**06 09 12.0**	**-0.1**	
OBIP	**Obispado Ponce**	**83.53**	**69**	*e*P		**P**	**06 09 11.9**	**-0.2**	
	comp=Z,306nm,0.8s								
MPEP	**Malo Peshtene**	**83.56**	**350**	P		**P**	**06 09 12.7**	**+0.7**	
HOMI	**Horasan**	**83.58**	**336**	*i* P		**P**	**06 09 12.5**	**+0.1**	
GRSN	**GIRESUNGRSN**	**83.59**	**339**	*i* P		**P**	**06 09 12.0**	**-0.1**	
DYDN	**Diyadin**	**83.60**	**335**	*i* P		**P**	**06 09 12.0**	**-0.5**	
EATA	**Eleskirt**	**83.61**	**336**	*i* P		**P**	**06 09 12.0**	**-0.6**	
SOEI	**Soe**	**83.66**	**245**	*e*P		**P**	**06 09 13.7**	**+0.8**	
ICMP	**Isla Caja de M**	**83.70**	**69**	*e*P		**P**	**06 09 14.2**	**+1.2**	
SJG	**San Juan**	**83.73**	**68**	*e*P		**P**	**06 09 13.1**	**-0.1**	
SJG				*e*S		**S**	**06 19 35.3**	**+0.5**	
SJG				pmax	pmax				
	comp=Z,223nm,0.8s								
SJG				MLR		MLR			
	comp=Z,39µm,19.0s								
SJG	**San Juan**	**83.73**	**68**	*e*P		**P**	**06 09 13.1**	**-0.1**	
	comp=Z,223nm,0.8s								
SJG				*e*S		**S**	**06 19 35.3**	**+0.5**	
SJG				LR		LR			
	comp=Z,39µm,19.0s								
AGRB	**Hanur-Agry**	**83.75**	**335**	*e*P		**P**	**06 09 14.8**	**+1.6**	
GUMT	**Gumushane**	**83.76**	**338**	*e*P		**P**	**06 09 14.5**	**+1.3**	
BYBT	**Boyabat**	**83.78**	**342**	*e*P		**P**	**06 09 13.1**	**0.0**	
SURT	**Suratani**	**83.81**	**277**	P		P	06 09 17.8	+4.2	
	comp=Z,55nm,3.3s,comp=Z,3µm								
ERZM	**Erzurum**	**83.84**	**336**	*i* P		**P**	**06 09 12.0**	**-1.8**	
EZM	**Erzurum**	**83.85**	**336**	*e*P		**P**	**06 09 15.3**	**+1.4**	
MMRI	**Maumere**	**83.87**	**247**	*e*P		**P**	**06 09 13.7**	**-0.1**	
	comp=Z,529nm,1.1s								
HUMP	**Col San Antoni**	**83.88**	**68**	*e*P		**P**	**06 09 14.5**	**+0.6**	
	comp=Z,176nm,0.8s								
KVT	**Kavak**	**83.90**	**341**	*e*P		**P**	**06 09 13.9**	**+0.1**	
CLDR	**Caldiran**	**83.92**	**334**	*e*P		P	06 09 17.9	+3.8	
KOPT	**Kop Dagi**	**83.95**	**337**	*i* P		**P**	**06 09 14.9**	**+0.5**	
PLE	**Pljevlja**	**83.97**	**353**	⇓*i*P		**P**	**06 09 15.2**	**+1.0**	
HAVZ	**Havza**	**83.98**	**341**	*i* P		**P**	**06 09 16.2**	**+2.0**	
DGPR	**DIGLIPUR**	**83.99**	**284**	*e*P		**P**	**06 09 12.8**	**-1.7**	
DGPR				AMB		AMB	06 09 19.1		
	comp=Z,186nm,1.4s								
KTGM	**Kuala Trenggan**	**84.03**	**271**	⇓P		**P**	**06 09 16.3**	**+1.5**	
KTGM	**Kuala Trenggan**	**84.03**	**271**	⇓P		**P**	**06 09 16.3**	**+1.5**	
JMB	**Yambol**	**84.11**	**348**	⇑*i*P		**P**	**06 09 16.1**	**+1.3**	
JMB	**Yambol**	**84.11**	**348**	P		**P**	**06 09 16.9**	**+2.1**	
KELT	**Kelkit**	**84.11**	**338**	*i* P		**P**	**06 09 13.0**	**-2.1**	
SKLT	**Songkhla**	**84.11**	**274**	P		**P**	**06 09 16.8**	**+1.7**	
	comp=Z,292nm,2.5s,comp=Z,10µm								
UPM	**Unac-Piva**	**84.13**	**354**	⇓*i*P		**P**	**06 09 15.4**	**+0.3**	
ERBA	**Erbaa**	**84.14**	**340**	*i* P		**P**	**06 09 13.9**	**-1.1**	
TRTT	**Trang**	**84.15**	**275**	P		**P**	**06 09 17.0**	**+1.7**	
	comp=Z,176nm,1.5s,comp=Z,7µm								
PAYG	**Puerto Ayora**	**84.17**	**99**	*e*P		**P**	**06 09 16.2**	**+0.8**	
	comp=Z,386nm,1.2s								
PAYG				*e*PP		**PP**	**06 12 29.5**	**-0.3**	
PAYG				LR		LR			
	comp=Z,20µm,21.0s								
STVI	**Saint Thomas**	**84.21**	**67**	*e*P		**P**	**06 09 15.5**	**-0.1**	
STVI				*e*PP		**PP**	**06 12 34.2**	**+4.5**	
EKAR	**Karacoban**	**84.29**	**336**	*i* P		**P**	**06 09 16.7**	**+0.7**	
PGAV	**Gavieira, Arco**	**84.31**	**14**	*e*P		**P**	**06 09 17.9**	**+2.0**	
	comp=Z,155nm,1.7s								
PGAV	**Gavieira, Arco**	**84.31**	**14**	*e*SKSac		**SKSac**	**06 19 36.8**	**-1.4**	
PGAV				*e*SS		SS	06 25 15.7	+7.3	
PGAV				*e*LQ		LQ	06 31 42.3		
PGAV				*e*LR		LR	06 40 03.0		
	comp=Z,55µm,18.0s								
PGB	**Panagyurishte**	**84.31**	**350**	P		P	06 09 19.7	+3.8	
TOS	**Tosya**	**84.34**	**342**	*e*P		**P**	**06 09 13.1**	**-3.0**	
BATI	**Baumata**	**84.36**	**245**	P		**P**	**06 09 17.1**	**+0.7**	
	comp=Z,461nm,0.6s,baz=126,slow=0.6,SNR=28								
ILGA	**Ilgaz**	**84.38**	**342**	*i* P		P	06 09 11.1	-5.4	
IVA	**Berane**	**84.39**	**353**	*e*P		**P**	**06 09 16.4**	**+0.1**	
EUZM	**Uzumlu**	**84.43**	**338**	*i* P		P	06 09 19.9	+3.3	
BRY	**Bratogost**	**84.45**	**354**	⇓*i*P		**P**	**06 09 16.1**	**-0.6**	
NKY	**Niksic**	**84.51**	**354**	⇓*i*P		**P**	**06 09 17.4**	**+0.5**	
VRTB	**Varto-Mus**	**84.53**	**336**	*e*P		**P**	**06 09 18.8**	**+1.6**	
STON	**Ston**	**84.53**	**354**	P		**P**	**06 09 15.5**	**-1.4**	
PSET	**Sete Cidades**	**84.53**	**28**	*e*P		**P**	**06 09 18.6**	**+1.6**	
	comp=Z,336nm,1.4s								
PSET	**Sete Cidades**	**84.53**	**28**	*e*LQ		LQ	06 31 57.6		
PSET				*e*LR		LR	06 36 24.5		
	comp=Z,2µm,18.2s								
ERZN	**Erzincan**	**84.54**	**338**	*e*P		P	06 09 20.6	+3.4	
TOKA	**Tokat**	**84.55**	**340**	*i* P		**P**	**06 09 16.7**	**-0.3**	
BHPL	**Bhopal**	**84.55**	**302**	*e*P		**P**	**06 09 16.0**	**-1.4**	
BHPL				AMB		AMB	06 09 22.4		
	comp=Z,187nm,1.8s								
NKME	**Niksic**	**84.56**	**354**	⇓*i*P		**P**	**06 09 17.0**	**-0.1**	
CTKT	**Corum**	**84.59**	**341**	*i* P		**P**	**06 09 17.6**	**+0.1**	
PCAB	**Cabril**	**84.60**	**14**	*e*P		**P**	**06 09 18.3**	**+1.0**	
	comp=Z,108nm,1.5s								
PDA	**Ponta Delgada**	**84.62**	**28**	*e*P		**P**	**06 09 17.8**	**+0.4**	
	comp=Z,452nm,1.8s								
TVAN	**Van**	**84.63**	**334**	*i* P		**P**	**06 09 17.7**	**-0.1**	
GRON	**Grota Negra**	**84.64**	**28**	*e*P		**P**	**06 09 18.8**	**+1.2**	
	comp=Z,62nm,1.3s								
PVY	**Plav**	**84.66**	**353**	*e*P		**P**	**06 09 18.1**	**+0.4**	
PBRG	**Braganca**	**84.68**	**13**	*e*P		**P**	**06 09 17.8**	**+0.1**	
	comp=Z,130nm,1.7s								
PBRG	**Braganca**	**84.68**	**13**	*e*PP		PP	06 12 34.9	+2.2	
EDRB	**Edirne**	**84.70**	**348**	P		P	**06 09 18.0**	**+0.2**	
EDRB	**Edirne**	**84.70**	**348**	P		P	**06 09 18.0**	**+0.2**	
BART	**Pico Bartolome**	**84.73**	**27**	*e*P		**P**	**06 09 19.0**	**+0.9**	
	comp=Z,280nm,1.0s								
BNGL	**BINGOL**	**84.80**	**336**	*i* P		**P**	**06 09 19.9**	**+1.3**	
SVSK	**Karacayir**	**84.83**	**340**	*e*P		**P**	**06 09 19.7**	**+1.3**	
CANT	**Cankiri**	**84.83**	**342**	*e*P		**P**	**06 09 21.0**	**+2.5**	
CHLP	**Challavanipeta**	**84.84**	**294**	*e*P		**P**	**06 09 18.2**	**-0.6**	
CHLP				IAmb		IAmb	06 09 23.8		
	comp=Z,93nm,1.2s								
CHLP				*e*PP		**PP**	**06 12 32.7**	**-2.2**	
CHLP				*e*SKSac		**SKSac**	**06 19 41.4**	**-0.6**	
CHLP				IVMs_BB		IVMs_BB	06 54 44.9		
	comp=Z,10µm,16.1s								
SCER	**sogukcermik**	**84.85**	**340**	*i* P		**P**	**06 09 17.7**	**-1.1**	
PTCN	**Pitcairn Islan**	**84.86**	**144**	PFAKE			06 09 30.0	+11	
PTCN				LR		LR			
	comp=Z,23µm,20.0s								
PDG	**Podgorica**	**84.87**	**353**	P		**P**	**06 09 18.6**	**0.0**	
TTG	**Podgorica**	**84.87**	**353**	⇓*i*P		**P**	**06 09 18.9**	**+0.3**	
TTG	**Podgorica**	**84.87**	**353**	P		**P**	**06 09 18.6**	**0.0**	
TTG	**Podgorica**	**84.87**	**353**	P		**P**	**06 09 18.9**	**+0.3**	
BNGB	**Bing 'll**	**84.88**	**337**	*e*P		**P**	**06 09 21.0**	**+2.1**	
BCAM	**Yenicaga**	**84.90**	**344**	*i* P		**P**	**06 09 15.8**	**-3.2**	
HCY	**Herceg Nov

KNT Kendrikon 85.82 350 P P 06 09 22.4 -1.0
SIRT Sirnak 85.85 335 eP P 06 09 26.7 +3.0
SIRN S¨¨rnak 85.86 335 iP P 06 09 20.5 -3.3
VIS Vishakhapatnam 85.88 294 eP P 06 09 23.5 -0.5
TIR Tirane 85.90 353 P P 06 09 25.9 +2.1
TIR MLR MLR
comp=Z,57µm,20.0s
TIR Tirane 85.90 353 P P 06 09 25.9 +2.1
TIR LR LR
comp=Z,57µm,20.0s
TIR Tirane 85.90 353 P P 06 09 25.9 +2.1
AUMIH MIHALICIK 85.93 344 iP P 06 09 23.3 -0.8
MTE Manteigas 85.95 14 eP P 06 09 26.6 +2.5
comp=Z,60nm,1.4s
MTE Manteigas 85.95 14 ePP PP 06 12 46.4 +3.3
MTE eSKSac SKSac 06 19 44.1 -4.5
MTE eSS SS 06 25 28.9 -3.6
MTE eLQ LQ 06 32 05.4
MTE eLR LR 06 35 00.2
comp=Z,46µm,18.0s
MTE Manteigas 85.95 14 PFAKE 06 09 40.0 +16
MTE LR LR
comp=Z,62µm,22.0s
BBAL Bala 85.95 342 iP P 06 09 21.4 -2.8
IPM Ipoh 85.98 272 ⇓P P 06 09 25.6 +1.0
IPM Ipoh 85.98 272 ⇓P P 06 09 25.6 +1.0
IPM Ipoh 85.98 272 eP P 06 09 25.0 +0.5
DARE Darende-Malaty 86.01 339 eP P 06 09 25.9 +1.3
DIYA Diyarbakir 86.03 337 iP P 06 09 25.2 +0.6
ULDT Uludag 86.04 346 iP P 06 09 24.1 -0.7
MALT Malatya 86.05 338 eP P 06 09 29.2 +4.5
MALT Malatya 86.05 338 ⇓iP P 06 09 25.8 +1.1
AUKUT KUTAHYA 86.08 345 iP P 06 09 26.9 +2.0
BORA Eskisehir 86.09 345 iP P 06 09 24.2 -0.7
SOH Sokhos 86.11 350 P P 06 09 24.7 -0.2
SOH Sokhos 86.11 350 P P 06 09 24.7 -0.2
SOH Sokhos 86.11 350 P P 06 09 24.7 -0.2
PINB Pinarbasi 86.14 340 iP P 06 09 25.2 -0.2
PCAS Casmilo, Conde 86.15 14 eP P 06 09 25.7 +0.6
comp=Z,141nm,1.6s
PCAS Casmilo, Conde 86.15 14 ePP PP 06 12 50.7 +6.0
AKCD Akcadag 86.18 338 iP P 06 09 27.1 +1.7
SMTH Samothraki Isl 86.21 348 P P 06 09 25.9 +0.6
SMTH Samothraki Isl 86.21 348 P P 06 09 25.9 +0.6
AUSIV SIVRIHISAR 86.33 344 iP P 06 09 24.3 -1.8
THE Thessaloniki 86.34 350 P P 06 09 27.3 +1.4
THE Thessaloniki 86.34 350 P P 06 09 27.3 +1.4
THE Thessaloniki 86.34 350 P P 06 09 27.3 +1.4
FNA Florina 86.34 352 P P 06 09 25.4 -0.6
FNA Florina 86.34 352 eP P 06 09 25.7 -0.3
FNA Florina 86.34 352 P P 06 09 25.4 -0.6
FNA Florina 86.34 352 P P 06 09 25.4 -0.6
HORT Hortiatis 86.36 350 eP P 06 09 25.5 -0.7
HORT Hortiatis 86.36 350 P P 06 09 26.4 +0.2
HORT Hortiatis 86.36 350 P P 06 09 26.4 +0.2
AVNT Avonos 86.36 341 iP P 06 09 26.3 0.0
SEYT Eskypehyr 86.37 344 iP P 06 09 25.2 -1.1
MYKOM Kota Tinggi 86.39 268 ⇑P P 06 09 28.4 +1.9
MYKOM Kota Tinggi 86.39 268 ⇑P P 06 09 28.4 +1.9
MYKOM Kota Tinggi 86.39 268 eP P 06 09 25.6 -0.9
comp=Z,1µm,1.9s
MAZI Mazidag 86.39 336 eP P 06 09 28.9 +2.5
MARD Mardin 86.45 336 iP P 06 09 25.2 -1.5
PCBR Castelo Branco 86.51 14 eP P 06 09 29.3 +2.5
comp=Z,62nm,1.8s
OUR Ouranopolis 86.52 350 P P 06 09 25.0 -1.8
OUR Ouranopolis 86.52 350 eP P 06 09 26.7 -0.1
OUR Ouranopolis 86.52 350 P P 06 09 25.0 -1.8
OUR Ouranopolis 86.52 350 P P 06 09 25.0 -1.8
ANWB Willy Bob 86.53 65 eP P 06 09 26.6 -0.6
ANWB LR LR
comp=Z,35µm,21.0s
KGM Kluang 86.53 269 ⇑P P 06 09 29.6 +2.4
KGM Kluang 86.53 269 ⇑P P 06 09 29.6 +2.4
PLG Polygyros 86.54 350 P P 06 09 26.1 -0.9
PLG Polygyros 86.54 350 eP P 06 09 26.1 -0.9
PLG Polygyros 86.54 350 P P 06 09 26.1 -0.9
PLG Polygyros 86.54 350 P P 06 09 26.1 -0.9
PTOM Tomar 86.59 14 eP P 06 09 27.4 +0.2
comp=Z,96nm,1.7s
FRIM Kepong 86.60 271 ⇓P P 06 09 29.5 +2.0
FRIM Kepong 86.60 271 ⇓P P 06 09 29.5 +2.0
AUKIR K¨¨rka- Seyitg 86.66 344 iP P 06 09 27.7 0.0
DURS Dursunbey 86.67 346 iP P 06 09 27.1 -0.6
NEST Nestorio 86.73 352 eP P 06 09 27.3 -0.7
NEST Nestorio 86.73 352 P P 06 09 28.7 +0.7
BOZC Bozcaada 86.76 348 iP P 06 09 25.5 -2.5
KZN Kozani 86.78 351 P P 06 09 27.5 -0.7
KZN Kozani 86.78 351 P P 06 09 27.5 -0.7
KZN Kozani 86.78 351 P P 06 09 27.5 -0.7
URFA Urfa 86.79 338 eP P 06 09 29.8 +1.5
LIA Limnos Island 86.81 349 eP P 06 09 30.1 +1.8
LIA Limnos Island 86.81 349 P P 06 09 28.5 +0.2
LIA Limnos Island 86.81 349 P P 06 09 28.5 +0.2
AKL Akola 86.86 300 eP P 06 09 29.2 +0.4
ATAB Bozova 86.89 338 iP P 06 09 30.0 +1.2
LIT Litokhoron 86.91 351 P P 06 09 27.8 -1.0
LIT Litokhoron 86.91 351 eP P 06 09 28.2 -0.6
LIT Litokhoron 86.91 351 P P 06 09 27.8 -1.0
LIT Litokhoron 86.91 351 P P 06 09 27.8 -1.0
PMRV Marv??o 86.93 14 eSKSac SKSac 06 19 53.6 -1.0
PMRV eSS SS 06 25 48.7 +2.0
PMRV eLQ LQ 06 32 20.4
PMRV eLR LR 06 36 00.4
comp=Z,46µm,16.0s
PAIG Paliouri 86.96 350 P P 06 09 26.9 -2.1
PAIG Paliouri 86.96 350 eP P 06 09 29.0 0.0
PAIG Paliouri 86.96 350 P P 06 09 26.9 -2.1
PAIG Paliouri 86.96 350 P P 06 09 26.9 -2.1
GDZ Gediz 87.01 345 iP P 06 09 27.1 -2.4
WRAB Tennant Creek 87.04 231 P P 06 09 29.9 +0.4
comp=Z,1µm,1.3s,SNR=44
WRAB Tennant Creek 87.04 231 dP P 06 09 28.6 -0.9
WRAB pmax pmax
comp=Z,2µm,2.5s
WRAB Tennant Creek 87.04 231 eP P 06 09 28.8 -0.7
comp=Z,473nm,1.3s
WRAB ePP PP 06 12 51.6 -1.6
WRAB LR LR
comp=Z,38µm,22.0s
WRA Warramunga Arr 87.05 231 P P 06 09 28.3 -1.3
comp=Z,93nm,0.8s,baz=32,slow=5.8,SNR=197
WRA PKiKP PKiKP 06 14 34.5 -0.3
comp=Z,2.1nm,0.7s,baz=1.0,slow=1.5,SNR=4.8
WRA S SKSac 06 19 53.9 -1.5
comp=Z,10.0nm,1.3s,baz=34,slow=8.8,SNR=9.2
WRA PKKPbc PKKPbc 06 27 22.4 +2.1
comp=Z,0.6nm,0.6s,baz=186,slow=2.7,SNR=5.1
WRA PKPPKP P'P'df 06 35 28.8 +3.0
comp=Z,1.1nm,0.8s,baz=204,slow=2.3,SNR=4.1
WRA LR LR 06 44 32.3
comp=Z,35µm,21.9s,baz=30,slow=33
NIG Nigde 87.06 341 eP P 06 09 35.1 +5.3
PMAFR Mafra 87.11 15 eP P 06 09 29.1 -0.6
comp=Z,244nm,1.4s
ESDC Sonseca Array 87.13 11 P P 06 09 29.4 -0.6
comp=Z,10.0nm,0.6s,baz=347,slow=4.3,SNR=57
ESDC PKKPbc PKKPbc 06 27 17.8 -1.5
comp=Z,1.8nm,0.6s,baz=154,slow=1.2,SNR=12
ESDC PKPPKP P'P'df 06 35 27.4 -7.4
comp=Z,3.8nm,1.0s,baz=174,slow=1.3,SNR=7.4
ESDC LR LR 06 48 02.2
comp=Z,33µm,21.9s,baz=350,slow=35
ESLA Sonseca Array 87.13 11 eP P 06 09 29.3 -0.6
comp=Z,6.9nm,0.8s
KDHN Kadinhani 87.13 343 iP P 06 09 28.0 -2.0
BOLV Bolvadin 87.14 344 iP P 06 09 29.0 -1.1
PMTG Montargil 87.16 14 eP P 06 09 31.2 +1.2
comp=Z,50nm,1.7s
PMTG Montargil 87.16 14 ePP PP 06 12 56.4 +3.7
GZT Gaziantep 87.16 339 iP P 06 09 29.4 -0.8
KMRS Kahramanmaras 87.16 339 eP P 06 09 31.6 +1.5
RPR Rampur 87.16 298 eP P 06 09 30.0 -0.3
RPR IAmb IAmb 06 09 34.8
comp=Z,406nm,2.1s
RPR eSKSac SKSac 06 19 56.4 -0.1
RPR IVMs_BB IVMs_BB 06 50 49.1
comp=Z,13µm,20.2s
DEMI Demirci 87.18 346 iP P 06 09 26.1 -4.0
PVM Polavaram 87.21 295 eP P 06 09 29.4 -1.1
PVM IAmb IAmb 06 09 38.6
comp=Z,53nm,0.7s
PVM IVMs_BB IVMs_BB 06 54 06.0
comp=Z,8µm,15.5s
PAB San Pablo 87.21 11 eP P 06 09 29.7 -0.6
PAB e 06 12 57.0
PAB eS SKSac 06 19 54.7 -1.7
PAB MLR MLR
comp=Z,60µm,22.0s
PAB San Pablo 87.21 11 eP P 06 09 29.7 -0.6
PAB ePP PP 06 12 57.0 +3.7
PAB eS SKSac 06 19 54.7 -1.7
PAB LR LR
comp=Z,60µm,22.0s
ANDN Andirin 87.21 340 iP P 06 09 30.8 +0.4
HCB Kahramanmara¯ 87.32 339 iP P 06 09 21.4 -9.4
PMST Lisbon--Monsan 87.33 15 eP P 06 09 32.0 +1.2
comp=Z,158nm,1.8s
MEV Metsovon 87.34 352 P P 06 09 30.2 -0.9
MEV Metsovon 87.34 352 P P 06 09 30.2 -0.9
SRN Sarande 87.35 352 P P 06 09 31.3 +0.4
SRN Sarande 87.35 352 P P 06 09 31.3 +0.4
PACT Alcochete 87.36 15 eP P 06 09 32.5 +1.6
comp=Z,293nm,1.4s
LIS Lisbon 87.36 15 eP P 06 09 30.7 -0.3
LIS ePP PP 06 12 54.8 +0.4
LIS eS SKSac 06 19 57.6 +0.5
LIS AMS AMS 06 52 23.1
comp=N,35µm,12.5s
LIS Lisbon 87.36 15 eP P 06 09 30.6 -0.3
LIS e 06 12 54.8
LIS eS SKSac 06 19 57.6 +0.5
SIGR SIGRI 87.41 348 P P 06 09 30.9 -0.3
SIGR SIGRI 87.41 348 P P 06 09 30.9 -0.3
KOZT Kozan 87.42 340 eP P 06 09 32.5 +1.2
PESTR Estremoz 87.45 14 eP P 06 09 30.8 -0.6
comp=N,64nm,1.6s
PESTR Estremoz 87.45 14 ePP PP 06 12 57.4 +2.3
AKHS Akhisar 87.47 346 iP P 06 09 31.8 +0.3
THL Klokotos Trika 87.49 351 eP P 06 09 30.3 -1.2
THL Klokotos Trika 87.49 351 P P 06 09 30.9 -0.6
CUC Castrocucco 87.50 356 eP P 06 09 30.6 -1.1
comp=N,22nm,1.1s
CUC LR LR
comp=Z,29µm,19.0s
JAN Janina 87.50 352 P P 06 09 31.6 -0.1
JAN Janina 87.50 352 eP P 06 09 31.7 0.0
JAN Janina 87.50 352 P P 06 09 31.6 -0.1
JAN Janina 87.50 352 P P 06 09 31.6 -0.1
KEK Kerkira 87.53 353 eP P 06 09 31.0 -0.8
XOR Xorichti 87.57 350 eP P 06 09 30.2 -1.8
XOR Xorichti 87.57 350 P P 06 09 30.6 -1.4
XOR Xorichti 87.57 350 P P 06 09 30.6 -1.4
SGD Sagiada 87.60 352 eP P 06 09 33.8 +1.7
SGD Sagiada 87.60 352 P P 06 09 31.1 -1.0
SRSP Sriramsagar 87.62 298 eP P 06 09 30.8 -1.7
SRSP IAmb IAmb 06 09 36.5
comp=Z,92nm,1.2s
SRSP ePP PP 06 12 59.5 +2.3
SRSP eSKSac SKSac 06 19 58.7 -0.5
SRSP IVMs_BB IVMs_BB 06 51 08.2
comp=Z,20µm,18.8s
NEO Neokhori 87.62 350 eP P 06 09 31.2 -1.1
NEO Neokhori 87.62 350 P P 06 09 30.9 -1.4
NEO Neokhori 87.62 350 P P 06 09 30.9 -1.4
IGT Igoumenitsa 87.67 352 P P 06 09 31.3 -1.2
IGT Igoumenitsa 87.67 352 eP P 06 09 30.4 -2.1
IGT Igoumenitsa 87.67 352 P P 06 09 31.3 -1.2
IGT Igoumenitsa 87.67 352 P P 06 09 31.3 -1.2
AOS Alonnisos 87.69 349 eP P 06 09 33.7 +1.2
AOS Alonnisos 87.69 349 P P 06 09 33.7 +1.2
AOS Alonnisos 87.69 349 P P 06 09 33.7 +1.2
KULA Kula-Manisa 87.70 346 P P 06 09 32.0 -0.7
KULA Kula-Manisa 87.70 346 P P 06 09 32.0 -0.7
EVO Evora 87.72 14 eP P 06 09 34.1 +1.4
comp=Z,47nm,1.6s
EVO Evora 87.72 14 ePP PP 06 13 00.9 +3.7
KHAL Karahalli 87.72 345 iP P 06 09 30.8 -2.0
KARA Karaisali 87.79 340 eP P 06 09 36.0 +2.9
KUZU Kuzuini 87.83 339 iP P 06 09 35.5 +2.2
LHMI Lhok Sumawe 87.86 276 eP P 06 09 36.8 +3.1
SSG Sans Toucher 87.87 66 eP P 06 09 34.6 +0.7
MLG Mont-d'or 87.87 66 eP P 06 09 34.2 +0.9
BAGO Egridir - ISPA 87.87 344 iP P 06 09 32.7 -0.8
TAG Tarade 87.91 66 eP P 06 09 34.9 +0.8
LKG Breislack 87.92 66 eP P 06 09 34.3 +0.2
SCG Saint Claude 87.92 66 eP P 06 09 34.9 +0.9
PHG Guadaloupe-2 87.95 66 eP P 06 09 35.2 +1.0
AGG Agios Georgios 88.00 351 eP P 06 09 32.7 -1.3
AGG Agios Georgios 88.00 351 eP P 06 09 32.8 -1.3
AGG Agios Georgios 88.00 351 eP P 06 09 32.7 -1.3
AGG Agios Georgios 88.00 351 P P 06 09 32.3 -1.8
DSL Palaion Diasel 88.00 352 eP P 06 09 33.9 -0.2
DSL Palaion Diasel 88.00 352 P P 06 09 33.0 -1.1
DSL Palaion Diasel 88.00 352 P P 06 09 33.0 -1.1
MAKR Makrakomi, Fth 88.02 351 eP P 06 09 33.7 -0.5
MAKR Makrakomi, Fth 88.02 351 P P 06 09 32.5 -1.7
MAKR Makrakomi, Fth 88.02 351 P P 06 09 32.5 -1.7
H05N1 Guadeloupe/Mar 88.03 66 P P 06 09 32.6 -1.8
SMIA Simia 88.05 350 P P 06 09 35.8 +1.5
PNCL Nicolau / Gran 88.05 15 eP P 06 09 34.7 +0.4
comp=Z,78nm,1.6s
PNCL Nicolau / Gran 88.05 15 ePP PP 06 13 03.8 +3.9
TBG Guadaloupe-3 88.08 66 eP P 06 09 35.0 +0.3
TBG Guadaloupe-3 88.08 66 e P 06 09 35.1 +0.5
YURE YUREGIR 88.09 340 iP P 06 09 32.4 -2.1
VSL Villasalto 88.12 1 eP P 06 09 34.8 +0.2
VSL LR LR
comp=Z,23µm,19.0s
URLA Izmir 88.15 347 iP P 06 09 33.9 -0.9
EVR Evrytania 88.15 351 eP P 06 09 34.6 -0.3
EVR Evrytania 88.15 351 P P 06 09 34.2 -0.7
EVR Evrytania 88.15 351 P P 06 09 34.2 -0.7
MRKA Markates 88.18 350 P P 06 09 35.1 +0.2
CHOS Chios island 88.19 348 eP P 06 09 34.5 -0.9
CHOS Chios island 88.19 348 P P 06 09 34.1 +2.0
CHOS Chios island 88.19 348 P P 06 09 37.1 +2.0
MGG Marie-Galante 88.21 66 e P 06 09 36.7 +1.4
PBAR Barrancos 88.21 14 eP P 06 09 34.3 -0.7
comp=Z,170nm,1.6s
PBAR Barrancos 88.21 14 ePP PP 06 13 03.8 +2.6
AXAR Agios Charalam 88.22 350 eP P 06 09 36.0 +0.9
AXAR Agios Charalam 88.22 350 P P 06 09 34.7 -0.4
AXAR Agios Charalam 88.22 350 P P 06 09 34.7 -0.4
ATAL Atalanti 88.25 350 P P 06 09 36.0 +0.8
ATAL Atalanti 88.25 350 P P 06 09 36.0 +0.8
TIP Timpagrande 88.27 355 eP P 06 09 35.2 -0.1
TIP LR LR
comp=Z,25µm,21.0s
TIP Timpagrande 88.27 355 P P 06 09 38.1 +2.7
CMBY CAMPBELL BAY 88.28 279 eP P 06 09 35.1 -0.5
CMBY AMB AMB 06 09 42.2
comp=Z,297nm,1.1s
ZEY ¯zmir 88.28 347 iP P 06 09 32.7 -2.6
LKR Lokris 88.29 350 P P 06 09 33.7 -1.7
LKR Lokris 88.29 350 P P 06 09 33.7 -1.7
MESJ Messejana 88.36 15 eP P 06 09 35.5 -0.2
MESJ ePP PP 06 13 02.5 0.0
MESJ eS SKSac 06 20 04.0 +0.7
MESJ AMS AMS 06 50 33.9
comp=Z,46µm,21.6s
MESJ Messejana 88.36 15 eP P 06 09 37.4 +1.6
comp=Z,39nm,1.7s
MESJ Messejana 88.36 15 ePP PP 06 13 07.2 +4.8
MESJ Messejana 88.36 15 eP P 06 09 35.5 -0.2
MESJ e 06 13 02.4
MESJ eS SKSac 06 20 03.9 +0.7
TAHT Tahtakopru-Hat 88.40 339 eP P 06 09 38.6 +2.6
EREA Eretria 88.42 349 eP P 06 09 34.9 -1.2
EREA Eretria 88.42 349 P P 06 09 36.4 +0.3
SDV Santo Domingo 88.48 77 eP P 06 09 37.3 +0.4
SDV ePP PP 06 13 09.9 +5.2
SDV eS S 06 20 19.2 -2.5
SDV LR LR
comp=Z,26µm,20.0s
PDO Prodromos 88.52 351 eP P 06 09 36.1 -0.4
PDO Prodromos 88.52 351 P P 06 09 35.6 -0.9
PTEO Sao Teotonio 88.57 15 eP P 06 09 38.1 +1.4
comp=Z,133nm,1.7s
DESF Desfina 88.58 350 eP P 06 09 35.0 -1.9
DSF Desfina 88.58 350 P P 06 09 37.5 +0.6
DSF Desfina 88.58 350 P P 06 09 37.5 +0.6
PSI Prapat 88.58 273 P P 06 09 36.4 -0.9
comp=Z,349nm,1.0s,baz=351,slow=2.6,SNR=117
PSI Prapat 88.58 273 P P 06 09 36.4 -0.9
PSI pmax pmax
comp=Z,446nm,0.8s
PSI Prapat 88.58 273 P P 06 09 36.4 -0.9
comp=Z,446nm,0.8s
PCVE Castro Verde 88.59 14 eP P 06 09 37.5 +0.6
comp=Z,19nm,2.0s
PCVE Castro Verde 88.59 14 ePP PP 06 13 07.2 +2.9
EFP Efpalio 88.63 351 eP P 06 09 39.5 +2.5
EFP Efpalio 88.63 351 P P 06 09 34.3 -2.7
KALE Kalithea 88.64 351 eP P 06 09 35.9 -1.2
KALE Kalithea 88.64 351 P P 06 09 36.9 -0.2
KALE Kalithea 88.64 351 P P 06 09 36.9 -0.2
MDN Morne-Daniel 88.65 66 e P 06 09 37.0 -0.4
AYDN Tasoluk 88.66 346 iP P 06 09 38.4 +1.1
TRIZ Trizonia 88.67 351 P P 06 09 36.5 -0.7
VIL2 Platees 88.70 350 eP P 06 09 37.9 +0.5
EXG Exogi 88.71 352 eP P 06 09 38.3 +0.9
EXG Exogi 88.71 352 P P 06 09 36.7 -0.7
DBCT Belle View Cho 88.72 66 e P 06 09 33.9 -3.9
VILL Villia 88.74 350 P P 06 09 35.6 -2.0
HYBB Hyderabad (bro 88.74 297 eP P 06 09 36.7 -1.2
HYBB IAmb IAmb 06 09 42.4
comp=Z,184nm,1.2s
HYBB ePP PP 06 13 09.0 +2.7
HYBB eSKSac SKSac 06 20 03.1 -3.0
HYBB e 06 20 23.4
HYBB IVMs_BB IVMs_BB 06 56 14.8
comp=Z,13µm,16.1s
HYB Hyderabad 88.74 297 iP P 06 09 36.0 -1.9
comp=Z,150nm,1.0s
HYB ePP PP 06 13 12.0 +5.6
HYB eSKS SKSac 06 20 04.0 -2.1
HYB e 06 20 24.0
HYB eSS SS 06 26 24.0 +9.3
HYB LR LR 06 52 06.0
comp=Z,44nm,18.0s
HYB Hyderabad 88.74 297 eP P 06 09 38.1 +0.2
DSHT Scott's Head 88.75 66 e P 06 09 36.5 -1.4
YAYL Yayladag 88.75 339 iP P 06 09 36.5 -1.3
SMG Samos 88.76 347 P P 06 09 37.5 -0.1
SMG Samos 88.76 347 P P 06 09 37.5 -0.1
OUZ Omahuta 88.80 194 eP P 06 09 38.1 +0.6
comp=Z,375nm,1.4s
LAKA Lakka 88.80 351 eP P 06 09 37.7 -0.2
LAKA Lakka 88.80 351 P P 06 09 37.4 -0.5
LAKA Lakka 88.80 351 P P 06 09 37.4 -0.5
ERMK Ermenek 88.81 342 iP P 06 09 36.5 -1.7
GOLH Golhisar 88.81 345 iP P 06 09 34.6 -3.4
MORF Marmelete 88.82 15 eP P 06 09 37.6 -0.4
MORF ePP PP 06 13 06.0 -0.2
MORF eS SKSac 06 20 06.6 +0.4
MORF AMS AMS 06 50 56.2
comp=Z,38µm,18.2s
MORF Marmelete 88.82 15 eP P 06 09 37.2 -0.8
comp=Z,124nm,1.7s
MORF Marmelete 88.82 15 ePP PP 06 13 09.6 +3.4
MORF Marmelete 88.82 15 eP P 06 09 37.5 -0.4
MORF e 06 13 05.9
MORF eS SKSac 06 20 06.5 +0.4
PVAQ Vaqueiros 88.86 14 eP P 06 09 38.1 0.0
comp=Z,72nm,1.7s
PVAQ Vaqueiros 88.86 14 ePP PP 06 13 09.6 +3.1
PVAQ eSKSac SKSac 06 20 05.4 -0.9
PVAQ eSS SS 06 26 13.2 -1.7
PVAQ eLR LR 06 35 30.9
comp=Z,41µm,20.0s
ATHU Athens Univers 88.89 349 P P 06 09 38.6 +0.4
ATHU Athens Univers 88.89 349 P P 06 09 38.6 +0.4
ATH Athens Observa 88.89 349 P P 06 09 40.1 +1.9
ATH Athens Observa 88.89 349 P P 06 09 40.1 +1.9
ATH Athens Observa 88.89 349 P P 06 09 40.1 +1.9
KORT Korkueli 88.91 344 iP P 06 09 29.9 -8.7
LTK Loutraki 88.92 350 eP P 06 09 36.8 -1.6
LTK Loutraki 88.92 350 P P 06 09 37.0 -1.4
LTK Loutraki 88.92 350 P P 06 09 37.0 -1.4
THAL Thalero 88.94 350 eP P 06 09 37.6 -0.8
THAL Thalero 88.94 350 P P 06 09 36.7 -1.8
LOUT Loutraki 88.95 350 eP P 06 09 38.9 +0.3
LOUT Loutraki 88.95 350 P P 06 09 37.2 -1.4
PFVI Vila Bisbo 88.96 15 eP P 06 09 40.0 +1.4
comp=Z,171nm,1.6s
PFVI Vila Bisbo 88.96 15 ePP PP 06 13 10.6 +3.4
KLV Kalavryta, Ach 88.98 351 eP P 06 09 37.7 -1.1
KLV Kalavryta, Ach 88.98 351 P P 06 09 37.4 -1.4
KLV Kalavryta, Ach 88.98 351 P P 06 09 37.4 -1.4
PBDV Barranco-do-Ve 88.99 14 eP P 06 09 39.9 +1.1
comp=Z,90nm,1.6s
PBDV Barranco-do-Ve 88.99 14 ePP PP 06 13 10.7 +3.2
VLS Valsamata 88.99 352 P P 06 09 37.5 -1.3
VLS Valsamata 88.99 352 eP P 06 09 38.3 -0.5
VLS Valsamata 88.99 352 P P 06 09 37.5 -1.3
VLS Valsamata 88.99 352 P P 06 09 37.5 -1.3
RLS Riolos of Patr 89.03 351 P P 06 09 37.9 -1.0
RLS Riolos of Patr 89.03 351 P P 06 09 37.9 -1.0
NJS Nagarjunasagar 89.04 296 eP P 06 09 37.7 -1.6
NJS IAmb IAmb 06 09 43.8
comp=Z,79nm,1.1s
NJS eSKSac SKSac 06 20 06.5 -1.3
NJS IVMs_BB IVMs_BB 06 52 24.7
comp=Z,15µm,19.6s
KFL Anninata 89.04 352 P P 06 09 38.1 -0.9
GUR Goura 89.07 350 eP P 06 09 38.3 -0.9
GUR Goura 89.07 350 P P 06 09 36.9 -2.3
GUR Goura 89.07 350 P P 06 09 36.9 -2.3
DRO Drossia 89.11 351 eP P 06 09 39.4 +0.1
DRO Drossia 89.11 351 P P 06 09 42.5 +3.2
BKNI Bangkinang 89.25 270 eP P 06 09 40.0 -0.2
KLRI Killari 89.25 299 eP P 06 09 38.9 -1.4
KLRI IAmb IAmb 06 09 44.6
comp=Z,191nm,1.2s
KLRI ePP PP 06 13 08.3 -2.1
KLRI eSKSac SKSac 06 20 07.9 -1.2
KLRI IVMs_BB IVMs_BB 06 51 42.6
comp=Z,25µm,19.5s
ADKI Addanki 89.26 295 eP P 06 09 39.4 -0.8
ADKI IAmb IAmb 06 09 45.2
comp=Z,106nm,1.1s
ADKI ePP PP 06 13 13.8 +3.3
ADKI eSKSac SKSac 06 20 09.1 0.0
ADKI IVMs_BB IVMs_BB 06 58 58.4
comp=Z,9µm,16.2s
FDF Fort de France 89.26 66 e P 06 09 38.8 -1.6
FDF Fort de France 89.26 66 eP P 06 09 39.1 -1.3
FDF pmax pmax
comp=Z,228nm,0.9s
FDF MLR MLR
comp=Z,31µm,21.0s
FDF Fort de France 89.26 66 eP P 06 09 39.1 -1.3
comp=Z,228nm,0.9s
FDF LR LR
comp=Z,31µm,21.0s
BDRM Kayabasi 89.30 346 iP P 06 09 38.4 -1.9
GAZI Gazipasa 89.31 342 iP P 06 09 36.5 -3.8
TURN Turunc 89.32 345 iP P 06 09 35.5 -4.7
DID Didima 89.40 350 eP P 06 09 38.6 -2.1
DID Didima 89.40 350 P P 06 09 37.7 -3.0
DID Didima 89.40 350 P P 06 09 37.7 -3.0
ARMA Armidale 89.41 213 eP P 06 09 41.3 +0.7
comp=Z,232nm,1.1s
SMRI Semarang 89.42 258 eP P 06 09 41.1 +0.1
comp=Z,208nm,1.3s
DIDY Didyma 89.43 350 eP P 06 09 39.2 -1.7
DIDY Didyma 89.43 350 P P 06 09 41.3 +0.4
ZKS Zakynthos 89.45 352 eP P 06 09 38.3 -2.6
ZKS Zakynthos 89.45 352 P P 06 09 38.9 -2.0
ROSC El Rosal 89.47 83 P P 06 09 42.1 +0.4
comp=Z,57nm,0.7s,baz=68,slow=1.1,SNR=40
ROSC El Rosal 89.47 83 P P 06 09 42.1 +0.4
ROSC ePP PP 06 13 16.1 +3.2
KRND KRANIDI 89.53 350 eP P 06 09 40.9 -0.4
APE Apeiranthos 89.56 348 deP P 06 09 42.0 +0.5
APE pmax pmax
comp=Z,115nm,1.7s
APE Apeiranthos 89.56 348 P P 06 09 42.8 +1.3
APE Apeiranthos 89.56 348 P P 06 09 42.8 +1.3
VLX Vlachokerasia 89.62 350 eP P 06 09 42.1 +0.3
VLX Vlachokerasia 89.62 350 P P 06 09 41.0 -0.8
VLX Vlachokerasia 89.62 350 P P 06 09 41.0 -0.8
SRLM Srisailam 89.64 296 eP P 06 09 41.8 -0.3
SRLM IAmb IAmb 06 09 46.5
comp=Z,142nm,1.5s
SRLM ePP PP 06 13 18.4 +4.8

SRLM eSKSac **SKSac** **06 20 11.5 0.0**
SRLM IVMs_BB IVMs_BB 06 52 51.5
comp=Z,13µm,17.8s
H05S1 Guadeloupe/Mar 89.69 66 P **P** **06 09 42.1 -0.1**
AKAS Kas 89.79 344 *i* P **P** **06 09 42.1 -0.5**
ITM Ithomi 89.86 351 *e*P **P** **06 09 41.7 -1.1**
ITM Ithomi 89.86 351 P **P** **06 09 41.4 -1.4**
ITM Ithomi 89.86 351 P **P** **06 09 41.4 -1.4**
CLTB Caltabellotta 90.00 358 *e*P **P** **06 09 43.0 -0.5**
CLTB eS **SKSac** **06 20 13.6 +0.4**
CLTB LR LR
comp=Z,18µm,21.0s
ARG Arkhangelos 90.04 346 P P 06 09 35.0 -8.6
ARG Arkhangelos 90.04 346 *e*P **P** **06 09 43.6 0.0**
ARG Arkhangelos 90.04 346 P P 06 09 35.0 -8.6
ARG Arkhangelos 90.04 346 P P 06 09 35.0 -8.6
UGM Wanagama 90.06 257 *e*P **P** **06 09 45.5 +1.5**
comp=Z,2µm,2.2s
RCLA Racherla 90.13 296 *e*P **P** **06 09 41.6 -2.8**
RCLA eSKSac **SKSac** **06 20 07.5 -6.8**
RCLA IVMs_BB IVMs_BB 06 52 45.6
comp=Z,11µm,19.8s
PYL PYLOS 90.16 351 *e*P **P** **06 09 42.1 -2.1**
PYL PYLOS 90.16 351 P **P** **06 09 42.6 -1.6**
PYL PYLOS 90.16 351 P **P** **06 09 42.6 -1.6**
MCLT Moule a Chique 90.21 67 *e* P 06 09 41.4 -3.4
VLI Veliai 90.21 350 *e*P P 06 09 39.1 -5.4
VLI Veliai 90.21 350 P P 06 09 40.7 -3.8
VLI Veliai 90.21 350 P P 06 09 40.7 -3.8
POO Poona 90.31 302 *e*P **P** **06 09 42.8 -2.5**
POO ⇑ *i*P **PcP** **06 09 46.0 -0.4**
comp=Z,386nm,1.2s
POO AMB AMB 06 09 49.6
comp=Z,151nm,1.5s
CSS Prodhromos 90.36 341 *e*P **P** **06 09 47.7 +2.5**
CSS Prodhromos 90.36 341 *e*P **P** **06 09 44.9 -0.3**
CSS *e*PP **PP** **06 13 20.0 +1.6**
CSS *e*S **S** **06 20 38.3 -0.1**
CSS LR LR
comp=Z,5µm,20.0s
CSS Prodhromos 90.36 341 P P 06 09 41.8 -3.4
SVV Soufriere Volc 90.38 67 *e* **P** **06 09 47.4 +1.9**
SVB Belmont 90.39 67 *e*P **P** **06 09 45.2 -0.4**
SVB Belmont 90.39 67 *e* **P** **06 09 45.9 +0.3**
AS31 Alice Springs 90.45 230 *e*P **P** **06 09 45.9 +0.4**
ASAR Alice Springs 90.45 230 P P **06 09 44.6 -0.9**
comp=Z,91nm,0.6s,baz=30,slow=4.5,SNR=301
ASAR PKiKP **PKiKP** **06 14 40.9 +0.5**
comp=Z,2.1nm,0.7s,baz=31,slow=2.2,SNR=4.8
ASAR S **SKSac** **06 20 16.1 +0.7**
comp=Z,3.1nm,1.1s,baz=44,slow=2.8,SNR=5.6
ASAR PKKPbc **PKKPbc** **06 27 13.9 +1.9**
comp=Z,1.1nm,0.6s,baz=199,slow=1.9,SNR=4.5
ASAR PKPPKP **P'P'df** **06 35 18.8 -0.6**
comp=Z,0.9nm,0.8s,baz=166,slow=2.0,SNR=4.4
ASAR LR LR 06 46 02.2
comp=Z,23µm,21.8s,baz=19,slow=33
FCV Fort Charlotte 90.49 67 *e* **P** **06 09 47.1 +1.0**
GSI Gunungsitoli 90.58 273 *e*P **P** **06 09 47.0 +0.5**
OTAV Otavalo 90.62 89 *e*P **P** **06 09 47.7 +0.5**
comp=Z,137nm,0.9s
OTAV *e*PP **PP** **06 13 23.4 +1.2**
OTAV LR LR
comp=Z,16µm,21.0s
LEM Lembang 90.92 260 P **P** **06 09 47.5 -0.7**
comp=Z,19nm,0.4s,baz=67,slow=4.7,SNR=6.7
ANKY Antikythira Is 91.01 349 P **P** **06 09 49.6 +1.4**
ANKY Antikythira Is 91.01 349 P **P** **06 09 49.6 +1.4**
GRGR Grenville 91.09 68 *e*P **P** **06 09 47.0 -1.8**
comp=Z,155nm,0.9s
GRGR LR LR
comp=Z,29µm,19.0s
SKHT Srikalahasti 91.12 294 *e*P **P** **06 09 48.1 -0.8**
SKHT IAmb IAmb 06 09 54.0
comp=Z,82nm,1.2s
SKHT *e*PP **PP** **06 13 23.1 -2.3**
SKHT *e*SKSac **SKSac** **06 20 20.7 +0.8**
SKHT IVMs_BB IVMs_BB 06 50 23.1
comp=Z,9µm,21.5s
URZ Urewera 91.36 190 LR LR 06 44 36.0
comp=Z,12µm,20.6s,baz=24,slow=31
URZ Urewera 91.36 190 *e*P **P** **06 09 48.6 -0.7**
comp=Z,52nm,1.0s
IDI Anoyia 91.40 348 PKKPbc PKKPbc 06 27 11.5 +2.7
comp=Z,15nm,1.1s,baz=264,slow=9.2,SNR=2.9
IDI Anoyia 91.40 348 *e*P P 06 09 44.4 -5.7
IDI Anoyia 91.40 348 *e*P **P** **06 09 49.8 -0.2**
IDI *e*PP PP 06 13 11.7 -15
IDI PKKPbc **PKKPbc** **06 27 11.5 +2.7**
IDI Anoyia 91.40 348 P **P** **06 09 49.4 -0.7**
PMPST Porto Santo, M 91.44 22 *e*P **P** **06 09 51.1 +0.9**
comp=Z,237nm,1.5s
PMPST Porto Santo, M 91.44 22 *e*PP PP 06 13 30.4 +3.4
BBGH Gun Hill 91.44 66 *e* P 06 09 54.9 +4.4
BBGH Gun Hill 91.44 66 PFAKE 06 10 00.0 +10
BBGH LR LR
comp=Z,47µm,21.0s
URV Uravakonda 91.47 297 *e*P **P** **06 09 50.5 -0.2**
URV IAmb IAmb 06 09 52.2
comp=Z,73nm,1.4s
URV *e*PP **PP** **06 13 28.7 +0.6**
URV *e*SKSac **SKSac** **06 20 19.7 -2.3**
URV IVMs_BB IVMs_BB 06 57 41.4
comp=Z,10µm,15.0s
PMOZ Porto Moniz, M 91.48 23 *e*P **P** **06 09 51.4 +0.8**
comp=Z,259nm,1.3s
PMOZ Porto Moniz, M 91.48 23 *e*SKSac **SKSac** **06 20 22.0 +0.2**
PMOZ *e*SS **SS** **06 26 54.2 +0.9**
PMOZ Porto Moniz, M 91.48 23 *e*LR LR 06 40 54.0
comp=Z,35µm,18.0s
PMAR Madeira 91.64 23 *e*P **P** **06 09 52.6 +1.2**
comp=Z,429nm,1.5s
WDD Wield Dalam 91.67 357 PFAKE 06 10 00.0 +8.8
WDD LR LR
comp=Z,24µm,21.0s
FUL Funchal 91.72 23 *e*P **P** **06 09 54.2 +2.7**
comp=Z,307nm,1.6s
KEST Kesra 91.88 1 P **P** **06 09 50.5 -1.8**
comp=Z,3.3nm,0.8s,baz=282,slow=0.3,SNR=12
KEST PKKPbc **PKKPbc** **06 27 08.5 +0.9**
comp=Z,1.9nm,0.9s,baz=162,slow=6.4,SNR=3.8
KEST Kesra 91.88 1 *e*P **P** **06 09 52.0 -0.3**
KEST PKKPbc **PKKPbc** **06 27 08.5 +0.9**
ASF Jabal al Asfar 92.28 338 PKPPKP **P'P'df** **06 35 20.4 -4.5**
comp=Z,1.2nm,0.4s,baz=239,slow=2.2,SNR=4.0
BKZ Black Stump Fm 92.32 191 *e*P **P** **06 09 53.4 -0.5**
comp=Z,811nm,2.5s
TOSP Speyside 92.40 68 *e* **P** **06 09 53.1 -1.8**
TRN Trinidad (W) 92.44 69 *e* **P** **06 09 55.0 -0.1**
TPP Pointe-a-Pierr 92.68 69 *e* **P** **06 09 54.5 -1.7**
TPP Pointe-a-Pierr 92.68 69 *e* **PP** **06 13 37.7 0.0**
TBH Brigand Hill 92.76 69 *e* **P** **06 09 57.0 +0.4**
TBH Brigand Hill 92.76 69 *e* **PP** **06 13 39.1 +0.7**
HATD Hatta, Dubai 93.02 319 ⇑P **P** **06 09 59.2 +1.5**
HATD Hatta, Dubai 93.02 319 ⇑P **P** **06 09 59.2 +1.5**
NAZ Nazwa, Dubai 93.06 320 ⇓P **P** **06 09 58.3 +0.4**
NAZ Nazwa, Dubai 93.06 320 ⇓P **P** **06 09 58.3 +0.4**
FAQ Al Faqa, Dubai 93.31 320 ⇓P **P** **06 09 59.3 +0.3**
FAQ Al Faqa, Dubai 93.31 320 ⇓P **P** **06 09 59.3 +0.3**
ASUD Al Ashush, Dub 93.52 320 ⇑P **P** **06 10 01.4 +1.4**
ASUD Al Ashush, Dub 93.52 320 ⇑P **P** **06 10 01.4 +1.4**
STKA Stephens Creek 94.33 220 P **P** **06 10 02.6 -0.6**
comp=Z,17nm,0.7s,baz=6.5,slow=5.4,SNR=34
STKA PKKPbc **PKKPdf** **06 27 03.0 +0.6**
comp=Z,3.2nm,0.7s,baz=281,slow=2.8,SNR=4.7
STKA PKPPKP **P'P'df** **06 35 15.4 +4.3**
comp=Z,1.2nm,0.4s,baz=207,slow=5.1,SNR=3.1
STKA LR LR 06 47 12.3
comp=Z,42µm,21.6s,baz=23,slow=32
SNZO South Karori 94.65 192 PFAKE 06 10 20.0 +16
SNZO LR LR
comp=Z,36nm,19.0s
CAN Canberra 94.77 213 *e*P P 06 10 09.5 +4.2
CAN pmax pmax
comp=Z,105nm,1.5s
CAN MLR MLR
comp=Z,21µm,22.0s
CAN Canberra 94.77 213 *e*P P 06 10 09.5 +4.2
comp=Z,105nm,1.5s
CAN LR LR
comp=Z,21µm,22.0s
RPN Rapa Nui 95.33 129 PFAKE 06 10 20.0 +12
RPN LR LR
comp=Z,18µm,21.0s
MBWA Marble Bar 95.48 242 *e*P **P** **06 10 09.2 +0.4**
MBWA LR LR
comp=Z,14µm,20.0s
PALK Pallekele 95.83 290 P **P** **06 10 11.2 +0.5**
comp=Z,389nm,0.8s,SNR=6.2
PALK Pallekele 95.83 290 P **P** **06 10 10.5 -0.2**
comp=Z,30nm,0.7s,baz=1.1,slow=3.9,SNR=16
PALK Pallekele 95.83 290 *i* P **P** **06 10 13.8 +3.1**
PALK Pallekele 95.83 290 ⇓P **P** **06 10 10.9 +0.1**
PALK Pallekele 95.83 290 ⇓P **P** **06 10 10.9 +0.1**
TRD Trivandrum 96.94 294 *e*P **P** **06 10 16.2 +0.6**
TRD AMB AMB 06 10 42.7
comp=Z,64nm,0.9s
BBOO Buckleboo 97.39 224 *e*P **P** **06 10 17.0 -0.2**
comp=Z,151nm,1.8s
RAYN Ar Rayn 98.07 328 P P **06 10 20.6 -0.1**
comp=Z,170nm,0.9s,SNR=9.8
RAYN Ar Rayn 98.07 328 *e*P **P** **06 10 20.2 -0.5**
comp=Z,32nm,1.0s
RAYN LR LR
comp=Z,32µm,20.0s
FORT Forrest 99.21 230 *e*P **Pdif** **06 10 27.1 +1.8**
comp=Z,31nm,0.7s
NNA Nana 101.20 95 PFAKE 06 10 50.0 +15
NNA LR LR
comp=Z,12µm,19.0s
COCO West Island 101.64 265 PFAKE 06 10 50.0 +13
COCO LR LR
comp=Z,10µm,22.0s
TAU Tasmania Unive 102.22 211 PFAKE 06 10 50.0 +12
TAU LR LR
comp=Z,15µm,19.0s
PTGA Pitinga 102.47 74 PP PP 06 14 49.7 -3.4
comp=Z,14nm,0.9s,baz=341,slow=11,SNR=7.0
PTGA Pitinga 102.47 74 *e*Pdif **Pdif** **06 10 40.5 +0.1**
comp=Z,79nm,1.4s
PTGA PP **PP** **06 14 49.7 -3.4**
PTGA LR LR
comp=Z,22µm,22.0s
TAM Tamanrasset 104.67 4 PFAKE 06 11 00.0 +10
TAM LR LR
comp=Z,37µm,22.0s
SACV Santiago Islan 106.51 34 PFAKE 06 15 20.0
SACV LR LR
comp=Z,48µm,19.0s
DAMY Dhamar 106.76 325 *e*PKPdf **PKiKP** **06 15 14.6 +4.6**
SAML Samuel 107.11 82 *e*Pdif **Pdif** **06 11 02.3 +1.4**
SAML *e*PP **PP** **06 15 22.8 -4.8**
SAML LR LR
comp=Z,23µm,19.0s
LPAZ La Paz 109.83 91 Pdiff **Pdif** **06 11 13.0 -0.7**
comp=Z,2.0nm,0.8s,baz=4.4,slow=10,SNR=7.6
LPAZ PKiKP **PKiKP** **06 15 14.6 -1.3**
comp=Z,3.8nm,0.8s,baz=290,slow=4.9,SNR=3.6
LPAZ PKKPab **PKKPab** **06 26 27.2 -2.3**
comp=Z,2.2nm,0.8s,baz=134,slow=1.2,SNR=4.6
DGAR Diego Garcia 112.50 288 PFAKE 06 15 30.0
DGAR LR LR
comp=Z,17µm,21.0s
SIV San Ignacio 113.88 85 Pdiff **Pdif** **06 11 30.9 -0.1**
comp=Z,1.5nm,0.7s,baz=305,slow=5.3,SNR=4.7
SIV PKiKP **PKiKP** **06 15 23.0 +0.1**
comp=Z,5.0nm,0.8s,baz=320,slow=3.2,SNR=8.2
SIV PP **PP** **06 16 15.5 -1.2**
comp=Z,18nm,1.0s,baz=331,slow=10,SNR=5.1
TOB5 Torodi Ar. Sit 113.95 9 *e*P **PKiKP** **06 15 22.4 -0.8**
TOA1 Torodi Ar. Sit 113.95 9 *e*P **PKKPbc** **06 26 03.0 +0.4**
TOA0 Torodi Ar. Sit 113.96 9 *e*P **PKiKP** **06 15 22.4 -0.8**
TOA0 Torodi Ar. Sit 113.96 9 *e*PKPdf **PKiKP** **06 15 23.4 +0.2**
TORD Torodi Ar. Bea 113.96 9 Pdiff **Pdif** **06 11 31.7 +0.2**
comp=Z,0.3nm,1.0s,baz=1.3,slow=4.6,SNR=2.6
TORD PKKP **PKiKP** **06 15 22.4 -0.8**
comp=Z,9.0nm,0.7s,baz=342,slow=2.3,SNR=46
TORD PKKPbc **PKKPbc** **06 26 02.3 -0.3**
comp=Z,4.4nm,0.5s,baz=169,slow=2.4,SNR=38
TORD PKKPab **PKKPab** **06 26 11.2 -2.9**
comp=Z,28nm,0.8s,baz=169,slow=4.7,SNR=26
TORD PKKP **PKKPdf** **06 26 23.4 +0.1**
comp=Z,14nm,0.8s,baz=176,slow=3.2,SNR=4.7
TORD SKKP 06 29 56.6
comp=Z,3.4nm,0.9s,baz=187,slow=4.1,SNR=3.1
TORD PKPPKP **P'P'df** **06 34 39.0 -3.9**
comp=Z,1.4nm,1.2s,baz=141,slow=0.9,SNR=3.5
LVC Limon Verde 114.17 96 PKP PKPdf 06 15 24.6 +1.0
comp=Z,20nm,0.7s,baz=228,slow=3.9,SNR=5.6
LVC Limon Verde 114.17 96 PKP PKPdf 06 15 24.6 +1.0
LVC *e*PP **PP** **06 16 14.6 -4.4**
LVC LR LR
comp=Z,13µm,20.0s
LCO Las Campanas 117.84 102 PFAKE 06 15 40.0 +9.5
LCO LR LR
comp=Z,16µm,19.0s
FSA Cafayete 118.51 96 *e*P **PKPdf** **06 15 32.9 +1.1**
VCA Vinchina 119.13 100 *e*P **PKPdf** **06 15 33.7 +0.8**
MSEY Mahe Island 119.39 306 PFAKE 06 15 50.0 +16
MSEY LR LR
comp=Z,30µm,22.0s
TIC Toumodi 119.42 17 *e*P **PKPdf** **06 15 31.7 -2.1**
TIC Toumodi 119.42 17 *e*P **PKKPbc** **06 25 40.6 -2.8**
DBIC Dimbokro 119.43 17 *e*P **PKPdf** **06 15 32.4 -1.3**
DBIC Dimbokro 119.43 17 PKP **PKPdf** **06 15 32.5 -1.3**
comp=Z,12nm,0.3s,baz=345,slow=2.3,SNR=48
DBIC PKKPbc **PKKPbc** **06 25 45.5 +2.1**
comp=Z,6.8nm,0.7s,baz=140,slow=5.5,SNR=7.4
DBIC Dimbokro 119.43 17 *e*PKPdf **PKPdf** **06 15 32.5 -1.3**
DBIC *e*PKPdf **PKiKP** **06 15 33.4 -0.4**
DBIC PKKPbc **PKKPbc** **06 25 45.5 +2.1**
KIC Kosan Boka 119.75 17 *e*P **PKPdf** **06 15 33.8 -0.6**
comp=Z,138nm,1.0s
KIC Kosan Boka 119.75 17 *e*P **PKKPbc** **06 25 43.6 +1.4**
comp=Z,94nm,1.3s
LIC Lamto 119.83 18 *e*P **PKPdf** **06 15 34.9 +0.4**
comp=Z,107nm,0.8s
RCBR Riachuelo 119.95 56 PKP **PKPdf** **06 15 33.6 -1.2**
comp=Z,14nm,0.9s,baz=7.6,slow=3.2,SNR=4.5
RCBR Riachuelo 119.95 56 PKP **PKPdf** **06 15 33.6 -1.2**
RCBR LR LR
comp=Z,43nm,20.0s
CYA Choya 120.36 98⇓ *e*P **PKPdf** **06 15 34.8 -0.3**
ACLC CERRO LA CRUZ 120.39 100 *e*P **PKPdf** **06 15 36.0 +0.7**
AMOG MOGNA 120.56 102⇓ *e*P **PKPdf** **06 15 36.6 +1.2**
RTLS Leoncito 120.70 103 *e*P **PKPdf** **06 15 37.0 +1.1**
RTLL Cerro Villicun 120.85 102 *e*P **PKPdf** **06 15 36.6 +0.6**
AUSP Uspallata 120.95 104 *e*P **PKPdf** **06 15 37.7 +1.3**
U73B San Pedro 120.96 106 *e*PKPdf **PKPdf** **06 15 36.1 +0.1**
AVFE Valle Fertil 120.97 101 *e*P **PKPdf** **06 15 36.7 +0.4**
CFAA Coronel Fontan 121.19 102 PKP **PKPdf** **06 15 36.6 0.0**
comp=Z,2.6nm,0.7s,baz=305,slow=3.5,SNR=4.3
CFAA Coronel Fontan 121.19 102 *e*P **PKPdf** **06 15 36.9 +0.3**
RTCV Cerro Valdivia 121.19 103⇓ *e*P **PKPdf** **06 15 36.4 -0.2**
BDFB Brasilia 121.40 74 PKP **PKPdf** **06 15 37.5 0.0**
comp=Z,13nm,0.8s,baz=219,slow=1.8,SNR=15
BDFB PP **PP** **06 17 09.0 +0.1**
comp=Z,21nm,1.1s,baz=332,slow=13,SNR=5.5
BDFB PKKPbc **PKKPab** **06 25 40.8 +1.6**
comp=Z,10nm,1.1s,baz=154,slow=4.1,SNR=5.2
BDFB Brasilia 121.40 74 PKP **PKPdf** **06 15 37.5 0.0**
BDFB *e*PKPdf **PKiKP** **06 15 38.4 +0.8**
BDFB PP **PP** **06 17 09.0 +0.1**
BDFB PKKPbc **PKKPab** **06 25 40.8 +1.6**
ARCO CERRO ARCO 121.66 104⇓ *e*P **PKPdf** **06 15 37.7 +0.1**
AAGR Agrelo 121.89 104 *e*P **PKPdf** **06 15 38.6 +0.6**
ACAN Cantantal 122.29 102 *e*P **PKPdf** **06 15 37.7 -1.0**
MRA San Martin 123.27 101⇓ *e*P **PKPdf** **06 15 40.4 -0.2**
KMBO Kilima Mbogo 123.84 327 PKP **PKPdf** **06 15 42.5 0.0**
comp=Z,24nm,0.9s,baz=359,slow=3.1,SNR=22
KMBO PKKPbc **PKKPab** **06 25 31.0 +0.3**
comp=Z,2.4nm,0.7s,baz=226,slow=10.0,SNR=5.1
KMBO Kilima Mbogo 123.84 327 PKIKP **PKPdf** **06 15 42.6 0.0**
KMBO MLR MLR
comp=Z,20µm,20.0s
KMBO Kilima Mbogo 123.84 327 PKP **PKPdf** **06 15 42.5 0.0**
KMBO *e*PKPdf **PKiKP** **06 15 42.7 -0.1**
KMBO PKKPbc **PKKPab** **06 25 31.0 +0.3**
KMBO LR LR
comp=Z,20µm,20.0s
CANA Caviahue 123.95 109 *e*P **PKPdf** **06 15 42.6 +0.8**
CPUP Villa Florida 123.96 90 PKP **PKPdf** **06 15 41.1 -0.9**
comp=Z,16nm,0.7s,baz=317,slow=2.2,SNR=32
CPUP PP **PP** **06 17 26.0 -0.1**
comp=Z,15nm,1.1s,baz=335,slow=5.4,SNR=2.5
CPUP PKKPbc **PKKPab** **06 25 31.8 +4.6**
comp=Z,4.2nm,0.8s,baz=113,slow=2.3,SNR=7.5
CPUP Villa Florida 123.96 90 PKIKP **PKPdf** **06 15 41.1 -0.9**
CPUP 06 17 26.0
CPUP pmax pmax
comp=Z,16nm,0.7s
CPUP pmax pmax
comp=Z,15nm,1.1s
CPUP Villa Florida 123.96 90 *e*PKPdf **PKPdf** **06 15 41.8 -0.2**
CPUP PP **PP** **06 17 26.0 -0.1**
CPUP PKKPbc **PKKPab** **06 25 31.8 +4.6**
SUCO SUCO 124.42 101⇓ *e*P **PKPdf** **06 15 43.3 +0.5**
DRV Dumont d'Urvil 124.99 202 Pdif **Pdif** **06 12 11.0 -8.1**
DRV PP PP 06 17 08.0 -25
DRV SS SS 06 34 15.0 -12
DRV L L 06 47 00.0
BB16B Bebedouro 125.27 78 *e*P **PKPdf** **06 15 41.7 -3.0**
BB16B *i* 06 15 47.1
BB16B *i* 06 15 50.4
BB16B *i* 06 15 53.6
BB16B *i* 06 16 06.1
MBAR Mbarara 125.28 335 *e*PKIKP **PKPdf** **06 15 45.4 +0.2**
MBAR Mbarara 125.28 335 *e*PKPdf **PKPdf** **06 15 45.4 +0.2**
MBAR LR LR
comp=Z,897nm,21.0s
TRQA Tornquist 129.35 104 *e*PKPdf **PKPdf** **06 15 52.1 +0.1**
TRQA *e*PKPdf **PKiKP** **06 15 52.2 -0.5**
TRQA LR LR
comp=Z,19µm,20.0s
SBA Scott Base 131.14 186 *e*PKIKP **PKPdf** **06 15 56.1 +2.0**
SBA MLR MLR
comp=Z,14µm,19.0s
SBA Scott Base 131.14 186 *e*PKPdf **PKPdf** **06 15 56.1 +2.0**
SBA LR LR
comp=Z,14µm,19.0s
VNDA Vanda 131.20 188 PKP **PKPdf** **06 15 53.7 -0.6**
comp=Z,7.0nm,0.8s,baz=22,slow=1.1,SNR=11
VNDA SKPbc **SKPab** **06 19 17.7 -0.2**
comp=Z,16nm,0.9s,baz=336,slow=5.6,SNR=7.5
VNDA SKKPbc **SKKPbc** **06 28 47.4 -5.2**
comp=Z,4.3nm,1.0s,baz=179,slow=2.1,SNR=4.2
VNDA Vanda 131.20 188 *e*PKPdf **PKPdf** **06 15 53.9 -0.4**
VNDA *e*PKPdf **PKiKP** **06 15 54.0 -1.2**
VNDA *e* 06 19 17.5
VNDA SKPbc **SKPab** **06 19 17.7 -0.2**
VNDA SKKPbc **SKKPbc** **06 28 47.4 -5.2**
MRIV Mauritius Mete 131.37 293 *e*PKPdf **PKPdf** **06 16 00.1 +3.8**
AIS Amsterdam Isla 132.07 260 PP PP 06 18 04.0 -16
AIS SP SP 06 28 05.0 -27
AIS SS SS 06 35 41.0 -14
AIS L L 06 50 00.0
AIS R 06 58 00.0
CASY Casey 133.01 213 *e*PKPdf **PKPdf** **06 15 57.8 -0.1**
CASY *e*PKPdf **PKiKP** **06 15 58.0 -1.1**
CASY *e* 06 19 24.2
CASY LR LR
comp=Z,22µm,22.0s
RER Riviere de l'E 133.04 294 PFAKE 06 16 10.0 +10
RER LR LR
comp=Z,9µm,20.0s
OPO Ambohidratompo 135.40 306 PKP **PKPdf** **06 16 04.6 +0.5**
comp=Z,14nm,1.0s,baz=224,slow=1.1,SNR=8.4
OPO SKPbc **SKPbc** **06 19 33.2 -0.5**
comp=Z,10nm,0.8s,baz=63,slow=2.8,SNR=6.2
ABPO Ambohimpanom 135.76 305 *e*PKIKP **PKPdf** **06 16 02.6 -2.2**
ABPO MLR MLR
comp=Z,14µm,19.0s
ABPO Ambohimpanom 135.76 305 *e*PKPdf **PKPdf** **06 16 02.6 -2.2**
ABPO LR LR
comp=Z,14µm,19.0s
USHA Ushuaia 135.79 126 PKhKP PKPpre 06 15 56.9
comp=Z,7.9nm,0.6s,baz=46,slow=1.8,SNR=5.3
USHA PKP **PKPdf** **06 16 03.6 +0.1**
comp=Z,59nm,0.8s,baz=297,slow=2.5,SNR=10
USHA SKPbc **SKPbc** **06 19 33.8 +0.4**
comp=Z,24nm,1.1s,baz=342,slow=3.2,SNR=2.7
EFI East Falkland 139.58 117 *e*PKHKP PKPpre 06 16 03.3
EFI *e* 06 16 10.9
EFI MLR MLR
comp=Z,39µm,19.0s
EFI East Falkland 139.58 117 *e*PKPpre PKPpre 06 16 03.3
EFI *e*PKPdf **PKPdf** **06 16 10.9 +0.3**
EFI LR LR
comp=Z,39µm,19.0s
LSZ Lusaka 139.99 332 PKhKP PKPpre 06 16 03.5
comp=Z,3.6nm,0.4s,baz=35,slow=5.9,SNR=8.7
LSZ PKP **PKPdf** **06 16 12.0 -0.6**
comp=Z,16nm,0.6s,baz=37,slow=5.7,SNR=21
LSZ SKPbc **SKPbc** **06 19 46.6 -0.4**
comp=Z,31nm,0.8s,baz=45,slow=7.1,SNR=12
LSZ Lusaka 139.99 332 *i* PKHKP PKPpre 06 16 03.5
LSZ 06 16 12.0
LSZ pmax pmax
comp=Z,4.0nm,0.4s
LSZ pmax pmax
comp=Z,17nm,0.6s
LSZ Lusaka 139.99 332 *e*PKPpre PKPpre 06 16 06.3
LSZ PKP **PKPdf** **06 16 12.0 -0.6**
LSZ *e*PP **PP** **06 19 10.9 +2.3**
LSZ *e* 06 19 46.5
LSZ SKPbc **SKPbc** **06 19 46.6 -0.4**
LSZ LR LR
comp=Z,39µm,22.0s
PMSA Palmer Station 142.00 138 PKhKP PKPpre 06 16 09.3
comp=Z,18nm,0.6s,baz=292,slow=5.4,SNR=7.0
PMSA PKP **PKPdf** **06 16 14.1 -0.4**
comp=Z,37nm,0.7s,baz=94,slow=3.6,SNR=7.5
PMSA Palmer Station 142.00 138 *e*PKPdf **PKPdf** **06 16 14.3 -0.2**
PMSA LR LR
comp=Z,21µm,20.0s
QSPA South Pole Qui 142.52 180 PKhKP PKPpre 06 16 09.7
comp=Z,54nm,0.6s,baz=268,slow=0.8,SNR=70
QSPA SKPbc **SKPbc** **06 19 52.1 +0.4**
comp=Z,69nm,1.0s,baz=88,slow=4.2,SNR=4.4
QSPA SKKPbc **SKKPab** **06 28 08.3 +0.6**
comp=Z,14nm,1.1s,baz=273,slow=2.6,SNR=4.1
QSPA South Pole Qui 142.52 180 *e*PKPpre PKPpre 06 16 09.8
QSPA PKPdf **PKPdf** **06 16 14.2 -1.3**
QSPA *e*PP **PP** **06 19 23.2 -1.0**
QSPA SKPbc **SKPbc** **06 19 52.1 +0.4**
QSPA SKKPbc **SKKPab** **06 28 08.3 +0.6**
QSPA LR LR
comp=Z,16µm,20.0s
PAF Port-aux-Franc 143.09 251 PFAKE 06 16 30.0 +13
PAF LR LR
comp=Z,12µm,21.0s
TSUM Tsumeb 146.03 347 PKPbc **PKPdf** **06 16 23.3 +0.1**
comp=Z,42nm,0.6s,baz=20,slow=5.1,SNR=80
TSUM SKPbc **SKiKP** **06 20 02.0 -0.1**
comp=Z,27nm,1.0s,baz=6.9,slow=2.5,SNR=3.4
TSUM Tsumeb 146.03 347 *e*PKPdf **PKPdf** **06 16 22.6 -0.6**
TSUM PKPbc **PKPdf** **06 16 23.3 +0.1**
TSUM SKPbc **SKiKP** **06 20 02.0 -0.1**
TSUM LR LR
comp=Z,23µm,19.0s
MSNA Messina 146.06 326 *e*P **PKPdf** **06 16 23.4 +0.3**
MSNA IAMs_20 IAMs_20 07 34 23.4
comp=Z,27µm,18.6s
MSNA Messina 146.06 326 P **PKPdf** **06 16 23.4 +0.3**
WIN Windhoek 149.41 347 *e*P **PKPdf** **06 16 29.9 +1.1**
WIN Windhoek 149.41 347 *i* P **PKPbc** **06 16 32.0 -1.2**
WIN Windhoek 149.41 347 P **PKPdf** **06 16 29.9 +1.1**
SLR Silverton 149.78 326 *e*P **PKPdf** **06 16 30.2 +0.9**
SLR IAMs_20 IAMs_20 07 29 22.6
comp=Z,46µm,22.4s
SLR Silverton 149.78 326 P **PKPdf** **06 16 30.2 +0.9**
LBTB Lobatse 149.96 331 *e*P **PKPbc** **06 16 33.9 -0.5**
LBTB IAMs_20 IAMs_20 07 29 01.8
comp=Z,31µm,23.1s
LBTB Lobatse 149.96 331 PKPbc **PKPbc** **06 16 33.6 -0.8**
comp=Z,298nm,0.7s,baz=0.0,slow=1.3,SNR=164
LBTB Lobatse 149.96 331 PKP2 **PKPbc** **06 16 33.6 -0.8**
LBTB pmax pmax
comp=Z,298nm,0.7s
LBTB Lobatse 149.96 331 *e*PKPdf **PKPdf** **06 16 30.6 +1.1**
LBTB *e*PKPbc **PKPbc** **06 16 33.7 -0.8**
POGA Pongola 150.05 319 *e*P **PKPbc** **06 16 33.9 -0.6**
POGA Pongola 150.05 319 *i* P **PKPab** **06 16 43.7 +3.5**
POGA Pongola 150.05 319 P **PKPbc** **06 16 33.9 -0.6**
KSR Koster 150.35 329 *e*P **PKPbc** **06 16 33.3 -2.1**
KSR Koster 150.35 329 P **PKPbc** **06 16 33.3 -2.1**
ERPM east rand prop 150.36 326 *e*P **PKPbc** **06 16 34.0 -1.4**
KLOF Kloof 150.58 327 *e*P **PKPbc** **06 16 35.0 -1.0**
WDLM Western Deep L 150.71 327 *e*P **PKPbc** **06 16 34.9 -1.3**
MAW Mawson 151.02 219 PKPbc **PKPbc** **06 16 35.8 +0.4**
comp=Z,114nm,0.7s,baz=126,slow=2.8,SNR=46
PRYS Parys 151.19 327 *e*P **PKPdf** **06 16 32.2 +0.8**
BFSD Buffelsfontein 151.32 328 *e*P **PKPbc** **06 16 36.6 -1.0**

SWZ	**Schweizer**	**152.07**	**330**	*e*P	**PKPbc**	**06 16 37.4**	**-2.0**
SWZ	**Schweizer**	**152.07**	**330**	P	**PKPbc**	**06 16 37.4**	**-2.0**
SEK	**Senekal**	**152.39**	**325**	*e*P	**PKPbc**	**06 16 38.5**	**-1.5**
HOPE	**Hope Point**	**152.57**	**112**	*e*PKPdf	**PKPdf**	**06 16 32.1**	**-0.3**
HOPE				*e*PKPdf	PKPbc	06 16 32.3	-7.0
HOPE				*e*PKPbc	**PKiKP**	**06 16 39.6**	**0.0**
HOPE				*e*PKPab	**PKPab**	**06 16 50.2**	**+0.2**
HOPE				LR	LR		
	comp=Z,25µm,22.0s						
CRZF	**Crozet Islands**	**152.59**	**266**	PP	PP	06 20 05.0	-19
CRZF				SS	SS	06 39 47.0	-6.1
CRZF				L	L	06 59 00.0	
BOSA	**Boshof**	**153.44**	**329**	*e*P	**PKPdf**	**06 16 35.8**	**+1.2**
BOSA				IAMs_20	IAMs_20	07 29 43.6	
	comp=Z,36µm,22.6s						
BOSA	**Boshof**	**153.44**	**329**	PKP	**PKPdf**	**06 16 35.7**	**+1.0**
	comp=Z,43nm,1.1s,baz=23,slow=0.2,SNR=16						
BOSA				PKPbc	**PKPbc**	**06 16 41.5**	**-0.8**
	comp=Z,74nm,0.5s,baz=39,slow=2.2,SNR=88						
BOSA	**Boshof**	**153.44**	**329**	*e*PKIKP	**PKPdf**	**06 16 35.0**	**+0.3**
BOSA						06 16 35.7	
BOSA				*e*		06 16 42.9	
BOSA	**Boshof**	**153.44**	**329**	*e*PKPdf	**PKPdf**	**06 16 35.0**	**+0.3**
BOSA				*e*PKPdf	**PKPdf**	**06 16 35.2**	**+0.5**
BOSA				PKP	**PKPdf**	**06 16 35.7**	**+1.0**
BOSA				PKPbc	**PKPbc**	**06 16 41.5**	**-0.8**
BOSA				*e*PKPbc	**PKiKP**	**06 16 42.9**	**+0.5**
KSD	**Kokstad**	**153.74**	**320**	*e*P	**PKPbc**	**06 16 39.3**	**-3.6**
KSD	**Kokstad**	**153.74**	**320**	P	**PKPbc**	**06 16 39.3**	**-3.6**
UPI	**Upington**	**154.29**	**337**	*e*P	**PKPdf**	**06 16 37.0**	**+1.1**
UPI	**Upington**	**154.29**	**337**	P	**PKPdf**	**06 16 37.0**	**+1.1**
KOMG	**Komaggas**	**156.45**	**344**	*e*P	**PKPdf**	**06 16 39.8**	**+1.2**
KOMG	**Komaggas**	**156.45**	**344**	P	**PKPdf**	**06 16 39.8**	**+1.2**
SOE	**Somerset East**	**157.11**	**325**	*e*P	**PKPdf**	**06 16 40.3**	**+0.8**
SOE	**Somerset East**	**157.11**	**325**	P	**PKPdf**	**06 16 40.3**	**+0.8**
GRM	**Grahamstown**	**157.31**	**323**	*e*P	**PKPdf**	**06 16 41.4**	**+1.7**
GRM	**Grahamstown**	**157.31**	**323**	PKIKP	**PKPdf**	**06 16 41.4**	**+1.7**
GRM	**Grahamstown**	**157.31**	**323**	*i* P	PKPdf	06 16 49.3	+10
GRM	**Grahamstown**	**157.31**	**323**	P	**PKPdf**	**06 16 41.4**	**+1.7**
CVNA	**Calvinia**	**157.64**	**338**	*e*P	**PKPdf**	**06 16 39.0**	**-1.2**
CVNA	**Calvinia**	**157.64**	**338**	P	**PKPdf**	**06 16 39.0**	**-1.2**
TRIS	**Tristan da Cun**	**157.76**	**54**	PFAKE		06 16 50.0	+10
TRIS				LR	LR		
	comp=Z,14µm,20.0s						
SUR	**Sutherland**	**158.24**	**335**	*e*PKPdf	**PKPdf**	**06 16 43.2**	**+2.2**
SUR				*e*PKPdf	**PKPdf**	**06 16 43.8**	**+2.7**
SUR				LR	LR		
	comp=Z,36µm,20.0s						
SYO	**Syowa Base**	**158.69**	**209**⇑	*e*X	**PKPdf**	**06 16 37.4**	**-2.7**
SYO	**Syowa Base**	**158.69**	**209**⇓	*i* PKPab	**PKPab**	**06 17 17.0**	**+1.2**
SNAA	**Sanae**	**160.16**	**168**	PKP	**PKPdf**	**06 16 39.7**	**-2.2**
	comp=Z,6.9nm,0.8s,baz=288,slow=1.2,SNR=31						
SNAA				PKPab	**PKPab**	**06 17 20.5**	**-1.7**
	comp=Z,16nm,0.6s,baz=246,slow=8.9,SNR=17						
VNA1	**Neumayer--Stat**	**160.19**	**162**	P	**PKPdf**	**06 16 39.9**	**-1.8**
NVL	**N'lazarevskaya**	**161.91**	**182**	*d* PKIKP	**PKPdf**	**06 16 42.5**	**-1.1**
NVL				*e*		06 47 53.4	
NVL				pmax	pmax		
	comp=Z,40nm,1.3s						

NEIC 18 06:01:00.8, 52.79N×169.05W, h10km, ML3.6(AEIC),
After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.22**	**34**	P	Pg	06 01 06.1	+0.8
NIKH				S	Sg	06 01 11.2	+2.9
OKWE	**Okmok W'ng Wal**	**0.84**	**36**	P	Pg	06 01 16.9	-0.1
OKAK	**Okmok**	**0.89**	**28**	P	Pg	06 01 15.5	-2.5
OKAK				S	Sg	06 01 28.9	-0.7
MGOD	**Makushin Gods**	**1.65**	**52**	P	Pn	06 01 29.5	-0.4
MGOD				S	Sn	06 01 50.7	-0.5
MCIR	**Makushin Cirqu**	**1.74**	**47**	P	Pn	06 01 31.5	+0.3
MSW	**Makushin Switc**	**1.77**	**50**	P	Pn	06 01 31.1	-0.3
UNV	**Unalaska Valle**	**1.86**	**54**	P	Pn	06 01 33.0	+0.4
UNV				S	Sb	06 01 58.0	-0.1

*IDC **18** 06:00:32.0±1.2, 2°.04N×125°.04E, h0km, mb4.3/5, mb1 4.3/6, mb1mx4.0/26, mbtmp4.3/6, ML4.3/1, Error ellipse: s-maj=57.7km s-min=19.0km az=66.0*
*ISCJB **18** 06:01:01.0±0.7, 0°.47N±0°.09×123°.82E±0°.04, h218km, mb4.0/5, Error ellipse: s-maj=12.2km s-min=5.3km az=178.0*
*DJA **18** 06:01:04.0±0.5, 0°.N±4°×12°.4E±°, h180km±8km, M4.0/12, mb4.0/3, MLv4.0/12*
ISC 18 06:01:01.4±1.2, 0.51N±0.10×123.81E±0.05, h218km, n16, σ1§02/20, mb4.2/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.81**	**279**	P	**Pn**	**06 01 32.3**	**+0.3**
LUWI	**Luwuk**	**1.86**	**214**	P	**Pn**	**06 01 39.7**	**-0.3**
LUWI				S	**S**	**06 02 08.6**	**-1.3**
MRSI	**Marisa**	**1.87**	**269**	P	**Pn**	**06 01 39.1**	**-0.9**
MRSI				S	**S**	**06 02 08.3**	**-1.6**
APSI	**Ampana**	**2.58**	**237**	P	**Pn**	**06 01 47.2**	**-0.2**
APSI				S	**S**	**06 02 21.9**	**-1.1**
SANI	**Sanana**	**3.35**	**139**	P	**Pn**	**06 01 56.7**	**+0.1**
SANI				S	**S**	**06 02 36.8**	**-2.1**
TNTI	**Ternate**	**3.57**	**86**	P	**Pn**	**06 01 58.8**	**+0.1**
TNTI				S	**S**	**06 02 42.7**	**-0.7**
LBMI	**Labuha**	**3.87**	**107**	P	**Pn**	**06 02 02.8**	**+0.5**
LBMI				S	**S**	**06 02 49.4**	**-0.5**
MPSI	**Mapaga**	**3.91**	**267**	P	**Pn**	**06 02 04.0**	**+1.1**
TTSI	**Tana Toraja**	**5.33**	**228**	P	**Pn**	**06 02 21.8**	**+1.3**
	40nm,0.8s,0.1nm						
SPSI	**Sidrap Palu**	**6.00**	**222**	P	**Pn**	**06 02 29.8**	**+0.7**
KAPI	**Kappang**	**6.82**	**216**	Pn	**Pn**	**06 02 40.7**	**+1.1**
	3.2nm,0.3s,baz=27,slow=9.0,SNR=5.6						
WRA	**Warramunga Arr**	**22.80**	**154**	P	**P**	**06 05 45.7**	**+0.1**
	3.1nm,0.4s,baz=336,slow=10,SNR=49						
ASAR	**Alice Springs**	**25.96**	**158**	P	**P**	**06 06 15.1**	**+0.9**
	0.3nm,0.5s,baz=343,slow=14,SNR=9.4						
STKA	**Stephens Creek**	**36.35**	**154**	P	**P**	**06 07 45.1**	**+0.4**
	1.6nm,0.5s,baz=335,slow=8.6,SNR=6.9						
MKAR	**Makanchi Array**	**58.61**	**328**	P	P	06 10 28.1	-7.5
	6.5nm,1.0s,baz=123,slow=7.6,SNR=2.3						
KURBB	**Kurchatov Arra**	**62.93**	**329**	P	P	06 10 54.0	-11
	9.9nm,0.9s,baz=117,slow=6.2,SNR=4.7						

*IDC **18** 06:09:52.1±1.2, 52°.36N×169°.92W, h0km, mb4.1/5, mb1 4.3/7, mb1mx3.8/31, mbtmp4.0/7, ML3.2/2, Error ellipse: s-maj=45.7km s-min=22.8km az=161.0*
*ISCJB **18** 06:09:54.0±1.1, 52°.71N±0°.07×169°.72W±0°.08, h17km±8km, mb4.0/5, Error ellipse: s-maj=12.2km s-min=6.4km az=155.9*
*NEIC **18** 06:09:55.4, 52°.73N×169°.54W, h10km, ML3.8(AEIC), After AEIC.*
ISC 18 06:09:55.0±1.5, 52.73N±0.08×169.63W±0.05, h16km±9km, n21, σ1§31/28, mb3.9/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.53**	**63**	P	**Pg**	**06 10 05.2**	**-0.3**
NIKH				S	**Sg**	**06 10 13.2**	**+0.6**
OKWR	**Okmok West Rim**	**1.11**	**50**	P	**Pn**	**06 10 16.3**	**+0.3**
OKAK	**Okmok**	**1.14**	**42**	P	**Pn**	**06 10 14.3**	**-2.0**
OKAK				S	**Sb**	**06 10 27.9**	**-3.1**
OKTU	**Okmok Mt. Tuli**	**1.16**	**55**	P	**Pn**	**06 10 16.5**	**-0.1**
MSOM	**Makushin Julie**	**1.94**	**55**	P	**Pn**	**06 10 27.8**	**+0.5**
MSOM				S	**Sn**	**06 10 51.7**	**+0.4**
MCIR	**Makushin Cirqu**	**2.05**	**52**	P	**Pn**	**06 10 31.0**	**+1.3**
MSW	**Makushin Switc**	**2.08**	**54**	P	**Pn**	**06 10 30.0**	**+0.8**
MSW				S	**Sb**	**06 10 57.4**	**-0.5**
MTBL	**Makushin Table**	**2.16**	**54**	P	**Pn**	**06 10 31.7**	**+1.3**
UNV	**Unalaska Valle**	**2.18**	**58**	P	**Pn**	**06 10 30.8**	**+0.2**
UNV				S	**Sn**	**06 10 57.2**	**-0.1**
AKRB	**Akutan Reef Bi**	**2.55**	**55**	P	**Pn**	**06 10 37.0**	**+1.3**
AKUT	**Akutan**	**2.70**	**57**	P	**Pn**	**06 10 39.0**	**+1.2**
ATKA	**Atka Island**	**2.84**	**261**	P	**Pn**	**06 10 39.5**	**-0.1**
ATKA				S	**Sb**	**06 11 19.7**	**-0.1**
GSCK	**Great Sitkin C**	**4.07**	**262**	P	**Pn**	**06 10 57.4**	**+0.8**
SPIA	**Saint Paul Isl**	**4.47**	**356**	P	**Pn**	**06 11 02.8**	**+0.8**
SPIA				S	**Sn**	**06 11 55.7**	**+2.2**
ILAR	**Eielson Array**	**16.74**	**35**	Pn	**P**	**06 13 51.3**	**+0.5**
	0.1nm,0.3s,baz=223,slow=9.9,SNR=2.1						
PETK	**Petropavlovsk-**	**19.61**	**284**	Pn	**P**	**06 14 21.4**	**-1.0**
	0.2nm,0.3s,baz=94,slow=13,SNR=3.7						
PDAR	**Pinedale Array**	**40.49**	**79**	P	**P**	**06 17 33.7**	**+0.6**
	1.0nm,0.5s,baz=341,slow=2.5,SNR=8.4						
PFO	**Pinyon Flat Ob**	**42.14**	**95**	P	**P**	**06 17 47.9**	**+1.3**
	3.6nm,0.3s,baz=326,slow=14,SNR=10.0						
TXAR	**Lajitas Array**	**52.90**	**89**	P	**P**	**06 19 10.9**	**+0.6**
	1.5nm,0.7s,baz=311,slow=5.5,SNR=7.1						
WRA	**Warramunga Arr**	**87.11**	**231**	P	**P**	**06 22 37.2**	**-2.7**
	0.5nm,0.8s,baz=43,slow=4.8,SNR=3.3						
ASAR	**Alice Springs**	**90.51**	**230**	P	**P**	**06 22 54.5**	**-1.4**
	1.1nm,0.7s,baz=32,slow=5.0,SNR=6.5						

*SJA **18** 06:10:49.7±0.9, 33°.58S×72°.63W, h33km, ML3.5, MW3.5*
*GUC **18** 06:10:51.4±0.5, 33°.63S×72°.12W, h14km±2km, ML3.7*
ISC 18 06:10:51.5±1.8, 33.65S±0.05×72.05W±0.08, h5km±12km, n22, σ1§47/30, 4C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.61**	**120**	*e*P	**Pg**	**06 11 03.8**	**+0.5**
IHA	**Instituto Hidr**	**0.71**	**29**	*e*P	**Pg**	**06 11 04.8**	**-0.4**
IHA				*e*S	**Sg**	**06 11 14.7**	**+0.1**
TACH	**Talagante**	**0.93**	**90**⇑	*i* P	**Pb**	**06 11 09.0**	**-1.2**
SAN	**Santiago**	**1.18**	**81**	*e*P	**Pn**	**06 11 12.8**	**-1.9**
SAN				*e*S	**Sb**	**06 11 29.1**	**-1.0**
PEL	**Peldehue**	**1.25**	**66**⇑	*e*P	**Pn**	**06 11 14.4**	**-1.3**
PEL				*e*S	**Sb**	**06 11 31.3**	**-0.8**
PEL				AML	AML	06 11 38.5	
	comp=E,4µm,0.4s						
PCH	**Pirque**	**1.28**	**89**	*e*P	**Pn**	**06 11 14.8**	**-1.5**
FSR	**Penalolen**	**1.29**	**83**⇑	*i* P	**Pn**	**06 11 16.1**	**-0.2**
FSR				*e*S	**Sn**	**06 11 33.8**	**0.0**
LACH	**Col Las Americ**	**1.29**	**81**⇑	*i* P	**Pn**	**06 11 14.5**	**-1.8**
CLCH	**Cerro Calan**	**1.29**	**79**	*e*P	**Pn**	**06 11 14.8**	**-1.6**
CLCH				*e*S	**Sn**	**06 11 32.4**	**-1.6**
CLCH				AML	AML	06 11 41.8	
	comp=E,2µm,0.6s						
NICH	**Los Niches**	**1.51**	**153**	*e*P	**Pn**	**06 11 18.4**	**-0.9**
NICH				*e*S	**Sn**	**06 11 38.4**	**-0.9**
YECH	**El Yeso**	**1.64**	**91**	*e*P	**Pn**	**06 11 21.0**	**-0.4**
YECH				*e*S	**Sn**	**06 11 43.6**	**+0.6**
YECH				AML	AML	06 11 49.5	
	comp=N,1µm,0.5s						
LNCH	**Linares**	**2.22**	**170**	*e*P	**Pn**	**06 11 29.1**	**+0.1**
LNCH				*e*S	**Sn**	**06 11 57.9**	**+1.0**
AUSP	**Uspallata**	**2.66**	**58**	*e*P	**Pb**	**06 11 38.7**	**-1.1**
AUSP				*e*S	**Sb**	**06 12 15.0**	**+2.2**
ARCO	**CERRO ARCO**	**2.74**	**74**	*e*P	**Pb**	**06 11 40.8**	**-0.3**
ARCO				*e*S	**Sb**	**06 12 17.9**	**+2.9**
ARCO				IAML		06 12 20.6	
	comp=Z,173nm,0.3s						
AAGR	**Agrelo**	**2.76**	**79**	*e*P	**Pb**	**06 11 41.2**	**-0.2**
RTLS	**Leoncito**	**2.97**	**52**	*e*P	**Pb**	**06 11 43.7**	**-1.4**
RTLS				*e*S	**Sb**	**06 12 23.0**	**+1.2**
RTCV	**Cerro Valdivia**	**3.46**	**60**	*e*P	Pb	06 11 49.5	-3.8
RTCV				*e*S	**Sg**	**06 12 43.5**	**+0.9**
RTLL	**Cerro Villicun**	**3.81**	**53**	*e*P	Pn	06 11 53.7	+2.7
RTLL				⇓*e*S	**Sb**	**06 12 49.2**	**+3.5**
AMOG	**MOGNA**	**4.05**	**49**	*e*P	Pn	06 11 57.1	+2.8
CANA	**Caviahue**	**4.30**	**169**	*e*P	Pn	06 12 01.9	+4.1
ACAN	**Cantantal**	**4.31**	**73**	*e*P	Pn	06 12 01.1	+3.3
AVFE	**Valle Fertil**	**4.91**	**54**	*e*P	**Pn**	**06 12 07.8**	**+1.7**
AVFE				IAML		06 13 35.4	
	comp=Z,22nm,0.5s						

NEIC 18 06:13:08.8, 52.74N×169.54W, h14km, ML3.7(AEIC),
After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.47**	**61**	P	Pg	06 13 18.5	+0.3
NIKH				S	Sb	06 13 26.6	+0.8
OKWR	**Okmok West Rim**	**1.06**	**49**	P	Pb	06 13 29.1	0.0
OKCE	**Okmok Cone E**	**1.07**	**50**	P	Pb	06 13 29.1	-0.1
OKRE	**Okmok R'deer P**	**1.14**	**46**	P	Pb	06 13 28.9	-1.3
OKRE				S	Sn	06 13 46.0	+0.3
MCIR	**Makushin Cirqu**	**2.00**	**52**	P	Pn	06 13 43.5	+1.3
MSW	**Makushin Switc**	**2.03**	**54**	P	Pn	06 13 42.7	+0.2
UNV	**Unalaska Valle**	**2.13**	**58**	P	Pn	06 13 44.0	+0.1
UNV				S	Sn	06 14 11.3	+1.1
AKRB	**Akutan Reef Bi**	**2.50**	**55**	P	Pn	06 13 50.1	+1.1

*ISCJB **18** 06:13:47.7±0.7, 52°.62N±0°.09×169°.62W±0°.10, h10km, mb3.8/11, Error ellipse: s-maj=14.8km s-min=5.6km az=150.8*
*IDC **18** 06:13:47.4±0.8, 52°.54N×169°.72W, h0km, mb3.8/11, mb1 4.0/13, mb1mx3.7/35, mbtmp3.8/13, ML3.4/2, Error ellipse: s-maj=23.8km s-min=17.6km az=157.0*
*NEIC **18** 06:13:51.4, 52°.72N×169°.39W, h16km, mb3.9/1, ML3.9(AEIC), After AEIC.*
ISC 18 06:13:50.2±0.7, 52.74N±0.10×169.48W±0.06, h10km, n38, σ1§49/35, mb3.8/11, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.45**	**58**	P	**Pg**	**06 13 59.8**	**+0.8**
NIKH				S	**Sb**	**06 14 07.2**	**+0.2**
OKCE	**Okmok Cone E**	**1.05**	**48**	P	**Pg**	**06 14 10.0**	**-0.4**
OKCE				S	**Sn**	**06 14 26.2**	**+0.4**
OKAK	**Okmok**	**1.08**	**38**	P	**Pg**	**06 14 09.0**	**-2.0**
OKTU	**Okmok Mt. Tuli**	**1.08**	**53**	P	**Pg**	**06 14 11.0**	**-0.1**
MCIR	**Makushin Cirqu**	**1.97**	**51**	P	**Pn**	**06 14 24.6**	**+0.8**
MTBL	**Makushin Table**	**2.08**	**53**	P	**Pn**	**06 14 25.9**	**+0.7**
UNV	**Unalaska Valle**	**2.10**	**57**	P	**Pn**	**06 14 25.0**	**-0.5**
UNV				S	**Sn**	**06 14 50.2**	**-1.4**
AKRB	**Akutan Reef Bi**	**2.47**	**54**	P	**Pn**	**06 14 31.8**	**+1.2**
AKUT	**Akutan**	**2.62**	**56**	*e*Pn	**Pn**	**06 14 30.3**	**-2.3**
ATKA	**Atka Island**	**2.93**	**261**	P	**Pn**	**06 14 37.6**	**+0.7**
SPIA	**Saint Paul Isl**	**4.47**	**355**	P	**Pn**	**06 14 59.6**	**+1.6**
ILAR	**Eielson Array**	**16.69**	**35**	Pn	**Pn**	**06 17 43.5**	**-0.4**
	0.1nm,0.3s,baz=225,slow=11,SNR=3.9						
HYT	**Haines Junctio**	**19.13**	**52**	*e*P	**Pn**	**06 18 15.8**	**+1.7**
	4.0nm,0.5s						
PETK	**Petropavlovsk-**	**19.70**	**284**	P	**P**	**06 18 17.3**	**-2.2**
	0.3nm,0.3s,baz=97,slow=14,SNR=4.7						
H02N1	**VAN INLET T-PH**	**22.08**	**74**	T	T	06 41 41.4	
H02S1	**DAWSON INLET T**	**22.13**	**74**	T	T	06 41 42.9	
SEY	**Seymchan**	**22.37**	**312**	P	**P**	**06 18 48.0**	**-0.2**
	1.6nm,0.8s,baz=24,slow=20,SNR=2.3						
DLBC	**Dease Lake**	**22.76**	**60**	P	**P**	**06 18 54.1**	**+1.7**
	1.1nm,0.7s,baz=275,slow=12,SNR=2.5						
INK	**Inuvik**	**23.08**	**34**	P	**P**	**06 18 56.0**	**+0.4**
	2.3nm,0.8s,baz=247,slow=7.7,SNR=4.5						
YKA	**Yellowknife Ar**	**30.05**	**49**	P	**P**	**06 19 58.4**	**-0.6**
	0.5nm,0.4s,baz=276,slow=7.1,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**37.70**	**218**	T	T	07 01 00.9	
	baz=24						
H11N3	**WAKE ISLAND Hy**	**37.71**	**218**	T	T	07 01 05.2	
	baz=24						
H11N1	**WAKE ISLAND Hy**	**37.72**	**218**	T	T	07 01 00.4	
	baz=24						
H11S1	**WAKE ISLAND Hy**	**38.89**	**218**	T	T	07 02 29.4	
	baz=23,slow=76,SNR=6.8						
H11S2	**WAKE ISLAND Hy**	**38.91**	**218**	T	T	07 02 39.5	
	baz=23,slow=76,SNR=10.0						
H11S3	**WAKE ISLAND Hy**	**38.91**	**218**	T	T	07 02 30.9	
	baz=23,slow=76,SNR=4.2						
PDAR	**Pinedale Array**	**40.40**	**79**	P	**P**	**06 21 29.6**	**+1.0**
	0.8nm,0.8s,baz=352,slow=3.7,SNR=5.1						
SPITS	**Spitsbergen Ar**	**49.30**	**358**	P	**P**	**06 22 38.7**	**+0.1**
	0.6nm,0.3s,baz=330,slow=5.5,SNR=14						
TXAR	**Lajitas Array**	**52.81**	**89**	P	**P**	**06 23 05.5**	**-0.2**
	0.7nm,0.6s,baz=311,slow=6.6,SNR=6.9						
TXAR				PcP	**PcP**	**06 24 14.3**	**-0.8**
	0.4nm,0.6s,baz=320,slow=5.1,SNR=2.8						
TXAR				ScP	**ScP**	**06 28 12.8**	**+0.6**
	0.5nm,0.6s,baz=289,slow=2.8,SNR=2.0						
ARCES	**ARCESS Array B**	**57.55**	**354**	P	**P**	**06 23 40.8**	**+1.5**
	1.7nm,0.9s,baz=27,slow=8.1,SNR=2.9						
ARCES				PcP	**PcP**	**06 24 31.7**	**-0.8**
	1.7nm,1.0s,baz=39,slow=5.8,SNR=3.5						
HFS	**Hagfors**	**67.45**	**358**	P	**P**	**06 24 44.2**	**-1.4**
	1.5nm,0.9s,baz=350,slow=7.3,SNR=3.4						
WRA	**Warramunga Arr**	**87.18**	**231**	P	P	06 26 33.3	-3.2
	0.5nm,0.6s,baz=36,slow=5.8,SNR=5.5						
ASAR	**Alice Springs**	**90.58**	**230**	P	**P**	**06 26 50.7**	**-1.7**
	1.1nm,0.9s,baz=20,slow=4.3,SNR=6.0						
QSPA	**South Pole Qui**	**142.50**	**180**	PKhKP	PKPpre	06 33 15.9	
	1.2nm,0.9s,baz=120,slow=2.4,SNR=3.7						
QSPA				PKP	**PKPdf**	**06 33 19.8**	**-2.1**
	0.6nm,0.5s,baz=74,slow=7.4,SNR=5.1						
TSUM	**Tsumeb**	**146.08**	**348**	PKPbc	**PKPdf**	**06 33 29.0**	**-0.7**
	0.9nm,0.5s,baz=252,slow=19,SNR=7.7						
LBTB	**Lobatse**	**150.06**	**332**	PKPbc	**PKPdf**	**06 33 39.1**	**+3.1**
	2.8nm,0.8s,baz=356,slow=7.8,SNR=4.3						
MAW	**Mawson**	**151.12**	**219**	PKPbc	**PKPdf**	**06 33 40.1**	**+4.0**
	0.8nm,0.5s,baz=135,slow=5.7,SNR=5.3						
BOSA	**Boshof**	**153.54**	**330**	PKPbc	**PKPbc**	**06 33 47.6**	**-1.3**
	0.8nm,0.5s,baz=352,slow=2.2,SNR=3.7						

NEIC 18 06:14:34.2, 52.62N×169.28W, h10km, ML3.8(AEIC),
After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.44**	**36**	P	Pg	06 14 43.6	-0.5
NIKH				S	Sb	06 14 51.3	+0.5
OKCE	**Okmok Cone E**	**1.06**	**39**	P	Pn	06 14 54.9	-0.2
OKAK	**Okmok**	**1.11**	**30**	P	Pb	06 14 53.0	-2.5
OKRE	**Okmok R'deer P**	**1.13**	**36**	P	Pn	06 14 56.4	+0.4

*IDC **18** 06:15:47.3±0.7, 52°.76N×169°.88W, h0km, mb4.1/11, mb1 4.4/13, mb1mx4.1/33, mbtmp4.1/13, ML3.0/2, Error ellipse: s-maj=26.7km s-min=14.1km az=164.0*
*NEIC **18** 06:15:48.8, 52°.65N×169°.51W, h5km, mb4.5/9, ML4.4(AEIC), After AEIC.*
*ISCJB **18** 06:15:49.5±1.0, 52°.78N±0°.08×169°.78W±0°.07, h23km±7km, mb4.3/19, Error ellipse: s-maj=14.5km s-min=5.3km az=161.6*
ISC 18 06:15:48.8±1.6, 52.7N±0.1×169.71W±0.05, h10km±9km, n50, σ1§07/49, mb4.4/19, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.58**	**63**	P	**Pg**	**06 15 59.8**	**-0.2**
NIKH				S	**Sg**	**06 16 08.1**	**+0.5**
OKWR	**Okmok West Rim**	**1.16**	**51**	P	**Pg**	**06 16 10.8**	**-0.1**
OKCE	**Okmok Cone E**	**1.17**	**52**	P	**Pg**	**06 16 10.6**	**-0.7**
OKCE				S	**Sn**	**06 16 27.6**	**+0.4**
MCIR	**Makushin Cirqu**	**2.09**	**53**	P	**Pn**	**06 16 23.9**	**0.0**
MSW	**Makushin Switc**	**2.12**	**54**	P	**Pn**	**06 16 25.0**	**+0.7**
UNV	**Unalaska Valle**	**2.23**	**58**	P	**Pn**	**06 16 25.6**	**-0.1**
UNV				S	**Sn**	**06 16 53.1**	**-0.2**
AKRB	**Akutan Reef Bi**	**2.60**	**56**	P	**Pn**	**06 16 31.6**	**+0.9**
AKGG	**Akutan Green G**	**2.67**	**55**	P	**Pn**	**06 16 33.7**	**+1.9**
AKGG				S	**Sn**	**06 17 06.2**	**+2.0**
ATKA	**Atka Island**	**2.79**	**261**	P	**Pn**	**06 16 34.3**	**+0.9**
ATKA				S	**Sb**	**06 17 12.2**	**-0.7**
GSCK	**Great Sitkin C**	**4.02**	**262**	P	**Pn**	**06 16 51.7**	**+1.4**
ADAG	**Mount Adagdak**	**4.29**	**263**	P	Pn	06 16 57.2	+3.2
SPIA	**Saint Paul Isl**	**4.48**	**356**	P	**Pn**	**06 16 57.7**	**+1.1**
AMKA	**Amchitka**	**6.91**	**263**	P	**Pn**	**06 17 31.1**	**+1.2**
TRF	**Thorofare Moun**	**14.79**	**36**	*e*Pn	**Pn**	**06 19 17.4**	**-0.5**
	126nm,2.1s						
BPAW	**Bear Paw Mtn.**	**14.97**	**33**	*e*Pn	**Pn**	**06 19 20.4**	**+0.3**
	3.8nm,0.8s						
BMRM	**Bremner River**	**15.94**	**49**	Pn	**Pn**	**06 19 30.6**	**-2.3**
	12nm,0.9s						
ILAR	**Eielson Array**	**16.78**	**35**	Pn	**Pn**	**06 19 42.5**	**-1.1**
	0.0nm,0.3s,baz=200,slow=9.5,SNR=2.3						
PETK	**Petropavlovsk-**	**19.57**	**284**	P	**P**	**06 20 16.1**	**-0.5**
	0.3nm,0.3s,baz=97,slow=12,SNR=4.0						
H02N1	**VAN INLET T-PH**	**22.22**	**74**	T	T	06 44 11.1	
	SNR=4.7						
H02S1	**DAWSON INLET T**	**22.27**	**74**	T	T	06 44 08.1	
	SNR=4.3						
SEY	**Seymchan**	**22.28**	**312**	P	**P**	**06 20 45.5**	**-0.2**
	3.6nm,0.8s,baz=99,slow=14,SNR=4.5						
DLBC	**Dease Lake**	**22.89**	**60**	P	**P**	**06 20 52.6**	**+0.3**
	17nm,1.0s,baz=268,slow=8.4,SNR=10						
DLBC	**Dease Lake**	**22.89**

0.5nm,0.3s,baz=228,slow=11,SNR=12
ILAR PcP PcP 06 25 19.8 -0.2
0.1nm,0.3s,baz=288,slow=3.5,SNR=4.4
HYT Haines Junctio 19.14 53 P P 06 21 01.4 +0.5
PETK Petropavlovsk- 19.41 283 P P 06 21 03.7 -0.2
0.4nm,0.3s,baz=89,slow=13,SNR=3.7
SEY Seymchan 22.02 312 P P 06 21 33.0 +1.1
3.4nm,0.8s,baz=97,slow=12,SNR=3.0
SEY PcP PcP 06 25 29.5 0.0
2.3nm,0.8s,baz=287,slow=19,SNR=4.1
SEY ScP ScP 06 29 07.8 +1.4
2.0nm,0.8s,baz=32,slow=18,SNR=4.9
DLBC Dease Lake 22.82 60 P P 06 21 40.5 -0.1
26nm,1.0s,baz=269,slow=12,SNR=9.9
INK Inuvik 22.98 34 P P 06 21 41.0 -1.1
5.5nm,0.7s,baz=249,slow=8.3,SNR=8.2
INK PcP PcP 06 25 31.3 0.0
1.7nm,0.7s,baz=192,slow=0.2,SNR=3.7
BBB Bella Bella 25.11 75 P P 06 22 01.7 -0.7
8.8nm,0.8s,baz=302,slow=7.0,SNR=3.7
YKA Yellowknife Ar 30.05 50 P P 06 22 46.1 -0.4
1.3nm,0.6s,baz=266,slow=7.4,SNR=5.9
G03D McMinnville, O 31.00 86 P P 06 22 57.0 +1.9
baz=31
I04A Tendick Farm, 32.28 87 P P 06 23 07.8 +1.3
baz=32,SNR=5.7
I05D Terrebonne, OR 32.63 86 P P 06 23 11.1 +1.5
baz=32
J04D Umpqua Nationa 32.77 88 P P 06 23 12.4 +1.5
baz=32
NEW Newport 33.14 77 P P 06 23 13.8 -0.2
7.6nm,0.6s,baz=297,slow=7.9,SNR=19
NEW Newport 33.14 77 P P 06 23 14.7 +0.7
baz=33,SNR=8.4
EDM Edmonton 33.16 66 eP P 06 23 14.1 0.0
54nm,1.3s
J05D Fort Rock, OR 33.28 87 P P 06 23 16.7 +1.3
baz=33,SNR=6.0
YBH Yreka Blue Hor 33.28 91 P P 06 23 15.5 +0.3
3.0nm,0.9s,baz=310,slow=6.4,SNR=4.8
M02C Callahan 33.39 91 P P 06 23 18.7 +2.4
baz=33
M04C Macdoel 33.78 90 P P 06 23 21.4 +1.7
baz=34
MOD Modoc 34.63 88 eP P 06 23 28.3 +1.1
4.7nm,0.6s
WALA Waterton Lakes 34.64 73 eP P 06 23 27.4 +0.3
161nm,2.4s
WVOR Wild Horse Val 35.33 86 eP P 06 23 34.0 +0.9
13nm,1.1s
MSO Missoula 35.73 77 P P 06 23 36.8 +0.3
baz=36
RES Resolute Bay 35.92 26 PcP PcP 06 26 04.7 +0.5
2.7nm,0.8s,baz=308,slow=2.1,SNR=4.2
HRY Holter Researc 37.03 76 eP P 06 23 47.6 +0.1
8.6nm,0.7s
HLID Hailey 37.22 82 P P 06 23 49.7 +0.4
baz=37
BMN Battle Mountai 37.38 88 eP P 06 23 51.1 +0.4
4.9nm,0.9s
EGMT Eagleton 37.55 73 P P 06 23 52.2 +0.2
baz=37,SNR=6.3
EGMT Eagleton 37.55 73 eP P 06 23 52.2 +0.2
26nm,1.0s
A19A Klindworth Far 37.68 71 P P 06 23 53.2 +0.2
baz=38
BOZ Bozeman (W) 37.71 77 P P 06 23 54.0 +0.6
baz=38,SNR=7.5
BOZ Bozeman (W) 37.71 77 eP P 06 23 53.8 +0.3
6.9nm,0.6s
B19A Brinkman Farms 37.80 72 P P 06 23 54.4 +0.4
baz=38
NVAR Mina Array Bea 37.97 91 P P 06 23 56.0 +0.2
7.0nm,0.7s,baz=295,slow=8.3,SNR=20
NVAR PcP PcP 06 26 11.8 +0.5
1.3nm,0.6s,baz=294,slow=2.7,SNR=5.7
B20A Solberg Farm, 38.34 71 P P 06 23 58.8 +0.3
baz=38
ELK Elko 38.38 86 eP P 06 24 00.1 +0.9
5.6nm,0.9s
YMR Madison River 38.65 78 eP P 06 24 01.8 +0.4
15nm,0.8s
A21A Bergtoll Ranch 38.68 70 P P 06 24 01.7 +0.4
baz=38
C20A Veseth Ranch, 38.72 72 P P 06 24 02.4 +0.6
baz=38,SNR=7.9
YNR Norris Junctio 38.79 78 eP P 06 24 03.3 +0.7
16nm,0.7s
TPH Tonopah 38.85 91 eP P 06 24 02.8 -0.4
9.0nm,1.0s
B21A Ellsworth Farm 38.92 71 P P 06 24 03.6 +0.2
baz=39,SNR=6.9
H11S1 WAKE ISLAND Hy 38.97 217 T T 07 05 47.6
baz=23,slow=76
H11S2 WAKE ISLAND Hy 38.99 217 T T 07 05 48.6
baz=23,slow=76
H11S3 WAKE ISLAND Hy 38.99 217 T T 07 05 45.8
baz=23,slow=76
H17A Grant Village 39.03 78 P P 06 24 05.6 +1.0
baz=39
FLWY Flagg Ranch 39.13 79 eP P 06 24 05.5 +0.1
6.2nm,0.8s
C21A Desert Coulee 39.19 71 P P 06 24 06.1 +0.5
baz=39
RLMT Red Lodge 39.39 76 P P 06 24 08.1 +0.5
baz=39,SNR=5.1
MJAR Matsushiro Arr 39.43 267 P P 06 24 08.2 +0.5
1.3nm,0.6s,baz=44,slow=6.6,SNR=6.1
GRAC Grapevine Rang 39.46 92 P P 06 24 09.3 +1.2
baz=39
R11A Troy Canyon, C 39.67 89 P P 06 24 10.5 +0.6
baz=39,SNR=10
R11A Troy Canyon, C 39.67 89 eP P 06 24 10.0 +0.1
9.2nm,1.0s
F20A Billings 39.67 75 P P 06 24 10.2 +0.4
baz=39
ISA Isabella 39.68 95 P P 06 24 10.2 +0.3
baz=39
H19A Powell 39.81 77 P P 06 24 11.9 +0.9
baz=40
E21A Keefer Ranch, 39.89 73 P P 06 24 12.6 +1.0
baz=40
G20A Bridger 39.95 76 P P 06 24 12.4 +0.2
baz=40,SNR=6.4
MPMC Manual Prospec 40.01 94 P P 06 24 13.3 +0.5
baz=40
FURC Furnace Creek, 40.12 93 P P 06 24 14.2 +0.7
baz=40,SNR=5.5
I19A Meeteetse 40.17 78 P P 06 24 14.3 +0.3
baz=40
TPNV Topopah Spring 40.17 92 P P 06 24 14.7 +0.6
baz=40,SNR=8.4
DUG Dugway 40.18 85 P P 06 24 14.7 +0.6
baz=40,SNR=11
DUG Dugway 40.18 85 eP P 06 24 14.2 +0.1
23nm,1.2s
F21A Absaloka Mine, 40.26 74 P P 06 24 15.2 +0.6
baz=40
LRMC Laurel Mountai 40.28 94 P P 06 24 14.9 -0.1
baz=40
LAO LASA Array 40.30 72 P P 06 24 15.2 +0.2
baz=40
H20A Greybull 40.50 76 P P 06 24 16.8 +0.1
baz=40
EDW2 Edwards Air Fo 40.50 95 P P 06 24 17.1 +0.3
baz=40
G21A Lodge Grass 40.54 75 P P 06 24 17.0 0.0
baz=40
BW06 Boulder Array 40.58 80 eP P 06 24 17.4 -0.1
9.7nm,0.8s
PDAR Pinedale Array 40.58 80 P P 06 24 17.4 -0.1
10nm,0.8s,baz=329,slow=5.2,SNR=29
PDAR PcP PcP 06 26 18.6 -0.9
0.6nm,0.7s,baz=354,slow=1.8,SNR=2.0
J19A Crowheart 40.58 79 P P 06 24 18.5 +1.0
baz=40
E22A Miles City 40.59 73 P P 06 24 17.8 +0.5
baz=40
I20A Worland 40.73 77 P P 06 24 19.2 +0.6
baz=40
F22A Rosebud 40.78 74 P P 06 24 19.3 +0.3
baz=41
SHOC Shoshone 40.85 93 P P 06 24 20.4 +0.9
baz=41
A25A Svangstu Ranch 40.85 68 P P 06 24 20.0 +0.5
baz=41
C24A Savage 40.87 70 P P 06 24 20.5 +0.9
baz=41
E23A Ismay 40.93 72 P P 06 24 21.1 +0.9
baz=41,SNR=6.7
GSC Goldstone 40.93 94 P P 06 24 21.1 +0.8
baz=41
GSC Goldstone 40.93 94 eP P 06 24 20.5 +0.2
5.9nm,0.8s
H21A Big Horn, Sher 40.98 76 P P 06 24 21.0 +0.4
baz=41
MPU Maple Canyon 41.00 84 eP P 06 24 20.7 -0.3
18nm,1.0s
G22A Birney 41.08 74 P P 06 24 21.3 -0.1
baz=41
J20A Shoshoni 41.10 78 P P 06 24 22.0 +0.3
baz=41
BFSC Mount Baldy Ra 41.14 96 P P 06 24 22.5 +0.4
baz=41
D24A Glendive 41.15 71 P P 06 24 23.1 +1.1
baz=41,SNR=8.0
B25A Knox Farm, Ray 41.18 69 P P 06 24 22.5 +0.4
baz=41
I21A Big Trails, Te 41.30 77 P P 06 24 23.2 -0.1
baz=41,SNR=5.9
F23A Volborg 41.31 73 P P 06 24 23.7 +0.4
baz=41,SNR=6.7
H22A Clearmont 41.40 75 P P 06 24 24.1 0.0
baz=41
C25A Freed Ranch, W 41.43 69 P P 06 24 24.2 0.0
baz=41
E24A Baker 41.47 72 P P 06 24 24.6 0.0
baz=41
A26A Wade Farm, Ken 41.48 67 P P 06 24 24.5 -0.1
baz=41
J21A Lysite 41.48 77 P P 06 24 24.7 -0.2
baz=41
HEC Hector,Ludlow 41.54 94 P P 06 24 25.4 +0.1
baz=41
BBRC Big Bear Solar 41.57 95 P P 06 24 26.0 +0.3
baz=41
MVU Marysvale 41.60 87 eP P 06 24 26.0 0.0
9.0nm,1.1s
G23A Biddle 41.61 74 P P 06 24 26.2 +0.4
baz=41
B26A Jensen Ranch, 41.65 68 P P 06 24 26.3 +0.3
baz=41
I22A 9 Mile Ranch, 41.73 76 P P 06 24 27.3 +0.5
baz=42
F24A Ekalaka 41.79 73 P P 06 24 27.7 +0.4
baz=42
GMRC Granite Mounta 41.98 93 P P 06 24 29.2 +0.2
baz=42,SNR=5.5
J22A Midwest 42.01 77 P P 06 24 29.6 +0.4
baz=42,SNR=12
E25A Miller Ranch, 42.02 71 P P 06 24 29.5 +0.4
baz=42
C26A Wahner Farm, P 42.03 69 P P 06 24 29.6 +0.5
baz=42
G24A Alzada 42.10 73 P P 06 24 29.7 -0.1
baz=42
B27A Peters Farms, 42.18 68 P P 06 24 30.2 -0.1
baz=42
D26A Manning 42.27 70 P P 06 24 30.8 -0.3
baz=42
PFO Pinyon Flat Ob 42.30 95 P P 06 24 31.2 -0.4
3.3nm,0.7s,baz=304,slow=3.6,SNR=6.2
PFO PcP PcP 06 26 24.9 -0.2
0.7nm,0.3s,baz=322,slow=14,SNR=4.2
PFO Pinyon Flat Ob 42.30 95 P P 06 24 31.8 +0.2
baz=42
BELC Belle Mtn. Jos 42.30 95 P P 06 24 31.9 +0.2
baz=42
F25A Bowman 42.31 72 P P 06 24 31.4 -0.1
baz=42
H24A Dirks Ranch, A 42.36 74 P P 06 24 31.8 -0.1
baz=42
109C Camp Elliot, M 42.41 97 P P 06 24 32.6 +0.3
baz=42
C27A Sayler Ranch, 42.42 69 P P 06 24 32.2 -0.1
baz=42
K22A Casper 42.44 78 P P 06 24 32.7 0.0
baz=42
A28A Rude Farm, Bot 42.45 66 P P 06 24 32.6 +0.1
baz=42,SNR=5.3
J23A Dilts Ranch, B 42.56 76 P P 06 24 33.4 -0.3
baz=42
E26A Carlson Angus 42.57 71 P P 06 24 33.5 -0.1
baz=42
B28A Dugan Ranch, T 42.65 67 P P 06 24 34.7 +0.6
baz=42
IRM Iron Mountain 42.71 94 P P 06 24 35.4 +0.6
baz=42
D27A Center 42.75 69 P P 06 24 34.9 0.0
baz=42
G25A Newell 42.76 73 P P 06 24 35.1 0.0
baz=42
F26A Lodgepole 42.81 71 P P 06 24 35.7 +0.2
baz=43
MONP Monument Peak 42.82 96 P P 06 24 36.4 +0.4
baz=42
I24A Kuemmerle Ranc 42.84 75 P P 06 24 35.9 +0.1
baz=43
K23A Bowen Ranch, D 42.91 77 P P 06 24 36.4 0.0
baz=43
O20A White River Ci 42.96 82 P P 06 24 37.2 +0.2
baz=43,SNR=13
O20A White River Ci 42.96 82 eP P 06 24 36.7 -0.3
29nm,0.8s
H25A Fruitdale 42.99 73 P P 06 24 37.1 +0.1
baz=43
A29A Manning Farm, 43.02 66 P P 06 24 37.4 +0.3
baz=43,SNR=6.0
C28A Hausauer Farms 43.05 68 P P 06 24 37.7 +0.3
baz=43
E27A Carson 43.11 70 P P 06 24 38.1 +0.2
baz=43
SWSC Sam W. Stewart 43.16 96 P P 06 24 38.7 +0.3
baz=43
F27A Lemmon 43.17 71 P P 06 24 38.6 +0.2
baz=43
G26A Maurine 43.17 72 P P 06 24 38.5 +0.1
baz=43
B29A Wagenman Farm, 43.20 66 P P 06 24 38.4 -0.2
baz=43
PDMCI Parker Dam,Lak 43.22 93 P P 06 24 38.8 -0.1
baz=43
D28A Regan 43.24 69 P P 06 24 38.9 -0.1
baz=43
I25A Rochford 43.26 74 P P 06 24 39.1 -0.3
baz=43
Y12C Blythe 43.37 94 P P 06 24 40.1 +0.1
baz=43
MDND Maddock 43.41 67 P P 06 24 40.4 +0.1
baz=43
H26A Fairpoint 43.47 73 P P 06 24 40.4 -0.4
baz=43
G27A Dupree 43.51 72 P P 06 24 40.9 -0.2
baz=43
A30A Hoffart Farm, 43.52 65 P P 06 24 40.4 -0.8
baz=43
E28A Huff 43.52 69 P P 06 24 41.0 -0.2
baz=43
J25A Sunshine Ranch 43.60 75 P P 06 24 41.6 -0.3
baz=43
GLA Glamis 43.66 95 P P 06 24 42.5 0.0
baz=43
B30A Myrvik Farm, E 43.78 66 P P 06 24 43.1 -0.2
baz=44
N23A Red Feather La 43.86 79 P P 06 24 44.6 +0.3
baz=44
F28A McLaughlin 43.88 70 P P 06 24 43.9 -0.2
baz=44
J26A Sides Ranch, S 44.07 75 P P 06 24 45.7 0.0
baz=44
WUAZ Wupatki 44.07 89 P P 06 24 46.5 +0.6
baz=44,SNR=7.3
WUAZ Wupatki 44.07 89 eP P 06 24 45.6 -0.3
19nm,1.1s
ULM Lac du Bonnet 44.11 62 P P 06 24 44.1 -1.7
6.6nm,1.0s,baz=298,slow=9.8,SNR=4.3
C30A Mose, Pekin 44.12 67 P P 06 24 45.8 -0.2
baz=44
I27A Quinn 44.21 73 P P 06 24 46.8 0.0
baz=44
L25A Engebretsen Ra 44.25 77 P P 06 24 47.2 0.0
baz=44
D30A Buchanan 44.30 68 P P 06 24 47.3 -0.2
baz=44
SMCO Snowmass 44.32 82 eP P 06 24 47.9 -0.3
3.9nm,0.8s
F29A Eureka 44.44 70 P P 06 24 48.3 -0.3
baz=44
E30A Jud 44.57 68 P P 06 24 49.3 -0.3
baz=44
M25A Palm-Egli Farm 44.64 77 P P 06 24 51.0 +0.6
baz=44,SNR=6.8
MVCO Mesa Verde 44.68 85 P P 06 24 50.6 -0.3
baz=44
MVCO Mesa Verde 44.68 85 eP P 06 24 50.3 -0.6
4.0nm,0.6s
J27A Elkhorn Farm, 44.72 74 P P 06 24 51.1 +0.1
baz=44
ISCO Idaho Springs 44.74 80 P P 06 24 51.5 +0.1
baz=44
ISCO Idaho Springs 44.74 80 eP P 06 24 51.5 +0.1
112nm,2.6s
I28A Midland 44.76 73 P P 06 24 51.3 +0.1
baz=44,SNR=7.1
G29A Hoven 44.76 71 P P 06 24 51.6 +0.5
baz=44
K27A Flueckinger Fa 44.92 75 P P 06 24 52.7 +0.1
baz=45
H29A Onida 44.93 71 P P 06 24 52.3 -0.3
baz=45
KSRS Korea Array 45.04 276 P P 06 24 53.8 +0.4
2.8nm,0.8s,baz=70,slow=6.6,SNR=4.8
J28A Allard Ranch, 45.07 73 P P 06 24 53.8 +0.1
baz=45
KSAR Wonju Array Be 45.07 276 P P 06 24 53.8 +0.1
AGMN Agassiz Nation 45.22 65 P P 06 24 54.9 +0.2
baz=45,SNR=5.3
G30A Faulkton 45.24 70 P P 06 24 54.8 -0.2
baz=45
I29A Vivian Onida 45.24 72 P P 06 24 54.7 -0.3
baz=45,SNR=5.1
W18A Petrified Fore 45.33 88 P P 06 24 56.3 +0.4
baz=45
S22A 4UR Ranch, Cre 45.33 83 P P 06 24 56.3 +0.2
baz=45
K28A Ten Mile Ranch 45.42 74 P P 06 24 56.3 -0.2
baz=45
Q24A Divide 45.55 81 P P 06 24 57.7 -0.1
baz=45
M27A Reverse DX Ran 45.56 76 P P 06 24 57.7 0.0
baz=45
J29A Okreek 45.60 73 P P 06 24 58.1 +0.2
baz=45,SNR=8.8
214A Organ Pipe Nat 45.65 94 P P 06 24 58.7 +0.3
baz=45,SNR=5.2
214A Organ Pipe Nat 45.65 94 eP P 06 24 58.1 -0.2
5.4nm,0.8s
I30A Oacoma 45.81 72 P P 06 24 59.6 0.0
baz=46
O26A Horse Wrangler 45.83 78 P P 06 25 00.1 +0.3
baz=46
N27A Anderson Farm, 45.93 77 P P 06 25 00.5 -0.1
baz=46
K29A Lazy Trails An 46.01 74 P P 06 25 00.9 -0.2
baz=46
SDCO Great Sand Dun 46.13 82 P P 06 25 02.5 +0.1
baz=46,SNR=11
SDCO Great Sand Dun 46.13 82 eP P 06 25 02.6 +0.1
9.0nm,1.0s
J30A Dallas 46.13 72 P P 06 25 02.0 -0.1
baz=46,SNR=5.8
OGNE Ogallala 46.14 77 P P 06 25 02.3 +0.1
baz=46,SNR=6.0
OGNE Ogallala 46.14 77 eP P 06 25 02.2 0.0
14nm,0.8s
JNU Nakatsue 46.17 269 P P 06 25 02.0 -0.5
6.0nm,0.8s,baz=110,slow=12,SNR=2.4
JNU Nakatsue 46.17 269 P P 06 25 02.0 -0.5
P26A Davis Ranch, A 46.24 79 P P 06 25 03.6 +0.5
baz=46,SNR=11
O27A Beecher Island 46.35 78 P P 06 25 04.0 +0.1
baz=46
K30A Basset 46.47 73 P P 06 25 04.9 +0.2
baz=46
Q26A Hugo 46.55 80 P P 06 25 05.7 +0.2
baz=46
M29A Burnside Ranch 46.61 75 P P 06 25 06.0 +0.1
baz=46
P27A Ficken Ranch, 46.70 78 P P 06 25 06.8 +0.1
baz=46
O28A Krutsinger Ran 46.81 77 P P 06 25 07.6 +0.1
baz=47,SNR=5.1
L30A Spencer Herefo 46.86 74 P P 06 25 08.1 +0.3
baz=47
R26A Arlington 46.99 80 P P 06 25 09.1 +0.1
baz=47,SNR=7.4
KSCO Kaye Shedlock' 47.02 79 P P 06 25 09.4 +0.2
baz=47,SNR=6.1
KSCO Kaye Shedlock' 47.02 79 eP P 06 25 09.6 +0.4
28nm,0.9s
M30A Dale-Ortello V 47.03 75 P P 06 25 09.3 +0.2
baz=47
N29A Votaw Ranch, W 47.04 76 P P 06 25 09.2 -0.1
baz=47
P28A Saint Francis 47.17 78 P P 06 25 10.2 -0.2
baz=47,SNR=6.1
T25A Trinidad 47.18 82 P P 06 25 11.1 +0.5
baz=47,SNR=10
L31A Butterfield Fa 47.23 73 P P 06 25 10.9 +0.3
baz=47
LAZ Ladron 47.38 87 eP P 06 25 12.6 +0.5
5.5nm,1.1s
O29A 4D Ranch, Culb 47.38 77 P P 06 25 12.0 +0.1
baz=47,SNR=7.0
R27A Eads 47.39 80 P P 06 25 11.9 -0.2
baz=47,SNR=8.5
ANMO Albuquerque 47.42 86 P P 06 25 11.1 -1.3
3.4nm,1.0s,baz=318,slow=11,SNR=4.8
ANMO PcP PcP 06 26 43.5 +0.7
3.7nm,0.9s,baz=316,slow=5.1,SNR=7.0
ANMO Albuquerque 47.42 86 eP P 06 25 11.6 -0.8
ANMO PcP PcP 06 26 43.5 +0.7
S26A Kim 47.42 81 P P 06 25 12.1 -0.3
baz=47,SNR=12
Q28A Sharon Springs 47.46 78 P P 06 25 12.4 -0.2
baz=47
ECSD EROS Data Cent 47.53 70 P P 06 25 12.1 -0.9
baz=47
ECSD EROS Data Cent 47.53 70 eP P 06 25 11.6 -1.3
5.7nm,0.8s
P29A Atwood 47.64 77 P P 06 25 14.1 +0.2
baz=47
T26A Comanche Natio 47.65 82 P P 06 25 13.9 -0.3
baz=47,SNR=5.4
O30A MW Ranch, Wils 47.78 76 P P 06 25 15.6 +0.5
baz=48
EYMN Ely 47.79 63 P P 06 25 14.7 -0.2
baz=48
R28A Tribune 47.94 79 P P 06 25 16.2 -0.1
baz=48,SNR=5.5
N31A Bailey Ranch, 48.02 75 P P 06 25 16.7 -0.1
baz=48
Q29A Oakley 48.08 78 P P 06 25 17.5 +0.2
baz=48
P30A Selden 48.08 77 P P 06 25 17.5 +0.2
baz=48,SNR=7.8
O31A Woolen Ranch, 48.23 76 P P 06 25 18.2 -0.2
baz=48
T27A Campo 48.24 81 P P 06 25 18.5 -0.2
baz=48
121A Cookes Peak, D 48.28 89 P P 06 25 19.3 +0.2
baz=48,SNR=5.8
121A Cookes Peak, D 48.28 89 eP P 06 25 19.0 -0.1
63nm,1.8s
R29A Marienthal 48.28 79 P P 06 25 19.1 +0.1
baz=48
S28A Manter 48.38 80 P P 06 25 19.9 +0.1
baz=48,SNR=7.6
P31A Stockton 48.61 76 P P 06 25 20.9 -0.5
baz=48
U27A Thompson Grove 48.61 82 P P 06 25 21.2 -0.4
baz=48
FRB Frobisher Bay 48.62 36 P P 06 25 20.3 -0.8
2.1nm,0.5s,baz=300,slow=9.7,SNR=4.8
SPMN St. Paul 48.74 66 P P 06 25 22.1 -0.2
baz=48
S29A Ulysses 48.83 79 P P 06 25 23.1 0.0
baz=49
CBKS Cedar Bluff 48.86 77 P P 06 25 23.7 +0.4
baz=49
R30A Dighton 48.89 78 P P 06 25 23.7 +0.1
baz=49,SNR=8.1
Q31A Ellis 48.93 77 P P 06 25 23.6 -0.3
baz=49

U28A	**Mallet** baz=49	48.99	81	P		P	06 25 24.3	-0.1
P32A	**Huiting Farm,** baz=49	49.00	76	P		P	06 25 23.8	-0.5
T29A	**Hugoton** baz=49	49.03	80	P		P	06 25 24.7	0.0
V27A	**Dan Oppiter Fa** baz=49	49.05	83	P		P	06 25 24.6	-0.3
S30A	**Montezuma** baz=49	49.20	79	P		P	06 25 25.7	-0.3
O33A	**Hebron** baz=49	49.30	75	P		P	06 25 26.2	-0.4
R31A	**Burdett** baz=49,SNR=7.2	49.33	78	P		P	06 25 26.5	-0.4
Q32A	**Meitler Ranch,** baz=49	49.43	76	P		P	06 25 27.7	0.0
M35A	**Neola** baz=49	49.49	72	P		P	06 25 28.0	-0.1
R32A	**Long Quarter,** baz=50	49.72	77	P		P	06 25 29.3	-0.6
O34A	**Beatrice** baz=50	49.74	74	P		P	06 25 29.7	-0.3
V29A	**Stinnett** baz=50	49.76	81	P		P	06 25 30.1	-0.2
W28A	**Vega** baz=50	49.76	83	P		P	06 25 30.2	-0.2
S31A	**Mullinville** baz=50	49.80	78	P		P	06 25 30.0	-0.6
U30A	**WK&E Inc. Balk** baz=50,SNR=5.3	49.83	80	P		P	06 25 30.3	-0.6
Q33A	**Connelly Farm,** baz=50	49.86	76	P		P	06 25 30.6	-0.3
N35A	**Tabor** baz=50	49.91	73	P		P	06 25 31.0	-0.3
P34A	**Walnut Farm, R** baz=50	50.08	75	P		P	06 25 32.8	+0.1
R33A	**Olander Ranch,** baz=50	50.22	77	P		P	06 25 33.2	-0.5
X28A	**Dimmitt** baz=50	50.27	83	P		P	06 25 33.7	-0.6
MSTX	**Muleshoe** baz=50,SNR=7.0	50.30	84	P		P	06 25 34.2	-0.3
MSTX	**Muleshoe** 14nm,1.0s	50.30	84	*e*P		P	06 25 34.1	-0.3
V30A	**Spur Ranch, Mi** baz=50	50.33	81	P		P	06 25 34.2	-0.5
U31A	**Nine Bar Ranch** baz=50	50.42	80	P		P	06 25 34.5	-0.7
T32A	**Huddler Ranch,** baz=50	50.42	78	P		P	06 25 34.5	-0.7
Q34A	**Chapman** baz=50	50.43	75	P		P	06 25 34.6	-0.6
P35A	**Duane Minner,** baz=50	50.56	74	P		P	06 25 35.7	-0.5
X29A	**Tulia** baz=50	50.62	83	P		P	06 25 36.5	-0.3
R34A	**Isabella, Hill** baz=50	50.66	76	P		P	06 25 36.6	-0.4
Y28A	**McKinney Farm,** baz=50	50.66	84	P		P	06 25 36.6	-0.6
S33A	**Kaszmaul Farm,** baz=50	50.69	77	P		P	06 25 36.8	-0.5
SONM	**Songino Array** 0.4nm,0.5s,baz=60,slow=8.5,SNR=3.5	50.72	300	P		P	06 25 37.7	+0.2
SONM	2.4nm,0.6s,baz=63,slow=2.8,SNR=7.8			PcP		PcP	06 26 54.4	-0.1
SONM	1.2nm,0.7s,baz=42,slow=4.3,SNR=6.8			ScP		ScP	06 30 49.9	-0.4
O36A	**Bolckow** baz=50	50.78	73	P		P	06 25 37.1	-0.8
V31A	**Spring Creek L** baz=51	50.83	80	P		P	06 25 38.0	-0.3
U32A	**Winter Ranch,** baz=51	50.91	79	P		P	06 25 38.4	-0.6
P36A	**Good Intent, A** baz=51	50.98	73	P		P	06 25 38.5	-0.8
Q35A	**Mercer Eighty,** baz=51	51.00	75	P		P	06 25 38.9	-0.7
Z28A	**Tucker Farm, M** baz=51,SNR=5.9	51.01	85	P		P	06 25 39.5	-0.3
Y29A	**Porterfield Fa** baz=51,SNR=6.0	51.04	83	P		P	06 25 39.9	-0.1
X30A	**Coker Ranch, T** baz=51	51.12	82	P		P	06 25 40.0	-0.6
S34A	**Willow Spring** baz=51	51.14	77	P		P	06 25 40.2	-0.4
W31A	**Holland Ranch,** baz=51,SNR=5.3	51.16	81	P		P	06 25 40.5	-0.3
R35A	**Emporia Munici** baz=51	51.26	75	P		P	06 25 40.7	-0.8
Q36A	**Arnold C. Orve** baz=51	51.27	74	P		P	06 25 40.7	-0.8
V32A	**Arapaho** baz=51	51.34	80	P		P	06 25 41.7	-0.5
U33A	**Lingo Farm, Me** baz=51	51.41	78	P		P	06 25 41.8	-0.9
128A	**Castleberry Fa** baz=51,SNR=12	51.41	85	P		P	06 25 42.6	-0.2
Z29A	**Hungry Hill Ra** baz=51,SNR=11	51.44	84	P		P	06 25 42.8	-0.2
Y30A	**Stafford Cattl** baz=51	51.49	83	P		P	06 25 42.8	-0.6
X31A	**McDonald Ranch** baz=51	51.52	81	P		P	06 25 42.7	-0.8
T34A	**McClaskey Farm** baz=51,SNR=7.8	51.55	77	P		P	06 25 43.2	-0.5
S35A	**Otter Creek Ra** baz=51,SNR=6.5	51.62	76	P		P	06 25 43.3	-0.9
W32A	**Sentinel** baz=51	51.62	81	P		P	06 25 43.8	-0.5
R36A	**Gordon, Harris** baz=51	51.66	75	P		P	06 25 43.6	-1.0
228A	**UT Block 9, Go** baz=51	51.70	86	P		P	06 25 44.6	-0.4
V33A	**Lossen Ranch,** baz=52	51.72	79	P		P	06 25 44.2	-0.8
U34A	**Anderson Ranch** baz=52,SNR=6.1	51.74	78	P		P	06 25 44.4	-0.8
Z30A	**Sanderson Ranc** baz=52,SNR=8.0	51.77	84	P		P	06 25 44.8	-0.6
129A	**Stewart Farms,** baz=52	51.78	85	P		P	06 25 44.9	-0.6
Q37A	**Longview Farm,** baz=52	51.91	74	P		P	06 25 45.8	-0.5
S36A	**Lake Cedric, C** baz=52	52.02	76	P		P	06 25 46.3	-0.8
T35A	**Sooner Cattle** baz=52	52.02	77	P		P	06 25 46.4	-0.8
W33A	**Caddo, Fort Co** baz=52	52.07	80	P		P	06 25 47.0	-0.6
V34A	**Guthrie** baz=52,SNR=7.4	52.16	79	P		P	06 25 47.6	-0.7
V34A	**Guthrie** 19nm,0.9s	52.16	79	*e*P		P	06 25 47.5	-0.8
WMOK	**Wichita Mounta** 16nm,0.8s	52.17	81	*e*P		P	06 25 47.9	-0.5
U35A	**Pawnee** baz=52	52.26	78	P		P	06 25 48.1	-0.9
229A	**Bryant Ranch,** baz=52	52.28	85	P		P	06 25 48.8	-0.5
Y32A	**R-V Farms, Ver** baz=52	52.28	82	P		P	06 25 48.8	-0.4
T36A	**Boggs Farm, Ca** baz=52	52.30	76	P		P	06 25 48.0	-1.2
Z31A	**Sharp Cattle R** baz=52	52.33	83	P		P	06 25 48.7	-0.9
130A	**Snyder** baz=52	52.34	84	P		P	06 25 49.0	-0.8
W34A	**Bridge Creek,** baz=52	52.42	79	P		P	06 25 49.9	-0.3
W34A	**Bridge Creek,** 12nm,0.8s	52.42	79	*e*P		P	06 25 49.7	-0.6
S37A	**Fort Scott** baz=52,SNR=15	52.44	75	P		P	06 25 49.2	-1.1
X33A	**Lawton** baz=52	52.47	81	P		P	06 25 50.0	-0.5
329A	**Wagon Wheel Ra** baz=52	52.51	86	P		P	06 25 50.4	-0.6
V35A	**Meyer Ranch, C** baz=52,SNR=5.3	52.62	78	P		P	06 25 51.1	-0.6
131A	**Roby** baz=52	52.64	84	P		P	06 25 51.1	-0.8
Z32A	**Haskell** baz=52,SNR=12	52.74	82	P		P	06 25 52.0	-0.6
230A	**Sterling City** baz=52,SNR=7.3	52.75	85	P		P	06 25 52.3	-0.5
Y33A	**Hilltop Ranch,** baz=52	52.76	81	P		P	06 25 52.3	-0.4
T37A	**Cheneyville 18** baz=53,SNR=6.7	52.82	76	P		P	06 25 52.1	-1.0
X34A	**Smith Ranch, M** baz=53	52.83	80	P		P	06 25 53.0	-0.2
W35A	**Tecumseh** baz=53,SNR=6.1	53.01	79	P		P	06 25 54.2	-0.3
TXAR	**Lajitas Array** 11nm,0.9s,baz=306,slow=5.6,SNR=22	53.03	89	P		P	06 25 54.9	-0.1
TXAR	1.8nm,0.7s,baz=318,slow=2.4,SNR=2.9			PcP		PcP	06 27 03.1	-0.3
330A	**Mertzon** baz=53	53.06	85	P		P	06 25 54.4	-0.7
ABTX	**Abilene, Hawle** baz=53,SNR=5.6	53.12	83	P		P	06 25 55.0	-0.4
V36A	**Jenks** baz=53	53.13	78	P		P	06 25 54.4	-1.0
TUL1	**Tulsa** baz=53	53.13	77	P		P	06 25 54.7	-0.7
429A	**Davenport Ranc** baz=53,SNR=8.1	53.18	87	P		P	06 25 55.1	-0.8
Z33A	**Whitaker Ranch** baz=53,SNR=6.6	53.18	82	P		P	06 25 55.2	-0.7
U37A	**Salina** baz=53,SNR=5.3	53.19	76	P		P	06 25 55.1	-0.8
231A	**Bronte** baz=53	53.20	84	P		P	06 25 55.5	-0.5
Y34A	**Reagan Ranch,** baz=53,SNR=8.0	53.32	80	P		P	06 25 56.8	-0.1
529A	**Stev Forest Ra** baz=53	53.34	87	P		P	06 25 56.7	-0.4
W36A	**Wetumka** baz=53	53.41	78	P		P	06 25 57.0	-0.5
430A	**Baggett Ranch,** baz=53,SNR=9.6	53.46	86	P		P	06 25 57.3	-0.7
X35A	**Drake** baz=53	53.48	80	P		P	06 25 57.4	-0.6
V37A	**Hulbert** baz=53	53.53	77	P		P	06 25 57.1	-1.3
133A	**Hamilton Ranch** baz=53,SNR=11	53.57	83	P		P	06 25 58.5	-0.2
331A	**San Angelo** baz=53,SNR=7.3	53.58	85	P		P	06 25 58.1	-0.7
U38A	**Gravette** baz=53	53.60	76	P		P	06 25 57.5	-1.3
Z34A	**Collier Ranch,** baz=53,SNR=9.4	53.63	81	P		P	06 25 58.9	-0.2
232A	**Coleman** baz=53	53.63	84	P		P	06 25 58.7	-0.6
X36A	**Centrahoma** baz=54	53.73	79	P		P	06 25 59.4	-0.4
HDIL	**Hopedale** baz=54,SNR=5.6	53.73	69	P		P	06 25 58.8	-1.0
Y35A	**Marietta** baz=54,SNR=7.0	53.78	80	P		P	06 26 00.1	-0.1
530A	**J-C Ranch, Com** baz=54,SNR=14	53.85	87	P		P	06 26 00.6	-0.3
W37A	**Quinton** baz=54	53.88	78	P		P	06 26 00.5	-0.4
431A	**Sonora** baz=54,SNR=12	53.91	85	P		P	06 26 00.6	-0.7
332A	**Millersview** baz=54	53.94	84	P		P	06 26 00.9	-0.6
V38A	**Canehill** baz=54	53.98	76	P		P	06 26 00.6	-1.1
233A	**Rising Star** baz=54,SNR=15	53.99	83	P		P	06 26 01.4	-0.5
Z35A	**Perchaven, San** baz=54	54.05	81	P		P	06 26 01.6	-0.6
134A	**White-Moore Ra** baz=54	54.09	82	P		P	06 26 02.7	+0.1
Y36A	**Durant** baz=54,SNR=7.1	54.23	79	P		P	06 26 03.0	-0.5
432A	**Menard** baz=54,SNR=6.6	54.27	85	P		P	06 26 03.3	-0.6
X37A	**Clayton** baz=54,SNR=5.6	54.29	78	P		P	06 26 03.4	-0.5
531A	**Rocksprings** baz=54,SNR=5.2	54.32	86	P		P	06 26 03.6	-0.7
333A	**Richland Sprin** baz=54,SNR=8.7	54.43	84	P		P	06 26 04.4	-0.6
234A	**Clairette** baz=54,SNR=8.6	54.46	82	P		P	06 26 04.7	-0.5
W38A	**Poteau** baz=54,SNR=5.1	54.46	77	P		P	06 26 04.4	-0.8
135A	**Vickery Place,** baz=54,SNR=6.3	54.50	81	P		P	06 26 05.4	-0.1
JCT	**Junction City** baz=54,SNR=7.5	54.54	85	P		P	06 26 05.3	-0.6
JCT	**Junction City** 17nm,1.3s	54.54	85	*e*P		P	06 26 05.0	-0.8
JCT				*e*PcP		PcP	06 27 08.9	-0.2
X38A	**Whitesboro** baz=54	54.56	78	P		P	06 26 05.3	-0.6
Z36A	**Blue Ridge** baz=54	54.58	80	P		P	06 26 05.4	-0.6
532A	**Rocksprings** baz=54	54.73	85	P		P	06 26 06.4	-0.9
433A	**Art** baz=54,SNR=8.6	54.77	84	P		P	06 26 06.7	-0.9
631A	**Perdio Creek** baz=55,SNR=6.0	54.84	87	P		P	06 26 06.7	-1.3
334A	**Lometa** baz=55,SNR=12	54.88	83	P		P	06 26 08.0	-0.3
WHTX	**Lake Whitney** baz=55	54.88	82	P		P	06 26 08.0	-0.3
WHTX	**Lake Whitney** 25nm,0.9s	54.88	82	*e*P		P	06 26 08.4	+0.2
SFIN	**Scholer Farm** baz=55,SNR=5.1	55.08	68	P		P	06 26 09.0	-0.6
SFIN	**Scholer Farm** 10nm,1.0s	55.08	68	*e*P		P	06 26 08.7	-0.9
136A	**Ennis** baz=55	55.09	81	P		P	06 26 09.3	-0.4
Z37A	**Pogue Cattle C** baz=55	55.12	80	P		P	06 26 09.8	-0.2
Y38A	**Idabel** baz=55	55.13	78	P		P	06 26 10.0	-0.1
SCHQ	**Schefferville** 3.8nm,0.9s,baz=258,slow=9.3,SNR=4.1	55.17	43	P		P	06 26 09.5	-0.5
434A	**Burnet** baz=55,SNR=14	55.23	84	P		P	06 26 10.3	-0.5
632A	**Uvalde** baz=55,SNR=5.2	55.25	86	P		P	06 26 10.0	-1.0
533A	**Kerrville** baz=55,SNR=6.3	55.30	85	P		P	06 26 10.2	-1.2
MIAR	**Mount Ida** baz=55,SNR=6.0	55.38	77	P		P	06 26 11.0	-0.9
MIAR	**Mount Ida** 14nm,1.3s	55.38	77	*e*P		P	06 26 10.8	-1.0
MIAR				*e*PcP		PcP	06 27 12.1	-0.1
335A	**Moody** baz=55	55.40	83	P		P	06 26 11.3	-0.7
236A	**Katherine and** baz=55	55.42	81	P		P	06 26 11.7	-0.4
Z38A	**Mt. Pleasant** baz=55	55.46	79	P		P	06 26 11.9	-0.5
633A	**Saathoff Ranch** baz=55	55.65	85	P		P	06 26 13.6	-0.3
435B	**Jarrell** baz=55	55.66	83	P		P	06 26 13.8	0.0
534A	**Blanco** baz=55	55.66	84	P		P	06 26 13.5	-0.4
336A	**Riesel** baz=55,SNR=7.6	55.67	82	P		P	06 26 13.9	0.0
732A	**Laxson Ranch,** baz=55	55.70	87	P		P	06 26 13.9	-0.3
138A	**Matatall Enter** baz=56	55.81	80	P		P	06 26 14.5	-0.5
237A	**Washetta, Mont** baz=56	55.85	81	P		P	06 26 14.5	-0.7
Z39A	**Irene McRaven,** baz=56	55.94	79	P		P	06 26 15.4	-0.5
832A	**Faith Ranch, C** baz=56,SNR=9.9	56.02	87	P		P	06 26 16.0	-0.5
733A	**Divot King Ran** baz=56	56.12	86	P		P	06 26 16.4	-0.7
436A	**Wall Ranch, Ga** baz=56	56.14	83	P		P	06 26 17.3	-0.1
535A	**Dale** baz=56	56.21	84	P		P	06 26 17.8	-0.1
238A	**Jacksonville** baz=56	56.26	80	P		P	06 26 18.3	+0.1
337A	**Centerville** baz=56	56.30	81	P		P	06 26 18.6	+0.1
833A	**Chaparral WMA,** baz=56,SNR=10	56.34	87	P		P	06 26 18.7	-0.1
734A	**La Parita Cree** baz=56	56.47	85	P		P	06 26 19.5	-0.2
437A	**Phantom Ranch,** baz=56	56.49	82	P		P	06 26 20.1	+0.3
635A	**Leesville** baz=56,SNR=5.1	56.55	84	P		P	06 26 20.2	-0.1
NATX	**Nacogdoches** baz=56	56.71	80	P		P	06 26 21.3	0.0
636A	**Smothers Creek** baz=57	56.91	84	P		P	06 26 22.6	-0.2
735A	**Kenedy** baz=57	56.91	85	P		P	06 26 23.0	+0.2
933A	**Laredo** baz=57	56.93	87	P		P	06 26 22.6	-0.4
438A	**Sam Houston St** baz=57	56.95	82	P		P	06 26 22.3	-0.7
834A	**Tilden** baz=57	56.99	86	P		P	06 26 23.3	-0.2
ARCES	**ARCESS Array B** 1.5nm,0.9s,baz=7.8,slow=7.3,SNR=2.9	57.25	354	P		P	06 26 24.9	+0.2
ARCES	0.9nm,0.6s,baz=36,slow=4.7,SNR=5.3			PcP		PcP	06 27 18.9	0.0
736A	**Circle Diamond** baz=57	57.28	84	P		P	06 26 25.9	+0.4
HKT	**Hockley** 4.8nm,1.1s	57.31	83	*e*P		P	06 26 25.4	-0.2
835A	**Beeville** baz=57	57.31	85	P		P	06 26 25.8	+0.2
934A	**Benavides** baz=57,SNR=5.3	57.40	86	P		P	06 26 26.7	+0.4
340A	**Bronson** baz=57	57.41	80	P		P	06 26 26.0	-0.3
034A	**Hebbronville** baz=57	57.69	87	P		P	06 26 28.3	-0.1
440A	**Kirbyville** baz=58	57.85	80	P		P	06 26 29.1	-0.3
035A	**Encino** baz=58	58.13	87	P		P	06 26 31.2	-0.2
035Z	**Hargill** baz=58	58.50	87	P		P	06 26 33.9	-0.1
KURBB	**Kurchatov Arra** 0.4nm,1.0s,baz=40,slow=7.4,SNR=4.2	61.80	318	PP		PP	06 29 13.5	+1.7
BVAR	**Borovoye Array** 2.6nm,0.7s,baz=56,slow=6.7,SNR=6.1	63.01	324	P		P	06 27 05.0	+0.6
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=349,slow=2.9,SNR=2.8	63.15	313	P		P	06 27 05.7	+0.2
MKAR	0.4nm,0.9s,baz=270,slow=1.4,SNR=3.6			PKKP		PKKPdf	06 47 41.1	-0.3
MKAR	0.2nm,0.4s,baz=245,slow=6.2,SNR=3.5			PKPPKP		P'P'df	06 56 07.3	-3.7
FINES	**FINESS Array B** 2.2nm,0.8s,baz=20,slow=6.1,SNR=5.8	65.19	352	P		P	06 27 18.5	0.0
NB2	**NORSAR Subarra** comp=Z,1.6nm,0.8s,baz=0.7,slow=6.5	66.29	359	P		P	06 27 26.1	+0.4
NOA	**NORSAR Array B** comp=Z,0.9nm,0.8s,baz=5.7,slow=3.6,SNR=3.5	66.29	359	P		P	06 27 25.4	-0.3
HFS	**Hagfors** comp=Z,2.0nm,0.7s,baz=29,slow=3.4,SNR=9.6	67.17	358	P		P	06 27 31.6	+0.3
AKTO	**Aktyubinsk** comp=Z,1.4nm,0.5s,baz=54,slow=9.0,SNR=4.4	69.30	330	P		P	06 27 45.2	+0.4
AKASG	**Malin Array Be** comp=Z,2.8nm,0.3s,baz=16,slow=5.7,SNR=4.3	75.41	348	P		P	06 28 20.9	-0.4
CMAR	**Chiang Mai Arr** comp=Z,1.6nm,0.4s,baz=20,slow=7.2,SNR=5.7	76.19	282	P		P	06 28 25.6	-0.6
GERES	**GERESS Array B** comp=Z,0.9nm,0.7s,baz=15,slow=5.5,SNR=4.3	78.47	359	P		P	06 28 38.4	-0.2
BRTR	**Keskin Array B** comp=Z,0.7nm,0.8s,baz=43,slow=2.9,SNR=2.7	85.42	342	P		P	06 29 15.9	+0.5
ESDC	**Sonseca Array** comp=Z,1.0nm,0.7s,baz=346,slow=4.7,SNR=3.8	86.88	11	P		P	06 29 22.8	+0.3
WRA	**Warramunga Arr** comp=Z,2.8nm,0.7s,baz=32,slow=5.7,SNR=12	87.17	231	P		P	06 29 22.2	-1.7
AS31	**Alice Springs**	90.58	230	*e*P		P	06 29 38.7	-1.3
ASAR	**Alice Springs** comp=Z,6.8nm,0.7s,baz=33,slow=4.2,SNR=26	90.58	230	P		P	06 29 38.8	-1.2
KEST	**Kesra** comp=Z,0.8nm,0.8s,baz=324,slow=12,SNR=2.4	91.62	1	P		P	06 29 45.8	+0.8
STKA	**Stephens Creek** comp=Z,3.2nm,1.0s,baz=358,slow=7.2,SNR=2.3	94.50	220	P		P	06 29 58.2	+0.3
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.6s,baz=351,slow=2.1,SNR=6.8	113.71	9	PKiKP		PKiKP	06 35 15.7	-0.8
TORD				PKKPbc	PKKPbc		06 46 03.4	+6.1
DBIC	**Dimbokro** comp=Z,0.9nm,0.8s,baz=174,slow=4.2,SNR=4.9	119.19	17	PKP		PKPdf	06 35 27.0	-0.1
BDFB	**Brasilia** comp=Z,5.3nm,0.9s,baz=27,slow=2.3,SNR=3.6	121.37	73	PKP		PKPdf	06 35 30.6	-0.7
KMBO	**Kilima Mbogo** comp=Z,8.1nm,1.3s,baz=153,slow=2.3,SNR=2.5	123.59	327	PKP		PKPdf	06 35 36.2	+0.3
QSPA	**South Pole Qui** comp=Z,0.7nm,0.3s,baz=90,slow=8.1,SNR=3.3	142.78	180	PKhKP	PKPpre		06 36 04.2	
QSPA	comp=Z,1.2nm,0.6s,baz=76,slow=8.3,SNR=5.7			PKP		PKPdf	06 36 10.4	+0.6
TSUM	**Tsumeb** comp=Z,2.4nm,0.7s,baz=275,slow=1.6,SNR=9.2	145.76	347	PKPbc		PKPdf	06 36 16.9	+0.3
LBTB	**Lobatse** comp=Z,3.3nm,1.0s,baz=320,slow=7.9,SNR=3.7	149.71	331	PKPbc		PKPbc	06 36 28.4	+0.8
MAW	**Mawson** comp=Z,9.0nm,0.6s,baz=18,slow=1.0,SNR=17	151.19	219	PKPbc		PKPbc	06 36 29.2	-0.4
BOSA	**Boshof** comp=Z,3.6nm,0.6s,baz=103,slow=4.7,SNR=14	153.19	329	PKPbc		PKPbc	06 36 35.9	+0.3
SNAA	**Sanae** comp=Z,5.9nm,0.8s,baz=25,slow=2.9,SNR=12	160.42	168	PKPab		PKPab	06 37 18.0	+0.8
	comp=Z,0.2nm,0.8s,baz=169,slow=5.2,SNR=2.5							

*IDC **18** 06:17:11.9±1.1, 52.43N±169.66W, h0km, mb4.3/8, mb1 4.6/9, mb1mx4.0/32, mbtmp4.3/9, ML4.1/1, Error ellipse: s-maj=45.9km s-min=21.2km az=144.0*
*ISCJB **18** 06:17:12.0±1.0, 52.5N±0.2×169.6W±0.3, h10km, mb4.2/8, Error ellipse: s-maj=36.2km s-min=16.9km az=137.2*

ISC 18 06:17:13.4±1.2, 52.6N±0.2×169.7W±0.2, h10km, n10, σ0.987/10, mb4.3/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array** 0.3nm,0.3s,baz=227,slow=11,SNR=4.3	16.92	35	Pn	P	Pn	06 21 10.0	+0.1
DLBC	**Dease Lake** 18nm,1.0s,baz=274,slow=9.0,SNR=4.5	22.98	59	P	P		06 22 19.5	+1.6
INK	**Inuvik** 6.3nm,1.0s,baz=240,slow=8.1,SNR=1.5	23.31	34	P	P		06 22 20.8	-0.2
YKA	**Yellowknife Ar** 1.1nm,0.7s,baz=274,slow=9.8,SNR=3.1	30.28	49	P	P		06 23 24.0	-0.2
NEW	**Newport** 2.5nm,0.7s,baz=296,slow=9.7,SNR=1.4	33.18	76	P	P		06 23 48.5	-1.4
PDAR	**Pinedale Array** 4.6nm,1.0s,baz=320,slow=4.8,SNR=4.2	40.59	79	P	P		06 24 53.0	-0.1
TXAR	**Lajitas Array** 3.3nm,0.7s,baz=298,slow=6.1,SNR=4.1	52.97	89	P	P		06 26 30.4	+0.4
WRA	**Warramunga Arr** 2.3nm,1.1s,baz=34,slow=6.2,SNR=2.9	86.95	231	P	P		06 29 58.2	-0.3
ASAR	**Alice Springs** 4.1nm,0.8s,baz=31,slow=4.7,SNR=5.5	90.35	230	P	P		06 30 14.9	+0.4
LBTB	**Lobatse** 8.4nm,0.9s,baz=58,slow=3.1,SNR=4.7	150.13	331	PKPbc	PKPbc		06 37 04.5	+0.2

NEIC 18 06:17:58.8, 52.65N×169.32W, h7km, ML4.0(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	0.43	40	P	P	Pb	06 18 08.1	-0.6
NIKH				S	S	Sb	06 18 15.4	-0.1
OKCE	**Okmok Cone E**	1.05	41	P	P	Pn	06 18 19.7	-0.2
OKCE				S	S	Sn	06 18 35.4	+0.6
OKWE	**Okmok W'ng Wal**	1.05	38	P	P	Pb	06 18 19.3	0.0
OKAK	**Okmok**	1.10	31	P	P	Pg	06 18 17.3	-2.5
OKAK				S	S	Sg	06 18 31.2	-2.9
MGOD	**Makushin Gods**	1.86	51	P	P	Pn	06 18 31.5	+0.3
MGOD				S	S	Sn	06 18 55.1	0.0

NEIC 18 06:26:44.0, 52.65N×169.42W, h7km, ML3.6(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	0.48	46	P	P	Pg	06 26 53.8	+0.5
NIKH				S	S	Sb	06 27 02.1	+0.1
OKCE	**Okmok Cone E**	1.09	44	P	P	Pg	06 27 04.3	-0.7
OKCE				S	S	Sn	06 27 21.8	+0.6
OKWE	**Okmok W'ng Wal**	1.09	40	P	P	Pg	06 27 04.6	-0.4
OKAK	**Okmok**	1.13	34	P	P	Pg	06 27 02.9	-2.9
OKAK				S	S	Sg	06 27 17.1	-3.4
MSOM	**Makushin Julie**	1.89	51	P	P	Pn	06 27 17.3	+0.6
MSOM				S	S	Sn	06 27 41.4	+0.5
MCIR	**Makushin Cirqu**	2.00	48	P	P	Pn	06 27 19.2	+0.8
MSW	**Makushin Switc**	2.03	50	P	P	Pn	06 27 18.5	-0.2

MSW					S	Sn	06 27 44.4	0.0
UNV	**Unalaska Valle**	**2.13**	**54**		P	Pn	06 27 19.9	0.0

IDC ***18*** *06:27:11.2±0.9, 52°.81N × 169°.85W, h0km, mb4.0/9, mb1 4.3/9, mb1mx3.9/31, mbtmp4.0/9, Error ellipse: s-maj=43.9km s-min=18.1km az=158.0*
NEIC ***18*** *06:27:12.7, 52°.63N × 169°.53W, h10km, mb3.8/1, ML3.6(AEIC), After AEIC.*

ISC 18 06:27:12.9±0.9, 52°.8N±0°.1 × 169°.65W±0°.10, h10km, n22, σ1§41/23, mb4.0/11, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.53**	**67**	P	**Pb**	**06 27 23.7**	**-0.4**
NIKH				S	**Sb**	**06 27 31.9**	**+0.1**
OKWE	**Okmok W'ng Wal**	**1.10**	**50**	P	**Pb**	**06 27 34.4**	**+0.4**
OKWE				S	**Sg**	**06 27 50.0**	**+1.6**
OKCE	**Okmok Cone E**	**1.11**	**53**	P	**Pn**	**06 27 35.2**	**+0.6**
OKAK	**Okmok**	**1.12**	**43**	P	**Pb**	**06 27 32.9**	**-1.5**
OKAK				S	**Sb**	**06 27 47.5**	**-1.6**
UNV	**Unalaska Valle**	**2.18**	**59**	*e*Pn	**Pn**	**06 27 47.5**	**-1.5**
UNV				*e*Sn	**Sn**	**06 28 16.7**	**+0.7**
UNV	**Unalaska Valle**	**2.18**	**59**	S	**Pn**	**06 27 47.2**	**-1.9**
FALS	**False Pass**	**4.25**	**58**	Pn	**Pn**	**06 28 15.5**	**-2.0**
DLBC	**Dease Lake**	**22.83**	**60**	P	**P**	**06 32 15.7**	**-0.1**
	4.3nm,0.9s,baz=276,slow=9.5,SNR=7.7						
INK	**Inuvik**	**23.11**	**34**	P	**P**	**06 32 17.1**	**-1.4**
	2.9nm,1.1s,baz=261,slow=13,SNR=4.2						
YKA	**Yellowknife Ar**	**30.11**	**49**	P	**P**	**06 33 24.2**	**+2.0**
	0.5nm,0.6s,baz=275,slow=7.4,SNR=2.4						
NEW	**Newport**	**33.08**	**76**	P	**P**	**06 33 48.8**	**+0.3**
	1.7nm,0.6s,baz=317,slow=6.9,SNR=5.8						
HLID	**Hailey**	**37.13**	**82**	*e*P	**P**	**06 34 22.9**	**-0.7**
	1.8nm,0.9s						
NVAR	**Mina Array Bea**	**37.84**	**91**	P	**P**	**06 34 32.1**	**+2.3**
	1.0nm,0.7s,baz=301,slow=7.1,SNR=6.6						
PDAR	**Pinedale Array**	**40.50**	**79**	P	**P**	**06 34 51.6**	**-0.3**
	1.1nm,0.7s,baz=338,slow=4.4,SNR=6.2						
CMAR	**Chiang Mai Arr**	**76.36**	**282**	P	**P**	**06 39 02.3**	**+0.1**
	1.1nm,0.3s,baz=43,slow=8.0,SNR=2.7						
BRG	**Berggiesshubel**	**76.69**	**358**	*e*P	P	06 39 10.7	+7.0
	7.2nm,1.5s						
DPC	**Dobruska-Polom**	**77.13**	**356**	*e*P	P	06 39 10.4	+4.2
DPC				*ex*	x	06 39 26.0	
KRLC	**Kraliky**	**77.39**	**356**	*e*P	P	06 39 13.5	+5.9
PRU	**Pruhonice**	**77.56**	**357**	*e*P	**P**	**06 39 09.5**	**+1.0**
GOPC	**GO Pecny, Ondr**	**77.62**	**357**	*e*P	**P**	**06 39 11.1**	**+2.2**
WRA	**Warramunga Arr**	**87.12**	**231**	P	**P**	**06 39 56.9**	**-1.9**
	0.8nm,0.8s,baz=33,slow=5.8,SNR=5.3						
ASAR	**Alice Springs**	**90.52**	**230**	P	**P**	**06 40 14.8**	**0.0**
	1.6nm,0.7s,baz=31,slow=4.6,SNR=14						

TIF ***18*** *06:33:40.8, 42°.89N × 46°.16E, h14km±2km*
CSEM ***18*** *06:33:41.8±0.2, 42°.92N × 46°.12E, h2km, mb4.1, Error ellipse: s-maj=4.9km s-min=2.7km az=22.0*
MOS ***18*** *06:33:42.2±0.9, 42°.88N × 46°.25E, h26km, mb4.1/1, Error ellipse: s-maj=11.9km s-min=6.4km az=30.1*

ISC 18 06:33:41.6±0.9, 42°.92N±0°.02 × 46°.14E±0°.02, h10km±8km, n61, σ0§98/93, 7C-4D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTLR	**Botlikh**	**0.26**	**167**	*e*PG	**Pg**	**06 33 46.3**	**-0.6**
BTLR				*e*S	**Sg**	**06 33 50.4**	**0.0**
BTLR	**Botlikh**	**0.26**	**167**	*e*Pg	**Pg**	**06 33 46.3**	**-0.6**
BTLR				*e*Sg	**Sg**	**06 33 50.4**	**0.0**
DLMR	**Dylym**	**0.39**	**66** ⇑	*i*PG	**Pg**	**06 33 49.0**	**-0.3**
DLMR				*e*S	**Sg**	**06 33 55.0**	**+0.6**
DLMR				pmax	pmax		
	comp=Z,92nm,0.2s						
DLMR	**Dylym**	**0.39**	**66**	*i* Pg	**Pg**	**06 33 49.0**	**-0.3**
	comp=Z,92nm,0.2s						
DLMR				*e*Sg	**Sg**	**06 33 55.0**	**+0.6**
GRO	**Groznyy**	**0.50**	**325** ⇓	*i*PG	**Pg**	**06 33 49.6**	**-1.7**
GRO	**Groznyy**	**0.50**	**325**	*i* Pg	**Pg**	**06 33 49.6**	**-1.7**
DBC	**Dubki**	**0.51**	**78** ⇑	*i*PG	**Pn**	**06 33 54.1**	**-1.0**
DBC				*i* S	**Sb**	**06 34 01.2**	**+0.9**
DBC	**Dubki**	**0.51**	**78**	*i* Pg	**Pn**	**06 33 54.1**	**-1.0**
UNCR	**Uncukul**	**0.52**	**113** ⇓	*i*PG	**Pg**	**06 33 52.0**	**+0.3**
UNCR				*e*S	**Sn**	**06 34 02.4**	**-1.6**
UNCR				pmax	pmax		
	comp=Z,94nm,0.2s						
UNCR	**Uncukul**	**0.52**	**113**	*i* Pg	**Pg**	**06 33 52.0**	**+0.3**
	comp=Z,94nm,0.2s						
XNZR	**Khunzakh**	**0.56**	**132** ⇑	*i*PG	**Pg**	**06 33 53.0**	**+0.6**
XNZR				*e*S	**Sb**	**06 34 01.9**	**+0.3**
XNZR				pmax	pmax		
	comp=Z,88nm,0.2s						
XNZR	**Khunzakh**	**0.56**	**132**	*i* Pg	**Pg**	**06 33 53.0**	**+0.6**
	comp=Z,88nm,0.2s						
XNZR				*e*Sg	**Sb**	**06 34 01.9**	**+0.3**
KRNR	**Karanay**	**0.57**	**99**	*i* PG	**Pb**	**06 33 53.5**	**-0.2**
KRNR				pmax	pmax		
	comp=Z,29nm,0.2s						
KRNR	**Karanay**	**0.57**	**99**	*i* Pg	**Pb**	**06 33 53.5**	**-0.2**
	comp=Z,29nm,0.2s						
ARKR	**Arakani**	**0.70**	**116**	*e*PG	**Pb**	**06 33 55.5**	**-0.4**
ARKR				*e*S	**Sn**	**06 34 07.8**	**-0.7**
ARKR				pmax	pmax		
	comp=Z,46nm,0.2s						
ARKR	**Arakani**	**0.70**	**116**	*e*Pg	**Pb**	**06 33 55.5**	**-0.4**
	comp=Z,46nm,0.2s						
GNBR	**Gunib**	**0.80**	**131** ⇑	*i*PG	**Pb**	**06 33 57.8**	**+0.2**
GNBR				*i* S	**Sb**	**06 34 09.0**	**+0.4**
GNBR	**Gunib**	**0.80**	**131**	*i* Pg	**Pb**	**06 33 57.8**	**+0.2**
GNBR				*i* Sg	**Sb**	**06 34 09.0**	**+0.4**
MAK	**Makhachkala**	**1.00**	**87**	*e*PG	Pn	06 34 16.0	+14
MAK				*e*		06 34 19.8	
MAK				pmax	pmax		
	comp=Z,111nm,0.3s						
MAK				smax	smax		
	comp=N,585nm,0.4s						
MAK				smax	smax		
	comp=E,296nm,0.4s						
KMKR	**Kumukh**	**1.05**	**138**	*i* PG	**Pb**	**06 34 02.0**	**0.0**
KMKR				*i* S	**Sb**	**06 34 16.0**	**0.0**
KMKR	**Kumukh**	**1.05**	**138**	*i* Pg	**Pb**	**06 34 02.0**	**0.0**
KMKR				*i* Sg	**Sb**	**06 34 16.0**	**0.0**
VLKR	**Vladikavkaz**	**1.08**	**277**	*e*PG	**Pn**	**06 34 02.9**	**0.0**
VLKR				*e*S	**Sn**	**06 34 17.5**	**-0.5**
VLKR	**Vladikavkaz**	**1.08**	**277**	*e*Pg	**Pn**	**06 34 02.9**	**0.0**
VLKR				*e*Sg	**Sn**	**06 34 17.5**	**-0.5**
BTKR	**Batakoyurt**	**1.26**	**292**	*e*PG	**Pg**	**06 34 05.7**	**0.0**
BTKR				*e*S	**Sg**	**06 34 23.5**	**+1.4**
BTKR	**Batakoyurt**	**1.26**	**292**	*e*Pg	**Pg**	**06 34 05.7**	**0.0**
BTKR				*e*Sg	**Sg**	**06 34 23.5**	**+1.4**
TRKR	**Terskaya**	**1.31**	**309**	*e*PG	**Pb**	**06 34 06.5**	**+0.3**
TRKR				*e*S	**Sg**	**06 34 25.1**	**+1.4**
TRKR	**Terskaya**	**1.31**	**309**	*e*Pg	**Pb**	**06 34 06.5**	**+0.3**
TRKR				*e*Sg	**Sg**	**06 34 25.1**	**+1.4**
DUS	**Dusheti**	**1.35**	**233**	P	**Pn**	**06 34 05.5**	**-1.0**
DUS				S	**Sn**	**06 34 24.4**	**-0.1**
DUS	**Dusheti**	**1.35**	**233**	P	**Pn**	**06 34 05.5**	**-1.0**
DUS				S	**Sn**	**06 34 24.4**	**-0.1**
ARNR	**Ardon**	**1.39**	**282**	*e*PG	**Pb**	**06 34 07.6**	**0.0**
ARNR				*i* S	**Sg**	**06 34 26.9**	**+0.7**
ARNR	**Ardon**	**1.39**	**282**	*e*Pg	**Pb**	**06 34 07.6**	**0.0**
ARNR				*i* Sg	**Sg**	**06 34 26.9**	**+0.7**
SEAG	**Tbilisi Sea**	**1.52**	**221**	P	**Pn**	**06 34 06.8**	**-2.1**
SEAG				S	**Sg**	**06 34 30.1**	**-0.4**
SEAG	**Tbilisi Sea**	**1.52**	**221**	P	**Pn**	**06 34 06.8**	**-2.1**
SEAG				S	**Sg**	**06 34 30.1**	**-0.4**
KORR	**Kora**	**1.53**	**277**	*e*PG	**Pn**	**06 34 08.6**	**-0.4**
DGRG	**David-gareji**	**1.57**	**202**	P	**Pb**	**06 34 10.6**	**-0.1**
DGRG				S	**Sg**	**06 34 37.0**	**+4.8**
DGRG	**David-gareji**	**1.57**	**202**	P	**Pb**	**06 34 10.6**	**-0.1**
TBLG	**Delisi**	**1.58**	**222**	P	**Pn**	**06 34 09.6**	**-0.1**
TBLG				S	**Sg**	**06 34 33.7**	**+1.4**
TBLG	**Delisi**	**1.58**	**222**	PG	**Pn**	**06 34 09.5**	**-0.1**
TBLG				S	**Sg**	**06 34 33.7**	**+1.4**
TBLG	**Delisi**	**1.58**	**222**	P	**Pn**	**06 34 09.6**	**-0.1**
TBLG				S	**Sg**	**06 34 33.7**	**+1.4**
STDR	**Stavd-Durt**	**1.59**	**287**	*e*PN	**Pb**	**06 34 10.4**	**-0.6**
STDR	**Stavd-Durt**	**1.59**	**287**	*e*Pn	**Pb**	**06 34 10.4**	**-0.6**
PRTR	**Priterechnaya**	**1.59**	**302**	*e*PN	**Pb**	**06 34 11.1**	**0.0**
PRTR	**Priterechnaya**	**1.59**	**302**	*e*Pn	**Pb**	**06 34 11.1**	**0.0**
LSNR	**Lesken**	**1.74**	**283**	*e*PN	**Pb**	**06 34 13.2**	**-0.4**
DIGR	**Digorskoe uzhe**	**1.88**	**270**	*i* PN	**Pn**	**06 34 14.5**	**+0.5**
DIGR				pmax	pmax		
	comp=Z,12nm,0.1s						
DIGR	**Digorskoe uzhe**	**1.88**	**270**	*i* Pn	**Pn**	**06 34 14.5**	**+0.5**
	comp=Z,12nm,0.1s						
NCK	**Nalchik**	**1.95**	**288** ⇑	*e*PN	**Pb**	**06 34 18.0**	**+0.8**
NCK	**Nalchik**	**1.95**	**288**	*e*Pn	**Pb**	**06 34 18.0**	**+0.8**
ONI	**Oni**	**2.01**	**262**	P	**Pb**	**06 34 16.9**	**-1.3**
ONI				S	**Sb**	**06 34 43.6**	**+0.3**
ONI	**Oni**	**2.01**	**262**	P	**Pb**	**06 34 16.9**	**-1.3**
ONI				S	**Sb**	**06 34 43.6**	**+0.3**
AKH	**Akhalkalaki**	**2.48**	**234**	P	**Pb**	**06 34 24.7**	**-1.6**
AKH				S	**Sb**	**06 34 56.3**	**-0.7**
AKH	**Akhalkalaki**	**2.48**	**234** ⇓	*i*P	**Pn**	**06 34 23.7**	**+1.5**
AKH	**Akhalkalaki**	**2.48**	**234**	P	**Pb**	**06 34 24.7**	**-1.6**
AKH				S	**Sb**	**06 34 56.3**	**-0.7**
NEY	**Neytrino**	**2.53**	**279** ⇓	*e*PN	**Pn**	**06 34 24.2**	**+1.3**
NEY	**Neytrino**	**2.53**	**279**	*e*Pn	**Pn**	**06 34 24.2**	**+1.3**
BEYR	**Belyy Ugol+**	**2.66**	**295** ⇑	*e*PN	**Pn**	**06 34 24.7**	**+0.2**
BEYR	**Belyy Ugol+**	**2.66**	**295**	*e*Pn	**Pn**	**06 34 24.7**	**+0.2**
KIV	**Kislovodsk**	**2.72**	**294** ⇑	*e*PN	**Pn**	**06 34 26.4**	**+0.9**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KIV	**Kislovodsk**	**2.72**	**294**	*e*Pn	**Pn**	**06 34 26.4**	**+0.9**
	comp=Z,6.0nm,0.5s						
GOF	**Gofitskoye**	**3.10**	**315**	*e*PN	**Pn**	**06 34 30.3**	**-0.2**
GOF	**Gofitskoye**	**3.10**	**315**	*e*Pn	**Pn**	**06 34 30.3**	**-0.2**

IDC ***18*** *06:38:48.7±1.7, 52°.19N × 169°.58W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.3/29, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=69.1km s-min=32.0km az=137.0*
ISCJB ***18*** *06:38:49.4±0.9, 52°.5N±0°.1 × 169°.4W±0°.2, h10km, mb3.6/2, Error ellipse: s-maj=22.0km s-min=6.9km az=44.2*
NEIC ***18*** *06:38:50.8, 52°.63N × 169°.43W, h10km, ML3.7(AEIC), After AEIC.*

ISC 18 06:38:50.3±1.1, 52°.6N±0°.2 × 169°.5W±0°.1, h10km, n12, σ1§19/14, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.52**	**48**	P	**Pb**	**06 39 01.0**	**-0.5**
NIKH				S	**Sb**	**06 39 09.7**	**+0.6**
OKCE	**Okmok Cone E**	**1.13**	**44**	P	**Pb**	**06 39 11.4**	**-0.5**
OKWE	**Okmok W'ng Wal**	**1.13**	**41**	P	**Pb**	**06 39 11.9**	**-0.1**
OKWE				S	**Sb**	**06 39 27.0**	**+0.2**
OKAK	**Okmok**	**1.17**	**35**	P	Pb	06 39 09.1	-3.6
OKAK				S	**Sb**	**06 39 25.8**	**-2.1**
MCIR	**Makushin Cirqu**	**2.05**	**49**	P	**Pn**	**06 39 26.2**	**+1.4**
MTBL	**Makushin Table**	**2.16**	**50**	P	**Pn**	**06 39 27.4**	**+1.1**
UNV	**Unalaska Valle**	**2.17**	**53**	P	**Pn**	**06 39 26.1**	**-0.3**
AKUT	**Akutan**	**2.69**	**54**	P	**Pn**	**06 39 35.1**	**+1.6**
ATKA	**Atka Island**	**2.91**	**263**	P	**Pn**	**06 39 37.8**	**+1.1**
ILAR	**Eielson Array**	**16.78**	**35**	Pn	**P**	**06 42 48.2**	**+0.9**
	0.0nm,0.3s,baz=230,slow=8.7,SNR=4.5						
TXAR	**Lajitas Array**	**52.82**	**89**	P	**P**	**06 48 06.1**	**+0.2**
	0.4nm,0.7s,baz=312,slow=5.2,SNR=5.4						
ASAR	**Alice Springs**	**90.51**	**230**	P	**P**	**06 51 50.7**	**-1.5**
	0.4nm,0.8s,baz=39,slow=6.2,SNR=3.7						

ISCJB ***18*** *06:39:10.4±1.0, 52°.4N±0°.2 × 169°.8W±0°.3, h10km, mb3.8/8, Error ellipse: s-maj=34.4km s-min=17.3km az=138.6*
IDC ***18*** *06:39:10.2±1.2, 52°.28N × 169°.81W, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.6/47, mbtmp3.8/9, ML3.4/1, Error ellipse: s-maj=45.0km s-min=21.0km az=144.0*

ISC 18 06:39:11.7±1.3, 52°.4N±0°.2 × 169°.9W±0°.2, h10km, n9, σ0§97/9, mb3.9/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILAR	**Eielson Array**	**17.09**	**35**	Pn	**Pn**	**06 43 09.4**	**-0.9**
	0.1nm,0.3s,baz=235,slow=11,SNR=5.1						
DLBC	**Dease Lake**	**23.13**	**59**	P	**P**	**06 44 17.2**	**-0.5**
	3.0nm,1.0s,baz=266,slow=9.7,SNR=4.7						
INK	**Inuvik**	**23.48**	**34**	P	**P**	**06 44 22.2**	**+1.2**
	1.7nm,0.8s,baz=258,slow=6.4,SNR=2.9						
NVAR	**Mina Array Bea**	**37.98**	**91**	P	**P**	**06 46 30.6**	**+0.8**
	0.6nm,0.9s,baz=308,slow=7.8,SNR=1.8						
PDAR	**Pinedale Array**	**40.71**	**79**	P	**P**	**06 46 51.5**	**-0.9**
	0.7nm,0.5s,baz=317,slow=3.8,SNR=7.2						
ULM	**Lac du Bonnet**	**44.41**	**62**	P	**P**	**06 47 23.1**	**+1.0**
	1.4nm,0.6s,baz=323,slow=10,SNR=2.0						
TXAR	**Lajitas Array**	**53.07**	**89**	P	**P**	**06 48 28.4**	**-0.6**
	1.2nm,0.7s,baz=297,slow=5.2,SNR=12						
WRA	**Warramunga Arr**	**86.79**	**231**	P	**P**	**06 51 55.8**	**-0.2**
	0.7nm,0.8s,baz=37,slow=5.8,SNR=3.9						
ASAR	**Alice Springs**	**90.19**	**230**	P	**P**	**06 52 12.0**	**-0.1**
	2.1nm,0.8s,baz=32,slow=4.6,SNR=17						

ISCJB ***18*** *06:39:21.2±1.2, 52°.3N±0°.5 × 169°.6W±0°.5, h10km, mb3.8/6, Error ellipse: s-maj=74.3km s-min=21.5km az=150.4*
IDC ***18*** *06:39:21.2±1.3, 52°.27N × 169°.59W, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.7/28, mbtmp3.9/6, Error ellipse: s-maj=86.1km s-min=24.2km az=150.0*

ISC 18 06:39:22.7±1.4, 52°.3N±0°.5 × 169°.6W±0°.3, h10km, n6, σ0§51/6, mb3.7/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YKA	**Yellowknife Ar**	**30.40**	**49**	P	**P**	**06 45 34.7**	**+0.1**
	0.7nm,0.7s,baz=273,slow=13,SNR=2.7						
PDAR	**Pinedale Array**	**40.54**	**79**	P	**P**	**06 47 01.5**	**-0.7**
	0.8nm,0.6s,baz=326,slow=4.4,SNR=5.2						
ULM	**Lac du Bonnet**	**44.30**	**62**	P	**P**	**06 47 32.5**	**+0.1**
	1.9nm,0.6s,baz=157,slow=0.3,SNR=3.2						
TXAR	**Lajitas Array**	**52.87**	**89**	P	**P**	**06 48 39.2**	**+0.5**
	0.7nm,0.6s,baz=299,slow=5.1,SNR=4.5						
WRA	**Warramunga Arr**	**86.85**	**231**	P	**P**	**06 52 07.2**	**-0.2**
	0.3nm,0.7s,baz=27,slow=5.6,SNR=3.1						
ASAR	**Alice Springs**	**90.24**	**230**	P	**P**	**06 52 23.5**	**+0.1**
	1.7nm,0.7s,baz=29,slow=4.4,SNR=13						

ISCJB ***18*** *06:39:38.1±0.5, 52°.62N±0°.10 × 169°.77W±0°.10, h10km, mb3.9/14, Error ellipse: s-maj=15.4km s-min=5.0km az=151.8*
IDC ***18*** *06:39:38.2±0.7, 52°.54N × 169°.72W, h0km, mb4.0/13, mb1 4.2/15, mb1mx3.9/33, mbtmp3.9/15, ML3.6/2, Error ellipse: s-maj=26.8km s-min=13.4km az=166.0*
NEIC ***18*** *06:39:41.0, 52°.68N × 169°.39W, h2km, mb4.0/3, ML4.0(AEIC), After AEIC.*

ISC 18 06:39:40.0±0.7, 52°.7N±0°.1 × 169°.65W±0°.08, h10km, n40, σ1§04/33, mb3.9/14, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.54**	**63**	P	**Pb**	**06 39 51.0**	**-0.5**
NIKH				S	**Sb**	**06 39 59.2**	**-0.1**
OKWE	**Okmok W'ng Wal**	**1.13**	**48**	P	**Pn**	**06 40 01.8**	**0.0**
OKCE	**Okmok Cone E**	**1.13**	**51**	P	**Pb**	**06 40 01.5**	**-0.2**
OKCE				S	**Sn**	**06 40 18.9**	**+1.3**
OKAK	**Okmok**	**1.15**	**42**	P	**Pb**	**06 39 59.9**	**-2.1**
MSOM	**Makushin Julie**	**1.95**	**55**	P	**Pn**	**06 40 13.0**	**-0.1**
MSW	**Makushin Switc**	**2.09**	**54**	P	**Pb**	**06 40 16.5**	**-1.4**
MSW				S	**Sb**	**06 40 42.7**	**-1.2**
ZRO	**Akutan Zero**	**2.58**	**57**	P	**Pb**	**06 40 24.7**	**-1.6**
AKGG	**Akutan Green G**	**2.63**	**55**	P	**Pb**	**06 40 24.5**	**-2.7**
BPAW	**Bear Paw Mtn.**	**14.94**	**33**	*e*P	**P**	**06 43 17.9**	**+1.3**
	2.0nm,0.8s						
BMRM	**Bremner River**	**15.90**	**49**	*e*Pn	**Pn**	**06 43 23.5**	**-0.1**
	8.5nm,0.9s						
ILAR	**Eielson Array**	**16.75**	**35**	Pn	**Pn**	**06 43 34.5**	**+0.1**
	0.2nm,0.3s,baz=232,slow=11,SNR=9.9						
MENT	**Mentasta**	**17.04**	**43**	*e*P	**P**	**06 43 39.4**	**-0.5**
PETK	**Petropavlovsk-**	**19.60**	**284**	P	**P**	**06 44 08.7**	**+0.6**
	0.4nm,0.3s,baz=85,slow=13,SNR=4.3						
SKAG	**Skagway**	**20.11**	**57**	*e*P	Pn	06 44 15.8	+0.4
	12nm,0.7s						
H02N1	**VAN INLET T-PH**	**22.18**	**74**	T	T	07 07 25.0	
	SNR=10						
H02S1	**DAWSON INLET T**	**22.23**	**74**	T	T	07 07 57.6	
	SNR=43						
SEY	**Seymchan**	**22.30**	**312**	P	**P**	**06 44 38.1**	**+1.0**
	0.9nm,0.5s,baz=102,slow=16,SNR=4.3						
DLBC	**Dease Lake**	**22.85**	**60**	P	**P**	**06 44 43.9**	**+0.8**
	11nm,1.0s,baz=274,slow=12,SNR=11						
INK	**Inuvik**	**23.14**	**34**	P	**P**	**06 44 46.8**	**+0.9**
	1.5nm,0.6s,baz=265,slow=9.1,SNR=3.5						
YKA	**Yellowknife Ar**	**30.13**	**49**	P	**P**	**06 45 49.7**	**+0.3**
	0.8nm,0.6s,baz=269,slow=7.8,SNR=3.6						
NEW	**Newport**	**33.09**	**76**	P	**P**	**06 46 16.5**	**+0.8**
	2.3nm,0.7s,baz=276,slow=12,SNR=5.2						
H11N2	**WAKE ISLAND Hy**	**37.63**	**218**	T	T	07 26 44.1	
	baz=24,slow=76,SNR=4.4						
H11N3	**WAKE ISLAND Hy**	**37.64**	**218**	T	T	07 26 43.4	
	baz=24,slow=76,SNR=4.9						
H11N1	**WAKE ISLAND Hy**	**37.65**	**218**	T	T	07 26 48.6	
	baz=24,slow=76,SNR=4.7						
NVAR	**Mina Array Bea**	**37.84**	**91**	P	**P**	**06 46 57.1**	**+0.3**
	1.2nm,0.7s,baz=299,slow=8.6,SNR=7.3						
NVAR				PcP	**PcP**	**06 49 13.6**	**+0.5**
	0.3nm,0.5s,baz=316,slow=2.5,SNR=2.9						
H11S1	**WAKE ISLAND Hy**	**38.82**	**217**	T	T	07 28 13.5	
	baz=23,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**38.84**	**217**	T	T	07 28 18.5	
	baz=23,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**38.84**	**217**	T	T	07 28 14.7	
	baz=23,slow=76,SNR=12						
MJAR	**Matsushiro Arr**	**39.54**	**267**	P	P	06 47 09.9	-1.0
	0.7nm,0.6s,baz=49,slow=6.3,SNR=4.5						
BW06	**Boulder Array**	**40.50**	**79**	*e*P	**P**	**06 47 19.6**	**+0.5**
	2.2nm,0.8s						
PDAR	**Pinedale Array**	**40.50**	**79**	P	**P**	**06 47 18.9**	**-0.2**
	1.6nm,0.6s,baz=326,slow=4.4,SNR=8.9						
ULM	**Lac du Bonnet**	**44.13**	**62**	P	**P**	**06 47 49.5**	**+1.3**
	1.1nm,0.6s,baz=322,slow=7.2,SNR=3.0						
KSRS	**Korea Array**	**45.20**	**276**	P	P	06 47 55.6	-1.2
	1.2nm,0.8s,baz=58,slow=7.3,SNR=3.5						
KSAR	**Wonju Array Be**	**45.23**	**276**	P	P	06 47 55.6	-1.5
SONM	**Songino Array**	**50.97**	**300**	PcP	**PcP**	**06 49 55.9**	**-1.7**
	0.6nm,0.6s,baz=44,slow=4.4,SNR=3.5						
TXAR	**Lajitas Array**	**52.91**	**89**	P	**P**	**06 48 56.0**	**-0.2**
	2.2nm,0.7s,baz=305,slow=5.9,SNR=10						
TXAR				PcP	**PcP**	**06 50 05.1**	**0.0**
	0.4nm,0.6s,baz=270,slow=0.9,SNR=2.8						
WRA	**Warramunga Arr**	**87.10**	**231**	P	**P**	**06 52 24.5**	**-1.3**
	0.7nm,0.6s,baz=33,slow=5.8,SNR=8.4						
ASAR	**Alice Springs**	**90.50**	**230**	P	**P**	**06 52 41.3**	**-0.5**
	1.1nm,0.7s,baz=36,slow=4.6,SNR=4.0						
MAW	**Mawson**	**151.05**	**219**	PKPbc	**PKPbc**	**06 59 31.0**	**-0.5**
	0.9nm,0.3s,baz=21,slow=4.0,SNR=4.9						
BOSA	**Boshof**	**153.50**	**330**	PKPbc	**PKPbc**	**06 59 38.2**	**-0.2**
	0.8nm,0.4s,baz=53,slow=5.1,SNR=3.3						

KRSC 18 06:41:24.3±2.0, 50°.59N × 157°.13E, h60km±21km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.65**	**279**	*e*P	Pn	06 41 38.5	+0.6
SKR				*e*S	Sn	06 41 47.7	-0.1
PAU	**Pauzhetka**	**0.91**	**347**	*e*P	Pn	06 41 43.4	+2.3
PAU				*e*S	Sn	06 41 55.9	+2.4
MIPR	**Malaya Ipel'ka**	**1.71**	**352**	*e*P	Pn	06 41 54.4	+2.6
ASAK	**Asacha**	**1.86**	**15**	*e*P	Pn	06 41 55.8	+1.8
MTVR	**Mutnovka**	**2.01**	**19**	*e*S	Sn	06 42 22.7	+2.4
RUS	**Russkaya**	**2.04**	**25**	*e*P	Pn	06 41 58.3	+2.0
UGLR	**Uglovaya**	**2.83**	**21**	*e*P	Pn	06 42 10.9	+3.7
AVH	**Avacha**	**2.86**	**20**	*e*P	Pn	06 42 11.5	+3.9
KOK	**Koryaka**	**2.87**	**18**	*e*P	Pn	06 42 11.6	+3.9
KRER	**Koryakskii**	**2.90**	**20**	*e*P	Pn	06 42 12.1	+3.8
SDLR	**Sedlovina**	**2.91**	**21**	*e*P	Pn	06 42 11.8	+3.5
NLC	**Nalytchevo**	**2.93**	**27**	*e*P	Pn	06 42 09.7	+1.3
NLC				*e*S	Sn	06 42 42.6	+0.3
KRX	**Arik**	**2.93**	**18**	*e*P	Pn	06 42 10.9	+2.3
SPN	**Mys Shipunski**	**3.09**	**34**	*e*S	Sn

OKAK	**Okmok**	**1.11**	**46**	P		**Pg**	**07 05 51.7**	**-1.2**
OKAK				S		**Sg**	**07 06 06.9**	**-0.5**
MSOM	**Makushin Julie**	**1.93**	**57**	P		**Pn**	**07 06 06.2**	**+0.6**
MGOD	**Makushin Gods**	**1.96**	**59**	P		**Pn**	**07 06 06.4**	**+0.3**
MSW	**Makushin Switc**	**2.07**	**56**	P		**Pn**	**07 06 07.8**	**+0.3**
MSW				S		**Sn**	**07 06 34.8**	**+0.9**
UNV	**Unalaska Valle**	**2.18**	**60**	P		**Pn**	**07 06 08.5**	**-0.5**
UNV				S		**Sn**	**07 06 36.4**	**-0.1**
ATKA	**Atka Island**	**2.82**	**259**	P		**Pn**	**07 06 18.0**	**+0.3**
ILAR	**Eielson Array**	**16.70**	**35**	Pn		**Pn**	**07 09 27.0**	**+0.3**
	0.0nm,0.3s,baz=232,slow=10,SNR=2.8							
H11S1	**WAKE ISLAND Hy**	**38.87**	**217**	T		T	07 54 10.9	
	baz=21							
H11S2	**WAKE ISLAND Hy**	**38.88**	**217**	T		T	07 54 12.1	
	baz=21							
H11S3	**WAKE ISLAND Hy**	**38.89**	**217**	T		T	07 54 07.6	
	baz=21							
PDAR	**Pinedale Array**	**40.52**	**79**	P		**P**	**07 13 11.9**	**-0.4**
	0.2nm,0.4s,baz=306,slow=6.6,SNR=3.1							
TXAR	**Lajitas Array**	**52.94**	**89**	P		**P**	**07 14 49.0**	**-0.5**
	0.3nm,0.7s,baz=300,slow=6.1,SNR=3.8							

IDC ***18*** *07:07:26.0±4.1, 52°.69N×169°.77W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.4/54, mbtmp3.5/4, Error ellipse: s-maj=290.5km s-min=32.5km az=163.0*

NEIC ***18*** *07:07:27.8, 52°.72N×169°.50W, h2km, ML3.3(AEIC), After AEIC.*

ISC 18 07:07:27.9±1.0, 52°.9N±0°.1×169°.67W±0°.08, h10km, n16, σ1§03/17, mb3.3/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
NIKH	**Nikolski High**	**0.51**	**77**	P	**Pb**		**07 07 38.2**	**-0.7**
NIKH				S	**Sb**		**07 07 46.0**	**-0.3**
OKAK	**Okmok**	**1.07**	**47**	P	**Pb**		**07 07 47.4**	**-1.0**
OKAK				S	**Sg**		**07 08 01.7**	**-0.6**
OKCE	**Okmok Cone E**	**1.07**	**57**	P	**Pn**		**07 07 49.4**	**+0.3**
OKCE				S	**Sn**		**07 08 05.6**	**+1.7**
OKTU	**Okmok Mt. Tuli**	**1.11**	**61**	P	**Pn**		**07 07 49.8**	**+0.2**
OKTU				S	**Sn**		**07 08 07.5**	**+2.5**
MCIR	**Makushin Cirqu**	**1.99**	**56**	P	**Pb**		**07 08 03.3**	**-0.9**
MSW	**Makushin Switc**	**2.02**	**57**	P	**Pn**		**07 08 02.5**	**+0.4**
UNV	**Unalaska Valle**	**2.14**	**61**	P	**Pn**		**07 08 03.7**	**0.0**
AKRB	**Akutan Reef Bi**	**2.50**	**58**	P	**Pn**		**07 08 09.3**	**+0.7**
ATKA	**Atka Island**	**2.84**	**258**	P	**Pn**		**07 08 14.2**	**+0.8**
NVAR	**Mina Array Bea**	**37.85**	**91**	P	**P**		**07 14 44.9**	**0.0**
	0.2nm,0.5s,baz=316,slow=9.9,SNR=1.9							
H11S1	**WAKE ISLAND Hy**	**38.92**	**217**	T	T		07 56 20.6	
	baz=22,slow=74							
H11S2	**WAKE ISLAND Hy**	**38.94**	**217**	T	T		07 56 15.3	
	baz=22							
H11S3	**WAKE ISLAND Hy**	**38.94**	**217**	T	T		07 56 15.0	
	baz=22,slow=74							
PDAR	**Pinedale Array**	**40.49**	**79**	P	**P**		**07 15 07.4**	**+0.5**
	0.3nm,0.7s,baz=335,slow=4.0,SNR=3.7							
TXAR	**Lajitas Array**	**52.92**	**89**	P	**P**		**07 16 44.3**	**0.0**
	0.3nm,0.5s,baz=302,slow=4.1,SNR=5.5							
ASAR	**Alice Springs**	**90.57**	**230**	P	**P**		**07 20 29.1**	**-1.0**
	0.2nm,0.3s,baz=37,slow=4.8,SNR=3.8							

NEIC ***18*** *07:08:01.2, 52°.69N×169°.52W, h5km, ML3.2(AEIC), After AEIC.*

IDC ***18*** *07:08:04.7±15.0, 52°.27N×168°.31W, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.3/31, mbtmp3.3/4, Error ellipse: s-maj=295.7km s-min=44.5km az=81.0*

ISC 18 07:08:00.3±2.1, 52°.8N±0°.1×169°.7W±0°.1, h10km, n8, σ0§96/10, mb3.4/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
NIKH	**Nikolski High**	**0.55**	**74**	P	**Pb**		**07 08 11.7**	**-0.3**
NIKH				S	**Sb**		**07 08 19.9**	**0.0**
OKAK	**Okmok**	**1.12**	**47**	P	**Pb**		**07 08 20.6**	**-1.1**
OKAK				S	**Sb**		**07 08 35.1**	**-1.2**
OKCE	**Okmok Cone E**	**1.12**	**57**	P	**Pb**		**07 08 22.1**	**+0.4**
OKCE				S	**Sn**		**07 08 38.2**	**+0.7**
OKRE	**Okmok R'deer P**	**1.17**	**53**	P	**Pb**		**07 08 23.4**	**+0.8**
ILAR	**Eielson Array**	**16.70**	**35**	Pn	**P**		**07 11 57.9**	**+1.5**
	baz=231,slow=13,SNR=3.9							
INK	**Inuvik**	**23.09**	**34**	P	P		07 13 11.7	+6.0
	0.8nm,0.7s,baz=217,slow=4.6,SNR=3.7							
PDAR	**Pinedale Array**	**40.53**	**79**	P	**P**		**07 15 39.4**	**-0.2**
	0.3nm,0.5s,baz=286,slow=4.2,SNR=3.8							
TXAR	**Lajitas Array**	**52.96**	**89**	P	**P**		**07 17 16.3**	**-0.6**
	0.5nm,0.8s,baz=302,slow=5.2,SNR=6.2							

IDC ***18*** *07:09:14.6±1.7, 52°.67N×170°.10W, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.3/57, mbtmp3.4/5, ML2.9/1, Error ellipse: s-maj=52.8km s-min=29.2km az=144.0*

NEIC ***18*** *07:09:18.0, 52°.66N×169°.48W, h5km, ML3.2(AEIC), After AEIC.*

ISC 18 07:09:16.8±2.6, 52°.9N±0°.1×169°.8W±0°.1, h4km±12km, n18, σ0§73/17, mb3.4/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
NIKH	**Nikolski High**	**0.58**	**82**	P	**Pg**		**07 09 28.2**	**+0.2**
NIKH				S	**Sb**		**07 09 36.8**	**-1.3**
OKAK	**Okmok**	**1.11**	**51**	P	**Pg**		**07 09 37.5**	**-0.5**
OKAK				S	**Sg**		**07 09 52.3**	**-0.1**
OKCE	**Okmok Cone E**	**1.12**	**61**	P	**Pb**		**07 09 39.5**	**+0.7**
OKCE				S	**Sn**		**07 09 56.1**	**+1.0**
OKTU	**Okmok Mt. Tuli**	**1.17**	**65**	P	**Pb**		**07 09 40.0**	**+0.4**
MSOM	**Makushin Julie**	**1.95**	**61**	P	**Pn**		**07 09 51.2**	**+0.7**
MSOM				S	**Sb**		**07 10 16.9**	**-0.4**
MSW	**Makushin Switc**	**2.08**	**59**	P	**Pn**		**07 09 53.2**	**+0.8**
MSW				S	**Sn**		**07 10 19.6**	**+0.9**
UNV	**Unalaska Valle**	**2.20**	**63**	P	**Pn**		**07 09 54.3**	**+0.3**
UNV				S	**Sn**		**07 10 21.2**	**-0.4**
ILAR	**Eielson Array**	**16.67**	**36**	Pn	**Pn**		**07 13 10.4**	**-0.6**
	0.0nm,0.3s,baz=230,slow=12,SNR=3.0							
H11N2	**WAKE ISLAND Hy**	**37.70**	**218**	T	T		07 56 19.4	
	baz=17							
H11N3	**WAKE ISLAND Hy**	**37.71**	**217**	T	T		07 56 22.2	
	baz=17							
H11N1	**WAKE ISLAND Hy**	**37.72**	**218**	T	T		07 56 23.0	
	baz=17							
NVAR	**Mina Array Bea**	**37.94**	**91**	P	**P**		**07 16 35.8**	**+0.4**
	0.4nm,0.6s,baz=304,slow=6.4,SNR=3.0							
H11S1	**WAKE ISLAND Hy**	**38.90**	**217**	T	T		07 57 52.7	
	baz=22							
H11S2	**WAKE ISLAND Hy**	**38.91**	**217**	T	T		07 57 50.5	
	baz=22							
H11S3	**WAKE ISLAND Hy**	**38.91**	**217**	T	T		07 57 46.9	
	baz=22							
PDAR	**Pinedale Array**	**40.57**	**79**	P	**P**		**07 16 56.8**	**-0.5**
	0.5nm,0.9s,baz=293,slow=5.8,SNR=4.2							
TXAR	**Lajitas Array**	**53.01**	**89**	P	**P**		**07 18 34.2**	**-0.5**
	0.3nm,0.6s,baz=302,slow=5.5,SNR=4.2							
ASAR	**Alice Springs**	**90.53**	**230**	P	P		07 22 16.9	-2.8
	0.5nm,0.5s,baz=46,slow=5.3,SNR=4.0							

IDC ***18*** *07:09:41.3±4.6, 35°.06S×178°.71E, h259km±35km, mb3.0/2, mb1 3.3/3, mb1mx3.1/29, mbtmp3.6/3, Error ellipse: s-maj=60.4km s-min=30.3km az=37.0*

NEIC ***18*** *07:09:43.7, 35°.01S×178°.39E, h260km, MG4.3(WEL), After WEL.*

WEL ***18*** *07:09:45.8±0.5, 35°.21S×178°.49E, h260km±8km, ML4.3/6, Error ellipse: s-maj=9.2km s-min=9.1km az=90.0*

ISC 18 07:09:44.2±1.5, 35°.1S±0°.1×178°.0E±0°.1, h250km, n90, σ1§16/91, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MXZ	**Matakaoa Point**	**2.48**	**174**	PN	**Pn**		**07 10 32.5**	**+1.3**
MXZ				SN	**S**		**07 11 08.3**	**-0.1**
MXZ				AML	AML		07 11 09.5	
MXZ				AML	AML		07 11 10.1	
MXZ				AML	AML		07 11 13.0	
HAZ	**Te Kaha**	**2.67**	**184**	PN	**Pn**		**07 10 34.7**	**+1.6**
HAZ				SN	**S**		**07 11 12.7**	**+0.9**
WMGZ	**Waiomatatini S**	**2.75**	**173**	PN	**Pn**		**07 10 35.3**	**+1.4**
WMGZ				SN	**S**		**07 11 13.8**	**+0.5**
OPRZ	**Ohinepanea**	**2.99**	**202**	PN	Pn		07 10 40.0	+3.6
OPRZ	**Ohinepanea**	**2.99**	**202**	Pn	Pn		07 10 40.0	+3.6
PUZ	**Puketiti**	**2.99**	**176**	PN	**Pn**		**07 10 37.3**	**+0.9**
PUZ				SN	**S**		**07 11 17.5**	**-0.4**
PUZ				AML	AML		07 11 20.9	
PUZ	**Puketiti**	**2.99**	**176**	Pn	**Pn**		**07 10 37.3**	**+0.9**
TWGZ	**Tauwhareparae**	**3.08**	**180**	PN	**Pn**		**07 10 39.0**	**+1.5**
URZ	**Urewera**	**3.24**	**192**	PN	**Pn**		**07 10 40.7**	**+1.5**
URZ				SN	**S**		**07 11 24.5**	**+1.6**
URZ				AML	AML		07 11 29.1	
URZ	**Urewera**	**3.24**	**192**	P	**Pn**		**07 10 40.8**	**+1.5**
	2.7nm,0.3s,baz=276,slow=5.6,SNR=42							
URZ				S	**S**		**07 11 24.6**	**+1.6**
	10nm,0.3s,baz=242,slow=23,SNR=32							
MWZ	**Matawai**	**3.26**	**186**	PN	**Pn**		**07 10 40.6**	**+1.1**
MWZ				AML	AML		07 11 32.8	
MWZ				AML	AML		07 11 32.8	
MWZ				AML	AML		07 11 39.7	
MWZ				AML	AML		07 11 42.0	
TKGZ	**Te Karaka**	**3.35**	**182**	PN	**Pn**		**07 10 41.6**	**+1.2**
RIGZ	**Rimuhau**	**3.62**	**183**	PN	**Pn**		**07 10 44.0**	**+0.5**
PRRZ	**Plateau Road**	**3.64**	**200**	PN	Pn		07 10 47.3	+3.6
PRRZ	**Plateau Road**	**3.64**	**200**	Pn	Pn		07 10 47.3	+3.6
SNGZ	**Shannon Statio**	**3.72**	**188**	PN	**Pn**		**07 10 46.8**	**+2.1**
RAHZ	**Arahi**	**3.89**	**190**	PN	**Pn**		**07 10 47.9**	**+1.3**
RAHZ	**Arahi**	**3.89**	**190**	Pn	**Pn**		**07 10 47.9**	**+1.3**
KNZ	**Kokohu**	**3.93**	**184**	PN	**Pn**		**07 10 48.7**	**+1.6**
KNZ	**Kokohu**	**3.93**	**184**	Pn	**Pn**		**07 10 48.7**	**+1.6**
MCHZ	**McNeill Hill**	**4.47**	**193**	PN	**Pn**		**07 10 55.2**	**+1.8**
MCHZ	**McNeill Hill**	**4.47**	**193**	Pn	**Pn**		**07 10 55.2**	**+1.8**
KWHZ	**Kaweka Forest**	**4.50**	**196**	PN	**Pn**		**07 10 55.3**	**+1.4**
WHVZ	**Whangaehu Hut**	**4.61**	**204**	PN	**Pn**		**07 10 57.1**	**+1.8**
TRVZ	**Turoa**	**4.63**	**204**	PN	**Pn**		**07 10 57.7**	**+2.0**
TRVZ	**Turoa**	**4.63**	**204**	Pn	**Pn**		**07 10 57.7**	**+2.0**
WNVZ	**Wahianoa**	**4.64**	**204**	PN	**Pn**		**07 10 57.4**	**+1.7**
WNVZ	**Wahianoa**	**4.64**	**204**	Pn	**Pn**		**07 10 57.4**	**+1.7**
BHHZ	**Black Hill Sta**	**4.65**	**199**	PN	**Pn**		**07 10 56.6**	**+0.9**
BHHZ	**Black Hill Sta**	**4.65**	**199**	Pn	**Pn**		**07 10 56.6**	**+0.9**
MOVZ	**Moawhango**	**4.67**	**202**	PN	**Pn**		**07 10 57.3**	**+1.4**
MOVZ	**Moawhango**	**4.67**	**202**	Pn	**Pn**		**07 10 57.3**	**+1.4**
KRHZ	**Kereru**	**4.73**	**195**	PN	**Pn**		**07 10 57.4**	**+0.8**
KAHZ	**Kahuranaki**	**4.78**	**190**	PN	**Pn**		**07 10 58.2**	**+1.0**
KAHZ	**Kahuranaki**	**4.78**	**190**	Pn	**Pn**		**07 10 58.2**	**+1.0**
PXZ	**Pawanui**	**5.02**	**190**	PN	**Pn**		**07 11 00.8**	**+0.8**
PXZ				AML	AML		07 12 02.6	
PXZ				AML	AML		07 12 02.7	
PXZ				AML	AML		07 12 03.3	
PXZ				AML	AML		07 12 03.4	
PXZ	**Pawanui**	**5.02**	**190**	Pn	**Pn**		**07 11 00.2**	**+0.2**
PNHZ	**Pukenui**	**5.03**	**196**	PN	**Pn**		**07 10 59.9**	**-0.3**
PNHZ	**Pukenui**	**5.03**	**196**	Pn	**Pn**		**07 10 59.9**	**-0.3**
WPHZ	**Waipukurau**	**5.12**	**193**	PN	**Pn**		**07 11 01.6**	**+0.3**
TSZ	**Takapari Road**	**5.22**	**197**	PN	**Pn**		**07 11 03.1**	**+0.5**
WAZ	**Wanganui**	**5.24**	**206**	PN	**Pn**		**07 11 04.0**	**+1.3**
WAZ	**Wanganui**	**5.24**	**206**	Pn	**Pn**		**07 11 04.0**	**+1.3**
PRHZ	**Porangahau**	**5.28**	**191**	PN	**Pn**		**07 11 03.8**	**+0.5**
PRHZ	**Porangahau**	**5.28**	**191**	Pn	**Pn**		**07 11 03.8**	**+0.5**
DVHZ	**Dannevirke**	**5.40**	**195**	PN	**Pn**		**07 11 04.7**	**-0.1**
DVHZ	**Dannevirke**	**5.40**	**195**	Pn	**Pn**		**07 11 04.7**	**-0.1**
ANWZ	**Angora Road**	**5.50**	**192**	PN	**Pn**		**07 11 06.4**	**+0.5**
POWZ	**Post Office Ro**	**5.58**	**198**	PN	**Pn**		**07 11 07.0**	**0.0**
POWZ	**Post Office Ro**	**5.58**	**198**	Pn	**Pn**		**07 11 07.0**	**0.0**
BFZ	**Birch Farm**	**5.75**	**193**	PN	**Pn**		**07 11 09.2**	**+0.1**
BFZ	**Birch Farm**	**5.75**	**193**	Pn	**Pn**		**07 11 08.8**	**-0.3**
MRZ	**Mangatainoka R**	**5.88**	**198**	PN	**Pn**		**07 11 10.0**	**-0.7**
MRZ	**Mangatainoka R**	**5.88**	**198**	Pn	**Pn**		**07 11 10.0**	**-0.7**
TIWZ	**Tintock**	**5.92**	**196**	PN	**Pn**		**07 11 10.8**	**-0.4**
TIWZ				AML	AML		07 12 21.3	
TIWZ				AML	AML		07 12 21.7	
TIWZ	**Tintock**	**5.92**	**196**	Pn	**Pn**		**07 11 10.8**	**-0.4**
HOWZ	**Holdsworth Sta**	**6.12**	**198**	PN	**Pn**		**07 11 12.7**	**-1.0**
HOWZ	**Holdsworth Sta**	**6.12**	**198**	Pn	**Pn**		**07 11 12.7**	**-1.0**
OGWZ	**Otaki Gorge**	**6.14**	**200**	PN	**Pn**		**07 11 13.1**	**-0.8**
OGWZ	**Otaki Gorge**	**6.14**	**200**	Pn	**Pn**		**07 11 13.1**	**-0.8**
TMWZ	**Te Maipa**	**6.23**	**195**	PN	**Pn**		**07 11 14.8**	**-0.3**
TMWZ	**Te Maipa**	**6.23**	**195**	Pn	**Pn**		**07 11 14.8**	**-0.3**
KIW	**Kapiti Island**	**6.26**	**202**	PN	**Pn**		**07 11 14.6**	**-0.8**
KIW	**Kapiti Island**	**6.26**	**202**	Pn	**Pn**		**07 11 14.6**	**-0.8**
MTW	**Mount Morrison**	**6.37**	**197**	PN	**Pn**		**07 11 15.6**	**-1.2**
MTW	**Mount Morrison**	**6.37**	**197**	Pn	Pn		07 11 13.1	-3.7
CAW	**Cannon Point**	**6.44**	**200**	PN	**Pn**		**07 11 16.2**	**-1.4**
CAW	**Cannon Point**	**6.44**	**200**	Pn	**Pn**		**07 11 16.2**	**-1.4**
MSWZ	**Moikau Station**	**6.67**	**198**	PN	**Pn**		**07 11 19.4**	**-1.2**
MSWZ	**Moikau Station**	**6.67**	**198**	Pn	**Pn**		**07 11 19.4**	**-1.2**
PLWZ	**Palliser**	**6.82**	**198**	PN	**Pn**		**07 11 21.0**	**-1.5**
PLWZ	**Palliser**	**6.82**	**198**	Pn	**Pn**		**07 11 21.0**	**-1.5**
TUWZ	**Tuamarina**	**7.09**	**205**	PN	**Pn**		**07 11 24.8**	**-1.0**
TUWZ	**Tuamarina**	**7.09**	**205**	Pn	**Pn**		**07 11 24.8**	**-1.0**
NNZ	**Nelson**	**7.12**	**209**	PN	**Pn**		**07 11 26.6**	**+0.4**
NNZ	**Nelson**	**7.12**	**209**	Pn	**Pn**		**07 11 26.6**	**+0.4**
QRZ	**Quartz Range**	**7.17**	**215**	PN	**Pn**		**07 11 26.6**	**-0.3**
QRZ	**Quartz Range**	**7.17**	**215**	Pn	**Pn**		**07 11 26.6**	**-0.3**
THZ	**Tophouse**	**7.77**	**209**	PN	**Pn**		**07 11 34.2**	**-0.3**
THZ	**Tophouse**	**7.77**	**209**	Pn	**Pn**		**07 11 34.1**	**-0.3**
KHZ	**Kahutara**	**8.10**	**204**	PN	**Pn**		**07 11 37.6**	**-1.0**
KHZ	**Kahutara**	**8.10**	**204**	Pn	**Pn**		**07 11 37.6**	**-1.0**
DSZ	**Denniston Nort**	**8.23**	**214**	PN	**Pn**		**07 11 40.0**	**-0.3**
DSZ	**Denniston Nort**	**8.23**	**214**	Pn	**Pn**		**07 11 40.0**	**-0.3**
LTZ	**Lake Taylor**	**8.88**	**208**	PN	**Pn**		**07 11 47.3**	**-1.2**
LTZ	**Lake Taylor**	**8.88**	**208**	Pn	**Pn**		**07 11 47.3**	**-1.2**
ASAR	**Alice Springs**	**39.78**	**274**	P	**P**		**07 16 54.6**	**+1.4**
	0.5nm,0.5s,baz=114,slow=7.8,SNR=10							
WRA	**Warramunga Arr**	**41.22**	**280**	P	**P**		**07 17 05.6**	**+0.7**
	0.4nm,0.3s,baz=118,slow=7.7,SNR=13							
FINES	**FINESS Array B**	**148.16**	**335**	PKPbc	**PKPdf**		**07 28 55.2**	**-0.7**
	0.6nm,0.5s,baz=50,slow=2.2,SNR=4.4							
TORD	**Torodi Ar. Bea**	**157.90**	**190**	PKPab	**PKPab**		**07 29 41.9**	**-3.6**
	0.2nm,0.5s,baz=173,slow=4.3,SNR=4.2							

CSEM ***18*** *07:24:55.1±0.2, 32°.39N×6°.38W, h2km, MD3.2, Error ellipse: s-maj=5.9km s-min=4.1km az=134.0*

MDD ***18*** *07:24:55.9±0.4, 32°.39N×6°.37W, h0km, mb3.8/6, Error ellipse: s-maj=6.9km s-min=3.3km az=118.0, PRXIMO SOLUCIN POBRE*

CNRM ***18*** *07:24:56.7, 32°.32N×6°.31W, h0km, MD3.2*

INMG ***18*** *07:24:57.3±0.9, 32°.52N×6°.29W, h0km, ML2.3, Error ellipse: s-maj=9.2km s-min=5.8km az=83.0*

IGIL ***18*** *07:24:58.2, 32°.46N×6°.31W, h0km, ML1.8*

ISC 18 07:24:55.1±1.1, 32°.44N±0°.03×6°.39W±0°.03, h7km±10km, n48, σ1§40/85, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
TZC	**Tazercounte**	**0.30**	**196**	P	**Pg**		**07 24 59.8**	**-1.2**
TZC				S	**Sg**		**07 25 05.0**	**0.0**
TZC	**Tazercounte**	**0.30**	**196**	*i* P	**Pg**		**07 24 59.8**	**-1.2**
TZC				*i* S	**Sg**		**07 25 05.0**	**0.0**
CZD	**Col de Zad**	**1.28**	**62**	P	**Pn**		**07 25 20.0**	**+0.3**
CZD				S	**Sg**		**07 25 38.0**	**+1.5**
CZD	**Col de Zad**	**1.28**	**62**	*e*P	**Pn**		**07 25 20.0**	**+0.3**
CZD				*i* S	**Sg**		**07 25 38.0**	**+1.5**
MIF	**Mishlifen**	**1.38**	**45**	P	**Pn**		**07 25 21.0**	**0.0**
MIF				S	**Sg**		**07 25 40.0**	**+0.5**
MIF	**Mishlifen**	**1.38**	**45**	*i* P	**Pn**		**07 25 21.0**	**0.0**
MIF				*i* S	**Sg**		**07 25 40.0**	**+0.5**
OUK	**Oukaimeden**	**1.75**	**226**	P	**Pn**		**07 25 27.5**	**+1.3**
OUK				S	**Sn**		**07 25 48.0**	**-0.9**
OUK	**Oukaimeden**	**1.75**	**226**	*i* P	**Pn**		**07 25 27.5**	**+1.3**
OUK				*i* S	**Sn**		**07 25 48.0**	**-0.9**
ZFT	**Errachidia**	**1.77**	**102**	P	**Pn**		**07 25 26.0**	**-0.4**
ZFT				S	**Sn**		**07 25 48.0**	**-1.4**
ZFT	**Errachidia**	**1.77**	**102**	*i* P	**Pn**		**07 25 26.0**	**-0.4**
ZFT				*i* S	**Sn**		**07 25 48.0**	**-1.4**
TGT	**Taghat**	**1.98**	**34**	P	**Pb**		**07 25 32.0**	**+0.5**
TGT				S	**Sb**		**07 25 57.0**	**+0.6**
TGT	**Taghat**	**1.98**	**34**	*i* P	**Pb**		**07 25 32.0**	**+0.5**
TGT				*i* S	**Sb**		**07 25 57.0**	**+0.6**
CIA	**Chichaoua**	**2.19**	**247**	P	**Pn**		**07 25 33.0**	**+1.0**
CIA				S	**Sn**		**07 26 00.0**	**+0.7**
CIA	**Chichaoua**	**2.19**	**247**	*i* P	**Pn**		**07 25 33.0**	**+1.0**
CIA				*i* S	**Sn**		**07 26 00.0**	**+0.7**
TZK	**Tazeka**	**2.48**	**48**	P	**Pn**		**07 25 38.0**	**+1.9**
TZK				S	**Sn**		**07 26 09.0**	**+2.2**
TZK	**Tazeka**	**2.48**	**48**	*i* P	**Pn**		**07 25 38.0**	**+1.9**
TZK				*i* S	**Sn**		**07 26 09.0**	**+2.2**
PVAQ	**Vaqueiros**	**5.08**	**348**	*e*Pn	**Pn**		**07 26 12.7**	**+1.1**
PVAQ				*e*Sn	**Sn**		**07 27 08.8**	**-1.7**
PVAQ				A	A		07 27 12.0	
	2.0nm,0.4s							
PVAQ	**Vaqueiros**	**5.08**	**348**	P	**Pn**		**07 26 12.7**	**+1.1**
PVAQ				S	**Sn**		**07 27 08.8**	**-1.7**
	2.0nm,0.4s							
PVAQ	**Vaqueiros**	**5.08**	**348**	P	**Pn**		**07 26 12.7**	**+1.1**
PVAQ				S	**Sn**		**07 27 08.8**	**-1.7**
	2.0nm,0.4s							
PFVI	**Vila Bisbo**	**5.10**	**338**	*e*Pn	**Pn**		**07 26 13.4**	**+1.5**
PFVI				*e*Sn	**Sn**		**07 27 10.7**	**-0.3**
PFVI				A	A		07 27 24.7	
	8.2nm,0.8s							
PFVI	**Vila Bisbo**	**5.10**	**338**	P	**Pn**		**07 26 12.8**	**+0.9**
	0.9nm,0.1s,SNR=7.9							
PFVI				S	**Sn**		**07 27 09.0**	**-2.0**
	1.7nm,0.1s,SNR=7.9							
PFVI	**Vila Bisbo**	**5.10**	**338**	P	**Pn**		**07 26 12.8**	**+0.9**
	0.9nm,0.1s,SNR=7.9							
PFVI				S	**Sn**		**07 27 09.0**	**-2.0**
	1.7nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**5.17**	**350**	P	**Pn**		**07 26 13.7**	**+0.9**
	0.4nm,0.1s,SNR=11							
EGRO				S	**Sn**		**07 27 10.7**	**-2.0**
	1.8nm,0.2s							
EGRO	**El Granado**	**5.17**	**350**	P	**Pn**		**07 26 13.7**	**+0.9**
	0.4nm,0.1s,SNR=11							
EGRO				S	**Sn**		**07 27 10.7**	**-2.0**
	1.8nm,0.2s							
MORF	**Marmelete**	**5.20**	**340**	*e*P	**Pn**		**07 26 14.6**	**+1.2**
MORF				*e*S	**Sn**		**07 27 11.6**	**-2.0**
MORF				AML	AML		07 27 14.2	
	comp=N,1.9nm,0.2s							
MORF	**Marmelete**	**5.20**	**340**	*e*Pn	**Pn**		**07 26 15.0**	**+1.6**
MORF	**Marmelete**	**5.20**	**340**	P	**Pn**		**07 26 15.0**	**+1.6**
MORF	**Marmelete**	**5.20**	**340**	P	**Pn**		**07 26 15.0**	**+1.6**
EMIN	**Mina Concepcio**	**5.33**	**358**	P	**Pn**		**07 26 15.4**	**+0.3**
	comp=N,0.4nm,0.1s,SNR=7.0							
EMIN				S	**Sn**		**07 27 13.4**	**-3.2**
	comp=N,0.2nm,0.1s,SNR=5.6							
EMIN	**Mina Concepcio**	**5.33**	**358**	P	**Pn**		**07 26 15.4**	**+0.3**
	comp=N,0.4nm,0.1s,SNR=7.0							
PCVE	**Castro Verde**	**5.36**	**346**	*e*Pn	**Pn**		**07 26 16.9**	**+1.4**
PCVE				*e*Sn	**Sn**		**07 27 16.4**	**-1.0**
PCVE	**Castro Verde**	**5.36**	**346**	P	**Pn**		**07 26 16.9**	**+1.4**
PCVE				S	**Sn**		**07 27 16.4**	**-1.0**
PCVE	**Castro Verde**	**5.36**	**346**	P	**Pn**		**07 26 16.9**	**+1.4**
PTEO	**Sao Teotonio**	**5.45**	**340**	*e*Pn	**Pn**		**07 26 18.1**	**+1.4**
PTEO				*e*Sn	**Sn**		**07 27 18.6**	**-1.0**
PTEO				A	A		07 27 29.0	
	comp=N,5.3nm,0.5s							
PTEO	**Sao Teotonio**	**5.45**	**340**	P	**Pn**		**07 26 18.1**	**+1.4**
PTEO				S	**Sn**		**07 27 18.6**	**-1.0**
	comp=N,2.7nm,0.5s							
PTEO	**Sao Teotonio**	**5.45**	**340**	P	**Pn**		**07 26 18.1**	**+1.4**
MESJ	**Messejana**	**5.60**	**345**	*e*P	**Pn**		**07 26 20.0**	**+1.2**
MESJ				*e*S	**Sn**		**07 27 20.9**	**-2.4**
MESJ				AML	AML		07 27 21.8	
	comp=N,1.0nm,0.3s							
ECAB	**El Cabril**	**5.68**	**8**	P	**Pn**		**07

OKAK				S		Sb	07 29 48.4	-1.2
OKCE	**Okmok Cone E**	**1.08**	**57**	P		**Pg**	**07 29 35.5**	**+0.7**
OKCE				S		**Sn**	**07 29 52.6**	**+1.2**
MSOM	**Makushin Julie**	**1.91**	**58**	P		**Pn**	**07 29 47.2**	**+0.1**
MSOM				S		**Sb**	**07 30 11.7**	**-1.7**
MSW	**Makushin Switc**	**2.04**	**57**	P		**Pn**	**07 29 49.5**	**+0.4**
MSW				S		**Sb**	**07 30 15.3**	**-2.0**
COLA	**College**	**16.39**	**34**	*e*Pn		**Pn**	**07 33 06.6**	**+2.0**
	6.2nm,1.2s							
ILAR	**Eielson Array**	**16.67**	**35**	Pn		**Pn**	**07 33 07.1**	**-1.0**
	baz=233,slow=12,SNR=2.8							
DLBC	**Dease Lake**	**22.81**	**60**	P		**P**	**07 34 20.2**	**+2.7**
	4.8nm,1.1s,baz=267,slow=5.2,SNR=4.3							
NEW	**Newport**	**33.08**	**76**	P		**P**	**07 35 52.1**	**+1.6**
	1.5nm,0.7s,baz=312,slow=9.2,SNR=2.5							
H11N2	**WAKE ISLAND Hy**	**37.71**	**218**	T		T	08 16 58.0	
	baz=22							
H11N3	**WAKE ISLAND Hy**	**37.72**	**218**	T		T	08 17 00.8	
	baz=22,slow=74							
H11N1	**WAKE ISLAND Hy**	**37.73**	**218**	T		T	08 16 59.4	
	baz=22,slow=74							
NVAR	**Mina Array Bea**	**37.87**	**91**	P		P	07 36 33.4	+1.4
	0.9nm,0.8s,baz=301,slow=9.2,SNR=5.7							
PDAR	**Pinedale Array**	**40.51**	**79**	P		**P**	**07 36 54.5**	**+0.6**
	1.1nm,0.8s,baz=336,slow=5.0,SNR=6.0							
TXAR	**Lajitas Array**	**52.93**	**89**	P		**P**	**07 38 30.6**	**-0.6**
	0.4nm,0.6s,baz=298,slow=6.0,SNR=2.6							
WRA	**Warramunga Arr**	**87.15**	**231**	P		P	07 41 57.8	-3.1
	0.6nm,0.9s,baz=32,slow=6.0,SNR=3.7							
ASAR	**Alice Springs**	**90.56**	**230**	P		**P**	**07 42 15.4**	**-1.6**
	1.1nm,0.8s,baz=37,slow=4.5,SNR=7.7							

*ISCJB **18** 07:31:58.6±1.1,52.°64N×0.°05×169.°70W±0.°07,h8km±6km, mb4.0/18, Error ellipse: s-maj=10.1km s-min=5.3km az=147.9*

*IDC **18** 07:31:58.7±0.7,52.°64N×169.°78W,h0km, mb3.9/11, mb1 4.2/13,mb1mx3.8/50,mbtmp3.9/13,ML3.6/2, Error ellipse: s-maj=25.9km s-min=14.4km az=165.0*

*NEIC **18** 07:31:59.7,52.°71N×169.°52W,h1km, mb3.9/9, ML3.8(AEIC), After AEIC.*

ISC 18 07:31:58.9±1.9, 52.°65N±0.°08×169.°57W±0.°05, h2km±12km, n50, σ1§20/52, mb4.0/18, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.54**	**53**	P	**Pg**	**07 32 10.3**	**+1.0**
NIKH				S	**Sb**	**07 32 18.8**	**-0.6**
OKWE	**Okmok W'ng Wal**	**1.15**	**44**	P	**Pb**	**07 32 21.1**	**-0.4**
OKCE	**Okmok Cone E**	**1.15**	**47**	P	**Pn**	**07 32 21.8**	**-0.4**
OKCE				S	**Sn**	**07 32 39.2**	**+0.7**
OKTU	**Okmok Mt. Tuli**	**1.18**	**51**	P	**Pg**	**07 32 22.2**	**+0.6**
OKAK	**Okmok**	**1.18**	**38**	P	**Pb**	**07 32 20.3**	**-1.8**
OKAK				S	**Sb**	**07 32 35.4**	**-2.5**
MSOM	**Makushin Julie**	**1.96**	**52**	P	**Pn**	**07 32 33.7**	**+0.5**
MSOM				S	**Sb**	**07 32 58.9**	**-1.4**
MCIR	**Makushin Cirqu**	**2.07**	**50**	P	**Pn**	**07 32 35.7**	**+1.0**
MSW	**Makushin Switc**	**2.10**	**52**	P	**Pn**	**07 32 35.5**	**+0.4**
MSW				S	**Sb**	**07 33 03.9**	**-0.4**
MTBL	**Makushin Table**	**2.18**	**52**	P	**Pb**	**07 32 37.8**	**-1.4**
UNV	**Unalaska Valle**	**2.20**	**56**	P	**Pn**	**07 32 36.4**	**0.0**
UNV				S	**Sn**	**07 33 04.3**	**+0.1**
AKRB	**Akutan Reef Bi**	**2.57**	**53**	P	**Pb**	**07 32 43.5**	**-2.2**
ZRO	**Akutan Zero**	**2.59**	**55**	P	**Pn**	**07 32 43.4**	**+1.5**
AKGG	**Akutan Green G**	**2.65**	**53**	P	**Pn**	**07 32 43.6**	**+1.0**
AKGG				S	**Sb**	**07 33 17.2**	**-2.7**
AKUT	**Akutan**	**2.72**	**55**	P	**Pb**	**07 32 46.1**	**-2.2**
GSCK	**Great Sitkin C**	**4.09**	**264**	P	**Pn**	**07 33 02.4**	**-0.1**
SPIA	**Saint Paul Isl**	**4.55**	**355**	P	**Pn**	**07 33 10.2**	**+1.4**
SPIA				S	**Sn**	**07 34 03.4**	**+1.1**
TRF	**Thorofare Moun**	**14.80**	**36**	*e*P	**P**	**07 35 35.5**	**+0.2**
	12nm,1.3s						
BPAW	**Bear Paw Mtn.**	**14.98**	**33**	*e*P	**P**	**07 35 37.1**	**0.0**
	1.4nm,0.6s						
PAX	**Paxson**	**16.37**	**41**	*e*P	**P**	**07 35 52.3**	**-0.3**
	1.7nm,0.6s						
ILAR	**Eielson Array**	**16.79**	**35**	Pn	**Pn**	**07 35 55.0**	**+0.1**
	0.2nm,0.3s,baz=228,slow=11,SNR=14						
COLD	**Coldfoot**	**17.41**	**26**	*e*P	**P**	**07 36 06.5**	**+2.5**
	9.8nm,1.2s						
PETK	**Petropavlovsk-**	**19.67**	**284**	P	**P**	**07 36 29.6**	**+0.7**
	0.3nm,0.3s,baz=91,slow=13,SNR=4.4						
SEY	**Seymchan**	**22.39**	**312**	P	**P**	**07 36 57.0**	**-1.2**
	0.9nm,0.7s,baz=37,slow=20,SNR=3.0						
DLBC	**Dease Lake**	**22.85**	**60**	P	**P**	**07 37 05.8**	**+2.6**
	5.8nm,0.9s,baz=269,slow=11,SNR=12						
INK	**Inuvik**	**23.18**	**34**	P	**P**	**07 37 05.9**	**-0.6**
	1.0nm,0.4s,baz=250,slow=11,SNR=7.2						
YKA	**Yellowknife Ar**	**30.15**	**49**	P	**P**	**07 38 09.3**	**-0.5**
	0.5nm,0.5s,baz=272,slow=10.0,SNR=4.5						
NEW	**Newport**	**33.06**	**76**	P	**P**	**07 38 36.6**	**+1.0**
	2.1nm,0.7s,baz=301,slow=4.4,SNR=6.2						
NEW	**Newport**	**33.06**	**76**	*e*P	**P**	**07 38 36.3**	**+0.6**
	3.2nm,1.0s						
CHMT	**Chamberlain Mo**	**36.01**	**76**	*e*P	**P**	**07 39 01.1**	**-0.3**
	1.3nm,0.6s						
EGMT	**Eagleton**	**37.50**	**72**	*e*P	**P**	**07 39 15.4**	**+1.5**
	6.7nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**37.60**	**218**	T	T	08 19 08.4	
	baz=23,slow=76						
H11N3	**WAKE ISLAND Hy**	**37.60**	**218**	T	T	08 19 12.3	
	baz=23,slow=76						
H11N1	**WAKE ISLAND Hy**	**37.62**	**218**	T	T	08 19 10.3	
	baz=23,slow=76						
BOZ	**Bozeman (W)**	**37.63**	**77**	*e*P	**P**	**07 39 15.0**	**-0.2**
	1.7nm,0.8s						
NVAR	**Mina Array Bea**	**37.79**	**91**	P	**P**	**07 39 18.9**	**+2.2**
	0.9nm,0.8s,baz=294,slow=7.5,SNR=5.2						
ELK	**Elko**	**38.23**	**86**	P	**P**	**07 39 20.8**	**+0.4**
	0.8nm,0.6s,baz=323,slow=2.3,SNR=4.4						
H11S1	**WAKE ISLAND Hy**	**38.79**	**218**	T	T	08 20 44.4	
	baz=23,slow=76,SNR=32						
H11S2	**WAKE ISLAND Hy**	**38.80**	**218**	T	T	08 20 36.5	
	baz=23,slow=76,SNR=34						
H11S3	**WAKE ISLAND Hy**	**38.80**	**218**	T	T	08 20 43.0	
	baz=23,slow=76,SNR=28						
RLMT	**Red Lodge**	**39.31**	**76**	*e*P	**P**	**07 39 30.3**	**+1.0**
	3.3nm,0.9s						
BW06	**Boulder Array**	**40.47**	**79**	*e*P	**P**	**07 39 39.7**	**+0.7**
	1.8nm,0.6s						
PDAR	**Pinedale Array**	**40.47**	**79**	P	**P**	**07 39 39.8**	**+0.7**
	2.1nm,0.8s,baz=323,slow=4.7,SNR=16						
PV01	**Paradox Valley**	**43.90**	**84**	*e*P	**P**	**07 40 07.2**	**+0.1**
AGMN	**Agassiz Nation**	**45.22**	**65**	*e*P	**P**	**07 40 17.3**	**+0.1**
	1.4nm,0.7s						
TXAR	**Lajitas Array**	**52.87**	**89**	P	**P**	**07 41 17.0**	**+0.9**
	1.8nm,0.7s,baz=300,slow=5.4,SNR=21						
WRA	**Warramunga Arr**	**87.08**	**231**	P	**P**	**07 44 45.1**	**-1.0**
	0.9nm,0.8s,baz=33,slow=5.7,SNR=7.0						
PSI	**Prapat**	**88.71**	**273**	P	**P**	**07 44 54.1**	**-0.1**
	3.8nm,0.4s,baz=212,slow=6.3,SNR=5.8						
ASAR	**Alice Springs**	**90.48**	**230**	P	**P**	**07 45 01.9**	**-0.1**
	1.0nm,0.7s,baz=28,slow=4.6,SNR=10						
MAW	**Mawson**	**151.02**	**219**	PKPbc	**PKPbc**	**07 51 51.7**	**-0.1**
	1.1nm,0.7s,baz=71,slow=8.8,SNR=4.1						
BOSA	**Boshof**	**153.59**	**330**	PKPbc	**PKPbc**	**07 51 57.8**	**-1.2**
	1.2nm,0.7s,baz=130,slow=17,SNR=2.8						

*IDC **18** 07:36:04.1±19.0,52.°42N×170.°78W,h0km, mb3.5/4, mb1 3.8/5,mb1mx3.5/30,mbtmp3.4/5,ML3.3/1, Error ellipse: s-maj=349.6km s-min=51.3km az=88.0*

*ISCJB **18** 07:36:11.2±1.3,52.°7N±0.°1×169.°7W±0.°1,h12km±7km, mb3.4/4, Error ellipse: s-maj=24.0km s-min=7.5km az=146.4*

*NEIC **18** 07:36:11.8,52.°70N×169.°54W,h5km, ML3.4(AEIC), After AEIC.*

ISC 18 07:36:11.7±2.6, 52.°8N±0.°1×169.°68W±0.°08, h8km±16km, n21, σ1§22/21, mb3.4/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.52**	**74**	P	**Pb**	**07 36 22.4**	**-0.7**
NIKH				S	**Sb**	**07 36 30.3**	**-0.4**
OKAK	**Okmok**	**1.09**	**46**	P	**Pb**	**07 36 31.3**	**-1.5**
OKAK				S	**Sb**	**07 36 45.9**	**-1.3**
OKTU	**Okmok Mt. Tuli**	**1.13**	**60**	P	**Pb**	**07 36 32.1**	**-1.4**
OKTU				S	**Sg**	**07 36 48.9**	**+0.8**
OKRE	**Okmok R'deer P**	**1.15**	**52**	P	**Pb**	**07 36 32.4**	**-1.3**
OKRE				S	**Sn**	**07 36 50.9**	**+1.0**
MSOM	**Makushin Julie**	**1.91**	**58**	P	**Pn**	**07 36 45.2**	**+0.7**
MSOM				S	**Sb**	**07 37 10.8**	**0.0**
MCIR	**Makushin Cirqu**	**2.01**	**55**	P	**Pb**	**07 36 47.6**	**-0.9**
MTBL	**Makushin Table**	**2.13**	**56**	P	**Pb**	**07 36 49.4**	**-1.2**
UNV	**Unalaska Valle**	**2.16**	**61**	P	**Pn**	**07 36 48.5**	**+0.6**
UNV				S	**Sn**	**07 37 15.0**	**+0.1**
ZRO	**Akutan Zero**	**2.55**	**59**	P	**Pn**	**07 36 54.9**	**+1.6**
ATKA	**Atka Island**	**2.83**	**259**	P	**Pn**	**07 36 57.9**	**+0.8**
ILAR	**Eielson Array**	**16.68**	**35**	Pn	**Pn**	**07 40 06.8**	**+1.4**
	0.1nm,0.3s,baz=218,slow=11,SNR=3.6						
DLBC	**Dease Lake**	**22.82**	**60**	P	**P**	**07 41 16.4**	**+1.7**
	1.8nm,0.9s,baz=289,slow=12,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**37.70**	**218**	T	T	08 23 12.9	
	baz=21						
H11N3	**WAKE ISLAND Hy**	**37.71**	**218**	T	T	08 23 18.7	
	baz=21						
H11N1	**WAKE ISLAND Hy**	**37.72**	**218**	T	T	08 23 17.3	
	baz=21						
NVAR	**Mina Array Bea**	**37.86**	**91**	P	**P**	**07 43 29.3**	**+0.2**
	0.3nm,0.6s,baz=292,slow=7.7,SNR=2.8						
H11S1	**WAKE ISLAND Hy**	**38.89**	**217**	T	T	08 24 47.5	
	baz=22,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**38.91**	**217**	T	T	08 24 44.5	
	baz=22,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**38.91**	**217**	T	T	08 24 48.7	
	baz=22,slow=76,SNR=16						
PDAR	**Pinedale Array**	**40.50**	**79**	P	**P**	**07 43 49.5**	**-1.6**
	0.5nm,0.7s,baz=311,slow=5.5,SNR=5.9						
TXAR	**Lajitas Array**	**52.93**	**89**	P	**P**	**07 45 27.2**	**-1.1**
	0.4nm,0.6s,baz=297,slow=5.2,SNR=5.9						

*IDC **18** 07:37:20.7±1.8,52.°05N×169.°37W,h0km, mb3.5/4, mb1 3.8/5, mb1mx3.4/29, mbtmp3.4/5, ML3.1/1, Error ellipse: s-maj=57.5km s-min=32.1km az=146.0*

*NEIC **18** 07:37:24.7,52.°73N×169.°37W,h3km, ML3.2(AEIC), After AEIC.*

ISC 18 07:37:21.2±2.4, 52.°6N±0.°2×169.°6W±0.°2, h10km±12km, n11, σ1§09/16, mb3.3/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.62**	**49**	P	**Pg**	**07 37 33.4**	**+0.2**
NIKH				S	**Sg**	**07 37 42.3**	**+0.9**
OKWE	**Okmok W'ng Wal**	**1.23**	**42**	P	**Pg**	**07 37 44.9**	**0.0**
OKWE				S	**Sg**	**07 38 00.7**	**-0.2**
OKAK	**Okmok**	**1.27**	**36**	P	**Pn**	**07 37 43.4**	**-1.6**
MGOD	**Makushin Gods**	**2.06**	**52**	P	**Pb**	**07 37 57.7**	**-1.0**
MGOD				S	**Sn**	**07 38 21.9**	**+0.1**
MSW	**Makushin Switc**	**2.18**	**50**	P	**Pn**	**07 37 58.8**	**+1.3**
MSW				S	**Sn**	**07 38 25.7**	**+1.2**
UNV	**Unalaska Valle**	**2.27**	**54**	P	**Pn**	**07 37 57.7**	**-1.1**
UNV				S	**Sn**	**07 38 25.8**	**-1.0**
ILAR	**Eielson Array**	**16.88**	**35**	Pn	**P**	**07 41 20.9**	**+1.6**
	0.0nm,0.3s,baz=222,slow=11,SNR=2.9						
NVAR	**Mina Array Bea**	**37.82**	**91**	P	**P**	**07 44 37.2**	**-0.7**
	0.1nm,0.4s,baz=307,slow=6.5,SNR=2.3						
PDAR	**Pinedale Array**	**40.52**	**79**	P	**P**	**07 45 01.6**	**+1.2**
	0.3nm,0.6s,baz=324,slow=5.9,SNR=3.2						
TXAR	**Lajitas Array**	**52.90**	**89**	P	**P**	**07 46 36.9**	**-0.4**
	0.4nm,0.7s,baz=295,slow=4.9,SNR=4.7						
ASAR	**Alice Springs**	**90.40**	**230**	P	**P**	**07 50 22.8**	**+0.2**
	0.7nm,0.9s,baz=37,slow=5.4,SNR=4.7						

*ISCJB **18** 07:37:58.6±0.7,52.°6N±0.°1×169.°8W±0.°1, h10km, mb3.7/9, MS4.5/1, Error ellipse: s-maj=18.2km s-min=6.8km az=144.8*

*IDC **18** 07:37:58.3±1.0,52.°54N×169.°84W,h0km, mb3.7/9, mb1 4.0/10,mb1mx3.7/52,mbtmp3.7/10,ML3.4/1,MS4.5/1, Ms1 4.5/1,ms1mx3.8/50,Error ellipse: s-maj=28.7km s-min=19.0km az=163.0*

*NEIC **18** 07:38:01.4,52.°63N×169.°36W,h5km, ML3.4(AEIC), After AEIC.*

ISC 18 07:38:00.8±1.1, 52.°8N±0.°1×169.°68W±0.°09, h10km, n21, σ1§46/16, mb3.6/9, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.52**	**73**	P	**Pg**	**07 38 11.1**	**+0.1**
NIKH				S	**Sb**	**07 38 19.3**	**-0.4**
OKWE	**Okmok W'ng Wal**	**1.08**	**53**	P	**Pg**	**07 38 22.4**	**+0.7**
OKWE				S	**Sn**	**07 38 38.4**	**+1.2**
OKCE	**Okmok Cone E**	**1.10**	**56**	P	**Pg**	**07 38 22.2**	**+0.4**
OKAK	**Okmok**	**1.10**	**46**	P	**Pb**	**07 38 20.6**	**-1.3**
OKAK				S	**Sb**	**07 38 34.0**	**-2.2**
ILAR	**Eielson Array**	**16.68**	**35**	Pn	**Pn**	**07 41 53.5**	**-1.0**
	0.1nm,0.3s,baz=233,slow=11,SNR=5.1						
SEY	**Seymchan**	**22.22**	**312**	P	**P**	**07 42 57.7**	**+0.6**
	1.0nm,0.9s,baz=37,slow=20,SNR=2.8						
DLBC	**Dease Lake**	**22.82**	**60**	P	**P**	**07 43 06.6**	**+2.9**
	4.9nm,1.1s,baz=264,slow=9.2,SNR=6.3						
INK	**Inuvik**	**23.07**	**34**	P	**P**	**07 43 08.2**	**+2.1**
	2.3nm,1.1s,baz=236,slow=7.3,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**37.69**	**218**	T	T	08 25 06.4	
	baz=22,slow=76						
H11N3	**WAKE ISLAND Hy**	**37.70**	**218**	T	T	08 25 05.7	
	baz=22,slow=76						
H11N1	**WAKE ISLAND Hy**	**37.71**	**218**	T	T	08 25 07.8	
	baz=22,slow=76						
NVAR	**Mina Array Bea**	**37.86**	**91**	P	**P**	**07 45 18.4**	**+0.5**
	0.6nm,0.7s,baz=290,slow=9.2,SNR=3.6						
ELK	**Elko**	**38.29**	**86**	P	**P**	**07 45 20.8**	**-0.7**
	0.8nm,0.6s,baz=275,slow=13,SNR=2.7						
H11S1	**WAKE ISLAND Hy**	**38.89**	**217**	T	T	08 26 39.8	
	baz=20,slow=76						
H11S2	**WAKE ISLAND Hy**	**38.90**	**217**	T	T	08 26 37.3	
	baz=20,slow=76						
H11S3	**WAKE ISLAND Hy**	**38.90**	**217**	T	T	08 26 41.0	
	baz=20,slow=76						
PDAR	**Pinedale Array**	**40.51**	**79**	P	**P**	**07 45 38.7**	**-1.3**
	1.2nm,0.9s,baz=297,slow=4.0,SNR=7.2						
SFJD	**Kangerlussuaq**	**52.05**	**26**	LR	LR	08 10 40.4	
	comp=Z,510nm,20.2s,baz=196,slow=38						
TXAR	**Lajitas Array**	**52.93**	**89**	P	**P**	**07 47 17.3**	**+0.1**
	1.2nm,0.7s,baz=296,slow=4.9,SNR=12						
WRA	**Warramunga Arr**	**87.14**	**231**	P	P	07 50 43.9	-3.0
	0.5nm,0.7s,baz=34,slow=6.3,SNR=3.1						
ASAR	**Alice Springs**	**90.54**	**230**	P	**P**	**07 51 01.6**	**-1.3**
	1.0nm,0.9s,baz=26,slow=7.2,SNR=6.6						

IDC 18 07:47:01.8±12.0, 35.°48S×96.°68W, h0km, mb3.9/4, mb1 4.3/4, mb1mx4.0/16, mbtmp3.9/4, Error ellipse: s-maj=317.4km s-min=45.5km az=9.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**31.83**	**60**	P	P	07 53 29.1	-0.1
	1.6nm,0.7s,baz=246,slow=7.1,SNR=6.3						
TXAR	**Lajitas Array**	**64.80**	**353**	P	P	07 57 42.4	0.0
	0.5nm,0.8s,baz=172,slow=7.3,SNR=7.2						
NVAR	**Mina Array Bea**	**76.22**	**343**	P	P	07 58 52.4	+0.3
	1.0nm,0.8s,baz=178,slow=6.3,SNR=9.6						
PDAR	**Pinedale Array**	**78.76**	**350**	P	P	07 59 05.8	-0.3
	0.8nm,0.7s,baz=142,slow=4.6,SNR=7.4						

*ISCJB **18** 07:48:45.2±0.9,52.°69N±0.°06×169.°57W±0.°06, h11km±6km, mb3.9/10, Error ellipse: s-maj=11.7km s-min=4.1km az=155.4*

*NEIC **18** 07:48:45.8,52.°66N×169.°40W,h4km, mb3.8/5, ML3.9(AEIC), After AEIC.*

*IDC **18** 07:48:47.6±1.3,52.°78N×169.°06W,h0km, mb3.7/8, mb1 4.0/9, mb1mx3.6/61, mbtmp3.7/9, ML4.2/1, Error ellipse: s-maj=29.3km s-min=22.2km az=172.0*

ISC 18 07:48:45.1±1.9, 52.°70N±0.°09×169.°48W±0.°05, h0km±12km, n41, σ1§00/43, mb3.8/10, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.47**	**53**	P	**Pb**	**07 48 55.9**	**-0.3**
NIKH				S	**Sb**	**07 49 03.2**	**-0.6**
OKCE	**Okmok Cone E**	**1.08**	**47**	P	**Pg**	**07 49 06.2**	**+0.4**
OKCE				S	**Sb**	**07 49 21.9**	**+0.6**
OKTU	**Okmok Mt. Tuli**	**1.11**	**51**	P	**Pg**	**07 49 07.1**	**+0.7**
OKAK	**Okmok**	**1.11**	**37**	P	**Pg**	**07 49 05.3**	**-1.2**
MGOD	**Makushin Gods**	**1.92**	**54**	P	**Pn**	**07 49 18.4**	**-0.6**
MGOD				S	**Sn**	**07 49 44.2**	**+0.4**
MCIR	**Makushin Cirqu**	**2.00**	**50**	P	**Pn**	**07 49 20.6**	**+0.5**
MSW	**Makushin Switc**	**2.03**	**52**	P	**Pn**	**07 49 20.4**	**0.0**
MSW				S	**Sb**	**07 49 47.9**	**-0.6**
MTBL	**Makushin Table**	**2.11**	**52**	P	**Pn**	**07 49 21.8**	**+0.1**
UNV	**Unalaska Valle**	**2.13**	**56**	P	**Pn**	**07 49 21.2**	**-0.6**
UNV				S	**Sb**	**07 49 49.8**	**-1.6**
AKRB	**Akutan Reef Bi**	**2.50**	**53**	P	**Pn**	**07 49 27.7**	**+0.8**
ZRO	**Akutan Zero**	**2.52**	**55**	P	**Pn**	**07 49 28.4**	**+1.1**
AKGG	**Akutan Green G**	**2.57**	**53**	P	**Pn**	**07 49 28.9**	**+0.9**
AKGG				S	**Sb**	**07 50 02.2**	**-2.0**
AKUT	**Akutan**	**2.65**	**55**	*e*Pn	**Pn**	**07 49 29.9**	**+1.0**
ATKA	**Atka Island**	**2.93**	**262**	P	**Pn**	**07 49 31.4**	**-1.4**
ATKA				S	**Sb**	**07 50 13.3**	**-1.1**
GSTR	**Great Sitkin T**	**4.08**	**264**	*e*Pn	**Pn**	**07 49 49.8**	**+1.2**
GSTR				*e*Sn	**Sn**	**07 50 36.2**	**-0.8**
GSMY	**Great Sitkin M**	**4.08**	**263**	P	**Pn**	**07 49 48.4**	**-0.3**
GSCK	**Great Sitkin C**	**4.15**	**263**	P	**Pn**	**07 49 49.4**	**-0.2**
ADAG	**Mount Adagdak**	**4.43**	**264**	P	**Pn**	**07 49 54.2**	**+0.8**
SPIA	**Saint Paul Isl**	**4.51**	**355**	P	**Pn**	**07 49 55.0**	**+0.4**
SPIA				S	**Sn**	**07 50 46.8**	**-0.9**
AMKA	**Amchitka**	**7.05**	**264**	*e*Pn	**Pn**	**07 50 30.7**	**+1.3**
	30nm,0.8s						
COLA	**College**	**16.45**	**34**	*e*Pn	**Pn**	**07 52 37.5**	**+0.5**
	3.9nm,0.9s						
ILAR	**Eielson Array**	**16.72**	**35**	Pn	**Pn**	**07 52 39.7**	**-0.7**
	0.4nm,0.3s,baz=228,slow=11,SNR=17						
EGAK	**Eagle**	**18.83**	**39**	*e*P	**Pn**	**07 53 06.5**	**0.0**
	6.6nm,1.0s						
HYT	**Haines Junctio**	**19.15**	**52**	*e*P	**Pn**	**07 53 11.2**	**+0.7**
	6.8nm,0.5s						
SKAG	**Skagway**	**20.05**	**57**	*e*P	**P**	**07 53 19.1**	**-0.3**
	12nm,0.7s						
SEY	**Seymchan**	**22.40**	**312**	P	**P**	**07 53 48.0**	**+3.3**
	1.6nm,0.7s,baz=101,slow=10,SNR=5.9						
DLBC	**Dease Lake**	**22.78**	**60**	P	**P**	**07 53 49.1**	**+0.3**
	3.3nm,1.0s,baz=271,slow=12,SNR=7.5						
INK	**Inuvik**	**23.11**	**34**	P	**P**	**07 53 50.9**	**-1.3**
	2.6nm,0.7s,baz=245,slow=8.9,SNR=7.6						
NEW	**Newport**	**33.00**	**76**	P	**P**	**07 55 21.7**	**+0.2**
	1.1nm,0.6s,baz=27,slow=2.3,SNR=2.8						
MCMT	**McKenzie Canyo**	**37.28**	**79**	*e*P	**P**	**07 55 58.8**	**+0.1**
	0.7nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**37.67**	**218**	T	T	08 35 51.9	
	baz=23,slow=76						
H11N3	**WAKE ISLAND Hy**	**37.67**	**218**	T	T	08 35 59.4	
	baz=23,slow=76						
H11N1	**WAKE ISLAND Hy**	**37.69**	**218**	T	T	08 35 53.6	
	baz=23,slow=76						
NVAR	**Mina Array Bea**	**37.74**	**91**	P	**P**	**07 56 03.5**	**+0.9**
	0.2nm,0.6s,baz=294,slow=7.5,SNR=2.4						
H11S1	**WAKE ISLAND Hy**	**38.86**	**218**	T	T	08 37 28.0	
	baz=23,slow=76,SNR=161						
H11S2	**WAKE ISLAND Hy**	**38.87**	**218**	T	T	08 37 29.2	
	baz=23,slow=76,SNR=84						
H11S3	**WAKE ISLAND Hy**	**38.88**	**218**	T	T	08 37 31.3	
	baz=23,slow=76,SNR=88						
PDAR	**Pinedale Array**	**40.41**	**79**	P	**P**	**07 56 24.7**	**-0.2**
	0.8nm,0.6s,baz=314,slow=5.5,SNR=7.1						
PV01	**Paradox Valley**	**43.84**	**84**	*e*P	**P**	**07 56 52.3**	**-0.7**
	145nm,0.8s						
TXAR	**Lajitas Array**	**52.81**	**89**	P	**P**	**07 58 01.7**	**-0.5**
	0.7nm,0.7s,baz=302,slow=5.4,SNR=9.0						
ASAR	**Alice Springs**	**90.55**	**230**	P	P	08 01 53.2	+4.4
	0.6nm,0.9s,baz=26,slow=4.4,SNR=4.9						

*IDC **18** 07:49:16.6±3.2,38.°91N×122.°78W,h0km,mb1 3.2/5, mb1mx3.1/30,mbtmp2.8/5,ML2.8/4, Error ellipse: s-maj=42.9km s-min=15.9km az=38.0*

*NEIC **18** 07:49:16.7,38.°83N×122.°81W,h4km, ML3.2(NCEDC), After NCEDC.*

NEIC Felt at Sea Ranch.

*ISCJB **18** 07:49:17.1±0.7,38.°73N±0.°04×122.°89W±0.°08, h8km, Error ellipse: s-maj=9.8km s-min=4.8km az=161.8*

ISC 18 07:49:16.2±1.0, 38.°87N±0.°04×122.°89W±0.°07, h8km, n26, σ1§18/30, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCCM	**Marconi Confer**	**0.72**	**179**	*e*Pg	**Pg**	**07 49 30.6**	**+0.6**
KCPN	**Cahto Peak**	**0.98**	**327**	*e*Pg	**Pn**	**07 49 38.4**	**+2.0**
KIPM	**Iron Peak**	**1.05**	**334**	*e*Pg	**Pn**	**07 49 37.5**	**+0.2**
SAC	**San Andreas**	**1.33**	**164**	*e*Pg	**Pn**	**07 49 40.2**	**-0.9**
SAC				*e*Sg	**Sb**	**07 49 58.5**	**-0.1**
WDC	**Whiskeytown Da**	**1.73**	**9**	Pn	**Pb**	**07 49 47.7

MSOM S Sb 07 53 03.5 -0.2
MCIR Makushin Cirqu 2.05 55 P Pn 07 52 39.0 +0.6
MSW Makushin Switc 2.08 56 P Pn 07 52 39.4 +0.5
UNV Unalaska Valle 2.20 60 P Pn 07 52 40.3 -0.1
UNV S Sn 07 53 08.0 +0.3
AKRB Akutan Reef Bi 2.56 57 P Pn 07 52 46.3 +1.0
ZRO Akutan Zero 2.58 58 P Pn 07 52 47.0 +1.3
AKGG Akutan Green G 2.63 56 P Pn 07 52 47.5 +1.1
AKGG S Sb 07 53 21.8 -1.7
AKUT Akutan 2.71 59 eP Pn 07 52 47.0 -0.4
ATKA Atka Island 2.80 259 P Pn 07 52 48.8 +0.1
ATKA S Sn 07 53 23.6 +1.0
GSTR Great Sitkin T 3.94 262 eP Pn 07 53 05.2 +0.8
GSMY Great Sitkin M 3.95 261 P Pn 07 53 04.7 +0.2
GSCK Great Sitkin C 4.02 261 P Pn 07 53 05.3 -0.2
ADAG Mount Adagdak 4.29 262 P Pn 07 53 10.4 +1.1
SPIA Saint Paul Isl 4.40 356 P Pn 07 53 11.7 +1.1
AMKA Amchitka 6.92 262 eP Pn 07 53 46.9 +1.7
70nm,0.6s
CHGN Chignik 7.45 57 eP Pn 07 53 52.1 -0.4
RSO Redoubt South 12.06 44 eP Pn 07 54 56.1 +0.3
40nm,0.8s
IM04 Indian Mountai 15.43 25 eP Pn 07 55 43.4 +2.0
BMRM Bremner River 15.89 49 eP Pn 07 55 47.5 +0.1
7.9nm,0.8s
COLA College 16.45 34 eP P 07 55 57.5 +0.3
9.9nm,0.9s
ILAR Eielson Array 16.72 35 Pn Pn 07 55 57.7 -0.2
0.2nm,0.3s,baz=229,slow=10.0,SNR=11
COLD Coldfoot 17.32 26 eP P 07 56 07.0 +0.2
7.3nm,0.8s
EGAK Eagle 18.84 39 eP Pn 07 56 24.4 +0.3
4.4nm,0.5s
HYT Haines Junctio 19.20 53 eP Pn 07 56 29.2 +0.5
PETK Petropavlovsk- 19.55 284 P P 07 56 31.1 -0.3
0.4nm,0.3s,baz=94,slow=14,SNR=7.6
SKAG Skagway 20.11 57 eP P 07 56 37.4 -0.1
SEY Seymchan 22.22 312 P P 07 57 01.5 +1.3
6.6nm,0.8s,baz=101,slow=9.5,SNR=16
DLBC Dease Lake 22.85 60 P P 07 57 09.4 +2.4
13nm,1.0s,baz=264,slow=12,SNR=16
INK Inuvik 23.11 34 P P 07 57 08.8 -0.7
1.9nm,0.5s,baz=240,slow=8.0,SNR=9.7
NEW Newport 33.11 76 P P 07 58 40.3 +0.4
3.5nm,0.8s,baz=284,slow=7.4,SNR=9.6
NEW Newport 33.11 76 P P 07 58 40.6 +0.7
baz=33,SNR=5.9
NEW Newport 33.11 76 eP P 07 58 38.7 -1.2
4.7nm,0.8s
J05D Fort Rock, OR 33.20 87 P P 07 58 41.7 +0.8
baz=33
M04C Macdoel 33.69 90 P P 07 58 45.6 +0.4
baz=34
BSMT Bassoo Peak 34.69 76 eP P 07 58 53.5 -0.3
2.9nm,0.7s
BMO Blue Mountains 34.72 82 eP P 07 58 54.6 +0.7
2.7nm,1.2s
BLMT Blacktail Moun 34.86 75 eP P 07 58 55.8 +0.6
6.6nm,0.8s
JTMT Jette 35.03 75 eP P 07 58 57.3 +0.6
1.5nm,0.6s
MSO Missoula 35.70 77 P P 07 59 02.5 +0.1
baz=36
SLMT Seeley Lake 35.75 76 P P 07 59 02.4 -0.5
2.9nm,0.8s
CHMT Chamberlain Mo 36.06 76 eP P 07 59 05.0 -0.6
1.3nm,0.5s
RES Resolute Bay 36.08 26 PcP PcP 08 01 30.4 -0.4
1.4nm,0.7s,baz=240,slow=3.1,SNR=4.5
HRY Holter Researc 37.00 76 eP P 07 59 12.3 -1.1
2.9nm,0.6s
HLID Hailey 37.17 82 P P 07 59 14.7 -0.3
baz=37
HLID Hailey 37.17 82 eP P 07 59 13.1 -1.9
2.4nm,1.0s
MCMT McKenzie Canyo 37.40 79 eP P 07 59 17.4 +0.4
3.3nm,0.6s
EGMT Eagleton 37.54 73 P P 07 59 19.2 +1.2
baz=37,SNR=12
H11N2 WAKE ISLAND Hy 37.66 218 T T 08 39 05.1
baz=28,slow=75
H11N3 WAKE ISLAND Hy 37.67 218 T T 08 38 59.3
baz=28
A19A Klindworth Far 37.67 71 P P 07 59 19.5 +0.4
baz=38
H11N1 WAKE ISLAND Hy 37.68 218 T T 08 39 04.8
baz=28,slow=75
BOZ Bozeman (W) 37.68 77 P P 07 59 19.7 +0.4
baz=38
BOZ Bozeman (W) 37.68 77 eP P 07 59 19.8 +0.4
2.4nm,0.5s
B19A Brinkman Farms 37.79 71 P P 07 59 20.4 +0.3
baz=38
NVAR Mina Array Bea 37.88 91 P P 07 59 22.5 +1.3
2.3nm,0.8s,baz=306,slow=7.6,SNR=11
NVAR PcP PcP 08 01 37.1 -0.1
0.9nm,0.7s,baz=304,slow=2.1,SNR=4.7
ELK Elko 38.31 86 P P 07 59 26.1 +1.3
4.0nm,0.9s,baz=288,slow=10,SNR=11
B20A Solberg Farm, 38.33 71 P P 07 59 25.3 +0.7
baz=38
C20A Veseth Ranch, 38.71 72 P P 07 59 28.7 +0.8
baz=38,SNR=12
H11S1 WAKE ISLAND Hy 38.85 217 T T 08 40 29.7
baz=22,slow=76,SNR=38
H11S2 WAKE ISLAND Hy 38.87 217 T T 08 40 37.8
baz=22,slow=76,SNR=26
H11S3 WAKE ISLAND Hy 38.87 217 T T 08 40 28.0
baz=22,slow=76,SNR=32
B21A Ellsworth Farm 38.91 70 P P 07 59 30.2 +0.7
baz=39,SNR=6.7
H17A Grant Village 38.99 78 P P 07 59 31.1 +0.6
baz=39
C21A Desert Coulee 39.17 71 P P 07 59 32.3 +0.6
baz=39
RLMT Red Lodge 39.36 76 P P 07 59 33.7 +0.2
baz=39,SNR=6.0
RLMT Red Lodge 39.36 76 eP P 07 59 35.7 +2.1
7.4nm,0.9s
GRAC Grapevine Rang 39.37 92 P P 07 59 34.1 +0.6
baz=39
MJAR Matsushiro Arr 39.50 267 P P 07 59 33.7 -0.8
1.0nm,0.7s,baz=45,slow=6.1,SNR=5.9
ISA Isabella 39.58 95 P P 07 59 36.1 +0.8
baz=39
R11A Troy Canyon, C 39.59 89 P P 07 59 35.5 +0.1
baz=39,SNR=7.5
F20A Billings 39.65 75 P P 07 59 36.5 +0.7
baz=39
H19A Powell 39.78 77 P P 07 59 37.3 +0.4
baz=40
MPMC Manual Prospec 39.91 93 P P 07 59 38.8 +0.6
baz=40
G20A Bridger 39.93 75 P P 07 59 38.7 +0.5
baz=40,SNR=6.2
FURC Furnace Creek, 40.03 92 P P 07 59 39.4 +0.6
baz=40
TPNV Topopah Spring 40.08 91 P P 07 59 39.5 0.0
baz=40
DUG Dugway 40.12 85 P P 07 59 40.0 +0.2
baz=40,SNR=7.9
DUG Dugway 40.12 85 eP P 07 59 40.5 +0.7
7.6nm,1.0s
I19A Meeteetse 40.13 77 P P 07 59 39.9 -0.1
baz=40
LAO LASA Array 40.28 72 P P 07 59 41.5 +0.5
baz=40
H20A Greybull 40.47 76 P P 07 59 42.4 -0.2
baz=40
BW06 Boulder Array 40.53 79 eP P 07 59 43.1 -0.2
5.5nm,0.8s
PDAR Pinedale Array 40.53 79 P P 07 59 43.5 +0.2
6.1nm,0.8s,baz=322,slow=6.0,SNR=25
J19A Crowheart 40.54 78 P P 07 59 43.0 -0.3
baz=40
E22A Miles City 40.58 72 P P 07 59 43.6 +0.2
baz=40
I20A Worland 40.70 77 P P 07 59 44.5 0.0
baz=40
F22A Rosebud 40.76 74 P P 07 59 45.1 +0.1
baz=40
GSC Goldstone 40.84 94 P P 07 59 45.8 +0.1
baz=41
A25A Svangstu Ranch 40.86 68 P P 07 59 46.0 +0.4
baz=41
C24A Savage 40.86 70 P P 07 59 45.8 +0.1
baz=41
H21A Big Horn, Sher 40.95 75 P P 07 59 46.9 +0.3
baz=41
G22A Birney 41.06 74 P P 07 59 47.9 +0.4
baz=41
J20A Shoshoni 41.07 78 P P 07 59 48.0 +0.4
baz=41
D24A Glendive 41.14 71 P P 07 59 49.1 +1.0
baz=41,SNR=10
I21A Big Trails, Te 41.27 77 P P 07 59 49.8 +0.5
baz=41
TUQ Turquoise Moun 41.28 93 P P 07 59 49.7 +0.3
baz=41
F23A Volborg 41.29 73 P P 07 59 50.2 +0.9
baz=41
H22A Clearmont 41.38 75 P P 07 59 50.4 +0.3
baz=41
E24A Baker 41.46 71 P P 07 59 51.6 +0.9
baz=41
A26A Wade Farm, Ken 41.48 67 P P 07 59 51.3 +0.5
baz=41
G23A Biddle 41.59 74 P P 07 59 52.4 +0.6
baz=41
F24A Ekalaka 41.78 72 P P 07 59 53.9 +0.6
baz=42
GMRC Granite Mounta 41.88 93 P P 07 59 54.6 +0.3
baz=42
J22A Midwest 41.98 77 P P 07 59 55.5 +0.4
baz=42,SNR=7.3
E25A Miller Ranch, 42.01 71 P P 07 59 55.4 +0.1
baz=42
G24A Alzada 42.09 73 P P 07 59 56.2 +0.3
baz=42
H24A Dirks Ranch, A 42.34 74 P P 07 59 58.4 +0.4
baz=42
K22A Casper 42.41 78 P P 07 59 58.6 0.0
baz=42
C27A Sayler Ranch, 42.42 68 P P 07 59 59.1 +0.6
baz=42
A28A Rude Farm, Bot 42.46 66 P P 07 59 59.4 +0.6
baz=42
E26A Carlson Angus 42.57 70 P P 08 00 00.5 +0.8
baz=42,SNR=5.6
IRM Iron Mountain 42.61 94 P P 08 00 01.1 +0.9
baz=42
B28A Dugan Ranch, T 42.66 67 P P 08 00 00.6 +0.2
baz=42
F26A Lodgepole 42.80 71 P P 08 00 01.6 0.0
baz=43
K23A Bowen Ranch, D 42.88 77 P P 08 00 02.7 +0.3
baz=43
O20A White River Ci 42.91 82 P P 08 00 03.2 +0.4
baz=43,SNR=19
O20A White River Ci 42.91 82 eP P 08 00 02.4 -0.4
22nm,0.9s
H25A Fruitdale 42.97 73 P P 08 00 03.6 +0.6
baz=43,SNR=5.8
A29A Manning Farm, 43.03 66 P P 08 00 03.6 +0.3
baz=43,SNR=5.8
C28A Hausauer Farms 43.05 68 P P 08 00 03.4 -0.2
baz=43
J24A Dixon Ranch, L 43.10 76 P P 08 00 04.5 +0.3
baz=43
E27A Carson 43.10 70 P P 08 00 04.6 +0.5
baz=43
PDMCI Parker Dam,Lak 43.13 93 P P 08 00 04.7 +0.4
baz=43
G26A Maurine 43.16 72 P P 08 00 04.5 0.0
baz=43
F27A Lemmon 43.16 71 P P 08 00 05.0 +0.5
baz=43
B29A Wagenman Farm, 43.21 66 P P 08 00 05.2 +0.4
baz=43
I25A Rockford 43.24 74 P P 08 00 05.6 +0.2
baz=43
H26A Fairpoint 43.45 73 P P 08 00 07.4 +0.5
baz=43
G27A Dupree 43.49 71 P P 08 00 07.9 +0.6
baz=43
E28A Huff 43.52 69 P P 08 00 07.8 +0.4
baz=43
B30A Myrvik Farm, E 43.79 66 P P 08 00 10.1 +0.6
baz=44
N23A Red Feather La 43.81 79 P P 08 00 10.5 +0.3
baz=44
PV01 Paradox Valley 43.98 84 eP P 08 00 10.9 -0.5
540nm,0.8s
WUAZ Wupatki 43.99 89 P P 08 00 11.8 +0.3
baz=44
WUAZ Wupatki 43.99 89 eP P 08 00 12.0 +0.6
5.8nm,0.8s
J26A Sid's Ranch, S 44.04 75 P P 08 00 11.8 +0.1
baz=44
I27A Quinn 44.19 73 P P 08 00 12.8 0.0
baz=44
L25A Engebretsen Ra 44.22 76 P P 08 00 13.7 +0.5
baz=44
D30A Buchanan 44.31 68 P P 08 00 14.3 +0.6
baz=44
E30A Jud 44.57 68 P P 08 00 16.5 +0.7
baz=44
MVCO Mesa Verde 44.62 85 P P 08 00 16.9 +0.4
baz=44
MVCO Mesa Verde 44.62 85 eP P 08 00 16.3 -0.2
3.0nm,0.8s
ISCO Idaho Springs 44.70 80 P P 08 00 17.8 +0.5
baz=44
J27A Elkhorn Farm, 44.70 74 P P 08 00 17.7 +0.7
baz=44
K27A Fluecklinger Fa 44.90 75 P P 08 00 19.6 +1.1
baz=45
H29A Onida 44.92 71 P P 08 00 19.7 +1.0
baz=45
J28A Allard Ranch, 45.05 73 P P 08 00 20.6 +0.9
baz=45
KSRS Korea Array 45.14 276 P P 08 00 20.8 +0.4
1.8nm,0.7s,baz=52,slow=6.9,SNR=5.9
KSAR Wonju Array Be 45.17 276 P P 08 00 20.8 +0.2
I29A Vivian Onida 45.23 72 P P 08 00 22.0 +0.9
baz=45
AGMN Agassiz Nation 45.24 65 P P 08 00 21.9 +0.9
baz=45
G30A Faulkton 45.24 70 P P 08 00 22.2 +1.1
baz=45
K28A Ten Mile Ranch 45.40 74 P P 08 00 23.8 +1.2
baz=45
M27A Reverse DX Ran 45.53 76 P P 08 00 24.4 +0.8
baz=45
214A Organ Pipe Nat 45.55 94 P P 08 00 24.8 +1.1
baz=45
J29A Okreek 45.59 73 P P 08 00 24.6 +0.6
baz=45,SNR=12
SDCO Great Sand Dun 46.08 82 P P 08 00 28.6 +0.5
baz=46,SNR=9.5
SDCO Great Sand Dun 46.08 82 eP P 08 00 28.7 +0.5
4.8nm,0.9s
J30A Dallas 46.12 72 P P 08 00 28.7 +0.5
baz=46
P26A Davis Ranch, A 46.20 79 P P 08 00 29.5 +0.5
baz=46,SNR=5.8
M28A Bar X Bar Ranc 46.21 76 P P 08 00 29.4 +0.4
baz=46
O27A Beecher Island 46.32 78 P P 08 00 30.5 +0.7
baz=46
L29A Maesberg Ranch 46.32 74 P P 08 00 30.2 +0.3
baz=46
Q26A Hugo 46.50 80 P P 08 00 31.6 +0.2
baz=46
TUC Tucson 46.53 92 eP P 08 00 30.8 -0.8
4.3nm,1.1s
R26A Arlington 46.95 80 P P 08 00 35.2 +0.4
baz=47
KSCO Kaye Shedlock' 46.98 79 P P 08 00 34.8 -0.2
baz=47
T25A Trinidad 47.13 82 P P 08 00 37.0 +0.7
baz=47,SNR=12
P28A Saint Francis 47.14 78 P P 08 00 36.4 +0.2
baz=47
R27A Eads 47.35 80 P P 08 00 38.2 +0.3
baz=47
ANMO Albuquerque 47.35 86 P P 08 00 37.9 -0.2
1.6nm,0.9s,baz=322,slow=8.8,SNR=5.9
ANMO PcP PcP 08 02 09.9 +1.1
0.4nm,0.5s,baz=281,slow=4.1,SNR=6.5
ANMO Albuquerque 47.35 86 P P 08 00 37.9 -0.2
ANMO PcP PcP 08 02 09.9 +1.1
ANMO ePcP PcP 08 02 10.2 +1.3
O29A 4D Ranch, Culb 47.35 77 P P 08 00 38.0 +0.1
baz=47
S26A Kim 47.38 81 P P 08 00 38.1 -0.1
baz=47,SNR=5.3
Q28A Sharon Springs 47.42 78 P P 08 00 38.4 -0.1
baz=47
ECSD EROS Data Cent 47.52 70 P P 08 00 38.3 -0.8
baz=47,SNR=5.9
T26A Comanche Natio 47.60 82 P P 08 00 40.4 +0.4
baz=47
P29A Atwood 47.61 77 P P 08 00 40.1 +0.2
baz=47
R28A Tribune 47.90 79 P P 08 00 43.1 +0.9
baz=48
P30A Selden 48.05 77 P P 08 00 44.2 +0.9
baz=48
121A Cookes Peak, D 48.20 89 P P 08 00 44.8 +0.1
baz=48
S28A Manter 48.34 80 P P 08 00 46.0 +0.4
baz=48
Q30A Quinter 48.43 77 P P 08 00 46.6 +0.4
baz=48
U27A Thompson Grove 48.56 82 P P 08 00 47.2 -0.1
baz=48
P31A Stockton 48.58 76 P P 08 00 47.7 +0.4
baz=48
SPMN St. Paul 48.75 66 P P 08 00 49.1 +0.5
baz=48
CBKS Cedar Bluff 48.82 77 P P 08 00 49.6 +0.4
baz=49
R30A Dighton 48.85 78 P P 08 00 49.6 +0.1
baz=49
Q31A Ellis 48.90 77 P P 08 00 50.4 +0.5
baz=49
U28A Mallet 48.95 81 P P 08 00 50.7 +0.4
baz=49
P32A Huiting Farm, 48.97 76 P P 08 00 50.6 +0.3
baz=49
S30A Montezuma 49.16 79 P P 08 00 52.4 +0.5
baz=49
R31A Burdett 49.29 78 P P 08 00 52.9 0.0
baz=49
Q32A Meitler Ranch, 49.41 76 P P 08 00 54.2 +0.5
baz=49
R32A Long Quarter, 49.69 77 P P 08 00 56.4 +0.5
baz=49
O34A Beatrice 49.72 74 P P 08 00 56.9 +0.8
baz=50
U30A WK&E Inc. Balk 49.79 80 P P 08 00 57.0 +0.4
baz=50
Q33A Connelly Farm, 49.83 76 P P 08 00 57.7 +0.8
baz=50
P35A Duane Minner, 50.54 74 P P 08 01 02.8 +0.4
baz=50
Y28A McKinney Farm, 50.60 84 P P 08 01 03.2 +0.2
baz=50
R34A Isabella, Hill 50.63 76 P P 08 01 03.2 +0.2
baz=50
V31A Spring Creek L 50.78 80 P P 08 01 04.8 +0.7
baz=50
U32A Winter Ranch, 50.87 79 P P 08 01 05.4 +0.6
baz=51
SONM Songino Array 50.90 300 P P 08 01 05.2 +0.2
0.4nm,0.6s,baz=63,slow=6.6,SNR=3.1
SONM PcP PcP 08 02 21.7 +0.3
1.5nm,0.7s,baz=60,slow=2.7,SNR=8.8
SONM ScP ScP 08 06 16.1 -1.6
0.7nm,0.7s,baz=44,slow=4.4,SNR=4.6
Z28A Tucker Farm, M 50.95 84 P P 08 01 05.8 +0.3
baz=51
P36A Good Intent, A 50.96 73 P P 08 01 05.7 +0.3
baz=51
Y29A Porterfield Fa 50.98 83 P P 08 01 05.9 +0.1
baz=51
X30A Coker Ranch, T 51.06 82 P P 08 01 06.7 +0.4
baz=51
W31A Holland Ranch, 51.12 81 P P 08 01 07.5 +0.8
baz=51
128A Castleberry Fa 51.35 85 P P 08 01 08.2 -0.3
baz=51,SNR=6.6
Z29A Hungry Hill Ra 51.38 84 P P 08 01 08.5 -0.2
baz=51
Y30A Stafford Cattl 51.44 83 P P 08 01 09.0 -0.2
baz=51
T34A McClaskey Farm 51.52 77 P P 08 01 09.6 0.0
baz=51
W32A Sentinel 51.58 80 P P 08 01 09.6 -0.5
baz=51
S35A Otter Creek Ra 51.59 76 P P 08 01 09.5 -0.6
baz=51
R36A Gordon, Harris 51.64 75 P P 08 01 10.4 -0.2
baz=51
U34A Anderson Ranch 51.71 78 P P 08 01 10.8 -0.3
baz=52
Z30A Sanderson Ranc 51.71 84 P P 08 01 10.7 -0.4
baz=52,SNR=5.7
129A Stewart Farms, 51.72 85 P P 08 01 10.9 -0.3
baz=52
S36A Lake Cedric, C 51.99 75 P P 08 01 13.0 -0.1
baz=52
T35A Sooner Cattle 51.99 77 P P 08 01 12.5 -0.7
baz=52
W33A Caddo, Fort Co 52.02 80 P P 08 01 13.6 +0.1
baz=52
V34A Guthrie 52.13 79 P P 08 01 14.6 +0.4
baz=52
V34A Guthrie 52.13 79 eP P 08 01 14.0 -0.2
8.6nm,0.9s
Y32A R-V Farms, Ver 52.23 82 P P 08 01 15.2 +0.2
baz=52
U35A Pawnee 52.23 78 P P 08 01 15.2 +0.2
baz=52
Z31A Sharp Cattle R 52.28 83 P P 08 01 15.2 -0.2
baz=52
130A Snyder 52.28 84 P P 08 01 15.6 +0.1
baz=52
W34A Bridge Creek, 52.38 79 P P 08 01 16.1 0.0
baz=52
S37A Fort Scott 52.41 75 P P 08 01 16.1 -0.3
baz=52,SNR=5.4
X33A Lawton 52.42 80 P P 08 01 16.4 0.0
baz=52
329A Wagon Wheel Ra 52.45 86 P P 08 01 16.9 +0.2
baz=52
V35A Meyer Ranch, C 52.58 78 P P 08 01 18.1 +0.5
baz=52
Z32A Haskell 52.69 82 P P 08 01 18.3 -0.1
baz=52,SNR=8.8
230A Sterling City 52.69 85 P P 08 01 18.8 +0.3
baz=52
X34A Smith Ranch, M 52.78 80 P P 08 01 19.2 +0.1
baz=52
T37A Cheneyville 18 52.79 76 P P 08 01 19.5 +0.4
baz=52
TXAR Lajitas Array 52.95 89 P P 08 01 20.3 -0.2
6.8nm,0.9s,baz=299,slow=5.2,SNR=27
W35A Tecumseh 52.97 79 P P 08 01 20.9 +0.4
baz=53
330A Mertzon 52.99 85 P P 08 01 21.2 +0.5
baz=53
ABTX Abilene, Hawle 53.06 83 P P 08 01 21.3 +0.1
baz=53
V36A Jenks 53.09 78 P P 08 01 21.5 +0.1
baz=53
TUL1 Tulsa 53.10 77 P P 08 01 21.5 +0.1
baz=53
429A Davenport Ranc 53.11 86 P P 08 01 21.3 -0.3
baz=53,SNR=7.1
Z33A Whitaker Ranch 53.13 82 P P 08 01 21.9 +0.3
baz=53
231A Bronte 53.14 84 P P 08 01 21.8 0.0
baz=53
U37A Salina 53.16 76 P P 08 01 22.0 +0.1
baz=53
Y34A Reagan Ranch, 53.27 80 P P 08 01 22.8 +0.1
baz=53
W36A Wetumka 53.37 78 P P 08 01 23.4 0.0
baz=53
430A Baggett Ranch, 53.39 86 P P 08 01 23.4 -0.3
baz=53,SNR=7.7
V37A Hulbert 53.50 77 P P 08 01 24.1 -0.2
baz=53
133A Hamilton Ranch 53.51 82 P P 08 01 24.5 0.0
baz=53,SNR=8.7
331A San Angelo 53.51 85 P P 08 01 24.1 -0.5
baz=53
U38A Gravette 53.57 76 P P 08 01 24.6 -0.3
baz=53
232A Coleman 53.58 84 P P 08 01 24.8 -0.3
baz=53

Z34A	**Collier Ranch,** baz=53	**53.58**	**81**	P		**P**	**08 01 24.9**	**-0.1**
X36A	**Centrahoma** baz=53	**53.69**	**79**	P		**P**	**08 01 25.7**	**0.0**
HDIL	**Hopedale** baz=54	**53.73**	**69**	P		**P**	**08 01 25.8**	**-0.2**
Y35A	**Marietta** baz=54,SNR=6.6	**53.74**	**80**	P		**P**	**08 01 25.8**	**-0.3**
530A	**J-C Ranch, Com** baz=54,SNR=14	**53.78**	**86**	P		**P**	**08 01 26.2**	**-0.4**
W37A	**Quinton** baz=54	**53.84**	**78**	P		**P**	**08 01 26.5**	**-0.4**
431A	**Sonora** baz=54,SNR=9.6	**53.85**	**85**	P		**P**	**08 01 26.9**	**-0.1**
332A	**Millersview** baz=54	**53.88**	**84**	P		**P**	**08 01 27.1**	**-0.1**
233A	**Rising Star** baz=54,SNR=11	**53.94**	**83**	P		**P**	**08 01 27.3**	**-0.4**
V38A	**Canehill** baz=54	**53.95**	**76**	P		**P**	**08 01 27.9**	**+0.2**
Z35A	**Perchaven, San** baz=54	**54.01**	**81**	P		**P**	**08 01 28.4**	**+0.3**
134A	**White-Moore Ra** baz=54	**54.04**	**82**	P		**P**	**08 01 28.6**	**+0.3**
Y36A	**Durant** baz=54	**54.19**	**79**	P		**P**	**08 01 29.2**	**-0.2**
432A	**Menard** baz=54	**54.20**	**85**	P		**P**	**08 01 29.5**	**-0.1**
531A	**Rocksprings** baz=54	**54.25**	**86**	P		**P**	**08 01 30.0**	**0.0**
X37A	**Clayton** baz=54	**54.26**	**78**	P		**P**	**08 01 30.0**	**+0.2**
333A	**Richland Sprin** baz=54,SNR=7.7	**54.37**	**84**	P		**P**	**08 01 30.7**	**-0.1**
234A	**Clairette** baz=54	**54.41**	**82**	P		**P**	**08 01 31.7**	**+0.7**
W38A	**Poteau** baz=54	**54.43**	**77**	P		**P**	**08 01 31.5**	**+0.4**
JCT	**Junction City** baz=54,SNR=5.9	**54.48**	**85**	P		**P**	**08 01 30.6**	**-1.0**
Z36A	**Blue Ridge** baz=54	**54.54**	**80**	P		**P**	**08 01 32.1**	**+0.2**
532A	**Rocksprings** baz=54	**54.67**	**85**	P		**P**	**08 01 32.8**	**-0.2**
433A	**Art** baz=54,SNR=7.5	**54.71**	**84**	P		**P**	**08 01 32.7**	**-0.6**
631A	**Perdido Creek** baz=54,SNR=5.3	**54.77**	**87**	P		**P**	**08 01 33.1**	**-0.7**
334A	**Lometa** baz=55,SNR=9.1	**54.82**	**83**	P		**P**	**08 01 33.8**	**-0.2**
WHTX	**Lake Whitney** baz=55,SNR=9.0	**54.82**	**82**	P		**P**	**08 01 34.1**	**+0.1**
136A	**Ennis** baz=55	**55.04**	**81**	P		**P**	**08 01 36.4**	**+0.8**
Z37A	**Pogue Cattle C** baz=55	**55.08**	**80**	P		**P**	**08 01 36.4**	**+0.6**
SFIN	**Scholer Farm** baz=55	**55.09**	**67**	P		**P**	**08 01 36.5**	**+0.7**
Y38A	**Idabel** baz=55	**55.10**	**78**	P		**P**	**08 01 36.5**	**+0.6**
434A	**Burnet** baz=55,SNR=11	**55.17**	**84**	P		**P**	**08 01 36.5**	**-0.1**
632A	**Uvalde** baz=55	**55.18**	**86**	P		**P**	**08 01 37.1**	**+0.4**
533A	**Kerrville** baz=55	**55.23**	**85**	P		**P**	**08 01 37.6**	**+0.5**
335A	**Moody** baz=55	**55.34**	**83**	P		**P**	**08 01 38.9**	**+1.1**
MIAR	**Mount Ida** baz=55	**55.35**	**77**	P		**P**	**08 01 38.4**	**+0.5**
435B	**Jarrell** baz=55	**55.60**	**83**	P		**P**	**08 01 39.9**	**+0.2**
534A	**Blanco** baz=55	**55.60**	**84**	P		**P**	**08 01 40.2**	**+0.4**
336A	**Riesel** baz=55	**55.62**	**82**	P		**P**	**08 01 40.6**	**+0.8**
732A	**Laxson Ranch,** baz=55	**55.63**	**87**	P		**P**	**08 01 40.3**	**+0.4**
832A	**Faith Ranch, C** baz=56,SNR=6.2	**55.95**	**87**	P		**P**	**08 01 41.5**	**-0.7**
436A	**Wall Ranch, Ga** baz=56	**56.09**	**83**	P		**P**	**08 01 43.9**	**+0.7**
535A	**Dale** baz=56	**56.15**	**84**	P		**P**	**08 01 44.4**	**+0.9**
833A	**Chaparral WMA,** baz=56,SNR=5.9	**56.27**	**87**	P		**P**	**08 01 44.4**	**-0.1**
635A	**Leesville** baz=56	**56.49**	**84**	P		**P**	**08 01 47.0**	**+1.0**
239A	**Gary** baz=56	**56.59**	**80**	P		**P**	**08 01 47.7**	**+1.0**
934A	**Benavides** baz=57	**57.33**	**86**	P		**P**	**08 01 53.2**	**+1.2**
034A	**Hebbronville** baz=57	**57.62**	**87**	P		**P**	**08 01 54.9**	**+0.8**
035A	**Encino** baz=58	**58.06**	**87**	P		**P**	**08 01 58.0**	**+0.8**
SSLB	**Suanglung** 7.0nm,0.6s	**59.00**	**269**	*e*P		**P**	**08 02 04.7**	**+0.9**
SSLB					*e*PcP	**PcP**	**08 02 52.5**	**-0.2**
KURK	**Kurchatov**	**61.91**	**318**	P		**P**	**08 02 23.0**	**-0.2**
KURBB	**Kurchatov Arra** 0.3nm,0.3s,baz=45,slow=7.3,SNR=4.6	**62.02**	**318**	P		**P**	**08 02 23.0**	**-0.9**
BVAR	**Borovoye Array** 2.2nm,0.7s,baz=48,slow=7.9,SNR=11	**63.23**	**324**	P		**P**	**08 02 30.8**	**-1.3**
MKAR	**Makanchi Array** 0.4nm,0.8s,baz=57,slow=5.3,SNR=3.7	**63.35**	**313**	P		**P**	**08 02 32.8**	**-0.2**
FINES	**FINESS Array B** 1.0nm,0.6s,baz=28,slow=6.3,SNR=2.9	**65.41**	**352**	P		**P**	**08 02 46.2**	**+0.1**
AKTO	**Aktyubinsk** 0.8nm,0.7s,baz=62,slow=3.8,SNR=4.1	**69.53**	**330**	P		**P**	**08 03 13.2**	**+0.8**
AKASG	**Malin Array Be** 2.9nm,0.3s,baz=16,slow=5.9,SNR=2.1	**75.64**	**348**	P		**P**	**08 03 47.9**	**-0.8**
CMAR	**Chiang Mai Arr** 2.0nm,0.7s,baz=26,slow=6.8,SNR=8.6	**76.31**	**282**	P		**P**	**08 03 53.0**	**-0.2**
GERES	**GERESS Array B** 0.4nm,0.7s,baz=3.8,slow=4.0,SNR=4.2	**78.69**	**358**	P		**P**	**08 04 05.6**	**-0.5**
ESDC	**Sonseca Array** 0.2nm,0.4s,baz=331,slow=5.0,SNR=3.2	**87.08**	**11**	P		**P**	**08 04 50.2**	**+0.5**
WRA	**Warramunga Arr** 2.0nm,0.7s,baz=32,slow=6.2,SNR=17	**87.11**	**231**	P		**P**	**08 04 48.2**	**-1.6**
PSI	**Prapat** 13nm,0.7s,baz=345,slow=6.3,SNR=16	**88.61**	**273**	P		**P**	**08 04 56.7**	**-0.7**
ASAR	**Alice Springs** 6.9nm,0.7s,baz=32,slow=4.7,SNR=30	**90.51**	**230**	P		**P**	**08 05 04.6**	**-1.3**
TORD	**Torodi Ar. Bea** 0.2nm,0.6s,baz=332,slow=4.0,SNR=2.3	**113.91**	**9**	PKP		**PKiKP**	**08 10 40.6**	**-2.6**
MAW	**Mawson** 3.2nm,0.8s,baz=65,slow=6.8,SNR=5.8	**151.08**	**219**	PKPbc		**PKPbc**	**08 11 55.0**	**-0.6**
BOSA	**Boshof** 2.3nm,0.5s,baz=36,slow=3.1,SNR=9.5	**153.41**	**329**	PKPbc		**PKPbc**	**08 12 01.1**	**-1.2**

*ISCJB **18** 08:00:15.9±0.9,52°.76N±0°.07×169°.73W±0°.07,h15km±8km, mb3.2/2,Error ellipse: s-maj=12.9km s-min=5.3km az=157.1*
*NEIC **18** 08:00:16.3,52°.78N×169°.65W,h5km,ML3.4(AEIC),After AEIC.*
*IDC **18** 08:00:19.5±28.0,52°.55N×168°.57W,h0km,mb3.3/2, mb1 3.6/3,mb1mx3.2/30,mbtmp3.2/3,ML3.2/1,Error ellipse: s-maj=535.0km s-min=52.9km az=86.0*

ISC 18 08:00:15.8±1.8,52.76N±0.09×169.68W±0.05,h9km±12km, n22,σ1§10/28,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.54**	**67**	P	**Pg**	**08 00 26.8**	**+0.5**
NIKH				S	**Sb**	**08 00 35.0**	**-0.4**
OKCE	**Okmok Cone E**	**1.13**	**53**	P	**Pb**	**08 00 37.1**	**-0.4**
OKCE				S	**Sn**	**08 00 52.9**	**-0.6**
OKAK	**Okmok**	**1.14**	**44**	P	**Pb**	**08 00 35.9**	**-1.8**
OKAK				S	**Sb**	**08 00 49.5**	**-3.2**
OKTU	**Okmok Mt. Tuli**	**1.17**	**57**	P	**Pb**	**08 00 38.2**	**0.0**
MSOM	**Makushin Julie**	**1.95**	**56**	P	**Pn**	**08 00 49.7**	**+0.6**
MSOM				S	**Sn**	**08 01 14.4**	**+0.8**
MCIR	**Makushin Cirqu**	**2.05**	**53**	P	**Pn**	**08 00 51.8**	**+1.3**
MSW	**Makushin Switc**	**2.08**	**55**	P	**Pn**	**08 00 51.5**	**+0.5**
MTBL	**Makushin Table**	**2.17**	**55**	P	**Pn**	**08 00 53.1**	**+1.0**
UNV	**Unalaska Valle**	**2.19**	**59**	P	**Pn**	**08 00 52.5**	**+0.1**
UNV				S	**Sn**	**08 01 20.1**	**+0.4**
AKRB	**Akutan Reef Bi**	**2.56**	**56**	P	**Pn**	**08 00 58.6**	**+1.1**
ZRO	**Akutan Zero**	**2.58**	**57**	P	**Pn**	**08 00 58.9**	**+1.0**
AKGG	**Akutan Green G**	**2.63**	**55**	P	**Pn**	**08 00 59.7**	**+1.2**
AKUT	**Akutan**	**2.71**	**58**	*e*P	**Pn**	**08 01 00.7**	**+1.2**
ATKA	**Atka Island**	**2.82**	**260**	P	**Pn**	**08 01 00.8**	**-0.2**
GSTR	**Great Sitkin T**	**3.96**	**263**	*e*Pn	**Pn**	**08 01 17.2**	**+0.5**
GSMY	**Great Sitkin M**	**3.97**	**262**	P	**Pn**	**08 01 17.1**	**+0.2**
GSCK	**Great Sitkin C**	**4.04**	**262**	P	**Pn**	**08 01 18.2**	**+0.4**
ADAG	**Mount Adagdak**	**4.32**	**262**	P	**Pn**	**08 01 22.9**	**+1.3**
SPIA	**Saint Paul Isl**	**4.44**	**356**	P	**Pn**	**08 01 24.4**	**+1.2**
SPIA				S	**Sn**	**08 02 16.4**	**+1.4**
ILAR	**Eielson Array** 0.0nm,0.3s,baz=228,slow=10,SNR=4.0	**16.74**	**35**	Pn	**Pn**	**08 04 10.7**	**+0.5**
PDAR	**Pinedale Array** 0.3nm,0.5s,baz=294,slow=4.6,SNR=3.7	**40.51**	**79**	P	**P**	**08 07 55.1**	**-0.1**
TXAR	**Lajitas Array** 0.2nm,0.6s,baz=293,slow=6.6,SNR=4.3	**52.93**	**89**	P	**P**	**08 09 32.3**	**-0.1**

*IDC **18** 08:04:20.6±2.0,52°.68N×170°.22W,h0km,mb3.4/4, mb1 3.7/5,mb1mx3.4/30,mbtmp3.4/5,ML3.2/1,Error ellipse: s-maj=68.8km s-min=32.1km az=140.0*
*ISCJB **18** 08:04:24.7±0.7,52°.52N±0°.09×169°.5W±0°.1,h10km, mb3.4/4,Error ellipse: s-maj=15.7km s-min=5.1km az=148.3*
*NEIC **18** 08:04:26.6,52°.65N×169°.46W,h5km,ML3.3(AEIC),After AEIC.*

ISC 18 08:04:24.9±1.0,52.6N±0.1×169.54W±0.07,h10km,n27, σ1§56/24,mb3.4/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.57**	**47**	P	**Pg**	**08 04 36.1**	**+0.1**
NIKH				S	**Sb**	**08 04 44.4**	**-0.8**
OKCE	**Okmok Cone E**	**1.19**	**44**	P	**Pb**	**08 04 47.6**	**+0.1**
OKWE	**Okmok W'ng Wal**	**1.19**	**41**	P	**Pb**	**08 04 47.8**	**+0.2**
OKWE				S	**Sn**	**08 05 05.3**	**+1.5**
OKTU	**Okmok Mt. Tuli**	**1.21**	**48**	P	**Pb**	**08 04 47.9**	**0.0**
OKAK	**Okmok**	**1.23**	**35**	P	**Pb**	**08 04 46.0**	**-2.1**
MSOM	**Makushin Julie**	**1.99**	**51**	P	**Pn**	**08 04 60.0**	**+1.4**
MSOM				S	**Sn**	**08 05 24.2**	**+0.7**
MCIR	**Makushin Cirqu**	**2.10**	**48**	P	**Pb**	**08 05 02.3**	**-0.8**
MSW	**Makushin Switc**	**2.13**	**50**	P	**Pn**	**08 05 02.3**	**+1.8**
MTBL	**Makushin Table**	**2.21**	**50**	P	**Pb**	**08 05 04.0**	**-0.9**
UNV	**Unalaska Valle**	**2.22**	**54**	P	**Pn**	**08 05 02.2**	**+0.4**
UNV				S	**Sn**	**08 05 29.8**	**+0.6**
ZRO	**Akutan Zero**	**2.62**	**53**	P	**Pn**	**08 05 10.0**	**+2.8**
AKUT	**Akutan**	**2.74**	**54**	*e*Pn	**Pb**	**08 05 12.0**	**-2.0**
ATKA	**Atka Island**	**2.88**	**264**	P	**Pn**	**08 05 11.4**	**+0.7**
GSCK	**Great Sitkin C**	**4.11**	**265**	P	**Pn**	**08 05 28.7**	**+1.0**
ADAG	**Mount Adagdak**	**4.38**	**265**	P	**Pn**	**08 05 33.4**	**+2.0**
SPIA	**Saint Paul Isl**	**4.62**	**355**	P	**Pn**	**08 05 36.7**	**+2.0**
ILAR	**Eielson Array** 0.0nm,0.3s,baz=225,slow=11,SNR=3.2	**16.83**	**35**	Pn	**Pn**	**08 08 16.7**	**-3.7**
DLBC	**Dease Lake** 0.9nm,0.7s,baz=258,slow=19,SNR=3.3	**22.87**	**59**	P	**P**	**08 09 28.1**	**-0.1**
H11N2	**WAKE ISLAND Hy** baz=23,slow=76,SNR=10	**37.56**	**218**	T	T	08 51 31.6	
H11N3	**WAKE ISLAND Hy** baz=23,slow=76,SNR=10	**37.56**	**218**	T	T	08 51 34.7	
H11N1	**WAKE ISLAND Hy** baz=23,slow=76,SNR=13	**37.58**	**218**	T	T	08 51 33.7	
H11S1	**WAKE ISLAND Hy** baz=22,slow=76,SNR=43	**38.75**	**218**	T	T	08 53 03.6	
H11S2	**WAKE ISLAND Hy** baz=22,slow=76,SNR=44	**38.76**	**218**	T	T	08 53 04.4	
H11S3	**WAKE ISLAND Hy** baz=22,slow=76,SNR=26	**38.76**	**218**	T	T	08 53 04.1	
PDAR	**Pinedale Array** 0.4nm,0.7s,baz=323,slow=2.8,SNR=3.5	**40.47**	**79**	P	**P**	**08 12 04.8**	**+1.1**
TXAR	**Lajitas Array** 0.4nm,0.7s,baz=302,slow=5.2,SNR=3.3	**52.85**	**89**	P	**P**	**08 13 40.4**	**-0.4**
ASAR	**Alice Springs** 0.4nm,1.0s,baz=27,slow=6.3,SNR=3.1	**90.45**	**230**	P	P	08 17 22.6	-3.9

*IDC **18** 08:05:57.0±21.0,52°.22N×170°.98W,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.4/29,mbtmp3.3/4,ML3.3/1,Error ellipse: s-maj=397.1km s-min=50.7km az=86.0*
*NEIC **18** 08:06:05.8,52°.75N×169°.59W,h12km,ML3.4(AEIC),After AEIC.*

ISC 18 08:06:04.8±1.6,52.8N±0.1×169.73W±0.06,h9km±11km, n19,σ1§21/24,mb3.3/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.56**	**72**	P	**Pg**	**08 06 15.6**	**+0.1**
NIKH				S	**Sg**	**08 06 23.6**	**+0.7**
OKCE	**Okmok Cone E**	**1.13**	**56**	P	**Pb**	**08 06 26.0**	**-0.5**
OKCE				S	**Sn**	**08 06 42.0**	**-0.5**
OKAK	**Okmok**	**1.13**	**46**	P	**Pb**	**08 06 24.6**	**-1.9**
OKAK				S	**Sb**	**08 06 38.5**	**-2.9**
MSOM	**Makushin Julie**	**1.95**	**58**	P	**Pn**	**08 06 38.6**	**+0.5**
MCIR	**Makushin Cirqu**	**2.05**	**55**	P	**Pn**	**08 06 40.8**	**+1.2**
MSW	**Makushin Switc**	**2.09**	**57**	P	**Pn**	**08 06 40.8**	**+0.8**
MSW				S	**Sn**	**08 07 06.9**	**+0.8**
MTBL	**Makushin Table**	**2.17**	**56**	P	**Pn**	**08 06 42.4**	**+1.3**
UNV	**Unalaska Valle**	**2.20**	**60**	P	**Pn**	**08 06 41.6**	**+0.2**
UNV				S	**Sn**	**08 07 08.8**	**0.0**
ZRO	**Akutan Zero**	**2.59**	**59**	P	**Pn**	**08 06 48.1**	**+1.3**
AKGG	**Akutan Green G**	**2.63**	**56**	P	**Pn**	**08 06 48.5**	**+1.0**
ATKA	**Atka Island**	**2.79**	**259**	P	**Pn**	**08 06 49.4**	**-0.2**
GSMY	**Great Sitkin M**	**3.95**	**261**	P	**Pn**	**08 07 05.8**	**+0.4**
GSCK	**Great Sitkin C**	**4.02**	**261**	P	**Pn**	**08 07 06.8**	**+0.4**
ADAG	**Mount Adagdak**	**4.29**	**262**	P	**Pn**	**08 07 11.5**	**+1.3**
SPIA	**Saint Paul Isl**	**4.39**	**356**	P	**Pn**	**08 07 13.0**	**+1.5**
ILAR	**Eielson Array** 0.0nm,0.3s,baz=241,slow=13,SNR=2.9	**16.72**	**35**	Pn	**P**	**08 10 03.3**	**+2.0**
NVAR	**Mina Array Bea** 0.2nm,0.3s,baz=277,slow=9.9,SNR=2.9	**37.89**	**91**	P	**P**	**08 13 22.6**	**+0.3**
PDAR	**Pinedale Array** 0.4nm,0.6s,baz=322,slow=5.7,SNR=4.8	**40.54**	**79**	P	**P**	**08 13 44.0**	**-0.3**
TXAR	**Lajitas Array** 0.7nm,0.8s,baz=296,slow=5.7,SNR=9.5	**52.96**	**89**	P	**P**	**08 15 21.2**	**-0.4**

*IDC **18** 08:06:45.9±1.3,52°.87N×170°.18W,h0km,mb3.6/4, mb1 3.8/5,mb1mx3.4/29,mbtmp3.4/5,ML3.1/1,Error ellipse: s-maj=64.8km s-min=25.2km az=147.0*
*ISCJB **18** 08:06:46.7±1.0,52°.7N±0°.2×169°.9W±0°.2,h10km,mb3.6/4, Error ellipse: s-maj=29.3km s-min=7.6km az=141.6*
*NEIC **18** 08:06:50.1,52°.61N×169°.35W,h5km,ML3.4(AEIC),After AEIC.*

ISC 18 08:06:48.2±1.4,52.9N±0.1×169.9W±0.1,h10km,n15, σ1§63/11,mb3.6/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.62**	**78**	P	**Pb**	**08 07 00.1**	**-1.0**
NIKH				S	**Sb**	**08 07 07.9**	**-1.9**
OKWE	**Okmok W'ng Wal**	**1.15**	**57**	P	**Pn**	**08 07 11.9**	**+1.5**
OKWE				S	**Sn**	**08 07 28.3**	**+1.9**
OKAK	**Okmok**	**1.16**	**50**	P	**Pb**	**08 07 09.4**	**-1.0**
OKAK				S	**Sb**	**08 07 24.4**	**-1.1**
OKRE	**Okmok R'deer P**	**1.22**	**56**	P	**Pg**	**08 07 12.5**	**+0.9**
ILAR	**Eielson Array** 0.0nm,0.3s,baz=228,slow=9.9,SNR=3.1	**16.73**	**36**	Pn	**Pn**	**08 10 39.8**	**-2.5**
H11N2	**WAKE ISLAND Hy** baz=25	**37.65**	**218**	T	T	08 53 54.7	
H11N3	**WAKE ISLAND Hy** baz=25	**37.66**	**217**	T	T	08 53 59.4	
H11N1	**WAKE ISLAND Hy** baz=25	**37.67**	**217**	T	T	08 53 54.8	
H11S1	**WAKE ISLAND Hy** baz=20	**38.84**	**217**	T	T	08 55 28.1	
H11S2	**WAKE ISLAND Hy** baz=20	**38.86**	**217**	T	T	08 55 25.2	
H11S3	**WAKE ISLAND Hy** baz=20	**38.86**	**217**	T	T	08 55 28.8	
PDAR	**Pinedale Array** 0.4nm,0.7s,baz=332,slow=5.6,SNR=4.0	**40.60**	**79**	P	**P**	**08 14 29.2**	**+1.0**
TXAR	**Lajitas Array** 0.5nm,0.7s,baz=297,slow=4.0,SNR=4.8	**53.03**	**89**	P	**P**	**08 16 05.7**	**+0.3**
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=34,slow=5.5,SNR=2.8	**87.07**	**231**	P	P	08 19 31.9	-2.1
ASAR	**Alice Springs** 0.5nm,0.8s,baz=33,slow=3.5,SNR=5.4	**90.48**	**230**	P	**P**	**08 19 49.5**	**-0.4**

*BJI **18** 08:20:09.9,40°.84N×77°.73E,h3km,ML3.3/8*
*KRNET **18** 08:20:10.7±0.1,41°.14N×78°.14E,h19km,mb4.1*
*NNC **18** 08:20:12.0±3.3,40°.93N×77°.81E,h0km,mb4.1,mpv3.7, Error ellipse: s-maj=33.3km s-min=21.1km az=156.0*

ISC 18 08:20:12.9±1.7,41.16N±0.05×77.97E±0.06,h8km±12km, n26,σ1§53/34,20C-5D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay** baz=325	**1.14**	**329**	*e*P	**Pg**	**08 20 34.0**	**-0.8**
KDJ				*e*S	**Sn**	**08 20 51.8**	**+0.4**
NRN	**Naryn** baz=281	**1.51**	**281**	*e*P	**Pg**	**08 20 43.0**	**+1.0**
NRN				*e*S	**Sg**	**08 21 06.4**	**+4.8**
ULHL	**Ulahol** SNR=71	**1.69**	**311**	P	**Pb**	**08 20 43.4**	**-1.1**
ULHL	**Ulahol** baz=308	**1.69**	**311**	⇑*i*P	**Pb**	**08 20 43.6**	**-0.9**
ULHL				⇑*i*S	**Sg**	**08 21 09.5**	**+2.1**
KNDC	**Almaty** 22nm,0.4s	**2.19**	**340**	⇑Pn	**Pg**	**08 20 55.8**	**+0.9**
KNDC				⇑Lg	Lg	08 21 25.4	
KZA	**Kyzart** SNR=95	**2.24**	**295**	P	**Pn**	**08 20 50.0**	**-0.7**
KZA	**Kyzart** baz=294	**2.24**	**295**	⇑*i*P	**Pn**	**08 20 49.9**	**-0.9**
KZA				⇑*i*S	**Sb**	**08 21 21.9**	**-0.1**
KSH	**Kashi**	**2.24**	**224**	Pn	**Pn**	**08 20 51.1**	**+0.6**
KSH				Sn	**Sg**	**08 21 23.3**	**-1.7**
PDGK	**Podgornoye** 108nm,0.6s	**2.44**	**27**	⇑Pn	**Pb**	**08 20 57.7**	**+0.6**
PDGK				⇑Lg	Lg	08 21 39.4	
TKM2	**Tokmak 2** SNR=8.2	**2.50**	**316**	P	**Pg**	**08 20 58.8**	**-2.0**
TKM2	**Tokmak 2** 15nm,0.3s	**2.50**	**316**	⇓Pn	**Pb**	**08 20 55.8**	**-2.4**
TKM2				⇑Lg	Lg	08 21 34.8	
KBK	**Karagaybulak** SNR=62	**2.71**	**305**	P	**Pb**	**08 21 01.5**	**-0.3**
KBK	**Karagaybulak** baz=304	**2.71**	**305**	⇑*i*P	**Pb**	**08 21 01.1**	**-0.7**
KBK				⇑*i*S	**Sg**	**08 21 38.7**	**-1.3**
UCH	**Uchtor** SNR=39	**2.80**	**294**	P	**Pn**	**08 20 57.6**	**-1.0**
AAK	**Ala-Archa** SNR=21	**2.99**	**301**	P	**Pb**	**08 21 05.7**	**-0.8**
AAK	**Ala-Archa** 61nm,0.7s	**2.99**	**301**	⇑Pg	**Pb**	**08 21 05.6**	**-0.9**
AAK				⇓Lg	Lg	08 21 45.0	
AAK	**Ala-Archa** 85nm,0.8s	**2.99**	**301**	⇑*i*P	**Pb**	**08 21 05.0**	**-1.5**
AAK				⇑*i*S	**Sb**	**08 21 44.7**	**+1.5**
CHMS	**Chumysh** SNR=45	**3.02**	**309**	P	**Pb**	**08 21 07.2**	**+0.2**
CHMS	**Chumysh** baz=308	**3.02**	**309**	⇑*i*P	**Pb**	**08 21 07.0**	**0.0**
CHMS				⇑*i*S	**Sg**	**08 21 47.8**	**-2.2**
USP	**Ospenovka** SNR=27	**3.33**	**310**	P	**Pb**	**08 21 12.6**	**+0.3**
AML	**Almayashu** SNR=8	**3.35**	**288**	P	**Pb**	**08 21 11.9**	**-1.0**
EKS	**Erkin-Say** baz=296	**3.47**	**297**	⇓*i*P	**Pb**	**08 21 14.4**	**-0.3**
EKS				⇓*e*S	**Sb**	**08 21 59.7**	**+2.6**
EKS2	**Erkin-Say** SNR=18	**3.47**	**297**	P	**Pb**	**08 21 14.6**	**-0.2**
SFK	**Sufi-Kurgan** 13nm,0.6s	**3.59**	**253**	⇑Pn	**Pn**	**08 21 07.9**	**-1.3**
SFK				⇑Lg	Lg	08 21 54.8	
KK31	**Karatay Array** 1.5nm,0.3s,baz=118,slow=15,SNR=24	**5.88**	**292**	⇑Pg	**Pb**	**08 21 56.0**	**+0.3**
KK31				⇑Lg	Lg	08 23 13.8	
MK31	**Makanchi Array** 3.8nm,0.5s,baz=121,slow=28,SNR=7.7	**6.44**	**27**	Pn	Pn	08 21 51.0	+3.0
MK31				⇓Lg	Lg	08 23 41.1	
	1.9nm,0.5s						

IDC 18 08:21:46.9±8.1,21°.25S×65°.59W,h308km±51km,mb2.8/3, mb1 3.1/5,mb1mx3.0/18,mbtmp3.6/5,Error ellipse: s-maj=120.2km s-min=21.7km az=19.0,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz** 0.4nm,0.3s,baz=158,slow=5.5,SNR=11	**5.49**	**334**	P	Pn	08 23 10.9	-0.4
LPAZ				S	S	08 24 19.0	-0.3
BDFB	**Brasilia** 0.2nm,0.3s,baz=286,slow=16,SNR=9.8	**17.58**	**74**	P	P	08 25 33.2	+1.3
TXAR	**Lajitas Array** 0.4nm,0.3s,baz=245,slow=12,SNR=6.1	**62.25**	**323**	P	P	08 31 36.7	-0.3
TORD	**Torodi Ar. Bea** 0.1nm,0.4s,baz=156,slow=6.9,SNR=2.6	**74.37**	**69**	P	P	08 32 51.2	-0.6
PDAR	**Pinedale Array** 0.7nm,0.4s,baz=254,slow=5.7,SNR=24	**75.48**	**328**	P	P	08 32 59.4	+1.5
MKAR	**Makanchi Array** 0.3nm,0.8s,baz=124,slow=8.1,SNR=2.9	**143.57**	**38**	PKP	PKPbc	08 40 44.3	+0.8
	0.3nm,0.6s,baz=304,slow=3.3,SNR=4.1						

*ISCJB **18** 08:31:49.5±1.4,52°.8N±0°.1×169°.8W±0°.1,h8km±10km, mb3.4/3,Error ellipse: s-maj=26.6km s-min=7.3km az=151.6*
*NEIC **18** 08:31:50.9,52°.79N×169°.62W,h5km,ML3.0(AEIC),After AEIC.*
*IDC **18** 08:31:50.8±1.9,52°.54N×169°.30W,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.3/43,mbtmp3.3/4,ML3.3/1,Error ellipse: s-maj=61.6km s-min=32.4km az=139.0*

ISC 18 08:31:49.8±1.9,52.9N±0.1×169.77W±0.08,h2km±12km, n19,σ0§85/18,mb3.3/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.56**	**81**	P	**Pg**	**08 32 01.2**	**+0.6**
NIKH				S	**Sb**	**08 32 09.2**	**-1.7**
OKAK	**Okmok**	**1.09**	**50**	P	**Pg**	**08 32 10.4**	**-0.4**
OKAK				S	**Sg**	**08 32 24.1**	**-0.9**
OKCE	**Okmok Cone E**	**1.11**	**60**	P	**Pg**	**08 32 11.6**	**+0.6**
OKCE				S	**Sn**	**08 32 28.4**	**+0.2**
OKRE	**Okmok R'deer P**	**1.15**	**56**	P	**Pg**	**08 32 12.6**	**+0.7**
OKRE				S	**Sn**	**08 32 29.5**	**+0.2**
MCIR	**Makushin Cirqu**	**2.02**	**57**	P	**Pn**	**08 32 25.6**	**+0.6**
MSW	**Makushin Switc**	**2.06**	**59**	P	**Pn**	**08 32 26.6**	**+1.1**
UNV	**Unalaska Valle**	**2.18**	**63**	P	**Pn**	**08 32 27.0**	**-0.1**
UNV				S	**Sn**	**08 32 54.7**	**+0.1**
ZRO	**Akutan Zero**	**2.56**	**61**	P	**Pn**	**08 32 33.2**	**+0.8**
ATKA	**Atka Island**	**2.79**	**257**	P	**Pn**	**08 32 35.1**	**-0.3**
ILAR	**Eielson Array** 0.0nm,0.3s,baz=224,slow=10,SNR=5.4	**16.66**	**36**	Pn	**Pn**	**08 35 44.7**	**+0.5**
H11N2	**WAKE ISLAND Hy** baz=35	**37.71**	**218**	T	T	09 18 53.0	
H11N3	**WAKE ISLAND Hy** baz=35	**37.72**	**218**	T	T	09 18 51.4	
H11N1	**WAKE ISLAND Hy** baz=35	**37.73**	**218**	T	T	09

ISC 18 08:33:40.0±0.5,52°70N±0°07×169°55W±0°04,h10km, n319,σ0°74/318,mb4.2/35,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.51	57	P	Pb	08 33 50.3	-0.7
NIKH				S	Sb	08 33 58.7	+0.2
OKSP	Okmok Steeple	0.94	53	P	Pg	08 33 58.1	0.0
OKCE	Okmok Cone E	1.11	48	P	Pb	08 34 00.5	-0.9
OKCE				S	Sn	08 34 18.5	+1.5
OKAK	Okmok	1.14	39	P	Pb	08 33 59.7	-2.0
OKTU	Okmok Mt. Tuli	1.14	52	P	Pb	08 34 01.6	-0.3
MGOD	Makushin Gods	1.95	55	P	Pn	08 34 13.5	+0.3
MGOD				S	Sn	08 34 38.8	+1.0
MCIR	Makushin Cirqu	2.03	51	P	Pn	08 34 15.4	+1.1
MSW	Makushin Switc	2.06	53	P	Pn	08 34 15.5	+0.8
MTBL	Makushin Table	2.14	52	P	Pn	08 34 16.0	+0.1
UNV	Unalaska Valle	2.16	57	P	Pn	08 34 15.8	-0.2
UNV				S	Sb	08 34 45.8	-0.2
AKRB	Akutan Reef Bi	2.53	54	P	Pn	08 34 22.5	+1.3
ZRO	Akutan Zero	2.56	55	P	Pn	08 34 22.5	+1.0
AKGG	Akutan Green G	2.61	53	P	Pn	08 34 23.6	+1.4
AKUT	Akutan	2.68	56	P	Pn	08 34 24.9	+1.8
ATKA	Atka Island	2.88	262	P	Pn	08 34 25.8	-0.2
GSTR	Great Sitkin T	4.03	264	ePn	Pn	08 34 42.5	+0.7
GSTR				eSn	Sn	08 35 32.6	+3.6
GSMY	Great Sitkin M	4.04	263	P	Pn	08 34 42.1	+0.2
GSTD	Great Sitkin T	4.09	264	P	Pn	08 34 43.1	+0.5
GSCK	Great Sitkin C	4.11	263	P	Pn	08 34 43.2	+0.4
FALS	False Pass	4.24	57	ePn	Pn	08 34 48.1	+3.6
ADAG	Mount Adagdak	4.38	263	P	Pn	08 34 48.2	+1.6
SPIA	Saint Paul Isl	4.51	355	P	Pn	08 34 50.1	+1.8
SPIA				S	Sn	08 35 41.8	+1.1
SDPT	Sand Point 72nm,0.6s	5.97	60	ePn	Pn	08 35 14.1	+5.8
AMKA	Amchitka 50nm,0.6s	7.00	264	ePn	Pn	08 35 24.6	+2.1
CHGN	Chignik	7.42	56	ePn	Pn	08 35 34.1	+5.9
RSO	Redoubt South 39nm,0.8s	12.06	43	ePn	Pn	08 36 30.6	-1.4
PMR	Palmer 49nm,1.8s	14.16	43	eP	P	08 37 08.3	+0.4
TRF	Thorofare Moun 27nm,1.2s	14.76	36	eP	P	08 37 14.0	-0.8
BPAW	Bear Paw Mtn. 4.2nm,0.8s	14.93	33	eP	P	08 37 16.5	-0.1
IM04	Indian Mountai	15.48	25	eP	P	08 37 23.7	+1.1
BMRM	Bremner River 14nm,1.0s	15.88	49	ePn	Pn	08 37 22.6	-0.7
COLA	College 12nm,0.9s	16.48	34	ePn	Pn	08 37 31.0	+0.1
ILAR	Eielson Array 0.3nm,0.3s,baz=227,slow=11,SNR=20	16.75	35	Pn	Pn	08 37 32.8	-1.5
MENT	Mentasta	17.03	43	eP	P	08 37 40.7	+0.9
COLD	Coldfoot 86nm,1.7s	17.37	26	eP	P	08 37 45.4	+1.9
EGAK	Eagle 10nm,1.0s	18.85	39	eP	Pn	08 38 00.7	+0.3
HYT	Haines Junctio 13nm,0.6s	19.19	52	eP	Pn	08 38 05.1	+0.5
DAWY	Dawson 3.5nm,0.6s	19.26	42	eP	Pn	08 38 05.0	-0.4
PETK	Petropavlovsk- 0.6nm,0.3s,baz=95,slow=12,SNR=8.4	19.67	284	P	P	08 38 09.4	+0.5
SKAG	Skagway 26nm,0.7s	20.08	57	eP	Pn	08 38 14.5	-0.7
SEY	Seymchan 2.0nm,0.6s,baz=82,slow=8.0,SNR=11	22.36	312	P	P	08 38 35.9	-2.0
DLBC	Dease Lake 18nm,1.0s,baz=275,slow=11,SNR=25	22.82	60	P	P	08 38 44.9	+2.1
INK	Inuvik 2.8nm,0.6s,baz=236,slow=10,SNR=14	23.14	34	P	P	08 38 45.0	-0.9
YKA	Yellowknife Ar 0.9nm,0.5s,baz=274,slow=7.3,SNR=6.9	30.11	49	P	P	08 39 49.5	+0.2
I05D	Terrebonne, OR baz=32	32.47	85	P	P	08 40 12.1	+1.7
NEW	Newport 5.4nm,0.8s,baz=287,slow=7.6,SNR=13	33.04	76	P	P	08 40 16.0	+0.6
NEW	Newport baz=33	33.04	76	P	P	08 40 16.3	+1.0
J05D	Fort Rock, OR baz=33	33.11	87	P	P	08 40 17.7	+1.6
BSMT	Bassoo Peak 2.6nm,0.7s	34.62	76	eP	P	08 40 29.6	+0.4
JTMT	Jette 4.6nm,1.1s	34.96	75	P	P	08 40 32.6	+0.5
MSO	Missoula baz=36	35.62	77	P	P	08 40 38.6	+0.8
SLMT	Seeley Lake 1.8nm,0.6s	35.68	76	eP	P	08 40 38.4	0.0
CHMT	Chamberlain Mo 1.6nm,0.6s	35.99	76	eP	P	08 40 40.6	-0.4
HLID	Hailey baz=37	37.08	82	P	P	08 40 51.2	+0.8
MCMT	McKenzie Canyo 2.7nm,0.7s	37.32	79	eP	P	08 40 53.0	+0.6
EGMT	Eagleton baz=37,SNR=9.5	37.47	72	P	P	08 40 54.0	+0.5
EGMT	Eagleton 12nm,0.9s	37.47	72	eP	P	08 40 53.3	-0.2
BOZ	Bozeman (W) baz=37,SNR=7.4	37.61	77	P	P	08 40 55.5	+0.8
A19A	Klindworth Far baz=37	37.61	71	P	P	08 40 54.8	+0.1
H11N2	WAKE ISLAND Hy baz=23,slow=76,SNR=20	37.64	218	T	T	09 20 41.9	
H11N3	WAKE ISLAND Hy baz=23,slow=76,SNR=19	37.65	218	T	T	09 20 42.4	
H11N1	WAKE ISLAND Hy baz=23,slow=76,SNR=21	37.66	218	T	T	09 20 45.4	
NVAR	Mina Array Bea 1.6nm,0.8s,baz=297,slow=8.3,SNR=14	37.78	91	P	P	08 40 58.1	+1.7
NVAR	1.0nm,0.7s,baz=303,slow=2.1,SNR=6.3			PcP	PcP	08 43 13.0	0.0
A21A	Bergtoll Ranch baz=38	38.62	70	P	P	08 41 03.3	+0.2
C20A	Veseth Ranch, baz=38,SNR=8.0	38.65	72	P	P	08 41 04.0	+0.6
H11S1	WAKE ISLAND Hy baz=21,slow=76	38.83	218	T	T	09 22 13.4	
H11S2	WAKE ISLAND Hy baz=21,slow=76	38.85	218	T	T	09 22 14.5	
B21A	Ellsworth Farm baz=39,SNR=10	38.85	70	P	P	08 41 05.6	+0.6
H11S3	WAKE ISLAND Hy baz=21,slow=76	38.85	218	T	T	09 22 14.7	
H17A	Grant Village baz=39	38.92	78	P	P	08 41 06.4	+0.5
C21A	Desert Coulee baz=39	39.11	71	P	P	08 41 07.6	+0.4
RLMT	Red Lodge baz=39	39.29	76	P	P	08 41 09.5	+0.5
R11A	Troy Canyon, C baz=39,SNR=6.7	39.49	89	P	P	08 41 12.1	+1.4
SBC	Santa Barbara baz=39	39.55	97	P	P	08 41 12.8	+1.9
F20A	Billings baz=39	39.58	75	P	P	08 41 11.9	+0.7
MJAR	Matsushiro Arr 1.2nm,0.6s,baz=40,slow=7.4,SNR=7.2	39.60	267	P	P	08 41 10.7	-0.7
H19A	Powell baz=40	39.71	77	P	P	08 41 12.6	+0.2
MPMC	Manual Prospec baz=40	39.81	93	P	P	08 41 14.6	+1.2
G20A	Bridger baz=40,SNR=6.5	39.86	75	P	P	08 41 13.9	+0.3
FURC	Furnace Creek, baz=40	39.92	92	P	P	08 41 16.0	+1.9
TPNV	Topopah Spring baz=40,SNR=5.5	39.98	91	P	P	08 41 16.3	+1.5
DUG	Dugway baz=40	40.02	85	P	P	08 41 16.2	+1.2
I19A	Meeteetse baz=40	40.06	77	P	P	08 41 15.8	+0.4
LAO	LASA Array baz=40	40.22	72	P	P	08 41 17.6	+1.1
LAO	LASA Array 9.1nm,1.2s	40.22	72	eP	P	08 41 17.1	+0.6
H20A	Greybull baz=40	40.39	76	P	P	08 41 18.8	+0.8
G21A	Lodge Grass baz=40	40.45	75	P	P	08 41 18.8	+0.3
PDAR	Pinedale Array 5.2nm,0.9s,baz=327,slow=4.7,SNR=30	40.45	79	P	P	08 41 19.4	+0.8
J19A	Crowheart baz=40	40.47	78	P	P	08 41 19.9	+1.2
E22A	Miles City baz=40	40.51	72	P	P	08 41 19.3	+0.4
GSC	Goldstone baz=41	40.73	94	P	P	08 41 22.6	+1.7
C24A	Savage baz=41	40.80	70	P	P	08 41 22.2	+0.9
A25A	Svangstu Ranch baz=41	40.80	68	P	P	08 41 21.6	+0.3
E23A	Ismay baz=41	40.85	72	P	P	08 41 22.4	+0.7
H21A	Big Horn, Sher baz=41	40.88	75	P	P	08 41 22.7	+0.6
BFSC	Mount Baldy Ra baz=41	40.93	96	P	P	08 41 24.2	+1.6
G22A	Birney baz=41	40.99	74	P	P	08 41 23.5	+0.6
J20A	Shoshoni baz=41	40.99	78	P	P	08 41 22.6	-0.4
D24A	Glendive baz=41,SNR=7.8	41.08	71	P	P	08 41 23.9	+0.3
I21A	Big Trails, Te baz=41	41.20	77	P	P	08 41 25.5	+0.8
F23A	Volborg baz=41	41.22	73	P	P	08 41 25.3	+0.5
HEC	Hector,Ludlow baz=41	41.33	94	P	P	08 41 27.0	+1.2
C25A	Freed Ranch, W baz=41	41.37	69	P	P	08 41 26.4	+0.4
J21A	Lysite baz=41	41.37	77	P	P	08 41 27.3	+1.1
E24A	Baker baz=41	41.40	71	P	P	08 41 27.2	+1.0
A26A	Wade Farm, Ken baz=41	41.43	67	P	P	08 41 26.4	0.0
MSU	Marysvale 1.5nm,0.7s	41.46	86	eP	P	08 41 27.2	+0.2
G23A	Biddle baz=41	41.52	74	P	P	08 41 28.1	+0.8
I22A	9 Mile Ranch, baz=42	41.63	76	P	P	08 41 28.8	+0.6
MURC	Murrieta baz=42	41.64	96	P	P	08 41 30.5	+2.2
F24A	Ekalaka baz=42	41.71	72	P	P	08 41 29.7	+0.9
GMRC	Granite Mounta baz=42	41.77	93	P	P	08 41 30.9	+1.4
J22A	Midwest baz=42,SNR=6.8	41.91	77	P	P	08 41 31.0	+0.4
G24A	Alzada baz=42	42.02	73	P	P	08 41 31.3	-0.1
K22A	Casper baz=42	42.33	78	P	P	08 41 34.5	+0.5
C27A	Sayler Ranch, baz=42	42.37	68	P	P	08 41 33.9	-0.2
A28A	Rude Farm, Bot baz=42	42.41	66	P	P	08 41 34.3	-0.1
IRM	Iron Mountain baz=42	42.50	94	P	P	08 41 35.9	+0.5
E26A	Carlson Angus baz=42	42.51	70	P	P	08 41 35.6	+0.3
MONP	Monument Peak baz=42	42.60	96	P	P	08 41 37.4	+1.0
B28A	Dugan Ranch, T baz=42	42.61	67	P	P	08 41 35.9	-0.1
I24A	Kuemmerle Ranc baz=43	42.74	75	P	P	08 41 36.9	-0.4
K23A	Bowen Ranch, D baz=43	42.80	77	P	P	08 41 38.3	+0.4
O20A	White River Ci baz=43,SNR=12	42.83	82	P	P	08 41 38.6	+0.5
O20A	White River Ci 11nm,0.8s	42.83	82	eP	P	08 41 38.3	+0.2
H25A	Fruitdale baz=43	42.90	73	P	P	08 41 38.2	-0.3
A29A	Manning Farm, baz=43,SNR=7.6	42.98	66	P	P	08 41 39.0	-0.1
PDMCI	Parker Dam,Lak baz=43	43.02	93	P	P	08 41 40.8	+1.3
E27A	Carson baz=43	43.05	70	P	P	08 41 39.0	-0.6
G26A	Maurine baz=43	43.09	72	P	P	08 41 40.2	+0.1
F27A	Lemmon baz=43	43.10	71	P	P	08 41 40.5	+0.4
Y12C	Blythe baz=43	43.16	94	P	P	08 41 41.8	+1.2
I25A	Rochford baz=43	43.17	74	P	P	08 41 40.9	+0.1
MDND	Maddock baz=43	43.36	67	P	P	08 41 41.7	-0.4
G27A	Dupree baz=43	43.43	71	P	P	08 41 42.3	-0.5
GLA	Glamis baz=43	43.46	95	P	P	08 41 44.5	+1.4
A30A	Hoffart Farm, baz=43	43.49	65	P	P	08 41 43.0	-0.2
N23A	Red Feather La baz=44	43.73	79	P	P	08 41 46.0	+0.4
B30A	Myrvik Farm, E baz=44	43.74	66	P	P	08 41 45.0	-0.2
F28A	Mcaughlin baz=44	43.81	70	P	P	08 41 45.6	-0.2
PV01	Paradox Valley 352nm,0.6s	43.88	84	eP	P	08 41 47.0	+0.2
WUAZ	Wupatki baz=44	43.89	89	P	P	08 41 47.6	+0.9
ULM	Lac du Bonnet 4.6nm,0.9s,baz=295,slow=9.3,SNR=4.7	44.10	62	P	P	08 41 47.3	-0.7
D30A	Buchanan baz=44	44.25	68	P	P	08 41 49.2	-0.1
MVCO	Mesa Verde baz=44	44.52	85	P	P	08 41 52.3	+0.5
M25A	Palm-Egli Farm baz=44	44.53	77	P	P	08 41 52.1	+0.4
ISCO	Idaho Springs baz=44	44.61	80	P	P	08 41 53.2	+0.6
I28A	Midland baz=44	44.68	73	P	P	08 41 52.7	0.0
J28A	Alliance Ranch, baz=45	44.98	73	P	P	08 41 55.3	+0.1
M26A	McRoberts Ranc baz=45	45.05	77	P	P	08 41 56.8	+0.9
G30A	Faulkton baz=45	45.18	70	P	P	08 41 56.7	0.0
S22A	4UR Ranch, Cre baz=45	45.19	83	P	P	08 41 57.8	+0.6
AGMN	Agassiz Nation baz=45,SNR=5.9	45.19	65	P	P	08 41 56.3	-0.4
KSRS	Koreo Array 1.4nm,0.9s,baz=59,slow=8.2,SNR=3.1	45.26	276	P	P	08 41 56.3	-1.1
KSAR	Wonju Array Be	45.29	276	P	P	08 41 56.2	-1.4
K28A	Ten Mile Ranch baz=45	45.34	74	P	P	08 41 58.4	+0.3
214A	Organ Pipe Nat baz=45	45.44	94	P	P	08 41 60.0	+1.0
J29A	Okreek baz=45,SNR=8.0	45.52	73	P	P	08 41 59.4	-0.1
N27A	Andeson Farm, baz=46	45.82	77	P	P	08 42 02.3	+0.4
SDCO	Great Sand Dun baz=46,SNR=6.9	45.99	82	P	P	08 42 04.0	+0.4
OGNE	Ogallala baz=46	46.03	77	P	P	08 42 04.1	+0.5
J30A	Dallas baz=46	46.06	72	P	P	08 42 04.1	+0.4
P26A	Davis Ranch, A baz=46,SNR=10	46.12	79	P	P	08 42 04.8	+0.4
M28A	Bar X Bar Ranc baz=46	46.14	76	P	P	08 42 04.9	+0.4
O27A	Beecher Island baz=46	46.24	78	P	P	08 42 05.8	+0.5
K30A	Basset baz=46	46.38	73	P	P	08 42 06.7	+0.4
P27A	Ficken Ranch, baz=46	46.58	78	P	P	08 42 08.5	+0.5
O28A	Krutsinger Ran baz=46	46.70	77	P	P	08 42 09.3	+0.4
L30A	Spencer Herefo baz=47	46.77	74	P	P	08 42 09.6	+0.3
R26A	Arlington baz=47	46.87	80	P	P	08 42 10.7	+0.4
KSCO	Kaye Shedlock' baz=47	46.90	79	P	P	08 42 11.5	+0.9
M30A	Dale-Ortello V baz=47	46.94	75	P	P	08 42 10.9	+0.3
T25A	Trinidad baz=47,SNR=7.0	47.04	82	P	P	08 42 12.1	+0.4
P28A	Saint Francis baz=47	47.06	78	P	P	08 42 12.4	+0.7
LAZ	Ladron 1.9nm,1.0s	47.21	87	eP	P	08 42 13.7	+0.7
R27A	Eads baz=47	47.27	80	P	P	08 42 13.6	+0.2
O29A	4D Ranch, Culb baz=47	47.28	77	P	P	08 42 13.6	+0.2
S26A	Kim baz=47	47.29	81	P	P	08 42 13.7	+0.2
ECSD	EROS Data Cent baz=47,SNR=5.2	47.47	70	P	P	08 42 14.1	-0.6
ECSD	EROS Data Cent 6.0nm,0.9s	47.47	70	eP	P	08 42 13.7	-1.0
T26A	Comanche Natio baz=47	47.51	82	P	P	08 42 15.3	0.0
P29A	Atwood baz=47	47.53	77	P	P	08 42 15.1	-0.3
EYMN	Ely baz=48	47.77	63	P	P	08 42 16.7	-0.4
R28A	Tribune baz=48	47.82	79	P	P	08 42 18.8	+1.1
P30A	Selden baz=48	47.98	77	P	P	08 42 19.3	+0.5
121A	Cookes Peak, D baz=48	48.10	89	P	P	08 42 20.9	+1.0
T27A	Campo baz=48	48.11	81	P	P	08 42 20.7	+0.8
R29A	Marienthal baz=48	48.17	79	P	P	08 42 20.9	+0.6
S28A	Manter baz=48	48.26	80	P	P	08 42 21.7	+0.6
Q30A	Quinter baz=48	48.36	77	P	P	08 42 22.1	+0.4
U27A	Thompson Grove baz=48	48.47	82	P	P	08 42 23.2	+0.4
P31A	Stockton baz=48	48.50	76	P	P	08 42 23.4	+0.6
L34A	Svendsen Farm, baz=48	48.70	72	P	P	08 42 24.4	+0.1
SPMN	St. Paul baz=48	48.70	66	P	P	08 42 24.0	-0.2
CBKS	Cedar Bluff baz=49	48.75	77	P	P	08 42 24.8	+0.1
R30A	Dighton baz=49,SNR=5.4	48.77	78	P	P	08 42 25.2	+0.3
U28A	Mallet baz=49	48.86	81	P	P	08 42 26.0	+0.3
S30A	Montezuma baz=49	49.08	79	P	P	08 42 27.5	+0.2
O33A	Hebron baz=49	49.20	75	P	P	08 42 28.0	-0.2
R31A	Burdett baz=49	49.22	78	P	P	08 42 28.6	+0.3
Q32A	Meitler Ranch, baz=49	49.33	76	P	P	08 42 29.3	+0.1
R32A	Long Quarter, baz=49	49.61	77	P	P	08 42 31.5	+0.1
O34A	Beatrice baz=50	49.66	74	P	P	08 42 31.6	0.0
U30A	WK&E Inc. Balk baz=50	49.71	80	P	P	08 42 32.4	+0.3
Q33A	Connelly Farm, baz=50	49.76	76	P	P	08 42 32.3	0.0
N35A	Tabor baz=50	49.83	72	P	P	08 42 32.9	0.0
W29A	Amraillo baz=50	50.05	82	P	P	08 42 35.2	+0.5
TLY	Talaya 1.4nm,0.4s,baz=13,slow=19,SNR=3.0	50.05	306	P	P	08 42 34.8	+0.3
R33A	Olander Ranch, baz=50	50.12	77	P	P	08 42 35.5	+0.3
U31A	Nine Bar Ranch baz=50	50.29	80	P	P	08 42 37.0	+0.5
T32A	Huddler Ranch, baz=50	50.30	78	P	P	08 42 37.1	+0.5
Y28A	McKinney Farm, baz=50	50.51	84	P	P	08 42 38.3	0.0
R34A	Isabella, Hill baz=50	50.56	76	P	P	08 42 38.7	+0.3
V31A	Spring Creek L baz=50	50.70	80	P	P	08 42 39.8	+0.2
U32A	Winter Ranch, baz=51	50.79	79	P	P	08 42 40.7	+0.4
Z28A	Tucker Farm, M baz=51	50.86	84	P	P	08 42 41.1	+0.3
P36A	Good Intent, A baz=51	50.89	73	P	P	08 42 41.0	+0.1
Y29A	Porterfield Fa baz=51	50.90	83	P	P	08 42 41.6	+0.4
Q35A	Mercer Eighty, baz=51	50.90	75	P	P	08 42 40.8	-0.2
W31A	Holland Ranch, baz=51	51.03	81	P	P	08 42 42.7	+0.6
SONM	Songino Array 0.3nm,0.4s,baz=54,slow=7.3,SNR=2.7	51.03	300	P	P	08 42 42.1	0.0
SONM	0.9nm,0.6s,baz=41,slow=4.8,SNR=5.2			PcP	PcP	08 43 57.3	-0.7
S34A	Willow Spring baz=51	51.04	77	P	P	08 42 42.1	0.0
128A	Castleberry Fa baz=51	51.26	85	P	P	08 42 44.4	+0.5
U33A	Lingo Farm, Me baz=51	51.29	78	P	P	08 42 43.8	-0.2
Z29A	Hungry Hill Ra baz=51	51.29	84	P	P	08 42 44.4	+0.3
T34A	McClaskey Farm baz=51	51.44	77	P	P	08 42 44.9	-0.3
W32A	Sentinel baz=51	51.49	80	P	P	08 42 46.0	+0.4
S35A	Otter Creek Ra baz=51	51.52	76	P	P	08 42 45.6	-0.1
R36A	Gordon, Harris baz=51	51.57	75	P	P	08 42 46.3	+0.2
V33A	Lossen Ranch, baz=51	51.60	79	P	P	08 42 46.6	+0.3
Z30A	Sanderson Ranc baz=51	51.62	84	P	P	08 42 46.6	0.0
129A	Stewart Farms, baz=52	51.63	85	P	P	08 42 47.0	+0.3
U34A	Anderson Ranch baz=51	51.63	78	P	P	08 42 46.4	-0.1
U34A	Anderson Ranch 9.4nm,0.8s	51.63	78	eP	P	08 42 46.3	-0.3
T35A	Sooner Cattle baz=52	51.92	77	P	P	08 42 48.5	-0.2
S36A	Lake Cedric, C baz=52	51.92	76	P	P	08 42 48.4	-0.3
W33A	Caddo, Fort Co baz=52	51.94	80	P	P	08 42 50.2	+1.3
R37A	Teagarden Farm baz=52	51.97	74	P	P	08 42 48.4	-0.7
WMOK	Wichita Mounta 6.4nm,0.9s	52.04	81	eP	P	08 42 49.4	-0.2
Y32A	R-V Farms, Ver baz=52	52.14	82	P	P	08 42 50.6	+0.2
U35A	Pawnee baz=52	52.15	78	P	P	08 42 50.0	-0.4
Z31A	Sharp Cattle R baz=52	52.19	83	P	P	08 42 51.1	+0.3
T36A	Boggs Farm, Ca baz=52	52.19	76	P	P	08 42 50.8	+0.1
130A	Snyder baz=52	52.20	84	P	P	08 42 51.3	+0.4
W34A	Bridge Creek, baz=52	52.30	79	P	P	08 42 51.7	+0.1
X33A	Lawton baz=52	52.34	80	P	P	08 42 51.6	-0.3
S37A	Fort Scott baz=52,SNR=7.4	52.34	75	P	P	08 42 50.5	-1.3
329A	Wagon Wheel Ra baz=52	52.35	86	P	P	08 42 52.2	+0.1
131A	Roby baz=52	52.49	84	P	P	08 42 53.0	0.0
V35A	Meyer Ranch, C baz=52	52.50	78	P	P	08 42 52.7	-0.3
230A	Sterling City baz=52	52.60	85	P	P	08 42 53.9	0.0
Z32A	Haskell baz=52	52.60	82	P	P	08 42 53.6	-0.2
Y33A	Hilltop Ranch, baz=52	52.63	81	P	P	08 42 53.7	-0.3
X34A	Smith Ranch, M baz=52	52.70	80	P	P	08 42 54.4	-0.1
T37A	Cheneyville 18 baz=52,SNR=6.2	52.72	76	P	P	08 42 53.6	-1.0
TXAR	Lajitas Array 4.4nm,0.7s,baz=298,slow=5.3,SNR=73	52.85	89	P	P	08 42 56.3	+0.5
TXAR	0.9nm,0.7s,baz=306,slow=3.1,SNR=2.7			PcP	PcP	08 44 05.5	+0.6

W35A	**Tecumseh** baz=53	**52.90**	**79**	P		**P**	**08 42 55.3**	**-0.7**
330A	**Mertzon** baz=53	**52.90**	**85**	P		**P**	**08 42 55.9**	**-0.2**
ABTX	**Abilene, Hawle** baz=53	**52.98**	**83**	P		**P**	**08 42 56.5**	**-0.1**
429A	**Davenport Ranc** baz=53	**53.01**	**87**	P		**P**	**08 42 56.8**	**-0.2**
V36A	**Jenks** baz=53	**53.02**	**78**	P		**P**	**08 42 56.7**	**-0.1**
TUL1	**Tulsa** baz=53	**53.02**	**77**	P		**P**	**08 42 56.7**	**-0.1**
Z33A	**Whitaker Ranch** baz=53	**53.05**	**82**	P		**P**	**08 42 57.1**	**0.0**
231A	**Bronte** baz=53	**53.05**	**84**	P		**P**	**08 42 57.5**	**+0.3**
U37A	**Salina** baz=53	**53.09**	**76**	P		**P**	**08 42 56.8**	**-0.6**
Y34A	**Reagan Ranch,** baz=53	**53.19**	**80**	P		**P**	**08 42 58.0**	**-0.1**
W36A	**Wetumka** baz=53	**53.29**	**78**	P		**P**	**08 42 58.6**	**-0.2**
430A	**Baggett Ranch,** baz=53,SNR=5.7	**53.30**	**86**	P		**P**	**08 42 59.1**	**0.0**
X35A	**Drake** baz=53	**53.35**	**80**	P		**P**	**08 42 59.1**	**-0.2**
331A	**San Angelo** baz=53	**53.42**	**85**	P		**P**	**08 42 59.8**	**-0.2**
133A	**Hamilton Ranch** baz=53	**53.43**	**83**	P		**P**	**08 42 59.8**	**-0.2**
232A	**Coleman** baz=53	**53.49**	**84**	P		**P**	**08 43 00.3**	**-0.1**
U38A	**Gravette** baz=53	**53.50**	**76**	P		**P**	**08 42 59.6**	**-0.8**
Z34A	**Collier Ranch,** baz=53	**53.50**	**81**	P		**P**	**08 42 59.9**	**-0.5**
X36A	**Centrahoma** baz=53	**53.61**	**79**	P		**P**	**08 43 01.1**	**-0.1**
Y35A	**Marietta** baz=54	**53.66**	**80**	P		**P**	**08 43 01.5**	**0.0**
HDIL	**Hopedale** baz=54	**53.67**	**69**	P		**P**	**08 43 00.1**	**-1.5**
530A	**J-C Ranch, Com** baz=54,SNR=8.9	**53.69**	**87**	P		**P**	**08 43 02.2**	**+0.3**
431A	**Sonora** baz=54,SNR=8.0	**53.75**	**85**	P		**P**	**08 43 02.0**	**-0.4**
W37A	**Quinton** baz=54	**53.77**	**78**	P		**P**	**08 43 02.0**	**-0.3**
332A	**Millersview** baz=54	**53.78**	**84**	P		**P**	**08 43 02.7**	**+0.1**
233A	**Rising Star** baz=54	**53.85**	**83**	P		**P**	**08 43 02.8**	**-0.2**
V38A	**Canehill** baz=54	**53.88**	**76**	P		**P**	**08 43 02.6**	**-0.6**
Z35A	**Perchaven, San** baz=54	**53.92**	**81**	P		**P**	**08 43 03.5**	**0.0**
134A	**White-Moore Ra** baz=54	**53.95**	**82**	P		**P**	**08 43 03.7**	**-0.1**
Y36A	**Durant** baz=54	**54.11**	**79**	P		**P**	**08 43 04.4**	**-0.5**
432A	**Menard** baz=54	**54.11**	**85**	P		**P**	**08 43 04.7**	**-0.3**
531A	**Rocksprings** baz=54	**54.16**	**86**	P		**P**	**08 43 05.4**	**+0.1**
X37A	**Clayton** baz=54	**54.18**	**78**	P		**P**	**08 43 04.9**	**-0.5**
333A	**Richland Sprin** baz=54	**54.28**	**84**	P		**P**	**08 43 06.2**	**-0.1**
234A	**Clairette** baz=54	**54.32**	**82**	P		**P**	**08 43 06.6**	**+0.1**
W38A	**Poteau** baz=54	**54.35**	**77**	P		**P**	**08 43 06.2**	**-0.4**
135A	**Vickery Place,** baz=54	**54.37**	**81**	P		**P**	**08 43 06.9**	**+0.1**
JCT	**Junction City** baz=54	**54.39**	**85**	P		**P**	**08 43 06.5**	**-0.5**
X38A	**Whitesboro** baz=54	**54.45**	**78**	P		**P**	**08 43 06.9**	**-0.4**
Z36A	**Blue Ridge** baz=54	**54.46**	**80**	P		**P**	**08 43 06.5**	**-0.9**
532A	**Rocksprings** baz=54	**54.57**	**85**	P		**P**	**08 43 07.9**	**-0.5**
433A	**Art** baz=54	**54.62**	**84**	P		**P**	**08 43 08.6**	**-0.1**
631A	**Perdido Creek** baz=54	**54.68**	**87**	P		**P**	**08 43 09.0**	**0.0**
334A	**Lometa** baz=55	**54.73**	**83**	P		**P**	**08 43 09.7**	**+0.3**
WHTX	**Lake Whitney** baz=55	**54.74**	**82**	P		**P**	**08 43 09.5**	**+0.1**
WHTX	**Lake Whitney** 12nm,1.1s	**54.74**	**82**	*eP*		**P**	**08 43 08.7**	**-0.8**
434A	**Burnet** baz=55,SNR=10	**55.08**	**84**	P		**P**	**08 43 11.6**	**-0.4**
632A	**Uvalde** baz=55	**55.09**	**86**	P		**P**	**08 43 11.4**	**-0.6**
533A	**Kerrville** baz=55	**55.14**	**85**	P		**P**	**08 43 12.0**	**-0.5**
MIAR	**Mount Ida** baz=55	**55.28**	**77**	P		**P**	**08 43 12.7**	**-0.7**
336A	**Riesel** baz=55	**55.53**	**82**	P		**P**	**08 43 14.7**	**-0.5**
832A	**Faith Ranch, C** baz=56	**55.85**	**87**	P		**P**	**08 43 17.8**	**+0.3**
733A	**Divot King Ran** baz=56	**55.95**	**86**	P		**P**	**08 43 18.5**	**+0.2**
034A	**Hebbronville** baz=57	**57.52**	**87**	P		**P**	**08 43 29.6**	**+0.1**
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=31,slow=7.4,SNR=2.7	**63.50**	**313**	P		**P**	**08 44 09.6**	**-0.4**
FINES	**FINESS Array B** 3.4nm,1.1s,baz=354,slow=11,SNR=3.6	**65.53**	**352**	P		**P**	**08 44 22.8**	**-0.1**
CMAR	**Chiang Mai Arr** 0.9nm,0.3s,baz=28,slow=6.8,SNR=2.8	**76.44**	**283**	P		**P**	**08 45 29.0**	**-0.8**
GERES	**GERESS Array B** 0.1nm,0.4s,baz=15,slow=5.5,SNR=3.7	**78.80**	**358**	P		**P**	**08 45 43.6**	**+0.9**
WRA	**Warramunga Arr** 1.3nm,0.7s,baz=32,slow=5.9,SNR=16	**87.12**	**231**	P		**P**	**08 46 24.6**	**-1.4**
ESDC	**Sonseca Array** 0.1nm,0.3s,baz=14,slow=5.2,SNR=4.2	**87.16**	**11**	P		**P**	**08 46 26.3**	**+0.2**
ASAR	**Alice Springs** 2.8nm,0.7s,baz=36,slow=4.3,SNR=26	**90.52**	**230**	P		**P**	**08 46 41.6**	**-0.3**
MAW	**Mawson** 3.2nm,0.8s,baz=97,slow=3.7,SNR=7.8	**151.06**	**219**	PKPbc		**PKPbc**	**08 53 30.5**	**-1.1**
BOSA	**Boshof** 1.4nm,0.6s,baz=26,slow=1.7,SNR=5.7	**153.55**	**330**	PKPbc		**PKPbc**	**08 53 38.0**	**-0.6**

*IDC **18** 08:37:35.1±0.8,52.75N×169.98W,h0km,mb4.0/14, mb1 4.2/16,mb1mx3.9/34,mbtmp4.0/16,ML3.4/2, Error ellipse: s-maj=24.7km s-min=15.4km az=167.0*

*NEIC **18** 08:37:37.7,52.70N×169.49W,h6km,mb4.1/5, ML3.9(AEIC), After AEIC.*

*ISCJB **18** 08:37:38.4±1.0,52.73N±0.09×169.60W±0.08,h26km±7km, mb4.1/19, Error ellipse: s-maj=15.8km s-min=5.7km az=156.2*

ISC 18 08:37:37.7±1.7,52.8N±0.1×169.55W±0.05,h10km±10km, n49,σ1§11/48,mb4.1/19,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.47**	**63**	P	**Pg**	**08 37 47.5**	**+0.5**
NIKH				S	**Sb**	**08 37 54.8**	**-0.3**
OKCE	**Okmok Cone E**	**1.07**	**51**	P	**Pg**	**08 37 57.8**	**-0.5**
OKCE				S	**Sn**	**08 38 15.7**	**+2.0**
OKAK	**Okmok**	**1.09**	**41**	P	**Pg**	**08 37 56.8**	**-1.8**
OKTU	**Okmok Mt. Tuli**	**1.10**	**55**	P	**Pg**	**08 37 58.7**	**-0.2**
MGOD	**Makushin Gods**	**1.91**	**56**	P	**Pn**	**08 38 10.6**	**+0.2**
MGOD				S	**Sn**	**08 38 35.0**	**+0.5**
MCIR	**Makushin Cirqu**	**1.99**	**52**	P	**Pn**	**08 38 12.8**	**+1.3**
MSW	**Makushin Switc**	**2.02**	**54**	P	**Pn**	**08 38 12.3**	**+0.5**
MSW				S	**Sn**	**08 38 37.4**	**+0.2**
MTBL	**Makushin Table**	**2.10**	**54**	P	**Pn**	**08 38 13.9**	**+0.9**
UNV	**Unalaska Valle**	**2.13**	**58**	P	**Pn**	**08 38 13.1**	**-0.2**
UNV				S	**Sn**	**08 38 39.5**	**-0.2**
AKRB	**Akutan Reef Bi**	**2.49**	**55**	P	**Pn**	**08 38 19.9**	**+1.6**
ZRO	**Akutan Zero**	**2.52**	**57**	P	**Pn**	**08 38 20.0**	**+1.3**
AKGG	**Akutan Green G**	**2.57**	**55**	P	**Pn**	**08 38 20.5**	**+1.1**
AKGG				S	**Sb**	**08 38 54.7**	**-0.8**
AKUT	**Akutan**	**2.65**	**57**	P	**Pn**	**08 38 21.5**	**+1.1**
ATKA	**Atka Island**	**2.89**	**261**	P	**Pn**	**08 38 23.9**	**+0.2**
ATKA				S	**Sn**	**08 39 01.4**	**+2.8**
GSMY	**Great Sitkin M**	**4.05**	**262**	P	**Pn**	**08 38 40.9**	**+1.2**
GSCK	**Great Sitkin C**	**4.12**	**262**	P	**Pn**	**08 38 41.5**	**+0.9**
SPIA	**Saint Paul Isl**	**4.44**	**355**	P	**Pn**	**08 38 46.6**	**+1.6**
ILAR	**Eielson Array**	**16.69**	**35**	Pn	**Pn**	**08 41 31.4**	**0.0**
	0.2nm,0.3s,baz=230,slow=9.9,SNR=9.2						
EGAK	**Eagle**	**18.80**	**39**	*eP*	**P**	**08 41 57.6**	**+0.7**
PETK	**Petropavlovsk-** 0.1nm,0.3s,baz=95,slow=12,SNR=2.3	**19.65**	**284**	P	P	08 42 02.8	-3.6
SKAG	**Skagway** 13nm,0.8s	**20.05**	**57**	*eP*	**P**	**08 42 10.6**	**0.0**
SEY	**Seymchan** 1.4nm,0.8s,baz=45,slow=2.0,SNR=4.5	**22.32**	**312**	P	P	08 42 31.1	-3.9
DLBC	**Dease Lake** 2.5nm,0.9s,baz=296,slow=11,SNR=3.6	**22.78**	**60**	P	**P**	**08 42 41.6**	**+1.4**
INK	**Inuvik** 1.4nm,0.6s,baz=250,slow=8.7,SNR=6.0	**23.08**	**34**	P	**P**	**08 42 43.7**	**+0.7**
BBB	**Bella Bella** 11nm,1.1s,baz=197,slow=11,SNR=2.8	**25.00**	**75**	P	**P**	**08 43 01.4**	**0.0**
YKA	**Yellowknife Ar** 1.2nm,0.7s,baz=267,slow=8.3,SNR=3.1	**30.07**	**49**	P	**P**	**08 43 47.5**	**+0.9**
NEW	**Newport** 2.3nm,0.6s,baz=290,slow=10,SNR=7.3	**33.02**	**76**	P	**P**	**08 44 13.5**	**+0.6**
BSMT	**Bassoo Peak** 1.6nm,0.6s	**34.60**	**76**	*eP*	**P**	**08 44 27.1**	**+0.4**
CHMT	**Chamberlain Mo** 1.3nm,0.5s	**35.97**	**76**	*eP*	**P**	**08 44 38.6**	**0.0**
MCMT	**McKenzie Canyo** 1.4nm,0.6s	**37.31**	**79**	*eP*	**P**	**08 44 50.4**	**+0.4**
H11N2	**WAKE ISLAND Hy** baz=24,slow=76,SNR=10	**37.69**	**218**	T	T	09 24 39.5	
H11N3	**WAKE ISLAND Hy** baz=24,slow=76,SNR=13	**37.70**	**218**	T	T	09 24 39.5	
H11N1	**WAKE ISLAND Hy** baz=24,slow=76,SNR=13	**37.71**	**218**	T	T	09 24 39.5	
NVAR	**Mina Array Bea** 0.8nm,0.7s,baz=306,slow=8.5,SNR=6.2	**37.78**	**91**	P	**P**	**08 44 55.7**	**+1.7**
NVAR	0.3nm,0.6s,baz=349,slow=1.5,SNR=3.8			PcP	**PcP**	**08 47 11.2**	**+0.6**
H11S1	**WAKE ISLAND Hy** baz=22,slow=76,SNR=38	**38.88**	**217**	T	T	09 26 10.3	
H11S2	**WAKE ISLAND Hy** baz=22,slow=76,SNR=35	**38.90**	**217**	T	T	09 26 11.3	
H11S3	**WAKE ISLAND Hy** baz=22,slow=76,SNR=34	**38.90**	**218**	T	T	09 26 21.9	
PDAR	**Pinedale Array** 1.4nm,0.6s,baz=320,slow=5.5,SNR=14	**40.44**	**79**	P	**P**	**08 45 16.8**	**+0.5**
O20A	**White River Ci** 3.3nm,0.6s	**42.81**	**82**	*eP*	**P**	**08 45 35.8**	**+0.1**
PV01	**Paradox Valley** 256nm,0.6s	**43.88**	**84**	*eP*	**P**	**08 45 44.7**	**+0.4**
ULM	**Lac du Bonnet** 1.2nm,0.4s,baz=286,slow=2.8,SNR=2.6	**44.06**	**62**	P	**P**	**08 45 46.2**	**+0.8**
SONM	**Songino Array** 0.7nm,0.6s,baz=98,slow=1.6,SNR=5.7	**51.00**	**300**	PcP	**PcP**	**08 47 53.3**	**-2.2**
TXAR	**Lajitas Array** 1.3nm,0.6s,baz=298,slow=5.4,SNR=18	**52.85**	**89**	P	**P**	**08 46 53.8**	**+0.3**
AKASG	**Malin Array Be** 2.3nm,0.3s,baz=11,slow=5.4,SNR=2.1	**75.70**	**348**	P	P	08 49 20.7	-2.2
GERES	**GERESS Array B** 0.2nm,0.5s,baz=19,slow=6.2,SNR=2.4	**78.73**	**358**	P	**P**	**08 49 39.0**	**-1.0**
WRA	**Warramunga Arr** 0.8nm,0.7s,baz=34,slow=5.9,SNR=4.6	**87.16**	**231**	P	**P**	**08 50 21.8**	**-2.1**
ASAR	**Alice Springs** 1.6nm,0.6s,baz=34,slow=4.7,SNR=22	**90.56**	**230**	P	**P**	**08 50 38.5**	**-1.3**
MAW	**Mawson** 1.3nm,0.6s,baz=45,slow=5.7,SNR=4.1	**151.11**	**219**	PKPbc	**PKPbc**	**08 57 28.7**	**-0.7**
BOSA	**Boshof** 1.3nm,0.5s,baz=79,slow=3.5,SNR=4.1	**153.50**	**330**	PKPbc	**PKPbc**	**08 57 34.8**	**-1.4**

KRSC 18 08:43:08.9±2.4,51.36N×161.19E,h99km±33km,ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.89**	**338**	*eP*	Pn	08 43 40.9	+0.9
SPN				*eS*	Sn	08 44 03.4	-0.2
RUS	**Russkaya**	**1.98**	**304**	*eP*	Pn	08 43 42.4	+1.3
RUS				*eS*	Sn	08 44 06.2	+0.5
NLC	**Nalytchevo**	**2.14**	**329**	*eP*	Pn	08 43 45.9	+2.7
NLC				*eS*	Sn	08 44 12.0	+2.5
MTVR	**Mutnovka**	**2.18**	**302**	*eP*	Pn	08 43 45.8	+1.9
MTVR				*eS*	Sn	08 44 12.0	+1.3
ASAK	**Asacha**	**2.28**	**298**	*eP*	Pn	08 43 47.5	+2.3
PET	**Petropavlovsk**	**2.29**	**318**	*eS*	Sn	08 44 14.8	+1.9
UGLR	**Uglovaya**	**2.36**	**323**	*eP*	Pn	08 43 48.7	+2.5
SDLR	**Sedlovina**	**2.39**	**325**	*eP*	Pn	08 43 49.3	+2.6
AVH	**Avacha**	**2.43**	**323**	*eP*	Pn	08 43 50.6	+3.4
KRER	**Koryakskii**	**2.46**	**323**	*eP*	Pn	08 43 51.2	+3.5
KOK	**Koryaka**	**2.49**	**322**	*eP*	Pn	08 43 51.5	+3.5
KRX	**Arik**	**2.54**	**323**	*eP*	Pn	08 43 52.3	+3.6
PAU	**Pauzhetka**	**2.74**	**274**	*eP*	Pn	08 43 52.5	+1.3
PAU				*eS*	Sn	08 44 24.3	+0.6
MIPR	**Malaya Ipel'ka**	**2.90**	**290**	*eP*	Pn	08 43 55.9	+2.6
MIPR				*eS*	Sn	08 44 30.1	+2.6
APC	**Apacha**	**2.94**	**304**	*eP*	Pn	08 43 56.5	+2.7
GNL	**Ganaly**	**3.07**	**321**	*eP*	Pn	08 43 59.5	+3.8
MKZ	**Mys Kozlova**	**3.22**	**6**	*eP*	Pn	08 43 59.1	+1.6
MKZ				*eS*	Sn	08 44 36.4	+1.4
SKR	**Severo-Kuril's**	**3.27**	**260**	*eP*	Pn	08 43 59.5	+1.3
SKR				*eS*	Sn	08 44 36.2	-0.1
KZV	**Kizimen**	**3.80**	**352**	*eP*	Pn	08 44 07.7	+2.1
TUMR	**Tumrok**	**3.98**	**351**	*eP*	Pn	08 44 12.1	+4.1
BKI	**Bering**	**4.80**	**35**	*eP*	Pn	08 44 20.7	+1.8
BKI				*eS*	Sn	08 45 11.1	-2.1
KBTR	**Krutoberegovo**	**4.96**	**11**	*eP*	Pn	08 44 23.5	+2.6

*IDC **18** 08:48:23.9±1.1,14.40S×76.44W,h0km,mb3.4/5, mb1 3.8/9,mb1mx3.7/36,mbtmp3.6/9,ML3.2/4, Error ellipse: s-maj=35.6km s-min=16.5km az=54.0*

*ISCJB **18** 08:48:24.9±0.8,14.50S±0.07×76.6W±0.1,h23km,mb3.6/6, Error ellipse: s-maj=18.5km s-min=7.2km az=152.5*

ISC 18 08:48:26.9±1.0,14.38S±0.09×76.5W±0.1,h23km,n19, σ1§12/14,mb3.6/6,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana** 21nm,0.3s,baz=178,slow=14,SNR=33	**2.40**	**352**	Pn	**Pn**	**08 49 05.0**	**+0.2**
NNA	76nm,0.3s,baz=185,slow=15,SNR=14			Sn	**Sb**	**08 49 36.7**	**-2.0**
ATAH	**Atahualpa** 0.6nm,0.3s,baz=100,slow=12,SNR=4.1	**7.43**	**345**	Pn	**Pn**	**08 50 13.8**	**-0.6**
ATAH	2.3nm,0.3s,baz=4.4,slow=13,SNR=2.9			Sn	Sb	08 51 51.0	-13
LPAZ	**La Paz** 1.2nm,0.3s,baz=296,slow=7.0,SNR=24	**8.30**	**104**	Pn	**Pn**	**08 50 28.2**	**+1.6**
LVC	**Limon Verde** 16nm,0.3s,baz=298,slow=7.9,SNR=5.9	**10.91**	**140**	Pn	**Pn**	**08 51 01.4**	**-0.5**
SIV	**San Ignacio** 0.2nm,0.3s,baz=292,slow=5.4,SNR=3.6	**14.99**	**98**	Pn	**Pn**	**08 51 57.5**	**0.0**
CFAA	**Coronel Fontan** 0.0nm,0.3s,baz=331,slow=11,SNR=3.7	**18.75**	**158**	P	**P**	**08 52 43.8**	**-0.5**
PTGA	**Pitinga** 1.6nm,0.4s,baz=239,slow=18,SNR=4.2	**21.25**	**52**	P	**P**	**08 53 12.3**	**+0.7**
CPUP	**Villa Florida** 1.1nm,0.8s,baz=312,slow=10.0,SNR=3.4	**21.52**	**127**	P	**P**	**08 53 14.1**	**-0.4**
TXAR	**Lajitas Array** 0.7nm,0.8s,baz=144,slow=8.8,SNR=3.7	**50.76**	**329**	P	**P**	**08 57 26.0**	**+0.5**
PDAR	**Pinedale Array** 0.2nm,0.7s,baz=130,slow=4.9,SNR=2.8	**64.45**	**334**	P	**P**	**08 59 02.5**	**+0.7**
NVAR	**Mina Array Bea** 0.3nm,0.8s,baz=137,slow=8.1,SNR=2.6	**65.50**	**325**	P	**P**	**08 59 10.8**	**+2.1**
TORD	**Torodi Ar. Bea** 3.1nm,0.6s,baz=274,slow=4.6,SNR=30	**82.11**	**74**	P	**P**	**09 00 45.8**	**-0.5**
H11N3	**WAKE ISLAND Hy** baz=101	**19.42**	**285**	T	T	11 17 55.0	
H11N2	**WAKE ISLAND Hy** baz=101	**19.44**	**285**	T	T	11 17 57.3	
H11N1	**WAKE ISLAND Hy** baz=101	**19.44**	**285**	T	T	11 17 56.3	
H11S2	**WAKE ISLAND Hy** baz=95	**19.49**	**283**	T	T	11 17 59.8	
H11S1	**WAKE ISLAND Hy** baz=95	**19.50**	**283**	T	T	11 18 05.4	
H11S3	**WAKE ISLAND Hy** baz=95	**19.51**	**283**	T	T	11 17 59.1	
SONM	**Songino Array** 0.8nm,0.8s,baz=336,slow=3.3,SNR=4.4	**146.56**	**356**	PKPbc	**PKPbc**	**09 08 06.3**	**-0.4**

MEX 18 08:51:33.6±0.5,17.29N×100.34W,h8km±11km,MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.25**	**164**	*i* P	Pg	08 51 37.7	-0.9
CAIG				*i* S	Sg	08 51 42.4	+0.4
MEIG	**Mezcala**	**0.93**	**47**	*i* P	Pg	08 51 49.2	-2.5
MEIG				*e*S	Sg	08 52 01.2	-2.7
ARIG	**Puente Sto Nin**	**0.98**	**360**	*i* P	Pg	08 51 50.1	-2.4
ARIG				*e*S	Sg	08 52 02.4	-3.0
ZIIG	**Zihuatanejo**	**1.12**	**286**	*i* P	Pg	08 51 52.0	-3.1
ZIIG				*e*S	Sg	08 52 05.7	-4.0
PLIG	**Platanillo**	**1.35**	**36**	*i* P	Pn	08 51 54.9	-4.1
PLIG				*e*S	Sb	08 52 12.8	-4.2
TLIG	**Tlapa**	**1.71**	**81**	*i* P	Pn	08 52 00.1	-3.9
TLIG				*i* S	Sn	08 52 21.1	-5.2

*NEIC **18** 08:53:59.7,52.85N×169.77W,h5km,ML3.1(AEIC), After AEIC.*

*IDC **18** 08:54:01.7±13.0,52.73N×168.94W,h0km,mb3.3/4, mb1 3.7/5,mb1mx3.4/44,mbtmp3.3/5,ML3.2/1,MS3.7/1, Ms1 3.7/1,ms1mx3.5/29,Error ellipse: s-maj=238.6km s-min=42.8km az=88.0*

ISC 18 08:53:58.3±2.0,53.0N±0.2×169.87W±0.07,h3km±15km, n22,σ1§34/24,mb3.3/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.61**	**89**	P	**Pg**	**08 54 09.7**	**-0.4**
NIKH				S	**Sg**	**08 54 18.5**	**+0.5**
OKAK	**Okmok**	**1.10**	**55**	P	**Pb**	**08 54 18.6**	**-1.3**
OKAK				S	**Sb**	**08 54 34.5**	**-0.1**
OKCE	**Okmok Cone E**	**1.13**	**65**	P	**Pb**	**08 54 20.1**	**-0.3**
OKTU	**Okmok Mt. Tuli**	**1.18**	**68**	P	**Pb**	**08 54 20.9**	**-0.4**
MSOM	**Makushin Julie**	**1.95**	**63**	P	**Pn**	**08 54 33.0**	**+0.8**
MSOM				S	**Sb**	**08 54 59.3**	**+0.3**
MGOD	**Makushin Gods**	**1.98**	**64**	P	**Pn**	**08 54 33.3**	**+0.6**
MSW	**Makushin Switc**	**2.08**	**61**	P	**Pn**	**08 54 35.6**	**+1.6**
MSW				S	**Sb**	**08 55 03.3**	**+0.5**
MTBL	**Makushin Table**	**2.16**	**61**	P	**Pn**	**08 54 37.0**	**+1.8**
UNV	**Unalaska Valle**	**2.20**	**65**	P	**Pn**	**08 54 36.7**	**+1.0**
UNV				S	**Sb**	**08 55 05.2**	**-1.1**
ZRO	**Akutan Zero**	**2.58**	**62**	P	**Pn**	**08 54 43.2**	**+2.2**
AHB	**Akutan Harbor**	**2.68**	**63**	P	**Pn**	**08 54 45.0**	**+2.8**
ATKA	**Atka Island**	**2.75**	**256**	P	**Pn**	**08 54 45.0**	**+1.9**
ATKA				S	**Sb**	**08 55 21.5**	**-0.4**
GSCK	**Great Sitkin C**	**3.96**	**259**	P	**Pn**	**08 55 00.8**	**+0.9**
ILAR	**Eielson Array** 0.0nm,0.3s,baz=226,slow=8.7,SNR=2.9	**16.64**	**36**	Pn	**Pn**	**08 57 52.8**	**+0.6**
PETK	**Petropavlovsk-** comp=Z,232nm,19.2s,baz=132,slow=36	**19.42**	**283**	LR	LR	09 05 55.6	
DLBC	**Dease Lake** 1.3nm,0.8s,baz=184,slow=19,SNR=2.5	**22.85**	**60**	P	**P**	**08 59 02.0**	**-0.4**
NVAR	**Mina Array Bea** 0.2nm,0.6s,baz=295,slow=11,SNR=2.9	**37.98**	**91**	P	**P**	**09 01 18.0**	**+0.6**
H11S1	**WAKE ISLAND Hy** baz=20	**38.93**	**217**	T	T	09 43 05.2	
H11S2	**WAKE ISLAND Hy** baz=20	**38.94**	**217**	T	T	09 43 14.3	
H11S3	**WAKE ISLAND Hy** baz=20	**38.95**	**217**	T	T	09 43 16.1	
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=318,slow=6.1,SNR=2.7	**40.59**	**79**	P	**P**	**09 01 36.8**	**-2.4**
TXAR	**Lajitas Array** 0.4nm,0.7s,baz=305,slow=5.4,SNR=7.0	**53.04**	**89**	P	**P**	**09 03 16.4**	**-0.2**

*ISCJB **18** 08:55:28.5±1.2,56.3S±0.4×123.9W±0.4,h10km,mb3.9/5, Error ellipse: s-maj=53.6km s-min=28.1km az=157.7*

*IDC **18** 08:55:28.6±1.2,56.15S×124.00W,h0km,mb4.0/5, mb1 4.1/5,mb1mx3.9/14,mbtmp4.0/5,Error ellipse: s-maj=52.3km s-min=30.8km az=159.0*

ISC 18 08:55:30.1±1.2,56.2S±0.4×124.0W±0.2,h10km,n6, σ0§10/6,mb3.9/5,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson** 2.8nm,0.9s,baz=153,slow=9.0,SNR=1.2	**56.46**	**183**	P	**P**	**09 05 11.3**	**0.0**
LPAZ	**La Paz** 0.7nm,0.7s,baz=232,slow=9.0,SNR=4.3	**57.81**	**70**	P	**P**	**09 05 22.3**	**0.0**
STKA	**Stephens Creek** 1.5nm,0.8s,baz=162,slow=9.6,SNR=4.3	**66.50**	**248**	P	**P**	**09 06 19.8**	**+0.1**
ASAR	**Alice Springs** 0.8nm,0.7s,baz=148,slow=5.5,SNR=7.2	**77.11**	**247**	P	**P**	**09 07 23.6**	**0.0**
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=143,slow=4.9,SNR=7.7	**79.96**	**249**	P	**P**	**09 07 39.4**	**0.0**
SONM	**Songino Array** 0.6nm,0.6s,baz=145,slow=5.1,SNR=3.1	**148.53**	**276**	PKPbc	**PKPbc**	**09 15 16.1**	**-0.1**

*IDC **18** 09:07:22.6±0.8,52.62N×170.00W,h0km,mb4.1/10, mb1 4.3/11,mb1mx3.9/33,mbtmp4.0/11,ML3.7/1,Error ellipse: s-maj=27.3km s-min=17.3km az=164.0*

*ISCJB **18** 09:07:23.5±1.0,52.62N±0.06×169.73W±0.06,h8km±6km, mb4.3/29,MS4.7/1,Error ellipse: s-maj=10.6km s-min=4.1km az=152.7*

*NEIC **18** 09:07:24.9,52.76N×169.71W,h5km,mb3.9/20, ML3.8(AEIC),After AEIC.*

ISC 18 09:07:24.4±1.6,52.70N±0.09×169.74W±0.05,h4km±10km, n69,σ1§05/70,mb4.0/29,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.60**	**63**	P	**Pg**	**09 07 36.0**	**0.0**
NIKH				S	**Sb**	**09 07 45.1**	**-1.2**
OKSP	**Okmok Steeple**	**1.03**	**57**	P	**Pg**	**09 07 43.8**	**-0.4**
OKSP				S	**Sg**	**09 07 58.0**	**+0.3**
OKCE	**Okmok Cone E**	**1.20**	**52**	P	**Pg**	**09 07 46.5**	**-0.8**
OKCE				S	**Sn**	**09 08 05.3**	**+0.7**
OKTU	**Okmok Mt. Tuli**	**1.23**	**56**	P	**Pg**	**09 07 47.5**	**-0.5**
MSOM	**Makushin Julie**	**2.01**	**55**	P	**Pn**	**09 07 59.1**	**0.0**
MSOM				S	**Sn**	**09 08 25.3**	**+0.7**
MCIR	**Makushin Cirqu**	**2.12**	**53**	P	**Pn**	**09 08 00.9**	**+0.3**
MSW	**Makushin Switc**	**2.15**	**54**	P	**Pn**	**09 08 00.9**	**-0.1**
MSW				S	**Sn**	**09 08 27.9**	**-0.2**
MTBL	**Makushin Table**	**2.23**	**54**	P	**Pn**	**09 08 02.4**	**+0.2**
UNV	**Unalaska Valle**	**2.26**	**58**	P	**Pn**	**09 08 01.9**	**-0.5**
UNV				S	**Sn**	**09 08 29.9**	**-0.7**
AKRB	**Akutan Reef Bi**	**2.62**	**55**	P	**Pn**	**09 08 07.7**	**+0.2**
ZRO	**Akutan Zero**	**2.65**	**57**	P	**Pn**	**09 08 08.8**	**+0.9**
AKGG	**Akutan Green G**	**2.70**	**55**	P	**Pn**	**09 08 09.4**	**+0.4**
AKGG				S	**Sn**	**09 08 43.5**	**+2.0**

	baz=25								
BOZ	**Bozeman (W)**	**37.72**	**77**	*e*P		**P**	**09 14 41.0**	**0.0**
	1.8nm,0.6s								
NVAR	**Mina Array Bea**	**37.90**	**91**	P		**P**	**09 14 43.9**	**+1.2**
	1.4nm,0.8s,baz=302,slow=8.5,SNR=8.2								
NVAR				PcP		**PcP**	**09 16 57.7**	**-1.0**
	0.2nm,0.5s,baz=297,slow=4.0,SNR=2.9								
ELK	**Elko**	**38.33**	**86**	P		**P**	**09 14 46.8**	**+0.4**
	1.9nm,0.7s,baz=288,slow=10,SNR=7.0								
H11S1	**WAKE ISLAND Hy**	**38.77**	**217**	T		T	09 55 59.9		
	baz=22,slow=76,SNR=14								
H11S2	**WAKE ISLAND Hy**	**38.78**	**217**	T		T	09 56 00.5		
	baz=22,slow=76,SNR=22								
H11S3	**WAKE ISLAND Hy**	**38.79**	**217**	T		T	09 55 59.6		
	baz=22,slow=76,SNR=13								
IMW	**Indian Meadow**	**39.09**	**79**	*e*P		**P**	**09 14 53.0**	**+0.3**
	3.1nm,1.1s								
HVU	**Hansel Valley**	**39.21**	**83**	*e*P		**P**	**09 14 54.1**	**+0.5**
	1.9nm,0.8s								
RLMT	**Red Lodge**	**39.40**	**76**	*e*P		**P**	**09 14 54.7**	**-0.5**
	2.7nm,0.8s								
R11A	**Troy Canyon, C**	**39.60**	**89**	*e*P		**P**	**09 14 57.2**	**+0.3**
	2.3nm,0.9s								
DUG	**Dugway**	**40.14**	**85**	*e*P		**P**	**09 15 01.8**	**+0.4**
	3.0nm,1.0s								
PDAR	**Pinedale Array**	**40.56**	**79**	P		**P**	**09 15 04.9**	**-0.1**
	1.8nm,0.6s,baz=324,slow=4.7,SNR=24								
MSU	**Marysvale**	**41.57**	**86**	*e*P		**P**	**09 15 13.8**	**+0.5**
	1.8nm,1.0s								
SRU	**San Rafael**	**42.20**	**84**	*e*P		**P**	**09 15 18.6**	**+0.2**
	2.2nm,0.7s								
O20A	**White River Ci**	**42.94**	**82**	*e*P		**P**	**09 15 24.3**	**0.0**
	9.3nm,0.9s								
PV04	**Paradox Valley**	**43.63**	**84**	*e*P		**P**	**09 15 29.5**	**-0.5**
PV01	**Paradox Valley**	**44.00**	**84**	*e*P		**P**	**09 15 32.8**	**-0.2**
	340nm,0.6s								
SDCO	**Great Sand Dun**	**46.10**	**82**	*e*P		**P**	**09 15 49.7**	**-0.1**
	1.8nm,0.9s								
HHC	**Hu-ho-hao-te**	**52.59**	**291**	*e*P		P	09 16 42.9	+3.8	
HHC				S		**S**	**09 24 07.8**	**+1.1**	
HHC				pmax		pmax			
	comp=Z,22nm,1.1s								
HHC				pmax		pmax			
	comp=Z,170nm,7.4s								
HHC				LR		LR			
	comp=N,440nm,18.5s								
HHC				LR		LR			
	comp=E,410nm,18.5s								
HHC				LR		LR			
	comp=Z,510nm,17.3s								
TXAR	**Lajitas Array**	**52.97**	**89**	P		**P**	**09 16 41.9**	**-0.1**	
	comp=Z,2.9nm,0.7s,baz=299,slow=5.5,SNR=40								
TXAR				PcP		**PcP**	**09 17 50.1**	**-0.7**	
	comp=Z,0.3nm,0.6s,baz=270,slow=1.8,SNR=1.7								
JCT	**Junction City**	**54.50**	**85**	*e*P		**P**	**09 16 52.0**	**-1.2**	
	comp=Z,5.0nm,0.9s								
WHTX	**Lake Whitney**	**54.85**	**82**	*e*P		**P**	**09 16 56.1**	**+0.5**	
	comp=Z,5.2nm,0.9s								
LZH	**Lanzhou**	**60.25**	**291**	*e*P		P	09 17 38.3	+4.4	
LZH				pP		pP	09 17 45.9	+11	
LZH				sP		sP	09 17 49.5	+14	
LZH				pmax		pmax			
	comp=Z,15nm,1.0s								
WMQ	**Urumqi**	**63.15**	**308**	*e*P		P	09 17 57.8	+4.6	
WMQ				pP		pP	09 18 07.8	+13	
WMQ				sP		sP	09 18 11.8	+17	
WMQ				pmax		pmax			
	comp=Z,7.0nm,1.0s								
WMQ				pmax		pmax			
	comp=Z,61nm,4.0s								
CD2	**Chengdu**	**64.05**	**287**	P		**P**	**09 18 00.3**	**+1.0**	
CD2				pmax		pmax			
	comp=Z,20nm,0.6s								
WRA	**Warramunga Arr**	**87.04**	**231**	P		**P**	**09 20 08.8**	**-2.1**	
	comp=Z,1.2nm,0.8s,baz=33,slow=6.0,SNR=8.9								
AS31	**Alice Springs**	**90.44**	**230**	*e*P		**P**	**09 20 25.7**	**-1.3**	
ASAR	**Alice Springs**	**90.44**	**230**	P		**P**	**09 20 24.7**	**-2.2**	
	comp=Z,3.9nm,0.8s,baz=32,slow=4.8,SNR=37								
BOSA	**Boshof**	**153.49**	**329**	PKPbc		**PKPbc**	**09 27 22.3**	**-1.7**	
	comp=Z,1.6nm,0.6s,baz=297,slow=2.3,SNR=3.6								

NNC 18 09:13:26.1±1.5,39°39N×71°45E,h0km,mb3.7,mpv3.3, 6C-6D,Error ellipse: s-maj=16.5km s-min=8.4km az=172.0,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.70**	**68**	⇑P	Pn	09 13 56.7	-0.7
	4.0nm,0.3s						
SFK				⇑S	Sn	09 14 19.9	-0.3
	38nm,0.3s						
DZET	**Dzherino**	**2.12**	**255**	⇑Pn	Pn	09 14 03.2	+0.2
	14nm,0.2s						
DZET				⇓Lg	Lg	09 14 31.7	
	98nm,0.4s						
KK31	**Karatay Array**	**3.78**	**350**	⇓Pn	Pn	09 14 28.6	+2.9
	1.7nm,0.2s,baz=177,slow=14,SNR=77						
KK31				Sn	Sn	09 15 17.2	-3.0
	2.2nm,0.2s,baz=213,slow=41,SNR=6.8						
AAK	**Ala-Archa**	**3.98**	**34**	⇓Pn	Pn	09 14 31.8	+3.2
	2.4nm,0.4s						
AAK				⇑Lg	Lg	09 15 32.9	
	13nm,0.6s						
TKM2	**Tokmak 2**	**4.72**	**40**	⇓Pn	Pn	09 14 41.3	+2.4
	1.5nm,0.3s						
TKM2				⇓Lg	Lg	09 15 55.9	
	7.1nm,0.9s						
AB31	**Akbulak array**	**12.84**	**324**	⇓Pn	Pn	09 16 26.9	-2.9
	0.3nm,0.4s,baz=140,slow=12,SNR=18						
AB31				Sn	Sn	09 18 49.4	-4.0
	0.8nm,0.5s,baz=149,slow=21,SNR=6.0						
AKTO	**Aktyubinsk**	**14.55**	**324**	⇑Pn	P	09 16 59.4	-0.6
	2.3nm,0.8s						
AKTO				⇑Sn	Sn	09 19 32.0	-3.2
	1.1nm,0.7s						

SKO 18 09:14:04.2,41°62N×22°28E,h24km,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.37**	**144**	*e*Pg	Pb	09 14 12.5	+0.3
VAY				*e*Sg	Sb	09 14 18.2	+0.5

*CSEM **18** 09:14:58.3,45°71N×26°47E,h154km,MD3.5/4*

BUC 18 09:14:59.0±0.9,45°65N×26°51E,h146km±7km,MD2.7/2, 21C-3D,Error ellipse: s-maj=10.1km s-min=4.7km az=5.0,Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.22**	**26**	⇑*i*P	Pn	09 15 18.9	0.0
PLOR	**Plostina**	**0.22**	**26**	⇑*i*P	Pn	09 15 18.9	0.0
PLOR				*i* S	Sn	09 15 34.4	+0.2
PLOR	**Plostina**	**0.22**	**26**	⇑*i*P	Pn	09 15 18.9	0.0
PLOR				*i* S	Sn	09 15 34.4	+0.2
VRI	**Vrincioaia**	**0.27**	**35**	⇑*i*P	Pn	09 15 19.1	+0.1
VRI	**Vrincioaia**	**0.27**	**35**	⇑*i*P	Pn	09 15 19.1	+0.1
VRI				*i* S	Sn	09 15 34.2	-0.1
VRI	**Vrincioaia**	**0.27**	**35**	⇑*i*P	Pn	09 15 19.1	+0.1
VRI				*i* S	Sn	09 15 34.2	-0.1
MLR	**Muntele Rosu**	**0.43**	**249**	⇑*i*P	Pn	09 15 20.2	+0.4
MLR	**Muntele Rosu**	**0.43**	**249**	⇑*i*P	Pn	09 15 20.2	+0.4
MLR				*i* S	Sn	09 15 35.0	-0.5
MLR	**Muntele Rosu**	**0.43**	**249**	⇑*i*P	Pn	09 15 20.2	+0.4
MLR				*i* S	Sn	09 15 35.0	-0.5
VOIR		**1.05**	**259**	⇑*i*P	Pn	09 15 24.1	+0.2
VOIR		**1.05**	**259**	⇑*i*P	Pn	09 15 24.1	+0.2
VOIR				*i* S	Sn	09 15 42.7	-0.2
VOIR		**1.05**	**259**	⇑*i*P	Pn	09 15 24.1	+0.2
VOIR				*i* S	Sn	09 15 41.9	-1.0
CFR	**Carcaliu**	**1.24**	**112**	⇑*i*P	Pn	09 15 25.8	+0.2
CFR	**Carcaliu**	**1.24**	**112**	⇑*i*P	Pn	09 15 25.8	+0.2
CFR				*i* S	Sn	09 15 45.5	-0.3
CFR	**Carcaliu**	**1.24**	**112**	⇑*i*P	Pn	09 15 25.8	+0.2
CFR				*i* S	Sn	09 15 45.8	0.0
HARR	**Harsova**	**1.39**	**133**	⇓*i*P	Pn	09 15 27.4	+0.3
HARR	**Harsova**	**1.39**	**133**	⇓*i*P	Pn	09 15 27.4	+0.3
HARR	**Harsova**	**1.39**	**133**	⇓*i*P	Pn	09 15 27.4	+0.3
TLCR		**1.69**	**105**	⇑*i*P	Pn	09 15 31.0	+0.7
TLCR		**1.69**	**105**	⇑*i*P	Pn	09 15 31.0	+0.7
TLCR				*i* S	Sn	09 15 53.8	-0.4
TLCR		**1.69**	**105**	⇑*i*P	Pn	09 15 31.0	+0.7
TLCR				*i* S	Sn	09 15 53.8	-0.4
TIRR	**Tirgusor**	**1.80**	**131**	⇑*i*P	Pn	09 15 31.8	+0.3
TIRR	**Tirgusor**	**1.80**	**131**	⇑*i*P	Pn	09 15 31.8	+0.3
TIRR	**Tirgusor**	**1.80**	**131**	⇑*i*P	Pn	09 15 31.8	+0.3

*ISCJB **18** 09:28:38.5±0.6,52°.6N±0°.1×169°.7W±0°.1,h10km,mb3.4/6, Error ellipse: s-maj=21.2km s-min=5.3km az=150.0*
*IDC **18** 09:28:38.3±1.2,52°.47N×169°.77W,h0km,mb3.5/6, mb1 3.8/7,mb1mx3.4/46,mbtmp3.4/7,ML3.2/1,Error ellipse: s-maj=52.0km s-min=21.9km az=149.0*
*NEIC **18** 09:28:39.5,52°.54N×169°.51W,h10km,ML3.5(AEIC),After AEIC.*

ISC 18 09:28:39.7±0.8,52°8N±0°.2×169°82W±0°.07,h10km,n24, σ1°27/26,mb3.4/6,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.61**	**75**	P	**Pg**	**09 28 50.6**	**-0.8**
NIKH				S	**Sg**	**09 28 59.2**	**-0.2**
OKAK	**Okmok**	**1.17**	**49**	P	**Pn**	**09 29 00.3**	**-1.7**
OKTU	**Okmok Mt. Tuli**	**1.22**	**61**	P	**Pn**	**09 29 02.1**	**-0.7**
OKTU				S	**Sn**	**09 29 20.5**	**+1.2**
OKRE	**Okmok R'deer P**	**1.22**	**54**	P	**Pb**	**09 29 03.5**	**+0.7**
MGOD	**Makushin Gods**	**2.02**	**60**	P	**Pn**	**09 29 13.7**	**-0.2**
MCIR	**Makushin Cirqu**	**2.09**	**56**	P	**Pn**	**09 29 15.1**	**+0.2**
UNV	**Unalaska Valle**	**2.24**	**61**	*e*Pn	**Pn**	**09 29 16.9**	**0.0**
UNV				*e*Sn	**Sb**	**09 29 46.2**	**-1.9**
AKRB	**Akutan Reef Bi**	**2.60**	**58**	P	**Pn**	**09 29 23.5**	**+1.8**
AHB	**Akutan Harbor**	**2.73**	**60**	P	**Pn**	**09 29 22.2**	**-1.3**
ATKA	**Atka Island**	**2.74**	**259**	P	**Pn**	**09 29 24.3**	**+0.7**
AKUT	**Akutan**	**2.76**	**60**	*e*Pn	**Pn**	**09 29 26.0**	**+2.1**
AKUT				*e*Pg	**Pg**	**09 29 31.7**	**-0.8**
AKUT				*e*S	**Sb**	**09 30 02.6**	**-0.2**
GSTR	**Great Sitkin T**	**3.88**	**262**	*e*Pn	Pn	09 29 43.6	+4.2
SDPT	**Sand Point**	**6.06**	**62**	*e*Pg	**Pg**	**09 30 35.7**	**+0.1**
AMKA	**Amchitka**	**6.85**	**262**	*e*Pn	**Pn**	**09 30 21.8**	**+1.7**
AMKA				*e*Sn	**Sn**	**09 31 36.0**	**-2.1**
ILAR	**Eielson Array**	**16.74**	**35**	Pn	**Pn**	**09 32 34.7**	**+0.7**
	0.0nm,0.3s,baz=236,slow=10,SNR=4.5						
DLBC	**Dease Lake**	**22.90**	**60**	P	**P**	**09 33 45.9**	**+2.6**
	1.0nm,0.8s,baz=278,slow=7.1,SNR=3.2						
NVAR	**Mina Array Bea**	**37.95**	**91**	P	**P**	**09 35 57.7**	**+0.2**
	0.2nm,0.5s,baz=296,slow=9.0,SNR=2.9						
H11S1	**WAKE ISLAND Hy**	**38.83**	**217**	T	T	10 17 13.6	
	baz=24						
H11S2	**WAKE ISLAND Hy**	**38.84**	**217**	T	T	10 17 13.6	
	baz=24						
H11S3	**WAKE ISLAND Hy**	**38.85**	**217**	T	T	10 17 14.8	
	baz=24						
PDAR	**Pinedale Array**	**40.59**	**79**	P	**P**	**09 36 19.1**	**-0.4**
	0.2nm,0.3s,baz=319,slow=5.9,SNR=4.1						
TXAR	**Lajitas Array**	**53.02**	**89**	P	**P**	**09 37 56.3**	**-0.5**
	0.5nm,0.8s,baz=293,slow=4.9,SNR=7.7						
WRA	**Warramunga Arr**	**87.07**	**231**	P	**P**	**09 41 24.0**	**-1.4**
	0.4nm,0.9s,baz=31,slow=5.6,SNR=2.6						
ASAR	**Alice Springs**	**90.47**	**230**	P	**P**	**09 41 41.6**	**+0.2**
	0.8nm,1.0s,baz=22,slow=6.1,SNR=3.6						

*IDC **18** 09:29:49.1±1.2,52°.74N×170°.06W,h0km,mb3.8/8, mb1 4.1/9,mb1mx3.6/46,mbtmp3.7/9,ML3.3/1,MS4.1/1, Ms1 4.1/1,ms1mx3.3/46,Error ellipse: s-maj=41.8km s-min=20.5km az=144.0*
*ISCJB **18** 09:29:50.3±1.3,52°.56N±0°.09×169°.7W±0°.1,h7km±7km, mb3.8/8,MS3.9/1,Error ellipse: s-maj=19.0km s-min=6.5km az=144.7*
*NEIC **18** 09:29:54.2,52°.77N×169°.47W,h5km,mb3.7/4, ML3.6(AEIC),After AEIC.*

ISC 18 09:29:51.5±1.8,52°.6N±0°.1×169°.62W±0°.06,h3km±11km, n36,σ1°.09/33,mb3.8/8,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.57**	**54**	P	**Pg**	**09 30 02.6**	**+0.1**
NIKH				S	**Sg**	**09 30 10.7**	**+0.7**
OKSP	**Okmok Steeple**	**1.01**	**52**	P	**Pg**	**09 30 10.2**	**-0.7**
OKSP				S	**Sg**	**09 30 23.5**	**-0.5**
OKCE	**Okmok Cone E**	**1.18**	**47**	P	**Pg**	**09 30 13.7**	**-0.5**
OKCE				S	**Sb**	**09 30 30.3**	**+0.1**
OKTU	**Okmok Mt. Tuli**	**1.21**	**51**	P	**Pg**	**09 30 14.0**	**-0.7**
MSOM	**Makushin Julie**	**1.99**	**53**	P	**Pn**	**09 30 25.8**	**-0.3**
MSOM				S	**Sn**	**09 30 50.6**	**-0.9**
MCIR	**Makushin Cirqu**	**2.10**	**50**	P	**Pn**	**09 30 28.0**	**+0.4**
MSW	**Makushin Switc**	**2.13**	**52**	P	**Pn**	**09 30 28.1**	**+0.2**
MTBL	**Makushin Table**	**2.21**	**52**	P	**Pn**	**09 30 29.9**	**+0.8**
UNV	**Unalaska Valle**	**2.23**	**56**	*e*Pn	**Pn**	**09 30 29.2**	**-0.1**
UNV				*e*Sn	**Sn**	**09 30 58.2**	**+0.8**
ZRO	**Akutan Zero**	**2.62**	**55**	P	**Pn**	**09 30 36.2**	**+1.5**
AKUT	**Akutan**	**2.75**	**55**	*e*Pn	**Pn**	**09 30 37.1**	**+0.7**
AKUT				*e*S	**Sb**	**09 31 13.9**	**-1.4**
ATKA	**Atka Island**	**2.84**	**263**	P	**Pn**	**09 30 37.7**	**0.0**
ATKA				S	**Sb**	**09 31 17.8**	**0.0**
SPIA	**Saint Paul Isl**	**4.56**	**356**	P	**Pn**	**09 31 02.4**	**+1.1**
SDPT	**Sand Point**	**6.04**	**60**	Pn	Pn	**09 31 29.2**	**+4.7**
SML	**Sawmill**	**14.67**	**43**	*e*Pn	**Pn**	**09 33 22.0**	**+2.3**
BPAW	**Bear Paw Mtn.**	**15.00**	**33**	*e*P	**P**	**09 33 29.4**	**-0.5**
	1.7nm,1.0s						
COLA	**College**	**16.55**	**34**	*e*P	**Pn**	**09 33 45.3**	**+1.1**
	3.2nm,0.9s						
ILAR	**Eielson Array**	**16.82**	**35**	Pn	**Pn**	**09 33 44.6**	**-3.1**
	0.1nm,0.3s,baz=231,slow=12,SNR=4.5						
EGAK	**Eagle**	**18.93**	**39**	*e*P	**Pn**	**09 34 14.7**	**+1.1**
	1.3nm,0.6s						
HYT	**Haines Junctio**	**19.25**	**52**	*e*P	**Pn**	**09 34 18.2**	**+0.4**
	3.5nm,0.4s						
SKAG	**Skagway**	**20.15**	**57**	*e*P	**P**	**09 34 27.8**	**+1.3**
	21nm,1.1s						
SEY	**Seymchan**	**22.37**	**312**	LR	LR	09 43 44.8	
	comp=Z,461nm,18.9s,baz=342,slow=38						
DLBC	**Dease Lake**	**22.88**	**60**	P	**P**	**09 34 56.3**	**+0.3**
	6.7nm,1.1s,baz=272,slow=10,SNR=6.3						
INK	**Inuvik**	**23.21**	**34**	P	**P**	**09 34 57.0**	**-2.2**
	2.1nm,0.9s,baz=245,slow=10,SNR=4.0						
NEW	**Newport**	**33.09**	**76**	P	**P**	**09 36 28.3**	**-0.1**
	1.1nm,0.7s,baz=290,slow=12,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**37.57**	**218**	T	T	10 16 54.4	
	baz=23,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**37.58**	**218**	T	T	10 16 55.3	
	baz=23,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**37.59**	**218**	T	T	10 16 55.9	
	baz=23,slow=75,SNR=13						
NVAR	**Mina Array Bea**	**37.82**	**91**	P	**P**	**09 37 10.0**	**+0.7**
	0.6nm,0.8s,baz=304,slow=9.7,SNR=4.6						
H11S1	**WAKE ISLAND Hy**	**38.76**	**217**	T	T	10 18 24.1	
	baz=23,slow=76,SNR=51						
H11S2	**WAKE ISLAND Hy**	**38.78**	**217**	T	T	10 18 24.9	
	baz=23,slow=76,SNR=36						
H11S3	**WAKE ISLAND Hy**	**38.78**	**218**	T	T	10 18 26.6	
	baz=23,slow=76,SNR=35						
PDAR	**Pinedale Array**	**40.50**	**79**	P	**P**	**09 37 31.4**	**-0.3**
	1.0nm,0.9s,baz=323,slow=5.8,SNR=7.4						
TXAR	**Lajitas Array**	**52.90**	**89**	P	**P**	**09 39 08.6**	**-0.1**
	0.9nm,0.6s,baz=301,slow=5.5,SNR=11						
WRA	**Warramunga Arr**	**87.05**	**231**	P	P	09 42 35.8	-2.5
	0.5nm,0.9s,baz=34,slow=5.7,SNR=5.3						
ASAR	**Alice Springs**	**90.45**	**230**	P	P	09 42 51.8	-2.5
	0.8nm,0.8s,baz=26,slow=5.2,SNR=9.6						

WEL 18 09:36:02.8±0.3,39°52S×174°33E,h228km±2km,ML3.7/12, 11C-5D,Error ellipse: s-maj=2.6km s-min=1.6km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LREZ	**Lake Rotokare**	**0.08**	**45**	PN	Pn	09 36 32.7	+0.3
LREZ				SN	S	09 36 54.2	-1.2
NEZ	**North Egmont**	**0.30**	**324**	PN	Pn	09 36 32.7	-0.1
NEZ				SN	S	09 36 54.7	-1.4
WAZ	**Wanganui**	**0.56**	**115**	⇑PN	Pn	09 36 33.7	+0.4
WAZ				SN	S	09 36 56.3	-0.9
PKVZ	**Pokaka**	**0.82**	**74**	PN	Pn	09 36 34.2	-0.3
PKVZ				SN	S	09 36 58.0	-1.3
MTVZ	**Mangateitei**	**0.90**	**82**	PN	Pn	09 36 34.8	-0.1
MTVZ				SN	S	09 36 58.5	-1.5
FWVZ	**Far West T-bar**	**0.98**	**75**	PN	Pn	09 36 35.4	-0.3
WPVZ	**Whakapapa**	**0.99**	**72**	⇓PN	Pn	09 36 35.4	-0.2
WNVZ	**Wahianoa**	**1.00**	**79**	PN	Pn	09 36 35.4	-0.2
WHVZ	**Whangaehu Hut**	**1.01**	**77**	PN	Pn	09 36 35.4	-0.3
HIZ	**Hauiti**	**1.08**	**22**	PN	Pn	09 36 35.1	-1.0
MOVZ	**Moawhango**	**1.11**	**85**	PN	Pn	09 36 35.7	-0.6
BHHZ	**Black Hill Sta**	**1.34**	**89**	PN	Pn	09 36 37.3	-0.6
TSZ	**Takapari Road**	**1.37**	**114**	PN	Pn	09 36 37.9	0.0
TSZ				AML	AML	09 37 05.1	
TSZ				AML	AML	09 37 05.6	
POWZ	**Post Office Ro**	**1.41**	**129**	PN	Pn	09 36 38.2	-0.1
KIW	**Kapiti Island**	**1.41**	**162**	PN	Pn	09 36 38.3	0.0
KIW				AML	AML	09 37 04.3	
KIW				AML	AML	09 37 04.7	
OGWZ	**Otaki Gorge**	**1.45**	**154**	⇑PN	Pn	09 36 38.6	+0.1
MRZ	**Mangatainoka R**	**1.49**	**140**	⇑PN	Pn	09 36 38.7	-0.2
MRZ				AML	AML	09 37 05.6	
MRZ				AML	AML	09 37 05.8	
PNHZ	**Pukenui**	**1.50**	**106**	PN	Pn	09 36 39.0	0.0
KRHZ	**Kereru**	**1.58**	**95**	⇓PN	Pn	09 36 39.7	0.0
DVHZ	**Dannevirke**	**1.62**	**119**	PN	Pn	09 36 39.9	-0.1
KWHZ	**Kaweka Forest**	**1.62**	**87**	PN	Pn	09 36 40.2	+0.1
PRWZ	**Pori Road**	**1.63**	**130**	PN	Pn	09 36 40.3	+0.2
HOWZ	**Holdsworth Sta**	**1.65**	**147**	PN	Pn	09 36 40.0	-0.2
CAW	**Cannon Point**	**1.69**	**161**	PN	Pn	09 36 40.4	-0.1
CAW				AML	AML	09 37 09.1	
CAW				AML	AML	09 37 09.4	
BKZ	**Black Stump Fm**	**1.71**	**79**	PN	Pn	09 36 40.4	-0.5
BKZ				AML	AML	09 37 09.1	
WPHZ	**Waipukurau**	**1.72**	**109**	⇑PN	Pn	09 36 41.0	+0.2
TIWZ	**Tintock**	**1.73**	**137**	⇑PN	Pn	09 36 40.9	-0.1
TIWZ				AML	AML	09 37 09.8	
TIWZ				AML	AML	09 37 11.3	
MCHZ	**McNeill Hill**	**1.83**	**88**	PN	Pn	09 36 42.5	+0.7
NNZ	**Nelson**	**1.85**	**203**	⇓PN	Pn	09 36 41.8	-0.1
MTW	**Mount Morrison**	**1.87**	**152**	⇑PN	Pn	09 36 41.8	-0.3
MTW				AML	AML	09 37 11.8	
MTW				AML	AML	09 37 11.8	
BFZ	**Birch Farm**	**1.87**	**129**	⇑PN	Pn	09 36 42.1	-0.1
ANWZ	**Angora Road**	**1.90**	**120**	PN	Pn	09 36 42.7	+0.3
QRZ	**Quartz Range**	**1.90**	**226**	⇓PN	Pn	09 36 41.6	-0.8
PRHZ	**Porangahau**	**1.93**	**114**	⇑PN	Pn	09 36 43.0	+0.3
TUWZ	**Tuamarina**	**1.93**	**189**	PN	Pn	09 36 42.6	-0.1
TUWZ				AML	AML	09 37 11.8	
TUWZ				AML	AML	09 37 12.7	
BHW	**Baring Head**	**1.93**	**168**	PN	Pn	09 36 42.6	-0.1
KAHZ	**Kahuranaki**	**1.99**	**99**	PN	Pn	09 36 43.8	+0.5
TMWZ	**Te Maipa**	**1.99**	**144**	⇑PN	Pn	09 36 43.1	-0.2
PXZ	**Pawanui**	**2.02**	**106**	⇑PN	Pn	09 36 43.8	+0.2
PXZ				AML	AML	09 37 14.5	
PXZ				AML	AML	09 37 16.5	
MSWZ	**Moikau Station**	**2.02**	**160**	PN	Pn	09 36 43.2	-0.4
MSWZ				AML	AML	09 37 14.5	
PAWZ	**Paruwai Farm**	**2.04**	**156**	PN	Pn	09 36 43.4	-0.3
PAWZ				AML	AML	09 37 14.9	
PAWZ				AML	AML	09 37 16.0	
TRWZ	**Traveller**	**2.15**	**152**	PN	Pn	09 36 44.6	-0.2
PLWZ	**Palliser**	**2.17**	**161**	PN	Pn	09 36 44.6	-0.4
BSWZ	**Blackbirch Sta**	**2.22**	**189**	PN	Pn	09 36 45.5	0.0
RAHZ	**Arahi**	**2.23**	**75**	PN	Pn	09 36 45.6	-0.1
RAHZ				SN	S	09 37 16.6	-2.6
THZ	**Tophouse**	**2.49**	**205**	⇓PN	Pn	09 36 48.0	-0.4
URZ	**Urewera**	**2.51**	**61**	PN	Pn	09 36 46.9	-1.7
URZ				AML	AML	09 37 19.2	
URZ				AML	AML	09 37 19.8	
MWZ	**Matawai**	**2.76**	**66**	PN	Pn	09 36 50.2	-1.1
RIGZ	**Rimuhau**	**2.79**	**74**	PN	Pn	09 36 51.3	-0.4
DSZ	**Denniston Nort**	**2.94**	**220**	PN	Pn	09 36 52.5	-0.8
TKGZ	**Te Karaka**	**2.95**	**70**	PN	Pn	09 36 52.8	-0.5
KHZ	**Kahutara**	**2.96**	**191**	PN	Pn	09 36 52.9	-0.4
TWGZ	**Tauwhareparae**	**3.15**	**66**	PN	Pn	09 36 55.1	-0.6
CNGZ	**Carnagh Statio**	**3.19**	**72**	PN	Pn	09 36 56.1	0.0
HAZ	**Te Kaha**	**3.23**	**58**	PN	Pn	09 36 54.0	-1.9
PUZ	**Puketiti**	**3.39**	**66**	PN	Pn	09 36 57.2	-1.2
PUZ				SN	S	09 37 37.3	-4.8
LTZ	**Lake Taylor**	**3.61**	**205**	PN	Pn	09 37 00.3	-0.7
LTZ				SN	S	09 37 43.0	-3.8
MXZ	**Matakaoa Point**	**3.68**	**59**	PN	Pn	09 37 00.5	-1.3
OXZ	**Oxford**	**4.17**	**204**	PN	Pn	09 37 06.3	-1.4
OXZ

FINES	**FINESS Array B**	**59.01**	**337**	P		**P**	**09 52 16.2**	**-1.1**
	0.7nm,0.5s,baz=38,slow=9.6,SNR=9.8							
TXAR	**Lajitas Array**	**68.33**	**70**	P		**P**	**09 53 19.4**	**0.0**
	0.2nm,0.7s,baz=294,slow=4.6,SNR=3.1							
ASAR	**Alice Springs**	**82.24**	**207**	P		P	09 54 39.7	+0.5
	0.2nm,0.5s,baz=15,slow=4.9,SNR=4.4							
ESDC	**Sonseca Array**	**85.01**	**350**	P		**P**	**09 54 52.9**	**-0.7**
	0.2nm,0.4s,baz=20,slow=4.1,SNR=3.5							

IDC ***18*** *09:42:28.3±11.0, 52.56N×171.30W, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.4/30, mbtmp3.3/5, ML3.2/1, Error ellipse: s-maj=220.7km s-min=42.3km az=80.0*

ISCJB ***18*** *09:42:36.8±1.3, 52.6N±0.1×169.5W±0.1, h5km±8km, mb3.3/4, Error ellipse: s-maj=19.5km s-min=5.4km az=150.7*

NEIC ***18*** *09:42:38.5, 52.74N×169.49W, h4km, ML3.4(AEIC), After AEIC.*

ISC 18 09:42:37.7±2.0, 52.7N±0.1×169.45W±0.06, h6km±13km, n28, σ0.99/28, mb3.4/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.46**	**51**	P	**Pb**	**09 42 48.4**	**+0.2**
NIKH				S	**Sb**	**09 42 55.3**	**-0.1**
OKSP	**Okmok Steeple**	**0.90**	**51**	P	**Pb**	**09 42 56.0**	**+0.2**
OKCE	**Okmok Cone E**	**1.08**	**46**	P	**Pg**	**09 42 58.6**	**+0.3**
OKCE				S	**Sn**	**09 43 14.6**	**+0.1**
OKTU	**Okmok Mt. Tuli**	**1.10**	**50**	P	**Pg**	**09 42 59.5**	**+0.6**
MSOM	**Makushin Julie**	**1.88**	**52**	P	**Pn**	**09 43 11.1**	**+0.7**
MCIR	**Makushin Cirqu**	**1.99**	**49**	P	**Pn**	**09 43 13.1**	**+1.2**
MSW	**Makushin Switc**	**2.02**	**51**	P	**Pn**	**09 43 13.2**	**+0.9**
MSW				S	**Sb**	**09 43 39.9**	**-0.2**
MTBL	**Makushin Table**	**2.10**	**51**	P	**Pn**	**09 43 14.5**	**+1.1**
UNV	**Unalaska Valle**	**2.12**	**56**	P	**Pn**	**09 43 13.8**	**+0.2**
AKRB	**Akutan Reef Bi**	**2.49**	**53**	P	**Pb**	**09 43 21.0**	**-1.8**
AKRB				S	**Sb**	**09 43 53.5**	**-0.1**
ZRO	**Akutan Zero**	**2.51**	**54**	P	**Pb**	**09 43 21.3**	**-1.9**
AKUT	**Akutan**	**2.64**	**55**	*e*Pn	**Pb**	**09 43 23.3**	**-2.0**
AKUT				*e*S	**Sb**	**09 43 58.5**	**+0.6**
ATKA	**Atka Island**	**2.94**	**262**	P	**Pn**	**09 43 25.0**	**+0.1**
GSTR	**Great Sitkin T**	**4.09**	**264**	*e*Pn	**Pn**	**09 43 40.8**	**0.0**
GSTR				*e*S	**Sb**	**09 44 39.6**	**-0.1**
GSCK	**Great Sitkin C**	**4.17**	**263**	P	**Pn**	**09 43 42.3**	**+0.5**
ADAG	**Mount Adagdak**	**4.44**	**264**	P	**Pn**	**09 43 47.3**	**+1.8**
SPIA	**Saint Paul Isl**	**4.53**	**355**	P	**Pn**	**09 43 47.5**	**+0.9**
ILAR	**Eielson Array**	**16.72**	**35**	Pn	**Pn**	**09 46 31.6**	**-0.6**
	0.0nm,0.3s,baz=232,slow=1.1,SNR=3.6						
INK	**Inuvik**	**23.11**	**34**	P	**P**	**09 47 42.6**	**-1.2**
	1.5nm,0.9s,baz=254,slow=5.5,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**37.67**	**218**	T	T	10 29 53.8	
	baz=21						
H11N3	**WAKE ISLAND Hy**	**37.68**	**218**	T	T	10 29 54.4	
	baz=21						
H11N1	**WAKE ISLAND Hy**	**37.69**	**218**	T	T	10 29 52.7	
	baz=21						
NVAR	**Mina Array Bea**	**37.72**	**91**	P	**P**	**09 49 55.5**	**+1.4**
	0.3nm,0.9s,baz=297,slow=8.0,SNR=3.2						
H11S1	**WAKE ISLAND Hy**	**38.86**	**218**	T	T	10 31 24.0	
	baz=23,slow=76,SNR=71						
H11S2	**WAKE ISLAND Hy**	**38.88**	**218**	T	T	10 31 23.2	
	baz=23,slow=76,SNR=48						
H11S3	**WAKE ISLAND Hy**	**38.88**	**218**	T	T	10 31 23.3	
	baz=23,slow=76,SNR=41						
PDAR	**Pinedale Array**	**40.39**	**79**	P	**P**	**09 50 16.4**	**-0.1**
	0.6nm,1.0s,baz=308,slow=7.3,SNR=4.7						
TXAR	**Lajitas Array**	**52.79**	**89**	P	**P**	**09 51 53.6**	**-0.1**
	0.5nm,0.6s,baz=294,slow=5.3,SNR=10						

GUC 18 10:01:27.5±0.5, 36.66S×73.20W, h27km±3km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.20**	**160**	*e*P	Pb	10 01 33.8	+0.4
CCSP				*e*S	Sb	10 01 38.1	+0.7
CCSP				AML	AML	10 01 39.3	
	comp=E,11μm,0.4s						
U14B	**Concepcin**	**0.22**	**155**	*e*P	Pb	10 01 33.9	+0.3
U14B				*e*S	Sb	10 01 38.5	+0.6
U14B				AML	AML	10 01 40.6	
	comp=N,26μm,0.5s						
COCH	**Cobquecura**	**0.62**	**32**	*e*P	Pb	10 01 39.8	+0.1
COCH				*e*S	Sn	10 01 49.1	-0.4
LNCH	**Linares**	**1.52**	**58**	*e*P	Pb	10 01 54.5	+1.5
LNCH				*e*S	Sb	10 02 14.5	+0.7
TALC	**Talca**	**1.78**	**46**	*e*P	Pn	10 01 57.9	+1.4
TALC				*e*S	Sb	10 02 21.9	+0.5
NICH	**Los Niches**	**2.29**	**45**	*e*P	Pb	10 02 06.0	-2.2
NICH				*e*S	Sb	10 02 35.9	-0.3
CLCH	**Cerro Calan**	**3.92**	**35**	*e*P	Pn	10 02 26.8	+0.8
CLCH				*e*S	Sn	10 03 13.2	+2.1

MEX 18 10:04:56.4±0.8, 16.23N×100.60W, h16km±40km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.88**	**21**	*i* P	Pb	10 05 09.4	-3.8
CAIG				*i* S	Sb	10 05 21.1	-3.7
ZIIG	**Zihuatanejo**	**1.61**	**329**	*i* P	Pn	10 05 20.7	-3.4
ZIIG				*i* S	Sn	10 05 39.1	-5.4
MEIG	**Mezcala**	**1.93**	**29**	*i* P	Pn	10 05 26.0	-2.7
MEIG				*e*S	Sn	10 05 47.9	-4.9
ARIG	**Puente Sto Nin**	**2.06**	**7**	*i* P	Pn	10 05 27.9	-2.5
ARIG				*e*S	Sn	10 05 50.7	-5.1
TLIG	**Tlapa**	**2.35**	**55**	*i* P	Pn	10 05 31.5	-3.1
TLIG				*e*S	Sn	10 05 59.1	-4.2
PLIG	**Platanillo**	**2.39**	**26**	*i* P	Pn	10 05 32.9	-2.2
PLIG				*e*S	Sn	10 05 59.1	-5.1

ISCJB ***18*** *10:07:20.7±0.1, 52.86N±0.03×169.92W±0.03, h10km, mb4.8/170, MS4.0/22, Error ellipse: s-maj=4.7km s-min=2.4km az=176.3*

IDC ***18*** *10:07:20.9±0.5, 52.99N×169.93W, h0km, mb4.4/30, mb1 4.5/30, mb1mx4.5/33, mbtmp4.4/30, MS4.0/23, Ms1 4.0/23, ms1mx3.8/43, Error ellipse: s-maj=17.1km s-min=10.7km az=171.0*

BJI ***18*** *10:07:20.4, 52.80N×169.80W, h10km, mb4.9/18, mB4.9/13, Ms4.5/9, Ms7 4.3/10*

NEIC ***18*** *10:07:22.9, 52.73N×169.54W, h3km, mb4.8/138, ML4.5(AEIC), After AEIC.*

MOS ***18*** *10:07:23.8±1.0, 53.00N×169.96W, h28km, mb5.0/45, Error ellipse: s-maj=8.3km s-min=7.0km az=53.0*

ISC 18 10:07:23.3±0.5, 52.99N±0.06×169.81W±0.03, h13km±2km, h12km:pP-P, n782, σ0.98/802, mb4.8/170, MS4.0/22, 8C-5D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.58**	**91**	P	**Pg**	**10 07 33.4**	**-1.1**
NIKH				S	**Sg**	**10 07 41.7**	**-0.5**
OKAK	**Okmok**	**1.05**	**55**	P	**Pb**	**10 07 42.4**	**-1.0**
OKCE	**Okmok Cone E**	**1.08**	**65**	P	**Pb**	**10 07 43.8**	**-0.1**
OKCE				S	**Sn**	**10 08 01.0**	**+1.9**
OKTU	**Okmok Mt. Tuli**	**1.14**	**69**	P	**Pn**	**10 07 44.9**	**0.0**
MGOD	**Makushin Gods**	**1.94**	**64**	P	**Pn**	**10 07 56.8**	**+0.9**
MGOD				S	**Sb**	**10 08 22.4**	**-0.1**
MCIR	**Makushin Cirqu**	**1.99**	**60**	P	**Pb**	**10 07 58.6**	**-0.8**
MSW	**Makushin Switc**	**2.04**	**62**	P	**Pn**	**10 07 58.6**	**+1.3**
MTBL	**Makushin Table**	**2.11**	**61**	P	**Pb**	**10 08 00.1**	**-1.3**
UNV	**Unalaska Valle**	**2.16**	**65**	P	**Pn**	**10 08 00.4**	**+1.5**
AKRB	**Akutan Reef Bi**	**2.51**	**61**	P	**Pb**	**10 08 06.0**	**-2.2**
AKRB				S	**Sb**	**10 08 37.8**	**-1.2**
ZRO	**Akutan Zero**	**2.54**	**63**	P	**Pn**	**10 08 06.3**	**+2.1**
AKGG	**Akutan Green G**	**2.58**	**60**	P	**Pn**	**10 08 06.9**	**+2.2**
AKUT	**Akutan**	**2.67**	**63**	P	**Pn**	**10 08 07.1**	**+1.2**
AKUT				S	**Sb**	**10 08 41.3**	**-2.2**
ATKA	**Atka Island**	**2.79**	**255**	P	**Pn**	**10 08 08.0**	**+0.4**
ATKA				S	**Sn**	**10 08 43.0**	**+1.9**
WESP	**Westdahl Peak**	**3.38**	**61**	P	**Pn**	**10 08 17.9**	**+2.2**
GSTR	**Great Sitkin T**	**3.92**	**259**	*e*Pn	**Pn**	**10 08 25.3**	**+2.1**
GSTR				*e*S	**Sb**	**10 09 15.9**	**-3.6**
GSTD	**Great Sitkin T**	**3.98**	**259**	P	**Pn**	**10 08 25.4**	**+1.4**
GSCK	**Great Sitkin C**	**4.00**	**258**	P	**Pn**	**10 08 26.8**	**+2.5**
SPIA	**Saint Paul Isl**	**4.21**	**357**	P	Pn	10 08 30.6	+3.5
SPIA				S	**Sb**	**10 09 22.9**	**-4.8**
FALS	**False Pass**	**4.22**	**61**	*e*Pn	**Pn**	**10 08 29.9**	**+2.7**
ADAG	**Mount Adagdak**	**4.27**	**259**	P	**Pn**	**10 08 30.4**	**+2.4**
SDPT	**Sand Point**	**5.97**	**63**	*e*Pn	Pn	10 08 55.6	+4.4
AMKA	**Amchitka**	**6.89**	**261**	*e*Pn	**Pn**	**10 09 06.7**	**+2.9**
	172nm,0.6s						
CHGN	**Chignik**	**7.40**	**59**	*e*Pn	Pn	10 09 14.2	+3.4
OHAK	**Old Harbor**	**10.37**	**59**	*e*Pn	**Pn**	**10 09 51.9**	**+0.4**
KDAK	**Kodiak Island**	**10.90**	**57**	*i* P	**Pn**	**10 10 00.1**	**+1.3**
KDAK	**Kodiak Island**	**10.90**	**57**	*e*Pn	**Pn**	**10 10 00.4**	**+1.6**
RSO	**Redoubt South**	**11.96**	**45**	*e*Pn	Pn	10 10 18.5	+4.9
	61nm,0.5s						
PPLA	**Purkeypile**	**13.59**	**36**	*e*Pn	P	10 10 41.2	-3.5
PMR	**Palmer**	**14.06**	**44**	*e*P	**P**	**10 10 47.7**	**-2.0**
PMR				pmax	pmax		
	comp=Z,20nm,1.2s						
PMR	**Palmer**	**14.06**	**44**	*e*Pn	**P**	**10 10 47.7**	**-2.0**
	comp=Z,20nm,1.2s						
SML	**Sawmill**	**14.49**	**44**	*e*P	**P**	**10 10 52.8**	**-1.8**
SML				pmax	pmax		
	comp=Z,9.0nm,1.0s						
SML	**Sawmill**	**14.49**	**44**	*e*Pn	**P**	**10 10 52.8**	**-1.8**
	comp=Z,8.9nm,1.0s						
TRF	**Thorofare Moun**	**14.61**	**37**	*e*Pn	**P**	**10 10 54.0**	**-2.1**
BPAW	**Bear Paw Mtn.**	**14.78**	**34**	*e*Pn	**P**	**10 10 56.5**	**-1.2**
EYAK	**Cordova Ski Ar**	**15.14**	**50**	*e*Pn	**P**	**10 11 01.4**	**-0.3**
	comp=Z,21nm,1.0s						
MCK	**McKinley**	**15.27**	**37**	*e*P	**P**	**10 11 01.5**	**-1.7**
MCK				pmax	pmax		
	comp=Z,40nm,1.2s						
MCK	**McKinley**	**15.27**	**37**	*e*P	**P**	**10 11 01.5**	**-1.7**
	comp=Z,40nm,1.2s						
IM04	**Indian Mountai**	**15.28**	**25**	*e*P	**P**	**10 11 03.0**	**-0.3**
DIV	**Divide**	**15.33**	**48**	*e*P	**Pn**	**10 10 58.5**	**-0.7**
	comp=Z,26nm,1.1s						
DHY	**Denali Highway**	**15.50**	**41**	*e*P	**P**	**10 11 06.8**	**+0.9**
	comp=Z,10.0nm,0.9s						
BMRM	**Bremner River**	**15.81**	**50**	*e*P	**Pn**	**10 11 04.7**	**-0.7**
	comp=Z,33nm,1.0s						
HARP	**HAARP**	**16.10**	**44**	*e*Pn	**P**	**10 11 12.6**	**+0.2**
	comp=Z,98nm,1.1s						
CCB	**Clear Creek Bu**	**16.20**	**35**	*e*Pn	**Pn**	**10 11 11.9**	**+1.5**
	comp=Z,26nm,1.2s						
PAX	**Paxson**	**16.22**	**42**	*e*P	**Pn**	**10 11 12.2**	**+1.6**
PAX				pmax	pmax		
	comp=Z,31nm,1.4s						
PAX	**Paxson**	**16.22**	**42**	*e*P	**Pn**	**10 11 12.2**	**+1.6**
	comp=Z,31nm,1.4s						
COLA	**College**	**16.32**	**35**	*i* P	**P**	**10 11 14.1**	**-0.7**
COLA				pmax	pmax		
	comp=Z,142nm,1.2s						
COLA	**College**	**16.32**	**35**	*e*P	**P**	**10 11 13.8**	**-1.0**
	comp=Z,29nm,0.9s						
ILAR	**Eielson Array**	**16.60**	**36**	Pn	**Pn**	**10 11 15.9**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=226,slow=11,SNR=39						
ILAR				LR	LR	10 18 11.9	
	comp=Z,335nm,18.6s,baz=246,slow=39						
MENT	**Mentasta**	**16.92**	**44**	*e*P	**P**	**10 11 21.8**	**+0.2**
COLD	**Coldfoot**	**17.17**	**26**	*e*P	**P**	**10 11 27.3**	**+3.1**
	comp=Z,35nm,1.2s						
EGAK	**Eagle**	**18.73**	**40**	*e*P	**P**	**10 11 41.5**	**+0.2**
	comp=Z,12nm,0.8s						
PET	**Petropavlovsk**	**18.91**	**283**	*i*P	**P**	**10 11 41.8**	**-1.6**
PET				pmax	pmax		
	comp=Z,30nm,1.7s						
HYT	**Haines Junctio**	**19.13**	**53**	*e*P	**Pn**	**10 11 48.0**	**+1.1**
DAWY	**Dawson**	**19.15**	**43**	*e*P	**Pn**	**10 11 46.9**	**0.0**
PETK	**Petropavlovsk-**	**19.45**	**283**	P	**Pn**	**10 11 50.4**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=92,slow=14,SNR=10.0						
SKAG	**Skagway**	**20.06**	**57**	*e*P	Pn	10 11 58.0	+0.3
	comp=Z,71nm,0.9s						
BESE	**Bessie Mountai**	**20.27**	**60**	*e*P	Pn	10 12 00.3	0.0
	comp=Z,15nm,1.0s						
WRAK	**Wrangell Islan**	**21.73**	**66**	*e*P	P	10 12 19.3	+5.3
	comp=Z,13nm,0.9s						
SEY	**Seymchan**	**22.06**	**312**	P	**P**	**10 12 16.9**	**-0.5**
	comp=Z,320nm,0.9s,baz=103,slow=8.9,SNR=58						
SEY				PcP	**PcP**	**10 16 14.5**	**-0.2**
	comp=Z,4.9nm,0.7s,baz=157,slow=2.5,SNR=10						
SEY				ScP	**ScP**	**10 19 52.6**	**+1.2**
	comp=Z,1.5nm,0.7s,baz=155,slow=4.5,SNR=3.9						
MA2	**Magadan**	**22.58**	**303**	*e*P	**P**	**10 12 26.9**	**+3.8**
DLBC	**Dease Lake**	**22.80**	**60**	P	**P**	**10 12 27.0**	**+1.5**
	comp=Z,49nm,0.9s,baz=274,slow=9.6,SNR=90						
DLBC				LR	LR	10 21 24.3	
	comp=Z,391nm,19.3s,baz=286,slow=37						
DLBC	**Dease Lake**	**22.80**	**60**	*e*P	**P**	**10 12 29.0**	**+3.5**
INK	**Inuvik**	**22.98**	**34**	P	**P**	**10 12 26.6**	**-0.6**
	comp=Z,18nm,1.0s,baz=247,slow=9.4,SNR=26						
INK				PcP	**PcP**	**10 16 16.6**	**+0.2**
	comp=Z,3.5nm,0.7s,baz=272,slow=1.0,SNR=6.9						
INK	**Inuvik**	**22.98**	**34**	*e*P	**P**	**10 12 26.6**	**-0.6**
INK						10 16 16.6	
INK				pmax	pmax		
	comp=Z,28nm,1.1s						
INK	**Inuvik**	**22.98**	**34**	*e*P	**P**	**10 12 26.6**	**-0.6**
	comp=Z,28nm,1.1s						
INK				PcP	**PcP**	**10 16 16.6**	**+0.2**
BBB	**Bella Bella**	**25.09**	**75**	P	**P**	**10 12 46.8**	**-0.5**
	comp=Z,20nm,1.1s,baz=291,slow=14,SNR=3.7						
BBB				LR	LR	10 20 27.2	
	comp=Z,208nm,21.4s,baz=258,slow=31						
YKA	**Yellowknife Ar**	**30.04**	**50**	P	**P**	**10 13 31.8**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=272,slow=8.3,SNR=5.3						
F04D	**Rainier, OR**	**30.68**	**84**	P	**P**	**10 13 38.6**	**+1.2**
	baz=30						
D05A	**Enumclaw**	**30.75**	**81**	*e*P	**P**	**10 13 41.1**	**+3.1**
	comp=Z,58nm,1.4s						
G03D	**McMinnville, O**	**30.98**	**86**	P	**P**	**10 13 40.6**	**+0.5**
	baz=31						
LON	**Longmire**	**31.07**	**82**	*e*P	**P**	**10 13 42.0**	**+1.1**
LON				pmax	pmax		
	comp=Z,5.0nm,0.9s						
LON	**Longmire**	**31.07**	**82**	*e*P	**P**	**10 13 42.0**	**+1.1**
	comp=Z,5.1nm,0.9s						
I03D	**Drain, OR**	**31.74**	**88**	P	**P**	**10 13 47.4**	**+0.7**
	baz=32						
B08A	**Colville Reser**	**31.77**	**78**	*e*P	**P**	**10 13 48.6**	**+1.6**
	comp=Z,16nm,0.9s						
G05D	**Wamic, OR**	**32.13**	**84**	P	**P**	**10 13 51.7**	**+1.4**
	baz=32						
I04A	**Tendick Farm,**	**32.25**	**87**	P	**P**	**10 13 52.6**	**+1.3**
	baz=32,SNR=10						
L02D	**Cave Junction,**	**32.46**	**91**	P	**P**	**10 13 54.6**	**+1.4**
	baz=32						
CROR	**Criterion Ridg**	**32.47**	**84**	P	**P**	**10 13 55.3**	**+2.0**
YAK	**Yakutsk**	**32.57**	**310**	P	**P**	**10 13 52.4**	**-1.3**
	comp=Z,1.9nm,0.4s,baz=139,slow=3.5,SNR=4.5						
YAK	**Yakutsk**	**32.57**	**310**	*e*P	**P**	**10 13 53.1**	**-0.7**
YAK				pmax	pmax		
	comp=Z,17nm,1.0s						
BBOR	**Butler Butte**	**32.60**	**89**	P	**P**	**10 13 57.0**	**+2.5**
I05D	**Terrebonne, OR**	**32.60**	**86**	P	**P**	**10 13 55.7**	**+1.3**
	baz=32,SNR=11						
OD2	**Odessa Site #2**	**32.60**	**79**	P	**P**	**10 13 55.2**	**+0.9**
HAWA	**Hanford**	**32.61**	**81**	*e*P	**P**	**10 13 56.0**	**+1.6**
	comp=Z,36nm,1.4s						
VTHM	**Trough**	**32.62**	**84**	P	**P**	**10 13 56.4**	**+1.8**
D08A	**Wollman Farm,**	**32.64**	**80**	*e*P	**P**	**10 13 55.5**	**+0.9**
J04D	**Umpqua Nationa**	**32.74**	**88**	P	**P**	**10 13 56.9**	**+1.1**
	baz=32,SNR=5.4						
ERM	**Erimo**	**33.05**	**270**	*de*P	**P**	**10 13 57.8**	**-0.4**
ERM				pmax	pmax		
	comp=Z,16nm,1.2s						
NEW	**Newport**	**33.12**	**77**	*e*P	**P**	**10 14 00.2**	**+1.3**
NEW				pmax	pmax		
	comp=Z,20nm,0.9s						
NEW	**Newport**	**33.12**	**77**	P	**P**	**10 14 00.3**	**+1.3**
	baz=33,SNR=26						
NEW	**Newport**	**33.12**	**77**	*e*P	**P**	**10 14 00.2**	**+1.3**
	comp=Z,20nm,0.9s						
EDM	**Edmonton**	**33.14**	**66**	*e*P	**P**	**10 14 00.1**	**+1.1**
EDM	**Edmonton**	**33.14**	**66**	*e*P	**P**	**10 14 00.1**	**+1.1**
J05D	**Fort Rock, OR**	**33.25**	**87**	P	**P**	**10 14 02.5**	**+2.4**
	baz=33,SNR=12						
YBH	**Yreka Blue Hor**	**33.25**	**91**	*e*P	P	10 14 03.4	+3.3
YBH				pmax	pmax		
	comp=Z,15nm,1.1s						
YBH	**Yreka Blue Hor**	**33.25**	**91**	*e*P	P	10 14 03.4	+3.3
	comp=Z,15nm,1.1s						
K04D	**Chiloquin, OR**	**33.31**	**88**	P	**P**	**10 14 01.0**	**+0.3**
	baz=33						
M02C	**Callahan**	**33.37**	**91**	P	**P**	**10 14 02.7**	**+1.6**
	baz=33						
G08A	**Pilot Rock**	**33.52**	**82**	*e*P	**P**	**10 14 03.9**	**+1.4**
	comp=Z,14nm,1.4s						
N02D	**Trinity Center**	**33.70**	**92**	P	**P**	**10 14 05.0**	**+1.0**
	baz=33						
M04C	**Macdoel**	**33.75**	**90**	P	**P**	**10 14 05.9**	**+1.4**
	baz=34,SNR=9.4						
K05A	**Summer Lake**	**33.77**	**88**	*e*P	**P**	**10 14 07.5**	**+2.7**
	comp=Z,35nm,0.9s						
WDC	**Whiskeytown Da**	**34.04**	**92**	*e*P	**P**	**10 14 09.1**	**+2.2**
WDC				pmax	pmax		
	comp=Z,51nm,2.0s						
WDC	**Whiskeytown Da**	**34.04**	**92**	*e*P	**P**	**10 14 09.1**	**+2.2**
	comp=Z,51nm,2.0s						
LKVW	**Lakeview**	**34.38**	**88**	P	**P**	**10 14 12.2**	**+2.2**
HABR	**Khabarovsk**	**34.46**	**285**	*e*P	**P**	**10 14 08.5**	**-1.9**
HABR				*e**SP	**sP**	**10 14 12.9**	**-3.0**
HABR						10 15 23.3	
HABR				*e*		10 16 43.6	
HABR				*e*S	**S**	**10 19 37.5**	**-0.7**
HABR				*e*SS	**SnSn**	**10 21 48.7**	**+0.1**
HABR				*e*SSS	SSS	10 22 05.2	
HABR				*e*		10 24 31.7	
HABR				pmax	pmax		
	comp=E,23nm,1.6s						
HABR				pmax	pmax		
	comp=Z,19nm,1.6s						
HABR				pmax	pmax		
	comp=N,18nm,2.2s						
HABR				MLR	MLR		
	comp=Z,112nm,16.0s						
MOD	**Modoc**	**34.61**	**88**	*e*P	**P**	**10 14 14.0**	**+2.0**
	comp=Z,18nm,0.8s						
LBCM	**Butte Creek Ri**	**34.61**	**91**	P	**P**	**10 14 13.8**	**+1.8**
WALA	**Waterton Lakes**	**34.62**	**73**	*e*P	**P**	**10 14 12.9**	**+0.9**
BSMT	**Bassoo Peak**	**34.69**	**76**	*e*P	**P**	**10 14 13.7**	**+0.9**
	comp=Z,22nm,1.0s						
BMO	**Blue Mountains**	**34.75**	**82**	*e*P	**P**	**10 14 14.4**	**+1.3**
	comp=Z,26nm,1.6s						
BLMT	**Blacktail Moun**	**34.86**	**75**	*e*P	**P**	**10 14 15.6**	**+1.4**
JTMT	**Jette**	**35.04**	**76**	*e*P	**P**	**10 14 16.8**	**+1.2**
YBMT	**Yellow Bay**	**35.14**	**75**	*e*P	**P**	**10 14 17.5**	**+1.0**
	comp=Z,14nm,1.1s						
WVOR	**Wild Horse Val**	**35.30**	**86**	*e*P	**P**	**10 14 19.7**	**+1.7**
WVOR				pmax	pmax		
	comp=Z,27nm,1.0s						
WVOR	**Wild Horse Val**	**35.30**	**86**	*e*P	**P**	**10 14 19.7**	**+1.7**
	comp=Z,27nm,1.0s						
SWMT	**Swartz Lake**	**35.33**	**76**	*e*P	**P**	**10 14 19.0**	**+0.9**
	comp=Z,6.5nm,1.2s						
MSO	**Missoula**	**35.70**	**77**	P	**P**	**10 14 21.4**	**+0.1**
	baz=36,SNR=7.0						
MSO	**Missoula**	**35.70**	**77**	*e*P	**P**	**10 14 22.3**	**+0.9**
	comp=Z,26nm,1.3s						
SLMT	**Seeley Lake**	**35.76**	**76**	*e*P	**P**	**10 14 22.3**	**+0.4**
	comp=Z,23nm,1.2s						
CHMT	**Chamberlain Mo**	**36.07**	**76**	*e*P	**P**	**10 14 24.9**	**+0.3**
	comp=Z,4.3nm,0.5s						
MFID	**Camas Ranch**	**36.43**	**83**	*e*P	**P**	**10 14 28.8**	**+1.2**
	comp=Z,16nm,1.3s						
CMB	**Columbia Colle**	**36.94**	**94**	*e*P	**P**	**10 14 33.3**	**+1.4**
CMB				pmax	pmax		
	comp=Z,13nm,1.5s						
CMB	**Columbia Colle**	**36.94**	**94**	*e*P	**P**	**10 14 33.3**	**+1.4**
	comp=Z,13nm,1.5s						
HRY	**Holter Researc**	**37.01**	**76**	*e*P	**P**	**10 14 33.1**	**+0.6**
	comp=Z,10nm,0.8s						
LRM	**Limekiln Ridge**	**37.11**	**77**	*e*P	**P**	**10 14 33.9**	**+0.4**
	comp=Z,47nm,1.0s						
HLID	**Hailey**	**37.19**	**82**	P	**P**	**10 14 34.4**	**+0.2**
	baz=37,SNR=14						
HLID	**Hailey**	**37.19**	**82**	*e*P	**P**	**10 14 35.0**	**+0.9**
	comp=Z,21nm,1.5s						
WAKR	**Walker**	**37.21**	**92**	*e*P	**P**	**10 14 36.6**	**+2.2**
DLMT	**Dillon**	**37.28**	**78**	*e*P	**P**	**10 14 35.1**	**+0.3**
	comp=Z,8.6nm,1.1s						
BMN	**Battle Mountai**	**37.35**	**88**	*e*P	**P**	**10 14 37.2**	**+1.7**
BMN				pmax	pmax		
	comp=Z,15nm,0.9s						
BMN	**Battle Mountai**	**37.35**	**88**	*e*P	**P**	**10 14 37.2**	**+1.7**
	comp=Z,15nm,0.9s						
MCMT	**McKenzie Canyo**	**37.42**	**79**	*e*P	**P**	**10 14 36.8**	**+0.6**
EGMT	**Eagleton**	**37.53**	**73**	P	**P**	**10 14 37.2**	**+0.3**
	baz=37,SNR=18						
EGMT	**Eagleton**	**37.53**	**73**	*e*P	**P**	**10 14 37.6**	**+0.7**
	comp=Z,37nm,1.1s						
A19A	**Klindworth Far**	**37.66**	**71**	P	**P**	**10 14 37.7**	**-0.2**
	baz=37,SNR=9.7						
BOZ	**Bozeman (W)**	**37.69**	**77**	*e*P	**P**	**10 14 39.1**	**+0.8**
BOZ				pmax	pmax		
	comp=Z,19nm,1.1s						
BOZ	**Boze

HVU Hansel Valley 39.22 83 eP P 10 14 51.4 +0.2
comp=Z,2.5nm,0.8s
HVU Hansel Valley 39.22 83 eP P 10 14 51.4 +0.2
MOOW Moose Ponds 39.27 79 eP P 10 14 52.6 +0.9
comp=Z,1.5nm,0.7s
TPAW Teton Pass 39.30 80 eP P 10 14 53.2 +1.2
comp=Z,3.2nm,0.8s
PKM Peak Mountain 39.36 97 P P 10 14 53.6 +1.1
baz=39
RLMT Red Lodge 39.37 76 P P 10 14 52.6 +0.1
baz=39,SNR=30
RLMT Red Lodge 39.37 76 eP P 10 14 53.9 +1.4
comp=Z,33nm,1.1s
CWC Cottonwood Cre 39.37 94 P P 10 14 53.7 +1.1
baz=39
GRAC Grapevine Rang 39.43 92 P P 10 14 54.5 +1.6
baz=39,SNR=9.8
REDW Red Top Meadow 39.43 80 eP P 10 14 54.5 +1.4
comp=Z,20nm,1.5s
SNOW Snow King Moun 39.43 79 eP P 10 14 54.6 +1.5
comp=Z,6.9nm,1.1s
LOHW Long Hollow 39.44 79 eP P 10 14 53.9 +0.8
comp=Z,16nm,1.6s
MJAR Matsushiro Arr 39.46 267 P P 10 14 52.2 -0.9
comp=Z,2.3nm,0.7s,baz=54,slow=6.2,SNR=1.4
MJAR PcP PcP 10 17 00.4 -0.4
comp=Z,3.5nm,0.9s,baz=51,slow=1.2,SNR=4.9
MJAR ScP ScP 10 20 49.2 +0.3
comp=Z,0.3nm,0.4s,baz=58,slow=2.9,SNR=4.5
MJAR LR LR 10 29 08.2
comp=Z,159nm,21.7s,baz=40,slow=33
MAJO Matsushiro 39.46 267 eP P 10 14 53.1 0.0
MAJO pmax pmax
comp=Z,80nm,1.0s
BGU Big Grassy Mou 39.58 84 eP P 10 14 55.2 +1.0
comp=Z,23nm,1.5s
R11A Troy Canyon, C 39.64 89 P P 10 14 55.1 +0.3
baz=39,SNR=57
R11A Troy Canyon, C 39.64 89 eP P 10 14 56.2 +1.4
comp=Z,26nm,1.0s
F20A Billings 39.65 75 P P 10 14 54.7 0.0
baz=39,SNR=12
ISA Isabella 39.65 95 eP P 10 14 55.9 +1.1
ISA pmax pmax
comp=Z,13nm,1.1s
ISA Isabella 39.65 95 P P 10 14 55.3 +0.5
baz=39,SNR=7.5
ISA Isabella 39.65 95 eP P 10 14 55.9 +1.1
comp=Z,13nm,1.1s
DAC Darwin (Calif) 39.77 93 eP P 10 14 57.5 +1.6
DAC pmax pmax
comp=Z,18nm,1.2s
DAC Darwin (Calif) 39.77 93 eP P 10 14 57.5 +1.6
comp=Z,18nm,1.2s
H19A Powell 39.79 77 P P 10 14 56.4 +0.5
baz=40,SNR=17
ARVC Arvin 39.80 96 P P 10 14 56.1 +0.2
baz=40
E21A Keefer Ranch, 39.87 73 P P 10 14 57.0 +0.6
baz=40
G20A Bridger 39.93 76 P P 10 14 57.3 +0.2
baz=40,SNR=28
MPMC Manual Prospec 39.98 94 P P 10 14 58.5 +0.9
baz=40,SNR=17
HWUT Hardware Ranch 40.04 82 eP P 10 14 58.9 +0.7
comp=Z,11nm,1.4s
FURC Furnace Creek, 40.09 93 P P 10 14 59.1 +0.9
baz=40,SNR=15
BSC Santa Cruz Isl 40.09 98 P P 10 14 60.0 +1.6
baz=40
TPNV Topopah Spring 40.14 92 P P 10 14 59.9 +1.0
baz=40,SNR=44
I19A Meeteetse 40.15 78 P P 10 14 59.0 0.0
baz=40,SNR=7.8
DUG Dugway 40.15 85 eP P 10 15 00.0 +1.0
DUG pmax pmax
comp=Z,22nm,1.1s
DUG Dugway 40.15 85 P P 10 14 60.0 +1.0
baz=40,SNR=30
DUG Dugway 40.15 85 eP P 10 15 00.0 +1.0
comp=Z,22nm,1.1s
OSI Osito Adit 40.21 96 P P 10 15 00.7 +1.3
baz=40
F21A Absaloka Mine, 40.23 74 P P 10 14 59.7 +0.1
baz=40
LRMC Laurel Mountai 40.25 94 P P 10 15 00.1 +0.3
baz=40,SNR=6.5
LAO LASA Array 40.28 72 P P 10 15 00.5 +0.7
baz=40,SNR=7.0
LAO LASA Array 40.28 72 eP P 10 15 00.9 +1.1
comp=Z,16nm,1.1s
BLG Laguna Peak 40.35 97 P P 10 15 00.4 -0.2
baz=40
TCUT Toone Canyon 40.43 83 eP P 10 15 02.4 +1.0
comp=Z,27nm,1.4s
EDW2 Edwards Air Fo 40.47 95 P P 10 15 02.3 +0.7
baz=40
H20A Greybull 40.48 76 P P 10 15 01.4 -0.1
baz=40,SNR=7.2
G21A Lodge Grass 40.52 75 P P 10 15 01.5 -0.4
baz=40,SNR=7.7
BW06 Boulder Array 40.55 80 eP P 10 15 02.8 +0.4
comp=Z,6.5nm,0.8s
PDAR Pinedale Array 40.55 80 P P 10 15 02.8 +0.5
comp=Z,5.7nm,0.8s,baz=318,slow=6.0,SNR=41
J19A Crowheart 40.56 79 P P 10 15 02.8 +0.4
baz=40,SNR=5.2
E22A Miles City 40.57 73 P P 10 15 02.7 +0.4
baz=40
DECC Green Verdugo 40.70 96 P P 10 15 03.8 +0.4
baz=40
I20A Worland 40.71 77 P P 10 15 03.7 +0.2
baz=40
JLU Jordanelle 40.72 84 eP P 10 15 05.0 +1.1
comp=Z,33nm,1.8s
NLU North Lily Min 40.75 85 eP P 10 15 05.3 +1.3
comp=Z,8.9nm,1.0s
FCC Fort Churchill 40.75 51 eP P 10 15 04.1 +0.6
FCC Fort Churchill 40.75 51 eP P 10 15 04.1 +0.6
F22A Rosebud 40.76 74 P P 10 15 03.9 0.0
baz=40,SNR=8.3
SHOC Shoshone 40.82 93 P P 10 15 04.8 +0.4
baz=40,SNR=14
A25A Svangstu Ranch 40.84 68 P P 10 15 04.6 +0.2
baz=41
C24A Savage 40.85 70 P P 10 15 05.7 +1.2
baz=41,SNR=10.0
GSC Goldstone 40.90 94 eP P 10 15 06.7 +1.6
GSC pmax pmax
comp=Z,31nm,1.0s
GSC Goldstone 40.90 94 P P 10 15 06.1 +1.0
baz=41,SNR=22
GSC Goldstone 40.90 94 eP P 10 15 06.7 +1.6
comp=Z,31nm,1.0s
E23A Ismay 40.91 72 P P 10 15 06.1 +1.0
baz=41,SNR=9.7
H21A Big Horn, Sher 40.96 76 P P 10 15 05.7 +0.2
baz=41
G22A Birney 41.06 74 P P 10 15 06.6 +0.2
baz=41,SNR=7.1
RRX Edison Barstow 41.07 95 P P 10 15 07.3 +0.8
baz=41
J20A Shoshoni 41.08 78 P P 10 15 07.4 +0.8
baz=41,SNR=12
FMP Fort Macarthur 41.09 97 P P 10 15 07.2 +0.6
baz=41
SHPR Sheep Range 41.09 91 eP P 10 15 07.8 +1.0
BFSC Mount Baldy Ra 41.11 96 P P 10 15 07.6 +0.7
baz=41,SNR=6.4
D24A Glendive 41.13 71 P P 10 15 08.2 +1.3
baz=41,SNR=17
B25A Knox Farm, Ray 41.17 69 P P 10 15 07.2 0.0
baz=41
CIS Catalina Islan 41.24 97 P P 10 15 08.5 +0.7
baz=41
I21A Big Trails, Te 41.28 77 P P 10 15 08.3 0.0
baz=41,SNR=13
F23A Volborg 41.29 73 P P 10 15 08.2 0.0
baz=41,SNR=10.0
TUQ Turquoise Moun 41.34 93 P P 10 15 09.5 +0.7
baz=41,SNR=6.9
H22A Clearmont 41.38 75 P P 10 15 09.2 +0.2
baz=41
BOD Bodaibo 41.40 308 eP P 10 15 08.4 -0.4
BOD pmax pmax
comp=Z,9.0nm,1.3s
C25A Freed Ranch, W 41.42 69 P P 10 15 09.5 +0.3
baz=41
SCI San Clemente I 41.45 98 P P 10 15 10.7 +1.1
baz=41
E24A Baker 41.45 72 P P 10 15 10.5 +1.0
baz=41
A26A Wade Farm, Ken 41.46 67 P P 10 15 09.7 +0.2
baz=41
J21A Lysite 41.46 77 P P 10 15 10.2 +0.4
baz=41,SNR=18
CCUT Cedar City 41.50 89 eP P 10 15 11.4 +1.2
comp=Z,19nm,1.3s
HEC Hector,Ludlow 41.51 94 P P 10 15 10.8 +0.7
baz=41,SNR=5.7
BBRC Big Bear Solar 41.54 95 P P 10 15 11.9 +1.3
baz=41,SNR=5.5
MVU Marysvale 41.58 87 eP P 10 15 12.3 +1.4
comp=Z,16nm,1.1s
G23A Biddle 41.59 74 P P 10 15 10.9 +0.2
baz=41,SNR=6.0
MSU Marysvale 41.59 87 eP P 10 15 12.0 +1.0
MSU pmax pmax
comp=Z,12nm,1.1s
MSU Marysvale 41.59 87 eP P 10 15 12.0 +1.0
comp=Z,12nm,1.1s
B26A Jensen Ranch, 41.63 68 P P 10 15 11.5 +0.5
baz=41
TMUT Trail Mountain 41.68 85 eP P 10 15 13.1 +1.3
comp=Z,17nm,0.9s
D25A Fairfield 41.69 70 P P 10 15 12.1 +0.6
baz=42
I22A 9 Mile Ranch, 41.71 76 P P 10 15 11.8 +0.1
baz=42,SNR=7.0
F24A Ekalaka 41.77 73 P P 10 15 12.4 +0.2
baz=42,SNR=13
MURC Murrieta 41.83 96 P P 10 15 13.0 +0.3
baz=42
P17A Butcher Ranch, 41.85 84 eP P 10 15 14.3 +1.3
A27A Ledoux Ranch, 41.87 67 P P 10 15 13.1 +0.2
baz=42
GMRC Granite Mounta 41.95 93 P P 10 15 14.2 +0.4
baz=42,SNR=24
H23A Clabaugh Cattl 41.95 75 P P 10 15 13.0 -0.7
baz=42
J22A Midwest 41.99 77 P P 10 15 14.2 +0.2
baz=42,SNR=31
E25A Miller Ranch, 42.00 71 P P 10 15 14.2 +0.1
baz=42
C26A Wahner Farm, P 42.01 69 P P 10 15 14.4 +0.4
baz=42
LDFC Landfair 42.08 93 eP P 10 15 16.0 +1.2
comp=Z,39nm,0.9s
G24A Alzada 42.08 73 P P 10 15 14.7 0.0
baz=42,SNR=5.3
B27A Peters Farms, 42.16 68 P P 10 15 15.5 +0.3
baz=42
SRU San Rafael 42.21 85 eP P 10 15 17.3 +1.4
SRU pmax pmax
comp=Z,38nm,1.6s
SRU San Rafael 42.21 85 eP P 10 15 17.3 +1.4
comp=Z,38nm,1.6s
PFO Pinyon Flat Ob 42.27 95 eP P 10 15 17.0 +0.6
PFO pmax pmax
comp=Z,19nm,1.3s
PFO Pinyon Flat Ob 42.27 95 P P 10 15 16.8 +0.4
baz=42,SNR=7.1
PFO Pinyon Flat Ob 42.27 95 eP P 10 15 17.0 +0.6
comp=Z,19nm,1.3s
BELC Belle Mtn. Jos 42.27 95 P P 10 15 17.0 +0.5
baz=42,SNR=9.0
F25A Bowman 42.30 72 P P 10 15 16.5 +0.1
baz=42
H24A Dirks Ranch, A 42.34 74 P P 10 15 16.8 0.0
baz=42,SNR=13
109C Camp Elliot, M 42.38 97 P P 10 15 17.6 +0.5
baz=42,SNR=5.6
C27A Sayler Ranch, 42.40 69 P P 10 15 17.5 +0.3
baz=42
K22A Casper 42.42 78 P P 10 15 17.4 -0.2
baz=42,SNR=8.9
K22A Casper 42.42 78 eP P 10 15 18.4 +0.8
comp=Z,32nm,1.4s
A28A Rude Farm, Bot 42.44 66 P P 10 15 17.5 0.0
baz=42,SNR=6.4
J23A Dilts Ranch, B 42.54 76 P P 10 15 18.8 +0.3
baz=42
E26A Carlson Angus 42.56 71 P P 10 15 18.7 +0.1
baz=42,SNR=7.3
NEE2 Needles Airpor 42.58 93 P P 10 15 19.7 +0.9
baz=42
B28A Dugan Ranch, T 42.64 67 P P 10 15 19.5 +0.4
baz=42
IRM Iron Mountain 42.68 94 P P 10 15 20.4 +0.8
baz=42,SNR=17
D27A Center 42.73 69 P P 10 15 19.9 0.0
baz=42
G25A Newell 42.74 73 P P 10 15 20.1 +0.1
baz=42
BAR Barrett 42.78 97 eP P 10 15 22.0 +1.5
comp=Z,21nm,1.0s
MONP Monument Peak 42.79 96 P P 10 15 21.4 +0.7
baz=42,SNR=7.8
F26A Lodgepole 42.79 71 P P 10 15 20.2 -0.3
baz=42
I24A Kuemmerle Ranc 42.81 75 P P 10 15 20.0 -0.7
baz=43
BC3 Big Chuckawall 42.84 95 P P 10 15 21.0 -0.1
baz=42,SNR=5.9
K23A Bowen Ranch, D 42.89 77 P P 10 15 20.8 -0.6
baz=43
O20A White River Ci 42.94 82 P P 10 15 22.3 +0.5
baz=43,SNR=25
O20A White River Ci 42.94 82 eP P 10 15 22.3 +0.5
comp=Z,35nm,1.2s
H25A Fruitdale 42.97 73 P P 10 15 21.9 0.0
baz=43,SNR=14
A29A Manning Farm, 43.00 66 P P 10 15 22.0 -0.1
baz=43,SNR=12
RSSD Black Hills 43.01 74 eP P 10 15 22.2 -0.2
RSSD pmax pmax
comp=Z,7.0nm,0.9s
RSSD Black Hills 43.01 74 eP P 10 15 22.1 -0.2
comp=Z,74nm,0.9s
C28A Hausauer Farms 43.03 68 P P 10 15 22.0 -0.3
baz=43
E27A Carson 43.09 70 P P 10 15 22.9 0.0
baz=43
J24A Dixon Ranch, L 43.11 76 P P 10 15 23.2 0.0
baz=43
SWSC Sam W. Stewart 43.13 96 P P 10 15 23.5 +0.2
baz=43
IBP Imperial Bould 43.15 96 P P 10 15 23.4 -0.1
baz=43
F27A Lemmon 43.15 71 P P 10 15 23.6 +0.2
baz=43,SNR=6.9
G26A Maurine 43.15 72 P P 10 15 23.2 -0.1
baz=43,SNR=9.9
B29A Wagenman Farm, 43.19 66 P P 10 15 23.5 -0.1
baz=43
PDMCI Parker Dam,Lak 43.19 93 P P 10 15 24.4 +0.7
baz=43,SNR=9.5
D28A Regan 43.22 69 P P 10 15 24.0 +0.1
baz=43
Y12C Blythe 43.34 94 P P 10 15 25.3 +0.5
baz=43,SNR=7.6
K24A Anderson Ranch 43.38 76 P P 10 15 24.8 -0.6
baz=43
MDND Maddock 43.39 67 P P 10 15 25.0 -0.2
baz=43
MDND Maddock 43.39 67 eP P 10 15 26.2 +0.9
comp=Z,74nm,1.4s
H26A Fairpoint 43.45 73 P P 10 15 25.4 -0.4
baz=43,SNR=6.0
G27A Dupree 43.49 72 P P 10 15 25.9 -0.1
baz=43,SNR=9.3
E28A Huff 43.50 69 P P 10 15 26.8 +0.6
baz=43,SNR=5.3
J25A Sunshine Ranch 43.58 75 P P 10 15 26.3 -0.6
baz=43
GLA Glamis 43.63 95 eP P 10 15 28.5 +1.1
GLA pmax pmax
comp=Z,50nm,1.4s
GLA Glamis 43.63 95 P P 10 15 27.7 +0.3
baz=43,SNR=9.3
GLA Glamis 43.63 95 eP P 10 15 28.5 +1.1
comp=Z,50nm,1.4s
PV04 Paradox Valley 43.64 84 eP P 10 15 28.3 +0.8
I26A New Underwood 43.74 74 P P 10 15 28.0 -0.2
baz=44
B30A Myrvik Farm, E 43.76 66 P P 10 15 28.2 0.0
baz=44
JCJ Chichijima 43.82 253 LR LR 10 30 17.3
comp=Z,114nm,21.9s,baz=118,slow=32
N23A Red Feather La 43.83 79 P P 10 15 29.3 +0.1
baz=44,SNR=16
H27A Howes 43.84 73 P P 10 15 28.3 -0.6
baz=44
D29A Pettibone, Tap 43.84 68 P P 10 15 28.5 -0.4
baz=44
F28A McLaughlin 43.86 70 P P 10 15 29.0 0.0
baz=44
PHWY Pilot Hill 43.87 79 eP P 10 15 29.0 -0.5
comp=Z,5.3nm,0.9s
K25A Mack Ranch, Ha 44.00 76 P P 10 15 30.3 -0.1
baz=44
PV01 Paradox Valley 44.01 84 eP P 10 15 31.0 +0.4
comp=Z,1um,0.7s
WUAZ Wupatki 44.04 89 P P 10 15 32.0 +1.2
baz=44,SNR=23
WUAZ Wupatki 44.04 89 eP P 10 15 31.9 +1.2
comp=Z,32nm,0.9s
J26A Sides Ranch, S 44.05 75 P P 10 15 30.1 -0.5
baz=44
ULM Lac du Bonnet 44.10 62 P P 10 15 30.4 -0.5
comp=Z,2.0nm,0.5s,baz=297,slow=9.6,SNR=4.2
ULM LR LR 10 34 37.1
comp=Z,258nm,19.0s,baz=316,slow=37
ULM Lac du Bonnet 44.10 62 P P 10 15 30.4 -0.5
ULM pmax pmax
comp=Z,2.0nm,0.5s
ULM MLR MLR
comp=Z,259nm,19.0s
ULM Lac du Bonnet 44.10 62 eP P 10 15 30.5 -0.3
comp=Z,9.6nm,1.3s
E29A Napoleon 44.10 69 P P 10 15 30.7 -0.3
baz=44
C30A Mose, Pekin 44.10 67 P P 10 15 30.7 -0.2
baz=44
I27A Quinn 44.19 73 P P 10 15 31.5 -0.3
baz=44,SNR=9.3
L25A Engebretsen Ra 44.23 77 P P 10 15 32.2 0.0
baz=44,SNR=6.4
G28A Parade 44.25 71 P P 10 15 31.9 -0.3
baz=44
D30A Buchanan 44.29 68 P P 10 15 32.3 -0.1
baz=44,SNR=9.7
SMCO Snowmass 44.30 82 eP P 10 15 34.8 +1.7
comp=Z,9.1nm,1.1s
K26A Motz Farm, Whi 44.35 75 P P 10 15 32.7 -0.4
baz=44
F29A Eureka 44.42 70 P P 10 15 33.0 -0.5
baz=44
H28A Mission Ridge 44.42 72 P P 10 15 33.3 -0.2
baz=44
E30A Jud 44.55 68 P P 10 15 33.8 -0.7
baz=44
M25A Palm-Egli Farm 44.62 77 P P 10 15 35.7 +0.4
baz=44,SNR=5.4
MVCO Mesa Verde 44.65 85 P P 10 15 35.8 +0.1
baz=44,SNR=8.6
MVCO Mesa Verde 44.65 85 eP P 10 15 36.4 +0.7
comp=Z,14nm,1.1s
J27A Elkhorn Farm, 44.70 74 P P 10 15 36.1 +0.2
baz=44,SNR=6.8
ISCO Idaho Springs 44.72 80 eP P 10 15 37.2 +0.9
ISCO pmax pmax
comp=Z,10.0nm,1.4s
ISCO Idaho Springs 44.72 80 P P 10 15 35.6 -0.7
baz=44
ISCO Idaho Springs 44.72 80 eP P 10 15 37.2 +0.9
comp=Z,10nm,1.4s
I28A Midland 44.74 73 P P 10 15 35.9 -0.3
baz=44,SNR=13
G29A Hoven 44.74 71 P P 10 15 35.7 -0.4
baz=44
L26A Underwood Farm 44.82 76 P P 10 15 36.8 -0.1
baz=45
K27A Flueckinger Fa 44.90 75 P P 10 15 37.8 +0.3
baz=45
H29A Onida 44.91 71 P P 10 15 37.4 -0.1
baz=45
J28A Allard Ranch, 45.05 73 P P 10 15 38.2 -0.4
baz=45,SNR=7.8
KSRS Korea Array 45.07 276 P P 10 15 38.1 -0.6
comp=Z,3.5nm,1.0s,baz=49,slow=8.7,SNR=6.3
KSRS PcP PcP 10 17 18.7 -0.6
comp=Z,4.0nm,1.0s,baz=45,slow=4.7,SNR=4.9
KSRS LR LR 10 34 08.6
comp=Z,124nm,19.6s,baz=42,slow=36
KSRS Korea Array 45.07 276 P P 10 15 38.1 -0.6
KSRS 10 17 18.7
KSRS pmax pmax
comp=Z,4.0nm,1.0s
KSRS MLR MLR
comp=Z,124nm,19.7s
KSAR Wonju Array Be 45.10 276 P P 10 15 38.1 -0.9
KSAR 10 17 18.7
KSAR Wonju Array Be 45.10 276 P P 10 15 38.1 -0.9
KSAR PcP PcP 10 17 18.7 -0.7
M26A McRoberts Ranc 45.13 77 P P 10 15 39.3 -0.1
baz=45
AGMN Agassiz Nation 45.20 65 P P 10 15 39.1 -0.6
baz=45,SNR=8.3
AGMN Agassiz Nation 45.20 65 eP P 10 15 39.8 +0.1
comp=Z,14nm,1.0s
G30A Faulkton 45.23 70 P P 10 15 39.4 -0.5
baz=45,SNR=5.0
I29A Vivian Onida 45.23 72 P P 10 15 39.8 -0.1
baz=45,SNR=7.4
W18A Petrified Fore 45.30 88 P P 10 15 41.4 +0.5
baz=45,SNR=7.9
W18A Petrified Fore 45.30 88 eP P 10 15 41.8 +1.0
comp=Z,40nm,1.3s
S22A 4UR Ranch, Cre 45.31 83 P P 10 15 41.8 +0.7
baz=45,SNR=14
K28A Ten Mile Ranch 45.41 74 P P 10 15 41.5 +0.1
baz=45
N26A Koester Ranch, 45.49 78 P P 10 15 43.0 +0.8
baz=45
M27A Reverse DX Ran 45.54 76 P P 10 15 42.8 +0.2
baz=45
J29A Okreek 45.59 73 P P 10 15 42.6 -0.3
baz=45,SNR=27
214A Organ Pipe Nat 45.62 94 P P 10 15 43.4 +0.2
baz=45,SNR=24
214A Organ Pipe Nat 45.62 94 eP P 10 15 44.2 +1.0
comp=Z,40nm,1.1s
L28A Connealy Angus 45.75 75 P P 10 15 43.9 -0.3
baz=46
I30A Oacoma 45.79 72 P P 10 15 44.1 -0.4
baz=46
O26A Horse Wrangler 45.80 78 P P 10 15 45.4 +0.6
baz=46
N27A Anderson Farm, 45.91 77 P P 10 15 45.5 0.0
baz=46,SNR=5.8
K29A Lazy Trails An 45.98 74 P P 10 15 45.9 -0.2
baz=46,SNR=6.5
SDCO Great Sand Dun 46.10 82 P P 10 15 47.4 +0.1
baz=46,SNR=21
SDCO Great Sand Dun 46.10 82 eP P 10 15 47.8 +0.5
comp=Z,12nm,1.1s
OGNE Ogallala 46.11 77 P P 10 15 46.7 -0.4
baz=46
OGNE Ogallala 46.11 77 eP P 10 15 48.1 +1.0
comp=Z,42nm,1.1s
J30A Dallas 46.12 72 P P 10 15 46.8 -0.3
baz=46,SNR=6.2
JNU Nakatsue 46.20 269 P P 10 15 46.9 -0.9
comp=Z,9.1nm,0.8s,baz=3.1,slow=3.8,SNR=3.0
JNU LR LR 10 33 58.4
comp=Z,141nm,20.6s,baz=65,slow=35
P26A Davis Ranch, A 46.22 79 P P 10 15 48.6 +0.6
baz=46,SNR=17
M28A Bar X Bar Ranc 46.22 76 P P 10 15 47.9 -0.1
baz=46
L29A Maesberg Ranch 46.32 74 P P 10 15 48.2 -0.6
baz=46
O27A Beecher Island 46.33 78 P P 10 15 49.0 +0.2
baz=46,SNR=7.4
K30A Basset 46.45 73 P P 10 15 49.9 +0.2
baz=46,SNR=8.0
Q26A Hugo 46.52 80 P P 10 15 50.3 -0.1
baz=46,SNR=7.3
N28A Pribbeno Ranch 46.57 77 P P 10 15 50.6 -0.1
baz=46
M29A Burnside Ranch 46.59 75 P P 10 15 50.7 -0.1
baz=46
TUC Tucson 46.59 92 eP P 10 15 51.9 +1.0

TUC				pmax		pmax		
	comp=Z,25nm,1.0s							
TUC	**Tucson**	**46.59**	**92**	*eP*		**P**	**10 15 51.9**	**+1.0**
	comp=Z,25nm,1.0s							
P27A	**Ficken Ranch,**	**46.67**	**78**	P		**P**	**10 15 51.4**	**-0.2**
	baz=46,SNR=6.9							
O28A	**Krutsinger Ran**	**46.79**	**77**	P		**P**	**10 15 52.7**	**+0.3**
	baz=46							
L30A	**Spencer Herefo**	**46.84**	**74**	P		**P**	**10 15 52.4**	**-0.3**
	baz=47							
R26A	**Arlington**	**46.97**	**80**	P		**P**	**10 15 53.9**	**0.0**
	baz=47,SNR=13							
KSCO	**Kaye Shedlock'**	**47.00**	**79**	P		**P**	**10 15 54.2**	**+0.1**
	baz=47,SNR=11							
KSCO	**Kaye Shedlock'**	**47.00**	**79**	*eP*		**P**	**10 15 55.2**	**+1.1**
	comp=Z,35nm,1.1s							
M30A	**Dale-Ortello V**	**47.01**	**75**	P		**P**	**10 15 54.0**	**-0.1**
	baz=47							
N29A	**Votaw Ranch, W**	**47.02**	**76**	P		**P**	**10 15 54.0**	**-0.2**
	baz=47							
P28A	**Saint Francis**	**47.15**	**78**	P		**P**	**10 15 55.3**	**+0.1**
	baz=47,SNR=10							
T25A	**Trinidad**	**47.16**	**82**	P		**P**	**10 15 55.5**	**+0.1**
	baz=47,SNR=18							
L31A	**Butterfield Fa**	**47.21**	**73**	P		**P**	**10 15 55.3**	**-0.3**
	baz=47							
N30A	**Hueftle Ranch,**	**47.34**	**76**	P		**P**	**10 15 56.8**	**+0.1**
	baz=47							
LAZ	**Ladron**	**47.35**	**87**	*eP*		**P**	**10 15 58.5**	**+1.5**
	comp=Z,9.0nm,1.1s							
O29A	**4D Ranch, Culb**	**47.36**	**77**	P		**P**	**10 15 56.9**	**+0.1**
	baz=47							
R27A	**Eads**	**47.37**	**80**	P		**P**	**10 15 56.9**	**-0.1**
	baz=47,SNR=18							
ANMO	**Albuquerque**	**47.39**	**86**	*c iP*		**P**	**10 15 58.2**	**+0.9**
ANMO				pmax		pmax		
	comp=Z,50nm,1.7s							
ANMO	**Albuquerque**	**47.39**	**86**	*eP*		**P**	**10 15 57.8**	**+0.4**
	comp=Z,14nm,1.4s							
S26A	**Kim**	**47.40**	**81**	P		**P**	**10 15 57.2**	**-0.1**
	baz=47,SNR=15							
Q28A	**Sharon Springs**	**47.44**	**78**	P		**P**	**10 15 57.8**	**+0.3**
	baz=47							
ECSD	**EROS Data Cent**	**47.51**	**70**	P		**P**	**10 15 57.4**	**-0.6**
	baz=47,SNR=9.7							
ECSD	**EROS Data Cent**	**47.51**	**70**	*eP*		**P**	**10 15 57.3**	**-0.6**
	comp=Z,16nm,1.3s							
P29A	**Atwood**	**47.62**	**77**	P		**P**	**10 15 59.1**	**+0.2**
	baz=47,SNR=12							
T26A	**Comanche Natio**	**47.62**	**82**	P		**P**	**10 15 58.8**	**-0.3**
	baz=47,SNR=9.1							
M31A	**Lambtecht Ranc**	**47.65**	**74**	P		**P**	**10 15 58.8**	**-0.3**
	baz=47							
Y22D	**IRIS PASSCAL I**	**47.71**	**87**	P		**P**	**10 16 00.5**	**+0.8**
	baz=47,SNR=6.3							
LPM	**Los Pinos Moun**	**47.72**	**87**	*eP*		**P**	**10 16 01.1**	**+1.3**
	comp=Z,15nm,1.1s							
O30A	**MW Ranch, Wils**	**47.76**	**76**	P		**P**	**10 15 59.8**	**-0.2**
	baz=48							
EYMN	**Ely**	**47.78**	**63**	P		**P**	**10 15 59.5**	**-0.4**
	baz=48							
R28A	**Tribune**	**47.92**	**79**	P		**P**	**10 16 01.0**	**-0.2**
	baz=48,SNR=6.2							
N31A	**Bailey Ranch,**	**47.99**	**75**	P		**P**	**10 16 01.3**	**-0.4**
	baz=48							
Q29A	**Oakley**	**48.05**	**78**	P		**P**	**10 16 02.1**	**-0.2**
	baz=48,SNR=5.3							
P30A	**Selden**	**48.06**	**77**	P		**P**	**10 16 02.0**	**-0.3**
	baz=48,SNR=11							
BGNE	**Belgrade**	**48.09**	**74**	P		**P**	**10 16 01.9**	**-0.5**
	baz=48							
BGNE	**Belgrade**	**48.09**	**74**	*eP*		**P**	**10 16 03.3**	**+0.9**
	comp=Z,51nm,1.1s							
L33A	**Hoskins**	**48.12**	**72**	P		**P**	**10 16 01.9**	**-0.8**
	baz=48							
O31A	**Woolen Ranch,**	**48.21**	**76**	P		**P**	**10 16 03.4**	**0.0**
	baz=48,SNR=5.2							
T27A	**Campo**	**48.22**	**81**	P		**P**	**10 16 03.7**	**0.0**
	baz=48							
121A	**Cookes Peak, D**	**48.25**	**89**	P		**P**	**10 16 04.5**	**+0.6**
	baz=48,SNR=23							
121A	**Cookes Peak, D**	**48.25**	**89**	*eP*		**P**	**10 16 05.1**	**+1.2**
	comp=Z,27nm,1.0s							
R29A	**Marienthal**	**48.26**	**79**	P		**P**	**10 16 04.2**	**+0.3**
	baz=48							
S28A	**Manter**	**48.36**	**80**	P		**P**	**10 16 04.8**	**+0.2**
	baz=48,SNR=8.9							
N32A	**Stulken Farm,**	**48.42**	**74**	P		**P**	**10 16 04.5**	**-0.5**
	baz=48							
Q30A	**Quinter**	**48.44**	**77**	P		**P**	**10 16 04.8**	**-0.4**
	baz=48							
M33A	**Taylor Creek F**	**48.54**	**73**	P		**P**	**10 16 05.4**	**-0.5**
	baz=48							
U27A	**Thompson Grove**	**48.58**	**82**	P		**P**	**10 16 06.6**	**+0.2**
	baz=48,SNR=10.0							
P31A	**Stockton**	**48.59**	**76**	P		**P**	**10 16 06.2**	**-0.1**
	baz=48,SNR=8.4							
SPMN	**St. Paul**	**48.73**	**66**	P		**P**	**10 16 06.9**	**-0.4**
	baz=48							
SPMN	**St. Paul**	**48.73**	**66**	*eP*		**P**	**10 16 07.1**	**-0.2**
	comp=Z,4.6nm,0.4s							
O32A	**Brockman Farm,**	**48.75**	**75**	P		**P**	**10 16 07.2**	**-0.4**
	baz=48							
L34A	**Svendsen Farm,**	**48.76**	**72**	P		**P**	**10 16 06.6**	**-1.0**
	baz=48							
S29A	**Ulysses**	**48.80**	**79**	P		**P**	**10 16 07.9**	**-0.2**
	baz=48							
CBKS	**Cedar Bluff**	**48.84**	**77**	*eP*		**P**	**10 16 08.9**	**+0.7**
CBKS				pmax		pmax		
	comp=Z,35nm,1.0s							
CBKS	**Cedar Bluff**	**48.84**	**77**	P		**P**	**10 16 08.5**	**+0.2**
	baz=49,SNR=11							
CBKS	**Cedar Bluff**	**48.84**	**77**	*eP*		**P**	**10 16 08.9**	**+0.7**
	comp=Z,35nm,1.0s							
R30A	**Dighton**	**48.86**	**78**	P		**P**	**10 16 08.5**	**0.0**
	baz=49,SNR=9.5							
Q31A	**Ellis**	**48.91**	**77**	P		**P**	**10 16 08.7**	**-0.1**
	baz=49							
N33A	**J Bar K, Exete**	**48.92**	**74**	P		**P**	**10 16 08.0**	**-0.9**
	baz=49							
M34A	**Aspy Farms, Fr**	**48.94**	**73**	P		**P**	**10 16 08.3**	**-0.6**
	baz=49							
U28A	**Mallet**	**48.97**	**81**	P		**P**	**10 16 09.1**	**-0.3**
	baz=49							
P32A	**Huiting Farm,**	**48.98**	**76**	P		**P**	**10 16 08.9**	**-0.4**
	baz=49,SNR=5.4							
T29A	**Hugoton**	**49.01**	**80**	P		**P**	**10 16 09.8**	**+0.2**
	baz=49							
V27A	**Dan Oppiter Fa**	**49.02**	**83**	P		**P**	**10 16 09.6**	**-0.2**
	baz=49,SNR=5.8							
SPITS	**Spitsbergen Ar**	**49.04**	**358**	LR		LR	10 37 51.3	
	comp=Z,179nm,18.1s,baz=15,slow=37							
L35A	**Bielow Farm, R**	**49.14**	**71**	P		**P**	**10 16 09.9**	**-0.6**
	baz=49							
S30A	**Montezuma**	**49.18**	**79**	P		**P**	**10 16 10.6**	**-0.3**
	baz=49							
O33A	**Hebron**	**49.27**	**75**	P		**P**	**10 16 10.7**	**-0.9**
	baz=49,SNR=11							
R31A	**Burdett**	**49.30**	**78**	P		**P**	**10 16 11.7**	**-0.1**
	baz=49,SNR=7.5							
V28A	**Channing**	**49.39**	**82**	P		**P**	**10 16 12.5**	**-0.2**
	baz=49							
N34A	**Lincoln**	**49.41**	**73**	P		**P**	**10 16 11.9**	**-0.6**
	baz=49							
Q32A	**Meitler Ranch,**	**49.41**	**76**	P		**P**	**10 16 12.4**	**-0.2**
	baz=49,SNR=11							
M35A	**Neola**	**49.47**	**72**	P		**P**	**10 16 12.8**	**-0.3**
	baz=49							
U29A	**Oasis Ranch, S**	**49.49**	**81**	P		**P**	**10 16 13.2**	**-0.1**
	baz=49							
T30A	**Plains**	**49.53**	**80**	P		**P**	**10 16 13.5**	**-0.1**
	baz=49							
P33A	**Williams Farm,**	**49.63**	**75**	P		**P**	**10 16 13.8**	**-0.5**
	baz=49							
R32A	**Long Quarter,**	**49.70**	**77**	P		**P**	**10 16 14.6**	**-0.2**
	baz=49,SNR=8.3							
O34A	**Beatrice**	**49.72**	**74**	P		**P**	**10 16 14.2**	**-0.7**
	baz=50,SNR=8.8							
V29A	**Stinnett**	**49.73**	**81**	P		**P**	**10 16 14.9**	**-0.3**
	baz=50							
W28A	**Vega**	**49.74**	**83**	P		**P**	**10 16 15.1**	**-0.2**
	baz=50							
TLY	**Talaya**	**49.76**	**305**	LR		LR	10 38 09.0	
	comp=Z,98nm,19.3s,baz=5.5,slow=37							
TLY	**Talaya**	**49.76**	**305**	*eP*		**P**	**10 16 17.5**	**+2.4**
TLY				pmax		pmax		
	comp=Z,11nm,1.4s							
U30A	**WK&E Inc. Balk**	**49.81**	**80**	P		**P**	**10 16 15.3**	**-0.4**
	baz=50							
Q33A	**Connelly Farm,**	**49.84**	**76**	P		**P**	**10 16 15.2**	**-0.6**
	baz=50,SNR=7.6							
N35A	**Tabor**	**49.89**	**73**	P		**P**	**10 16 15.2**	**-1.0**
	baz=50							
S32A	**Newby Ranch, P**	**50.04**	**78**	P		**P**	**10 16 16.8**	**-0.6**
	baz=50							
O35A	**Humboldt**	**50.12**	**73**	P		**P**	**10 16 18.3**	**+0.3**
	baz=50							
W29A	**Amraillo**	**50.17**	**82**	P		**P**	**10 16 18.7**	**+0.2**
	baz=50							
R33A	**Olander Ranch,**	**50.20**	**77**	P		**P**	**10 16 18.0**	**-0.6**
	baz=50							
X28A	**Dimmitt**	**50.25**	**83**	P		**P**	**10 16 18.7**	**-0.4**
	baz=50							
CPRX	**Cap Rock**	**50.27**	**86**	*eP*		**P**	**10 16 20.3**	**+0.9**
	comp=Z,0.5nm,0.3s							
MSTX	**Muleshoe**	**50.28**	**84**	P		**P**	**10 16 19.2**	**-0.1**
	baz=50,SNR=9.3							
MSTX	**Muleshoe**	**50.28**	**84**	*eP*		**P**	**10 16 19.9**	**+0.5**
	comp=Z,20nm,1.0s							
V30A	**Spur Ranch, Mi**	**50.30**	**81**	P		**P**	**10 16 19.2**	**-0.3**
	baz=50							
BJI	**Beijing**	**50.34**	**287**	P		**P**	**10 16 19.8**	**+0.2**
BJI				PMZ				
	comp=Z,9.0nm,0.8s							
BJI				LN				
	comp=Z,140nm,20.2s							
BJI				LE				
	comp=Z,170nm,20.2s							
BJI				LZ				
	comp=Z,110nm,24.5s							
U31A	**Nine Bar Ranch**	**50.39**	**80**	P		**P**	**10 16 19.8**	**-0.4**
	baz=50							
T32A	**Huddler Ranch,**	**50.40**	**78**	P		**P**	**10 16 19.7**	**-0.5**
	baz=50							
Q34A	**Chapman**	**50.41**	**75**	P		**P**	**10 16 19.7**	**-0.5**
	baz=50							
P35A	**Duane Minner,**	**50.55**	**74**	P		**P**	**10 16 20.3**	**-0.9**
	baz=50							
X29A	**Tulia**	**50.60**	**83**	P		**P**	**10 16 21.4**	**-0.4**
	baz=50							
SCIA	**State Center**	**50.60**	**70**	*eP*		**P**	**10 16 23.4**	**+1.8**
	comp=Z,24nm,0.6s							
Y28A	**McKinney Farm,**	**50.64**	**84**	P		**P**	**10 16 21.9**	**-0.1**
	baz=50,SNR=8.2							
R34A	**Isabella, Hill**	**50.64**	**76**	P		**P**	**10 16 21.8**	**-0.1**
	baz=50,SNR=10.0							
S33A	**Kaszmaul Farm,**	**50.67**	**77**	P		**P**	**10 16 21.6**	**-0.6**
	baz=50							
ZAK	**Zakamensk**	**50.75**	**304**	*i P*		**P**	**10 16 24.5**	**+1.8**
ZAK				*e*			10 17 39.2	
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.5s							
SONM	**Songino Array**	**50.76**	**300**	P		**P**	**10 16 22.8**	**0.0**
	comp=Z,3.2nm,1.2s,baz=54,slow=7.5,SNR=10							
SONM				PcP		**PcP**	**10 17 39.2**	**-0.5**
	comp=Z,4.2nm,1.0s,baz=67,slow=2.6,SNR=8.2							
SONM				ScP		**ScP**	**10 21 35.3**	**0.0**
	comp=Z,0.7nm,0.8s,baz=90,slow=4.3,SNR=5.4							
O36A	**Bolckow**	**50.76**	**73**	P		**P**	**10 16 22.1**	**-0.7**
	baz=50							
W30A	**Crocket Farms**	**50.77**	**81**	P		**P**	**10 16 22.7**	**-0.3**
	baz=50							
V31A	**Spring Creek L**	**50.80**	**80**	P		**P**	**10 16 23.4**	**+0.1**
	baz=50,SNR=7.6							
T33A	**Patterson Ranc**	**50.87**	**78**	P		**P**	**10 16 22.7**	**-1.0**
	baz=51							
U32A	**Winter Ranch,**	**50.89**	**79**	P		**P**	**10 16 23.3**	**-0.6**
	baz=51							
P36A	**Good Intent, A**	**50.96**	**73**	P		**P**	**10 16 23.4**	**-0.9**
	baz=51							
Q35A	**Mercer Eighty,**	**50.98**	**75**	P		**P**	**10 16 23.4**	**-1.1**
	baz=51							
Z28A	**Tucker Farm, M**	**50.98**	**85**	P		**P**	**10 16 24.3**	**-0.4**
	baz=51,SNR=8.0							
Y29A	**Porterfield Fa**	**51.02**	**83**	P		**P**	**10 16 24.7**	**-0.2**
	baz=51,SNR=6.3							
X30A	**Coker Ranch, T**	**51.09**	**82**	P		**P**	**10 16 25.0**	**-0.5**
	baz=51							
S34A	**Willow Spring**	**51.12**	**77**	P		**P**	**10 16 24.8**	**-0.7**
	baz=51							
W31A	**Holland Ranch,**	**51.14**	**81**	P		**P**	**10 16 25.8**	**0.0**
	baz=51							
R35A	**Emporia Munici**	**51.24**	**75**	P		**P**	**10 16 25.7**	**-0.7**
	baz=51							
Q36A	**Arnold C. Orve**	**51.24**	**74**	P		**P**	**10 16 25.4**	**-1.1**
	baz=51							
V32A	**Arapaho**	**51.31**	**80**	P		**P**	**10 16 26.7**	**-0.3**
	baz=51							
U33A	**Lingo Farm, Me**	**51.38**	**79**	P		**P**	**10 16 27.0**	**-0.6**
	baz=51							
128A	**Castleberry Fa**	**51.39**	**85**	P		**P**	**10 16 27.6**	**-0.1**
	baz=51,SNR=21							
Z29A	**Hungry Hill Ra**	**51.41**	**84**	P		**P**	**10 16 27.9**	**0.0**
	baz=51,SNR=18							
Y30A	**Stafford Cattl**	**51.47**	**83**	P		**P**	**10 16 27.9**	**-0.3**
	baz=51							
X31A	**McDonald Ranch**	**51.50**	**82**	P		**P**	**10 16 28.4**	**-0.1**
	baz=51,SNR=6.0							
T34A	**Haskey Farm**	**51.53**	**77**	P		**P**	**10 16 27.2**	**-1.5**
	baz=51,SNR=8.5							
S35A	**Otter Creek Ra**	**51.60**	**76**	P		**P**	**10 16 28.5**	**-0.6**
	baz=51,SNR=6.8							
W32A	**Sentinel**	**51.60**	**81**	P		**P**	**10 16 29.1**	**-0.1**
	baz=51,SNR=11							
JFWS	**Jewell Farm**	**51.62**	**67**	*eP*		**P**	**10 16 28.1**	**-1.1**
JFWS				pmax		pmax		
	comp=Z,2.0nm,0.7s							
JFWS	**Jewell Farm**	**51.62**	**67**	*eP*		**P**	**10 16 28.1**	**-1.1**
	comp=Z,2.4nm,0.7s							
R36A	**Gordon, Harris**	**51.64**	**75**	P		**P**	**10 16 28.6**	**-0.9**
	baz=51,SNR=6.0							
228A	**UT Block 9, Go**	**51.67**	**86**	P		**P**	**10 16 29.8**	**-0.1**
	baz=51							
V33A	**Lossen Ranch,**	**51.70**	**79**	P		**P**	**10 16 29.7**	**-0.2**
	baz=51							
U34A	**Anderson Ranch**	**51.72**	**78**	P		**P**	**10 16 29.5**	**-0.6**
	baz=52,SNR=7.6							
U34A	**Anderson Ranch**	**51.72**	**78**	*eP*		**P**	**10 16 30.0**	**-0.1**
	comp=Z,18nm,0.8s							
Z30A	**Sanderson Ranc**	**51.74**	**84**	P		**P**	**10 16 30.5**	**+0.2**
	baz=52,SNR=12							
129A	**Stewart Farms,**	**51.75**	**85**	P		**P**	**10 16 30.1**	**-0.3**
	baz=52							
Y31A	**Rekieta Farm,**	**51.79**	**82**	P		**P**	**10 16 29.6**	**-1.1**
	baz=52							
Q37A	**Longview Farm,**	**51.89**	**74**	P		**P**	**10 16 30.4**	**-0.9**
	baz=52							
S36A	**Lake Cedric, C**	**51.99**	**76**	P		**P**	**10 16 31.0**	**-1.1**
	baz=52							
T35A	**Sooner Cattle**	**52.00**	**77**	P		**P**	**10 16 30.3**	**-1.8**
	baz=52							
W33A	**Caddo, Fort Co**	**52.04**	**80**	P		**P**	**10 16 32.8**	**+0.3**
	baz=52,SNR=8.8							
R37A	**Teagarden Farm**	**52.05**	**74**	P		**P**	**10 16 31.5**	**-1.0**
	baz=52							
X32A	**Elmer**	**52.06**	**81**	P		**P**	**10 16 32.3**	**-0.3**
	baz=52							
V34A	**Guthrie**	**52.14**	**79**	P		**P**	**10 16 32.8**	**-0.4**
	baz=52,SNR=8.2							
V34A	**Guthrie**	**52.14**	**79**	*eP*		**P**	**10 16 32.9**	**-0.3**
	comp=Z,18nm,0.9s							
WMOK	**Wichita Mounta**	**52.14**	**81**	*eP*		**P**	**10 16 33.2**	**0.0**
WMOK				pmax		pmax		
	comp=Z,18nm,1.0s							
WMOK	**Wichita Mounta**	**52.14**	**81**	*eP*		**P**	**10 16 33.2**	**0.0**
	comp=Z,18nm,1.0s							
U35A	**Pawnee**	**52.24**	**78**	P		**P**	**10 16 33.5**	**-0.4**
	baz=52							
229A	**Bryant Ranch,**	**52.25**	**85**	P		**P**	**10 16 33.7**	**-0.4**
	baz=52							
Y32A	**R-V Farms, Ver**	**52.25**	**82**	P		**P**	**10 16 34.2**	**+0.1**
	baz=52,SNR=6.0							
T36A	**Boggs Farm, Ca**	**52.27**	**76**	P		**P**	**10 16 33.7**	**-0.4**
	baz=52							
Z31A	**Sharp Cattle R**	**52.31**	**83**	P		**P**	**10 16 34.5**	**-0.1**
	baz=52,SNR=9.2							
130A	**Snyder**	**52.32**	**84**	P		**P**	**10 16 34.4**	**-0.2**
	baz=52,SNR=5.9							
W34A	**Bridge Creek,**	**52.40**	**79**	P		**P**	**10 16 34.7**	**-0.4**
	baz=52							
W34A	**Bridge Creek,**	**52.40**	**79**	*eP*		**P**	**10 16 35.5**	**+0.3**
	comp=Z,12nm,0.8s							
S37A	**Fort Scott**	**52.42**	**75**	P		**P**	**10 16 34.3**	**-1.0**
	baz=52,SNR=11							
X33A	**Lawton**	**52.45**	**81**	P		**P**	**10 16 35.2**	**-0.3**
	baz=52							
HHC	**Hu-ho-hao-te**	**52.45**	**290**	*eP*		**P**	**10 16 34.8**	**-0.8**
HHC				ScP		**ScP**	**10 21 40.0**	**-2.8**
HHC				S		**S**	**10 24 01.6**	**+0.2**
HHC				ScS		**ScS**	**10 26 27.3**	**+2.2**
HHC				PMZ				
	comp=Z,29nm,1.4s							
HHC				PMZ				
	comp=Z,82nm,4.9s							
HHC				LN				
	comp=Z,170nm,14.8s							
HHC				LE				
	comp=Z,140nm,16.0s							
HHC				LZ				
	comp=Z,140nm,18.5s							
329A	**Wagon Wheel Ra**	**52.49**	**86**	P		**P**	**10 16 35.6**	**-0.3**
	baz=52							
V35A	**Meyer Ranch, C**	**52.59**	**78**	P		**P**	**10 16 36.2**	**-0.3**
	baz=52							
131A	**Roby**	**52.61**	**84**	P		**P**	**10 16 36.0**	**-0.8**
	baz=52							
Z32A	**Haskell**	**52.72**	**82**	P		**P**	**10 16 37.0**	**-0.5**
	baz=52,SNR=7.5							
230A	**Sterling City**	**52.73**	**85**	P		**P**	**10 16 37.2**	**-0.4**
	baz=52,SNR=11							
T37A	**Cheneyville 18**	**52.80**	**76**	P		**P**	**10 16 37.0**	**-1.1**
	baz=52,SNR=11							
X34A	**Smith Ranch, M**	**52.80**	**80**	P		**P**	**10 16 38.2**	**+0.1**
	baz=52							
W35A	**Tecumseh**	**52.99**	**79**	P		**P**	**10 16 39.4**	**-0.1**
	baz=53,SNR=7.8							
TXAR	**Lajitas Array**	**53.00**	**89**	P		**P**	**10 16 40.2**	**+0.4**
	comp=Z,20nm,0.8s,baz=298,slow=5.5,SNR=195							
TXAR				PcP		**PcP**	**10 17 48.3**	**0.0**
	comp=Z,2.1nm,0.9s,baz=316,slow=3.8,SNR=1.7							
330A	**Mertzon**	**53.03**	**85**	P		**P**	**10 16 39.2**	**-0.7**
	baz=53,SNR=7.2							
ABTX	**Abilene, Hawle**	**53.09**	**83**	P		**P**	**10 16 39.9**	**-0.4**
	baz=53,SNR=6.0							
ABTX	**Abilene, Hawle**	**53.09**	**83**	*eP*		**P**	**10 16 40.8**	**+0.5**
	comp=Z,24nm,1.0s							
V36A	**Jenks**	**53.11**	**78**	P		**P**	**10 16 39.5**	**-0.8**
	baz=53							
TUL1	**Tulsa**	**53.11**	**77**	P		**P**	**10 16 39.8**	**-0.6**
	baz=53							
429A	**Davenport Ranc**	**53.15**	**87**	P		**P**	**10 16 40.6**	**-0.2**
	baz=53,SNR=17							
Z33A	**Whitaker Ranch**	**53.16**	**82**	P		**P**	**10 16 40.4**	**-0.4**
	baz=53,SNR=8.2							
U37A	**Salina**	**53.17**	**76**	P		**P**	**10 16 40.0**	**-0.8**
	baz=53,SNR=7.6							
231A	**Bronte**	**53.17**	**84**	P		**P**	**10 16 39.9**	**-1.0**
	baz=53							
GUMO	**Guam**	**53.18**	**240**	LR		LR	10 35 29.6	
	comp=Z,77nm,21.6s,baz=56,slow=32							
Y34A	**Reagan Ranch,**	**53.29**	**81**	P		**P**	**10 16 41.6**	**-0.2**
	baz=53,SNR=12							
529A	**Stev Forest Ra**	**53.31**	**87**	P		**P**	**10 16 41.2**	**-0.8**
	baz=53							
SLBS	**Sierra La Lagu**	**53.38**	**99**	*eP*		**P**	**10 16 42.4**	**-0.2**
W36A	**Wetumka**	**53.38**	**78**	P		**P**	**10 16 41.7**	**-0.7**
	baz=53							
430A	**Baggett Ranch,**	**53.43**	**86**	P		**P**	**10 16 42.8**	**0.0**
	baz=53,SNR=24							
X35A	**Drake**	**53.45**	**80**	P		**P**	**10 16 42.1**	**-0.8**
	baz=53,SNR=6.7							
V37A	**Hulbert**	**53.51**	**77**	P		**P**	**10 16 42.3**	**-1.1**
	baz=53,SNR=6.8							
133A	**Hamilton Ranch**	**53.54**	**83**	P		**P**	**10 16 43.1**	**-0.5**
	baz=53,SNR=12							
331A	**San Angelo**	**53.55**	**85**	P		**P**	**10 16 43.3**	**-0.4**
	baz=53,SNR=9.9							
U38A	**Gravette**	**53.58**	**76**	P		**P**	**10 16 43.4**	**-0.3**
	baz=53,SNR=7.2							
Z34A	**Collier Ranch,**	**53.61**	**81**	P		**P**	**10 16 43.4**	**-0.7**
	baz=53							
232A	**Coleman**	**53.61**	**84**	P		**P**	**10 16 43.7**	**-0.4**
	baz=53,SNR=10							
X36A	**Centrahoma**	**53.70**	**79**	P		**P**	**10 16 44.4**	**-0.3**
	baz=53							
HDIL	**Hopedale**	**53.72**	**69**	P		**P**	**10 16 43.6**	**-1.1**
	baz=54							
HDIL	**Hopedale**	**53.72**	**69**	*eP*		**P**	**10 16 44.3**	**-0.4**
	comp=Z,24nm,0.9s							
Y35A	**Marieta**	**53.76**	**80**	P		**P**	**10 16 45.4**	**+0.2**
	baz=54,SNR=11							
530A	**J-C Ranch, Com**	**53.83**	**87**	P		**P**	**10 16 46.0**	**+0.2**
	baz=54,SNR=40							
W37A	**Quinton**	**53.86**	**78**	P		**P**	**10 16 45.7**	**-0.2**
	baz=54							
431A	**Sonora**	**53.89**	**86**	P		**P**	**10 16 46.2**	**0.0**
	baz=54,SNR=38							
332A	**Millersview**	**53.91**	**84**	P		**P**	**10 16 45.9**	**-0.4**
	baz=54,SNR=17							
V38A	**Canehill**	**53.96**	**76**	P		**P**	**10 16 45.9**	**-0.7**
	baz=54,SNR=10.0							
233A	**Rising Star**	**53.97**	**83**	P		**P**	**10 16 46.7**	**0.0**
	baz=54,SNR=27							
Z35A	**Perchaven, San**	**54.03**	**81**	P		**P**	**10 16 46.7**	**-0.4**
	baz=54							
134A	**White-Moore Ra**	**54.07**	**82**	P		**P**	**10 16 46.9**	**-0.5**
	baz=54,SNR=16							
NJ2	**Nanjing**	**54.20**	**277**	*eP*		**P**	**10 16 49.6**	**+1.2**
NJ2				PMZ				
	comp=Z,30nm,0.8s							
Y36A	**Durant**	**54.21**	**80**	P		**P**	**10 16 48.4**	**0.0**
	baz=54,SNR=11							
432A	**Menard**	**54.24**	**85**	P		**P**	**10 16 48.5**	**-0.3**
	baz=54,SNR=14							
X37A	**Clayton**	**54.27**	**78**	P		**P**	**10 16 48.6**	**-0.3**
	baz=54,SNR=8.0							
531A	**Rocksprings**	**54.29**	**86**	P		**P**	**10

335A	**Moody**	**55.37**	**83**	P		**P**	**10 16 56.7**	**-0.2**
	baz=55							
Y39A	**Lockesburg**	**55.48**	**78**	P		**P**	**10 16 57.1**	**-0.5**
	baz=55							
633A	**Saathoff Ranch**	**55.62**	**85**	P		**P**	**10 16 58.3**	**-0.5**
	baz=55							
OLIL	**Olney**	**55.63**	**70**	*e*P		**P**	**10 16 58.2**	**-0.4**
	comp=Z,17nm,1.0s							
435B	**Jarrell**	**55.63**	**83**	P		**P**	**10 16 58.7**	**-0.1**
	baz=55							
534A	**Blanco**	**55.64**	**84**	P		**P**	**10 16 58.4**	**-0.5**
	baz=55,SNR=8.3							
PBMO	**Poplar Bluff**	**55.65**	**73**	*e*P		**P**	**10 16 58.0**	**-0.7**
	comp=Z,17nm,1.4s							
336A	**Riesel**	**55.65**	**82**	P		**P**	**10 16 58.6**	**-0.2**
	baz=55,SNR=8.0							
732A	**Laxson Ranch,**	**55.67**	**87**	P		**P**	**10 16 58.8**	**-0.3**
	baz=55,SNR=7.9							
138A	**Matatall Enter**	**55.79**	**80**	P		**P**	**10 16 59.2**	**-0.6**
	baz=56							
237A	**Washetta, Mont**	**55.83**	**81**	P		**P**	**10 16 59.9**	**-0.2**
	baz=56							
832A	**Faith Ranch, C**	**55.99**	**87**	P		**P**	**10 17 01.1**	**-0.3**
	baz=56,SNR=15							
733A	**Divot King Ran**	**56.09**	**86**	P		**P**	**10 17 01.9**	**-0.2**
	baz=56,SNR=5.3							
436A	**Wall Ranch, Ga**	**56.12**	**83**	P		**P**	**10 17 01.8**	**-0.5**
	baz=56							
535A	**Dale**	**56.18**	**84**	P		**P**	**10 17 02.8**	**0.0**
	baz=56,SNR=8.9							
BLO	**Bloomington**	**56.22**	**68**	*e*P		**P**	**10 17 02.2**	**-0.6**
BLO				pmax		pmax		
	comp=Z,11nm,1.0s							
BLO	**Bloomington**	**56.22**	**68**	*e*P		**P**	**10 17 02.2**	**-0.6**
	comp=Z,11nm,1.0s							
238A	**Jacksonville**	**56.24**	**80**	P		**P**	**10 17 02.6**	**-0.5**
	baz=56							
337A	**Centerville**	**56.27**	**81**	P		**P**	**10 17 02.8**	**-0.5**
	baz=56							
833A	**Chaparral WMA,**	**56.31**	**87**	P		**P**	**10 17 04.0**	**+0.3**
	baz=56,SNR=17							
734A	**La Parita Cree**	**56.44**	**85**	P		**P**	**10 17 04.5**	**0.0**
	baz=56,SNR=9.0							
536A	**Bastrop**	**56.45**	**83**	P		**P**	**10 17 04.6**	**-0.1**
	baz=56							
635A	**Leesville**	**56.52**	**84**	P		**P**	**10 17 05.0**	**-0.2**
	baz=56,SNR=11							
NATX	**Nacogdoches**	**56.69**	**80**	P		**P**	**10 17 05.9**	**-0.4**
	baz=56							
NATX	**Nacogdoches**	**56.69**	**80**	*e*P		**P**	**10 17 06.3**	**+0.1**
	comp=Z,35nm,1.3s							
ZALV	**Zalesovo Beam**	**56.79**	**317**	P		**P**	**10 17 05.9**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=44,slow=4.4,SNR=2.4							
ZALV				PcP		**PcP**	**10 18 01.8**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=56,slow=3.7,SNR=3.7							
636A	**Smothers Creek**	**56.88**	**84**	P		**P**	**10 17 07.7**	**-0.1**
	baz=57							
933A	**Laredo**	**56.90**	**87**	P		**P**	**10 17 07.9**	**0.0**
	baz=57,SNR=11							
438A	**Sam Houston St**	**56.92**	**82**	P		**P**	**10 17 08.1**	**+0.2**
	baz=57							
834A	**Tilden**	**56.97**	**86**	P		**P**	**10 17 08.8**	**+0.5**
	baz=57,SNR=5.8							
339A	**Huntington**	**57.05**	**80**	P		**P**	**10 17 08.1**	**-0.7**
	baz=57							
736A	**Circle Diamond**	**57.26**	**84**	P		**P**	**10 17 11.4**	**+1.1**
	baz=57,SNR=5.9							
ARCES	**ARCESS Array B**	**57.28**	**354**	P		**P**	**10 17 09.9**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=15,slow=7.5,SNR=2.4							
ARCES				LR		LR	10 41 37.9	
	comp=Z,119nm,21.1s,baz=342,slow=36							
HKT	**Hockley**	**57.28**	**83**	*e*P		**P**	**10 17 10.6**	**+0.2**
HKT				pmax		pmax		
	comp=Z,47nm,1.7s							
HKT	**Hockley**	**57.28**	**83**	*e*P		**P**	**10 17 10.6**	**+0.2**
	comp=Z,47nm,1.7s							
835A	**Beeville**	**57.28**	**85**	P		**P**	**10 17 10.7**	**+0.1**
	baz=57							
439A	**Center Grove,**	**57.31**	**81**	P		**P**	**10 17 10.6**	**-0.1**
	baz=57							
934A	**Benavides**	**57.37**	**86**	P		**P**	**10 17 12.3**	**+1.1**
	baz=57,SNR=7.5							
340A	**Bronson**	**57.39**	**80**	P		**P**	**10 17 10.7**	**-0.6**
	baz=57							
WVT	**Waverly**	**57.59**	**72**	*e*P		**P**	**10 17 12.2**	**-0.5**
WVT				pmax		pmax		
	comp=Z,18nm,1.4s							
WVT	**Waverly**	**57.59**	**72**	*e*P		**P**	**10 17 12.2**	**-0.5**
	comp=Z,18nm,1.4s							
034A	**Hebbronville**	**57.66**	**87**	P		**P**	**10 17 14.2**	**+1.0**
	baz=57,SNR=6.5							
OXF	**Oxford**	**57.83**	**74**	*e*P		**P**	**10 17 14.4**	**+0.1**
OXF				pmax		pmax		
	comp=Z,49nm,0.9s							
OXF	**Oxford**	**57.83**	**74**	*e*P		**P**	**10 17 14.4**	**+0.1**
	comp=Z,49nm,0.9s							
440A	**Kirbyville**	**57.83**	**80**	P		**P**	**10 17 14.5**	**+0.2**
	baz=58							
539A	**Cross D Ranch,**	**57.83**	**82**	P		**P**	**10 17 14.4**	**+0.1**
	baz=58							
035A	**Encino**	**58.11**	**87**	P		**P**	**10 17 17.1**	**+0.8**
	baz=58							
035Z	**Hargill**	**58.48**	**87**	P		**P**	**10 17 18.7**	**-0.2**
	baz=58							
VBMS	**Vicksburg**	**58.81**	**77**	P		**P**	**10 17 21.1**	**-0.1**
	baz=58							
SSLB	**Suanglung**	**58.95**	**269**	*e*P		**P**	**10 17 21.6**	**-0.7**
	comp=Z,22nm,0.8s							
YULB	**Yu-li**	**59.04**	**268**	*e*P		**P**	**10 17 23.2**	**+0.3**
	comp=Z,9.7nm,0.8s							
SSPA	**Standing Stone**	**59.91**	**62**	*e*P		**P**	**10 17 28.4**	**-0.3**
	comp=Z,8.1nm,0.8s							
LZH	**Lanzhou**	**60.11**	**291**	*e*P		**P**	**10 17 30.0**	**-0.4**
LZH				pP		**pP**	**10 17 34.3**	**-0.1**
LZH				sP		**sP**	**10 17 37.8**	**+1.8**
LZH				PMZ				
	comp=Z,17nm,1.0s							
LRAL	**Lakeview Retre**	**60.28**	**74**	*e*P		**P**	**10 17 30.3**	**-1.0**
	comp=Z,6.7nm,0.9s							
BLA	**Blacksburg**	**61.00**	**66**	*e*P		**P**	**10 17 36.4**	**+0.1**
BLA				pmax		pmax		
	comp=Z,20nm,1.1s							
BLA	**Blacksburg**	**61.00**	**66**	*e*P		**P**	**10 17 36.4**	**+0.1**
	comp=Z,20nm,1.1s							
LUPA	**Lehigh Univers**	**61.27**	**60**	*e*P		**P**	**10 17 38.3**	**+0.4**
	comp=Z,2.1nm,0.7s							
GOGA	**Godfrey**	**62.04**	**71**	*e*P		**P**	**10 17 42.6**	**-0.7**
GOGA				pmax		pmax		
	comp=Z,4.0nm,0.8s							
GOGA	**Godfrey**	**62.04**	**71**	*e*P		**P**	**10 17 42.6**	**-0.7**
	comp=Z,4.3nm,0.8s							
PRGR	**Permogore**	**62.31**	**342**	P		**P**	**10 17 44.2**	**-0.4**
PRGR				pmax		pmax		
	comp=Z,11nm,0.3s							
WMQ	**Urumqi**	**62.94**	**307**	P		**P**	**10 17 49.9**	**+0.7**
WMQ				pP		**pP**	**10 17 54.9**	**+1.6**
WMQ				sP		**sP**	**10 17 56.9**	**+2.0**
WMQ				PMZ				
	comp=Z,18nm,0.8s							
WMQ				PMZ				
	comp=Z,220nm,8.0s							
WMQ				LN				
	comp=Z,150nm,21.5s							
WMQ				LE				
	comp=Z,170nm,21.4s							
WMQ				LZ				
	comp=Z,120nm,19.0s							
SVE	**Sverdlovsk**	**63.02**	**332**	*e*P		**P**	**10 17 51.0**	**+1.6**
BRVK	**Borovoye**	**63.06**	**324**	*ce*P		**P**	**10 17 50.1**	**+0.3**
BRVK				pmax		pmax		
	comp=Z,9.0nm,1.7s							
MKAR	**Makanchi Array**	**63.19**	**313**	P		**P**	**10 17 49.2**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=43,slow=6.6,SNR=5.6							
MKAR	**Makanchi Array**	**63.19**	**313**	*i* P		**P**	**10 17 52.0**	**+1.2**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
CD2	**Chengdu**	**63.93**	**287**	P		**P**	**10 17 54.3**	**-1.6**
CD2				PP		**PP**	**10 20 14.3**	**-1.9**
CD2				S		**S**	**10 26 29.9**	**-1.4**
CD2				SS		**SS**	**10 30 38.8**	**-0.4**
CD2				PMZ				
	comp=Z,20nm,0.5s							
CD2				PMZ				
	comp=Z,110nm,9.3s							
CD2				LN				
	comp=Z,220nm,9.0s							
CD2				LZ				

	comp=Z,200nm,11.4s							
ARU	**Arti**	**63.95**	**332**	*c i* P		**P**	**10 17 56.1**	**+0.5**
ARU				S		**S**	**10 26 35.0**	**+4.3**
ARU				SS		**SS**	**10 30 39.4**	**+1.2**
ARU				pmax		pmax		
	comp=Z,12nm,1.7s							
ARU	**Arti**	**63.95**	**332**	*e*P		**P**	**10 17 56.6**	**+1.0**
	comp=Z,5.7nm,0.9s							
SZP	**Santa**	**63.99**	**265**	*e*P		**P**	**10 17 56.8**	**+0.4**
	comp=Z,49nm,0.6s							
FINES	**FINESS Array B**	**65.22**	**352**	P		**P**	**10 18 03.1**	**-0.7**
	comp=Z,2.5nm,0.8s,baz=4.8,slow=4.6,SNR=5.4							
FINES				LR		LR	10 48 49.1	
	comp=Z,111nm,18.8s,baz=16,slow=38							
FINES	**FINESS Array B**	**65.22**	**352**	*i* P		**P**	**10 18 05.1**	**+1.3**
FINES				pmax		pmax		
	comp=Z,2.0nm,0.8s							
GYA	**Guiyang**	**65.54**	**282**	*e*P		**P**	**10 18 08.4**	**+1.8**
GYA				PP		**PP**	**10 20 32.6**	**+2.1**
GYA				ScP			10 22 41.5	
GYA				S		**S**	**10 26 51.0**	**-0.4**
GYA				SKS		**SKSac**	**10 28 00.4**	**-1.4**
GYA				SS		**SS**	**10 31 05.3**	**+0.7**
GYA				PMZ				
	comp=Z,10.0nm,1.0s							
GYA				PMZ				
	comp=Z,90nm,5.2s							
GYA				LN				
	comp=Z,480nm,19.8s							
GYA				LE				
	comp=Z,420nm,18.7s							
GYA				LZ				
	comp=Z,440nm,18.6s							
NB2	**NORSAR Subarra**	**66.32**	**359**	P		**P**	**10 18 11.7**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=4.6,slow=6.9							
NOA	**NORSAR Array B**	**66.32**	**359**	P		**P**	**10 18 10.6**	**-0.4**
	comp=Z,2.1nm,0.9s,baz=3.6,slow=6.7,SNR=3.9							
NOA				LR		LR	10 45 21.6	
	comp=Z,37nm,21.7s,baz=150,slow=34							
TGY	**Tagaytay City**	**66.38**	**262**	P		**P**	**10 18 12.0**	**0.0**
	comp=Z,148nm,0.6s,baz=135,slow=10.0,SNR=2.7							
TGY	**Tagaytay City**	**66.38**	**262**	P		**P**	**10 18 12.0**	**0.0**
KMI	**Kunming**	**68.86**	**284**	P		**P**	**10 18 30.5**	**+2.7**
KMI				PMZ				
	comp=Z,7.0nm,0.5s							
JAY	**Jayapura**	**69.04**	**234**	LR		LR	10 44 47.2	
	comp=Z,125nm,19.4s,baz=350,slow=33							
ABKAR	**Akbulak array**	**69.77**	**328**	*e*P		**P**	**10 18 33.0**	**+0.3**
	comp=Z,2.8nm,0.8s							
OBN	**Obninsk**	**70.08**	**344**	*e*P		**P**	**10 18 34.0**	**-0.5**
OBN				pmax		pmax		
	comp=Z,29nm,2.5s							
KKAR	**Karatay Array**	**71.15**	**318**	*e*P		**P**	**10 18 41.2**	**-0.2**
KKAR	**Karatay Array**	**71.15**	**318**	*e*P		**P**	**10 18 41.1**	**-0.2**
PPT	**Papeete**	**72.41**	**160**	LR		LR	10 43 43.7	
	comp=Z,75nm,19.9s,baz=356,slow=30							
VSR	**Storozhevoye**	**73.34**	**341**	*e*P		**P**	**10 18 54.0**	**-0.3**
VSR				pmax		pmax		
	comp=Z,3.0nm,0.5s							
AKASG	**Malin Array Be**	**75.45**	**348**	P		**P**	**10 19 05.0**	**-1.5**
	comp=Z,2.8nm,0.3s,baz=12,slow=5.3,SNR=4.0							
AKASG				LR		LR	10 56 41.9	
	comp=Z,95nm,18.6s,baz=0.0,slow=39							
AKASG	**Malin Array Be**	**75.45**	**348**	*i* P		**P**	**10 19 09.1**	**+2.6**
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.6s							
KIEV	**Kiev**	**75.45**	**348**	*i* P		**P**	**10 19 05.7**	**-0.8**
CLL	**Collm**	**76.05**	**358**	*e*P		**P**	**10 19 11.0**	**+1.0**
CLL	**Collm**	**76.05**	**358**	*e*P		**P**	**10 19 11.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**76.22**	**282**	P		**P**	**10 19 11.0**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=26,slow=6.3,SNR=11							
CMAR				LR		LR	10 55 21.8	
	comp=Z,68nm,18.8s,baz=45,slow=38							
CMAR	**Chiang Mai Arr**	**76.22**	**282**	*i* P		**P**	**10 19 11.3**	**-0.1**
CMAR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
BRG	**Berggiesshubel**	**76.47**	**358**	*e*P		**P**	**10 19 15.1**	**+2.8**
	comp=Z,2.0nm,0.8s							
BRG	**Berggiesshubel**	**76.47**	**358**	*e*P		**P**	**10 19 15.1**	**+2.8**
BRG				pmax		pmax		
	comp=Z,2.0nm,0.9s							
UPC	**Upice**	**76.76**	**356**	*e*P		**P**	**10 19 13.7**	**-0.3**
UPC	**Upice**	**76.76**	**356**	*e*P		**P**	**10 19 13.7**	**-0.3**
PVCC	**Panska Ves**	**76.79**	**357**	*e*P		**P**	**10 19 14.9**	**+0.7**
PVCC	**Panska Ves**	**76.79**	**357**	*e*P		**P**	**10 19 14.9**	**+0.7**
DPC	**Dobruska-Polom**	**76.91**	**356**	*e*P		**P**	**10 19 14.6**	**-0.3**
DPC				*e*PCP		**PcP**	**10 19 26.6**	**+0.6**
DPC				*ex*		x	10 19 45.4	
DPC	**Dobruska-Polom**	**76.91**	**356**	*e*P		**P**	**10 19 14.6**	**-0.3**
DPC				*e*			10 19 26.6	
KRLC	**Kraliky**	**77.16**	**356**	*e*P		**P**	**10 19 14.7**	**-1.6**
KRLC	**Kraliky**	**77.16**	**356**	*e*P		**P**	**10 19 14.7**	**-1.6**
OKC	**Ostrava-Krasne**	**77.33**	**355**	*e*P		**P**	**10 19 15.3**	**-1.9**
OKC	**Ostrava-Krasne**	**77.33**	**355**	*e*P		**P**	**10 19 15.3**	**-1.9**
PRU	**Pruhonice**	**77.33**	**357**	*e*P		**P**	**10 19 16.1**	**-1.1**
PRU	**Pruhonice**	**77.33**	**357**	*e*P		**P**	**10 19 16.1**	**-1.1**
GERES	**GERESS Array B**	**78.50**	**358**	P		**P**	**10 19 23.8**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=5.0,slow=4.6,SNR=10							
KBZ	**Khabaz**	**79.64**	**337**	P		**P**	**10 19 29.9**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=0.0,slow=5.1,SNR=5.1							
GEYT	**Alibeck**	**80.37**	**323**	P		**P**	**10 19 34.1**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=331,slow=5.4,SNR=3.2							
GEYT				LR		LR	11 01 14.4	
	comp=Z,108nm,18.3s,baz=255,slow=40							
CTA	**Charters Tower**	**82.11**	**221**	P		**P**	**10 19 42.6**	**-0.8**
	comp=Z,6.1nm,0.7s,baz=30,slow=7.4,SNR=5.0							
KSM	**Kuching**	**82.73**	**263**	*e*P		**P**	**10 19 46.9**	**0.0**
	comp=Z,20nm,0.9s							
BRTR	**Keskin Array B**	**85.45**	**342**	P		**P**	**10 20 00.8**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=93,slow=4.9,SNR=4.3							
BRTR	**Keskin Array B**	**85.45**	**342**	*i* P		**P**	**10 20 03.2**	**+2.6**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.9s							
IPM	**Ipoh**	**85.95**	**272**	*e*P		**P**	**10 20 03.5**	**+0.2**
	comp=Z,11nm,0.9s							
ESDC	**Sonseca Array**	**86.90**	**11**	P		**P**	**10 20 07.3**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=351,slow=4.7,SNR=7.3							
WRAB	**Tennant Creek**	**87.17**	**231**	*e*P		**P**	**10 20 06.3**	**-2.7**
WRAB				pmax		pmax		
	comp=Z,50nm,1.2s							
WRAB	**Tennant Creek**	**87.17**	**231**	*e*P		**P**	**10 20 08.3**	**-0.6**
	comp=Z,27nm,1.4s							
WRA	**Warramunga Arr**	**87.18**	**231**	P		**P**	**10 20 07.8**	**-1.2**
	comp=Z,5.6nm,0.9s,baz=34,slow=6.1,SNR=15							
WRA				LR		LR	10 55 18.6	
	comp=Z,128nm,21.4s,baz=40,slow=33							
WRA	**Warramunga Arr**	**87.18**	**231**	*i* P		**P**	**10 20 08.3**	**-0.7**
WRA				pmax		pmax		
	comp=Z,6.0nm,0.9s							
PSI	**Prapat**	**88.55**	**273**	*e*P		**P**	**10 20 16.0**	**0.0**
PSI				pmax		pmax		
	comp=Z,25nm,0.9s							
PSI	**Prapat**	**88.55**	**273**	*e*P		**P**	**10 20 16.0**	**0.0**
	comp=Z,25nm,0.9s							
AS31	**Alice Springs**	**90.59**	**230**	*e*P		**P**	**10 20 24.4**	**-0.7**
ASAR	**Alice Springs**	**90.59**	**230**	P		**P**	**10 20 24.6**	**-0.5**
	comp=Z,14nm,0.9s,baz=33,slow=4.5,SNR=55							
OTAV	**Otavalo**	**90.63**	**89**	*e*P		**P**	**10 20 27.1**	**+1.0**
	comp=Z,5.5nm,0.9s							
STKA	**Stephens Creek**	**94.50**	**220**	P		**P**	**10 20 42.5**	**-0.4**
	comp=Z,4.4nm,1.1s,baz=25,slow=5.6,SNR=3.3							
STKA				LR		LR	10 57 16.0	
	comp=Z,174nm,21.4s,baz=32,slow=32							
TORD	**Torodi Ar. Bea**	**113.73**	**9**	PKiKP		**PKiKP**	**10 26 00.3**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=334,slow=1.7,SNR=5.6							
TORD				PKKPbc		**PKKPbc**	**10 36 41.5**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=187,slow=2.7,SNR=4.0							
DBIC	**Dimbokro**	**119.21**	**17**	PKP		**PKPdf**	**10 26 11.6**	**-0.7**
	comp=Z,6.6nm,1.1s,baz=358,slow=3.3,SNR=5.3							
KMBO	**Kilima Mbogo**	**123.63**	**327**	PKP		**PKPdf**	**10 26 20.1**	**-0.9**
	comp=Z,4.6nm,1.0s,baz=315,slow=2.7,SNR=6.7							
QSPA	**South Pole Qui**	**142.75**	**180**	*e*PKPdf		**PKPdf**	**10 26 50.1**	**-4.7**
LBTB	**Lobatse**	**149.74**	**331**	*e*PKP2		**PKPbc**	**10 27 13.2**	**+0.4**
LBTB	**Lobatse**	**149.74**	**331**	*e*PKPbc		**PKPbc**	**10 27 13.2**	**+0.4**
MAW	**Mawson**	**151.19**	**219**	PKPbc		**PKPbc**	**10 27 14.1**	**-0.5**
	comp=Z,6.4nm,0.8s,baz=110,slow=2.3,SNR=12							
BOSA	**Boshof**	**153.22**	**330**	PKPbc		**PKPbc**	**10 27 20.4**	**-0.3**
	comp=Z,8.3nm,0.6s,baz=19,slow=2.1,SNR=19							
BOSA	**Boshof**	**153.22**	**330**	PKIKP		**PKPbc**	**10 27 20.4**	**-0.3**
BOSA				pmax		pmax		
	comp=Z,8.0nm,0.6s							
BOSA	**Boshof**	**153.22**	**330**	*e*PKPbc		**PKPbc**	**10 27 20.7**	**-0.1**

NIED ***18*** *10:12:00, 36.70N×141.00E, h59km, Mw3.9 Best double couple: M0 7.44000×10^14 NP1:φs54.00000°, δ17.00000°, λ155.00000°. NP2:φs168.00000°, δ83.00000°, λ74.00000°.*

ISCJB ***18*** *10:12:02.2±0.6, 36.73N±0.05×141.02E±0.07, h62km±4km, mb3.8/11, Error ellipse: s-maj=10.3km s-min=5.7km az=38.7*

JMA ***18*** *10:12:03.1, 36.75N×140.97E, h60km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs183.00000°, δ87.00000°, λ86.00000°. NP2:φs59.00000°, δ5.00000°, λ146.00000°. Principal axes: T Plg48.0000°, Azm88.0000°; N Plg4.0000°, Azm183.0000°; P Plg42.0000°, Azm277.0000°;*

JMA Felt I J1.

IDC ***18*** *10:12:06.5±2.5, 36.70N×140.78E, h87km±23km, mb3.5/11, mb1 3.8/13, mb1mx3.6/30, mbtmp3.8/13 Error ellipse: s-maj=22.3km s-min=18.1km az=108.0*

ISC 18 10:12:03.0±1.0, 36.73N±0.06×141.05E±0.08, h54km±8km, n31, σ0°83/35, mb3.9/11, 7C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.40**	**253**	⇑P	**Pn**	**10 12 13.6**	**+0.2**
JHO				S	**Sn**	**10 12 21.1**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.42**	**332**	⇑P	**Pn**	**10 12 13.7**	**0.0**
ONAJ				S	**Sn**	**10 12 21.1**	**-0.3**
JFK	**Kawauchi**	**0.65**	**348**	⇑P	**Pn**	**10 12 16.1**	**-0.2**
JFK				S	**Sn**	**10 12 25.5**	**-0.5**
JYT	**Yasato**	**0.85**	**234**	⇑P	**Pn**	**10 12 18.6**	**-0.2**
JYT				S	**Sn**	**10 12 30.1**	**-0.3**
JFT	**Otama**	**0.97**	**324**	⇑P	**Pn**	**10 12 20.5**	**+0.1**
JFT				S	**Sn**	**10 12 33.3**	**0.0**
JMM	**Marumori**	**1.15**	**350**	⇑P	**Pn**	**10 12 22.7**	**0.1**
JMM				S	**Sn**	**10 12 37.5**	**-0.1**
JFY	**Yanaizu**	**1.27**	**303**	P	**Pn**	**10 12 24.1**	**-0.3**
JAG	**Ashikaga**	**1.32**	**257**	⇑P	**Pn**	**10 12 24.8**	**-0.3**
JAG				S	**Sn**	**10 12 40.4**	**-1.2**
JKT	**Katashina**	**1.45**	**272**	P	**Pn**	**10 12 26.9**	**+0.1**
JKT				S	**Sn**	**10 12 44.5**	**-0.3**
MJAR	**Matsushiro Arr**	**2.29**	**266**	P	**Pn**	**10 12 39.1**	**+0.7**
	13nm,0.3s,baz=90,slow=15,SNR=190						
MJAR				S	**Sn**	**10 13 04.6**	**-0.7**
	32nm,0.3s,baz=98,slow=25,SNR=11						
MAT	**Matsushiro**	**2.29**	**266**	P	**Pn**	**10 12 38.9**	**+0.6**
MAT				S	**Sn**	**10 13 05.5**	**+0.1**
ASAJ	**Asahikawa**	**7.47**	**9**	P	**Pn**	**10 13 47.9**	**-1.4**
	baz=189,slow=10						
USRK	**Ussuriysk Ar.**	**10.16**	**320**	P	**Pn**	**10 14 28.7**	**+2.7**
	0.3nm,0.3s,baz=134,slow=13,SNR=7.9						
H11N2	**WAKE ISLAND Hy**	**28.25**	**120**	T	T	10 47 51.6	
	baz=313,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**28.25**	**120**	T	T	10 47 51.1	
	baz=313,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**28.27**	**120**	T	T	10 47 53.0	
	baz=313,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**28.94**	**122**	T	T	10 48 46.3	
	baz=314,slow=76,SNR=6.7						
H11S3	**WAKE ISLAND Hy**	**28.94**	**122**	T	T	10 48 45.9	
	baz=314,slow=76,SNR=6.3						
H11S2	**WAKE ISLAND Hy**	**28.96**	**122**	T	T	10 48 41.4	
	baz=314,slow=76,SNR=7.2						
ZALV	**Zalesovo Beam**	**41.90**	**313**	P	**P**	**10 19 46.9**	**-1.0**
	2.1nm,0.6s,baz=93,slow=8.0,SNR=6.5						
MKAR	**Makanchi Array**	**44.03**	**302**	P	**P**	**10 20 04.3**	**-0.9**
	0.7nm,0.7s,baz=83,slow=9.9,SNR=5.9						
KURBB	**Kurchatov Arra**	**45.96**	**308**	P	**P**	**10 20 18.9**	**-1.5**
	1.6nm,0.5s,baz=85,slow=8.3,SNR=6.3						
ILAR	**Eielson Array**	**49.91**	**32**	P	**P**	**10 20 51.4**	**+0.7**
	0.8nm,0.7s,baz=270,slow=6.1,SNR=12						
INK	**Inuvik**	**54.79**	**27**	P	**P**	**10 21 27.7**	**+0.9**
	1.3nm,1.0s,baz=331,slow=7.6,SNR=4.6						
WRA	**Warramunga Arr**	**56.72**	**188**	P	**P**	**10 21 40.6**	**-0.6**
	1.0nm,0.5s,baz=4.9,slow=7.3,SNR=8.1						
ASAR	**Alice Springs**	**60.45**	**188**	P	**P**	**10 22 07.0**	**-0.1**
	0.4nm,0.7s,baz=7.8,slow=7.5,SNR=2.5						
FINES	**FINESS Array B**	**68.95**	**332**	P	**P**	**10 23 01.1**	**-0.9**
	1.4nm,0.8s,baz=69,slow=7.9,SNR=3.4						
NVAR	**Mina Array Bea**	**75.41**	**53**	P	**P**	**10 23 42.3**	**+1.0**
	0.9nm,0.8s,baz=296,slow=5.3,SNR=7.3						
PDAR	**Pinedale Array**	**78.09**	**45**	P	**P**	**10 23 56.8**	**+0.5**
	0.5nm,0.7s,baz=309,slow=2.9,SNR=4.9						
TXAR	**Lajitas Array**	**90.54**	**52**	P	**P**	**10 25 00.4**	**+0.9**
	0.4nm,0.8s,baz=296,slow=3.2,SNR=4.0						
LPAZ	**La Paz**	**147.10**	**60**	PKPbc	**PKPbc**	**10 31 40.7**	**-0.4**
	1.2nm,1.0s,baz=333,slow=4.5,SNR=4

IDC ***18*** *10:24:48.9±1.0,52°.77N×169°.86W,h0km,mb3.8/8, mb1 4.0/9,mb1mx3.7/52,mbtmp3.7/9,ML3.5/1,Error ellipse: s-maj=29.5km s-min=19.6km az=158.0*
BJI ***18*** *10:24:49.0,52°.80N×169°.70W,h10km,mb4.4/2,mB4.6/1, Ms4.3/1,Ms7 3.9/1*
ISCJB ***18*** *10:24:50.9±0.8,52°.83N±0°.06×169°.78W±0°.05,h15km±6km, mb4.0/18,Error ellipse: s-maj=10.7km s-min=4.3km az=161.7*
NEIC ***18*** *10:24:51.8,52°.79N×169°.60W,h6km,mb3.9/14, ML3.5(AEIC),After AEIC.*

ISC 18 10:24:52.2±0.7,52°.85N±0°.09×169°.69W±0°.05,h17km±3km, n68,σ1°24/77,mb3.9/18,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.52**	**76**	P	**Pg**	**10 25 01.1**	**-1.4**
NIKH				S	**Sg**	**10 25 08.6**	**-1.0**
OKAK	**Okmok**	**1.08**	**47**	P	**Pb**	**10 25 10.1**	**-2.3**
OKAK				S	**Sb**	**10 25 24.2**	**-2.0**
OKCE	**Okmok Cone E**	**1.08**	**57**	P	**Pb**	**10 25 11.7**	**-0.8**
OKCE				S	**Sn**	**10 25 27.9**	**+0.7**
OKTU	**Okmok Mt. Tuli**	**1.13**	**61**	P	**Pb**	**10 25 13.1**	**-0.1**
MGOD	**Makushin Gods**	**1.94**	**60**	P	**Pn**	**10 25 24.6**	**+0.3**
MGOD				S	**Sb**	**10 25 50.4**	**-0.5**
MCIR	**Makushin Cirqu**	**2.00**	**56**	P	**Pb**	**10 25 26.6**	**-1.5**
MSW	**Makushin Switc**	**2.04**	**57**	P	**Pn**	**10 25 26.5**	**+0.8**
MSW				S	**Sb**	**10 25 53.9**	**0.0**
UNV	**Unalaska Valle**	**2.15**	**61**	P	**Pn**	**10 25 27.6**	**+0.4**
UNV				S	**Sb**	**10 25 54.8**	**-2.3**
AKRB	**Akutan Reef Bi**	**2.51**	**58**	P	**Pn**	**10 25 33.6**	**+1.4**
AKUT	**Akutan**	**2.67**	**60**	*e*Pn	**Pn**	**10 25 36.0**	**+1.7**
AKUT				*e*Sn	**Sb**	**10 26 12.2**	**+0.3**
ATKA	**Atka Island**	**2.83**	**258**	P	**Pn**	**10 25 35.4**	**-1.0**
GSTR	**Great Sitkin T**	**3.97**	**262**	*e*Pn	**Pn**	**10 25 52.6**	**+0.5**
GSMY	**Great Sitkin M**	**3.98**	**261**	P	**Pn**	**10 25 52.6**	**+0.3**
GSCK	**Great Sitkin C**	**4.05**	**261**	P	**Pn**	**10 25 53.3**	**0.0**
ADAG	**Mount Adagdak**	**4.32**	**261**	P	**Pn**	**10 25 58.2**	**+1.2**
SPIA	**Saint Paul Isl**	**4.35**	**355**	P	**Pn**	**10 25 58.8**	**+1.5**
SDPT	**Sand Point**	**5.97**	**62**	*e*Pn	**Pn**	**10 26 23.0**	**+3.4**
AMKA	**Amchitka**	**6.94**	**262**	*e*Pn	**Pn**	**10 26 35.3**	**+2.3**
CHGN	**Chignik**	**7.41**	**58**	*e*Pn	Pn	10 26 42.8	+3.5
OHAK	**Old Harbor**	**10.37**	**59**	*e*Pn	**Pn**	**10 27 19.9**	**0.0**
BPAW	**Bear Paw Mtn.**	**14.85**	**33**	*e*P	**P**	**10 28 25.9**	**-0.9**
BWN	**Browne** 37nm,0.9s	**15.41**	**35**	*e*Pn	**Pn**	**10 28 29.9**	**+1.4**
KLU	**Klutina** 5.6nm,1.3s	**15.44**	**47**	*e*Pn	**Pn**	**10 28 28.5**	**-0.4**
CCB	**Clear Creek Bu** 15nm,2.0s	**16.27**	**35**	*e*Pn	**P**	**10 28 40.9**	**-1.6**
MDM	**Murphy Dome** 20nm,2.0s	**16.32**	**34**	*e*Pn	**P**	**10 28 42.7**	**-0.4**
HDA	**Harding Lake** 190nm,1.8s	**16.43**	**36**	*e*Pn	**P**	**10 28 42.7**	**-1.7**
IL12	**Eielson Array**	**16.63**	**35**	*e*Pn	**Pn**	**10 28 44.2**	**+0.1**
IL05	**Eielson Array**	**16.65**	**35**	*e*Pn	**P**	**10 28 45.6**	**-1.1**
IL04	**Eielson Array**	**16.66**	**35**	*e*Pn	**Pn**	**10 28 45.1**	**+0.6**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=223,slow=11,SNR=9.1	**16.67**	**35**	Pn	**Pn**	**10 28 43.2**	**-1.4**
IL02	**Eielson Array**	**16.68**	**35**	*e*Pn	**P**	**10 28 45.7**	**-1.4**
EGAK	**Eagle**	**18.79**	**39**	*e*P	**Pn**	**10 29 11.8**	**+1.0**
HYT	**Haines Junctio**	**19.16**	**53**	*e*P	**Pn**	**10 29 16.5**	**+1.0**
SKAG	**Skagway** 10nm,1.0s	**20.07**	**57**	*e*P	Pn	10 29 25.8	-0.4
WRAK	**Wrangell Islan** 10.0nm,1.0s	**21.73**	**66**	*e*P	**P**	**10 29 45.4**	**+3.2**
SEY	**Seymchan** 1.9nm,0.8s,baz=114,slow=11,SNR=4.7	**22.20**	**312**	P	**P**	**10 29 46.7**	**-0.5**
DLBC	**Dease Lake** 2.3nm,0.7s,baz=276,slow=9.6,SNR=6.2	**22.81**	**60**	P	**P**	**10 29 54.4**	**+0.5**
DLBC	**Dease Lake**	**22.81**	**60**	*e*P	**P**	**10 29 56.5**	**+2.7**
INK	**Inuvik** 0.8nm,0.6s,baz=247,slow=9.2,SNR=4.6	**23.05**	**34**	P	**P**	**10 29 55.3**	**-0.9**
K05A	**Summer Lake** 55nm,2.1s	**33.71**	**88**	*e*P	**P**	**10 31 35.5**	**+3.0**
MOD	**Modoc** 1.8nm,0.8s	**34.54**	**88**	*e*P	**P**	**10 31 41.3**	**+1.7**
SLMT	**Seeley Lake**	**35.72**	**76**	*e*P	**P**	**10 31 50.8**	**+1.1**
MCMT	**McKenzie Canyo**	**37.38**	**79**	*e*P	**P**	**10 32 04.5**	**+0.5**
NVAR	**Mina Array Bea** 1.3nm,0.8s,baz=295,slow=7.7,SNR=10	**37.87**	**91**	P	**P**	**10 32 08.8**	**+0.7**
H11S1	**WAKE ISLAND Hy** baz=22,SNR=6.1	**38.91**	**217**	T	T	11 13 17.8	
H11S2	**WAKE ISLAND Hy** baz=22	**38.92**	**217**	T	T	11 13 16.6	
H11S3	**WAKE ISLAND Hy** baz=22	**38.92**	**217**	T	T	11 13 17.8	
RLMT	**Red Lodge** 2.3nm,0.8s	**39.33**	**76**	*e*P	**P**	**10 32 20.8**	**+0.4**
R11A	**Troy Canyon, C** 2.8nm,1.0s	**39.57**	**89**	*e*P	**P**	**10 32 23.2**	**+0.8**
TPNV	**Topopah Spring** 2.0nm,0.8s	**40.07**	**91**	*e*P	**P**	**10 32 27.8**	**+1.2**
PD01	**Pinedale Array**	**40.48**	**79**	*e*P	**P**	**10 32 30.1**	**+0.1**
PD02	**Pinedale Array**	**40.49**	**79**	*e*P	**P**	**10 32 31.1**	**+1.0**
PD09	**Pinedale Array**	**40.50**	**79**	*e*P	**P**	**10 32 31.5**	**+1.3**
PD11	**Pinedale Array**	**40.50**	**80**	*e*P	**P**	**10 32 31.1**	**+0.9**
BW06	**Boulder Array** 0.9nm,0.7s	**40.51**	**79**	*e*P	**P**	**10 32 31.1**	**+0.9**
PDAR	**Pinedale Array** 0.5nm,0.5s,baz=346,slow=3.4,SNR=7.5	**40.51**	**79**	P	**P**	**10 32 30.3**	**+0.1**
PD10	**Pinedale Array**	**40.51**	**79**	*e*P	**P**	**10 32 30.7**	**+0.5**
CCUT	**Cedar City** 1.0nm,0.7s	**41.43**	**88**	*e*P	**P**	**10 32 38.8**	**+1.0**
PV01	**Paradox Valley** 164nm,0.7s	**43.95**	**84**	*e*P	**P**	**10 32 58.8**	**+0.5**
TUC	**Tucson** 2.0nm,1.0s	**46.52**	**92**	*e*P	**P**	**10 33 19.4**	**+0.8**
SONM	**Songino Array** 0.2nm,0.4s,baz=49,slow=4.4,SNR=3.3	**50.88**	**300**	PcP	**PcP**	**10 35 07.5**	**-0.8**
HHC	**Hu-ho-hao-te**	**52.56**	**290**	*e*P	**P**	**10 34 04.8**	**+0.2**
HHC				pP	**pP**	**10 34 10.3**	**+0.3**
HHC				S	**S**	**10 41 29.6**	**-1.1**
HHC				ScS	**ScS**	**10 43 52.4**	**-1.1**
HHC	110nm,16.0s			LN			
HHC	110nm,14.8s			LE			
HHC	91nm,16.0s			LZ			
TXAR	**Lajitas Array** 2.0nm,0.8s,baz=297,slow=5.4,SNR=30	**52.94**	**89**	P	**P**	**10 34 07.4**	**0.0**
TXAR	0.2nm,0.8s,baz=320,slow=2.7,SNR=1.9			PcP	**PcP**	**10 35 16.3**	**+0.1**
LZH	**Lanzhou**	**60.23**	**291**	*e*P	**P**	**10 34 59.4**	**+0.1**
LZH				pP	**pP**	**10 35 03.8**	**-1.0**
LZH				sP	**sP**	**10 35 06.3**	**-0.6**
WMQ	**Urumqi**	**63.08**	**308**	*e*P	**P**	**10 35 20.3**	**+2.0**
WMQ				pP	**pP**	**10 35 25.3**	**+1.4**
WMQ				sP	**sP**	**10 35 27.3**	**+1.4**
WMQ	4.0nm,1.0s			PMZ			
WMQ	35nm,4.2s			PMZ			
CD2	**Chengdu**	**64.04**	**287**	P	**P**	**10 35 23.5**	**-1.3**
WRA	**Warramunga Arr** 0.8nm,1.0s,baz=36,slow=5.8,SNR=3.9	**87.15**	**231**	P	**P**	**10 37 35.5**	**-1.6**
ASAR	**Alice Springs** 0.9nm,0.8s,baz=27,slow=5.6,SNR=5.7	**90.56**	**230**	P	**P**	**10 37 52.4**	**-0.7**

WEL 18 10:46:08.1±0.3,41°.24S×172°.80E,h154km±2km,ML3.6/13, 10C-8D,Error ellipse: s-maj=1.7km s-min=1.6km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.44**	**88**	⇑PN	Pn	10 46 29.6	0.0
NNZ				SN	Sn	10 46 45.3	-0.7
QRZ	**Quartz Range**	**0.46**	**333**	PN	Pn	10 46 29.8	+0.1
QRZ				SN	Sn	10 46 44.8	-1.4
THZ	**Tophouse**	**0.53**	**171**	⇑PN	Pn	10 46 30.2	+0.1
TUWZ	**Tuamarina**	**0.88**	**103**	PN	Pn	10 46 32.5	+0.2
TUWZ				AML	AML	10 46 50.8	
TUWZ				AML	AML	10 46 51.0	
DSZ	**Denniston Nort**	**0.90**	**236**	⇓PN	Pn	10 46 32.2	-0.3
DSZ				SN	Sn	10 46 48.5	-2.8
BSWZ	**Blackbirch Sta**	**0.94**	**121**	PN	Pn	10 46 32.8	+0.1
CMWZ	**Cape Campbell**	**1.18**	**116**	PN	Pn	10 46 35.2	+0.4
KHZ	**Kahutara**	**1.30**	**155**	⇑PN	Pn	10 46 36.0	+0.1
KHZ				AML	AML	10 46 55.5	
KHZ				AML	AML	10 46 55.7	
WEL	**Wellington**	**1.48**	**92**	⇑PN	Pn	10 46 37.7	-0.1
WEL				AML	AML	10 47 00.2	
BHW	**Baring Head**	**1.57**	**97**	⇑PN	Pn	10 46 38.4	-0.3
BHW				AML	AML	10 47 00.5	
BHW				AML	AML	10 47 02.3	
LTZ	**Lake Taylor**	**1.59**	**194**	⇓PN	Pn	10 46 38.8	-0.2
KIW	**Kapiti Island**	**1.64**	**77**	⇑PN	Pn	10 46 39.4	0.0
KIW				AML	AML	10 47 03.2	
KIW				AML	AML	10 47 03.6	
CAW	**Cannon Point**	**1.72**	**86**	PN	Pn	10 46 39.9	-0.3
CAW				AML	AML	10 47 05.0	
CAW				AML	AML	10 47 06.9	
OGWZ	**Otaki Gorge**	**1.84**	**78**	PN	Pn	10 46 41.5	-0.1
MSWZ	**Moikau Station**	**1.85**	**96**	⇑PN	Pn	10 46 41.4	-0.4
MSWZ				AML	AML	10 47 06.2	
MSWZ				AML	AML	10 47 06.5	
PLWZ	**Palliser**	**1.88**	**101**	⇑PN	Pn	10 46 41.7	-0.3
PAWZ	**Paruwai Farm**	**1.98**	**95**	PN	Pn	10 46 42.8	-0.4
PAWZ				AML	AML	10 47 10.0	
PAWZ				AML	AML	10 47 10.2	
NMEZ	**Namu Road**	**2.00**	**25**	PN	Pn	10 46 44.1	+0.7
MTW	**Mount Morrison**	**2.04**	**89**	PN	Pn	10 46 43.4	-0.5
MTW				AML	AML	10 47 10.1	
MTW				AML	AML	10 47 10.2	
HOWZ	**Holdsworth Sta**	**2.08**	**82**	⇑PN	Pn	10 46 44.0	-0.5
NWEZ	**Newall Road**	**2.12**	**23**	PN	Pn	10 46 45.6	+0.7
KHEZ	**Kahui Hut**	**2.15**	**26**	PN	Pn	10 46 46.0	+0.6
LREZ	**Lake Rotokare**	**2.16**	**35**	PN	Pn	10 46 46.3	+1.0
OXZ	**Oxford**	**2.16**	**195**	⇓PN	Pn	10 46 44.3	-1.0
PREZ	**Palmer Road**	**2.16**	**29**	PN	Pn	10 46 46.1	+0.6
TRWZ	**Traveller**	**2.18**	**95**	PN	Pn	10 46 45.4	-0.2
TRWZ				AML	AML	10 47 14.4	
MRZ	**Mangatainoka R**	**2.18**	**76**	⇑PN	Pn	10 46 45.0	-0.6
MRZ				AML	AML	10 47 13.9	
MRZ				AML	AML	10 47 14.4	
NEZ	**North Egmont**	**2.20**	**27**	PN	Pn	10 46 47.6	+1.6
WAZ	**Wanganui**	**2.23**	**49**	PN	Pn	10 46 46.9	+0.7
CRLZ	**Canterbury Las**	**2.34**	**183**	⇓PN	Pn	10 46 46.6	-0.8
TIWZ	**Tintock**	**2.38**	**80**	PN	Pn	10 46 47.5	-0.5
TIWZ				AML	AML	10 47 17.5	
TIWZ				AML	AML	10 47 18.6	
WVZ	**Waitaha Valley**	**2.39**	**219**	⇓PN	Pn	10 46 47.0	-1.0
POWZ	**Post Office Ro**	**2.41**	**70**	PN	Pn	10 46 47.6	-0.6
MQZ	**McQueen's Vall**	**2.47**	**182**	PN	Pn	10 46 47.7	-1.2
PRWZ	**Pori Road**	**2.50**	**75**	PN	Pn	10 46 49.0	-0.4
VRZ	**Vera Road**	**2.59**	**36**	⇓PN	Pn	10 46 50.5	0.0
BFZ	**Birch Farm**	**2.67**	**79**	PN	Pn	10 46 50.8	-0.6
TSZ	**Takapari Road**	**2.68**	**65**	PN	Pn	10 46 51.0	-0.6
TSZ				AML	AML	10 47 26.0	
PKVZ	**Pokaka**	**2.75**	**46**	PN	Pn	10 46 52.7	+0.1
RPZ	**Rata Peaks**	**2.79**	**207**	PN	Pn	10 46 51.8	-1.2
WNVZ	**Wahianoa**	**2.87**	**49**	PN	Pn	10 46 53.8	-0.3
FWVZ	**Far West T-bar**	**2.89**	**48**	PN	Pn	10 46 54.4	-0.2
ANWZ	**Angora Road**	**2.89**	**76**	PN	Pn	10 46 53.8	-0.4
PNHZ	**Pukenui**	**2.91**	**64**	PN	Pn	10 46 53.6	-0.9
WPVZ	**Whakapapa**	**2.92**	**47**	PN	Pn	10 46 54.4	-0.4
TWVZ	**Taurewa**	**2.96**	**44**	PN	Pn	10 46 54.7	-0.6
NGZ	**Ngauruhoe**	**2.97**	**47**	PN	Pn	10 46 55.3	-0.2
WPHZ	**Waipukurau**	**3.01**	**68**	PN	Pn	10 46 54.9	-0.8
BHHZ	**Black Hill Sta**	**3.04**	**56**	PN	Pn	10 46 57.1	+0.9
KRVZ	**Karewarewa**	**3.05**	**46**	PN	Pn	10 46 55.5	-0.9
HIZ	**Hauiti**	**3.15**	**31**	PN	Pn	10 46 56.9	-0.6
KATZ	**Kakaramea**	**3.17**	**45**	PN	Pn	10 46 58.2	+0.3
FOZ	**Fox Glacier**	**3.27**	**224**	⇓PN	Pn	10 46 56.5	-2.5
KAHZ	**Kahuranaki**	**3.43**	**66**	PN	Pn	10 47 00.5	-0.6
LBZ	**Lake Benmore**	**3.69**	**211**	PN	Pn	10 47 02.8	-1.5
JCZ	**Jackson Bay**	**4.11**	**225**	⇓PN	Pn	10 47 08.1	-1.8
URZ	**Urewera**	**4.46**	**50**	PN	Pn	10 47 12.1	-2.3
WKZ	**Wanaka**	**4.53**	**216**	PN	Pn	10 47 13.0	-2.4
MWZ	**Matawai**	**4.66**	**53**	PN	Pn	10 47 17.9	+0.8
EAZ	**Earnscleugh**	**4.74**	**211**	PN	Pn	10 47 15.6	-2.4
MSZ	**Milford Sound**	**4.96**	**225**	PN	Pn	10 47 19.2	-1.7
TWGZ	**Tauwhareparae**	**5.03**	**54**	PN	Pn	10 47 20.3	-1.8
TUZ	**Tuapeka**	**5.25**	**205**	PN	Pn	10 47 23.1	-1.5
WHZ	**Wether Hill Ro**	**5.84**	**216**	PN	Pn	10 47 30.1	-2.5
SYZ	**Scrubby Hill**	**5.92**	**205**	PN	Pn	10 47 32.1	-1.5

IDC ***18*** *10:55:42.6±1.7,52°.77N×170°.09W,h0km,mb3.6/5, mb1 3.9/6,mb1mx3.5/44,mbtmp3.5/6,ML3.4/1,MS3.4/1, Ms1 3.4/1,ms1mx2.5/38,Error ellipse: s-maj=52.3km s-min=27.7km az=143.0*
ISCJB ***18*** *10:55:43.4±1.1,52°.84N±0°.1×169°.77W±0°.09,h4km±7km, mb3.5/5,MS3.4/1,Error ellipse: s-maj=19.4km s-min=5.3km az=155.8*
NEIC ***18*** *10:55:46.1,52°.77N×169°.65W,h13km,mb3.5/1, ML3.2(AEIC),After AEIC.*

ISC 18 10:55:44.2±1.6,52°.8N±0°.1×169°.76W±0°.06,h5km±10km, n24,σ0°88/31,mb3.7/5,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.57**	**73**	P	**Pg**	**10 55 54.9**	**-0.3**
NIKH				S	**Sg**	**10 56 02.5**	**-0.1**
OKWR	**Okmok West Rim**	**1.12**	**56**	P	**Pg**	**10 56 05.8**	**0.0**
OKCE	**Okmok Cone E**	**1.14**	**57**	P	**Pb**	**10 56 06.4**	**0.0**
OKCE				S	**Sg**	**10 56 21.4**	**+0.6**
OKTU	**Okmok Mt. Tuli**	**1.18**	**60**	P	**Pb**	**10 56 07.3**	**+0.1**
OKRE	**Okmok R'deer P**	**1.19**	**53**	P	**Pg**	**10 56 07.2**	**+0.1**
OKRE				S	**Sg**	**10 56 22.1**	**-0.4**
MSOM	**Makushin Julie**	**1.96**	**58**	P	**Pn**	**10 56 19.0**	**+0.9**
MGOD	**Makushin Gods**	**1.99**	**59**	P	**Pn**	**10 56 18.3**	**-0.3**
MGOD				S	**Sn**	**10 56 44.3**	**+0.5**
MCIR	**Makushin Cirqu**	**2.06**	**55**	P	**Pn**	**10 56 20.0**	**+0.5**
MSW	**Makushin Switc**	**2.10**	**57**	P	**Pn**	**10 56 20.5**	**+0.6**
MSW				S	**Sb**	**10 56 48.8**	**-0.2**
MTBL	**Makushin Table**	**2.18**	**57**	P	**Pn**	**10 56 22.4**	**+1.2**
UNV	**Unalaska Valle**	**2.21**	**61**	P	**Pn**	**10 56 21.3**	**-0.2**
UNV				S	**Sn**	**10 56 49.4**	**+0.3**
AKRB	**Akutan Reef Bi**	**2.57**	**58**	P	**Pn**	**10 56 27.8**	**+1.3**
AKUT	**Akutan**	**2.73**	**59**	*e*Pn	**Pn**	**10 56 29.4**	**+0.8**
AKUT				*e*Sg	**Sb**	**10 57 06.5**	**-0.5**
ATKA	**Atka Island**	**2.78**	**259**	P	**Pn**	**10 56 30.0**	**+0.7**
GSTR	**Great Sitkin T**	**3.92**	**262**	*e*Pn	**Pn**	**10 56 46.0**	**+0.9**
GSCK	**Great Sitkin C**	**4.00**	**261**	P	**Pn**	**10 56 46.8**	**+0.7**
SPIA	**Saint Paul Isl**	**4.38**	**357**	P	**Pn**	**10 56 52.0**	**+0.7**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=232,slow=10,SNR=6.1	**16.72**	**35**	Pn	**Pn**	**10 59 37.1**	**-1.8**
HYT	**Haines Junctio** 1.7nm,0.5s	**19.21**	**53**	*e*P	**P**	**11 00 07.7**	**-1.2**
DLBC	**Dease Lake** 2.5nm,1.1s,baz=273,slow=12,SNR=3.9	**22.86**	**60**	P	**P**	**11 00 49.3**	**+1.1**
NVAR	**Mina Array Bea** 0.3nm,0.6s,baz=306,slow=7.7,SNR=3.7	**37.91**	**91**	P	**P**	**11 03 03.6**	**+1.2**
PDAR	**Pinedale Array** 0.4nm,0.6s,baz=303,slow=5.7,SNR=4.2	**40.55**	**79**	P	**P**	**11 03 26.0**	**+1.5**
PDAR	comp=Z,43nm,18.0s,baz=92,slow=36			LR	LR	11 19 50.3	
TXAR	**Lajitas Array** 0.8nm,0.8s,baz=302,slow=6.0,SNR=9.5	**52.98**	**89**	P	**P**	**11 05 01.5**	**-0.2**
ASAR	**Alice Springs** 0.5nm,0.7s,baz=30,slow=4.5,SNR=4.1	**90.50**	**230**	P	**P**	**11 08 45.3**	**-1.6**

IDC 18 10:56:02.1±54.0,22°.09S×174°.35W,h0km,mb3.9/3, mb1 4.0/3,mb1mx3.6/33,mbtmp3.9/3,Error ellipse: s-maj=1027.0km s-min=173.5km az=86.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 1.3nm,0.8s,baz=90,slow=6.6,SNR=5.1	**40.22**	**246**	P	P	11 03 40.4	-0.2
ASAR	**Alice Springs** 1.1nm,0.7s,baz=95,slow=6.9,SNR=17	**47.48**	**258**	P	P	11 04 39.0	-0.3
WRA	**Warramunga Arr** 1.0nm,0.6s,baz=101,slow=8.2,SNR=18	**47.76**	**263**	P	P	11 04 41.5	+0.1

ISCJB ***18*** *11:05:22.8±0.3,39°.08N±0°.01×22°.37E±0°.02,h12km±2km, Error ellipse: s-maj=2.3km s-min=2.0km az=5.5*
ATH ***18*** *11:05:22.4,39°.06N×22°.37E,h21km,MD3.3/44,ML3.3*
CSEM ***18*** *11:05:23.1±0.1,39°.03N×22°.37E,h12km,ML3.6,Error ellipse: s-maj=2.5km s-min=2.0km az=93.0*
THE ***18*** *11:05:23.5,39°.04N×22°.35E,h11km,ML3.6/16,Error ellipse: s-maj=0.6km s-min=0.4km az=290.0*
SKO ***18*** *11:05:24.4,39°.20N×22°.42E,h0km,M2.8,ML3.3*

ISC 18 11:05:23.6±0.7,39°.05N±0°.01×22°.36E±0°.01,h17km±4km, n225,σ0°87/283,6C-12D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.03**	**227**	*e*PG	**Pg**	**11 05 26.9**	**+0.2**
AGG	**Agios Georgios**	**0.03**	**227**	*e*PB	**Pg**	**11 05 26.1**	**-0.6**
AGG				*e*SB	**Sg**	**11 05 28.5**	**-0.2**
AGG	**Agios Georgios**	**0.03**	**227**	P	**Pg**	**11 05 26.1**	**-0.6**
AGG	**Agios Georgios**	**0.03**	**227**	*e*Pg	**Pg**	**11 05 26.9**	**+0.2**
AGG				S	**Sg**	**11 05 28.0**	**-0.7**
AGG	**Agios Georgios**	**0.03**	**227**	P	**Pg**	**11 05 26.1**	**-0.6**
AGG				S	**Sg**	**11 05 28.0**	**-0.7**
MAKR	**Makrakomi, Fth**	**0.18**	**260**	*e*PB	**Pg**	**11 05 27.6**	**-0.6**
MAKR				*e*SB	**Sg**	**11 05 31.0**	**-0.3**
MAKR	**Makrakomi, Fth**	**0.18**	**260**	*e*Pb	**Pg**	**11 05 27.6**	**-0.6**
MAKR				S	**Sg**	**11 05 30.9**	**-0.3**
MAKR	**Makrakomi, Fth**	**0.18**	**260**	P	**Pg**	**11 05 27.4**	**-0.8**
MAKR				S	**Sg**	**11 05 30.9**	**-0.3**
AXAR	**Agios Charalam**	**0.36**	**140**	*e*PB	**Pg**	**11 05 30.7**	**-0.4**
AXAR				*e*SB	**Sg**	**11 05 36.7**	**+0.5**
AXAR	**Agios Charalam**	**0.36**	**140**	*e*Pb	**Pg**	**11 05 30.7**	**-0.4**
AXAR				*e*Sb	**Sg**	**11 05 36.7**	**+0.5**
EVR	**Evrytania**	**0.45**	**254**	*e*PB	**Pg**	**11 05 31.5**	**-1.2**
EVR				*e*SB	**Sg**	**11 05 38.9**	**0.0**
EVR	**Evrytania**	**0.45**	**254**	*e*Pb	**Pg**	**11 05 31.5**	**-1.2**
EVR	**Evrytania**	**0.45**	**254**	P	**Pg**	**11 05 31.9**	**-0.8**
EVR				S	**Sg**	**11 05 38.2**	**-0.7**
EVR	**Evrytania**	**0.45**	**254**	P	**Pg**	**11 05 31.9**	**-0.8**
EVR				S	**Sg**	**11 05 38.2**	**-0.7**
FYTO	**Fytoko, Volos**	**0.58**	**51**	P	**Pg**	**11 05 34.5**	**-0.6**
FYTO	**Fytoko, Volos**	**0.58**	**51**	P	**Pg**	**11 05 34.5**	**-0.6**
THL	**Klokotos Trika**	**0.58**	**333**	*e*PN	**Pg**	**11 05 34.3**	**-0.9**
THL	**Klokotos Trika**	**0.58**	**333**	*e*Pn	**Pg**	**11 05 34.3**	**-0.9**
THL				S	**Sg**	**11 05 43.0**	**0.0**
THL	**Klokotos Trika**	**0.58**	**333**	P	**Pg**	**11 05 34.1**	**-1.1**
THL				S	**Sg**	**11 05 43.0**	**0.0**
ATAL	**Atalanti**	**0.62**	**124**	P	**Pg**	**11 05 35.1**	**-0.8**
ATAL				S	**Sg**	**11 05 44.4**	**+0.2**
ATAL	**Atalanti**	**0.62**	**124**	P	**Pg**	**11 05 35.1**	**-0.8**
ATAL				S	**Sg**	**11 05 44.4**	**+0.2**
LKR	**Lokris**	**0.64**	**128**	*e*PN	**Pg**	**11 05 35.2**	**-0.9**
LKR				*e*SN	**Sg**	**11 05 44.3**	**-0.3**
LKR	**Lokris**	**0.64**	**128**	P	**Pg**	**11 05 35.2**	**-0.9**
LKR				*e*Sn	**Sg**	**11 05 44.3**	**-0.3**
LKR				S	**Sb**	**11 05 45.1**	**+0.3**
LKR	**Lokris**	**0.64**	**128**	P	**Pg**	**11 05 35.2**	**-0.9**
LKR				S	**Sb**	**11 05 45.1**	**+0.3**
DESF	**Desfina**	**0.65**	**168**	*e*PB	**Pg**	**11 05 35.0**	**-1.3**
DESF	**Desfina**	**0.65**	**168**	*e*Pb	**Pg**	**11 05 35.0**	**-1.3**
DSF	**Desfina**	**0.65**	**168**	*e*PB	**Pg**	**11 05 35.0**	**-1.3**
DSF	**Desfina**	**0.65**	**168**	P	**Pg**	**11 05 35.0**	**-1.3**
DSF				S	**Sb**	**11 05 45.4**	**+0.2**
DSF	**Desfina**	**0.65**	**168**	P	**Pg**	**11 05 35.0**	**-1.3**
DSF				S	**Sb**	**11 05 45.4**	**+0.2**
KALE	**Kalithea**	**0.68**	**195**	*e*PB	**Pg**	**11 05 35.4**	**-1.5**
KALE	**Kalithea**	**0.68**	**195**	P	**Pg**	**11 05 35.4**	**-1.5**
KALE				S	**Sg**	**11 05 45.3**	**-0.6**
KALE	**Kalithea**	**0.68**	**195**	P	**Pg**	**11 05 35.4**	**-1.5**
KALE				S	**Sg**	**11 05 45.3**	**-0.6**
SMIA	**Simia**	**0.68**	**104**	*e*PN	**Pg**	**11 05 36.3**	**-0.7**
SMIA	**Simia**	**0.68**	**104**	*e*Pn	**Pg**	**11 05 36.3**	**-0.7**
SMIA	**Simia**	**0.68**	**104**	P	**Pg**	**11 05 36.9**	**-0.1**
SMIA				S	**Sb**	**11 05 46.7**	**+0.5**
SMIA	**Simia**	**0.68**	**104**	P	**Pg**	**11 05 36.9**	**-0.1**
SMIA				S	**Sb**	**11 05 46.7**	**+0.5**
EFP	**Efpalio**	**0.71**	**210**	*e*PN	**Pg**	**11 05 36.8**	**-0.7**
EFP	**Efpalio**	**0.71**	**210**	P	**Pg**	**11 05 36.4**	**-1.1**
EFP	**Efpalio**	**0.71**	**210**	*e*Pn	**Pg**	**11 05 36.8**	**-0.7**
EFP				S	**Sg**	**11 05 46.8**	**-0.2**
EFP	**Efpalio**	**0.71**	**210**	P	**Pg**	**11 05 36.4**	**-1.1**
EFP				S	**Sg**	**11 05 46.8**	**-0.2**
TRIZ	**Trizonia**	**0.71**	**198**	*e*PB	**Pg**	**11 05 35.9**	**-1.7**
TRIZ	**Trizon

PAIG	Paliouri	1.35	49	P		Pn	11 05 46.8	-0.8
EREA	Eretria	1.38	116	P		Pn	11 05 48.5	+0.4
EREA	Eretria	1.38	116	P		Pn	11 05 48.5	+0.4
EXG	Exogi	1.47	247	*e*PN		Pn	11 05 49.8	+0.4
EXG	Exogi	1.47	247	P		Pn	11 05 49.7	+0.4
EXG	Exogi	1.47	247	P		Pn	11 05 49.7	+0.4
ATH	Athens Observa	1.51	135	*e*PN		Pn	11 05 50.3	+0.5
ATH	Athens Observa	1.51	135	*e*Pn		Pn	11 05 50.3	+0.5
PLG	Polygyros	1.57	32	*e*PN		Pn	11 05 50.3	-0.4
PLG	Polygyros	1.57	32	*e*Pn		Pn	11 05 50.3	-0.4
AMT	Artemida-Makis	1.59	199	*e*PN		Pn	11 05 52.1	+1.0
AMT	Artemida-Makis	1.59	199	*e*Pn		Pn	11 05 52.1	+1.0
VLS	Valsamata	1.64	239	*e*PN		Pn	11 05 52.0	+0.4
VLS	Valsamata	1.64	239	*e*Pn		Pn	11 05 52.0	+0.4
VLS	Valsamata	1.64	239	P		Pn	11 05 52.3	+0.7
VLS	Valsamata	1.64	239	P		Pn	11 05 52.3	+0.7
IGT	Igoumenitsa	1.65	288	*e*PN		Pg	11 05 55.0	-0.3
IGT	Igoumenitsa	1.65	288	*e*PN		Pn	11 05 52.6	+0.8
IGT	Igoumenitsa	1.65	288	*e*Pn		Pn	11 05 52.6	+0.8
HORT	Hortiatis	1.65	20	*e*PN		Pn	11 05 52.3	+0.4
HORT	Hortiatis	1.65	20	*e*PB		Pn	11 05 51.3	-0.6
HORT	Hortiatis	1.65	20	P		Pn	11 05 51.3	-0.6
HORT	Hortiatis	1.65	20	*e*Pn		Pn	11 05 52.3	+0.4
HORT	Hortiatis	1.65	20	P		Pn	11 05 51.3	-0.6
THE	Thessaloniki	1.65	16	*e*PB		Pn	11 05 51.2	-0.6
THE	Thessaloniki	1.65	16	*e*Pb		Pn	11 05 51.2	-0.6
VLX	Vlachokerasia	1.67	180	*e*PN		Pn	11 05 52.9	+0.7
VLX	Vlachokerasia	1.67	180	*e*Pn		Pn	11 05 52.9	+0.7
DID	Didima	1.68	156	*e*PN		Pn	11 05 52.5	+0.2
DID	Didima	1.68	156	P		Pn	11 05 52.4	+0.2
DID	Didima	1.68	156	P		Pn	11 05 52.4	+0.2
NEST	Nestorio	1.70	324	*e*PN		Pb	11 05 53.9	-0.6
NEST	Nestorio	1.70	324	*e*Pn		Pb	11 05 53.9	-0.6
DIDY	Didyma	1.70	157	*e*PB		Pn	11 05 52.6	0.0
DIDY	Didyma	1.70	157	*e*Pb		Pn	11 05 52.6	0.0
DIDY	Didyma	1.70	157	P		Pn	11 05 52.9	+0.3
DIDY	Didyma	1.70	157	P		Pn	11 05 52.9	+0.3
SGD	Sagiada	1.74	290	*e*PN		Pn	11 05 54.4	+1.3
SGD	Sagiada	1.74	290	*e*PN		Pn	11 05 54.4	+1.3
KRND	KRANIDI	1.77	159	*e*PN		Pn	11 05 53.9	+0.5
KRND	KRANIDI	1.77	159	P		Pn	11 05 53.7	+0.3
KRND	KRANIDI	1.77	159	P		Pn	11 05 53.7	+0.3
OUR	Ouranopolis	1.79	44	*e*PN		Pn	11 05 53.1	-0.7
OUR	Ouranopolis	1.79	44	*e*PN		Pn	11 05 53.8	0.0
OUR	Ouranopolis	1.79	44	P		Pn	11 05 53.8	0.0
OUR	Ouranopolis	1.79	44	P		Pn	11 05 53.8	0.0
ZKS	Zakynthos	1.83	223	*e*PN		Pb	11 05 56.4	-0.2
ZKS	Zakynthos	1.83	223	*e*Pn		Pb	11 05 56.4	-0.2
ITM	Ithomi	1.89	191	*e*PN		Pb	11 05 57.2	-0.5
ITM	Ithomi	1.89	191	*e*Pn		Pb	11 05 57.2	-0.5
FNA	Florina	1.90	337	*e*PN		Pn	11 05 56.2	+1.0
FNA	Florina	1.90	337	*e*PN		Pn	11 05 55.6	+0.3
FNA	Florina	1.90	337	P		Pn	11 05 55.5	+0.3
FNA	Florina	1.90	337	P		Pn	11 05 55.5	+0.3
SOH	Sokhos	1.93	23	*e*PN		Pn	11 05 56.2	+0.5
SOH	Sokhos	1.93	23	P		Pn	11 05 56.1	+0.4
SOH	Sokhos	1.93	23	P		Pn	11 05 56.1	+0.4
KNT	Kendrikon	2.15	11	*e*PN		Pn	11 05 59.1	+0.3
KNT				*e*SN		Sn	11 06 25.1	0.0
KNT	Kendrikon	2.15	11	*e*PB		Pn	11 05 59.0	+0.3
KNT	Kendrikon	2.15	11	P		Pn	11 05 59.0	+0.3
KNT				*e*Sn		Sn	11 06 25.1	0.0
KNT	Kendrikon	2.15	11	P		Pn	11 05 59.0	+0.3
PYL	PYLOS	2.20	193	*e*PB		Pn	11 06 01.6	+2.2
PYL	PYLOS	2.20	193	*e*Pb		Pn	11 06 01.6	+2.2
SRS	Serrai	2.27	24	*e*PN		Pn	11 06 00.4	0.0
SRS	Serrai	2.27	24	*e*Pn		Pn	11 06 00.4	0.0
SRS	Serrai	2.27	24	P		Pn	11 06 00.2	-0.2
VAY	Valandovo	2.28	4	*e*Pn		Pn	11 06 02.0	+1.6
VAY	Valandovo	2.28	4	*e*Pn		Pn	11 06 02.0	+1.6
LIA	Limnos Island	2.34	68	*e*PN		Pn	11 06 01.1	-0.2
LIA	Limnos Island	2.34	68	*e*Pn		Pn	11 06 01.1	-0.2
VLI	Veliai	2.37	169	*e*PN		Pn	11 06 01.8	+0.2
VLI	Veliai	2.37	169	P		Pn	11 06 01.6	0.0
VLI	Veliai	2.37	169	P		Pn	11 06 01.6	0.0
OHR	Ohrid	2.39	330	*e*Pn		Pn	11 06 03.5	+1.5
OHR				*e*Sn		Sn	11 06 32.2	+1.3
OHR				*e*Lg		Lg	11 06 32.4	
	comp=E,331nm,1.2s							
OHR				*e*Lg		Lg	11 06 43.7	
	comp=N,126nm,0.7s							
OHR	Ohrid	2.39	330	*e*Pn		Pn	11 06 03.5	+1.5
OHR				*e*Lg		Lg	11 06 43.7	
	comp=N,126nm,0.7s							
NVR	Nevrokopi	2.57	26	*e*PN		Pn	11 06 04.8	+0.2
NVR	Nevrokopi	2.57	26	P		Pn	11 06 04.7	+0.2
NVR	Nevrokopi	2.57	26	P		Pn	11 06 04.7	+0.2
MMB	Musomiste	2.75	22	*i*P		Pn	11 06 07.0	+0.1
MMB	Musomiste	2.75	22	*i*P		Pn	11 06 07.0	+0.1
KYTH	Kithira	2.81	169	*e*PN		Pn	11 06 09.3	+1.5
KYTH	Kithira	2.81	169	*e*Pn		Pn	11 06 09.3	+1.5
GADA	Gvkgeada	2.96	66	*e*PN		Pn	11 06 10.2	+0.4
GADA	Gvkgeada	2.96	66	*e*Pn		Pn	11 06 10.2	+0.4
CHOS	Chios island	2.96	102	*e*PN		Pn	11 06 11.4	+1.5
CHOS	Chios island	2.96	102	*e*Pn		Pn	11 06 11.4	+1.5
APE	Apeiranthos	3.19	127	*e*PN		Pn	11 06 15.2	+2.2
APE	Apeiranthos	3.19	127	*e*PN		Pn	11 06 13.7	+0.8
APE	Apeiranthos	3.19	127	*e*Pn		Pn	11 06 13.7	+0.8
ALN	Alexandroupoli	3.38	56	*e*PN		Pn	11 06 15.9	+0.4
ALN	Alexandroupoli	3.38	56	*e*Pn		Pn	11 06 16.0	+0.4
KDZ	Kurdzhali	3.50	41	*i*P		Pn	11 06 18.4	+1.2
KDZ	Kurdzhali	3.50	41	*i*P		Pn	11 06 18.4	+1.2
BARS	Barje	3.79	354	*e*Pn		Pn	11 06 21.9	+0.7
IVAS	Ivanjica	4.82	341	*e*Pn		Pn	11 06 35.6	+0.1
GRUS	Gruza	5.00	346	*e*Pn		Pn	11 06 36.9	-0.9
STON	Ston	5.20	319	Sn		Sn	11 07 38.8	-1.4
STON	Ston	5.20	319	Sn		Sn	11 07 38.7	-1.4
DIVS	Divibare	5.35	341	*i*P		Pn	11 06 43.1	+0.3
DIVS	Divibare	5.35	341	*i*P		Pn	11 06 43.1	+0.3
TRUS	Trudelj	5.38	345	*e*Pn		Pn	11 06 42.8	-0.2
TEKS	Tekeris	5.89	340	*e*Pn		Pn	11 06 51.9	+1.8
FGSL	Fruska Gora	6.39	344	*e*Pn		Pn	11 06 56.4	-0.6
VOIR		6.69	16	*i*P		Pn	11 07 01.6	+0.5
VOIR		6.69	16	*i*P		Pn	11 07 01.6	+0.5
MLR	Muntele Rosu	6.97	21	*i*P		Pn	11 07 07.1	+2.1
MLR	Muntele Rosu	6.97	21	*i*P		Pn	11 07 07.1	+2.1
TIRR	Tirgusor	7.05	38	*i*P		Pn	11 07 07.6	+1.6
TIRR	Tirgusor	7.05	38	*i*P		Pn	11 07 07.6	+1.6
UDBI	Udbina	7.37	320	*e*Pn		Pn	11 07 11.3	+0.8
UDBI				Sn		Sn	11 08 34.1	+0.4
UDBI	Udbina	7.37	320	*e*Pn		Pn	11 07 11.2	+0.8
UDBI				Sn		Sn	11 08 34.0	+0.4
PLOR	Plostina	7.50	24	*i*P		Pn	11 07 14.4	+2.2
PLOR	Plostina	7.50	24	*i*P		Pn	11 07 14.4	+2.2
VRI	Vrincioaia	7.54	24	*i*P		Pn	11 07 14.6	+1.9
VRI	Vrincioaia	7.54	24	*i*P		Pn	11 07 14.6	+1.9
PKSM	Moragy	7.67	340	*i*P		Pn	11 07 16.5	+2.1
PKSM	Moragy	7.67	340	*i*P		Pn	11 07 16.5	+2.1
NVLJ	Novalja	7.85	317	*e*Pn		Pn	11 07 17.6	+0.6
NVLJ				Sn		Sn	11 08 43.5	-1.9
NVLJ	Novalja	7.85	317	*e*Pn		Pn	11 07 17.6	+0.6
NVLJ				Sn		Sn	11 08 43.5	-1.9

ISCJB ***18*** *11:10:11.0±1.2,52°.7N±0°.1×169°.9W±0°.1, h4km±8km, mb3.4/4, Error ellipse: s-maj=22.0km s-min=6.2km az=156.9*

IDC ***18*** *11:10:10.4±1.8,52°.58N×170°.09W, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/30, mbtmp3.4/5, Error ellipse: s-maj=63.2km s-min=30.1km az=141.0*

NEIC ***18*** *11:10:12.6,52°.76N×169°.67W, h2km, ML3.2(AEIC), After AEIC.*

ISC 18 11:10:11.6±1.7,52°.8N±0°.1×169°.86W±0°.06, h1km±11km, n23, σ0s97/25, mb3.4/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.64	72	P	Pg	11 10 24.0	+0.1
NIKH				S	Sg	11 10 32.9	+0.8
OKSP	Okmok Steeple	1.06	63	P	Pg	11 10 31.4	-0.5
OKAK	Okmok	1.21	48	P	Pg	11 10 32.8	-1.9
OKCE	Okmok Cone E	1.21	57	P	Pg	11 10 34.3	-0.5
OKTU	Okmok Mt. Tuli	1.25	60	P	Pg	11 10 35.4	-0.2
OKTU				S	Sb	11 10 53.3	+0.7
MSOM	Makushin Julie	2.03	58	P	Pn	11 10 47.4	+0.5
MSOM				S	Sn	11 11 13.9	+1.0
MCIR	Makushin Cirqu	2.13	55	P	Pn	11 10 49.0	+0.7
MSW	Makushin Switc	2.17	57	P	Pn	11 10 49.0	+0.2
MSW				S	Sn	11 11 17.2	+1.0
MTBL	Makushin Table	2.25	57	P	Pn	11 10 49.7	-0.3
UNV	Unalaska Valle	2.28	61	P	Pn	11 10 49.9	-0.4
UNV				S	Sn	11 11 18.1	-0.9
ZRO	Akutan Zero	2.67	59	P	Pn	11 10 56.6	+0.9
AKGG	Akutan Green G	2.71	57	P	Pn	11 10 56.5	+0.2
ATKA	Atka Island	2.71	259	P	Pn	11 10 57.1	+0.8
GSCK	Great Sitkin C	3.94	261	P	Pn	11 11 14.4	+1.2
SPIA	Saint Paul Isl	4.41	357	P	Pn	11 11 20.7	+1.0
ILAR	Eielson Array	16.78	35	Pn	Pn	11 14 07.2	-0.4
	baz=238,slow=8.4,SNR=3.5						
DLBC	Dease Lake	22.93	60	P	P	11 15 18.0	+1.1
	0.5nm,0.5s,baz=263,slow=8.1,SNR=2.0						
H11S1	WAKE ISLAND Hy	38.79	217	T	T	11 58 46.0	
	baz=23,slow=76,SNR=8.2						
H11S2	WAKE ISLAND Hy	38.80	217	T	T	11 58 46.2	
	baz=23,slow=76,SNR=6.3						
H11S3	WAKE ISLAND Hy	38.80	217	T	T	11 58 48.2	
	baz=23,slow=76,SNR=8.2						
PDAR	Pinedale Array	40.62	79	P	P	11 17 53.7	+0.6
	0.2nm,0.6s,baz=347,slow=3.7,SNR=3.6						
TXAR	Lajitas Array	53.04	89	P	P	11 19 29.9	-0.3
	0.5nm,0.8s,baz=301,slow=6.1,SNR=7.8						
ASAR	Alice Springs	90.43	230	P	P	11 23 12.5	-2.2
	0.7nm,0.9s,baz=31,slow=5.4,SNR=4.8						

MEX 18 11:33:12.5±0.6,16°.01N×96°.47W, h8km±12km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.42	124	*i* P	Pg	11 33 20.1	-0.6
HUIG				*i* S	Sg	11 33 26.5	+0.2
VHO	Vista Hermosa	1.09	347	*i* P	Pg	11 33 30.5	-3.3
VHO				*e*S	Sg	11 33 44.0	-4.2
PNIG	Pinotepa	1.64	284	*i* P	Pn	11 33 38.9	-2.8
PNIG				*i* S	Sn	11 33 57.7	-5.3
CMIG	Matias Romero	1.86	54	*i* P	Pn	11 33 40.6	-4.1
CMIG				*i* S	Sn	11 34 04.6	-3.9

IDC ***18*** *11:38:30.9±1.2,52°.56N×170°.30W, h0km, mb3.5/7, mb1 3.8/8, mb1mx3.4/53, mbtmp3.4/8, ML3.5/1, Error ellipse: s-maj=44.2km s-min=21.4km az=143.0*

ISCJB ***18*** *11:38:34.1±1.1,52°.77N±0°.09×169°.63W±0°.09, h3km±8km, mb3.4/7, Error ellipse: s-maj=17.4km s-min=5.1km az=154.9*

NEIC ***18*** *11:38:34.8,52°.69N×169°.53W, h5km, ML3.5(AEIC), After AEIC.*

ISC 18 11:38:35.7±2.0,52°.8N±0°.1×169°.50W±0°.05, h4km±12km, n38, σ0s96/35, mb3.4/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.44	64	P	Pb	11 38 45.5	-0.6
NIKH				S	Sb	11 38 52.5	-0.5
OKCE	Okmok Cone E	1.03	51	P	Pg	11 38 55.6	+0.1
OKCE				S	Sn	11 39 12.1	+0.1
OKAK	Okmok	1.05	40	P	Pg	11 38 54.7	-1.2
OKAK				S	Sg	11 39 08.9	-0.7
OKTU	Okmok Mt. Tuli	1.07	55	P	Pg	11 38 56.3	+0.1
MSOM	Makushin Julie	1.85	55	P	Pn	11 39 07.9	-0.3
MCIR	Makushin Cirqu	1.95	52	P	Pn	11 39 09.9	+0.2
MSW	Makushin Switc	1.99	54	P	Pn	11 39 09.9	-0.3
MSW				S	Sb	11 39 38.4	+0.8
MTBL	Makushin Table	2.07	54	P	Pn	11 39 11.9	+0.6
UNV	Unalaska Valle	2.09	58	*e*Pn	Pn	11 39 10.5	-1.0
UNV				*e*Sg	Sg	11 39 45.1	+2.2
AKRB	Akutan Reef Bi	2.46	55	P	Pn	11 39 17.0	+0.4
ZRO	Akutan Zero	2.48	57	P	Pn	11 39 17.3	+0.3
AKGG	Akutan Green G	2.53	55	P	Pn	11 39 17.9	+0.3
AKUT	Akutan	2.61	57	*e*Pn	Pn	11 39 18.9	+0.3
AKUT				*e*S	Sb	11 39 55.3	-0.1
ATKA	Atka Island	2.93	260	P	Pn	11 39 21.2	-1.8
GSTR	Great Sitkin T	4.07	263	*e*Pn	Pn	11 39 40.7	+1.9
GSTR				*e*Sg	Sb	11 40 40.0	+2.5
GSMY	Great Sitkin M	4.08	262	P	Pn	11 39 37.7	-1.2
GSCK	Great Sitkin C	4.15	262	P	Pn	11 39 38.7	-1.2
SPIA	Saint Paul Isl	4.42	355	P	Pn	11 39 43.7	+0.1
SDPT	Sand Point	5.90	61	*e*Pn	Pn	11 40 04.3	+0.4
AMKA	Amchitka	7.04	263	*e*Pn	Pn	11 40 22.1	+2.5
CHGN	Chignik	7.35	57	*e*Pn	Pn	11 40 24.4	+0.7
BPAW	Bear Paw Mtn.	14.84	33	*e*P	P	11 42 12.1	-0.1
	1.1nm,0.9s						
COLA	College	16.39	34	*e*P	Pn	11 42 26.4	+0.1
	4.0nm,1.0s						
ILAR	Eielson Array	16.66	35	Pn	Pn	11 42 28.9	-0.9
	0.1nm,0.3s,baz=227,slow=12,SNR=4.2						
EGAK	Eagle	18.77	39	*e*P	Pn	11 42 57.0	+1.1
	1.3nm,0.8s						
DLBC	Dease Lake	22.75	60	P	P	11 43 39.9	+1.2
	1.1nm,0.8s,baz=269,slow=9.4,SNR=2.8						
INK	Inuvik	23.05	34	P	P	11 43 42.0	+0.4
	1.8nm,0.9s,baz=247,slow=7.7,SNR=4.8						
H11N2	WAKE ISLAND Hy	37.73	218	T	T	12 25 36.0	
	baz=24,slow=76,SNR=16						
H11N3	WAKE ISLAND Hy	37.74	218	T	T	12 25 36.1	
	baz=24,slow=76,SNR=15						
H11N1	WAKE ISLAND Hy	37.75	218	T	T	12 25 36.1	
	baz=24,slow=76,SNR=15						
NVAR	Mina Array Bea	37.75	91	P	P	11 45 52.9	+0.1
	0.1nm,0.4s,baz=309,slow=10,SNR=2.3						
H11S1	WAKE ISLAND Hy	38.92	218	T	T	12 27 07.0	
	baz=22,slow=76,SNR=124						
H11S2	WAKE ISLAND Hy	38.93	218	T	T	12 27 08.1	
	baz=22,slow=76,SNR=90						
H11S3	WAKE ISLAND Hy	38.94	218	T	T	12 27 09.2	
	baz=22,slow=76,SNR=82						
PDAR	Pinedale Array	40.41	80	P	P	11 46 14.9	-0.2
	0.5nm,0.6s,baz=326,slow=4.3,SNR=6.7						
TXAR	Lajitas Array	52.82	89	P	P	11 47 51.2	-1.1
	0.2nm,0.6s,baz=299,slow=6.1,SNR=4.8						
WRA	Warramunga Arr	87.20	231	P	P	11 51 16.9	-6.2
	0.2nm,0.6s,baz=36,slow=5.7,SNR=2.9						
ASAR	Alice Springs	90.60	230	P	P	11 51 31.8	-7.3
	0.2nm,0.8s,baz=33,slow=5.1,SNR=4.1						

IDC ***18*** *11:46:14.6±0.7,33°.70N×48°.19E, h0km, mb4.0/19, mb1 4.1/24, mb1mx3.9/50, mbtmp4.0/24, ML3.4/4, MS3.3/18, Ms1 3.3/18, ms1mx3.1/53, Error ellipse: s-maj=17.8km s-min=11.7km az=163.0*

NEIC ***18*** *11:46:16.8,33°.77N×48°.05E, h15km, mb4.2/6, ML4.0(THR), After THR.*

ISCJB ***18*** *11:46:16.3±0.7,33°.63N±0°.03×48°.12E±0°.03, h19km±6km, mb4.1/26, MS3.3/14, Error ellipse: s-maj=5.3km s-min=3.6km az=163.0*

MOS ***18*** *11:46:16.4±1.3,33°.58N×48°.27E, h24km, mb4.3/14, Error ellipse: s-maj=10.8km s-min=8.0km az=98.1*

THR ***18*** *11:46:16.9±1.0,33°.76N×48°.05E, h15km, ML4.0*

TEH ***18*** *11:46:17.2,33°.77N×48°.07E, h3km, ML3.7*

CSEM ***18*** *11:46:17.6±0.1,33°.68N×48°.16E, h15km, mb4.3/8, Error ellipse: s-maj=5.1km s-min=3.5km az=173.0*

ISN ***18*** *11:46:22.2±2.0,33°.59N×47°.54E, h0km, 7km, ML4.0*

ISC 18 11:46:17.4±0.7,33°.70N±0°.04×48°.13E±0°.04, h14km±4km, n189, σ1s25/181, mb4.2/26, MS3.3/14, 26C-10D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	Kafar-mosalman	0.30	233	*e*Pg	Pg	11 46 22.7	-0.9
IKFM				*e*		11 46 41.8	
	comp=Z,99nm,0.5s						
IKFM	Kafar-mosalman	0.30	233	*e*Pg	Pg	11 46 22.7	-0.9
IKOM	Komasi	0.70	312	*e*Pg	Pg	11 46 28.6	-2.5
IKOM				*e*		11 46 54.2	
	comp=Z,49µm,0.2s						
IBZA	Bozab	0.80	344	*e*Pg	Pg	11 46 29.6	-3.3
IBZA				*e*	Sg	11 46 50.5	+7.1
	comp=Z,20µm,0.3s						
IVIS	Veis	1.34	308	*e*Pn	Pn	11 46 41.3	-0.5
IVIS				*e*	Sg	11 47 09.3	+8.5
	comp=Z,10µm,0.4s						
IVIS	Veis	1.34	308	*e*Pn	Pn	11 46 41.3	-0.5
SNGE	Sanandaj	1.53	335	*e*Pn	Pn	11 46 44.5	0.0
SNGE	Sanandaj	1.53	335	*e*Pn	Pn	11 46 44.1	-0.4
SNGE	Sanandaj	1.53	335	Pn	Pn	11 46 44.0	-0.4
SHGR	Shooshtar-Gavs	1.69	160	*e*Pn	Pb	11 46 48.8	+0.7
SHGR				AML	AML	11 47 16.8	
	comp=E,3µm,0.6s						
SHGR				AML	AML	11 47 22.7	
	comp=N,3µm,0.5s						
SHGR	Shooshtar-Gavs	1.69	160	Pn	Pb	11 46 48.0	-0.2
SHGR	Shooshtar-Gavs	1.69	160	Pn	Pb	11 46 48.0	-0.2
IDHR	Dehrash	1.75	305	*e*Pn	Pn	11 46 48.4	+0.8
IDHR				*e*	Sg	11 47 23.5	+10
	comp=Z,17µm,0.2s						
IDHR	Dehrash	1.75	305	*e*Pn	Pn	11 46 48.4	+0.8
IBDR	Badra	1.94	253	*e*PG	x	11 46 52.8	
IBDR				*e*SG	x	11 47 15.7	
IRAZ	Razeghan	2.25	41	*e*Pn	Pn	11 46 54.3	-0.1
IRAZ				*e*		11 47 43.7	
	comp=Z,13µm,0.3s						
IRAZ	Razeghan	2.25	41	*e*Pn	Pn	11 46 54.3	-0.1
IR5	Iran Long-Peri	2.52	53	*e*Pn	Pn	11 46 58.6	+0.6
IR5				*e*	Sg	11 47 36.2	-2.3
	comp=Z,99nm,0.5s						
IR5	Iran Long-Peri	2.52	53	*e*Pn	Pn	11 46 58.6	+0.6
IPIR	Pirpir	2.53	113	*e*Pn	Pn	11 46 57.7	-0.6
IPIR				*e*	Sg	11 47 46.0	+7.3
	comp=Z,9µm,0.4s						
IPIR	Pirpir	2.53	113	*e*Pn	Pn	11 46 57.7	-0.6
GHVR	GHOM	2.74	73	*e*Pn	Pn	11 47 02.5	+1.5
GHVR				AML	AML	11 47 49.0	
	comp=E,599nm,0.5s						
GHVR				AML	AML	11 47 55.1	
	comp=N,368nm,0.6s						
GHVR	GHOM	2.74	73	Pn	Pn	11 47 02.0	+1.1
GHVR	GHOM	2.74	73	Pn	Pn	11 47 02.0	+1.1
IMHD	Mahdasht	2.88	46	*e*Pn	Pn	11 47 04.0	+1.1
IMHD				*e*		11 47 53.8	
	comp=Z,6µm,0.4s						
IMHD	Mahdasht	2.88	46	*e*Pn	Pn	11 47 04.0	+1.1
IKLH	Kolahrood	2.90	97	*e*Sg	Sg	11 47 49.9	-0.8
IKLH	Kolahrood	2.90	97	*e*Sg	Sg	11 47 49.9	-0.8
ZNJK	Zanjan	2.99	9	*e*Pn	Pn	11 47 05.8	+1.1
ZNJK	Zanjan	2.99	9	Pn	Pn	11 47 05.0	+0.4
ZNJK	Zanjan	2.99	9	Pn	Pn	11 47 05.0	+0.4
THKV	Tehran--Karaj	3.16	45	*e*PN5	Pn	11 47 08.9	+2.1
THKV	Tehran--Karaj	3.16	45	Pn	Pn	11 47 08.0	+1.2
THKV	Tehran--Karaj	3.16	45	Pn	Pn	11 47 08.0	+1.2
BHD	Baghdad	3.17	263	*e*PN	x	11 47 05.6	
BHD				*e*SN	x	11 47 38.5	
BHD	Baghdad	3.17	263	*e*Pn	Pn	11 47 05.6	-1.1
	SNR=39						
NSR	Nassriya	3.17	213	*e*PN	x	11 47 08.1	
NSR				*e*SN	x	11 47 41.8	
NSR	Nassriya	3.17	213	*e*Pn	Pn	11 47 08.1	+1.3
	SNR=39						
NSR				*e*Sn	Sn	11 47 41.8	-2.6
	SNR=39						
IGZV	Ghazvin	3.18	32	*e*Pn	Pn	11 47 07.7	+0.6
IGZV				*e*		11 48 08.0	
	comp=Z,4µm,0.4s						
IGZV	Ghazvin	3.18	32	*e*Pn	Pn	11 47 07.7	+0.6
IVRN	Varamin	3.24	66	*e*Pn	Pn	11 47 09.0	+1.2
IVRN				*e*		11 48 18.6	
	comp=Z,4µm,0.5s						
IVRN	Varamin	3.24	66	*e*Pn	Pn	11 47 09.0	+1.2
CHTH	Charan	3.30	47	*e*PN5	Pn	11 47 10.2	+1.4
CHTH	Charan	3.30	47	Pn	Pn	11 47 09.0	+0.1
CHTH	Charan	3.30	47	Pn	Pn	11 47 09.0	+0.1
IKRK	Kirkuk	3.56	299	*e*PN	x	11 47 13.6	
IKRK				*e*SN	x	11 47 51.9	
IZEF	Zefreh	3.61	102	*e*Pn	Pn	11 47 14.0	+1.0
IZEF				*e*		11 48 17.6	
	comp=Z,2µm,0.3s						
IZEF	Zefreh	3.61	102	*e*Pn	Pn	11 47 14.0	+1.0
IAFJ	Afjeh	3.65	53	*e*Pn	Pn	11 47 14.7	+1.0
IAFJ				*e*		11 47 32.5	
	comp=Z,3µm,0.2s						
IAFJ	Afjeh	3.65	53	*e*Pn	Pn	11 47 14.7	+1.0
DAMV	Damavand	3.70	58	*e*PN5	Pn	11 47 15.6	+1.2
DAMV				A

	comp=N,7.0nm,0.5s									
VSR	**Storozhevoye**	**18.68**	**342**	*e*P		**P**		**11 50 35.8**	**+0.9**
	comp=N,7.0nm,0.5s									
IDI	**Anoyia**	**19.22**	**281**	P		**P**		**11 50 41.4**	**+0.3**
	comp=N,0.2nm,0.3s,baz=101,slow=16,SNR=3.1									
KKAR	**Karatay Array**	**19.84**	**55**	*e*P		**P**		**11 50 47.8**	**0.0**
KKAR				pmax	pmax					
	comp=Z,4.0nm,0.8s									
KKAR	**Karatay Array**	**19.84**	**55**	*e*P		**P**		**11 50 47.8**	**0.0**
	comp=Z,4.1nm,0.8s									
KKAR	**Karatay Array**	**19.84**	**55**	*e*P		**P**		**11 50 47.8**	**0.0**
	comp=Z,4.1nm,0.8s									
LPSR	**Galich'ya Gora**	**20.02**	**343**	*e*P		**P**		**11 50 48.2**	**-1.3**
LPSR				pmax	pmax					
	comp=N,10.0nm,0.9s									
LPSR				pmax	pmax					
	comp=E,7.0nm,0.9s									
LPSR				pmax	pmax					
	comp=Z,20nm,0.9s									
LPSR	**Galich'ya Gora**	**20.02**	**343**	*e*P		**P**		**11 50 48.2**	**-1.3**
VRI	**Vrincioaia**	**20.38**	**313**⇑	*i*P		**P**		**11 50 55.1**	**+1.6**
VRI	**Vrincioaia**	**20.38**	**313**⇑	*i*P		**P**		**11 50 55.1**	**+1.6**
PLOR	**Plostina**	**20.42**	**313**⇑	*i*P		**P**		**11 50 55.6**	**+1.6**
PLOR	**Plostina**	**20.42**	**313**⇑	*i*P		**P**		**11 50 55.6**	**+1.6**
MLR	**Muntele Rosu**	**20.68**	**311**	P		**P**		**11 50 56.6**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=132,slow=5.9,SNR=3.9									
MLR	**Muntele Rosu**	**20.68**	**311**⇑	*i*P		**P**		**11 50 57.2**	**+0.2**
TESR	**Tescani**	**20.74**	**314**⇓	*i*P		**P**		**11 50 58.9**	**+1.4**
TESR	**Tescani**	**20.74**	**314**⇓	*i*P		**P**		**11 50 58.9**	**+1.4**
MMB	**Musomiste**	**20.82**	**299**⇓	*i*P		**P**		**11 50 58.3**	**-0.1**
MMB	**Musomiste**	**20.82**	**299**⇓	*i*P		**P**		**11 50 58.3**	**-0.1**
VOIR		**21.23**	**310**⇑	*i*P		**P**		**11 51 03.3**	**+0.5**
VOIR		**21.23**	**310**⇑	*i*P		**P**		**11 51 03.3**	**+0.5**
DOPR	**Dopca**	**21.25**	**312**⇓	*i*P		**P**		**11 51 03.5**	**+0.5**
DOPR	**Dopca**	**21.25**	**312**⇓	*i*P		**P**		**11 51 03.5**	**+0.5**
AKASG	**Malin Array Be**	**21.91**	**326**	P		**P**		**11 51 10.2**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=135,slow=9.8,SNR=2.2									
AKASG				LR		LR		12 00 34.9		
	comp=Z,62nm,19.9s,baz=100,slow=39									
KIEV	**Kiev**	**21.91**	**326**⇑	*e*P		**P**		**11 51 12.9**	**+2.9**
KIEV	**Kiev**	**21.91**	**326**	*e*P		**P**		**11 51 12.9**	**+2.9**
BURAR	**Bucovina Array**	**22.15**	**316**⇑	*i*P		**P**		**11 51 14.5**	**+1.8**
BURAR	**Bucovina Array**	**22.15**	**316**⇑	*i*P		**P**		**11 51 14.5**	**+1.8**
BUR08	**Bucovina Ar. S**	**22.17**	**316**	*e*P		**P**		**11 51 12.2**	**-0.8**
BUR08	**Bucovina Ar. S**	**22.17**	**316**	*e*P		**P**		**11 51 12.2**	**-0.8**
OBN	**Obninsk**	**22.89**	**343**	LR		LR		12 01 21.4		
	comp=Z,55nm,20.4s,baz=89,slow=40									
OBN	**Obninsk**	**22.89**	**343**⇓	*i*P		**P**		**11 51 21.4**	**+1.1**
OBN				pmax	pmax					
	comp=Z,24nm,1.2s									
OBN	**Obninsk**	**22.89**	**343**	*i* P		**P**		**11 51 21.4**	**+1.1**
	comp=Z,24nm,1.2s									
DRGR		**23.27**	**312**⇑	*i*P		**P**		**11 51 25.7**	**+1.2**
DRGR		**23.27**	**312**⇑	*i*P		**P**		**11 51 25.7**	**+1.2**
SIRR	**Siria**	**23.73**	**310**⇑	*i*P		**P**		**11 51 29.2**	**+0.3**
SIRR	**Siria**	**23.73**	**310**⇑	*i*P		**P**		**11 51 29.2**	**+0.3**
ARU	**Arti**	**23.84**	**14**	P		**P**		**11 51 29.3**	**-0.4**
	baz=202,slow=11									
ARU				LR		LR		12 03 57.3		
	comp=Z,48nm,18.6s,baz=206,slow=45									
ARU	**Arti**	**23.84**	**14**	*d i*P		**P**		**11 51 30.7**	**+0.9**
ARU				S		**S**		**11 55 44.7**	**-0.3**
ARU				pmax	pmax					
	comp=Z,11nm,1.7s									
ARU	**Arti**	**23.84**	**14**	*e*P		**P**		**11 51 30.9**	**+1.1**
	comp=Z,9.1nm,1.1s									
ARU				S		**S**		**11 55 44.7**	**-0.3**
ARU	**Arti**	**23.84**	**14**	*e*P		**P**		**11 51 30.9**	**+1.1**
	comp=Z,9.1nm,1.1s									
DIVS	**Divibare**	**24.13**	**304**⇑	*i*P		**P**		**11 51 34.0**	**+1.2**
DIVS	**Divibare**	**24.13**	**304**⇑	*i*P		**P**		**11 51 34.0**	**+1.2**
KOLS	**Kolonicke sedl**	**24.51**	**316**	*e*P		**P**		**11 51 38.2**	**+2.0**
KOLS				pmax	pmax					
	comp=Z,19nm,2.1s									
KOLS	**Kolonicke sedl**	**24.51**	**316**	*e*P		**P**		**11 51 38.2**	**+2.0**
	comp=Z,19nm,2.1s									
KOLS	**Kolonicke sedl**	**24.51**	**316**	*e*P		**P**		**11 51 38.2**	**+2.0**
BRVK	**Borovoye**	**24.99**	**33**⇑	*e*P		**P**		**11 51 39.8**	**-0.6**
BRVK				pmax	pmax					
	comp=Z,16nm,1.2s									
BRVK	**Borovoye**	**24.99**	**33**	*e*P		**P**		**11 51 39.8**	**-0.6**
	comp=Z,16nm,1.2s									
BRVK	**Borovoye**	**24.99**	**33**	*e*P		**P**		**11 51 39.2**	**-1.2**
	comp=Z,24nm,1.4s									
BVAR	**Borovoye Array**	**25.01**	**33**	P		**P**		**11 51 39.7**	**-0.9**
	comp=Z,3.3nm,0.7s,baz=209,slow=8.5,SNR=14									
BVAR				LR		LR		12 03 36.9		
	comp=Z,73nm,21.9s,baz=248,slow=42									
KECS	**Kecovo**	**25.36**	**314**	*e*P		**P**		**11 51 44.4**	**+0.6**
KECS				pmax	pmax					
	comp=Z,3.0nm,1.0s									
KECS	**Kecovo**	**25.36**	**314**	*e*P		**P**		**11 51 44.4**	**+0.6**
	comp=Z,3.0nm,1.0s									
KECS	**Kecovo**	**25.36**	**314**	*e*P		**P**		**11 51 44.4**	**+0.6**
PSZ	**Piszkesteto**	**25.48**	**312**⇑	*i*P		**P**		**11 51 46.9**	**+1.8**
PSZ	**Piszkesteto**	**25.48**	**312**⇑	*i*P		**P**		**11 51 46.9**	**+1.8**
PKSM	**Moragy**	**25.67**	**308**⇓	*i*P		**P**		**11 51 46.8**	**+0.2**
PKSM	**Moragy**	**25.67**	**308**⇓	*i*P		**P**		**11 51 46.8**	**+0.2**
VYHS	**Vyhne**	**26.36**	**313**	*e*P		**P**		**11 51 55.7**	**+2.7**
VYHS	**Vyhne**	**26.36**	**313**	*e*P		**P**		**11 51 55.7**	**+2.7**
VYHS	**Vyhne**	**26.36**	**313**	*e*P		**P**		**11 51 55.7**	**+2.7**
KURBB	**Kurchatov Arra**	**27.90**	**44**	P		**P**		**11 52 06.3**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=247,slow=9.3,SNR=7.4									
KURK	**Kurchatov**	**27.99**	**43**	P		**P**		**11 52 06.3**	**-1.2**
KURK				pmax	pmax					
	comp=Z,1.0nm,0.7s									
KURK	**Kurchatov**	**27.99**	**43**	*e*P		**P**		**11 52 07.9**	**+0.4**
	comp=Z,3.6nm,0.9s									
KURK	**Kurchatov**	**27.99**	**43**	*e*P		**P**		**11 52 07.9**	**+0.4**
	comp=Z,3.6nm,0.9s									
MKAR	**Makanchi Array**	**28.92**	**53**	P		**P**		**11 52 13.9**	**-2.0**
	comp=Z,0.6nm,0.6s,baz=256,slow=5.8,SNR=3.4									
MKAR				LR		LR		12 05 20.6		
	comp=Z,80nm,19.9s,baz=202,slow=40									
MKAR	**Makanchi Array**	**28.92**	**53**	*ce*P		**P**		**11 52 18.2**	**+2.3**
MKAR				pmax	pmax					
	comp=Z,1.0nm,0.6s									
GERES	**GERESS Array B**	**29.67**	**311**	P		**P**		**11 52 21.4**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=106,slow=9.8,SNR=4.9									
GERES				PcP		**PcP**		**11 55 25.7**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=140,slow=3.2,SNR=5.1									
CLL	**Collm**	**30.92**	**315**	*e*P		**P**		11 52 37.0	+3.5	
CLL	**Collm**	**30.92**	**315**	*ep*P		**P**		**11 52 37.0**	**+3.5**
FINES	**FINESS Array B**	**31.17**	**340**	P		**P**		**11 52 34.8**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=152,slow=9.3,SNR=3.2									
FINES	**FINESS Array B**	**31.17**	**340**	*i* P		P		11 52 39.2	+3.6	
FINES				pmax	pmax					
	comp=Z,2.0nm,0.8s									
ZALV	**Zalesovo Beam**	**32.79**	**41**	P		**P**		**11 52 49.9**	**0.0**
	comp=Z,1.0nm,0.6s,baz=248,slow=7.7,SNR=5.6									
ZALV				LR		LR		12 07 23.0		
	comp=Z,35nm,19.9s,baz=250,slow=39									
ZALV	**Zalesovo Beam**	**32.79**	**41**	*i* P		**P**		**11 52 51.4**	**+1.5**
ZALV				pmax	pmax					
	comp=Z,1.0nm,0.6s									
KMBO	**Kilima Mbogo**	**36.13**	**199**	LR		LR		12 07 08.4		
	comp=Z,62nm,19.4s,baz=162,slow=35									
KMBO	**Kilima Mbogo**	**36.13**	**199**	*ce*P		P		11 53 31.2	+12	
KMBO				pmax	pmax					
	comp=Z,1.0nm,0.3s									
NOA	**NORSAR Array B**	**36.21**	**330**	LR		LR		12 09 11.9		
	comp=Z,52nm,21.9s,baz=120,slow=38									
KRAR	**Krasnoyarsk**	**37.86**	**40**⇑	*e*P		**P**		**11 53 32.8**	**-0.6**
KRAR	**Krasnoyarsk**	**37.86**	**40**	*e*P		**P**		**11 53 32.8**	**-0.6**
ARCES	**ARCESS Array B**	**38.03**	**347**	P		**P**		**11 53 34.0**	**-0.8**
	comp=Z,2.5nm,0.8s,baz=157,slow=7.4,SNR=7.3									
ARCES				LR		LR		12 10 49.7		
	comp=Z,40nm,20.6s,baz=168,slow=39									
ESDC	**Sonseca Array**	**41.72**	**294**	P		**P**		**11 54 05.5**	**-0.3**
	comp=Z,1.5nm,0.9s,baz=64,slow=8.7,SNR=6.2									
SONM	**Songino Array**	**45.28**	**54**	P		**P**		**11 54 35.4**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=269,slow=8.4,SNR=3.5									
SONM				PcP		**PcP**		**11 56 13.5**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=241,slow=3.0,SNR=3.3									
SPITS	**Spitsbergen Ar**	**46.64**	**351**	P		**P**		**11 54 44.4**	**-0.3**
	comp=Z,3.5nm,0.9s,baz=131,slow=8.2,SNR=3.3									
TORD	**Torodi Ar. Bea**	**46.81**	**256**	P		**P**		**11 54 46.5**	**-0.3**
	comp=Z,2.8nm,0.7s,baz=58,slow=7.8,SNR=14									
TORD				PcP		**PcP**		**11 56 19.4**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=43,slow=2.6,SNR=3.8									
TORD				LR		LR		12 18 07.1		
	comp=Z,47nm,18.5s,baz=150,slow=41									
CHTO	**Chiang Mai**	**47.47**	**95**	*e*P		**P**		**11 54 50.5**	**-1.5**
CHTO				pmax	pmax					
	comp=Z,7.0nm,0.9s									
CHTO	**Chiang Mai**	**47.47**	**95**	*e*P		**P**		**11 54 50.5**	**-1.5**
	comp=Z,6.6nm,0.9s									
CHTO	**Chiang Mai**	**47.47**	**95**	*e*P		**P**		**11 54 50.5**	**-1.5**
	comp=Z,6.6nm,0.9s									
CMAR	**Chiang Mai Arr**	**47.64**	**95**	P		**P**		**11 54 52.0**	**-1.3**
	comp=Z,2.2nm,0.6s,baz=289,slow=7.9,SNR=13									
CMAR	**Chiang Mai Arr**	**47.64**	**95**	*ce*P		P		11 54 59.5	+6.2	
CMAR				pmax	pmax					
	comp=Z,1.0nm,0.4s									
HHC	**Hu-ho-hao-te**	**50.01**	**62**	*e*P		**P**		**11 55 14.3**	**+3.0**
HHC				PP		**PP**		**11 57 10.0**	**+3.8**
HHC				S		**S**		**12 02 22.8**	**+1.0**
HHC				sS		**sS**		**12 02 30.3**	**+1.1**
HHC				ScS		**ScS**		**12 05 02.3**	**-0.2**
HHC	**Hu-ho-hao-te**	**50.01**	**62**	SS		**SS**		**12 05 51.9**	**-2.6**
HHC				pmax	pmax					
	comp=Z,22nm,1.1s									
HHC				pmax	pmax					
	comp=Z,35nm,5.4s									
HHC				LR	LR					
	comp=N,68nm,13.9s									
HHC				LR	LR					
	comp=E,65nm,13.3s									
HHC				LR	LR					
	comp=Z,48nm,13.5s									
DBIC	**Dimbokro**	**55.79**	**254**	P		**P**		**11 55 54.3**	**0.0**
	comp=Z,6.4nm,1.1s,baz=90,slow=10,SNR=4.0									
DBIC				LR		LR		12 22 17.9		
	comp=Z,40nm,19.1s,baz=344,slow=39									
TSUM	**Tsumeb**	**60.14**	**214**	LR		LR		12 21 16.6		
	comp=Z,41nm,18.4s,baz=258,slow=35									
LBTB	**Lobatse**	**62.20**	**203**	LR		LR		12 24 31.2		
	comp=Z,55nm,19.3s,baz=93,slow=37									
KSAR	**Wonju Array Be**	**63.10**	**61**	P		**P**		**11 56 44.1**	**-0.3**
KSAR	**Wonju Array Be**	**63.10**	**61**	P		**P**		**11 56 44.1**	**-0.3**
KSAR	**Wonju Array Be**	**63.10**	**61**	P		**P**		**11 56 44.1**	**-0.3**
KSRS	**Korea Array**	**63.12**	**61**	P		**P**		**11 56 44.1**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=281,slow=6.7,SNR=4.3									
KSRS	**Korea Array**	**63.12**	**61**	P		**P**		**11 56 44.1**	**-0.5**
KSRS				pmax	pmax					
	comp=Z,1.0nm,0.6s									
BOSA	**Boshof**	**65.66**	**202**	P		**P**		**11 57 01.2**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=14,slow=5.9,SNR=3.8									
SEY	**Seymchan**	**66.59**	**29**	P		**P**		**11 57 05.4**	**-1.4**
	comp=Z,4.8nm,0.9s,baz=342,slow=6.9,SNR=8.4									
SEY	**Seymchan**	**66.59**	**29**⇑	*e*P		**P**		**11 57 06.8**	**0.0**
SEY	**Seymchan**	**66.59**	**29**	*e*P		**P**		**11 57 06.8**	**0.0**
WRA	**Warramunga Arr**	**97.78**	**109**	P		**P**		**11 59 50.8**	**-1.7**
	comp=Z,0.5nm,0.8s,baz=316,slow=4.1,SNR=4.5									

IDC ***18*** *11:46:46.2±2.0, 52.86N×169.96W, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/29, mbtmp3.2/4, Error ellipse: s-maj=66.3km s-min=34.1km az=141.0*

ISCJB ***18*** *11:46:49.4±1.3, 52.7N±0.1×169.6W±0.1, h22km±9km, mb3.3/3, Error ellipse: s-maj=22.7km s-min=6.0km az=153.7*

NEIC ***18*** *11:46:50.0, 52.75N×169.56W, h14km, ML3.4(AEIC), After AEIC.*

ISC 18 11:46:49.2±1.7, 52.8N±0.1×169.58W±0.07, h14km±11km, n26,σ1s42/25, mb3.4/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.49**	**63**	P	**Pg**	**11 46 59.3**	**+0.3**
NIKH				S	**Sb**	**11 47 06.3**	**-0.4**
OKCE	**Okmok Cone E**	**1.09**	**51**	P	**Pg**	**11 47 10.3**	**0.0**
OKAK	**Okmok**	**1.11**	**41**	P	**Pb**	**11 47 08.5**	**-1.6**
OKTU	**Okmok Mt. Tuli**	**1.12**	**55**	P	**Pb**	**11 47 10.3**	**-0.1**
OKRE	**Okmok R'deer P**	**1.15**	**48**	P	**Pb**	**11 47 11.2**	**+0.3**
OKRE				S	**Sn**	**11 47 27.1**	**+0.7**
MSOM	**Makushin Julie**	**1.91**	**55**	P	**Pn**	**11 47 22.1**	**+0.9**
MSOM				S	**Sn**	**11 47 45.9**	**+0.8**
MCIR	**Makushin Cirqu**	**2.01**	**52**	P	**Pn**	**11 47 24.2**	**+1.5**
MSW	**Makushin Switc**	**2.04**	**54**	P	**Pn**	**11 47 24.0**	**+0.8**
MSW				S	**Sn**	**11 47 49.5**	**+1.0**
MTBL	**Makushin Table**	**2.12**	**54**	P	**Pn**	**11 47 25.2**	**+0.9**
UNV	**Unalaska Valle**	**2.15**	**58**	P	**Pn**	**11 47 25.1**	**+0.5**
UNV				S	**Sn**	**11 47 51.4**	**+0.4**
ZRO	**Akutan Zero**	**2.54**	**57**	P	**Pn**	**11 47 31.9**	**+1.9**
AKUT	**Akutan**	**2.67**	**57**	P	**Pn**	**11 47 33.1**	**+1.5**
ATKA	**Atka Island**	**2.87**	**261**	P	**Pn**	**11 47 35.4**	**+0.9**
GSMY	**Great Sitkin M**	**4.03**	**262**	P	**Pn**	**11 47 51.6**	**+1.2**
GSCK	**Great Sitkin C**	**4.10**	**262**	P	**Pn**	**11 47 53.0**	**+1.6**
SPIA	**Saint Paul Isl**	**4.45**	**355**	P	**Pn**	**11 47 58.1**	**+1.9**
ILAR	**Eielson Array**	**16.71**	**35**	Pn	**Pn**	**11 50 38.9**	**-3.7**
	baz=225,slow=8.9,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**37.67**	**218**	T	T	12 33 55.5	
	baz=26						
H11N3	**WAKE ISLAND Hy**	**37.68**	**218**	T	T	12 33 56.1	
	baz=26,SNR=4.8						
H11N1	**WAKE ISLAND Hy**	**37.69**	**218**	T	T	12 33 56.7	
	baz=26						
H11S1	**WAKE ISLAND Hy**	**38.87**	**217**	T	T	12 35 29.0	
	baz=23,slow=76,SNR=25						
H11S2	**WAKE ISLAND Hy**	**38.88**	**217**	T	T	12 35 30.3	
	baz=23,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy**	**38.88**	**217**	T	T	12 35 29.8	
	baz=23,slow=76,SNR=6.9						
PDAR	**Pinedale Array**	**40.46**	**79**	P	**P**	**11 54 29.0**	**+1.7**
	0.3nm,0.7s,baz=306,slow=7.7,SNR=3.0						
TXAR	**Lajitas Array**	**52.87**	**89**	P	**P**	**11 56 04.1**	**-0.5**
	0.4nm,0.9s,baz=305,slow=6.3,SNR=3.7						
ASAR	**Alice Springs**	**90.54**	**230**	P	**P**	**11 59 49.4**	**-1.2**
	0.2nm,0.8s,baz=28,slow=5.8,SNR=2.8						

IDC ***18*** *11:52:33.9±0.5, 52.75N×169.84W, h0km, mb4.0/20, mb1 4.2/22, mb1mx4.1/36, mbtmp4.0/22, ML4.1/2, MS3.3/11, Ms1 3.3/11, ms1mx3.1/36, Error ellipse: s-maj=19.6km s-min=11.9km az=170.0*

NEIC ***18*** *11:52:36.0, 52.68N×169.51W, h6km, mb4.4/56, ML4.3(AEIC), After AEIC.*

ISCJB ***18*** *11:52:37.1±0.8, 52.80N±0.05×169.66W±0.04, h23km±5km, mb4.3/64, MS3.2/10, Error ellipse: s-maj=8.8km s-min=4.0km az=165.2*

BJI ***18*** *11:52:38.8, 52.79N×168.46W, h10km, mb4.8/9, mB4.8/6, Ms4.3/3, Ms7 3.8/3*

ISC 18 11:52:37.2±1.4, 52.79N±0.09×169.66W±0.05, h15km±8km, n340,σ1s20/321, mb4.3/64, MS3.2/10, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.52**	**69**	P	**Pg**	**11 52 46.5**	**-0.9**
NIKH				S	**Sg**	**11 52 53.6**	**-0.9**
OKWE	**Okmok W'ng Wal**	**1.09**	**51**	P	**Pb**	**11 52 57.1**	**-0.7**
OKCE	**Okmok Cone E**	**1.10**	**54**	P	**Pb**	**11 52 56.6**	**-1.3**
OKCE				S	**Sg**	**11 53 12.7**	**-0.2**
OKAK	**Okmok**	**1.11**	**44**	P	**Pb**	**11 52 55.8**	**-2.3**
OKTU	**Okmok Mt. Tuli**	**1.14**	**58**	P	**Pb**	**11 52 57.5**	**-1.1**
MSOM	**Makushin Julie**	**1.92**	**57**	P	**Pn**	**11 53 08.1**	**-1.2**
MCIR	**Makushin Cirqu**	**2.02**	**54**	P	**Pn**	**11 53 10.8**	**0.0**
MSW	**Makushin Switc**	**2.06**	**56**	P	**Pn**	**11 53 10.6**	**-0.7**
MTBL	**Makushin Table**	**2.14**	**55**	P	**Pn**	**11 53 11.8**	**-0.6**
UNV	**Unalaska Valle**	**2.17**	**59**	P	**Pn**	**11 53 11.3**	**-1.3**
UNV				S	**Sn**	**11 53 40.0**	**+0.7**
AKRB	**Akutan Reef Bi**	**2.53**	**57**	P	**Pn**	**11 53 17.9**	**+0.2**
ZRO	**Akutan Zero**	**2.56**	**58**	P	**Pn**	**11 53 18.1**	**0.0**
AKGG	**Akutan Green G**	**2.60**	**56**	P	**Pn**	**11 53 19.0**	**+0.3**
AKUT	**Akutan**	**2.69**	**58**	P	**Pn**	**11 53 19.5**	**-0.2**
ATKA	**Atka Island**	**2.84**	**260**	P	**Pn**	**11 53 22.5**	**+0.7**
WESP	**Westdahl Peak**	**3.40**	**58**	P	**Pn**	**11 53 30.1**	**+0.4**
WESN	**West Dahl Nort**	**3.50**	**57**	P	**Pn**	**11 53 31.4**	**+0.3**
GSTR	**Great Sitkin T**	**3.98**	**262**	*e*Pn	**Pn**	**11 53 39.4**	**+1.8**
GSMY	**Great Sitkin M**	**3.99**	**262**	P	**Pn**	**11 53 39.8**	**+2.0**
ISNN	**Isanotski Nort**	**4.04**	**57**	P	**Pn**	**11 53 39.3**	**+0.9**
GSCK	**Great Sitkin C**	**4.06**	**262**	P	**Pn**	**11 53 40.2**	**+1.5**
FALS	**False Pass**	**4.24**	**58**	P	**Pn**	**11 53 41.8**	**+0.7**
ETKA	**Kagalaska Isla**	**4.24**	**260**	P	**Pn**	**11 53 43.1**	**+1.9**
ADAG	**Mount Adagdak**	**4.33**	**262**	P	Pn	11 53 45.0	+2.6
SPIA	**Saint Paul Isl**	**4.41**	**356**	P	**Pn**	**11 53 46.1**	**+2.6**
KIKV	**Kanaga Island**	**4.70**	**262**	P	Pn	11 53 50.9	+3.4
DTNA	**Dutton South F**	**4.97**	**59**	P	**Pn**	**11 53 51.5**	**+0.3**
SDPT	**Sand Point**	**5.98**	**61**	P	**Pn**	**11 54 05.4**	**+0.4**
CHGN	**Chignik**	**7.42**	**57**	*e*Pn	**Pn**	**11 54 27.3**	**+2.5**
SMY	**Shemya**	**9.85**	**276**	*e*Pn	Pn	11 55 04.5	+6.4
OHAK	**Old Harbor**	**10.39**	**58**	*e*Pn	**Pn**	**11 55 04.0**	**-1.4**
	12nm,0.6s						
KDAK	**Kodiak Island**	**10.93**	**56**	*e*Pn	**Pn**	**11 55 12.8**	**0.0**
	16nm,0.9s						
SVW2	**Sparrevohn**	**11.31**	**37**	*e*Pn	Pn	11 55 21.6	+3.5

RSO	**Redoubt South**	**12.04**	**44**	*e*Pn		**Pn**		**11 55 31.3**	**+3.1**
BRLK	**Bradley Lake**	**12.52**	**49**	*e*Pn		**Pn**		**11 55 35.5**	**+0.9**
PPLA	**Purkeypile**	**13.70**	**35**	*e*Pn		Pn		11 55 54.2	+3.5
PMR	**Palmer**	**14.14**	**43**	*e*Pn		**Pn**		**11 55 58.1**	**+1.5**
	7.0nm,0.8s									
SML	**Sawmill**	**14.57**	**43**	*e*Pn		**P**		**11 56 06.0**	**-3.1**
	2.4nm,0.8s									
TRF	**Thorofare Moun**	**14.72**	**36**	*e*Pn		**P**		**11 56 08.8**	**-2.0**
BPAW	**Bear Paw Mtn.**	**14.89**	**33**	*e*Pn		**P**		**11 56 12.2**	**-0.4**
DIV	**Divide**	**15.39**	**48**	*e*Pn		**Pn**		**11 56 14.2**	**+0.6**
IM04	**Indian Mountai**	**15.42**	**25**	*e*Pn		**P**		**11 56 18.6**	**+0.1**
BWN	**Browne**	**15.45**	**35**	*e*Pn		**P**		**11 56 19.2**	**+0.5**
	53nm,1.2s									
KLU	**Klutina**	**15.47**	**46**	*e*Pn		**Pn**		**11 56 12.1**	**-2.5**
	14nm,0.6s									
BMRM	**Bremner River**	**15.87**	**49**	*e*Pn		**Pn**		**11 56 17.7**	**-2.0**
	11nm,0.6s									
HARP	**HAARP**	**16.18**	**44**	*e*Pn		**P**		**11 56 25.8**	**-1.1**
	38nm,1.2s									
PAX	**Paxson**	**16.30**	**42**	*e*Pn		**Pn**		**11 56 26.0**	**+0.7**
	14nm,1.4s									
CCB	**Clear Creek Bu**	**16.31**	**35**	*e*Pn		**Pn**		**11 56 25.9**	**+0.5**
	8.2nm,0.9s									
COLA	**College**	**16.43**	**34**	*e*Pn		**Pn**		**11 56 27.4**	**+0.6**
	17nm,1.2s									
ILAR	**Eielson Array**	**16.71**	**35**	Pn		**Pn**		**11 56 28.9**	**-1.5**
	0.6nm,0.3s,baz=233,slow=10,SNR=27									
ILAR				LR		LR		12 03 32.7		
	comp=Z,181nm,19.4s,baz=240,slow=39									
MENT	**Mentasta**	**17.00**	**43**	*e*P		**P**		**11 56 38.8**	**+2.8**
COLD	**Coldfoot**	**17.31**	**26**	*e*Pn		**P**		**11 56 44.0**	**+4.7**
	15nm,1.1s									
EGAK	**Eagle**	**18.82**	**39**	*e*P		**Pn**		**11 56 56.7**	**+0.2**
	5.8nm,0.7s									
HYT	**Haines Junctio**	**19.18**	**53**	*e*P		**Pn**		**11 57 01.0**	**0.0**
DAWY	**Dawson**	**19.23**	**42**	*e*P		**P**		**11 56 59.8**	**-0.7**
PETK	**Petropavlovsk-**	**19.59**	**284**	P		**P**		**11 57 02.9**	**-1.5**
	0.8nm,0.3s,baz=92,slow=13,SNR=14									
SKAG	**Skagway**	**20.09**	**57**	*e*P		**P**		**11 57 10.3**	**+0.5**
	22nm,0.8s									
BESE	**Bessie Mountai**	**20.29**	**60**	*e*P

	baz=40						
GSC	Goldstone	40.80	94	P	P	12 00 18.7	+0.9
	baz=41						
GSC	Goldstone	40.80	94	eP	P	12 00 19.7	+1.9
	5.6nm,0.9s						
FCC	Fort Churchill	40.81	51	eP	P	12 00 20.9	+3.5
A25A	Svangstu Ranch	40.83	68	P	P	12 00 18.7	+0.9
	baz=41						
C24A	Savage	40.83	70	P	P	12 00 18.8	+0.9
	baz=41						
E23A	Ismay	40.88	72	P	P	12 00 19.4	+1.0
	baz=41						
H21A	Big Horn, Sher	40.91	75	P	P	12 00 19.2	+0.4
	baz=41						
D24A	Glendive	41.11	71	P	P	12 00 20.9	+0.6
	baz=41,SNR=5.6						
I21A	Big Trails, Te	41.23	77	P	P	12 00 21.7	+0.2
	baz=41						
F23A	Volborg	41.26	73	P	P	12 00 21.8	+0.3
	baz=41,SNR=5.1						
SCI	San Clemente I	41.33	98	P	P	12 00 23.3	+1.2
	baz=41						
H22A	Clearmont	41.34	75	P	P	12 00 23.4	+1.2
	baz=41						
CCUT	Cedar City	41.41	88	eP	P	12 00 24.1	+1.1
	2.5nm,0.9s						
J21A	Lysite	41.41	77	P	P	12 00 23.3	+0.3
	baz=41						
E24A	Baker	41.43	71	P	P	12 00 23.7	+0.9
	baz=41						
BBRC	Big Bear Solar	41.43	95	P	P	12 00 23.7	+0.5
	baz=41						
A26A	Wade Farm, Ken	41.45	67	P	P	12 00 23.4	+0.4
	baz=41						
MSU	Marysvale	41.51	86	eP	P	12 00 25.4	+1.5
	2.4nm,0.9s						
G23A	Biddle	41.56	74	P	P	12 00 24.4	+0.4
	baz=41						
F24A	Ekalaka	41.74	72	P	P	12 00 26.4	+0.9
	baz=42						
P17A	Butcher Ranch,	41.78	84	eP	P	12 00 27.4	+1.5
GMRC	Granite Mounta	41.84	93	P	P	12 00 27.0	+0.6
	baz=42						
J22A	Midwest	41.95	77	P	P	12 00 27.7	+0.4
	baz=42						
SRU	San Rafael	42.14	84	eP	P	12 00 30.6	+1.7
	5.7nm,1.1s						
BELC	Belle Mtn. Jos	42.16	95	P	P	12 00 29.4	+0.2
	baz=42						
K22A	Casper	42.37	78	P	P	12 00 31.5	+0.7
	baz=42						
E26A	Carlson Angus	42.53	70	P	P	12 00 33.1	+1.2
	baz=42						
IRM	Iron Mountain	42.57	94	P	P	12 00 33.3	+1.0
	baz=42						
G25A	Newell	42.71	73	P	P	12 00 33.6	+0.2
	baz=42						
O20A	White River Ci	42.87	82	P	P	12 00 35.0	+0.2
	baz=43						
O20A	White River Ci	42.87	82	eP	P	12 00 35.2	+0.3
	8.5nm,0.8s						
H25A	Fruitdale	42.93	73	P	P	12 00 35.8	+0.6
	baz=43						
RSSD	Black Hills	42.97	74	eP	P	12 00 38.2	+2.5
	5.7nm,1.3s						
A29A	Manning Farm,	43.00	66	P	P	12 00 35.1	-0.5
	baz=43,SNR=6.0						
E27A	Carson	43.07	70	P	P	12 00 37.3	+1.1
	baz=43						
PDMCI	Parker Dam,Lak	43.09	93	P	P	12 00 36.3	-0.2
	baz=43						
G26A	Maurine	43.12	72	P	P	12 00 38.0	+1.3
	baz=43						
I25A	Rochford	43.21	74	P	P	12 00 38.7	+1.2
	baz=43						
D28A	Regan	43.21	69	P	P	12 00 38.4	+1.1
	baz=43						
Y12C	Blythe	43.23	94	P	P	12 00 38.0	+0.5
	baz=43						
MDND	Maddock	43.38	67	P	P	12 00 39.6	+0.9
	baz=43						
H26A	Fairpoint	43.41	73	P	P	12 00 40.3	+1.2
	baz=43						
G27A	Dupree	43.46	71	P	P	12 00 40.6	+1.2
	baz=43						
E28A	Huff	43.48	69	P	P	12 00 40.3	+0.8
	baz=43						
GLA	Glamis	43.53	95	P	P	12 00 41.2	+1.2
	baz=43						
B30A	Myrvik Farm, E	43.76	66	P	P	12 00 42.5	+0.8
	baz=44						
N23A	Red Feather La	43.78	79	P	P	12 00 42.8	+0.5
	baz=44						
F28A	McLaughlin	43.84	70	P	P	12 00 43.7	+1.2
	baz=44						
PV01	Paradox Valley	43.94	84	eP	P	12 00 43.1	-0.5
	334nm,0.9s						
WUAZ	Wupatki	43.95	89	P	P	12 00 44.8	+1.2
	baz=44						
WUAZ	Wupatki	43.95	89	eP	P	12 00 44.4	+0.8
	5.2nm,0.8s						
C30A	Mose, Pekin	44.09	67	P	P	12 00 45.8	+1.4
	baz=44						
ULM	Lac du Bonnet	44.11	62	P	P	12 00 43.7	-0.8
	4.1nm,0.7s,baz=301,slow=9.1,SNR=5.5						
ULM	Lac du Bonnet	44.11	62	eP	P	12 00 47.5	+3.0
	4.7nm,0.9s						
I27A	Quinn	44.16	73	P	P	12 00 46.2	+1.2
	baz=44						
L25A	Engebretsen Ra	44.18	76	P	P	12 00 46.4	+1.0
	baz=44						
G28A	Parade	44.22	71	P	P	12 00 46.5	+1.0
	baz=44						
D30A	Buchanan	44.27	68	P	P	12 00 46.8	+0.9
	baz=44						
M25A	Palm-Egli Farm	44.57	77	P	P	12 00 49.7	+1.2
	baz=44						
MVCO	Mesa Verde	44.58	85	P	P	12 00 49.7	+1.1
	baz=44						
ISCO	Idaho Springs	44.66	80	P	P	12 00 50.1	+0.8
	baz=44						
I28A	Midland	44.71	73	P	P	12 00 50.6	+1.2
	baz=44						
G29A	Hoven	44.72	71	P	P	12 00 50.5	+1.1
	baz=44						
K27A	Flueckinger Fa	44.87	75	P	P	12 00 52.1	+1.4
	baz=45						
H29A	Onida	44.89	71	P	P	12 00 51.9	+1.0
	baz=45						
J28A	Allard Ranch,	45.02	73	P	P	12 00 52.3	+0.5
	baz=45						
KSRS	Korea Array	45.18	276	LR	LR	12 19 22.6	
	comp=Z,24nm,19.9s,baz=330,slow=36						
I29A	Vivian Onida	45.20	72	P	P	12 00 54.6	+1.3
	baz=45						
G30A	Faulkton	45.20	70	P	P	12 00 53.9	+0.6
	baz=45						
AGMN	Agassiz Nation	45.21	65	P	P	12 00 52.5	-0.7
	baz=45,SNR=5.8						
AGMN	Agassiz Nation	45.21	65	eP	P	12 00 56.8	+3.5
	9.5nm,0.8s						
S22A	4UR Ranch, Cre	45.24	83	P	P	12 00 54.5	+0.5
	baz=45						
K28A	Ten Mile Ranch	45.37	74	P	P	12 00 55.4	+0.7
	baz=45						
N26A	Koester Ranch,	45.44	77	P	P	12 00 55.9	+0.6
	baz=45						
214A	Organ Pipe Nat	45.51	94	P	P	12 00 56.3	+0.4
	baz=45						
214A	Organ Pipe Nat	45.51	94	eP	P	12 00 59.0	+3.1
	5.6nm,0.9s						
J29A	Okreek	45.55	73	P	P	12 00 56.2	+0.1
	baz=45,SNR=7.0						
SDCO	Great Sand Dun	46.04	82	P	P	12 01 00.9	+0.6
	baz=46						
SDCO	Great Sand Dun	46.04	82	eP	P	12 01 02.6	+2.2
	2.6nm,0.9s						
J30A	Dallas	46.09	72	P	P	12 01 01.6	+1.3
	baz=46						
P26A	Davis Ranch, A	46.16	79	P	P	12 01 01.2	0.0
	baz=46						
JNU	Nakatsue	46.29	269	LR	LR	12 17 44.2	
	comp=Z,45nm,20.6s,baz=51,slow=33						
Q26A	Hugo	46.47	80	P	P	12 01 03.3	-0.2
	baz=46						
TUC	Tucson	46.49	92	eP	P	12 01 05.9	+2.2
	3.9nm,1.0s						
R26A	Arlington	46.91	80	P	P	12 01 07.6	+0.6
	baz=47						
KSCO	Kaye Shedlock'	46.94	79	P	P	12 01 08.3	+1.1
	baz=47						
KSCO	Kaye Shedlock'	46.94	79	eP	P	12 01 09.0	+1.7
	12nm,1.0s						
T25A	Trinidad	47.09	82	P	P	12 01 08.8	+0.3
	baz=47,SNR=5.3						
R27A	Eads	47.31	80	P	P	12 01 10.7	+0.6
	baz=47						
ANMO	Albuquerque	47.31	86	eP	P	12 01 10.3	+0.1
	6.9nm,1.7s						
S26A	Kim	47.34	81	P	P	12 01 10.7	+0.3
	baz=47						
Q28A	Sharon Springs	47.38	78	P	P	12 01 11.0	+0.4
	baz=47						
ECSD	EROS Data Cent	47.49	70	P	P	12 01 09.4	-1.9
	baz=47,SNR=6.0						
ECSD	EROS Data Cent	47.49	70	eP	P	12 01 13.5	+2.2
	7.3nm,1.0s						
T26A	Comanche Natio	47.56	82	P	P	12 01 12.4	+0.3
	baz=47						
EYMN	Ely	47.79	63	P	P	12 01 13.7	+0.2
	baz=48						
EYMN	Ely	47.79	63	eP	P	12 01 16.8	+3.3
	9.6nm,0.9s						
R28A	Tribune	47.86	79	P	P	12 01 15.0	+0.7
	baz=48						
Q29A	Oakley	48.00	78	P	P	12 01 16.1	+0.7
	baz=48						
P30A	Selden	48.01	77	P	P	12 01 16.9	+1.5
	baz=48						
R29A	Marienthal	48.21	79	P	P	12 01 18.0	+1.0
	baz=48						
S28A	Manter	48.30	80	P	P	12 01 18.7	+0.9
	baz=48						
M33A	Taylor Creek F	48.51	73	P	P	12 01 20.6	+1.4
	baz=48						
U27A	Thompson Grove	48.52	82	P	P	12 01 20.9	+1.4
	baz=48						
P31A	Stockton	48.54	76	P	P	12 01 20.5	+1.0
	baz=48						
S29A	Ulysses	48.75	79	P	P	12 01 21.9	+0.7
	baz=48						
CBKS	Cedar Bluff	48.79	77	P	P	12 01 22.2	+0.8
	baz=49						
O33A	Hebron	49.24	75	P	P	12 01 25.7	+0.9
	baz=49						
R31A	Burdett	49.26	78	P	P	12 01 26.1	+1.1
	baz=49						
Q32A	Meitler Ranch,	49.37	76	P	P	12 01 26.4	+0.6
	baz=49						
S31A	Mullinville	49.72	78	P	P	12 01 29.6	+1.1
	baz=50						
U30A	WK&E Inc. Balk	49.75	80	P	P	12 01 29.6	+0.8
	baz=50						
X28A	Dimmitt	50.18	83	P	P	12 01 33.4	+1.2
	baz=50						
MSTX	Muleshoe	50.21	84	P	P	12 01 33.4	+1.0
	baz=50						
MSTX	Muleshoe	50.21	84	eP	P	12 01 36.7	+4.4
	6.9nm,1.2s						
Y28A	McKinney Farm,	50.57	84	P	P	12 01 36.8	+1.8
	baz=50						
U32A	Winter Ranch,	50.84	79	P	P	12 01 37.1	+0.1
	baz=51						
P36A	Good Intent, A	50.92	73	P	P	12 01 38.6	+1.0
	baz=51						
SONM	Songino Array	50.94	300	P	P	12 01 36.2	-1.5
	0.3nm,0.4s,baz=39,slow=8.2,SNR=3.3						
SONM				PcP	PcP	12 02 52.6	-1.3
	1.2nm,0.6s,baz=44,slow=1.6,SNR=8.1						
S34A	Willow Spring	51.08	77	P	P	12 01 38.7	0.0
	baz=51						
128A	Castleberry Fa	51.31	85	P	P	12 01 41.6	+0.9
	baz=51,SNR=7.0						
U33A	Lingo Farm, Me	51.33	78	P	P	12 01 41.6	+0.9
	baz=51						
Z29A	Hungry Hill Ra	51.34	84	P	P	12 01 42.0	+1.1
	baz=51						
T34A	McClaskey Farm	51.48	77	P	P	12 01 42.3	+0.5
	baz=51						
W32A	Sentinel	51.54	80	P	P	12 01 43.5	+1.2
	baz=51						
228A	UT Block 9, Go	51.60	86	P	P	12 01 43.4	+0.6
	baz=51						
R36A	Gordon, Harris	51.61	75	P	P	12 01 43.2	+0.5
	baz=51						
Z30A	Sanderson Ranc	51.67	84	P	P	12 01 44.0	+0.6
	baz=51						
U34A	Anderson Ranch	51.67	78	P	P	12 01 44.2	+1.0
	baz=51						
S36A	Lake Cedric, C	51.95	76	P	P	12 01 46.3	+1.0
	baz=52						
T35A	Sooner Cattle	51.95	77	P	P	12 01 46.8	+1.5
	baz=52						
W33A	Caddo, Fort Co	51.99	80	P	P	12 01 46.8	+1.2
	baz=52						
X32A	Elmer	52.00	81	P	P	12 01 47.1	+1.4
	baz=52						
WMOK	Wichita Mounta	52.08	81	eP	P	12 01 45.8	-0.6
	7.7nm,0.9s						
Y32A	R-V Farms, Ver	52.19	82	P	P	12 01 47.6	+0.5
	baz=52						
T36A	Boggs Farm, Ca	52.23	76	P	P	12 01 49.4	+2.0
	baz=52						
Z31A	Sharp Cattle R	52.24	83	P	P	12 01 49.0	+1.4
	baz=52						
S37A	Fort Scott	52.38	75	P	P	12 01 47.8	-0.7
	baz=52						
329A	Wagon Wheel Ra	52.41	86	P	P	12 01 48.5	-0.3
	baz=52						
131A	Roby	52.54	84	P	P	12 01 49.3	-0.5
	baz=52						
HHC	Hu-ho-hao-te	52.61	291	eP	P	12 01 59.8	+10
HHC				PcP	PcP	12 03 03.4	+3.2
HHC				S	S	12 09 28.8	+12
HHC				PMZ			
	27nm,1.2s						
HHC				PMZ			
	68nm,6.2s						
HHC				LN			
	99nm,14.8s						
HHC				LE			
	95nm,16.0s						
HHC				LZ			
	70nm,16.0s						
Z32A	Haskell	52.65	82	P	P	12 01 49.8	-0.8
	baz=52,SNR=5.8						
Y33A	Hilltop Ranch,	52.68	81	P	P	12 01 50.0	-0.7
	baz=52						
T37A	Cheneyville 18	52.76	76	P	P	12 01 49.9	-1.4
	baz=52						
TXAR	Lajitas Array	52.91	89	P	P	12 01 52.4	-0.2
	3.5nm,0.8s,baz=299,slow=5.4,SNR=30						
TXAR				PcP	PcP	12 03 01.2	-0.3
	0.7nm,0.6s,baz=311,slow=1.2,SNR=2.6						
TXAR				LR	LR	12 22 18.4	
	comp=Z,35nm,21.0s,baz=0.0,slow=34						
330A	Mertzon	52.95	85	P	P	12 01 53.1	+0.2
	baz=53						
ABTX	Abilene, Hawle	53.03	83	P	P	12 01 53.6	+0.2
	baz=53						
ABTX	Abilene, Hawle	53.03	83	eP	P	12 01 55.8	+2.5
	13nm,1.1s						
V36A	Jenks	53.06	78	P	P	12 01 53.8	+0.3
	baz=53						
TUL1	Tulsa	53.06	77	P	P	12 01 54.1	+0.6
	baz=53						
429A	Davenport Ranc	53.07	87	P	P	12 01 54.2	+0.5
	baz=53						
U37A	Salina	53.12	76	P	P	12 01 54.6	+0.6
	baz=53						
Y34A	Reagan Ranch,	53.23	80	P	P	12 01 55.4	+0.5
	baz=53						
W36A	Wetumka	53.33	78	P	P	12 01 55.4	-0.2
	baz=53						
430A	Baggett Ranch,	53.35	86	P	P	12 01 56.1	+0.2
	baz=53						
V37A	Hulbert	53.47	77	P	P	12 01 56.6	+0.1
	baz=53						
133A	Hamilton Ranch	53.48	83	P	P	12 01 57.9	+1.3
	baz=53						
331A	San Angelo	53.48	85	P	P	12 01 58.2	+1.5
	baz=53						
232A	Coleman	53.54	84	P	P	12 01 58.4	+1.2
	baz=53						
Z34A	Collier Ranch,	53.55	81	P	P	12 01 58.2	+1.0
	baz=53						
X36A	Centrahoma	53.65	79	P	P	12 01 58.7	+0.8
	baz=53						
HDIL	Hopedale	53.70	69	P	P	12 01 57.7	-0.5
	baz=54						
HDIL	Hopedale	53.70	69	eP	P	12 02 01.3	+3.1
	19nm,0.8s						
Y35A	Marietta	53.70	80	P	P	12 01 57.6	-0.7
	baz=54						
530A	J-C Ranch, Com	53.75	86	P	P	12 01 58.0	-0.6
	baz=54,SNR=6.5						
431A	Sonora	53.81	85	P	P	12 01 58.5	-0.7
	baz=54,SNR=5.3						
W37A	Quinton	53.81	78	P	P	12 01 58.9	-0.2
	baz=54						
332A	Millersview	53.84	84	P	P	12 01 59.1	-0.2
	baz=54						
233A	Rising Star	53.90	83	P	P	12 01 59.9	+0.1
	baz=54,SNR=6.6						
V38A	Canehill	53.91	76	P	P	12 02 01.1	+1.3
	baz=54						
134A	White-Moore Ra	54.00	82	P	P	12 02 02.1	+1.6
	baz=54						
Y36A	Durant	54.15	79	P	P	12 02 02.2	+0.6
	baz=54						
432A	Menard	54.16	85	P	P	12 02 02.3	+0.5
	baz=54						
531A	Rocksprings	54.21	86	P	P	12 02 02.9	+0.8
	baz=54						
X37A	Clayton	54.22	78	P	P	12 02 01.7	-0.3
	baz=54,SNR=5.5						
NJ2	Nanjing	54.32	278	eP	P	12 02 14.6	+12
NJ2				PMZ			
	20nm,0.6s						
333A	Richland Sprin	54.34	84	P	P	12 02 04.0	+1.1
	baz=54						
234A	Clairette	54.37	82	P	P	12 02 04.5	+1.3
	baz=54						
W38A	Poteau	54.39	77	P	P	12 02 04.2	+0.9
	baz=54						
JCT	Junction City	54.44	85	P	P	12 02 04.6	+0.8
	baz=54						
X38A	Whitesboro	54.49	78	P	P	12 02 04.1	+0.1
	baz=54						
Z36A	Blue Ridge	54.50	80	P	P	12 02 04.2	+0.1
	baz=54						
532A	Rocksprings	54.63	85	P	P	12 02 05.4	+0.3
	baz=54						
433A	Art	54.68	84	P	P	12 02 05.5	0.0
	baz=54,SNR=5.2						
631A	Perdido Creek	54.73	87	P	P	12 02 07.2	+1.4
	baz=54						
334A	Lometa	54.78	83	P	P	12 02 07.1	+0.9
	baz=55,SNR=5.2						
WHTX	Lake Whitney	54.79	82	P	P	12 02 07.8	+1.6
	baz=55						
SFIN	Scholer Farm	55.06	68	P	P	12 02 07.3	-0.7
	baz=55,SNR=5.0						
SFIN	Scholer Farm	55.06	68	eP	P	12 02 11.1	+3.1
	15nm,0.9s						
434A	Burnet	55.13	84	P	P	12 02 07.9	-0.8
	baz=55,SNR=6.6						
632A	Uvalde	55.15	86	P	P	12 02 09.7	+0.9
	baz=55						
533A	Kerrville	55.20	85	P	P	12 02 10.3	+1.1
	baz=55						
335A	Moody	55.30	83	P	P	12 02 10.8	+0.9
	baz=55						
MIAR	Mount Ida	55.32	77	P	P	12 02 10.9	+0.9
	baz=55						
MIAR	Mount Ida	55.32	77	eP	P	12 02 12.9	+3.0
	5.3nm,1.0s						
534A	Blanco	55.56	84	P	P	12 02 12.3	+0.4
	baz=55						
336A	Riesel	55.58	82	P	P	12 02 12.8	+0.9
	baz=55						
732A	Laxson Ranch,	55.59	87	P	P	12 02 11.5	-0.5
	baz=55						
OLIL	Olney	55.61	70	eP	P	12 02 15.1	+3.1
	11nm,0.8s						
PBMO	Poplar Bluff	55.61	73	eP	P	12 02 15.5	+3.4
	12nm,1.4s						
832A	Faith Ranch, C	55.91	87	P	P	12 02 14.1	-0.3
	baz=56						
BLO	Bloomington	56.20	68	eP	P	12 02 18.7	+2.4
	6.9nm,0.6s						
833A	Chaparral WMA,	56.23	87	P	P	12 02 18.1	+1.5
	baz=56						
ZALV	Zalesovo Beam	56.99	317	LR	LR	12 29 02.0	
	comp=Z,25nm,18.1s,baz=62,slow=38						
WVT	Waverly	57.57	72	eP	P	12 02 29.5	+3.5
	3.3nm,0.8s						
SSPA	Standing Stone	59.92	62	eP	P	12 02 46.0	+3.7
	10nm,0.8s						
LZH	Lanzhou	60.27	291	eP	P	12 02 55.3	+10
LZH				pP	pP	12 02 59.8	+10
LZH				sP	sP	12 03 03.1	+11
LZH				PMZ			
	13nm,1.0s						
BLA	Blacksburg	60.99	66	eP	P	12 02 52.8	+3.1
	17nm,0.8s						
KURK	Kurchatov	61.94	318	P	P	12 02 55.0	-0.8
KURBB	Kurchatov Arra	62.05	318	P	P	12 02 55.0	-1.6
	0.4nm,0.5s,baz=44,slow=7.6,SNR=3.8						
WMQ	Urumqi	63.13	308	P	P	12 03 15.3	+11
WMQ				pP	pP	12 03 20.3	+11
WMQ				sP	sP	12 03 22.3	+12
WMQ				PMZ			
	6.0nm,1.0s						
WMQ				PMZ			
	52nm,3.9s						
WMQ				LN			
	41nm,22.4s						
WMQ				LZ			
	39nm,17.0s						
BVAR	Borovoye Array	63.26	324	P	P	12 03 03.0	-1.6
	0.9nm,0.5s,baz=61,slow=6.8,SNR=4.3						
MKAR	Makanchi Array	63.39	313	P	P	12 03 04.6	-1.1
	0.2nm,0.4s,baz=42,slow=4.5,SNR=3.9						
CD2	Chengdu	64.08	287	P	P	12 03 18.9	+8.5
CD2				PP	PP	12 05 40.6	+10
CD2				S	S	12 11 58.8	+12
CD2				SS	SS	12 16 10.3	+15
CD2				PMZ			
	20nm,0.5s						
CD2				PMZ			
	120nm,5.9s						
CD2				LN			
	160nm,8.4s						
CD2				LZ			
	140nm,6.0s						
FINES	FINESS Array B	65.43	352	P	P	12 03 17.5	-1.2
	1.0nm,0.6s,baz=19,slow=8.3,SNR=4.1						
AKTO	Aktyubinsk	69.56	330	P	P	12 03 44.0	-1.0
	0.7nm,0.5s,baz=60,slow=8.1,SNR=4.8						
AKASG	Malin Array Be	75.66	348	LR	LR	12 44 20.4	
	comp=Z,27nm,18.1s,baz=260,slow=41						
CMAR	Chiang Mai Arr	76.36	282	P	P	12 04 24.5	-1.2
	0.8nm,0.7s,baz=31,slow=6.9,SNR=3.8						
ESDC	Sonseca Array	87.08	11	P	P	12 05 22.9	+0.8
	0.1nm,0.3s,baz=347,slow=6.5,SNR=4.6						
WRA	Warramunga Arr	87.13	231	P	P	12 05 20.5	-1.8
	2.7nm,0.7s,baz=33,slow=5.7,SNR=25						
ASAR	Alice Springs	90.53	230	P	P	12 05 36.6	-1.7
	6.5nm,0.9s,baz=30,slow=4.5,SNR=60						
STKA	Stephens Creek	94.41	220	P	P	12 05 54.6	-1.4
	1.0nm,0.6s,baz=15,slow=2.8,SNR=4.3						
LBTB	Lobatse	149.96	332	ePKPdf	PKPbc	12 12 26.6	-0.2
MAW	Mawson	151.09	219	PKPbc	PKPbc	12 12 27.1	-0.9
	3.7nm,0.5s,baz=95,slow=3.3,SNR=18						
BOSA	Boshof	153.44	330	PKPbc	PKPbc	12 12 33.7	-1.0
	2.0nm,0.5s,baz=29,slow=2.2,SNR=9.4						

*IDC **18** 12:20:31.7±1.9,52.°77N×171.°03W,h0km,mb3.6/5, mb1 3.8/6,mb1mx3.5/31,mbtmp3.5/6,ML3.6/1,Error ellipse: s-maj=54.2km s-min=30.5km az=133.0*
*ISCJB **18** 12:20:37.4±1.1,52.°6N±0.°1×169.°81W±0.°09,h7km±7km, mb3.5/5,Error ellipse: s-maj=21.2km s-min=4.3km az=155.6*
*NEIC **18** 12:20:38.7,52.°71N×169.°81W,h8km,ML3.4(AEIC),After AEIC.*

ISC 18 12:20:38.2±1.6,52.°7N±0.°1×169.°84W±0.°06,h7km±10km, n29,σ1s03/30,mb3.5/5,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC

NIKH	**Nikolski High**	**0.64**	**69**	P		**Pg**	**12 20 50.5**	**+0.1**
NIKH				S		**Sg**	**12 20 59.4**	**+0.5**
OKSP	**Okmok Steeple**	**1.07**	**61**	P		**Pg**	**12 20 58.5**	**-0.1**
OKSP				S		**Sb**	**12 21 13.5**	**+0.4**
OKCE	**Okmok Cone E**	**1.22**	**55**	P		**Pb**	**12 21 01.3**	**-0.3**
OKCE				S		**Sn**	**12 21 19.0**	**+0.5**
OKTU	**Okmok Mt. Tuli**	**1.26**	**59**	P		**Pn**	**12 21 02.5**	**+0.2**
OKRE	**Okmok R'deer P**	**1.27**	**52**	P		**Pn**	**12 21 02.7**	**+0.3**
OKRE				S		**Sb**	**12 21 19.4**	**+0.3**
MSOM	**Makushin Julie**	**2.04**	**57**	P		**Pn**	**12 21 13.6**	**+0.7**
MGOD	**Makushin Gods**	**2.07**	**58**	P		**Pn**	**12 21 13.7**	**+0.3**
MGOD				S		**Sn**	**12 21 39.5**	**+0.1**
MCIR	**Makushin Cirqu**	**2.14**	**54**	P		**Pn**	**12 21 15.9**	**+1.6**
MSW	**Makushin Switc**	**2.18**	**56**	P		**Pn**	**12 21 15.5**	**+0.7**
MSW				S		**Sn**	**12 21 43.8**	**+1.7**
MTBL	**Makushin Table**	**2.26**	**56**	P		**Pn**	**12 21 17.5**	**+1.5**
UNV	**Unalaska Valle**	**2.29**	**60**	P		**Pn**	**12 21 16.1**	**-0.2**
UNV				S		**Sn**	**12 21 45.2**	**+0.5**
ZRO	**Akutan Zero**	**2.68**	**58**	P		**Pn**	**12 21 22.9**	**+1.3**
ATKA	**Atka Island**	**2.72**	**260**	P		**Pn**	**12 21 22.2**	**0.0**
ATKA				S		**Sn**	**12 21 56.4**	**+1.1**
GSTR	**Great Sitkin T**	**3.86**	**263**	P		**Pn**	**12 21 38.6**	**+0.7**
GSCK	**Great Sitkin C**	**3.94**	**262**	P		**Pn**	**12 21 39.5**	**+0.4**
ADAG	**Mount Adagdak**	**4.21**	**262**	P		**Pn**	**12 21 44.2**	**+1.4**
SPIA	**Saint Paul Isl**	**4.45**	**357**	P		**Pn**	**12 21 47.0**	**+1.0**
ILAR	**Eielson Array**	**16.81**	**35**	Pn		**Pn**	**12 24 31.1**	**-2.6**
	0.1nm,0.3s,baz=227,slow=11,SNR=4.9							
DLBC	**Dease Lake**	**22.94**	**60**	P		**P**	**12 25 43.6**	**+0.9**
	2.0nm,0.8s,baz=274,slow=12,SNR=5.9							
INK	**Inuvik**	**23.20**	**34**	P		**P**	**12 25 43.2**	**-1.8**
	0.5nm,0.5s,baz=273,slow=9.2,SNR=3.7							
H11N2	**WAKE ISLAND Hy**	**37.57**	**218**	T		T	13 06 01.3	
	baz=23,slow=76,SNR=5.9							
H11N3	**WAKE ISLAND Hy**	**37.58**	**218**	T		T	13 06 03.7	
	baz=23,slow=76,SNR=6.8							
H11N1	**WAKE ISLAND Hy**	**37.59**	**218**	T		T	13 06 03.5	
	baz=23,slow=76,SNR=5.8							
H11S1	**WAKE ISLAND Hy**	**38.76**	**217**	T		T	13 07 31.9	
	baz=23,slow=76,SNR=85							
H11S2	**WAKE ISLAND Hy**	**38.78**	**217**	T		T	13 07 32.1	
	baz=23,slow=76,SNR=82							
H11S3	**WAKE ISLAND Hy**	**38.78**	**217**	T		T	13 07 32.9	
	baz=23,slow=76,SNR=35							
PDAR	**Pinedale Array**	**40.62**	**79**	P		**P**	**12 28 18.9**	**+0.2**
	0.6nm,0.5s,baz=334,slow=4.6,SNR=6.7							
TXAR	**Lajitas Array**	**53.03**	**89**	P		**P**	**12 29 55.6**	**-0.2**
	1.3nm,0.7s,baz=297,slow=5.4,SNR=19							
ASAR	**Alice Springs**	**90.42**	**230**	P		P	12 33 32.3	-7.8
	0.1nm,0.7s,baz=31,slow=5.6,SNR=2.5							

*GUC **18** 12:25:49.1±0.6,34˚.82S×71˚.78W,h49km±2km,ML3.0*
*SJA **18** 12:26:23.3±1.1,33˚.03S×69˚.09W,h19km±3km,ML1.9, MW2.5*

ISC 18 12:25:47.7±2.0,**34˚.81S**±0˚.05×**71˚.9W**±0˚.1,**h10km,n16, σ1§02/17,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.61**	**109**	*e*P	**Pb**	**12 26 01.0**	**+0.6**
NICH				*e*S	**Sb**	**12 26 09.5**	**+0.5**
TALC	**Talca**	**0.63**	**158**	*e*P	**Pn**	**12 26 02.4**	**-0.4**
TALC				*e*S	**Sn**	**12 26 11.9**	**-1.0**
LNCH	**Linares**	**1.07**	**166**	*e*S	**Sb**	**12 26 23.1**	**+0.8**
CHCH	**Chadas Angostu**	**1.37**	**51**	*e*P	**Pn**	**12 26 12.5**	**-0.4**
CLCH	**Cerro Calan**	**1.82**	**40**	*e*P	**Pn**	**12 26 18.7**	**-0.5**
CLCH				*e*S	**Sn**	**12 26 41.8**	**-0.7**
CLCH				AML	AML	12 26 46.1	
	comp=N,208nm,0.7s						
PEL	**Peldehue**	**1.96**	**32**	*e*P	**Pn**	**12 26 21.1**	**+0.1**
PEL				*e*S	**Sn**	**12 26 45.0**	**-0.7**
PEL				AML	AML	12 26 50.3	
	comp=N,207nm,0.5s						
AAGR	**Agrelo**	**3.10**	**57**	*e*S	Pn	12 26 33.2	-3.6
ARCO	**CERRO ARCO**	**3.18**	**53**	*e*S	Pn	12 26 33.9	-4.0
ARCO				IAML		12 26 35.1	
	comp=Z,87nm,0.6s						
AUSP	**Uspallata**	**3.34**	**40**	*e*P	**Pn**	**12 26 40.0**	**-0.2**
RTLS	**Leoncito**	**3.73**	**37**	*e*P	**Pn**	**12 26 47.8**	**+2.3**
RTCV	**Cerro Valdivia**	**4.09**	**45**	*e*P	Pn	12 26 46.9	-3.4
RTCV				*e*S	**Pg**	**12 27 04.3**	**-1.7**
CFAA	**Coronel Fontan**	**4.45**	**45**	*e*P	Pn	12 26 52.1	-3.1
CFAA				*e*S	**Pg**	**12 27 14.3**	**+1.4**
RTLL	**Cerro Villicun**	**4.52**	**41**	*e*P	**Pn**	**12 26 55.4**	**-0.9**
RTLL				*e*S	Pg	12 27 19.7	+5.3
ACAN	**Cantantal**	**4.70**	**59**	*e*P	Pn	12 26 55.4	-3.3
ACAN				*e*S	**Pg**	**12 27 17.6**	**-0.1**
AMOG	**MOGNA**	**4.82**	**38**	*e*P	**Pn**	**12 27 00.2**	**-0.3**
AMOG				*e*S	Pg	12 27 31.9	+12
MRA	**San Martin**	**5.71**	**67**	*e*P	Pn	12 27 16.2	+3.6
MRA				*e*S	Pg	12 27 53.0	+16
MRA				IAML		12 27 55.2	
	comp=Z,9.1nm,0.3s						

*ISCJB **18** 12:32:41.8±0.4,38˚.94N±0˚.03×107˚.60W±0˚.04,h0km, Error ellipse: s-maj=5.0km s-min=3.9km az=30.8*
*IDC **18** 12:32:41.2±1.4,39˚.59N×106˚.45W,h0km,mb1 3.4/5, mb1mx3.3/31,mbtmp3.0/5,ML2.9/5, Error ellipse: s-maj=25.6km s-min=9.9km az=65.0*
*NEIC **18** 12:32:41.1±0.4,38˚.88N×107˚.38W,h1km,ML3.1, Error ellipse: s-maj=4.9km s-min=4.6km az=140.0,Suspected Mining induced.*
NEIC Probable coal bump.

ISC 18 12:32:42.5±0.8,**39˚.00N**±0˚.03×**107˚.41W**±0˚.03,**h0km,n63, σ1§44/70,Colorado**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCO	**Snowmass**	**0.38**	**62**	*e*Pg	**Pb**	**12 32 51.3**	**-1.2**
SMCO				*e*Sg	**Sb**	**12 33 01.0**	**+1.9**
PV01	**Paradox Valley**	**1.25**	**227**	*e*Pn	Pg	12 33 03.1	-3.4
PV01				*e*Sn	**Sg**	**12 33 20.7**	**-2.0**
O20A	**White River Ci**	**1.31**	**331**	*e*Pn	**Pg**	**12 33 06.7**	**-0.8**
PV04	**Paradox Valley**	**1.32**	**243**	*e*Pn	Pn	12 33 03.8	-4.5
ISCO	**Idaho Springs**	**1.60**	**59**	*e*Pn	**Pg**	**12 33 14.3**	**+1.0**
ISCO				*e*Sn	Sg	12 33 40.2	+6.1
SDCO	**Great Sand Dun**	**1.95**	**129**	*e*Pn	**Pb**	**12 33 18.7**	**-0.4**
MVCO	**Mesa Verde**	**1.98**	**206**	*e*Pg	**Pn**	**12 33 17.2**	**-0.3**
SRU	**San Rafael**	**2.43**	**274**	*e*Pn	**Pn**	**12 33 22.7**	**-1.0**
PHWY	**Pilot Hill**	**2.74**	**32**	*e*Pg	**Pg**	**12 33 34.0**	**-1.1**
TMUT	**Trail Mountain**	**2.97**	**277**	*e*Pn	**Pn**	**12 33 30.1**	**-1.1**
MPU	**Maple Canyon**	**3.42**	**289**	*e*Pn	**Pn**	**12 33 36.3**	**-1.0**
MPU				*e*Pg	**Pb**	**12 33 44.9**	**+0.8**
JLU	**Jordanelle**	**3.50**	**299**	*e*Pn	**Pn**	**12 33 38.5**	**0.0**
K22A	**Casper**	**3.71**	**10**	*e*Pg	**Pg**	**12 33 51.4**	**-2.2**
KSCO	**Kaye Shedlock'**	**3.73**	**88**	*e*Pg	**Pg**	**12 33 51.6**	**-2.3**
TCUT	**Toone Canyon**	**3.73**	**306**	*e*Pn	**Pn**	**12 33 41.7**	**+0.1**
TCUT				*e*Pg	**Pg**	**12 33 52.8**	**-1.2**
NLU	**North Lily Min**	**3.74**	**286**	*e*Pn	**Pn**	**12 33 40.1**	**-1.5**
NLU				*e*Pg	**Pb**	**12 33 48.4**	**-1.1**
CTU	**Camp Tracy**	**3.75**	**298**	*e*Pg	**Pb**	**12 33 49.2**	**-0.4**
MSU	**Marysvale**	**3.76**	**264**	*e*Pn	**Pn**	**12 33 42.3**	**+0.4**
MVU	**Marysvale**	**3.79**	**264**	*e*Pn	**Pn**	**12 33 43.0**	**+0.6**
BW06	**Boulder Array**	**4.10**	**337**	*e*Pn	**Pn**	**12 33 46.6**	**-0.1**
BW06				*e*Pg	**Pb**	**12 33 56.9**	**+1.1**
PDAR	**Pinedale Array**	**4.10**	**337**	Pn	**Pn**	**12 33 46.7**	**0.0**
	0.2nm,0.3s,baz=136,slow=13,SNR=9.0						
PDAR				Pg	**Pb**	**12 33 55.9**	**+0.1**
	1.4nm,0.3s,baz=137,slow=14,SNR=53						
PDAR				Lg	Lg	12 34 52.4	
	0.6nm,0.3s,baz=147,slow=26,SNR=3.9						
HWUT	**Hardware Ranch**	**4.11**	**311**	*e*Pn	**Pn**	**12 33 46.6**	**-0.1**
HWUT				*e*Pg	**Pb**	**12 33 55.8**	**-0.1**
ANMO	**Albuquerque**	**4.12**	**169**	Pn	**Pb**	**12 33 54.2**	**-1.7**
	0.7nm,0.3s,baz=351,slow=15,SNR=26						
ANMO				Sn	**Sb**	**12 34 49.6**	**+3.4**
	0.2nm,0.3s,baz=61,slow=13,SNR=4.2						
ANMO	**Albuquerque**	**4.12**	**169**	Pn	**Pn**	**12 33 47.1**	**+0.3**
ANMO				*e*Pg	**Pb**	**12 33 57.6**	**+1.7**
ANMO				Sn	**Sb**	**12 34 49.6**	**+3.4**
W18A	**Petrified Fore**	**4.30**	**206**	*e*Pn	**Pn**	**12 33 50.0**	**+0.7**
W18A				*e*Pg	**Pb**	**12 33 58.6**	**-0.4**
DUG	**Dugway**	**4.34**	**288**	*e*Pn	**Pn**	**12 33 48.5**	**-1.4**
DUG				*e*Pg	**Pb**	**12 34 00.6**	**+0.8**
SPUT	**South Promonto**	**4.50**	**302**	*e*Pn	**Pn**	**12 33 50.4**	**-1.7**
SPUT				*e*Pg	**Pg**	**12 34 03.1**	**+0.6**
OGNE	**Ogallala**	**4.56**	**63**	*e*Pg	**Pg**	**12 34 08.7**	**-1.3**
LAZ	**Ladron**	**4.59**	**177**	*e*Pg	**Pb**	**12 34 03.6**	**-0.5**
AHID	**Auburn Hatcher**	**4.69**	**325**	*e*Pg	**Pg**	**12 34 09.2**	**-3.2**
WUAZ	**Wupatki**	**4.70**	**224**	*e*Pn	**Pn**	**12 33 53.9**	**-0.9**
WUAZ				*e*Pg	**Pb**	**12 34 05.4**	**-0.4**
LPM	**Los Pinos Moun**	**4.72**	**172**	*e*Pg	**Pb**	**12 34 09.4**	**+3.2**
BGU	**Big Grassy Mou**	**4.73**	**296**	*e*Pn	**Pn**	**12 33 57.5**	**+2.3**
CCUT	**Cedar City**	**4.90**	**255**	*e*Pn	**Pn**	**12 33 57.0**	**-0.7**
CCUT				*e*Pg	**Pb**	**12 34 09.4**	**+0.1**
HVU	**Hansel Valley**	**4.95**	**306**	*e*Pn	**Pn**	**12 33 57.1**	**-1.1**
	16nm,0.8s						
HVU				*e*Pg	**Pb**	**12 34 10.2**	**+0.1**
REDW	**Red Top Meadow**	**5.08**	**330**	*e*Pn	**Pn**	**12 34 00.8**	**+0.8**
	18nm,0.8s						
REDW				*e*Sg	Sg	12 35 31.7	+6.2
SNOW	**Snow King Moun**	**5.12**	**332**	*e*Pn	**Pn**	**12 34 01.7**	**+1.0**
	15nm,0.7s						
LOHW	**Long Hollow**	**5.20**	**333**	*e*Pn	**Pn**	**12 34 01.6**	**-0.1**
	16nm,0.8s						
LOHW				*e*Pg	**Pb**	**12 34 16.1**	**+1.7**
TPAW	**Teton Pass**	**5.22**	**330**	*e*Pn	**Pn**	**12 34 01.5**	**-0.6**
	15nm,0.9s						
MOOW	**Moose Ponds**	**5.37**	**333**	*e*Pn	**Pn**	**12 34 04.1**	**0.0**
	7.9nm,0.8s						
IMW	**Indian Meadow**	**5.57**	**333**	*e*Pn	**Pn**	**12 34 07.4**	**+0.5**
	12nm,0.6s						
IMW				*e*Pg	Pg	12 34 24.9	-4.3
IMW				*e*S	Sg	12 35 34.5	-6.8
RSSD	**Black Hills**	**5.71**	**25**	*e*Pg	Pg	12 34 27.1	-4.8
	7.8nm,0.8s						
CBKS	**Cedar Bluff**	**5.99**	**89**	*e*Pg	**Pg**	**12 34 35.5**	**-1.7**
	25nm,0.8s						
YFT	**Old Faithful**	**6.02**	**336**	*e*Pg	**Pg**	**12 34 36.0**	**-1.9**
	17nm,0.8s						
MSTX	**Muleshoe**	**6.25**	**142**	*e*Pg	Pg	12 34 38.6	-3.8
	22nm,0.8s						
ELK	**Elko**	**6.27**	**289**	Pn	Pb	12 34 25.5	-7.2
	0.1nm,0.3s,baz=121,slow=12,SNR=2.9						
ELK				Pg	Pg	12 34 39.7	-3.0
	0.2nm,0.3s,baz=87,slow=11,SNR=8.2						
RLMT	**Red Lodge**	**6.27**	**348**	*e*Pn	**Pn**	**12 34 17.9**	**+1.5**
	1.7nm,0.6s						
RLMT				*e*Pg	**Pg**	**12 34 41.9**	**-0.8**
R11A	**Troy Canyon, C**	**6.43**	**267**	*e*Pn	**Pn**	**12 34 18.5**	**-0.1**
	4.2nm,0.7s						
R11A				*e*Pg	Pg	12 34 42.5	-3.3
121A	**Cookes Peak, D**	**6.46**	**183**	*e*Pg	Pb	12 34 42.1	+6.3
	20nm,0.9s						
SHPR	**Sheep Range**	**6.63**	**250**	*e*Pg	**Pb**	**12 34 39.7**	**+1.0**
	8.0nm,1.0s						
SHPR				*e*Sg	**Sg**	**12 36 15.5**	**+0.2**
HLID	**Hailey**	**6.97**	**313**	*e*Pn	**Pn**	**12 34 26.9**	**+0.9**
	3.4nm,0.8s						
GCMT	**Greycliff**	**6.99**	**347**	*e*Pg	Pg	12 34 51.9	-4.5
	7.7nm,0.9s						
MCMT	**McKenzie Canyo**	**7.10**	**327**	*e*Pn	**Pn**	**12 34 30.4**	**+2.6**
	2.3nm,0.8s						
TUC	**Tucson**	**7.22**	**203**	*e*Pn	Pb	12 34 52.6	+3.9
	8.3nm,0.8s						
DLMT	**Dillon**	**7.43**	**330**	*e*Pn	**Pn**	**12 34 35.2**	**+2.8**
	7.6nm,1.1s						
LAO	**LASA Array**	**7.74**	**6**	*e*Pn	**Pn**	**12 34 37.2**	**+0.8**
	9.0nm,0.8s						
WMOK	**Wichita Mounta**	**8.12**	**119**	*e*Pg	Pg	12 35 13.2	-4.7
	2.3nm,0.8s						
GSC	**Goldstone**	**8.36**	**247**	*e*Pg	Pb	12 35 15.3	+7.1
	5.8nm,0.9s						
GLA	**Glamis**	**8.44**	**228**	*e*Pg	Pg	12 35 16.9	-7.3
NVAR	**Mina Array Bea**	**8.54**	**270**	Pn	Pn	12 34 58.4	+11
	0.0nm,0.3s,baz=89,slow=14,SNR=6.7						
NVAR				Pg	Pg	12 35 22.3	-3.7
	0.1nm,0.3s,baz=86,slow=16,SNR=9.8						
CHMT	**Chamberlain Mo**	**8.99**	**333**	*e*Pn	**Pn**	**12 34 56.2**	**+2.4**
	2.1nm,1.0s						
JTMT	**Jette**	**10.07**	**332**	*e*Pn	**Pn**	**12 35 10.6**	**+2.1**
	2.4nm,0.9s						
TXAR	**Lajitas Array**	**10.12**	**161**	Pn	Pn	12 35 13.7	+4.4
	0.0nm,0.3s,baz=347,slow=7.4,SNR=12						
TXAR				Pg		12 35 51.2	
	0.0nm,0.3s,baz=344,slow=18,SNR=6.0						

*ISCJB **18** 12:47:49.6±2.2,38˚.3N±0˚.1×37˚.8E±0˚.1,h9km, Error ellipse: s-maj=18.1km s-min=11.1km az=16.4*
*DDA **18** 12:47:51.8,38˚.34N×37˚.93E,h5km,MD2.7*

ISC 18 12:47:50.6±1.8,**38˚.33N**±0˚.08×**37˚.83E**±0˚.07,**h9km,n4, σ0§42/6,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.08**	**116**	*i* P	**Pg**	**12 47 52.6**	**-0.4**
AKCD				*i* S	**Sg**	**12 47 55.1**	**+0.4**
DARE	**Darende-Malaty**	**0.36**	**312**	*e*PG	**Pg**	**12 47 57.9**	**+0.1**
MALT	**Malatya**	**0.47**	**92**	*e*PG	**Pg**	**12 48 00.1**	**+0.3**
KEMA	**Kemaliye**	**1.07**	**29**	*i* P	**Pg**	**12 48 11.2**	**0.0**
KEMA				*i* S	**Sn**	**12 48 26.6**	**-0.4**

*NNC **18** 12:51:42.1±2.7,53˚.60N×87˚.26E,h0km,mb3.7,mpv3.4, Error ellipse: s-maj=20.1km s-min=17.2km az=45.0*

IDC 18 12:51:36.6±2.4,**54˚.02N×87˚.40E,h0km,mb1 3.3/3, mb1mx3.0/47,mbtmp3.3/3,ML3.1/3,7C-1D,Error ellipse: s-maj=21.7km s-min=14.3km az=64.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.52**	**268**	*i*		13 00 50.0	
	baz=80,slow=318,SNR=9.8						
ZALV	**Zalesovo Beam**	**1.52**	**268**	Pg	Pn	12 52 03.0	-2.1
	9.8nm,0.3s,baz=86,slow=14,SNR=49						
ZALV				Lg	Lg	12 52 25.1	
	8.1nm,0.3s,baz=86,slow=19,SNR=12						
KURK	**Kurchatov**	**6.31**	**242**	⇑Pn	Pn	12 53 11.5	+0.6
	1.1nm,0.7s						
KURK				⇑Sn	Sn	12 54 24.2	+0.5
	1.0nm,0.6s						
KURK				⇑Lg	Lg	12 54 58.8	
	13nm,1.2s						
KURBB	**Kurchatov Arra**	**6.41**	**242**	⇑Pn	Pn	12 53 13.9	+1.7
	2.4nm,0.3s						
KURBB				⇑Sn	Sn	12 54 25.4	-0.7
	10nm,0.6s						
KURBB				⇓Lg	Lg	12 55 03.5	
	19nm,0.8s						
KURBB	**Kurchatov Arra**	**6.41**	**242**	Pn	Pn	12 53 12.7	+0.5
	0.3nm,0.3s,baz=56,slow=14,SNR=17						
KURBB				Sn	Sn	12 54 24.9	-1.2
	0.1nm,0.3s,baz=54,slow=21,SNR=4.8						
KURBB				Lg	Lg	12 54 59.5	
	0.1nm,0.3s,baz=56,slow=32,SNR=7.7						
MK31	**Makanchi Array**	**7.94**	**206**	Pn	Pn	12 53 36.2	+3.0
	baz=28,slow=14,SNR=14						
MK31				⇑Sn	Sn	12 55 05.0	+1.4
	0.5nm,0.5s,baz=23,slow=24,SNR=5.6						
MK31				⇑Lg	Lg	12 55 42.9	
	14nm,1.2s,baz=24,slow=29,SNR=4.5						
MKAR	**Makanchi Array**	**7.94**	**206**	Pn	Pn	12 53 34.1	+0.9
	0.2nm,0.3s,baz=26,slow=13,SNR=12						
MKAR				Sn	Sn	12 55 03.1	-0.6
	0.1nm,0.3s,baz=22,slow=20,SNR=2.8						
MKAR				Lg	Lg	12 55 48.8	
	0.1nm,0.3s,baz=22,slow=26,SNR=3.2						
BVAR	**Borovoye Array**	**10.18**	**271**	Pn	Pn	12 54 03.9	0.0
	0.2nm,0.3s,baz=70,slow=17,SNR=3.4						
BVAR				Sn	Sn	12 55 49.8	-8.9
	0.6nm,0.3s,baz=72,slow=26,SNR=6.5						

*NIED **18** 13:03:00,24˚.00N×122˚.40E,h38km,Mw5.0 Best double couple: M0 3.91000×10^16 NP1:φs155.00000˚,δ53.00000˚, λ-161.00000˚. NP2:φs54.00000˚,δ75.00000˚, λ-39.00000˚.*
*IDC **18** 13:03:21.1±0.8,24˚.28N×122˚.50E,h0km,mb4.8/25, mb1 4.9/27,mb1mx4.8/34,mbtmp4.8/27,ML4.6/2, Error ellipse: s-maj=21.9km s-min=15.1km az=153.0*
*BJI **18** 13:03:22.3,24˚.07N×122˚.43E,h21km,mb4.9/65,mB5.1/51, ML4.8/7,Ms5.3/53,Ms7 5.2/47*
*ISCJB **18** 13:03:24.0±0.1,24˚.02N±0˚.02×122˚.52E±0˚.02,h33km, mb5.0/138,Error ellipse: s-maj=2.7km s-min=1.6km az=146.9*
*BKK **18** 13:03:23.2±0.7,25˚N±7˚×12˚3E±˚,h10km,M5.0/14, mB5.5/9,mb5.0/14,Mw(mB)5.0/9,Mwp7.5/1*
*NEIC **18** 13:03:24.5±0.8,24˚.13N×122˚.47E,h27km±5km,mb5.1/57, ML5.2(TAP),Error ellipse: s-maj=6.5km s-min=4.2km az=154.0*
NEIC Felt [III] at Taipei. Also felt at Chung-ho, Hsi-chih, Hsin-tien, Lo-tung, San-hsia and Yung-ho. Recorded [3 TAP] in I-lan and T'ai-pei; [2 TAP] in Hua-lien; [1 TAP] in Chang-hua, Hsin-chu, Miao-li, Nan-t'ou, T'ai-chung, T'ai-tung, T'ao-yuan and Yun-lin. Recorded [2 JMA] on Yonaguni-jima, Ryukyu Islands.
*TAP **18** 13:03:24.7,24.00N×122.44E,h24km,ML5.2,C*
*JMA **18** 13:03:24.1±0.2,23.96N×122.43E,h22km±4km,M5.3*
JMA Felt II J1.
*MOS **18** 13:03:25.1±0.9,24.53N×122.42E,h29km,mb5.4/54, Error ellipse: s-maj=8.0km s-min=4.8km az=118.8*
*SZGRF **18** 13:03:32.0,25.61N×122.18E,h33km,mb5.1,Taiwan region*

ISC 18 13:03:24.4±0.3,**24˚.01N**±0˚.03×**122˚.48E**±0˚.02,**h26**km±1km, **h25**km**:pP-P,n515,**σ1§45/598,**mb5.1**/139,**55C-48D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.61**	**44**	P	**Pn**	**13 03 37.2**	**-0.1**
JYNG				*e*S	**Sn**	**13 03 45.6**	**-0.7**
YOJ	**Yonaguni jima**	**0.66**	**47**	P	**Pn**	**13 03 38.1**	**+0.1**
YOJ				*e*S	**Sn**	**13 03 46.9**	**-0.6**
YOJ	**Yonaguni jima**	**0.66**	**47**	*e*P	**Pn**	**13 03 38.1**	**+0.1**
YOJ	**Yonaguni jima**	**0.66**	**47**	⇓*i*P	**Pn**	**13 03 38.2**	**+0.2**
	baz=57						
YOJ				*e*S	**Sn**	**13 03 46.5**	**-1.0**
	baz=57						
YOJ	**Yonaguni jima**	**0.66**	**47**	*e*P	**Pn**	**13 03 38.1**	**+0.1**
EHP	**Heping Village**	**0.74**	**294**	*e*P	**Pn**	**13 03 39.4**	**+0.2**
	baz=295						
ENA	**Nanau**	**0.79**	**302**	⇑*i*P	**Pn**	**13 03 39.4**	**-0.5**
	baz=303						
HWA	**Hwalien**	**0.81**	**268**	⇓*e*P	**Pb**	**13 03 39.2**	**-0.5**
	baz=254						
TWD	**Chiawan**	**0.81**	**275**	⇓*i*P	**Pb**	**13 03 39.3**	**-0.6**
	baz=276						
NACB	**Ninganchiao**	**0.83**	**281**	*e*P	**Pb**	**13 03 39.3**	**-0.9**
TWC	**Suao**	**0.83**	**316**	⇑*i*P	**Pn**	**13 03 39.9**	**-0.5**
	baz=311						
ESF	**Shoufeng Towns**	**0.91**	**261**	*e*P	**Pn**	**13 03 41.7**	**+0.3**
	baz=261						
TEGC	**Jichi Village**	**0.92**	**251**	*e*P	**Pb**	**13 03 41.2**	**-0.4**
	baz=250						
TEGC				*e*S	**Sb**	**13 03 53.5**	**+0.1**
	baz=250						
EGS		**0.97**	**329**	⇑*i*P	**Pn**	**13 03 43.0**	**+0.6**
	baz=331						
ESL	**Shilin**	**0.98**	**259**	⇓*i*P	**Pn**	**13 03 41.2**	**-1.3**
	baz=258						
ILA	**Ilan**	**1.01**	**318**	⇑*i*P	**Pn**	**13 03 43.5**	**+0.7**
	baz=320						
TWE	**Neicheng**	**1.03**	**314**	⇑*i*P	**Pb**	**13 03 43.6**	**+0.1**
	baz=315						
ENTT	**Nioudou**	**1.04**	**307**	⇓*i*P	**Pb**	**13 03 44.0**	**+0.1**
	baz=293						
TWB1	**Santiao Chiao**	**1.09**	**336**	⇓*i*P	**Pb**	**13 03 44.6**	**+0.1**
	baz=337						
NNS	**Nan Shan**	**1.10**	**293**	⇓*i*P	**Pb**	**13 03 44.4**	**-0.5**
	baz=281						
WHF	**Hehuan Shan**	**1.12**	**277**	⇓*i*P	**Pn**	**13 03 44.3**	**-0.5**
	baz=277						
EHY	**Hungye**	**1.18**	**245**	⇓P	**Pn**	**13 03 44.4**	**-0.8**
	baz=243						
EHY				*e*S	**Sn**	**13 03 58.4**	**-2.0**
	baz=243						
IRIF	**Iriomote-Funau**	**1.18**	**74**	P	**Pb**	**13 03 46.5**	**+0.4**
IRIF				*e*S	**Sb**	**13 04 03.4**	**+2.4**
YHNB	**Yeheng**	**1.20**	**303**	*e*P	**Pb**	**13 03 46.0**	**-0.6**
HATJ	**Hateruma jima**	**1.21**	**88**	P	**Pb**	**13 03 46.6**	**0.0**
HATJ				*e*S	**Sb**	**13 04 03.2**	**+1.4**
TWT	**Tachien**	**1.22**	**282**	⇓*i*P	**Pb**	**13 03 46.3**	**-0.6**
	baz=270						
NSK	**Sanguang**	**1.22**	**303**	⇓*i*P	**Pb**	**13 03 46.5**	**-0.4**
	baz=303						
NWF	**Wu-fen Shan**	**1.23**	**329**	⇓*i*P	**Pb**	**13 03 46.9**	**-0.2**
	baz=330						
YULB	**Yu-li**	**1.25**	**241**	*e*P	**Pn**	**13 03 45.0**	**-1.2**
TWA	**Mucha**	**1.27**	**320**	⇓*i*P	**Pb**	**13 03 47.6**	**+0.1**
	baz=320						
TWF1	**Yuli**	**1.27**	**239**	⇑*i*P	**Pn**	**13 03 45.9**	**-0.6**
	baz=237						
TWF1				S	**Sn**	**13 04 01.7**	**-1.1**
	baz=237	

WTCT Ta-ch'eng 2.02 266 *e*P Pn 13 03 58.5 +1.7
baz=278
WTCT *e*S Sb 13 04 23.6 -1.5
baz=278
WSF Szhu 2.10 260 *e*P Pn 13 03 59.8 +1.8
baz=258
WSF *e*S Sn 13 04 25.5 +2.2
baz=258
JTJ Tarama 2.12 72 P Pn 13 03 59.5 +1.4
JTJ *e*S Sb 13 04 27.1 -0.8
SSD Sandimen 2.12 234 *e*P Pn 13 03 58.4 +0.2
baz=224
LAY Lan-yu 2.15 204⇑*e*P Pn 13 03 56.8 -1.7
baz=202
CHN8 Yiju 2.19 253 *e*P Pn 13 04 00.3 +1.2
baz=250
CHN8 *e*S Sn 13 04 27.2 +1.9
baz=250
TAW Tawu 2.20 222 *e*P Pn 13 03 58.2 -1.0
baz=231
EAST Anshuo 2.21 223⇑*i*P Pn 13 03 58.8 -0.7
baz=221
SGLT Jiouru 2.23 235 *e*P Pn 13 04 02.4 +2.7
baz=225
SCLT Jiali 2.26 249 *e*P Pn 13 04 01.9 +1.8
baz=246
SCLT *e*S Sn 13 04 29.5 +2.4
baz=246
TAI1 Yung-k'ang 2.29 245 *e*P Pn 13 04 02.6 +2.2
baz=244
SCZT Fangliau 2.37 227 *e*P Pn 13 04 01.8 +0.3
baz=217
SCZT *e*S Sn 13 04 31.6 +1.8
baz=217
KAU Kaohsiung 2.46 235 *e*P Pb 13 04 06.6 -1.4
baz=233
TSEB Hengchuen, Pin 2.56 215 *e*P Pn 13 04 04.7 +0.5
baz=223
TSEB *e*S Sn 13 04 34.7 +0.2
baz=223
TWP Hsiaoliuchiu 2.56 230 *e*P Pn 13 04 06.5 +2.3
baz=244
HEN Hengchun 2.56 219 *e*P Pn 13 04 03.6 -0.7
baz=217
TWK1 Hengchun 2.58 217 ⇑P Pn 13 04 04.3 -0.1
baz=215
TWK1 *e*S Sn 13 04 36.0 +1.1
baz=215
JIRB Irabujima 2.58 71 P Pn 13 04 06.6 +2.1
JIRB *e*S Sn 13 04 36.9 +1.8
JIKM Ikemajima 2.68 70 P Pn 13 04 07.8 +2.0
JIKM S Sn 13 04 39.3 +1.9
JMJ Miyako jima 2 2.68 72 P Pn 13 04 07.9 +2.0
JMJ *e*S Sn 13 04 40.5 +2.9
JMJ Miyako jima 2 2.68 72 *e*P Pn 13 04 08.3 +2.5
baz=73
WDGT Dungji 2.70 254 *e*P Pn 13 04 06.2 +0.2
baz=252
WDGT *e*S Sn 13 04 37.5 -0.3
baz=252
PNG Penghu 2.72 261⇓*e*P Pn 13 04 07.1 +0.7
baz=259
PNG *e*S Sn 13 04 38.9 +0.4
baz=259
JOGS Gusukube 2.77 74 P Pn 13 04 09.3 +2.3
JOGS *e*S Sb 13 04 44.3 -2.3
QZH Quanzhou 3.67 285⇑*i*Pn Pn 13 04 19.3 -0.1
QZH Sn Sn 13 04 57.8 -4.0
QZH SMN
6μm,0.9s
QZH SME
3μm,0.9s
QZH LN
40μm,17.7s
QZH LE
20μm,11.6s
QZH LZ
5μm,12.7s
KNM Kinmen 3.72 277 *e*P Pn 13 04 21.9 +1.7
baz=275
JKE Kume jima 2 4.53 59 P Pn 13 04 32.5 +1.2
JAGN Aguni-jima 5.01 58 P Pn 13 04 39.4 +1.5
JNTH Nagotoyohara 5.60 62 P Pn 13 04 46.6 +0.6
SGCP Mt. Cagua 5.76 184 *e*P Pn 13 04 48.1 -0.1
JIH Iheya 5.79 58 P Pn 13 04 49.3 +0.6
JOW Kunigami 5.94 61 P Pn 13 04 48.1 -2.6
JOW Kunigami 5.94 61 *e*P Pn 13 04 49.6 -1.1
77nm,0.8s
APYP Conner 6.23 191 *e*P Pn 13 04 54.4 -0.3
APYP *e*S Sn 13 05 56.3 -8.7
CVP Callao Caves 6.31 186 *e*P Pn 13 04 56.7 +0.9
SIPP Brgy, Tapao 6.35 198⇓P Pn 13 04 58.9 +2.6
SIPP *e*S Px 13 05 00.0
ABRA Dolores 6.54 195 *e*P Pn 13 05 00.2 +1.2
SZP Santa 6.70 197 *e*P Pn 13 05 02.4 +1.2
256nm,0.8s
JTK Tokunoshima 6.93 56 P Pn 13 05 03.9 -0.4
CAUP Cauayan 7.06 185 *e*P Pn 13 05 08.5 +2.4
SSE Sheshan 7.15 351 Pn Pn 13 05 07.3 0.0
SSE Sn Sn 13 06 29.5 +1.9
SSE LN
6μm,13.9s
SSE LE
1μm,13.9s
SSE LZ
7μm,14.2s
JAMN Amaminishikomi 7.34 54 P Pn 13 05 09.0 -0.9
JAM Amami Oshima 7.75 54 P Pn 13 05 14.7 -0.8
GZH Guangzhou 8.44 266 *e*P Pn 13 05 20.0 -5.0
GZH S Sn 13 06 44.0 -15
GZH LR LR
comp=N,13μm,12.2s
GZH LR LR
comp=E,8μm,11.5s
NJ2 Nanjing 8.63 339 *e*P Pn 13 05 26.5 -1.0
NJ2 pP 13 05 34.8
NJ2 sP 13 05 40.3
NJ2 S Sn 13 07 02.1 -1.9
NJ2 PMZ
comp=E,270nm,1.1s
NJ2 SMN
comp=E,960nm,0.7s
NJ2 SME
comp=E,680nm,1.2s
NJ2 LN
comp=E,10μm,13.5s
NJ2 LE
comp=E,20μm,13.6s
NJ2 LZ
comp=E,22μm,12.7s
WHN Wuhan 9.73 314 P Pn 13 05 41.4 -1.2
WHN S Sn 13 07 28.3 -2.8
WHN LN
comp=E,9μm,9.3s
WHN LE
comp=E,9μm,8.2s
WHN LZ
comp=E,15μm,14.7s
TGY Tagaytay City 9.97 189 Pn Pn 13 05 48.4 +2.4
comp=E,34nm,0.3s,baz=328,slow=6.4,SNR=3.5
JNU Nakatsue 11.69 37 Pn Pn 13 06 12.4 +2.9
comp=E,0.4nm,0.3s,baz=238,slow=9.5,SNR=3.9
JNU Nakatsue 11.69 37 Pn Pn 13 06 06.0 -3.5
comp=E,27nm,1.1s
QIZ Qiongzhong 12.76 250 P Pn 13 06 24.9 +0.6
QIZ S Sn 13 08 47.5 +1.9
QIZ PMZ
comp=E,140nm,11.3s
QIZ LN
comp=E,2μm,18.8s
TIA Tai'an 13.01 340 *e*P Pn 13 06 28.3 +0.8
TIA PMZ
comp=E,20nm,1.1s
TIA PMZ
comp=E,500nm,6.8s
TIA LN
comp=E,5μm,13.0s
TIA LE
comp=E,3μm,11.0s
TIA LZ
comp=E,8μm,13.0s
TJN Taejon 13.02 18⇑*e*P Pn 13 06 30.1 +2.4
ENH Enshi 13.14 301 P Pn 13 06 30.1 +0.7
comp=E,22nm,0.8s
KSAR Wonju Array Be 14.16 18 P P 13 06 46.3 -4.3
KSAR Wonju Array Be 14.16 18 Pn P 13 06 46.3 -4.3

KSRS Korea Array 14.19 18 Pn Pn 13 06 46.3 +2.7
comp=E,3.2nm,0.3s,baz=201,slow=13,SNR=52
KSRS Korea Array 14.19 18 P Pn 13 06 46.3 +2.7
KSRS pmax pmax
comp=Z,3.0nm,0.3s
GYA Guiyang 14.52 283⇑*i*P Pn 13 06 48.9 +0.5
GYA pP P 13 06 54.3 -0.5
GYA PP PnPn 13 07 01.8 +5.4
GYA S Sn 13 09 26.3 -2.4
GYA sS S 13 09 39.0 -8.7
GYA SS SnSn 13 09 47.6 +6.4
GYA PMZ
comp=Z,70nm,0.9s
GYA PMZ
comp=Z,140nm,4.3s
GYA LN
comp=Z,2μm,10.5s
GYA LE
comp=Z,870nm,9.0s
GYA LZ
comp=Z,580nm,8.7s
DL2 Dalian 14.87 357 P P 13 06 56.3 -2.0
DL2 S S 13 09 45.8 -8.6
DL2 PMZ
comp=Z,48nm,1.8s
DL2 PMZ
comp=Z,270nm,3.6s
DL2 LN
comp=Z,1μm,15.3s
XAN Xi'an 15.49 313 P Pn 13 07 01.5 +0.3
XAN pP pP 13 07 11.4 -1.0
XAN sP sP 13 07 15.5 -0.2
XAN PMZ
comp=Z,370nm,1.2s
XAN PMZ
comp=Z,82nm,7.3s
XAN LN
comp=Z,4μm,18.4s
XAN LE
comp=Z,3μm,18.8s
XAN LZ
comp=Z,4μm,19.8s
TIY Taiyuan 16.14 330 *e*P P 13 07 12.3 -0.3
TIY pP pP 13 07 18.8 -0.8
TIY S Sn 13 10 07.8 0.0
TIY PMZ
comp=Z,130nm,1.3s
TIY PMZ
comp=Z,880nm,4.7s
TIY LN
comp=Z,4μm,6.2s
TIY LE
comp=Z,3μm,7.1s
TIY LZ
comp=Z,17μm,9.7s
CTBH Cotabato--PC H 16.78 174⇑*i*P P 13 07 20.4 +0.6
BJI Beijing 16.84 343 P P 13 07 20.4 +0.1
BJI S Sn 13 10 27.6 +2.9
BJI PMZ
comp=Z,38nm,1.5s
BJI PMZ
comp=Z,630nm,5.4s
BJI LN
comp=Z,960nm,21.7s
BJI LE
comp=Z,2μm,21.2s
BJI LZ
comp=Z,14μm,22.5s
SLVN Son La 17.35 265 P P 13 07 26.4 +0.3
comp=Z,26nm,1.3s
CD2 Chengdu 17.97 297 P P 13 07 32.9 0.0
CD2 pP pP 13 07 40.8 +0.9
CD2 sP sP 13 07 44.4 +1.2
CD2 PP PnPn 13 07 49.9 +6.3
CD2 S Sn 13 10 52.8 +0.5
CD2 SS SnSn 13 11 14.0 +8.0
CD2 PcP PcP 13 12 07.8 +0.5
CD2 PMZ
comp=Z,140nm,0.9s
CD2 PMZ
comp=Z,570nm,6.6s
CD2 LN
comp=Z,2μm,7.8s
CD2 LZ
comp=Z,2μm,6.6s
KMI Kunming 18.00 278 P P 13 07 34.1 +0.7
KMI pP pP 13 07 41.8 +1.4
KMI sP sP 13 07 45.9 +2.2
KMI PP PnPn 13 07 50.8 +6.7
KMI S Sn 13 10 52.6 -0.6
KMI SS SnSn 13 11 15.8 +9.0
KMI PMZ
comp=Z,23nm,1.2s
KMI PMZ
comp=Z,360nm,6.7s
KMI LN
comp=Z,2μm,9.9s
KMI LE
comp=Z,6μm,12.1s
KMI LZ
comp=Z,8μm,15.5s
UBPT Khong Chiam 18.21 245 P P 13 07 44.7 +9.1
comp=Z,34nm,1.1s
MAJO Matsushiro 18.42 44⇓*e*P P 13 07 37.1 -0.6
MAJO pmax pmax
comp=Z,30nm,1.7s
MAJO Matsushiro 18.42 44 P P 13 07 37.4 -0.3
comp=Z,5.0nm,0.8s
MJAR Matsushiro Arr 18.42 44 P P 13 07 36.1 -1.6
comp=Z,0.3nm,0.3s,baz=239,slow=11,SNR=7.5
HHC Hu-ho-hao-te 19.12 334 ⇑P Pn 13 07 47.8 +1.3
HHC sP sP 13 07 58.6 +2.7
HHC PP PnPn 13 08 04.5 +5.0
HHC S S 13 11 21.8 +0.9
HHC sS sS 13 11 25.9 -6.5
HHC SS SnSn 13 11 43.4 +8.9
HHC PMZ
comp=Z,68nm,1.4s
HHC PMZ
comp=Z,560nm,7.2s
HHC LN
comp=Z,4μm,12.3s
HHC LE
comp=Z,3μm,12.3s
HHC LZ
comp=Z,6μm,12.3s
BTO Baotou 19.58 331 *e*P Pn 13 07 51.4 -0.5
LZH Lanzhou 20.09 311 ⇑P Pn 13 07 58.1 0.0
LZH pP pP 13 08 05.1 +1.9
LZH sP sP 13 08 09.8 +3.2
LZH PP PnPn 13 08 18.0 +5.3
LZH SS SnSn 13 12 03.6 +5.5
LZH PMZ
comp=Z,170nm,1.2s
LZH PMZ
comp=Z,600nm,5.4s
LZH LN
comp=Z,2μm,11.7s
LZH LE
comp=Z,3μm,12.2s
LZH LZ
comp=Z,3μm,14.0s
VLA Vladivostok 20.58 20⇑*e*P Pn 13 08 02.6 -1.0
VLA pmax pmax
comp=Z,51nm,1.7s
LOEI Loei 20.86 256 P P 13 08 03.2 -1.3
comp=Z,34nm,1.2s
MDJ Mudanjiang 21.36 14 P P 13 08 11.9 +2.3
MDJ pP pP 13 08 17.6 +0.9
MDJ sP sP 13 08 20.0 -0.1
MDJ S S 13 12 05.3 -0.2
MDJ ScP ScP 13 15 49.8 +1.4
MDJ PcS PcS 13 15 52.0 +0.9
MDJ PMZ
comp=Z,10.0nm,1.0s
MDJ PMZ
comp=Z,170nm,5.5s
MDJ LN
comp=Z,40μm,18.5s
MDJ LE
comp=Z,13μm,17.0s
MDJ LZ
comp=Z,28μm,17.0s
MDJ Mudanjiang 21.36 14 *e*P P 13 08 07.4 -2.3
comp=Z,60nm,1.0s

PBKT Sadao Pong 21.48 254 P P 13 08 13.9 +2.8
comp=Z,72nm,1.1s,comp=Z,926nm
USRK Ussuriysk Ar. 21.59 19 P P 13 08 10.6 -1.5
comp=Z,10nm,0.8s,baz=204,slow=9.1,SNR=15
USRK PKPPKP P'P'df 13 43 37.5 -5.3
comp=Z,2.9nm,0.8s,baz=333,slow=2.6,SNR=5.2
CMMT Chiang Mai 22.50 261 P P 13 08 24.5 +2.3
comp=Z,34nm,1.3s,comp=Z,582nm
CHTO Chiang Mai 22.51 261 P P 13 08 24.6 +2.4
comp=Z,134nm,0.8s,comp=Z,2μm
CHTO Chiang Mai 22.51 261 *e*P P 13 08 22.9 +0.7
CHTO pmax pmax
comp=Z,22nm,1.0s
CHTO Chiang Mai 22.51 261 *e*P P 13 08 22.9 +0.7
comp=Z,22nm,1.0s
CMAR Chiang Mai Arr 22.61 260 P P 13 08 24.5 +1.1
comp=Z,5.7nm,0.9s,baz=60,slow=8.7,SNR=36
CMAR PcP PcP 13 12 17.2 +1.2
comp=Z,1.9nm,0.8s,baz=20,slow=1.6,SNR=7.1
TNTI Ternate 23.58 168 *e*P P 13 08 34.4 +1.2
comp=Z,283nm,0.9s
GTA Gaotai 24.55 314 P P 13 08 42.3 +0.1
GTA pP pP 13 08 47.5 -2.3
GTA sP sP 13 08 51.1 -1.9
GTA S S 13 13 02.3 +0.7
GTA sS sS 13 13 10.8 -3.3
GTA PMZ
comp=Z,34nm,0.9s
GTA PMZ
comp=Z,410nm,5.2s
GTA LN
comp=Z,3μm,14.7s
GTA LE
comp=Z,3μm,12.6s
GTA LZ
comp=Z,7μm,12.1s
ERM Erimo 24.85 39*c e*P P 13 08 41.5 -3.2
HIA Hailar 25.30 356 *e*P P 13 08 45.0 -3.7
HIA pmax pmax
comp=Z,66nm,1.3s
HIA Hailar 25.30 356 *e*P P 13 08 45.0 -3.7
comp=Z,66nm,1.3s
ASAJ Asahikawa 25.95 34 P P 13 08 51.9 -2.8
comp=Z,3.8nm,0.4s,baz=239,slow=11,SNR=24
KLR Kul'dur 26.20 14 *e*P P 13 08 54.6 -2.3
HABR Khabarovsk 26.36 19 *e*P P 13 08 55.9 -2.4
HABR *e**PP **pP** 13 09 05.4 -0.5
HABR *e**SP **sP** 13 09 09.8 +0.7
HABR *e* 13 09 36.2
HABR *e*PPP PPP 13 09 44.8
HABR *e* 13 12 20.8
HABR *e*S S 13 13 27.8 -2.0
HABR pmax pmax
comp=Z,27nm,1.9s
SONM Songino Array 27.00 336 P P 13 09 03.2 -1.0
comp=Z,70nm,1.0s,baz=153,slow=9.1,SNR=148
SONM PcP PcP 13 12 26.5 +1.1
comp=Z,2.6nm,0.8s,baz=178,slow=3.0,SNR=4.2
YSS Yuzh-Sakhalins 28.06 30 *e*P P 13 09 13.5 -0.1
YSS Yuzh-Sakhalins 28.06 30 *e*P P 13 09 14.3 +0.7
comp=Z,58nm,1.0s
LSA Lhasa 28.47 288 *e*P P 13 09 19.1 +1.1
LSA pmax pmax
comp=Z,23nm,0.7s
LSA Lhasa 28.47 288 *e*P P 13 09 19.1 +1.1
comp=Z,23nm,0.7s
ZAK Zakamensk 30.26 335⇑*i*P P 13 09 31.5 -1.7
ZAK pmax pmax
comp=Z,9.0nm,1.2s
TLY Talaya 31.18 337 P P 13 09 40.2 -1.1
comp=Z,18nm,0.8s,baz=168,slow=8.6,SNR=11
TLY Talaya 31.18 337*c i*P P 13 09 40.1 -1.1
TLY *e* 13 09 54.2
TLY pmax pmax
comp=Z,29nm,1.1s
TLY Talaya 31.18 337 *e*P P 13 09 40.0 -1.2
comp=Z,4.4nm,0.6s
IRK Irkutsk 31.43 338 *e*P P 13 09 41.4 -2.0
IRK pmax pmax
comp=Z,42nm,1.6s
TAPN Taplejung 31.45 284 *e*P P 13 09 45.5 +1.2
comp=Z,75nm,0.9s
ODAN Odare 31.76 283 *e*P P 13 09 47.6 +0.7
comp=Z,80nm,1.0s
MOY Mondy 32.16 335 *e*P P 13 09 49.3 -0.7
MOY pmax pmax
comp=Z,35nm,2.5s
RAMN Ramite 32.46 283 *e*P P 13 09 53.8 +0.8
comp=Z,90nm,1.1s
GUN Gumba 33.06 285 *e*P P 13 09 58.9 +0.5
comp=Z,109nm,1.2s
PKI Pulchoki 33.49 284 *e*P P 13 10 02.2 +0.1
comp=Z,23nm,1.0s
PKIN Phulchoki 33.50 284 *e*P P 13 10 02.2 0.0
comp=Z,24nm,0.9s
KKN Kakani 33.59 285 *e*P P 13 10 02.9 0.0
comp=Z,45nm,0.9s
DMN Daman 33.76 284 *e*P P 13 10 04.7 +0.3
comp=Z,42nm,0.9s
GKN Gorkha 34.16 285 *e*P P 13 10 07.8 +0.1
comp=Z,65nm,1.0s
BOD Bodaibo 34.32 352 *e*P P 13 10 05.2 -3.4
WMQ Urumqi 34.63 313 P P 13 10 12.4 +0.8
WMQ pP pP 13 10 19.4 +0.1
WMQ sP sP 13 10 22.1 -0.3
WMQ PcP PcP 13 12 46.8 +1.3
WMQ PMZ
comp=Z,49nm,0.8s
WMQ PMZ
comp=Z,20nm,4.0s
DANN Dangsing 34.92 286 *e*P P 13 10 14.7 +0.2
HVS Khovu-Aksy 34.99 328⇓*i*P P 13 10 13.9 -0.7
KOLN Koldanda 35.08 285 *e*P P 13 10 16.1 +0.3
comp=Z,33nm,0.8s
YAK Yakutsk 38.32 5 P P 13 10 39.9 -2.6
comp=Z,1.3nm,0.4s,baz=3,slow=21,SNR=6.0
YAK Yakutsk 38.32 5 *e*P P 13 10 39.6 -3.0
YAK pmax pmax
comp=Z,34nm,0.9s
YAK pmax pmax
comp=N,20nm,1.2s
YAK Yakutsk 38.32 5 *e*P P 13 10 40.0 -2.6
comp=N,37nm,1.0s
KRAR Krasnoyarsk 38.62 334⇑*i*P P 13 10 41.0 -4.2
KRAR pmax pmax
comp=Z,35nm,0.7s
MK31 Makanchi Array 39.29 316 *i* P P 13 10 50.7 -0.3
MK31 pmax pmax
comp=Z,159nm,1.2s
MK31 Makanchi Array 39.29 316 *e*P P 13 10 50.8 -0.3
MKAR Makanchi Array 39.29 316 P P 13 10 50.7 -0.4
comp=Z,72nm,0.9s,baz=112,slow=9.3,SNR=298
MKAR PcP PcP 13 12 59.7 +0.2
comp=Z,5.3nm,0.8s,baz=113,slow=3.6,SNR=4.9
MKAR Makanchi Array 39.29 316 *i* P P 13 10 50.9 -0.2
MKAR pmax pmax
comp=Z,72nm,0.9s
PDGK Podgornoye 40.12 309 P P 13 10 58.4 +0.5
PDGK pmax pmax
comp=Z,191nm,0.8s
ZAA0 Zalesovo Array 41.04 327 *e*P P 13 11 03.7 -1.7
ZALV Zalesovo Beam 41.04 327 P P 13 11 03.9 -1.5
comp=Z,72nm,0.8s,baz=116,slow=7.7,SNR=253
ZALV PcP PcP 13 13 04.2 -0.7
comp=Z,4.1nm,0.7s,baz=114,slow=5.0,SNR=3.9
KSH Kashi 41.99 303⇑*i*P P 13 11 17.3 +3.7
KSH pP pP 13 11 25.5 +4.1
KSH PP PnPn 13 12 59.0 +2.9
KSH PcP PcP 13 13 12.0 +3.5
KSH S S 13 17 36.1 +5.1
KSH sS sS 13 17 48.1 +4.2
KSH SS SS 13 20 39.1 +0.8
KSH PMZ
comp=Z,140nm,1.1s
KSH PMZ
comp=Z,230nm,4.0s
KSH LN
comp=Z,4μm,8.3s
KSH LE
comp=Z,3μm,9.1s
KSH LZ
comp=Z,6μm,9.6s
ULHL Ulahol 42.21 307 P P 13 11 16.6 +1.1
SNR=42
NVS Novosibirsk 42.29 327⇑*i*P P 13 11 13.8 -1.8
NVS *i* 13 12 53.5

NVS pmax pmax
comp=N,9.0nm,0.6s
NVS pmax pmax
comp=Z,24nm,0.6s
NVS pmax pmax
comp=E,18nm,0.8s
TKM2 Tokmak 2 42.80 308 P **P** 13 11 21.5 +1.2
SNR=86
TKM2 Tokmak 2 42.80 308 P **P** 13 11 20.9 +0.6
TKM2 pmax pmax
comp=Z,134nm,1.0s
TKM2 Tokmak 2 42.80 308 *eP* **P** 13 11 21.3 +1.0
comp=Z,128nm,0.9s
KZA Kyzart 42.91 307 P **P** 13 11 23.1 +1.7
SNR=20
KURK Kurchatov 42.99 320 P **P** 13 11 20.7 -0.7
comp=Z,488nm,1.1s,SNR=65
KURK Kurchatov 42.99 320 *eP* **P** 13 11 20.2 -1.2
KURK pmax pmax
comp=Z,92nm,1.0s
KURK Kurchatov 42.99 320 *eP* **P** 13 11 20.2 -1.2
comp=Z,92nm,1.0s
KBK Karagaybulak 43.23 307 P **P** 13 11 25.1 +1.4
SNR=23
CHMS Chumysh 43.43 308 P **P** 13 11 26.0 +0.9
SNR=29
UCH Uchtor 43.47 307 P **P** 13 11 27.7 +1.7
SNR=149
FRU Bishkek 43.50 308 *i* P **P** 13 11 26.0 +0.3
FRU pmax pmax
comp=Z,120nm,1.8s
AAK Ala-Archa 43.55 307 P **P** 13 11 27.4 +1.1
SNR=12
AAK Ala-Archa 43.55 307 P **P** 13 11 26.5 +0.2
AAK pmax pmax
comp=Z,42nm,1.0s
SEY Seymchan 43.74 19 P **P** 13 11 26.5 -0.8
comp=Z,1.9nm,0.9s,baz=246,slow=23,SNR=5.4
SEY Seymchan 43.74 19⇑ *eP* **P** 13 11 26.8 -0.4
SFK Sufi-Kurgan 43.94 303 P **P** 13 11 30.4 +0.9
SFK pmax pmax
comp=Z,77nm,0.9s
AML Almayashu 44.06 306 P **P** 13 11 32.4 +1.7
SNR=6.1
EKS2 Erkin-Say 44.08 307 P **P** 13 11 31.3 +0.8
SNR=26
WRAB Tennant Creek 45.19 164⇑ *eP* **P** 13 11 37.8 -1.5
KK31 Karatay Array 46.52 307 *eP* **P** 13 11 49.7 0.0
KK31 pmax pmax
comp=Z,13nm,0.5s
KKAR Karatay Array 46.52 307 *eP* **P** 13 11 50.0 +0.3
KKAR pmax pmax
comp=Z,51nm,0.9s
KKAR Karatay Array 46.52 307 *eP* **P** 13 11 50.0 +0.3
comp=Z,51nm,0.9s
KBL Kabul 47.31 296 *eP* **P** 13 11 56.4 +0.2
KBL pmax pmax
comp=Z,124nm,1.3s
KBL Kabul 47.31 296 *eP* **P** 13 11 56.4 +0.2
comp=Z,124nm,1.3s
DZET Dzherino 47.47 301 P **P** 13 11 57.7 +0.4
DZET pmax pmax
comp=Z,121nm,0.9s
BRVK Borovoye 48.63 321 P **P** 13 12 05.0 -0.9
comp=Z,330nm,1.0s,SNR=14
BRVK Borovoye 48.63 321*c i* P **P** 13 12 04.6 -1.3
BRVK pmax pmax
comp=Z,50nm,1.0s
BRVK pmax pmax
comp=Z,55nm,0.8s
BRVK Borovoye 48.63 321 *eP* **P** 13 12 04.5 -1.3
comp=Z,53nm,0.9s
AB31 Akbulak array 54.41 314 *i* P **P** 13 12 48.7 -0.5
AB31 pmax pmax
comp=Z,20nm,0.5s
ABKAR Akbulak array 54.41 314 *eP* **P** 13 12 48.6 -0.5
comp=Z,35nm,0.7s
SVE Sverdlovsk 54.88 324 *eP* **P** 13 12 52.0 -0.5
SVE pmax pmax
comp=Z,36nm,1.1s
AKTO Aktyubinsk 55.73 316 P **P** 13 12 57.9 -0.8
AKTO pmax pmax
comp=Z,21nm,1.7s
ABKT Ailbek 55.91 301 P **P** 13 13 01.6 +1.3
comp=Z,608nm,0.8s,SNR=25
GEYT Alibeck 55.91 301 P **P** 13 13 01.6 +1.3
comp=Z,63nm,0.8s,baz=53,slow=5.6,SNR=110
ARU Arti 55.96 323*c i* P **P** 13 12 58.8 -1.4
ARU 13 14 58.7
ARU S **S** 13 20 46.8 +0.2
ARU SS SS 13 24 23.1 -9.2
ARU pmax pmax
comp=Z,32nm,1.0s
ARU Arti 55.96 323 P **P** 13 12 59.5 -0.7
comp=Z,216nm,1.1s,SNR=13
ARU Arti 55.96 323 *eP* **P** 13 12 58.5 -1.7
comp=Z,30nm,0.8s
SOKR Solikamsk 57.33 327 *eP* **P** 13 13 08.8 -1.0
SOKR pmax pmax
comp=Z,10.0nm,1.0s
PRGR Permogore 62.95 329 *eP* **P** 13 13 46.2 -2.1
PRGR *PP **pP** 13 13 56.2 -0.3
PRGR 13 14 23.0
PRGR pmax pmax
comp=Z,29nm,0.8s
DGRG David-gareji 65.15 306 P **P** 13 14 04.4 +1.1
TBLG Delisi 65.57 307 P **P** 13 14 05.9 -0.1
TBLG Delisi 65.57 307 P **P** 13 14 05.8 -0.1
GOF Gofitskoye 66.16 310 *eP* **P** 13 14 07.4 -2.3
GOF pmax pmax
comp=Z,57nm,1.0s
TMCR Tamitsa 66.27 332 *eP* **P** 13 14 09.7 -0.3
TMCR pmax pmax
comp=Z,32nm,0.5s
ONI Oni 66.34 308 P **P** 13 14 12.1 +1.1
KBZ Khabaz 66.51 309 P **P** 13 14 12.3 +0.3
comp=Z,34nm,0.9s,baz=95,slow=4.8,SNR=48
AKH Akhalkalaki 66.55 306 P **P** 13 14 13.9 +1.4
AKH Akhalkalaki 66.55 306⇓ *iP* **P** 13 14 13.9 +1.4
KIV Kislovodsk 66.62 309*c iP* **P** 13 14 12.9 +0.2
KIV pmax pmax
comp=Z,92nm,1.0s
KIV Kislovodsk 66.62 309 P **P** 13 14 13.3 +0.5
comp=Z,410nm,0.8s,SNR=12
KIV Kislovodsk 66.62 309 *eP* **P** 13 14 13.0 +0.2
comp=Z,103nm,1.1s
LVZ Lovozero 67.19 336⇓ *eP* **P** 13 14 14.5 -1.4
LVZ pmax pmax
comp=Z,25nm,1.7s
HAKT HAKKARI 67.23 302 *i* P **P** 13 14 17.3 +0.4
CHVG Ch'k'valeri 67.30 308⇓ *iP* **P** 13 14 19.0 +2.0
KDAK Kodiak Island 67.36 35 *i* P P 13 14 22.7 +5.7
LPSR Galich'ya Gora 67.46 319 *eP* **P** 13 14 16.8 -1.0
LPSR pmax pmax
comp=N,3.0nm,1.0s
LPSR pmax pmax
comp=E,10.0nm,1.0s
LPSR pmax pmax
comp=Z,20nm,1.0s
VSR Storozhevoye 67.57 317 *eP* **P** 13 14 17.8 -0.7
VSR *ePPP PPP 13 18 24.6
VSR pmax pmax
comp=N,10.0nm,1.2s
VSR pmax pmax
comp=E,30nm,1.2s
VSR pmax pmax
comp=Z,30nm,1.2s
TRF Thorofare Moun 67.58 29 *eP* **P** 13 14 18.3 -0.4
comp=Z,15nm,0.3s
APA Apatity 67.71 335⇑ *iP* **P** 13 14 18.5 -0.6
APA *i* 13 14 43.5
APA pmax pmax
comp=Z,32nm,1.2s
MCK McKinley 68.13 29 P **P** 13 14 23.4 +1.5
MCK pmax pmax
comp=Z,6.0nm,0.7s
MCK McKinley 68.13 29 P **P** 13 14 23.4 +1.5
comp=Z,6.3nm,0.7s
OBN Obninsk 68.37 322⇓ *iP* **P** 13 14 22.2 -1.2
OBN *e* 13 14 45.9
OBN pmax pmax
comp=Z,11nm,1.2s
COLA College 68.39 27⇓ *eP* **P** 13 14 22.7 -0.8
COLA pmax pmax
comp=Z,33nm,2.5s
PMR Palmer 68.42 31 *eP* **P** 13 14 23.1 -0.6
PMR pmax pmax
comp=Z,5.0nm,0.6s
PMR Palmer 68.42 31 *eP* **P** 13 14 23.1 -0.6
comp=Z,4.8nm,0.6s
SOC Sochi 68.80 309 *eP* **P** 13 14 25.6 -0.8
SOC *e*PP **pP** 13 14 31.1 -3.5
SOC *e*SP **sP** 13 14 36.9 -0.7
SOC pmax pmax
comp=Z,67nm,1.0s
RAYN Ar Rayn 69.53 287 P **P** 13 14 31.5 +0.1
comp=Z,125nm,1.0s,SNR=9.0
MARD Mardin 69.55 303 *i* P **P** 13 14 31.5 +0.2
KEV Kevo 69.58 338 *eP* **P** 13 14 29.2 -1.5
KEV pmax pmax
comp=Z,15nm,0.9s
KEV Kevo 69.58 338 *eP* **P** 13 14 29.1 -1.5
comp=Z,15nm,0.9s
KELT Kelkit 69.97 306 *i* P **P** 13 14 33.7 -0.3
ANN Anapa 70.10 311 *eP* **P** 13 14 33.8 -0.6
ANN pmax pmax
comp=Z,96nm,1.1s
DIV Divide 70.11 31 P **P** 13 14 32.5 -1.8
comp=Z,10nm,0.9s
ARCES ARCESS Array B 70.14 338 P **P** 13 14 33.0 -1.2
comp=Z,4.8nm,0.9s,baz=62,slow=7.6,SNR=14
ARCES ARCESS Array B 70.14 338 P **P** 13 14 33.0 -1.2
ARCES pmax pmax
comp=Z,5.0nm,0.9s
MENT Mentasta 70.60 29 *eP* **P** 13 14 37.1 -0.1
KEMA Kemaliye 70.77 305 *i* P **P** 13 14 38.9 +0.1
MALT Malatya 71.08 304⇓ *iP* **P** 13 14 42.5 +1.9
EGAK Eagle 71.20 27 *eP* **P** 13 14 40.1 -0.7
comp=Z,4.9nm,0.8s
DAWY Dawson 72.14 27 *eP* **P** 13 14 45.6 -0.9
FIA1 FINESS Array S 72.19 330 *eP* **P** 13 14 45.2 -1.6
FINES FINESS Array B 72.19 330 P **P** 13 14 45.8 -0.9
comp=Z,13nm,0.8s,baz=91,slow=7.6,SNR=28
FINES FINESS Array B 72.19 330 *i* P **P** 13 14 46.5 -0.2
FINES pmax pmax
comp=Z,13nm,0.9s
SIM Simferopol' 72.34 312*ce* P **P** 13 14 47.4 -0.6
SIM pmax pmax
comp=Z,35nm,0.9s
VSU Vasula 72.78 327*c iP* **P** 13 14 49.3 -1.0
VSU pmax pmax
comp=Z,86nm,1.2s
INK Inuvik 72.94 22 P **P** 13 14 50.4 -0.7
comp=Z,6.4nm,0.9s,baz=314,slow=6.0,SNR=10.0
INK Inuvik 72.94 22 *eP* **P** 13 14 49.2 -1.9
INK pmax pmax
comp=Z,7.0nm,0.9s
INK Inuvik 72.94 22 *eP* **P** 13 14 49.2 -1.9
comp=Z,7.1nm,0.9s
AKASG Malin Array Be 73.78 319 P **P** 13 14 54.7 -1.7
comp=Z,3.2nm,0.3s,baz=59,slow=5.8,SNR=14
AKBB Malin Array Si 73.78 319 *eP* **P** 13 14 54.8 -1.6
AKBB Malin Array Si 73.78 319 *eP* **P** 13 14 54.8 -1.6
AK01 Malin Array Si 73.80 319 P **P** 13 14 54.9 -1.5
KIEV Kiev 73.80 319 *eP* **P** 13 14 54.9 -1.6
KIEV pmax pmax
comp=Z,18nm,1.3s
KIEV Kiev 73.80 319 *eP* **P** 13 14 54.9 -1.6
comp=Z,18nm,1.3s
AK02 Malin Array Si 73.81 319 *eP* **P** 13 14 55.4 -1.2
BR131 Keskin Array S 74.23 307 *eP* **P** 13 14 59.1 -0.3
comp=Z,55nm,1.0s
BRTR Keskin Array B 74.23 307 P **P** 13 14 59.4 -0.1
comp=Z,53nm,1.0s,baz=111,slow=5.3,SNR=121
BRTR Keskin Array B 74.23 307 *i* P **P** 13 14 59.7 +0.3
BRTR pmax pmax
comp=Z,53nm,1.0s
AIS Amsterdam Isla 74.57 215 P **P** 13 15 00.0 -1.0
AIS S **S** 13 24 38.0 +3.1
AIS SS **SS** 13 29 20.0 -2.7
AIS L L 13 32 00.0
AIS R 13 39 00.0
SKAG Skagway 75.56 31 *eP* **P** 13 15 06.6 +0.1
comp=Z,12nm,0.9s
TLCR 75.83 313⇓ *iP* **P** 13 15 08.3 -0.1
CSS Prodhromos 76.00 302 P **P** 13 15 09.8 +0.2
CSS Prodhromos 76.00 302 *eP* **P** 13 15 09.3 -0.3
comp=Z,17nm,0.8s
MAMC Mammari 76.02 302 P **P** 13 15 09.8 +0.2
SUW Suwalki 76.15 323 *eP* **P** 13 15 09.6 -0.4
SUW Suwalki 76.15 323 *eP* **P** 13 15 09.6 -0.4
CFR Carcaliu 76.29 313⇓ *iP* **P** 13 15 10.6 -0.3
TIRR Tirgusor 76.35 313 *eP* **P** 13 15 10.8 -0.5
TIRR pmax pmax
comp=Z,3.0nm,0.7s
TIRR Tirgusor 76.35 313⇓ *iP* **P** 13 15 11.4 +0.1
TIRR Tirgusor 76.35 313 *eP* **P** 13 15 10.8 -0.5
comp=Z,3.2nm,0.7s
SZAC Souni-Zanaja 76.42 302 P **P** 13 15 12.2 +0.3
HARR Harsova 76.59 313⇑ *iP* **P** 13 15 13.1 +0.4
AKMC Akamas 76.75 303 P **P** 13 15 13.5 -0.3
TESR Tescani 76.79 315⇓ *iP* **P** 13 15 13.8 0.0
MSAB Monastry St. A 76.88 312⇓ *iP* **P** 13 15 14.7 +0.4
VRI Vrincioaia 76.97 314⇓ *iP* **P** 13 15 15.3 +0.4
PLOR Plostina 77.03 314⇓ *iP* **P** 13 15 15.7 +0.5
BUR08 Bucovina Ar. S 77.31 317 *eP* **P** 13 15 16.5 -0.3
BURAR Bucovina Array 77.31 317⇓ *iP* **P** 13 15 16.9 +0.1
PRD Provadia 77.48 312⇓ *iP* **P** 13 15 18.0 +0.3
MLR Muntele Rosu 77.62 314⇑ *iP* **P** 13 15 19.1 +0.4
ARCR ARCALIA 78.05 316⇑ *iP* **P** 13 15 21.8 +1.0
KWP Kalwaria Pacla 78.08 319 *eP* **P** 13 15 20.9 -0.1
KWP Kalwaria Pacla 78.08 319 *eP* **P** 13 15 20.9 -0.1
VOIR 78.23 315⇑ *iP* **P** 13 15 22.9 +0.9
WRAK Wrangell Islan 78.26 33 P **P** 13 15 21.4 -0.4
comp=Z,5.0nm,0.5s
JMB Yambol 78.31 311⇑ *iP* **P** 13 15 22.1 -0.2
BEL Belsk 78.33 322 *eP* **P** 13 15 22.3 +0.1
BEL Belsk 78.33 322 *eP* **P** 13 15 22.4 +0.2
DLBC Dease Lake 78.49 31 P **P** 13 15 23.2 +0.1
comp=Z,4.8nm,1.0s,baz=300,slow=7.5,SNR=8.8
ARR Arges 78.52 315⇓ *iP* **P** 13 15 24.1 +0.5
HUMR Humele 78.62 314⇑ *iP* **P** 13 15 23.8 -0.2
KOLS Kolonicke sedl 78.62 319 *eP* **P** 13 15 23.3 -0.7
KOLS pmax pmax
comp=Z,4.0nm,1.3s
KOLS Kolonicke sedl 78.62 319 *eP* **P** 13 15 23.2 -0.8
KOLS *ePCP **PcP** 13 15 33.9 +1.0
RES Resolute Bay 78.64 9 P **P** 13 15 23.3 -0.2
comp=Z,6.3nm,1.2s,baz=360,slow=6.3,SNR=3.4
CJR Cluj-Napoca 78.67 316⇑ *iP* **P** 13 15 25.4 +1.1
NB2 NORSAR Subarra 78.93 332 P **P** 13 15 24.5 -1.0
comp=Z,13nm,0.9s,baz=60,slow=5.6
NOA NORSAR Array B 78.93 332 P **P** 13 15 24.0 -1.5
comp=Z,9.2nm,0.9s,baz=59,slow=5.7,SNR=18
NOA PP **PP** 13 18 25.5 +1.7
comp=Z,1.9nm,0.8s,baz=63,slow=7.9,SNR=4.4
LOT Lotru 79.05 315⇑ *iP* **P** 13 15 27.2 +0.6
DRGR 79.20 316⇑ *iP* **P** 13 15 27.1 -0.2
KDZ Kurdzhali 79.42 311⇑ *iP* **P** 13 15 28.1 -0.4
DEV Deva 79.44 316⇑ *iP* **P** 13 15 29.3 +0.8
RDO Rodhopi 79.53 310 *eP* **P** 13 15 28.4 -0.7
OJC Ojcow 79.56 320 *eP* **P** 13 15 28.6 -0.5
OJC Ojcow 79.56 320 *eP* **P** 13 15 28.6 -0.5
NIE Niedzica 79.60 320 *eP* **P** 13 15 29.5 +0.2
NIE Niedzica 79.60 320 *eP* **P** 13 15 29.5 +0.2
PRK Paraskevi 79.74 308 *eP* **P** 13 15 28.4 -1.8
KECS Kecovo 79.89 319 *eP* **P** 13 15 30.9 0.0
KECS pmax pmax
comp=Z,14nm,1.9s
KECS Kecovo 79.89 319 *eP* **P** 13 15 30.9 0.0
KECS *ePP **PP** 13 18 29.3 -2.8
PSZ Piszkesteto 80.48 318 *eP* **P** 13 15 34.1 -0.1
PSZ pmax pmax
comp=Z,14nm,1.3s
PSZ Piszkesteto 80.48 318⇓ *iP* **P** 13 15 34.6 +0.4
PSZ Piszkesteto 80.48 318 *eP* **P** 13 15 34.1 -0.1
comp=Z,14nm,1.3s
PSZ Piszkesteto 80.48 318 *e* **P** 13 15 34.1 -0.1
MMB Musomiste 80.61 311⇑ *iP* **P** 13 15 35.3 +0.3
OKC Ostrava-Krasne 80.69 321 *eP* **P** 13 15 35.0 -0.2
OKC *e*PP **pP** 13 15 44.0 +0.5
OKC Ostrava-Krasne 80.69 321 *eP* **P** 13 15 35.0 -0.2
OKC *e* 13 15 44.0
VYHS Vyhne 80.87 319 *eP* **P** 13 15 36.0 -0.2
VYHS pmax pmax
comp=Z,11nm,1.1s
VYHS Vyhne 80.87 319 *eP* **P** 13 15 36.0 -0.2
VYHS *ePCP **PcP** 13 15 41.4 -1.3
VYHS *ePP **PP** 13 18 39.0 -1.3
SRS Serrai 80.89 311 *eP* **P** 13 15 35.2 -1.3
MORC Moravsky Berou 81.07 321 *eP* **P** 13 15 36.4 -0.9
MORC pmax pmax
comp=Z,43nm,1.3s
MORC Moravsky Berou 81.07 321⇓ *iP* **P** 13 15 37.0 -0.3
MORC Moravsky Berou 81.07 321 *eP* **P** 13 15 36.4 -0.9
comp=Z,43nm,1.3s
PLG Polygyros 81.30 310 *eP* **P** 13 15 37.6 -1.0
KSP Ksiaz 81.30 322 *eP* **P** 13 15 38.3 -0.1
KSP Ksiaz 81.30 322 *eP* **P** 13 15 38.4 0.0
KNT Kendrikon 81.35 311 *eP* **P** 13 15 37.7 -1.2
KRLC Kraliky 81.37 321 *eP* **P** 13 15 38.6 -0.3
KRLC *esP **sP** 13 15 50.9 +0.7
KRLC Kraliky 81.37 321 *eP* **P** 13 15 38.6 -0.3
KRLC *e* 13 15 50.9
DPC Dobruska-Polom 81.51 322 *eP* **P** 13 15 39.3 -0.3
DPC *epP **pP** 13 15 48.2 +0.3
DPC Dobruska-Polom 81.51 322 *eP* **P** 13 15 39.3 -0.3
DPC *e* 13 15 48.2
UPC Upice 81.61 322 *eP* **P** 13 15 39.5 -0.6
UPC *epP **pP** 13 15 49.0 +0.6
UPC Upice 81.61 322 *eP* **P** 13 15 39.5 -0.6
UPC *e* 13 15 49.0
NPS Neapolis 81.78 305 *eP* **P** 13 15 40.8 -0.5
VRAC Vranov 81.83 321⇓ *iP* **P** 13 15 42.0 +0.7
PKSM Moragy 82.00 317⇑ *iP* **P** 13 15 42.7 +0.6
PKSM Moragy 82.00 317 *e* **P** 13 15 41.6 -0.5
DIVS Divibare 82.06 315⇑ *iP* **P** 13 15 41.9 -0.8
LIT Litokhoron 82.07 310 *eP* **P** 13 15 40.3 -2.4
TREC Trest 82.48 321 *eP* **P** 13 15 44.2 -0.5
TREC Trest 82.48 321 *eP* **P** 13 15 44.2 -0.5
GOPC GO Pecny, Ondr 82.59 322 *eP* **P** 13 15 44.6 -0.6
GOPC *epP **pP** 13 15 55.1 +1.5
BRG Berggiesshubel 82.60 323 *eP* **P** 13 15 45.4 +0.2
comp=Z,4.9nm,1.6s
BRG Berggiesshubel 82.60 323 *eP* **P** 13 15 44.4 -0.8
comp=Z,13nm,1.5s
BRG Berggiesshubel 82.60 323 *eP* **P** 13 15 45.4 +0.2
BRG pmax pmax
comp=Z,5.0nm,1.6s
AGG Agios Georgios 82.64 309 *eP* **P** 13 15 43.4 -2.3
YKA Yellowknife Ar 82.66 23 P **P** 13 15 44.3 -1.0
comp=Z,2.6nm,0.7s,baz=310,slow=5.2,SNR=6.9
YKA Yellowknife Ar 82.66 23 P **P** 13 15 44.3 -1.0
YKA pmax pmax
comp=Z,3.0nm,0.7s
PRU Pruhonice 82.69 322 *eP* **P** 13 15 45.2 -0.5
PRU Pruhonice 82.69 322 *eP* **P** 13 15 45.2 -0.5
PRA Prague 82.71 322 *eP* **P** 13 15 45.2 -0.6
PRA Prague 82.71 322 *eP* **P** 13 15 45.2 -0.6
DESF Desfina 82.75 309 *eP* P 13 15 42.1 -4.2
DSF Desfina 82.75 309 *eP* P 13 15 42.3 -4.1
VAM Vamos 82.78 305 *eP* **P** 13 15 46.3 -0.2
MAKR Makrakomi, Fth 82.78 309 *eP* **P** 13 15 44.7 -1.8
CLL Collm 82.90 323 *eP* **P** 13 15 45.7 -1.1
comp=Z,8.0nm,0.9s
CLL Collm 82.90 323 *eP* **P** 13 15 44.0 -2.8
CLL pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 82.90 323 *i* P **P** 13 15 46.4 -0.4
comp=Z,8.0nm,0.9s
CLL *e* 13 16 11.0
CLL *ePP **PP** 13 18 56.0 -0.8
CONA Conrad Observa 82.90 320⇑ *iP* **P** 13 15 45.7 -1.3
comp=Z,16nm,1.6s,SNR=6.9
NEST Nestoria 82.94 311 *eP* **P** 13 15 45.6 -1.8
BSEG Bad Segeberg 82.97 327 *eP* **P** 13 15 46.3 -0.8
comp=Z,20nm,1.4s
VLI Velíai 83.16 307 *eP* P 13 15 44.9 -3.5
KLV Kalavryta, Ach 83.18 309 *eP* **P** 13 15 46.3 -2.3
EFP Efpalio 83.19 309 *eP* P 13 15 45.3 -3.2
LAKA Lakka 83.22 309 *eP* P 13 15 40.5 -8.2
VLX Vlachokerasia 83.30 308 *eP* **P** 13 15 48.9 -0.3
DSL Palaion Diasel 83.46 310 *eP* **P** 13 15 48.5 -1.5
DRO Drossia 83.53 309 *eP* **P** 13 15 48.9 -1.4
PDO Prodromos 83.63 309 *eP* **P** 13 15 49.2 -1.6
TANN Tannenbergstha 83.64 323 *eP* **P** 13 15 50.4 -0.3
comp=Z,7.0nm,1.2s
KHC Kasperske Hory 83.66 321 *eP* **P** 13 15 50.5 -0.3
KHC Kasperske Hory 83.66 321 *eP* **P** 13 15 50.5 -0.3
ITM Ithomi 83.70 308 *eP* **P** 13 15 49.7 -1.5
AMT Artemida-Makis 83.71 308 *eP* **P** 13 15 48.8 -2.5
GEC2 GERESS Array S 83.73 321 *eP* **P** 13 15 50.5 -0.7
comp=Z,17nm,1.1s
GERES GERESS Array B 83.73 321 P **P** 13 15 50.6 -0.7
comp=Z,6.9nm,0.9s,baz=57,slow=4.9,SNR=45
NKC Novy Kostel 83.74 323 *eP* **P** 13 15 50.7 -0.5
NKC *epP **pP** 13 15 59.7 +0.1
NKC Novy Kostel 83.74 323 *eP* **P** 13 15 50.7 -0.5
NKC *e* 13 15 59.7
IGT Igoumenitsa 83.82 310 *eP* **P** 13 15 49.9 -1.9
SGD Sagiada 83.85 311 *eP* **P** 13 15 50.2 -1.7
MOA Molln 83.88 320⇑ *iP* **P** 13 15 51.6 -0.3
comp=Z,12nm,0.8s
MOX Moxa 83.99 323 *eP* **P** 13 15 51.9 -0.5
comp=Z,88nm,2.8s
SOKA Soboth 83.99 319⇓ *iP* **P** 13 15 51.2 -1.4
comp=Z,14nm,1.1s
CLZ Clausthal 84.04 325 *eP* **P** 13 15 52.0 -0.7
comp=Z,20nm,1.3s
WET Wettzell 84.05 322 *eP* **P** 13 15 52.0 -0.8
comp=Z,18nm,1.5s
EXG Exogi 84.08 309 *eP* **P** 13 15 50.3 -2.8
ROTZ Rotzenmuhle 84.11 322 *eP* **P** 13 15 52.9 -0.2
comp=Z,14nm,1.1s
VLS Valsamata 84.23 309 *eP* **P** 13 15 52.4 -1.5
ZKS Zakynthos 84.30 309 *eP* **P** 13 15 52.5 -1.8
GRF Grafenberg Arr 84.70 323 *eP* **P** 13 15 55.7 -0.4
comp=Z,24nm,1.2s
GRFO Grafenberg 84.70 323 *eP* **P** 13 15 55.1 -1.0
GRFO pmax pmax
comp=Z,5.0nm,0.9s
GRFO Grafenberg 84.70 323 *eP* **P** 13 15 55.1 -1.0
comp=Z,5.1nm,0.9s
UBBA Unterbreizbach 84.78 324 *eP* **P** 13 15 55.5 -0.8
comp=Z,20nm,1.8s
RJOB Jochberg 84.80 320 *eP* **P** 13 15 56.2 -0.5
comp=Z,14nm,1.0s
KBA Koelnbreinsper 84.81 320⇑ *iP* **P** 13 15 55.6 -1.2
comp=Z,13nm,1.1s
IBBN Ibbenburen 85.15 326 *eP* **P** 13 15 57.6 -0.6
comp=Z,44nm,1.7s
FUR Fuerstenfeldbru 85.46 321 *eP* **P** 13 15 59.6 -0.3
comp=Z,44nm,1.1s
ABTA Abfaltersbach 85.47 320⇓ *iP* **P** 13 15 58.8 -1.3
comp=Z,18nm,1.1s,SNR=5.6
WTTA Wattenberg 85.72 320⇑ *iP* **P** 13 16 00.4 -1.0
comp=Z,20nm,1.0s,SNR=5.1
BUG Bochum--Univer 85.88 325 *eP* **P** 13 16 01.1 -0.8
comp=Z,20nm,1.1s
TNS Taunus Mts 85.94 324 *eP* **P** 13 16 01.6 -0.7
comp=Z,19nm,1.6s
KMBO Kilima Mbogo 86.09 267 P **P** 13 16 05.3 +1.4
comp=Z,1.8nm,0.5s,baz=42,slow=3.2,SNR=6.7
KMBO Kilima Mbogo 86.09 267 *eP* **P** 13 16 04.4 +0.5
KMBO pmax pmax
comp=Z,5.0nm,0.8s
KMBO Kilima Mbogo 86.09 267 *eP* **P** 13 16 04.4 +0.5
comp=Z,5.1nm,0.8s
STU Stuttgart 86.31 322 *eP* **P** 13 16 03.4 -0.7
comp=Z,15nm,1.6s
FETA Feichten 86.37 320⇑ *iPcP* **P** 13 16 04.0 -0.7
comp=Z,7.6nm,1.0s
PAF Port-aux-Franc 86.57 211 P P 13 15 52.0 -13
PAF PP PP 13 18 58.0 -29
PAF S S 13 25 45.0 -55
PAF SS SS 13 30 52.0 -90
PAF L L 13 36 00.0
PAF R 13 41 00.0
MEM Membach 87.01 325 P **P** 13 16 07.4 -0.1
comp=Z,6.8nm,1.4s
BFO Black Forest 87.04 322 *eP* **P** 13 16 07.5 -0.2
comp=Z,16nm,1.6s
BFO Black Forest 87.04 322 *i* P **P** 13 16 07.9 +0.2
AQU L'Aquila 87.13 315 *eP* **P** 13 16 08.4 +0.1
AQU pmax pmax
comp=Z,28nm,1.0s
AQU L'Aquila 87.13 315 *eP* **P** 13 16 08.4 +0.1
comp=Z,28nm,1.0s
WLF Walferdange 87.48 324 P **P** 13 16 09.8 0.0
comp=Z,20nm,1.3s
WLF Walferdange 87.48 324 *eP* **P** 13 16 09.5 -0.2
comp=Z,36nm,1.2s
WLF Walferdange 87.48 324 *eP* **P** 13 16 09.0 -0.7

WLF pmax pmax
comp=Z,35nm,1.1s
WLF Walferdange 87.48 324 *eP* **P 13 16 09.0 -0.7**
comp=Z,35nm,1.1s
SNF Seneffe 87.97 326 P **P 13 16 12.1 +0.1**
DOU Dourbes 88.05 325 P **P 13 16 12.0 -0.4**
comp=Z,6.0nm,1.2s
LON Longmire 88.79 38 *eP* **P 13 16 16.6 +0.5**
LON pmax pmax
comp=Z,13nm,1.0s
LON Longmire 88.79 38 *eP* **P 13 16 16.6 +0.5**
comp=Z,13nm,1.0s
EDM Edmonton 89.17 30 *eP* **P 13 16 17.0 -0.7**
EDM Edmonton 89.17 30 *eP* **P 13 16 17.0 -0.7**
I04A Tendick Farm, 90.11 41 P **P 13 16 23.0 +0.7**
baz=90
HAWA Hanford 90.28 38 *eP* **P 13 16 23.2 +0.2**
comp=Z,20nm,1.1s
I05D Terrebonne, OR 90.44 40 P **P 13 16 24.3 +0.4**
baz=90
NEW Newport 90.46 35 P **P 13 16 24.6 +0.7**
comp=Z,20nm,1.1s,baz=305,slow=4.1,SNR=29
NEW Newport 90.46 35 *eP* **P 13 16 23.5 -0.4**
NEW pmax pmax
comp=Z,24nm,1.1s
NEW Newport 90.46 35 P **P 13 16 24.4 +0.5**
baz=90
NEW Newport 90.46 35 *eP* **P 13 16 23.5 -0.4**
comp=Z,24nm,1.1s
J04D Umpqua Nationa 90.60 41 P **P 13 16 25.4 +0.5**
baz=90
SSB Saint Sauveur 90.92 321 *eP* **P 13 16 24.6 -1.5**
SSB pmax pmax
comp=Z,6.0nm,1.0s
SSB Saint Sauveur 90.92 321 *eP* **P 13 16 24.6 -1.5**
comp=Z,5.7nm,1.0s
J05D Fort Rock, OR 91.10 41 P **P 13 16 28.6 +1.5**
baz=91
WALA Waterton Lakes 91.61 33 *eP* **P 13 16 29.7 +0.4**
BSMT Bassoo Peak 91.94 35 *eP* **P 13 16 31.6 +0.6**
comp=Z,3.4nm,0.6s
BLMT Blacktail Moun 92.06 34 *eP* **P 13 16 30.8 -0.7**
comp=Z,14nm,1.3s
FCC Fort Churchill 92.14 18 *eP* **P 13 16 30.0 -1.3**
FCC Fort Churchill 92.14 18 *eP* **P 13 16 30.0 -1.3**
JTMT Jette 92.27 34 *eP* **P 13 16 32.7 +0.3**
comp=Z,7.0nm,1.0s
YBMT Yellow Bay 92.33 34 *eP* **P 13 16 33.0 +0.3**
comp=Z,7.6nm,1.0s
BMO Blue Mountains 92.46 38 *eP* **P 13 16 33.0 -0.3**
comp=Z,8.9nm,1.1s
MOD Modoc 92.46 42 *eP* **P 13 16 33.7 +0.3**
comp=Z,8.6nm,1.1s
SWMT Swartz Lake 92.57 34 *eP* **P 13 16 33.8 0.0**
comp=Z,7.4nm,1.1s
FFC Flin Flon 92.81 24 P **P 13 16 33.5 -1.1**
comp=Z,87nm,0.9s,SNR=7.1
FFC Flin Flon 92.81 24 *eP* **P 13 16 33.0 -1.5**
FFC pmax pmax
comp=Z,19nm,1.0s
FFC Flin Flon 92.81 24 *eP* **P 13 16 33.0 -1.5**
comp=Z,19nm,1.0s
MSO Missoula 93.04 35 P **P 13 16 35.8 -0.2**
baz=93
WVOR Wild Horse Val 93.15 40 *eP* **P 13 16 36.9 +0.3**
WVOR pmax pmax
comp=Z,8.0nm,1.3s
WVOR Wild Horse Val 93.15 40 *eP* **P 13 16 36.9 +0.3**
comp=Z,7.6nm,1.3s
KEST Kesra 93.27 311 P **P 13 16 37.0 -0.2**
comp=Z,2.8nm,0.8s,baz=286,slow=1.3,SNR=7.6
MFID Camas Ranch 94.18 38 *eP* **P 13 16 42.2 +0.9**
comp=Z,7.0nm,1.1s
EGMT Eagleton 94.36 32 P **P 13 16 42.0 0.0**
baz=94
EGMT Eagleton 94.36 32 *eP* **P 13 16 41.9 -0.1**
comp=Z,7.3nm,1.0s
LRM Limekiln Ridge 94.48 35 *eP* **P 13 16 42.5 -0.3**
comp=Z,45nm,1.0s
CMB Columbia Colle 94.65 45 *eP* **P 13 16 42.8 -0.6**
CMB pmax pmax
comp=Z,4.0nm,1.0s
CMB Columbia Colle 94.65 45 *eP* **P 13 16 42.8 -0.6**
comp=Z,4.5nm,1.0s
DLMT Dillon 94.71 35 *eP* **P 13 16 44.2 +0.5**
comp=Z,6.9nm,1.1s
CRZF Crozet Islands 94.73 221 P P 13 16 56.0 +13
CRZF Crozet Islands 94.73 221 S S 13 27 37.0 -18
CRZF SS SS 13 33 44.0 -36
CRZF L L 13 40 00.0
CRZF R 13 50 00.0
CRZF SS x 14 04 56.0
HLID Hailey 94.89 38 P **P 13 16 45.0 +0.4**
baz=95
HLID Hailey 94.89 38 *eP* **P 13 16 44.7 +0.1**
comp=Z,3.4nm,0.9s
A21A Bergtoll Ranch 95.02 30 P **P 13 16 44.5 -0.4**
baz=95
BOZ Bozeman (W) 95.03 35 *eP* **P 13 16 45.5 +0.3**
BOZ pmax pmax
comp=Z,2.0nm,1.0s
BOZ Bozeman (W) 95.03 35 *eP* **P 13 16 45.5 +0.3**
comp=Z,2.5nm,1.0s
C20A Veseth Ranch, 95.42 32 P **P 13 16 46.6 -0.2**
baz=95
NVAR Mina Array Bea 95.74 44 P **P 13 16 48.9 +0.2**
comp=Z,1.2nm,0.7s,baz=285,slow=3.4,SNR=8.7
SMMC Simmler 96.47 47 P **P 13 16 51.5 -0.3**
baz=96
TPH Tonopah 96.64 43 *eP* **P 13 16 52.6 -0.1**
TPH pmax pmax
comp=Z,5.0nm,1.2s
TPH Tonopah 96.64 43 *eP* **P 13 16 52.6 -0.1**
comp=Z,4.9nm,1.2s
PDAR Pinedale Array 98.07 36 P **P 13 16 58.4 -0.8**
comp=Z,0.5nm,0.8s,baz=7.1,slow=2.9,SNR=2.5
ESDC Sonseca Array 99.32 321 PP PP 13 21 07.4 +0.4
comp=Z,3.5nm,1.2s,baz=51,slow=8.2,SNR=4.3
TXAR Lajitas Array 110.85 42 PKIKPab PKKPab 13 33 04.7 -1.3
comp=Z,3.9nm,1.1s,baz=141,slow=4.2,SNR=3.5
TORD Torodi Ar. Bea 111.38 296 PKiKP **PKiKP 13 21 56.1 -0.8**
comp=Z,0.9nm,0.8s,baz=13,slow=2.2,SNR=4.2
TORD PP **PP 13 22 36.4 -0.7**
comp=Z,3.0nm,0.9s,baz=49,slow=6.3,SNR=8.8
SDV Santo Domingo 144.88 23 *e*PKP **PKPab 13 22 59.0 -0.2**
PCRV Puerto La Cruz 145.31 12 PKPbc **PKPbc 13 22 58.5 -2.0**
comp=Z,5.6nm,0.4s,baz=0.5,slow=1.8,SNR=8.3
ROSC El Rosal 146.96 32 PKPbc **PKPab 13 23 07.8 +0.4**
comp=Z,6.9nm,0.5s,baz=86,slow=8.0,SNR=4.2
RCBR Riachuelo 152.45 308 PKPbc **PKPbc 13 23 19.2 0.0**
comp=Z,16nm,0.7s,baz=42,slow=3.2,SNR=6.9
NNA Nana 158.10 60 SKP **PKSdf 13 26 53.2 -0.7**
comp=Z,17nm,0.6s,baz=239,slow=5.5,SNR=4.6
LPAZ La Paz 167.42 54 SKP **PKSdf 13 27 03.1 0.0**
comp=Z,36nm,1.1s,baz=321,slow=6.5,SNR=6.1
SIV San Ignacio 171.35 23 PKP **PKPdf 13 23 32.1 +0.7**
comp=Z,36nm,0.8s,baz=240,slow=4.1,SNR=7.5

NEIC ***18*** *13:04:09.0±0.0, 6˚.17S×150˚.53E, h40km, Moment Tensor Solution. s31 Moment tensor: Scale 10^{19}Nm; M_{rr}=2.77; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$-2.73; $M_{r\theta}$=0.22; $M_{r\phi}$-0.61; $M_{\theta\phi}$=0.16; Best double couple: M_o=2.80000×10^{19} NP1:ϕ_s16.00000˚, δ47.00000˚, λ.95.00000˚. NP2:ϕ_s188.00000˚, δ43.00000˚, λ.84.00000˚. Principal axes: T 2.7900, Plg85.0000˚, Azm343.0000˚; N 0.0800, Plg3.0000˚, Azm192.0000˚; P -2.8600, Plg2.0000˚, Azm102.0000˚;*

NEIC ***18*** *13:04:09.4±0.1, 5˚.97S×150˚.43E, h28km, mb6.3/193, ME6.5, MS7.1/152, MW6.8, MW6.9, MW6.8 Error ellipse: s-maj=3.6km s-min=2.9km az=145.0, Moment Tensor Solution. s56 Moment tensor: Scale 10^{19}Nm; M_{rr}=1.73; $M_{\theta\theta}$0.59; $M_{\phi\phi}$-2.31; $M_{r\theta}$-0.08; $M_{\theta\phi}$-0.97; $M_{r\phi}$-0.38; Best double couple: M_o2.30000×10^{19} NP1:ϕ_s195.00000˚, δ50.00000˚, λ.87.00000˚. NP2:ϕ_s20.00000˚, δ40.00000˚, λ.94.00000˚. Principal axes: T 1.7700, Plg84.0000˚, Azm80.0000˚; N 0.8800, Plg2.0000˚, Azm196.0000˚; P -2.6400, Plg5.0000˚, Azm286.0000˚; Broadband fault plane solution: P waves. NP1:ϕ_s355.00000˚, δ30.00000˚, λ.90.00000˚. NP2:ϕ_s175.00000˚, δ60.00000˚, λ.90.00000˚. Principal axes: T Plg75.0000˚, Azm85.0000˚; N Plg0.0000˚, Azm0.0000˚; P Plg15.0000˚, Azm265.0000˚; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt at Kimbe and Kokopo. Felt [III] at Port Moresby, New Guinea. Also felt at Goroka and Wau. Felt at Gizo, Solomon Islands.

GCMT ***18*** *13:04:09.4±0.1,6˚.32S×150˚.68E,h35km,MW6.9/134, Moment Tensor Solution. s133,c357; s134,c634; Duration: 7s1 Moment tensor: Scale 10^{19}Nm; M_{rr}2.92±.01; $M_{\theta\theta}$0.06±.01; $M_{\phi\phi}$-2.98±.01; $M_{r\theta}$-0.05±.02; $M_{\theta\phi}$-0.71±.01; $M_{r\phi}$-0.39±.02; Best double couple: M_o3.05400×10^{19} NP1:ϕ_s192.00000˚, δ49.00000˚, λ.89.00000˚. NP2:ϕ_s13.00000˚, δ41.00000˚, λ.91.00000˚. Principal axes: T 2.9460, Plg86.0000˚, Azm91.0000˚; N 0.2180, Plg1.0000˚, Azm192.0000˚; P -3.1630, Plg4.0000˚, Azm282.0000˚; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISCJB ***18*** *13:04:10.5±0.6,6˚.10S±0˚.02×150˚.49E±0˚.02, h46km±5km, mb6.2/300, MS7.1/222 Error ellipse: s-maj=3.2km s-min=2.3km az=35.7*

MOS ***18*** *13:04:10.0±1.3,5˚.92S×150˚.48E, h38km, mb6.4/74, MS7.1/75, Error ellipse: s-maj=6.4km s-min=4.8km az=101.6 Broadband fault plane solution: P waves. M_o3.50000×10^{19} NP1:ϕ_s189.00000˚, δ58.00000˚, λ.91.00000˚. NP2:ϕ_s6.00000˚, δ32.00000˚, λ.88.00000˚. Principal axes: T Plg77.0000˚, Azm103.0000˚; N Plg1.0000˚, Azm8.0000˚; P Plg13.0000˚, Azm278.0000˚;*

BJI ***18*** *13:04:10.7,6˚.00S×150˚.40E, h47km, mb6.0/52, mB6.9/56, Ms7.2/89, Ms7 7.1/82*

DJA ***18*** *13:04:10.5±0.7,6˚.S±3˚×.15˚0E±˚, h24km±5km, M7.1/131, mb6.5/131, mB7.2/130, MLv8.1/1, Mw(mB)7.2/130, Mwp6.7/97*

IDC ***18*** *13:04:11.1±0.9,5˚.98S×150˚.60E, h36km±6km, mb5.9/29, mb1 5.9/31, mb1mx5.9/31, mbtmp6.0/31, ML5.3/3, MS6.8/21, Ms1 6.8/21, ms1mx6.6/41, Error ellipse: s-maj=11.5km s-min=9.1km az=71.0*

SZGRF ***18*** *13:04:11.5,5˚.77S×150˚.22E, h33km, mb6.6, New Britain, Papua New Guinea, region*

NEIC ***18*** *13:04:32.4±0.0,6˚.14S×150˚.74E, h10km, Moment Tensor Solution. s139 Moment tensor: Scale 10^{19}Nm; M_{rr}2.04; $M_{\theta\theta}$0.17; $M_{\phi\phi}$-2.20; $M_{r\theta}$0.48; $M_{\theta\phi}$-0.75; $M_{r\phi}$0.01; Best double couple: M_o2.30000×10^{19} NP1:ϕ_s182.00000˚, δ45.00000˚, λ.69.00000˚. NP2:ϕ_s30.00000˚, δ49.00000˚, λ110.00000˚. Principal axes: T 2.1600, Plg75.0000˚, Azm9.0000˚; N 0.2600, Plg14.0000˚, Azm196.0000˚; P -2.4200, Plg1.0000˚, Azm106.0000˚;*

ISC 18 13:04:11.5±0.2,5˚.98S±0˚.03×150˚.52E±0˚.03, h46km±1km, h46km:pP-P,n2358,σ1s5s/2627, mb6.3/294, MS7.1/225, 177C-102D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.76**	**224**	Pn	**Pn**	**13 05 22.4**	**+1.6**
	3μm,0.3s,baz=52,slow=6.5,SNR=845						
PMG				Sn	**Sn**	**13 06 15.2**	**+0.5**
	2μm,0.3s,baz=292,slow=19,SNR=9.2						
PMG				LR	LR	13 07 12.3	
	comp=Z,1629μm,21.6s,baz=75,slow=38						
PMG	**Port Moresby**	**4.76**	**224**	⇓P	**Pn**	**13 05 22.4**	**+1.6**
	baz=4.6,SNR=1000						
PMG				⇓P	**Pn**	**13 05 22.4**	**+1.6**
	baz=4.6,SNR=1000						
PMG				⇓P	**Pn**	**13 05 22.4**	**+1.6**
	baz=4.6,SNR=1000						
PMG	**Port Moresby**	**4.76**	**224**	*i* P	**Pn**	**13 05 21.7**	**+0.9**
PMG				Sn	**Sn**	**13 06 15.2**	**+0.5**
MANU	**Manus Island**	**5.02**	**321**	⇓P	Pn	13 05 33.5	+9.2
	baz=5.3						
HNR	**Honiara**	**9.95**	**111**	*e*P	**Pn**	**13 06 31.9**	**-0.2**
HNR				pmax	pmax		
	comp=Z,9μm,0.8s						
HNR	**Honiara**	**9.95**	**111**	*i* P	Pn	13 06 37.0	+4.9
HNR				*i* S	Sn	13 08 36.0	+14
HNR	**Honiara**	**9.95**	**111**	*e*P	**Pn**	**13 06 31.9**	**-0.2**
	comp=Z,9μm,0.8s						
JAY	**Jayapura**	**10.37**	**289**	P	**Pn**	**13 06 39.3**	**+1.5**
	comp=Z,4μm,3.3s,comp=Z,206μm						
JAY	**Jayapura**	**10.37**	**289**	Pn	**Pn**	**13 06 38.0**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=120,slow=13,SNR=2.1						
JAY				LR	LR	13 11 22.8	
	comp=Z,1393μm,18.9s,baz=110,slow=41						
JAY	**Jayapura**	**10.37**	**289**	⇓P	Pn	13 06 43.5	+5.7
	baz=10,SNR=5.2						
COEN	**Coen**	**10.73**	**222**	⇓P	**Pn**	**13 06 42.9**	**+0.3**
	baz=11,SNR=745						
COEN	**Coen**	**10.73**	**222**	*e*P	**Pn**	**13 06 42.2**	**-0.5**
	comp=Z,1μm,0.8s						
GENI	**Genyem**	**10.85**	**288**	P	**Pn**	**13 06 44.6**	**+0.2**
	comp=Z,6μm,3.5s,comp=Z,353μm						
SMPI	**Sarmi**	**12.43**	**288**	P	**Pn**	**13 07 05.7**	**-0.2**
	comp=Z,4μm,1.8s,comp=Z,186μm						
MTSU	**Mount Surprise**	**13.51**	**206**	⇓P	**Pn**	**13 07 22.0**	**+1.3**
	baz=13,SNR=381						
CTA	**Charters Tower**	**14.62**	**196**	Pn	**Pn**	**13 07 35.9**	**+0.2**
	comp=Z,10nm,0.3s,baz=22,slow=15,SNR=83						
CTA				LR	LR	13 12 43.2	
	comp=Z,299μm,20.8s,baz=24,slow=35						
CTA	**Charters Tower**	**14.62**	**196**	⇑P	**Pn**	**13 07 35.3**	**-0.4**
	baz=14						
CTAO	**Charters Tower**	**14.62**	**196**	*e*P	**Pn**	**13 07 34.6**	**-1.1**
CTAO				pmax	pmax		
	comp=Z,8μm,1.5s						
CTAO	**Charters Tower**	**14.62**	**196**	*e*P	**Pn**	**13 07 34.5**	**-1.1**
	comp=Z,8μm,1.5s						
BAKI	**Biak**	**15.14**	**288**	P	**Pn**	**13 07 39.8**	**-2.8**
	comp=Z,1μm,1.7s,comp=Z,85μm						
RKPI	**Ransiki, Papua**	**16.89**	**285**	P	**Pn**	**13 08 02.8**	**-2.1**
	comp=Z,1μm,1.9s,comp=Z,47μmcomp=Z,668μm						
QIS	**Mount Isa**	**17.95**	**215**	⇑P	**Pn**	**13 08 17.6**	**-0.3**
	baz=18,SNR=500						
FAKI	**Fak Fak**	**18.46**	**279**	P	**P**	**13 08 19.0**	**-4.7**
	comp=Z,940nm,2.5s,comp=Z,65μm						
FAKI				S	**S**	**13 11 56.2**	**+3.9**
	comp=Z,940nm,2.5s,comp=Z,65μm						
FAKI	**Fak Fak**	**18.46**	**279**	*e*P	**P**	**13 08 19.7**	**-4.0**
	comp=Z,1μm,1.1s						
KDU	**Kakadu**	**19.00**	**248**	⇑P	**Pn**	**13 08 30.9**	**+0.2**
	baz=19,SNR=964						
SAUI	**Saumlaki**	**19.18**	**263**	P	**P**	**13 08 30.9**	**-0.6**
	comp=Z,9μm,0.9s,comp=Z,278μmcomp=Z,993μm						
SAUI				S	**Sn**	**13 12 09.2**	**+2.2**
	comp=Z,9μm,0.9s,comp=Z,278μmcomp=Z,993μm						
EIDS	**Eidsvold**	**19.29**	**178**	⇓P	**P**	**13 08 32.7**	**+0.1**
	baz=19,SNR=431						
EIDS	**Eidsvold**	**19.29**	**178**	*e*P	**P**	**13 08 32.6**	**+0.1**
	comp=Z,3μm,1.3s						
SIJI	**Sorong**	**19.87**	**284**	P	**Pn**	**13 08 40.9**	**-0.1**
	comp=Z,25nm,0.3s,baz=104,slow=11,SNR=34						
SIJI				ScP	**ScP**	**13 16 29.6**	**+1.6**
	comp=Z,6.1nm,0.3s,baz=45,slow=7.8,SNR=16						
SWI	**Sorong**	**19.88**	**284**	P	**P**	**13 08 37.5**	**-1.7**
	comp=Z,1μm,0.8s,comp=Z,82μmcomp=Z,931μm						
SWI	**Sorong**	**19.88**	**284**	P	**Pn**	**13 08 43.9**	**+2.8**
	baz=20,SNR=32						
GUMO	**Guam**	**20.23**	**344**	P	Pn	13 08 46.8	+1.6
	comp=Z,2μm,0.8s,baz=195,slow=3.9,SNR=33						
GUMO				LR	LR	13 15 17.1	
	comp=Z,374μm,21.2s,baz=152,slow=33						
GUMO				ScP	**ScP**	**13 16 29.0**	**+0.2**
	comp=Z,93nm,0.6s,baz=176,slow=8.2,SNR=8.2						
GUMO	**Guam**	**20.23**	**344**	*e*P	Pn	13 08 47.0	+1.7
	comp=Z,22μm,1.5s						
GUMO				ScP	**ScP**	**13 16 29.0**	**+0.2**
MTN	**Manton Dam**	**20.29**	**249**	⇑P	**P**	**13 08 44.5**	**+0.8**
	baz=20,SNR=187						
RMQ	**Roma**	**20.46**	**185**	⇓P	**P**	**13 08 46.5**	**+1.1**
	baz=20,SNR=1000						
BNDI	**Bandanaira**	**20.58**	**273**	P	**P**	**13 08 47.1**	**+0.3**
	comp=Z,6μm,2.9s,comp=Z,261μmcomp=Z,859μm						
BNDI				S	**S**	**13 12 33.3**	**-1.2**
	comp=Z,6μm,2.9s,comp=Z,261μmcomp=Z,859μm						
WB0	**Warramunga Arr**	**20.82**	**227**	⇓P	**P**	**13 08 50.3**	**+0.9**
	baz=21						
I39PW	**PALAU INFRASON**	**20.84**	**310**	P	Pn	13 08 54.5	+2.0
	baz=121,slow=15,SNR=0.7						
I39PW				S	**S**	**13 12 38.1**	**-1.5**
	baz=150,slow=27,SNR=74						
I39PW				*i*		15 11 17.4	
	baz=127,slow=295,SNR=1.9						
WRAB	**Tennant Creek**	**20.96**	**227**	P	**P**	**13 08 51.9**	**+1.0**
	comp=Z,30μm,0.8s						
WRAB	**Tennant Creek**	**20.96**	**227**	*c* *i* P	**P**	**13 08 51.5**	**+0.6**
WRAB				MLR	MLR		
	comp=Z,942μm,18.0s						
WRAB	**Tennant Creek**	**20.96**	**227**	*e*P	**P**	**13 08 51.2**	**+0.4**
	comp=Z,8μm,1.1s						
WRAB				LR	LR		
	comp=Z,346μm,19.0s						
WRA	**Warramunga Arr**	**20.97**	**227**	P	**P**	**13 08 51.5**	**+0.4**
	comp=Z,1μm,0.7s,baz=52,slow=9.6,SNR=48						
WRA				S	**S**	**13 12 40.4**	**-2.0**
	comp=Z,165nm,1.0s,baz=33,slow=21,SNR=15						
WRA				PcP	**PcP**	**13 12 58.4**	**+1.0**
	comp=Z,250nm,0.7s,baz=48,slow=2.0,SNR=6.8						
WRA				ScP	**ScP**	**13 16 33.8**	**+3.2**
	comp=Z,186nm,0.9s,baz=49,slow=2.6,SNR=12						
WRA				LR	LR	13 17 23.5	
	comp=Z,310μm,19.1s,baz=45,slow=38						
WRA				PKiKP	**PKiKP**	**13 20 44.5**	**-0.7**
	comp=Z,12nm,0.8s,baz=39,slow=1.0,SNR=8.3						
WRA	**Warramunga Arr**	**20.97**	**227**	*i* P	**P**	**13 08 47.9**	**-3.1**
WRA				pmax	pmax		
	comp=Z,682nm,0.9s						
I07AU	**WARRAMUNGA INF**	**20.97**	**227**	P	Pn	13 08 53.6	-0.5
QLP	**Quilpie**	**21.35**	**196**	⇑P	**P**	**13 08 55.9**	**+0.9**
	baz=21,SNR=1000						
LIFNC	**LIFOU**	**21.90**	**134**	*e*P	**P**	**13 08 59.8**	**-1.1**
NOUC	**Port Laguerre**	**22.13**	**138**	*e*P	**P**	**13 09 00.7**	**-2.7**
DZM	**Mont Dzumac**	**22.20**	**138**	*e*P	**P**	**13 09 03.7**	**-0.6**
	comp=Z,4μm,0.9s						
DZM				*e*S	**S**	**13 12 59.4**	**-6.8**
	comp=Z,645μm,23.9s						
DZM				*e*LQ	LQ	13 13 26.7	
	comp=Z,521μm,29.8s						
DZM				*e*LR	LR	13 14 19.0	
	comp=Z,1120μm,23.6s						
DZM	**Mont Dzumac**	**22.20**	**138**	LR	LR	13 16 30.8	
	comp=Z,725μm,20.6s,slow=33						
DZM	**Mont Dzumac**	**22.20**	**138**	*e*P	**P**	**13 09 03.6**	**-0.6**
	comp=Z,2μm,0.9s						
MVNO	**Noumea**	**22.34**	**138**	*e*P	**P**	**13 09 03.8**	**-1.8**
LASL	**Noumea**	**22.38**	**138**	*e*P	**P**	**13 09 04.7**	**-1.4**
KWAJ	**Kwajalen Atol**	**22.50**	**49**	*e*P	**P**	**13 09 06.7**	**-0.7**
	comp=Z,459nm,0.9s						
I22FR	**PORTLAGUERRE I**	**22.55**	**137**	*i*		15 22 40.0	
	baz=316,slow=318,SNR=0.3						
BAYA	**Yate Dam**	**22.56**	**137**	*e*P	**P**	**13 09 08.3**	**+0.3**
KNRA	**Kununurra**	**23.41**	**244**	⇓P	**P**	**13 09 17.5**	**+0.8**
	baz=23,SNR=864						
NLAI	**Namlea**	**23.50**	**276**	P	**P**	**13 09 15.8**	**-1.7**
	comp=Z,1μm,1.4s,comp=Z,48μmcomp=Z,456μm						
TARA	**Tarawa**	**23.53**	**73**	*e*P	**P**	**13 09 18.1**	**+0.2**
	comp=Z,7μm,1.8s						
TARA				LR	LR		
	comp=Z,390μm,19.0s						
LBMI	**Labuha**	**23.57**	**282**	P	**P**	**13 09 16.6**	**-1.7**
	comp=Z,1μm,1.9s,comp=Z,62μmcomp=Z,405μm						
AS31	**Alice Springs**	**23.76**	**221**	*e*P	**P**	**13 09 20.7**	**+0.7**
ASAR	**Alice Springs**	**23.77**	**221**	P	**P**	**13 09 21.0**	**+1.0**
	comp=Z,710nm,0.7s,baz=54,slow=8.5,SNR=819						
ASAR				PcP	**PcP**	**13 13 04.8**	**+1.9**
	comp=Z,96nm,0.8s,baz=67,slow=3.1,SNR=4.2						
ASAR				S	**S**	**13 13 34.4**	**+1.9**
	comp=Z,112nm,0.9s,baz=40,slow=17,SNR=3.7						
ASAR				ScP	**ScP**	**13 16 40.8**	**+3.1**
	comp=Z,106nm,0.9s,baz=43,slow=3.0,SNR=12						
ASAR				LR	LR	13 18 37.4	
	comp=Z,244μm,21.6s,baz=58,slow=36						
ASAR				PKiKP	**PKiKP**	**13 20 45.6**	**-0.9**
	comp=Z,7.9nm,0.9s,baz=42,slow=0.8,SNR=4.6						
TNTI	**Ternate**	**24.07**	**285**	P	**P**	**13 09 20.0**	**-2.8**
	comp=Z,556nm,2.2s,comp=Z,74μmcomp=Z,591μm						
ARMA	**Armidale**	**24.33**	**178**	⇓P	**P**	**13 09 25.2**	**0.0**
	baz=24,SNR=317						
ARMA	**Armidale**	**24.33**	**178**	*e*P	**P**	**13 09 24.6**	**-0.7**
	comp=Z,59nm,1.0s						
SANI	**Sanana**	**24.77**	**278**	P	**P**	**13 09 27.8**	**-1.5**
	comp=Z,1μm,2.0s,comp=Z,48μmcomp=Z,490μm						
SANI				S	**S**	**13 13 51.5**	**+2.7**
	comp=Z,1μm,2.0s,comp=Z,48μmcomp=Z,490μm						
CMSA	**Cobar Meteorol**	**25.82**	**189**	⇑P	**P**	**13 09 37.9**	**-0.7**
	baz=26,SNR=607						
SOEI	**Soe**	**26.27**	**260**	P	**P**	**13 09 44.1**	**+1.1**
	comp=Z,5μm,1.0s,comp=Z,184μmcomp=Z,495μm						
SOEI	**Soe**	**26.27**	**260**	⇓P	**P**	**13 09 44.9**	**+1.9**
	baz=26,SNR=72						
SOEI	**Soe**	**26.27**	**260**	*e*P	**P**	**13 09 44.0**	**+1.1**
	comp=Z,9μm,1.2s						
LHI	**Lord Howe Isla**	**26.64**	**164**	⇑P	**P**	**13 09 45.5**	**-0.5**
	baz=26						
BATI	**Baumata**	**26.91**	**259**	P	**P**	**13 09 50.1**	**+1.4**
	comp=Z,3μm,0.7s,comp=Z,62μmcomp=Z,16μm						
BATI				S	**S**	**13 14 23.4**	**+0.7**
	comp=Z,3μm,0.7s,comp=Z,62μmcomp=Z,16μm						
BATI	**Baumata**	**26.91**	**259**	P	**P**	**13 09 51.2**	**+2.6**
	comp=Z,495nm,0.4s,baz=134,slow=1.1,SNR=56						
BATI				LR	LR	13 23 08.6	
	comp=Z,735μm,18.9s,baz=106,slow=42						
STKA	**Stephens Creek**	**27.08**	**197**	P	**P**	**13 09 48.9**	**-1.1**
	comp=Z,2μm,0.8s,baz=1.7,slow=8.5,SNR=417						
STKA				LR	LR	13 20 13.7	
	comp=Z,333μm,21.9s,baz=11,slow=36						
STKA	**Stephens Creek**	**27.08**	**197**	*e*P	**P**	**13 09 49.2**	**-0.8**
STKA				pmax	pmax		
	comp=Z,923nm,1.2s						
STKA	**Stephens Creek**	**27.08**	**197**	⇓P	**P**	**13 09 49.5**	**-0.5**
	baz=27,SNR=1000						
STKA	**Stephens Creek**	**27.08**	**197**	*e*P	**P**	**13 09 49.2**	**-0.8**
	comp=Z,923nm,1.2s						
MGCD	**Mangrove Creek**	**27.10**	**179**	⇑P	**P**	**13 09 50.1**	**0.0**
	baz=27,SNR=53						
FITZ	**Fitzroy Crossi**	**27.10**	**241**	⇓P	**P**	**13 09 50.8**	**+0.5**
	baz=27,SNR=1000						
KMSI	**Cibinong**	**27.28**	**283**	P	**P**	**13 09 54.8**	**+2.8**
	comp=Z,2μm,1.0s,comp=Z,47μmcomp=Z,232μm						
MATI	**Mati**	**27.40**	**298**	*e*P	**P**	**13 09 54.8**	**+1.7**
KDI	**Kendari**	**27.86**	**273**	P	**P**	**13 09 56.3**	**-0.9**
	comp=Z,479nm,1.0s,comp=Z,41μmcomp=Z,430μm						
BIPH	**Bislig**	**27.90**	**300**	‖*e*P	P	13 10 03.0	+5.5
LUWI	**Luwuk**	**28.11**	**279**	P	**P**	**13 09 58.6**	**-0.8**
	comp=Z,1μm,0.9s,comp=Z,56μmcomp=Z,316μm						
LUWI	**Luwuk**	**28.11**	**279**	P	**P**	**13 10 02.3**	**+2.8**
	baz=28,SNR=14						
LUWI	**Luwuk**	**28.11**	**279**	*e*P	**P**	**13 09 58.1**	**-1.3**
	comp=Z,2μm,1.1s						
MMRI	**Maumere**	**28.17**	**263**	P	**P**	**13 09 58.8**	**-1.1**
	comp=Z,5μm,0.9s,comp=Z,76μmcomp=Z,271μm						
MMRI	**Maumere**	**28.17**	**263**	*e*P	**P**	**13 09 58.3**	**-1.6**
	comp=Z,3μm,0.8s						
YNG	**Young**	**28.25**	**184**	P	**P**	**13 10 00.1**	**-0.3**
	baz=28,SNR=134						
WRKA	**Warakurna**	**28.50**	**226**	⇑P	**P**	**13 10 03.0**	**+0.2**
	baz=28,SNR=904

comp=Z,2μm,1.3s,comp=Z,58μmcomp=Z,185μm
BBOO Buckleboo 29.90 205 ⇑P **P** 13 10 14.2 -0.9
baz=30,SNR=309
BBOO Buckleboo 29.90 205 *e*P **P** 13 10 14.2 -0.9
comp=Z,626nm,0.8s
WSI Waingapu 30.15 261 P **P** 13 10 18.3 +0.8
comp=Z,19μm,1.5s,comp=Z,286μmcomp=Z,286μm
BKSI Bulukumba 30.25 270 P **P** 13 10 18.5 +0.1
comp=Z,424nm,1.1s,comp=Z,28μmcomp=Z,214μm
PAGZ Pagadian 30.35 297 *e*P **P** 13 10 21.7 +2.4
TOLI Toli-Toli 30.50 282 *e*P **P** 13 10 17.7 -2.9
comp=Z,302nm,0.7s
PLP Palo 30.60 304⇑*e*P **P** 13 10 21.8 +0.3
KAPI Kappang 30.64 270 P **P** 13 10 23.5 +1.7
comp=Z,3μm,0.8s,SNR=25
KAPI Kappang 30.64 270 P **P** 13 10 23.4 +1.6
comp=Z,510nm,1.0s,baz=100,slow=5.6,SNR=37
KAPI LR LR 13 24 36.2
comp=Z,152μm,21.6s,baz=74,slow=40
KAPI Kappang 30.64 270 *e*P **P** 13 10 19.0 -2.9
comp=Z,448nm,0.8s
SPSI Sidrap Palu 30.69 272 P **P** 13 10 22.0 -0.3
comp=Z,365nm,1.3s,comp=Z,30μmcomp=Z,166μm
DCPH Dipolog City 30.71 298 *e*P **P** 13 10 25.3 +2.9
TTSI Tana Toraja 30.74 274 P **P** 13 10 23.0 +0.3
comp=Z,493nm,1.2s,comp=Z,20μm
PCI Palu 31.03 278 P **P** 13 10 27.4 +2.1
comp=Z,710nm,0.9s,comp=Z,21μmcomp=Z,239μm
MPSI Mapaga 31.20 281 P **P** 13 10 26.7 -0.1
comp=Z,118nm,1.1s,comp=Z,18μmcomp=Z,168μm
ARPS Mount Arapiles 31.66 193 ⇑P **P** 13 10 30.2 -0.3
baz=32,SNR=179
TOO Toolangi 31.78 188 ⇑P **P** 13 10 31.6 0.0
baz=32,SNR=50
FORT Forrest 32.45 218 P **P** 13 10 37.5 -0.1
baz=32,SNR=124
FORT Forrest 32.45 218 *e*P **P** 13 10 37.2 -0.4
comp=Z,2μm,0.8s
PVCP Virac 32.61 307⇑*i*P **P** 13 10 39.5 +0.4
MBWA Marble Bar 33.41 240 *e*P **P** 13 10 46.3 +0.2
comp=Z,0.6nm,0.6s
MBWA LR LR
comp=Z,356μm,19.0s
MYLDM Lahad Datu 33.83 288 ⇓P P 13 10 53.6 +3.7
MYLDM Lahad Datu 33.83 288 ⇓P P 13 10 53.6 +3.7
CBIJ Chichi jima 33.86 347 *e*P **P** 13 10 48.3 -1.5
comp=Z,256nm,0.8s
CBIJ ScP **ScP** 13 17 10.4 +1.1
JCJ Chichijima 33.86 347 P **P** 13 10 49.5 -0.3
comp=Z,233nm,0.9s,baz=151,slow=10,SNR=9.6
JCJ ScP **ScP** 13 17 10.4 +1.1
comp=Z,107nm,0.7s,baz=0.9,slow=8.5,SNR=5.0
BKB Balikpapan 33.87 277 P **P** 13 10 52.9 +2.7
comp=Z,355nm,1.3s,comp=Z,31μmcomp=Z,224μm
GQP Guinayangan 34.16 306⇑*e*P P 13 10 58.5 +5.9
TSM Tawau 34.16 287 ⇓P **P** 13 10 53.6 +1.0
TSM Tawau 34.16 287 ⇓P **P** 13 10 53.6 +1.0
KBKI Kotabaru 34.34 273 P **P** 13 10 53.4 -0.8
comp=Z,211nm,1.1s,comp=Z,18μmcomp=Z,123μm
SRBI Singaraja 35.09 264 P **P** 13 10 59.4 -1.4
comp=Z,1μm,0.8s,comp=Z,19μmcomp=Z,114μm
DNP Denpasar 35.11 263 P **P** 13 11 00.7 -0.2
comp=Z,4μm,0.8s,comp=Z,60μmcomp=Z,236μm
IGBI Denpasar 35.18 263 P **P** 13 11 00.3 -1.2
comp=Z,4μm,0.4s,comp=Z,67μm
SDKM Sandakan 35.21 289 ⇑P **P** 13 11 03.7 +1.9
SDKM Sandakan 35.21 289 ⇑P **P** 13 11 03.7 +1.9
TGY Tagaytay City 35.49 304 LR LR 13 23 14.4
comp=Z,6μm,21.8s,baz=236,slow=32
KDM Kudat 35.97 290 ⇑P **P** 13 11 11.0 +2.7
KDM Kudat 35.97 290 ⇑P **P** 13 11 11.0 +2.7
OUZ Omahuta 36.04 147 *e*PN **P** 13 11 09.3 +0.7
OUZ Omahuta 36.04 147 *e*P **P** 13 11 09.3 +0.7
comp=Z,2μm,1.6s
ABJI Asem Bagus 36.06 265 P **P** 13 11 08.5 -0.5
comp=Z,1μm,1.0s,comp=Z,31μm
JAGI Jajag, Banyuwa 36.15 264 ⇓P **P** 13 11 08.7 -1.1
baz=36,SNR=143
JAGI Jajag, Banyuwa 36.15 264 *e*P **P** 13 11 07.3 -2.5
comp=Z,2μm,0.8s
JAGI *e*PcP **PcP** 13 13 36.3 +1.3
KKM Kota Kinabalu 36.26 289 ⇑P **P** 13 11 12.9 +2.0
baz=36
KKM Kota Kinabalu 36.26 289 PFAKE 13 11 20.0 +9.1
KKM LR LR
comp=Z,104μm,22.0s
KMMI Kalianget 36.32 266 P **P** 13 11 11.4 +0.1
comp=Z,818nm,1.5s,comp=Z,27μm
MOO Moorlands 36.43 184 P **P** 13 11 12.5 +0.6
baz=36,SNR=77
MEEK Meekatharra 36.69 232 ⇓P **P** 13 11 14.6 +0.3
baz=37,SNR=717
BLJI Banyuglugur 36.69 265 P **P** 13 11 13.6 -0.8
comp=Z,830nm,0.6s,comp=Z,19μmcomp=Z,104μm
CVP Callao Caves 36.83 310⇓*e*P **P** 13 11 17.7 +2.1
KMBL Kambalda 36.84 223 ⇓P **P** 13 11 15.6 +0.1
baz=37,SNR=164
TAU Tasmania Unive 36.89 184 P **P** 13 11 15.9 +0.2
comp=Z,4μm,0.9s,SNR=64
TAU Tasmania Unive 36.89 184 *e*P **P** 13 11 15.8 +0.1
TAU pmax pmax
comp=Z,578nm,0.9s
TAU MLR MLR
comp=Z,413μm,20.0s
TAU Tasmania Unive 36.89 184 *e*P **P** 13 11 15.8 +0.1
comp=Z,578nm,0.9s
TAU LR LR
comp=Z,413μm,20.0s
WCZ Waipu Caves 36.98 147 PN **P** 13 11 17.0 +0.4
WCZ PcP **PcP** 13 13 39.0 +1.9
BCPH Baguio City Da 37.02 307⇓*i*P P 13 11 14.1 -3.4
APYP Conner 37.37 310 *e*P **P** 13 11 21.2 +1.1
BOLP Bolinao 37.55 307 *e*P **P** 13 11 24.4 +2.7
ABRA Dolores 37.65 309 *e*P **P** 13 11 24.2 +1.7
RAO Raoul Island 37.73 132 P **P** 13 11 22.6 -0.4
comp=Z,392nm,0.4s,baz=87,slow=0.2,SNR=3.5
RAO LR LR 13 24 26.9
comp=Z,65μm,20.0s,baz=322,slow=32
RAO Raoul Island 37.73 132 *e*P **P** 13 11 23.0 -0.1
comp=Z,2μm,0.8s
SZP Santa 37.79 309 *e*P **P** 13 11 23.6 -0.1
comp=Z,1μm,1.3s
GRJI Gresik 37.80 266 P **P** 13 11 24.0 +0.1
comp=Z,868nm,1.0s,comp=Z,9μm
AFI Afiamalu 37.92 105 P **P** 13 11 25.6 +0.6
comp=Z,653nm,1.1s,baz=295,slow=12,SNR=17
AFI LR LR 13 24 56.2
comp=Z,178μm,19.4s,baz=279,slow=33
AFI Afiamalu 37.92 105 *e*P **P** 13 11 25.4 +0.4
comp=Z,1μm,1.2s
MKAZ Moumakai 38.29 147 PN **P** 13 11 27.9 +0.2
KUZ Kuaotunu 38.33 147 PN **P** 13 11 28.1 +0.1
KUZ PcP **PcP** 13 13 41.3 +0.2
PWJI Pagerwojo 38.47 265 P **P** 13 11 28.8 -0.7
comp=Z,2μm,1.2s,comp=Z,21μmcomp=Z,100μm
BTM Bintulu 38.48 283 ⇑P **P** 13 11 30.1 +0.5
BTM Bintulu 38.48 283 ⇑P **P** 13 11 30.1 +0.5
GIRL Giralia 38.71 241 ⇑P **P** 13 11 33.4 +2.0
baz=39,SNR=116
NGJI Ngawi 38.81 266 P **P** 13 11 33.7 +1.4
comp=Z,679nm,1.0s,comp=Z,31μm
PBKI Pangkalan Bun 38.86 273 P **P** 13 11 34.2 +1.4
comp=Z,2μm,1.1s,comp=Z,28μmcomp=Z,125μm
TOZ Tahuroa Road 38.93 148 *e*PN **P** 13 11 33.2 +0.1
TOZ PcP **PcP** 13 13 45.6 +2.6
JOW Kunigami 39.09 328 *e*P **P** 13 11 37.1 +2.6
comp=Z,621nm,1.3s
SBUM Sibu 39.15 281 ⇑P **P** 13 11 35.7 +0.5
SBUM Sibu 39.15 281 ⇑P **P** 13 11 35.7 +0.5
HIZ Hauiti 39.19 149 *e*PN **P** 13 11 35.7 +0.5
HIZ PcP **PcP** 13 13 45.5 +1.6
STKI Sintang 39.43 277 P **P** 13 11 39.8 +2.3
comp=Z,243nm,0.8s,comp=Z,20μmcomp=Z,91μm
UGM Wanagama 39.74 265 P **P** 13 11 41.1 +1.0
comp=Z,3μm,0.9s,comp=Z,61μm
UGM Wanagama 39.74 265 P **P** 13 11 41.0 +0.8
baz=40,SNR=24
SMRI Semarang 39.82 266 P **P** 13 11 41.8 +1.0
comp=Z,1μm,2.1s,comp=Z,68μm
SMRI Semarang 39.82 266 *e*P **P** 13 11 40.5 -0.4
comp=Z,926nm,0.8s
MORW Morawa 39.84 231 ⇓P **P** 13 11 41.1 +0.3
baz=40,SNR=248
KLBR Kellerberrin 39.85 226 P **P** 13 11 40.3 -0.5
baz=40,SNR=292
QRZ Quartz Range 39.90 154 *e*PN **P** 13 11 41.2 +0.2

RATZ Rangitukua 39.92 149 PN **P** 13 11 41.5 +0.1
COVZ Chateau Observ 40.05 149 *e*PN **P** 13 11 42.8 +0.3
WPVZ Whakapapa 40.06 149 PN **P** 13 11 43.6 +1.0
NGZ Ngauruhoe 40.07 149 PN **P** 13 11 43.5 +0.8
BLDU Ballidu 40.10 228 ⇓P **P** 13 11 42.7 -0.2
baz=40,SNR=108
FWVZ Far West T-bar 40.10 149 PN **P** 13 11 43.7 +0.7
WHVZ Whangaehu Hut 40.14 149 PN **P** 13 11 43.9 +0.5
WNVZ Wahianoa 40.18 149 *e*PN **P** 13 11 43.6 0.0
JHJ2 Mitsune 40.18 346 *e*P **P** 13 11 42.0 -1.5
comp=Z,302nm,1.0s
URZ Urewera 40.18 147 P **P** 13 11 42.9 -0.6
comp=Z,179nm,0.6s,baz=5.2,slow=4.6,SNR=66
URZ LR LR 13 25 49.7
comp=Z,283μm,21.2s,baz=316,slow=32
URZ Urewera 40.18 147 PN **P** 13 11 42.8 -0.6
URZ Urewera 40.18 147 *e*P **P** 13 11 42.8 -0.7
comp=Z,691nm,1.2s
HAZ Te Kaha 40.19 146 PN **P** 13 11 43.3 -0.2
DSZ Denniston Nort 40.34 155 *e*PN **P** 13 11 44.8 0.0
YOJ Yonaguni jima 40.42 320 *e*P **P** 13 11 47.5 +1.9
YOJ Yonaguni jima 40.42 320 *e*P **P** 13 11 47.5 +1.9
MWZ Matawai 40.47 147 PN **P** 13 11 45.9 +0.1
BKZ Black Stump Fm 40.52 148 PN **P** 13 11 45.7 -0.6
WMGZ Waiomatatini S 40.59 145 PN **P** 13 11 47.0 +0.2
NNZ Nelson 40.59 153 PN **P** 13 11 45.8 -1.0
TWGZ Tauwhareparae 40.60 146 *e*PN **P** 13 11 47.4 +0.4
NIUE Niue 40.63 112 ⇓P **P** 13 11 48.7 +1.2
baz=40,SNR=6.1
KWHZ Kaweka Forest 40.67 149 *e*PN **P** 13 11 47.3 -0.3
PUZ Puketiti 40.68 146 PN **P** 13 11 47.1 -0.5
KSM Kuching 40.83 279 ⇑P **P** 13 11 50.6 +1.5
baz=41,SNR=10
KSM Kuching 40.83 279 ⇑P **P** 13 11 50.1 +1.0
KSM Kuching 40.83 279 ⇑P **P** 13 11 50.1 +1.0
KSM Kuching 40.83 279 *e*P **P** 13 11 48.0 -1.1
comp=Z,414nm,1.4s
KSM LR LR
comp=Z,70μm,21.0s
THZ Tophouse 40.83 154 PN **P** 13 11 48.1 -0.7
RIGZ Rimuhau 40.86 147 *e*PN **P** 13 11 48.9 -0.2
TSZ Takapari Road 40.92 150 PN **P** 13 11 48.9 -0.7
PNHZ Pukenui 40.93 149 *e*PN **P** 13 11 49.0 -0.6
CNGZ Carnagh Statio 40.95 146 *e*PN **P** 13 11 50.0 +0.2
NWAO Narrogin (SRO) 40.95 225 LR LR 13 29 24.7
comp=Z,1μm,18.2s,slow=37
NWAO Narrogin (SRO) 40.95 225 ⇑P **P** 13 11 50.0 +0.1
baz=41,SNR=56
NWAO ⇑P **P** 13 11 50.0 +0.1
baz=41,SNR=56
TUWZ Tuamarina 41.02 153 *e*PN **P** 13 11 49.7 -0.5
WVZ Waitaha Valley 41.03 157 PN **P** 13 11 48.8 -1.6
FOZ Fox Glacier 41.06 159 PN **P** 13 11 50.0 -0.6
NACB Ninganchiao 41.15 318 *e*P **P** 13 11 53.5 +1.9
NACB *e*pP **pP** 13 12 03.0 -1.0
JCZ Jackson Bay 41.18 160 PN **P** 13 11 51.7 0.0
KAHZ Kahuranaki 41.18 149 PN **P** 13 11 51.2 -0.6
MRZ Mangatainoka R 41.19 151 PN **P** 13 11 50.5 -1.2
SNZO South Karori 41.27 152 *e*P **P** 13 11 51.2 -1.2
comp=Z,898nm,1.3s
SNZO LR LR
comp=Z,259μm,21.0s
CAW Cannon Point 41.29 152 *e*PN **P** 13 11 51.8 -0.8
SSLB Suanglung 41.32 317 *e*P **P** 13 11 54.3 +1.2
PXZ Pawanui 41.35 149 PN **P** 13 11 52.5 -0.6
LTZ Lake Taylor 41.40 156 PN **P** 13 11 53.5 +0.1
MSZ Milford Sound 41.44 161 PN **P** 13 11 54.0 +0.3
ANWZ Angora Road 41.48 150 PN **P** 13 11 53.1 -1.0
BFZ Birch Farm 41.53 150 PN **P** 13 11 53.5 -1.1
MSWZ Moikau Station 41.61 152 PN **P** 13 11 54.3 -0.9
KHZ Kahutara 41.63 154 PN **P** 13 11 53.8 -1.5
KHZ Kahutara 41.63 154 *e*P **P** 13 11 53.8 -1.5
comp=Z,1μm,1.5s
YHNB Yeheng 41.63 318 *e*P **P** 13 11 57.7 +2.1
YHNB LR LR
comp=Z,611μm,22.0s
TMWZ Te Maipa 41.68 151 *e*PN **P** 13 11 54.8 -0.9
RPZ Rata Peaks 41.70 158 LR LR 13 26 59.1
comp=Z,383μm,20.9s,baz=324,slow=33
RPZ Rata Peaks 41.70 158 *e*PN **P** 13 11 54.5 -1.4
RPZ Rata Peaks 41.70 158 *e*P **P** 13 11 54.9 -1.0
comp=Z,496nm,0.8s
PLWZ Palliser 41.73 152 PN **P** 13 11 55.2 -1.0
OXZ Oxford 41.76 156 *e*PN **P** 13 11 54.7 -1.6
CMJI Cimerak 41.79 265 P **P** 13 11 57.1 +0.1
comp=Z,7μm,1.0s,comp=Z,69μm
DCZ Deep Cove 41.92 162 PN **P** 13 11 57.3 -0.3
WKZ Wanaka 41.94 160 *e*PN **P** 13 11 57.2 -0.6
LBZ Lake Benmore 41.95 159 PN **P** 13 11 57.0 -1.0
JCJI Jatiwangi 41.99 267 P **P** 13 12 00.4 +1.7
comp=Z,5μm,1.3s,comp=Z,82μmcomp=Z,198μm
RKGY Rocky Gully 42.07 223 ⇑P **P** 13 11 60.0 +0.9
baz=42,SNR=51
MLZ Mavora Lakes 42.12 161 PN **P** 13 11 58.8 -0.6
CRLZ Canterbury Las 42.20 156 PN **P** 13 11 59.8 -0.1
MQZ McQueen's Vall 42.32 156 PN **P** 13 12 00.5 -0.4
EAZ Earnscleugh 42.39 160 *e*PN **P** 13 12 00.3 -1.2
CISI Cisompet, Garu 42.42 265 P **P** 13 12 02.5 +0.3
comp=Z,7μm,0.9s,comp=Z,69μmcomp=Z,147μm
CISI Cisompet, Garu 42.42 265 ⇓P **P** 13 12 02.6 +0.3
baz=42,SNR=239
CISI Cisompet, Garu 42.42 265 *e*P **P** 13 12 01.4 -0.9
comp=Z,5μm,0.8s
WHZ Wether Hill Ro 42.54 162 PN **P** 13 12 01.8 -0.9
WHZ Wether Hill Ro 42.54 162 *e*P **P** 13 12 01.3 -1.4
comp=Z,655nm,1.1s
LEM Lembang 42.63 266 P **P** 13 12 05.5 +1.4
comp=Z,3μm,1.0s,comp=Z,56μm
LEM Lembang 42.63 266 P **P** 13 12 05.7 +1.6
baz=43,SNR=70
LEM Lembang 42.63 266 ⇑P **P** 13 12 05.7 +1.6
TPI Tanjungpandan 42.85 272 P **P** 13 12 07.8 +2.1
comp=Z,698nm,2.0s,comp=Z,20μmcomp=Z,190μm
CNJI Cibinong 43.10 266 P **P** 13 12 08.5 +0.8
comp=Z,8μm,1.2s,comp=Z,81μmcomp=Z,95μm
JNU Nakatsue 43.13 336 P **P** 13 12 09.6 +2.0
comp=Z,388nm,0.8s,baz=83,slow=0.9,SNR=121
JNU ScP **ScP** 13 17 45.2 +0.7
comp=Z,88nm,0.8s,baz=114,slow=3.4,SNR=10
JNU LR LR 13 30 05.2
comp=Z,43μm,18.2s,baz=142,slow=36
JNU Nakatsue 43.13 336 *e*P **P** 13 12 09.6 +2.0
comp=Z,290nm,0.9s
JNU *e*pP **pP** 13 12 20.4 +0.3
JNU ScP **ScP** 13 17 45.2 +0.7
TUZ Tuapeka 43.13 160 *e*PN **P** 13 12 06.8 -0.6
APZ The Paps 43.40 163 *e*PN **P** 13 12 08.3 -1.4
CBJI Citeko 43.40 267 P **P** 13 12 10.9 +0.8
comp=Z,3μm,0.8s,comp=Z,58μmcomp=Z,129μm
SYZ Scrubby Hill 43.49 161 PN **P** 13 12 09.6 -0.7
TNG Tangerang 43.62 267 P **P** 13 12 13.9 +2.0
comp=Z,2μm,1.3s,comp=Z,74μmcomp=Z,129μm
TNG Tangerang 43.62 267 P **P** 13 12 11.7 -0.2
comp=Z,2μm,1.3s,comp=Z,47μm
SKJI Sukabumi 43.68 266 P **P** 13 12 12.7 +0.3
comp=Z,6μm,0.7s,comp=Z,71μm
QZH Quanzhou 43.70 316⇑*i*P **P** 13 12 15.1 +2.8
QZH ScP **ScP** 13 17 50.0 +3.1
QZH S **S** 13 18 40.0 +0.6
QZH PMZ
comp=Z,1μm,1.2s
QZH PMZ
comp=Z,30μm,7.6s
QZH LN
comp=Z,286μm,20.7s
QZH LE
comp=Z,471μm,19.5s
QZH LZ
comp=Z,587μm,19.3s
MJAR Matsushiro Arr 43.84 346 P **P** 13 12 13.9 +0.6
comp=Z,77nm,1.0s,baz=171,slow=9.9,SNR=56
MJAR ScP **ScP** 13 17 48.9 +1.6
comp=Z,57nm,0.9s,baz=173,slow=5.0,SNR=16
MJAR LR LR 13 30 09.4
comp=Z,99μm,18.9s,baz=175,slow=36
MAJO Matsushiro 43.84 346*c i*P **P** 13 12 12.7 -0.6
MAJO pmax pmax
comp=Z,1μm,0.9s
MAJO MLR MLR
comp=Z,550μm,16.0s
MAJO Matsushiro 43.84 346 *e*P **P** 13 12 12.9 -0.4
comp=Z,318nm,1.0s
MAJO pP **pP** 13 12 23.8 -2.1
MAJO LR LR
comp=Z,112μm,19.0s

MAT Matsushiro 43.84 346 P **P** 13 12 11.9 -1.4
MAT S **S** 13 18 39.4 -1.8
SBJI Serang 44.13 267 P **P** 13 12 16.6 +0.6
comp=Z,714nm,2.0s,comp=Z,22μm
H01W1 Cape Leeuwin H 44.16 224 P **P** 13 12 17.9 +2.1
baz=78,slow=7.0,SNR=20
H01W3 Cape Leeuwin H 44.17 224 P **P** 13 12 18.9 +3.1
baz=78,slow=7.0,SNR=15
H01W2 Cape Leeuwin H 44.18 224 P **P** 13 12 18.0 +2.2
baz=78,slow=7.0,SNR=15
PPBI Pangkal Pinang 44.42 273 P **P** 13 12 19.9 +1.6
comp=Z,383nm,1.0s,comp=Z,11μmcomp=Z,88μm
CGJI Cibinong 44.55 267 P **P** 13 12 20.7 +1.4
comp=Z,4μm,1.1s,comp=Z,49μmcomp=Z,94μm
XMI Christmas Isla 44.56 261 ⇑P **P** 13 12 21.5 +2.1
baz=45,SNR=21
XMIS Christmas Isla 44.60 261 ⇓P **P** 13 12 21.9 +2.1
baz=45,SNR=49
XMIS Christmas Isla 44.60 261 *e*pP pP 13 12 31.6 -0.7
comp=Z,2μm,0.9s
KSJJU Jeju 45.31 331 P P 13 12 28.6 +3.5
SNR=10
KSJJU Jeju 45.31 331 P P 13 12 28.9 +3.7
SNR=11
HKC Hong Kong Obse 45.34 310 P **P** 13 12 24.0 -1.5
DLV T Lat 45.43 293 *e*P **P** 13 12 25.3 -1.3
comp=Z,236nm,1.1s
KLSI 45.60 269 P **P** 13 12 28.2 +0.5
comp=Z,619nm,1.1s,comp=Z,25μm
KSTOY TONGYEONG 45.64 334 P P 13 12 31.0 +3.4
SNR=16
KSBUS Busan 45.70 335 P P 13 12 31.9 +3.9
SNR=5.8
KSBUS Busan 45.70 335 P **P** 13 12 30.6 +2.5
SNR=42
PMBI Palembang 45.70 272 P **P** 13 12 31.5 +3.0
comp=Z,1μm,1.2s,comp=Z,17μmcomp=Z,151μm
KASI Kota Agung 45.78 268 P **P** 13 12 29.1 0.0
comp=Z,1μm,1.1s,comp=Z,18μmcomp=Z,96μm
KSNAH Namhae 45.83 334 P **P** 13 12 31.8 +2.7
SNR=31
KSNAH Namhae 45.83 334 P **P** 13 12 31.8 +2.7
SNR=31
KSKOH Goheung 45.95 333 P **P** 13 12 32.1 +2.0
SNR=10.0
MIDW Midway 45.99 41 PFAKE 13 12 40.0 +10
MIDW LR LR
comp=Z,74μm,22.0s
KSWAN Wando 46.03 332 P **P** 13 12 33.1 +2.4
SNR=14
KSWAN Wando 46.03 332 P P 13 12 34.3 +3.6
SNR=20
KSJIN Jinju 46.08 334 P **P** 13 12 33.8 +2.7
SNR=22
KSJIN Jinju 46.08 334 P **P** 13 12 33.8 +2.7
SNR=22
MDSI Maura Dua 46.16 270 P **P** 13 12 32.5 +0.4
comp=Z,888nm,1.5s,comp=Z,17μmcomp=Z,85μm
DSRI Dabo 46.17 275 P P 13 12 40.1 +7.9
KSDAG Daegu 46.23 335 P **P** 13 12 35.4 +3.1
SNR=30
KSDAG Daegu 46.23 335 P **P** 13 12 35.1 +2.8
SNR=31
LWLI Liwa 46.24 269 P **P** 13 12 32.6 -0.3
comp=Z,1μm,1.1s,comp=Z,18μm
KSJDO Jindo 46.27 332 P **P** 13 12 35.0 +2.3
SNR=19
KSJDO Jindo 46.27 332 P P 13 12 36.3 +3.6
SNR=35
SSE Sheshan 46.32 324 P **P** 13 12 34.1 +1.1
SSE pP **pP** 13 12 45.8 +0.2
SSE S **S** 13 19 19.4 +2.3
SSE sS **sS** 13 19 38.8 +0.6
SSE PMZ
comp=Z,190nm,1.1s
SSE PMZ
comp=Z,17μm,11.5s
SSE LN
comp=Z,134μm,23.4s
SSE LE
comp=Z,154μm,23.4s
SSE LZ
comp=Z,229μm,19.8s
KSYOC YEONGCHEON 46.38 336 P P 13 12 37.1 +3.6
SNR=14
KSPHA Pohang 46.41 336 P **P** 13 12 36.5 +2.9
SNR=11
KSPHA Pohang 46.41 336 P **P** 13 12 36.1 +2.5
SNR=18
GZH Guangzhou 46.41 310 *e*P **P** 13 12 36.8 +2.9
GZH sP **sP** 13 12 55.3 +3.4
GZH PP **PP** 13 14 28.3 +4.7
GZH S S 13 19 24.9 +6.2
GZH LN
comp=Z,154μm,18.2s
GZH LE
comp=Z,220μm,17.9s
GZH LZ
comp=Z,697μm,20.6s
KSKWJ Gwangju 46.54 333 P **P** 13 12 37.5 +2.8
SNR=11
KSGWJ Gwangju-acc 46.59 333 P **P** 13 12 37.4 +2.3
SNR=9.9
KSGWJ Gwangju-acc 46.59 333 P **P** 13 12 37.4 +2.3
SNR=9.9
KSEUS ULSEONG 46.82 336 P P 13 12 40.4 +3.5
SNR=12
KSULJ Uljin 46.83 337 P **P** 13 12 39.9 +2.9
SNR=10
KSULJ Uljin 46.83 337 P **P** 13 12 39.5 +2.6
SNR=42
KSJEU Jeongeup 46.84 333 P **P** 13 12 39.5 +2.4
SNR=19
KSHUK Heuksando 46.85 331 P P 13 12 40.5 +3.4
SNR=12
LHSI Lahat 46.86 270 P **P** 13 12 38.5 +0.9
comp=Z,888nm,1.4s,comp=Z,17μmcomp=Z,91μm
KSULL Ulleungdo 46.95 339 P P 13 12 41.6 +3.7
SNR=22
JMBI JAMBI 46.95 273 P **P** 13 12 41.1 +2.8
comp=Z,1μm,1.1s,comp=Z,30μmcomp=Z,173μm
KSCPR CHUPUNGNYEONG 47.01 335 P **P** 13 12 41.0 +2.6
SNR=54
KSJEO Jeonju 47.06 334 P P 13 12 42.2 +3.4
SNR=9.5
KSSAJ Sangju 47.09 335 P **P** 13 12 41.9 +2.9
SNR=51
QIZ Qiongzhong 47.15 303 P **P** 13 12 39.3 -0.5
QIZ PP **PP** 13 14 30.5 -0.6
QIZ S **S** 13 19 29.8 +0.4
QIZ sS **sS** 13 19 49.3 -1.2
QIZ LN
comp=Z,78μm,20.0s
QIZ LZ
comp=Z,200μm,25.4s
QIZ Qiongzhong 47.15 303 *e*P **P** 13 12 39.0 -0.7
comp=Z,513nm,1.5s
QIZ LR LR
comp=Z,182μm,21.0s
MYKOM Kota Tinggi 47.23 278 ⇑P **P** 13 12 39.6 -1.0
MYKOM Kota Tinggi 47.23 278 ⇑P **P** 13 12 39.6 -1.0
KSBON Boeun 47.31 335 P P 13 12 44.0 +3.3
SNR=34
KSGUS GUNSAN 47.36 334 P **P** 13 12 43.5 +2.4
SNR=14
KSTBA Taebaek 47.38 336 P **P** 13 12 44.2 +2.8
SNR=12
MNAI Manna 47.38 270 P **P** 13 12 41.9 +0.2
comp=Z,884nm,1.0s,comp=Z,23μmcomp=Z,126μm
MNAI Manna 47.38 270 ⇓P **P** 13 12 41.1 -0.7
baz=47,SNR=20
MNAI Manna 47.38 270 *e*P **P** 13 12 40.9 -0.9
comp=Z,377nm,0.4s
KSTEJ Daejeon 47.38 334 P **P** 13 12 43.9 +2.6
SNR=21
TJN Taejon 47.40 334*c i*P **P** 13 12 43.0 +1.6
CTZ Chatham Island 47.40 148 PN **P** 13 12 41.8 +0.5
KSCHJ Chungju 47.56 335 P **P** 13 12 45.2 +2.6
SNR=30
KSKOJ Gongju 47.57 334 P **P** 13 12 45.0 +2.3
SNR=13
KSYOW Yeongwol 47.62 336 P **P** 13 12 46.1 +2.9
SNR=22
KSJES JEONGSEON 47.76 336 P **P** 13 12 47.1 +2.9
SNR=22
KGM Kluang 47.79 278 ⇑P **P** 13 12 45.9 +1.0
KGM Kluang 47.79 278 ⇑P **P** 13 12 45.9 +1.0

KSI	**Kapahiang**	**47.80**	**270**	P	**P**	**13**	**12**	**44.9 -0.1**
	comp=Z,768nm,0.8s,comp=Z,16μmcomp=Z,147μm							
KSCEA	**Cheonan**	**47.82**	**335**	P	**P**	**13**	**12**	**47.6 +3.0**
	SNR=43							
KSDGY	**Daegwallycong**	**47.98**	**337**	P	**P**	**13**	**12**	**48.7 +2.7**
	SNR=12							
KSWJU	**Wonju**	**47.98**	**336**	P	**P**	**13**	**12**	**48.9 +2.9**
	SNR=7.6							
KSRS	**Korea Array**	**48.08**	**336**	P	**P**	**13**	**12**	**49.1 +2.5**
	comp=Z,144nm,0.7s,baz=153,slow=7.8,SNR=146							
KSRS				ScP	**ScP**	**13**	**18**	**06.3 +1.5**
	comp=Z,8.1nm,0.7s,baz=145,slow=4.9,SNR=7.5							
KSRS				PKiKP	**PKiKP**	**13**	**21**	**04.7 -0.3**
	comp=Z,2.4nm,0.8s,baz=158,slow=1.7,SNR=4.9							
KSRS				LR	LR	13	31	06.2
	comp=Z,107μm,21.7s,baz=163,slow=34							
KSAR	**Wonju Array Be**	**48.08**	**336**	P	**P**	**13**	**12**	**49.2 +2.5**
KSAR	**Wonju Array Be**	**48.08**	**336**	P	**P**	**13**	**12**	**49.1 +2.5**
KSAR				ScP	**ScP**	**13**	**18**	**06.3 +1.5**
KSAR				PKiKP	**PKiKP**	**13**	**21**	**04.7 -0.3**
KSJMJ	**Jumunjin**	**48.11**	**337**	P	**P**	**13**	**12**	**49.8 +2.9**
	SNR=23							
KSSES	**Seosan**	**48.14**	**334**	P	**P**	**13**	**12**	**49.6 +2.5**
	SNR=44							
KSICN	**Icheon**	**48.15**	**335**	P	**P**	**13**	**12**	**49.8 +2.6**
	SNR=20							
ERM	**Erimo**	**48.23**	**353**	P	**P**	**13**	**12**	**48.4 +0.7**
	comp=Z,370nm,0.8s,SNR=25							
ERM	**Erimo**	**48.23**	**353**	*e*P	**P**	**13**	**12**	**48.5 +0.7**
ERM				pmax	pmax			
	comp=Z,913nm,1.8s							
ERM				MLR	MLR			
	comp=Z,92μm,19.0s							
ERM	**Erimo**	**48.23**	**353**	*e*P	**P**	**13**	**12**	**48.5 +0.8**
	comp=Z,913nm,1.8s							
ERM				LR	LR			
	comp=Z,92μm,19.0s							
KSSWO	**Suwon**	**48.32**	**335**	P	**P**	**13**	**12**	**51.2 +2.7**
	SNR=30							
NJ2	**Nanjing**	**48.38**	**323**	*e*P	**P**	**13**	**12**	**51.8 +2.8**
NJ2				pP	**pP**	**13**	**13**	**04.8 +3.1**
NJ2				sP	**sP**	**13**	**13**	**08.4 +1.3**
NJ2				S	**S**	**13**	**19**	**51.0 +4.6**
NJ2				PMZ				
	comp=Z,1μm,1.4s							
NJ2				PMZ				
	comp=Z,18μm,10.0s							
NJ2				LN				
	comp=Z,348μm,20.0s							
NJ2				LE				
	comp=Z,460μm,22.0s							
NJ2				LZ				
	comp=Z,513μm,21.0s							
KSCHC	**Chuncheon**	**48.40**	**336**	P	**P**	**13**	**12**	**51.9 +2.8**
	SNR=28							
RGRI	**Rengat**	**48.41**	**275**	P	**P**	**13**	**12**	**52.6 +2.9**
	comp=Z,972nm,0.6s,comp=Z,144μmcomp=Z,83μm							
KSIJA	**INJE**	**48.46**	**336**	P	**P**	**13**	**12**	**52.4 +2.8**
	SNR=48							
KSSEO	**Seoul**	**48.52**	**335**	P	**P**	**13**	**12**	**52.9 +2.9**
	SNR=72							
KSSKC	**Sokcho**	**48.56**	**337**	P	**P**	**13**	**12**	**53.4 +3.1**
	SNR=19							
INCN	**Inchon**	**48.64**	**335**	*e*P	**P**	**13**	**12**	**52.9 +1.9**
	comp=Z,1μm,1.3s							
INCN				LR	LR			
	comp=Z,139μm,21.0s							
SEHB	**SEOHWA**	**48.65**	**337**	P	**P**	**13**	**12**	**53.9 +2.9**
	SNR=30							
KSCWO	**Cheorwon**	**48.78**	**336**	P	**P**	**13**	**12**	**55.0 +2.9**
	SNR=37							
KSDDC	**Dongducheon**	**48.82**	**335**	P	**P**	**13**	**12**	**55.4 +3.1**
	SNR=32							
MCQ	**Macquarie Isla**	**48.85**	**173**	*e*P	**P**	**13**	**12**	**50.2 -2.2**
MCQ	**Macquarie Isla**	**48.85**	**173**	⇑P	**P**	**13**	**12**	**53.0 +0.6**
	baz=49,SNR=8.8							
MCQ	**Macquarie Isla**	**48.85**	**173**	*e*P	**P**	**13**	**12**	**50.2 -2.2**
	comp=Z,11μm,1.0s							
KSGAH	**Ganghwa**	**48.91**	**335**	P	**P**	**13**	**12**	**56.0 +2.9**
	SNR=41							
KSMUS	**Musan**	**48.93**	**335**	P	**P**	**13**	**12**	**56.3 +3.2**
	SNR=28							
YNCB	**YEONCHEON**	**48.99**	**335**	P	**P**	**13**	**12**	**56.5 +2.9**
	SNR=26							
SDSI	**Sungai Dareh**	**49.23**	**274**	P	**P**	**13**	**12**	**58.1 +2.1**
	comp=Z,500nm,1.1s,comp=Z,38μm							
UBPT	**Khong Chiam**	**49.38**	**296**	P	P	13	13	00.4 +3.4
	comp=Z,119nm,2.3s,comp=Z,11μm							
BKNI	**Bangkinang**	**49.78**	**275**	P	**P**	**13**	**13**	**02.2 +2.0**
	comp=Z,621nm,2.0s,comp=Z,16μmcomp=Z,126μm							
BKNI	**Bangkinang**	**49.78**	**275**	P	**P**	**13**	**12**	**59.2 -1.0**
	comp=Z,271nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**49.96**	**356***c*	*i*P	**P**	**13**	**13**	**00.7 -0.2**
YUK				*i*		13	14	18.8
YUK				*i*		13	15	01.5
YUK				*i* PPP	PPP	13	15	55.2
YUK				*i* S	**S**	**13**	**20**	**09.7 +1.5**
YUK				*i* *SS	**sS**	**13**	**20**	**28.6 -0.8**
YUK				*i* SSS	SSS	13	25	08.6
YUK				pmax	pmax			
	comp=Z,8μm,17.4s							
YUK				pmax	pmax			
	comp=N,109nm,1.5s							
YUK				pmax	pmax			
	comp=Z,152nm,1.5s							
YUK				pmax	pmax			
	comp=E,64nm,0.8s							
WHN	**Wuhan**	**50.18**	**318**	P	**P**	**13**	**13**	**04.9 +2.1**
WHN				S	**S**	**13**	**20**	**12.0 +0.3**
WHN				LN				
	comp=E,486μm,19.4s							
WHN				LE				
	comp=E,596μm,20.2s							
WHN				LZ				
	comp=E,919μm,20.7s							
PPI	**Padang Panjang**	**50.32**	**274**	P	**P**	**13**	**13**	**04.3 +0.1**
	comp=E,569nm,1.1s,comp=E,15μmcomp=E,166μm							
PPI	**Padang Panjang**	**50.32**	**274**	P	**P**	**13**	**13**	**04.3 +0.1**
	baz=50,SNR=24							
ASAJ	**Asahikawa**	**50.38**	**353**	P	**P**	**13**	**13**	**05.2 +1.1**
	comp=E,61nm,0.6s,baz=224,slow=7.9							
ASAJ	**Asahikawa**	**50.38**	**353**	P	**P**	**13**	**13**	**05.2 +1.1**
ASAJ				pmax	pmax			
	comp=Z,61nm,0.6s							
ASAJ	**Asahikawa**	**50.38**	**353**	*e*P	**P**	**13**	**13**	**04.7 +0.6**
	comp=Z,91nm,0.9s							
RAR	**Rarotonga**	**50.41**	**113**	LR	LR	13	30	47.7
	comp=Z,27μm,22.0s,baz=270,slow=32							
IPM	**Ipoh**	**50.50**	**281**	*e*P	**P**	**13**	**13**	**03.9 -1.7**
	comp=Z,139nm,0.6s							
KULM	**Kulim**	**51.03**	**282**	P	**P**	**13**	**13**	**08.5 -1.1**
	comp=Z,119nm,0.8s							
KULM				LR	LR			
	comp=Z,104μm,20.0s							
KUR	**Kuril'sk**	**51.04**	**358***c*	*e*P	**P**	**13**	**13**	**09.3 +0.3**
KUR				*i*		13	15	04.2
KUR				*i* PPP	PPP	13	16	02.3
KUR				*i* S	**S**	**13**	**20**	**23.9 +0.8**
KUR				*i* *SS	**sS**	**13**	**20**	**42.0 -2.4**
KUR				*i*		13	22	54.5
KUR				*i* SS	**SS**	**13**	**23**	**55.1 -3.8**
KUR				*i* SSS	SSS	13	25	34.3
KUR				pmax	pmax			
	comp=Z,92nm,1.1s							
KUR				pmax	pmax			
	comp=N,23nm,1.0s							
KUR				pmax	pmax			
	comp=E,112nm,1.0s							
MNSI	**Mandailing Nat**	**51.30**	**276**	P	**P**	**13**	**13**	**11.4 -0.2**
	comp=E,400nm,1.0s,comp=E,10μm							
SKNT	**Sakolnakorn**	**51.34**	**297**	P	**P**	**13**	**13**	**14.0 +2.2**
	comp=E,385nm,0.8s,comp=E,10μm							
SKLT	**Songkhla**	**51.47**	**284**	P	P	13	13	17.4 +4.5
	comp=E,147nm,1.3s,comp=E,8μm							
SISI	**Saibi**	**51.51**	**273**	P	**P**	**13**	**13**	**13.9 +0.7**
	comp=E,517nm,2.4s,comp=E,15μmcomp=E,80μm							
VLA	**Vladivostok**	**51.71**	**343***c*	*i*P	**P**	**13**	**13**	**15.2 +1.1**
VLA				pmax	pmax			
	comp=Z,242nm,1.0s							
DL2	**Dalian**	**52.07**	**331**	⇑*i*P	**P**	**13**	**13**	**19.3 +2.4**
DL2				S	**S**	**13**	**20**	**40.1 +2.6**
DL2				PMZ				
	comp=Z,430nm,1.4s							
DL2				LN				
	comp=Z,34μm,21.7s							
DL2				LE				
	comp=Z,20μm,22.1s							
DL2				LZ				
	comp=Z,56μm,21.5s							
PSI	**Prapat**	**52.25**	**278**	⇑P	**P**	**13**	**13**	**18.6 -0.3**
	baz=52,SNR=12							
TIA	**Tai'an**	**52.36**	**326**	⇑P	**P**	**13**	**13**	**20.3 +1.2**
TIA				S	S	13	20	47.9 +6.2
TIA				PMZ				
	comp=Z,160nm,2.2s							
TIA				PMZ				
	comp=Z,23μm,10.7s							
TIA				LN				
	comp=Z,132μm,20.8s							
TIA				LE				
	comp=Z,172μm,20.2s							
TIA				LZ				
	comp=Z,246μm,20.2s							
PBSI	**Pulau Batu**	**52.47**	**275**	P	**P**	**13**	**13**	**20.4 +0.1**
	comp=Z,510nm,2.1s,comp=Z,18μm							
TRTT	**Trang**	**52.52**	**285**	P	**P**	**13**	**13**	**21.4 +0.7**
	comp=Z,181nm,1.0s,comp=Z,9μm							
XMAS	**Kiritimati**	**52.57**	**83**	*e*P	**P**	**13**	**13**	**22.6 +1.5**
	comp=Z,670nm,1.0s							
XMAS				LR	LR			
	comp=Z,210μm,22.0s							
USRK	**Ussuriysk Ar.**	**52.67**	**343**	P	**P**	**13**	**13**	**23.1 +1.9**
	comp=Z,124nm,0.8s,baz=176,slow=7.8,SNR=68							
USRK				ScP	**ScP**	**13**	**18**	**25.6 +1.2**
	comp=Z,14nm,0.9s,baz=169,slow=3.9,SNR=6.5							
TSI	**Tuntungan**	**52.73**	**279**	P	**P**	**13**	**13**	**24.0 +1.8**
	comp=Z,386nm,1.2s,comp=Z,20μm							
PATY	**Pattaya**	**52.78**	**291**	P	P	13	13	25.8 +3.2
	comp=Z,41nm,0.8s,comp=Z,1μm							
NAYO	**Nakonayok**	**52.80**	**293**	P	**P**	**13**	**13**	**24.8 +2.1**
	comp=Z,73nm,1.6s,comp=Z,8μm							
YSS	**Yuzh-Sakhalins**	**53.15**	**353***c*	*i*P	**P**	**13**	**13**	**24.0 -0.7**
YSS				*e*		13	13	33.0
YSS				*e*PPP	PPP	13	16	34.0
YSS				*i* S	**S**	**13**	**20**	**50.0 -2.0**
YSS				*e*PS	**PnS**	**13**	**21**	**06.0 -0.8**
YSS				*e*SSS	SSS	13	26	22.0
YSS				pmax	pmax			
	comp=Z,8μm,8.0s							
YSS				MLR	MLR			
	comp=N,56μm,16.0s							
YSS				MLR	MLR			
	comp=Z,62μm,16.0s							
YSS				MLR	MLR			
	comp=E,24μm,18.0s							
YSS	**Yuzh-Sakhalins**	**53.15**	**353**	*e*P	**P**	**13**	**13**	**24.4 -0.3**
	comp=E,138nm,1.0s							
YSS				LR	LR			
	comp=Z,35μm,19.0s							
COCO	**West Island**	**53.30**	**259**	P	**P**	**13**	**13**	**26.7 +0.3**
COCO				pmax	pmax			
	comp=Z,2μm,0.9s							
COCO				MLR	MLR			
	comp=Z,87μm,21.0s							
COCO	**West Island**	**53.30**	**259**	P	**P**	**13**	**13**	**26.7 +0.3**
	comp=Z,2μm,0.9s							
COCO				LR	LR			
	comp=Z,87μm,21.0s							
ENH	**Enshi**	**53.33**	**315**	PFAKE		13	13	40.0 +14
ENH				LR	LR			
	comp=Z,11μm,22.0s							
GYA	**Guiyang**	**53.34**	**309**	⇑*i*P	**P**	**13**	**13**	**28.8 +2.1**
GYA				pP	**pP**	**13**	**13**	**40.0 +0.5**
GYA				sP	**sP**	**13**	**13**	**45.6 +0.8**
GYA				PP	**PP**	**13**	**15**	**30.3 +2.9**
GYA				ScP	**ScP**	**13**	**18**	**27.9 0.0**
GYA				S	**S**	**13**	**20**	**57.8 +2.2**
GYA				SS	**SS**	**13**	**24**	**35.0 -1.2**
GYA				PMZ				
	comp=Z,120nm,1.0s							
GYA				LN				
	comp=Z,88μm,23.9s							
GYA				LE				
	comp=Z,160μm,23.0s							
GYA				LZ				
	comp=Z,197μm,21.7s							
GSI	**Gunungsitoli**	**53.35**	**276**	P	**P**	**13**	**13**	**26.2 -0.6**
	comp=Z,558nm,1.1s,comp=Z,14μm							
GSI	**Gunungsitoli**	**53.35**	**276**	*e*P	**P**	**13**	**13**	**26.2 -0.6**
	comp=Z,610nm,1.1s							
SNY	**Shenyang**	**53.56**	**335**	⇑P	**P**	**13**	**13**	**29.4 +1.6**
SNY				S	**S**	**13**	**20**	**56.3 -1.5**
SNY				PMZ				
	comp=Z,14μm,5.0s							
SNY				LN				
	comp=Z,45μm,20.3s							
SNY				LE				
	comp=Z,70μm,19.3s							
SNY				LZ				
	comp=Z,106μm,21.1s							
SURT	**Suratani**	**53.65**	**286**	P	**P**	**13**	**13**	**30.1 +1.1**
	comp=Z,58nm,0.7s,comp=Z,3μm							
MDJ	**Mudanjiang**	**53.77**	**342**	P	**P**	**13**	**13**	**30.4 +1.1**
MDJ				pP	**pP**	**13**	**13**	**41.9 -0.3**
MDJ				sP	**sP**	**13**	**13**	**46.3 -1.1**
MDJ				PcP	**PcP**	**13**	**14**	**34.4 -0.4**
MDJ				PP	**PP**	**13**	**15**	**32.0 +1.2**
MDJ				ScP	**ScP**	**13**	**18**	**29.8 +0.6**
MDJ				PcS	**PcS**	**13**	**18**	**34.3 +0.4**
MDJ				S	**S**	**13**	**21**	**04.3 +3.8**
MDJ				PMZ				
	comp=Z,110nm,1.3s							
MDJ				PMZ				
	comp=Z,21μm,9.3s							
MDJ				LN				
	comp=Z,66μm,26.3s							
MDJ				LE				
	comp=Z,29μm,21.0s							
MDJ				LZ				
	comp=Z,93μm,21.0s							
MDJ	**Mudanjiang**	**53.77**	**342**	*e*P	**P**	**13**	**13**	**30.6 +1.3**
	comp=Z,1μm,1.6s							
MDJ				LR	LR			
	comp=Z,102μm,22.0s							
PKDT	**Phuket**	**53.84**	**284**	P	**P**	**13**	**13**	**31.9 +1.5**
	comp=Z,266nm,1.2s,comp=Z,8μm							
PBKT	**Sadao Pong**	**53.88**	**295**	P	**P**	**13**	**13**	**33.0 +2.4**
	comp=Z,100nm,1.3s,comp=Z,7μm							
LOEI	**Loei**	**53.94**	**297**	P	**P**	**13**	**13**	**30.7 -0.4**
	comp=Z,96nm,1.6s							
CN2	**Changchun**	**54.48**	**338**	*e*S	**S**	**13**	**21**	**11.4 +1.2**
LHMI	**Lhok Sumawe**	**54.63**	**281**	P	**P**	**13**	**13**	**37.6 +1.4**
	comp=Z,325nm,1.1s,comp=Z,19μmcomp=Z,130μm							
LHMI	**Lhok Sumawe**	**54.63**	**281**	*e*P	**P**	**13**	**13**	**35.9 -0.2**
	comp=Z,191nm,0.8s							
SRDT	**SRDT**	**54.83**	**292**	P	**P**	**13**	**13**	**40.0 +2.4**
	comp=Z,349nm,1.5s,comp=Z,26μm							
UTHA	**Uthaitani**	**54.92**	**294**	P	**P**	**13**	**13**	**40.3 +2.1**
	comp=Z,37nm,0.8s,comp=Z,521nm							
BJT	**Baijiatuau**	**55.64**	**328**	*e*P	**P**	**13**	**13**	**43.0 0.0**
BJT				pmax	pmax			
	comp=Z,772nm,1.6s							
BJT				MLR	MLR			
	comp=Z,133μm,20.0s							
BJT	**Baijiatuau**	**55.64**	**328**	*e*P	**P**	**13**	**13**	**43.0 0.0**
	comp=Z,772nm,1.6s							
BJT				LR	LR			
	comp=Z,133μm,20.0s							
BJI	**Beijing**	**55.66**	**328**	P	**P**	**13**	**13**	**44.0 +0.9**
BJI				pP	**pP**	**13**	**13**	**57.6 +1.7**
BJI				S	**S**	**13**	**21**	**26.9 +0.9**
BJI				SS	**SS**	**13**	**25**	**06.8 -5.2**
BJI				LN				
	comp=Z,117μm,20.3s							
BJI				LE				
	comp=Z,72μm,21.0s							
BJI				LZ				
	comp=Z,100μm,21.6s							
KMI	**Kunming**	**55.79**	**306**	P	**P**	**13**	**13**	**46.3 +1.7**
KMI				pP	**pP**	**13**	**13**	**55.3 -2.2**
KMI				sP	**sP**	**13**	**14**	**01.8 -1.0**
KMI				PP	PP	13	15	55.9 +6.3
KMI				S	**S**	**13**	**21**	**28.3 -0.6**
KMI				sS	**sS**	**13**	**21**	**47.1 -3.3**
KMI				SS	**SS**	**13**	**25**	**11.5 -3.7**
KMI				PMZ				
	comp=Z,10μm,11.1s							
KMI				LN				
	comp=Z,59μm,22.1s							
KMI				LE				
	comp=Z,82μm,21.6s							
KMI				LZ				
	comp=Z,138μm,28.7s							
HABR	**Khabarovsk**	**55.90**	**348***d*	*i*P	**P**	**13**	**13**	**44.9 +0.3**
HABR				*e**PP	**pP**	**13**	**13**	**56.4 -1.1**
HABR				*e**SP	**sP**	**13**	**14**	**01.5 -1.3**
HABR				*e*		13	14	42.9
HABR				*e*		13	15	49.7
HABR				*e*PPP	PPP	13	17	04.0
HABR				*e*S	**S**	**13**	**21**	**30.5 +1.6**
HABR				*e*		13	21	44.6
HABR				*e**SS	**sS**	**13**	**21**	**50.6 +0.1**
HABR				*e*		13	23	30.6
HABR				*e*SS	**SS**	**13**	**25**	**18.0 +2.5**
HABR				pmax	pmax			
	comp=N,128nm,3.2s							
HABR				pmax	pmax			
	comp=Z,377nm,3.2s							
HABR				pmax	pmax			
	comp=E,21nm,1.0s							
HABR				pmax	pmax			
	comp=Z,9μm,5.8s							
HABR				MLR	MLR			
	comp=E,23μm,20.0s							
HABR				MLR	MLR			
	comp=N,27μm,17.0s							
HABR				MLR	MLR			
	comp=Z,38μm,17.0s							
XAN	**Xi'an**	**55.94**	**318**	P	**P**	**13**	**13**	**46.8 +1.5**
XAN				pP	**pP**	**13**	**13**	**54.0 -4.2**
XAN				S	S	13	21	19.5 -11
XAN				LN				
	comp=Z,93μm,18.4s							
XAN				LE				
	comp=Z,27μm,20.8s							
XAN				LZ				
	comp=Z,72μm,20.8s							
TIY	**Taiyuan**	**56.09**	**324**	*e*P	**P**	**13**	**13**	**48.4 +2.0**
TIY				pP	pP	13	14	06.0 +6.7
TIY				S	**S**	**13**	**21**	**33.5 +1.4**
TIY				PMZ				
	comp=Z,280nm,1.8s							
TIY				PMZ				
	comp=Z,12μm,7.4s							
TIY				LN				
	comp=Z,188μm,21.5s							
TIY				LE				
	comp=Z,54μm,18.6s							
TIY				LZ				
	comp=Z,208μm,21.3s							
CM10	**Chiang Mai Arr**	**56.28**	**297**	⇓P	**P**	**13**	**13**	**50.6 +2.7**
	baz=56							
CM31	**Chiang Mai Arr**	**56.34**	**297**	*e*P	**P**	**13**	**13**	**48.9 +0.5**
	comp=Z,78nm,0.9s							
CMAR	**Chiang Mai Arr**	**56.34**	**297**	P	**P**	**13**	**13**	**50.8 +2.3**
	comp=Z,17nm,0.7s,baz=117,slow=5.3,SNR=59							
CMAR				ScP	**ScP**	**13**	**18**	**42.8 +1.7**
	comp=Z,16nm,0.9s,baz=111,slow=3.3,SNR=5.7							
CMAR				LR	LR	13	40	29.0
	comp=Z,37μm,18.1s,baz=107,slow=39							
CMAR				PKPPKP	P'P'df	13	43	32.6 -13
	comp=Z,4.6nm,1.0s,baz=289,slow=2.8,SNR=8.0							
CM13	**Chiang Mai Arr**	**56.36**	**297**	⇓P	**P**	**13**	**13**	**51.0 +2.5**
	baz=57							
CMMT	**Chiang Mai**	**56.47**	**297**	P	**P**	**13**	**13**	**51.5 +2.2**
	comp=Z,132nm,1.0s,comp=Z,10μm							
CHTO	**Chiang Mai**	**56.47**	**297**	P	**P**	**13**	**13**	**51.5 +2.2**
	comp=Z,258nm,0.7s,comp=Z,41μm							
CHTO	**Chiang Mai**	**56.47**	**297**	*e*P	**P**	**13**	**13**	**49.7 +0.4**
CHTO				MLR	MLR			
	comp=Z,59μm,20.0s							
CHTO	**Chiang Mai**	**56.47**	**297**	*e*P	**P**	**13**	**13**	**49.7 +0.4**
CHTO				LR	LR			
	comp=Z,59μm,20.0s							
SKR	**Severo-Kuril's**	**56.64**	**4**	*i*P	**P**	**13**	**13**	**48.0 -1.9**
SKR				*e*		13	14	42.0
SKR				*e*		13	16	06.0
SKR				*e*S	S	13	21	32.0 -6.7
SKR				pmax	pmax			
	comp=N,60nm,0.8s							
SKR				pmax	pmax			
	comp=Z,80nm,0.8s							
SKR				pmax	pmax			
	comp=N,10μm,16.0s							
SKR				pmax	pmax			
	comp=E,4μm,16.0s							
SKR				pmax	pmax			
	comp=Z,15μm,16.0s							
SKR				smax	smax			
	comp=E,27μm,24.0s							
SKR				smax	smax			
	comp=N,27μm,22.0s							
SKR				MLR	MLR			
	comp=N,38μm,18.0s							
SKR				MLR	MLR			
	comp=E,44μm,18.0s							
SKR				MLR	MLR			
	comp=Z,67μm,18.0s							
TYV	**Tymovskoe**	**57.02**	**354**	*e*P	**sP**	**13**	**14**	**10.0 -0.8**
TYV				pmax	pmax			
	comp=E,4μm,12.0s							
MHMT	**Maesarieng**	**57.15**	**296**	P	**P**	**13**	**13**	**57.1 +3.0**
	comp=E,62nm,0.8s,comp=E,3μm							
HON	**Honolulu**	**57.31**	**60**	*e*P	**P**	**13**	**13**	**56.7 +1.5**
HON	**Honolulu**	**57.31**	**60**	*e*P	**P**	**13**	**13**	**56.7 +1.5**
KIP	**Kipapa**	**57.34**	**60***c*	*i*P	**P**	**13**	**13**	**56.5 +1.1**
KIP				pmax	pmax			
	comp=Z,2μm,1.7s							
KIP	**Kipapa**	**57.34**	**60**	*e*P	**P**	**13**	**13**	**56.6 +1.2**
	comp=Z,839nm,1.0s							
KIP				LR	LR			
	comp=Z,111μm,20.0s							
KLR	**Kul'dur**	**57.37**	**345**	*e*P	P	13	13	51.7 -3.4
KLR				*e*S	**S**	**13**	**21**	**53.0 +4.6**
KLR				*e*		13	27	52.5
KLR				pmax	pmax			
	comp=N,1μm,3.2s							
KLR				pmax	pmax			
	comp=E,1μm,3.2s							
KLR				pmax	pmax			
	comp=Z,3μm,3.2s							
CD2	**Chengdu**	**57.81**	**312**	P	P	13	14	01.9 +3.3
CD2				pP	pP	13	14	17.3 +5.7
CD2				PP	**PP**	**13**	**16**	**10.9 +3.6**
CD2				S	**S**	**13**	**21**	**54.8 -0.2**
CD2				PMZ				
	comp=Z,200nm,0.7s							
CD2				PMZ				
	comp=Z,15μm,10.8s							
CD2				LN				
	comp=Z,161μm,24.0s							
CD2				LZ				
	comp=Z,246μm,21.6s							
CMBY	**CAMPBELL BAY**	**57.92**	**282**	*e*P	**P**	**13**	**13**	**58.7 -1.0**
HHC	**Hu-ho-hao-te**	**58.71**	**326**	⇑P	**P**	**13**	**14**	**06.0 +1.2**
HHC				pP	**pP**	**13**	**14**	**19.3 +1.5**
HHC				S	**S**	**13**	**22**	**06.3 -0.2**
HHC				SS	**SS**	**13**	**26**	**01.8 +1.4**
HHC				LN				
	comp=Z,110μm,19.7s							
HHC				LE				
	comp=Z,81μm,16.0s							
HHC				LZ				
	comp=Z,162μm,21.0s							
POHA	**Pohakuloa**	**58.90**	**63**	*e*P	**P**	**13**	**14**	**08.1 +1.4**
	comp=Z,1μm,0.8s							
POHA				LR	LR			
	comp=Z,148μm,20.0s							
STCH	**Steam Cracks**	**59.14**	**63**	*e*P	**P**	**13**	**14**	**09.4 +1.3**
	comp=Z,371nm,0.7s							
PEA0B	**Petropavlovsk-**	**59.18**	**5**	*e*P	**P**	**13**	**14**	**07.0 -0.7**
PETK	**Petropavlovsk-**	**59.18**	**5**	P	**P**	**13**	**14**	**07.8 +0.1**
	comp=Z,97nm,0.8s,baz=173,slow=6.9,SNR=38							
PETK				LR	LR	13	36	05.7
	comp=Z,97μm,21.6s,baz=191,slow=32							
PETK				PKP2bc		13	43	50.4
	comp=Z,10nm,0.9s,baz=67,slow=4.8,SNR=7.3							
PET	**Petropavlovsk**

PET smax smax
comp=N,11µm,18.0s
PET Petropavlovsk 59.18 6 *e*P **P 13 14 06.8 -0.9**
comp=N,114nm,0.9s
PET LR LR
comp=Z,108µm,21.0s
BTO Baotou 59.42 325 *e*P **P 13 14 08.5 -1.2**
BTO S **S 13 22 16.9 +1.2**
NKL Nikolayevsk 59.49 353 *i* P **P 13 14 10.0 +0.2**
NKL pmax pmax
comp=E,43nm,1.0s
NKL pmax pmax
comp=N,4µm,15.0s
NKL pmax pmax
comp=E,2µm,15.0s
NKL pmax pmax
comp=Z,18µm,15.0s
PPT Papeete 59.55 107 P **P 13 14 12.8 +1.9**
comp=Z,119nm,0.7s,baz=180,slow=4.4,SNR=13
PPT PKP2bc 13 43 54.5
comp=Z,70nm,0.8s,baz=14,slow=2.2,SNR=5.6
PPT2 Papeete2 59.55 107 *e*PP PP 13 16 21.0 -1.9
comp=Z,15µm,27.5s
PPT2 *e*S **S 13 22 16.1 -2.0**
comp=Z,160µm,28.8s
PPT2 *e*LQ LQ 13 29 09.5
comp=Z,190µm,31.8s
PPT2 *e*LR LR 13 31 34.2
comp=Z,80µm,27.0s
PAE Paea 59.55 107 *e*P **P 13 14 12.6 +1.7**
comp=Z,79nm,1.0s
PAE Paea 59.55 107 *e*P'P' **P'P'bc 13 43 52.5 -0.1**
comp=Z,49nm,1.5s
TIAR Tiarei 59.77 107 *e*P **P 13 14 14.4 +1.9**
comp=Z,159nm,1.0s
TIAR Tiarei 59.77 107 *e*P'P' **P'P'bc 13 43 50.2 -2.0**
comp=Z,76nm,1.0s
TVO Taravao 59.87 107 *e*P **P 13 14 15.2 +2.0**
comp=Z,214nm,1.3s
TVO Taravao 59.87 107 *e*P'P' **P'P'bc 13 43 50.5 -1.5**
comp=Z,128nm,1.1s
PBA Port Blair 60.08 287 *e*P P 13 14 14.6 0.0
TBI Tubuai 60.16 113 *e*P **P 13 14 16.2 +1.2**
comp=Z,683nm,1.2s
TBI Tubuai 60.16 113 *e*PP PP 13 16 27.2 -0.9
comp=Z,11µm,29.5s
TBI *e*S **S 13 22 23.4 -2.2**
comp=Z,132µm,32.5s
TBI *e*SS **SS 13 26 24.5 +1.1**
comp=Z,69µm,27.8s
TBI *e*LQ LQ 13 29 28.5
comp=Z,71µm,31.5s
TBI *e*LR LR 13 32 00.9
comp=Z,182µm,32.0s
DGPR DIGLIPUR 60.27 289 *e*P **P 13 14 16.2 +0.3**
DGPR AMB AMB 13 14 55.8
comp=Z,208nm,0.0s
LZH Lanzhou 60.52 317 ⇑P **P 13 14 18.5 +1.1**
LZH pP **pP 13 14 29.3 -1.2**
LZH sP **sP 13 14 36.1 +0.4**
LZH PcP **PcP 13 15 02.6 +0.9**
LZH PP **PP 13 16 30.5 -0.8**
LZH S **S 13 22 28.1 -2.0**
LZH sS **sS 13 22 53.0 +1.1**
LZH PMZ
comp=Z,1µm,1.5s
LZH PMZ
comp=Z,6µm,4.6s
LZH LN
comp=Z,98µm,17.4s
LZH LE
comp=Z,126µm,17.0s
LZH LZ
comp=Z,135µm,18.2s
MEH Mehetia 61.00 107 *e*P **P 13 14 22.4 +1.5**
comp=Z,107nm,0.9s
PMOR Pomariorio Ree 61.06 104 *e*P **P 13 14 23.3 +2.1**
comp=Z,2µm,1.2s
HIA Hailar 61.21 338 *e*P **P 13 14 22.7 +1.0**
HIA pmax pmax
comp=Z,239nm,0.7s
HIA MLR MLR
comp=Z,112µm,20.0s
HIA Hailar 61.21 338 *e*P **P 13 14 22.7 +1.0**
comp=Z,239nm,0.7s
HIA LR LR
comp=Z,112µm,20.0s
VAH Vaihoa 61.32 104 *e*P **P 13 14 24.7 +1.7**
comp=Z,624nm,1.1s
SMY Shemya 61.82 16 *e*P **P 13 14 25.2 -0.5**
SMY pmax pmax
comp=Z,187nm,0.8s
SMY Shemya 61.82 16 *e*P **P 13 14 25.2 -0.5**
comp=Z,187nm,0.8s
AMKA Amchitka 62.24 20 *e*P **P 13 14 27.1 -1.4**
comp=Z,262nm,0.8s
GSTR Great Sitkin T 64.49 22 *e*P **P 13 14 44.8 +1.4**
comp=Z,167nm,0.7s
SHL Shillong 64.96 302 *e*P **P 13 14 46.8 -0.5**
SHL AMB AMB 13 14 55.5
comp=Z,221nm,0.0s
SHL *ex* **S 13 23 24.0 -2.3**
GTA Gaotai 65.00 319 ⇑P **P 13 14 48.5 +1.3**
GTA pP **pP 13 15 02.3 +2.0**
GTA sP **sP 13 15 06.8 +1.2**
GTA S **S 13 23 25.8 -0.4**
GTA sS **sS 13 23 47.5 -0.6**
GTA SS **SS 13 27 40.6 +1.6**
GTA PMZ
comp=Z,8µm,7.1s
GTA LN
comp=Z,47µm,19.7s
GTA LE
comp=Z,61µm,18.5s
GTA LZ
comp=Z,110µm,19.0s
MA2 Magadan 65.35 0⇑ *e*P **P 13 14 49.8 +1.0**
CIT Chita 65.81 336 *e*P **P 13 14 53.5 +1.4**
CIT *e* 13 15 06.5
CIT *e* 13 15 27.5
CIT *e* 13 17 15.1
CIT *e* 13 23 29.9
CIT *e* 13 27 47.8
CIT pmax pmax
comp=Z,1µm,4.4s
ULN Ulaanbaatar 65.82 329 PFAKE 13 15 00.0 +7.6
ULN LR LR
comp=Z,99µm,21.0s
CLNS Chul'man 66.02 345 *e*P **P 13 14 54.1 +0.8**
CLNS *e**PP **pP 13 15 06.3 -0.1**
CLNS *e* 13 17 20.6
CLNS *e*PPP PPP 13 18 56.0
CLNS *e*S **S 13 23 37.8 +0.1**
CLNS *e*SS **SS 13 27 51.6 -2.4**
CLNS pmax pmax
comp=Z,91nm,0.8s
CLNS pmax pmax
comp=N,85nm,1.2s
CLNS pmax pmax
comp=E,30nm,1.1s
CLNS pmax pmax
comp=E,21nm,0.6s
CLNS pmax pmax
comp=N,51nm,1.3s
CLNS pmax pmax
comp=Z,50nm,1.1s
CLNS smax smax
comp=N,9µm,10.0s
CLNS smax smax
comp=E,8µm,11.3s
SONM Songino Array 66.14 329 P **P 13 14 55.8 +1.5**
comp=E,108nm,0.9s,baz=143,slow=5.4,SNR=73
SONM PKPPKP **P'P'df 13 43 26.3 -1.9**
comp=E,3.9nm,0.9s,baz=328,slow=2.1,SNR=6.5
CASY Casey 66.23 196 *e*P **P 13 14 54.2 -0.2**
comp=E,674nm,1.3s
CASY LR LR
comp=Z,94µm,20.0s
LSA Lhasa 67.05 306 P **P 13 15 01.3 +0.3**
LSA S **S 13 23 48.8 -3.3**
LSA LN
comp=Z,31µm,24.1s
LSA LE
comp=Z,71µm,28.5s
LSA LZ
comp=Z,99µm,28.5s
LSA Lhasa 67.05 306 *e*P **P 13 15 01.4 +0.5**
LSA pmax pmax
comp=Z,78nm,0.6s
LSA MLR MLR
comp=Z,98µm,21.0s
LSA Lhasa 67.05 306 *e*P **P 13 15 01.4 +0.5**
comp=Z,78nm,0.6s
LSA LR LR
comp=Z,98µm,21.0s
SEY Seymchan 68.73 1 P **P 13 15 10.0 -0.2**
comp=Z,92nm,1.2s,baz=171,slow=6.1,SNR=21
SEY PKPPKP **P'P'df 13 43 22.4 0.0**
comp=Z,6.3nm,1.0s,baz=70,slow=1.2,SNR=5.6
SEY Seymchan 68.73 1*c* *i*P **P 13 15 09.9 -0.3**
TAOE Nuku Hiva Isla 68.73 97 *e*P **P 13 15 12.8 +1.4**
comp=Z,1µm,1.3s
TAOE *e*S **S 13 24 12.6 +0.6**
comp=Z,91µm,28.0s
TAOE *e*SS **SS 13 28 37.7 +0.1**
comp=Z,55µm,31.0s
TAOE *e*LR LR 13 35 51.2
comp=Z,73µm,22.7s
TAPN Taplejung 69.08 302 *e*P **P 13 15 15.3 +1.7**
comp=Z,506nm,1.1s
ODAN Odare 69.20 302 *e*P **P 13 15 15.3 +1.1**
comp=Z,259nm,0.6s
ZAK Zakamensk 69.34 330 *e*P **P 13 15 15.0 +0.6**
ZAK pmax pmax
comp=Z,219nm,1.4s
BOK Bokaro 69.58 298 *e*P **P 13 15 16.6 +0.2**
UNV Unalaska Valle 69.65 26 *e*P **P 13 15 14.8 -1.3**
comp=Z,154nm,0.8s
YAK Yakutsk 69.70 350 P **P 13 15 16.2 0.0**
comp=Z,6.2nm,0.5s,baz=342,slow=22,SNR=29
YAK Yakutsk 69.70 350*c* *i*P **P 13 15 15.9 -0.3**
YAK *e**PP **pP 13 15 27.0 -2.5**
YAK *e* 13 15 38.1
YAK *e* 13 17 51.1
YAK *e*PPP PPP 13 19 32.4
YAK *e*S **S 13 24 22.4 +1.0**
YAK *e* 13 25 10.9
YAK *e*SS **SS 13 28 49.4 -1.1**
YAK pmax pmax
comp=E,30nm,1.2s
YAK pmax pmax
comp=Z,342nm,1.4s
YAK pmax pmax
comp=N,145nm,1.4s
YAK pmax pmax
comp=N,4µm,7.2s
YAK pmax pmax
comp=Z,6µm,7.1s
YAK pmax pmax
comp=E,1µm,5.6s
YAK smax smax
comp=E,5µm,6.9s
YAK smax smax
comp=N,11µm,11.0s
YAK MLR MLR
comp=N,36µm,19.0s
YAK MLR MLR
comp=Z,31µm,17.0s
YAK MLR MLR
comp=E,16µm,16.0s
YAK Yakutsk 69.70 350 *e*P **P 13 15 15.9 -0.3**
comp=E,430nm,1.1s
YAK LR LR
comp=Z,50µm,19.0s
CHLP Challavanipeta 69.86 292 *e*P **P 13 15 18.7 +0.6**
CHLP IAmb IAmb 13 15 22.2
comp=Z,209nm,0.5s
CHLP *e*sP sP 13 15 28.4 -8.2
CHLP *e*S **S 13 24 19.3 -5.6**
CHLP *e*SKSac **SKSac 13 25 11.1 -4.7**
CHLP *e*SS **SS 13 28 52.9 -1.8**
CHLP IVMs_BB IVMs_BB 13 48 27.0
comp=Z,14µm,23.2s
RAMN Ramite 69.90 301 *e*P **P 13 15 19.7 +1.2**
comp=Z,291nm,0.9s
TLY Talaya 69.98 331 P **P 13 15 19.2 +1.0**
comp=Z,12nm,0.6s,baz=163,slow=4.9,SNR=24
TLY PKPPKP **P'P'df 13 43 23.0 +1.6**
comp=Z,6.1nm,0.8s,baz=259,slow=5.9,SNR=11
TLY Talaya 69.98 331*c* *i*P **P 13 15 18.9 +0.7**
TLY *e* 13 15 48.9
TLY *e* 13 17 49.6
TLY *e*S **S 13 24 21.6 -3.6**
TLY *e* 13 25 13.4
TLY pmax pmax
comp=Z,206nm,1.4s
TLY MLR MLR
comp=Z,76µm,19.0s
TLY Talaya 69.98 331 P **P 13 15 19.4 +1.2**
comp=Z,652nm,1.3s,SNR=58
TLY Talaya 69.98 331 *e*P **P 13 15 19.0 +0.8**
comp=Z,219nm,1.4s
TLY P'P' 13 43 23.0
TLY LR LR
comp=Z,97µm,21.0s
IRK Irkutsk 70.04 332 *e*P **P 13 15 18.3 -0.3**
IRK *e* 13 17 49.2
IRK *e*S **S 13 24 31.1 +5.2**
IRK pmax pmax
comp=Z,473nm,3.4s
BOD Bodaibo 70.10 340 *e*P **P 13 15 19.2 +0.4**
BOD pmax pmax
comp=Z,156nm,1.4s
AKUT Akutan 70.16 26 *e*P **P 13 15 18.9 -0.3**
comp=Z,195nm,0.6s
VIS Vishakhapatnam 70.35 291 *e*P **P 13 15 21.2 +0.1**
GUN Gumba 70.80 302 *e*P **P 13 15 25.4 +1.2**
comp=Z,462nm,0.8s
PALK Pallekele 70.89 280 P **P 13 15 26.3 +1.7**
comp=Z,1µm,0.6s,SNR=42
PALK Pallekele 70.89 280 LR LR 13 48 48.9
comp=Z,48µm,21.5s,baz=110,slow=38
PALK Pallekele 70.89 280 *e*P **P 13 15 25.1 +0.5**
PALK pmax pmax
comp=Z,272nm,1.0s
PALK Pallekele 70.89 280 ⇑ *i*P **P 13 15 24.7 +0.1**
SNR=29
PALK Pallekele 70.89 280 *e*P **P 13 15 25.1 +0.5**
comp=Z,272nm,1.0s
PKI Pulchoki 71.10 302 *e*P **P 13 15 26.6 +0.7**
comp=Z,673nm,1.1s
PKIN Phulchoki 71.11 302 *e*P **P 13 15 27.2 +1.3**
comp=Z,787nm,1.5s
MOY Mondy 71.27 330 *e*P **P 13 15 26.5 +0.3**
MOY pmax pmax
comp=Z,871nm,3.7s
KKN Kakani 71.27 302 *e*P **P 13 15 27.9 +1.0**
comp=Z,204nm,0.8s
DMN Daman 71.36 302 *e*P **P 13 15 28.6 +1.1**
comp=Z,695nm,1.0s
FALS False Pass 71.67 26 *e*P **P 13 15 27.1 -1.2**
comp=Z,132nm,0.8s
VNDA Vanda 71.75 177 P **P 13 15 28.9 +0.3**
comp=Z,420nm,0.9s,baz=329,slow=6.5,SNR=423
VNDA Vanda 71.75 177 P **P 13 15 28.9 +0.3**
VNDA pmax pmax
comp=Z,420nm,0.9s
VNDA Vanda 71.75 177 *e*P **P 13 15 29.0 +0.5**
comp=Z,523nm,1.0s
PVM Polavaram 71.83 290 *e*P **P 13 15 30.6 +0.4**
PVM IAmb IAmb 13 15 36.2
comp=Z,154nm,0.9s
PVM *e*sP sP 13 15 41.0 -7.6
PVM *e*PcP **PcP 13 15 48.9 +0.1**
PVM *e*S **S 13 24 43.4 -4.5**
PVM *e*SKSac SKSac 13 25 23.0 -7.8
PVM *e*SS **SS 13 29 26.8 +1.7**
PVM IVMs_BB IVMs_BB 13 48 38.3
comp=Z,13µm,22.6s
GKN Gorkha 71.88 302 *e*P **P 13 15 31.5 +1.1**
comp=Z,359nm,0.9s
MDRS Chennai 72.31 286 *e*P **P 13 15 31.9 -1.1**
SBA Scott Base 72.34 176 *e*P **P 13 15 33.6 +1.6**
SBA pmax pmax
comp=Z,40nm,0.7s
SBA MLR MLR
comp=Z,53µm,22.0s
SBA Scott Base 72.34 176 *e*P **P 13 15 33.6 +1.6**
comp=Z,40nm,0.7s
SBA LR LR
comp=Z,53µm,22.0s
KOLN Koldanda 72.69 301 *e*P **P 13 15 36.1 +0.8**
comp=Z,384nm,0.8s
DANN Dangsing 72.72 302 *e*P **P 13 15 36.2 +0.6**
comp=Z,97nm,1.4s
SKHT Srikalahasti 72.94 286 *e*P **P 13 15 37.1 +0.3**
SKHT IAmb IAmb 13 15 39.9
comp=Z,113nm,0.6s
SKHT *e*pP pP 13 15 44.4 -5.7
SKHT *e*sP sP 13 15 48.0 -7.3
SKHT *e*PcP **PcP 13 15 52.2 -1.4**
SKHT *e*PP **PP 13 18 15.8 -4.0**
SKHT *e*S **S 13 24 56.4 -4.3**
SKHT *e*SKSac **SKSac 13 25 36.9 -2.3**
SKHT IVMsBB 14 09 19.9
comp=Z,14µm,24.1s
ADKI Addanki 73.10 288 *e*P **P 13 15 37.7 0.0**
ADKI IAmb IAmb 13 15 43.8
comp=Z,199nm,0.8s
ADKI *e*sP sP 13 15 48.0 -8.2
ADKI *e*PcP **PcP 13 15 52.8 -1.5**
ADKI *e*PP **PP 13 18 19.6 -1.5**
ADKI *e*S **S 13 25 02.6 +0.2**
ADKI *e*SKSac **SKKSac 13 25 40.9 +0.3**
ADKI *e* 13 29 32.5
ADKI IVMs_BB IVMs_BB 13 50 39.6
comp=Z,20µm,23.8s
SDPT Sand Point 73.28 27 *e*P **P 13 15 36.9 -1.1**
comp=Z,325nm,0.8s
RKT Rikitea 73.44 112 *e*P **P 13 15 40.7 +1.1**
comp=Z,551nm,1.1s
RKT Rikitea 73.44 112 *e*PP PP 13 18 20.7 -3.1
comp=Z,12µm,28.0s
RKT *e*S **S 13 25 05.3 -0.8**
comp=Z,61µm,33.8s
RKT *e*SS **SS 13 29 47.9 -1.5**
comp=Z,59µm,35.2s
RKT *e*LQ LQ 13 35 01.3
comp=Z,51µm,34.8s
RKT *e*LR LR 13 38 12.1
comp=Z,110µm,30.8s
NJS Nagarjunasagar 73.86 289 *e*P **P 13 15 42.4 +0.2**
NJS IAmb IAmb 13 15 47.8
comp=Z,112nm,1.0s
NJS *e*PP PP 13 18 20.5 -7.1
NJS *e*S **SKiKP 13 25 06.2 -1.6**
NJS *e*SKSac **SKSac 13 25 43.5 -2.6**
NJS *e*SS **SS 13 29 51.6 -4.5**
NJS IVMs_BB IVMs_BB 13 47 23.2
comp=Z,13µm,24.6s
RCLA Racherla 73.98 288 *e*P **P 13 15 42.1 -0.8**
RCLA IAmb IAmb 13 15 48.2
comp=Z,59nm,0.7s
RCLA *e*sP sP 13 15 53.8 -7.6
RCLA *e*PcP **pP 13 15 56.6 +0.4**
RCLA *e*PP **PP 13 18 28.4 -0.2**
RCLA *e*S **SKiKP 13 25 04.0 -4.0**
RCLA *e*SKSac **SKSac 13 25 44.2 -2.8**
RCLA *e* 13 30 09.3
RCLA IVMs_BB IVMs_BB 13 49 35.0
comp=Z,13µm,26.7s
SRLM Srisailam 74.16 289 *e*P **P 13 15 44.0 0.0**
SRLM IAmb IAmb 13 15 46.8
comp=Z,267nm,0.6s
SRLM *e*pP pP 13 15 51.5 -5.9
SRLM *e*sP sP 13 15 55.8 -6.8
SRLM *e*PP PP 13 18 21.8 -8.4
SRLM *e*S **SKiKP 13 25 09.7 +1.3**
SRLM *e*SKSac **SKSac 13 25 44.6 -3.9**
SRLM IVMs_BB IVMs_BB 13 51 35.1
comp=Z,16µm,22.4s
RPR Rampur 74.34 291 *e*P **P 13 15 44.6 -0.3**
RPR IAmb IAmb 13 15 50.8
comp=Z,202nm,1.0s
RPR *e*pP pP 13 15 52.2 -6.1
RPR *e*sP sP 13 15 56.2 -7.3
RPR *e*PcP **pwP 13 15 58.7 +0.4**
RPR *e*PP **PP 13 18 28.7 -2.9**
RPR *e*S **S 13 25 12.6 -3.7**
RPR *e*SKSac **SKSac 13 25 48.9 -0.8**
RPR *e*SS **SS 13 29 58.5 -4.7**
RPR IVMs_BB IVMs_BB 13 52 11.0
comp=Z,14µm,23.7s
TRD Trivandrum 74.74 280 *e*P **P 13 15 48.4 +1.1**
TRD AMB AMB 13 15 54.4
comp=Z,287nm,0.6s
HYB Hyderabad 74.74 290 *i* P **P 13 15 47.0 -0.3**
comp=Z,200nm,1.0s
HYB *e* 13 15 57.5
HYB *e* 13 16 01.0
HYB *e*S **SKiKP 13 25 14.0 +4.8**
HYB LR LR 13 52 08.0
comp=Z,49nm,22.0s
HYB Hyderabad 74.74 290 *e*P **P 13 15 47.1 -0.3**
HYBB Hyderabad (bro 74.74 290 *e*P **P 13 15 47.4 0.0**
HYBB IAmb IAmb 13 15 52.8
comp=Z,153nm,0.7s
HYBB *e*sP sP 13 15 58.2 -7.7
HYBB *e*PP **PP 13 18 30.5 -4.6**
HYBB *e*S **S 13 25 15.8 -5.1**
HYBB *e*SS **SS 13 30 05.5 -4.0**
HYBB IVMs_BB IVMs_BB 13 52 03.8
comp=Z,12µm,21.6s
HVS Khovu-Aksy 74.77 327*c* *i*P **P 13 15 48.8 +1.9**
HVS pmax pmax
comp=Z,1µm,1.7s
HVS MLR MLR
comp=Z,238µm,18.0s
CHGN Chignik 74.78 27 *e*P **P 13 15 45.5 -1.1**
NGP Nagpur 75.05 294 *e*P **P 13 15 48.5 -0.5**
NGP *ex* **S 13 25 20.7 -3.5**
WMQ Urumqi 75.08 318 P **P 13 15 49.5 +0.7**
WMQ PcP **pP 13 16 01.4 -0.8**
WMQ pP **PcP 13 16 05.9 +3.6**
WMQ sP sP 13 16 13.3 +5.9
WMQ PP **PP 13 18 40.8 +3.3**
WMQ S **S 13 25 22.3 -1.6**
WMQ ScS **SKSac 13 25 53.1 -1.3**
WMQ SS **SS 13 30 15.0 +1.2**
WMQ PMZ
comp=Z,150nm,1.2s
WMQ PMZ
comp=Z,10µm,10.0s
WMQ LN
comp=Z,75µm,20.1s
WMQ LE
comp=Z,87µm,20.1s
WMQ LZ
comp=Z,105µm,21.6s
SRSP Sriramsagar 75.23 291 *e*P **P 13 15 49.4 -0.7**
SRSP IAmb IAmb 13 15 56.8
comp=Z,356nm,1.3s
SRSP *e*sP sP 13 16 00.9 -7.8
SRSP *e*PP **PP 13 18 37.9 -1.3**
SRSP *e*S **S 13 25 20.9 -5.5**
SRSP *e*SKSac **SKSac 13 25 53.5 -2.9**
SRSP *e*SS **SS 13 30 12.5 -4.5**
SRSP IVMs_BB IVMs_BB 13 51 21.1
comp=Z,13µm,21.9s
URV Uravakonda 75.50 287 *e*P **P 13 15 52.0 +0.3**
URV IAmb IAmb 13 15 55.0
comp=Z,144nm,0.6s
URV *e*pP PcP 13 15 59.4 -5.3
URV *e*sP sP 13 16 02.9 -7.4
URV *e*PP PP 13 18 32.8 -8.7
URV *e*S **S 13 25 24.7 -4.7**
URV *e*SKSac **SKSac 13 25 54.9 -3.6**
URV *e*SS **SS 13 30 18.9 -2.2**
URV IVMs_BB IVMs_BB 13 44 56.0
comp=Z,13µm,28.5s
KLRI Killari 76.69 290 *e*P **P 13 15 58.1 -0.4**
KLRI IAmb IAmb 13 16 02.6
comp=Z,128nm,0.8s
KLRI *e*PcP **PcP 13 16 08.6 -1.2**
KLRI *e*sP sP 13 16 10.0 -7.1
KLRI *e*PP PP 13 18 59.5 +8.0
KLRI *e*S **S 13 25 36.7 -5.8**
KLRI *e*SKSac **SKKSac 13 26 08.1 +0.2**
KLRI *e* 13 30 30.4
KLRI IVMs_BB IVMs_BB 13 53 10.2
comp=Z,25µm,20.6s
AKL Akola 76.82 293 *e*P **P 13 15 59.6 +0.5**
AKL AMB AMB 13 16 05.5
comp=Z,550nm,1.3s
JOSI Joshimath 76.85 303 *e*P **P 13 15 57.9 -1.5**
JOSI AMB AMB 13 16 07.6

comp=Z,900nm,0.9s
BHPL Bhopal 76.97 295 *e*P **P** **13 15 59.9 -0.1**
BHPL AMB AMB 13 16 47.6
comp=Z,256nm,1.5s
H08S2 Diego Garcia H 77.39 264 P **P** **13 16 02.2 0.0**
baz=42,slow=6.4,SNR=25
AGRA Agra 77.40 299 *e*P **P** **13 16 01.3 -0.9**
AGRA AMB AMB 13 16 08.4
comp=Z,103nm,0.7s
H08S3 Diego Garcia H 77.40 264 P **P** **13 16 02.1 -0.2**
baz=42,slow=6.4,SNR=30
H08S1 Diego Garcia H 77.41 264 P **P** **13 16 02.2 -0.1**
baz=42,slow=6.4,SNR=41
DGAR Diego Garcia 77.45 264 P **P** **13 16 04.1 +1.3**
comp=Z,4µm,1.2s,SNR=5.1
DGAR Diego Garcia 77.45 264 P **P** **13 16 03.2 +0.4**
DGAR pmax pmax
comp=Z,1µm,1.3s
DGAR MLR MLR
comp=Z,64µm,22.0s
DGAR Diego Garcia 77.45 264 P **P** **13 16 03.2 +0.4**
comp=Z,1µm,1.3s
DGAR LR LR
comp=Z,64µm,22.0s
TNA Tin City 77.55 16 *e*P **P** **13 16 01.5 -0.8**
comp=Z,177nm,1.3s
OHAK Old Harbor 77.63 28 *e*P **P** **13 16 02.2 -0.6**
comp=Z,351nm,1.1s
KRAR Krasnoyarsk 77.68 331 *c e*P **P** **13 16 04.0 +0.8**
KRAR pmax pmax
comp=Z,149nm,1.7s
KRAR MLR MLR
comp=Z,38µm,21.0s
PTCN Pitcairn Islan 77.89 114 PFAKE 13 16 20.0 +15
PTCN LR LR
comp=Z,50µm,21.0s
DDI Dehra Dun 78.04 303 *e*P **P** **13 16 05.3 -0.5**
DDI AMB AMB 13 16 47.1
comp=Z,218nm,0.7s
BISR Bishrakh 78.15 301 *e*P **P** **13 16 06.6 +0.2**
BISR AMB AMB 13 16 10.5
comp=Z,340nm,0.5s
HMDM Hanimaadhoo 78.20 278 ⇑P P 13 16 10.7 +3.7
baz=78,SNR=4.5
KDAK Kodiak Island 78.25 27 P **P** **13 16 08.0 +1.7**
comp=Z,1µm,0.9s,SNR=11
KDAK Kodiak Island 78.25 27 *e*P **P** **13 16 06.2 -0.1**
KDAK pmax pmax
comp=Z,318nm,1.1s
KDAK MLR MLR
comp=Z,70µm,20.0s
KDAK Kodiak Island 78.25 27 *e*P **P** **13 16 06.2 -0.1**
comp=Z,318nm,1.1s
KDAK LR LR
comp=Z,70µm,20.0s
AYAN Aya Nagar 78.39 301 *e*P **P** **13 16 06.8 -0.9**
GOA Goa 78.86 287 *e*P **P** **13 16 10.7 +0.1**
H08N1 Diego Garcia H 78.96 265 P **P** **13 16 13.7 +2.9**
baz=177,slow=2.4,SNR=18
H08N2 Diego Garcia H 78.98 265 P **P** **13 16 13.8 +2.9**
baz=177,slow=2.4,SNR=16
SMLA Simla 78.98 303 *i* P **P** **13 16 11.5 +0.6**
SMLA AMB AMB 13 16 17.0
comp=Z,530nm,0.4s
SMLA *i* x S 13 25 57.5 -9.1
H08N3 Diego Garcia H 78.98 265 P P 13 16 14.2 +3.3
baz=177,slow=2.4,SNR=18
KKR Kurukshetra 79.00 302 *e*P **P** **13 16 09.7 -1.3**
PAF Port-aux-Franc 79.17 221 *e*P **P** **13 16 12.0 +0.4**
PAF pmax pmax
comp=Z,701nm,1.1s
PAF MLR MLR
comp=Z,57µm,20.0s
PAF Port-aux-Franc 79.17 221 *e*P **P** **13 16 12.0 +0.4**
comp=Z,701nm,1.1s
PAF LR LR
comp=Z,57µm,20.0s
POO Poona 79.34 290 *e*P **P** **13 16 13.7 +0.5**
POO ⇓*i*P **P** **13 16 14.0 +0.8**
comp=Z,1µm,1.2s
POO *i* PP **PP** **13 19 12.0 -1.8**
POO *i* SKS **SKSac** **13 26 25.0 -1.4**
KHET Khetri 79.44 300 *e*P **P** **13 16 13.1 -0.4**
KHET AMB AMB 13 16 20.1
comp=Z,119nm,0.5s
RSO Redoubt South 79.60 25 *e*P **P** **13 16 13.2 -0.7**
comp=Z,168nm,0.7s
MK31 Makanchi Array 79.73 320 P **P** **13 16 14.4 -0.3**
MK31 pmax pmax
comp=Z,136nm,1.0s
MK31 Makanchi Array 79.73 320 *e*P **P** **13 16 14.5 -0.2**
MKAR Makanchi Array 79.73 320 P **P** **13 16 14.9 +0.2**
comp=Z,17nm,0.6s,baz=108,slow=5.9,SNR=61
MKAR PKiKP **PKiKP** **13 21 45.5 -0.3**
comp=Z,8.4nm,0.8s,baz=116,slow=3.4,SNR=4.4
MKAR PKKPbc **PKKPbc** **13 35 02.4 -1.3**
comp=Z,9.7nm,0.8s,baz=274,slow=2.7,SNR=18
MKAR PKPPKP **P'P'df** **13 43 04.1 -0.9**
comp=Z,4.4nm,0.9s,baz=267,slow=2.4,SNR=5.9
MK09 Makanchi Array 79.73 320 ⇑P **P** **13 16 15.2 +0.5**
baz=80
DHRM DHARAMSHALA 79.96 304 *e*P **P** **13 16 16.3 -0.3**
DHRM AMB AMB 13 16 41.4
comp=Z,245nm,0.8s
PDGK Podgornoye 80.49 316 P **P** **13 16 18.5 -0.3**
PDGK pmax pmax
comp=Z,138nm,1.2s
ZAA0 Zalesovo Array 80.88 327 *e*P **P** **13 16 19.5 -1.2**
ZALV Zalesovo Beam 80.88 327 P **P** **13 16 20.1 -0.6**
comp=Z,62nm,0.7s,baz=114,slow=5.6,SNR=57
ZALV PKiKP **PKiKP** **13 21 48.2 +0.9**
comp=Z,6.8nm,0.7s,baz=162,slow=2.9,SNR=4.2
ZALV S **S** **13 26 24.7 -1.0**
comp=Z,6.2nm,0.9s,baz=119,slow=8.4,SNR=4.0
ZALV PKKPbc **PKKPbc** **13 35 00.2 -1.2**
comp=Z,17nm,0.9s,baz=318,slow=3.0,SNR=11
ZALV PKPPKP **P'P'df** **13 43 02.8 +0.5**
comp=Z,19nm,0.9s,baz=299,slow=2.9,SNR=10.0
PPLA Purkeypile 81.13 23 *e*P **P** **13 16 21.0 -1.0**
comp=Z,2µm,1.1s
RC01 Rabbit Creek A 81.20 25 *e*P **P** **13 16 21.5 -0.7**
comp=Z,572nm,1.3s
PMR Palmer 81.70 25 *e*P **P** **13 16 23.7 -1.1**
PMR pmax pmax
comp=Z,115nm,0.8s
PMR Palmer 81.70 25 *e*P **P** **13 16 23.7 -1.1**
comp=Z,114nm,0.8s
MID Middleton Isla 81.91 27 *e*P **P** **13 16 26.0 0.0**
MID pmax pmax
comp=Z,362nm,1.2s
MID Middleton Isla 81.91 27 *e*P **P** **13 16 26.0 0.0**
comp=Z,362nm,1.2s
KSH Kashi 81.98 311 ⇑*i*P **P** **13 16 28.6 +1.5**
KSH pP pP 13 16 47.3 +6.7
KSH PP PP 13 19 42.1 +6.8
KSH S **S** **13 26 38.3 +0.2**
KSH SS SS 13 32 05.1 +7.2
KSH PMZ
comp=Z,190nm,1.0s
KSH PMZ
comp=Z,12µm,7.7s
KSH LN
comp=Z,28µm,13.3s
KSH LE
comp=Z,21µm,11.7s
KSH LZ
comp=Z,50µm,18.9s
NVS Novosibirsk 82.08 327 ⇑*i*P **P** **13 16 25.9 -1.1**
NVS *i* S **S** **13 26 33.1 -5.0**
NVS pmax pmax
comp=N,93nm,1.6s
NVS pmax pmax
comp=E,138nm,1.6s
NVS pmax pmax
comp=Z,315nm,1.6s
NVS smax smax
comp=N,360nm,3.1s
NVS smax smax
comp=E,1µm,3.3s
SML Sawmill 82.14 25 *e*P **P** **13 16 26.6 -0.6**
SML Sawmill 82.14 25 *e*P **P** **13 16 26.6 -0.6**
comp=E,0.9nm,1.0s
TRF Thorofare Moun 82.16 23 *e*P **P** **13 16 25.9 -1.6**
comp=E,49nm,0.8s
BPAW Bear Paw Mtn. 82.23 22 *e*P **P** **13 16 26.3 -1.3**
comp=E,45nm,0.5s
IM04 Indian Mountai 82.24 20 *e*P **P** **13 16 27.3 -0.3**

AAA Alma-Ata 82.25 315 *i* P **P** **13 16 29.2 +0.9**
AAA *i* S **S** **13 26 43.7 +3.2**
AAA smax smax
comp=E,21µm,6.6s
AAA MLR MLR
comp=Z,100µm,12.0s
ULHL Ulahol 82.48 314 P **P** **13 16 31.2 +1.5**
SNR=8.7
MCK McKinley 82.82 23 *e*P **P** **13 16 29.4 -1.3**
MCK pmax pmax
comp=Z,597nm,1.0s
MCK McKinley 82.82 23 *e*P **P** **13 16 29.4 -1.3**
comp=Z,597nm,1.0s
DIV Divide 82.92 26 *e*P **P** **13 16 31.2 -0.2**
comp=Z,10nm,0.9s
TKM2 Tokmak 2 83.12 314 P **P** **13 16 33.0 0.0**
SNR=50
TKM2 Tokmak 2 83.12 314 P **P** **13 16 32.8 -0.2**
TKM2 pmax pmax
comp=Z,237nm,2.0s
TKM2 Tokmak 2 83.12 314 *e*P **P** **13 16 32.9 0.0**
TKM2 LR LR
comp=Z,169µm,21.0s
KZA Kyzart 83.15 314 P **P** **13 16 34.7 +1.2**
SNR=43
KURK Kurchatov 83.31 323 P **P** **13 16 33.7 +0.2**
comp=Z,1µm,1.1s,SNR=49
KURK Kurchatov 83.31 323 P **P** **13 16 32.5 -1.0**
KURK pmax pmax
comp=Z,83nm,1.0s
KURK Kurchatov 83.31 323 *e*P **P** **13 16 32.9 -0.6**
KURK P'P' 13 42 52.1
KURK LR LR
comp=Z,133µm,21.0s
KURBB Kurchatov Arra 83.33 322 PKPPKP P'P'df 13 42 52.1 -6.0
comp=Z,3.5nm,1.0s,baz=268,slow=3.0,SNR=9.6
BMRM Bremner River 83.36 26 *e*P **P** **13 16 33.2 -0.5**
comp=Z,583nm,1.2s
JASL Jaisalmer 83.48 298 *e*P **P** **13 16 35.6 +0.7**
JASL AMB AMB 13 16 41.1
comp=Z,566nm,0.6s
KBK Karagaybulak 83.51 314 P **P** **13 16 36.4 +1.4**
SNR=23
MAW Mawson 83.61 203 P **P** **13 16 35.3 +0.5**
comp=Z,280nm,1.0s,baz=91,slow=6.6,SNR=246
MAW PKKPbc **PKKPbc** **13 34 54.0 -1.0**
comp=Z,15nm,1.0s,baz=306,slow=1.6,SNR=9.4
MAW PKPPKP **P'P'df** **13 42 56.4 -2.2**
comp=Z,8.3nm,0.8s,baz=248,slow=3.1,SNR=7.0
MAW Mawson 83.61 203 ⇓P **P** **13 16 35.1 +0.3**
baz=83,SNR=280
UCH Uchtor 83.72 314 P **P** **13 16 37.3 +0.9**
SNR=40
CHMS Chumysh 83.74 314 P **P** **13 16 37.2 +1.2**
SNR=29
COLA College 83.79 22 *c i*P **P** **13 16 34.1 -1.5**
COLA pmax pmax
comp=Z,463nm,1.2s
COLA MLR MLR
comp=Z,251µm,19.0s
COLA College 83.79 22 *e*P **P** **13 16 33.9 -1.7**
comp=Z,253nm,0.9s
COLA LR LR
comp=Z,63µm,20.0s
FRU Bishkek 83.79 314 ⇑*i*P **P** **13 16 36.0 -0.2**
FRU *i* S S 13 26 50.0 -6.1
FRU pmax pmax
comp=Z,540nm,2.0s
FRU MLR MLR
comp=E,111µm,21.0s
FRU MLR MLR
comp=Z,112µm,21.0s
AAK Ala-Archa 83.83 314 P **P** **13 16 37.9 +1.2**
SNR=22
AAK Ala-Archa 83.83 314 P **P** **13 16 35.8 -0.8**
AAK pmax pmax
comp=Z,121nm,1.1s
AAK Ala-Archa 83.83 314 PFAKE 13 16 50.0 +13
AAK LR LR
comp=Z,217µm,21.0s
PAX Paxson 83.86 24 *e*P **P** **13 16 35.4 -0.8**
PAX pmax pmax
comp=Z,72nm,1.0s
PAX Paxson 83.86 24 *e*P **P** **13 16 35.4 -0.8**
comp=Z,72nm,1.0s
SFK Sufi-Kurgan 83.95 311 P **P** **13 16 38.3 +0.9**
SFK pmax pmax
comp=Z,212nm,0.8s
USP Ospenovka 83.98 315 P **P** **13 16 37.6 +0.4**
SNR=31
QSPA South Pole Qui 83.99 180 *e*P **P** **13 16 37.0 +0.1**
comp=Z,1.1nm,0.8s
QSPA LR LR
comp=Z,54µm,20.0s
BHJ Bhuj 83.99 294 *e*P **P** **13 16 37.8 +0.2**
BHJ AMB AMB 13 16 43.8
comp=Z,311nm,0.6s
ILAR Eielson Array 84.11 22 P **P** **13 16 35.4 -1.9**
comp=Z,40nm,0.8s,baz=250,slow=4.4,SNR=109
ILAR PKiKP **PKiKP** **13 21 52.0 -0.1**
comp=Z,3.2nm,0.7s,baz=286,slow=2.7,SNR=7.1
ILAR PKKPbc **PKKPbc** **13 34 51.6 -2.7**
comp=Z,6.4nm,0.7s,baz=360,slow=1.6,SNR=17
ILAR PKPPKP **P'P'df** **13 42 51.1 -4.7**
comp=Z,1.7nm,0.9s,baz=344,slow=1.8,SNR=5.1
COLD Coldfoot 84.12 20 *e*P **P** **13 16 37.4 +0.1**
comp=Z,166nm,1.1s
AML Almayashu 84.29 313 P **P** **13 16 41.1 +1.8**
SNR=38
EKS2 Erkin-Say 84.35 314 P **P** **13 16 40.0 +0.7**
SNR=36
EKS2 Erkin-Say 84.35 314 *e*P **P** **13 16 39.7 +0.5**
EKS2 pmax pmax
comp=Z,164nm,1.4s
EKS2 MLR MLR
comp=Z,238µm,21.0s
EKS2 Erkin-Say 84.35 314 *e*P **P** **13 16 39.6 +0.5**
comp=Z,164nm,1.4s
EKS2 LR LR
comp=Z,238µm,21.0s
MENT Mentasta 84.57 25 *e*P **P** **13 16 39.7 0.0**
EGAK Eagle 86.34 24 *e*P **P** **13 16 48.3 -0.2**
EGAK LR LR
comp=Z,92µm,21.0s
KBL Kabul 86.37 305 *e*P **P** **13 16 47.5 -2.1**
KBL pmax pmax
comp=Z,35nm,0.7s
KBL Kabul 86.37 305 *e*P **P** **13 16 47.5 -2.1**
comp=Z,35nm,0.7s
HYT Haines Junctio 86.53 28 *e*P **P** **13 16 50.4 +0.8**
OTUK Ortayu 86.61 319 P **P** **13 16 48.6 -1.6**
OTUK pmax pmax
comp=Z,197nm,1.9s
DAWY Dawson 86.79 24 *e*P **P** **13 16 50.9 +0.1**
KK31 Karatay Array 86.79 314 *i* P **P** **13 16 50.3 -0.9**
KK31 pmax pmax
comp=Z,268nm,1.1s
KKAR Karatay Array 86.79 314 *e*P **P** **13 16 50.8 -0.4**
KKAR Karatay Array 86.79 314 *e*P **P** **13 16 50.8 -0.4**
comp=Z,0.9nm,0.5s
H02N1 VAN INLET T-PH 87.00 36 P **P** **13 16 55.1 +3.0**
SNR=35
H02S1 DAWSON INLET T 87.03 36 P **P** **13 16 55.0 +3.0**
SNR=51
SKAG Skagway 87.15 29 *e*P **P** **13 16 52.7 +0.2**
comp=Z,53nm,1.2s
CRAG Craig 87.22 34 *e*P **P** **13 16 53.4 +0.5**
comp=Z,387nm,1.5s
DZET Dzherino 87.26 309 P **P** **13 16 52.6 -1.1**
DZET pmax pmax
comp=Z,68nm,0.9s
WRAK Wrangell Islan 87.88 33 *e*P **P** **13 16 56.7 +0.6**
comp=Z,415nm,1.5s
WRAK LR LR
comp=Z,77µm,20.0s
BVA0 Borovoye Array 88.82 323 *i* P **P** **13 16 59.0 -1.6**
BVA0 pmax pmax
comp=Z,4µm,6.0s
BVAR Borovoye Array 88.82 323 PKPPKP **P'P'df** **13 42 48.9 +0.9**
comp=Z,3.3nm,1.0s,baz=254,slow=5.2,SNR=8.4
BRVK Borovoye 88.89 323 P **P** **13 16 59.2 -1.7**
comp=Z,296nm,0.9s,SNR=14
BRVK Borovoye 88.89 323 *c i*P **P** **13 16 59.6 -1.4**
BRVK *i* *PP **pP** **13 17 15.4 +0.8**
BRVK pmax pmax
comp=Z,98nm,1.7s
BRVK MLR MLR
comp=Z,68µm,18.0s
BRVK Borovoye 88.89 323 *e*P **P** **13 16 59.5 -1.4**
BRVK LR LR
comp=Z,80µm,20.0s
DLBC Dease Lake 89.56 31 P **P** **13 17 05.0 +0.9**
comp=Z,31nm,0.8s,baz=260,slow=5.2,SNR=20
DLBC Dease Lake 89.56 31 *e*P **P** **13 17 04.8 +0.7**
INK Inuvik 90.37 21 P **P** **13 17 06.5 -0.9**
comp=Z,96nm,1.0s,baz=252,slow=5.7,SNR=39
INK PKiKP **PKiKP** **13 22 02.2 -0.1**
comp=Z,11nm,0.7s,baz=271,slow=2.0,SNR=13
INK Inuvik 90.37 21 *e*P **P** **13 17 06.6 -0.8**
comp=Z,70nm,1.1s
INK PKiKP **PKiKP** **13 22 02.2 -0.1**
KBO Bosley Butte 90.47 48 *e*P **P** **13 17 09.9 +1.2**
comp=Z,128nm,0.9s
KEBM Edson Butte 90.48 47 *e*P **P** **13 17 10.6 +1.9**
comp=Z,212nm,0.8s
KCPM Cahto Peak 90.63 50 *e*P **P** **13 17 10.3 +0.8**
comp=Z,160nm,0.9s
KHMM Horse Mountain 90.67 49 *e*P **P** **13 17 11.2 +1.5**
comp=Z,120nm,0.9s
KIPM Iron Peak 90.72 50 *e*P **P** **13 17 11.1 +1.1**
comp=Z,234nm,0.9s
MRIV Mauritius Mete 90.77 250 *e*P **P** **13 17 10.9 +0.3**
L02D Cave Junction, 90.92 48 P **P** **13 17 11.9 +1.2**
baz=91,SNR=10.0
L02D S **S** **13 28 01.2 -3.3**
baz=91
MCCM Marconi Confer 90.98 52 *e*P **P** **13 17 11.6 +0.5**
comp=Z,90nm,0.8s
RNO Roman Nose 91.04 46 P **P** **13 17 12.7 +1.4**
MEGW Megler CREST B 91.24 44 P **P** **13 17 13.3 +1.2**
SAC San Andreas 91.28 53 P **P** **13 17 14.7 +2.2**
SAC San Andreas 91.28 53 P **P** **13 17 14.7 +2.2**
I03D Drain, OR 91.30 46 P **P** **13 17 13.3 +0.9**
baz=91,SNR=31
I03D SKSac **SKSac** **13 27 40.0 -1.1**
baz=91
M02C Callahan 91.39 49 P **P** **13 17 14.4 +1.5**
baz=92,SNR=43
NLWA Neilton Lookou 91.39 43 *e*P **P** **13 17 13.4 +0.7**
comp=Z,138nm,1.3s
NLWA LR LR
comp=Z,57µm,20.0s
COR Corvallis 91.44 45 *e*P **P** **13 17 14.1 +1.1**
COR pmax pmax
comp=Z,75nm,0.8s
COR Corvallis 91.44 45 *e*P **P** **13 17 14.1 +1.1**
comp=Z,76nm,0.8s
N02D Trinity Center 91.45 49 P **P** **13 17 14.9 +1.6**
baz=92,SNR=58
HUMO Hull Mountain 91.45 47 *e*P **P** **13 17 14.2 +1.0**
comp=Z,257nm,0.7s
WDC Whiskeytown Da 91.53 50 *e*P **P** **13 17 14.2 +0.6**
WDC pmax pmax
comp=Z,204nm,1.1s
WDC Whiskeytown Da 91.53 50 *e*P **P** **13 17 14.2 +0.6**
comp=Z,204nm,1.1s
YBH Yreka Blue Hor 91.53 48 PKKPbc PKKPbc 13 34 35.3 0.0
comp=Z,1.9nm,0.7s,baz=97,slow=8.1,SNR=3.9
YBH Yreka Blue Hor 91.53 48 *e*P **P** **13 17 14.7 +1.0**
YBH pmax pmax
comp=Z,154nm,1.0s
YBH Yreka Blue Hor 91.53 48 *e*P **P** **13 17 14.7 +1.0**
comp=Z,154nm,1.0s
YBH PKKPbc **PKKPbc** **13 34 35.3 0.0**
G03D McMinnville, O 91.54 45 P **P** **13 17 14.8 +1.3**
baz=92
NLLB Nanaimo Lost L 91.54 41 P **P** **13 17 14.3 +0.9**
SYO Syowa Base 91.80 200 ⇓*i*P **P** **13 17 12.2 -2.0**
F04D Rainier, OR 91.82 44 P **P** **13 17 16.2 +1.5**
baz=92
PGC Sidney 91.82 41 *e*P **P** **13 17 14.7 0.0**
I04A Tendick Farm, 91.98 46 P **P** **13 17 15.9 +0.2**
baz=92,SNR=29
GNW Green Mountain 92.11 43 P **P** **13 17 16.4 +0.4**
J04D Umpqua Nationa 92.14 47 P **P** **13 17 17.3 +0.7**
baz=92,SNR=135
M04C Macdoel 92.19 48 P **P** **13 17 18.0 +1.3**
baz=92,SNR=37
RER Riviere de l'E 92.30 249 *e*P **P** **13 17 17.4 -0.3**
comp=Z,124nm,0.8s
RER LR LR
comp=Z,43µm,21.0s
K04D Chiloquin, OR 92.34 48 P **P** **13 17 18.3 +0.9**
baz=92,SNR=19
TDL Tradedollar La 92.40 44 P **P** **13 17 18.5 +0.9**
WIFE Three Sisters- 92.44 46 P **P** **13 17 18.7 +0.7**
LON Longmire 92.72 43 *e*P **P** **13 17 18.9 -0.1**
LON pmax pmax
comp=Z,24nm,0.9s
LON Longmire 92.72 43 *e*P **P** **13 17 18.9 -0.1**
comp=Z,24nm,0.9s
J05D Fort Rock, OR 92.78 47 P **P** **13 17 20.4 +0.9**
baz=93,SNR=94
I05D Terrebonne, OR 92.81 46 P **P** **13 17 20.3 +0.8**
baz=93
VFP Flag Point 92.81 45 P **P** **13 17 19.9 +0.3**
WPW White Pass 92.89 44 P **P** **13 17 20.5 +0.6**
G05D Wamic, OR 92.91 45 P **P** **13 17 21.1 +1.2**
baz=93
CMB Columbia Colle 92.93 52 *e*P **P** **13 17 20.6 +0.4**
CMB *e*PP **pP** **13 17 31.5 -2.4**
CMB *e* 13 21 03.7
CMB pmax pmax
comp=Z,98nm,0.8s
CMB Columbia Colle 92.93 52 *e*P **P** **13 17 20.6 +0.4**
comp=Z,98nm,0.8s
CMB *e*pP **pP** **13 17 31.5 -2.4**
CMB *e*PP **PP** **13 21 03.7 +0.3**
SMMC Simmler 92.99 55 P **P** **13 17 22.9 +2.4**
baz=93
PKM Peak Mountain 93.11 55 P **P** **13 17 23.2 +2.0**
baz=93
B06A Marblemount 93.11 42 P **P** **13 17 20.9 +0.2**
SBC Santa Barbara 93.15 56 P **P** **13 17 23.2 +2.1**
baz=93
BSC Santa Cruz Isl 93.18 56 P **P** **13 17 23.2 +1.8**
baz=93
MOD Modoc 93.34 48 *e*P **P** **13 17 22.6 +0.5**
comp=Z,139nm,0.8s
BLG Laguna Peak 93.66 56 P **P** **13 17 24.9 +1.3**
baz=94
RCTC Rector, Farmer 93.69 54 P **P** **13 17 24.6 +1.0**
baz=94,SNR=19
WAKR Walker 93.72 52 *e*P **P** **13 17 25.2 +1.2**
comp=Z,102nm,0.7s
ARVC Arvin 93.93 55 P **P** **13 17 26.4 +1.6**
baz=94,SNR=15
F07A Phinny Hill Vi 93.94 44 P **P** **13 17 25.4 +0.9**
OSI Osito Adit 93.98 56 P **P** **13 17 27.2 +2.1**
baz=94
OSI Osito Adit 93.98 56 *e*P **P** **13 17 26.6 +1.6**
comp=Z,315nm,1.2s
SCI San Clemente I 94.00 57 P **P** **13 17 26.6 +1.4**
baz=94,SNR=19
MLAC Mammoth Lakes 94.12 53 P **P** **13 17 27.4 +1.5**
baz=94,SNR=8.3
CIS Catalina Islan 94.15 57 P **P** **13 17 27.2 +1.4**
baz=94,SNR=97
HAWA Hanford 94.25 44 *e*P **P** **13 17 26.5 +0.5**
comp=Z,74nm,0.9s
HAWA LR LR
comp=Z,121µm,19.0s
ISA Isabella 94.26 55 *e*P **P** **13 17 27.2 +0.8**
ISA pmax pmax
comp=Z,78nm,0.9s
ISA Isabella 94.26 55 P **P** **13 17 27.3 +0.9**
baz=94,SNR=90
ISA Isabella 94.26 55 *e*P **P** **13 17 27.2 +0.8**
comp=Z,78nm,0.9s
FMP Fort Macarthur 94.27 57 P **P** **13 17 28.3 +2.0**
baz=94
DECC Green Verdugo 94.28 56 P **P** **13 17 27.8 +1.4**
baz=94,SNR=83
PASC Pasadena Art C 94.39 56 *e*P **P** **13 17 28.1 +1.2**
comp=Z,519nm,0.9s
MWC Mount Wilson 94.50 56 *e*P **P** **13 17 29.0 +1.3**
MWC pmax pmax
comp=Z,800nm,0.9s
MWC Mount Wilson 94.50 56 *e*P **P** **13 17 29.0 +1.3**
comp=Z,800nm,0.9s
MSEY Mahe Island 94.51 265 ⇑*i*P **P** **13 17 28.8 +0.8**
SNR=5.2
MSEY Mahe Island 94.51 265 PFAKE 13 17 40.0 +12
MSEY LR LR

comp=Z,33µm,20.0s
TIN Tinemaha 94.56 53 P **P 13 17 29.5 +1.8**
baz=95,SNR=33
G08A Pilot Rock 94.57 45 P **P 13 17 28.2 +0.6**
NVAR Mina Array Bea 94.60 52 P **P 13 17 28.9 +0.9**
comp=Z,177nm,0.7s,baz=253,slow=5.6,SNR=181
NVAR PKiKP **PKiKP 13 22 13.1 +2.3**
comp=Z,4.4nm,0.7s,baz=264,slow=1.8,SNR=6.8
NVAR PKKPbc **PKKPbc 13 34 28.7 +1.4**
comp=Z,3.3nm,0.7s,baz=77,slow=3.9,SNR=5.8
NVAR PKPPKP **P'P'df 13 42 36.0 -2.7**
comp=Z,3.1nm,1.0s,baz=112,slow=3.4,SNR=5.7
EDW2 Edwards Air Fo 94.60 56 P **P 13 17 29.8 +1.9**
baz=95,SNR=171
WVOR Wild Horse Val 94.61 48 *e*P **P 13 17 28.6 +0.7**
WVOR pmax pmax
comp=Z,277nm,1.5s
WVOR MLR MLR
comp=Z,126µm,21.0s
WVOR Wild Horse Val 94.61 48 *e*P **P 13 17 28.6 +0.7**
comp=Z,277nm,1.5s
WVOR LR LR
comp=Z,126µm,21.0s
CWC Cottonwood Cre 94.64 54 P **P 13 17 29.4 +1.2**
baz=95,SNR=183
BFSC Mount Baldy Ra 94.83 56 P **P 13 17 30.6 +1.5**
baz=95,SNR=89
AB31 Akbulak array 94.86 319 *i* P **P 13 17 27.6 -1.1**
AB31 pmax pmax
comp=Z,8.0nm,0.5s
ABKAR Akbulak array 94.86 319 *e*P **P 13 17 26.7 -2.0**
comp=Z,0.9nm,0.5s
LRMC Laurel Mountai 94.89 55 P **P 13 17 31.2 +1.8**
baz=95,SNR=220
SVE Sverdlovsk 94.89 327 *d i* P **P 13 17 27.0 -1.7**
SVE *e* 13 21 13.3
SVE *e*S **SKSac 13 27 57.0 -3.4**
SVE *e* 13 30 01.4
SVE *e*SS SS 13 35 17.2 +13
SVE pmax pmax
comp=Z,6µm,19.4s
SVE MLR MLR
comp=Z,265µm,22.0s
SVE MLR MLR
comp=E,210µm,22.0s
IAKL Akhelmad 94.94 306 *e*P **P 13 17 28.6 -1.1**
IAKL *e*P **P 13 17 28.6 -1.1**
DAC Darwin (Calif) 95.02 54 *e*P **P 13 17 30.9 +0.9**
DAC pmax pmax
comp=Z,254nm,0.8s
DAC Darwin (Calif) 95.02 54 *e*P **P 13 17 30.9 +0.9**
comp=Z,254nm,0.8s
MPMC Manual Prospec 95.09 54 P **P 13 17 31.4 +1.1**
baz=95,SNR=140
MURC Murrieta 95.17 57 P **P 13 17 32.2 +1.6**
baz=95,SNR=73
C09A Chrisman Ranch 95.20 43 P **P 13 17 30.4 +0.1**
109C Camp Elliot, M 95.20 58 P **P 13 17 32.5 +1.9**
baz=95,SNR=72
GRAC Grapevine Rang 95.24 53 P **P 13 17 32.2 +1.3**
baz=95,SNR=90
RRX Edison Barstow 95.41 56 P **P 13 17 32.8 +1.2**
baz=96,SNR=8.9
TPH Tonopah 95.42 52 *e*P **P 13 17 32.5 +0.7**
TPH pmax pmax
comp=Z,101nm,0.8s
TPH Tonopah 95.42 52 *e*P **P 13 17 32.5 +0.7**
comp=Z,101nm,0.8s
BBRC Big Bear Solar 95.44 56 P **P 13 17 33.5 +1.5**
baz=96,SNR=89
ABKT Ailbek 95.52 307 P **P 13 17 31.5 -0.6**
comp=Z,399nm,1.0s,SNR=8.9
GEYT Alibeck 95.53 307 P **P 13 17 31.5 -0.5**
comp=Z,42nm,1.0s,baz=93,slow=2.9,SNR=23
GEYT PKiKP **PKiKP 13 22 12.5 +0.4**
comp=Z,8.1nm,0.7s,baz=128,slow=2.4,SNR=4.1
GEYT PKKPbc **PKKPbc 13 34 23.9 -0.6**
comp=Z,4.6nm,0.8s,baz=290,slow=4.2,SNR=5.3
BAR Barrett 95.55 58 *e*P **P 13 17 33.9 +1.6**
comp=Z,323nm,1.3s
BMN Battle Mountai 95.56 50 *e*P **P 13 17 33.1 +0.8**
BMN pmax pmax
comp=Z,51nm,0.7s
BMN Battle Mountai 95.56 50 *e*P **P 13 17 33.1 +0.8**
comp=Z,51nm,0.7s
ISFR Sfrayin 95.57 307 *e*P **P 13 17 30.3 -2.3**
ISFR *e*P **P 13 17 30.3 -2.3**
GSC Goldstone 95.60 55 *e*P **P 13 17 33.7 +1.2**
GSC pmax pmax
comp=Z,165nm,1.2s
GSC Goldstone 95.60 55 P **P 13 17 34.0 +1.4**
baz=96,SNR=73
GSC Goldstone 95.60 55 *e*P **P 13 17 33.7 +1.2**
comp=Z,165nm,1.2s
FURC Furnace Creek, 95.62 54 P **P 13 17 34.0 +1.5**
baz=96,SNR=141
BMO Blue Mountains 95.72 46 *e*P **P 13 17 33.1 +0.2**
BMO pmax pmax
comp=Z,126nm,1.1s
BMO MLR MLR
comp=Z,97µm,22.0s
BMO Blue Mountains 95.72 46 *e*P **P 13 17 33.1 +0.2**
comp=Z,126nm,1.1s
BMO LR LR
comp=Z,97µm,22.0s
MONP Monument Peak 95.78 58 P **P 13 17 35.7 +2.2**
baz=96,SNR=241
PFO Pinyon Flat Ob 95.79 57 P **P 13 17 35.0 +1.5**
comp=Z,2µm,0.8s
PFO Pinyon Flat Ob 95.79 57 *e*P **P 13 17 34.8 +1.3**
PFO pmax pmax
comp=Z,261nm,0.8s
PFO MLR MLR
comp=Z,126µm,20.0s
PFO Pinyon Flat Ob 95.79 57 P **P 13 17 35.2 +1.7**
baz=96,SNR=213
PFO Pinyon Flat Ob 95.79 57 *e*P **P 13 17 34.8 +1.3**
comp=Z,261nm,0.8s
PFO LR LR
comp=Z,126µm,20.0s
F10A Beach Ranch, E 95.82 44 P **P 13 17 33.5 +0.2**
ISHV Shirvan 95.83 307 *e*P **P 13 17 33.9 +0.2**
ISHV *e*P **P 13 17 33.9 +0.2**
HEC Hector,Ludlow 95.96 56 P **P 13 17 35.7 +1.5**
baz=96,SNR=46
NEW Newport 95.99 42 P **P 13 17 34.4 +0.4**
comp=Z,25nm,0.8s,baz=253,slow=4.3,SNR=16
NEW Newport 95.99 42 *e*P **P 13 17 34.1 +0.1**
NEW pmax pmax
comp=Z,28nm,0.8s
NEW MLR MLR
comp=Z,76µm,22.0s
NEW Newport 95.99 42 P **P 13 17 34.5 +0.6**
baz=96,SNR=18
NEW Newport 95.99 42 *e*P **P 13 17 34.0 +0.1**
comp=Z,28nm,0.8s
NEW LR LR
comp=Z,76µm,22.0s
ARU Arti 96.02 326 *c i* P **P 13 17 31.5 -2.3**
ARU 13 21 24.2
ARU PPP PPP 13 23 32.2
ARU S **SKSac 13 28 03.1 -3.3**
ARU SP **SP 13 30 07.1 -0.5**
ARU SSS SSS 13 39 07.0
ARU pmax pmax
comp=Z,56nm,1.7s
ARU pmax pmax
comp=Z,3µm,10.6s
ARU MLR MLR
comp=Z,221µm,22.0s
ARU Arti 96.02 326 P **P 13 17 32.3 -1.5**
comp=Z,194nm,1.0s,SNR=8.8
ARU Arti 96.02 326 *e*P **P 13 17 31.1 -2.7**
comp=Z,68nm,3.9s
ARU LR LR
comp=Z,219µm,22.0s
IBP Imperial Bould 96.04 58 P **P 13 17 37.2 +2.6**
baz=96,SNR=47
SHOC Shoshone 96.06 55 P **P 13 17 35.8 +1.3**
baz=96,SNR=157
TPNV Topopah Spring 96.14 54 P **P 13 17 36.4 +1.4**
baz=96,SNR=205
AKTO Aktyubinsk 96.16 320 P **P 13 17 32.0 -2.6**
AKTO pmax pmax
comp=Z,44nm,1.8s
BELC Belle Mtn. Jos 96.19 57 P **P 13 17 37.1 +1.8**
baz=96,SNR=216

SWSC Sam W. Stewart 96.30 58 P **P 13 17 37.2 +1.6**
baz=96,SNR=85
TUQ Turquoise Moun 96.33 55 P **P 13 17 37.4 +1.5**
baz=96,SNR=63
UOSS Wadi Hilu 96.39 294 P **P 13 17 36.1 -0.1**
comp=Z,390nm,0.7s,SNR=5.0
HATD Hatta, Dubai 96.45 294 ⇑ *i* P **P 13 17 35.5 -1.0**
SNR=7.8
GMRC Granite Mounta 96.51 56 P **P 13 17 38.2 +1.5**
baz=97,SNR=139
BC3 Big Chuckawall 96.63 57 P **P 13 17 39.2 +1.9**
baz=97,SNR=180
MFID Camas Ranch 96.72 47 *e*P **P 13 17 37.9 +0.4**
comp=Z,129nm,1.4s
R11A Troy Canyon, C 96.73 52 P **P 13 17 38.8 +1.1**
baz=97,SNR=102
R11A Troy Canyon, C 96.73 52 *e*P **P 13 17 38.4 +0.7**
comp=Z,40nm,0.9s
NAZ Nazwa, Dubai 96.89 294 ⇓ P **P 13 17 37.6 -0.8**
IRM Iron Mountain 96.90 56 P **P 13 17 40.2 +1.8**
baz=97,SNR=214
FAQ Al Faqa, Dubai 96.93 294 ⇑ *i* P **P 13 17 37.5 -1.2**
SNR=8.0
LDFC Landfair 96.97 55 *e*P **P 13 17 40.3 +1.5**
comp=Z,931nm,1.4s
SHPR Sheep Range 96.99 54 *e*P **P 13 17 40.1 +1.2**
comp=Z,12nm,0.5s
SOKR Solikamsk 97.01 329 *c i* P **P 13 17 36.8 -1.3**
SOKR SP SP 13 30 20.9 +2.8
SOKR pmax pmax
comp=Z,60nm,1.5s
SOKR MLR MLR
comp=Z,130µm,20.0s
ELK Elko 97.08 50 PKiKP **PKiKP 13 22 17.6 +2.5**
comp=Z,8.9nm,0.7s,baz=282,slow=3.3,SNR=3.1
ELK PKKPbc **PKKPbc 13 34 19.6 -1.1**
comp=Z,4.8nm,0.8s,baz=45,slow=1.4,SNR=7.9
ELK Elko 97.08 50 *e*P Pdif 13 17 39.9 +0.5
ELK pmax pmax
comp=Z,75nm,1.1s
ELK Elko 97.08 50 *e*P Pdif 13 17 39.9 +0.5
comp=Z,75nm,1.1s
ELK PKiKP **PKiKP 13 22 17.6 +2.5**
ELK PKKPbc **PKKPbc 13 34 19.6 -1.1**
GLA Glamis 97.12 58 *e*P Pdif 13 17 41.5 +2.0
GLA pmax pmax
comp=Z,250nm,1.2s
GLA Glamis 97.12 58 P Pdif 13 17 41.9 +2.4
baz=97,SNR=70
GLA Glamis 97.12 58 *e*P Pdif 13 17 41.5 +1.9
comp=Z,250nm,1.2s
ASUD Al Ashush, Dub 97.17 294 ⇑ *i* P **P 13 17 39.1 -0.6**
SNR=6.1
IBAF Bafgh 97.31 301 *e*P **P 13 17 38.1 -2.4**
IBAF *e*P **P 13 17 38.1 -2.4**
NEE2 Needles Airpor 97.36 56 P Pdif 13 17 41.9 +1.4
baz=98
Y12C Blythe 97.41 57 P Pdif 13 17 42.6 +1.9
baz=98,SNR=50
YKW3 Yellowknife Ar 97.52 28 *e*P **P 13 17 40.0 -0.4**
comp=Z,0.7nm,0.7s
YKA Yellowknife Ar 97.52 28 P Pdif 13 17 40.5 0.0
comp=Z,42nm,0.7s,baz=272,slow=4.5,SNR=44
YKA PKiKP **PKiKP 13 22 15.7 +0.9**
comp=Z,16nm,0.7s,baz=271,slow=1.3,SNR=15
YKA PKKPbc **PKKPbc 13 34 17.5 -2.5**
comp=Z,18nm,0.8s,baz=90,slow=2.9,SNR=19
YKA PKPPKP **P'P'df 13 42 33.7 +2.6**
comp=Z,1.9nm,0.9s,baz=79,slow=1.3,SNR=4.0
BSMT Bassoo Peak 97.55 43 *e*P **P 13 17 41.1 -0.1**
comp=Z,27nm,1.0s
PDMCI Parker Dam,Lak 97.74 56 P Pdif 13 17 43.9 +1.8
baz=98,SNR=73
HLID Hailey 97.76 47 P Pdif 13 17 42.9 +0.6
baz=98
HLID Hailey 97.76 47 *e*P Pdif 13 17 42.5 +0.2
comp=Z,14nm,0.8s
HLID LR LR
comp=Z,118µm,19.0s
BLMT Blacktail Moun 97.83 42 *e*P Pdif 13 17 43.5 +0.9
comp=Z,14nm,0.7s
JTMT Jette 97.89 43 *e*P Pdif 13 17 43.4 +0.7
comp=Z,7.5nm,0.7s
YBMT Yellow Bay 98.07 43 *e*P Pdif 13 17 44.0 +0.5
comp=Z,9.7nm,0.8s
SWMT Swartz Lake 98.08 43 *e*P **P 13 17 42.7 -0.8**
comp=Z,16nm,0.9s
MSO Missoula 98.12 44 Pdiff **P 13 17 43.6 -0.1**
baz=98
WALA Waterton Lakes 98.13 41 *e*P Pdif 13 17 44.4 +0.6
ICHK Chekchek 98.32 302 *e*P **P 13 17 43.5 -1.6**
ICHK *e*P **P 13 17 43.5 -1.6**
EDM Edmonton 98.43 37 *e*P Pdif 13 17 45.0 +0.1
EDM Edmonton 98.43 37 *e*P Pdif 13 17 45.0 +0.2
CCUT Cedar City 98.46 53 *e*P Pdif 13 17 47.0 +1.4
comp=Z,88nm,0.4s
CHMT Chamberlain Mo 98.59 44 P **P 13 17 45.8 -0.1**
comp=Z,70nm,1.3s
NVL N'lazarevskaya 98.62 193 ⇓ *i* P **P 13 17 44.4 -0.9**
NVL *e**PP **pP 13 17 58.9 -0.1**
NVL *e*S **SKSac 13 28 14.4 -5.0**
NVL *e*PS **PS 13 30 40.3 -1.1**
NVL pmax pmax
comp=Z,145nm,0.9s
NVL MLR MLR
comp=Z,63µm,18.0s
BGU Big Grassy Mou 98.76 50 *e*P **P 13 17 46.6 -0.2**
comp=Z,22nm,0.8s
214A Organ Pipe Nat 98.79 59 Pdiff Pdif 13 17 49.9 +2.9
baz=99
214A Organ Pipe Nat 98.79 59 *e*P Pdif 13 17 49.1 +2.2
comp=Z,100nm,0.8s
IANJ Anjilo 98.81 305 *e*P **P 13 17 44.2 -3.0**
IANJ *e*P **P 13 17 44.2 -3.0**
MCMT McKenzie Canyo 98.89 46 *e*P Pdif 13 17 47.9 +0.6
comp=Z,13nm,0.9s
DUG Dugway 98.92 50 *e*P **P 13 17 48.0 +0.5**
DUG pmax pmax
comp=Z,64nm,0.9s
DUG MLR MLR
comp=Z,79µm,22.0s
DUG Dugway 98.92 50 Pdiff Pdif 13 17 48.9 +1.4
baz=99
DUG Dugway 98.92 50 *e*P Pdif 13 17 48.0 +0.5
comp=Z,64nm,0.9s
DUG LR LR
comp=Z,79µm,22.0s
ISAD Sadrabad 98.92 301 *e*P **P 13 17 46.9 -1.0**
ISAD *e*P **P 13 17 46.9 -1.0**
HVU Hansel Valley 98.95 49 *e*P Pdif 13 17 48.1 +0.5
HVU pmax pmax
comp=Z,198nm,0.5s
HVU Hansel Valley 98.95 49 *e*P Pdif 13 17 48.0 +0.4
comp=Z,198nm,0.5s
DLMT Dillon 99.06 45 *e*P **Pdif 13 17 47.9 -0.1**
comp=Z,34nm,0.8s
LRM Limekiln Ridge 99.16 45 *e*P **Pdif 13 17 48.4 -0.2**
comp=Z,138nm,0.8s
SPUT South Promonto 99.20 49 *e*P **Pdif 13 17 48.7 0.0**
comp=Z,31nm,0.9s
ISHM Shahmirzad 99.32 305 *e*P **Pdif 13 17 49.1 -0.5**
ISHM *e*P **Pdif 13 17 49.1 -0.5**
MVU Marysvale 99.38 52 *e*P **Pdif 13 17 50.8 +1.1**
comp=Z,76nm,0.8s
MSU Marysvale 99.41 52 *e*P **Pdif 13 17 51.1 +1.3**
MSU pmax pmax
comp=Z,144nm,0.5s
MSU Marysvale 99.41 52 *e*P **Pdif 13 17 51.1 +1.3**
comp=Z,144nm,0.5s
NLU North Lily Min 99.48 51 *e*P **Pdif 13 17 50.9 +0.7**
comp=Z,62nm,0.5s
HRY Holter Researc 99.57 44 Pdif **Pdif 13 17 49.8 -0.4**
comp=Z,31nm,0.7s
ILAS Lasjerd 99.59 305 *e*P **Pdif 13 17 51.0 +0.3**
ILAS *e*P **Pdif 13 17 51.0 +0.3**
CTU Camp Tracy 99.73 50 *e*Pdif **Pdif 13 17 50.5 -0.6**
comp=Z,36nm,0.8s
BOZ Bozeman (W) 99.74 45 *e*P **Pdif 13 17 51.1 +0.1**
BOZ pmax pmax
comp=Z,24nm,0.7s
BOZ MLR MLR
comp=Z,57µm,19.0s
BOZ Bozeman (W) 99.74 45 Pdiff **Pdif 13 17 51.9 +0.9**
baz=100
BOZ Bozeman (W) 99.74 45 *e*P **Pdif 13 17 51.0 +0.1**
comp=Z,24nm,0.7s
BOZ LR LR

comp=Z,57µm,19.0s
MPU Maple Canyon 99.82 51 *e*Pdif **Pdif 13 17 52.0 +0.4**
comp=Z,869nm,0.7s
HWUT Hardware Ranch 99.86 49 *e*P **Pdif 13 17 51.6 -0.1**
comp=Z,1µm,0.8s
HWUT LR LR
comp=Z,71µm,20.0s
QLMT Earthquake Lak 99.90 46 *e*Pdif **Pdif 13 17 53.4 +1.6**
comp=Z,3.9nm,1.0s
JLU Jordanelle 99.96 50 *e*Pdif **Pdif 13 17 52.6 +0.3**
comp=Z,26nm,0.7s
TCUT Toone Canyon 99.98 49 *e*Pdif **Pdif 13 17 52.7 +0.3**
comp=Z,46nm,0.8s
WUAZ Wupatki 100.04 55 Pdiff **Pdif 13 17 54.6 +2.0**
baz=100
WUAZ Wupatki 100.04 55 *e*Pdif **Pdif 13 17 54.1 +1.5**
comp=Z,112nm,0.8s
WUAZ LR LR
comp=Z,109µm,21.0s
TMUT Trail Mountain 100.16 51 *e*Pdif **Pdif 13 17 54.3 +1.1**
comp=Z,106nm,0.8s
AHID Auburn Hatcher 100.18 48 *e*Pdif **Pdif 13 17 53.1 0.0**
comp=Z,40nm,0.9s
AHID LR LR
comp=Z,121µm,19.0s
YMR Madison River 100.23 46 *e*Pdif **Pdif 13 17 54.5 +1.2**
comp=Z,55nm,0.8s
IMW Indian Meadow 100.27 47 *e*Pdif **Pdif 13 17 54.3 +0.7**
comp=Z,25nm,0.8s
TPAW Teton Pass 100.28 47 *e*Pdif **Pdif 13 17 53.7 +0.1**
comp=Z,219nm,0.9s
YFT Old Faithful 100.33 46 *e*Pdif **Pdif 13 17 56.0 +2.2**
comp=Z,54nm,0.8s
REDW Red Top Meadow 100.35 47 *e*Pdif **Pdif 13 17 54.1 +0.2**
comp=Z,826nm,0.6s
MOOW Moose Ponds 100.42 47 *e*Pdif **Pdif 13 17 54.6 +0.4**
comp=Z,14nm,0.8s
SNOW Snow King Moun 100.42 47 *e*Pdif **Pdif 13 17 54.4 +0.2**
comp=Z,28nm,0.8s
YNR Norris Junctio 100.44 46 *e*Pdif **Pdif 13 17 56.7 +2.4**
comp=Z,16nm,0.7s
FLWY Flagg Ranch 100.44 46 *e*Pdif **Pdif 13 17 54.8 +0.6**
comp=Z,31nm,0.8s
TUC Tucson 100.51 58 *e*P **Pdif 13 17 57.2 +2.5**
TUC pmax pmax
comp=Z,36nm,0.8s
TUC MLR MLR
comp=Z,63µm,22.0s
TUC Tucson 100.51 58 *e*Pdif **Pdif 13 17 57.2 +2.5**
comp=Z,36nm,0.8s
TUC LR LR
comp=Z,63µm,22.0s
H17A Grant Village 100.52 46 Pdiff **Pdif 13 17 56.7 +2.0**
baz=101
H17A Grant Village 100.52 46 *e*Pdif **Pdif 13 17 56.4 +1.7**
comp=Z,25nm,0.8s
LOHW Long Hollow 100.52 47 *e*Pdif **Pdif 13 17 55.1 +0.4**
comp=Z,19nm,0.8s
ABPO Ambohimpanom 100.53 249 *e*P **Pdif 13 17 54.7 -0.5**
ABPO pmax pmax
comp=Z,24nm,0.9s
ABPO MLR MLR
comp=Z,43µm,21.0s
ABPO Ambohimpanom 100.53 249 *e*Pdif **Pdif 13 17 54.6 -0.5**
comp=Z,24nm,0.9s
ABPO LR LR
comp=Z,43µm,21.0s
SNAA Sanae 100.55 188 PKKPbc PKKPbc 13 34 09.6 -2.0
comp=Z,1.8nm,0.8s,baz=352,slow=7.1,SNR=7.7
SNAA PKPPKP **P'P'df 13 42 26.2 -0.5**
comp=Z,3.5nm,1.2s,baz=266,slow=4.2,SNR=3.2
IVRN Varamin 100.59 304 *e*P **Pdif 13 17 53.8 -1.2**
IVRN *e*P **Pdif 13 17 53.8 -1.2**
LKWY Lake 100.64 46 P **Pdif 13 17 56.4 +1.2**
LKWY pmax pmax
comp=Z,19nm,0.8s
LKWY MLR MLR
comp=Z,134µm,19.0s
LKWY Lake 100.64 46 Pdif **Pdif 13 17 56.4 +1.2**
comp=Z,19nm,0.8s
LKWY LR LR
comp=Z,134µm,19.0s
SRU San Rafael 100.69 51 *e*P **Pdif 13 17 56.0 +0.5**
SRU pmax pmax
comp=Z,46nm,0.7s
SRU San Rafael 100.69 51 *e*Pdif **Pdif 13 17 56.0 +0.5**
comp=Z,46nm,0.7s
EGMT Eagleton 100.93 42 Pdiff **Pdif 13 17 56.7 +0.5**
baz=101
EGMT Eagleton 100.93 42 *e*Pdif **Pdif 13 17 56.4 +0.2**
comp=Z,44nm,0.8s
EGMT LR LR
comp=Z,70µm,19.0s
GCMT Greycliff 101.10 45 *e*Pdif **Pdif 13 17 57.9 +0.8**
comp=Z,13nm,0.8s
IR3 Iran Long-Peri 101.17 305 *e*P **Pdif 13 17 53.5 -4.0**
IR3 *e*P **Pdif 13 17 53.5 -4.0**
BW06 Boulder Array 101.32 48 *e*Pdif **Pdif 13 17 58.0 -0.3**
comp=Z,152nm,0.9s
BW06 LR LR
comp=Z,115µm,19.0s
PDAR Pinedale Array 101.32 48 P **Pdif 13 17 58.4 +0.2**
comp=Z,40nm,0.8s,baz=299,slow=0.9,SNR=84
PDAR PKiKP **PKiKP 13 22 23.0 +0.4**
comp=Z,9.0nm,0.8s,baz=228,slow=1.1,SNR=9.5
PDAR PKKPbc **PKKPbc 13 34 08.7 -0.2**
comp=Z,4.2nm,0.9s,baz=82,slow=6.5,SNR=6.3
PDAR PKPPKP **P'P'df 13 42 25.2 -0.4**
comp=Z,4.3nm,1.0s,baz=90,slow=1.8,SNR=5.5
W18A Petrified Fore 101.38 56 Pdiff **Pdif 13 18 00.6 +2.0**
baz=102
W18A Petrified Fore 101.38 56 *e*Pdif **Pdif 13 18 00.7 +2.0**
comp=Z,76nm,0.7s
RLMT Red Lodge 101.42 45 Pdiff **Pdif 13 18 00.2 +1.6**
baz=102
RLMT Red Lodge 101.42 45 *e*Pdif **Pdif 13 17 58.9 +0.3**
comp=Z,74nm,1.4s
RLMT LR LR
comp=Z,68µm,19.0s
B19A Brinkman Farms 101.44 42 Pdiff **Pdif 13 17 59.3 +0.9**
baz=102
IR5 Iran Long-Peri 101.53 305 *e*P **Pdif 13 17 58.8 -0.5**
IR5 *e*P **Pdif 13 17 58.8 -0.5**
A19A Klindworth Far 101.54 41 Pdiff **Pdif 13 17 59.7 +0.9**
baz=102
H19A Powell 101.64 46 Pdiff **Pdif 13 18 01.0 +1.5**
baz=102
J19A Crowheart 101.67 47 Pdiff **Pdif 13 18 00.4 +0.7**
baz=102
I19A Meeteetse 101.67 46 Pdiff **Pdif 13 18 00.4 +0.7**
baz=102
PV04 Paradox Valley 101.98 52 *e*Pdif **Pdif 13 18 02.2 +1.0**
B20A Solberg Farm, 102.05 42 Pdiff **Pdif 13 18 01.8 +0.7**
baz=102
A20A Cobblestone Ra 102.08 41 Pdiff **Pdif 13 18 02.4 +1.2**
baz=102
RES Resolute Bay 102.11 14 P **Pdif 13 18 00.8 +0.1**
comp=Z,14nm,0.8s,baz=322,slow=5.3,SNR=14
RES PKiKP **PKiKP 13 22 23.2 +0.4**
comp=Z,14nm,0.7s,baz=266,slow=1.4,SNR=23
RES PKKPbc **PKKPbc 13 34 04.2 -3.0**
comp=Z,2.6nm,0.5s,baz=86,slow=7.6,SNR=5.2
RES Resolute Bay 102.11 14 *e*Pdif **Pdif 13 18 01.3 +0.6**
comp=Z,21nm,0.9s
RES PKiKP **PKiKP 13 22 23.2 +0.4**
RES PKKPbc **PKKPbc 13 34 04.2 -3.0**
C20A Veseth Ranch, 102.12 43 Pdiff **Pdif 13 18 02.4 +1.0**
baz=102
G20A Bridger 102.16 45 Pdiff **Pdif 13 18 02.6 +0.8**
baz=102
F20A Billings 102.16 45 Pdiff **Pdif 13 18 03.0 +1.2**
baz=102
VNA1 Neumayer--Stat 102.21 187 P **Pdif 13 18 01.1 -0.2**
PV01 Paradox Valley 102.25 52 *e*Pdif **Pdif 13 18 03.4 +0.9**
comp=Z,553nm,0.9s
PRGR Permogore 102.30 332 *e*P **Pdif 13 18 00.8 -1.0**
PRGR *e* 13 22 15.8
PRGR *e* 13 28 36.4
PRGR pmax pmax
comp=Z,34nm,1.5s
I20A Worland 102.30 46 Pdiff **Pdif 13 18 03.0 +0.6**
baz=102
MVCO Mesa Verde 102.34 53 Pdiff **Pdif 13 18 04.7 +1.8**
baz=102
MVCO Mesa Verde 102.34 53 *e*Pdif **Pdif 13 18 04.2 +1.3**
comp=Z,49nm,0.7s
MVCO LR LR
comp=Z,90µm,22.0s

H20A	**Greybull** baz=102	102.36	46	Pdiff	**Pdif**	13 18 03.3	+0.7
J20A	**Shoshoni** baz=102	102.37	47	Pdiff	**Pdif**	13 18 03.2	+0.4
O20A	**White River Ci** baz=102	102.42	50	Pdiff	**Pdif**	13 18 04.1	+0.9
O20A	**White River Ci** comp=Z,66nm,0.8s	102.42	50	*e*Pdif	**Pdif**	13 18 03.5	+0.3
B21A	**Ellsworth Farm** baz=103	102.72	42	Pdiff	**Pdif**	13 18 04.9	+0.9
C21A	**Desert Coulee** baz=103	102.72	42	Pdiff	**Pdif**	13 18 04.8	+0.7
A21A	**Bergtoll Ranch** baz=103	102.73	41	Pdiff	**Pdif**	13 18 04.5	+0.4
J21A	**Lysite** baz=103	102.83	47	Pdiff	**Pdif**	13 18 05.6	+0.7
E21A	**Keefer Ranch,** baz=103	102.85	44	Pdiff	**Pdif**	13 18 05.8	+1.1
G21A	**Lodge Grass** baz=103	102.87	45	Pdiff	**Pdif**	13 18 06.6	+1.7
F21A	**Absaloka Mine,** baz=103	102.88	44	Pdiff	**Pdif**	13 18 05.9	+1.1
I21A	**Big Trails, Te** baz=103	102.91	47	Pdiff	**Pdif**	13 18 05.1	-0.1
H21A	**Big Horn, Sher** baz=103	103.03	46	Pdiff	**Pdif**	13 18 06.8	+1.1
121A	**Cookes Peak, D** baz=103	103.05	58	Pdiff	**Pdif**	13 18 09.6	+3.5
121A	**Cookes Peak, D** comp=Z,45nm,0.8s	103.05	58	*e*Pdif	**Pdif**	13 18 08.8	+2.7
LAO	**LASA Array** baz=104	103.42	44	Pdiff	**Pdif**	13 18 08.0	+0.8
LAO	**LASA Array** comp=Z,43nm,0.9s	103.42	44	*e*Pdif	**Pdif**	13 18 07.4	+0.1
LAO	comp=Z,88µm,19.0s			LR	LR		
SMCO	**Snowmass** comp=Z,59nm,0.8s	103.45	51	*e*Pdif	**Pdif**	13 18 08.7	+0.7
F22A	**Rosebud** baz=104	103.48	44	Pdiff	**Pdif**	13 18 08.3	+0.7
I22A	**9 Mile Ranch,** baz=104	103.49	46	Pdiff	**Pdif**	13 18 08.6	+0.9
G22A	**Birney** baz=104	103.51	45	Pdiff	**Pdif**	13 18 08.9	+1.2
J22A	**Midwest** baz=104	103.53	47	Pdiff	**Pdif**	13 18 08.5	+0.5
LAZ	**Ladron** comp=Z,25nm,1.3s	103.53	56	*e*Pdif	**Pdif**	13 18 10.6	+2.4
K22A	**Casper** baz=104	103.56	48	Pdiff	**Pdif**	13 18 08.8	+0.7
K22A	**Casper** comp=Z,64nm,0.9s	103.56	48	*e*P	**Pdif**	13 18 08.1	0.0
MAK	**Makhachkala**	103.57	313	*e*P	**Pdif**	13 18 04.1	-3.8
MAK				*e*		13 22 20.0	
E22A	**Miles City** baz=104	103.64	44	Pdiff	**Pdif**	13 18 08.8	+0.6
S22A	**4UR Ranch, Cre** baz=104	103.64	53	Pdiff	**Pdif**	13 18 10.8	+2.0
HOPEN	**Hopen**	103.66	349	*e*	**Pdif**	13 18 06.8	-0.7
HOPEN				*e*SKSac	**SKSac**	13 28 44.3	+1.0
Y22D	**IRIS PASSCAL I** baz=104	103.73	57	Pdiff	**Pdif**	13 18 12.1	+3.1
LPM	**Los Pinos Moun** comp=Z,16nm,1.2s	103.96	56	*e*Pdif	**Pdif**	13 18 12.2	+2.1
E23A	**Ismay** baz=104	104.07	44	Pdiff	**Pdif**	13 18 11.2	+1.1
ANMO	**Albuquerque** comp=Z,15nm,0.8s,baz=134,slow=6.2,SNR=16	104.08	56	PKKP	**PKKPab**	13 34 18.4	-0.3
ANMO	**Albuquerque**	104.08	56	*e*P	**Pdif**	13 18 12.2	+1.6
ANMO				*i*		13 22 26.5	
ANMO	comp=Z,40nm,1.0s			pmax	pmax		
ANMO	comp=Z,51µm,22.0s			MLR	MLR		
ANMO	**Albuquerque** comp=Z,40nm,1.0s	104.08	56	*e*Pdif	**Pdif**	13 18 12.2	+1.6
ANMO				*e*PKiKP	**PKiKP**	13 22 26.5	-1.3
ANMO				PKKP	**PKKPab**	13 34 18.4	-0.3
ANMO	comp=Z,51µm,22.0s			LR	LR		
F23A	**Volborg** baz=104	104.08	44	Pdiff	**Pdif**	13 18 11.1	+0.9
N23A	**Red Feather La** baz=104	104.12	49	Pdiff	**Pdif**	13 18 11.8	+1.0
SPA0	**Spitsbergen Ar**	104.13	351	*e*PP	PP	13 22 26.6	-1.0
SPA0				*e*SKSac	**SKSac**	13 28 44.8	-0.7
G23A	**Biddle** baz=104	104.15	45	Pdiff	**Pdif**	13 18 11.1	+0.5
H23A	**Clabaugh Cattl** baz=104	104.20	46	Pdiff	**Pdif**	13 18 11.1	+0.3
J23A	**Dilts Ranch, B** baz=104	104.20	47	Pdiff	**Pdif**	13 18 11.1	+0.2
K23A	**Bowen Ranch, D** baz=104	104.21	48	Pdiff	**Pdif**	13 18 10.8	-0.2
I23A	**Meade Ranch, G** baz=104	104.22	46	Pdiff	**Pdif**	13 18 11.4	+0.4
KBS	**Kingsbay**	104.22	352	*e*	**Pdif**	13 18 07.6	-2.5
KBS				*e*PP	**PP**	13 22 30.1	+1.8
KBS				*e*SKSac	**SKSac**	13 28 48.8	+2.9
KBS	**Kingsbay** comp=Z,45µm,22.0s	104.22	352	PFAKE LR	LR	13 18 20.0	+10
ISCO	**Idaho Springs**	104.46	51	*e*P	**Pdif**	13 18 13.4	+1.1
ISCO	comp=Z,20nm,0.8s			pmax	pmax		
ISCO	comp=Z,81µm,22.0s			MLR	MLR		
ISCO	**Idaho Springs** baz=104	104.46	51	Pdiff	**Pdif**	13 18 13.7	+1.4
ISCO	**Idaho Springs** comp=Z,20nm,0.8s	104.46	51	*e*Pdif	**Pdif**	13 18 13.4	+1.1
ISCO	comp=Z,81µm,22.0s			LR	LR		
C24A	**Savage** baz=105	104.55	43	Pdiff	**Pdif**	13 18 13.0	+0.8
D24A	**Glendive** baz=105	104.67	43	Pdiff	**Pdif**	13 18 12.9	+0.1
SDCO	**Great Sand Dun** baz=105	104.69	53	Pdiff	**Pdif**	13 18 14.9	+1.5
SDCO	**Great Sand Dun** comp=Z,18nm,0.8s	104.69	53	*e*Pdif	**Pdif**	13 18 14.7	+1.3
SDCO	comp=Z,153µm,22.0s			LR	LR		
F24A	**Ekalaka** baz=105	104.74	44	Pdiff	**Pdif**	13 18 13.7	+0.5
E24A	**Baker** baz=105	104.75	44	Pdiff	**Pdif**	13 18 13.6	+0.4
H24A	**Dirks Ranch, A** baz=105	104.79	45	Pdiff	**Pdif**	13 18 14.1	+0.6
K24A	**Anderson Ranch** baz=105	104.81	48	Pdiff	**Pdif**	13 18 13.8	+0.2
G24A	**Alzada** baz=105	104.82	45	Pdiff	**Pdif**	13 18 13.7	+0.1
I24A	**Kuenmerle Ranc** baz=105	104.83	46	Pdiff	**Pdif**	13 18 14.2	+0.6
J24A	**Dixon Ranch, L** baz=105	104.86	47	Pdiff	**Pdif**	13 18 13.9	+0.1
Q24A	**Divide** baz=105	104.88	51	Pdiff	**Pdif**	13 18 14.9	+0.7
PMSA	**Palmer Station**	104.92	165	PFAKE		13 18 30.0	+17
PMSA	comp=Z,36µm,22.0s			LR	LR		
FFC	**Flin Flon**	104.94	35	*e*P	**Pdif**	13 18 13.9	+0.2
FFC	comp=Z,12nm,0.9s			pmax	pmax		
FFC	comp=Z,61µm,20.0s			MLR	MLR		
FFC	**Flin Flon** comp=Z,12nm,0.9s	104.94	35	*e*Pdif	**Pdif**	13 18 13.9	+0.2
FFC	comp=Z,61µm,20.0s			LR	LR		
TMCR	**Tamitsa**	105.05	335	*e*P	**Pdif**	13 18 13.9	0.0
TMCR	comp=Z,109nm,1.5s			pmax	pmax		
HSPB	**Hornsund (broa**	105.07	350	*e*	**Pdif**	13 18 11.9	-1.9
HSPB				*e*PP	**PP**	13 22 36.5	+2.0
HSPB				*e*SKSac	**SKSac**	13 28 52.1	+2.4
LVZ	**Lovozero**	105.07	339	PFAKE		13 22 40.0	
LVZ	comp=Z,67µm,21.0s			LR	LR		
RSSD	**Black Hills**	105.22	46	*e*P	**Pdif**	13 18 15.6	+0.1
RSSD	comp=Z,30nm,0.8s			pmax	pmax		
RSSD	**Black Hills** comp=Z,30nm,0.8s	105.22	46	*e*Pdif	**Pdif**	13 18 15.6	+0.1
A25A	**Svangstu Ranch** baz=105	105.23	41	Pdiff	**Pdif**	13 18 16.0	+0.8
B25A	**Knox Farm, Ray** baz=105	105.29	42	Pdiff	**Pdif**	13 18 16.1	+0.6
C25A	**Freed Ranch, W** baz=105	105.31	42	Pdiff	**Pdif**	13 18 16.0	+0.4
D25A	**Fairfield** baz=105	105.34	43	Pdiff	**Pdif**	13 18 16.9	+1.1
E25A	**Miller Ranch,** baz=105	105.38	44	Pdiff	**Pdif**	13 18 16.8	+0.8
F25A	**Bowman** baz=106	105.41	44	Pdiff	**Pdif**	13 18 16.9	+0.7
I25A	**Rochford** baz=106	105.45	46	Pdiff	**Pdif**	13 18 17.3	+0.7
J25A	**Sunshine Ranch** baz=106	105.47	47	Pdiff	**Pdif**	13 18 17.3	+0.8
H25A	**Fruitdale** baz=106	105.48	45	Pdiff	**Pdif**	13 18 17.0	+0.5
L25A	**Engebretsen Ra** baz=106	105.49	48	Pdiff	**Pdif**	13 18 18.0	+1.3
M25A	**Palm-Egli Farm** baz=106	105.50	49	Pdiff	**Pdif**	13 18 17.8	+1.1
K25A	**Mack Ranch, Ha** baz=106	105.51	48	Pdiff	**Pdif**	13 18 17.7	+1.0
G25A	**Newell** baz=106	105.53	45	Pdiff	**Pdif**	13 18 17.2	+0.6
T25A	**Trinidad** baz=106	105.60	53	Pdiff	**Pdif**	13 18 19.2	+1.8
APA	**Apatity**	105.64	339	⇓*i*P	**Pdif**	13 18 17.2	+0.7
APA				*i*		13 22 36.0	
APA				*i* PPP	PPP	13 25 00.0	
APA				*i*		13 28 50.0	
APA				*i* S	**Sdif**	13 30 04.0	-5.3
APA				*i* SSS	SSS	13 41 42.0	
APA	comp=Z,36nm,1.2s			pmax	pmax		
APA	comp=Z,42µm,23.0s			MLR	MLR		
TBLG	**Delisi**	105.73	312	*e*P	**PKiKP**	13 22 32.3	+1.9
B26A	**Jensen Ranch,** baz=106	105.89	41	Pdiff	**Pdif**	13 18 18.7	+0.6
A26A	**Wade Farm, Ken** baz=106	105.94	41	Pdiff	**Pdif**	13 18 19.0	+0.7
D26A	**Manning** baz=106	105.96	43	Pdiff	**Pdif**	13 18 19.2	+0.7
F26A	**Lodgepole** baz=106	105.97	44	Pdiff	**Pdif**	13 18 19.2	+0.6
K26A	**Motz Farm, Whi** baz=106	106.01	47	Pdiff	**Pdif**	13 18 19.5	+0.6
J26A	**Sides Ranch, S** baz=106	106.01	47	Pdiff	**Pdif**	13 18 19.6	+0.8
E26A	**Carlson Angus** baz=106	106.02	43	Pdiff	**Pdif**	13 18 18.5	-0.3
BJO	**Bjornoya**	106.04	348	*e*	**Pdif**	13 18 20.1	+1.9
BJO				*e*PP	**PP**	13 22 40.7	-1.0
BJO				*e*SKSac	**SKSac**	13 28 55.6	+1.5
H26A	**Fairpoint** baz=106	106.06	45	Pdiff	**Pdif**	13 18 19.4	+0.3
C26A	**Wahner Farm, P** baz=106	106.07	42	Pdiff	**Pdif**	13 18 19.7	+0.8
I26A	**New Underwood** baz=106	106.08	46	Pdiff	**Pdif**	13 18 19.8	+0.6
G26A	**Maurine** baz=106	106.09	45	Pdiff	**Pdif**	13 18 19.5	+0.3
Q26A	**Hugo** baz=106	106.15	51	Pdiff	**Pdif**	13 18 20.2	+0.5
L26A	**Underwood Farm** baz=106	106.16	48	Pdiff	**Pdif**	13 18 20.4	+0.8
M26A	**McRoberts Ranc** baz=106	106.18	49	Pdiff	**Pdif**	13 18 20.3	+0.6
O26A	**Horse Wrangler** baz=106	106.18	50	Pdiff	**Pdif**	13 18 20.1	+0.3
N26A	**Koester Ranch,** baz=106	106.19	49	Pdiff	**Pdif**	13 18 20.3	+0.5
P26A	**Davis Ranch, A** baz=106	106.22	51	Pdiff	**Pdif**	13 18 21.2	+1.2
T26A	**Comanche Natio** baz=106	106.25	53	Pdiff	**Pdif**	13 18 21.9	+1.7
R26A	**Arlington** baz=106	106.26	52	Pdiff	**Pdif**	13 18 20.9	+0.7
S26A	**Kim** baz=106	106.31	53	Pdiff	**Pdif**	13 18 21.8	+1.4
F27A	**Lemmon** baz=106	106.42	44	Pdiff	**Pdif**	13 18 21.1	+0.5
A27A	**Ledoux Ranch,** baz=106	106.44	41	Pdiff	**Pdif**	13 18 21.1	+0.5
C27A	**Sayler Ranch,** baz=106	106.48	42	Pdiff	**Pdif**	13 18 21.5	+0.7
B27A	**Peters Farms,** baz=107	106.53	41	Pdiff	**Pdif**	13 18 21.1	+0.1
G27A	**Dupree** baz=107	106.55	45	Pdiff	**Pdif**	13 18 21.6	+0.5
H27A	**Howes** baz=107	106.55	45	Pdiff	**Pdif**	13 18 22.1	+0.9
D27A	**Center** baz=107	106.56	43	Pdiff	**Pdif**	13 18 22.2	+1.0
CLDR	**Caldiran**	106.62	309	*e*P	**PKiKP**	13 22 33.6	+1.2
E27A	**Carson** baz=107	106.64	43	Pdiff	**Pdif**	13 18 22.1	+0.6
I27A	**Quinn** baz=107	106.65	46	Pdiff	**Pdif**	13 18 22.3	+0.6
TXAR	**Lajitas Array** comp=Z,9.7nm,0.8s,baz=266,slow=3.6,SNR=30	106.69	61	Pdiff PKiKP	**Pdif** **PKiKP**	13 18 25.5 13 22 34.4	+3.3 +1.7
TXAR	comp=Z,19nm,1.1s,baz=211,slow=0.5,SNR=14			PKKPbc	**PKKPbc**	13 33 54.9	+2.7
TXAR	comp=Z,4.6nm,0.7s,baz=114,slow=4.8,SNR=10			PKKP	**PKKPab**	13 34 10.1	+3.1
TXAR	comp=Z,28nm,0.9s,baz=102,slow=3.2,SNR=5.2			PKPPKP	**P'P'df**	13 42 17.5	+1.3
AKH	comp=Z,1.3nm,0.8s,baz=181,slow=3.6,SNR=4.3 **Akhalkalaki**	106.69	311	*e*P	**PKiKP**	13 22 33.9	+1.5
AKH	**Akhalkalaki**	106.69	311	⇑*i*P	**PKiKP**	13 22 34.3	+1.9
AKH	**Akhalkalaki**	106.69	311	⇓*i*P	**PKKPbc**	13 33 53.7	+1.1
K27A	**Flueckinger Fa** baz=107	106.70	47	Pdiff	**Pdif**	13 18 22.4	+0.4
N27A	**Anderson Farm,** baz=107	106.71	49	Pdiff	**Pdif**	13 18 22.4	+0.4
L27A	**T5 Ranch, Ells** baz=107	106.72	48	Pdiff	**Pdif**	13 18 22.6	+0.5
M27A	**Reverse DX Ran** baz=107	106.73	49	Pdiff	**Pdif**	13 18 22.8	+0.7
KEV	**Kevo**	106.75	342	*e*P	**Pdif**	13 18 20.8	-0.6
KEV	comp=Z,35nm,1.5s			pmax	pmax		
KEV	comp=Z,43µm,22.0s			MLR	MLR		
KEV	**Kevo** comp=Z,35nm,1.5s	106.75	342	*e*Pdif	**Pdif**	13 18 20.8	-0.6
KEV	comp=Z,43µm,22.0s			LR	LR		
S27A	**Las Animas** baz=107	106.75	53	Pdiff	**Pdif**	13 18 23.8	+1.4
R27A	**Eads** baz=107	106.77	52	Pdiff	**Pdif**	13 18 23.2	+0.8
J27A	**Elkhorn Farm,** baz=107	106.79	47	Pdiff	**Pdif**	13 18 22.8	+0.4
P27A	**Ficken Ranch,** baz=107	106.81	51	Pdiff	**Pdif**	13 18 23.5	+0.9
O27A	**Beecher Island** baz=107	106.82	50	Pdiff	**Pdif**	13 18 23.1	+0.5
KBZ	**Khabaz** comp=Z,14nm,0.8s,baz=74,slow=3.5,SNR=7.2	106.83	314	PKiKP	**PKiKP**	13 22 33.8	+1.5
KBZ	comp=Z,4.8nm,0.9s,baz=296,slow=11,SNR=4.9			PKKPbc	**PKKPbc**	13 33 52.5	+0.5
KSCO	**Kaye Shedlock'** baz=107	106.83	51	Pdiff	**Pdif**	13 18 23.5	+0.8
KSCO	**Kaye Shedlock'** comp=Z,38nm,0.9s	106.83	51	*e*Pdif	**Pdif**	13 18 23.8	+1.0
HKR	**Hakkari**	106.91	307	*e*P	**PKiKP**	13 22 33.8	+0.8
U27A	**Thompson Grove** baz=107	106.93	54	Pdiff	**Pdif**	13 18 24.2	+1.0
KIV	**Kislovodsk**	106.95	314	*e*P	**PKiKP**	13 22 34.0	+1.4
KIV	**Kislovodsk** comp=Z,84µm,22.0s	106.95	314	*e*PKiKP LR	**PKiKP** LR	13 22 33.5	+0.9
T27A	**Campo** baz=107	106.95	53	Pdiff	**Pdif**	13 18 24.5	+1.3
V27A	**Dan Oppiter Fa** baz=107	106.98	55	Pdiff	**Pdif**	13 18 24.9	+1.5
CUKT	**Cukurca**	107.05	307	*e*P	**PKiKP**	13 22 32.9	-0.2
OGNE	**Ogallala** baz=107	107.07	49	Pdiff	**Pdif**	13 18 24.1	+0.5
OGNE	**Ogallala**	107.07	49	*e*Pdif	**Pdif**	13 18 23.3	-0.3
OGNE				PKiKP	**PKiKP**	13 22 35.3	+2.3
OGNE	comp=Z,60µm,20.0s			LR	LR		
A28A	**Rude Farm, Bot** baz=107	107.08	41	Pdiff	**Pdif**	13 18 23.5	0.0
KARS	**Kars**	107.10	311	*e*P	**PKiKP**	13 22 34.6	+1.5
B28A	**Dugan Ranch, T** baz=107	107.11	41	Pdiff	**Pdif**	13 18 24.0	+0.5
MSTX	**Muleshoe** baz=107	107.17	56	Pdiff	**Pdif**	13 18 25.3	+1.0
MSTX	**Muleshoe** comp=Z,39nm,1.0s	107.17	56	*e*Pdif	**Pdif**	13 18 25.8	+1.5
D28A	**Regan** baz=107	107.19	42	Pdiff	**Pdif**	13 18 24.5	+0.5
E28A	**Huff** baz=107	107.21	43	Pdiff	**Pdif**	13 18 24.5	+0.5
C28A	**Hausauer Farms** baz=107	107.22	42	Pdiff	**Pdif**	13 18 24.9	+0.8
HAMF	**Hammerfest**	107.24	344	*e*	**Pdif**	13 18 21.8	-1.8
HAMF				*e*PP	**PP**	13 22 50.7	+0.1
HAMF				*e*SKSac	**SKSac**	13 28 59.6	+0.1
F28A	**McLaughlin** baz=107	107.26	44	Pdiff	**Pdif**	13 18 24.6	+0.3
AGRB	**Hanur-Agry**	107.29	309	*e*P	**PKiKP**	13 22 35.3	+1.8
I28A	**Midland** baz=107	107.29	46	Pdiff	**Pdif**	13 18 25.2	+0.7
H28A	**Mission Ridge** baz=107	107.29	45	Pdiff	**Pdif**	13 18 24.7	+0.2
G28A	**Parade** baz=107	107.30	45	Pdiff	**Pdif**	13 18 24.9	+0.3
ARCES	**ARCESS Array B** comp=Z,4.0nm,0.6s,baz=59,slow=7.5,SNR=13	107.31	342	Pdiff PKiKP	**Pdif** **PKiKP**	13 18 24.1 13 22 33.2	+0.1 +0.7
ARCES	comp=Z,30nm,0.7s,baz=88,slow=2.3,SNR=48			PKKPbc	**PKKPbc**	13 33 48.2	-3.1
ARE0	comp=Z,5.5nm,0.9s,baz=250,slow=2.3,SNR=13 **ARCESS Array S**	107.31	342	*e*	**Pdif**	13 18 22.3	-1.6
ARE0	**ARCESS Array S**	107.31	342	*e*Pdif	**Pdif**	13 18 25.2	+1.2
L28A	**Connealy Angus** baz=107	107.32	48	Pdiff	**Pdif**	13 18 25.4	+0.7
J28A	**Allard Ranch,** baz=107	107.33	46	Pdiff	**Pdif**	13 18 25.1	+0.4
K28A	**Ten Mile Ranch** baz=107	107.33	47	Pdiff	**Pdif**	13 18 25.3	+0.5
O28A	**Krutsinger Ran** baz=107	107.36	50	Pdiff	**Pdif**	13 18 25.5	+0.5
U28A	**Mallet** baz=108	107.41	54	Pdiff	**Pdif**	13 18 26.6	+1.3
P28A	**Saint Francis** baz=108	107.44	51	Pdiff	**Pdif**	13 18 26.6	+1.3
Q28A	**Sharon Springs** baz=108	107.44	51	Pdiff	**Pdif**	13 18 26.8	+1.4
228A	**UT Block 9, Go** baz=108	107.46	58	Pdiff	**Pdif**	13 18 27.5	+1.9
N28A	**Pribbeno Ranch** baz=108	107.47	49	Pdiff	**Pdif**	13 18 25.7	+0.2
V28A	**Channing** baz=108	107.47	55	Pdiff	**Pdif**	13 18 27.5	+1.9
M28A	**Bar X Bar Ranc** baz=108	107.51	49	Pdiff	**Pdif**	13 18 25.7	+0.2
128A	**Castleberry Fa** baz=108	107.51	58	Pdiff	**Pdif**	13 18 27.8	+1.9
W28A	**Vega** baz=108	107.53	55	Pdiff	**Pdif**	13 18 27.3	+1.4
R28A	**Tribune** baz=108	107.54	52	Pdiff	**Pdif**	13 18 27.8	+2.0
Z28A	**Tucker Farm, M** baz=108	107.55	57	Pdiff	**Pdif**	13 18 27.3	+1.4
S28A	**Manter** baz=108	107.55	53	Pdiff	**Pdif**	13 18 27.3	+1.4
CHVG	**Ch'k'valeri**	107.56	313	*e*P	**PKiKP**	13 22 35.1	+1.4
X28A	**Dimmitt** baz=108	107.60	56	Pdiff	**Pdif**	13 18 27.6	+1.4
Y28A	**McKinney Farm,** baz=108	107.61	56	Pdiff	**Pdif**	13 18 28.1	+1.9
MOS	**Moscow**	107.71	327	*e*P	**Pdif**	13 18 24.3	-1.7
MOS				*i*		13 22 53.0	
MOS				*e*PPP	PPP	13 25 17.9	
MOS				*i*		13 29 01.0	
MOS				*i* PS	**PS**	13 32 17.1	-0.6
MOS				*i* SS	SS	13 38 07.4	+5.3
MOS				*e*SSS	SSS	13 42 11.5	
MOS	comp=E,124µm,22.0s			MLR	MLR		
MOS	comp=Z,155µm,22.0s			MLR	MLR		
MOS	comp=N,45µm,21.0s			MLR	MLR		
MDND	**Maddock** baz=108	107.72	42	Pdiff	**Pdif**	13 18 25.8	-0.5
A29A	**Manning Farm,** baz=108	107.75	41	Pdiff	**Pdif**	13 18 26.4	0.0
B29A	**Wagenman Farm,** baz=108	107.76	41	Pdiff	**Pdif**	13 18 26.9	+0.5
LPSR	**Galich'ya Gora**	107.77	323	*e*P	**Pdif**	13 18 25.5	-0.8
LPSR				*e*		13 22 56.4	
LPSR				*e*		13 28 59.0	
LPSR				*e*SP	SP	13 32 10.3	-1.9
LPSR				*e*PS	**PS**	13 32 14.6	-3.9
LPSR				*e*SS	**SS**	13 38 02.2	-1.0
LPSR	comp=N,2.0nm,0.8s			pmax	pmax		
LPSR	comp=Z,7.0nm,0.8s			pmax	pmax		
LPSR	comp=E,3.0nm,0.6s			pmax	pmax		
LPSR	comp=N,710nm,5.7s			pmax	pmax		
LPSR	comp=Z,2µm,5.7s			pmax	pmax		
LPSR	comp=E,940nm,4.8s			MLR	MLR		
LPSR	comp=N,24µm,20.0s			MLR	MLR		
LPSR	comp=E,55µm,20.0s			MLR	MLR		
LPSR	comp=Z,32µm,20.0s			MLR	MLR		
D29A	**Pettibone, Tap** baz=108	107.87	42	Pdiff	**Pdif**	13 18 26.9	0.0
H29A	**Onida** baz=108	107.87	45	Pdiff	**Pdif**	13 18 27.1	+0.1
I29A	**Vivian Onida** baz=108	107.90	46	Pdiff	**Pdif**	13 18 27.3	+0.1
529A	**Stev Forest Ra** baz=108	107.90	60	Pdiff	**Pdif**	13 18 29.6	+2.1
E29A	**Napoleon** baz=108	107.93	43	Pdiff	**Pdif**	13 18 27.4	+0.1
F29A	**Eureka** baz=108	107.93	44	Pdiff	**Pdif**	13 18 27.6	+0.3
VSR	**Storozhevoye**	107.95	322	*e*P	**Pdif**	13 18 26.9	-0.3
VSR				*e*		13 22 55.6	
VSR				*e*		13 29 02.0	
VSR				*e*SP	SP	13 32 10.3	-3.8
VSR				*e*PS	**PS**	13 32 16.7	-3.7
VSR				*e*SS	**SS**	13 38 06.5	+0.8
VSR	comp=N,2.0nm,0.6s			pmax	pmax		
VSR	comp=E,6.0nm,0.6s			pmax	pmax		
VSR	comp=Z,5.0nm,0.6s			pmax	pmax		
VSR	comp=N,120nm,2.8s			pmax	pmax		
VSR	comp=E,210nm,2.8s			pmax	pmax		
VSR	comp=Z,710nm,2.8s			pmax	pmax		
G29A	**Hoven** baz=108	107.98	44	Pdiff	**Pdif**	13 18 27.1	-0.4
J29A	**Okreek** baz=108	107.98	46	Pdiff	**Pdif**	13 18 28.0	+0.4
W29A	**Amraillo** baz=108	108.00	55	Pdiff	**Pdif**	13 18 29.5	+1.6
M29A	**Burnside Ranch** baz=108	108.01	48	Pdiff	**Pdif**	13 18 28.4	+0.6
X29A	**Tulia** baz=108	108.02	56	Pdiff	**Pdif**	13 18 30.0	+2.0
V29A	**Stinnett** baz=108	108.03	54	Pdiff	**Pdif**	13 18 29.7	+1.7
129A	**Stewart Farms,** baz=108	108.03	58	Pdiff	**Pdif**	13 18 29.6	+1.5
R29A	**Marienthal** baz=108	108.06	52	Pdiff	**Pdif**	13 18 29.9	+1.9
P29A	**Atwood** baz=108	108.07	50	Pdiff	**Pdif**	13 18 28.8	+0.7
L29A	**Maesberg Ranch** baz=108	108.08	48	Pdiff	**Pdif**	13 18 28.5	+0.4
T29A	**Hugoton** baz=108	108.08	53	Pdiff	**Pdif**	13 18 29.7	+1.4
BCA	**Borcka**	108.08	312	*e*P	**PKiKP**	13 22 34.6	-0.1
K29A	**Lazy Trails An**	108.09	47	Pdiff	**Pdif**	13 18 28.7	+0.6

baz=108
Y29A Porterfield Fa 108.09 56 Pdiff **Pdif 13 18 30.7 +2.3**
baz=108
FCC Fort Churchill 108.10 30 *e*P **Pdif 13 18 28.6 +1.0**
FCC Fort Churchill 108.10 30 *e*Pdif **Pdif 13 18 28.6 +1.0**
O29A 4D Ranch, Culb 108.11 50 Pdiff **Pdif 13 18 28.9 +0.6**
baz=108
Z29A Hungry Hill Ra 108.12 57 Pdiff **Pdif 13 18 30.0 +1.6**
baz=108
Q29A Oakley 108.12 51 Pdiff **Pdif 13 18 29.4 +1.0**
baz=108
229A Bryant Ranch, 108.13 58 Pdiff **Pdif 13 18 31.1 +2.5**
baz=108
N29A Votaw Ranch, W 108.14 49 Pdiff **Pdif 13 18 29.8 +1.4**
baz=108
429A Davenport Ranc 108.15 60 Pdiff **Pdif 13 18 30.4 +1.8**
baz=108
S29A Ulysses 108.17 52 Pdiff **Pdif 13 18 30.7 +2.1**
baz=108
U29A Oasis Ranch, S 108.17 54 Pdiff **Pdif 13 18 30.2 +1.5**
baz=108
A30A Hoffart Farm, 108.35 40 Pdiff **Pdif 13 18 29.2 +0.1**
baz=108
D30A Buchanan 108.42 42 Pdiff **Pdif 13 18 29.5 +0.1**
baz=108
B30A Myrvik Farm, E 108.43 41 Pdiff **Pdif 13 18 29.8 +0.4**
baz=108
E30A Jud 108.44 43 Pdiff **Pdif 13 18 29.8 +0.3**
baz=108
OBN Obninsk 108.46 326 ⇓*i*P **Pdif 13 18 28.9 -0.4**
OBN *i* 13 23 01.3
OBN *i* S **SKSac 13 29 04.9 -0.5**
OBN *i* 13 29 38.6
OBN *i* SSS SSS 13 42 19.3
OBN pmax pmax
comp=Z,1715µm,20.7s
OBN MLR MLR
comp=Z,110µm,20.0s
OBN Obninsk 108.46 326 *e*Pdif **Pdif 13 18 27.6 -1.7**
OBN *e*PKiKP **PKiKP 13 22 34.9 -0.1**
OBN LR LR
comp=Z,114µm,21.0s
F30A Leola 108.48 44 Pdiff **Pdif 13 18 29.1 -0.7**
baz=108
C30A Mose, Pekin 108.49 42 Pdiff **Pdif 13 18 29.6 -0.1**
baz=108
EZM Erzurum 108.49 310 *e*P **PKiKP 13 22 37.9 +2.0**
VRTB Varto-Mus 108.52 309 *e*P **PKiKP 13 22 35.3 -0.5**
G30A Faulkton 108.53 44 Pdiff **Pdif 13 18 29.3 -0.6**
baz=109
N30A Hueftle Ranch, 108.54 49 Pdiff **Pdif 13 18 30.9 +0.7**
baz=109
I30A Oacoma 108.55 46 Pdiff **Pdif 13 18 29.9 -0.2**
baz=109
Z30A Sanderson Ranc 108.60 57 Pdiff **Pdif 13 18 32.1 +1.5**
baz=109
J30A Dallas 108.60 46 Pdiff **Pdif 13 18 30.5 +0.2**
baz=109
M30A Dale-Ortello V 108.60 48 Pdiff **Pdif 13 18 30.5 +0.1**
baz=109
P30A Selden 108.60 50 Pdiff **Pdif 13 18 31.3 +0.8**
baz=109
K30A Basset 108.62 47 Pdiff **Pdif 13 18 31.0 +0.6**
baz=109
BTMT Batman 108.62 308 *e*P **PKiKP 13 22 36.5 +0.6**
L30A Spencer Herefo 108.65 48 Pdiff **Pdif 13 18 31.2 +0.6**
baz=109
U30A WK&E Inc. Balk 108.66 54 Pdiff **Pdif 13 18 32.6 +1.8**
baz=109
O30A MW Ranch, Wils 108.66 50 Pdiff **Pdif 13 18 30.9 +0.2**
baz=109
530A J-C Ranch, Com 108.67 60 Pdiff **Pdif 13 18 32.9 +2.0**
baz=109
S30A Montezuma 108.68 52 Pdiff **Pdif 13 18 32.5 +1.6**
baz=109
T30A Plains 108.70 53 Pdiff **Pdif 13 18 32.0 +1.0**
baz=109
X30A Coker Ranch, T 108.70 56 Pdiff **Pdif 13 18 32.3 +1.3**
baz=109
Q30A Quinter 108.70 51 Pdiff **Pdif 13 18 32.5 +1.6**
baz=109
430A Baggett Ranch, 108.71 60 Pdiff **Pdif 13 18 33.0 +1.9**
baz=109
330A Mertzon 108.71 59 Pdiff **Pdif 13 18 33.0 +1.9**
baz=109
V30A Spur Ranch, Mi 108.71 54 Pdiff **Pdif 13 18 33.0 +1.9**
baz=109
230A Sterling City 108.73 58 Pdiff **Pdif 13 18 33.2 +2.0**
baz=109
Y30A Stafford Cattl 108.73 56 Pdiff **Pdif 13 18 33.0 +1.9**
baz=109
R30A Dighton 108.75 52 Pdiff **Pdif 13 18 33.1 +2.0**
baz=109
130A Snyder 108.79 58 Pdiff **Pdif 13 18 33.3 +1.9**
baz=109
W30A Crocket Farms 108.87 55 Pdiff **Pdif 13 18 33.5 +1.7**
baz=109
DAG Danmarks Havn 109.01 357 *i* P **PKiKP 13 22 36.2 +0.7**
comp=Z,21nm,0.8s
CBKS Cedar Bluff 109.09 51 *e*P **Pdif 13 18 33.5 +0.8**
CBKS *e* 13 23 03.6
CBKS MLR MLR
comp=Z,138µm,21.0s
CBKS Cedar Bluff 109.09 51 Pdiff **Pdif 13 18 33.9 +1.3**
baz=109
CBKS Cedar Bluff 109.09 51 *e*Pdif **Pdif 13 18 33.5 +0.8**
CBKS *e*PKiKP **PKiKP 13 22 36.9 +0.1**
CBKS *e*PP **PP 13 23 03.6 -1.7**
CBKS LR LR
comp=Z,138µm,21.0s
SOC Sochi 109.13 314 *i* P **Pdif 13 18 30.8 -1.8**
BNGB Bing¶‖ 109.14 309 *e*P **PKiKP 13 22 36.2 -0.7**
TRO Tromso 109.15 344 *e* **Pdif 13 18 27.6 -4.5**
TRO *e*PP **PP 13 22 59.4 -5.2**
TRO *e*SKSac **SKSac 13 29 04.0 -3.8**
O31A Woolen Ranch, 109.22 50 Pdiff **Pdif 13 18 33.6 +0.5**
baz=109
Y31A Rekieta Farm, 109.25 56 Pdiff **Pdif 13 18 34.7 +1.3**
baz=109
431A Sonora 109.25 60 Pdiff **Pdif 13 18 35.2 +1.6**
baz=109
L31A Butterfield Fa 109.26 47 Pdiff **Pdif 13 18 33.4 +0.1**
baz=109
131A Roby 109.27 58 Pdiff **Pdif 13 18 35.6 +2.0**
baz=109
P31A Stockton 109.27 50 Pdiff **Pdif 13 18 34.7 +1.3**
baz=109
M31A Lambtecht Ranc 109.30 48 Pdiff **Pdif 13 18 34.1 +0.6**
baz=109
U31A Nine Bar Ranch 109.32 54 Pdiff **Pdif 13 18 35.8 +2.1**
baz=109
R31A Burdett 109.33 52 Pdiff **Pdif 13 18 35.7 +2.0**
baz=109
Q31A Ellis 109.33 51 Pdiff **Pdif 13 18 34.9 +1.1**
baz=109
531A Rocksprings 109.35 60 Pdiff **Pdif 13 18 36.4 +2.4**
baz=109
331A San Angelo 109.36 59 Pdiff **Pdif 13 18 35.9 +1.9**
baz=109
631A Perdido Creek 109.38 61 Pdiff **Pdif 13 18 36.1 +2.0**
baz=110
W31A Holland Ranch, 109.38 55 Pdiff **Pdif 13 18 35.9 +1.9**
baz=109
N31A Bailey Ranch, 109.40 49 Pdiff **Pdif 13 18 34.6 +0.7**
baz=109
V31A Spring Creek L 109.40 54 Pdiff **Pdif 13 18 36.8 +2.7**
baz=110
231A Bronte 109.40 58 Pdiff **Pdif 13 18 36.3 +2.2**
baz=110
X31A McDonald Ranch 109.41 56 Pdiff **Pdif 13 18 35.8 +1.7**
baz=110
Z31A Sharp Cattle R 109.41 57 Pdiff **Pdif 13 18 35.8 +1.7**
baz=110
S31A Mullinville 109.45 52 Pdiff **Pdif 13 18 36.4 +2.1**
baz=110
MAZI Mazidag 109.53 308 *e*P **PKiKP 13 22 37.7 0.0**
ULM Lac du Bonnet 109.58 39 Pdiff **Pdif 13 18 35.6 +1.2**
comp=Z,2.7nm,0.6s,baz=313,slow=6.0,SNR=4.2
ULM PKiKP **PKiKP 13 22 37.2 0.0**
comp=Z,65nm,0.8s,baz=266,slow=2.1,SNR=32
ULM SKP 13 26 10.6
comp=Z,12nm,0.7s,baz=320,slow=2.0,SNR=5.6
ULM PKKPbc **PKKPbc 13 33 42.5 -1.1**
comp=Z,8.6nm,0.8s,baz=3.5,slow=3.1,SNR=5.0
ULM Lac du Bonnet 109.58 39 *e*Pdif **Pdif 13 18 34.4 -0.1**
ULM *e*PKiKP **PKiKP 13 22 36.3 -1.0**
ULM PKiKP **PKiKP 13 22 37.2 0.0**
ULM *e*PP **PP 13 23 05.1 -3.2**
ULM SKP 13 26 10.6
ULM PKKPbc **PKKPbc 13 33 42.5 -1.1**
ERZN Erzincan 109.79 310 *e*P **PKiKP 13 22 39.7 +1.5**
GUMT Gumushane 109.84 311 *e*P **PKiKP 13 22 39.3 +1.1**
P32A Huiting Farm, 109.85 50 Pdiff **Pdif 13 18 36.5 +0.5**
baz=110
S32A Newby Ranch, P 109.87 52 Pdiff **Pdif 13 18 37.0 +0.9**
baz=110
BGNE Belgrade 109.90 48 Pdiff **Pdif 13 18 36.9 +0.8**
baz=110
N32A Stulken Farm, 109.90 49 Pdiff **Pdif 13 18 35.6 -0.6**
baz=110
ABTX Abilene, Hawle 109.90 58 Pdiff **Pdif 13 18 38.1 +1.7**
baz=110
ABTX Abilene, Hawle 109.90 58 *e*Pdif **Pdif 13 18 38.1 +1.7**
532A Rocksprings 109.90 60 Pdiff **Pdif 13 18 38.8 +2.3**
baz=110
Y32A R-V Farms, Ver 109.92 56 Pdiff **Pdif 13 18 38.5 +2.1**
baz=110
332A Millersview 109.94 59 Pdiff **Pdif 13 18 38.1 +1.6**
baz=110
432A Menard 109.94 59 Pdiff **Pdif 13 18 38.6 +2.1**
baz=110
R32A Long Quarter, 109.95 51 Pdiff **Pdif 13 18 38.0 +1.6**
baz=110
T32A Huddler Ranch, 109.95 53 Pdiff **Pdif 13 18 38.4 +1.9**
baz=110
732A Laxson Ranch, 109.95 62 Pdiff **Pdif 13 18 38.7 +2.1**
baz=110
W32A Sentinel 109.96 55 Pdiff **Pdif 13 18 39.0 +2.5**
baz=110
JCT Junction City 109.96 60 *e*P **Pdif 13 18 38.0 +1.3**
JCT MLR MLR
comp=Z,125µm,20.0s
JCT Junction City 109.96 60 Pdiff **Pdif 13 18 39.0 +2.3**
baz=110
JCT Junction City 109.96 60 *e*Pdif **Pdif 13 18 38.0 +1.3**
JCT *e*PKiKP **PKiKP 13 22 37.7 -1.0**
JCT LR LR
comp=Z,125µm,20.0s
Z32A Haskell 109.97 57 Pdiff **Pdif 13 18 38.2 +1.6**
baz=110
232A Coleman 109.97 58 Pdiff **Pdif 13 18 38.7 +2.0**
baz=110
Q32A Meitler Ranch, 109.98 51 Pdiff **Pdif 13 18 37.6 +1.0**
baz=110
832A Faith Ranch, C 109.98 62 Pdiff **Pdif 13 18 38.7 +2.0**
baz=110
O32A Brockman Farm, 110.00 49 Pdiff **Pdif 13 18 36.8 +0.2**
baz=110
U32A Winter Ranch, 110.00 54 Pdiff **Pdif 13 18 38.1 +1.4**
baz=110
X32A Elmer 110.01 56 Pdiff **Pdif 13 18 39.0 +2.2**
baz=110
V32A Arapaho 110.05 54 Pdiff **Pdif 13 18 39.2 +2.3**
baz=110
632A Uvalde 110.06 61 Pdiff **Pdif 13 18 39.4 +2.3**
baz=110
AGMN Agassiz Nation 110.07 41 Pdiff **Pdif 13 18 37.3 +0.6**
baz=110
AGMN Agassiz Nation 110.07 41 *e*PKiKP **PKiKP 13 22 38.3 0.0**
AGMN LR LR
comp=Z,73µm,21.0s
WMOK Wichita Mounta 110.38 55 *e*P **Pdif 13 18 39.4 +1.0**
WMOK *i* 13 22 40.2
WMOK MLR MLR
comp=Z,53µm,21.0s
WMOK Wichita Mounta 110.38 55 *e*Pdif **Pdif 13 18 39.4 +1.0**
WMOK *e*PKiKP **PKiKP 13 22 40.1 +0.9**
WMOK LR LR
comp=Z,53µm,21.0s
L33A Hoskins 110.41 47 Pdiff **Pdif 13 18 38.4 0.0**
baz=110
833A Chaparral WMA, 110.49 62 Pdiff **Pdif 13 18 41.7 +2.7**
baz=111
T33A Patterson Ranc 110.50 53 Pdiff **Pdif 13 18 41.1 +2.2**
baz=111
ANN Anapa 110.51 316 *e*P **Pdif 13 18 37.0 -1.7**
ANN *e* 13 23 12.6
ANN *e* 13 29 10.7
ANN *e*SP SP 13 32 40.1 +0.1
ANN *e*SS **SS 13 38 44.2 +3.7**
ANN pmax pmax
comp=Z,29nm,1.0s
ANN MLR MLR
comp=N,57µm,24.0s
ANN MLR MLR
comp=Z,62µm,24.0s
ANN MLR MLR
comp=E,33µm,24.0s
133A Hamilton Ranch 110.51 58 Pdiff **Pdif 13 18 41.6 +2.5**
baz=111
R33A Olander Ranch, 110.53 51 Pdiff **Pdif 13 18 40.3 +1.3**
baz=111
N33A J Bar K, Exete 110.54 49 Pdiff **Pdif 13 18 39.1 +0.1**
baz=111
Q33A Connelly Farm, 110.54 51 Pdiff **Pdif 13 18 40.3 +1.3**
baz=111
733A Divot King Ran 110.55 62 Pdiff **Pdif 13 18 42.3 +3.1**
baz=111
433A Art 110.55 60 Pdiff **Pdif 13 18 41.5 +2.2**
baz=111
O33A Hebron 110.55 49 Pdiff **Pdif 13 18 39.2 +0.1**
baz=111
Z33A Whitaker Ranch 110.57 57 Pdiff **Pdif 13 18 41.5 +2.2**
baz=111
P33A Williams Farm, 110.57 50 Pdiff **Pdif 13 18 40.4 +1.2**
baz=111
M33A Taylor Creek F 110.58 48 Pdiff **Pdif 13 18 38.5 -0.6**
baz=111
ECSD EROS Data Cent 110.58 46 Pdiff **Pdif 13 18 39.4 +0.3**
baz=111
ECSD EROS Data Cent 110.58 46 *e*Pdif **Pdif 13 18 38.6 -0.5**
ECSD *e*PKiKP **PKiKP 13 22 39.3 -0.1**
ECSD LR LR
comp=Z,86µm,20.0s
W33A Caddo, Fort Co 110.59 55 Pdiff **Pdif 13 18 41.9 +2.6**
baz=111
333A Richland Sprin 110.59 59 Pdiff **Pdif 13 18 41.2 +1.8**
baz=111
233A Rising Star 110.59 58 Pdiff **Pdif 13 18 41.6 +2.1**
baz=111
633A Saathoff Ranch 110.59 61 Pdiff **Pdif 13 18 41.6 +2.1**
baz=111
Y33A Hilltop Ranch, 110.60 56 Pdiff **Pdif 13 18 41.2 +1.9**
baz=111
S33A Kaszmaul Farm, 110.62 52 Pdiff **Pdif 13 18 41.1 +1.7**
baz=111
X33A Lawton 110.64 55 Pdiff **Pdif 13 18 42.0 +2.4**
baz=111
V33A Lossen Ranch, 110.65 54 Pdiff **Pdif 13 18 42.2 +2.6**
baz=111
933A Laredo 110.65 63 Pdiff **Pdif 13 18 42.7 +2.9**
baz=111
533A Kerrville 110.66 60 Pdiff **Pdif 13 18 42.4 +2.6**
baz=111
U33A Lingo Farm, Me 110.70 53 Pdiff **Pdif 13 18 41.8 +2.0**
baz=111
MALT Malatya 110.99 309 *e*P **PKiKP 13 22 43.7 +3.3**
MALT Malatya 110.99 309 ⇑PKiKP **PKiKP 13 22 42.1 +1.7**
MALT Malatya 110.99 309 ⇑*i*P **PKiKP 13 22 42.1 +1.7**
MALT Malatya 110.99 309 ⇑*i*P **PKKPbc 13 33 40.7 +2.0**
M34A Aspy Farms, Fr 111.04 48 Pdiff **Pdif 13 18 40.9 -0.3**
baz=111
R34A Isabella, Hill 111.10 51 Pdiff **Pdif 13 18 43.2 +1.7**
baz=111
L34A Svendsen Farm, 111.10 47 Pdiff **Pdif 13 18 41.7 +0.2**
baz=111
W34A Bridge Creek, 111.14 55 Pdiff **Pdif 13 18 44.3 +2.5**
baz=111
W34A Bridge Creek, 111.14 55 *e*PKiKP **PKiKP 13 22 41.5 +0.8**
534A Blanco 111.15 60 Pdiff **Pdif 13 18 44.3 +2.3**
baz=111
U34A Anderson Ranch 111.16 53 Pdiff **Pdif 13 18 44.0 +2.1**
baz=111
U34A Anderson Ranch 111.16 53 *e*PKiKP **PKiKP 13 22 41.9 +1.2**
FIA1 FINESS Array S 111.16 335 *e*PKiKP **PKiKP 13 22 39.8 -0.1**
FINES FINESS Array B 111.17 335 Pdiff **Pdif 13 18 40.1 -1.2**
comp=Z,3.7nm,0.5s,baz=57,slow=5.1,SNR=17
FINES PKiKP **PKiKP 13 22 40.5 +0.6**
comp=Z,27nm,0.8s,baz=109,slow=1.6,SNR=20
FINES PKKPbc **PKKPbc 13 33 36.0 -2.7**
comp=Z,4.1nm,0.9s,baz=212,slow=2.8,SNR=5.9
X34A Smith Ranch, M 111.17 55 Pdiff **Pdif 13 18 45.0 +3.1**
baz=111
734A La Parita Cree 111.18 61 Pdiff **Pdif 13 18 44.8 +2.8**
baz=111
O34A Beatrice 111.20 49 Pdiff **Pdif 13 18 41.9 -0.1**
baz=111
034A Hebbronville 111.21 63 Pdiff **Pdif 13 18 45.9 +3.7**
baz=111
P34A Walnut Farm, R 111.22 50 Pdiff **Pdif 13 18 43.8 +1.7**
baz=111
134A White-Moore Ra 111.22 57 Pdiff **Pdif 13 18 44.8 +2.6**
baz=111
334A Lometa 111.22 59 Pdiff **Pdif 13 18 44.4 +2.2**
baz=111
N34A Lincoln 111.23 49 Pdiff **Pdif 13 18 42.1 +0.1**
baz=111
234A Clairette 111.23 58 Pdiff **Pdif 13 18 44.5 +2.2**
baz=111
Q34A Chapman 111.24 51 Pdiff **Pdif 13 18 43.6 +1.5**
baz=111
834A Tilden 111.25 62 Pdiff **Pdif 13 18 45.3 +2.9**
baz=111
434A Burnet 111.25 59 Pdiff **Pdif 13 18 44.8 +2.4**
baz=111
Z34A Collier Ranch, 111.26 57 Pdiff **Pdif 13 18 44.8 +2.5**
baz=111
V34A Guthrie 111.26 54 Pdiff **Pdif 13 18 44.3 +2.0**
baz=111
V34A Guthrie 111.26 54 *e*Pdif **Pdif 13 18 43.9 +1.6**
STEI Steigen 111.28 343 *e* **PKiKP 13 22 40.1 +0.2**
S34A Willow Spring 111.30 52 Pdiff **Pdif 13 18 44.4 +2.0**
baz=111
634A China Grove, S 111.31 61 Pdiff **Pdif 13 18 44.6 +1.9**
baz=111
934A Benavides 111.32 63 Pdiff **Pdif 13 18 44.9 +2.2**
baz=111
Y34A Reagan Ranch, 111.32 56 Pdiff **Pdif 13 18 44.6 +2.0**
baz=111
T34A McClaskey Farm 111.35 53 Pdiff **Pdif 13 18 44.7 +2.0**
baz=111
RSDY Resadiye-TOKAT 111.47 311 *e*P **PKiKP 13 22 41.2 0.0**
LOF Lofoten 111.62 344 *e* **PKiKP 13 22 41.4 +0.8**
DARE Darende-Malaty 111.67 309 *e*P **PKiKP 13 22 41.8 0.0**
L35A Bielow Farm, R 111.68 47 Pdiff **Pdif 13 18 44.5 +0.5**
baz=112
M35A Neola 111.70 48 Pdiff **Pdif 13 18 44.5 +0.4**
baz=112
035A Encino 111.74 63 Pdiff **Pdif 13 18 47.9 +3.3**
baz=112
O35A Humboldt 111.78 49 Pdiff **Pdif 13 18 44.8 +0.3**
baz=112
135A Vickery Place, 111.78 57 Pdiff **Pdif 13 18 46.8 +2.2**
baz=112
SVSK Karacayir 111.80 311 *e*P **PKiKP 13 22 42.9 +1.1**
035Z Hargill 111.80 64 Pdiff **Pdif 13 18 47.2 +2.3**
baz=112
WHTX Lake Whitney 111.81 58 Pdiff **Pdif 13 18 46.9 +2.1**
baz=112
WHTX Lake Whitney 111.81 58 *e*Pdif **Pdif 13 18 47.0 +2.1**
WHTX *e*PKiKP **PKiKP 13 22 42.0 0.0**
U35A Pawnee 111.81 53 Pdiff **Pdif 13 18 47.1 +2.3**
baz=112
635A Leesville 111.82 61 Pdiff **Pdif 13 18 47.1 +2.2**
baz=112
Z35A Perchaven, San 111.82 57 Pdiff **Pdif 13 18 46.7 +1.9**
baz=112
V35A Meyer Ranch, C 111.82 54 Pdiff **Pdif 13 18 46.4 +1.6**
baz=112
P35A Duane Minner, 111.83 50 Pdiff **Pdif 13 18 45.9 +1.2**
baz=112
735A Kenedy 111.84 61 Pdiff **Pdif 13 18 47.9 +3.0**
baz=112
435B Jarrell 111.84 59 Pdiff **Pdif 13 18 47.3 +2.3**
baz=112
N35A Tabor 111.86 48 Pdiff **Pdif 13 18 45.8 +1.0**
baz=112
835A Beeville 111.87 62 Pdiff **Pdif 13 18 47.8 +2.7**
baz=112
W35A Tecumseh 111.88 55 Pdiff **Pdif 13 18 47.7 +2.6**
baz=112
T35A Sooner Cattle 111.90 53 Pdiff **Pdif 13 18 47.1 +1.9**
baz=112
X35A Drake 111.91 55 Pdiff **Pdif 13 18 47.2 +2.0**
baz=112
R35A Emporia Munici 111.91 51 Pdiff **Pdif 13 18 46.7 +1.6**
baz=112
335A Moody 111.92 59 Pdiff **Pdif 13 18 47.4 +2.1**
baz=112
Y35A Marietta 111.92 56 Pdiff **Pdif 13 18 47.3 +2.0**
baz=112
S35A Otter Creek Ra 111.93 52 Pdiff **Pdif 13 18 46.4 +1.2**
baz=112
535A Dale 111.93 60 Pdiff **Pdif 13 18 47.6 +2.2**
baz=112
Q35A Mercer Eighty, 111.94 51 Pdiff **Pdif 13 18 46.5 +1.2**
baz=112
VSU Vasula 112.26 332 *d i*PKiKP **PKiKP 13 22 42.7 +0.7**
VSU MLR MLR
comp=Z,379µm,20.0s
KVT Kavak 112.28 312 *e*P **PKiKP 13 22 43.6 +0.8**
POGA Pongola 112.35 237 *i* P Px 13 22 58.7
POGA Pongola 112.35 237 *i* P Px 13 23 59.1
POGA PKKPbc 13 33 25.9 -7.9
POGA Pongola 112.35 237 P **PKiKP 13 22 47.1 +3.9**
536A Bastrop 112.36 60 Pdiff **Pdif 13 18 49.8 +2.5**
baz=112
Q36A Arnold C. Orve 112.36 50 Pdiff **Pdif 13 18 48.1 +1.0**
baz=112
T36A Boggs Farm, Ca 112.38 52 Pdiff **Pdif 13 18 49.0 +1.8**
baz=112
X36A Centrahoma 112.39 55 Pdiff **Pdif 13 18 49.3 +2.0**
baz=112
336A Riesel 112.40 59 Pdiff **Pdif 13 18 49.8 +2.4**
baz=112
W36A Wetumka 112.41 55 Pdiff **Pdif 13 18 50.0 +2.6**
baz=112
636A Smothers Creek 112.43 61 Pdiff **Pdif 13 18 50.7 +3.1**
baz=112
P36A Good Intent, A 112.43 50 Pdiff **Pdif 13 18 48.2 +0.8**
baz=112
R36A Gordon, Harris 112.45 51 Pdiff **Pdif 13 18 49.1 +1.6**
baz=112
736A Circle Diamond 112.47 61 Pdiff **Pdif 13 18 51.5 +3.7**
baz=112
S36A Lake Cedric, C 112.49 52 Pdiff **Pdif 13 18 49.5 +1.8**
baz=112
Z36A Blue Ridge 112.50 57 Pdiff **Pdif 13 18 51.0 +3.2**
baz=113
436A Wall Ranch, Ga 112.51 59 Pdiff **Pdif 13 18 50.7 +2.8**
baz=113
O36A Bolckow 112.51 49 Pdiff **Pdif 13 18 49.2 +1.5**
baz=113
136A Ennis 112.53 57 Pdiff **Pdif 13 18 49.6 +1.6**
baz=113
V36A Jenks 112.53 54 Pdiff **Pdif 13 18 49.9 +2.0**
baz=113
Y36A Durant 112.54 56 Pdiff **Pdif 13 18 50.1 +2.1**
baz=113
236A Katherine and 112.59 58 Pdiff **Pdif 13 18 50.7 +2.5**
baz=113
U36A Oologah 112.61 53 Pdiff **Pdif 13 18 49.2 +1.0**
baz=113
TUL1 Tulsa 112.64 54 Pdiff **Pdif 13 18 50.8 +2.4**
baz=113
TUL1 Tulsa 112.64 54 *e*Pdif **Pdif 13 18 50.4 +2.0**
TUL1 *e*PKiKP **PKiKP 13 22 44.4 +0.9**
MOR8 Moi Rana 112.68 342 *e* **PKiKP 13 22 42.2 -0.5**
MOR8 *e*PP **PP 13 23 29.7 -0.3**
DIKM Dikmen 112.74 313 *e*P **PKiKP 13 22 44.2 +0.7**
SIM Simferopol' 112.76 316 *c i*P **Pdif 13 18 49.5 +0.8**
SIM *i* 13 22 44.8
SIM *i* 13 23 33.0
SIM *i* 13 29 20.0
SIM *i* PS **PS 13 33 00.0 -6.8**
SIM *e*SS SS 13 39 16.0 +5.5
SIM pmax pmax
comp=Z,75nm,1.0s
SIM pmax pmax
comp=Z,1µm,9.5s
KONS Konsvik 112.86 343 *e*PP PP 13 23 33.2 +2.0
SPMN St. Paul 112.88 43 Pdiff **Pdif 13 18 49.8 +0.5**
baz=113
SPMN St. Paul 112.88 43 *e*PKiKP **PKiKP 13 22 43.8 +0.1**
R37A Teagarden Farm 112.97 51 Pdiff **Pdif 13 18 50.6 +0.8**
baz=113
EYMN Ely 112.98 40 Pdiff **Pdif 13 18 50.1 +0.5**
baz=113
EYMN Ely 112.98 40 *e*PKiKP **PKiKP 13 22 43.1 -0.7**
EYMN LR LR
comp=Z,47µm,22.0s

KMBO Kilima Mbogo 113.00 266 PKiKP **PKiKP 13 22 45.5 +0.4**
comp=Z,5.4nm,0.6s,baz=170,slow=6.2,SNR=3.6
KMBO PKKPbc **PKKPbc 13 33 34.9 +3.4**
comp=Z,7.1nm,1.0s,baz=308,slow=3.4,SNR=6.9
KMBO Kilima Mbogo 113.00 266 PKiKP **PKiKP 13 22 45.5 +0.4**
KMBO PKKPbc **PKKPbc 13 33 34.9 +3.4**
KMBO LR LR
comp=Z,36μm,21.0s
537A Green Hill Far 113.00 60 Pdiff **Pdif 13 18 53.8 +3.7**
baz=113
KSD Kokstad 113.01 233 P **PKiKP 13 22 46.3 +1.7**
737A Port Lavaca 113.04 61 Pdiff **Pdif 13 18 53.6 +3.3**
baz=113
W37A Quinton 113.05 54 Pdiff **Pdif 13 18 51.6 +1.3**
baz=113
637A Eagle Lake 113.06 61 Pdiff **Pdif 13 18 52.9 +2.5**
baz=113
437A Phantom Ranch, 113.07 59 Pdiff **Pdif 13 18 53.3 +2.9**
baz=113
Y37A Hugo 113.08 56 Pdiff **Pdif 13 18 52.1 +1.8**
baz=113
S37A Fort Scott 113.08 52 Pdiff **Pdif 13 18 52.0 +1.7**
baz=113
U37A Salina 113.09 53 Pdiff **Pdif 13 18 52.2 +1.8**
baz=113
T37A Cheneyville 18 113.12 52 Pdiff **Pdif 13 18 52.2 +1.7**
baz=113
BYBT Boyabat 113.14 313 *e*P **PKiKP 13 22 43.9 -0.4**
Q37A Longview Farm, 113.15 50 Pdiff **Pdif 13 18 51.3 +0.7**
baz=113
137A Heron Place, G 113.16 57 Pdiff **Pdif 13 18 53.3 +2.5**
baz=113
V37A Hulbert 113.16 54 Pdiff **Pdif 13 18 52.3 +1.6**
baz=113
X37A Clayton 113.19 55 Pdiff **Pdif 13 18 53.2 +2.3**
baz=113
Z37A Pogue Cattle C 113.19 57 Pdiff **Pdif 13 18 53.4 +2.5**
baz=113
237A Washetta, Mont 113.20 58 Pdiff **Pdif 13 18 53.2 +2.2**
baz=113
337A Centerville 113.22 59 Pdiff **Pdif 13 18 53.6 +2.5**
baz=113
MICGM Minsk 113.39 328 *e*P **Pdif 13 18 51.0 -0.3**
MNK Minsk 113.41 328 *e*P **Pdif 13 18 51.0 -0.4**
MNK *e* 13 29 24.0
MNK *e*PS **PS 13 33 10.0 -2.3**
MNK MLR MLR
comp=E,139μm,22.0s
MNK MLR MLR
comp=E,275μm,26.0s
SCIA State Center 113.42 47 PFAKE 13 23 00.0
SCIA LR LR
comp=Z,90μm,19.0s
HKT Hockley 113.44 60 *e*P **Pdif 13 18 54.1 +2.1**
HKT *i* 13 22 44.2
HKT *e* 13 23 34.7
HKT Hockley 113.44 60 *e*Pdif **Pdif 13 18 54.1 +2.1**
HKT PKiKP **PKiKP 13 22 44.2 -0.9**
HKT *e*PP **PP 13 23 34.7 -2.0**
BZK Bozkurt 113.58 313 *e*P **PKiKP 13 22 44.9 -0.2**
X38A Whitesboro 113.61 55 Pdiff **Pdif 13 18 54.8 +2.1**
baz=114
IDID Didziasalis 113.64 329 *e*P **PKiKP 13 22 46.7 +1.9**
IDID IAmb IAmb 13 22 50.4
comp=Z,52nm,1.1s
438A Sam Houston St 113.64 59 Pdiff **Pdif 13 18 55.9 +2.9**
baz=114
U38A Gravette 113.67 53 Pdiff **Pdif 13 18 55.3 +2.3**
baz=114
538A Harpers Horsep 113.70 60 Pdiff **Pdif 13 18 56.0 +2.8**
baz=114
338A Crockett 113.70 58 Pdiff **Pdif 13 18 55.7 +2.4**
baz=114
IZAR Zarasai 113.71 329 *e*P **PKiKP 13 22 46.7 +1.8**
IZAR IAmb IAmb 13 22 50.5
comp=Z,49nm,1.2s
Z38A Mt. Pleasant 113.71 56 Pdiff **Pdif 13 18 55.9 +2.7**
baz=114
138A Matatall Enter 113.71 57 Pdiff **Pdif 13 18 55.9 +2.6**
baz=114
JMIC Jan Mayen 113.71 353 *e* **Pdif 13 18 51.4 -1.0**
V38A Canehill 113.75 53 Pdiff **Pdif 13 18 55.1 +1.7**
baz=114
238A Jacksonville 113.78 58 Pdiff **Pdif 13 18 56.5 +3.0**
baz=114
NACGM Naroch 113.80 328 *e*P **Pdif 13 18 46.0 -7.1**
W38A Poteau 113.80 54 Pdiff **Pdif 13 18 55.5 +2.0**
baz=114
Y38A Idabel 113.81 56 Pdiff **Pdif 13 18 55.7 +2.1**
baz=114
ISAL Salakas 113.85 329 *e*P **PKiKP 13 22 47.3 +2.1**
ISAL IAmb IAmb 13 22 50.8
comp=Z,52nm,1.2s
IIGN Ignalina 113.89 329 *e*P **PKiKP 13 22 47.1 +1.8**
IIGN IAmb IAmb 13 22 51.0
comp=Z,71nm,1.1s
AKASG Malin Array Be 114.10 323 PKP PKPdf 13 22 45.6 -0.2
AKASG PKKPbc **PKKPbc 13 33 26.7 -1.9**
comp=Z,46nm,0.6s,baz=65,slow=2.1,SNR=44
comp=Z,3.0nm,0.4s,baz=263,slow=3.8,SNR=8.8
KIEV Kiev 114.12 323 *e*PKiKP PKPdf 13 22 45.5 -0.3
KIEV MLR MLR
comp=Z,54μm,20.0s
KIEV Kiev 114.12 323 *e*PKiKP PKPdf 13 22 45.5 -0.3
KIEV LR LR
comp=Z,54μm,20.0s
GRM Grahamstown 114.16 230 PKIKP PKPdf 13 22 47.5 +0.9
GRM Grahamstown 114.16 230 *i* P PKPdf 13 22 48.4 +1.8
GRM Grahamstown 114.16 230 *i* P **PP 13 23 40.4 -1.1**
GRM **SP 13 33 09.5 -4.5**
GRM *i* S Sx 13 34 32.9
GRM Grahamstown 114.16 230 P PKPdf 13 22 47.5 +0.9
NATX Nacogdoches 114.20 58 Pdiff **Pdif 13 18 57.8 +2.4**
baz=114
NATX Nacogdoches 114.20 58 PFAKE 13 23 00.0 +13
NATX LR LR
comp=Z,105μm,22.0s
439A Center Grove, 114.24 59 Pdiff **Pdif 13 18 58.2 +2.6**
baz=114
139A Bunkhouse Ranc 114.29 57 Pdiff **Pdif 13 18 58.0 +2.2**
baz=114
239A Gary 114.32 58 Pdiff **Pdif 13 18 58.0 +2.1**
baz=114
Y39A Lockesburg 114.33 56 Pdiff **Pdif 13 18 58.1 +2.1**
baz=114
339A Huntington 114.35 58 Pdiff **Pdif 13 18 58.1 +2.0**
baz=114
539A Cross D Ranch, 114.37 60 Pdiff **Pdif 13 18 58.5 +2.3**
baz=114
BRTR Keskin Array B 114.37 311 PKP PKPdf 13 22 46.9 0.0
BRTR PKKPbc **PKKPbc 13 33 26.7 -0.8**
comp=Z,77nm,1.0s,baz=95,slow=1.3,SNR=35
comp=Z,10.0nm,0.9s,baz=225,slow=3.4,SNR=13
Z39A Irene McRaven, 114.38 56 Pdiff **Pdif 13 18 58.5 +2.3**
baz=114
NSS Namsos 114.56 342 *e*PKPdf PKPdf 13 22 46.6 +0.3
NSS *e*PP **PP 13 23 44.5 +1.2**
MIAR Mount Ida 114.66 55 *e*P **Pdif 13 18 57.6 +0.2**
MIAR MLR MLR
comp=Z,87μm,22.0s
MIAR Mount Ida 114.66 55 Pdiff **Pdif 13 18 59.0 +1.6**
baz=115
MIAR Mount Ida 114.66 55 *e*Pdif **Pdif 13 18 57.6 +0.2**
MIAR *e*PKiKP PKPdf 13 22 41.1 -6.3
MIAR *e*PP **PP** 13 23 39.9 -5.3
MIAR LR LR
comp=Z,87μm,22.0s
340A Bronson 114.90 58 Pdiff **Pdif 13 19 00.5 +1.9**
baz=115
440A Kirbyville 114.94 59 Pdiff **Pdif 13 19 00.9 +2.2**
baz=115
540A Vidor 115.00 60 Pdiff **Pdif 13 19 02.2 +3.2**
baz=115
BUFB Buffelsbos 115.11 228 P **PKPdf 13 22 50.5 +2.2**
SOE Somerset East 115.13 230 P **PKPdf 13 22 49.6 +1.1**
JFWS Jewell Farm 115.28 45 *e*P **Pdif 13 18 57.2 -2.8**
JFWS *e* 13 22 48.0
JFWS *e* 13 23 46.4
JFWS MLR MLR
comp=Z,79μm,21.0s
JFWS Jewell Farm 115.28 45 *e*Pdif **Pdif 13 18 57.2 -2.8**
JFWS *e*PKPdf **PKiKP 13 22 48.0 -0.4**
JFWS *e*PP **PP 13 23 46.4 -2.9**
JFWS LR LR
comp=Z,79μm,21.0s
SEK Senekal 115.30 235 P **PKPdf 13 22 49.2 +0.1**

MSNA Messina 115.35 242 P **PKPdf 13 22 48.9 -0.2**
SCO Scoresbysund 115.40 357 *i* P **PKPdf 13 22 48.7 +1.0**
comp=Z,60nm,1.1s
SCO *i* 13 23 52.5
SCO Scoresbysund 115.40 357 *i* PKIKP **PKPdf 13 22 48.7 +1.0**
SCO *i* 13 23 52.5
SCO pmax pmax
comp=Z,60nm,1.1s
SCO MLR MLR
comp=Z,76μm,22.0s
SORM Soroca 115.57 321 ⇑PKIKP **PKPdf 13 22 50.0 +1.3**
SORM Soroca 115.57 321 ⇑*i*P **PKPdf 13 22 50.0 +1.3**
CSS Prodhromos 115.61 306 P **PKPdf 13 22 50.3 +1.0**
CSS Prodhromos 115.61 306 *e*P **PKPdf 13 22 49.5 +0.2**
CSS Prodhromos 115.61 306 *e*P **PKKPbc 13 33 24.0 +1.1**
CSS Prodhromos 115.61 306 P **PKPdf 13 22 48.8 -0.5**
CSS LR LR
comp=Z,13μm,21.0s
CSS Prodhromos 115.61 306 P **PKPdf 13 22 48.8 -0.5**
MAMC Mammari 115.66 306 P **PKPdf 13 22 51.7 +2.4**
KIS Kishinev 115.67 320 *i* PKP PKPpre 13 22 40.0
KIS Kishinev 115.67 320 *i* PP PP 13 24 00.0 +8.2
comp=Z,8μm,16.0s
KIS *i* SKS **SKSac 13 29 34.0 -0.8**
KIS *i* SKKS **SKKSac 13 30 54.0 +4.5**
KIS Kishinev 115.67 320 *i* PS PS 13 33 30.0 -3.3
KIS Kishinev 115.67 320 *i* PPS PPS 13 34 42.0
KIS *i* SS x 13 36 20.0
KIS LRM MLR 14 15 48.0
comp=Z,114μm,20.0s
KIS Kishinev 115.67 320 *e*P **Pdif 13 18 54.0 -7.6**
KIS *i* 13 24 00.0
KIS *i* 13 29 34.0
KIS *i* PS **PKKPab 13 33 30.0 +3.3**
KIS *i* PPS PPS 13 34 42.0
KIS pmax pmax
comp=Z,6μm,12.0s
KIS pmax pmax
comp=Z,8μm,16.0s
SLR Silverton 115.71 238 PKIKP **PKPdf 13 22 50.8 +0.9**
SLR Silverton 115.71 238 P **PKPdf 13 22 50.8 +0.9**
FRB Frobisher Bay 115.86 18 PKP **PKPdf 13 22 48.8 0.0**
comp=Z,86nm,0.9s,baz=324,slow=2.4,SNR=26
FRB SKP 13 26 22.5
comp=Z,17nm,0.9s,baz=290,slow=2.2,SNR=3.4
FRB PKKPbc **PKKPab 13 33 24.5 -1.1**
comp=Z,28nm,1.0s,baz=145,slow=5.3,SNR=6.8
TBLU Trondheim 116.00 341 *e* **Pdif 13 19 07.7 +5.0**
SZAC Souni-Zanaja 116.01 306 P **PKPdf 13 22 50.7 +0.6**
PRYS Parys 116.05 236 P **PKPdf 13 22 45.4 -5.1**
KLOF Kloof 116.05 237 P **PKPdf 13 22 51.5 +0.9**
SUW Suwalki 116.08 329 *e*Pdiff **Pdif 13 19 01.2 -2.0**
SUW *e*PKiKP **PKPdf 13 22 49.6 +0.1**
SUW *e*SKSac **SKSac 13 29 34.6 -1.4**
SUW *e*SKSdf **SKSdf 13 29 57.3 -0.6**
SUW Suwalki 116.08 329 *e*P **Pdif 13 19 01.3 -2.0**
SUW *i* 13 22 49.7
SUW *e* 13 29 34.6
SUW *e* 13 29 57.4
ALFC Alevga 116.16 306 P **PKPdf 13 22 53.2 +2.9**
TLCR 116.28 318 ⇑PKIKP **PKPdf 13 22 51.4 +1.2**
TLCR 116.28 318 ⇑*i*P **PKPdf 13 22 51.4 +1.2**
IAS Iasi 116.40 320 ⇑PKIKP **PKPdf 13 22 51.2 +0.8**
IAS Iasi 116.40 320 ⇑*i*P **PKPdf 13 22 51.2 +0.8**
AKMC Akamas 116.40 306 P **PKPdf 13 22 50.7 -0.1**
BFSD Buffelsfontein 116.54 236 P **PKPdf 13 22 52.3 +0.8**
GIUM Giurgiulesti 116.59 318 ⇑*i*P **PKPdf 13 22 52.3 +1.5**
HDIL Hopedale 116.62 47 Pdiff **Pdif 13 19 05.0 -1.1**
baz=117
HDIL Hopedale 116.62 47 PFAKE 13 23 00.0 +9.0
HDIL LR LR
comp=Z,79μm,20.0s
CFR Carcaliu 116.74 318 ⇓PKIKP **PKPdf 13 22 52.0 +1.0**
CFR Carcaliu 116.74 318 ⇓*i*P **PKPdf 13 22 52.0 +1.0**
CFR Carcaliu 116.74 318 ⇓*i*P **PKKPab 13 33 19.0 -3.0**
EFOR EFORIE 116.77 317 ⇑*i*P **PKPdf 13 22 52.8 +1.7**
TIRR Tirgusor 116.79 317 ⇑PKIKP **PKPdf 13 22 52.4 +1.2**
TIRR Tirgusor 116.79 317 ⇑*i*P **PKPdf 13 22 52.4 +1.2**
TIRR Tirgusor 116.79 317 ⇑*i*P **PKKPab 13 33 19.0 -2.8**
KSR Koster 116.83 237 P **PKPdf 13 22 52.4 +0.3**
HARR Harsova 117.04 318 ⇑PKIKP **PKPdf 13 22 53.0 +1.3**
HARR Harsova 117.04 318 ⇑*i*P **PKPdf 13 22 53.0 +1.3**
CVD Cernavoda 117.10 317 ⇓PKIKP **PKPdf 13 22 53.7 +1.9**
CVD Cernavoda 117.10 317 ⇓*i*P **PKPdf 13 22 53.7 +1.9**
BOSA Boshof 117.10 234 Pdiff **Pdif 13 19 14.8 +6.2**
comp=Z,3.0nm,0.7s,baz=76,slow=8.3,SNR=5.1
BOSA PKP **PKiKP 13 22 53.5 +1.0**
comp=Z,44nm,0.7s,baz=102,slow=2.2,SNR=31
BOSA SKP 13 26 27.6
comp=Z,8.0nm,0.7s,baz=106,slow=3.5,SNR=3.9
BOSA PKKPbc **PKKPbc 13 33 18.6 +0.9**
comp=Z,35nm,0.7s,baz=296,slow=4.0,SNR=35
PRAR RASCA 117.18 321 ⇑*i*P **PKPdf 13 22 53.1 +1.2**
PSN Preselentsi 117.20 316 ⇑PKIKP **PKPdf 13 22 53.6 +1.6**
PSN Preselentsi 117.20 316 ⇑*i*P **PKPdf 13 22 53.6 +1.6**
PSN Preselentsi 117.20 316 P **PKPdf 13 22 53.1 +1.1**
NB2 NORSAR Subarra 117.22 339 PKPdf **PKPdf 13 22 51.5 -0.1**
comp=Z,45nm,1.2s,baz=44,slow=1.9
NB2 NORSAR Subarra 117.22 339 PKPdf **PKPdf 13 22 51.5 -0.1**
baz=44,slow=1.9
NOA NORSAR Array B 117.22 339 PKP **PKPdf 13 22 51.8 +0.1**
comp=Z,44nm,0.9s,baz=50,slow=1.9,SNR=44
NOA SKP 13 26 23.6
comp=Z,7.2nm,0.7s,baz=48,slow=1.8,SNR=8.0
NOA PKKPbc **PKKPbc 13 33 16.5 -1.6**
comp=Z,3.1nm,0.8s,baz=226,slow=4.2,SNR=7.7
TESR Tescani 117.24 320 ⇓*i*P **PKPdf 13 22 52.8 +0.8**
NC602 NORSAR Array S 117.31 339 *e*PKPdf **PKPdf 13 22 52.2 +0.5**
NC602 *e*PP **PP 13 24 02.7 0.0**
MSAB Monastry St. A 117.31 317 ⇑*i*P **PKPdf 13 22 53.9 +1.7**
MSAB Monastry St. A 117.31 317 ⇑*i*P **PKKPab 13 33 16.9 -2.6**
MOL Molde 117.35 342 *e*PKPdf **PKPdf 13 22 52.3 +0.6**
MOL *e*PP **PP 13 24 01.5 -1.3**
MOL IVMs_BB IVMs_BB 14 16 44.5
comp=Z,33μm,25.4s
SFJD Kangerlussuaq 117.37 9 *i* P **PKPdf 13 22 51.4 -0.2**
comp=Z,35nm,0.8s
SFJD Kangerlussuaq 117.37 9 PKP **PKPdf 13 22 51.7 0.0**
comp=Z,36nm,0.5s,baz=23,slow=2.2,SNR=4.1
SFJD SKP 13 26 25.1
comp=Z,9.5nm,0.5s,baz=282,slow=1.2,SNR=3.9
SFJD Kangerlussuaq 117.37 9 *i* PKIKP **PKPdf 13 22 51.4 -0.2**
SFJD pmax pmax
comp=Z,35nm,0.8s
SFJD Kangerlussuaq 117.37 9 PKP **PKPdf 13 22 51.7 0.0**
SFJD SKP 13 26 25.1
SFJD LR LR
comp=Z,37μm,22.0s
ISK Istanbul-Kandi 117.40 313 PKIKP **PKPdf 13 22 52.4 -0.1**
ISK Istanbul-Kandi 117.40 313 P **PKPdf 13 22 52.4 -0.1**
ISK Istanbul-Kandi 117.40 313 P **PKPdf 13 22 52.4 -0.1**
VRI Vrincioaia 117.42 319 ⇑PKIKP **PKPdf 13 22 53.5 +1.1**
VRI Vrincioaia 117.42 319 ⇑*i*P **PKPdf 13 22 53.5 +1.1**
VRI Vrincioaia 117.42 319 ⇑*i*P **PKKPab 13 33 19.8 +0.7**
GRER 117.44 319 ⇑*i*P **PKPdf 13 22 54.8 +2.4**
AMRR Amara 117.47 318 ⇑PKIKP **PKPdf 13 22 54.3 +1.8**
AMRR Amara 117.47 318 ⇑*i*P **PKPdf 13 22 54.3 +1.8**
PLOR Plostina 117.48 319 ⇑PKIKP **PKPdf 13 22 54.0 +1.4**
PLOR Plostina 117.48 319 ⇑*i*P **PKPdf 13 22 54.0 +1.4**
PLOR Plostina 117.48 319 ⇑*i*P **PKKPab 13 33 16.5 -2.4**
LVV L'vov 117.51 324 *i* PKIKP **PKPdf 13 22 52.4 0.0**
LVV MLR MLR
comp=Z,53μm,23.0s
EFI East Falkland 117.57 160 PFAKE 13 23 00.0 +7.5
EFI LR LR
comp=Z,29μm,19.0s
VBMS Vicksburg 117.59 57 Pdiff **Pdif 13 19 12.2 +1.7**
baz=118
BURAR Bucovina Array 117.72 321 ⇑PKIKP **PKPdf 13 22 55.4 +2.4**
BURAR Bucovina Array 117.72 321 ⇑*i*P **PKPdf 13 22 55.3 +2.3**
BURAR Bucovina Array 117.72 321 ⇑*i*P **PKKPab 13 33 16.7 -1.2**
GLAT Glass 117.73 52 *e*PKPdf **PKPdf 13 22 53.0 -0.3**
AKN Aaknes 117.81 342 *e* **Pdif 13 22 52.9 +0.2**
AKN *e*PP **PP 13 24 04.7 -1.5**
ISR Istrita 117.81 318 ⇓PKIKP **PKPdf 13 22 54.3 +1.1**
ISR Istrita 117.81 318 ⇓*i*P **PKPdf 13 22 54.3 +1.1**
ISR Istrita 117.81 318 ⇓*i*P **PKKPab 13 33 16.4 -1.0**
PRD Provadia 117.90 316 ⇑PKIKP **PKPdf 13 22 55.0 +1.6**
PRD Provadia 117.90 316 ⇑*i*P **PKPdf 13 22 55.0 +1.6**
PRD Provadia 117.90 316 ⇓*i*P **PKKPab 13 33 14.7 -2.3**
PRD Provadia 117.90 316 P **PKPdf 13 22 54.1 +0.7**
MLR Muntele Rosu 118.07 319 ⇑*i*P **PKKPab 13 33 13.1 -3.3**
OSL Oslo 118.16 338 *e*PKPdf **PKPdf 13 22 53.5 +0.1**

SECR 118.16 318 ⇑*i*P **PKPdf 13 22 55.2 +1.4**
SULR 118.17 318 ⇑*i*P **PKPdf 13 22 54.3 +0.5**
LBTB Lobatse 118.23 238 PKIKP **PKPdf 13 22 55.3 +0.6**
LBTB Lobatse 118.23 238 P **PKPdf 13 22 55.3 +0.6**
DOPR Dopca 118.25 320 ⇑*i*P **PKPdf 13 22 55.7 +1.7**
DOPR Dopca 118.25 320 ⇑*i*P **PKKPab 13 33 14.2 -1.2**
SFIN Scholer Farm 118.28 47 Pdiff **Pdif 13 19 14.0 +0.6**
baz=118
KWP Kalwaria Pacla 118.37 324 *e*Pdiff **Pdif 13 19 17.3 +3.7**
KWP *e*PKiKP **PKiKP 13 22 54.6 +0.5**
KWP *e*SKSac **SKSac 13 29 45.7 +1.0**
KWP *e*SKSdf **SKSdf 13 30 00.8 -1.7**
KWP Kalwaria Pacla 118.37 324 *e*P **Pdif 13 19 17.3 +3.7**
KWP *i* 13 22 54.7
KWP *e* 13 29 45.7
KWP *e* 13 30 00.9
BEL Belsk 118.40 327 *e*Pdiff **Pdif 13 19 13.8 +0.2**
BEL *e*PKiKP **PKiKP 13 22 54.9 +0.8**
BEL *e*SKSac **SKSac 13 29 45.0 +0.4**
BEL Belsk 118.40 327 *e*P **Pdif 13 19 13.8 +0.2**
BEL *i* 13 22 55.0
BEL *e* 13 29 45.1
BUC1 Bucharest 118.44 318 ⇑PKIKP **PKPdf 13 22 57.9 +3.6**
BUC1 Bucharest 118.44 318 ⇑*i*P **PKPdf 13 22 57.9 +3.6**
ARCR ARCALIA 118.47 321 ⇑*i*P **PKKPab 13 33 12.6 -1.9**
ELIM Elim 118.51 225 P **PKPdf 13 22 55.3 +0.4**
GLMI Grayling 118.51 42 PFAKE 13 23 10.0 +15
GLMI LR LR
comp=Z,81μm,19.0s
VOIR 118.67 319 ⇑PKIKP **PKPdf 13 22 57.5 +2.6**
VOIR 118.67 319 ⇑*i*P **PKPdf 13 22 57.5 +2.6**
VOIR 118.67 319 ⇓*i*P **PKKPab 13 33 11.1 -2.6**
JMB Yambol 118.72 316 ⇓PKIKP **PKPdf 13 22 56.3 +1.3**
JMB Yambol 118.72 316 ⇓*i*P **PKPdf 13 22 56.3 +1.3**
JMB Yambol 118.72 316 ⇓*i*P **PKKPab 13 33 11.8 -1.6**
MTUR Matau 118.75 319 ⇓PKIKP **PKPdf 13 22 56.6 +1.5**
MTUR Matau 118.75 319 ⇓*i*P **PKPdf 13 22 56.6 +1.5**
BMR Baia Mare 118.75 322 ⇑PKIKP **PKPdf 13 22 56.4 +1.5**
BMR Baia Mare 118.75 322 ⇑*i*P **PKPdf 13 22 56.4 +1.5**
KONO Kongsberg 118.77 339 *e*PKPdf **PKPdf 13 22 54.7 +0.1**
KONO *e*PP **PP 13 24 14.1 +1.4**
KONO Kongsberg 118.77 339 PFAKE 13 23 10.0 +15
KONO LR LR
comp=Z,100μm,21.0s
EDRB Edirne 118.81 315 P **PKPdf 13 22 54.6 -0.6**
EDRB Edirne 118.81 315 P **PKPdf 13 22 54.6 -0.6**
MDB Medias 118.83 320 ⇑PKIKP **PKPdf 13 22 57.1 +2.0**
MDB Medias 118.83 320 ⇑*i*P **PKPdf 13 22 57.1 +2.0**
HYA Hoyanger 118.83 341 *e*PKPdf **PKPdf 13 22 55.5 +0.9**
HYA *e*PP **PP 13 24 13.5 +0.4**
SUR Sutherland 118.85 228 PFAKE 13 23 10.0 +14
SUR LR LR
comp=Z,87μm,22.0s
FOO Floro 118.86 342 *e* **PKPdf 13 22 56.8 +2.1**
FOO *e*PP **PP 13 24 13.5 +0.3**
FOO *e*PP PP 13 24 13.9 +0.7
SZH Strazhica 118.89 317 P **PKPdf 13 22 55.9 +0.6**
KOLS Kolonicke sedl 118.94 324 *e*P **Pdif 13 19 15.4 -0.7**
KOLS *e* 13 22 56.3
KOLS *e*SP SP 13 33 55.3 -1.1
KOLS Kolonicke sedl 118.94 324 PDIF **Pdif 13 19 15.4 -0.7**
KOLS Kolonicke sedl 118.94 324 *e*PKP **PKPdf 13 22 56.3 +1.1**
KOLS *e*SP SP 13 33 55.3 -1.1
PAYG Puerto Ayora 118.94 94 PFAKE 13 23 10.0 +14
PAYG LR LR
comp=Z,24μm,20.0s
GOLR 118.96 319 ⇓*i*P **PKPdf 13 22 57.0 +1.6**
ARR Arges 118.97 319 ⇓*i*P **PKPdf 13 22 58.0 +2.5**
UZH Uzhgorod 119.06 323 *i* PKIKP **PKPdf 13 22 55.6 +0.2**
UZH *e* 13 23 06.6
UZH *e* 13 23 11.4
UZH *e*SS SS 13 40 32.2 -0.1
HUMR Humele 119.07 318 ⇑*i*P **PKPdf 13 22 56.4 +0.8**
HUMR Humele 119.07 318 ⇑*i*P **PKKPab 13 33 12.5 +0.6**
CJR Cluj-Napoca 119.09 321 ⇑PKIKP **PKPdf 13 22 57.1 +1.5**
CJR Cluj-Napoca 119.09 321 ⇑*i*P **PKPdf 13 22 57.1 +1.5**
CJR Cluj-Napoca 119.09 321 ⇓*i*P **PKKPab 13 33 10.1 -1.7**
LSZ Lusaka 119.09 249 PFAKE 13 23 10.0 +13
LSZ LR LR
comp=Z,42μm,22.0s
SUE Sulen 119.36 342 *e* **PKPdf 13 22 56.3 +0.7**
SUE *e*PP **PP 13 24 15.7 -1.0**
SUE *e*SS SS 13 40 40.7 +5.5
ARG Arkhangelos 119.46 308 PKIKP **PKPdf 13 22 56.3 -0.3**
ARG Arkhangelos 119.46 308 *e*P **PKPdf 13 22 57.3 +0.7**
ARG Arkhangelos 119.46 308 P **PKPdf 13 22 56.3 -0.3**
ARG Arkhangelos 119.46 308 P **PKPdf 13 22 56.3 -0.3**
CER Ceres 119.47 226 P **PKPdf 13 22 58.2 +1.4**
GKP Gorka Klasztor 119.49 330 *e*Pdiff **Pdif 13 19 17.3 -1.1**
GKP *e*PKiKP **PKiKP 13 22 56.9 +0.7**
GKP *e*SKSac **SKSac 13 29 48.4 +0.2**
GKP *e*SKSdf **SKSdf 13 30 00.3 -4.1**
GKP Gorka Klasztor 119.49 330 *e*P **Pdif 13 19 17.3 -1.1**
GKP *i* 13 22 56.9
GKP *e* 13 29 48.7
GKP *e* 13 30 00.4
LOT Lotru 119.50 320 ⇑*i*P **PKPdf 13 22 57.5 +0.9**
MBAR Mbarara 119.53 266 PFAKE 13 23 10.0 +12
MBAR LR LR
comp=Z,870nm,21.0s
BSD Bornholm Skovb 119.54 332 *i* P **PKPdf 13 22 54.4 -1.7**
comp=Z,75nm,1.0s
BSD *i* 13 24 05.1
DIM Dimitrovgrad 119.59 315 P **PKPdf 13 22 56.9 +0.2**
DRGR 119.61 321 ⇑*i*P **PKPdf 13 22 57.8 +1.1**
DRGR 119.61 321 ⇓*i*P **PKKPbc 13 33 08.6 -0.5**
ALN Alexandroupoli 119.62 314 *e*P **PKPdf 13 22 56.3 -0.4**
ALN Alexandroupoli 119.62 314 P **PKPdf 13 22 56.0 -0.7**
ALN Alexandroupoli 119.62 314 P **PKPdf 13 22 56.0 -0.7**
ODD1 Odda 119.62 340 *e*PKPdf **PKPdf 13 22 57.5 +1.2**
ODD1 *e*PP **PP 13 24 16.9 -1.8**
ODD1 *e*SS SS 13 40 41.4 +2.6
HOPE Hope Point 119.67 175 PFAKE 13 23 10.0 +14
HOPE LR LR
comp=Z,61μm,20.0s
BER Bergen 119.70 341 *e*PKPdf **PKPdf 13 22 56.5 +0.3**
BER *e*PP **PP 13 24 18.8 -0.2**
BER *e*SKSac **SKSac 13 29 46.8 -2.0**
BER IVMs_BB IVMs_BB 14 18 00.1
comp=Z,37μm,20.3s
OJC Ojcow 119.74 326 *e*Pdiff **Pdif 13 19 19.7 +0.1**
OJC *e*PKiKP **PKPdf 13 22 56.6 -0.1**
OJC *e*SKSac **SKSac 13 29 49.4 -0.1**
OJC *e*SKSdf SKSdf 13 30 12.7 +7.6
OJC Ojcow 119.74 326 *e*P **Pdif 13 19 19.8 +0.1**
OJC *i* 13 22 56.7
OJC *e* 13 29 49.4
KDZ Kurdzhali 119.81 315 ⇑PKIKP **PKPdf 13 22 57.8 +0.7**
KDZ Kurdzhali 119.81 315 ⇑*i*P **PKPdf 13 22 57.8 +0.7**
KDZ Kurdzhali 119.81 315 P **PKPdf 13 22 57.9 +0.8**
NIE Niedzica 119.85 325 *e*Pdiff **Pdif 13 19 20.2 0.0**
NIE *e*PKiKP **PKiKP 13 22 57.6 +0.5**
NIE *e*SKSac **SKSac 13 29 52.4 +2.4**
NIE Niedzica 119.85 325 *e*P **Pdif 13 19 20.2 0.0**
NIE *i* 13 22 57.6
NIE *e* 13 29 52.4
DEV Deva 119.88 320 ⇑PKIKP **PKPdf 13 22 58.5 +1.4**
DEV Deva 119.88 320 ⇑*i*P **PKPdf 13 22 58.5 +1.4**
DEV Deva 119.88 320 ⇓*i*P **PKKPbc 13 33 08.4 +0.4**
RDO Rodhopi 119.90 314 *e*P **PKPdf 13 22 56.7 -0.6**
RDO Rodhopi 119.90 314 *e*P **PKKPbc 13 33 08.3 +0.6**
RDO Rodhopi 119.90 314 P **PKPdf 13 22 57.0 -0.3**
RDO Rodhopi 119.90 314 P **PKPdf 13 22 57.0 -0.3**
CRAR CRAIOVA 119.92 318 ⇓PKIKP **PKPdf 13 22 59.5 +2.3**
CRAR CRAIOVA 119.92 318 ⇓*i*P **PKPdf 13 22 59.5 +2.3**
PRK Paraskevi 119.99 312 PKIKP **PKPdf 13 22 57.5 0.0**
PRK Paraskevi 119.99 312 *e*P **PKPdf 13 22 57.6 0.0**
PRK Paraskevi 119.99 312 P **PKPdf 13 22 57.5 0.0**
PRK Paraskevi 119.99 312 P **PKPdf 13 22 57.5 0.0**
SMG Samos 120.03 310 *e*P **PKPdf 13 22 57.3 -0.4**
SMG Samos 120.03 310 P **PKPdf 13 22 57.6 -0.1**
SMG Samos 120.03 310 P **PKPdf 13 22 57.6 -0.1**
BLS5 Blasjo 120.04 340 *e*PKPdf **PKPdf 13 22 57.5 +0.4**
BLS5 *e*PP **PP 13 24 22.4 +0.9**
CVNA Calvinia 120.06 228 P **PKPdf 13 22 59.5 +1.4**
AAM Ann Arbor 120.09 44 PFAKE 13 23 10.0 +12
AAM LR LR
comp=Z,87μm,20.0s
NIS1 Nisyros Isl. 120.09 309 *e*P **PKPdf 13 22 57.9 +0.1**
NIS1 Nisyros Isl. 120.09 309 P **PKPdf 13 22 57.3 -0.5**

NIS1	Nisyros Isl.	120.09	309	P		PKPdf	13 22 57.3	-0.5
NISR	Nisiros	120.12	309	eP		PKPdf	13 22 57.8	0.0
NISR	Nisiros	120.12	309	P		PKPdf	13 22 57.1	-0.7
NISR	Nisiros	120.12	309	P		PKPdf	13 22 57.1	-0.7
SMTH	Samothraki Isl	120.13	314	eP		PKPdf	13 22 57.1	-0.7
SMTH	Samothraki Isl	120.13	314	P		PKPdf	13 22 57.0	-0.7
SMTH	Samothraki Isl	120.13	314	P		PKPdf	13 22 57.0	-0.7
HOMB	Homborsund	120.14	338	ePKPdf		PKPdf	13 22 57.9	+0.7
HOMB				ePP		PP	13 24 22.5	+0.4
KECS	Kecovo	120.19	324	eP		Pdif	13 19 21.7	0.0
KECS				e			13 22 58.6	
KECS	Kecovo	120.19	324	PDIF		Pdif	13 19 21.7	0.0
KECS	Kecovo	120.19	324	ePKP		PKPdf	13 22 58.6	+1.0
RZN	Rozhen	120.29	315	P		PKPdf	13 23 00.3	+2.0
COP	Copenhagen	120.30	334	i P		PKPdf	13 22 56.2	-1.4
	comp=Z,54nm,0.9s							
COP	Copenhagen	120.30	334	i PKIKP		PKPdf	13 22 56.2	-1.4
COP				pmax		pmax		
	comp=Z,54nm,0.9s							
COP				MLR		MLR		
	comp=Z,100μm,20.0s							
SIGR	SIGRI	120.31	312	eP		PKPdf	13 22 58.1	0.0
SIGR	SIGRI	120.31	312	P		PKPdf	13 22 57.8	-0.3
SIGR	SIGRI	120.31	312	P		PKPdf	13 22 57.8	-0.3
MPEP	Malo Peshtene	120.34	317	P		PKPdf	13 22 58.2	+0.1
PGB	Panagyurishte	120.36	316	P		PKPdf	13 22 59.3	+1.1
UPI	Upington	120.39	232	P		PKPdf	13 23 00.5	+1.7
KARP	Karpathos	120.39	308	eP		PKPdf	13 22 58.6	+0.1
KARP	Karpathos	120.39	308	P		PKPdf	13 22 58.5	+0.1
KARP	Karpathos	120.39	308	P		PKPdf	13 22 58.5	+0.1
CHOS	Chios island	120.42	311	eP		PKPdf	13 22 58.5	0.0
CHOS	Chios island	120.42	311	P		PKPdf	13 22 57.7	-0.8
CHOS	Chios island	120.42	311	P		PKPdf	13 22 57.7	-0.8
SIRR	Siria	120.49	321	⇑i P		PKPdf	13 22 59.6	+1.3
LIA	Limnos Island	120.57	313	eP		PKPdf	13 22 58.4	-0.2
LIA	Limnos Island	120.57	313	P		PKPdf	13 22 57.9	-0.7
LIA	Limnos Island	120.57	313	P		PKPdf	13 22 57.9	-0.7
KMY	Karmoy	120.61	340	ePKPdf		PKPdf	13 22 58.1	+0.1
KAVA	Kavala	120.68	315	eP		PKPdf	13 22 58.6	-0.2
KAVA	Kavala	120.68	315	P		PKPdf	13 22 57.4	-1.4
KAVA	Kavala	120.68	315	P		PKPdf	13 22 57.4	-1.4
RAC	Raciborz	120.70	326	eP		Pdif	13 19 25.0	+1.1
RAC				e			13 22 59.2	
RAC				e			13 24 25.9	
RAC				MLR		MLR		
	comp=Z,82μm,25.5s							
BRAL	Brewton	120.73	57	ePKPdf		PKPdf	13 22 60.0	+0.8
BRAL				LR		LR		
	comp=Z,74μm,22.0s							
BZS	Buzias	120.80	321	⇑PKIKP		PKPdf	13 23 00.2	+1.3
BZS	Buzias	120.80	321	⇑i P		PKPdf	13 23 00.2	+1.3
BZS	Buzias	120.80	321	⇓i P		PKKPbc	13 33 05.6	+1.1
PSZ	Piszkesteto	120.81	324	⇓PKIKP		PKPdf	13 23 00.0	+1.1
PSZ	Piszkesteto	120.81	324	⇓i P		PKPdf	13 23 00.0	+1.1
PSZ	Piszkesteto	120.81	324	PFAKE			13 23 10.0	+11
PSZ				LR		LR		
	comp=Z,59μm,19.0s							
PSZ	Piszkesteto	120.81	324	⇑eSKKPdf		PKiKP	13 22 58.9	-0.2
OKC	Ostrava-Krasne	120.86	326	ePDIFF		Pdif	13 19 24.2	-0.4
OKC				i PKPdf		PKiKP	13 23 00.1	+1.1
OKC				ex	x		13 23 15.3	
OKC				ex	x		13 24 06.2	
OKC				ePP		PP	13 24 29.5	+2.0
OKC				ex	x		13 27 15.1	
OKC				eSKKS			13 31 19.7	
OKC				ePKKP		PKKPab	13 33 03.9	0.0
OKC				eSP		SP	13 34 10.2	-3.2
OKC				ex	x		13 35 52.1	
OKC				AMS	AMS		14 13 40.0	
	comp=Z,56μm,22.8s							
OKC	Ostrava-Krasne	120.86	326	eP		Pdif	13 19 24.2	-0.4
OKC				i			13 23 00.1	
OKC				e			13 23 15.3	
OKC				e			13 24 29.5	
OKC				eSP	SP		13 34 10.2	-3.2
OKC				MLR	MLR			
	comp=Z,56μm,22.8s							
TIM	Timisoara	121.00	321	⇓PKIKP		PKPdf	13 23 01.6	+2.3
TIM	Timisoara	121.00	321	⇓i P		PKPdf	13 23 01.5	+2.3
NVR	Nevrokopi	121.01	315	eP		PKPdf	13 22 59.0	-0.4
NVR	Nevrokopi	121.01	315	P		PKPdf	13 22 59.1	-0.4
NVR	Nevrokopi	121.01	315	P		PKPdf	13 22 59.1	-0.4
MMB	Musomiste	121.02	315	⇑i P		PKKPab	13 33 03.2	-0.3
MMB	Musomiste	121.02	315	P		PKPdf	13 22 58.7	-0.8
BORG	Borgarnes	121.05	356	ePKIKP		PKPdf	13 23 00.5	+1.7
BORG				MLR		MLR		
	comp=Z,28μm,22.0s							
BORG	Borgarnes	121.05	356	ePKPdf		PKPdf	13 23 00.5	+1.7
BORG				LR		LR		
	comp=Z,28μm,22.0s							
U14B	Concepcin	121.06	140	ePKPdf		PKPdf	13 23 00.5	+0.8
VYHS	Vyhne	121.15	325	eP		Pdif	13 19 25.3	-0.7
VYHS				e			13 23 00.3	
VYHS				eSP	SP		13 34 18.0	+1.8
VYHS	Vyhne	121.15	325	PDIF		Pdif	13 19 25.3	-0.7
VYHS	Vyhne	121.15	325	ePKP		PKPdf	13 23 00.3	+0.8
VYHS				eSP	SP		13 34 18.0	+1.8
MUD	Monsted U'grnd	121.15	336	⇑i P		PKPdf	13 22 59.9	+0.7
	comp=Z,219nm,1.3s							
MUD				i			13 24 14.4	
MUD	Monsted U'grnd	121.15	336	⇑i PKIKP		PKPdf	13 22 59.9	+0.7
MUD				pmax	pmax			
	comp=Z,220nm,1.3s							
MUD				MLR	MLR			
	comp=Z,250μm,20.0s							
BANR	Banloc	121.21	320	⇓i P		PKPdf	13 23 01.8	+2.2
APE	Apeiranthos	121.22	310	c i PKIKP		PKPdf	13 22 59.6	-0.4
APE				MLR	MLR			
	comp=Z,30μm,26.0s							
APE	Apeiranthos	121.22	310	⇓i P		PKPdf	13 23 00.1	+0.1
APE	Apeiranthos	121.22	310	eP		PKPdf	13 22 58.8	-1.2
APE	Apeiranthos	121.22	310	P		PKPdf	13 22 58.9	-1.1
APE	Apeiranthos	121.22	310	P		PKPdf	13 22 58.9	-1.1
MORC	Moravsky Berou	121.22	326	⇑PKIKP		PKPdf	13 23 01.4	+1.8
MORC	Moravsky Berou	121.22	326	⇑i P		PKPdf	13 23 01.4	+1.8
MORC	Moravsky Berou	121.22	326	⇑i P		PKKPab	13 33 02.9	+0.5
SRS	Serrai	121.28	315	PKIKP		PKPdf	13 22 58.9	-1.1
SRS	Serrai	121.28	315	eP		PKPdf	13 22 59.2	-0.8
SRS	Serrai	121.28	315	eP		PKKPbc	13 32 57.3	-5.3
SRS	Serrai	121.28	315	P		PKPdf	13 22 58.9	-1.1
SRS	Serrai	121.28	315	P		PKPdf	13 22 58.9	-1.1
OUR	Ouranopolis	121.29	314	PKIKP		PKPdf	13 22 59.2	-0.8
OUR	Ouranopolis	121.29	314	eP		PKPdf	13 22 59.6	-0.4
OUR	Ouranopolis	121.29	314	P		PKPdf	13 22 59.2	-0.8
OUR	Ouranopolis	121.29	314	P		PKPdf	13 22 59.2	-0.8
ACSO	Alum Creek Sta	121.30	46	ePKPdf		PKPdf	13 23 00.4	+0.4
ACSO				LR		LR		
	comp=Z,74μm,20.0s							
TEIG	Tepich	121.30	70	ePKPdf		PKPdf	13 23 01.3	+0.7
KSP	Ksiaz	121.32	328	ePdiff		Pdif	13 19 27.2	+0.5
KSP				ePKiKP		PKiKP	13 23 00.2	+0.3
KKB	Krupnik	121.36	316	P		PKPdf	13 22 59.8	-0.3
KRLC	Kraliky	121.48	327	ePKPdf		PKPdf	13 23 00.7	+0.6
KRLC				esPKP			13 23 14.8	
KRLC				ePKKP		PKKPab	13 33 01.1	-0.2
KRLC	Kraliky	121.48	327	ePKIKP		PKPdf	13 23 00.7	+0.6
KRLC				e			13 23 14.8	
SANT	Santorini	121.48	309	eP		PKPdf	13 22 59.7	-0.8
SANT	Santorini	121.48	309	P		PKPdf	13 22 59.9	-0.6
SANT	Santorini	121.48	309	P		PKPdf	13 22 59.9	-0.6
THR1	Thera Island	121.48	309	P		PKPdf	13 23 00.1	-0.4
THR7	Fira-Santorini	121.49	309	P		PKPdf	13 23 00.0	-0.5
THR3	Thira Island,	121.51	309	P		PKPdf	13 23 02.9	+2.4
THR3	Thira Island,	121.51	309	P		PKPdf	13 23 02.9	+2.4
THR6	Thira Island,	121.53	309	P		PKPdf	13 22 59.4	-1.2
THR6	Thira Island,	121.53	309	P		PKPdf	13 22 59.4	-1.2
BUD	Budapest	121.53	323	⇑e		PKPdf	13 23 00.2	0.0
SOH	Sokhos	121.56	315	PKIKP		PKPdf	13 22 59.4	-1.2
SOH	Sokhos	121.56	315	eP		PKPdf	13 22 59.4	-1.2
SOH	Sokhos	121.56	315	P		PKPdf	13 22 59.4	-1.2
SOH	Sokhos	121.56	315	P		PKPdf	13 22 59.4	-1.2
DPC	Dobruska-Polom	121.58	327	ePDIFF		Pdif	13 19 28.7	+0.8
DPC				ePKPdf		PKiKP	13 23 00.7	+0.2
DPC				ex	x		13 23 16.5	
DPC				ex	x		13 24 01.3	
DPC				ePP		PP	13 24 32.1	-0.3
DPC				ex	x		13 27 11.0	
DPC				eSKKS			13 31 28.7	
DPC				ePKKP		PKKPab	13 33 01.1	+0.2
DPC				eSP		SP	13 34 19.0	-0.9
DPC				AMS	AMS		14 17 00.0	
	comp=Z,97μm,20.2s							
DPC	Dobruska-Polom	121.58	327	eP		Pdif	13 19 28.7	+0.8
DPC				e			13 23 00.7	
DPC				e			13 23 16.5	
DPC				e			13 24 32.1	
DPC				e			13 27 11.0	
DPC				eSP	SP		13 34 19.0	-0.9
DPC				MLR	MLR			
	comp=Z,97μm,20.2s							
PAIG	Paliouri	121.65	314	PKIKP		PKPdf	13 22 59.8	-0.9
PAIG	Paliouri	121.65	314	eP		PKPdf	13 23 00.1	-0.6
PAIG	Paliouri	121.65	314	P		PKPdf	13 22 59.8	-0.9
PAIG	Paliouri	121.65	314	P		PKPdf	13 22 59.8	-0.9
PLG	Polygyros	121.66	314	PKIKP		PKPdf	13 23 00.1	-0.7
PLG	Polygyros	121.66	314	eP		PKPdf	13 22 59.7	-1.1
PLG	Polygyros	121.66	314	eP		PKKPab	13 33 01.2	+0.5
PLG	Polygyros	121.66	314	P		PKPdf	13 23 00.1	-0.7
PLG	Polygyros	121.66	314	P		PKPdf	13 23 00.1	-0.7
UPC	Upice	121.66	328	ePDIFF		Pdif	13 19 29.0	+0.8
UPC				ePKPdf		PKiKP	13 23 00.7	+0.2
UPC				esPKP			13 23 14.9	
UPC				ex	x		13 24 02.7	
UPC				ePP		PP	13 24 30.8	-2.1
UPC				ex	x		13 27 11.3	
UPC				eSKKS			13 31 26.4	
UPC				ePKKP		PKKPab	13 33 00.9	+0.4
UPC				eSP		SP	13 34 19.1	-1.4
UPC				ex	x		13 35 47.7	
UPC				AMS	AMS		14 17 10.0	
	comp=Z,119μm,21.3s							
UPC	Upice	121.66	328	eP		Pdif	13 19 29.0	+0.8
UPC				e			13 23 00.7	
UPC				e			13 23 14.9	
UPC				e			13 24 30.8	
UPC				e			13 27 11.3	
UPC				eSP	SP		13 34 19.1	-1.4
UPC				e			13 35 47.7	
UPC				MLR	MLR			
	comp=Z,119μm,21.3s							
RUE	Ruedersdorf	121.66	330	ePKPdf		PKPdf	13 23 00.5	+0.2
NPS	Neapolis	121.68	308	PKIKP		PKPdf	13 23 01.5	+0.6
NPS	Neapolis	121.68	308	eP		PKPdf	13 23 01.5	+0.6
NPS	Neapolis	121.68	308	P		PKPdf	13 23 01.5	+0.6
NPS	Neapolis	121.68	308	P		PKPdf	13 23 01.5	+0.6
CANA	Caviahue	121.69	142	⇓eP		PKPdf	13 23 00.8	-0.3
KARY	Karystos	121.74	311	P		PKPdf	13 23 00.2	-0.7
KNT	Kendrikon	121.75	315	PKIKP		PKPdf	13 22 59.9	-1.0
KNT	Kendrikon	121.75	315	eP		PKPdf	13 22 59.1	-1.8
KNT	Kendrikon	121.75	315	P		PKPdf	13 22 59.9	-1.0
KNT	Kendrikon	121.75	315	P		PKPdf	13 22 59.9	-1.0
AOS	Alonnisos	121.77	313	eP		PKPdf	13 23 00.5	-0.4
AOS	Alonnisos	121.77	313	P		PKPdf	13 22 59.3	-1.6
AOS	Alonnisos	121.77	313	P		PKPdf	13 22 59.3	-1.6
HORT	Hortiatis	121.82	315	eP		PKPdf	13 23 00.2	-0.9
HORT	Hortiatis	121.82	315	P		PKPdf	13 22 59.8	-1.3
HORT	Hortiatis	121.82	315	P		PKPdf	13 22 59.8	-1.3
LRW	Lerwick	121.86	344	eP		PKPdf	13 23 00.7	+0.3
LRW				AMS	AMS		14 18 13.9	
	comp=Z,40μm,22.2s							
WAL1	Walls	121.88	344	eP		PKPdf	13 23 00.5	0.0
THE	Thessaloniki	121.90	315	PKIKP		PKPdf	13 23 00.0	-1.1
THE	Thessaloniki	121.90	315	eP		PKPdf	13 23 00.5	-0.6
THE	Thessaloniki	121.90	315	P		PKPdf	13 23 00.0	-1.1
THE	Thessaloniki	121.90	315	P		PKPdf	13 23 00.0	-1.1
VAY	Valandovo	121.92	316	⇓eP		PKPdf	13 23 01.4	+0.2
VAY	Valandovo	121.92	316	PKIKP		PKPdf	13 23 00.2	-1.0
VAY	Valandovo	121.92	316	P		PKPdf	13 23 00.2	-1.0
VAY	Valandovo	121.92	316	P		PKPdf	13 23 00.2	-1.0
PKSG		121.95	324	⇓eSKKPdf		PKiKP	13 23 01.7	+0.5
SAN1	Sandwick	121.98	344	eP		PKPdf	13 23 01.9	+1.2
EREA	Eretria	121.99	312	eP		PKPdf	13 23 01.6	+0.2
EREA	Eretria	121.99	312	P		PKPdf	13 23 00.3	-1.1
VRAC	Vranov	122.00	326	⇓PKIKP		PKPdf	13 23 03.3	+2.2
VRAC	Vranov	122.00	326	⇓i P		PKPdf	13 23 03.3	+2.2
VRAC	Vranov	122.00	326	⇓i P		PKKPab	13 33 01.2	+2.1
CSKK	Ce‡kako	122.05	324	⇑eSKKPdf		PKiKP	13 23 00.9	-0.5
SADO	Sadowa	122.09	40	PKP		PKPdf	13 23 01.9	+0.5
	comp=Z,275nm,0.8s,baz=315,slow=3.6,SNR=9.7							
SADO				PKKPbc		PKKPbc	13 33 00.8	+1.1
	comp=Z,9.2nm,0.7s,baz=128,slow=2.2,SNR=4.6							
SADO				SKKPbc	SKKPbc		13 36 42.1	-3.6
	comp=Z,11nm,1.0s,baz=0.0,slow=1.0,SNR=3.3							
MRKA	Markates	122.14	312	eP		PKPdf	13 23 01.6	-0.1
MRKA	Markates	122.14	312	P		PKPdf	13 23 01.0	-0.7
PTL	Penteli	122.16	312	eP		PKPdf	13 23 01.1	-0.7
TKL	Tuckaleechee C	122.20	51	SKP			13 26 37.0	
	comp=Z,28nm,0.8s,baz=229,slow=3.3,SNR=5.4							
TKL				PKKPbc		PKKPbc	13 32 59.1	+0.2
	comp=Z,14nm,1.0s,baz=122,slow=9.4,SNR=6.3							
NEO	Neokhori	122.20	313	eP		PKPdf	13 23 01.6	-0.2
NEO	Neokhori	122.20	313	P		PKPdf	13 23 01.0	-0.8
NEO	Neokhori	122.20	313	P		PKPdf	13 23 01.0	-0.8
XOR	Xorichti	122.20	313	eP		PKPdf	13 23 01.2	-0.6
XOR	Xorichti	122.20	313	P		PKPdf	13 23 01.2	-0.6
XOR	Xorichti	122.20	313	P		PKPdf	13 23 01.2	-0.6
IDI	Anoyia	122.24	308	eP		PKPdf	13 23 02.5	+0.4
IDI	Anoyia	122.24	308	eP		PKKPbc	13 32 58.7	-0.1
IDI	Anoyia	122.24	308	ePKPdf		PKPdf	13 23 02.1	+0.1
IDI	Anoyia	122.24	308	P		PKPdf	13 23 01.6	-0.5
ATHU	Athens Univers	122.25	312	P		PKPdf	13 23 00.2	-1.7
ATHU	Athens Univers	122.25	312	P		PKPdf	13 23 00.2	-1.7
ATH	Athens Observa	122.30	312	PKIKP		PKPdf	13 23 00.8	-1.2
ATH	Athens Observa	122.30	312	P		PKPdf	13 23 00.8	-1.2
ATH	Athens Observa	122.30	312	P		PKPdf	13 23 00.8	-1.2
SMIA	Simia	122.36	313	eP		PKPdf	13 23 01.9	-0.2
SMIA	Simia	122.36	313	eP		PKKPbc	13 32 58.2	-0.2
SMIA	Simia	122.36	313	P		PKPdf	13 23 01.6	-0.5
BSEG	Bad Segeberg	122.36	333	ePKPdf		PKPdf	13 23 01.7	+0.1
BSEG				ePP		PP	13 24 36.1	-1.3
FYTO	Fytoko, Volos	122.37	313	P		PKPdf	13 22 59.2	-2.9
FYTO	Fytoko, Volos	122.37	313	P		PKPdf	13 22 59.2	-2.9
PKSM	Moragy	122.38	322	⇑PKIKP		PKPdf	13 23 02.6	+0.7
PKSM	Moragy	122.38	322	⇑i P		PKPdf	13 23 02.6	+0.7
PKSM	Moragy	122.38	322	⇑i P		PKKPbc	13 32 58.5	0.0
PKSM	Moragy	122.38	322	⇑e		PKPdf	13 23 02.0	+0.1
PVCC	Panska Ves	122.41	328	ePDIFF		Pdif	13 19 32.1	+0.6
PVCC				ePKPdf		PKiKP	13 23 02.9	+0.9
PVCC				esPKP			13 23 16.0	
PVCC				ePP		PP	13 24 36.3	-1.7
PVCC				eSKKS			13 31 35.3	
PVCC				ePKKP		PKKPab	13 32 57.6	+0.4
PVCC				eSP		SP	13 34 28.4	+1.3
PVCC				ex	x		13 35 51.3	
PVCC				eSS	SS		13 41 24.2	+9.3
PVCC				AMS	AMS		14 15 30.0	
	comp=Z,120μm,21.8s							
PVCC	Panska Ves	122.41	328	eP		Pdif	13 19 32.1	+0.6
PVCC				e			13 23 02.9	
PVCC				e			13 23 16.0	
PVCC				e			13 24 36.3	
PVCC				eSP	SP		13 34 28.4	+1.3
PVCC				e			13 35 51.3	
PVCC				MLR	MLR			
	comp=Z,120μm,21.8s							
LIT	Litokhoron	122.44	314	PKIKP		PKPdf	13 23 01.2	-1.0
LIT	Litokhoron	122.44	314	eP		PKPdf	13 23 02.0	-0.2
LIT	Litokhoron	122.44	314	P		PKPdf	13 23 01.2	-1.0
LIT	Litokhoron	122.44	314	P		PKPdf	13 23 01.2	-1.0
SKO	Skopje	122.45	317	⇓eP		PKPdf	13 23 03.4	+1.2
SKO	Skopje	122.45	317	PKIKP		PKPdf	13 23 02.3	+0.1
SKO	Skopje	122.45	317	P		PKPdf	13 23 02.3	+0.1
SKO	Skopje	122.45	317	P		PKPdf	13 23 02.3	+0.1
DIVS	Divibare	122.51	320	⇑i P		PKPdf	13 23 03.9	+1.6
DIVS	Divibare	122.51	320	⇓i P		PKKPbc	13 32 59.0	+0.9
DIVS	Divibare	122.51	320	P		PKPdf	13 23 02.3	0.0
BRG	Berggiesshubel	122.53	329	i PKP		PKPdf	13 23 03.0	+0.9
	comp=Z,222nm,0.9s							
BRG				i			13 23 27.6	
	comp=Z,40nm,0.9s							
BRG				i			13 26 35.9	
	comp=Z,51nm,1.4s							
BRG				i			13 26 55.0	
	comp=Z,36nm,1.5s							
BRG				SS	x		13 46 37.0	
BRG	Berggiesshubel	122.53	329	ePKPdf		PKPdf	13 23 01.7	-0.3
BRG				ePP		PP	13 24 37.3	-1.5
BRG	Berggiesshubel	122.53	329	i PKIKP		PKPdf	13 23 03.0	+0.9
BRG				pmax	pmax			
	comp=Z,222nm,0.9s							
BRG				MLR	MLR			
	comp=N,629μm,22.0s							
BRG				MLR	MLR			
	comp=E,110μm,21.6s							
BRG				MLR	MLR			
	comp=Z,131μm,23.1s							
VILL	Villia	122.53	312	P		PKPdf	13 23 01.3	-1.2
VIL2	Platees	122.55	312	eP		PKPdf	13 23 01.5	-1.0
VIL2	Platees	122.55	312	eP		PKKPbc	13 32 56.2	-1.5
ATAL	Atalanti	122.56	313	P		PKPdf	13 23 01.5	-1.0
ATAL	Atalanti	122.56	313	P		PKPdf	13 23 01.5	-1.0
LKR	Lokris	122.59	313	eP		PKPdf	13 23 02.0	-0.5
LKR	Lokris	122.59	313	eP		PKKPbc	13 32 57.4	-0.1
LKR	Lokris	122.59	313	P		PKPdf	13 23 01.6	-0.9
LKR	Lokris	122.59	313	P		PKPdf	13 23 01.6	-0.9
TREC	Trest	122.61	327	ePDIFF		Pdif	13 19 33.1	+0.6
TREC				ePKPdf		PKiKP	13 23 03.0	+0.5
TREC				ex	x		13 23 16.5	
TREC				ePP		PP	13 24 39.3	-0.1
TREC				ex	x		13 27 21.7	
TREC				eSKKS			13 31 33.8	
TREC				eSP		SP	13 34 30.9	+1.9
TREC				ex	x		13 35 56.3	
TREC				eSS		SS	13 41 21.3	+3.6
TREC				AMS	AMS		14 16 40.0	
	comp=Z,84μm,22.1s							
TREC	Trest	122.61	327	eP		Pdif	13 19 33.1	+0.6
TREC				e			13 23 03.0	
TREC				e			13 23 16.5	
TREC				e			13 24 39.3	
TREC				e			13 27 21.7	
TREC				eSP	SP		13 34 30.9	+1.8
TREC				e			13 35 56.3	
TREC				eSS		SS	13 41 21.3	+3.6
TREC				MLR	MLR			
	comp=Z,84μm,22.1s							
GOPC	GO Pecny, Ondr	122.64	328	ePDIFF		Pdif	13 19 31.7	-0.9
GOPC				ePKPdf		PKiKP	13 23 02.6	+0.1
GOPC				esPKP			13 23 17.2	
GOPC				ePP		PP	13 24 39.0	-0.6
GOPC				ex	x		13 27 21.3	
GOPC				eSKKS			13 31 31.6	
GOPC				ePKKP		PKKPab	13 32 56.5	+0.2
GOPC				eSP		SP	13 34 24.7	-4.6
GOPC				ex	x		13 35 54.3	
GOPC				eSS		SS	13 41 24.7	+6.7
GOPC				AMS	AMS		14 17 50.0	
	comp=Z,133μm,21.9s							
PRU	Pruhonice	122.73	328	ePDIFF		Pdif	13 19 31.0	-2.0
PRU				ePKPdf		PKiKP	13 23 03.2	+0.5
PRU				esPKP			13 23 17.2	
PRU				ePP		PP	13 24 38.6	-1.6
PRU				eSKP			13 26 36.1	
PRU				ex	x		13 27 22.5	
PRU				eSKKS			13 31 31.0	
PRU				ePKKP		PKKPbc	13 32 56.8	-0.5
PRU				ex	x		13 34 19.0	
PRU				eSS		SS	13 41 20.5	+1.4
PRU				AMS	AMS		14 17 50.0	
	comp=Z,126μm,21.5s							
PRU	Pruhonice	122.73	328	eP		Pdif	13 19 31.0	-2.0
PRU				e			13 23 03.2	
PRU				e			13 23 17.2	
PRU				e			13 24 38.6	
PRU				e			13 27 22.5	
PRU				e			13 35 57.3	
PRU				eSS	SS		13 41 20.5	+1.4
PRU				MLR	MLR			
	comp=Z,126μm,21.5s							
PRA	Prague	122.74	328	ePDIFF		Pdif	13 19 33.8	+0.8
PRA				ePKPdf		PKiKP	13 23 03.3	+0.6
PRA				ex	x		13 23 17.1	
PRA				ex	x		13 24 11.5	
PRA				ePP		PP	13 24 39.0	-1.2
PRA				ex	x		13 27 21.9	
PRA				eSKKS			13 31 31.7	
PRA				ePKKP		PKKPab	13 32 56.4	+0.6
PRA				eSP		SP	13 34 26.5	-3.6
PRA				ex	x		13 35 58.2	
PRA				eSS		SS	13 41 19.9	+0.7
PRA				AMS	AMS		14 17 50.0	
	comp=Z,115μm,21.7s							
PRA	Prague	122.74	328	eP		Pdif	13 19 33.8	+0.8
PRA				e			13 23 03.3	
PRA				e			13 23 17.1	
PRA				e			13 24 39.0	
PRA				e

DESF Desfina 123.02 312 eP PKKPab 13 32 55.9 +0.9
DSF Desfina 123.02 312 eP PKPdf 13 23 03.0 -0.5
DSF Desfina 123.02 312 eP PKKPab 13 32 56.7 +1.8
DSF Desfina 123.02 312 P PKPdf 13 23 02.0 -1.5
DSF Desfina 123.02 312 P PKPdf 13 23 02.0 -1.5
U65B HualaæØ 123.03 139 ePKPdf PKPdf 13 23 03.5 0.0
THAL Thalero 123.06 312 eP PKPdf 13 23 03.2 -0.2
THAL Thalero 123.06 312 P PKPdf 13 23 04.1 +0.7
GOGA Godfrey 123.09 54 ePKIKP PKPdf 13 23 04.2 +0.5
GOGA MLR MLR
comp=Z,76µm,21.0s
GOGA Godfrey 123.09 54 ePKPdf PKPdf 13 23 04.2 +0.5
GOGA LR LR
comp=Z,76µm,21.0s
MAKR Makrakomi, Fth 123.10 313 eP PKPdf 13 23 04.0 +0.4
MAKR Makrakomi, Fth 123.10 313 P PKPdf 13 23 03.8 +0.2
MAKR Makrakomi, Fth 123.10 313 P PKPdf 13 23 03.8 +0.2
IVA Berane 123.11 318⇓ i PKP PKPdf 13 23 03.3 -0.2
CONA Conrad Observa 123.14 325⇑ i PKiKP PKPdf 13 23 03.2 -0.2
comp=Z,581nm,2.2s,SNR=63
PVY Plav 123.19 318 ePKP PKPdf 13 23 03.6 -0.1
OHR Ohrid 123.23 316⇓ eP PKPdf 13 23 03.1 -0.7
PLE Pljevlja 123.24 319⇓ i PKP PKPdf 13 23 04.0 +0.2
PHP Peshkopia 123.24 317 PKIKP PKPdf 13 23 03.6 -0.2
PHP Peshkopia 123.24 317 P PKPdf 13 23 03.6 -0.2
PHP Peshkopia 123.24 317 P PKPdf 13 23 03.6 -0.2
ANKY Antikythira Is 123.30 309 eP PKPdf 13 23 04.9 +0.9
ANKY Antikythira Is 123.30 309 P PKPdf 13 23 03.5 -0.5
ANKY Antikythira Is 123.30 309 P PKPdf 13 23 03.5 -0.5
VLI Veliai 123.30 310 eP PKPdf 13 23 03.6 -0.4
VLI Veliai 123.30 310 eP PKKPab 13 32 55.8 +2.1
VLI Veliai 123.30 310 P PKPdf 13 23 02.9 -1.1
VLI Veliai 123.30 310 P PKPdf 13 23 02.9 -1.1
KALE Kalithea 123.32 313 eP PKPdf 13 23 04.0 0.0
KALE Kalithea 123.32 313 P PKPdf 13 23 03.1 -0.9
KALE Kalithea 123.32 313 P PKPdf 13 23 03.1 -0.9
GUR Goura 123.33 312 eP PKPdf 13 23 03.9 -0.2
GUR Goura 123.33 312 P PKPdf 13 23 03.1 -1.0
GUR Goura 123.33 312 P PKPdf 13 23 03.1 -1.0
NEST Nestorio 123.34 315 eP PKPdf 13 23 04.4 +0.3
NEST Nestorio 123.34 315 eP PKKPab 13 32 55.0 +1.4
NEST Nestorio 123.34 315 P PKPdf 13 23 03.8 -0.3
EVR Evrytania 123.37 313 eP PKPdf 13 23 05.2 +1.0
EVR Evrytania 123.37 313 eP PKKPab 13 32 55.9 +2.4
EVR Evrytania 123.37 313 P PKPdf 13 23 04.3 +0.1
EVR Evrytania 123.37 313 P PKPdf 13 23 04.3 +0.1
KYTH Kithira 123.37 310 eP PKPdf 13 23 04.9 +0.8
KYTH Kithira 123.37 310 P PKPdf 13 23 04.7 +0.6
KYTH Kithira 123.37 310 P PKPdf 13 23 04.7 +0.6
BEHE Becsehely 123.37 323⇑ eSKKPdf PKiKP 13 23 04.2 +0.2
TRIZ Trizonia 123.37 313 eP PKPdf 13 23 04.4 +0.4
TRIZ Trizonia 123.37 313 eP PKKPab 13 32 56.1 +2.7
TRIZ Trizonia 123.37 313 P PKPdf 13 23 04.0 0.0
KLV Kalavryta, Ach 123.43 312 eP PKPdf 13 23 04.1 -0.2
KLV Kalavryta, Ach 123.43 312 eP PKKPab 13 32 55.0 +1.8
KLV Kalavryta, Ach 123.43 312 P PKPdf 13 23 04.1 -0.2
KLV Kalavryta, Ach 123.43 312 P PKPdf 13 23 04.1 -0.2
KBN Korca 123.44 315 PKIKP PKPdf 13 23 03.8 -0.4
KBN Korca 123.44 315 P PKPdf 13 23 03.8 -0.4
KBN Korca 123.44 315 P PKPdf 13 23 03.8 -0.4
MEV Metsovon 123.45 314 P PKPdf 13 23 05.1 +0.7
MEV Metsovon 123.45 314 P PKPdf 13 23 05.1 +0.7
EFP Efpalio 123.47 313 eP PKPdf 13 23 05.6 +1.4
EFP Efpalio 123.47 313 P PKPdf 13 23 04.4 +0.2
LAKA Lakka 123.49 312 eP PKPdf 13 23 04.8 +0.5
LAKA Lakka 123.49 312 eP PKKPab 13 32 54.2 +1.3
LAKA Lakka 123.49 312 P PKPdf 13 23 04.4 +0.1
LAKA Lakka 123.49 312 P PKPdf 13 23 04.4 +0.1
VLX Vlachokerasia 123.50 311 eP PKPdf 13 23 04.9 +0.4
VLX Vlachokerasia 123.50 311 P PKPdf 13 23 04.4 -0.1
VLX Vlachokerasia 123.50 311 P PKPdf 13 23 04.4 -0.1
TIGA Tifton 123.52 56 Pdiff Pdif 13 19 38.9 +2.0
baz=124
TIGA Tifton 123.52 56 ePKPdf PKPdf 13 23 05.3 +0.8
TANN Tannenbergstha 123.56 329 ePKPdf PKPdf 13 23 03.8 -0.3
TANN ePP PP 13 24 44.3 -1.5
UPM Unac-Piva 123.61 319 ePKP PKPdf 13 23 04.3 -0.3
NKC Novy Kostel 123.68 329 ePDIFF Pdif 13 19 37.8 +0.6
NKC ePKPdf PKiKP 13 23 05.2 +0.6
NKC esPKP 13 23 18.6
NKC ex x 13 24 19.9
NKC ePP PP 13 24 43.4 -3.2
NKC eSKP 13 26 38.3
NKC ex x 13 27 29.0
NKC eSKKS 13 31 40.4
NKC ePKKP PKKPab 13 32 52.1 +0.3
NKC ex x 13 34 30.8
NKC eSS SS 13 41 32.0 +0.9
NKC AMS AMS 14 16 20.0
comp=Z,110µm,22.8s
NKC Novy Kostel 123.68 329 eP Pdif 13 19 37.8 +0.6
NKC e 13 23 05.2
NKC e 13 23 18.6
NKC e 13 24 43.4
NKC e 13 27 29.0
NKC eSS SS 13 41 32.0 +0.9
NKC MLR MLR
comp=Z,110µm,22.8s
KOGS Kog 123.70 323 ePdiff Pdif 13 19 37.3 0.0
KOGS ePKPdf PKPdf 13 23 04.2 -0.2
KOGS ePP PP 13 24 49.7 +2.9
ARSA Arzberg 123.70 325⇑ i PKiKP PKPdf 13 23 04.3 -0.1
comp=Z,1µm,4.5s,SNR=29
CLZ Clausthal 123.70 331 ePKPdf PKPdf 13 23 04.4 +0.1
CLZ ePP PP 13 24 45.6 -1.0
PDG Podgorica 123.72 318 P PKPdf 13 23 04.6 0.0
TTG Podgorica 123.72 318⇓ i PKP PKPdf 13 23 04.6 -0.3
TTG Podgorica 123.72 318 PKIKP PKPdf 13 23 04.6 0.0
TTG Podgorica 123.72 318 P PKPdf 13 23 04.6 0.0
NKY Niksic 123.73 319⇓ i PKP PKPdf 13 23 04.8 0.0
KHC Kasperske Hory 123.74 327 ePKPdf PKPdf 13 23 05.0 +0.5
KHC ex x 13 23 08.5
KHC esPKP 13 23 18.0
KHC eSKP 13 26 39.5
KHC ePKKP PKKPbc 13 32 53.0 -0.4
KHC Kasperske Hory 123.74 327 ePKIKP PKPdf 13 23 05.0 +0.5
KHC e 13 23 18.0
JAN Janina 123.77 314 PKIKP PKPdf 13 23 04.8 0.0
JAN Janina 123.77 314 eP PKPdf 13 23 05.7 +0.9
JAN Janina 123.77 314 P PKPdf 13 23 04.8 0.0
JAN Janina 123.77 314 P PKPdf 13 23 04.8 0.0
NKME Niksic 123.78 318⇓ i PKP PKPdf 13 23 04.8 0.0
TIR Tirane 123.78 317 ePKIKP PKPdf 13 23 05.7 +1.0
TIR MLR MLR
comp=Z,52µm,22.0s
TIR Tirane 123.78 317 ePKPdf PKPdf 13 23 05.7 +1.0
TIR LR LR
comp=Z,52µm,22.0s
TIR Tirane 123.78 317 P PKPdf 13 23 04.9 +0.2
DRO Drossia 123.79 312 eP PKPdf 13 23 06.3 +1.4
DRO Drossia 123.79 312 P PKPdf 13 23 04.8 -0.1
DSL Palaion Diasel 123.80 314 eP PKPdf 13 23 05.4 +0.5
DSL Palaion Diasel 123.80 314 eP PKKPab 13 32 54.4 +2.8
DSL Palaion Diasel 123.80 314 P PKPdf 13 23 04.0 -0.9
DSL Palaion Diasel 123.80 314 P PKPdf 13 23 04.0 -0.9
GEC2 GERESS Array S 123.83 327 ePKPdf PKPdf 13 23 04.3 -0.5
GEC2 ePP PP 13 24 45.9 -1.9
GERES GERESS Array B 123.83 327 PKhKP PKPpre 13 22 53.3
comp=Z,1.5nm,0.8s,baz=72,slow=4.3,SNR=4.3
GERES PKP PKiKP 13 23 05.2 +0.2
comp=Z,162nm,0.8s,baz=73,slow=1.5,SNR=4.5
GERES SKP 13 26 38.0
comp=Z,7.8nm,0.7s,baz=72,slow=3.2,SNR=4.4
GERES PKKPbc PKKPab 13 32 51.4 +0.1
comp=Z,5.7nm,0.9s,baz=189,slow=1.9,SNR=10
GERES SKKPbc SKKPbc 13 36 33.0 -7.3
comp=Z,4.9nm,1.0s,baz=235,slow=3.5,SNR=3.7
MOX Moxa 123.85 330 ePKPdf PKPdf 13 23 04.3 -0.3
MOX ePP PP 13 24 46.1 -1.6
MOX eL L 14 07 02.2
comp=Z,17µm,21.1s
DRME Dracevica, Mon 123.88 318⇓ i PKP PKPdf 13 23 04.6 -0.3
ITM Ithomi 123.90 311 eP PKPdf 13 23 05.1 0.0
ITM Ithomi 123.90 311 P PKPdf 13 23 04.2 -0.9
ITM Ithomi 123.90 311 P PKPdf 13 23 04.2 -0.9
U73B San Pedro 123.90 138 ePKPdf PKPdf 13 23 05.3 0.0
RLS Riolos of Patr 123.93 312 eP PKPdf 13 23 06.0 +0.9
RLS Riolos of Patr 123.93 312 eP PKKPab 13 32 53.7 +2.7
RLS Riolos of Patr 123.93 312 P PKPdf 13 23 05.4 +0.3
RLS Riolos of Patr 123.93 312 P PKPdf 13 23 05.4 +0.3
ULC Ulcinj 123.94 317⇓ i PKP PKPdf 13 23 05.1 0.0

PDO Prodromos 123.94 313 eP PKPdf 13 23 05.9 +0.8
PDO Prodromos 123.94 313 eP PKKPab 13 32 52.5 +1.5
PDO Prodromos 123.94 313 P PKPdf 13 23 05.3 +0.2
AMT Artemida-Makis 123.94 312 eP PKPdf 13 23 05.6 +0.4
AMT Artemida-Makis 123.94 312 P PKPdf 13 23 04.1 -1.1
BRY Bratogost 123.99 319⇓ i PKP PKPdf 13 23 04.7 -0.6
MLA1 Latheron 124.01 344⇑ eP PKPdf 13 23 05.2 +0.6
BUM Brajici-Budva 124.02 318 ePKP PKPdf 13 23 04.5 -0.8
ROTZ Rotzenmuhle 124.08 329 ePKPdf PKPdf 13 23 05.0 -0.1
ROTZ ePP PP 13 24 48.1 -1.2
MOA Molln 124.09 326⇑ i PKPdf PKPdf 13 23 04.8 -0.4
comp=Z,1µm,4.8s,SNR=25
WET Wettzell 124.10 328 ePKPdf PKPdf 13 23 04.9 -0.3
WET ePP PP 13 24 48.0 -1.5
SISC Sisak 124.12 322 i P PKPdf 13 23 05.8 +0.6
PYL PYLOS 124.14 311 eP PKPdf 13 23 05.1 -0.5
PYL PYLOS 124.14 311 P PKPdf 13 23 04.7 -0.9
PYL PYLOS 124.14 311 P PKPdf 13 23 04.7 -0.9
VTN Vitineika 124.19 312 P PKPdf 13 23 06.6 +1.0
IGT Igoumenitsa 124.19 314 PKIKP PKPdf 13 23 04.8 -0.8
IGT Igoumenitsa 124.19 314 eP PKPdf 13 23 05.8 +0.2
IGT Igoumenitsa 124.19 314 P PKPdf 13 23 04.8 -0.8
IGT Igoumenitsa 124.19 314 P PKPdf 13 23 04.8 -0.8
HCY Herceg Novi 124.22 318 ePKP PKPdf 13 23 05.4 -0.2
SGD Sagiada 124.23 315 eP PKPdf 13 23 06.2 +0.6
SGD Sagiada 124.23 315 eP PKKPab 13 32 52.5 +2.8
SGD Sagiada 124.23 315 P PKPdf 13 23 05.5 -0.1
BLA Blacksburg 124.25 49 ePKIKP PKPdf 13 23 06.2 +0.4
BLA e 13 23 17.9
BLA MLR MLR
comp=Z,128µm,20.0s
BLA Blacksburg 124.25 49 ePKPdf PKPdf 13 23 06.2 +0.4
BLA epPKPdf pPKPdf 13 23 17.9 -2.0
BLA LR LR
comp=Z,128µm,20.0s
PERS Pernice 124.26 324 ePdiff Pdif 13 19 40.5 +0.6
SRN Sarande 124.29 315 P PKPdf 13 23 05.2 -0.5
SRN Sarande 124.29 315 P PKPdf 13 23 05.2 -0.5
SOKA Soboth 124.29 324⇑ i PKPdf PKPdf 13 23 04.9 -0.8
comp=Z,367nm,1.8s,SNR=52
EXG Exogi 124.39 313 eP PKPdf 13 23 06.3 +0.3
EXG Exogi 124.39 313 P PKPdf 13 23 05.5 -0.5
KFL Anninata 124.41 313 P PKPdf 13 23 06.4 +0.3
VLS Valsamata 124.53 313 PKIKP PKPdf 13 23 05.4 -0.9
VLS Valsamata 124.53 313 eP PKPdf 13 23 06.7 +0.4
VLS Valsamata 124.53 313 P PKPdf 13 23 05.4 -0.9
VLS Valsamata 124.53 313 P PKPdf 13 23 05.4 -0.9
UBBA Unterbreizbach 124.54 331 ePKPdf PKPdf 13 23 05.8 0.0
UBBA ePP PP 13 24 50.7 -1.4
STON Ston 124.55 319 i P PKPdf 13 23 05.2 -0.9
SFD Strofades 124.56 312 eP PKPdf 13 23 06.5 +0.2
SFD Strofades 124.56 312 P PKPdf 13 23 05.9 -0.4
ZKS Zakynthos 124.56 312 eP PKPdf 13 23 06.8 +0.4
ZKS Zakynthos 124.56 312 P PKPdf 13 23 05.6 -0.8
MVH1 Achvaich 124.57 344⇑ eP PKPdf 13 23 06.0 +0.3
MCD Coleburn Disti 124.60 343⇑ eP PKPdf 13 23 06.0 +0.2
IBBN Ibbenburen 124.60 333 ePKPdf PKPdf 13 23 06.0 +0.1
IBBN ePP PP 13 24 51.0 -1.5
GRF Grafenberg Arr 124.64 329 ePKPdf PKPdf 13 23 05.9 -0.3
GRF ePP PP 13 24 51.5 -1.5
GRF eL L 13 55 50.7
comp=Z,12µm,19.4s
GRFO Grafenberg 124.64 329 ePKIKP PKPdf 13 23 05.9 -0.3
GRFO Grafenberg 124.64 329 ePKPdf PKPdf 13 23 05.9 -0.3
OBKA Obir 124.66 324⇓ i PKiKP PKPdf 13 23 06.1 -0.3
comp=Z,1µm,4.6s,SNR=22
SSPA Standing Stone 124.73 44 ePKPdf PKPdf 13 23 06.7 +0.1
MME1 Meikle Cairn 124.74 343 eP PKPdf 13 23 06.2 0.0
BOJS Bojanci 124.78 323 ePdiff Pdif 13 19 43.8 +1.6
BOJS i PKPdf PKPdf 13 23 06.5 -0.1
LJU Ljubljana 124.93 324 ePdiff Pdif 13 19 44.0 +1.2
LJU ePKPdf PKiKP 13 23 07.1 -0.1
LJU ePP PP 13 24 58.0 +2.9
LJU e 13 26 33.0
LJU e 13 27 47.3
LJU eSKSac SKSac 13 30 06.1 -0.8
LJU e 13 34 58.0
LJU e 13 36 28.0
LJU e 13 40 10.7
DRUM Mains of Drumt 124.94 342 eP PKPdf 13 23 05.5 -1.0
DRUM AMS AMS 14 21 54.8
comp=Z,63µm,19.6s
RJOB Jochberg 124.97 326 ePKPdf PKPdf 13 23 06.0 -0.9
RJOB ePP PP 13 24 53.5 -1.8
UDBI Udbina 124.97 322 i P PKPdf 13 23 07.5 +0.5
JTS JuntasAbangare 124.98 82⇓ c i PKiKP PKPdf 13 23 08.5 +0.7
JTS MLR MLR
comp=Z,53µm,16.0s
JTS JuntasAbangare 124.98 82 ePKPdf PKPdf 13 23 07.8 0.0
JTS LR LR
comp=Z,37µm,19.0s
LONY Lake Ozonia 125.02 38 ePKPdf PKPdf 13 23 06.9 -0.1
LONY LR LR
comp=Z,55µm,21.0s
MDO Dochfour 125.03 344⇑ eP PKPdf 13 23 07.0 +0.4
KBA Koelnbreinsper 125.04 325⇑ i PKPdf PKPdf 13 23 06.4 -0.8
comp=Z,236nm,1.8s,SNR=37
MYKA Terra Mystica 125.12 325⇑ i PKPdf PKPdf 13 23 06.5 -0.8
comp=Z,379nm,2.3s,SNR=25
KAC Achnashellach 125.24 344 eP PKPdf 13 23 06.6 -0.4
WTSB Winterswijk 125.27 333 ePdiff Pdif 13 19 40.8 -3.3
WTSB ePKPdf PKiKP 13 23 07.5 -0.1
comp=Z,313nm,1.3s
BUG Bochum--Univer 125.42 333 ePKPdf PKPdf 13 23 07.3 -0.2
BUG ePP PP 13 24 56.7 -1.3
KPL Plockton 125.47 344 eP PKPdf 13 23 06.6 -0.9
KPL AMS AMS 14 18 24.4
comp=Z,39µm,23.3s
NVLJ Novalja 125.50 322 i P PKPdf 13 23 08.1 +0.2
KSB Sheil Bridge 125.52 344 eP PKPdf 13 23 08.8 +1.3
FUR Furstenfeldbru 125.54 328 ePKPdf PKPdf 13 23 07.5 -0.5
FUR ePP PP 13 24 57.0 -2.1
NCB Newcomb 125.57 39 ePKPdf PKPdf 13 23 08.2 +0.1
NCB ePP PP 13 24 54.6 -4.9
NCB LR LR
comp=Z,77µm,21.0s
TNS Taunus Mts 125.68 331 ePKPdf PKPdf 13 23 08.0 -0.2
TNS ePP PP 13 24 58.8 -1.1
ABTA Abfaltersbach 125.69 325⇑ i PKPdf PKPdf 13 23 07.8 -0.6
comp=Z,331nm,1.6s,SNR=55
ESY Stoneypath 125.81 342 eP PKPdf 13 23 08.6 +0.4
NHSC New Hope 125.81 53 ePKPdf PKPdf 13 23 09.6 +0.8
NHSC LR LR
comp=Z,48µm,19.0s
WATA Walderalm 125.87 327⇑ i PKiKP PKPdf 13 23 08.9 +0.2
comp=Z,177nm,1.0s,SNR=75
WTTA Wattenberg 125.88 326⇑ i PKiKP PKPdf 13 23 08.7 -0.2
comp=Z,1µm,2.6s,SNR=90
SDMD Soldier's Deli 125.97 45 ePKPdf PKPdf 13 23 09.2 +0.2
EBL Broad Law 126.06 342 eP PKPdf 13 23 09.3 +0.6
CBN Corbin 126.10 46 ePKPdf PKPdf 13 23 09.0 -0.3
CBN LR LR
comp=Z,94µm,21.0s
AAGR Agrelo 126.12 139 eP PKPdf 13 23 10.6 +0.9
AAGR eS PP 13 25 03.9 +0.6
MOTA Moosalm 126.12 327⇑ i PKiKP PKPdf 13 23 09.2 0.0
comp=Z,278nm,1.0s,SNR=90
MDV Middlebury 126.20 38 ePKPdf PKPdf 13 23 10.0 +0.7
ARCO CERRO ARCO 126.21 138⇓ eP PKPdf 13 23 04.1 -5.9
ARCO eS PP 13 25 03.0 -1.0
ACCN Adirondack Com 126.22 39 ePKPdf PKPdf 13 23 09.1 -0.2
RETA Reutte 126.22 327⇑ i PKiKP PKPdf 13 23 09.3 0.0
comp=Z,2µm,4.7s,SNR=26
STU Stuttgart 126.25 329 ePKPdf PKPdf 13 23 08.9 -0.3
STU ePP PP 13 25 02.2 -1.5
STU Stuttgart 126.25 329 ePKIKP PKPdf 13 23 09.0 -0.3
STU Stuttgart 126.25 329 ePKPdf PKPdf 13 23 09.0 -0.3
AUSP Uspallata 126.28 138 eP PKPdf 13 23 11.2 +1.0
LCP Cassop 126.41 340 eP PKPdf 13 23 10.0 +0.6
ESK Eskdalemuir 126.49 342 eP PKPdf 13 23 09.4 -0.1
ESK AMS AMS 14 19 06.4
comp=Z,48µm,29.1s
ESK Eskdalemuir 126.49 342 ePKIKP PKPdf 13 23 09.6 +0.1
ESK MLR MLR
comp=Z,51µm,21.0s
ESK Eskdalemuir 126.49 342 ePKPdf PKPdf 13 23 09.6 +0.1
ESK LR LR
comp=Z,51µm,21.0s
HGN Heimansgroeve 126.49 333 ePdiff Pdif 13 19 50.8 +1.2
HGN ePKPdf PKiKP 13 23 10.0 -0.1
comp=Z,247nm,1.1s
HGN ePP PP 13 25 09.1 +3.9
HGN ePPP PPP 13 28 02.9
HGN ePSKS 13 35 06.4
FETA Feichten 126.52 327⇑ i PKiKP PKiKP 13 23 10.3 -0.2
comp=Z,712nm,2.1s,SNR=52
TRY Troy 126.55 40 ePKPdf PKPdf 13 23 10.7 +0.7
MEM Membach 126.57 333 PKP PKPdf 13 23 11.0 +1.3
MEM APKP pPKPdf 13 23 23.6 -0.4
ECK Cauldkaine Hil 126.58 342 eP PKPdf 13 23 10.3 +0.6
BEBN Eben Emael 126.59 333 PKP PKPdf 13 23 10.3 +0.5
BEBN APKP pPKPdf 13 23 21.9 -2.1
RTLS Leoncito 126.60 137 eP PKPdf 13 23 11.4 +0.6
RTLS eS PP 13 25 04.8 -1.9
TRQA Tornquist 126.78 148 ePKPdf PKPdf 13 23 10.3 -0.3
TRQA LR LR
comp=Z,47µm,21.0s
DAVA Damuels 126.82 327⇓ i PKiKP PKPdf 13 23 10.3 -0.3
comp=Z,2µm,4.6s,SNR=25
TIP Timpagrande 126.86 315 ePKPdf PKPdf 13 23 10.9 +0.1
TIP LR LR
comp=Z,39µm,22.0s
TIP Timpagrande 126.86 315 P PKPdf 13 23 09.9 -0.9
CNNC Cliffs of the 126.86 50 ePKPdf PKPdf 13 23 11.4 +0.6
CNNC LR LR
comp=Z,88µm,20.0s
HNH Hanover 126.91 38 ePKPdf PKPdf 13 23 11.7 +1.0
BFO Black Forest 126.97 329 ePKPdf PKPdf 13 23 10.0 -0.7
BFO ePP PP 13 25 07.0 -1.5
BFO Black Forest 126.97 329 PFAKE 13 23 20.0 +9.3
BFO LR LR
comp=Z,107µm,22.0s
KESW Keswick, Cumbr 127.07 341 eP PKPdf 13 23 11.0 +0.4
KESW AMS AMS 14 22 44.0
comp=Z,46µm,19.7s
RTCV Cerro Valdivia 127.07 138 eP PKPdf 13 23 10.9 -0.5
RTCV eS PP 13 25 07.1 -2.4
HPK Haverah Park 127.10 340 eP PKPdf 13 23 10.4 -0.3
HPK AMS AMS 14 21 12.8
comp=Z,55µm,21.6s
CUC Castrocucco 127.14 317 ePKPdf PKPdf 13 23 10.9 -0.4
CUC LR LR
comp=Z,34µm,22.0s
WLF Walferdange 127.15 332 PKP PKPdf 13 23 12.7 +1.7
WLF APKP pPKPdf 13 23 26.5 +1.4
WLF Walferdange 127.15 332 ePKPdf PKPdf 13 23 11.5 +0.6
WLF ePP PP 13 25 08.7 -0.9
WLF Walferdange 127.15 332 PFAKE 13 23 20.0 +9.1
WLF LR LR
comp=Z,76µm,22.0s
LCO Las Campanas 127.26 134 ePKPpre PKPpre 13 23 04.3
LCO ePKPdf PKiKP 13 23 12.9 +0.2
LCO LR LR
comp=Z,35µm,21.0s
TSUM Tsumeb 127.33 240 SKKPbc SKKPbc 13 36 24.5 -2.2
comp=Z,1.2nm,0.3s,baz=241,slow=5.5,SNR=3.6
GAL1 Galloway 127.34 342 eP PKPdf 13 23 10.6 -0.6
SNF Seneffe 127.42 333 PKP PKPdf 13 23 12.8 +1.5
FFD Franklin Falls 127.42 38 ePKPdf PKPdf 13 23 13.4 +1.8
CFAA Coronel Fontan 127.43 138 PKhKP PKPpre 13 23 01.0
comp=Z,0.6nm,0.6s,baz=213,slow=2.5,SNR=8.5
CFAA PKP PKPdf 13 23 12.3 +0.2
comp=Z,13nm,0.7s,baz=238,slow=3.5,SNR=60
CFAA PP PP 13 25 11.4 -0.6
comp=Z,3.3nm,1.0s,baz=244,slow=6.5,SNR=5.3
CFAA SKP 13 26 43.2
comp=Z,2.2nm,0.7s,baz=178,slow=3.2,SNR=4.5
CFAA Coronel Fontan 127.43 138 eP PKPdf 13 23 11.9 -0.2
RTLL Cerro Villicun 127.44 137 eP PKPdf 13 23 12.4 +0.3
RTLL ⇑ eS PP 13 25 07.6 -4.5
LHO Holmfirth 127.51 340 eP PKPdf 13 23 11.8 +0.3
AQU L'Aquila 127.57 320 ePKIKP PKPdf 13 23 12.8 +0.8
AQU MLR MLR
comp=Z,59µm,22.0s
AQU L'Aquila 127.57 320 ePKPdf PKPdf 13 23 12.8 +0.8
AQU LR LR
comp=Z,59µm,22.0s
DOU Dourbes 127.57 333 PKP PKPdf 13 23 12.4 +0.7
TUE Stuetta 127.61 327 PFAKE 13 23 20.0 +7.8
TUE LR LR
comp=Z,90µm,21.0s
QUA2 Belchertown 127.62 40 ePKPdf PKPdf 13 23 12.4 +0.3
KBI1 Birley Grange 127.63 339 eP PKPdf 13 23 12.1 +0.3
ECH Echery 127.64 330 ePKIKP PKPdf 13 23 13.7 +1.7
ECH MLR MLR
comp=Z,82µm,21.0s
ECH Echery 127.64 330 ePKPdf PKPdf 13 23 13.7 +1.7
ECH LR LR
comp=Z,82µm,21.0s
PQI Presque Isle 127.65 33 ePKPdf PKPdf 13 23 11.7 -0.3
AMOG MOGNA 127.67 137 eP PKPdf 13 23 12.8 +0.1
ACAN Cantantal 127.71 139 eP PKPdf 13 23 07.5 -5.1
YLE Yale 127.73 41 ePKPdf PKPdf 13 23 12.6 +0.4
PKME Peaks-Kenny Pk 127.80 35 ePKPdf PKPdf 13 23 12.8 +0.5
PKME LR LR
comp=Z,58µm,20.0s
CWF Charnwood Fore 127.97 339 eP PKPdf 13 23 11.9 -0.5
CWF AMS AMS 14 22 10.3
comp=Z,95µm,20.7s
HRV Adam Dziewonsk 128.00 39 ePKIKP PKPdf 13 23 13.8 +1.0
HRV Adam Dziewonsk 128.00 39 ePKPdf PKPdf 13 23 13.8 +1.0
WVL Waterville 128.00 36 ePKPdf PKPdf 13 23 13.4 +0.7
STNC Stoke 128.00 339 eP PKPdf 13 23 11.9 -0.6
STNC AMS AMS 14 21 36.2
comp=Z,68µm,21.7s
GMM Mts of Mourne 128.25 343 eP PKPdf 13 23 10.5 -2.3
ELSH Elham, Standar 128.28 336 eP PKPdf 13 23 13.4 +0.3
BRYW Bryant College 128.32 40 ePKPdf PKPdf 13 23 14.5 +1.1
VLC Villacollemand 128.41 324 ePKPdf PKPdf 13 23 14.8 +1.2
VLC LR LR
comp=Z,76µm,22.0s
WPM1 Penmaenmawr 128.44 341 eP PKPdf 13 23 12.9 -0.4
WME Myndd Eilian 128.46 341 eP PKPdf 13 23 13.7 +0.4
FOEL Foel Wylfa 128.51 340 eP PKPdf 13 23 12.0 -1.5
MRA San Martin 128.56 140 eP PKPdf 13 23 13.2 -1.1
MRA eS SKiKP 13 26 41.6 -5.9
WLF1 Llynfaes 128.58 341 eP PKPdf 13 23 12.8 -0.8
WLF1 AMS AMS 14 21 41.1
comp=Z,51µm,24.2s
HLM1 Long Mynd 128.71 339 eP PKPdf 13 23 13.7 -0.1
HMNX Herstmonceux 128.82 336 eP PKPdf 13 23 11.4 -2.6
HMNX AMS AMS 14 23 11.7
comp=Z,84µm,20.8s
STRD Stroud 129.06 338 eP PKPdf 13 23 13.2 -1.3
STRD AMS AMS 14 22 31.4
comp=Z,102µm,20.8s
WOL Wolverton 129.08 337 eP PKPdf 13 23 14.3 -0.3
SWN1 Swindon 129.14 338 eP PKPdf 13 23 14.2 -0.5
SWN1 AMS AMS 14 22 21.3
comp=Z,94µm,20.7s
EMMW East Machias 129.17 34 ePKPdf PKPdf 13 23 15.8 +0.9
MCH1 Michaelchurch 129.18 339 eP PKPdf 13 23 14.1 -0.6
MCH1 AMS AMS 14 22 29.5
comp=Z,85µm,20.4s
VCA Vinchina 129.20 135 eP PKPdf 13 23 16.8 +1.1
VCA eS PP 13 25 24.2 +0.4
DSB Dublin 129.24 342 ePKPdf PKPdf 13 23 16.0 +1.2
MONM Monmouth 129.24 339 eP PKPdf 13 23 14.6 -0.3
MONM AMS AMS 14 22 50.4
comp=Z,88µm,20.5s
OLDB Oldbury-Upon-S 129.29 339 eP PKPdf 13 23 14.3 -0.6
OLDB AMS AMS 14 22 49.5
comp=Z,96µm,20.4s
BATH Bath 129.39 338 eP PKPdf 13 23 14.8 -0.4
BATH AMS AMS 14 22 40.8
comp=Z,95µm,21.2s
ATAH Atahualpa 129.49 104 PKhKP PKPpre 13 23 12.8
comp=Z,48nm,0.8s,baz=288,slow=3.2,SNR=5.3
ATAH PKP PKiKP 13 23 19.1 +1.4
comp=Z,124nm,0.9s,baz=343,slow=0.1,SNR=32
ATAH SKP 13 26 48.2
comp=Z,78nm,0.9s,baz=163,slow=6.6,SNR=6.2
ATAH SKKPbc SKKPbc 13 36 12.8 -6.6
comp=Z,25nm,1.1s,baz=315,slow=4.2,SNR=3.6
NNA Nana 129.64 111 PKP PKPdf 13 23 17.1 +0.4
comp=Z,70nm,0.9s,baz=300,slow=5.0,SNR=15
NNA Nana 129.64 111 PKiKP PKPdf 13 23 17.1 +0.4
NNA MLR MLR
comp=Z,34µm,21.0s
NNA Nana 129.64 111 PKP PKPdf 13 23 17.1 +0.4
NNA LR LR
comp=Z,34µm,21.0s
WDD Wield Dalam 129.90 313 PFAKE 13 23 30.0 +13
WDD LR LR
comp=Z,35µm,22.0s
TCA Tanti 129.99 140 eP PKPdf 13 23 17.9 +0.8

TCA eS PP 13 25 26.5 -2.2
BCIP Isla Barro Col 130.02 83 ePKPdf **PKPdf 13 23 18.2 +0.8**
BCIP LR LR
comp=Z,39µm,20.0s
CLTB Caltabellotta 130.06 315 ePKPdf **PKPdf 13 23 16.5 -0.5**
OTAV Otavalo 130.80 95 ePKPdf **PKPdf 13 23 19.6 +0.1**
OTAV ePP PP 13 25 35.0 -0.8
OTAV LR LR
comp=Z,31µm,19.0s
DYA Yadsworthy 130.80 339 eP **PKPdf 13 23 17.2 -0.7**
DYA AMS AMS 14 23 45.1
comp=Z,87µm,20.2s
SSB Saint Sauveur 130.94 328 ePKHKP PKPpre 13 23 06.4
SSB e 13 23 18.6
SSB e 13 25 33.6
SSB MLR MLR
comp=Z,54µm,21.0s
SSB Saint Sauveur 130.94 328 ePKPpre PKPpre 13 23 06.4
SSB ePKPdf **PKPdf 13 23 18.6 +0.2**
SSB ePP PP 13 25 33.6 -0.9
SSB eSKPbc **SKPbc 13 26 36.0 -3.1**
SSB LR LR
comp=Z,54µm,21.0s
CYA Choya 131.05 136 eP PKPpre 13 23 04.0
CYA eS **SKPab 13 26 40.7 +0.3**
JSA Saint Aubin 131.14 336 eP **PKPdf 13 23 18.6 +0.1**
JSA AMS AMS 14 23 43.7
comp=Z,82µm,21.0s
VAL Valentia 131.50 344 eP **PKPdf 13 23 20.0 +0.9**
VAL Valentia 131.50 344 eP **PKSbc 13 26 44.5 -1.0**
MTDJ Mount Denham 131.61 71 ePKPdf **PKPdf 13 23 20.5 +0.1**
MTDJ LR LR
comp=Z,36µm,20.0s
VSL Villasalto 131.67 319 ePKPdf **PKPdf 13 23 19.3 -0.6**
VSL LR LR
comp=Z,36µm,21.0s
LVC Limon Verde 132.09 128 PKhKP PKPpre 13 23 10.2
comp=Z,25nm,0.8s,baz=277,slow=7.8,SNR=6.0
LVC PKP **PKiKP 13 23 22.9 +0.4**
comp=Z,158nm,0.7s,baz=256,slow=3.4,SNR=22
LVC PP **PP 13 25 44.5 +1.5**
comp=Z,29nm,0.2s,baz=224,slow=6.3,SNR=58
LVC SKP 13 26 54.3
comp=Z,56nm,0.6s,baz=188,slow=7.1,SNR=3.2
LVC SKKPbc SKKPbc 13 36 07.0 -3.2
comp=Z,51nm,1.1s,baz=57,slow=3.3,SNR=3.6
LVC Limon Verde 132.09 128 PKPpre PKPpre 13 23 10.2
LVC ePKPdf **PKiKP 13 23 22.7 +0.2**
LVC PKP **PKiKP 13 23 22.9 +0.4**
LVC PP **PP 13 25 44.5 +1.5**
LVC SKP 13 26 54.3
LVC SKKPbc SKKPbc 13 36 07.0 -3.2
LVC LR LR
comp=Z,50µm,21.0s
FSA Cafayete 132.33 134‖ eP **PKPdf 13 23 17.3 -4.5**
FSA eS PP 13 25 38.9 -5.3
AHML Horco Molle 132.40 135 eP **PKPdf 13 23 23.0 +1.3**
GTBY Guantanamo Bay 133.59 68 ePKPdf **PKPdf 13 23 23.9 -0.1**
GTBY LR LR
comp=Z,40µm,21.0s
KEST Kesra 133.68 315 PKP **PKPdf 13 23 24.4 +0.6**
comp=Z,65nm,0.9s,baz=119,slow=1.0,SNR=23
KEST SKPbc **SKPbc 13 26 49.5 +0.5**
comp=Z,24nm,0.8s,baz=57,slow=3.3,SNR=11
KEST Kesra 133.68 315 ePKPdf **PKPdf 13 23 24.2 +0.3**
KEST PKP **PKPdf 13 23 24.4 +0.6**
KEST SKPbc **SKPbc 13 26 49.5 +0.5**
TRIS Tristan da Cun 134.27 199 PFAKE 13 23 40.0 +15
TRIS LR LR
comp=Z,32µm,20.0s
HJA Humahuaca 134.46 131 eP PKPpre 13 23 13.7
ABSA Djebel Ababsia 134.68 317 P **PKPdf 13 23 27.7 +1.9**
CKFL Kef-Lekhel 135.13 318 P **PKPdf 13 23 28.3 +1.7**
ROSC El Rosal 135.35 89 PKP **PKPdf 13 23 28.6 +0.6**
comp=Z,72nm,0.5s,baz=86,slow=11,SNR=21
ROSC El Rosal 135.35 89 ePKPdf **PKPdf 13 23 28.3 +0.3**
ROSC PKP **PKPdf 13 23 28.6 +0.6**
CASM Ain Smara 135.36 317 P **PKPdf 13 23 28.6 +1.6**
CTEI Djebel Teioual 135.53 317 P **PKPdf 13 23 28.8 +1.4**
DFRA Djebel Bou Aff 135.61 318 P **PKPdf 13 23 29.6 +2.1**
LPAZ La Paz 135.82 121 PKhKP PKPpre 13 23 13.3
comp=Z,10.0nm,0.9s,baz=228,slow=1.1,SNR=17
LPAZ PKP **PKiKP 13 23 29.9 -0.7**
comp=Z,74nm,0.9s,baz=190,slow=1.9,SNR=18
LPAZ La Paz 135.82 121 *i* PKHKP PKPpre 13 23 13.3
LPAZ 13 23 29.9
LPAZ pmax pmax
comp=Z,74nm,0.9s
SET Setif 136.12 318 P **PKPdf 13 23 27.0 -1.4**
CKHR Kef el Ahmar 136.15 318 P **PKPdf 13 23 29.8 +1.2**
GRTK Grand Turk 136.87 65 ePKPdf **PKPdf 13 23 30.1 0.0**
GRTK LR LR
comp=Z,56µm,22.0s
SDDR Presa de Saban 137.31 68 ePKPpre PKPpre 13 23 20.9
SDDR ePKPdf **PKPdf 13 23 31.7 +0.7**
SDDR ePP **PP 13 26 15.2 -1.2**
SDDR LR LR
comp=Z,66µm,22.0s
BBSR BB Station 137.97 47 ePKPdf **PKPdf 13 23 31.7 -0.1**
BBSR LR LR
comp=Z,90µm,22.0s
CPUP Villa Florida 138.04 141 PKhKP PKPpre 13 23 22.5
comp=Z,19nm,0.9s,baz=157,slow=1.3,SNR=10
CPUP PKP **PKPdf 13 23 33.0 +0.9**
comp=Z,106nm,0.9s,baz=242,slow=3.3,SNR=32
CPUP SKPab **SKPab 13 27 11.7 +1.0**
comp=Z,20nm,0.9s,baz=131,slow=5.7,SNR=2.8
CPUP Villa Florida 138.04 141 PKHKP PKPpre 13 23 22.5
CPUP e 13 23 32.9
CPUP e 13 26 17.1
CPUP Villa Florida 138.04 141 PKPpre PKPpre 13 23 22.5
CPUP ePKPdf **PKPdf 13 23 32.9 +0.8**
CPUP PKP **PKPdf 13 23 33.0 +0.9**
CPUP ePP **PP 13 26 17.1 -2.5**
CPUP SKPab **SKPab 13 27 11.7 +1.0**
CPUP Villa Florida 138.04 141‖ eP PKPpre 13 23 23.8
EBNR Beni Rached 138.56 321 P **PKPdf 13 23 33.2 +0.3**
ECHA Ech Chlef 138.75 321 P **PKPdf 13 23 33.3 +0.2**
PBRG Braganca 138.99 334 ePKPdf PKPpre 13 23 24.6
PBRG Braganca 138.99 334 ePP PP 13 26 28.3 +3.1
EANR `Ain N'Sour 139.05 321 P **PKPdf 13 23 34.6 +0.8**
SDV Santo Domingo 139.11 83 PFAKE 13 23 50.0 +15
SDV LR LR
comp=Z,40µm,21.0s
SMN1 Samana, DR 139.13 68 ePKPdf **PKPdf 13 23 34.9 +0.5**
ETRT Tiaret 139.28 320 P PKPdf 13 23 28.8 -5.5
ESDC Sonseca Array 139.34 329 PKhKP PKPpre 13 23 26.3
comp=Z,3.9nm,0.5s,baz=19,slow=3.2,SNR=21
ESDC PKP **PKPdf 13 23 34.0 -0.2**
comp=Z,7.0nm,0.7s,baz=22,slow=3.2,SNR=21
ESDC SKP 13 27 06.8
comp=Z,3.3nm,0.5s,baz=12,slow=2.1,SNR=6.0
ESLA Sonseca Array 139.34 329 ePKPdf **PKPdf 13 23 33.8 -0.4**
PGAV Gavieira, Arco 139.50 335 ePKPdf PKPpre 13 23 25.3
PGAV Gavieira, Arco 139.50 335 ePP PP 13 26 32.3 +3.9
OJGS Djebel Guires 139.55 321 P **PKPdf 13 23 35.0 +0.2**
PCAB Cabril 139.62 335 ePKPdf **PKPdf 13 23 34.8 +0.2**
PCAB Cabril 139.62 335 ePP PP 13 26 32.4 +3.4
PAB San Pablo 139.63 330 ePKIKP **PKPdf 13 23 34.8 0.0**
PAB MLR MLR
comp=Z,40µm,21.0s
PAB San Pablo 139.63 330 ePKPdf **PKPdf 13 23 34.8 0.0**
PAB LR LR
comp=Z,40µm,21.0s
MVO Moncorvo 139.63 334 ePKPdf PKPpre 13 23 28.3
MVO Moncorvo 139.63 334 ePP PP 13 26 42.7 +14
POLO Lamas de Olo 139.79 334 ePKPdf PKPpre 13 23 26.3
POLO Lamas de Olo 139.79 334 ePP PP 13 26 34.1 +3.9
PVRL Vila Real 139.84 334 ePKPdf **PKPdf 13 23 35.5 +0.4**
USTO Oran 140.21 322 P **PKPdf 13 23 34.0 -1.8**
ODJA Bouhanifia 140.23 321 P **PKPdf 13 23 38.0 +2.0**
PVIS Viseu 140.38 334 ePKPdf **PKPdf 13 23 33.0 -3.1**
MTE Manteigas 140.48 333 ePKPdf PKPpre 13 23 26.8
MTE Manteigas 140.48 333 ePP PP 13 26 46.2 +12
MTE Manteigas 140.48 333 eSS SS 13 45 18.8 +23
MTE Manteigas 140.48 333 ePKPpre PKPpre 13 23 25.0
MTE LR LR
comp=Z,79µm,22.0s
OLHC Oulhaca 141.06 322 P **PKPdf 13 23 37.0 -0.5**
PCAS Casmilo, Conde 141.18 334 ePKPdf PKPpre 13 23 28.2
PCAS Casmilo, Conde 141.18 334 ePP PP 13 26 41.4 +2.8
PMRV Marv??o 141.19 332 ePKPdf **PKPdf 13 23 32.6 -4.9**
PMRV Marv??o 141.19 332 ePP PP 13 26 40.9 +2.2

AGPR Aguadilla, PR 141.28 68 ePKPpre PKPpre 13 23 33.6
LSP Las Mesas 141.38 68 ePKPpre PKPpre 13 23 32.6
CRPR Cabo Rojo, PR 141.39 69 ePKPpre PKPpre 13 23 31.9
PTOM Tomar 141.50 334 ePKPdf **PKPdf 13 23 35.6 -2.4**
PESTR Estremoz 141.74 332 ePKPdf PKPpre 13 23 29.6
PESTR Estremoz 141.74 332 ePP PP 13 26 43.4 +1.4
OBIP Obispado Ponce 141.85 68 ePKPpre PKPpre 13 23 34.1
SIV San Ignacio 141.86 125 SKKPbc SKKPbc 13 35 33.8 +1.1
comp=Z,5.7nm,0.8s,baz=81,slow=6.6,SNR=4.0
CELP Cerrillos 141.87 68 ePKPpre PKPpre 13 23 34.8
ICMP Isla Caja de M 141.96 69 ePKPpre PKPpre 13 23 34.9
PBAR Barrancos 142.02 331 ePKPdf PKPpre 13 23 32.9
PBAR Barrancos 142.02 331 ePP PP 13 26 44.2 +0.4
EVO Evora 142.20 332 ePKPdf PKPpre 13 23 32.5
EVO Evora 142.20 332 ePP PP 13 26 49.6 +4.8
SJG San Juan 142.26 68 PKhKP PKPpre 13 23 32.5
comp=Z,50nm,0.7s,baz=47,slow=11,SNR=14
SJG SKPbc **SKiKP 13 27 16.8 +1.2**
comp=Z,67nm,0.6s,baz=330,slow=3.9,SNR=4.8
SJG San Juan 142.26 68 PKHKP PKPpre 13 23 32.5
SJG MLR MLR
comp=Z,32µm,20.0s
SJG San Juan 142.26 68 PKPpre PKPpre 13 23 32.5
SJG ePKPpre PKPpre 13 23 34.3
SJG SKPbc **SKiKP 13 27 16.8 +1.2**
SJG LR LR
comp=Z,32µm,20.0s
TAM Tamanrasset 142.34 300 ePKPpre PKPpre 13 23 37.0
TAM LR LR
comp=Z,24µm,22.0s
PACT Alcochete 142.38 333 ePKPdf PKPpre 13 23 32.6
PMAFR Mafra 142.43 334 ePKPdf PKPpre 13 23 33.3
PMAFR Mafra 142.43 334 ePP PP 13 26 56.4 +10
PMST Lisbon--Monsan 142.57 333 ePKPdf **PKPdf 13 23 38.0 -2.0**
PMST Lisbon--Monsan 142.57 333 ePP PP 13 26 57.8 +11
LIS Lisbon 142.57 333 eP PKPdf 13 23 34.7 -5.3
LIS Lisbon 142.57 333 ePKPdf **PKPdf 13 23 37.1 -2.9**
PNCL Nicolau / Gran 142.78 332 ePKPdf PKPdf 13 23 34.7 -5.7
PNCL Nicolau / Gran 142.78 332 ePP PP 13 26 55.7 +7.4
MESJ Messejana 142.85 332 eP PKPdf 13 23 35.1 -5.4
MESJ Messejana 142.85 332 ePKPdf **PKPdf 13 23 36.2 -4.3**
MESJ Messejana 142.85 332 ePP PP 13 26 47.6 -1.2
PCVE Castro Verde 142.93 331 ePKPdf **PKPdf 13 23 36.8 -3.9**
PCVE Castro Verde 142.93 331 ePP PP 13 26 59.2 +10
PVAQ Vaqueiros 142.96 331 ePKPdf **PKPdf 13 23 36.4 -4.3**
PVAQ Vaqueiros 142.96 331 ePP PP 13 26 58.3 +8.8
PVAQ Vaqueiros 142.96 331 eSS SS 13 45 48.6 +24
PBDV Barranco-do-Ve 143.19 331 ePKPdf PKPbc 13 23 37.9 -0.2
PBDV Barranco-do-Ve 143.19 331 ePP PP 13 27 02.6 +12
SAML Samuel 143.28 114 ePKPpre PKPpre 13 23 35.8
SAML LR LR
comp=Z,30µm,21.0s
STVI Saint Thomas 143.30 67 ePKPpre PKPpre 13 23 38.0
PTEO Sao Teotonio 143.33 332 ePKPdf PKPbc 13 23 38.9 +0.4
MORF Marmelete 143.48 332 eP PKPab 13 23 36.9 -1.1
MORF Marmelete 143.48 332 ePKPdf PKPbc 13 23 38.5 -0.5
MORF Marmelete 143.48 332 ePP PP 13 26 57.8 +5.1
PFVI Vila Bisbo 143.71 332 ePKPdf PKPab 13 23 38.9 +0.1
PFVI Vila Bisbo 143.71 332 ePP PP 13 27 00.1 +6.2
PCRV Puerto La Cruz 144.96 81 PKP **PKPab 13 23 44.0 -0.2**
comp=Z,652nm,0.7s,baz=278,slow=1.1,SNR=116
SABA Saba 145.06 68 eP **PKPab 13 23 44.4 0.0**
SMRT St. Maarten 145.10 67 eP **PKPab 13 23 44.5 0.0**
ANWB Willy Bob 146.38 67 eP **PKPbc 13 23 48.1 -0.4**
ANWB Willy Bob 146.38 67 ePKPdf **PKPdf 13 23 47.2 0.0**
ANWB LR LR
comp=Z,39µm,22.0s
H07N1 FLORES T-PHASB 146.41 2 ePKP **PKPdf 13 23 47.2 +0.5**
H07N1 FLORES T-PHASB 146.41 2 PKPbc **PKPab 13 23 48.8 0.0**
SNR=5.6
H07S1 FLORES T-PHASB 146.72 2 PKPbc **PKPab 13 23 53.8 +3.8**
PHG Guadaloupe-2 146.94 70 eP **PKPab 13 23 51.1 -0.6**
TBG Guadaloupe-3 146.98 70 eP **PKPbc 13 23 49.8 -0.4**
TBG Guadaloupe-3 146.98 70 e **PKPbc 13 23 50.6 +0.4**
PGRA Graciosa 147.07 358 ePKP **PKPbc 13 23 50.1 +0.3**
BBL Barber's Block 147.22 71 eP **PKPbc 13 23 50.4 -0.5**
BB16B Bebedouro 147.25 146 eP PKPpre 13 23 39.2
BB16B *i* 13 24 26.2
MGG Marie-Galante 147.27 70 e **PKPdf 13 23 49.6 +1.0**
MGG Marie-Galante 147.27 70 eP **PKPbc 13 23 50.0 -1.0**
DWS Wesley 147.36 70 e PKPpre 13 23 40.8
ROSA Rosais 147.39 358 ePKP **PKPbc 13 23 50.9 +0.1**
ADH Angra Heroismo 147.41 357 ePKP **PKPbc 13 23 51.3 +0.5**
H05N1 Guadeloupe/Mar 147.41 69 PKPbc **PKPbc 13 23 51.8 +0.3**
SNR=545
PMAN Manadas 147.47 358 ePKP **PKPbc 13 23 50.1 -0.9**
HOR Horta 147.59 359 ePKP **PKPbc 13 23 50.2 -1.1**
GRGR Grenville 147.67 77 ePKPdf **PKPdf 13 23 49.9 +0.5**
GRGR LR LR
comp=Z,26µm,21.0s
FDF Fort de France 147.70 72 e **PKPdf 13 23 48.7 -0.8**
FDF Fort de France 147.70 72 eP **PKPbc 13 23 53.4 +1.1**
FDF Fort de France 147.70 72 ePKIKP **PKPdf 13 23 50.0 +0.5**
FDF MLR MLR
comp=Z,42µm,21.0s
FDF Fort de France 147.70 72 ePKPdf **PKPdf 13 23 50.0 +0.5**
FDF LR LR
comp=Z,42µm,21.0s
BVM Bellevue 147.78 72 eP **PKPab 13 23 53.8 -1.2**
SVB Belmont 147.88 75 e **PKPdf 13 23 49.4 -0.4**
FCV Fort Charlotte 147.91 75 e **PKPbc 13 23 53.1 +0.3**
SVV Soufriere Volc 147.91 75 e **PKPbc 13 23 52.8 -0.1**
SSV Crater Summit 147.93 74 e **PKPdf 13 23 51.3 +1.3**
H05S1 Guadeloupe/Mar 148.06 72 PKPbc **PKPdf 13 23 50.6 +0.6**
TPP Pointe-a-Pierr 148.07 80 e **PKPbc 13 23 53.3 +0.1**
TRN Trinidad (W) 148.09 80 e **PKPbc 13 23 54.4 +1.0**
MCLT Moule a Chique 148.10 74 e **PKPdf 13 23 49.6 -0.5**
BART Pico Bartolome 148.11 354 ePKP **PKPdf 13 23 50.8 +1.2**
PSET Sete Cidades 148.12 354 ePKP **PKPbc 13 23 52.6 -0.2**
GRON Grota Negra 148.16 354 ePKP **PKPdf 13 23 49.7 0.0**
PDA Ponta Delgada 148.19 354 ePKP **PKPbc 13 23 52.3 -0.6**
TBH Brigand Hill 148.44 80 e **PKPbc 13 23 55.3 +1.1**
TOC1 Torodi Ar. Sit 148.46 285 ePKIKP **PKPdf 13 23 49.5 -1.2**
TORD Torodi Ar. Bea 148.47 285 PKP **PKPdf 13 23 50.1 -0.6**
comp=Z,78nm,0.8s,baz=28,slow=1.6,SNR=54
TORD PKPbc **PKPbc 13 23 54.7 +0.4**
comp=Z,552nm,0.7s,baz=65,slow=2.8,SNR=327
TORD SKPbc **SKiKP 13 27 30.7 +2.2**
comp=Z,27nm,0.8s,baz=45,slow=1.6,SNR=4.0
TOB4 Torodi Ar. Sit 148.48 285 ePKIKP **PKPdf 13 23 49.7 -1.0**
PTGA Pitinga 148.84 101 PKP **PKPdf 13 23 52.1 +0.7**
comp=Z,167nm,0.8s,baz=243,slow=3.4,SNR=30
PTGA PKPbc **PKPbc 13 23 55.8 +0.5**
comp=Z,167nm,0.8s,baz=248,slow=4.4,SNR=32
PTGA Pitinga 148.84 101 ePKPdf **PKPdf 13 23 52.1 +0.7**
PTGA PKPbc **PKPbc 13 23 55.8 +0.5**
PTGA LR LR
comp=Z,33µm,22.0s
PSMN Pico do Norte, 148.86 353 ePKP **PKPdf 13 23 52.6 +1.8**
TOSP Speyside 148.87 78 e **PKPdf 13 23 52.9 +1.5**
PSMA Santa Maria 148.88 353 ePKP **PKPdf 13 23 52.7 +1.9**
BBGH Gun Hill 149.53 74 e **PKPbc 13 23 55.2 -1.8**
BBGH Gun Hill 149.53 74 ePKPbc **PKPbc 13 23 57.7 +0.7**
BBGH LR LR
comp=Z,67µm,21.0s
PMPST Porto Santo, M 150.39 337 ePKPdf **PKPdf 13 23 54.0 +0.7**
PMPST Porto Santo, M 150.39 337 ePP PP 13 27 34.1 +1.0
PMPS Porto Santo 150.41 337 ePKPdf **PKPdf 13 23 54.6 +1.3**
PMAR Madeira 150.93 338 ePKPdf **PKPdf 13 23 55.6 +1.2**
PMOZ Porto Moniz, M 150.94 338 ePKPdf **PKPdf 13 23 54.8 +0.5**
PMOZ Porto Moniz, M 150.94 338 ePP PP 13 27 37.3 +1.0
FUL Funchal 150.99 338 ePKPdf **PKPdf 13 23 55.8 +1.6**
BDFB Brasilia 151.75 140 PKP **PKPdf 13 23 56.8 +0.9**
comp=Z,69nm,0.8s,baz=195,slow=2.0,SNR=59
BDFB PKPbc **PKiKP 13 24 03.0 +0.3**
comp=Z,408nm,0.6s,baz=187,slow=2.9,SNR=112
KIC Kosan Boka 155.40 272 ePKIKP **PKPdf 13 24 01.4 +0.3**
comp=Z,632nm,0.9s
KIC Kosan Boka 155.40 272 ePKIKP **PKPdf 13 24 01.5 +0.3**
comp=Z,506nm,1.2s
DBIC Dimbokro 155.51 273 PKP **PKPdf 13 24 01.5 +0.2**
comp=Z,47nm,1.0s,baz=89,slow=2.0,SNR=14
DBIC Dimbokro 155.51 273 PKIKP **PKPdf 13 24 01.5 +0.2**
DBIC pmax pmax
comp=Z,47nm,1.0s
DBIC Dimbokro 155.51 273 ePKPdf **PKPdf 13 24 01.1 -0.1**
DBIC PKP **PKPdf 13 24 01.5 +0.2**
TIC Toumodi 155.68 273 ePKIKP **PKPdf 13 24 01.7 +0.2**
TIC Toumodi 155.68 273 ePKIKP **PKPdf 13 24 01.7 +0.2**
LIC Lamto 155.68 272 ePKIKP **PKPdf 13 24 01.7 +0.2**
comp=Z,291nm,0.7s
LIC Lamto 155.68 272 ePKIKP **PKPdf 13 24 01.6 +0.1**

comp=Z,404nm,1.1s
RCBR Riachuelo 166.63 151 PKP **PKPdf 13 24 13.8 +0.6**
comp=Z,129nm,0.9s,baz=103,slow=0.7,SNR=24
RCBR Riachuelo 166.63 151 ePKPdf **PKPdf 13 24 13.6 +0.4**
RCBR PKP 13 24 13.8
RCBR LR LR
comp=Z,74µm,20.0s
SACV Santiago Islan 169.36 328 PFAKE 13 24 30.0 +15
SACV LR LR
comp=Z,71µm,20.0s

*IDC **18** 13:16:58.3±2.5,5°.59S×150°.32E,h0km,mb4.3/3, mb1 4.5/4,mb1mx3.9/19,mbtmp4.4/4,ML2.5/1,Error ellipse: s-maj=78.5km s-min=38.8km az=110.0*
*NEIC **18** 13:17:03.2±1.9,5°.65S×150°.41E,h35km,mb4.1/1,Error ellipse: s-maj=60.5km s-min=25.1km az=123.0*
ISC 18 13:17:04.4±2.1,5°.7S±0°.4×150°.3E±0°.5,h35km,n8, σ1°.9/14/10,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.79**	**220**	Pn	**Pn**			**13 18 15.4**	**+1.2**
	12nm,0.3s,baz=56,slow=4.2,SNR=8.8								
PMG				Sn	**Sn**			**13 19 07.7**	**-0.9**
	23nm,0.3s,baz=111,slow=20,SNR=10.0								
PMG	**Port Moresby**	**4.79**	**220**	ePn	**Pn**			**13 18 16.2**	**+2.0**
PMG				Sn	**Sn**			**13 19 07.7**	**-0.9**
COEN	**Coen**	**10.77**	**220**	P	**Pn**			**13 19 36.2**	**0.0**
WRAB	**Tennant Creek**	**20.97**	**226**	P	**P**			**13 21 45.2**	**+0.5**
	3.8nm,0.4s								
WRA	**Warramunga Arr**	**20.98**	**226**	P	**P**			**13 21 44.9**	**+0.1**
	4.4nm,0.4s,baz=51,slow=10,SNR=6.8								
ASAR	**Alice Springs**	**23.81**	**220**	P	**P**			**13 22 13.1**	**-1.3**
	1.9nm,0.5s,baz=53,slow=9.1,SNR=5.3								
STKA	**Stephens Creek**	**27.26**	**196**	P	**P**			**13 22 45.5**	**0.0**
	10.0nm,0.8s,baz=34,slow=15,SNR=4.3								
TORD	**Torodi Ar. Bea**	**148.19**	**286**	PKPbc	**PKPbc**			**13 36 47.2**	**-0.6**
	1.1nm,0.6s,baz=92,slow=2.8,SNR=10								

IDC 18 13:19:30.9±3.3,5°.60S×150°.22E,h0km,mb3.8/2, mb1 4.1/3,mb1mx3.6/19,mbtmp3.9/3,ML1.3/1,Error ellipse: s-maj=132.0km s-min=39.7km az=117.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.85**	**218**	Pn	**Pn**			**13 20 47.0**	**+1.7**
	0.9nm,0.3s,baz=37,slow=10,SNR=3.1								
WRA	**Warramunga Arr**	**21.02**	**226**	P	**P**			**13 24 16.1**	**-0.4**
	3.1nm,0.4s,baz=51,slow=10,SNR=4.4								
ASAR	**Alice Springs**	**23.87**	**220**	P	**P**			**13 24 45.3**	**-1.0**
	0.8nm,0.3s,baz=53,slow=9.0,SNR=11								
TORD	**Torodi Ar. Bea**	**148.08**	**286**	PKPbc	**PKPbc**			**13 39 19.5**	**-0.2**
	0.6nm,0.3s,baz=78,slow=2.7,SNR=12								

*IDC **18** 13:20:02.8±0.7,6°.13S×150°.99E,h0km,mb4.2/13, mb1 4.4/14,mb1mx4.3/20,mbtmp4.3/14,ML2.7/1,Error ellipse: s-maj=28.1km s-min=15.3km az=97.0*
*ISCJB **18** 13:20:08.8±0.6,6°.07S±0°.05×150°.6E±0°.1,h48km, mb4.1/12,Error ellipse: s-maj=15.5km s-min=7.4km az=11.2*
*NEIC **18** 13:20:08.8±1.9,6°.10S×150°.84E,h39km±16km,mb4.6/2, Error ellipse: s-maj=18.2km s-min=10.3km az=83.0*
ISC 18 13:20:10.3±0.7,6°.15S±0°.08×150°.7E±0°.1,h48km,n45, σ1°.28/44,mb4.1/12,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.43**	**37**	P	Pn			13 20 51.4	+3.8
	baz=2.6,SNR=4.6								
PMG	**Port Moresby**	**4.77**	**227**	Pn	**Pn**			**13 21 19.4**	**-0.3**
	22nm,0.3s,baz=18,slow=12,SNR=9.3								
PMG				Sn	**Sn**			**13 22 10.9**	**-2.9**
	58nm,0.3s,baz=107,slow=17,SNR=11								
PMG	**Port Moresby**	**4.77**	**227**	P	**Pn**			**13 21 20.2**	**+0.5**
	baz=4.6,SNR=8.2								
PMG				P	**Pn**			**13 21 20.2**	**+0.5**
	baz=4.6,SNR=8.2								
PMG				P	**Pn**			**13 21 20.2**	**+0.5**
	baz=4.6,SNR=8.2								
PMG	**Port Moresby**	**4.77**	**227**	ePn	**Pn**			**13 21 19.7**	**0.0**
PMG				eSn	**Sn**			**13 22 10.5**	**-3.3**
PMG				Sn	Sn			13 22 10.9	-2.9
MANU	**Manus Island**	**5.26**	**321**	P	Pn			13 21 31.6	+5.2
	baz=5.4,SNR=3.5								
COEN	**Coen**	**10.72**	**223**	eP	**Pn**			**13 22 40.5**	**-0.9**
MTSU	**Mount Surprise**	**13.44**	**207**	P	**Pn**			**13 23 19.3**	**+0.7**
	baz=13,SNR=10								
CTA	**Charters Tower**	**14.52**	**197**	Pn	**Pn**			**13 23 33.9**	**+0.8**
	0.6nm,0.3s,baz=20,slow=15,SNR=6.4								
CTAO	**Charters Tower**	**14.52**	**197**	ePn	**Pn**			**13 23 33.7**	**+0.7**
QIS	**Mount Isa**	**17.92**	**216**	P	**P**			**13 24 18.1**	**+1.8**
	baz=18,SNR=4.0								
KDU	**Kakadu**	**19.11**	**249**	P	P			13 24 22.4	-7.0
	baz=19,SNR=4.4								
EIDS	**Eidsvold**	**19.12**	**179**	P	**Pn**			**13 24 31.5**	**+0.9**
	baz=19,SNR=5.3								
EIDS	**Eidsvold**	**19.12**	**179**	P	**P**			**13 24 29.5**	**0.0**
RMQ	**Roma**	**20.31**	**185**	P	Pn			13 24 44.9	+0.1
	baz=20,SNR=24								
MTN	**Manton Dam**	**20.40**	**250**	P	**P**			**13 24 42.3**	**-1.2**
	baz=20,SNR=3.6								
WRAB	**Tennant Creek**	**20.98**	**228**	eP	**P**			**13 24 50.1**	**+0.4**
	85nm,0.7s								
WRA	**Warramunga Arr**	**20.99**	**228**	P	**P**			**13 24 49.9**	**0.0**
	15nm,0.7s,baz=52,slow=9.6,SNR=12								
WRA				PcP	**PcP**			**13 28 56.6**	**+0.7**
	3.1nm,1.1s,baz=49,slow=1.1,SNR=5.0								
QLP	**Quilpie**	**21.24**	**196**	P	**P**			**13 24 54.4**	**+2.0**
	baz=21,SNR=9.7								
KNRA	**Kununurra**	**23.50**	**244**	P	**P**			**13 25 16.3**	**+0.1**
	baz=23,SNR=5.9								
AS31	**Alice Springs**	**23.76**	**221**	eP	**P**			**13 25 18.8**	**+0.2**
ASAR	**Alice Springs**	**23.76**	**221**	P	**P**			**13 25 18.8**	**+0.2**
	3.2nm,0.4s,baz=53,slow=9.2,SNR=21								
ASAR				S	**S**			**13 29 33.6**	**+2.9**
	3.5nm,1.0s,baz=37,slow=23,SNR=6.4								
ARMA	**Armidale**	**24.16**	**178**	P	**P**			**13 25 23.8**	**+1.5**
	baz=24,SNR=4.1								
STKA	**Stephens Creek**	**26.98**	**197**	P	**P**			**13 25 47.5**	**-0.2**
	13nm,0.8s,baz=24,slow=12,SNR=7.2								
STKA	**Stephens Creek**	**26.98**	**197**	P	P			13 25 52.2	+4.6
	baz=27,SNR=4.9								
STKA	**Stephens Creek**	**26.98**	**197**	eP	**P**			**13 25 47.8**	**+0.1**
	3.5nm,0.9s								
BATI	**Baumata**	**27.05**	**260**	P	**P**			**13 25 50.6**	**+2.0**
	14nm,0.5s,baz=125,slow=15,SNR=2.6								
WRKA	**Warakurna**	**28.52**	**226**	P	**P**			**13 26 01.1**	**-0.5**
	baz=28,SNR=5.6								
MEEK	**Meekatharra**	**36.73**	**233**	P	**P**			**13 27 13.0**	**-0.3**
	baz=37,SNR=3.9								
KMBL	**Kambalda**	**36.84**	**223**	P	P			13 27 21.6	+7.5
	baz=37,SNR=6.9								
KLBR	**Kellerberrin**	**39.87**	**226**	P	P			13 27 46.3	+6.8
	baz=40,SNR=7.2								
MJAR	**Matsushiro Arr**	**44.05**	**345**	P	**P**			**13 28 12.5**	**-1.0**
	1.0nm,0.9s,baz=166,slow=9.2,SNR=3.7								
KSRS	**Korea Array**	**48.30**	**336**	P	**P**			**13 28 46.5**	**-0.4**
	2.1nm,0.9s,baz=146,slow=8.8,SNR=5.2								
KSAR	**Wonju Array Be**	**48.31**	**336**	P	**P**			**13 28 46.5**	**-0.5**
BKNI	**Bangkinang**	**49.98**	**276**	P	**P**			**13 29 02.6**	**+2.4**
	baz=50,SNR=3.3								
USRK	**Ussuriysk Ar.**	**52.88**	**343**	P	P			**13 29 21.3**	**-0.1**
	1.3nm,0.7s,baz=128,slow=9.3,SNR=3.5								
SONM	**Songino Array**	**66.37**	**329

3.3nm,0.6s,baz=173,slow=4.0,SNR=4.2
BDFB PKPab **PKPab** **13 40 07.6 -1.1**
5.6nm,0.7s,baz=204,slow=3.5,SNR=4.3

*IDC **18** 13:22:21.8±1.5, 6.12S×150.90E, h0km, mb4.1/3, mb1 4.4/4, mb1mx3.9/19, mbtmp4.3/4, ML2.8/1, Error ellipse: s-maj=59.4km s-min=27.5km az=116.0*
*ISCJB **18** 13:22:28.5±0.8, 6.17S±0.09×150.6E±0.1, h48km, mb4.6/5, Error ellipse: s-maj=18.7km s-min=10.3km az=33.4*
*NEIC **18** 13:22:28.0±0.8, 6.15S×150.74E, h35km, mb4.9/4, Error ellipse: s-maj=20.2km s-min=15.1km az=116.0*
ISC 18 13:22:29.5±0.9, **6.2S**±0.1×**150.7E**±0.1, **h48**km, **n15, σ1904/16, mb4.8/5, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.74**	**227**	Pn		**Pn**		**13 23 39.0**	**+0.5**
	28nm,0.3s,baz=36,slow=11,SNR=7.1								
PMG				Sn		**Sn**		**13 24 31.7**	**-0.4**
	10nm,0.3s,baz=216,slow=19,SNR=5.2								
PMG	**Port Moresby**	**4.74**	**227**	*e*Pn		**Pn**		13 23 39.9	**+1.5**
PMG				Sn		**Sn**		**13 24 31.5**	**-0.6**
WRAB	**Tennant Creek**	**20.94**	**228**	*e*Pn		Pn		13 27 11.3	-0.3
	8.6nm,0.6s								
WRA	**Warramunga Arr**	**20.96**	**228**	P		**P**		**13 27 08.1**	**-0.5**
	8.6nm,0.6s,baz=50,slow=9.9,SNR=11								
DZM	**Mont Dzumac**	**21.93**	**138**	*e*P		**P**		**13 27 20.2**	**+1.0**
AS31	**Alice Springs**	**23.72**	**221**	P		**P**		**13 27 36.7**	**-0.6**
ASAR	**Alice Springs**	**23.72**	**221**	P		**P**		**13 27 37.5**	**+0.2**
	3.7nm,0.7s,baz=60,slow=8.7,SNR=4.2								
KSRS	**Korea Array**	**48.34**	**336**	P		**P**		**13 31 05.7**	**-0.6**
	1.4nm,0.6s,baz=156,slow=9.3,SNR=4.7								
KSAR	**Wonju Array Be**	**48.35**	**336**	P		**P**		**13 31 05.7**	**-0.7**
TKM2	**Tokmak 2**	**83.39**	**314**	*e*P		**P**		**13 34 54.0**	**+1.9**
	6.9nm,0.8s								
KURK	**Kurchatov**	**83.58**	**323**	*e*P		**P**		**13 34 53.9**	**+1.3**
	7.4nm,0.7s								
QSPA	**South Pole Qui**	**83.78**	**180**	*e*P		**P**		**13 34 52.3**	**-1.2**
	20nm,1.0s								
GERES	**GERESS Array B**	**124.11**	**327**	PKP		**PKPdf**		**13 41 22.0**	**-0.9**
	0.5nm,0.5s,baz=52,slow=1.7,SNR=3.9								
TORD	**Torodi Ar. Bea**	**148.69**	**285**	PKPbc		**PKPbc**		**13 42 11.7**	**-0.9**
	4.0nm,0.6s,baz=86,slow=2.4,SNR=18								
BDFB	**Brasilia**	**151.47**	**140**	PKPbc		**PKPbc**		**13 42 19.1**	**-0.3**
	2.7nm,0.6s,baz=129,slow=6.5,SNR=3.5								

IDC 18 13:27:19.5±3.6, **5.75S**×**150.38E**, **h0**km, **mb3.4**/2, **mb1 3.8**/2, **mb1mx3.5**/18, **mbtmp3.5**/2, **Error ellipse: s-maj=145.2km s-min=47.6km az=117.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.03**	**226**	P		P		13 32 05.1	-0.1
	1.9nm,0.7s,baz=51,slow=10,SNR=5.1								
ASAR	**Alice Springs**	**23.86**	**220**	P		P		13 32 34.2	-0.5
	0.8nm,0.7s,baz=58,slow=8.7,SNR=4.9								
TORD	**Torodi Ar. Bea**	**148.27**	**286**	PKPbc		PKPbc		13 47 08.5	-0.3
	0.3nm,0.6s,baz=66,slow=2.0,SNR=2.8								

*IDC **18** 13:27:26.4±0.9, 6.00S×150.54E, h0km, mb3.9/8, mb1 4.2/9, mb1mx4.0/19, mbtmp4.0/9, ML2.4/1, Error ellipse: s-maj=36.3km s-min=19.0km az=104.0*
*ISCJB **18** 13:27:29.9±0.7, 6.14S±0.08×150.6E±0.1, h43km, mb3.8/7, Error ellipse: s-maj=18.8km s-min=7.4km az=33.9*
*NEIC **18** 13:27:31.6±0.6, 6.04S×150.56E, h35km, mb4.6/1, Error ellipse: s-maj=24.5km s-min=10.8km az=114.0*
ISC 18 13:27:30.8±0.7, **6.2S**±0.1×**150.8E**±0.1, **h43**km, **n38, σ1904/39, mb4.0/9, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.40**	**33**	P		**Pn**		**13 28 07.3**	**-0.4**
	baz=2.5,SNR=5.5								
PMG	**Port Moresby**	**4.83**	**229**	Pn		**Pn**		**13 28 41.2**	**+0.1**
	10nm,0.3s,baz=12,slow=3.6,SNR=13								
PMG				Sn		**Sn**		**13 29 33.7**	**-2.2**
	17nm,0.3s,baz=39,slow=19,SNR=8.8								
PMG	**Port Moresby**	**4.83**	**229**	P		**Pn**		**13 28 42.8**	**+1.8**
	baz=4.9,SNR=5.6								
PMG				P		**Pn**		**13 28 42.8**	**+1.8**
	baz=4.9,SNR=5.6								
PMG				P		**Pn**		**13 28 42.8**	**+1.8**
	baz=4.9,SNR=5.6								
PMG	**Port Moresby**	**4.83**	**229**	*e*Pn		**Pn**		**13 28 41.9**	**+0.8**
PMG				Sn		**Sn**		**13 29 33.7**	**-2.2**
MANU	**Manus Island**	**5.39**	**320**	P		Pn		13 28 53.0	+4.2
	baz=5.7,SNR=8.3								
KDU	**Kakadu**	**19.21**	**249**	P		**P**		**13 31 50.4**	**-1.1**
	baz=19,SNR=4.1								
RMQ	**Roma**	**20.26**	**185**	P		**P**		**13 32 00.5**	**-2.2**
	baz=20,SNR=5.2								
MTN	**Manton Dam**	**20.51**	**250**	P		**P**		**13 32 04.6**	**-0.9**
	baz=21,SNR=5.0								
WRAB	**Tennant Creek**	**21.04**	**228**	*e*P		**P**		**13 32 11.7**	**+0.4**
	19nm,0.7s								
WRA	**Warramunga Arr**	**21.05**	**228**	P		**P**		**13 32 11.7**	**+0.3**
	4.3nm,0.6s,baz=52,slow=10.0,SNR=16								
WRA	**Warramunga Arr**	**21.05**	**228**	P		**P**		**13 32 11.7**	**+0.3**
QLP	**Quilpie**	**21.22**	**197**	P		**P**		**13 32 12.1**	**-0.9**
	baz=21,SNR=5.7								
KNRA	**Kununurra**	**23.60**	**245**	P		**P**		**13 32 37.8**	**-0.2**
	baz=24,SNR=4.8								
AS31	**Alice Springs**	**23.80**	**221**	*e*P		**P**		**13 32 40.3**	**+0.4**
ASAR	**Alice Springs**	**23.80**	**221**	P		**P**		**13 32 40.5**	**+0.6**
	1.1nm,0.4s,baz=53,slow=9.1,SNR=28								
ASAR	**Alice Springs**	**23.80**	**221**	P		**P**		**13 32 40.5**	**+0.6**
STKA	**Stephens Creek**	**26.96**	**198**	P		**P**		**13 33 09.6**	**+1.1**
	3.4nm,0.9s,baz=9.5,slow=6.1,SNR=3.0								
STKA	**Stephens Creek**	**26.96**	**198**	P		**P**		**13 33 09.6**	**+1.1**
FITZ	**Fitzroy Crossi**	**27.27**	**242**	P		**P**		**13 33 11.0**	**-0.4**
	baz=27,SNR=10								
LUWI	**Luwuk**	**28.46**	**279**	P		**P**		**13 33 21.7**	**-0.4**
	baz=29,SNR=3.7								
WRKA	**Warakurna**	**28.57**	**227**	P		**P**		**13 33 22.8**	**-0.2**
	baz=29,SNR=5.4								
MEEK	**Meekatharra**	**36.80**	**233**	P		**P**		**13 34 34.8**	**0.0**
	baz=37,SNR=3.7								
KSRS	**Korea Array**	**48.42**	**336**	P		**P**		**13 36 08.8**	**0.0**
	1.1nm,0.7s,baz=148,slow=7.2,SNR=3.7								
KSAR	**Wonju Array Be**	**48.42**	**335**	P		**P**		**13 36 08.8**	**0.0**
SONM	**Songino Array**	**66.49**	**329**	P		**P**		**13 38 17.4**	**+1.2**
	0.4nm,0.5s,baz=122,slow=4.3,SNR=2.7								
SONM	**Songino Array**	**66.49**	**329**	P		**P**		**13 38 17.4**	**+1.2**
VNDA	**Vanda**	**71.51**	**177**	P		P		13 38 50.7	+4.0
	1.9nm,0.5s,baz=315,slow=5.3,SNR=10								
VNDA	**Vanda**	**71.51**	**177**	P		P		13 38 50.7	+4.0
ZALV	**Zalesovo Beam**	**81.24**	**327**	P		**P**		**13 39 41.2**	**-1.0**
	0.5nm,0.5s,baz=100,slow=6.0,SNR=2.5								
ZALV	**Zalesovo Beam**	**81.24**	**327**	P		**P**		**13 39 41.2**	**-1.0**
ILAR	**Eielson Array**	**84.19**	**22**	P		**P**		**13 39 58.0**	**+0.6**
	0.3nm,0.8s,baz=249,slow=5.5,SNR=4.6								
ILAR	**Eielson Array**	**84.19**	**22**	P		**P**		**13 39 58.0**	**+0.6**
GERES	**GERESS Array B**	**124.20**	**327**	PKP		**PKPdf**		**13 46 26.1**	**+1.0**
	0.5nm,0.6s,baz=69,slow=3.3,SNR=3.5								
GERES	**GERESS Array B**	**124.20**	**327**	PKP		**PKPdf**		**13 46 26.1**	**+1.0**
PTGA	**Pitinga**	**148.49**	**102**	PKPbc		**PKPab**		**13 47 17.7**	**+0.2**
	baz=291,slow=0.6								
PTGA	**Pitinga**	**148.49**	**102**	PKPbc		**PKPab**		**13 47 17.7**	**+0.2**
TORD	**Torodi Ar. Bea**	**148.83**	**285**	PKPbc		**PKPbc**		**13 47 15.1**	**+0.2**
	4.0nm,0.7s,baz=68,slow=2.5,SNR=19								
TORD	**Torodi Ar. Bea**	**148.83**	**285**	PKPbc		**PKPbc**		**13 47 15.1**	**+0.2**

NEIC 18 13:28:55.3, 52.77N×169.65W, h5km, **mb4.0**/2, **ML3.5**(AEIC), **After AEIC., Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.53**	**66**	P		P*g*		13 29 05.9	+0.4
NIKH				S		S*g*		13 29 13.5	+1.1
OKSP	**Okmok Steeple**	**0.96**	**59**	P		P*g*		13 29 13.8	0.0
OKSP				S		S*b*		13 29 27.2	-0.4
OKCE	**Okmok Cone E**	**1.12**	**53**	P		P*g*		13 29 16.0	-0.9
OKCE				S		S*g*		13 29 31.6	+0.3
OKAK	**Okmok**	**1.13**	**43**	P		P*g*		13 29 14.7	-2.3
OKTU	**Okmok Mt. Tuli**	**1.15**	**57**	P		P*g*		13 29 17.2	-0.3
MSOM	**Makushin Julie**	**1.94**	**56**	P		P*n*		13 29 29.0	+0.1
MSOM				S		S*b*		13 29 55.2	-0.3
MCIR	**Makushin Cirqu**	**2.04**	**53**	P		P*n*		13 29 31.2	+0.8
MSW	**Makushin Switc**	**2.07**	**55**	P		P*n*		13 29 31.6	+0.8
MSW				S		S*n*		13 29 58.1	+1.1
MTBL	**Makushin Table**	**2.15**	**55**	P		P*n*		13 29 32.9	+0.9
UNV	**Unalaska Valle**	**2.18**	**59**	P		P*n*		13 29 32.2	0.0
UNV				S		S*n*		13 29 59.8	+0.2
AKRB	**Akutan Reef Bi**	**2.54**	**56**	P		P*n*		13 29 38.5	+1.2
ZRO	**Akutan Zero**	**2.57**	**57**	P		P*n*		13 29 38.7	+1.0
ATKA	**Atka Island**	**2.83**	**260**	P		P*n*		13 29 40.3	-0.9
GSTR	**Great Sitkin T**	**3.98**	**263**	*e*P		P*n*		13 29 57.0	-0.1
GSMY	**Great Sitkin M**	**3.99**	**262**	P		P*n*		13 29 57.1	0.0
GSCK	**Great Sitkin C**	**4.06**	**262**	P		P*n*		13 29 58.1	0.0
ADAG	**Mount Adagdak**	**4.33**	**262**	P		P*n*		13 30 02.7	+0.9
SPIA	**Saint Paul Isl**	**4.44**	**356**	P		P*n*		13 30 02.1	-1.1
COLA	**College**	**16.45**	**34**	*e*P		P*n*		13 32 46.6	0.0
HYT	**Haines Junctio**	**19.19**	**52**	*e*P		P*n*		13 33 20.6	-0.2
	4.3nm,0.9s								
DLBC	**Dease Lake**	**22.83**	**60**	*e*P		P		13 34 00.7	+1.6
	13nm,1.0s								

IDC 18 13:31:43.8±3.7, **5.74S**×**150.40E**, **h0**km, **mb3.2**/2, **mb1 3.6**/3, **mb1mx3.4**/19, **mbtmp3.5**/3, **ML1.6**/1, **Error ellipse: s-maj=148.5km s-min=42.0km az=118.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.86**	**221**	Pn		Pn		13 32 59.2	+1.0
	1.8nm,0.3s,baz=11,slow=5.2,SNR=3.1								
PMG				Sn		Sn		13 33 50.0	-5.2
	1.6nm,0.3s,baz=111,slow=14,SNR=3.0								
WRA	**Warramunga Arr**	**21.05**	**226**	P		P		13 36 29.3	-0.3
	0.7nm,0.7s,baz=53,slow=11,SNR=3.8								
ASAR	**Alice Springs**	**23.87**	**220**	P		P		13 36 59.2	-0.1
	1.1nm,1.1s,baz=54,slow=9.4,SNR=4.3								
TORD	**Torodi Ar. Bea**	**148.29**	**286**	PKPbc		PKPbc		13 51 32.4	-0.7
	0.3nm,0.6s,baz=98,slow=1.3,SNR=3.6								

IDC 18 13:32:51.1±2.6, **6.05S**×**150.29E**, **h0**km, **mb3.7**/3, **mb1 3.9**/4, **mb1mx3.6**/19, **mbtmp3.8**/4, **ML1.6**/1, **Error ellipse: s-maj=74.1km s-min=38.7km az=120.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.55**	**223**	Pn		Pn		13 34 03.3	+2.0
	2.1nm,0.3s,baz=82,slow=7.1,SNR=2.7								
PMG				Sn		Sn		13 34 57.4	+2.4
	6.7nm,0.3s,baz=55,slow=18,SNR=5.5								
WRA	**Warramunga Arr**	**20.76**	**227**	P		P		13 37 33.1	-0.6
	1.9nm,0.7s,baz=52,slow=11,SNR=6.0								
ASAR	**Alice Springs**	**23.57**	**220**	P		P		13 38 02.9	-0.7
	0.7nm,0.3s,baz=53,slow=9.4,SNR=17								
STKA	**Stephens Creek**	**26.95**	**196**	P		P		13 38 34.1	-0.3
	1.0nm,0.5s,baz=42,slow=8.6,SNR=4.5								
TORD	**Torodi Ar. Bea**	**148.27**	**285**	PKPbc		PKPbc		13 52 40.4	0.0
	0.3nm,0.3s,baz=87,slow=3.0,SNR=3.2								

*IDC **18** 13:34:53.5±0.3, 5.92S×150.83E, h0km, mb5.5/40, mb1 5.6/42, mb1mx5.6/42, mbtmp5.5/42, ML4.2/2, MS7.0/31, Ms1 7.0/31, ms1mx6.8/40, Error ellipse: s-maj=11.2km s-min=8.5km az=74.0*
*BJI **18** 13:34:54.3, 6.54S×151.21E, h50km, mb6.0/57, mB7.1/29, Ms7.4/80, Ms7 7.3/78*
*GCMT **18** 13:34:59.3±0.1, 6.22S×150.33E, h37km, MW7.3/133, Moment Tensor Solution. s133, c349; s132, c611; Duration: 11s2 Moment tensor: Scale 10²⁰Nm; Mrr1.02±.01; Mθθ-1.03±.00; Mϕϕ0.00±.00; Mrθ0.63±.02; Mθϕ-0.15±.00; Mϕr-0.01±.02; Best double couple: M₀1.21100×10²⁰ NP1:ϕs87.00000°, δ61.00000°, λ95.00000°. NP2:ϕs257.00000°, δ30.00000°, λ82.00000°. Principal axes: T 1.1980, Plg74.0000°, Azm9.0000°; N 0.0210, Plg4.0000°, Azm264.0000°; P -1.2230, Plg15.0000°, Azm173.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=150s.*
*NEIC **18** 13:34:59.4±0.1, 5.93S×150.59E, h35km, mb6.1/158, MS7.3/146, MW7.3, MW7.4 Error ellipse: s-maj=4.6km s-min=3.9km az=144.0*
NEIC Felt [VII] at Kimbe. Also felt strongly at Kandrian and Rabaul. Felt [III] at Goroka, New Britain. Also felt at Kainantu, Port Moresby and Wau.
*NEIC **18** 13:34:59.0±0.0, 6.03S×150.49E, h23km, Moment Tensor Solution. s29 Moment tensor: Scale 10²⁰Nm; Mrr1.15; Mθθ-1.09; Mϕϕ-0.05; Mrθ1.25; Mθϕ-0.15; Mϕr0.41; Best double couple: M₀1.70000×10²⁰ NP1:ϕs74.00000°, δ70.00000°, λ85.00000°. NP2:ϕs269.00000°, δ21.00000°, λ104.00000°. Principal axes: T 1.7600, Plg64.0000°, Azm335.0000°; N -0.0500, Plg4.0000°, Azm76.0000°; P -1.7000, Plg24.0000°, Azm168.0000°;*
*MOS **18** 13:34:59.8±1.3, 5.96S×150.57E, h52km, mb6.2/70, MS7.3/65 Error ellipse: s-maj=6.6km s-min=5.2km az=94.7*
*ISCJB **18** 13:35:00.2±0.7, 6.04S±0.02×150.54E±0.02, h49km±6km, mb6.0/268, MS7.2/210, Error ellipse: s-maj=3.8km s-min=2.8km az=31.7*
*SZGRF **18** 13:35:01.7, 6.45S×149.01E, h33km, New Britain, Papua New Guinea, region*
*DJA **18** 13:35:07.2±0.5, 6°S×15°1E±°, h83km±4km, M7.1/114, mb6.3/114, mB7.1/60, MLv7.9/1, Mw(mB)7.0/60, Mwp7.1/7*
*NEIC **18** 13:35:28.1±0.0, 5.87S×150.45E, h35km, Moment Tensor Solution. s144 Moment tensor: Scale 10²⁰Nm; Mrr1.04; Mθθ-1.02; Mϕϕ-0.02; Mrθ0.39; Mθϕ-0.18; Mϕr0.07; Best double couple: M₀1.10000×10²⁰ NP1:ϕs260.00000°, δ35.00000°, λ90.00000°. NP2:ϕs80.00000°, δ55.00000°, λ90.00000°. Principal axes: T 1.1100, Plg79.0000°, Azm350.0000°; N 0.0100, Plg0.0000°, Azm260.0000°; P -1.1200, Plg10.0000°, Azm170.0000°;*
ISC 18 13:35:00.9±0.2, **6.04S**±0.03×**150.66E**±0.03, **h43**km±1km, **h43**km:**pP-P, n1918, σ1975/2065, mb6.0**/271, **MS7.3**/210, **93C-78D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.81**	**226**	Pn		**Pn**		**13 36 12.0**	**+1.1**
	169nm,0.3s,baz=33,slow=8.0,SNR=82								
PMG				Sn		**Sn**		**13 37 03.1**	**-2.4**
	2µm,0.3s,baz=351,slow=8.4,SNR=4.0								
PMG				LR		LR		13 37 23.1	
	comp=Z,703µm,19.8s,baz=358,slow=30								
PMG	**Port Moresby**	**4.81**	**226**	⇑P		**Pn**		**13 36 12.2**	**+1.2**
	baz=4.5,SNR=161								
PMG				⇑P		**Pn**		**13 36 12.2**	**+1.2**
	baz=4.5,SNR=161								
PMG				⇑P		**Pn**		**13 36 12.2**	**+1.2**
	baz=4.5,SNR=161								
PMG	**Port Moresby**	**4.81**	**226**	*e*P		**Pn**		**13 36 11.6**	**+0.6**
PMG				Sn		**Sn**		**13 37 03.1**	**-2.4**
MANU	**Manus Island**	**5.16**	**320**	⇑P		Pn		13 36 21.4	+5.7
	baz=5.2,SNR=266								
HNR	**Honiara**	**9.80**	**111**	LR		LR		13 40 25.2	
	comp=Z,556µm,21.2s,baz=282,slow=34								
HNR	**Honiara**	**9.80**	**111**	*e*P		**Pn**		**13 37 21.2**	**+1.8**
HNR				pmax		pmax			
	comp=Z,2µm,0.8s								
HNR	**Honiara**	**9.80**	**111**	*e*P		Pn		13 37 27.0	+7.7
HNR	**Honiara**	**9.80**	**111**	*e*P		**Pn**		**13 37 21.1**	**+1.8**
	comp=Z,2µm,0.8s								
JAY	**Jayapura**	**10.53**	**289**	P		**Pn**		**13 37 32.3**	**+2.9**
	comp=Z,2µm,2.3s,comp=Z,105µm								
JAY	**Jayapura**	**10.53**	**289**	Pn		**Pn**		**13 37 30.7**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=122,slow=9.5,SNR=4.8								
JAY				Sn		Sn		13 39 35.3	+9.2
	comp=Z,15nm,0.3s,baz=240,slow=16,SNR=1.9								
JAY				LR		LR		13 42 04.1	
	comp=Z,2088µm,19.8s,baz=94,slow=40								
JAY	**Jayapura**	**10.53**	**289**	⇑P		Pn		13 37 33.3	+4.0
	baz=10,SNR=10.0								
COEN	**Coen**	**10.78**	**223**	⇓P		**Pn**		**13 37 33.2**	**+0.5**
	baz=10,SNR=47								
COEN	**Coen**	**10.78**	**223**	*e*P		**Pn**		**13 37 32.3**	**-0.4**
	comp=Z,246nm,0.8s								
GENI	**Genyem**	**11.01**	**288**	P		**Pn**		**13 37 38.4**	**+2.5**
	comp=Z,3µm,1.6s,comp=Z,124µm								
SMPI	**Sarmi**	**12.58**	**288**	P		P		13 38 04.5	-3.5
	comp=Z,2µm,2.6s,comp=Z,106µm								
MTSU	**Mount Surprise**	**13.52**	**207**	⇓P		**Pn**		**13 38 11.0**	**+0.8**
	baz=13,SNR=120								
CTA	**Charters Tower**	**14.60**	**197**	Pn		**Pn**		**13 38 24.7**	**-0.2**
	comp=Z,2.9nm,0.3s,baz=19,slow=15,SNR=34								
CTA				LR		LR		13 43 59.5	
	comp=Z,548µm,18.7s,baz=10.0,slow=37								
CTA	**Charters Tower**	**14.60**	**197**	⇑P		**Pn**		**13 38 25.3**	**+0.4**
	baz=14								
CTAO	**Charters Tower**	**14.60**	**197**	*e*P		**Pn**		**13 38 24.1**	**-0.8**
CTAO				pmax		pmax			
	comp=Z,3µm,1.5s								
CTAO	**Charters Tower**	**14.60**	**197**	*e*P		**Pn**		**13 38 24.1**	**-0.8**
	comp=Z,3µm,1.5s								
BAKI	**Biak**	**15.30**	**288**	P		**P**		**13 38 41.1**	**+2.9**
	comp=Z,1µm,2.4s								
RKPI	**Ransiki, Papua**	**17.05**	**285**	P		**P**		**13 39 00.9**	**+3.2**
	comp=Z,1µm,1.2s,comp=Z,35µm								
QIS	**Mount Isa**	**17.98**	**216**	⇓P		**Pn**		**13 39 06.8**	**-1.0**
	baz=18,SNR=40								
FAKI	**Fak Fak**	**18.61**	**279**	P		**Pn**		**13 39 17.8**	**+2.2**
	comp=Z,778nm,1.5s,comp=Z,46µm								
FAKI				S		S		13 42 54.2	+9.2
	comp=Z,778nm,1.5s,comp=Z,46µm								
FAKI	**Fak Fak**	**18.61**	**279**	⇓P		**Pn**		**13 39 15.4**	**-0.1**
	baz=18,SNR=6.3								
KDU	**Kakadu**	**19.11**	**248**	⇑P		**P**		**13 39 18.7**	**-1.7**
	baz=19,SNR=90								
EIDS	**Eidsvold**	**19.22**	**179**	⇑P		**P**		**13 39 21.5**	**+0.1**
	baz=19,SNR=153								
EIDS	**Eidsvold**	**19.22**	**179**	*e*P		**P**		**13 39 21.6**	**+0.1**
	comp=Z,475nm,0.4s								
SAUI	**Saumlaki**	**19.31**	**263**	P		**Pn**		**13 39 27.3**	**+3.4**
	comp=Z,5µm,1.7s,comp=Z,110µm								
SIJI	**Sorong**	**20.02**	**284**	P		**P**		**13 39 31.2**	**+0.9**
	comp=Z,19nm,0.6s,baz=117,slow=14,SNR=4.9								
SIJI				ScP		**ScP**		**13 47 20.4**	**+1.9**
	comp=Z,109nm,1.1s,baz=164,slow=5.8,SNR=5.9								
SWI	**Sorong**	**20.03**	**284**	P		Pn		13 39 32.9	+0.4
	comp=Z,786nm,1.1s,comp=Z,50µm								
GUMO	**Guam**	**20.34**	**344**	P		Pn		13 39 34.9	-1.1
	comp=Z,575nm,0.7s,baz=182,slow=7.9,SNR=25								
GUMO				S		Sn		13 43 25.2	+0.9
	comp=Z,160nm,1.0s,baz=180,slow=20,SNR=1.9								
GUMO				LR		LR		13 46 23.3	
	comp=Z,333µm,21.1s,baz=161,slow=34								
GUMO				ScP		**ScP**		**13 47 22.8**	**+3.7**
	comp=Z,83nm,0.8s,baz=168,slow=15,SNR=4.3								
GUMO	**Guam**	**20.34**	**344**	*e*P		**P**		**13 39 34.7**	**+1.1**
	comp=Z,32nm,0.3s								
GUMO				S		Sn		13 43 25.2	+0.9
GUMO				ScP		**ScP**		**13 47 22.8**	**+3.7**
MTN	**Manton Dam**	**20.40**	**249**	⇑P		**P**		**13 39 32.9**	**-1.6**
	baz=20,SNR=472								
RMQ	**Roma**	**20.41**	**185**	⇓P		**P**		**13 39 35.0**	**+0.6**
	baz=20,SNR=1000								
BNDI	**Bandanaira**	**20.72**	**273**	P		**P**		**13 39 37.5**	**-0.4**
	comp=Z,4µm,2.0s,comp=Z,177µm								
WB0	**Warramunga Arr**	**20.89**	**228**	⇑P		**P**		**13 39 38.7**	**-0.9**
	baz=21								
WR2	**Warramunga Arr**	**21.02**	**227**	⇓P		**P**		**13 39 40.1**	**-1.0**
	baz=21								
WRAB	**Tennant Creek**	**21.02**	**227**	P		**P**		**13 39 40.8**	**-0.3**
	comp=Z,11µm,0.7s								
WRAB	**Tennant Creek**	**21.02**	**227**	⇑*e*P		**P**		**13 39 41.6**	**+0.5**
WRAB				pmax		pmax			
	comp=Z,2µm,1.2s								
WRAB	**Tennant Creek**	**21.02**	**227**	*e*P		**P**		**13 39 40.2**	**-1.0**
	comp=Z,3µm,0.9s								
WRAB				LR		LR			
	comp=Z,593µm,22.0s								
WRA	**Warramunga Arr**	**21.03**	**227**	P		**P**		**13 39 40.3**	**-1.0**
	comp=Z,279nm,0.9s,baz=53,slow=11,SNR=125								
WRA				S		**S**		**13 43 31.4**	**-1.9**
	comp=Z,182nm,1.2s,baz=208,slow=26,SNR=6.1								
WRA				ScP		**ScP**		**13 47 23.1**	**+2.3**
	comp=Z,85nm,0.8s,baz=52,slow=3.0,SNR=6.5								
WRA				LR		LR		13 47 55.2	
	comp=Z,486µm,21.2s,baz=55,slow=37								
WRA				PKiKP		**PKiKP**		**13 51 34.2**	**-0.7**
	comp=Z,6.5nm,0.9s,baz=318,slow=1.3,SNR=5.5								
WRA				P3KP				14 14 33.7	
	comp=Z,3.5nm,0.9s,baz=220,slow=0.4,SNR=3.3								
WRA	**Warramunga Arr**	**21.03**	**227**	*i* P		**P**		**13 39 40.2**	**-1.1**
WRA				pmax		pmax			
	comp=Z,279nm,0.9s								
I07AU	**WARRAMUNGA INE**	**21.04**	**227**	P		**P**		**13 39 44.7**	**+3.4**
	baz=56,slon=8.0,SNR=0.6								
I07AU				*i*				15 59 00.0	
	baz=46,slow=324,SNR=0.3								
QLP	**Qu

FITZ Fitzroy Crossi 27.20 242 ⇑P **P 13 40 39.1 -1.7**
baz=27,SNR=118
KMSI Cibinong 27.43 283 P **P 13 40 46.2 +3.2**
comp=Z,848nm,0.9s,comp=Z,32µm
MATI Mati 27.56 298 *eP* **P 13 40 43.9 -0.2**
KDI Kendari 28.01 273 P **P 13 40 49.9 +1.8**
comp=Z,190nm,1.0s,comp=Z,24µm
BIPH Bislig 28.05 300⇑ *eP* P 13 40 59.4 +11
YNG Young 28.19 184 ⇑P **P 13 40 50.3 +0.7**
baz=28,SNR=44
LUWI Luwuk 28.27 279 P **P 13 40 53.5 +3.1**
comp=Z,497nm,1.0s,comp=Z,39µm
LUWI Luwuk 28.27 279 ⇑P **P 13 40 50.1 -0.4**
baz=28,SNR=3.8
LUWI Luwuk 28.27 279 *eP* **P 13 40 50.3 -0.1**
comp=Z,2µm,1.3s
MMRI Maumere 28.30 263 P **P 13 40 48.1 -2.7**
comp=Z,2µm,1.0s,comp=Z,52µm
WRKA Warakurna 28.56 226 P **P 13 40 51.3 -1.7**
baz=28,SNR=269
BUKP Musuan 29.04 298 *eP* **P 13 40 58.5 +1.1**
BUTP Butuan 29.08 301 *eP* P 13 41 02.8 +5.2
CNB Canberra Magne 29.15 182 ⇓P **P 13 40 58.2 +0.1**
baz=29,SNR=12
MSVF Nonsavu 29.16 116 P pP 13 41 10.6 +0.6
comp=Z,744nm,1.1s,SNR=6.4
MSVF Nonsavu 29.16 116 *eP* **P 13 41 00.2 +1.8**
MSVF pmax pmax
comp=Z,412nm,1.1s
MSVF MLR MLR
comp=Z,177µm,22.0s
MSVF Nonsavu 29.16 116 *eP* **P 13 41 00.2 +1.8**
comp=Z,412nm,1.1s
MSVF LR LR
comp=Z,177µm,22.0s
CAN Canberra 29.18 183 *eP* **P 13 40 59.8 +1.5**
CAN pmax pmax
comp=Z,890nm,1.5s
CAN MLR MLR
comp=Z,907µm,19.0s
CAN Canberra 29.18 183 ⇑P **P 13 40 58.0 -0.3**
baz=29
CAN Canberra 29.18 183 *eP* **P 13 40 59.8 +1.5**
comp=Z,890nm,1.5s
CAN LR LR
comp=Z,907µm,19.0s
HTT Hallett 29.35 200 ⇓P **P 13 40 59.8 -0.1**
baz=29,SNR=34
MRSI Marisa 29.39 282 P **P 13 41 02.3 +1.9**
comp=Z,99nm,1.1s
APSI Ampana 29.39 279 P **P 13 41 01.7 +1.3**
comp=Z,377nm,1.2s,comp=Z,23µm
CTBH Cotabato--PC H 29.46 296⇑ *iP* **P 13 41 03.0 +1.9**
CGP Cagayan de Oro 29.63 299⇓ *eP* P 13 41 10.6 +8.1
WAKE Wake Island 29.69 32 PFAKE 13 41 10.0 +7.1
WAKE LR LR
comp=Z,374µm,20.0s
BBOO Buckleboo 29.90 205 ⇑P **P 13 41 04.7 0.0**
baz=30,SNR=45
BBOO Buckleboo 29.90 205 *eP* **P 13 41 04.4 -0.4**
comp=Z,2.6nm,2.4s
BSSI Bau Bau, Buton 30.00 268 P **P 13 41 08.2 +2.4**
comp=Z,985nm,1.5s,comp=Z,26µm
WSI Waingapu 30.28 261 P **P 13 41 07.0 -1.3**
comp=Z,6µm,2.0s,comp=Z,119µm
BKSI Bulukumba 30.39 270 P **P 13 41 10.9 +1.6**
comp=Z,178nm,1.7s
PAGZ Pagadian 30.51 297 *eP* **P 13 41 12.8 +2.5**
KAPI Kappang 30.78 270 P **P 13 41 14.9 +2.2**
comp=Z,785nm,0.9s,SNR=8.3
KAPI Kappang 30.78 270 P **P 13 41 13.8 +1.1**
comp=Z,65nm,0.9s,baz=90,slow=8.4,SNR=13
KAPI S S 13 46 23.1 +10
comp=Z,13nm,0.9s,baz=288,slow=20,SNR=1.6
KAPI ScP **ScP 13 47 54.2 +5.1**
comp=Z,45nm,0.9s,baz=111,slow=18,SNR=4.6
KAPI Kappang 30.78 270 *eP* **P 13 41 11.8 -0.9**
comp=Z,810nm,1.4s
KAPI S S 13 46 23.1 +10
KAPI ScP **ScP 13 47 54.2 +5.1**
KAPI LR LR
comp=Z,341µm,22.0s
SPSI Sidrap Palu 30.84 272 P **P 13 41 14.2 +1.0**
comp=Z,189nm,1.2s
TTSI Tana Toraja 30.88 274 P P 13 41 18.1 +4.5
comp=Z,306nm,1.1s,comp=Z,16µm
PCI Palu 31.18 278 P **P 13 41 19.3 +3.1**
comp=Z,475nm,0.9s,comp=Z,22µm
MPSI Mapaga 31.36 281 P P 13 41 21.1 +3.3
comp=Z,146nm,0.9s
ARPS Mount Arapiles 31.63 194 ⇓P **P 13 41 20.0 +0.1**
baz=32,SNR=38
FORT Forrest 32.49 218 ⇓P **P 13 41 27.3 -0.3**
baz=32,SNR=42
FORT Forrest 32.49 218 *eP* **P 13 41 26.5 -1.1**
comp=Z,966nm,0.7s
PVCP Virac 32.76 307⇑ *iP* P 13 41 34.4 +4.3
MBWA Marble Bar 33.51 240 *eP* **P 13 41 35.1 -1.5**
comp=Z,93nm,0.8s
MBWA LR LR
comp=Z,756µm,20.0s
JCJ Chichijima 33.95 346 P **P 13 41 38.8 -1.5**
comp=Z,244nm,0.7s,baz=149,slow=5.9,SNR=16
JCJ S S 13 47 12.2 +10
comp=Z,87nm,1.1s,baz=287,slow=19,SNR=2.2
JCJ ScP **ScP 13 48 03.0 +3.4**
comp=Z,102nm,0.9s,baz=96,slow=9.2,SNR=3.9
JCJ LR LR 13 55 54.6
comp=Z,97µm,18.2s,baz=180,slow=37
CBIJ Chichi jima 33.95 346 P **P 13 41 38.7 -1.6**
comp=Z,312nm,0.8s
CBIJ S S 13 47 12.2 +10
CBIJ ScP **ScP 13 48 03.0 +3.4**
MYLDM Lahad Datu 33.99 289 ⇑P **P 13 41 42.0 +1.2**
BKB Balikpapan 34.02 277 P sP 13 41 56.8 -1.1
GQP Guinayangan 34.31 305⇑ *eP* **P 13 41 42.8 -0.8**
TSM Tawau 34.31 287 ⇓P P 13 41 47.1 +3.4
KBKI Kotabaru 34.48 273 P **P 13 41 45.9 +0.8**
comp=Z,101nm,1.5s
SRBI Singaraja 35.23 265 P **P 13 41 52.3 +0.7**
comp=Z,543nm,1.6s,comp=Z,17µm
DNP Denpasar 35.25 264 P **P 13 41 53.4 +1.7**
comp=Z,2µm,1.0s,comp=Z,39µm
IGBI Denpasar 35.31 263 P **P 13 41 51.8 -0.5**
comp=Z,2µm,0.3s,comp=Z,29µm
SDKM Sandakan 35.37 289 ⇑P P 13 41 44.8 -8.0
TGY Tagaytay City 35.65 304 P **P 13 41 55.8 +0.7**
comp=Z,154nm,0.6s,baz=146,slow=3.6,SNR=11
TGY S **S 13 47 28.8 -0.1**
comp=Z,32nm,0.3s,baz=86,slow=19,SNR=1.4
TGY ScP **ScP 13 48 09.8 +3.8**
comp=Z,185nm,0.6s,baz=177,slow=4.7,SNR=5.5
TGY LR LR 13 55 33.8
comp=Z,7µm,20.2s,baz=59,slow=35
OUZ Omahuta 35.91 147 PN **P 13 41 58.2 +1.0**
KDM Kudat 36.13 290 ⇑P **P 13 42 00.0 +0.8**
ABJI Asem Bagus 36.20 265 P **P 13 41 59.4 -0.5**
comp=Z,837nm,1.0s
JAGI Jajag, Banyuwa 36.29 264 ⇓P P 13 41 57.0 -3.7
baz=36,SNR=24
JAGI Jajag, Banyuwa 36.29 264 *eP* P 13 41 57.0 -3.7
comp=Z,1µm,0.8s
KKM Kota Kinabalu 36.42 289 ⇑P **P 13 42 02.8 +1.0**
baz=36
KKM Kota Kinabalu 36.42 289 ⇑P **P 13 42 01.3 -0.5**
KKM Kota Kinabalu 36.42 289 PFAKE 13 42 10.0 +8.1
KKM LR LR
comp=Z,168µm,21.0s
KMMI Kalianget 36.46 266 P **P 13 42 04.6 +2.5**
comp=Z,526nm,0.9s
MEEK Meekatharra 36.76 233 ⇑P **P 13 42 03.7 -0.8**
baz=36,SNR=9.5
BLJI Banyuglugur 36.83 265 P **P 13 42 05.3 0.0**
comp=Z,654nm,0.7s
TAU Tasmania Unive 36.83 184 P P 13 42 08.9 +4.0
comp=Z,1µm,1.2s,SNR=8.0
TAU Tasmania Unive 36.83 184 PFAKE 13 42 20.0 +15
TAU LR LR
comp=Z,1000µm,20.0s
KMBL Kambalda 36.89 223 ⇓P **P 13 42 05.4 -0.2**
baz=37,SNR=20
CVP Callao Caves 36.98 310⇓ *eP* **P 13 42 06.3 -0.1**
APYP Conner 37.52 310 *eP* **P 13 42 09.6 -1.4**
RAO Raoul Island 37.58 132 P **P 13 42 14.3 +2.9**
RAO LR LR 13 53 52.1
comp=Z,200nm,0.6s,baz=266,slow=19,SNR=1.9
comp=Z,43µm,18.9s,baz=325,slow=30

AFI Afiamalu 37.77 105 P **P 13 42 12.4 -0.9**
comp=Z,59nm,1.0s,baz=266,slow=11,SNR=2.8
AFI LR LR 13 55 04.5
comp=Z,128µm,21.0s,baz=287,slow=32
AFI Afiamalu 37.77 105 *eP* **P 13 42 14.0 +0.7**
comp=Z,434nm,0.9s
ABRA Dolores 37.80 309 *eP* **P 13 42 12.7 -0.7**
GRJI Gresik 37.94 267 P **P 13 42 16.7 +2.0**
comp=Z,623nm,0.9s
SZP Santa 37.94 309 *eP* **P 13 42 15.5 +0.9**
comp=Z,985nm,1.3s
KUZ Kuaotunu 38.20 147 *e*PN **P 13 42 19.1 +2.6**
PWJI Pagerwojo 38.60 265 P **P 13 42 18.5 -1.8**
comp=Z,810nm,0.8s,comp=Z,14µm
GIRL Giralia 38.80 241 ⇑P **P 13 42 22.1 +0.3**
baz=38,SNR=35
NGJI Ngawi 38.94 266 P P 13 42 26.8 +3.7
comp=Z,600nm,1.8s
PBKI Pangkalan Bun 39.01 273 P P 13 42 27.3 +3.6
comp=Z,1µm,1.0s
JOW Kunigami 39.22 327 *eP* **P 13 42 25.5 +0.3**
comp=Z,362nm,0.9s
VRZ Vera Road 39.48 150 PN P 13 42 32.2 +5.0
STKI Sintang 39.58 277 P **P 13 42 29.8 +1.4**
comp=Z,135nm,2.1s
RATZ Rangitukua 39.79 149 PN **P 13 42 32.7 +2.8**
UGM Wanagama 39.87 265 P **P 13 42 31.3 +0.4**
comp=Z,2µm,1.8s,comp=Z,40µm
UGM Wanagama 39.87 265 ⇑P **P 13 42 29.4 -1.5**
baz=40,SNR=45
KLBR Kellerberrin 39.91 226 ⇓P **P 13 42 29.8 -1.2**
baz=40,SNR=53
MORW Morawa 39.91 231 ⇓P **P 13 42 30.2 -0.9**
baz=40,SNR=55
COVZ Chateau Observ 39.93 149 PN **P 13 42 33.9 +2.8**
NGZ Ngauruhoe 39.94 149 PN **P 13 42 34.2 +3.0**
SMRI Semarang 39.96 266 P **P 13 42 30.9 -0.7**
comp=Z,1µm,2.3s,comp=Z,31µm
SMRI Semang 39.96 266 P **P 13 42 30.9 -0.7**
baz=40,SNR=6.6
SMRI Semarang 39.96 266 *eP* **P 13 42 29.7 -1.9**
comp=Z,1µm,1.1s
URZ Urewera 40.05 147 P **P 13 42 31.5 -0.5**
comp=Z,31nm,0.7s,baz=295,slow=4.6,SNR=12
URZ LR LR 13 56 48.0
comp=Z,395µm,21.7s,baz=311,slow=33
URZ Urewera 40.05 147 *e*PN **P 13 42 32.7 +0.7**
WAZ Wanganui 40.07 150 PN P 13 42 36.1 +3.9
BLDU Balliduu 40.16 228 ⇑P **P 13 42 31.6 -1.5**
baz=40,SNR=34
DSZ Denniston Nort 40.23 155 PN P 13 42 37.5 +4.0
JHJ2 Mitsune 40.28 346 *eP* **P 13 42 32.7 -1.2**
comp=Z,358nm,1.0s
MWZ Matawai 40.33 147 PN **P 13 42 35.6 +1.2**
BKZ Black Stump Fm 40.39 148 *e*PN **P 13 42 36.4 +1.5**
WMGZ Waiomatatini S 40.46 145 *e*PN **P 13 42 36.1 +0.6**
TWGZ Tauwhareparae 40.47 146 PN **P 13 42 36.3 +0.8**
NNZ Nelson 40.47 153 PN P 13 42 38.8 +3.4
PUZ Puketiti 40.55 146 PN **P 13 42 36.2 0.0**
YOJ Yonaguni jima 40.56 319 *eP* **P 13 42 35.3 -1.1**
YOJ pmax pmax
comp=Z,320nm,0.9s
YOJ Yonaguni jima 40.56 319 *eP* **P 13 42 35.3 -1.1**
comp=Z,320nm,0.9s
THZ Tophouse 40.71 154 PN **P 13 42 39.7 +2.2**
RIGZ Rimuhau 40.73 147 PN **P 13 42 40.0 +2.4**
TWG Pinlang 40.75 316 *eP* **P 13 42 35.9 -2.1**
comp=Z,419nm,0.6s
TSZ Takapari Road 40.79 150 PN **P 13 42 37.9 -0.2**
CNGZ Carnagh Statio 40.81 146 PN **P 13 42 38.3 0.0**
TUWZ Tuamarina 40.90 153 PN **P 13 42 41.2 +2.2**
WVZ Waitaha Valley 40.92 157 PN P 13 42 42.7 +3.6
YULB Yu-li 40.97 317 *eP* **P 13 42 38.8 -1.0**
KSM Kuching 40.98 279 *eP* **P 13 42 40.9 +0.8**
comp=Z,241nm,1.2s
KSM LR LR
comp=Z,208µm,22.0s
NWAO Narrogin (SRO) 41.01 225 P **P 13 42 40.7 +0.7**
comp=Z,55nm,0.8s,baz=147,slow=0.9,SNR=15
NWAO LR LR 13 59 37.0
comp=Z,1µm,21.8s,baz=60,slow=36
MRZ Mangatainoka R 41.06 151 *e*PN **P 13 42 42.0 +1.6**
JCZ Jackson Bay 41.08 160 PN **P 13 42 43.3 +2.8**
SNZO South Karori 41.15 152 *eP* **P 13 42 43.2 +2.2**
comp=Z,1µm,1.7s
SNZO LR LR
comp=Z,384µm,20.0s
LTZ Lake Taylor 41.28 156 PN P 13 42 45.6 +3.4
NACB Ninganchiao 41.29 318 *eP* **P 13 42 41.5 -1.0**
MSZ Milford Sound 41.33 161 PN P 13 42 46.4 +3.9
ANWZ Angora Road 41.35 150 PN **P 13 42 43.5 +0.8**
BFZ Birch Farm 41.40 150 PN **P 13 42 44.8 +1.7**
SSLB Suanglung 41.47 317 *eP* **P 13 42 43.2 -0.7**
comp=Z,190nm,0.8s
RPZ Rata Peaks 41.59 158 P **P 13 42 43.7 -0.9**
comp=Z,24nm,0.9s,baz=338,slow=5.0,SNR=6.0
RPZ LR LR 13 58 17.1
comp=Z,335µm,21.1s,baz=316,slow=34
RPZ Rata Peaks 41.59 158 PN **P 13 42 46.6 +1.9**
RPZ Rata Peaks 41.59 158 *eP* **P 13 42 44.9 +0.2**
comp=Z,318nm,1.0s
OXZ Oxford 41.64 156 PN **P 13 42 47.1 +2.1**
YHNB Yeheng 41.78 318 *eP* **P 13 42 46.3 -0.2**
YHNB LR LR
comp=Z,1200µm,22.0s
DCZ Deep Cove 41.82 163 PN **P 13 42 49.1 +2.7**
WKZ Wanaka 41.83 160 PN **P 13 42 49.4 +2.8**
LBZ Lake Benmore 41.84 159 *e*PN **P 13 42 47.7 +1.0**
CMJI Cimerak 41.93 265 P **P 13 42 46.0 -1.8**
comp=Z,2µm,1.0s,comp=Z,27µm
MLZ Mavora Lakes 42.02 162 PN **P 13 42 49.0 +0.8**
CRLZ Canterbury Las 42.08 156 PN **P 13 42 51.3 +2.7**
RKGY Rocky Gully 42.12 223 ⇓P **P 13 42 49.6 +0.4**
baz=42,SNR=6.2
JCJI Jatiwangi 42.13 267 P **P 13 42 51.4 +1.9**
comp=Z,2µm,1.1s,comp=Z,48µm
MQZ McQueen's Vall 42.20 156 *e*PN **P 13 42 52.0 +2.4**
CISI Cisompet, Garu 42.56 265 P **P 13 42 51.4 -1.6**
comp=Z,2µm,1.0s,comp=Z,30µm
CISI Cisompet, Garu 42.56 265 P **P 13 42 50.7 -2.3**
baz=42,SNR=31
CISI Cisompet, Garu 42.56 265 *eP* **P 13 42 50.0 -3.0**
comp=Z,2µm,0.9s
LEM Lembang 42.77 266 P **P 13 42 54.3 -0.6**
comp=Z,2µm,0.9s,comp=Z,34µm
LEM Lembang 42.77 266 P **P 13 42 54.2 -0.7**
comp=Z,129nm,0.6s,baz=60,slow=11,SNR=24
LEM Lembang 42.77 266 *eP* **P 13 42 54.3 -0.6**
baz=42,SNR=10
TPI Tanjungpandan 42.99 272 P **P 13 42 56.1 -0.4**
comp=Z,320nm,0.8s
TUZ Tuapeka 43.03 161 PN **P 13 42 58.7 +2.4**
CNJI Cibinong 43.24 266 P **P 13 42 56.6 -1.9**
comp=Z,3µm,1.1s,comp=Z,34µm
JNU Nakatsue 43.24 336 P **P 13 42 57.9 -0.4**
comp=Z,273nm,0.9s,baz=150,slow=3.8,SNR=75
JNU ScP **ScP 13 48 36.7 +1.8**
comp=Z,32nm,0.9s,baz=114,slow=3.3,SNR=5.2
JNU S **S 13 49 24.8 +2.3**
comp=Z,22nm,0.9s,baz=95,slow=3.6,SNR=1.9
CBJI Citeko 43.54 267 P **P 13 43 01.1 +0.2**
comp=Z,2µm,1.0s
TNG Tangerang 43.75 267 P P 13 43 12.4 +10
TNG Tangerang 43.75 267 P P 13 43 12.3 +10
SKJI Sukabumi 43.82 266 P **P 13 43 01.4 -1.7**
comp=Z,2µm,0.8s,comp=Z,32µm
QZH Quanzhou 43.85 316⇓ *iP* **P 13 43 03.0 -0.1**
QZH PcS **PcS 13 48 40.5 -1.7**
QZH S **S 13 49 29.0 -2.4**
QZH PMZ
comp=Z,1µm,0.9s
QZH PMZ
comp=Z,42µm,11.2s
QZH LN
comp=Z,489µm,20.2s
QZH LE
comp=Z,652µm,18.7s
QZH LZ
comp=Z,2042µm,29.4s
MJAR Matsushiro Arr 43.94 346 P **P 13 43 01.8 -2.0**
comp=Z,68nm,1.0s,baz=172,slow=9.4,SNR=46
MJAR ScP **ScP 13 48 37.8 +0.1**
comp=Z,33nm,1.0s,baz=162,slow=4.1,SNR=4.9
MJAR LR LR 14 01 01.7
comp=Z,127µm,19.3s,baz=155,slow=36
MJAR PKPPKP **P'P'df 14 14 46.9 -2.2**

comp=Z,2.6nm,0.9s,baz=307,slow=1.2,SNR=4.5
MAJO Matsushiro 43.94 346⇑ *eP* **P 13 43 01.5 -2.3**
MAJO pmax pmax
comp=Z,1µm,2.5s
MAJO Matsushiro 43.94 346 *eP* **P 13 43 01.8 -2.0**
comp=Z,427nm,0.9s
MAJO LR LR
comp=Z,167µm,21.0s
MAT Matsushiro 43.94 346 P **P 13 43 00.6 -3.2**
MAT S **S 13 49 30.4 -2.1**
H01W1 Cape Leeuwin H 44.22 225 P P 13 43 10.2 +4.4
baz=76,slow=6.4,SNR=8.3
H01W3 Cape Leeuwin H 44.23 225 P P 13 43 09.4 +3.6
baz=76,slow=6.4,SNR=9.5
H01W2 Cape Leeuwin H 44.24 225 P P 13 43 10.4 +4.4
baz=76,slow=6.4,SNR=8.3
SBJI Serang 44.27 267 P P 13 43 10.7 +3.9
comp=Z,406nm,1.3s
PPBI Pangkal Pinang 44.56 273 P **P 13 43 08.3 -0.8**
comp=Z,155nm,1.2s
CGJI Cibinong 44.69 267 P **P 13 43 08.5 -1.6**
comp=Z,1µm,1.0s,comp=Z,22µm
XMI Christmas Isla 44.69 261 ⇑P **P 13 43 08.0 -2.2**
baz=44,SNR=3.7
XMIS Christmas Isla 44.73 261 P **P 13 43 10.1 -0.3**
baz=44,SNR=12
XMIS Christmas Isla 44.73 261 *eP* **P 13 43 09.1 -1.3**
comp=Z,877nm,0.7s
KSJJU Jeju 45.43 331 P P 13 43 19.5 +3.8
SNR=15
KSJJU Jeju 45.43 331 P **P 13 43 16.4 +0.6**
SNR=16
KLSI 45.74 269 P **P 13 43 18.3 -0.2**
comp=Z,292nm,2.4s
KSTOY TONGYEONG 45.76 334 P P 13 43 21.9 +3.7
SNR=29
KSBUS Busan 45.81 335 P **P 13 43 21.6 +2.9**
SNR=43
KSBUS Busan 45.81 335 P **P 13 43 18.3 -0.3**
SNR=48
PMBI Palembang 45.84 272 P P 13 43 24.4 +5.1
comp=Z,766nm,1.0s,comp=Z,20µm
KASI Kota Agung 45.92 268 P **P 13 43 18.0 -1.9**
comp=Z,913nm,0.9s
MIDW Midway 45.95 41 PFAKE 13 43 30.0 +10
MIDW LR LR
comp=Z,115µm,20.0s
KSNAH Namhae 45.95 334 P P 13 43 23.2 +3.4
SNR=34
KSNAH Namhae 45.95 334 P **P 13 43 19.8 0.0**
SNR=38
KSKOH Goheung 46.07 333 P **P 13 43 23.7 +3.0**
SNR=11
KSWAN Wando 46.15 332 P P 13 43 24.5 +3.2
SNR=15
KSWAN Wando 46.15 332 P **P 13 43 21.1 -0.2**
SNR=13
KSJIN Jinju 46.20 334 P **P 13 43 22.0 +0.3**
SNR=48
KSJIN Jinju 46.20 334 P **P 13 43 21.8 +0.1**
SNR=22
MDSI Maura Dua 46.30 270 P **P 13 43 21.1 -1.8**
comp=Z,349nm,1.6s
KSDAG Daegu 46.35 335 P P 13 43 26.4 +3.6
SNR=26
KSDAG Daegu 46.35 335 P **P 13 43 23.0 +0.1**
SNR=43
LWLI Liwa 46.38 269 P **P 13 43 22.5 -1.2**
comp=Z,561nm,1.0s
KSJDO Jindo 46.40 332 P **P 13 43 26.4 +3.1**
SNR=27
KSJDO Jindo 46.40 332 P **P 13 43 23.1 -0.2**
SNR=18
SSE Sheshan 46.45 324 P **P 13 43 24.1 +0.4**
SSE S **S 13 50 08.6 -0.3**
SSE sS sS 13 50 35.0 +6.0
SSE PMZ
comp=Z,310nm,1.2s
SSE PMZ
comp=Z,47µm,12.0s
SSE LN
comp=Z,286µm,23.8s
SSE LE
comp=Z,329µm,23.8s
SSE LZ
comp=Z,489µm,23.2s
KSYOC YEONGCHEON 46.50 336 P **P 13 43 26.9 +2.8**
SNR=19
KSPHA Pohang 46.52 336 P **P 13 43 24.5 +0.3**
SNR=22
GZH Guangzhou 46.56 310 *eP* **P 13 43 26.1 +1.4**
GZH PP **PP 13 45 10.8 -4.0**
GZH S **S 13 50 13.9 +3.2**
GZH sS **sS 13 50 32.8 +2.0**
GZH LN
comp=Z,123µm,19.2s
GZH LE
comp=Z,164µm,16.3s
GZH LZ
comp=Z,427µm,17.7s
KSKWJ Gwangju 46.66 333 P **P 13 43 28.3 +3.0**
SNR=15
KSGWJ Gwangju-acc 46.71 333 P **P 13 43 26.2 +0.5**
SNR=18
KSGWJ Gwangju-acc 46.71 333 P **P 13 43 25.4 -0.3**
SNR=13
KSEUS ULSEONG 46.94 336 P **P 13 43 30.5 +3.1**
SNR=24
KSULJ Uljin 46.95 337 P **P 13 43 28.0 +0.5**
SNR=62
KSULJ Uljin 46.95 337 P **P 13 43 27.4 -0.1**
SNR=43
KSJEU Jeongeup 46.96 333 P **P 13 43 30.7 +3.0**
SNR=28
KSHUK Heuksando 46.98 331 P P 13 43 31.1 +3.3
SNR=17
LHSI Lahat 47.00 270 P **P 13 43 27.6 -0.8**
comp=Z,292nm,1.6s,comp=Z,17µm
KSULL Ulleungdo 47.06 338 P P 13 43 32.3 +4.0
SNR=28
JMBI JAMBI 47.10 273 P P 13 43 33.1 +4.0
comp=Z,1µm,0.8s
KSCPR CHUPUNGNYEONG 47.12 335 P P 13 43 32.6 +3.7
SNR=30
KSJEO Jeonju 47.17 334 P **P 13 43 32.4 +3.1**
SNR=15
KSSAJ Sangju 47.20 335 P **P 13 43 30.1 +0.6**
SNR=49
QIZ Qiongzhong 47.30 303 P **P 13 43 30.8 +0.2**
QIZ S **S 13 50 20.6 -0.9**
QIZ sS **sS 13 50 43.0 +1.4**
QIZ SS **SS 13 53 49.4 -0.2**
QIZ LN
comp=Z,226µm,26.8s
QIZ LZ
comp=Z,404µm,26.8s
QIZ Qiongzhong 47.30 303 *eP* **P 13 43 31.2 +0.6**
comp=Z,129nm,0.8s
QIZ LR LR
comp=Z,280µm,21.0s
KSBON Boeun 47.43 335 P **P 13 43 32.0 +0.6**
SNR=72
KSGUS GUNSAN 47.48 334 P **P 13 43 34.9 +3.2**
SNR=19
KSTBA Taebaek 47.49 336 P P 13 43 35.5 +3.6
SNR=28
KSTEJ Daejeon 47.50 334 P **P 13 43 34.7 +2.8**
SNR=23
TJN Taejon 47.52 334*ce*P **P 13 43 33.8 +1.9**
MNAI Manna 47.53 270 P **P 13 43 35.0 +2.5**
comp=Z,599nm,1.1s
MNAI Manna 47.53 270 ⇑P **P 13 43 31.9 -0.6**
baz=47,SNR=6.0
MNAI Manna 47.53 270 *eP* **P 13 43 31.3 -1.2**
comp=Z,568nm,1.0s
KSCHJ Chungju 47.68 335 P P 13 43 36.9 +3.6
SNR=34
KSKOJ Gongju 47.69 334 P **P 13 43 36.2 +2.9**
SNR=22
KSYOW Yeongwol 47.74 336 P P 13 43 37.4 +3.7
SNR=34
KSJES JEONGSEON 47.87 336 P **P 13 43 37.7 +3.0**
SNR=33
KSCEA Cheonan 47.94 335 P P 13 43 39.0 +3.7
SNR=45
KSI Kapahiang 47.94 271 P **P 13 43 37.1 +1.3**
comp=Z,382nm,0.9s
KSDGY Daegwallycong 48.09 336 P P 13 43 40.3 +3.8

KSWJU **Wonju** **48.10 336** P P 13 43 40.2 +3.7
SNR=24
KSRS **Korea Array** **48.20 336** P **P** **13 43 36.1 -1.1**
comp=Z,99nm,0.9s,baz=154,slow=8.1,SNR=104
KSRS ScP **ScP** **13 48 58.9 +3.6**
comp=Z,6.5nm,0.9s,baz=143,slow=4.7,SNR=3.9
KSRS S S 13 50 39.8 +6.3
comp=Z,1.4nm,0.9s,baz=346,slow=38,SNR=2.5
KSRS PKiKP **PKiKP** **13 51 54.4 -0.4**
comp=Z,4.3nm,0.8s,baz=160,slow=0.6,SNR=5.4
KSRS LR LR 14 02 00.1
comp=Z,199μm,21.5s,baz=178,slow=34
KSRS PKPPKP **P'P'df** **14 14 45.1 +1.0**
comp=Z,5.3nm,1.1s,baz=359,slow=2.4,SNR=6.1
KSAR **Wonju Array Be** **48.20 336** P **P** **13 43 36.1 -1.1**
KSAR S S 13 50 39.8 +6.2
KSAR **Wonju Array Be** **48.20 336** P **P** **13 43 36.1 -1.1**
KSAR ScP **ScP** **13 48 58.9 +3.5**
KSAR S S 13 50 39.8 +6.2
KSAR PKiKP **PKiKP** **13 51 54.4 -0.4**
KSAR P'P' 14 14 45.1
KSJMJ **Jumunjin** **48.23 337** P **P** **13 43 38.3 +0.9**
SNR=78
KSSES **Seosan** **48.26 334** P P 13 43 41.2 +3.5
SNR=22
KSICN **Icheon** **48.27 335** P **P** **13 43 38.4 +0.7**
SNR=54
ERM **Erimo** **48.32 353** P P 13 43 41.3 +3.3
comp=Z,445nm,0.7s,SNR=6.0
ERM **Erimo** **48.32 353**⇑ *e*P **P** **13 43 39.7 +1.7**
ERM pmax pmax
comp=Z,141nm,2.5s
ERM **Erimo** **48.32 353** PFAKE 13 43 50.0 +12
ERM LR LR
comp=Z,181μm,22.0s
KSSWO **Suwon** **48.44 335** P P 13 43 42.9 +3.9
SNR=34
NJ2 **Nanjing** **48.51 323** *e*P **P** **13 43 39.6 -0.1**
NJ2 pP **pP** **13 43 53.6 +1.7**
NJ2 sP **sP** **13 43 59.8 +2.9**
NJ2 S **S** **13 50 38.0 -0.2**
NJ2 sS **sS** **13 51 01.0 +2.7**
NJ2 SS **SS** **13 54 09.0 +0.2**
NJ2 PMZ
comp=Z,880nm,1.1s
NJ2 PMZ
comp=Z,68μm,11.0s
NJ2 LZ
comp=Z,1155μm,24.7s
KSCHC **Chuncheon** **48.52 336** P P 13 43 43.8 +4.1
SNR=18
KSIJA **INJE** **48.58 336** P P 13 43 43.5 +3.4
SNR=39
KSSEO **Seoul** **48.64 335** P **P** **13 43 43.8 +3.2**
SNR=33
KSSKC **Sokcho** **48.67 337** P P 13 43 44.6 +3.8
SNR=51
INCN **Inchon** **48.76 334** *e*P **P** **13 43 41.0 -0.6**
comp=Z,1μm,1.0s
INCN LR LR
comp=Z,163μm,20.0s
SEHB **SEOHWA** **48.76 336** P **P** **13 43 44.7 +3.1**
SNR=30
KSCWO **Cheorwon** **48.90 336** P **P** **13 43 43.5 +0.9**
SNR=44
KSDDC **Dongducheon** **48.93 335** P P 13 43 47.0 +4.1
SNR=49
KSGAH **Ganghwa** **49.03 334** P **P** **13 43 46.7 +3.1**
SNR=24
KSMUS **Musan** **49.05 335** P P 13 43 47.6 +3.8
SNR=37
YNCB **YEONCHEON** **49.11 335** P **P** **13 43 47.3 +3.2**
SNR=38
SDSI **Sungai Dareh** **49.38 274** P pP 13 43 59.3 +0.4
UBPT **Khong Chiam** **49.53 296** P P 13 43 51.7 +3.9
comp=Z,206nm,1.7s
BKNI **Bangkinang** **49.93 276** P P 13 43 58.6 +7.6
YUK **Yuzh-Kuril'sk** **50.03 355**⇓ *i*P **P** **13 43 54.0 +2.9**
YUK *i* 13 45 40.9
YUK *i* PPP PPP 13 46 37.6
YUK *i* S S 13 51 10.3 +11
YUK pmax pmax
comp=E,179nm,1.5s
YUK pmax pmax
comp=Z,162nm,1.5s
YUK pmax pmax
comp=N,118nm,0.8s
YUK MLR MLR
comp=N,64μm,17.0s
YUK MLR MLR
comp=E,3μm,17.0s
YUK MLR MLR
comp=Z,93μm,17.0s
WHN **Wuhan** **50.32 318** P **P** **13 43 53.6 0.0**
WHN S **S** **13 51 02.6 -0.9**
ASAJ **Asahikawa** **50.46 352** P **P** **13 43 53.4 -0.9**
comp=Z,53nm,1.0s,baz=208,slow=9.2
ASAJ **Asahikawa** **50.46 352** P **P** **13 43 53.4 -0.9**
ASAJ pmax pmax
comp=Z,53nm,1.0s
PPI **Padang Panjang** **50.46 274** P **P** **13 43 54.9 -0.1**
KUR **Kuril'sk** **51.11 357** *c i*P **P** **13 43 58.2 -1.0**
KUR *i* S S 13 51 32.9 +19
KUR pmax pmax
comp=N,33nm,1.1s
KUR pmax pmax
comp=E,71nm,1.1s
KUR pmax pmax
comp=Z,167nm,1.1s
KULM **Kulim** **51.18 282** *e*P **P** **13 43 57.7 -2.6**
comp=Z,54nm,1.7s
MNSI **Mandailing Nat** **51.44 276** P **P** **13 44 01.1 -1.3**
SKLT **Songkhla** **51.62 284** P P 13 44 07.3 +3.6
comp=Z,300nm,1.1s
SISI **Saibi** **51.66 273** P P 13 44 07.3 +3.4
comp=Z,296nm,1.8s,comp=Z,29μm
VLA **Vladivostok** **51.81 343** *c i*P **P** **13 44 05.0 +0.5**
VLA pmax pmax
comp=Z,906nm,2.5s
DL2 **Dalian** **52.19 331**⇑ P **P** **13 44 10.5 +3.1**
DL2 LN
comp=Z,38μm,19.9s
DL2 LE
comp=Z,67μm,21.7s
DL2 LZ
comp=Z,102μm,23.3s
PSI **Prapat** **52.40 278** P **P** **13 44 10.6 +1.0**
comp=Z,72nm,0.9s,baz=135,slow=5.5,SNR=8.4
PSI S **S** **13 51 35.2 +2.1**
comp=Z,8.0nm,0.9s,baz=128,slow=19,SNR=3.4
XMAS **Kiritimati** **52.44 83** *e*P P 13 44 13.4 +3.6
comp=Z,700nm,1.0s
XMAS LR LR
comp=Z,108μm,21.0s
TIA **Tai'an** **52.49 326**⇓ P **P** **13 44 10.9 +1.1**
TIA PMZ
comp=Z,180nm,1.5s
TIA LN
comp=Z,53μm,24.4s
TIA LE
comp=Z,121μm,20.2s
TIA LZ
comp=Z,446μm,20.2s
TRTT **Trang** **52.67 285** P **P** **13 44 11.1 -0.4**
comp=Z,613nm,0.8s
USRK **Ussuriysk Ar.** **52.77 343** P **P** **13 44 11.4 -0.2**
comp=Z,110nm,0.8s,baz=172,slow=8.4,SNR=44
USRK LR LR 14 04 57.8
comp=Z,132μm,21.6s,baz=153,slow=34
USRK PKPPKP **P'P'df** **14 14 35.3 -2.1**
comp=Z,3.5nm,0.9s,baz=302,slow=2.7,SNR=4.3
TSI **Tuntungan** **52.88 279** P sP 13 44 27.3 -2.9
PATY **Pattaya** **52.94 291** P P 13 44 20.7 +7.3
NAYO **Nakonayok** **52.95 293** P **P** **13 44 13.6 +0.1**
comp=Z,465nm,1.1s
YSS **Yuzh-Sakhalins** **53.23 353**⇓ *e*P **P** **13 44 14.7 -0.3**
YSS pmax pmax
comp=Z,131nm,1.3s
YSS **Yuzh-Sakhalins** **53.23 353** *e*P **P** **13 44 13.6 -1.4**
comp=Z,199nm,0.9s
YSS LR LR
comp=Z,44μm,20.0s
SLVN **Son La** **53.32 302** *e*P **P** **13 44 16.5 +0.3**
comp=Z,73nm,0.8s
COCO **West Island** **53.42 259** *e*P **P** **13 44 17.9 +0.9**
COCO MLR MLR
comp=Z,132μm,22.0s
COCO **West Island** **53.42 259** *e*P **P** **13 44 17.9 +0.9**
comp=Z,2μm,1.0s
COCO LR LR
comp=Z,132μm,22.0s
ENH **Enshi** **53.48 315** *e*P **P** **13 44 15.7 -1.5**
comp=Z,123nm,0.6s
ENH LR LR
comp=Z,19μm,21.0s
GYA **Guiyang** **53.49 309**⇑ *i*P **P** **13 44 19.8 +2.4**
GYA pP pP 13 44 35.0 +5.3
GYA PP **PP** **13 46 21.8 +3.4**
GYA S **S** **13 51 46.8 -0.7**
GYA SS **SS** **13 55 25.5 -2.9**
GYA PMZ
comp=Z,70nm,0.8s
GYA LN
comp=Z,77μm,20.8s
GYA LE
comp=Z,195μm,18.9s
GYA LZ
comp=Z,214μm,21.1s
GSI **Gunungsitoli** **53.50 276** P **P** **13 44 18.8 +1.2**
comp=Z,943nm,1.9s
GSI **Gunungsitoli** **53.50 276**⇓ P **P** **13 44 14.7 -3.0**
baz=53
GSI **Gunungsitoli** **53.50 276** *e*P P 13 44 14.3 -3.3
comp=Z,661nm,1.1s
SNY **Shenyang** **53.68 335**⇑ P **P** **13 44 17.5 -0.9**
SNY PMZ
comp=Z,38μm,7.8s
SNY LN
comp=Z,87μm,27.3s
SNY LE
comp=Z,138μm,23.0s
SNY LZ
comp=Z,220μm,28.8s
SURT **Suratani** **53.80 286** P **P** **13 44 20.6 +0.8**
comp=Z,136nm,1.2s
MDJ **Mudanjiang** **53.87 341** P **P** **13 44 19.5 -0.2**
MDJ pP **pP** **13 44 33.3 +1.3**
MDJ sP **sP** **13 44 37.8 +0.8**
MDJ PcS **PcS** **13 49 24.0 0.0**
MDJ S **S** **13 51 54.9 +3.1**
MDJ PMZ
comp=Z,140nm,1.5s
MDJ PMZ
comp=Z,58μm,12.0s
MDJ LN
comp=Z,188μm,25.3s
MDJ LE
comp=Z,75μm,27.8s
MDJ LZ
comp=Z,220μm,22.8s
MDJ **Mudanjiang** **53.87 341** *e*P **P** **13 44 19.3 -0.4**
comp=Z,334nm,0.9s
MDJ LR LR
comp=Z,95μm,19.0s
PKDT **Phuket** **53.99 284** P **P** **13 44 24.2 +3.0**
comp=Z,150nm,1.0s
CN2 **Changchun** **54.59 338** *e*P **P** **13 44 27.6 +2.6**
CN2 *e*S **S** **13 52 01.0 -0.6**
CN2 LN
comp=Z,97μm,20.0s
CN2 LE
comp=Z,83μm,20.0s
CN2 LZ
comp=Z,48μm,18.0s
LHMI **Lhok Sumawe** **54.78 281** P P 13 44 32.7 +5.8
LHMI **Lhok Sumawe** **54.78 281** *e*P **P** **13 44 26.6 -0.4**
comp=Z,234nm,0.8s
SRDT **SRDT** **54.99 292** P P 13 44 36.2 +7.8
comp=Z,722nm,1.1s
UTHA **Uthaitani** **55.07 294** P **P** **13 44 30.3 +1.3**
comp=Z,73nm,1.0s,comp=Z,546nm
BJT **Baijiatuau** **55.77 328** *e*P **P** **13 44 32.8 -0.8**
BJT pmax pmax
comp=Z,217nm,0.7s
BJT MLR MLR
comp=Z,154μm,20.0s
BJT **Baijiatuau** **55.77 328** *e*P **P** **13 44 32.8 -0.8**
comp=Z,217nm,0.7s
BJT LR LR
comp=Z,154μm,20.0s
BJI **Beijing** **55.78 328** P **P** **13 44 31.5 -2.1**
BJI LN
comp=Z,232μm,22.2s
BJI LE
comp=Z,160μm,25.4s
BJI LZ
comp=Z,309μm,33.0s
KMI **Kunming** **55.94 306** P **P** **13 44 38.1 +2.7**
KMI S **S** **13 52 19.5 -1.3**
KMI SS **SS** **13 56 07.5 +0.1**
KMI PMZ
comp=Z,100nm,0.9s
KMI LN
comp=Z,81μm,29.4s
KMI LE
comp=Z,158μm,25.2s
KMI LZ
comp=Z,328μm,29.4s
HABR **Khabarovsk** **55.99 348** *de*P **P** **13 44 32.5 -2.4**
HABR *e**SP **sP** **13 44 49.1 -3.1**
HABR *e* 13 45 31.1
HABR PPP PPP 13 47 50.2
HABR *e*S **S** **13 52 17.8 -2.3**
HABR *e* 13 52 31.9
HABR *e**SS **sS** **13 52 38.4 -2.1**
HABR *e* 13 54 17.8
HABR *e*SS **SS** **13 56 05.3 -1.5**
HABR pmax pmax
comp=Z,6μm,5.9s
HABR pmax pmax
comp=Z,180nm,0.8s
HABR MLR MLR
comp=Z,75μm,18.0s
XAN **Xi'an** **56.09 318** P **P** **13 44 37.5 +1.5**
XAN pP **pP** **13 44 48.3 0.0**
XAN sP **sP** **13 44 52.8 -0.5**
XAN LN
comp=Z,170μm,15.2s
XAN LE
comp=Z,42μm,21.9s
XAN LZ
comp=Z,124μm,20.2s
TIY **Taiyuan** **56.23 324** *e*P P 13 44 43.4 +6.4
TIY S **S** **13 52 26.5 +2.7**
TIY pmax pmax
comp=Z,340nm,1.3s
TIY LR LR
comp=N,291μm,20.4s
TIY LR LR
comp=E,122μm,19.0s
TIY LR LR
comp=Z,576μm,28.4s
CMAR **Chiang Mai Arr** **56.50 297** P **P** **13 44 39.5 +0.3**
comp=Z,44nm,1.1s,baz=118,slow=5.0,SNR=16
CMAR ScP **ScP** **13 49 35.3 +3.4**
comp=Z,17nm,1.1s,baz=98,slow=3.7,SNR=4.9
CMAR S **S** **13 52 33.4 +5.5**
comp=Z,2.8nm,0.8s,baz=128,slow=1.4,SNR=3.4
CMAR LR LR 14 09 41.2
comp=Z,66μm,20.0s,baz=120,slow=37
CMAR PKPPKP P'P'df 14 14 29.1 -6.4
comp=Z,8.9nm,1.0s,baz=313,slow=4.6,SNR=8.2
CMMT **Chiang Mai** **56.62 297** P **P** **13 44 43.0 +2.9**
comp=Z,296nm,0.7s,comp=Z,19μm
CHTO **Chiang Mai** **56.62 297** P **P** **13 44 43.1 +3.0**
comp=Z,5μm,1.0s,comp=Z,68μm
CHTO **Chiang Mai** **56.62 297** *e*P **P** **13 44 37.7 -2.4**
CHTO **Chiang Mai** **56.62 297** *e*P **P** **13 44 37.7 -2.4**
SKR **Severo-Kuril's** **56.70 4** *e*P **P** **13 44 40.9 +1.0**
SKR pmax pmax
comp=E,180nm,1.0s
SKR pmax pmax
comp=Z,340nm,1.0s
SKR pmax pmax
comp=N,70nm,0.7s
HON **Honolulu** **57.22 60** *e*P **P** **13 44 46.6 +2.4**
HON **Honolulu** **57.22 60** *e*P **P** **13 44 46.6 +2.4**
KIP **Kipapa** **57.24 60**⇓ *e*P **P** **13 44 46.9 +2.5**
KIP pmax pmax
comp=Z,881nm,1.2s
KIP **Kipapa** **57.24 60** *e*P **P** **13 44 47.0 +2.5**
comp=Z,2μm,1.5s
KIP LR LR
comp=Z,195μm,22.0s
MHMT **Maesarieng** **57.31 296** P P 13 44 52.6 +7.7
comp=Z,51nm,0.9s
KLR **Kul'dur** **57.47 345** *e*P P 13 44 39.6 -5.9
CD2 **Chengdu** **57.96 312** P **P** **13 44 49.8 +0.5**
CD2 pP **pP** **13 45 03.8 +2.1**
CD2 sP **sP** **13 45 09.9 +3.2**
CD2 PcP **PcP** **13 45 41.6 +0.4**
CD2 PP **PP** **13 46 58.5 +0.3**
CD2 S **S** **13 52 46.4 -0.4**
CD2 sS **sS** **13 53 10.6 +3.2**
CD2 SS **SS** **13 56 39.3 +0.7**
CD2 PMZ
comp=Z,410nm,0.9s
CD2 PMZ
comp=Z,71μm,11.8s
CD2 LN
comp=Z,278μm,21.6s
CD2 LZ
comp=Z,468μm,22.0s
CMBY **CAMPBELL BAY** **58.07 282** *e*P **P** **13 44 48.2 -2.2**
POHA **Pohakuloa** **58.80 63** *e*P **P** **13 44 55.3 -0.4**
comp=Z,1μm,1.1s
POHA LR LR
comp=Z,229μm,22.0s
HHC **Hu-ho-hao-te** **58.84 326** *e*P **P** **13 44 58.3 +2.9**
HHC S **S** **13 53 03.0 +4.9**
HHC sS sS 13 53 26.4 +7.6
HHC PMZ
comp=Z,150nm,2.0s
HHC LN
comp=Z,211μm,22.2s
HHC LE
comp=Z,135μm,18.5s
HHC LZ
comp=Z,277μm,22.2s
PEA0B **Petropavlovsk-** **59.23 5** *e*P **P** **13 44 56.0 -1.7**
PETK **Petropavlovsk-** **59.23 5** P **P** **13 44 56.0 -1.7**
comp=Z,169nm,0.9s,baz=168,slow=6.3,SNR=29
PETK S S 13 53 09.1 +6.7
comp=Z,7.4nm,0.8s,baz=174,slow=4.3,SNR=3.7
PETK LR LR 14 06 55.2
comp=Z,135μm,21.6s,baz=191,slow=32
PETK PKP2bc 14 14 43.3
comp=Z,3.7nm,0.9s,baz=107,slow=4.8,SNR=3.9
PET **Petropavlovsk** **59.23 6** *e*P **P** **13 44 55.7 -1.9**
PET *e*S **S** **13 53 03.3 +0.9**
PET *e*SS **SS** **13 57 02.8 +5.1**
PET pmax pmax
comp=Z,28μm,15.8s
PET pmax pmax
comp=Z,143nm,1.1s
PET smax smax
comp=N,14μm,17.9s
PET **Petropavlovsk** **59.23 6** *e*P **P** **13 44 55.8 -1.9**
comp=N,86nm,0.8s
PET LR LR
comp=Z,122μm,22.0s
PPT **Papeete** **59.40 107** P **P** **13 44 57.6 -2.0**
comp=Z,30nm,0.9s,baz=202,slow=0.2,SNR=1.9
PPT PKP2bc 14 14 47.3
comp=Z,43nm,0.8s,baz=172,slow=2.1,SNR=4.2
PPT2 **Papeete2** **59.40 107** *e*S **S** **13 53 02.0 -4.0**
comp=Z,111μm,28.2s
PPT2 *e*LQ LQ 13 59 36.2
comp=Z,390μm,32.5s
PPT2 *e*LR LR 14 02 09.0
comp=Z,81μm,25.8s
PAE **Paea** **59.40 107** *e*P **P** **13 45 01.5 +2.0**
comp=Z,110nm,1.2s
NKL **Nikolayevsk** **59.57 353** *e*P **P** **13 45 00.5 +0.5**
NKL pmax pmax
comp=Z,100nm,1.0s
TIAR **Tiarei** **59.61 107** *e*P **P** **13 45 03.3 +2.2**
comp=Z,300nm,1.2s
TVO **Taravao** **59.72 107** *e*P **P** **13 45 03.9 +2.1**
comp=Z,325nm,1.4s
TVO **Taravao** **59.72 107** *e*P'P' 14 14 45.2
comp=Z,78nm,1.0s
TBI **Tubuai** **60.01 113** *e*P **P** **13 45 05.4 +1.8**
comp=Z,703nm,1.2s
TBI *e*S **S** **13 53 08.0 -5.5**
comp=Z,108μm,32.0s
TBI *e*SS **SS** **13 57 04.1 -6.7**
comp=Z,66μm,26.5s
TBI *e*LQ LQ 13 59 55.9
comp=Z,337μm,36.0s
TBI *e*LR LR 14 02 26.6
comp=Z,115μm,26.5s
PBA **Port Blair** **60.23 287** *e*P P 13 45 04.0 -1.3
PBA AMB AMB 13 45 52.4
comp=Z,221nm,5.0s
DGPR **DIGLIPUR** **60.43 289** *e*P **P** **13 45 05.1 -1.6**
DGPR AMB AMB 13 45 53.9
comp=Z,170nm,0.3s
LZH **Lanzhou** **60.66 317**⇑ P P 13 45 11.4 +3.3
LZH pP pP 13 45 21.8 +1.3
LZH sP sP 13 45 27.5 +2.0
LZH PcP **PcP** **13 45 52.0 0.0**
LZH PP PP 13 47 28.1 +5.8
LZH S **S** **13 53 20.0 -1.9**
LZH SS **SS** **13 57 24.3 +3.1**
LZH PMZ
comp=Z,1μm,1.3s
LZH PMZ
comp=Z,5μm,5.3s
LZH LN
comp=Z,163μm,16.8s
LZH LE
comp=Z,128μm,16.5s
LZH LZ
comp=Z,186μm,17.6s
MEH **Mehetia** **60.85 107** *e*P **P** **13 45 11.2 +1.7**
comp=Z,156nm,1.1s
PMOR **Pomariorio Ree** **60.90 104** *e*P **P** **13 45 12.0 +2.1**
comp=Z,2μm,1.2s
DRV **Dumont d'Urvil** **60.97 185** S **S** **13 53 19.0 -5.4**
DRV SS SS 13 57 36.0 +12
DRV L L 14 00 00.0
DRV R 14 04 00.0
VAH **Vaihoa** **61.17 104** *e*P **P** **13 45 13.4 +1.7**
comp=Z,676nm,1.1s
HIA **Hailar** **61.32 337** *e*P **P** **13 45 11.6 -0.5**
HIA pmax pmax
comp=Z,354nm,0.7s
HIA MLR MLR
comp=Z,224μm,21.0s
HIA **Hailar** **61.32 337** *e*P **P** **13 45 11.6 -0.5**
comp=Z,354nm,0.7s
HIA LR LR
comp=Z,224μm,21.0s
SMY **Shemya** **61.84 16** *e*P **P** **13 45 16.0 +0.5**
SMY pmax pmax
comp=Z,261nm,1.1s
SMY **Shemya** **61.84 16** *e*P **P** **13 45 15.9 +0.5**
comp=Z,261nm,1.1s
AMKA **Amchitka** **62.26 20** *e*P **P** **13 45 17.8 -0.5**
comp=Z,222nm,0.8s
SHL **Shillong** **65.12 302** *e*P **P** **13 45 36.8 -1.1**
SHL AMB AMB 13 46 21.4
comp=Z,251nm,2.5s
GTA **Gaotai** **65.14 319** *e*P **P** **13 45 37.3 -0.5**
GTA pP **pP** **13 45 47.9 -2.4**
GTA sP **sP** **13 45 52.3 -3.0**
GTA S **S** **13 54 16.8 -1.0**
GTA ScS **SKSac** **13 55 24.3 -5.3**
GTA SS **SS** **13 58 30.0 -1.1**
GTA PMZ
comp=Z,33μm,8.1s
GTA LN
comp=Z,75μm,22.6s
GTA LE
comp=Z,128μm,25.4s
GTA LZ
comp=Z,211μm,26.1s
MA2 **Magadan** **65.41 0**⇑ *e*P **P** **13 45 40.6 +1.7**
CIT **Chita** **65.93 336** *e*P **P** **13 45 41.7 -0.8**
CIT *e* 13 45 56.1
CIT *e* 13 46 15.6
CIT *e* 13 48 14.5
CIT *e* 13 54 41.8
CIT *e* 13 58 43.2
CIT pmax pmax
comp=Z,618nm,3.5s

ULN Ulaanbaatar 65.95 329 PFAKE 13 45 50.0 +7.1
ULN LR LR
comp=Z,179µm,20.0s
CLNS Chul'man 66.12 345 *e*P **P** **13 45 43.2 -0.4**
CLNS *e* 13 46 10.0
CLNS *e* 13 48 09.0
CLNS *e*S S 13 54 20.9 -7.9
CLNS pmax pmax
comp=N,66nm,0.8s
CLNS pmax pmax
comp=Z,225nm,0.9s
CLNS pmax pmax
comp=E,59nm,0.9s
CLNS pmax pmax
comp=Z,42nm,1.4s
CLNS pmax pmax
comp=N,65nm,1.2s
CLNS pmax pmax
comp=E,53nm,1.0s
CLNS smax smax
comp=E,6µm,11.5s
CLNS smax smax
comp=N,19µm,12.7s
CASY Casey 66.22 197 *e*P **P** **13 45 43.9 -0.1**
comp=N,5.5nm,1.0s
CASY LR LR
comp=Z,101µm,21.0s
SONM Songino Array 66.26 329 P **P** **13 45 43.3 -1.6**
comp=Z,31nm,0.5s,baz=149,slow=5.3,SNR=31
SONM PKiKP **PKiKP** **13 52 16.6 +0.5**
comp=Z,7.3nm,0.9s,baz=132,slow=2.1,SNR=2.8
SONM LR LR 14 14 04.6
comp=Z,149µm,20.2s,baz=137,slow=36
SONM PKP2bc 14 14 22.6
comp=Z,19nm,1.1s,baz=299,slow=2.8,SNR=11
LSA Lhasa 67.20 306 P P 13 45 54.8 +3.2
LSA S **S** **13 54 41.0 -2.9**
LSA LN
comp=Z,72µm,27.2s
LSA LE
comp=Z,100µm,27.2s
LSA LZ
comp=Z,200µm,27.9s
LSA Lhasa 67.20 306 *e*P **P** **13 45 50.7 -0.9**
LSA MLR MLR
comp=Z,214µm,22.0s
LSA Lhasa 67.20 306 *e*P **P** **13 45 50.7 -0.9**
LSA LR LR
comp=Z,214µm,22.0s
TAOE Nuku Hiva Isla 68.58 97 *e*P **P** **13 46 01.7 +1.6**
comp=Z,998nm,1.3s
TAOE *e*S S 13 54 53.0 -7.2
comp=Z,66µm,29.5s
TAOE *e*SS SS 13 59 15.2 -10
comp=Z,53µm,27.6s
TAOE *e*LR LR 14 06 18.9
comp=Z,82µm,23.0s
SEY Seymchan 68.79 1 P **P** **13 45 58.9 -1.4**
comp=Z,101nm,1.1s,baz=183,slow=6.5,SNR=11
SEY S **S** **13 55 05.4 +4.8**
comp=Z,3.6nm,1.0s,baz=42,slow=16,SNR=1.6
SEY PKP2bc 14 14 17.9
comp=Z,4.2nm,0.8s,baz=350,slow=3.5,SNR=7.4
SEY LR LR 14 15 01.7
comp=Z,70µm,19.9s,baz=181,slow=35
SEY Seymchan 68.79 1⇓ *e*P **P** **13 45 58.4 -1.9**
TAPN Taplejung 69.24 302 *e*P **P** **13 46 02.4 -1.8**
comp=Z,413nm,1.0s
ODAN Odare 69.35 302 *e*P **P** **13 46 03.4 -1.4**
comp=Z,557nm,0.8s
ZAK Zakamensk 69.47 330 *e*P **P** **13 46 03.3 -1.6**
ZAK pmax pmax
comp=Z,175nm,1.0s
BOK Bokaro 69.74 298 *e*P **P** **13 46 06.4 -0.6**
BOK AMB AMB 13 47 18.1
comp=Z,158nm,5.8s
YAK Yakutsk 69.78 350 P **P** **13 46 05.6 -0.8**
comp=Z,5.0nm,0.4s,baz=153,slow=1.5,SNR=6.6
YAK LR LR 14 16 04.1
comp=Z,39µm,20.3s,baz=172,slow=35
YAK Yakutsk 69.78 350 *e*P **P** **13 46 04.1 -2.3**
YAK *e**PP **pP** **13 46 14.0 -5.1**
YAK *e* 13 46 24.8
YAK *e* 13 48 40.7
YAK *e*S **S** **13 55 13.4 +1.1**
YAK *e**SS **sS** **13 55 33.9 +0.5**
YAK *e* 13 55 56.4
YAK *e*SS **SS** **13 59 39.5 -2.2**
YAK *e*SSS SSS 14 02 46.6
YAK pmax pmax
comp=Z,304nm,1.2s
YAK pmax pmax
comp=E,75nm,1.2s
YAK pmax pmax
comp=N,186nm,1.3s
YAK pmax pmax
comp=Z,6µm,8.2s
YAK pmax pmax
comp=E,4µm,8.7s
YAK pmax pmax
comp=N,1µm,4.6s
YAK smax smax
comp=N,19µm,13.6s
YAK smax smax
comp=E,9µm,12.5s
YAK MLR MLR
comp=Z,41µm,15.0s
YAK MLR MLR
comp=E,47µm,18.0s
YAK MLR MLR
comp=N,45µm,19.0s
YAK Yakutsk 69.78 350 *e*P **P** **13 46 04.7 -1.7**
comp=N,412nm,1.0s
CHLP Challavanipeta 70.02 292 *e*P **P** **13 46 07.5 -1.2**
CHLP *e* 13 46 13.6
CHLP IAmb IAmb 13 46 14.3
comp=Z,131nm,0.8s
CHLP *ep*P **pP** **13 46 17.9 -3.5**
CHLP *es*P **sP** **13 46 22.0 -4.3**
CHLP *e*PP **PP** **13 48 39.7 -4.5**
CHLP *e*S S 13 55 09.7 -6.9
CHLP *e*SKSac **SKSac** **13 56 05.2 -1.8**
CHLP *e*SS **SS** **13 59 46.7 -0.2**
CHLP IVMs_BB IVMs_BB 14 21 33.7
comp=Z,27µm,21.6s
RAMN Ramite 70.05 301 *e*P **P** **13 46 07.6 -1.6**
TLY Talaya 70.10 331 P **P** **13 46 07.7 -1.0**
comp=Z,70nm,0.9s,baz=90,slow=13,SNR=11
TLY PKPPKP **P'P'df** **14 14 12.0 +1.2**
comp=Z,1.0nm,0.4s,baz=310,slow=3.1,SNR=3.1
TLY LR LR 14 16 02.2
comp=Z,136µm,21.1s,baz=136,slow=35
TLY Talaya 70.10 331 *e*P **P** **13 46 09.5 +0.8**
TLY *e*S S 13 55 32.8 +16
TLY pmax pmax
comp=Z,139nm,1.1s
TLY MLR MLR
comp=Z,63µm,20.0s
TLY Talaya 70.10 331 P **P** **13 46 11.2 +2.5**
comp=Z,626nm,0.9s,SNR=8.6
IRK Irkutsk 70.17 332 *e*P **P** **13 46 08.6 -0.4**
IRK *e* 13 48 52.6
IRK *e*S **S** **13 55 20.1 +2.9**
IRK pmax pmax
comp=Z,384nm,2.8s
BOD Bodaibo 70.21 340 *e*P **P** **13 46 07.8 -1.3**
BOD pmax pmax
comp=Z,116nm,1.4s
VIS Vishakhapatnam 70.51 291 *e*P **P** **13 46 10.6 -1.2**
VIS AMB AMB 13 46 33.2
comp=Z,147nm,0.9s
GUN Gumba 70.95 302 *e*P **P** **13 46 12.6 -2.2**
comp=Z,395nm,0.8s
PALK Pallekele 71.04 280 P **P** **13 46 15.8 +0.6**
comp=Z,591nm,0.7s,SNR=8.5
PALK Pallekele 71.04 280 P **P** **13 46 14.2 -1.0**
comp=Z,48nm,0.8s,baz=91,slow=6.5,SNR=12
PALK LR LR 14 19 53.0
comp=Z,78µm,21.9s,baz=109,slow=38
PALK Pallekele 71.04 280 P **P** **13 46 14.2 -1.0**
PALK pmax pmax
comp=Z,48nm,0.8s
PALK MLR MLR
comp=Z,78µm,21.9s
PALK Pallekele 71.04 280 *e*P **P** **13 46 13.6 -1.6**
comp=Z,144nm,0.9s

PKI Pulchoki 71.25 302 *e*P **P** **13 46 15.5 -1.1**
comp=Z,240nm,0.9s
PKIN Phulchoki 71.26 302 *e*P **P** **13 46 15.5 -1.1**
comp=Z,218nm,1.0s
MOY Mondy 71.39 330 *e*P **P** **13 46 16.2 -0.5**
MOY pmax pmax
comp=Z,780nm,3.4s
KKN Kakani 71.42 302 *e*P **P** **13 46 15.9 -1.6**
comp=Z,246nm,0.8s
DMN Daman 71.52 302 *e*P **P** **13 46 16.9 -1.2**
comp=Z,427nm,0.8s
FALS False Pass 71.66 26 P **P** **13 46 18.1 +0.1**
comp=Z,47nm,0.6s
VNDA Vanda 71.68 177 P **P** **13 46 18.7 +0.8**
comp=Z,57nm,0.9s,baz=331,slow=6.7,SNR=55
VNDA Vanda 71.68 177 *e*P **P** **13 46 17.6 -0.2**
VNDA pmax pmax
comp=Z,59nm,1.4s
VNDA Vanda 71.68 177 *e*P **P** **13 46 17.6 -0.2**
comp=Z,59nm,1.4s
PVM Polavaram 71.99 290 *e*P **P** **13 46 18.9 -1.8**
PVM *e* 13 46 24.4
PVM IAmb IAmb 13 46 30.2
comp=Z,156nm,1.2s
PVM *e*S **S** **13 55 33.7 -5.9**
PVM *e*SKSac **SKSac** **13 56 20.1 -1.8**
PVM IVMs_BB IVMs_BB 14 14 27.9
comp=Z,23µm,25.8s
GKN Gorkha 72.03 302 *e*P **P** **13 46 19.5 -1.5**
comp=Z,361nm,0.9s
SBA Scott Base 72.26 176 *e*P **P** **13 46 23.1 +1.8**
SBA MLR MLR
comp=Z,77µm,22.0s
SBA Scott Base 72.26 176 *e*P **P** **13 46 23.1 +1.8**
comp=Z,13nm,1.1s
SBA LR LR
comp=Z,77µm,22.0s
KOLN Koldanda 72.84 301 *e*P **P** **13 46 24.4 -1.5**
comp=Z,270nm,0.8s
DANN Dangsing 72.87 302 *e*P **P** **13 46 23.9 -2.3**
AIS Amsterdam Isla 72.96 232 S S 13 55 37.0 -13
AIS SS **SS** **14 00 26.0 -5.3**
AIS L L 14 03 00.0
AIS R 14 09 00.0
SKHT Srikalahasti 73.10 286 *e*P **P** **13 46 25.2 -2.2**
SKHT *e* 13 46 31.1
SKHT *ep*P **pP** **13 46 36.4 -3.7**
SKHT IAmb IAmb 13 46 38.2
comp=Z,121nm,1.0s
SKHT *e*S **S** **13 55 50.8 -1.5**
SKHT *e*SKSac **SKSac** **13 56 28.3 -2.1**
SKHT *e*SS **SS** **14 00 34.3 0.0**
SKHT IVMs_BB IVMs_BB 14 14 38.3
comp=Z,45µm,31.7s
ADKI Addanki 73.25 288 *e*P **P** **13 46 26.2 -2.1**
ADKI *e* 13 46 32.4
ADKI IAmb IAmb 13 46 33.0
comp=Z,160nm,0.9s
ADKI *ep*P **pP** **13 46 37.6 -3.4**
ADKI *e*PP **PP** **13 49 11.6 -0.4**
ADKI *e*S **S** **13 55 51.5 -2.5**
ADKI *e*SKSac **SKSac** **13 56 29.0 -2.5**
ADKI IVMs_BB IVMs_BB 14 22 05.5
comp=Z,39µm,22.0s
SDPT Sand Point 73.27 27 *e*P **P** **13 46 25.4 -2.2**
comp=Z,215nm,0.9s
RKT Rikitea 73.29 112 *e*P **P** **13 46 29.5 +1.1**
RKT comp=Z,375nm,1.2s *e*S **S** **13 55 49.6 -4.7**
RKT comp=Z,67µm,32.2s *e*SS **SS** **14 00 29.8 -7.1**
RKT comp=Z,36µm,33.8s *e*LQ LQ 14 05 30.0
RKT comp=Z,136µm,40.8s *e*LR LR 14 08 31.7
comp=Z,65µm,32.8s
NJS Nagarjunasagar 74.02 289 *e*P P 13 46 29.5 -3.3
NJS *e* 13 46 36.0
NJS *ep*P pP 13 46 41.7 -3.8
NJS IAmb IAmb 13 46 41.8
comp=Z,96nm,1.1s
NJS *e*PP **PP** **13 49 18.7 +0.2**
NJS *e*S **S** **13 56 01.2 -1.5**
NJS *e*SKSac **SKSac** **13 56 33.2 -4.1**
NJS IVMs_BB IVMs_BB 14 16 13.3
comp=Z,23µm,26.6s
RCLA Racherla 74.14 288 *e*P **P** **13 46 30.5 -3.0**
RCLA IAmb IAmb 13 46 34.4
comp=Z,23nm,0.7s
RCLA *e* 13 46 39.9
RCLA *ep*P **pP** **13 46 42.2 -4.0**
RCLA *e*PP **PP** **13 49 19.4 -0.2**
RCLA *e*S **S** **13 56 02.6 -1.5**
RCLA *e*SKSac **SKSac** **13 56 34.2 -4.0**
RCLA *e*SS **SS** **14 00 48.1 -2.1**
RCLA IVMs_BB IVMs_BB 14 15 25.5
comp=Z,33µm,31.2s
SRLM Srisailam 74.32 289 *e*P **P** **13 46 32.1 -2.5**
SRLM *e* 13 46 38.1
SRLM IAmb IAmb 13 46 38.8
comp=Z,163nm,0.8s
SRLM *ep*P **pP** **13 46 43.8 -3.6**
SRLM *e*PP **PP** **13 49 20.1 -1.1**
SRLM *e*S **S** **13 56 04.9 -1.2**
SRLM *e*SKSac **SKSac** **13 56 35.0 -4.6**
SRLM *e*SS **SS** **14 00 50.8 -2.2**
SRLM IVMs_BB IVMs_BB 14 14 43.2
comp=Z,33µm,27.7s
RPR Rampur 74.50 291 *e*P **P** **13 46 33.1 -2.4**
RPR *e* 13 46 39.6
RPR *ep*P **pP** **13 46 44.7 -3.6**
RPR IAmb IAmb 13 46 44.8
comp=Z,205nm,1.1s
RPR *e*PP **PP** **13 49 22.0 -0.5**
RPR *e*S **S** **13 56 04.4 -3.6**
RPR *e*SKSac **SKSac** **13 56 39.5 -1.3**
RPR *e*SS **SS** **14 00 56.1 +0.6**
RPR IVMs_BB IVMs_BB 14 23 24.3
comp=Z,28µm,21.5s
CHGN Chignik 74.78 27 *e*P **P** **13 46 33.4 -3.0**
TRD Trivandrum 74.89 280 *e*P **P** **13 46 37.5 -0.5**
TRD AMB AMB 13 46 46.1
comp=Z,322nm,0.6s
HYB Hyderabad 74.89 290 *i*P P 13 46 34.5 -3.4
HYB *e*S **SKiKP** **13 56 05.0 +5.6**
HYB LR LR 14 23 00.0
comp=Z,138nm,24.0s
HYB Hyderabad 74.89 290 *e*P **P** **13 46 35.3 -2.6**
HYB AMB AMB 13 46 47.3
comp=Z,157nm,0.9s
HYBB Hyderabad (bro 74.89 290 *e*P **P** **13 46 35.2 -2.7**
HYBB *e* 13 46 41.5
HYBB IAmb IAmb 13 46 44.4
comp=Z,105nm,1.0s
HYBB *ep*P **pP** **13 46 46.7 -3.9**
HYBB *e*PcP **pwP** **13 46 49.3 -1.3**
HYBB *e*PP **PP** **13 49 23.7 -2.4**
HYBB *e*S **S** **13 56 12.4 -0.1**
HYBB *e*SKSac **SKSac** **13 56 41.9 -2.0**
HYBB *e*SS **SS** **14 00 57.8 -3.9**
HYBB IVMs_BB IVMs_BB 14 22 44.2
comp=Z,30µm,22.3s
HVS Khovu-Aksy 74.91 327↑ *e*P **P** **13 46 37.3 -0.1**
HVS pmax pmax
comp=Z,74nm,0.8s
WMQ Urumqi 75.22 318 P **P** **13 46 39.3 -0.1**
WMQ *p*P **PcP** **13 46 52.6 0.0**
WMQ *s*P **sP** **13 47 00.3 +3.3**
WMQ PP PP 13 49 34.9 +6.6
WMQ S **S** **13 56 12.9 -2.5**
WMQ PMZ
comp=Z,160nm,1.2s
WMQ LN
comp=Z,143µm,19.4s
WMQ LE
comp=Z,151µm,20.1s
WMQ LZ
comp=Z,164µm,21.5s
SRSP Sriramsagar 75.39 291 *e*P **P** **13 46 38.0 -2.8**
SRSP IAmb IAmb 13 46 47.2
comp=Z,219nm,1.2s
SRSP *ep*P **pP** **13 46 49.6 -3.8**
SRSP *e*PcP **pwP** **13 46 52.1 -1.4**
SRSP *e*PP **PP** **13 49 29.1 -1.1**
SRSP *e*S **S** **13 56 15.2 -2.8**
SRSP *e*SKSac **SKSac** **13 56 44.0 -3.6**
SRSP *e*SS **SS** **14 01 07.7 -1.4**
SRSP IVMs_BB IVMs_BB 14 21 00.8
comp=Z,22µm,23.9s
URV Uravakonda 75.65 287 *e*P **P** **13 46 39.9 -2.4**
URV *e* 13 46 46.1
URV IAmb IAmb 13 46 47.1
comp=Z,89nm,0.7s
URV *ep*P **PcP** **13 46 51.2 -3.8**
URV *e*PP **PP** **13 49 28.6 -3.9**
URV *e*S **S** **13 56 19.9 -1.1**
URV *e*SKSac **SKSac** **13 56 47.9 -1.8**
URV *e*SS **SS** **14 01 07.2 -6.1**
URV IVMs_BB IVMs_BB 14 15 50.4
comp=Z,44µm,32.4s
LGTI Lohaghat 76.14 302 *e*P **P** **13 46 43.8 -0.9**
KLRI Killari 76.85 290 *e*P **P** **13 46 46.6 -2.5**
KLRI IAmb IAmb 13 46 57.4
comp=Z,470nm,1.8s
KLRI *ep*P **PcP** **13 46 58.0 -2.2**
KLRI *es*P **sP** **13 47 02.1 -4.7**
KLRI *e*S **S** **13 56 33.0 -1.1**
KLRI *e*SKSac **SKSac** **13 56 54.9 -3.5**
KLRI IVMs_BB IVMs_BB 14 21 48.9
comp=Z,32µm,22.9s
AKL Akola 76.97 293 *e*P **P** **13 46 47.6 -2.1**
AKL AMB AMB 13 46 56.6
comp=Z,232nm,0.9s
BHPL Bhopal 77.13 295 *e*P **P** **13 46 48.4 -2.1**
BHPL AMB AMB 13 47 00.9
comp=Z,121nm,1.1s
H08S2 Diego Garcia H 77.53 264 P **P** **13 46 49.9 -2.7**
baz=37,slow=8.0,SNR=59
H08S3 Diego Garcia H 77.54 264 P **P** **13 46 49.8 -2.9**
baz=37,slow=8.0,SNR=52
H08S1 Diego Garcia H 77.55 264 P **P** **13 46 50.3 -2.4**
baz=37,slow=8.0,SNR=56
DGAR Diego Garcia 77.59 264 P **P** **13 46 55.5 +2.3**
comp=Z,7µm,1.0s,SNR=5.3
DGAR Diego Garcia 77.59 264 P **P** **13 46 51.3 -1.9**
DGAR pmax pmax
comp=Z,1µm,1.0s
DGAR MLR MLR
comp=Z,82µm,20.0s
DGAR Diego Garcia 77.59 264 P **P** **13 46 51.3 -1.9**
comp=Z,1µm,1.0s
DGAR LR LR
comp=Z,82µm,20.0s
OHAK Old Harbor 77.62 28 *e*P **P** **13 46 49.6 -2.9**
comp=Z,138nm,1.0s
PTCN Pitcairn Islan 77.74 114 PFAKE 13 47 10.0 +16
PTCN LR LR
comp=Z,31µm,20.0s
KRAR Krasnoyarsk 77.81 331⇓ *e*P **P** **13 46 53.7 +0.1**
KRAR pmax pmax
comp=Z,112nm,2.5s
DDI Dehra Dun 78.20 303 *e*P **P** **13 46 54.5 -1.9**
DDI AMB AMB 13 47 52.3
comp=Z,226nm,1.0s
KDAK Kodiak Island 78.25 27 P **P** **13 46 55.8 -0.1**
comp=Z,618nm,1.0s,SNR=5.3
KDAK Kodiak Island 78.25 27 *i*P P 13 46 59.3 +3.4
KDAK Kodiak Island 78.25 27 PFAKE 13 47 10.0 +14
KDAK LR LR
comp=Z,109µm,20.0s
NDI New Delhi 78.52 301 *e*P **P** **13 46 56.0 -2.1**
NDI *e*S **S** **13 56 52.0 +0.3**
GOA Goa 79.01 287 *e*P **P** **13 47 00.3 -0.7**
H08N1 Diego Carcia H 79.10 265 P **P** **13 47 04.1 +2.8**
baz=144,slow=3.5,SNR=34
H08N2 Diego Garcia H 79.11 265 P **P** **13 46 59.9 -1.4**
baz=144,slow=3.5,SNR=58
H08N3 Diego Garcia H 79.12 265 P **P** **13 47 04.0 +2.6**
baz=144,slow=3.5,SNR=26
SMLA Simla 79.13 303 *i*P **P** **13 46 59.4 -2.0**
SMLA AMB AMB 13 47 10.2
comp=Z,446nm,0.5s
SMLA *i*S **S** **13 56 56.0 -2.1**
PAF Port-aux-Franc 79.22 221 S **S** **13 56 54.0 -4.4**
PAF SS **SS** **14 01 59.0 -6.4**
PAF L L 14 07 00.0
PAF R 14 13 00.0
PAF Port-aux-Franc 79.22 221 PFAKE 13 47 10.0 +8.5
PAF LR LR
comp=Z,111µm,20.0s
SDNR Sundarnagar 79.39 303 *ex* **P** **13 47 05.0 +2.1**
POO Poona 79.50 290⇓ *iP* **P** **13 47 02.0 -1.7**
comp=Z,455nm,1.2s
POO *e*P **P** **13 47 02.1 -1.7**
POO AMB AMB 13 47 16.2
comp=Z,513nm,0.5s
RSO Redoubt South 79.60 25 *e*P **P** **13 47 03.0 -0.6**
comp=Z,145nm,0.7s
BHK Bhakra 79.83 303 *ex* P 13 47 14.5 +9.2
MK31 Makanchi Array 79.87 320 *e*P **P** **13 47 03.3 -1.9**
MK31 Makanchi Array 79.87 320 *e*P **P** **13 47 03.3 -1.9**
MKAR Makanchi Array 79.87 320 P **P** **13 47 03.2 -2.0**
comp=Z,3.9nm,0.4s,baz=107,slow=7.2,SNR=30
MKAR PKKPbc **PKKPbc** **14 05 48.8 -4.3**
comp=Z,2.3nm,0.7s,baz=284,slow=3.9,SNR=6.0
MKAR PKPPKP **P'P'df** **14 13 51.6 -2.8**
comp=Z,1.2nm,0.9s,baz=255,slow=2.4,SNR=4.0
MKAR LR LR 14 21 41.0
comp=Z,188µm,20.1s,baz=96,slow=35
MKAR Makanchi Array 79.87 320 *i*P **P** **13 47 06.0 +0.8**
DHRM DHARAMSHALA 80.12 304 *e*P **P** **13 47 04.9 -2.2**
DLH Dalhousie 80.46 304 *ex* **P** **13 47 11.0 +2.1**
ZAA0 Zalesovo Array 81.01 327 *e*P P 13 47 07.9 -3.2
ZALV Zalesovo Beam 81.01 327 P **P** **13 47 08.4 -2.7**
comp=Z,26nm,0.7s,baz=116,slow=5.6,SNR=22
ZALV PKKPbc **PKKPbc** **14 05 49.7 -1.0**
comp=Z,5.3nm,0.7s,baz=300,slow=2.5,SNR=6.9
ZALV PKPPKP **P'P'df** **14 13 50.7 -1.0**
comp=Z,3.9nm,0.9s,baz=263,slow=2.3,SNR=4.7
ZALV LR LR 14 23 35.1
comp=Z,127µm,19.1s,baz=128,slow=36
PPLA Purkeypile 81.14 23 *e*P **P** **13 47 12.1 +0.3**
comp=Z,16nm,0.7s
RC01 Rabbit Creek A 81.19 25 *e*P P 13 47 07.4 -4.5
comp=Z,29nm,0.9s
BHV Bhavnagar 81.63 293 *e*P **P** **13 47 14.0 -1.1**
PMR Palmer 81.70 25 *e*P **P** **13 47 12.0 -2.5**
PMR pmax pmax
comp=Z,33nm,1.3s
PMR Palmer 81.70 25 *e*P **P** **13 47 11.9 -2.5**
comp=Z,33nm,1.3s
MID Middleton Isla 81.90 27 *e*P **P** **13 47 17.1 +1.5**
MID pmax pmax
comp=Z,492nm,1.4s
MID Middleton Isla 81.90 27 *e*P **P** **13 47 17.1 +1.5**
comp=Z,492nm,1.4s
KSH Kashi 82.13 311 P **P** **13 47 17.5 0.0**
KSH *p*P **pP** **13 47 33.1 +2.7**
KSH *s*P **sP** **13 47 38.4 +3.1**
KSH PP **PP** **13 50 30.1 +3.9**
KSH S S 13 57 21.6 -7.9
KSH SKS **SKSac** **13 57 32.1 -2.9**
KSH *s*S **sS** **13 57 53.0 +1.9**
KSH PMZ
comp=Z,68nm,1.0s
KSH LN
comp=Z,67µm,18.1s
KSH LE
comp=Z,72µm,15.9s
KSH LZ
comp=Z,105µm,19.3s
SML Sawmill 82.13 25 *e*P **P** **13 47 14.8 -2.1**
SML pmax pmax
comp=Z,51nm,0.8s
SML Sawmill 82.13 25 *e*P **P** **13 47 14.8 -2.1**
comp=Z,51nm,0.8s
TRF Thorofare Moun 82.16 23 *e*P **P** **13 47 14.0 -3.2**
comp=Z,37nm,0.4s
BPAW Bear Paw Mtn. 82.23 22 *e*P **P** **13 47 14.6 -2.8**
comp=Z,37nm,1.2s
IM04 Indian Mountai 82.25 20 *e*P **P** **13 47 15.0 -2.5**
MCK McKinley 82.83 23 *e*P **P** **13 47 17.5 -3.0**
MCK pmax pmax
comp=Z,56nm,0.8s
MCK McKinley 82.83 23 *e*P **P** **13 47 17.5 -3.0**
comp=Z,56nm,0.8s
DIV Divide 82.91 26 *e*P **P** **13 47 19.1 -2.0**
comp=Z,197nm,0.9s
TKM2 Tokmak 2 83.26 314 *e*P **P** **13 47 21.0 -2.4**

TKM2 pmax pmax
comp=Z,540nm,1.6s
TKM2 MLR MLR
comp=Z,312µm,22.0s
TKM2 Tokmak 2 83.26 314 *e*P **P 13 47 21.0 -2.4**
comp=Z,540nm,1.6s
TKM2 LR LR
comp=Z,312µm,22.0s
KZA Kyzart 83.30 313 P **P 13 47 22.3 -1.6**
SNR=13
BMRM Bremner River 83.36 26 *e*P **P 13 47 21.2 -2.1**
comp=Z,84nm,0.9s
KURK Kurchatov 83.44 323 P **P 13 47 22.0 -1.9**
comp=Z,1µm,1.1s,SNR=6.2
KURK Kurchatov 83.44 323 *e*P **P 13 47 21.1 -2.8**
KURK pmax pmax
comp=Z,264nm,1.0s
KURK MLR MLR
comp=Z,231µm,21.0s
KURK Kurchatov 83.44 323 *e*P **P 13 47 21.1 -2.8**
comp=Z,264nm,1.0s
KURK PKiKP **PKiKP 13 52 41.2 0.0**
KURK PKKPbc **PKKPbc 14 05 43.6 -1.4**
KURK P'P' 14 13 41.7
KURK LR LR
comp=Z,231µm,21.0s
KURBB Kurchatov Arra 83.47 322 P **P 13 47 22.0 -2.0**
comp=Z,13nm,0.9s,baz=99,slow=5.8,SNR=40
KURBB PKiKP **PKiKP 13 52 41.2 0.0**
comp=Z,5.3nm,0.8s,baz=119,slow=1.9,SNR=4.3
KURBB PKKPbc **PKKPbc 14 05 43.6 -1.3**
comp=Z,5.6nm,0.8s,baz=296,slow=2.8,SNR=6.8
KURBB PKPPKP P'P'df 14 13 41.7 -5.9
comp=Z,1.0nm,0.9s,baz=269,slow=2.4,SNR=6.4
MAW Mawson 83.61 203 P **P 13 47 24.6 +0.2**
comp=Z,48nm,0.8s,baz=93,slow=6.4,SNR=42
MAW PKKPbc **PKKPbc 14 05 45.1 +0.4**
comp=Z,3.8nm,0.7s,baz=264,slow=4.5,SNR=5.7
MAW PKPPKP P'P'df 14 13 41.6 -6.8
comp=Z,6.4nm,1.2s,baz=252,slow=8.1,SNR=4.1
MAW LR LR 14 21 43.8
comp=Z,157µm,21.7s,baz=81,slow=34
MAW Mawson 83.61 203 P **P 13 47 24.1 -0.3**
baz=83,SNR=52
KBK Karagaybulak 83.66 314 P **P 13 47 24.0 -1.4**
SNR=13
COLA College 83.80 22 *e*P P 13 47 21.6 -3.8
COLA pmax pmax
comp=Z,173nm,0.9s
COLA MLR MLR
comp=Z,84µm,20.0s
COLA College 83.80 22 *e*P P 13 47 21.6 -3.8
comp=Z,172nm,0.9s
COLA LR LR
comp=Z,84µm,20.0s
PAX Paxson 83.86 24 *e*P **P 13 47 23.3 -2.6**
PAX pmax pmax
comp=Z,59nm,1.1s
PAX Paxson 83.86 24 *e*P **P 13 47 23.3 -2.6**
comp=Z,59nm,1.1s
UCH Uchtor 83.87 314 P **P 13 47 25.8 -1.1**
SNR=13
CHMS Chumysh 83.88 314 P P 13 47 30.6 +4.2
SNR=7.9
QSPA South Pole Qui 83.92 180 P **P 13 47 26.3 0.0**
comp=Z,279nm,1.0s,baz=349,slow=2.4,SNR=80
QSPA PKKPbc **PKKPbc 14 05 42.6 -2.2**
comp=Z,7.4nm,0.9s,baz=190,slow=2.8,SNR=6.2
QSPA South Pole Qui 83.92 180 *e*P **P 13 47 25.9 -0.4**
comp=Z,12nm,1.2s
QSPA PKKPbc **PKKPbc 14 05 42.6 -2.2**
QSPA LR LR
comp=Z,111µm,20.0s
FRU Bishkek 83.94 314 *i* P P 13 47 31.0 +4.3
FRU *e*S **S 13 57 50.0 +2.4**
FRU MLR MLR
comp=Z,189µm,21.0s
FRU MLR MLR
comp=E,212µm,21.0s
AAK Ala-Archa 83.98 314 PFAKE 13 47 40.0 +13
AAK LR LR
comp=Z,419µm,21.0s
ILAR Eielson Array 84.11 22 P P 13 47 23.8 -3.3
comp=Z,22nm,0.8s,baz=253,slow=4.9,SNR=66
ILAR PKiKP **PKiKP 13 52 43.5 +1.7**
comp=Z,2.5nm,0.8s,baz=287,slow=3.7,SNR=3.4
ILAR PKKPbc **PKKPbc 14 05 44.1 +0.1**
comp=Z,3.0nm,0.8s,baz=12,slow=1.2,SNR=8.7
ILAR PKPPKP **P'P'df 14 13 43.6 -1.9**
comp=Z,1.9nm,1.0s,baz=110,slow=1.8,SNR=5.4
ILAR LR LR 14 20 42.4
comp=Z,121µm,21.3s,baz=260,slow=33
USP Ospenovka 84.13 315 P **P 13 47 28.6 +0.9**
SNR=16
COLD Coldfoot 84.13 20 *e*P **P 13 47 24.9 -2.1**
comp=Z,27nm,0.7s
BHJ Bhuj 84.15 294 *e*P **P 13 47 26.6 -1.5**
BHJ AMB AMB 13 47 43.8
comp=Z,213nm,1.5s
AML Almayashu 84.44 313 P P 13 47 34.6 +4.9
SNR=7.2
EKS2 Erkin-Say 84.50 314 P **P 13 47 28.4 -1.2**
SNR=15
EKS2 Erkin-Say 84.50 314 *e*P **P 13 47 28.2 -1.4**
EKS2 pmax pmax
comp=Z,159nm,1.1s
EKS2 MLR MLR
comp=Z,442µm,22.0s
EKS2 Erkin-Say 84.50 314 *e*P **P 13 47 28.2 -1.4**
comp=Z,159nm,1.1s
EKS2 LR LR
comp=Z,442µm,22.0s
MENT Mentasta 84.56 25 *e*P **P 13 47 27.1 -2.3**
EGAK Eagle 86.34 23 *e*P **P 13 47 36.5 -1.6**
comp=Z,50nm,1.0s
EGAK LR LR
comp=Z,219µm,21.0s
KBL Kabul 86.52 305 *e*P **P 13 47 37.4 -2.6**
KBL pmax pmax
comp=Z,54nm,0.7s
KBL Kabul 86.52 305 *e*P **P 13 47 37.4 -2.6**
comp=Z,54nm,0.7s
KKAR Karatay Array 86.94 314 *e*P **P 13 47 39.1 -2.5**
KKAR pmax pmax
comp=Z,78nm,0.8s
KKAR Karatay Array 86.94 314 *e*P **P 13 47 39.1 -2.5**
comp=Z,78nm,0.8s
H02N1 VAN INLET T-PH 86.97 36 P **P 13 47 44.2 +2.7**
SNR=42
H02S1 DAWSON INLET T 87.00 36 P **P 13 47 42.0 +0.4**
SKAG Skagway 87.14 29 *e*P **P 13 47 41.4 -0.8**
comp=Z,235nm,1.2s
CRAG Craig 87.19 34 *e*P **P 13 47 42.6 +0.1**
comp=Z,181nm,1.4s
WRAK Wrangell Islan 87.86 33 *e*P **P 13 47 45.8 +0.2**
comp=Z,163nm,1.2s
WRAK LR LR
comp=Z,191µm,20.0s
BVAR Borovoye Array 88.96 323 P **P 13 47 48.5 -2.5**
comp=Z,13nm,0.8s,baz=101,slow=5.6,SNR=29
BVAR PKKPbc **PKKPbc 14 05 34.0 +2.2**
comp=Z,2.7nm,0.8s,baz=290,slow=4.3,SNR=5.3
BVAR PKPPKP **P'P'df 14 13 39.6 +2.2**
comp=Z,1.1nm,0.8s,baz=270,slow=1.4,SNR=3.9
BRVK Borovoye 89.03 323 *e*P **P 13 47 51.0 -0.3**
BRVK pmax pmax
comp=Z,53nm,1.0s
BRVK Borovoye 89.03 323 *e*P **P 13 47 48.1 -3.2**
comp=Z,31nm,0.8s
BRVK LR LR
comp=Z,82µm,20.0s
BBB Bella Bella 89.37 37 LR LR 14 23 31.8
comp=Z,111µm,19.1s,baz=268,slow=33
DLBC Dease Lake 89.54 31 PKiKP PKPPKP **P'P'df**
comp=Z,1.7nm,0.7s,baz=277,slow=5.2,SNR=9.0
DLBC LR LR 14 21 13.2
comp=Z,205µm,21.7s,baz=259,slow=31
DLBC Dease Lake 89.54 31 *e*P **P 13 47 52.4 -1.3**
comp=Z,229nm,0.6s
DLBC P'P' 14 13 36.8
INK Inuvik 90.37 21 P **P 13 47 54.9 -2.3**
comp=Z,57nm,1.0s,baz=258,slow=3.9,SNR=20
INK PKiKP **PKiKP 13 52 53.0 +1.0**
comp=Z,6.9nm,0.8s,baz=213,slow=1.6,SNR=5.1
INK PKPPKP **P'P'df 14 13 31.4 -2.3**
comp=Z,1.7nm,0.8s,baz=203,slow=7.7,SNR=3.2
INK LR LR 14 27 19.1
comp=Z,98µm,19.5s,baz=248,slow=35
INK Inuvik 90.37 21 *e*P **P 13 47 54.2 -3.0**
INK pmax pmax
comp=Z,91nm,0.8s
INK Inuvik 90.37 21 *e*P **P 13 47 54.2 -3.0**
comp=Z,91nm,0.8s
INK PKiKP **PKiKP 13 52 53.0 +1.0**
INK P'P' 14 13 31.4
KEBM Edson Butte 90.42 47 P **P 13 47 59.4 +1.3**
comp=Z,86nm,1.0s
KCPM Cahto Peak 90.56 50 *e*P **P 13 47 59.4 +0.5**
comp=Z,51nm,0.9s
KHMM Horse Mountain 90.60 49 *e*P **P 13 47 59.7 +0.6**
comp=Z,123nm,0.9s
KIPM Iron Peak 90.65 50 *e*P **P 13 47 59.8 +0.4**
comp=Z,181nm,1.2s
L02D Cave Junction, 90.86 48 P **P 13 48 00.1 0.0**
baz=91,SNR=6.0
MRIV Mauritius Mete 90.88 250 *e*P **P 13 47 59.6 -1.2**
MPOR Mary's Peak 91.19 46 P P 13 48 06.2 +4.4
I03D Drain, OR 91.24 46 P **P 13 48 01.5 -0.3**
baz=91,SNR=11
M02C Callahan 91.32 49 P **P 13 48 02.7 +0.4**
baz=91,SNR=6.4
NLWA Neilton Lookou 91.34 43 *e*P **P 13 48 02.1 -0.2**
comp=Z,76nm,1.1s
NLWA LR LR
comp=Z,133µm,21.0s
COR Corvallis 91.38 45 *e*P **P 13 48 03.1 +0.7**
COR pmax pmax
comp=Z,114nm,1.3s
COR Corvallis 91.38 45 *e*P **P 13 48 03.1 +0.7**
comp=Z,114nm,1.3s
N02D Trinity Center 91.38 49 P **P 13 48 03.6 +1.0**
baz=91
HUMO Hull Mountain 91.39 47 *e*P **P 13 48 02.8 +0.2**
comp=Z,86nm,0.8s
WDC Whiskeytown Da 91.46 50 P **P 13 48 00.8 -2.1**
WDC pmax pmax
comp=Z,148nm,1.4s
WDC Whiskeytown Da 91.46 50 P **P 13 48 00.8 -2.1**
comp=Z,148nm,1.4s
G03D McMinnville, O 91.48 45 P **P 13 48 04.2 +1.3**
baz=92
PGC Sidney 91.78 41 P **P 13 48 07.3 +3.1**
comp=Z,52nm,1.0s
SYO Syowa Base 91.79 200⇓ *e*P **P 13 48 01.7 -2.1**
I04A Tendick Farm, 91.92 46 P **P 13 48 04.6 -0.5**
baz=92,SNR=13
J04D Umpqua Nationa 92.08 47 P **P 13 48 06.0 -0.1**
baz=92,SNR=50
M04C Macdoel 92.12 48 P **P 13 48 06.0 -0.1**
baz=92,SNR=37
HOG Hogback Mounta 92.27 48 P **P 13 48 10.1 +3.2**
K04D Chiloquin, OR 92.27 48 P **P 13 48 07.1 +0.3**
baz=92,SNR=9.7
RER Riviere de l'E 92.41 249 PFAKE 13 48 20.0 +12
RER LR LR
comp=Z,84µm,21.0s
BPO Bald Peter 92.53 46 P P 13 48 12.3 +4.3
J05D Fort Rock, OR 92.72 47 P **P 13 48 08.9 0.0**
baz=93,SNR=64
I05D Terrebonne, OR 92.75 46 P **P 13 48 08.8 -0.1**
baz=93,SNR=17
G05D Wamic, OR 92.85 45 P **P 13 48 09.5 +0.2**
baz=93
CMB Columbia Colle 92.86 52 *e*P **P 13 48 08.9 -0.6**
CMB pmax pmax
comp=Z,68nm,0.9s
CMB Columbia Colle 92.86 52 *e*P **P 13 48 08.9 -0.6**
comp=Z,68nm,0.9s
SMMC Simmler 92.91 55 P **P 13 48 10.2 +0.4**
baz=93
PKM Peak Mountain 93.02 55 P **P 13 48 10.7 +0.2**
baz=93
BSC Santa Cruz Isl 93.09 56 P **P 13 48 11.3 +0.6**
baz=93
MOD Modoc 93.28 48 *e*P **P 13 48 09.7 -1.8**
comp=Z,4.6nm,0.4s
BLG Laguna Peak 93.58 56 P **P 13 48 13.4 +0.5**
baz=94
RCTC Rector, Farmer 93.62 54 P **P 13 48 13.5 +0.6**
baz=94
WAKR Walker 93.64 52 *e*P **P 13 48 12.7 -0.6**
comp=Z,17nm,0.8s
ARVC Arvin 93.85 55 P **P 13 48 15.1 +1.0**
baz=94
OSI Osito Adit 93.90 56 P **P 13 48 15.5 +1.1**
baz=94
OSI Osito Adit 93.90 56 *e*P **P 13 48 15.1 +0.7**
comp=Z,106nm,1.1s
SCI San Clemente I 93.91 57 P **P 13 48 15.0 +0.6**
baz=94
IMYA Miami 93.99 306 *e*P **P 13 48 13.5 -1.5**
MLAC Mammoth Lakes 94.05 53 P **P 13 48 16.2 +1.0**
baz=94
CIS Catalina Islan 94.07 57 P **P 13 48 15.2 0.0**
baz=94,SNR=43
RSW Rattlesnake Hi 94.16 44 P P 13 48 18.6 +3.2
FMP Fort Macarthur 94.18 57 P **P 13 48 16.1 +0.5**
baz=94
ISA Isabella 94.18 55 *e*P **P 13 48 15.4 -0.3**
ISA pmax pmax
comp=Z,53nm,1.0s
ISA Isabella 94.18 55 P **P 13 48 15.8 0.0**
baz=94,SNR=29
ISA Isabella 94.18 55 *e*P **P 13 48 15.4 -0.3**
comp=Z,53nm,1.0s
DECC Green Verdugo 94.19 56 P **P 13 48 16.2 +0.4**
baz=94,SNR=16
HAWA Hanford 94.20 44 P **P 13 48 14.8 -0.6**
comp=Z,67nm,1.1s
HAWA LR LR
comp=Z,141µm,20.0s
H2OWA Water 94.27 44 P P 13 48 20.0 +4.3
PASC Pasadena Art C 94.31 56 *e*P **P 13 48 15.9 -0.3**
comp=Z,316nm,1.3s
MWC Mount Wilson 94.42 56 *e*P **P 13 48 17.4 +0.4**
MWC pmax pmax
comp=Z,487nm,1.3s
MWC Mount Wilson 94.42 56 *e*P **P 13 48 17.4 +0.4**
comp=Z,487nm,1.3s
TIN Tinemaha 94.48 53 P **P 13 48 17.5 +0.4**
baz=94,SNR=18
EDW2 Edwards Air Fo 94.52 56 P **P 13 48 17.4 +0.1**
baz=94,SNR=87
NVAR Mina Array Bea 94.52 52 P **P 13 48 17.1 -0.3**
comp=Z,62nm,1.0s,baz=255,slow=5.5,SNR=87
NVAR PKiKP **PKiKP 13 53 03.2 +2.8**
comp=Z,9.7nm,0.9s,baz=269,slow=3.6,SNR=4.3
NVAR PKKPbc **PKKPbc 14 05 19.6 +2.4**
comp=Z,0.6nm,0.5s,baz=104,slow=2.9,SNR=5.0
NVAR PKPPKP **P'P'df 14 13 30.8 +2.3**
comp=Z,1.3nm,0.8s,baz=114,slow=1.7,SNR=4.8
WVOR Wild Horse Val 94.55 48 *e*P **P 13 48 16.6 -0.7**
WVOR pmax pmax
comp=Z,212nm,1.6s
WVOR MLR MLR
comp=Z,177µm,19.0s
WVOR Wild Horse Val 94.55 48 *e*P **P 13 48 16.6 -0.7**
comp=Z,212nm,1.6s
WVOR LR LR
comp=Z,177µm,19.0s
CWC Cottonwood Cre 94.56 54 P **P 13 48 17.6 0.0**
baz=95,SNR=38
IMOG Moghan 94.58 306 *e*P **P 13 48 16.9 -1.0**
MSEY Mahe Island 94.65 265 P P 13 48 13.3 -5.0
MSEY Mahe Island 94.65 265 P P 13 48 13.3 -5.0
BFSC Mount Baldy Ra 94.75 56 P **P 13 48 19.0 +0.5**
baz=95,SNR=35
LRMC Laurel Mountai 94.81 55 P **P 13 48 19.3 +0.6**
baz=95,SNR=56
OD2 Odessa Site #2 94.83 43 P **P 13 48 19.4 +1.1**
DAC Darwin (Calif) 94.94 54 *e*P **P 13 48 19.2 -0.1**
DAC pmax pmax
comp=Z,272nm,1.5s
DAC Darwin (Calif) 94.94 54 *e*P **P 13 48 19.2 -0.1**
comp=Z,272nm,1.5s
ABKAR Akbulak array 95.00 319 *e*P P 13 48 15.3 -3.7
comp=Z,3.3nm,0.7s
MPMC Manual Prospec 95.01 54 P **P 13 48 19.9 +0.2**
baz=95,SNR=42
SVE Sverdlovsk 95.03 327 *e*P **P 13 48 20.6 +1.6**
SVE pmax pmax
comp=Z,41nm,1.1s
MURC Murrieta 95.08 57 P **P 13 48 20.5 +0.7**
baz=95,SNR=21
109C Camp Elliot, M 95.12 58 P **P 13 48 20.9 +0.9**
baz=95,SNR=30
GRAC Grapevine Rang 95.17 53 P **P 13 48 20.2 +0.1**
baz=95,SNR=40
IKRD Kardeh 95.29 306 *e*P P 13 48 16.4 -4.6
RRX Edison Barstow 95.33 56 P **P 13 48 21.2 +0.3**
baz=95
TPH Tonopah 95.35 52 *e*P **P 13 48 20.6 -0.6**
TPH pmax pmax
comp=Z,74nm,0.9s
TPH Tonopah 95.35 52 *e*P **P 13 48 20.6 -0.6**
comp=Z,74nm,0.9s
BBRC Big Bear Solar 95.36 56 P **P 13 48 21.5 +0.1**
baz=95,SNR=7.5
BAR Barrett 95.47 58 *e*P **P 13 48 22.0 +0.4**
comp=Z,185nm,1.3s
BMN Battle Mountai 95.49 50 *e*P **P 13 48 21.7 0.0**
BMN pmax pmax
comp=Z,134nm,1.4s
BMN Battle Mountai 95.49 50 *e*P **P 13 48 21.7 0.0**
comp=Z,134nm,1.4s
GSC Goldstone 95.52 55 *e*P **P 13 48 21.3 -0.5**
GSC pmax pmax
comp=Z,150nm,1.3s
GSC Goldstone 95.52 55 P **P 13 48 22.1 +0.2**
baz=96,SNR=34
GSC Goldstone 95.52 55 *e*P **P 13 48 21.3 -0.5**
comp=Z,150nm,1.3s
FURC Furnace Creek, 95.54 54 P **P 13 48 22.3 +0.5**
baz=96,SNR=54
BMO Blue Mountains 95.66 46 *e*P **P 13 48 20.9 -1.4**
BMO pmax pmax
comp=Z,57nm,1.2s
BMO MLR MLR
comp=Z,126µm,21.0s
BMO Blue Mountains 95.66 46 *e*P **P 13 48 20.9 -1.4**
comp=Z,57nm,1.2s
BMO LR LR
comp=Z,126µm,21.0s
ABKT Ailbek 95.67 307 P **P 13 48 21.7 -0.8**
comp=Z,227nm,0.7s,SNR=5.3
GEYT Alibeck 95.68 307 P **P 13 48 21.2 -1.3**
comp=Z,14nm,0.7s,baz=132,slow=2.1,SNR=17
GEYT PKiKP **PKiKP 13 53 05.5 +3.3**
comp=Z,11nm,0.8s,baz=166,slow=3.0,SNR=5.9
GEYT PKKPbc **PKKPdf 14 05 19.2 +4.7**
comp=Z,2.4nm,0.6s,baz=270,slow=2.9,SNR=3.9
GEYT LR LR 14 33 29.6
comp=Z,225µm,20.8s,baz=75,slow=37
MONP Monument Peak 95.69 58 P **P 13 48 24.6 +1.7**
baz=96,SNR=52
PFO Pinyon Flat Ob 95.70 57 P **P 13 48 23.9 +1.1**
comp=Z,589nm,1.6s,SNR=15
PFO Pinyon Flat Ob 95.70 57 *e*P **P 13 48 23.1 +0.3**
PFO pmax pmax
comp=Z,217nm,1.3s
PFO MLR MLR
comp=Z,216µm,20.0s
PFO Pinyon Flat Ob 95.70 57 P **P 13 48 23.9 +1.1**
baz=96,SNR=33
PFO Pinyon Flat Ob 95.70 57 *e*P **P 13 48 23.1 +0.3**
comp=Z,217nm,1.3s
PFO LR LR
comp=Z,216µm,20.0s
ISFR Sfrayin 95.72 307 *e*P **P 13 48 23.2 +0.2**
HEC Hector,Ludlow 95.88 56 P **P 13 48 24.3 +0.8**
baz=96,SNR=72
NEW Newport 95.94 42 *e*P **P 13 48 21.0 -2.4**
NEW pmax pmax
comp=Z,24nm,0.9s
NEW MLR MLR
comp=Z,153µm,22.0s
NEW Newport 95.94 42 P **P 13 48 23.3 -0.2**
baz=96,SNR=13
NEW Newport 95.94 42 *e*P **P 13 48 21.0 -2.4**
comp=Z,24nm,0.9s
NEW LR LR
comp=Z,153µm,22.0s
SHOC Shoshone 95.98 55 P **P 13 48 24.4 +0.5**
baz=96,SNR=58
TPNV Topopah Spring 96.06 54 P **P 13 48 24.9 +0.5**
baz=96,SNR=89
BELC Belle Mtn. Jos 96.11 57 P **P 13 48 25.2 +0.6**
baz=96,SNR=107
ARU Arti 96.15 326 P P 13 48 20.1 -4.0
baz=63,slow=4.5
ARU Arti 96.15 326 P **P 13 48 21.9 -2.2**
ARU 13 52 15.2
ARU S **SKSac 13 58 54.9 -2.2**
ARU MLR MLR
comp=Z,430µm,24.0s
ARU Arti 96.15 326 P P 13 48 20.1 -4.0
ARU LR LR
comp=Z,381µm,21.0s
SWSC Sam W. Stewart 96.22 58 P **P 13 48 26.5 +1.5**
baz=96,SNR=20
TUQ Turquoise Moun 96.25 55 P **P 13 48 25.6 +0.4**
baz=96,SNR=39
AKTO Aktyubinsk 96.30 320 P **P 13 48 22.8 -2.2**
comp=Z,3.1nm,0.7s,baz=87,slow=4.6,SNR=8.0
AKTO PKKPbc **PKKPbc 14 05 12.2 -0.4**
comp=Z,2.8nm,0.8s,baz=248,slow=7.5,SNR=3.7
GMRC Granite Mounta 96.43 56 P **P 13 48 26.8 +0.7**
baz=96,SNR=65
BC3 Big Chuckawall 96.54 57 P **P 13 48 27.7 +1.1**
baz=97,SNR=52
R11A Troy Canyon, C 96.65 52 P **P 13 48 27.6 +0.6**
baz=97,SNR=38
R11A Troy Canyon, C 96.65 52 *e*P **P 13 48 26.9 -0.1**
comp=Z,29nm,1.1s
MFID Camas Ranch 96.66 47 *e*P **P 13 48 28.3 +1.4**
comp=Z,116nm,1.6s
IRM Iron Mountain 96.82 56 P **P 13 48 28.7 +1.0**
baz=97,SNR=77
LDFC Landfair 96.89 55 *e*P **P 13 48 28.5 +0.4**
comp=Z,374nm,1.4s
SHPR Sheep Range 96.91 54 *e*P **P 13 48 28.1 -0.2**
comp=Z,108nm,0.9s
ELK Elko 97.01 50 *e*P **P 13 48 28.3 -0.4**
ELK pmax pmax
comp=Z,86nm,1.5s
ELK Elko 97.01 50 *e*P **P 13 48 28.3 -0.4**
comp=Z,86nm,1.5s
GLA Glamis 97.04 58 *e*P Pdif 13 48 29.9 +1.0
GLA pmax pmax
comp=Z,181nm,1.3s
GLA Glamis 97.04 58 P Pdif 13 48 30.3 +1.4
baz=97,SNR=22
GLA Glamis 97.04 58 *e*P Pdif 13 48 29.9 +1.0
comp=Z,181nm,1.3s
SOKR Solikamsk 97.13 329 *e*P **P 13 48 25.5 -2.9**
SOKR pmax pmax
comp=Z,10.0nm,0.9s
SOKR MLR MLR
comp=Z,214µm,20.0s
NEE2 Needles Airpor 97.28 56 P Pdif 13 48 30.7 +0.9
baz=97,SNR=14
Y12C Blythe 97.32 57 P Pdif 13 48 30.9 +0.9
baz=97,SNR=15
IBAF Bafgh 97.46 301 *e*P **P 13 48 30.4 -0.5**
BSMT Bassoo Peak 97.50 43 *e*P **P 13 48 29.4 -1.3**
comp=Z,22nm,0.8s
YKW3 Yellowknife Ar 97.51 28 *e*P **P 13 48 29.7 -0.4**
comp=Z,0.5nm,1.0s
YKA Yellowknife Ar 97.51 28 P **P 13 48 27.1 -3.0**
comp=Z,12nm,0.8s,baz=270,slow=4.4,SNR=17
YKA PKiKP **PKiKP 13 53 06.0 +1.5**
comp=Z,6.4nm,0.7s,baz=272,slow=1.4,SNR=9.0
YKA PKKP **PKKPbc 14 05 07.0 -2.7**
comp=Z,7.4nm,1.0s,baz=92,slow=3.2,SNR=4.9
YKA PKPPKP **P'P'df 14 13 22.7 +1.9**
comp=Z,1.1nm,0.7s,baz=84,slow=1.9,SNR=2.5
PDMCI Parker Dam,Lak 97.66 56 P Pdif 13 48 33.0 +1.5
baz=98,SNR=34
HLID Hailey 97.70 47 P Pdif 13 48 32.0 +0.3
baz=98
HLID Hailey 97.70 47 *e*P **P 13 48 30.7 -1.0**
comp=Z,212nm,1.6s
HLID LR LR
comp=Z,181µm,20.0s
BLMT Blacktail Moun 97.78 42 P Pdif 13 48 32.8 +0.8
comp=Z,62nm,1.7s
JTMT Jette 97.84 43 *e*P **P 13 48 30.6 -1.5**
comp=Z,8.7nm,0.9s
YBMT Yellow Bay 98.02 43 P **P 13 48 32.1 -0.8**
comp=Z,3.8nm,0.6s
SWMT Swartz Lake 98.03 43 P **P 13 48 32.5 -0.5**
comp=Z,11nm,1.0s

MSO	**Missoula**	**98.06**	**44**	P	Pdif	13 48 33.7	+0.5		
	baz=98								
WALA	**Waterton Lakes**	**98.09**	**41**	*e*P	**P**	**13 48 32.4**	**-0.8**		
	comp=Z,43nm,0.9s								
CCUT	**Cedar City**	**98.38**	**53**	*e*P	Pdif	13 48 35.2	+0.2		
	comp=Z,32nm,0.5s								
EDM	**Edmonton**	**98.39**	**37**	*e*P	**P**	**13 48 33.7**	**-0.7**		
EDM				pmax	pmax				
	comp=Z,166nm,1.4s								
EDM	**Edmonton**	**98.39**	**37**	*e*P	**P**	**13 48 33.7**	**-0.7**		
	comp=Z,166nm,1.4s								
ICHK	**Chekchek**	**98.47**	**302**	*e*P	Pdif	13 48 38.4	+2.9		
NVL	**N'lazarevskaya**	**98.59**	**193**	⇓*i*P	Pdif	13 48 36.1	+1.2		
NVL				*e*S	**SKSac**	**13 59 10.4**	**+1.2**		
NVL				pmax	pmax				
	comp=Z,41nm,0.9s								
NVL				MLR	MLR				
	comp=Z,111μm,20.0s								
214A	**Organ Pipe Nat**	**98.70**	**59**	Pdiff	Pdif	13 48 37.3	+1.0		
	baz=99								
214A	**Organ Pipe Nat**	**98.70**	**59**	*e*P	Pdif	13 48 37.0	+0.7		
	comp=Z,73nm,1.0s								
MCMT	**McKenzie Canyo**	**98.83**	**46**	P	**P**	**13 48 36.3**	**-0.5**		
	comp=Z,9.9nm,1.0s								
DUG	**Dugway**	**98.85**	**50**	*e*P	**P**	**13 48 35.7**	**-1.2**		
DUG				pmax	pmax				
	comp=Z,26nm,1.0s								
DUG				MLR	MLR				
	comp=Z,94μm,21.0s								
DUG	**Dugway**	**98.85**	**50**	Pdiff	Pdif	13 48 37.3	+0.4		
	baz=99								
DUG	**Dugway**	**98.85**	**50**	*e*P	**P**	**13 48 35.6**	**-1.2**		
	comp=Z,26nm,1.0s								
DUG				LR	LR				
	comp=Z,94μm,21.0s								
HVU	**Hansel Valley**	**98.89**	**49**	*e*P	**P**	**13 48 36.2**	**-0.8**		
HVU				pmax	pmax				
	comp=Z,27nm,0.8s								
HVU	**Hansel Valley**	**98.89**	**49**	*e*P	**P**	**13 48 36.2**	**-0.8**		
	comp=Z,26nm,0.8s								
IANJ	**Anjilo**	**98.96**	**305**	*e*P	**P**	**13 48 35.6**	**-2.0**		
DLMT	**Dillon**	**99.00**	**45**	*e*P	**Pdif**	**13 48 37.1**	**-0.3**		
	comp=Z,36nm,1.1s								
LRM	**Limekiln Ridge**	**99.10**	**45**	*e*P	**Pdif**	**13 48 38.3**	**+0.3**		
	comp=Z,70nm,0.8s								
MVU	**Marysvale**	**99.30**	**52**	*e*P	**Pdif**	**13 48 38.9**	**-0.2**		
	comp=Z,22nm,1.1s								
MSU	**Marysvale**	**99.33**	**52**	P	**Pdif**	**13 48 40.7**	**+1.5**		
MSU				pmax	pmax				
	comp=Z,38nm,1.3s								
MSU	**Marysvale**	**99.33**	**52**	P	**Pdif**	**13 48 40.7**	**+1.5**		
	comp=Z,38nm,1.3s								
ISRV	**Sarvestan**	**99.50**	**299**	*e*P	**Pdif**	**13 48 34.1**	**-6.1**		
HRY	**Holter Researc**	**99.52**	**44**	*e*Pdif	**Pdif**	**13 48 42.2**	**+2.6**		
	comp=Z,7.4nm,0.6s								
BOZ	**Bozeman (W)**	**99.68**	**45**	*e*P	**Pdif**	**13 48 38.4**	**-2.1**		
BOZ				pmax	pmax				
	comp=Z,14nm,0.8s								
BOZ				MLR	MLR				
	comp=Z,111μm,20.0s								
BOZ	**Bozeman (W)**	**99.68**	**45**	Pdiff	**Pdif**	**13 48 40.9**	**+0.4**		
	baz=100								
BOZ	**Bozeman (W)**	**99.68**	**45**	*e*Pdif	**Pdif**	**13 48 38.4**	**-2.1**		
	comp=Z,14nm,0.8s								
BOZ				LR	LR				
	comp=Z,111μm,20.0s								
ILAS	**Lasjerd**	**99.74**	**305**	*e*P	**Pdif**	**13 48 39.4**	**-1.7**		
MPU	**Maple Canyon**	**99.75**	**51**	*e*Pdif	**Pdif**	**13 48 41.1**	**+0.2**		
	comp=Z,125nm,1.3s								
HWUT	**Hardware Ranch**	**99.79**	**49**	*e*Pdif	**Pdif**	**13 48 40.2**	**-0.9**		
	comp=Z,22nm,0.9s								
HWUT				LR	LR				
	comp=Z,104μm,20.0s								
QLMT	**Earthquake Lak**	**99.84**	**46**	*e*Pdif	**Pdif**	**13 48 38.2**	**-3.1**		
	comp=Z,4.6nm,1.2s								
TCUT	**Toone Canyon**	**99.92**	**49**	*e*Pdif	**Pdif**	**13 48 41.3**	**-0.4**		
	comp=Z,36nm,1.1s								
WUAZ	**Wupatki**	**99.96**	**55**	Pdiff	**Pdif**	**13 48 42.6**	**+0.7**		
	baz=100								
WUAZ	**Wupatki**	**99.96**	**55**	*e*Pdif	**Pdif**	**13 48 42.7**	**+0.7**		
	comp=Z,50nm,1.0s								
WUAZ				LR	LR				
	comp=Z,192μm,20.0s								
TMUT	**Trail Mountain**	**100.09**	**51**	*e*Pdif	**Pdif**	**13 48 41.8**	**-0.9**		
	comp=Z,39nm,0.8s								
AHID	**Auburn Hatcher**	**100.12**	**48**	*e*Pdif	**Pdif**	**13 48 41.6**	**-1.0**		
	comp=Z,21nm,0.9s								
AHID				LR	LR				
	comp=Z,149μm,22.0s								
TPAW	**Teton Pass**	**100.22**	**47**	*e*Pdif	**Pdif**	**13 48 42.0**	**-1.0**		
	comp=Z,18nm,1.0s								
REDW	**Red Top Meadow**	**100.29**	**47**	Pdif	**Pdif**	**13 48 40.8**	**-2.5**		
	comp=Z,67nm,1.5s								
FLWY	**Flagg Ranch**	**100.38**	**46**	*e*Pdif	**Pdif**	**13 48 42.8**	**-0.9**		
	comp=Z,19nm,0.9s								
TUC	**Tucson**	**100.42**	**58**	*e*P	**Pdif**	**13 48 45.4**	**+1.4**		
TUC				pmax	pmax				
	comp=Z,58nm,1.5s								
TUC				MLR	MLR				
	comp=Z,131μm,22.0s								
TUC	**Tucson**	**100.42**	**58**	*e*Pdif	**Pdif**	**13 48 45.4**	**+1.4**		
	comp=Z,58nm,1.5s								
TUC				LR	LR				
	comp=Z,131μm,22.0s								
H17A	**Grant Village**	**100.46**	**46**	Pdiff	**Pdif**	**13 48 45.1**	**+1.0**		
	baz=100								
IDMV	**Damavand**	**100.50**	**305**	*e*P	**Pdif**	**13 48 42.4**	**-2.1**		
SNAA	**Sanae**	**100.51**	**188**	P	**Pdif**	**13 48 42.8**	**-0.7**		
	comp=Z,7.0nm,1.0s,baz=176,slow=4.1,SNR=36								
SNAA				PP	**PP**	**13 52 54.1**	**+4.1**		
	comp=Z,3.0nm,0.9s,baz=138,slow=8.3,SNR=4.5								
SNAA				PKKPbc	**PKKPbc**	**14 04 59.1**	**-2.4**		
	comp=Z,1.9nm,1.0s,baz=300,slow=8.1,SNR=3.8								
LKWY	**Lake**	**100.58**	**46**	PFAKE		13 49 00.0	+15		
LKWY				LR	LR				
	comp=Z,195μm,20.0s								
IKAZ	**Kazeroun**	**100.62**	**299**	*e*P	**Pdif**	**13 48 40.8**	**-4.5**		
SRU	**San Rafael**	**100.62**	**51**	P	**Pdif**	**13 48 42.4**	**-2.4**		
SRU				pmax	pmax				
	comp=Z,15nm,0.8s								
SRU	**San Rafael**	**100.62**	**51**	Pdif	**Pdif**	**13 48 42.4**	**-2.4**		
	comp=Z,15nm,0.8s								
ABPO	**Ambohimpanom**	**100.64**	**249**	PFAKE		13 49 00.0	+15		
ABPO				LR	LR				
	comp=Z,85μm,21.0s								
OPO	**Ambohidratompo**	**100.76**	**250**	P	**Pdif**	**13 48 45.9**	**0.0**		
	comp=Z,18nm,1.1s,baz=97,slow=7.0,SNR=10								
OPO				PP	**PP**	**13 52 55.8**	**+2.0**		
	comp=Z,8.8nm,0.9s,baz=86,slow=8.4,SNR=4.4								
EGMT	**Eagleton**	**100.88**	**42**	Pdiff	**Pdif**	**13 48 46.4**	**+0.8**		
	baz=101								
EGMT	**Eagleton**	**100.88**	**42**	*e*Pdif	**Pdif**	**13 48 43.6**	**-2.1**		
	comp=Z,31nm,1.0s								
EGMT				LR	LR				
	comp=Z,102μm,20.0s								
GCMT	**Greycliff**	**101.05**	**45**	Pdif	**Pdif**	**13 48 48.0**	**+1.4**		
	comp=Z,16nm,1.1s								
BW06	**Boulder Array**	**101.26**	**48**	*e*Pdif	**Pdif**	**13 48 46.2**	**-1.5**		
	comp=Z,20nm,0.8s								
BW06				LR	LR				
	comp=Z,143μm,22.0s								
PDAR	**Pinedale Array**	**101.26**	**48**	P	**Pdif**	**13 48 46.5**	**-1.2**		
	comp=Z,20nm,1.0s,baz=304,slow=1.6,SNR=26								
PDAR				PKiKP	**PKiKP**	**13 53 11.0**	**-1.1**		
	comp=Z,3.5nm,0.9s,baz=289,slow=2.8,SNR=3.1								
PDAR				PKKPbc	**PKKPbc**	**14 04 59.8**	**+1.1**		
	comp=Z,2.1nm,0.7s,baz=89,slow=6.2,SNR=5.8								
PDAR				PKPPKP	**P'P'df**	**14 13 17.5**	**+2.0**		
	comp=Z,2.5nm,1.0s,baz=111,slow=2.0,SNR=6.4								
W18A	**Petrified Fore**	**101.30**	**56**	Pdiff	**Pdif**	**13 48 48.0**	**+0.1**		
	baz=101								
RLMT	**Red Lodge**	**101.36**	**45**	Pdiff	**Pdif**	**13 48 48.3**	**+0.3**		
	baz=101								
RLMT	**Red Lodge**	**101.36**	**45**	*e*Pdif	**Pdif**	**13 48 48.3**	**+0.3**		
	comp=Z,31nm,1.3s								
RLMT				LR	LR				
	comp=Z,118μm,20.0s								
B19A	**Brinkman Farms**	**101.39**	**42**	Pdiff	**Pdif**	**13 48 47.9**	**+0.1**		
	baz=101								
A19A	**Klindworth Far**	**101.49**	**41**	Pdiff	**Pdif**	**13 48 48.5**	**+0.2**		
	baz=102								
A19A				PKiKP	**PKiKP**	**13 53 12.7**	**+0.5**		
	baz=102								
H19A	**Powell**	**101.59**	**46**	Pdiff	**Pdif**	**13 48 49.0**	**0.0**		
	baz=102								
H19A				PKiKP	**PKiKP**	**13 53 12.3**	**-0.3**		
	baz=102								
J19A	**Crowheart**	**101.61**	**47**	Pdiff	**Pdif**	**13 48 48.9**	**-0.2**		
	baz=102								
J19A				PKiKP	**PKiKP**	**13 53 11.8**	**-0.9**		
	baz=102								
I19A	**Meeteetse**	**101.61**	**46**	Pdiff	**Pdif**	**13 48 49.4**	**+0.3**		
	baz=102								
PV04	**Paradox Valley**	**101.90**	**52**	*e*Pdif	**Pdif**	**13 48 50.1**	**-0.4**		
B20A	**Solberg Farm,**	**102.01**	**42**	Pdiff	**Pdif**	**13 48 50.9**	**+0.3**		
	baz=102								
B20A				PKiKP	**PKiKP**	**13 53 13.4**	**+0.3**		
	baz=102								
A20A	**Cobblestone Ra**	**102.03**	**41**	Pdiff	**Pdif**	**13 48 51.1**	**+0.4**		
	baz=102								
A20A				PKiKP	**PKiKP**	**13 53 13.2**	**+0.1**		
	baz=102								
C20A	**Veseth Ranch,**	**102.07**	**43**	Pdiff	**Pdif**	**13 48 52.1**	**+1.1**		
	baz=102								
G20A	**Bridger**	**102.10**	**45**	Pdiff	**Pdif**	**13 48 51.7**	**+0.5**		
	baz=102								
G20A				PKiKP	**PKiKP**	**13 53 13.8**	**+0.3**		
	baz=102								
F20A	**Billings**	**102.11**	**45**	Pdiff	**Pdif**	**13 48 52.0**	**+0.8**		
	baz=102								
F20A				PKiKP	**PKiKP**	**13 53 13.4**	**-0.1**		
	baz=102								
VNA1	**Neumayer--Stat**	**102.16**	**187**	P	**Pdif**	**13 48 51.0**	**+0.3**		
PV01	**Paradox Valley**	**102.17**	**52**	*e*Pdif	**Pdif**	**13 48 51.5**	**-0.3**		
	comp=Z,13nm,0.5s								
I20A	**Worland**	**102.24**	**46**	Pdiff	**Pdif**	**13 48 52.1**	**+0.3**		
	baz=102								
I20A				PKiKP	**PKiKP**	**13 53 13.2**	**-0.6**		
	baz=102								
MVCO	**Mesa Verde**	**102.26**	**53**	Pdiff	**Pdif**	**13 48 52.6**	**+0.4**		
	baz=102								
MVCO	**Mesa Verde**	**102.26**	**53**	*e*Pdif	**Pdif**	**13 48 52.5**	**+0.2**		
	comp=Z,29nm,0.9s								
MVCO				LR	LR				
	comp=Z,167μm,22.0s								
H20A	**Greybull**	**102.30**	**46**	Pdiff	**Pdif**	**13 48 52.4**	**+0.3**		
	baz=102								
J20A	**Shoshoni**	**102.31**	**47**	Pdiff	**Pdif**	**13 48 51.8**	**-0.4**		
	baz=102								
J20A				PKiKP	**PKiKP**	**13 53 14.2**	**+0.2**		
	baz=102								
O20A	**White River Ci**	**102.35**	**50**	Pdiff	**Pdif**	**13 48 52.6**	**+0.1**		
	baz=102								
O20A				PKiKP	**PKiKP**	**13 53 13.8**	**-0.4**		
	baz=102								
O20A	**White River Ci**	**102.35**	**50**	*e*Pdif	**Pdif**	**13 48 51.0**	**-1.5**		
	comp=Z,112nm,1.7s								
PRGR	**Permogore**	**102.42**	**332**	*e*P	**Pdif**	**13 48 51.3**	**-0.7**		
PRGR				*e*		13 53 03.2			
PRGR				*e*		13 59 26.6			
PRGR				pmax	pmax				
	comp=Z,24nm,1.2s								
B21A	**Ellsworth Farm**	**102.67**	**42**	PKiKP	**PKiKP**	**13 53 14.1**	**-0.2**		
	baz=103								
C21A	**Desert Coulee**	**102.67**	**42**	Pdiff	**Pdif**	**13 48 54.2**	**+0.6**		
	baz=103								
C21A				PKiKP	**PKiKP**	**13 53 14.0**	**-0.4**		
	baz=103								
A21A	**Bergtoll Ranch**	**102.68**	**41**	Pdiff	**Pdif**	**13 48 53.9**	**+0.3**		
	baz=103								
J21A	**Lysite**	**102.77**	**47**	Pdiff	**Pdif**	**13 48 54.2**	**-0.1**		
	baz=103								
J21A				PKiKP	**PKiKP**	**13 53 14.3**	**-0.5**		
	baz=103								
E21A	**Keefer Ranch,**	**102.80**	**44**	Pdiff	**Pdif**	**13 48 54.3**	**+0.1**		
	baz=103								
E21A				PKiKP	**PKiKP**	**13 53 14.0**	**-0.7**		
	baz=103								
G21A	**Lodge Grass**	**102.81**	**45**	Pdiff	**Pdif**	**13 48 54.5**	**+0.2**		
	baz=103								
F21A	**Absaloka Mine,**	**102.82**	**45**	Pdiff	**Pdif**	**13 48 54.4**	**+0.1**		
	baz=103								
I21A	**Big Trails, Te**	**102.85**	**47**	Pdiff	**Pdif**	**13 48 54.8**	**+0.2**		
	baz=103								
121A	**Cookes Peak, D**	**102.96**	**58**	Pdiff	**Pdif**	**13 48 56.9**	**+1.5**		
	baz=103								
121A				PKiKP	**PKiKP**	**13 53 15.6**	**+0.1**		
	baz=103								
121A	**Cookes Peak, D**	**102.96**	**58**	*e*Pdif	**Pdif**	**13 48 57.1**	**+1.8**		
	comp=Z,49nm,1.1s								
H21A	**Big Horn, Sher**	**102.97**	**46**	Pdiff	**Pdif**	**13 48 55.6**	**+0.5**		
	baz=103								
LAO	**LASA Array**	**103.37**	**44**	Pdiff	**Pdif**	**13 48 56.4**	**-0.3**		
	baz=103								
LAO				PKiKP	**PKiKP**	**13 53 15.8**	**+0.2**		
	baz=103								
LAO	**LASA Array**	**103.37**	**44**	*e*Pdif	**Pdif**	**13 48 56.0**	**-0.7**		
	comp=Z,29nm,1.0s								
LAO				LR	LR				
	comp=Z,77um,20.0s								
SMCO	**Snowmass**	**103.38**	**51**	*e*Pdif	**Pdif**	**13 48 57.3**	**0.0**		
	comp=Z,47nm,1.1s								
I22A	**9 Mile Ranch,**	**103.43**	**46**	Pdiff	**Pdif**	**13 48 57.1**	**0.0**		
	baz=103								
LAZ	**Ladron**	**103.45**	**56**	*e*Pdif	**Pdif**	**13 48 57.1**	**-0.5**		
	comp=Z,13nm,1.1s								
G22A	**Birney**	**103.45**	**45**	Pdiff	**Pdif**	**13 48 57.5**	**+0.3**		
	baz=103								
J22A	**Midwest**	**103.47**	**47**	Pdiff	**Pdif**	**13 48 57.6**	**+0.2**		
	baz=104								
J22A				PKiKP	**PKiKP**	**13 53 16.3**	**+0.2**		
	baz=104								
K22A	**Casper**	**103.50**	**48**	Pdiff	**Pdif**	**13 48 57.1**	**-0.5**		
	baz=104								
K22A	**Casper**	**103.50**	**48**	*e*Pdif	**Pdif**	**13 48 55.9**	**-1.7**		
	comp=Z,17nm,0.8s								
S22A	**4UR Ranch, Cre**	**103.56**	**53**	Pdiff	**Pdif**	**13 48 58.9**	**+0.8**		
	baz=104								
S22A				PKiKP	**PKiKP**	**13 53 16.7**	**+0.1**		
	baz=104								
E22A	**Miles City**	**103.58**	**44**	PKiKP	**PKiKP**	**13 53 16.6**	**+0.5**		
	baz=104								
ANMO	**Albuquerque**	**103.99**	**56**	*e*P	**Pdif**	**13 49 01.5**	**+1.6**		
ANMO				pmax	pmax				
	comp=Z,27nm,1.2s								
ANMO				MLR	MLR				
	comp=Z,87um,21.0s								
ANMO	**Albuquerque**	**103.99**	**56**	*e*Pdif	**Pdif**	**13 49 01.5**	**+1.6**		
	comp=Z,27nm,1.2s								
ANMO				LR	LR				
	comp=Z,87um,21.0s								
E23A	**Ismay**	**104.02**	**44**	Pdiff	**Pdif**	**13 49 00.6**	**+1.0**		
	baz=104								
E23A				PKiKP	**PKiKP**	**13 53 16.4**	**-0.4**		
	baz=104								
N23A	**Red Feather La**	**104.06**	**49**	Pdiff	**Pdif**	**13 49 00.4**	**+0.2**		
	baz=104								
N23A				PKiKP	**PKiKP**	**13 53 17.0**	**-0.3**		
	baz=104								
G23A	**Biddle**	**104.09**	**45**	Pdiff	**Pdif**	**13 49 00.5**	**+0.5**		
	baz=104								
SPA0	**Spitsbergen Ar**	**104.21**	**351**	*e*SKSac	**SKSac**	**13 59 35.2**	**-0.7**		
SPITS	**Spitsbergen Ar**	**104.21**	**351**	PKKPbc	PKKPbc	14 04 50.1	-0.6		
	comp=Z,2.3nm,0.7s,baz=46,slow=6.2,SNR=6.9								
KBS	**Kingsbay**	**104.31**	**352**	PFAKE		13 49 10.0	+10		
KBS				LR	LR				
	comp=Z,73um,20.0s								
ISCO	**Idaho Springs**	**104.39**	**51**	*e*P	**Pdif**	**13 49 01.1**	**-0.6**		
ISCO				pmax	pmax				
	comp=Z,14nm,0.9s								
ISCO				MLR	MLR				
	comp=Z,114μm,22.0s								
ISCO	**Idaho Springs**	**104.39**	**51**	Pdiff	**Pdif**	**13 49 02.3**	**+0.5**		
	baz=104								
ISCO				PKiKP	**PKiKP**	**13 53 17.2**	**-0.8**		
	baz=104								
ISCO	**Idaho Springs**	**104.39**	**51**	*e*Pdif	**Pdif**	**13 49 01.1**	**-0.6**		
	comp=Z,14nm,0.9s								
ISCO				LR	LR				
	comp=Z,114um,22.0s								
C24A	**Savage**	**104.50**	**43**	Pdiff	**Pdif**	**13 49 02.4**	**+0.7**		
	baz=104								
C24A				PKiKP	**PKiKP**	**13 53 17.7**	**0.0**		
	baz=104								
SDCO	**Great Sand Dun**	**104.62**	**53**	Pdiff	**Pdif**	**13 49 02.7**	**-0.1**		
	baz=105								
SDCO				PKiKP	**PKiKP**	**13 53 17.5**	**-1.0**		
	baz=105								
SDCO	**Great Sand Dun**	**104.62**	**53**	*e*Pdif	**Pdif**	**13 49 01.9**	**-0.9**		
	comp=Z,11nm,1.0s								
SDCO				LR	LR				
	comp=Z,245μm,22.0s								
F24A	**Ekalaka**	**104.69**	**44**	Pdiff	**Pdif**	**13 49 03.1**	**+0.5**		
	baz=105								
F24A				PKiKP	**PKiKP**	**13 53 17.6**	**-0.5**		
	baz=105								
H24A	**Dirks Ranch, A**	**104.73**	**45**	Pdiff	**Pdif**	**13 49 02.7**	**-0.1**		
	baz=105								
H24A				PKiKP	**PKiKP**	**13 53 18.5**	**+0.3**		
	baz=105								
G24A	**Alzada**	**104.76**	**45**	Pdiff	**Pdif**	**13 49 03.2**	**+0.2**		
	baz=105								
G24A				PKiKP	**PKiKP**	**13 53 18.6**	**+0.3**		
	baz=105								
I24A	**Kuemmerle Ranc**	**104.77**	**46**	Pdiff	**Pdif**	**13 49 03.8**	**+0.7**		
	baz=105								
J24A	**Dixon Ranch, L**	**104.80**	**47**	Pdiff	**Pdif**	**13 49 03.2**	**-0.1**		
	baz=105								
J24A				PKiKP	**PKiKP**	**13 53 18.6**	**+0.2**		
	baz=105								
Q24A	**Divide**	**104.81**	**51**	Pdiff	**Pdif**	**13 49 03.5**	**-0.1**		
	baz=105								
PMSA	**Palmer Station**	**104.82**	**165**	PFAKE		13 49 10.0	+7.3		
PMSA				LR	LR				
	comp=Z,58μm,20.0s								
FFC	**Flin Flon**	**104.91**	**35**	PFAKE		13 49 10.0	+6.7		
FFC				LR	LR				
	comp=Z,130μm,21.0s								
RSSD	**Black Hills**	**105.17**	**46**	*e*P	**Pdif**	**13 49 04.4**	**-0.6**		
RSSD				pmax	pmax				
	comp=Z,42nm,1.4s								
RSSD	**Black Hills**	**105.17**	**46**	*e*Pdif	**Pdif**	**13 49 04.4**	**-0.6**		
	comp=Z,42nm,1.4s								
TMCR	**Tamitsa**	**105.17**	**335**	*e*P	**Pdif**	**13 49 05.1**	**+0.9**		
TMCR				pmax	pmax				
	comp=Z,58nm,0.5s								
LVZ	**Lovozero**	**105.18**	**339**	PFAKE		13 53 30.0			
LVZ				LR	LR				
	comp=Z,76μm,21.0s								
A25A	**Svangstu Ranch**	**105.18**	**41**	Pdiff	**Pdif**	**13 49 05.0**	**+0.3**		
	baz=105								
A25A				PKiKP	**PKiKP**	**13 53 18.7**	**-0.1**		
	baz=105								
E25A	**Miller Ranch,**	**105.33**	**44**	PKiKP	**PKiKP**	**13 53 19.6**	**+0.3**		
	baz=105								
I25A	**Rochford**	**105.39**	**46**	Pdiff	**Pdif**	**13 49 06.3**	**+0.3**		
	baz=105								
I25A				PKiKP	**PKiKP**	**13 53 19.7**	**0.0**		
	baz=105								
J25A	**Sunshine Ranch**	**105.42**	**47**	Pdiff	**Pdif**	**13 49 06.3**	**+0.4**		
	baz=105								
J25A				PKiKP	**PKiKP**	**13 53 18.9**	**-0.7**		
	baz=105								
H25A	**Fruitdale**	**105.42**	**45**	Pdiff	**Pdif**	**13 49 06.3**	**+0.4**		
	baz=105								
H25A				PKiKP	**PKiKP**	**13 53 19.6**	**+0.1**		
	baz=105								
L25A	**Engebretsen Ra**	**105.43**	**48**	Pdiff	**Pdif**	**13 49 07.0**	**+0.9**		
	baz=105								
L25A				PKiKP	**PKiKP**	**13 53 19.1**	**-0.6**		
	baz=105								
K25A	**Mack Ranch, Ha**	**105.45**	**48**	Pdiff	**Pdif**	**13 49 07.0**	**+0.8**		
	baz=105								
K25A				PKiKP	**PKiKP**	**13 53 19.8**	**+0.1**		
	baz=105								
G25A	**Newell**	**105.48**	**45**	PKiKP	**PKiKP**	**13 53 19.2**	**-0.4**		
	baz=106								
T25A	**Trinidad**	**105.52**	**53**	PKiKP	**PKiKP**	**13 53 19.7**	**-0.5**		
	baz=106								
APA	**Apatity**	**105.75**	**339**	⇓*i*P	**Pdif**	**13 49 11.6**	**+4.9**		
APA				pmax	pmax				
	comp=Z,20nm,0.8s								
APA				MLR	MLR				
	comp=Z,59μm,25.0s								
A26A	**Wade Farm, Ken**	**105.89**	**41**	Pdiff	**Pdif**	**13 49 08.3**	**+0.5**		
	baz=106								
A26A				PKiKP	**PKiKP**	**13 53 20.0**	**-0.1**		
	baz=106								
D26A	**Manning**	**105.91**	**43**	PKiKP	**PKiKP**	**13 53 20.5**	**+0.2**		
	baz=106								
F26A	**Lodgepole**	**105.92**	**44**	Pdiff	**Pdif**	**13 49 09.3**	**+1.3**		
	baz=106								
F26A				PKiKP	**PKiKP**	**13 53 20.8**	**+0.4**		
	baz=106								
J26A	**Sides Ranch, S**	**105.95**	**47**	Pdiff	**Pdif**	**13 49 09.3**	**+1.0**		
	baz=106								
E26A	**Carlson Angus**	**105.97**	**43**	Pdiff	**Pdif**	**13 49 09.7**	**+1.4**		
	baz=106								
E26A				PKiKP	**PKiKP**	**13 53 20.7**	**+0.2**		
	baz=106								
H26A	**Fairpoint**	**106.01**	**45**	PKiKP	**PKiKP**	**13 53 19.9**	**-0.6**		
	baz=106								
C26A	**Wahner Farm, P**	**106.02**	**42**	PKiKP	**PKiKP**	**13 53 20.2**	**-0.2**		
	baz=106								
G26A	**Maurine**	**106.04**	**45**	PKiKP	**PKiKP**	**13 53 20.6**	**0.0**		
	baz=106								
Q26A	**Hugo**	**106.08**	**51**	Pdiff	**Pdif**	**13 49 09.3**	**+0.2**		
	baz=106								
Q26A				PKiKP	**PKiKP**	**13 53 21.1**	**0.0**		
	baz=106								
L26A	**Underwood Farm**	**106.09**	**48**	Pdiff	**Pdif**	**13 49 10.2**	**+1.2**		
	baz=106								
M26A	**McRoberts Ranc**	**106.11**	**49**	PKiKP	**PKiKP**	**13 53 20.5**	**-0.5**		
	baz=106								
O26A	**Horse Wrangler**	**106.11**	**50**	Pdiff	**Pdif**	**13 49 10.2**	**+1.1**		
	baz=106

MSTX	**Muleshoe**	**107.09**	**56**	Pdiff	**Pdif**	**13 49 14.2**	**+0.6**
	baz=107							
MSTX				PKiKP	**PKiKP**	**13 53 23.2**	**+0.2**
	baz=107							
MSTX	**Muleshoe**	**107.09**	**56**	*e*Pdif	**Pdif**	**13 49 14.5**	**+0.9**
	comp=Z,35nm,1.0s							
MSTX				*e*PKiKP	**PKiKP**	**13 53 22.9**	**-0.1**
KIV	**Kislovodsk**	**107.10**	**314**	PFAKE		13 53 30.0	
KIV				LR	LR			
	comp=Z,113μm,21.0s							
D28A	**Regan**	**107.14**	**43**	PKiKP	**PKiKP**	**13 53 22.5**	**-0.1**
	baz=107							
E28A	**Huff**	**107.16**	**43**	PKiKP	**PKiKP**	**13 53 22.3**	**-0.3**
	baz=107							
C28A	**Hausauer Farms**	**107.17**	**42**	PKiKP	**PKiKP**	**13 53 22.8**	**+0.2**
	baz=107							
F28A	**McLaughlin**	**107.21**	**44**	Pdiff	**Pdif**	**13 49 15.5**	**+1.7**
	baz=107							
F28A				PKiKP	**PKiKP**	**13 53 22.3**	**-0.5**
	baz=107							
I28A	**Midland**	**107.23**	**46**	Pdiff	**Pdif**	**13 49 15.4**	**+1.5**
	baz=107							
I28A				PKiKP	**PKiKP**	**13 53 22.5**	**-0.4**
	baz=107							
H28A	**Mission Ridge**	**107.24**	**45**	PKiKP	**PKiKP**	**13 53 22.5**	**-0.4**
	baz=107							
G28A	**Parade**	**107.25**	**45**	PKiKP	**PKiKP**	**13 53 22.1**	**-0.8**
	baz=107							
J28A	**Allard Ranch,**	**107.27**	**46**	Pdiff	**Pdif**	**13 49 16.1**	**+1.9**
	baz=107							
J28A				PKiKP	**PKiKP**	**13 53 22.7**	**-0.2**
	baz=107							
K28A	**Ten Mile Ranch**	**107.27**	**47**	PKiKP	**PKiKP**	**13 53 22.8**	**-0.2**
	baz=107							
Q28A	**Sharon Springs**	**107.37**	**51**	PKiKP	**PKiKP**	**13 53 23.6**	**+0.2**
	baz=107							
P28A	**Saint Francis**	**107.37**	**51**	PKiKP	**PKiKP**	**13 53 22.6**	**-0.8**
	baz=107							
ARCES	**ARCESS Array B**	**107.42**	**342**	Pdiff	**Pdif**	**13 49 14.5**	**+0.3**
	comp=Z,9.2nm,0.9s,baz=71,slow=6.8,SNR=9.3							
ARCES				PKiKP	**PKiKP**	**13 53 22.4**	**0.0**
	comp=Z,9.4nm,0.7s,baz=90,slow=1.9,SNR=16							
ARCES				PKKPbc	**PKKPbc**	**14 04 37.2**	**-3.5**
	comp=Z,1.9nm,0.6s,baz=177,slow=3.4,SNR=3.6							
ARE0	**ARCESS Array S**	**107.42**	**342**	IVMs_BB	IVMs_BB	14 36 36.1		
	comp=Z,48μm,25.7s							
ARE0	**ARCESS Array S**	**107.42**	**342**	*e*PKiKP	**PKiKP**	**13 53 21.7**	**-0.7**
128A	**Castleberry Fa**	**107.43**	**58**	Pdiff	**Pdif**	**13 49 17.6**	**+2.4**
	baz=107							
R28A	**Tribune**	**107.47**	**52**	PKiKP	**PKiKP**	**13 53 22.9**	**-0.6**
	baz=108							
S28A	**Manter**	**107.48**	**53**	Pdiff	**Pdif**	**13 49 16.9**	**+1.6**
	baz=108							
S28A				PKiKP	**PKiKP**	**13 53 23.9**	**+0.3**
	baz=108							
X28A	**Dimmitt**	**107.52**	**56**	PKiKP	**PKiKP**	**13 53 23.3**	**-0.5**
	baz=108							
Y28A	**McKinney Farm,**	**107.53**	**56**	PKiKP	**PKiKP**	**13 53 23.3**	**-0.5**
	baz=108							
MDND	**Maddock**	**107.67**	**42**	PKiKP	**PKiKP**	**13 53 23.6**	**+0.1**
	baz=108							
MDND	**Maddock**	**107.67**	**42**	PKiKP	**PKiKP**	**13 53 23.0**	**-0.5**
A29A	**Manning Farm,**	**107.71**	**41**	Pdiff	**Pdif**	**13 49 18.5**	**+2.6**
	baz=108							
A29A				PKiKP	**PKiKP**	**13 53 23.9**	**+0.3**
	baz=108							
B29A	**Wagenman Farm,**	**107.72**	**41**	PKiKP	**PKiKP**	**13 53 23.8**	**+0.2**
	baz=108							
529A	**Stev Forest Ra**	**107.81**	**60**	PKiKP	**PKiKP**	**13 53 24.2**	**-0.1**
	baz=108							
H29A	**Onida**	**107.81**	**45**	PKiKP	**PKiKP**	**13 53 23.6**	**-0.3**
	baz=108							
D29A	**Pettibone, Tap**	**107.82**	**43**	PKiKP	**PKiKP**	**13 53 23.5**	**-0.3**
	baz=108							
I29A	**Vivian Onida**	**107.85**	**46**	PKiKP	**PKiKP**	**13 53 23.8**	**-0.2**
	baz=108							
W29A	**Amraillo**	**107.92**	**55**	PKiKP	**PKiKP**	**13 53 23.8**	**-0.7**
	baz=108							
G29A	**Hoven**	**107.92**	**44**	PKiKP	**PKiKP**	**13 53 23.7**	**-0.4**
	baz=108							
J29A	**Okreek**	**107.92**	**46**	PKiKP	**PKiKP**	**13 53 24.0**	**-0.2**
	baz=108							
129A	**Stewart Farms,**	**107.95**	**58**	PKiKP	**PKiKP**	**13 53 24.2**	**-0.3**
	baz=108							
V29A	**Stinnett**	**107.95**	**54**	PKiKP	**PKiKP**	**13 53 24.3**	**-0.2**
	baz=108							
R29A	**Marienthal**	**107.98**	**52**	Pdiff	**Pdif**	**13 49 18.4**	**+1.0**
	baz=108							
R29A				PKiKP	**PKiKP**	**13 53 24.4**	**-0.1**
	baz=108							
T29A	**Hugoton**	**108.00**	**53**	Pdiff	**Pdif**	**13 49 19.2**	**+1.6**
	baz=108							
T29A				PKiKP	**PKiKP**	**13 53 24.6**	**+0.1**
	baz=108							
Y29A	**Porterfield Fa**	**108.01**	**56**	Pdiff	**Pdif**	**13 49 18.9**	**+1.2**
	baz=108							
Y29A				PKiKP	**PKiKP**	**13 53 24.5**	**-0.2**
	baz=108							
Z29A	**Hungry Hill Ra**	**108.03**	**57**	Pdiff	**Pdif**	**13 49 17.4**	**-0.4**
	baz=108							
Z29A				PKiKP	**PKiKP**	**13 53 24.4**	**-0.3**
	baz=108							
229A	**Bryant Ranch,**	**108.04**	**58**	PKiKP	**PKiKP**	**13 53 24.3**	**-0.4**
	baz=108							
Q29A	**Oakley**	**108.05**	**51**	Pdiff	**Pdif**	**13 49 17.9**	**+0.2**
	baz=108							
Q29A				PKiKP	**PKiKP**	**13 53 24.1**	**-0.4**
	baz=108							
429A	**Davenport Ranc**	**108.06**	**60**	PKiKP	**PKiKP**	**13 53 24.7**	**-0.1**
	baz=108							
S29A	**Ulysses**	**108.09**	**53**	PKiKP	**PKiKP**	**13 53 24.9**	**+0.2**
	baz=108							
A30A	**Hoffart Farm,**	**108.30**	**40**	Pdiff	**Pdif**	**13 49 18.1**	**-0.5**
	baz=108							
A30A				PKiKP	**PKiKP**	**13 53 24.3**	**-0.3**
	baz=108							
D30A	**Buchanan**	**108.37**	**42**	Pdiff	**Pdif**	**13 49 19.6**	**+0.7**
	baz=108							
D30A				PKiKP	**PKiKP**	**13 53 24.3**	**-0.5**
	baz=108							
E30A	**Jud**	**108.39**	**43**	PKiKP	**PKiKP**	**13 53 24.8**	**-0.1**
	baz=108							
B30A	**Myrvik Farm, E**	**108.39**	**41**	Pdiff	**Pdif**	**13 49 20.0**	**+1.1**
	baz=108							
B30A				PKiKP	**PKiKP**	**13 53 24.9**	**+0.1**
	baz=108							
C30A	**Mose, Pekin**	**108.44**	**42**	PKiKP	**PKiKP**	**13 53 25.7**	**+0.8**
	baz=108							
N30A	**Hueftle Ranch,**	**108.47**	**49**	PKiKP	**PKiKP**	**13 53 25.5**	**+0.2**
	baz=108							
G30A	**Faulkton**	**108.48**	**44**	PKiKP	**PKiKP**	**13 53 25.0**	**-0.1**
	baz=108							
Z30A	**Sanderson Ranc**	**108.51**	**57**	PKiKP	**PKiKP**	**13 53 25.0**	**-0.6**
	baz=108							
P30A	**Selden**	**108.53**	**50**	PKiKP	**PKiKP**	**13 53 25.0**	**-0.5**
	baz=108							
J30A	**Dallas**	**108.54**	**46**	Pdiff	**Pdif**	**13 49 20.7**	**+0.9**
	baz=108							
J30A				PKiKP	**PKiKP**	**13 53 25.0**	**-0.3**
	baz=108							
K30A	**Basset**	**108.56**	**47**	PKiKP	**PKiKP**	**13 53 25.0**	**-0.4**
	baz=108							
530A	**J-C Ranch, Com**	**108.57**	**60**	Pdiff	**Pdif**	**13 49 20.2**	**0.0**
	baz=109							
530A				PKiKP	**PKiKP**	**13 53 25.9**	**+0.1**
	baz=109							
U30A	**WK&E Inc. Balk**	**108.58**	**54**	PKiKP	**PKiKP**	**13 53 25.3**	**-0.4**
	baz=109							
O30A	**MW Ranch, Wils**	**108.59**	**50**	PKiKP	**PKiKP**	**13 53 25.5**	**0.0**
	baz=109							
OBN	**Obninsk**	**108.59**	**326**	PFAKE		13 53 40.0		
OBN				LR	LR			
	comp=Z,250μm,22.0s							
S30A	**Montezuma**	**108.60**	**52**	Pdiff	**Pdif**	**13 49 20.8**	**+0.6**
	baz=109							
S30A				PKiKP	**PKiKP**	**13 53 25.6**	**0.0**
	baz=109							
430A	**Baggett Ranch,**	**108.62**	**60**	PKiKP	**PKiKP**	**13 53 26.0**	**+0.1**
	baz=109							
X30A	**Coker Ranch, T**	**108.62**	**56**	PKiKP	**PKiKP**	**13 53 25.4**	**-0.4**
	baz=109							
330A	**Mertzon**	**108.62**	**59**	PKiKP	**PKiKP**	**13 53 25.2**	**-0.7**
	baz=109							
T30A	**Plains**	**108.62**	**53**	PKiKP	**PKiKP**	**13 53 25.4**	**-0.2**
	baz=109							
Q30A	**Quinter**	**108.63**	**51**	Pdiff	**Pdif**	**13 49 21.6**	**+1.3**
	baz=109							
Q30A				PKiKP	**PKiKP**	**13 53 24.7**	**-0.9**
	baz=109							
V30A	**Spur Ranch, Mi**	**108.64**	**54**	PKiKP	**PKiKP**	**13 53 25.5**	**-0.2**
	baz=109							
230A	**Sterling City**	**108.64**	**59**	PKiKP	**PKiKP**	**13 53 25.3**	**-0.6**
	baz=109							
Y30A	**Stafford Cattl**	**108.65**	**56**	PKiKP	**PKiKP**	**13 53 25.1**	**-0.8**
	baz=109							
R30A	**Dighton**	**108.67**	**52**	Pdiff	**Pdif**	**13 49 21.8**	**+1.3**
	baz=109							
R30A				PKiKP	**PKiKP**	**13 53 25.8**	**+0.1**
	baz=109							
130A	**Snyder**	**108.71**	**58**	PKiKP	**PKiKP**	**13 53 26.4**	**+0.4**
	baz=109							
CBKS	**Cedar Bluff**	**109.02**	**51**	PKiKP	**PKiKP**	**13 53 26.0**	**-0.4**
	baz=109							
CBKS	**Cedar Bluff**	**109.02**	**51**	PFAKE		13 53 40.0		
CBKS				LR	LR			
	comp=Z,255μm,22.0s							
DAG	**Danmarks Havn**	**109.08**	**357**	*i* P	**PKKPab**	**14 04 42.3**	**-2.9**
431A	**Sonora**	**109.16**	**60**	PKiKP	**PKiKP**	**13 53 26.9**	**+0.1**
	baz=109							
Y31A	**Rekieta Farm,**	**109.17**	**56**	Pdiff	**Pdif**	**13 49 24.3**	**+1.5**
	baz=109							
Y31A				PKiKP	**PKiKP**	**13 53 26.9**	**+0.2**
	baz=109							
131A	**Roby**	**109.18**	**58**	PKiKP	**PKiKP**	**13 53 26.0**	**-0.8**
	baz=109							
L31A	**Butterfield Fa**	**109.20**	**47**	PKiKP	**PKiKP**	**13 53 26.4**	**-0.2**
	baz=109							
P31A	**Stockton**	**109.20**	**50**	PKiKP	**PKiKP**	**13 53 27.2**	**+0.5**
	baz=109							
531A	**Rocksprings**	**109.25**	**60**	Pdiff	**Pdif**	**13 49 25.6**	**+2.3**
	baz=109							
531A				PKiKP	**PKiKP**	**13 53 26.8**	**-0.2**
	baz=109							
R31A	**Burdett**	**109.26**	**52**	PKiKP	**PKiKP**	**13 53 26.8**	**0.0**
	baz=109							
331A	**San Angelo**	**109.27**	**59**	PKiKP	**PKiKP**	**13 53 26.8**	**-0.3**
	baz=109							
631A	**Perdido Creek**	**109.28**	**61**	PKiKP	**PKiKP**	**13 53 27.4**	**+0.3**
	baz=109							
W31A	**Holland Ranch,**	**109.30**	**55**	PKiKP	**PKiKP**	**13 53 27.0**	**0.0**
	baz=109							
231A	**Bronte**	**109.31**	**58**	PKiKP	**PKiKP**	**13 53 27.3**	**+0.2**
	baz=109							
V31A	**Spring Creek L**	**109.32**	**54**	PKiKP	**PKiKP**	**13 53 27.5**	**+0.5**
	baz=109							
Z31A	**Sharp Cattle R**	**109.33**	**57**	PKiKP	**PKiKP**	**13 53 27.3**	**+0.2**
	baz=109							
N31A	**Bailey Ranch,**	**109.33**	**49**	PKiKP	**PKiKP**	**13 53 27.3**	**+0.4**
	baz=109							
X31A	**McDonald Ranch**	**109.33**	**56**	PKiKP	**PKiKP**	**13 53 27.0**	**0.0**
	baz=109							
S31A	**Mullinville**	**109.38**	**52**	PKiKP	**PKiKP**	**13 53 27.0**	**0.0**
	baz=109							
ULM	**Lac du Bonnet**	**109.54**	**39**	Pdiff	**Pdif**	**13 49 26.5**	**+2.5**
	comp=Z,1.9nm,0.7s,baz=279,slow=4.3,SNR=2.8							
ULM				PKiKP	**PKiKP**	**13 53 25.9**	**-0.9**
	comp=Z,24nm,0.8s,baz=295,slow=3.2,SNR=9.4							
ULM				PKKP	**PKKPab**	**14 04 42.5**	**-1.1**
	comp=Z,5.2nm,0.8s,baz=37,slow=2.7,SNR=3.4							
P32A	**Huiting Farm,**	**109.78**	**50**	PKiKP	**PKiKP**	**13 53 27.4**	**-0.3**
	baz=110							
S32A	**Nesby Ranch, P**	**109.80**	**52**	PKiKP	**PKiKP**	**13 53 28.3**	**+0.5**
	baz=110							
532A	**Rocksprings**	**109.81**	**60**	PKiKP	**PKiKP**	**13 53 30.3**	**+2.2**
	baz=110							
ABTX	**Abilene, Hawle**	**109.81**	**58**	PKiKP	**PKiKP**	**13 53 28.2**	**+0.1**
	baz=110							
ABTX	**Abilene, Hawle**	**109.81**	**58**	*e*PKiKP	**PKiKP**	**13 53 27.4**	**-0.6**
N32A	**Stulken Farm,**	**109.83**	**49**	PKiKP	**PKiKP**	**13 53 28.1**	**+0.2**
	baz=110							
BGNE	**Belgrade**	**109.84**	**48**	PKiKP	**PKiKP**	**13 53 28.2**	**+0.4**
	baz=110							
332A	**Millersview**	**109.85**	**59**	Pdiff	**Pdif**	**13 49 26.9**	**+1.1**
	baz=110							
332A				PKiKP	**PKiKP**	**13 53 28.7**	**+0.6**
	baz=110							
432A	**Menard**	**109.85**	**59**	Pdiff	**Pdif**	**13 49 26.6**	**+0.7**
	baz=110							
432A				PKiKP	**PKiKP**	**13 53 28.1**	**-0.1**
	baz=110							
732A	**Larson Ranch,**	**109.86**	**62**	PKiKP	**PKiKP**	**13 53 27.8**	**-0.4**
	baz=110							
JCT	**Junction City**	**109.87**	**60**	PKiKP	**PKiKP**	**13 53 28.1**	**-0.1**
	baz=110							
JCT	**Junction City**	**109.87**	**60**	*e*PKiKP	**PKiKP**	**13 53 27.6**	**-0.6**
JCT				LR	LR			
	comp=Z,169μm,19.0s							
R32A	**Long Quarter,**	**109.87**	**51**	PKiKP	**PKiKP**	**13 53 28.3**	**+0.4**
	baz=110							
W32A	**Sentinel**	**109.88**	**55**	PKiKP	**PKiKP**	**13 53 28.3**	**+0.3**
	baz=110							
T32A	**Huddler Ranch,**	**109.88**	**53**	PKiKP	**PKiKP**	**13 53 28.3**	**+0.3**
	baz=110							
232A	**Coleman**	**109.88**	**58**	Pdiff	**Pdif**	**13 49 27.5**	**+1.5**
	baz=110							
232A				PKiKP	**PKiKP**	**13 53 28.1**	**-0.1**
	baz=110							
Z32A	**Haskell**	**109.89**	**57**	PKiKP	**PKiKP**	**13 53 28.2**	**0.0**
	baz=110							
832A	**Faith Ranch, C**	**109.89**	**62**	PKiKP	**PKiKP**	**13 53 27.5**	**-0.7**
	baz=110							
Q32A	**Meitler Ranch,**	**109.91**	**51**	PKiKP	**PKiKP**	**13 53 27.7**	**-0.3**
	baz=110							
U32A	**Winter Ranch,**	**109.92**	**54**	PKiKP	**PKiKP**	**13 53 27.9**	**-0.2**
	baz=110							
X32A	**Elmer**	**109.92**	**56**	PKiKP	**PKiKP**	**13 53 27.7**	**-0.5**
	baz=110							
O32A	**Brockman Farm,**	**109.93**	**49**	PKiKP	**PKiKP**	**13 53 27.9**	**-0.1**
	baz=110							
632A	**Uvalde**	**109.96**	**61**	PKiKP	**PKiKP**	**13 53 28.5**	**+0.2**
	baz=110							
V32A	**Arapaho**	**109.97**	**54**	PKiKP	**PKiKP**	**13 53 27.8**	**-0.4**
	baz=110							
AGMN	**Agassiz Nation**	**110.03**	**41**	PKiKP	**PKiKP**	**13 53 27.7**	**-0.2**
	baz=110							
AGMN	**Agassiz Nation**	**110.03**	**41**	*e*PKiKP	**PKiKP**	**13 53 25.8**	**-2.1**
AGMN				LR	LR			
	comp=Z,132μm,20.0s							
WMOK	**Wichita Mounta**	**110.30**	**55**	*e*P	**Pdif**	**13 49 29.2**	**+1.4**
WMOK				*i*		13 53 28.5		
WMOK				MLR	MLR			
	comp=Z,78μm,20.0s							
WMOK	**Wichita Mounta**	**110.30**	**55**	*e*Pdif	**Pdif**	**13 49 29.2**	**+1.4**
WMOK				*e*PKiKP	**PKiKP**	**13 53 28.5**	**-0.4**
WMOK				LR	LR			
	comp=Z,78μm,20.0s							
L33A	**Hoskins**	**110.35**	**47**	PKiKP	**PKiKP**	**13 53 28.9**	**+0.2**
	baz=110							
833A	**Chaparral WMA,**	**110.39**	**62**	PKiKP	**PKiKP**	**13 53 29.2**	**0.0**
	baz=110							
133A	**Hamilton Ranch**	**110.43**	**58**	PKiKP	**PKiKP**	**13 53 28.8**	**-0.3**
	baz=110							
733A	**Divot King Ran**	**110.45**	**62**	PKiKP	**PKiKP**	**13 53 28.8**	**-0.5**
	baz=110							
R33A	**Olander Ranch,**	**110.46**	**51**	PKiKP	**PKiKP**	**13 53 28.8**	**-0.2**
	baz=110							
433A	**Art**	**110.46**	**60**	Pdiff	**Pdif**	**13 49 30.5**	**+1.9**
	baz=110							
433A				PKiKP	**PKiKP**	**13 53 29.3**	**0.0**
	baz=110							
Q33A	**Connelly Farm,**	**110.47**	**51**	PKiKP	**PKiKP**	**13 53 28.9**	**-0.1**
	baz=110							
N33A	**J Bar K, Exete**	**110.47**	**49**	PKiKP	**PKiKP**	**13 53 28.9**	**-0.1**
	baz=110							
Z33A	**Whitaker Ranch**	**110.48**	**57**	PKiKP	**PKiKP**	**13 53 28.7**	**-0.5**
	baz=110							
O33A	**Hebron**	**110.48**	**50**	PKiKP	**PKiKP**	**13 53 28.7**	**-0.3**
	baz=110							
633A	**Saathoff Ranch**	**110.50**	**61**	PKiKP	**PKiKP**	**13 53 29.8**	**+0.5**
	baz=110							
333A	**Richland Sprin**	**110.50**	**59**	PKiKP	**PKiKP**	**13 53 29.6**	**+0.2**
	baz=110							
233A	**Rising Star**	**110.50**	**58**	PKiKP	**PKiKP**	**13 53 29.6**	**+0.3**
	baz=110							
P33A	**Williams Farm,**	**110.50**	**50**	PKiKP	**PKiKP**	**13 53 28.8**	**-0.3**
	baz=110							
W33A	**Caddo, Fort Co**	**110.51**	**55**	PKiKP	**PKiKP**	**13 53 30.0**	**+0.8**
	baz=110							
M33A	**Taylor Creek F**	**110.51**	**48**	PKiKP	**PKiKP**	**13 53 29.0**	**-0.1**
	baz=110							
Y33A	**Hilltop Ranch,**	**110.52**	**56**	PKiKP	**PKiKP**	**13 53 29.5**	**+0.2**
	baz=110							
ECSD	**EROS Data Cent**	**110.52**	**46**	PKiKP	**PKiKP**	**13 53 28.7**	**-0.3**
	baz=110							
ECSD	**EROS Data Cent**	**110.52**	**46**	*e*Pdif	**Pdif**	**13 49 29.8**	**+1.3**
ECSD				*e*PKiKP	**PKiKP**	**13 53 27.6**	**-1.4**
	baz=110							
933A	**Laredo**	**110.55**	**63**	PKiKP	**PKiKP**	**13 53 30.2**	**+0.7**
	baz=111							
S33A	**Kaszmaul Farm,**	**110.55**	**52**	PKiKP	**PKiKP**	**13 53 29.5**	**+0.2**
	baz=110							
X33A	**Lawton**	**110.56**	**55**	PKiKP	**PKiKP**	**13 53 29.4**	**0.0**
	baz=110							
533A	**Kerrville**	**110.57**	**60**	PKiKP	**PKiKP**	**13 53 29.1**	**-0.4**
	baz=111							
V33A	**Lossen Ranch,**	**110.57**	**54**	PKiKP	**PKiKP**	**13 53 29.9**	**+0.6**
	baz=111							
U33A	**Lingo Farm, Me**	**110.62**	**53**	PKiKP	**PKiKP**	**13 53 29.7**	**+0.3**
	baz=111							
M34A	**Aspy Farms, Fr**	**110.98**	**48**	PKiKP	**PKiKP**	**13 53 30.3**	**+0.4**
	baz=111							
R34A	**Isabella, Hill**	**111.03**	**51**	PKiKP	**PKiKP**	**13 53 30.4**	**+0.3**
	baz=111							
L34A	**Svendsen Farm,**	**111.04**	**47**	PKiKP	**PKiKP**	**13 53 29.8**	**-0.2**
	baz=111							
534A	**Blanco**	**111.06**	**60**	PKiKP	**PKiKP**	**13 53 30.4**	**0.0**
	baz=111							
U34A	**Anderson Ranch**	**111.08**	**53**	PKiKP	**PKiKP**	**13 53 30.3**	**0.0**
	baz=111							
U34A	**Anderson Ranch**	**111.08**	**53**	PKiKP	**PKiKP**	**13 53 29.7**	**-0.5**
734A	**La Parita Cree**	**111.09**	**62**	PKiKP	**PKiKP**	**13 53 30.9**	**+0.5**
	baz=111							
X34A	**Smith Ranch, M**	**111.09**	**55**	PKiKP	**PKiKP**	**13 53 31.0**	**+0.7**
	baz=111							
034A	**Hebbronville**	**111.11**	**63**	PKiKP	**PKiKP**	**13 53 30.9**	**+0.4**
	baz=111							
334A	**Lometa**	**111.13**	**59**	PKiKP	**PKiKP**	**13 53 29.6**	**-0.9**
	baz=111							
134A	**White-Moore Ra**	**111.13**	**58**	PKiKP	**PKiKP**	**13 53 30.7**	**+0.2**
	baz=111							
MALT	**Malatya**	**111.14**	**309**	⇑PKiKP	**PKiKP**	**13 53 30.3**	**-0.1**
MALT	**Malatya**	**111.14**	**309**	⇑*i*P	**PKiKP**	**13 53 30.3**	**-0.1**
O34A	**Beatrice**	**111.14**	**49**	PKiKP	**PKiKP**	**13 53 29.4**	**-0.9**
	baz=111							
234A	**Clairette**	**111.15**	**58**	PKiKP	**PKiKP**	**13 53 30.2**	**-0.3**
	baz=111							
P34A	**Walnut Farm, R**	**111.15**	**50**	PKiKP	**PKiKP**	**13 53 30.3**	**0.0**
	baz=111							
834A	**Tilden**	**111.15**	**62**	PKiKP	**PKiKP**	**13 53 30.5**	**-0.1**
	baz=111							
434A	**Burnet**	**111.16**	**59**	PKiKP	**PKiKP**	**13 53 30.2**	**-0.4**
	baz=111							
N34A	**Lincoln**	**111.16**	**49**	PKiKP	**PKiKP**	**13 53 29.5**	**-0.8**
	baz=111							
Q34A	**Chapman**	**111.17**	**51**	PKiKP	**PKiKP**	**13 53 30.4**	**0.0**
	baz=111							
Z34A	**Collier Ranch,**	**111.18**	**57**	PKiKP	**PKiKP**	**13 53 29.9**	**-0.6**
	baz=111							
V34A	**Guthrie**	**111.19**	**54**	PKiKP	**PKiKP**	**13 53 30.1**	**-0.4**
	baz=111							
634A	**China Grove, S**	**111.22**	**61**	PKiKP	**PKiKP**	**13 53 29.8**	**-0.9**
	baz=111							
S34A	**Willow Spring**	**111.23**	**52**	PKiKP	**PKiKP**	**13 53 29.8**	**-0.7**
	baz=111							
Y34A	**Reagan Ranch,**	**111.24**	**56**	PKiKP	**PKiKP**	**13 53 30.3**	**-0.3**
	baz=111							
T34A	**McClaskey Farm**	**111.28**	**53**	PKiKP	**PKiKP**	**13 53 30.0**	**-0.6**
	baz=111							
FINES	**FINESS Array B**	**111.28**	**335**	Pdiff	**Pdif**	**13 49 29.3**	**-2.2**
	comp=Z,3.8nm,0.7s,baz=85,slow=4.6,SNR=12							
FINES				PKiKP	**PKiKP**	**13 53 29.9**	**0.0**
	comp=Z,14nm,0.8s,baz=96,slow=4.2,SNR=10							
FINES				PKKPbc	**PKKPbc**	**14 04 27.5**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=221,slow=5.5,SNR=3.9							
L35A	**Bielow Farm, R**	**111.62**	**47**	PKiKP	**PKiKP**	**13 53 30.9**	**-0.3**
	baz=112							
M35A	**Neola**	**111.64**	**48**	PKiKP	**PKiKP**	**13 53 30.7**	**-0.5**
	baz=112							
135A	**Vickery Place,**	**111.70**	**57**	PKiKP	**PKiKP**	**13 53 31.5**	**0.0**
	baz=112							
035Z	**Hargill**	**111.70**	**64**	PKiKP	**PKiKP**	**13 53 31.6**	**-0.1**
	baz=112							
O35A	**Humboldt**	**111.71**	**49**	PKiKP	**PKiKP**	**13 53 31.6**	**+0.3**
	baz=112							
635A	**Leesville**	**111.72**	**61**	PKiKP	**PKiKP**	**13 53 31.7**	**+0.1**
	baz=112							
WHTX	**Lake Whitney**	**111.72**	**58**	PKiKP	**PKiKP**	**13 53 31.1**	**-0.4**
	baz=112							
Z35A	**Perchaven, San**	**111.73**	**57**	PKiKP	**PKiKP**	**13 53 31.1**	**-0.4**
	baz=112							
U35A	**Pawnee**	**111.74**	**53**	PKiKP	**PKiKP**	**13 53 31.4**	**-0.1**
	baz=112							
735A	**Kenedy**	**111.74**	**61**	PKiKP	**PKiKP**	**13 53 31.5**	**-0.2**
	baz=112							
V35A	**Meyer Ranch, C**	**111.74**	**54**	PKiKP	**PKiKP**	**13 53 31.1**	**-0.4**
	baz=112							
435B	**Jarrell**	**111.75**	**59**	PKiKP	**PKiKP**	**13 53 31.7**	**0.0**
	baz=112							
P35A	**Duane Minner,**	**111.77**	**50**	PKiKP	**PKiKP**	**13 53 31.1**	**-0.3**
	baz=112							
W35A	**Tecumseh**	**111.80**	**55**	PKiKP	**PKiKP**	**13 53 31.3**	**-0.3**
	baz=112							
X35A	**Drake**	**111.82**	**55**	PKiKP	**PKiKP**	**13 53 31.2**	**-0.5**
	baz=112		

baz=113
Y37A Hugo 112.99 56 PKiKP **PKiKP** 13 53 33.8 -0.2
baz=113
S37A Fort Scott 113.00 52 PKiKP **PKiKP** 13 53 33.4 -0.5
baz=113
U37A Salina 113.02 53 PKiKP **PKiKP** 13 53 33.6 -0.4
baz=113
T37A Cheneyville 18 113.05 52 PKiKP **PKiKP** 13 53 33.8 -0.1
baz=113
137A Heron Place, G 113.08 57 PKiKP **PKiKP** 13 53 34.3 +0.2
baz=113
Q37A Longview Farm, 113.08 50 PKiKP **PKiKP** 13 53 33.3 -0.7
baz=113
V37A Hulbert 113.08 54 PKiKP **PKiKP** 13 53 33.9 -0.1
baz=113
Z37A Pogue Cattle C 113.10 57 PKiKP **PKiKP** 13 53 34.1 -0.1
baz=113
X37A Clayton 113.11 55 PKiKP **PKiKP** 13 53 33.9 -0.2
baz=113
237A Washetta, Mont 113.11 58 PKiKP **PKiKP** 13 53 34.2 0.0
baz=113
337A Centerville 113.13 59 PKiKP **PKiKP** 13 53 35.1 +0.8
baz=113
KMBO Kilima Mbogo 113.14 266 Pdiff **Pdif** 13 49 42.3 +1.2
comp=Z,1.6nm,0.7s,baz=84,slow=1.5,SNR=2.8
KMBO PKiKP **PKiKP** 13 53 34.6 -0.5
comp=Z,8.0nm,0.9s,baz=62,slow=4.6,SNR=10.0
KMBO PKKPbc **PKKPab** 14 04 25.9 -2.9
comp=Z,12nm,1.0s,baz=298,slow=2.5,SNR=8.1
KMBO Kilima Mbogo 113.14 266 P **Pdif** 13 49 42.3 +1.2
KMBO *i* 13 53 35.0
KMBO MLR MLR
comp=Z,85μm,22.0s
KMBO Kilima Mbogo 113.14 266 Pdif **Pdif** 13 49 42.3 +1.2
KMBO *e*PKiKP **PKiKP** 13 53 35.0 -0.2
KMBO PKKPbc **PKKPab** 14 04 25.9 -2.9
KMBO LR LR
comp=Z,85μm,22.0s
ASF Jabal al Asfar 113.28 302 PKKPbc PKKPbc 14 04 22.5 +1.9
comp=Z,3.6nm,0.7s,baz=143,slow=2.1,SNR=3.6
HKT Hockley 113.34 60 PKiKP **PKiKP** 13 53 34.9 +0.3
HKT Hockley 113.34 60 PKiKP **PKiKP** 13 53 34.9 +0.3
SCIA State Center 113.36 47 *e*PKiKP **PKiKP** 13 53 33.9 -0.5
SCIA LR LR
comp=Z,103μm,20.0s
MICGM Minsk 113.52 328 *e*P **PKiKP** 13 53 33.0 -1.3
X38A Whitesboro 113.53 55 Pdiff **Pdif** 13 49 42.9 +0.7
baz=114
X38A PKiKP **PKiKP** 13 53 35.1 +0.2
baz=114
MNK Minsk 113.54 328 *e*PKiKP **PKiKP** 13 53 33.0 -1.3
MNK MLR MLR
comp=N,39μm,20.0s
MNK MLR MLR
comp=Z,105μm,20.0s
MNK MLR MLR
comp=E,85μm,20.0s
438A Sam Houston St 113.56 59 PKiKP **PKiKP** 13 53 35.1 +0.1
baz=114
U38A Gravette 113.59 53 PKiKP **PKiKP** 13 53 34.7 -0.4
baz=114
338A Crockett 113.62 59 PKiKP **PKiKP** 13 53 35.1 -0.1
baz=114
138A Matatall Enter 113.62 57 PKiKP **PKiKP** 13 53 35.3 +0.2
baz=114
Z38A Mt. Pleasant 113.63 56 PKiKP **PKiKP** 13 53 35.1 0.0
baz=114
V38A Canehill 113.67 54 PKiKP **PKiKP** 13 53 34.7 -0.5
baz=114
238A Jacksonville 113.69 58 PKiKP **PKiKP** 13 53 35.1 -0.3
baz=114
W38A Poteau 113.72 54 PKiKP **PKiKP** 13 53 35.1 -0.1
baz=114
Y38A Idabel 113.73 56 PKiKP **PKiKP** 13 53 35.0 -0.4
baz=114
IDID Didziasalis 113.77 329 *e*P **PKiKP** 13 53 38.0 +3.2
IDID IAmb IAmb 13 53 45.5
comp=Z,22nm,0.9s
IZAR Zarasai 113.83 329 *e*P **PKiKP** 13 53 38.3 +3.5
IZAR IAmb IAmb 13 53 39.9
comp=Z,24nm,1.2s
NACGM Naroch 113.93 328 *e*P **PKiKP** 13 53 30.0 -5.1
ISAL Salakas 113.97 329 *e*P **PKiKP** 13 53 38.8 +3.7
ISAL IAmb IAmb 13 53 43.0
comp=Z,19nm,0.9s
IIGN Ignalina 114.02 329 *e*P **PKiKP** 13 53 38.7 +3.4
IIGN IAmb IAmb 13 53 45.1
comp=Z,22nm,0.8s
NATX Nacogdoches 114.11 58 PKiKP **PKiKP** 13 53 36.4 +0.2
baz=114
NATX Nacogdoches 114.11 58 *e*PKiKP PKPdf 13 53 35.9 -0.2
NATX LR LR
comp=Z,136μm,21.0s
GRM Grahamstown 114.22 229 PKIKP PKPdf 13 53 34.6 -1.8
GRM Grahamstown 114.22 229 *i* P PKPdf 13 53 37.8 +1.4
GRM Grahamstown 114.22 229 P PKPdf 13 53 34.6 -1.8
239A Gary 114.23 58 PKiKP **PKiKP** 13 53 36.5 +0.2
baz=114
AKASG Malin Array Be 114.24 323 PKP PKPdf 13 53 34.5 -1.3
comp=Z,16nm,0.7s,baz=60,slow=3.1,SNR=4.2
AKASG PKKPbc **PKKPab** 14 04 21.0 -1.7
comp=Z,6.8nm,0.8s,baz=270,slow=2.8,SNR=9.5
KIEV Kiev 114.25 323 *e*PKiKP PKPdf 13 53 34.3 -1.5
KIEV MLR MLR
comp=Z,113μm,22.0s
KIEV Kiev 114.25 323 *e*PKiKP PKPdf 13 53 34.3 -1.5
KIEV LR LR
comp=Z,113μm,22.0s
Y39A Lockesburg 114.25 56 PKiKP **PKiKP** 13 53 36.4 0.0
baz=114
339A Huntington 114.26 58 PKiKP **PKiKP** 13 53 36.5 0.0
baz=114
Z39A Irene McRaven, 114.29 56 PKiKP **PKiKP** 13 53 37.0 +0.6
baz=114
MMAI Mount Meron Ar 114.41 303 PKKPbc PKKPbc 14 04 15.6 -1.2
comp=Z,0.5nm,0.3s,baz=245,slow=3.0,SNR=2.2
BR131 Keskin Array S 114.52 311 *e*PKiKP PKPdf 13 53 35.6 -1.3
BRTR Keskin Array B 114.52 311 Pdiff **Pdif** 13 49 52.6 +6.0
comp=Z,0.4nm,0.6s,baz=104,slow=6.1,SNR=2.7
BRTR PKP PKPdf 13 53 35.8 -1.2
comp=Z,28nm,0.9s,baz=116,slow=1.5,SNR=14
BRTR PKKPbc **PKKPbc** 14 04 16.1 -0.6
comp=Z,3.7nm,0.9s,baz=250,slow=4.2,SNR=5.2
MIAR Mount Ida 114.58 55 *e*PKiKP PKPdf 13 53 36.4 -0.6
MIAR MLR MLR
comp=Z,152μm,22.0s
MIAR Mount Ida 114.58 55 Pdiff **Pdif** 13 49 47.1 +0.3
baz=115
MIAR PKiKP **PKiKP** 13 53 37.3 +0.3
baz=115
MIAR Mount Ida 114.58 55 *e*PKiKP PKPdf 13 53 36.4 -0.6
MIAR LR LR
comp=Z,152μm,22.0s
NSS Namsos 114.67 342 *e*PKPdf PKPdf 13 53 37.0 +0.8
NSS *e*PP **PP** 13 54 33.6 0.0
340A Bronson 114.81 58 PKiKP **PKiKP** 13 53 37.8 +0.3
baz=115
CMIG Matias Romero 115.11 74 PKKPbc PKKPbc 14 04 21.0 +7.1
comp=Z,8.0nm,0.8s,baz=41,slow=9.3,SNR=5.4
JFWS Jewell Farm 115.23 45 *e*PKiKP **PKPdf** 13 53 36.4 -1.6
JFWS MLR MLR
comp=Z,123μm,20.0s
JFWS Jewell Farm 115.23 45 *e*PKiKP **PKPdf** 13 53 36.4 -1.6
JFWS LR LR
comp=Z,123μm,20.0s
EIL Elat 115.28 300 PKKPbc PKKPbc 14 04 13.4 -0.2
comp=Z,4.6nm,0.8s,baz=0.0,slow=5.1,SNR=3.5
ILULI Ilulissat 115.31 8 *i* P **PKPdf** 13 53 40.0 +2.7
comp=Z,32nm,0.9s
SEK Senekal 115.38 235 P **PKPdf** 13 53 38.1 -0.8
MSNA Messina 115.44 242 P **PKPdf** 13 53 40.0 +1.0
UALR University of 115.53 54 *e*PKPdf **PKPdf** 13 53 38.4 -0.4
CSS Prodhromos 115.77 306 *e*P **PKPdf** 13 53 40.3 +1.0
CSS Prodhromos 115.77 306 *e*PKPdf **PKPdf** 13 53 40.3 +1.0
CSS LR LR
comp=Z,11μm,20.0s
CSS Prodhromos 115.77 306 P **PKPdf** 13 53 41.5 +2.2
SLR Silverton 115.80 238 PKiKP **PKPdf** 13 53 37.2 -2.6
SLR Silverton 115.80 238 P **PKPdf** 13 53 37.2 -2.6
KIS Kishinev 115.81 320 *e*PKP **PKPdf** 13 53 40.0 +1.1
KIS LRM MLR 14 45 10.0
comp=Z,162μm,20.0s
KIS Kishinev 115.81 320 *e*PKiKP **PKPdf** 13 53 40.0 +1.1
KIS *e* 13 54 52.0
KIS *e* 14 04 21.0
KIS *i* 14 04 35.0
KIS MLR MLR
comp=Z,162μm,20.0s
PRYS Parys 116.13 236 P **PKPdf** 13 53 40.5 +0.1
SUW Suwalki 116.20 329 *e*PKiKP **PKiKP** 13 53 42.1 +2.6
SUW *e*PP **PP** 13 54 47.8 +2.9
SUW *e*SKSac **SKSac** 14 00 27.9 +1.4
SUW *e*SKSdf **SKSdf** 14 00 48.6 +0.5
SUW LMZ LR 14 42 33.2
SUW Suwalki 116.20 329 *i* PKiKP **PKiKP** 13 53 42.1 +2.6
SUW *e* 13 54 47.9
SUW *e* 14 00 27.9
SUW *e* 14 00 48.7
SUW MLR MLR
comp=Z,188μm,23.4s
TLCR 116.42 318 ⇓PKiKP **PKPdf** 13 53 40.3 +0.1
TLCR 116.42 318 ⇓*i*P **PKPdf** 13 53 40.3 +0.1
HDIL Hopedale 116.56 48 PKiKP **PKPdf** 13 53 39.9 -0.7
baz=116
HDIL Hopedale 116.56 48 *e*PKPdf **PKPdf** 13 53 39.5 -1.1
HDIL LR LR
comp=Z,88μm,20.0s
GIUM Giurgiulesti 116.73 318 ⇑*i*P **PKPdf** 13 53 43.7 +3.0
CFR Carcaliu 116.88 318 ⇓PKiKP **PKPdf** 13 53 40.8 -0.2
CFR Carcaliu 116.88 318 ⇓*i*P **PKPdf** 13 53 40.8 -0.2
EFOR EFORIE 116.91 317 ⇓*i*P **PKPdf** 13 53 45.0 +3.9
TIRR Tirgusor 116.94 317 *e*PKiKP **PKPdf** 13 53 39.8 -1.4
TIRR Tirgusor 116.94 317 ⇓*i*P **PKPdf** 13 53 41.0 -0.2
TIRR Tirgusor 116.94 317 *e*PKPdf **PKPdf** 13 53 39.8 -1.4
HFS Hagfors 117.03 337 PKKPbc PKKPbc 14 04 13.5 +5.0
comp=Z,3.1nm,0.7s,baz=145,slow=3.0,SNR=5.1
GNAR Gosnell 117.15 53 *e*PKPdf **PKPdf** 13 53 41.4 -0.4
BOSA Boshof 117.18 234 Pdiff **Pdif** 13 50 02.7 +4.1
comp=Z,1.5nm,0.8s,baz=158,slow=4.0,SNR=3.0
BOSA PKP **PKPdf** 13 53 42.2 -0.1
comp=Z,9.6nm,0.8s,baz=96,slow=2.4,SNR=11
BOSA PKKPbc **PKKPbc** 14 04 06.6 -0.5
comp=Z,9.2nm,0.7s,baz=295,slow=3.2,SNR=11
HARR Harsova 117.18 318 ⇓PKiKP **PKPdf** 13 53 42.7 +1.1
HARR Harsova 117.18 318 ⇓*i*P **PKPdf** 13 53 42.7 +1.1
PARMO Parma 117.20 52 *e*PKPdf **PKPdf** 13 53 41.1 -0.8
PRAR RASCA 117.32 321 ⇓*i*P **PKPdf** 13 53 45.5 +3.6
NB2 NORSAR Subarra 117.33 339 PKPdf **PKPdf** 13 53 43.0 +1.5
comp=Z,5.4nm,0.8s,baz=44,slow=1.9
NB2 NORSAR Subarra 117.33 339 PKPdf **PKPdf** 13 53 43.0 +1.5
baz=44,slow=1.9
NOA NORSAR Array B 117.33 339 PKP **PKPdf** 13 53 41.2 -0.3
comp=Z,18nm,0.9s,baz=47,slow=2.1,SNR=18
NOA SKP 13 57 15.8
comp=Z,8.3nm,0.9s,baz=44,slow=2.0,SNR=5.3
NOA PKKPbc **PKKPab** 14 04 13.9 +4.9
comp=Z,7.1nm,1.1s,baz=51,slow=3.7,SNR=5.0
PSN Preselentsi 117.35 316 ⇓PKiKP **PKPdf** 13 53 45.1 +3.1
PSN Preselentsi 117.35 316 ⇓*i*P **PKPdf** 13 53 45.1 +3.1
SIUC Southern Illin 117.36 51 *e*PKPdf **PKPdf** 13 53 41.1 -1.1
TESR Tescani 117.38 320 ⇑*i*P **PKPdf** 13 53 42.0 0.0
MATP Matopo 117.40 243 PKP **PKPdf** 13 53 41.8 -1.2
comp=Z,15nm,0.5s,baz=85,slow=2.2,SNR=19
MATP PKKPbc **PKKPbc** 14 04 07.6 +1.5
comp=Z,5.5nm,0.7s,baz=293,slow=4.5,SNR=7.4
SFJD Kangerlussuaq 117.41 9 *i* P **PKPdf** 13 53 45.1 +3.7
comp=Z,36nm,0.9s
SFJD Kangerlussuaq 117.41 9 *i* PKiKP **PKPdf** 13 53 45.1 +3.7
SFJD pmax pmax
comp=Z,36nm,0.9s
SFJD Kangerlussuaq 117.41 9 PFAKE 13 53 50.0 +8.6
SFJD LR LR
comp=Z,54μm,22.0s
NC602 NORSAR Array S 117.42 339 *e*PKPdf **PKPdf** 13 53 40.8 -0.8
MSAB Monastry St. A 117.46 317 ⇓*i*P **PKPdf** 13 53 43.2 +1.0
EFI East Falkland 117.47 160 PFAKE 13 53 50.0 +8.0
EFI LR LR
comp=Z,38μm,22.0s
VBMS Vicksburg 117.51 57 PKiKP **PKPdf** 13 53 42.4 -0.2
baz=118
ISK Istanbul-Kandi 117.55 313 PKiKP **PKPdf** 13 53 42.6 +0.1
ISK Istanbul-Kandi 117.55 313 P **PKPdf** 13 53 42.6 +0.1
ISK Istanbul-Kandi 117.55 313 P **PKPdf** 13 53 42.6 +0.1
VRI Vrincioaia 117.56 319 ⇑PKiKP **PKPdf** 13 53 42.2 -0.2
VRI Vrincioaia 117.56 319 ⇑*i*P **PKPdf** 13 53 42.2 -0.2
NAO01 NORSAR Array S 117.58 339 PKPdf **PKPdf** 13 53 42.8 +0.8
AMRR Amara 117.61 318 ⇓PKiKP **PKPdf** 13 53 43.5 +1.0
AMRR Amara 117.61 318 ⇓*i*P **PKPdf** 13 53 43.5 +1.0
PLOR Plostina 117.62 319 ⇓PKiKP **PKPdf** 13 53 43.9 +1.4
PLOR Plostina 117.62 319 ⇓*i*P **PKPdf** 13 53 43.9 +1.4
LVV L'vov 117.65 324 *i* PKiKP **PKPdf** 13 53 45.1 +2.7
LVV MLR MLR
comp=Z,158μm,25.0s
LVV MLR MLR
comp=N,55μm,23.0s
LVV MLR MLR
comp=E,89μm,23.0s
GLAT Glass 117.65 52 PKPdf **PKPdf** 13 53 42.0 -0.8
HALT Halls 117.69 53 PKPdf **PKPdf** 13 53 42.1 -0.8
BUR08 Bucovina Ar. S 117.85 321 *e*PKPdf **PKPdf** 13 53 42.3 -0.8
BURAR Bucovina Array 117.85 321 ⇓PKiKP **PKPdf** 13 53 44.2 +1.2
BURAR Bucovina Array 117.85 321 ⇓*i*P **PKPdf** 13 53 44.2 +1.2
OLIL Olney 117.94 49 *e*PKPdf **PKPdf** 13 53 42.0 -1.3
OXF Oxford 117.95 54 *e*PKiKP **PKPdf** 13 53 41.9 -1.5
OXF Oxford 117.95 54 *e*PKPdf **PKPdf** 13 53 41.9 -1.5
ISR Istrita 117.96 318 ⇑PKiKP **PKPdf** 13 53 44.7 +1.5
ISR Istrita 117.96 318 ⇑*i*P **PKPdf** 13 53 44.7 +1.5
UTMT University of 117.97 52 *e*PKPdf **PKPdf** 13 53 43.5 0.0
MLR Muntele Rosu 118.21 319 PKKPbc PKKPbc 14 04 08.6 +4.7
comp=E,2.9nm,0.7s,baz=90,slow=8.1,SNR=4.1
MLR Muntele Rosu 118.21 319 ⇓PKiKP **PKPdf** 13 53 40.8 -3.0
MLR Muntele Rosu 118.21 319 ⇓*i*P **PKPdf** 13 53 40.8 -3.0
SFIN Scholer Farm 118.22 47 PKiKP **PKPdf** 13 53 43.5 -0.2
baz=118
SFIN Scholer Farm 118.22 47 *e*PKPdf **PKPdf** 13 53 42.5 -1.3
SECR 118.30 318 ⇓*i*P **PKPdf** 13 53 45.0 +1.2
LBTB Lobatse 118.32 238 Pdiff **Pdif** 13 50 07.0 +3.2
comp=E,2.0nm,0.8s,baz=172,slow=4.1,SNR=3.4
LBTB PKP **PKPdf** 13 53 44.1 -0.5
comp=E,16nm,0.8s,baz=154,slow=4.5,SNR=12
LBTB PKKPbc **PKKPbc** 14 04 03.5 +0.5
comp=E,24nm,0.8s,baz=299,slow=5.3,SNR=17
LBTB Lobatse 118.32 238 P **Pdif** 13 50 07.0 +3.2
LBTB *e* 13 53 43.6
LBTB Lobatse 118.32 238 Pdif **Pdif** 13 50 07.0 +3.2
LBTB *e*PKPdf **PKPdf** 13 53 43.5 -1.1
LBTB PKKPbc **PKKPbc** 14 04 03.5 +0.5
DOPR Dopca 118.39 320 ⇑*i*P **PKPdf** 13 53 45.3 +1.3
GLMI Grayling 118.47 42 *e*PKPdf **PKPdf** 13 53 43.5 -0.7
GLMI LR LR
comp=Z,154μm,22.0s
USIN University of 118.48 50 *e*PKPdf **PKPdf** 13 53 43.1 -1.2
KWP Kalwaria Pacla 118.50 324 *e*PKiKP **PKPdf** 13 53 43.0 -1.1
KWP *e*PP **PP** 13 55 02.6 +1.5
KWP LMZ LR 14 40 40.9
KWP Kalwaria Pacla 118.50 324 *i* PKiKP **PKPdf** 13 53 43.0 -1.1
KWP *e* 13 55 02.7
BEL Belsk 118.53 327 *e*PKiKP **PKPdf** 13 53 43.8 -0.2
BEL *e*SKSac **SKSac** 14 00 38.9 +3.8
BEL LMZ LR 14 45 21.3
BEL Belsk 118.53 327 *i* PKiKP **PKPdf** 13 53 43.9 -0.1
BEL *e* 14 00 39.0
BEL MLR MLR
comp=Z,209μm,21.4s
ELIM Elim 118.57 225 P **PKPdf** 13 53 46.3 +1.5
ARCR ARCALIA 118.61 321 ⇑*i*P **PKPdf** 13 53 47.2 +2.9
PAYG Puerto Ayora 118.80 94 PFAKE 13 54 00.0 +14
PAYG LR LR
comp=Z,24μm,19.0s
VOIR 118.82 319 ⇑PKiKP **PKPdf** 13 53 46.4 +1.5
VOIR 118.82 319 ⇑*i*P **PKPdf** 13 53 46.4 +1.5
WVT Waverly 118.83 52 *e*PKiKP **PKPdf** 13 53 43.1 -2.0
WVT Waverly 118.83 52 *e*PKPdf **PKPdf** 13 53 43.1 -2.0
JMB Yambol 118.86 316 ⇑PKiKP **PKPdf** 13 53 45.7 +0.7
JMB Yambol 118.86 316 ⇑*i*P **PKPdf** 13 53 45.7 +0.7
KONO Kongsberg 118.88 339 *e*PKPdf **PKPdf** 13 53 43.0 -1.5
KONO Kongsberg 118.88 339 PFAKE 13 54 00.0 +16
KONO LR LR
comp=Z,142μm,20.0s
BMR Baia Mare 118.89 322 ⇑PKiKP **PKPdf** 13 53 45.9 +1.0
BMR Baia Mare 118.89 322 ⇑*i*P **PKPdf** 13 53 45.9 +1.0
SUR Sutherland 118.91 228 *e*PKPdf **PKPdf** 13 53 48.4 +2.7
SUR LR LR
comp=Z,147μm,20.0s
HYA Hoyanger 118.94 341 *e*PKPdf **PKPdf** 13 53 47.4 +2.9
EDRB Edirne 118.95 315 P **PKPdf** 13 53 47.0 +1.8
EDRB Edirne 118.95 315 P **PKPdf** 13 53 47.0 +1.8
BLO Bloomington 119.00 48 *e*PKiKP **PKPdf** 13 53 44.6 -0.8
BLO Bloomington 119.00 48 *e*PKPdf **PKPdf** 13 53 44.5 -0.8
KOLS Kolonicke sedl 119.07 324 *e*PKiKP **PKPdf** 13 53 44.8 -0.4
KOLS Kolonicke sedl 119.07 324 *e*PKP **PKPdf** 13 53 44.8 -0.4
GOLR 119.10 319 ⇑*i*P **PKPdf** 13 53 46.5 +1.1
ARR Arges 119.11 319 ⇑*i*P **PKPdf** 13 53 46.5 +1.0
LSZ Lusaka 119.20 249 Pdiff **Pdif** 13 50 15.0 +7.2
comp=Z,0.9nm,0.3s,baz=180,slow=4.0,SNR=2.5
LSZ PKP **PKiKP** 13 53 46.8 +0.2
comp=Z,16nm,0.6s,baz=72,slow=4.0,SNR=9.3
LSZ PKKPbc **PKKPbc** 14 04 00.3 +0.7
comp=Z,34nm,1.0s,baz=355,slow=3.7,SNR=11
LSZ Lusaka 119.20 249 Pdif **Pdif** 13 50 15.0 +7.2
LSZ *e*PKPdf **PKPdf** 13 53 45.1 -1.4
LSZ PKKPbc **PKKPbc** 14 04 00.3 +0.7
LSZ LR LR
comp=Z,51μm,20.0s
HUMR Humele 119.21 318 ⇑*i*P **PKPdf** 13 53 45.5 -0.1
CJR Cluj-Napoca 119.23 321 ⇑PKiKP **PKPdf** 13 53 46.2 +0.6
CJR Cluj-Napoca 119.23 321 ⇑*i*P **PKPdf** 13 53 46.2 +0.6
CER Ceres 119.53 226 P **PKPdf** 13 53 48.7 +2.1
HOPE Hope Point 119.60 175 *e*PKPdf **PKPdf** 13 53 45.5 -0.5
HOPE LR LR
comp=Z,107μm,20.0s
ARG Arkhangelos 119.61 308 PKiKP **PKPdf** 13 53 45.0 -1.6
ARG Arkhangelos 119.61 308 *e*P **PKPdf** 13 53 45.0 -1.6
ARG Arkhangelos 119.61 308 P **PKPdf** 13 53 45.0 -1.6
ARG Arkhangelos 119.61 308 P **PKPdf** 13 53 45.0 -1.6
GKP Gorka Klasztor 119.62 330 *e*PKiKP **PKiKP** 13 53 46.1 0.0
GKP *e*PP **PP** 13 55 10.2 +1.7
GKP *e*SKSdf **SKSdf** 14 00 52.0 -2.6
GKP LMZ LR 14 45 48.5
GKP Gorka Klasztor 119.62 330 *i* PKiKP **PKiKP** 13 53 46.1 0.0
GKP *e* 13 55 10.2
GKP *e* 14 00 52.0
GKP MLR MLR
comp=Z,235μm,22.5s
LOT Lotru 119.64 320 ⇓*i*P **PKPdf** 13 53 45.9 -0.6
BSD Bornholm Skovb 119.66 333 *i* P **PKPdf** 13 53 50.2 +4.1
comp=Z,57nm,1.2s
MBAR Mbarara 119.67 266 PFAKE 13 54 00.0 +12
MBAR LR LR
comp=Z,793nm,22.0s
ODD1 Odda 119.73 340 *e*PKPdf **PKPdf** 13 53 44.5 -1.7
DRGR 119.75 321 ⇑PKiKP **PKPdf** 13 53 46.0 -0.7
DRGR 119.75 321 ⇑*i*P **PKPdf** 13 53 46.0 -0.7
ALN Alexandroupoli 119.77 314 PKiKP **PKPdf** 13 53 48.1 +1.4
ALN Alexandroupoli 119.77 314 *e*P **PKPdf** 13 53 44.5 -2.2
ALN Alexandroupoli 119.77 314 P **PKPdf** 13 53 48.1 +1.4
ALN Alexandroupoli 119.77 314 P **PKPdf** 13 53 48.1 +1.4
OJC Ojcow 119.88 326 *e*PKiKP **PKPdf** 13 53 45.8 -0.9
OJC *e*PP **PP** 13 55 12.9 +2.4
OJC LMZ LR 14 41 00.2
OJC Ojcow 119.88 326 *i* PKiKP **PKPdf** 13 53 45.8 -0.9
OJC *e* 13 55 13.0
KDZ Kurdzhali 119.96 315 ⇑PKiKP **PKPdf** 13 53 46.1 -1.0
KDZ Kurdzhali 119.96 315 ⇑*i*P **PKPdf** 13 53 46.1 -1.0
NIE Niedzica 119.98 325 *e*PKiKP **PKPdf** 13 53 46.8 -0.2
NIE *e*PP **PP** 13 55 11.0 -0.3
NIE *e*SKSdf **SKSdf** 14 00 54.7 -1.0
NIE LMZ LR 14 41 21.6
NIE Niedzica 119.98 325 *i* PKiKP **PKPdf** 13 53 46.8 -0.2
NIE *e* 14 00 54.8
DEV Deva 120.01 320 ⇓PKiKP **PKPdf** 13 53 47.2 +0.1
DEV Deva 120.01 320 ⇓*i*P **PKPdf** 13 53 47.2 +0.1
AAM Ann Arbor 120.03 44 *e*PKiKP **PKPdf** 13 53 45.8 -1.4
AAM MLR MLR
comp=Z,107μm,21.0s
AAM Ann Arbor 120.03 44 *e*PKPdf **PKPdf** 13 53 45.8 -1.4
AAM LR LR
comp=Z,107μm,21.0s
PLCA Paso Flores 120.04 145 *e*P **PKPdf** 13 53 47.1 -0.3
RDO Rodhopi 120.05 314 *e*P **PKPdf** 13 53 45.7 -1.6
RDO Rodhopi 120.05 314 P **PKPdf** 13 53 45.5 -1.8
RDO Rodhopi 120.05 314 P **PKPdf** 13 53 45.5 -1.8
CRAR CRAIOVA 120.07 318 ⇑PKiKP **PKPdf** 13 53 48.2 +1.0
CRAR CRAIOVA 120.07 318 ⇑*i*P **PKPdf** 13 53 48.2 +1.0
CVNA Calvinia 120.13 228 P **PKPdf** 13 53 48.8 +0.9
PRK Paraskevi 120.14 312 *e*P **PKPdf** 13 53 46.8 -0.7
BLS5 Blasjo 120.15 340 *e*PKPdf **PKPdf** 13 53 50.5 +3.5
SMG Samos 120.18 310 *e*P **PKPdf** 13 53 46.9 -0.8
SMG Samos 120.18 310 P **PKPdf** 13 53 46.8 -0.9
SMG Samos 120.18 310 P **PKPdf** 13 53 46.8 -0.9
LRAL Lakeview Retre 120.24 55 *e*PKPdf **PKPdf** 13 53 46.9 -1.0
SMTH Samothraki Isl 120.28 314 *e*P **PKPdf** 13 53 45.9 -1.9
SRE Strehaia 120.32 319 ⇑PKiKP **PKPdf** 13 53 50.1 +2.4
SRE Strehaia 120.32 319 ⇑*i*P **PKPdf** 13 53 50.1 +2.4
KECS Kecovo 120.33 324 *e*PKiKP **PKPdf** 13 53 48.0 +0.4
KECS Kecovo 120.33 324 *e*PKP **PKPdf** 13 53 48.0 +0.4
COP Copenhagen 120.41 334 *i* P **PKPdf** 13 53 49.7 +2.2
comp=Z,35nm,1.0s
COP Copenhagen 120.41 334 *i* PKiKP **PKPdf** 13 53 49.7 +2.2
COP pmax pmax
comp=Z,35nm,1.0s
UPI Upington 120.46 232 P **PKPdf** 13 53 49.2 +0.6
KARP Karpathos 120.54 308 *e*P **PKPdf** 13 53 47.1 -1.4
KARP Karpathos 120.54 308 P **PKPdf** 13 53 50.2 +1.7
KARP Karpathos 120.54 308 P **PKPdf** 13 53 50.2 +1.7
SWET Sewanee 120.56 53 *e*PKPdf **PKPdf** 13 53 46.3 -2.2
CHIOS Chios Island 120.57 311 *e*P **PKPdf** 13 53 50.1 +1.6
SIRR Siria 120.63 321 ⇓*i*P **PKPdf** 13 53 48.4 +0.1
BRAL Brewton 120.64 58 *e*PKPdf **PKPdf** 13 53 48.8 +0.1
BRAL LR LR
comp=Z,118μm,22.0s
KMY Karmoy 120.72 340 *e*PKPdf **PKPdf** 13 53 51.0 +3.0
LIA Limnos Island 120.72 313 *e*P **PKPdf** 13 53 47.6 -1.0
KAVA Kavala 120.82 315 *e*P **PKPdf** 13 53 47.2 -1.6
KAVA Kavala 120.82 315 P **PKPdf** 13 53 46.9 -1.9
KAVA Kavala 120.82 315 P **PKPdf** 13 53 46.9 -1.9
RAC Raciborz 120.83 326 *e*PKiKP **PKPdf** 13 53 48.2 -0.3
RAC MLR MLR
comp=Z,175μm,24.6s
BZS Buzias 120.94 321 ⇑PKiKP **PKPdf** 13 53 49.1 +0.2
BZS Buzias 120.94 321 ⇑*i*P **PKPdf** 13 53 49.1 +0.2
PSZ Piszkesteto 120.94 324 *e*PKiKP **PKPdf** 13 53 47.6 -1.3
PSZ MLR MLR
comp=Z,81μm,20.0s
PSZ Piszkesteto 120.94 324 ⇑*i*P **PKPdf** 13 53 50.6 +1.7
PSZ Piszkesteto 120.94 324 *e*PKPdf **PKPdf** 13 53 47.5 -1.3
PSZ LR LR
comp=Z,81μm,20.0s
PSZ Piszkesteto 120.94 324 *e*SKSdf **PKPdf** 13 53 48.1 -0.8
OKC Ostrava-Krasne 120.99 326 *e*PKPdf **PKPdf** 13 53 48.6 -0.2
OKC *ex* x 13 53 52.0
OKC *e*PP **PP** 13 55 13.8 -4.3
OKC *e*SKP 13 57 24.9
OKC *e*PKKP **PKKPbc** 14 03 53.7 0.0
OKC *ex* x 14 04 02.0
OKC AMS AMS 14 45 40.0
comp=Z,113μm,21.5s
OKC Ostrava-Krasne 120.99 326 *e*PKiKP **PKPdf** 13 53 48.6 -0.2
OKC MLR MLR
comp=Z,113μm,21.5s
BORG Borgarnes 121.13 356 *e*PKiKP **PKPdf** 13 53 47.0 -1.6
BORG MLR MLR
comp=Z,40μm,20.0s
BORG Borgarnes 121.13 356 *e*PKPdf **PKPdf** 13 53 47.0 -1.6
BORG LR LR
comp=Z,40μm,20.0s
TIM Timisoara 121.14 321 ⇑PKiKP **PKPdf** 13 53 50.8 +1.6
TIM Timisoara 121.14 321 ⇑*i*P **PKPdf** 13 53 50.8 +1.6
NVR Nevrokopi 121.15 315 *e*P **PKPdf** 13 53 47.7 -1.8
NVR Nevrokopi 121.15 315 P **PKPdf** 13 53 47.2 -2.3
NVR Nevrokopi 121.15 315 P **PKPdf** 13 53 47.2 -2.3
MMB Musomiste 121.16 316 ⇓PKiKP **PKPdf** 13 53 48.7 -0.8
MMB Musomiste 121.16 316 ⇓*i*P **PKPdf** 13 53 48.7 -0.8
TEIG Tepich 121.19 70 PKP **PKPdf** 13 53 50.1 +0.1
baz=270,slow=20
TEIG PKKPbc **PKKPab** 14 03 53.9 +1.0
comp=Z,0.5nm,0.7s,baz=0.0,slow=20,SNR=6.2
TEIG Tepich 121.19 70 *e*PKPdf **PKPdf** 13 53 49.7 -0.3
TEIG PKKPbc **PKKPab** 14 03 53.9 +1.0
TEIG LR LR
comp=Z,1μm,22.0s
ACSO Alum Creek Sta 121.24 46 *e*PKPdf **PKPdf** 13 53 48.6 -1.0
ACSO LR LR
comp=Z,120μm,20.0s
MUD Monsted U'grnd 121.27 336 *i* P **PKPdf** 13 53 51.7 +2.6
comp=Z,38nm,1.1s
MUD Monsted U'grnd 121.27 336 *i* PKiKP **PKPdf** 13 53 51.7 +2.6
MUD pmax pmax
comp=Z,38nm,1.1s
VYHS Vyhne 121.28 325 *e*PKiKP **PKPdf** 13 53 48.7 -0.8
VYHS Vyhne 121.28 325 *e*PKP **PKPdf** 13 53 48.7 -0.8

MORC Moravsky Berou 121.35 326 ePKIKP PKPdf 13 53 48.4 -1.2
MORC Moravsky Berou 121.35 326 ⇑iP PKPdf 13 53 49.7 +0.1
MORC Moravsky Berou 121.35 326 ePKPdf PKPdf 13 53 48.4 -1.2
SRS Serrai 121.43 315 PKIKP PKPdf 13 53 48.2 -1.8
SRS Serrai 121.43 315 eP PKPdf 13 53 48.4 -1.6
SRS Serrai 121.43 315 P PKPdf 13 53 48.2 -1.8
SRS Serrai 121.43 315 P PKPdf 13 53 48.2 -1.8
OUR Ouranopolis 121.44 314 PKIKP PKPdf 13 53 47.6 -2.4
OUR Ouranopolis 121.44 314 eP PKPdf 13 53 48.2 -1.8
OUR Ouranopolis 121.44 314 P PKPdf 13 53 47.6 -2.4
OUR Ouranopolis 121.44 314 P PKPdf 13 53 47.6 -2.4
KSP Ksiaz 121.45 328 ePKiKP PKiKP 13 53 49.8 0.0
KSP ePP PP 13 55 22.9 +1.7
KSP LMZ LR 14 48 04.2
KSP Ksiaz 121.45 328 i PKIKP PKiKP 13 53 49.8 0.0
KSP e 13 55 22.9
KSP MLR MLR
comp=Z,206μm,21.1s
CANA Caviahue 121.56 142 eP PKPdf 13 53 47.6 -3.0
CPCT Cooper Cave 121.60 52 ePKPdf PKPdf 13 53 48.9 -1.6
KRLC Kraliky 121.61 327 ePKPdf PKPdf 13 53 50.0 -0.1
KRLC epPKP PKiKP 13 53 56.7 +6.5
KRLC ePKKP PKKPbc 14 03 53.1 +1.7
KRLC ex x 14 04 01.7
KRLC Kraliky 121.61 327 ePKIKP PKPdf 13 53 50.0 -0.1
KRLC e 13 53 56.7
SANT Santorini 121.63 309 eP PKPdf 13 53 49.0 -1.5
SANT Santorini 121.63 309 P PKPdf 13 53 51.4 +0.9
SANT Santorini 121.63 309 P PKPdf 13 53 51.4 +0.9
THR3 Thira Island, 121.67 309 P PKPdf 13 53 52.5 +2.0
THR3 Thira Island, 121.67 309 P PKPdf 13 53 52.5 +2.0
THR6 Thira Island, 121.68 309 P PKPdf 13 53 53.8 +3.2
THR6 Thira Island, 121.68 309 P PKPdf 13 53 53.8 +3.2
SOH Sokhos 121.70 315 eP PKPdf 13 53 48.1 -2.5
DPC Dobruska-Polom 121.71 327 ePKPdf PKPdf 13 53 48.4 -1.9
DPC ex x 13 53 52.9
DPC epPP PP 13 55 20.4 -2.6
DPC ePKKP PKKPbc 14 03 53.8 +2.8
DPC ex x 14 04 04.8
DPC eSKKP 14 07 37.1
DPC AMS AMS 14 47 40.0
comp=Z,158μm,20.6s
DPC Dobruska-Polom 121.71 327 ePKIKP PKPdf 13 53 48.4 -1.9
DPC e 13 53 52.9
DPC MLR MLR
comp=Z,158μm,20.6s
RUE Ruedersdorf 121.78 331 PKPdf PKPdf 13 53 50.0 -0.2
UPC Upice 121.79 328 ePKPdf PKPdf 13 53 49.6 -0.8
UPC ex x 13 53 53.5
UPC epPP PP 13 55 23.0 -0.5
UPC ePKKP PKKPbc 14 03 53.6 +2.9
UPC ex x 14 04 03.9
UPC AMS AMS 14 47 50.0
comp=Z,184μm,20.8s
UPC Upice 121.79 328 ePKIKP PKPdf 13 53 49.6 -0.8
UPC MLR MLR
comp=Z,184μm,20.8s
PAIG Paliouri 121.80 314 PKIKP PKPdf 13 53 49.1 -1.6
PAIG Paliouri 121.80 314 eP PKPdf 13 53 49.0 -1.6
PAIG Paliouri 121.80 314 P PKPdf 13 53 49.1 -1.6
PAIG Paliouri 121.80 314 P PKPdf 13 53 49.1 -1.6
PLG Polygyros 121.80 314 eP PKPdf 13 53 48.0 -2.8
NPS Neapolis 121.83 308 PKIKP PKPpre 13 53 45.9
NPS Neapolis 121.83 308 eP PKPdf 13 53 49.5 -1.4
NPS Neapolis 121.83 308 P PKPpre 13 53 45.9
NPS Neapolis 121.83 308 P PKPpre 13 53 45.9
KNT Kendrikon 121.90 315 PKIKP PKPdf 13 53 51.3 +0.4
KNT Kendrikon 121.90 315 eP PKPdf 13 53 48.8 -2.1
KNT Kendrikon 121.90 315 P PKPdf 13 53 51.3 +0.4
KNT Kendrikon 121.90 315 P PKPdf 13 53 51.3 +0.4
AOS Alonnisos 121.92 313 P PKPdf 13 53 52.4 +1.5
AOS Alonnisos 121.92 313 P PKPdf 13 53 52.4 +1.5
LRW Lerwick 121.96 344 eP PKPdf 13 53 51.8 +1.4
HORT Hortiatis 121.97 315 eP PKPdf 13 53 49.3 -1.8
VAY Valandovo 122.07 316 PKIKP PKPdf 13 53 49.0 -2.2
VAY Valandovo 122.07 316 P PKPdf 13 53 49.0 -2.2
VAY Valandovo 122.07 316 P PKPdf 13 53 49.0 -2.2
PKSG 122.09 324 ePKPPKPdc PKPdf 13 53 50.5 -0.5
VRAC Vranov 122.13 326 ⇓PKIKP PKPdf 13 53 51.4 +0.3
VRAC Vranov 122.13 326 ⇓iP PKPdf 13 53 51.4 +0.3
EREA Eretria 122.13 312 eP PKPdf 13 53 53.7 +2.3
MRKA Markates 122.29 312 eP PKPdf 13 53 50.0 -1.7
MRKA Markates 122.29 312 P PKPdf 13 53 51.3 -0.4
NEO Neokhori 122.35 313 eP PKPdf 13 53 54.4 +2.6
XOR Xorichti 122.35 313 eP PKPdf 13 53 49.8 -2.0
XOR Xorichti 122.35 313 P PKPdf 13 53 50.2 -1.6
XOR Xorichti 122.35 313 P PKPdf 13 53 50.2 -1.6
IDI Anoyia 122.39 308 PKKPbc PKKPbc 14 03 50.3 +2.4
comp=Z,22nm,1.1s,baz=252,slow=10.0,SNR=3.6
IDI Anoyia 122.39 308 eP PKPdf 13 53 51.3 -0.8
IDI Anoyia 122.39 308 ePKPdf PKPdf 13 53 49.6 -2.5
IDI PKKPbc PKKPbc 14 03 50.3 +2.4
IDI Anoyia 122.39 308 P PKPdf 13 53 50.5 -1.6
BSEG Bad Segeberg 122.48 333 ePKPdf PKPdf 13 53 50.6 -0.9
BSEG ePP PP 13 55 26.3 -1.6
SMIA Simia 122.51 313 eP PKPdf 13 53 50.4 -1.7
SMIA Simia 122.51 313 P PKPdf 13 53 52.1 0.0
PKSM Moragy 122.52 322 ⇓PKIKP PKPdf 13 53 51.8 -0.1
PKSM Moragy 122.52 322 ⇓iP PKPdf 13 53 51.8 -0.1
PKSM Moragy 122.52 322 eP PKPdf 13 53 50.7 -1.2
PVCC Panska Ves 122.53 328 ePKPdf PKPdf 13 53 51.3 -0.5
PVCC ex x 13 53 55.0
PVCC epPKP PKiKP 13 53 58.2 +6.2
PVCC ePP PP 13 55 34.0 +5.5
PVCC AMS AMS 14 47 00.0
comp=Z,212μm,23.1s
PVCC Panska Ves 122.53 328 ePKIKP PKPdf 13 53 51.3 -0.5
PVCC e 13 53 58.2
PVCC e 13 55 34.0
PVCC MLR MLR
comp=Z,212μm,23.1s
LIT Litokhoron 122.58 314 PKIKP PKPdf 13 53 51.4 -0.8
LIT Litokhoron 122.58 314 eP PKPdf 13 53 51.0 -1.2
LIT Litokhoron 122.58 314 P PKPdf 13 53 51.4 -0.8
LIT Litokhoron 122.58 314 P PKPdf 13 53 51.4 -0.8
SKO Skopje 122.59 317 PKIKP PKPdf 13 53 52.0 -0.2
SKO Skopje 122.59 317 P PKPdf 13 53 52.0 -0.2
SKO Skopje 122.59 317 P PKPdf 13 53 52.0 -0.2
DIVS Divibare 122.65 320 ⇓iP PKPdf 13 53 52.3 0.0
DIVS Divibare 122.65 320 P PKPdf 13 53 50.6 -1.7
BRG Berggiesshubel 122.66 329 i PKP PKPdf 13 53 51.4 -0.6
comp=Z,99nm,1.0s
comp=N,131μm,23.1s
comp=E,120μm,22.1s
comp=Z,217μm,22.5s
BRG Berggiesshubel 122.66 329 ePKPdf PKPdf 13 53 50.8 -1.2
BRG epPP PP 13 55 26.1 -3.2
BRG Berggiesshubel 122.66 329 i PKIKP PKPdf 13 53 51.4 -0.6
BRG pmax pmax
comp=Z,99nm,1.0s
BRG MLR MLR
comp=N,131μm,23.1s
BRG MLR MLR
comp=E,120μm,22.1s
BRG MLR MLR
comp=Z,217μm,22.5s
VILL Villia 122.68 312 P PKPdf 13 53 51.8 -0.7
VIL2 Platees 122.70 312 eP PKPdf 13 53 50.3 -2.2
ATAL Atalanti 122.71 313 P PKPdf 13 53 49.6 -2.9
ATAL Atalanti 122.71 313 P PKPdf 13 53 49.6 -2.9
LKR Lokris 122.74 313 eP PKPdf 13 53 50.9 -1.6
LKR Lokris 122.74 313 P PKPdf 13 53 50.2 -2.3
LKR Lokris 122.74 313 P PKPdf 13 53 50.2 -2.3
TREC Trest 122.74 327 ePKPdf PKPdf 13 53 51.2 -1.1
TREC ex x 13 53 55.3
TREC epPKP PKiKP 13 53 58.7 +6.2
TREC ePP PP 13 55 34.2 +4.2
TREC eSKP 13 57 28.0
TREC ePKKP PKKPbc 14 03 51.7 +4.7
TREC AMS AMS 14 46 10.0
comp=Z,171μm,22.7s
TREC Trest 122.74 327 ePKIKP PKPdf 13 53 51.2 -1.1
TREC e 13 53 58.7
TREC e 13 55 34.2
TREC MLR MLR
comp=Z,171μm,22.7s
GOPC GO Pecny, Ondr 122.77 328 ePKPdf PKPdf 13 53 51.1 -1.2
GOPC ex x 13 53 55.0
GOPC ePP PP 13 55 34.1 +3.9
GOPC eSKP 13 57 27.6
GOPC ePKKP PKKPbc 14 03 51.0 +4.1
GOPC ex x 14 04 00.2
GOPC eSKKP 14 07 31.5
GOPC ex x 14 07 46.2
GOPC AMS AMS 14 48 20.0
comp=Z,183μm,20.9s
SCHQ Schefferville 122.81 25 PKP PKPdf 13 53 50.8 -1.4
comp=Z,19nm,0.9s,baz=351,slow=2.9,SNR=17
SCHQ PKKPbc PKKPbc 14 03 50.6 +3.7
comp=Z,18nm,1.0s,baz=129,slow=6.6,SNR=7.4
SCHQ Schefferville 122.81 25 ePKPdf PKPdf 13 53 51.2 -1.0
SCHQ PKKPbc PKKPbc 14 03 50.6 +3.7
PRU Pruhonice 122.86 328 ePKPdf PKPdf 13 53 51.7 -0.7
PRU ex x 13 53 55.3
PRU epPP PP 13 55 34.5 +3.8
PRU ePKKP PKKPbc 14 03 48.7 +2.2
PRU ex x 14 03 59.6
PRU ePKKS 14 07 38.0
PRU AMS AMS 14 48 40.0
comp=Z,160μm,20.4s
PRU Pruhonice 122.86 328 ePKIKP PKPdf 13 53 51.7 -0.7
PRU e 13 55 34.5
PRU MLR MLR
comp=Z,160μm,20.4s
PRA Prague 122.87 328 ePKPdf PKPdf 13 53 52.1 -0.3
PRA ex x 13 53 55.5
PRA ex x 13 53 58.9
PRA epPP PP 13 55 35.0 +4.2
PRA ex x 14 03 52.7
PRA ex x 14 07 38.2
PRA AMS AMS 14 48 50.0
comp=Z,134μm,20.0s
PRA Prague 122.87 328 ePKIKP PKPdf 13 53 52.1 -0.3
PRA e 13 53 58.9
PRA e 13 55 35.0
PRA MLR MLR
comp=Z,134μm,20.0s
CLL Collm 122.88 330 ePKPdf PKPdf 13 53 50.9 -1.5
CLL epPP PP 13 55 26.9 -3.8
CLL Collm 122.88 330 ePKIKP PKPdf 13 53 52.0 -0.4
CLL MLR MLR
comp=Z,186μm,21.8s
CLL Collm 122.88 330 ePKPdf PKPdf 13 53 52.0 -0.4
CLL i 13 53 55.7
comp=Z,73nm,0.9s
CLL esPKPdf sPKPdf 13 54 06.0 -4.6
CLL epPP PP 13 55 36.0 +5.3
CLL epPKKPbc 14 03 51.0
CLL i 14 04 09.9
comp=Z,18nm,1.0s
CLL epSKKPbc 14 07 46.0
CLL e 14 11 17.0
CLL e 14 13 18.0
CLL LmV 14 49 00.0
comp=Z,186μm,21.8s
U65B HualaæØ 122.89 139 ePKPdf PKPdf 13 53 52.4 -0.5
VAM Vamos 122.90 309 eP PKPdf 13 53 52.4 -0.5
AXAR Agios Charalam 122.95 313 eP PKPdf 13 53 52.3 -0.7
AXAR Agios Charalam 122.95 313 P PKPdf 13 53 51.3 -1.7
AXAR Agios Charalam 122.95 313 P PKPdf 13 53 51.3 -1.7
DID Didima 122.96 311 eP PKPdf 13 53 50.5 -2.6
DID Didima 122.96 311 P PKPdf 13 53 50.5 -2.6
DID Didima 122.96 311 P PKPdf 13 53 50.5 -2.6
LTK Loutraki 122.98 312 eP PKPdf 13 53 51.2 -1.8
LTK Loutraki 122.98 312 P PKPdf 13 53 51.3 -1.8
LTK Loutraki 122.98 312 P PKPdf 13 53 51.3 -1.8
DIDY Didyma 122.99 311 eP PKPdf 13 53 50.7 -2.5
DIDY Didyma 122.99 311 P PKPdf 13 53 51.5 -1.7
LOUT Loutraki 122.99 312 eP PKPdf 13 53 50.8 -2.3
LOUT Loutraki 122.99 312 P PKPdf 13 53 50.8 -2.3
GOGA Godfrey 123.01 54 ePKIKP PKPdf 13 53 52.4 -0.8
GOGA MLR MLR
comp=Z,105μm,20.0s
GOGA Godfrey 123.01 54 ePKPdf PKPdf 13 53 52.4 -0.8
GOGA LR LR
comp=Z,105μm,20.0s
KZN Kozani 123.02 315 PKIKP PKPdf 13 53 51.2 -1.9
KZN Kozani 123.02 315 eP PKPdf 13 53 52.1 -1.0
KZN Kozani 123.02 315 P PKPdf 13 53 51.7 -1.9
KZN Kozani 123.02 315 P PKPdf 13 53 51.2 -1.9
AGG Agios Georgios 123.10 313 PKIKP PKPdf 13 53 50.7 -2.6
AGG Agios Georgios 123.10 313 eP PKPdf 13 53 51.3 -2.0
AGG Agios Georgios 123.10 313 P PKPdf 13 53 50.7 -2.6
AGG Agios Georgios 123.10 313 P PKPdf 13 53 50.7 -2.6
FNA Florina 123.11 315 PKIKP PKPdf 13 53 50.2 -3.1
FNA Florina 123.11 315 eP PKPdf 13 53 51.6 -1.7
FNA Florina 123.11 315 P PKPdf 13 53 50.2 -3.1
FNA Florina 123.11 315 P PKPdf 13 53 50.2 -3.1
THL Klokotos Trika 123.12 314 eP PKPdf 13 53 51.8 -1.4
THL Klokotos Trika 123.12 314 P PKPdf 13 53 53.0 -0.2
DESF Desfina 123.17 312 eP PKPdf 13 53 51.2 -2.3
DSF Desfina 123.17 312 eP PKPdf 13 53 51.0 -2.5
DSF Desfina 123.17 312 P PKPdf 13 53 54.2 +0.7
DSF Desfina 123.17 312 P PKPdf 13 53 54.2 +0.7
THAL Thalero 123.20 312 eP PKPdf 13 53 54.7 +1.3
THAL Thalero 123.20 312 P PKPdf 13 53 53.2 -0.2
MAKR Makrakomi, Fth 123.24 313 eP PKPdf 13 53 52.1 -1.5
MAKR Makrakomi, Fth 123.24 313 P PKPdf 13 53 51.7 -1.9
MAKR Makrakomi, Fth 123.24 313 P PKPdf 13 53 51.7 -1.9
IVA Berane 123.25 318 ⇑iPKP PKPdf 13 53 52.5 -1.0
CONA Conrad Observa 123.28 325 ⇑iPKPdf PKPdf 13 53 51.3 -2.1
comp=Z,43nm,0.8s,SNR=7.7
PVY Plav 123.33 318 ePKP PKPdf 13 53 53.3 -0.4
PLE Pljevlja 123.38 319 ⇓iPKP PKPdf 13 53 54.0 +0.2
PHP Peshkopia 123.39 317 PKIKP PKPdf 13 53 51.9 -1.9
PHP Peshkopia 123.39 317 P PKPdf 13 53 51.9 -1.9
PHP Peshkopia 123.39 317 P PKPdf 13 53 51.9 -1.9
TIGA Tifton 123.43 56 PKiKP PKPdf 13 53 53.9 -0.2
baz=123
TIGA Tifton 123.43 56 ePKPdf PKPdf 13 53 53.2 -0.9
ANKY Antikythira Is 123.45 309 eP PKPdf 13 53 53.3 -0.7
ANKY Antikythira Is 123.45 309 P PKPdf 13 53 53.1 -0.9
ANKY Antikythira Is 123.45 309 P PKPdf 13 53 53.1 -0.9
VLI Veliai 123.45 310 eP PKPdf 13 53 52.7 -1.3
VLI Veliai 123.45 310 P PKPdf 13 53 53.3 -0.7
VLI Veliai 123.45 310 P PKPdf 13 53 53.3 -0.7
KALE Kalithea 123.46 313 eP PKPdf 13 53 53.1 -0.9
KALE Kalithea 123.46 313 P PKPdf 13 53 57.9 +3.9
KALE Kalithea 123.46 313 P PKPdf 13 53 57.9 +3.9
GUR Goura 123.48 312 eP PKPdf 13 53 52.6 -1.5
GUR Goura 123.48 312 P PKPdf 13 53 51.9 -2.2
GUR Goura 123.48 312 P PKPdf 13 53 51.9 -2.2
NEST Nestorio 123.48 315 eP PKPdf 13 53 53.4 -0.7
NEST Nestorio 123.48 315 P PKPdf 13 53 54.6 +0.5
EVR Evrytania 123.51 313 eP PKPdf 13 53 54.1 -0.1
EVR Evrytania 123.51 313 P PKPdf 13 53 54.3 +0.1
EVR Evrytania 123.51 313 P PKPdf 13 53 54.3 +0.1
KYTH Kithira 123.52 310 eP PKPdf 13 53 54.4 +0.2
TRIZ Trizonia 123.52 313 eP PKPdf 13 53 53.0 -1.0
TRIZ Trizonia 123.52 313 P PKPdf 13 53 51.5 -2.5
KLV Kalavryta, Ach 123.58 312 eP PKPdf 13 53 52.7 -1.6
KLV Kalavryta, Ach 123.58 312 P PKPdf 13 53 51.7 -2.6
KLV Kalavryta, Ach 123.58 312 P PKPdf 13 53 51.7 -2.6
KBN Korca 123.58 315 PKIKP PKPdf 13 53 53.9 -0.3
KBN Korca 123.58 315 P PKPdf 13 53 53.9 -0.3
KBN Korca 123.58 315 P PKPdf 13 53 53.9 -0.3
MEV Metsovon 123.60 314 P PKPdf 13 53 54.0 -0.4
MEV Metsovon 123.60 314 P PKPdf 13 53 54.0 -0.4
EFP Efpalio 123.62 313 eP PKPdf 13 53 54.3 +0.1
EFP Efpalio 123.62 313 P PKPdf 13 53 54.3 +0.1
LAKA Lakka 123.64 312 eP PKPdf 13 53 53.3 -1.0
LAKA Lakka 123.64 312 P PKPdf 13 53 52.7 -1.6
LAKA Lakka 123.64 312 P PKPdf 13 53 52.7 -1.6
VLX Vlachokerasia 123.65 311 eP PKPdf 13 53 53.6 -0.9
VLX Vlachokerasia 123.65 311 P PKPdf 13 53 53.2 -1.3
VLX Vlachokerasia 123.65 311 P PKPdf 13 53 53.2 -1.3
TANN Tannenbergstha 123.69 329 ePKPdf PKPdf 13 53 52.8 -1.3
TANN ePP PP 13 55 29.8 -6.5
UPM Unac-Piva 123.75 319 ⇑iPKP PKPdf 13 53 54.3 -0.3
U73B San Pedro 123.76 138 ePKPdf PKPdf 13 53 53.7 -1.0
NKC Novy Kostel 123.81 329 ePKPdf PKPdf 13 53 53.5 -0.8
NKC ex x 13 53 57.3
NKC ePP PP 13 55 32.5 -4.6
NKC AMS AMS 14 47 20.0
comp=Z,200μm,22.9s
NKC Novy Kostel 123.81 329 ePKIKP PKPdf 13 53 53.5 -0.8
NKC MLR MLR
comp=Z,200μm,22.9s
CLZ Clausthal 123.83 331 ePKPdf PKPdf 13 53 53.4 -0.9
CLZ epPP PP 13 55 34.5 -2.7
KOGS Kog 123.83 324 ePKPdf PKPdf 13 53 53.0 -1.4
KHC Kasperske Hory 123.87 327 ePKPdf PKPdf 13 53 53.5 -1.0
KHC ex x 13 53 58.5
KHC eSKP 13 57 29.5
KHC Kasperske Hory 123.87 327 ePKIKP PKPdf 13 53 53.5 -1.0
KHC e 13 53 58.5
PDG Podgorica 123.87 318 P PKPdf 13 53 54.4 -0.2
TTG Podgorica 123.87 318 ⇓iPKP PKPdf 13 53 54.3 -0.3
TTG Podgorica 123.87 318 PKIKP PKPdf 13 53 54.4 -0.2
TTG Podgorica 123.87 318 P PKPdf 13 53 54.4 -0.2
NKY Niksic 123.87 319 ⇓iPKP PKPdf 13 53 54.5 -0.2
JAN Janina 123.92 314 PKIKP PKPdf 13 53 53.5 -1.3
JAN Janina 123.92 314 eP PKPdf 13 53 54.2 -0.6
JAN Janina 123.92 314 P PKPdf 13 53 53.5 -1.3
JAN Janina 123.92 314 P PKPdf 13 53 53.5 -1.3
NKME Niksic 123.92 319 ⇓iPKP PKPdf 13 53 54.6 -0.2
TIR Tirane 123.92 317 ePKIKP PKPdf 13 53 53.7 -1.1
TIR MLR MLR
comp=Z,102μm,22.0s
TIR Tirane 123.92 317 ePKPdf PKPdf 13 53 53.6 -1.1
TIR LR LR
comp=Z,102μm,22.0s
TIR Tirane 123.92 317 P PKPdf 13 53 55.5 +0.8
DRO Drossia 123.94 312 eP PKPdf 13 53 56.8 +1.9
DRO Drossia 123.94 312 P PKPdf 13 53 55.7 +0.8
DSL Palaion Diasel 123.94 314 eP PKPdf 13 53 53.9 -1.0
DSL Palaion Diasel 123.94 314 P PKPdf 13 53 53.6 -1.3
DSL Palaion Diasel 123.94 314 P PKPdf 13 53 53.6 -1.3
GEC2 GERESS Array S 123.97 327 ePKPdf PKPdf 13 53 53.2 -1.6
GEC2 epPP PP 13 55 34.9 -3.4
GERES GERESS Array B 123.97 327 PKP PKPdf 13 53 53.1 -1.6
comp=Z,18nm,0.7s,baz=75,slow=1.5,SNR=37
GERES PKKPbc PKKPbc 14 03 49.5 +7.2
comp=Z,1.6nm,0.7s,baz=190,slow=3.0,SNR=4.4
MOX Moxa 123.98 330 ePKPdf PKPdf 13 53 53.3 -1.3
MOX epPP PP 13 55 34.3 -3.9
DRME Dracevica, Mon 124.02 318 ⇓iPKP PKPdf 13 53 55.3 +0.4
ITM Ithomi 124.05 311 eP PKPdf 13 53 53.5 -1.6
ITM Ithomi 124.05 311 P PKPdf 13 53 53.8 -1.3
ITM Ithomi 124.05 311 P PKPdf 13 53 53.8 -1.3
RLS Riolos of Patr 124.08 312 eP PKPdf 13 53 54.5 -0.6
RLS Riolos of Patr 124.08 312 P PKPdf 13 53 53.7 -1.4
RLS Riolos of Patr 124.08 312 P PKPdf 13 53 53.7 -1.4
ULC Ulcinj 124.08 318 ⇓iPKP PKPdf 13 53 54.3 -0.8
PDO Prodromos 124.08 313 eP PKPdf 13 53 54.0 -1.1
PDO Prodromos 124.08 313 P PKPdf 13 53 53.5 -1.6
AMT Artemida-Makis 124.09 312 eP PKPdf 13 53 55.0 -0.2
AMT Artemida-Makis 124.09 312 P PKPdf 13 53 57.5 +2.3
BIGH Upper Bighouse 124.10 344 eP PKPdf 13 53 56.9 +2.4
MLA1 Latheron 124.11 344 eP PKPdf 13 53 56.5 +1.9
BUM Brajici-Budva 124.17 318 ⇓iPKP PKPdf 13 53 54.8 -0.5
BLA Blacksburg 124.18 49 ePKIKP PKPdf 13 53 53.9 -1.5
BLA MLR MLR
comp=Z,224μm,22.0s
BLA Blacksburg 124.18 49 ePKPdf PKPdf 13 53 53.9 -1.5
BLA LR LR
comp=Z,224μm,22.0s
ROTZ Rotzenmuhle 124.21 329 ePKPdf PKPdf 13 53 54.0 -1.0
ROTZ epPP PP 13 55 37.4 -2.4
MOA Molln 124.22 326 i PKiKP PKPdf 13 53 54.5 -0.7
comp=Z,46nm,1.0s,SNR=10
WET Wettzell 124.23 328 ePKPdf PKPdf 13 53 53.9 -1.2
WET epPP PP 13 55 37.2 -2.8
PYL PYLOS 124.29 311 eP PKPdf 13 53 53.7 -1.9
PYL PYLOS 124.29 311 P PKPdf 13 53 53.2 -2.4
PYL PYLOS 124.29 311 P PKPdf 13 53 53.2 -2.4
IGT Igoumenitsa 124.34 314 PKIKP PKPdf 13 53 54.8 -0.8
IGT Igoumenitsa 124.34 314 eP PKPdf 13 53 55.1 -0.5
IGT Igoumenitsa 124.34 314 P PKPdf 13 53 54.8 -0.8
IGT Igoumenitsa 124.34 314 P PKPdf 13 53 54.8 -0.8
HCY Herceg Novi 124.36 318 ⇓iPKP PKPdf 13 53 54.8 -0.8
SGD Sagiada 124.37 315 eP PKPdf 13 53 57.2 +1.6
SGD Sagiada 124.37 315 P PKPdf 13 53 54.2 -1.4
PERS Pernice 124.40 324 ePKPdf PKPdf 13 53 54.9 -0.7
SOKA Soboth 124.42 324 i PKiKP PKPdf 13 53 54.8 -0.9
comp=Z,62nm,1.0s,SNR=18
SRN Sarande 124.43 315 P PKPdf 13 53 54.5 -1.2
SRN Sarande 124.43 315 P PKPdf 13 53 54.5 -1.2
EXG Exogi 124.54 313 eP PKPdf 13 53 54.9 -1.1
EXG Exogi 124.54 313 P PKPdf 13 53 54.0 -2.0
UBBA Unterbreizbach 124.66 331 ePKPdf PKPdf 13 53 54.8 -0.9
UBBA ePP PP 13 55 40.2 -2.4
MVH1 Achvaich 124.67 344 eP PKPdf 13 53 56.9 +1.3
SSPA Standing Stone 124.67 44 ePKPdf PKPdf 13 53 55.2 -1.0
VLS Valsamata 124.68 313 PKIKP PKPdf 13 53 53.8 -2.5
VLS Valsamata 124.68 313 eP PKPdf 13 53 55.1 -1.2
VLS Valsamata 124.68 313 P PKPdf 13 53 53.8 -2.5
VLS Valsamata 124.68 313 P PKPdf 13 53 53.8 -2.5
MCD Coleburn Disti 124.70 343 eP PKPdf 13 53 56.2 +0.5
ZKS Zakynthos 124.71 312 eP PKPdf 13 53 54.5 -1.9
ZKS Zakynthos 124.71 312 P PKPdf 13 53 53.9 -2.5
IBBN Ibbenburen 124.72 333 ePKPdf PKPdf 13 53 55.0 -0.9
IBBN ePP PP 13 55 40.8 -2.2
GRF Grafenberg Arr 124.76 329 ePKPdf PKPdf 13 53 55.1 -1.0
GRF epPKPdf pPKPdf 13 54 09.9 +0.3
GRF ePP PP 13 55 41.4 -2.1
GRFO Grafenberg 124.77 329 ePKIKP PKPdf 13 53 57.9 +1.8
GRFO Grafenberg 124.77 329 ePKPdf PKPdf 13 53 57.9 +1.8
PDKS Podkum 124.78 324 ePKPdf PKPdf 13 53 56.3 0.0
OBKA Obir 124.80 324 ⇑iPKPdf PKPdf 13 53 53.2 -3.1
comp=Z,36nm,0.9s
MME1 Meikle Cairn 124.84 343 eP PKPdf 13 53 57.8 +1.8
JTS JuntasAbangare 124.84 82 PKP PKPdf 13 53 55.4 -1.8
comp=Z,21nm,0.6s,baz=259,slow=5.2,SNR=6.9
JTS JuntasAbangare 124.84 82 PKIKP PKPdf 13 53 55.4 -1.8
JTS pmax pmax
comp=Z,21nm,0.6s
JTS JuntasAbangare 124.84 82 ePKPdf PKPdf 13 53 58.2 +0.9
JTS LR LR
comp=Z,33μm,21.0s
BOJS Bojanci 124.92 323 ePKPdf PKPdf 13 53 54.0 -2.5
LONY Lake Ozonia 124.98 38 ePKPdf PKPdf 13 53 55.7 -1.0
LONY LR LR
comp=Z,98μm,20.0s
LJU Ljubljana 125.06 324 ePKPdf PKPdf 13 53 56.5 -0.3
RJOB Jochberg 125.10 326 ePKPdf PKPdf 13 53 55.0 -1.9
RJOB epPP PP 13 55 42.6 -3.3
MDO Dochfour 125.13 344 eP PKPdf 13 53 55.5 -1.1
KBA Koelnbreinsper 125.17 325 ⇑iPKPdf PKPdf 13 53 55.3 -1.9
comp=Z,54nm,0.8s,SNR=11
GORS Gorjuse 125.22 324 ePKPdf PKPdf 13 53 55.4 -1.8
MYKA Terra Mystica 125.25 325 ⇑iPKPdf PKPdf 13 53 54.5 -2.7
comp=Z,42nm,0.8s,SNR=10
WTSB Winterswijk 125.39 333 ePKPdf PKPdf 13 53 57.4 +0.2
comp=Z,664nm,2.7s
NCB Newcomb 125.53 39 ePKPdf PKPdf 13 53 57.2 -0.6
NCB LR LR
comp=Z,111μm,20.0s
BUG Bochum--Univer 125.54 333 ePKPdf PKPdf 13 53 56.3 -1.2
BUG epPP PP 13 55 46.6 -1.9
SKDS Skadanscina 125.63 324 ePKPdf PKPdf 13 53 57.1 -0.8
FUR Furstenfeldbru 125.67 328 ePKPdf PKPdf 13 53 56.6 -1.3
FUR epPP PP 13 55 46.2 -3.4
TRI Trieste 125.69 324 ePKIKP PKPdf 13 53 56.6 -1.3
TRI Trieste 125.69 324 ePKPdf PKPdf 13 53 56.6 -1.3
NHSC New Hope 125.73 53 ePKPdf PKPdf 13 53 58.9 +0.5
NHSC LR LR
comp=Z,63μm,20.0s
RGRS Roger Stewart 125.78 54 ePKPdf PKPdf 13 53 58.5 -0.1
TNS Taunus Mts 125.80 331 ePKPdf PKPdf 13 53 57.0 -1.2
TNS epPP PP 13 55 47.4 -3.0
ABTA Abfaltersbach 125.83 326 ⇓iPKiKP PKPdf 13 53 57.2 -1.1
comp=Z,125nm,0.9s,SNR=12
ESY Stoneypath 125.91 342 eP PKPdf 13 54 01.3 +3.2
SDMD Soldier's Deli 125.92 45 ePKPdf PKPdf 13 53 58.1 -0.5
AVIZ Vizcacheras 125.94 139 eP PKPdf 13 54 04.2 +5.2
AAGR Agrelo 125.98 139 eP PKPdf 13 53 59.8 +0.7
WATA Walderalm 126.00 327 ⇑iPKiKP PKPdf 13 53 57.6 -1.2
comp=Z,117nm,1.2s,SNR=12
WTTA Wattenberg 126.01 326 i PKiKP PKPdf 13 53 58.1 -0.7
comp=Z,183nm,1.0s,SNR=22
CBN Corbin 126.04 46 ePKPdf PKPdf 13 53 58.1 -0.7
CBN LR LR
comp=Z,119μm,20.0s
ARCO CERRO ARCO 126.06 138 eP PKPdf 13 54 00.0 +0.7
AUSP Uspallata 126.14 138 eP PKPdf 13 53 59.9 +0.2
MDV Middlebury 126.16 38 ePKPdf PKPdf 13 53 58.5 -0.4
ACCN Adirondack Com 126.18 39 ePKPdf PKPdf 13 53 58.0 -1.0
MOTA Moosalm 126.26 327 ⇑iPKiKP PKPdf 13 53 58.6 -0.7
comp=Z,123nm,0.8s,SNR=44
ASAL Salagasta 126.28 138 eP PKPdf 13 53 59.5 -0.2
RETA Reutte 126.36 327 ⇑iPKiKP PKPdf 13 53 58.7 -0.6
comp=Z,65nm,1.1s,SNR=9.3
STU Stuttgart 126.38 329 ePKPdf PKPdf 13 53 58.0 -1.1

STU ePP PP 13 55 49.9 -4.3
STU Stuttgart 126.38 329 ePKIKP **PKPdf 13 53 58.1 -1.1**
STU Stuttgart 126.38 329 ePKPdf **PKPdf 13 53 58.1 -1.1**
RTLS Leoncito 126.46 137 eP **PKPdf 13 54 01.6 +1.4**
TRY Troy 126.51 40 ePKPdf **PKPdf 13 53 59.5 -0.1**
LCP Cassop 126.52 340 eP **PKPdf 13 53 58.1 -1.1**
PGBU Glenifferbraes 126.56 343 AMS AMS 14 47 56.1
comp=Z,75µm,24.8s
EKA Eskdalemuir Ar 126.57 342 PKKPbc PKKPbc 14 03 43.5 +11
comp=Z,4.4nm,1.0s,baz=287,slow=2.7,SNR=3.2
EKA SKKPbc SKKPbc 14 07 23.7 +2.5
comp=Z,4.4nm,1.0s,baz=152,slow=3.7,SNR=4.0
ESK Eskdalemuir 126.60 342 ePKHKP PKPpre 13 53 47.9
ESK MLR MLR
comp=Z,71µm,20.0s
ESK Eskdalemuir 126.60 342 ePKPpre PKPpre 13 53 47.9
ESK LR LR
comp=Z,71µm,20.0s
HGN Heimansgroeve 126.61 333 ePKPdf **PKPdf 13 53 58.9 -0.7**
comp=Z,122nm,1.3s
HGN ePP **PP 13 55 57.4 +1.8**
TRQA Tornquist 126.65 148 ePKPdf **PKPdf 13 53 59.5 -0.6**
TRQA LR LR
comp=Z,48µm,20.0s
FETA Feichten 126.66 327⇑ *i*PKiKP **PKPdf 13 53 59.8 -0.2**
comp=Z,188nm,0.9s,SNR=16
ECK Cauldkaine Hil 126.69 342 eP **PKPdf 13 53 57.9 -1.7**
MEM Membach 126.69 333 PKP **PKPdf 13 53 59.2 -0.6**
BEBN Eben Emael 126.71 333 PKP **PKPdf 13 54 02.8 +3.1**
CNNC Cliffs of the 126.80 50 ePKPdf **PKPdf 13 54 00.1 -0.3**
CNNC LR LR
comp=Z,143µm,20.0s
HNH Hanover 126.87 38 ePKPdf **PKPdf 13 54 00.1 -0.2**
RTCV Cerro Valdivia 126.93 138 eP **PKPdf 13 54 02.6 +1.7**
DAVA Damuels 126.95 327⇑ *i*PKiKP **PKPdf 13 53 59.5 -1.1**
comp=Z,70nm,0.8s
TIP Timpagrande 127.00 315 ePKPdf **PKPdf 13 54 00.1 -0.7**
TIP LR LR
comp=Z,59µm,21.0s
TIP Timpagrande 127.00 315 P **PKPdf 13 54 01.4 +0.6**
BFO Black Forest 127.10 329 ePKPdf **PKPdf 13 53 59.0 -1.7**
BFO ePP **PP 13 55 56.1 -2.9**
BFO Black Forest 127.10 329 ePKHKP PKPpre 13 53 49.1
BFO MLR MLR
comp=Z,149µm,20.0s
BFO Black Forest 127.10 329 ePKPpre PKPpre 13 53 49.1
BFO LR LR
comp=Z,149µm,20.0s
LCO Las Campanas 127.11 133 ePKP **PKPdf 13 53 57.9 -3.7**
LCO LR LR
comp=Z,33µm,22.0s
LCO Las Campanas 127.11 133 eP PKPdf 13 54 10.9 +9.3
KESW Keswick, Cumbr 127.18 341 eP **PKPdf 13 54 02.8 +2.3**
KESW AMS AMS 14 44 41.7
comp=Z,86µm,25.8s
GCD Castle Douglas 127.21 342 eP **PKPdf 13 54 03.6 +3.1**
CPNY Central Park 127.27 42 ePKPdf **PKPdf 13 54 01.0 -0.1**
WLF Walferdange 127.28 332 PKP **PKPdf 13 54 03.5 +2.6**
WLF Walferdange 127.28 332 ePKPdf **PKPdf 13 54 00.5 -0.4**
WLF ePP **PP 13 55 58.6 -1.5**
WLF Walferdange 127.28 332 PFAKE 13 54 10.0 +9.1
WLF LR LR
comp=Z,120µm,21.0s
CUC Castrocucco 127.28 317 ePKPdf **PKPdf 13 53 59.1 -2.2**
CUC LR LR
comp=Z,48µm,21.0s
CFAA Coronel Fontan 127.29 138 PKhKP PKPpre 13 53 53.9
comp=Z,2.0nm,0.8s,baz=257,slow=4.7,SNR=6.7
CFAA PKP **PKPdf 13 54 00.8 -0.8**
comp=Z,4.1nm,0.9s,baz=250,slow=3.3,SNR=32
CFAA Coronel Fontan 127.29 138 eP **PKPdf 13 54 01.0 -0.6**
RTLL Cerro Villicun 127.30 137 eP **PKPdf 13 54 01.9 +0.3**
FFD Franklin Falls 127.38 38 PKPdf **PKPdf 13 54 01.0 -0.2**
TSUM Tsumeb 127.42 240 PKhKP PKPpre 13 53 54.1
comp=Z,3.5nm,0.8s,baz=61,slow=2.7,SNR=5.2
TSUM PKP **PKPdf 13 54 01.8 -0.4**
comp=Z,15nm,1.0s,baz=82,slow=2.1,SNR=17
TSUM Tsumeb 127.42 240 PKPpre PKPpre 13 53 54.1
TSUM ePKPdf **PKPdf 13 54 01.3 -1.0**
GAL1 Galloway 127.44 342 eP **PKPdf 13 54 03.0 +1.9**
AMOG MOGNA 127.53 137 eP **PKPdf 13 54 04.6 +2.5**
SNF Seneffe 127.54 334 PKP **PKPdf 13 54 00.7 -0.7**
ACAN Cantantal 127.56 139 eP **PKPdf 13 54 04.8 +2.8**
QUA2 Belchertown 127.57 40 ePKPdf **PKPdf 13 54 01.4 -0.2**
LHO Holmfirth 127.62 340 eP **PKPdf 13 54 03.6 +2.1**
PQI Presque Isle 127.63 33 ePKPdf **PKPdf 13 54 00.1 -1.6**
YLE Yale 127.69 41 ePKPdf **PKPdf 13 54 00.8 -1.1**
DOU Dourbes 127.69 333 PKP **PKPdf 13 54 01.3 -0.4**
DOU APKP **pPKPdf 13 54 11.2 -3.9**
AQU L'Aquila 127.71 321 PFAKE 13 54 10.0 +8.0
AQU LR LR
comp=Z,106µm,22.0s
TUE Stuetta 127.74 327 ePKPdf **PKPdf 13 54 01.4 -0.7**
TUE LR LR
comp=Z,213µm,22.0s
KBI1 Birley Grange 127.74 339 eP **PKPdf 13 54 03.4 +1.7**
ECH Echery 127.77 330 ePKIKP **PKPdf 13 54 04.2 +2.3**
ECH MLR MLR
comp=Z,144µm,22.0s
ECH Echery 127.77 330 ePKPdf **PKPdf 13 54 04.2 +2.3**
ECH LR LR
comp=Z,144µm,22.0s
PKME Peaks-Kenny Pk 127.77 35 ePKPdf **PKPdf 13 54 01.6 -0.3**
PKME LR LR
comp=Z,79µm,21.0s
HRV Adam Dziewonsk 127.96 39 ePKIKP **PKPdf 13 54 01.7 -0.7**
HRV Adam Dziewonsk 127.96 39 ePKPdf **PKPdf 13 54 01.7 -0.7**
WVL Waterville 127.97 36 ePKPdf **PKPdf 13 54 01.5 -0.8**
CWF Charnwood Fore 128.08 339 eP **PKPdf 13 54 05.3 +3.0**
CWF AMS AMS 14 52 43.4
comp=Z,144µm,20.6s
BRYW Bryant College 128.28 40 ePKPdf **PKPdf 13 54 03.0 -0.1**
SUCO SUCO 128.33 142 eP **PKPdf 13 54 04.2 +0.7**
MRA San Martin 128.42 140 eP **PKPdf 13 54 05.4 +1.6**
VLC Villacollemand 128.54 324 ePKPdf **PKPdf 13 54 02.2 -1.4**
VLC LR LR
comp=Z,123µm,22.0s
FOEL Foel Wylfa 128.62 340 eP **PKPdf 13 54 06.5 +3.1**
WLF1 Llynfaes 128.68 341 eP **PKPdf 13 54 04.4 +1.0**
WLF1 AMS AMS 14 52 23.0
comp=Z,87µm,23.0s
HLM1 Long Mynd 128.82 340 eP **PKPdf 13 54 06.6 +2.8**
VCA Vinchina 129.05 135 eP **PKPdf 13 54 06.4 +1.2**
EMMW East Machias 129.14 35 ePKPdf **PKPdf 13 54 04.3 -0.2**
WOL Wolverton 129.19 338 eP **PKPdf 13 54 07.8 +3.3**
SWN1 Swindon 129.25 338 eP **PKPdf 13 54 07.5 +2.9**
SWN1 AMS AMS 14 53 03.4
comp=Z,147µm,21.2s
MCH1 Michaelchurch 129.29 339 eP **PKPdf 13 54 06.9 +2.3**
MCH1 AMS AMS 14 52 51.6
comp=Z,137µm,20.9s
ATAH Atahualpa 129.34 104 PKP **PKPdf 13 54 05.1 -1.3**
comp=Z,19nm,0.9s,baz=179,slow=9.1,SNR=7.8
ATAH SKPab SKPbc 13 57 31.9 +7.1
comp=Z,79nm,1.1s,baz=294,slow=11,SNR=3.9
NNA Nana 129.48 111 PKP **PKPdf 13 54 03.8 -2.4**
comp=Z,43nm,1.0s,baz=239,slow=4.4,SNR=3.0
NNA Nana 129.48 111 PKIKP **PKPdf 13 54 03.8 -2.4**
NNA pmax pmax
comp=Z,43nm,1.0s
NNA Nana 129.48 111 ePKPdf **PKPdf 13 54 06.3 +0.1**
NNA LR LR
comp=Z,33µm,22.0s
TCA Tanti 129.85 140 eP **PKPdf 13 54 08.4 +1.9**
BCIP Isla Barro Col 129.88 83 ePKPdf **PKPdf 13 54 05.7 -1.2**
BCIP LR LR
comp=Z,32µm,20.0s
WDD Wield Dalam 130.05 313 PFAKE 13 54 20.0 +13
WDD LR LR
comp=Z,39µm,21.0s
CLTB Caltabellotta 130.21 315 PKPdf **PKPdf 13 54 07.1 +0.1**
OTAV Otavalo 130.65 95 PFAKE 13 54 20.0 +11
OTAV LR LR
comp=Z,45µm,20.0s
SSB Saint Sauveur 131.07 329 ePKIKP **PKPdf 13 54 06.8 -1.5**
SSB Saint Sauveur 131.07 329 ePKPdf **PKPdf 13 54 06.8 -1.5**
MTDJ Mount Denham 131.50 71 PKPdf **PKPdf 13 54 08.3 -1.7**
MTDJ LR LR
comp=Z,33µm,20.0s
VSL Villasalto 131.81 320 ePKPdf **PKPdf 13 54 08.7 -1.1**
VSL LR LR
comp=Z,60µm,22.0s
LVC Limon Verde 131.94 128 PKhKP PKPpre 13 54 02.2
comp=Z,17nm,0.6s,baz=260,slow=5.3,SNR=6.7
LVC PKP **PKPdf 13 54 09.6 -1.4**
comp=Z,21nm,0.7s,baz=284,slow=5.5,SNR=6.8
LVC SKPbc **SKPab 13 57 39.4 +4.9**
comp=Z,70nm,1.1s,baz=227,slow=3.3,SNR=2.3
LVC Limon Verde 131.94 128 PKPpre PKPpre 13 53 55.4
LVC PKPpre PKPpre 13 54 02.2
LVC PKP **PKPdf 13 54 09.6 -1.4**
LVC SKPbc **SKPab 13 57 39.4 +4.9**
LVC LR LR
comp=Z,32µm,20.0s
FSA Cafayete 132.19 134 eP **PKPdf 13 54 12.3 +1.1**
AHML Horco Molle 132.25 135 eP **PKPdf 13 54 12.4 +1.3**
GTBY Guantanamo Bay 133.48 68 ePKPdf **PKPdf 13 54 14.2 +0.7**
GTBY LR LR
comp=Z,41µm,22.0s
KEST Kesra 133.82 315 PKP **PKPdf 13 54 12.2 -1.7**
comp=Z,7.3nm,0.9s,baz=317,slow=3.3,SNR=4.6
KEST SKPbc **SKPbc 13 57 39.8 +0.2**
comp=Z,20nm,0.8s,baz=209,slow=4.1,SNR=6.9
KEST Kesra 133.82 315 ePKPpre PKPpre 13 54 05.2
KEST PKP **PKPdf 13 54 12.2 -1.7**
KEST SKPbc **SKPbc 13 57 39.8 +0.2**
TRIS Tristan da Cun 134.25 199 PFAKE
TRIS LR LR
comp=Z,55µm,19.0s
CMAH Djebel Manchou 134.68 317 P **PKPdf 13 54 17.7 +2.3**
ABSA Djebel Ababsia 134.83 317 P **PKPdf 13 54 17.7 +1.9**
ROSC El Rosal 135.21 89 PKhKP PKPpre 13 54 09.1
comp=Z,7.4nm,0.4s,baz=103,slow=21,SNR=5.1
ROSC PKP **PKPdf 13 54 16.4 -1.1**
comp=Z,29nm,0.7s,baz=90,slow=15,SNR=6.1
ROSC SKP 13 57 51.4
comp=Z,9.3nm,0.4s,baz=270,slow=20,SNR=2.7
ROSC El Rosal 135.21 89 ePKPpre PKPpre 13 54 10.8
ROSC PKP **PKPdf 13 54 16.4 -1.1**
ROSC SKP 13 57 51.4
CKFL Kef-Lekhel 135.27 318 P **PKPdf 13 54 18.5 +1.9**
CASM Ain Smara 135.50 318 P **PKPdf 13 54 18.6 +1.6**
LPAZ La Paz 135.67 121 PKhKP PKPpre 13 54 06.3
comp=Z,5.2nm,0.8s,baz=200,slow=1.6,SNR=9.9
LPAZ PKP **PKPdf 13 54 17.3 -1.2**
comp=Z,11nm,0.6s,baz=220,slow=2.7,SNR=13
LPAZ La Paz 135.67 121 *i* PKHKP PKPpre 13 54 06.3
LPAZ 13 54 17.3
LPAZ pmax pmax
comp=Z,11nm,0.6s
LPAZ La Paz 135.67 121 ePKPpre PKPpre 13 54 03.0
LPAZ PKP **PKPdf 13 54 17.3 -1.2**
CTEI Djebel Teioual 135.67 317 P **PKPdf 13 54 21.0 +3.6**
DFRA Djebel Bou Aff 135.75 318 P **PKPdf 13 54 21.4 +3.9**
SET Setif 136.26 318 P **PKPdf 13 54 21.0 +2.6**
CKHR Kef el Ahmar 136.29 318 P **PKPdf 13 54 21.6 +3.1**
SDDR Presa de Saban 137.20 69 ePKPpre PKPpre 13 54 10.7
SDDR LR LR
comp=Z,52µm,20.0s
CPUP Villa Florida 137.90 141 PKhKP PKPpre 13 54 15.3
comp=Z,7.4nm,0.8s,baz=240,slow=3.8,SNR=5.8
CPUP PKP **PKPdf 13 54 20.9 -0.7**
comp=Z,18nm,0.9s,baz=197,slow=4.7,SNR=11
CPUP Villa Florida 137.90 141 ePKPpre PKPpre 13 54 11.7
CPUP PKP **PKPdf 13 54 20.9 -0.7**
BBSR BB Station 137.91 47 ePKPdf **PKPdf 13 54 20.1 -1.3**
BBSR LR LR
comp=Z,90µm,22.0s
EBNR Beni Rached 138.70 321 P **PKPdf 13 54 23.4 +0.5**
SDV Santo Domingo 138.97 83 ePKPpre PKPpre 13 54 16.8
SDV LR LR
comp=Z,53µm,22.0s
SMN1 Samana, DR 139.02 68 ePKPpre PKPpre 13 54 18.8
PBRG Braganca 139.10 334 ePKPdf **PKPdf 13 54 21.9 -1.5**
PBRG Braganca 139.10 334 ePPP PP 13 57 16.9 +1.3
EANR 'Ain N'Sour 139.19 321 P **PKPdf 13 54 25.9 +2.1**
ETRT Tiaret 139.41 320 P **PKPdf 13 54 21.3 -3.0**
ESDC Sonseca Array 139.47 329 PKhKP PKPpre 13 54 17.7
comp=Z,3.2nm,0.6s,baz=24,slow=2.8,SNR=15
ESDC PKP **PKPdf 13 54 23.0 -1.2**
comp=Z,5.6nm,0.8s,baz=28,slow=3.1,SNR=19
ESDC PP **PP 13 57 22.5 +4.5**
comp=Z,13nm,0.9s,baz=26,slow=6.2,SNR=7.4
ESDC SKPbc **SKiKP 13 58 01.1 +1.7**
comp=Z,6.8nm,0.8s,baz=18,slow=2.7,SNR=6.3
ESDC SKKPbc **SKKPbc 14 06 40.4 +7.0**
comp=Z,12nm,1.1s,baz=216,slow=4.3,SNR=5.5
ESLA Sonseca Array 139.47 329 PKPdf **PKPdf 13 54 23.3 -0.9**
PGAV Gavieira, Arco 139.62 336 ePKPdf **PKPdf 13 54 23.1 -1.3**
PGAV Gavieira, Arco 139.62 336 ePPP PP 13 57 21.2 +2.4
PCAB Cabril 139.73 335 ePKPdf **PKPdf 13 54 21.0 -3.6**
PCAB Cabril 139.73 335 ePPP PP 13 57 21.5 +2.1
MVO Moncorvo 139.75 334 ePKPdf **PKPdf 13 54 23.6 -1.1**
MVO Moncorvo 139.75 334 ePPP PP 13 57 21.6 +2.0
PAB San Pablo 139.76 330 ePKIKP **PKPdf 13 54 23.9 -0.8**
PAB MLR MLR
comp=Z,64µm,20.0s
PAB San Pablo 139.76 330 ePKPdf **PKPdf 13 54 23.9 -0.8**
PAB LR LR
comp=Z,64µm,20.0s
POLO Lamas de Olo 139.91 335 ePKPdf **PKPdf 13 54 23.8 -1.2**
POLO Lamas de Olo 139.91 335 ePPP PP 13 57 28.1 +7.5
PVRL Vila Real 139.96 334 ePKPdf **PKPdf 13 54 26.5 +1.5**
PTO Porto 140.45 335 ePKPdf **PKPdf 13 54 25.4 -0.4**
PVIS Viseu 140.50 334 ePKPdf **PKPdf 13 54 25.3 -0.7**
MTE Manteigas 140.60 333 ePKPdf **PKPdf 13 54 18.7**
MTE Manteigas 140.60 333 ePPP PP 13 57 25.5 +0.7
MTE Manteigas 140.60 333 ePKPpre PKPpre 13 54 19.8
MTE LR LR
comp=Z,110µm,22.0s
PCBR Castelo Branco 141.02 333 ePKPdf PKPpre 13 54 22.4
LSP Las Mesas 141.27 68 ePKPpre PKPpre 13 54 25.0
CRPR Cabo Rojo, PR 141.28 69 ePKPpre PKPpre 13 54 20.1
PCAS Casmilo, Conde 141.30 334 ePKPdf PKPpre 13 54 21.0
PCAS Casmilo, Conde 141.30 334 ePPP PP 13 57 28.5 -0.5
PMRV Marv??o 141.31 332 ePKPdf PKPpre 13 54 21.8
PMRV Marv??o 141.31 332 ePPP PP 13 57 29.1 -0.1
PTOM Tomar 141.62 334 ePKPdf **PKPdf 13 54 25.2 -2.8**
SIV San Ignacio 141.71 125 PKhKP PKPpre 13 54 23.0
comp=Z,16nm,0.8s,baz=247,slow=5.9,SNR=31
SIV SKKPbc SKKPbc 14 06 27.1 +3.9
comp=Z,3.8nm,0.8s,baz=277,slow=5.9,SNR=3.1
OBIP Obispado Ponce 141.74 68 ePKPpre PKPpre 13 54 23.1
CELP Cerrillos 141.76 68 ePKPpre PKPpre 13 54 26.9
ICMP Isla Caja de M 141.85 69 ePKPpre PKPpre 13 54 25.4
ICMP PKPdf **PKPdf 13 54 29.2 +0.3**
PESTR Estremoz 141.86 332 ePKPdf PKPpre 13 54 20.9
PESTR Estremoz 141.86 332 ePPP PP 13 57 35.7 +3.2
PBAR Barrancos 142.15 331 ePKPdf **PKPdf 13 54 25.1 -3.9**
PBAR Barrancos 142.15 331 ePPP PP 13 57 37.6 +3.4
SJG San Juan 142.15 68 PKP **PKPdf 13 54 25.6 -3.8**
comp=Z,48nm,0.6s,baz=51,slow=5.7,SNR=15
SJG SKPbc **SKiKP 13 58 08.8 +3.5**
comp=Z,66nm,1.0s,baz=73,slow=1.7,SNR=6.5
SJG San Juan 142.15 68 ePKPdf **PKPdf 13 54 28.4 -1.0**
SJG SKPbc **SKiKP 13 58 08.8 +3.5**
SJG LR LR
comp=Z,46µm,20.0s
EVO Evora 142.32 332 ePKPdf **PKPdf 13 54 28.1 -1.2**
EVO Evora 142.32 332 ePPP PP 13 57 37.6 +2.3
TAM Tamanrasset 142.50 300 ePKIKP **PKPdf 13 54 27.2 -3.1**
TAM MLR MLR
comp=Z,38µm,21.0s
TAM Tamanrasset 142.50 300 ePKPpre **PKPdf 13 54 27.1 -3.1**
TAM LR LR
comp=Z,38µm,21.0s
PACT Alcochete 142.50 333 ePKPdf **PKPdf 13 54 25.6 -4.0**
PMAFR Mafra 142.55 334 ePKPdf **PKPdf 13 54 25.2 -4.5**
PMAFR Mafra 142.55 334 ePPP PP 13 57 38.6 +2.0
PMST Lisbon--Monsan 142.69 334 ePKPdf **PKPdf 13 54 25.9 -4.0**
PMST Lisbon--Monsan 142.69 334 ePPP PP 13 57 45.9 +8.5
LIS Lisbon 142.69 334 eP **PKPdf 13 54 26.2 -3.7**
PNCL Nicolau / Gran 142.90 332 ePKPdf **PKPdf 13 54 27.9 -2.4**
MESJ Messejana 142.98 332 eP **PKPdf 13 54 27.1 -3.4**
MESJ Messejana 142.98 332 ePKPdf PKPdf 13 54 24.3 -6.1
PCVE Castro Verde 143.06 331 ePKPdf PKPab 13 54 25.4 -0.5
PVAQ Vaqueiros 143.08 331 ePKPdf PKPab 13 54 24.4 -1.6
SAML Samuel 143.12 114 ePKPpre PKPpre 13 54 27.3
SAML LR LR
comp=Z,43µm,22.0s
STVI Saint Thomas 143.19 67 ePKPpre PKPpre 13 54 26.9
PBDV Barranco-do-Ve 143.31 331 ePKPdf PKPbc 13 54 28.7 +0.5
PTEO Sao Teotonio 143.45 332 ePKPdf PKPbc 13 54 28.8 +0.3
MORF Marmelete 143.61 332 eP PKPbc 13 54 28.9 -0.1
MORF Marmelete 143.61 332 ePKPdf PKPbc 13 54 29.3 +0.2
PFVI Vila Bisbo 143.83 332 ePKPdf PKPab 13 54 26.7 -2.3
PCRV Puerto La Cruz 144.83 81 PKP **PKPab 13 54 31.8 -1.6**
comp=Z,472nm,1.0s,baz=267,slow=2.5,SNR=38
SABA Saba 144.95 68 eP **PKPab 13 54 32.8 -0.9**
SMRT St. Maarten 144.99 67 eP PKPbc 13 54 32.7 -1.1
SEUS St. Eustatius 145.22 68 eP **PKPbc 13 54 33.2 -1.4**
ANWB Willy Bob 146.28 67 eP **PKPdf 13 54 36.6 -0.1**
ANWB Willy Bob 146.28 67 ePKPbc **PKPab 13 54 38.2 -0.4**
ANWB LR LR
comp=Z,41µm,22.0s
H07N1 FLORES T-PHASE 146.46 2 ePKP **PKPab 13 54 39.2 +0.5**
MLG Mont-d'or 146.76 70 eP **PKPbc 13 54 38.7 -0.7**
H07S1 FLORES T-PHASE 146.77 3 ePKP **PKPdf 13 54 37.7 +0.7**
TBG Guadaloupe-3 146.87 70 *e* **PKPdf 13 54 38.5 +0.8**
TBG Guadaloupe-3 146.87 70 eP **PKPbc 13 54 39.1 -0.5**
BBL Barber's Block 147.11 71 eP **PKPab 13 54 41.4 -0.5**
BB16B Bebedouro 147.12 145⇑ *i*P **PKPdf 13 54 37.0 -1.2**
BB16B *i* 13 54 58.2
BB16B *i* 13 55 12.0
BB16B *i* 13 55 26.9
PGRA Graciosa 147.14 358 ePKP **PKPdf 13 54 37.7 +0.1**
PGRA Graciosa 147.14 358 eLQ LQ 14 36 01.6
PGRA eLR LR 14 43 22.6
comp=Z,9µm,20.2s
MGG Marie-Galante 147.16 70 eP **PKPbc 13 54 39.8 -0.6**
MGG Marie-Galante 147.16 70 *e* **PKPbc 13 54 40.6 +0.2**
DWS Wesley 147.25 71 *e* PKPpre 13 54 30.2
H05N1 Guadeloupe/Mar 147.31 69 PKPbc **PKPdf 13 54 38.6 +0.2**
ROSA Rosais 147.46 358 ePKP **PKPdf 13 54 35.6 -2.5**
ROSA Rosais 147.46 358 eLQ LQ 14 36 10.3
ROSA eLR LR 14 43 18.9
comp=Z,7µm,19.2s
ADH Angra Heroismo 147.48 357 ePKP **PKPbc 13 54 40.1 -0.6**
PMAN Manadas 147.54 358 ePKP **PKPab 13 54 42.2 -0.7**
GRGR Grenville 147.54 77 ePKPdf **PKPdf 13 54 38.4 -0.5**
GRGR LR LR
comp=Z,39µm,21.0s
PCED Cedros 147.56 359 ePKP **PKPab 13 54 42.6 -0.4**
FDF Fort de France 147.58 72 *e* **PKPdf 13 54 39.2 +0.2**
FDF Fort de France 147.58 72 ePKP2 **PKPbc 13 54 41.5 -0.2**
FDF MLR MLR
comp=Z,48µm,20.0s
FDF Fort de France 147.58 72 ePKPbc **PKPbc 13 54 41.5 -0.2**
FDF LR LR
comp=Z,48µm,20.0s
PPNO Prainha do Nor 147.71 358 ePKP **PKPab 13 54 42.6 -1.1**
PCAN Candelaria 147.72 359 ePKP **PKPdf 13 54 36.8 -1.8**
SVB Belmont 147.76 75 *e* **PKPdf 13 54 40.6 +1.4**
FCV Fort Charlotte 147.78 75 *e* **PKPdf 13 54 40.7 +1.4**
SVV Soufriere Volc 147.79 75 *e* **PKPbc 13 54 41.9 -0.4**
SSV Crater Summit 147.81 75 *e* **PKPbc 13 54 42.1 -0.2**
H05S1 Guadeloupe/Mar 147.94 72 PKPbc **PKPbc 13 54 43.6 +1.1**
TPP Pointe-a-Pierr 147.95 80 *e* **PKPbc 13 54 43.9 +1.3**
TRN Trinidad (W) 147.96 80 *e* **PKPbc 13 54 43.5 +0.8**
MCLT Moule a Chique 147.98 74 *e* **PKPbc 13 54 37.9 -1.7**
BART Pico Bartolome 148.19 354 ePKP **PKPdf 13 54 37.7 -1.8**
PSET Sete Cidades 148.20 355 ePKP **PKPdf 13 54 37.3 -2.1**
PSET Sete Cidades 148.20 355 eLQ LQ 14 36 30.0
PSET eLR LR 14 43 12.8
comp=Z,9µm,18.3s
GRON Grota Negra 148.23 354 ePKP **PKPab 13 54 44.4 -1.4**
TBH Brigand Hill 148.31 80 *e* **PKPab 13 54 46.1 -0.7**
TORD Torodi Ar. Bea 148.62 285 PKP **PKPdf 13 54 39.6 -1.1**
comp=Z,147nm,0.8s,baz=44,slow=2.4,SNR=60
TORD PKPbc **PKPbc 13 54 43.2 -1.2**
comp=Z,572nm,0.9s,baz=68,slow=1.9,SNR=125
PTGA Pitinga 148.69 101 PKPbc **PKPdf 13 54 40.7 -0.2**
comp=Z,142nm,0.8s,baz=255,slow=4.3,SNR=54
PTGA Pitinga 148.69 101 ePKPbc **PKPbc 13 54 43.4 -1.3**
PTGA LR LR
comp=Z,58µm,22.0s
TOSP Speyside 148.74 78 *e* **PKPbc 13 54 44.9 +0.2**
PSMN Pico do Norte, 148.94 353 ePKP **PKPbc 13 54 43.0 -1.6**
PSMA Santa Maria 148.95 353 ePKP **PKPdf 13 54 41.0 +0.4**
BBGH Gun Hill 149.41 74 *e* **PKPdf 13 54 43.3 +1.4**
BBGH Gun Hill 149.41 74 ePKPab **PKPab 13 54 48.9 -2.3**
BBGH LR LR
comp=Z,67µm,21.0s
PMPST Porto Santo, M 150.50 337 ePKPdf **PKPdf 13 54 42.5 -0.7**
PMPST Porto Santo, M 150.50 337 ePPP PP 13 58 23.2 -0.2
PMPS Porto Santo 150.52 337 ePKPdf **PKPdf 13 54 44.1 +0.9**
PMAR Madeira 151.04 338 ePKPdf **PKPdf 13 54 44.6 +0.3**
PMOZ Porto Moniz, M 151.05 339 ePKPdf **PKPdf 13 54 43.5 -0.7**
PMOZ Porto Moniz, M 151.05 339 ePPP PP 13 58 26.6 -0.1
FUL Funchal 151.10 338 ePKPdf **PKPdf 13 54 43.1 -1.0**
BDFB Brasilia 151.60 140 PKP **PKPdf 13 54 44.2 -1.3**
comp=Z,29nm,0.9s,baz=188,slow=3.1,SNR=20
BDFB PKPbc **PKPbc 13 54 49.2 -2.5**
comp=Z,130nm,0.8s,baz=242,slow=1.6,SNR=32
DBIC Dimbokro 155.66 273 PKP **PKPdf 13 54 50.0 -1.2**
comp=Z,78nm,0.9s,baz=73,slow=1.5,SNR=22
DBIC Dimbokro 155.66 273 PKIKP **PKPdf 13 54 50.0 -1.2**
DBIC pmax pmax
comp=Z,78nm,0.9s
DBIC Dimbokro 155.66 273 ePKPdf **PKPdf 13 54 50.2 -1.0**
RCBR Riachuelo 166.51 151 PKP **PKPdf 13 55 01.9 -0.9**
comp=Z,19nm,0.8s,baz=152,slow=3.5,SNR=7.3
RCBR PKPab **PKPab 13 56 05.1 +0.5**
comp=Z,18nm,0.9s,baz=180,slow=2.0,SNR=2.3
RCBR Riachuelo 166.51 151 ePKPdf **PKPdf 13 55 02.0 -0.9**
RCBR PKPab **PKPab 13 56 05.1 +0.5**
RCBR LR LR
comp=Z,74µm,20.0s
SACV Santiago Islan 169.49 328 ePKPdf **PKPdf 13 55 04.2 -0.5**
SACV LR LR
comp=Z,71µm,20.0s

NEIC 18 13:43:29.0, 52.67N×169.35W, h11km, ML3.5(AEIC),
After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.43**	**44**	P	Pb	13 43 38.3	-0.3
NIKH				S	Sb	13 43 45.5	+0.4
OKSP	**Okmok Steeple**	**0.87**	**47**	P	Pg	13 43 45.9	+0.1
OKSP				S	Sb	13 43 58.2	+0.4
OKWR	**Okmok West Rim**	**1.03**	**42**	P	Pn	13 43 49.4	-0.1
OKCE	**Okmok Cone E**	**1.04**	**43**	P	Pg	13 43 48.4	-0.7
OKCE				S	Sn	13 44 05.2	+1.0
OKTU	**Okmok Mt. Tuli**	**1.06**	**47**	P	Pb	13 43 49.4	-0.1
MSOM	**Makushin Julie**	**1.84**	**51**	P	Pn	13 44 00.0	-0.5
MCIR	**Makushin Cirqu**	**1.95**	**48**	P	Pn	13 44 02.1	-0.2
MSW	**Makushin Switc**	**1.98**	**50**	P	Pn	13 44 01.4	-1.1
MTBL	**Makushin Table**	**2.06**	**50**	P	Pn	13 44 03.9	+0.1
UNV	**Unalaska Valle**	**2.08**	**54**	P	Pn	13 44 01.9	-1.8
AKRB	**Akutan Reef Bi**	**2.45**	**52**	P	Pn	13 44 09.9	+1.0
ZRO	**Akutan Zero**	**2.47**	**53**	P	Pn	13 44 10.4	+1.1
AKGG	**Akutan Green G**	**2.52**	**51**	P	Pn	13 44 09.3	-0.7
AKUT	**Akutan**	**2.60**	**54**	P	Pn	13 44 09.7	-1.2
ATKA	**Atka Island**	**3.00**	**263**	P	Pn	13 44 14.4	-2.1
SPIA	**Saint Paul Isl**	**4.55**	**354**	P	Pn	13 44 38.4	+0.7

*IDC **18** 13:43:31.8±1.1, 5.°93S×150.°28E, h0km, mb4.7/5, mb1 4.9/6, mb1mx4.4/19, mbtmp4.7/6, ML2.5/1, Error ellipse: s-maj=74.5km s-min=21.9km az=123.0*
*ISCJB **18** 13:43:37.5±1.0, 5.°9S×0.°3×150.°0E±0.°4, h52km, mb4.6/4, Error ellipse: s-maj=71.2km s-min=11.5km az=38.7*
ISC 18 13:43:39.0±1.0, 6.0S±0.°3×150.°1E±0.°4, h52km, n8, σ0s70/9, mb4.6/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.48**	**220**	Pn	**Pn**	**13 44 44.5**	**+0.1**
	15nm,0.3s,baz=37,slow=10,SNR=5.3						
PMG				Sn	**Sn**	**13 45 34.7**	**-0.5**
	37nm,0.3s,baz=210,slow=20,SNR=5.1						
WRA	**Warramunga Arr**	**20.66**	**226**	P	**P**	**13 48 14.3**	**-0.4**
	29nm,0.8s,baz=54,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**23.49**	**220**	P	**P**	**13 48 45.1**	**+0.7**
	14nm,0.8s,baz=56,slow=8.9,SNR=3.1						
STKA	**Stephens Creek**	**26.97**	**196**	P	**P**	**13 49 15.8**	**0.0**
	18nm,0.8s,baz=45,slow=7.1,SNR=2.4						
ILAR	**Eielson Array**	**84.26**	**23**	P	**P**	**13 56 03.9**	**-1.0**
	2.8nm,1.0s,baz=259,slow=5.0,SNR=3.9						
NVAR	**Mina Array Bea**	**94.93**	**52**	P	**P**	**13 56 56.4**	**+0.1**
	3.3nm,0.8s,baz=248,slow=6.7,SNR=3.9						
GERES	**GERESS Array B**	**123.59**	**327**	PKP	**PKPdf**	**14 02 31.8**	**+0.8**
	0.8nm,0.5s,baz=80,slow=1.5,SNR=5.3						
TORD	**Torodi Ar. Bea**	**148.05**	**285**	PKPbc	**PKPbc**	**14 03 20.7**	**+0.7**
	4.7nm,0.8s,baz=98,slow=2.5,SNR=8.3						

*IDC **18** 13:51:06.8±1.1, 5

mb1 4.6/6, mb1mx3.9/39, mbtmp4.3/6, ML2.4/1, Error ellipse: s-maj=77.0km s-min=21.8km az=123.0
*NEIC **18** 13:51:11.9±7.1, 5.91S×150.06E, h32km±48km, mb4.2/1, Error ellipse: s-maj=42.8km s-min=20.9km az=128.0*
*ISCJB **18** 13:51:12.7±0.9, 5.9S±0.3×149.9E±0.4, h52km, mb4.2/4, Error ellipse: s-maj=65.0km s-min=11.1km az=37.8*

ISC 18 13:51:14.2±1.0, 6.0S±0.3×150.0E±0.4, h52km, n12, σ0°67/14, mb4.2/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.41**	**219**	Pn	**Pn**	**13 52 18.9**	**+0.2**
	12nm,0.3s,baz=353,slow=2.6,SNR=10						
PMG				Sn	**Sn**	**13 53 08.1**	**-0.6**
	14nm,0.3s,baz=110,slow=22,SNR=9.9						
PMG	**Port Moresby**	**4.41**	**219**	*e*P	**Pn**	**13 52 18.5**	**-0.1**
PMG				Sn	**Sn**	**13 53 08.1**	**-0.6**
WRAB	**Tennant Creek**	**20.58**	**226**	*e*P	**P**	**13 55 49.1**	**+0.2**
	6.8nm,0.6s						
WRA	**Warramunga Arr**	**20.59**	**226**	P	**P**	**13 55 49.3**	**+0.2**
	11nm,0.7s,baz=52,slow=11,SNR=11						
AS31	**Alice Springs**	**23.43**	**220**	*e*P	**P**	**13 56 19.4**	**+0.5**
ASAR	**Alice Springs**	**23.43**	**220**	P	**P**	**13 56 18.7**	**-0.2**
	7.0nm,1.0s,baz=58,slow=9.2,SNR=11						
STKA	**Stephens Creek**	**26.94**	**196**	P	**P**	**13 56 51.0**	**+0.3**
	7.7nm,0.8s,baz=16,slow=11,SNR=5.1						
ILAR	**Eielson Array**	**84.30**	**23**	P	**P**	**14 03 38.8**	**-1.4**
	1.1nm,0.9s,baz=241,slow=5.0,SNR=5.5						
NVAR	**Mina Array Bea**	**95.01**	**52**	P	**P**	**14 04 32.0**	**+0.1**
	1.5nm,0.8s,baz=250,slow=6.4,SNR=3.7						
GERES	**GERESS Array B**	**123.53**	**327**	PKP	**PKPdf**	**14 10 06.5**	**+0.4**
	0.5nm,0.5s,baz=52,slow=1.6,SNR=4.1						
TORD	**Torodi Ar. Bea**	**147.95**	**285**	PKPbc	**PKPbc**	**14 10 55.5**	**+0.7**
	1.6nm,0.4s,baz=92,slow=2.2,SNR=20						
DBIC	**Dimbokro**	**154.98**	**273**	PKPbc	**PKPbc**	**14 11 12.2**	**+0.9**

*IDC **18** 13:52:41.8±2.7, 5.96S×150.57E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/19, mbtmp3.9/4, Error ellipse: s-maj=81.6km s-min=40.4km az=116.0*
*NEIC **18** 13:52:46.7±1.4, 5.98S×150.58E, h35km, mb4.5/1, Error ellipse: s-maj=40.1km s-min=23.6km az=137.0*

ISC 18 13:52:47.6±1.9, 5.8S±0.3×150.3E±0.3, h48km, n7, σ1°§26/8, mb3.9/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.71**	**221**	Pn	**Pn**	**13 53 57.3**	**+1.2**
	baz=51,slow=6.5,SNR=0.9						
PMG				Sn	**Sn**	**13 54 47.9**	**-1.7**
	2.9nm,0.3s,baz=82,slow=19,SNR=3.3						
WRA	**Warramunga Arr**	**20.90**	**226**	P	**P**	**13 57 27.0**	**+0.8**
	1.1nm,0.5s,baz=53,slow=11,SNR=4.6						
WRA	**Warramunga Arr**	**20.90**	**226**	P	**P**	**13 57 27.0**	**+0.8**
ASAR	**Alice Springs**	**23.73**	**220**	P	**P**	**13 57 56.4**	**+0.9**
	0.9nm,0.4s,baz=54,slow=9.3,SNR=6.5						
STKA	**Stephens Creek**	**27.17**	**196**	P	**P**	**13 58 26.2**	**-0.4**
	2.2nm,0.7s,baz=27,slow=9.0,SNR=2.8						
SBA	**Scott Base**	**72.52**	**176**	*e*P	**P**	**14 04 08.7**	**-0.3**
	0.9nm,0.2s						
TORD	**Torodi Ar. Bea**	**148.18**	**286**	PKPbc	**PKPab**	**14 12 31.1**	**-1.2**
	0.2nm,0.3s,baz=96,slow=3.0,SNR=6.7						

IDC 18 13:54:48.4±3.6, 5.45S×150.19E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/38, mbtmp3.5/3, ML1.3/1, Error ellipse: s-maj=140.4km s-min=41.5km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.95**	**217**	Pn	Pn	13 56 06.0	+1.9
	0.8nm,0.3s,baz=69,slow=8.6,SNR=2.0						
PMG				Sn	Sn	13 56 58.7	-3.4
	2.8nm,0.3s,baz=240,slow=20,SNR=3.6						
WRA	**Warramunga Arr**	**21.10**	**226**	P	P	13 59 33.8	-1.0
	1.1nm,0.6s,baz=50,slow=10,SNR=4.1						
ASAR	**Alice Springs**	**23.96**	**219**	P	P	14 00 03.7	-1.0
	1.0nm,0.8s,baz=59,slow=8.4,SNR=4.8						
TORD	**Torodi Ar. Bea**	**148.01**	**286**	PKPbc	PKPbc	14 14 37.0	0.0
	0.4nm,0.6s,baz=75,slow=2.1,SNR=4.5						

IDC 18 13:55:44.6±4.6, 5.91S×150.90E, h0km, mb3.3/2, mb1 3.7/2, mb1mx3.5/18, mbtmp3.4/2, Error ellipse: s-maj=199.4km s-min=52.4km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.30**	**228**	P	P	14 00 33.0	0.0
	1.2nm,0.7s,baz=54,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**24.06**	**221**	P	P	14 01 01.9	0.0
	0.6nm,0.8s,baz=50,slow=10,SNR=3.1						
TORD	**Torodi Ar. Bea**	**148.82**	**286**	PKPbc	PKPbc	14 15 34.7	-0.6
	0.5nm,0.6s,baz=62,slow=3.1,SNR=4.1						

*IDC **18** 13:57:45.1±1.0, 6.27S×150.63E, h0km, mb4.3/7, mb1 4.5/8, mb1mx4.0/43, mbtmp4.3/8, ML2.1/1, Error ellipse: s-maj=45.1km s-min=19.0km az=117.0*
*ISCJB **18** 13:57:48.8±0.9, 6.3S±0.1×150.6E±0.2, h33km, mb4.1/6, Error ellipse: s-maj=29.3km s-min=8.9km az=33.9*
*NEIC **18** 13:57:51.7±3.1, 6.32S×150.55E, h46km±26km, mb4.0/2, Error ellipse: s-maj=35.6km s-min=16.4km az=109.0*

ISC 18 13:57:50.2±1.0, 6.3S±0.2×150.6E±0.2, h33km, n15, σ0°§80/17, mb4.1/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.62**	**228**	Pn	**Pn**	**13 58 58.6**	**+0.9**
	6.3nm,0.3s,baz=41,slow=9.6,SNR=8.1						
PMG				Sn	**Sn**	**13 59 50.2**	**0.0**
	9.5nm,0.3s,baz=102,slow=19,SNR=7.7						
PMG	**Port Moresby**	**4.62**	**228**	*e*P	**Pn**	**13 58 58.2**	**+0.5**
PMG				Sn	**Sn**	**13 59 50.2**	**0.0**
WRAB	**Tennant Creek**	**20.82**	**228**	*e*P	**P**	**14 02 28.6**	**-0.6**
	22nm,1.0s						
WRA	**Warramunga Arr**	**20.84**	**228**	P	**P**	**14 02 29.2**	**-0.1**
	14nm,0.9s,baz=51,slow=11,SNR=22						
AS31	**Alice Springs**	**23.59**	**221**	*e*P	**P**	**14 02 59.2**	**+0.9**
ASAR	**Alice Springs**	**23.60**	**221**	P	**P**	**14 02 57.7**	**-0.6**
	3.6nm,0.9s,baz=53,slow=9.2,SNR=15						
STKA	**Stephens Creek**	**26.81**	**197**	P	**P**	**14 03 26.8**	**-0.7**
	7.0nm,0.9s,baz=36,slow=12,SNR=6.0						
STKA	**Stephens Creek**	**26.81**	**197**	*e*P	**P**	**14 03 26.4**	**-1.1**
	1.7nm,1.0s						
KSRS	**Korea Array**	**48.41**	**336**	P	**P**	**14 06 29.6**	**+0.3**
	2.2nm,0.8s,baz=153,slow=8.3,SNR=5.6						
KSAR	**Wonju Array Be**	**48.41**	**336**	P	**P**	**14 06 29.6**	**+0.3**
ZALV	**Zalesovo Beam**	**81.20**	**327**	P	**P**	**14 10 01.9**	**-0.7**
	0.7nm,0.4s,baz=134,slow=6.2,SNR=3.3						
ILAR	**Eielson Array**	**84.36**	**22**	P	**P**	**14 10 17.6**	**-1.2**
	1.5nm,0.8s,baz=248,slow=5.2,SNR=8.9						
NVAR	**Mina Array Bea**	**94.71**	**52**	P	**P**	**14 11 10.3**	**+1.6**
	2.0nm,0.7s,baz=253,slow=6.2,SNR=13						
GERES	**GERESS Array B**	**124.16**	**327**	PKP	**PKPdf**	**14 16 45.9**	**+0.3**
	1.0nm,0.7s,baz=48,slow=1.6,SNR=5.3						
TORD	**Torodi Ar. Bea**	**148.65**	**285**	PKPbc	**PKPbc**	**14 17 35.0**	**-0.1**
	2.7nm,0.6s,baz=92,slow=2.3,SNR=24						

*IDC **18** 14:01:12.8±1.6, 6.34S×151.04E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/19, mbtmp3.9/5, MS4.2/1, Ms1 4.2/1, ms1mx3.9/45, Error ellipse: s-maj=63.2km s-min=24.4km az=118.0*

ISC 18 14:01:15.2±1.4, 6.8S±0.2×151.6E±0.3, h35km, n8, σ1°§42/7, mb4.0/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.15**	**239**	Pn	**Pn**	**14 02 29.6**	**-0.3**
	baz=61,slow=19,SNR=3.8						
WRA	**Warramunga Arr**	**21.30**	**230**	P	**P**	**14 05 59.2**	**+0.2**
	4.5nm,0.5s,baz=51,slow=10.0,SNR=13						
ASAR	**Alice Springs**	**23.93**	**224**	P	**P**	**14 06 28.2**	**+1.9**
	1.3nm,0.5s,baz=53,slow=9.0,SNR=8.5						
TGY	**Tagaytay City**	**36.85**	**304**	LR	LR	14 23 05.3	
	comp=Z,366nm,19.4s,baz=241,slow=36						
PETK	**Petropavlovsk-**	**59.86**	**4**	P	**P**	**14 11 18.4**	**+1.2**
	0.8nm,0.6s,baz=168,slow=3.5,SNR=3.0						
SONM	**Songino Array**	**67.38**	**329**	P	**P**	**14 12 06.0**	**-1.0**
	0.6nm,0.6s,baz=144,slow=4.9,SNR=3.3						
TORD	**Torodi Ar. Bea**	**149.74**	**284**	PKPbc	**PKPbc**	**14 21 02.1**	**-0.4**
	1.5nm,0.7s,baz=87,slow=2.3,SNR=11						
BDFB	**Brasilia**	**150.43**	**139**	PKPbc	**PKPab**	**14 21 09.4**	**-1.2**
	3.5nm,0.9s,baz=203,slow=7.7,SNR=3.1						

*SKO **18** 14:01:12.7, 40.75N×26.95E, h0km, M2.7, ML3.4*
*CSEM **18** 14:01:25.8±0.1, 40.40N×25.71E, h10km, ML3.5, Error ellipse: s-maj=2.4km s-min=2.0km az=31.0*
*THE **18** 14:01:25.6, 40.39N×25.76E, h4km±1km, ML3.5/8, Error ellipse: s-maj=1.5km s-min=0.6km az=138.0*
*DDA **18** 14:01:25.8, 40.39N×25.80E, h26km, MD3.2*
*ATH **18** 14:01:25.2, 40.42N×25.73E, h28km, MD3.1/8*
*ISK **18** 14:01:25.1, 40.40N×25.73E, h9km, ML3.4*
*ISCJB **18** 14:01:25.4±0.3, 40.40N±0.02×25.72E±0.02, h10km±2km, Error ellipse: s-maj=2.8km s-min=2.3km az=136.2*
*SOF **18** 14:01:28.4, 40.55N×25.40E, h2km, MD3.0*

ISC 18 14:01:26.1±0.8, 40.39N±0.01×25.74E±0.02, h13km±6km, n162, σ0°§88/205, 13C-3D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMTH	**Samothraki Isl**	**0.18**	**297**	P	**Pg**	**14 01 29.9**	**-0.3**
SMTH				S	**Sg**	**14 01 32.6**	**-0.4**
SMTH	**Samothraki Isl**	**0.18**	**297**	P	**Pg**	**14 01 29.9**	**-0.3**
SMTH				S	**Sg**	**14 01 32.6**	**-0.4**
GADA	**Gvkgeada**	**0.23**	**148**	*e*PG	**Pg**	**14 01 31.0**	**-0.1**
GADA				*e*SG	**Sg**	**14 01 35.4**	**+0.9**
GADA	**Gvkgeada**	**0.23**	**148**	*e*Pg	**Pg**	**14 01 31.0**	**-0.1**
GADA				*e*Sg	**Sg**	**14 01 35.4**	**+0.9**
ENEZ	**Enez**	**0.47**	**42**	*e*PG	**Pg**	**14 01 34.5**	**-0.9**
ENEZ				*e*SG	**Sg**	**14 01 41.5**	**-0.1**
ENEZ	**Enez**	**0.47**	**42**	*e*Pg	**Pg**	**14 01 34.5**	**-0.9**
ENEZ				*e*Sg	**Sg**	**14 01 41.6**	**-0.1**
ALN	**Alexandroupoli**	**0.56**	**25**	*e*PG	**Pg**	**14 01 36.8**	**-0.2**
ALN				*e*SG	**Sg**	**14 01 44.6**	**+0.1**
ALN	**Alexandroupoli**	**0.56**	**25**	*e*PN	**Pg**	**14 01 36.4**	**-0.7**
ALN				*e*SN	**Sg**	**14 01 44.1**	**-0.4**
ALN	**Alexandroupoli**	**0.56**	**25**	P	**Pg**	**14 01 36.4**	**-0.7**
ALN	**Alexandroupoli**	**0.56**	**25**	*e*Pg	**Pg**	**14 01 36.8**	**-0.2**
ALN				*e*Sn	**Sg**	**14 01 44.1**	**-0.4**
ALN	**Alexandroupoli**	**0.56**	**25**	P	**Pg**	**14 01 36.4**	**-0.7**
ALN				S	**Sg**	**14 01 44.0**	**-0.4**
GELI	**Tayfur-Gelibol**	**0.56**	**89**	*e*PG	**Pg**	**14 01 36.6**	**-0.4**
GELI				*e*SG	**Sg**	**14 01 44.1**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.56**	**89**	*e*Pg	**Pg**	**14 01 36.7**	**-0.4**
GELI				*e*Sg	**Sg**	**14 01 44.1**	**-0.5**
BOZC	**Bozcaada**	**0.60**	**156**	*i* P	**Pg**	**14 01 37.7**	**-0.1**
BOZC				*i* S	**Sg**	**14 01 46.0**	**+0.3**
LIA	**Limnos Island**	**0.65**	**221**	*e*PN	**Pg**	**14 01 38.7**	**0.0**
LIA				*e*SN	**Sb**	**14 01 48.5**	**+0.3**
LIA	**Limnos Island**	**0.65**	**221**	P	**Pg**	**14 01 38.6**	**-0.1**
LIA				S	**Sb**	**14 01 48.1**	**-0.1**
LIA	**Limnos Island**	**0.65**	**221**	P	**Pg**	**14 01 38.6**	**-0.1**
LIA				S	**Sb**	**14 01 48.1**	**-0.1**
EZN	**Ezine**	**0.72**	**141**	*e*PG	**Pg**	**14 01 39.1**	**-1.0**
EZN	**Ezine**	**0.72**	**141**	*e*Pg	**Pg**	**14 01 39.1**	**-1.0**
RDO	**Rodhopi**	**0.77**	**349**	*e*PN	**Pg**	**14 01 40.3**	**-0.8**
RDO	**Rodhopi**	**0.77**	**349**	P	**Pg**	**14 01 40.2**	**-0.8**
RDO				S	**Sg**	**14 01 50.8**	**-0.4**
RDO	**Rodhopi**	**0.77**	**349**	P	**Pg**	**14 01 40.2**	**-0.8**
RDO				S	**Sg**	**14 01 50.8**	**-0.4**
LPK	**Lapseki**	**0.78**	**91**	*e*PG	**Pg**	**14 01 40.2**	**-1.1**
LPK	**Lapseki**	**0.78**	**91**	*e*Pg	**Pg**	**14 01 40.2**	**-1.1**
KAVA	**Kavala**	**1.11**	**304**	*e*PN	**Pb**	**14 01 46.5**	**-0.6**
KAVA	**Kavala**	**1.11**	**304**	P	**Pb**	**14 01 46.5**	**-0.6**
KAVA				S	**Sn**	**14 02 02.5**	**0.0**
KAVA	**Kavala**	**1.11**	**304**	P	**Pb**	**14 01 46.5**	**-0.6**
KAVA				S	**Sn**	**14 02 02.5**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.14**	**74**	*e*PN	**Pb**	**14 01 46.8**	**-0.8**
RKY	**Sarkoy-Tekirda**	**1.14**	**74**	*e*Pn	**Pb**	**14 01 46.8**	**-0.8**
SART	**Tekirdag**	**1.14**	**74**	*i* P	**Pb**	**14 01 46.8**	**-0.9**
SART				*i* S	**Sb**	**14 02 02.6**	**+0.2**
SART	**Tekirdag**	**1.14**	**74**	*i* P	**Pb**	**14 01 46.8**	**-0.9**
SART				*i* S	**Sb**	**14 02 02.6**	**+0.2**
SIGR	**SIGRI**	**1.18**	**176**	*e*PN	**Pn**	**14 01 48.3**	**+0.1**
SIGR	**SIGRI**	**1.18**	**176**	*e*PN	**Pn**	**14 01 47.9**	**-0.4**
SIGR				*e*SN	**Sn**	**14 02 04.6**	**+0.4**
SIGR	**SIGRI**	**1.18**	**176**	P	**Pn**	**14 01 47.7**	**-0.6**
SIGR	**SIGRI**	**1.18**	**176**	*e*Pn	**Pn**	**14 01 48.3**	**+0.1**
SIGR				*e*Sn	**Sn**	**14 02 04.6**	**+0.4**
SIGR	**SIGRI**	**1.18**	**176**	P	**Pn**	**14 01 47.7**	**-0.6**
SIGR				S	**Sn**	**14 02 04.7**	**+0.5**
PRK	**Paraskevi**	**1.21**	**160**	*e*PN	**Pn**	**14 01 48.8**	**0.0**
PRK	**Paraskevi**	**1.21**	**160**	*e*Pn	**Pn**	**14 01 48.8**	**0.0**
PRK				S	**Sb**	**14 02 04.8**	**+0.3**
PRK	**Paraskevi**	**1.21**	**160**	P	**Pn**	**14 01 48.7**	**0.0**
PRK				S	**Sb**	**14 02 04.8**	**+0.3**
KDZ	**Kurdzhali**	**1.28**	**349**	P	**Pn**	**14 01 49.2**	**-0.5**
KDZ	**Kurdzhali**	**1.28**	**349**	P	**Pn**	**14 01 49.2**	**-0.5**
AYVA	**Ayvalik**	**1.31**	**145**	*i* P	**Pn**	**14 01 50.0**	**0.0**
AYVA				*i* S	**Sn**	**14 02 07.5**	**+0.2**
AYVA	**Ayvalik**	**1.31**	**145**	*i* P	**Pn**	**14 01 50.0**	**0.0**
AYVA				*i* S	**Sn**	**14 02 07.5**	**+0.2**
OUR	**Ouranopolis**	**1.34**	**268**	*e*PN	**Pn**	**14 01 50.2**	**-0.3**
OUR	**Ouranopolis**	**1.34**	**268**	*e*PN	**Pn**	**14 01 49.4**	**-1.0**
OUR	**Ouranopolis**	**1.34**	**268**	P	**Pn**	**14 01 49.4**	**-1.0**
OUR	**Ouranopolis**	**1.34**	**268**	*e*Pn	**Pn**	**14 01 50.2**	**-0.3**
OUR	**Ouranopolis**	**1.34**	**268**	P	**Pn**	**14 01 49.4**	**-1.0**
OUR				S	**Sg**	**14 02 09.8**	**+0.5**
MRMT	**Marmara Adasi**	**1.43**	**81**	*e*PN	**Pn**	**14 01 52.3**	**+0.5**
MRMT	**Marmara Adasi**	**1.43**	**81**	*e*Pn	**Pn**	**14 01 52.3**	**+0.5**
TKR	**Tekirdag**	**1.49**	**66**	*e*PN	**Pn**	**14 01 52.8**	**+0.2**
TKR	**Tekirdag**	**1.49**	**66**	*e*Pn	**Pn**	**14 01 52.8**	**+0.2**
EDC	**Edincik**	**1.63**	**91**	*e*PN	**Pn**	**14 01 54.9**	**+0.5**
EDC	**Edincik**	**1.63**	**91**	*e*Pn	**Pn**	**14 01 54.9**	**+0.5**
PAIG	**Paliouri**	**1.64**	**254**	*e*PN	**Pn**	**14 01 54.2**	**-0.4**
PAIG	**Paliouri**	**1.64**	**254**	*e*Pn	**Pn**	**14 01 54.2**	**-0.4**
EDRB	**Edirne**	**1.64**	**27**	*e*PN	**Pn**	**14 01 55.3**	**+0.6**
EDRB	**Edirne**	**1.64**	**27**	P	**Pn**	**14 01 54.2**	**-0.5**
EDRB	**Edirne**	**1.64**	**27**	*e*Pn	**Pn**	**14 01 55.3**	**+0.6**
EDRB				S	**Sb**	**14 02 16.9**	**+0.1**
EDRB	**Edirne**	**1.64**	**27**	P	**Pn**	**14 01 54.2**	**-0.5**
EDRB				S	**Sb**	**14 02 16.9**	**+0.1**
DIM	**Dimitrovgrad**	**1.67**	**355**	P	**Pb**	**14 01 56.8**	**+0.2**
DIM	**Dimitrovgrad**	**1.67**	**355**	P	**Pb**	**14 01 56.8**	**+0.2**
BNT	**Bandirma**	**1.67**	**90**	*e*PN	**Pn**	**14 01 55.5**	**+0.5**
BNT	**Bandirma**	**1.67**	**90**	*e*Pn	**Pn**	**14 01 55.5**	**+0.5**
NVR	**Nevrokopi**	**1.71**	**305**	*e*PN	**Pn**	**14 01 55.3**	**-0.4**
NVR	**Nevrokopi**	**1.71**	**305**	P	**Pn**	**14 01 55.4**	**-0.3**
NVR	**Nevrokopi**	**1.71**	**305**	P	**Pn**	**14 01 55.4**	**-0.3**
NVR				S	**Sb**	**14 02 19.6**	**+0.6**
PLG	**Polygyros**	**1.75**	**270**	*e*PN	**Pn**	**14 01 55.0**	**-1.2**
PLG	**Polygyros**	**1.75**	**270**	*e*Pn	**Pn**	**14 01 55.0**	**-1.2**
SRS	**Serrai**	**1.78**	**295**	*e*PN	**Pn**	**14 01 56.0**	**-0.6**
SRS	**Serrai**	**1.78**	**295**	P	**Pn**	**14 01 56.0**	**-0.6**
SRS	**Serrai**	**1.78**	**295**	P	**Pn**	**14 01 56.0**	**-0.6**
PHSR	**Pinarhisar**	**1.83**	**47**	*e*PN	**Pn**	**14 01 56.7**	**-0.6**
PHSR	**Pinarhisar**	**1.83**	**47**	*e*Pn	**Pn**	**14 01 56.7**	**-0.6**
SOH	**Sokhos**	**1.86**	**284**	*e*PN	**Pn**	**14 01 57.3**	**-0.5**
SOH	**Sokhos**	**1.86**	**284**	*e*Pn	**Pn**	**14 01 57.3**	**-0.5**
SOH	**Sokhos**	**1.86**	**284**	P	**Pn**	**14 01 57.2**	**-0.5**
PLD	**Plovdiv**	**1.88**	**336**	P	**Pb**	**14 02 01.1**	**+0.8**
PLD	**Plovdiv**	**1.88**	**336**	P	**Pb**	**14 02 01.1**	**+0.8**
MMB	**Musomiste**	**1.94**	**309**	P	**Pn**	**14 01 58.1**	**-0.6**
MMB	**Musomiste**	**1.94**	**309**	P	**Pn**	**14 01 58.1**	**-0.6**
KCTX	**Karacabey (Bur**	**2.01**	**93**	*e*PN	**Pn**	**14 01 59.7**	**0.0**
KCTX	**Karacabey (Bur**	**2.01**	**93**	*e*Pn	**Pn**	**14 01 59.7**	**0.0**
CHOS	**Chios island**	**2.02**	**173**	*e*PN	**Pn**	**14 02 01.0**	**+1.2**
CHOS	**Chios island**	**2.02**	**173**	*e*PN	**Pn**	**14 01 59.5**	**-0.3**
CHOS	**Chios island**	**2.02**	**173**	*e*Pn	**Pn**	**14 01 59.5**	**-0.3**
HORT	**Hortiatis**	**2.02**	**277**	*e*PN	**Pn**	**14 01 59.8**	**-0.1**
HORT	**Hortiatis**	**2.02**	**277**	*e*PN	**Pn**	**14 01 59.2**	**-0.7**
HORT	**Hortiatis**	**2.02**	**277**	*e*Pn	**Pn**	**14 01 59.8**	**-0.1**
SLVT	**Silivri**	**2.06**	**65**	*i* P	**Pn**	**14 01 57.8**	**-2.5**
SLVT				*i* S	**Sn**	**14 02 24.0**	**-1.8**
URLA	**Izmir**	**2.13**	**162**	*i* P	**Pn**	**14 02 01.4**	**0.0**
URLA				*i* S	**Sg**	**14 02 33.2**	**-1.4**
URLA	**Izmir**	**2.13**	**162**	*i* P	**Pn**	**14 02 01.4**	**0.0**
URLA				*i* S	**Sg**	**14 02 33.2**	**-1.4**
ZEY	**˜zmir**	**2.23**	**164**	*i* P	**Pn**	**14 02 02.5**	**-0.2**
ZEY				*i* S	**Sg**	**14 02 38.5**	**+0.8**
BLCB	**Balcova**	**2.24**	**153**	*e*PN	**Pn**	**14 02 03.5**	**+0.6**
BLCB	**Balcova**	**2.24**	**153**	*e*Pn	**Pn**	**14 02 03.5**	**+0.6**
DURS	**Dursunbey**	**2.25**	**110**	*i* P	**Pb**	**14 02 06.5**	**-0.1**
DURS				*i* S	**Sn**	**14 02 31.2**	**+0.6**
DURS	**Dursunbey**	**2.25**	**110**	*i* P	**Pb**	**14 02 06.5**	**-0.1**
DURS				*i* S	**Sn**	**14 02 31.2**	**+0.6**
KNT	**Kendrikon**	**2.29**	**291**	*e*PN	**Pn**	**14 02 03.5**	**0.0**
KNT	**Kendrikon**	**2.29**	**291**	*e*Pn	**Pn**	**14 02 03.5**	**0.0**
IZM	**Izmir**	**2.31**	**149**	*e*PN	**Pn**	**14 02 04.4**	**+0.5**
IZM	**Izmir**	**2.31**	**149**	*e*Pn	**Pn**	**14 02 04.4**	**+0.5**
DST	**Dursunbey**	**2.35**	**109**	*e*PN	**Pn**	**14 02 05.3**	**+0.9**
DST	**Dursunbey**	**2.35**	**109**	*e*Pn	**Pn**	**14 02 05.3**	**+0.9**
DST	**Dursunbey**	**2.35**	**109**	*e*Pn	**Pn**	**14 02 05.3**	**+0.9**
ARMT	**Armutlu**	**2.39**	**85**	*e*PN	**Pn**	**14 02 06.0**	**+1.0**
ARMT	**Armutlu**	**2.39**	**85**	*e*Pn	**Pn**	**14 02 06.0**	**+1.0**
PGB	**Panagyurishte**	**2.46**	**332**	P	**Pb**	**14 02 10.7**	**+0.5**
KKB	**Krupnik**	**2.49**	**307**	P	**Pn**	**14 02 06.2**	**-0.1**
KKB	**Krupnik**	**2.49**	**307**	P	**Pn**	**14 02 06.2**	**-0.1**
VAY	**Valandovo**	**2.58**	**292**	*e*Pn	**Pn**	**14 02 06.1**	**-1.4**
VAY				*e*Sn	**Sg**	**14 02 47.8**	**-1.0**
VAY				*e*Lg	Lg	14 02 51.7	
	comp=N,140nm,1.3s						
VAY				*e*Lg	Lg	14 02 52.7	
	comp=E,43nm,0.7s						
VAY	**Valandovo**	**2.58**	**292**	*e*Pn	**Pn**	**14 02 06.0**	**-1.4**
VAY				*e*Lg	Lg	14 02 51.6	
	comp=E,140nm,1.3s						
ULDT	**Uludag**	**2.61**	**94**	*i* P	**Pn**	**14 02 09.6**	**+1.4**
ULDT	**Uludag**	**2.61**	**94**	*i* P	**Pn**	**14 02 09.6**	**+1.4**
ISK	**Istanbul-Kandi**	**2.61**	**74**	*e*PN	**Pn**	**14 02 09.4**	**+1.4**
ISK	**Istanbul-Kandi**	**2.61**	**74**	*e*Pn	**Pn**	**14 02 09.4**	**+1.4**
GEMT	**Gemlik**	**2.64**	**88**	*e*PN	**Pn**	**14 02 09.8**	**+1.5**
GEMT	**Gemlik**	**2.64**	**88**	*e*Pn	**Pn**	**14 02 09.8**	**+1.5**
KLYT	**Kilyos**	**2.65**	**70**	*e*PN	**Pn**	**14 02 09.1**	**+0.6**
KLYT	**Kilyos**	**2.65**	**70**	*e*Pn	**Pn**	**14 02 09.1**	**+0.6**
DEMI	**Demirci**	**2.66**	**119**	*i* P	**Pn**	**14 02 09.2**	**+0.4**
DEMI				*i* S	**Sb**	**14 02 44.1**	**-2.2**
DEMI	**Demirci**	**2.66**	**119**	*i* P	**Pn**	**14 02 09.2**	**+0.4**
DEMI				*i* S	**Sb**	**14 02 44.1**	**-2.2**
IZI	**Iznik**	**2.85**	**90**	*e*PN	**Pn**	**14 02 12.2**	**+0.8**
IZI	**Iznik**	**2.85**	**90**	*e*Pn	**Pn**	**14 02 12.2**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**2.96**	**145**	*e*PN	**Pn**	**14 02 13.6**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**2.96**	**145**	*e*Pn	**Pn**	**14 02 13.6**	**+0.7**
AGG	**Agios Georgios**	**2.96**	**244**	*e*PN	**Pn**	**14 02 14.4**	**+1.6**
AGG	**Agios Georgios**	**2.96**	**244**	*e*Pn	**Pn**	**14 02 14.4**	**+1.6**
TVSB	**Tavsanli**	**3.01**	**107**	*e*PN	**Pn**	**14 02 14.9**	**+1.3**
TVSB	**Tavsanli**	**3.01**	**107**	*e*Pn	**Pn**	**14 02 14.9**	**+1.3**
ADVT	**Abdulvahap**	**3.06**	**88**	*e*PN	**Pn**	**14 02 16.0**	**+1.9**
ADVT	**Abdulvahap**	**3.06**	**88**	*e*Pn	**Pn**	**14 02 16.0**	**+1.9**
PRD	**Provadia**	**3.07**	**23**	*i* P	**Pn**	**14 02 14.9**	**+0.6**
PRD

baz=29,SNR=5.7
BBOO Buckleboo 29.72 205 P **P** **14 07 47.5 -0.6**
baz=30,SNR=9.1
FORT Forrest 32.29 218 P **P** **14 08 10.9 +0.2**
baz=32,SNR=8.4
MBWA Marble Bar 33.29 240 *eP* **P** **14 08 19.2 -0.4**
15nm,1.0s
MEEK Meekatharra 36.54 233 P **P** **14 08 48.0 +0.3**
baz=36,SNR=5.5
KMBL Kambalda 36.68 223 P **P** **14 08 49.1 +0.4**
baz=36,SNR=9.5
MORW Morawa 39.70 231 P **P** **14 09 14.2 +0.1**
baz=40,SNR=3.4
KLBR Kellerberrin 39.70 226 P **P** **14 09 13.9 -0.2**
baz=40,SNR=8.0
RPZ Rata Peaks 41.56 157 P **P** **14 09 29.3 0.0**
6.6nm,0.7s,baz=354,slow=13,SNR=3.3
JNU Nakatsue 43.27 336 P **P** **14 09 41.1 -2.2**
4.9nm,1.0s,baz=72,slow=19,SNR=1.7
MJAR Matsushiro Arr 44.00 346 P **P** **14 09 47.9 -1.2**
0.6nm,0.7s,baz=178,slow=9.1,SNR=3.9
KSRS Korea Array 48.22 336 P **P** **14 10 21.0 -1.3**
2.1nm,0.9s,baz=151,slow=8.3,SNR=5.1
KSAR Wonju Array Be 48.22 336 P **P** **14 10 21.0 -1.3**
NJ2 Nanjing 48.49 324 *eP* **P** **14 10 25.3 +0.8**
USRK Ussuriysk Ar. 52.82 343 P **P** **14 10 57.0 +0.1**
1.6nm,0.6s,baz=188,slow=8.7,SNR=2.4
GYA Guiyang 53.41 309 *eP* **P** **14 11 04.0 +2.2**
GYA pP **pP** **14 11 13.8 -1.2**
GYA PP **PP** **14 13 06.3 +3.6**
GYA S **S** **14 18 32.0 +1.0**
GYA PMZ
10.0nm,1.0s
GYA PMZ
110nm,5.2s
GYA LN
520nm,18.5s
GYA LE
470nm,19.0s
GYA LZ
490nm,18.7s
KMI Kunming 55.85 306 P P 14 11 23.6 +4.0
KMI PMZ
10.0nm,0.5s
CMAR Chiang Mai Arr 56.38 297 P **P** **14 11 24.1 +0.9**
0.6nm,0.9s,baz=106,slow=6.7,SNR=2.9
CD2 Chengdu 57.89 312 P **P** **14 11 34.0 +0.2**
CD2 pP **pP** **14 11 44.5 -2.7**
CD2 sP **sP** **14 11 48.9 -3.8**
CD2 PP **PP** **14 13 42.8 +0.2**
CD2 S **S** **14 19 32.6 +2.2**
CD2 PMZ
60nm,0.6s
CD2 LN
750nm,19.0s
CD2 LZ
3μm,18.0s
PETK Petropavlovsk- 59.35 5 P **P** **14 11 42.1 -1.3**
3.3nm,1.0s,baz=186,slow=11,SNR=2.9
LZH Lanzhou 60.62 317 *eP* P 14 11 56.4 +3.8
LZH PMZ
18nm,1.0s
SONM Songino Array 66.26 329 P **P** **14 12 29.1 -0.5**
0.7nm,0.6s,baz=154,slow=5.7,SNR=2.7
VNDA Vanda 71.58 177 P **P** **14 13 02.7 +0.6**
4.9nm,0.8s,baz=320,slow=8.7,SNR=12
VNDA Vanda 71.58 177 *eP* **P** **14 13 02.7 +0.6**
8.9nm,1.2s
WMQ Urumqi 75.18 318 P **P** **14 13 25.9 +1.9**
WMQ pP **PcP** **14 13 35.9 -1.4**
WMQ sP **sP** **14 13 39.9 -3.3**
WMQ PMZ
11nm,0.8s
ZAA0 Zalesovo Array 81.00 327 *eP* **P** **14 13 56.5 +0.7**
KSH Kashi 82.06 311 P P 14 13 56.0 -6.0
KSH pmax pmax
comp=Z,14μm,15.3s
QSPA South Pole Qui 83.81 180 *eP* **P** **14 14 11.1 +0.5**
comp=Z,18nm,1.1s
NVAR Mina Array Bea 94.74 52 P **P** **14 15 04.1 +0.9**
comp=Z,1.2nm,0.9s,baz=262,slow=6.9,SNR=3.1
GERES GERESS Array B 123.95 327 PKP **PKPdf** **14 20 39.2 -0.3**
comp=Z,1.0nm,0.8s,baz=78,slow=1.9,SNR=7.0
TORD Torodi Ar. Bea 148.47 285 PKPbc **PKPbc** **14 21 28.6 -0.2**
comp=Z,10nm,0.8s,baz=71,slow=2.4,SNR=37
BDFB Brasilia 151.64 140 PKPbc **PKPbc** **14 21 36.6 0.0**
comp=Z,7.4nm,0.8s,baz=168,slow=3.3,SNR=7.5

*IDC **18** 14:03:08.5±2.8, 5°.80S×149°.91E, h0km, mb4.4/1, mb1 4.9/2, mb1mx3.9/19, mbtmp4.8/2, Error ellipse: s-maj=132.3km s-min=38.7km az=120.0*
*ISCJB **18** 14:03:10.0±2.8, 6°.4S±0°.3×150°.5E±0°.2, h33km, Error ellipse: s-maj=44.9km s-min=20.9km az=156.4*
*NEIC **18** 14:03:11.9±1.3, 6°.31S×150°.51E, h35km, mb4.4/2, Error ellipse: s-maj=33.2km s-min=20.9km az=121.0*
ISC 18 14:03:13.4±1.7, 6°.5S±0°.2×150°.5E±0°.2, h33km, n6, σ1s 64/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.41**	**228**	Pn	**Pn**	**14 04 19.3**	**+1.4**
	baz=37,slow=20,SNR=1.3						
PMG				Sn	**Sn**	**14 05 07.7**	**-0.5**
	13nm,0.3s,baz=211,slow=18,SNR=1.6						
EIDS	**Eidsvold**	**18.82**	**178**	*eP*	**P**	**14 07 30.3**	**-0.1**
	28nm,1.3s						
WRAB	**Tennant Creek**	**20.61**	**228**	*eP*	**P**	**14 07 48.7**	**-1.3**
	14nm,0.6s						
WRA	**Warramunga Arr**	**20.63**	**228**	P	**P**	**14 07 49.1**	**-1.1**
	15nm,0.7s,baz=52,slow=11,SNR=3.0						
GERES	**GERESS Array B**	**124.21**	**327**	PKP	**PKPdf**	**14 22 07.4**	**-1.6**
	0.6nm,0.6s,baz=45,slow=1.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**148.56**	**285**	PKPbc	**PKPdf**	**14 22 56.1**	**+1.8**
	2.2nm,0.8s,baz=61,slow=2.9,SNR=2.8						

IDC 18 14:05:35.6±3.0, 6°.01S×150°.88E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.6/44, mbtmp3.8/3, Error ellipse: s-maj=122.4km s-min=37.1km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.00**	**227**	Pn	Pn	14 06 52.4	+0.4
	baz=49,slow=11,SNR=1.3						
PMG				Sn	Sn	14 07 50.1	-0.5
	1.9nm,0.3s,baz=113,slow=17,SNR=2.9						
WRA	**Warramunga Arr**	**21.22**	**228**	P	P	14 10 23.9	+0.6
	2.8nm,0.7s,baz=54,slow=11,SNR=4.4						
ASAR	**Alice Springs**	**23.98**	**221**	P	P	14 10 51.9	-0.2
	0.6nm,0.7s,baz=49,slow=8.2,SNR=2.6						
TORD	**Torodi Ar. Bea**	**148.82**	**285**	PKPbc	PKPbc	14 25 25.6	-0.7
	1.7nm,0.7s,baz=62,slow=2.9,SNR=6.6						

CASC 18 14:07:03.3±2.0, 13°.93N×91°.53W, h40km±13km, MD3.8, 1C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.40**	**345**	*eP*	Pn	14 07 12.9	+0.2
FUG	**Fuego 3**	**0.84**	**52**	*iP*	Pn	14 07 18.8	-0.1
PCG	**Pacaya**	**1.01**	**63**	*eP*	Pn	14 07 21.7	+0.4
PCG					eS	Sn	14 07 36.8	+2.3
NBG	**Las Nubes**	**1.32**	**60**	*eP*	Pn	14 07 27.0	+1.4
NBG					eS	Sn	14 07 46.5	+4.3
RBDL	**Robledal**	**1.80**	**84**	*eP*	Pn	14 07 32.0	0.0
RTR	**El Retiro**	**1.83**	**91**	*eP*	Pn	14 07 32.6	+0.1
RTR					eS	Sn	14 07 56.0	+1.4
SBLS	**San Blas**	**1.85**	**93**	*eP*	Pn	14 07 32.4	-0.5
SBLS					eS	Sn	14 07 56.1	+0.8
SNJE	**San Jose**	**1.87**	**92**	*eP*	Pn	14 07 33.0	-0.1
SNJE					eS	Sn	14 07 56.8	+1.2
MRL	**Marmol**	**2.11**	**57**	*eP*	Pn	14 07 37.4	+1.0
BOQS	**Boqueron**	**2.19**	**95**	*eP*	Pn	14 07 38.4	+0.8
BOQS					eS	Sn	14 08 04.9	+1.2
LFRS	**El Faro**	**2.42**	**97**	*eP*	Pn	14 07 40.8	+0.3
LFRS					eS	Sn	14 08 09.9	+1.0

IDC 18 14:07:46.6±3.4, 6°.07S×150°.71E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.5/19, mbtmp3.6/3, ML1.7/1, Error ellipse: s-maj=126.0km s-min=43.9km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.84**	**226**	Pn	Pn	14 09 00.9	+0.2
	2.3nm,0.3s,baz=76,slow=19,SNR=2.4						
PMG				Sn	Sn	14 09 44.8	-13
	1.4nm,0.3s,baz=127,slow=17,SNR=2.7						
WRA	**Warramunga Arr**	**21.06**	**228**	P	P	14 12 32.3	-0.2
	1.3nm,0.5s,baz=54,slow=10,SNR=4.9						
ASAR	**Alice Springs**	**23.82**	**221**	P	P	14 13 01.4	-0.2
	0.3nm,0.3s,baz=53,slow=9.2,SNR=7.8						
TORD	**Torodi Ar. Bea**	**148.68**	**285**	PKPbc	PKPbc	14 27 36.4	-0.5
	0.1nm,0.3s,baz=60,slow=2.1,SNR=4.0						

NEIC 18 14:08:21.8, 52°.83N×169°.64W, h0km, ML3.4(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.50**	**73**	P	Pb	14 08 32.5	-0.9
NIKH				S	Sb	14 08 41.1	0.0
OKSP	**Okmok Steeple**	**0.92**	**62**	P	Pb	14 08 40.2	-0.3
OKCE	**Okmok Cone E**	**1.07**	**55**	P	Pb	14 08 43.3	+0.1
OKTU	**Okmok Mt. Tuli**	**1.11**	**59**	P	Pb	14 08 44.0	+0.2
MSOM	**Makushin Julie**	**1.89**	**57**	P	Pn	14 08 55.4	+0.2
MCIR	**Makushin Cirqu**	**1.99**	**55**	P	Pn	14 08 57.8	+1.1
MSW	**Makushin Switc**	**2.03**	**56**	P	Pn	14 08 57.7	+0.5
MTBL	**Makushin Table**	**2.11**	**56**	P	Pn	14 08 58.8	+0.5
UNV	**Unalaska Valle**	**2.14**	**60**	P	Pn	14 08 58.5	-0.1
ATKA	**Atka Island**	**2.85**	**259**	P	Pn	14 09 07.5	-1.0
SPIA	**Saint Paul Isl**	**4.37**	**356**	P	Pn	14 09 30.8	+1.5

*IDC **18** 14:08:29.9±20.0, 52°.84N×170°.23W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.5/67, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=364.9km s-min=47.0km az=87.0*
*NEIC **18** 14:08:35.3, 52°.79N×169°.49W, h10km, ML3.4(AEIC), After AEIC.*
ISC 18 14:08:32.5±2.9, 52°.8N±0°.1×169°.8W±0°.1, h6km±14km, n21, σ0s 91/18, mb3.6/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKWE	**Okmok W'ng Wal**	**1.13**	**55**	P	**Pg**	**14 08 54.1**	**-0.1**
OKWE				S	**Sg**	**14 09 09.4**	**+0.6**
OKAK	**Okmok**	**1.14**	**48**	P	Pg	14 08 51.9	-2.5
OKRE	**Okmok R'deer P**	**1.20**	**54**	P	**Pg**	**14 08 55.5**	**0.0**
OKRE				S	**Sg**	**14 09 10.9**	**-0.1**
MSOM	**Makushin Julie**	**1.97**	**59**	P	**Pn**	**14 09 06.5**	**+0.1**
MGOD	**Makushin Gods**	**2.00**	**60**	P	**Pn**	**14 09 07.0**	**+0.1**
MGOD				S	**Sn**	**14 09 32.2**	**-0.1**
MCIR	**Makushin Cirqu**	**2.07**	**56**	P	**Pn**	**14 09 08.8**	**+1.0**
MSW	**Makushin Switc**	**2.10**	**58**	P	**Pn**	**14 09 08.6**	**+0.3**
MSW				S	**Sn**	**14 09 35.6**	**+0.9**
UNV	**Unalaska Valle**	**2.22**	**61**	P	**Pn**	**14 09 10.1**	**+0.2**
UNV				S	**Sn**	**14 09 37.7**	**+0.2**
AKUT	**Akutan**	**2.73**	**60**	*eP*	**Pn**	**14 09 17.6**	**+0.7**
GSTR	**Great Sitkin T**	**3.91**	**262**	*ePn*	Pb	14 09 37.1	-4.7
SPIA	**Saint Paul Isl**	**4.37**	**357**	P	**Pn**	**14 09 40.2**	**+0.9**
ILAR	**Eielson Array**	**16.72**	**35**	Pn	**Pn**	**14 12 24.4**	**-2.7**
	0.1nm,0.3s,baz=227,slow=10.0,SNR=8.1						
H11N2	**WAKE ISLAND Hy**	**37.66**	**218**	T	T	14 55 34.9	
	baz=20						
H11N3	**WAKE ISLAND Hy**	**37.66**	**218**	T	T	14 55 35.0	
	baz=20,SNR=4.2						
H11N1	**WAKE ISLAND Hy**	**37.68**	**218**	T	T	14 55 34.3	
	baz=20						
NVAR	**Mina Array Bea**	**37.93**	**91**	P	**P**	**14 15 51.6**	**+0.8**
	1.0nm,0.8s,baz=304,slow=8.2,SNR=3.7						
H11S1	**WAKE ISLAND Hy**	**38.85**	**217**	T	T	14 57 04.7	
	baz=23,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**38.87**	**217**	T	T	14 57 07.7	
	baz=23,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**38.87**	**217**	T	T	14 57 05.9	
	baz=23,slow=76,SNR=13						
PDAR	**Pinedale Array**	**40.57**	**79**	P	**P**	**14 16 12.7**	**-0.1**
	0.5nm,0.6s,baz=306,slow=5.5,SNR=4.6						
TXAR	**Lajitas Array**	**52.99**	**89**	P	**P**	**14 17 50.1**	**+0.1**
	1.3nm,0.8s,baz=300,slow=5.6,SNR=11						

*IDC **18** 14:12:20.8±1.1, 6°.12S×151°.47E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.9/20, mbtmp3.9/9, ML2.2/1, Error ellipse: s-maj=37.4km s-min=19.7km az=104.0*
*ISCJB **18** 14:12:25.1±0.9, 6°.14S±0°.10×151°.3E±0°.1, h41km, mb3.8/9, Error ellipse: s-maj=21.6km s-min=12.8km az=21.3*
*NEIC **18** 14:12:26.7±3.8, 6°.16S×151°.43E, h40km±31km, mb4.3/1, Error ellipse: s-maj=31.4km s-min=20.1km az=90.0*
ISC 18 14:12:26.8±0.9, 6°.2S±0°.1×151°.3E±0°.2, h41km, n21, σ1s 60/19, mb3.8/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.24**	**232**	Pn	**Pn**	**14 13 43.4**	**+0.7**
	5.7nm,0.3s,baz=15,slow=8.8,SNR=9.3						
PMG	**Port Moresby**	**5.24**	**232**	P	Pn	14 13 49.7	+7.0
	baz=4.3,SNR=4.4						
PMG				P	Pn	14 13 49.7	+7.0
	baz=4.3,SNR=4.4						
PMG				P	Pn	14 13 49.7	+7.0
	baz=4.3,SNR=4.4						
PMG	**Port Moresby**	**5.24**	**232**	*eP*	**Pn**	**14 13 43.9**	**+1.2**
KDU	**Kakadu**	**19.69**	**249**	P	**P**	**14 16 48.6**	**-4.2**
	baz=18,SNR=5.9						
QLP	**Quilpie**	**21.41**	**198**	P	P	14 17 20.5	+9.2
	baz=21,SNR=3.1						
WRAB	**Tennant Creek**	**21.44**	**229**	*eP*	**P**	**14 17 11.5**	**-0.2**
	13nm,0.8s						
WRA	**Warramunga Arr**	**21.45**	**229**	P	**P**	**14 17 11.6**	**-0.3**
	5.1nm,0.5s,baz=50,slow=10,SNR=24						
KNRA	**Kununurra**	**24.06**	**245**	P	**P**	**14 17 36.9**	**-1.6**
	baz=23,SNR=8.4						
AS31	**Alice Springs**	**24.16**	**222**	*eP*	**P**	**14 17 41.6**	**+2.2**
ASAR	**Alice Springs**	**24.16**	**222**	P	**P**	**14 17 40.7**	**+1.2**
	1.0nm,0.7s,baz=54,slow=8.8,SNR=12						
STKA	**Stephens Creek**	**27.16**	**198**	P	**P**	**14 18 06.8**	**+0.4**
	2.2nm,1.0s,baz=24,slow=20,SNR=1.8						
FITZ	**Fitzroy Crossi**	**27.73**	**242**	P	**P**	**14 18 09.3**	**-2.4**
	baz=26,SNR=5.6						
LUWI	**Luwuk**	**28.93**	**279**	P	**P**	**14 18 23.0**	**+0.5**
	baz=28,SNR=4.5						
WRKA	**Warakurna**	**28.96**	**227**	P	**P**	**14 18 23.2**	**+0.5**
	baz=28,SNR=4.6						
MEEK	**Meekatharra**	**37.22**	**233**	P	**P**	**14 19 34.3**	**-0.3**
	baz=36,SNR=3.5						
RPZ	**Rata Peaks**	**41.24**	**158**	P	**P**	**14 20 06.9**	**-1.0**
	13nm,0.9s,baz=53,slow=5.1,SNR=3.4						
USRK	**Ussuriysk Ar.**	**53.07**	**343**	P	**P**	**14 21 39.7**	**-0.3**
	1.5nm,0.5s,baz=175,slow=6.9,SNR=4.2						
SONM	**Songino Array**	**66.70**	**329**	P	**P**	**14 23 12.9**	**-0.9**
	0.7nm,0.8s,baz=121,slow=5.6,SNR=2.3						
MKAR	**Makanchi Array**	**80.38**	**319**	P	**P**	**14 24 36.0**	**+1.9**
	0.1nm,0.4s,baz=120,slow=5.2,SNR=3.2						
ILAR	**Eielson Array**	**83.96**	**22**	P	**P**	**14 24 52.9**	**+0.4**
	0.4nm,0.8s,baz=244,slow=5.0,SNR=5.5						
TORD	**Torodi Ar. Bea**	**149.29**	**285**	PKPbc	**PKPbc**	**14 32 11.3**	**-1.0**
	0.6nm,1.0s,baz=84,slow=4.1,SNR=3.0						

*IDC **18** 14:13:23.6±0.8, 6°.10S×150°.74E, h0km, mb4.1/11, mb1 4.3/12, mb1mx4.0/22, mbtmp4.1/12, ML1.9/1, Error ellipse: s-maj=24.1km s-min=16.8km az=94.0*
*ISCJB **18** 14:13:28.6±0.6, 6°.12S±0°.08×150°.66E±0°.09, h48km, mb4.0/10, Error ellipse: s-maj=14.6km s-min=8.7km az=33.0*
*NEIC **18** 14:13:28.2±5.9, 6°.09S×150°.74E, h30km±42km, mb4.4/1, Error ellipse: s-maj=16.0km s-min=12.7km az=64.0*
ISC 18 14:13:30.2±0.7, 6°.2S±0°.1×150°.7E±0°.1, h48km, n17, σ0s 90/18, mb3.9/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.77**	**227**	Pn	**Pn**	**14 14 38.9**	**-0.7**
	3.8nm,0.3s,baz=54,slow=14,SNR=2.8						
PMG				Sn	**Sn**	**14 15 34.1**	**+0.4**
	2.7nm,0.3s,baz=99,slow=19,SNR=2.2						
WRAB	**Tennant Creek**	**20.98**	**228**	*eP*	**P**	**14 18 09.8**	**+0.2**
	10nm,0.6s						
WRA	**Warramunga Arr**	**20.99**	**228**	P	**P**	**14 18 09.7**	**-0.1**
	8.4nm,0.6s,baz=50,slow=10.0,SNR=17						
DZM	**Mont Dzumac**	**21.95**	**138**	P	**P**	**14 18 20.0**	**-0.1**
	8.1nm,0.8s,baz=270,slow=20,SNR=50						
AS31	**Alice Springs**	**23.76**	**221**	*eP*	**P**	**14 18 40.0**	**+1.6**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**23.76**	**221**	P	**P**	**14 18 38.9**	**+0.4**
	3.7nm,0.7s,baz=57,slow=8.1,SNR=13						
STKA	**Stephens Creek**	**26.98**	**197**	P	**P**	**14 19 07.0**	**-0.5**
	3.9nm,0.8s,baz=355,slow=10.0,SNR=7.3						
STKA	**Stephens Creek**	**26.98**	**197**	*eP*	**P**	**14 19 07.7**	**+0.2**
	0.8nm,0.7s						
URZ	**Urewera**	**39.94**	**147**	P	**P**	**14 20 59.6**	**-0.3**
	8.5nm,1.0s,baz=305,slow=13,SNR=2.5						
JNU	**Nakatsue**	**43.36**	**336**	P	**P**	**14 21 26.4**	**-1.6**
	4.0nm,0.8s,baz=212,slow=19,SNR=2.4						
KSRS	**Korea Array**	**48.31**	**336**	P	**P**	**14 22 06.4**	**-0.5**
	0.7nm,0.6s,baz=148,slow=7.3,SNR=3.5						
KSAR	**Wonju Array Be**	**48.31**	**336**	P	**P**	**14 22 06.4**	**-0.6**
SONM	**Songino Array**	**66.37**	**329**	P	**P**	**14 24 16.2**	**+1.9**
	0.6nm,0.5s,baz=142,slow=3.9,SNR=4.4						
VNDA	**Vanda**	**71.57**	**177**	P	**P**	**14 24 46.5**	**+0.5**
	1.2nm,0.8s,baz=334,slow=7.4,SNR=4.0						
ILAR	**Eielson Array**	**84.19**	**22**	P	**P**	**14 25 56.0**	**-0.1**
	0.4nm,0.7s,baz=249,slow=5.7,SNR=4.5						
NVAR	**Mina Array Bea**	**94.56**	**52**	P	**P**	**14 26 46.6**	**+0.3**
	0.3nm,0.6s,baz=270,slow=2.7,SNR=3.0						
TORD	**Torodi Ar. Bea**	**148.69**	**285**	PKPbc	**PKPbc**	**14 33 12.2**	**-1.1**
	2.0nm,0.6s,baz=64,slow=2.9,SNR=11						

*IDC **18** 14:15:23.6±1.0, 6°.28S×150°.78E, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.9/19, mbtmp3.9/9, ML2.1/1, Error ellipse: s-maj=36.2km s-min=21.3km az=112.0*
*ISCJB **18** 14:15:27.3±0.8, 6°.3S±0°.1×150°.6E±0°.2, h33km, mb3.8/7, Error ellipse: s-maj=26.7km s-min=10.2km az=39.6*
*NEIC **18** 14:15:29.0±0.6, 6°.30S×150°.70E, h35km, mb4.1/2, Error ellipse: s-maj=21.8km s-min=10.6km az=122.0*
ISC 18 14:15:28.8±0.9, 6°.3S±0°.1×150°.7E±0°.2, h33km, n13, σ0s 90/14, mb3.8/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.62**	**228**	Pn	**Pn**	**14 16 37.0**	**+0.6**
	6.2nm,0.3s,baz=43,slow=19,SNR=3.2						
PMG				Sn	**Sn**	**14 17 27.3**	**-1.7**
	11nm,0.3s,baz=23,slow=15,SNR=6.2						
WRAB	**Tennant Creek**	**20.83**	**228**	*eP*	**P**	**14 20 08.1**	**+0.3**
	7.4nm,0.7s						
WRA	**Warramunga Arr**	**20.84**	**228**	P	**P**	**14 20 08.0**	**+0.1**
	7.6nm,0.7s,baz=52,slow=11,SNR=11						
ASAR	**Alice Springs**	**23.60**	**221**	P	**P**	**14 20 36.9**	**-0.1**
	1.5nm,0.6s,baz=56,slow=8.6,SNR=4.9						
STKA	**Stephens Creek**	**26.80**	**197**	P	**P**	**14 21 05.8**	**-0.2**
	1.6nm,0.6s,baz=11,slow=10,SNR=3.0						
STKA	**Stephens Creek**	**26.80**	**197**	*eP*	**P**	**14 21 06.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**56.61**	**297**	P	**P**	**14 25 10.6**	**+1.6**
	0.5nm,0.3s,baz=123,slow=3.3,SNR=3.5						
SONM	**Songino Array**	**66.49**	**329**	P	**P**	**14 26 14.2**	**-1.1**
	0.4nm,0.8s,baz=128,slow=2.4,SNR=2.3						
VNDA	**Vanda**	**71.41**	**177**	P	**P**	**14 26 45.5**	**+0.2**
	1.1nm,0.5s,baz=326,slow=3.6,SNR=7.0						
ILAR	**Eielson Array**	**84.36**	**22**	P	**P**	**14 27 56.2**	**-1.2**
	0.2nm,0.7s,baz=237,slow=5.0,SNR=3.3						
NVAR	**Mina Array Bea**	**94.70**	**52**	P	**P**	**14 28 47.5**	**+0.1**
	0.4nm,0.6s,baz=243,slow=5.8,SNR=4.3						
GERES	**GERESS Array B**	**124.19**	**327**	PKP	**PKPdf**	**14 34 24.8**	**+0.5**
	0.4nm,0.6s,baz=60,slow=3.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**148.68**	**285**	PKPbc	**PKPbc**	**14 35 14.1**	**+0.3**
	1.3nm,0.6s,baz=43,slow=2.4,SNR=9.4						

IDC 18 14:15:46.3±3.5, 5°.83S×150°.68E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.5/19, mbtmp3.8/3, ML1.6/1, Error ellipse: s-maj=138.5km s-min=43.2km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.97**	**224**	Pn	Pn	14 17 03.7	+1.4
	1.5nm,0.3s,baz=48,slow=16,SNR=2.1						
PMG				Sn	Sn	14 17 57.9	-2.7
	6.1nm,0.3s,baz=30,slow=20,SNR=2.2						
WRA	**Warramunga Arr**	**21.19**	**227**	P	P	14 20 34.9	+1.3
	1.1nm,0.4s,baz=53,slow=11,SNR=3.9						
ASAR	**Alice Springs**	**23.98**	**221**	P	P	14 21 01.4	-1.3
	0.9nm,0.7s,baz=53,slow=9.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**148.58**	**286**	PKPbc	PKPbc	14 35 35.6	-0.8
	1.3nm,0.7s,baz=88,slow=2.5,SNR=7.3						

IDC 18 14:18:48.4±3.6, 5°.94S×150°.72E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.4/19, mbtmp3.6/3, ML1.8/1, Error ellipse: s-maj=136.0km s-min=45.5km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.93**	**225**	Pn	Pn	14 20 04.6	+0.8
	2.7nm,0.3s,baz=330,slow=20,SNR=2.7						
PMG				Sn	Sn	14 20 56.0	-5.6
	0.3nm,0.3s,baz=58,slow=17,SNR=3.4						
WRA	**Warramunga Arr**	**21.15**	**227**	P	P	14 23 35.5	+0.3
	2.4nm,0.8s,baz=53,slow=10,SNR=5.3						
ASAR	**Alice Springs**	**23.93**	**221**	P	P	14 24 03.6	-0.8
	1.0nm,1.0s,baz=53,slow=9.2,SNR=4.6						
TORD	**Torodi Ar. Bea**	**148.65**	**285**	PKPbc	PKPbc	14 38 38.3	-0.4
	0.6nm,0.5s,baz=95,slow=3.2,SNR=4.0						

*SJA **18** 14:20:28.6±1.0, 34°.48S×72°.81W, h33km, ML3.0, MW3.1*
*GUC **18** 14:20:36.2±0.7, 34°.84S×71°.45W, h72km±12km, ML3.5*
ISC 18 14:20:32.4±3.2, 34°.67S±0°.06×72°.1W±0°.1, h3km±17km, n15, σ2s 03/26, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.76**	**116**	*eP*	**Pg**	**14 20 47.8**	**+0.8**
NICH				*eS*	**Sg**	**14 20 56.6**	**-0.3**
LNCH	**Linares**	**1.24**	**162**	*eP*	**Pb**	**14 20 56.0**	**-0.4**
LNCH				*eS*	**Sb**	**14 21 10.4**	**-2.4**
SAN	**Santiago**	**1.68**	**44**	*eP*	**Pn**	**14 21 02.5**	**-0.1**
SAN				*eS*	**Sn**	**14 21 22.2**	**-2.4**
CLCH	**Cerro Calan**	**1.79**	**45**	*eP*	**Pn**	**14 21 03.9**	**-0.3**
CLCH				*eS*	**Sn**	**14 21 25.6**	**-1.9**
CLCH				AML	AML	14 21 31.9	
	comp=N,879nm,0.4s						
PEL	**Peldehue**	**1.90**	**37**	*eP*	**Pn**	**14 21 06.4**	**+0.6**
PEL				*eS*	**Sn**	**14 21 29.6**	**-0.6**
PEL				AML	AML

IDC 18 14:24:41.4±3.5, 5°82.S×150°60.E, h0km, mb3.4/2, mb1 3.8/2, mb1mx3.3/38, mbtmp3.5/2, Error ellipse: s-maj=138.0km s-min=47.0km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.14**	**227**	P	P	14 29 27.7	-0.6
	1.2nm,0.7s,baz=54,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**23.94**	**220**	P	P	14 29 58.0	+0.5
	1.2nm,0.9s,baz=53,slow=9.0,SNR=5.2						
TORD	**Torodi Ar. Bea**	**148.50**	**286**	PKPbc	PKPbc	14 44 30.6	-0.7
	1.2nm,0.6s,baz=72,slow=2.6,SNR=8.7						

*ISCJB **18** 14:24:55.5±1.1, 36°.14N±0°.05×21°.36E±0°.06, h10km±10km, mb3.8/7, Error ellipse: s-maj=9.6km s-min=5.4km az=137.1*
*ATH **18** 14:24:55.8, 36°.20N×21°.39E, h18km±1km, MD3.7/19, ML3.3*
*CSEM **18** 14:24:56.9±0.4, 36°.24N×21°.48E, h2km, ML3.4, Error ellipse: s-maj=8.5km s-min=4.2km az=45.0*
*THE **18** 14:24:56.9, 36°.20N×21°.45E, h0km±3km, ML3.4/3, Error ellipse: s-maj=3.9km s-min=1.5km az=213.0*
*IDC **18** 14:24:57.4±1.4, 36°.72N×21°.96E, h0km, mb3.8/7, mb1 3.7/8, mb1mx3.5/29, mbtmp3.7/8, ML2.7/1, Error ellipse: s-maj=27.7km s-min=25.0km az=57.0*

ISC 18 14:24:54.6±1.6, 36°.16N±0°.05×21°.34E±0°.06, h10km±9km, n119, σ1§40/137, mb3.9/7, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.81**	**24**	*e*PN	**Pg**	**14 25 09.8**	**-0.4**
PYL				*e*SN	**Sb**	**14 25 22.1**	**+0.4**
PYL	**PYLOS**	**0.81**	**24**	*e*Pn	**Pg**	**14 25 09.8**	**-0.4**
PYL				*e*Sn	**Sb**	**14 25 22.1**	**+0.4**
PYL	**PYLOS**	**0.81**	**24**	P	**Pg**	**14 25 09.8**	**-0.4**
PYL				S	**Sb**	**14 25 22.4**	**+0.7**
ITM	**Ithomi**	**1.12**	**25**	*e*PN	**Pg**	**14 25 15.9**	**-0.3**
ITM				*e*SN	**Sb**	**14 25 30.7**	**-0.2**
ITM	**Ithomi**	**1.12**	**25**	P	**Pg**	**14 25 15.9**	**-0.3**
ITM				*e*Sn	**Sb**	**14 25 30.7**	**-0.2**
ITM				S	**Sb**	**14 25 31.3**	**+0.4**
ITM	**Ithomi**	**1.12**	**25**	P	**Pg**	**14 25 15.9**	**-0.3**
ITM				S	**Sb**	**14 25 31.3**	**+0.4**
KYTH	**Kithira**	**1.38**	**84**	*e*PN	**Pb**	**14 25 21.1**	**+0.5**
KYTH	**Kithira**	**1.38**	**84**	P	**Pb**	**14 25 21.3**	**+0.7**
KYTH	**Kithira**	**1.38**	**84**	P	**Pb**	**14 25 21.3**	**+0.7**
AMT	**Artemida-Makis**	**1.40**	**12**	*e*PN	**Pn**	**14 25 21.1**	**+0.7**
AMT				*e*SN	**Sn**	**14 25 40.3**	**+1.3**
AMT	**Artemida-Makis**	**1.40**	**12**	P	**Pn**	**14 25 21.1**	**+0.7**
AMT				*e*Sn	**Sn**	**14 25 40.3**	**+1.3**
AMT	**Artemida-Makis**	**1.40**	**12**	P	**Pn**	**14 25 21.1**	**+0.7**
VLI	**Veliai**	**1.41**	**66**	*e*PN	**Pb**	**14 25 21.2**	**+0.2**
VLI				*e*SN	**Sn**	**14 25 40.3**	**+1.3**
VLI	**Veliai**	**1.41**	**66**	*e*Pn	**Pb**	**14 25 21.2**	**+0.2**
VLI				*e*Sn	**Sn**	**14 25 40.3**	**+1.3**
VLI	**Veliai**	**1.41**	**66**	P	**Pn**	**14 25 21.0**	**+0.6**
VLI				S	**Sn**	**14 25 40.7**	**+1.7**
VLX	**Vlachokerasia**	**1.47**	**34**	*e*PN	**Pn**	**14 25 22.2**	**+0.8**
VLX				*e*SN	**Sn**	**14 25 41.9**	**+1.1**
VLX	**Vlachokerasia**	**1.47**	**34**	*e*Pn	**Pn**	**14 25 22.2**	**+0.8**
VLX				*e*Sn	**Sn**	**14 25 41.9**	**+1.1**
VLX	**Vlachokerasia**	**1.47**	**34**	P	**Pn**	**14 25 22.1**	**+0.7**
VLX				S	**Sn**	**14 25 43.2**	**+2.4**
ZKS	**Zakynthos**	**1.60**	**344**	*e*PN	**Pn**	**14 25 24.4**	**+1.4**
ZKS				*e*SN	**Sg**	**14 25 46.3**	**+0.3**
ZKS	**Zakynthos**	**1.60**	**344**	P	**Pn**	**14 25 24.0**	**+1.0**
ZKS	**Zakynthos**	**1.60**	**344**	*e*Pn	**Pn**	**14 25 24.4**	**+1.4**
ZKS				*e*Sn	**Sg**	**14 25 46.3**	**+0.3**
ZKS	**Zakynthos**	**1.60**	**344**	P	**Pn**	**14 25 24.0**	**+1.0**
ANKY	**Antikythira Is**	**1.62**	**100**	*e*PN	**Pg**	**14 25 25.6**	**-0.1**
ANKY	**Antikythira Is**	**1.62**	**100**	P	**Pg**	**14 25 25.3**	**-0.4**
ANKY	**Antikythira Is**	**1.62**	**100**	*e*Pn	**Pg**	**14 25 25.6**	**-0.1**
ANKY	**Antikythira Is**	**1.62**	**100**	P	**Pg**	**14 25 25.3**	**-0.4**
DRO	**Drossia**	**1.81**	**9**	*e*PN	**Pb**	**14 25 28.1**	**+0.1**
DRO	**Drossia**	**1.81**	**9**	*e*Pn	**Pb**	**14 25 28.1**	**+0.1**
DRO	**Drossia**	**1.81**	**9**	P	**Pb**	**14 25 28.4**	**+0.4**
DRO	**Drossia**	**1.81**	**9**	P	**Pb**	**14 25 28.4**	**+0.4**
RLS	**Riolos of Patr**	**1.90**	**3**	*e*PN	**Pn**	**14 25 28.9**	**+1.8**
RLS	**Riolos of Patr**	**1.90**	**3**	*e*Pn	**Pn**	**14 25 28.9**	**+1.8**
KRND	**KRANIDI**	**1.90**	**49**	*e*PN	**Pn**	**14 25 28.6**	**+1.4**
KRND	**KRANIDI**	**1.90**	**49**	P	**Pn**	**14 25 28.5**	**+1.4**
KRND	**KRANIDI**	**1.90**	**49**	P	**Pn**	**14 25 28.6**	**+1.4**
GUR	**Goura**	**1.95**	**24**	*e*PN	**Pn**	**14 25 29.7**	**+1.8**
GUR	**Goura**	**1.95**	**24**	*e*Pn	**Pn**	**14 25 29.7**	**+1.8**
GUR	**Goura**	**1.95**	**24**	P	**Pb**	**14 25 30.3**	**0.0**
GUR	**Goura**	**1.95**	**24**	P	**Pb**	**14 25 30.3**	**0.0**
GUR				S	**Sb**	**14 25 55.4**	**+0.7**
KLV	**Kalavryta, Ach**	**1.99**	**19**	*e*PN	**Pb**	**14 25 30.5**	**-0.5**
KLV	**Kalavryta, Ach**	**1.99**	**19**	*e*Pn	**Pb**	**14 25 30.5**	**-0.5**
KLV	**Kalavryta, Ach**	**1.99**	**19**	P	**Pb**	**14 25 30.7**	**-0.3**
KFL	**Anninata**	**2.00**	**348**	P	**Pn**	**14 25 30.4**	**+1.9**
KFL	**Anninata**	**2.00**	**348**	P	**Pn**	**14 25 30.4**	**+1.9**
DIDY	**Didyma**	**2.00**	**48**	*e*PN	**Pn**	**14 25 29.8**	**+1.2**
DIDY	**Didyma**	**2.00**	**48**	*e*Pn	**Pn**	**14 25 29.8**	**+1.2**
DIDY	**Didyma**	**2.00**	**48**	P	**Pn**	**14 25 29.7**	**+1.2**
DID	**Didima**	**2.03**	**48**	*e*PB	**Pn**	**14 25 29.9**	**+0.9**
DID	**Didima**	**2.03**	**48**	*e*Pb	**Pn**	**14 25 29.9**	**+0.9**
DID	**Didima**	**2.03**	**48**	P	**Pn**	**14 25 30.2**	**+1.2**
DID	**Didima**	**2.03**	**48**	P	**Pn**	**14 25 30.2**	**+1.2**
VLS	**Valsamata**	**2.10**	**344**	*e*PN	**Pn**	**14 25 32.4**	**+2.5**
VLS	**Valsamata**	**2.10**	**344**	*e*Pn	**Pn**	**14 25 32.4**	**+2.5**
LAKA	**Lakka**	**2.14**	**14**	*e*PN	**Pb**	**14 25 32.8**	**-0.7**
LAKA	**Lakka**	**2.14**	**14**	*e*Pn	**Pb**	**14 25 32.8**	**-0.7**
LAKA	**Lakka**	**2.14**	**14**	P	**Pb**	**14 25 33.1**	**-0.4**
LAKA	**Lakka**	**2.14**	**14**	P	**Pb**	**14 25 33.1**	**-0.4**
THAL	**Thalero**	**2.15**	**29**	*e*PB	**Pn**	**14 25 31.8**	**+1.2**
THAL	**Thalero**	**2.15**	**29**	*e*Pb	**Pn**	**14 25 31.8**	**+1.2**
LOUT	**Loutraki**	**2.25**	**35**	*e*PN	**Pn**	**14 25 33.8**	**+1.9**
LOUT	**Loutraki**	**2.25**	**35**	*e*Pn	**Pn**	**14 25 33.8**	**+1.9**
LTK	**Loutraki**	**2.27**	**35**	*e*PN	**Pn**	**14 25 33.8**	**+1.5**
LTK	**Loutraki**	**2.27**	**35**	*e*Pn	**Pn**	**14 25 33.8**	**+1.5**
LTK	**Loutraki**	**2.27**	**35**	P	**Pn**	**14 25 33.7**	**+1.5**
TRIZ	**Trizonia**	**2.28**	**15**	*e*PN	**Pb**	**14 25 35.7**	**-0.2**
TRIZ	**Trizonia**	**2.28**	**15**	*e*Pn	**Pb**	**14 25 35.7**	**-0.2**
EFP	**Efpalio**	**2.31**	**11**	*e*PN	**Pb**	**14 25 35.3**	**-1.1**
EFP	**Efpalio**	**2.31**	**11**	*e*Pn	**Pb**	**14 25 35.3**	**-1.1**
EFP	**Efpalio**	**2.31**	**11**	P	**Pb**	**14 25 35.6**	**-0.8**
EFP	**Efpalio**	**2.31**	**11**	P	**Pb**	**14 25 35.6**	**-0.8**
KALE	**Kalithea**	**2.32**	**16**	*e*PN	**Pb**	**14 25 35.9**	**-0.7**
KALE	**Kalithea**	**2.32**	**16**	P	**Pb**	**14 25 35.7**	**-0.9**
KALE	**Kalithea**	**2.32**	**16**	P	**Pb**	**14 25 35.7**	**-0.9**
PDO	**Prodromos**	**2.44**	**357**	P	**Pn**	**14 25 37.0**	**+2.4**
PDO	**Prodromos**	**2.44**	**357**	P	**Pn**	**14 25 37.0**	**+2.4**
DSF	**Desfina**	**2.44**	**23**	*e*PN	**Pn**	**14 25 36.1**	**+1.4**
DSF	**Desfina**	**2.44**	**23**	*e*Pn	**Pn**	**14 25 36.1**	**+1.4**
DSF	**Desfina**	**2.44**	**23**	P	**Pn**	**14 25 36.0**	**+1.4**
DESF	**Desfina**	**2.44**	**23**	*e*PN	**Pn**	**14 25 36.1**	**+1.4**
DESF	**Desfina**	**2.44**	**23**	*e*Pn	**Pn**	**14 25 36.1**	**+1.4**
VAM	**Vamos**	**2.45**	**107**	*e*PN	**Pn**	**14 25 36.9**	**+2.2**
VAM	**Vamos**	**2.45**	**107**	*e*Pn	**Pn**	**14 25 36.9**	**+2.2**
ATH	**Athens Observa**	**2.63**	**46**	*e*PN	**Pn**	**14 25 38.0**	**+0.9**
ATH	**Athens Observa**	**2.63**	**46**	*e*Pn	**Pn**	**14 25 38.0**	**+0.9**
EVR	**Evrytania**	**2.78**	**8**	*e*PB	**Pb**	**14 25 42.7**	**-1.8**
EVR	**Evrytania**	**2.78**	**8**	*e*Pb	**Pb**	**14 25 42.7**	**-1.8**
AXAR	**Agios Charalam**	**2.81**	**22**	*e*PB	**Pn**	**14 25 42.2**	**+2.5**
AXAR	**Agios Charalam**	**2.81**	**22**	*e*Pb	**Pn**	**14 25 42.2**	**+2.5**
LKR	**Lokris**	**2.82**	**28**	*e*PN	**Pn**	**14 25 40.7**	**+0.9**
LKR	**Lokris**	**2.82**	**28**	*e*Pn	**Pn**	**14 25 40.7**	**+0.9**
ATAL	**Atalanti**	**2.86**	**27**	P	**Pn**	**14 25 41.7**	**+1.3**
ATAL	**Atalanti**	**2.86**	**27**	P	**Pn**	**14 25 41.7**	**+1.3**
MAKR	**Makrakomi, Fth**	**2.92**	**12**	*e*PB	**Pn**	**14 25 43.8**	**+2.6**
MAKR	**Makrakomi, Fth**	**2.92**	**12**	*e*Pb	**Pn**	**14 25 43.8**	**+2.6**
AGG	**Agios Georgios**	**2.97**	**15**	*e*PN	**Pn**	**14 25 44.2**	**+2.4**
AGG	**Agios Georgios**	**2.97**	**15**	*e*Pn	**Pn**	**14 25 44.2**	**+2.4**
AGG	**Agios Georgios**	**2.97**	**15**	P	**Pn**	**14 25 44.3**	**+2.4**
DSL	**Palaion Diasel**	**2.98**	**356**	*e*PN	**Pn**	**14 25 44.4**	**+2.4**
DSL	**Palaion Diasel**	**2.98**	**356**	P	**Pn**	**14 25 44.4**	**+2.4**
DSL	**Palaion Diasel**	**2.98**	**356**	P	**Pn**	**14 25 44.4**	**+2.4**
IDI	**Anoyia**	**3.02**	**106**	Pn	**Pn**	**14 25 44.1**	**+1.4**
	1.3nm,0.3s,baz=323,slow=20,SNR=10.0						
IDI				Sn	**Sn**	**14 26 18.6**	**-0.3**
	1.8nm,0.3s,baz=253,slow=18,SNR=5.4						
IDI	**Anoyia**	**3.02**	**106**	*e*PN	**Pn**	**14 25 44.4**	**+1.8**
IDI	**Anoyia**	**3.02**	**106**	*e*Pn	**Pn**	**14 25 44.4**	**+1.8**
IDI	**Anoyia**	**3.02**	**106**	P	**Pn**	**14 25 44.3**	**+1.7**
MRKA	**Markates**	**3.11**	**35**	P	**Pn**	**14 25 44.6**	**+0.8**
MRKA	**Markates**	**3.11**	**35**	P	**Pn**	**14 25 44.6**	**+0.8**
THL	**Klokotos Trika**	**3.44**	**9**	*e*PN	**Pn**	**14 25 50.4**	**+2.1**
THL	**Klokotos Trika**	**3.44**	**9**	*e*Pn	**Pn**	**14 25 50.4**	**+2.1**
NEO	**Neokhori**	**3.48**	**25**	*e*PN	**Pn**	**14 25 50.6**	**+1.7**
NEO	**Neokhori**	**3.48**	**25**	*e*Pn	**Pn**	**14 25 50.6**	**+1.7**
NEST	**Nestorio**	**4.25**	**357**	P	**Pn**	**14 26 02.5**	**+2.9**
NEST	**Nestorio**	**4.25**	**357**	P	**Pn**	**14 26 02.5**	**+2.9**
FINES	**FINESS Array B**	**25.48**	**5**	P	**P**	**14 30 21.5**	**-1.2**
	2.8nm,1.0s,baz=181,slow=12,SNR=4.1						
TORD	**Torodi Ar. Bea**	**28.93**	**223**	P	P	14 31 05.2	+11
	0.2nm,0.6s,baz=54,slow=7.3,SNR=2.5						
GEYT	**Aliveri**	**29.29**	**75**	P	**P**	**14 30 55.9**	**-1.4**
	0.9nm,0.3s,baz=268,slow=10,SNR=3.2						
ARCES	**ARCESS Array B**	**33.51**	**3**	P	**P**	**14 31 33.5**	**-0.5**
	0.9nm,0.9s,baz=174,slow=10.0,SNR=3.0						
MKAR	**Makanchi Array**	**45.83**	**57**	P	**P**	**14 33 15.8**	**-1.0**
	1.0nm,0.4s,baz=271,slow=7.4,SNR=27						
ZALV	**Zalesovo Beam**	**46.58**	**47**	P	**P**	**14 33 20.9**	**-1.6**
	1.7nm,0.4s,baz=272,slow=9.0,SNR=8.3						
CMAR	**Chiang Mai Arr**	**69.53**	**82**	P	**P**	**14 36 03.3**	**-0.7**
	0.3nm,0.5s,baz=317,slow=8.6,SNR=3.0						

*IDC **18** 14:26:53.9±0.8, 6°.31S×151°.10E, h0km, mb4.2/15, mb1 4.3/17, mb1mx4.3/22, mbtmp4.3/17, ML2.7/2, Error ellipse: s-maj=32.5km s-min=13.8km az=100.0*
*ISCJB **18** 14:26:59.1±0.5, 6°.18S±0°.06×150°.63E±0°.09, h36km, mb4.2/14, Error ellipse: s-maj=14.3km s-min=6.0km az=25.0*
*NEIC **18** 14:27:00.0±1.9, 6°.30S×150°.95E, h40km±15km, mb4.5/3, Error ellipse: s-maj=21.3km s-min=9.0km az=96.0*

ISC 18 14:27:00.4±0.6, 6°.25S±0°.08×150°.8E±0°.1, h36km, n40, σ1§47/46, mb4.3/16, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.44**	**33**	P	**Pn**	**14 27 39.4**	**+1.6**
	baz=2.3,SNR=21						
PMG	**Port Moresby**	**4.80**	**229**	Pn	**Pn**	**14 28 11.3**	**+1.1**
	2.3nm,0.3s,baz=31,slow=8.4,SNR=4.6						
PMG				Sn	**Sn**	**14 29 04.0**	**-0.6**
	13nm,0.3s,baz=106,slow=23,SNR=8.4						
PMG	**Port Moresby**	**4.80**	**229**	P	**Pn**	**14 28 12.5**	**+2.3**
	baz=5.0,SNR=12						
PMG				P	**Pn**	**14 28 12.5**	**+2.3**
	baz=5.0,SNR=12						
PMG				P	**Pn**	**14 28 12.5**	**+2.3**
	baz=5.0,SNR=12						
PMG	**Port Moresby**	**4.80**	**229**	*e*P	**Pn**	**14 28 11.7**	**+1.5**
PMG				Sn	**Sn**	**14 29 04.0**	**-0.6**
MANU	**Manus Island**	**5.42**	**320**	P	Pn	14 28 22.6	+3.8
	baz=5.3,SNR=7.8						
CTA	**Charters Tower**	**14.45**	**197**	Pn	**Pn**	**14 30 21.0**	**-1.6**
	0.2nm,0.3s,baz=3.8,slow=15,SNR=2.5						
QIS	**Mount Isa**	**17.91**	**216**	P	**P**	**14 31 09.2**	**+2.1**
	baz=18,SNR=4.4						
KDU	**Kakadu**	**19.20**	**249**	P	**P**	**14 31 20.1**	**-1.2**
	baz=19,SNR=6.1						
RMQ	**Roma**	**20.22**	**185**	P	Pn	14 31 35.2	+0.7
	baz=20,SNR=13						
MTN	**Manton Dam**	**20.49**	**250**	P	**P**	**14 31 34.2**	**-1.2**
	baz=21,SNR=3.7						
GUMO	**Guam**	**20.58**	**343**	P	**P**	**14 31 36.6**	**+0.3**
	36nm,0.6s,baz=190,slow=11,SNR=4.4						
WRAB	**Tennant Creek**	**21.01**	**228**	*e*P	**P**	**14 31 40.2**	**-0.8**
	20nm,0.7s						
WRA	**Warramunga Arr**	**21.02**	**228**	P	**P**	**14 31 40.6**	**-0.5**
	17nm,0.6s,baz=52,slow=9.9,SNR=33						
WRA				PcP	**PcP**	**14 35 46.6**	**-0.9**
	1.0nm,0.8s,baz=63,slow=1.8,SNR=3.9						
WRA				ScP	**ScP**	**14 39 23.9**	**+2.1**
	0.6nm,0.8s,baz=47,slow=2.5,SNR=4.7						
QLP	**Quilpie**	**21.17**	**197**	P	**P**	**14 31 44.5**	**+1.9**
	baz=22,SNR=8.7						
KNRA	**Kununurra**	**23.58**	**245**	P	**P**	**14 32 07.5**	**-0.5**
	baz=24,SNR=12						
AS31	**Alice Springs**	**23.77**	**221**	*e*P	**P**	**14 32 09.7**	**-0.1**
ASAR	**Alice Springs**	**23.77**	**221**	P	**P**	**14 32 09.9**	**+0.1**
	8.7nm,0.8s,baz=58,slow=8.1,SNR=46						
ASAR				PcP	**PcP**	**14 35 54.4**	**+1.4**
	0.5nm,0.9s,baz=12,slow=2.3,SNR=2.7						
ASAR				ScP	**ScP**	**14 39 31.8**	**+3.0**
	0.9nm,0.9s,baz=47,slow=3.8,SNR=5.3						
SOEI	**Soe**	**26.53**	**261**	P	**P**	**14 32 32.2**	**-3.0**
	baz=27,SNR=3.5						
STKA	**Stephens Creek**	**26.92**	**198**	P	**P**	**14 32 37.8**	**-0.5**
	12nm,1.0s,baz=29,slow=14,SNR=11						
STKA	**Stephens Creek**	**26.92**	**198**	P	**P**	**14 32 41.1**	**+2.8**
	baz=27,SNR=9.1						
STKA	**Stephens Creek**	**26.92**	**198**	*e*P	**P**	**14 32 38.4**	**+0.1**
	3.6nm,1.1s						
WRKA	**Warakurna**	**28.54**	**227**	P	**P**	**14 32 52.2**	**-0.8**
	baz=29,SNR=7.3						
MBWA	**Marble Bar**	**33.55**	**241**	*e*P	**P**	**14 33 36.5**	**-0.7**
MEEK	**Meekatharra**	**36.77**	**233**	P	**P**	**14 34 04.1**	**-0.8**
	baz=37,SNR=5.4						
JNU	**Nakatsue**	**43.50**	**335**	P	**P**	**14 35 00.5**	**0.0**
	11nm,0.7s,baz=141,slow=2.6,SNR=11						
MJAR	**Matsushiro Arr**	**44.18**	**345**	P	**P**	**14 35 05.6**	**-0.3**
	0.8nm,0.8s,baz=190,slow=7.1,SNR=4.8						
KSRS	**Korea Array**	**48.45**	**336**	P	**P**	**14 35 38.5**	**-0.8**
	4.0nm,0.8s,baz=150,slow=8.0,SNR=6.4						
KSAR	**Wonju Array Be**	**48.46**	**336**	P	**P**	**14 35 38.5**	**-0.9**
USRK	**Ussuriysk Ar.**	**53.02**	**343**	P	**P**	**14 36 14.3**	**+0.6**
	2.5nm,0.8s,baz=164,slow=9.7,SNR=5.8						
CMAR	**Chiang Mai Arr**	**56.75**	**297**	P	**P**	**14 36 42.1**	**+1.0**
	0.5nm,0.7s,baz=120,slow=5.1,SNR=4.7						
PETK	**Petropavlovsk-**	**59.42**	**5**	P	**P**	**14 36 60.0**	**+0.7**
	2.4nm,0.6s,baz=177,slow=7.5,SNR=11						
SONM	**Songino Array**	**66.53**	**329**	P	**P**	**14 37 47.6**	**+0.9**
	2.1nm,0.5s,baz=147,slow=4.8,SNR=20						
MKAR	**Makanchi Array**	**80.14**	**320**	P	**P**	**14 39 06.7**	**-0.2**
	1.1nm,0.9s,baz=120,slow=4.8,SNR=5.4						
ZALV	**Zalesovo Beam**	**81.28**	**327**	P	**P**	**14 39 11.1**	**-1.6**
	1.3nm,0.6s,baz=122,slow=5.2,SNR=5.4						
MAW	**Mawson**	**83.48**	**203**	P	**P**	**14 39 22.4**	**-1.6**
	1.7nm,0.7s,baz=79,slow=7.1,SNR=4.1						
QSPA	**South Pole Qui**	**83.72**	**180**	*e*P	**P**	**14 39 25.7**	**+0.2**
	6.8nm,1.1s						
ILAR	**Eielson Array**	**84.24**	**22**	P	**P**	**14 39 25.6**	**-2.4**
	0.9nm,0.7s,baz=250,slow=5.1,SNR=8.9						
GERES	**GERESS Array B**	**124.23**	**327**	PKP	**PKPdf**	**14 45 56.1**	**+0.5**
	0.2nm,0.3s,baz=33,slow=2.3,SNR=2.8						
TORD	**Torodi Ar. Bea**	**148.84**	**285**	PKPbc	**PKPdf**	**14 46 43.6**	**+2.2**
	4.5nm,0.7s,baz=65,slow=3.1,SNR=23						
BDFB	**Brasilia**	**151.34**	**140**	PKPbc	**PKPbc**	**14 46 50.5**	**-1.0**
	2.0nm,0.6s,baz=164,slow=3.4,SNR=4.3						

IDC 18 14:31:39.1±3.4, 6°.14S×150°.97E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.3/19, mbtmp3.5/3, ML1.5/1, Error ellipse: s-maj=123.3km s-min=45.2km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.98**	**229**	Pn	Pn	14 32 54.9	-0.4
	1.4nm,0.3s,baz=53,slow=10,SNR=2.4						
PMG				Sn	Sn	14 33 48.6	-5.1
	1.8nm,0.3s,baz=83,slow=16,SNR=2.6						
WRA	**Warramunga Arr**	**21.20**	**228**	P	P	14 36 26.6	0.0
	1.0nm,0.4s,baz=54,slow=10,SNR=6.8						
ASAR	**Alice Springs**	**23.95**	**222**	P	P	14 36 55.8	+0.5
	0.2nm,0.4s,baz=55,slow=9.6,SNR=7.2						
TORD	**Torodi Ar. Bea**	**148.94**	**281**	PKPbc	PKPbc	14 51 29.2	-0.9
	0.1nm,0.3s,baz=96,slow=2.8,SNR=2.6						

*IDC **18** 14:32:50.9±21.0, 52°.77N×170°.11W, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.4/29, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=390.1km s-min=51.7km az=87.0*
*ISCJB **18** 14:32:52.9±1.2, 52°.7N±0°.1×169°.6W±0°.1, h8km±8km, mb3.3/3, Error ellipse: s-maj=24.9km s-min=6.6km az=148.4*
*NEIC **18** 14:32:54.9, 52°.77N×169°.54W, h5km, ML3.4(AEIC), After AEIC.*

ISC 18 14:32:53.6±1.7, 52°.8N±0°.1×169°.73W±0°.08, h6km±10km, n16, σ0§79/21, mb3.3/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.55**	**74**	P	**Pg**	**14 33 04.1**	**-0.1**
NIKH				S	**Sg**	**14 33 11.4**	**0.0**
OKWE	**Okmok W'ng Wal**	**1.11**	**54**	P	**Pg**	**14 33 15.0**	**+0.2**
OKWE				S	**Sg**	**14 33 29.7**	**+0.5**
OKCE	**Okmok Cone E**	**1.12**	**57**	P	**Pg**	**14 33 14.3**	**-0.8**
OKTU	**Okmok Mt. Tuli**	**1.16**	**61**	P	**Pg**	**14 33 15.7**	**-0.1**
OKRE	**Okmok R'deer P**	**1.17**	**53**	P	**Pg**	**14 33 16.2**	**+0.1**
OKRE				S	**Sg**	**14 33 31.7**	**+0.5**
MSOM	**Makushin Julie**	**1.94**	**58**	P	**Pn**	**14 33 27.1**	**+0.1**
MSOM				S	**Sn**	**14 33 52.4**	**+0.8**
MCIR	**Makushin Cirqu**	**2.04**	**55**	P	**Pn**	**14 33 29.4**	**+1.0**
MSW	**Makushin Switc**	**2.08**	**57**	P	**Pn**	**14 33 29.6**	**+0.7**
MTBL	**Makushin Table**	**2.16**	**57**	P	**Pn**	**14 33 30.9**	**+0.8**
UNV	**Unalaska Valle**	**2.19**	**61**	P	**Pn**	**14 33 30.5**	**+0.1**
UNV				S	**Sn**	**14 33 57.8**	**0.0**
ATKA	**Atka Island**	**2.80**	**259**	P	**Pn**	**14 33 38.8**	**0.0**
GSCK	**Great Sitkin C**	**4.02**	**261**	P	**Pn**	**14 33 56.7**	**+1.1**
ILAR	**Eielson Array**	**16.70**	**35**	Pn	**Pn**	**14 36 45.6**	**-2.3**
	0.0nm,0.3s,baz=228,slow=11,SNR=3.3						
NVAR	**Mina Array Bea**	**37.89**	**91**	P	**P**	**14 40 11.7**	**+0.2**
	0.5nm,0.9s,baz=308,slow=7.5,SNR=4.2						
PDAR	**Pinedale Array**	**40.53**	**79**	P	**P**	**14 40 33.8**	**+0.3**
	0.2nm,0.4s,baz=318,slow=8.0,SNR=3.9						
TXAR	**Lajitas Array**	**52.96**	**89**	P	**P**	**14 42 10.7**	**-0.1**
	0.7nm,0.8s,baz=296,slow=4.9,SNR=13						

*ISCJB **18** 14:33:29.0±0.7, 52°.8N±0°.1×170°.0W±0°.1, h10km, mb3.7/6, Error ellipse: s-maj=20.3km s-min=6.0km az=152.1*
*IDC **18** 14:33:29.0±1.1, 52°.62N×170°.04W, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.6/31, mbtmp3.7/8, ML3.1/2, Error ellipse: s-maj=41.0km s-min=21.0km az=161.0*
*NEIC **18** 14:33:30.5±0.8, 52°.83N×169°.93W, h10km, mb3.9/1, Error ellipse: s-maj=24.3km s-min=9.7km az=159.0*

ISC 18 14:33:30.7±1.0, 52°.8N±0°.2×169°.85W±0°.09, h10km, n20, σ1§17/18, mb3.8/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.62**	**76**	P	**Pg**	**14 33 42.3**	**-0.5**
NIKH				S	**Sg**	**14 33 49.4**	**-1.5**
OKWR	**Okmok West Rim**	**1.16**	**58**	P	**Pb**	**14 33 53.0**	**0.0**
OKWR				S	**Sb**	**14 34 08.0**	**-0.1**
OKWE	**Okmok W'ng Wal**	**1.17**	**56**	P	**Pn**	**14 33 52.6**	**-0.5**
OKWE				S	**Sb**	**14 34 07.8**	**-0.3**
OKRE	**Okmok R'deer P**	**1.23**	**55**	P	**Pn**	**14 33 53.8**	**-0.2**
OKRE				S	**Sb**	**14 34 09.5**	**-0.5**
BPAW	**Bear Paw Mtn.**	**14.92**	**33**	*e*P	**P**	**14 37 07.3**	**+0.1**
	0.5nm,0.6s						
ILAR	**Eielson Array**	**16.74**	**35**	Pn	**Pn**	**14 37 24.9**	**-0.2**
	0.1nm,0.3s,baz=220,slow=10,SNR=6.5						
PETK	**Petropavlovsk-**	**19.46**	**284**	P	**P**	**14 37 57.0**

ellipse: s-maj=16.7km s-min=11.2km az=111.0

ISC 18 14:36:10.1±0.6,**6°24S**±0.09×**150°5E**±0.1,**h48km**,**n35**,
σ1°15/40,**mb4.1/7**,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.61**	**39**	P	**Pn**	**14 36 50.2**	**+0.4**
	baz=2.6,SNR=9.0						
PMG	**Port Moresby**	**4.59**	**227**	Pn	**Pn**	**14 37 18.3**	**+1.3**
	10nm,0.3s,baz=99,slow=2.4,SNR=16						
PMG				Sn	**Sn**	**14 38 07.0**	**-2.0**
	36nm,0.3s,baz=110,slow=19,SNR=16						
PMG	**Port Moresby**	**4.59**	**227**	P	**Pn**	**14 37 18.4**	**+1.4**
	baz=4.7,SNR=5.8						
PMG				P	**Pn**	**14 37 18.4**	**+1.4**
	baz=4.7,SNR=5.8						
PMG				P	**Pn**	**14 37 18.4**	**+1.4**
	baz=4.7,SNR=5.8						
PMG	**Port Moresby**	**4.59**	**227**	Pn	**Pn**	**14 37 18.3**	**+1.3**
PMG				Sn	**Sn**	**14 38 07.0**	**-2.0**
PMG				*e*Sn	Sn	14 38 07.5	-1.5
MTSU	**Mount Surprise**	**13.28**	**207**	P	**Pn**	**14 39 16.5**	**+0.4**
	baz=13,SNR=6.1						
CTA	**Charters Tower**	**14.38**	**196**	Pn	**Pn**	**14 39 31.0**	**+0.1**
	0.4nm,0.3s,baz=18,slow=16,SNR=4.3						
CTAO	**Charters Tower**	**14.38**	**196**	*e*P	**Pn**	**14 39 31.4**	**+0.5**
	12nm,0.8s						
QIS	**Mount Isa**	**17.74**	**216**	P	**P**	**14 40 18.3**	**+4.2**
	baz=18,SNR=4.4						
KDU	**Kakadu**	**18.92**	**249**	P	**P**	**14 40 26.4**	**-0.7**
	baz=19,SNR=6.6						
EIDS	**Eidsvold**	**19.03**	**178**	P	**Pn**	**14 40 28.8**	**-0.5**
	baz=19,SNR=3.6						
EIDS	**Eidsvold**	**19.03**	**178**	*e*P	**Pn**	**14 40 28.7**	**-0.5**
RMQ	**Roma**	**20.20**	**185**	P	Pn	14 40 42.3	-1.0
	baz=20,SNR=48						
MTN	**Manton Dam**	**20.21**	**250**	P	**P**	**14 40 40.6**	**-0.7**
	baz=20,SNR=5.3						
WRAB	**Tennant Creek**	**20.79**	**228**	*e*P	**P**	**14 40 47.0**	**-0.5**
	7.5nm,0.7s						
WRA	**Warramunga Arr**	**20.81**	**228**	P	**P**	**14 40 46.9**	**-0.7**
	5.2nm,0.6s,baz=52,slow=11,SNR=25						
WRA				PcP	**PcP**	**14 44 54.8**	**-0.6**
	0.8nm,0.7s,baz=45,slow=2.6,SNR=4.8						
QLP	**Quilpie**	**21.10**	**196**	P	**P**	**14 40 51.0**	**+0.3**
	baz=21,SNR=22						
DZM	**Mont Dzumac**	**22.00**	**137**	P	**P**	**14 41 00.7**	**+0.3**
	8.1nm,0.7s,baz=270,slow=20,SNR=7.7						
DZM	**Mont Dzumac**	**22.00**	**137**	*e*P	**P**	**14 41 01.6**	**+1.2**
KNRA	**Kununurra**	**23.32**	**245**	P	**P**	**14 41 14.5**	**+0.4**
	baz=23,SNR=8.3						
AS31	**Alice Springs**	**23.58**	**221**	*e*P	**P**	**14 41 16.8**	**+0.1**
ASAR	**Alice Springs**	**23.58**	**221**	P	**P**	**14 41 16.4**	**-0.2**
	3.6nm,0.4s,baz=54,slow=9.2,SNR=76						
ASAR				PcP	**PcP**	**14 45 01.0**	**+0.1**
	0.4nm,0.7s,baz=49,slow=2.8,SNR=2.8						
CMSA	**Cobar Meteorol**	**25.57**	**190**	P	**P**	**14 41 34.0**	**-0.6**
	baz=26,SNR=9.5						
STKA	**Stephens Creek**	**26.84**	**197**	P	**P**	**14 41 45.1**	**-1.0**
	9.4nm,0.7s,baz=1.9,slow=9.2,SNR=19						
STKA	**Stephens Creek**	**26.84**	**197**	P	**P**	**14 41 45.3**	**-0.8**
	baz=27,SNR=16						
STKA	**Stephens Creek**	**26.84**	**197**	*e*P	**P**	**14 41 45.1**	**-1.0**
	2.0nm,0.8s						
WRKA	**Warakurna**	**28.33**	**226**	P	**P**	**14 41 58.8**	**-0.8**
	baz=28,SNR=8.2						
HTT	**Hallett**	**29.12**	**200**	P	**P**	**14 42 06.7**	**+0.1**
	baz=29,SNR=3.5						
MEEK	**Meekatharra**	**36.54**	**233**	P	**P**	**14 43 11.0**	**-0.4**
	baz=37,SNR=5.2						
SONM	**Songino Array**	**66.37**	**329**	P	**P**	**14 46 55.8**	**+1.6**
	0.2nm,0.3s,baz=130,slow=3.0,SNR=2.3						
VNDA	**Vanda**	**71.49**	**177**	P	**P**	**14 47 25.7**	**+0.4**
	2.0nm,0.7s,baz=329,slow=6.4,SNR=8.8						
MAW	**Mawson**	**83.38**	**203**	P	**P**	**14 48 31.6**	**-0.3**
	1.0nm,0.8s,baz=0.0,slow=4.0,SNR=3.9						
ILAR	**Eielson Array**	**84.34**	**22**	P	**P**	**14 48 36.5**	**-0.3**
	0.3nm,0.9s,baz=238,slow=3.1,SNR=2.8						
GERES	**GERESS Array B**	**124.06**	**327**	PKP	**PKPdf**	**14 55 02.6**	**-0.8**
	0.4nm,0.6s,baz=12,slow=6.0,SNR=4.7						
TORD	**Torodi Ar. Bea**	**148.55**	**285**	PKPbc	**PKPbc**	**14 55 52.4**	**-0.4**
	1.4nm,0.7s,baz=63,slow=3.2,SNR=8.1						
BDFB	**Brasilia**	**151.53**	**140**	PKPbc	**PKPbc**	**14 55 59.2**	**-0.9**
	1.6nm,0.4s,baz=262,slow=3.9,SNR=3.1						

*IDC **18** 14:36:43.3±14.0, 52°.62N×170°.27W, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.5/31, mbtmp3.5/6, ML3.2/1, Error ellipse: s-maj=262.3km s-min=49.2km az=89.0*
*ISCJB **18** 14:36:46.4±0.8, 52°.7N±0°.1×169°.7W±0°.1, h10km, mb3.5/5, Error ellipse: s-maj=20.8km s-min=6.2km az=145.0*
*NEIC **18** 14:36:47.1, 52°.80N×169°.60W, h4km, mb3.6/2, ML3.5(AEIC), After AEIC.*

IDC 18 14:36:46.2±1.0,**52°.9N**±0°.2×**169°.89W**±0°.08,**h10km**,**n24**,
σ1°12/23,**mb3.5**/5,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.64**	**78**	P	**Pg**	**14 36 57.5**	**-1.1**
NIKH				S	**Sg**	**14 37 05.3**	**-1.6**
OKSP	**Okmok Steeple**	**1.04**	**67**	P	**Pb**	**14 37 05.4**	**-1.0**
OKWE	**Okmok W'ng Wal**	**1.17**	**57**	P	**Pn**	**14 37 08.1**	**-0.5**
OKWE				S	**Sb**	**14 37 23.1**	**-0.7**
OKTU	**Okmok Mt. Tuli**	**1.23**	**64**	P	**Pn**	**14 37 09.0**	**-0.6**
OKRE	**Okmok R'deer P**	**1.24**	**56**	P	**Pn**	**14 37 09.4**	**-0.1**
OKRE				S	**Sb**	**14 37 24.3**	**-1.3**
MSOM	**Makushin Julie**	**2.01**	**60**	P	**Pn**	**14 37 20.7**	**+0.6**
MSOM				S	**Sn**	**14 37 46.2**	**+0.9**
MGOD	**Makushin Gods**	**2.04**	**61**	P	**Pn**	**14 37 20.8**	**+0.2**
MSW	**Makushin Switc**	**2.14**	**59**	P	**Pn**	**14 37 22.8**	**+0.8**
UNV	**Unalaska Valle**	**2.26**	**62**	*e*P	**Pn**	**14 37 24.0**	**+0.4**
UNV				S	**Sn**	**14 37 51.5**	**+0.1**
ATKA	**Atka Island**	**2.71**	**258**	P	**Pb**	**14 37 33.1**	**-1.6**
ILAR	**Eielson Array**	**16.74**	**36**	Pn	**Pn**	**14 40 40.8**	**+0.3**
	0.0nm,0.3s,baz=231,slow=8.7,SNR=3.5						
HYT	**Haines Junctio**	**19.25**	**53**	*e*P	**P**	**14 41 11.4**	**+0.8**
	3.1nm,1.0s						
DLBC	**Dease Lake**	**22.91**	**60**	P	**P**	**14 41 52.2**	**+2.2**
	3.0nm,1.0s,baz=272,slow=10,SNR=7.1						
DLBC	**Dease Lake**	**22.91**	**60**	*e*P	**P**	**14 41 52.3**	**+2.2**
	1.7nm,0.8s						
NEW	**Newport**	**33.20**	**76**	P	**P**	**14 43 22.6**	**-0.2**
	1.0nm,0.6s,baz=346,slow=5.1,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**37.64**	**217**	T	T	15 22 46.5	
	baz=28						
H11N3	**WAKE ISLAND Hy**	**37.65**	**217**	T	T	15 22 45.1	
	baz=28						
H11N1	**WAKE ISLAND Hy**	**37.66**	**217**	T	T	15 22 47.6	
	baz=28						
NVAR	**Mina Array Bea**	**37.99**	**91**	P	**P**	**14 44 05.5**	**+1.2**
	0.7nm,0.8s,baz=302,slow=7.3,SNR=5.3						
H11S1	**WAKE ISLAND Hy**	**38.83**	**217**	T	T	15 24 16.3	
	baz=20						
H11S2	**WAKE ISLAND Hy**	**38.84**	**217**	T	T	15 24 15.7	
	baz=20						
H11S3	**WAKE ISLAND Hy**	**38.85**	**217**	T	T	15 24 16.9	
	baz=20						
PDAR	**Pinedale Array**	**40.62**	**79**	P	**P**	**14 44 26.5**	**+0.2**
	0.3nm,0.7s,baz=325,slow=6.8,SNR=3.6						
TXAR	**Lajitas Array**	**53.05**	**89**	P	**P**	**14 46 04.2**	**+0.7**
	0.4nm,0.6s,baz=295,slow=5.9,SNR=6.8						

*IDC **18** 14:37:29.0±0.9, 52°.81N×170°.00W, h0km, mb4.1/10, mb1 4.3/12, mb1mx3.9/34, mbtmp4.1/12, ML3.4/2, Error ellipse: s-maj=28.1km s-min=17.3km az=171.0*
*NEIC **18** 14:37:30.6, 52°.70N×169°.64W, h5km, mb4.1/5, ML3.6(AEIC), After AEIC.*
*ISCJB **18** 14:37:31.1±1.0, 52°.81N±0°.09×169°.80W±0°.07, h17km±7km, mb4.1/14, Error ellipse: s-maj=16.0km s-min=5.8km az=161.0*

ISC 18 14:37:30.7±1.5,**52°.91N**±0°.09×**169°.80W**±0°.05,**h8km**±10km,
n40,σ1°14/38,**mb4.1**/14,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.58**	**83**	P	**Pg**	**14 37 41.8**	**-0.1**
NIKH				S	**Sg**	**14 37 49.5**	**+0.1**
OKAK	**Okmok**	**1.10**	**52**	P	**Pg**	**14 37 50.6**	**-1.1**
OKWE	**Okmok W'ng Wal**	**1.10**	**58**	P	**Pb**	**14 37 52.2**	**+0.3**
OKCE	**Okmok Cone E**	**1.11**	**62**	P	**Pg**	**14 37 52.0**	**-0.1**
OKCE				S	**Sb**	**14 38 07.7**	**+0.8**
OKRE	**Okmok R'deer P**	**1.16**	**57**	P	**Pn**	**14 37 53.7**	**+0.4**
MSOM	**Makushin Julie**	**1.94**	**61**	P	**Pb**	**14 38 05.3**	**-0.9**
MSOM				S	**Sb**	**14 38 30.2**	**-0.3**
MGOD	**Makushin Gods**	**1.97**	**62**	P	**Pn**	**14 38 05.5**	**+1.1**
MSW	**Makushin Switc**	**2.07**	**60**	P	**Pn**	**14 38 07.0**	**+1.2**
MSW				S	**Sb**	**14 38 34.4**	**0.0**
UNV	**Unalaska Valle**	**2.19**	**63**	P	**Pn**	**14 38 08.2**	**+0.9**
UNV				S	**Sn**	**14 38 35.7**	**+1.1**
AKUT	**Akutan**	**2.70**	**61**	*e*Pn	Pn	14 38 07.7	-6.7
ATKA	**Atka Island**	**2.77**	**257**	P	**Pn**	**14 38 16.7**	**+1.4**
GSTR	**Great Sitkin T**	**3.91**	**260**	P	**Pn**	**14 38 33.1**	**+2.1**
GSMY	**Great Sitkin M**	**3.92**	**260**	P	**Pn**	**14 38 32.7**	**+1.6**
FALS	**False Pass**	**4.25**	**60**	P	**Pn**	**14 38 37.6**	**+1.9**
SPIA	**Saint Paul Isl**	**4.29**	**357**	P	**Pn**	**14 38 38.2**	**+2.1**
ILAR	**Eielson Array**	**16.66**	**36**	Pn	**Pn**	**14 41 24.2**	**-0.1**
	0.1nm,0.3s,baz=226,slow=11,SNR=14						
PETK	**Petropavlovsk-**	**19.47**	**284**	P	**P**	**14 41 55.8**	**-1.9**
	0.2nm,0.3s,baz=91,slow=14,SNR=3.2						
SEY	**Seymchan**	**22.11**	**312**	P	**P**	**14 42 26.6**	**+0.4**
	3.2nm,0.8s,baz=98,slow=7.9,SNR=7.6						
DLBC	**Dease Lake**	**22.84**	**60**	P	**P**	**14 42 36.1**	**+2.1**
	9.7nm,0.8s,baz=279,slow=10,SNR=20						
INK	**Inuvik**	**23.05**	**34**	P	**P**	**14 42 35.1**	**-0.8**
	2.8nm,0.6s,baz=211,slow=12,SNR=5.4						
YKA	**Yellowknife Ar**	**30.09**	**50**	P	**P**	**14 43 40.3**	**+0.2**
	1.1nm,0.6s,baz=268,slow=7.9,SNR=3.7						
NEW	**Newport**	**33.14**	**76**	P	**P**	**14 44 07.8**	**+0.6**
	3.5nm,0.6s,baz=298,slow=7.5,SNR=11						
NEW	**Newport**	**33.14**	**76**	*e*P	**P**	**14 44 07.9**	**+0.7**
	3.4nm,0.8s						
BSMT	**Bassoo Peak**	**34.71**	**76**	*e*P	**P**	**14 44 21.7**	**+0.7**
	2.9nm,1.0s						
MCMT	**McKenzie Canyo**	**37.43**	**79**	*e*P	**P**	**14 44 44.2**	**-0.1**
	1.6nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**37.72**	**218**	T	T	15 24 29.8	
	baz=25						
H11N3	**WAKE ISLAND Hy**	**37.72**	**217**	T	T	15 24 28.7	
	baz=25						
H11N1	**WAKE ISLAND Hy**	**37.73**	**218**	T	T	15 24 28.7	
	baz=25						
NVAR	**Mina Array Bea**	**37.94**	**91**	P	**P**	**14 44 50.0**	**+1.3**
	3.2nm,0.8s,baz=298,slow=8.4,SNR=22						
H11S1	**WAKE ISLAND Hy**	**38.91**	**217**	T	T	15 25 57.7	
	baz=20						
H11S2	**WAKE ISLAND Hy**	**38.92**	**217**	T	T	15 25 58.2	
	baz=20						
H11S3	**WAKE ISLAND Hy**	**38.93**	**217**	T	T	15 25 57.7	
	baz=20						
PDAR	**Pinedale Array**	**40.56**	**79**	P	**P**	**14 45 10.9**	**+0.3**
	1.2nm,0.6s,baz=319,slow=5.0,SNR=11						
WUAZ	**Wupatki**	**44.04**	**89**	*e*P	**P**	**14 45 40.0**	**+1.1**
	9.5nm,1.2s						
ULM	**Lac du Bonnet**	**44.13**	**62**	P	**P**	**14 45 38.5**	**-0.7**
	1.5nm,0.5s,baz=343,slow=6.3,SNR=3.1						
WMOK	**Wichita Mounta**	**52.15**	**80**	*e*P	**P**	**14 46 41.2**	**-0.3**
	2.2nm,1.1s						
TXAR	**Lajitas Array**	**53.00**	**89**	P	**P**	**14 46 48.3**	**+0.4**
	3.1nm,0.8s,baz=301,slow=5.5,SNR=22						
ASAR	**Alice Springs**	**90.54**	**230**	P	**P**	**14 50 32.1**	**-0.9**
	2.2nm,0.8s,baz=32,slow=5.5,SNR=4.6						
MAW	**Mawson**	**151.13**	**219**	PKPbc	**PKPbc**	**14 57 22.5**	**-0.3**
	1.2nm,0.5s,baz=0.0,slow=2.9,SNR=3.4						
BOSA	**Boshof**	**153.29**	**329**	PKPbc	**PKPbc**	**14 57 26.9**	**-2.2**
	2.4nm,1.2s,baz=3.3,slow=16,SNR=3.7						

IDC 18 14:38:09.2±3.8,**5°83S**±150°94E,**h0km**,**mb3.4**/2,
mb1 3.7/2,**mb1mx3.3**/39,**mbtmp3.5**/2,**Error ellipse: s-maj=152.6km s-min=50.1km az=118.0**,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.16**	**226**	Sn	Sn	14 40 23.2	-4.9
	3.5nm,0.3s,baz=129,slow=17,SNR=3.2						
WRA	**Warramunga Arr**	**21.38**	**227**	P	P	14 42 58.2	-0.4
	1.0nm,0.5s,baz=54,slow=10,SNR=4.5						
ASAR	**Alice Springs**	**24.15**	**221**	P	P	14 43 27.5	+0.2
	0.8nm,0.8s,baz=54,slow=8.5,SNR=2.8						
TORD	**Torodi Ar. Bea**	**148.83**	**286**	PKPbc	PKPbc	14 57 59.4	-0.5
	0.9nm,0.6s,baz=67,slow=2.6,SNR=5.6						

*ISCJB **18** 14:40:13.6±1.2, 52°.8N±0°.1×169°.76W±0°.10, h6km±7km, mb3.8/10, Error ellipse: s-maj=19.8km s-min=5.8km az=154.3*
*IDC **18** 14:40:13.2±1.0, 52°.84N×169°.96W, h0km, mb3.8/10, mb1 4.1/12, mb1mx3.7/35, mbtmp3.8/12, ML3.2/2, Error ellipse: s-maj=29.3km s-min=17.6km az=172.0*
*NEIC **18** 14:40:15.4±0.6, 52°.97N×169°.81W, h10km, mb3.9/2, ML3.5(AEIC), Error ellipse: s-maj=16.8km s-min=5.9km az=163.0*

ISC 18 14:40:14.3±1.6,**53°.0N**±0°.1×**169°.82W**±0°.05,**h2km**±11km,
n27,σ1°17/33,**mb3.8**/10,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.59**	**89**	P	**Pg**	**14 40 25.4**	**-0.2**
NIKH				S	**Sg**	**14 40 32.7**	**-0.5**
OKAK	**Okmok**	**1.07**	**55**	P	**Pg**	**14 40 34.3**	**-0.5**
OKWE	**Okmok W'ng Wal**	**1.08**	**62**	P	**Pb**	**14 40 35.9**	**+0.3**
OKCE	**Okmok Cone E**	**1.10**	**65**	P	**Pg**	**14 40 35.8**	**+0.5**
OKRE	**Okmok R'deer P**	**1.14**	**60**	P	**Pb**	**14 40 36.8**	**+0.1**
OKRE				S	**Sn**	**14 40 53.2**	**-0.2**
OKTU	**Okmok Mt. Tuli**	**1.15**	**68**	P	**Pn**	**14 40 36.9**	**0.0**
MSOM	**Makushin Julie**	**1.92**	**63**	P	**Pn**	**14 40 48.4**	**+0.5**
MSOM				S	**Sb**	**14 41 14.4**	**+0.1**
MCIR	**Makushin Cirqu**	**2.01**	**60**	P	**Pn**	**14 40 50.4**	**+1.2**
MSW	**Makushin Switc**	**2.05**	**61**	P	**Pn**	**14 40 50.8**	**+1.0**
MSW				S	**Sn**	**14 41 17.3**	**+1.4**
UNV	**Unalaska Valle**	**2.17**	**65**	*e*Pn	**Pn**	**14 40 52.4**	**+1.0**
UNV				S	**Sn**	**14 41 19.9**	**+1.1**
UNV				*e*S	**Sb**	**14 41 20.3**	**-1.3**
ZRO	**Akutan Zero**	**2.56**	**62**	P	**Pn**	**14 40 57.5**	**+0.8**
ATKA	**Atka Island**	**2.78**	**256**	P	**Pn**	**14 41 01.1**	**+1.4**
GSTR	**Great Sitkin T**	**3.91**	**259**	P	**Pn**	**14 41 17.1**	**+1.8**
ILAR	**Eielson Array**	**16.62**	**36**	Pn	**Pn**	**14 44 06.9**	**-1.2**
	0.0nm,0.3s,baz=228,slow=9.9,SNR=4.5						
HYT	**Haines Junctio**	**19.15**	**53**	*e*P	**Pn**	**14 44 40.3**	**+0.8**
	5.4nm,0.8s						
PETK	**Petropavlovsk-**	**19.44**	**283**	P	**P**	**14 44 39.0**	**-2.8**
	0.3nm,0.3s,baz=66,slow=14,SNR=4.7						
SEY	**Seymchan**	**22.06**	**312**	P	**P**	**14 45 11.0**	**+1.0**
	2.5nm,0.8s,baz=75,slow=11,SNR=5.8						
DLBC	**Dease Lake**	**22.82**	**60**	P	**P**	**14 45 20.1**	**+1.9**
	4.1nm,0.6s,baz=277,slow=10,SNR=9.3						
DLBC	**Dease Lake**	**22.82**	**60**	*e*P	**P**	**14 45 20.4**	**+2.2**
	4.1nm,0.8s						
INK	**Inuvik**	**23.00**	**34**	P	**P**	**14 45 19.1**	**-0.8**
	1.0nm,0.5s,baz=253,slow=11,SNR=4.3						
NEW	**Newport**	**33.13**	**77**	P	**P**	**14 46 51.2**	**-0.4**
	1.5nm,0.5s,baz=282,slow=11,SNR=3.6						
NVAR	**Mina Array Bea**	**37.95**	**91**	P	**P**	**14 47 33.7**	**+0.4**
	1.0nm,0.7s,baz=287,slow=8.2,SNR=8.9						
ELK	**Elko**	**38.37**	**86**	P	**P**	**14 47 37.4**	**+0.7**
	0.4nm,0.4s,baz=289,slow=6.9,SNR=3.6						
PDAR	**Pinedale Array**	**40.56**	**80**	P	**P**	**14 47 54.5**	**-0.6**
	0.8nm,0.6s,baz=315,slow=4.9,SNR=6.1						
TXAR	**Lajitas Array**	**53.01**	**89**	P	**P**	**14 49 32.2**	**-0.3**
	1.0nm,0.8s,baz=307,slow=6.6,SNR=12						
WRA	**Warramunga Arr**	**87.16**	**231**	P	**P**	**14 53 00.2**	**-1.5**
	0.5nm,0.8s,baz=33,slow=6.0,SNR=2.6						
ASAR	**Alice Springs**	**90.57**	**230**	P	**P**	**14 53 16.6**	**-1.1**
	0.8nm,0.7s,baz=33,slow=3.9,SNR=4.4						

IDC 18 14:42:10.6±3.7,**5°99S**±150°32E,**h0km**,**mb3.2**/2,
mb1 3.5/3,**mb1mx3.2**/19,**mbtmp3.4**/3,**Error ellipse: s-maj=132.0km s-min=45.2km az=119.0**,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.62**	**222**	Pn	Pn	14 43 22.6	+0.8
	baz=39,slow=6.5,SNR=1.9						
WRA	**Warramunga Arr**	**20.83**	**227**	P	P	14 46 52.9	-1.1
	1.1nm,0.7s,baz=52,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**23.64**	**220**	P	P	14 47 23.9	+0.1
	0.5nm,0.9s,baz=56,slow=8.8,SNR=6.2						
TORD	**Torodi Ar. Bea**	**148.28**	**285**	PKPbc	PKPbc	15 01 59.7	-0.3
	0.4nm,0.6s,baz=63,slow=3.6,SNR=3.5						

*IDC **18** 14:42:55.0±3.2, 5°.99S×150°.24E, h27km±20km, mb3.8/13, mb1 4.0/15, mb1mx3.9/21, mbtmp4.0/15, ML3.0/2, Error ellipse: s-maj=24.7km s-min=14.3km az=94.0*
*ISCJB **18** 14:42:56.3±0.4, 6°.07S±0°.05×150°.19E±0°.07, h52km, mb4.1/14, Error ellipse: s-maj=11.3km s-min=6.2km az=25.3*
*NEIC **18** 14:42:56.1±0.4, 5°.98S×150°.23E, h35km, mb4.4/2, Error ellipse: s-maj=13.9km s-min=7.0km az=105.0*

ISC 18 14:42:58.2±0.5,**6°06S**±0°.08×**150°.16E**±0°.09,**h52km**,**n43**,
σ1°07/50,**mb3.9**/14,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.73**	**47**	P	**Pn**	**14 43 40.3**	**+0.7**
	baz=2.8,SNR=12						
PMG	**Port Moresby**	**4.46**	**222**	Pn	**Pn**	**14 44 03.7**	**+0.4**
	19nm,0.3s,baz=74,slow=3.7,SNR=29						
PMG				Sn	**Sn**	**14 44 51.9**	**-2.0**
	17nm,0.3s,baz=73,slow=19,SNR=6.2						
PMG	**Port Moresby**	**4.46**	**222**	P	**Pn**	**14 44 03.7**	**+0.4**
	baz=4.4,SNR=20						
PMG				P	**Pn**	**14 44 03.7**	**+0.4**
	baz=4.4,SNR=20						
PMG				P	**Pn**	**14 44 03.7**	**+0.4**
	baz=4.4,SNR=20						
PMG	**Port Moresby**	**4.46**	**222**	Pn	**Pn**	**14 44 03.7**	**+0.4**
PMG				Sn	**Sn**	**14 44 51.9**	**-2.0**
PMG				*e*Sn	Sn	14 44 54.9	+1.0
COEN	**Coen**	**10.43**	**221**	P	**Pn**	**14 45 25.5**	**+0.3**
	baz=10,SNR=4.3						
COEN	**Coen**	**10.43**	**221**	*e*P	**Pn**	**14 45 24.7**	**-0.5**
MTSU	**Mount Surprise**	**13.28**	**205**	P	**Pn**	**14 46 03.3**	**-0.9**
	baz=13,SNR=7.3						
CTA	**Charters Tower**	**14.45**	**195**	Pn	**Pn**	**14 46 19.2**	**-0.7**
	0.1nm,0.3s,baz=6.3,slow=18,SNR=2.7						
CTAO	**Charters Tower**	**14.45**	**195**	P	**Pn**	**14 46 21.6**	**+1.8**
	45nm,1.7s						
QIS	**Mount Isa**	**17.68**	**214**	P	**P**	**14 47 01.7**	**+0.5**
	baz=18,SNR=4.1						
KDU	**Kakadu**	**18.64**	**248**	P	**Pn**	**14 47 14.3**	**+1.7**
	baz=19,SNR=6.7						
EIDS	**Eidsvold**	**19.22**	**177**	P	**P**	**14 47 17.5**	**-0.5**
	baz=19,SNR=3.9						
MTN	**Manton Dam**	**19.93**	**249**	P	**Pn**	**14 47 27.0**	**-0.9**
	baz=20,SNR=5.8						
RMQ	**Roma**	**20.35**	**184**	P	**P**	**14 47 30.4**	**0.0**
	baz=20,SNR=27						
WRAB	**Tennant Creek**	**20.64**	**227**	*e*P	**P**	**14 47 33.8**	**+0.2**
	16nm,0.9s						
WRA	**Warramunga Arr**	**20.65**	**227**	P	**P**	**14 47 33.8**	**0.0**
	5.3nm,0.5s,baz=53,slow=11,SNR=48						
WRA				PcP	**PcP**	**14 51 43.1**	**+0.4**
	2.0nm,0.7s,baz=45,slow=2.0,SNR=8.5						
WRA				ScP	**ScP**	**14 55 17.7**	**+2.5**
	0.9nm,1.0s,baz=52,slow=2.3,SNR=4.7						
QLP	**Quilpie**	**21.17**	**195**	P	**P**	**14 47 39.0**	**-0.3**
	baz=21,SNR=9.7						
KNRA	**Kununurra**	**23.05**	**244**	P	**P**	**14 48 00.8**	**+1.4**
	baz=23,SNR=9.1						
AS31	**Alice Springs**	**23.47**	**220**	*e*P	**P**	**14 48 03.2**	**-0.2**
ASAR	**Alice Springs**	**23.47**	**220**	P	**P**	**14 48 03.2**	**-0.2**
	1.8nm,0.7s,baz=54,slow=9.0,SNR=16						
ASAR				PcP	**PcP**	**14 51 49.4**	**+1.1**
	0.7nm,0.7s,baz=44,slow=2.8,SNR=4.2						
ASAR				ScP	**ScP**	**14 55 24.6**	**+2.4**
	0.7nm,0.9s,baz=25,slow=3.1,SNR=4.2						
FITZ	**Fitzroy Crossi**	**26.75**	**241**	P	**P**	**14 48 34.3**	**+1.0**
	baz=27,SNR=3.6						
STKA	**Stephens Creek**	**26.90**	**196**	P	**P**	**14 48 33.6**	**-0.9**
	3.0nm,0.8s,baz=40,slow=14,SNR=5.0						
STKA	**Stephens Creek**	**26.90**	**196**	*e*P	**P**	**14 48 33.8**	**-0.6**
WRKA	**Warakurna**	**28.19**	**226**	P	P	14 48 52.5	+6.4
	baz=28,SNR=5.2						
MEEK	**Meekatharra**	**36.35**	**232**	P	**P**	**14 49 59.3**	**+1.8**
	baz=36,SNR=3.7						
RAO	**Raoul Island**	**37.94**	**131**	P	**P**	**14 50 11.2**	**+0.2**
	144nm,0.3s,baz=319,slow=20,SNR=3.3						
CISI	**Cisompet, Garu**	**42.06**	**265**	P	**P**	**14 50 45.4**	**+0.1**
	baz=42,SNR=4.4						
MJAR	**Matsushiro Arr**	**43.84**	**346**	P	**P**	**14 50 58.5**	**-0.8**
	1.8nm,0.8s,baz=164,slow=8.0,SNR=10						
KSRS	**Korea Array**	**48.01**	**336**	P	**P**	**14 51 32.5**	**+0.4**
	1.

0.3nm,0.6s,baz=24,slow=5.3,SNR=3.1

*NEIC **18** 14:44:40.6, 52°.57N×169°.49W, h8km, ML3.2(AEIC), After AEIC.*
*ISCJB **18** 14:44:41.3±1.1, 52°.8N±0°.1×169°.8W±0°.2, h10km, mb3.7/5, Error ellipse: s-maj=22.9km s-min=7.7km az=140.8*
*IDC **18** 14:44:41.6±2.2, 52°.50N×169°.82W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.6/29, mbtmp3.8/5, Error ellipse: s-maj=105.3km s-min=32.4km az=156.0*

ISC 18 14:44:43.1±1.3, 52°.9N±0°.1×169°.7W±0°.1, h10km, n9, σ1§64/13, mb3.8/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.49**	**79**	P		**Pg**	**14 44 51.6**	**-1.0**
NIKH				S		**Sb**	**14 45 00.1**	**-0.9**
OKWE	**Okmok W'ng Wal**	**1.03**	**55**	P		**Pb**	**14 45 01.8**	**-1.2**
OKWE				S		**Sn**	**14 45 19.2**	**+1.1**
OKAK	**Okmok**	**1.04**	**48**	P		**Pb**	**14 45 01.2**	**-2.0**
OKAK				S		**Sb**	**14 45 17.0**	**+0.2**
OKRE	**Okmok R'deer P**	**1.10**	**54**	P		**Pn**	**14 45 03.7**	**-0.8**
OKRE				S		**Sn**	**14 45 21.1**	**+1.4**
DLBC	**Dease Lake**	**22.77**	**60**	P		**P**	**14 49 48.7**	**+3.3**
	3.0nm,0.8s,baz=262,slow=8.2,SNR=7.3							
NVAR	**Mina Array Bea**	**37.84**	**91**	P		**P**	**14 52 01.6**	**+1.6**
	0.9nm,0.8s,baz=302,slow=8.0,SNR=6.5							
PDAR	**Pinedale Array**	**40.47**	**80**	P		**P**	**14 52 22.7**	**+0.8**
	0.4nm,0.6s,baz=310,slow=7.0,SNR=3.0							
TXAR	**Lajitas Array**	**52.91**	**89**	P		**P**	**14 53 59.6**	**+0.3**
	0.8nm,0.7s,baz=308,slow=4.4,SNR=7.2							
ASAR	**Alice Springs**	**90.60**	**230**	P		**P**	**14 57 44.1**	**-1.2**
	0.7nm,0.8s,baz=25,slow=6.4,SNR=4.4							

IDC 18 14:45:24.9±3.9, 5°.50S×149°.99E, h0km, mb3.3/2, mb1 3.8/3, mb1mx3.4/19, mbtmp3.6/3, Error ellipse: s-maj=143.9km s-min=44.8km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.80**	**216**	Pn		Pn	14 46 40.5	+2.0
	baz=30,slow=20,SNR=2.8							
PMG				Sn		Sn	14 47 32.3	-2.6
	2.7nm,0.3s,baz=90,slow=20,SNR=3.4							
WRA	**Warramunga Arr**	**20.93**	**225**	P		P	14 50 09.8	+0.3
	1.0nm,0.7s,baz=52,slow=11,SNR=2.6							
ASAR	**Alice Springs**	**23.82**	**219**	P		P	14 50 38.5	-1.2
	1.0nm,0.8s,baz=49,slow=8.5,SNR=6.7							
TORD	**Torodi Ar. Bea**	**147.84**	**286**	PKPbc		PKPbc	15 05 12.6	-0.5
	0.9nm,0.8s,baz=84,slow=2.9,SNR=4.6							

*IDC **18** 14:49:36.0±22.0, 52°.68N×172°.30W, h0km, mb3.2/3, mb1 3.6/4, mb1mx3.3/29, mbtmp3.1/4, ML3.5/1, Error ellipse: s-maj=415.8km s-min=55.8km az=88.0*
*ISCJB **18** 14:49:49.6±0.8, 52°.8N±0°.1×169°.62W±0°.09, h10km, mb3.2/3, Error ellipse: s-maj=17.3km s-min=5.7km az=158.7*
*NEIC **18** 14:49:50.3, 52°.75N×169°.35W, h1km, ML3.2(AEIC), After AEIC.*

ISC 18 14:49:50.4±1.0, 52°.9N±0°.1×169°.52W±0°.06, h10km, n27, σ1§14/24, mb3.1/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.42**	**75**	P		**Pb**	**14 49 59.9**	**0.0**
NIKH				S		**Sb**	**14 50 07.3**	**+1.1**
OKWE	**Okmok W'ng Wal**	**0.98**	**51**	P		**Pn**	**14 50 10.9**	**+0.6**
OKCE	**Okmok Cone E**	**0.99**	**55**	P		**Pn**	**14 50 10.4**	**0.0**
OKAK	**Okmok**	**1.00**	**44**	P		**Pg**	**14 50 09.2**	**-0.4**
OKTU	**Okmok Mt. Tuli**	**1.03**	**59**	P		**Pn**	**14 50 11.1**	**+0.2**
MSOM	**Makushin Julie**	**1.81**	**57**	P		**Pb**	**14 50 22.6**	**-1.0**
MSOM				S		**Sg**	**14 50 48.0**	**-0.6**
MCIR	**Makushin Cirqu**	**1.91**	**54**	P		**Pb**	**14 50 24.4**	**-0.9**
MSW	**Makushin Switc**	**1.94**	**56**	P		**Pn**	**14 50 24.5**	**+1.0**
MTBL	**Makushin Table**	**2.03**	**56**	P		**Pn**	**14 50 25.5**	**+0.8**
UNV	**Unalaska Valle**	**2.06**	**60**	P		**Pn**	**14 50 25.5**	**+0.5**
UNV				S		**Sb**	**14 50 53.2**	**-0.2**
AKRB	**Akutan Reef Bi**	**2.42**	**57**	P		**Pb**	**14 50 31.8**	**-2.1**
ZRO	**Akutan Zero**	**2.44**	**59**	P		**Pb**	**14 50 32.1**	**-2.4**
AKGG	**Akutan Green G**	**2.49**	**56**	P		**Pn**	**14 50 32.5**	**+1.5**
AKUT	**Akutan**	**2.57**	**59**	P		**Pn**	**14 50 33.2**	**+1.1**
ATKA	**Atka Island**	**2.93**	**259**	P		**Pn**	**14 50 36.6**	**-0.5**
GSTR	**Great Sitkin T**	**4.07**	**262**	*e*Pn		**Pn**	**14 50 53.7**	**+1.0**
SPIA	**Saint Paul Isl**	**4.34**	**355**	P		**Pn**	**14 50 58.2**	**+1.8**
ILAR	**Eielson Array**	**16.59**	**35**	Pn		**Pn**	**14 53 42.9**	**0.0**
	0.1nm,0.3s,baz=228,slow=8.9,SNR=4.8							
NVAR	**Mina Array Bea**	**37.77**	**91**	P		**P**	**14 57 08.5**	**+1.8**
	0.1nm,0.3s,baz=307,slow=7.6,SNR=2.5							
H11N2	**WAKE ISLAND Hy**	**37.79**	**218**	T		T	15 37 00.5	
	baz=25							
H11N3	**WAKE ISLAND Hy**	**37.80**	**218**	T		T	15 36 59.3	
	baz=25							
H11N1	**WAKE ISLAND Hy**	**37.81**	**218**	T		T	15 36 57.5	
	baz=25							
H11S1	**WAKE ISLAND Hy**	**38.98**	**217**	T		T	15 38 29.5	
	baz=20							
H11S2	**WAKE ISLAND Hy**	**39.00**	**217**	T		T	15 38 29.0	
	baz=20							
H11S3	**WAKE ISLAND Hy**	**39.00**	**217**	T		T	15 38 31.8	
	baz=20							
PDAR	**Pinedale Array**	**40.40**	**80**	P		**P**	**14 57 28.5**	**-0.2**
	0.3nm,0.7s,baz=308,slow=4.4,SNR=2.9							
TXAR	**Lajitas Array**	**52.83**	**89**	P		**P**	**14 59 05.8**	**-0.3**
	0.3nm,0.6s,baz=306,slow=5.3,SNR=5.1							

*IDC **18** 14:49:53.2±1.7, 5°.40S×151°.08E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/18, mbtmp3.6/5, Error ellipse: s-maj=57.4km s-min=30.0km az=92.0*
*ISCJB **18** 14:49:60.0±1.8, 5°.4S±0°.2×151°.0E±0°.4, h65km, mb3.3/5, Error ellipse: s-maj=52.2km s-min=26.7km az=5.8*

ISC 18 14:50:02.4±1.8, 5°.5S±0°.2×150°.8E±0°.4, h65km, n6, σ0§73/6, mb3.5/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.55**	**227**	P		**P**	**14 54 46.0**	**-0.6**
	0.5nm,0.6s,baz=50,slow=10,SNR=5.7							
ASAR	**Alice Springs**	**24.36**	**220**	P		**P**	**14 55 15.3**	**+0.7**
	0.1nm,0.3s,baz=53,slow=9.5,SNR=5.6							
STKA	**Stephens Creek**	**27.67**	**197**	P		**P**	**14 55 44.7**	**+0.3**
	2.2nm,0.9s,baz=336,slow=12,SNR=2.4							
SONM	**Songino Array**	**65.85**	**329**	P		**P**	**15 00 41.1**	**-0.2**
	0.2nm,0.3s,baz=158,slow=4.7,SNR=3.3							
VNDA	**Vanda**	**72.26**	**177**	P		**P**	**15 01 19.9**	**-0.5**
	1.1nm,0.5s,baz=347,slow=1.5,SNR=10							
TORD	**Torodi Ar. Bea**	**148.62**	**286**	PKPbc		**PKPbc**	**15 09 43.8**	**+0.6**
	0.3nm,0.7s,baz=134,slow=6.2,SNR=2.3							

*IDC **18** 14:56:12.9±1.3, 6°.17S×151°.01E, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.8/19, mbtmp3.9/7, ML2.2/1, Error ellipse: s-maj=49.1km s-min=23.1km az=111.0*
*ISCJB **18** 14:56:19.1±1.0, 6°.1S±0°.1×150°.6E±0°.2, h48km, mb3.6/5, Error ellipse: s-maj=26.2km s-min=14.8km az=24.9*
*NEIC **18** 14:56:19.6±3.2, 6°.21S×150°.83E, h46km±25km, mb4.2/1, Error ellipse: s-maj=34.5km s-min=16.8km az=102.0*

ISC 18 14:56:20.5±1.1, 6°.2S±0°.2×150°.7E±0°.2, h48km, n17, σ1§31/19, mb3.6/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.72**	**227**	Pn		**Pn**	**14 57 30.0**	**+0.8**
	6.5nm,0.3s,baz=40,slow=6.1,SNR=25							
PMG				Sn		**Sn**	**14 58 19.9**	**-2.9**
	13nm,0.3s,baz=83,slow=14,SNR=9.2							
PMG	**Port Moresby**	**4.72**	**227**	P		**Pn**	**14 57 30.5**	**+1.3**
	baz=6.6,SNR=6.5							
PMG				P		**Pn**	**14 57 30.5**	**+1.3**
	baz=6.6,SNR=6.5							
PMG				P		**Pn**	**14 57 30.5**	**+1.3**
	baz=6.6,SNR=6.5							
RMQ	**Roma**	**20.29**	**185**	P		Pn	15 00 55.2	+0.6
	baz=22,SNR=8.1							
WRAB	**Tennant Creek**	**20.93**	**228**	*e*P		**P**	**15 00 58.8**	**-0.6**
	12nm,1.0s							
WRA	**Warramunga Arr**	**20.94**	**228**	P		**P**	**15 00 59.6**	**+0.2**
	4.5nm,0.5s,baz=51,slow=11,SNR=68							
QLP	**Quilpie**	**21.20**	**196**	P		**P**	**15 01 04.8**	**+2.7**
	baz=23,SNR=8.4							
KNRA	**Kununurra**	**23.45**	**244**	P		**P**	**15 01 26.5**	**+0.7**
	baz=25,SNR=3.9							
AS31	**Alice Springs**	**23.71**	**221**	*e*P		**P**	**15 01 28.9**	**+0.6**
ASAR	**Alice Springs**	**23.71**	**221**	P		**P**	**15 01 29.0**	**+0.8**
	2.1nm,0.3s,baz=54,slow=9.3,SNR=156							
STKA	**Stephens Creek**	**26.94**	**197**	P		**P**	**15 01 58.0**	**+0.5**
	2.1nm,0.5s,baz=35,slow=12,SNR=9.9							
STKA	**Stephens Creek**	**26.94**	**197**	P		**P**	**15 01 58.1**	**+0.7**
	baz=29,SNR=7.5							
STKA	**Stephens Creek**	**26.94**	**197**	*e*P		**P**	**15 01 57.6**	**+0.1**
WRKA	**Warakurna**	**28.47**	**226**	P		**P**	**15 02 11.1**	**-0.1**
	baz=30,SNR=6.3							
SONM	**Songino Array**	**66.36**	**329**	P		**P**	**15 07 04.7**	**+0.3**
	0.1nm,0.4s,baz=142,slow=5.4,SNR=2.2							
VNDA	**Vanda**	**71.56**	**177**	P		**P**	**15 07 34.4**	**-1.7**
	0.4nm,0.5s,baz=321,slow=6.5,SNR=3.2							
ILAR	**Eielson Array**	**84.23**	**22**	P		**P**	**15 08 45.9**	**-0.7**
	0.2nm,0.8s,baz=237,slow=5.0,SNR=2.8							
TORD	**Torodi Ar. Bea**	**148.65**	**285**	PKPbc		**PKPbc**	**15 16 03.3**	**-0.1**
	0.7nm,0.8s,baz=94,slow=2.5,SNR=9.6							

*IDC **18** 14:58:36.5±0.8, 6°.43S×150°.77E, h0km, mb4.1/10, mb1 4.4/12, mb1mx4.2/20, mbtmp4.2/12, ML2.9/2, Error ellipse: s-maj=32.8km s-min=16.5km az=102.0*
*ISCJB **18** 14:58:40.7±0.4, 6°.36S±0°.05×150°.50E±0°.07, h33km, mb4.0/10, MS5.5/1, Error ellipse: s-maj=11.2km s-min=5.6km az=28.3*
*NEIC **18** 14:58:41.7±0.5, 6°.47S×150°.74E, h35km, mb4.3/2, Error ellipse: s-maj=17.9km s-min=8.1km az=114.0*

ISC 18 14:58:42.1±0.6, 6°.38S±0°.08×150°.6E±0°.1, h33km, n40, σ1§23/46, mb3.9/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.66**	**36**	P		**Pn**	**14 59 23.6**	**+0.8**
	baz=2.6,SNR=30							
PMG	**Port Moresby**	**4.56**	**228**	Pn		**Pn**	**14 59 49.6**	**+0.8**
	15nm,0.3s,baz=32,slow=7.7,SNR=15							
PMG				Sn		**Sn**	**15 00 39.9**	**-0.8**
	42nm,0.3s,baz=91,slow=20,SNR=12							
PMG	**Port Moresby**	**4.56**	**228**	P		**Pn**	**14 59 50.3**	**+1.5**
	baz=4.6,SNR=12							
PMG				P		**Pn**	**14 59 50.3**	**+1.5**
	baz=4.6,SNR=12							
PMG				P		**Pn**	**14 59 50.3**	**+1.5**
	baz=4.6,SNR=12							
PMG	**Port Moresby**	**4.56**	**228**	*e*P		**Pn**	**14 59 49.6**	**+0.8**
PMG				Sn		**Sn**	**15 00 39.9**	**-0.8**
PMG				*e*S		**Sn**	**15 00 41.7**	**+1.1**
COEN	**Coen**	**10.50**	**224**	*e*P		**Pn**	**15 01 10.9**	**+0.5**
MTSU	**Mount Surprise**	**13.20**	**207**	P		**Pn**	**15 01 49.7**	**+2.3**
	baz=13,SNR=5.9							
CTA	**Charters Tower**	**14.27**	**197**	Pn		**Pn**	**15 02 01.0**	**-1.1**
	0.1nm,0.3s,baz=22,slow=16,SNR=2.5							
QIS	**Mount Isa**	**17.68**	**216**	P		**Pn**	**15 02 46.5**	**+0.4**
	baz=18,SNR=10							
EIDS	**Eidsvold**	**18.89**	**179**	P		**Pn**	**15 03 01.8**	**+1.1**
	baz=19,SNR=4.4							
KDU	**Kakadu**	**18.95**	**249**	P		**P**	**15 02 58.9**	**-1.8**
	baz=19,SNR=8.2							
RMQ	**Roma**	**20.08**	**185**	P		Pn	15 03 15.2	+0.4
	baz=20,SNR=52							
MTN	**Manton Dam**	**20.24**	**250**	P		**P**	**15 03 13.0**	**-1.8**
	baz=20,SNR=4.5							
WRAB	**Tennant Creek**	**20.76**	**228**	*e*P		**P**	**15 03 19.3**	**-1.1**
	20nm,0.6s							
WRA	**Warramunga Arr**	**20.78**	**228**	P		**P**	**15 03 19.4**	**-1.2**
	22nm,0.7s,baz=52,slow=11,SNR=44							
WRA				PcP		**PcP**	**15 07 28.0**	**-1.2**
	0.6nm,0.7s,baz=50,slow=2.0,SNR=3.7							
QLP	**Quilpie**	**21.00**	**196**	P		**P**	**15 03 23.8**	**+1.0**
	baz=21,SNR=27							
KNRA	**Kununurra**	**23.33**	**245**	P		**P**	**15 03 46.5**	**-1.1**
	baz=23,SNR=10							
AS31	**Alice Springs**	**23.53**	**221**	*e*P		**P**	**15 03 48.7**	**-0.9**
ASAR	**Alice Springs**	**23.53**	**221**	P		**P**	**15 03 49.1**	**-0.4**
	9.3nm,0.6s,baz=54,slow=9.3,SNR=75							
ARMA	**Armidale**	**23.94**	**178**	P		**P**	**15 03 54.2**	**+0.8**
	baz=24,SNR=4.9							
CMSA	**Cobar Meteorol**	**25.45**	**190**	P		**P**	**15 04 06.8**	**-0.3**
	baz=26,SNR=12							
STKA	**Stephens Creek**	**26.73**	**197**	P		**P**	**15 04 18.1**	**-0.6**
	11nm,0.8s,baz=360,slow=9.2,SNR=20							
STKA	**Stephens Creek**	**26.73**	**197**	P		**P**	**15 04 18.2**	**-0.6**
	baz=27,SNR=7.8							
STKA	**Stephens Creek**	**26.73**	**197**	*e*P		**P**	**15 04 17.5**	**-1.2**
	3.1nm,0.9s							
WRKA	**Warakurna**	**28.30**	**227**	P		**P**	**15 04 31.3**	**-1.6**
	baz=28,SNR=7.4							
HTT	**Hallett**	**29.03**	**200**	P		**P**	**15 04 39.9**	**+0.7**
	baz=29,SNR=3.7							
MEEK	**Meekatharra**	**36.52**	**233**	P		**P**	**15 05 43.3**	**-1.5**
	baz=37,SNR=7.5							
KLBR	**Kellerberrin**	**39.65**	**227**	P		**P**	**15 06 09.4**	**-1.6**
	baz=40,SNR=5.0							
MJAR	**Matsushiro Arr**	**44.24**	**346**	P		**P**	**15 06 49.4**	**+0.9**
	0.9nm,0.7s,baz=167,slow=8.0,SNR=4.3							
KSRS	**Korea Array**	**48.47**	**336**	P		**P**	**15 07 22.4**	**+0.8**
	1.0nm,0.8s,baz=148,slow=7.2,SNR=3.2							
KSAR	**Wonju Array Be**	**48.48**	**336**	P		**P**	**15 07 22.4**	**+0.7**
HHC	**Hu-ho-hao-te**	**59.09**	**326**	*e*P		**P**	**15 08 40.5**	**+1.1**
HHC				PP		**PP**	**15 10 52.9**	**+2.5**
HHC				S		**S**	**15 16 42.0**	**-2.5**
HHC	**Hu-ho-hao-te**	**59.09**	**326**	SS		SS	15 20 37.0	-2.2
HHC				pmax		pmax		
	comp=Z,19nm,1.1s							
HHC				pmax		pmax		
	comp=Z,2μm,5.3s							
HHC				LR		LR		
	comp=N,3μm,16.7s							
HHC				LR		LR		
	comp=E,3μm,16.3s							
HHC				LR		LR		
	comp=Z,3μm,16.3s							
SONM	**Songino Array**	**66.52**	**329**	P		**P**	**15 09 29.1**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=153,slow=2.2,SNR=4.4							
VNDA	**Vanda**	**71.36**	**177**	P		**P**	**15 09 58.4**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=322,slow=4.7,SNR=8.7							
ZALV	**Zalesovo Beam**	**81.26**	**327**	P		**P**	**15 10 55.8**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=106,slow=8.1,SNR=3.4							
ILAR	**Eielson Array**	**84.43**	**22**	P		**P**	**15 11 10.6**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=238,slow=5.2,SNR=3.6							
NVAR	**Mina Array Bea**	**94.77**	**52**	P		**P**	**15 12 00.1**	**-0.8**
	comp=Z,0.4nm,0.9s,baz=249,slow=7.6,SNR=3.2							
TOA0	**Tooradi Ar. Sit**	**148.66**	**285**	*e*PKPdf		**PKPdf**	**15 18 23.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**148.66**	**285**	PKPbc		**PKPdf**	**15 18 24.3**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=96,slow=2.6,SNR=37							
BDFB	**Brasilia**	**151.39**	**140**	PKPab		**PKPab**	**15 18 40.0**	**-1.8**
	comp=Z,2.5nm,0.7s,baz=145,slow=5.8,SNR=3.2							

*IDC **18** 15:03:11.9±1.1, 6°.00S×151°.02E, h0km, mb4.0/9, mb1 4.1/11, mb1mx3.9/42, mbtmp4.0/11, ML2.9/2, Error ellipse: s-maj=38.7km s-min=16.9km az=107.0*
*NEIC **18** 15:03:18.8±2.7, 6°.06S×150°.86E, h49km±24km, mb4.3/3, Error ellipse: s-maj=28.5km s-min=14.9km az=99.0*

ISC 18 15:03:18.1±0.9, 6°.0S±0°.1×150°.9E±0°.2, h43km, n19, σ1§03/17, mb4.0/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.22**	**35**	P		Pn	15 03 57.3	+4.8
	baz=0.8,SNR=25							
PMG	**Port Moresby**	**5.00**	**228**	Pn		**Pn**	**15 04 30.6**	**-0.1**
	4.3nm,0.3s,baz=70,slow=4.3,SNR=8.6							
PMG	**Port Moresby**	**5.00**	**228**	*e*P		**Pn**	**15 04 30.8**	**+0.1**
CTA	**Charters Tower**	**14.69**	**197**	Pn		**Pn**	**15 06 43.1**	**-0.2**
	0.2nm,0.3s,baz=11,slow=16,SNR=3.3							
WRAB	**Tennant Creek**	**21.21**	**228**	*e*P		**P**	**15 07 59.1**	**-1.3**
	19nm,0.8s							
WRA	**Warramunga Arr**	**21.22**	**228**	P		**P**	**15 07 59.3**	**-1.2**
	5.1nm,0.8s,baz=51,slow=10,SNR=14							
AS31	**Alice Springs**	**23.98**	**221**	*e*P		**P**	**15 08 28.7**	**-0.1**
ASAR	**Alice Springs**	**23.98**	**221**	P		**P**	**15 08 28.6**	**-0.2**
	1.5nm,0.7s,baz=55,slow=8.6,SNR=11							
STKA	**Stephens Creek**	**27.15**	**198**	P		**P**	**15 08 58.8**	**+1.3**
	6.9nm,0.7s,baz=12,slow=12,SNR=11							
STKA	**Stephens Creek**	**27.15**	**198**	*e*P		**P**	**15 08 58.8**	**+1.3**
	1.6nm,0.8s							
JNU	**Nakatsue**	**43.33**	**335**	P		**P**	**15 11 17.4**	**+1.2**
	1.7nm,0.6s,baz=162,slow=6.4,SNR=3.8							
KSRS	**Korea Array**	**48.28**	**335**	P		**P**	**15 11 55.7**	**+0.7**
	3.9nm,1.2s,baz=164,slow=8.4,SNR=5.1							
KSAR	**Wonju Array Be**	**48.28**	**335**	P		**P**	**15 11 55.7**	**+0.6**
SONM	**Songino Array**	**66.37**	**329**	P		**P**	**15 14 03.5**	**+0.7**
	0.5nm,0.8s,baz=138,slow=3.7,SNR=2.9							
ZALV	**Zalesovo Beam**	**81.13**	**327**	P		**P**	**15 15 28.1**	**-0.8**
	0.4nm,0.4s,baz=98,slow=3.2,SNR=2.6							
QSPA	**South Pole Qui**	**83.94**	**180**	*e*P		P	15 15 50.5	+6.9
	3.1nm,0.8s							
ILAR	**Eielson Array**	**84.00**	**22**	P		**P**	**15 15 41.7**	**-2.0**
	0.5nm,0.9s,baz=251,slow=5.2,SNR=6.3							
NVAR	**Mina Array Bea**	**94.33**	**52**	P		**P**	**15 16 34.5**	**+0.7**
	1.0nm,0.8s,baz=256,slow=5.6,SNR=10							
TORD	**Torodi Ar. Bea**	**148.85**	**285**	PKPbc		**PKPbc**	**15 23 02.2**	**0.0**
	5.7nm,0.7s,baz=60,slow=2.6,SNR=26							

*IDC **18** 15:03:58.8±1.0, 6°.11S×150°.75E, h0km, mb4.0/8, mb1 4.3/10, mb1mx4.0/43, mbtmp4.1/10, ML3.0/2, Error ellipse: s-maj=41.5km s-min=17.1km az=101.0*
*ISCJB **18** 15:04:04.1±0.7, 6°.10S±0°.07×150°.4E±0°.1, h43km, mb3.9/7, Error ellipse: s-maj=16.6km s-min=8.9km az=21.3*

ISC 18 15:04:05.6±0.9, 6°.09S±0°.10×150°.5E±0°.2, h43km, n19, σ0§94/18, mb4.0/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.64**	**225**	Pn		**Pn**	**15 05 13.6**	**+0.4**
	14nm,0.3s,baz=32,slow=9.4,SNR=9.5							
PMG				Sn		**Sn**	**15 06 04.4**	**-1.5**
	38nm,0.3s,baz=144,slow=19,SNR=5.2							
MTSU	**Mount Surprise**	**13.39**	**206**	P		**Pn**	**15 07 14.1**	**+1.0**
	baz=15,SNR=4.8							
CTA	**Charters Tower**	**14.50**	**196**	Pn		**Pn**	**15 07 28.1**	**-0.1**
	0.1nm,0.3s,baz=23,slow=17,SNR=3.6							
KDU	**Kakadu**	**18.91**	**248**	P		**P**	**15 08 22.6**	**-0.3**
	baz=20,SNR=4.3							
EIDS	**Eidsvold**	**19.18**	**178**	P		**Pn**	**15 08 26.4**	**-0.4**
	baz=21,SNR=3.3							
MTN	**Manton Dam**	**20.20**	**249**	P		Pn	15 08 40.4	+1.3
	baz=22,SNR=3.1							
RMQ	**Roma**	**20.34**	**184**	P		Pn	15 08 39.6	-1.1
	baz=22,SNR=13							
WRA	**Warramunga Arr**	**20.86**	**227**	P		**P**	**15 08 43.3**	**-0.7**
	9.6nm,0.8s,baz=50,slow=11,SNR=7.0							
ASAR	**Alice Springs**	**23.64**	**221**	P		**P**	**15 09 13.6**	**+0.4**
	5.0nm,0.9s,baz=56,slow=8.9,SNR=7.3							
CMSA	**Cobar Meteorol**	**25.70**	**189**	P		**P**	**15 09 33.2**	**+1.3**
	baz=27,SNR=7.8							
STKA	**Stephens Creek**	**26.96**	**197**	P		**P**	**15 09 42.5**	**-0.7**
	7.2nm,0.8s,baz=2.4,slow=10,SNR=5.0							
STKA	**Stephens Creek**	**26.96**	**197**	P		**P**	**15 09 42.7**	**-0.5**
	baz=29,SNR=3.7							
MJAR	**Matsushiro Arr**	**43.94**	**346**	P		**P**	**15 12 08.1**	**-0.3**
	0.7nm,0.7s,baz=169,slow=8.6,SNR=4.7							
KSRS	**Korea Array**	**48.16**	**336**	P		**P**	**15 12 43.2**	**+1.6**
	1.5nm,0.9s,baz=159,slow=9.5,SNR=2.8							
SONM	**Songino Array**	**66.20**	**329**	P		**P**	**15 14 49.6**	**+0.5**
	0.5nm,0.5s,baz=154,slow=8.0,SNR=3.7							
VNDA	**Vanda**	**71.64**	**177**	P		**P**	**15 15 22.5**	**+0.3**
	1.2nm,1.0s,baz=330,slow=8.5,SNR=2.7							
ILAR	**Eielson Array**	**84.23**	**22**	P		**P**	**15 16 30.5**	**-1.8**
	1.0nm,0.8s,baz=258,slow=5.1,SNR=8.0							
GERES	**GERESS Array B**	**123.90**	**327**	PKP		**PKPdf**	**15 22 59.5**	**+0.2**
	0.9nm,0.8s,baz=46,slow=2.8,SNR=5.4							
TORD	**Torodi Ar. Bea**	**148.44**	**285**	PKPbc		**PKPbc**	**15 23 48.2**	**-0.4**
	2.8nm,0.4s,baz=92,slow=2.5,SNR=15							

*IDC **18** 15:04:28.9±2.7, 5°.95S×150°.88E, h27km±17km, mb4.1/17, mb1 4.3/18, mb1mx4.2/40, mbtmp4.3/18, ML3.8/1, Error ellipse: s-maj=22.4km s-min=12.9km az=88.0*
*ISCJB **18** 15:04:29.4±0.5, 5°.96S±0°.06×150°.8E±0°.1, h43km, mb4.3/21, Error ellipse: s-maj=15.6km s-min=7.8km az=13.7*
*NEIC **18** 15:04:29.8±0.3, 5°.97S×150°.90E, h35km, mb4.5/5, Error ellipse: s-maj=14.1km s-min=7.6km az=102.0*

ISC 18 15:04:30.9±0.5, 5°.95S±0°.08×150°.8E±0°.1, h43km, n35, σ1§16/39, mb4.3/20, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**14.73**	**197**	Pn		**Pn**	**15 07 56.6**	**0.0**
	0.3nm,0.3s,baz=19,slow=14,SNR=2.4							
GUMO	**Guam**	**20.29**	**343**	P		Pn	15 09 05.5	+0.1
	106nm,0.9s,baz=209,slow=13,SNR=4.3							
WRAB	**Tennant Creek**	**21.19**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.26**	**217**	Pn	Pn	15 15 04.8	+0.3
	0.4nm,0.3s,baz=20,slow=15,SNR=2.3						
PMG				Sn	Sn	15 15 55.0	-11
	1.0nm,0.3s,baz=28,slow=15,SNR=3.3						
WRA	**Warramunga Arr**	**21.41**	**225**	P	P	15 18 34.0	-0.2
	0.3nm,0.5s,baz=51,slow=10,SNR=4.2						
ASAR	**Alice Springs**	**24.27**	**219**	P	P	15 19 03.6	-0.1
	0.2nm,0.5s,baz=54,slow=8.9,SNR=5.1						
VNDA	**Vanda**	**72.55**	**177**	P	P	15 25 13.0	+0.1
	0.9nm,0.3s,baz=355,slow=5.0,SNR=14						

IDC 18 15:13:54.2±7.4, 5°35S×150°50E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/40, mbtmp3.6/4, ML1.8/1, Error ellipse: s-maj=113.6km s-min=77.4km az=7.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.21**	**219**	Pn	Pn	15 15 13.6	+0.1
	2.1nm,0.3s,baz=39,slow=11,SNR=8.6						
PMG				Sn	Sn	15 16 05.3	-9.1
	2.6nm,0.3s,baz=31,slow=18,SNR=4.2						
WRA	**Warramunga Arr**	**21.39**	**226**	P	P	15 18 43.8	+0.1
	0.7nm,0.5s,baz=50,slow=10,SNR=10						
ASAR	**Alice Springs**	**24.23**	**220**	P	P	15 19 13.7	+0.6
	0.3nm,0.3s,baz=54,slow=9.1,SNR=14						
STKA	**Stephens Creek**	**27.67**	**196**	P	P	15 19 43.3	-0.7
	2.1nm,0.9s,baz=21,slow=14,SNR=3.1						

IDC 18 15:16:31.8±3.4, 5°65S×150°92E, h0km, mb3.0/2, mb1 3.4/3, mb1mx3.2/42, mbtmp3.3/3, ML1.2/1, Error ellipse: s-maj=133.9km s-min=43.5km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.27**	**225**	Pn	Pn	15 17 53.8	+1.9
	0.5nm,0.3s,baz=39,slow=13,SNR=4.3						
PMG				Sn	Sn	15 18 47.2	-6.2
	1.3nm,0.3s,baz=165,slow=20,SNR=2.9						
WRA	**Warramunga Arr**	**21.49**	**227**	P	P	15 21 21.6	-0.6
	0.3nm,0.4s,baz=53,slow=10,SNR=7.8						
ASAR	**Alice Springs**	**24.27**	**221**	P	P	15 21 50.7	-0.3
	0.3nm,0.8s,baz=55,slow=9.3,SNR=4.2						
TORD	**Torodi Ar. Bea**	**148.76**	**286**	PKPbc	PKPbc	15 36 21.8	-0.6
	0.5nm,0.5s,baz=78,slow=2.3,SNR=5.6						

IDC 18 15:18:43.9±1.5, 5.77S×150.51E, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.7/40, mbtmp4.1/5, ML2.4/1, Error ellipse: s-maj=71.6km s-min=24.6km az=120.0
ISCJB 18 15:18:49.3±1.2, 6.0S±0.2×150.5E±0.2, h48km, mb3.7/3, Error ellipse: s-maj=31.6km s-min=17.4km az=135.3
NEIC 18 15:18:49.0±0.8, 5.84S×150.53E, h35km, mb4.3/1, Error ellipse: s-maj=22.6km s-min=12.2km az=135.0

ISC 18 15:18:50.7±1.2, 5.9S±0.2×150.5E±0.2, h48km, n12, σ0s58/12, mb3.7/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.79**	**223**	Pn	**Pn**	**15 20 00.8**	**+0.5**
	12nm,0.3s,baz=37,slow=11,SNR=27						
COEN	**Coen**	**10.75**	**221**	*e*Pn	**Pn**	15 21 21.5	-0.7
EIDS	**Eidsvold**	**19.37**	**178**	P	**P**	15 23 12.2	-0.4
WRAB	**Tennant Creek**	**20.98**	**227**	*e*P	**P**	15 23 30.1	0.0
	9.6nm,0.6s						
WRA	**Warramunga Arr**	**20.99**	**227**	P	**P**	15 23 29.9	-0.4
	6.6nm,0.5s,baz=50,slow=10,SNR=49						
AS31	**Alice Springs**	**23.80**	**220**	*e*P	**P**	15 23 59.5	+0.2
ASAR	**Alice Springs**	**23.80**	**220**	P	**P**	15 23 59.6	+0.3
	1.0nm,0.4s,baz=53,slow=9.1,SNR=58						
STKA	**Stephens Creek**	**27.15**	**197**	P	**P**	15 24 29.0	-0.6
	4.5nm,1.2s,baz=17,slow=11,SNR=2.3						
SBA	**Scott Base**	**72.42**	**176**	P	**P**	15 30 11.9	+0.4
ILAR	**Eielson Array**	**84.05**	**23**	P	**P**	15 31 15.2	-0.7
	0.3nm,0.6s,baz=256,slow=5.7,SNR=4.5						
QSPA	**South Pole Qui**	**84.07**	**180**	*e*P	**P**	15 31 16.9	+0.6
TORD	**Torodi Ar. Bea**	**148.40**	**285**	PKPbc	**PKPbc**	15 38 33.9	+0.8
	1.3nm,0.4s,baz=98,slow=2.6,SNR=31						

IDC 18 15:18:53.0±1.1, 52.67N×169.92W, h0km, mb4.0/8, mb1 4.2/10, mb1mx3.7/68, mbtmp4.0/10, ML3.2/2, Error ellipse: s-maj=33.0km s-min=18.1km az=180.0
ISCJB 18 15:18:54.9±0.9, 52.81N±0.08×169.73W±0.06, h17km±7km, mb4.1/18, Error ellipse: s-maj=14.4km s-min=4.8km az=162.6
NEIC 18 15:18:55.0, 52.81N×169.67W, h6km, mb4.0/9, ML3.7(AEIC), After AEIC.

ISC 18 15:18:54.4±1.6, 52.86N±0.09×169.74W±0.05, h4km±10km, n47, σ1s07/47, mb4.1/18, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.55**	**78**	P	**Pg**	**15 19 04.9**	**0.0**
NIKH				S	**Sg**	**15 19 12.8**	**+0.8**
OKWR	**Okmok West Rim**	**1.09**	**58**	P	**Pg**	**15 19 15.7**	**+0.5**
OKAK	**Okmok**	**1.10**	**49**	P	**Pg**	**15 19 13.9**	**-1.5**
OKAK				S	**Sg**	**15 19 27.3**	**-2.4**
OKCE	**Okmok Cone E**	**1.10**	**59**	P	**Pg**	**15 19 15.2**	**-0.3**
OKCE				S	**Sb**	**15 19 31.5**	**+0.6**
OKTU	**Okmok Mt. Tuli**	**1.15**	**62**	P	**Pg**	**15 19 16.6**	**+0.2**
MSOM	**Makushin Julie**	**1.93**	**59**	P	**Pn**	**15 19 28.5**	**+0.6**
MGOD	**Makushin Gods**	**1.96**	**60**	P	**Pn**	**15 19 28.5**	**0.0**
MGOD				S	**Sn**	**15 19 53.7**	**+0.2**
MCIR	**Makushin Cirqu**	**2.02**	**56**	P	**Pn**	**15 19 30.5**	**+1.2**
MSW	**Makushin Switc**	**2.06**	**58**	P	**Pn**	**15 19 30.1**	**+0.3**
MTBL	**Makushin Table**	**2.14**	**58**	P	**Pn**	**15 19 31.7**	**+0.7**
UNV	**Unalaska Valle**	**2.18**	**62**	P	**Pn**	**15 19 31.1**	**-0.3**
UNV				S	**Sn**	**15 19 58.6**	**-0.1**
ZRO	**Akutan Zero**	**2.56**	**60**	P	**Pn**	**15 19 37.8**	**+1.1**
AKUT	**Akutan**	**2.69**	**60**	*e*P	**Pn**	**15 19 40.0**	**+1.6**
ATKA	**Atka Island**	**2.80**	**258**	P	**Pn**	**15 19 40.1**	**+0.3**
ATKA				S	**Sn**	**15 20 14.9**	**+0.9**
GSTR	**Great Sitkin T**	**3.94**	**261**	P	**Pn**	**15 19 56.4**	**+0.8**
GSCK	**Great Sitkin C**	**4.02**	**260**	P	**Pn**	**15 19 57.5**	**+0.8**
SPIA	**Saint Paul Isl**	**4.33**	**356**	P	**Pn**	**15 20 02.5**	**+1.5**
AMKA	**Amchitka**	**6.91**	**262**	*e*P	**Pn**	**15 20 38.3**	**+2.0**
	56nm,1.1s						
TRF	**Thorofare Moun**	**14.69**	**36**	*e*P	**Pn**	**15 22 26.0**	**+3.2**
	40nm,2.0s						
ILAR	**Eielson Array**	**16.68**	**35**	Pn	**Pn**	**15 22 48.5**	**-0.2**
	0.1nm,0.3s,baz=242,slow=11,SNR=7.8						
HYT	**Haines Junctio**	**19.18**	**53**	*e*P	**Pn**	**15 23 19.6**	**-0.1**
	11nm,1.0s						
PETK	**Petropavlovsk-**	**19.52**	**284**	P	**P**	**15 23 21.1**	**-1.4**
	0.1nm,0.3s,baz=102,slow=12,SNR=2.8						
SEY	**Seymchan**	**22.17**	**312**	P	**P**	**15 23 50.1**	**-0.9**
	3.9nm,1.0s,baz=144,slow=12,SNR=6.2						
DLBC	**Dease Lake**	**22.83**	**60**	P	**P**	**15 24 00.3**	**+2.1**
	7.4nm,0.9s,baz=280,slow=11,SNR=17						
INK	**Inuvik**	**23.06**	**34**	P	**P**	**15 23 59.0**	**-1.3**
	2.4nm,0.9s,baz=220,slow=10,SNR=4.1						
NEW	**Newport**	**33.11**	**76**	P	**P**	**15 25 30.6**	**-0.7**
	2.2nm,0.8s,baz=288,slow=3.2,SNR=5.7						
NEW	**Newport**	**33.11**	**76**	*e*P	**P**	**15 25 31.1**	**-0.1**
BSMT	**Bassoo Peak**	**34.69**	**76**	*e*P	**P**	**15 25 45.8**	**+0.7**
	2.2nm,0.7s						
MCMT	**McKenzie Canyo**	**37.40**	**79**	*e*P	**P**	**15 26 08.1**	**-0.4**
	0.8nm,0.5s						
BOZ	**Bozeman (W)**	**37.68**	**77**	*e*P	**P**	**15 26 10.2**	**-0.5**
	0.9nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**37.70**	**218**	T	T	16 05 52.7	
	baz=24,slow=75,SNR=3.2						
H11N3	**WAKE ISLAND Hy**	**37.71**	**218**	T	T	16 05 54.7	
	baz=24,slow=75,SNR=3.1						
H11N1	**WAKE ISLAND Hy**	**37.72**	**218**	T	T	16 05 55.4	
	baz=24,slow=75,SNR=3.9						
NVAR	**Mina Array Bea**	**37.90**	**91**	P	**P**	**15 26 13.6**	**+0.8**
	1.9nm,0.8s,baz=295,slow=7.8,SNR=15						
ELK	**Elko**	**38.32**	**86**	P	**P**	**15 26 16.6**	**+0.4**
	1.6nm,0.8s,baz=281,slow=8.0,SNR=7.3						
H11S1	**WAKE ISLAND Hy**	**38.90**	**217**	T	T	16 07 27.8	
	baz=23,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**38.91**	**217**	T	T	16 07 27.2	
	baz=23,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**38.91**	**217**	T	T	16 07 27.2	
	baz=23,slow=76,SNR=13						
DUG	**Dugway**	**40.12**	**85**	*e*P	**P**	**15 26 31.1**	**-0.2**
	2.7nm,1.0s						
PDAR	**Pinedale Array**	**40.53**	**79**	P	**P**	**15 26 34.2**	**-0.5**
	1.2nm,1.0s,baz=328,slow=5.3,SNR=8.1						
O20A	**White River Ci**	**42.91**	**82**	*e*P	**P**	**15 26 53.3**	**-0.8**
	4.1nm,0.9s						
PV01	**Paradox Valley**	**43.98**	**84**	*e*P	**P**	**15 27 02.5**	**-0.4**
	156nm,0.6s						
WUAZ	**Wupatki**	**44.00**	**89**	*e*P	**P**	**15 27 03.1**	**+0.2**
	7.8nm,1.2s						
SDCO	**Great Sand Dun**	**46.08**	**82**	*e*P	**P**	**15 27 19.4**	**-0.2**
	1.9nm,1.1s						
WMOK	**Wichita Mounta**	**52.12**	**80**	P	**P**	**15 28 04.7**	**-0.9**
	3.2nm,1.0s						
TXAR	**Lajitas Array**	**52.97**	**89**	P	**P**	**15 28 11.4**	**-0.6**
	3.0nm,0.9s,baz=296,slow=5.0,SNR=23						
ASAR	**Alice Springs**	**90.54**	**230**	P	**P**	**15 31 56.2**	**-1.2**
	1.8nm,0.8s,baz=32,slow=4.9,SNR=8.4						

IDC 18 15:19:44.3±0.9, 6.06S×150.31E, h25km±5km, mb4.1/19, mb1 4.2/21, mb1mx4.1/37, mbtmp4.2/21, ML3.4/2, Error ellipse: s-maj=17.7km s-min=11.6km az=86.0
ISCJB 18 15:19:45.7±0.4, 6.07S±0.04×150.24E±0.07, h52km, mb4.2/23, Error ellipse: s-maj=9.7km s-min=5.6km az=18.6
NEIC 18 15:19:46.4±1.4, 6.05S×150.28E, h43km±13km, mb4.6/6, Error ellipse: s-maj=11.4km s-min=7.7km az=77.0

ISC 18 15:19:47.2±0.4, 6.08S±0.06×150.23E±0.08, h52km, n58, σ1s47/63, mb4.2/23, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.49**	**222**	Pn	**Pn**	**15 20 53.0**	**+0.2**
	51nm,0.3s,baz=40,slow=17,SNR=16						
PMG				Sn	**Sn**	**15 21 43.7**	**-0.1**
	70nm,0.3s,baz=257,slow=20,SNR=8.1						
MANU	**Manus Island**	**4.93**	**324**	P	Pn	15 21 05.9	+7.2
	baz=5.0,SNR=5.4						
COEN	**Coen**	**10.46**	**221**	P	**Pn**	**15 22 14.8**	**+0.1**
	baz=10,SNR=4.5						
COEN	**Coen**	**10.46**	**221**	*e*P	**Pn**	**15 22 14.4**	**-0.3**
MTSU	**Mount Surprise**	**13.30**	**205**	P	**Pn**	**15 22 53.6**	**+0.1**
	baz=13,SNR=16						
CTA	**Charters Tower**	**14.45**	**195**	Pn	**Pn**	**15 23 09.2**	**+0.3**
	0.2nm,0.3s,baz=22,slow=16,SNR=3.6						
CTAO	**Charters Tower**	**14.45**	**195**	P	**Pn**	**15 23 09.3**	**+0.3**
	34nm,0.9s						
QIS	**Mount Isa**	**17.70**	**215**	P	**Pn**	**15 23 50.1**	**-0.2**
	baz=18,SNR=15						
KDU	**Kakadu**	**18.70**	**248**	P	**Pn**	**15 24 03.2**	**+0.9**
	baz=19,SNR=4.1						
EIDS	**Eidsvold**	**19.20**	**178**	P	**Pn**	**15 24 07.8**	**-0.5**
	baz=19,SNR=12						
EIDS	**Eidsvold**	**19.20**	**178**	*e*P	**Pn**	**15 24 07.7**	**-0.6**
	56nm,0.8s						
MTN	**Manton Dam**	**19.99**	**249**	P	**P**	**15 24 16.4**	**+0.7**
	baz=20,SNR=3.4						
RMQ	**Roma**	**20.34**	**184**	P	Pn	15 24 20.6	-1.2
	baz=20,SNR=44						
WRAB	**Tennant Creek**	**20.68**	**227**	*e*P	**P**	**15 24 23.5**	**+0.4**
	37nm,0.8s						
WRA	**Warramunga Arr**	**20.70**	**227**	P	**P**	**15 24 23.6**	**+0.3**
	9.7nm,0.6s,baz=52,slow=11,SNR=11						
WRA				pP	**pP**	**15 24 30.9**	**-4.3**
	26nm,0.6s,baz=52,slow=11,SNR=12						
WRA				S	**S**	**15 28 10.1**	**-1.6**
	2.9nm,1.0s,baz=52,slow=20,SNR=7.3						
WRA				PcP	**PcP**	**15 28 32.6**	**+0.9**
	3.4nm,0.7s,baz=42,slow=1.8,SNR=9.4						
WRA				ScP	**ScP**	**15 32 07.0**	**+2.8**
	0.3nm,0.6s,baz=48,slow=2.5,SNR=3.2						
QLP	**Quilpie**	**21.18**	**195**	P	**P**	**15 24 29.0**	**+0.7**
	baz=21,SNR=17						
DZM	**Mont Dzumac**	**22.32**	**137**	P	**P**	**15 24 40.1**	**-0.7**
	7.6nm,0.8s,baz=270,slow=20,SNR=4.0						
KNRA	**Kununurra**	**23.12**	**244**	P	**P**	**15 24 50.1**	**+1.1**
	baz=23,SNR=5.0						
AS31	**Alice Springs**	**23.50**	**220**	*e*P	**P**	**15 24 53.4**	**+0.6**
ASAR	**Alice Springs**	**23.50**	**220**	P	**P**	**15 24 53.2**	**+0.4**
	2.9nm,0.5s,baz=54,slow=9.0,SNR=14						
ASAR				PcP	**PcP**	**15 28 38.6**	**+1.2**
	2.0nm,0.7s,baz=60,slow=3.0,SNR=5.9						
ASAR				S	**S**	**15 29 06.9**	**+4.0**
	3.8nm,1.0s,baz=33,slow=22,SNR=8.8						
ARMA	**Armidale**	**24.25**	**177**	P	**P**	**15 25 00.2**	**+0.7**
	baz=24,SNR=5.1						
SOEI	**Soe**	**25.97**	**260**	P	**P**	**15 25 17.3**	**+1.8**
	baz=26,SNR=3.6						
BATI	**Baumata**	**26.61**	**259**	P	**P**	**15 25 21.7**	**+0.6**
	27nm,0.7s,baz=79,slow=5.2,SNR=4.4						
STKA	**Stephens Creek**	**26.91**	**196**	P	**P**	**15 25 23.0**	**-0.5**
	6.7nm,0.9s,baz=30,slow=10.0,SNR=7.8						
STKA	**Stephens Creek**	**26.91**	**196**	P	**P**	**15 25 23.8**	**+0.2**
	27nm,0.5s,baz=27,SNR=5.4						
STKA	**Stephens Creek**	**26.91**	**196**	*e*P	**P**	**15 25 22.9**	**-0.7**
	3.5nm,1.0s						
WRKA	**Warakurna**	**28.23**	**226**	P	P	15 25 43.1	+7.6
	baz=28,SNR=4.4						
NFK	**Norfolk Island**	**28.32**	**146**	P	P	15 25 42.6	+6.4
	baz=28,SNR=4.6						
HTT	**Hallett**	**29.17**	**200**	P	P	15 25 49.0	+5.2
	baz=29,SNR=3.6						
JAGI	**Jaiag, Banyuwa**	**35.86**	**264**	P	**P**	**15 26 40.6**	**-1.9**
	baz=36,SNR=4.2						
KLBR	**Kellerberrin**	**39.58**	**226**	P	**P**	**15 27 13.5**	**-0.2**
	baz=40,SNR=5.8						
URZ	**Urewera**	**40.26**	**147**	P	**P**	**15 27 18.4**	**-0.8**
	10nm,1.1s,baz=288,slow=13,SNR=3.1						
JNU	**Nakatsue**	**43.10**	**336**	P	**P**	**15 27 42.9**	**+0.3**
	9.7nm,0.9s,baz=164,slow=2.5,SNR=6.2						
MJAR	**Matsushiro Arr**	**43.87**	**346**	P	**P**	**15 27 48.0**	**-0.7**
	3.7nm,0.9s,baz=171,slow=8.4,SNR=19						
KSRS	**Korea Array**	**48.05**	**336**	P	**P**	**15 28 22.3**	**+0.8**
	2.1nm,0.7s,baz=154,slow=8.0,SNR=6.8						
KSAR	**Wonju Array Be**	**48.06**	**336**	P	**P**	**15 28 22.3**	**+0.7**
ASAJ	**Asahikawa**	**50.44**	**353**	P	**P**	**15 28 40.3**	**+0.7**
	2.3nm,0.5s,baz=264,slow=10,SNR=6.9						
USRK	**Ussuriysk Ar.**	**52.69**	**344**	P	**P**	**15 28 56.8**	**+0.3**
	1.7nm,0.6s,baz=127,slow=6.4,SNR=4.9						
CMAR	**Chiang Mai Arr**	**56.14**	**297**	P	**P**	**15 29 23.4**	**+1.4**
	0.3nm,0.3s,baz=123,slow=6.5,SNR=3.5						
PETK	**Petropavlovsk-**	**59.30**	**5**	P	**P**	**15 29 43.0**	**-0.6**
	2.5nm,0.7s,baz=183,slow=8.3,SNR=5.1						
SONM	**Songino Array**	**66.08**	**329**	P	**P**	**15 30 28.8**	**-0.2**
	0.6nm,0.4s,baz=135,slow=6.0,SNR=6.2						
SEY	**Seymchan**	**68.84**	**1**	P	**P**	**15 30 46.6**	**+0.7**
	0.8nm,0.6s,baz=117,slow=9.0,SNR=4.1						
VNDA	**Vanda**	**71.66**	**177**	P	**P**	**15 31 03.9**	**+0.8**
	1.0nm,0.8s,baz=316,slow=7.7,SNR=4.6						
VNDA				pP	pP	15 31 11.3	-6.4
	1.8nm,0.8s,baz=329,slow=5.8,SNR=4.2						
MKAR	**Makanchi Array**	**79.62**	**320**	P	**P**	**15 31 49.2**	**0.0**
	0.3nm,0.4s,baz=103,slow=7.0,SNR=6.3						
ZALV	**Zalesovo Beam**	**80.81**	**327**	P	**P**	**15 31 53.4**	**-1.9**
	0.8nm,0.5s,baz=108,slow=4.8,SNR=5.7						
KURK	**Kurchatov**	**83.21**	**323**	*e*P	**P**	**15 32 08.0**	**0.0**
	4.3nm,1.1s						
MAW	**Mawson**	**83.41**	**203**	P	**P**	**15 32 09.1**	**+0.4**
	1.0nm,0.6s,baz=88,slow=14,SNR=3.6						
QSPA	**South Pole Qui**	**83.89**	**180**	*e*P	**P**	**15 32 11.6**	**+0.2**
	20nm,1.6s						
ILAR	**Eielson Array**	**84.31**	**23**	P	**P**	**15 32 10.6**	**-2.8**
	1.2nm,0.8s,baz=255,slow=4.8,SNR=13						
EGAK	**Eagle**	**86.54**	**24**	*e*P	**P**	**15 32 25.9**	**+1.5**
	2.9nm,1.0s						
NVAR	**Mina Array Bea**	**94.88**	**52**	P	**P**	**15 33 04.3**	**0.0**
	0.8nm,0.7s,baz=251,slow=6.7,SNR=7.0						
TKL	**Tuckaleechee C**	**122.48**	**51**	PKP	**PKPdf**	**15 38 37.8**	**+0.4**
	3.1nm,0.9s,baz=202,slow=4.2,SNR=6.0						
GERES	**GERESS Array B**	**123.76**	**327**	PKP	**PKPdf**	**15 38 39.5**	**-0.1**
	1.3nm,0.7s,baz=68,slow=1.6,SNR=13						
GERES				pPKP	**pPKPdf**	**15 38 48.8**	**-6.5**
	0.4nm,0.5s,baz=90,slow=2.0,SNR=2.8						
LPAZ	**La Paz**	**136.01**	**121**	PKP	**PKPdf**	**15 39 06.5**	**+2.1**
	1.4nm,0.7s,baz=342,slow=3.2,SNR=4.1						
PCRV	**Puerto La Cruz**	**145.26**	**81**	PKPbc	**PKPbc**	**15 39 19.9**	**-0.2**
	11nm,0.9s,baz=334,slow=0.8,SNR=5.3						
TORD	**Torodi Ar. Bea**	**148.22**	**285**	PKPbc	**PKPbc**	**15 39 28.3**	**-0.3**
	7.1nm,0.6s,baz=98,slow=2.6,SNR=51						
BDFB	**Brasilia**	**151.85**	**140**	PKP	**PKPdf**	**15 39 32.5**	**+1.5**
	2.8nm,0.7s,baz=217,slow=6.9,SNR=4.2						
BDFB				PKPbc	**PKiKP**	**15 39 37.7**	**-0.2**
	7.2nm,0.7s,baz=158,slow=3.7,SNR=11						
BDFB				PKPab	**PKPab**	**15 39 46.6**	**0.0**
	6.1nm,0.6s,baz=134,slow=3.1,SNR=7.4						
DBIC	**Dimbokro**	**155.24**	**273**	PKPbc	PKPdf	15 39 45.2	+9.3
	5.8nm,1.0s,baz=122,slow=6.0,SNR=4.5						
DBIC				PKPab	**PKPab**	**15 40 00.8**	**-0.2**
	7.5nm,1.0s,baz=134,slow=7.8,SNR=3.6						

IDC 18 15:26:03.7±2.8, 5°21S×150°50E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.4/30, mbtmp3.7/4, ML1.4/1, Error ellipse: s-maj=84.2km s-min=40.8km az=109.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.33**	**218**	Pn	Pn	15 27 25.6	+1.0
	0.9nm,0.3s,baz=40,slow=7.9,SNR=4.4						
WRA	**Warramunga Arr**	**21.49**	**226**	P	P	15 30 54.5	+0.2
	1.4nm,0.5s,baz=50,slow=10,SNR=11						
ASAR	**Alice Springs**	**24.34**	**219**	P	P	15 31 24.1	+0.5
	0.7nm,0.5s,baz=52,slow=9.1,SNR=19						
STKA	**Stephens Creek**	**27.81**	**196**	P	P	15 31 53.6	-1.2
	1.9nm,0.8s,baz=20,slow=14,SNR=3.8						
TORD	**Torodi Ar. Bea**	**148.24**	**287**	PKPbc	PKPbc	15 45 52.2	-0.7
	0.3nm,0.8s,baz=50,slow=4.3,SNR=2.1						

ISCJB 18 15:27:13.1±0.7, 14.00N±0.07×91.28W±0.05, h73km, mb3.6/2, Error ellipse: s-maj=11.4km s-min=4.9km az=25.7
CASC 18 15:27:14.2±1.9, 13.93N×91.24W, h52km±25km, MD3.8
IDC 18 15:27:14.2±2.6, 13.99N×91.23W, h74km±22km, mb3.4/2, mb1 3.6/6, mb1mx3.3/43, mbtmp3.6/6, Error ellipse: s-maj=37.6km s-min=17.4km az=30.0

ISC 18 15:27:13.7±1.0, 13.97N±0.07×91.25W±0.05, h73km, n23, σ1s05/31, 3C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.51**	**313**	⇑*e*P	**Pn**	**15 27 26.7**	**-0.2**
FUG	**Fuego 3**	**0.62**	**40**	⇓*e*P	**Pn**	**15 27 27.6**	**-0.6**
PCG	**Pacaya**	**0.75**	**56**	*e*P	**Pn**	**15 27 29.6**	**-0.1**
PCG				*e*S	**Sn**	**15 27 41.0**	**-0.5**
IXG	**Ixpaco**	**0.80**	**75**	*e*P	**Pn**	**15 27 28.7**	**-1.4**
NBG	**Las Nubes**	**1.07**	**55**	⇓*e*P	**Pn**	**15 27 34.1**	**+0.6**
NBG				*e*S	**Sn**	**15 27 50.6**	**+2.4**
RBDL	**Robledal**	**1.52**	**85**	*e*P	**Pn**	**15 27 38.8**	**-0.5**
SBLS	**San Blas**	**1.59**	**95**	*e*P	**Pn**	**15 27 40.1**	**0.0**
SBLS				*e*S	**Sn**	**15 28 00.7**	**+0.6**
SNJE	**San Jose**	**1.60**	**94**	*e*P	**Pn**	**15 27 40.6**	**+0.2**
MRL	**Marmol**	**1.86**	**54**	*e*P	**Pn**	**15 27 43.4**	**-0.4**
MRL				⇑*e*P	**Pn**	**15 27 44.2**	**+0.4**
MTO2	**Montecristo 2**	**1.88**	**77**	*e*P	**Pn**	**15 27 43.0**	**-1.1**
BOQS	**Boqueron**	**1.93**	**97**	*e*P	**Pn**	**15 27 44.8**	**0.0**
LFU	**La Fuente**	**2.09**	**96**	*e*P	**Pn**	**15 27 47.0**	**+0.3**
LFRS	**El Faro**	**2.16**	**99**	*e*P	**Pn**	**15 27 48.2**	**+0.6**
LFRS				*e*S	**Sn**	**15 28 13.8**	**+0.3**
SNVI	**San Vicente**	**2.37**	**98**	*e*P	**Pn**	**15 27 50.9**	**+0.3**
VSM	**San Miguel**	**2.94**	**100**	*e*P	**Pn**	**15 28 00.2**	**+1.8**
CMIG	**Matias Romero**	**4.68**	**312**	P	**Pn**	**15 28 21.7**	**-0.2**
	3.5nm,0.3s,baz=132,slow=9.9,SNR=27						
CMIG				S	**Sn**	**15 29 15.9**	**+1.1**
	4.2nm,0.3s,baz=74,slow=19,SNR=4.1						
TEIG	**Tepich**	**6.84**	**24**	P	**Pn**	**15 28 51.2**	**-0.2**
	0.9nm,0.3s,baz=211,slow=18,SNR=52						
TEIG				S	**Sn**	**15 30 06.7**	**-1.1**
	baz=17,slow=19,SNR=3.5						
JTS	**JuntasAbangare**	**7.16**	**120**	P	**Pn**	**15 28 56.9**	**+1.0**
	0.3nm,0.3s,baz=319,slow=20,SNR=2.6						
JTS				S	**Sn**	**15 30 12.4**	**-3.5**
	0.3nm,0.3s,baz=300,slow=20,SNR=1.6						
TXAR	**Lajitas Array**	**19.13**	**325**	P	**Pn**	**15 31 32.4**	**-0.3**
	0.1nm,0.3s,baz=152,slow=13,SNR=6.6						
TKL	**Tuckaleechee C**	**22.62**	**16**	P	**P**	**15 32 08.8**	**+0.3**
	1.0nm,0.5s,baz=180,slow=12,SNR=2.8						
NVAR	**Mina Array Bea**	**34.15**	**320**	P	**P**	**15 33 53.0**	**+0.9**
	1.1nm,0.8s,baz=132,slow=8.7,SNR=7.4						
WRA	**Warramunga Arr**	**136.09**	**256**	PKP	**PKPdf**	**15 46 27.3**	**-0.2**
	0.4nm,0.8s,baz=105,slow=2.8

*ISCJB **18** 15:36:45.1±1.3,6˚4S±0˚3×150˚4E±0˚3, h33km, mb3.5/3, Error ellipse: s-maj=61.7km s-min=14.0km az=44.7*

ISC 18 15:36:46.7±1.4,**6˚4S**±0˚3×**150˚5E**±0.4, **h33**km, **n6**, σ0§95/7, **mb3.5/3, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.42**	**228**	Pn	**Pn**	**15 37 52.6**	**+1.1**
	1.4nm,0.3s,baz=49,slow=11,SNR=4.6						
PMG				Sn	**Sn**	**15 38 40.8**	**-1.0**
	1.9nm,0.3s,baz=144,slow=19,SNR=4.8						
WRA	**Warramunga Arr**	**20.64**	**228**	P	**P**	**15 41 23.2**	**-0.4**
	1.1nm,0.7s,baz=53,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**23.40**	**221**	P	**P**	**15 41 52.1**	**-0.7**
	1.1nm,0.7s,baz=54,slow=9.3,SNR=7.7						
STKA	**Stephens Creek**	**26.63**	**197**	P	**P**	**15 42 22.5**	**+0.1**
	1.8nm,0.8s,baz=14,slow=12,SNR=4.6						
ILAR	**Eielson Array**	**84.54**	**22**	P	**P**	**15 49 15.7**	**-0.5**
	0.3nm,0.9s,baz=253,slow=4.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	**148.56**	**285**	PKPbc	**PKPbc**	**15 56 31.9**	**+0.6**
	0.5nm,0.6s,baz=67,slow=2.6,SNR=3.5						

*SKO **18** 15:40:33.2, 40˚01N×26˚35E, h0km, M2.7, ML3.5*
*SOF **18** 15:40:39.5, 40˚23N×25˚79E, h2km, MD2.8*
*ATH **18** 15:40:42.5, 40˚42N×25˚73E, h27km±1km, MD3.2/14*
*CSEM **18** 15:40:42.8±0.1, 40˚40N×25˚65E, h5km, MD3.2, Error ellipse: s-maj=2.4km s-min=1.9km az=34.0*
*THE **18** 15:40:42.9, 40˚40N×25˚76E, h5km±1km, ML3.4/7, Error ellipse: s-maj=1.4km s-min=0.6km az=92.0*
*ISK **18** 15:40:42.3, 40˚41N×25˚68E, h6km, ML3.5*
*ISCJB **18** 15:40:42.7±0.3, 40˚41N±0˚01×25˚68E±0˚02, h10km±2km, Error ellipse: s-maj=2.5km s-min=2.0km az=44.8*
*DDA **18** 15:40:43.1, 40˚36N×25˚82E, h24km, MD3.4*

ISC 18 15:40:43.6±0.8, **40˚39N**±0˚01×**25˚72E**±0˚01, **h13**km±5km, **n239**, σ1§03/288, **24C-4D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMTH	**Samothraki Isl**	**0.17**	**300**	*e*PB	**Pg**	**15 40 47.3**	**-0.4**
SMTH				*e*SB	**Sg**	**15 40 50.2**	**-0.2**
SMTH	**Samothraki Isl**	**0.17**	**300**	P	**Pg**	**15 40 47.2**	**-0.4**
SMTH				S	**Sg**	**15 40 50.1**	**-0.3**
SMTH	**Samothraki Isl**	**0.17**	**300**	P	**Pg**	**15 40 47.2**	**-0.4**
SMTH				S	**Sg**	**15 40 50.1**	**-0.3**
GADA	**Gvkgeada**	**0.24**	**145**	PG	**Pg**	**15 40 48.6**	**-0.1**
GADA				SG	**Sg**	**15 40 52.6**	**+0.5**
GADA	**Gvkgeada**	**0.24**	**145**	*i* Pg	**Pg**	**15 40 48.6**	**-0.1**
GADA				*i* Sg	**Sg**	**15 40 52.6**	**+0.5**
ENEZ	**Enez**	**0.48**	**43**	PG	**Pg**	**15 40 52.0**	**-1.1**
ENEZ	**Enez**	**0.48**	**43**	*i* Pg	**Pg**	**15 40 52.0**	**-1.1**
ALN	**Alexandroupoli**	**0.57**	**26**	*e*PG	**Pg**	**15 40 54.2**	**-0.5**
ALN	**Alexandroupoli**	**0.57**	**26**	*e*PN	**Pg**	**15 40 53.6**	**-1.1**
ALN				*e*SN	**Sg**	**15 41 01.2**	**-0.9**
ALN	**Alexandroupoli**	**0.57**	**26**	P	**Pg**	**15 40 53.6**	**-1.1**
ALN	**Alexandroupoli**	**0.57**	**26**	*e*Pg	**Pg**	**15 40 54.2**	**-0.5**
ALN				S	**Sg**	**15 41 01.3**	**-0.9**
ALN	**Alexandroupoli**	**0.57**	**26**	P	**Pg**	**15 40 53.6**	**-1.1**
ALN				S	**Sg**	**15 41 01.3**	**-0.9**
GELI	**Tayfur-Gelibol**	**0.57**	**89**	*e*PG	**Pg**	**15 40 53.7**	**-1.1**
GELI	**Tayfur-Gelibol**	**0.57**	**89**	*e*Pg	**Pg**	**15 40 53.7**	**-1.1**
BOZC	**Bozcaada**	**0.60**	**155**	*i* P	**Pg**	**15 40 54.8**	**-0.5**
BOZC				*i* S	**Sg**	**15 41 03.0**	**-0.2**
LIA	**Limnos Island**	**0.64**	**221**	*e*PN	**Pg**	**15 40 55.9**	**-0.1**
LIA				*e*SN	**Sb**	**15 41 05.8**	**+0.5**
LIA	**Limnos Island**	**0.64**	**221**	*e*Pn	**Pg**	**15 40 55.9**	**-0.1**
LIA				S	**Sb**	**15 41 05.6**	**+0.3**
LIA	**Limnos Island**	**0.64**	**221**	P	**Pg**	**15 40 56.0**	**-0.1**
LIA				S	**Sb**	**15 41 05.6**	**+0.3**
ERIK	**Erikli-Kesan**	**0.67**	**64**	*e*PG	**Pg**	**15 40 55.5**	**-1.0**
ERIK	**Erikli-Kesan**	**0.67**	**64**	*e*Pg	**Pg**	**15 40 55.5**	**-1.0**
EZN	**Ezine**	**0.73**	**140**	*e*PG	**Pg**	**15 40 57.4**	**-0.3**
EZN	**Ezine**	**0.73**	**140**	*e*Pg	**Pg**	**15 40 57.4**	**-0.3**
RDO	**Rodhopi**	**0.77**	**350**	*e*PN	**Pg**	**15 40 57.6**	**-1.0**
RDO				*e*SN	**Sg**	**15 41 08.0**	**-0.7**
RDO	**Rodhopi**	**0.77**	**350**	P	**Pg**	**15 40 57.6**	**-1.0**
RDO				S	**Sg**	**15 41 07.8**	**-0.9**
RDO	**Rodhopi**	**0.77**	**350**	P	**Pg**	**15 40 57.6**	**-1.0**
RDO				S	**Sg**	**15 41 07.8**	**-0.9**
KAVA	**Kavala**	**1.10**	**304**	*e*PN	**Pb**	**15 41 03.9**	**-0.6**
KAVA				*e*SN	**Sb**	**15 41 18.7**	**0.0**
KAVA	**Kavala**	**1.10**	**304**	*e*Pn	**Pb**	**15 41 03.9**	**-0.6**
KAVA				*e*Sn	**Sb**	**15 41 18.7**	**0.0**
KAVA				S	**Sn**	**15 41 20.2**	**+0.5**
KAVA	**Kavala**	**1.10**	**304**	P	**Pb**	**15 41 03.8**	**-0.7**
KAVA				S	**Sn**	**15 41 20.2**	**+0.5**
RKY	**Sarkoy-Tekirda**	**1.15**	**74**	*e*PN	**Pn**	**15 41 05.6**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.15**	**74**	*e*Pn	**Pn**	**15 41 05.6**	**+0.2**
SART	**Tekirdag**	**1.15**	**74**	*i* P	**Pb**	**15 41 03.8**	**-1.5**
SART				*i* S	**Sb**	**15 41 19.7**	**-0.5**
SART	**Tekirdag**	**1.15**	**74**	*i* P	**Pb**	**15 41 03.8**	**-1.5**
SART				*i* S	**Sb**	**15 41 19.7**	**-0.5**
SIGR	**SIGRI**	**1.18**	**175**	*e*PN	**Pn**	**15 41 05.8**	**+0.1**
SIGR	**SIGRI**	**1.18**	**175**	*e*PN	**Pn**	**15 41 05.7**	**+0.1**
SIGR				*e*SN	**Sn**	**15 41 21.8**	**+0.3**
SIGR	**SIGRI**	**1.18**	**175**	P	**Pn**	**15 41 05.1**	**-0.6**
SIGR	**SIGRI**	**1.18**	**175**	*e*Pn	**Pn**	**15 41 05.8**	**+0.1**
SIGR				*e*Sn	**Sn**	**15 41 21.8**	**+0.3**
SIGR				S	**Sn**	**15 41 22.1**	**+0.6**
SIGR	**SIGRI**	**1.18**	**175**	P	**Pn**	**15 41 05.1**	**-0.6**
SIGR				S	**Sn**	**15 41 22.1**	**+0.6**
PRK	**Paraskevi**	**1.21**	**159**	*e*PN	**Pn**	**15 41 06.0**	**-0.2**
PRK				*e*SN	**Sg**	**15 41 23.0**	**+0.3**
PRK	**Paraskevi**	**1.21**	**159**	P	**Pn**	**15 41 06.0**	**-0.2**
PRK				S	**Sn**	**15 41 22.5**	**+0.1**
PRK				*e*Sn	**Sg**	**15 41 23.0**	**+0.3**
PRK	**Paraskevi**	**1.21**	**159**	P	**Pn**	**15 41 06.0**	**-0.2**
PRK				S	**Sn**	**15 41 22.5**	**+0.1**
KDZ	**Kurdzhali**	**1.28**	**350**	⇑*i* P	**Pn**	**15 41 06.9**	**-0.3**
KDZ	**Kurdzhali**	**1.28**	**350**	S	**Sb**	**15 41 22.3**	**-1.7**
KDZ	**Kurdzhali**	**1.28**	**350**	*i* P	**Pn**	**15 41 06.7**	**-0.5**
KDZ	**Kurdzhali**	**1.28**	**350**	*i* P	**Pn**	**15 41 06.7**	**-0.5**
AYVA	**Ayvalik**	**1.31**	**145**	*i* P	**Pn**	**15 41 07.4**	**-0.1**
AYVA				*i* S	**Sb**	**15 41 24.3**	**-0.3**
AYVA	**Ayvalik**	**1.31**	**145**	*i* P	**Pn**	**15 41 07.4**	**-0.1**
AYVA				*i* S	**Sb**	**15 41 24.3**	**-0.3**
OUR	**Ouranopolis**	**1.33**	**268**	*e*PN	**Pn**	**15 41 07.4**	**-0.4**
OUR	**Ouranopolis**	**1.33**	**268**	*e*PN	**Pn**	**15 41 06.7**	**-1.0**
OUR				*e*SN	**Sg**	**15 41 26.2**	**-0.3**
OUR	**Ouranopolis**	**1.33**	**268**	P	**Pn**	**15 41 06.8**	**-1.0**
OUR	**Ouranopolis**	**1.33**	**268**	*e*Pn	**Pn**	**15 41 07.4**	**-0.4**
OUR				*e*Sn	**Sg**	**15 41 26.2**	**-0.3**
OUR				S	**Sg**	**15 41 27.6**	**+1.1**
OUR	**Ouranopolis**	**1.33**	**268**	P	**Pn**	**15 41 06.8**	**-1.0**
OUR				S	**Sg**	**15 41 27.6**	**+1.1**
MRMT	**Marmara Adasi**	**1.45**	**81**	*e*PN	**Pn**	**15 41 09.6**	**+0.2**
MRMT	**Marmara Adasi**	**1.45**	**81**	*e*Pn	**Pn**	**15 41 09.6**	**+0.2**
TKR	**Tekirdag**	**1.50**	**66**	*e*PN	**Pb**	**15 41 11.3**	**0.0**
TKR	**Tekirdag**	**1.50**	**66**	*e*Pn	**Pb**	**15 41 11.3**	**0.0**
RZN	**Rozhen**	**1.51**	**330**	*i* P	**Pn**	**15 41 10.0**	**-0.4**
RZN	**Rozhen**	**1.51**	**330**	*i* P	**Pn**	**15 41 10.0**	**-0.4**
PAIG	**Paliouri**	**1.63**	**254**	*e*PB	**Pn**	**15 41 10.4**	**-1.5**
PAIG	**Paliouri**	**1.63**	**254**	*e*Pb	**Pn**	**15 41 10.4**	**-1.5**
PAIG	**Paliouri**	**1.63**	**254**	P	**Pn**	**15 41 10.9**	**-1.0**
PAIG	**Paliouri**	**1.63**	**254**	P	**Pn**	**15 41 10.9**	**-1.0**
EDC	**Edincik**	**1.64**	**91**	*e*PN	**Pn**	**15 41 12.2**	**+0.2**
EDC	**Edincik**	**1.64**	**91**	*e*Pn	**Pn**	**15 41 12.2**	**+0.2**
EDRB	**Edirne**	**1.65**	**28**	*e*PN	**Pn**	**15 41 12.7**	**+0.5**
EDRB	**Edirne**	**1.65**	**28**	P	**Pn**	**15 41 11.2**	**-1.0**
EDRB	**Edirne**	**1.65**	**28**	*e*Pn	**Pn**	**15 41 12.7**	**+0.5**
EDRB				S	**Sn**	**15 41 34.0**	**+0.8**
EDRB	**Edirne**	**1.65**	**28**	P	**Pn**	**15 41 11.2**	**-1.0**
EDRB				S	**Sn**	**15 41 34.0**	**+0.8**
DIM	**Dimitrovgrad**	**1.67**	**355**	*i* P	**Pn**	**15 41 12.4**	**0.0**
DIM	**Dimitrovgrad**	**1.67**	**355**	*i* P	**Pn**	**15 41 12.4**	**0.0**
BNT	**Bandirma**	**1.68**	**90**	*e*PN	**Pn**	**15 41 13.4**	**+0.8**
BNT	**Bandirma**	**1.68**	**90**	*e*PN	**Pn**	**15 41 13.4**	**+0.8**
CRLT	**Corlu**	**1.70**	**63**	*e*PN	**Pb**	**15 41 13.9**	**-0.7**
CRLT	**Corlu**	**1.70**	**63**	*e*PN	**Pb**	**15 41 13.9**	**-0.7**
NVR	**Nevrokopi**	**1.71**	**305**	*e*PN	**Pn**	**15 41 12.5**	**-0.5**
NVR				*e*SN	**Sn**	**15 41 34.5**	**-0.2**
NVR	**Nevrokopi**	**1.71**	**305**	P	**Pn**	**15 41 12.5**	**-0.5**
NVR				*e*Sn	**Sn**	**15 41 34.5**	**-0.2**
NVR	**Nevrokopi**	**1.71**	**305**	P	**Pn**	**15 41 12.5**	**-0.5**
PLG	**Polygyros**	**1.74**	**270**	*e*PB	**Pn**	**15 41 12.6**	**-0.9**
PLG	**Polygyros**	**1.74**	**270**	P	**Pn**	**15 41 12.7**	**-0.8**
PLG				S	**Sb**	**15 41 37.9**	**+0.8**
PLG	**Polygyros**	**1.74**	**270**	P	**Pn**	**15 41 12.7**	**-0.8**
PLG				S	**Sb**	**15 41 37.9**	**+0.8**
SRS	**Serrai**	**1.78**	**295**	*e*PN	**Pn**	**15 41 13.3**	**-0.7**
SRS	**Serrai**	**1.78**	**295**	*e*Pn	**Pn**	**15 41 13.3**	**-0.7**
SRS	**Serrai**	**1.78**	**295**	P	**Pn**	**15 41 13.2**	**-0.7**
PHSR	**Pinarhisar**	**1.84**	**47**	*e*PN	**Pn**	**15 41 15.1**	**+0.2**
PHSR	**Pinarhisar**	**1.84**	**47**	*e*Pn	**Pn**	**15 41 15.1**	**+0.2**
SOH	**Sokhos**	**1.85**	**284**	*e*PN	**Pn**	**15 41 14.5**	**-0.6**
SOH	**Sokhos**	**1.85**	**284**	*e*Pn	**Pn**	**15 41 14.5**	**-0.6**
AOS	**Alonnisos**	**1.87**	**230**	*e*PB	**Pn**	**15 41 15.0**	**-0.2**
AOS	**Alonnisos**	**1.87**	**230**	P	**Pn**	**15 41 14.8**	**-0.4**
AOS	**Alonnisos**	**1.87**	**230**	P	**Pn**	**15 41 14.8**	**-0.4**
PLD	**Plovdiv**	**1.88**	**336**	*i* P	**Pb**	**15 41 18.5**	**+0.8**
PLD	**Plovdiv**	**1.88**	**336**	*i* P	**Pb**	**15 41 18.5**	**+0.8**
MMB	**Musomiste**	**1.93**	**309**	⇓*i* P	**Pn**	**15 41 14.0**	**-2.1**
MMB	**Musomiste**	**1.93**	**309**	S	**Sb**	**15 41 43.5**	**+0.9**
MMB	**Musomiste**	**1.93**	**309**	*i* P	**Pn**	**15 41 15.4**	**-0.7**
MMB	**Musomiste**	**1.93**	**309**	*i* P	**Pn**	**15 41 15.4**	**-0.7**
HORT	**Hortiatis**	**2.01**	**277**	*e*PN	**Pn**	**15 41 17.0**	**-0.3**
HORT	**Hortiatis**	**2.01**	**277**	*e*PN	**Pn**	**15 41 16.6**	**-0.6**
HORT	**Hortiatis**	**2.01**	**277**	*e*Pn	**Pn**	**15 41 16.6**	**-0.6**
CHOS	**Chios island**	**2.01**	**173**	*e*PN	**Pn**	**15 41 18.4**	**+1.2**
CHOS	**Chios island**	**2.01**	**173**	*e*PN	**Pn**	**15 41 17.1**	**-0.2**
CHOS	**Chios island**	**2.01**	**173**	*e*Pn	**Pn**	**15 41 17.1**	**-0.2**
CHOS	**Chios island**	**2.01**	**173**	P	**Pn**	**15 41 17.0**	**-0.2**
KCTX	**Karacabey (Bur**	**2.02**	**93**	*e*PN	**Pn**	**15 41 18.5**	**+1.3**
KCTX	**Karacabey (Bur**	**2.02**	**93**	*e*Pn	**Pn**	**15 41 18.5**	**+1.3**
THE	**Thessaloniki**	**2.12**	**278**	*e*PB	**Pn**	**15 41 19.3**	**+0.7**
THE	**Thessaloniki**	**2.12**	**278**	*e*Pb	**Pn**	**15 41 19.3**	**+0.7**
URLA	**Izmir**	**2.13**	**161**	*i* P	**Pn**	**15 41 18.4**	**-0.5**
URLA				*i* S	**Sb**	**15 41 49.4**	**+1.0**
URLA	**Izmir**	**2.13**	**161**	*i* P	**Pn**	**15 41 18.4**	**-0.5**
URLA				*i* S	**Sb**	**15 41 49.4**	**+1.0**
JMB	**Yambol**	**2.18**	**17**	⇓*i* P	**Pn**	**15 41 20.4**	**+1.0**
JMB	**Yambol**	**2.18**	**17**	S	**Sg**	**15 41 52.5**	**+1.0**
JMB	**Yambol**	**2.18**	**17**	*i* P	**Pn**	**15 41 19.7**	**+0.3**
JMB	**Yambol**	**2.18**	**17**	*i* P	**Pn**	**15 41 19.7**	**+0.3**
XOR	**Xorichti**	**2.20**	**243**	*e*PN	**Pn**	**15 41 18.5**	**-1.2**
XOR	**Xorichti**	**2.20**	**243**	*e*Pn	**Pn**	**15 41 18.5**	**-1.2**
AKHS	**Akhisar**	**2.21**	**132**	*i* P	**Pn**	**15 41 20.0**	**+0.1**
AKHS				*i* S	**Sg**	**15 41 53.3**	**-1.2**
AKHS	**Akhisar**	**2.21**	**132**	*i* P	**Pn**	**15 41 20.0**	**+0.1**
AKHS				*i* S	**Sg**	**15 41 53.3**	**-1.2**
AKS	**Akhisar**	**2.21**	**132**	*e*PN	**Pn**	**15 41 21.4**	**+1.5**
AKS	**Akhisar**	**2.21**	**132**	*e*Pn	**Pn**	**15 41 21.4**	**+1.5**
ZEY	**˙zmir**	**2.23**	**164**	*i* P	**Pn**	**15 41 20.0**	**-0.1**
BLCB	**Balcova**	**2.24**	**152**	*e*PN	**Pn**	**15 41 21.7**	**+1.4**
BLCB	**Balcova**	**2.24**	**152**	*e*PN	**Pn**	**15 41 21.7**	**+1.4**
DURS	**Dursunbey**	**2.25**	**109**	*i* P	**Pn**	**15 41 21.0**	**+0.4**
DURS				*i* S	**Sn**	**15 41 49.5**	**+1.3**
DURS	**Dursunbey**	**2.25**	**109**	*i* P	**Pn**	**15 41 21.0**	**+0.4**
DURS				*i* S	**Sn**	**15 41 49.5**	**+1.3**
CTKS	**Kestanelik-??a**	**2.28**	**67**	*e*PN	**Pn**	**15 41 22.0**	**+1.2**
CTKS	**Kestanelik-??a**	**2.28**	**67**	*e*Pn	**Pn**	**15 41 22.0**	**+1.2**
KNT	**Kendrikon**	**2.28**	**291**	*e*PN	**Pn**	**15 41 20.7**	**-0.1**
KNT	**Kendrikon**	**2.28**	**291**	*e*Pn	**Pn**	**15 41 20.7**	**-0.1**
KNT	**Kendrikon**	**2.28**	**291**	P	**Pn**	**15 41 20.8**	**-0.1**
IZM	**Izmir**	**2.32**	**149**	*e*PN	**Pn**	**15 41 22.7**	**+1.3**
IZM	**Izmir**	**2.32**	**149**	*e*Pn	**Pn**	**15 41 22.7**	**+1.3**
MRKA	**Markates**	**2.35**	**225**	*e*PN	**Pn**	**15 41 21.4**	**-0.5**
MRKA	**Markates**	**2.35**	**225**	*e*Pn	**Pn**	**15 41 21.4**	**-0.5**
DST	**Dursunbey**	**2.36**	**108**	*e*PN	**Pn**	**15 41 23.9**	**+1.9**
DST	**Dursunbey**	**2.36**	**108**	*e*Pn	**Pn**	**15 41 23.9**	**+1.9**
ARMT	**Armutlu**	**2.40**	**85**	*e*PN	**Pn**	**15 41 23.8**	**+1.3**
ARMT	**Armutlu**	**2.40**	**85**	*e*Pn	**Pn**	**15 41 23.8**	**+1.3**
MDNY	**Mudanya-Bursa**	**2.42**	**89**	*e*PN	**Pn**	**15 41 24.1**	**+1.4**
MDNY	**Mudanya-Bursa**	**2.42**	**89**	*e*Pn	**Pn**	**15 41 24.1**	**+1.4**
ORLT	**Orhaneli**	**2.45**	**97**	*e*PN	**Pn**	**15 41 24.7**	**+1.4**
ORLT	**Orhaneli**	**2.45**	**97**	*e*Pn	**Pn**	**15 41 24.7**	**+1.4**
PGB	**Panagyurishte**	**2.46**	**332**	*i* P	**Pb**	**15 41 28.1**	**+0.5**
PGB	**Panagyurishte**	**2.46**	**332**	*i* P	**Pb**	**15 41 28.1**	**+0.5**
KKB	**Krupnik**	**2.48**	**307**	*i* P	**Pn**	**15 41 23.4**	**-0.3**
KKB	**Krupnik**	**2.48**	**307**	*i* P	**Pn**	**15 41 23.4**	**-0.3**
VAY	**Valandovo**	**2.57**	**292**	*e*Pn	**Pn**	**15 41 23.6**	**-1.2**
VAY				*e*Sn	**Sb**	**15 42 02.8**	**+1.9**
VAY				*e*Lg	Lg	15 42 09.6	
	comp=E,45nm,0.6s						
VAY				*e*Lg	Lg	15 42 11.4	
	comp=N,67nm,0.6s						
VAY	**Valandovo**	**2.57**	**292**	*e*Pn	**Pn**	**15 41 23.5**	**-1.2**
VAY				*e*Lg	Lg	15 42 11.4	
	comp=N,67nm,0.6s						
ULDT	**Uludag**	**2.62**	**94**	*i* P	**Pn**	**15 41 25.9**	**+0.2**
ULDT	**Uludag**	**2.62**	**94**	*i* P	**Pn**	**15 41 25.9**	**+0.2**
ISK	**Istanbul-Kandi**	**2.62**	**74**	*e*PN	**Pn**	**15 41 26.9**	**+1.3**
ISK	**Istanbul-Kandi**	**2.62**	**74**	*e*Pn	**Pn**	**15 41 26.9**	**+1.3**
BUY	**Buyukada**	**2.63**	**79**	*i* P	**Pb**	**15 41 29.5**	**-0.9**
BUY	**Buyukada**	**2.63**	**79**	*i* P	**Pb**	**15 41 29.5**	**-0.9**
GEMT	**Gemlik**	**2.65**	**88**	*e*PN	**Pn**	**15 41 27.3**	**+1.4**
GEMT	**Gemlik**	**2.65**	**88**	*e*Pn	**Pn**	**15 41 27.3**	**+1.4**
KLYT	**Kilyos**	**2.66**	**70**	*e*PN	**Pn**	**15 41 27.0**	**+0.9**
KLYT	**Kilyos**	**2.66**	**70**	*e*Pn	**Pn**	**15 41 27.0**	**+0.9**
DEMI	**Demirci**	**2.67**	**119**	*i* P	**Pn**	**15 41 27.1**	**+0.8**
DEMI				*i* S	**Sn**	**15 41 58.9**	**+0.4**
DEMI	**Demirci**	**2.67**	**119**	*i* P	**Pn**	**15 41 27.1**	**+0.8**
DEMI				*i* S	**Sn**	**15 41 58.9**	**+0.4**
IZI	**Iznik**	**2.87**	**90**	*e*PN	**Pn**	**15 41 30.5**	**+1.5**
IZI	**Iznik**	**2.87**	**90**	*e*Pn	**Pn**	**15 41 30.5**	**+1.5**
SZH	**Strazhica**	**2.88**	**3**	*i* P	**Pn**	**15 41 28.9**	**-0.2**
SZH	**Strazhica**	**2.88**	**3**	*i* P	**Pn**	**15 41 28.9**	**-0.2**
MANT	**Manisa**	**2.90**	**130**	*i* P	**Pb**	**15 41 33.0**	**-2.2**
MANT	**Manisa**	**2.90**	**130**	*i* P	**Pb**	**15 41 33.0**	**-2.2**
AGG	**Agios Georgios**	**2.95**	**244**	*e*PN	**Pn**	**15 41 30.7**	**+0.6**
AGG	**Agios Georgios**	**2.95**	**244**	*e*Pn	**Pn**	**15 41 30.7**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**2.96**	**145**	*e*PN	**Pn**	**15 41 31.2**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**2.96**	**145**	*e*Pn	**Pn**	**15 41 31.2**	**+0.9**
TVSB	**Tavsanli**	**3.02**	**107**	*e*PN	**Pn**	**15 41 32.6**	**+1.4**
TVSB	**Tavsanli**	**3.02**	**107**	*e*Pn	**Pn**	**15 41 32.6**	**+1.4**
HRT	**Hereke**	**3.04**	**80**	*e*PN	**Pn**	**15 41 32.9**	**+1.6**
HRT	**Hereke**	**3.04**	**80**	*e*Pn	**Pn**	**15 41 32.9**	**+1.6**
ADVT	**Abdulvahap**	**3.07**	**88**	*e*PN	**Pn**	**15 41 33.3**	**+1.6**
ADVT	**Abdulvahap**	**3.07**	**88**	*e*Pn	**Pn**	**15 41 33.3**	**+1.6**
SILT	**Sile**	**3.07**	**74**	*e*PN	**Pn**	**15 41 33.2**	**+1.4**
SILT	**Sile**	**3.07**	**74**	*e*Pn	**Pn**	**15 41 33.2**	**+1.4**
PRD	**Provadia**	**3.08**	**23**	⇑*i* P	**Pn**	**15 41 30.7**	**-1.1**
PRD	**Provadia**	**3.08**	**23**	S	**Sb**	**15 42 18.5**	**+2.9**
PRD	**Provadia**	**3.08**	**23**	*i* P	**Pn**	**15 41 30.7**	**-1.1**
PRD	**Provadia**	**3.08**	**23**	*i* P	**Pn**	**15 41 30.7**	**-1.1**
CAVI	**Cavuskoy**	**3.16**	**92**	*e*PN	**Pn**	**15 41 34.7**	**+1.8**
CAVI	**Cavuskoy**	**3.16**	**92**	*e*Pn	**Pn**	**15 41 34.7**	**+1.8**
GDZ	**Gediz**	**3.17**	**113**	*i* P	**Pn**	**15 41 33.5**	**+0.3**
GDZ	**Gediz**	**3.17**	**113**	*i* P	**Pn**	**15 41 33.5**	**+0.3**
AYDN	**Tasoluk**	**3.20**	**148**	*i* P	**Pn**	**15 41 33.5**	**0.0**
AYDN	**Tasoluk**	**3.20**	**148**	*i* P	**Pn**	**15 41 33.5**	**0.0**
MPEP	**Malo Peshtene**	**3.32**	**334**	*i* P	**Pn**	**15 41 35.8**	**+0.7**
BODT	**Bodrum**	**3.54**	**159**	*e*PN	**Pn**	**15 41 38.4**	**+0.2**
BODT	**Bodrum**	**3.54**	**159**	*e*Pn	**Pn**	**15 41 38.4**	**+0.2**
KHAL	**Karahalli**	**3.55**	**123**	*i* P	**Pn**	**15 41 38.8**	**+0.4**
KHAL				*i* S	**Sn**	**15 42 17.9**	**-2.3**
KHAL	**Karahalli**	**3.55**	**123**	*i* P	**Pn**	**15 41 38.8**	**+0.4**
KHAL				*i* S	**Sn**	**15 42 17.9**	**-2.3**
KHL	**Karahalli**	**3.59**	**124**	*e*PN	**Pn**	**15 41 41.3**	**+2.3**
KHL	**Karahalli**	**3.59**	**124**	*e*Pn	**Pn**	**15 41 41.3**	**+2.3**
GULT	**Gulveren**	**3.66**	**88**	*e*PN	**Pn**	**15 41 42.0**	**+2.1**
GULT	**Gulveren**	**3.66**	**88**	*e*Pn	**Pn**	**15 41 42.0**	**+2.1**
BORA	**Eskisehir**	**3.66**	**96**	*i* P	**Pn**	**15 41 33.6**	**-5.3**
PSN	**Preselentsi**	**3.77**	**28**	⇑*i* P	**Pb**	**15 41 52.3**	**+2.4**
PSN	**Preselentsi**	**3.77**	**28**	S	**Sb**	**15 42 39.5**	**+4.1**
YER	**Yerkesik**	**3.81**	**148**	*e*PN	**Pn**	**15 41 42.3**	**+0.3**
YER	**Yerkesik**	**3.81**	**148**	*e*Pn	**Pn**	**15 41 42.3**	**+0.3**
MSAB	**Monastry St. A**	**4.02**	**22**	⇓*i* P	**Pn**	**15 41 45.3**	**+0.6**
MSAB	**Monastry St. A**	**4.02**	**22**	S	**Sg**	**15 42 51.0**	**-1.5**
MSAB	**Monastry St. A**	**4.02**	**22**	⇓*i* P	**Pn**	**15 41 45.3**	**+0.6**
ESKT	**Eskisehir**	**4.03**	**101**	*e*PN	**Pn**	**15 41 46.4**	**+1.3**
ESKT	**Eskisehir**	**4.03**	**101**	*e*Pn	**Pn**	**15 41 46.4**	**+1.3**
SEYT	**Eskypehyr**	**4.03**	**101**	*i* P	**Pn**	**15 41 46.0**	**+0.9**
SEYT	**Eskypehyr**	**4.03**	**101**	*i* P	**Pn**	**15 41 46.0**	**+0.9**
BOLV	**Bolvadin**	**4.37**	**111**	*i* P	**Pn**	**15 41 51.0**	**+1.3**
BOLV	**Bolvadin**	**4.37**	**111**	*i* P	**Pn**	**15 41 51.0**	**+1.3**
BOLS	**Boljevac**	**4.44**	**322**	⇑*i* Pn	**Pn**	**15 41 49.5**	**-1.0**
TIRR	**Tirgusor**	**4.53**	**25**	⇑*i* P	**Pn**	**15 41 51.3**	**-0.4**
TIRR	**Tirgusor**	**4.53**	**25**	⇑*i* P	**Pn**	**15 41 51.3**	**-0.4**
SVRH	**Sivrihisar-ESK**	**4.56**	**100**	*e*PN	**Pn**	**15 41 54.2**	**+2.0**
SVRH	**Sivrihisar-ESK**	**4.56**	**100**	*e*Pn	**Pn**	**15 41 54.2**	**+2.0**
KIZT	**Kizilcal**	**4.99**	**106**	*e*PN	**Pn**	**15 42 00.1**	**+1.9**
KIZT	**Kizilcal**	**4.99**	**106**	*e*Pn	**Pn**	**15 42 00.1**	**+1.9**
VOIR		**5.07**	**355**	⇑*i* P	**Pn**	**15 41 59.8**	**+0.5**
VOIR		**5.07**	**355**	⇑*i* P	**Pn**	**15 41 59.8**	**+0.5**
MLR	**Muntele Rosu**	**5.11**	**2**	⇑*i* P	**Pn**	**15 42 01.4**	**+1.6**
MLR	**Muntele Rosu**	**5.11**	**2**	S	**Sg**	**15 43 27.0**	**-0.4**
MLR	**Muntele Rosu**	**5.11**	**2**	⇑*i* P	**Pn**	**15 42 01.4**	**+1.6**
CFR	**Carcaliu**	**5.11**	**20**	⇑*i* P	**Pn**	**15 42 00.3**	**+0.6**
CFR	**Carcali

STKA	Stephens Creek	31.29 224	*e*P	P	15 58 46.3	+2.3
WRA	Warramunga Arr	32.35 249	P	P	15 58 51.9	-1.6
	4.0nm,0.8s,baz=82,slow=9.1,SNR=19					
AS31	Alice Springs	33.67 243	*e*P	P	15 59 03.4	-1.6
ASAR	Alice Springs	33.67 243	P	P	15 59 03.5	-1.5
	6.0nm,0.9s,baz=65,slow=10,SNR=59					
USRK	Ussuriysk Ar.	62.88 333	P	P	16 02 48.7	-0.9
	1.1nm,0.7s,baz=157,slow=7.8,SNR=3.9					
VNDA	Vanda	66.96 181	P	P	16 03 14.3	-1.4
	3.6nm,1.0s,baz=347,slow=8.2,SNR=8.8					
VNDA	Vanda	66.96 181	*e*P	P	16 03 14.6	-1.1
SBA	Scott Base	67.25 180	*e*P	P	16 03 17.5	0.0
	9.9nm,1.0s					
CMAR	Chiang Mai Arr	72.63 293	P	P	16 03 52.7	+1.1
	1.1nm,0.8s,baz=99,slow=3.6,SNR=7.5					
SONM	Songino Array	78.75 323	P	P	16 04 27.3	+1.1
	0.5nm,0.9s,baz=134,slow=4.3,SNR=3.9					
ILAR	Eielson Array	82.84 18	P	P	16 04 46.0	-1.5
	1.2nm,0.9s,baz=228,slow=6.2,SNR=10					
NVAR	Mina Array Bea	85.15 50	P	P	16 04 59.8	-0.4
	0.1nm,0.3s,baz=218,slow=5.7,SNR=5.1					
PDAR	Pinedale Array	92.69 47	P	P	16 05 38.1	+2.2
	0.1nm,0.6s,baz=256,slow=5.5,SNR=2.7					
ZALV	Zalesovo Beam	93.63 324	P	P	16 05 41.6	+2.0
	0.3nm,0.4s,baz=111,slow=6.3,SNR=2.1					
MKAR	Makanchi Array	93.71 317	P	P	16 05 39.6	-0.6
	0.5nm,0.7s,baz=101,slow=5.1,SNR=4.2					
ESDC	Sonseca Array	149.82 345	PKPbc	PKPbc	16 12 12.7	-1.2
	0.2nm,0.5s,baz=2.9,slow=3.2,SNR=2.8					

IDC 18 16:06:18.5±3.5, 6.31°S×150.01°E, h0km, mb3.0/2, mb1 3.4/3, mb1mx3.2/30, mbtmp3.2/3, ML1.2/1, Error ellipse: s-maj=131.7km s-min=41.8km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.17**	**222**	Pn	Pn	16 07 24.7	+1.3
	1.0nm,0.3s,baz=11,slow=5.2,SNR=4.6						
PMG				Sn	Sn	16 08 11.8	-1.2
	3.0nm,0.3s,baz=163,slow=16,SNR=5.7						
WRA	**Warramunga Arr**	**20.38**	**227**	P	P	16 10 56.9	-0.1
	0.6nm,0.6s,baz=52,slow=11,SNR=9.1						
ASAR	**Alice Springs**	**23.19**	**220**	P	P	16 11 25.9	-1.2
	0.2nm,0.7s,baz=54,slow=9.3,SNR=4.8						
TORD	**Torodi Ar. Bea**	**148.06**	**285**	PKPbc	PKPbc	16 26 06.9	-0.3
	0.2nm,0.5s,baz=82,slow=2.0,SNR=2.9						

IDC 18 16:09:06.7±3.6, 5.28°S×149.92E, h0km, mb2.9/2, mb1 3.3/2, mb1mx3.1/27, mbtmp3.0/2, Error ellipse: s-maj=135.9km s-min=47.0km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.03**	**225**	P	P	16 13 52.9	+0.6
	0.3nm,0.5s,baz=50,slow=10,SNR=6.5						
ASAR	**Alice Springs**	**23.92**	**219**	P	P	16 14 22.1	-0.6
	0.3nm,0.8s,baz=52,slow=8.9,SNR=3.8						
TORD	**Torodi Ar. Bea**	**147.71**	**286**	PKPbc	PKPbc	16 28 53.9	-0.6
	0.3nm,0.6s,baz=69,slow=3.5,SNR=4.1						

IDC 18 16:09:56.3±4.1, 5.57°S×149.73E, h0km, mb2.9/2, mb1 3.3/3, mb1mx3.1/29, mbtmp3.1/3, ML1.1/1, Error ellipse: s-maj=168.5km s-min=41.3km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.58**	**214**	Pn	Pn	16 11 07.2	+0.3
	0.6nm,0.3s,baz=8.1,slow=7.1,SNR=2.3						
WRA	**Warramunga Arr**	**20.69**	**225**	P	P	16 14 37.6	-0.7
	0.5nm,0.8s,baz=50,slow=10,SNR=5.1						
ASAR	**Alice Springs**	**23.58**	**219**	P	P	16 15 08.8	-0.1
	0.3nm,0.8s,baz=53,slow=8.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	**147.61**	**286**	PKPbc	PKPbc	16 29 43.4	-0.4
	0.2nm,0.5s,baz=67,slow=4.2,SNR=3.3						

*IDC **18** 16:17:04.4±2.4, 5.92°S×150.65E, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.6/31, mbtmp4.0/4, ML2.4/1, MS4.8/1, Ms1 4.8/1, ms1mx4.1/30, Error ellipse: s-maj=72.6km s-min=37.3km az=114.0*

*NEIC **18** 16:17:09.6±1.5, 6.12°S×150.81E, h35km, mb4.1/1, Error ellipse: s-maj=46.7km s-min=21.3km az=129.0*

ISC 18 16:17:10.4±2.2, 5.9S±0.3×150.4E±0.4, h48km, n9, σ1s16/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.78**	**222**	Pn	**Pn**	**16 18 21.0**	**+1.1**
	11nm,0.3s,baz=41,slow=12,SNR=35						
PMG				Sn	**Sn**	**16 19 12.9**	**-1.2**
	11nm,0.3s,baz=206,slow=20,SNR=9.4						
COEN	**Coen**	**10.75**	**221**	*e*P	**Pn**	**16 19 41.9**	**+0.1**
SIJI	**Sorong**	**19.73**	**284**	LR	LR	16 30 23.1	
	comp=Z,3μm,21.6s,baz=256,slow=40						
WRAB	**Tennant Creek**	**20.97**	**227**	*e*P	**P**	**16 21 50.7**	**+1.0**
	5.0nm,0.5s						
WRA	**Warramunga Arr**	**20.98**	**227**	P	**P**	**16 21 50.4**	**+0.6**
	4.4nm,0.5s,baz=51,slow=10.0,SNR=20						
AS31	**Alice Springs**	**23.79**	**220**	*e*P	**P**	**16 22 20.0**	**+1.1**
ASAR	**Alice Springs**	**23.80**	**220**	P	**P**	**16 22 19.9**	**+0.9**
	0.8nm,0.3s,baz=54,slow=9.1,SNR=45						
STKA	**Stephens Creek**	**27.18**	**197**	P	**P**	**16 22 48.7**	**-0.8**
	2.5nm,1.1s,baz=25,slow=17,SNR=2.7						
TORD	**Torodi Ar. Bea**	**148.32**	**286**	PKPbc	**PKPab**	**16 36 54.6**	**-1.1**
	1.6nm,0.5s,baz=95,slow=2.6,SNR=21						

*IDC **18** 16:19:39.2±0.8, 6.00°S×150.81E, h0km, mb4.0/8, mb1 4.2/9, mb1mx3.8/33, mbtmp4.0/9, ML2.8/1, Error ellipse: s-maj=30.0km s-min=18.6km az=117.0*

*ISCJB **18** 16:19:44.9±0.6, 6.04°S±0.09°×150.52°E±0.09, h43km, mb4.0/8, Error ellipse: s-maj=16.0km s-min=8.6km az=40.8*

ISC 18 16:19:45.7±0.8, 6.0S±0.1°×150.6E±0.1°, h43km, n25, σ0s96/27, mb3.9/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.33**	**41**	P	Pn	16 20 26.2	+4.6
	baz=2.5,SNR=4.2						
PMG	**Port Moresby**	**4.85**	**225**	Pn	**Pn**	**16 20 57.1**	**+0.9**
	24nm,0.3s,baz=24,slow=7.4,SNR=23						
PMG				Sn	**Sn**	**16 21 50.0**	**-1.1**
	40nm,0.3s,baz=116,slow=21,SNR=16						
PMG	**Port Moresby**	**4.85**	**225**	P	**Pn**	**16 20 57.5**	**+1.3**
	baz=4.7,SNR=56						
PMG				P	**Pn**	**16 20 57.5**	**+1.3**
	baz=4.7,SNR=56						
PMG				P	**Pn**	**16 20 57.5**	**+1.3**
	baz=4.7,SNR=56						
COEN	**Coen**	**10.81**	**222**	P	**Pn**	**16 22 18.6**	**+0.6**
	baz=11,SNR=5.0						
KDU	**Kakadu**	**19.11**	**248**	P	**P**	**16 24 05.3**	**+0.2**
	baz=19,SNR=24						
MTN	**Manton Dam**	**20.40**	**249**	P	**P**	**16 24 19.8**	**+0.6**
	baz=20,SNR=7.7						
RMQ	**Roma**	**20.48**	**185**	P	**P**	**16 24 21.1**	**+1.1**
	baz=20,SNR=10						
WRA	**Warramunga Arr**	**21.06**	**227**	P	**P**	**16 24 25.6**	**-0.8**
	4.2nm,0.7s,baz=52,slow=10,SNR=15						
QLP	**Quilpie**	**21.39**	**196**	P	**P**	**16 24 29.8**	**0.0**
	baz=21,SNR=4.0						
KNRA	**Kununurra**	**23.52**	**244**	P	**P**	**16 24 52.5**	**+0.4**
	baz=23,SNR=19						
ASAR	**Alice Springs**	**23.85**	**221**	P	**P**	**16 24 55.5**	**+0.3**
	1.3nm,0.5s,baz=55,slow=9.1,SNR=18						
BATI	**Baumata**	**27.02**	**259**	P	**P**	**16 25 24.4**	**+0.4**
	22nm,0.7s,baz=103,slow=8.3,SNR=3.2						
STKA	**Stephens Creek**	**27.13**	**197**	P	**P**	**16 25 24.0**	**-0.8**
	1.5nm,0.8s,baz=25,slow=12,SNR=4.3						
FITZ	**Fitzroy Crossi**	**27.21**	**241**	P	**P**	**16 25 25.7**	**0.0**
	baz=27,SNR=17						
WRKA	**Warakurna**	**28.59**	**226**	P	**P**	**16 25 37.5**	**-0.5**
	baz=28,SNR=4.4						
JAGI	**Jajag, Banyuwa**	**36.26**	**264**	P	**P**	**16 26 43.4**	**-1.8**
	baz=36,SNR=4.8						
CISI	**Cisompet, Garu**	**42.53**	**265**	P	**P**	**16 27 37.3**	**-0.3**
	baz=42,SNR=4.0						
KSRS	**Korea Array**	**48.11**	**336**	P	**P**	**16 28 22.9**	**+1.6**
	1.1nm,0.9s,baz=153,slow=8.0,SNR=3.2						
VNDA	**Vanda**	**71.76**	**177**	P	**P**	**16 31 03.0**	**-0.1**
	1.0nm,0.6s,baz=334,slow=6.9,SNR=4.4						
QSPA	**South Pole Qui**	**84.00**	**180**	P	**P**	**16 32 11.3**	**-0.1**
	1.7nm,0.6s,baz=321,slow=0.8,SNR=14						
ILAR	**Eielson Array**	**84.05**	**22**	P	**P**	**16 32 09.5**	**-2.0**
	0.3nm,0.7s,baz=252,slow=5.2,SNR=6.8						
NVAR	**Mina Array Bea**	**94.50**	**52**	P	**P**	**16 33 03.2**	**+1.1**
	1.2nm,0.7s,baz=248,slow=6.9,SNR=12						
GERES	**GERESS Array B**	**123.88**	**327**	PKP	**PKPdf**	**16 38 39.0**	**-0.3**
	0.5nm,0.6s,baz=67,slow=4.5,SNR=4.9						
TORD	**Torodi Ar. Bea**	**148.57**	**285**	PKPbc	**PKPbc**	**16 39 28.9**	**-0.2**
	2.5nm,0.4s,baz=92,slow=2.7,SNR=42						
BDFB	**Brasilia**	**151.69**	**140**	PKPbc	**PKPbc**	**16 39 36.4**	**-0.2**
	4.0nm,0.6s,baz=299,slow=2.1,SNR=6.7						

IDC 18 16:22:55.3±3.1, 6.04°S×151.13E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.4/31, mbtmp3.7/3, ML1.4/1, Error ellipse: s-maj=127.6km s-min=40.2km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.16**	**229**	Pn	Pn	16 24 15.5	+1.6
	0.9nm,0.3s,baz=30,slow=8.1,SNR=3.4						
PMG				Sn	Sn	16 25 08.2	-6.0
	4.0nm,0.3s,baz=100,slow=18,SNR=4.5						
WRA	**Warramunga Arr**	**21.38**	**228**	P	P	16 27 44.0	-0.7
	1.8nm,0.5s,baz=54,slow=10,SNR=11						
ASAR	**Alice Springs**	**24.12**	**222**	P	P	16 28 12.7	-0.4
	0.5nm,0.4s,baz=56,slow=8.9,SNR=9.3						
TORD	**Torodi Ar. Bea**	**149.07**	**285**	PKPbc	PKPbc	16 42 46.3	-0.3
	1.4nm,0.5s,baz=91,slow=2.6,SNR=13						

ISC 18 16:23:19.4±4.1, 45.05N±0.10°×16.9E±0.2, h9km, n5, σ0s54/7, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SISC	**Sisak**	**0.58**	**316**	*e*Pg	**Pb**	**16 23 31.9**	**+0.2**
SISC				Sg	**Sg**	**16 23 37.7**	**-0.6**
GCIS	**Gornji Cirnik**	**1.23**	**312**	*i* Pg	**Pg**	**16 23 43.5**	**+0.4**
BOJS	**Bojanci**	**1.28**	**291**	*i* Pg	**Pn**	**16 23 43.2**	**-0.2**
CRES	**Cresnjev**	**1.30**	**307**	*i* Pg	**Pg**	**16 23 44.5**	**+0.1**
NVLJ	**Novalja**	**1.55**	**252**	*e*Pn	**Pb**	**16 23 48.0**	**-0.3**
NVLJ				Sn	**Sb**	**16 24 08.7**	**+0.6**

*IDC **18** 16:27:02.2±1.2, 6.12°S×151.02E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.8/30, mbtmp4.0/6, ML1.6/1, Error ellipse: s-maj=54.3km s-min=24.3km az=121.0*

*ISCJB **18** 16:27:07.0±1.2, 6.1S±0.3°×150.8E±0.2, h43km, mb3.9/5, Error ellipse: s-maj=47.6km s-min=13.4km az=138.3*

ISC 18 16:27:08.6±1.2, 6.1S±0.3°×150.9E±0.3, h43km, n7, σ0s65/8, mb3.9/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.92**	**228**	Pn	**Pn**	**16 28 20.8**	**+0.8**
	1.4nm,0.3s,baz=39,slow=5.9,SNR=5.5						
PMG				Sn	**Sn**	**16 29 15.1**	**-0.6**
	5.0nm,0.3s,baz=199,slow=18,SNR=6.1						
WRA	**Warramunga Arr**	**21.14**	**228**	P	**P**	**16 31 49.6**	**-0.5**
	3.0nm,0.6s,baz=54,slow=12,SNR=21						
ASAR	**Alice Springs**	**23.89**	**221**	P	**P**	**16 32 18.0**	**-0.5**
	2.0nm,0.5s,baz=56,slow=9.0,SNR=44						
STKA	**Stephens Creek**	**27.06**	**198**	P	**P**	**16 32 47.2**	**+0.1**
	4.2nm,0.8s,baz=29,slow=9.6,SNR=7.5						
VNDA	**Vanda**	**71.60**	**177**	P	**P**	**16 38 25.0**	**0.0**
	0.8nm,0.3s,baz=342,slow=9.6,SNR=2.3						
ILAR	**Eielson Array**	**84.10**	**22**	P	**P**	**16 39 34.2**	**-0.4**
	0.9nm,1.0s,baz=255,slow=4.7,SNR=7.8						
TORD	**Torodi Ar. Bea**	**148.84**	**285**	PKPbc	**PKPbc**	**16 46 53.3**	**+0.6**
	0.7nm,0.6s,baz=74,slow=2.0,SNR=6.7						

IDC 18 16:29:19.6±3.7, 5.17°S×149.91E, h0km, mb3.0/2, mb1 3.4/3, mb1mx3.2/30, mbtmp3.3/3, Error ellipse: s-maj=141.2km s-min=41.3km az=113.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.02**	**213**	Pn	Pn	16 30 38.3	+2.1
	baz=52,slow=17,SNR=1.3						
PMG				Sn	Sn	16 31 30.3	-4.7
	0.8nm,0.3s,baz=285,slow=17,SNR=2.6						
WRA	**Warramunga Arr**	**21.11**	**225**	P	P	16 34 05.9	-0.2
	0.3nm,0.4s,baz=50,slow=10,SNR=2.7						
ASAR	**Alice Springs**	**24.01**	**218**	P	P	16 34 35.1	-1.3
	0.5nm,0.8s,baz=54,slow=8.8,SNR=3.3						
TORD	**Torodi Ar. Bea**	**147.67**	**286**	PKPbc	PKPbc	16 49 07.0	-0.2
	0.4nm,0.6s,baz=74,slow=3.6,SNR=2.7						

IDC 18 16:37:46.9±27.0, 22.94S×173.24W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/30, mbtmp3.8/4, Error ellipse: s-maj=492.3km s-min=141.3km az=79.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.71**	**266**	P	P	16 45 05.2	+0.7
	3.1nm,0.9s,baz=87,slow=19,SNR=3.1						
STKA	**Stephens Creek**	**40.83**	**247**	P	P	16 45 29.4	-1.1
	1.9nm,0.9s,baz=84,slow=10,SNR=3.3						
ASAR	**Alice Springs**	**48.31**	**258**	P	P	16 46 30.1	-0.4
	0.2nm,0.3s,baz=95,slow=7.6,SNR=17						
WRA	**Warramunga Arr**	**48.67**	**263**	P	P	16 46 33.5	+0.2
	0.4nm,0.4s,baz=100,slow=8.2,SNR=28						

IDC 18 16:37:52.9±8.4, 5.17°S×150.61E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.4/30, mbtmp3.7/4, ML1.4/1, Error ellipse: s-maj=127.6km s-min=83.0km az=14.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.42**	**219**	Pn	Pn	16 39 15.8	+0.7
	0.8nm,0.3s,baz=42,slow=16,SNR=3.8						
PMG				Sn	Sn	16 40 08.0	-10
	3.4nm,0.3s,baz=54,slow=18,SNR=7.1						
WRA	**Warramunga Arr**	**21.59**	**226**	P	P	16 42 44.5	0.0
	1.1nm,0.5s,baz=51,slow=11,SNR=17						
ASAR	**Alice Springs**	**24.44**	**220**	P	P	16 43 13.8	+0.2
	0.5nm,0.5s,baz=53,slow=9.2,SNR=21						
STKA	**Stephens Creek**	**27.88**	**197**	P	P	16 43 44.0	-0.6
	1.8nm,1.0s,baz=41,slow=16,SNR=4.0						

IDC 18 16:45:44.9±2.6, 6.06S×150.75E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.3/30, mbtmp3.5/4, ML1.6/1, Error ellipse: s-maj=78.8km s-min=39.8km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.87**	**227**	Pn	Pn	16 47 01.3	+1.8
	1.5nm,0.3s,baz=38,slow=14,SNR=6.5						
PMG				Sn	Sn	16 47 50.3	-6.3
	3.5nm,0.3s,baz=123,slow=17,SNR=4.4						
WRA	**Warramunga Arr**	**21.09**	**228**	P	P	16 50 31.0	-0.2
	0.8nm,0.8s,baz=52,slow=10,SNR=6.9						
ASAR	**Alice Springs**	**23.86**	**221**	P	P	16 50 59.8	-0.5
	0.3nm,0.4s,baz=54,slow=9.2,SNR=15						
STKA	**Stephens Creek**	**27.07**	**197**	P	P	16 51 28.6	-0.8
	2.1nm,1.0s,baz=25,slow=13,SNR=3.2						
TORD	**Torodi Ar. Bea**	**148.71**	**285**	PKPbc	PKPbc	17 05 35.2	-0.2
	0.5nm,0.7s,baz=64,slow=2.5,SNR=2.9						

*IDC **18** 16:45:50.9±26.0, 52.40N×169.63W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.3/42, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=492.8km s-min=51.1km az=87.0*

*NEIC **18** 16:45:51.5, 52.65N×169.53W, h5km, ML3.2(AEIC), After AEIC.*

ISC 18 16:45:52.4±1.7, 52.9N±0.1°×169.74W±0.08, h8km±11km, n20, σ0s84/19, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.54**	**85**	P	**Pg**	**16 46 02.5**	**-0.4**
NIKH				S	**Sg**	**16 46 10.4**	**+0.6**
OKWR	**Okmok West Rim**	**1.05**	**61**	P	**Pg**	**16 46 13.4**	**+0.7**
OKAK	**Okmok**	**1.05**	**51**	P	**Pg**	**16 46 11.8**	**-0.9**
OKCE	**Okmok Cone E**	**1.07**	**62**	P	**Pg**	**16 46 13.0**	**+0.1**
OKCE				S	**Sn**	**16 46 30.4**	**+1.7**
OKTU	**Okmok Mt. Tuli**	**1.12**	**65**	P	**Pb**	**16 46 13.6**	**-0.4**
OKTU				S	**Sn**	**16 46 30.4**	**+0.5**
MSOM	**Makushin Julie**	**1.89**	**61**	P	**Pn**	**16 46 25.3**	**+0.4**
MCIR	**Makushin Cirqu**	**1.99**	**58**	P	**Pn**	**16 46 27.7**	**+1.4**
MSW	**Makushin Switc**	**2.03**	**60**	P	**Pn**	**16 46 26.6**	**-0.2**
MSW				S	**Sb**	**16 46 54.1**	**-0.6**
MTBL	**Makushin Table**	**2.11**	**59**	P	**Pn**	**16 46 29.1**	**+1.1**
UNV	**Unalaska Valle**	**2.15**	**63**	P	**Pn**	**16 46 28.6**	**+0.2**
UNV				S	**Sn**	**16 46 54.4**	**-0.7**
ATKA	**Atka Island**	**2.82**	**257**	P	**Pn**	**16 46 38.2**	**+0.6**
ILAR	**Eielson Array**	**16.62**	**36**	Pn	**P**	**16 49 47.8**	**-0.1**
	0.0nm,0.3s,baz=223,slow=12,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**37.76**	**218**	T	T	17 32 59.9	
	baz=24,slow=75,SNR=5.2						
H11N3	**WAKE ISLAND Hy**	**37.76**	**218**	T	T	17 33 00.5	
	baz=24,slow=75,SNR=5.0						
H11N1	**WAKE ISLAND Hy**	**37.77**	**218**	T	T	17 33 00.4	
	baz=24,slow=75,SNR=4.3						
H11S1	**WAKE ISLAND Hy**	**38.95**	**217**	T	T	17 34 29.5	
	baz=23,slow=76,SNR=52						
H11S2	**WAKE ISLAND Hy**	**38.96**	**217**	T	T	17 34 31.2	
	baz=23,slow=76,SNR=34						
H11S3	**WAKE ISLAND Hy**	**38.97**	**217**	T	T	17 34 30.7	
	baz=23,slow=76,SNR=31						
PDAR	**Pinedale Array**	**40.52**	**80**	P	**P**	**16 53 32.0**	**+0.1**
	0.3nm,0.6s,baz=297,slow=4.0,SNR=3.6						
TXAR	**Lajitas Array**	**52.96**	**89**	P	**P**	**16 55 08.5**	**-0.8**
	0.3nm,0.7s,baz=308,slow=4.4,SNR=5.6						

IDC 18 16:46:17.6±3.8, 5.50S×149.72E, h0km, mb3.0/2, mb1 3.4/2, mb1mx3.2/26, mbtmp3.1/2, Error ellipse: s-maj=141.8km s-min=47.7km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.64**	**213**	Sn	Sn	16 48 22.9	-0.8
	0.9nm,0.3s,baz=258,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**20.73**	**225**	P	P	16 51 01.1	+1.0
	1.4nm,0.8s,baz=51,slow=10,SNR=7.3						
ASAR	**Alice Springs**	**23.63**	**219**	P	P	16 51 30.1	-0.6
	0.1nm,0.4s,baz=51,slow=9.9,SNR=2.9						
TORD	**Torodi Ar. Bea**	**147.57**	**286**	PKPbc	PKPbc	17 06 04.2	-0.9
	0.2nm,0.5s,baz=84,slow=3.5,SNR=3.2						

IDC 18 16:46:34.2±2.7, 5.91°S×150.54E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/28, mbtmp3.6/3, Error ellipse: s-maj=83.3km s-min=42.8km az=109.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.83**	**224**	Sn	Sn	16 48 43.6	-1.3
	3.2nm,0.3s,baz=90,slow=20,SNR=3.1						
WRA	**Warramunga Arr**	**21.04**	**227**	P	P	16 51 20.1	+0.2
	0.8nm,0.5s,baz=52,slow=11,SNR=6.1						
ASAR	**Alice Springs**	**23.83**	**221**	P	P	16 51 49.5	+0.2
	0.4nm,0.5s,baz=54,slow=9.1,SNR=12						
STKA	**Stephens Creek**	**27.16**	**197**	P	P	16 52 18.7	-0.7
	1.5nm,1.0s,baz=32,slow=16,SNR=4.4						
TORD	**Torodi Ar. Bea**	**148.47**	**285**	PKPbc	PKPbc	17 06 23.5	-0.5
	0.1nm,0.4s,baz=94,slow=2.5,SNR=2.7						

IDC 18 16:48:24.7±2.6, 5.48S×150.39E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.4/25, mbtmp3.7/4, ML2.0/1, Error ellipse: s-maj=77.0km s-min=39.8km az=110.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.04**	**219**	Pn	Pn	16 49 43.2	+1.5
	3.9nm,0.3s,baz=35,slow=13,SNR=6.6						
PMG				Sn	Sn	16 50 35.4	-5.4
	2.8nm,0.3s,baz=204,slow=20,SNR=4.0						
WRA	**Warramunga Arr**	**21.22**	**226**	P	P	16 53 12.1	-0.3
	0.7nm,0.3s,baz=51,slow=10,SNR=7.2						
ASAR	**Alice Springs**	**24.06**	**220**	P	P	16 53 40.8	-1.2
	0.6nm,0.7s,baz=56,slow=8.4,SNR=8.1						
STKA	**Stephens Creek**	**27.52**	**196**	P	P	16 54 13.1	0.0
	2.0nm,0.9s,baz=20,slow=12,SNR=2.8						
TORD	**Torodi Ar. Bea**	**148.21**	**286**	PKPbc	PKPbc	17 08 13.8	-0.1
	0.7nm,0.4s,baz=94,slow=3.2,SNR=7.9						

IDC 18 16:51:27.1±2.6, 5.77°S×150.70E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.4/29, mbtmp3.7/4, ML1.2/1, Error ellipse: s-maj=80.1km s-min=40.0km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.04**	**224**	Pn	Pn	16 52 45.7	+1.8
	0.6nm,0.3s,baz=37,slow=5.1,SNR=3.3						
PMG				Sn	Sn	16 53 37.6	-5.3
	1.2nm,0.3s,baz=49,slow=20,SNR=2.9						
WRA	**Warramunga Arr**	**21.25**	**227**	P	P	16 56 14.3	-0.7
	1.4nm,0.5s,baz=51,slow=9.9,SNR=11						
ASAR	**Alice Springs**	**24.04**	**221**	P	P	16 56 43.5	-0.6
	0.6nm,0.7s,baz=56,slow=9.0,SNR=11						
STKA	**Stephens Creek**	**27.33**	**197**	P	P	16 57 13.9	+0.1
	0.8nm,0.8s,baz=31,slow=12,SNR=4.0						
TORD	**Torodi Ar. Bea**	**148.59**	**286**	PKPbc	PKPbc	17 11 16.9	-0.3
	0.3nm,0.5s,baz=54,slow=2.7,SNR=4.1						

IDC 18 16:58:51.5±2.7, 5.23°S×150.11E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/25, mbtmp3.6/4, Error ellipse: s-maj=82.1km s-min=26.6km az=96.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.08**	**215**	Sn	Sn	17 01 08.4	+0.1
	6.7nm,0.3s,baz=63,slow=19,SNR=9.3						
WRA	**Warramunga Arr**	**21.20**	**225**	P	P	17 03 38.2	-0.7
	1.4nm,0.5s,ba

AMOG	**MOGNA**	**1.20**	**8**	*eP*		**Pn**	17 00 43.6	**+0.9**	
ACAN	**Cantantal**	**1.29**	**97**	*eP*		**Pn**	17 00 44.4	**+0.9**	
ACAN				*eS*		**Sn**	17 01 01.7	**-0.9**	
PEL	**Peldehue**	**1.96**	**238**	*eP*		**Pn**	17 00 51.7	**+0.3**	
PEL				*eS*		**Sn**	17 01 16.7	**0.0**	
PEL				AML		AML	17 01 17.9		
	comp=E,2μm,0.4s								
CLCH	**Cerro Calan**	**2.00**	**230**	*eP*		**Pn**	17 00 52.4	**+0.5**	
CLCH				*eS*		**Sn**	17 01 18.3	**+0.6**	
CLCH				AML		AML	17 01 20.9		
	comp=N,2μm,0.5s								
STL	**Santa Lucia**	**2.09**	**231**	*eP*		**Pn**	17 00 53.2	**+0.2**	
STL				*eS*		**Sn**	17 01 19.4	**-0.2**	
PCH	**Pirque**	**2.13**	**225**	*eP*		**Pn**	17 00 54.1	**+0.5**	
PCH				*eS*		**Sn**	17 01 21.1	**+0.5**	
TACH	**Talagante**	**2.42**	**231**	*eP*		**Pn**	17 00 56.7	**-0.5**	
TACH				*eS*		**Sn**	17 01 25.4	**-1.7**	
MRA	**San Martin**	**2.54**	**97**	*eP*		**Pn**	17 00 59.4	**+0.6**	
MRA				*eS*		**Sn**	17 01 29.0	**-0.9**	
LNV	**Longovilo**	**2.92**	**231**	*eP*		**Pn**	17 01 02.1	**-1.4**	
LNV				*eS*		**Sn**	17 01 35.2	**-3.2**	
LSCH	**La Serena**	**3.11**	**315**	*eP*		**Pn**	17 01 05.9	**-0.3**	
LSCH				*eS*		**Sn**	17 01 41.5	**-1.5**	
VCA	**Vinchina**	**3.41**	**7**	*eP*		**Pn**	17 01 11.7	**+1.5**	
VCA				IAML			17 01 55.4		
	comp=Z,285nm,0.2s								
SUCO	**SUCO**	**3.44**	**112**	*eP*		**Pn**	17 01 10.7	**+0.3**	
SUCO				*eS*		**Sn**	17 01 50.2	**-0.5**	
SUCO				IAML			17 01 50.8		
	comp=Z,230nm,0.3s								
CYA	**Choya**	**4.45**	**35**	*eP*		**Pn**	17 01 23.3	**-0.6**	
CYA				IAML			17 01 24.4		
	comp=Z,105nm,0.5s								
AHML	**Horco Molle**	**6.08**	**30**	*eP*		**Pn**	17 01 44.2	**-1.7**	
LVC	**Limon Verde**	**9.48**	**359**	P		**Pn**	17 02 30.4	**-1.7**	
	comp=Z,127nm,0.3s,baz=189,slow=8.3,SNR=42								
LVC				S		Sn	17 04 26.9	+10	
	baz=72,slow=20,SNR=1.1								
CPUP	**Villa Florida**	**11.48**	**63**	P		**Pn**	17 02 57.3	**-1.3**	
	comp=Z,0.2nm,0.3s,baz=227,slow=14,SNR=3.4								
CPUP				S		**Sn**	17 05 01.2	**-3.9**	
	comp=Z,0.5nm,0.3s,baz=216,slow=17,SNR=2.2								
LPAZ	**La Paz**	**15.78**	**2**	P		**Pn**	17 03 55.2	**+0.8**	
	comp=Z,1.10nm,0.3s,baz=173,slow=10,SNR=16								
SIV	**San Ignacio**	**17.50**	**25**	P		**Pn**	17 04 15.3	**+0.5**	
	comp=Z,0.5nm,0.3s,baz=213,slow=12,SNR=26								
SNAA	**Sanae**	**52.27**	**159**	P		**P**	17 09 17.7	**+0.9**	
	comp=Z,0.2nm,0.3s,baz=274,slow=8.9,SNR=4.5								
SNAA				pP		**pP**	17 09 46.1	**+0.7**	
	comp=Z,0.4nm,0.7s,baz=344,slow=6.5,SNR=3.7								
TXAR	**Lajitas Array**	**69.57**	**328**	P		**P**	17 11 16.1	**+1.9**	
	comp=Z,0.2nm,0.5s,baz=144,slow=8.7,SNR=5.5								
TXAR				pP		**pP**	17 11 45.4	**+1.1**	
	comp=Z,0.3nm,0.7s,baz=160,slow=7.6,SNR=3.3								
WRA	**Warramunga Arr**	**123.72**	**206**	PKP		**PKPdf**	17 19 02.4	**+0.1**	
	comp=Z,1.3nm,1.2s,baz=152,slow=1.9,SNR=3.6								

*IDC **18** 17:05:34.9±2.0,52.°86N×170.°19W,h0km,mb3.4/2, mb1 3.7/4,mb1mx3.3/49,mbtmp3.4/4,ML3.2/2,Error ellipse: s-maj=49.1km s-min=30.2km az=0.0*
*ISCJB **18** 17:05:36.9±1.1,53.°0N±0.°1×169.°73W±0.°10,h18km±9km, mb3.3/2,Error ellipse: s-maj=22.2km s-min=6.1km az=158.8*
*NEIC **18** 17:05:36.1,52.°71N×169.°58W,h16km,ML3.5(AEIC),After AEIC.*

ISC 18 17:05:35.7±1.9,53.°0N±0.°1×169.°69W±0.°06,h2km±13km, n29,σ1§30/26,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OKAK	**Okmok**	**1.00**	**52**	P		**Pg**	17 05 54.9	**0.0**
OKAK				S		**Sb**	17 06 08.8	**-0.7**
OKWE	**Okmok W'ng Wal**	**1.00**	**60**	P		**Pn**	17 05 56.6	**-0.3**
OKCE	**Okmok Cone E**	**1.02**	**63**	P		**Pb**	17 05 55.8	**-0.3**
OKCE				S		**Sn**	17 06 12.5	**+0.4**
OKTU	**Okmok Mt. Tuli**	**1.07**	**67**	P		**Pg**	17 05 56.6	**+0.3**
MSOM	**Makushin Julie**	**1.84**	**62**	P		**Pn**	17 06 08.0	**-0.4**
MCIR	**Makushin Cirqu**	**1.94**	**59**	P		**Pn**	17 06 10.2	**+0.5**
MSW	**Makushin Switc**	**1.98**	**60**	P		**Pn**	17 06 10.5	**+0.2**
MSW				S		**Sb**	17 06 36.7	**-0.8**
MTBL	**Makushin Table**	**2.06**	**60**	P		**Pn**	17 06 11.4	**0.0**
UNV	**Unalaska Valle**	**2.10**	**64**	P		**Pn**	17 06 10.9	**-1.0**
UNV				S		**Sn**	17 06 37.9	**-0.7**
AKRB	**Akutan Reef Bi**	**2.45**	**60**	P		**Pn**	17 06 16.9	**+0.2**
ZRO	**Akutan Zero**	**2.48**	**62**	P		**Pn**	17 06 18.2	**+1.0**
AKGG	**Akutan Green G**	**2.52**	**59**	P		**Pn**	17 06 18.4	**+0.7**
AKUT	**Akutan**	**2.61**	**62**	*e*Pn		**Pn**	17 06 18.6	**-0.3**
AKUT				*e*Sn		**Sn**	17 06 48.6	**-2.5**
ATKA	**Atka Island**	**2.86**	**256**	P		**Pn**	17 06 21.2	**-1.1**
GSTR	**Great Sitkin T**	**3.99**	**260**	P		**Pn**	17 06 38.9	**+1.0**
GSMY	**Great Sitkin M**	**4.00**	**259**	P		**Pn**	17 06 38.7	**+0.7**
SPIA	**Saint Paul Isl**	**4.22**	**356**	P		**Pn**	17 06 42.6	**+1.5**
ILAR	**Eielson Array**	**16.57**	**36**	Pn		**Pn**	17 09 28.9	**0.0**
	0.1nm,0.3s,baz=224,slow=11,SNR=3.2							
PETK	**Petropavlovsk-**	**19.52**	**284**	P		**P**	17 10 00.7	**-3.4**
	0.2nm,0.3s,baz=81,slow=10,SNR=3.3							
H02N1	**VAN INLET T-PH**	**22.14**	**74**	T		T	17 33 26.7	
H02S1	**DAWSON INLET T**	**22.19**	**74**	T		T	17 33 31.1	
	SNR=7.6							
H11N2	**WAKE ISLAND Hy**	**37.81**	**218**	T		T	17 52 46.3	
	baz=24,slow=76,SNR=24							
H11N3	**WAKE ISLAND Hy**	**37.82**	**218**	T		T	17 52 41.9	
	baz=24,slow=76,SNR=19							
H11N1	**WAKE ISLAND Hy**	**37.83**	**218**	T		T	17 52 43.9	
	baz=24,slow=76,SNR=20							
NVAR	**Mina Array Bea**	**37.87**	**91**	P		**P**	17 12 57.2	**+3.0**
	0.4nm,0.7s,baz=299,slow=7.9,SNR=3.7							
H11S1	**WAKE ISLAND Hy**	**39.00**	**217**	T		T	17 54 13.0	
	baz=23,slow=76,SNR=332							
H11S2	**WAKE ISLAND Hy**	**39.02**	**217**	T		T	17 54 12.6	
	baz=23,slow=76,SNR=173							
H11S3	**WAKE ISLAND Hy**	**39.02**	**217**	T		T	17 54 13.5	
	baz=23,slow=76,SNR=216							
TXAR	**Lajitas Array**	**52.93**	**89**	P		**P**	17 14 53.9	**+0.5**
	0.4nm,0.8s,baz=302,slow=5.8,SNR=3.9							

IDC 18 17:09:03.9±4.5,5.°79S×150.°43E,h0km,mb3.2/3, mb1 3.5/4,mb1mx3.3/33,mbtmp3.4/4,ML1.6/1,Error ellipse: s-maj=129.4km s-min=29.8km az=107.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**4.84**	**222**	Pn		Pn	17 10 19.3	**+1.3**
	1.9nm,0.3s,baz=41,slow=9.0,SNR=7.7							
PMG				Sn		Sn	17 11 17.0	+2.1
	1.3nm,0.3s,baz=27,slow=18,SNR=4.0							
WRA	**Warramunga Arr**	**21.04**	**227**	P		P	17 13 48.5	-1.1
	0.4nm,0.5s,baz=51,slow=11,SNR=6.5							
ASAR	**Alice Springs**	**23.85**	**220**	P		P	17 14 18.9	-0.3
	0.5nm,0.6s,baz=54,slow=8.4,SNR=8.2							
SONM	**Songino Array**	**65.93**	**329**	P		P	17 19 52.4	+0.4
	0.4nm,0.6s,baz=139,slow=6.2,SNR=4.1							

IDC 18 17:09:20.0±3.5,6.°13S×151.°01E,h0km,mb3.5/3, mb1 3.8/3,mb1mx3.4/34,mbtmp3.6/3,Error ellipse: s-maj=114.7km s-min=30.1km az=108.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.23**	**228**	P		P	17 14 07.1	-0.7
	1.5nm,0.4s,baz=51,slow=10,SNR=7.1							
ASAR	**Alice Springs**	**23.97**	**222**	P		P	17 14 36.5	0.0
	1.1nm,0.7s,baz=57,slow=8.2,SNR=11							
SONM	**Songino Array**	**66.51**	**329**	P		P	17 20 12.7	+0.9
	0.3nm,0.5s,baz=145,slow=5.3,SNR=2.8							
TORD	**Torodi Ar. Bea**	**148.98**	**285**	PKPbc		PKPbc	17 29 09.7	-1.4
	0.5nm,0.6s,baz=72,slow=2.8,SNR=3.5							

IDC 18 17:11:36.2±3.6,5.°55S×150.°44E,h0km,mb3.2/2, mb1 3.5/3,mb1mx3.2/35,mbtmp3.3/3,MS3.1/1,Ms1 3.1/1, ms1mx2.8/21,Error ellipse: s-maj=145.8km s-min=41.5km az=118.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.03**	**220**	Pn		Pn	17 12 55.0	+2.1
	baz=19,slow=14,SNR=1.6							
PMG				Sn		Sn	17 13 46.0	-5.8
	1.0nm,0.3s,baz=29,slow=19,SNR=2.6							
WRA	**Warramunga Arr**	**21.21**	**226**	P		P	17 16 23.2	-0.6
	0.5nm,0.4s,baz=50,slow=10.0,SNR=5.6							
ASAR	**Alice Springs**	**24.04**	**220**	P		P	17 16 52.5	-0.9
	0.5nm,0.7s,baz=54,slow=9.0,SNR=4.3							
NWAO	**Narrogin (SRO)**	**41.20**	**224**	LR		LR	17 36 16.0	
	comp=Z,23nm,19.1s,baz=308,slow=36							
TORD	**Torodi Ar. Bea**	**148.28**	**286**	PKPbc		PKPbc	17 31 25.2	-0.3
	0.3nm,0.5s,baz=66,slow=4.6,SNR=2.5							

NNC 18 17:15:53.2±10.0,37.°37N×71.°04E,h0km,mb3.6,mpv3.2, 3C-3D,Error ellipse: s-maj=93.4km s-min=39.5km az=172.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZET	**Dzherino**	**2.26**	**310**	⇑Pn		Pn	17 16 30.9	-1.1
	5.0nm,0.5s							
DZET				⇑Sn		Sb	17 17 03.9	+0.2
	76nm,0.4s							
SFK	**Sufi-Kurgan**	**3.27**	**35**	⇓Pn		Pn	17 16 45.9	-0.2
	3.8nm,0.4s							
SFK				⇓Sn		Sb	17 17 31.0	-2.2
	3.8nm,0.2s							
KK31	**Karatay Array**	**5.75**	**356**	⇓Pn		Pn	17 17 19.9	+0.1
	1.7nm,0.4s,baz=181,slow=13,SNR=52							
KK31				⇑Sn		Sn	17 18 29.7	+3.2
	0.7nm,0.3s,baz=189,slow=27,SNR=6.6							

IDC 18 17:19:56.0±1.9,6.°32S×151.°28E,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.4/41,mbtmp3.5/4,ML1.3/1,Error ellipse: s-maj=111.7km s-min=25.2km az=129.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.11**	**233**	Pn		Pn	17 21 15.3	+1.6
	0.7nm,0.3s,baz=23,slow=13,SNR=1.7							
PMG				Sn		Sn	17 22 09.0	-4.5
	1.0nm,0.3s,baz=320,slow=17,SNR=2.0							
WRA	**Warramunga Arr**	**21.31**	**229**	P		P	17 24 43.6	-1.0
	0.8nm,0.5s,baz=54,slow=11,SNR=11							
ASAR	**Alice Springs**	**24.02**	**222**	P		P	17 25 12.7	-0.1
	1.0nm,0.6s,baz=55,slow=9.1,SNR=20							
ILAR	**Eielson Array**	**84.13**	**22**	P		P	17 32 28.5	-0.1
	0.4nm,0.9s,baz=255,slow=5.5,SNR=3.5							
TORD	**Torodi Ar. Bea**	**149.29**	**285**	PKPbc		PKPbc	17 39 47.7	-0.1
	0.4nm,0.8s,baz=66,slow=2.1,SNR=3.9							

IDC 18 17:28:03.6±3.4,6.°17S×150.°69E,h0km,mb3.2/2, mb1 3.5/3,mb1mx3.2/31,mbtmp3.4/3,ML1.4/1,Error ellipse: s-maj=125.6km s-min=43.8km az=122.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**4.75**	**227**	Pn		Pn	17 29 18.3	+1.8
	1.2nm,0.3s,baz=14,slow=4.2,SNR=5.8							
PMG				Sn		Sn	17 30 07.9	-4.5
	0.9nm,0.3s,baz=22,slow=19,SNR=3.1							
WRA	**Warramunga Arr**	**20.97**	**228**	P		P	17 32 47.8	-0.7
	0.8nm,0.5s,baz=53,slow=11,SNR=14							
ASAR	**Alice Springs**	**23.73**	**221**	P		P	17 33 17.4	-0.3
	0.3nm,0.4s,baz=58,slow=9.4,SNR=7.8							
TORD	**Torodi Ar. Bea**	**148.68**	**285**	PKPbc		PKPbc	17 47 53.5	-0.4
	0.4nm,0.5s,baz=68,slow=2.2,SNR=4.1							

*IDC **18** 17:30:21.9±0.8,37.°31N×69.°81E,h0km,mb3.8/14, mb1 4.0/20,mb1mx3.8/49,mbtmp3.9/20,ML3.7/6,MS4.5/1, Ms1 4.6/1,ms1mx3.6/39,Error ellipse: s-maj=16.9km s-min=13.3km az=9.0*
*NNC **18** 17:30:22.5±3.3,37.°34N×69.°63E,h0km,mb4.4,mpv4.2, Error ellipse: s-maj=32.2km s-min=13.2km az=33.0*
*ISCJB **18** 17:30:24.1±0.4,37.°36N±0.°04×69.°68E±0.°06,h27km, mb3.7/14,MS4.6/1,Error ellipse: s-maj=7.0km s-min=5.4km az=138.8*

ISC 18 17:30:25.5±0.5,37.°30N±0.°05×69.°56E±0.°05,h27km,n50, σ1§62/50,mb3.7/14,5C-8D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZET	**Dzherino**	**1.61**	**339**	⇑P		**Pn**	17 30 52.2	**-0.1**
	198nm,0.5s							
DZET				⇓S		**Sn**	17 31 13.7	**+1.5**
	3μm,0.6s							
CEP	**Cherat**	**3.96**	**150**	P		**Pb**	17 31 32.2	**-2.4**
SFK	**Sufi-Kurgan**	**4.11**	**47**	⇓Pn		**Pn**	17 31 28.2	**+1.5**
	3.4nm,0.2s							
SFK				⇓Pg		**Pb**	17 31 38.3	**+1.0**
	115nm,0.5s							
SFK				⇑Lg		Lg	17 32 27.2	
	128nm,0.5s							
THW	**Thamme Wali**	**4.83**	**158**	P		Pb	17 31 42.7	-6.8
AML	**Almayashu**	**5.79**	**32**	P		**Pn**	17 31 50.0	**+0.1**
	SNR=16							
KK31	**Karatay Array**	**5.85**	**7**	Pn		**Pn**	17 31 49.8	**-0.6**
	3.2nm,0.5s,baz=199,slow=14,SNR=56							
KK31				⇓Pg		Pb	17 32 12.0	+5.3
	7.4nm,0.5s,baz=186,slow=15,SNR=7.6							
KK31				⇓Lg		Lg	17 33 24.8	
	40nm,0.8s,baz=185,slow=31,SNR=4.6							
UCH	**Uchtor**	**6.23**	**36**	P		**Pn**	17 31 55.5	**-0.6**
	SNR=35							
EKS2	**Erkin-Say**	**6.26**	**30**	P		**Pn**	17 31 56.8	**+0.6**
	SNR=8.2							
KZA	**Kyzart**	**6.49**	**41**	P		**Pn**	17 32 00.3	**+0.9**
	SNR=5.8							
AAK	**Ala-Archa**	**6.54**	**34**	P		**Pn**	17 32 00.5	**+0.4**
	SNR=18							
AAK	**Ala-Archa**	**6.54**	**34**	Pn		**Pn**	17 32 00.3	**+0.2**
	13nm,0.4s							
AAK				⇓Lg		Lg	17 33 44.9	
	34nm,0.7s							
KBK	**Karagaybulak**	**6.76**	**36**	P		**Pn**	17 32 03.6	**+0.5**
	SNR=13							
CHMS	**Chumysh**	**6.95**	**33**	P		**Pn**	17 32 05.5	**0.0**
	SNR=12							
USP	**Ospenovka**	**7.06**	**31**	P		**Pn**	17 32 06.5	**-0.5**
	SNR=15							
DLH	**Dalhousie**	**7.08**	**130**	*e*P		**Sn**	17 33 32.0	**+4.7**
ULHL	**Ulahol**	**7.13**	**44**	P		**Pn**	17 32 08.2	**0.0**
	SNR=5.8							
TKM2	**Tokmak 2**	**7.28**	**38**	P		**Pn**	17 32 10.0	**-0.1**
	SNR=21							
TKM2	**Tokmak 2**	**7.28**	**38**	⇑Pn		**Pn**	17 32 09.8	**-0.4**
	12nm,0.5s							
TKM2				⇑Lg		Lg	17 34 09.4	
	11nm,0.6s							
GEYT	**Alibeck**	**9.10**	**277**	Pn		**Pn**	17 32 37.5	**+2.4**
	2.9nm,0.3s,baz=86,slow=8.8,SNR=14							
GEYT				Sn		**Sn**	17 34 14.7	**-2.0**
	7.3nm,0.3s,baz=112,slow=14,SNR=12							
MKAR	**Makanchi Array**	**13.38**	**41**	Pn		**Pn**	17 33 31.3	**-2.3**
	0.2nm,0.3s,baz=230,slow=15,SNR=26							
MKAR				Lg		Lg	17 37 09.9	
	0.1nm,0.3s,baz=218,slow=18,SNR=2.5							
AB31	**Akbulak array**	**13.84**	**333**	⇓Pn		**Pn**	17 33 37.0	**-2.8**
	0.6nm,0.3s,baz=156,slow=13,SNR=53							
AB31				⇓Sn		Sn	17 36 00.6	-12
	1.6nm,0.5s,baz=140,slow=24,SNR=5.9							
KURBB	**Kurchatov Arra**	**14.79**	**23**	Pn		Pn	17 33 46.9	-5.7
	0.1nm,0.3s,baz=208,slow=12,SNR=10							
KURBB				Lg		Lg	17 37 58.8	
	0.0nm,0.3s,baz=207,slow=28,SNR=3.5							
KOLN	**Koldanda**	**15.16**	**125**	*e*P		**Pn**	17 33 55.6	**-2.4**
	8.9nm,0.5s							
AKTO	**Aktyubinsk**	**15.52**	**331**	Pn		**Pn**	17 34 00.4	**-2.0**
AKTO				Sn		Sn	17 36 43.1	-10
AKTO	**Aktyubinsk**	**15.52**	**331**	Pn		**Pn**	17 34 00.3	**-2.1**
	0.4nm,0.3s,baz=140,slow=14,SNR=13							
GKN	**Gorkha**	**15.70**	**122**	*e*P		**Pn**	17 34 04.3	**-0.7**
	10nm,0.4s							
BVA0	**Borovoye Array**	**15.74**	**2**	⇑Pn		**Pn**	17 34 03.5	**-1.7**
	1.5nm,0.5s,baz=166,slow=9.6,SNR=11							
BVAR	**Borovoye Array**	**15.74**	**2**	Pn		**Pn**	17 34 01.1	**-4.0**
	0.6nm,0.3s,baz=167,slow=14,SNR=11							
KKN	**Kakani**	**16.28**	**121**	*e*P		**Pn**	17 34 11.9	**-0.5**
	12nm,0.6s							
PKIN	**Phulchoki**	**16.49**	**121**	*e*P		**Pn**	17 34 14.8	**-0.4**
	10nm,0.4s							
PKI	**Pulchoki**	**16.50**	**121**	*e*P		**Pn**	17 34 15.1	**-0.3**
	17nm,0.6s							
RAMN	**Ramite**	**17.71**	**121**	*e*P		**P**	17 34 30.7	**-0.5**
	17nm,0.5s							
TAPN	**Taplejung**	**18.24**	**118**	*e*P		**P**	17 34 39.4	**+2.4**
	17nm,0.7s							
ODAN	**Odare**	**18.32**	**119**	*e*P		**Pn**	17 34 38.2	**+0.3**
	14nm,0.6s							
ZALV	**Zalesovo Beam**	**19.71**	**27**	P		**P**	17 34 50.1	**-2.5**
	1.1nm,0.3s,baz=221,slow=11,SNR=27							
KBZ	**Khabaz**	**21.21**	**296**	P		**P**	17 35 10.5	**+1.5**
	2.5nm,1.0s,baz=134,slow=8.0,SNR=3.9							
BRTR	**Keskin Array B**	**28.10**	**286**	P		P	17 36 18.2	+3.1
	0.8nm,0.8s,baz=87,slow=6.3,SNR=4.0							
SONM	**Songino Array**	**28.85**	**57**	P		**P**	17 36 21.2	**-0.5**
	0.3nm,0.4s,baz=274,slow=8.4,SNR=2.9							
CMAR	**Chiang Mai Arr**	**31.85**	**118**	P		**P**	17 36 48.7	**+0.4**
	0.9nm,0.8s,baz=308,slow=9.0,SNR=7.6							
FINES	**FINESS Array B**	**36.18**	**326**	P		**P**	17 37 26.1	**+0.7**
	0.8nm,0.4s,baz=126,slow=9.7,SNR=5.9							
ARCES	**ARCESS Array B**	**39.97**	**338**	P		**P**	17 37 57.5	**+0.2**
	2.6nm,0.9s,baz=116,slow=10,SNR=3.3							
NB2	**NORSAR Subarra**	**43.05**	**323**	P		**P**	17 38 23.5	**+0.9**
	comp=Z,0.5nm,0.3s,baz=97,slow=8.6							
NOA	**NORSAR Array B**	**43.05**	**323**	P		**P**	17 38 23.3	**+0.7**
	comp=Z,0.5nm,0.4s,baz=98,slow=7.2,SNR=5.1							
KSRS	**Korea Array**	**45.71**	**71**	P		**P**	17 38 42.6	**-1.6**
	comp=Z,1.1nm,0.6s,baz=274,slow=6.1,SNR=4.5							
MJAR	**Matsushiro Arr**	**53.74**	**68**	P		**P**	17 39 44.3	**-1.0**
	comp=Z,0.9nm,0.9s,baz=284,slow=10,SNR=4.2							
ESDC	**Sonseca Array**	**56.07**	**297**	P		**P**	17 40 04.2	**+2.1**
	comp=Z,0.2nm,0.4s,baz=60,slow=8.4,SNR=4.4							
ESDC				LR		LR	18 08 28.1	
	comp=Z,490nm,21.0s,baz=330,slow=41							
TORD	**Torodi Ar. Bea**	**64.59**	**267**	P		**P**	17 41 02.8	**+2.1**
	comp=Z,0.9nm,0.5s,baz=49,slow=6.0,SNR=8.4							
YKA	**Yellowknife Ar**	**80.50**	**2**	P		**P**	17 42 35.2	**+0.6**
	comp=Z,1.1nm,0.4s,baz=352,slow=5.4,SNR=6.9							
WRA	**Warramunga Arr**	**83.39**	**121**	P		**P**	17 42 49.4	**-1.0**
	comp=Z,0.3nm,0.6s,baz=327,slow=5.3,SNR=4.9							
ASAR	**Alice Springs**	**85.66**	**124**	P		**P**	17 43 01.1	**-0.8**
	comp=Z,0.4nm,0.8s,baz=317,slow=4.3,SNR=4.4							

IDC 18 17:34:23.1±3.6,5.°31S×149.°49E,h0km,mb3.1/2, mb1 3.5/3,mb1mx3.2/24,mbtmp3.3/3,ML0.8/1,Error ellipse: s-maj=126.8km s-min=40.7km az=111.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**4.68**	**209**	Pn		Pn	17 35 37.3	+2.2
	0.3nm,0.3s,baz=45,slow=13,SNR=2.3							
PMG				Sn		Sn	17 36 27.9	-2.3
	0.9nm,0.3s,baz=270,slow=19,SNR=2.8							
WRA	**Warramunga Arr**	**20.71**	**224**	P		P	17 39 05.5	+0.3
	1.3nm,0.6s,baz=50,slow=10,SNR=16							
ASAR	**Alice Springs**	**23.64**	**218**	P		P	17 39 35.0	-1.3
	0.2nm,0.6s,baz=52,slow=9.0,SNR=10							
TORD	**Torodi Ar. Bea**	**147.31**	**286**	PKPbc		PKPbc	17 54 09.2	-0.6
	0.1nm,0.3s,baz=95,slow=2.2,SNR=3.0							

*ISCJB **18** 17:40:40.3±0.3,60.°16N±0.°02×153.°19W±0.°06, h145km±3km,mb3.7/2,Error ellipse: s-maj=5.8km s-min=3.2km az=29.5*
*NEIC **18** 17:40:42.5,60.°16N×153.°24W,h138km,mb4.0/2,After AEIC.*
*IDC **18** 17:40:46.5±8.2,60.°61N×152.°51W,h180km±76km,mb3.4/2, mb1 3.5/3,mb1mx2.9/41,mbtmp3.9/3,Error ellipse: s-maj=80.9km s-min=62.5km az=37.0*

ISC 18 17:40:41.5±0.9,60.°14N±0.°03×153.°19W±0.°05, h144km±6km,n75,σ0§98/92,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ILW	**Iliamna West**	**0.08**	**161**	P		**Pn**	17 41 00.7	**-0.4**
ILIM	**Iliamna**	**0.13**	**116**	P		**Pn**	17 41 00.6	**-0.4**
ILIM				S		**Sn**	17 41 15.3	**-0.4**
ILS	**Iliamna Low So**	**0.19**	**161**	P		**Pn**	17 41 00.8	**-0.4**
RSO	**Redoubt South**	**0.39**	**34**	P		**Pn**	17 41 01.5	**-0.4**
RDN	**Redoubt North**	**0.43**	**29**	P		**Pn**	17 41 01.6	**-0.3**
NCT	**North Crescent**	**0.44**	**17**	P		**Pn**	17 41 01.5	**-0.4**
NCT				S		**Sn**	17 41 16.5	**-1.1**
OPT	**Oil Point**	**0.49**	**182**	P		**Pn**	17 41 02.1	**0.0**
OPT				S

IM3	Indian Mountai	5.87	358	P	Pn	17 42 05.8	-0.5
COLD	Coldfoot	7.24	9	P	Pn	17 42 24.0	-0.5
EGAK	Eagle	7.26	45	*e*Pn	Pn	17 42 23.8	-1.0
SKAG	Skagway	9.03	87	*e*P	Pn	17 42 49.8	+1.4
INK	Inuvik	11.79	38	*e*P	Pn	17 43 25.4	+0.6
	2.4nm,0.6s						
DLBC	Dease Lake	11.95	88	*e*Pn	Pn	17 43 29.4	+2.3
	2.2nm,0.4s						
SONM	Songino Array	54.63	306	P	P	17 49 56.5	+1.5
	0.7nm,0.6s,baz=35,slow=6.3,SNR=6.2						
ZALV	Zalesovo Beam	57.21	323	P	P	17 50 12.6	-0.4
	1.0nm,0.5s,baz=31,slow=7.6,SNR=4.4						

IDC ***18*** *17:41:49.3±3.1,6.11S×150.75E,h22km±19km,mb4.4/16, mb1 4.5/18,mb1mx4.4/29,mbtmp4.5/18,ML3.3/2,MS4.0/2, Ms1 4.0/2,ms1mx3.5/27,Error ellipse: s-maj=20.4km s-min=12.4km az=88.0*

ISCJB ***18*** *17:41:50.7±0.3,6.18S±0.04×150.70E±0.05,h43km, mb4.6/25,MS3.8/2,Error ellipse: s-maj=7.3km s-min=4.9km az=21.2*

NEIC ***18*** *17:41:51.1±1.3,6.14S×150.66E,h38km±12km,mb4.6/12, Error ellipse: s-maj=10.0km s-min=9.2km az=115.0*

ISC 18 17:41:52.1±0.4,6.19S±0.05×150.76E±0.06,h43km,n85, σ1§26/97,mb4.5/25,5C-1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	Rabaul	2.43	35	P	Pn	17 42 30.5	+1.0
	baz=2.5,SNR=277						
PMG	Port Moresby	4.79	228	Pn	Pn	17 43 02.8	+1.0
	15nm,0.3s,baz=66,slow=5.2,SNR=42						
PMG				Sn	Sn	17 43 54.9	-1.1
	18nm,0.3s,baz=109,slow=18,SNR=3.1						
PMG	Port Moresby	4.79	228	P	Pn	17 43 02.7	+1.0
	baz=4.7,SNR=44						
PMG				P	Pn	17 43 02.7	+1.0
	baz=4.7,SNR=44						
PMG				P	Pn	17 43 02.7	+1.0
	baz=4.7,SNR=44						
PMG	Port Moresby	4.79	228	*e*Pn	Pn	17 42 59.1	-2.7
PMG				Sn	Sn	17 43 54.9	-1.1
PMG				*e*Sn	Sn	17 43 56.6	+0.6
MANU	Manus Island	5.33	321	P	Pn	17 43 14.6	+5.3
	baz=5.4,SNR=9.2						
HNR	Honiara	9.66	110	*e*Pn	Pn	17 44 09.5	+0.9
COEN	Coen	10.73	223	P	Pn	17 44 23.3	-0.1
	baz=11,SNR=7.9						
MTSU	Mount Surprise	13.43	207	P	Pn	17 45 01.0	+0.8
	baz=13,SNR=13						
CTA	Charters Tower	14.49	197	Pn	Pn	17 45 15.3	+0.7
	0.6nm,0.3s,baz=23,slow=14,SNR=10						
CTAO	Charters Tower	14.49	197	*e*Pn	Pn	17 45 14.8	+0.2
QIS	Mount Isa	17.92	216	P	Pn	17 45 58.4	+0.2
	baz=18,SNR=18						
EIDS	Eidsvold	19.07	179	P	Pn	17 46 12.5	+0.3
	baz=19,SNR=8.3						
EIDS	Eidsvold	19.07	179	*e*P	P	17 46 09.0	-2.1
	19nm,0.8s						
SIJI	Sorong	20.15	284	LR	LR	17 55 36.3	
	comp=Z,283nm,20.0s,baz=102,slow=41						
RMQ	Roma	20.27	185	P	Pn	17 46 26.1	-0.4
	baz=20,SNR=108						
MTN	Manton Dam	20.44	250	P	P	17 46 27.4	+1.3
	baz=20,SNR=5.1						
GUMO	Guam	20.50	343	P	P	17 46 26.1	-0.7
	106nm,1.0s,baz=203,slow=6.8,SNR=4.5						
WRAB	Tennant Creek	20.99	228	*e*P	P	17 46 31.5	-0.5
	30nm,0.6s						
WRA	Warramunga Arr	21.01	228	P	P	17 46 31.7	-0.6
	29nm,0.7s,baz=51,slow=10,SNR=150						
WRA				S	Sn	17 50 30.1	-1.6
	4.3nm,1.0s,baz=48,slow=17,SNR=5.1						
WRA				PcP	PcP	17 50 39.1	+0.8
	1.3nm,0.7s,baz=39,slow=1.9,SNR=4.5						
WRA				ScP	ScP	17 54 14.3	+2.4
	1.5nm,0.7s,baz=56,slow=2.8,SNR=12						
QLP	Quilpie	21.21	196	P	P	17 46 35.4	+1.1
	baz=21,SNR=33						
DZM	Mont Dzumac	21.89	138	LR	LR	17 53 02.5	
	comp=Z,598nm,20.9s,baz=180,slow=31						
DZM	Mont Dzumac	21.89	138	*e*P	P	17 46 39.4	-2.3
	12nm,0.7s						
KNRA	Kununurra	23.54	245	P	P	17 46 59.1	+0.4
	baz=24,SNR=18						
AS31	Alice Springs	23.76	221	*e*P	P	17 46 59.5	-1.4
ASAR	Alice Springs	23.76	221	P	P	17 47 01.3	+0.4
	4.6nm,0.5s,baz=52,slow=9.4,SNR=183						
ASAR				S	S	17 51 16.7	+3.2
	2.7nm,1.1s,baz=37,slow=22,SNR=4.6						
ASAR				ScP	ScP	17 54 21.6	+2.7
	1.5nm,0.8s,baz=33,slow=3.0,SNR=9.3						
ARMA	Armidale	24.11	178	*e*P	P	17 47 04.4	+0.3
	12nm,0.9s						
CMSA	Cobar Meteorol	25.66	190	P	P	17 47 19.4	+1.5
	baz=26,SNR=14						
STKA	Stephens Creek	26.95	197	P	P	17 47 28.8	-0.9
	32nm,0.8s,baz=348,slow=7.9,SNR=39						
STKA	Stephens Creek	26.95	197	P	P	17 47 29.4	-0.3
	baz=27,SNR=39						
STKA	Stephens Creek	26.95	197	*e*P	P	17 47 28.7	-1.0
	6.7nm,0.8s						
BATI	Baumata	27.10	260	P	P	17 47 31.8	+0.5
	9.5nm,0.5s,baz=117,slow=14,SNR=3.3						
WRKA	Warakurna	28.53	227	P	P	17 47 43.5	-0.4
	baz=28,SNR=5.4						
HTT	Hallett	29.25	201	P	P	17 47 51.0	+0.7
	baz=29,SNR=8.4						
MEEK	Meekatharra	36.75	233	P	P	17 48 55.5	-0.2
	baz=37,SNR=8.1						
URZ	Urewera	39.88	147	P	P	17 49 22.5	+0.6
	6.8nm,0.5s,baz=263,slow=3.9,SNR=9.0						
CISI	Cisompet, Garu	42.64	266	P	P	17 49 43.7	-1.2
	baz=43,SNR=7.4						
CISI	Cisompet, Garu	42.64	266	*e*P	P	17 49 41.6	-3.4
	91nm,0.8s						
LEM	Lembang	42.85	267	P	P	17 49 46.6	-0.2
	baz=43,SNR=5.3						
JNU	Nakatsue	43.42	335	P	P	17 49 50.4	-0.5
	9.2nm,0.7s,baz=339,slow=0.6,SNR=12						
JNU	Nakatsue	43.42	335	*e*P	P	17 49 49.5	-1.3
	13nm,0.8s						
MJAR	Matsushiro Arr	44.11	345	ScP	ScP	17 55 30.6	+1.0
	3.8nm,1.1s,baz=188,slow=4.6,SNR=8.4						
KSRS	Korea Array	48.37	336	P	P	17 50 29.7	-0.1
	5.1nm,0.7s,baz=156,slow=8.1,SNR=17						
KSAR	Wonju Array Be	48.37	336	P	P	17 50 29.7	-0.1
NJ2	Nanjing	48.69	323	*e*P	P	17 50 32.4	+0.1
NJ2				PMZ			
	10.0nm,1.2s						
USRK	Ussuriysk Ar.	52.94	343	P	P	17 51 04.5	+0.4
	2.5nm,0.7s,baz=175,slow=9.2,SNR=6.3						
GYA	Guiyang	53.65	309	*e*P	P	17 51 11.0	+1.1
GYA				pP	pP	17 51 20.8	-1.3
GYA				PP	PP	17 53 13.3	+2.2
GYA				S	S	17 58 41.0	0.0
GYA				sS	sS	17 58 54.5	-6.9
GYA				SS	SKiKP	18 02 21.6	0.0
GYA				PMZ			
	10.0nm,1.0s						
GYA				PMZ			
	110nm,5.4s						
GYA				LN			
	510nm,18.8s						
GYA				LE			
	440nm,19.2s						
GYA				LZ			
	460nm,18.9s						
KMI	Kunming	56.11	306	P	P	17 51 30.3	+2.5
KMI				S	S	17 59 14.3	+0.1
KMI				PMZ			
	5.0nm,0.8s						
KMI				LN			
	89nm,9.9s						
KMI				LE			
	82nm,10.8s						
KMI				LZ			
	600nm,37.3s						
CMAR	Chiang Mai Arr	56.65	297	P	P	17 51 31.2	-0.3
	0.4nm,0.4s,baz=104,slow=5.7,SNR=3.8						
CD2	Chengdu	58.13	312	P	P	17 51 40.6	-1.2
CD2				pP	pP	17 51 49.3	-4.8
CD2				sP	sP	17 51 52.9	-6.2
CD2				PP	PP	17 53 49.4	-1.6
CD2				S	S	17 59 40.3	0.0
CD2				sS	sS	17 59 55.3	-5.5
CD2				SS	SS	18 03 33.3	+0.8
CD2				PMZ			
	20nm,0.8s						
CD2				PMZ			
	170nm,7.2s						
CD2				LN			
	330nm,16.8s						
CD2				LZ			
	410nm,20.4s						
HHC	Hu-ho-hao-te	59.02	326	*e*P	P	17 51 50.3	+2.4
HHC				S	S	17 59 53.4	+1.7
HHC				SS	SS	18 03 49.0	+2.7
HHC				PMZ			
	21nm,1.1s						
HHC				PMZ			
	260nm,7.4s						
HHC				LN			
	180nm,17.3s						
HHC				LE			
	240nm,17.3s						
HHC				LZ			
	330nm,18.5s						
PETK	Petropavlovsk-	59.37	5	P	P	17 51 48.0	-1.9
	2.6nm,0.7s,baz=165,slow=7.5,SNR=4.1						
LZH	Lanzhou	60.84	317	*e*P	P	17 52 01.3	+0.8
LZH				pP	pP	17 52 11.6	-1.3
LZH				sP	sP	17 52 15.8	-2.1
LZH				PMZ			
	18nm,1.0s						
SONM	Songino Array	66.44	329	P	P	17 52 36.6	-0.6
	1.4nm,0.7s,baz=136,slow=4.2,SNR=9.6						
VNDA	Vanda	71.53	177	P	P	17 53 09.0	+0.8
	2.7nm,0.6s,baz=318,slow=3.1,SNR=9.0						
VNDA	Vanda	71.53	177	*e*P	P	17 53 09.1	+1.0
	5.7nm,1.1s						
WMQ	Urumqi	75.40	318	P	P	17 53 32.3	+0.7
WMQ				pP	pP	17 53 38.4	-5.9
WMQ				sP	sP	17 53 43.3	-5.9
WMQ				PMZ			
	11nm,1.0s						
WMQ				LN			
	230nm,32.0s						
WMQ				LE			
	320nm,26.0s						
WMQ				LZ			
	220nm,34.0s						
MKAR	Makanchi Array	80.04	320	P	P	17 53 55.6	-1.8
	0.3nm,0.4s,baz=108,slow=6.8,SNR=10						
ZAA0	Zalesovo Array	81.19	327	*e*P	P	17 54 00.7	-2.5
ZALV	Zalesovo Beam	81.19	327	P	P	17 54 00.6	-2.7
	1.5nm,0.6s,baz=112,slow=5.8,SNR=7.8						
MAW	Mawson	83.51	203	P	P	17 54 15.5	+0.4
	1.3nm,0.7s,baz=78,slow=3.3,SNR=3.4						
QSPA	South Pole Qui	83.78	180	*e*P	P	17 54 16.9	+0.1
	12nm,1.0s						
CCB	Clear Creek Bu	83.80	22	*e*P	P	17 54 14.5	-2.1
	3.6nm,1.1s						
ILAR	Eielson Array	84.21	22	P	P	17 54 15.9	-2.9
	1.7nm,0.8s,baz=251,slow=5.4,SNR=15						
HYT	Haines Junctio	86.60	28	*e*P	P	17 54 31.1	+0.2
HUMO	Hull Mountain	91.42	47	*e*P	P	17 54 54.0	0.0
	109nm,2.8s						
MTUM	Tungsten Hills	94.25	53	*e*P	P	17 55 08.1	+0.7
MWC	Mount Wilson	94.42	56	*e*P	P	17 55 09.5	+1.2
	9.7nm,1.0s						
NVAR	Mina Array Bea	94.54	52	P	P	17 55 09.9	+1.2
	4.2nm,0.7s,baz=251,slow=6.6,SNR=31						
TPNV	Topopah Spring	96.07	54	*e*P	P	17 55 16.8	+1.1
	4.6nm,0.8s						
HVU	Hasel Valley	98.91	49	*e*P	Pdif	17 55 29.2	+0.9
	29nm,2.7s						
PDAR	Pinedale Array	101.28	48	P	Pdif	17 55 38.3	-0.7
	1.0nm,0.9s,baz=318,slow=1.2,SNR=7.3						
AKASG	Malin Array Be	114.41	323	PKP	PKPdf	18 00 25.6	-1.7
	0.6nm,0.5s,baz=68,slow=1.6,SNR=3.3						
BRTR	Keskin Array B	114.69	311	PKP	PKPdf	18 00 27.6	-0.8
	0.5nm,0.6s,baz=76,slow=5.2,SNR=4.5						
MLR	Muntele Rosu	118.39	319	∏P	PKPdf	18 00 33.8	-1.6
DRGR		119.92	321	∏P	PKPdf	18 00 36.7	-1.5
BZS	Buzias	121.12	321	∏P	PKPdf	18 00 40.3	-0.2
MMB	Musomiste	121.33	315	∏P	PKPdf	18 00 39.8	-1.3
PKSM	Moragy	122.69	322	∏P	PKPdf	18 00 42.9	-0.5
DIVS	Divibare	122.82	320	∏P	PKPdf	18 00 44.0	+0.1
BRG	Berggiesshubel	122.83	329	*e*P	PKPdf	18 00 43.3	-0.3
	2.6nm,0.8s						
SCHQ	Schefferville	122.90	25	PKP	PKPdf	18 00 43.5	-0.2
	3.8nm,0.8s,baz=243,slow=4.5,SNR=4.3						
CLL	Collm	123.05	330	*i* PKPdf	PKPdf	18 00 43.9	-0.1
GERES	GERESS Array B	124.14	327	PKP	PKPdf	18 00 45.7	-0.6
	1.5nm,0.7s,baz=70,slow=1.6,SNR=18						
TORD	Torodi Ar. Bea	148.75	285	PKPbc	PKPbc	18 01 35.3	-0.7
	20nm,0.7s,baz=66,slow=2.8,SNR=110						
BDFB	Brasilia	151.43	140	PKPbc	PKPbc	18 01 43.0	+0.4
	7.9nm,0.6s,baz=166,slow=2.5,SNR=15						
BDFB				PKPab	PKPab	18 01 50.3	-0.5
	2.1nm,0.4s,baz=256,slow=4.2,SNR=4.4						

IDC ***18*** *17:55:14.3±1.4,6.11S×150.44E,h0km,mb4.0/4, mb1 4.2/6,mb1mx3.7/32,mbtmp4.0/6,ML3.0/2,Error ellipse: s-maj=81.5km s-min=23.0km az=119.0*

ISCJB ***18*** *17:55:19.8±0.8,6.42S±0.10×150.14E±0.1,h35km,mb3.6/3, Error ellipse: s-maj=18.0km s-min=9.4km az=43.8*

NEIC ***18*** *17:55:19.7±0.8,6.13S×150.23E,h35km,mb4.4/1,Error ellipse: s-maj=34.6km s-min=12.4km az=117.0*

ISC 18 17:55:21.3±0.9,6.3S±0.1×150.3E±0.1,h35km,n21, σ0§83/23,mb3.7/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	Rabaul	2.79	41	P	Pn	17 56 04.3	+0.9
	baz=2.8,SNR=15						
PMG	Port Moresby	4.40	225	Pn	Pn	17 56 26.4	+0.8
	12nm,0.3s,baz=51,slow=4.2,SNR=36						
PMG				Sn	Sn	17 57 16.2	+0.5
	26nm,0.3s,baz=114,slow=17,SNR=10.0						
PMG	Port Moresby	4.40	225	P	Pn	17 56 26.6	+1.0
	baz=4.4,SNR=44						
PMG				P	Pn	17 56 26.6	+1.0
	baz=4.4,SNR=44						
PMG				P	Pn	17 56 26.6	+1.0
	baz=4.4,SNR=44						
PMG	Port Moresby	4.40	225	*e*Pn	Pn	17 56 24.2	-1.4
PMG				*e*Sn	Sn	17 57 16.1	+0.5
MTSU	Mount Surprise	13.14	206	P	Pn	17 58 25.7	+0.2
	baz=13,SNR=5.0						
CTA	Charters Tower	14.26	196	Pn	Pn	17 58 41.1	+0.3
	0.2nm,0.3s,baz=11,slow=16,SNR=3.0						
KDU	Kakadu	18.71	249	P	Pn	17 59 37.7	+0.2
	baz=19,SNR=4.1						
EIDS	Eidsvold	18.96	178	P	P	17 59 39.3	-0.4
	baz=19,SNR=3.4						
MTN	Manton Dam	20.00	250	P	Pn	17 59 53.7	+0.7
	baz=20,SNR=3.8						
RMQ	Roma	20.12	184	P	P	17 59 52.2	0.0
	baz=20,SNR=5.0						
WRAB	Tennant Creek	20.60	227	*e*P	P	17 59 56.8	-0.8
	12nm,0.6s						
WRA	Warramunga Arr	20.61	227	P	P	17 59 57.0	-0.7
	10nm,0.8s,baz=51,slow=11,SNR=59						
QLP	Quilpie	20.98	195	P	P	18 00 01.3	-0.3
	baz=21,SNR=12						
KNRA	Kununurra	23.11	244	P	P	18 00 31.2	+6.9
	baz=23,SNR=3.3						
AS31	Alice Springs	23.39	221	*e*P	P	18 00 26.0	-1.2
ASAR	Alice Springs	23.40	221	P	P	18 00 26.4	-0.9
	2.6nm,0.9s,baz=55,slow=9.0,SNR=31						
STKA	Stephens Creek	26.71	197	P	P	18 00 58.0	+0.5
	1.6nm,0.7s,baz=2.3,slow=12,SNR=3.6						
WRKA	Warakurna	28.14	226	P	P	18 01 10.7	+0.3
	baz=28,SNR=5.4						
ILAR	Eielson Array	84.48	23	P	P	18 07 46.7	-3.4
	0.5nm,0.9s,baz=260,slow=5.6,SNR=5.5						
GERES	GERESS Array B	124.01	327	PKP	PKPdf	18 14 15.0	-1.2
	0.3nm,0.4s,baz=48,slow=2.0,SNR=4.1						
TORD	Torodi Ar. Bea	148.38	285	PKPbc	PKPbc	18 15 04.1	-1.0
	0.9nm,0.4s,baz=83,slow=2.4,SNR=15						

IDC ***18*** *17:56:16.4±1.1,6.10S×150.38E,h0km,mb4.0/6, mb1 4.3/6,mb1mx3.8/31,mbtmp4.0/6,Error ellipse: s-maj=61.3km s-min=23.5km az=119.0*

ISCJB ***18*** *17:56:21.7±1.0,6.2S±0.2×150.2E±0.3,h48km,mb3.8/5, Error ellipse: s-maj=45.4km s-min=11.3km az=38.5*

ISC 18 17:56:23.2±1.0,6.2S±0.2×150.2E±0.3,h48km,n9, σ1§08/10,mb3.8/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	4.42	223	Sn	Sn	17 58 17.3	-0.8
	23nm,0.3s,baz=109,slow=17,SNR=6.9						
WRA	Warramunga Arr	20.63	227	P	P	18 00 59.2	+0.4
	16nm,0.8s,baz=51,slow=11,SNR=12						
WRA				PcP	PcP	18 05 09.7	+1.6
	0.4nm,0.5s,baz=38,slow=1.8,SNR=4.3						
ASAR	Alice Springs	23.43	220	P	P	18 01 29.1	+0.7
	3.1nm,0.9s,baz=57,slow=9.4,SNR=5.9						
STKA	Stephens Creek	26.82	196	P	P	18 01 58.4	-0.7
	3.3nm,0.8s,baz=13,slow=13,SNR=3.3						
KURBB	Kurchatov Arra	83.31	322	P	P	18 08 45.0	+0.1
	0.4nm,0.7s,baz=119,slow=4.0,SNR=4.8						
ILAR	Eielson Array	84.39	23	P	P	18 08 48.4	-1.8
	0.6nm,0.7s,baz=247,slow=5.7,SNR=5.6						
NVAR	Mina Array Bea	94.94	52	P	P	18 09 41.5	+0.5
	0.6nm,0.8s,baz=246,slow=7.7,SNR=3.8						
GERES	GERESS Array B	123.84	327	PKP	PKPdf	18 15 16.4	+0.2
	0.9nm,0.6s,baz=93,slow=1.4,SNR=8.5						
TORD	Torodi Ar. Bea	148.24	285	PKPbc	PKPbc	18 16 05.7	+0.6
	3.6nm,0.7s,baz=96,slow=2.6,SNR=14						

IDC 18 18:02:06.8±3.6,5.55S×150.41E,h0km,mb3.1/2, mb1 3.4/3,mb1mx3.2/29,mbtmp3.3/3,ML1.0/1,Error ellipse: s-maj=145.2km s-min=42.2km az=118.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	5.00	220	Pn	Pn	18 03 25.3	+2.1
	0.4nm,0.3s,baz=38,slow=12,SNR=2.1						
PMG				Sn	Sn	18 04 20.6	-1.2
	0.5nm,0.3s,baz=28,slow=17,SNR=2.8						
WRA	Warramunga Arr	21.19	226	P	P	18 06 52.8	-1.3
	0.8nm,0.8s,baz=52,slow=10.0,SNR=5.9						
ASAR	Alice Springs	24.02	220	P	P	18 07 23.3	-0.4
	0.4nm,0.7s,baz=56,slow=9.2,SNR=4.2						
TORD	Torodi Ar. Bea	148.25	286	PKPbc	PKPbc	18 21 55.7	-0.3
	0.9nm,0.7s,baz=74,slow=2.7,SNR=6.5						

IDC ***18*** *18:07:49.3±1.8,6.02S×150.42E,h0km,mb3.5/4, mb1 3.9/5,mb1mx3.6/31,mbtmp3.7/5,ML2.0/1,Error ellipse: s-maj=80.1km s-min=22.8km az=119.0*

ISCJB ***18*** *18:07:55.5±1.8,6.0S±0.3×150.0E±0.5,h52km,mb3.4/3, Error ellipse: s-maj=76.3km s-min=12.0km az=31.8*

ISC 18 18:07:56.7±1.8,6.1S±0.3×150.2E±0.5,h52km,n7,σ0§77/8, mb3.5/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	4.47	223	Pn	Pn	18 09 02.3	+0.3
	4.7nm,0.3s,baz=27,slow=11,SNR=18						
PMG				Sn	Sn	18 09 52.0	-0.8
	10nm,0.3s,baz=149,slow=22,SNR=8.2						
WRA	Warramunga Arr	20.68	227	P	P	18 12 32.6	+0.1
	6.0nm,0.8s,baz=52,slow=11,SNR=35						
ASAR	Alice Springs	23.49	220	P	P	18 13 02.4	+0.3
	0.8nm,0.9s,baz=58,slow=9.6,SNR=11						
SONM	Songino Array	66.09	329	P	P	18 18 38.5	0.0
	0.3nm,0.6s,baz=134,slow=4.2,SNR=2.8						
ILAR	Eielson Array	84.33	23	P	P	18 20 21.9	-1.0
	0.4nm,0.9s,baz=224,slow=5.0,SNR=4.2						
GERES	GERESS Array B	123.78	327	PKP	PKPdf	18 26 49.9	+0.9
	0.3nm,0.6s,baz=64,slow=2.3,SNR=3.2						
TORD	Torodi Ar. Bea	148.22	285	PKPbc	PKPbc	18 27 38.7	+0.6
	0.8nm,0.4s,baz=59,slow=2.3,SNR=7.8						

IDC 18 18:14:33.5±3.2,6.00S×151.47E,h0km,mb2.9/2, mb1 3.3/3,mb1mx3.1/34,mbtmp3.1/3,ML1.3/1,Error ellipse: s-maj=129.2km s-min=43.5km az=124.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	5.45	231	Pn	Pn	18 15 57.5	+1.3
	0.6nm,0.3s,baz=86,slow=15,SNR=4.3						
PMG				Sn	Sb	18 17 11.2	-4.6
	0.5nm,0.3s,baz=90,slow=20,SNR=2.7						
WRA	Warramunga Arr	21.66	229	P	P	18 19 25.1	-0.9
	0.3nm,0.6s,baz=54,slow=10,SNR=6.0						
ASAR	Alice Springs	24.38	222	P	P	18 19 53.9	+0.1
	0.3nm,0.8s,baz=56,slow=9.3,SNR=3.4						
TORD	Torodi Ar. Bea	149.39	286	PKPbc	PKPbc	18 34 25.2	-0.5
	0.4nm,0.6s,baz=78,slow=4.0,SNR=2.3						

PRE 18 18:23:55.9±1.4,22.52S×32.73E,h5km,ML4.4, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSNA	Messina	2.51	274	*e*P	Pn	18 24 38.8	+1.3
MSNA				*e*S	Sn	18 25 08.7	+0.3
MSNA				AML	AML	18 25 18.4	
	comp=Z,390nm,0.2s						
POGA	Pongola	4.93	192	*e*P	Pn	18 25 10.8	+0.1
POGA				*e*S	Sn	18 26 06.2	-2.0
POGA				AML	AML	18 26 50.6	
	comp=Z,78nm,0.6s						
WDLM	Western Deep L	6.20	230	*e*P	Pn	18 25 28.7	+0.3
WDLM				*e*S	Sn	18 26 36.3	-3.6
WDLM				AML	AML	18 27 25.8	
	comp=Z,50nm,0.4s						
PRYS	Parys	6.56	227	*e*P	Pn	18 25 33.3	+0.1
PRYS				*e*S	Sn	18 26 46.4	-2.3
PRYS				AML	AML	18 27 36.6	
	comp=Z,38nm,0.5s						
SWZ	Schweizer	8.16	234	*e*P	Pn	18 25 56.3	+1.0
SWZ				*e*S	Sn	18 27 23.8	-4.3
SWZ				AML	AML	18 28 31.4	
	comp=Z,36nm,0.5s						
KSD	Kokstad	8.52	200	*e*P	Pn	18 26 00.9	+0.7
KSD				*e*S	Sn	18 27 32.1	-4.8
KSD				AML	AML	18 28 34.6	
	comp=Z,9.4nm,0.9s						
UPI	Upington	11.88	238	*e*P	Pn	18 26 46.1	-0.1
UPI				*e*S	Sn	18 28 53.0	-6.3
UPI				AML	AML	18 30 23.4	
	comp=Z,13nm,0.6s						
CVNA	Calvinia	14.59	230	*e*P	Pn	18 27 25.4	+2.2
CVNA				*e*S	Sn	18 29 57.8	-7.7
CVNA				AML	AML	18 31 46.9	
	comp=Z,17nm,0.8s						

IDC 18 18:24:35.1±3.5,5.35S×150.24E,h0km,mb3.3/2, mb1 3.6/3,mb1mx3.3/36,mbtmp3.5/3,ML1.5/1,MS3.3/1, Ms1 3.3/1,ms1mx2.9/14,Error ellipse: s-maj=130.2km s-min=42.3km az=116.0,New British region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s

PMG					Sn		**Sn**	**18 29 51.2**	**-1.1**
	24nm,0.3s,baz=157,slow=24,SNR=7.9								
PMG	**Port Moresby**	**4.59**	**227**	P			**Pn**	**18 29 00.7**	**+0.7**
	baz=5.4,SNR=53								
PMG					P		**Pn**	**18 29 00.7**	**+0.7**
	baz=5.4,SNR=53								
PMG					P		**Pn**	**18 29 00.7**	**+0.7**
	baz=5.4,SNR=53								
PMG	**Port Moresby**	**4.59**	**227**	*e*Pn			**Pn**	**18 28 59.5**	**-0.6**
PMG					*e*Sn		Sn	18 29 38.4	-14
MTSU	**Mount Surprise**	**13.27**	**207**	P			**Pn**	**18 30 59.8**	**+0.7**
	baz=14,SNR=4.7								
QIS	**Mount Isa**	**17.74**	**216**	P			**P**	**18 32 01.8**	**+3.7**
	baz=19,SNR=4.0								
EIDS	**Eidsvold**	**18.99**	**179**	P			**Pn**	**18 32 13.2**	**+0.5**
	baz=20,SNR=3.3								
EIDS	**Eidsvold**	**18.99**	**179**	*e*P			**P**	**18 32 11.1**	**-0.8**
	8.7nm,0.9s								
RMQ	**Roma**	**20.17**	**185**	P			Pn	18 32 26.7	-0.1
	baz=21,SNR=16								
WRAB	**Tennant Creek**	**20.80**	**228**	*e*P			**P**	**18 32 29.0**	**-2.5**
	22nm,0.8s								
WRA	**Warramunga Arr**	**20.81**	**228**	P			**P**	**18 32 31.8**	**+0.1**
	18nm,0.7s,baz=52,slow=11,SNR=66								
QLP	**Quilpie**	**21.08**	**196**	P			**P**	**18 32 35.3**	**+0.8**
	baz=22,SNR=17								
KNRA	**Kununurra**	**23.33**	**245**	P			**P**	**18 32 59.5**	**+1.1**
	baz=24,SNR=5.9								
AS31	**Alice Springs**	**23.58**	**221**	*e*P			**P**	**18 32 57.3**	**-3.5**
ASAR	**Alice Springs**	**23.58**	**221**	P			**P**	**18 33 00.6**	**-0.3**
	3.9nm,1.0s,baz=52,slow=9.7,SNR=24								
STKA	**Stephens Creek**	**26.82**	**197**	P			**P**	**18 33 30.2**	**-0.1**
	2.9nm,0.7s,baz=8.8,slow=10,SNR=8.5								
STKA	**Stephens Creek**	**26.82**	**197**	P			**P**	**18 33 30.3**	**+0.1**
	baz=28,SNR=5.4								
FITZ	**Fitzroy Crossi**	**27.01**	**242**	P			P	18 33 40.7	+8.6
	baz=28,SNR=4.7								
WRKA	**Warakurna**	**28.34**	**226**	P			**P**	**18 33 44.3**	**+0.3**
	baz=29,SNR=5.5								
SONM	**Songino Array**	**66.41**	**329**	P			**P**	**18 38 38.9**	**0.0**
	0.4nm,0.7s,baz=138,slow=12,SNR=3.6								
ILAR	**Eielson Array**	**84.36**	**22**	P			**P**	**18 40 20.9**	**-0.5**
	0.5nm,0.8s,baz=236,slow=4.7,SNR=5.2								
GERES	**GERESS Array B**	**124.11**	**327**	PKP			**PKPdf**	**18 46 49.1**	**+0.9**
	0.3nm,0.6s,baz=22,slow=1.4,SNR=5.9								
TORD	**Torodi Ar. Bea**	**148.59**	**285**	PKPbc			**PKPbc**	**18 47 38.2**	**+0.6**
	2.0nm,0.7s,baz=76,slow=2.2,SNR=13								

IDC 18 18:32:08.9±3.9, 5.68°S×148.66°E, h0km, mb3.0/1, mb1 3.5/3, mb1mx3.3/38, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=132.5km s-min=35.6km az=105.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
PMG	**Port Moresby**	**3.99**	**202**	Pn		Pn	18 33 11.3		-0.2
	1.1nm,0.3s,baz=45,slow=14,SNR=4.4								
PMG					Sn		Sn	18 33 59.2	+0.2
	2.9nm,0.3s,baz=51,slow=18,SNR=5.0								
WRA	**Warramunga Arr**	**19.88**	**223**	P			Pn	18 36 42.8	-0.7
	0.1nm,0.3s,baz=48,slow=11,SNR=6.7								
ASAR	**Alice Springs**	**22.84**	**217**	P			P	18 37 13.7	-0.3
	0.5nm,0.9s,baz=42,slow=11,SNR=4.3								
TORD	**Torodi Ar. Bea**	**146.60**	**285**	PKPbc			PKPdf	18 51 52.6	+0.6
	0.3nm,0.9s,baz=50,slow=3.7,SNR=2.8								

*IDC **18** 18:32:05.0±23.0, 52.95°N×172.12°W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.4/55, mbtmp3.6/4, Error ellipse: s-maj=434.9km s-min=100.1km az=95.0*
*NEIC **18** 18:32:16.9, 52.91°N×169.64°W, h2km, ML3.3(AEIC), After AEIC.*

ISC 18 18:32:17.4±0.8, 53.2°N±0.3°×169.8°W±0.1, h10km, n19, σ1°18/25, mb3.5/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
OKAK	**Okmok**	**0.97**	**65**	P		**Pg**	**18 32 35.5**		**-0.5**
OKWR	**Okmok West Rim**	**1.01**	**75**	P		**Pn**	**18 32 37.5**		**-0.1**
OKWR				S		**Sn**	**18 32 54.2**		**+2.2**
OKCE	**Okmok Cone E**	**1.03**	**76**	P		**Pn**	**18 32 37.1**		**-0.3**
OKRE	**Okmok R'deer P**	**1.06**	**71**	P		**Pn**	**18 32 38.9**		**+0.6**
OKRE				S		**Sn**	**18 32 54.9**		**+1.8**
OKTU	**Okmok Mt. Tuli**	**1.10**	**79**	P		**Pn**	**18 32 38.4**		**-0.4**
MSOM	**Makushin Julie**	**1.84**	**69**	P		**Pb**	**18 32 50.6**		**-0.4**
MGOD	**Makushin Gods**	**1.88**	**70**	P		**Pb**	**18 32 50.6**		**-1.1**
MGOD				S		**Sg**	**18 33 16.4**		**-1.2**
MCIR	**Makushin Cirqu**	**1.92**	**65**	P		**Pb**	**18 32 51.9**		**-0.6**
MSW	**Makushin Switc**	**1.97**	**67**	P		**Pb**	**18 32 52.2**		**-1.0**
MSW				S		**Sg**	**18 33 19.3**		**-1.1**
MTBL	**Makushin Table**	**2.04**	**66**	P		**Pb**	**18 32 53.8**		**-0.8**
UNV	**Unalaska Valle**	**2.10**	**70**	P		**Pb**	**18 32 53.9**		**-1.6**
UNV				S		**Sb**	**18 33 21.4**		**-0.2**
ZRO	**Akutan Zero**	**2.47**	**67**	P		**Pb**	**18 32 59.8**		**-2.1**
ATKA	**Atka Island**	**2.83**	**251**	P		**Pn**	**18 33 01.6**		**-0.9**
ATKA				S		**Sn**	**18 33 37.0**		**+0.4**
GSTR	**Great Sitkin T**	**3.94**	**256**	P		**Pn**	**18 33 18.7**		**+0.8**
GSCK	**Great Sitkin C**	**4.03**	**256**	P		**Pn**	**18 33 19.2**		**+0.1**
DLBC	**Dease Lake**	**22.72**	**61**	P		**P**	**18 37 21.6**		**+2.4**
	1.6nm,0.6s,baz=278,slow=15,SNR=2.5								
NVAR	**Mina Array Bea**	**37.97**	**92**	P		**P**	**18 39 36.1**		**+0.8**
	0.5nm,0.7s,baz=294,slow=6.8,SNR=3.8								
PDAR	**Pinedale Array**	**40.53**	**80**	P		**P**	**18 39 57.0**		**+0.3**
	0.3nm,0.6s,baz=307,slow=6.5,SNR=4.0								
TXAR	**Lajitas Array**	**53.02**	**89**	P		**P**	**18 41 33.7**		**-0.7**
	0.8nm,0.7s,baz=298,slow=5.7,SNR=11								

*SJA **18** 18:34:29.8±0.8, 33.90°S×73.27°W, h10km, ML3.3, MW2.9*
*GUC **18** 18:34:37.5±0.4, 34.04°S×72.29°W, h16km±1km, ML3.6*

ISC 18 18:34:38.1±2.1, 34.03°S±0.05°×72.3°W±0.1, h17km, n11, σ1°61/19, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
LNV	**Longovilo**	**0.70**	**84**	*e*P		**Pg**	**18 34 52.3**		**+0.4**
LNV				*e*S		**Sn**	**18 35 03.1**		**-0.6**
NICH	**Los Niches**	**1.29**	**139**	*e*P		**Pb**	**18 35 01.2**		**-0.7**
NICH				*e*S		**Sg**	**18 35 19.2**		**-0.6**
NICH				AML		AML	18 35 26.5		
	comp=E,2μm,0.7s								
CHCH	**Chadas Angostu**	**1.33**	**86**	*e*P		**Pb**	**18 35 02.4**		**-0.3**
CHCH				*e*S		**Sg**	**18 35 21.2**		**0.0**
TALC	**Talca**	**1.46**	**160**	*e*P		**Pb**	**18 35 03.7**		**-1.1**
TALC				*e*S		**Sg**	**18 35 23.9**		**-1.3**
TALC				AML		AML	18 35 31.7		
	comp=E,1μm,0.4s								
AUSP	**Uspallata**	**3.00**	**54**	*e*P		**Pb**	**18 35 29.4**		**-1.9**
AUSP				*e*S		**Sg**	**18 36 15.1**		**+0.4**
ARCO	**CERRO ARCO**	**3.02**	**68**	*e*P		**Pb**	**18 35 31.7**		**+0.3**
ARCO				IAML			18 35 37.3		
	comp=Z,50nm,0.6s								
ASAL	**Salagasta**	**3.20**	**64**	*e*P		**Pb**	**18 35 35.4**		**+0.9**
ASAL				*e*S		**Sg**	**18 36 20.5**		**-0.5**
RTLS	**Leoncito**	**3.33**	**49**	*e*P		**Pb**	**18 35 34.5**		**-2.4**
RTLS				*e*S		**Sg**	**18 36 24.6**		**-0.6**
RTCV	**Cerro Valdivia**	**3.80**	**56**	*e*P		Pn	18 35 39.8		+4.0
RTCV				*e*S		**Sg**	**18 36 36.3**		**-3.7**
RTLL	**Cerro Villicun**	**4.17**	**51**	*e*P		**Pn**	**18 35 43.9**		**+2.9**
RTLL				*e*S		**Sb**	**18 36 40.3**		**-0.9**
AMOG	**MOGNA**	**4.42**	**47**	*e*P		**Pn**	**18 35 46.4**		**+1.9**

JMA 18 18:35:11.7±0.2, 30.48°N×142.15°E, h46km, M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
CBIJ	**Chichi jima**	**3.37**	**179**	S		Sn	18 36 42.5		+1.8
BSO1	**Boso 1**	**4.28**	**347**	S		Sn	18 37 05.1		+3.4
BSO4	**Boso 4**	**4.75**	**342**	S		Sn	18 37 16.9		+2.6
JOD2	**Odawara 2**	**5.42**	**332**	P		Pn	18 36 33.2		+3.2
JHU	**Hanno**	**5.87**	**337**	P		Pn	18 36 38.9		+2.7
JHU				S		Sn	18 37 44.1		+1.9
JYT	**Yasato**	**5.96**	**345**	P		Pn	18 36 42.1		+4.7
JYT				S		Sn	18 37 46.6		+2.3
JRY	**Ryogami san**	**6.16**	**335**	P		Pn	18 36 43.0		+2.9
JRY				S		Sn	18 37 51.4		+2.2
JHO	**Hitachi**	**6.25**	**348**	P		Pn	18 36 42.6		+1.2
JHO				S		Sn	18 37 49.4		-2.2
JAG	**Ashikaga**	**6.34**	**340**	S		Sn	18 37 53.8		0.0
JFK	**Kawauchi**	**6.95**	**352**	S		Sn	18 38 04.2		-4.6

*IDC **18** 18:35:46.6±1.3, 6.70°S×150.61°E, h0km, mb4.1/7, mb1 4.4/8, mb1mx4.0/41, mbtmp4.2/8, ML2.3/1, Error ellipse: s-maj=50.6km s-min=18.0km az=109.0*
*ISCJB **18** 18:35:49.6±0.8, 6.72°S±0.08°×150.5°E±0.1°, h33km, mb4.0/6, Error ellipse: s-maj=19.7km s-min=8.5km az=29.0*
*NEIC **18** 18:35:51.8±0.7, 6.73°S×150.53°E, h35km, mb4.4/2, Error ellipse: s-maj=20.9km s-min=8.8km az=109.0*

ISC 18 18:35:51.2±1.0, 6.7°S±0.1°×150.6°E±0.2, h33km, n17, σ0°57/20, mb4.0/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
RABL	**Rabaul**	**2.97**	**33**	P		Pb	18 36 39.9		-3.6
	baz=3.0,SNR=8.2								
PMG	**Port Moresby**	**4.30**	**231**	Pn		**Pn**	**18 36 54.5**		**+0.1**
	11nm,0.3s,baz=58,slow=6.5,SNR=37								
PMG					Sn		**Sn**	**18 37 42.6**	**-0.8**
	40nm,0.3s,baz=54,slow=19,SNR=16								
PMG	**Port Moresby**	**4.30**	**231**	P		**Pn**	**18 36 55.0**		**+0.6**
	baz=4.2,SNR=35								
PMG				P		**Pn**	**18 36 55.0**		**+0.6**
	baz=4.2,SNR=35								
PMG				P		**Pn**	**18 36 55.0**		**+0.6**
	baz=4.2,SNR=35								
PMG	**Port Moresby**	**4.30**	**231**	*e*Pn		**Pn**	**18 36 54.9**		**+0.5**
PMG				*e*Sn		**Sn**	**18 37 43.7**		**+0.3**
EIDS	**Eidsvold**	**18.56**	**178**	*e*P		**P**	**18 40 05.5**		**+0.1**
	22nm,1.1s								
WRAB	**Tennant Creek**	**20.50**	**229**	*e*P		**P**	**18 40 26.2**		**-0.5**
	25nm,0.8s								
WRA	**Warramunga Arr**	**20.51**	**229**	P		**P**	**18 40 26.9**		**+0.1**
	23nm,0.9s,baz=52,slow=11,SNR=56								
AS31	**Alice Springs**	**23.24**	**222**	*e*P		**P**	**18 40 55.4**		**-0.5**
ASAR	**Alice Springs**	**23.24**	**222**	P		**P**	**18 40 55.8**		**-0.1**
	5.5nm,0.9s,baz=58,slow=8.7,SNR=48								
STKA	**Stephens Creek**	**26.40**	**197**	P		**P**	**18 41 24.9**		**0.0**
	18nm,1.2s,baz=341,slow=8.8,SNR=8.5								
MJAR	**Matsushiro Arr**	**44.55**	**346**	P		**P**	**18 43 59.7**		**-0.4**
	0.5nm,0.5s,baz=169,slow=7.1,SNR=3.7								
KSRS	**Korea Array**	**48.76**	**336**	P		**P**	**18 44 33.4**		**+0.5**
	1.1nm,0.8s,baz=152,slow=8.6,SNR=4.8								
KSAR	**Wonju Array Be**	**48.76**	**336**	P		**P**	**18 44 33.4**		**+0.4**
SONM	**Songino Array**	**66.78**	**329**	P		**P**	**18 46 39.7**		**+0.1**
	0.7nm,0.7s,baz=123,slow=5.5,SNR=5.2								
ILAR	**Eielson Array**	**84.76**	**22**	P		**P**	**18 48 22.1**		**+0.2**
	1.9nm,1.0s,baz=256,slow=5.0,SNR=12								
GERES	**GERESS Array B**	**124.46**	**327**	PKP		**PKPdf**	**18 54 47.6**		**+0.3**
	0.3nm,0.5s,baz=64,slow=3.1,SNR=3.7								
TORD	**Torodi Ar. Bea**	**148.69**	**284**	PKPbc		**PKPab**	**18 55 38.4**		**-1.5**
	2.2nm,0.6s,baz=44,slow=2.9,SNR=21								

IDC 18 18:38:01.1±3.3, 5.84°S×149.82°E, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.6/37, mbtmp4.0/3, ML2.3/1, Error ellipse: s-maj=126.2km s-min=35.8km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
PMG	**Port Moresby**	**4.42**	**217**	Pn		Pn	18 39 11.2		+1.7
	11nm,0.3s,baz=37,slow=17,SNR=8.1								
PMG					Sn		Sn	18 40 01.3	-0.4
	13nm,0.3s,baz=75,slow=20,SNR=5.9								
WRA	**Warramunga Arr**	**20.57**	**226**	P		P	18 42 41.2		-0.5
	8.2nm,0.7s,baz=51,slow=11,SNR=8.2								
ASAR	**Alice Springs**	**23.43**	**219**	P		P	18 43 11.7		-0.5
	1.4nm,0.8s,baz=56,slow=9.1,SNR=3.6								
TORD	**Torodi Ar. Bea**	**147.77**	**285**	PKPbc		PKPbc	18 57 48.6		-0.5
	0.5nm,0.4s,baz=72,slow=2.5,SNR=6.1								

IDC 18 18:52:04.6±3.1, 6.24°S×150.40E, h0km, mb3.0/2, mb1 3.4/3, mb1mx3.2/39, mbtmp3.3/3, ML1.2/1, Error ellipse: s-maj=125.0km s-min=36.3km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
PMG	**Port Moresby**	**4.49**	**225**	Pn		Pn	18 53 15.5		+1.5
	0.8nm,0.3s,baz=90,slow=5.1,SNR=3.3								
PMG					Sn		Sn	18 54 07.2	+0.2
	1.1nm,0.3s,baz=0.0,slow=20,SNR=3.9								
WRA	**Warramunga Arr**	**20.71**	**227**	P		P	18 56 45.7		-1.0
	0.7nm,0.7s,baz=54,slow=11,SNR=6.0								
ASAR	**Alice Springs**	**23.49**	**221**	P		P	18 57 16.5		+0.2
	0.2nm,0.6s,baz=55,slow=9.4,SNR=6.2								
TORD	**Torodi Ar. Bea**	**148.42**	**285**	PKPbc		PKPbc	19 11 53.6		-0.6
	0.1nm,0.4s,baz=86,slow=4.5,SNR=3.3								

*ISCJB **18** 18:54:15.4±0.3, 52.76°N±0.06°×169.81W±0.06, h10km, mb4.1/24, MS3.9/3, Error ellipse: s-maj=9.9km s-min=3.6km az=157.8*
*NEIC **18** 18:54:17.2, 52.73°N×169.77W, h14km, mb4.1/12, ML4.4(AEIC), After AEIC.*
*IDC **18** 18:54:24.1±0.7, 52.74°N×169.89W, h70km±6km, mb3.7/14, mb1 4.0/15, mb1mx3.6/61, mbtmp4.0/15, MS3.9/4, Ms1 3.9/4, ms1mx3.3/50, Error ellipse: s-maj=25.4km s-min=10.6km az=179.0*

ISC 18 18:54:16.6±0.6, 52.77°N±0.10°×169.74W±0.05, h10km, n62, σ1°19/57, mb4.1/24, MS3.9/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
OKCE	**Okmok Cone E**	**1.16**	**55**	P		**Pb**	**18 54 38.4**		**-0.4**
OKAK	**Okmok**	**1.16**	**45**	P		**Pb**	**18 54 37.1**		**-1.7**
OKAK				S		**Sb**	**18 54 52.1**		**-1.8**
OKRE	**Okmok R'deer P**	**1.21**	**51**	P		**Pn**	**18 54 39.9**		**+0.2**
MSOM	**Makushin Julie**	**1.98**	**57**	P		**Pn**	**18 54 50.1**		**0.0**
MCIR	**Makushin Cirqu**	**2.08**	**54**	P		**Pn**	**18 54 52.8**		**+1.2**
MSW	**Makushin Switc**	**2.11**	**56**	P		**Pn**	**18 54 52.7**		**+0.7**
UNV	**Unalaska Valle**	**2.22**	**60**	*e*Pn		**Pn**	**18 54 53.5**		**0.0**
UNV				*e*Pg		**Pg**	**18 54 59.6**		**+0.4**
UNV				*e*Sn		**Sn**	**18 55 21.2**		**+0.2**
AKRB	**Akutan Reef Bi**	**2.59**	**57**	P		**Pn**	**18 55 00.3**		**+1.8**
ZRO	**Akutan Zero**	**2.61**	**58**	P		**Pn**	**18 55 00.3**		**+1.4**
AKGG	**Akutan Green G**	**2.66**	**56**	P		**Pn**	**18 55 00.3**		**+0.8**
AKUT	**Akutan**	**2.74**	**58**	*e*Pn		**Pn**	**18 55 00.6**		**0.0**
AKUT				*e*Sn		**Sn**	**18 55 34.5**		**+0.8**
ATKA	**Atka Island**	**2.78**	**260**	P		**Pn**	**18 55 00.6**		**-0.5**
GSTR	**Great Sitkin T**	**3.92**	**263**	*e*Pn		**Pn**	**18 55 18.5**		**+1.6**
GSMY	**Great Sitkin M**	**3.94**	**262**	P		**Pn**	**18 55 17.3**		**+0.3**
GSCK	**Great Sitkin C**	**4.01**	**262**	P		**Pn**	**18 55 18.4**		**+0.4**
FALS	**False Pass**	**4.29**	**58**	*e*Pn		**Pn**	**18 55 24.9**		**+3.0**
SPIA	**Saint Paul Isl**	**4.43**	**356**	P		**Pn**	**18 55 25.5**		**+1.7**
AMKA	**Amchitka**	**6.90**	**263**	*e*Pn		**Pn**	**18 56 00.1**		**+2.5**
	55nm,0.6s								
CHGN	**Chignik**	**7.48**	**57**	*e*Pn		Pn	18 56 10.6		+5.0
KDAK	**Kodiak Island**	**10.99**	**56**	*e*Pn		**Pn**	**18 56 51.8**		**-1.9**
PPLA	**Purkeypile**	**13.74**	**36**	P		**Pn**	**18 57 31.4**		**-0.1**
	80nm,1.6s								
TRF	**Thorofare Moun**	**14.77**	**36**	Pn		**Pn**	**18 57 46.2**		**+0.8**
	30nm,1.7s								
ILAR	**Eielson Array**	**16.75**	**35**	P		**Pn**	**18 58 11.8**		**+0.7**
	0.2nm,0.3s,baz=226,slow=11,SNR=17								
ILAR					S		**Sn**	**19 01 14.0**	**-3.0**
	0.0nm,0.3s,baz=231,slow=24,SNR=2.4								
ILAR					LR		LR	19 04 30.6	
	comp=Z,262nm,21.5s,baz=122,slow=36								
EGAK	**Eagle**	**18.87**	**39**	*e*P		**P**	**18 58 36.3**		**-0.4**
	5.7nm,0.7s								
PETK	**Petropavlovsk-**	**19.54**	**284**	P		**P**	**18 58 45.3**		**+1.2**
	0.4nm,0.3s,baz=84,slow=13,SNR=11								
SKAG	**Skagway**	**20.14**	**57**	*e*P		**P**	**18 58 51.9**		**+1.3**
	46nm,0.8s								
SEY	**Seymchan**	**22.23**	**312**	P		**P**	**18 59 13.0**		**-0.1**
	3.8nm,0.8s,baz=112,slow=9.9,SNR=9.9								
DLBC	**Dease Lake**	**22.88**	**60**	P		**P**	**18 59 22.2**		**+2.1**
	3.4nm,0.8s,baz=260,slow=11,SNR=11								
DLBC					LR		LR	19 08 35.4	
	comp=Z,440nm,19.4s,baz=48,slow=37								
DLBC	**Dease Lake**	**22.88**	**60**	*e*P		**P**	**18 59 20.3**		**+0.3**
	3.7nm,0.8s								
INK	**Inuvik**	**23.14**	**34**	LR		LR	19 08 56.2		
	comp=Z,301nm,20.6s,baz=312,slow=38								
YAK	**Yakutsk**	**32.74**	**311**	LR		LR	19 16 17.9		
	comp=Z,254nm,18.5s,baz=24,slow=40								
NEW	**Newport**	**33.13**	**76**	P		**P**	**19 00 54.2**		**+1.4**
	2.0nm,0.7s,baz=301,slow=10,SNR=4.9								
MCMT	**McKenzie Canyo**	**37.42**	**79**	*e*P		**P**	**19 01 30.7**		**+0.8**
EGMT	**Eagleton**	**37.56**	**72**	*e*P		**P**	**19 01 30.7**		**-0.2**
	4.5nm,0.9s								
H11N2	**WAKE ISLAND Hy**	**37.63**	**218**	T		T	19 41 30.3		
	baz=24,slow=76,SNR=20								
H11N3	**WAKE ISLAND Hy**	**37.63**	**218**	T		T	19 41 35.9		
	baz=24,slow=76,SNR=31								
H11N1	**WAKE ISLAND Hy**	**37.65**	**218**	T		T	19 41 31.6		
	baz=24,slow=76,SNR=10								
NVAR	**Mina Array Bea**	**37.90**	**91**	P		**P**	**19 01 36.0**		**+2.1**
	1.5nm,0.7s,baz=300,slow=8.1,SNR=9.7								
ELK	**Elko**	**38.33**	**86**	*e*P		**P**	**19 01 37.7**		**+0.1**
	2.3nm,0.8s								
H11S1	**WAKE ISLAND Hy**	**38.82**	**217**	T		T	19 43 00.4		
	baz=23,slow=76,SNR=267								
H11S2	**WAKE ISLAND Hy**	**38.82**	**217**	T		T	19 43 01.6		
	baz=23,slow=76,SNR=223								
H11S3	**WAKE ISLAND Hy**	**38.84**	**217**	T		T	19 43 05.2		
	baz=23,slow=76,SNR=142								
RLMT	**Red Lodge**	**39.38**	**76**	*e*P		**P**	**19 01 45.8**		**-0.6**
	3.7nm,0.9s								
MJAR	**Matsushiro Arr**	**39.49**	**267**	P		**P**	**19 01 46.9**		**-0.2**
	0.3nm,0.5s,baz=28,slow=5.2,SNR=4.2								
R11A	**Troy Canyon, C**	**39.60**	**89**	*e*P		**P**	**19 01 49.0**		**+0.8**
	1.5nm,0.7s								
DUG	**Dugway**	**40.13**	**85**	P		P	19 01 49.9		-2.7
	5.6nm,1.0s								
BW06	**Boulder Array**	**40.55**	**79**	*e*P		**P**	**19 01 56.3**		**+0.2**
	3.0nm,0.8s								
PDAR	**Pinedale Array**	**40.55**	**79**	P		**P**	**19 01 56.9**		**+0.8**
	3.0nm,0.7s,baz=323,slow=4.8,SNR=26								
CCUT	**Cedar City**	**41.46**	**88**	*e*P		**P**	**19 02 02.6**		**-1.0**
	2.1nm,0.7s								
O20A	**White River Ci**	**42.93**	**82**	*e*P		**P**	**19 02 15.6**		**0.0**
	9.8nm,0.8s								
PV01	**Paradox Valley**	**43.99**	**84**	*e*P		**P**	**19 02 24.5**		**+0.3**
	327nm,0.7s								
WUAZ	**Wupatki**	**44.00**	**89**	*e*P		**P**	**19 02 24.7**		**+0.4**
	3.6nm,0.7s								
JNU	**Nakatsue**	**46.24**	**269**	P		**P**	**19 02 41.4**		**-0.5**
	3.3nm,0.7s,baz=14,slow=4.2,SNR=3.4								
TXAR	**Lajitas Array**	**52.97**	**89**	P		**P**	**19 03 34.0**		**+0.7**
	3.1nm,0.7s,baz=295,slow=4.9,SNR=28								
KURK	**Kurchatov**	**61.92**	**318**	P		**P**	**19 04 35.8**		**-0.2**
KURBB	**Kurchatov Arra**	**62.03**	**318**	P		**P**	**19 04 35.8**		**-0.9**
	0.4nm,0.2s,baz=40,slow=7.7,SNR=3.4								
BVAR	**Borovoye Array**	**63.25**	**324**	P		**P**	**19 04 44.4**		**-0.4**
	0.6nm,0.5s,baz=57,slow=6.7,SNR=5.9								
CMAR	**Chiang Mai Arr**	**76.31**	**282**	P		**P**	**19 06 04.9**		**-0.8**
	0.4nm,0.4s,baz=23,slow=7.2,SNR=4.3								
GERES	**GERESS Array B**	**78.72**	**358**	P		**P**	**19 06 19.8**		**+0.8**
	0.3nm,0.6s,baz=32,slow=7.8,SNR=3.7								
WRA	**Warramunga Arr**	**87.08**	**231**	P		**P**	**19 07 00.1**		**-2.3**
	1.1nm,0.7s,baz=33,slow=6.4,SNR=10								
ASAR	**Alice Springs**	**90.48**	**230**	P		**P**	**19 07 17.9**		**-0.4**
	3.7nm,0.7s,baz=35,slow=4.5,SNR=51								
BOSA	**Boshof**	**153.44**	**329**	PKPbc		**PKPbc**	**19 14 15.0**		**0.0**
	0.8nm,0.4s,baz=331,slow=1.3,SNR=6.9								

*ISCJB **18** 18:54:33.5±1.2, 52.7°N±0.2°×169.8°W±0.1, h10km, mb4.5/1, Error ellipse: s-maj=26.0km s-min=7.6km az=158.1*
*NEIC **18** 18:54:35.8, 52.63°N×169.48W, h10km, mb3.8/1, ML4.2(AEIC), After AEIC.*

ISC 18 18:54:34.5±0.9, 52.7°N±0.1°×169.71°W±0.07, h10km, n17, σ0°71/21, mb4.3/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
OKCE	**Okmok Cone E**	**1.17**	**52**	P		**Pb**	**18 54 56.1**		**-0.7**
OKCE				S

PETK	**Petropavlovsk-** 0.3nm,0.3s,baz=88,slow=12,SNR=4.6	**19.69**	**284**	P	**Pn**	**19 14 42.7**	**+2.9**
SKAG	**Skagway** 17nm,0.9s	**20.04**	**57**	*eP*	Pn	19 14 45.1	+1.3
SEY	**Seymchan** 2.2nm,0.9s,baz=62,slow=12,SNR=4.0	**22.37**	**312**	P	**P**	**19 15 08.8**	**+1.6**
DLBC	**Dease Lake** 12nm,0.9s,baz=271,slow=9.7,SNR=25	**22.77**	**60**	P	**P**	**19 15 15.0**	**+3.5**
DLBC	**Dease Lake** 12nm,0.8s	**22.77**	**60**	*eP*	**P**	**19 15 11.1**	**-0.4**
NVAR	**Mina Array Bea** 2.2nm,0.8s,baz=298,slow=9.0,SNR=14	**37.75**	**91**	P	P	19 17 31.6	+6.3
H11S1	**WAKE ISLAND Hy** baz=23,slow=76,SNR=109	**38.88**	**218**	T	T	19 58 48.6	
H11S2	**WAKE ISLAND Hy** baz=23,slow=76,SNR=96	**38.89**	**218**	T	T	19 58 49.8	
H11S3	**WAKE ISLAND Hy** baz=23,slow=76,SNR=80	**38.90**	**218**	T	T	19 58 49.9	
R11A	**Troy Canyon, C** 1.6nm,0.9s	**39.45**	**89**	P	**P**	**19 17 39.8**	**+0.3**
PDAR	**Pinedale Array** 1.1nm,0.6s,baz=304,slow=5.4,SNR=9.0	**40.41**	**79**	P	P	19 17 52.5	+5.0
TXAR	**Lajitas Array** 1.2nm,0.5s,baz=301,slow=6.4,SNR=18	**52.82**	**89**	P	P	19 19 28.6	+3.9
WRA	**Warramunga Arr** 0.6nm,0.6s,baz=34,slow=6.1,SNR=6.6	**87.17**	**231**	P	P	19 23 01.0	+5.6
ASAR	**Alice Springs** 1.5nm,0.7s,baz=33,slow=5.0,SNR=17	**90.57**	**230**	P	P	19 23 17.9	+6.6

IDC 18 19:12:52.4±1.9,5°87S×150°33E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.5/32, mbtmp3.9/4, ML1.5/1, Error ellipse: s-maj=54.6km s-min=34.0km az=134.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul** baz=60,SNR=8.2	**2.48**	**48**	P	Pg	19 13 41.4	+1.4
PMG	**Port Moresby** 1.4nm,0.3s,baz=39,slow=6.8,SNR=6.9	**4.71**	**222**	Pn	Pn	19 14 06.4	+1.6
PMG				Sn	Sn	19 14 59.5	-0.8
WRA	**Warramunga Arr** 1.8nm,0.7s,baz=53,slow=11,SNR=14	**20.91**	**227**	P	P	19 17 36.5	-0.2
ASAR	**Alice Springs** 0.8nm,0.8s,baz=54,slow=8.9,SNR=10	**23.73**	**220**	P	P	19 18 05.9	-0.6
VNDA	**Vanda** 2.9nm,0.6s,baz=328,slow=3.8,SNR=16	**71.86**	**177**	P	P	19 24 16.9	+0.2
TORD	**Torodi Ar. Bea** 0.2nm,0.9s,baz=232,slow=1.6,SNR=2.1	**148.26**	**285**	PKPbc	PKPbc	19 32 41.0	-0.6

*IDC **18** 19:19:31.4±0.9,6°12S×150°73E, h0km, mb4.2/8, mb1 4.4/10, mb1mx4.2/20, mbtmp4.2/10, ML3.2/2, MS3.7/3, Ms1 3.7/3, ms1mx3.2/33, Error ellipse: s-maj=40.1km s-min=18.1km az=105.0*

*NEIC **18** 19:19:36.8±0.5,6°14S×150°63E, h35km, mb4.8/3, Error ellipse: s-maj=18.0km s-min=8.6km az=105.0*

*ISCJB **18** 19:19:37.0±0.5,6°14S±0°05×150°43E±0°08, h48km, mb4.2/9, MS3.8/3, Error ellipse: s-maj=11.7km s-min=6.5km az=21.9*

ISC 18 19:19:38.8±0.6,6°07S±0°07×150°41E±0°10, h48km, n45, σ1§34/53, mb4.2/9, MS3.7/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul** baz=2.5,SNR=75	**2.56**	**43**	P	**Pn**	**19 20 19.3**	**+1.4**
PMG	**Port Moresby** 15nm,0.3s,baz=49,slow=4.7,SNR=37	**4.62**	**224**	Pn	**Pn**	**19 20 46.8**	**+0.8**
PMG				Sn	**Sn**	**19 21 38.8**	**+0.4**
PMG	**Port Moresby** baz=4.7,SNR=40	**4.62**	**224**	P	**Pn**	**19 20 46.8**	**+0.8**
PMG	baz=4.7,SNR=40			P	**Pn**	**19 20 46.8**	**+0.8**
PMG	baz=4.7,SNR=40			P	**Pn**	**19 20 46.8**	**+0.8**
JAY	**Jayapura** comp=Z,342nm,18.7s,baz=316,slow=40	**10.30**	**290**	LR	LR	19 26 36.5	
COEN	**Coen** baz=11,SNR=4.4	**10.59**	**222**	P	**Pn**	**19 22 08.4**	**+0.5**
MTSU	**Mount Surprise** baz=14,SNR=15	**13.38**	**206**	P	**Pn**	**19 22 46.2**	**+0.1**
CTA	**Charters Tower** 0.4nm,0.3s,baz=24,slow=15,SNR=5.0	**14.51**	**196**	Pn	**Pn**	**19 23 00.6**	**-0.8**
QIS	**Mount Isa** baz=18,SNR=13	**17.81**	**215**	P	**P**	**19 23 43.9**	**+0.4**
KDU	**Kakadu** baz=19,SNR=8.1	**18.87**	**248**	P	**P**	**19 23 55.5**	**+0.4**
EIDS	**Eidsvold** baz=19,SNR=5.4	**19.20**	**178**	P	**P**	**19 23 58.7**	**-0.1**
EIDS	**Eidsvold** 43nm,1.1s	**19.20**	**178**	*eP*	**P**	**19 23 57.2**	**-1.5**
MTN	**Manton Dam** baz=20,SNR=4.3	**20.16**	**249**	P	**P**	**19 24 09.9**	**+0.7**
RMQ	**Roma** baz=20,SNR=71	**20.36**	**184**	P	**P**	**19 24 11.8**	**+0.4**
WRAB	**Tennant Creek** 32nm,0.7s	**20.82**	**227**	*eP*	**P**	**19 24 15.3**	**-1.1**
WRA	**Warramunga Arr** 22nm,0.5s,baz=51,slow=11,SNR=143	**20.83**	**227**	P	**P**	**19 24 16.3**	**-0.3**
WRA				S	**S**	**19 28 06.1**	**-0.3**
WRA	2.1nm,1.0s,baz=52,slow=20,SNR=4.0			PcP	**PcP**	**19 28 25.3**	**+1.2**
WRA	1.4nm,0.7s,baz=50,slow=2.1,SNR=5.9			ScP	**ScP**	**19 32 00.4**	**+3.4**
QLP	**Quilpie** baz=21,SNR=46	**21.23**	**195**	P	**P**	**19 24 20.6**	**-0.1**
KNRA	**Kununurra** baz=23,SNR=14	**23.27**	**244**	P	**P**	**19 24 41.8**	**-0.6**
AS31	**Alice Springs**	**23.62**	**221**	*eP*	**P**	**19 24 45.4**	**-0.3**
ASAR	**Alice Springs** 15nm,0.6s,baz=53,slow=9.4,SNR=260	**23.62**	**221**	P	**P**	**19 24 45.9**	**+0.1**
ASAR	0.9nm,0.9s,baz=54,slow=1.6,SNR=3.7			PcP	**PcP**	**19 28 30.9**	**+1.3**
ASAR	0.6nm,0.6s,baz=34,slow=1.7,SNR=7.7			ScP	**ScP**	**19 32 08.4**	**+4.3**
ARMA	**Armidale** baz=24,SNR=6.8	**24.25**	**177**	P	**P**	**19 24 50.9**	**-0.6**
CMSA	**Cobar Meteorol** baz=26,SNR=15	**25.72**	**189**	P	**P**	**19 25 03.6**	**-1.1**
STKA	**Stephens Creek** 19nm,0.7s,baz=1.2,slow=8.9,SNR=38	**26.96**	**197**	P	**P**	**19 25 14.7**	**-1.3**
STKA	**Stephens Creek** baz=27,SNR=28	**26.96**	**197**	P	**P**	**19 25 14.8**	**-1.1**
WRKA	**Warakurna** baz=28,SNR=13	**28.36**	**226**	P	**P**	**19 25 28.1**	**-0.5**
HTT	**Hallett** baz=29,SNR=6.4	**29.24**	**200**	P	**P**	**19 25 35.6**	**-0.7**
BBOO	**Buckleboo** baz=30,SNR=6.2	**29.77**	**205**	P	**P**	**19 25 39.8**	**-1.2**
MEEK	**Meekatharra** baz=37,SNR=13	**36.54**	**232**	P	**P**	**19 26 40.0**	**-0.1**
KMBL	**Kambalda** baz=37,SNR=8.6	**36.69**	**223**	P	**P**	**19 26 41.4**	**+0.1**
AFI	**Afiamalu** comp=Z,119nm,19.0s,baz=114,slow=31	**38.01**	**105**	LR	LR	19 38 58.2	
MORW	**Morawa** baz=40,SNR=4.0	**39.70**	**231**	P	**P**	**19 27 06.5**	**-0.1**
KLBR	**Kellerberrin** baz=40,SNR=8.5	**39.71**	**226**	P	**P**	**19 27 06.2**	**-0.5**
URZ	**Urewera** comp=Z,82nm,19.9s,baz=12,slow=35	**40.17**	**147**	LR	LR	19 42 40.6	
CISI	**Cisompet, Garu** baz=42,SNR=3.7	**42.30**	**265**	P	**P**	**19 27 28.7**	**+0.4**
KSRS	**Korea Array** 0.8nm,0.6s,baz=145,slow=8.5,SNR=3.5	**48.12**	**336**	P	**P**	**19 28 15.1**	**+1.2**
KSAR	**Wonju Array Be**	**48.12**	**336**	P	**P**	**19 28 15.1**	**+1.1**
HHC	**Hu-ho-hao-te**	**58.73**	**326**	*eP*	**P**	**19 29 32.4**	**+0.5**
HHC				PP	**PP**	**19 31 44.0**	**+1.7**
HHC				S	**S**	**19 37 31.4**	**-2.1**
HHC				sS	**sS**	**19 37 52.9**	**-3.1**
HHC				ScS	**ScS**	**19 39 14.6**	**-3.4**
HHC	**Hu-ho-hao-te**	**58.73**	**326**	SS	SS	19 41 26.3	-1.2
HHC	comp=Z,9.0nm,1.1s			pmax	pmax		
HHC	comp=Z,47nm,5.1s			pmax	pmax		
HHC	comp=N,71nm,13.9s			LR	LR		
HHC	comp=E,83nm,15.1s			LR	LR		
HHC				LR	LR		
	comp=Z,63nm,15.9s						
SONM	**Songino Array** comp=Z,0.2nm,0.3s,baz=140,slow=5.4,SNR=4.2	**66.16**	**329**	P	**P**	**19 30 22.4**	**+1.0**
MKAR	**Makanchi Array** comp=Z,0.2nm,0.6s,baz=110,slow=7.5,SNR=3.1	**79.73**	**320**	P	**P**	**19 31 42.4**	**+0.7**
MAW	**Mawson** comp=Z,1.8nm,0.7s,baz=92,slow=8.5,SNR=7.1	**83.49**	**203**	P	**P**	**19 32 01.0**	**-0.1**
QSPA	**South Pole Qui** comp=Z,10nm,1.1s	**83.90**	**180**	*eP*	**P**	**19 32 02.0**	**-1.4**
ILAR	**Eielson Array** comp=Z,0.3nm,0.5s,baz=250,slow=4.6,SNR=5.5	**84.23**	**23**	P	**P**	**19 32 03.0**	**-1.9**
GERES	**GERESS Array B** comp=Z,0.9nm,0.5s,baz=64,slow=1.5,SNR=12	**123.85**	**327**	PKP	**PKPdf**	**19 38 32.1**	**+0.4**
TORD	**Torodi Ar. Bea** comp=Z,5.8nm,0.5s,baz=94,slow=2.7,SNR=64	**148.38**	**285**	PKPbc	**PKPbc**	**19 39 20.9**	**-0.2**
BDFB	**Brasilia** comp=Z,4.0nm,0.6s,baz=207,slow=2.3,SNR=6.6	**151.75**	**140**	PKPbc	**PKPbc**	**19 39 29.4**	**+0.1**

WEL 18 19:22:29.1±0.3, 36°91S×176°83E, h167km±3km, ML3.7/16, 4C-4D, Error ellipse: s-maj=3.9km s-min=3.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.14**	**139**	PN	Pn	19 22 56.8	+0.1
HAZ				SN	Sn	19 23 18.1	+0.2
MXZ	**Matakaoa Point**	**1.35**	**120**	PN	Pn	19 22 58.7	+0.2
MXZ				SN	Sn	19 23 21.0	-0.2
URZ	**Urewera**	**1.37**	**171**	⇑PN	Pn	19 22 58.9	+0.1
MWZ	**Matawai**	**1.53**	**159**	PN	Pn	19 23 00.3	-0.1
MWZ				SN	Sn	19 23 25.0	+0.4
MWZ				AML	AML	19 23 33.1	
WMGZ	**Waiomatatini S**	**1.56**	**126**	⇑PN	Pn	19 23 00.7	+0.1
TWGZ	**Tauwhareparae**	**1.56**	**145**	PN	Pn	19 23 01.1	+0.4
PUZ	**Puketiti**	**1.63**	**136**	⇓PN	Pn	19 23 01.0	-0.3
PUZ				SN	Sn	19 23 24.8	-1.5
RAGZ	**Rawiri**	**1.65**	**164**	PN	Pn	19 23 01.8	+0.1
TLZ	**Tolley Road**	**1.75**	**215**	PN	Pn	19 23 04.5	+1.8
SNGZ	**Shannon Statio**	**1.92**	**168**	PN	Pn	19 23 04.3	-0.1
CNGZ	**Carnagh Statio**	**1.92**	**146**	PN	Pn	19 23 04.3	0.0
RIGZ	**Rimuhai**	**1.94**	**158**	PN	Pn	19 23 04.4	-0.4
RAHZ	**Arahi**	**2.02**	**174**	PN	Pn	19 23 05.5	0.0
PRGZ	**Paritu Road**	**2.18**	**158**	PN	Pn	19 23 07.0	-0.4
WHHZ	**Waihua**	**2.19**	**172**	PN	Pn	19 23 07.0	-0.5
KNZ	**Kokohu**	**2.21**	**163**	PN	Pn	19 23 06.7	-0.9
BKZ	**Black Stump Fm**	**2.27**	**187**	PN	Pn	19 23 07.5	-1.0
ARHZ	**Aropaoanui**	**2.36**	**177**	PN	Pn	19 23 09.0	-0.4
NGZ	**Ngauruhoe**	**2.47**	**203**	PN	Pn	19 23 11.2	+0.3
KWHZ	**Kaweka Forest**	**2.54**	**187**	PN	Pn	19 23 11.0	-0.6
TUVZ	**Tukino**	**2.54**	**201**	PN	Pn	19 23 11.6	-0.1
MCHZ	**McNeill Hill**	**2.54**	**182**	PN	Pn	19 23 10.4	-1.1
FWVZ	**Far West T-bar**	**2.56**	**203**	PN	Pn	19 23 12.0	0.0
WHVZ	**Whangaehu Hut**	**2.57**	**202**	PN	Pn	19 23 12.0	-0.2
WNVZ	**Wahianoa**	**2.61**	**202**	⇓PN	Pn	19 23 12.2	-0.4
MOVZ	**Moawhango**	**2.64**	**198**	PN	Pn	19 23 11.9	-0.9
BHHZ	**Black Hill Sta**	**2.65**	**193**	⇓PN	Pn	19 23 11.7	-1.3
PKVZ	**Pokaka**	**2.66**	**206**	PN	Pn	19 23 13.3	+0.2
CKHZ	**Cape Kidnapper**	**2.76**	**176**	PN	Pn	19 23 13.1	-1.1
KRHZ	**Kereru**	**2.76**	**187**	PN	Pn	19 23 12.9	-1.3
KKHZ	**Kahuranaki**	**2.89**	**179**	PN	Pn	19 23 14.5	-1.3
PNHZ	**Puketui**	**3.05**	**189**	PN	Pn	19 23 15.9	-1.9
PXZ	**Pawanui**	**3.12**	**180**	⇓PN	Pn	19 23 16.7	-2.0
WPHZ	**Waipukurau**	**3.17**	**185**	PN	Pn	19 23 17.5	-1.7
WAZ	**Wanganui**	**3.19**	**206**	PN	Pn	19 23 19.4	-0.2
TSZ	**Takapari Road**	**3.22**	**192**	PN	Pn	19 23 17.9	-2.0
PRHZ	**Porangahau**	**3.36**	**183**	PN	Pn	19 23 19.4	-2.2
DVHZ	**Dannevirke**	**3.43**	**189**	PN	Pn	19 23 19.9	-2.7
ANWZ	**Angora Road**	**3.56**	**184**	PN	Pn	19 23 21.8	-2.4
POWZ	**Post Office Ro**	**3.58**	**193**	PN	Pn	19 23 22.1	-2.3
PRWZ	**Pori Road**	**3.71**	**190**	PN	Pn	19 23 23.7	-2.3
BFZ	**Birch Farm**	**3.80**	**187**	PN	Pn	19 23 24.1	-3.1
MRZ	**Mangatainoka R**	**3.88**	**194**	⇑PN	Pn	19 23 25.2	-3.1
TIWZ	**Tintock**	**3.94**	**191**	PN	Pn	19 23 26.2	-2.8
OGWZ	**Otaki Gorge**	**4.12**	**198**	PN	Pn	19 23 28.4	-2.9
HOWZ	**Holdsworth Sta**	**4.12**	**194**	PN	Pn	19 23 27.9	-3.4
KIW	**Kapiti Island**	**4.23**	**200**	PN	Pn	19 23 29.4	-3.3
MTW	**Mount Morrison**	**4.37**	**193**	PN	Pn	19 23 30.8	-3.8
CAW	**Cannon Point**	**4.42**	**198**	PN	Pn	19 23 31.5	-3.6
DUWZ	**D'Urville Isla**	**4.51**	**209**	PN	Pn	19 23 33.7	-2.7
MSWZ	**Moikau Station**	**4.67**	**195**	PN	Pn	19 23 34.3	-4.2
TCW	**Tory Channel**	**4.74**	**204**	PN	Pn	19 23 35.8	-3.5
BHW	**Baring Head**	**4.75**	**198**	PN	Pn	19 23 35.4	-4.0
PLWZ	**Palliser**	**4.82**	**194**	PN	Pn	19 23 36.0	-4.4
TUWZ	**Tuamarina**	**5.05**	**206**	PN	Pn	19 23 39.6	-3.7
NNZ	**Nelson**	**5.08**	**211**	PN	Pn	19 23 40.7	-3.0
BSWZ	**Blackbirch Sta**	**5.32**	**205**	PN	Pn	19 23 43.8	-3.2
THZ	**Tophouse**	**5.73**	**211**	PN	Pn	19 23 48.6	-3.8
KHZ	**Kahutara**	**6.06**	**204**	PN	Pn	19 23 52.3	-4.4
MQZ	**McQueen's Vall**	**7.51**	**204**	⇑PN	Pn	19 24 09.5	-6.2

IDC 18 19:27:26.4±3.5, 6°39S×151°04E, h0km, mb3.0/2, mb1 3.3/2, mb1mx3.1/32, mbtmp3.1/2, Error ellipse: s-maj=129.6km s-min=49.2km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.0nm,0.9s,baz=54,slow=11,SNR=6.5	**21.09**	**229**	P	P	19 32 12.6	0.0
ASAR	**Alice Springs** 0.2nm,0.9s,baz=56,slow=9.8,SNR=5.4	**23.80**	**222**	P	P	19 32 41.5	+0.3
TORD	**Torodi Ar. Bea** 0.2nm,0.6s,baz=65,slow=2.9,SNR=4.7	**149.07**	**285**	PKPbc	PKPbc	19 47 16.8	-0.9

IDC 18 19:33:47.6±3.2, 6°15S×150°37E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.3/35, mbtmp3.5/3, ML1.4/1, Error ellipse: s-maj=134.7km s-min=37.0km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 1.3nm,0.3s,baz=38,slow=17,SNR=6.1	**4.54**	**224**	Pn	Pn	19 34 59.8	+2.2
PMG	0.9nm,0.3s,baz=13,slow=15,SNR=3.2			Sn	Sn	19 35 51.7	+0.5
WRA	**Warramunga Arr** 1.3nm,0.6s,baz=53,slow=11,SNR=12	**20.75**	**227**	P	P	19 38 29.9	-0.3
ASAR	**Alice Springs** 0.7nm,0.8s,baz=50,slow=11,SNR=5.1	**23.55**	**221**	P	P	19 38 59.1	-0.7
TORD	**Torodi Ar. Bea** 0.3nm,0.6s,baz=49,slow=2.3,SNR=3.1	**148.37**	**285**	PKPbc	PKPbc	19 53 36.5	-0.6

*IDC **18** 19:37:35.5±1.3,6°67S×150°62E, h0km, mb3.9/6, mb1 4.2/7, mb1mx3.8/37, mbtmp4.0/7, ML2.2/1, Error ellipse: s-maj=51.5km s-min=19.2km az=111.0*

*ISCJB **18** 19:37:38.7±1.0,6°75S±0°1×150°5E±0°2, h33km, mb3.8/6, Error ellipse: s-maj=27.0km s-min=9.4km az=31.7*

*NEIC **18** 19:37:40.7±0.8,6°73S×150°57E, h35km, mb4.0/2, Error ellipse: s-maj=24.7km s-min=9.2km az=117.0*

ISC 18 19:37:40.4±1.2, 6°7S±0°2×150°6E±0°2, h33km, n15, σ0§68/16, mb3.9/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 8.2nm,0.3s,baz=62,slow=5.8,SNR=23	**4.31**	**231**	Pn	**Pn**	**19 38 44.8**	**+1.2**
PMG	36nm,0.3s,baz=154,slow=19,SNR=12			Sn	**Sn**	**19 39 32.5**	**-0.4**
COEN	**Coen**	**10.23**	**225**	Pn	**Pn**	**19 40 05.0**	**-0.1**
WRAB	**Tennant Creek** 12nm,0.9s	**20.51**	**229**	*eP*	**P**	**19 42 15.5**	**-0.4**
WRA	**Warramunga Arr** 9.6nm,0.9s,baz=52,slow=11,SNR=37	**20.52**	**229**	P	**P**	**19 42 15.8**	**-0.3**
AS31	**Alice Springs**	**23.25**	**222**	*eP*	**P**	**19 42 43.5**	**-1.7**
ASAR	**Alice Springs** 1.7nm,0.7s,baz=55,slow=9.0,SNR=23	**23.25**	**222**	P	**P**	**19 42 45.0**	**-0.2**
STKA	**Stephens Creek** 3.4nm,0.7s,baz=0.1,slow=8.1,SNR=8.7	**26.40**	**197**	P	**P**	**19 43 14.3**	**+0.3**
FITZ	**Fitzroy Crossi** 1.7nm,0.6s	**26.81**	**243**	*eP*	**P**	**19 43 18.0**	**+0.2**
KAPI	**Kappang**	**30.70**	**271**	*eP*	**P**	**19 43 52.6**	**0.0**
KSRS	**Korea Array** 0.7nm,0.6s,baz=153,slow=7.9,SNR=3.9	**48.76**	**336**	P	**P**	**19 46 22.3**	**+0.1**
KSAR	**Wonju Array Be**	**48.77**	**336**	P	**P**	**19 46 22.3**	**+0.1**
SONM	**Songino Array** 0.5nm,0.6s,baz=153,slow=6.0,SNR=4.9	**66.79**	**329**	P	**P**	**19 48 28.2**	**-0.7**
ILAR	**Eielson Array** 0.9nm,0.7s,baz=255,slow=5.3,SNR=13	**84.76**	**22**	P	**P**	**19 50 10.9**	**-0.1**
GERES	**GERESS Array B**	**124.47**	**327**	PKP	**PKPdf**	**19 56 37.2**	**+0.7**
	0.3nm,0.5s,baz=95,slow=1.6,SNR=4.0						
TORD	**Torodi Ar. Bea** 1.7nm,0.6s,baz=44,slow=2.9,SNR=17	**148.70**	**284**	PKPbc	**PKPbc**	**19 57 25.9**	**+0.5**

*ISCJB **18** 19:41:33.7±1.2, 13°90N±0°10×91°30W±0°06, h61km, Error ellipse: s-maj=15.4km s-min=5.5km az=24.2*

*CASC **18** 19:41:34.5±2.0, 14°08N×91°21W, h68km±27km, MD3.4*

*MEX **18** 19:41:36.0±0.5, 13°87N×91°49W, h10km, MD3.7*

ISC 18 19:41:33.7±2.2, 13°9N±0°1×91°28W±0°07, h61km, n10, σ0§82/15, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.58**	**323**	⇑*eP*	**Pn**	**19 41 47.7**	**+1.1**
FUG	**Fuego 3**	**0.73**	**35**	*eP*	**Pn**	**19 41 48.6**	**+0.1**
PCG	**Pacaya**	**0.84**	**50**	*eP*	**Pn**	**19 41 50.5**	**+0.5**
PCG				*eS*	**Sn**	**19 42 01.9**	**-0.1**
IXG	**Ixpaco**	**0.86**	**68**	*eP*	**Pn**	**19 41 49.9**	**-0.2**
IXG				*eS*	**Sn**	**19 42 01.6**	**-0.6**
RBDL	**Robledal**	**1.56**	**80**	*eP*	**Pn**	**19 41 59.8**	**+0.3**
RTR	**El Retiro**	**1.58**	**88**	*eP*	**Pn**	**19 42 00.2**	**+0.5**
SBLS	**San Blas**	**1.61**	**90**	*eP*	**Pn**	**19 42 00.7**	**+0.6**
CCIG	**Comitan**	**2.55**	**341**	*i P*	**Pn**	**19 42 13.5**	**+0.6**
CCIG				*i S*	**Sn**	**19 42 42.8**	**-0.1**
PCIG		**2.63**	**315**	*eP*	**Pn**	**19 42 13.7**	**-0.1**
PCIG				*i S*	**Sn**	**19 42 42.4**	**-2.1**
TGIG		**3.41**	**329**	*eP*	**Pn**	**19 42 25.3**	**+0.8**
TGIG				*i S*	**Sn**	**19 43 03.8**	**0.0**

*ISCJB **18** 19:47:10.4±0.5, 52°57N±0°08×169°45W±0°08, h10km, mb3.8/11, Error ellipse: s-maj=13.2km s-min=4.0km az=153.4*

*IDC **18** 19:47:10.3±0.7, 52°58N×169°70W, h0km, mb3.8/11, mb1 4.1/13, mb1mx3.8/33, mbtmp3.8/13, ML3.8/2, Error ellipse: s-maj=25.7km s-min=14.9km az=162.0*

*NEIC **18** 19:47:11.4, 52°60N×169°41W, h5km, mb4.1/3, ML4.2(AEIC), After AEIC.*

ISC 18 19:47:11.6±0.7, 52°6N±0°1×169°44W±0°06, h10km, n49, σ1§10/50, mb3.9/11, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKWR	**Okmok West Rim**	**1.12**	**41**	P	**Pg**	**19 47 32.9**	**-0.2**
OKCE	**Okmok Cone E**	**1.13**	**43**	P	**Pb**	**19 47 32.2**	**-1.0**
OKCE				S	**Sn**	**19 47 49.5**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**1.15**	**47**	P	**Pb**	**19 47 33.1**	**-0.5**
OKAK	**Okmok**	**1.18**	**33**	P	**Pb**	**19 47 31.3**	**-2.7**
MSOM	**Makushin Julie**	**1.93**	**50**	P	**Pn**	**19 47 44.2**	**-0.2**
MGOD	**Makushin Gods**	**1.95**	**51**	P	**Pn**	**19 47 44.0**	**-0.9**
MGOD				S	**Sn**	**19 48 09.4**	**0.0**
MCIR	**Makushin Cirqu**	**2.04**	**48**	P	**Pn**	**19 47 46.3**	**+0.3**
MSW	**Makushin Switc**	**2.07**	**50**	P	**Pn**	**19 47 46.6**	**+0.3**
MTBL	**Makushin Table**	**2.15**	**49**	P	**Pn**	**19 47 47.7**	**+0.2**
UNV	**Unalaska Valle**	**2.16**	**54**	*e*Pn	**Pn**	**19 47 47.2**	**-0.4**
UNV				*e*Sn	**Sn**	**19 48 14.4**	**0.0**
AKRB	**Akutan Reef Bi**	**2.54**	**52**	P	**Pn**	**19 47 53.3**	**+0.6**
ZRO	**Akutan Zero**	**2.56**	**53**	P	**Pn**	**19 47 54.0**	**+0.9**
AKGG	**Akutan Green G**	**2.61**	**51**	P	**Pn**	**19 47 54.8**	**+1.0**
AKUT	**Akutan**	**2.68**	**54**	*e*Pn	**Pn**	**19 47 55.2**	**+0.5**
AKUT				*e*Sn	**Sn**	**19 48 27.2**	**0.0**
ATKA	**Atka Island**	**2.94**	**264**	P	**Pn**	**19 47 59.1**	**+0.8**
WESP	**Westdahl Peak**	**3.39**	**54**	P	**Pn**	**19 48 06.0**	**+1.3**
GSTR	**Great Sitkin T**	**4.09**	**265**	P	**Pn**	**19 48 15.2**	**+1.0**
GSCK	**Great Sitkin C**	**4.17**	**264**	P	**Pn**	**19 48 16.7**	**+1.5**
FALS	**False Pass**	**4.23**	**55**	Pn	**Pn**	**19 48 15.1**	**-0.9**
ADAG	**Mount Adagdak**	**4.44**	**265**	P	**Pn**	**19 48 21.9**	**+2.9**
SPIA	**Saint Paul Isl**	**4.61**	**355**	P	**Pn**	**19 48 22.8**	**+1.6**
AMKA	**Amchitka** 2µm,0.6s	**7.06**	**264**	Pn	**Pn**	**19 48 53.8**	**-1.0**
CHGN	**Chignik**	**7.42**	**56**	*e*Pn	**Pn**	**19 49 01.5**	**+1.8**
KDAK	**Kodiak Island**	**10.93**	**55**	*e*Pn	**Pn**	**19 49 47.7**	**-0.1**
RSO	**Redoubt South** 31nm,0.8s	**12.09**	**43**	*e*Pn	**Pn**	**19 50 03.3**	**-0.6**
ILAR	**Eielson Array** 0.3nm,0.3s,baz=234,slow=10,SNR=14	**16.78**	**35**	Pn	**Pn**	**19 51 05.8**	**-0.6**
EGAK	**Eagle**	**18.88**	**39**	*eP*	**Pn**	**19 51 33.8**	**+1.4**
HYT	**Haines Junctio**	**19.19**	**52**	*eP*	**Pn**	**19 51 35.9**	**-0.3**
DAWY	**Dawson** 1.5nm,0.4s	**19.29**	**42**	*eP*	**P**	**19 51 36.1**	**-0.1**
PETK	**Petropavlovsk-** 0.6nm,0.3s,baz=98,slow=13,SNR=12	**19.76**	**285**	P	**P**	**19 51 41.8**	**+0.3**
SKAG	**Skagway** 11nm,0.7s	**20.08**	**57**	*eP*	**P**	**19 51 44.8**	**-0.1**
SEY	**Seymchan** 2.0nm,1.0s,baz=98,slow=14,SNR=3.3	**22.48**	**312**	P	**P**	**19 52 11.1**	**+0.4**
DLBC	**Dease Lake** 4.4nm,0.8s,baz=292,slow=9.4,SNR=5.1	**22.80**	**60**	P	**P**	**19 52 16.9**	**+2.6**
DLBC	**Dease Lake** 10nm,1.2s	**22.80**	**60**	*eP*	**P**	**19 52 14.7**	**+0.4**
INK	**Inuvik** 1.5nm,0.3s,baz=225,slow=8.8,SNR=2.3	**23.18**	**34**	P	**P**	**19 52 19.6**	**+1.8**
YKA	**Yellowknife Ar** 0.6nm,0.4s,baz=274,slow=7.5,SNR=3.1	**30.12**	**49**	P	**P**	**19 53 21.3**	**+0.3**
H11N3	**WAKE ISLAND Hy** baz=22,slow=74,SNR=43	**37.62**	**218**	T	T	20 34 11.4	
H11N1	**WAKE ISLAND Hy** baz=131,slow=74,SNR=7.3	**37.63**	**218**	T	T	20 34 10.2	
NVAR	**Mina Array Bea** 0.5nm,0.6s,baz=309,slow=9.2,SNR=3.

$M_\odot$1.38700×10^{18} NP1.ϕ_k310.00000°, δ47.00000°, λ-109.00000°. NP2.ϕ_k157.00000°, δ46.00000°, λ-71.00000°. Principal axes: T 1.4360, Plg1.0000°, Azm53.0000°; N -0.1000, Plg14.0000°, Azm323.0000°; P -1.3390, Plg76.0000°, Azm147.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

*SZGRF **18** 19:48:10.0, 53.53N×169.37W, h33^{km}, mb5.3, MS5.5, Fox Islands, Aleutian Islands, United States*

ISC 18 19:48:08.7±0.2, 52.82N±0.04×169.60W±0.02, h36^{km}±2^{km}, h35^{km}:pP-P, n1610, σ1.34/1754, mb5.5/441, MS5.6/182, 50C-50D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OKCE	**Okmok Cone E**	**1.06**	**54**	P			**Pn**	**19 48 25.5**	**-1.6**
OKCE				S			**Sn**	**19 48 40.1**	**-0.4**
OKAK	**Okmok**	**1.06**	**44**	P			**Pn**	**19 48 24.5**	**-2.6**
MGOD	**Makushin Gods**	**1.91**	**58**	P			**Pn**	**19 48 37.6**	**-1.1**
MCIR	**Makushin Cirqu**	**1.98**	**54**	P			**Pn**	**19 48 40.1**	**+0.4**
MSW	**Makushin Switc**	**2.01**	**56**	P			**Pn**	**19 48 39.8**	**-0.4**
UNV	**Unalaska Valle**	**2.12**	**60**	P			**Pn**	**19 48 40.4**	**-1.3**
AKRB	**Akutan Reef Bi**	**2.48**	**57**	P			**Pn**	**19 48 46.5**	**-0.1**
AKGG	**Akutan Green G**	**2.56**	**56**	P			**Pn**	**19 48 47.9**	**+0.2**
AKGG				S			**Sn**	**19 49 17.8**	**+0.3**
AKUT	**Akutan**	**2.64**	**59**	P			**Pn**	**19 48 48.5**	**-0.1**
GSMY	**Great Sitkin M**	**4.03**	**261**	P			**Pn**	**19 49 06.8**	**-1.1**
GSTD	**Great Sitkin T**	**4.08**	**262**	P			**Pn**	**19 49 07.4**	**-1.2**
FALS	**False Pass**	**4.19**	**58**	P			**Pn**	**19 49 10.2**	**+0.1**
SPIA	**Saint Paul Isl**	**4.38**	**355**	P			**Pn**	**19 49 14.9**	**+2.3**
KIRH	**Kanaga Island**	**4.69**	**262**	P			**Pn**	**19 49 18.4**	**+1.6**
DT1	**Dutton Round H**	**4.89**	**59**	P			**Pn**	**19 49 20.2**	**+0.6**
SDPT	**Sand Point**	**5.94**	**61**	*e*Pn			**Pn**	**19 49 34.4**	**+0.4**
CEAP	**Semis' Anvil P**	**6.67**	**267**	P			**Pn**	**19 49 44.7**	**+0.6**
VNKR	**Veniaminof 5**	**6.78**	**58**	P			**Pn**	**19 49 47.2**	**+1.6**
AMKA	**Amchitka**	**6.99**	**262**	P			**Pn**	**19 49 49.3**	**+0.9**
OHAK	**Old Harbor**	**10.34**	**58**	*e*Pn			**Pn**	**19 50 32.3**	**-2.1**
KDAK	**Kodiak Island**	**10.89**	**56**	*i* P			**Pn**	**19 50 40.8**	**-1.0**
KDAK	**Kodiak Island**	**10.89**	**56**	*e*Pn			**Pn**	**19 50 40.6**	**-1.1**
SVW2	**Sparrevohn**	**11.26**	**37**	*e*Pn			**Pn**	**19 50 49.9**	**+2.9**
RSO	**Redoubt South** 0.6nm,0.3s	**11.99**	**44**	*e*Pn			**Pn**	**19 50 58.1**	**+0.9**
BRLK	**Bradley Lake**	**12.47**	**49**	*e*Pn			**Pn**	**19 51 05.0**	**+1.5**
TNA	**Tin City** 468nm,1.4s	**12.81**	**3**	*e*Pn			**Pn**	**19 51 08.9**	**+1.0**
RC01	**Rabbit Creek A** 25nm,0.9s	**13.59**	**45**	*e*Pn			**Pn**	**19 51 18.2**	**-0.5**
PPLA	**Purkeypile**	**13.65**	**36**	*e*Pn			Pn	19 51 23.6	+4.0
PMR	**Palmer**	**14.09**	**43**	*e*P			**Pn**	**19 51 25.9**	**+0.4**
PMR	comp=Z,96nm,0.7s			pmax			pmax		
PMR	**Palmer** comp=Z,96nm,0.7s	**14.09**	**43**	*e*Pn			**Pn**	**19 51 25.9**	**+0.4**
MID	**Middleton Isla**	**14.51**	**54**	*e*P			**Pn**	**19 51 30.2**	**-1.0**
MID	comp=Z,395nm,0.8s			pmax			pmax		
MID	**Middleton Isla** comp=Z,395nm,0.8s	**14.51**	**54**	*e*Pn			**Pn**	**19 51 30.1**	**-1.0**
SML	**Sawmill**	**14.53**	**43**	*e*P			**Pn**	**19 51 30.7**	**-0.8**
SML	comp=Z,11nm,0.9s			pmax			pmax		
SML	**Sawmill** comp=Z,11nm,0.9s	**14.53**	**43**	*e*Pn			**Pn**	**19 51 30.7**	**-0.8**
TRF	**Thorofare Moun**	**14.67**	**36**	*e*Pn			**Pn**	**19 51 34.9**	**+1.3**
MCK	**McKinley**	**15.33**	**36**	*e*P			**Pn**	**19 51 43.2**	**+1.1**
MCK	comp=Z,329nm,1.1s			pmax			pmax		
MCK	**McKinley** comp=Z,329nm,1.1s	**15.33**	**36**	*e*Pn			**Pn**	**19 51 43.2**	**+1.1**
DIV	**Divide** comp=Z,169nm,0.8s	**15.35**	**48**	*e*Pn			**Pn**	**19 51 39.1**	**-3.3**
IM04	**Indian Mountai**	**15.38**	**25**	*e*Pn			**Pn**	**19 51 43.1**	**+0.3**
BWN	**Browne** comp=Z,1μm,1.3s	**15.40**	**35**	*e*Pn			**P**	**19 51 45.8**	**-1.5**
KLU	**Klutina** comp=Z,234nm,0.5s	**15.42**	**46**	*e*Pn			**Pn**	**19 51 40.7**	**-2.7**
DHY	**Denali Highway** comp=Z,387nm,1.5s	**15.55**	**40**	*e*Pn			**Pn**	**19 51 47.1**	**+2.0**
BMRM	**Bremner River** comp=Z,208nm,0.8s	**15.82**	**49**	*e*Pn			**Pn**	**19 51 45.4**	**-3.1**
HARP	**HAARP** comp=Z,362nm,0.8s	**16.13**	**44**	*e*Pn			**Pn**	**19 51 53.3**	**+0.8**
PAX	**Paxson**	**16.25**	**42**	*e*P			**Pn**	**19 51 52.1**	**-2.0**
PAX	comp=Z,282nm,1.2s			pmax			pmax		
PAX	**Paxson** comp=Z,282nm,1.2s	**16.25**	**42**	*e*Pn			**Pn**	**19 51 52.1**	**-2.0**
CCB	**Clear Creek Bu** comp=Z,448nm,1.2s	**16.27**	**35**	*e*Pn			**Pn**	**19 51 54.3**	**+0.2**
COLA	**College**	**16.39**	**34**	*c i*P			**Pn**	**19 51 56.5**	**+0.9**
COLA	comp=Z,517nm,1.0s			pmax			pmax		
COLA	**College** comp=Z,557nm,1.3s	**16.39**	**34**	*e*Pn			**Pn**	**19 51 55.1**	**-0.5**
HDA	**Harding Lake** comp=Z,150nm,0.9s	**16.43**	**36**	*e*Pn			**Pn**	**19 51 55.6**	**-0.6**
ILAR	**Eielson Array** comp=Z,2.0nm,0.3s,baz=227,slow=11,SNR=44	**16.66**	**35**	Pn			**Pn**	**19 51 58.4**	**-0.7**
ILAR	baz=235,slow=20,SNR=2.2			Sn			**S**	**19 55 08.8**	**-4.3**
ILAR	comp=Z,26μm,19.4s,baz=234,slow=39			LR			LR	19 58 52.3	
MENT	**Mentasta**	**16.96**	**43**	*e*Pn			**Pn**	**19 52 03.5**	**+0.6**
COLD	**Coldfoot** comp=Z,206nm,0.9s	**17.27**	**26**	*e*P			**P**	**19 52 10.0**	**+2.1**
EGAK	**Eagle** comp=Z,118nm,0.8s	**18.78**	**39**	*e*P			**P**	**19 52 23.7**	**-0.8**
PET	**Petropavlovsk**	**19.07**	**283**	*ce*P			**P**	**19 52 27.8**	**+0.1**
PET				*e*S			**Sn**	**19 55 57.6**	**-3.4**
PET	comp=Z,69nm,1.1s			pmax			pmax		
PET	comp=Z,6μm,12.1s			pmax			pmax		
PET	comp=Z,8μm,12.6s			MLR			MLR		
PET	comp=Z,9μm,16.0s			MLR			MLR		
PET	comp=Z,13μm,19.0s **Petropavlovsk** comp=Z,196nm,1.2s	**19.07**	**283**	*e*P			**P**	**19 52 27.4**	**-0.4**
DAWY	**Dawson**	**19.19**	**42**	*e*P			**P**	**19 52 28.6**	**-0.4**
PEA0B	**Petropavlovsk-**	**19.61**	**284**	*e*P			**P**	**19 52 34.1**	**+0.3**
PETK	**Petropavlovsk-** comp=Z,8.6nm,0.3s,baz=91,slow=14,SNR=57	**19.61**	**284**	P			**Pn**	**19 52 34.8**	**-0.4**
PETK	comp=Z,0.1nm,0.3s,baz=85,slow=18,SNR=3.3			S			**Sn**	**19 56 18.7**	**+4.5**
PETK	comp=Z,0.9nm,0.3s,baz=95,slow=6.4,SNR=4.9			PcP			**PcP**	**19 56 53.2**	**+1.2**
PETK	baz=123,slow=5.5,SNR=5.7			ScP			**ScP**	**20 00 28.3**	**+3.2**
SKAG	**Skagway** comp=Z,514nm,1.0s	**20.04**	**57**	*e*P			Pn	19 52 39.6	-0.6
SKAG	comp=Z,22μm,19.2s			LR			LR		
BESE	**Bessie Mountai** comp=Z,333nm,1.2s	**20.24**	**60**	*e*Pn			**P**	**19 52 41.5**	**+0.9**
BESE	comp=Z,8μm,19.4s			LR			LR		
SKR	**Severo-Kuril's**	**21.22**	**278**	*i* P			**P**	**19 52 52.0**	**+0.9**
SKR				*e*				19 53 24.0	
SKR				*e*S			Sn	19 56 52.0	-0.7
SKR	comp=Z,80nm,0.9s			pmax			pmax		
SKR	comp=N,1μm,12.0s			pmax			pmax		
SKR	comp=E,3μm,12.0s			pmax			pmax		
SKR	comp=Z,5μm,12.0s			MLR			MLR		
SKR	comp=N,12μm,14.0s			MLR			MLR		
SKR	comp=E,11μm,14.0s			MLR			MLR		
CRAG	comp=Z,6μm,14.0s **Craig**	**21.37**	**68**	*e*P			**P**	**19 52 53.5**	**+0.8**
CRAG	comp=Z,98nm,0.8s			LR			LR		
WRAK	comp=Z,15μm,21.8s **Wrangell Islan**	**21.69**	**66**	*e*P			**P**	**19 52 57.4**	**+1.3**
WRAK	comp=Z,269nm,1.3s			LR			LR		
SEY	comp=Z,11μm,19.4s **Seymchan**	**22.26**	**312**	P			**P**	**19 53 03.5**	**+1.3**
SEY	comp=Z,39nm,1.0s,baz=102,slow=10,SNR=26			PcP			**PcP**	**19 56 57.4**	**+0.5**
SEY	comp=Z,17nm,0.7s,baz=105,slow=3.3,SNR=7.0			S			Sn	19 57 12.9	-4.7
SEY	comp=Z,5.6nm,0.6s,baz=129,slow=20,SNR=2.2			ScP			**ScP**	**20 00 34.7**	**+3.4**
SEY	comp=Z,15nm,0.7s,baz=146,slow=3.9,SNR=16 **Seymchan**	**22.26**	**312**	*de*P			**P**	**19 53 03.6**	**+1.4**
MA2	**Magadan**	**22.78**	**303**	PFAKE				19 53 20.0	+12
MA2	comp=Z,1.0nm,20.0s			LR			LR		
DLBC	**Dease Lake**	**22.78**	**60**	P			**P**	**19 53 09.2**	**+1.4**
DLBC	comp=Z,427nm,1.0s,baz=274,slow=9.4,SNR=86			S			**S**	**19 57 18.8**	**+4.7**
DLBC	comp=Z,12nm,1.0s,baz=180,slow=20,SNR=2.2			LR			LR	20 02 12.5	
DLBC	comp=Z,11μm,20.1s,baz=286,slow=37 **Dease Lake**	**22.78**	**60**	*e*P			**P**	**19 53 08.5**	**+0.7**
DLBC	comp=Z,680nm,1.1s			S			**S**	**19 57 18.8**	**+4.7**
INK	**Inuvik**	**23.05**	**34**	P			**P**	**19 53 08.8**	**-1.6**
INK	comp=Z,78nm,0.9s			LR			LR	20 02 38.1	
INK	comp=Z,22μm,18.8s,baz=246,slow=38 **Inuvik**	**23.05**	**34**	P			**P**	**19 53 08.8**	**-1.6**
INK	comp=Z,78nm,0.9s			pmax			pmax		
INK	comp=Z,22μm,18.8s			MLR			MLR		
INK	**Inuvik** comp=Z,84nm,0.8s	**23.05**	**34**	*e*P			**P**	**19 53 08.6**	**-1.8**
INK	comp=Z,21μm,20.8s			LR			LR		
BBB	**Bella Bella**	**25.02**	**75**	P			**P**	**19 53 30.1**	**+1.1**
BBB	comp=Z,36nm,0.9s,baz=298,slow=7.5,SNR=6.8			S			**S**	**19 57 55.6**	**+5.3**
KUR	comp=Z,12nm,1.0s,baz=350,slow=19,SNR=1.5 **Kuril'sk**	**28.55**	**272**	*c i*P			**P**	**19 54 00.7**	**-0.1**
KUR				*i* *SP			**sP**	**19 54 16.5**	**+1.2**
KUR				*i*				19 54 52.7	
KUR				*i*				19 57 12.2	
KUR				*i* S			**S**	**19 58 48.0**	**+1.8**
KUR				*i* SS			**SnSn**	**20 00 15.6**	**+8.6**
KUR	comp=N,7μm,19.0s			MLR			MLR		
KUR	comp=E,4μm,19.0s			MLR			MLR		
KUR	comp=Z,2μm,19.0s			MLR			MLR		
NLWA	**Neilton Lookou** comp=Z,59nm,1.0s	**29.43**	**82**	*e*P			**P**	**19 54 09.4**	**+0.8**
NKL	**Nikolayevsk**	**29.45**	**291**	*e*P			**P**	**19 54 07.0**	**-1.7**
NKL				*e*				19 55 07.0	
NKL	comp=Z,1μm,11.0s			pmax			pmax		
NKL	comp=N,12μm,18.0s			MLR			MLR		
NKL	comp=E,16μm,18.0s			MLR			MLR		
NKL	comp=Z,18μm,18.0s			MLR			MLR		
YKR1	**Yellowknife Ar** baz=30	**29.89**	**49**	||P			**P**	**19 54 12.7**	**+0.2**
MBW	**Mount Baker**	**29.97**	**78**	P			**P**	**19 54 14.8**	**+1.2**
CMW	**Cultus Mountai**	**30.00**	**79**	P			**P**	**19 54 15.7**	**+1.9**
E03A	**Lebam**	**30.01**	**83**	*e*P			**P**	**19 54 14.6**	**+0.8**
E03A	comp=Z,145nm,1.0s			*e*ScP			**ScP**	**20 00 57.3**	**+3.1**
YKW3	**Yellowknife Ar** comp=Z,0.6nm,0.6s	**30.04**	**49**	*e*P			**P**	**19 54 13.8**	**0.0**
YKA	**Yellowknife Ar** comp=Z,22nm,0.8s,baz=273,slow=10.0,SNR=38	**30.05**	**49**	P			**P**	**19 54 13.9**	**0.0**
YKA				PcP			**PcP**	**19 57 15.9**	**+1.0**
YKA	comp=Z,13nm,0.9s,baz=282,slow=2.5,SNR=6.8			ScP			**ScP**	**20 00 57.2**	**+3.2**
B06A	comp=Z,5.1nm,1.0s,baz=286,slow=3.2,SNR=5.8 **Marblemount** comp=Z,46nm,1.1s	**30.34**	**79**	*e*P			**P**	**19 54 17.0**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**30.40**	**271**	*c i*P			**P**	**19 54 17.0**	**-0.2**
YUK				*i*				19 55 11.4	
YUK				*i* S			**S**	**19 59 15.6**	**+0.3**
YUK				*i* SS			**ScP**	**20 00 55.2**	**-0.3**
YUK	comp=Z,631nm,7.8s			pmax			pmax		
YUK	comp=Z,135nm,1.6s			pmax			pmax		
YUK	comp=N,65nm,1.5s			pmax			pmax		
HTW	comp=E,46nm,0.8s **Haystack Looko**	**30.49**	**80**	P			**P**	**19 54 19.3**	**+1.2**
F04D	**Rainier, OR** baz=30,SNR=8.2	**30.57**	**84**	P			**P**	**19 54 20.0**	**+1.3**
D05A	**Enumclaw** comp=E,203nm,1.1s	**30.65**	**81**	*e*P			**P**	**19 54 21.1**	**+1.7**
YSS	**Yuzh-Sakhalins**	**30.79**	**278**	*e*P			**P**	**19 54 20.0**	**-0.6**
YSS				*e*				19 54 39.0	
YSS				*e*				19 55 22.0	
YSS				*e*				19 57 17.0	
YSS				*e*S			**S**	**19 59 18.0**	**-3.3**
YSS	comp=N,7μm,18.0s			MLR			MLR		
YSS	comp=E,5μm,18.0s			MLR			MLR		
YSS	comp=Z,7μm,18.0s			MLR			MLR		
G03D	**McMinnville, O** baz=31,SNR=11	**30.86**	**85**	P			**P**	**19 54 22.8**	**+1.4**
LON	**Longmire**	**30.97**	**82**	*e*P			**P**	**19 54 22.9**	**+0.6**
LON	comp=Z,47nm,1.0s			pmax			pmax		
LON	**Longmire** comp=Z,47nm,1.0s	**30.97**	**82**	*e*P			**P**	**19 54 22.9**	**+0.6**
WPW	**White Pass**	**31.15**	**82**	P			**P**	**19 54 25.6**	**+1.6**
COR	**Corvallis**	**31.17**	**86**	P			**P**	**19 54 24.9**	**+0.9**
COR	comp=Z,117nm,0.9s			pmax			pmax		
COR	**Corvallis** comp=Z,117nm,0.9s	**31.17**	**86**	P			**P**	**19 54 24.9**	**+0.9**
NLW	**Nelson Butte**	**31.22**	**79**	P			**P**	**19 54 26.0**	**+1.4**
KEBM	**Edson Butte** comp=Z,108nm,1.1s	**31.48**	**90**	*e*P			**P**	**19 54 27.8**	**+0.9**
I03D	**Drain, OR** baz=32,SNR=5.9	**31.62**	**88**	P			**P**	**19 54 29.7**	**+1.7**
B08A	**Colville Reser** comp=Z,61nm,0.6s	**31.69**	**78**	*e*P			**P**	**19 54 29.3**	**+0.7**
VLL	**Laurance Lake**	**31.69**	**84**	P			**P**	**19 54 30.6**	**+1.8**
VFP	**Flag Point**	**31.90**	**84**	P			**P**	**19 54 31.7**	**+1.1**
KBO	**Bosley Butte** comp=Z,90nm,1.1s	**31.92**	**91**	*e*P			**P**	**19 54 31.9**	**+1.1**
SAW	**Saint Andrews**	**31.95**	**79**	P			**P**	**19 54 31.6**	**+0.7**
TRW	**Toppenish Ridg**	**31.96**	**82**	P			**P**	**19 54 32.5**	**+1.6**
G05D	**Wamic, OR** baz=32,SNR=20	**32.02**	**84**	P			**P**	**19 54 32.0**	**+0.4**
I04A	**Tendick Farm,** baz=32,SNR=26	**32.14**	**87**	P			**P**	**19 54 33.6**	**+1.0**
L02D	**Cave Junction,** baz=32,SNR=12	**32.33**	**91**	P			**P**	**19 54 35.9**	**+1.6**
ASAJ	**Asahikawa** comp=Z,25nm,1.3s,baz=322,slow=29,SNR=4.5	**32.33**	**274**	P			**P**	**19 54 34.3**	**+0.1**
ASAJ	comp=Z,9μm,20.7s,baz=80,slow=35			LR			LR	20 06 56.6	
ASAJ	**Asahikawa**	**32.33**	**274**	P			**P**	**19 54 34.3**	**+0.1**
ASAJ	comp=Z,25nm,1.3s			pmax			pmax		
ASAJ	comp=Z,9μm,20.7s			MLR			MLR		
ASAJ	**Asahikawa** comp=Z,26nm,1.1s	**32.33**	**274**	*e*P			**P**	**19 54 33.7**	**-0.5**
ASAJ				*e*ScP			**ScP**	**20 01 04.4**	**+2.4**
GBB	**Gable Butte**	**32.35**	**81**	P			**P**	**19 54 35.7**	**+1.4**
BLTW	**Bickleton**	**32.37**	**82**	P			**P**	**19 54 36.2**	**+1.6**
HUMO	**Hull Mountain** comp=Z,27nm,0.9s	**32.47**	**89**	*e*P			**P**	**19 54 37.5**	**+2.0**
I05D	**Terrebonne, OR** baz=32,SNR=55	**32.49**	**85**	P			**P**	**19 54 36.9**	**+1.2**
HAWA	**Hanford** comp=Z,74nm,0.8s	**32.51**	**81**	*e*P			**P**	**19 54 35.6**	**-0.2**
HAWA	comp=Z,3μm,21.0s			LR			LR		
OD2	**Odessa Site #2**	**32.51**	**79**	P			**P**	**19 54 36.6**	**+0.8**
F07A	**Phinny Hill Vi**	**32.53**	**82**	P			**P**	**19 54 37.0**	**+1.1**
D08A	**Wollman Farm,** comp=Z,50nm,0.9s	**32.55**	**79**	*e*P			**P**	**19 54 36.8**	**+0.6**
KIP	**Kipapa**	**32.59**	**160**	*ce*P			**P**	**19 54 38.6**	**+2.0**
KIP	comp=Z,39nm,1.0s,baz=102,slow=10,SNR=26			pmax			pmax		
KIP	comp=Z,182nm,1.7s			MLR			MLR		
KIP	comp=Z,5μm,18.0s **Kipapa**	**32.59**	**160**	PFAKE				19 54 50.0	+13
KIP	comp=Z,6μm,21.0s			LR			LR		
J04D	**Umpqua Nationa** baz=32	**32.62**	**88**	P			**P**	**19 54 38.1**	**+1.0**
YAK	**Yakutsk** comp=Z,4.2nm,0.6s,baz=254,slow=19,SNR=11	**32.77**	**311**	P			**P**	**19 54 39.0**	**+1.2**
YAK	comp=Z,2.0nm,0.3s,baz=295,slow=23,SNR=5.9			PcP			**PcP**	**19 57 22.0**	**-0.2**
YAK	comp=Z,3.2nm,0.3s,baz=68,slow=0.4,SNR=7.0			ScP			**ScP**	**20 01 05.0**	**+1.9**
YAK	comp=Z,11μm,19.6s,baz=94,slow=37			LR			LR	20 08 20.8	
YAK	**Yakutsk**	**32.77**	**311**	*e*P			**P**	**19 54 35.9**	**-1.9**
YAK				*e**PP			**pP**	**19 54 44.8**	**-3.3**
YAK				*e*				19 55 44.8	
YAK				*e*				19 57 21.3	
YAK				*e*S			**S**	**19 59 50.8**	**-1.1**
YAK				*e**SS			**sS**	**20 00 08.9**	**+0.1**
YAK				*e*SS			**SnSn**	**20 01 47.0**	**-2.2**
YAK				*e*SSS			SSS	20 02 05.5	
YAK				*e*				20 05 02.0	
YAK	comp=E,32nm,1.3s			pmax			pmax		
YAK	comp=Z,55nm,1.1s			pmax			pmax		
YAK	comp=Z,190nm,4.2s			pmax			pmax		
YAK	comp=E,53nm,2.5s			pmax			pmax		
YAK	comp=N,69nm,2.5s			smax			smax		
YAK	comp=N,149nm,3.8s			smax			smax		
YAK	comp=E,275nm,5.0s			MLR			MLR		
YAK	comp=N,10μm,14.0s			MLR			MLR		
YAK	comp=E,6μm,13.0s			MLR			MLR		
YAK	comp=Z,8μm,13.0s			MLR			MLR		
YAK	**Yakutsk** comp=Z,55nm,0.6s	**32.77**	**311**	*e*P			**P**	**19 54 37.0**	**-0.9**
YAK				PcP			**PcP**	**19 57 22.0**	**-0.2**
YAK				*e*ScP			**ScP**	**20 01 04.9**	**+1.7**
KHMM	**Horse Mountain** comp=Z,75nm,1.0s	**33.01**	**93**	P			**P**	**19 54 39.2**	**-1.2**
NEW	**Newport** comp=Z,6μm,18.8s,baz=316,slow=35	**33.04**	**76**	LR			LR	20 07 33.2	
NEW	**Newport**	**33.04**	**76**	*e*P			**P**	**19 54 40.7**	**+0.2**
NEW	comp=Z,69nm,0.8s			pmax			pmax		
NEW	**Newport** baz=33,SNR=61	**33.04**	**76**	P			**P**	**19 54 40.6**	**+0.2**
NEW	baz=33			S			**S**	**19 59 58.1**	**+1.5**
NEW	**Newport** comp=Z,69nm,0.8s	**33.04**	**76**	*e*P			**P**	**19 54 40.7**	**+0.2**
EDM	**Edmonton**	**33.09**	**66**	*e*P			**P**	**19 54 41.2**	**+0.3**
EDM	**Edmonton**	**33.09**	**66**	*e*P			**P**	**19 54 41.2**	**+0.3**
YBH	**Yreka Blue Hor** comp=Z,26nm,1.0s,baz=298,slow=7.8,SNR=28	**33.12**	**90**	P			**P**	**19 54 43.2**	**+1.9**
YBH	comp=Z,26nm,1.0s			pmax			pmax		
YBH	**Yreka Blue Hor** comp=Z,36nm,0.9s	**33.12**	**90**	*e*P			**P**	**19 54 43.7**	**+2.4**
J05D	**Fort Rock, OR** baz=33,SNR=47	**33.13**	**87**	P			**P**	**19 54 42.9**	**+1.4**
ERM	**Erimo**	**33.17**	**270**	*ce*P			**P**	**19 54 41.5**	**-0.1**
ERM	comp=Z,30nm,1.2s			pmax			pmax		
ERM	**Erimo** comp=Z,38nm,0.9s	**33.17**	**270**	*e*P			**P**	**19 54 41.3**	**-0.3**
ERM	comp=Z,13μm,22.0s			LR			LR		
K04D	**Chiloquin, OR** baz=33,SNR=7.3	**33.19**	**88**	P			**P**	**19 54 42.9**	**+1.0**
M02C	**Callahan** baz=33,SNR=11	**33.23**	**91**	P			**P**	**19 54 43.6**	**+1.4**
G08A	**Pilot Rock** comp=Z,61nm,1.1s	**33.42**	**82**	*e*P			**P**	**19 54 44.7**	**+0.8**
KMRM	**Mail Ridge** comp=Z,128nm,1.2s	**33.42**	**93**	*e*P			**P**	**19 54 45.7**	**+1.8**
N02D	**Trinity Center** baz=33,SNR=13	**33.57**	**92**	P			**P**	**19 54 46.6**	**+1.4**
M04C	**Macdoel** baz=34,SNR=38	**33.62**	**90**	P			**P**	**19 54 47.0**	**+1.3**
K05A	**Summer Lake** comp=Z,141nm,0.9s	**33.65**	**88**	*e*P			**P**	**19 54 47.5**	**+1.5**
KIPM	**Iron Peak** comp=Z,366nm,2.0s	**33.81**	**94**	*e*P			**P**	**19 54 48.1**	**+0.7**
KCPM	**Cahto Peak** comp=Z,57nm,1.2s	**33.83**	**94**	*e*P			**P**	**19 54 47.0**	**-0.5**
WDC	**Whiskeytown Da**	**33.91**	**92**	*e*P			**P**	**19 54 49.9**	**+1.9**
WDC	comp=Z,52nm,1.1s			pmax			pmax		
WDC	**Whiskeytown Da** comp=Z,52nm,1.1s	**33.91**	**92**	*e*P			**P**	**19 54 49.9**	**+1.9**
MOD	**Modoc** comp=Z,84nm,1.0s	**34.48**	**88**	*e*P			**P**	**19 54 54.5**	**+1.3**
WALA	**Waterton Lakes** comp=Z,61nm,0.8s	**34.55**	**73**	*e*P			**P**	**19 54 53.7**	**+0.1**
BSMT	**Bassop Peak** comp=Z,61nm,0.7s	**34.61**	**76**	*e*P			**P**	**19 54 54.1**	**-0.1**
HABR	**Khabarovsk**	**34.63**	**286**	*d i*P			**P**	**19 54 52.1**	**-2.0**
HABR				*e**PP			**pP**	**19 55 03.3**	**-1.1**
HABR				*e**SP			**sP**	**19 55 08.3**	**-0.4**
HABR				*e*				19 56 08.4	
HABR				*e*PPP			PPP	19 56 21.8	
HABR								19 57 26.2	
HABR				*e*S			**S**	**20 00 19.0**	**-1.9**
HABR				*e**SS			**sS**	**20 00 38.9**	**+1.0**
HABR				*e*SS			**SnSn**	**20 02 35.5**	**+1.0**
HABR				*e*SSS			SSS	20 02 51.6	
HABR				*e*				20 05 11.1	
HABR	comp=Z,65nm,1.6s			pmax			pmax		
HABR	comp=N,11nm,1.0s			pmax			pmax		
HABR	comp=E,46nm,1.6s			pmax			pmax		
HABR	comp=Z,7μm,18.0s			MLR			MLR		
HABR	comp=E,10μm,18.0s			MLR			MLR		
HABR	comp=N,7μm,18.0s			MLR			MLR		
BMO	**Blue Mountains** comp=N,64nm,1.2s	**34.65**	**82**	*e*P			**P**	**19 54 53.7**	**-0.8**
BMO	comp=Z,5μm,19.0s			LR			LR		
POHA	**Pohakuloa** comp=Z,163nm,1.1s	**34.76**	**156**	P			**P**	**19 54 53.3**	**-2.6**
BLMT	**Blacktail Moun**	**34.78**	**75**	*e*P			**P**	**19 54 56.3**	**+0.5**
JTMT	**Jette**	**34.96**	**76**	*e*P			**P**	**19 54 58.0**	**+0.8**
YBMT	**Yellow Bay** comp=Z,46nm,0.8s	**35.06**	**75**	*e*P			**P**	**19 54 58.9**	**+0.8**
WVOR	**Wild Horse Val**	**35.19**	**86**	*e*P			**P**	**19 55 00.0**	**+0.8**
WVOR	comp=Z,142nm,0.9s			pmax			pmax		
WVOR	**Wild Horse Val** comp=Z,142nm,0.9s	**35.19**	**86**	*e*P			**P**	**19 54 60.0**	**+0.8**
SWMT	**Swartz Lake** comp=Z,12nm,0.7s	**35.24**	**76**	*e*P			**P**	**19 54 59.7**	**0.0**
MSO	**Missoula** baz=36,SNR=30	**35.62**	**77**	P			**P**	**19 55 03.0**	**+0.1**
MSO	**Missoula** comp=Z,35nm,0.8s	**35.62**	**77**	*e*P			**P**	**19 55 03.4**	**+0.5**
SLMT	**Seeley Lake** comp=Z,58nm,0.9s	**35.67**	**76**	*e*P			**P**	**19 55 03.3**	**-0.1**
CHMT	**Chamberlain Mo** comp=Z,37nm,0.7s	**35.98**	**76**	*e*P			**P**	**19 55 05.7**	**-0.4**
RES	**Resolute Bay** comp=Z,4.4nm,0.7s,baz=250,slow=12,SNR=4.9	**36.02**	**26**	P			**P**	**19 55 06.5**	**+0.7**
RES				PcP			**PcP**	**19 57 31.8**	**+0.4**

RES	**Resolute Bay**	**36.02**	**26**	*e*P		**P**	**19 55 05.3**	**-0.6**
	comp=Z,21nm,1.1s							
RES				PcP		**PcP**	**19 57 31.8**	**+0.4**
KLR	**Kul'dur**	**36.18**	**288**	*e*P		P	19 55 02.0	-5.5
KLR				*e*			19 56 35.0	
KLR				*e*			20 00 52.0	
KLR				pmax		pmax		
	comp=E,500nm,11.5s							
KLR				pmax		pmax		
	comp=Z,2µm,11.5s							
MFID	**Camas Ranch**	**36.33**	**83**	*e*P		**P**	**19 55 10.0**	**+1.1**
	comp=Z,76nm,1.0s							
CMB	**Columbia Colle**	**36.80**	**94**	*e*P		**P**	**19 55 14.1**	**+1.1**
CMB				pmax		pmax		
	comp=Z,54nm,1.2s							
CMB	**Columbia Colle**	**36.80**	**94**	*e*P		**P**	**19 55 14.1**	**+1.1**
	comp=Z,54nm,1.2s							
HRY	**Holter Researc**	**36.92**	**76**	*e*P		**P**	**19 55 13.8**	**-0.2**
	comp=Z,67nm,0.7s							
LRM	**Limekiln Ridge**	**37.03**	**77**	*e*P		**P**	**19 55 14.4**	**-0.7**
	comp=Z,155nm,0.9s							
WAKR	**Walker**	**37.08**	**92**	*e*P		**P**	**19 55 16.6**	**+1.1**
HLID	**Hailey**	**37.09**	**82**	P		**P**	**19 55 15.9**	**+0.3**
	baz=37,SNR=84							
HLID	**Hailey**	**37.09**	**82**	*e*P		**P**	**19 55 15.8**	**+0.3**
	comp=Z,55nm,1.0s							
HLID				LR		LR		
	comp=Z,7µm,19.0s							
DLMT	**Dillon**	**37.19**	**78**	*e*P		**P**	**19 55 16.8**	**+0.5**
	comp=Z,37nm,0.9s							
BMN	**Battle Mountai**	**37.23**	**88**	*e*P		**P**	**19 55 17.3**	**+0.6**
BMN				pmax		pmax		
	comp=Z,73nm,0.9s							
BMN	**Battle Mountai**	**37.23**	**88**	*e*P		**P**	**19 55 17.3**	**+0.6**
	comp=Z,73nm,0.9s							
MCMT	**McKenzie Canyo**	**37.33**	**79**	*e*P		**P**	**19 55 17.8**	**+0.1**
EGMT	**Eagleton**	**37.46**	**73**	P		**P**	**19 55 18.6**	**+0.1**
	baz=37,SNR=151							
EGMT	**Eagleton**	**37.46**	**73**	*e*P		**P**	**19 55 18.5**	**-0.1**
	comp=Z,284nm,0.9s							
EGMT				*e*PcP		**PcP**	**19 57 37.2**	**+0.9**
EGMT				LR		LR		
	comp=Z,6µm,20.0s							
A19A	**Klindworth Far**	**37.59**	**71**	P		**P**	**19 55 19.3**	**-0.3**
	baz=37,SNR=59							
BOZ	**Bozeman (W)**	**37.61**	**77**	*e*P		**P**	**19 55 20.0**	**+0.2**
BOZ				pmax		pmax		
	comp=Z,59nm,0.8s							
BOZ				MLR		MLR		
	comp=Z,5µm,19.0s							
BOZ	**Bozeman (W)**	**37.61**	**77**	P		**P**	**19 55 20.2**	**+0.4**
	baz=37,SNR=78							
BOZ	**Bozeman (W)**	**37.61**	**77**	*e*P		**P**	**19 55 20.0**	**+0.2**
	comp=Z,59nm,0.8s							
BOZ				LR		LR		
	comp=Z,5µm,19.0s							
H11N2	**WAKE ISLAND Hy**	**37.72**	**218**	T		T	20 35 22.3	
	baz=24,slow=76,SNR=4768							
H11N3	**WAKE ISLAND Hy**	**37.73**	**218**	T		T	20 35 22.2	
	baz=24,slow=76,SNR=6472							
H11N1	**WAKE ISLAND Hy**	**37.74**	**218**	T		T	20 35 21.8	
	baz=24,slow=76,SNR=5547							
NVAR	**Mina Array Bea**	**37.81**	**91**	P		**P**	**19 55 23.1**	**+1.4**
	comp=Z,35nm,0.9s,baz=293,slow=8.1,SNR=108							
NVAR				PcP		**PcP**	**19 57 38.3**	**+0.5**
	comp=Z,24nm,1.0s,baz=290,slow=3.4,SNR=7.0							
NVAR				ScP		**ScP**	**20 01 25.7**	**+3.5**
	comp=Z,6.1nm,1.2s,baz=274,slow=3.8,SNR=4.4							
MLAC	**Mammoth Lakes**	**38.00**	**93**	P		**P**	**19 55 25.1**	**+1.7**
	baz=38							
A20A	**Cobblestone Ra**	**38.09**	**70**	P		**P**	**19 55 23.8**	**+0.1**
	baz=38,SNR=20							
QLMT	**Earthquake Lak**	**38.17**	**78**	*e*P		**P**	**19 55 25.1**	**+0.4**
	comp=Z,5.9nm,0.9s							
ELK	**Elko**	**38.24**	**86**	*e*P		**P**	**19 55 25.7**	**+0.3**
ELK				pmax		pmax		
	comp=Z,75nm,0.9s							
ELK	**Elko**	**38.24**	**86**	*e*P		**P**	**19 55 25.7**	**+0.3**
	comp=Z,75nm,0.9s							
YMR	**Madison River**	**38.53**	**78**	*e*P		**P**	**19 55 28.3**	**+0.5**
	comp=Z,112nm,0.8s							
YMR				*e*PcP		**PcP**	**19 57 42.0**	**+2.1**
A21A	**Bergtoll Ranch**	**38.60**	**70**	P		**P**	**19 55 28.1**	**0.0**
	baz=38,SNR=44							
FFC	**Flin Flon**	**38.61**	**59**	*e*P		**P**	**19 55 27.7**	**-0.3**
FFC				*e*			20 01 23.5	
FFC				pmax		pmax		
	comp=Z,108nm,1.1s							
FFC				MLR		MLR		
	comp=Z,13µm,22.0s							
FFC	**Flin Flon**	**38.61**	**59**	*e*P		**P**	**19 55 27.7**	**-0.3**
	comp=Z,108nm,1.1s							
FFC				*e*ScP		**ScP**	**20 01 23.4**	**-1.2**
FFC				LR		LR		
	comp=Z,13µm,22.0s							
RCTC	**Rector, Farmer**	**38.62**	**95**	P		**P**	**19 55 28.5**	**+0.2**
	baz=38,SNR=21							
C20A	**Veseth Ranch,**	**38.63**	**72**	P		**P**	**19 55 28.7**	**+0.3**
	baz=38,SNR=158							
USRK	**Ussuriysk Ar.**	**38.66**	**281**	P		**P**	**19 55 31.6**	**+3.0**
	comp=Z,5.8nm,0.6s,baz=55,slow=11,SNR=14							
USRK				PcP		**PcP**	**19 57 40.0**	**+0.1**
	comp=Z,26nm,0.9s,baz=72,slow=3.0,SNR=21							
USRK				ScP		**ScP**	**20 01 27.7**	**+2.7**
	comp=Z,2.0nm,0.6s,baz=43,slow=2.3,SNR=4.8							
USRK				LR		LR	20 10 57.7	
	comp=Z,6µm,21.3s,baz=57,slow=36							
YNR	**Norris Junctio**	**38.68**	**78**	*e*P		**P**	**19 55 30.7**	**+1.7**
	comp=Z,121nm,0.9s							
GCMT	**Greycliff**	**38.69**	**76**	*e*P		**P**	**19 55 29.7**	**+0.8**
	comp=Z,28nm,0.7s							
TPH	**Tonopah**	**38.69**	**91**	P		**P**	**19 55 28.7**	**-0.5**
TPH				*e*			19 57 41.9	
TPH				pmax		pmax		
	comp=Z,75nm,1.0s							
TPH	**Tonopah**	**38.69**	**91**	P		**P**	**19 55 28.7**	**-0.5**
	comp=Z,74nm,1.0s							
TPH				*e*PcP		**PcP**	**19 57 41.9**	**+1.5**
YFT	**Old Faithful**	**38.73**	**78**	*e*P		**P**	**19 55 28.9**	**-0.5**
	comp=Z,52nm,0.7s							
TIN	**Tinemaha**	**38.74**	**93**	P		**P**	**19 55 30.2**	**+0.7**
	baz=39,SNR=12							
SMMC	**Simmler**	**38.83**	**97**	P		**P**	**19 55 30.7**	**+0.6**
	baz=39,SNR=20							
B21A	**Ellsworth Farm**	**38.83**	**71**	P		**P**	**19 55 30.1**	**+0.1**
	baz=39,SNR=58							
H11S1	**WAKE ISLAND Hy**	**38.91**	**217**	T		T	20 36 50.7	
	baz=23,slow=76							
H17A	**Grant Village**	**38.92**	**78**	P		**P**	**19 55 32.5**	**+1.5**
	baz=39,SNR=15							
H17A	**Grant Village**	**38.92**	**78**	*e*P		**P**	**19 55 33.4**	**+2.4**
	comp=Z,72nm,0.9s							
LKWY	**Lake**	**38.93**	**78**	*e*P		**P**	**19 55 32.0**	**+0.9**
LKWY				pmax		pmax		
	comp=Z,105nm,0.7s							
LKWY				MLR		MLR		
	comp=Z,7µm,19.0s							
LKWY	**Lake**	**38.93**	**78**	*e*P		**P**	**19 55 32.0**	**+0.9**
	comp=Z,105nm,0.7s							
LKWY				LR		LR		
	comp=Z,7µm,19.0s							
H11S2	**WAKE ISLAND Hy**	**38.93**	**217**	T		T	20 36 52.0	
	baz=23,slow=76							
H11S3	**WAKE ISLAND Hy**	**38.93**	**217**	T		T	20 36 53.7	
	baz=23,slow=76							
IMW	**Indian Meadow**	**38.98**	**79**	*e*P		**P**	**19 55 32.2**	**+0.6**
	comp=Z,85nm,0.9s							
FLWY	**Flagg Ranch**	**39.02**	**79**	*e*P		**P**	**19 55 31.6**	**-0.2**
	comp=Z,83nm,0.9s							
FLWY				*e*PcP		**PcP**	**19 57 42.9**	**+1.4**
FXWY	**Fox Creek**	**39.08**	**79**	*e*P		**P**	**19 55 32.7**	**+0.3**
	comp=Z,25nm,1.0s							
C21A	**Desert Coulee**	**39.10**	**71**	P		**P**	**19 55 32.4**	**+0.2**
	baz=39,SNR=42							
HVU	**Hansel Valley**	**39.11**	**83**	*e*P		**P**	**19 55 33.7**	**+1.2**
HVU	**Hansel Valley**	**39.11**	**83**	*e*P		**P**	**19 55 33.7**	**+1.2**
MOOW	**Moose Ponds**	**39.18**	**79**	*e*P		**P**	**19 55 34.2**	**+1.0**
	comp=Z,21nm,0.9s							
TPAW	**Teton Pass**	**39.21**	**79**	*e*P		**P**	**19 55 33.6**	**+0.1**
	comp=Z,56nm,1.0s							
PKM	**Peak Mountain**	**39.22**	**97**	P		**P**	**19 55 34.0**	**+0.5**
	baz=39,SNR=19							
CWC	**Cottonwood Cre**	**39.23**	**94**	P		**P**	**19 55 34.5**	**+0.8**
	baz=39							
RLMT	**Red Lodge**	**39.29**	**76**	P		**P**	**19 55 34.3**	**+0.2**
	baz=39,SNR=116							
RLMT	**Red Lodge**	**39.29**	**76**	*e*P		**P**	**19 55 34.5**	**+0.4**
	comp=Z,122nm,0.9s							
RLMT				LR		LR		
	comp=Z,5µm,20.0s							
GRAC	**Grapevine Rang**	**39.30**	**92**	P		**P**	**19 55 34.9**	**+0.8**
	baz=39,SNR=17							
REDW	**Red Top Meadow**	**39.34**	**80**	*e*P		**P**	**19 55 35.8**	**+1.3**
	comp=Z,76nm,1.3s							
SNOW	**Snow King Moun**	**39.34**	**79**	*e*P		**P**	**19 55 35.1**	**+0.5**
	comp=Z,31nm,0.8s							
VLA	**Vladivostok**	**39.34**	**280**	‖*e*P		**P**	**19 55 37.1**	**+2.9**
VLA				pmax		pmax		
	comp=Z,83nm,1.7s							
VLA				MLR		MLR		
	comp=Z,6µm,17.0s							
LOHW	**Long Hollow**	**39.34**	**79**	*e*P		**P**	**19 55 33.7**	**-0.8**
	comp=Z,43nm,0.9s							
BGU	**Big Grassy Mou**	**39.47**	**84**	*e*P		**P**	**19 55 35.8**	**+0.3**
	comp=Z,97nm,1.3s							
ISA	**Isabella**	**39.51**	**95**	*e*P		**P**	**19 55 36.4**	**+0.6**
ISA				pmax		pmax		
	comp=Z,84nm,1.1s							
ISA	**Isabella**	**39.51**	**95**	P		**P**	**19 55 36.6**	**+0.7**
	baz=39,SNR=31							
ISA	**Isabella**	**39.51**	**95**	*e*P		**P**	**19 55 36.4**	**+0.6**
	comp=Z,84nm,1.1s							
R11A	**Troy Canyon, C**	**39.51**	**89**	P		**P**	**19 55 36.1**	**+0.2**
	baz=39,SNR=173							
R11A	**Troy Canyon, C**	**39.51**	**89**	*e*P		**P**	**19 55 36.1**	**+0.2**
	comp=Z,94nm,1.0s							
AHID	**Auburn Hatcher**	**39.54**	**81**	*e*P		**P**	**19 55 35.6**	**-0.5**
	comp=Z,73nm,1.0s							
AHID				LR		LR		
	comp=Z,4µm,19.0s							
F20A	**Billings**	**39.57**	**75**	P		**P**	**19 55 36.5**	**+0.2**
	baz=39,SNR=16							
MJAR	**Matsushiro Arr**	**39.58**	**267**	P		**P**	**19 55 36.3**	**0.0**
	comp=Z,11nm,0.6s,baz=37,slow=6.3,SNR=50							
MJAR				PcP		**PcP**	**19 57 43.2**	**+0.2**
	comp=Z,34nm,1.0s,baz=269,slow=0.2,SNR=12							
MJAR				ScP		**ScP**	**20 01 30.9**	**+2.2**
	comp=Z,10.0nm,0.9s,baz=56,slow=2.8,SNR=16							
MJAR				LR		LR	20 10 08.1	
	comp=Z,9µm,21.3s,baz=55,slow=34							
MAJO	**Matsushiro**	**39.58**	**267**	*de*P		**P**	**19 55 35.5**	**-0.8**
MAJO				pmax		pmax		
	comp=Z,629nm,1.7s							
MAJO	**Matsushiro**	**39.58**	**267**	*e*P		**P**	**19 55 35.2**	**-1.1**
	comp=Z,67nm,0.9s							
MAJO				*e*ScP		**ScP**	**20 01 30.6**	**+1.9**
MAT	**Matsushiro**	**39.58**	**267**	P		**P**	**19 55 35.9**	**-0.4**
MAT				S		**S**	**20 01 37.4**	**+0.9**
SPUT	**South Promonto**	**39.59**	**83**	*e*P		**P**	**19 55 35.8**	**-0.7**
	comp=Z,28nm,0.9s							
SBC	**Santa Barbara**	**39.59**	**97**	P		**P**	**19 55 36.9**	**+0.6**
	baz=40							
DAC	**Darwin (Calif)**	**39.64**	**93**	*e*P		**P**	**19 55 36.7**	**-0.3**
DAC				pmax		pmax		
	comp=Z,49nm,0.9s							
DAC	**Darwin (Calif)**	**39.64**	**93**	*e*P		**P**	**19 55 36.7**	**-0.3**
	comp=Z,49nm,0.9s							
ARVC	**Arvin**	**39.66**	**96**	P		**P**	**19 55 37.0**	**0.0**
	baz=40,SNR=11							
H19A	**Powell**	**39.70**	**77**	P		**P**	**19 55 37.2**	**-0.3**
	baz=40,SNR=54							
E21A	**Keefer Ranch,**	**39.79**	**73**	P		**P**	**19 55 38.5**	**+0.5**
	baz=40,SNR=23							
MPMC	**Manual Prospec**	**39.84**	**94**	P		**P**	**19 55 39.2**	**+0.4**
	baz=40,SNR=74							
MDJ	**Mudanjiang**	**39.85**	**283**	PFAKE			19 55 50.0	+12
MDJ				LR		LR		
	comp=Z,9µm,20.0s							
G20A	**Bridger**	**39.85**	**76**	P		**P**	**19 55 38.5**	**-0.2**
	baz=40,SNR=71							
HWUT	**Hardware Ranch**	**39.94**	**82**	*e*P		**P**	**19 55 40.0**	**+0.5**
	comp=Z,53nm,1.0s							
HWUT				LR		LR		
	comp=Z,5µm,19.0s							
BSC	**Santa Cruz Isl**	**39.95**	**98**	P		**P**	**19 55 39.5**	**+0.1**
	baz=40							
FURC	**Furnace Creek,**	**39.95**	**93**	P		**P**	**19 55 40.0**	**+0.7**
	baz=40,SNR=46							
TPNV	**Topopah Spring**	**40.01**	**92**	P		**P**	**19 55 40.7**	**+0.6**
	baz=40,SNR=106							
DUG	**Dugway**	**40.04**	**85**	*e*P		**P**	**19 55 40.7**	**+0.4**
DUG				pmax		pmax		
	comp=Z,197nm,1.1s							
DUG				MLR		MLR		
	comp=Z,6µm,21.0s							
DUG	**Dugway**	**40.04**	**85**	P		**P**	**19 55 40.7**	**+0.4**
	baz=40,SNR=189							
DUG	**Dugway**	**40.04**	**85**	*e*P		**P**	**19 55 40.7**	**+0.4**
	comp=Z,197nm,1.1s							
DUG				LR		LR		
	comp=Z,6µm,21.0s							
I19A	**Meeteetse**	**40.06**	**78**	P		**P**	**19 55 40.9**	**+0.4**
	baz=40,SNR=22							
OSI	**Osito Adit**	**40.07**	**96**	P		**P**	**19 55 40.8**	**+0.3**
	baz=40,SNR=13							
OSI	**Osito Adit**	**40.07**	**96**	*e*P		**P**	**19 55 39.5**	**-0.9**
	comp=Z,119nm,1.1s							
LRMC	**Laurel Mountai**	**40.11**	**94**	P		**P**	**19 55 40.9**	**0.0**
	baz=40,SNR=27							
ALE	**Alert**	**40.16**	**11**	P		**P**	**19 55 41.7**	**+1.1**
	comp=Z,110nm,1.1s,SNR=9.8							
F21A	**Absaloka Mine,**	**40.16**	**74**	P		**P**	**19 55 40.7**	**-0.4**
	baz=40,SNR=21							
BLG	**Laguna Peak**	**40.21**	**97**	P		**P**	**19 55 41.7**	**+0.1**
	baz=40							
LAO	**LASA Array**	**40.21**	**72**	P		**P**	**19 55 41.5**	**0.0**
	baz=40,SNR=19							
LAO	**LASA Array**	**40.21**	**72**	*e*P		**P**	**19 55 41.0**	**-0.5**
	comp=Z,122nm,1.0s							
LAO				LR		LR		
	comp=Z,6µm,20.0s							
TCUT	**Toone Canyon**	**40.33**	**83**	*e*P		**P**	**19 55 43.1**	**+0.4**
	comp=Z,59nm,0.8s							
EDW2	**Edwards Air Fo**	**40.33**	**95**	P		**P**	**19 55 42.6**	**0.0**
	baz=40,SNR=41							
CTU	**Camp Tracy**	**40.38**	**84**	*e*P		**P**	**19 55 44.0**	**+0.8**
	comp=Z,58nm,0.9s							
H20A	**Greybull**	**40.39**	**76**	P		**P**	**19 55 42.6**	**-0.5**
	baz=40,SNR=31							
G21A	**Lodge Grass**	**40.44**	**75**	P		**P**	**19 55 43.1**	**-0.5**
	baz=40,SNR=20							
BW06	**Boulder Array**	**40.46**	**79**	*e*P		**P**	**19 55 43.6**	**-0.2**
	comp=Z,78nm,0.9s							
BW06				LR		LR		
	comp=Z,5µm,19.0s							
PDAR	**Pinedale Array**	**40.46**	**79**	P		**P**	**19 55 43.7**	**-0.1**
	comp=Z,74nm,0.8s,baz=322,slow=4.9,SNR=191							
PDAR				LR		LR	20 12 04.3	
	comp=Z,4µm,18.0s,baz=327,slow=36							
J19A	**Crowheart**	**40.47**	**79**	P		**P**	**19 55 44.0**	**+0.2**
	baz=40,SNR=9.6							
E22A	**Miles City**	**40.50**	**73**	P		**P**	**19 55 44.2**	**+0.3**
	baz=40,SNR=33							
DECC	**Green Verdugo**	**40.55**	**96**	P		**P**	**19 55 44.6**	**+0.2**
	baz=40,SNR=6.5							
JLU	**Jordanelle**	**40.62**	**83**	*e*P		**P**	**19 55 46.3**	**+1.1**
	comp=Z,62nm,1.0s							
I20A	**Worland**	**40.62**	**77**	P		**P**	**19 55 45.4**	**+0.3**
	baz=40,SNR=63							
NLU	**North Lily Min**	**40.64**	**85**	*e*P		**P**	**19 55 46.0**	**+0.7**
	comp=Z,72nm,1.0s							
SHOC	**Shoshone**	**40.68**	**93**	P		**P**	**19 55 46.0**	**+0.5**
	baz=40,SNR=33							
F22A	**Rosebud**	**40.69**	**74**	P		**P**	**19 55 45.4**	**-0.1**
	baz=40,SNR=29							
PASC	**Pasadena Art C**	**40.70**	**96**	*e*P		**P**	**19 55 47.0**	**+1.4**
	comp=Z,78nm,1.1s							
MWC	**Mount Wilson**	**40.74**	**96**	*e*P		**P**	**19 55 46.5**	**+0.4**
MWC				pmax		pmax		
	comp=Z,229nm,1.2s							
MWC	**Mount Wilson**	**40.74**	**96**	*e*P		**P**	**19 55 46.5**	**+0.4**
	comp=Z,229nm,1.2s							
FCC	**Fort Churchill**	**40.76**	**51**	*e*P		**P**	**19 55 45.1**	**-0.7**
FCC				pmax		pmax		
	comp=Z,90nm,0.8s							
FCC	**Fort Churchill**	**40.76**	**51**	*e*P		**P**	**19 55 45.1**	**-0.7**
	comp=Z,90nm,0.8s							
GSC	**Goldstone**	**40.76**	**94**	*e*P		**P**	**19 55 46.4**	**+0.2**
GSC				pmax		pmax		
	comp=Z,171nm,0.9s							
GSC	**Goldstone**	**40.76**	**94**	P		**P**	**19 55 46.5**	**+0.3**
	baz=41,SNR=147							
GSC	**Goldstone**	**40.76**	**94**	*e*P		**P**	**19 55 46.4**	**+0.2**
	comp=Z,171nm,0.9s							
A25A	**Svangstu Ranch**	**40.78**	**68**	P		**P**	**19 55 46.3**	**+0.1**
	baz=41,SNR=64							
C24A	**Savage**	**40.79**	**70**	P		**P**	**19 55 47.0**	**+0.7**
	baz=41,SNR=94							
E23A	**Ismay**	**40.84**	**72**	P		**P**	**19 55 47.1**	**+0.4**
	baz=41,SNR=96							
MPU	**Maple Canyon**	**40.87**	**84**	*e*P		**P**	**19 55 48.0**	**+0.8**
	comp=Z,208nm,1.0s							
H21A	**Big Horn, Sher**	**40.87**	**76**	P		**P**	**19 55 46.8**	**-0.3**
	baz=41,SNR=22							
JHJ2	**Mitsune**	**40.93**	**262**	*e*P		**P**	**19 55 46.6**	**-0.9**
	comp=Z,90nm,1.1s							
RRX	**Edison Barstow**	**40.93**	**94**	P		**P**	**19 55 48.0**	**+0.4**
	baz=41							
FMP	**Fort Macarthur**	**40.95**	**97**	P		**P**	**19 55 47.5**	**-0.1**
	baz=41							
SHPR	**Sheep Range**	**40.96**	**91**	*e*P		**P**	**19 55 48.1**	**+0.1**
BFSC	**Mount Baldy Ra**	**40.97**	**96**	P		**P**	**19 55 48.0**	**0.0**
	baz=41,SNR=58							
G22A	**Birney**	**40.98**	**74**	P		**P**	**19 55 47.6**	**-0.3**
	baz=41,SNR=22							
J20A	**Shoshoni**	**40.99**	**78**	P		**P**	**19 55 48.6**	**+0.4**
	baz=41,SNR=39							
D24A	**Glendive**	**41.07**	**71**	P		**P**	**19 55 49.4**	**+0.9**
	baz=41,SNR=149							
CIS	**Catalina Islan**	**41.09**	**97**	P		**P**	**19 55 48.8**	**-0.1**
	baz=41,SNR=7.2							
B25A	**Knox Farm, Ray**	**41.11**	**69**	P		**P**	**19 55 49.0**	**+0.1**
	baz=41,SNR=10							
I21A	**Big Trails, Te**	**41.19**	**77**	P		**P**	**19 55 49.7**	**-0.1**
	baz=41,SNR=60							
TUQ	**Turquoise Moun**	**41.21**	**93**	P		**P**	**19 55 50.3**	**+0.3**
	baz=41,SNR=17							
F23A	**Volborg**	**41.21**	**73**	P		**P**	**19 55 48.7**	**-1.1**
	baz=41,SNR=22							
H22A	**Clearmont**	**41.30**	**75**	P		**P**	**19 55 50.1**	**-0.5**
	baz=41							
SCI	**San Clemente I**	**41.30**	**98**	P		**P**	**19 55 50.4**	**-0.2**
	baz=41							
C25A	**Freed Ranch, W**	**41.35**	**69**	P		**P**	**19 55 50.9**	**0.0**
	baz=41,SNR=26							
HEC	**Hector,Ludlow**	**41.37**	**94**	P		**P**	**19 55 51.4**	**+0.1**
	baz=41,SNR=24							
CCUT	**Cedar City**	**41.37**	**89**	*e*P		**P**	**19 55 51.9**	**+0.5**
	comp=Z,61nm,0.8s							
J21A	**Lysite**	**41.37**	**77**	P		**P**	**19 55 51.2**	**-0.1**
	baz=41,SNR=98							
E24A	**Baker**	**41.38**	**71**	P		**P**	**19 55 51.4**	**+0.2**
	baz=41,SNR=48							
BBRC	**Big Bear Solar**	**41.40**	**95**	P		**P**	**19 55 51.4**	**-0.2**
	baz=41							
A26A	**Wade Farm, Ken**	**41.41**	**67**	P		**P**	**19 55 50.9**	**-0.4**
	baz=41,SNR=20							
MVU	**Marysvale**	**41.46**	**87**	*e*P		**P**	**19 55 52.5**	**+0.4**
	comp=Z,94nm,1.0s							
MSU	**Marysvale**	**41.48**	**86**	*e*P		**P**	**19 55 51.4**	**-0.9**
MSU				pmax		pmax		
	comp=Z,74nm,1.0s							
MSU	**Marysvale**	**41.48**	**86**	*e*P		**P**	**19 55 51.4**	**-0.9**
	comp=Z,74nm,1.0s							
G23A	**Biddle**	**41.52**	**74**	P		**P**	**19 55 51.8**	**-0.5**
	baz=41,SNR=20							
TMUT	**Trail Mountain**	**41.57**	**85**	*e*P		**P**	**19 55 53.5**	**+0.4**
	comp=Z,163nm,1.0s							
B26A	**Jensen Ranch,**	**41.58**	**68**	P		**P**	**19 55 52.6**	**-0.1**
	baz=41,SNR=14							
BOD	**Bodaibo**	**41.60**	**308**	*e*P		**P**	**19 55 52.1**	**-0.6**
BOD				pmax		pmax		
	comp=Z,57nm,1.0s							
D25A	**Fairfield**	**41.62**	**70**	P		**P**	**19 55 53.5**	**+0.3**
	baz=41							
I22A	**9 Mile Ranch,**	**41.62**	**76**	P		**P**	**19 55 53.6**	**+0.3**
	baz=42,SNR=43							
MURC	**Murrieta**	**41.68**	**96**	P		**P**	**19 55 53.6**	**-0.2**
	baz=42,SNR=12							
F24A	**Ekalaka**	**41.70**	**72**	P		**P**	**19 55 53.8**	**0.0**
	baz=42,SNR=52							
P17A	**Butcher Ranch,**	**41.74**	**84**	*e*P		**P**	**19 55 55.3**	**+1.0**
GMRC	**Granite Mounta**	**41.81**	**93**	P		**P**	**19 55 55.3**	**+0.4**
	baz=42,SNR=122							
A27A	**Ledoux Ranch,**	**41.82**	**67**	P		**P**	**19 55 54.0**	**-0.7**
	baz=42							
H23A	**Clabaugh Cattl**	**41.87**	**75**	P		**P**	**19 55 54.2**	**-1.1**
	baz=42							
J22A	**Midwest**	**41.91**	**77**	P		**P**	**19 55 55.8**	**+0.1**
	baz=42,SNR=82							
E25A	**Miller Ranch,**	**41.94**	**71**	P		**P**	**19 55 55.9**	**+0.2**
	baz=42,SNR=36							
LDFC	**Landfair**	**41.94**	**93**	*e*P		**P**	**19 55 56.3**	**+0.3**
	comp=Z,219nm,1.0s							
C26A	**Wahner Farm, P**	**41.95**	**69**	P		**P**	**19 55 55.6**	**-0.2**
	baz=42,SNR=32							
G24A	**Alzada**	**42.01**	**73**	P		**P**	**19 55 55.7**	**-0.6**
	baz=42,SNR=47							
SRU	**San Rafael**	**42.10**	**85**	*e*P		**P**	**19 55 58.1**	**+0.8**
SRU				pmax		pmax		
	comp=Z,372nm,1.7s							
SRU	**San Rafael**	**42.10**	**85**	*e*P		**P**	**19 55 58.1**	**+0.8**
	comp=Z,372nm,1.7s							
B27A	**Peters Farms,**	**42.11**	**67**	P		**P**	**19 55 57.1**	**+0.1**
	baz=42,SNR=24							
PFO	**Pinyon Flat Ob**	**42.13**	**95**	P		**P**	**19 55 58.4**	**+0.9**
	comp=Z,75nm,1.0s,baz=333,slow=6.5,SNR=36							
PFO				LR		LR	20 09 06.4

RSSD	**Black Hills**	**42.93**	**74**	*e*P	**P**		**19 56 03.4**	**-0.6**
RSSD	comp=Z,95nm,1.1s			pmax	pmax				
RSSD	**Black Hills**	**42.93**	**74**	*e*P	**P**		**19 56 03.4**	**-0.6**
	comp=Z,95nm,1.1s								
HIA	**Hailar**	**42.93**	**295**	*e*P	**P**		**19 56 03.2**	**-0.5**
HIA	comp=Z,26nm,0.9s			pmax	pmax				
HIA	comp=Z,12µm,20.0s			MLR	MLR				
HIA	**Hailar**	**42.93**	**295**	*e*P	**P**		**19 56 03.2**	**-0.5**
HIA	comp=Z,26nm,0.9s			LR	LR				
	comp=Z,12µm,20.0s								
A29A	**Manning Farm,**	**42.95**	**66**	P	**P**		**19 56 03.3**	**-0.6**
	baz=43,SNR=102								
C28A	**Hausauer Farms**	**42.98**	**68**	P	**P**		**19 56 04.1**	**0.0**
	baz=43,SNR=23								
SWSC	**Sam W. Stewart**	**42.99**	**96**	P	**P**		**19 56 04.2**	**-0.1**
	baz=43,SNR=37								
IBP	**Imperial Bould**	**43.00**	**96**	P	**P**		**19 56 04.8**	**+0.2**
	baz=43,SNR=37								
J24A	**Dixon Ranch, L**	**43.03**	**76**	P	**P**		**19 56 04.1**	**-0.6**
	baz=43,SNR=20								
E27A	**Carson**	**43.03**	**70**	P	**P**		**19 56 04.4**	**-0.2**
	baz=43,SNR=32								
PDMCI	**Parker Dam,Lak**	**43.05**	**93**	P	**P**		**19 56 05.0**	**+0.2**
	baz=43,SNR=42								
G26A	**Maurine**	**43.08**	**72**	P	**P**		**19 56 04.6**	**-0.4**
	baz=43,SNR=69								
F27A	**Lemmon**	**43.08**	**71**	P	**P**		**19 56 05.0**	**0.0**
	baz=43,SNR=58								
B29A	**Wagenman Farm,**	**43.14**	**66**	P	**P**		**19 56 05.0**	**-0.4**
	baz=43,SNR=46								
D28A	**Regan**	**43.16**	**69**	P	**P**		**19 56 05.4**	**-0.2**
	baz=43,SNR=25								
I25A	**Rochford**	**43.16**	**74**	P	**P**		**19 56 05.4**	**-0.5**
	baz=43,SNR=21								
Y12C	**Blythe**	**43.20**	**94**	P	**P**		**19 56 06.2**	**+0.2**
	baz=43,SNR=59								
K24A	**Anderson Ranch**	**43.30**	**76**	P	**P**		**19 56 05.8**	**-1.1**
	baz=43,SNR=7.4								
MDND	**Maddock**	**43.34**	**67**	P	**P**		**19 56 06.3**	**-0.7**
	baz=43								
MDND	**Maddock**	**43.34**	**67**	*e*P	**P**		**19 56 07.2**	**+0.2**
	comp=Z,607nm,0.9s								
H26A	**Fairpoint**	**43.37**	**73**	P	**P**		**19 56 06.6**	**-0.8**
	baz=43,SNR=21								
G27A	**Dupree**	**43.42**	**72**	P	**P**		**19 56 07.3**	**-0.4**
	baz=43,SNR=45								
E28A	**Huff**	**43.44**	**69**	P	**P**		**19 56 07.7**	**-0.2**
	baz=43,SNR=18								
A30A	**Hoffart Farm,**	**43.46**	**65**	P	**P**		**19 56 07.7**	**-0.3**
	baz=43,SNR=18								
GLA	**Glamis**	**43.49**	**95**	*e*P	**P**		**19 56 08.7**	**+0.2**
GLA	comp=Z,125nm,1.0s			pmax	pmax				
GLA	**Glamis**	**43.49**	**95**	P	**P**		**19 56 08.4**	**0.0**
	baz=43,SNR=30								
GLA	**Glamis**	**43.49**	**95**	*e*P	**P**		**19 56 08.7**	**+0.2**
	comp=Z,125nm,1.0s								
J25A	**Sunshine Ranch**	**43.49**	**75**	P	**P**		**19 56 07.6**	**-0.9**
	baz=43,SNR=32								
PV04	**Paradox Valley**	**43.53**	**84**	*e*P	**P**		**19 56 09.1**	**+0.2**
I26A	**New Underwood**	**43.67**	**74**	P	**P**		**19 56 08.6**	**-1.1**
	baz=44								
B30A	**Myrvik Farm, E**	**43.72**	**66**	P	**P**		**19 56 09.6**	**-0.4**
	baz=44,SNR=71								
N23A	**Red Feather La**	**43.74**	**79**	P	**P**		**19 56 10.4**	**-0.2**
	baz=44,SNR=85								
H27A	**Howes**	**43.77**	**73**	P	**P**		**19 56 09.9**	**-0.6**
	baz=44,SNR=14								
PHWY	**Pilot Hill**	**43.78**	**79**	*e*P	**P**		**19 56 10.1**	**-0.9**
	comp=Z,32nm,0.9s								
D29A	**Pettibone, Tap**	**43.79**	**68**	P	**P**		**19 56 10.1**	**-0.6**
	baz=44,SNR=17								
F28A	**McLaughlin**	**43.80**	**70**	P	**P**		**19 56 10.6**	**-0.2**
	baz=44,SNR=53								
CBIJ	**Chichi jima**	**43.90**	**253**	P	**P**		**19 56 10.6**	**-1.1**
JCJ	**Chichijima**	**43.90**	**253**	P	**P**		**19 56 10.6**	**-1.1**
	comp=Z,94nm,0.6s,baz=279,slow=14,SNR=9.3								
JCJ	comp=Z,4µm,21.9s,baz=53,slow=32			LR	LR		20 11 02.4		
PV01	**Paradox Valley**	**43.90**	**84**	*e*P	**P**		**19 56 11.5**	**-0.4**
	comp=Z,9µm,0.8s								
WUAZ	**Wupatki**	**43.91**	**89**	P	**P**		**19 56 12.6**	**+0.6**
	baz=44,SNR=141								
WUAZ	**Wupatki**	**43.91**	**89**	*e*P	**P**		**19 56 12.6**	**+0.6**
	comp=Z,163nm,0.9s								
K25A	**Mack Ranch, Ha**	**43.92**	**76**	P	**P**		**19 56 11.5**	**-0.4**
	baz=44,SNR=8.6								
J26A	**Sides Ranch, S**	**43.97**	**75**	P	**P**		**19 56 11.6**	**-0.6**
	baz=44,SNR=14								
E29A	**Napoleon**	**44.04**	**69**	P	**P**		**19 56 12.0**	**-0.7**
	baz=44,SNR=11								
C30A	**Mose, Pekin**	**44.05**	**67**	P	**P**		**19 56 12.4**	**-0.4**
	baz=44,SNR=23								
ULM	**Lac du Bonnet**	**44.06**	**62**	P	**P**		**19 56 12.6**	**-0.2**
	comp=Z,109nm,0.9s,baz=308,slow=7.9,SNR=65								
ULM	comp=Z,30nm,0.9s,baz=296,slow=3.8,SNR=3.7			PcP	**PcP**		**19 57 57.4**	**-0.1**
ULM	comp=Z,6µm,19.7s,baz=326,slow=37			LR	LR		20 15 08.7		
ULM	**Lac du Bonnet**	**44.06**	**62**	P	**P**		**19 56 12.6**	**-0.2**
ULM							19 57 57.4		
ULM	comp=Z,109nm,0.9s			pmax	pmax				
ULM	comp=Z,30nm,0.9s			pmax	pmax				
ULM	comp=Z,6µm,19.7s			MLR	MLR				
ULM	**Lac du Bonnet**	**44.06**	**62**	*e*P	**P**		**19 56 12.1**	**-0.7**
	comp=Z,126nm,0.9s								
ULM				PcP	**PcP**		**19 57 57.4**	**-0.1**
I27A	**Quinn**	**44.11**	**73**	P	**P**		**19 56 13.1**	**-0.3**
	baz=44,SNR=14								
L25A	**Engebretsen Ra**	**44.14**	**77**	P	**P**		**19 56 13.7**	**0.0**
	baz=44,SNR=21								
G28A	**Parade**	**44.18**	**71**	P	**P**		**19 56 13.8**	**0.0**
	baz=44,SNR=22								
SMCO	**Snowmass**	**44.20**	**82**	*e*P	**P**		**19 56 13.8**	**-0.7**
	comp=Z,63nm,1.0s								
D30A	**Buchanan**	**44.23**	**68**	P	**P**		**19 56 13.7**	**-0.5**
	baz=44,SNR=125								
K26A	**Motz Farm, Whi**	**44.27**	**75**	P	**P**		**19 56 13.7**	**-1.0**
	baz=44,SNR=7.7								
H28A	**Mission Ridge**	**44.35**	**72**	P	**P**		**19 56 14.8**	**-0.4**
	baz=44,SNR=16								
F29A	**Eureka**	**44.36**	**70**	P	**P**		**19 56 14.6**	**-0.7**
	baz=44,SNR=27								
E30A	**Jud**	**44.49**	**68**	P	**P**		**19 56 15.8**	**-0.5**
	baz=44,SNR=28								
M25A	**Palm-Egli Farm**	**44.53**	**77**	P	**P**		**19 56 17.0**	**+0.2**
	baz=44,SNR=36								
MVCO	**Mesa Verde**	**44.54**	**85**	P	**P**		**19 56 16.8**	**-0.3**
	baz=44,SNR=29								
MVCO	**Mesa Verde**	**44.54**	**85**	*e*P	**P**		**19 56 16.8**	**-0.3**
	comp=Z,110nm,1.3s								
ISCO	**Idaho Springs**	**44.62**	**80**	*e*P	**P**		**19 56 18.0**	**+0.3**
ISCO	comp=Z,61nm,1.2s			pmax	pmax				
ISCO	comp=Z,6µm,19.0s			MLR	MLR				
ISCO	**Idaho Springs**	**44.62**	**80**	P	**P**		**19 56 17.6**	**-0.1**
	baz=44,SNR=62								
ISCO	**Idaho Springs**	**44.62**	**80**	*e*P	**P**		**19 56 18.0**	**+0.3**
	comp=Z,61nm,1.2s								
ISCO	comp=Z,6µm,19.0s			LR	LR				
J27A	**Elkhorn Farm,**	**44.63**	**74**	P	**P**		**19 56 17.2**	**-0.3**
	baz=44								
I28A	**Midland**	**44.67**	**73**	P	**P**		**19 56 17.0**	**-0.8**
	baz=44,SNR=45								
G29A	**Hoven**	**44.68**	**71**	P	**P**		**19 56 17.0**	**-0.8**
	baz=44,SNR=14								
L26A	**Underwood Farm**	**44.74**	**76**	P	**P**		**19 56 17.7**	**-0.8**
	baz=45,SNR=5.9								
CIT	**Chita**	**44.75**	**301**	*e*P	**P**		**19 56 19.2**	**+0.9**
CIT				*e*			19 56 37.9		
CIT				*e*			19 58 00.6		
CIT				*e*			19 58 46.7		
CIT	comp=Z,37nm,3.9s			pmax	pmax				
F30A	**Leola**	**44.81**	**69**	P	**P**		**19 56 17.8**	**-1.1**
	baz=45,SNR=17								
K27A	**Fluecknger Fa**	**44.83**	**75**	P	**P**		**19 56 18.3**	**-0.8**
	baz=45,SNR=6.7								
H29A	**Onida**	**44.85**	**71**	P	**P**		**19 56 18.9**	**-0.3**
	baz=45,SNR=54								
J28A	**Allard Ranch,**	**44.97**	**73**	P	**P**		**19 56 19.9**	**-0.3**
	baz=45,SNR=48								
SNY	**Shenyang**	**45.04**	**284**	⇑P	**P**		**19 56 20.8**	**+0.1**
SNY				S	**S**		**20 02 57.0**	**+0.2**
SNY	comp=Z,21nm,1.3s			PMZ					
SNY	comp=Z,1µm,8.4s			PMZ					
SNY	comp=Z,9µm,18.8s			LN					
SNY	comp=Z,3µm,23.3s			LE					
SNY	comp=Z,7µm,19.3s			LZ					
M26A	**McRoberts Ranc**	**45.05**	**77**	P	**P**		**19 56 21.0**	**+0.1**
	baz=45,SNR=6.7								
I29A	**Vivian Onida**	**45.16**	**72**	P	**P**		**19 56 21.1**	**-0.5**
	baz=45,SNR=28								
L27A	**T5 Ranch, Ells**	**45.16**	**76**	P	**P**		**19 56 21.5**	**-0.3**
	baz=45,SNR=5.6								
AGMN	**Agassiz Nation**	**45.16**	**65**	P	**P**		**19 56 20.9**	**-0.7**
	baz=45,SNR=118								
AGMN	**Agassiz Nation**	**45.16**	**65**	*e*P	**P**		**19 56 20.7**	**-0.9**
AGMN	comp=Z,208nm,0.9s			LR	LR				
	comp=Z,6µm,19.0s								
G30A	**Faulkton**	**45.16**	**70**	P	**P**		**19 56 20.8**	**-0.8**
	baz=45,SNR=71								
W18A	**Petrified Fore**	**45.17**	**88**	P	**P**		**19 56 22.4**	**+0.3**
	baz=45,SNR=23								
W18A	**Petrified Fore**	**45.17**	**88**	*e*P	**P**		**19 56 21.9**	**-0.2**
	comp=Z,160nm,1.0s								
S22A	**4UR Ranch, Cre**	**45.20**	**83**	P	**P**		**19 56 23.0**	**+0.6**
	baz=45,SNR=84								
KSRS	**Korea Array**	**45.22**	**276**	P	**P**		**19 56 23.1**	**+1.0**
	comp=Z,9.4nm,0.6s,baz=55,slow=7.4,SNR=15								
KSRS	comp=Z,11nm,0.9s,baz=59,slow=3.3,SNR=7.0			PcP	**PcP**		**19 58 02.5**	**+0.8**
KSRS	comp=Z,3.1nm,0.9s,baz=56,slow=4.3,SNR=5.2			ScP	**ScP**		**20 01 54.5**	**+3.3**
KSRS	comp=Z,5µm,19.9s,baz=58,slow=36			LR	LR		20 15 17.3		
KSAR	**Wonju Array Be**	**45.25**	**276**	P	**P**		**19 56 23.1**	**+0.8**
KSAR							19 58 02.5		
KSAR	**Wonju Array Be**	**45.25**	**276**	P	**P**		**19 56 23.1**	**+0.8**
KSAR				PcP	**PcP**		**19 58 02.5**	**+0.7**
KSAR				ScP	**ScP**		**20 01 54.5**	**+3.2**
K28A	**Ten Mile Ranch**	**45.33**	**74**	P	**P**		**19 56 22.5**	**-0.5**
	baz=45,SNR=25								
N26A	**Koester Ranch,**	**45.40**	**78**	P	**P**		**19 56 24.1**	**+0.4**
	baz=45,SNR=7.3								
Q24A	**Divide**	**45.43**	**81**	P	**P**		**19 56 24.3**	**+0.1**
	baz=45,SNR=18								
M27A	**Reverse DX Ran**	**45.46**	**76**	P	**P**		**19 56 23.9**	**-0.2**
	baz=45,SNR=14								
214A	**Organ Pipe Nat**	**45.48**	**94**	P	**P**		**19 56 24.5**	**+0.2**
	baz=45,SNR=108								
214A	**Organ Pipe Nat**	**45.48**	**94**	*e*P	**P**		**19 56 24.2**	**-0.1**
	comp=Z,174nm,1.0s								
J29A	**Okreek**	**45.51**	**73**	P	**P**		**19 56 24.3**	**-0.1**
	baz=45,SNR=113								
L28A	**Connealy Angus**	**45.67**	**75**	P	**P**		**19 56 25.2**	**-0.7**
	baz=46								
O26A	**Horse Wrangler**	**45.71**	**78**	P	**P**		**19 56 26.1**	**-0.1**
	baz=46,SNR=16								
I30A	**Oacoma**	**45.73**	**72**	P	**P**		**19 56 25.5**	**-0.7**
	baz=46,SNR=13								
N27A	**Anderson Farm,**	**45.82**	**77**	P	**P**		**19 56 26.9**	**-0.1**
	baz=46,SNR=34								
K29A	**Lazy Trails An**	**45.91**	**74**	P	**P**		**19 56 27.2**	**-0.4**
	baz=46,SNR=9.1								
INCN	**Inchon**	**45.97**	**277**	PFAKE			19 56 40.0	+12	
INCN	comp=Z,4µm,20.0s			LR	LR				
SDCO	**Great Sand Dun**	**46.00**	**82**	P	**P**		**19 56 28.6**	**0.0**
	baz=46,SNR=109								
SDCO	**Great Sand Dun**	**46.00**	**82**	*e*P	**P**		**19 56 28.8**	**+0.1**
SDCO	comp=Z,69nm,0.9s			LR	LR				
	comp=Z,4µm,19.0s								
OGNE	**Ogallala**	**46.03**	**77**	P	**P**		**19 56 28.8**	**+0.1**
	baz=46,SNR=23								
OGNE	**Ogallala**	**46.03**	**77**	*e*P	**P**		**19 56 28.3**	**-0.3**
	comp=Z,115nm,0.8s								
J30A	**Dallas**	**46.05**	**72**	P	**P**		**19 56 28.3**	**-0.4**
	baz=46,SNR=31								
P26A	**Davis Ranch, A**	**46.12**	**79**	P	**P**		**19 56 30.1**	**+0.6**
	baz=46,SNR=17								
M28A	**Bar X Bar Ranc**	**46.14**	**76**	P	**P**		**19 56 29.3**	**-0.1**
	baz=46,SNR=15								
O27A	**Beecher Island**	**46.24**	**78**	P	**P**		**19 56 29.9**	**-0.5**
	baz=46,SNR=20								
L29A	**Maesberg Ranch**	**46.25**	**74**	P	**P**		**19 56 29.7**	**-0.6**
	baz=46,SNR=8.3								
TJN	**Taejon**	**46.26**	**275**	⇑*e*P	**P**		**19 56 29.8**	**-0.5**
JNU	**Nakatsue**	**46.33**	**269**	P	**P**		**19 56 31.2**	**+0.2**
	comp=Z,27nm,0.6s,baz=105,slow=1.3,SNR=25								
JNU	comp=Z,9µm,21.7s,baz=54,slow=35			LR	LR		20 14 48.5		
JNU	**Nakatsue**	**46.33**	**269**	*e*P	**P**		**19 56 31.2**	**+0.2**
	comp=Z,23nm,0.8s								
K30A	**Basset**	**46.37**	**73**	P	**P**		**19 56 31.2**	**0.0**
	baz=46,SNR=36								
Q26A	**Hugo**	**46.43**	**80**	P	**P**		**19 56 32.2**	**+0.3**
	baz=46,SNR=41								
TUC	**Tucson**	**46.46**	**92**	*e*P	**P**		**19 56 32.1**	**0.0**
TUC	comp=Z,117nm,1.0s			pmax	pmax				
TUC	**Tucson**	**46.46**	**92**	*e*P	**P**		**19 56 32.1**	**0.0**
	comp=Z,117nm,1.0s								
N28A	**Pribbeno Ranch**	**46.48**	**77**	P	**P**		**19 56 31.8**	**-0.4**
	baz=46,SNR=9.3								
M29A	**Burnside Ranch**	**46.51**	**75**	P	**P**		**19 56 32.1**	**-0.3**
	baz=46,SNR=13								
P27A	**Ficken Ranch,**	**46.58**	**78**	P	**P**		**19 56 32.8**	**-0.2**
	baz=46,SNR=18								
O28A	**Krutsinger Ran**	**46.70**	**77**	P	**P**		**19 56 33.6**	**-0.3**
	baz=46,SNR=25								
L30A	**Spencer Herefo**	**46.76**	**74**	P	**P**		**19 56 33.8**	**-0.5**
	baz=47,SNR=11								
R26A	**Arlington**	**46.87**	**80**	P	**P**		**19 56 35.4**	**+0.1**
	baz=47,SNR=79								
KSCO	**Kaye Shedlock'**	**46.90**	**79**	P	**P**		**19 56 36.0**	**+0.4**
	baz=47,SNR=39								
KSCO	**Kaye Shedlock'**	**46.90**	**79**	*e*P	**P**		**19 56 36.3**	**+0.7**
	comp=Z,234nm,0.8s								
M30A	**Dale-Ortello V**	**46.93**	**75**	P	**P**		**19 56 34.9**	**-0.8**
	baz=47								
N29A	**Votaw Ranch, W**	**46.94**	**76**	P	**P**		**19 56 35.5**	**-0.2**
	baz=47,SNR=8.6								
T25A	**Trinidad**	**47.05**	**82**	P	**P**		**19 56 37.1**	**+0.3**
	baz=47,SNR=179								
P28A	**Saint Francis**	**47.06**	**78**	P	**P**		**19 56 36.5**	**-0.2**
	baz=47,SNR=6.8								
L31A	**Butterfield Fa**	**47.13**	**73**	P	**P**		**19 56 36.7**	**-0.5**
	baz=47,SNR=12								
LAZ	**Ladron**	**47.23**	**87**	*e*P	**P**		**19 56 38.9**	**+0.6**
	comp=Z,59nm,1.0s								
N30A	**Hueftle Ranch,**	**47.26**	**76**	P	**P**		**19 56 37.8**	**-0.5**
	baz=47								
R27A	**Eads**	**47.27**	**80**	P	**P**		**19 56 38.5**	**+0.1**
	baz=47,SNR=84								
O29A	**4D Ranch, Culb**	**47.28**	**77**	P	**P**		**19 56 38.4**	**0.0**
	baz=47,SNR=40								
ANMO	**Albuquerque**	**47.28**	**86**	LR	LR		20 15 32.1		
	comp=Z,3µm,18.1s,baz=324,slow=35								
ANMO	**Albuquerque**	**47.28**	**86**	*e*P	**P**		**19 56 38.6**	**0.0**
ANMO	comp=Z,86nm,1.3s			pmax	pmax				
ANMO	comp=Z,7µm,21.0s			MLR	MLR				
ANMO	**Albuquerque**	**47.28**	**86**	*e*P	**P**		**19 56 38.5**	**0.0**
	comp=Z,86nm,1.3s								
ANMO	comp=Z,7µm,21.0s			LR	LR				
S26A	**Kim**	**47.30**	**81**	P	**P**		**19 56 38.4**	**-0.3**
	baz=47,SNR=128								
Q28A	**Sharon Springs**	**47.34**	**78**	P	**P**		**19 56 38.8**	**-0.2**
	baz=47,SNR=28								
ECSD	**EROS Data Cent**	**47.45**	**70**	P	**P**		**19 56 38.2**	**-1.5**
	baz=47,SNR=115								
ECSD	**EROS Data Cent**	**47.45**	**70**	*e*P	**P**		**19 56 38.2**	**-1.5**
ECSD	comp=Z,135nm,1.0s			LR	LR				
	comp=Z,5µm,21.0s								
T26A	**Comanche Natio**	**47.52**	**82**	P	**P**		**19 56 40.0**	**-0.5**
	baz=47,SNR=89								
P29A	**Atwood**	**47.53**	**77**	P	**P**		**19 56 40.4**	**0.0**
	baz=47,SNR=39								
M31A	**Lambtecht Ranc**	**47.57**	**74**	P	**P**		**19 56 39.5**	**-1.1**
	baz=47,SNR=7.8								
Y22D	**IRIS PASSCAL I**	**47.59**	**87**	P	**P**		**19 56 42.0**	**+1.0**
	baz=47,SNR=12								
LPM	**Los Pinos Moun**	**47.60**	**87**	*e*P	**P**		**19 56 41.6**	**+0.5**
	comp=Z,72nm,1.1s								
S27A	**Las Animas**	**47.60**	**81**	P	**P**		**19 56 40.4**	**-0.7**
	baz=47,SNR=31								
O30A	**MW Ranch, Wils**	**47.68**	**76**	P	**P**		**19 56 41.4**	**-0.1**
	baz=48,SNR=18								
EYMN	**Ely**	**47.74**	**63**	P	**P**		**19 56 41.0**	**-0.8**
	baz=48,SNR=141								
EYMN	**Ely**	**47.74**	**63**	*e*P	**P**		**19 56 41.0**	**-0.8**
EYMN	comp=Z,226nm,1.0s			LR	LR				
	comp=Z,7µm,20.0s								
R28A	**Tribune**	**47.82**	**79**	P	**P**		**19 56 42.5**	**-0.2**
	baz=48,SNR=30								
N31A	**Bailey Ranch,**	**47.92**	**75**	P	**P**		**19 56 42.6**	**-0.7**
	baz=48,SNR=8.6								
Q29A	**Oakley**	**47.96**	**78**	P	**P**		**19 56 43.4**	**-0.3**
	baz=48,SNR=27								
P30A	**Selden**	**47.97**	**77**	P	**P**		**19 56 43.6**	**-0.2**
	baz=48,SNR=49								
BGNE	**Belgrade**	**48.02**	**74**	P	**P**		**19 56 43.3**	**-0.8**
	baz=48,SNR=7.6								
BGNE	**Belgrade**	**48.02**	**74**	*e*P	**P**		**19 56 44.1**	**+0.1**
	comp=Z,263nm,0.9s								
DL2	**Dalian**	**48.04**	**282**	⇓P	**P**		**19 56 44.5**	**+0.3**
DL2				S	**S**		**20 03 41.5**	**+1.7**
DL2	comp=Z,50nm,1.5s			PMZ					
DL2	comp=Z,740nm,8.8s			PMZ					
DL2	comp=Z,3µm,15.9s			LN					
DL2	comp=Z,1µm,15.9s			LE					
DL2	comp=Z,3µm,20.5s			LZ					
L33A	**Hoskins**	**48.05**	**72**	P	**P**		**19 56 43.0**	**-1.3**
	baz=48,SNR=7.5								
T27A	**Campo**	**48.12**	**81**	P	**P**		**19 56 44.6**	**-0.4**
	baz=48,SNR=34								
121A	**Cookes Peak, D**	**48.12**	**89**	P	**P**		**19 56 45.6**	**+0.5**
	baz=48,SNR=107								
121A	**Cookes Peak, D**	**48.12**	**89**	*e*P	**P**		**19 56 45.3**	**+0.2**
	comp=Z,152nm,1.0s								
O31A	**Woolen Ranch,**	**48.13**	**76**	P	**P**		**19 56 44.6**	**-0.3**
	baz=48,SNR=15								
R29A	**Marienthal**	**48.17**	**79**	P	**P**		**19 56 45.4**	**+0.1**
	baz=48,SNR=42								
S28A	**Manter**	**48.26**	**80**	P	**P**		**19 56 46.2**	**+0.1**
	baz=48,SNR=74								
N32A	**Stulken Farm,**	**48.34**	**74**	P	**P**		**19 56 45.2**	**-1.4**
	baz=48								
Q30A	**Quinter**	**48.36**	**77**	P	**P**		**19 56 46.6**	**-0.2**
	baz=48,SNR=33								
M33A	**Taylor Creek F**	**48.47**	**73**	P	**P**		**19 56 46.5**	**-1.0**
	baz=48,SNR=30								
U27A	**Thompson Grove**	**48.48**	**82**	P	**P**		**19 56 47.4**	**-0.4**
	baz=48,SNR=83								
P31A	**Stockton**	**48.50**	**76**	P	**P**		**19 56 47.4**	**-0.4**
	baz=48,SNR=26								
KBS	**Kingsbay**	**48.51**	**360**	*e*P	**P**		**19 56 47.0**	**-0.4**
KBS				*e*S	**S**		**20 03 44.7**	**-0.8**
KBS	**Kingsbay**	**48.51**	**360**	*e*P	**P**		**19 56 47.6**	**+0.3**
KBS	comp=Z,36nm,0.9s			pmax	pmax				
KBS	comp=Z,5µm,20.0s			MLR	MLR				
KBS	**Kingsbay**	**48.51**	**360**	*e*P	**P**		**19 56 47.6**	**+0.3**
	comp=Z,36nm,0.9s								
KBS	comp=Z,5µm,20.0s			LR	LR				
O32A	**Brockman Farm,**	**48.67**	**75**	P	**P**		**19 56 48.1**	**-1.0**
	baz=48,SNR=13								
SPMN	**St. Paul**	**48.68**	**66**	P	**P**		**19 56 48.3**	**-0.8**
	baz=48,SNR=30								
SPMN	**St. Paul**	**48.68**	**66**	*e*P	**P**		**19 56 48.3**	**-0.8**
	comp=Z,121nm,0.9s								
L34A	**Svendsen Farm,**	**48.69**	**72**	P	**P**		**19 56 48.2**	**-1.0**
	baz=48,SNR=38								
S29A	**Ulysses**	**48.71**	**79**	P	**P**		**19 56 49.4**	**-0.1**
	baz=48,SNR=21								
CBKS	**Cedar Bluff**	**48.75**	**77**	*e*P	**P**		**19 56 49.9**	**+0.2**
CBKS	comp=Z,227nm,0.9s			pmax	pmax				
CBKS	comp=Z,3µm,20.0s			MLR	MLR				
CBKS	**Cedar Bluff**	**48.75**	**77**	P	**P**		**19 56 49.4**	**-0.3**
	baz=49,SNR=15								
CBKS	**Cedar Bluff**	**48.75**	**77**	*e*P	**P**		**19 56 49.9**	**+0.2**
CBKS	comp=Z,228nm,0.9s			LR	LR				
	comp=Z,3µm,20.0s								
R30A	**Dighton**	**48.77**	**78**	P	**P**		**19 56 49.9**	**0.0**
	baz=49,SNR=48								
Q31A	**Ellis**	**48.83**	**77**	P	**P**		**19 56 50.2**	**-0.2**
	baz=49,SNR=11								
N33A	**J Bar K, Exete**	**48.85**	**74**	P	**P**		**19 56 48.8**	**-1.6**
	baz=49								
M34A	**Aspy Farms, Fr**	**48.87**	**73**	P	**P**		**19 56 49.2**	**-1.4**
	baz=49								
U28A	**Mallet**	**48.87**	**81**	P	**P**		**19 56 50.0**	**-0.7**
	baz=49,SNR=41								
P32A	**Huiting Farm,**	**48.89**	**76**	P	**P**		**19 56 49.9**	**-0.9**
	baz=49,SNR=26								
T29A	**Hugoton**	**48.91**	**80**	P	**P**		**19 56 50.7**	**-0.4**
	baz=49,SNR=34								
V27A	**Van Oppiter Fa**	**48.92**	**83**	P	**P**		**19 56 50.7**	**-0.5**
	baz=49,SNR=17								
L35A	**Bielow Farm, R**	**49.08**	**71**	P	**P**		**19 56 50.7**	**-1.4**
	baz=49,SNR=8.3								
S30A	**Montezuma**	**49.09**	**79**	P	**P**		**19 56 52.0**	**-0.4**
	baz=49,SNR=38								
O33A	**Hebron**	**49.20**	**75**	P	**P**		**19 56 52.0**	**-1.1**
	baz=49,SNR=29								
SPA0	**Spitsbergen Ar**	**49.21**	**358**	*e*P	**P**		**19 56 53.1**	**+0.3**
SPITS	**Spitsbergen Ar**	**49.21**	**358**	P	**P**		**19 56 53.7**	**+0.9**
	comp=Z,3.1nm,0.5s,baz=61,slow=6.8,SNR=9.6								
SPITS	comp=Z,12nm,0.6s,baz=96,slow=5.1,SNR=7.5			PcP	**PcP**		**19 58 16.1**	**+0.8**	
SPITS	comp=Z,6µm,19.0s,baz=0.0,slow=37			LR	LR		20 18 17.1		
R31A	**Burdett**	**49.22**

S32A	**Newby Ranch, P**	**49.95**	**78**	P	**P**	**19 56 57.9**	**-1.0**
	baz=50						
TLY	**Talaya**	**49.96**	**306**	LR	LR	20 20 36.4	
	comp=Z,6µm,18.4s,baz=42,slow=39						
TLY	**Talaya**	**49.96**	**306**	*d* P	**P**	**19 56 58.0**	**-0.8**
TLY				*e*		19 58 18.8	
TLY				*e*		19 58 59.2	
TLY				*e*S	**S**	**20 04 08.0**	**+1.5**
TLY				pmax	pmax		
	comp=Z,28nm,0.9s						
TLY				MLR	MLR		
	comp=Z,6µm,18.0s						
TLY	**Talaya**	**49.96**	**306**	P	**P**	**19 57 00.4**	**+1.6**
	comp=Z,158nm,1.1s,SNR=7.3						
TLY	**Talaya**	**49.96**	**306**	*e*P	**P**	**19 56 58.6**	**-0.2**
	comp=Z,31nm,1.0s						
P34A	**Walnut Farm, R**	**49.98**	**75**	P	**P**	**19 56 58.1**	**-1.0**
	baz=50,SNR=10						
O35A	**Humboldt**	**50.05**	**73**	P	**P**	**19 56 58.2**	**-1.4**
	baz=50,SNR=7.4						
W29A	**Amraillo**	**50.06**	**82**	P	**P**	**19 56 59.4**	**-0.5**
	baz=50						
R33A	**Olander Ranch,**	**50.12**	**77**	P	**P**	**19 56 59.4**	**-0.8**
	baz=50,SNR=23						
X28A	**Dimmitt**	**50.14**	**83**	P	**P**	**19 56 59.8**	**-0.7**
	baz=50						
CPRX	**Cap Rock**	**50.15**	**86**	*e*P	**P**	**19 57 00.2**	**-0.5**
	comp=Z,35nm,1.0s						
MSTX	**Muleshoe**	**50.17**	**84**	P	**P**	**19 57 00.3**	**-0.4**
	baz=50,SNR=92						
MSTX	**Muleshoe**	**50.17**	**84**	*e*P	**P**	**19 57 00.3**	**-0.4**
	comp=Z,161nm,1.0s						
V30A	**Spur Ranch, Mi**	**50.20**	**81**	P	**P**	**19 57 00.3**	**-0.6**
	baz=50,SNR=30						
ILULI	**Ilulissat**	**50.28**	**24**⇑	*i* P	**P**	**19 57 04.0**	**+3.1**
U31A	**Nine Bar Ranch**	**50.30**	**80**	P	**P**	**19 57 01.2**	**-0.4**
	baz=50,SNR=30						
T32A	**Huddler Ranch,**	**50.31**	**78**	P	**P**	**19 57 00.8**	**-0.9**
	baz=50,SNR=25						
Q34A	**Chapman**	**50.33**	**75**	P	**P**	**19 57 00.9**	**-0.8**
	baz=50,SNR=12						
HSPB	**Hornsund (broa**	**50.41**	**358**	*e*P	**P**	**19 57 03.1**	**+1.4**
P35A	**Duane Minner,**	**50.47**	**74**	P	**P**	**19 57 01.7**	**-1.1**
	baz=50,SNR=35						
X29A	**Tulia**	**50.49**	**83**	P	**P**	**19 57 02.4**	**-0.7**
	baz=50,SNR=13						
BJI	**Beijing**	**50.51**	**287**	P	**P**	**19 57 01.9**	**-1.1**
BJI				PP	**PP**	**19 59 02.8**	**+4.1**
BJI				S	**S**	**20 04 13.5**	**-0.9**
BJI				sS	**sS**	**20 04 30.3**	**-1.5**
BJI				PMZ			
	comp=Z,10.0nm,0.9s						
BJI				PMZ			
	comp=Z,1µm,10.6s						
BJI				LN			
	comp=Z,9µm,19.8s						
BJI				LE			
	comp=Z,5µm,16.5s						
BJI				LZ			
	comp=Z,6µm,25.6s						
BJT	**Baijiatuau**	**50.53**	**287**	PFAKE		19 57 10.0	+6.8
BJT				LR	LR		
	comp=Z,8µm,20.0s						
Y28A	**McKinney Farm,**	**50.53**	**84**	P	**P**	**19 57 02.8**	**-0.6**
	baz=50,SNR=61						
SCIA	**State Center**	**50.54**	**70**	*e*P	**P**	**19 57 03.1**	**-0.2**
	comp=Z,225nm,1.1s						
R34A	**Isabella, Hill**	**50.56**	**76**	P	**P**	**19 57 02.5**	**-0.9**
	baz=50,SNR=50						
S33A	**Kaszmaul Farm,**	**50.58**	**77**	P	**P**	**19 57 02.8**	**-0.9**
	baz=50,SNR=41						
HOPEN	**Hopen**	**50.60**	**356**	*e*P	**P**	**19 57 03.9**	**+0.6**
W30A	**Crocket Farms**	**50.66**	**81**	P	**P**	**19 57 04.2**	**-0.2**
	baz=50,SNR=8.5						
O36A	**Bolckow**	**50.69**	**73**	P	**P**	**19 57 03.3**	**-1.1**
	baz=50,SNR=22						
V31A	**Spring Creek L**	**50.70**	**80**	P	**P**	**19 57 04.4**	**-0.2**
	baz=50,SNR=34						
T33A	**Patterson Ranc**	**50.78**	**78**	P	**P**	**19 57 04.0**	**-1.1**
	baz=51,SNR=7.6						
U32A	**Winter Ranch,**	**50.80**	**79**	P	**P**	**19 57 04.6**	**-0.7**
	baz=51,SNR=17						
Z28A	**Tucker Farm, M**	**50.87**	**85**	P	**P**	**19 57 05.1**	**-0.9**
	baz=51,SNR=49						
P36A	**Good Intent, A**	**50.88**	**74**	P	**P**	**19 57 04.5**	**-1.4**
	baz=51,SNR=19						
Q35A	**Mercer Eighty,**	**50.90**	**75**	P	**P**	**19 57 04.3**	**-1.7**
	baz=51,SNR=12						
Y29A	**Porterfield Fa**	**50.91**	**83**	P	**P**	**19 57 05.8**	**-0.5**
	baz=51,SNR=20						
ZAK	**Zakamensk**	**50.94**	**305**	*e*P	**P**	**19 57 06.2**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,11nm,1.5s						
SONM	**Songino Array**	**50.95**	**300**	P	**P**	**19 57 07.0**	**+0.6**
	comp=Z,3.4nm,0.5s,baz=52,slow=6.7,SNR=22						
SONM				PcP	**PcP**	**19 58 22.7**	**+0.4**
	comp=Z,24nm,0.6s,baz=63,slow=2.5,SNR=15						
SONM				ScP	**ScP**	**20 02 18.0**	**+2.5**
	comp=Z,5.7nm,1.0s,baz=64,slow=3.1,SNR=5.1						
SONM				LR	LR	20 21 46.3	
	comp=Z,8µm,18.2s,baz=56,slow=40						
SONM	**Songino Array**	**50.95**	**300**	P	**SKiKP**	**20 08 37.2**	**+2.6**
	comp=Z,1.3nm,0.7s,baz=65,slow=3.1,SNR=5.0						
X30A	**Coker Ranch, T**	**50.99**	**82**	P	**P**	**19 57 06.3**	**-0.5**
	baz=51,SNR=34						
S34A	**Willow Spring**	**51.03**	**77**	P	**P**	**19 57 05.7**	**-1.4**
	baz=51,SNR=18						
W31A	**Holland Ranch,**	**51.04**	**81**	P	**P**	**19 57 06.6**	**-0.6**
	baz=51,SNR=32						
R35A	**Emporia Munici**	**51.16**	**75**	P	**P**	**19 57 06.9**	**-1.1**
	baz=51,SNR=10						
Q36A	**Arnold C. Orve**	**51.17**	**74**	P	**P**	**19 57 06.7**	**-1.3**
	baz=51,SNR=8.6						
V32A	**Arapaho**	**51.22**	**80**	P	**P**	**19 57 08.2**	**-0.3**
	baz=51,SNR=8.4						
MOY	**Mondy**	**51.26**	**307**	*e*P	**P**	**19 57 10.3**	**+1.6**
MOY				pmax	pmax		
	comp=Z,49nm,1.4s						
128A	**Castleberry Fa**	**51.27**	**85**	P	**P**	**19 57 08.8**	**-0.2**
	baz=51,SNR=133						
U33A	**Lingo Farm, Me**	**51.29**	**79**	P	**P**	**19 57 07.9**	**-1.1**
	baz=51,SNR=18						
Z29A	**Hungry Hill Ra**	**51.30**	**84**	P	**P**	**19 57 09.0**	**-0.2**
	baz=51,SNR=72						
Y30A	**Stafford Catti**	**51.36**	**83**	P	**P**	**19 57 09.1**	**-0.5**
	baz=51,SNR=15						
X31A	**McDonald Ranch**	**51.40**	**82**	P	**P**	**19 57 09.5**	**-0.4**
	baz=51,SNR=5.9						
T34A	**McClaskey Farm**	**51.44**	**77**	P	**P**	**19 57 08.9**	**-1.3**
	baz=51,SNR=78						
W32A	**Sentinel**	**51.50**	**81**	P	**P**	**19 57 10.8**	**+0.2**
	baz=51,SNR=38						
S35A	**Otter Creek Ra**	**51.51**	**76**	P	**P**	**19 57 09.6**	**-1.0**
	baz=51,SNR=64						
228A	**UT Block 9, Go**	**51.56**	**86**	P	**P**	**19 57 10.9**	**-0.3**
	baz=51,SNR=22						
R36A	**Gordon, Harris**	**51.56**	**75**	P	**P**	**19 57 09.7**	**-1.3**
	baz=51,SNR=50						
JFWS	**Jewell Farm**	**51.57**	**67**	*e*P	**P**	**19 57 09.9**	**-1.1**
JFWS				pmax	pmax		
	comp=Z,157nm,1.0s						
JFWS				MLR	MLR		
	comp=Z,7µm,20.0s						
JFWS	**Jewell Farm**	**51.57**	**67**	*e*P	**P**	**19 57 09.9**	**-1.1**
	comp=Z,157nm,1.0s						
JFWS				LR	LR		
	comp=Z,7µm,20.0s						
V33A	**Lossen Ranch,**	**51.60**	**79**	P	**P**	**19 57 10.3**	**-1.1**
	baz=51,SNR=20						
U34A	**Anderson Ranch**	**51.63**	**78**	P	**P**	**19 57 10.8**	**-0.7**
	baz=52,SNR=32						
U34A	**Anderson Ranch**	**51.63**	**78**	*e*P	**P**	**19 57 10.4**	**-1.1**
	comp=Z,252nm,0.9s						
Z30A	**Sanderson Ranc**	**51.63**	**84**	P	**P**	**19 57 11.1**	**-0.6**
	baz=52,SNR=95						
129A	**Stewart Farms,**	**51.64**	**85**	P	**P**	**19 57 11.1**	**-0.7**
	baz=52,SNR=35						
Y31A	**Rekieta Farm,**	**51.69**	**82**	P	**P**	**19 57 11.2**	**-0.9**
	baz=52,SNR=12						
Q37A	**Longview Farm,**	**51.81**	**74**	P	**P**	**19 57 11.1**	**-1.7**
	baz=52,SNR=12						
S36A	**Lake Cedric, C**	**51.91**	**76**	P	**P**	**19 57 12.5**	**-1.2**
	baz=52,SNR=26						
T35A	**Sooner Cattle**	**51.91**	**77**	P	**P**	**19 57 12.4**	**-1.3**
	baz=52,SNR=36						
W33A	**Caddo, Fort Co**	**51.95**	**80**	P	**P**	**19 57 14.1**	**+0.2**
	baz=52,SNR=18						
X32A	**Elmer**	**51.96**	**81**	P	**P**	**19 57 13.1**	**-0.9**
	baz=52,SNR=56						
R37A	**Teagarden Farm**	**51.97**	**75**	P	**P**	**19 57 12.4**	**-1.6**
	baz=52,SNR=18						
SFJD	**Kangerlussuaq**	**52.03**	**26**	*i* P	**P**	**19 57 14.6**	**+0.6**
SFJD	**Kangerlussuaq**	**52.03**	**26**	*e*P	**P**	**19 57 14.6**	**+0.6**
WMOK	**Wichita Mounta**	**52.04**	**81**	*e*P	**P**	**19 57 14.2**	**-0.5**
WMOK				pmax	pmax		
	comp=Z,143nm,0.9s						
WMOK	**Wichita Mounta**	**52.04**	**81**	*e*P	**P**	**19 57 14.2**	**-0.5**
	comp=Z,143nm,0.9s						
V34A	**Guthrie**	**52.05**	**79**	P	**P**	**19 57 13.7**	**-1.0**
	baz=52,SNR=46						
V34A	**Guthrie**	**52.05**	**79**	*e*P	**P**	**19 57 13.7**	**-1.0**
	comp=Z,177nm,0.9s						
229A	**Bryant Ranch,**	**52.14**	**85**	P	**P**	**19 57 14.9**	**-0.6**
	baz=52,SNR=11						
Y32A	**R-V Farms, Ver**	**52.15**	**82**	P	**P**	**19 57 14.9**	**-0.6**
	baz=52,SNR=34						
U35A	**Pawnee**	**52.15**	**78**	P	**P**	**19 57 14.6**	**-0.9**
	baz=52,SNR=37						
T36A	**Boggs Farm, Ca**	**52.19**	**76**	P	**P**	**19 57 14.6**	**-1.1**
	baz=52,SNR=26						
KRAR	**Krasnoyarsk**	**52.20**	**315**⇑	*e*P	**P**	**19 57 14.9**	**-0.5**
KRAR				pmax	pmax		
	comp=Z,18nm,1.2s						
Z31A	**Sharp Cattle R**	**52.20**	**83**	P	**P**	**19 57 15.0**	**-0.8**
	baz=52,SNR=62						
130A	**Snyder**	**52.21**	**84**	P	**P**	**19 57 15.4**	**-0.6**
	baz=52,SNR=24						
W34A	**Bridge Creek,**	**52.31**	**79**	P	**P**	**19 57 16.1**	**-0.5**
	baz=52,SNR=23						
W34A	**Bridge Creek,**	**52.31**	**79**	*e*P	**P**	**19 57 16.1**	**-0.5**
	comp=Z,94nm,0.8s						
S37A	**Fort Scott**	**52.34**	**75**	P	**P**	**19 57 15.3**	**-1.4**
	baz=52,SNR=93						
X33A	**Lawton**	**52.35**	**81**	P	**P**	**19 57 16.5**	**-0.4**
	baz=52,SNR=15						
329A	**Wagon Wheel Ra**	**52.37**	**86**	P	**P**	**19 57 16.9**	**-0.3**
	baz=52						
JOW	**Kunigami**	**52.38**	**266**	*e*P	**P**	**19 57 16.5**	**-0.7**
	comp=Z,62nm,1.0s						
V35A	**Meyer Ranch, C**	**52.50**	**78**	P	**P**	**19 57 17.3**	**-0.7**
	baz=52,SNR=27						
131A	**Roby**	**52.50**	**84**	P	**P**	**19 57 17.7**	**-0.5**
	baz=52,SNR=50						
TIA	**Tai'an**	**52.50**	**283**	⇓P	**P**	**19 57 16.9**	**-1.1**
TIA				PMZ			
	comp=Z,20nm,1.4s						
TIA				PMZ			
	comp=Z,1µm,9.2s						
TIA				LN			
	comp=Z,5µm,19.6s						
TIA				LE			
	comp=Z,4µm,19.0s						
TIA				LZ			
	comp=Z,6µm,19.0s						
Z32A	**Haskell**	**52.61**	**82**	P	**P**	**19 57 18.2**	**-0.7**
	baz=52,SNR=102						
230A	**Sterling City**	**52.62**	**85**	P	**P**	**19 57 18.4**	**-0.6**
	baz=52,SNR=15						
HHC	**Hu-ho-hao-te**	**52.63**	**291**	*e*P	**P**	**19 57 18.4**	**-0.6**
HHC				sP	**sP**	**19 57 34.8**	**+0.9**
HHC				PP	PP	19 59 23.3	+5.3
HHC				PcS	**PcS**	**20 02 25.8**	**-1.5**
HHC				S	**S**	**20 04 42.6**	**-1.2**
HHC				sS	**sS**	**20 05 02.4**	**+1.0**
HHC				PMZ			
	comp=Z,21nm,1.6s						
HHC				PMZ			
	comp=Z,1µm,9.9s						
HHC				LN			
	comp=Z,7µm,18.5s						
HHC				LE			
	comp=Z,7µm,22.2s						
HHC				LZ			
	comp=Z,7µm,18.5s						
Y33A	**Hilltop Ranch,**	**52.64**	**81**	P	**P**	**19 57 18.3**	**-0.7**
	baz=52,SNR=25						
X34A	**Smith Ranch, M**	**52.70**	**80**	P	**P**	**19 57 19.5**	**0.0**
	baz=52,SNR=24						
T37A	**Cheneyville 18**	**52.72**	**76**	P	**P**	**19 57 17.8**	**-1.8**
	baz=52,SNR=70						
U36A	**Oologah**	**52.73**	**77**	P	**P**	**19 57 18.4**	**-1.2**
	baz=52						
BJO	**Bjornoya**	**52.82**	**357**	*e*P	**P**	**19 57 21.8**	**+2.0**
TXAR	**Lajitas Array**	**52.88**	**89**	P	**P**	**19 57 20.9**	**-0.2**
	comp=Z,128nm,0.8s,baz=299,slow=4.7,SNR=296						
TXAR				LR	LR	20 18 54.4	
	comp=Z,2µm,18.1s,baz=0.0,slow=35						
W35A	**Tecumseh**	**52.90**	**79**	P	**P**	**19 57 20.3**	**-0.7**
	baz=53,SNR=42						
330A	**Mertzon**	**52.92**	**85**	P	**P**	**19 57 20.4**	**-0.8**
	baz=53,SNR=49						
ABTX	**Abilene, Hawle**	**52.99**	**83**	P	**P**	**19 57 21.1**	**-0.6**
	baz=53,SNR=83						
ABTX	**Abilene, Hawle**	**52.99**	**83**	*e*P	**P**	**19 57 21.9**	**+0.2**
	comp=Z,310nm,1.1s						
V36A	**Jenks**	**53.02**	**78**	P	**P**	**19 57 20.7**	**-1.1**
	baz=53,SNR=20						
TUL1	**Tulsa**	**53.02**	**77**	P	**P**	**19 57 20.8**	**-1.1**
	baz=53,SNR=24						
TUL1	**Tulsa**	**53.02**	**77**	*e*P	**P**	**19 57 21.3**	**-0.6**
	comp=Z,92nm,0.9s						
429A	**Davenport Ranc**	**53.03**	**87**	P	**P**	**19 57 21.5**	**-0.6**
	baz=53,SNR=98						
Z33A	**Whitaker Ranch**	**53.05**	**82**	P	**P**	**19 57 21.3**	**-0.9**
	baz=53,SNR=51						
231A	**Bronte**	**53.06**	**84**	P	**P**	**19 57 21.0**	**-1.3**
	baz=53,SNR=23						
U37A	**Salina**	**53.09**	**76**	P	**P**	**19 57 20.9**	**-1.4**
	baz=53,SNR=41						
529A	**Stev Forest Ra**	**53.19**	**87**	P	**P**	**19 57 23.0**	**-0.2**
	baz=53,SNR=5.4						
Y34A	**Reagan Ranch,**	**53.19**	**81**	P	**P**	**19 57 22.8**	**-0.4**
	baz=53,SNR=83						
GUMO	**Guam**	**53.21**	**240**	P	**P**	**19 57 20.7**	**-2.7**
	comp=Z,68nm,0.5s,baz=339,slow=1.4,SNR=9.5						
GUMO				LR	LR	20 16 15.8	
	comp=Z,3µm,21.7s,baz=54,slow=32						
SLBS	**Sierra La Lagu**	**53.23**	**99**	*e*P	**P**	**19 57 23.5**	**-0.2**
	comp=Z,141nm,1.0s						
W36A	**Wetumka**	**53.29**	**78**	P	**P**	**19 57 23.3**	**-0.6**
	baz=53,SNR=32						
430A	**Baggett Ranch,**	**53.32**	**86**	P	**P**	**19 57 23.7**	**-0.5**
	baz=53,SNR=109						
X35A	**Drake**	**53.36**	**80**	P	**P**	**19 57 23.6**	**-0.8**
	baz=53,SNR=45						
GLMI	**Grayling**	**53.41**	**62**	*e*P	**P**	**19 57 24.7**	**+0.2**
	comp=Z,503nm,1.1s						
GLMI				LR	LR		
	comp=Z,12µm,20.0s						
V37A	**Hulbert**	**53.43**	**77**	P	**P**	**19 57 23.6**	**-1.2**
	baz=53,SNR=20						
133A	**Hamilton Ranch**	**53.44**	**83**	P	**P**	**19 57 24.8**	**-0.2**
	baz=53,SNR=124						
331A	**San Angelo**	**53.44**	**85**	P	**P**	**19 57 24.4**	**-0.7**
	baz=53,SNR=71						
U38A	**Gravette**	**53.49**	**76**	P	**P**	**19 57 23.8**	**-1.6**
	baz=53,SNR=46						
232A	**Coleman**	**53.50**	**84**	P	**P**	**19 57 24.7**	**-0.8**
	baz=53,SNR=47						
Z34A	**Collier Ranch,**	**53.51**	**81**	P	**P**	**19 57 24.8**	**-0.6**
	baz=53,SNR=30						
X36A	**Centrahoma**	**53.61**	**79**	P	**P**	**19 57 25.9**	**-0.3**
	baz=53,SNR=24						
SSE	**Sheshan**	**53.62**	**275**	P	**P**	**19 57 24.0**	**-2.2**
SSE				S	**S**	**20 04 54.4**	**-2.7**
SSE				sS	**sS**	**20 05 14.4**	**-0.3**
SSE				PMZ			
	comp=Z,42nm,0.7s						
SSE				PMZ			
	comp=Z,1µm,12.0s						
SSE				LN			
	comp=Z,5µm,25.4s						
SSE				LE			
	comp=Z,4µm,25.4s						
SSE				LZ			
	comp=Z,6µm,25.9s						
HDIL	**Hopedale**	**53.66**	**69**	P	**P**	**19 57 25.3**	**-1.2**
	baz=54,SNR=43						
HDIL	**Hopedale**	**53.66**	**69**	*e*P	**P**	**19 57 25.2**	**-1.2**
	comp=Z,290nm,1.0s						
HDIL				LR	LR		
	comp=Z,5µm,22.0s						
Y35A	**Marietta**	**53.66**	**80**	P	**P**	**19 57 26.5**	**0.0**
	baz=54,SNR=81						
BTO	**Baotou**	**53.67**	**291**	*e*P	**P**	**19 57 25.6**	**-1.1**
530A	**J-C Ranch, Com**	**53.71**	**87**	P	**P**	**19 57 26.6**	**-0.5**
	baz=54,SNR=205						
W37A	**Quinton**	**53.77**	**78**	P	**P**	**19 57 26.7**	**-0.6**
	baz=54,SNR=52						
431A	**Sonora**	**53.77**	**86**	P	**P**	**19 57 26.7**	**-0.8**
	baz=54,SNR=117						
332A	**Millersview**	**53.80**	**84**	P	**P**	**19 57 27.0**	**-0.7**
	baz=54,SNR=72						
233A	**Rising Star**	**53.86**	**83**	P	**P**	**19 57 27.8**	**-0.3**
	baz=54,SNR=87						
V38A	**Canehill**	**53.87**	**76**	P	**P**	**19 57 26.7**	**-1.4**
	baz=54,SNR=57						
Z35A	**Perchaven, San**	**53.93**	**81**	P	**P**	**19 57 28.1**	**-0.5**
	baz=54,SNR=9.8						
134A	**White-Moore Ra**	**53.97**	**82**	P	**P**	**19 57 28.6**	**-0.2**
	baz=54,SNR=76						
Y36A	**Durant**	**54.12**	**80**	P	**P**	**19 57 29.3**	**-0.5**
	baz=54						
432A	**Menard**	**54.13**	**85**	P	**P**	**19 57 29.2**	**-0.9**
	baz=54,SNR=42						
531A	**Rocksprings**	**54.18**	**86**	P	**P**	**19 57 30.0**	**-0.5**
	baz=54,SNR=74						
X37A	**Clayton**	**54.18**	**78**	P	**P**	**19 57 29.8**	**-0.6**
	baz=54,SNR=61						
TIY	**Taiyuan**	**54.23**	**287**	*e*P	**P**	**19 57 33.4**	**+2.6**
TIY				S	**S**	**20 05 07.1**	**+1.5**
TIY				PMZ			
	comp=Z,890nm,7.9s						
TIY				LN			
	comp=Z,7µm,16.0s						
TIY				LE			
	comp=Z,2µm,15.1s						
TIY				LZ			
	comp=Z,6µm,18.5s						
333A	**Richland Sprin**	**54.30**	**84**	P	**P**	**19 57 30.6**	**-0.7**
	baz=54,SNR=130						
234A	**Clairette**	**54.33**	**83**	P	**P**	**19 57 31.2**	**-0.3**
	baz=54,SNR=63						
NJ2	**Nanjing**	**54.35**	**278**	*e*P	**P**	**19 57 31.5**	**-0.1**
NJ2				pP	**pP**	**19 57 45.5**	**+3.2**
NJ2				sP	**sP**	**19 57 48.6**	**+2.1**
NJ2				PP	**PP**	**19 59 34.0**	**+0.5**
NJ2				S	**S**	**20 05 06.0**	**-1.0**
NJ2				sS	**sS**	**20 05 24.0**	**-0.6**
NJ2				SS	**SS**	**20 08 48.0**	**-1.0**
NJ2				PMZ			
	comp=Z,50nm,0.5s						
NJ2				PMZ			
	comp=Z,2µm,10.0s						
NJ2				LN			
	comp=Z,11µm,20.0s						
NJ2				LE			
	comp=Z,17µm,22.0s						
NJ2				LZ			
	comp=Z,58µm,24.0s						
W38A	**Poteau**	**54.35**	**77**	P	**P**	**19 57 31.1**	**-0.5**
	baz=54,SNR=57						
135A	**Vickery Place,**	**54.38**	**82**	P	**P**	**19 57 31.4**	**-0.5**
	baz=54,SNR=37						
JCT	**Junction City**	**54.40**	**85**	*e*P	**P**	**19 57 31.2**	**-0.9**
JCT				pmax	pmax		
	comp=Z,136nm,0.9s						
JCT				MLR	MLR		
	comp=Z,4µm,19.0s						
JCT	**Junction City**	**54.40**	**85**	P	**P**	**19 57 31.1**	**-1.0**
	baz=54,SNR=45						
JCT	**Junction City**	**54.40**	**85**	*e*P	**P**	**19 57 31.2**	**-0.9**
	comp=Z,136nm,0.9s						
JCT				LR	LR		
	comp=Z,4µm,19.0s						
SLM	**Saint Louis**	**54.41**	**71**	*e*P	**P**	**19 57 31.0**	**-1.0**
SLM				pmax	pmax		
	comp=Z,145nm,1.0s						
SLM	**Saint Louis**	**54.41**	**71**	*e*P	**P**	**19 57 31.0**	**-1.0**
	comp=Z,145nm,1.0s						
X38A	**Whitesboro**	**54.45**	**78**	P	**P**	**19 57 31.7**	**-0.6**
	baz=54,SNR=30						
Y37A	**Hugo**	**54.45**	**79**	P	**P**	**19 57 31.7**	**-0.7**
	baz=54,SNR=29						
Z36A	**Blue Ridge**	**54.46**	**80**	P	**P**	**19 57 31.7**	**-0.8**
	baz=54,SNR=32						
532A	**Rocksprings**	**54.59**	**85**	P	**P**	**19 57 32.5**	**-1.0**
	baz=54,SNR=46						
433A	**Art**	**54.64**	**84**	P	**P**	**19 57 32.9**	**-0.9**
	baz=54,SNR=88						
631A	**Perdido Creek**	**54.70**	**87**	P	**P**	**19 57 32.7**	**-1.5**
	baz=54,SNR=16						
334A	**Lometa**	**54.74**	**83**	P	**P**	**19 57 34.3**	**-0.2**
	baz=55,SNR=149						
WHTX	**Lake Whitney**	**54.75**	**82**	P	**P**	**19 57 34.4**	**-0.1**
	baz=55,SNR=86						
WHTX	**Lake Whitney**	**54.75**	**82**	*e*P	**P**	**19 57 34.3**	**-0.1**
	comp=Z,314nm,1.0s						
136A	**Ennis**	**54.96**	**81**	P	**P**	**19 57 36.0**	**-0.1**
	baz=55,SNR=12						
Z37A	**Pogue Cattle C**	**55.00**	**80**	P	**P**	**19 57 35.7**	**-0.6**
	baz=55,SNR=15						
SFIN	**Scholer Farm**	**55.01**	**68**	P	**P**	**19 57 35.5**	**-0.8**
	baz=55,SNR=56						
SFIN	**Scholer Farm**	**55.01**	**68**	*e*P	**P**	**19 57 35.3**	**-1.0**
	comp=Z,234nm,0.9s						
Y38A	**Idabel**	**55.02**	**78**	P	**P**	**19 57 35.3**	**-1.2**
	baz=55						
HVS	**Khovu-Aksy**	**55.07**	**310**⇓	*e*P	**P**	**19 57 37.8**	**+1.1**
HVS				pmax	pmax		
	comp=Z,24nm,0.8s						
HVS				MLR	MLR		
	comp=Z,13µm,17.0s						
434A	**Burnet**	**55.09**	**84**	P	**P**	**19 57 36.9**	**-0.2**
	baz=55,SNR=176						
632A	**Uvalde**	**55.11**	**86**	P	**P**	**19 57 36.3**	**-0.8**
	baz=55,SNR=63						
533A	**Kerrville**	**55.16**	**85**	P	**P**	**19 57 36.7**	**-0.9**
	baz=55,SNR=32						
SCHQ	**Schefferville**	**55.20**	**43**	P	**P**	**19 57 38.0**	**+0.5**
	comp=Z,28nm,0.9s,baz=314,slow=8.9,SNR=15						
SCHQ				LR	LR	20 24 06.1	
	comp=Z,10µm,19.6s,baz=321,slow=39						
SCHQ	**Schefferville**	**55.20**	**43**	*e*P	**P**	**19 57 36.8**	**-0.7**
	comp=Z,36nm,1.0s						
335A	**Moody**	**55.27**	**83**	P	**P**	**19 57 38.0**	**-0.3**
	baz=55,SNR=25						
MIAR	**Mount Ida**	**55.28**	**77**	*e*P	**P**	**19 57 37.4**	**-0.9**
MIAR				pmax	pmax		
	comp=Z,144nm,1.0s						
MIAR	**Mount Ida**	**55.28**	**77**	P	**P**	**19 57 37.5**	**-0.8**
	baz=55,SNR=70						
MIAR	**Mount Ida**	**55.28**	**77**	*e*P	**P**	**19 57 37.4**	**-0.9**
	comp=Z,144nm,1.0s						
236A	**Katherine and**	**55.30**	**81**	P	**P**	**19 57 38.4**	**-0.1**
	baz=55,SNR=26						
137A	**Heron Place, G**	**55.34**	**80**	P	**P**	**19 57 38.3**	**-0.5**
	baz=55,SNR=6.5						
**Z38

Z39A	**Irene McRaven,**	**55.83**	**79**	P		**P**		**19 57 41.6**	**-0.7**
	baz=56,SNR=9.0									
UALR	**University of**	**55.84**	**76**	*e*P		**P**		**19 57 41.0**	**-1.4**
	comp=Z,49nm,1.1s									
832A	**Faith Ranch, C**	**55.88**	**87**	P		**P**		**19 57 42.2**	**-0.5**
	baz=56,SNR=99									
733A	**Divot King Ran**	**55.97**	**86**	P		**P**		**19 57 43.2**	**-0.2**
	baz=56,SNR=34									
436A	**Wall Ranch, Ga**	**56.01**	**83**	P		**P**		**19 57 43.7**	**+0.1**
	baz=56,SNR=17									
PARMO	**Parma**	**56.04**	**73**	*e*P		**P**		**19 57 42.0**	**-1.7**
634A	**China Grove, S**	**56.07**	**85**	P		**P**		**19 57 43.6**	**-0.5**
	baz=56									
535A	**Dale**	**56.07**	**84**	P		**P**		**19 57 43.9**	**-0.1**
	baz=56,SNR=16									
139A	**Bunkhouse Ranc**	**56.10**	**79**	P		**P**		**19 57 43.7**	**-0.5**
	baz=56,SNR=18									
238A	**Jacksonville**	**56.14**	**80**	P		**P**		**19 57 44.5**	**0.0**
	baz=56,SNR=23									
BLO	**Bloomington**	**56.16**	**68**	*e*P		**P**		**19 57 43.7**	**-0.9**
BLO				pmax		pmax				
	comp=Z,140nm,0.9s									
BLO	**Bloomington**	**56.16**	**68**	*e*P		**P**		**19 57 43.7**	**-0.9**
	comp=Z,140nm,0.9s									
833A	**Chaparral WMA,**	**56.20**	**87**	P		**P**		**19 57 44.5**	**-0.5**
	baz=56,SNR=83									
HBAR	**Harrisburg**	**56.29**	**74**	*e*P		**P**		**19 57 44.4**	**-1.1**
734A	**La Parita Cree**	**56.33**	**86**	P		**P**		**19 57 45.7**	**-0.2**
	baz=56,SNR=17									
SADO	**Sadowa**	**56.33**	**59**	P		**P**		**19 57 45.8**	**0.0**
	comp=Z,126nm,0.8s,baz=325,slow=8.1,SNR=89									
USIN	**University of**	**56.34**	**70**	*e*P		**P**		**19 57 44.9**	**-1.0**
	comp=Z,402nm,1.1s									
536A	**Bastrop**	**56.34**	**83**	P		**P**		**19 57 46.0**	**0.0**
	baz=56									
437A	**Phantom Ranch,**	**56.36**	**82**	P		**P**		**19 57 46.2**	**+0.1**
	baz=56,SNR=8.2									
635A	**Leesville**	**56.41**	**84**	P		**P**		**19 57 46.4**	**-0.1**
	baz=56,SNR=26									
HAMF	**Hammerfest**	**56.47**	**355**	*e*P		**P**		**19 57 46.1**	**-0.2**
HAMF				*e*S		**S**		**20 05 35.7**	**+1.3**
338A	**Crockett**	**56.48**	**81**	P		**P**		**19 57 47.0**	**0.0**
	baz=56,SNR=8.9									
239A	**Gary**	**56.52**	**80**	P		**P**		**19 57 46.6**	**-0.6**
	baz=56,SNR=8.5									
GLAT	**Glass**	**56.59**	**73**	*e*P		**P**		**19 57 47.0**	**-0.6**
NATX	**Nacogdoches**	**56.59**	**80**	P		**P**		**19 57 47.3**	**-0.4**
	baz=56,SNR=13									
NATX	**Nacogdoches**	**56.59**	**80**	*e*P		**P**		**19 57 48.4**	**+0.7**
	comp=Z,292nm,1.3s									
735A	**Kenedy**	**56.77**	**85**	P		**P**		**19 57 49.4**	**+0.3**
	baz=57,SNR=13									
636A	**Smothers Creek**	**56.78**	**84**	P		**P**		**19 57 49.6**	**+0.5**
	baz=57,SNR=15									
933A	**Laredo**	**56.79**	**87**	P		**P**		**19 57 49.5**	**+0.4**
	baz=57,SNR=35									
537A	**Green Hill Far**	**56.79**	**83**	P		**P**		**19 57 49.3**	**+0.1**
	baz=57,SNR=9.8									
HALT	**Halls**	**56.81**	**73**	*e*P		**P**		**19 57 48.5**	**-0.7**
438A	**Sam Houston St**	**56.82**	**82**	P		**P**		**19 57 49.9**	**+0.6**
	baz=57,SNR=39									
834A	**Tilden**	**56.85**	**86**	P		**P**		**19 57 50.2**	**+0.6**
	baz=57,SNR=20									
339A	**Huntington**	**56.95**	**80**	P		**P**		**19 57 50.2**	**-0.1**
	baz=57									
ZAB1	**Zalesovo Array**	**56.98**	**317**	⇓P		P		19 57 54.0	+3.9
	baz=57									
NVS	**Novosibirsk**	**56.99**	**319**	*e*P		**P**		**19 57 48.7**	**-1.5**
NVS				*i*				19 58 44.8		
NVS				*e*				20 05 42.0		
NVS				pmax		pmax				
	comp=Z,16nm,0.9s									
NVS				pmax		pmax				
	comp=N,5.0nm,0.8s									
NVS				pmax		pmax				
	comp=E,5.0nm,0.7s									
ZAA0	**Zalesovo Array**	**56.99**	**317**	*e*P		**P**		**19 57 49.7**	**-0.6**
ZALV	**Zalesovo Beam**	**56.99**	**317**	P		**P**		**19 57 49.4**	**-0.9**
	comp=E,2.6nm,0.5s,baz=38,slow=6.3,SNR=9.6									
ZALV				ScP		**ScP**		**20 02 45.6**	**+3.9**
	comp=E,1.5nm,0.6s,baz=28,slow=6.5,SNR=3.9									
ZALV				LR		LR		20 24 02.1		
	comp=E,5μm,19.7s,baz=38,slow=38									
MET	**Memphis--Engin**	**57.01**	**74**	*e*P		**P**		**19 57 50.1**	**-0.6**
	comp=E,230nm,0.8s									
KEV	**Kevo**	**57.14**	**353**	PFAKE				19 58 00.0	+9.0
KEV				LR		LR				
	comp=Z,5μm,22.0s									
736A	**Circle Diamond**	**57.15**	**84**	P		**P**		**19 57 52.2**	**+0.5**
	baz=57,SNR=24									
835A	**Beeville**	**57.17**	**85**	P		**P**		**19 57 52.5**	**+0.6**
	baz=57,SNR=14									
HKT	**Hockley**	**57.18**	**83**	*e*P		**P**		**19 57 51.2**	**-0.6**
HKT				pmax		pmax				
	comp=Z,210nm,1.5s									
HKT	**Hockley**	**57.18**	**83**	*e*P		**P**		**19 57 51.2**	**-0.6**
	comp=Z,210nm,1.5s									
538A	**Harpers Horsep**	**57.19**	**82**	P		**P**		**19 57 52.8**	**+0.8**
	baz=57									
439A	**Center Grove,**	**57.21**	**81**	P		**P**		**19 57 52.2**	**0.0**
	baz=57,SNR=12									
637A	**Eagle Lake**	**57.24**	**83**	P		**P**		**19 57 52.3**	**-0.1**
	baz=57									
934A	**Benavides**	**57.25**	**87**	P		**P**		**19 57 52.9**	**+0.5**
	baz=57,SNR=36									
340A	**Bronson**	**57.29**	**80**	P		**P**		**19 57 52.1**	**-0.6**
	baz=57,SNR=29									
YOJ	**Yonaguni jima**	**57.32**	**268**	*e*P		**P**		**19 57 51.4**	**-1.6**
YOJ				pmax		pmax				
	comp=Z,70nm,1.0s									
YOJ	**Yonaguni jima**	**57.32**	**268**	*e*P		**P**		**19 57 51.4**	**-1.6**
	comp=Z,70nm,1.0s									
ACSO	**Alum Creek Sta**	**57.40**	**65**	*e*P		**P**		**19 57 52.7**	**-0.6**
	comp=Z,93nm,1.0s									
ACSO				LR		LR				
	comp=Z,5μm,19.0s									
ARCES	**ARCESS Array B**	**57.46**	**354**	P		**P**		**19 57 53.9**	**+0.6**
	comp=Z,3.2nm,0.6s,baz=25,slow=7.2,SNR=10									
ARCES				LR		LR		20 24 38.4		
	comp=Z,4μm,18.7s,baz=360,slow=38									
ARE0	**ARCESS Array S**	**57.46**	**354**	*e*P		**P**		**19 57 54.3**	**+1.0**
WVT	**Waverly**	**57.53**	**72**	*e*P		**P**		**19 57 52.8**	**-1.5**
WVT				pmax		pmax				
	comp=Z,91nm,1.1s									
WVT	**Waverly**	**57.53**	**72**	*e*P		**P**		**19 57 52.8**	**-1.5**
	comp=Z,91nm,1.1s									
034A	**Hebbronville**	**57.54**	**87**	P		**P**		**19 57 55.2**	**+0.6**
	baz=57,SNR=43									
737A	**Port Lavaca**	**57.67**	**84**	P		**P**		**19 57 56.1**	**+0.8**
	baz=58									
TRO	**Tromso**	**57.70**	**356**	*e*P		**P**		**19 57 53.6**	**-1.3**
TRO				*e*PP		**PP**		**20 00 02.9**	**+0.4**
TRO				*e*S		**S**		**20 05 52.6**	**+2.1**
TRO				IAMs_20		IAMs_20		20 21 34.5		
	comp=Z,5μm,20.7s									
539A	**Cross D Ranch,**	**57.73**	**82**	P		**P**		**19 57 56.2**	**+0.5**
	baz=58									
440A	**Kirbyville**	**57.73**	**81**	P		**P**		**19 57 55.8**	**0.0**
	baz=58,SNR=9.4									
OXF	**Oxford**	**57.75**	**74**	*e*P		**P**		**19 57 55.0**	**-0.8**
OXF				pmax		pmax				
	comp=Z,342nm,0.9s									
OXF	**Oxford**	**57.75**	**74**	*e*P		**P**		**19 57 55.0**	**-0.8**
	comp=Z,342nm,0.9s									
035A	**Encino**	**57.99**	**87**	P		**P**		**19 57 57.8**	**+0.2**
	baz=58,SNR=23									
738A	**Farr-Stevens R**	**58.09**	**83**	P		**P**		**19 57 58.0**	**-0.3**
	baz=58									
540A	**Vidor**	**58.10**	**81**	P		**P**		**19 57 59.2**	**+0.8**
	baz=58									
936A	**North Padre Is**	**58.12**	**86**	P		**P**		**19 57 59.1**	**+0.6**
	baz=58									
WHN	**Wuhan**	**58.12**	**280**	⇓*i*P		**P**		**19 57 57.6**	**-0.9**
WHN				sP		**sP**		**19 58 12.0**	**-1.5**
WHN				S		**S**		**20 05 56.8**	**-0.3**
WHN				LN						
	comp=Z,5μm,15.3s									
WHN				LE						
	comp=Z,7μm,15.4s									
WHN				LZ						
	comp=Z,15μm,26.0s									
YHNB	**Yeheng**	**58.16**	**270**	*e*P		**P**		**19 57 58.1**	**-0.9**
	comp=Z,35nm,0.6s									
LVZ	**Lovozero**	**58.25**	**349**	*de*P		**P**		**19 57 58.2**	**-0.7**
LVZ				pmax		pmax				
	comp=Z,33nm,1.0s									
LVZ				MLR		MLR				
	comp=Z,5μm,18.0s									
LVZ	**Lovozero**	**58.25**	**349**	P		**P**		**19 57 59.9**	**+1.0**
	comp=Z,180nm,0.6s,SNR=7.2									
LVZ	**Lovozero**	**58.25**	**349**	*e*P		**P**		**19 57 57.7**	**-1.2**
	comp=Z,39nm,0.8s									
LVZ				LR		LR				
	comp=Z,5μm,20.0s									
035Z	**Hargill**	**58.36**	**87**	P		**P**		**19 58 00.3**	**0.0**
	baz=58,SNR=14									
MMNY	**Mt. Morris Dam**	**58.39**	**60**	*e*P		**P**		**19 58 00.4**	**+0.1**
	comp=Z,316nm,1.0s									
APA	**Apatity**	**58.70**	**350**	*e*P		**P**		**19 58 00.0**	**-2.0**
APA				*i*				20 00 16.0		
APA				*i* S		S		20 05 56.0	-7.7	
APA				pmax		pmax				
	comp=Z,32nm,1.4s									
APA				MLR		MLR				
	comp=Z,3μm,15.0s									
VBMS	**Vicksburg**	**58.73**	**77**	P		**P**		**19 58 01.8**	**-0.9**
	baz=58,SNR=6.2									
LONY	**Lake Ozonia**	**58.77**	**56**	*e*P		**P**		**19 58 02.0**	**-0.9**
	comp=Z,99nm,1.0s									
LONY				LR		LR				
	comp=Z,10μm,19.0s									
XAN	**Xi'an**	**58.84**	**286**	P		**P**		**19 58 01.8**	**-1.7**
XAN				pP		**pP**		**19 58 11.1**	**-3.2**
XAN				sP		**sP**		**19 58 15.0**	**-3.5**
XAN				S		S		20 06 13.0	+6.5
XAN				sS		**sS**		**20 06 27.3**	**+3.0**
XAN				SS		**SS**		**20 10 03.6**	**+4.0**
XAN				PMZ						
	comp=Z,290nm,10.1s									
XAN				LN						
	comp=Z,4μm,18.1s									
XAN				LE						
	comp=Z,620nm,21.7s									
XAN				LZ						
	comp=Z,2μm,20.6s									
SSLB	**Suanglung**	**59.07**	**269**	*e*P		**P**		**19 58 04.0**	**-1.2**
	comp=Z,174nm,0.9s									
YULB	**Yu-li**	**59.16**	**269**	*e*P		**P**		**19 58 04.2**	**-1.7**
	comp=Z,119nm,1.0s									
SWET	**Sewanee**	**59.26**	**71**	*e*P		**P**		**19 58 03.9**	**-2.6**
	comp=Z,39nm,1.0s									
LOF	**Lofoten**	**59.34**	**359**	*e*P		**P**		**19 58 06.0**	**-0.4**
NCB	**Newcomb**	**59.41**	**57**	*e*P		**P**		**19 58 05.7**	**-1.6**
	comp=Z,56nm,0.8s									
NCB				LR		LR				
	comp=Z,8μm,19.0s									
QZH	**Quanzhou**	**59.65**	**272**	⇓*i*P		**P**		**19 58 08.6**	**-0.6**
QZH				S		**S**		**20 06 19.0**	**+2.0**
QZH				PMZ						
	comp=Z,3μm,11.1s									
QZH				LN						
	comp=Z,3μm,15.3s									
QZH				LE						
	comp=Z,10μm,27.0s									
QZH				LZ						
	comp=Z,9μm,20.8s									
TZTN	**Tazewell**	**59.68**	**69**	*e*P		**P**		**19 58 08.3**	**-1.0**
	comp=Z,132nm,1.1s									
TWG	**Pinlang**	**59.72**	**268**	*e*P		**P**		**19 58 08.7**	**-1.1**
	comp=Z,269nm,1.0s									
SSPA	**Standing Stone**	**59.88**	**62**	*e*P		**P**		**19 58 10.0**	**-0.6**
	comp=Z,169nm,0.9s									
CPCT	**Cooper Cave**	**59.91**	**70**	*e*P		**P**		**19 58 08.8**	**-2.0**
ACCN	**Adirondack Com**	**60.11**	**57**	*e*P		**P**		**19 58 11.4**	**-0.8**
	comp=Z,104nm,1.1s									
GTA	**Gaotai**	**60.15**	**297**	*e*P		**P**		**19 58 12.0**	**-0.6**
GTA				S		**S**		**20 06 20.5**	**-3.0**
GTA				sS		**sS**		**20 06 42.3**	**+1.0**
GTA				SS		**SS**		**20 10 18.5**	**-1.7**
GTA				PMZ						
	comp=Z,900nm,9.0s									
GTA				LN						
	comp=Z,9μm,20.0s									
GTA				LE						
	comp=Z,7μm,18.8s									
GTA				LZ						
	comp=Z,10μm,20.7s									
LRAL	**Lakeview Retre**	**60.21**	**74**	*e*P		**P**		**19 58 10.9**	**-2.1**
	comp=Z,58nm,0.8s									
BORG	**Borgarnes**	**60.23**	**15**	*e*P		**P**		**19 58 13.7**	**+1.1**
BORG				pmax		pmax				
	comp=Z,123nm,1.6s									
BORG				MLR		MLR				
	comp=Z,6μm,20.0s									
BORG	**Borgarnes**	**60.23**	**15**	*e*P		**P**		**19 58 13.7**	**+1.1**
	comp=Z,123nm,1.6s									
BORG				LR		LR				
	comp=Z,6μm,20.0s									
LZH	**Lanzhou**	**60.29**	**291**	⇑P		**P**		**19 58 13.8**	**+0.1**
LZH				pP		**pP**		**19 58 26.0**	**+1.5**
LZH				sP		**sP**		**19 58 32.4**	**+3.7**
LZH				PcP		**PcP**		**19 58 59.3**	**+0.6**
LZH				PP		**PP**		**20 00 28.3**	**+1.8**
LZH				S		**S**		**20 06 29.3**	**+3.9**
LZH				sS		sS		20 06 48.5	+5.2
LZH				SS		**SS**		**20 10 19.4**	**-3.2**
LZH				PMZ						
	comp=Z,52nm,1.3s									
LZH				PMZ						
	comp=Z,580nm,4.8s									
LZH				LN						
	comp=Z,4μm,14.6s									
LZH				LE						
	comp=Z,6μm,15.0s									
LZH				LZ						
	comp=Z,7μm,15.7s									
KSPA	**Keystone Colle**	**60.34**	**60**	*e*P		**P**		**19 58 13.6**	**-0.2**
	comp=Z,118nm,1.0s									
PQI	**Presque Isle**	**60.50**	**51**	*e*P		**P**		**19 58 12.8**	**-1.9**
	comp=Z,82nm,1.2s									
HNH	**Hanover**	**60.58**	**56**	*e*P		**P**		**19 58 14.3**	**-1.0**
	comp=Z,35nm,0.9s									
TRY	**Troy**	**60.59**	**57**	*e*P		**P**		**19 58 14.8**	**-0.6**
	comp=Z,78nm,1.0s									
BLA	**Blacksburg**	**60.95**	**66**	*e*P		**P**		**19 58 17.5**	**-0.5**
BLA				pmax		pmax				
	comp=Z,256nm,0.9s									
BLA				MLR		MLR				
	comp=Z,5μm,20.0s									
BLA	**Blacksburg**	**60.95**	**66**	*e*P		**P**		**19 58 17.5**	**-0.5**
	comp=Z,256nm,0.9s									
BLA				LR		LR				
	comp=Z,5μm,20.0s									
ENH	**Enshi**	**61.21**	**283**	*e*P		**P**		**19 58 19.4**	**-0.5**
	comp=Z,41nm,1.2s									
ENH				LR		LR				
	comp=Z,119nm,20.0s									
LUPA	**Lehigh Univers**	**61.24**	**60**	*e*P		**P**		**19 58 20.2**	**+0.3**
	comp=Z,38nm,1.1s									
WVL	**Waterville**	**61.26**	**53**	*e*P		**P**		**19 58 18.8**	**-1.1**
	comp=Z,120nm,1.3s									
ODNJ	**Ogdensburg**	**61.29**	**59**	*e*P		**P**		**19 58 20.4**	**+0.2**
	comp=Z,117nm,0.9s									
SDMD	**Soldier's Deli**	**61.32**	**62**	*e*P		**P**		**19 58 19.8**	**-0.6**
	comp=Z,458nm,1.0s									
TMCR	**Tamitsa**	**61.39**	**347**	*e*P		**P**		**19 58 20.3**	**-0.2**
TMCR				pmax		pmax				
	comp=Z,42nm,1.3s									
QUA2	**Belchertown**	**61.58**	**57**	*e*P		**P**		**19 58 22.1**	**0.0**
	comp=Z,100nm,1.1s									
BRNJ	**Basking Ridge**	**61.60**	**59**	*e*P		**P**		**19 58 21.4**	**-0.9**
	comp=Z,136nm,0.8s									
BRAL	**Brewton**	**61.63**	**75**	*e*P		**P**		**19 58 21.2**	**-1.5**
	comp=Z,340nm,1.0s									
BRAL				LR		LR				
	comp=Z,6μm,19.0s									
PAL	**Palisades**	**61.71**	**59**	*e*P		**P**		**19 58 22.6**	**-0.4**
PAL				pmax		pmax				
	comp=Z,200nm,1.0s									
PAL	**Palisades**	**61.71**	**59**	*e*P		**P**		**19 58 22.6**	**-0.4**
	comp=Z,200nm,1.0s									
HRV	**Adam Dziewonsk**	**61.82**	**56**	*e*P		**P**		**19 58 22.8**	**-0.9**
HRV				pmax		pmax				
	comp=Z,78nm,1.1s									
HRV	**Adam Dziewonsk**	**61.82**	**56**	*e*P		**P**		**19 58 22.8**	**-0.9**
	comp=Z,78nm,1.1s									
CPNY	**Central Park**	**61.84**	**59**	*e*P		**P**		**19 58 23.6**	**-0.3**
	comp=Z,72nm,0.5s									
SOKR	**Solikamsk**	**61.88**	**335**	*c i*P		**P**		**19 58 22.3**	**-1.5**
SOKR				S		S		20 06 52.7	+8.2	
SOKR				pmax		pmax				
	comp=Z,40nm,1.5s									
CBN	**Corbin**	**61.90**	**63**	*e*P		**P**		**19 58 24.4**	**0.0**
	comp=Z,174nm,1.1s									
CBN				LR		LR				
	comp=Z,13μm,20.0s									
KURK	**Kurchatov**	**61.94**	**318**	P		**P**		**19 58 21.9**	**-2.5**
KURK				pmax		pmax				
	comp=Z,8.0nm,0.7s									
KURK	**Kurchatov**	**61.94**	**318**	*e*P		**P**		**19 58 23.8**	**-0.6**
	comp=Z,17nm,0.7s									
KURK				LR		LR				
	comp=Z,7μm,20.0s									
GOGA	**Godfrey**	**61.98**	**71**	*e*P		**P**		**19 58 23.5**	**-1.4**
GOGA				pmax		pmax				
	comp=Z,72nm,0.9s									
GOGA				MLR		MLR				
	comp=Z,4μm,20.0s									
GOGA	**Godfrey**	**61.98**	**71**	*e*P		**P**		**19 58 23.5**	**-1.4**
	comp=Z,72nm,0.9s									
GOGA				LR		LR				
	comp=Z,4μm,20.0s									
YLE	**Yale**	**61.99**	**58**	*e*P		**P**		**19 58 24.5**	**-0.3**
	comp=Z,86nm,1.0s									
JSRW	**J. Sargeant Re**	**62.00**	**64**	*e*P		**P**		**19 58 24.4**	**-0.6**
EMMW	**East Machias**	**62.21**	**52**	*e*P		**P**		**19 58 25.4**	**-0.9**
	comp=Z,130nm,1.0s									
BRYW	**Bryant College**	**62.26**	**57**	*e*P		**P**		**19 58 26.9**	**+0.2**
	comp=Z,76nm,1.0s									
PRGR	**Permogore**	**62.51**	**342**	*e*P		**P**		**19 58 25.5**	**-2.5**
PRGR				pmax		pmax				
	comp=Z,45nm,1.3s									
JSC	**Jenkinsville**	**62.60**	**69**	*e*P		**P**		**19 58 29.0**	**-0.1**
JSC				pmax		pmax				
	comp=Z,146nm,1.1s									
JSC	**Jenkinsville**	**62.60**	**69**	*e*P		**P**		**19 58 29.0**	**-0.1**
	comp=Z,146nm,1.1s									
WMQ	**Urumqi**	**63.14**	**308**	P		**P**		**19 58 32.3**	**-0.4**
WMQ				pP		**pP**		**19 58 45.0**	**+1.5**
WMQ				sP		**sP**		**19 58 50.3**	**+2.6**
WMQ				PcP		**PcP**		**19 59 09.4**	**-0.6**
WMQ				S		**S**		**20 06 58.1**	**-3.0**
WMQ				SS		**SS**		**20 11 06.3**	**-0.3**
WMQ				PMZ						
	comp=Z,18nm,0.8s									
WMQ				PMZ						
	comp=Z,1μm,8.0s									
WMQ				LN						
	comp=Z,7μm,18.8s									
WMQ				LE						
	comp=Z,5μm,18.0s									
WMQ				LZ						
	comp=Z,6μm,21.4s									
SVE	**Sverdlovsk**	**63.22**	**332**	*ce*P		**P**		**19 58 33.3**	**+0.4**
SVE				*e*				20 00 58.7		
SVE				*e*PPP		PPP		20 02 25.7		
SVE				*e*S		**S**		**20 07 05.4**	**+3.8**
SVE				*e*				20 08 19.2		
SVE				*e*SS		**SS**		**20 11 02.3**	**-4.8**
SVE				pmax		pmax				
	comp=Z,40nm,1.1s									
SVE				MLR		MLR				
	comp=Z,4μm,15.0s									
BRVK	**Borovoye**	**63.26**	**324**	*de*P		**P**		**19 58 32.8**	**-0.4**
BRVK				pmax		pmax				
	comp=Z,21nm,1.0s									
BRVK				MLR		MLR				
	comp=Z,12μm,17.0s									
BRVK	**Borovoye**	**63.26**	**324**	*e*P		**P**		**19 58 33.1**	**-0.1**
	comp=Z,32nm,1.0s									
BRVK				LR		LR				
	comp=Z,13μm,19.0s									
TIGA	**Tifton**	**63.34**	**73**	P		**P**		**19 58 32.5**	**-1.6**
	baz=63									
TIGA	**Tifton**	**63.34**	**73**	*e*P		**P**		**19 58 31.9**	**-2.1**
	comp=Z,64nm,1.0s									
MK31	**Makanchi Array**	**63.39**	**313**	P		P		19 58 30.6	-3.6	
MK31	**Makanchi Array**	**63.39**	**313**	P		**P**		**19 58 35.4**	**+1.2**
	baz=64,SNR=5.5									
MK31	**Makanchi Array**	**63.39**	**313**	*e*P		**P**		**19 58 34.3**	**0.0**
MKAR	**Makanchi Array**	**63.39**	**313**	P		**P**		**19 58 33.5**	**-0.7**
	comp=Z,2.2nm,0.6s,baz=48,slow=5.5,SNR=16									
MKAR				LR		LR		20 26 46.5		
	comp=Z,6μm,20.9s,baz=32,slow=37									
MKAR	**Makanchi Array**	**63.39**	**313**	*e*P		**P**		**19 58 33.8**	**-0.4**
CNNC	**Cliffs of the**	**63.79**	**66**	*e*P		**P**		**19 58 36.6**	**-0.3**
	comp=Z,124nm,1.0s									
CNNC				LR		LR				
	comp=Z,8μm,19.0s									
NHSC	**New Hope**	**64.07**	**69**	*e*P		**P**		**19 58 39.0**	**+0.1**
	comp=Z,532nm,1.0s									
NHSC				LR		LR				
	comp=Z,9μm,19.0s									
CD2	**Chengdu**	**64.10**	**287**	P		**P**		**19 58 37.4**	**-1.7**
CD2				pP		**pP**		**19 58 49.4**	**-0.6**
CD2				sP		**sP**		**19 58 54.4**	**+0.2**
CD2				PP		**PP**		**20 00 58.1**	**-1.9**
CD2				S		**S**		**20 07 10.4**	**-2.9**
CD2				sS		**sS**		**20 07 31.1**	**-0.2**
CD2				SS		**SS**		**20 11 20.4**	**-1.7**
CD2				PMZ						
	comp=Z,40nm,0.8s									
CD2				PMZ						
	comp=Z,2μm,9.0s									
CD2				LN						
	comp=Z,4μm,20.0s									
CD2				LZ						
	comp=Z,5μm,18.0s									
SZP	**Santa**	**64.10**	**265**	*e*P		**P**		**19 58 39.1**	**0.0**
	comp=Z,512nm,1.1s									
ARU	**Arti**	**64.15**	**333**	*d i*P		**P**		**19 58 38.4**	**-0.6**
ARU								19 59 08.6		
ARU								20 01 00.1		
ARU				PPP		PPP		20 02 31.6		
ARU				S		**S**		**20 07 14.3**	**+1.2**
ARU				SS		SS		20 11 29.5	+7.9	
ARU				pmax		pmax				
	comp=Z,59nm,1.7s									
ARU	**Arti**	**64.15**	**333**	P		**P**		**19 58 38.8**	**-0.2**
	comp=Z,240nm,0.9s,SNR=15									
ARU	**Arti**	**64.15**	**333**	*e*P

AFI	**Afiamalu**	**66.48**	**182**		PFAKE			19 59 10.0	+15
AFI					LR	LR			
	comp=Z,1µm,22.0s								
TGY	**Tagaytay City**	**66.48**	**262**		P	**P**		**19 58 54.3**	**-0.4**
	comp=Z,273nm,0.6s,baz=182,slow=3.4,SNR=12								
NB2	**NORSAR Subarra**	**66.49**	**360**		P	**P**		**19 58 53.5**	**-0.6**
	comp=Z,4.6nm,0.7s,baz=1.3,slow=6.2								
NB2	**NORSAR Subarra**	**66.49**	**360**		P	**P**		**19 58 53.5**	**-0.6**
	baz=1.3,slow=6.2								
NOA	**NORSAR Array B**	**66.49**	**360**		P	**P**		**19 58 53.5**	**-0.6**
	comp=Z,5.7nm,0.9s,baz=1.5,slow=6.3,SNR=12								
NC602	**NORSAR Array S**	**66.79**	**359**		*e*P	**P**		**19 58 53.6**	**-2.4**
BER	**Bergen**	**67.07**	**3**		*e*P	**P**		**19 58 57.9**	**+0.1**
BER					*e*S	**S**		**20 07 51.7**	**+3.1**
HNR	**Honiara**	**67.25**	**213**		LR	LR		20 21 32.6	
	comp=Z,2µm,21.8s,baz=10.0,slow=30								
HNR	**Honiara**	**67.25**	**213**		PFAKE			19 59 10.0	+11
HNR					LR	LR			
	comp=Z,3µm,22.0s								
PDGK	**Podgornoye**	**67.34**	**312**		P	**P**		**19 58 57.5**	**-2.2**
PDGK					pmax	pmax			
	comp=Z,24nm,1.3s								
HFS	**Hagfors**	**67.37**	**358**		P	**P**		**19 58 59.5**	**-0.1**
	comp=Z,7.6nm,0.7s,baz=32,slow=2.8,SNR=27								
HFS					LR	LR		20 27 56.7	
	comp=Z,2µm,20.8s,baz=350,slow=36								
BUTP	**Butuan**	**67.75**	**255**		*e*P	**P**		**19 58 59.9**	**-2.8**
KONO	**Kongsberg**	**67.88**	**0**		*e*P	**P**		**19 59 02.2**	**-0.7**
KONO					*e*S	**S**		**20 08 03.0**	**+4.6**
KONO					IAMs_20	IAMs_20		20 32 44.7	
	comp=Z,3µm,18.0s								
KONO	**Kongsberg**	**67.88**	**0**		PFAKE			19 59 10.0	+7.1
KONO					LR	LR			
	comp=Z,3µm,20.0s								
BLS5	**Blasjo**	**68.07**	**2**		*e*P	**P**		**19 59 03.2**	**-0.9**
KMY	**Karmoy**	**68.25**	**3**		*e*P	**P**		**19 59 06.8**	**+1.7**
VSU	**Vasula**	**68.28**	**351**		*de*P	**P**		**19 59 05.3**	**-0.1**
VSU					pmax	pmax			
	comp=Z,200nm,1.7s								
AAA	**Alma-Ata**	**68.50**	**314**		*i* P	**P**		**19 59 07.7**	**+0.5**
AAA					*i* S	**S**		**20 08 10.7**	**+4.2**
AAA					pmax	pmax			
	comp=Z,900nm,6.2s								
AAA					smax	smax			
	comp=E,1µm,7.8s								
AAA					MLR	MLR			
	comp=Z,26µm,12.0s								
TEIG	**Tepich**	**68.95**	**84**		*e*P	**P**		**19 59 09.8**	**-0.3**
	comp=Z,64nm,1.0s								
BUKP	**Musuan**	**68.95**	**255**		*e*P	**P**		**19 59 10.1**	**-0.2**
MATI	**Mati**	**69.01**	**253**		*e*P	**P**		**19 59 09.3**	**-1.2**
KMI	**Kunming**	**69.02**	**284**		P	**P**		**19 59 10.8**	**0.0**
KMI					pP	**pP**		**19 59 23.3**	**+1.5**
KMI					sP	**sP**		**19 59 27.8**	**+1.9**
KMI					PP	**PP**		**20 01 45.3**	**+2.1**
KMI					S	**S**		**20 08 10.8**	**-2.6**
KMI					SKS	**SKSac**		**20 09 05.4**	**-2.6**
KMI					SS	**SS**		**20 12 38.0**	**-1.0**
KMI					PMZ				
	comp=Z,13nm,0.9s								
KMI					PMZ				
	comp=Z,1µm,9.0s								
KMI					LN				
	comp=Z,3µm,27.5s								
KMI					LE				
	comp=Z,2µm,24.4s								
KMI					LZ				
	comp=Z,3µm,47.2s								
JAY	**Jayapura**	**69.05**	**235**		P	**P**		**19 59 09.9**	**-0.9**
	comp=Z,43nm,0.9s,baz=331,slow=2.4,SNR=5.9								
JAY	**Jayapura**	**69.05**	**235**		P	**P**		**19 59 10.6**	**-0.3**
	baz=69,SNR=5.9								
HOMB	**Homborsund**	**69.26**	**1**		*e*P	P		19 59 08.0	-3.4
DAV	**Davao City (W)**	**69.30**	**254**		PFAKE			19 59 20.0	+7.6
DAV					LR	LR			
	comp=Z,6µm,21.0s								
TKM2	**Tokmak 2**	**69.37**	**315**		*e*P	**P**		**19 59 12.4**	**-0.4**
TKM2					pmax	pmax			
	comp=Z,28nm,1.3s								
TKM2	**Tokmak 2**	**69.37**	**315**		*e*P	**P**		**19 59 12.3**	**-0.4**
	comp=Z,28nm,1.3s								
QIZ	**Qiongzhong**	**69.40**	**274**		P	**P**		**19 59 11.9**	**-1.1**
QIZ					sP	**sP**		**19 59 28.6**	**+0.5**
QIZ					ScS	**SKSac**		**20 09 08.3**	**-2.2**
QIZ					SS	**SS**		**20 12 44.4**	**-0.3**
QIZ					PMZ				
	comp=Z,29nm,2.0s								
QIZ					PMZ				
	comp=Z,1µm,10.8s								
QIZ					LN				
	comp=Z,2µm,22.1s								
QIZ					LZ				
	comp=Z,3µm,17.8s								
QIZ	**Qiongzhong**	**69.40**	**274**		*e*P	**P**		**19 59 13.2**	**+0.2**
	comp=Z,52nm,1.1s								
MOS	**Moscow**	**69.50**	**344**		*e*P	**P**		**19 59 09.9**	**-3.1**
MOS					pmax	pmax			
	comp=Z,42nm,1.0s								
MOS					MLR	MLR			
	comp=Z,6µm,21.0s								
MOS					MLR	MLR			
	comp=E,4µm,18.0s								
MOS					MLR	MLR			
	comp=N,4µm,20.0s								
FRU	**Bishkek**	**69.87**	**315**		*i* P	**P**		**19 59 16.0**	**+0.4**
FRU					pmax	pmax			
	comp=Z,50nm,2.0s								
CTBH	**Cotabato--PC H**	**69.96**	**255**	⇓	*i* P	**P**		**19 59 16.8**	**+0.3**
PAGZ	**Pagadian**	**69.97**	**256**		*e*P	**P**		**19 59 15.1**	**-1.4**
AB31	**Akbulak array**	**69.98**	**328**		*i* P	**P**		**19 59 15.2**	**-0.9**
AB31					pmax	pmax			
	comp=Z,7.0nm,0.5s								
ABKAR	**Akbulak array**	**69.98**	**328**		*e*P	**P**		**19 59 15.9**	**-0.1**
AAK	**Ala-Archa**	**70.08**	**315**		PFAKE			19 59 30.0	+13
AAK					LR	LR			
	comp=Z,5µm,19.0s								
PMOR	**Pomariorio Ree**	**70.10**	**158**		*e*T	T		21 15 25.2	
	comp=Z,89nm,0.3s								
OBN	**Obninsk**	**70.27**	**344**		*d* iP	**P**		**19 59 16.7**	**-1.0**
OBN					*e*S	**S**		**20 08 32.4**	**+5.7**
OBN					pmax	pmax			
	comp=Z,28nm,1.0s								
OBN					MLR	MLR			
	comp=Z,2µm,22.0s								
OBN	**Obninsk**	**70.27**	**344**		*e*P	**P**		**19 59 17.3**	**-0.4**
	comp=Z,60nm,1.4s								
OBN					LR	LR			
	comp=Z,3µm,19.0s								
EKS2	**Erkin-Say**	**70.36**	**316**		*e*P	**P**		**19 59 18.4**	**-0.3**
EKS2					pmax	pmax			
	comp=Z,15nm,0.8s								
EKS2					MLR	MLR			
	comp=Z,3µm,20.0s								
EKS2	**Erkin-Say**	**70.36**	**316**		*e*P	**P**		**19 59 18.4**	**-0.3**
	comp=Z,15nm,0.8s								
EKS2					LR	LR			
	comp=Z,3µm,20.0s								
VAH	**Vaihoa**	**70.38**	**157**		*e*P	**P**		**19 59 19.7**	**+0.9**
	comp=Z,134nm,1.1s								
VAH	**Vaihoa**	**70.38**	**157**		*e*T	T		21 15 43.0	
	comp=Z,10.0nm,0.4s								
MSVF	**Nonsavu**	**71.07**	**192**		*e*P	**P**		**19 59 23.1**	**0.0**
MSVF					pmax	pmax			
	comp=Z,108nm,1.2s								
MSVF					MLR	MLR			
	comp=Z,3µm,20.0s								
MSVF	**Nonsavu**	**71.07**	**192**		*e*P	**P**		**19 59 23.1**	**0.0**
	comp=Z,108nm,1.2s								
MSVF					LR	LR			
	comp=Z,3µm,20.0s								
MUD	**Monsted U'grnd**	**71.08**	**1**		*i* P	**P**		**19 59 22.5**	**-0.2**
MUD	**Monsted U'grnd**	**71.08**	**1**		*i* P	**P**		**19 59 22.5**	**-0.2**
KK31	**Karatay Array**	**71.36**	**318**		P	**P**		**19 59 22.8**	**-1.9**
KK31					pmax	pmax			
	comp=Z,12nm,0.8s								
KKAR	**Karatay Array**	**71.36**	**318**		*e*P	**P**		**19 59 24.4**	**-0.3**
KKAR	**Karatay Array**	**71.36**	**318**		*e*P	**P**		**19 59 24.4**	**-0.3**
EKA	**Eskdalemuir Ar**	**71.63**	**8**		P	**P**		**19 59 26.1**	**+0.1**
	comp=Z,14nm,0.9s,baz=355,slow=5.0,SNR=17								
ESK	**Eskdalemuir**	**71.64**	**8**		*e*P	**P**		**19 59 24.9**	**-1.2**
ESK					pmax	pmax			
	comp=Z,27nm,1.0s								
ESK					MLR	MLR			
	comp=Z,4µm,21.0s								
ESK	**Eskdalemuir**	**71.64**	**8**		*e*P	**P**		**19 59 24.9**	**-1.2**
	comp=Z,27nm,1.0s								
ESK					LR	LR			
	comp=Z,4µm,21.0s								
NACGM	**Naroch**	**71.79**	**350**		*e*P	**P**		**19 59 26.0**	**-1.0**
COP	**Copenhagen**	**71.85**	**359**		*i* P	**P**		**19 59 26.9**	**-0.4**
	comp=Z,24nm,1.0s								
COP					*i* S	**S**		**20 08 50.3**	**+5.4**
COP	**Copenhagen**	**71.85**	**359**		*i* P	**P**		**19 59 26.9**	**-0.4**
COP					*i* S	**S**		**20 08 50.3**	**+5.4**
COP					pmax	pmax			
	comp=Z,24nm,1.0s								
KSH	**Kashi**	**71.97**	**312**	⇓	*i* P	**P**		**19 59 31.3**	**+2.8**
KSH					pP	**PcP**		**19 59 44.3**	**-2.7**
KSH					PcP	pP		19 59 49.3	+10
KSH					PP	PP		20 02 14.1	+6.1
KSH					S	**S**		**20 08 49.1**	**+1.9**
KSH					sS	sS		20 09 11.1	+5.7
KSH					SKS	**SKSac**		**20 09 27.1**	**-2.6**
KSH					SS	**SS**		**20 13 29.3**	**+6.1**
KSH					PMZ				
	comp=Z,41nm,1.0s								
KSH					PMZ				
	comp=Z,2µm,6.3s								
KSH					LN				
	comp=Z,4µm,14.6s								
KSH					LE				
	comp=Z,3µm,12.6s								
KSH					LZ				
	comp=Z,6µm,15.0s								
MICGM	**Minsk**	**72.06**	**349**	⇑	*e*P	**P**		**19 59 27.0**	**-1.6**
MNK	**Minsk**	**72.07**	**349**	⇑	*e*P	**P**		**19 59 27.0**	**-1.7**
MNK					*e*			20 02 16.0	
MNK					*e*S	**S**		**20 08 48.0**	**+0.4**
MNK					pmax	pmax			
	comp=Z,60nm,1.0s								
LSA	**Lhasa**	**72.13**	**296**		P	**P**		**19 59 29.6**	**-0.4**
LSA					LN				
	comp=Z,2µm,21.0s								
LSA					LE				
	comp=Z,4µm,22.9s								
LSA					LZ				
	comp=Z,2µm,34.3s								
LSA	**Lhasa**	**72.13**	**296**		*e*P	**P**		**19 59 29.6**	**-0.4**
LSA					pmax	pmax			
	comp=Z,30nm,0.8s								
LSA					MLR	MLR			
	comp=Z,3µm,21.0s								
LSA	**Lhasa**	**72.13**	**296**		*e*P	**P**		**19 59 29.6**	**-0.4**
	comp=Z,30nm,0.8s								
LSA					LR	LR			
	comp=Z,3µm,21.0s								
PPT	**Papeete**	**72.21**	**160**		LR	LR		20 31 50.3	
	comp=Z,892nm,18.2s,baz=340,slow=36								
PPT2	**Papeete2**	**72.23**	**160**		*e*S	**S**		**20 08 53.3**	**+3.1**
	comp=Z,4µm,26.2s								
PPT2					*e*LQ	LQ		20 17 57.8	
	comp=Z,6µm,27.0s								
PPT2					*e*LR	LR		20 21 26.7	
	comp=Z,3µm,24.5s,baz=347								
TIAR	**Tiarei**	**72.25**	**160**		*e*P	**P**		**19 59 31.1**	**+1.0**
	comp=Z,48nm,0.9s								
TIAR	**Tiarei**	**72.25**	**160**		*e*T	T		21 18 04.7	
	comp=Z,22nm,0.3s								
LPSR	**Galich'ya Gora**	**72.27**	**342**		*e*P	**P**		**19 59 28.9**	**-1.0**
LPSR					*e*S	**S**		**20 08 48.4**	**-1.4**
LPSR					pmax	pmax			
	comp=N,5.0nm,0.9s								
LPSR					pmax	pmax			
	comp=E,8.0nm,0.9s								
LPSR					pmax	pmax			
	comp=Z,10.0nm,0.9s								
LPSR					smax	smax			
	comp=N,30nm,2.1s								
LPSR					smax	smax			
	comp=E,30nm,2.1s								
LPSR					smax	smax			
	comp=Z,10.0nm,2.1s								
PAE	**Paea**	**72.30**	**160**		*e*T	T		21 18 06.0	
	comp=Z,5.9nm,0.3s								
BSD	**Bornholm Skovb**	**72.37**	**357**		*i* P	**P**		**19 59 30.2**	**-0.2**
BSD	**Bornholm Skovb**	**72.37**	**357**		*i* P	**P**		**19 59 30.2**	**-0.2**
TVO	**Taravao**	**72.49**	**160**		*e*T	T		21 18 11.1	
	comp=Z,3.5nm,0.3s								
SWI	**Sorong**	**72.58**	**244**		P	**P**		**19 59 32.0**	**-0.2**
	baz=73,SNR=6.9								
SIJI	**Sorong**	**72.58**	**244**		P	**P**		**19 59 31.6**	**-0.7**
	comp=Z,153nm,0.9s,baz=27,slow=6.4,SNR=51								
SUW	**Suwalki**	**73.00**	**352**		*e*P	**P**		**19 59 33.2**	**-1.0**
SUW	**Suwalki**	**73.00**	**352**		*e*P	**P**		**19 59 33.3**	**-1.0**
BBSR	**BB Station**	**73.06**	**59**		*e*P	**P**		**19 59 35.4**	**+0.5**
	comp=Z,121nm,1.0s								
BBSR					LR	LR			
	comp=Z,3µm,19.0s								
TNTI	**Ternate**	**73.39**	**248**		*e*P	**P**		**19 59 36.0**	**-1.1**
	comp=Z,185nm,1.2s								
VSR	**Storozhevoye**	**73.54**	**342**		*e*P	**P**		**19 59 36.4**	**-1.1**
VSR					*e*S	**SKiKP**		**20 09 02.6**	**-1.7**
VSR					pmax	pmax			
	comp=N,10.0nm,0.8s								
VSR					pmax	pmax			
	comp=E,6.0nm,0.8s								
VSR					pmax	pmax			
	comp=Z,20nm,0.8s								
VSR					smax	smax			
	comp=N,190nm,6.6s								
VSR					smax	smax			
	comp=E,70nm,6.6s								
VSR					smax	smax			
	comp=Z,140nm,6.6s								
BSEG	**Bad Segeberg**	**73.61**	**0**		*e*P	**P**		**19 59 37.9**	**+0.1**
	comp=Z,42nm,1.5s								
FAKI	**Fak Fak**	**73.76**	**242**		P	**P**		**19 59 39.0**	**-0.3**
	baz=74,SNR=13								
FAKI	**Fak Fak**	**73.76**	**242**		*e*P	**P**		**19 59 38.7**	**-0.5**
	comp=Z,187nm,1.2s								
GKP	**Gorka Klasztor**	**74.13**	**356**		*e*P	**P**		**19 59 40.6**	**-0.2**
GKP	**Gorka Klasztor**	**74.13**	**356**		*e*P	**P**		**19 59 40.7**	**-0.1**
RAR	**Rarotonga**	**74.21**	**170**		P	**P**		**19 59 41.0**	**-0.6**
	comp=Z,24nm,0.8s,baz=245,slow=3.1,SNR=4.0								
RAR					LR	LR		20 24 51.9	
	comp=Z,2µm,21.3s,baz=350,slow=30								
RAR	**Rarotonga**	**74.21**	**170**		P	**P**		**19 59 41.0**	**-0.6**
SKNT	**Sakolnakorn**	**74.52**	**278**		P	**P**		**19 59 43.6**	**-0.1**
	comp=Z,99nm,1.0s,comp=Z,3µm								
MYLDM	**Lahad Datu**	**74.99**	**259**	⇑	P	**P**		**19 59 48.1**	**+1.7**
MYLDM	**Lahad Datu**	**74.99**	**259**	⇑	P	**P**		**19 59 48.1**	**+1.7**
MYLDM	**Lahad Datu**	**74.99**	**259**		*e*P	**P**		**19 59 47.4**	**+1.0**
	comp=Z,158nm,1.3s								
IBBN	**Ibbenburen**	**75.22**	**2**		*e*P	**P**		**19 59 47.1**	**-0.1**
	comp=Z,54nm,1.3s								
BEL	**Belsk**	**75.35**	**353**		*e*P	**P**		**19 59 48.1**	**+0.2**
BEL	**Belsk**	**75.35**	**353**		*e*P	**P**		**19 59 48.2**	**+0.3**
SDKM	**Sandakan**	**75.40**	**260**	⇑	P	**P**		**19 59 49.0**	**+0.2**
SDKM	**Sandakan**	**75.40**	**260**	⇑	P	**P**		**19 59 49.0**	**+0.2**
WTSB	**Winterswijk**	**75.54**	**2**		*e*P	**P**		**19 59 48.9**	**-0.1**
	comp=Z,79nm,1.7s								
AKASG	**Malin Array Be**	**75.64**	**348**		P	**P**		**19 59 49.0**	**-0.6**
	comp=Z,16nm,0.7s,baz=12,slow=5.7,SNR=15								
AKASG					PKPPKP	**P'P'df**		**20 27 11.1**	**-5.0**
	comp=Z,1.0nm,0.5s,baz=207,slow=1.1,SNR=5.1								
AKASG					LR	LR		20 39 15.2	
	comp=Z,3µm,18.0s,baz=0.0,slow=41								
AKASG	**Malin Array Be**	**75.64**	**348**		P	**P**		**19 59 49.0**	**-0.6**
AKBB	**Malin Array Si**	**75.64**	**348**		*e*P	**P**		**19 59 48.7**	**-0.9**
AKBB	**Malin Array Si**	**75.64**	**348**		*e*P	**P**		**19 59 48.7**	**-0.9**
KIEV	**Kiev**	**75.64**	**348**		*e*P	**P**		**19 59 48.1**	**-1.5**
KIEV					pmax	pmax			
	comp=Z,17nm,0.8s								
KIEV					MLR	MLR			
	comp=Z,4µm,20.0s								
KIEV	**Kiev**	**75.64**	**348**		*e*P	**P**		**19 59 48.1**	**-1.5**
	comp=Z,17nm,0.8s								
KIEV					LR	LR			
	comp=Z,4µm,20.0s								
AK01	**Malin Array Si**	**75.65**	**348**		*e*P	**P**		**19 59 48.8**	**-0.9**
KKM	**Kota Kinabalu**	**75.66**	**261**		P	**P**		**19 59 51.6**	**+1.2**
	baz=76,SNR=5.2								
KKM	**Kota Kinabalu**	**75.66**	**261**		*e*P	**P**		**19 59 49.1**	**-1.2**
	comp=Z,261nm,1.7s								
KKM					LR	LR			
	comp=Z,3µm,22.0s								
AK02	**Malin Array Si**	**75.68**	**348**		*e*P	**P**		**19 59 48.5**	**-1.3**
DLV	**T Lat**	**75.70**	**271**		*e*P	**P**		**19 59 50.9**	**+0.1**
CLZ	**Clausthal**	**75.71**	**0**		*e*P	**P**		**19 59 50.2**	**+0.1**
	comp=Z,56nm,1.5s								
TAPN	**Taplejung**	**75.84**	**297**		*e*P	**P**		**19 59 50.8**	**-0.8**
	comp=Z,58nm,0.9s								
BUG	**Bochum--Univer**	**76.08**	**2**		*e*P	**P**		**19 59 51.6**	**-0.5**
	comp=Z,45nm,1.4s								
CMMT	**Chiang Mai**	**76.10**	**283**		P	**P**		**19 59 52.4**	**-0.4**
	comp=Z,47nm,0.7s,comp=Z,1µm								
CHTO	**Chiang Mai**	**76.10**	**283**		P	**P**		**19 59 52.4**	**-0.4**
	comp=Z,105nm,1.4s,comp=Z,5µm								
CHTO	**Chiang Mai**	**76.10**	**283**		*e*P	**P**		**19 59 51.5**	**-1.3**
CHTO					pmax	pmax			
	comp=Z,45nm,1.4s								
CHTO					MLR	MLR			
	comp=Z,3µm,19.0s								
CHTO	**Chiang Mai**	**76.10**	**283**		*e*P	**P**		**19 59 51.5**	**-1.3**
	comp=Z,45nm,1.4s								
CHTO					LR	LR			
	comp=Z,3µm,19.0s								
CLL	**Collm**	**76.22**	**358**		*e*P	**P**		**19 59 52.4**	**-0.5**
	comp=Z,29nm,1.5s								
CLL	**Collm**	**76.22**	**358**	⇓	*i* P	**P**		**19 59 52.3**	**-0.6**
CLL					*i*			19 59 58.5	
CLL					*e*S	**S**		**20 09 34.0**	**-0.3**
CLL					pmax	pmax			
	comp=Z,28nm,1.4s								
CLL					MLR	MLR			
	comp=Z,2µm,20.5s								
CLL	**Collm**	**76.22**	**358**		*e*P	**P**		**19 59 52.5**	**-0.5**
	comp=Z,19nm,1.0s								
CLL	**Collm**	**76.22**	**358**	⇓	*i* P	**P**		**19 59 52.3**	**-0.6**
	comp=Z,28nm,1.4s								
CLL					*i* sP	sP		19 59 58.5	-10
CLL					*e*PcP	**PcP**		**20 00 05.0**	**+0.1**
CLL					*e*			20 00 12.0	
CLL					*e*S	**S**		**20 09 34.0**	**-0.3**
CLL					*e*PS	**PnS**		**20 10 06.0**	**-8.2**
CLL					*e*SS	SS		20 14 35.0	+8.2
CLL					*e*			20 18 54.0	
CLL					LmH			20 40 00.0	
	comp=N,2µm,20.3s								
CLL					LmH			20 40 00.0	
	comp=E,1µm,19.0s								
CLL					LV			20 41 00.0	
	comp=Z,2µm,20.5s								
CM18	**Chiang Mai Arr**	**76.36**	**282**	⇓	P	**P**		**19 59 54.6**	**+0.3**
	baz=77								
CM31	**Chiang Mai Arr**	**76.38**	**282**		P	**P**		**19 59 55.5**	**+1.1**
	baz=77,SNR=5.6								
CM31	**Chiang Mai Arr**	**76.38**	**282**		*e*P	**P**		**19 59 54.0**	**-0.4**
	comp=Z,18nm,0.6s								
CMAR	**Chiang Mai Arr**	**76.38**	**282**		P	**P**		**19 59 54.0**	**-0.4**
	comp=Z,11nm,1.0s,baz=24,slow=6.2,SNR=28								
CMAR					PKPPKP	**P'P'df**		**20 27 14.5**	**+2.9**
	comp=Z,1.3nm,1.1s,baz=241,slow=1.9,SNR=5.1								
CMAR					LR	LR		20 36 57.8	
	comp=Z,3µm,19.3s,baz=54,slow=38								
GUN	**Gumba**	**76.38**	**298**		*e*P	**P**		**19 59 54.8**	**+0.1**
ODAN	**Odare**	**76.40**	**296**		*e*P	**P**		**19 59 52.9**	**-1.8**
KSP	**Ksiaz**	**76.59**	**356**		*e*P	**P**		**19 59 54.8**	**-0.3**
KSP	**Ksiaz**	**76.59**	**356**		*e*P	**P**		**19 59 54.9**	**-0.2**
BRG	**Berggiesshubel**	**76.64**	**358**		*i* P	**P**		**19 59 54.9**	**-0.4**
	comp=Z,57nm,1.7s								
BRG					S	**S**		**20 09 42.0**	**+3.2**
BRG					SS	SS		20 14 48.0	+15
BRG					*e*PKPPKP	P'P'df		20 27 02.0	-12
	comp=Z,4.7nm,1.4s								
BRG	**Berggiesshubel**	**76.64**	**358**		*e*P	**P**		**19 59 55.0**	**-0.4**
	comp=Z,56nm,1.7s								
BRG	**Berggiesshubel**	**76.64**	**358**		*i* P	**P**		**19 59 54.9**	**-0.4**
BRG					S	**S**		**20 09 42.0**	**+3.2**
BRG					pmax	pmax			
	comp=Z,57nm,1.7s								
BRG					MLR	MLR			
	comp=N,2µm,19.9s								
BRG					MLR	MLR			
	comp=E,1µm,17.9s								
BRG					MLR	MLR			
	comp=Z,3µm,20.1s								
PBKT	**Sadao Pong**	**76.64**	**280**		P	**P**		**19 59 55.9**	**+0.1**
	comp=Z,99nm,1.1s,comp=Z,2µm								
BEBN	**Eben Emael**	**76.68**	**3**		P	**P**		**19 59 55.5**	**0.0**
	comp=Z,9.5nm,1.4s								
HGN	**Heimansgroeve**	**76.72**	**3**		*e*P	**P**		**19 59 55.5**	**-0.3**
	comp=Z,56nm,1.4s								
HGN					*e*S	**S**		**20 09 44.1**	**+4.4**
UBBA	**Unterbreizbach**	**76.73**	**0**		*e*P	**P**		**19 59 55.6**	**-0.1**
	comp=Z,29nm,1.6s								
RAMN	**Ramite**	**76.76**	**297**		*e*P	**P**		**19 59 55.6**	**-1.1**
KKN	**Kakani**	**76.80**	**299**		*e*P	**P**		**19 59 56.3**	**-0.6**
	comp=Z,21nm,0.6s								
MEM	**Membach**	**76.88**	**3**		P	**P**		**19 59 57.1**	**+0.4**
	comp=Z,22nm,1.3s								
MEM	**Membach**	**76.88**	**3**		*e*P	**P**		**19 59 57.3**	**+0.6**
MEM					pmax	pmax			
	comp=Z,46nm,1.2s								
MEM	**Membach**	**76.88**	**3**		*e*P	**P**		**19 59 57.3**	**+0.6**
	comp=Z,46nm,1.2s								
MOX	**Moxa**	**76.90**	**359**		*e*P	**P**		**19 59 56.7**	**-0.1**
	comp=Z,33nm,1.4s								
MOX					*e*L	L		20 37 17.2	
	comp=Z,3µm,21.4s								
PKI	**Pulchoki**	**76.91**	**298**		*e*P	**P**		**19 59 56.7**	**-0.9**
	comp=Z,17nm,0.6s								
PKIN	**Phulchoki**	**76.91**	**298**		*e*P	**P**		**19 59 56.4**	**-1.2**
	comp=Z,17nm,0.5s								
SNF	**Seneffe**	**76.92**	**4**		P	**P**		**19 59 57.1**	**+0.3**
MTDJ	**Mount Denham**	**76.92**	**77**		*e*P	**P**		**19 59 57.1**	**-0.4**
	comp=Z,286nm,1.1s								
UPC	**Upice**	**76.94**	**356**		*e*P	**P**		**19 59 57.0**	**0.0**
UPC					*ep*P	**PcP**		**20 00 02.9**	**-5.1**
UPC					*e*S	**S**		**20 09 38.3**	**-

TANN Tannenbergstha 77.12 359 eP P 19 59 58.2 +0.1
comp=Z,28nm,1.5s
RAC Raciborz 77.26 355 eP P 19 59 58.8 0.0
NKC Novy Kostel 77.31 359 eP P 19 59 58.5 -0.6
NKC epP PcP 20 00 03.9 -5.7
NKC eS S 20 09 44.2 -2.0
NKC eSS SS 20 14 53.2 +10
NKC AMS AMS 20 40 10.0
comp=Z,3μm,16.2s
NKC Novy Kostel 77.31 359 eP P 19 59 58.5 -0.6
NKC e 20 00 03.9
NKC eS S 20 09 44.2 -2.0
NKC MLR MLR
comp=Z,3μm,16.2s
TNS Taunus Mts 77.32 1 eP P 19 59 59.0 -0.2
comp=Z,38nm,1.6s
KRLC Kraliky 77.34 356 eP P 19 59 59.4 +0.1
KRLC epP PcP 20 00 04.9 -4.9
KRLC Kraliky 77.34 356 eP P 19 59 59.4 +0.1
KRLC e 20 00 04.9
DOU Dourbes 77.34 4 P P 19 59 59.5 +0.3
comp=Z,18nm,1.5s
KWP Kalwaria Pacla 77.39 352 eP P 19 59 59.4 -0.1
KWP Kalwaria Pacla 77.39 352 eP P 19 59 59.5 -0.1
PRA Prague 77.43 357 eP P 20 00 00.1 +0.4
PRA eS S 20 09 50.8 +3.3
PRA eSS SS 20 14 50.8 +5.8
PRA MLR MLR
comp=Z,3μm,18.4s
DZM Mont Dzumac 77.44 203 P P 19 59 59.4 -0.7
comp=Z,30nm,1.0s,baz=1.3,slow=4.3,SNR=8.6
DZM LR LR 20 32 05.8
comp=Z,5μm,18.1s,baz=0.0,slow=34
DZM Mont Dzumac 77.44 203 eP P 19 59 58.8 -1.3
DZM Mont Dzumac 77.44 203 eP P 19 59 59.1 -1.0
comp=Z,65nm,1.0s
LUWI Luwuk 77.49 251 P P 19 59 59.5 -1.1
baz=78,SNR=14
LUWI Luwuk 77.49 251 eP P 19 59 58.5 -2.1
comp=Z,383nm,1.0s
PRU Pruhonice 77.51 357 eP P 20 00 00.2 0.0
PRU epP PcP 20 00 05.7 -4.8
PRU ex x 20 00 09.0
PRU eS S 20 09 50.0 +1.7
PRU eSS SS 20 14 46.7 +0.5
PRU ePKPPKP P'P'df 20 26 59.8 -13
PRU AMS AMS 20 42 10.0
comp=Z,4μm,18.9s
PRU Pruhonice 77.51 357 eP P 20 00 00.2 0.0
PRU e 20 00 05.7
PRU e 20 00 09.0
PRU eS S 20 09 50.0 +1.7
PRU eSS SS 20 14 46.7 +0.5
PRU MLR MLR
comp=Z,4μm,18.9s
OKC Ostrava-Krasne 77.51 355 eP P 20 00 00.3 +0.1
OKC epP PcP 20 00 05.7 -4.8
OKC eS S 20 09 45.4 -2.9
OKC AMS AMS 20 44 00.0
comp=Z,2μm,15.3s
OKC Ostrava-Krasne 77.51 355 eP P 20 00 00.3 +0.1
OKC e 20 00 05.7
OKC eS S 20 09 45.4 -2.9
OKC MLR MLR
comp=Z,2μm,15.3s
GOPC GO Pecny, Ondr 77.57 357 eP P 20 00 00.5 -0.1
GOPC epP PcP 20 00 05.3 -5.5
GOPC ex x 20 09 42.8
GOPC eSS SS 20 14 51.5 +4.2
GOPC AMS AMS 20 42 10.0
comp=Z,2μm,19.0s
MORC Moravsky Berou 77.60 355 eP P 20 00 00.6 -0.2
MORC pmax pmax
comp=Z,50nm,0.8s
MORC Moravsky Berou 77.60 355 ⇓iP P 20 00 00.6 -0.2
MORC Moravsky Berou 77.60 355 eP P 20 00 00.6 -0.2
comp=Z,50nm,0.8s
KOLN Koldanda 77.71 300 eP P 20 00 00.8 -1.2
comp=Z,30nm,0.8s
ROTZ Rotzenmuhle 77.78 359 eP P 20 00 02.0 +0.3
comp=Z,33nm,1.5s
NIE Niedzica 77.79 353 eP P 20 00 02.1 +0.2
NIE Niedzica 77.79 353 eP P 20 00 02.1 +0.2
WLF Walferdange 77.83 3 P P 20 00 02.8 +0.8
comp=Z,27nm,1.8s
WLF Walferdange 77.83 3 eP P 20 00 02.1 +0.1
comp=Z,61nm,1.5s
WLF Walferdange 77.83 3 eP P 20 00 02.8 +0.8
WLF pmax pmax
comp=Z,63nm,1.6s
WLF Walferdange 77.83 3 eP P 20 00 02.8 +0.8
comp=Z,63nm,1.6s
TBI Tubuai 77.85 161 eS S 20 09 55.9 +3.6
comp=Z,2μm,30.8s
TBI Tubuai 77.85 161 eLQ LQ 20 20 00.5
comp=Z,3μm,30.2s
TBI eLR LR 20 23 37.0
comp=Z,2μm,34.8s,baz=350
TBI Tubuai 77.85 161 eT T 21 25 06.8
comp=Z,90nm,0.2s
GRF Grafenberg Arr 77.86 359 eP P 20 00 02.5 +0.3
comp=Z,94nm,1.6s
GRF eL L 20 41 23.7
comp=Z,2μm,20.6s
GRFO Grafenberg 77.86 359 eP P 20 00 02.7 +0.5
GRFO pmax pmax
comp=Z,35nm,1.1s
GRFO Grafenberg 77.86 359 eP P 20 00 02.7 +0.5
comp=Z,35nm,1.1s
COEN Coen 77.90 227 ⇑P P 20 00 02.0 -0.7
baz=78,SNR=6.2
COEN Coen 77.90 227 eP P 20 00 02.2 -0.5
comp=Z,116nm,1.4s
GRTK Grand Turk 78.08 70 PFAKE 20 00 20.0 +16
GRTK LR LR
comp=Z,6μm,19.0s
VRAC Vranov 78.11 356 P P 20 00 04.3 +0.7
comp=Z,7.4nm,0.7s,baz=358,slow=6.3,SNR=28
VRAC Vranov 78.11 356 ⇑iP P 20 00 04.6 +1.0
KOLS Kolonicke sedl 78.12 352 eP P 20 00 02.8 -0.9
KOLS pmax pmax
comp=Z,12nm,1.3s
KOLS Kolonicke sedl 78.12 352 eP P 20 00 02.8 -0.9
TREC Trest 78.17 357 eP P 20 00 02.9 -1.0
TREC epP PcP 20 00 08.4 -5.0
TREC eS S 20 09 53.5 -2.1
TREC ePKPPKP P'P'df 20 26 59.6 -12
TREC AMS AMS 20 46 30.0
comp=Z,3μm,14.9s
TREC Trest 78.17 357 eP P 20 00 02.9 -1.0
TREC e 20 00 08.4
TREC eS S 20 09 53.5 -2.1
TREC MLR MLR
comp=Z,3μm,14.9s
NAYO Nakonayok 78.19 278 P P 20 00 05.4 +0.9
comp=Z,56nm,1.4s,comp=Z,3μm
KHC Kasperske Hory 78.39 358 eP P 20 00 05.5 +0.3
KHC ex x 20 00 21.5
KHC Kasperske Hory 78.39 358 eP P 20 00 05.5 +0.3
KHC e 20 00 21.5
WET Wettzell 78.39 358 eP P 20 00 05.3 +0.1
comp=Z,26nm,1.5s
UZH Uzhgorod 78.42 352 eP P 20 00 04.2 -1.1
UZH e 20 00 10.8
UZH e 20 00 17.4
UZH eS S 20 09 54.0 -4.2
UZH eSS SS 20 14 57.0 -3.0
UZH MLR MLR
comp=N,2μm,20.0s
UZH MLR MLR
comp=E,2μm,20.0s
UZH MLR MLR
comp=Z,300nm,20.0s
GOF Gofitskoye 78.55 337 eP P 20 00 05.8 -0.3
GOF pmax pmax
comp=Z,108nm,1.1s
JTS JuntasAbangare 78.65 88 eP P 20 00 04.9 -2.2
JTS pmax pmax
comp=Z,246nm,2.6s
JTS MLR MLR
comp=Z,2μm,20.0s
JTS JuntasAbangare 78.65 88 eP P 20 00 04.9 -2.2
comp=Z,246nm,2.6s
JTS LR LR
comp=Z,2μm,20.0s
GEC2 GERESS Array S 78.67 358 eP P 20 00 06.7 -0.1
comp=Z,43nm,1.6s
GERES GERESS Array B 78.67 358 P P 20 00 07.2 +0.4
comp=Z,2.3nm,0.6s,baz=7.6,slow=4.0,SNR=29
GERES PKKPbc PKKPbc 20 18 59.4 +0.1
comp=Z,0.7nm,0.7s,baz=169,slow=1.0,SNR=7.0
KECS Kecovo 78.71 353 eP P 20 00 07.2 +0.3
KECS pmax pmax
comp=Z,7.0nm,1.1s
KECS Kecovo 78.71 353 eP P 20 00 07.2 +0.3
KECS ePP PP 20 03 01.6 -2.8
STU Stuttgart 78.78 1 eP P 20 00 07.0 -0.3
comp=Z,43nm,1.4s
STU Stuttgart 78.78 1 eP P 20 00 07.8 +0.5
STU pmax pmax
comp=Z,20nm,1.0s
STU Stuttgart 78.78 1 eP P 20 00 07.8 +0.5
comp=Z,20nm,1.0s
VYHS Vyhne 78.81 354 eP P 20 00 07.4 -0.1
VYHS pmax pmax
comp=Z,26nm,1.7s
VYHS Vyhne 78.81 354 eP P 20 00 07.4 -0.1
VYHS ePP PP 20 03 02.2 -3.0
BUR08 Bucovina Ar. S 79.12 350 eP P 20 00 09.1 -0.2
BURAR Bucovina Array 79.15 350 ⇑iP P 20 00 10.7 +1.2
KBL Kabul 79.17 314 eP P 20 00 08.1 -1.8
KBL pmax pmax
comp=Z,11nm,0.6s
KBL Kabul 79.17 314 eP P 20 00 08.1 -1.8
comp=Z,11nm,0.6s
WSYH La Gonave Hosp 79.19 73 eP P 20 00 10.9 +1.0
BFO Black Forest 79.21 1 eP P 20 00 09.4 -0.2
comp=Z,39nm,1.5s
BFO Black Forest 79.21 1 eP P 20 00 09.5 -0.2
BFO pmax pmax
comp=Z,49nm,1.6s
BFO MLR MLR
comp=Z,3μm,19.0s
BFO Black Forest 79.21 1 eP P 20 00 09.5 -0.2
comp=Z,49nm,1.6s
BFO LR LR
comp=Z,3μm,19.0s
ECH Echery 79.30 2 eP P 20 00 09.8 -0.4
ECH pmax pmax
comp=Z,40nm,1.3s
ECH MLR MLR
comp=Z,2μm,20.0s
ECH Echery 79.30 2 eP P 20 00 09.8 -0.4
comp=Z,40nm,1.3s
ECH LR LR
comp=Z,2μm,20.0s
PSZ Piszkesteto 79.31 354 eP P 20 00 09.6 -0.7
PSZ pmax pmax
comp=Z,46nm,1.4s
PSZ MLR MLR
comp=Z,3μm,21.0s
PSZ Piszkesteto 79.31 354 ⇑iP P 20 00 11.5 +1.2
PSZ Piszkesteto 79.31 354 eP P 20 00 09.6 -0.7
comp=Z,46nm,1.4s
PSZ LR LR
comp=Z,3μm,21.0s
PSZ Piszkesteto 79.31 354 ⇓eSKPdf P 20 00 10.6 +0.3
KIS Kishinev 79.32 347 eP P 20 00 08.0 -2.3
comp=Z,900nm,8.0s
KIS Kishinev 79.32 347 ePP PP 20 03 00.0 -9.5
KIS eS S 20 10 03.0 -4.8
KIS Kishinev 79.32 347 eP P 20 00 08.0 -2.3
KIS eS S 20 10 03.0 -4.8
KIS ePS PnS 20 11 10.0 +16
KIS pmax pmax
comp=Z,900nm,8.0s
KIS MLR MLR
comp=N,2μm,20.0s
KIS MLR MLR
comp=Z,3μm,20.0s
KIS MLR MLR
comp=Z,4μm,20.0s
MAK Makhachkala 79.38 333 eP P 20 00 11.4 +0.8
MAK e 20 03 15.6
MAK ePPP PPP 20 05 03.1
MAK eS S 20 10 11.3 +2.8
MAK eSSS SSS 20 18 38.2
MAK pmax pmax
comp=Z,108nm,1.2s
FUR Furstenfeldbru 79.39 359 eP P 20 00 10.8 +0.1
comp=Z,78nm,1.6s
CONA Conrad Observa 79.52 356 i pP P 20 00 11.8 +0.3
comp=Z,49nm,1.4s,SNR=20
PATY Pattaya 79.55 278 P P 20 00 15.3 +3.4
comp=Z,15nm,1.0s
LGNH LOogne 79.59 73 eP P 20 00 13.5 +1.3
comp=Z,154nm,1.1s
MOA Molln 79.65 357 ⇑ipP P 20 00 11.9 -0.2
comp=Z,22nm,1.6s,SNR=8.1
KIV Kislovodsk 79.68 337 d iP P 20 00 11.7 -0.7
KIV i 20 00 27.1
KIV iS S 20 10 09.0 -3.0
KIV MLR MLR
comp=Z,3μm,20.0s
KIV Kislovodsk 79.68 337 P P 20 00 13.7 +1.3
comp=Z,228nm,0.8s,SNR=7.7
KIV Kislovodsk 79.68 337 eP P 20 00 13.1 +0.7
comp=Z,33nm,0.8s
KIV LR LR
comp=Z,3μm,20.0s
SOP Sopron 79.74 356 ⇓eSKPdf P 20 00 13.2 +0.7
ARCR ARCALIA 79.76 350 ⇑iP P 20 00 13.7 +1.0
BTM Bintulu 79.80 262 ⇓P P 20 00 13.9 +0.5
BTM Bintulu 79.80 262 ⇓P P 20 00 13.9 +0.5
RJOB Joeberg 79.80 358 eP P 20 00 12.9 0.0
comp=Z,16nm,1.3s
KBZ Khabaz 79.84 337 P P 20 00 14.1 +1.0
comp=Z,13nm,1.0s,baz=10,slow=2.1,SNR=11
KBZ LR LR 20 41 10.9
comp=Z,3μm,19.3s,baz=7.5,slow=40
PKSG 79.93 354 ⇑eSKPdf P 20 00 14.5 +0.9
SDDR Presa de Saban 79.98 72 eP P 20 00 15.1 +0.8
comp=Z,103nm,1.0s
ANN Anapa 80.02 341 eP P 20 00 13.3 -0.8
ANN eS S 20 10 15.0 -0.3
ANN pmax pmax
comp=Z,99nm,1.2s
RETA Reutte 80.07 360 i pP P 20 00 15.3 +0.8
comp=Z,26nm,1.5s,SNR=7.6
TESR Tescani 80.07 349 ⇑iP P 20 00 14.0 -0.4
DRGR 80.21 351 ⇓iP P 20 00 15.6 +0.4
ARSA Arzberg 80.21 356 ⇑ipP P 20 00 16.0 +0.9
comp=Z,40nm,1.6s,SNR=14
MOTA Moosalm 80.21 360 ⇓ipP P 20 00 15.4 +0.1
comp=Z,43nm,1.3s,SNR=18
WATA Walderalm 80.22 359 ⇓ipP P 20 00 15.9 +0.6
comp=Z,52nm,1.3s,SNR=7.8
NDI New Delhi 80.24 305 eP P 20 00 15.0 -0.6
NDI eS S 20 10 16.0 -2.1
DAVA Damuels 80.27 0 ⇓iPP P 20 00 16.1 +0.5
comp=Z,18nm,1.2s,SNR=5.3
WTTA Wattenberg 80.29 359 i pP P 20 00 16.8 +1.1
comp=Z,69nm,1.6s,SNR=11
KBA Koelnbreinsper 80.45 358 i pP P 20 00 17.5 +0.9
comp=Z,134nm,1.4s,SNR=22
SIM Simferopol' 80.50 343 d iP P 20 00 16.9 +0.2
SIM e 20 03 28.0
SIM eS S 20 10 25.4 +5.0
SIM pmax pmax
comp=Z,21nm,0.9s
SIM pmax pmax
comp=Z,270nm,10.3s
FETA Feichten 80.54 360 ⇑ipP P 20 00 17.7 +0.7
comp=Z,54nm,1.3s,SNR=19
ABKT Ailbek 80.58 324 P P 20 00 17.7 +0.4
comp=Z,126nm,0.8s,SNR=14
GEYT Alibeck 80.58 324 P P 20 00 16.9 -0.5
comp=Z,18nm,1.1s,baz=338,slow=6.4,SNR=31
GEYT LR LR 20 40 02.8
comp=Z,5μm,18.1s,baz=30,slow=39
VRI Vrincioaia 80.70 349 ⇓iP P 20 00 18.5 +0.7
SOC Sochi 80.71 339 d iP P 20 00 16.9 -0.9
SOC e*SP sP 20 00 34.1 +1.0
SOC eS S 20 10 21.4 -1.2
SOC pmax pmax
comp=Z,54nm,1.1s
SOC MLR MLR
comp=Z,4μm,20.0s
PLOR Plostina 80.72 349 ⇓iP P 20 00 18.6 +0.7
DOPR Dopca 80.75 349 ⇓iP P 20 00 19.2 +1.1
DAVOX Davos/Dischmat 80.78 0 P P 20 00 19.1 +0.7
comp=Z,7.5nm,0.7s,baz=359,slow=4.9,SNR=17
DAVOX Davos/Dischmat 80.78 0 P P 20 00 19.1 +0.7
DAVOX pmax pmax
comp=Z,8.0nm,0.7s
ONI Oni 80.78 336 P P 20 00 19.5 +1.2
ABTA Abfaltersbach 80.79 359 ⇓ipP P 20 00 18.5 +0.2
comp=Z,51nm,1.4s,SNR=12
SOKA Soboth 80.80 357 i pP P 20 00 19.2 +0.9
comp=Z,64nm,1.3s,SNR=17
PERS Pernice 80.84 357 eP P 20 00 18.8 +0.2
PERS eS S 20 10 27.4 +3.4
MYKA Terra Mystica 80.89 358 i pP P 20 00 19.5 +0.6
comp=Z,37nm,1.6s,SNR=7.5
SBUM Sibu 80.91 262 eP P 20 00 19.2 -0.1
comp=Z,181nm,1.7s
FUORN Ofenpass-Fuorn 80.94 0 eP P 20 00 20.4 +1.0
comp=Z,80nm,1.5s
SMN1 Samana, DR 80.98 70 eP P 20 00 19.7 0.0
KOGS Kog 80.98 356 eP P 20 00 19.3 +0.1
OBKA Obir 80.98 357 ⇓ipP P 20 00 19.4 0.0
comp=Z,46nm,1.8s
TUE Stuetta 81.08 1 eP P 20 00 19.9 -0.1
comp=Z,52nm,1.4s
PKSM Moragy 81.09 354 ⇑iP P 20 00 19.3 -0.5
PKSM Moragy 81.09 354 ⇓eSKPdf P 20 00 18.4 -1.4
TLCR 81.10 347 ⇑iP P 20 00 21.5 +1.7
MTSU Mount Surprise 81.12 224 P P 20 00 20.1 -0.1
baz=81,SNR=8.3
SENIN Lac Senin/Sane 81.16 2 eP P 20 00 22.1 +1.6
comp=Z,20nm,1.4s
MLR Muntele Rosu 81.16 349 ⇑iP P 20 00 21.8 +1.4
CFR Carcaliu 81.20 347 ⇑iP P 20 00 20.4 0.0
IMYA Miami 81.26 321 eP P 20 00 22.0 +0.9
TBLG Delisi 81.26 335 P P 20 00 21.1 +0.3
TBLG Delisi 81.26 335 P P 20 00 21.1 +0.3
VOIR 81.32 350 ⇑iP P 20 00 22.7 +1.6
DGRG David-gareji 81.36 334 P P 20 00 23.7 +2.3
RKT Rikitea 81.40 148 eP P 20 00 22.1 +0.6
comp=Z,131nm,1.1s
RKT Rikitea 81.40 148 eS S 20 10 32.7 +2.8
comp=Z,621nm,26.0s
RKT Rikitea 81.40 148 eLR LR 20 25 44.3
comp=Z,3μm,23.8s,baz=342
LJU Ljubljana 81.45 357 eP P 20 00 21.6 -0.2
LJU eS S 20 10 32.6 +2.3
BZS Buzias 81.47 352 ⇑iP P 20 00 21.6 -0.2
HARR Harsova 81.70 347 ⇑iP P 20 00 24.8 +1.7
TIRR Tirgusor 81.87 347 eP P 20 00 23.9 0.0
TIRR pmax pmax
comp=Z,13nm,0.6s
TIRR Tirgusor 81.87 347 ⇑iP P 20 00 24.3 +0.4
TIRR Tirgusor 81.87 347 eP P 20 00 23.9 0.0
comp=Z,13nm,0.6s
AKH Akhalkalaki 81.88 335 P P 20 00 24.5 +0.2
AKH Akhalkalaki 81.88 335 ⇑iP P 20 00 26.3 +2.0
RAO Raoul Island 82.05 187 LR LR 20 34 59.2
comp=Z,2μm,18.1s,baz=48,slow=34
CTA Charters Tower 82.07 221 P P 20 00 24.0 -1.2
comp=Z,38nm,0.9s,baz=36,slow=8.6,SNR=17
CTA Charters Tower 82.07 221 ⇑P P 20 00 24.3 -0.8
baz=82
CTAO Charters Tower 82.07 221 eP P 20 00 23.2 -2.0
CTAO pmax pmax
comp=Z,81nm,1.1s
CTAO MLR MLR
comp=Z,3μm,21.0s
CTAO Charters Tower 82.07 221 eP P 20 00 23.2 -2.0
comp=Z,81nm,1.1s
CTAO LR LR
comp=Z,3μm,21.0s
SSB Saint Sauveur 82.15 4 eP P 20 00 24.4 -1.1
SSB pmax pmax
comp=Z,34nm,1.1s
SSB MLR MLR
comp=Z,2μm,19.0s
SSB Saint Sauveur 82.15 4 eP P 20 00 24.4 -1.1
comp=Z,34nm,1.1s
SSB LR LR
comp=Z,2μm,19.0s
MSAB Monastry St. A 82.31 347 ⇑iP P 20 00 27.0 +0.8
KAPI Kappang 82.45 251 P P 20 00 27.4 +0.1
comp=Z,33nm,0.6s,baz=81,slow=3.7,SNR=12
KAPI Kappang 82.45 251 eP P 20 00 27.2 -0.2
comp=Z,239nm,1.5s
KAPI LR LR
comp=Z,1μm,20.0s
BCIP Isla Barro Col 82.63 85 PFAKE 20 00 40.0 +12
BCIP LR LR
comp=Z,2μm,19.0s
MTN Manton Dam 82.71 238 P P 20 00 27.9 -0.7
baz=83,SNR=19
MTN Manton Dam 82.71 238 eP P 20 00 27.9 -0.7
comp=Z,164nm,1.1s
KSM Kuching 82.84 263 P P 20 00 29.8 +0.4
baz=83,SNR=30
KSM Kuching 82.84 263 eP P 20 00 29.3 -0.1
comp=Z,233nm,1.3s
KSM LR LR
comp=Z,2μm,20.0s
BSSI Bau Bau, Buton 82.95 250 P P 20 00 28.6 -1.3
comp=Z,104nm,1.0s
LSP Las Mesas 83.03 69 eP P 20 00 31.5 +1.1
DIVS Divibare 83.11 353 ⇓iP P 20 00 29.8 -0.7
DIVS Divibare 83.11 353 P P 20 00 28.4 -2.1
CRPR Cabo Rojo, PR 83.15 69 eP P 20 00 30.7 -0.3
comp=Z,95nm,1.1s
KBKI Kotabaru 83.16 255 P P 20 00 29.3 -1.7
comp=Z,49nm,1.1s,comp=Z,970nm
STKI Sintang 83.25 261 P P 20 00 31.1 -0.5
comp=Z,80nm,1.4s,comp=Z,9μm
IGLO Ghaloghah 83.36 326 eP P 20 00 32.0 -0.1
CELP Cerrillos 83.39 69 eP P 20 00 32.6 +0.3
VLC Villacollemand 83.40 0 eP P 20 00 32.5 +0.5
comp=Z,39nm,1.2s
OBIP Obispado Ponce 83.41 69 eP P 20 00 31.9 -0.5
comp=Z,249nm,1.0s
ICMP Isla Caja de M 83.58 69 eP P 20 00 32.7 -0.5
SJG San Juan 83.61 69 eP P 20 00 32.6 -0.7
comp=Z,96nm,0.9s,baz=307,slow=3.3,SNR=17
SJG San Juan 83.61 69 P P 20 00 32.6 -0.7
SJG pmax pmax
comp=Z,96nm,0.9s
SJG San Juan 83.61 69 eP P 20 00 33.2 -0.2
comp=Z,133nm,1.0s
SOEI Soe 83.79 245 P P 20 00 33.5 -0.9
comp=Z,285nm,0.8s,comp=Z,3μm
SOEI Soe 83.79 245 P P 20 00 33.6 -0.7
baz=84,SNR=20
SOEI Soe 83.79 245 eP P 20 00 33.5 -0.9
comp=Z,207nm,0.8s
MMRI Maumere 83.99 247 P P 20 00 36.0 +0.7
comp=Z,149nm,0.9s,comp=Z,2μm
MMRI Maumere 83.99 247 eP P 20 00 35.8 +0.5
comp=Z,102nm,0.8s
IALA Alasht 84.08 327 eP P 20 00 35.3 -0.7
STVI Saint Thomas 84.09 67 eP P 20 00 36.5 +0.7
comp=Z,95nm,1.0s
ISHM Shahmirzad 84.17 326 eP P 20 00 36.7 +0.3
PGAV Gavieira, Arco 84.22 14 eP P 20 00 35.5 -0.8
comp=Z,40nm,1.5s
PGAV Gavieira, Arco 84.22 14 eS S 20 11 03.9 +5.1
PGAV Gavieira, Arco 84.22 14 eLR LR 20 31 58.3
comp=Z,4μm,18.0s
BATI Baumata 84.49 245 P P 20 00 37.3 -0.5
comp=Z,155nm,1.0s,comp=Z,2μm
BATI Baumata 84.49 245 P P 20 00 37.5 -0.3
comp=Z,203nm,0.8s,baz=318,slow=1.5,SNR=19
PBRG Braganca 84.59 13 eP P 20 00 38.5 +0.4
comp=Z,46nm,1.7s
IGZV Ghazvin 84.65 329 eP P 20 00 38.8 +0.1
IAFJ Afjeh 84.65 327 eP P 20 00 38.2 -0.7
EDRB Edirne 84.66 348 P P 20 00 36.9 -1.5
EDRB Edirne 84.66 348 P P 20 00 36.9 -1.5
IDMV Damavand 84.80 327 eP P 20 00 39.1 -0.5
PDG Podgorica 84.82 353 P P 20 00 38.3 -0.9
TTG Podgorica 84.82 353 P P 20 00 38.3 -0.9
TTG Podgorica 84.82 353 P P 20 00 38.3 -0.9
ITEG Tejag 84.82 321 eP P 20 00 38.8 -0.9
POLO Lamas de Olo 84.87 14 eP P 20 00 39.5 -0.1
comp=Z,19nm,1.4s

CHLP	**Challavanipeta**	**84.91**	**294**	*e*P		**P**		**20 00 39.0**	**-1.0**
CHLP				IAmb		IAmb		20 00 45.6	
	comp=Z,22nm,1.1s								
CHLP				*e*SKSac		**S**		**20 11 04.9**	**-1.1**
CHLP				IVMsBB				20 43 51.8	
	comp=Z,698nm,11.6s								
KDZ	**Kurdzhali**	**85.01**	**349**	⇑*i*P		**P**		**20 00 40.7**	**+0.5**
EIDS	**Eidsvold**	**85.06**	**215**	⇑P		**P**		**20 00 38.0**	**-2.4**
	baz=85,SNR=4.6								
EIDS	**Eidsvold**	**85.06**	**215**	*e*P		**P**		**20 00 40.4**	**0.0**
	comp=Z,137nm,1.7s								
SKO	**Skopje**	**85.10**	**352**	P		**P**		**20 00 39.9**	**-0.7**
SKO	**Skopje**	**85.10**	**352**	P		**P**		**20 00 39.9**	**-0.7**
SKO	**Skopje**	**85.10**	**352**	P		**P**		**20 00 39.9**	**-0.7**
ISK	**Istanbul-Kandi**	**85.10**	**346**	P		**P**		**20 00 40.2**	**-0.4**
ISK	**Istanbul-Kandi**	**85.10**	**346**	P		**P**		**20 00 40.2**	**-0.4**
ISK	**Istanbul-Kandi**	**85.10**	**346**	P		**P**		**20 00 40.2**	**-0.4**
AQU	**L'Aquila**	**85.17**	**358**	*e*P		**P**		**20 00 43.5**	**+2.5**
AQU				pmax		pmax			
	comp=Z,52nm,1.0s								
AQU				MLR		MLR			
	comp=Z,3μm,19.0s								
AQU	**L'Aquila**	**85.17**	**358**	*e*P		**P**		**20 00 43.5**	**+2.5**
	comp=Z,52nm,1.0s								
AQU				LR		LR			
	comp=Z,3μm,19.0s								
MVO	**Moncorvo**	**85.18**	**13**	*e*P		**P**		**20 00 40.1**	**-1.0**
	comp=Z,49nm,1.4s								
MVO	**Moncorvo**	**85.18**	**13**	*e*S		**S**		**20 11 04.1**	**-4.2**
MVO	**Moncorvo**	**85.18**	**13**	*e*LQ		LQ		20 25 36.0	
MVO				*e*LR		LR		20 31 05.7	
	comp=Z,3μm,22.0s								
MMB	**Musomiste**	**85.26**	**350**	⇓*i*P		**P**		**20 00 42.5**	**+1.0**
PBKI	**Pangkalan Bun**	**85.34**	**259**	P		**P**		**20 00 42.4**	**+0.3**
	comp=Z,186nm,1.1s								
PHP	**Peshkopia**	**85.47**	**352**	P		**P**		**20 00 41.3**	**-1.2**
PHP	**Peshkopia**	**85.47**	**352**	P		**P**		**20 00 41.3**	**-1.2**
PHP	**Peshkopia**	**85.47**	**352**	P		**P**		**20 00 41.3**	**-1.2**
NVR	**Nevrokopi**	**85.48**	**350**	P		**P**		**20 00 41.5**	**-1.1**
NVR	**Nevrokopi**	**85.48**	**350**	P		**P**		**20 00 41.5**	**-1.1**
RDO	**Rodhopi**	**85.50**	**349**	*e*P		**P**		**20 00 42.5**	**-0.1**
	comp=Z,109nm,1.3s								
RDO	**Rodhopi**	**85.50**	**349**	P		**P**		**20 00 42.6**	**0.0**
VAY	**Valandovo**	**85.64**	**351**	P		**P**		**20 00 42.5**	**-0.8**
VAY	**Valandovo**	**85.64**	**351**	P		**P**		**20 00 42.5**	**-0.8**
VAY	**Valandovo**	**85.64**	**351**	P		**P**		**20 00 42.5**	**-0.8**
BR131	**Keskin Array S**	**85.65**	**342**	⇓P		**P**		**20 00 45.9**	**+2.3**
	baz=86,SNR=5.2								
BR131	**Keskin Array S**	**85.65**	**342**	*e*P		**P**		**20 00 43.5**	**-0.1**
	comp=Z,5.6nm,0.8s								
BRTR	**Keskin Array B**	**85.65**	**342**	P		**P**		**20 00 43.5**	**-0.1**
	comp=Z,2.6nm,0.8s,baz=33,slow=2.9,SNR=12								
BRTR				PKKPbc		**PKKPbc**		**20 18 43.9**	**+0.3**
	comp=Z,3.2nm,0.9s,baz=181,slow=5.3,SNR=13								
BRTR				LR		LR		20 43 00.2	
	comp=Z,2μm,20.4s,baz=352,slow=38								
KULM	**Kulim**	**85.67**	**273**	*e*P		**P**		**20 00 43.2**	**-0.6**
	comp=Z,234nm,1.4s								
KULM				LR		LR			
	comp=Z,2μm,21.0s								
ALN	**Alexandroupoli**	**85.68**	**348**	P		**P**		**20 00 41.0**	**-2.5**
ALN	**Alexandroupoli**	**85.68**	**348**	P		**P**		**20 00 41.0**	**-2.5**
ALN	**Alexandroupoli**	**85.68**	**348**	P		**P**		**20 00 41.0**	**-2.5**
SRS	**Serrai**	**85.74**	**350**	P		**P**		**20 00 42.6**	**-1.3**
SRS	**Serrai**	**85.74**	**350**	P		**P**		**20 00 42.6**	**-1.3**
SRS	**Serrai**	**85.74**	**350**	P		**P**		**20 00 42.6**	**-1.3**
KAVA	**Kavala**	**85.76**	**349**	P		**P**		**20 00 43.1**	**-0.8**
KAVA	**Kavala**	**85.76**	**349**	P		**P**		**20 00 43.1**	**-0.8**
KNT	**Kendrikon**	**85.77**	**351**	P		**P**		**20 00 43.3**	**-0.7**
KNT	**Kendrikon**	**85.77**	**351**	P		**P**		**20 00 43.3**	**-0.7**
KNT	**Kendrikon**	**85.77**	**351**	P		**P**		**20 00 43.3**	**-0.7**
MTE	**Manteigas**	**85.86**	**14**	*e*P		**P**		**20 00 47.0**	**+2.5**
	comp=Z,32nm,1.6s								
MTE	**Manteigas**	**85.86**	**14**	*e*S		**S**		**20 11 12.9**	**-2.1**
MTE	**Manteigas**	**85.86**	**14**	*e*LQ		LQ		20 25 52.4	
MTE				*e*LR		LR		20 29 33.4	
	comp=Z,4μm,22.0s								
MTE	**Manteigas**	**85.86**	**14**	PFAKE				20 01 00.0	+15
MTE				LR		LR			
	comp=Z,5μm,22.0s								
WSI	**Waingapu**	**85.93**	**248**	P		**P**		**20 00 42.6**	**-2.4**
	comp=Z,538nm,1.2s,comp=Z,5μm								
MALT	**Malatya**	**86.03**	**338**	⇑*i*P		**P**		**20 00 46.7**	**+1.3**
PCAS	**Casmilo, Conde**	**86.06**	**14**	*e*P		**P**		**20 00 44.6**	**-0.8**
	comp=Z,50nm,1.7s								
SOH	**Sokhos**	**86.06**	**350**	P		**P**		**20 00 44.1**	**-1.4**
SOH	**Sokhos**	**86.06**	**350**	P		**P**		**20 00 44.1**	**-1.4**
SOH	**Sokhos**	**86.06**	**350**	P		**P**		**20 00 44.1**	**-1.4**
IPM	**Ipoh**	**86.09**	**272**	*e*P		**P**		**20 00 45.6**	**-0.3**
	comp=Z,164nm,1.2s								
SMTH	**Samothraki Isl**	**86.16**	**348**	P		**P**		**20 00 45.0**	**-0.9**
SMTH	**Samothraki Isl**	**86.16**	**348**	P		**P**		**20 00 45.0**	**-0.9**
FNA	**Florina**	**86.29**	**352**	P		**P**		**20 00 44.8**	**-1.8**
FNA	**Florina**	**86.29**	**352**	P		**P**		**20 00 44.8**	**-1.8**
FNA	**Florina**	**86.29**	**352**	P		**P**		**20 00 44.8**	**-1.8**
KNRA	**Kununurra**	**86.31**	**238**	P		**P**		**20 00 46.4**	**-0.4**
	baz=86,SNR=8.8								
ANWB	**Willy Bob**	**86.40**	**65**	PFAKE				20 01 00.0	+13
ANWB				LR		LR			
	comp=Z,4μm,21.0s								
OUR	**Ouranopolis**	**86.48**	**350**	P		**P**		**20 00 45.4**	**-2.0**
OUR	**Ouranopolis**	**86.48**	**350**	P		**P**		**20 00 45.4**	**-2.0**
OUR	**Ouranopolis**	**86.48**	**350**	P		**P**		**20 00 45.4**	**-2.0**
MYKOM	**Kota Tinggi**	**86.49**	**268**	*e*P		**P**		**20 00 48.7**	**+0.8**
	comp=Z,124nm,1.2s								
PLG	**Polygyros**	**86.49**	**350**	P		**P**		**20 00 45.5**	**-2.1**
PLG	**Polygyros**	**86.49**	**350**	P		**P**		**20 00 45.5**	**-2.1**
PLG	**Polygyros**	**86.49**	**350**	P		**P**		**20 00 45.5**	**-2.1**
NEST	**Nestorio**	**86.68**	**352**	P		**P**		**20 00 47.0**	**-1.6**
KZN	**Kozani**	**86.73**	**351**	P		**P**		**20 00 47.1**	**-1.7**
KZN	**Kozani**	**86.73**	**351**	P		**P**		**20 00 47.1**	**-1.7**
KZN	**Kozani**	**86.73**	**351**	P		**P**		**20 00 47.1**	**-1.7**
LIA	**Limnos Island**	**86.77**	**349**	P		**P**		**20 00 48.4**	**-0.5**
LIA	**Limnos Island**	**86.77**	**349**	P		**P**		**20 00 48.4**	**-0.5**
PMRV	**Marv??o**	**86.84**	**14**	*e*S		S		20 11 18.1	-6.3
PMRV	**Marv??o**	**86.84**	**14**	*e*LQ		LQ		20 26 17.9	
PMRV				*e*LR		LR		20 31 51.8	
	comp=Z,4μm,20.0s								
LIT	**Litokhoron**	**86.86**	**351**	P		**P**		**20 00 47.8**	**-1.6**
LIT	**Litokhoron**	**86.86**	**351**	P		**P**		**20 00 47.8**	**-1.6**
LIT	**Litokhoron**	**86.86**	**351**	P		**P**		**20 00 47.8**	**-1.6**
BTDF	**Bukit Timah Da**	**86.88**	**268**	⇑P		**P**		**20 00 50.9**	**+1.1**
	baz=87,SNR=10.0								
BTDF				⇑P		**P**		**20 00 50.9**	**+1.1**
	baz=87,SNR=10.0								
PAIG	**Paliouri**	**86.91**	**350**	P		**P**		**20 00 48.1**	**-1.5**
PAIG	**Paliouri**	**86.91**	**350**	P		**P**		**20 00 48.1**	**-1.5**
PAIG	**Paliouri**	**86.91**	**350**	P		**P**		**20 00 48.1**	**-1.5**
ESDC	**Sonseca Array**	**87.04**	**11**	P		**P**		**20 00 50.3**	**0.0**
	comp=Z,4.9nm,0.6s,baz=352,slow=4.6,SNR=25								
ESDC				PKKPbc		**PKKPbc**		**20 18 42.9**	**+2.7**
	comp=Z,1.3nm,0.9s,baz=172,slow=2.3,SNR=4.7								
ESDC				LR		LR		20 39 43.8	
	comp=Z,3μm,21.9s,baz=355,slow=36								
ESLA	**Sonseca Array**	**87.04**	**11**	*e*P		**P**		**20 00 49.5**	**-0.8**
	comp=Z,2.3nm,0.8s								
PAB	**San Pablo**	**87.12**	**11**	*e*P		**P**		**20 00 50.7**	**0.0**
PAB				pmax		pmax			
	comp=Z,14nm,1.1s								
PAB	**San Pablo**	**87.12**	**11**	*e*P		**P**		**20 00 50.7**	**0.0**
	comp=Z,14nm,1.1s								
WRAB	**Tennant Creek**	**87.16**	**231**	P		**P**		**20 00 49.7**	**-1.2**
WRAB				pmax		pmax			
	comp=Z,130nm,1.3s								
WRAB	**Tennant Creek**	**87.16**	**231**	P		**P**		**20 00 49.7**	**-1.2**
	comp=Z,130nm,1.3s								
WRA	**Warramunga Arr**	**87.18**	**231**	P		**P**		**20 00 49.7**	**-1.3**
	comp=Z,33nm,0.9s,baz=36,slow=5.1,SNR=38								
WRA				LR		LR		20 35 52.4	
	comp=Z,4μm,21.8s,baz=60,slow=33								
IBAF	**Bafgh**	**87.18**	**323**	*e*P		**P**		**20 00 50.9**	**-0.4**
RPR	**Rampur**	**87.23**	**298**	*e*P		**P**		**20 00 50.8**	**-0.6**
RPR				IAmb		IAmb		20 00 59.3	
	comp=Z,12nm,0.8s								
RPR				*e*SKSac		**SKSac**		**20 11 14.9**	**-1.3**
RPR				IVMs_BB		IVMs_BB		20 42 45.6	
	comp=Z,1μm,18.6s								
LIS	**Lisbon**	**87.27**	**15**	*e*P		**P**		**20 00 51.2**	**-0.1**
LIS				AMS		AMS		20 42 20.9	
	comp=Z,3μm,16.2s								
LIS	**Lisbon**	**87.27**	**15**	*e*P		**P**		**20 00 51.2**	**-0.1**
PVM	**Polavaram**	**87.27**	**295**	*e*P		**P**		**20 00 49.4**	**-2.3**
PVM				IAmb		IAmb		20 00 57.0	
	comp=Z,19nm,0.8s								
PVM				*e*SKSac		**SKSac**		**20 11 17.4**	**+0.9**
PVM				IVMs_BB		IVMs_BB		20 47 31.5	
	comp=Z,661nm,14.2s								
PRK	**Paraskevi**	**87.28**	**348**	P		**P**		20 00 56.8	+5.4
SRN	**Sarande**	**87.30**	**353**	P		**P**		**20 00 50.5**	**-0.9**
SRN	**Sarande**	**87.30**	**353**	P		**P**		**20 00 50.5**	**-0.9**
PESTR	**Estremoz**	**87.36**	**14**	*e*P		P		20 00 47.5	-4.3
	comp=Z,43nm,1.9s								
SIGR	**SIGRI**	**87.36**	**348**	P		**P**		**20 00 49.5**	**-2.3**
SIGR	**SIGRI**	**87.36**	**348**	P		**P**		**20 00 49.5**	**-2.3**
THL	**Klokotos Trika**	**87.44**	**351**	P		**P**		**20 00 49.7**	**-2.4**
CUC	**Castrocucco**	**87.44**	**356**	PFAKE				20 01 00.0	+7.8
CUC				LR		LR			
	comp=Z,2μm,20.0s								
JAN	**Janina**	**87.45**	**352**	P		**P**		**20 00 51.5**	**-0.8**
JAN	**Janina**	**87.45**	**352**	P		**P**		**20 00 51.5**	**-0.8**
JAN	**Janina**	**87.45**	**352**	P		**P**		**20 00 51.5**	**-0.8**
XOR	**Xorichti**	**87.52**	**350**	P		**P**		**20 00 50.7**	**-1.9**
XOR	**Xorichti**	**87.52**	**350**	P		**P**		**20 00 50.7**	**-1.9**
SGD	**Sagiada**	**87.55**	**352**	P		**P**		**20 00 51.2**	**-1.5**
NEO	**Neokhori**	**87.57**	**350**	P		**P**		**20 00 51.2**	**-1.6**
NEO	**Neokhori**	**87.57**	**350**	P		**P**		**20 00 51.2**	**-1.6**
AOS	**Alonnisos**	**87.64**	**350**	P		**P**		**20 00 51.4**	**-1.7**
AOS	**Alonnisos**	**87.64**	**350**	P		**P**		**20 00 51.4**	**-1.7**
KULA	**Kula-Manisa**	**87.66**	**346**	P		**P**		**20 00 51.5**	**-1.9**
KULA	**Kula-Manisa**	**87.66**	**346**	P		**P**		**20 00 51.5**	**-1.9**
SRSP	**Sriramsagar**	**87.68**	**299**	*e*P		**P**		**20 00 51.7**	**-1.9**
SRSP				IAmb		IAmb		20 00 54.8	
	comp=Z,94nm,1.9s								
SRSP				*e*SKSac		**SKSac**		**20 11 21.4**	**+2.5**
SRSP				IVMs_BB		IVMs_BB		20 42 52.4	
	comp=Z,2μm,16.3s								
TAG	**Tarade**	**87.79**	**66**	*e*P		**P**		**20 00 55.4**	**+1.1**
TPI	**Tanjungpandan**	**87.79**	**263**	P		**P**		**20 00 53.9**	**-0.2**
	comp=Z,51nm,1.3s,comp=Z,2μm								
AGG	**Agios Georgios**	**87.95**	**351**	*e*P		**P**		**20 00 54.1**	**-0.5**
AGG				pmax		pmax			
	comp=Z,17nm,1.1s								
AGG	**Agios Georgios**	**87.95**	**351**	*e*P		**P**		**20 00 54.1**	**-0.5**
	comp=Z,17nm,1.1s								
TBG	**Guadaloupe-3**	**87.95**	**66**	*e*P		**P**		**20 00 55.5**	**+0.6**
PNCL	**Nicolau / Gran**	**87.96**	**15**	*e*P		**P**		**20 00 54.8**	**+0.2**
	comp=Z,37nm,2.0s								
LHMI	**Lhok Sumawe**	**87.96**	**276**	P		**P**		**20 00 57.0**	**+2.0**
	comp=Z,268nm,1.3s,comp=Z,3μm								
LHMI	**Lhok Sumawe**	**87.96**	**276**	*e*P		**P**		**20 00 54.8**	**-0.2**
	comp=Z,82nm,0.5s								
EVR	**Evrytania**	**88.10**	**351**	P		**P**		**20 00 54.5**	**-1.0**
EVR	**Evrytania**	**88.10**	**351**	P		**P**		**20 00 54.5**	**-1.0**
PBAR	**Barrancos**	**88.12**	**14**	*e*P		**P**		**20 00 54.6**	**-0.8**
	comp=Z,68nm,1.5s								
MRKA	**Markates**	**88.13**	**350**	P		**P**		**20 00 52.6**	**-2.9**
ATAL	**Atalanti**	**88.20**	**350**	P		P		20 00 52.3	-3.5
ATAL	**Atalanti**	**88.20**	**350**	P		P		20 00 52.3	-3.5
TIP	**Timpagrande**	**88.21**	**355**	*e*P		**P**		**20 00 55.6**	**-0.3**
	comp=Z,11nm,1.4s								
TIP	**Timpagrande**	**88.21**	**355**	P		**P**		**20 00 54.9**	**-1.0**
PPBI	**Pangkal Pinang**	**88.23**	**264**	P		**P**		**20 00 55.6**	**-0.6**
	comp=Z,39nm,2.0s,comp=Z,1μm								
LKR	**Lokris**	**88.25**	**350**	P		**P**		**20 00 54.1**	**-1.9**
LKR	**Lokris**	**88.25**	**350**	P		**P**		**20 00 54.1**	**-1.9**
MESJ	**Messejana**	**88.27**	**15**	*e*P		**P**		**20 00 56.0**	**-0.1**
MESJ				*e*PP		**PP**		**20 04 23.1**	**+0.4**
MESJ				*e*S		**SKSac**		**20 11 20.3**	**-1.7**
MESJ				AMS		AMS		20 42 56.1	
	comp=Z,4μm,17.7s								
MESJ	**Messejana**	**88.27**	**15**	*e*P		**P**		**20 00 56.0**	**-0.1**
MESJ				*e*				20 04 23.1	
MESJ				*e*S		**SKSac**		**20 11 20.3**	**-1.7**
BBL	**Barber's Block**	**88.32**	**66**	*e*P		**P**		**20 00 57.2**	**+0.5**
TSI	**Tuntungan**	**88.35**	**274**	P		**P**		**20 00 57.0**	**+0.2**
	comp=Z,251nm,1.1s								
SDV	**Santo Domingo**	**88.37**	**78**	*e*P		**P**		**20 00 56.1**	**-1.0**
	comp=Z,71nm,1.0s								
PDO	**Prodromos**	**88.47**	**352**	P		**P**		**20 00 55.8**	**-1.3**
DSF	**Desfina**	**88.53**	**350**	P		**P**		**20 00 54.9**	**-2.5**
DSF	**Desfina**	**88.53**	**350**	P		**P**		**20 00 54.9**	**-2.5**
EFP	**Efpalio**	**88.58**	**351**	P		**P**		**20 00 55.2**	**-2.4**
TRIZ	**Trizonia**	**88.62**	**351**	P		**P**		**20 00 56.3**	**-1.5**
PSI	**Prapat**	**88.69**	**273**	*e*P		**P**		**20 00 57.3**	**-1.2**
PSI	**Prapat**	**88.69**	**273**	P		**P**		**20 00 58.6**	**+0.1**
	baz=89,SNR=130								
PSI	**Prapat**	**88.69**	**273**	*e*P		**P**		**20 00 57.3**	**-1.2**
MORF	**Marmelete**	**88.72**	**15**	*e*P		**P**		**20 00 58.0**	**-0.4**
MORF				*e*PP		**PP**		**20 04 26.6**	**+0.2**
MORF				AMS		AMS		20 42 53.6	
	comp=Z,3μm,20.3s								
MORF	**Marmelete**	**88.72**	**15**	*e*P		**P**		**20 00 58.9**	**+0.5**
MORF	**Marmelete**	**88.72**	**15**	*e*P		**P**		**20 00 57.9**	**-0.4**
MORF				*e*				20 04 26.6	
LAKA	**Lakka**	**88.75**	**351**	P		**P**		**20 00 57.1**	**-1.4**
LAKA	**Lakka**	**88.75**	**351**	P		**P**		**20 00 57.1**	**-1.4**
PVAQ	**Vaqueiros**	**88.77**	**14**	*e*P		**P**		**20 00 59.3**	**+0.8**
	comp=Z,48nm,1.8s								
PVAQ	**Vaqueiros**	**88.77**	**14**	*e*S		**SKSac**		**20 11 26.9**	**+1.9**
PVAQ	**Vaqueiros**	**88.77**	**14**	*e*LQ		LQ		20 26 25.4	
PVAQ				*e*LR		LR		20 32 41.1	
	comp=Z,2μm,18.0s								
HYBB	**Hyderabad (bro**	**88.81**	**298**	*e*P		**P**		**20 00 57.8**	**-1.2**
HYBB				IAmb		IAmb		20 01 04.6	
	comp=Z,39nm,1.1s								
HYBB				*e*SKSac		**SKSac**		**20 11 25.6**	**-0.2**
HYBB				IVMs_BB		IVMs_BB		20 46 30.9	
	comp=Z,1μm,15.0s								
HYB	**Hyderabad**	**88.81**	**298**	*i* P		**P**		**20 00 57.0**	**-2.0**
ATHU	**Athens Univers**	**88.84**	**349**	P		**P**		**20 00 59.2**	**+0.4**
ATHU	**Athens Univers**	**88.84**	**349**	P		**P**		**20 00 59.2**	**+0.4**
ATH	**Athens Observa**	**88.84**	**350**	P		**P**		**20 00 57.7**	**-1.1**
ATH	**Athens Observa**	**88.84**	**350**	P		**P**		**20 00 57.7**	**-1.1**
ATH	**Athens Observa**	**88.84**	**350**	P		**P**		**20 00 57.7**	**-1.1**
LTK	**Loutraki**	**88.87**	**350**	P		**P**		**20 00 56.3**	**-2.7**
LTK	**Loutraki**	**88.87**	**350**	P		**P**		**20 00 56.3**	**-2.7**
OUZ	**Omahuta**	**88.89**	**194**	*e*P		**P**		**20 00 59.7**	**+1.0**
	comp=Z,129nm,1.3s								
KLV	**Kalavryta, Ach**	**88.93**	**351**	P		**P**		**20 00 57.9**	**-1.5**
KLV	**Kalavryta, Ach**	**88.93**	**351**	P		**P**		**20 00 57.9**	**-1.5**
RLS	**Riolos of Patr**	**88.98**	**351**	P		**P**		**20 00 58.9**	**-0.6**
RLS	**Riolos of Patr**	**88.98**	**351**	P		**P**		**20 00 58.9**	**-0.6**
GUR	**Goura**	**89.02**	**351**	P		**P**		**20 00 57.6**	**-2.2**
GUR	**Goura**	**89.02**	**351**	P		**P**		**20 00 57.6**	**-2.2**
DRO	**Drossia**	**89.06**	**351**	P		**P**		**20 00 58.9**	**-1.0**
NJS	**Nagarjunasagar**	**89.11**	**297**	*e*P		**P**		**20 00 58.8**	**-1.6**
NJS				IAmb		IAmb		20 01 03.3	
	comp=Z,326nm,3.2s								
NJS				*e*SKSac		**SKSac**		**20 11 25.9**	**-1.7**
NJS				IVMs_BB		IVMs_BB		20 44 05.3	
	comp=Z,1μm,24.5s								
FDF	**Fort de France**	**89.14**	**67**	*e*P		**P**		**20 01 00.9**	**+0.3**
FDF				pmax		pmax			
	comp=Z,99nm,0.9s								
FDF				MLR		MLR			
	comp=Z,3μm,19.0s								
FDF	**Fort de France**	**89.14**	**67**	*e*P		**P**		**20 01 00.9**	**+0.3**
	comp=Z,99nm,0.9s								
FDF				LR		LR			
	comp=Z,3μm,19.0s								
KLRI	**Killari**	**89.31**	**299**	*e*P		**P**		**20 00 60.0**	**-1.4**
KLRI				IAmb		IAmb		20 01 03.0	
	comp=Z,189nm,1.9s								
KLRI				*e*SKSac		**SKSac**		**20 11 29.7**	**+0.9**
KLRI				IVMs_BB		IVMs_BB		20 44 36.0	
	comp=Z,2μm,15.8s								
JMBI	**JAMBI**	**89.33**	**266**	P		**P**		**20 01 04.0**	**+2.6**
ADKI	**Addanki**	**89.33**	**296**	*e*P		**P**		**20 01 00.6**	**-0.8**
ADKI				IAmb		IAmb		20 01 07.5	
	comp=Z,24nm,1.0s								
ADKI				*e*SKSac		**SKSac**		**20 11 32.8**	**+4.0**
ADKI				IVMs_BB		IVMs_BB		20 42 47.4	
	comp=Z,1μm,23.1s								
ROSC	**El Rosal**	**89.35**	**83**	P		**P**		**20 01 02.5**	**+0.4**
	comp=Z,13nm,0.8s,baz=58,slow=1.9,SNR=15								
ROSC				LR		LR		20 44 20.7	
	comp=Z,751nm,18.1s,baz=359,slow=38								
ROSC	**El Rosal**	**89.35**	**83**	*e*P		**P**		**20 01 02.6**	**+0.6**
DID	**Didima**	**89.35**	**350**	P		P		20 00 57.0	-4.3
DID	**Didima**	**89.35**	**350**	P		P		20 00 57.0	-4.3
BKNI	**Bangkinang**	**89.36**	**270**	P		**P**		**20 01 02.2**	**+0.7**
	comp=Z,393nm,1.2s,comp=Z,4μm								
BKNI	**Bangkinang**	**89.36**	**270**	P		**P**		**20 01 02.1**	**+0.5**
	baz=90,SNR=8.4								
BKNI	**Bangkinang**	**89.36**	**270**	*e*P		**P**		**20 01 01.7**	**+0.1**
	comp=Z,708nm,1.3s								
DIDY	**Didyma**	**89.39**	**350**	P		P		20 00 54.9	-6.6
ZKS	**Zakynthos**	**89.40**	**352**	P		**P**		**20 00 59.7**	**-1.8**
AMT	**Artemida-Makis**	**89.48**	**351**	P		**P**		**20 01 03.3**	**+1.4**
PWJI	**Pagerwojo**	**89.50**	**256**	P		**P**		**20 00 59.7**	**-2.5**
	comp=Z,50nm,1.8s,comp=Z,2μm								
ARMA	**Armidale**	**89.52**	**213**	⇑P		**P**		**20 00 59.0**	**-2.9**
	baz=89,SNR=18								
VLX	**Vlachokerasia**	**89.58**	**350**	P		**P**		**20 01 00.2**	**-2.2**
VLX	**Vlachokerasia**	**89.58**	**350**	P		**P**		**20 01 00.2**	**-2.2**
IPAR	**Pars**	**89.68**	**324**	*e*P		**P**		**20 01 05.4**	**+2.1**
SRLM	**Srisailam**	**89.70**	**297**	*e*P		**P**		**20 01 03.9**	**+0.7**
SRLM				IAmb		IAmb		20 01 09.6	
	comp=Z,50nm,1.5s								
SRLM				*e*SKSac		**SKSac**		**20 11 33.1**	**+2.0**
SRLM				IVMs_BB		IVMs_BB		20 44 53.0	
	comp=Z,1μm,12.6s								
ITM	**Ithomi**	**89.81**	**351**	P		**P**		**20 01 01.9**	**-1.5**
ITM	**Ithomi**	**89.81**	**351**	P		**P**		**20 01 01.9**	**-1.5**
MNSI	**Mandailing Nat**	**89.87**	**271**	P		**P**		**20 01 02.8**	**-1.1**
	comp=Z,35nm,0.7s								
FITZ	**Fitzroy Crossi**	**89.96**	**239**	⇑P		**P**		**20 01 03.2**	**-0.9**
	baz=90								
ISRV	**Sarvestan**	**90.07**	**324**	*e*P		**P**		**20 01 05.7**	**+0.6**
PYL	**PYLOS**	**90.11**	**351**	P		P		20 01 01.5	-3.3
PYL	**PYLOS**	**90.11**	**351**	P		P		20 01 01.5	-3.3
RCLA	**Racherla**	**90.20**	**296**	*e*P		P		20 01 00.8	-4.7
RCLA				IAmb		IAmb		20 01 07.4	
	comp=Z,72nm,1.6s								
RCLA				*e*SKSac		**SKSac**		**20 11 35.2**	**+1.3**
RCLA				IVMs_BB		IVMs_BB		20 47 49.3	
	comp=Z,785nm,5.0s								
CSS	**Prodhromos**	**90.33**	**341**	P		**P**		**20 01 04.3**	**-1.6**
CSS				LR		LR			
	comp=Z,395nm,21.0s								
CSS	**Prodhromos**	**90.33**	**341**	P		**P**		**20 01 04.3**	**-1.6**
PPI	**Padang Panjang**	**90.36**	**270**	P		**P**		**20 01 05.2**	**-1.0**
	comp=Z,53nm,1.3s,comp=Z,1μm								
OTAV	**Otavalo**	**90.51**	**89**	*e*P		**P**		**20 01 07.0**	**-0.5**
	comp=Z,36nm,0.9s								
AS31	**Alice Springs**	**90.58**	**230**	*e*P		**P**		**20 01 06.5**	**-0.4**
ASAR	**Alice Springs**	**90.58**	**230**	P		**P**		**20 01 06.4**	**-0.6**
	comp=Z,71nm,1.0s,baz=33,slow=4.5,SNR=80								
ASAR				PKKPbc		PKKPbc		20 18 37.7	+5.2
	comp=Z,1.0nm,0.9s,baz=202,sl

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**123.84**	**327**	*e*PKPdf	**PKPdf**	**20 07 03.9**	**+0.6**
KMBO				LR	LR		
	comp=Z,2µm,21.0s						
CPUP	**Villa Florida**	**123.85**	**90**	PKP	**PKPdf**	**20 07 01.9**	**-0.6**
	comp=Z,9.6nm,1.0s,baz=344,slow=2.4,SNR=8.2						
CPUP				PKKPab	**PKKPab**	**20 16 50.0**	**+1.6**
	comp=Z,3.0nm,1.0s,baz=146,slow=3.6,SNR=3.1						
DRV	**Dumont d'Urvil**	**125.09**	**202**	SS	SS	20 25 48.0	+0.3
DRV				L	L	20 39 00.0	
DRV				R		20 45 00.0	
BB16B	**Bebedouro**	**125.15**	**78**	⇑*i*P	**PKPdf**	**20 07 05.1**	**-0.2**
BB16B				*i*		20 07 09.5	
BB16B				*i*		20 07 13.6	
BB16B				*i*		20 07 17.4	
BB16B				*i*		20 07 21.9	
BB16B				*i*		20 07 26.6	
MBAR	**Mbarara**	**125.26**	**335**	PFAKE		20 07 20.0	+14
MBAR				LR	LR		
	comp=Z,573nm,19.0s						
TRQA	**Tornquist**	**129.26**	**104**	*e*PKPdf	**PKPdf**	**20 07 12.9**	**+0.3**
SBA	**Scott Base**	**131.22**	**186**	*e*PKIKP	**PKPdf**	**20 07 14.8**	**-0.3**
SBA	**Scott Base**	**131.22**	**186**	*e*PKPdf	**PKPdf**	**20 07 14.8**	**-0.3**
VNDA	**Vanda**	**131.28**	**188**	*e*PKIKP	**PKPdf**	**20 07 15.2**	**0.0**
VNDA	**Vanda**	**131.28**	**188**	*e*PKPdf	**PKPdf**	**20 07 15.2**	**0.0**
CASY	**Casey**	**133.13**	**213**	PFAKE		20 07 30.0	+11
CASY				LR	LR		
	comp=Z,3µm,22.0s						
OPO	**Ambohidratompo**	**135.45**	**306**	PKP	**PKPdf**	**20 07 25.0**	**+0.1**
	comp=Z,16nm,1.1s,baz=48,slow=2.6,SNR=4.9						
OPO				SKPbc	**SKPab**	**20 10 55.8**	**-1.8**
	comp=Z,5.5nm,1.1s,baz=16,slow=1.7,SNR=4.0						
ABPO	**Ambohimpanom**	**135.81**	**306**	*e*PKIKP	**PKPdf**	**20 07 26.9**	**+1.3**
ABPO				MLR	MLR		
	comp=Z,1µm,19.0s						
ABPO	**Ambohimpanom**	**135.81**	**306**	*e*PKPdf	**PKPdf**	**20 07 26.9**	**+1.3**
ABPO				LR	LR		
	comp=Z,1µm,19.0s						
EFI	**East Falkland**	**139.52**	**117**	PFAKE		20 07 40.0	+8.8
EFI				LR	LR		
	comp=Z,3µm,21.0s						
LSZ	**Lusaka**	**139.98**	**333**	PKhKP	PKPpre	20 07 27.3	
	comp=Z,5.8nm,0.5s,baz=355,slow=1.6,SNR=12						
LSZ	**Lusaka**	**139.98**	**333**	PFAKE		20 07 40.0	+6.6
LSZ				LR	LR		
	comp=Z,3µm,22.0s						
QSPA	**South Pole Qui**	**142.58**	**180**	PKhKP	PKPpre	20 07 31.3	
	comp=Z,22nm,0.6s,baz=58,slow=0.9,SNR=42						
QSPA	**South Pole Qui**	**142.58**	**180**	*e*PKPdf	**PKPdf**	**20 07 36.8**	**+0.4**
PAF	**Port-aux-Franc**	**143.21**	**251**	PKP	PKPab	20 07 09.0	-25
PAF				SKKS		20 17 48.0	
PAF				SS	SS	20 29 46.0	+19
MATP	**Matopo**	**144.76**	**330**	PKP	PKPbc	20 07 40.9	+0.2
	comp=Z,78nm,1.0s,baz=358,slow=2.4,SNR=76						
TSUM	**Tsumeb**	**145.98**	**348**	PKPbc	**PKPbc**	**20 07 44.9**	**+0.2**
	comp=Z,66nm,0.9s,baz=353,slow=4.5,SNR=63						
TSUM	**Tsumeb**	**145.98**	**348**	*e*PKPbc	**PKPab**	**20 07 45.1**	**-0.1**
MSNA	**Messina**	**146.06**	**326**	*e*P	**PKPab**	**20 07 45.2**	**-0.1**
SLR	**Silverton**	**149.79**	**327**	*e*P	**PKPbc**	**20 07 54.9**	**+0.1**
SLR				IAMs_20	IAMs_20	21 20 41.8	
	comp=Z,5µm,23.8s						
LBTB	**Lobatse**	**149.95**	**332**	*e*P	**PKPbc**	**20 07 55.6**	**+0.5**
LBTB				IAMs_20	IAMs_20	21 19 04.0	
	comp=Z,3µm,22.5s						
LBTB	**Lobatse**	**149.95**	**332**	PKP	**PKPdf**	**20 07 51.0**	**+0.7**
	comp=Z,121nm,1.0s,baz=268,slow=4.8,SNR=5.2						
LBTB				PKPbc	**PKiKP**	**20 07 55.9**	**-0.2**
	comp=Z,278nm,1.0s,baz=28,slow=2.1,SNR=91						
LBTB	**Lobatse**	**149.95**	**332**	*e*PKPbc	**PKPbc**	**20 07 55.6**	**+0.5**
POGA	**Pongola**	**150.07**	**320**	*e*P	**PKPbc**	**20 07 55.8**	**+0.6**
KSR	**Koster**	**150.34**	**329**	*e*P	**PKPbc**	**20 07 55.5**	**-0.6**
KLOF	**Kloof**	**150.58**	**327**	*e*P	**PKPbc**	**20 07 56.5**	**-0.2**
WDLM	**Western Deep L**	**150.71**	**328**	*e*P	**PKPbc**	**20 07 57.4**	**+0.4**
MAW	**Mawson**	**151.14**	**219**	PKP	**PKPdf**	**20 07 50.6**	**+0.1**
	comp=Z,8.0nm,1.0s,baz=279,slow=4.3,SNR=7.9						
MAW				PKPbc	**PKPbc**	**20 07 56.4**	**0.0**
	comp=Z,103nm,1.0s,baz=74,slow=1.3,SNR=59						
MAW	**Mawson**	**151.14**	**219**	PKIKP	**PKPdf**	**20 07 50.6**	**+0.1**
MAW						20 07 56.4	
MAW				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MAW	**Mawson**	**151.14**	**219**	P	**PKPdf**	**20 07 50.9**	**+0.4**
	baz=151,SNR=48						
PRYS	**Parys**	**151.19**	**327**	*e*P	**PKPbc**	**20 07 58.1**	**0.0**
BFSD	**Buffelsfontein**	**151.32**	**328**	*e*P	**PKPbc**	**20 07 58.6**	**+0.3**
SWZ	**Schweizer**	**152.07**	**331**	*e*P	**PKPbc**	**20 07 59.0**	**-1.1**
SEK	**Senekal**	**152.40**	**326**	*e*P	**PKPbc**	**20 08 00.6**	**-0.2**
HOPE	**Hope Point**	**152.50**	**112**	PFAKE		20 08 00.0	+0.1
HOPE				LR	LR		
	comp=Z,3µm,20.0s						
BOSA	**Boshof**	**153.43**	**330**	*e*P	**PKPdf**	**20 07 55.6**	**+0.2**
BOSA				IAMs_20	IAMs_20	21 19 59.0	
	comp=Z,3µm,21.5s						
BOSA	**Boshof**	**153.43**	**330**	PKP	**PKPdf**	**20 07 55.8**	**+0.4**
	comp=Z,9.6nm,0.9s,baz=344,slow=2.4,SNR=9.9						
BOSA				PKPbc	**PKiKP**	**20 08 03.3**	**+0.1**
	comp=Z,63nm,1.0s,baz=11,slow=2.2,SNR=39						
BOSA	**Boshof**	**153.43**	**330**	PKIKP	**PKPdf**	**20 07 55.8**	**+0.4**
BOSA						20 08 03.3	
BOSA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BOSA	**Boshof**	**153.43**	**330**	⇓P	**PKPdf**	**20 07 55.1**	**-0.3**
	baz=154,SNR=50						
BOSA	**Boshof**	**153.43**	**330**	*e*PKPdf	**PKPdf**	**20 07 55.6**	**+0.2**
BOSA				*e*PKPbc	**PKPbc**	**20 08 02.6**	**-0.4**
BOSA				PKPbc	**PKiKP**	**20 08 03.3**	**+0.1**
UPI	**Upington**	**154.27**	**338**	*e*P	**PKPdf**	**20 07 59.3**	**+2.7**
HVD	**Gariep Dam**	**155.21**	**328**	*e*P	**PKPdf**	**20 08 02.2**	**+4.3**
SUR	**Sutherland**	**158.23**	**336**	PFAKE		20 08 10.0	+8.3
SUR				LR	LR		
	comp=Z,4µm,21.0s						
SNAA	**Sanae**	**160.20**	**168**	PKP	**PKPdf**	**20 08 00.9**	**-1.7**
	comp=Z,4.8nm,1.1s,baz=158,slow=1.7,SNR=22						
SNAA				PKPab	**PKPab**	**20 08 42.9**	**-0.3**
	comp=Z,8.0nm,1.1s,baz=220,slow=10,SNR=11						
SNAA	**Sanae**	**160.20**	**168**	PKIKP	**PKPdf**	**20 08 00.9**	**-1.7**
SNAA						20 08 42.9	
SNAA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
SNAA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
SNAA	**Sanae**	**160.20**	**168**	*e*PKPdf	**PKPdf**	**20 08 00.4**	**-2.3**
SNAA				PKP	**PKPdf**	**20 08 00.9**	**-1.7**
SNAA				*e*PKPab	**PKPab**	**20 08 41.5**	**-1.7**
SNAA				PKPab	PKPab	20 08 42.9	-0.3
VNA1	**Neumayer--Stat**	**160.22**	**162**	P	**PKPdf**	**20 08 01.0**	**-1.5**
VNA1	**Neumayer--Stat**	**160.22**	**162**	PKPab	**PKPab**	**20 08 43.2**	**0.0**
NVL	**N'lazarevskaya**	**161.98**	**182**	*e*PKP2	**PKPab**	**20 08 48.7**	**-2.2**

IDC 18 19:48:45.3±3.4**, 5°.33S**×**150°.40E, h0**km**, mb3.7**/2**, mb1 3.9**/3**, mb1mx3.7**/40**, mbtmp3.8**/3**, ML1.6**/1**, Error ellipse: s-maj=124.7km s-min=41.6km az=116.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.17**	**218**	Pn	Pn	19 50 05.8	+1.9
	1.6nm,0.3s,baz=36,slow=14,SNR=6.3						
PMG				Sn	Sn	19 51 00.3	-4.0
	4.6nm,0.3s,baz=246,slow=20,SNR=4.3						
WRA	**Warramunga Arr**	**21.33**	**226**	P	P	19 53 33.8	-0.3
	1.8nm,0.4s,baz=50,slow=10,SNR=31						
ASAR	**Alice Springs**	**24.18**	**219**	P	P	19 54 02.6	-1.0
	1.2nm,0.7s,baz=56,slow=8.8,SNR=22						
TORD	**Torodi Ar. Bea**	**148.18**	**286**	PKPbc	PKPbc	20 08 34.2	-0.1
	2.6nm,0.7s,baz=86,slow=2.6,SNR=6.3						

IDC 18 19:54:05.1±2.4**, 6°.13S**×**150°.73E, h0**km**, mb3.9**/3**, mb1 4.0**/4**, mb1mx3.6**/49**, mbtmp3.9**/4**, ML1.5**/1**, MS3.8**/1**, Ms1 3.8**/1**, ms1mx3.3**/31**, Error ellipse: s-maj=69.9km s-min=35.9km az=123.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.80**	**227**	Pn	Pn	19 55 20.3	+1.5
	1.6nm,0.3s,baz=34,slow=15,SNR=5.4						
PMG				Sn	Sn	19 56 15.6	+0.4
	1.7nm,0.3s,baz=112,slow=16,SNR=2.8						
HNR	**Honiara**	**9.70**	**110**	LR	LR	19 59 19.9	
	comp=Z,589nm,20.4s,baz=263,slow=32						
WRA	**Warramunga Arr**	**21.02**	**228**	P	P	19 58 50.7	0.0
	2.3nm,0.5s,baz=52,slow=10,SNR=23						
ASAR	**Alice Springs**	**23.79**	**221**	P	P	19 59 19.6	-0.2
	1.5nm,0.5s,baz=54,slow=9.1,SNR=42						
STKA	**Stephens Creek**	**27.00**	**197**	P	P	19 59 48.0	-0.9
	1.7nm,0.7s,baz=9.6,slow=8.2,SNR=5.4						
TORD	**Torodi Ar. Bea**	**148.71**	**285**	PKPbc	PKPbc	20 13 55.4	-0.1
	0.3nm,0.4s,baz=87,slow=2.5,SNR=6.1						

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*IDC **18** 19:55:52.7±0.6, 5°.90S×150°.88E, h0km, mb4.3/15, mb1 4.4/17, mb1mx4.2/49, mbtmp4.3/17, ML1.7/1, Error ellipse: s-maj=22.5km s-min=15.0km az=83.0*

*ISCJB **18** 19:55:57.1±0.6, 5°.96S±0°.07×150°.8E±0°.1, h43km, mb4.2/17, Error ellipse: s-maj=15.9km s-min=7.7km az=25.5*

*NEIC **18** 19:55:57.7±0.5, 5°.95S×150°.84E, h35km, mb4.4/1, Error ellipse: s-maj=16.1km s-min=8.7km az=103.0*

ISC 18 19:55:58.7±0.6**, 5°.96S**±0°.08×**150°.8E**±0°.1**, h43**km**, n28, σ1s.11**/31**, mb4.3**/17**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.99**	**226**	Pn	**Pn**	**19 57 12.2**	**+1.1**
	2.0nm,0.3s,baz=50,slow=14,SNR=3.8						
PMG				Sn	**Sn**	**19 58 07.5**	**-0.1**
	19nm,0.3s,baz=134,slow=19,SNR=7.5						
PMG	**Port Moresby**	**4.99**	**226**	Pn	**Pn**	**19 57 12.2**	**+1.1**
	50nm,0.6s						
PMG				Sn	**Sn**	**19 58 07.5**	**-0.1**
CTA	**Charters Tower**	**14.73**	**197**	Pn	**Pn**	**19 59 25.1**	**+0.7**
	0.2nm,0.3s,baz=34,slow=16,SNR=3.9						
CTAO	**Charters Tower**	**14.73**	**197**	Pn	**Pn**	**19 59 21.7**	**-2.7**
WRAB	**Tennant Creek**	**21.19**	**228**	*e*P	**P**	**20 00 40.1**	**-0.7**
	6.9nm,0.4s						
WRA	**Warramunga Arr**	**21.21**	**228**	P	**P**	**20 00 40.9**	**-0.1**
	16nm,0.7s,baz=50,slow=10,SNR=18						
WRA				PcP	**PcP**	**20 04 46.4**	**+1.0**
	3.4nm,0.6s,baz=47,slow=2.0,SNR=9.8						
URZ	**Urewera**	**40.04**	**147**	P	**P**	**20 03 30.1**	**+0.4**
	5.8nm,0.6s,baz=309,slow=6.5,SNR=3.3						
LEM	**Lembang**	**42.93**	**266**	P	**P**	**20 03 53.9**	**-0.1**
	14nm,0.7s,baz=89,slow=14,SNR=3.9						
JNU	**Nakatsue**	**43.23**	**335**	P	**P**	**20 03 55.9**	**-0.1**
	16nm,0.9s,baz=14,slow=2.7,SNR=8.1						
MJAR	**Matsushiro Arr**	**43.90**	**345**	P	**P**	**20 04 02.2**	**+0.9**
	0.5nm,0.6s,baz=172,slow=8.2,SNR=3.4						
KSRS	**Korea Array**	**48.19**	**335**	P	**P**	**20 04 36.5**	**+1.6**
	3.9nm,0.9s,baz=154,slow=8.6,SNR=8.4						
KSAR	**Wonju Array Be**	**48.19**	**335**	P	**P**	**20 04 36.5**	**+1.5**
CMAR	**Chiang Mai Arr**	**56.61**	**297**	P	**P**	**20 05 37.5**	**-0.3**
	0.3nm,0.3s,baz=120,slow=6.4,SNR=4.7						
PETK	**Petropavlovsk-**	**59.13**	**5**	P	**P**	**20 05 54.6**	**-0.3**
	1.4nm,0.5s,baz=196,slow=9.0,SNR=3.4						
SONM	**Songino Array**	**66.27**	**329**	P	**P**	**20 06 43.2**	**+0.5**
	1.1nm,0.5s,baz=138,slow=4.9,SNR=4.8						
VNDA	**Vanda**	**71.76**	**177**	P	**P**	**20 07 16.6**	**+0.5**
	4.7nm,1.0s,baz=315,slow=4.7,SNR=16						
MKAR	**Makanchi Array**	**79.91**	**320**	P	**P**	**20 08 03.6**	**+0.3**
	0.7nm,0.7s,baz=120,slow=5.0,SNR=5.7						
ZALV	**Zalesovo Beam**	**81.03**	**327**	P	**P**	**20 08 07.9**	**-1.2**
	1.4nm,0.6s,baz=104,slow=5.7,SNR=4.0						
KURK	**Kurchatov**	**83.47**	**322**	P	**P**	**20 08 21.0**	**-0.9**
KURBB	**Kurchatov Arra**	**83.50**	**322**	P	**P**	**20 08 21.0**	**-1.0**
	0.7nm,0.7s,baz=109,slow=5.0,SNR=4.0						
ILAR	**Eielson Array**	**83.97**	**22**	P	**P**	**20 08 22.4**	**-1.8**
	1.4nm,0.7s,baz=250,slow=5.3,SNR=9.2						
BVAR	**Borovoye Array**	**88.99**	**323**	P	**P**	**20 08 46.7**	**-2.2**
	0.6nm,0.7s,baz=97,slow=4.6,SNR=3.2						
NVAR	**Mina Array Bea**	**94.35**	**52**	P	**P**	**20 09 16.0**	**+1.5**
	1.9nm,0.7s,baz=251,slow=6.5,SNR=11						
HFS	**Hagfors**	**117.01**	**338**	PKP	**PKPdf**	**20 14 39.2**	**+0.5**
	1.1nm,0.9s,baz=9.5,slow=4.4,SNR=3.0						
GERES	**GERESS Array B**	**123.98**	**327**	PKP	**PKPdf**	**20 14 52.8**	**+0.2**
	0.2nm,0.2s,baz=48,slow=1.5,SNR=3.1						
PCRV	**Puerto La Cruz**	**144.66**	**81**	PKP	**PKPdf**	**20 15 30.6**	**-1.4**
	6.7nm,0.5s,baz=323,slow=3.6,SNR=6.4						
TORD	**Torodi Ar. Bea**	**148.75**	**285**	PKPbc	**PKPbc**	**20 15 42.2**	**-0.3**
	17nm,0.7s,baz=36,slow=2.8,SNR=77						
BDFB	**Brasilia**	**151.56**	**139**	PKPbc	**PKPbc**	**20 15 49.7**	**+0.3**
	6.2nm,0.5s,baz=261,slow=1.8,SNR=10.0						

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*IDC **18** 19:58:17.7±0.9, 52°.50N×169°.58W, h0km, mb4.4/4, mb1 4.4/6, mb1mx3.8/31, mbtmp4.1/6, ML3.4/2, Error ellipse: s-maj=41.0km s-min=23.1km az=156.0*

*ISCJB **18** 19:58:21.2±0.8, 52°.8N±0°.2×169°.4W±0°.2, h35km, mb4.5/4, Error ellipse: s-maj=29.3km s-min=9.2km az=151.9*

*NEIC **18** 19:58:22.9±0.6, 52°.71N×169°.43W, h35km, mb3.9/2, Error ellipse: s-maj=25.2km s-min=9.4km az=152.0*

ISC 18 19:58:23.0±1.0**, 52°.8N**±0°.2×**169°.4W**±0°.1**, h35**km**, n12, σ1s.22**/13**, mb4.3**/4**, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**2.02**	**57**	*e*Pn	**Pn**	**19 58 54.7**	**+0.2**
UNV				S	**Sn**	**19 59 15.9**	**-2.5**
PAX	**Paxson**	**16.18**	**42**	Pn	**Pn**	**20 02 07.8**	**+0.3**
ILAR	**Eielson Array**	**16.60**	**35**	Pn	**Pn**	**20 02 13.1**	**+0.4**
	0.1nm,0.3s,baz=231,slow=10,SNR=4.2						
HYT	**Haines Junctio**	**19.04**	**52**	P	**Pn**	**20 02 44.4**	**+1.6**
	3.9nm,0.6s						
PETK	**Petropavlovsk-**	**19.75**	**284**	P	**P**	**20 02 50.0**	**+0.4**
	0.4nm,0.3s,baz=92,slow=12,SNR=4.2						
SKAG	**Skagway**	**19.93**	**57**	P	**P**	**20 02 52.1**	**+0.5**
	6.4nm,0.8s						
TXAR	**Lajitas Array**	**52.74**	**89**	P	**P**	**20 07 35.4**	**+1.0**
	1.8nm,0.7s,baz=299,slow=5.3,SNR=11						
WRA	**Warramunga Arr**	**87.27**	**232**	P	**P**	**20 11 03.9**	**-1.9**
	0.7nm,0.7s,baz=33,slow=6.2,SNR=4.8						
PSI	**Prapat**	**88.83**	**273**	P	**P**	**20 11 13.4**	**-0.2**
	15nm,0.9s,baz=27,slow=3.4,SNR=12						
ASAR	**Alice Springs**	**90.67**	**230**	P	**P**	**20 11 21.1**	**-0.7**
	1.7nm,0.7s,baz=32,slow=4.5,SNR=11						
TSUM	**Tsumeb**	**146.04**	**348**	PKPbc	**PKPbc**	**20 17 59.5**	**+0.3**
	1.9nm,0.7s,baz=354,slow=3.6,SNR=7.1						
LBTB	**Lobatse**	**150.04**	**332**	PKPbc	**PKPbc**	**20 18 10.1**	**+0.3**
	7.6nm,0.9s,baz=6.7,slow=0.4,SNR=7.9						

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*IDC **18** 19:59:47.6±1.9, 52°.72N×172°.98W, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.6/72, mbtmp3.9/6, ML3.9/1, Error ellipse: s-maj=55.7km s-min=28.0km az=4.0*

*ISCJB **18** 20:00:04.2±0.9, 52°.8N±0°.1×169°.7W±0°.2, h10km, mb3.9/4, Error ellipse: s-maj=22.1km s-min=8.0km az=148.5*

*NEIC **18** 20:00:05.3, 52°.60N×169°.37W, h10km, mb4.1/3, ML3.7(AEIC), After AEIC.*

ISC 18 20:00:05.5±1.0**, 52°.9N**±0°.2×**169°.59W**±0°.09**, h10**km**, n26, σ1s.10**/26**, mb4.0**/4**, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKWE	**Okmok W'ng Wal**	**1.01**	**53**	P	**Pb**	**20 00 26.0**	**+0.9**
OKCE	**Okmok Cone E**	**1.02**	**56**	P	**Pb**	**20 00 26.0**	**+0.7**
OKCE				S	**Sn**	**20 00 42.4**	**+2.0**
OKAK	**Okmok**	**1.02**	**46**	P	**Pb**	**20 00 24.4**	**-1.0**
OKAK				S	**Sb**	**20 00 38.1**	**-0.7**
OKTU	**Okmok Mt. Tuli**	**1.06**	**60**	P	**Pb**	**20 00 26.2**	**+0.1**
MSOM	**Makushin Julie**	**1.84**	**58**	P	**Pn**	**20 00 37.3**	**+0.1**
MGOD	**Makushin Gods**	**1.87**	**59**	P	**Pn**	**20 00 37.4**	**-0.3**
MSW	**Makushin Switc**	**1.98**	**57**	P	**Pn**	**20 00 39.5**	**+0.4**
UNV	**Unalaska Valle**	**2.09**	**61**	*e*Pn	**Pn**	**20 00 39.6**	**-1.0**
UNV				*e*S	**Sb**	**20 01 09.6**	**+0.1**
ATKA	**Atka Island**	**2.89**	**258**	P	**Pn**	**20 00 52.2**	**+0.5**
PPLA	**Purkeypile**	**13.61**	**36**	Pn	**Pn**	**20 03 19.2**	**+0.7**
BPAW	**Bear Paw Mtn.**	**14.80**	**33**	*e*Pn	**Pn**	**20 03 36.0**	**+1.4**
	1.1nm,0.6s						
ILAR	**Eielson Array**	**16.61**	**35**	P	**Pn**	**20 03 58.5**	**+0.2**
	0.2nm,0.3s,baz=229,slow=11,SNR=7.3						
ILAR	**Eielson Array**	**16.61**	**35**	P	**Pn**	**20 03 58.5**	**+0.2**
HYT	**Haines Junctio**	**19.10**	**53**	*e*P	**Pn**	**20 04 29.5**	**+0.4**
	5.9nm,0.5s						
SKAG	**Skagway**	**20.01**	**57**	*e*P	**P**	**20 04 38.8**	**+0.8**
	10.0nm,0.6s						
DLBC	**Dease Lake**	**22.75**	**60**	P	**P**	**20 05 09.4**	**+1.8**
	5.6nm,0.9s,baz=268,slow=11,SNR=4.4						
DLBC	**Dease Lake**	**22.75**	**60**	P	**P**	**20 05 08.6**	**+1.0**
	4.0nm,1.0s						
YKA	**Yellowknife Ar**	**30.01**	**49**	P	**P**	**20 06 12.0**	**-2.0**
	1.7nm,0.8s,baz=275,slow=7.9,SNR=2.9						
YKA	**Yellowknife Ar**	**30.01**	**49**	P	**P**	**20 06 12.0**	**-2.0**
NVAR	**Mina Array Bea**	**37.81**	**91**	P	**P**	**20 07 22.8**	**+0.7**
	0.8nm,0.7s,baz=301,slow=7.3,SNR=3.8						
NVAR	**Mina Array Bea**	**37.81**	**91**	P	**P**	**20 07 22.8**	**+0.7**
H11S1	**WAKE ISLAND Hy**	**38.96**	**217**	T	T	20 47 00.1	
	baz=23,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**38.97**	**217**	T	T	20 47 02.9	
	baz=23,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**38.98**	**217**	T	T	20 47 02.9	
	baz=23,slow=76,SNR=9.9						
TXAR	**Lajitas Array**	**52.87**	**89**	P	**P**	**20 09 20.3**	**-1.2**
	1.7nm,0.6s,baz=310,slow=4.7,SNR=11						
TXAR	**Lajitas Array**	**52.87**	**89**	P	**P**	**20 09 20.3**	**-1.2**

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*ISCJB **18** 20:00:09.1±0.5, 29°.58N±0°.10×43°.56W±0°.08, h10km, mb4.4/29, Error ellipse: s-maj=14.3km s-min=10.1km az=160.4*

*IDC **18** 20:00:09.4±0.7, 29°.56N×43°.53W, h0km, mb4.3/22, mb1 4.4/22, mb1mx4.3/36, mbtmp4.3/22, Error ellipse: s-maj=21.1km s-min=15.3km az=163.0*

*NEIC **18** 20:00:10.8±0.3, 29°.55N×43°.54W, h10km, mb4.5/8, Error ellipse: s-maj=9.9km s-min=7.1km az=161.0*

ISC 18 20:00:10.8±0.6**, 29°.6N**±0°.1×**43°.6W**±0°.1**, h10**km**, n39, σ0s.67**/33**, mb4.3**/29**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTGA	**Pitinga**	**33.95**	**210**	P	**P**	**20 06 55.1**	**+0.6**
	7.8nm,0.6s,baz=28,slow=12,SNR=12						
SAML	**Samuel**	**42.70**	**209**	*e*P	**P**	**20 08 07.8**	**-0.3**
	4.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**44.89**	**101**	P	**P**	**20 08 25.0**	**-0.8**
	4.0nm,0.9s,baz=308,slow=4.1,SNR=5.3						
H10N2	**ASCENSION HYDR**	**46.52**	**138**	T	T	20 58 00.9	
	baz=324,slow=75,SNR=3271						
H10N3	**ASCENSION HYDR**	**46.52**	**138**	T	T	20 58 01.1	
	baz=324,slow=75,SNR=2768						
H10N1	**ASCENSION HYDR**	**46.53**	**138**	T	T	20 58 02.3	
	baz=324,slow=75,SNR=2543						
WMOK	**Wichita Mounta**	**46.56**	**291**	*e*P	**P**	**20 08 39.2**	**+0.4**
	44nm,1.1s						
GERES	**GERESS Array B**	**47.17**	**49**	P	**P**	**20 08 45.0**	**+1.4**
	0.5nm,0.7s,baz=236,slow=6.9,SNR=4.5						
H10S1	**ASCENSION HYDR**	**47.33**	**139**	T	T	20 59 04.9	
	baz=325,slow=75,SNR=469						
H10S3	**ASCENSION HYDR**	**47.33**	**140**	T	T	20 59 04.0	
	baz=325,slow=75,SNR=698						
H10S2	**ASCENSION HYDR**	**47.34**	**140**	T	T	20 59 06.1	
	baz=325,slow=75,SNR=509						
JCT	**Junction City**	**48.27**	**286**	*e*P	**P**	**20 08 51.9**	**-0.4**
	8.5nm,0.8s						
LPAZ	**La Paz**	**51.38**	**211**	P	**P**	**20 09 16.7**	**+0.1**
	2.4nm,0.8s,baz=355,slow=7.1,SNR=3.8						
LPAZ	**La Paz**	**51.38**	**211**	*e*P	**P**	**20 09 16.2**	**-0.4**
	1.9nm,0.6s						
ANMO	**Albuquerque**	**52.71**	**293**	P	**P**	**20 09 26.9**	**+0.9**
	0.9nm,0.6s,baz=70,slow=11,SNR=3.3						
PDAR	**Pinedale Array**	**53.63**	**303**	P	**P**	**20 09 33.1**	**+0.4**
	4.6nm,0.7s,baz=79,slow=8.2,SNR=8.2						
FINES	**FINESS Array B**	**54.82**	**33**	P	**P**	**20 09 40.8**	**+0.1**
	2.4nm,0.6s,baz=235,slow=5.5,SNR=13						
EDM	**Edmonton**	**55.03**	**316**	*e*P	**P**	**20 09 41.8**	**-0.7**
	2.2nm,0.6s						
ARCES	**ARCESS Array B**	**55.32**	**24**	P	**P**	**20 09 44.3**	**0.0**
	5.9nm,0.7s,baz=276,slow=4.8,SNR=10						
YKA	**Yellowknife Ar**	**55.53**	**328**	P	**P**	**20 09 44.9**	**-0.9**
	3.1nm,0.9s,baz=84,slow=7.6,SNR=5.3						
AK02	**Malin Array Si**	**57.12**	**46**	*e*P	**P**	**20 09 56.8**	**-0.6**
AKASG	**Malin Array Be**	**57.12**	**46**	P	**P**	**20 09 56.8**	**-0.6**
	2.5nm,0.3s,baz=266,slow=7.2,SNR=3.7						
CCUT	**Cedar City**	**57.53**	**298**	*e*P	**P**	**20 10 02.0**	**+1.2**
	6.1nm,1.4s						
NEW	**Newport**	**58.01**	**311**	P	**P**	**20 10 03.1**	**-0.6**
	1.3nm,0.5s,baz=45,slow=11,SNR=5.5						
NVAR	**Mina Array Bea**	**61.07**	**300**	P	**P**	**20 10 25.6**	**+0.3**
	0.9nm,0.6s,baz=78,slow=7.7,SNR=5.2						
BRTR	**Keskin Array B**	**62.52**	**58**	P	**P**	**20 10 35.1**	**+0.1**
	1.4nm,0.9s,baz=270,slow=3.7,SNR=6.6						
INK	**Inuvik**	**62.88**	**335**	P	**P**	**20 10 37.0**	**+0.4**
	3.6nm,0.5s,baz=41,slow=5.8,SNR=6.2						
DLBC	**Dease Lake**	**63.54**	**324**	*e*P	**P**	**20 10 40.6**	**-0.7**
	1.7nm,0.6s						
KBZ	**Khabaz**	**67.84**	**51**	P	**P**	**20 11 10.3**	**+1.2**
	1.1nm,0.7s,baz=262,slow=3.0,SNR=3.5						
ILAR	**Eielson Array**	**69.06**	**333**	P	**P**	**20 11 17.1**	**+0.6**
	1.6nm,0.8s,baz=70,slow=4.5,SNR=13						
AKTO	**Aktyubinsk**	**74.60**	**41**	P	**P**	**20 11 50.2**	**+0.2**
	2.0nm,0.6s,baz=288,slow=5.8,SNR=7.3						
BVAR	**Borovoye Array**	**79.77**	**34**	P	**P**	**20 12 19.7**	**+0.7**
	2.5nm,0.7s,baz=300,slow=3.9,SNR=15						
GEYT	**Alibeck**	**80.73**	**52**	P	**P**	**20 12 24.2**	**-0.4**
	0.5nm,0.5s,baz=262,slow=3.9,SNR=3.9						
KURK	**Kurchatov**	**85.19**	**33**	*e*P	**P**	**20 12 47.1**	**-0.2**
	10nm,1.0s						
KURBB	**Kurchatov Arra**	**85.21**	**33**	P	**P**	**20 12 47.8**	**+0.3**
	5.8nm,0.8s,baz=312,slow=5.4,SNR=51						
ZALV	**Zalesovo Beam**	**85.63**	**28**	P	**P**	**20 12 48.5**	**-0.9**
	1.7nm,0.7s,baz=305,slow=8.3,SNR=7.0						
MKAR	**Makanchi Array**	**89.65**	**34**	P	**P**	**20 13 08.5**	**-0.6**
	2.2nm,0.9s,baz=318,slow=3.4,SNR=9.8						
CMAR	**Chiang Mai Arr**	**120.11**	**42**	PKP	**PKPdf**	**20 19 02.2**	**-0.4**
	0.9nm,0.8s,baz=299,slow=3.3,SNR=5.3						
ASAR	**Alice Springs**	**173.71**	**22**	PKPab	**PKPab**	**20 21 50.5**	**-0.1**
	0.6nm,0.8s,baz=333,slow=5.5,SNR=4.4						

IDC 18 20:02:50.8±3.4**, 5°.82S**×**150°.17E, h0**km**, mb3.4**/2**, mb1 3.8**/3**, mb1mx3.3**/40**, mbtmp3.6**/3**, ML1.7**/1**, MS4.3**/1**, Ms1 4.3**/1**, ms1mx3.5**/26**, Error ellipse: s-maj=126.5km s-min=40.6km az=117.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.65**	**220**	Pn	Pn	20 04 01.3	-1.0
	2.3nm,0.3s,baz=28,slow=7.2,SNR=8.2						
PMG				Sn	Sn	20 04 51.3	-5.8
	9.1nm,0.3s,baz=79,slow=18,SNR=4.9						
SIJI	**Sorong**	**19.50**	**284**	LR	LR	20 14 44.6	
	comp=Z,967nm,20.4s,baz=231,slow=37						
WRA	**Warramunga Arr**	**20.83**	**226**	P	P	20 07 32.5	-1.8
	2.3nm,0.7s,baz=52,slow=11,SNR=13						
ASAR	**Alice Springs**	**23.67**	**220**	P	P	20 08 06.0	+1.7
	0.5nm,0.6s,baz=58,slow=8.9,SNR=7.5						
TORD	**Torodi Ar. Bea**	**148.09**	**285**	PKPbc	PKPbc	20 22 39.0	-0.7
	0.5nm,0.6s,baz=72,slow=2.5,SNR=3.9						

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*ISCJB **18** 20:03:41.9±0.6, 52°.49N±0°.07×169°.3W±0°.1, h10km, mb3.8/5, Error ellipse: s-maj=13.5km s-min=5.6km az=135.1*

*IDC **18** 20:03:42.0±0.8, 52°.34N×169°.25W, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.5/60, mbtmp3.8/6, ML3.8/1, Error ellipse: s-maj=43.0km s-min=20.1km az=156.0*

*NEIC **18** 20:03:44.0, 52°.80N×169°.44W, h2km, mb4.0/2, ML3.7(AEIC), After AEIC.*

ISC 18 20:03:43.5±0.8**, 52°.62N**±0°.09×**169°.27W**±0°.07**, h10**km**, n31, σ1s.16**/31**, mb4.0**/5**, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.43**	**35**	P	**Pb**	**20 03 53.4**	**+0.1**
NIKH				S	**Sb**	**20 04 00.5**	**+0.6**
OKWR	**Okmok West Rim**	**1.04**	**38**	P	**Pn**	**20 04 04.4**	**+0.2**
OKCE	**Okmok Cone E**	**1.05**	**39**	P	**Pn**	**20 04 03.8**	**-0.5**
OKCE				S	**Sn**	**20 04 20.4**	**+1.3**
OKTU	**Okmok Mt. Tuli**	**1.07**	**43**	P	**Pn**	**20 04 04.6**	**0.0**
OKAK	**Okmok**	**1.11**	**29**	P	**Pg**	**20 04 02.8**	**-2.0**
MGOD	**Makushin Gods**	**1.86**	**50**	P	**Pb**	**20 04 16.8**	**-0.8**
MCIR	**Makushin Cirqu**	**1.95**	**46**	P	**Pn**	**20 04 17.8**	**+1.0**
MSW	**Makushin Switc**	**1.98**	**48**	P	**Pb**	**20 04 19.1**	**-0.6**
UNV	**Unalaska Valle**	**2.07**	**52**	P	**Pn**	**20 04 18.5**	**+0.2**
ZRO	**Akutan Zero**	**2.46**	**52**	P	**Pn**	**20 04 25.7**	**+1.9**
AKGG	**Akutan Green G**	**2.52**	**50**	P	**Pn**	**20 04 26.7**	**+2.1**
AKUT	**Akutan**	**2.59**	**53**	*e*Pn	**Pn**	**20 04 26.2**	**+0.8**
AKUT				*e*Sn	**Sn**	**20 04 57.2**	**+0.4**
ATKA	**Atka Island**	**3.05**	**264**	P	**Pn**	**20 04 31.9**	**+0.2**
FALS	**False Pass**	**4.13**	**55**	*e*Pn	**Pn**	**20 04 44.9**	**-1.7**
SPIA	**Saint Paul Isl**	**4.61**	**353**	P	**Pn**	**20 04 53.5**	**+0.4**
BPAW	**Bear Paw Mtn.**	**14.90**	**32**	Pn	**Pn**	**20 07 13.9**	**-0.2**
	1.6nm,0.7s						
ILAR	**Eielson Array**	**16.71**	**35**	Pn	**Pn**	**20 07 37.2**	**-0.3**
	0.1nm,0.3s,baz=226,slow=11,SNR=6.0						
EGAK	**Eagle**	**18.81**	**39**	P	**Pn**	**20 08 03.8**	**+0.4**
HYT	**Haines Junctio**	**19.10**	**52**	*e*P	**Pn**	**20 08 07.6**	**+0.6**
	5.1nm,0.5s						
SKAG	**Skagway**	**19.98**	**57**	*e*P	**Pn**	**20 08 17.1**	**-0.3**
	4.4nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**38.88**	**218**	T	T	20 52 25.9	
	baz=22,slow=76,SNR=21						
H11S2	**WAKE ISLAND Hy**	**38.89**	**218**	T	T	20 52 23.3	
	baz=22,slow=76,SNR=19						
H11S3	**WAKE ISLAND Hy**	**38.89**	**218**	T	T	20 52 25.1	

baz=22,slow=76,SNR=11
MJAR Matsushiro Arr 39.77 268 P **P** **20 11 17.2 +0.8**
0.4nm,0.5s,baz=38,slow=4.4,SNR=4.4
PDAR Pinedale Array 40.30 79 P **P** **20 11 21.2 +0.2**
1.2nm,0.9s,baz=324,slow=4.5,SNR=4.0
TXAR Lajitas Array 52.68 89 P **P** **20 12 58.7 +0.6**
1.5nm,0.7s,baz=286,slow=4.7,SNR=8.0
WRA Warramunga Arr 87.21 232 P **P** **20 16 27.5 -2.4**
1.1nm,1.1s,baz=33,slow=6.0,SNR=4.4
ASAR Alice Springs 90.60 230 P **P** **20 16 44.9 -1.0**
0.7nm,0.6s,baz=28,slow=4.6,SNR=10
TSUM Tsumeb 146.22 348 PKPbc **PKPdf** **20 23 23.4 +0.2**
1.0nm,0.5s,baz=344,slow=6.7,SNR=5.2
MAW Mawson 151.11 219 PKPbc **PKPbc** **20 23 34.9 -0.4**
1.4nm,0.8s,baz=95,slow=2.2,SNR=2.8
BOSA Boshof 153.71 330 PKPbc **PKPbc** **20 23 45.4 +2.8**
0.9nm,0.6s,baz=40,slow=5.9,SNR=4.1

*IDC **18** 20:08:38.4±11.0, 52°.87N×172°.36W, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.5/51, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=214.2km s-min=50.3km az=79.0*
*ISCJB **18** 20:08:54.5±1.1, 52°.7N±0°.1×169°.5W±0°.1, h31km±7km, mb3.8/4, Error ellipse: s-maj=27.1km s-min=6.4km az=154.2*
*NEIC **18** 20:08:54.5, 52°.57N×169°.18W, h15km, ML3.3(AEIC), After AEIC.*
ISC 18 20:08:54.6±1.6, 52°.8N±0°.2×169°.52W±0°.08, h16km±11km, n22, σ0s96/23, mb3.8/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.43**	**72**	P	**Pg**	**20 09 03.3**	**+0.1**
NIKH				S	**Sb**	**20 09 10.6**	**+0.8**
OKWE	**Okmok W'ng Wal**	**1.00**	**50**	P	**Pb**	**20 09 14.6**	**+1.1**
OKCE	**Okmok Cone E**	**1.01**	**54**	P	**Pb**	**20 09 13.2**	**-0.5**
OKCE				S	**Sn**	**20 09 29.5**	**+1.7**
OKAK	**Okmok**	**1.02**	**43**	P	**Pb**	**20 09 12.5**	**-1.2**
OKTU	**Okmok Mt. Tuli**	**1.04**	**58**	P	**Pn**	**20 09 14.2**	**-0.1**
MSOM	**Makushin Julie**	**1.83**	**57**	P	**Pn**	**20 09 24.5**	**-0.7**
MSW	**Makushin Switc**	**1.96**	**56**	P	**Pn**	**20 09 26.9**	**-0.2**
MSW				S	**Sn**	**20 09 52.8**	**+1.4**
MTBL	**Makushin Table**	**2.04**	**55**	P	**Pn**	**20 09 28.4**	**+0.2**
UNV	**Unalaska Valle**	**2.07**	**60**	P	**Pn**	**20 09 27.9**	**-0.7**
UNV				S	**Sn**	**20 09 52.8**	**-1.2**
ZRO	**Akutan Zero**	**2.46**	**58**	P	**Pn**	**20 09 34.8**	**+0.8**
AKUT	**Akutan**	**2.59**	**59**	*e*Pn	**Pn**	**20 09 35.7**	**0.0**
AKUT				*e*Sn	**Sn**	**20 10 06.0**	**-0.7**
ATKA	**Atka Island**	**2.92**	**259**	P	**Pn**	**20 09 39.8**	**-0.5**
GSTR	**Great Sitkin T**	**4.07**	**262**	*e*Pn	**Pn**	**20 09 57.7**	**+1.6**
GSMY	**Great Sitkin M**	**4.08**	**261**	P	**Pn**	**20 09 55.6**	**-0.6**
ILAR	**Eielson Array**	**16.61**	**35**	P	**Pn**	**20 12 46.6**	**+0.2**
	0.1nm,0.3s,baz=230,slow=11,SNR=4.8						
INK	**Inuvik**	**23.00**	**34**	P		20 13 53.2	-4.9
	3.4nm,0.4s,baz=229,slow=5.1,SNR=3.7						
NVAR	**Mina Array Bea**	**37.77**	**91**	P	**P**	**20 16 10.8**	**+1.0**
	0.3nm,0.6s,baz=296,slow=9.0,SNR=2.6						
H11S1	**WAKE ISLAND Hy**	**38.96**	**217**	T	T	20 57 36.0	
	baz=23,slow=76,SNR=7.6						
H11S2	**WAKE ISLAND Hy**	**38.97**	**217**	T	T	20 57 37.4	
	baz=23,slow=76,SNR=7.5						
H11S3	**WAKE ISLAND Hy**	**38.98**	**217**	T	T	20 57 37.3	
	baz=23,slow=76,SNR=6.6						
PDAR	**Pinedale Array**	**40.41**	**80**	P	**P**	**20 16 31.1**	**-0.8**
	0.8nm,0.7s,baz=314,slow=4.4,SNR=8.2						
TXAR	**Lajitas Array**	**52.83**	**89**	P	**P**	**20 18 08.4**	**-0.8**
	1.3nm,0.6s,baz=298,slow=5.2,SNR=25						

*IDC **18** 20:32:43.5±1.9, 7°.38N×70°.45W, h0km, mb1 3.6/2, mb1mx3.1/43, mbtmp3.8/2, ML1.8/1, Error ellipse: s-maj=65.1km s-min=36.7km az=169.0*
*ISCJB **18** 20:32:48.4±0.8, 6°.28N±0°.06×70°.73W±0°.05, h10km, Error ellipse: s-maj=8.6km s-min=6.7km az=10.9*
*FUNV **18** 20:32:51.0, 6°.32N×70°.82W, h8km, MW3.5*
ISC 18 20:32:50.7±1.0, 6°.38N±0°.07×70°.80W±0°.05, h10km, n22, σ1s06/27, 1C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELOV	**Elorza**	**1.45**	**65**∥	*e*P	**Pn**	**20 33 17.5**	**+0.4**
ELOV				*e*S	**Sn**	**20 33 37.3**	**+1.2**
SOCV	**Socops**	**1.89**	**358**	*e*P	**Pn**	**20 33 23.5**	**+0.3**
SOCV				*e*S	**Sn**	**20 33 48.5**	**+1.3**
CAPV	**Capacho**	**2.10**	**315**	*e*P	**Pn**	**20 33 27.3**	**+1.0**
CAPV				*e*S	**Sn**	**20 33 52.7**	**+0.1**
VIGV	**El Vigia**	**2.51**	**347**	*e*P	**Pn**	**20 33 32.3**	**+0.7**
VIGV				*e*S	**Sn**	**20 34 03.4**	**+1.0**
SANV	**Sanarito**	**3.35**	**22**	*e*P	**Pn**	**20 33 43.0**	**-0.2**
CURV	**Curarigua**	**3.71**	**13**	*e*P	**Pn**	**20 33 48.0**	**-0.2**
BAUV	**El Baul**	**3.74**	**47**∥	*e*P	**Pn**	**20 33 47.8**	**-0.7**
QARV	**Quebrada Arrib**	**3.81**	**4**	*e*P	**Pn**	**20 33 50.3**	**+0.6**
ROSC	**El Rosal**	**3.82**	**247**	Pn	Pn	20 33 53.1	+3.0
	0.8nm,0.3s,baz=97,slow=17,SNR=2.9						
ROSC				Pg	**Pg**	**20 34 05.1**	**+1.1**
	5.5nm,0.3s,baz=96,slow=20,SNR=16						
ROSC				Sn	**Sg**	**20 34 52.1**	**-1.5**
	8.0nm,0.3s,baz=52,slow=22,SNR=7.6						
MAPV	**Macapo**	**4.14**	**34**	*e*P	**Pn**	**20 33 54.2**	**+0.1**
SIQV	**Siquisique**	**4.36**	**13**	*e*P	**Pn**	**20 33 57.1**	**+0.1**
VIRV	**Villa del Rosa**	**4.39**	**339**	*e*P	**Pn**	**20 33 56.6**	**-0.9**
VIRV				*e*S	**Sn**	**20 34 45.9**	**-3.0**
DABV	**Dabajuro**	**4.52**	**2**	*e*P	**Pn**	**20 33 59.3**	**0.0**
TURV	**Turiamo**	**5.00**	**36**	*e*P	**Pn**	**20 34 05.5**	**-0.3**
MERV	**Las Mercedes**	**5.30**	**57**	*e*P	**Pn**	**20 34 09.5**	**-0.5**
MONV	**Montecano**	**5.60**	**8**	*e*P	**Pn**	**20 34 13.7**	**-0.5**
BIRV	**Birongo**	**6.06**	**47**∥	*e*P	**Pn**	**20 34 20.3**	**-0.1**
CUPV	**Cupira**	**6.16**	**54**	*e*P	**Pn**	**20 34 21.4**	**-0.6**
PCRV	**Puerto La Cruz**	**7.17**	**58**	*e*P	**Pn**	**20 34 35.0**	**-0.8**
PTGA	**Pitinga**	**12.92**	**123**	Pn	Pn	20 35 51.1	-3.4
	0.3nm,0.3s,baz=319,slow=19,SNR=4.2						
ASAR	**Alice Springs**	**150.68**	**232**	PKPbc	**PKPbc**	**20 52 42.4**	**-1.7**
	0.3nm,0.6s,baz=123,slow=3.4,SNR=5.4						
WRA	**Warramunga Arr**	**152.11**	**239**	PKPbc	**PKPdf**	**20 52 42.4**	**+1.5**
	0.4nm,0.8s,baz=113,slow=2.4,SNR=3.0						

*IDC **18** 20:34:25.9±1.2, 52°.48N×169°.47W, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.4/50, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=55.6km s-min=23.9km az=146.0*
*ISCJB **18** 20:34:26.0±0.7, 52°.5N±0°.1×169°.3W±0°.2, h10km, mb3.7/4, Error ellipse: s-maj=19.9km s-min=6.4km az=138.6*
*NEIC **18** 20:34:28.8, 52°.46N×169°.20W, h25km, ML3.4(AEIC), After AEIC.*
ISC 18 20:34:27.3±1.0, 52°.6N±0°.2×169°.4W±0°.1, h10km, n24, σ0s88/20, mb3.8/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKWR	**Okmok West Rim**	**1.14**	**39**	P	**Pb**	**20 34 49.3**	**+0.2**
OKCE	**Okmok Cone E**	**1.15**	**40**	P	**Pb**	**20 34 48.6**	**-0.6**
OKCE				S	**Sb**	**20 35 05.6**	**+1.5**
OKTU	**Okmok Mt. Tuli**	**1.17**	**44**	P	**Pb**	**20 34 49.3**	**-0.2**
OKAK	**Okmok**	**1.20**	**31**	P	Pn	20 34 47.7	-2.4
MSOM	**Makushin Julie**	**1.94**	**49**	P	**Pn**	**20 35 00.0**	**-0.2**
MSOM				S	**Sn**	**20 35 24.2**	**-0.4**
MCIR	**Makushin Cirqu**	**2.05**	**46**	P	**Pn**	**20 35 02.5**	**+0.6**
MSW	**Makushin Switc**	**2.08**	**48**	P	**Pn**	**20 35 01.7**	**-0.5**
MTBL	**Makushin Table**	**2.16**	**48**	P	**Pn**	**20 35 03.1**	**-0.2**
UNV	**Unalaska Valle**	**2.17**	**52**	P	**Pn**	**20 35 03.0**	**-0.4**
UNV				S	**Sn**	**20 35 29.1**	**-1.2**
AKRB	**Akutan Reef Bi**	**2.54**	**50**	P	**Pn**	**20 35 09.3**	**+0.7**
ZRO	**Akutan Zero**	**2.56**	**52**	P	**Pn**	**20 35 09.5**	**+0.6**
AKGG	**Akutan Green G**	**2.62**	**50**	P	**Pn**	**20 35 10.4**	**+0.8**
ATKA	**Atka Island**	**2.96**	**265**	P	**Pn**	**20 35 14.4**	**+0.2**
ILAR	**Eielson Array**	**16.80**	**35**	Pn	**Pn**	**20 38 21.6**	**-0.8**
	0.1nm,0.3s,baz=232,slow=11,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**37.59**	**218**	T	T	21 21 42.9	
	baz=24,slow=76,SNR=4.7						
H11N3	**WAKE ISLAND Hy**	**37.60**	**218**	T	T	21 21 44.5	
	baz=24,slow=76,SNR=10						
H11N1	**WAKE ISLAND Hy**	**37.61**	**218**	T	T	21 21 45.2	
	baz=24,slow=76,SNR=8.6						
H11S1	**WAKE ISLAND Hy**	**38.78**	**218**	T	T	21 23 11.0	
	baz=23,slow=76,SNR=28						
H11S2	**WAKE ISLAND Hy**	**38.79**	**218**	T	T	21 23 12.7	
	baz=23,slow=76,SNR=32						
H11S3	**WAKE ISLAND Hy**	**38.80**	**218**	T	T	21 23 14.5	
	baz=23,slow=76,SNR=16						
PDAR	**Pinedale Array**	**40.39**	**79**	P	**P**	**20 42 04.0**	**-1.4**
	0.3nm,0.6s,baz=304,slow=6.4,SNR=3.0						
TXAR	**Lajitas Array**	**52.77**	**89**	P	**P**	**20 43 44.3**	**+1.9**
	0.9nm,0.7s,baz=301,slow=5.3,SNR=11						
WRA	**Warramunga Arr**	**87.11**	**232**	P	**P**	**20 47 12.4**	**-0.7**
	0.4nm,0.8s,baz=37,slow=5.8,SNR=5.4						
ASAR	**Alice Springs**	**90.50**	**230**	P	**P**	**20 47 29.6**	**+0.4**
	0.5nm,0.6s,baz=26,slow=4.7,SNR=8.6						

KRSC 18 20:46:02.2±2.2, 50°.41N×156°.97E, h31km±17km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.61**	**297**	*e*P	Pb	20 46 13.7	-0.7
SKR				*e*S	Sb	20 46 22.4	-0.3
PAU	**Pauzhetka**	**1.06**	**355**	*e*P	Pb	20 46 22.4	+0.3
PAU				*e*S	Sb	20 46 37.4	+1.8
MIPR	**Malaya Ipel'ka**	**1.87**	**356**	*e*P	Pn	20 46 33.8	+1.6
ASAK	**Asacha**	**2.06**	**16**	*e*P	Pb	20 46 38.3	-0.8
MTVR	**Mutnovka**	**2.21**	**20**	*e*S	Sb	20 47 07.1	-1.7
RUS	**Russkaya**	**2.25**	**25**	*e*P	Pb	20 46 40.0	-2.1
RUS				*e*S	Sn	20 47 06.6	+2.7
UGLR	**Uglovaya**	**3.03**	**22**	*e*P	Pb	20 46 52.3	-3.3
AVH	**Avacha**	**3.06**	**20**	*e*P	Pb	20 46 53.6	-2.5
KOK	**Koryaka**	**3.07**	**19**	*e*P	Pb	20 46 53.0	-3.2
SMAR	**Somma**	**3.08**	**21**	*e*P	Pb	20 46 53.0	-3.5
KRER	**Koryakskii**	**3.10**	**20**	*e*P	Pb	20 46 53.8	-3.1
SDLR	**Sedlovina**	**3.11**	**22**	*e*P	Pn	20 46 52.1	+2.8
KRX	**Arik**	**3.13**	**19**	*e*P	Pb	20 46 54.3	-3.1
NLC	**Nalytchevo**	**3.13**	**27**	*e*P	Pn	20 46 51.5	+2.0
NLC				*e*S	Sn	20 47 26.7	+0.9
SPN	**Mys Shipunski**	**3.29**	**34**	*e*P	Pn	20 46 54.3	+2.6
SPN				*e*S	Sn	20 47 32.1	+2.3
GNL	**Ganaly**	**3.34**	**10**	*e*P	Pn	20 46 55.8	+3.3

IDC 18 20:46:04.8±25.0, 52°.59N×168°.94W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.3/66, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=482.8km s-min=51.1km az=87.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILAR	**Eielson Array**	**16.62**	**34**	Pn	Pn	20 49 56.8	-2.1
	0.1nm,0.3s,baz=223,slow=11,SNR=4.8						
PDAR	**Pinedale Array**	**40.10**	**80**	P	P	20 53 42.2	0.0
	0.6nm,0.6s,baz=327,slow=6.5,SNR=4.8						
TXAR	**Lajitas Array**	**52.48**	**89**	P	P	20 55 19.1	-0.3
	0.6nm,0.7s,baz=303,slow=5.4,SNR=7.3						

IDC 18 20:46:31.1±3.7, 5°.33S×150°.13E, h0km, mb3.1/2, mb1 3.5/2, mb1mx3.1/36, mbtmp3.2/2, Error ellipse: s-maj=130.2km s-min=26.6km az=107.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.14**	**225**	P	P	20 51 17.7	-0.2
	0.4nm,0.4s,baz=51,slow=10,SNR=8.6						
ASAR	**Alice Springs**	**24.01**	**219**	P	P	20 51 47.0	-0.8
	0.5nm,0.7s,baz=60,slow=7.9,SNR=5.6						
MJAR	**Matsushiro Arr**	**43.13**	**346**	P	P	20 54 32.4	-0.9
	9.4nm,0.3s,baz=158,slow=11,SNR=128						
TORD	**Torodi Ar. Bea**	**147.92**	**286**	PKPbc	PKPbc	21 06 20.5	+1.1
	0.3nm,0.4s,baz=74,slow=2.4,SNR=4.2						

*IDC **18** 20:50:21.8±0.4, 6°.05S×150°.78E, h0km, mb4.7/29, mb1 4.8/31, mb1mx4.8/32, mbtmp4.7/31, ML3.5/2, MS4.5/20, Ms1 4.5/20, ms1mx4.5/30, Error ellipse: s-maj=14.1km s-min=9.9km az=95.0*
*ISCJB **18** 20:50:26.5±0.9, 6°.16S±0°.03×150°.62E±0°.03, h37km±7km, mb4.9/74, MS4.6/25, Error ellipse: s-maj=5.9km s-min=4.8km az=37.1*
*MOS **18** 20:50:26.4±1.4, 6°.06S×150°.58E, h33km, mb5.0/23, MS4.8/11, Error ellipse: s-maj=10.9km s-min=6.9km az=84.5*
*NEIC **18** 20:50:28.2±1.2, 6°.11S×150°.63E, h43km±10km, mb5.1/39, Error ellipse: s-maj=7.6km s-min=5.7km az=78.0*
NEIC Felt at Goroka and Port Moresby, New Guinea.
*BJI **18** 20:50:29.7, 6°.20S×150°.50E, h60km, mb4.8/44, mB5.2/27, Ms5.0/29, Ms7 4.9/30*
*DJA **18** 20:50:30.5±1.2, 6°S±6′×15°1E±°, h58km±9km, M5.7/23, mb5.3/23, mB5.5/4, MLv6.2/1, Mw(mB)5.0/4*
ISC 18 20:50:30.2±0.4, 6°.26S±0°.04×150°.74E±0°.05, h56km±2km, h56km:pP-P, n366, σ1s58/403, mb5.0/74, MS4.7/25, 17C-9D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.49**	**35**	P	**Pn**	**20 51 06.0**	**-2.4**
	baz=2.5,SNR=113						
PMG	**Port Moresby**	**4.73**	**228**	Pn	**Pn**	**20 51 38.8**	**-0.3**
	25nm,0.3s,baz=60,slow=6.5,SNR=48						
PMG				Pg		20 51 59.9	
	40nm,0.3s,baz=70,slow=12,SNR=7.6						
PMG				Sn	**Sn**	**20 52 32.2**	**-0.5**
	111nm,0.3s,baz=126,slow=16,SNR=12						
PMG				LR	LR	20 52 55.4	
	comp=Z,3μm,18.2s,baz=9.5,slow=31						
PMG	**Port Moresby**	**4.73**	**228**	P	**Pn**	**20 51 38.8**	**-0.3**
PMG						20 52 32.2	
PMG				pmax	pmax		
	comp=Z,25nm,0.3s						
PMG				smax	smax		
	comp=N,111nm,0.3s						
PMG	**Port Moresby**	**4.73**	**228**	P	**Pn**	**20 51 39.2**	**+0.1**
	baz=4.8,SNR=65						
PMG				P	**Pn**	**20 51 39.2**	**+0.1**
	baz=4.8,SNR=65						
PMG				P	**Pn**	**20 51 39.2**	**+0.1**
	baz=4.8,SNR=65						
PMG	**Port Moresby**	**4.73**	**228**	*e*Pn	**Pn**	**20 51 37.7**	**-1.4**
PMG				*e*Sn	**Sn**	**20 52 30.8**	**-1.8**
MANU	**Manus Island**	**5.37**	**321**	P	Pn	20 51 51.0	+3.2
	baz=5.4,SNR=32						
HNR	**Honiara**	**9.65**	**110**	LR	LR	20 55 53.3	
	comp=N,4μm,21.0s,baz=278,slow=34						
JAY	**Jayapura**	**10.67**	**290**	LR	LR	20 56 36.2	
	comp=N,2μm,20.5s,baz=71,slow=35						
COEN	**Coen**	**10.68**	**224**	P	**Pn**	**20 52 59.8**	**-0.7**
	baz=11,SNR=22						
COEN	**Coen**	**10.68**	**224**	*e*Pn	**Pn**	**20 52 59.0**	**-1.6**
COEN				*e*Sn	**Sn**	**20 54 58.2**	**-0.5**
GENI	**Genyem**	**11.15**	**289**	P	**Pn**	**20 53 09.0**	**+2.0**
	comp=N,83nm,0.9s,comp=N,9μm						
MTSU	**Mount Surprise**	**13.37**	**207**	P	**Pn**	**20 53 37.2**	**-0.1**
	baz=13,SNR=24						
CTA	**Charters Tower**	**14.43**	**197**	Pn	**Pn**	**20 53 51.6**	**+0.1**
	comp=N,0.8nm,0.3s,baz=23,slow=15,SNR=14						
CTA				LR	LR	20 59 02.8	
	comp=N,3μm,20.6s,baz=14,slow=36						
CTA	**Charters Tower**	**14.43**	**197**	P	**Pn**	**20 53 51.6**	**+0.1**
CTA	**Charters Tower**	**14.43**	**197**	Pn	**Pn**	**20 53 51.6**	**+0.1**
CTAO	**Charters Tower**	**14.43**	**197**	*e*P	**Pn**	**20 53 51.6**	**+0.1**
CTAO	**Charters Tower**	**14.43**	**197**	*e*Pn	**Pn**	**20 53 51.6**	**+0.1**
QIS	**Mount Isa**	**17.86**	**216**	P	**Pn**	**20 54 34.8**	**0.0**
	baz=18,SNR=62						
EIDS	**Eidsvold**	**19.01**	**179**	P	**Pn**	**20 54 48.6**	**-0.1**
	baz=19,SNR=16						
EIDS	**Eidsvold**	**19.01**	**179**	*e*P	**P**	**20 54 47.7**	**+0.2**
	comp=N,166nm,1.3s						
KDU	**Kakadu**	**19.11**	**249**	P	**P**	**20 54 47.9**	**-0.8**
	baz=19,SNR=37						
SIJI	**Sorong**	**20.15**	**285**	P	**P**	**20 54 59.0**	**-1.1**
	comp=N,3.5nm,0.5s,baz=92,slow=13,SNR=3.7						
SWI	**Sorong**	**20.16**	**285**	P	Pn	20 55 02.8	+0.4
	comp=N,36nm,0.8s,comp=N,731nm						
SWI	**Sorong**	**20.16**	**285**	P	Pn	20 55 01.9	-0.5
	comp=N,36nm,0.8s,comp=N,737nm						
RMQ	**Roma**	**20.21**	**185**	P	Pn	20 55 02.4	-0.5
	baz=20,SNR=354						
MTN	**Manton Dam**	**20.40**	**250**	P	**P**	**20 55 02.2**	**-0.6**
	baz=20,SNR=22						
GUMO	**Guam**	**20.56**	**344**	P	**P**	**20 55 01.8**	**-2.6**
	comp=N,114nm,0.8s,baz=174,slow=15,SNR=6.0						
GUMO				LR	LR	21 01 23.2	
	comp=N,2μm,21.5s,baz=124,slow=32						
GUMO	**Guam**	**20.56**	**344**	P	**P**	**20 55 01.8**	**-2.6**
GUMO				pmax	pmax		
	comp=Z,115nm,0.8s						
GUMO				MLR	MLR		
	comp=Z,2μm,21.5s						
GUMO	**Guam**	**20.56**	**344**	*e*P	**P**	**20 55 00.1**	**-4.2**
WRAB	**Tennant Creek**	**20.94**	**228**	P	**P**	**20 55 08.0**	**-0.5**
	comp=Z,1μm,0.9s,SNR=87						
WRAB	**Tennant Creek**	**20.94**	**228**	*d* iP	**P**	**20 55 07.5**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,320nm,1.2s						
WRAB	**Tennant Creek**	**20.94**	**228**	*e*P	**P**	**20 55 08.0**	**-0.5**
	comp=Z,119nm,0.7s						
WRA	**Warramunga Arr**	**20.95**	**228**	P	**P**	**20 55 08.5**	**-0.2**
	comp=Z,62nm,0.5s,baz=53,slow=11,SNR=148						
WRA				S	**S**	**20 58 58.3**	**-0.9**
	comp=Z,3.6nm,1.0s,baz=53,slow=19,SNR=6.4						
WRA				PcP	**PcP**	**20 59 15.5**	**+0.8**
	comp=Z,5.3nm,1.0s,baz=49,slow=1.8,SNR=3.4						
WRA				ScP	**ScP**	**21 02 52.0**	**+5.1**
	comp=Z,3.6nm,0.7s,baz=51,slow=2.7,SNR=6.5						
WRA				LR	LR	21 03 35.8	
	comp=Z,2μm,20.5s,baz=50,slow=38						
WRA	**Warramunga Arr**	**20.95**	**228**	P	**P**	**20 55 08.5**	**-0.2**
WRA				S	**S**	**20 58 58.3**	**-0.9**
WRA						20 59 15.5	
WRA	**Warramunga Arr**	**20.95**	**228**	P	**P**	**20 55 08.5**	**-0.2**
WRA				S	**S**	**20 58 58.3**	**-0.9**
WRA				PcP	**PcP**	**20 59 15.5**	**+0.8**
WRA				ScP	**ScP**	**21 02 52.0**	**+5.1**
PALU	**Palau**	**21.11**	**310**	P	**P**	**20 55 09.8**	**-0.7**
	baz=21,SNR=4.2						
QLP	**Quilpie**	**21.14**	**196**	P	**P**	**20 55 11.8**	**+1.1**
	baz=21,SNR=61						
DZM	**Mont Dzumac**	**21.85**	**138**	P	**P**	**20 55 18.4**	**0.0**
	comp=Z,64nm,0.9s,baz=273,slow=23,SNR=23						
DZM				LR	LR	21 00 57.0	
	comp=Z,642nm,21.2s,baz=0.0,slow=29						
DZM	**Mont Dzumac**	**21.85**	**138**	*e*P	**P**	**20 55 17.0**	**-1.3**
DZM	**Mont Dzumac**	**21.85**	**138**	P	**P**	**20 55 18.4**	**0.0**
KNRA	**Kununurra**	**23.50**	**245**	P	**P**	**20 55 34.4**	**-0.8**
	baz=24,SNR=40						
AS31	**Alice Springs**	**23.70**	**221**	*e*P	**P**	**20 55 37.5**	**+0.3**
ASAR	**Alice Springs**	**23.70**	**221**	P	**P**	**20 55 37.4**	**+0.2**
	comp=Z,47nm,0.7s,baz=57,slow=7.7,SNR=182						
ASAR				S	S	20 59 56.3	+7.9
	comp=Z,4.6nm,0.8s,baz=35,slow=25,SNR=4.5						
ASAR				ScP	ScP	21 03 01.4	+7.4
	comp=Z,3.3nm,0.8s,baz=57,slow=3.3,SNR=6.8						
ASAR				LR	LR	21 05 08.6	
	comp=Z,2μm,18.1s,baz=46,slow=37						
ASAR	**Alice Springs**	**23.70**	**221**	P	**P**	**20 55 37.4**	**+0.2**
ASAR				S	S	20 59 56.3	+7.9
ASAR	**Alice Springs**	**23.70**	**221**	P	**P**	**20 55 37.4**	**+0.2**
ASAR				S	S	20 59 56.3	+7.9
ASAR				ScP	ScP	21 03 01.4	+7.4
LBMI	**Labuha**	**23.85**	**283**	P	**P**	**20 55 39.7**	**+1.1**
	comp=Z,36nm,1.0s						
LBMI	**Labuha**	**23.85**	**283**	P	**P**	**20 55 40.3**	**+1.7**
	comp=Z,50nm,1.1s						
ARMA	**Armidale**	**24.05**	**178**	P	**P**	**20 55 41.0**	**+0.7**
	baz=24,SNR=7.3						
ARMA	**Armidale**	**24.05**	**178**	*e*P	**P**	**20 55 40.2**	**-0.1**
	comp=Z,124nm,1.5s						
CMSA	**Cobar Meteorol**	**25.59**	**190**	P	**P**	**20 55 55.2**	**+1.0**
	baz=26,SNR=40						
SOEI	**Soe**	**26.44**	**261**	P	**P**	**20 56 04.5**	**+2.3**
	comp=Z,72nm,0.9s						
SOEI	**Soe**	**26.44**	**261**	P	**P**	**20 56 06.6**	**+4.4**
	baz=26,SNR=9.6						
SOEI	**Soe**	**26.44**	**261**	*e*P	**P**	**20 56 00.4**	**-1.9**
	comp=Z,95nm,1.1s						
STKA	**Stephens Creek**	**26.89**	**197**	P	**P**	**20 56 05.5**	**-0.4**
	comp=Z,163nm,0.8s,baz=349,slow=7.8,SNR=45						
STKA				LR	LR	21 06 33.8	
	comp=Z,3μm,21.5s,baz=17,slow=36						
STKA	**Stephens Creek**	**26.89**	**197**	P	**P**	**20 56 05.6**	**-0.4**
STKA				MLR	MLR		
	comp=Z,3μm,21.5s						
STKA	**Stephens Creek**	**26.89**	**197**	P	**P**	**20 56 06.0**	**0.0**
	baz=27,SNR=52						
STKA	**Stephens Creek**	**26.89**	**197**	*e*P	**P**	**20 56 04.9**	**-1.0**
	comp=Z,32nm,0.8s						
BATI	**Baumata**	**27.08**	**260**	P	**P**	**20 56 07.7**	**-0.2**
	comp=Z,33nm,0.8s,baz=268,slow=17,SNR=3.6						
BATI				LR	LR	21 09 54.9	
	comp=Z,764nm,19.2s,baz=81,slow=43						
BATI	**Baumata**	**27.08**	**260**	P	**P**	**20 56 07.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**27.17**	**242**	P	**P**	**20 56 08.0**	**-0.7**
	baz=27,SNR=62						
FITZ	**Fitzroy Crossi**	**27.17**	**242**	*e*P	**P**	**20 56 07.1**	**-1.6**
	comp=Z,49nm,0.7s						
YNG	**Young**	**27.99**	**184**	P	P	20 56 20.7	+4.9
	baz=28,SNR=10						
MMRI	**Maumere**	**28.36**	**263**	P	**P**	**20 56 17.0**	**-2.3**
	comp=Z,146nm,1.

comp=Z,116nm,0.8s
MJAR Matsushiro Arr 44.16 345 P P 20 58 31.3 -2.2
comp=Z,2.6nm,1.0s,baz=169,slow=10,SNR=4.5
MJAR ScP **ScP 21 04 07.1 +2.1**
comp=Z,14nm,1.1s,baz=185,slow=5.7,SNR=27
MJAR LR LR 21 16 16.4
comp=Z,651nm,19.2s,baz=165,slow=35
MJAR Matsushiro Arr 44.16 345 P P 20 58 31.3 -2.2
MJAR Matsushiro Arr 44.16 345 P P 20 58 31.3 -2.2
MJAR ScP **ScP 21 04 07.1 +2.1**
MAJO Matsushiro 44.16 345|| *e*P P 20 58 33.0 -0.5
MAJO pmax pmax
comp=Z,81nm,1.1s
MAJO Matsushiro 44.16 345 *e*P P 20 58 30.9 -2.6
comp=Z,8.6nm,0.6s
MAT Matsushiro 44.16 345 P P 20 58 32.5 -1.0
MAT S **S 21 05 04.6 +1.9**
CGJI Cibinong 44.75 267 P P 20 58 36.6 -2.0
comp=Z,148nm,1.3s
KASI Kota Agung 45.99 268 P P 20 58 45.4 -3.0
comp=Z,116nm,1.2s
MDSI Maura Dua 46.38 270 P P 20 58 49.5 -2.0
comp=Z,46nm,1.3s
LWLI Liwa 46.46 269 P P 20 58 52.1 -0.1
LHSI Lahat 47.08 271 P P 20 59 08.3 +11
QIZ Qiongzhong 47.48 303 P P 20 58 59.8 -0.2
QIZ S **S 21 05 49.0 -1.9**
QIZ LZ
comp=Z,780nm,21.9s
TJN Taejon 47.74 334⇑ *e*P P 20 59 01.9 +0.3
KSRS Korea Array 48.42 336 P P 20 59 06.0 -0.8
comp=Z,7.3nm,0.6s,baz=154,slow=8.1,SNR=24
KSRS ScP **ScP 21 04 26.3 +3.7**
comp=Z,1.5nm,0.7s,baz=165,slow=5.2,SNR=4.5
KSRS LR LR 21 17 25.1
comp=Z,795nm,21.6s,baz=157,slow=34
KSRS Korea Array 48.42 336 P P 20 59 06.0 -0.8
KSRS pmax pmax
comp=Z,7.0nm,0.6s
KSRS MLR MLR
comp=Z,795nm,21.6s
KSAR Wonju Array Be 48.42 336 P P 20 59 06.0 -0.9
KSAR Wonju Array Be 48.42 336 P P 20 59 06.0 -0.9
KSAR ScP **ScP 21 04 26.3 +3.6**
NJ2 Nanjing 48.73 323 *e*P P 20 59 08.6 -0.7
NJ2 pP **pP 20 59 21.0 -3.2**
NJ2 sP **sP 20 59 27.4 -3.3**
NJ2 S **S 21 06 07.8 -0.3**
NJ2 PMZ
comp=Z,20nm,0.7s
NJ2 PMZ
comp=Z,560nm,10.0s
NJ2 LN
comp=Z,1μm,22.0s
NJ2 LE
comp=Z,2μm,20.0s
NJ2 LZ
comp=Z,4μm,21.0s
WHN Wuhan 50.53 318 P P 20 59 25.9 +2.8
WHN LN
comp=Z,5μm,28.4s
WHN LE
comp=Z,3μm,22.2s
WHN LZ
comp=Z,3μm,19.7s
ASAJ Asahikawa 50.67 352 P P 20 59 24.6 +0.7
comp=Z,2.9nm,0.7s,baz=180,slow=20
ASAJ Asahikawa 50.67 352 P P 20 59 24.6 +0.7
ASAJ pmax pmax
comp=Z,3.0nm,0.7s
ASAJ Asahikawa 50.67 352 P P 20 59 24.6 +0.7
DL2 Dalian 52.41 331 P P 20 59 38.4 +1.4
DL2 PMZ
comp=Z,40nm,1.3s
USRK Ussuriysk Ar. 53.00 343 P P 20 59 39.6 -1.6
comp=Z,5.0nm,0.8s,baz=176,slow=7.5,SNR=9.1
USRK ScP **ScP 21 04 46.5 +4.3**
comp=Z,1.9nm,0.9s,baz=112,slow=8.5,SNR=5.0
USRK LR LR 21 20 22.8
comp=Z,397nm,20.6s,baz=172,slow=34
ENH Enshi 53.68 315 P P 20 59 45.6 -0.9
comp=Z,8.6nm,0.5s
GYA Guiyang 53.68 309 *e*P P 20 59 47.8 +1.0
GYA pP **pP 21 00 04.3 +2.5**
GYA sP **sP 21 00 10.6 +2.4**
GYA PP **PP 21 01 51.8 +3.6**
GYA S **S 21 07 15.0 -2.0**
GYA sS **sS 21 07 42.3 0.0**
GYA SS **SKiKP 21 10 55.6 -1.1**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.4s
GYA LN
comp=Z,580nm,18.8s
GYA LE
comp=Z,550nm,19.2s
GYA LZ
comp=Z,610nm,18.9s
MDJ Mudanjiang 54.10 341 P P 20 59 51.8 +2.5
MDJ pP **pP 21 00 04.9 +0.6**
MDJ sP **sP 21 00 12.3 +1.5**
MDJ PP **PP 21 01 52.8 +1.3**
MDJ ScP **ScP 21 04 49.1 +2.1**
MDJ PcS **PcS 21 04 54.6 +1.8**
MDJ S **S 21 07 25.6 +3.9**
MDJ PMZ
comp=Z,9.0nm,0.7s
MDJ PMZ
comp=Z,220nm,9.2s
MDJ LN
comp=Z,200nm,12.8s
MDJ LE
comp=Z,500nm,15.7s
MDJ LZ
comp=Z,640nm,11.8s
BJI Beijing 56.00 328 P P 21 00 06.6 +3.5
BJI PMZ
comp=Z,18nm,0.7s
KMI Kunming 56.13 306 P P 21 00 05.6 +1.0
KMI pP **pP 21 00 21.9 +2.2**
KMI sP **sP 21 00 29.4 +3.2**
KMI PP **PP 21 02 14.3 +4.0**
KMI S **S 21 07 49.1 -1.0**
KMI sS **sS 21 08 14.3 -1.2**
KMI PMZ
comp=Z,5.0nm,0.6s
KMI PMZ
comp=Z,180nm,11.1s
KMI LN
comp=Z,300nm,15.0s
KMI LE
comp=Z,430nm,15.6s
KMI LZ
comp=Z,390nm,15.6s
CMAR Chiang Mai Arr 56.67 297 P P 21 00 07.6 -0.7
comp=Z,1.2nm,0.8s,baz=131,slow=5.4,SNR=11
CMAR ScP **ScP 21 05 01.6 +2.7**
comp=Z,0.9nm,0.9s,baz=118,slow=2.6,SNR=4.3
CMAR Chiang Mai Arr 56.67 297 P P 21 00 07.6 -0.7
CMAR Chiang Mai Arr 56.67 297 P P 21 00 07.6 -0.7
CMAR ScP **ScP 21 05 01.6 +2.7**
KIP Kipapa 57.28 60|| *e*P P 21 00 15.0 +2.5
KIP *i* *PP **pP 21 00 30.5 +2.8**
KLR Kul'dur 57.69 345 *e*P P 21 00 09.6 -5.3
CD2 Chengdu 58.16 312 P P 21 00 17.1 -1.5
CD2 pP **pP 21 00 33.1 -0.7**
CD2 sP **sP 21 00 40.1 -0.1**
CD2 PP **PP 21 02 26.4 -1.6**
CD2 S **S 21 08 14.3 -1.9**
CD2 sS **sS 21 08 41.8 0.0**
CD2 SS **SS 21 12 07.9 -0.9**
CD2 PMZ
comp=Z,30nm,0.5s
CD2 PMZ
comp=Z,710nm,11.6s
CD2 LN
comp=Z,850nm,21.6s
CD2 LZ
comp=Z,930nm,19.2s
HHC Hu-ho-hao-te 59.06 326 *e*P P 21 00 27.1 +2.3
HHC S **S 21 08 30.3 +2.5**
HHC PMZ
comp=Z,15nm,1.4s
HHC PMZ
comp=Z,200nm,7.4s
HHC LN
comp=Z,690nm,18.5s
HHC LE
comp=Z,540nm,16.0s
HHC LZ
comp=Z,830nm,17.3s
PETK Petropavlovsk- 59.43 5 P P 21 00 24.4 -2.6
comp=Z,3.2nm,0.7s,baz=182,slow=8.4,SNR=6.8
PETK PP **PP 21 02 35.1 -3.8**
comp=Z,2.0nm,0.9s,baz=220,slow=7.0,SNR=5.1
PETK LR LR 21 22 11.1
comp=Z,600nm,21.2s,baz=200,slow=32
PETK Petropavlovsk- 59.43 5 P P 21 00 24.4 -2.6
PETK 21 02 35.1
PETK Petropavlovsk- 59.43 5 P P 21 00 24.4 -2.6
PETK PP **PP 21 02 35.1 -3.8**
LZH Lanzhou 60.87 317 *e*P P 21 00 38.5 +1.1
LZH pP **pP 21 00 53.6 +0.9**
LZH sP **sP 21 01 00.3 +1.3**
LZH PP **PP 21 02 55.1 +3.0**
LZH S **S 21 08 50.0 -1.3**
LZH sS **sS 21 09 16.8 -0.2**
LZH SS **SS 21 12 48.0 -3.5**
LZH PMZ
comp=Z,24nm,1.2s
LZH PMZ
comp=Z,68nm,4.5s
LZH LN
comp=Z,610nm,15.8s
LZH LE
comp=Z,790nm,15.5s
LZH LZ
comp=Z,960nm,16.4s
HIA Hailar 61.55 337 *e*P P 21 00 39.7 -1.8
HIA pmax pmax
comp=Z,23nm,0.6s
HIA Hailar 61.55 337 *e*P P 21 00 39.7 -1.8
comp=Z,23nm,0.6s
SHL Shillong 65.30 302 *e*P P 21 01 07.0 0.0
GTA Gaotai 65.35 319 *e*P P 21 01 11.8 +4.8
GTA PMZ
comp=Z,3.0nm,0.7s
CASY Casey 66.04 197 *e*P P 21 01 10.6 -0.2
comp=Z,17nm,1.1s
SONM Songino Array 66.48 329 P P 21 01 12.6 -1.4
comp=Z,2.6nm,0.5s,baz=139,slow=5.7,SNR=15
SONM PP **PP 21 03 45.9 +4.7**
comp=Z,1.4nm,0.5s,baz=142,slow=5.8,SNR=5.7
SONM LR LR 21 32 24.1
comp=Z,378nm,18.4s,baz=122,slow=38
SONM Songino Array 66.48 329 P P 21 01 12.6 -1.4
SONM 21 03 45.9
SONM pmax pmax
comp=Z,3.0nm,0.5s
SONM pmax pmax
comp=Z,1.0nm,0.5s
SONM MLR MLR
comp=Z,378nm,18.4s
SONM Songino Array 66.48 329 P P 21 01 12.7 -1.4
SONM PP **PP 21 03 45.9 +4.7**
LSA Lhasa 67.39 306 *e*P P 21 01 18.9 -1.7
LSA pmax pmax
comp=Z,4.0nm,0.6s
LSA Lhasa 67.39 306 *e*P P 21 01 18.9 -1.7
comp=Z,4.2nm,0.6s
ZAK Zakamensk 69.69 330 *e*P P 21 01 31.3 -2.8
ZAK pmax pmax
comp=Z,7.0nm,1.1s
YAK Yakutsk 70.00 350 *e*P P 21 01 34.4 -1.2
YAK pmax pmax
comp=Z,10.0nm,1.0s
BOD Bodaibo 70.43 340 *e*P P 21 01 37.5 -0.8
BOD pmax pmax
comp=Z,4.0nm,1.1s
VNDA Vanda 71.47 177 P P 21 01 45.5 +1.2
comp=Z,18nm,0.9s,baz=334,slow=6.5,SNR=50
VNDA Vanda 71.47 177 P P 21 01 43.9 -0.5
VNDA pmax pmax
comp=Z,20nm,0.9s
VNDA Vanda 71.47 177 P P 21 01 43.9 -0.5
comp=Z,20nm,0.9s
MOY Mondy 71.62 330 *e*P P 21 01 47.8 +2.0
SBA Scott Base 72.05 176 *e*P P 21 01 47.9 0.0
SBA pmax pmax
comp=Z,17nm,1.1s
SBA Scott Base 72.05 176 *e*P P 21 01 47.9 0.0
comp=Z,17nm,1.1s
WMQ Urumqi 75.43 318 P P 21 02 08.3 -0.1
WMQ pP **pP 21 02 24.3 +0.2**
WMQ sP **sP 21 02 31.0 +0.6**
WMQ PMZ
comp=Z,8.0nm,0.8s
WMQ LN
comp=Z,520nm,17.0s
WMQ LE
comp=Z,490nm,20.8s
WMQ LZ
comp=Z,410nm,20.0s
PAF Port-aux-Franc 79.11 221 S S 21 12 15.0 -8.9
PAF SS SS 21 17 18.0 -13
PAF R 21 32 00.0
MKAR Makanchi Array 80.08 320 P P 21 02 32.1 -2.0
comp=Z,1.0nm,0.8s,baz=120,slow=5.8,SNR=8.4
MKAR LR LR 21 39 31.7
comp=Z,336nm,18.1s,baz=30,slow=37
MKAR Makanchi Array 80.08 320 P P 21 02 32.1 -2.0
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR MLR MLR
comp=Z,336nm,18.1s
MKAR Makanchi Array 80.08 320 *e*P P 21 02 33.7 -0.4
ZAA0 Zalesovo Array 81.23 327 *e*P P 21 02 36.6 -3.4
ZALV Zalesovo Beam 81.23 327 P P 21 02 37.6 -2.4
comp=Z,3.9nm,0.7s,baz=103,slow=5.4,SNR=13
ZALV LR LR 21 37 33.6
comp=Z,393nm,21.2s,baz=70,slow=35
ZALV Zalesovo Beam 81.23 327 P P 21 02 37.6 -2.4
ZALV Zalesovo Beam 81.23 327 P P 21 02 37.6 -2.4
CAST Castle Rocks 81.62 22 *e*P P 21 02 41.9 0.0
comp=Z,8.9nm,0.6s
SML Sawmill 82.29 25 *e*P P 21 02 43.6 -1.9
SML pmax pmax
comp=Z,3.0nm,1.0s
SML Sawmill 82.29 25 *e*P P 21 02 43.6 -1.9
comp=Z,2.7nm,1.0s
KSH Kashi 82.33 311 P P 21 02 49.6 +3.3
KSH pP pP 21 03 05.3 +3.0
KSH PP **PP 21 06 00.1 +4.3**
KSH S **S 21 12 58.1 -0.1**
KSH sS sS 21 13 27.6 +2.5
KSH SS **SS 21 18 23.1 +3.2**
KSH PMZ
comp=Z,430nm,8.3s
KSH LZ
comp=Z,490nm,9.0s
RND Reindeer 82.86 23 *e*P P 21 02 46.2 -2.3
RND pmax pmax
comp=Z,11nm,1.1s
RND Reindeer 82.86 23 *e*P P 21 02 46.2 -2.3
comp=Z,11nm,1.1s
KLU Klutina 83.16 26 *e*P P 21 02 50.5 +0.4
comp=Z,9.2nm,0.9s
MAW Mawson 83.45 203 P P 21 02 50.3 -1.0
comp=Z,7.8nm,0.9s,baz=97,slow=5.5,SNR=14
MAW Mawson 83.45 203 P P 21 02 50.3 -1.0
MAW Mawson 83.45 203 P P 21 02 53.2 +1.9
baz=83,SNR=10
MAW Mawson 83.45 203 P P 21 02 50.3 -1.0
KURK Kurchatov 83.66 323 *e*P P 21 02 48.8 -3.9
KURK pmax pmax
comp=Z,5.0nm,1.1s
KURK Kurchatov 83.66 323 P P 21 02 50.2 -2.5
KURK pmax pmax
comp=Z,4.0nm,1.1s
KURK Kurchatov 83.66 323 *e*P P 21 02 48.8 -3.9
comp=Z,4.6nm,1.1s
WRH Wood River Hil 83.67 22 *e*P P 21 02 52.4 -0.1
comp=Z,11nm,1.2s
KURBB Kurchatov Arra 83.68 322 P P 21 02 50.2 -2.6
comp=Z,3.8nm,1.1s,baz=105,slow=3.9,SNR=13
QSPA South Pole Qui 83.71 180 *e*P P 21 02 53.8 +0.9
comp=Z,49nm,1.0s
CCB Clear Creek Bu 83.87 22 *e*P P 21 02 54.2 +0.7
comp=Z,8.1nm,1.2s
COLA College 83.96 22⇑ *e*P P 21 02 56.2 +2.3
COLA pmax pmax
comp=Z,19nm,0.8s
ILAR Eielson Array 84.27 22 P P 21 02 52.5 -3.1
comp=Z,2.2nm,0.9s,baz=251,slow=5.4,SNR=23
ILAR Eielson Array 84.27 22 P P 21 02 52.5 -3.1
ILAR Eielson Array 84.27 22 P P 21 02 52.5 -3.1
EKS2 Erkin-Say 84.70 314 *e*P P 21 02 58.1 -0.3
EKS2 Erkin-Say 84.70 314 *e*P P 21 02 58.1 -0.3
HYT Haines Junctio 86.67 28 *e*P P 21 03 07.5 -0.3
DAWY Dawson 86.95 24 *e*P P 21 03 08.7 -0.3
comp=Z,32nm,1.6s
KKAR Karatay Array 87.14 314 *e*P P 21 03 08.5 -1.8
KKAR Karatay Array 87.14 314 *e*P P 21 03 08.5 -1.8
BVAR Borovoye Array 89.18 323 P P 21 03 16.8 -2.9
comp=Z,1.5nm,0.7s,baz=103,slow=6.5,SNR=7.0
BVAR Borovoye Array 89.18 323 P P 21 03 16.8 -2.9
BVAR Borovoye Array 89.18 323 P P 21 03 16.8 -2.9
BRVK Borovoye 89.25 323|| *e*P P 21 03 20.3 +0.2
BRVK pmax pmax
comp=Z,4.0nm,1.7s
INK Inuvik 90.54 21 P P 21 03 24.1 -1.6
comp=Z,4.8nm,0.8s,baz=253,slow=9.1,SNR=3.1
INK Inuvik 90.54 21 P P 21 03 24.1 -1.6
INK pmax pmax
comp=Z,5.0nm,0.8s
INK Inuvik 90.54 21 *e*P P 21 03 25.4 -0.4
comp=Z,5.5nm,0.9s
M02C Callahan 91.40 49 P P 21 03 29.7 -0.8
baz=91
HUMO Hull Mountain 91.47 47 *e*P P 21 03 28.3 -2.4
comp=Z,13nm,0.9s
YBH Yreka Blue Hor 91.55 48 P P 21 03 30.0 -1.2
comp=Z,6.7nm,1.0s,baz=278,slow=4.6,SNR=7.3
YBH Yreka Blue Hor 91.55 48 P P 21 03 30.0 -1.2
YBH Yreka Blue Hor 91.55 48 P P 21 03 30.0 -1.2
SYO Syowa Base 91.62 200⇑ *e*P P 21 03 30.4 -0.4
I04A Tendick Farm, 92.01 46 P P 21 03 33.1 -0.2
baz=92
M04C Macdoel 92.20 48 P P 21 03 34.1 -0.2
baz=92
J05D Fort Rock, OR 92.80 47 P P 21 03 36.8 -0.2
baz=93
K05A Summer Lake 93.00 48 *e*P P 21 03 38.8 +0.7
comp=Z,17nm,1.1s
PKM Peak Mountain 93.08 55 P P 21 03 39.5 +0.9
baz=93
WAKR Walker 93.71 52 *e*P P 21 03 41.7 +0.3
MTUM Tungsten Hills 94.30 53 *e*P P 21 03 44.6 +0.5
EDW2 Edwards Air Fo 94.57 56 P P 21 03 45.6 +0.3
baz=95
NVAR Mina Array Bea 94.59 52 P P 21 03 45.9 +0.4
comp=Z,7.4nm,0.8s,baz=252,slow=6.7,SNR=37
NVAR Mina Array Bea 94.59 52 P P 21 03 45.9 +0.4
G08A Pilot Rock 94.61 45 *e*P P 21 03 46.0 +0.8
comp=Z,4.7nm,1.2s
BFSC Mount Baldy Ra 94.80 56 P P 21 03 46.5 +0.1
baz=95
LRMC Laurel Mountai 94.86 55 P P 21 03 47.0 +0.4
baz=95
DAC Darwin (Calif) 95.00 54 *e*P P 21 03 45.6 -1.7
DAC pmax pmax
comp=Z,6.0nm,0.8s
DAC Darwin (Calif) 95.00 54 *e*P P 21 03 45.6 -1.7
comp=Z,5.9nm,0.8s
MPMC Manual Prospec 95.07 54 P P 21 03 47.8 +0.1
baz=95
GRAC Grapevine Rang 95.23 53 P P 21 03 48.7 +0.5
baz=95
TPH Tonopah 95.41 52 *e*P P 21 03 50.1 +0.9
TPH pmax pmax
comp=Z,5.0nm,1.0s
TPH Tonopah 95.41 52 *e*P P 21 03 50.1 +0.9
comp=Z,5.0nm,1.0s
GSC Goldstone 95.57 55 P P 21 03 50.8 +0.9
baz=96
FURC Furnace Creek, 95.60 54 P P 21 03 50.3 +0.5
baz=96
MONP Monument Peak 95.73 58 P P 21 03 51.6 +0.7
baz=96
PFO Pinyon Flat Ob 95.75 57 P P 21 03 50.4 -0.4
comp=Z,6.0nm,0.9s,baz=248,slow=3.1,SNR=4.8
PFO Pinyon Flat Ob 95.75 57 P P 21 03 50.4 -0.4
PFO Pinyon Flat Ob 95.75 57 P P 21 03 51.7 +0.9
baz=96
PFO Pinyon Flat Ob 95.75 57 P P 21 03 50.4 -0.4
GEYT Alibeck 95.87 307 P P 21 03 50.8 -0.3
comp=Z,0.6nm,0.6s,baz=27,slow=0.6,SNR=3.1
GEYT LR LR 21 49 44.1
comp=Z,276nm,19.1s,baz=20,slow=37
HEC Hector,Ludlow 95.93 56 P P 21 03 51.9 +0.4
baz=96
TPNV Topopah Spring 96.12 54 *e*P P 21 03 53.0 +0.6
TPNV pmax pmax
comp=Z,6.0nm,0.9s
TPNV Topopah Spring 96.12 54 P P 21 03 52.7 +0.3
baz=96
TPNV Topopah Spring 96.12 54 *e*P P 21 03 53.0 +0.6
comp=Z,6.0nm,0.9s
BELC Belle Mtn. Jos 96.16 57 P P 21 03 53.5 +0.8
baz=96
GMRC Granite Mounta 96.48 56 P P 21 03 54.6 +0.6
baz=96
BC3 Big Chuckawall 96.59 57 P P 21 03 55.1 +0.5
baz=97
YKA Yellowknife Ar 97.66 28 P P 21 03 56.8 -1.7
comp=Z,1.3nm,0.8s,baz=272,slow=5.0,SNR=3.7
YKA Yellowknife Ar 97.66 28 P P 21 03 56.8 -1.7
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 97.66 28 P P 21 03 56.9 -1.7
PDAR Pinedale Array 101.34 48 P Pdif 21 04 15.3 -0.4
comp=Z,2.3nm,0.9s,baz=229,slow=5.4,SNR=6.1
PDAR Pinedale Array 101.34 48 P Pdif 21 04 15.3 -0.4
AKASG Malin Array Be 114.46 323 PKP PKPdf 21 09 03.2 -0.7
comp=Z,1.5nm,0.6s,baz=64,slow=2.0,SNR=4.3
AKASG Malin Array Be 114.46 323 PKIKP PKPdf 21 09 03.2 -0.7
AKASG Malin Array Be 114.46 323 PKP PKPdf 21 09 03.2 -0.7
BRTR Keskin Array B 114.72 311 PKP PKPdf 21 09 04.4 -0.5
comp=Z,1.3nm,0.7s,baz=98,slow=0.8,SNR=8.5
BRTR Keskin Array B 114.72 311 PKIKP PKPdf 21 09 04.4 -0.6
BRTR Keskin Array B 114.72 311 PKP PKPdf 21 09 04.4 -0.5
BOSA Boshof 117.12 234 PKP PKPdf 21 09 11.6 +1.7
comp=Z,2.1nm,0.9s,baz=157,slow=2.3,SNR=4.3
BOSA Boshof 117.12 234 PKIKP PKPdf 21 09 11.6 +1.7
BOSA Boshof 117.12 234 PKP PKPdf 21 09 11.6 +1.7
NOA NORSAR Array B 117.56 339 PKP PKPdf 21 09 07.4 -2.3
comp=Z,1.1nm,0.8s,baz=102,slow=2.3,SNR=3.3
NOA NORSAR Array B 117.56 339 PKIKP PKPdf 21 09 07.4 -2.3
NOA NORSAR Array B 117.56 339 PKP PKPdf 21 09 07.3 -2.3
VRI Vrincioaia 117.77 319 ⇑PKIKP PKPdf 21 09 05.2 -5.3
VRI Vrincioaia 117.77 319 ⇑*i*P PKPdf 21 09 05.2 -5.3
BUR08 Bucovina Ar. S 118.07 321 *e*PKPdf PKPdf 21 09 11.0 -0.1
BURAR Bucovina Array 118.07 321 ⇑PKIKP PKPdf 21 09 11.2 +0.1
BURAR Bucovina Array 118.07 321 ⇑*i*P PKPdf 21 09 11.2 +0.1
MLR Muntele Rosu 118.42 319 PKP PKPdf 21 09 10.3 -1.6
comp=Z,0.8nm,0.8s,baz=165,slow=2.5,SNR=8.6
MLR Muntele Rosu 118.42 319 PKIKP PKPdf 21 09 10.3 -1.6
MLR Muntele Rosu 118.42 319 ||*i*P PKPdf 21 09 10.9 -1.0
MLR Muntele Rosu 118.42 319 PKP PKPdf 21 09 10.3 -1.6
VOIR 119.03 319 ||PKIKP PKPdf 21 09 13.9 +0.9
VOIR 119.03 319 ||*i*P PKPdf 21 09 13.9 +0.9
KOLS Kolonicke sedl 119.29 324 *e*P Pdif 21 05 30.8 -4.3
KOLS *e* 21 09 13.0
KOLS Kolonicke sedl 119.29 324 PDIF **Pdif 21 05 30.8 -4.3**
KOLS Kolonicke sedl 119.29 324 *e*PKP PKPdf 21 09 13.0 -0.3
ARR Arges 119.32 319 ⇑*i*P PKPdf 21 09 12.2 -1.3
KECS Kecovo 120.54 324 *e*PKIKP PKPdf 21 09 17.4 +1.7
KECS Kecovo 120.54 324 *e* PKPdf 21 09 17.4 +1.7
SIRR Siria 120.84 321 ||*i*P PKPdf 21 09 16.8 +0.4
BZS Buzias 121.16 320 ⇑PKIKP PKPdf 21 09 16.5 -0.5
BZS Buzias 121.16 320 ⇑*i*P PKPdf 21 09 16.5 -0.5
OKC Ostrava-Krasne 121.21 326 AMS AMS 22 01 50.0
comp=Z,300nm,22.2s
MMB Musomiste 121.36 315 ⇑PKIKP PKPdf 21 09 15.6 -1.9
MMB Musomiste 121.36 315 ⇑*i*P PKPdf 21 09 15.6 -1.9
VYHS Vyhne 121.50 325 *e*P Pdif 21 05 44.6 -0.4
VYHS *e* 21 09 16.2
VYHS Vyhne 121.50 325 PDIF **Pdif 21 05 44.6 -0.4**
VYHS Vyhne 121.50 325 *e*PKP PKPdf 21 09 16.2 -1.4
MORC Moravsky Berou 121.57 326 *e*PKIKP PKPdf 21 09 17.6 -0.1
MORC Moravsky Berou 121.57 326 ||*i*P PKPdf 21 09 17.8 +0.1
MORC Moravsky Berou 121.57 326 *e*PKPdf PKPdf 21 09 17.6 -0.1
KRLC Kraliky 121.83 327 *e*PKPdf PKPdf 21 09 16.9 -1.3
KRLC *ex* x 21 09 25.8
KRLC Kraliky 121.83 327 *e*PKIKP PKPdf 21 09 16.9 -1.3

KRLC				*e*			21 09 25.8	
DPC	**Dobruska-Polom**	**121.93**	**327**	*e*PKPdf	**PKPdf**	**21 09 17.8**	**-0.6**	
DPC				*ex*	x	21 09 25.6		
DPC				AMS	AMS	22 02 40.0		
	comp=Z,400nm,22.4s							
DPC	**Dobruska-Polom**	**121.93**	**327**	*e*PKIKP	**PKPdf**	**21 09 17.8**	**-0.6**	
DPC				*e*		21 09 25.6		
DPC				MLR	MLR			
	comp=Z,400nm,22.4s							
UPC	**Upice**	**122.01**	**328**	*e*PKPdf	**PKPdf**	**21 09 18.1**	**-0.4**	
UPC				AMS	AMS	22 03 20.0		
	comp=Z,400nm,20.7s							
UPC	**Upice**	**122.01**	**328**	*e*PKIKP	**PKPdf**	**21 09 18.1**	**-0.4**	
UPC				MLR	MLR			
	comp=Z,400nm,20.7s							
SADO	**Sadowa**	**122.16**	**40**	PKP	**PKPdf**	**21 09 17.9**	**-1.0**	
	comp=Z,7.9nm,0.7s,baz=332,slow=4.8,SNR=9.5							
SADO	**Sadowa**	**122.16**	**40**	PKP	**PKPdf**	**21 09 17.9**	**-1.0**	
TKL	**Tuckaleechee C**	**122.19**	**52**	PKP	**PKPdf**	**21 09 18.7**	**-0.6**	
	comp=Z,5.1nm,0.8s,baz=152,slow=4.0,SNR=6.8							
TKL	**Tuckaleechee C**	**122.19**	**52**	PKIKP	**PKPdf**	**21 09 18.7**	**-0.6**	
TKL	**Tuckaleechee C**	**122.19**	**52**	PKP	**PKPdf**	**21 09 18.7**	**-0.6**	
IDI	**Anoyia**	**122.58**	**308**	PKP	**PKPdf**	**21 09 19.3**	**-0.8**	
	comp=Z,8.8nm,0.7s,baz=2.9,slow=22,SNR=7.3							
IDI	**Anoyia**	**122.58**	**308**	PKP	**PKPdf**	**21 09 19.3**	**-0.8**	
PKSM	**Moragy**	**122.73**	**322**	⇑PKIKP	**PKPdf**	**21 09 19.0**	**-0.9**	
PKSM	**Moragy**	**122.73**	**322**	⇑*i*P	**PKPdf**	**21 09 19.0**	**-0.9**	
PVCC	**Panska Ves**	**122.75**	**328**	*e*PKPdf	**PKPdf**	**21 09 21.6**	**+1.7**	
PVCC				AMS	AMS	22 01 40.0		
	comp=Z,500nm,17.7s							
PVCC	**Panska Ves**	**122.75**	**328**	*e*PKIKP	**PKPdf**	**21 09 21.6**	**+1.7**	
PVCC				MLR	MLR			
	comp=Z,500nm,17.7s							
DIVS	**Divibare**	**122.86**	**319**	⇑*i*P	**PKPdf**	**21 09 20.2**	**-0.2**	
BRG	**Berggiesshubel**	**122.88**	**329**	*e*P	**PKPdf**	**21 09 19.9**	**-0.2**	
	comp=Z,4.3nm,1.0s							
BRG	**Berggiesshubel**	**122.88**	**329**	*e*PKPdf	**PKPdf**	**21 09 19.9**	**-0.2**	
BRG	**Berggiesshubel**	**122.88**	**329**	*e*PKIKP	**PKPdf**	**21 09 19.9**	**-0.2**	
BRG				pmax	pmax			
	comp=Z,4.0nm,1.0s							
TREC	**Trest**	**122.96**	**327**	*e*PKPdf	**PKPdf**	**21 09 19.7**	**-0.7**	
TREC				*ex*	x	21 09 28.2		
TREC				AMS	AMS	22 02 30.0		
	comp=Z,400nm,22.4s							
TREC	**Trest**	**122.96**	**327**	*e*PKIKP	**PKPdf**	**21 09 19.7**	**-0.7**	
TREC				*e*		21 09 28.2		
TREC				MLR	MLR			
	comp=Z,400nm,22.4s							
GOPC	**GO Pecny, Ondr**	**122.99**	**328**	AMS	AMS	22 04 00.0		
	comp=Z,500nm,22.9s							
PRU	**Pruhonice**	**123.08**	**328**	*e*PKPdf	**PKPdf**	**21 09 20.3**	**-0.2**	
PRU				*ex*	x	21 09 29.1		
PRU				AMS	AMS	22 04 00.0		
	comp=Z,500nm,22.9s							
PRU	**Pruhonice**	**123.08**	**328**	*e*PKIKP	**PKPdf**	**21 09 20.3**	**-0.2**	
PRU				*e*		21 09 29.1		
PRU				MLR	MLR			
	comp=Z,500nm,22.9s							
CLL	**Collm**	**123.10**	**330**	*e*PKPdf	**PKPdf**	**21 09 20.2**	**-0.3**	
CLL	**Collm**	**123.10**	**330**	*e*PKIKP	**PKPdf**	**21 09 20.0**	**-0.5**	
CLL				*e*		21 09 30.0		
CLL				pmax	pmax			
	comp=Z,3.0nm,0.8s							
CLL				MLR	MLR			
	comp=Z,300nm,20.2s							
CLL	**Collm**	**123.10**	**330**	*e*PKPdf	**PKPdf**	**21 09 20.0**	**-0.5**	
	comp=Z,3.0nm,0.8s							
CLL				*e*		21 09 22.0		
CLL				*e*(pPKPdf)		21 09 30.0		
CLL				*e*		21 29 00.0		
CLL				LmV		22 03 00.0		
	comp=Z,300nm,20.2s							
TANN	**Tannenbergstha**	**123.91**	**329**	*e*PKPdf	**PKPdf**	**21 09 22.0**	**-0.2**	
NKC	**Novy Kostel**	**124.03**	**329**	*e*PKPdf	**PKPdf**	**21 09 20.7**	**-1.7**	
NKC	**Novy Kostel**	**124.03**	**329**	*e*PKIKP	**PKPdf**	**21 09 20.7**	**-1.7**	
KHC	**Kasperske Hory**	**124.09**	**327**	*e*PKPdf	**PKPdf**	**21 09 21.5**	**-1.0**	
KHC	**Kasperske Hory**	**124.09**	**327**	*e*PKIKP	**PKPdf**	**21 09 21.5**	**-1.0**	
GEC2	**GERESS Array S**	**124.18**	**327**	*e*PKPdf	**PKPdf**	**21 09 22.1**	**-0.7**	
GERES	**GERESS Array B**	**124.18**	**327**	PKP	**PKPdf**	**21 09 22.4**	**-0.4**	
	comp=Z,3.4nm,0.7s,baz=48,slow=2.0,SNR=28							
GERES	**GERESS Array B**	**124.18**	**327**	PKIKP	**PKPdf**	**21 09 22.4**	**-0.4**	
GERES	**GERESS Array B**	**124.18**	**327**	PKP	**PKPdf**	**21 09 22.4**	**-0.4**	
BLA	**Blacksburg**	**124.26**	**49**	*e*PKIKP	**PKPdf**	**21 09 22.6**	**-0.6**	
BLA	**Blacksburg**	**124.26**	**49**	*e*PKPdf	**PKPdf**	**21 09 22.6**	**-0.6**	
SSPA	**Standing Stone**	**124.77**	**44**	*e*PKPdf	**PKPdf**	**21 09 23.7**	**-0.4**	
LONY	**Lake Ozonia**	**125.09**	**38**	*e*PKPdf	**PKPdf**	**21 09 23.9**	**-0.7**	
ABTA	**Abfaltersbach**	**126.05**	**325**	⇑*i*PKiKP	**PKPdf**	**21 09 25.5**	**-1.0**	
	comp=Z,4.2nm,1.1s							
WTTA	**Wattenberg**	**126.23**	**326**	⇑*i*PKiKP	**PKPdf**	**21 09 26.6**	**-0.3**	
	comp=Z,8.1nm,0.9s							
EKA	**Eskdalemuir Ar**	**126.79**	**342**	PKP	**PKPdf**	**21 09 28.0**	**+0.5**	
	comp=Z,0.9nm,0.5s,baz=32,slow=2.9,SNR=5.3							
EKA	**Eskdalemuir Ar**	**126.79**	**342**	PKIKP	**PKPdf**	**21 09 28.0**	**+0.5**	
EKA	**Eskdalemuir Ar**	**126.79**	**342**	PKP	**PKPdf**	**21 09 28.0**	**+0.5**	
MEM	**Membach**	**126.91**	**333**	PKP	**PKPdf**	**21 09 28.5**	**+0.7**	
DAVOX	**Davos/Dischmat**	**127.48**	**327**	PKP	**PKPdf**	**21 09 29.6**	**+0.3**	
	comp=Z,3.9nm,0.7s,baz=150,slow=6.5,SNR=7.8							
DAVOX	**Davos/Dischmat**	**127.48**	**327**	PKIKP	**PKPdf**	**21 09 29.6**	**+0.3**	
DAVOX				pmax	pmax			
	comp=Z,4.0nm,0.7s							
DAVOX	**Davos/Dischmat**	**127.48**	**327**	PKP	**PKPdf**	**21 09 29.6**	**+0.3**	
SNF	**Seneffe**	**127.76**	**333**	PKP	**PKPdf**	**21 09 29.4**	**0.0**	
KEST	**Kesra**	**134.03**	**315**	PKP	**PKPdf**	**21 09 41.7**	**-0.2**	
	comp=Z,3.0nm,1.0s,baz=85,slow=0.2,SNR=4.9							
KEST	**Kesra**	**134.03**	**315**	PKP	**PKPdf**	**21 09 41.7**	**-0.2**	
LPAZ	**La Paz**	**135.49**	**121**	PKP	**PKPdf**	**21 09 46.5**	**+0.7**	
	comp=Z,1.4nm,0.8s,baz=320,slow=3.3,SNR=4.2							
LPAZ	**La Paz**	**135.49**	**121**	PKIKP	**PKPdf**	**21 09 46.5**	**+0.7**	
LPAZ	**La Paz**	**135.49**	**121**	PKP	**PKPdf**	**21 09 46.5**	**+0.7**	
CPUP	**Villa Florida**	**137.69**	**141**	PKP	**PKPdf**	**21 09 50.4**	**+1.5**	
	comp=Z,2.2nm,0.7s,baz=276,slow=3.4,SNR=4.1							
CPUP	**Villa Florida**	**137.69**	**141**	PKIKP	**PKPdf**	**21 09 50.4**	**+1.5**	
CPUP	**Villa Florida**	**137.69**	**141**	PKP	**PKPdf**	**21 09 50.4**	**+1.5**	
SIV	**San Ignacio**	**141.52**	**125**	PKhKP	PKPpre	21 09 50.5		
	comp=Z,1.5nm,0.8s,baz=245,slow=3.8,SNR=5.5							
SAML	**Samuel**	**142.97**	**114**	*e*PKPdf	**PKPdf**	**21 09 59.1**	**+0.3**	
PCRV	**Puerto La Cruz**	**144.78**	**81**	PKP	**PKPab**	**21 10 00.4**	**-0.6**	
	comp=Z,18nm,0.7s,baz=206,slow=6.1,SNR=6.4							
PCRV	**Puerto La Cruz**	**144.78**	**81**	PKP	**PKPab**	**21 10 00.4**	**-0.6**	
GRGR	**Grenville**	**147.51**	**77**	*e*PKPdf	**PKPdf**	**21 10 04.0**	**-2.5**	
FDF	**Fort de France**	**147.57**	**72**	*e*PKP2	**PKPbc**	**21 10 09.7**	**+0.4**	
FDF	**Fort de France**	**147.57**	**72**	*e*PKPbc	**PKPbc**	**21 10 09.7**	**+0.4**	
PTGA	**Pitinga**	**148.57**	**102**	PKPbc	**PKPbc**	**21 10 12.0**	**0.0**	
	comp=Z,11nm,0.8s,baz=262,slow=3.5,SNR=19							
PTGA	**Pitinga**	**148.57**	**102**	PKPbc	**PKPbc**	**21 10 12.0**	**0.0**	
TORD	**Torodi Ar. Bea**	**148.75**	**285**	PKPbc	**PKPbc**	**21 10 11.4**	**-1.1**	
	comp=Z,32nm,0.7s,baz=69,slow=2.5,SNR=173							
TORD	**Torodi Ar. Bea**	**148.75**	**285**	PKPbc	**PKPbc**	**21 10 11.4**	**-1.1**	
BDFB	**Brasilia**	**151.39**	**140**	PKPbc	**PKPbc**	**21 10 19.1**	**+0.2**	
	comp=Z,13nm,0.7s,baz=189,slow=3.2,SNR=19							
BDFB	**Brasilia**	**151.39**	**140**	PKPbc	**PKPbc**	**21 10 19.1**	**+0.2**	
DBIC	**Dimbokro**	**155.75**	**272**	PKP	**PKPdf**	**21 10 19.2**	**+0.2**	
	comp=Z,5.3nm,0.9s,baz=27,slow=4.0,SNR=4.0							
DBIC					PKPab	**PKPab**	**21 10 44.4**	**-1.3**
	comp=Z,4.3nm,0.6s,baz=80,slow=5.3,SNR=6.6							
DBIC	**Dimbokro**	**155.75**	**272**	PKIKP	**PKPdf**	**21 10 19.2**	**+0.2**	
DBIC						21 10 44.4		
DBIC	**Dimbokro**	**155.75**	**272**	PKP	**PKPdf**	**21 10 19.2**	**+0.2**	
DBIC					PKPab	**PKPab**	**21 10 44.4**	**-1.3**

*DDA **18** 20:56:19.5,40˚.01N×41˚.83E,h14km,ML4.1*
*ISK **18** 20:56:19.0,40˚.01N×41˚.87E,h5km,MD3.8,ML3.5*
*ISCJB **18** 20:56:20.3±0.5,40˚.02N±0˚.02×41˚.85E±0˚.02,h2km±3km, Error ellipse: s-maj=3.0km s-min=2.6km az=8.8*
*CSEM **18** 20:56:20.5±0.1,40˚.03N×41˚.89E,h2km,ML4.1,Error ellipse: s-maj=3.3km s-min=3.0km az=76.0*

ISC 18 20:56:20.6±0.8,40˚.01N±0˚.01×41˚.86E±0˚.02,h11km±6km, n96,σ1°15/135,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOMI	**Horasan**	**0.05**	**49**	*i* P	**Pg**	**20 56 22.7**	**-0.3**
HOMI				*i* S	**Sg**	**20 56 25.2**	**+0.4**
ERZM	**Erzurum**	**0.39**	**254**	*i* P	**Pg**	**20 56 26.6**	**-1.9**
ERZM				*i* S	**Sb**	**20 56 39.5**	**+3.6**
EZM	**Erzurum**	**0.39**	**254**	*e*PG	**Pg**	**20 56 27.7**	**-0.8**
EATA	**Eleskirt**	**0.51**	**107**	*i* P	**Pg**	**20 56 30.4**	**-0.3**
EATA				*i* S	**Sg**	**20 56 38.7**	**+1.2**
EATA	**Eleskirt**	**0.51**	**107**	*i* P	**Pg**	**20 56 30.4**	**-0.3**
EATA				*i* S	**Sg**	**20 56 38.7**	**+1.2**
EKAR	**Karacoban**	**0.77**	**168**	*i* P	**Pg**	**20 56 34.9**	**-0.7**
EKAR				*i* S	**Sn**	**20 56 48.8**	**-0.6**
EKAR	**Karacoban**	**0.77**	**168**	*i* P	**Pg**	**20 56 34.9**	**-0.7**
DDEM	**Demirkent**	**0.88**	**355**	*i* P	**Pg**	**20 56 36.1**	**-1.6**
DDEM				*i* P	**Sb**	**20 56 50.1**	**+0.2**
DDEM	**Demirkent**	**0.88**	**355**	*i* P	**Pg**	**20 56 36.1**	**-1.6**
DDEM				*i* S	**Sb**	**20 56 50.1**	**+0.2**
VRTB	**Varto-Mus**	**0.91**	**200**	*e*PG	**Pg**	**20 56 37.0**	**-1.1**
VRTB				*e*SG	**Sb**	**20 56 51.1**	**+0.5**
VRTB	**Varto-Mus**	**0.91**	**200**	*e*Pg	**Pg**	**20 56 37.0**	**-1.1**
VRTB				*e*Sg	**Sb**	**20 56 51.1**	**+0.5**
AGRB	**Hanur-Agry**	**0.98**	**116**	*e*PG	**Pg**	**20 56 38.8**	**-0.7**
AGRB	**Hanur-Agry**	**0.98**	**116**	*e*Pg	**Pg**	**20 56 38.8**	**-0.7**
DBAD	**Bademkaya**	**1.01**	**353**	*i* P	**Pg**	**20 56 38.4**	**-1.7**
DBAD				*i* S	**Sb**	**20 56 54.2**	**+0.6**
DBAD	**Bademkaya**	**1.01**	**353**	*i* P	**Pg**	**20 56 38.4**	**-1.7**
DBAD				*i* S	**Sb**	**20 56 54.2**	**+0.6**
KOPT	**Kop Dagi**	**1.04**	**271**	*i* P	**Pb**	**20 56 39.8**	**-1.1**
KOPT				*i* S	**Sb**	**20 56 55.1**	**+0.4**
KOPT	**Kop Dagi**	**1.04**	**271**	*i* P	**Pb**	**20 56 39.8**	**-1.1**
KOPT				*i* S	**Sb**	**20 56 55.1**	**+0.4**
DAGI	**Agillar**	**1.07**	**2**	*i* P	**Pb**	**20 56 40.3**	**-0.9**
DAGI				*i* S	**Sb**	**20 56 55.5**	**+0.3**
KARS	**Kars**	**1.12**	**56**	*e*PN	**Pb**	**20 56 40.8**	**-1.3**
KARS	**Kars**	**1.12**	**56**	*e*Pn	**Pb**	**20 56 40.8**	**-1.3**
ARTV	**Artvin**	**1.17**	**3**	*i* P	**Pb**	**20 56 42.2**	**-0.9**
ARTV				*i* S	**Sb**	**20 56 58.0**	**-0.4**
ARTV	**Artvin**	**1.17**	**3**	*i* P	**Pb**	**20 56 42.2**	**-0.9**
ARTV				*i* S	**Sb**	**20 56 58.0**	**-0.4**
BNGL	**BINGOL**	**1.19**	**207**	*i* P	**Pb**	**20 56 41.7**	**-1.7**
BNGL				*i* S	**Sb**	**20 56 58.7**	**-0.2**
DIGO	**Kars**	**1.23**	**70**	*i* P	**Pn**	**20 56 42.3**	**-1.7**
DIGO				*i* S	**Sg**	**20 57 00.8**	**+0.5**
DIGO	**Kars**	**1.23**	**70**	*i* P	**Pn**	**20 56 42.3**	**-1.7**
DIGO				*i* S	**Sg**	**20 57 00.8**	**+0.5**
DBOC	**Borcka**	**1.34**	**354**	*i* P	**Pn**	**20 56 44.7**	**-0.7**
DBOC				*i* S	**Sn**	**20 57 03.2**	**0.0**
DBOC	**Borcka**	**1.34**	**354**	*i* P	**Pn**	**20 56 44.7**	**-0.7**
DBOC				*i* S	**Sn**	**20 57 03.2**	**0.0**
BNGB	**Bing¶ll**	**1.37**	**222**	*e*PN	**Pn**	**20 56 44.8**	**-1.0**
BCA	**Borcka**	**1.44**	**353**	*e*PN	**Pn**	**20 56 47.0**	**+0.3**
BCA	**Borcka**	**1.44**	**353**	*e*Pn	**Pn**	**20 56 47.0**	**+0.3**
DYDN	**Diyadin**	**1.49**	**108**	*i* P	**Pn**	**20 56 47.8**	**+0.2**
DYDN				*i* S	**Sb**	**20 57 08.2**	**+0.7**
DYDN	**Diyadin**	**1.49**	**108**	*i* P	**Pn**	**20 56 47.8**	**+0.2**
DYDN				*i* S	**Sb**	**20 57 08.2**	**+0.7**
EAK	**Akyaka**	**1.50**	**63**	*i* P	**Pn**	**20 56 47.6**	**-0.1**
EAK				*i* S	**Sn**	**20 57 07.3**	**0.0**
EAK	**Akyaka**	**1.50**	**63**	*i* P	**Pn**	**20 56 47.6**	**-0.1**
EAK				*i* S	**Sn**	**20 57 07.3**	**0.0**
TATV	**Tatvan**	**1.54**	**168**	*e*P	**Pn**	**20 56 48.4**	**+0.2**
TATV				*i* S	**Sb**	**20 57 08.7**	**-0.1**
TATV	**Tatvan**	**1.54**	**168**	*e*P	**Pn**	**20 56 48.4**	**+0.2**
TATV				*i* S	**Sb**	**20 57 08.7**	**-0.1**
BINT	**Bingol**	**1.55**	**223**	*e*Pn	Pn	20 56 44.8	-3.5
EUZM	**Uzumlu**	**1.69**	**260**	*i* P	**Pb**	**20 56 51.2**	**-0.6**
EUZM				*i* S	**Sg**	**20 57 14.8**	**-0.1**
EUZM	**Uzumlu**	**1.69**	**260**	*i* P	**Pb**	**20 56 51.2**	**-0.6**
EUZM				*i* S	**Sg**	**20 57 14.8**	**-0.1**
ERZN	**Erzincan**	**1.70**	**256**	*e*PN	**Pb**	**20 56 51.2**	**-0.7**
CLDR	**Caldiran**	**1.81**	**118**	*e*PN	**Pn**	**20 56 52.5**	**+0.5**
CLDR	**Caldiran**	**1.81**	**118**	*e*Pn	**Pn**	**20 56 52.5**	**+0.5**
BTMT	**Batman**	**1.84**	**189**	*e*PN	**Pb**	**20 56 53.3**	**-1.0**
BTMT	**Batman**	**1.84**	**189**	*e*Pn	**Pb**	**20 56 53.3**	**-1.0**
KTUT	**Trabzon**	**1.87**	**302**	*e*PN	**Pn**	**20 56 53.5**	**+1.0**
KTUT	**Trabzon**	**1.87**	**302**	*e*Pn	**Pn**	**20 56 53.5**	**+1.0**
AKH	**Akhalkalaki**	**1.87**	**41**	*e*PN	**Pn**	**20 56 53.4**	**+0.6**
AKH	**Akhalkalaki**	**1.87**	**41**	P	**Pn**	**20 56 53.4**	**+0.6**
AKH				S	**Sg**	**20 57 22.4**	**+1.6**
AKH	**Akhalkalaki**	**1.87**	**41**	P	**Pn**	**20 56 53.4**	**+0.6**
GUMT	**Gumushane**	**1.87**	**285**	*e*PN	**Pb**	**20 56 53.9**	**-1.0**
GUMT	**Gumushane**	**1.87**	**285**	*e*Pn	**Pb**	**20 56 53.9**	**-1.0**
TVAN	**Van**	**1.91**	**140**	*i* P	**Pb**	**20 56 55.4**	**-0.2**
TVAN				*i* S	**Sb**	**20 57 18.8**	**-0.8**
TVAN	**Van**	**1.91**	**140**	*i* P	**Pb**	**20 56 55.4**	**-0.2**
TVAN				*i* S	**Sb**	**20 57 18.8**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.93**	**196**	*e*PN	**Pn**	**20 56 54.4**	**+1.0**
GEVA	**Gevas**	**1.94**	**151**	*i* P	**Pn**	**20 56 54.8**	**+1.1**
GEVA				*i* S	**Sg**	**20 57 21.9**	**-1.1**
GEVA	**Gevas**	**1.94**	**151**	*i* P	**Pn**	**20 56 54.8**	**+1.1**
GEVA				*i* S	**Sg**	**20 57 21.9**	**-1.1**
EZC	**Erzincan**	**1.94**	**263**	*e*Pn	**Pn**	**20 56 51.2**	**-2.5**
KELT	**Kelkit**	**2.00**	**275**	*i* P	**Pb**	**20 56 57.0**	**-0.1**
KELT				*i* S	**Sb**	**20 57 23.1**	**+1.0**
KELT	**Kelkit**	**2.00**	**275**	*i* P	**Pb**	**20 56 57.0**	**-0.1**
KELT				*i* S	**Sb**	**20 57 23.1**	**+1.0**
SIRT	**Sirnak**	**2.55**	**169**	*e*PN	**Pn**	**20 57 03.0**	**+1.0**
SIRT	**Sirnak**	**2.55**	**169**	*e*Pn	**Pn**	**20 57 03.0**	**+1.0**
SIRN	**S¨¨–rnak**	**2.55**	**170**	*e*P	**Pb**	**20 57 04.2**	**-2.3**
SIRN	**S¨¨–rnak**	**2.55**	**170**	*e*P	**Pb**	**20 57 04.2**	**-2.3**
KEMA	**Kemaliye**	**2.70**	**255**	*i* P	**Pb**	**20 57 09.0**	**0.0**
CHVG	**Ch'k'valeri**	**2.71**	**4**	*e*PN	**Pb**	**20 57 08.2**	**-0.9**
CHVG	**Ch'k'valeri**	**2.71**	**4**	P	**Pb**	**20 57 08.6**	**-0.5**
CHVG				S	**Sg**	**20 57 49.4**	**+1.8**
CHVG	**Ch'k'valeri**	**2.71**	**4**	*e*Pn	**Pb**	**20 57 08.2**	**-0.9**
CHVG	**Ch'k'valeri**	**2.71**	**4**	P	**Pb**	**20 57 08.6**	**-0.5**
MAZI	**Mazidag**	**2.78**	**204**	*e*PN	**Pn**	**20 57 06.4**	**+1.2**
MAZI	**Mazidag**	**2.78**	**204**	*e*Pn	**Pn**	**20 57 06.4**	**+1.2**
TBLG	**Delisi**	**2.78**	**51**	*e*PN	**Pn**	**20 57 06.5**	**+1.3**
TBLG	**Delisi**	**2.78**	**51**	P	**Pn**	**20 57 06.1**	**+1.0**
TBLG				S	**Sg**	**20 57 50.8**	**+0.9**
TBLG	**Delisi**	**2.78**	**51**	P	**Pn**	**20 57 06.1**	**+1.0**
TBLG	**Delisi**	**2.78**	**51**	*e*Pn	**Pn**	**20 57 06.5**	**+1.3**
SUSE	**Susehri**	**2.81**	**275**	*i* P	**Pb**	**20 57 12.7**	**+1.8**
MARD	**Mardin**	**2.82**	**198**	*i* P	**Pb**	**20 57 10.9**	**-0.3**
HKR	**Hakkari**	**2.84**	**148**	*e*PN	**Pn**	**20 57 07.5**	**+1.4**
HKR	**Hakkari**	**2.84**	**148**	*e*Pn	**Pn**	**20 57 07.5**	**+1.4**
ONI	**Oni**	**2.84**	**25**	P	**Pn**	**20 57 07.2**	**+1.1**
ONI				S	**Sg**	**20 57 52.1**	**+0.1**
HAKT	**HAKKARI**	**2.85**	**149**	*i* P	**Pb**	**20 57 11.8**	**+0.2**
GRSN	**GIRESUNGRSN**	**2.88**	**290**	*i* P	**Pb**	**20 57 09.8**	**-2.3**
GRSN	**GIRESUNGRSN**	**2.88**	**290**	*i* P	**Pb**	**20 57 09.8**	**-2.3**
DGRG	**David-gareji**	**3.04**	**61**	P	**Pn**	**20 57 10.4**	**+1.7**
DGRG				S	**Sg**	**20 57 59.0**	**+0.9**
DGRG	**David-gareji**	**3.04**	**61**	P	**Pn**	**20 57 10.4**	**+1.7**
CUKT	**Cukurca**	**3.08**	**153**	*e*PN	**Pn**	**20 57 10.7**	**+1.3**
CUKT	**Cukurca**	**3.08**	**153**	*e*Pn	**Pn**	**20 57 10.7**	**+1.3**
MALT	**Malatya**	**3.16**	**239**	*e*PN	**Pn**	**20 57 11.7**	**+1.3**
MALT	**Malatya**	**3.16**	**239**	*e*Pn	**Pn**	**20 57 11.7**	**+1.3**
RSDY	**Resadiye-TOKAT**	**3.49**	**278**	*e*PN	**Pn**	**20 57 16.7**	**+1.8**
RSDY	**Resadiye-TOKAT**	**3.49**	**278**	*e*Pn	**Pn**	**20 57 16.7**	**+1.8**
URFA	**Urfa**	**3.50**	**224**	*e*PN	**Pn**	**20 57 16.7**	**+1.7**
URFA	**Urfa**	**3.50**	**224**	*e*Pn	**Pn**	**20 57 16.7**	**+1.7**
SVSK	**Karacayir**	**3.73**	**270**	*e*PN	**Pn**	**20 57 20.2**	**+2.0**
SVSK	**Karacayir**	**3.73**	**270**	*e*Pn	**Pn**	**20 57 20.2**	**+2.0**
KIV	**Kislovodsk**	**3.99**	**9**	*e*PN	**Pn**	**20 57 23.6**	**+1.8**
KIV	**Kislovodsk**	**3.99**	**9**	*e*Pn	**Pn**	**20 57 23.6**	**+1.8**

*IDC **18** 20:57:07.5±0.9,5˚.95S×151˚.00E,h0km,mb4.0/15, mb1 4.1/15,mb1mx4.1/22,mbtmp4.0/15,Error ellipse: s-maj=30.5km s-min=15.0km az=111.0*
*ISCJB **18** 20:57:13.0±0.7,5˚.85S±0˚.07×150˚.8E±0˚.1,h43km, mb4.0/16,Error ellipse: s-maj=18.1km s-min=6.7km az=25.3*
*NEIC **18** 20:57:12.8±0.6,5˚.91S×151˚.03E,h35km,mb4.0/1,Error ellipse: s-maj=21.1km s-min=8.3km az=113.0*

ISC 18 20:57:14.5±0.7,5˚.83S±0˚.10×150˚.9E±0˚.1,h43km,n37, σ1°28/41,mb4.0/16,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.10**	**226**	Pn	**Pn**	**20 58 28.9**	**+0.5**
	7.3nm,0.3s,baz=43,slow=7.3,SNR=7.4						
PMG				Sn	**Sn**	**20 59 23.6**	**-2.5**
	5.6nm,0.3s,baz=28,slow=18,SNR=3.9						
PMG	**Port Moresby**	**5.10**	**226**	P	**Pn**	**20 58 29.7**	**+1.3**
	baz=4.7,SNR=12						
PMG				P	**Pn**	**20 58 29.7**	**+1.3**
	baz=4.7,SNR=12						
PMG				P	**Pn**	**20 58 29.7**	**+1.3**
	baz=4.7,SNR=12						
PMG	**Port Moresby**	**5.10**	**226**	*e*Pn	**Pn**	**20 58 28.6**	**+0.1**
PMG				*e*Sn	**Sn**	**20 59 26.3**	**+0.2**
MANU	**Manus Island**	**5.12**	**317**	P	Pn	20 58 35.6	+6.9
	baz=5.3,SNR=5.6						
COEN	**Coen**	**11.06**	**223**	*e*Pn	**Pn**	**20 59 50.1**	**-0.1**
	3.0nm,0.8s						
KDU	**Kakadu**	**19.36**	**248**	P	**P**	**21 01 35.7**	**-1.0**
	baz=19,SNR=6.2						
EIDS	**Eidsvold**	**19.43**	**179**	P	**Pn**	**21 01 41.6**	**+2.8**
	baz=19,SNR=5.0						
RMQ	**Roma**	**20.64**	**185**	P	Pn	21 01 52.4	-0.8
	baz=20,SNR=7.3						
MTN	**Manton Dam**	**20.66**	**249**	P	**P**	**21 01 50.0**	**-0.7**
	baz=20,SNR=4.5						
WRAB	**Tennant Creek**	**21.30**	**227**	*e*P	**P**	**21 01 56.9**	**-0.9**
	4.8nm,0.8s						
WRA	**Warramunga Arr**	**21.32**	**227**	P	**P**	**21 01 57.4**	**-0.6**
	4.4nm,0.7s,baz=52,slow=9.9,SNR=9.4						
WRA				PcP	**PcP**	**21 06 01.7**	**+0.4**
	1.4nm,0.8s,baz=36,slow=2.1,SNR=5.5						
KNRA	**Kununurra**	**23.78**	**244**	P	**P**	**21 02 23.5**	**+0.2**
	baz=23,SNR=4.5						
AS31	**Alice Springs**	**24.09**	**221**	*e*P	**P**	**21 02 25.6**	**-0.7**
ASAR	**Alice Springs**	**24.10**	**221**	P	**P**	**21 02 26.1**	**-0.2**
	1.9nm,0.6s,baz=54,slow=9.0,SNR=8.2						
ASAR				PcP	**PcP**	**21 06 07.0**	**+0.1**
	0.7nm,0.6s,baz=45,slow=2.6,SNR=3.9						
ASAR				S	**S**	**21 06 44.1**	**+2.9**
	1.2nm,1.0s,baz=45,slow=16,SNR=3.6						
STKA	**Stephens Creek**	**27.32**	**197**	P	**P**	**21 02 53.6**	**-1.8**
FITZ	**Fitzroy Crossi**	**27.46**	**241**	P	**P**	**21 02 55.9**	**-0.9**
	baz=27,SNR=5.8						
MEEK	**Meekatharra**	**37.04**	**232**	P	**P**	**21 04 19.7**	**-0.8**
	baz=37,SNR=3.1						
JNU	**Nakatsue**	**43.12**	**335**	P	**P**	**21 05 12.1**	**+1.2**
	17nm,0.9s,baz=148

CHVG				S	Sg	21 09 05.5	+6.2		
CHVG	**Ch'k'valeri**	**2.71**	**4**	⇑*i*P	**Pg**	**21 08 25.4**	**+1.1**		
CHVG	**Ch'k'valeri**	**2.71**	**4**	*e*Pn	**Pb**	**21 08 19.7**	**-0.9**		
MAZI	**Mazidag**	**2.77**	**203**	*e*PN	**Pb**	**21 08 20.7**	**-1.1**		
MAZI	**Mazidag**	**2.77**	**203**	*e*Pn	**Pb**	**21 08 20.7**	**-1.1**		
SUSE	**Susehri**	**2.78**	**275**	*e*P	**Pg**	**21 08 23.3**	**-2.5**		
SUSE				*i* S	**Sg**	**21 09 07.0**	**+5.1**		
TBLG	**Delisi**	**2.79**	**51**	*e*PN	Pb	21 08 19.0	-3.1		
TBLG	**Delisi**	**2.79**	**51**	P	**Pb**	**21 08 21.9**	**-0.3**		
TBLG				S	**Sg**	**21 09 03.4**	**+1.1**		
TBLG	**Delisi**	**2.79**	**51**	*e*Pn	Pb	21 08 19.0	-3.1		
TBLG	**Delisi**	**2.79**	**51**	P	**Pb**	**21 08 21.9**	**-0.3**		
MARD	**Mardin**	**2.82**	**197**	*i* P	**Pg**	**21 08 25.8**	**-0.7**		
ONI	**Oni**	**2.85**	**25**	P	**Pb**	**21 08 23.6**	**+0.5**		
ONI				S	**Sg**	**21 09 08.0**	**+4.1**		
GRSN	**GIRESUNGRSN**	**2.86**	**290**	*i* P	**Pb**	**21 08 24.0**	**+0.8**		
GRSN				*i* S	**Sb**	**21 08 59.5**	**+1.4**		
HKR	**Hakkari**	**2.86**	**148**	*e*PN	**Pb**	**21 08 22.5**	**-0.8**		
HKR	**Hakkari**	**2.86**	**148**	*e*Pn	**Pb**	**21 08 22.5**	**-0.8**		
HAKT	**HAKKARI**	**2.86**	**148**	*i* P	**Pb**	**21 08 23.7**	**+0.3**		
HAKT	**HAKKARI**	**2.86**	**148**	*i* P	**Pb**	**21 08 23.7**	**+0.3**		
DGRG	**David-gareji**	**3.05**	**61**	P	**Pb**	**21 08 27.0**	**+0.5**		
DGRG				S	**Sg**	**21 09 11.5**	**+1.0**		
CUKT	**Cukurca**	**3.10**	**153**	*e*PN	**Pb**	**21 08 25.7**	**-1.7**		
CUKT	**Cukurca**	**3.10**	**153**	*e*Pn	**Pb**	**21 08 25.7**	**-1.7**		
MALT	**Malatya**	**3.14**	**238**	*e*PN	Pb	21 08 25.0	-3.1		
MALT	**Malatya**	**3.14**	**238**	⇑*i*P	**Pb**	**21 08 26.0**	**-2.1**		
MALT	**Malatya**	**3.14**	**238**	*e*Pn	Pb	21 08 25.0	-3.1		
MALT	**Malatya**	**3.14**	**238**	⇑*i*P	**Pb**	**21 08 26.0**	**-2.1**		
RSDY	**Resadiye-TOKAT**	**3.46**	**278**	*e*PN	Pn	21 08 28.4	+2.5		
RSDY	**Resadiye-TOKAT**	**3.46**	**278**	*e*Pn	Pn	21 08 28.4	+2.5		
URFA	**Urfa**	**3.48**	**223**	*e*PN	Pb	21 08 31.0	-2.9		
URFA	**Urfa**	**3.48**	**223**	*e*Pn	Pb	21 08 31.0	-2.9		
SVSK	**Karacayir**	**3.71**	**270**	*e*PN	Pn	21 08 32.3	+3.1		
SVSK	**Karacayir**	**3.71**	**270**	*e*Pn	Pn	21 08 32.3	+3.1		
KIV	**Kislovodsk**	**3.99**	**9**	*e*PN	**Pn**	**21 08 34.5**	**+1.4**		
KIV	**Kislovodsk**	**3.99**	**9**	*e*Pn	**Pn**	**21 08 34.5**	**+1.4**		
KVT	**Kavak**	**4.53**	**285**	*e*PN	Pn	21 08 43.4	+2.9		
KVT	**Kavak**	**4.53**	**285**	*e*Pn	Pn	21 08 43.4	+2.9		

IDC 18 21:10:52.2±15.0, 59°00S×25°03W, h0km, mb4.2/1, mb1 4.2/1, mb1mx3.7/16, mbtmp4.2/1, Error ellipse: s-maj=1074.0km s-min=60.7km az=138.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**50.55**	**13**	T	T	22 14 22.3	
	baz=188,slow=75,SNR=28						
H10S3	**ASCENSION HYDR**	**50.55**	**13**	T	T	22 14 22.6	
	baz=188,slow=75,SNR=44						
H10S1	**ASCENSION HYDR**	**50.57**	**13**	T	T	22 14 23.6	
	baz=188,slow=75,SNR=38						
H10N1	**ASCENSION HYDR**	**51.67**	**13**	T	T	22 15 41.3	
	baz=189,slow=76						
H10N3	**ASCENSION HYDR**	**51.67**	**13**	T	T	22 15 46.5	
	baz=189,slow=76						
H10N2	**ASCENSION HYDR**	**51.69**	**13**	T	T	22 15 37.5	
	baz=189,slow=76						
TORD	**Torodi Ar. Bea**	**75.11**	**27**	P	P	21 22 35.8	0.0
	1.0nm,0.4s,baz=200,slow=6.2,SNR=25						
PDAR	**Pinedale Array**	**122.86**	**299**	PKP	PKPdf	21 29 49.3	-0.2
	0.2nm,0.6s,baz=131,slow=3.7,SNR=1.9						
ILAR	**Eielson Array**	**152.89**	**307**	PKPbc	PKPbc	21 30 49.5	-0.1
	2.7nm,0.9s,baz=132,slow=1.5,SNR=19						

IDC 18 21:11:50.8±3.7, 5°61S×150°32E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.3/18, mbtmp3.3/2, Error ellipse: s-maj=138.0km s-min=49.6km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.08**	**226**	P	P	21 16 37.8	+0.8
	0.5nm,0.4s,baz=51,slow=10,SNR=9.8						
ASAR	**Alice Springs**	**23.92**	**220**	P	P	21 17 05.4	-1.3
	0.1nm,0.3s,baz=57,slow=10,SNR=4.2						
TORD	**Torodi Ar. Bea**	**148.19**	**286**	PKPbc	PKPbc	21 31 39.6	-0.2
	0.5nm,0.7s,baz=96,slow=4.4,SNR=5.4						

IDC 18 21:31:38.0±4.2, 5°54S×149°73E, h0km, mb3.0/2, mb1 3.4/2, mb1mx3.2/18, mbtmp3.1/2, Error ellipse: s-maj=155.2km s-min=52.9km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.71**	**225**	P	P	21 36 20.6	+0.5
	0.7nm,1.0s,baz=51,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**23.60**	**219**	P	P	21 36 50.5	-0.3
	0.2nm,0.3s,baz=51,slow=9.1,SNR=4.9						
TORD	**Torodi Ar. Bea**	**147.60**	**286**	PKPbc	PKPbc	21 51 24.6	-0.9
	0.1nm,0.3s,baz=74,slow=1.4,SNR=1.0						

*ISCJB **18** 21:32:48.9±1.0, 36°85S×99°9W±0°2, h10km, mb3.9/9, Error ellipse: s-maj=24.7km s-min=22.0km az=28.8*
*IDC **18** 21:32:49.4±0.9, 36°69S×99°85W, h0km, mb4.0/8, mb1 4.3/8, mb1mx4.1/31, mbtmp4.0/8, Error ellipse: s-maj=25.5km s-min=24.2km az=127.0*
ISC 18 21:32:50.9±0.9, 36°7S±0°2×99°8W±0°2, h10km, n15, σ0s87/12, mb4.0/9, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**26.57**	**88**	P	**P**	**21 38 29.0**	**-0.2**
	0.3nm,0.8s,baz=236,slow=11,SNR=4.0						
LPAZ	**La Paz**	**34.67**	**63**	P	**P**	**21 39 41.8**	**+0.3**
	0.9nm,0.4s,baz=241,slow=7.2,SNR=6.3						
SIV	**San Ignacio**	**40.05**	**69**	P	**P**	**21 40 25.9**	**-0.5**
	1.4nm,0.6s,baz=237,slow=10.0,SNR=4.6						
PTGA	**Pitinga**	**51.38**	**55**	P	**P**	**21 41 55.9**	**0.0**
	0.9nm,0.2s,baz=150,slow=20,SNR=2.0						
QSPA	**South Pole Qui**	**53.51**	**180**	P	**P**	**21 42 10.7**	**-0.6**
	1.0nm,1.1s,baz=164,slow=7.4,SNR=2.3						
TXAR	**Lajitas Array**	**65.79**	**356**	P	**P**	**21 43 35.3**	**-0.9**
	0.5nm,0.9s,baz=179,slow=7.3,SNR=5.6						
NVAR	**Mina Array Bea**	**76.69**	**345**	P	**P**	**21 44 42.1**	**0.0**
	1.6nm,0.9s,baz=179,slow=7.7,SNR=7.4						
PDAR	**Pinedale Array**	**79.59**	**353**	P	**P**	**21 44 57.5**	**-0.7**
	1.3nm,0.8s,baz=134,slow=4.3,SNR=7.9						
NEW	**Newport**	**85.99**	**349**	P	**P**	**21 45 32.2**	**+1.2**
	2.1nm,0.8s,baz=63,slow=2.3,SNR=3.0						
H01W1	**Cape Leeuwin H**	**102.05**	**208**	T	T	23 41 56.9	
	baz=151,slow=76,SNR=16						
H01W2	**Cape Leeuwin H**	**102.05**	**208**	T	T	23 41 52.2	
	baz=151,slow=76,SNR=17						
H01W3	**Cape Leeuwin H**	**102.06**	**208**	T	T	23 41 58.0	
	baz=151,slow=76,SNR=14						
BRTR	**Keskin Array B**	**143.64**	**71**	PKP	**PKPdf**	**21 52 27.6**	**+1.5**
	0.3nm,0.6s,baz=214,slow=4.1,SNR=2.5						
KBZ	**Khabaz**	**150.88**	**64**	PKPbc	**PKPbc**	**21 52 44.4**	**+1.0**
	1.4nm,0.8s,baz=270,slow=5.1,SNR=2.7						
CMAR	**Chiang Mai Arr**	**155.43**	**227**	PKPab	**PKPab**	**21 53 10.8**	**+0.2**
	0.7nm,0.7s,baz=165,slow=3.7,SNR=6.5						

IDC 18 21:49:35.0±3.4, 6°05S×150°20E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.4/19, mbtmp3.6/3, ML1.5/1, MS4.0/1, Ms1 4.0/1, ms1mx3.0/19, Error ellipse: s-maj=127.8km s-min=38.5km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.50**	**222**	Pn	Pn	21 50 44.4	0.0
	1.7nm,0.3s,baz=171,slow=18,SNR=4.4						
PMG				Sn	Sn	21 51 36.8	-0.7
	3.7nm,0.3s,baz=218,slow=18,SNR=3.6						
WRA	**Warramunga Arr**	**20.70**	**227**	P	P	21 54 17.5	+0.5
	2.5nm,0.6s,baz=53,slow=11,SNR=17						
ASAR	**Alice Springs**	**23.51**	**220**	P	P	21 54 47.0	+0.1
	0.7nm,0.6s,baz=52,slow=8.4,SNR=5.5						
KAPI	**Kappang**	**30.32**	**270**	LR	LR	22 10 12.5	
	comp=Z,291nm,21.1s,baz=240,slow=41						
TORD	**Torodi Ar. Bea**	**148.18**	**285**	PKPbc	PKPbc	22 09 23.1	-0.9
	0.3nm,0.6s,baz=69,slow=2.7,SNR=4.5						

IDC 18 21:49:46.6±3.4, 7°69S×149°01E, h0km, mb2.9/1, mb1 3.5/2, mb1mx3.2/28, mbtmp3.3/2, ML3.3/1, Error ellipse: s-maj=122.1km s-min=46.0km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.72**	**228**	P	Pn	21 54 08.0	+0.7
	0.1nm,0.3s,baz=53,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**21.50**	**221**	P	P	21 54 36.3	-1.0
	0.5nm,0.8s,baz=58,slow=8.8,SNR=3.7						
TORD	**Torodi Ar. Bea**	**147.42**	**282**	PKPbc	PKPbc	22 09 32.9	-0.6
	0.2nm,0.5s,baz=70,slow=2.5,SNR=4.6						

IDC 18 21:52:08.3±3.3, 6°70S×149°53E, h0km, mb3.0/1, mb1 3.6/3, mb1mx3.3/33, mbtmp3.4/3, ML1.0/1, Error ellipse: s-maj=125.8km s-min=36.1km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.57**	**221**	Pn	Pn	21 53 04.8	-0.2
	0.9nm,0.3s,baz=345,slow=20,SNR=1.8						
PMG				Sn	Sn	21 53 49.5	+1.5
	9.5nm,0.3s,baz=191,slow=19,SNR=9.1						
WRA	**Warramunga Arr**	**19.77**	**227**	P	Pn	21 56 41.4	-0.3
	0.2nm,0.3s,baz=52,slow=11,SNR=11						
ASAR	**Alice Springs**	**22.59**	**220**	P	P	21 57 09.8	-0.8
	0.4nm,0.6s,baz=54,slow=9.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**147.70**	**284**	PKPbc	PKPbc	22 11 55.3	-0.7
	0.4nm,0.7s,baz=74,slow=2.9,SNR=2.6						

IDC 18 22:01:08.2±3.8, 5°78S×150°36E, h0km, mb3.0/2, mb1 3.4/3, mb1mx3.2/35, mbtmp3.2/3, ML0.8/1, Error ellipse: s-maj=152.9km s-min=44.6km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.80**	**221**	Pn	Pn	22 02 20.6	-1.3
	0.3nm,0.3s,baz=299,slow=19,SNR=1.4						
PMG				Sn	Sn	22 03 16.0	-2.2
	1.2nm,0.3s,baz=232,slow=19,SNR=1.8						
WRA	**Warramunga Arr**	**21.00**	**226**	P	P	22 05 53.5	+0.1
	0.5nm,0.8s,baz=52,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**23.82**	**220**	P	P	22 06 24.2	+1.0
	0.4nm,0.8s,baz=59,slow=9.8,SNR=2.3						
TORD	**Torodi Ar. Bea**	**148.27**	**286**	PKPbc	PKPbc	22 20 56.5	-1.0
	0.2nm,0.4s,baz=82,slow=2.6,SNR=5.7						

IDC 18 22:17:08.9±3.6, 5°48S×149°94E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.3/24, mbtmp3.4/3, ML1.3/1, Error ellipse: s-maj=142.4km s-min=35.9km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.77**	**215**	Pn	Pn	22 18 23.7	+1.5
	0.9nm,0.3s,baz=212,slow=15,SNR=1.9						
PMG				Sn	Sn	22 19 18.2	-0.1
	2.4nm,0.3s,baz=90,slow=19,SNR=3.7						
WRA	**Warramunga Arr**	**20.90**	**225**	P	P	22 21 53.9	+0.7
	0.8nm,0.5s,baz=51,slow=10,SNR=11						
ASAR	**Alice Springs**	**23.78**	**219**	P	P	22 22 22.4	-1.0
	0.5nm,0.5s,baz=52,slow=9.9,SNR=5.9						
TORD	**Torodi Ar. Bea**	**147.78**	**286**	PKPbc	PKPbc	22 36 56.2	-0.7
	0.3nm,0.5s,baz=76,slow=2.6,SNR=8.6						

*IDC **18** 22:31:01.7±2.3, 2°28S×67°77E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.4/51, mbtmp3.7/6, Error ellipse: s-maj=63.2km s-min=33.4km az=63.0*
ISC 18 22:31:03.6±2.4, 2°3S±0°3×67°8E±0°4, h11km, n13, σ1s08/7, mb3.6/6, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.15**	**142**	T	T	22 37 26.3	
	baz=325,slow=75						
H08N3	**Diego Garcia H**	**5.16**	**142**	T	T	22 37 36.2	
	baz=325,slow=75						
H08N1	**Diego Garcia H**	**5.17**	**142**	T	T	22 37 31.3	
	baz=325,slow=75						
H08S3	**Diego Garcia H**	**7.09**	**139**	T	T	22 40 14.5	
	baz=296,slow=75						
H08S1	**Diego Garcia H**	**7.09**	**139**	T	T	22 40 01.6	
	baz=296,slow=75						
H08S2	**Diego Garcia H**	**7.11**	**139**	T	T	22 40 03.1	
	baz=296,slow=75						
CMAR	**Chiang Mai Arr**	**36.93**	**55**	P	**P**	**22 38 13.6**	**+0.5**
	0.9nm,1.0s,baz=234,slow=11,SNR=5.2						
MKAR	**Makanchi Array**	**50.50**	**13**	P	**P**	**22 39 59.9**	**-1.9**
	0.7nm,1.0s,baz=213,slow=10,SNR=2.7						
KURBB	**Kurchatov Arra**	**53.48**	**8**	P	**P**	**22 40 24.1**	**+0.2**
	2.0nm,1.1s,baz=203,slow=7.8,SNR=5.7						
ZALV	**Zalesovo Beam**	**57.79**	**12**	P	**P**	**22 40 55.4**	**+0.7**
	0.3nm,0.4s,baz=210,slow=8.3,SNR=3.6						
SONM	**Songino Array**	**60.19**	**29**	P	**P**	**22 41 12.0**	**+0.2**
	0.9nm,0.9s,baz=235,slow=5.1,SNR=5.8						
WRA	**Warramunga Arr**	**67.21**	**111**	P	**P**	**22 41 58.2**	**-0.4**
	0.3nm,0.7s,baz=287,slow=5.9,SNR=4.3						
TXAR	**Lajitas Array**	**151.88**	**344**	PKPbc	**PKPbc**	**22 50 59.9**	**+0.3**
	0.2nm,0.8s,baz=28,slow=2.5,SNR=3.5						

*CSEM **18** 22:31:14.8±0.2, 42°89N×46°08E, h2km, mb3.9, Error ellipse: s-maj=5.1km s-min=2.5km az=18.0*
*MOS **18** 22:31:14.5±1.3, 42°93N×46°14E, h8km, mb3.9/1, Error ellipse: s-maj=11.3km s-min=6.3km az=36.1*
*TIF **18** 22:31:15.2, 42°85N×46°05E, h11km±1km*
ISC 18 22:31:14.8±1.1, 42°88N±0°02×46°09E±0°02, h5km±9km, n46, σ0s71/87, 5C-2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.24**	**156**	*e*PG	**Pg**	**22 31 19.1**	**-0.3**
BTLR	**Botlikh**	**0.24**	**156**	*e*Pg	**Pg**	**22 31 19.1**	**-0.3**
DLMR	**Dylym**	**0.44**	**64**	*e*PG	**Pg**	**22 31 22.5**	**-0.7**
DLMR				*e*S	**Sg**	**22 31 29.0**	**+0.1**
DLMR				pmax	pmax		
	comp=Z,58nm,0.2s						
DLMR	**Dylym**	**0.44**	**64**	*e*Pg	**Pg**	**22 31 22.5**	**-0.7**
	comp=Z,58nm,0.2s						
DLMR				*e*Sg	**Sg**	**22 31 29.0**	**+0.1**
GRO	**Groznyy**	**0.50**	**330**	⇓*i*PG	**Pg**	**22 31 22.5**	**-2.0**
GRO	**Groznyy**	**0.50**	**330**	*i* Pg	**Pg**	**22 31 22.5**	**-2.0**
UNCR	**Uncukul**	**0.54**	**108**	*e*PG	**Pg**	**22 31 25.0**	**-0.2**
UNCR				*e*S	**Sg**	**22 31 33.3**	**+1.0**
UNCR				pmax	pmax		
	comp=Z,27nm,0.2s						
UNCR	**Uncukul**	**0.54**	**108**	*e*Pg	**Pg**	**22 31 25.0**	**-0.2**
	comp=Z,27nm,0.2s						
UNCR				*e*Sg	**Sg**	**22 31 33.3**	**+1.0**
DBC	**Dubki**	**0.56**	**76**	⇑*i*PG	**Pb**	**22 31 26.9**	**-0.2**
DBC				*i* S	**Sg**	**22 31 34.0**	**+1.2**
DBC	**Dubki**	**0.56**	**76**	*i* Pg	**Pb**	**22 31 26.9**	**-0.2**
DBC				*i* Sg	**Sg**	**22 31 34.0**	**+1.2**
KRNR	**Karanay**	**0.60**	**95**	*e*PG	**Pg**	**22 31 26.0**	**-0.3**
KRNR				*e*S	**Sg**	**22 31 35.2**	**+1.0**
KRNR	**Karanay**	**0.60**	**95**	*e*Pg	**Pg**	**22 31 26.0**	**-0.3**
KRNR				*e*Sg	**Sg**	**22 31 35.2**	**+1.0**
ARKR	**Arakani**	**0.72**	**112**	*e*PG	**Pg**	**22 31 29.0**	**+0.4**
ARKR				*e*S	**Sb**	**22 31 39.8**	**-0.3**
ARKR	**Arakani**	**0.72**	**112**	*e*Pg	**Pg**	**22 31 29.0**	**+0.4**
ARKR				*e*Sg	**Sb**	**22 31 39.8**	**-0.3**
GNBR	**Gunib**	**0.81**	**127**	⇑*i*PG	**Pg**	**22 31 30.5**	**+0.2**
GNBR				*i* S	**Sb**	**22 31 42.0**	**-0.7**
GNBR	**Gunib**	**0.81**	**127**	*i* Pg	**Pg**	**22 31 30.5**	**+0.2**
GNBR				*i* Sg	**Sb**	**22 31 42.0**	**-0.7**
VLKR	**Vladikavkaz**	**1.05**	**279**	*e*PG	**Pb**	**22 31 35.7**	**+0.2**
VLKR				*e*S	**Sn**	**22 31 51.2**	**-0.1**
VLKR	**Vladikavkaz**	**1.05**	**279**	*e*Pg	**Pb**	**22 31 35.7**	**+0.2**
VLKR				*e*Sg	**Sn**	**22 31 51.2**	**-0.1**
KMKR	**Kumukh**	**1.06**	**135**	*e*PG	**Pg**	**22 31 35.5**	**+0.5**
KMKR				*e*S	**Sb**	**22 31 50.0**	**+0.1**
KMKR				pmax	pmax		
	comp=Z,28nm,0.2s						
KMKR	**Kumukh**	**1.06**	**135**	*e*Pg	**Pg**	**22 31 35.5**	**+0.5**
	comp=Z,28nm,0.2s						
KMKR				*e*Sg	**Sb**	**22 31 50.0**	**+0.1**
BTKR	**Batakoyurt**	**1.24**	**294**	⇑*i*PG	**Pb**	**22 31 38.7**	**+0.1**
BTKR				*e*S	**Sn**	**22 31 56.4**	**+0.5**
BTKR	**Batakoyurt**	**1.24**	**294**	*i* Pg	**Pb**	**22 31 38.7**	**+0.1**
BTKR				*e*Sg	**Sn**	**22 31 56.4**	**+0.5**
DUS	**Dusheti**	**1.30**	**233**	P	**Sn**	**22 31 57.1**	**-0.3**
TRKR	**Terskaya**	**1.30**	**311**	⇓*i*PG	**Pg**	**22 31 39.8**	**+0.1**
TRKR				*i* S	**Sn**	**22 31 58.4**	**+1.0**
TRKR	**Terskaya**	**1.30**	**311**	*i* Pg	**Pg**	**22 31 39.8**	**+0.1**
TRKR				*i* Sg	**Sn**	**22 31 58.4**	**+1.0**
URKR	**Urkarakh**	**1.35**	**122**	*e*PG	**Pb**	**22 31 40.5**	**-0.1**
URKR				*i* S	**Sn**	**22 31 59.0**	**+0.3**
URKR	**Urkarakh**	**1.35**	**122**	*e*Pg	**Pb**	**22 31 40.5**	**-0.1**
URKR				*i* Sg	**Sn**	**22 31 59.0**	**+0.3**
ARNR	**Ardon**	**1.36**	**283**	*e*PG	**Pn**	**22 31 40.2**	**-0.2**
ARNR				*e*S	**Sn**	**22 31 59.7**	**+0.8**
ARNR	**Ardon**	**1.36**	**283**	*e*Pg	**Pn**	**22 31 40.2**	**-0.2**
ARNR				*e*Sg	**Sn**	**22 31 59.7**	**+0.8**
SEAG	**Tbilisi Sea**	**1.47**	**221**	P	**Pn**	**22 31 39.8**	**-2.2**
SEAG				S	**Sn**	**22 32 00.6**	**-1.1**
SEAG	**Tbilisi Sea**	**1.47**	**221**	P	**Pn**	**22 31 39.8**	**-2.2**
SEAG				S	**Sn**	**22 32 00.6**	**-1.1**
KORR	**Kora**	**1.50**	**278**	*e*PG	**Pb**	**22 31 43.0**	**-0.1**
KORR				*i* S	**Sg**	**22 32 04.1**	**+1.2**
KORR	**Kora**	**1.50**	**278**	*e*Pg	**Pb**	**22 31 43.0**	**-0.1**
KORR				*i* Sg	**Sg**	**22 32 04.1**	**+1.2**
DGRG	**David-gareji**	**1.53**	**201**	P	**Pb**	**22 31 43.5**	**-0.1**
DGRG				S	**Sg**	**22 32 04.6**	**+0.8**
DGRG	**David-gareji**	**1.53**	**201**	P	**Pb**	**22 31 43.5**	**-0.1**
DGRG				S	**Sg**	**22 32 04.6**	**+0.8**
TBLG	**Delisi**	**1.53**	**222**	P	**Pn**	**22 31 42.4**	**-0.4**
TBLG				S	**Sn**	**22 32 02.9**	**-0.1**
TBLG	**Delisi**	**1.53**	**222**	PG	**Pn**	**22 31 42.3**	**-0.4**
TBLG				S	**Sn**	**22 32 02.9**	**-0.1**
TBLG	**Delisi**	**1.53**	**222**	P	**Pn**	**22 31 42.4**	**-0.4**
TBLG				S	**Sn**	**22 32 02.9**	**-0.1**
STDR	**Stavd-Durt**	**1.56**	**289**	⇑*i*PG	**Pn**	**22 31 43.4**	**+0.2**
STDR				*e*S	**Sg**	**22 32 05.5**	**+0.5**
STDR	**Stavd-Durt**	**1.56**	**289**	*i* Pg	**Pn**	**22 31 43.4**	**+0.2**
STDR				*e*Sg	**Sg**	**22 32 05.5**	**+0.5**
LSNR	**Lesken**	**1.71**	**284**	⇑*i*PN	**Pn**	**22 31 45.7**	**+0.4**
LSNR				*i* S	**Sg**	**22 32 09.7**	**+0.1**
LSNR	**Lesken**	**1.71**	**284**	*i* Pn	**Pn**	**22 31 45.7**	**+0.4**
LSNR				*i* Sg	**Sg**	**22 32 09.7**	**+0.1**
AKT	**Akhty**	**1.86**	**138**	PN	**Pg**	**22 31 50.0**	**-0.3**
AKT				*e*S	**Sg**	**22 32 14.0**	**-0.4**
AKT	**Akhty**	**1.86**	**138**	Pn	**Pg**	**22 31 50.0**	**-0.3**
AKT				*e*Sg	**Sg**	**22 32 14.0**	**-0.4**
ONI	**Oni**	**1.97**	**262**	P	**Pn**	**22 31 49.2**	**+0.4**
ONI				S	**Sb**	**22 32 16.5**	**+0.6**
ONI	**Oni**	**1.97**	**262**	P	**Pn**	**22 31 49.2**	**+0.4**
ONI				S	**Sb**	**22 32 16.5**	**+0.6**

*ISCJB **18** 22:38:24.2±0.3, 42°69N±0°01×7°52W±0°03, h11km±2km, Error ellipse: s-maj=3.7km s-min=2.0km az=30.2*
*CSEM **18** 22:38:25.8±0.1, 42°70N×7°62W, h10km, ML3.6/27, Error ellipse: s-maj=3.5km s-min=2.0km az=119.0*
*INMG **18** 22:38:27.6±1.3, 42°72N×7°70W, h17km±2km, MD3.1, ML3.4, Error ellipse: s-maj=2.9km s-min=1.8km az=104.0*
*IGIL **18** 22:38:27.4, 42°67N×7°68W, h0km, ML2.4*
*LDG **18** 22:38:27.2±0.1, 42°73N×7°71W, h10km, Ml3.5/29, Error ellipse: s-maj=2.8km s-min=1.5km az=115.0*
*MDD **18** 22:38:27.2±0.2, 42°71N×7°69W, h10km, mbLg3.4/47, Error ellipse: s-maj=2.5km s-min=2.2km az=173.0, PRXIMO*
MDD EMS: III INTENSIDAD MAXIMA.
*STR **18** 22:38:27.6±0.7, 43°29N×7°60W, h5km, Ml3.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 18 22:38:24.9±0.4, 42°75N±0°01×7°59W±0°02, h18km±1km, n282, σ1s93/368, 7C-3D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAGO	**Agolada(Pontev**	**0.37**	**278**	⇑Pg	**Pg**	**22 38 33.4**	**+0.8**
	376nm,0.0s,SNR=18						
EAGO				Lg	Lg	22 38 37.6	
	410nm,0.2s,SNR=7.9						
EAGO	**Agolada(Pontev**	**0.37**	**278**	Pg	**Pg**	**22 38 33.4**	**+0.8**
	376nm,0.0s,SNR=18						
EAGO				Lg	Lg	22 38 37.6	
	410nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**0.66**	**29**	⇑Pg	**Pn**	**22 38 40.7**	**+1.3**
	98nm,0.2s,SNR=18						
EPON				Lg	Lg	22 38 50.8	
	479nm,0.2s,SNR=5.0						
EPON	**Pontenova**	**0.66**	**29**	Pg	**Pn**	**22 38 40.7**	**+1.3**
	98nm,0.2s,SNR=18						
EPON				Lg	Lg	22 38 50.8	
	479nm,0.2s,SNR=5.0						
PGAV	**Gavieira, Arco**	**0.93**	**213**	*e*P	**Pb**	**22 38 43.2**	**+0.7**
PGAV				*e*S	**Sb**	**22 38 54.3**	**-0.3**
PGAV				A	A	22 38 56.7	
	1μ

MVO Pg **Pb** **22 38 56.2 +1.6**
36nm,0.2s,SNR=9.2
MVO Lg Lg 22 39 17.7
152nm,0.2s,SNR=20
MVO Moncorvo 1.64 165 Pn **Pn** **22 38 54.4 +1.5**
2.7nm,0.1s,SNR=109
PTO Porto 1.78 205 *e*Pn **Pn** **22 38 55.6 +0.9**
PTO *e*Sg **Sb** **22 39 20.5 +1.7**
PTO A A 22 39 23.0
284nm,0.3s
PTO Porto 1.78 205 Pn **Pn** **22 38 55.6 +0.9**
PTO Lg Lg 22 39 20.5
142nm,0.3s
PTO Porto 1.78 205 Pn **Pn** **22 38 55.6 +0.9**
PTO Lg Lg 22 39 20.5
142nm,0.3s
EARI Arriondas 1.83 72 ⇑Pn **Pb** **22 38 59.3 +1.4**
6.9nm,0.2s,SNR=18
EARI Pg **Pg** **22 39 02.6 +2.5**
30nm,0.2s,SNR=9.4
EARI Lg Lg 22 39 28.1
72nm,0.3s,SNR=5.0
EARI Arriondas 1.83 72 Pn **Pb** **22 38 59.3 +1.4**
6.9nm,0.2s,SNR=18
EARI Arriondas 1.83 72 Pg **Pg** **22 39 02.6 +2.5**
30nm,0.2s,SNR=9.4
EARI Lg Lg 22 39 28.1
72nm,0.3s,SNR=5.0
PVIS Viseu 2.05 186 *e*Pn **Pn** **22 38 59.6 +1.2**
PVIS Viseu 2.05 186 *e*Pg **Pg** **22 39 04.3 +0.1**
PVIS *e*Sg **Sb** **22 39 29.4 +2.8**
PVIS A A 22 39 36.3
230nm,0.7s
PVIS Viseu 2.05 186 Pn **Pn** **22 38 59.6 +1.2**
PVIS Pg **Pg** **22 39 04.3 +0.1**
PVIS Lg Lg 22 39 29.4
115nm,0.7s
PVIS Viseu 2.05 186 Pn **Pn** **22 38 59.6 +1.2**
MTE Manteigas 2.35 179 *e*Pn **Pn** **22 39 04.0 +1.4**
MTE Manteigas 2.35 179 *e*Pg **Pg** **22 39 09.9 -0.1**
MTE *e*Sg **Sb** **22 39 38.7 +3.3**
MTE A A 22 39 43.8
314nm,0.6s
MTE Manteigas 2.35 179 Pn **Pn** **22 39 04.0 +1.4**
MTE Pg **Pg** **22 39 09.9 -0.1**
MTE Lg Lg 22 39 38.7
157nm,0.6s
MTE Manteigas 2.35 179 Pn **Pn** **22 39 04.0 +1.4**
PCAS Casmilo, Conde 2.78 194 *e*Pn **Pn** **22 39 10.4 +1.9**
PCAS *e*Sg **Sb** **22 39 51.9 +4.2**
PCAS A A 22 39 57.1
105nm,0.4s
PCBR Castelo Branco 2.91 178 *e*Pn **Pn** **22 39 11.6 +1.4**
PCBR Castelo Branco 2.91 178 *e*Pg **Pg** **22 39 20.5 -0.2**
PCBR *e*Sn **Sn** **22 39 45.4 +0.7**
PCBR *e*Sg **Sg** **22 39 56.5 -1.9**
PCBR A A 22 39 59.6
131nm,0.5s
PCBR Castelo Branco 2.91 178 Pn **Pn** **22 39 11.6 +1.4**
PCBR Pg **Pg** **22 39 20.5 -0.2**
PCBR Sn **Sn** **22 39 45.4 +0.7**
PCBR Lg Lg 22 39 56.5
66nm,0.5s
PCBR Castelo Branco 2.91 178 Pn **Pn** **22 39 11.6 +1.4**
EPLA Plasencia 2.92 157 ⇓Pn **Pn** **22 39 12.4 +2.0**
12nm,0.3s,SNR=18
EPLA Pg **Pg** **22 39 20.2 -0.6**
20nm,0.2s,SNR=27
EPLA Sn **Sn** **22 39 45.0 0.0**
26nm,0.2s,SNR=5.6
EPLA Lg Lg 22 39 57.3
47nm,0.2s,SNR=5.0
EPLA Plasencia 2.92 157 Pn **Pn** **22 39 12.4 +2.0**
12nm,0.3s,SNR=18
EPLA Plasencia 2.92 157 Pg **Pg** **22 39 20.2 -0.6**
20nm,0.2s,SNR=27
EPLA Sn **Sn** **22 39 45.0 0.0**
26nm,0.2s,SNR=5.6
EPLA Lg Lg 22 39 57.3
47nm,0.2s,SNR=5.0
ELAN Lanestosa 3.09 80 ⇑Pn Pn 22 39 17.1 +4.4
11nm,0.3s,SNR=18
ELAN Pg **Pg** **22 39 25.1 +1.0**
72nm,0.6s,SNR=29
ELAN Sn **Sn** **22 39 53.7 +4.6**
42nm,0.4s,SNR=5.1
ELAN Lg Lg 22 40 07.0
62nm,0.3s,SNR=7.9
ELAN Lanestosa 3.09 80 Pn Pn 22 39 17.1 +4.4
11nm,0.3s,SNR=18
ELAN Lanestosa 3.09 80 Pg **Pg** **22 39 25.1 +1.0**
72nm,0.6s,SNR=29
ELAN Sn **Sn** **22 39 53.7 +4.6**
42nm,0.4s,SNR=5.1
ELAN Lg Lg 22 40 07.0
62nm,0.3s,SNR=7.9
PTOM Tomar 3.19 191 *e*Pn **Pn** **22 39 15.7 +1.6**
PTOM *e*Sg **Sb** **22 40 04.2 +4.7**
PTOM A A 22 40 09.4
150nm,0.8s
PTOM Tomar 3.19 191 Pn **Pn** **22 39 15.7 +1.6**
PTOM Lg Lg 22 40 04.2
75nm,0.8s
PTOM Tomar 3.19 191 Pn **Pn** **22 39 15.7 +1.6**
PTOM Lg Lg 22 40 04.2
75nm,0.8s
GUD Guadarrama 3.33 128 Pn **Pn** **22 39 18.9 +2.8**
4.0nm,0.2s,SNR=21
GUD Pg **Pg** **22 39 29.2 +0.6**
27nm,0.4s,SNR=19
GUD Sn **Sn** **22 39 57.5 +2.3**
42nm,0.4s,SNR=7.0
GUD Lg Lg 22 40 10.3
125nm,0.3s,SNR=5.0
GUD Guadarrama 3.33 128 Pn **Pn** **22 39 18.9 +2.8**
4.0nm,0.2s,SNR=21
PESTR Estremoz 3.88 180 *e*Pn **Pn** **22 39 24.9 +1.3**
PESTR *e*Sg **Sg** **22 40 26.2 -3.3**
PESTR A A 22 40 29.9
57nm,0.9s
PMAFR Mafra 4.00 199 *e*Pn **Pn** **22 39 26.6 +1.3**
PMAFR *e*Sn **Sn** **22 40 11.3 -0.4**
PMAFR *e*Sg **Sg** **22 40 30.9 -2.5**
PMAFR A A 22 40 38.9
71nm,0.7s
PMAFR Mafra 4.00 199 Pn **Pn** **22 39 26.4 +1.1**
13nm,0.3s,SNR=9.6
PMAFR Pg Pb 22 39 38.6 +3.7
9.3nm,0.3s,SNR=11
PMAFR Sn **Sn** **22 40 09.9 -1.8**
17nm,0.3s,SNR=7.9
PMAFR Lg Lg 22 40 32.0
117nm,0.4s,SNR=7.9
PMAFR Mafra 4.00 199 Pn **Pn** **22 39 26.4 +1.1**
13nm,0.3s,SNR=9.6
PMAFR Lg Lg 22 40 32.0
117nm,0.4s,SNR=7.9
EBAD Badajoz 4.02 174 Pn **Pn** **22 39 26.7 +1.3**
2.2nm,0.2s,SNR=7.9
EBAD Pg Pb 22 39 39.7 +4.7
10nm,0.2s,SNR=7.9
EBAD Sn **Sn** **22 40 12.3 +0.3**
6.3nm,0.1s,SNR=7.3
EBAD Lg Lg 22 40 32.0
48nm,0.5s,SNR=7.9
EBAD Badajoz 4.02 174 Pn **Pn** **22 39 26.7 +1.3**
2.2nm,0.2s,SNR=7.9
EBAD Badajoz 4.02 174 Pg Pb 22 39 39.7 +4.7
10nm,0.2s,SNR=7.9
EBAD Sn **Sn** **22 40 12.3 +0.3**
6.3nm,0.1s,SNR=7.3
EBAD Lg Lg 22 40 32.0
48nm,0.5s,SNR=7.9
PAB San Pablo 4.03 141 Pn **Pn** **22 39 28.5 +2.7**
4.2nm,0.1s,SNR=7.9
PAB Pg **Pg** **22 39 41.7 -0.4**
12nm,0.3s,SNR=7.9
PAB Sn **Sn** **22 40 13.6 +1.0**
10.0nm,0.2s,SNR=7.9
PAB Lg Lg 22 40 31.9
30nm,0.3s,SNR=7.9
PAB San Pablo 4.03 141 Pn **Pn** **22 39 28.5 +2.7**
4.2nm,0.1s,SNR=7.9
PACT Alcochete 4.09 194 *e*Sg Sb 22 40 31.7 +6.4
PACT A A 22 40 41.3
70nm,0.6s

ESDC Sonseca Array 4.12 137 Pn **Pn** **22 39 29.3 +2.4**
0.4nm,0.1s,baz=317,slow=12,SNR=33
ESDC Pg **Pg** **22 39 42.9 -0.9**
6.2nm,0.2s,baz=316,slow=17,SNR=22
ESDC Sn **Sn** **22 40 15.5 +0.9**
1.5nm,0.1s,baz=319,slow=23,SNR=7.0
ESDC Lg Lg 22 40 34.8
20nm,0.2s,baz=316,slow=29,SNR=7.9
ESDC Sonseca Array 4.12 137 Pn **Pn** **22 39 29.3 +2.4**
0.4nm,0.1s,SNR=33
ESDC Sonseca Array 4.12 137 Pg **Pg** **22 39 42.9 -0.9**
6.2nm,0.2s,SNR=22
ESDC Sn **Sn** **22 40 15.5 +0.9**
1.5nm,0.1s,SNR=7.0
ESDC Lg Lg 22 40 34.8
20nm,0.2s,SNR=7.9
PMST Lisbon--Monsan 4.19 197 *e*Sg **Sg** **22 40 35.9 -3.4**
PMST A A 22 40 50.4
57nm,0.4s
EVO Evora 4.23 184 *e*Pn **Pn** **22 39 29.6 +1.2**
EVO Evora 4.23 184 *e*Pg **Pg** **22 39 45.0 -0.8**
EVO *e*Sn **Sn** **22 40 15.6 -1.6**
EVO *e*Sg **Sg** **22 40 38.2 -2.4**
100nm,0.5s
EVO Evora 4.23 184 *e*Pn **Pn** **22 39 29.7 +1.3**
EVO *e*Sn **Sn** **22 40 16.1 -1.1**
EVO A A 22 40 39.0
50nm,0.4s
EVO Evora 4.23 184 Pn **Pn** **22 39 29.7 +1.3**
EVO Sn **Sn** **22 40 16.1 -1.1**
50nm,0.4s
EVO Evora 4.23 184 Pn **Pn** **22 39 29.7 +1.3**
EVOP Sao Brissos 4.24 186 *e*Pn **Pn** **22 39 29.6 +1.1**
EVOP Sao Brissos 4.24 186 *e*Pg **Pg** **22 39 45.0 -1.1**
EVOP *e*Sn **Sn** **22 40 15.6 -1.9**
EVOP *e*Sg **Sg** **22 40 38.2 -2.7**
50nm,0.5s
EARA Aranguren 4.43 88 Pn Pn 22 39 35.1 +4.0
2.9nm,0.2s,SNR=7.9
EARA Sn **Sn** **22 40 24.5 +2.3**
8.8nm,0.2s,SNR=7.9
EARA Lg Lg 22 40 52.2
35nm,0.3s,SNR=7.9
EARA Aranguren 4.43 88 Pn Pn 22 39 35.1 +4.0
2.9nm,0.2s,SNR=7.9
EARA Sn **Sn** **22 40 24.5 +2.3**
8.8nm,0.2s,SNR=7.9
EARA Lg Lg 22 40 52.2
35nm,0.3s,SNR=7.9
ELIZ Elizondo 4.47 83 Pn Pn 22 39 35.5 +3.8
1.2nm,0.2s,SNR=7.9
ELIZ Elizondo 4.47 83 Pn Pn 22 39 35.5 +3.8
1.2nm,0.2s,SNR=7.9
EALK Alkurruntz 4.49 82 Pn Pn 22 39 35.6 +3.7
9.9nm,0.3s,SNR=4.7
EALK Sn **Sn** **22 40 27.4 +3.7**
12nm,0.3s,SNR=7.9
EALK Lg Lg 22 40 54.8
24nm,0.4s,SNR=4.7
EALK Alkurruntz 4.49 82 Pn Pn 22 39 35.6 +3.7
9.9nm,0.3s,SNR=4.7
EALK Sn **Sn** **22 40 27.4 +3.7**
12nm,0.3s,SNR=7.9
EALK Lg Lg 22 40 54.8
24nm,0.4s,SNR=4.7
ETOR Torete 4.57 113 Pn Pn 22 39 36.2 +3.0
4.7nm,0.3s,SNR=19
ETOR Pg **Pg** **22 39 51.4 -1.0**
19nm,0.4s,SNR=5.8
ETOR Sn **Sn** **22 40 27.0 +1.2**
30nm,0.2s,SNR=9.0
ETOR Lg Lg 22 40 51.4
242nm,0.5s,SNR=6.7
ETOR Torete 4.57 113 Pn Pn 22 39 36.2 +3.0
4.7nm,0.3s,SNR=19
ETOR Torete 4.57 113 Pg **Pg** **22 39 51.4 -1.0**
19nm,0.4s,SNR=5.8
ETOR Sn **Sn** **22 40 27.0 +1.2**
30nm,0.2s,SNR=9.0
ETOR Lg Lg 22 40 51.4
242nm,0.5s,SNR=6.7
PBAR Barrancos 4.59 175 *e*Pn **Pn** **22 39 35.1 +1.7**
PBAR *e*Sg **Sg** **22 40 48.3 -4.0**
PBAR A A 22 40 56.8
102nm,0.4s
PBAR Barrancos 4.59 175 Pn **Pn** **22 39 35.1 +1.7**
PBAR Lg Lg 22 40 48.3
102nm,0.4s
PBAR Barrancos 4.59 175 Pn **Pn** **22 39 35.1 +1.7**
PBAR Lg Lg 22 40 48.3
102nm,0.4s
PNCL Nicolau / Gran 4.69 189 *e*Pn **Pn** **22 39 35.8 +1.1**
PNCL *e*Sn **Sn** **22 40 27.7 -0.9**
PNCL A A 22 41 03.0
18nm,0.8s
SJPF Ste Jean 4.69 83 *e*Pn Pn 22 39 38.2 +3.5
SJPF *e*Sn **Sn** **22 40 30.0 +1.3**
SJPF *e*Sg **Sg** **22 40 56.2 +0.8**
21nm,0.5s
SJPF Ste Jean 4.69 83 Pn Pn 22 39 38.2 +3.5
SJPF Sn **Sn** **22 40 30.0 +1.3**
SJPF Lg Lg 22 40 56.2
10nm,0.5s
SJPF Ste Jean 4.69 83 Pn Pn 22 39 38.2 +3.5
SJPF Sn **Sn** **22 40 30.0 +1.3**
SJPF *e*Sg **Sg** **22 40 56.2 +0.8**
10nm,0.5s
MESJ Messejana 4.93 186 *e*P **Pn** **22 39 39.4 +1.4**
MESJ *e*S **Sn** **22 40 31.6 -2.9**
MESJ AML AML 22 40 31.8
comp=E,4.0nm,0.2s
MESJ Messejana 4.93 186 *e*Pn **Pn** **22 39 39.4 +1.4**
MESJ *e*Sg **Sg** **22 41 03.1 0.0**
MESJ A A 22 41 05.9
comp=E,32nm,0.5s
MESJ Messejana 4.93 186 ⇑Pn **Pn** **22 39 39.4 +1.4**
MESJ Sn **Sn** **22 40 31.6 -2.9**
comp=E,4.0nm,0.2s
MESJ Lg Lg 22 41 03.1
comp=E,32nm,0.5s
MESJ Messejana 4.93 186 Pn **Pn** **22 39 39.4 +1.4**
MESJ Lg Lg 22 41 03.1
comp=E,32nm,0.5s
ECAB El Cabril 4.96 160 Pn **Pn** **22 39 40.5 +2.1**
comp=E,3.3nm,0.2s,SNR=26
ECAB Pg **Pg** **22 39 58.2 -1.6**
comp=E,2.0nm,0.1s,SNR=6.9
ECAB Sn **Sn** **22 40 35.2 -0.1**
comp=E,4.6nm,0.1s,SNR=7.9
ECAB Lg Lg 22 41 00.8
comp=E,49nm,0.6s,SNR=8.1
ECAB El Cabril 4.96 160 Pn **Pn** **22 39 40.5 +2.1**
comp=E,3.3nm,0.2s,SNR=26
EMIN Mina Concepcio 5.03 172 Pn **Pn** **22 39 40.9 +1.5**
comp=E,4.1nm,0.4s,SNR=11
EMIN Pg Pg 22 39 58.7 -2.5
comp=E,3.9nm,0.4s,SNR=6.3
EMIN Sn **Sn** **22 40 36.5 -0.5**
comp=E,2.1nm,0.2s,SNR=7.9
EMIN Lg Lg 22 41 04.2
comp=E,43nm,0.5s,SNR=7.9
EMIN Mina Concepcio 5.03 172 Pn **Pn** **22 39 40.9 +1.5**
comp=E,4.1nm,0.4s,SNR=11
EMIN Sn **Sn** **22 40 36.5 -0.5**
comp=E,2.1nm,0.2s,SNR=7.9
EMIN Lg Lg 22 41 04.2
comp=E,43nm,0.5s,SNR=7.9
ATE Arette 5.07 84 Pn Pn 22 39 44.0 +4.0
comp=E,3.6nm,0.1s,SNR=7.9
ATE Sn **Sn** **22 40 42.3 +4.2**
comp=E,14nm,0.4s,SNR=7.9
ATE Lg Lg 22 41 12.5
comp=E,25nm,0.6s,SNR=7.9
ATE Arette 5.07 84 Pn Pn 22 39 44.0 +4.0
comp=E,3.6nm,0.1s,SNR=7.9
ATE Sn **Sn** **22 40 42.3 +4.2**
comp=E,14nm,0.4s,SNR=7.9
ATE Lg Lg 22 41 12.5
comp=E,25nm,0.6s,SNR=7.9
EADA Adamuz 5.12 152 Pn **Pn** **22 39 42.8 +2.1**
comp=E,2.1nm,0.2s,SNR=11
EADA Pg **Pg** **22 40 01.6 -1.4**
comp=E,8.4nm,0.3s,SNR=5.3
EADA Sn **Sn** **22 40 38.9 -0.5**
comp=E,2.9nm,0.1s,SNR=7.9
EADA Lg Lg 22 41 07.3
comp=E,15nm,0.2s,SNR=8.5

EADA Adamuz 5.12 152 Pn **Pn** **22 39 42.8 +2.1**
comp=E,2.1nm,0.2s,SNR=11
PCVE Castro Verde 5.12 184 *e*Pn **Pn** **22 39 42.0 +1.3**
PCVE *e*Sn **Sn** **22 40 38.2 -1.2**
PCVE *e*Sg **Sg** **22 41 08.4 -1.0**
PCVE A A 22 41 17.6
comp=E,21nm,0.7s
PCVE Castro Verde 5.12 184 Pn **Pn** **22 39 42.0 +1.3**
PCVE Sn **Sn** **22 40 38.2 -1.2**
PCVE Lg Lg 22 41 08.4
comp=E,21nm,0.7s
PCVE Castro Verde 5.12 184 Pn **Pn** **22 39 42.0 +1.3**
PCVE Lg Lg 22 41 08.4
comp=E,21nm,0.7s
ETSF Etsaut 5.18 86 *e*Pn Pn 22 39 45.4 +3.9
ETSF *e*Sn **Sn** **22 40 41.7 +1.0**
ETSF *e*Sg **Sg** **22 41 11.4 +0.4**
comp=E,13nm,0.4s
ETSF Etsaut 5.18 86 Pn Pn 22 39 45.4 +3.9
ETSF Sn **Sn** **22 40 41.7 +1.0**
ETSF Lg Lg 22 41 11.4
comp=E,6.7nm,0.4s
ETSF Etsaut 5.18 86 Pn Pn 22 39 45.4 +3.9
ETSF Sn **Sn** **22 40 41.7 +1.0**
ETSF *e*Sg **Sg** **22 41 11.4 +0.4**
comp=E,6.7nm,0.4s
EGRO El Granado 5.21 179 Pn **Pn** **22 39 43.3 +1.4**
comp=E,1.0nm,0.2s,SNR=5.5
EGRO Sn **Sn** **22 40 41.0 -0.5**
comp=E,3.7nm,0.3s,SNR=7.9
EGRO Lg Lg 22 41 08.8
comp=E,21nm,0.3s,SNR=13
EGRO El Granado 5.21 179 Pn **Pn** **22 39 43.3 +1.4**
comp=E,1.0nm,0.2s,SNR=5.5
EGRO Sn **Sn** **22 40 41.0 -0.5**
comp=E,3.7nm,0.3s,SNR=7.9
EGRO Lg Lg 22 41 08.8
comp=E,21nm,0.3s,SNR=13
PTEO Sao Teotonio 5.27 190 *e*Sg **Sg** **22 41 11.7 -2.4**
PTEO A A 22 41 19.2
comp=E,40nm,0.6s
PTEO Sao Teotonio 5.27 190 Lg Lg 22 41 11.7
comp=E,20nm,0.6s
PTEO Sao Teotonio 5.27 190 Lg Lg 22 41 11.7
comp=E,20nm,0.6s
PVAQ Vaqueiros 5.34 181 *e*Pn **Pn** **22 39 44.9 +1.2**
PVAQ *e*Sn **Sn** **22 40 43.6 -1.1**
PVAQ A A 22 41 21.6
comp=E,29nm,0.7s
PVAQ Vaqueiros 5.34 181 Pn **Pn** **22 39 44.9 +1.2**
PVAQ Sn **Sn** **22 40 43.6 -1.1**
comp=E,29nm,0.7s
PVAQ Vaqueiros 5.34 181 Pn **Pn** **22 39 44.9 +1.2**
ESAC San Caprasio 5.39 99 Pn **Pn** **22 39 47.0 +2.6**
comp=E,2.2nm,0.2s,SNR=5.7
ESAC Pg **Pg** **22 40 07.3 -0.8**
comp=E,15nm,0.4s,SNR=7.9
ESAC Sn **Sn** **22 40 48.9 +3.0**
comp=E,18nm,0.2s,SNR=7.9
ESAC Lg Lg 22 41 19.9
comp=E,160nm,0.4s,SNR=5.5
ESAC San Caprasio 5.39 99 Pn **Pn** **22 39 47.0 +2.6**
comp=E,2.2nm,0.2s,SNR=5.7
MORF Marmelete 5.50 189 *e*P **Pn** **22 39 47.1 +1.2**
MORF *e*S **Sn** **22 40 45.6 -3.0**
MORF AML AML 22 40 45.7
comp=E,7.3nm,0.3s
MORF Marmelete 5.50 189 *e*Pn **Pn** **22 39 47.2 +1.3**
MORF *e*Sn **Sn** **22 40 45.8 -2.9**
MORF A A 22 41 30.2
comp=E,14nm,0.6s
MORF Marmelete 5.50 189 Pn **Pn** **22 39 47.2 +1.3**
MORF Sn **Sn** **22 40 45.8 -2.9**
comp=E,14nm,0.6s
MORF Marmelete 5.50 189 Pn **Pn** **22 39 47.2 +1.3**
PBDV Barranco-do-Ve 5.51 183 *e*Pn **Pn** **22 39 47.5 +1.5**
PBDV *e*Sn **Sn** **22 40 48.1 -0.7**
PBDV A A 22 41 31.5
comp=E,29nm,0.7s
PBDV Barranco-do-Ve 5.51 183 Pn **Pn** **22 39 47.5 +1.5**
PBDV Sn **Sn** **22 40 48.1 -0.7**
comp=E,29nm,0.7s
PBDV Barranco-do-Ve 5.51 183 Pn **Pn** **22 39 47.5 +1.5**
PBDV Sn **Sn** **22 40 48.1 -0.7**
comp=E,29nm,0.7s
VIEF Viey 5.61 86 P Pn 22 39 51.4 +4.0
VIEF S Sn 22 41 01.3 +10
VIEF Viey 5.61 86 P Pn 22 39 51.4 +4.0
PFVI Vila Bisbo 5.69 190 *e*Pn **Pn** **22 39 50.8 +2.3**
EPF Esparros 5.83 85 *e*Pn Pn 22 39 55.1 +4.6
EPF *e*Sn **Sn** **22 40 57.6 +0.7**
EPF *e*Sg **Sg** **22 41 31.9 -0.2**
comp=E,15nm,0.4s
EPF Esparros 5.83 85 Pn Pn 22 39 55.1 +4.6
EPF Sn **Sn** **22 40 57.6 +0.7**
EPF Lg Lg 22 41 31.9
comp=E,7.4nm,0.4s
EPF Esparros 5.83 85 Sn **Sn** **22 40 57.6 +0.7**
EPF *e*Sg **Sg** **22 41 31.9 -0.2**
comp=E,7.4nm,0.4s
RESF Ens 5.84 87 P Pn 22 39 54.5 +3.9
RESF S Sn 22 41 06.2 +9.1
RESF Ens 5.84 87 P Pn 22 39 54.5 +3.9
EMOS Mosqueruela 5.85 112 Pn Pn 22 39 54.9 +4.0
comp=E,0.1nm,0.1s,SNR=7.9
EMOS Pg Pg 22 40 15.4 -1.5
comp=E,1.4nm,0.2s,SNR=6.3
EMOS Sn **Sn** **22 40 57.9 +0.4**
comp=E,6.6nm,0.3s,SNR=7.9
EMOS Lg Lg 22 41 36.3
comp=E,39nm,0.7s,SNR=7.9
EMOS Mosqueruela 5.85 112 Pn Pn 22 39 54.9 +4.0
comp=E,0.1nm,0.1s,SNR=7.9
EMOS Sn **Sn** **22 40 57.9 +0.4**
comp=E,6.6nm,0.3s,SNR=7.9
EMOS Lg Lg 22 41 36.3
comp=E,39nm,0.7s,SNR=7.9
SESP Santiago Espad 6.02 139 Pn **Pn** **22 39 55.6 +2.5**
comp=E,0.3nm,0.1s,SNR=7.9
SESP Pg **Pg** **22 40 19.4 -0.8**
comp=E,2.2nm,0.3s,SNR=7.9
SESP Sn **Sn** **22 41 00.8 -0.8**
comp=E,1.8nm,0.2s,SNR=7.9
SESP Lg Lg 22 41 35.2
comp=E,87nm,0.6s,SNR=7.9
SESP Santiago Espad 6.02 139 Pn **Pn** **22 39 55.6 +2.5**
comp=E,0.3nm,0.1s,SNR=7.9
ESPR Espera 6.03 167 Lg Lg 22 41 38.6
comp=E,8.9nm,0.3s,SNR=7.9
ESPR Espera 6.03 167 Lg Lg 22 41 38.6
comp=E,8.9nm,0.3s,SNR=7.9
EQES Quesada 6.03 144 Pn **Pn** **22 39 55.9 +2.7**
comp=E,0.1nm,0.1s,SNR=7.9
EQES Pg **Pg** **22 40 19.2 -1.1**
comp=E,0.8nm,0.4s,SNR=7.9
EQES Sn **Sn** **22 41 02.7 +0.8**
comp=E,1.4nm,0.3s,SNR=7.9
EQES Lg Lg 22 41 35.0
comp=E,55nm,0.7s,SNR=7.1
EQES Quesada 6.03 144 Pn **Pn** **22 39 55.9 +2.7**
comp=E,0.1nm,0.1s,SNR=7.9
QUIF Quistinic 6.03 30 *e*Pn **Pn** **22 39 54.9 +1.8**
QUIF *e*Sn **Sn** **22 40 59.4 -2.3**
comp=E,6.5nm,0.2s
QUIF Quistinic 6.03 30 Pn **Pn** **22 39 54.9 +1.8**
QUIF Sn **Sn** **22 40 59.4 -2.3**
comp=E,3.2nm,0.2s
QUIF Quistinic 6.03 30 Pn **Pn** **22 39 54.9 +1.8**
MELF Melles 6.14 86 P Pn 22 39 58.2 +3.4
MELF S Sn 22 41 14.0 +9.4
MELF Melles 6.14 86 P Pn 22 39 58.2 +3.4
ETOB Tobarra 6.16 130 Pn **Pn** **22 39 57.3 +2.4**
comp=E,0.6nm,0.2s,SNR=7.9
ETOB Sn **Sn** **22 41 04.1 -0.8**
comp=E,3.0nm,0.4s,SNR=7.9
ETOB Lg Lg 22 41 41.4
comp=E,60nm,0.5s,SNR=5.1
ETOB Tobarra 6.16 130 Pn **Pn** **22 39 57.3 +2.4**
comp=E,0.6nm,0.2s,SNR=7.9
ETOB Lg Lg 22 41 41.4
comp=E,60nm,0.5s,SNR=5.1
ERTA Horta de San J 6.18 104 Pn **Pn** **22 39 58.3 +3.0**
comp=E,0.5nm,0.2s,SNR=7.9
ERTA Sn **Sn** **22 41 07.5 +2.0**
comp=E,2.0nm,0.2s,SNR=7.9
ERTA Lg Lg 22 41 44.1

	comp=E,19nm,0.5s,SNR=7.9							
ERTA	**Horta de San J**	**6.18**	**104**	Pn		**Pn**	**22 39 58.3**	**+3.0**
	comp=E,0.5nm,0.2s,SNR=7.9							
ERTA				Sn		**Sn**	**22 41 07.5**	**+2.0**
	comp=E,2.0nm,0.2s,SNR=7.9							
ERTA				Lg		Lg	22 41 44.1	
	comp=E,19nm,0.5s,SNR=7.9							
SELV	**Sierra Elvira**	**6.25**	**150**	Lg		Lg	22 41 45.4	
	comp=E,25nm,0.8s,SNR=7.9							
SELV	**Sierra Elvira**	**6.25**	**150**	Lg		Lg	22 41 45.4	
	comp=E,25nm,0.8s,SNR=7.9							
ROSF	**Rostrenen**	**6.36**	**27**	*e*Pn		**Pn**	**22 39 59.2**	**+1.6**
ROSF				*e*Sn		**Sn**	**22 41 07.7**	**-1.9**
	comp=E,6.6nm,0.3s							
ROSF	**Rostrenen**	**6.36**	**27**	Pn		**Pn**	**22 39 59.2**	**+1.6**
ROSF				Sn		**Sn**	**22 41 07.7**	**-1.9**
	comp=E,3.3nm,0.3s							
ROSF	**Rostrenen**	**6.36**	**27**	Pn		**Pn**	**22 39 59.2**	**+1.6**
EQUE	**Quentar**	**6.39**	**149**	Pn		Pn	22 40 02.8	+4.6
	SNR=7.9							
EQUE				Sn		**Sn**	**22 41 10.3**	**-0.5**
	comp=E,6.3nm,0.5s,SNR=7.9							
EQUE				Lg		Lg	22 41 50.7	
	comp=E,29nm,0.5s,SNR=7.9							
LFF	**La Frestale**	**6.41**	**67**	*e*Pn		**Pn**	**22 40 00.8**	**+2.5**
LFF				*e*Sn		**Sn**	**22 41 10.9**	**-0.1**
	comp=E,5.6nm,0.3s							
LFF	**La Frestale**	**6.41**	**67**	Pn		**Pn**	**22 40 00.8**	**+2.5**
LFF				Sn		**Sn**	**22 41 10.9**	**-0.1**
	comp=E,2.8nm,0.3s							
LFF	**La Frestale**	**6.41**	**67**	Pn		**Pn**	**22 40 00.8**	**+2.5**
CSOR	**Sort**	**6.46**	**90**	Pn		Pn	22 40 03.0	+3.9
	comp=E,0.5nm,0.2s,SNR=7.9							
CSOR	**Sort**	**6.46**	**90**	Pn		Pn	22 40 03.0	+3.9
	comp=E,0.5nm,0.2s,SNR=7.9							
SGMF	**Saint Gilles**	**6.54**	**31**	*e*Pn		**Pn**	**22 40 02.0**	**+1.9**
SGMF				*e*Sn		**Sn**	**22 41 12.4**	**-1.8**
	comp=E,4.8nm,0.3s							
SGMF	**Saint Gilles**	**6.54**	**31**	Pn		**Pn**	**22 40 02.0**	**+1.9**
SGMF				Sn		**Sn**	**22 41 12.4**	**-1.8**
	comp=E,2.4nm,0.3s							
SGMF	**Saint Gilles**	**6.54**	**31**	Pn		**Pn**	**22 40 02.0**	**+1.9**
EMIJ	**Mijas**	**6.55**	**160**	Pn		Pn	22 40 03.8	+3.5
	comp=E,0.4nm,0.1s,SNR=7.9							
EMIJ				Lg		Lg	22 41 55.3	
	comp=E,13nm,0.5s,SNR=4.0							
EMIJ	**Mijas**	**6.55**	**160**	Pn		Pn	22 40 03.8	+3.5
	comp=E,0.4nm,0.1s,SNR=7.9							
EMIJ				Lg		Lg	22 41 55.3	
	comp=E,13nm,0.5s,SNR=4.0							
MFF	**Saint Martin d**	**6.56**	**52**	*e*Pn		**Pn**	**22 40 02.3**	**+2.0**
MFF				*e*Sn		**Sn**	**22 41 12.9**	**-1.7**
	comp=E,6.4nm,0.3s							
MFF	**Saint Martin d**	**6.56**	**52**	Pn		**Pn**	**22 40 02.3**	**+2.0**
MFF				Sn		**Sn**	**22 41 12.9**	**-1.7**
	comp=E,3.2nm,0.3s							
MFF	**Saint Martin d**	**6.56**	**52**	Pn		**Pn**	**22 40 02.3**	**+2.0**
EPOB	**Poblet**	**6.61**	**99**	Pn		Pn	22 40 04.8	+3.7
	comp=E,0.3nm,0.2s,SNR=7.9							
EPOB				Sn		**Sn**	**22 41 17.7**	**+1.8**
	comp=E,0.8nm,0.4s,SNR=7.9							
EPOB				Lg		Lg	22 41 55.1	
	comp=E,22nm,0.5s,SNR=7.9							
EPOB	**Poblet**	**6.61**	**99**	Pn		Pn	22 40 04.8	+3.7
	comp=E,0.3nm,0.2s,SNR=7.9							
EPOB				Sn		**Sn**	**22 41 17.7**	**+1.8**
	comp=E,0.8nm,0.4s,SNR=7.9							
EPOB				Lg		Lg	22 41 55.1	
	comp=E,22nm,0.5s,SNR=7.9							
EMIR	**Miracle**	**6.81**	**94**	Pn		**Pn**	**22 40 07.0**	**+3.1**
	comp=E,3.4nm,0.4s,SNR=7.9							
EMIR				Sn		**Sn**	**22 41 22.8**	**+1.8**
	comp=E,2.0nm,0.3s,SNR=7.9							
EMIR				Lg		Lg	22 42 05.3	
	comp=E,12nm,0.4s,SNR=7.9							
EMIR	**Miracle**	**6.81**	**94**	Pn		**Pn**	**22 40 07.0**	**+3.1**
	comp=E,3.4nm,0.4s,SNR=7.9							
EMIR				Sn		**Sn**	**22 41 22.8**	**+1.8**
	comp=E,2.0nm,0.3s,SNR=7.9							
EMIR				Lg		Lg	22 42 05.3	
	comp=E,12nm,0.4s,SNR=7.9							
EBER	**Berja**	**6.88**	**147**	Pn		Pn	22 40 09.4	+4.4
	comp=E,1.1nm,0.2s,SNR=7.9							
EBER				Lg		Lg	22 42 07.7	
	comp=E,36nm,0.6s,SNR=7.9							
EMUR	**La Murta**	**6.90**	**133**	Pn		Pn	22 40 08.6	+3.5
	comp=E,0.4nm,0.4s,SNR=7.9							
EMUR				Lg		Lg	22 42 03.9	
	comp=E,22nm,0.5s,SNR=5.6							
EMUR	**La Murta**	**6.90**	**133**	Pn		Pn	22 40 08.6	+3.5
	comp=E,0.4nm,0.4s,SNR=7.9							
EMUR				Lg		Lg	22 42 03.9	
	comp=E,22nm,0.5s,SNR=5.6							
EBEN	**Beniarda**	**6.90**	**123**	Pn		Pn	22 40 08.3	+3.1
	comp=E,0.1nm,0.2s,SNR=7.9							
EBEN				Lg		Lg	22 42 08.3	
	comp=E,6.9nm,0.5s,SNR=7.9							
EBEN	**Beniarda**	**6.90**	**123**	Pn		Pn	22 40 08.3	+3.1
	comp=E,0.1nm,0.2s,SNR=7.9							
EBEN				Lg		Lg	22 42 08.3	
	comp=E,6.9nm,0.5s,SNR=7.9							
RJF	**Les Rejaudoux**	**7.04**	**66**	*e*Pn		**Pn**	**22 40 08.6**	**+1.6**
RJF				*e*Sn		**Sn**	**22 41 23.6**	**-3.0**
	comp=E,4.3nm,0.2s							
RJF	**Les Rejaudoux**	**7.04**	**66**	Pn		**Pn**	**22 40 08.6**	**+1.6**
RJF				Sn		**Sn**	**22 41 23.6**	**-3.0**
	comp=E,2.2nm,0.2s							
RJF	**Les Rejaudoux**	**7.04**	**66**	Pn		**Pn**	**22 40 08.6**	**+1.6**
CLLI	**Llivia**	**7.06**	**89**	Pn		Pn	22 40 11.4	+3.9
	comp=E,1.3nm,0.3s,SNR=7.9							
CLLI				Sn		**Sn**	**22 41 29.5**	**+2.2**
	comp=E,1.4nm,0.4s,SNR=7.9							
CLLI				Lg		Lg	22 42 12.2	
	comp=E,1.7nm,0.4s,SNR=7.9							
CLLI	**Llivia**	**7.06**	**89**	Pn		Pn	22 40 11.4	+3.9
	comp=E,1.3nm,0.3s,SNR=7.9							
CLLI				Sn		**Sn**	**22 41 29.5**	**+2.2**
	comp=E,1.4nm,0.4s,SNR=7.9							
CLLI				Lg		Lg	22 42 12.2	
	comp=E,1.7nm,0.4s,SNR=7.9							
ENIJ	**Nijar**	**7.10**	**143**	Lg		Lg	22 42 12.7	
	comp=E,21nm,0.5s,SNR=7.9							
ENIJ	**Nijar**	**7.10**	**143**	Lg		Lg	22 42 12.7	
	comp=E,21nm,0.5s,SNR=7.9							
MTLF	**Montolieu**	**7.21**	**82**	*e*Pn		**Pn**	**22 40 12.1**	**+2.7**
MTLF				*e*Sg		**Sg**	**22 42 15.0**	**-1.2**
	comp=E,3.8nm,0.5s							
MTLF	**Montolieu**	**7.21**	**82**	Pn		**Pn**	**22 40 12.1**	**+2.7**
MTLF				Lg		Lg	22 42 15.0	
	comp=E,1.9nm,0.5s							
MTLF	**Montolieu**	**7.21**	**82**	Pn		**Pn**	**22 40 12.1**	**+2.7**
MTLF				Lg		Lg	22 42 15.0	
	comp=E,1.9nm,0.5s							
CAF	**Calviac**	**7.31**	**69**	*e*Pn		**Pn**	**22 40 12.6**	**+1.8**
CAF				*e*Sn		**Sn**	**22 41 30.7**	**-2.6**
	comp=E,5.1nm,0.3s							
CAF	**Calviac**	**7.31**	**69**	Pn		**Pn**	**22 40 12.6**	**+1.8**
CAF				Sn		**Sn**	**22 41 30.7**	**-2.6**
	comp=E,2.6nm,0.3s							
CAF	**Calviac**	**7.31**	**69**	Pn		**Pn**	**22 40 12.6**	**+1.8**
GRR	**Gorron**	**7.35**	**38**	*e*Pn		**Pn**	**22 40 13.1**	**+1.8**
GRR				*e*Sn		**Sn**	**22 41 30.7**	**-3.5**
	comp=E,7.5nm,0.5s							
GRR	**Gorron**	**7.35**	**38**	Pn		**Pn**	**22 40 13.1**	**+1.8**
GRR				Sn		**Sn**	**22 41 30.7**	**-3.5**
	comp=E,3.8nm,0.5s							
GRR	**Gorron**	**7.35**	**38**	Pn		**Pn**	**22 40 13.1**	**+1.8**
CFON	**Fontmartina**	**7.51**	**94**	⇑Pn		**Pn**	**22 40 16.6**	**+3.1**
	comp=E,3.4nm,0.3s,SNR=18							
CFON	**Fontmartina**	**7.51**	**94**	Pn		**Pn**	**22 40 16.6**	**+3.1**
	comp=E,3.4nm,0.3s,SNR=18							
EIBI	**Ibiza**	**7.72**	**116**	Pn		**Pn**	**22 40 19.4**	**+3.0**
	comp=E,0.5nm,0.2s,SNR=7.9							
EIBI				Sn		**Sn**	**22 41 39.8**	**-3.6**
	comp=E,3.8nm,0.2s,SNR=7.9							
EIBI	**Ibiza**	**7.72**	**116**	Pn		**Pn**	**22 40 19.4**	**+3.0**
	comp=E,0.5nm,0.2s,SNR=7.9							
SJAF	**Saint Jean de**	**7.73**	**88**	Pn		Pn	22 40 19.7	+3.2
	comp=E,1.0nm,0.4s,SNR=7.9							
SJAF	**Saint Jean de**	**7.73**	**88**	Pn		Pn	22 40 19.7	+3.2
	comp=E,1.0nm,0.4s,SNR=7.9							
EJON	**La Jonquera**	**7.74**	**89**	Pn		Pn	22 40 20.1	+3.5
	comp=E,1.4nm,0.2s,SNR=7.9							
EJON	**La Jonquera**	**7.74**	**89**	Pn		Pn	22 40 20.1	+3.5
	comp=E,1.4nm,0.2s,SNR=7.9							
FLN	**La Foliniere**	**7.80**	**37**	*e*Pn		**Pn**	**22 40 18.9**	**+1.5**
	baz=227							
FLN				*e*Sn		**Sn**	**22 41 43.1**	**-2.0**
	comp=E,6.1nm,0.5s							
FLN	**La Foliniere**	**7.80**	**37**	Pn		**Pn**	**22 40 18.9**	**+1.5**
FLN				Sn		**Sn**	**22 41 43.1**	**-2.0**
	comp=E,3.1nm,0.5s							
FLN	**La Foliniere**	**7.80**	**37**	Pn		**Pn**	**22 40 18.9**	**+1.5**
LDF	**La Druitiere**	**7.84**	**39**	*e*Pn		**Pn**	**22 40 19.3**	**+1.4**
LDF				*e*Sn		**Sn**	**22 41 43.3**	**-2.8**
	comp=E,1.5nm,0.2s							
LDF	**La Druitiere**	**7.84**	**39**	*e*Pn		**Pn**	**22 40 19.3**	**+1.4**
TCF	**Toulx Ste Croi**	**7.85**	**60**	*e*Pn		**Pn**	**22 40 19.7**	**+1.6**
TCF				*e*Sn		Sn	22 41 41.7	-4.7
	comp=E,9.3nm,0.3s							
TCF	**Toulx Ste Croi**	**7.85**	**60**	Pn		**Pn**	**22 40 19.7**	**+1.6**
TCF				Sn		Sn	22 41 41.7	-4.7
	comp=E,4.7nm,0.3s							
TCF	**Toulx Ste Croi**	**7.85**	**60**	Pn		**Pn**	**22 40 19.7**	**+1.6**
PYM	**Petit Puy Mans**	**8.18**	**65**	P		**Pn**	**22 40 23.2**	**+0.5**
PYM	**Petit Puy Mans**	**8.18**	**65**	P		**Pn**	**22 40 23.2**	**+0.5**
LBL	**Lubilhac**	**8.20**	**69**	P		**Pn**	**22 40 24.8**	**+1.8**
LBL	**Lubilhac**	**8.20**	**69**	P		**Pn**	**22 40 24.8**	**+1.8**
BGF	**Bois d'Agland**	**8.36**	**59**	*e*Pn		**Pn**	**22 40 27.0**	**+1.9**
BGF				*e*Sn		**Sn**	**22 41 55.5**	**-3.4**
	comp=E,13nm,0.4s							
BGF	**Bois d'Agland**	**8.36**	**59**	Pn		**Pn**	**22 40 27.0**	**+1.9**
BGF				Sn		**Sn**	**22 41 55.5**	**-3.4**
	comp=E,6.6nm,0.4s							
BGF	**Bois d'Agland**	**8.36**	**59**	Pn		**Pn**	**22 40 27.0**	**+1.9**
LASF	**Ste Croix**	**8.44**	**77**	*e*Pn		**Pn**	**22 40 28.2**	**+2.0**
LASF				*e*Sn		**Sn**	**22 41 59.0**	**-2.0**
	comp=E,2.2nm,0.3s							
LASF	**Ste Croix**	**8.44**	**77**	Pn		**Pn**	**22 40 28.2**	**+2.0**
LASF				Sn		**Sn**	**22 41 59.0**	**-2.0**
	comp=E,1.1nm,0.3s							
LASF	**Ste Croix**	**8.44**	**77**	Pn		**Pn**	**22 40 28.2**	**+2.0**
HYF	**Humbligny**	**8.54**	**55**	*e*Pn		**Pn**	**22 40 29.9**	**+2.4**
HYF				*e*Sn		**Sn**	**22 42 00.2**	**-3.2**
HYF	**Humbligny**	**8.54**	**55**	Pn		**Pn**	**22 40 29.9**	**+2.4**
HYF				Sn		**Sn**	**22 42 00.2**	**-3.2**
HYF	**Humbligny**	**8.54**	**55**	Pn		**Pn**	**22 40 29.9**	**+2.4**
AVF	**Avril sur Loir**	**8.77**	**59**	*e*Pn		**Pn**	**22 40 32.0**	**+1.3**
AVF	**Avril sur Loir**	**8.77**	**59**	Pn		**Pn**	**22 40 32.0**	**+1.3**
AVF	**Avril sur Loir**	**8.77**	**59**	Pn		**Pn**	**22 40 32.0**	**+1.3**
SSF	**Saint Saulge**	**8.98**	**58**	*e*Pn		**Pn**	**22 40 35.7**	**+2.2**
SSF				*e*Sn		Sn	22 42 08.7	-5.4
	comp=E,4.6nm,0.5s							
SSF	**Saint Saulge**	**8.98**	**58**	Pn		**Pn**	**22 40 35.7**	**+2.2**
SSF				Sn		Sn	22 42 08.7	-5.4
	comp=E,2.3nm,0.5s							
SSF	**Saint Saulge**	**8.98**	**58**	Pn		**Pn**	**22 40 35.7**	**+2.2**
SMF	**Signal de Mont**	**9.03**	**61**	*e*Pn		**Pn**	**22 40 35.5**	**+1.3**
SMF	**Signal de Mont**	**9.03**	**61**	Pn		**Pn**	**22 40 35.5**	**+1.3**
SMF	**Signal de Mont**	**9.03**	**61**	Pn		**Pn**	**22 40 35.5**	**+1.3**
VIVF	**Saint-Julien-l**	**9.12**	**72**	*e*Pn		**Pn**	**22 40 37.8**	**+2.3**
VIVF				*e*Sn		**Sn**	**22 42 15.1**	**-2.5**
	comp=E,3.6nm,0.4s							
VIVF	**Saint-Julien-l**	**9.12**	**72**	Pn		**Pn**	**22 40 37.8**	**+2.3**
VIVF				Sn		**Sn**	**22 42 15.1**	**-2.5**
	comp=E,1.8nm,0.4s							
VIVF	**Saint-Julien-l**	**9.12**	**72**	Pn		**Pn**	**22 40 37.8**	**+2.3**
LOR	**Lormes**	**9.28**	**57**	*e*Pn		**Pn**	**22 40 39.9**	**+2.2**
	baz=244							
LOR				*e*Sn		Sn	22 42 17.3	-4.3
	comp=E,4.4nm,0.5s							
LOR	**Lormes**	**9.28**	**57**	Pn		**Pn**	**22 40 39.9**	**+2.2**
LOR				Sn		Sn	22 42 17.3	-4.3
	comp=E,2.2nm,0.5s							
LOR	**Lormes**	**9.28**	**57**	Pn		**Pn**	**22 40 39.9**	**+2.2**
ORIF	**Oris-en-Rattie**	**9.98**	**73**	*e*Pn		**Pn**	**22 40 49.5**	**+2.2**
ORIF	**Oris-en-Rattie**	**9.98**	**73**	Pn		**Pn**	**22 40 49.5**	**+2.2**
ORIF	**Oris-en-Rattie**	**9.98**	**73**	Pn		**Pn**	**22 40 49.5**	**+2.2**
SFTF	**Sexfontaines**	**10.41**	**54**	*e*Pn		**Pn**	**22 40 55.1**	**+2.0**
	baz=228							
SFTF				*e*Sn		**Sn**	**22 42 46.5**	**-2.7**
	comp=E,2.9nm,0.4s							
SFTF	**Sexfontaines**	**10.41**	**54**	Pn		**Pn**	**22 40 55.1**	**+2.0**
SFTF				Sn		Sn	**22 42 46.5**	**-2.7**
	comp=E,2.9nm,0.4s							
SFTF	**Sexfontaines**	**10.41**	**54**	Pn		**Pn**	**22 40 55.1**	**+2.0**
CABF	**La Chapelle**	**10.48**	**64**	*e*Pn		**Pn**	**22 40 56.4**	**+2.2**
CABF	**La Chapelle**	**10.48**	**64**	Pn		**Pn**	**22 40 56.4**	**+2.2**
CABF	**La Chapelle**	**10.48**	**64**	Pn		**Pn**	**22 40 56.4**	**+2.2**
MEZF	**Maizieres J'vi**	**10.55**	**53**	*e*Pn		**Pn**	**22 40 56.5**	**+1.4**
	baz=232							
MEZF				*e*Sn		**Sn**	**22 42 49.8**	**-3.0**
	comp=E,3.0nm,0.5s							
MEZF	**Maizieres J'vi**	**10.55**	**53**	Pn		**Pn**	**22 40 56.5**	**+1.4**
MEZF				Sn		**Sn**	**22 42 49.8**	**-3.0**
	comp=E,3.0nm,0.5s							
MEZF	**Maizieres J'vi**	**10.55**	**53**	Pn		**Pn**	**22 40 56.5**	**+1.4**
MBDF	**Montbardon**	**10.58**	**74**	*e*Pn		**Pn**	**22 40 58.0**	**+2.3**
MBDF	**Montbardon**	**10.58**	**74**	Pn		**Pn**	**22 40 58.0**	**+2.3**
MBDF	**Montbardon**	**10.58**	**74**	Pn		**Pn**	**22 40 58.0**	**+2.3**
LPL	**La Plagne**	**10.66**	**70**	*e*Pn		**Pn**	**22 40 59.0**	**+2.2**
LPL	**La Plagne**	**10.66**	**70**	Pn		**Pn**	**22 40 59.0**	**+2.2**
LPL	**La Plagne**	**10.66**	**70**	Pn		**Pn**	**22 40 59.0**	**+2.2**
LPG	**La Plagne**	**10.67**	**70**	*e*Pn		Pn	22 41 00.8	+3.8
LPG	**La Plagne**	**10.67**	**70**	Pn		Pn	22 41 00.8	+3.8
LPG	**La Plagne**	**10.67**	**70**	Pn		Pn	22 41 00.8	+3.8
BAIF	**Baives**	**10.94**	**44**	*e*Pn		**Pn**	**22 41 02.0**	**+1.7**
BAIF	**Baives**	**10.94**	**44**	Pn		**Pn**	**22 41 02.0**	**+1.7**
BAIF	**Baives**	**10.94**	**44**	Pn		**Pn**	**22 41 02.0**	**+1.7**
PAGF	**Fort de Pagny**	**10.97**	**54**	*e*Pn		**Pn**	**22 41 02.2**	**+1.3**
	baz=228							
PAGF	**Fort de Pagny**	**10.97**	**54**	*e*Pn		**Pn**	**22 41 02.2**	**+1.3**
SBF	**Sospel**	**11.01**	**79**	*e*Pn		**Pn**	**22 41 04.0**	**+2.5**
SBF	**Sospel**	**11.01**	**79**	Pn		**Pn**	**22 41 04.0**	**+2.5**
SBF	**Sospel**	**11.01**	**79**	Pn		**Pn**	**22 41 04.0**	**+2.5**
HAU	**Haudompre**	**11.12**	**57**	*e*Pn		**Pn**	**22 41 03.6**	**+0.7**
HAU				*e*Sn		**Sn**	**22 43 03.3**	**-3.4**
	comp=E,2.6nm,0.5s							
HAU	**Haudompre**	**11.12**	**57**	Pn		**Pn**	**22 41 03.6**	**+0.7**
HAU				Sn		**Sn**	**22 43 03.3**	**-3.4**
	comp=E,1.3nm,0.5s							
HAU	**Haudompre**	**11.12**	**57**	Pn		**Pn**	**22 41 03.6**	**+0.7**
HINF	**Hinteralfeld**	**11.36**	**59**	*e*Pn		**Pn**	**22 41 08.4**	**+2.2**
HINF	**Hinteralfeld**	**11.36**	**59**	Pn		**Pn**	**22 41 08.4**	**+2.2**
HINF	**Hinteralfeld**	**11.36**	**59**	Pn		**Pn**	**22 41 08.4**	**+2.2**
CDF	**Champ du Feu**	**11.85**	**56**	*e*Pn		**Pn**	**22 41 13.0**	**+0.1**
CDF	**Champ du Feu**	**11.85**	**56**	Pn		**Pn**	**22 41 13.0**	**+0.1**
CDF	**Champ du Feu**	**11.85**	**56**	Pn		**Pn**	**22 41 13.0**	**+0.1**

IDC 18 22:39:57.4±3.5, 5°67S×149°67E, h0km, mb3.1/2, mb1 3.5/3, mb1mx3.3/38, mbtmp3.3/3, ML1.6/1, Error ellipse: s-maj=140.7km s-min=34.9km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.47**	**214**	Pn	Pn	22 41 07.9	+1.4
	2.2nm,0.3s,baz=32,slow=9.5,SNR=3.9						
PMG				Sn	Sn	22 41 58.6	-0.6
	1.4nm,0.3s,baz=270,slow=20,SNR=5.0						
WRA	**Warramunga Arr**	**20.58**	**225**	P	Pn	22 44 39.5	-0.8
	0.8nm,0.7s,baz=50,slow=10,SNR=8.3						
ASAR	**Alice Springs**	**23.46**	**219**	P	P	22 45 07.2	-1.6
	0.2nm,0.3s,baz=57,slow=9.1,SNR=3.4						
TORD	**Torodi Ar. Bea**	**147.57**	**286**	PKPbc	PKPbc	22 59 44.2	-0.6
	0.7nm,0.7s,baz=96,slow=2.3,SNR=13						

IDC 18 22:53:49.8±1.1, 6°38S×150°78E, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.7/42, mbtmp4.0/5, ML2.0/1, Error ellipse: s-maj=63.0km s-min=24.9km az=131.0
ISCJB 18 22:53:54.3±1.5, 6°5S±0°4×150°7E±0°3, h36km, mb3.8/3, Error ellipse: s-maj=67.9km s-min=13.5km az=142.4

ISC 18 22:53:55.4±1.1, 6°4S±0°3×150°7E±0°3, h36km, n8, σ0§46/10, mb3.8/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.63**	**230**	Pn	Pn	**22 55 03.3**	**+0.5**
	4.7nm,0.3s,baz=53,slow=10,SNR=6.4						
PMG				Sn	Sn	**22 55 55.3**	**0.0**
	8.2nm,0.3s,baz=203,slow=15,SNR=4.5						
WRA	**Warramunga Arr**	**20.85**	**228**	P	P	**22 58 33.7**	**-0.6**
	5.0nm,0.7s,baz=53,slow=11,SNR=38						
ASAR	**Alice Springs**	**23.59**	**222**	P	P	**22 59 02.7**	**-0.4**
	0.6nm,0.4s,baz=58,slow=8.8,SNR=8.4						
STKA	**Stephens Creek**	**26.75**	**197**	P	P	**22 59 31.8**	**+0.1**
	1.2nm,0.5s,baz=9.6,slow=12,SNR=3.8						
NVAR	**Mina Array Bea**	**94.69**	**52**	P	P	**23 07 13.7**	**+0.3**
	0.7nm,0.7s,baz=246,slow=8.5,SNR=4.1						
GERES	**GERESS Array B**	**124.30**	**327**	PKP	**PKPdf**	**23 12 50.7**	**0.0**
	0.3nm,0.6s,baz=80,slow=2.3,SNR=5.2						
TORD	**Torodi Ar. Bea**	**148.78**	**285**	PKP	**PKPdf**	**23 13 36.8**	**+0.5**
	0.9nm,0.6s,baz=188,slow=2.2,SNR=9.8						
TORD				PKPbc	**PKPbc**	**23 13 39.5**	**-0.6**
	0.8nm,0.6s,baz=40,slow=2.6,SNR=9.6						
BDFB	**Brasilia**	**151.29**	**140**	PKPbc	**PKPbc**	**23 13 46.0**	**-0.3**
	1.1nm,0.3s,baz=143,slow=10,SNR=2.3						

IDC 18 22:54:00.7±16.0, 52°45N×170°10W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/30, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=306.4km s-min=51.5km az=90.0
ISCJB 18 22:54:04.9±2.2, 52°7N±0°1×169°6W±0°2, h15km±17km, mb3.5/3, Error ellipse: s-maj=28.5km s-min=8.5km az=143.0
NEIC 18 22:54:06.7, 52°69N×169°41W, h11km, ML3.2(AEIC), After AEIC.

ISC 18 22:54:05.5±1.8, 52°8N±0°2×169°66W±0°10, h11km±11km, n16, σ1§15/21, mb3.5/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.51**	**73**	P	**Pg**	**22 54 15.4**	**-0.1**
NIKH				S	**Sg**	**22 54 22.9**	**+0.6**
OKWR	**Okmok West Rim**	**1.07**	**55**	P	**Pn**	**22 54 26.7**	**+0.2**
OKWR				S	**Sn**	**22 54 42.5**	**+1.2**
OKCE	**Okmok Cone E**	**1.08**	**56**	P	**Pb**	**22 54 26.6**	**+0.3**
OKCE				S	**Sb**	**22 54 41.5**	**+1.1**
OKAK	**Okmok**	**1.09**	**46**	P	**Pb**	**22 54 24.9**	**-1.4**
OKAK				S	**Sb**	**22 54 38.8**	**-1.7**
OKTU	**Okmok Mt. Tuli**	**1.13**	**60**	P	**Pn**	**22 54 26.7**	**-0.5**
MSOM	**Makushin Julie**	**1.91**	**58**	P	**Pn**	**22 54 38.0**	**+0.1**
MSOM				S	**Sn**	**22 55 03.0**	**+1.2**
MCIR	**Makushin Cirqu**	**2.01**	**55**	P	**Pn**	**22 54 40.4**	**+1.1**
MSW	**Makushin Switc**	**2.04**	**57**	P	**Pn**	**22 54 40.3**	**+0.6**
MTBL	**Makushin Table**	**2.12**	**56**	P	**Pn**	**22 54 41.6**	**+0.7**
UNV	**Unalaska Valle**	**2.15**	**60**	P	**Pn**	**22 54 40.6**	**-0.6**
ZRO	**Akutan Zero**	**2.54**	**59**	P	**Pn**	**22 54 47.9**	**+1.3**
ATKA	**Atka Island**	**2.84**	**259**	P	**Pn**	**22 54 51.4**	**+0.8**
ILAR	**Eielson Array**	**16.68**	**35**	Pn	**Pn**	**22 57 58.9**	**0.0**
	0.1nm,0.3s,baz=225,slow=10,SNR=5.3						
DLBC	**Dease Lake**	**22.81**	**60**	P	**P**	**22 59 10.2**	**+2.1**
	1.3nm,1.0s,baz=280,slow=6.1,SNR=3.7						
PDAR	**Pinedale Array**	**40.49**	**79**	P	**P**	**23 01 42.5**	**-1.9**
	0.4nm,0.6s,baz=322,slow=5.7,SNR=2.5						
TXAR	**Lajitas Array**	**52.92**	**89**	P	**P**	**23 03 21.0**	**-0.6**
	0.7nm,0.7s,baz=298,slow=5.1,SNR=10						

IDC 18 22:56:14.2±16.0, 52°29N×169°69W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/30, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=293.7km s-min=53.3km az=89.0
NEIC 18 22:56:16.6, 52°68N×169°36W, h2km, ML3.5(AEIC), After AEIC.

**ISC 18 22:56:17.4±

comp=Z,0.3nm,0.3s,baz=214,slow=13,SNR=20
CFAA Sn **Sn** **23 02 09.6 -0.1**
comp=Z,0.3nm,0.3s,baz=131,slow=20,SNR=2.1
CFAA LR LR 23 04 13.5
comp=Z,205nm,19.8s,baz=224,slow=44
CFAA Coronel Fontan 7.13 41 *eP* **Pn** **23 00 48.1 -1.8**
RTLL Cerro Villicun 7.23 38 *eP* **Pn** **23 00 50.0 -1.3**
RTLL *eS* Sn 23 02 36.7 +25
ACAN Cantantal 7.24 50 *eP* **Pn** **23 00 50.8 -0.6**
AMOG MOGNA 7.54 37 *eP* **Pn** **23 00 54.2 -1.3**
MRA San Martin 8.09 57 *eP* **Pn** **23 01 03.1 +0.1**
MRA IAML 23 01 44.5
comp=Z,20nm,0.5s
LCO Las Campanas 8.48 18 *ePn* Pn 23 01 05.2 -3.4
TRQA Tornquist 9.37 99 *ePn* **Pn** **23 01 22.3 +1.8**
TCA Tanti 9.51 55 *eP* **Pn** **23 01 21.1 -1.5**
TCA IAML 23 01 32.7
comp=Z,18nm,0.5s
VCA Vinchina 9.56 31 *eP* **Pn** **23 01 22.9 -0.5**
VCA IAML 23 01 46.1
comp=Z,35nm,0.6s
LVC Limon Verde 15.05 17 Pn **Pn** **23 02 37.4 -0.9**
baz=219,slow=14,SNR=2.0
LVC LR LR 23 09 07.2
comp=Z,3μm,18.2s,baz=199,slow=40
LVC Limon Verde 15.05 17 *ePn* **P** **23 02 44.6 +1.3**
CPUP Villa Florida 17.59 57 Pn **Pn** **23 03 09.6 -0.7**
comp=Z,0.4nm,0.3s,baz=228,slow=11,SNR=7.9
CPUP Villa Florida 17.59 57 *eP* **Pn** **23 03 07.2 -3.1**
USHA Ushuaia 18.07 170 P **P** **23 03 17.4 +1.1**
comp=Z,0.2nm,0.3s,baz=323,slow=12,SNR=2.4
USHA LR LR 23 11 31.1
comp=Z,1μm,18.1s,baz=315,slow=41
EFI East Falkland 18.29 148 *ePn* **P** **23 03 17.4 -1.2**
comp=Z,817nm,2.5s
LPAZ La Paz 21.34 15 P **P** **23 03 53.9 +1.2**
comp=Z,8.4nm,0.6s,baz=190,slow=6.6,SNR=26
LPAZ La Paz 21.34 15 *eP* **P** **23 03 54.2 +1.4**
SIV San Ignacio 23.85 31 P **P** **23 04 17.6 -0.6**
comp=Z,11nm,0.7s,baz=218,slow=13,SNR=39
SIV LR LR 23 15 32.7
comp=Z,1μm,18.7s,baz=220,slow=41
NNA Nana 25.19 353 LR LR 23 13 11.6
comp=Z,532nm,18.1s,baz=175,slow=34
PMSA Palmer Station 28.28 171 LR LR 23 15 13.0
comp=Z,403nm,19.1s,baz=338,slow=34
SAML Samuel 29.63 21 *eP* **P** **23 05 10.1 -0.1**
comp=Z,10nm,1.4s
ATAH Atahualpa 30.16 351 LR LR 23 16 31.4
comp=Z,162nm,19.3s,baz=173,slow=35
BDFB Brasilia 31.26 54 P **P** **23 05 23.2 -1.5**
comp=Z,5.6nm,0.8s,baz=231,slow=7.1,SNR=7.1
BDFB pP pP 23 05 29.0 -5.8
comp=Z,5.4nm,0.9s,baz=186,slow=4.1,SNR=3.6
BDFB LR LR 23 19 26.1
comp=Z,1μm,19.9s,baz=224,slow=39
OTAV Otavalo 37.44 352 *eP* **P** **23 06 17.9 -0.6**
comp=Z,26nm,1.8s
PTGA Pitinga 38.38 23 LR LR 23 24 58.8
comp=Z,403nm,20.0s,baz=190,slow=40
PTGA Pitinga 38.38 23 *eP* **P** **23 06 25.0 -1.0**
comp=Z,5.8nm,0.7s
ROSC El Rosal 41.77 359 P **P** **23 06 57.4 +2.9**
comp=Z,5.1nm,0.6s,baz=193,slow=7.3,SNR=4.8
RCBR Riachuelo 46.47 57 LR LR 23 28 48.3
comp=Z,834nm,19.2s,baz=197,slow=38
VNA1 Neumayer--Stat 47.37 156 P **P** **23 07 39.7 +1.6**
VNA2 Neumayer--Watz 47.69 156 P **P** **23 07 41.9 +1.2**
baz=285,slow=8.9
SNAA Sanae 49.23 157 *eP* **P** **23 07 52.9 +0.3**
comp=Z,3.6nm,0.8s,baz=287,slow=6.6,SNR=38
SNAA Sanae 49.23 157 *eP* **P** **23 07 53.4 +0.8**
QSPA South Pole Qui 53.11 180 P **P** **23 08 22.7 +0.8**
comp=Z,4.1nm,0.8s,baz=136,slow=3.6,SNR=14
RKT Rikitea 53.95 267 *eLR* LR 23 24 16.5
comp=Z,486nm,30.2s,baz=122
RKT Rikitea 53.95 267 *eT* T 00 06 12.0
comp=Z,1.2nm,0.2s
LRS Lares 55.50 8 *eP* P 23 08 36.1 -3.5
CMIG Matias Romero 57.50 336 LR LR 23 27 32.8
comp=Z,48nm,19.7s,baz=136,slow=30
SYO Syowa Base 63.47 158 *eP* **P** **23 09 32.9 -1.0**
TBI Tubuai 65.31 259 *eS* S 23 18 38.5 +10
comp=Z,310nm,27.2s
TBI Tubuai 65.31 259 *eLR* LR 23 29 28.6
comp=Z,435nm,28.2s
MEH Mehetia 67.12 264 *eT* T 00 22 42.2
comp=Z,22nm,0.2s
PPT2 Papeete2 68.48 264 *eS* S 23 19 22.3 +16
comp=Z,182nm,25.2s
PPT2 Papeete2 68.48 264 *eLR* LR 23 30 53.9
comp=Z,407nm,24.2s,baz=111
PPT Papeete 68.49 264 LR LR 23 32 16.6
comp=Z,213nm,20.5s,baz=184,slow=29
833A Chaparral WMA, 69.43 336 P **P** **23 10 11.0 -1.5**
baz=70
LPIG La Paz 69.98 325 LR LR 23 33 56.0
comp=Z,192nm,19.0s,baz=180,slow=30
732A Laxson Ranch, 69.99 336 P **P** **23 10 16.3 +0.4**
baz=70
MAW Mawson 70.57 164 P **P** **23 10 17.4 -1.6**
comp=Z,3.9nm,0.8s,baz=248,slow=4.8,SNR=12
MAW LR LR 23 41 42.6
comp=Z,256nm,18.1s,baz=236,slow=36
GOGA Godfrey 70.76 351 *eP* **P** **23 10 18.9 -1.6**
comp=Z,10nm,1.4s
533A Kerrville 70.94 337 P **P** **23 10 23.4 +1.7**
baz=71
532A Rocksprings 71.26 336 P **P** **23 10 24.0 +0.3**
baz=72
434A Burnet 71.39 338 P **P** **23 10 27.3 +2.9**
baz=72
531A Rocksprings 71.51 336 P **P** **23 10 25.7 +0.6**
baz=72
433A Art 71.59 337 P **P** **23 10 26.6 +1.0**
baz=72
530A J-C Ranch, Com 71.76 335 P **P** **23 10 28.3 +1.6**
baz=72
LTX Lajitas 71.83 333 *eP* **P** **23 10 28.0 +0.8**
TXAR Lajitas Array 71.83 333 P **P** **23 10 28.0 +0.8**
comp=Z,1.7nm,0.8s,baz=154,slow=9.0,SNR=9.2
TXAR LR LR 23 36 56.1
comp=Z,150nm,18.7s,baz=0.0,slow=32
333A Richland Sprin 72.08 337 P **P** **23 10 30.2 +1.6**
baz=72
430A Baggett Ranch, 72.31 335 P **P** **23 10 30.7 +0.8**
baz=73
332A Millersview 72.37 337 P **P** **23 10 33.0 +2.7**
baz=73
429A Davenport Ranc 72.38 335 P **P** **23 10 31.9 +1.5**
baz=73
232A Coleman 72.81 337 P **P** **23 10 33.2 +0.3**
baz=73
CPCT Cooper Cave 72.91 351 *eP* **P** **23 10 33.1 -0.2**
TKL Tuckaleechee C 73.02 351 P **P** **23 10 35.2 +1.2**
comp=Z,2.9nm,0.9s,baz=177,slow=8.5,SNR=3.5
329A Wagon Wheel Ra 73.20 335 P **P** **23 10 35.3 0.0**
baz=74
229A Bryant Ranch, 73.58 335 P **P** **23 10 38.0 +0.5**
baz=74
228A UT Block 9, Go 73.98 335 P **P** **23 10 40.0 +0.2**
baz=74
128A Castleberry Fa 74.41 335 P **P** **23 10 43.0 +0.7**
baz=75
SUR Sutherland 74.52 119 *eP* **P** **23 10 44.6 +1.2**
comp=Z,340nm,2.3s
Z29A Hungry Hill Ra 74.73 336 P **P** **23 10 44.3 +0.1**
baz=75
LIC Lamto 77.06 72 *eP* **P** **23 10 58.8 +1.0**
comp=Z,88nm,1.5s
TIC Toumodi 77.33 72 *eP* **P** **23 11 00.1 +0.7**
KIC Kosan Boka 77.36 72 *eP* **P** **23 11 00.5 +1.0**
comp=Z,39nm,0.9s
DBIC Dimbokro 77.47 72 P **P** **23 11 00.8 +0.7**
comp=Z,9.3nm,0.8s,baz=192,slow=7.0,SNR=8.0
DBIC pP **PcP** **23 11 06.1 -4.4**
comp=Z,9.3nm,0.7s,baz=196,slow=6.0,SNR=4.9
DBIC LR LR 23 43 28.6
comp=Z,161nm,18.4s,baz=238,slow=34
ANMO Albuquerque 77.90 333 P **P** **23 11 04.9 +2.6**
comp=Z,2.3nm,1.1s,baz=151,slow=10,SNR=4.1
T25A Trinidad 79.17 335 P **P** **23 11 10.4 +1.2**
baz=80
S26A Kim 79.30 336 P **P** **23 11 11.1 +1.2**
baz=80
GLA Glamis 79.66 326 *eP* **P** **23 11 12.3 +0.5**
comp=Z,8.1nm,0.4s

TSUM Tsumeb 79.67 106 *eP* **P** **23 11 14.1 +1.7**
comp=Z,81nm,3.0s
BOSA Boshof 79.82 118 P **P** **23 11 12.9 -0.2**
comp=Z,6.0nm,0.8s,baz=236,slow=4.4,SNR=9.7
BOSA LR LR 23 43 27.7
comp=Z,113nm,19.5s,baz=192,slow=33
ECSD EROS Data Cent 83.13 343 P **P** **23 11 29.8 -0.1**
baz=84
ECSD EROS Data Cent 83.13 343 *eP* **P** **23 11 30.2 +0.3**
comp=Z,120nm,2.8s
DUG Dugway 84.91 331 P **P** **23 11 40.5 +1.3**
baz=85
NV01 Mina Array Sit 85.69 326 *eP* **P** **23 11 44.8 +1.5**
NVAR Mina Array Bea 85.69 326 P **P** **23 11 44.8 +1.5**
comp=Z,1.4nm,0.7s,baz=159,slow=5.9,SNR=9.3
PD31 Pinedale Array 85.96 334 *eP* **P** **23 11 45.4 +0.9**
PDAR Pinedale Array 85.96 334 P **P** **23 11 45.4 +0.9**
comp=Z,0.3nm,0.6s,baz=113,slow=6.9,SNR=2.5
PDAR pP **PcP** **23 11 51.1 +3.9**
comp=Z,1.2nm,0.9s,baz=122,slow=7.2,SNR=6.2
ELK Elko 86.34 330 P **P** **23 11 49.1 +2.7**
comp=Z,0.8nm,0.6s,baz=130,slow=7.9,SNR=2.8
TOB5 Torodi Ar. Sit 86.54 71 *eP* **P** **23 11 47.4 -0.3**
TOA0 Torodi Ar. Sit 86.55 71 *eP* **P** **23 11 47.7 -0.1**
TORD Torodi Ar. Bea 86.55 71 P **P** **23 11 47.7 -0.1**
comp=Z,2.6nm,0.8s,baz=214,slow=5.5,SNR=19
TORD pP **PcP** **23 11 53.6 +3.5**
comp=Z,1.7nm,0.6s,baz=224,slow=3.8,SNR=7.1
TORD LR LR 23 49 02.7
comp=Z,123nm,18.5s,baz=265,slow=35
AFI Afiamalu 88.01 254 LR LR 23 43 11.7
comp=Z,111nm,19.1s,baz=80,slow=30
SCHQ Schefferville 91.78 4 LR LR 23 55 59.8
comp=Z,16nm,18.6s,baz=68,slow=37
ASAR Alice Springs 114.17 208 PKP PKPdf 23 17 45.5 +1.4
comp=Z,0.5nm,0.5s,baz=130,slow=5.2
ILAR Eielson Array 116.35 333 PKP **PKPdf** **23 17 47.2 +0.4**
comp=Z,0.2nm,0.7s,baz=169,slow=1.4,SNR=3.1
WRA Warramunga Arr 117.37 210 PKP **PKPdf** **23 17 49.8 -0.5**
comp=Z,0.4nm,0.7s,baz=158,slow=1.0,SNR=4.1
BRTR Keskin Array B 124.50 63 PKP **PKPdf** **23 18 03.3 -0.2**
comp=Z,0.8nm,0.7s,baz=216,slow=3.4,SNR=5.3
BRTR pPKP **pPKPdf** **23 18 10.1 -4.8**
comp=Z,1.5nm,0.9s,baz=242,slow=2.7,SNR=6.1
KBZ Khabaz 132.34 61 PKP **PKPdf** **23 18 17.6 -0.4**
comp=Z,1.7nm,1.0s,baz=211,slow=5.9,SNR=3.1
SEY Seymchan 142.00 328 PKP **PKPdf** **23 18 35.5 +0.2**
comp=Z,0.6nm,0.4s,baz=207,slow=11,SNR=3.0
GEYT Alibeck 142.13 74 PKhKP PKPpre 23 18 31.3
comp=Z,1.1nm,0.8s,baz=306,slow=4.8,SNR=3.7
PSI Prapat 145.18 167 PKP **PKPdf** **23 18 42.0 -0.5**
baz=216,slow=2.4
URV Uravakonda 146.06 123 *ePKiKP* **PKPab** **23 18 45.0 -0.3**
RCLA Racherla 147.55 124 *ePKPbc* **PKPdf** **23 18 46.8 +0.5**
KLRI Killari 147.76 118 *ePKPbc* **PKPdf** **23 18 46.6 0.0**
SRLM Srisailam 147.97 124 *ePKPbc* **PKPdf** **23 18 47.9 +0.8**
ADKI Addanki 148.50 125 *ePKPbc* **PKPbc** **23 18 49.4 -2.1**
NJS Nagarjunasagar 148.57 123 *ePKPbc* **PKPdf** **23 18 48.3 +0.3**
HYB Hyderabad 148.68 121 *i PKP* **PKPbc** **23 18 51.5 -0.4**
HYBB Hyderabad (bro 148.68 121 *ePKiKP* **PKPbc** **23 18 51.3 -0.6**
SRSP Sriramsagar 149.56 119 *ePKiKP* **PKPbc** **23 18 54.1 0.0**
RPR Rampur 150.18 120 *ePKPbc* **PKPbc** **23 18 53.4 -2.1**
PVM Polavaram 150.60 126 *ePKPbc* **PKPbc** **23 18 54.5 -2.1**
ZALV Zalesovo Beam 157.59 35 PKP **PKPdf** **23 18 59.5 -0.4**
comp=Z,1.0nm,0.6s,baz=282,slow=2.9,SNR=6.6
ZALV pPKP **pPKPdf** **23 19 06.7 -4.6**
comp=Z,3.8nm,0.9s,baz=298,slow=3.2,SNR=8.7
ZALV PKPab **PKPab** **23 19 32.8 +0.7**
comp=Z,2.4nm,0.7s,baz=299,slow=6.4,SNR=5.6
ZALV pPKPab **pPKPab** **23 19 39.8 -3.4**
comp=Z,2.1nm,0.6s,baz=300,slow=4.7,SNR=4.0
MKAR Makanchi Array 159.78 54 PKP **PKPdf** **23 19 03.1 +0.3**
comp=Z,0.6nm,0.7s,baz=323,slow=0.6,SNR=5.4
MKAR PKPab **PKPab** **23 19 42.1 +0.2**
comp=Z,1.7nm,0.7s,baz=276,slow=4.8,SNR=11
MKAR pPKPab **pPKPab** **23 19 49.1 -4.0**
comp=Z,1.3nm,0.7s,baz=282,slow=4.4,SNR=4.8
MKAR PP **PP** **23 23 23.1 -0.9**
comp=Z,0.7nm,0.8s,baz=265,slow=7.2,SNR=4.2
SONM Songino Array 169.30 360 PKP **PKPdf** **23 19 13.6 +2.4**
comp=Z,0.6nm,1.0s,baz=22,slow=1.6,SNR=2.3
SONM PKPab **PKPab** **23 20 24.5 +0.8**
comp=Z,0.3nm,0.5s,baz=338,slow=1.6,SNR=2.7
SONM pPKPab **pPKPab** **23 20 30.8 -4.0**
comp=Z,0.7nm,0.7s,baz=352,slow=2.1,SNR=3.7

*IDC **18** 23:00:28.8±0.9, 52.°58N×169.°63W, h0km, mb3.9/7, mb1 4.1/9, mb1mx3.8/33, mbtmp3.8/9, ML3.5/2, MS3.6/1, Ms1 3.6/1, ms1mx2.8/55, Error ellipse: s-maj=34.8km s-min=18.8km az=170.0*
*ISCJB **18** 23:00:32.8±0.6, 52.°7N±0.°1×169.°64W±0.°09, h40km, mb3.9/7, MS3.6/1, Error ellipse: s-maj=17.6km s-min=5.3km az=160.7*
*NEIC **18** 23:00:34.1±0.5, 52.°68N×169.°55W, h35km, ML3.7, Error ellipse: s-maj=16.5km s-min=6.6km az=161.0*

ISC 18 23:00:34.5±0.8, 52.°7N±0.°2×169.°61W±0.°07, h40km, n25, σ1s27/21, mb3.9/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
UNV	**Unalaska Valle**	**2.20**	**57**	*ePn*	**Pn**		**23 01 06.6**	**-1.9**
UNV				*eSb*	**Sn**		**23 01 37.6**	**+3.2**
AKUT	**Akutan**	**2.72**	**56**	*ePn*	**Pn**		**23 01 15.2**	**-0.4**
AKUT				*eSn*	**Sn**		**23 01 49.0**	**+1.8**
GSTR	**Great Sitkin T**	**4.00**	**264**	*ePn*	**Pn**		**23 01 32.2**	**-1.0**
GSTR				*eSn*	**Sn**		**23 02 19.5**	**+0.7**
FALS	**False Pass**	**4.27**	**57**	*ePn*	**Pn**		**23 01 35.6**	**-1.3**
AMKA	**Amchitka**	**6.97**	**264**	*ePn*	**Pn**		**23 02 14.9**	**+1.0**
ILAR	**Eielson Array**	**16.78**	**35**	Pn	**Pn**		**23 04 24.6**	**-1.6**
	0.1nm,0.3s,baz=228,slow=10,SNR=7.1							
COLD	**Coldfoot**	**17.40**	**26**	*ePn*	**P**		**23 04 35.9**	**+1.2**
	2.2nm,0.8s							
PETK	**Petropavlovsk-**	**19.64**	**284**	P	**P**		**23 04 59.6**	**+0.1**
	0.4nm,0.3s,baz=103,slow=6.4,SNR=2.8							
DLBC	**Dease Lake**	**22.85**	**60**	P	**P**		**23 05 33.0**	**-1.1**
	4.5nm,0.9s,baz=261,slow=13,SNR=5.5							
H11N2	**WAKE ISLAND Hy**	**37.61**	**218**	T	T		23 47 37.6	
	baz=23,slow=76,SNR=13							
H11N3	**WAKE ISLAND Hy**	**37.61**	**218**	T	T		23 47 33.7	
	baz=23,slow=76,SNR=8.7							
H11N1	**WAKE ISLAND Hy**	**37.62**	**218**	T	T		23 47 41.2	
	baz=23,slow=76,SNR=13							
NVAR	**Mina Array Bea**	**37.81**	**91**	P	**P**		**23 07 47.8**	**+0.7**
	0.4nm,0.6s,baz=302,slow=10,SNR=2.8							
ELK	**Elko**	**38.25**	**86**	P	**P**		**23 07 50.3**	**-0.6**
	1.5nm,0.8s,baz=320,slow=8.1,SNR=6.1							
H11S1	**WAKE ISLAND Hy**	**38.80**	**217**	T	T		23 49 07.4	
	baz=22,slow=76,SNR=19							
H11S2	**WAKE ISLAND Hy**	**38.81**	**217**	T	T		23 49 06.7	
	baz=22,slow=76,SNR=21							
H11S3	**WAKE ISLAND Hy**	**38.81**	**217**	T	T		23 49 06.7	
	baz=22,slow=76,SNR=19							
PFO	**Pinyon Flat Ob**	**42.12**	**95**	P	**P**		**23 08 22.5**	**-0.3**
	2.9nm,0.5s,baz=141,slow=7.2,SNR=6.3							
TLY	**Talaya**	**50.04**	**306**	LR	LR		23 32 45.8	
	comp=Z,61nm,18.8s,baz=360,slow=39							
TXAR	**Lajitas Array**	**52.89**	**89**	P	**P**		**23 09 46.9**	**+0.5**
	2.1nm,0.8s,baz=301,slow=5.7,SNR=24							
WRA	**Warramunga Arr**	**87.08**	**231**	P	**P**		**23 13 16.6**	**+0.8**
	0.6nm,1.0s,baz=35,slow=5.8,SNR=3.3							
ASAR	**Alice Springs**	**90.48**	**230**	P	**P**		**23 13 31.9**	**0.0**
	1.1nm,0.8s,baz=27,slow=4.8,SNR=4.4							
TSUM	**Tsumeb**	**146.12**	**348**	PKPbc	**PKPab**		**23 20 10.3**	**-0.6**
	0.7nm,0.7s,baz=45,slow=2.0,SNR=5.3							
LBTB	**Lobatse**	**150.07**	**332**	PKPbc	**PKPbc**		**23 20 20.2**	**-0.5**
	3.8nm,0.8s,baz=83,slow=1.4,SNR=6.3							
BOSA	**Boshof**	**153.55**	**330**	PKPbc	**PKPbc**		**23 20 28.8**	**+0.3**
	0.9nm,0.7s,baz=180,slow=1.0,SNR=3.2							

IDC 18 23:01:47.3±3.4, 5.°87S×150.°10E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.3/36, mbtmp3.4/3, ML1.3/1, Error ellipse: s-maj=133.3km s-min=37.7km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.56**	**219**	Pn	Pn		23 02 56.5	-1.1
	1.0nm,0.3s,baz=68,slow=16,SNR=2.1							
PMG					Sn		23 03 50.8	-0.5
	4.6nm,0.3s,baz=194,slow=20,SNR=5.5							
WRA	**Warramunga Arr**	**20.74**	**226**	P	P		23 06 30.1	+0.4
	2.1nm,0.9s,baz=52,slow=11,SNR=13							
ASAR	**Alice Springs**	**23.57**	**220**	P	P		23 07 00.4	+0.5
	0.3nm,0.6s,baz=59,slow=8.7,SNR=2.9							

TORD Torodi Ar. Bea 148.03 285 PKPbc PKPbc 23 21 35.0 -0.9
0.3nm,0.5s,baz=61,slow=1.6,SNR=4.9

IDC 18 23:03:24.5±24.0, 52.°19N×169.°22W, h0km, mb3.5/4, mb1 4.0/4, mb1mx3.5/29, mbtmp3.5/4, Error ellipse: s-maj=444.3km s-min=93.1km az=100.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DLBC	**Dease Lake**	**22.90**	**59**	P	P		23 08 29.7	+0.1
	2.3nm,1.0s,baz=286,slow=7.9,SNR=3.7							
NVAR	**Mina Array Bea**	**37.57**	**91**	P	P		23 10 40.4	-0.3
	0.2nm,0.5s,baz=283,slow=9.9,SNR=3.2							
PDAR	**Pinedale Array**	**40.35**	**79**	P	P		23 11 03.5	-0.4
	0.6nm,0.7s,baz=310,slow=5.0,SNR=5.2							
TXAR	**Lajitas Array**	**52.66**	**89**	P	P		23 12 40.6	+0.1
	0.6nm,0.7s,baz=297,slow=5.0,SNR=4.4							

IDC 18 23:08:53.2±2.5, 5.°96S×150.°64E, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.7/19, mbtmp4.1/4, ML2.1/1, Error ellipse: s-maj=73.4km s-min=39.5km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.86**	**225**	Pn	Pn		23 10 09.5	+1.8
	5.5nm,0.3s,baz=47,slow=5.9,SNR=8.4							
PMG					Sn	Sn	23 10 57.6	-7.1
	3.1nm,0.3s,baz=86,slow=19,SNR=4.6							
WRA	**Warramunga Arr**	**21.07**	**227**	P	P		23 13 39.1	-0.3
	6.5nm,0.7s,baz=51,slow=11,SNR=60							
ASAR	**Alice Springs**	**23.86**	**221**	P	P		23 14 08.3	-0.2
	2.9nm,0.7s,baz=55,slow=9.1,SNR=25							
STKA	**Stephens Creek**	**27.14**	**197**	P	P		23 14 37.4	-0.8
	2.5nm,0.7s,baz=38,slow=14,SNR=7.1							
TORD	**Torodi Ar. Bea**	**148.58**	**285**	PKPbc	PKPbc		23 28 43.2	-0.1
	0.3nm,0.6s,baz=99,slow=2.7,SNR=7.7							

*IDC **18** 23:11:38.9±1.1, 37.°24S×73.°84W, h0km, mb3.9/8, mb1 4.1/10, mb1mx3.9/37, mbtmp4.0/10, ML3.2/2, MS3.7/2, Ms1 3.7/2, ms1mx3.2/25, Error ellipse: s-maj=32.0km s-min=19.5km az=93.0*
*ISCJB **18** 23:11:40.9±0.8, 37.°15S±0.°08×73.°6W±0.°2, h14km, mb3.9/8, MS3.4/1, Error ellipse: s-maj=21.1km s-min=10.1km az=21.3*

ISC 18 23:11:42.1±1.0, 37.°2S±0.°1×73.°6W±0.°2, h14km, n12, σ1s14/13, mb4.0/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**7.12**	**40**	Pn	**Pn**		**23 13 26.1**	**+0.3**
	0.1nm,0.3s,baz=214,slow=14,SNR=6.5							
CFAA					Sn	**Sn**	**23 14 45.7**	**-0.8**
	baz=184,slow=10,SNR=3.1							
CFAA					Lg	Lg	23 15 32.5	
	0.0nm,0.3s,baz=111,slow=19,SNR=3.4							
LVC	**Limon Verde**	**15.07**	**17**	Pn	**Pn**		**23 15 16.8**	**+1.9**
	10nm,0.3s,baz=219,slow=6.5,SNR=8.3							
CPUP	**Villa Florida**	**17.55**	**57**	Pn	**Pn**		**23 15 46.6**	**+0.3**
	0.1nm,0.3s,baz=201,slow=8.6,SNR=2.2							
CPUP					LR		23 23 11.1	
	comp=Z,331nm,18.3s,baz=233,slow=39							
LPAZ	**La Paz**	**21.36**	**15**	P	**P**		**23 16 30.9**	**+1.3**
	3.5nm,0.8s,baz=187,slow=5.5,SNR=6.1							
SIV	**San Ignacio**	**23.85**	**31**	P	**P**		**23 16 55.1**	**+0.1**
	2.5nm,0.7s,baz=217,slow=15,SNR=7.6							
SIV					LR	LR	23 26 39.7	
	comp=Z,121nm,19.2s,baz=226,slow=38							
VNA2	**Neumayer--Watz**	**47.63**	**156**	P	**P**		**23 20 18.5**	**+1.3**
SNAA	**Sanae**	**49.17**	**157**	P	**P**		**23 20 29.6**	**+0.5**
	2.4nm,1.2s,baz=268,slow=5.9,SNR=7.2							
TXAR	**Lajitas Array**	**71.90**	**333**	P	**P**		**23 23 04.6**	**-0.2**
	0.3nm,0.7s,baz=143,slow=9.1,SNR=3.4							
TKL	**Tuckaleechee C**	**73.07**	**351**	P	**P**		**23 23 09.9**	**-1.6**
	1.6nm,0.8s,baz=202,slow=19,SNR=2.3							
BOSA	**Boshof**	**79.74**	**118**	P	**P**		**23 23 48.4**	**-1.6**
	1.7nm,1.0s,baz=224,slow=18,SNR=2.3							
LBTB	**Lobatse**	**82.14**	**115**	P	**P**		**23 24 02.7**	**-0.1**
	2.8nm,0.8s,baz=239,slow=4.6,SNR=4.8							
TORD	**Torodi Ar. Bea**	**86.49**	**71**	P	**P**		**23 24 25.0**	**+0.2**
	0.8nm,0.9s,baz=226,slow=4.3,SNR=4.0							

*ISCJB **18** 23:13:15.9±0.7, 0.°6S±0.°1×15.°9W±0.°1, h10km, mb3.8/8, MS3.9/10, Error ellipse: s-maj=19.1km s-min=13.7km az=144.8*
*IDC **18** 23:13:16.3±0.9, 0.°65S×15.°85W, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.6/48, mbtmp3.8/10, ML3.4/1, MS3.9/11, Ms1 3.9/11, ms1mx3.5/39, Error ellipse: s-maj=24.7km s-min=20.3km az=112.0*

ISC 18 23:13:17.9±0.8, 0.°7S±0.°1×15.°9W±0.°1, h10km, n27, σ0s57/10, mb3.9/8, MS3.9/10, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**7.25**	**169**	T	T		23 22 37.2	
	baz=348,slow=74,SNR=540							
H10N3	**ASCENSION HYDR**	**7.26**	**169**	T	T		23 22 33.5	
	baz=348,slow=74,SNR=595							
H10N1	**ASCENSION HYDR**	**7.27**	**169**	T	T		23 22 45.7	
	baz=348,slow=74,SNR=636							
H10S1	**ASCENSION HYDR**	**8.32**	**172**	T	T		23 23 56.1	
	baz=350,slow=74,SNR=296							
H10S3	**ASCENSION HYDR**	**8.32**	**172**	T	T		23 23 57.4	
	baz=350,slow=74,SNR=400							
H10S2	**ASCENSION HYDR**	**8.33**	**172**	T	T		23 23 59.5	
	baz=350,slow=74,SNR=268							
DBIC	**Dimbokro**	**13.18**	**56**	Pn	**Pn**		**23 16 25.9**	**+0.6**
	0.2nm,0.3s,baz=230,slow=8.7,SNR=3.6							
DBIC					LR	LR	23 20 34.4	
	comp=Z,523nm,20.7s,baz=221,slow=33							
RCBR	**Riachuelo**	**20.64**	**255**	P	**P**		**23 17 57.9**	**0.0**
	8.9nm,0.9s,baz=100,slow=6.1,SNR=2.3							
TORD	**Torodi Ar. Bea**	**22.17**	**51**	P	**P**		**23 18 13.2**	**-1.1**
	4.7nm,0.8s,baz=238,slow=12,SNR=13							
TORD					LR	LR	23 26 14.7	
	comp=Z,268nm,18.3s,baz=215,slow=35							
MDT	**Midelt**	**34.95**	**17**	P	**P**		**23 20 10.3**	**0.0**
	1.4nm,0.8s,baz=295,slow=12,SNR=2.5							
BDFB	**Brasilia**	**35.04**	**243**	LR	LR		23 32 31.7	
	comp=Z,260nm,19.9s,baz=1.5,slow=33							
H07N1	**FLORES T-PHASE**	**42.52**	**343**	T	T		00 05 08.9	
KEST	**Kesra**	**43.16**	**30**	LR	LR		23 40 20.0	
	comp=Z,76nm,18.3s,baz=196,slow=38							
LSZ	**Lusaka**	**45.85**	**111**	P	**P**		**23 21 40.5**	**-0.4**
	0.9nm,0.5s,baz=352,slow=14,SNR=1.7							
CPUP	**Villa Florida**	**47.35**	**234**	LR	LR		23 39 07.9	
	comp=Z,158nm,21.3s,baz=66,slow=33							
BOSA	**Boshof**	**48.11**	**129**	P	**P**		**23 21 58.3**	**0.0**
	2.0nm,0.8s,baz=315,slow=2.9,SNR=4.2							
KMBO	**Kilima Mbogo**	**53.11**	**91**	LR	LR		23 44 02.6	
	comp=Z,328nm,18.2s,baz=262,slow=35							
LPAZ	**La Paz**	**53.78**	**250**	LR	LR		23 44 25.4	
	comp=Z,222nm,19.4s,baz=108,slow=35							
GERES	**GERESS Array B**	**55.53**	**23**	P	**P**		**23 22 53.5**	**+0.2**
	0

DJA 18 23:22:11.5±0.4,5˚S±4˚×10˚4E±˚, h44km±12km, M4.0/11, MLv4.0/11

ISC 18 23:22:09.9±1.0,**5˚13S**±0.0˚08×**103˚65E**±0.0˚08,**h83**km±8km, **n32,**σ1**944/25, mb3.8**/10, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LWLI	**Liwa**	**0.42**	**74**	P	**Pn**	**23 22 23.0**	**-0.4**
MDSI	**Maura Dua**	**0.83**	**39**	P	**Pn**	**23 22 27.3**	**+0.1**
MDSI				S	**Sn**	**23 22 40.1**	**+0.1**
KASI	**Kota Agung**	**0.93**	**115**	P	**Pn**	**23 22 28.1**	**-0.1**
KASI				S	**Sn**	**23 22 41.4**	**-0.5**
MNAI	**Manna**	**1.04**	**318**	P	**Pn**	**23 22 29.4**	**-0.2**
MNAI				S	**Sn**	**23 22 44.3**	**0.0**
KLSI		**1.16**	**68**	P	**Pn**	**23 22 31.8**	**+0.8**
LHSI	**Lahat**	**1.30**	**354**	P	**Pn**	**23 22 34.1**	**+1.2**
LHSI				S	**Sn**	**23 22 52.6**	**+2.5**
KSI	**Kapahiang**	**1.81**	**324**	P	**Pn**	**23 22 41.2**	**+1.7**
KSI				S	**Sn**	**23 23 04.3**	**+2.4**
CGJI	**Cibinong**	**2.51**	**126**	P	**Pn**	**23 22 49.0**	**+0.4**
CBJI	**Citeko**	**3.43**	**112**	P	Pn	23 23 08.2	+7.1
CNJI	**Cibinong**	**4.08**	**122**	P	**Pn**	**23 23 12.9**	**+3.0**
LEM	**Lembang**	**4.29**	**113**	Pn	Pn	23 23 08.1	-4.9
	3.6nm,0.3s,baz=139,slow=20,SNR=1.9						
PSI	**Prapat**	**9.19**	**329**	LR	LR	23 27 49.4	
	comp=Z,193nm,18.2s,baz=262,slow=39						
CMAR	**Chiang Mai Arr**	**23.90**	**349**	P	**P**	**23 27 13.8**	**-2.3**
	0.4nm,0.4s,baz=187,slow=9.1,SNR=3.4						
NWAO	**Narrogin (SRO)**	**30.42**	**157**	P	**P**	**23 28 15.5**	**+1.0**
	4.7nm,0.8s,baz=329,slow=5.9,SNR=2.8						
H08S2	**Diego Garcia H**	**31.06**	**264**	T	T	23 59 35.5	
	baz=86						
H08S3	**Diego Garcia H**	**31.07**	**264**	T	T	23 59 44.4	
	baz=86						
H08S1	**Diego Carcia H**	**31.08**	**264**	T	T	23 59 39.8	
	baz=86						
H01W3	**Cape Leeuwin H**	**31.15**	**163**	T	T	00 01 31.3	
	baz=344						
H01W2	**Cape Leeuwin H**	**31.17**	**163**	T	T	00 01 42.8	
	baz=344						
H01W1	**Cape Leeuwin H**	**31.17**	**163**	T	T	00 01 42.4	
	baz=344						
WRA	**Warramunga Arr**	**33.28**	**119**	P	**P**	**23 28 39.7**	**-0.1**
	0.4nm,0.3s,baz=307,slow=9.3,SNR=9.5						
ASAR	**Alice Springs**	**34.48**	**125**	P	**P**	**23 28 50.6**	**+0.5**
	0.6nm,0.8s,baz=309,slow=8.5,SNR=4.1						
STKA	**Stephens Creek**	**44.36**	**132**	P	**P**	**23 30 13.6**	**+1.4**
	2.3nm,0.5s,baz=311,slow=6.2,SNR=8.9						
SONM	**Songino Array**	**52.80**	**2**	P	**P**	**23 31 17.1**	**+0.4**
	1.1nm,0.6s,baz=180,slow=8.1,SNR=7.2						
MKAR	**Makanchi Array**	**55.06**	**342**	P	**P**	**23 31 32.2**	**-0.9**
	0.5nm,0.5s,baz=145,slow=8.0,SNR=11						
KURBB	**Kurchatov Arra**	**59.61**	**342**	P	**P**	**23 32 04.0**	**-1.0**
	0.4nm,0.5s,baz=160,slow=6.6,SNR=6.6						
GEYT	**Alibeck**	**60.18**	**319**	LR	LR	00 02 48.1	
	comp=Z,84nm,18.6s,baz=145,slow=41						
ZALV	**Zalesovo Beam**	**60.95**	**347**	P	**P**	**23 32 12.6**	**-1.5**
	1.0nm,0.4s,baz=174,slow=5.8,SNR=6.2						
KMBO	**Kilima Mbogo**	**66.40**	**271**	LR	LR	23 59 55.2	
	comp=Z,160nm,18.3s,baz=280,slow=34						
BRTR	**Keskin Array B**	**78.11**	**312**	P	**P**	**23 33 58.2**	**-2.1**
	0.5nm,0.8s,baz=103,slow=6.2,SNR=3.6						
AKASG	**Malin Array Be**	**84.18**	**322**	LR	LR	00 16 47.1	
	comp=Z,35nm,18.2s,baz=215,slow=39						
TXAR	**Lajitas Array**	**144.69**	**44**	PKP	**PKPdf**	**23 41 37.7**	**-0.2**
	0.1nm,0.4s,baz=318,slow=1.6,SNR=4.6						

IDC 18 23:22:49.9±1.2,54˚81N×156˚95W, h0km, mb3.6/5, mb1 4.0/8, mb1mx3.7/31, mbtmp3.7/8, ML3.9/3, Error ellipse: s-maj=26.0km s-min=21.8km az=176.0

ISCJB 18 23:22:50.8±0.7,54˚86N±0.07×156˚77W±0.06, h24km, mb3.6/5, Error ellipse: s-maj=9.8km s-min=4.1km az=162.5

NEIC 18 23:22:53.6,54˚75N×156˚71W, h4km, ML3.4(AEIC), After AEIC.

ISC 18 23:22:53.4±0.9,**54˚96N**±0.09×**156˚81W**±0.05,**h24**km,**n39,** σ1**912/36, mb3.7/5, South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHGN	**Chignik**	**1.62**	**327**	P	**Pn**	**23 23 20.5**	**+0.1**
VNSG	**Veniaminof 6**	**1.74**	**313**	P	**Pn**	**23 23 22.8**	**+0.7**
VNKR	**Veniaminof 5**	**1.81**	**307**	P	**Pn**	**23 23 23.1**	**+0.1**
VNKR				S	**Sb**	**23 23 47.1**	**-0.8**
ANPB	**Aniakchak Pben**	**2.02**	**336**	P	**Pn**	**23 23 26.7**	**+0.7**
AZAC	**Aniakchak**	**2.10**	**338**	P	**Pn**	**23 23 28.0**	**+1.0**
DOL	**Dolgoi Island**	**2.91**	**276**	P	**Pn**	**23 23 37.2**	**-1.0**
DOL				S	**Sn**	**23 24 11.6**	**-0.8**
OHAK	**Old Harbor**	**3.01**	**40**	P	**Pn**	**23 23 38.9**	**-0.5**
OHAK				S	**Sn**	**23 24 13.3**	**-1.3**
DTNA	**Dutton South F**	**3.14**	**276**	P	**Pn**	**23 23 40.3**	**-0.9**
DT1	**Dutton Round H**	**3.15**	**275**	P	**Pn**	**23 23 40.1**	**-1.4**
CAHL	**Cahill**	**3.21**	**14**	P	**Pn**	**23 23 43.2**	**+0.9**
KABR	**Katmai Barrier**	**3.34**	**17**	P	**Pn**	**23 23 45.1**	**+1.0**
KAWH	**Katmai**	**3.61**	**17**	P	**Pn**	**23 23 48.3**	**+0.6**
KDAK	**Kodiak Island**	**3.68**	**38**	P	**Pn**	**23 23 47.5**	**-1.1**
SSLW	**Shishaldin Wes**	**4.23**	**270**	P	**Pn**	**23 23 55.1**	**-1.1**
SSBA	**Shishaldin**	**4.23**	**270**	P	**Pn**	**23 23 54.9**	**-1.4**
SSBA				S	**Sn**	**23 24 44.0**	**-0.9**
WESN	**West Dahl Nort**	**4.52**	**268**	P	**Pn**	**23 23 58.8**	**-1.4**
CNPM	**China Poot**	**5.49**	**31**	P	**Pn**	**23 24 13.5**	**0.0**
CNPM				S	**Sn**	**23 25 13.7**	**-2.1**
UNV	**Unalaska Valle**	**5.77**	**263**	P	**Pn**	**23 24 14.7**	**-2.7**
BRLK	**Bradley Lake**	**5.78**	**31**	P	**Pn**	**23 24 17.0**	**-0.5**
SKT	**Skwentna**	**7.56**	**19**	P	**Pn**	**23 24 43.3**	**+1.3**
SML	**Sawmill**	**8.18**	**29**	P	**Pn**	**23 24 51.6**	**+1.2**
RAGM	**Ragged Mountai**	**8.47**	**45**	P	**Pn**	**23 24 55.1**	**+0.7**
SCM	**Sheep Creek Mo**	**8.49**	**32**	P	**Pn**	**23 24 54.4**	**-0.3**
ILAR	**Eielson Array**	**11.01**	**23**	Pn	**Pn**	**23 25 26.9**	**-2.3**
	0.4nm,0.3s,baz=219,slow=14,SNR=16						
ILAR				Sn	Sn	23 27 23.7	-7.7
	baz=210,slow=24,SNR=2.7						
H02N1	**VAN INLET T-PH**	**14.32**	**87**	T	T	23 40 50.7	
H02S1	**DAWSON INLET T**	**14.37**	**87**	T	T	23 41 01.1	
	SNR=5.8						
DLBC	**Dease Lake**	**15.07**	**66**	Pn	**Pn**	**23 26 24.9**	**+0.4**
	0.2nm,0.3s,baz=162,slow=20,SNR=3.2						
INK	**Inuvik**	**17.19**	**30**	P	**Pn**	**23 26 52.0**	**+0.4**
	0.4nm,0.3s,baz=248,slow=8.7,SNR=7.4						
PDAR	**Pinedale Array**	**32.76**	**92**	P	**P**	**23 29 24.9**	**+0.5**
	0.3nm,0.6s,baz=316,slow=5.0,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**44.60**	**233**	T	T	00 18 37.2	
	baz=28,slow=74						
H11N3	**WAKE ISLAND Hy**	**44.60**	**233**	T	T	00 18 34.6	
	baz=28,slow=74						
H11N1	**WAKE ISLAND Hy**	**44.62**	**233**	T	T	00 18 41.2	
	baz=28						
TXAR	**Lajitas Array**	**45.55**	**102**	P	**P**	**23 31 12.1**	**+0.9**
	0.8nm,0.6s,baz=307,slow=5.6,SNR=14						
H11S1	**WAKE ISLAND Hy**	**45.75**	**232**	T	T	00 20 11.9	
	baz=23						
H11S2	**WAKE ISLAND Hy**	**45.77**	**232**	T	T	00 20 17.1	
	baz=23						
H11S3	**WAKE ISLAND Hy**	**45.77**	**232**	T	T	00 20 04.1	
	baz=23						
SONM	**Songino Array**	**56.10**	**306**	P	**P**	**23 32 31.1**	**+0.7**
	0.2nm,0.3s,baz=64,slow=9.8,SNR=2.8						
CMAR	**Chiang Mai Arr**	**82.97**	**292**	P	**P**	**23 35 16.9**	**+0.5**
	0.4nm,0.6s,baz=20,slow=6.7,SNR=2.7						
BRTR	**Keskin Array B**	**85.26**	**352**	P	**P**	**23 35 28.0**	**0.0**
	0.4nm,0.9s,baz=328,slow=10,SNR=2.3						

IDC 18 23:36:32.8±0.8,6˚11S×150˚73E, h0km, mb4.1/12, mb1 4.3/13, mb1mx4.1/21, mbtmp4.1/13, ML2.0/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/37, Error ellipse: s-maj=34.1km s-min=17.6km az=110.0

ISCJB 18 23:36:38.1±0.8,6˚1S±0.1˚150˚5E±0.2˚, h48km, mb4.0/11, MS3.5/1, Error ellipse: s-maj=26.5km s-min=8.5km az=32.1

ISC 18 23:36:39.7±0.9,**6˚2S**±0.1˚×**150˚6E**±0.2˚,**h48**km,**n19,** σ0**996/17, mb4.0**/10, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.71**	**226**	Pn	**Pn**	**23 37 48.9**	**+0.7**
	4.6nm,0.3s,baz=41,slow=9.8,SNR=6.0						
PMG				Sn	**Sn**	**23 38 41.0**	**-0.7**
	10.0nm,0.3s,baz=91,slow=23,SNR=8.1						
JAY	**Jayapura**	**10.52**	**290**	LR	LR	23 43 50.2	
	comp=Z,104nm,20.8s,baz=258,slow=41						
WRA	**Warramunga Arr**	**20.93**	**228**	P	**P**	**23 41 19.0**	**+0.5**
	5.1nm,0.6s,baz=52,slow=11,SNR=40						
ASAR	**Alice Springs**	**23.70**	**221**	P	**P**	**23 41 46.8**	**-0.6**
	1.8nm,0.5s,baz=55,slow=9.4,SNR=23						
STKA	**Stephens Creek**	**26.95**	**197**	P	**P**	**23 42 15.6**	**-1.1**
	3.2nm,0.6s,baz=15,slow=8.8,SNR=6.0						
URZ	**Urewera**	**39.98**	**147**	LR	LR	23 58 21.4	
	comp=Z,70nm,21.6s,baz=276,slow=33						
JNU	**Nakatsue**	**43.33**	**336**	P	**P**	**23 44 36.2**	**-0.9**
	5.7nm,0.7s,baz=147,slow=3.8,SNR=4.5						
KSRS	**Korea Array**	**48.28**	**336**	P	**P**	**23 45 15.4**	**-0.7**
	1.2nm,0.5s,baz=161,slow=8.2,SNR=4.1						
SONM	**Songino Array**	**66.33**	**329**	P	**P**	**23 47 24.1**	**+0.6**
	0.2nm,0.5s,baz=147,slow=6.1,SNR=2.2						
MKAR	**Makanchi Array**	**79.93**	**320**	P	**P**	**23 48 45.6**	**+1.9**
	0.3nm,0.7s,baz=101,slow=7.5,SNR=3.7						
ZALV	**Zalesovo Beam**	**81.08**	**327**	P	**P**	**23 48 48.9**	**-0.8**
	0.5nm,0.6s,baz=92,slow=4.6,SNR=2.9						
KURBB	**Kurchatov Arra**	**83.53**	**322**	P	**P**	**23 49 01.5**	**-1.0**
	0.6nm,0.2s,baz=98,slow=2.8,SNR=2.8						
ILAR	**Eielson Array**	**84.23**	**22**	P	**P**	**23 49 04.7**	**-1.1**
	0.6nm,0.7s,baz=250,slow=5.4,SNR=8.1						
NVAR	**Mina Array Bea**	**94.62**	**52**	P	**P**	**23 49 56.9**	**+0.8**
	1.0nm,0.7s,baz=246,slow=6.7,SNR=6.9						
YKA	**Yellowknife Ar**	**97.63**	**28**	P	Pdif	23 50 08.6	-0.3
	1.2nm,0.8s,baz=261,slow=5.3,SNR=3.3						
GERES	**GERESS Array B**	**124.03**	**327**	PKP	**PKPdf**	**23 55 33.8**	**+0.8**
	0.8nm,0.6s,baz=74,slow=1.5,SNR=8.9						
DAVOC	**Davos/Dischmat**	**127.33**	**327**	PKP	**PKPdf**	**23 55 39.9**	**+0.3**
	2.3nm,0.8s,baz=188,slow=7.1,SNR=4.6						
TORD	**Torodi Ar. Bea**	**148.61**	**285**	PKPbc	**PKPbc**	**23 56 23.3**	**+0.8**
	3.3nm,0.6s,baz=57,slow=2.4,SNR=58						
BDFB	**Brasilia**	**151.55**	**140**	PKPbc	**PKPbc**	**23 56 30.1**	**+0.3**
	1.3nm,0.7s,baz=95,slow=5.7,SNR=2.7						

ARO 18 23:39:10.5,10˚N±9˚×**4˚3E**±3˚4,**h15**km±99km,**ML3.6, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GBR	**Grand-Bara**	**1.42**	**331**	*e*P	Pn	23 39 33.4	-2.5
ATA	**Atar**	**1.55**	**2**	*e*P	Pn	23 39 35.2	-2.3
ATD	**Arta Tunnel**	**1.65**	**349**	*e*P	Pn	23 39 37.0	-2.0
ATD				*e*S	Sn	23 39 58.6	-1.5
LDLD	**Lac de Lave**	**1.80**	**339**	*e*P	Pn	23 39 39.1	-1.9
MCAD	**Moucha**	**1.82**	**2**	*e*P	Pn	23 39 39.7	-1.6
TDD	**Tadjoura Ara**	**1.91**	**352**	*e*P	Pn	23 39 41.1	-1.4

ISCJB 18 23:40:40.1±1.3,52˚7N±0.1×169˚5W±0.1, h25km±9km, mb3.6/3, MS3.5/1, Error ellipse: s-maj=21.9km s-min=6.6km az=154.9

NEIC 18 23:40:41.0,52˚69N×169˚34W, h13km, ML3.5(AEIC), After AEIC.

IDC 18 23:40:41.6±13.0,52˚62N×168˚60W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.4/67, mbtmp3.5/4, ML3.5/1, MS3.5/1, Ms1 3.5/1, ms1mx2.5/54, Error ellipse: s-maj=239.7km s-min=47.8km az=90.0

ISC 18 23:40:39.9±1.8,**52˚7N**±0.1×**169˚44W**±0.07,**h15**km±11km, **n26,**σ1**915/24, mb3.6/3, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.45**	**51**	P	**Pg**	**23 40 49.3**	**+0.4**
NIKH				S	**Sb**	**23 40 56.6**	**+0.6**
OKCE	**Okmok Cone E**	**1.06**	**46**	P	**Pb**	**23 40 59.9**	**-0.1**
OKCE				S	**Sn**	**23 41 16.6**	**+1.8**
OKTU	**Okmok Mt. Tuli**	**1.09**	**50**	P	**Pb**	**23 41 00.4**	**-0.1**
OKAK	**Okmok**	**1.10**	**36**	P	**Pb**	**23 40 58.8**	**-1.8**
OKAK				S	**Sb**	**23 41 12.6**	**-2.2**
MSOM	**Makushin Julie**	**1.87**	**52**	P	**Pn**	**23 41 11.8**	**+0.5**
MCIR	**Makushin Cirqu**	**1.98**	**49**	P	**Pn**	**23 41 14.3**	**+1.4**
MSW	**Makushin Switc**	**2.01**	**51**	P	**Pn**	**23 41 13.7**	**+0.5**
MSW				S	**Sb**	**23 41 40.6**	**-0.3**
MTBL	**Makushin Table**	**2.09**	**51**	P	**Pn**	**23 41 14.8**	**+0.4**
UNV	**Unalaska Valle**	**2.11**	**56**	P	**Pn**	**23 41 14.4**	**-0.2**
UNV				S	**Sn**	**23 41 40.2**	**-0.2**
ZRO	**Akutan Zero**	**2.50**	**55**	P	**Pn**	**23 41 21.3**	**+1.3**
AKGG	**Akutan Green G**	**2.55**	**52**	P	**Pn**	**23 41 21.9**	**+1.2**
ATKA	**Atka Island**	**2.95**	**262**	P	**Pn**	**23 41 25.8**	**-0.5**
GSTR	**Great Sitkin T**	**4.10**	**264**	P	**Pn**	**23 41 43.7**	**+1.6**
GSTD	**Great Sitkin T**	**4.16**	**264**	P	**Pn**	**23 41 43.9**	**+1.0**
SPIA	**Saint Paul Isl**	**4.52**	**354**	P	**Pn**	**23 41 49.4**	**+1.7**
ILAR	**Eielson Array**	**16.71**	**35**	Pn	**Pn**	**23 44 32.0**	**-1.1**
	0.1nm,0.3s,baz=229,slow=11,SNR=5.3						
DLBC	**Dease Lake**	**22.75**	**60**	P	**P**	**23 45 41.4**	**0.0**
	1.9nm,0.8s,baz=250,slow=12,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**37.68**	**218**	T	T	00 27 47.2	
	baz=21						
H11N3	**WAKE ISLAND Hy**	**37.69**	**218**	T	T	00 27 48.1	
	baz=21						
H11N1	**WAKE ISLAND Hy**	**37.70**	**218**	T	T	00 27 51.6	
	baz=21						
H11S1	**WAKE ISLAND Hy**	**38.87**	**218**	T	T	00 29 16.5	
	baz=18						
H11S2	**WAKE ISLAND Hy**	**38.89**	**218**	T	T	00 29 17.6	
	baz=18						
H11S3	**WAKE ISLAND Hy**	**38.89**	**218**	T	T	00 29 19.3	
	baz=18						
PDAR	**Pinedale Array**	**40.38**	**79**	P	**P**	**23 48 16.4**	**-0.8**
	0.6nm,0.7s,baz=309,slow=4.7,SNR=4.8						
SPITS	**Spitsbergen Ar**	**49.34**	**358**	LR	LR	00 10 12.7	
	comp=Z,52nm,19.8s,baz=85,slow=36						
TXAR	**Lajitas Array**	**52.78**	**89**	P	**P**	**23 49 54.9**	**+0.5**
	0.8nm,0.7s,baz=293,slow=5.5,SNR=12						

IDC 18 23:41:26.2±12.0,**52˚60N×170˚81W, h0km, mb3.7**/5, **mb1 4.0**/6, **mb1mx3.6**/30, **mbtmp3.6**/6, **ML3.4**/1, **Error ellipse: s-maj=219.8km s-min=55.4km az=86.0, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILAR	**Eielson Array**	**17.27**	**36**	P	Pn	23 45 27.1	-1.3
	0.1nm,0.3s,baz=228,slow=11,SNR=4.8						
DLBC	**Dease Lake**	**23.52**	**59**	P	P	23 46 39.1	+1.4
	1.0nm,0.3s,baz=254,slow=12,SNR=5.2						
YKA	**Yellowknife Ar**	**30.75**	**49**	P	P	23 47 42.4	-0.3
	1.0nm,0.8s,baz=275,slow=7.2,SNR=3.2						
NVAR	**Mina Array Bea**	**38.55**	**90**	P	P	23 48 50.8	+0.2
	0.5nm,0.7s,baz=302,slow=7.3,SNR=3.2						
PDAR	**Pinedale Array**	**41.22**	**78**	P	P	23 49 11.8	-1.0
	0.7nm,0.7s,baz=328,slow=6.9,SNR=5.6						
TXAR	**Lajitas Array**	**53.62**	**88**	P	P	23 50 49.2	-0.1
	1.1nm,0.6s,baz=303,slow=5.8,SNR=12						

IDC 18 23:43:49.2±3.7,**5˚70S×149˚95E, h0km, mb3.2**/2, **mb1 3.6**/3, **mb1mx3.4**/19, **mbtmp3.4**/3, **ML1.5**/1, **Error ellipse: s-maj=137.2km s-min=43.4km az=115.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.61**	**217**	Pn	Pn	23 45 00.5	+0.3
	1.5nm,0.3s,baz=228,slow=14,SNR=1.8						
WRA	**Warramunga Arr**	**20.76**	**226**	P	P	23 48 32.2	+0.3
	0.8nm,0.4s,baz=52,slow=11,SNR=8.1						
ASAR	**Alice Springs**	**23.62**	**219**	P	P	23 49 01.8	-0.4
	0.3nm,0.3s,baz=52,slow=9.3,SNR=2.3						
TORD	**Torodi Ar. Bea**	**147.85**	**286**	PKPbc	PKPbc	00 03 36.6	-0.8
	0.4nm,0.9s,baz=94,slow=2.6,SNR=6.3						

IDC 18 23:53:14.0±1.1,52˚63N×169˚88W, h0km, mb3.9/8, mb1 4.2/9, mb1mx3.7/31, mbtmp3.8/9, ML3.5/1, Error ellipse: s-maj=37.4km s-min=23.2km az=154.0

NEIC 18 23:53:16.8,52˚65N×169˚41W, h6km, ML3.6(AEIC), After AEIC.

ISC 18 23:53:17.0±0.8,**52˚8N**±0.1×**169˚51W**±0.07,**h10**km,**n30,** σ1**950/28, mb3.9/7, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.43**	**66**	P	**Pb**	**23 53 26.8**	**0.0**
NIKH				S	**Sb**	**23 53 34.5**	**+1.1**
OKCE	**Okmok Cone E**	**1.03**	**52**	P	**Pg**	**23 53 37.2**	**+0.4**
OKAK	**Okmok**	**1.05**	**41**	P	**Pb**	**23 53 36.1**	**-1.1**
OKAK				S	**Sb**	**23 53 50.4**	**-0.6**
OKTU	**Okmok Mt. Tuli**	**1.06**	**56**	P	**Pb**	**23 53 37.9**	**+0.4**
OKRE	**Okmok R'deer P**	**1.09**	**48**	P	**Pg**	**23 53 38.9**	**+1.0**
OKRE				S	**Sn**	**23 53 55.5**	**+2.0**
MSOM	**Makushin Julie**	**1.84**	**55**	P	**Pn**	**23 53 48.7**	**0.0**
MSOM				S	**Sb**	**23 54 15.2**	**+1.3**
MCIR	**Makushin Cirqu**	**1.95**	**53**	P	**Pn**	**23 53 50.5**	**+0.3**
MSW	**Makushin Switc**	**1.98**	**54**	P	**Pn**	**23 53 50.7**	**+0.1**
MTBL	**Makushin Table**	**2.06**	**54**	P	**Pn**	**23 53 52.2**	**+0.4**
UNV	**Unalaska Valle**	**2.09**	**59**	P	**Pn**	**23 53 51.7**	**-0.3**
ZRO	**Akutan Zero**	**2.48**	**57**	P	**Pn**	**23 53 58.7**	**+1.2**
AKGG	**Akutan Green G**	**2.53**	**55**	P	**Pn**	**23 53 59.8**	**+1.7**
ATKA	**Atka Island**	**2.93**	**260**	P	**Pn**	**23 54 04.2**	**+0.7**
GSTR	**Great Sitkin T**	**4.07**	**263**	P	**Pn**	**23 54 21.7**	**+2.4**
GSMY	**Great Sitkin M**	**4.08**	**262**	P	**Pn**	**23 54 22.3**	**+2.9**
ILAR	**Eielson Array**	**16.65**	**35**	Pn	**Pn**	**23 57 09.5**	**-0.7**
	0.1nm,0.3s,baz=227,slow=12,SNR=8.5						
DLBC	**Dease Lake**	**22.74**	**60**	P	**P**	**23 58 22.3**	**+3.2**
	4.7nm,1.0s,baz=276,slow=12,SNR=8.9						
H11N2	**WAKE ISLAND Hy**	**37.74**	**218**	T	T	00 40 28.5	
	baz=24,slow=76,SNR=36						
H11N3	**WAKE ISLAND Hy**	**37.74**	**218**	T	T	00 40 27.5	
	baz=24,slow=76,SNR=30						
H11N1	**WAKE ISLAND Hy**	**37.76**	**218**	T	T	00 40 29.8	
	baz=24,slow=76,SNR=33						
NVAR	**Mina Array Bea**	**37.76**	**91**	P	**P**	**00 00 34.0**	**+0.8**
	0.5nm,0.6s,baz=294,slow=7.3,SNR=3.8						
H11S1	**WAKE ISLAND Hy**	**38.93**	**218**	T	T	00 41 55.3	
	baz=22,slow=76,SNR=343						
H11S2	**WAKE ISLAND Hy**	**38.94**	**218**	T	T	00 41 56.5	
	baz=22,slow=76,SNR=255						
H11S3	**WAKE ISLAND Hy**	**38.95**	**218**	T	T	00 41 58.7	
	baz=22,slow=76,SNR=193						
PDAR	**Pinedale Array**	**40.41**	**80**	P	**P**	**00 00 54.8**	**-0.5**
	1.7nm,0.9s,baz=326,slow=5.1,SNR=13						
TXAR	**Lajitas Array**	**52.83**	**89**	P	**P**	**00 02 32.3**	**-0.3**
	2.2nm,0.7s,baz=300,slow=5.4,SNR=30						
ESDC	**Sonseca Array**	**87.05**	**11**	P	**P**	**00 06 00.5**	**-2.2**
	0.0nm,0.3s,baz=336,slow=5.0,SNR=4.1						
WRA	**Warramunga Arr**	**87.20**	**231**	P	**P**	**00 06 00.9**	**-2.4**
	0.3nm,0.8s,baz=32,slow=6.0,SNR=1.6						
ASAR	**Alice Springs**	**90.61**	**230**	P	**P**	**00 06 17.3**	**-2.0**
	0.6nm,0.6s,baz=30,slow=4.9,SNR=2.7						
MMAI	**Mount Meron Ar**	**91.83**	**339**	P	**P**	**00 06 24.6**	**-0.6**
	0.2nm,0.3s,baz=50,slow=7.7,SNR=3.0						

IDC 18 23:54:43.2±1.0,6˚11S×151˚45E, h0km, mb4.1/16, mb1 4.2/17, mb1mx4.2/21, mbtmp4.1/17, ML2.3/1, MS3.6/9, Ms1 3.6/9, ms1mx3.3/37, Error ellipse: s-maj=32.6km s-min=15.2km az=100.0

ISCJB 18 23:54:47.8±0.6,6˚10S±0.07×151˚2E±0.1, h41km, mb4.1/19, MS3.5/8, Error ellipse: s-maj=15.3km s-min=9.2km az=9.3

NEIC 18 23:54:50.1±2.2,6˚12S×151˚18E, h46km±19km, mb4.5/4, Error ellipse: s-maj=16.3km s-min=10.5km az=84.0

ISC 18 23:54:49.7±0.7,**6˚12S**±0.09×**151˚1E**±0.1,**h41**km,**n32,** σ1**929/27, mb4.1**/19, **MS3.5/8, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.09**	**230**	Pn	**Pn**	**23 56 04.8**	**+1.2**
	6.7nm,0.3s,baz=48,slow=8.0,SNR=7.8						
PMG				Sn	**Sn**	**23 56 58.0**	**-3.2**
	9.5nm,0.3s,baz=67,slow=18,SNR=7.2						
PMG				LR	LR	23 58 26.3	
	comp=Z,468nm,18.1s,baz=356,slow=42						
SIJI	**Sorong**	**20.47**	**284**	P	Pn	23 59 27.4	+0.9
	3.0nm,0.3s,baz=324,slow=19,SNR=2.5						
GUMO	**Guam**	**20.54**	**342**	LR	LR	00 07 43.9	
	comp=Z,115nm,18.9s,baz=146,slow=38						
WRAB	**Tennant Creek**	**21.30**	**228**	*e*P	**P**	**23 59 33.2**	**+0.2**
	14nm,0.5s						
WRA	**Warramunga Arr**	**21.31**	**228**	P	**P**	**23 59 33.6**	**+0.4**
	10nm,0.5s,baz=51,slow=9.8,SNR=66						
WRA				LR	LR	00 09 28.7	
	comp=Z,164nm,18.9s,baz=250,slow=41						
DZM	**Mont Dzumac**	**21.71**	**138**	P	**P**	**23 59 37.5**	**0.0**
	2.6nm,0.6s,baz=270,slow=20						
ASAR	**Alice Springs**	**24.05**	**222**	P	**P**	**00 00 02.1**	**+0.9**
	11

GSMY	Great Sitkin M	3.96	262	P	Pn	00 01 44.0	+1.1
GSTD	Great Sitkin T	4.01	263	P	Pn	00 01 44.9	+1.3
GSCK	Great Sitkin C	4.03	262	P	Pn	00 01 45.3	+1.4
ISLZ	Isanotski Laza	4.07	58	P	Pn	00 01 45.9	+1.4
FALS	False Pass	4.28	58	*e*Pn	Pn	00 01 48.3	+0.9
ADAG	Mount Adagdak	4.30	262	P	Pn	00 01 50.0	+2.3
SPIA	Saint Paul Isl	4.45	356	P	Pn	00 01 51.4	+1.7
SDPT	Sand Point	6.03	61	*e*Pn	Pn	00 02 13.0	+1.8
AMKA	Amchitka	6.92	263	*e*Pn	Pn	00 02 26.4	+2.8
LSNW	Little Sitkin	7.26	269	P	Pn	00 02 31.2	+2.9
LSSA	Little Sitkin	7.27	268	P	Pn	00 02 31.6	+3.2
CHGN	Chignik	7.47	57	*e*Pn	Pn	00 02 32.4	+1.4
TRF	Thorofare Moun	14.77	36	*e*Pn	Pn	00 04 12.8	+1.8
BPAW	Bear Paw Mtn.	14.94	33	*e*Pn	Pn	00 04 14.8	+1.6
MCK	McKinley	15.42	36	*e*Pn	P	00 04 24.2	0.0
	20nm,1.3s						
IM04	Indian Mountai	15.47	25	*e*Pn	Pn	00 04 21.3	+1.1
KLU	Klutina	15.52	46	*e*Pn	Pn	00 04 21.3	+0.4
	7.7nm,0.8s						
BMRM	Bremner River	15.91	49	*e*Pn	Pn	00 04 27.0	+1.0
	17nm,1.2s						
CCB	Clear Creek Bu	16.36	35	*e*Pn	Pn	00 04 32.7	+1.1
	7.4nm,1.0s						
MDM	Murphy Dome	16.41	33	*e*Pn	Pn	00 04 33.9	+1.6
	12nm,1.0s						
ILAR	Eielson Array	16.76	35	Pn	Pn	00 04 35.8	-0.9
	0.2nm,0.3s,baz=230,slow=11,SNR=10						
ILAR				LR	LR	00 11 25.1	
	comp=Z,190nm,20.8s,baz=236,slow=38						
COLD	Coldfoot	17.36	26	*e*Pn	P	00 04 46.0	+0.4
	21nm,1.4s						
EGAK	Eagle	18.87	39	*e*Pn	Pn	00 05 03.6	+0.8
	22nm,1.8s						
HYT	Haines Junctio	19.23	52	*e*P	Pn	00 05 08.6	+1.3
DAWY	Dawson	19.28	42	*e*P	Pn	00 05 08.7	+0.8
	9.5nm,1.3s						
PETK	Petropavlovsk-	19.57	284	P	P	00 05 07.1	-2.9
	baz=34,slow=17,SNR=2.3						
BESE	Bessie Mountai	20.33	59	*e*P	Pn	00 05 22.2	+1.9
	7.4nm,1.0s						
SEY	Seymchan	22.27	312	P	P	00 05 38.2	-0.8
	1.4nm,0.5s,baz=120,slow=9.3,SNR=6.2						
DLBC	Dease Lake	22.87	60	P	P	00 05 47.5	+2.0
	20nm,1.1s,baz=266,slow=7.8,SNR=18						
DLBC				LR	LR	00 15 34.0	
	comp=Z,93nm,19.6s,baz=289,slow=39						
DLBC	Dease Lake	22.87	60	*e*P	P	00 05 48.3	+2.7
INK	Inuvik	23.14	34	P	P	00 05 46.8	-1.4
	1.9nm,0.5s,baz=228,slow=10,SNR=4.6						
INK				LR	LR	00 16 11.1	
	comp=Z,203nm,19.1s,baz=273,slow=40						
B08A	Colville Reser	31.76	77	*e*P	P	00 07 08.2	+1.9
	3.7nm,0.8s						
EDM	Edmonton	33.18	66	*e*P	P	00 07 20.0	+1.3
YBH	Yreka Blue Hor	33.18	90	LR	LR	00 17 22.2	
	comp=Z,47nm,19.3s,baz=289,slow=30						
BSMT	Bassoo Peak	34.69	76	*e*P	P	00 07 33.2	+1.2
WVOR	Wild Horse Val	35.25	86	*e*P	P	00 07 39.2	+2.4
	4.1nm,1.0s						
MSO	Missoula	35.70	77	*e*P	P	00 07 41.1	+0.5
	18nm,1.6s						
CHMT	Chamberlain Mo	36.06	76	*e*P	P	00 07 44.3	+0.5
RES	Resolute Bay	36.12	26	LR	LR	00 24 55.9	
	comp=Z,101nm,19.4s,baz=260,slow=40						
HLID	Hailey	37.16	82	*e*P	P	00 07 57.2	+4.0
	17nm,2.1s						
MCMT	McKenzie Canyo	37.40	79	*e*P	P	00 07 56.2	+0.9
H11N2	WAKE ISLAND Hy	37.62	218	T	T	00 47 42.3	
	baz=23,slow=76,SNR=14						
H11N3	WAKE ISLAND Hy	37.63	218	T	T	00 47 44.0	
	baz=23,slow=76,SNR=14						
H11N1	WAKE ISLAND Hy	37.64	218	T	T	00 47 43.2	
	baz=23,slow=76,SNR=14						
NVAR	Mina Array Bea	37.87	91	P	P	00 07 59.0	-0.3
	1.0nm,0.6s,baz=293,slow=8.7,SNR=6.0						
TPH	Tonopah	38.75	91	*e*P	P	00 08 09.7	+3.0
	4.5nm,1.1s						
H11S1	WAKE ISLAND Hy	38.82	217	T	T	00 49 19.1	
	baz=22,slow=76,SNR=126						
H11S2	WAKE ISLAND Hy	38.83	217	T	T	00 49 18.8	
	baz=22,slow=76,SNR=86						
H11S3	WAKE ISLAND Hy	38.83	217	T	T	00 49 23.2	
	baz=22,slow=76,SNR=61						
MJAR	Matsushiro Arr	39.51	267	LR	LR	00 23 19.5	
	comp=Z,67nm,21.0s,baz=80,slow=35						
BGU	Big Grassy Mou	39.53	84	*e*P	P	00 08 15.6	+2.4
	9.2nm,1.6s						
R11A	Troy Canyon, C	39.58	89	*e*P	P	00 08 15.3	+1.7
	14nm,1.8s						
TPNV	Topopah Spring	40.07	91	*e*P	P	00 08 19.4	+1.7
DUG	Dugway	40.11	85	*e*P	P	00 08 19.7	+1.7
	3.8nm,0.9s						
BW06	Boulder Array	40.53	79	*e*P	P	00 08 21.8	+0.2
	2.5nm,1.0s						
PDAR	Pinedale Array	40.53	79	P	P	00 08 20.1	-1.4
	1.4nm,0.7s,baz=335,slow=3.9,SNR=14						
PDAR				LR	LR	00 24 40.9	
	comp=Z,38nm,18.2s,baz=286,slow=35						
CCUT	Cedar City	41.44	88	*e*P	P	00 08 30.6	+1.6
	18nm,2.1s						
O20A	White River Ci	42.91	82	*e*P	P	00 08 41.2	+0.2
	44nm,1.8s						
PV04	Paradox Valley	43.60	84	*e*P	P	00 08 47.7	+1.1
PV05	Paradox Valley	43.68	85	*e*P	P	00 08 48.5	+1.2
PV01	Paradox Valley	43.97	84	*e*P	P	00 08 50.0	+0.4
WUAZ	Wupatki	43.98	89	*e*P	P	00 08 52.9	+3.3
	5.0nm,1.0s						
KSRS	Korea Array	45.16	276	P	P	00 08 56.9	-1.9
	0.8nm,0.6s,baz=63,slow=8.9,SNR=3.0						
KSRS				LR	LR	00 27 48.6	
	comp=Z,72nm,18.8s,baz=96,slow=36						
KSAR	Wonju Array Be	45.19	276	P	P	00 08 56.9	-2.2
AGMN	Agassiz Nation	45.25	65	*e*P	P	00 08 59.5	+0.1
	12nm,1.3s						
S22A	4UR Ranch, Cre	45.27	83	*e*P	P	00 09 01.8	+1.7
	10nm,1.8s						
SDCO	Great Sand Dun	46.07	82	*e*P	P	00 09 07.4	+1.0
	5.4nm,1.4s						
TUC	Tucson	46.52	92	*e*P	P	00 09 11.5	+1.8
	18nm,2.0s						
T25A	Trinidad	47.12	82	*e*P	P	00 09 16.1	+1.6
	6.7nm,1.1s						
ANMO	Albuquerque	47.34	86	P	P	00 09 16.6	+0.3
	0.7nm,0.8s,baz=328,slow=13,SNR=3.1						
BNM	Barren Site	47.78	87	*e*P	P	00 09 21.6	+1.9
MSTX	Muleshoe	50.24	84	*e*P	P	00 09 40.0	+1.5
	11nm,1.4s						
SONM	Songino Array	50.93	300	P	P	00 09 42.1	-1.5
	0.2nm,0.4s,baz=20,slow=4.6,SNR=2.9						
SONM				PcP	PcP	00 10 58.5	-1.2
	0.9nm,0.5s,baz=37,slow=2.1,SNR=5.4						
HHC	Hu-ho-hao-te	52.60	291	*e*P	P	00 10 01.4	+5.4
HHC				PP	PP	00 12 02.0	+7.3
HHC				S	S	00 17 23.8	+0.8
HHC				SS	SS	00 21 01.1	+0.4
HHC				PMZ			
	64nm,5.3s						
HHC				LN			
	110nm,16.7s						
HHC				LE			
	120nm,16.5s						
HHC				LZ			
	100nm,16.7s						
TXAR	Lajitas Array	52.94	89	P	P	00 09 59.0	+0.3
	2.0nm,0.6s,baz=299,slow=5.5,SNR=29						
JCT	Junction City	54.47	85	*e*P	P	00 10 10.2	+0.4
	33nm,1.8s						
SCHQ	Schefferville	55.30	43	LR	LR	00 35 02.9	
	comp=Z,55nm,18.0s,baz=326,slow=37						
ARCES	ARCESS Array B	57.52	354	LR	LR	00 35 42.7	
	comp=Z,30nm,20.7s,baz=286,slow=36						
LZH	Lanzhou	60.26	291	*e*P	P	00 10 56.3	+5.6
KURK	Kurchatov	61.96	318	P	P	00 11 01.3	-0.5
KURBB	Kurchatov Arra	62.07	318	P	P	00 11 01.3	-1.2
	0.6nm,0.8s,baz=40,slow=7.5,SNR=6.7						
WMQ	Urumqi	63.14	308	*e*P	P	00 11 16.5	+6.6
WMQ				PMZ			
	6.0nm,0.8s						
WMQ				PMZ			
	46nm,6.2s						
WMQ				LN			
	83nm,20.8s						
WMQ				LE			
	73nm,23.2s						
WMQ				LZ			
	110nm,20.8s						
BVAR	Borovoye Array	63.28	324	P	P	00 11 09.5	-1.1
	0.9nm,0.5s,baz=40,slow=4.7,SNR=6.8						
MKAR	Makanchi Array	63.40	313	P	P	00 11 11.2	-0.4
	0.3nm,0.8s,baz=153,slow=16,SNR=3.1						
CD2	Chengdu	64.06	287	P	P	00 11 18.9	+2.7
CD2				PP	PP	00 13 40.3	+3.6
CD2				S	S	00 19 52.5	-0.2
CD2				SS	SS	00 24 03.4	+2.5
CD2				PMZ			
	60nm,5.1s						
CD2				LN			
	150nm,5.9s						
CD2				LZ			
	150nm,17.7s						
FINES	FINESS Array B	65.47	352	P	P	00 11 23.5	-1.3
	1.3nm,0.8s,baz=19,slow=10,SNR=2.9						
NOA	NORSAR Array B	66.56	360	LR	LR	00 39 27.6	
	comp=Z,13nm,21.6s,baz=320,slow=35						
KMI	Kunming	68.98	284	P	P	00 11 53.3	+5.4
KMI				PMZ			
	8.0nm,0.5s						
AKTO	Aktyubinsk	69.58	330	P	P	00 11 48.5	-2.5
	1.0nm,0.7s,baz=50,slow=9.5,SNR=3.6						
PMG	Port Moresby	72.01	225	P	P	00 12 02.3	-3.8
	9.9nm,0.3s,baz=151,slow=24,SNR=9.2						
SIJI	Sorong	72.50	244	P	P	00 12 07.3	-1.7
	12nm,0.8s,baz=40,slow=3.2,SNR=5.0						
CMAR	Chiang Mai Arr	76.34	282	P	P	00 12 31.0	-0.5
	0.4nm,0.3s,baz=44,slow=9.2,SNR=3.1						
CMAR				LR	LR	00 50 00.3	
	comp=Z,27nm,18.7s,baz=65,slow=39						
GEYT	Alibeck	80.61	324	P	P	00 12 52.6	-2.2
	0.4nm,0.3s,baz=96,slow=2.9,SNR=3.2						
BRTR	Keskin Array B	85.70	342	P	P	00 13 18.4	-2.8
	0.4nm,0.7s,baz=344,slow=9.0,SNR=2.8						
WRA	Warramunga Arr	87.08	231	P	P	00 13 26.2	-1.7
	1.5nm,0.7s,baz=34,slow=5.9,SNR=6.2						
ASAR	Alice Springs	90.48	230	P	P	00 13 40.8	-3.2
	4.6nm,0.3s,baz=36,slow=4.8,SNR=15						
URZ	Urewera	91.36	190	LR	LR	00 44 28.8	
	comp=Z,50nm,21.4s,baz=184,slow=29						
STKA	Stephens Creek	94.36	220	LR	LR	00 49 57.3	
	comp=Z,85nm,21.3s,baz=26,slow=31						
MAW	Mawson	151.04	219	PKPbc	PKPbc	00 20 33.2	-0.6
	1.9nm,0.5s,baz=121,slow=3.3,SNR=17						
BOSA	Boshof	153.47	329	PKPbc	PKPbc	00 20 39.9	-0.8
	1.9nm,0.5s,baz=40,slow=0.2,SNR=9.9						

NEIC 19 00:01:43.6, 52°.84N×169°.51W, h5km, ML3.5(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.42	71	P	Pg	00 01 51.6	-0.1
NIKH				S	Sb	00 01 59.7	-0.4
OKWE	Okmok W'ng Wal	0.99	50	P	Pg	00 02 02.5	-0.1
OKAK	Okmok	1.01	43	P	Pg	00 02 01.3	-1.8
OKRE	Okmok R'deer P	1.06	49	P	Pb	00 02 04.3	-0.2
OKRE				S	Sb	00 02 19.1	+0.5
MSOM	Makushin Julie	1.82	56	P	Pn	00 02 15.7	+0.1
UNV	Unalaska Valle	2.06	60	P	Pn	00 02 19.2	+0.3
UNV				S	Sn	00 02 44.5	-0.5

IDC 19 00:02:15.6±3.6, 6°.12S×149°.88E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.4/44, mbtmp3.6/3, ML1.5/1, Error ellipse: s-maj=149.9km s-min=37.1km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.23	219	Pn	Pn	00 03 21.9	+0.5
	2.1nm,0.3s,baz=119,slow=12,SNR=2.3						
PMG				Sn	Sn	00 04 12.7	+1.0
	3.8nm,0.3s,baz=176,slow=16,SNR=3.2						
WRA	Warramunga Arr	20.41	226	P	P	00 06 54.5	-0.1
	2.7nm,0.6s,baz=52,slow=11,SNR=10						
ASAR	Alice Springs	23.25	220	P	P	00 07 24.8	-0.1
	0.3nm,0.4s,baz=58,slow=12,SNR=4.1						
TORD	Torodi Ar. Bea	147.89	285	PKPbc	PKPbc	00 22 03.1	-0.7
	0.3nm,0.9s,baz=72,slow=2.3,SNR=6.5						

IDC 19 00:04:35.6±0.8, 17°.78S×167°.37E, h0km, mb4.1/12, mb1 4.3/13, mb1mx4.1/44, mbtmp4.1/13, ML3.9/1, MS3.4/5, Ms1 3.4/5, ms1mx3.0/37, Error ellipse: s-maj=24.5km s-min=18.7km az=129.0

ISCJB 19 00:04:37.8±0.6, 17°.98S±0°.06×167°.3E±0°.1, h23km, mb4.2/15, MS3.3/4, Error ellipse: s-maj=14.5km s-min=8.9km az=5.3

NEIC 19 00:04:40.5±0.5, 17°.90S×167°.34E, h35km, mb4.3/4, Error ellipse: s-maj=13.5km s-min=12.0km az=116.0

ISC 19 00:04:38.9±0.6, 18°.00S±0°.07×167°.4E±0°.1, h23km, n26, σ1s73/26, mb4.2/15, MS3.4/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	2.77	183	*e*S	Sn	00 05 50.1	-4.5
DZM	Mont Dzumac	4.15	192	Pn	Pn	00 05 41.4	+0.4
	5.8nm,0.3s,baz=270,slow=20,SNR=40						
DZM				Sn	Sn	00 06 28.0	-0.8
	18nm,0.3s,baz=296,slow=23,SNR=6.9						
HNR	Honiara	11.16	319	LR	LR	00 10 49.9	
	comp=Z,76nm,21.1s,baz=122,slow=34						
CTA	Charters Tower	20.07	261	P	P	00 09 09.3	-1.6
	1.2nm,0.4s,baz=62,slow=19,SNR=1.9						
AFI	Afiamalu	20.45	82	LR	LR	00 15 40.4	
	comp=Z,50nm,19.0s,baz=61,slow=33						
PMG	Port Moresby	21.40	291	LR	LR	00 15 04.8	
	comp=Z,98nm,19.6s,baz=162,slow=30						
URZ	Urewera	21.91	159	P	P	00 09 33.3	+2.7
	13nm,0.9s,baz=315,slow=3.8,SNR=5.0						
STKA	Stephens Creek	27.07	234	P	P	00 10 20.1	+0.2
	11nm,1.1s,baz=69,slow=4.7,SNR=8.2						
STKA				LR	LR	00 20 08.7	
	comp=Z,180nm,18.2s,baz=24,slow=34						
WRA	Warramunga Arr	31.27	261	P	P	00 10 57.9	+0.5
	2.8nm,0.9s,baz=88,slow=8.8,SNR=7.2						
WRA				LR	LR	00 22 15.1	
	comp=Z,138nm,21.1s,baz=135,slow=34						
AS31	Alice Springs	31.74	254	*e*P	P	00 11 01.4	-0.1
ASAR	Alice Springs	31.74	254	P	P	00 11 02.1	+0.6
	2.9nm,0.7s,baz=84,slow=8.2,SNR=21						
FITZ	Fitzroy Crossi	39.62	263	*e*P	P	00 12 09.7	+0.6
	8.7nm,0.7s						
PETK	Petropavlovsk-	71.30	354	P	P	00 15 55.1	-1.2
	1.0nm,0.4s,baz=148,slow=8.5,SNR=3.5						
CMAR	Chiang Mai Arr	76.38	295	P	P	00 16 28.1	+1.1
	1.2nm,0.6s,baz=130,slow=3.9,SNR=7.7						
CHTO	Chiang Mai	76.53	295	*e*P	P	00 16 26.3	-1.4
	3.2nm,0.8s						
MAW	Mawson	78.91	202	P	P	00 16 43.2	+3.0
	2.2nm,1.0s,baz=27,slow=7.8,SNR=4.0						
MAW	Mawson	78.91	202	*e*P	P	00 16 39.5	-0.7
	1.4nm,1.4s						
GTA	Gaotai	84.99	314	*e*P	P	00 17 15.0	+2.2
GTA				pP	pP	00 17 18.8	-1.5
GTA				sP	sP	00 17 22.1	-0.9
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SONM	Songino Array	85.17	324	P	P	00 17 13.9	+0.4
	comp=Z,0.3nm,0.4s,baz=106,slow=3.1,SNR=3.1						
NVAR	Mina Array Bea	89.32	49	P	P	00 17 33.7	-0.2
	comp=Z,0.8nm,0.9s,baz=243,slow=8.0,SNR=3.2						
ILAR	Eielson Array	89.59	18	P	P	00 17 32.4	-1.8
	comp=Z,0.6nm,0.8s,baz=233,slow=5.7,SNR=6.2						
SNAA	Sanae	90.31	183	*e*P	P	00 17 38.6	+0.8
	comp=Z,1.5nm,1.1s						
VNA2	Neumayer--Watz	91.24	182	P	P	00 17 42.9	+0.9
	baz=165,slow=3.7						
VNA1	Neumayer--Stat	91.53	181	P	P	00 17 46.2	+2.8
TXAR	Lajitas Array	97.73	62	P	P	00 18 11.8	-0.9
	comp=Z,0.3nm,0.8s,baz=212,slow=2.9,SNR=3.4						
TORD	Torodi Ar. Bea	165.39	253	PKP	PKPdf	00 24 42.3	-0.2
	comp=Z,1.8nm,1.1s,baz=225,slow=0.5,SNR=4.7						

IDC 19 00:09:30.9±0.8, 52°.79N×169°.56W, h0km, mb3.9/11, mb1 4.2/12, mb1mx3.8/62, mbtmp3.9/12, ML3.9/1, Error ellipse: s-maj=25.2km s-min=15.1km az=167.0

ISCJB 19 00:09:31.4±0.5, 52°.61N±0°.09×169°.51W±0°.08, h10km, mb4.1/13, Error ellipse: s-maj=13.8km s-min=4.2km az=152.2

NEIC 19 00:09:33.1, 52°.71N×169°.46W, h5km, ML4.0(AEIC), After AEIC.

ISC 19 00:09:32.5±0.6, 52°.7N±0°.1×169°.50W±0°.06, h10km, n46, σ1s21/43, mb4.0/13, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.46	58	P	Pb	00 09 42.8	+0.1
NIKH				S	Sb	00 09 50.4	+0.8
OKCE	Okmok Cone E	1.07	49	P	Pg	00 09 53.2	+0.2
OKCE				S	Sn	00 10 10.3	+1.9
OKAK	Okmok	1.09	39	P	Pb	00 09 52.3	-1.2
OKTU	Okmok Mt. Tuli	1.10	53	P	Pb	00 09 53.9	+0.4
MSOM	Makushin Julie	1.88	54	P	Pn	00 10 05.5	+0.9
MCIR	Makushin Cirqu	1.98	51	P	Pn	00 10 07.7	+1.6
MSW	Makushin Switc	2.02	53	P	Pn	00 10 07.4	+0.8
MTBL	Makushin Table	2.10	53	P	Pn	00 10 09.4	+1.7
UNV	Unalaska Valle	2.12	57	P	Pn	00 10 08.1	+0.2
UNV				S	Sn	00 10 35.2	+1.0
AKRB	Akutan Reef Bi	2.49	54	P	Pn	00 10 14.5	+1.5
ZRO	Akutan Zero	2.51	56	P	Pn	00 10 14.9	+1.6
AKGG	Akutan Green G	2.56	54	P	Pn	00 10 15.6	+1.6
AKUT	Akutan	2.64	56	P	Pn	00 10 16.1	+1.1
ATKA	Atka Island	2.92	261	P	Pn	00 10 20.6	+1.7
WESP	Westdahl Peak	3.35	56	P	Pn	00 10 26.6	+1.6
SSBA	Shishaldin	3.79	55	P	Pn	00 10 32.6	+1.7
GSTR	Great Sitkin T	4.07	264	P	Pn	00 10 36.7	+2.0
GSMY	Great Sitkin M	4.08	263	P	Pn	00 10 36.2	+1.4
GSCK	Great Sitkin C	4.14	263	P	Pn	00 10 37.3	+1.5
FALS	False Pass	4.19	57	P	Pn	00 10 37.9	+1.5
SPIA	Saint Paul Isl	4.48	355	P	Pn	00 10 42.4	+2.1
ILAR	Eielson Array	16.70	35	Pn	Pn	00 13 24.4	-1.9
	0.2nm,0.3s,baz=226,slow=12,SNR=13						
DLBC	Dease Lake	22.77	60	P	P	00 14 34.1	-0.6
	14nm,1.2s,baz=70,slow=16,SNR=3.3						
INK	Inuvik	23.09	34	P	P	00 14 37.1	-0.7
	2.3nm,0.4s,baz=232,slow=9.4,SNR=4.4						
YKA	Yellowknife A	30.07	49	P	P	00 15 41.5	+0.1
	0.7nm,0.5s,baz=274,slow=7.5,SNR=4.0						
H11N2	WAKE ISLAND Hy	37.69	218	T	T	00 56 38.6	
	baz=23,slow=76,SNR=29						
H11N3	WAKE ISLAND Hy	37.70	218	T	T	00 56 37.4	
	baz=23,slow=76,SNR=31						
H11N1	WAKE ISLAND Hy	37.71	218	T	T	00 56 43.4	
	baz=23,slow=76,SNR=24						
NVAR	Mina Array Bea	37.75	91	P	P	00 16 48.9	+0.3
	0.7nm,0.7s,baz=308,slow=7.0,SNR=3.7						
H11S1	WAKE ISLAND Hy	38.88	218	T	T	00 58 12.0	
	baz=22,slow=76,SNR=38						
H11S2	WAKE ISLAND Hy	38.89	218	T	T	00 58 10.9	
	baz=22,slow=76,SNR=92						
H11S3	WAKE ISLAND Hy	38.90	218	T	T	00 58 13.1	
	baz=22,slow=76,SNR=30						
MJAR	Matsushiro Arr	39.63	267	P	P	00 17 05.4	+1.3
	1.0nm,0.3s,baz=64,slow=8.3,SNR=8.5						
PDAR	Pinedale Array	40.41	79	P	P	00 17 11.4	+0.5
	1.8nm,0.7s,baz=318,slow=5.4,SNR=17						
SONM	Songino Array	51.05	300	PcP	PcP	00 19 49.3	-1.2
	1.1nm,0.6s,baz=40,slow=2.8,SNR=6.9						
TXAR	Lajitas Array	52.82	89	P	P	00 18 48.4	+0.4
	3.3nm,0.8s,baz=300,slow=5.7,SNR=32						
ARCES	ARCESS Array B	57.55	354	PcP	PcP	00 20 13.3	-1.4
	2.4nm,0.8s,baz=356,slow=4.1,SNR=3.5						
KURK	Kurchatov	62.05	318	P	P	00 19 53.0	+0.3
KURBB	Kurchatov Arra	62.16	318	P	P	00 19 53.0	-0.5
	0.2nm,0.4s,baz=47,slow=7.8,SNR=3.9						
BVAR	Borovoye Array	63.36	324	P	P	00 20 01.1	-0.4
	0.5nm,0.5s,baz=41,slow=13,SNR=3.6						
FINES	FINESS Array B	65.50	352	P	P	00 20 14.8	-0.4
	1.3nm,0.9s,baz=352,slow=12,SNR=4.4						
ESDC	Sonseca Array	87.12	11	P	P	00 22 17.1	-1.3
	0.3nm,0.5s,baz=348,slow=6.0,SNR=4.9						
PSI	Prapat	88.75	273	P	P	00 22 26.2	-0.3
	5.2nm,0.4s,baz=42,slow=7.5,SNR=7.1						
ASAR	Alice Springs	90.57	230	P	P	00 22 34.6	0.0
	5.2nm,0.3s,baz=25,slow=5.0,SNR=5.8						
MAW	Mawson	151.11	219	PKPbc	PKPbc	00 29 23.8	-0.3
	1.6nm,0.9s,baz=133,slow=1.7,SNR=9.2						
BOSA	Boshof	153.54	330	PKPbc	PKPbc	00 29 30.3	-0.8
	1.2nm,0.7s,baz=19,slow=5.3,SNR=5.6						

IDC 19 00:13:22.4±3.6, 36°.26N×70°.87E, h176km±31km, mb3.5/9, mb1 3.5/14, mb1mx3.2/59, mbtmp3.9/14, MS3.3/1, Ms1 3.3/1, ms1mx2.5/32, Error ellipse: s-maj=23.8km s-min=17.9km az=161.0

ISCJB 19 00:13:26.4±0.4, 36°.57N±0°.03×70°.94E±0°.06, h200km, mb3.5/8, Error ellipse: s-maj=7.8km s-min=3.8km az=154.7

NNC 19 00:13:32.7±1.1, 37°.02N×70°.81E, h216km±6km, mb2.9, mpv4.1, Error ellipse: s-maj=11.2km s-min=5.1km az=168.0

ISC 19 00:13:26.6±0.6, 36°.62N±0°.05×71°.00E±0°.07, h200km, n50, σ1s70/53, mb3.7/8, 7C-10D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.78	322	⇓P	Pn	00 14 16.4	+2.6
	99nm,0.3s						
DZET				⇑S	Sn	00 14 51.0	+0.2
	467nm,0.4s						
CEP	Cherat	2.89	165	P	Pn	00 14 18.5	+3.4
CEP				S	Sn	00 14 56.0	+3.0
CHCP	Chirah Chowk	3.49	147	P	Pn	00 14 25.6	+3.4
THW	Thamme Wali	3.87	171	⇓P	Pn	00 14 29.4	+2.6
SFK	Sufi-Kurgan	3.92	29	⇓P	Pn	00 14 31.0	+3.4
	15nm,

comp=E,0.9nm,0.7s,baz=145,slow=23,SNR=4.4
KURBB **Kurchatov Arra** 15.01 19 ⇓P Pn 00 16 48.5 -0.2
comp=E,3.3nm,1.2s
KURBB **Kurchatov Arra** 15.01 19 P P 00 16 49.2 -0.1
comp=E,0.1nm,0.3s,baz=208,slow=11,SNR=7.4
KURK **Kurchatov** 15.12 19 ⇑P P 00 16 50.1 -0.5
comp=E,0.7nm,0.7s
PKIN **Phulchoki** 15.15 122 *e*P Pn 00 16 51.5 +0.5
comp=E,10nm,0.4s
PKI **Pulchoki** 15.17 122 *e*P Pn 00 16 51.5 +0.3
comp=E,18nm,0.6s
RAMN **Ramite** 16.38 122 *e*P P 00 17 04.8 -0.2
comp=E,15nm,0.7s
BVAR **Borovoye Array** 16.41 359 P Pn 00 17 06.8 +1.1
comp=E,0.5nm,0.3s,baz=155,slow=9.3,SNR=6.9
AKTO **Aktyubinsk** 16.68 330 ⇓P Pn 00 17 09.2 +0.4
comp=E,4.3nm,0.9s
AKTO ⇑S S 00 20 08.8 -2.9
comp=E,3.9nm,1.2s
AKTO **Aktyubinsk** 16.68 330 P Pn 00 17 08.6 -0.2
comp=E,0.6nm,0.3s,baz=138,slow=11,SNR=10
TAPN **Taplejung** 16.90 118 *e*P P 00 17 11.9 +1.1
comp=E,14nm,0.6s
ODAN **Odare** 16.98 120 *e*P P 00 17 11.2 -0.4
comp=E,7.6nm,0.5s
ZALV **Zalesovo Beam** 19.81 25 P P 00 17 42.8 +1.2
comp=E,2.8nm,0.4s,baz=219,slow=12,SNR=14
FINES **FINESS Array B** 37.38 326 P P 00 20 19.8 0.0
comp=E,1.3nm,0.4s,baz=128,slow=11,SNR=16
FINES LR LR 00 36 50.6
comp=E,47nm,19.6s,baz=354,slow=37
ARCES **ARCESS Array B** 41.03 338 P P 00 20 50.1 +0.2
comp=E,1.7nm,0.4s,baz=112,slow=7.6,SNR=22
NB2 **NORSAR Subarra** 44.28 323 P P 00 21 16.0 -0.2
comp=Z,0.6nm,0.4s,baz=99,slow=7.9
NOA **NORSAR Array B** 44.28 323 P P 00 21 16.2 +0.1
comp=Z,0.4nm,0.4s,baz=101,slow=7.3,SNR=4.2
TORD **Torodi Ar. Bea** 65.72 269 P P 00 23 47.8 -2.4
comp=Z,1.0nm,0.4s,baz=51,slow=6.1,SNR=49
INK **Inuvik** 73.79 9 P P 00 24 39.0 +0.6
comp=Z,1.3nm,0.5s,baz=348,slow=3.9,SNR=5.5
ILAR **Eielson Array** 74.66 16 P P 00 24 43.4 -0.3
comp=Z,0.4nm,0.7s,baz=328,slow=3.2,SNR=4.6
YKA **Yellowknife Ar** 81.13 3 P P 00 25 19.4 +0.2
comp=Z,0.6nm,0.5s,baz=351,slow=5.5,SNR=4.4
WRA **Warramunga Arr** 82.05 122 P P 00 25 22.9 -1.8
comp=Z,0.3nm,0.5s,baz=322,slow=4.6,SNR=3.3

IDC 19 00:17:01.8±2.3, 6°18S×150°56E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.6/36, mbtmp4.0/4, ML1.7/1, Error ellipse: s-maj=76.8km s-min=34.9km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.65**	**226**	Pn	Pn	00 18 14.3	+0.9
	2.2nm,0.3s,baz=57,slow=17,SNR=3.6						
PMG				Sn	Sn	00 19 09.1	+1.0
	4.3nm,0.3s,baz=183,slow=18,SNR=6.7						
WRA	**Warramunga Arr**	**20.87**	**228**	P	P	00 21 46.1	+0.4
	1.6nm,0.5s,baz=50,slow=10,SNR=5.3						
ASAR	**Alice Springs**	**23.64**	**221**	P	P	00 22 14.6	-0.5
	0.6nm,0.5s,baz=57,slow=9.2,SNR=8.6						
STKA	**Stephens Creek**	**26.91**	**197**	P	P	00 22 44.0	-0.7
	1.2nm,0.6s,baz=38,slow=12,SNR=4.1						
TORD	**Torodi Ar. Bea**	**148.56**	**285**	PKPbc	PKPbc	00 36 51.6	-0.2
	0.4nm,0.5s,baz=60,slow=2.1,SNR=13						

*IDC **19** 00:29:44.5±3.4, 36°16N×71°24E, h45km±29km, mb3.8/12, mb1 3.9/17, mb1mx3.6/43, mbtmp4.0/17, ML3.7/5, MS3.6/1, Ms1 3.6/1, ms1mx2.6/40, Error ellipse: s-maj=28.2km s-min=16.1km az=171.0*
*BJI **19** 00:29:45.8, 36°75N×71°11E, h10km, mb4.1/2, mB4.5/1, ML4.3/3*
*MOS **19** 00:29:49.2±1.3, 36°37N×71°26E, h86km, mb4.3/6, Error ellipse: s-maj=11.6km s-min=5.5km az=90.6*
*ISCJB **19** 00:29:50.1±0.2, 36°41N±0°02×71°34E±0°04, h100km, mb3.9/16, Error ellipse: s-maj=4.4km s-min=2.9km az=161.2*
*NEIC **19** 00:29:51.4±1.0, 36°45N×71°27E, h103km±9km, mb4.0/7, Error ellipse: s-maj=13.0km s-min=8.6km az=138.0*
*NNC **19** 00:29:56.9±2.9, 36°85N×70°83E, h158km±21km, mb3.5, mpv4.4, Error ellipse: s-maj=27.1km s-min=13.6km az=173.0*

ISC 19 00:29:50.9±0.5, 36°39N±0°04×71°24E±0°05, h100km, n110, σ1§87/116, mb4.1/16, 16C-15D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.57**	**225**	*e*Pn	Pn	**00 30 32.8**	**+1.6**
KBL				*e*		00 31 02.6	
KBL	**Kabul**	**2.57**	**225**	*e*Pn	Pn	**00 30 32.8**	**+1.6**
KBL				*e*Sn	Sn	**00 31 02.5**	**+0.5**
CEP	**Cherat**	**2.62**	**168**	⇓P	Pn	**00 30 34.6**	**+2.9**
CEP				S	Sn	**00 31 06.0**	**+2.9**
DZET	**Dzherino**	**3.08**	**322**	⇓P	Pn	**00 30 38.0**	**+0.2**
	72nm,0.3s						
DZET				⇓S	Sn	**00 31 11.7**	**-2.2**
	244nm,0.3s						
DZET	**Dzherino**	**3.08**	**322**	PN	Pn	**00 30 37.9**	**+0.2**
DZET				S	Sn	**00 31 12.0**	**-1.9**
DZET				pmax	pmax		
	comp=Z,72nm,0.3s						
DZET				smax	smax		
	comp=N,244nm,0.3s						
CHCP	**Chirah Chowk**	**3.19**	**148**	P	Pn	**00 30 42.3**	**+3.1**
THW	**Thamme Wali**	**3.61**	**173**	⇓P	Pn	**00 30 47.1**	**+2.2**
SFK	**Sufi-Kurgan**	**4.03**	**26**	⇑P	Pn	00 30 54.4	+3.7
	comp=N,41nm,0.3s						
SFK				⇓S	Sn	**00 31 41.4**	**+4.4**
	comp=N,42nm,0.2s						
SFK	**Sufi-Kurgan**	**4.03**	**26**	PN	Pn	00 30 54.4	+3.7
SFK				S	Sn	**00 31 41.4**	**+4.4**
SFK				pmax	pmax		
	comp=Z,41nm,0.3s						
SFK				smax	smax		
	comp=N,58nm,0.2s						
SARP	**Sargodha**	**4.61**	**165**	P	Pn	**00 30 59.6**	**+1.2**
KSH	**Kashi**	**4.87**	**49**	Pg	Pn	**00 31 00.4**	**-1.5**
KSH				Sn	Sn	00 31 50.3	-6.8
KSH				SMN			
	comp=N,780nm,0.8s						
KSH				SME			
	comp=N,700nm,0.7s						
DLH	**Dalhousie**	**5.48**	**133**	*e*P	Pn	**00 31 10.0**	**-0.3**
DLH				*e*S	Sn	**00 32 11.0**	**-1.1**
AML	**Almayashu**	**6.04**	**18**	P	Pn	**00 31 19.8**	**+1.8**
	SNR=30						
UCH	**Uchtor**	**6.36**	**23**	P	Pn	**00 31 24.3**	**+1.9**
	SNR=60						
KZA	**Kyzart**	**6.47**	**27**	P	Pn	**00 31 25.6**	**+1.6**
	SNR=17						
EKS2	**Erkin-Say**	**6.56**	**17**	P	Pn	**00 31 26.7**	**+1.9**
	SNR=24						
EKS2	**Erkin-Say**	**6.56**	**17**	*e*PN	Pn	**00 31 25.1**	**+0.3**
EKS2				pmax	pmax		
	comp=Z,18nm,0.6s						
EKS2	**Erkin-Say**	**6.56**	**17**	*e*Pn	Pn	**00 31 25.1**	**+0.3**
	comp=Z,18nm,0.6s						
EKS2				*e*Sn	Sn	00 32 22.7	-16
AAK	**Ala-Archa**	**6.72**	**21**	P	Pn	**00 31 29.4**	**+2.4**
	SNR=20						
AAK	**Ala-Archa**	**6.72**	**21**	⇓P	Pn	**00 31 29.1**	**+2.0**
	comp=Z,19nm,0.4s						
AAK				⇓S	Sn	**00 32 40.1**	**-2.1**
	comp=Z,45nm,0.7s						
AAK	**Ala-Archa**	**6.72**	**21**	⇑*e*PN	Pn	**00 31 27.8**	**+0.7**
AAK				pmax	pmax		
	comp=Z,19nm,0.4s						
KK31	**Karatay Array**	**6.73**	**355**	⇑P	Pn	**00 31 28.0**	**+1.0**
	comp=Z,9.1nm,0.3s,baz=176,slow=12,SNR=504						
KK31				S	Sn	**00 32 39.0**	**-3.1**
	comp=Z,69nm,0.6s,baz=184,slow=21,SNR=13						
KK31	**Karatay Array**	**6.73**	**355**	PN	Pn	**00 31 28.0**	**+1.0**
KK31				pmax	pmax		
	comp=Z,34nm,0.3s						
KKAR	**Karatay Array**	**6.73**	**355**	*e*PN	Pn	**00 31 27.9**	**+0.9**
KKAR				pmax	pmax		
	comp=Z,31nm,0.3s						
KKAR	**Karatay Array**	**6.73**	**355**	*e*Pn	Pn	**00 31 27.9**	**+0.9**
	comp=Z,31nm,0.3s						
KKAR				*e*Sn	Sn	00 32 31.5	-11
SDNR	**Sundarnagar**	**6.82**	**134**	*e*P	Pn	**00 31 29.0**	**+0.7**
SDNR				*ex*	x	00 32 41.6	
KBK	**Karagaybulak**	**6.88**	**23**	P	Pn	**00 31 31.6**	**+2.3**
	SNR=14						
ULHL	**Ulahol**	**7.01**	**32**	P	Pn	**00 31 32.8**	**+1.8**
	SNR=6.6						
CHMS	**Chumysh**	**7.13**	**21**	P	Pn	**00 31 34.4**	**+1.9**
	SNR=51						
SMLA	**Simla**	**7.20**	**135**	*i* P	Pn	**00 31 34.2**	**+0.7**
SMLA				*i* S	Sn	**00 32 51.4**	**-2.3**
USP	**Ospenovka**	**7.31**	**19**	P	Pn	**00 31 37.1**	**+2.1**
	SNR=9.2						
TKM2	**Tokmak 2**	**7.33**	**26**	P	Pn	**00 31 37.2**	**+1.8**
	SNR=33						
TKM2	**Tokmak 2**	**7.33**	**26**	⇑P	Pn	**00 31 36.9**	**+1.5**
	comp=Z,11nm,0.5s						
TKM2	**Tokmak 2**	**7.33**	**26**	*e*PN	Pn	**00 31 36.1**	**+0.7**
TKM2				pmax	pmax		
	comp=Z,16nm,0.5s						
TKM2	**Tokmak 2**	**7.33**	**26**	*e*Pn	Pn	**00 31 36.1**	**+0.7**
	comp=Z,16nm,0.5s						
TKM2				*e*Sn	Sn	**00 32 56.0**	**-1.1**
KHET	**Khetri**	**9.15**	**154**	*e*P	Pn	**00 32 01.4**	**+1.4**
KHET				*e*S	Sn	00 33 34.0	-7.2
NDI	**New Delhi**	**9.19**	**145**	*e*P	Pn	**00 32 02.5**	**+1.9**
NDI				*ex*	x	00 33 39.5	
KUDL	**Kundal**	**9.34**	**150**	*e*P	Pn	**00 32 02.5**	**-0.1**
KUDL				*e*S	Sn	**00 33 40.7**	**-5.2**
KUDL				AML	AML	00 33 42.0	
	comp=E,31nm,0.4s						
KUDL				AML	AML	00 33 42.2	
	comp=N,18nm,0.2s						
PDGK	**Podgornoye**	**9.38**	**40**	⇓P	Pn	**00 32 03.7**	**+0.6**
	comp=N,9.4nm,1.0s						
GEYT	**Alibeck**	**10.59**	**282**	P	Pn	00 32 14.5	-5.1
	comp=N,1.4nm,0.3s,baz=105,slow=17,SNR=12						
GEYT				S	Sn	00 34 07.6	-8.5
	comp=N,2.9nm,0.3s,baz=96,slow=15,SNR=7.9						
AGRA	**Agra**	**10.76**	**146**	*e*S	Sn	00 34 14.8	-5.6
AGRA				AML	AML	00 34 21.9	
	comp=E,79nm,0.4s						
AGRA				AML	AML	00 34 24.4	
	comp=N,86nm,0.3s						
DANN	**Dangsing**	**13.27**	**124**	*e*P	Pn	**00 32 53.6**	**-1.9**
MK31	**Makanchi Array**	**13.27**	**35**	P	Pn	**00 32 55.0**	**-0.2**
	comp=N,0.7nm,0.2s,baz=221,slow=13,SNR=73						
MK31	**Makanchi Array**	**13.27**	**35**	*e*P	Pn	**00 32 54.5**	**-0.7**
MK31	**Makanchi Array**	**13.27**	**35**	*e*Pn	Pn	**00 32 54.5**	**-0.7**
MKAR	**Makanchi Array**	**13.27**	**35**	P	Pn	**00 32 53.5**	**-1.6**
	comp=N,0.2nm,0.3s,baz=222,slow=14,SNR=12						
MKAR	**Makanchi Array**	**13.27**	**35**	*i* P	Pn	**00 32 55.7**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KOLN	**Koldanda**	**13.54**	**126**	*e*P	Pn	**00 32 56.9**	**-2.2**
	comp=Z,14nm,0.3s						
GKN	**Gorkha**	**14.08**	**123**	*e*P	Pn	**00 33 03.2**	**-2.8**
	comp=Z,15nm,0.3s						
DMN	**Daman**	**14.65**	**123**	*e*P	Pn	**00 33 12.1**	**-1.3**
	comp=Z,10nm,0.3s						
KKN	**Kakani**	**14.66**	**122**	*e*P	Pn	**00 33 10.9**	**-2.5**
	comp=Z,32nm,0.5s						
PKIN	**Phulchoki**	**14.87**	**122**	*e*P	Pn	**00 33 14.1**	**-2.1**
	comp=Z,18nm,0.3s						
PKI	**Pulchoki**	**14.88**	**122**	*e*P	Pn	**00 33 14.4**	**-2.0**
	comp=Z,21nm,0.5s						
GUN	**Gumba**	**14.99**	**120**	*e*P	Pn	**00 33 16.6**	**-1.3**
	comp=Z,27nm,0.5s						
KURBB	**Kurchatov Arra**	**15.16**	**18**	⇑P	P	**00 33 22.7**	**+0.5**
	comp=Z,6.2nm,0.6s						
KURBB	**Kurchatov Arra**	**15.16**	**18**	P	Pn	**00 33 16.6**	**-2.9**
	comp=Z,0.0nm,0.3s,baz=210,slow=12,SNR=3.8						
KURK	**Kurchatov**	**15.27**	**18**	⇓P	P	**00 33 23.2**	**-0.2**
	comp=Z,2.3nm,0.8s						
KURK	**Kurchatov**	**15.27**	**18**	P	P	**00 33 22.2**	**-1.2**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**15.27**	**18**	*e*Pn	Pn	**00 33 20.8**	**-0.1**
	comp=Z,4.5nm,0.7s						
KURK				*e*S	Sn	**00 36 08.0**	**-1.3**
AB31	**Akbulak array**	**15.27**	**331**	⇓P	Pn	**00 33 20.1**	**-0.7**
	comp=Z,7nm,0.5s,baz=170,slow=11,SNR=83						
AB31				⇓S	Sn	00 35 57.8	-12
	comp=Z,11nm,0.7s,baz=146,slow=22,SNR=21						
AB31	**Akbulak array**	**15.27**	**331**	P	Pn	**00 33 19.5**	**-1.3**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.2s						
ABKAR	**Akbulak array**	**15.27**	**331**	*e*Pn	Pn	**00 33 18.6**	**-2.2**
	comp=Z,3.6nm,0.4s						
ABKAR				*e*S	Sn	00 35 51.4	-18
RAMN	**Ramite**	**16.09**	**121**	*e*P	Pn	**00 33 29.8**	**-1.8**
	comp=Z,28nm,0.6s						
TAPN	**Taplejung**	**16.62**	**118**	*e*P	Pn	**00 33 37.9**	**-0.3**
	comp=Z,43nm,0.7s						
BVA0	**Borovoye Array**	**16.64**	**358**	P	Pn	**00 33 36.9**	**-1.0**
	comp=Z,2.4nm,0.5s,baz=221,slow=42,SNR=29						
BVA0				⇓S	Sn	00 36 31.8	-11
	comp=Z,3.4nm,0.9s,baz=169,slow=24,SNR=5.9						
BVA0	**Borovoye Array**	**16.64**	**358**	P	Pn	**00 33 36.8**	**-1.0**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BVAR	**Borovoye Array**	**16.64**	**358**	P	Pn	**00 33 37.6**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=166,slow=13,SNR=22						
BVAR				S	Sn	00 36 32.0	-10
	comp=Z,0.4nm,0.3s,baz=166,slow=24,SNR=6.9						
BRVK	**Borovoye**	**16.68**	**358**	⇓P	P	**00 33 38.7**	**-0.2**
	comp=Z,5.2nm,0.5s						
BRVK				⇑S	Sn	00 36 33.1	-10
	comp=Z,3.1nm,0.7s						
BRVK	**Borovoye**	**16.68**	**358**	*c i*P	P	**00 33 40.7**	**+1.7**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BRVK	**Borovoye**	**16.68**	**358**	*e*Pn	Pn	**00 33 35.9**	**-2.4**
	comp=Z,5.1nm,0.6s						
ODAN	**Odare**	**16.70**	**120**	*e*P	Pn	**00 33 38.5**	**-0.5**
	comp=Z,24nm,0.6s						
AKTO	**Aktyubinsk**	**16.97**	**330**	⇑P	Pn	**00 33 41.9**	**0.0**
	comp=Z,4.5nm,0.9s						
AKTO				⇑S	Sn	00 36 37.7	-13
	comp=Z,11nm,0.9s						
AKTO	**Aktyubinsk**	**16.97**	**330**	P	Pn	**00 33 42.0**	**0.0**
	comp=Z,0.5nm,0.3s,baz=163,slow=8.0,SNR=12						
AKTO				S	Sn	00 36 38.4	-12
	comp=Z,0.3nm,0.3s,baz=18,slow=20,SNR=4.8						
ZAA0	**Zalesovo Array**	**19.93**	**24**	*e*P	P	**00 34 13.2**	**-1.4**
ZALV	**Zalesovo Beam**	**19.93**	**24**	P	P	**00 34 15.1**	**+0.5**
	comp=Z,9.7nm,0.4s,baz=214,slow=9.7,SNR=53						
NVS	**Novosibirsk**	**20.21**	**20**	*i* P	P	**00 34 17.7**	**+0.1**
ARU	**Arti**	**21.80**	**341**	*d i*P	P	**00 34 36.9**	**+2.4**
ARU						00 34 59.8	
ARU				S	S	00 38 37.1	+7.6
ARU				SS	**SnSn**	**00 39 02.7**	**-0.9**
ARU				pmax	pmax		
	comp=Z,13nm,1.2s						
ARU	**Arti**	**21.80**	**341**	*e*P	P	**00 34 34.5**	**0.0**
	comp=Z,5.4nm,0.6s						
KBZ	**Khabaz**	**22.82**	**297**	P	P	**00 34 45.8**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=137,slow=3.4,SNR=3.9						
KIV	**Kislovodsk**	**23.01**	**298**	*e*P	P	**00 34 46.2**	**-1.0**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KIV	**Kislovodsk**	**23.01**	**298**	*e*P	P	**00 34 46.2**	**-1.0**
	comp=Z,3.7nm,0.7s						
SONM	**Songino Array**	**28.24**	**55**	P	P	**00 35 33.4**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=270,slow=8.6,SNR=1.9						
OBN	**Obninsk**	**30.15**	**319**	⇑*e*P	P	**00 35 52.9**	**+1.9**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.6s						
OBN				MLR	MLR		
	comp=Z,42nm,22.0s						
HHC	**Hu-ho-hao-te**	**31.62**	**69**	*e*P	P	00 36 14.6	+10
HHC				PP	**PP**	**00 37 22.1**	**+4.7**
HHC				S	S	00 41 24.3	+18
HHC				SS	**SS**	**00 43 19.1**	**-6.2**
HHC	**Hu-ho-hao-te**	**31.62**	**69**	ScS	ScS	00 46 40.3	+14
HHC				pmax	pmax		
	comp=Z,27nm,1.0s						
HHC				pmax	pmax		
	comp=Z,59nm,5.4s						
HHC				LR	LR		
	comp=N,84nm,12.0s						
HHC				LR	LR		
	comp=E,81nm,13.5s						
HHC				LR	LR		
	comp=Z,76nm,12.6s						
AKASG	**Malin Array Be**	**33.16**	**309**	P	P	**00 36 17.6**	**0.0**
	comp=Z,2.3nm,0.7s,baz=81,slow=7.1,SNR=6.4						
AKASG	**Malin Array Be**	**33.16**	**309**	*ce*P	P	**00 36 19.2**	**+1.6**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KIEV	**Kiev**	**33.17**	**309**	*de*P	P	**00 36 19.3**	**+1.7**
PLOR	**Plostina**	**34.50**	**300**	⇑*i*P	P	00 36 33.1	+3.8
MLR	**Muntele Rosu**	**35.00**	**299**	⇑*i*P	P	00 36 37.9	+4.2
BURAR	**Bucovina Array**	**35.51**	**303**	⇑*i*P	P	**00 36 40.5**	**+2.5**
DRGR		**37.22**	**302**	⇑*i*P	P	**00 36 51.5**	**-1.0**
FINES	**FINESS Array B**	**37.38**	**326**	P	P	**00 36 57.0**	**+1.0**
	comp=Z,1.9nm,0.6s,baz=109,slow=10,SNR=10						
FINES	**FINESS Array B**	**37.68**	**326**	*i* P	P	**00 36 58.2**	**+2.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KRLC	**Kraliky**	**41.06**	**307**	*e*P	P	**00 37 27.0**	**+2.5**
KRLC	**Kraliky**	**41.06**	**307**	*e*P	P	**00 37 27.0**	**+2.5**
ARCES	**ARCESS Array B**	**41.32**	**338**	P	P	**00 37 28.4**	**+2.1**
	comp=Z,2.7nm,0.6s,baz=111,slow=6.8,SNR=10.0						
DPC	**Dobruska-Polom**	**41.35**	**307**	*e*P	P	**00 37 26.1**	**-0.7**
DPC				*ex*	x	00 37 29.7	
DPC	**Dobruska-Polom**	**41.35**	**307**	*e*P	P	**00 37 26.1**	**-0.7**
BRG	**Berggiesshubel**	**42.84**	**308**	*e*P	P	**00 37 41.5**	**+2.7**
	comp=Z,4.2nm,1.0s						
BRG	**Berggiesshubel**	**42.84**	**308**	*e*P	P	**00 37 41.5**	**+2.7**
BRG				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GERES	**GERESS Array B**	**43.15**	**305**	P	P	**00 37 41.8**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=106,slow=7.2,SNR=3.5						
NB2	**NORSAR Subarra**	**44.58**	**323**	P	P	**00 37 53.6**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.58**	**323**	P	P	**00 37 53.9**	**+1.2**
	comp=Z,1.8nm,0.6s,baz=96,slow=7.8,SNR=7.6						
MSHR	**Mys Shultsa**	**45.82**	**63**	⇑*e*P	P	00 38 14.5	+12
JNU	**Nakatsue**	**48.43**	**75**	LR	LR	01 00 18.5	
	comp=Z,68nm,19.8s,baz=140,slow=38						
TORD	**Torodi Ar. Bea**	**65.91**	**269**	P	P	**00 40 25.2**	**-1.1**
	comp=Z,1.8nm,0.7s,baz=52,slow=5.2,SNR=18						
ILAR	**Eielson Array**	**74.83**	**16**	P	P	**00 41 19.6**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=313,slow=4.4,SNR=9.1						
YKA	**Yellowknife Ar**	**81.34**	**3**	P	P	**00 41 56.3**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=353,slow=5.4,SNR=7.0						
ASAR	**Alice Springs**	**84.03**	**125**	P	P	**00 42 11.2**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=306,slow=5.0,SNR=7.1						

IDC 19 00:46:06.9±4.0, 5°89S×150°44E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.3/28, mbtmp3.3/2, Error ellipse: s-maj=176.5km s-min=46.3km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.98**	**227**	P	P	00 50 51.9	-0.1
	0.9nm,0.7s,baz=52,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**23.79**	**220**	P	P	00 51 21.1	-0.4
	0.3nm,0.3s,baz=56,slow=8.7,SNR=5.8						
TORD	**Torodi Ar. Bea**	**148.37**	**285**	PKPbc	PKPbc	01 05 56.0	-0.4
	0.2nm,0.3s,baz=90,slow=2.7,SNR=12						

IDC 19 00:46:44.0±4.0, 5°83S×150°51E, h0km, mb3.3/2, mb1 3.7/2, mb1mx3.3/28, mbtmp3.4/2, Error ellipse: s-maj=176.8km s-min=46.9km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.07**	**227**	P	P	00 51 30.1	+0.1
	1.4nm,0.6s,baz=52,slow=10,SNR=5.2						
ASAR	**Alice Springs**	**23.88**	**220**	P	P	00 51 59.1	-0.3
	0.2nm,0.3s,baz=57,slow=8.7,SNR=3.0						
TORD	**Torodi Ar. Bea**	**148.42**	**286**	PKPbc	PKPbc	01 06 33.1	-0.5
	0.3nm,0.3s,baz=97,slow=2.7,SNR=12						

TRN 19 00:51:40.3, 15°06N×60°51W, h30km, MD3.7, M2.8(FDF), 2C-3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BVM	**Bellevue**	**0.62**	**239**	⇑*e*P	Pn	00 51 54.7	+1.4
MVM	**Montagne Vaucl**	**0.62**	**217**	⇑*e*P	Pn	00 51 54.2	+1.0
LPMF	**Morne Lapointe**	**0.65**	**223**	⇓*e*P	Pn	00 51 54.3	+0.8
ZAM	**Aeronautique**	**0.70**	**226**	⇓*e*P	Pn	00 51 55.1	+1.0
FDF	**Fort de France**	**0.70**	**243**	*e*P	Pn	00 51 55.5	+1.2
FDF				*e*S	Sn	00 52 07.0	+2.9
TRMF	**Trois Ilets**	**0.74**	**225**	⇓*e*P	Pn	00 51 55.7	+1.0
BBL	**Barber's Block**	**1.04**	**297**	*e*P	Pb	00 52 01.0	+1.3
MGG	**Marie-Galante**	**1.16**	**318**	*e*P	Pb	00 52 01.7	0.0
TBG	**Guadaloupe-3**	**1.35**	**306**	*e*P	Pb	00 52 04.4	-0.6
DEG	**La Desirade**	**1.36**	**337**	*e*P	Pn	00 52 04.1	+0.8
DEG				*e*S	Sb	00 52 23.4	+1.2
MCLT	**Moule a Chique**	**1.40**	**197**	*e*P	Pb	00 52 05.2	-0.7
MCLT				*e*S	Sb	00 52 23.8	+0.3
DOG	**Dongo Capester**	**1.44**	**312**	*e*P	Pb	00 52 06.1	-0.5
MLG	**Mont-d'or**	**1.53**	**311**	*e*P	Pb	00 52 08.1	0.0
SVV	**Soufriere Volc**	**1.86**	**202**	*e*P	Pn	00 52 11.5	+1.3
SVV				*e*S	Sb	00 52 35.6	-0.9
SVB	**Belmont**	**1.92**	**202**	*e*P	Pn	00 52 12.1	+1.2
SVB				*e*S	Sn	00 52 36.0	+1.9
FCV	**Fort Charlotte**	**2.02**	**201**	*e*P	Pb	00 52 14.5	-1.8
FCV				*e*S	Sb	00 52 39.5	-1.6

*GUC **19** 01:00:04.5±0.3, 20°55S×70°47W, h40km±1km, ML5.0*
*NEIC **19** 01:00:04.0, 20°55S×70°47W, h40km, mb4.7/54, After GUC.*
NEIC Felt [III] at Alto Hospicio, Iquique, Pica and Pozo Almonte; [II] at Camina and Huara.
*ISCJB **19** 01:00:07.4±0.1, 20°46S±0°03×70°17W±0°04, h58km, mb4.7/69, MS4.2/9, Error ellipse: s-maj=6.1km s-min=2.9km az=156.7*
*IDC **19** 01:00:09.8±1.5, 20°37S×70°14W, h60km±13km, mb4.2/16, mb1 4.3/21, mb1mx4.2/31, mbtmp4.4/21, MS4.2/14, Ms1 4.2/14, ms1mx3.8/31, Error ellipse: s-maj=17.0km s-min=9.9km az=76.0*
*BJI **19** 01:00:09.4, 20°40S×70°20

LCO	Las Campanas	8.46	183	Pn	Pn	01 02 07.8	-1.5	
LCO				eS	Sn	01 03 50.8	+7.4	
SIV	San Ignacio	9.81	64	P	Pn	01 02 26.8	-0.8	
	comp=E,12nm,0.3s,baz=268,slow=10,SNR=241							
SIV				LR	LR	01 06 56.0		
	comp=E,1µm,19.8s,baz=249,slow=42							
NNA	Nana	10.60	322	P	Pn	01 02 38.0	-0.4	
	comp=E,1.7nm,0.3s,baz=243,slow=8.7,SNR=5.6							
NNA				LR	LR	01 06 27.1		
	comp=E,484nm,20.4s,baz=160,slow=36							
NNA	Nana	10.60	322	eP	Pn	01 02 33.9	-4.5	
NNA				eS	Sn	01 04 27.3	-8.4	
CFAA	Coronel Fontan	11.18	171	P	Pn	01 02 49.7	+3.4	
	comp=E,0.3nm,0.3s,baz=344,slow=13,SNR=15							
CPUP	Villa Florida	13.18	118	P	Pn	01 03 12.7	-0.9	
	comp=E,0.5nm,0.3s,baz=295,slow=10,SNR=9.6							
CPUP				LR	LR	01 09 15.1		
	comp=E,878nm,19.8s,baz=296,slow=41							
CPUP	Villa Florida	13.18	118	eP	Pn	01 03 12.4	-1.1	
	comp=E,0.3nm,0.8s							
CPUP				eS	Sn	01 05 48.2	+10	
SAML	Samuel	13.38	32	eP	Pn	01 03 13.1	-3.3	
SAML				eS	Sn	01 05 41.7	-1.8	
TRQA	Tornquist	18.88	159	eP	P	01 04 24.5	-0.3	
	comp=E,14nm,0.8s							
BB16B	Bebedouro	20.25	95	eP	P	01 04 39.4	-0.6	
BB16B				i		01 04 41.9		
BB16B				i		01 04 47.1		
BB16B				i		01 04 51.3		
BB16B				i		01 05 01.8		
BDFB	Brasilia	21.67	81	P	P	01 04 55.2	-0.1	
	comp=E,10nm,0.8s,baz=266,slow=11,SNR=7.5							
BDFB				LR	LR	01 14 45.1		
	comp=E,2µm,19.7s,baz=253,slow=41							
PTGA	Pitinga	22.09	28	P	P	01 04 57.8	-1.9	
	comp=E,43nm,0.5s,baz=210,slow=13,SNR=40							
OTAV	Otavalo	22.15	338	eP	P	01 04 58.3	-2.5	
	comp=E,14nm,0.9s							
ROSC	El Rosal	25.55	351	P	P	01 05 31.8	-1.3	
	comp=E,3.9nm,0.6s,baz=87,slow=15,SNR=5.6							
ROSC				LR	LR	01 16 07.1		
	comp=E,287nm,20.8s,baz=188,slow=38							
ROSC	El Rosal	25.55	351	eP	P	01 05 32.5	-0.6	
SDV	Santo Domingo	29.23	359	eP	P	01 06 04.4	-1.6	
	comp=E,4.7nm,0.6s							
GRGR	Grenville	33.54	15	eP	P	01 06 40.7	-2.9	
	comp=E,37nm,0.7s							
FDF	Fort de France	36.16	15	eP	P	01 07 03.7	-2.6	
	comp=E,108nm,1.3s							
RCBR	Riachuelo	36.38	71	P	P	01 07 07.0	-1.2	
	comp=E,24nm,1.1s,baz=238,slow=8.1,SNR=9.6							
RCBR	Riachuelo	36.38	71	eP	P	01 07 08.1	-0.1	
	comp=E,51nm,1.4s							
CELP	Cerrillos	38.53	6	eP	P	01 07 24.3	-2.0	
TEIG	Tepich	44.19	335	P	P	01 08 12.7	+0.2	
	comp=E,0.5nm,0.5s,baz=348,slow=22,SNR=7.4							
HKT	Hockley	55.91	333	eP	P	01 09 40.5	-0.7	
	comp=E,5.7nm,1.0s							
633A	Saathoff Ranch	56.99	330	P	P	01 09 49.4	+0.3	
	baz=57,SNR=5.6							
NATX	Nacogdoches	57.02	335	eP	P	01 09 50.6	+1.5	
	comp=E,27nm,1.0s							
CPCT	Cooper Cave	57.30	346	P	P	01 09 48.9	-2.1	
632A	Uvalde	57.32	329	P	P	01 09 51.9	+0.6	
	baz=58,SNR=5.3							
TKL	Tuckaleechee C	57.33	347	LR	LR	01 35 00.8		
	comp=E,85nm,21.0s,baz=128,slow=37							
631A	Perdido Creek	57.62	329	P	P	01 09 53.4	-0.1	
	baz=58,SNR=6.2							
OXF	Oxford	57.69	341	eP	P	01 09 52.9	-0.9	
	comp=E,22nm,1.0s							
433A	Art	58.04	331	P	P	01 09 56.5	+0.1	
	baz=58,SNR=8.0							
531A	Rocksprings	58.23	329	P	P	01 09 57.8	+0.1	
	baz=58,SNR=6.3							
431A	Sonora	58.69	329	P	P	01 10 01.2	+0.2	
	baz=59,SNR=5.2							
WVT	Waverly	58.76	343	eP	P	01 09 59.2	-2.0	
	comp=E,7.9nm,0.7s							
332A	Millersview	58.87	331	P	P	01 10 01.9	-0.2	
	baz=59,SNR=8.6							
233A	Rising Star	59.02	332	P	P	01 10 03.3	+0.1	
	baz=59,SNR=6.2							
Z36A	Blue Ridge	59.05	334	P	P	01 10 03.3	0.0	
	baz=59,SNR=5.4							
MIAR	Mount Ida	59.10	338	P	P	01 10 03.5	-0.1	
	baz=59,SNR=10							
MIAR	Mount Ida	59.10	338	eP	P	01 10 02.0	-1.6	
	comp=E,11nm,0.9s							
331A	San Angelo	59.12	330	P	P	01 10 03.9	0.0	
	baz=59							
TXAR	Lajitas Array	59.13	326	P	P	01 10 03.2	-0.9	
	comp=E,0.4nm,0.5s,baz=157,slow=8.5,SNR=8.4							
TXAR				LR	LR	01 32 50.7		
	comp=E,50nm,19.3s,baz=0.0,slow=33							
232A	Coleman	59.25	331	P	P	01 10 04.6	-0.2	
	baz=59,SNR=6.4							
429A	Davenport Ranc	59.27	328	P	P	01 10 04.8	-0.2	
	baz=59,SNR=5.5							
Y37A	Hugo	59.35	336	P	P	01 10 05.9	+0.5	
	baz=60,SNR=5.8							
Z35A	Perchaven, San	59.44	334	P	P	01 10 06.5	+0.4	
	baz=60							
133A	Hamilton Ranch	59.53	332	P	P	01 10 07.1	+0.4	
	baz=60							
Y36A	Durant	59.55	335	P	P	01 10 07.3	+0.6	
	baz=60							
330A	Mertzon	59.56	329	P	P	01 10 07.1	+0.1	
	baz=60							
231A	Bronte	59.60	330	P	P	01 10 07.3	+0.2	
	baz=60							
X38A	Whitesboro	59.66	337	P	P	01 10 08.1	+0.5	
	baz=60,SNR=11							
RKT	Rikitea	59.71	255	eS	S	01 18 17.2	+2.2	
	comp=E,320nm,26.8s							
RKT				eLR	LR	01 27 45.1		
	comp=E,411nm,28.2s							
Z34A	Collier Ranch,	59.75	333	P	P	01 10 08.0	-0.2	
	baz=60							
X37A	Clayton	59.80	336	P	P	01 10 08.5	0.0	
	baz=60,SNR=9.8							
Y35A	Marietta	59.85	334	P	P	01 10 08.9	+0.1	
	baz=60							
ABTX	Abilene, Hawle	59.87	331	P	P	01 10 08.9	-0.2	
	baz=60,SNR=7.1							
ABTX	Abilene, Hawle	59.87	331	eP	P	01 10 07.7	-1.3	
	comp=E,15nm,1.0s							
W38A	Poteau	59.91	337	P	P	01 10 09.0	-0.2	
	baz=60,SNR=7.7							
329A	Wagon Wheel Ra	60.02	329	P	P	01 10 10.1	-0.1	
	baz=60							
Z33A	Whitaker Ranch	60.04	333	P	P	01 10 10.2	0.0	
	baz=60							
PBMO	Poplar Bluff	60.10	341	eP	P	01 10 09.4	-1.1	
	comp=E,15nm,1.3s							
X36A	Centrahoma	60.16	335	P	P	01 10 10.6	-0.4	
	baz=60							
Y34A	Reagan Ranch,	60.19	334	P	P	01 10 11.3	+0.1	
	baz=60,SNR=7.6							
131A	Roby	60.25	331	P	P	01 10 11.3	-0.3	
	baz=60							
X35A	Drake	60.26	335	P	P	01 10 11.1	-0.5	
	baz=60,SNR=6.7							
W37A	Quinton	60.30	336	P	P	01 10 12.1	+0.2	
	baz=60,SNR=11							
229A	Bryant Ranch,	60.33	329	P	P	01 10 11.6	-0.6	
	baz=60							
Z32A	Haskell	60.37	332	P	P	01 10 12.0	-0.5	
	baz=61							
130A	Snyder	60.45	330	P	P	01 10 12.8	-0.2	
	baz=61							
V38A	Canehill	60.58	338	P	P	01 10 13.2	-0.6	
	baz=61,SNR=14							
Y33A	Hilltop Ranch,	60.60	333	P	P	01 10 13.2	-0.8	
	baz=61							
W36A	Wetumka	60.61	336	P	P	01 10 13.3	-0.7	
	baz=61,SNR=7.1							
Z31A	Sharp Cattle R	60.68	331	P	P	01 10 14.3	-0.3	
	baz=61,SNR=7.4							
X34A	Smith Ranch, M	60.78	334	P	P	01 10 15.2	0.0	
	baz=61							
228A	UT Block 9, Go	60.83	329	P	P	01 10 15.3	-0.4	
	baz=61							
V37A	Hulbert	60.86	337	P	P	01 10 15.0	-0.7	
	baz=61,SNR=5.3							
W35A	Tecumseh	60.88	335	P	P	01 10 15.3	-0.5	
	baz=61							
129A	Stewart Farms,	60.90	330	P	P	01 10 16.1	0.0	
	baz=61							
Y32A	R-V Farms, Ver	60.95	332	P	P	01 10 15.9	-0.5	
	baz=61							
X33A	Lawton	61.01	333	P	P	01 10 15.6	-1.2	
	baz=61							
V36A	Jenks	61.07	336	P	P	01 10 16.9	-0.2	
	baz=61,SNR=9.4							
U38A	Gravette	61.09	338	P	P	01 10 17.1	-0.2	
	baz=61							
Z30A	Sanderson Ranc	61.10	331	P	P	01 10 17.4	-0.1	
	baz=61,SNR=9.0							
TUL1	Tulsa	61.13	336	P	P	01 10 17.7	+0.2	
	baz=61							
TUL1	Tulsa	61.13	336	eP	P	01 10 16.3	-1.2	
	comp=E,22nm,1.2s							
128A	Castleberry Fa	61.19	329	P	P	01 10 17.6	-0.5	
	baz=61							
X32A	Elmer	61.24	333	P	P	01 10 18.0	-0.3	
	baz=61							
SSPA	Standing Stone	61.27	353	eP	P	01 10 17.9	-0.4	
	comp=E,10nm,1.4s							
Y31A	Rekieta Farm,	61.27	332	P	P	01 10 18.7	+0.1	
	baz=62							
W34A	Bridge Creek,	61.31	334	P	P	01 10 19.0	+0.2	
	baz=62							
U37A	Salina	61.32	337	P	P	01 10 18.3	-0.5	
	baz=62,SNR=7.2							
Z29A	Hungry Hill Ra	61.34	330	P	P	01 10 19.2	0.0	
	baz=62							
V35A	Meyer Ranch, C	61.40	335	P	P	01 10 18.5	-0.8	
	baz=62							
W33A	Caddo, Fort Co	61.52	334	P	P	01 10 20.3	+0.1	
	baz=62,SNR=5.1							
VNA1	Neumayer--Stat	61.61	160	P	P	01 10 22.4	+2.0	
Z28A	Tucker Farm, M	61.69	330	P	P	01 10 21.0	-0.5	
	baz=62							
X31A	McDonald Ranch	61.72	332	P	P	01 10 21.3	-0.2	
	baz=62,SNR=5.9							
W32A	Sentinel	61.82	333	P	P	01 10 21.9	-0.3	
	baz=62,SNR=7.0							
Y29A	Porterfield Fa	61.83	331	P	P	01 10 22.3	-0.1	
	baz=62,SNR=5.6							
T37A	Cheneyville 18	61.89	338	P	P	01 10 22.2	-0.4	
	baz=62,SNR=15							
U35A	Pawnee	61.89	336	P	P	01 10 22.6	-0.1	
	baz=62,SNR=6.5							
X30A	Coker Ranch, T	61.95	332	P	P	01 10 22.8	-0.4	
	baz=62							
VNA2	Neumayer--Watz	61.97	161	P	P	01 10 23.7	+0.9	
	baz=298,slow=7.2							
V33A	Lossen Ranch,	62.02	334	P	P	01 10 23.4	-0.1	
	baz=62							
Y28A	McKinney Farm,	62.13	330	P	P	01 10 23.7	-0.7	
	baz=62							
BRYW	Bryant College	62.14	359	eP	P	01 10 24.8	+0.5	
	comp=E,37nm,0.7s							
T36A	Boggs Farm, Ca	62.18	337	P	P	01 10 24.5	0.0	
	baz=62,SNR=5.6							
V32A	Arapaho	62.25	334	P	P	01 10 24.9	-0.2	
	baz=62							
T35A	Sooner Cattle	62.28	336	P	P	01 10 25.1	-0.2	
	baz=62							
X29A	Tulia	62.33	331	P	P	01 10 25.4	-0.3	
	baz=62							
S37A	Fort Scott	62.42	338	P	P	01 10 26.0	-0.2	
	baz=63,SNR=6.8							
MSTX	Muleshoe	62.43	330	P	P	01 10 26.5	0.0	
	baz=63,SNR=6.5							
MSTX	Muleshoe	62.43	330	eP	P	01 10 26.0	-0.5	
	comp=E,16nm,1.0s							
U33A	Lingo Farm, Me	62.48	335	P	P	01 10 25.9	-0.7	
	baz=63							
SFIN	Scholer Farm	62.60	346	P	P	01 10 25.6	-1.6	
	baz=63							
X28A	Dimmitt	62.62	331	P	P	01 10 27.2	-0.5	
	baz=63							
T34A	McClaskey Farm	62.63	336	P	P	01 10 27.3	-0.3	
	baz=63							
S36A	Lake Cedric, C	62.66	338	P	P	01 10 27.3	-0.5	
	baz=63,SNR=6.7							
U32A	Winter Ranch,	62.80	334	P	P	01 10 28.5	-0.2	
	baz=63							
S35A	Otter Creek Ra	62.89	337	P	P	01 10 28.9	-0.4	
	baz=63,SNR=6.1							
R37A	Teagarden Farm	62.92	338	P	P	01 10 28.9	-0.6	
	baz=63							
TRY	Troy	63.02	357	eP	P	01 10 30.2	+0.2	
	comp=E,28nm,1.1s							
R36A	Gordon, Harris	63.17	338	P	P	01 10 30.8	-0.3	
	baz=63							
S34A	Willow Spring	63.20	336	P	P	01 10 31.2	-0.1	
	baz=63							
T32A	Huddler Ranch,	63.45	335	P	P	01 10 33.9	+0.8	
	baz=64							
SNAA	Sanae	63.60	161	eP	P	01 10 34.0	+0.3	
	comp=E,4.4nm,1.1s							
V28A	Channing	63.65	331	P	P	01 10 35.0	+0.5	
	baz=64							
R34A	Isabella, Hill	63.78	337	P	P	01 10 35.2	0.0	
	baz=64							
Q34A	Chapman	64.21	337	P	P	01 10 37.5	-0.5	
	baz=64							
P36A	Good Intent, A	64.22	339	P	P	01 10 37.4	-0.7	
	baz=64							
R32A	Long Quarter,	64.44	335	P	P	01 10 39.8	+0.2	
	baz=65							
S30A	Montezuma	64.48	334	P	P	01 10 40.3	+0.5	
	baz=65							
U27A	Thompson Grove	64.48	331	P	P	01 10 40.0	+0.1	
	baz=65							
S29A	Ulysses	64.73	333	P	P	01 10 42.0	+0.5	
	baz=65							
Q32A	Meitler Ranch,	64.88	336	P	P	01 10 42.7	+0.4	
	baz=65							
LAZ	Ladron	64.93	327	eP	P	01 10 43.6	+0.6	
	comp=E,1.5nm,1.2s							
S28A	Manter	65.04	333	P	P	01 10 43.7	+0.2	
	baz=65							
T26A	Comanche Natio	65.44	331	P	P	01 10 46.8	+0.5	
	baz=66							
O33A	Hebron	65.46	337	P	P	01 10 46.2	0.0	
	baz=66							
N35A	Tabor	65.48	339	P	P	01 10 46.7	+0.5	
	baz=66							
Q30A	Quinter	65.52	335	P	P	01 10 47.0	+0.4	
	baz=66							
R28A	Tribune	65.64	333	P	P	01 10 47.5	+0.1	
	baz=66							
P31A	Stockton	65.65	336	P	P	01 10 47.6	+0.2	
	baz=66							
Q29A	Oakley	65.75	334	P	P	01 10 48.4	+0.3	
	baz=66							
S26A	Kim	65.76	331	P	P	01 10 48.6	+0.3	
	baz=66							
T25A	Trinidad	65.79	331	P	P	01 10 49.0	+0.5	
	baz=66							
Q28A	Sharon Springs	66.25	334	P	P	01 10 51.5	+0.2	
	baz=66							
R26A	Arlington	66.31	332	P	P	01 10 52.0	+0.3	
	baz=66							
SDCO	Great Sand Dun	66.79	330	P	P	01 10 56.0	+1.0	
	baz=67							
SDCO	Great Sand Dun	66.79	330	eP	P	01 10 55.2	+0.1	
	comp=E,8.7nm,1.1s							
S22A	4UR Ranch, Cre	67.42	329	P	P	01 10 60.0	+1.0	
	baz=68							
Q24A	Divide	67.61	331	P	P	01 11 01.1	+0.9	
	baz=68							
MVCO	Mesa Verde	67.81	328	P	P	01 11 02.0	+0.5	
	baz=68							
MVCO	Mesa Verde	67.81	328	eP	P	01 11 00.9	-0.5	
	comp=E,5.3nm,0.8s							
WUAZ	Wupatki	68.02	325	P	P	01 11 04.0	+1.2	
	baz=68							
WUAZ	Wupatki	68.02	325	eP	P	01 11 05.1	+2.3	
	comp=E,7.5nm,1.0s							
ECSD	EROS Data Cent	68.38	340	P	P	01 11 04.7	+0.2	
	baz=69							
ECSD	EROS Data Cent	68.38	340	eP	P	01 11 00.8	-3.7	
	comp=E,12nm,1.4s							
ISCO	Idaho Springs	68.50	331	P	P	01 11 06.5	+0.7	
	baz=69							
ISCO	Idaho Springs	68.50	331	eP	P	01 11 05.5	-0.3	
	comp=E,3.2nm,0.9s							
PV01	Paradox Valley	68.57	328	eP	P	01 11 06.7	+0.6	
	comp=E,491nm,1.0s							
SMCO	Snowmass	68.62	330	eP	P	01 11 07.1	+0.4	
	comp=E,2.7nm,0.6s							
BC3	Big Chuckawall	69.00	321	P	P	01 11 10.2	+1.4	
	baz=69							
IRM	Iron Mountain	69.17	321	P	P	01 11 11.7	+1.9	
	baz=69							
N23A	Red Feather La	69.54	332	P	P	01 11 12.8	+0.6	
	baz=70							
QSPA	South Pole Qui	69.66	180	eP	P	01 11 13.4	+0.9	
	comp=E,4.4nm,0.6s							
DBIC	Dimbokro	69.66	74	P	P	01 11 11.3	-1.9	
	comp=E,8.3nm,1.0s,baz=204,slow=1.6,SNR=4.4							
DBIC				LR	LR	01 40 51.6		
	comp=E,268nm,19.3s,baz=216,slow=35							
DBIC	Dimbokro	69.66	74	eP	P	01 11 13.2	0.0	
	comp=E,9.5nm,1.0s							
J28A	Allard Ranch,	69.72	336	P	P	01 11 13.6	+0.7	
	baz=70							
J27A	Elkhorn Farm,	69.87	336	P	P	01 11 15.0	+1.1	
	baz=70							
GMRC	Granite Mounta	69.91	321	P	P	01 11 15.4	+1.0	
	baz=70							
O20A	White River Ci	69.98	330	P	P	01 11 15.7	+0.9	
	baz=70							
O20A	White River Ci	69.98	330	eP	P	01 11 15.1	+0.3	
	comp=E,8.4nm,1.0s							
SRU	San Rafael	70.29	328	eP	P	01 11 17.2	+0.4	
	comp=E,6.6nm,0.8s							
HEC	Hector,Ludlow	70.33	321	P	P	01 11 18.5	+1.5	
	baz=70							
J26A	Sides Ranch, S	70.33	335	P	P	01 11 17.7	+1.0	
	baz=70							
CCUT	Cedar City	70.60	325	eP	P	01 11 20.0	+1.3	
	comp=E,8.5nm,1.1s							
P17A	Butcher Ranch,	70.68	328	eP	P	01 11 20.9	+1.9	
MSU	Marysvale	70.68	326	eP	P	01 11 20.2	+1.0	
	comp=E,7.2nm,1.1s							
MVU	Marysvale	70.70	326	eP	P	01 11 20.3	+1.0	
	comp=E,7.7nm,1.1s							
H28A	Mission Ridge	70.72	337	P	P	01 11 19.2	+0.2	
	baz=71							
BFSC	Mount Baldy Ra	70.72	320	P	P	01 11 20.3	+0.9	
	baz=71							
EYMN	Ely	70.78	345	P	P	01 11 19.2	-0.1	
	baz=71							
G28A	Parade	71.03	338	P	P	01 11 21.3	+0.5	
	baz=71							
K22A	Casper	71.21	333	P	P	01 11 23.1	+0.9	
	baz=71							
F29A	Eureka	71.30	339	P	P	01 11 22.9	+0.4	
	baz=72							
RSSD	Black Hills	71.39	335	eP	P	01 11 21.3	-2.0	
	comp=E,3.1nm,0.8s							
MPU	Maple Canyon	71.54	328	eP	P	01 11 25.7	+1.4	
	comp=E,11nm,0.9s							
F28A	McLaughlin	71.65	338	P	P	01 11 25.4	+0.8	
	baz=72							
G27A	Dupree	71.65	337	P	P	01 11 25.4	+0.7	
	baz=72							
NLU	North Lily Min	71.71	327	eP	P	01 11 26.8	+1.4	
	comp=E,5.6nm,1.0s							
TPNV	Topopah Spring	71.77	323	P	P	01 11 27.3	+1.6	
	baz=72							
J22A	Midwest	71.81	333	P	P	01 11 26.6	+0.8	
	baz=72							
G26A	Maurine	71.83	337	P	P	01 11 26.0	+0.3	
	baz=72							
JLU	Jordanelle	71.89	328	eP	P	01 11 28.5	+2.1	
	comp=E,6.7nm,0.9s							
D30A	Buchanan	72.07	340	P	P	01 11 27.1	+0.1	
	baz=72							
F27A	Lemmon	72.11	337	P	P	01 11 28.0	+0.6	
	baz=72							
J21A	Lysite	72.17	332	P	P	01 11 28.9	+0.9	
	baz=72							
I22A	9 Mile Ranch,	72.20	333	P	P	01 11 28.4	+0.2	
	baz=72							
E28A	Huff	72.24	338	P	P	01 11 28.9	+0.8	
	baz=72							
AGMN	Agassiz Nation	72.25	342	P	P	01 11 28.2	0.0	
	baz=72							
AGMN	Agassiz Nation	72.25	342	eP	P	01 11 26.7	-1.5	
	comp=E,5.0nm,0.9s							
DUG	Dugway	72.27	327	P	P	01 11 30.0	+1.4	
	baz=72							
DUG	Dugway	72.27	327	eP	P	01 11 29.5	+0.9	
	comp=E,8.4nm,1.1s							
F26A	Lodgepole	72.33	337	P	P	01 11 29.3	+0.6	
	baz=72							
R11A	Troy Canyon, C	72.39	324	P	P	01 11 31.5	+2.1	
	baz=72							
R11A	Troy Canyon, C	72.39	324	eP	P	01 11 29.5	+0.1	
	comp=E,4.6nm,1.2s							
I21A	Big Trails, Te	72.48	333	P	P	01 11 30.5	+0.7	
	baz=73							
C30A	Mose, Pekin	72.50	340	P	P	01 11 30.5	+0.8	
	baz=73							
TBI	Tubuai	72.63	251	eS	S	01 20 53.7	+1.7	
	comp=E,86nm,30.5s							
TBI	Tubuai	72.63	251	eLR	LR	01 33 48.1		
	comp=E,256nm,27.8s							
PDAR	Pinedale Array	72.66	331	P	P	01 11 30.7	-0.3	
	comp=E,0.8nm,0.7s,baz=118,slow=6.0,SNR=9.6							
HWUT	Hardware Ranch	72.71	329	eP	P	01 11 29.6	-1.6	
	comp=E,6.6nm,0.8s							
E26A	Carlson Angus	72.78	337	P	P	01 11 32.5	+1.1	
	baz=73							
J19A	Crowheart	72.82	331	P	P	01 11 32.6	+0.8	
	baz=73							
I20A	Worland	72.95	332	P	P	01 11 33.0	+0.5	
	baz=73							
MDND	Maddock	72.99	340	P	P	01 11 32.7	+0.2	
	baz=73							
MDND	Maddock	72.99	340	eP	P	01 11 33.3	+0.8	
	comp=E,19nm,0.6s							
F24A	Ekalaka	72.99	336	P	P	01 11 33.1	+0.4	
	baz=73							
H21A	Big Horn, Sher	73.03	333	P	P	01 11 32.9	-0.1	
	baz=73							
B30A	Myrvik Farm, E	73.12	341	P	P	01 11 33.7	+0.4	
	baz=73							
D26A	Manning	73.25	338	P	P	01 11 35.1	+1.0	
	baz=74							
I19A	Meeteetse	73.40	332	P	P	01 11 35.3	0.0	
	baz=74							
HVU	Hansel Valley	73.43	328	eP	P	01 11 34.7	-0.8	
	comp=E,94µm,0.9s							
B29A	Wagenman Farm,	73.45	340	P	P	01 11 35.8	+0.6	
	baz=74							
A30A	Hoffart Farm,	73.55	341	P	P	01 11 36.5	+0.7	
	baz=74							
F22A	Rosebud	73.65	335	P	P	01 11 37.2	+0.6	
	baz=74							
REDW	Red Top Meadow	73.72	330	eP	P	01 11 38.2	+1.0	
	comp=E,11nm,1.3s							
A29A	Manning Farm,	73.82	341	P	P	01 11 37.5	+0.1	
	baz=74							
NVAR	Mina Array Bea	73.97	323	P	P	01 11 39.1	+0.4	
	comp=E,1.1nm,0.8s,baz=137,slow=6.3,SNR=6.0							
G20A	Bridger	74.00	333	P	P	01 11 39.1	+0.4	
	baz=74							
D24A	Glendive	74.01	337	P	P	01 11 39.7	+1.1	
	baz=74							
FXWY	Fox Creek	74.01	330	eP	P	01 11 39.9	+1.0	
	comp=E,4.6nm,1.1s							
ULM	Lac du Bonnet	74.03	343	P	P	01 11 37.8	-0.7	
	comp=E,1.5nm,

comp=E,4.4nm,0.8s
MFID Camas Ranch 76.16 328 *e*P P **01 11 53.3 +2.1**
comp=E,4.2nm,1.0s
LRM Limekiln Ridge 76.33 331 *e*P P **01 11 52.4 +0.1**
comp=E,22nm,1.0s
A19A Klindworth Far 77.19 335 P P **01 11 57.6 +0.8**
baz=77
VNDA Vanda 77.58 190 P P **01 11 59.7 +1.1**
comp=E,3.9nm,0.3s,baz=55,slow=4.8,SNR=26
MSO Missoula 77.77 331 *e*P P **01 12 03.0 +2.8**
comp=E,14nm,1.8s
SYO Syowa Base 77.84 160|| *e*P P **01 12 00.5 +0.4**
TORD Torodi Ar. Bea 78.21 71 P P **01 12 02.9 -0.3**
comp=E,9.6nm,0.5s,baz=250,slow=5.4,SNR=242
TORD LR LR 01 45 58.5
comp=E,350nm,18.9s,baz=235,slow=35
K05A Summer Lake 78.33 324 *e*P P **01 12 05.6 +2.1**
comp=E,96nm,2.4s
I05D Terrebonne, OR 79.66 325 P P **01 12 11.7 +1.3**
baz=80
TSUM Tsumeb 81.51 107 *e*P P **01 12 22.3 +1.1**
comp=E,4.5nm,0.8s
EDM Edmonton 82.36 336 *e*P P **01 12 23.7 -1.0**
TAM Tamanrasset 85.50 64 *e*P P **01 12 42.7 +1.2**
comp=E,12nm,1.3s
MAW Mawson 85.61 164 P P **01 12 42.6 +1.6**
comp=E,1.8nm,0.5s,baz=218,slow=6.3,SNR=24
MAW LR LR 01 50 57.3
comp=E,141nm,19.6s,baz=240,slow=36
ESDC Sonseca Array 86.03 45 P P **01 12 42.8 -0.8**
comp=E,0.9nm,0.8s,baz=248,slow=7.8,SNR=5.9
ESDC LR LR 01 47 57.9
comp=E,88nm,21.7s,baz=260,slow=33
YKA Yellowknife Ar 89.87 341 P P **01 12 59.4 -1.8**
comp=E,6.2nm,1.0s,baz=134,slow=5.1,SNR=11
DLBC Dease Lake 92.78 333 P P **01 13 15.9 +1.0**
comp=E,2.4nm,0.8s,baz=156,slow=4.0,SNR=3.4
DLBC Dease Lake 92.78 333 *e*P P **01 13 16.0 +1.0**
DLBC *e* 01 13 24.2
KEST Kesra 93.72 53 LR LR 01 55 31.9
comp=E,67nm,20.3s,baz=245,slow=36
KBZ Khabaz 120.47 51 PKP PKPdf **01 18 54.1 -0.1**
comp=E,3.1nm,1.0s,baz=80,slow=3.9,SNR=4.4
H11S2 WAKE ISLAND Hyl 26.52 278 T T 03 38 15.2
baz=102,slow=75,SNR=430
H11S1 WAKE ISLAND Hyl 26.52 278 T T 03 38 26.4
baz=102,slow=75,SNR=503
H11S3 WAKE ISLAND Hyl 26.53 278 T T 03 38 27.5
baz=102,slow=75,SNR=516
H11N3 WAKE ISLAND Hyl 26.58 280 T T 03 38 22.6
baz=102,slow=74,SNR=270
H11N2 WAKE ISLAND Hyl 26.59 280 T T 03 38 20.7
baz=102,slow=74,SNR=171
H11N1 WAKE ISLAND Hyl 26.59 280 T T 03 38 29.6
baz=102,slow=74,SNR=186
SEY Seymchan 128.72 337 PKP **PKPdf 01 19 09.6 +0.1**
comp=E,1.7nm,0.6s,baz=286,slow=1.4,SNR=5.2
AKTO Aktyubinsk 129.73 41 PKP **PKPdf 01 19 11.9 +0.2**
comp=E,1.9nm,0.9s,baz=253,slow=6.3,SNR=4.9
ASAR Alice Springs 130.17 209 PKP **PKPdf 01 19 13.9 +0.3**
comp=E,0.6nm,0.4s,baz=108,slow=2.0,SNR=6.9
ABKAR Akbulak array 131.27 42 *e*PKPdf **PKPdf 01 19 16.4 +1.7**
WRA Warramunga Arr 133.13 212 PKP **PKPdf 01 19 19.4 +0.2**
comp=E,0.6nm,0.4s,baz=147,slow=1.9,SNR=3.2
KURK Kurchatov 141.18 32 PKP **PKPdf 01 19 30.3 -2.7**
KURBB Kurchatov Arra 141.19 32 PKP **PKPdf 01 19 30.3 -2.8**
comp=E,0.9nm,0.7s,baz=301,slow=2.5,SNR=4.4
ZAA0 Zalesovo Array 141.59 24 *e*PKPdf **PKPdf 01 19 35.1 +1.4**
ZALV Zalesovo Beam 141.59 24 PKP **PKPdf 01 19 32.6 -1.0**
comp=E,6.0nm,0.6s,baz=295,slow=2.8,SNR=24
KSH Kashi 145.44 49 PKPbc **PKPab 01 19 42.1 +0.7**
KSH pPKP **pPKPdf 01 19 53.3 -4.9**
KSH PKS **PKSdf 01 23 16.3 -0.3**
KSH SKS **SKSdf 01 26 46.4 +0.9**
KSH SKKS **SKKSac 01 29 50.1 +1.1**
KSH SS **SS 01 41 50.4 +0.9**
KSH PPMZ
comp=E,280nm,4.8s
KSH LN
comp=E,94nm,3.6s
KSH LE
comp=E,83nm,3.3s
KSH LZ
comp=E,240nm,7.6s
MK31 Makanchi Array 145.56 34 *e*PKPdf **PKPbc 01 19 41.4 +0.3**
MKAR Makanchi Array 145.56 34 PKPbc **PKPab 01 19 41.7 +0.2**
comp=E,10nm,0.7s,baz=312,slow=3.6,SNR=58
USRK Ussuriysk Ar. 150.02 327 PKPbc **PKPbc 01 19 53.6 +0.3**
comp=E,6.4nm,0.7s,baz=30,slow=0.1,SNR=15
WMQ Urumqi 150.38 33 PKPbc **PKPdf 01 19 50.4 +1.4**
WMQ LN
comp=E,82nm,22.3s
WMQ LZ
comp=E,70nm,21.0s
MJAR Matsushiro Arr 150.50 309 PKPbc **PKPbc 01 19 54.8 +0.1**
comp=E,5.2nm,0.7s,baz=103,slow=1.6,SNR=16
MAJO Matsushiro 150.50 309 *e*PKPbc **PKPbc 01 19 55.3 +0.6**
MAT Matsushiro 150.50 309 PKP **PKPbc 01 19 55.3 +0.6**
SONM Songino Array 152.62 5 PKP **PKPdf 01 19 53.6 +1.3**
comp=E,1.3nm,0.9s,baz=67,slow=1.3,SNR=6.3
SONM PKPbc **PKPbc 01 19 59.5 +0.1**
comp=E,3.2nm,0.5s,baz=309,slow=1.5,SNR=20
HHC Hu-ho-hao-te 159.69 356 *e*PKP **PKPdf 01 20 02.9 +1.1**
HHC PKS **PKSdf 01 23 35.0 -0.3**
HHC PP **PP 01 24 25.6 +4.5**
HHC SS SS 01 44 27.1 +3.6
HHC PPMZ
comp=E,35nm,5.1s
HHC LN
comp=E,96nm,20.0s
HHC LE
comp=E,74nm,20.6s
HHC LZ
comp=E,65nm,20.4s
NJ2 Nanjing 165.93 326 *e*PKP **PKPdf 01 20 09.3 +1.3**
CD2 Chengdu 168.34 26 PKP **PKPdf 01 20 10.4 +0.5**
KMI Kunming 172.08 53 PKP **PKPdf 01 20 12.4 0.0**

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*BJI **19** 01:08:13.3,51˙.84N×169˙.38W, h5km, mb4.6/5, mB4.7/2, Ms4.5/2, Ms7 4.1/2*
*IDC **19** 01:08:15.8±0.5, 52˙.73N×169˙.96W, h0km, mb4.2/18, mb1 4.4/20, mb1mx4.1/54, mbtmp4.1/20, ML3.7/1, MS3.4/8, Ms1 3.4/8, ms1mx3.0/55, Error ellipse: s-maj=21.8km s-min=10.9km az=179.0*
*NEIC **19** 01:08:17.3, 52˙.80N×169˙.70W, h1km, mb4.4/50, ML4.0(AEIC), After AEIC.*

ISC 19 01:08:17.1±1.1, **52˙.79N**±0˙.08×**169˙.70W**±0˙.04, **h4**km±6km, **n323**, σ1°**20**/329, **mb4.4**/58, **MS3.2**/7, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
NIKH	**Nikolski High**	**0.54**	**70**	P	**Pb**	**01 08 28.7**	**-0.5**
NIKH				S	**Sb**	**01 08 37.0**	**-0.4**
OKCE	**Okmok Cone E**	**1.12**	**55**	P	**Pg**	**01 08 38.8**	**+0.1**
OKCE				S	**Sn**	**01 08 55.5**	**-0.1**
OKTU	**Okmok Mt. Tuli**	**1.16**	**59**	P	**Pb**	**01 08 40.0**	**+0.2**
MGOD	**Makushin Gods**	**1.97**	**58**	P	**Pn**	**01 08 52.3**	**+0.9**
MGOD				S	**Sb**	**01 09 18.3**	**-0.3**
MCIR	**Makushin Cirqu**	**2.04**	**54**	P	**Pb**	**01 08 53.6**	**-1.2**
MSW	**Makushin Switc**	**2.08**	**56**	P	**Pb**	**01 08 54.2**	**-1.2**
MSW				S	**Sb**	**01 09 20.8**	**-0.8**
MTBL	**Makushin Table**	**2.16**	**56**	P	**Pb**	**01 08 55.5**	**-1.3**
UNV	**Unalaska Valle**	**2.19**	**60**	*e*Pn	**Pn**	**01 08 55.2**	**+0.9**
UNV				*e*S	**Sb**	**01 09 23.4**	**-1.4**
AKRB	**Akutan Reef Bi**	**2.55**	**57**	P	**Pn**	**01 09 00.9**	**+1.6**
ZRO	**Akutan Zero**	**2.58**	**58**	P	**Pn**	**01 09 01.2**	**+1.5**
AKGG	**Akutan Green G**	**2.63**	**56**	P	**Pn**	**01 09 01.7**	**+1.4**
AKUT	**Akutan**	**2.71**	**59**	*e*Pn	**Pn**	**01 09 03.1**	**+1.8**
AKUT				*e*S	**Sb**	**01 09 40.3**	**+0.7**
ATKA	**Atka Island**	**2.81**	**260**	P	**Pn**	**01 09 03.6**	**+0.8**
WESP	**Westdahl Peak**	**3.42**	**58**	P	**Pn**	**01 09 12.9**	**+1.7**
WESN	**West Dahl Nort**	**3.53**	**58**	P	**Pn**	**01 09 14.3**	**+1.7**
SSBA	**Shishaldin**	**3.86**	**57**	P	**Pn**	**01 09 19.2**	**+1.9**
GSTR	**Great Sitkin T**	**3.95**	**262**	*e*Pn	**Pn**	**01 09 18.9**	**+0.4**
GSTR				*e*S	**Sn**	**01 10 08.5**	**+3.2**
GSMY	**Great Sitkin M**	**3.96**	**262**	P	**Pn**	**01 09 19.7**	**+1.1**
GSTD	**Great Sitkin T**	**4.01**	**262**	P	**Pn**	**01 09 20.4**	**+1.0**
GSCK	**Great Sitkin C**	**4.04**	**261**	P	**Pn**	**01 09 20.7**	**+1.1**
FALS	**False Pass**	**4.26**	**58**	*e*Pn	**Pn**	**01 09 23.6**	**+0.9**
FALS				*e*S	**Sn**	**01 10 17.9**	**+5.1**
SPIA	**Saint Paul Isl**	**4.41**	**356**	P	**Pn**	**01 09 26.0**	**+1.3**
SDPT	**Sand Point**	**6.00**	**61**	*e*Pn	**Pn**	**01 09 46.9**	**+0.3**
SDPT				*e*S	Sn	01 10 47.4	-8.4

AMKA Amchitka 6.93 263 *e*Pn **Pn 01 10 00.2 +0.9**
AMKA *e*S **Sn 01 11 21.8 +3.3**
CHGN Chignik 7.45 57 *e*Pn **Pn 01 10 08.7 +2.3**
CHGN *e*S **Sn 01 11 32.1 +1.0**
OHAK Old Harbor 10.41 58 *e*Pn **Pn 01 10 46.8 -0.2**
KDAK Kodiak Island 10.95 56 *e*Pn **Pn 01 10 55.3 +0.9**
SVW2 Sparrevohn 11.32 37 *e*Pn Pn 01 11 02.5 +3.0
RC01 Rabbit Creek A 13.65 45 *e*Pn **Pn 01 11 33.6 +2.3**
PPLA Purkeypile 13.71 36 *e*Pn P 01 11 36.9 -4.2
CAST Castle Rocks 14.09 34 *e*Pn P 01 11 41.3 -3.9
SML Sawmill 14.59 43 *e*Pn **Pn 01 11 45.6 +1.4**
2.6nm,0.9s
TRF Thorofare Moun 14.73 36 *e*Pn **P 01 11 49.6 -2.9**
BPAW Bear Paw Mtn. 14.90 33 *e*Pn **P 01 11 51.6 -2.6**
MCK McKinley 15.39 36 *e*Pn **P 01 11 58.8 -0.8**
7.4nm,1.0s
IM04 Indian Mountai 15.43 25 *e*Pn **P 01 11 57.9 -2.1**
KLU Klutina 15.49 46 *e*Pn **Pn 01 11 54.6 -1.6**
8.5nm,0.7s
BMRM Bremner River 15.89 49 *e*Pn **Pn 01 12 00.2 -1.1**
9.7nm,0.9s
HARP HAARP 16.20 44 *e*Pn **P 01 12 07.8 -0.8**
22nm,0.9s
CCB Clear Creek Bu 16.33 35 *e*Pn **Pn 01 12 08.0 +1.1**
14nm,1.5s
COLA College 16.45 34 *e*Pn **P 01 12 09.6 -1.7**
7.3nm,0.8s
ILAR Eielson Array 16.72 35 Pn **Pn 01 12 12.1 +0.1**
0.1nm,0.3s,baz=229,slow=8.7,SNR=13
ILAR LR LR 01 18 59.4
comp=Z,96nm,21.6s,baz=240,slow=38
COLD Coldfoot 17.32 26 *e*Pn **P 01 12 22.5 +1.6**
14nm,1.3s
EGAK Eagle 18.84 39 *e*Pn **P 01 12 37.6 -0.1**
6.9nm,1.0s
HYT Haines Junctio 19.20 53 *e*P **Pn 01 12 43.2 +0.5**
17nm,0.7s
DAWY Dawson 19.25 42 *e*P **P 01 12 41.8 -0.4**
5.6nm,1.1s
PETK Petropavlovsk- 19.56 284 P **P 01 12 43.6 -2.0**
baz=90,slow=14,SNR=1.6
SKAG Skagway 20.11 57 *e*P Pn 01 12 52.8 -0.5
20nm,0.7s
BESE Bessie Mountai 20.31 60 *e*Pn Pn 01 12 55.7 -0.1
7.1nm,0.9s
SEY Seymchan 22.24 312 P **P 01 13 13.9 -0.6**
8.9nm,0.8s,baz=105,slow=9.0,SNR=17
SEY PcP **PcP 01 17 08.8 -1.6**
1.7nm,0.5s,baz=138,slow=4.7,SNR=6.8
DLBC Dease Lake 22.84 60 P **P 01 13 22.3 +1.2**
13nm,0.9s,baz=271,slow=9.7,SNR=13
DLBC LR LR 01 21 09.7
comp=Z,86nm,21.8s,baz=268,slow=34
INK Inuvik 23.11 34 P **P 01 13 22.7 -0.9**
2.3nm,0.4s,baz=246,slow=15,SNR=4.5
INK LR LR 01 22 11.4
comp=Z,97nm,19.3s,baz=250,slow=36
B08A Colville Reser 31.75 77 *e*P **P 01 14 43.2 +1.1**
5.5nm,0.8s
I04A Tendick Farm, 32.20 87 P **P 01 14 48.4 +2.4**
baz=32
I05D Terrebonne, OR 32.55 85 P **P 01 14 51.3 +2.1**
baz=32
J04D Umpqua Nationa 32.69 88 P **P 01 14 52.5 +2.1**
baz=33
NEW Newport 33.10 76 P **P 01 14 54.7 +0.8**
baz=33,SNR=6.9
NEW Newport 33.10 76 *e*P **P 01 14 54.6 +0.7**
7.7nm,0.8s
YBH Yreka Blue Hor 33.18 90 P **P 01 14 56.9 +2.2**
2.7nm,0.9s,baz=280,slow=11
J05D Fort Rock, OR 33.19 87 P **P 01 14 57.1 +2.2**
baz=33
G08A Pilot Rock 33.48 82 *e*P **P 01 14 58.9 +1.6**
15nm,1.8s
M04C Macdoel 33.68 90 P **P 01 15 01.5 +2.3**
baz=34
K05A Summer Lake 33.71 87 *e*P **P 01 15 02.2 +2.8**
15nm,0.8s
MOD Modoc 34.55 88 *e*P **P 01 15 09.2 +2.5**
7.6nm,0.8s
BSMT Bassoo Peak 34.68 76 *e*P **P 01 15 09.1 +1.3**
4.0nm,0.8s
BMO Blue Mountains 34.71 82 *e*P **P 01 15 09.6 +1.6**
6.2nm,1.4s
BLMT Blacktail Moun 34.85 75 *e*P **P 01 15 11.1 +1.8**
MSO Missoula 35.69 77 P **P 01 15 17.1 +0.8**
baz=36,SNR=5.8
MSO Missoula 35.69 77 *e*P **P 01 15 17.4 +1.1**
10nm,1.4s
CHMT Chamberlain Mo 36.05 76 *e*P **P 01 15 20.2 +0.6**
3.1nm,0.9s
RES Resolute Bay 36.08 26 LR LR 01 33 37.1
comp=Z,44nm,19.4s,baz=292,slow=42
HLID Hailey 37.16 82 P **P 01 15 29.8 +0.8**
baz=37
HLID Hailey 37.16 82 *e*P **P 01 15 30.0 +1.0**
8.6nm,1.7s
MCMT McKenzie Canyo 37.39 79 *e*P **P 01 15 31.9 +0.8**
EGMT Eagleton 37.53 73 P **P 01 15 33.1 +1.0**
baz=37
H11N2 WAKE ISLAND Hy 37.66 218 T T 01 56 27.6
baz=24,slow=76,SNR=10
H11N3 WAKE ISLAND Hy 37.67 218 T T 01 56 28.1
baz=24,slow=76,SNR=14
BOZ Bozeman (W) 37.67 77 P **P 01 15 34.4 +1.0**
baz=38,SNR=8.6
BOZ Bozeman (W) 37.67 77 *e*P **P 01 15 34.0 +0.6**
6.1nm,0.8s
H11N1 WAKE ISLAND Hy 37.68 218 T T 01 56 29.1
baz=24,slow=76,SNR=11
NVAR Mina Array Bea 37.87 91 P **P 01 15 37.4 +2.2**
4.3nm,0.8s,baz=294,slow=8.5,SNR=19
ELK Elko 38.30 86 P **P 01 15 40.6 +1.8**
5.6nm,0.7s,baz=306,slow=9.4,SNR=30
ELK Elko 38.30 86 *e*P **P 01 15 40.0 +1.1**
6.4nm,0.8s
USRK Ussuriysk Ar. 38.61 281 PcP **PcP 01 17 52.6 -0.6**
1.8nm,0.8s,baz=102,slow=2.8,SNR=6.0
RCTC Rector, Farmer 38.68 95 P **P 01 15 43.6 +2.0**
baz=39
GCMT Greycliff 38.75 76 *e*P **P 01 15 43.6 +1.2**
1.1nm,0.6s
TPH Tonopah 38.75 91 *e*P **P 01 15 44.3 +1.7**
2.0nm,0.4s
H11S1 WAKE ISLAND Hy 38.85 217 T T 01 57 20.9
baz=23,slow=76,SNR=76
H11S2 WAKE ISLAND Hy 38.87 217 T T 01 57 22.0
baz=23,slow=76,SNR=64
H11S3 WAKE ISLAND Hy 38.87 217 T T 01 57 22.2
baz=23,slow=76,SNR=90
HVU Hansel Valley 39.17 83 *e*P **P 01 15 47.2 +1.2**
53µm,0.9s
RLMT Red Lodge 39.35 76 P **P 01 15 48.9 +1.3**
baz=39
MJAR Matsushiro Arr 39.51 267 P **P 01 15 47.8 -0.9**
0.9nm,0.6s,baz=64,slow=5.9,SNR=4.3
MJAR PcP **PcP 01 17 55.0 -1.2**
0.5nm,0.3s,baz=130,slow=1.1,SNR=4.4
MJAR LR LR 01 30 02.4
comp=Z,40nm,21.8s,baz=75,slow=33
ISA Isabella 39.57 95 P **P 01 15 50.4 +1.1**
baz=40
R11A Troy Canyon, C 39.57 89 P **P 01 15 51.0 +1.6**
baz=40,SNR=17
R11A Troy Canyon, C 39.57 89 *e*P **P 01 15 50.7 +1.3**
9.9nm,0.9s
H19A Powell 39.77 77 P **P 01 15 52.1 +1.2**
baz=40
G20A Bridger 39.92 75 P **P 01 15 53.3 +1.2**
baz=40,SNR=8.9
FURC Furnace Creek, 40.01 92 P **P 01 15 54.7 +1.8**
baz=40
TPNV Topopah Spring 40.07 91 P **P 01 15 55.3 +1.7**
baz=40,SNR=8.7
DUG Dugway 40.10 85 P **P 01 15 55.4 +1.6**
baz=40,SNR=9.6
DUG Dugway 40.10 85 *e*P **P 01 15 55.2 +1.5**
8.5nm,1.0s
I19A Meeteetse 40.12 77 P **P 01 15 55.2 +1.2**
baz=40
H20A Greybull 40.46 76 P **P 01 15 57.4 +0.8**
baz=40
G21A Lodge Grass 40.51 75 P **P 01 15 57.8 +0.8**
baz=40
BW06 Boulder Array 40.52 79 *e*P **P 01 15 58.1 +0.8**
4.7nm,0.9s
PDAR Pinedale Array 40.52 79 P **P 01 15 57.1 -0.2**
4.7nm,0.8s,baz=335,slow=4.2,SNR=36
J19A Crowheart 40.53 78 P **P 01 15 59.4 +2.1**
baz=40
E22A Miles City 40.57 72 P **P 01 15 58.6 +1.1**
baz=40
I20A Worland 40.69 77 P **P 01 15 59.7 +1.2**
baz=40,SNR=5.4
F22A Rosebud 40.75 74 P **P 01 15 60.0 +1.0**
baz=41
GSC Goldstone 40.82 94 P **P 01 16 01.5 +1.8**
baz=41,SNR=8.8
GSC Goldstone 40.82 94 *e*P **P 01 16 01.5 +1.8**
9.8nm,0.8s
A25A Svangstu Ranch 40.85 68 P **P 01 16 01.7 +2.0**
baz=41
C24A Savage 40.85 70 P **P 01 16 01.3 +1.5**
baz=41
BFSC Mount Baldy Ra 41.02 96 P **P 01 16 02.9 +1.5**
baz=41
J20A Shoshoni 41.06 78 P **P 01 16 03.0 +1.4**
baz=41
D24A Glendive 41.13 71 P **P 01 16 03.4 +1.3**
baz=41
I21A Big Trails, Te 41.26 77 P **P 01 16 03.5 +0.2**
baz=41
HEC Hector,Ludlow 41.43 94 P **P 01 16 06.1 +1.4**
baz=41,SNR=6.4
CCUT Cedar City 41.43 88 *e*P **P 01 16 05.7 +0.8**
3.3nm,0.7s
J21A Lysite 41.44 77 P **P 01 16 06.0 +1.2**
baz=41,SNR=5.5
MVU Marysvale 41.52 86 *e*P **P 01 16 07.3 +1.7**
4.9nm,1.0s
MSU Marysvale 41.54 86 *e*P **P 01 16 07.3 +1.6**
7.2nm,1.1s
TMUT Trail Mountain 41.63 85 *e*P **P 01 16 08.2 +1.7**
12nm,1.0s
I22A 9 Mile Ranch, 41.69 76 P **P 01 16 07.9 +1.1**
baz=42
GMRC Granite Mounta 41.87 93 P **P 01 16 09.9 +1.6**
baz=42,SNR=7.5
J22A Midwest 41.97 77 P **P 01 16 10.1 +1.0**
baz=42,SNR=11
SRU San Rafael 42.16 84 *e*P **P 01 16 10.6 -0.2**
5.3nm,0.8s
PFO Pinyon Flat Ob 42.18 95 P **P 01 16 10.3 -0.6**
3.5nm,0.8s,baz=317,slow=6.4,SNR=4.5
PFO Pinyon Flat Ob 42.18 95 P **P 01 16 11.9 +1.0**
baz=42
BELC Belle Mtn. Jos 42.19 94 P **P 01 16 11.9 +0.9**
baz=42
H24A Dirks Ranch, A 42.33 74 P **P 01 16 12.2 +0.2**
baz=42
K22A Casper 42.40 78 P **P 01 16 13.2 +0.6**
baz=42
IRM Iron Mountain 42.60 94 P **P 01 16 15.3 +1.2**
baz=42
MONP Monument Peak 42.70 96 P **P 01 16 17.0 +1.8**
baz=43
BC3 Big Chuckawall 42.76 94 P **P 01 16 15.9 +0.3**
baz=43
K23A Bowen Ranch, D 42.87 77 P **P 01 16 16.8 +0.3**
baz=43
O20A White River Ci 42.90 82 P **P 01 16 17.5 +0.8**
baz=43,SNR=16
O20A White River Ci 42.90 82 *e*P **P 01 16 17.2 +0.4**
15nm,0.9s
RSSD Black Hills 42.99 74 *e*P **P 01 16 17.8 +0.3**
3.4nm,0.9s
J24A Dixon Ranch, L 43.09 76 P **P 01 16 19.2 +1.0**
baz=43
PDMCI Parker Dam,Lak 43.11 93 P **P 01 16 20.0 +1.7**
baz=43
G26A Maurine 43.15 72 P **P 01 16 19.8 +1.2**
baz=43
Y12C Blythe 43.26 94 P **P 01 16 20.9 +1.4**
baz=43,SNR=6.3
G27A Dupree 43.48 71 P **P 01 16 22.1 +0.9**
baz=43
GLA Glamis 43.55 95 P **P 01 16 23.3 +1.4**
baz=43
PV04 Paradox Valley 43.59 84 *e*P **P 01 16 23.1 +0.7**
B30A Myrvik Farm, E 43.78 66 P **P 01 16 23.8 +0.2**
baz=44
N23A Red Feather La 43.80 79 P **P 01 16 25.3 +1.2**
baz=44
F28A McLaughlin 43.86 70 P **P 01 16 25.0 +0.8**
baz=44
PV01 Paradox Valley 43.96 84 *e*P **P 01 16 26.1 +0.7**
1um,0.7s
WUAZ Wupatki 43.98 89 P **P 01 16 27.2 +1.7**
baz=44,SNR=5.9
WUAZ Wupatki 43.98 89 *e*P **P 01 16 26.7 +1.3**
16nm,0.9s
K25A Mack Ranch, Ha 43.99 76 P **P 01 16 27.4 +2.0**
baz=44
L25A Engebretsen Ra 44.21 76 P **P 01 16 28.2 +1.0**
baz=44
D30A Buchanan 44.30 68 P **P 01 16 28.4 +0.7**
baz=44
K26A Motz Farm, Whi 44.34 75 P **P 01 16 29.1 +0.9**
baz=44
M25A Palm-Egli Farm 44.59 77 P **P 01 16 31.5 +1.2**
baz=44
MVCO Mesa Verde 44.60 85 P **P 01 16 31.3 +0.7**
baz=44,SNR=5.3
MVCO Mesa Verde 44.60 85 *e*P **P 01 16 31.1 +0.5**
4.6nm,0.8s
I28A Midland 44.73 73 P **P 01 16 31.8 +0.5**
baz=45
J28A Allard Ranch, 45.04 73 P **P 01 16 34.5 +0.7**
baz=45
KSRS Korea Array 45.16 276 P **P 01 16 33.3 -1.3**
1.4nm,0.7s,baz=46,slow=7.0,SNR=5.2
KSRS LR LR 01 33 54.5
comp=Z,16nm,21.1s,baz=45,slow=34
KSAR Wonju Array Be 45.19 276 P **P 01 16 33.3 -1.6**
AGMN Agassiz Nation 45.23 65 P **P 01 16 35.1 0.0**
baz=45
AGMN Agassiz Nation 45.23 65 *e*P **P 01 16 34.7 -0.4**
28nm,2.1s
S22A 4UR Ranch, Cre 45.26 83 P **P 01 16 37.4 +1.5**
baz=45
K28A Ten Mile Ranch 45.40 74 P **P 01 16 37.3 +0.7**
baz=45
214A Organ Pipe Nat 45.53 94 P **P 01 16 39.2 +1.4**
baz=45,SNR=8.8
214A Organ Pipe Nat 45.53 94 *e*P **P 01 16 38.6 +0.9**
13nm,1.1s
J29A Okreek 45.58 73 P **P 01 16 38.7 +0.7**
baz=45
SDCO Great Sand Dun 46.06 82 P **P 01 16 43.1 +0.9**
baz=46,SNR=7.5
SDCO Great Sand Dun 46.06 82 *e*P **P 01 16 42.8 +0.6**
4.0nm,0.8s
P26A Davis Ranch, A 46.19 79 P **P 01 16 44.2 +1.2**
baz=46
TUC Tucson 46.52 92 *e*P **P 01 16 47.0 +1.4**
9.1nm,0.9s
R26A Arlington 46.94 80 P **P 01 16 50.1 +1.2**
baz=47
T25A Trinidad 47.12 82 P **P 01 16 51.4 +1.0**
baz=47,SNR=7.7
LAZ Ladron 47.30 87 *e*P **P 01 16 53.5 +1.7**
3.7nm,1.0s
ANMO Albuquerque 47.34 86 P **P 01 16 52.4 +0.3**
1.4nm,0.9s,baz=319,slow=5.5,SNR=4.9
ANMO PcP **PcP 01 18 23.3 +0.4**
1.5nm,0.8s,baz=308,slow=3.5,SNR=5.4
ECSD EROS Data Cent 47.52 70 P **P 01 16 53.2 0.0**
baz=47
ECSD EROS Data Cent 47.52 70 *e*P **P 01 16 52.9 -0.3**
3.9nm,0.9s
T26A Comanche Natio 47.59 82 P **P 01 16 54.4 +0.4**
baz=47
P29A Atwood 47.60 77 P **P 01 16 55.1 +1.2**
baz=47
EYMN Ely 47.81 63 P **P 01 16 56.9 +1.5**
baz=48
121A Cookes Peak, D 48.18 89 P **P 01 17 00.1 +1.5**
baz=48,SNR=6.8
121A Cookes Peak, D 48.18 89 *e*P **P 01 16 59.9 +1.3**
9.8nm,0.9s
S28A Manter 48.33 80 P **P 01 17 00.5 +0.9**
baz=48
Q30A Quinter 48.42 77 P **P 01 17 01.5 +1.2**
baz=48
M33A Taylor Creek F 48.53 73 P **P 01 17 02.3 +1.2**

	baz=48						
U27A	**Thompson Grove**	48.55	82	P	P	01 17 02.0	+0.6
	baz=48						
CBKS	**Cedar Bluff**	48.81	77	P	P	01 17 03.7	+0.5
	baz=49						
R30A	**Dighton**	48.84	78	P	P	01 17 04.7	+1.2
	baz=49						
T29A	**Hugoton**	48.98	80	P	P	01 17 05.4	+0.8
	baz=49						
V27A	**Dan Oppiter Fa**	48.98	82	P	P	01 17 05.5	+0.8
	baz=49						
O33A	**Hebron**	49.26	75	P	P	01 17 06.8	+0.1
	baz=49						
R31A	**Burdett**	49.28	78	P	P	01 17 07.5	+0.6
	baz=49						
Q32A	**Meitler Ranch,**	49.40	76	P	P	01 17 08.1	+0.4
	baz=49						
R32A	**Long Quarter,**	49.68	77	P	P	01 17 10.2	+0.4
	baz=50						
O34A	**Beatrice**	49.72	74	P	P	01 17 10.1	0.0
	baz=50						
U30A	**WK&E Inc. Balk**	49.78	80	P	P	01 17 11.3	+0.6
	baz=50						
Q33A	**Connelly Farm,**	49.82	76	P	P	01 17 11.4	+0.5
	baz=50						
N35A	**Tabor**	49.89	72	P	P	01 17 11.9	+0.5
	baz=50						
R33A	**Olander Ranch,**	50.18	77	P	P	01 17 14.1	+0.4
	baz=50						
MSTX	**Muleshoe**	50.23	84	P	P	01 17 15.2	+0.9
	baz=50						
P35A	**Duane Minner,**	50.53	74	P	P	01 17 17.0	+0.6
	baz=50						
Y28A	**McKinney Farm,**	50.59	84	P	P	01 17 17.4	+0.4
	baz=50						
R34A	**Isabella, Hill**	50.62	76	P	P	01 17 17.2	+0.1
	baz=50						
U32A	**Winter Ranch,**	50.86	79	P	P	01 17 19.4	+0.5
	baz=51						
SONM	**Songino Array**	50.91	300	P	P	01 17 16.7	-2.5
	0.3nm,0.7s,baz=51,slow=9.4,SNR=2.4						
SONM				PcP	PcP	01 18 34.3	-1.3
	1.3nm,0.7s,baz=88,slow=2.5,SNR=7.8						
Z28A	**Tucker Farm, M**	50.93	84	P	P	01 17 20.0	+0.4
	baz=51						
Y29A	**Porterfield Fa**	50.97	83	P	P	01 17 20.8	+0.9
	baz=51						
W31A	**Holland Ranch,**	51.11	81	P	P	01 17 21.5	+0.7
	baz=51						
128A	**Castleberry Fa**	51.34	85	P	P	01 17 23.0	+0.5
	baz=51,SNR=9.7						
Z29A	**Hungry Hill Ra**	51.37	84	P	P	01 17 23.1	+0.3
	baz=51,SNR=8.4						
Y30A	**Stafford Cattl**	51.43	83	P	P	01 17 24.3	+1.1
	baz=51						
X31A	**McDonald Ranch**	51.46	81	P	P	01 17 24.3	+0.9
	baz=51						
T34A	**McClaskey Farm**	51.51	77	P	P	01 17 23.7	0.0
	baz=51						
W32A	**Sentinel**	51.57	80	P	P	01 17 25.3	+1.1
	baz=51						
S35A	**Otter Creek Ra**	51.58	76	P	P	01 17 24.4	+0.2
	baz=51						
228A	**UT Block 9, Go**	51.62	86	P	P	01 17 25.2	+0.5
	baz=52						
R36A	**Gordon, Harris**	51.63	75	P	P	01 17 24.5	-0.1
	baz=52						
Z30A	**Sanderson Ranc**	51.70	84	P	P	01 17 25.4	+0.2
	baz=52,SNR=9.9						
129A	**Stewart Farms,**	51.70	85	P	P	01 17 25.9	+0.6
	baz=52						
T35A	**Sooner Cattle**	51.98	77	P	P	01 17 27.4	+0.1
	baz=52						
W33A	**Caddo, Fort Co**	52.01	80	P	P	01 17 28.5	+1.0
	baz=52						
X32A	**Elmer**	52.02	81	P	P	01 17 28.1	+0.5
	baz=52						
WMOK	**Wichita Mounta**	52.11	80	*e*P	P	01 17 28.1	-0.1
	6.9nm,0.8s						
Y32A	**R-V Farms, Ver**	52.22	82	P	P	01 17 29.4	+0.4
	baz=52						
Z31A	**Sharp Cattle R**	52.27	83	P	P	01 17 29.8	+0.4
	baz=52						
130A	**Snyder**	52.27	84	P	P	01 17 30.0	+0.5
	baz=52						
S37A	**Fort Scott**	52.41	75	P	P	01 17 30.3	-0.1
	baz=52						
329A	**Wagon Wheel Ra**	52.44	86	P	P	01 17 31.0	+0.3
	baz=52						
131A	**Roby**	52.57	84	P	P	01 17 32.3	+0.7
	baz=52						
V35A	**Meyer Ranch, C**	52.57	78	P	P	01 17 31.8	+0.2
	baz=52						
HHC	**Hu-ho-hao-te**	52.58	290	*e*P	P	01 17 35.0	+3.2
HHC				PP	PP	01 19 35.1	+4.7
HHC				S	S	01 25 01.1	+1.8
HHC				SS	SS	01 28 37.6	+0.7
HHC				PMZ			
	11nm,1.1s						
HHC				PMZ			
	52nm,5.2s						
HHC				LN			
	64nm,13.1s						
HHC				LE			
	65nm,14.3s						
HHC				LZ			
	46nm,16.1s						
Z32A	**Haskell**	52.68	82	P	P	01 17 32.7	+0.3
	baz=52,SNR=9.5						
230A	**Sterling City**	52.68	85	P	P	01 17 33.2	+0.6
	baz=52						
Y33A	**Hilltop Ranch,**	52.70	81	P	P	01 17 33.2	+0.6
	baz=53						
X34A	**Smith Ranch, M**	52.77	80	P	P	01 17 34.0	+0.9
	baz=53						
T37A	**Cheneyville 18**	52.78	76	P	P	01 17 32.6	-0.6
	baz=53						
TXAR	**Lajitas Array**	52.94	89	P	P	01 17 35.2	+0.6
	9.5nm,0.8s,baz=296,slow=5.4,SNR=145						
W35A	**Tecumseh**	52.96	79	P	P	01 17 34.7	+0.2
	baz=53						
330A	**Mertzon**	52.98	85	P	P	01 17 35.2	+0.4
	baz=53						
ABTX	**Abilene, Hawle**	53.05	83	P	P	01 17 35.9	+0.7
	baz=53						
ABTX	**Abilene, Hawle**	53.05	83	*e*P	P	01 17 35.8	+0.6
	10nm,1.0s						
429A	**Davenport Ranc**	53.10	86	P	P	01 17 35.9	+0.3
	baz=53,SNR=8.0						
Z33A	**Whitaker Ranch**	53.12	82	P	P	01 17 36.1	+0.4
	baz=53						
231A	**Bronte**	53.13	84	P	P	01 17 35.6	-0.2
	baz=53						
U37A	**Salina**	53.15	76	P	P	01 17 35.4	-0.4
	baz=53						
529A	**Stev Forest Ra**	53.25	87	P	P	01 17 37.7	+0.9
	baz=53						
Y34A	**Reagan Ranch,**	53.26	80	P	P	01 17 37.3	+0.6
	baz=53						
W36A	**Wetumka**	53.36	78	P	P	01 17 37.9	+0.4
	baz=53						
430A	**Baggett Ranch,**	53.38	86	P	P	01 17 38.2	+0.5
	baz=53,SNR=11						
X35A	**Drake**	53.42	79	P	P	01 17 38.3	+0.4
	baz=53						
V37A	**Hulbert**	53.49	77	P	P	01 17 38.3	-0.1
	baz=53						
133A	**Hamilton Ranch**	53.50	82	P	P	01 17 39.0	+0.4
	baz=53						
331A	**San Angelo**	53.50	85	P	P	01 17 38.6	+0.1
	baz=53,SNR=5.4						
U38A	**Gravette**	53.56	76	P	P	01 17 38.6	-0.3
	baz=53						
232A	**Coleman**	53.56	84	P	P	01 17 39.2	+0.2
	baz=53						
Z34A	**Collier Ranch,**	53.57	81	P	P	01 17 39.6	+0.6
	baz=53						
X36A	**Centrahoma**	53.67	79	P	P	01 17 40.2	+0.5
	baz=54						
HDIL	**Hopedale**	53.72	69	P	P	01 17 41.1	+1.0
	baz=54						
Y35A	**Marietta**	53.73	80	P	P	01 17 41.3	+1.2
	baz=54						
530A	**J-C Ranch, Com**	53.77	86	P	P	01 17 41.3	+0.7
	baz=54,SNR=18						
W37A	**Quinton**	53.83	78	P	P	01 17 41.1	+0.2
	baz=54						
431A	**Sonora**	53.84	85	P	P	01 17 41.3	+0.3
	baz=54,SNR=13						
332A	**Millersview**	53.86	84	P	P	01 17 41.4	+0.2
	baz=54,SNR=7.1						
233A	**Rising Star**	53.92	83	P	P	01 17 42.0	+0.3
	baz=54,SNR=6.9						
V38A	**Canehill**	53.94	76	P	P	01 17 41.2	-0.5
	baz=54						
Z35A	**Perchaven, San**	54.00	81	P	P	01 17 41.8	-0.3
	baz=54						
134A	**White-Moore Ra**	54.03	82	P	P	01 17 43.3	+1.0
	baz=54						
Y36A	**Durant**	54.18	79	P	P	01 17 44.2	+0.7
	baz=54						
432A	**Menard**	54.19	85	P	P	01 17 43.8	+0.2
	baz=54						
531A	**Rocksprings**	54.24	86	P	P	01 17 44.1	+0.1
	baz=54,SNR=5.2						
X37A	**Clayton**	54.25	78	P	P	01 17 44.1	+0.2
	baz=54,SNR=5.5						
333A	**Richland Sprin**	54.36	84	P	P	01 17 45.0	+0.2
	baz=54,SNR=9.1						
W38A	**Poteau**	54.42	77	P	P	01 17 45.6	+0.5
	baz=54						
JCT	**Junction City**	54.47	85	P	P	01 17 46.0	+0.3
	baz=54						
JCT	**Junction City**	54.47	85	*e*P	P	01 17 45.2	-0.4
	10nm,0.8s						
X38A	**Whitesboro**	54.51	78	P	P	01 17 46.3	+0.4
	baz=54						
Z36A	**Blue Ridge**	54.53	80	P	P	01 17 46.2	+0.2
	baz=54						
532A	**Rocksprings**	54.66	85	P	P	01 17 47.0	-0.1
	baz=54						
433A	**Art**	54.70	84	P	P	01 17 47.2	-0.2
	baz=55,SNR=7.0						
631A	**Perdido Creek**	54.76	87	P	P	01 17 47.5	-0.2
	baz=55,SNR=5.2						
334A	**Lometa**	54.81	83	P	P	01 17 48.9	+0.8
	baz=55,SNR=8.1						
WHTX	**Lake Whitney**	54.81	82	P	P	01 17 48.7	+0.6
	baz=55						
434A	**Burnet**	55.16	84	P	P	01 17 50.9	+0.3
	baz=55,SNR=12						
632A	**Uvalde**	55.17	86	P	P	01 17 50.8	+0.1
	baz=55,SNR=5.2						
533A	**Kerrville**	55.22	85	P	P	01 17 51.1	0.0
	baz=55						
MIAR	**Mount Ida**	55.34	77	P	P	01 17 51.9	+0.1
	baz=55						
MIAR	**Mount Ida**	55.34	77	*e*P	P	01 17 52.3	+0.4
	6.9nm,1.0s						
236A	**Katherine and**	55.36	81	P	P	01 17 53.0	+1.0
	baz=55						
435B	**Jarrell**	55.59	83	P	P	01 17 54.8	+1.1
	baz=55						
534A	**Blanco**	55.59	84	P	P	01 17 54.0	+0.2
	baz=56						
336A	**Riesel**	55.61	82	P	P	01 17 54.7	+0.9
	baz=56						
732A	**Laxson Ranch,**	55.62	87	P	P	01 17 54.1	+0.2
	baz=56						
832A	**Faith Ranch, C**	55.94	87	P	P	01 17 56.8	+0.5
	baz=56,SNR=11						
733A	**Divot King Ran**	56.03	86	P	P	01 17 57.9	+1.0
	baz=56						
535A	**Dale**	56.14	84	P	P	01 17 58.3	+0.6
	baz=56						
833A	**Chaparral WMA,**	56.26	87	P	P	01 17 59.2	+0.7
	baz=56,SNR=5.6						
734A	**La Parita Cree**	56.39	85	P	P	01 17 59.9	+0.4
	baz=56						
635A	**Leesville**	56.47	84	P	P	01 18 01.3	+1.3
	baz=56						
736A	**Circle Diamond**	57.21	84	P	P	01 18 06.8	+1.6
	baz=57						
034A	**Hebbronville**	57.61	87	P	P	01 18 08.5	+0.5
	baz=58						
035A	**Encino**	58.05	87	P	P	01 18 11.9	+0.7
	baz=58						
KURK	**Kurchatov**	61.93	318	P	P	01 18 36.6	-0.9
KURBB	**Kurchatov Arra**	62.03	318	P	P	01 18 36.6	-1.6
	0.4nm,0.6s,baz=45,slow=7.4,SNR=7.4						
WMQ	**Urumqi**	63.12	308	*e*P	P	01 18 50.3	+4.7
WMQ				pP	pP	01 18 55.3	+8.3
WMQ				sP	sP	01 18 57.3	+10
WMQ				PMZ			
	5.0nm,0.8s						
WMQ				PMZ			
	38nm,3.9s						
CD2	**Chengdu**	64.05	287	P	P	01 18 52.3	+0.3
CD2				pP	pP	01 18 54.3	+1.0
CD2				PP	PP	01 21 12.6	+0.1
CD2				S	S	01 27 29.5	+0.5
CD2				SS	SS	01 31 39.0	+1.8
CD2				PMZ			
	10.0nm,0.6s						
CD2				LN			
	160nm,8.0s						
CD2				LZ			
	150nm,6.3s						
KMI	**Kunming**	68.97	284	P	P	01 19 26.0	+2.3
KMI				PMZ			
	5.0nm,0.7s						
CMAR	**Chiang Mai Arr**	76.33	282	P	P	01 20 05.8	-1.5
	0.6nm,0.3s,baz=21,slow=7.4,SNR=5.4						
GERES	**GERESS Array B**	78.70	358	P	P	01 20 18.8	-1.5
	0.4nm,0.7s,baz=18,slow=4.8,SNR=4.4						
GERES				LR	LR	01 57 07.8	
	comp=Z,69nm,20.3s,baz=260,slow=37						
ESDC	**Sonseca Array**	87.08	11	P	P	01 21 02.7	-1.2
	0.4nm,0.7s,baz=336,slow=6.5,SNR=3.4						
WRA	**Warramunga Arr**	87.11	231	P	P	01 21 02.1	-1.9
	2.0nm,0.9s,baz=34,slow=6.0,SNR=7.3						
ROSC	**El Rosal**	89.42	83	LR	LR	02 01 51.3	
	comp=Z,48nm,21.4s,baz=215,slow=36						
ASAR	**Alice Springs**	90.51	230	P	P	01 21 19.0	-1.0
	4.6nm,0.8s,baz=32,slow=4.6,SNR=32						
TORD	**Torodi Ar. Bea**	113.92	9	PKP	PKiKP	01 26 55.7	-1.7
	0.5nm,0.6s,baz=21,slow=1.5,SNR=7.9						
LBTB	**Lobatse**	149.95	331	*e*PKPbc	PKPbc	01 28 08.7	+0.1
MAW	**Mawson**	151.08	219	PKPbc	PKPbc	01 28 08.6	-1.2
	2.6nm,0.8s,baz=91,slow=2.9,SNR=7.9						
BOSA	**Boshof**	153.43	330	PKPbc	PKPbc	01 28 15.0	-1.5
	4.3nm,0.7s,baz=19,slow=2.8,SNR=11						
VNA2	**Neumayer--Watz**	160.14	163	P	PKPab	01 28 55.8	-0.5
	baz=243,slow=2.3						
VNA1	**Neumayer--Stat**	160.21	162	P	PKPab	01 28 55.2	-1.3

*IDC **19** 01:16:27.4±2.2,38.72S×73.61W,h0km,mb3.7/5, mb1 3.8/7,mb1mx3.7/30,mbtmp3.6/7,ML3.6/2,Error ellipse: s-maj=52.2km s-min=36.6km az=160.0*

ISC 19 01:16:30.8±2.0,38.6S±0.3×73.5W±0.2,h18km,n7,σ1s07/7, mb3.7/5,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	8.21	33	Pn	Pn	01 18 28.4	-0.8
	0.1nm,0.3s,baz=225,slow=11,SNR=13						
CPUP	**Villa Florida**	18.30	53	P	P	01 20 44.2	+0.4
	0.2nm,0.3s,baz=227,slow=9.2,SNR=4.5						
LPAZ	**La Paz**	22.74	13	P	P	01 21 34.4	+1.8
	0.9nm,0.7s,baz=180,slow=12,SNR=2.9						
SIV	**San Ignacio**	25.05	29	P	P	01 21 53.8	-0.3
	4.0nm,1.1s,baz=227,slow=12,SNR=7.2						
TXAR	**Lajitas Array**	73.24	333	P	P	01 28 00.3	-0.5
	0.4nm,0.6s,baz=154,slow=7.6,SNR=8.0						
TORD	**Torodi Ar. Bea**	86.87	71	P	P	01 29 15.0	+0.3
	0.7nm,0.8s,baz=218,slow=3.7,SNR=7.8						
PDAR	**Pinedale Array**	87.37	334	P	P	01 29 16.7	-0.1
	0.4nm,0.9s,baz=126,slow=7.7,SNR=3.7						

IDC 19 01:18:47.9±3.5,5.81S×150.23E,h0km,mb3.3/2, mb1 3.7/2,mb1mx3.3/25,mbtmp3.4/2,Error ellipse: s-maj=138.4km s-min=45.7km az=116.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	20.88	226	P	P	01 23 31.8	-0.1
	0.9nm,0.4s,baz=52,slow=11,SNR=5.0						
ASAR	**Alice Springs**	23.71	220	P	P	01 24 01.6	-0.2
	0.3nm,0.4s,baz=58,slow=8.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	148.14	286	PKPbc	PKPbc	01 38 36.3	-0.6
	0.7nm,0.4s,baz=86,slow=2.5,SNR=24						

*IDC **19** 01:22:57.5±22.0,52.76N×172.96W,h0km,mb3.5/4, mb1 3.9/4,mb1mx3.4/45,mbtmp3.5/4,MS2.8/1,Ms1 2.8/1, ms1mx2.4/39,Error ellipse: s-maj=412.4km s-min=110.2km az=90.0*

*ISCJB **19** 01:23:15.5±1.2,52.8N±0.1×169.5W±0.1,h8km±7km, mb3.4/4,MS2.9/1,Error ellipse: s-maj=23.5km s-min=6.0km az=154.0*

*NEIC **19** 01:23:15.7,52.75N×169.43W,h4km,ML3.1(AEIC),After AEIC.*

ISC 19 01:23:15.6±1.9,52.9N±0.1×169.51W±0.07,h3km±12km, n17,σ1s34/22,mb3.4/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	0.41	73	P	Pg	01 23 24.4	+0.8
NIKH				S	Sb	01 23 32.2	0.0
OKAK	**Okmok**	1.00	43	P	Pg	01 23 33.6	-1.2
OKAK				S	Sg	01 23 47.8	0.0
OKRE	**Okmok R'deer P**	1.05	50	P	Pg	01 23 36.1	+0.4
MSOM	**Makushin Julie**	1.81	57	P	Pn	01 23 47.6	-0.1
MSOM				S	Sb	01 24 12.5	+0.1
MCIR	**Makushin Cirqu**	1.91	54	P	Pn	01 23 49.7	+0.5
MSW	**Makushin Switc**	1.95	56	P	Pn	01 23 49.7	+0.1
MSW				S	Sn	01 24 15.7	+1.2
UNV	**Unalaska Valle**	2.06	60	*e*Pn	Pn	01 23 51.2	+0.1
UNV				*e*S	Sn	01 24 18.2	+1.0
ZRO	**Akutan Zero**	2.45	58	P	Pn	01 23 57.5	+1.1
AKGG	**Akutan Green G**	2.49	56	P	Pn	01 23 58.3	+1.2
AKUT	**Akutan**	2.57	59	*e*Pn	Pn	01 23 58.6	+0.5
AKUT				*e*S	Sn	01 24 31.9	+2.0
ATKA	**Atka Island**	2.94	259	P	Pn	01 24 03.1	0.0
GSTR	**Great Sitkin T**	4.08	262	*e*Pn	Pn	01 24 15.9	-2.9
GSTR				*e*S	Sn	01 25 09.8	+2.7
DLBC	**Dease Lake**	22.71	60	P	P	01 28 19.6	+1.3
	1.1nm,0.8s,baz=294,slow=18,SNR=3.6						
NVAR	**Mina Array Bea**	37.76	91	P	P	01 30 33.3	+0.4
	0.5nm,0.7s,baz=302,slow=9.3,SNR=3.4						
PDAR	**Pinedale Array**	40.40	80	P	P	01 30 52.4	-2.6
	0.4nm,0.7s,baz=320,slow=3.9,SNR=3.9						
JNU	**Nakatsue**	46.38	269	LR	LR	01 51 53.3	
	comp=Z,11nm,18.4s,baz=171,slow=39						
TXAR	**Lajitas Array**	52.82	89	P	P	01 32 30.2	-2.1
	0.6nm,0.7s,baz=299,slow=5.4,SNR=9.3						

NEIC 19 01:27:53.0,21.14N×157.68W,h32km,ML3.6(HVO),2D, After HVO.,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHH	**Diamond Head**	0.17	318	⇓*i*P	Pn	01 27 59.5	+0.1
DHH				S	Sb	01 28 03.7	+0.4
WMR	**Waimanalo Ridg**	0.18	360	P	Pn	01 27 59.8	+0.2
WMR				S	Sn	01 28 04.5	+0.8
HON	**Honolulu**	0.35	302	*e*Pg	Pb	01 28 00.8	-0.5
HON				*e*S	Sb	01 28 06.9	-0.1
KIP	**Kipapa**	0.42	312	*e*Pg	Pb	01 28 01.3	-1.0
KIP				*e*Sg	Sb	01 28 07.8	-0.8
OPA	**Opana**	0.62	331	*e*Pg	Pb	01 28 04.5	-1.1
OPA				*e*Pn	Pn	01 28 04.8	-0.9
OPA				*e*Sg	Sb	01 28 12.0	-2.2
HLK	**Haleakala**	1.39	106	*e*Pn	Pn	01 28 15.8	-0.8
HLK				*e*Sn	Sn	01 28 28.1	-6.0
KOH	**Kohala**	2.05	119	P	Pn	01 28 23.1	-2.3
KEKH	**Kekaha**	2.07	294	⇓*e*P	Pn	01 28 23.3	-2.2
KEKH				S	Sn	01 28 44.5	-5.7
KKH	**Kailua Kona**	2.15	133	*e*Pn	Pn	01 28 24.4	-2.2
KKH				*e*Sn	Sn	01 28 43.0	-9.1
KKH				*e*Lg	Lg	01 28 48.6	
HUH	**Hualalai**	2.26	130	P	Pn	01 28 25.6	-2.9
WKH	**Waikii**	2.28	124	P	Pn	01 28 26.4	-2.3
CPH	**Captain Cook**	2.33	134	P	Pn	01 28 26.3	-2.9
KIH	**Kanekii**	2.42	132	P	Pn	01 28 28.2	-2.5
POHA	**Pohakuloa**	2.44	124	*e*Pn	Pn	01 28 27.9	-3.1
POHA				*e*S	Sn	01 28 54.9	-5.0
KKU	**Keanakolu**	2.52	119	P	Pn	01 28 29.8	-2.3
KUH	**Kaapuna**	2.52	137	P	Pn	01 28 29.4	-2.5
MWH	**Moku'aweowe**	2.56	130	P	Pn	01 28 29.5	-3.4
HMH	**Humu'ula Sheep**	2.57	126	P	Pn	01 28 30.0	-2.8
SWH	**Southwest Rift**	2.57	130	P	Pn	01 28 29.7	-3.4
RCO	**Red Cone**	2.58	131	P	Pn	01 28 30.0	-3.3
DAH	**Dandelion**	2.59	133	P	Pn	01 28 30.2	-3.1
PLL	**Puu Ulaula**	2.63	127	P	Pn	01 28 30.6	-3.1
TRH	**Trail**	2.64	130	P	Pn	01 28 30.6	-3.3
OVEH	**Oceanview Est**	2.67	137	P	Pn	01 28 31.2	-2.9
KHU	**Kahuku**	2.71	134	P	Pn	01 28 31.4	-3.2
MLH	**Mauna Loa**	2.71	127	P	Pn	01 28 31.5	-3.1
AIN	**Ainahou**	2.73	130	P	Pn	01 28 31.7	-3.2
DES	**Desert**	2.80	129	P	Pn	01 28 32.6	-3.2
SPT	**South Point**	2.86	138	P	Pn	01 28 33.4	-3.1
HTC	**Hot Caves**	2.86	131	P	Pn	01 28 33.5	-3.0
PPL	**Puu Pili**	2.87	133	P	Pn	01 28 33.3	-3.2
KNHH	**Kane Nui o Ham**	2.94	126	P	Pn	01 28 34.4	-3.2
PKL	**Puu Kaliu**	3.08	122	P	Pn	01 28 36.5	-3.0

*IDC **19** 01:43:19.6±1.7,52.50N×169.61W,h0km,mb3.9/3, mb1 4.1/4,mb1mx3.5/76,mbtmp3.7/4,ML3.6/1,Error ellipse: s-maj=57.6km s-min=30.5km az=141.0*

*ISCJB **19** 01:43:20.1±1.4,52.49N±0.09×169.51W±0.09,h5km±8km, mb3.8/3,Error ellipse: s-maj=17.6km s-min=5.0km az=152.4*

*NEIC **19** 01:43:22.6,52.70N×169.53W,h5km,ML3.5(AEIC),After AEIC.*

ISC 19 01:43:21.0±1.8,52.7N±0.1×169.63W±0.06,h1km±11km, n26,σ1s82/31,mb3.9/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	0.55	59	P	Pg	01 43 32.7	+1.1
NIKH				S	Sg	01 43 40.6	+1.9
OKCE	**Okmok Cone E**	1.15	50	P	Pg	01 43 43.3	+0.2
OKCE				S	Sb	01 44 00.8	+1.6
OKAK	**Okmok**	1.17	40	P	Pg	01 43 42.1	-1.4
OKAK				S	Sg	01 43 55.8	-2.9
OKTU	**Okmok Mt. Tuli**	1.18	53	P	Pg	01 43 44.3	+0.6
MSOM	**Makushin Julie**	1.97	54	P	Pn	01 43 56.0	+0.5
MCIR	**Makushin Cirqu**	2.07	51	P	Pn	01 43 57.9	+1.0
MSW	**Makushin Switc**	2.10	53	P	Pn	01 43 57.7	+0.4
MSW				S	Sn	01 44 24.9	+0.7
MTBL	**Makushin Table**	2.18	53	P	Pn	01 43 58.9	+0.3
UNV	**Unalaska Valle**	2.21	57	*e*Pn	Pn	01 43 58.3	-0.4
UNV				*e*S	Sn	01 44 26.5	-0.1
AKRB	**Akutan Reef Bi**	2.57	55	P	Pn	01 44 04.7	+0.9
ZRO	**Akutan Zero**	2.60	56	P	Pn	01 44 05.3	+1.1
AKGG	**Akutan Green G**	2.65	54	P	Pn	01 44 05.3	+0.5
AKUT	**Akutan**	2.72	56	*e*Pn	Pn	01 44 07.0	+1.1
AKUT				*e*S	Sn	01 44 41.2	+1.8
ATKA	**Atka Island**	2.84	262	P	Pn	01 44 08.0	+0.6
GSTR	**Great Sitkin T**	3.98	264	*e*Pn	Pn	01 44 24.5	+1.2
GSTR				*e*S	Sn	01 45 12.8	+2.2
FALS	**False Pass**	4.28	57	*e*Pn	Pn	01 44 28.2	+1.0
FALS				*e*S	Sn	01 45 23

*MDD **19** 01:44:45.5±0.5, 35°.84N×4°.12E, h0km, mb4.2/15, Error ellipse: s-maj=8.8km s-min=3.2km az=7.0, PRXIMO*
*CSEM **19** 01:44:45.2±0.2, 35°.84N×4°.12E, h10km, ML4.1, Error ellipse: s-maj=6.6km s-min=3.4km az=1.0*
ISC 19 01:44:44.8±0.8, 35°.95N±0°.05×4°.14E±0°.03, h8km±6km, n176, σ1§66/215, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAF	**Djebel Tarf**	**0.13**	**123**	P	**Pg**	**01 44 47.6**	**-0.2**
ATAF	**Djebel Tarf**	**0.13**	**123**	P	**Pg**	**01 44 47.6**	**-0.2**
ATAF	**Djebel Tarf**	**0.13**	**123**	P	**Pg**	**01 44 47.6**	**-0.2**
AKET	**Djebel Ketaf**	**0.23**	**296**	P	**Pg**	**01 44 49.5**	**-0.1**
AKET	**Djebel Ketaf**	**0.23**	**296**	P	**Pg**	**01 44 49.5**	**-0.1**
AKET	**Djebel Ketaf**	**0.23**	**296**	P	**Pg**	**01 44 49.5**	**-0.1**
ADJB	**Djebel Djouab**	**0.61**	**291**	P	**Pg**	**01 44 57.2**	**+0.6**
ADJB	**Djebel Djouab**	**0.61**	**291**	P	**Pg**	**01 44 57.2**	**+0.6**
ADJB	**Djebel Djouab**	**0.61**	**291**	P	**Pg**	**01 44 57.2**	**+0.6**
EMHD	**Djebel Mahouad**	**1.00**	**285**	P	**Pg**	**01 45 04.5**	**+0.5**
EMHD	**Djebel Mahouad**	**1.00**	**285**	P	**Pg**	**01 45 04.5**	**+0.5**
EMHD	**Djebel Mahouad**	**1.00**	**285**	P	**Pg**	**01 45 04.5**	**+0.5**
SET	**Setif**	**1.05**	**76**	P	**Pn**	**01 45 06.0**	**+0.1**
SET	**Setif**	**1.05**	**76**	P	**Pn**	**01 45 06.0**	**+0.1**
SET	**Setif**	**1.05**	**76**	P	**Pn**	**01 45 06.0**	**+0.1**
CKHR	**Kef el Ahmar**	**1.11**	**86**	P	**Pn**	**01 45 06.9**	**+0.1**
CKHR	**Kef el Ahmar**	**1.11**	**86**	P	**Pn**	**01 45 06.9**	**+0.1**
CKHR	**Kef el Ahmar**	**1.11**	**86**	P	**Pn**	**01 45 06.9**	**+0.1**
ABA	**Alger-Bouzarea**	**1.24**	**314**	P	**Pn**	**01 45 07.2**	**-1.2**
ABA	**Alger-Bouzarea**	**1.24**	**314**	P	**Pn**	**01 45 07.2**	**-1.2**
ABA	**Alger-Bouzarea**	**1.24**	**314**	P	**Pn**	**01 45 07.2**	**-1.2**
DFRA	**Djebel Bou Aff**	**1.52**	**66**	P	**Pg**	**01 45 15.0**	**+0.9**
DFRA	**Djebel Bou Aff**	**1.52**	**66**	P	**Pg**	**01 45 15.0**	**+0.9**
DFRA	**Djebel Bou Aff**	**1.52**	**66**	P	**Pg**	**01 45 15.0**	**+0.9**
CTEI	**Djebel Teioual**	**1.84**	**86**	P	**Pn**	**01 45 17.8**	**+1.0**
CTEI	**Djebel Teioual**	**1.84**	**86**	P	**Pn**	**01 45 17.8**	**+1.0**
CTEI	**Djebel Teioual**	**1.84**	**86**	P	**Pn**	**01 45 17.8**	**+1.0**
CASM	**Ain Smara**	**1.93**	**80**	P	**Pn**	**01 45 17.9**	**0.0**
CASM	**Ain Smara**	**1.93**	**80**	P	**Pn**	**01 45 17.9**	**0.0**
CASM	**Ain Smara**	**1.93**	**80**	P	**Pn**	**01 45 17.9**	**0.0**
CKFL	**Kef-Lekhel**	**2.13**	**77**	P	**Pn**	**01 45 21.7**	**+0.9**
CKFL	**Kef-Lekhel**	**2.13**	**77**	P	**Pn**	**01 45 21.7**	**+0.9**
CKFL	**Kef-Lekhel**	**2.13**	**77**	P	**Pn**	**01 45 21.7**	**+0.9**
EBNR	**Beni Rached**	**2.14**	**280**	P	**Pg**	**01 45 27.3**	**+1.4**
ECHA	**Ech Chlef**	**2.26**	**276**	P	**Pn**	**01 45 23.0**	**+0.6**
ECHA	**Ech Chlef**	**2.26**	**276**	P	**Pn**	**01 45 23.0**	**+0.6**
ECHF	**Ech Chlef**	**2.28**	**276**	P	**Pn**	**01 45 23.0**	**+0.3**
ECHF	**Ech Chlef**	**2.28**	**276**	P	**Pn**	**01 45 23.0**	**+0.3**
ETRT	**Tiaret**	**2.38**	**257**	P	**Pn**	**01 45 24.7**	**+0.5**
ETRT	**Tiaret**	**2.38**	**257**	P	**Pn**	**01 45 24.7**	**+0.5**
ETRT	**Tiaret**	**2.38**	**257**	P	**Pn**	**01 45 24.7**	**+0.5**
EANR	**'Ain N'Sour**	**2.47**	**271**	P	**Pn**	**01 45 25.9**	**+0.6**
EANR	**'Ain N'Sour**	**2.47**	**271**	P	**Pn**	**01 45 25.9**	**+0.6**
EANR	**'Ain N'Sour**	**2.47**	**271**	P	**Pn**	**01 45 25.9**	**+0.6**
ABSA	**Djebel Ababsia**	**2.72**	**82**	P	**Pn**	**01 45 28.9**	**0.0**
ABSA	**Djebel Ababsia**	**2.72**	**82**	P	**Pn**	**01 45 28.9**	**0.0**
CABS	**Djebel Ababsia**	**2.72**	**82**	P	**Pn**	**01 45 28.9**	**0.0**
CABS	**Djebel Ababsia**	**2.72**	**82**	P	**Pn**	**01 45 28.9**	**0.0**
CMAH	**Djebel Manchou**	**2.73**	**75**	P	**Pn**	**01 45 28.9**	**-0.1**
CMAH	**Djebel Manchou**	**2.73**	**75**	P	**Pn**	**01 45 28.9**	**-0.1**
CMAH	**Djebel Manchou**	**2.73**	**75**	P	**Pn**	**01 45 28.9**	**-0.1**
OKGL	**Djebel Kef Gue** 25nm,0.1s,SNR=7.9	**2.84**	**273**	P	**Pn**	**01 45 30.6**	**+0.2**
OKGL	**Djebel Kef Gue** 25nm,0.1s,SNR=7.9	**2.84**	**273**	P	**Pn**	**01 45 30.6**	**+0.2**
EIBI	**Ibiza** 0.2nm,0.3s,SNR=13	**3.80**	**325**	P	**Pn**	**01 45 44.5**	**+0.9**
EIBI	14nm,0.3s			S	**Sn**	**01 46 29.7**	**+1.4**
EIBI	**Ibiza** 0.2nm,0.3s,SNR=13	**3.80**	**325**	P	**Pn**	**01 45 44.5**	**+0.9**
EIBI	14nm,0.3s			S	**Sn**	**01 46 29.7**	**+1.4**
ETOS	**Mallorca** 0.5nm,0.2s,SNR=29	**3.96**	**345**	P	**Pn**	**01 45 46.2**	**+0.4**
ETOS	6.3nm,0.4s			S	**Sn**	**01 46 33.6**	**+1.2**
ETOS	**Mallorca** 0.5nm,0.2s,SNR=29	**3.96**	**345**	P	**Pn**	**01 45 46.2**	**+0.4**
ETOS	6.3nm,0.4s			S	**Sn**	**01 46 33.6**	**+1.2**
KEST	**Kesra** 0.6nm,0.3s,baz=116,slow=2.7,SNR=32	**4.23**	**91**	Pn	**Pn**	**01 45 49.4**	**-0.2**
KEST	1.0nm,0.3s,baz=307,slow=8.6,SNR=5.2			Sn	**Sn**	**01 46 39.3**	**0.0**
EBEN	**Beniarda** 0.1nm,0.2s,SNR=7.1	**4.44**	**310**	P	**Pn**	**01 45 52.8**	**+0.4**
EBEN	1.9nm,0.4s			S	**Sn**	**01 46 44.4**	**+0.1**
EBEN	**Beniarda** 0.1nm,0.2s,SNR=7.1	**4.44**	**310**	P	**Pn**	**01 45 52.8**	**+0.4**
EBEN	1.9nm,0.4s			S	**Sn**	**01 46 44.4**	**+0.1**
EMUR	**La Murta** 9.3nm,0.5s,SNR=38	**4.71**	**295**	P	**Pn**	**01 45 56.5**	**+0.4**
EMUR	7.3nm,0.3s			S	**Sn**	**01 46 50.5**	**-0.5**
EMUR	**La Murta** 9.3nm,0.5s,SNR=38	**4.71**	**295**	P	**Pn**	**01 45 56.5**	**+0.4**
EMUR	7.3nm,0.3s			S	**Sn**	**01 46 50.5**	**-0.5**
ENIJ	**Nijar** 1.9nm,0.4s,SNR=7.9	**5.22**	**283**	P	**Pn**	**01 46 02.6**	**-0.5**
ENIJ	7.2nm,0.4s,SNR=7.9			S	**Sn**	**01 47 01.5**	**-2.0**
ENIJ	**Nijar** 1.9nm,0.4s,SNR=7.9	**5.22**	**283**	P	**Pn**	**01 46 02.6**	**-0.5**
ENIJ	7.2nm,0.4s,SNR=7.9			S	**Sn**	**01 47 01.5**	**-2.0**
ETOB	**Tobarra** 1.3nm,0.2s,SNR=31	**5.28**	**302**	P	**Pn**	**01 46 05.6**	**+1.6**
ETOB	3.0nm,0.2s			S	**Sn**	**01 47 06.0**	**+1.1**
ETOB	**Tobarra** 1.3nm,0.2s,SNR=31	**5.28**	**302**	P	**Pn**	**01 46 05.6**	**+1.6**
ETOB	3.0nm,0.2s			S	**Sn**	**01 47 06.0**	**+1.1**
EMOS	**Mosqueruela** 0.5nm,0.2s,SNR=11	**5.72**	**322**	P	**Pn**	**01 46 10.9**	**+0.8**
EMOS	1.5nm,0.4s			S	**Sn**	**01 47 14.6**	**-1.3**
EMOS	**Mosqueruela** 0.5nm,0.2s,SNR=11	**5.72**	**322**	P	**Pn**	**01 46 10.9**	**+0.8**
EBER	**Berja** 1.6nm,0.4s,SNR=18	**5.75**	**282**	P	**Pn**	**01 46 10.5**	**-0.1**
EBER	5.5nm,0.4s,SNR=5.0			S	**Sn**	**01 47 14.7**	**-2.1**
EBER	**Berja** 1.6nm,0.4s,SNR=18	**5.75**	**282**	P	**Pn**	**01 46 10.5**	**-0.1**
EBER	5.5nm,0.4s,SNR=5.0			S	**Sn**	**01 47 14.7**	**-2.1**
SESP	**Santiago Espad** 9.5nm,0.2s,SNR=7.9	**5.77**	**294**	P	**Pn**	**01 46 12.5**	**+1.7**
SESP	11nm,0.4s,SNR=7.9			S	**Sn**	**01 47 17.5**	**+0.2**
SESP	**Santiago Espad** 9.5nm,0.2s,SNR=7.9	**5.77**	**294**	P	**Pn**	**01 46 12.5**	**+1.7**
SESP	11nm,0.4s,SNR=7.9			S	**Sn**	**01 47 17.5**	**+0.2**
ERTA	**Horta de San J** 0.3nm,0.2s,SNR=6.0	**5.83**	**330**	P	**Pn**	**01 46 12.9**	**+1.4**
ERTA	1.0nm,0.3s,SNR=7.9			S	**Sn**	**01 47 18.3**	**-0.2**
ERTA	**Horta de San J** 0.3nm,0.2s,SNR=6.0	**5.83**	**330**	P	**Pn**	**01 46 12.9**	**+1.4**
ERTA	1.0nm,0.3s,SNR=7.9			S	**Sn**	**01 47 18.3**	**-0.2**
EPOB	**Poblet** 0.4nm,0.1s,SNR=6.9	**5.91**	**337**	P	**Pn**	**01 46 14.3**	**+1.7**
EPOB	0.8nm,0.3s,SNR=6.3			S	**Sn**	**01 47 20.0**	**-0.4**
EPOB	**Poblet** 0.4nm,0.1s,SNR=6.9	**5.91**	**337**	P	**Pn**	**01 46 14.3**	**+1.7**
CFON	**Fontmartina** 0.3nm,0.1s,SNR=14	**5.96**	**348**	P	**Pn**	**01 46 15.3**	**+2.0**
CFON	2.8nm,0.2s			S	**Sn**	**01 47 23.6**	**+1.8**
CFON	**Fontmartina** 0.3nm,0.1s,SNR=14	**5.96**	**348**	P	**Pn**	**01 46 15.3**	**+2.0**
CFON	2.8nm,0.2s			S	**Sn**	**01 47 23.6**	**+1.8**
GORA	**Gorafe** 0.8nm,0.2s,SNR=7.9	**5.97**	**287**	P	**Pn**	**01 46 13.6**	**+0.1**
GORA	8.7nm,0.3s,SNR=7.9			S	**Sn**	**01 47 22.0**	**0.0**
GORA	**Gorafe**	**5.97**	**287**	P	**Pn**	**01 46 13.6**	**+0.1**
GORA	8.7nm,0.3s,SNR=7.9			S	**Sn**	**01 47 22.0**	**0.0**
EQES	**Quesada** 0.6nm,0.5s,SNR=51	**6.07**	**290**	P	**Pn**	**01 46 16.4**	**+1.5**
EQES	6.8nm,0.3s,SNR=4.7			S	**Sn**	**01 47 23.3**	**-1.3**
EQES	**Quesada** 0.6nm,0.5s,SNR=51	**6.07**	**290**	P	**Pn**	**01 46 16.4**	**+1.5**
EQES	6.8nm,0.3s,SNR=4.7			S	**Sn**	**01 47 23.3**	**-1.3**
EQUE	**Quentar** 2.8nm,0.3s,SNR=11	**6.23**	**284**	P	**Pn**	**01 46 18.2**	**+1.1**
EQUE	3.3nm,0.4s,SNR=7.9			S	**Sn**	**01 47 26.5**	**-2.0**
EQUE	**Quentar** 2.8nm,0.3s,SNR=11	**6.23**	**284**	P	**Pn**	**01 46 18.2**	**+1.1**
EQUE	3.3nm,0.4s,SNR=7.9			S	**Sn**	**01 47 26.5**	**-2.0**
EMIR	**Miracle** 5.0nm,0.3s,SNR=20	**6.30**	**342**	P	**Pn**	**01 46 19.7**	**+1.7**
EMIR	6.5nm,0.5s,SNR=5.6			S	**Sn**	**01 47 29.5**	**-0.7**
EMIR	**Miracle** 5.0nm,0.3s,SNR=20	**6.30**	**342**	P	**Pn**	**01 46 19.7**	**+1.7**
EJON	**La Jonquera** 2.6nm,0.3s,SNR=9.9	**6.57**	**352**	P	**Pn**	**01 46 23.8**	**+2.2**
EJON	1.4nm,0.3s,SNR=7.9			S	**Sn**	**01 47 37.1**	**+0.5**
EJON	**La Jonquera** 2.6nm,0.3s,SNR=9.9	**6.57**	**352**	P	**Pn**	**01 46 23.8**	**+2.2**
SJAF	**Saint Jean de** 2.8nm,0.3s,SNR=7.9	**6.60**	**352**	P	Pn	01 46 25.2	+3.1
SJAF	0.8nm,0.3s,SNR=7.9			S	**Sn**	**01 47 38.5**	**+0.9**
SJAF	**Saint Jean de** 2.8nm,0.3s,SNR=7.9	**6.60**	**352**	P	Pn	01 46 25.2	+3.1
SJAF	0.8nm,0.3s,SNR=7.9			S	**Sn**	**01 47 38.5**	**+0.9**
CLLI	**Llivia** 1.6nm,0.2s,SNR=15	**6.74**	**346**	P	**Pn**	**01 46 26.7**	**+2.6**
CLLI	0.6nm,0.3s,SNR=7.9			S	**Sn**	**01 47 40.8**	**-0.3**
CLLI	**Llivia** 1.6nm,0.2s,SNR=15	**6.74**	**346**	P	**Pn**	**01 46 26.7**	**+2.6**
CSOR	**Sort** 0.3nm,0.1s,SNR=9.9	**6.83**	**341**	P	**Pn**	**01 46 27.5**	**+2.1**
CSOR	0.8nm,0.4s,SNR=7.9			S	**Sn**	**01 47 43.9**	**+0.6**
CSOR	**Sort** 0.3nm,0.1s,SNR=9.9	**6.83**	**341**	P	**Pn**	**01 46 27.5**	**+2.1**
CSOR	0.8nm,0.4s,SNR=7.9			S	**Sn**	**01 47 43.9**	**+0.6**
ETOR	**Torete** 3.3nm,0.2s,SNR=6.3	**6.88**	**317**	P	**Pn**	**01 46 28.7**	**+2.7**
ETOR	**Torete** 3.3nm,0.2s,SNR=6.3	**6.88**	**317**	P	**Pn**	**01 46 28.7**	**+2.7**
EMIJ	**Mijas** 1.2nm,0.4s,SNR=5.5	**7.23**	**278**	P	**Pn**	**01 46 29.9**	**-0.8**
EMIJ	1.3nm,0.3s,SNR=4.7			S	**Sn**	**01 47 48.2**	**-4.8**
EMIJ	**Mijas** 1.2nm,0.4s,SNR=5.5	**7.23**	**278**	P	**Pn**	**01 46 29.9**	**-0.8**
EADA	**Adamuz** 0.3nm,0.2s,SNR=7.9	**7.32**	**290**	P	**Pn**	**01 46 32.3**	**+0.4**
EADA	1.0nm,0.4s,SNR=7.9			S	**Sn**	**01 47 52.0**	**-3.2**
EADA	**Adamuz** 0.3nm,0.2s,SNR=7.9	**7.32**	**290**	P	**Pn**	**01 46 32.3**	**+0.4**
ESDC	**Sonseca Array** 0.7nm,0.3s,baz=122,slow=13,SNR=10	**7.42**	**303**	Pn	**Pn**	**01 46 32.2**	**-1.1**
ESDC	0.7nm,0.3s,baz=125,slow=29,SNR=4.5			Sn	Sb	01 48 11.2	-11
ESDC	**Sonseca Array** 0.7nm,0.3s,baz=118,slow=14,SNR=16	**7.42**	**303**	P	**Pn**	**01 46 34.0**	**+0.7**
ESDC	0.1nm,0.2s,baz=118,slow=24,SNR=7.9			S	**Sn**	**01 47 56.9**	**-0.7**
ESDC	**Sonseca Array** 0.7nm,0.3s,SNR=16	**7.42**	**303**	P	**Pn**	**01 46 34.0**	**+0.7**
ESDC	0.1nm,0.2s,SNR=7.9			S	**Sn**	**01 47 56.9**	**-0.7**
MTLF	**Montolieu** 2.5nm,0.6s	**7.53**	**349**	*e*P	**Pn**	**01 46 36.8**	**+1.9**
MTLF	**Montolieu**	**7.53**	**349**	P	**Pn**	**01 46 36.8**	**+1.9**
MTLF	**Montolieu**	**7.53**	**349**	P	**Pn**	**01 46 36.8**	**+1.9**
PGF	**Pioggiola** 1.2nm,0.6s	**7.59**	**28**	*e*Pn	**Pn**	**01 46 35.4**	**-0.4**
PGF	**Pioggiola**	**7.59**	**28**	P	**Pn**	**01 46 35.4**	**-0.4**
LMR	**La Mourre** 2.3nm,0.3s,baz=59,slow=13,SNR=11	**7.60**	**13**	*e*Pn	**Pn**	**01 46 35.3**	**-0.5**
LMR	**La Mourre**	**7.60**	**13**	P	**Pn**	**01 46 35.3**	**-0.5**
LMR	**La Mourre**	**7.60**	**13**	*e*Pn	**Pn**	**01 46 35.3**	**-0.5**
PAB	**San Pablo** 0.4nm,0.1s,SNR=7.9	**7.62**	**301**	P	**Pn**	**01 46 36.7**	**+0.5**
PAB	**San Pablo** 0.4nm,0.1s,SNR=7.9	**7.62**	**301**	P	**Pn**	**01 46 36.7**	**+0.5**
EPF	**Esparros** 2.5nm,0.6s	**7.66**	**339**	*e*P	**Pn**	**01 46 39.0**	**+2.3**
EPF				*e*Sn	Sn	01 47 56.8	-6.8
EPF	**Esparros** 1.2nm,0.6s	**7.66**	**339**	P	**Pn**	**01 46 39.0**	**+2.3**
EPF				S	Sn	01 47 56.8	-6.8
EPF	**Esparros**	**7.66**	**339**	P	**Pn**	**01 46 39.0**	**+2.3**
ETSF	**Etsaut**	**7.84**	**334**	*e*Pn	**Pn**	**01 46 40.6**	**+1.5**
ETSF	**Etsaut**	**7.84**	**334**	P	**Pn**	**01 46 40.6**	**+1.5**
ETSF	**Etsaut**	**7.84**	**334**	P	**Pn**	**01 46 40.6**	**+1.5**
MDT	**Midelt** 0.2nm,0.3s,baz=59,slow=13,SNR=11	**7.88**	**249**	Pn	**Pn**	**01 46 39.0**	**-0.8**
ECAB	**El Cabril** 0.3nm,0.2s,SNR=6.3	**7.94**	**288**	P	**Pn**	**01 46 40.2**	**-0.3**
ECAB	0.5nm,0.4s,SNR=5.9			S	**Sn**	**01 48 09.0**	**-1.4**
ECAB	**El Cabril** 0.3nm,0.2s,SNR=6.3	**7.94**	**288**	P	**Pn**	**01 46 40.2**	**-0.3**
ECAB	0.5nm,0.4s,SNR=5.9			S	**Sn**	**01 48 09.0**	**-1.4**
GUD	**Guadarrama** 0.4nm,0.2s,SNR=7.9	**8.03**	**308**	P	**Pn**	**01 46 42.5**	**+0.7**
GUD	**Guadarrama** 0.4nm,0.2s,SNR=7.9	**8.03**	**308**	P	**Pn**	**01 46 42.5**	**+0.7**
ATE	**Arette** 0.2nm,0.2s,SNR=7.9	**8.05**	**334**	P	**Pn**	**01 46 43.9**	**+1.9**
ATE	0.8nm,0.3s,SNR=7.9			S	**Sn**	**01 48 11.0**	**-2.1**
ATE	**Arette** 0.2nm,0.2s,SNR=7.9	**8.05**	**334**	P	**Pn**	**01 46 43.9**	**+1.9**
SMRF	**Simiane la Rot**	**8.10**	**7**	*e*Pn	**Pn**	**01 46 41.2**	**-1.4**
SMRF	**Simiane la Rot**	**8.10**	**7**	P	**Pn**	**01 46 41.2**	**-1.4**
LASF	**Ste Croix** 4.2nm,0.7s	**8.12**	**359**	*e*Pn	**Pn**	**01 46 41.2**	**-1.8**
LASF				*e*Sn	**Sn**	**01 48 09.2**	**-5.8**
LASF	**Ste Croix** 2.1nm,0.7s	**8.12**	**359**	P	**Pn**	**01 46 41.2**	**-1.8**
LASF				S	**Sn**	**01 48 09.2**	**-5.8**
SJPF	**Ste Jean**	**8.27**	**332**	*e*P	**Pn**	**01 46 47.7**	**+2.7**
SJPF	**Ste Jean**	**8.27**	**332**	P	**Pn**	**01 46 47.7**	**+2.7**
SJPF	**Ste Jean**	**8.27**	**332**	P	**Pn**	**01 46 47.7**	**+2.7**
SBF	**Sospel**	**8.30**	**17**	*e*Pn	**Pn**	**01 46 44.3**	**-1.2**
SBF	**Sospel**	**8.30**	**17**	P	**Pn**	**01 46 44.3**	**-1.2**
EALK	**Alkurruntz** 0.6nm,0.4s,SNR=7.9	**8.47**	**331**	P	Pn	01 46 51.0	+3.3
EALK	2.3nm,0.5s,SNR=7.9			S	**Sn**	**01 48 22.3**	**-1.1**
EALK	**Alkurruntz** 0.6nm,0.4s,SNR=7.9	**8.47**	**331**	P	Pn	01 46 51.0	+3.3
EMIN	**Mina Concepcio** 0.3nm,0.2s,SNR=7.9	**8.86**	**285**	P	**Pn**	**01 46 54.5**	**+1.5**
EMIN	**Mina Concepcio** 0.3nm,0.2s,SNR=7.9	**8.86**	**285**	P	**Pn**	**01 46 54.5**	**+1.5**
VIVF	**Saint-Julien-l** 1.4nm,0.4s	**8.91**	**2**	*e*Pn	**Pn**	**01 46 52.1**	**-1.7**
VIVF				*e*Sn	Sn	01 48 28.0	-6.3
VIVF	**Saint-Julien-l** 0.7nm,0.4s	**8.91**	**2**	P	**Pn**	**01 46 52.1**	**-1.7**
VIVF				S	Sn	01 48 28.0	-6.3
MBDF	**Montbardon** 1.1nm,0.4s	**9.00**	**12**	*e*Pn	**Pn**	**01 46 53.8**	**-1.3**
MBDF				*e*Sn	**Sn**	**01 48 31.1**	**-5.5**
MBDF	**Montbardon** 0.6nm,0.4s	**9.00**	**12**	P	**Pn**	**01 46 53.8**	**-1.3**
MBDF				S	**Sn**	**01 48 31.1**	**-5.5**
ORIF	**Oris-en-Rattie** 1.0nm,0.4s	**9.06**	**8**	*e*Pn	**Pn**	**01 46 54.3**	**-1.6**
ORIF				*e*Sn	**Sn**	**01 48 32.3**	**-5.8**
ORIF	**Oris-en-Rattie** 0.5nm,0.4s	**9.06**	**8**	P	**Pn**	**01 46 54.3**	**-1.6**
ORIF				S	**Sn**	**01 48 32.3**	**-5.8**
CAF	**Calviac**	**9.11**	**351**	*e*P	**Pn**	**01 46 59.5**	**+3.0**
CAF	**Calviac**	**9.11**	**351**	P	**Pn**	**01 46 59.5**	**+3.0**
CAF	**Calviac**	**9.11**	**351**	P	**Pn**	**01 46 59.5**	**+3.0**
EBAD	**Badajoz** 0.4nm,0.4s,SNR=7.9	**9.31**	**291**	P	**Pn**	**01 46 59.9**	**+0.6**
EBAD	**Badajoz** 0.4nm,0.4s,SNR=7.9	**9.31**	**291**	P	**Pn**	**01 46 59.9**	**+0.6**
ELAN	**Lanestosa** 0.2nm,0.2s,SNR=7.9	**9.33**	**324**	P	Pn	01 47 03.5	+4.0
LFF	**La Frestale**	**9.35**	**345**	*e*P	Pn	01 47 03.1	+3.4
LFF	**La Frestale**	**9.35**	**345**	P	Pn	01 47 03.1	+3.4
LFF	**La Frestale**	**9.35**	**345**	P	Pn	01 47 03.1	+3.4
RJF	**Les Rejaudoux**	**9.56**	**349**	*e*P	Pn	01 47 06.1	+3.5
RJF	**Les Rejaudoux**	**9.56**	**349**	P	Pn	01 47 06.1	+3.5
RJF	**Les Rejaudoux**	**9.56**	**349**	P	Pn	01 47 06.1	+3.5
PVAQ	**Vaqueiros**	**9.64**	**282**	*e*P	**Pn**	**01 47 05.4**	**+1.7**
PVAQ	**Vaqueiros**	**9.64**	**282**	P	**Pn**	**01 47 05.4**	**+1.7**
PVAQ	**Vaqueiros**	**9.64**	**282**	P	**Pn**	**01 47 05.4**	**+1.7**
LPL	**La Plagne**	**9.76**	**11**	*e*Pn	**Pn**	**01 47 04.2**	**-1.4**
LPL	**La Plagne**	**9.76**	**11**	P	**Pn**	**01 47 04.2**	**-1.4**
PESTR	**Estremoz**	**9.78**	**291**	*e*P	**Pn**	**01 47 07.2**	**+1.5**
MESJ	**Messejana**	**10.08**	**284**	*e*P	**Pn**	**01 47 10.8**	**+1.0**
MESJ	**Messejana**	**10.08**	**284**	P	**Pn**	**01 47 10.8**	**+1.0**
MESJ	**Messejana**	**10.08**	**284**	P	**Pn**	**01 47 10.8**	**+1.0**
MVO	**Moncorvo** 0.7nm,0.4s,SNR=7.9	**10.18**	**304**	P	**Pn**	**01 47 13.0**	**+1.8**
MVO	**Moncorvo** 0.7nm,0.4s,SNR=7.9	**10.18**	**304**	P	**Pn**	**01 47 13.0**	**+1.8**
EARI	**Arriondas** 0.5nm,0.2s,SNR=7.9	**10.29**	**318**	P	**Pn**	**01 47 14.9**	**+2.2**
EARI	**Arriondas** 0.5nm,0.2s,SNR=7.9	**10.29**	**318**	P	**Pn**	**01 47 14.9**	**+2.2**
ECAL	**Calabor** 1.7nm,0.3s,SNR=7.9	**10.37**	**309**	P	**Pn**	**01 47 15.6**	**+1.8**
ECAL	**Calabor** 1.7nm,0.3s,SNR=7.9	**10.37**	**309**	P	**Pn**	**01 47 15.6**	**+1.8**
MFF	**Saint Martin d**	**11.12**	**344**	*e*Pn	**Pn**	**01 47 21.5**	**-2.5**
MFF	**Saint Martin d**	**11.12**	**344**	P	**Pn**	**01 47 21.5**	**-2.5**
TORD	**Torodi Ar. Bea** 1.1nm,0.8s,baz=0.9,slow=12,SNR=6.9	**22.81**	**186**	P	**P**	**01 49 47.9**	**-0.2**
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=290,slow=7.2,SNR=6.0	**57.38**	**53**	P	**P**	**01 54 33.2**	**-0.3**

*NEIC **19** 01:45:34.2, 45°.21S×167°.24E, h77km, ML4.5(WEL), After WEL.*
NEIC Felt at Te Anau.
WEL 19 01:45:34.2±0.3, 45°.21S×167°.24E, h77km±2km, ML4.4/15, 3C-9D, Error ellipse: s-maj=3.2km s-min=1.3km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.27**	**193**	PN	Pn	01 45 45.8	-0.2
DCZ				SN	Sn	01 45 54.3	-0.4
DCZ				AML	AML	01 45 55.1	
DCZ				AML	AML	01 45 55.1	
DCZ				AML	AML	01 45 55.2	
DCZ	**Deep Cove**	**0.27**	**193**	Pn	Pn	01 45 45.8	-0.2
DCZ				Sn	Sn	01 45 54.3	-0.4
MLZ	**Mavora Lakes**	**0.67**	**102**	⇑PN	Pn	01 45 48.6	-0.8
MLZ				AML	AML	01 45 59.5	
MLZ				AML	AML	01 45 59.6	
MLZ	**Mavora Lakes**	**0.67**	**102**	Pn	Pn	01 45 48.6	-0.8
MSZ	**Milford Sound**	**0.73**	**42**	⇑PN	Pn	01 45 49.6	-0.4
MSZ				AML	AML	01 46 02.3	
MSZ				AML	AML	01 46 02.3	
MSZ				AML	AML	01 46 02.8	
MSZ				AML	AML	01 46 02.8	
MSZ	**Milford Sound**	**0.73**	**42**	⇑Pn	Pn	01 45 49.6	-0.4
WHZ	**Wether Hill Ro**	**0.84**	**144**	⇓PN	Pn	01 45 51.1	-0.2
WHZ				SN	Sn	01 46 02.9	-1.0
WHZ				AML	AML	01 46 04.4	
WHZ	**Wether Hill Ro**	**0.84**	**144**	*e*Pg	Pn	01 45 51.0	-0.2
WHZ				*e*S	Sn	01 46 03.3	-0.6
WKZ	**Wanaka**	**1.32**	**74**	⇓PN	Pn	01 45 57.1	0.0
WKZ				AML	AML	01 46 14.7	
WKZ				AML	AML	01 46 14.7	
WKZ				AML	AML	01 46 14.9	
WKZ				AML	AML	01 46 14.9	
WKZ	**Wanaka**	**1.32**	**74**	⇓Pn	Pn	01 45 57.1	0.0
EAZ	**Earnscleugh**	**1.46**	**92**	⇓PN	Pn	01 45 58.8	-0.1
EAZ				AML	AML	01 46 16.4	
EAZ				AML	AML	01 46 16.4	
EAZ				AML	AML	01 46 16.9	
EAZ				AML	AML	01 46 16.9	
EAZ	**Earnscleugh**	**1.46**	**92**	⇓Pn	Pn	01 45 58.8	-0.1
JCZ	**Jackson Bay**	**1.57**	**44**	⇓PN	Pn	01 45 59.9	-0.6
JCZ				AML	AML	01 46 25.1	
JCZ				AML	AML	01 46 25.7	
JCZ	**Jackson Bay**	**1.57**	**44**	Pn	Pn	01 45 59.9	-0.6
APZ	**The Paps**	**1.70**	**162**	⇓PN	Pn	01 46 02.0	-0.1
APZ				AML	AML	01 46 24.9	
APZ				AML	AML	01 46 26.4	
TUZ	**Tuapeka**	**1.84**	**115**	PN	Pn	01 46 03.0	-0.8
TUZ	**Tuapeka**	**1.84**	**115**	Pn	Pn	01 46 03.0	-0.8
SYZ	**Scrubby Hill**	**1.88**	**136**	PN	Pn	01 46 04.0	-0.4

OKCE				S	Sn	01 46 46.9	+0.1	
OKAK	**Okmok**	**1.24**	**43**	P	Pg	01 46 27.2	-2.8	
OKTU	**Okmok Mt. Tuli**	**1.26**	**55**	P	Pg	01 46 29.4	-1.0	
MSOM	**Makushin Julie**	**2.04**	**55**	P	Pn	01 46 40.9	-0.2	
MSOM				S	Sn	01 47 06.8	-0.1	
MCIR	**Makushin Cirqu**	**2.14**	**52**	P	Pn	01 46 42.8	+0.2	
MSW	**Makushin Switc**	**2.18**	**54**	P	Pn	01 46 43.1	+0.1	
MSW				S	Sn	01 47 10.6	+0.3	
MTBL	**Makushin Table**	**2.26**	**54**	P	Pn	01 46 44.2	0.0	
UNV	**Unalaska Valle**	**2.28**	**58**	*e*Pn	Pn	01 46 43.6	-0.8	
UNV				*e*S	Sn	01 47 11.7	-1.1	
AKRB	**Akutan Reef Bi**	**2.65**	**55**	P	Pn	01 46 49.8	+0.3	
ZRO	**Akutan Zero**	**2.67**	**57**	P	Pn	01 46 50.3	+0.4	
AKGG	**Akutan Green G**	**2.72**	**54**	P	Pn	01 46 50.6	0.0	
ATKA	**Atka Island**	**2.75**	**262**	P	Pn	01 46 50.9	-0.1	
AKUT	**Akutan**	**2.80**	**57**	*e*Pn	Pn	01 46 51.8	+0.3	
AKUT				*e*S	Sn	01 47 27.4	+1.8	
WESP	**Westdahl Peak**	**3.51**	**57**	P	Pn	01 47 02.1	+0.7	
GSTR	**Great Sitkin T**	**3.90**	**264**	*e*Pn	Pn	01 47 07.9	+1.2	
GSTR				*e*S	Sn	01 47 53.9	+1.0	
GSMY	**Great Sitkin M**	**3.91**	**263**	P	Pn	01 47 07.4	+0.5	
GSCK	**Great Sitkin C**	**3.98**	**263**	P	Pn	01 47 08.0	+0.2	
FALS	**False Pass**	**4.35**	**57**	*e*Pn	Pn	01 47 13.7	+0.8	
FALS				*e*Pg	Pb	01 47 25.6	+2.5	
FALS				*e*S	Sn	01 48 07.9	+4.0	
SPIA	**Saint Paul Isl**	**4.52**	**357**	P	Pn	01 47 14.9	-0.2	
AMKA	**Amchitka**	**6.87**	**263**	*e*Pn	Pn	01 47 49.0	+1.5	
TRF	**Thorofare Moun**	**14.85**	**36**	*e*Pn	Pn	01 49 39.0	+2.3	
	21nm,1.6s							
ILAR	**Eielson Array**	**16.83**	**35**	Pn	Pn	01 50 00.2	-2.1	
	0.1nm,0.3s,baz=234,slow=9.8,SNR=15							
SEY	**Seymchan**	**22.28**	**312**	P	P	01 51 03.6	-0.3	
	3.9nm,0.8s,baz=116,slow=7.3,SNR=9.2							
DLBC	**Dease Lake**	**22.93**	**60**	P	P	01 51 11.6	+0.7	
	3.6nm,0.9s,baz=291,slow=8.5,SNR=8.5							
YKA	**Yellowknife Ar**	**30.22**	**49**	P	P	01 52 15.2	-2.0	
	0.9nm,0.7s,baz=267,slow=6.9,SNR=3.1							
NVAR	**Mina Array Bea**	**37.91**	**91**	P	P	01 53 23.1	-1.3	
	0.7nm,0.8s,baz=299,slow=9.0,SNR=4.5							
PDAR	**Pinedale Array**	**40.58**	**79**	P	P	01 53 46.5	-0.3	
	0.9nm,0.6s,baz=333,slow=3.4,SNR=7.3							
TXAR	**Lajitas Array**	**52.98**	**89**	P	P	01 55 22.6	-1.1	
	2.2nm,0.7s,baz=298,slow=5.4,SNR=31							
ASAR	**Alice Springs**	**90.41**	**230**	P	P	01 59 07.7	-0.8	
	2.3nm,0.8s,baz=34,slow=5.0,SNR=15							
TSUM	**Tsumeb**	**146.10**	**347**	PKPbc	PKPab	02 05 48.1	+0.2	
	0.8nm,0.7s,baz=332,slow=9.7,SNR=4.1							
LBTB	**Lobatse**	**150.03**	**331**	PKPbc	PKPbc	02 05 58.6	+0.9	
	1.8nm,0.7s,baz=31,slow=2.5,SNR=4.3							

IDC 19 01:46:13.2±2.4,5°97.5N×150°59.6E,h0km,mb4.1/3, mb1 4.3/4,mb1mx3.7/36,mbtmp4.1/4,ML1.9/1,MS3.1/2, Ms1 3.1/2,ms1mx2.7/32,Error ellipse: s-maj=71.6km s-min=37.8km az=112.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.82**	**225**	Pn	Pn	01 47 29.1	+1.9
	3.8nm,0.3s,baz=45,slow=17,SNR=3.6						
PMG				Sn	Sn	01 48 17.9	-5.8
	19nm,0.3s,baz=76,slow=18,SNR=16						
PMG				LR	LR	01 49 09.2	
	comp=Z,96nm,21.8s,baz=72,slow=36						
CTA	**Charters Tower**	**14.66**	**196**	Pn	P	01 49 47.0	-1.6
	0.2nm,0.3s,baz=39,slow=13,SNR=5.2						
WRA	**Warramunga Arr**	**21.04**	**227**	P	P	01 50 58.5	-0.4
	3.2nm,0.6s,baz=50,slow=10,SNR=17						
ASAR	**Alice Springs**	**23.82**	**221**	P	P	01 51 27.9	-0.3
	2.0nm,0.4s,baz=54,slow=9.3,SNR=39						
STKA	**Stephens Creek**	**27.12**	**197**	P	P	01 51 57.4	-0.7
	2.9nm,0.5s,baz=34,slow=14,SNR=13						
PETK	**Petropavlovsk-**	**59.16**	**5**	LR	LR	02 15 34.6	
	comp=Z,46nm,21.6s,baz=92,slow=30						
TORD	**Torodi Ar. Bea**	**148.54**	**285**	PKPbc	PKPbc	02 06 03.0	-0.2
	0.9nm,0.4s,baz=60,slow=2.4,SNR=16						

*ISCJB **19** 01:51:30.7±0.3, 11°.98N±0°.04×87°.02W±0°.04, h57km±3km, mb4.5/59, MS3.5/6, Error ellipse: s-maj=9.1km s-min=2.9km az=40.7*

*CASC **19** 01:51:31.1±2.6, 11°.89N×87°.16W, h40km±193km, MD4.1, ML4.2*

*IDC **19** 01:51:32.2±1.8, 12°.13N×86°.86W, h60km±19km, mb3.8/13, mb1 4.1/15, mb1mx3.7/46, mbtmp4.1/15, ML2.4/1, MS3.5/8, Ms1 3.5/8, ms1mx3.1/32, Error ellipse: s-maj=31.2km s-min=10.8km az=49.0*

*NEIC **19** 01:51:33.3±0.7, 11°.95N×87°.02W, h72km±8km, mb4.5/50, Error ellipse: s-maj=9.3km s-min=5.3km az=47.0*

NEIC Felt [II] at Managua. Also felt at El Crucero and Jinotepe.

ISC 19 01:51:32.2±0.8, 11°.97N±0°.06×87°.02W±0°.06, h63km±8km, n352, σ1°06/353, mb4.4/59, 6C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**0.47**	**63**	*i*P	Pn	01 51 44.5	+0.4
CNCH	**Conchagua**	**1.53**	**329**	*i*P	Pn	01 51 56.9	-0.5
CNCH				*e*S	Sn	01 52 14.4	-2.0
BLLM	**Bellamira**	**1.89**	**321**	*e*P	Pn	01 52 01.3	-1.0
VSM	**San Miguel**	**1.90**	**320**	*i*P	Pn	01 52 01.7	-0.9
GBS2	**Las Lilas**	**1.90**	**126**	*i* P	Pn	01 52 00.8	-1.6
LAPC	**Finca la Perla**	**1.96**	**127**	*i* P	Pn	01 52 01.1	-2.1
LAPC				*i* S	Sn	01 52 25.7	-1.1
NY14	**Universidad de**	**1.96**	**132**	*i* P	Pn	01 52 02.5	-0.7
GPS2	**Hotel Rinc˜‡n**	**2.03**	**126**	*i* P	Pn	01 52 02.8	-1.4
CAHU	**Cacacuatique**	**2.14**	**327**	*e*P	Pn	01 52 05.4	-0.4
MESS	**Mesas**	**2.16**	**124**	*i* P	Pn	01 52 05.2	-0.8
HORNC	**Hornillas**	**2.19**	**124**	*i* P	Pn	01 52 05.1	-1.3
PTEN	**Parque Tenorio**	**2.35**	**122**	*i* P	Pn	01 52 07.8	-0.8
AMAS	**Alto Masis**	**2.40**	**124**	*i* P	Pn	01 52 08.9	-0.4
SNVI	**San Vicente**	**2.42**	**313**	*e*P	Pn	01 52 07.8	-1.7
LFRS	**El Faro**	**2.58**	**310**	*e*P	Pn	01 52 10.1	-1.7
JTS	**JuntasAbangare**	**2.62**	**129**	P	Pn	01 52 11.5	-0.7
	85nm,0.3s,baz=108,slow=22,SNR=120						
JTS				S	Sn	01 52 43.2	+0.3
	64nm,0.3s,baz=352,slow=22,SNR=5.9						
JTS				LR	LR	01 53 02.3	
	comp=Z,590nm,19.4s,baz=330,slow=34						
JTS	**JuntasAbangare**	**2.62**	**129**	*e*Pn	Pn	01 52 11.3	-0.9
JTS				*e*Sn	Sn	01 52 41.9	-1.1
LBRS	**Las Brisas**	**2.65**	**312**	*i*P	Pn	01 52 06.1	-1.1
LFU	**La Fuente**	**2.70**	**311**	*e*P	Pn	01 52 12.4	-1.0
LFU				*e*S	Sn	01 52 42.0	-3.0
CASO	**Castillo**	**2.71**	**124**	*i* P	Pn	01 52 13.8	+0.4
SNET	**Serv Nac Est T**	**2.75**	**309**	*e*P	Pn	01 52 12.2	-1.9
SNET				*e*S	Sn	01 52 43.1	-3.2
SNET				AML	AML	01 52 50.4	
	comp=Z,2μm,0.3s						
BOQS	**Boqueron**	**2.82**	**309**	*e*P	Pn	01 52 13.7	-1.4
BOQS				*e*S	Sn	01 52 46.7	-1.4
SBLS	**San Blas**	**3.15**	**307**	*e*P	Pn	01 52 18.1	-1.5
SNJE	**San Jose**	**3.15**	**307**	*e*P	Pn	01 52 18.2	-1.4
RTR	**El Retiro**	**3.20**	**307**	*e*P	Pn	01 52 19.1	-1.1
RBDL	**Robledal**	**3.36**	**310**	*e*P	Pn	01 52 21.3	-1.2
IXG	**Ixpaco**	**4.00**	**304**	*e*P	Pn	01 52 29.5	-1.7
MRL	**Marmol**	**4.03**	**320**	*e*P	Pn	01 52 32.8	+1.2
NBG	**Las Nubes**	**4.16**	**309**	*e*P	Pn	01 52 34.2	+0.8
PCG	**Pacaya**	**4.25**	**305**	*e*P	Pn	01 52 35.9	+1.2
PCG				*e*S	Sn	01 53 26.4	+3.3
FUG	**Fuego 3**	**4.47**	**304**	*e*P	Pn	01 52 37.4	-0.1
JAT	**Jato**	**5.07**	**298**	*e*P	Pn	01 52 45.7	+0.1
PCIG		**7.08**	**302**	P	Pn	01 53 13.8	+0.7
PCIG				S	Sn	01 54 27.7	-4.5
BCIP	**Isla Barro Col**	**7.59**	**111**	*e*Pn	Pn	01 53 19.9	-0.3
CMIG	**Matias Romero**	**9.16**	**305**	P	Pn	01 53 41.4	-0.2
	comp=Z,12nm,0.3s,baz=129,slow=7.1,SNR=97						
CMIG				LR	LR	01 57 50.8	
	comp=Z,197nm,20.4s,baz=117,slow=41						
MTDJ	**Mount Denham**	**11.07**	**55**	*e*Pn	Pn	01 54 11.2	+3.4
PAYG	**Puerto Ayora**	**12.97**	**195**	*e*Pn	Pn	01 54 35.2	+1.5
ROSC	**El Rosal**	**14.40**	**118**	P	Pn	01 54 52.5	-0.7
	comp=Z,0.4nm,0.3s,baz=270,slow=20,SNR=2.0						
ROSC	**El Rosal**	**14.40**	**118**	*e*Pn	Pn	01 54 55.6	+2.4
OTAV	**Otavalo**	**14.43**	**143**	*e*Pn	Pn	01 54 55.1	+1.5
SDV	**Santo Domingo**	**16.40**	**99**	*e*Pn	Pn	01 55 19.3	+0.6
035Z	**Hargill**	**17.78**	**326**	P	P	01 55 37.0	+1.6
	baz=18,SNR=6.7						
035A	**Encino**	**18.18**	**327**	P	Pn	01 55 42.0	+1.8
	baz=18,SNR=9.5						
034A	**Hebbronville**	**18.59**	**326**	P	Pn	01 55 46.9	+1.7
	baz=19,SNR=40						
934A	**Benavides**	**18.93**	**327**	P	Pn	01 55 50.0	+0.7
	baz=19,SNR=16						
835A	**Beeville**	**19.13**	**330**	P	Pn	01 55 51.4	-0.2
	baz=19						
736A	**Circle Diamond**	**19.33**	**332**	P	Pn	01 55 54.0	+0.1
	baz=19						
933A	**Laredo**	**19.35**	**325**	P	P	01 55 53.4	+0.8
	baz=19,SNR=12						
834A	**Tilden**	**19.36**	**328**	P	Pn	01 55 54.2	-0.2
	baz=19,SNR=12						
637A	**Eagle Lake**	**19.43**	**335**	P	Pn	01 55 55.3	+0.1
	baz=20						
TIGA	**Tifton**	**19.64**	**9**	*e*P	P	01 55 56.4	+0.7
	comp=Z,20nm,0.3s						
HKT	**Hockley**	**19.68**	**337**	*e*P	Pn	01 55 57.6	-0.4
	comp=Z,29nm,1.1s						
636A	**Smothers Creek**	**19.77**	**333**	P	Pn	01 55 58.9	-0.3
	baz=20,SNR=8.3						
538A	**Harpers Horsep**	**19.79**	**338**	P	Pn	01 55 59.8	+0.3
	baz=20,SNR=7.0						
734A	**La Parita Cree**	**19.95**	**329**	P	P	01 55 59.6	+0.5
	baz=20,SNR=7.3						
833A	**Chaparral WMA,**	**19.97**	**326**	P	P	01 56 00.7	+1.3
	baz=20,SNR=48						
537A	**Green Hill Far**	**19.98**	**336**	P	Pn	01 56 01.8	+0.1
	baz=20,SNR=9.8						
635A	**Leesville**	**20.02**	**332**	P	P	01 56 00.7	+0.8
	baz=20						
733A	**Divot King Ran**	**20.23**	**327**	P	P	01 56 03.0	+0.8
	baz=20,SNR=6.9						
832A	**Faith Ranch, C**	**20.26**	**325**	P	P	01 56 03.3	+0.8
	baz=20,SNR=26						
438A	**Sam Houston St**	**20.27**	**339**	P	Pn	01 56 04.4	-0.6
	baz=20						
634A	**China Grove, S**	**20.29**	**330**	P	P	01 56 03.2	+0.4
	baz=20						
536A	**Bastrop**	**20.29**	**334**	P	P	01 56 04.0	+1.2
	baz=20						
535A	**Dale**	**20.47**	**333**	P	Pn	01 56 06.4	-1.0
	baz=21,SNR=6.4						
338A	**Crockett**	**20.76**	**340**	P	P	01 56 09.6	+1.7
	baz=21						
633A	**Saathoff Ranch**	**20.76**	**329**	P	P	01 56 07.9	0.0
	baz=21,SNR=15						
436A	**Wall Ranch, Ga**	**20.79**	**336**	P	P	01 56 09.2	+1.1
	baz=21						
ATAH	**Atahualpa**	**20.82**	**155**	P	Pn	01 56 11.7	-0.6
	comp=Z,6.9nm,0.8s,baz=339,slow=4.9,SNR=3.7						
ATAH				LR	LR	02 03 19.7	
	comp=Z,240nm,21.8s,baz=332,slow=34						
534A	**Blanco**	**20.89**	**331**	P	P	01 56 09.4	+0.1
	baz=21,SNR=13						
NATX	**Nacogdoches**	**20.92**	**342**	P	P	01 56 11.1	+1.5
	baz=21						
NATX	**Nacogdoches**	**20.92**	**342**	*e*P	P	01 56 11.3	+1.7
	comp=Z,57nm,1.4s						
LRAL	**Lakeview Retre**	**20.97**	**0**	*e*P	Pn	01 56 12.6	-0.7
	comp=Z,11nm,0.9s						
239A	**Gary**	**21.10**	**342**	P	P	01 56 13.4	+1.9
	baz=21						
632A	**Uvalde**	**21.11**	**328**	P	P	01 56 12.4	+0.7
	baz=21,SNR=9.7						
435B	**Jarrell**	**21.13**	**334**	P	P	01 56 12.4	+0.6
	baz=21						
533A	**Kerrville**	**21.19**	**330**	P	P	01 56 13.3	+0.7
	baz=21,SNR=12						
336A	**Riesel**	**21.35**	**336**	P	P	01 56 15.3	+1.1
	baz=21,SNR=5.9						
434A	**Burnet**	**21.45**	**333**	P	P	01 56 16.5	+1.1
	baz=22,SNR=7.1						
631A	**Perdido Creek**	**21.46**	**326**	P	P	01 56 16.5	+1.0
	baz=22,SNR=49						
335A	**Moody**	**21.49**	**335**	P	P	01 56 17.1	+1.3
	baz=22,SNR=7.0						
GOGA	**Godfrey**	**21.59**	**8**	*e*P	P	01 56 20.1	+3.4
	comp=Z,10nm,0.8s						
532A	**Rocksprings**	**21.67**	**328**	P	P	01 56 18.3	+0.5
	baz=22,SNR=23						
139A	**Bunkhouse Ranc**	**21.70**	**343**	P	P	01 56 19.3	+1.4
	baz=22						
433A	**Art**	**21.78**	**331**	P	P	01 56 19.0	+0.1
	baz=22,SNR=12						
334A	**Lometa**	**21.88**	**333**	P	P	01 56 20.6	+0.6
	baz=22,SNR=15						
138A	**Matatall Enter**	**21.89**	**341**	P	P	01 56 21.6	+1.6
	baz=22						
JCT	**Junction City**	**21.90**	**329**	P	P	01 56 21.0	+0.8
	baz=22,SNR=7.9						
JCT	**Junction City**	**21.90**	**329**	*e*P	P	01 56 19.7	-0.5
	comp=Z,21nm,0.9s						
531A	**Roprings**	**22.04**	**327**	P	P	01 56 22.5	+0.9
	baz=22,SNR=8.7						
WHTX	**Lake Whitney**	**22.13**	**336**	P	P	01 56 22.9	+0.4
	baz=22						
WHTX	**Lake Whitney**	**22.13**	**336**	*e*P	P	01 56 22.0	-0.5
	comp=Z,46nm,1.0s						
136A	**Ennis**	**22.20**	**338**	P	P	01 56 24.1	+0.8
	baz=22,SNR=5.6						
333A	**Richland Sprin**	**22.21**	**332**	P	P	01 56 24.1	+0.7
	baz=22,SNR=20						
432A	**Menard**	**22.22**	**330**	P	P	01 56 23.9	+0.2
	baz=22,SNR=9.7						
234A	**Clairette**	**22.42**	**335**	P	P	01 56 26.1	+0.4
	baz=22,SNR=15						
530A	**J-C Ranch, Com**	**22.45**	**326**	P	P	01 56 27.2	+1.1
	baz=22,SNR=31						
431A	**Sonora**	**22.48**	**328**	P	P	01 56 26.8	+0.4
	baz=23,SNR=21						
Z37A	**Pogue Cattle C**	**22.55**	**341**	P	P	01 56 28.1	+1.0
	baz=23						
135A	**Vickery Place,**	**22.61**	**337**	P	P	01 56 27.7	-0.1
	baz=23						
332A	**Millersview**	**22.61**	**331**	P	P	01 56 28.5	+0.7
	baz=23,SNR=34						
233A	**Rising Star**	**22.76**	**333**	P	P	01 56 29.2	-0.1
	baz=23,SNR=14						
Y39A	**Lockesburg**	**22.80**	**345**	P	P	01 56 30.1	+0.4
	baz=23						
JSC	**Jenkinsville**	**22.83**	**12**	*e*P	P	01 56 31.8	+1.9
	comp=Z,14nm,1.1s						
331A	**San Angelo**	**22.89**	**329**	P	P	01 56 30.5	-0.2
	baz=23,SNR=24						
134A	**White-Moore Ra**	**22.89**	**335**	P	P	01 56 30.7	+0.1
	baz=23,SNR=6.4						
430A	**Baggett Ranch,**	**22.89**	**327**	P	P	01 56 30.5	-0.2
	baz=23,SNR=16						
Z36A	**Blue Ridge**	**22.89**	**339**	P	P	01 56 30.7	0.0
	baz=23						
529A	**Stev Forest Ra**	**22.93**	**324**	P	P	01 56 31.2	+0.1
	baz=23,SNR=9.0						
Y38A	**Idabel**	**22.97**	**343**	P	P	01 56 31.6	+0.2
	baz=23,SNR=6.7						
232A	**Coleman**	**22.99**	**332**	P	P	01 56 32.1	+0.4
	baz=23,SNR=24						
429A	**Davenport Ranc**	**23.12**	**326**	P	P	01 56 33.1	+0.1
	baz=23,SNR=20						
SWET	**Sewanee**	**23.17**	**2**	*e*P	P	01 56 34.3	+0.9
	comp=Z,4.1nm,0.8s						
TXAR	**Lajitas Array**	**23.21**	**321**	P	P	01 56 34.4	+0.4
	comp=Z,36nm,0.8s,baz=139,slow=9.4,SNR=284						
Z35A	**Perchaven, San**	**23.24**	**338**	P	P	01 56 35.1	+1.0
	baz=23,SNR=9.6						
MIAR	**Mount Ida**	**23.26**	**346**	P	P	01 56 34.6	+0.5
	baz=23,SNR=12						
MIAR	**Mount Ida**	**23.26**	**346**	*e*P	P	01 56 34.2	0.0
	comp=Z,12nm,0.7s						
133A	**Hamilton Ranch**	**23.27**	**334**	P	P	01 56 35.3	+0.9
	baz=23,SNR=8.4						
Y37A	**Hugo**	**23.28**	**342**	P	P	01 56 35.3	+0.9
	baz=23,SNR=6.3						
231A	**Bronte**	**23.34**	**330**	P	P	01 56 34.6	-0.5
	baz=23,SNR=10.0						
330A	**Mertzon**	**23.35**	**328**	P	P	01 56 34.3	-0.8
	baz=23,SNR=13						
Y36A	**Durant**	**23.41**	**340**	P	P	01 56 36.6	+0.9
	baz=24						
CPCT	**Cooper Cave**	**23.49**	**5**	*e*P	P	01 56 37.9	+1.5
Z34A	**Collier Ranch,**	**23.52**	**337**	P	P	01 56 37.7	+0.9
	baz=24,SNR=23						
ABTX	**Abilene, Hawle**	**23.60**	**333**	P	P	01 56 38.2	+0.7
	baz=24,SNR=12						
ABTX	**Abilene, Hawle**	**23.60**	**333**	*e*P	P	01 56 37.1	-0.4
	comp=Z,24nm,0.9s						
Y35A	**Marietta**	**23.68**	**339**	P	P	01 56 40.0	+1.9
	baz=24,SNR=18						
X38A	**Whitesboro**	**23.69**	**344**	P	P	01 56 39.5	+1.3
	baz=24,SNR=24						
230A	**Sterling City**	**23.70**	**329**	P	P	01 56 39.6	+1.2
	baz=24,SNR=8.9						
X37A	**Clayton**	**23.77**	**343**	P	P	01 56 40.1	+1.1
	baz=24,SNR=15						
TKL	**Tuckaleechee C**	**23.77**	**7**	P	P	01 56 39.4	+0.4
	comp=Z,4.8nm,0.7s,baz=181,slow=13,SNR=8.0						
Z33A	**Whitaker Ranch**	**23.79**	**335**	P	P	01 56 39.7	+0.6
	baz=24,SNR=9.6						
329A	**Wagon Wheel Ra**	**23.83**	**327**	P	P	01 56 39.5	-0.1
	baz=24						
Y34A	**Reagan Ranch,**	**23.98**	**338**	P	P	01 56 41.4	+0.5
	baz=24,SNR=14						
W38A	**Poteau**	**23.99**	**345**	P	P	01 56 41.5	+0.6
	baz=24						
131A	**Roby**	**23.99**	**331**	P	P	01 56 41.1	+0.1
	baz=24						
X36A	**Centrahoma**	**24.05**	**341**	P	P	01 56 43.0	+1.5
	baz=24,SNR=13						
X35A	**Drake**	**24.10**	**340**	P	P	01 56 42.7	+0.8
	baz=24,SNR=12						
Z32A	**Haskell**	**24.11**	**334**	P	P	01 56 43.0	+0.9
	baz=24,SNR=16						
229A	**Bryant Ranch,**	**24.12**	**328**	P	P	01 56 42.5	+0.3
	baz=24,SNR=9.6						
130A	**Snyder**	**24.20**	**330**	P	P	01 56 43.2	+0.2
	baz=24,SNR=8.1						
W37A	**Quinton**	**24.30**	**343**	P	P	01 56 44.7	+0.9
	baz=24,SNR=16						
Y33A	**Hilltop Ranch,**	**24.36**	**336**	P	P	01 56 45.0	+0.6
	baz=24,SNR=9.8						
Z31A	**Sharp Cattle R**	**24.41**	**333**	P	P	01 56 45.6	+0.8
	baz=24,SNR=13						
W36A	**Wetumka**	**24.54**	**342**	P	P	01 56 45.7	-0.2
	baz=25						
X34A	**Smith Ranch, M**	**24.59**	**338**	P	P	01 56 47.9	+1.5
	baz=25,SNR=21						
228A	**UT Block 9, Go**	**24.65**	**327**	P	P	01 56 47.3	+0.3
	baz=25,SNR=15						
TZTN	**Tazewell**	**24.67**	**7**	*e*P	P	01 56 46.8	-0.3
	comp=Z,9.9nm,0.8s						
129A	**Stewart Farms,**	**24.68**	**329**	P	P	01 56 48.0	+0.7
	baz=25,SNR=17						
Y32A	**R-V Farms, Ver**	**24.69**	**335**	P	P	01 56 48.6	+1.2
	baz=25						
V38A	**Canehill**	**24.71**	**346**	P	P	01 56 47.3	-0.2
	baz=25						
W35A	**Tecumseh**	**24.76**	**340**	P	P	01 56 47.8	-0.1
	baz=25						
X33A	**Lawton**	**24.78**	**337**	P	P	01 56 49.3	+1.1
	baz=25,SNR=43						
Z30A	**Sanderson Ranc**	**24.84**	**331**	P	P	01 56 48.6	-0.1
	baz=25,SNR=8.7						
V37A	**Hulbert**	**24.92**	**344**	P	P	01 56 49.4	+0.1
	baz=25,SNR=7.3						
128A	**Castleberry Fa**	**24.99**	**328**	P	P	01 56 50.8	+0.6
	baz=25,SNR=18						
X32A	**Elmer**	**24.99**	**335**	P	P	01 56 51.0	+1.0
	baz=25,SNR=20						
Y31A	**Rekieta Farm,**	**25.01**	**333**	P	P	01 56 51.1	+0.8
	baz=25,SNR=7.6						
V36A	**Jenks**	**25.05**	**343**	P	P	01 56 51.5	+0.9
	baz=25						
WMOK	**Wichita Mounta**	**25.07**	**337**	*e*P	P	01 56 50.3	-0.5
	comp=Z,46nm,1.0s						
Z29A	**Hungry Hill Ra**	**25.10**	**330**	P	P	01 56 51.7	+0.6
	baz=25,SNR=20						
TUL1	**Tulsa**	**25.12**	**343**	P	P	01 56 51.5	+0.3
	baz=25						
TUL1	**Tulsa**	**25.12**	**343**	*e*P	P	01 56 48.7	-2.6
	comp=Z,24nm,0.9s						
W34A	**Bridge Creek,**	**25.14**	**339**	P	P	01 56 52.7	+1.4
	baz=25,SNR=14						
W34A	**Bridge Creek,**	**25.14**	**339**	*e*P	P	01 56 51.5	+0.1
	comp=Z,82nm,0.8s						
Y30A	**Stafford Cattl**	**25.22**	**332**	P	P	01 56 52.7	+0.5
	baz=25						
U38A	**Gravette**	**25.26**	**346**	P	P	01 56 52.6	+0.2
	baz=25,SNR=5.9						
V35A	**Meyer Ranch, C**	**25.30**	**341**	P	P	01 56 52.5	-0.3
	baz=25						
W33A	**Caddo, Fort Co**	**25.31**	**338**	P	P	01 56 54.3	+1.4
	baz=25,SNR=15						
U37A	**Salina**	**25.41**	**345**	P	P	01 56 54.2	+0.5
	baz=26						
X31A	**McDonald Ranch**	**25.46**	**335**	P	P	01 56 55.1	+0.8
	baz=26,SNR=16						
Z28A	**Tucker Farm, M**	**25.46**	**329**	P	P	01 56 55.1	+0.6
	baz=26,SNR=37						
Y29A	**Porterfield Fa**	**25.57**	**331**	P	P	01 56 56.0	+0.6
	baz=26,SNR=15						
W32A	**Sentinel**	**25.59**	**336**	P	P	01 56 56.4	+1.0
	baz=26,SNR=16						
V34A	**Guthrie**	**25.59**	**340**	P	P	01 56 55.1	-0.3
	baz=26,SNR=5.8						
V34A	**Guthrie**	**25.59**	**340**	*e*P	P	01 56 55.3	-0.2
	comp=Z,29nm,0.8s						
X30A	**Coker Ranch, T**	**25.69**	**333**	P	P	01 56 57.3	+0.9

Q33A	Connelly Farm, baz=29	28.59	342	P	P	01 57 22.5 +0.2
R30A	Dighton baz=29	28.76	338	P	P	01 57 24.2 +0.3
S28A	Manter baz=29	28.79	335	P	P	01 57 24.8 +0.6
P34A	Walnut Farm, R baz=29	28.81	344	P	P	01 57 24.8 +0.4
LAZ	Ladron comp=Z,3.7nm,1.1s	28.88	324	eP	P	01 57 27.0 +1.8
ANMO	Albuquerque comp=Z,1.9nm,0.9s,baz=142,slow=8.1,SNR=6.6	28.89	326	P	P	01 57 25.7 +0.4
ANMO	Albuquerque comp=Z,3.0nm,1.1s	28.89	326	eP	P	01 57 26.3 +1.0
O36A	Bolckow baz=29	28.92	347	P	P	01 57 25.8 +0.6
P33A	Williams Farm, baz=29	28.95	343	P	P	01 57 26.0 +0.4
O34A	Beatrice baz=30,SNR=6.1	29.38	345	P	P	01 57 29.5 +0.2
P32A	Huiting Farm, baz=30	29.39	342	P	P	01 57 29.8 +0.3
O33A	Hebron baz=30,SNR=6.9	29.51	343	P	P	01 57 30.8 +0.3
T25A	Trinidad baz=30	29.53	331	P	P	01 57 32.0 +1.0
P31A	Stockton baz=30	29.55	340	P	P	01 57 31.4 +0.5
R27A	Eads baz=30	29.75	334	P	P	01 57 32.8 -0.1
N35A	Tabor baz=30	29.77	347	P	P	01 57 33.1 +0.3
P30A	Selden baz=30	29.86	339	P	P	01 57 34.2 +0.4
O32A	Brockman Farm, baz=30	29.88	343	P	P	01 57 34.2 +0.4
N34A	Lincoln baz=30	29.95	345	P	P	01 57 35.0 +0.7
N33A	J Bar K, Exete baz=30	30.09	344	P	P	01 57 36.2 +0.5
P29A	Atwood baz=30	30.16	338	P	P	01 57 37.6 +1.3
M35A	Neola baz=30	30.36	347	P	P	01 57 38.4 +0.4
P28A	Saint Francis baz=31	30.44	337	P	P	01 57 39.2 +0.4
SDCO	Great Sand Dun baz=31,SNR=5.9	30.54	330	P	P	01 57 40.8 +0.8
SDCO	Great Sand Dun comp=Z,3.8nm,0.9s	30.54	330	eP	P	01 57 41.0 +1.0
214A	Organ Pipe Nat baz=31	30.97	314	P	P	01 57 45.1 +1.6
L34A	Svendsen Farm, baz=31	30.98	346	P	P	01 57 43.3 -0.2
M31A	Lambtecht Ranc baz=31	31.09	342	P	P	01 57 44.8 +0.4
S22A	4UR Ranch, Cre baz=31,SNR=7.1	31.20	329	P	P	01 57 46.5 +0.7
L33A	Hoskins baz=32	31.39	345	P	P	01 57 47.5 +0.4
SAML	Samuel comp=Z,2.4nm,0.8s	31.52	130	eP	P	01 57 47.1 -1.3
MVCO	Mesa Verde baz=32	31.68	326	P	P	01 57 51.0 +1.1
MVCO	Mesa Verde comp=Z,50nm,2.3s	31.68	326	eP	P	01 57 51.2 +1.3
L31A	Butterfield Fa baz=32	31.81	343	P	P	01 57 52.0 +1.1
WUAZ	Wupatki baz=32	32.18	321	P	P	01 57 56.5 +2.2
ISCO	Idaho Springs baz=32	32.24	333	P	P	01 57 55.4 +0.5
K30A	Basset baz=33	32.50	343	P	P	01 57 57.5 +0.7
M26A	McRoberts Ranc baz=33	32.61	337	P	P	01 57 58.2 +0.3
ECSD	EROS Data Cent baz=33,SNR=9.7	32.72	347	P	P	01 57 58.0 -0.7
ECSD	EROS Data Cent comp=Z,8.8nm,0.8s	32.72	347	eP	P	01 57 57.8 -1.0
PV04	Paradox Valley	32.76	327	eP	P	01 58 00.5 +1.1
PDMCI	Parker Dam,Lak baz=33	33.22	316	P	P	01 58 04.7 +1.5
J29A	Okreek baz=34,SNR=7.0	33.38	342	P	P	01 58 04.9 +0.4
SPMN	St. Paul baz=34	33.51	353	P	P	01 58 05.4 -0.2
SPMN	St. Paul comp=Z,16nm,0.4s	33.51	353	eP	P	01 58 05.2 -0.4
I30A	Oacoma baz=34	33.59	344	P	P	01 58 06.2 0.0
J28A	Allard Ranch, baz=34	33.67	341	P	P	01 58 08.7 +1.6
LPAZ	La Paz comp=Z,62nm,19.1s,baz=305,slow=39	33.72	146	LR	LR	02 13 36.4
O20A	White River Ci baz=34,SNR=12	33.74	330	P	P	01 58 08.9 +1.0
O20A	White River Ci comp=Z,13nm,1.0s	33.74	330	eP	P	01 58 08.7 +0.8
BC3	Big Chuckawall baz=34	33.76	314	P	P	01 58 09.6 +1.5
I29A	Vivian Onida baz=34	33.93	343	P	P	01 58 10.0 +0.7
SRU	San Rafael comp=Z,9.3nm,0.8s	34.15	326	eP	P	01 58 12.1 +0.7
I28A	Midland baz=34	34.17	342	P	P	01 58 12.0 +0.7
J26A	Sides Ranch, S baz=34	34.19	339	P	P	01 58 12.7 +1.1
BELC	Belle Mtn. Jos baz=34	34.33	314	P	P	01 58 14.7 +1.7
GMRC	Granite Mounta baz=35	34.52	316	P	P	01 58 16.0 +1.3
P17A	Butcher Ranch,	34.53	327	eP	P	01 58 16.0 +1.3
MSU	Marysvale comp=Z,2.3nm,0.8s	34.65	324	eP	P	01 58 17.3 +1.4
H28A	Mission Ridge baz=35	34.74	342	P	P	01 58 16.8 +0.5
K22A	Casper baz=35	34.96	335	P	P	01 58 19.2 +0.9
H27A	Howes baz=35	35.02	341	P	P	01 58 19.7 +1.0
MPU	Maple Canyon comp=Z,44nm,1.3s	35.40	326	eP	P	01 58 22.7 +0.5
F29A	Eureka baz=36	35.47	345	P	P	01 58 22.3 -0.2
J22A	Midwest baz=36	35.57	335	P	P	01 58 24.1 +0.5
G27A	Dupree baz=36	35.65	342	P	P	01 58 24.8 +0.7
JLU	Jordanelle comp=Z,4.4nm,0.8s	35.72	327	eP	P	01 58 25.8 +0.8
F28A	McLaughlin baz=36	35.75	343	P	P	01 58 25.1 +0.1
E30A	Jud baz=36	35.87	346	P	P	01 58 25.7 -0.2
J21A	Lysite baz=36,SNR=6.1	35.92	334	P	P	01 58 27.5 +0.9
H24A	Dirks Ranch, A baz=36	35.96	339	P	P	01 58 28.5 +1.6
I22A	9 Mile Ranch, baz=36	35.97	336	P	P	01 58 28.0 +1.0
EYMN	Ely baz=36	36.06	355	P	P	01 58 26.8 -0.8
EYMN	Ely	36.06	355	eP	P	01 58 26.2 -1.3
E29A	Napoleon baz=36	36.11	345	P	P	01 58 27.8 -0.2
TPNV	Topopah Spring baz=36	36.16	318	P	P	01 58 30.2 +1.5
DUG	Dugway baz=36,SNR=6.8	36.17	326	P	P	01 58 29.7 +0.9
DUG	Dugway comp=Z,6.3nm,1.3s	36.17	326	eP	P	01 58 30.4 +1.6
EDW2	Edwards Air Fo baz=36	36.19	314	P	P	01 58 30.1 +1.2
BW06	Boulder Array comp=Z,2.5nm,0.8s	36.40	332	eP	P	01 58 30.7 -0.1
PDAR	Pinedale Array comp=Z,3.1nm,0.8s,baz=117,slow=11,SNR=26	36.40	332	P	P	01 58 31.1 +0.3
D30A	Buchanan baz=36	36.40	346	P	P	01 58 30.1 -0.3
MPMC	Manual Prospec baz=36	36.48	316	P	P	01 58 32.9 +1.4
E27A	Canon baz=37	36.49	343	P	P	01 58 32.2 +0.8
HWUT	Hardware Ranch comp=Z,13nm,0.8s	36.51	328	eP	P	01 58 32.2 +0.6
J19A	Crowheart baz=37	36.55	333	P	P	01 58 32.6 +0.5
R11A	Troy Canyon, C baz=37	36.58	321	P	P	01 58 34.0 +1.6
I20A	Worland baz=37	36.70	334	P	P	01 58 33.8 +0.6
E26A	Carlson Angus baz=37	36.80	342	P	P	01 58 34.3 +0.4
H21A	Big Horn, Sher baz=37	36.80	336	P	P	01 58 34.3 +0.3
C30A	Mose, Pekin baz=37	36.90	347	P	P	01 58 34.5 -0.2
AGMN	Agassiz Nation baz=37,SNR=6.9	36.97	350	P	P	01 58 34.7 -0.6
AGMN	Agassiz Nation comp=Z,5.8nm,0.6s	36.97	350	eP	P	01 58 34.3 -0.9
H20A	Greybull baz=37	37.08	335	P	P	01 58 36.6 +0.3
I19A	Meeteetse baz=37	37.14	333	P	P	01 58 38.1 +1.1
HVU	Hansel Valley comp=Z,92µm,1.0s	37.26	328	eP	P	01 58 38.9 +0.9
MDND	Maddock baz=37	37.29	346	P	P	01 58 38.4 +0.4
REDW	Red Top Meadow comp=Z,15nm,0.7s	37.46	331	eP	P	01 58 40.5 +0.7
SNOW	Snow King Moun comp=Z,6.8nm,0.5s	37.49	331	eP	P	01 58 40.9 +0.8
LOHW	Long Hollow comp=Z,3.5nm,0.8s	37.53	332	eP	P	01 58 40.9 +0.5
B30A	Myrvik Farm, E baz=38,SNR=5.3	37.58	348	P	P	01 58 39.7 -0.7
TPAW	Teton Pass comp=Z,20nm,1.2s	37.60	331	eP	P	01 58 41.5 +0.5
C27A	Sayler Ranch, baz=38	37.65	344	P	P	01 58 41.6 +0.5
MOOW	Moose Ponds comp=Z,3.6nm,0.8s	37.70	332	eP	P	01 58 42.7 +0.9
FXWY	Fox Creek comp=Z,1.9nm,0.8s	37.75	331	eP	P	01 58 42.8 +0.5
G20A	Bridger baz=38	37.76	335	P	P	01 58 42.6 +0.4
B29A	Wagenman Farm, baz=38	37.81	347	P	P	01 58 42.9 +0.5
SIV	San Ignacio comp=Z,6.1nm,0.8s,baz=319,slow=9.0,SNR=22	37.82	137	P	P	01 58 43.2 +0.3
B28A	Dugan Ranch, T baz=38	38.04	346	P	P	01 58 44.7 +0.4
RLMT	Red Lodge baz=38	38.12	334	P	P	01 58 45.4 +0.1
RLMT	Red Lodge comp=Z,7.5nm,1.3s	38.12	334	eP	P	01 58 45.9 +0.5
NVAR	Mina Array Bea comp=Z,1.7nm,0.8s,baz=137,slow=7.1,SNR=7.6	38.34	319	P	P	01 58 47.8 +0.5
ULM	Lac du Bonnet comp=Z,4.4nm,0.7s,baz=165,slow=8.9,SNR=6.5	38.86	351	P	P	01 58 49.8 -1.4
ULM	Lac du Bonnet	38.86	351	eP	P	01 58 50.1 -1.0
HLID	Hailey baz=40,SNR=5.6	39.37	328	P	P	01 58 56.5 +0.7
HLID	Hailey comp=Z,3.0nm,1.0s	39.37	328	eP	P	01 58 56.9 +1.1
MCMT	McKenzie Canyo	39.51	331	eP	P	01 58 58.4 +1.3
BOZ	Bozeman (W) baz=40	39.57	333	P	P	01 58 57.9 +0.6
BOZ	Bozeman (W) comp=Z,3.0nm,0.8s	39.57	333	eP	P	01 58 57.5 +0.2
DLMT	Dillon comp=Z,5.1nm,0.9s	39.79	332	eP	P	01 58 58.7 -0.6
LRM	Limekiln Ridge comp=Z,35nm,0.9s	40.07	332	eP	P	01 59 02.2 +0.6
MSO	Missoula baz=42	41.51	332	P	P	01 59 13.8 +0.5
MSO	Missoula comp=Z,5.2nm,1.0s	41.51	332	eP	P	01 59 13.8 +0.5
BMO	Blue Mountains comp=Z,2.6nm,0.8s	41.77	327	eP	P	01 59 14.9 -0.5
I04A	Tendick Farm, baz=44	43.97	323	P	P	01 59 34.8 +1.6
D08A	Wollman Farm, comp=Z,4.7nm,0.8s	44.08	329	eP	P	01 59 34.0 0.0
SCHQ	Schefferville comp=Z,4.4nm,0.9s,baz=219,slow=7.4,SNR=6.3	45.62	16	P	P	01 59 44.8 -1.3
SCHQ				LR	LR	02 19 03.9
FCC	Fort Churchill comp=Z,4.1nm,0.5s	47.01	355	eP	P	01 59 56.3 -0.6
CPUP	Villa Florida comp=Z,1.8nm,0.8s,baz=0.6,slow=4.4,SNR=3.3	47.78	143	P	P	02 00 03.4 +0.2
CPUP				LR	LR	02 20 23.4
YKA	Yellowknife Ar comp=Z,1.8nm,0.8s,baz=135,slow=7.5,SNR=5.8	54.19	345	P	P	02 00 48.9 -1.9
DLBC	Dease Lake comp=Z,2.0nm,0.8s,baz=85,slow=26,SNR=4.2	56.52	335	P	P	02 01 07.5 -0.4
ILAR	Eielson Array comp=Z,1.6nm,1.1s,baz=113,slow=4.8,SNR=10	66.63	336	P	P	02 02 14.9 -0.8
ESDC	Sonseca Array comp=Z,0.5nm,0.7s,baz=294,slow=8.4,SNR=4.0	77.16	52	P	P	02 03 18.6 -0.8
GERES	GERESS Array B comp=Z,32nm,18.9s,baz=293,slow=34	88.03	41	LR	LR	02 40 31.1
WMQ	Urumqi	124.27	5	PKP	PKPdf	02 10 23.3 -0.9
WMQ	comp=Z,52nm,24.0s			LN		
WMQ	comp=Z,34nm,18.7s			LZ		
HHC	Hu-ho-hao-te	124.71	343	ePKP	PKPdf	02 10 29.1 +3.9
HHC				PP	PP	02 12 20.1 +8.4
HHC	comp=Z,42nm,5.4s			PPMZ		
HHC	comp=Z,130nm,19.6s			LN		
HHC	comp=Z,100nm,19.6s			LE		
HHC	comp=Z,73nm,19.8s			LZ		
CD2	Chengdu	136.13	347	PKP	PKPdf	02 10 44.6 -2.4
ASAR	Alice Springs comp=Z,0.4nm,0.5s,baz=113,slow=2.1,SNR=4.3	139.48	248	PKP	PKPdf	02 10 54.1 +0.8
WRA	Warramunga Arr comp=Z,0.7nm,0.4s,baz=91,slow=2.4,SNR=5.2	139.54	253	PKP	PKPdf	02 10 54.8 +1.3
KMI	Kunming	141.93	346	PKP	PKPdf	02 10 55.8 -2.2

IDC ***19*** *02:03:53.1±0.5,52.˚50N×169.˚72W,h0km,mb4.3/24, mb1 4.5/26,mb1mx4.3/59,mbtmp4.3/26,ML3.9/2,MS3.5/11, Ms1 3.6/11,ms1mx3.3/46,Error ellipse: s-maj=19.8km s-min=10.7km az=167.0*

NEIC ***19*** *02:03:54.6,52.˚71N×169.˚52W,h4km,mb4.7/74, ML4.4(AEIC),After AEIC.*

ISCJB ***19*** *02:03:56.2±0.8,52.˚75N±0.˚04×169.˚62W±0.˚03,h23km±5km, mb4.6/97,MS3.5/10,Error ellipse: s-maj=7.8km s-min=2.9km az=163.8*

BJI ***19*** *02:04:26.6,53.˚28N×165.˚87W,h163km,mb4.8/11, mB4.7/4*

ISC 19 02:03:55.6±1.4,**52.˚77N**±0.˚09×**169.˚64W**±0.˚04,**h8**km±8km, **n400,**σ1**$28/393,mb4.6/97,MS3.5/10,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.52	66	P	Pg	02 04 05.2	-0.5
NIKH				S	Sg	02 04 12.3	-0.2
OKCE	Okmok Cone E	1.11	53	P	Pg	02 04 15.4	-1.4
OKCE				S	Sn	02 04 32.7	-0.1
OKTU	Okmok Mt. Tuli	1.14	57	P	Pg	02 04 16.2	-1.3
MGOD	Makushin Gods	1.95	57	P	Pn	02 04 28.6	-0.4
MCIR	Makushin Cirqu	2.03	53	P	Pn	02 04 29.9	-0.2
MSW	Makushin Switc	2.06	55	P	Pn	02 04 29.9	-0.6
MTBL	Makushin Table	2.14	55	P	Pn	02 04 31.1	-0.6
UNV	Unalaska Valle	2.17	59	ePg	Pn	02 04 31.4	-0.5
UNV				eS	Sn	02 04 59.2	+0.3
AKRB	Akutan Reef Bi	2.53	56	P	Pn	02 04 36.5	-0.5
ZRO	Akutan Zero	2.56	57	P	Pn	02 04 36.7	-0.7
AKGG	Akutan Green G	2.61	55	P	Pn	02 04 37.8	-0.2
AKGG				S	Sn	02 05 11.0	+1.2
AKUT	Akutan	2.69	58	ePg	Pn	02 04 39.2	+0.2
AKUT				eS	Sn	02 05 12.0	+0.3
ATKA	Atka Island	2.84	260	P	Pn	02 04 41.4	+0.2
ATKA				S	Sb	02 05 19.2	-2.3
WESP	Westdahl Peak	3.40	57	P	Pn	02 04 48.7	-0.2
WESN	West Dahl Nort	3.50	57	P	Pn	02 04 50.0	-0.4
SSLW	Shishaldin Wes	3.84	56	P	Pn	02 04 54.9	-0.1
GSTR	Great Sitkin T	3.99	263	P	Pn	02 04 58.0	+1.0
GSMY	Great Sitkin M	4.00	262	P	Pn	02 04 58.9	+1.8
GSTD	Great Sitkin T	4.05	262	P	Pn	02 04 59.7	+1.8
GSCK	Great Sitkin C	4.07	262	P	Pn	02 04 58.8	+0.6
FALS	False Pass	4.24	58	ePn	Pn	02 05 02.8	+2.4
ADAG	Mount Adagdak	4.34	262	P	Pn	02 05 03.2	+1.4
SPIA	Saint Paul Isl	4.43	356	P	Pn	02 05 04.0	+1.0
KIKV	Kanaga Island	4.71	262	P	Pn	02 05 08.7	+1.9
KICM	Kanaga Island	4.71	263	P	Pn	02 05 09.0	+2.1
DTNA	Dutton South F	4.97	58	P	Pn	02 05 10.2	-0.3
SDPT	Sand Point	5.98	61	ePn	Pn	02 05 27.1	+2.8
SDPT				eS	Sb	02 06 49.8	-1.8
CERAA	Semis' Rag'd T	6.60	267	P	Pn	02 05 34.7	+1.9
CEAP	Semis' Anvil P	6.65	268	P	Pn	02 05 35.4	+1.9
CESW	Semis' Southwe	6.68	267	P	Pn	02 05 36.1	+2.2
AMKA	Amchitka	6.96	263	ePn	Pn	02 05 40.2	+2.4
AMKA				eS	Sn	02 06 58.5	+1.5
VNNF	Veniaminof 3	6.96	56	P	Pn	02 05 38.7	+0.8
LSPA	Little Sitkin	7.27	268	P	Pn	02 05 43.9	+1.9
LSNW	Little Sitkin	7.30	268	P	Pn	02 05 44.4	+2.0
CHGN	Chignik	7.42	57	ePn	Pn	02 05 46.6	+2.5
OHAK	Old Harbor	10.39	58	ePn	Pn	02 06 22.0	-2.7
SVW2	Sparrevohn	11.32	37	ePn	Pn	02 06 42.1	+4.7
RSO	Redoubt South	12.05	44	ePn	Pn	02 06 49.9	+2.3
BRLK	Bradley Lake	12.53	49	ePn	Pn	02 06 55.9	+1.9
TNA	Tin City	12.86	3	ePn	Pn	02 06 58.6	+0.2
RC01	Rabbit Creek A	13.64	45	ePn	Pn	02 07 09.1	0.0
PPLA	Purkeypile	13.71	35	ePn	P	02 07 16.0	-3.0
CAST	Castle Rocks	14.08	34	ePn	Pn	02 07 17.9	+2.8
SML	Sawmill 2.6nm,0.7s	14.58	43	ePn	Pn	02 07 23.3	+1.3
TRF	Thorofare Moun	14.73	36	ePn	Pn	02 07 25.4	+1.3
BPAW	Bear Paw Mtn.	14.90	33	ePn	Pn	02 07 28.1	+1.8
MCK	McKinley	15.38	36	ePn	Pn	02 07 34.4	+1.7
DIV	Divide	15.40	48	ePn	Pn	02 07 31.2	-1.8
IM04	Indian Mountai	15.44	25	ePn	P	02 07 37.1	-0.9
BWN	Browne	15.46	35	ePn	P	02 07 37.5	-0.8
KLU	Klutina	15.47	46	ePn	Pn	02 07 30.4	-3.6
DHY	Denali Highway	15.60	40	ePn	P	02 07 38.1	-1.9
BMRM	Bremner River	15.87	49	ePn	Pn	02 07 36.3	-2.8
HARP	HAARP	16.18	44	ePn	Pn	02 07 42.7	-0.4
CCB	Clear Creek Bu	16.32	35	ePn	Pn	02 07 43.9	-1.0
COLA	College	16.44	34	ePn	Pn	02 07 46.2	-0.1
ILAR	Eielson Array 0.2nm,0.3s,baz=227,slow=11,SNR=22	16.72	35	Pn	Pn	02 07 48.6	-1.2
ILAR				LR	LR	02 14 39.5	
ILAR	comp=Z,266nm,20.1s,baz=226,slow=38			ScP	ScP	02 16 10.8	-2.1
COLD	Coldfoot 14nm,0.9s	17.32	26	ePn	P	02 08 00.0	+1.2
EGAK	Eagle 14nm,0.8s	18.83	39	ePn	P	02 08 15.0	-0.5
HYT	Haines Junctio	19.18	52	ePn	Pn	02 08 20.0	-0.4
DAWY	Dawson	19.24	42	ePn	P	02 08 18.6	-1.5
PETK	Petropavlovsk-	19.60	284	P	P	02 08 21.5	-2.5
SKAG	Skagway 72nm,1.2s	20.09	57	ePn	P	02 08 29.3	+0.1
BESE	Bessie Mountai 17nm,1.2s	20.29	60	ePn	P	02 08 32.0	+0.5
SEY	Seymchan 3.5nm,0.8s,baz=89,slow=9.6,SNR=7.7	22.28	312	P	P	02 08 53.0	+0.2
SEY				PcP	PcP	02 12 46.9	-1.3
DLBC	Dease Lake 19nm,1.1s,baz=275,slow=10.0,SNR=17	22.82	60	P	P	02 08 59.8	+1.1
DLBC				LR	LR	02 17 07.5	
DLBC	comp=Z,82nm,18.3s,baz=272,slow=34	22.82	60	eP	P	02 08 60.0	+1.2
INK	Dease Lake 56nm,1.4s	23.11	34	P	P	02 09 01.9	+0.5
INK	Inuvik 6.5nm,0.5s,baz=238,slow=11,SNR=10			LR	LR	02 18 49.5	
YKA	comp=Z,205nm,21.3s,baz=287,slow=38 Yellowknife Ar	30.10	49	P	P	02 10 06.3	+1.2
G05D	2.5nm,0.5s,baz=276,slow=7.0,SNR=21 Wamic, OR baz=32	32.05	84	P	P	02 10 23.3	+0.7
I04A	Tendick Farm, baz=32	32.16	87	P	P	02 10 24.8	+1.3
I05D	Terrebonne, OR baz=32	32.52	85	P	P	02 10 27.9	+1.3
NEW	Newport 3.1nm,0.4s,baz=326,slow=5.8,SNR=5.0	33.07	76	P	P	02 10 30.0	-1.5
NEW	Newport baz=33	33.07	76	P	P	02 10 30.7	-0.8
NEW	Newport 4.7nm,0.8s	33.07	76	eP	P	02 10 31.0	-0.5
EDM	Edmonton 5.1nm,0.3s	33.13	66	eP	P	02 10 31.6	-0.3
G08A	Pilot Rock 3.9nm,1.1s	33.45	82	eP	P	02 10 38.4	+3.5
K05A	Summer Lake 8.8nm,0.8s	33.68	87	eP	P	02 10 40.4	+3.4
MOD	Modoc 5.2nm,0.8s	34.51	88	eP	P	02 10 45.9	+1.7
WALA	Waterton Lakes 13nm,1.4s	34.58	73	eP	P	02 10 46.2	+1.6
BSMT	Bassoo Peak 4.3nm,0.7s	34.65	76	eP	P	02 10 44.7	-0.7
BLMT	Blacktail Moun	34.82	75	eP	P	02 10 50.0	+3.2
JTMT	Jette	34.99	75	eP	P	02 10 49.6	+1.3
WVOR	Wild Horse Val 9.6nm,0.9s	35.21	86	eP	P	02 10 51.1	+0.9
MSO	Missoula baz=36	35.65	77	P	P	02 10 52.5	-1.4
MSO	Missoula 17nm,1.7s	35.65	77	eP	P	02 10 57.0	+3.1
SLMT	Seeley Lake 3.0nm,0.7s	35.71	76	eP	P	02 10 56.2	+1.8
MFID	Camas Ranch 4.1nm,0.9s	36.35	83	eP	P	02 11 01.3	+1.3
HLID	Hailey baz=37	37.12	82	P	P	02 11 06.2	-0.4
HLID	Hailey 3.3nm,1.1s	37.12	82	eP	P	02 11 06.4	-0.2
MCMT	McKenzie Canyo	37.36	79	eP	P	02 11 08.0	-0.7
EGMT	Eagleton baz=37	37.50	73	P	P	02 11 07.6	-2.1
EGMT	Eagleton 24nm,1.1s	37.50	73	eP	P	02 11 07.2	-2.5
BOZ	Bozeman (W) baz=37,SNR=7.4	37.64	77	P	P	02 11 10.4	-0.5
BOZ	Bozeman (W) 5.2nm,0.6s	37.64	77	eP	P	02 11 10.3	-0.6
H11N2	WAKE ISLAND Hy baz=24,slow=76,SNR=61	37.67	218	T	T	02 51 00.5	
H11N3	WAKE ISLAND Hy baz=24,slow=76,SNR=90	37.67	218	T	T	02 50 56.4	
H11N1	WAKE ISLAND Hy baz=24,slow=76,SNR=71	37.69	218	T	T	02 51 01.9	
NVAR	Mina Array Bea 1.9nm,0.8s,baz=303,slow=8.2,SNR=5.4	37.83	91	P	P	02 11 12.7	0.0
ELK	Elko 5.2nm,0.8s	38.27	86	eP	P	02 11 19.7	+3.3
USRK	Ussuriysk Ar. 1.8nm,0.8s,baz=64,slow=7.4,SNR=6.2	38.65	281	PcP	PcP	02 13 30.4	-0.8
FFC	Flin Flon 11nm,1.4s	38.65	59	eP	P	02 11 20.3	+1.1
TPH	Tonopah 6.1nm,1.2s	38.72	91	eP	P	02 11 20.5	+0.4
H11S1	WAKE ISLAND Hy baz=23,slow=76,SNR=775	38.86	217	T	T	02 52 36.0	
H11S2	WAKE ISLAND Hy baz=23,slow=76,SNR=733	38.87	217	T	T	02 52 29.9	
H11S3	WAKE ISLAND Hy baz=23,slow=76,SNR=687	38.88	217	T	T	02 52 25.2	
HVU	Hansel Valley 68µm,0.9s	39.14	83	eP	P	02 11 24.6	+1.0
RLMT	Red Lodge baz=39	39.32	76	P	P	02 11 23.8	-1.3
RLMT	Red Lodge 7.2nm,0.9s	39.32	76	eP	P	02 11 20.5	-4.6
BGU	Big Grassy Mou 21nm,1.8s	39.49	84	eP	P	02 11 27.0	+0.4
ISA	Isabella baz=39	39.53	95	P	P	02 11 28.2	+1.4
R11A	Troy Canyon, C baz=39,SNR=6.9	39.54	89	P	P	02 11 28.4	+1.4
R11A	Troy Canyon, C 6.7nm,1.0s	39.54	89	eP	P	02 11 26.2	-0.8
MJAR	Matsushiro Arr 1.1nm,0.7s,baz=46,slow=7.1,SNR=9.1	39.55	267	P	P	02 11 25.9	-1.0
MJAR				PcP	PcP	02 13 32.9	-1.3
MJAR	2.3nm,0.9s,baz=195,slow=0.8,SNR=6.5			LR	LR	02 25 32.0	
MAT	comp=Z,82nm,21.8s,baz=220,slow=33 Matsushiro	39.55	267	P	P	02 11 26.3	-0.6
H19A	Powell baz=40	39.74	77	P	P	02 11 26.7	-1.8

MPMC	**Manual Prospec** baz=40	39.86	93	P		P	02 11 30.3	+0.6
G20A	**Bridger** baz=40,SNR=5.7	39.89	75	P		P	02 11 29.1	-0.6
FURC	**Furnace Creek,** baz=40	39.98	92	P		P	02 11 31.2	+0.8
TPNV	**Topopah Spring** baz=40,SNR=5.7	40.03	91	P		P	02 11 32.1	+1.0
DUG	**Dugway** baz=40,SNR=8.4	40.07	85	P		P	02 11 31.3	0.0
DUG	**Dugway** 8.2nm,1.0s	40.07	85	eP		P	02 11 31.0	-0.4
I19A	**Meeteetse** baz=40	40.09	77	P		P	02 11 29.5	-2.0
BW06	**Boulder Array** 8.0nm,0.9s	40.49	79	eP		P	02 11 34.2	-0.7
PDAR	**Pinedale Array** 6.0nm,0.8s,baz=324,slow=4.8,SNR=26	40.49	79	P		P	02 11 33.9	-1.0
PDAR				LR		LR	02 27 35.2	
	comp=Z,41nm,18.7s,baz=300,slow=35							
I20A	**Worland** baz=40	40.65	77	P		P	02 11 35.5	-0.6
NLU	**North Lily Min** 4.1nm,0.9s	40.66	85	eP		P	02 11 39.3	+3.0
SHOC	**Shoshone** baz=40	40.70	93	P		P	02 11 38.9	+2.5
F22A	**Rosebud** baz=40	40.72	74	P		P	02 11 35.8	-0.8
GSC	**Goldstone** baz=41,SNR=7.7	40.78	94	P		P	02 11 39.4	+2.2
GSC	**Goldstone** 9.8nm,0.9s	40.78	94	eP		P	02 11 39.5	+2.2
A25A	**Svangstu Ranch** baz=41	40.82	68	P		P	02 11 37.3	0.0
C24A	**Savage** baz=41	40.83	70	P		P	02 11 37.7	+0.4
BFSC	**Mount Baldy Ra** baz=41	40.98	96	P		P	02 11 41.7	+2.8
G22A	**Birney** baz=41	41.02	74	P		P	02 11 38.5	-0.5
J20A	**Shoshoni** baz=41	41.02	78	P		P	02 11 39.3	+0.1
D24A	**Glendive** baz=41,SNR=6.2	41.11	71	P		P	02 11 40.6	+0.9
I21A	**Big Trails, Te** baz=41	41.23	77	P		P	02 11 40.9	0.0
F23A	**Volborg** baz=41	41.25	73	P		P	02 11 40.5	-0.5
CCUT	**Cedar City** 3.3nm,0.7s	41.40	88	eP		P	02 11 46.0	+3.6
MSU	**Marysvale** 7.1nm,1.1s	41.50	86	eP		P	02 11 44.9	+1.6
G23A	**Biddle** baz=41	41.55	74	P		P	02 11 42.9	-0.5
TMUT	**Trail Mountain** 7.3nm,0.8s	41.60	85	eP		P	02 11 46.1	+2.0
I22A	**9 Mile Ranch,** baz=41	41.66	76	P		P	02 11 44.5	+0.1
P17A	**Butcher Ranch,**	41.77	84	eP		P	02 11 46.5	+1.1
GMRC	**Granite Mounta** baz=42,SNR=6.8	41.83	93	P		P	02 11 47.3	+1.5
J22A	**Midwest** baz=42,SNR=5.6	41.94	77	P		P	02 11 46.5	-0.2
SRU	**San Rafael** 5.8nm,0.8s	42.13	84	eP		P	02 11 49.9	+1.6
PFO	**Pinyon Flat Ob** baz=42	42.14	95	P		P	02 11 50.3	+1.9
BELC	**Belle Mtn. Jos** baz=42	42.15	95	P		P	02 11 50.1	+1.6
K22A	**Casper** baz=42	42.36	78	P		P	02 11 50.0	-0.2
A28A	**Rude Farm, Bot** baz=42,SNR=5.4	42.43	66	P		P	02 11 49.8	-0.7
IRM	**Iron Mountain** baz=42	42.56	94	P		P	02 11 52.3	+0.6
B28A	**Dugan Ranch, T** baz=42	42.63	67	P		P	02 11 49.9	-2.2
MONP	**Monument Peak** baz=42	42.66	96	P		P	02 11 55.2	+2.5
BC3	**Big Chuckawall** baz=42	42.72	94	P		P	02 11 54.8	+1.7
O20A	**White River Ci** baz=43,SNR=12	42.86	82	P		P	02 11 54.5	+0.2
O20A	**White River Ci** 19nm,0.8s	42.86	82	eP		P	02 11 53.7	-0.6
H25A	**Fruitdale** baz=43	42.93	73	P		P	02 11 54.3	-0.3
RSSD	**Black Hills** 10nm,1.5s	42.96	74	eP		P	02 11 55.4	+0.3
A29A	**Manning Farm,** baz=43,SNR=6.1	43.00	66	P		P	02 11 54.2	-0.8
E27A	**Carson** baz=43	43.07	70	P		P	02 11 55.2	-0.5
PDMCI	**Parker Dam,Lak** baz=43	43.08	93	P		P	02 11 56.8	+1.0
G26A	**Maurine** baz=43,SNR=5.2	43.12	72	P		P	02 11 55.0	-1.2
B29A	**Wagenman Farm,** baz=43	43.18	66	P		P	02 11 54.8	-1.8
D28A	**Regan** baz=43	43.20	69	P		P	02 11 55.1	-1.7
Y12C	**Blythe** baz=43,SNR=6.8	43.22	94	P		P	02 11 59.0	+2.0
G27A	**Dupree** baz=43	43.46	71	P		P	02 11 58.5	-0.4
E28A	**Huff** baz=43	43.48	69	P		P	02 11 59.0	0.0
GLA	**Glamis** baz=43	43.51	95	P		P	02 12 01.3	+1.8
PV04	**Paradox Valley**	43.56	84	eP		P	02 12 01.1	+1.1
B30A	**Myrvik Farm, E** baz=44,SNR=6.6	43.76	66	P		P	02 12 00.2	-1.0
N23A	**Red Feather La** baz=44	43.77	79	P		P	02 12 01.7	-0.1
D29A	**Pettibone, Tap** baz=44	43.83	68	P		P	02 12 01.1	-0.7
PV01	**Paradox Valley** 716nm,0.7s	43.93	84	eP		P	02 12 02.4	-0.6
WUAZ	**Wupatki** baz=44,SNR=8.9	43.94	89	P		P	02 12 04.6	+1.7
WUAZ	**Wupatki** 11nm,0.7s	43.94	89	eP		P	02 12 04.0	+1.0
ULM	**Lac du Bonnet** comp=Z,88nm,18.2s,baz=287,slow=39	44.11	62	LR		LR	02 32 51.8	
D30A	**Buchanan** baz=44,SNR=8.6	44.27	68	P		P	02 12 04.6	-0.8
H28A	**Mission Ridge** baz=44	44.39	72	P		P	02 12 06.1	-0.3
M25A	**Palm-Egli Farm** baz=44	44.56	77	P		P	02 12 08.2	+0.3
MVCO	**Mesa Verde** baz=44	44.57	85	P		P	02 12 08.8	+0.7
MVCO	**Mesa Verde** 4.1nm,0.8s	44.57	85	eP		P	02 12 09.5	+1.4
ISCO	**Idaho Springs** baz=44	44.65	80	P		P	02 12 08.3	-0.5
ISCO	**Idaho Springs** 3.1nm,0.9s	44.65	80	eP		P	02 12 09.3	+0.5
I28A	**Midland** baz=44	44.70	73	P		P	02 12 08.2	-0.7
F30A	**Leola** baz=45	44.85	69	P		P	02 12 09.2	-0.8
J28A	**Allard Ranch,** baz=45	45.01	73	P		P	02 12 10.4	-0.9
I29A	**Vivian Onida** baz=45	45.19	72	P		P	02 12 12.0	-0.7
KSRS	**Korea Array** 1.1nm,0.6s,baz=49,slow=7.9,SNR=5.5	45.20	276	P		P	02 12 10.9	-1.8
KSRS				PcP		PcP	02 13 51.5	-1.3
	0.8nm,0.6s,baz=33,slow=3.0,SNR=4.7							
KSRS				LR		LR	02 30 44.2	
	comp=Z,45nm,19.8s,baz=57,slow=36							
AGMN	**Agassiz Nation** baz=45,SNR=9.6	45.20	65	P		P	02 12 12.4	-0.3
AGMN	**Agassiz Nation** 14nm,0.8s	45.20	65	eP		P	02 12 13.0	+0.3
KSAR	**Wonju Array Be**	45.23	276	P		P	02 12 10.9	-2.1
KSAR				PcP		PcP	02 13 51.5	-1.5
S22A	**4UR Ranch, Cre** baz=45	45.23	83	P		P	02 12 13.5	0.0
K28A	**Ten Mile Ranch** baz=45	45.36	74	P		P	02 12 13.6	-0.6
Q24A	**Divide** baz=45	45.46	81	P		P	02 12 14.8	-0.4
214A	**Organ Pipe Nat** baz=45,SNR=7.9	45.50	94	P		P	02 12 16.4	+1.1
214A	**Organ Pipe Nat** 9.7nm,0.9s	45.50	94	eP		P	02 12 18.1	+2.8
J29A	**Okreek** baz=45,SNR=5.7	45.55	73	P		P	02 12 15.2	-0.4
N27A	**Anderson Farm,** baz=46	45.85	77	P		P	02 12 18.2	0.0
SDCO	**Great Sand Dun** baz=46,SNR=6.2	46.03	82	P		P	02 12 20.1	+0.4
SDCO	**Great Sand Dun** 4.9nm,0.9s	46.03	82	eP		P	02 12 19.6	-0.2
J30A	**Dallas** baz=46	46.08	72	P		P	02 12 19.4	-0.4
P26A	**Davis Ranch, A** baz=46	46.16	79	P		P	02 12 21.5	+1.0
O27A	**Beecher Island** baz=46	46.27	78	P		P	02 12 21.8	+0.4
JNU	**Nakatsue** 7.8nm,0.8s,baz=37,slow=2.8,SNR=5.7	46.30	269	P		P	02 12 19.2	-2.5
JNU				LR		LR	02 30 12.4	
	comp=Z,68nm,21.9s,baz=105,slow=34							
K30A	**Basset** baz=46	46.41	73	P		P	02 12 21.6	-0.8
Q26A	**Hugo** baz=46	46.46	80	P		P	02 12 23.7	+0.7
TUC	**Tucson** 6.7nm,0.9s	46.48	92	eP		P	02 12 22.2	-0.9
R26A	**Arlington** baz=47,SNR=5.9	46.90	80	P		P	02 12 26.3	-0.1
KSCO	**Kaye Shedlock'** baz=47	46.94	79	P		P	02 12 26.6	-0.1
KSCO	**Kaye Shedlock'** 16nm,0.8s	46.94	79	eP		P	02 12 28.1	+1.5
T25A	**Trinidad** baz=47,SNR=9.0	47.08	82	P		P	02 12 28.7	+0.7
LAZ	**Ladron** 6.5nm,1.1s	47.26	87	eP		P	02 12 29.9	+0.6
R27A	**Eads** baz=47	47.30	80	P		P	02 12 29.5	0.0
ANMO	**Albuquerque** 4.5nm,1.3s	47.30	86	eP		P	02 12 32.0	+2.3
S26A	**Kim** baz=47,SNR=9.2	47.33	81	P		P	02 12 29.8	0.0
ECSD	**EROS Data Cent** baz=47,SNR=11	47.49	70	P		P	02 12 30.0	-0.8
ECSD	**EROS Data Cent** 7.9nm,0.7s	47.49	70	eP		P	02 12 31.9	+1.1
T26A	**Comanche Natio** baz=47	47.55	82	P		P	02 12 31.3	-0.3
P29A	**Atwood** baz=47	47.56	77	P		P	02 12 30.9	-0.6
EYMN	**Ely** baz=48,SNR=7.7	47.79	63	P		P	02 12 32.4	-0.7
EYMN	**Ely** 16nm,0.9s	47.79	63	eP		P	02 12 33.1	0.0
P30A	**Selden** baz=48	48.01	77	P		P	02 12 34.7	-0.2
121A	**Cookes Peak, D** baz=48,SNR=6.0	48.15	89	P		P	02 12 37.6	+1.3
121A	**Cookes Peak, D** 9.2nm,0.8s	48.15	89	eP		P	02 12 39.3	+3.1
U27A	**Thompson Grove** baz=48	48.51	82	P		P	02 12 39.3	+0.4
P31A	**Stockton** baz=48	48.53	76	P		P	02 12 37.6	-1.3
SPMN	**St. Paul** baz=48	48.72	66	P		P	02 12 39.5	-0.7
SPMN	**St. Paul** 9.9nm,0.7s	48.72	66	eP		P	02 12 41.7	+1.4
L34A	**Svendsen Farm,** baz=48	48.73	72	P		P	02 12 39.4	-0.9
CBKS	**Cedar Bluff** baz=49	48.78	77	P		P	02 12 40.8	-0.1
R30A	**Dighton** baz=49	48.81	78	P		P	02 12 40.9	-0.2
U28A	**Mallet** baz=49	48.90	81	P		P	02 12 41.7	-0.2
P32A	**Huiting Farm,** baz=49	48.93	76	P		P	02 12 41.7	-0.2
O33A	**Hebron** baz=49	49.23	75	P		P	02 12 43.9	-0.4
R31A	**Burdett** baz=49	49.25	78	P		P	02 12 44.8	+0.3
Q32A	**Meitler Ranch,** baz=49	49.36	76	P		P	02 12 45.4	+0.1
N34A	**Lincoln** baz=49	49.37	73	P		P	02 12 44.6	-0.8
P33A	**Williams Farm,** baz=49	49.58	75	P		P	02 12 46.9	-0.1
R32A	**Long Quarter,** baz=49	49.65	77	P		P	02 12 47.4	-0.1
O34A	**Beatrice** baz=50	49.68	74	P		P	02 12 47.3	-0.4
S31A	**Mullinville** baz=50	49.72	78	P		P	02 12 48.0	-0.1
U30A	**WK&E Inc. Balk** baz=50	49.74	80	P		P	02 12 48.4	+0.1
Q33A	**Connelly Farm,** baz=50,SNR=5.0	49.79	76	P		P	02 12 48.4	-0.1
R33A	**Olander Ranch,** baz=50	50.15	77	P		P	02 12 51.1	-0.2
MSTX	**Muleshoe** baz=50	50.20	84	P		P	02 12 52.5	+0.7
MSTX	**Muleshoe** 8.4nm,0.9s	50.20	84	eP		P	02 12 53.2	+1.4
P35A	**Duane Minner,** baz=50	50.50	74	P		P	02 12 53.7	-0.2
Y28A	**McKinney Farm,** baz=50	50.56	84	P		P	02 12 55.7	+1.1
R34A	**Isabella, Hill** baz=50,SNR=5.0	50.59	76	P		P	02 12 54.6	0.0
S33A	**Kaszmaul Farm,** baz=50	50.61	77	P		P	02 12 55.3	+0.5
U32A	**Winter Ranch,** baz=51	50.83	79	P		P	02 12 56.8	+0.3
Z28A	**Tucker Farm, M** baz=51	50.90	84	P		P	02 12 57.6	+0.5
P36A	**Good Intent, A** baz=51	50.92	73	P		P	02 12 56.8	-0.2
Y29A	**Porterfield Fa** baz=51,SNR=5.3	50.94	83	P		P	02 12 58.0	+0.6
SONM	**Songino Array** 0.4nm,0.5s,baz=65,slow=7.3,SNR=3.4	50.96	300	P		P	02 12 56.5	-0.9
SONM				PcP		PcP	02 14 11.6	-1.9
	2.4nm,0.8s,baz=49,slow=3.2,SNR=9.7							
S34A	**Willow Spring** baz=51	51.07	77	P		P	02 12 58.0	-0.2
W31A	**Holland Ranch,** baz=51	51.07	81	P		P	02 12 58.7	+0.4
128A	**Castleberry Fa** baz=51,SNR=6.1	51.30	85	P		P	02 13 00.4	+0.3
U33A	**Lingo Farm, Me** baz=51	51.32	78	P		P	02 13 00.3	+0.2
Z29A	**Hungry Hill Ra** baz=51,SNR=5.5	51.33	84	P		P	02 13 01.1	+0.8
X31A	**McDonald Ranch** baz=51	51.43	81	P		P	02 13 01.2	+0.3
T34A	**McClaskey Farm** baz=51,SNR=6.9	51.48	77	P		P	02 13 01.1	-0.2
W32A	**Sentinel** baz=51	51.53	80	P		P	02 13 02.3	+0.5
S35A	**Otter Creek Ra** baz=51,SNR=6.7	51.55	76	P		P	02 13 01.8	-0.1
228A	**UT Block 9, Go** baz=51	51.59	86	P		P	02 13 03.4	+1.2
R36A	**Gordon, Harris** baz=51	51.60	75	P		P	02 13 02.0	-0.2
Z30A	**Sanderson Ranc** baz=52,SNR=7.6	51.66	84	P		P	02 13 03.2	+0.4
U34A	**Anderson Ranch** baz=51	51.66	78	P		P	02 13 03.2	+0.5
129A	**Stewart Farms,** baz=52	51.67	85	P		P	02 13 03.9	+1.0
Q37A	**Longview Farm,** baz=52	51.85	74	P		P	02 13 04.0	0.0
S36A	**Lake Cedric, C** baz=52	51.95	76	P		P	02 13 05.0	+0.2
T35A	**Sooner Cattle** baz=52	51.95	77	P		P	02 13 05.0	+0.2
W33A	**Caddo, Fort Co** baz=52	51.98	80	P		P	02 13 05.2	+0.1
X32A	**Elmer** baz=52	51.99	81	P		P	02 13 05.4	+0.3
R37A	**Teagarden Farm** baz=52	52.00	74	P		P	02 13 05.0	-0.2
WMOK	**Wichita Mounta** 12nm,0.9s	52.08	81	eP		P	02 13 04.5	-1.3
V34A	**Guthrie** baz=52	52.08	79	P		P	02 13 06.0	+0.1
V34A	**Guthrie** 8.6nm,0.7s	52.08	79	eP		P	02 13 08.0	+2.1
Y32A	**R-V Farms, Ver** baz=52	52.18	82	P		P	02 13 06.7	+0.1
Z31A	**Sharp Cattle R** baz=52	52.23	83	P		P	02 13 07.4	+0.4
130A	**Snyder** baz=52	52.24	84	P		P	02 13 07.7	+0.6
W34A	**Bridge Creek,** baz=52	52.34	79	P		P	02 13 07.7	0.0
S37A	**Fort Scott** baz=52,SNR=8.5	52.37	75	P		P	02 13 07.0	-0.9
329A	**Wagon Wheel Ra** baz=52	52.40	86	P		P	02 13 08.9	+0.6
131A	**Roby** baz=52	52.53	84	P		P	02 13 09.5	+0.2
V35A	**Meyer Ranch, C** baz=52	52.54	78	P		P	02 13 09.2	0.0
HHC	**Hu-ho-hao-te**	52.63	291	eP		P	02 13 42.3	+32
HHC				PP		PP	02 15 47.5	+39
HHC				S		S	02 21 04.4	+27
HHC				SS		SKiKP	02 24 48.3	+17
HHC				PMZ				
	15nm,1.1s							
HHC				PMZ				
	40nm,5.3s							
Z32A	**Haskell** baz=52,SNR=8.7	52.64	82	P		P	02 13 10.0	0.0
230A	**Sterling City** baz=52,SNR=5.0	52.64	85	P		P	02 13 09.4	-0.7
Y33A	**Hilltop Ranch,** baz=52	52.67	81	P		P	02 13 10.8	+0.6
X34A	**Smith Ranch, M** baz=52	52.74	80	P		P	02 13 11.0	+0.3
T37A	**Cheneyville 18** baz=52,SNR=7.0	52.75	76	P		P	02 13 09.9	-0.8
TXAR	**Lajitas Array** 9.1nm,0.6s,baz=304,slow=5.8,SNR=55	52.90	89	P		P	02 13 11.1	-1.0
W35A	**Tecumseh** baz=53	52.93	79	P		P	02 13 12.3	+0.2
330A	**Mertzon** baz=53	52.94	85	P		P	02 13 13.0	+0.6
ABTX	**Abilene, Hawle** baz=53,SNR=6.1	53.02	83	P		P	02 13 12.4	-0.4
ABTX	**Abilene, Hawle** 26nm,1.4s	53.02	83	eP		P	02 13 12.9	+0.1
V36A	**Jenks** baz=53	53.05	78	P		P	02 13 13.4	+0.4
TUL1	**Tulsa** baz=53	53.05	77	P		P	02 13 13.2	+0.2
TUL1	**Tulsa** 8.3nm,0.8s	53.05	77	eP		P	02 13 15.2	+2.2
429A	**Davenport Ranc** baz=53,SNR=6.2	53.06	87	P		P	02 13 13.0	-0.2
Z33A	**Whitaker Ranch** baz=53	53.09	82	P		P	02 13 12.4	-0.9
231A	**Bronte** baz=53	53.09	84	P		P	02 13 12.8	-0.6
U37A	**Salina** baz=53	53.12	76	P		P	02 13 12.1	-1.4
529A	**Stev Forest Ra** baz=53,SNR=6.7	53.22	87	P		P	02 13 13.7	-0.7
Y34A	**Reagan Ranch,** baz=53,SNR=5.7	53.23	80	P		P	02 13 13.3	-1.0
W36A	**Wetumka** baz=53	53.33	78	P		P	02 13 13.9	-1.1
430A	**Baggett Ranch,** baz=53,SNR=8.2	53.34	86	P		P	02 13 14.7	-0.6
V37A	**Hulbert** baz=53	53.46	77	P		P	02 13 14.5	-1.5
133A	**Hamilton Ranch** baz=53,SNR=7.8	53.47	83	P		P	02 13 15.5	-0.6
331A	**San Angelo** baz=53,SNR=5.8	53.47	85	P		P	02 13 15.4	-0.7
U38A	**Gravette** baz=53,SNR=5.7	53.53	76	P		P	02 13 14.7	-1.8
232A	**Coleman** baz=53	53.53	84	P		P	02 13 15.6	-1.0
X36A	**Centrahoma** baz=53	53.64	79	P		P	02 13 15.7	-1.7
Y35A	**Marietta** baz=54,SNR=6.6	53.69	80	P		P	02 13 16.7	-1.0
HDIL	**Hopedale** 22nm,0.7s	53.70	69	eP		P	02 13 19.2	+1.6
530A	**J-C Ranch, Com** baz=54,SNR=27	53.73	86	P		P	02 13 17.3	-0.8
431A	**Sonora** baz=54,SNR=14	53.80	85	P		P	02 13 18.0	-0.6
W37A	**Quinton** baz=54,SNR=6.0	53.80	78	P		P	02 13 17.5	-1.0
332A	**Millersview** baz=54,SNR=7.7	53.83	84	P		P	02 13 18.0	-0.8
233A	**Rising Star** baz=54,SNR=8.1	53.89	83	P		P	02 13 19.0	-0.2
V38A	**Canehill** baz=54,SNR=7.0	53.91	76	P		P	02 13 17.4	-1.9
134A	**White-Moore Ra** baz=54,SNR=6.3	53.99	82	P		P	02 13 20.0	+0.1
Y36A	**Durant** baz=54	54.15	79	P		P	02 13 20.4	-0.7
432A	**Menard** baz=54	54.16	85	P		P	02 13 21.0	-0.2
531A	**Rocksprings** baz=54,SNR=5.7	54.20	86	P		P	02 13 20.7	-0.9
X37A	**Clayton** baz=54,SNR=9.8	54.21	78	P		P	02 13 20.3	-1.2
333A	**Richland Sprin** baz=54,SNR=7.9	54.33	84	P		P	02 13 22.0	-0.4
234A	**Clairette** baz=54,SNR=5.4	54.36	82	P		P	02 13 22.9	+0.3
W38A	**Poteau** baz=54,SNR=6.0	54.39	77	P		P	02 13 21.1	-1.6
135A	**Vickery Place,** baz=54	54.41	81	P		P	02 13 22.3	-0.7
JCT	**Junction City** baz=54	54.43	85	P		P	02 13 22.8	-0.4
JCT	**Junction City**	54.43	85	eP		P	02 13 25.1	+1.9
X38A	**Whitesboro** baz=54	54.48	78	P		P	02 13 22.6	-0.8
Z36A	**Blue Ridge** baz=54	54.49	80	P		P	02 13 23.3	-0.3
532A	**Rocksprings** baz=54	54.62	85	P		P	02 13 24.2	-0.4
631A	**Perdido Creek** baz=54	54.72	87	P		P	02 13 25.0	-0.3
334A	**Lometa** baz=55,SNR=11	54.77	83	P		P	02 13 25.1	-0.6
WHTX	**Lake Whitney** baz=55	54.78	82	P		P	02 13 25.3	-0.3
WHTX	**Lake Whitney** 26nm,0.9s	54.78	82	eP		P	02 13 26.4	+0.7
SFIN	**Scholer Farm** baz=55	55.05	68	P		P	02 13 25.1	-2.4
434A	**Burnet** baz=55,SNR=9.8	55.12	84	P		P	02 13 27.6	-0.6
632A	**Uvalde** baz=55	55.13	86	P		P	02 13 28.1	-0.2
533A	**Kerrville** baz=55	55.19	85	P		P	02 13 29.0	+0.3
SCHQ	**Schefferville** 2.9nm,0.8s,baz=293,slow=12,SNR=4.2	55.26	43	P		P	02 13 29.1	+0.3
SCHQ				LR		LR	02 38 28.3	
	comp=Z,98nm,18.4s,baz=52,slow=37							
MIAR	**Mount Ida** baz=55,SNR=7.4	55.31	77	P		P	02 13 28.1	-1.3
MIAR	**Mount Ida** 12nm,1.0s	55.31	77	eP		P	02 13 31.4	+1.9
633A	**Saathoff Ranch** baz=55	55.54	85	P		P	02 13 31.5	+0.3
435B	**Jarrell** baz=55	55.55	83	P		P	02 13 31.6	+0.3
534A	**Blanco** baz=55	55.55	84	P		P	02 13 31.5	+0.2
336A	**Riesel** baz=55	55.57	82	P		P	02 13 31.2	-0.2
732A	**Laxson Ranch,** baz=55	55.58	87	P		P	02 13 31.9	+0.4
OLIL	**Olney** 26nm,1.0s	55.61	70	eP		P	02 13 33.6	+2.1
PBMO	**Poplar Bluff** 20nm,1.5s	55.61	73	eP		P	02 13 32.5	+0.9
832A	**Faith Ranch, C** baz=56,SNR=7.6	55.90	87	P		P	02 13 33.2	-0.6
733A	**Divot King Ran** baz=56	56.00	86	P		P	02 13 34.6	+0.1
139A	**Bunkhouse Ranc** baz=56	56.13	79	P		P	02 13 34.6	-0.7
BLO	**Bloomington** 12nm,0.7s	56.20	68	eP		P	02 13 37.7	+1.9
833A	**Chaparral WMA,**	56.22	87	P		P	02 13 35.6	-0.5

baz=56,SNR=5.1
USIN University of 56.38 70 *e*P P 02 13 39.0 +1.9
52nm,1.1s
HKT Hockley 57.21 83 *e*P P 02 13 46.0 +3.0
28nm,1.7s
ARCES ARCESS Array B 57.51 354 LR LR 02 37 54.5
comp=Z,50nm,21.9s,baz=338,slow=35
WVT Waverly 57.56 72 *e*P P 02 13 46.7 +1.2
10nm,1.2s
034A Hebbronville 57.57 87 P P 02 13 47.3 +1.7
baz=57
OXF Oxford 57.78 74 *e*P P 02 13 48.6 +1.5
17nm,0.7s
LONY Lake Ozonia 58.82 56 *e*P P 02 13 56.3 +2.1
5.1nm,0.8s
SSPA Standing Stone 59.92 62 *e*P P 02 14 03.7 +1.9
18nm,0.9s
TKL Tuckaleechee C 60.22 69 P P 02 14 04.5 +0.5
5.3nm,1.0s,baz=23,slow=4.2,SNR=6.0
LRAL Lakeview Retre 60.24 74 *e*P P 02 14 04.9 +0.8
3.7nm,0.7s
LZH Lanzhou 60.29 291 *e*P P 02 13 55.5 -9.1
LZH pP pP 02 14 01.8 -5.6
LZH sP sP 02 14 05.3 -3.1
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,85nm,4.0s
KSPA Keystone Colle 60.39 59 *e*P P 02 14 07.5 +2.5
comp=Z,146nm,2.4s
BLA Blacksburg 60.99 66 *e*P P 02 14 10.8 +1.5
comp=Z,25nm,0.9s
LUPA Lehigh Univers 61.28 60 *e*P P 02 14 14.1 +3.0
comp=Z,3.0nm,0.9s
ODNJ Ogdensburg 61.34 59 *e*P P 02 14 14.3 +2.8
comp=Z,11nm,0.8s
BRNJ Basking Ridge 61.65 59 *e*P P 02 14 16.0 +2.4
comp=Z,15nm,0.7s
GOGA Godfrey 62.01 71 *e*P P 02 14 17.2 +1.0
comp=Z,8.2nm,1.0s
JSRW J. Sargeant Re 62.04 64 *e*P P 02 14 19.0 +2.7
JSC Jenkinsville 62.64 69 *e*P P 02 14 22.7 +2.4
comp=Z,16nm,1.1s
WMQ Urumqi 63.16 308 P P 02 14 50.8 +27
WMQ pP PcP 02 15 29.8 +29
WMQ PMZ
comp=Z,8.0nm,0.7s
WMQ LN
comp=Z,62nm,20.6s
WMQ LZ
comp=Z,44nm,18.0s
MKAR Makanchi Array 63.41 313 P P 02 14 24.6 -0.7
comp=Z,0.5nm,0.8s,baz=77,slow=5.5,SNR=3.6
CD2 Chengdu 64.09 287 P P 02 14 55.8 +26
CD2 pP PcP 02 15 35.8 +31
CD2 sP sP 02 15 54.3 +80
CD2 S S 02 23 28.0 +21
CD2 sS SKiKP 02 24 38.0 -7.6
CD2 SS SS 02 27 46.4 +31
CD2 PMZ
comp=Z,20nm,0.9s
CD2 PMZ
comp=Z,80nm,4.5s
NHSC New Hope 64.11 69 *e*P P 02 14 33.2 +3.2
comp=Z,52nm,0.9s
FINES FINESS Array B 65.45 352 P P 02 14 39.1 +0.7
comp=Z,2.5nm,0.9s,baz=18,slow=8.0,SNR=5.8
GYA Guiyang 65.69 282 *e*P P 02 15 10.0 +29
GYA pP PcP 02 15 50.8 +39
GYA sP sP 02 16 10.0 +86
GYA ScP 02 19 22.3
GYA S S 02 23 51.4 +25
GYA SKS **SKiKP** 02 24 48.0 0.0
GYA PMZ
comp=Z,10.0nm,1.0s
NOA NORSAR Array B 66.54 360 LR LR 02 45 13.3
comp=Z,15nm,18.4s,baz=340,slow=37
KMI Kunming 69.01 284 P P 02 15 07.3 +5.5
KMI pmax pmax
comp=Z,7.0nm,0.6s
KMI Kunming 69.01 284 P P 02 15 30.8 +29
KMI PMZ
comp=Z,10.0nm,0.5s
AKASG Malin Array Be 75.68 348 P P 02 15 41.9 +0.9
comp=Z,0.7nm,0.4s,baz=16,slow=6.1,SNR=4.9
CMAR Chiang Mai Arr 76.37 282 P P 02 15 45.9 +0.5
comp=Z,1.1nm,0.3s,baz=33,slow=6.6,SNR=4.8
GERES GERESS Array B 78.72 358 P P 02 16 00.6 +2.4
comp=Z,0.5nm,0.7s,baz=354,slow=5.4,SNR=4.9
KBZ Khabaz 79.88 337 P P 02 16 06.5 +2.1
comp=Z,1.6nm,0.8s,baz=194,slow=6.0,SNR=3.8
MTSU Mount Surprise 81.06 224 P P 02 16 14.0 +3.0
baz=13,SNR=3.9
ESDC Sonseca Array 87.09 11 P P 02 16 40.5 -1.2
comp=Z,0.6nm,0.7s,baz=356,slow=5.3,SNR=4.3
WRA Warramunga Arr 87.13 231 P P 02 16 39.6 -2.3
comp=Z,2.9nm,0.9s,baz=37,slow=5.5,SNR=11
ASAR Alice Springs 90.53 230 P P 02 16 56.4 -1.5
comp=Z,5.6nm,0.8s,baz=35,slow=4.5,SNR=34
STKA Stephens Creek 94.40 220 P P 02 17 12.9 -2.7
comp=Z,1.2nm,0.7s,baz=1.2,slow=5.8,SNR=3.3
MAW Mawson 151.08 219 PKPbc **PKPbc** 02 23 45.7 -1.9
comp=Z,5.4nm,0.9s,baz=110,slow=3.1,SNR=12
BOSA Boshof 153.47 330 PKPbc **PKPbc** 02 23 51.8 -2.6
comp=Z,3.7nm,0.9s,baz=45,slow=2.8,SNR=7.8

*ISCJB **19** 02:11:47.5±0.4,6.˚85N±0.˚06×72.˚97W±0.˚05,h166km, mb3.8/10, Error ellipse: s-maj=8.9km s-min=5.1km az=144.7*
*IDC **19** 02:11:47.4±0.7,6.˚85N×72.˚97W,h150km±7km,mb3.6/10, mb1 3.8/14,mb1mx3.5/32,mbtmp4.1/14,MS2.3/1, Ms1 2.3/1,ms1mx2.1/27, Error ellipse: s-maj=14.5km s-min=11.5km az=113.0*
*FUNV **19** 02:11:48.6,6.˚86N×73.˚12W,h169km,MW4.0*
ISC 19 02:11:48.5±0.6,6.˚86N±0.˚06×72.˚98W±0.˚07,h166km,n38, σ1ᵖ43/45,mb3.7/10,1C-12D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.19**	**33**	↑*i*P	**Pn**	**02 12 16.9**	**+0.2**
CAPV				*e*S	**Sn**	**02 12 38.0**	**-0.4**
ROSC	**El Rosal**	**2.41**	**214**	P	**Pn**	**02 12 29.2**	**-0.5**
	98nm,0.3s,baz=289,slow=14,SNR=270						
ROSC				S	**Sn**	**02 12 59.3**	**-2.3**
	125nm,0.3s,baz=100,slow=19,SNR=9.3						
ROSC				LR	LR	02 13 09.6	
	comp=Z,65nm,20.3s,baz=188,slow=34						
SOCV	**Socops**	**2.53**	**56**	↓*i*P	**Pn**	**02 12 31.9**	**+1.0**
SOCV				*e*S	**Sn**	**02 13 03.6**	**-0.1**
VIGV	**El Vigia**	**2.53**	**39**	↓*i*P	**Pn**	**02 12 31.4**	**+0.6**
VIGV				*e*S	**Sn**	**02 13 02.6**	**-1.2**
ELOV	**Elorza**	**3.47**	**87**	↓*i*P	**Pn**	**02 12 43.3**	**+0.9**
VIRV	**Villa del Rosa**	**3.66**	**9**	↓*i*P	**Pn**	**02 12 43.7**	**-1.2**
VIRV				*e*S	**Sn**	**02 13 24.7**	**-4.2**
QARV	**Quebrada Arrib**	**4.12**	**36**	↓*i*P	**Pn**	**02 12 51.4**	**+0.6**
SANV	**Sanarito**	**4.30**	**52**	↓*e*P	**Pn**	**02 12 53.3**	**+0.1**
CURV	**Curarigua**	**4.32**	**43**	↓*i*P	**Pn**	**02 12 53.6**	**+0.2**
DABV	**Dabajuro**	**4.65**	**30**	↓*e*P	**Pn**	**02 12 57.8**	**+0.1**
SIQV	**Siquisique**	**4.89**	**40**	↓*i*P	**Pn**	**02 13 00.8**	**-0.1**
BAUV	**El Baul**	**5.31**	**67**	↓*i*P	**Pn**	**02 13 05.4**	**-0.9**
MAPV	**Macapo**	**5.36**	**56**	↓*i*P	**Pn**	**02 13 07.0**	**+0.1**
JACV	**Jacura**	**5.87**	**44**	*e*P	**Pn**	**02 13 13.8**	**+0.1**
MONV	**Montecano**	**5.87**	**30**	*e*P	**Pn**	**02 13 12.7**	**-0.9**
TURV	**Turiamo**	**6.20**	**55**	*e*P	**Pn**	**02 13 17.7**	**-0.4**
MERV	**Las Mercedes**	**7.03**	**70**	*e*P	**Pn**	**02 13 27.9**	**-1.1**
FUNV	**FUNVISIS**	**7.07**	**59**	*e*P	**Pn**	**02 13 29.0**	**-0.6**
BIRV	**Birongo**	**7.54**	**61**	*e*P	**Pn**	**02 13 34.3**	**-1.5**
CUPV	**Cœpira**	**7.79**	**65**	↓*i*P	**Pn**	**02 13 38.2**	**-0.9**
PCRV	**Puerto La Cruz**	**8.88**	**68**	P	**Pn**	**02 13 52.7**	**-0.9**
	1.7nm,0.3s,baz=319,slow=5.9,SNR=9.2						
PCRV	**Puerto La Cruz**	**8.88**	**68**	*e*P	**Pn**	**02 13 53.8**	**+0.2**
GUNV	**Guanoco**	**10.45**	**71**	*e*P	**Pn**	**02 14 13.5**	**-0.7**
JTS	**JuntasAbangare**	**12.32**	**287**	P	**Pn**	**02 14 39.6**	**+0.9**
	0.3nm,0.3s,baz=162,slow=20,SNR=2.3						
SJG	**San Juan**	**13.01**	**30**	P	**Pn**	**02 14 46.3**	**-1.1**
	1.8nm,0.3s,baz=200,slow=12,SNR=5.9						
LPAZ	**La Paz**	**23.49**	**168**	pP	pP	02 17 15.5	-0.2
	1.7nm,0.7s,baz=345,slow=14,SNR=4.1						
SIV	**San Ignacio**	**25.58**	**153**	P	**P**	**02 17 02.6**	**+0.1**
	0.5nm,0.5s,baz=356,slow=9.1,SNR=2.3						
SIV				pP	**pP**	**02 17 34.3**	**-2.3**
	1.2nm,0.6s,baz=343,slow=9.7,SNR=4.7						
TXAR	**Lajitas Array**	**36.54**	**312**	P	**P**	**02 18 39.1**	**+0.6**
	0.9nm,0.4s,baz=125,slow=9.2,SNR=26						
ULM	**Lac du Bonnet**	**47.30**	**340**	P	**P**	**02 20 05.2**	**0.0**
	4.9nm,0.5s,baz=151,slow=5.7,SNR=8.7						
SCHQ	**Schefferville**	**48.09**	**5**	P	**P**	**02 20 11.8**	**+0.6**
	2.7nm,0.5s,baz=197,slow=6.6,SNR=7.9						
PDAR	**Pinedale Array**	**48.13**	**324**	P	**P**	**02 20 12.7**	**+0.7**
	1.2nm,0.7s,baz=114,slow=8.6,SNR=8.6						
NVAR	**Mina Array Bea**	**51.56**	**315**	P	**P**	**02 20 39.2**	**+1.2**
	0.8nm,0.7s,baz=123,slow=3.3,SNR=3.8						
YKA	**Yellowknife Ar**	**63.28**	**340**	P	**P**	**02 21 59.8**	**+0.6**
	3.5nm,0.6s,baz=132,slow=6.6,SNR=20						
INK	**Inuvik**	**73.04**	**340**	P	**P**	**02 23 00.9**	**+1.0**
	1.1nm,0.4s,baz=96,slow=6.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	**73.59**	**78**	P	**P**	**02 23 06.0**	**+1.9**
	0.7nm,1.2s,baz=295,slow=7.8,SNR=3.4						
ILAR	**Eielson Array**	**76.99**	**335**	P	**P**	**02 23 23.4**	**+0.7**
	0.5nm,0.7s,baz=111,slow=4.6,SNR=7.3						
ASAR	**Alice Springs**	**149.25**	**234**	PKPbc	**PKPbc**	**02 31 18.1**	**-0.3**
	2.3nm,0.7s,baz=108,slow=3.0,SNR=20						
ASAR				pPKPbc	**pPKPbc**	**02 31 57.8**	**-4.1**
	0.5nm,0.7s,baz=112,slow=2.5,SNR=2.1						
WRA	**Warramunga Arr**	**150.48**	**241**	PKPbc	**PKPbc**	**02 31 20.9**	**-0.6**
	1.7nm,0.4s,baz=111,slow=2.1,SNR=12						
WRA				pPKPbc	**pPKPbc**	**02 32 00.8**	**-4.1**
	0.7nm,0.4s,baz=103,slow=2.5,SNR=2.2						

*IDC **19** 02:12:59.8±0.7,6.˚15S×150.˚88E,h0km,mb4.4/14, mb1 4.6/15,mb1mx4.3/33,mbtmp4.4/15,ML2.1/1,MS3.2/5, Ms1 3.2/5,ms1mx3.0/32, Error ellipse: s-maj=24.8km s-min=10.6km az=119.0*
*ISCJB **19** 02:13:04.7±0.4,6.˚20S±0.˚07×150.˚7E±0.˚1,h43km, mb4.4/16,MS3.3/2, Error ellipse: s-maj=16.7km s-min=6.2km az=31.0*
*NEIC **19** 02:13:05.3±0.4,6.˚16S×150.˚83E,h35km,mb4.6/5, Error ellipse: s-maj=15.8km s-min=6.8km az=118.0*
ISC 19 02:13:06.4±0.6,6.˚2S±0.˚1×150.˚8E±0.˚1,h43km,n40, σ0ᵖ93/34,mb4.5/18,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.41**	**35**	P	**Pn**	**02 13 44.5**	**+1.1**
	baz=2.6,SNR=30						
PMG	**Port Moresby**	**4.80**	**228**	Pn	**Pn**	**02 14 17.0**	**+0.8**
	5.4nm,0.3s,baz=43,slow=7.3,SNR=11						
PMG				Sn	**Sn**	**02 15 10.4**	**-0.3**
	21nm,0.3s,baz=195,slow=8.8,SNR=6.7						
PMG				LR	LR	02 15 21.4	
	comp=Z,65nm,19.9s,baz=36,slow=29						
PMG	**Port Moresby**	**4.80**	**228**	P	Pn	02 14 21.3	+5.0
	baz=5.1,SNR=4.1						
PMG				P	Pn	02 14 21.3	+5.0
	baz=5.1,SNR=4.1						
PMG				P	Pn	02 14 21.3	+5.0
	baz=5.1,SNR=4.1						
HNR	**Honiara**	**9.66**	**110**	LR	LR	02 18 11.4	
	comp=Z,95nm,19.8s,baz=309,slow=33						
JAY	**Jayapura**	**10.66**	**289**	LR	LR	02 20 18.4	
	comp=Z,278nm,19.8s,baz=79,slow=41						
QIS	**Mount Isa**	**17.94**	**216**	P	**Pn**	**02 17 11.6**	**-1.2**
	baz=18,SNR=6.3						
KDU	**Kakadu**	**19.16**	**249**	P	Pn	02 17 37.5	+10
	baz=20,SNR=3.0						
RMQ	**Roma**	**20.29**	**185**	P	**P**	**02 17 38.5**	**-0.2**
	baz=20,SNR=6.1						
GUMO	**Guam**	**20.48**	**343**	LR	LR	02 26 01.2	
	comp=Z,76nm,18.6s,baz=80,slow=38						
WRAB	**Tennant Creek**	**21.01**	**228**	*e*P	**P**	**02 17 46.0**	**-0.5**
	20nm,0.6s						
WRAB				*e*S	Sn	02 21 44.9	-1.3
WRA	**Warramunga Arr**	**21.02**	**228**	P	**P**	**02 17 46.3**	**-0.3**
	17nm,0.7s,baz=50,slow=10,SNR=31						
WRA				S	Sn	02 21 44.7	-1.7
	0.4nm,0.3s,baz=53,slow=16,SNR=5.4						
QLP	**Quilpie**	**21.23**	**196**	P	**P**	**02 17 48.0**	**-0.7**
	baz=21,SNR=14						
AS31	**Alice Springs**	**23.78**	**221**	*e*P	**P**	**02 18 15.2**	**-0.1**
ASAR	**Alice Springs**	**23.78**	**221**	P	**P**	**02 18 15.2**	**0.0**
	13nm,0.6s,baz=58,slow=8.4,SNR=44						
ASAR				S	**S**	**02 22 31.2**	**+3.2**
	1.8nm,1.0s,baz=36,slow=21,SNR=5.6						
STKA	**Stephens Creek**	**26.97**	**197**	P	**P**	**02 18 44.9**	**+0.8**
	12nm,0.8s,baz=342,slow=7.6,SNR=19						
STKA				LR	LR	02 28 42.2	
	comp=Z,131nm,19.0s,baz=28,slow=35						
STKA	**Stephens Creek**	**26.97**	**197**	P	**P**	**02 18 45.0**	**+0.8**
	baz=27,SNR=9.4						
STKA	**Stephens Creek**	**26.97**	**197**	*e*P	**P**	**02 18 44.4**	**+0.3**
	2.6nm,0.9s						
WRKA	**Warakurna**	**28.55**	**226**	P	**P**	**02 18 57.8**	**-0.5**
	baz=29,SNR=6.9						
KKM	**Kota Kinabalu**	**36.55**	**289**	P	P	02 20 00.0	-8.5
	baz=38,SNR=3.9						
MEEK	**Meekatharra**	**36.76**	**233**	P	P	02 20 19.5	+9.4
	baz=37,SNR=4.0						
JNU	**Nakatsue**	**43.40**	**335**	P	**P**	**02 21 05.3**	**+0.3**
	15nm,0.9s,baz=173,slow=7.6,SNR=7.8						
KSRS	**Korea Array**	**48.35**	**336**	P	**P**	**02 21 44.9**	**+1.0**
	4.0nm,0.8s,baz=150,slow=8.0,SNR=10						
KSAR	**Wonju Array Be**	**48.35**	**336**	P	**P**	**02 21 44.9**	**+0.9**
CM31	**Chiang Mai Arr**	**56.65**	**297**	P	P	02 22 56.5	+11
	baz=58,SNR=5.0						
PETK	**Petropavlovsk-**	**59.34**	**5**	P	**P**	**02 23 02.9**	**-1.1**
	3.0nm,0.8s,baz=177,slow=9.8,SNR=3.9						
SONM	**Songino Array**	**66.42**	**329**	P	**P**	**02 23 51.7**	**+0.4**
	1.0nm,0.6s,baz=132,slow=6.0,SNR=8.4						
VNDA	**Vanda**	**71.55**	**177**	P	**P**	**02 24 22.6**	**+0.1**
	1.6nm,0.8s,baz=333,slow=8.5,SNR=5.9						
MKAR	**Makanchi Array**	**80.03**	**320**	P	**P**	**02 25 11.5**	**0.0**
	1.3nm,0.8s,baz=129,slow=4.8,SNR=7.0						
ZALV	**Zalesovo Beam**	**81.17**	**327**	P	**P**	**02 25 16.2**	**-1.2**
	1.6nm,0.6s,baz=118,slow=5.9,SNR=6.8						
ILAR	**Eielson Array**	**84.19**	**22**	P	**P**	**02 25 31.1**	**-1.8**
	2.2nm,0.7s,baz=247,slow=5.0,SNR=34						
EGAK	**Eagle**	**86.41**	**23**	*e*P	**P**	**02 25 43.6**	**-0.3**
	4.1nm,0.9s						
HYT	**Haines Junctio**	**86.58**	**28**	*e*P	**P**	**02 25 45.6**	**+0.6**
	7.5nm,0.8s						
DAWY	**Dawson**	**86.86**	**24**	*e*P	**P**	**02 25 46.3**	**0.0**
	3.9nm,1.0s						
INK	**Inuvik**	**90.45**	**21**	P	**P**	**02 26 02.6**	**-0.4**
	1.3nm,0.6s,baz=74,slow=2.7,SNR=3.5						
NVAR	**Mina Array Bea**	**94.52**	**52**	P	**P**	**02 26 23.9**	**+1.0**
	1.3nm,0.8s,baz=240,slow=5.1,SNR=5.0						
YKA	**Yellowknife Ar**	**97.58**	**28**	P	**P**	**02 26 34.9**	**-0.9**
	1.6nm,0.8s,baz=268,slow=5.1,SNR=5.4						
PDAR	**Pinedale Array**	**101.27**	**48**	P	**Pdif**	**02 26 53.4**	**+0.2**
	0.5nm,0.8s,baz=300,slow=1.2,SNR=4.7						
GERES	**GERESS Array B**	**124.12**	**327**	PKP	**PKPdf**	**02 32 00.4**	**-0.1**
	1.2nm,0.7s,baz=38,slow=2.4,SNR=12						
TORD	**Torodi Ar. Bea**	**148.75**	**285**	PKPbc	**PKPbc**	**02 32 50.1**	**-0.1**
	6.0nm,0.7s,baz=55,slow=2.0,SNR=50						
BDFB	**Brasilia**	**151.44**	**140**	PKPbc	**PKPbc**	**02 32 56.4**	**-0.5**
	1.4nm,0.6s,baz=354,slow=18.3,SNR=3.8						

*IDC **19** 02:32:03.8±0.6,6.˚28S×150.˚43E,h0km,mb4.4/13, mb1 4.5/14,mb1mx4.3/34,mbtmp4.4/14,ML2.4/1,MS3.7/6, Ms1 3.7/6,ms1mx3.3/34, Error ellipse: s-maj=25.7km s-min=12.4km az=115.0*
*ISCJB **19** 02:32:08.9±0.2,6.˚44S±0.˚05×150.˚47E±0.˚06,h33km, mb4.7/33,MS3.7/5, Error ellipse: s-maj=9.8km s-min=4.2km az=39.7*
*NEIC **19** 02:32:09.8±0.3,6.˚33S×150.˚38E,h35km,mb4.9/24, Error ellipse: s-maj=13.5km s-min=6.4km az=122.0*
*BJI **19** 02:32:12.8,5.˚98S×150.˚49E,h35km,mb4.8/16,mB4.9/11, Ms4.7/8,Ms7 4.5/4*
ISC 19 02:32:10.4±0.5,6.˚61S±0.˚06×150.˚71E±0.˚08,h33km,n117, σ1ᵖ41/119,mb4.7/32,MS3.9/7,2C-1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.80**	**31**	P	**Pn**	**02 32 54.6**	**+1.6**
	baz=2.8,SNR=37						
PMG	**Port Moresby**	**4.48**	**231**	Pn	**Pn**	**02 33 14.2**	**-1.9**
	15nm,0.3s,baz=37,slow=6.5,SNR=18						
PMG				Sn	**Sn**	**02 34 08.4**	**+1.3**
	26nm,0.3s,baz=112,slow=18,SNR=9.0						
PMG				LR	LR	02 35 05.9	
	comp=Z,1μm,20.5s,baz=39,slow=41						
PMG	**Port Moresby**	**4.48**	**231**	P	**Pn**	**02 33 17.4**	**+1.3**
	baz=4.4,SNR=9.7						
PMG				P	**Pn**	**02 33 17.4**	**+1.3**
	baz=4.4,SNR=9.7						
PMG				P	**Pn**	**02 33 17.4**	**+1.3**
	baz=4.4,SNR=9.7						
PMG	**Port Moresby**	**4.48**	**231**	*e*Pn	**Pn**	**02 33 16.7**	**+0.6**
PMG				*e*S	**Sn**	**02 34 06.1**	**-1.0**
COEN	**Coen**	**10.40**	**225**	*e*Pn	**Pn**	**02 34 36.6**	**-0.8**
QIS	**Mount Isa**	**17.56**	**217**	P	**P**	**02 36 13.3**	**-0.3**
	baz=18,SNR=4.9						
EIDS	**Eidsvold**	**18.66**	**179**	*e*P	**Pn**	**02 36 28.0**	**+1.8**
	15nm,1.0s						
RMQ	**Roma**	**19.86**	**185**	P	**Pn**	**02 36 41.8**	**+1.2**
	baz=20,SNR=15						
WRAB	**Tennant Creek**	**20.68**	**229**	P	**P**	**02 36 47.9**	**0.0**
	193nm,1.0s,SNR=15						
WRAB	**Tennant Creek**	**20.68**	**229**	*e*P	**P**	**02 36 46.9**	**-0.9**
	26nm,0.8s						
WRA	**Warramunga Arr**	**20.70**	**229**	P	**P**	**02 36 46.7**	**-1.3**
	14nm,0.7s,baz=52,slow=11,SNR=10						
WRA				PcP	**PcP**	**02 40 57.8**	**+0.4**
	1.2nm,0.4s,baz=37,slow=1.9,SNR=6.8						
WRA				LR	LR	02 45 26.6	
	comp=Z,206nm,18.9s,baz=45,slow=39						
QLP	**Quilpie**	**20.80**	**197**	P	Pn	02 36 50.8	-0.8
	baz=21,SNR=11						
GUMO	**Guam**	**20.89**	**344**	LR	LR	02 42 58.1	
	comp=Z,129nm,19.8s,baz=144,slow=32						
KNRA	**Kununurra**	**23.32**	**245**	P	**P**	**02 37 15.2**	**-0.7**
	baz=23,SNR=4.1						
AS31	**Alice Springs**	**23.42**	**222**	*e*P	**P**	**02 37 16.6**	**-0.2**
ASAR	**Alice Springs**	**23.42**	**222**	P	**P**	**02 37 15.5**	**-1.4**
	6.4nm,0.9s,baz=58,slow=8.9,SNR=24						
ASAR				S	**S**	**02 41 30.5**	**+2.4**
	0.9nm,0.7s,baz=43,slow=18,SNR=4.6						
ARMA	**Armidale**	**23.70**	**178**	*e*P	**P**	**02 37 19.7**	**+0.1**
	95nm,2.3s						
CMSA	**Cobar Meteorol**	**25.24**	**190**	P	**P**	**02 37 35.2**	**+1.7**
	baz=26,SNR=4.9						
STKA	**Stephens Creek**	**26.55**	**198**	P	**P**	**02 37 45.5**	**+0.1**
	6.4nm,0.8s,baz=15,slow=11,SNR=8.3						
STKA				LR	LR	02 48 48.4	
	comp=Z,299nm,18.9s,baz=30,slow=38						
STKA	**Stephens Creek**	**26.55**	**198**	P	**P**	**02 37 47.1**	**+1.8**
	baz=27,SNR=4.1						
STKA	**Stephens Creek**	**26.55**	**198**	*e*P	**P**	**02 37 44.8**	**-0.5**
	11nm,1.9s						
FITZ	**Fitzroy Crossi**	**26.98**	**243**	P	**P**	**02 37 47.8**	**-1.6**
	baz=27,SNR=5.6						
FITZ	**Fitzroy Crossi**	**26.98**	**243**	*e*P	**P**	**02 37 47.3**	**-2.1**
WRKA	**Warakurna**	**28.21**	**227**	P	**P**	**02 37 59.6**	**-0.8**
	baz=28,SNR=5.8						
MBWA	**Marble Bar**	**33.28**	**241**	*e*P	**P**	**02 38 42.8**	**-2.4**
	221nm,2.3s						
MEEK	**Meekatharra**	**36.46**	**233**	P	**P**	**02 39 11.6**	**-1.0**
	baz=36,SNR=5.5						
KLBR	**Kellerberrin**	**39.56**	**227**	P	**P**	**02 39 37.6**	**-1.0**
	baz=40,SNR=5.9						
JNU	**Nakatsue**	**43.77**	**336**	P	P	02 40 07.5	-5.6
	7.7nm,0.9s,baz=171,slow=8.0,SNR=4.6						
MJAR	**Matsushiro Arr**	**44.49**	**346**	LR	LR	02 58 54.4	
	comp=Z,51nm,18.2s,baz=175,slow=36						
KSRS	**Korea Array**	**48.73**	**336**	P	P	02 40 47.9	-4.0
	4.8nm,0.8s,baz=151,slow=8.7,SNR=16						
KSAR	**Wonju Array Be**	**48.73**	**336**	P	P	02 40 47.9	-4.1
NJ2	**Nanjing**	**48.99**	**324**	*e*P	**P**	**02 40 53.3**	**-0.7**
NJ2				PMZ			
	20nm,0.6s						
GYA	**Guiyang**	**53.88**	**310**	*e*P	**P**	**02 41 32.0**	**+1.1**
GYA				pP	**pP**	**02 41 43.3**	**+2.4**
GYA				PP	**PP**	**02 43 35.8**	**+3.3**
GYA				ScP	**ScP**	**02 46 30.6**	**-1.5**
GYA				S	**S**	**02 49 02.0**	**-2.3**
GYA				sS	**sS**	**02 49 21.4**	**+0.6**
GYA				PMZ			
	20nm,1.0s						
GYA				PMZ			
	120nm,5.1s						
GYA				LN			
	520nm,18.9s						
GYA				LE			
	490nm,19.0s						
GYA				LZ			
	460nm,18.6s						
CN2	**Changchun**	**55.13**	**338**	*e*P	**P**	**02 41 36.6**	**-2.9**
CN2				*es*P	**sP**	**02 41 50.8**	**-2.7**
CN2				PMZ			
	10.0nm,0.8s						
KMI	**Kunming**	**56.31**	**306**	P	**P**	**02 41 50.0**	**+1.3**
KMI				PMZ			
	7.0nm,0.5s						
CD2	**Chengdu**	**58.37**	**312**	P	**P**	**02 42 02.3**	**-0.6**
CD2				pP	**pP**	**02 42 13.3**	**+0.3**
CD2				sP	**sP**	**02 42 17.9**	**+1.1**
CD2				PP	**PP**	**02 44 11.6**	**-0.8**
CD2				S	**S**	**02 50 02.8**	**-0.9**
CD2				sS	**sS**	**02 50 21.6**	**+1.3**
CD2				PMZ			
	20nm,0.6s						
CD2				PMZ			
	100nm,5.9s						
CD2				LN			
	200nm,5.9s						
CD2				LZ			
	150nm,7.6s						
HHC	**Hu-ho-hao-te**	**59.34**	**326**	*e*P	**P**	**02 42 11.9**	**+2.4**
HHC				PP	**PP**	**02 44 24.8**	**+3.9**
HHC				S	**S**	**02 50 16.3**	**+0.3**
HHC				ScS	**ScS**	**02 51 55.8**	**-1.6**
HHC				PMZ			
	11nm,1.1s						
HHC				PMZ			
	35nm,5.1s						
HHC				LN			
	80nm,15.7s						
HHC				LE			
	62nm,15.5s						
SONM	**Songino Array**	**66.77**	**329**	P	P	02 42 55.1	-3.6
	1.6nm,0.9s,baz=136,slow=4.4,SNR=6.8						
VNDA	**Vanda**	**71.12**	**177**	P	**P**	**02 43 25.3**	**+0.2**
	1.0nm,1.0s,baz=346,slow=4.5,SNR=6.9						
WMQ	**Urumqi**	**75.67**	**318**	P	**P**	**02 43 53.6**	**+1.0**
MKAR	**Makanchi Array**	**80.33**	**320**	P	P	02 44 13.9	-4.5
	0.8nm,0.9s,baz=140,slow=6.4,SNR=4.3						
ZALV	**Zalesovo Beam**	**81.51**	**327**	P	P	02 44 19.7	-4.7
	0.5nm,0.4s,baz=123,slow=4.3,SNR=2.4						
CAST	**Castle Rocks**	**81.95**	**22**	*e*P	**P**	**02 44 25.7**	**-0.9**
	54nm,2.8s						
SML	**Sawmill**

MTUM	**Tungsten Hills**	**94.54**	**53**	*e*P	**P**	**02 45 29.0**	**+0.8**
MWC	**Mount Wilson** 19nm,0.6s	**94.69**	**56**	*e*P	**P**	**02 45 28.7**	**-0.2**
EDW2	**Edwards Air Fo** baz=95	**94.80**	**56**	P	**P**	**02 45 30.3**	**+1.1**
NVAR	**Mina Array Bea** 5.4nm,0.8s,baz=254,slow=6.4,SNR=21	**94.83**	**52**	P	**P**	**02 45 30.1**	**+0.5**
CWC	**Cottonwood Cre** baz=95	**94.85**	**54**	P	**P**	**02 45 29.8**	**+0.2**
BFSC	**Mount Baldy Ra** baz=95	**95.02**	**56**	P	**P**	**02 45 30.7**	**+0.3**
LRMC	**Laurel Mountai** baz=95	**95.09**	**55**	P	**P**	**02 45 31.4**	**+0.7**
MPMC	**Manual Prospec** baz=95	**95.29**	**54**	P	**P**	**02 45 32.1**	**+0.4**
HWB	**Hans Werner Br**	**95.50**	**57**	*e*P	P	02 45 28.7	-3.8
GSC	**Goldstone** baz=96	**95.80**	**55**	P	**P**	**02 45 34.1**	**+0.2**
MONP	**Monument Peak** baz=96	**95.95**	**58**	P	**P**	**02 45 35.3**	**+0.5**
PFO	**Pinyon Flat Ob** comp=Z,74nm,19.6s,baz=164,slow=31	**95.97**	**57**	LR	LR	03 21 19.4	
PFO	**Pinyon Flat Ob** baz=96	**95.97**	**57**	P	**P**	**02 45 35.4**	**+0.6**
BORC	**Borrego Spring**	**95.98**	**57**	*e*P	P	02 45 30.8	-3.8
BORC				*e*pP	**PcP**	**02 45 35.0**	**+0.2**
SHOC	**Shoshone** baz=96	**96.26**	**55**	P	**P**	**02 45 36.6**	**+0.7**
TPNV	**Topopah Spring** baz=96	**96.35**	**54**	P	**P**	**02 45 36.6**	**+0.1**
TPNV	**Topopah Spring** 14nm,0.8s	**96.35**	**54**	*e*P	**P**	**02 45 37.0**	**+0.6**
BELC	**Belle Mtn. Jos** baz=96	**96.37**	**57**	P	**P**	**02 45 37.1**	**+0.5**
TUQ	**Turquoise Moun** baz=97	**96.52**	**55**	P	**P**	**02 45 37.7**	**+0.5**
GMRC	**Granite Mounta** baz=97	**96.70**	**56**	P	**P**	**02 45 38.7**	**+0.6**
GMRC	**Granite Mounta**	**96.70**	**56**	*e*P	**P**	**02 45 36.9**	**-1.1**
BC3	**Big Chuckawall** baz=97	**96.81**	**57**	P	**P**	**02 45 39.4**	**+0.9**
R11A	**Troy Canyon, C** baz=97	**96.95**	**52**	P	**P**	**02 45 39.8**	**+0.6**
IRM	**Iron Mountain** baz=97	**97.09**	**56**	P	Pdif	02 45 40.2	+0.4
HVU	**Hansel Valley** 4.8nm,1.1s	**99.22**	**49**	*e*P	**Pdif**	**02 45 49.6**	**+0.3**
BOZ	**Bozeman (W)** baz=100	**100.04**	**45**	P	**Pdif**	**02 45 52.7**	**-0.1**
PDAR	**Pinedale Array** 1.4nm,0.9s,baz=346,slow=0.5,SNR=9.0	**101.59**	**48**	P	**Pdif**	**02 45 57.5**	**-2.4**
BRTR	**Keskin Array B** 0.9nm,1.0s,baz=336,slow=2.7,SNR=4.0	**114.92**	**311**	PKP	PKPdf	02 50 45.9	-2.6
KOLS	**Kolonicke sedl**	**119.55**	**324**	*e*PKP	**PKPdf**	**02 50 56.1**	**-0.8**
KECS	**Kecovo**	**120.81**	**324**	*e*	PKPdf	02 50 52.9	-6.4
VYHS	**Vyhne**	**121.77**	**324**	*e*PKP	**PKPdf**	**02 50 58.0**	**-3.2**
BRG	**Berggiesshubel** 3.5nm,0.9s	**123.16**	**329**	*e*(P)	**PKPdf**	**02 51 02.1**	**-1.7**
BRG	**Berggiesshubel**	**123.16**	**329**	*e*PKPdf	**PKPdf**	**02 51 02.3**	**-1.5**
CLL	**Collm**	**123.38**	**330**	*e*PKPdf	**PKPdf**	**02 51 02.7**	**-1.5**
CLL	**Collm** comp=Z,3.0nm,0.8s	**123.38**	**330**	*e*PKPdf	**PKPdf**	**02 51 03.0**	**-1.2**
CONA	**Conrad Observa** comp=Z,3.0nm,0.8s	**123.76**	**325**	⇑*i*PKiKP	**PKPdf**	**02 51 03.3**	**-1.8**
TANN	**Tannenbergstha**	**124.19**	**329**	*e*PKPdf	**PKPdf**	**02 51 04.2**	**-1.7**
WERD	**Werda**	**124.25**	**329**	*e*PKPdf	**PKPdf**	**02 51 04.5**	**-1.4**
NKC	**Novy Kostel**	**124.31**	**329**	*e*PKPdf	**PKPdf**	**02 51 05.1**	**-0.9**
WERN	**Wernitzgruen**	**124.31**	**329**	*e*PKPdf	**PKPdf**	**02 51 05.0**	**-1.1**
CLZ	**Clausthal**	**124.34**	**331**	*e*PKPdf	**PKPdf**	**02 51 05.2**	**-0.9**
GEC2	**GERESS Array S**	**124.46**	**327**	*e*PKPdf	**PKPdf**	**02 51 04.8**	**-1.7**
GERES	**GERESS Array B** comp=Z,2.4nm,0.7s,baz=60,slow=1.6,SNR=27	**124.46**	**327**	PKP	**PKPdf**	**02 51 03.9**	**-2.6**
MOX	**Moxa** comp=Z,108nm,20.5s	**124.48**	**330**	*e*L	L	03 33 31.1	
GRF	**Grafenberg Arr** comp=Z,106nm,20.6s	**125.27**	**329**	*e*L	L	03 33 39.2	
WTTA	**Wattenberg** comp=Z,5.9nm,0.8s	**126.51**	**326**	⇓*i*PKiKP	**PKPdf**	**02 51 08.7**	**-1.9**
FETA	**Feichten** comp=Z,4.2nm,0.9s	**127.15**	**326**	⇑*i*PKiKP	**PKPdf**	**02 51 10.7**	**-1.1**
FUORN	**Ofenpass-Fuorn**	**127.64**	**326**	*e*PKPdf	**PKPdf**	**02 51 11.4**	**-1.5**
TOA0	**Torodi Ar. Sit**	**148.81**	**284**	*e*PKPbc	**PKPdf**	**02 51 53.5**	**+1.7**
TORD	**Torodi Ar. Bea** comp=Z,7.0nm,0.6s,baz=50,slow=3.0,SNR=72	**148.81**	**284**	PKPbc	**PKPdf**	**02 51 53.5**	**+1.8**
BDFB	**Brasilia** comp=Z,1.7nm,0.7s,baz=66,slow=6.6,SNR=3.9	**151.15**	**140**	PKPbc	**PKPbc**	**02 52 00.1**	**-1.3**

IDC 19 02:43:28.6±4.5, 5.65S×149.54E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.3/26, mbtmp3.4/3, ML1.5/1, Error ellipse: s-maj=190.7km s-min=37.1km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby** 1.9nm,0.3s,baz=336,slow=12,SNR=2.5	**4.42**	**212**	Pn	Pn	02 44 36.8	-0.1
PMG				Sn	Sn	02 45 30.6	+1.5
WRA	**Warramunga Arr** 4.4nm,0.3s,baz=206,slow=22,SNR=5.7	**20.50**	**225**	P	P	02 48 08.8	+0.3
ASAR	**Alice Springs** 0.7nm,0.3s,baz=50,slow=10,SNR=6.4	**23.40**	**218**	P	P	02 48 39.0	-0.4
TORD	**Torodi Ar. Bea** 0.2nm,0.4s,baz=54,slow=9.1,SNR=4.3	**147.45**	**286**	PKPbc	PKPbc	03 03 15.1	-0.6
BDFB	**Brasilia** 0.4nm,0.7s,baz=70,slow=2.5,SNR=5.6	**151.15**	**140**	PKPbc	**PKPbc**	**02 52 00.1**	**-1.3**

*IDC **19** 03:01:07.0±0.6, 6.60S×150.20E, h0km, mb4.5/16, mb1 4.6/19, mb1mx4.5/39, mbtmp4.5/19, ML3.5/3, MS4.5/26, Ms1 4.5/26, ms1mx4.5/35, Error ellipse: s-maj=16.9km s-min=9.9km az=120.0*

*ISCJB **19** 03:01:08.7±1.1, 6.57S±0.03×150.26E±0.03, h15km±8km, mb4.9/63, MS4.7/34, Error ellipse: s-maj=6.3km s-min=5.0km az=136.1*

*BJI **19** 03:01:11.4, 6.36S×150.56E, h35km, mb5.0/26, mB5.1/23, Ms5.0/27, Ms7 4.7/28*

*MOS **19** 03:01:11.4±1.5, 6.50S×150.09E, h33km, mb5.3/13, MS4.8/12, Error ellipse: s-maj=12.5km s-min=7.8km az=72.0*

*GCMT **19** 03:01:12.6±0.1, 6.73S×150.25E, h16km, MW5.4/93, Moment Tensor Solution. s77,c138; s93,c183; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr 0.90±.02; Mθθ -0.96±.02; Mφφ 0.06±.01; Mrθ 1.31±.07; Mrφ -0.07±.01; Mθφ 0.26±.05; Best double couple: M0 1.63000×10^17 NP1:φs 80.00000°, δ 73.00000°, λ 86.00000°. NP2:φs 273.00000°, δ 18.00000°, λ 102.00000°. Principal axes: T 1.6020, Plg 62.0000°, Azm 344.0000°; N 0.0560, Plg 4.0000°, Azm 81.0000°; P -1.6580, Plg 27.0000°, Azm 173.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **19** 03:01:12.6±0.2, 6.49S×150.20E, h35km, mb5.2/38 Error ellipse: s-maj=7.7km s-min=5.2km az=122.0*

NEIC Felt at Rabaul.

*DJA **19** 03:01:22.9±0.8, 7.5±3.3×15.0E±.°, h79km±6km, M5.4/46, mb5.1/46, mB5.6/15, MLv6.3/1, Mw(mB)5.1/15*

ISC 19 03:01:12.5±0.4, 6.56S±0.04×150.34E±0.05, h33km±1km, h33km; pP-P, n250, σ1s 77/304, mb5.0/63, MS4.7/36, 20C-10D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul** baz=3.0,SNR=20	**2.97**	**38**	⇓P	**Pn**	**03 01 58.6**	**+1.2**
PMG	**Port Moresby** 49nm,0.3s,baz=54,slow=6.4,SNR=71	**4.23**	**228**	Pn	**Pn**	**03 02 13.0**	**-1.7**
PMG				Sn	**Sn**	**03 03 02.7**	**-0.3**
PMG	87nm,0.3s,baz=184,slow=8.6,SNR=24			LR	LR	03 04 00.1	
PMG	comp=Z,7μm,19.4s,baz=28,slow=42 **Port Moresby**	**4.23**	**228**	P	**Pn**	**03 02 13.0**	**-1.7**
PMG						03 03 02.7	
PMG	comp=Z,49nm,0.3s			pmax	pmax		
PMG	comp=N,87nm,0.3s			smax	smax		
PMG	**Port Moresby** baz=4.2,SNR=58	**4.23**	**228**	P	**Pn**	**03 02 15.5**	**+0.8**
PMG	baz=4.2,SNR=58			P	**Pn**	**03 02 15.5**	**+0.8**
PMG	baz=4.2,SNR=58			P	**Pn**	**03 02 15.5**	**+0.8**
PMG	**Port Moresby**	**4.23**	**228**	*e*Pn	**Pn**	**03 02 14.8**	**+0.1**
PMG				*e*S	**Sn**	**03 03 02.9**	**-0.2**
HNR	**Honiara** comp=N,2μm,21.6s,baz=282,slow=33	**9.93**	**107**	LR	LR	03 06 42.4	
COEN	**Coen** baz=10,SNR=5.2	**10.18**	**223**	P	**Pn**	**03 03 36.3**	**-0.1**
COEN	**Coen**	**10.18**	**223**	*e*Pn	**Pn**	**03 03 36.4**	**-0.1**
COEN				*e*S	**Sn**	**03 05 26.3**	**-3.3**
JAY	**Jayapura** comp=N,6μm,18.0s,baz=96,slow=40	**10.41**	**292**	LR	LR	03 08 00.3	
GENI	**Genyem** comp=N,128nm,1.6s,comp=N,3μm	**10.88**	**291**	P	Pn	03 03 51.5	+5.6
CTA	**Charters Tower** comp=N,0.2nm,0.3s,baz=20,slow=15,SNR=5.8	**14.02**	**196**	Pn	**Pn**	**03 04 27.4**	**-1.5**
CTA				LR	LR	03 09 52.1	
CTA	comp=N,2μm,18.1s,baz=16,slow=38						
CTAO	**Charters Tower**	**14.02**	**196**	*e*P	**Pn**	**03 04 28.7**	**-0.2**
CTAO				*e*S	**Sn**	**03 07 01.6**	**-1.9**
CTAO	comp=Z,33nm,0.6s			pmax	pmax		
CTAO	**Charters Tower** comp=Z,33nm,0.6s	**14.02**	**196**	*e*Pn	**Pn**	**03 04 28.7**	**-0.2**
CTAO				*e*S	**Sn**	**03 07 01.6**	**-1.9**
FAKI	**Fak Fak** comp=Z,76nm,1.3s	**18.39**	**280**	P	**Pn**	**03 05 27.6**	**+2.6**
FAKI	**Fak Fak** comp=Z,85nm,1.1s	**18.39**	**280**	*e*Pn	**P**	**03 05 23.9**	**-0.9**
EIDS	**Eidsvold** comp=Z,250nm,1.6s	**18.72**	**178**	*e*Pn	**P**	**03 05 28.2**	**-0.1**
SIJI	**Sorong** comp=Z,0.6nm,0.3s,baz=323,slow=20,SNR=3.4	**19.85**	**286**	P	**P**	**03 05 39.6**	**-1.3**
SWI	**Sorong** comp=Z,50nm,1.1s,comp=Z,2μm	**19.86**	**286**	P	**Pn**	**03 05 43.9**	**+1.2**
MTN	**Manton Dam** comp=Z,391nm,1.8s	**19.93**	**250**	*e*P	**P**	**03 05 41.2**	**-0.5**
BNDI	**Bandanaira** comp=Z,425nm,1.2s	**20.44**	**275**	P	Pn	03 05 49.7	+0.2
WRAB	**Tennant Creek** comp=Z,832nm,1.5s	**20.44**	**228**	P	**P**	**03 05 46.9**	**-0.4**
WRAB	**Tennant Creek**	**20.44**	**228**	*d*P	**P**	**03 05 46.3**	**-1.0**
WRAB	comp=Z,756nm,1.7s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,308nm,1.4s	**20.44**	**228**	*e*P	**P**	**03 05 46.6**	**-0.6**
WRAB				*e*S	**S**	**03 09 30.8**	**-3.8**
WRA	**Warramunga Arr** comp=Z,57nm,0.5s,baz=52,slow=11,SNR=78	**20.45**	**228**	P	**P**	**03 05 46.7**	**-0.7**
WRA				S	**S**	**03 09 32.0**	**-2.8**
WRA	comp=Z,14nm,1.0s,baz=57,slow=18,SNR=7.7			ScP	**ScP**	**03 13 35.9**	**+2.7**
WRA	comp=Z,12nm,1.3s,baz=31,slow=2.4,SNR=10			LR	LR	03 14 12.5	
GUMO	**Guam** comp=Z,1μm,20.4s,baz=170,slow=32	**20.74**	**345**	LR	LR	03 12 03.5	
DZM	**Mont Dzumac** comp=Z,7.7nm,0.6s,baz=90,slow=23,SNR=8.6	**21.90**	**136**	P	**P**	**03 06 01.9**	**-1.2**
DZM	**Mont Dzumac** comp=Z,120nm,1.6s	**21.90**	**136**	*e*P	**P**	**03 06 04.8**	**+1.7**
AAI	**Amboin** comp=Z,113nm,0.9s	**22.24**	**276**	P	**P**	**03 06 08.8**	**+2.1**
AS31	**Alice Springs**	**23.21**	**221**	*e*P	**P**	**03 06 16.0**	**-0.9**
AS31				*e*S	**S**	**03 10 26.2**	**-0.5**
ASAR	**Alice Springs** comp=Z,10nm,0.6s,baz=57,slow=8.7,SNR=70	**23.21**	**221**	P	**P**	**03 06 15.8**	**-1.0**
ASAR				S	**S**	**03 10 25.9**	**-0.8**
ASAR	comp=Z,38nm,1.2s,baz=43,slow=18,SNR=11			ScP	**ScP**	**03 13 43.8**	**+3.7**
ASAR	comp=Z,6.7nm,1.3s,baz=41,slow=4.0,SNR=5.9			LR	LR	03 15 34.8	
NLAI	**Namlea** comp=Z,61nm,1.9s	**23.39**	**277**	P	**P**	**03 06 20.9**	**+2.3**
LBMI	**Labuha** comp=Z,96nm,1.6s,comp=Z,2μm	**23.53**	**284**	P	**P**	**03 06 19.6**	**-0.4**
ARMA	**Armidale** comp=Z,378nm,1.7s	**23.77**	**177**	*e*P	**P**	**03 06 22.6**	**+0.4**
SANI	**Sanana** comp=Z,86nm,1.2s,comp=Z,2μm	**24.69**	**279**	P	**P**	**03 06 33.0**	**+2.3**
SOEI	**Soe** comp=Z,125nm,1.2s,comp=Z,3μm	**26.00**	**261**	P	**P**	**03 06 44.8**	**+2.0**
SOEI	**Soe** comp=Z,332nm,1.3s	**26.00**	**261**	*e*P	**P**	**03 06 42.3**	**-0.5**
STKA	**Stephens Creek** comp=Z,77nm,1.1s,baz=5.8,slow=10.0,SNR=37	**26.48**	**197**	P	**P**	**03 06 46.6**	**-0.2**
STKA	comp=Z,3μm,18.3s,baz=20,slow=39			LR	LR	03 18 05.5	
STKA	**Stephens Creek**	**26.48**	**197**	P	**P**	**03 06 46.6**	**-0.2**
STKA	comp=Z,77nm,1.1s			pmax	pmax		
STKA	comp=Z,3μm,18.3s			MLR	MLR		
STKA	**Stephens Creek** comp=Z,28nm,1.3s	**26.48**	**197**	*e*P	**P**	**03 06 46.1**	**-0.6**
BATI	**Baumata** comp=Z,87nm,1.0s,comp=Z,1μm	**26.63**	**260**	P	**P**	**03 06 50.2**	**+1.8**
BATI	**Baumata** comp=Z,40nm,0.6s,baz=188,slow=3.0,SNR=3.8	**26.63**	**260**	P	**P**	**03 06 48.0**	**-0.4**
FITZ	**Fitzroy Crossi** comp=Z,70nm,0.8s	**26.68**	**242**	*e*P	**P**	**03 06 48.1**	**-0.5**
BBSI	**Bau Bau** comp=Z,109nm,1.4s	**27.64**	**271**	P	**P**	**03 06 55.7**	**-1.7**
MMRI	**Maumere** comp=Z,162nm,0.9s,comp=Z,7μm	**27.93**	**264**	P	**P**	**03 07 04.4**	**+4.4**
MMRI	**Maumere** comp=Z,238nm,1.3s	**27.93**	**264**	*e*P	**P**	**03 06 58.4**	**-1.6**
APSI	**Ampana** comp=Z,79nm,1.1s,comp=Z,994nm	**29.16**	**280**	P	**P**	**03 07 13.3**	**+2.3**
BBOO	**Buckleboo** comp=Z,80nm,1.5s	**29.30**	**205**	*e*P	**P**	**03 07 10.1**	**-1.9**
BSSI	**Bau Bau, Buton** comp=Z,89nm,1.5s,comp=Z,1μm	**29.67**	**269**	P	**P**	**03 07 17.4**	**+1.9**
BKSI	**Bulukumba** comp=Z,22nm,1.0s	**30.08**	**271**	P	**P**	**03 07 21.8**	**+2.7**
KAPI	**Kappang** comp=Z,74nm,1.4s	**30.47**	**271**	*e*P	**P**	**03 07 21.1**	**-1.4**
SPSI	**Sidrap Palu** comp=Z,26nm,1.2s	**30.55**	**273**	P	**P**	**03 07 21.4**	**-1.8**
TTSI	**Tana Toraja** comp=Z,33nm,1.6s,comp=Z,786nm	**30.61**	**275**	P	**P**	**03 07 26.2**	**+2.4**
FORT	**Forrest** comp=Z,55nm,0.9s	**31.89**	**218**	*e*P	**P**	**03 07 34.5**	**-0.4**
MBWA	**Marble Bar** comp=Z,35nm,1.3s	**32.98**	**241**	*e*P	**P**	**03 07 44.1**	**-0.4**
JCJ	**Chichijima** comp=Z,1μm,21.5s,baz=144,slow=34	**34.38**	**347**	LR	LR	03 20 17.7	
TAU	**Tasmania Unive**	**36.30**	**184**	*e*P	**P**	**03 08 12.7**	**-0.2**
TAU	comp=Z,33nm,1.2s			pmax	pmax		
TAU	**Tasmania Unive** comp=Z,32nm,1.2s	**36.30**	**184**	*e*P	**P**	**03 08 12.7**	**-0.2**
PWJI	**Pagerwojo** comp=Z,61nm,2.6s	**38.24**	**265**	P	**P**	**03 08 28.2**	**-1.6**
RPZ	**Rata Peaks** comp=Z,1μm,21.4s,baz=316,slow=33	**41.24**	**157**	LR	LR	03 23 41.3	
JCJI	**Jatiwangi** comp=Z,379nm,0.9s	**41.79**	**268**	P	P	03 09 03.6	+4.3
CISI	**Cisompet, Garu** comp=Z,243nm,1.3s	**42.20**	**266**	P	**P**	**03 09 02.0**	**-0.8**
CISI	**Cisompet, Garu** comp=Z,255nm,1.2s	**42.20**	**266**	*e*P	**P**	**03 09 01.8**	**-0.9**
LEM	**Lembang**	**42.42**	**267**	P	**P**	**03 09 04.8**	**+0.1**
LEM	**Lembang** comp=Z,57nm,0.8s,baz=323,slow=20	**42.42**	**267**	P	**P**	**03 09 04.0**	**-0.7**
JNU	**Nakatsue** comp=Z,12nm,0.6s,baz=102,slow=4.7,SNR=3.8	**43.58**	**336**	P	**P**	**03 09 13.1**	**-0.4**
JNU	comp=Z,625nm,20.9s,baz=138,slow=34			LR	LR	03 25 35.6	
QZH	**Quanzhou** comp=Z,1μm,18.2s	**44.00**	**317**	P	**P**	**03 09 18.3**	**+1.3**
QZH				S	**S**	**03 15 51.0**	**+4.0**
QZH				LZ			
MJAR	**Matsushiro Arr** comp=Z,2.6nm,1.0s,baz=172,slow=8.1,SNR=6.1	**44.36**	**346**	P	**P**	**03 09 18.0**	**-1.7**
MJAR				ScP	**ScP**	**03 14 54.8**	**+1.6**
MJAR	comp=Z,2.4nm,1.0s,baz=173,slow=3.8,SNR=6.7			LR	LR	03 26 57.6	
MJAR	comp=Z,571nm,18.2s,baz=185,slow=35 **Matsushiro Arr**	**44.36**	**346**	P	**P**	**03 09 18.0**	**-1.7**
MAJO	**Matsushiro** comp=Z,128nm,2.5s	**44.36**	**346**	⇑*e*P	**P**	**03 09 17.9**	**-1.8**
MAJO				pmax	pmax		
MAJO	**Matsushiro** comp=Z,11nm,1.1s	**44.36**	**346**	*e*P	P	03 09 16.4	-3.4
MAT	**Matsushiro**	**44.36**	**346**	P	**P**	**03 09 17.3**	**-2.4**
MAT				S	**S**	**03 15 49.0**	**-3.0**
SSE	**Sheshan**	**46.69**	**325**	P	**P**	**03 09 40.1**	**+1.9**
SSE				S	**S**	**03 16 27.8**	**+2.1**
SSE	comp=Z,110nm,1.2s			PMZ			
SSE	comp=Z,180nm,6.4s			PMZ			
SSE	comp=Z,490nm,21.1s			LN			
SSE	comp=Z,360nm,21.1s			LE			
SSE	comp=Z,640nm,16.7s			LZ			
QIZ	**Qiongzhong**	**47.31**	**303**	P	**P**	**03 09 44.1**	**+0.7**
QIZ				pP	**pP**	**03 09 52.5**	**-0.8**
QIZ				sP	**sP**	**03 09 56.0**	**-1.3**
QIZ				S	**S**	**03 16 33.9**	**-1.2**
QIZ	comp=Z,680nm,20.8s			LN			
QIZ	comp=Z,200nm,18.6s			LE			
QIZ	comp=Z,600nm,20.6s			LZ			
KSRS	**Korea Array** comp=Z,347nm,20.9s,baz=152,slow=33	**48.53**	**336**	LR	LR	03 27 53.3	
NJ2	**Nanjing**	**48.74**	**324**	*e*P	**P**	**03 09 54.1**	**0.0**
NJ2				pP	**pP**	**03 10 03.1**	**-1.0**
NJ2				sP	**sP**	**03 10 06.9**	**-1.1**
NJ2				S	**S**	**03 16 56.0**	**+1.2**
NJ2				sS	**sS**	**03 17 10.5**	**-0.7**
NJ2	comp=Z,130nm,0.6s			PMZ			
NJ2	comp=Z,1μm,24.5s			LN			
NJ2	comp=Z,1μm,19.1s			LE			
NJ2	comp=Z,1μm,25.4s			LZ			
WHN	**Wuhan**	**50.49**	**319**	P	**P**	**03 10 08.4**	**+0.9**
WHN				S	**S**	**03 17 16.3**	**-3.1**
WHN	comp=Z,1μm,14.7s			LN			
WHN	comp=Z,970nm,15.6s			LE			
WHN	comp=Z,2μm,16.4s			LZ			
YUK	**Yuzh-Kuril'sk**	**50.52**	**356**	*c*iP	**P**	**03 10 05.2**	**-2.3**
YUK				*i*		03 11 21.1	
YUK				*i*		03 11 59.2	
YUK				*i*S	**S**	**03 17 19.3**	**0.0**
YUK	comp=Z,236nm,14.7s			pmax	pmax		
YUK	comp=N,267nm,18.0s			MLR	MLR		
YUK	comp=E,191nm,18.0s			MLR	MLR		
YUK	comp=Z,405nm,18.0s			MLR	MLR		
PSI	**Prapat**	**52.16**	**279**	*e*P	**P**	**03 10 18.1**	**-2.5**
PSI	comp=Z,127nm,2.2s			pmax	pmax		
PSI	**Prapat** comp=Z,127nm,2.2s	**52.16**	**279**	*e*P	**P**	**03 10 18.1**	**-2.5**
DL2	**Dalian**	**52.49**	**332**	*e*P	**P**	**03 10 21.5**	**-0.8**
DL2				*e*S	**S**	**03 17 42.1**	**-4.6**
DL2	comp=Z,110nm,0.9s			PMZ			
DL2	comp=Z,200nm,3.0s			PMZ			
DL2	comp=Z,290nm,14.6s			LE			
DL2	comp=Z,360nm,20.6s			LZ			
COCO	**West Island**	**53.02**	**260**	*i*P	**P**	**03 10 29.0**	**+2.3**
USRK	**Ussuriysk Ar.** comp=Z,5.9nm,1.0s,baz=163,slow=8.0,SNR=8.8	**53.17**	**344**	P	**P**	**03 10 26.4**	**-0.9**
USRK				LR	LR	03 31 01.3	
GSI	**Gunungsitoli** comp=Z,50nm,1.1s	**53.24**	**277**	*e*P	**P**	**03 10 26.3**	**-2.1**
GYA	**Guiyang**	**53.57**	**310**	P	**P**	**03 10 32.0**	**+1.3**
GYA				pP	**pP**	**03 10 42.6**	**+1.9**
GYA				PP	**PP**	**03 12 33.4**	**+1.7**
GYA				ScP	**ScP**	**03 15 31.0**	**-1.7**
GYA				S	**S**	**03 18 01.3**	**-0.8**
GYA				sS	**sS**	**03 18 19.9**	**+1.3**
GYA				SS	**SS**	**03 21 40.6**	**-2.4**
GYA	comp=Z,20nm,1.0s			PMZ			
GYA	comp=Z,140nm,5.4s			PMZ			
GYA	comp=Z,760nm,18.6s			LN			
GYA	comp=Z,690nm,19.1s			LE			
GYA	comp=Z,730nm,18.9s			LZ			
MDJ	**Mudanjiang**	**54.26**	**342**	P	**P**	**03 10 36.9**	**+1.7**
MDJ				pP	**pP**	**03 10 46.0**	**+0.7**
MDJ				sP	**sP**	**03 10 49.8**	**+0.6**
MDJ				PcP	**PcP**	**03 11 36.4**	**-2.8**
MDJ				PP	**PP**	**03 12 36.4**	**-1.0**
MDJ				S	**S**	**03 18 12.0**	**+1.5**
MDJ				ScS	**ScS**	**03 20 20.9**	**-1.2**
MDJ	comp=Z,10.0nm,0.7s			PMZ			
MDJ	comp=Z,81nm,5.0s			PMZ			
MDJ	comp=Z,330nm,16.1s			LN			
MDJ	comp=Z,290nm,16.1s			LE			
MDJ	comp=Z,350nm,19.5s			LZ			
CN2	**Changchun**	**54.95**	**338**	*e*P	**P**	**03 10 40.8**	**+0.5**
CN2	comp=Z,10.0nm,0.8s			PMZ			
CN2	comp=Z,70nm,5.0s			PMZ			
KMI	**Kunming**	**55.99**	**306**	P	**P**	**03 10 50.4**	**+2.0**
KMI	comp=Z,6.0nm,0.8s			PMZ			
BJI	**Beijing**	**56.05**	**329**	P	**P**	**03 10 50.1**	**+1.8**
BJI				PP	**PP**	**03 12 54.1**	**+0.5**
BJI				S	**S**	**03 18 33.8**	**-0.9**
BJI	comp=Z,20nm,0.7s			PMZ			
BJI	comp=Z,770nm,17.2s			LN			
BJI	comp=Z,570nm,18.2s			LE			
BJI	comp=Z,430nm,17.5s			LZ			
CMAR	**Chiang Mai Arr** comp=Z,0.7nm,0.3s,baz=99,slow=5.7,SNR=6.8	**56.45**	**297**	P	**P**	**03 10 50.9**	**-0.7**
CMAR				LR	LR	03 33 52.5	
KLR	**Kul'dur** comp=Z,116nm,21.4s,baz=102,slow=35	**57.88**	**346**	*e*P	P	03 10 55.7	-5.4
KLR	comp=Z,34nm,1.6s			pmax	pmax		
CD2	**Chengdu**	**58.07**	**313**	P	**P**	**03 11 02.3**	**-0.5**
CD2				pP	**pP**	**03 11 13.4**	**+0.5**
CD2				sP	**sP**	**03 11 18.0**	**+1.1**
CD2				PP	**PP**	**03 13 11.3**	**-0.5**
CD2				S	**S**	**03 19 01.3**	**-0.5**
CD2				sS	**sS**	**03 19 20.1**	**+1.6**
CD2				SS	**SS**	**03 22 54.3**	**+0.6**
CD2	comp=Z,20nm,0.5s			PMZ			
CD2	comp=Z,140nm,11.0s			PMZ			
CD2	comp=Z,770nm,21.0s			LN			
CD2	comp=Z,450nm,14.3s			LZ			
HHC	**Hu-ho-hao-te**	**59.09**	**326**	*e*P	**P**	**03 11 12.5**	**+2.7**
HHC				PP	**PP**	**03 13 24.9**	**+4.1**
HHC				S	**S**	**03 19 15.6**	**+0.7**
HHC				sS	**sS**	**03 19 32.4**	**+0.8**
HHC				ScS	**ScS**	**03 20 56.3**	**-1.3**
HHC				SS	**SS**	**03 23 12.3**	**+2.7**
HHC	comp=Z,19nm,1.2s			PMZ			
HHC	comp=Z,92nm,5.4s			PMZ			
HHC	comp=Z,380nm,16.5s			LN			
HHC				LE			

	comp=Z,410nm,15.7s								
HHC					LZ				
	comp=Z,540nm,16.1s								
PPT	**Papeete**	**59.55**	**106**		LR	LR	03 35 09.0		
	comp=Z,147nm,18.1s,baz=272,slow=34								
PPT2	**Papeete2**	**59.55**	**106**		*e*S	**S**	**03 19 19.2**	**-2.4**	
	comp=Z,582nm,24.5s								
PPT2					*e*LQ	LQ	03 26 18.0		
	comp=Z,2µm,31.8s								
PPT2					*e*LR	LR	03 28 26.6		
	comp=Z,297nm,25.8s								
PETK	**Petropavlovsk-**	**59.77**	**5**		LR	LR	03 39 05.5		
	comp=Z,299nm,18.0s,baz=197,slow=38								
PET	**Petropavlovsk**	**59.77**	**6**	*c*	*i*P	**P**	**03 11 11.4**	**-2.7**	
PET					*e*S	**S**	**03 19 27.8**	**+4.9**	
PET					pmax	pmax			
	comp=Z,100nm,15.4s								
PET					MLR	MLR			
	comp=Z,400nm,21.0s								
TBI	**Tubuai**	**60.10**	**113**		*e*S	**S**	**03 19 30.1**	**+1.9**	
	comp=Z,449nm,26.2s								
TBI					*e*LQ	LQ	03 26 38.9		
	comp=Z,659nm,36.0s								
TBI					*e*LR	LR	03 29 08.7		
	comp=Z,428nm,35.5s								
DRV	**Dumont d'Urvil**	**60.43**	**185**		S	S	03 19 24.0	-7.1	
DRV					L	L	03 26 00.0		
DRV					R		03 30 00.0		
LZH	**Lanzhou**	**60.83**	**318**		*e*P	P	03 11 26.4	+4.5	
LZH					pP	pP	03 11 36.4	+4.3	
LZH					sP	sP	03 11 40.6	+4.6	
LZH					*e*S	**S**	**03 19 40.3**	**+2.8**	
LZH					sS	sS	03 19 58.3	+4.0	
LZH					PMZ				
	comp=Z,32nm,1.3s								
LZH					PMZ				
	comp=Z,170nm,5.2s								
LZH					LN				
	comp=Z,450nm,14.8s								
LZH					LE				
	comp=Z,290nm,13.5s								
LZH					LZ				
	comp=Z,530nm,17.0s								
SHL	**Shillong**	**65.12**	**302**		*e*P	**P**	**03 11 50.0**	**-0.7**	
CASY	**Casey**	**65.63**	**197**		*e*P	**P**	**03 11 53.0**	**0.0**	
	comp=Z,19nm,1.4s								
SONM	**Songino Array**	**66.54**	**329**		LR	LR	03 42 20.6		
	comp=Z,298nm,18.5s,baz=148,slow=37								
NIKH	**Nikolski High**	**68.63**	**25**		P	**P**	**03 12 10.8**	**-1.4**	
NIKH					S	**pP**	**03 12 18.4**	**-4.2**	
SEY	**Seymchan**	**69.31**	**1**	⇑	*i*P	**P**	**03 12 15.3**	**-0.9**	
YAK	**Yakutsk**	**70.23**	**350**	⇑	*e*P	**P**	**03 12 20.6**	**-1.3**	
YAK					pmax	pmax			
	comp=Z,9.0nm,0.5s								
VNDA	**Vanda**	**71.18**	**177**		P	**P**	**03 12 28.1**	**+0.6**	
	comp=Z,3.2nm,0.8s,baz=320,slow=7.4,SNR=12								
VNDA					LR	LR	03 39 42.6		
	comp=Z,219nm,21.2s,baz=359,slow=32								
VNDA	**Vanda**	**71.18**	**177**		*e*P	**P**	**03 12 28.5**	**+1.0**	
	comp=Z,28nm,1.6s								
SBA	**Scott Base**	**71.77**	**176**		*e*P	**P**	**03 12 32.5**	**+1.4**	
SBA					*e**PP	**pP**	**03 12 42.5**	**+1.0**	
SBA					pmax	pmax			
	comp=Z,29nm,1.6s								
SBA	**Scott Base**	**71.77**	**176**		*e*P	**P**	**03 12 32.5**	**+1.4**	
	comp=Z,30nm,1.6s								
SBA					*e*pP	**pP**	**03 12 42.5**	**+1.0**	
BILL	**Bilibino**	**75.27**	**6**		*e*P	**P**	**03 12 50.3**	**-1.4**	
BILL					pmax	pmax			
	comp=Z,4.0nm,1.1s								
BILL					MLR	MLR			
	comp=Z,272nm,18.0s								
PAF	**Port-aux-Franc**	**78.62**	**221**		P	**P**	**03 13 14.0**	**+3.0**	
PAF					S	**S**	**03 23 11.0**	**+5.3**	
PAF					SS	SS	03 27 55.0	-15	
PAF					L	L	03 33 00.0		
PAF					R		03 38 00.0		
MKAR	**Makanchi Array**	**80.05**	**320**		P	**P**	**03 13 20.2**	**+1.3**	
	comp=Z,0.4nm,0.6s,baz=108,slow=7.8,SNR=3.8								
MKAR					LR	LR	03 49 31.3		
	comp=Z,218nm,19.2s,baz=104,slow=36								
ZALV	**Zalesovo Beam**	**81.27**	**327**		P	**P**	**03 13 24.0**	**-1.2**	
	comp=Z,0.7nm,0.3s,baz=115,slow=6.8,SNR=2.8								
ZALV					LR	LR	03 49 55.6		
	comp=Z,430nm,18.7s,baz=69,slow=36								
KSH	**Kashi**	**82.23**	**311**		P	**P**	**03 13 33.0**	**+2.2**	
KSH					sP	**sP**	**03 13 47.9**	**+2.7**	
KSH					PP	**PP**	**03 16 44.0**	**+4.4**	
KSH					S	**S**	**03 23 44.0**	**-0.2**	
KSH					sS	**sS**	**03 24 03.1**	**+1.5**	
KSH					SS	**SS**	**03 29 10.1**	**+5.2**	
KSH					PMZ				
	comp=Z,310nm,5.8s								
KSH					LN				
	comp=Z,200nm,7.2s								
KSH					LE				
	comp=Z,210nm,4.5s								
KSH					LZ				
	comp=Z,370nm,6.3s								
BPAW	**Bear Paw Mtn.**	**82.83**	**22**		*e*P	**P**	**03 13 31.3**	**-1.9**	
	comp=Z,2.1nm,1.5s								
IM04	**Indian Mountai**	**82.84**	**20**		*e*P	**P**	**03 13 31.4**	**-1.8**	
MAW	**Mawson**	**83.01**	**203**		P	**P**	**03 13 34.5**	**+0.4**	
	comp=Z,1.7nm,0.6s,baz=82,slow=8.2,SNR=5.2								
MAW					LR	LR	03 49 33.6		
	comp=Z,422nm,19.1s,baz=62,slow=35								
MAW	**Mawson**	**83.01**	**203**		P	**P**	**03 13 34.5**	**+0.4**	
MAW					pmax	pmax			
	comp=Z,2.0nm,0.6s								
MAW					MLR	MLR			
	comp=Z,422nm,19.1s								
MAW	**Mawson**	**83.01**	**203**		*e*P	**P**	**03 13 35.4**	**+1.3**	
	comp=Z,4.2nm,1.4s								
QSPA	**South Pole Qui**	**83.41**	**180**		*e*P	**P**	**03 13 36.8**	**+0.4**	
	comp=Z,94nm,1.9s								
MCK	**McKinley**	**83.42**	**23**		*e*P	**P**	**03 13 35.0**	**-1.3**	
MCK					pmax	pmax			
	comp=Z,10.0nm,0.9s								
MCK	**McKinley**	**83.42**	**23**		*e*P	**P**	**03 13 35.0**	**-1.3**	
	comp=Z,10.0nm,0.9s								
BWN	**Browne**	**83.44**	**22**		*e*P	**P**	**03 13 36.3**	**0.0**	
	comp=Z,27nm,0.8s								
KURK	**Kurchatov**	**83.66**	**323**		*e*P	P	03 13 34.4	-3.3	
KURK					pmax	pmax			
	comp=Z,6.0nm,0.8s								
KURK	**Kurchatov**	**83.66**	**323**		*e*P	P	03 13 34.4	-3.3	
	comp=Z,6.3nm,0.8s								
CCB	**Clear Creek Bu**	**84.30**	**22**		*e*P	**P**	**03 13 39.4**	**-1.3**	
	comp=Z,41nm,2.4s								
COLA	**College**	**84.39**	**22**	*c*	*e*P	**P**	**03 13 39.5**	**-1.6**	
COLA					pmax	pmax			
	comp=Z,33nm,1.7s								
COLA	**College**	**84.39**	**22**		*e*P	**P**	**03 13 40.4**	**-0.7**	
	comp=Z,12nm,1.5s								
EKS2	**Erkin-Say**	**84.62**	**314**		*e*P	**P**	**03 13 42.2**	**-0.8**	
EKS2					pmax	pmax			
	comp=Z,4.0nm,0.9s								
EKS2	**Erkin-Say**	**84.62**	**314**		*e*P	**P**	**03 13 42.2**	**-0.8**	
	comp=Z,4.0nm,0.9s								
ILAR	**Eielson Array**	**84.70**	**23**		P	**P**	**03 13 41.1**	**-1.6**	
	comp=Z,1.5nm,1.0s,baz=255,slow=4.7,SNR=12								
ILAR					LR	LR	03 48 11.3		
	comp=Z,427nm,20.3s,baz=272,slow=33								
EGAK	**Eagle**	**86.94**	**24**		*e*P	**P**	**03 13 54.1**	**+0.2**	
	comp=Z,6.5nm,0.9s								
HYT	**Haines Junctio**	**87.12**	**28**		*e*P	**P**	**03 13 55.4**	**+0.4**	
DAWY	**Dawson**	**87.39**	**24**		*e*P	**P**	**03 13 55.5**	**-0.7**	
	comp=Z,8.5nm,1.4s								
BESE	**Bessie Mountai**	**87.72**	**30**		*e*P	**P**	**03 13 57.7**	**-0.2**	
	comp=Z,6.1nm,1.2s								
BRVK	**Borovoye**	**89.25**	**324**	⇑	*e*P	**P**	**03 14 04.0**	**-1.1**	
BRVK					pmax	pmax			
	comp=Z,6.0nm,1.7s								
BBB	**Bella Bella**	**89.97**	**38**		LR	LR	03 52 14.5		
	comp=Z,221nm,18.1s,baz=284,slow=34								
INK	**Inuvik**	**90.97**	**21**		P	**P**	**03 14 12.5**	**-0.2**	
	comp=Z,0.5nm,0.5s,baz=263,slow=6.9,SNR=4.7								
INK					LR	LR	03 54 31.7		
	comp=Z,294nm,18.9s,baz=305,slow=35								
SYO	**Syowa Base**	**91.20**	**200**	⇑	*e*X		03 14 21.7		
J05D	**Fort Rock, OR**	**93.30**	**47**		P	**P**	**03 14 25.1**	**+0.8**	
	baz=93								
MOD	**Modoc**	**93.85**	**48**		*e*P	**P**	**03 14 28.6**	**+1.6**	
	comp=Z,15nm,1.4s								
ISA	**Isabella**	**94.74**	**55**		P	**P**	**03 14 31.6**	**+0.6**	
	baz=95								

PASC	**Pasadena Art C**	**94.86**	**56**		*e*P	**P**	**03 14 33.2**	**+1.7**	
	comp=Z,20nm,1.1s								
MWC	**Mount Wilson**	**94.97**	**56**		*e*P	**P**	**03 14 33.9**	**+1.6**	
MWC					*e*		03 14 43.8		
MWC					pmax	pmax			
	comp=Z,46nm,1.2s								
MWC	**Mount Wilson**	**94.97**	**56**		*e*P	**P**	**03 14 33.9**	**+1.6**	
	comp=Z,46nm,1.2s								
MWC					*e*		03 14 43.8		
EDW2	**Edwards Air Fo**	**95.07**	**56**		P	**P**	**03 14 34.1**	**+1.6**	
	baz=95								
NVAR	**Mina Array Bea**	**95.09**	**52**		P	**P**	**03 14 31.9**	**-0.9**	
	comp=Z,2.0nm,0.9s,baz=263,slow=5.8,SNR=6.4								
BFSC	**Mount Baldy Ra**	**95.30**	**56**		P	**P**	**03 14 35.2**	**+1.5**	
	baz=95								
LRMC	**Laurel Mountai**	**95.36**	**55**		P	**P**	**03 14 35.8**	**+1.8**	
	baz=96								
DAC	**Darwin (Calif)**	**95.50**	**54**		*e*P	**P**	**03 14 36.1**	**+1.4**	
DAC					*e*		03 14 46.0		
DAC					pmax	pmax			
	comp=Z,30nm,1.5s								
DAC	**Darwin (Calif)**	**95.50**	**54**		*e*P	**P**	**03 14 36.0**	**+1.4**	
	comp=Z,30nm,1.5s								
DAC					*e*		03 14 46.0		
MPMC	**Manual Prospec**	**95.57**	**54**		P	**P**	**03 14 36.1**	**+1.1**	
	baz=96								
MURC	**Murrieta**	**95.63**	**57**		P	**P**	**03 14 36.2**	**+1.0**	
	baz=96								
GSC	**Goldstone**	**96.07**	**55**		*e*P	**P**	**03 14 38.9**	**+1.7**	
GSC					pmax	pmax			
	comp=Z,17nm,1.4s								
GSC	**Goldstone**	**96.07**	**55**		P	**P**	**03 14 38.6**	**+1.4**	
	baz=96								
GSC	**Goldstone**	**96.07**	**55**		*e*P	**P**	**03 14 38.9**	**+1.7**	
	comp=Z,17nm,1.4s								
MONP	**Monument Peak**	**96.23**	**58**		P	**P**	**03 14 39.3**	**+1.2**	
	baz=96								
PFO	**Pinyon Flat Ob**	**96.25**	**57**		P	**P**	**03 14 39.2**	**+1.1**	
	baz=96								
SHOC	**Shoshone**	**96.53**	**55**		P	**P**	**03 14 40.4**	**+1.2**	
	baz=97								
NEW	**Newport**	**96.54**	**42**		LR	LR	03 53 55.6		
	comp=Z,462nm,19.1s,baz=268,slow=33								
BELC	**Belle Mtn. Jos**	**96.66**	**57**		P	**P**	**03 14 40.7**	**+0.8**	
	baz=97								
TUQ	**Turquoise Moun**	**96.80**	**55**		P	**P**	**03 14 41.4**	**+0.9**	
	baz=97								
GMRC	**Granite Mounta**	**96.98**	**56**		P	**P**	**03 14 42.7**	**+1.4**	
	baz=97								
BC3	**Big Chuckawall**	**97.09**	**57**		P	Pdif	03 14 43.0	+1.0	
	baz=97								
IRM	**Iron Mountain**	**97.37**	**56**		P	Pdif	03 14 44.7	+1.6	
	baz=98								
SHPR	**Sheep Range**	**97.47**	**54**		*e*P	Pdif	03 14 45.0	+1.4	
DUG	**Dugway**	**99.42**	**50**		P	**Pdif**	**03 14 53.9**	**+1.7**	
	baz=100								
PDAR	**Pinedale Array**	**101.84**	**48**		P	**Pdif**	**03 15 02.6**	**-0.4**	
	comp=Z,0.6nm,0.9s,baz=304,slow=1.6,SNR=4.5								
APA	**Apatity**	**106.11**	**339**		*e*P	**Pdif**	**03 15 17.0**	**-4.1**	
MLR	**Muntele Rosu**	**118.39**	**319**	⇑	PKIKP	**PKPdf**	**03 19 56.3**	**-0.7**	
MLR	**Muntele Rosu**	**118.39**	**319**	⇑	*i*P	**PKPdf**	**03 19 56.3**	**-0.7**	
VOIR		**118.99**	**319**	⇑	PKIKP	**PKPdf**	**03 19 58.6**	**+0.5**	
VOIR		**118.99**	**319**	⇑	*i*P	**PKPdf**	**03 19 58.5**	**+0.5**	
JMB	**Yambol**	**119.00**	**315**	⇓	PKIKP	**PKPdf**	**03 19 56.4**	**-1.7**	
JMB	**Yambol**	**119.00**	**315**	⇓	*i*P	**PKPdf**	**03 19 56.4**	**-1.7**	
KOLS	**Kolonicke sedl**	**119.29**	**323**		*e*PKIKP	**PKPdf**	**03 19 59.0**	**+0.5**	
KOLS	**Kolonicke sedl**	**119.29**	**323**		*e*PKP	**PKPdf**	**03 19 59.0**	**+0.5**	
DRGR		**119.95**	**321**	⇓	PKIKP	**PKPdf**	**03 20 01.5**	**+1.6**	
DRGR		**119.95**	**321**	⇓	*i*P	**PKPdf**	**03 20 01.5**	**+1.6**	
KDZ	**Kurdzhali**	**120.09**	**315**	⇑	PKIKP	**PKPdf**	**03 19 59.8**	**-0.4**	
KDZ	**Kurdzhali**	**120.09**	**315**	⇑	*i*P	**PKPdf**	**03 19 59.8**	**-0.4**	
NIE	**Niedzica**	**120.21**	**325**		*e*PKP	**PKPdf**	**03 20 00.3**	**+0.1**	
NIE	**Niedzica**	**120.21**	**325**		*e*PKIKP	**PKPdf**	**03 20 00.3**	**+0.1**	
KECS	**Kecovo**	**120.55**	**324**		*e*PKIKP	**PKPdf**	**03 19 57.8**	**-3.1**	
KECS	**Kecovo**	**120.55**	**324**		*e*	**PKPdf**	**03 19 57.8**	**-3.1**	
BZS	**Buzias**	**121.14**	**320**	⇓	PKIKP	**PKPdf**	**03 20 01.2**	**-0.9**	
BZS	**Buzias**	**121.14**	**320**	⇓	*i*P	**PKPdf**	**03 20 01.1**	**-1.0**	
OKC	**Ostrava-Krasne**	**121.23**	**326**		*e*PKPdf	**PKPdf**	**03 20 02.6**	**+0.5**	
OKC					*ep*PKP	**pPKPdf**	**03 20 12.9**	**-0.2**	
OKC					AMS	AMS	04 16 20.0		
	comp=Z,300nm,19.3s								
OKC	**Ostrava-Krasne**	**121.23**	**326**		*e*PKIKP	**PKPdf**	**03 20 02.6**	**+0.5**	
OKC					*e*		03 20 12.9		
OKC					MLR	MLR			
	comp=Z,300nm,19.3s								
VYHS	**Vyhne**	**121.51**	**324**		*e*PKIKP	**PKPdf**	**03 20 01.8**	**-0.9**	
VYHS	**Vyhne**	**121.51**	**324**		*e*PKP	**PKPdf**	**03 20 01.8**	**-0.9**	
MORC	**Moravsky Berou**	**121.60**	**326**		*e*PKIKP	**PKPdf**	**03 20 02.8**	**-0.1**	
MORC	**Moravsky Berou**	**121.60**	**326**	⇑	*i*P	**PKPdf**	**03 20 03.2**	**+0.3**	
MORC	**Moravsky Berou**	**121.60**	**326**		*e*PKPdf	**PKPdf**	**03 20 02.8**	**-0.1**	
DPC	**Dobruska-Polom**	**121.97**	**327**		*e*PKPdf	**PKPdf**	**03 20 02.8**	**-0.8**	
DPC					*ex*	x	03 20 07.3		
DPC					*ep*PKP	**pPKPdf**	**03 20 13.0**	**-1.5**	
DPC					AMS	AMS	04 14 20.0		
	comp=Z,400nm,19.0s								
DPC	**Dobruska-Polom**	**121.97**	**327**		*e*PKIKP	**PKPdf**	**03 20 02.8**	**-0.8**	
DPC					*e*		03 20 13.0		
DPC					MLR	MLR			
	comp=Z,400nm,19.0s								
UPC	**Upice**	**122.05**	**327**		*e*PKPdf	**PKPdf**	**03 20 03.9**	**+0.2**	
UPC					*ep*PKP	**pPKPdf**	**03 20 13.6**	**-1.0**	
UPC					*e*PP	**PP**	**03 21 39.0**	**+1.0**	
UPC					*e*SP	SP	03 31 21.1	-6.5	
UPC					AMS	AMS	04 14 30.0		
	comp=Z,400nm,19.4s								
UPC	**Upice**	**122.05**	**327**		*e*PKIKP	**PKPdf**	**03 20 03.9**	**+0.2**	
UPC					*e*		03 20 13.6		
UPC					*e*		03 21 39.0		
UPC					*e*PS	**SP**	**03 31 21.1**	**-6.5**	
UPC					MLR	MLR			
	comp=Z,400nm,19.4s								
PKSM	**Moragy**	**122.72**	**322**	⇑	PKIKP	**PKPdf**	**03 20 04.9**	**-0.2**	
PKSM	**Moragy**	**122.72**	**322**	⇑	*i*P	**PKPdf**	**03 20 04.8**	**-0.3**	
PVCC	**Panska Ves**	**122.80**	**328**		*e*PKPdf	**PKPdf**	**03 20 04.7**	**-0.4**	
PVCC					*ep*PKP	**pPKPdf**	**03 20 14.1**	**-2.0**	
PVCC					AMS	AMS	04 17 50.0		
PVCC	**Panska Ves**	**122.80**	**328**		*e*PKIKP	**PKPdf**	**03 20 04.7**	**-0.4**	
PVCC					*e*		03 20 14.1		
DIVS	**Divibare**	**122.83**	**319**	⇓	*i*P	**PKPdf**	**03 20 05.3**	**-0.2**	
BRG	**Berggiesshubel**	**122.93**	**329**		*e*PKP	**PKPdf**	**03 20 04.5**	**-0.8**	
	comp=Z,10nm,1.3s								
	comp=N,148nm,13.8s								
	comp=E,169nm,17.3s								
	comp=Z,285nm,19.8s								
BRG	**Berggiesshubel**	**122.93**	**329**		*e*PKPdf	**PKPdf**	**03 20 04.9**	**-0.5**	
BRG	**Berggiesshubel**	**122.93**	**329**		*e*PKIKP	**PKPdf**	**03 20 04.6**	**-0.8**	
BRG					pmax	pmax			
	comp=Z,10.0nm,1.3s								
BRG					MLR	MLR			
	comp=N,148nm,13.8s								
BRG					MLR	MLR			
	comp=E,169nm,17.3s								
BRG					MLR	MLR			
	comp=Z,285nm,19.8s								
TREC	**Trest**	**122.99**	**326**		*e*PKPdf	**PKPdf**	**03 20 04.9**	**-0.7**	
TREC					*ex*	x	03 20 09.8		
TREC					*ep*PKP	**pPKPdf**	**03 20 14.0**	**-2.5**	
TREC					*e*PP	PP	03 21 50.7	+6.3	
TREC					AMS	AMS	04 14 50.0		
	comp=Z,400nm,20.2s								
TREC	**Trest**	**122.99**	**326**		*e*PKIKP	**PKPdf**	**03 20 04.9**	**-0.7**	
TREC					*e*		03 20 14.0		
TREC					*e*		03 21 50.7		
TREC					MLR	MLR			
	comp=Z,400nm,20.2s								
GOPC	**GO Pecny, Ondr**	**123.03**	**327**		*e*PKPdf	**PKPdf**	**03 20 04.4**	**-1.2**	
GOPC					*ep*PKP	**pPKPdf**	**03 20 13.7**	**-2.9**	
GOPC					*e*PP	**PP**	**03 21 40.9**	**-3.7**	
GOPC					*e*SP	SP	03 31 30.5	-5.9	
GOPC					*ex*	x	03 32 57.6		
GOPC					*e*SS	**SS**	**03 38 22.4**	**-4.0**	
GOPC					AMS	AMS	04 14 50.0		
	comp=Z,300nm,13.7s								
PRU	**Pruhonice**	**123.12**	**327**		*e*PKPdf	**PKPdf**	**03 20 04.6**	**-1.2**	
PRU					*ep*PKP	**pPKPdf**	**03 20 15.0**	**-1.7**	
PRU					*e*PP	**PP**	**03 21 49.0**	**+3.8**	
PRU					*e*SP	SP	03 31 38.7	+1.6	
PRU					*ex*	x	03 32 49.9		
PRU					*e*SS	**SS**	**03 38 20.6**	**-6.9**	
PRU					AMS	AMS	04 15 00.0		
	comp=Z,300nm,17.3s								
PRU	**Pruhonice**	**123.12**	**327**		*e*PKIKP	**PKPdf**	**03 20 04.6**	**-1.2**	
PRU					*e*		03 20 15.0		
PRU					*e*		03 21 49.0		
PRU					*e*PS	**PS**	**03 31 38.7**	**-3.5**	
PRU					*e*SS	SS	03 38 20.6	-6.9	
PRU					MLR	MLR			
	comp=Z,300nm,17.3s								
CLL	**Collm**	**123.16**	**329**		*e*PKPdf	**PKPdf**	**03 20 05.1**	**-0.7**	
CLL	**Collm**	**123.16**	**329**		*i* PKIKP	**PKPdf**	**03 20 04.2**	**-1.6**	
CLL					*i*		03 20 08.8		
CLL					*e*		03 21 49.0		
CLL					pmax	pmax			
	comp=Z,6.0nm,1.1s								
CLL					MLR	MLR			
	comp=Z,400nm,19.1s								
CLL	**Collm**	**123.16**	**329**		*i* PKPdf	**PKPdf**	**03 20 04.2**	**-1.6**	
	comp=Z,6.0nm,1.1s								
CLL					*i*		03 20 08.8		
CLL					*e*		03 20 26.0		
CLL					*e*PP	**PP**	**03 21 49.0**	**+3.6**	
CLL					*e*PS	**PS**	**03 31 38.0**	**-4.4**	
CLL					*e*PPS	PPS	03 33 00.0		
CLL					*e*SS	SS	03 38 30.0	+2.2	
CLL					*e*SSS	SSS	03 43 00.0		
CLL					*e*		03 44 23.0		
CLL					Lm	MLR	04 16 00.0		
	comp=N,200nm,18.4s								
CLL					Lm	MLR	04 16 00.0		
	comp=E,200nm,18.7s								
CLL					Lm	MLR	04 16 00.0		
	comp=Z,400nm,19.1s								
CLL					Lm	MLR	08 38 00.0		
	comp=Z,400nm,19.8s								
CONA	**Conrad Observa**	**123.51**	**325**	⇑	*i* PKiKP	**PKPdf**	**03 20 06.0**	**-0.7**	
	comp=Z,5.6nm,1.3s								
TANN	**Tannenbergstha**	**123.97**	**329**		*e*PKPdf	**PKPdf**	**03 20 06.8**	**-0.7**	
NKC	**Novy Kostel**	**124.08**	**329**		AMS	AMS	04 16 20.0		
	comp=Z,400nm,18.5s								
CLZ	**Clausthal**	**124.12**	**331**		*e*PKPdf	**PKPdf**	**03 20 07.3**	**-0.4**	
GEC2	**GERESS Array S**	**124.22**	**327**		*e*PKPdf	**PKPdf**	**03 20 06.9**	**-1.1**	
GERES	**GERESS Array B**	**124.22**	**327**		PKP	**PKPdf**	**03 20 07.2**	**-0.8**	
	comp=Z,1.8nm,0.8s,baz=47,slow=2.4,SNR=16								
MOX	**Moxa**	**124.26**	**329**		*e*PKPdf	**PKPdf**	**03 20 06.5**	**-1.4**	
MOX					*e*L	L	04 17 19.6		
	comp=Z,270nm,19.3s								
ROTZ	**Rotzenmuhle**	**124.48**	**328**		*e*PKPdf	**PKPdf**	**03 20 07.1**	**-1.3**	
WET	**Wettzell**	**124.49**	**327**		*e*PKPdf	**PKPdf**	**03 20 08.4**	**-0.1**	
UBBA	**Unterbreizbach**	**124.95**	**330**		*e*PKPdf	**PKPdf**	**03 20 09.5**	**+0.4**	
IBBN	**Ibbenburen**	**125.04**	**333**		*e*PKPdf	**PKPdf**	**03 20 09.7**	**+0.4**	
GRF	**Grafenberg Arr**	**125.04**	**329**		*e*PKPdf	**PKPdf**	**03 20 09.3**	**-0.2**	
GRF					*ep*PKPdf	**pPKPdf**	**03 20 18.5**	**-1.9**	
GRF					*e*L	L	04 17 11.8		
	comp=Z,316nm,20.1s								
RJOB	**Jochberg**	**125.35**	**326**		*e*PKPdf	**PKPdf**	**03 20 10.0**	**-0.2**	
FUR	**Furstenfeldbru**	**125.93**	**327**		*e*PKPdf	**PKPdf**	**03 20 11.1**	**-0.1**	
ABTA	**Abfaltersbach**	**126.07**	**325**	⇓	*i* PKPdf	**PKPdf**	**03 20 10.4**	**-1.2**	
	comp=Z,8.1nm,1.1s								
STU	**Stuttgart**	**126.65**	**329**		*e*PKPdf	**PKPdf**	**03 20 12.0**	**-0.6**	
FETA	**Feichten**	**126.91**	**326**	⇑	*i* PKiKP	**PKPdf**	**03 20 12.7**	**-0.6**	
	comp=Z,9.3nm,1.1s								
MEM	**Membach**	**127.00**	**332**		*e*PKIKP	**PKPdf**	**03 20 13.7**	**+0.5**	
MEM	**Membach**	**127.00**	**332**		*e*PKPdf	**PKPdf**	**03 20 13.7**	**+0.5**	
DAVA	**Damuels**	**127.21**	**327**	⇑	*i* PKiKP	**PKPdf**	**03 20 13.9**	**0.0**	
	comp=Z,9.2nm,1.4s								
BFO	**Black Forest**	**127.38**	**329**		*e*PKPdf	**PKPdf**	**03 20 13.0**	**-1.0**	
BFO	**Black Forest**	**127.38**	**329**		*i* PKIKP	**PKPdf**	**03 20 15.1**	**+1.1**	
FUORN	**Ofenpass-Fuorn**	**127.40**	**326**		*e*PKPdf	**PKPdf**	**03 20 14.6**	**+0.2**	
WLF	**Walferdange**	**127.57**	**331**		*e*PKPdf	**PKPdf**	**03 20 15.1**	**+0.8**	
OTAV	**Otavalo**	**130.92**	**95**		*e*PKPdf	**PKPdf**	**03 20 25.4**	**+3.1**	
LPAZ	**La Paz**	**135.68**	**121**		PKP	**PKPdf**	**03 20 33.4**	**+2.0**	
	comp=Z,0.6nm,0.3s,baz=72,slow=6.4,SNR=3.0								
SDV	**Santo Domingo**	**139.35**	**84**		*e*PKPdf	**PKPdf**	**03 20 38.1**	**+0.4**	
ESDC	**Sonseca Array**	**139.74**	**329**		PKP	**PKPdf**	**03 20 38.5**	**+1.0**	
	comp=Z,0

INCN eS Sg 03 10 19.4 -2.9
WHN Wuhan 6.53 254 Pn Pn 03 08 32.5 +0.5
WHN Sn Sn 03 09 48.8 +2.3
WHN LN
2µm,3.2s
WHN LE
1µm,7.4s
KSAR Wonju Array Be 7.10 44 P Pn 03 08 38.8 -1.0
KSAR Wonju Array Be 7.10 44 Pn Pn 03 08 38.8 -1.0
KSAR Lg Lg 03 10 39.4
KSRS Korea Array 7.13 45 Pn Pn 03 08 38.8 -1.4
1.5nm,0.3s,baz=225,slow=13,SNR=12
KSRS Lg Lg 03 10 39.4
14nm,0.3s,baz=226,slow=29,SNR=9.4
TATO Taipei 7.51 181 Pn Pn 03 08 46.8 +1.3
TATO eS Sg 03 11 06.0 +9.0
JNU Nakatsue 7.80 83 Pn Pn 03 08 47.6 -1.9
1.8nm,0.3s,baz=268,slow=6.8,SNR=15
JNU Lg Lg 03 11 10.5
1.0nm,0.3s,baz=0.0,slow=19,SNR=3.0
JNU Nakatsue 7.80 83 ePn Pn 03 08 50.6 +1.1
JNU eS Sb 03 10 52.4 +8.1
JNU Lg Lg 03 11 10.5
YHNB Yeheng 7.82 182 ePn Pn 03 08 49.7 -0.1
YHNB eS Sn 03 10 14.9 -3.5
NACB Ninganchiao 8.31 180 ePn Pn 03 08 56.2 -0.3
NACB eS Sg 03 11 20.0 -2.6
BJT Baijiatuan 8.69 331 eP Pn 03 09 00.7 -1.0
BJT Baijiatuan 8.69 331 ePn Pn 03 09 00.7 -1.0
SSLB Suanglung 8.71 184 ePn Pn 03 09 04.1 +2.0
SSLB eS Sg 03 11 37.9 +2.3
YULB Yu-li 9.09 182 ePn Pn 03 09 08.7 +1.5
TPUB Ta-pu 9.22 186 ePn Pn 03 09 04.8 -4.3
TPUB eS Sn 03 11 41.0 +48
VLA Vladivostok 13.32 34 eP Pn 03 10 07.8 +2.9
USRK Ussuriysk Ar. 14.20 32 Lg Lg 03 14 34.4
0.1nm,0.3s,baz=218,slow=24,SNR=5.7
MAJO Matsushiro 14.23 69 deP Pn 03 10 18.5 +0.9
MAJO pmax pmax
comp=Z,129nm,1.7s
GTA Gaotai 18.94 297 eP Pn 03 11 18.3 +0.5
GTA pP pP 03 11 22.4 +2.4
GTA sP sP 03 11 25.8 +4.5
GTA PMZ
comp=Z,3.0nm,0.6s
SONM Songino Array 19.18 327 P P 03 11 20.3 +0.6
comp=Z,0.5nm,0.3s,baz=145,slow=13,SNR=16
SONM Songino Array 19.18 327 eP Pn 03 11 21.9 +1.3
SONM pmax pmax
comp=Z,1.0nm,0.3s
ZAK Zakamensk 22.44 328 eP P 03 11 56.4 +1.5
TLY Talaya 23.23 331 eP P 03 12 05.2 +2.1
TLY pmax pmax
comp=Z,18nm,1.3s
MOY Mondy 24.37 328 eP P 03 12 16.1 +1.9
MOY pmax pmax
comp=Z,18nm,1.3s
CMAR Chiang Mai Arr 24.74 241 P P 03 12 19.1 +1.4
comp=Z,3.4nm,0.9s,baz=38,slow=9.1,SNR=4.8
CMAR Chiang Mai Arr 24.74 241 eP P 03 12 23.6 +5.9
CMAR pmax pmax
comp=Z,2.0nm,0.7s
BOD Bodaibo 25.84 351 eP P 03 12 26.8 -0.4
BOD pmax pmax
comp=Z,4.0nm,2.0s
WMQ Urumqi 28.79 303 P P 03 12 56.8 +2.8
WMQ Urumqi 28.79 303 eP P 03 12 54.4 +0.4
WMQ pP pP 03 13 04.0 +7.0
WMQ sP sP 03 13 08.4 +10
WMQ PMZ
comp=Z,11nm,0.7s
WMQ PMZ
comp=Z,180nm,6.2s
WMQ LN
comp=Z,320nm,21.4s
WMQ LE
comp=Z,280nm,20.4s
WMQ LZ
comp=Z,200nm,23.4s
MKAR Makanchi Array 33.12 307 P P 03 13 32.8 +0.8
comp=Z,0.5nm,0.5s,baz=103,slow=8.8,SNR=4.4
MKAR Makanchi Array 33.12 307 ceP P 03 13 35.0 +2.9
ZALV Zalesovo Beam 33.77 320 P P 03 13 38.1 +0.5
comp=Z,2.8nm,0.5s,baz=113,slow=7.2,SNR=9.4
KURK Kurchatov 36.33 313 eP P 03 14 00.0 +0.3
KURK pmax pmax
comp=Z,3.0nm,0.8s
FRU Bishkek 38.18 299 eP P 03 14 30.0 +14
BRVK Borovoye 41.85 315 ceP P 03 14 46.1 +0.2
BRVK pmax pmax
comp=Z,10.0nm,1.7s
ABKAR Akbulak array 48.20 309 eP P 03 15 36.1 -0.3
comp=Z,0.9nm,0.5s
ARU Arti 48.91 319 *d* iP P 03 15 42.0 +0.2
ARU 03 17 32.8
ARU S S 03 22 41.3 -4.0
ARU SS SS 03 26 11.9 -3.8
ARU pmax pmax
comp=Z,13nm,1.0s
ARU Arti 48.91 319 eP P 03 15 41.9 +0.1
comp=Z,3.2nm,0.4s
GEYT Alibeck 51.30 295 P P 03 16 00.9 +0.6
comp=Z,3.3nm,0.5s,baz=69,slow=4.9,SNR=5.3
WRA Warramunga Arr 53.55 165 P P 03 16 16.9 -0.2
comp=Z,0.8nm,0.6s,baz=350,slow=7.7,SNR=4.5
PRGR Permogore 55.42 326 P P 03 16 29.0 -1.1
PRGR pmax pmax
comp=Z,11nm,0.3s
ASAR Alice Springs 57.08 167 P P 03 16 41.8 -0.6
comp=Z,0.6nm,0.8s,baz=356,slow=14,SNR=4.2
LPSR Galich'ya Gora 60.71 316 eP P 03 17 06.7 -0.6
LPSR pmax pmax
comp=Z,7.0nm,0.6s
LPSR pmax pmax
comp=N,2.0nm,0.4s
LPSR pmax pmax
comp=E,3.0nm,0.4s
KBZ Khabaz 60.79 305 P P 03 17 07.7 -0.3
comp=E,4.9nm,1.1s,baz=97,slow=5.0,SNR=6.1
KIV Kislovodsk 60.86 306 *c i* P P 03 17 09.3 +0.6
KIV *i* 03 17 15.9
KIV *e**PP pP 03 17 23.3 +11
KIV *e*SS SS 03 29 19.6 -5.5
KIV pmax pmax
comp=Z,18nm,1.0s
KIV MLR MLR
comp=Z,71nm,24.0s
KIV Kislovodsk 60.86 306 P P 03 17 08.9 +0.2
comp=Z,15nm,1.0s
VSR Storozhevoye 60.96 315 eP P 03 17 08.2 -0.8
VSR pmax pmax
comp=N,5.0nm,0.6s
VSR pmax pmax
comp=E,2.0nm,0.6s
VSR pmax pmax
comp=Z,7.0nm,0.6s
COLA College 61.28 29 eP P 03 17 09.8 -1.2
COLA pmax pmax
comp=Z,11nm,1.2s
OBN Obninsk 61.35 319 ‖ *i* iP P 03 17 10.9 -0.7
OBN *i* 03 18 00.9
OBN S S 03 25 41.0 +9.1
OBN *e*SS SS 03 29 29.4 -2.4
OBN pmax pmax
comp=Z,9.0nm,0.7s
OBN MLR MLR
comp=Z,57nm,16.0s
ILAR Eielson Array 61.71 29 P P 03 17 13.5 -0.5
comp=Z,1.1nm,1.1s,baz=289,slow=5.0,SNR=4.4
FINES FINESS Array B 64.55 328 P P 03 17 32.1 -0.7
comp=Z,2.5nm,0.6s,baz=67,slow=6.1,SNR=16
FINES FINESS Array B 64.55 328 ceP P 03 17 32.0 -0.8
FINES pmax pmax
comp=Z,3.0nm,0.6s
INK Inuvik 65.41 23 P P 03 17 37.9 -0.4
comp=Z,2.3nm,0.6s,baz=308,slow=6.8,SNR=7.8
STKA Stephens Creek 66.76 162 P P 03 17 47.9 +0.6
comp=Z,1.4nm,0.6s,baz=340,slow=7.8,SNR=3.0
AKASG Malin Array Be 67.03 316 P P 03 17 47.7 -1.3
comp=Z,1.8nm,0.6s,baz=62,slow=6.4,SNR=2.6
BR131 Keskin Array S 68.70 304 eP P 03 17 59.9 -0.1
comp=Z,4.5nm,0.9s
BRTR Keskin Array B 68.70 304 P P 03 17 59.8 -0.1
comp=Z,4.3nm,0.8s,baz=96,slow=5.8,SNR=26
BRTR Keskin Array B 68.70 304 ceP P 03 17 59.7 -0.1
BRTR pmax pmax
comp=Z,4.0nm,0.7s
NB2 NORSAR Subarra 71.11 331 P P 03 18 12.5 -1.7
comp=Z,1.5nm,0.6s,baz=56,slow=6.2
NOA NORSAR Array B 71.11 331 P P 03 18 13.0 -1.2
comp=Z,1.6nm,0.8s,baz=57,slow=6.0,SNR=5.4
YKA Yellowknife Ar 75.18 24 P P 03 18 37.7 -0.5
comp=Z,2.0nm,0.7s,baz=315,slow=5.7,SNR=8.1
CLL Collm 75.70 322 eP P 03 18 41.0 -0.4
CLL pmax pmax
comp=Z,3.0nm,0.8s
CLL Collm 75.70 322 eP P 03 18 41.0 -0.4
GERES GERESS Array B 76.72 320 P P 03 18 46.1 -1.3
comp=Z,0.6nm,0.7s,baz=49,slow=6.6,SNR=5.3

IDC 19 03:08:25.7±3.7, 6.16S×149.63E, h0km, mb3.3/2, mb1 3.8/2, mb1mx3.4/34, mbtmp3.5/2, Error ellipse: s-maj=145.3km s-min=46.4km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.21**	**226**	P	P	03 13 03.2	+0.8
	1.5nm,0.5s,baz=52,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**23.06**	**219**	P	P	03 13 32.4	-0.6
	0.7nm,0.8s,baz=51,slow=9.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**147.66**	**285**	PKPbc	PKPbc	03 28 12.6	-0.7
	0.6nm,0.5s,baz=88,slow=2.6,SNR=16						

IDC ***19*** *03:11:58.5±15.0, 52.44N×169.55W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.5/57, mbtmp3.6/4, ML3.4/1, MS3.6/1, Ms1 3.6/1, ms1mx2.9/37, Error ellipse: s-maj=289.2km s-min=48.5km az=89.0*
ISCJB ***19*** *03:12:00.2±0.7, 52.66N±0.10×169.47W±0.10, h10km, mb3.7/3, MS3.5/1, Error ellipse: s-maj=15.5km s-min=5.5km az=152.4*
NEIC ***19*** *03:12:00.3, 52.66N×169.38W, h2km, ML3.4(AEIC), After AEIC.*

ISC 19 03:12:00.8±1.0, 52.7N±0.1×169.38W±0.06, h10km, n24, σ1§40/29, mb3.8/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKCE	**Okmok Cone E**	**1.05**	**44**	P	**Pn**	**03 12 21.0**	**-0.6**
OKCE				S	**Sn**	**03 12 38.8**	**+2.5**
OKTU	**Okmok Mt. Tuli**	**1.08**	**48**	P	**Pn**	**03 12 21.9**	**-0.1**
OKAK	**Okmok**	**1.10**	**34**	P	**Pb**	**03 12 20.4**	**-1.4**
OKAK				S	**Sg**	**03 12 34.3**	**-1.7**
MSOM	**Makushin Julie**	**1.86**	**51**	P	**Pn**	**03 12 33.1**	**+0.5**
MSOM				S	**Sg**	**03 12 59.6**	**-0.8**
MCIR	**Makushin Cirqu**	**1.97**	**48**	P	**Pn**	**03 12 35.5**	**-1.2**
MSW	**Makushin Switc**	**2.00**	**50**	P	**Pn**	**03 12 34.9**	**+0.3**
MTBL	**Makushin Table**	**2.08**	**50**	P	**Pn**	**03 12 36.2**	**+0.5**
UNV	**Unalaska Valle**	**2.09**	**55**	ePn	**Pn**	**03 12 35.5**	**-0.3**
UNV				eS	**Sb**	**03 13 03.8**	**-1.0**
ZRO	**Akutan Zero**	**2.48**	**54**	P	**Pn**	**03 12 42.5**	**+1.2**
AKGG	**Akutan Green G**	**2.54**	**52**	P	**Pn**	**03 12 43.7**	**+1.7**
AKUT	**Akutan**	**2.61**	**54**	ePn	**Pn**	**03 12 44.7**	**+1.8**
AKUT				eS	**Sg**	**03 13 23.9**	**-0.7**
AKSA	**Akutan Strait**	**2.65**	**55**	P	**Pn**	**03 12 45.0**	**+1.5**
ATKA	**Atka Island**	**2.98**	**263**	P	**Pn**	**03 12 49.2**	**+1.2**
WECS	**Westdahl Cape**	**3.31**	**54**	P	**Pn**	**03 12 53.1**	**+0.5**
WESE	**West Dahl East**	**3.38**	**56**	P	**Pn**	**03 12 55.5**	**+1.8**
GSTR	**Great Sitkin T**	**4.13**	**265**	ePn	**Pn**	**03 13 03.8**	**-0.1**
GSTR				eS	**Sb**	**03 14 01.1**	**-2.3**
FALS	**False Pass**	**4.16**	**56**	P	**Pn**	**03 13 06.1**	**+1.9**
SPIA	**Saint Paul Isl**	**4.54**	**354**	P	**Pn**	**03 13 11.3**	**+1.8**
AMKA	**Amchitka**	**7.10**	**264**	ePn	**Pn**	**03 13 46.0**	**+1.3**
ILAR	**Eielson Array**	**16.70**	**35**	Pn	**Pn**	**03 15 54.5**	**-0.1**
	0.1nm,0.3s,baz=220,slow=11,SNR=4.1						
DLBC	**Dease Lake**	**22.74**	**60**	P	**P**	**03 17 04.9**	**+2.2**
	3.5nm,1.0s,baz=283,slow=16,SNR=4.2						
YAK	**Yakutsk**	**32.96**	**311**	LR	LR	03 31 29.6	
	comp=Z,94nm,20.7s,baz=62,slow=35						
PDAR	**Pinedale Array**	**40.35**	**79**	P	**P**	**03 19 37.8**	**-0.9**
	0.8nm,0.7s,baz=305,slow=5.2,SNR=6.2						
TXAR	**Lajitas Array**	**52.75**	**89**	P	**P**	**03 21 16.4**	**+0.6**
	1.0nm,0.8s,baz=296,slow=5.8,SNR=11						

IDC ***19*** *03:20:57.0±1.2, 52.41N×169.61W, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.5/56, mbtmp3.6/7, ML3.2/1, Error ellipse: s-maj=41.2km s-min=22.5km az=166.0*
ISCJB ***19*** *03:20:58.1±0.6, 52.72N±0.10×169.71W±0.08, h10km, mb3.6/5, Error ellipse: s-maj=14.7km s-min=4.1km az=157.7*
NEIC ***19*** *03:20:58.4, 52.75N×169.59W, h1km, ML3.2(AEIC), After AEIC.*

ISC 19 03:20:58.6±0.8, 52.8N±0.1×169.65W±0.05, h10km, n25, σ1§18/30, mb3.7/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.52**	**69**	P	**Pb**	**03 21 09.7**	**-0.1**
NIKH				S	**Sb**	**03 21 18.2**	**+1.0**
OKCE	**Okmok Cone E**	**1.10**	**54**	P	**Pn**	**03 21 19.8**	**-0.3**
OKAK	**Okmok**	**1.11**	**44**	P	**Pb**	**03 21 18.7**	**-1.2**
OKAK				S	**Sg**	**03 21 33.3**	**-0.9**
OKTU	**Okmok Mt. Tuli**	**1.14**	**58**	P	**Pn**	**03 21 21.0**	**+0.4**
MGOD	**Makushin Gods**	**1.94**	**58**	P	**Pn**	**03 21 32.5**	**+0.7**
MGOD				S	**Sg**	**03 21 59.9**	**-1.2**
MCIR	**Makushin Cirqu**	**2.02**	**54**	P	**Pn**	**03 21 33.8**	**+1.0**
MSW	**Makushin Switc**	**2.05**	**56**	P	**Pb**	**03 21 35.1**	**-0.9**
MSW				S	**Sb**	**03 22 02.2**	**+0.6**
MTBL	**Makushin Table**	**2.13**	**55**	P	**Pb**	**03 21 36.3**	**-1.1**
UNV	**Unalaska Valle**	**2.16**	**60**	ePn	**Pn**	**03 21 35.8**	**+1.1**
UNV				eS	**Sb**	**03 22 04.3**	**-0.4**
ZRO	**Akutan Zero**	**2.55**	**58**	P	**Pn**	**03 21 41.1**	**+1.0**
AKGG	**Akutan Green G**	**2.60**	**56**	P	**Pn**	**03 21 41.4**	**+0.7**
AKUT	**Akutan**	**2.68**	**58**	ePn	**Pb**	**03 21 44.1**	**-2.5**
AKUT				eS	**Sb**	**03 22 21.3**	**+1.8**
ATKA	**Atka Island**	**2.84**	**260**	P	**Pn**	**03 21 44.9**	**+0.9**
ATKA				S	**Sb**	**03 22 22.3**	**-1.9**
GSTR	**Great Sitkin T**	**3.98**	**262**	ePn	**Pn**	**03 22 00.5**	**+0.7**
GSTR				eS	**Sn**	**03 22 48.7**	**+2.2**
SPIA	**Saint Paul Isl**	**4.41**	**356**	P	**Pn**	**03 22 06.6**	**+1.1**
ILAR	**Eielson Array**	**16.70**	**35**	Pn	**P**	**03 24 54.2**	**-0.6**
	0.0nm,0.3s,baz=228,slow=9.0,SNR=4.4						
PETK	**Petropavlovsk-**	**19.59**	**284**	P	**P**	**03 25 27.1**	**+0.4**
	baz=123,slow=10,SNR=2.7						
DLBC	**Dease Lake**	**22.82**	**60**	P	**P**	**03 26 03.2**	**+1.7**
	2.0nm,0.7s,baz=254,slow=12,SNR=5.6						
NVAR	**Mina Array Bea**	**37.84**	**91**	P	**P**	**03 28 14.6**	**-1.0**
	0.4nm,0.6s,baz=305,slow=8.4,SNR=2.3						
H11S1	**WAKE ISLAND Hy**	**38.87**	**217**	T	T	04 09 48.8	
	baz=23,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**38.89**	**217**	T	T	04 09 50.3	
	baz=23,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy**	**38.89**	**217**	T	T	04 09 49.8	
	baz=23,slow=76,SNR=16						
PDAR	**Pinedale Array**	**40.49**	**79**	P	**P**	**03 28 37.4**	**-0.3**
	0.3nm,0.6s,baz=292,slow=4.8,SNR=3.2						
TXAR	**Lajitas Array**	**52.91**	**89**	P	**P**	**03 30 15.2**	**+0.4**
	0.7nm,0.7s,baz=305,slow=5.2,SNR=8.4						
ASAR	**Alice Springs**	**90.54**	**230**	P	**P**	**03 34 00.1**	**-0.6**
	0.6nm,0.6s,baz=29,slow=5.2,SNR=5.6						

IDC ***19*** *03:21:05.3±0.9, 6.27S×150.83E, h0km, mb4.2/6, mb1 4.5/7, mb1mx4.0/32, mbtmp4.2/7, ML2.5/1, Error ellipse: s-maj=43.7km s-min=18.9km az=123.0*
ISCJB ***19*** *03:21:09.3±0.8, 6.25S±0.1×150.7E±0.1, h36km, mb4.0/5, Error ellipse: s-maj=23.3km s-min=9.9km az=37.5*

ISC 19 03:21:10.9±0.9, 6.25S±0.2×150.7E±0.2, h36km, n20, σ0§85/20, mb4.0/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.46**	**35**	P	Pn	03 21 57.5	+9.0
	baz=2.8,SNR=6.8						
PMG	**Port Moresby**	**4.76**	**228**	Pn	**Pn**	**03 22 19.8**	**-0.4**
	13nm,0.3s,baz=33,slow=10,SNR=18						
PMG				Sn	**Sn**	**03 23 13.6**	**-0.5**
	17nm,0.3s,baz=80,slow=21,SNR=6.3						
PMG	**Port Moresby**	**4.76**	**228**	P	**Pn**	**03 22 20.9**	**+0.7**
	baz=4.4,SNR=8.4						
PMG				P	**Pn**	**03 22 20.9**	**+0.7**
	baz=4.4,SNR=8.4						
PMG				P	**Pn**	**03 22 20.9**	**+0.7**
	baz=4.4,SNR=8.4						
PATS	**Pohnpei**	**15.01**	**30**	P	P	03 24 50.7	+5.2
	baz=15,SNR=3.1						
QIS	**Mount Isa**	**17.89**	**216**	P	**P**	**03 25 19.2**	**+1.8**
	baz=18,SNR=5.4						
RMQ	**Roma**	**20.25**	**185**	P	Pn	03 25 44.4	-0.9
	baz=20,SNR=19						
WRA	**Warramunga Arr**	**20.98**	**228**	P	**P**	**03 25 51.0**	**-0.3**
	5.5nm,0.4s,baz=53,slow=11,SNR=43						
QLP	**Quilpie**	**21.18**	**196**	P	**P**	**03 25 53.3**	**0.0**
	baz=21,SNR=12						
ASAR	**Alice Springs**	**23.73**	**221**	P	**P**	**03 26 20.0**	**0.0**
	2.3nm,0.5s,baz=57,slow=8.6,SNR=29						
STKA	**Stephens Creek**	**26.92**	**197**	P	**P**	**03 26 47.1**	**-1.8**
	4.5nm,0.7s,baz=20,slow=12,SNR=5.4						
STKA	**Stephens Creek**	**26.92**	**197**	P	**P**	**03 26 48.7**	**-0.2**
	baz=27,SNR=5.2						
FITZ	**Fitzroy Crossi**	**27.19**	**242**	P	**P**	**03 26 51.0**	**-0.5**
	baz=27,SNR=4.6						
WRKA	**Warakurna**	**28.50**	**227**	P	**P**	**03 27 02.5**	**-0.7**
	baz=28,SNR=7.3						
MEEK	**Meekatharra**	**36.72**	**233**	P	**P**	**03 28 14.6**	**-0.4**
	baz=36,SNR=5.7						
KSRS	**Korea Array**	**48.39**	**336**	P	**P**	**03 29 49.5**	**+0.1**
	0.7nm,0.6s,baz=161,slow=7.8,SNR=4.1						
ILAR	**Eielson Array**	**84.24**	**22**	P	**P**	**03 33 37.2**	**-1.3**
	0.8nm,0.9s,baz=253,slow=5.1,SNR=5.8						
NVAR	**Mina Array Bea**	**94.56**	**52**	P	**P**	**03 34 29.5**	**+1.1**
	1.1nm,0.7s,baz=256,slow=5.8,SNR=5.7						
GERES	**GERESS Array B**	**124.16**	**327**	PKP	**PKPdf**	**03 40 06.4**	**+0.4**
	0.8nm,0.5s,baz=58,slow=2.0,SNR=9.6						
TORD	**Torodi Ar. Bea**	**148.75**	**285**	PKPbc	**PKPbc**	**03 40 56.0**	**+0.3**
	2.2nm,0.4s,baz=72,slow=2.3,SNR=101						
BDFB	**Brasilia**	**151.42**	**140**	PKPbc	**PKPbc**	**03 41 02.2**	**0.0**
	2.7nm,0.8s,baz=207,slow=1.5,SNR=6.0						

IDC ***19*** *03:31:25.9±1.1, 5.96S×150.28E, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.8/28, mbtmp4.0/6, ML2.3/1, Error ellipse: s-maj=57.4km s-min=23.2km az=117.0*
ISCJB ***19*** *03:31:31.0±1.2, 6.05S±0.3×150.1E±0.3, h48km, mb3.7/4, Error ellipse: s-maj=54.6km s-min=13.2km az=40.6*

ISC 19 03:31:32.4±1.1, 5.85S±0.2×149.9E±0.3, h48km, n8, σ1§06/8, mb3.8/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.46**	**217**	Pn	**Pn**	**03 32 36.9**	**-0.7**
	9.0nm,0.3s,baz=359,slow=4.2,SNR=11						
PMG				Sn	**Sn**	**03 33 28.8**	**+0.6**
	13nm,0.3s,baz=124,slow=16,SNR=8.5						
WRA	**Warramunga Arr**	**20.62**	**226**	P	Pn	03 36 09.6	-1.0
	6.3nm,0.7s,baz=51,slow=11,SNR=25						
ASAR	**Alice Springs**	**23.48**	**219**	P	**P**	**03 36 38.8**	**+0.8**
	1.8nm,0.6s,baz=57,slow=8.6,SNR=13						
STKA	**Stephens Creek**	**27.04**	**196**	P	**P**	**03 37 08.8**	**-1.5**
	2.1nm,0.7s,baz=21,slow=14,SNR=3.7						
VNDA	**Vanda**	**71.92**	**177**	P	**P**	**03 42 51.0**	**+0.8**
	0.6nm,0.4s,baz=278,slow=5.5,SNR=5.2						
ILAR	**Eielson Array**	**84.22**	**23**	P	**P**	**03 43 58.1**	**-0.4**
	0.5nm,0.8s,baz=234,slow=5.7,SNR=5.7						
GERES	**GERESS Array B**	**123.39**	**327**	PKP	**PKPdf**	**03 50 25.5**	**+1.0**
	0.5nm,0.5s,baz=60,slow=3.2,SNR=6.2						
TORD	**Torodi Ar. Bea**	**147.84**	**285**	PKPbc	**PKPab**	**03 51 15.3**	**-0.4**
	1.6nm,0.6s,baz=61,slow=2.6,SNR=38						

IDC ***19*** *03:46:39.9±23.0, 52.80N×169.37W, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.2/40, mbtmp3.2/3, Error ellipse: s-maj=431.2km s-min=49.6km az=88.0*
ISCJB ***19*** *03:46:40.3±1.9, 52.6N±0.1×169.4W±0.1, h15km±14km, Error ellipse: s-maj=25.2km s-min=8.4km az=156.2*
NEIC ***19*** *03:46:41.4, 52.59N×169.34W, h13km, ML3.0(AEIC), After AEIC.*

ISC 19 03:46:41.9±1.5, 52.7N±0.1×169.41W±0.07, h19km±4km, n18, σ1§32/23, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.45**	**49**	P	**Pg**	**03 46 51.4**	**+0.3**
NIKH				S	**Sb**	**03 46 58.4**	**+0.8**
OKCE	**Okmok Cone E**	**1.06**	**45**	P	**Pb**	**03 47 01.3**	**-0.3**
OKTU	**Okmok Mt. Tuli**	**1.09**	**49**	P	**Pb**	**03 47 02.4**	**+0.2**
OKTU				S	**Sb**	**03 47 17.2**	**+1.2**
OKAK	**Okmok**	**1.10**	**35**	P	**Pb**	**03 47 00.7**	**-1.6**
OKAK				S	**Sb**	**03 47 14.5**	**-1.9**
MSOM	**Makushin Julie**	**1.87**	**51**	P	**Pn**	**03 47 12.8**	**0.0**
MCIR	**Makushin Cirqu**	**1.98**	**49**	P	**Pn**	**03 47 14.9**	**+0.5**
MSW	**Makushin Switc**	**2.01**	**51**	P	**Pn**	**03 47 15.2**	**+0.4**
MTBL	**Makushin Table**	**2.09**	**51**	P	**Pn**	**03 47 16.4**	**+0.5**
UNV	**Unalaska Valle**	**2.10**	**55**	ePn	**Pn**	**03 47 15.7**	**-0.3**
UNV				eS	**Sb**	**03 47 46.6**	**+1.5**
AKRB	**Akutan Reef Bi**	**2.48**	**53**	P	**Pn**	**03 47 21.9**	**+0.8**
AKGG	**Akutan Green G**	**2.55**	**52**	P	**Pn**	**03 47 22.8**	**+0.6**
AKUT	**Akutan**	**2.62**	**55**	ePn	**Pn**	**03 47 23.7**	**+0.6**
AKUT				eS	**Sb**	**03 47 59.9**	**-0.1**
ATKA	**Atka Island**	**2.97**	**263**	P	**Pn**	**03 47 28.0**	**+0.1**
GSTR	**Great Sitkin T**	**4.11**	**264**	ePn	**Pn**	**03 47 44.2**	**+0.6**
SPIA	**Saint Paul Isl**	**4.54**	**354**	P	**Pn**	**03 47 51.9**	**+2.5**
ILAR	**Eielson Array**	**16.71**	**35**	Pn	**Pn**	**03 50 31.1**	**-3.5**
	baz=236,slow=12,SNR=3.7						
PDAR	**Pinedale Array**	**40.37**	**79**	P	**P**	**03 54 18.8**	**+0.3**
	0.2nm,0.4s,baz=300,slow=6.1,SNR=3.0						
TXAR	**Lajitas Array**	**52.77**	**89**	P	**P**	**03 55 56.5**	**+0.9**
	0.3nm,0.6s,baz=300,slow=4.8,SNR=6.5						

IDC 19 04:00:18.3±4.8, 6.32S×151.34E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.3/23, mbtmp3.3/2, Error ellipse: s-maj=246.8km s-min=48.2km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.36**	**229**	P	P	04 05 08.7	+1.3
	0.5nm,0.4s,baz=50,slow=10.0,SNR=4.5						
ASAR	**Alice Springs**	**24.05**	**222**	P	P	04 05 34.4	-1.0
	0.3nm,0.5s,baz=55,slow=10,SNR=2.5						
TORD	**Torodi Ar. Bea**	**149.35**	**285**	PKPbc	PKPbc	04 20 09.9	-0.4
	0.5nm,0.6s,baz=90,slow=2.7,SNR=10						

ISCJB ***19*** *04:36:54.5±1.1, 15.33N±0.04×90.56W±0.04, h2km±7km, Error ellipse: s-maj=8.4km s-min=4.6km az=38.9*
MEX ***19*** *04:36:55.2±0.4, 15.04N×90.39W, h16km±34km, MD3.6*
CASC ***19*** *04:36:56.8±1.8, 15.27N×90.55W, h13km±16km, MD3.1*

ISC 19 04:36:55.1±1.5, 15.30N±0.05×90.48W±0.04, h13km±11km, n14, σ0§69/23, 1C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NBG	**Las Nubes**	**0.71**	**169**	eP	**Pn**	**04 37 10.4**	**-0.8**
MRL	**Marmol**	**0.80**	**107**	eP	**Pn**	**04 37 12.0**	**-0.2**
MRL				eS	**Sn**	**04 37 24.0**	**-0.1**
PCG	**Pacaya**	**0.90**	**188**	eP	**Pn**	**04 37 13.4**	**-0.4**
PCG				eS	**Sb**	**04 37 25.5**	**+0.7**
FUG	**Fuego 3**	**0.91**	**203**	eP	**Pg**	**04 37 12.5**	**-0.3**
IXG	**Ixpaco**	**1.11**	**179** ‖	eP	**Pn**	**04 37 16.6**	**0.0**
IXG				eS	**Sn**	**04 37 31.8**	**-0.1**
MTO2	**Montecristo 2**	**1.40**	**129**	eP	**Pg**	**04 37 21.5**	**-0.6**
MTO2				eS	**Sg**	**04 37 41.7**	**+1.3**
RBDL	**Robledal**	**1.41**	**147**	eP	**Pg**	**04 37 22.3**	**+0.2**
RBDL				eS	**Sg**	**04 37 41.4**	**+0.9**
JAT	**Jato**	**1.48**	**229** ‖	eP	**Pb**	**04 37 22.5**	**0.0**
RTR	**El Retiro**	**1.61**	**150**	eP	**Pg**	**04 37 25.3**	**-0.8**
SNJE	**San Jose**	**1.65**	**149**	eP	**Pg**	**04 37 26.0**	**-0.9**
SNJE				eS	**Sg**	**04 37 48.6**	**+0.3**
SBLS	**San Blas**	**1.67**	**150**	eP	**Pg**	**04 37 26.6**	**-0.6**
CCIG	**Comitan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.49**	**64**	P	**Pb**	**04 49 47.2**	**-0.1**
NIKH				S	**Sb**	**04 49 56.2**	**+1.8**
OKCE	**Okmok Cone E**	**1.08**	**52**	P	**Pn**	**04 49 57.6**	**-0.2**
OKAK	**Okmok**	**1.10**	**42**	P	**Pb**	**04 49 56.8**	**-0.8**
OKTU	**Okmok Mt. Tuli**	**1.11**	**56**	P	**Pn**	**04 49 58.6**	**+0.3**
MSOM	**Makushin Julie**	**1.90**	**55**	P	**Pb**	**04 50 10.3**	**-1.0**
MSOM				S	**Sb**	**04 50 36.0**	**+1.0**
MGOD	**Makushin Gods**	**1.92**	**57**	P	**Pb**	**04 50 10.9**	**-0.9**
MCIR	**Makushin Cirqu**	**2.00**	**52**	P	**Pb**	**04 50 11.8**	**-1.3**
MSW	**Makushin Switc**	**2.03**	**54**	P	**Pb**	**04 50 12.5**	**-1.1**
MTBL	**Makushin Table**	**2.12**	**54**	P	**Pn**	**04 50 13.4**	**+1.3**
UNV	**Unalaska Valle**	**2.14**	**58**	*e*Pn	**Pn**	**04 50 13.2**	**+0.8**
UNV				*e*S	**Sb**	**04 50 41.3**	**-0.7**
AKRB	**Akutan Reef Bi**	**2.50**	**56**	P	**Pn**	**04 50 19.0**	**+1.6**
AKGG	**Akutan Green G**	**2.58**	**55**	P	**Pn**	**04 50 19.6**	**+1.2**
AKUT	**Akutan**	**2.66**	**57**	*e*Pn	**Pn**	**04 50 21.4**	**+1.9**
AKUT				*e*S	**Sb**	**04 50 59.4**	**+2.6**
ATKA	**Atka Island**	**2.88**	**261**	P	**Pn**	**04 50 22.1**	**-0.3**
GSTR	**Great Sitkin T**	**4.02**	**263**	*e*Pn	**Pn**	**04 50 39.2**	**+0.9**
GSTR				*e*S	**Sn**	**04 51 27.3**	**+1.8**
ILAR	**Eielson Array**	**16.70**	**35**	Pn	**Pn**	**04 53 29.8**	**-0.6**
	0.0nm,0.3s,baz=221,slow=8.0,SNR=4.1						
YKA	**Yellowknife Ar**	**30.08**	**49**	P	**P**	**04 55 43.8**	**-1.8**
	0.4nm,0.7s,baz=274,slow=12,SNR=2.7						
NVAR	**Mina Array Bea**	**37.80**	**91**	P	**P**	**04 56 51.5**	**-1.6**
	0.1nm,0.3s,baz=291,slow=5.5,SNR=2.4						
PDAR	**Pinedale Array**	**40.45**	**79**	P	**P**	**04 57 15.2**	**-0.1**
	0.3nm,0.6s,baz=325,slow=7.7,SNR=3.4						
TXAR	**Lajitas Array**	**52.87**	**89**	P	**P**	**04 58 51.9**	**-0.7**
	0.3nm,0.7s,baz=307,slow=5.0,SNR=4.9						
ASAR	**Alice Springs**	**90.55**	**230**	P	**P**	**05 02 40.4**	**+1.7**
	0.3nm,0.6s,baz=22,slow=5.3,SNR=2.9						

*IDC **19** 04:50:30.7±1.1,6°.27S×150°.77E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.7/35, mbtmp3.9/6, ML2.0/1, MS2.8/3, Ms1 2.8/3, ms1mx2.6/32, Error ellipse: s-maj=77.9km s-min=22.2km az=126.0*

ISC 19 04:50:37.3±1.1, 6°.1S±0°.3×150°.4E±0°.4, h48km, n11, σ1§18/9, mb3.7/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.59**	**224**	Pn	**Pn**	**04 51 45.0**	**+0.8**
	4.1nm,0.3s,baz=31,slow=12,SNR=4.8						
PMG				Sn	**Sn**	**04 52 35.9**	**-0.3**
	8.3nm,0.3s,baz=191,slow=20,SNR=7.3						
PMG				LR	LR	04 53 35.1	
	comp=Z,123nm,21.0s,baz=68,slow=39						
JAY	**Jayapura**	**10.28**	**290**	LR	LR	04 57 44.4	
	comp=Z,55nm,20.4s,baz=66,slow=40						
GUMO	**Guam**	**20.30**	**344**	LR	LR	05 02 33.3	
	comp=Z,26nm,20.1s,baz=96,slow=35						
WRA	**Warramunga Arr**	**20.80**	**227**	P	**P**	**04 55 15.0**	**+0.3**
	3.8nm,0.6s,baz=52,slow=11,SNR=17						
ASAR	**Alice Springs**	**23.59**	**221**	P	**P**	**04 55 44.8**	**+0.8**
	1.6nm,0.5s,baz=57,slow=8.9,SNR=14						
STKA	**Stephens Creek**	**26.94**	**197**	P	**P**	**04 56 12.7**	**-1.6**
	1.2nm,0.7s,baz=336,slow=12,SNR=2.9						
ILAR	**Eielson Array**	**84.26**	**23**	P	**P**	**05 03 03.1**	**-0.5**
	0.2nm,0.8s,baz=247,slow=5.2,SNR=4.1						
BBB	**Bella Bella**	**89.58**	**38**	LR	LR	05 34 23.3	
	comp=Z,164nm,20.7s,baz=150,slow=29						
NVAR	**Mina Array Bea**	**94.77**	**52**	P	**P**	**05 03 55.2**	**+0.9**
	0.6nm,0.8s,baz=232,slow=7.3,SNR=4.3						
GERES	**GERESS Array B**	**123.85**	**327**	PKP	**PKPdf**	**05 09 31.0**	**+0.7**
	0.4nm,0.4s,baz=44,slow=4.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**148.36**	**285**	PKPbc	**PKPab**	**05 10 21.1**	**-1.7**
	1.7nm,0.7s,baz=46,slow=2.7,SNR=28						

IDC 19 04:59:04.1±3.5, 6°.17S×150°.85E, h0km, mb3.1/2, mb1 3.5/2, mb1mx3.2/33, mbtmp3.2/2, MS3.1/1, Ms1 3.1/1, ms1mx2.6/11, Error ellipse: s-maj=140.3km s-min=47.9km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.09**	**228**	P	P	05 03 50.2	-0.1
	0.4nm,0.5s,baz=55,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**23.84**	**221**	P	P	05 04 19.8	+0.5
	0.2nm,0.3s,baz=52,slow=9.2,SNR=5.1						
JNU	**Nakatsue**	**43.43**	**335**	LR	LR	05 24 41.3	
	comp=Z,20nm,19.1s,baz=1.5,slow=35						
TORD	**Torodi Ar. Bea**	**148.83**	**285**	PKPbc	PKPbc	05 18 53.9	-0.9
	0.1nm,0.4s,baz=110,slow=2.6,SNR=3.2						

*BJI **19** 04:59:55.1, 52°.80N×169°.70W, h10km, mb4.6/3, Ms4.2/1, Ms7 3.7/1*
*IDC **19** 04:59:57.4±1.2, 52°.58N×169°.49W, h0km, mb3.7/8, mb1 4.0/9, mb1mx3.7/44, mbtmp3.7/9, ML3.8/1, MS3.0/4, Ms1 3.1/4, ms1mx2.7/45, Error ellipse: s-maj=31.5km s-min=22.9km az=159.0*
*NEIC **19** 05:00:03.4, 52°.78N×169°.24W, h5km, mb3.9/5, ML3.6(AEIC), After AEIC.*

ISC 19 04:59:58.8±1.3, 52°.9N±0°.1×169°.70W±0°.04, h8km±8km, n41, σ1§61/51, mb3.7/9, MS2.9/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.52**	**82**	P	**Pb**	**05 00 09.8**	**-0.4**
NIKH				*e*Sg	**Sb**	**05 00 16.1**	**-1.7**
NIKH				S	**Sg**	**05 00 16.5**	**+0.9**
OKCE	**Okmok Cone E**	**1.06**	**60**	P	**Pn**	**05 00 21.8**	**+1.8**
OKCE				S	**Sn**	**05 00 36.1**	**+1.1**
OKTU	**Okmok Mt. Tuli**	**1.11**	**64**	P	**Pn**	**05 00 21.9**	**+1.2**
MSOM	**Makushin Julie**	**1.88**	**60**	P	**Pg**	**05 00 33.9**	**-1.0**
MSOM				S	**Sb**	**05 00 55.9**	**-1.2**
MSW	**Makushin Switc**	**2.02**	**59**	P	**Pg**	**05 00 36.4**	**-1.1**
MSW				S	**Sb**	**05 01 00.1**	**-0.8**
MTBL	**Makushin Table**	**2.10**	**58**	P	**Pb**	**05 00 37.1**	**-0.1**
UNV	**Unalaska Valle**	**2.13**	**63**	*e*Pn	**Pb**	**05 00 35.4**	**-2.3**
UNV				*e*Sn	**Sn**	**05 01 00.1**	**-1.2**
AKGG	**Akutan Green G**	**2.56**	**58**	P	**Pb**	**05 00 43.8**	**-1.2**
AKUT	**Akutan**	**2.65**	**61**	*e*Pn	**Pb**	**05 00 44.5**	**-1.9**
AKUT				*e*Pg	**Pg**	**05 00 50.3**	**+0.7**
AKUT				*e*Sn	**Sb**	**05 01 16.1**	**-2.9**
ATKA	**Atka Island**	**2.83**	**257**	P	**Pg**	**05 00 51.9**	**-1.2**
WESE	**West Dahl East**	**3.42**	**61**	P	Pb	05 00 55.6	-4.1
GSTR	**Great Sitkin T**	**3.97**	**261**	Pn	**Pb**	**05 01 07.0**	**-2.0**
GSTR				*e*Sn	**Sn**	**05 01 49.0**	**+2.3**
FALS	**False Pass**	**4.20**	**60**	*e*Pn	**Pn**	**05 01 05.3**	**+2.2**
FALS				*e*Sn	**Sn**	**05 01 53.4**	**+1.1**
SDPT	**Sand Point**	**5.95**	**62**	*e*Pn	**Pn**	**05 01 29.0**	**+2.0**
CHGN	**Chignik**	**7.38**	**58**	*e*Pn	**Pn**	**05 01 45.9**	**-0.8**
BPAW	**Bear Paw Mtn.**	**14.81**	**33**	*e*Pn	**P**	**05 03 32.6**	**-1.7**
DHY	**Denali Highway**	**15.52**	**40**	*e*Pn	**Pn**	**05 03 37.9**	**0.0**
	13nm,1.1s						
CCB	**Clear Creek Bu**	**16.23**	**35**	*e*Pn	**P**	**05 03 48.3**	**-1.7**
	23nm,2.2s						
ILAR	**Eielson Array**	**16.62**	**36**	Pn	**P**	**05 03 53.5**	**-0.9**
	0.1nm,0.3s,baz=222,slow=10,SNR=13						
ILAR				LR	LR	05 10 27.3	
	comp=Z,86nm,19.3s,baz=216,slow=37						
COLD	**Coldfoot**	**17.21**	**26**	*e*Pn	**P**	**05 04 01.5**	**+0.6**
	1.4nm,0.7s						
HYT	**Haines Junctio**	**19.13**	**53**	*e*P	**Pn**	**05 04 24.5**	**+1.6**
DAWY	**Dawson**	**19.16**	**43**	*e*Pn	**Pn**	**05 04 22.6**	**-0.7**
DLBC	**Dease Lake**	**22.79**	**60**	P	**P**	**05 05 01.3**	**-0.3**
	4.6nm,1.1s,baz=279,slow=11,SNR=1.7						
INK	**Inuvik**	**23.01**	**34**	P	**P**	**05 05 04.5**	**+0.8**
	1.6nm,0.7s,baz=274,slow=3.0,SNR=7.1						
INK				LR	LR	05 13 17.9	
	comp=Z,58nm,20.0s,baz=133,slow=34						
INK	**Inuvik**	**23.01**	**34**	*e*P	**P**	**05 05 06.2**	**+2.5**
	1.6nm,0.7s						
YKA	**Yellowknife Ar**	**30.04**	**50**	P	**P**	**05 06 08.5**	**+0.7**
	0.5nm,0.6s,baz=273,slow=7.9,SNR=6.2						
MCMT	**McKenzie Canyo**	**37.37**	**79**	*e*P	**P**	**05 07 11.4**	**-0.6**
NVAR	**Mina Array Bea**	**37.88**	**91**	P	**P**	**05 07 14.7**	**-1.7**
	0.6nm,0.7s,baz=296,slow=6.8,SNR=4.6						
MJAR	**Matsushiro Arr**	**39.52**	**267**	LR	LR	05 21 27.1	
	comp=Z,19nm,20.6s,baz=125,slow=33						
PDAR	**Pinedale Array**	**40.50**	**80**	P	**P**	**05 07 37.0**	**-1.3**
	1.1nm,0.6s,baz=338,slow=5.0,SNR=9.1						
O20A	**White River Ci**	**42.88**	**82**	*e*P	**P**	**05 07 57.2**	**-0.5**
	2.7nm,0.6s						
PV01	**Paradox Valley**	**43.95**	**84**	*e*P	**P**	**05 08 05.7**	**-0.7**
KSRS	**Korea Array**	**45.14**	**276**	LR	LR	05 25 28.8	
	comp=Z,12nm,21.4s,baz=145,slow=34						
HHC	**Hu-ho-hao-te**	**52.54**	**290**	*e*P	**P**	**05 09 12.9**	**+0.4**
HHC				PP	**PP**	**05 11 12.8**	**+1.7**
HHC				S	**S**	**05 16 36.8**	**-2.5**
HHC				SS	**SS**	**05 20 13.1**	**-3.8**
HHC				PMZ			
	20nm,1.1s						
HHC				LN			
	76nm,15.5s						
HHC				LE			
	90nm,14.1s						
HHC				LZ			
	50nm,14.7s						
TXAR	**Lajitas Array**	**52.94**	**89**	P	**P**	**05 09 15.1**	**-0.5**
	1.5nm,0.6s,baz=297,slow=5.6,SNR=18						
KURK	**Kurchatov**	**61.84**	**318**	P	**P**	**05 10 20.4**	**+2.5**
KURBB	**Kurchatov Arra**	**61.95**	**318**	P	**P**	**05 10 20.4**	**+1.8**
	0.2nm,0.4s,baz=46,slow=8.8,SNR=4.1						
WMQ	**Urumqi**	**63.04**	**308**	*e*P	**P**	**05 10 28.3**	**+2.1**
CD2	**Chengdu**	**64.02**	**287**	P	**P**	**05 10 31.5**	**-1.3**
KMI	**Kunming**	**68.94**	**284**	P	**P**	**05 11 06.3**	**+1.7**
KMI				PMZ			
	4.0nm,0.5s						
ASAR	**Alice Springs**	**90.59**	**230**	P	**P**	**05 13 01.1**	**-0.3**
	1.0nm,0.8s,baz=38,slow=3.8,SNR=4.3						

*IDC **19** 05:08:58.5±13.0, 52°.54N×169°.66W, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/59, mbtmp3.3/5, ML3.1/1, Error ellipse: s-maj=247.8km s-min=41.5km az=82.0*
*ISCJB **19** 05:08:59.3±1.7, 52°.4N±0°.1×169°.2W±0°.2, h8km±10km, mb3.4/4, Error ellipse: s-maj=24.0km s-min=8.5km az=41.3*
*NEIC **19** 05:09:00.6, 52°.53N×169°.26W, h6km, ML3.0(AEIC), After AEIC.*

ISC 19 05:09:01.0±2.4, 52°.5N±0°.1×169°.2W±0°.1, h7km±14km, n20, σ0§74/18, mb3.4/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.50**	**28**	P	**Pg**	**05 09 11.1**	**+0.4**
NIKH				S	**Sb**	**05 09 19.8**	**+0.2**
OKCE	**Okmok Cone E**	**1.11**	**35**	P	**Pb**	**05 09 22.2**	**-0.2**
OKCE				S	**Sn**	**05 09 39.5**	**+1.1**
OKAK	**Okmok**	**1.18**	**27**	P	Pg	05 09 19.8	-3.7
MSOM	**Makushin Julie**	**1.89**	**46**	P	**Pn**	**05 09 33.1**	**-0.5**
MSOM				S	**Sn**	**05 09 58.2**	**+0.7**
MSW	**Makushin Switc**	**2.02**	**46**	P	**Pn**	**05 09 35.2**	**-0.3**
MSW				S	**Sn**	**05 10 01.1**	**0.0**
MTBL	**Makushin Table**	**2.11**	**46**	P	**Pn**	**05 09 36.8**	**+0.1**
UNV	**Unalaska Valle**	**2.11**	**50**	P	**Pn**	**05 09 36.0**	**-0.6**
UNV				S	**Sn**	**05 10 02.5**	**-0.5**
AKGG	**Akutan Green G**	**2.56**	**48**	P	**Pn**	**05 09 42.7**	**-0.2**
ATKA	**Atka Island**	**3.06**	**266**	P	**Pn**	**05 09 49.4**	**-0.2**
ILAR	**Eielson Array**	**16.77**	**34**	Pn	**Pn**	**05 12 54.0**	**-2.0**
	0.0nm,0.3s,baz=232,slow=12,SNR=3.5						
INK	**Inuvik**	**23.17**	**33**	P	**P**	**05 14 07.8**	**+0.1**
	0.5nm,0.7s,baz=260,slow=4.8,SNR=3.3						
YKA	**Yellowknife Ar**	**30.07**	**49**	P	**P**	**05 15 10.5**	**+0.1**
	0.5nm,0.8s,baz=276,slow=7.6,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**37.63**	**219**	T	T	05 56 10.0	
	baz=24,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy**	**37.64**	**219**	T	T	05 56 10.5	
	baz=24,slow=76,SNR=18						
H11N1	**WAKE ISLAND Hy**	**37.65**	**219**	T	T	05 56 11.2	
	baz=24,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**38.82**	**218**	T	T	05 57 38.1	
	baz=23,slow=76,SNR=85						
H11S2	**WAKE ISLAND Hy**	**38.83**	**218**	T	T	05 57 42.6	
	baz=23,slow=76,SNR=71						
H11S3	**WAKE ISLAND Hy**	**38.84**	**218**	T	T	05 57 43.9	
	baz=23,slow=76,SNR=66						
PDAR	**Pinedale Array**	**40.29**	**79**	P	**P**	**05 16 39.1**	**+0.3**
	0.6nm,0.7s,baz=335,slow=6.6,SNR=5.0						
TXAR	**Lajitas Array**	**52.66**	**89**	P	**P**	**05 18 16.6**	**+0.7**
	0.8nm,0.6s,baz=296,slow=5.1,SNR=14						

*IDC **19** 05:10:38.0±19.0, 52°.41N×171°.79W, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.3/57, mbtmp3.3/3, ML2.9/1, Error ellipse: s-maj=367.7km s-min=73.6km az=91.0*
*ISCJB **19** 05:10:48.6±0.8, 52°.8N±0°.1×169°.75W±0°.09, h10km, mb3.4/2, Error ellipse: s-maj=17.1km s-min=5.7km az=158.2*
*NEIC **19** 05:10:49.0, 52°.76N×169°.66W, h5km, ML3.1(AEIC), After AEIC.*

ISC 19 05:10:49.3±1.1, 52°.8N±0°.1×169°.71W±0°.07, h10km, n12, σ0§94/16, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.54**	**72**	P	**Pg**	**05 10 59.9**	**0.0**
NIKH				S	**Sb**	**05 11 08.4**	**-0.4**
OKAK	**Okmok**	**1.12**	**46**	P	**Pb**	**05 11 09.0**	**-1.7**
OKAK				S	**Sb**	**05 11 23.8**	**-1.5**
OKTU	**Okmok Mt. Tuli**	**1.16**	**60**	P	**Pg**	**05 11 11.5**	**-0.1**
MSOM	**Makushin Julie**	**1.94**	**58**	P	**Pn**	**05 11 23.1**	**+0.8**
MSOM				S	**Sb**	**05 11 48.5**	**-0.4**
MCIR	**Makushin Cirqu**	**2.04**	**55**	P	**Pn**	**05 11 24.8**	**+1.1**
UNV	**Unalaska Valle**	**2.19**	**60**	P	**Pn**	**05 11 26.0**	**+0.3**
UNV				S	**Sn**	**05 11 53.6**	**+0.8**
ATKA	**Atka Island**	**2.81**	**259**	P	**Pn**	**05 11 34.1**	**-0.1**
GSCK	**Great Sitkin C**	**4.03**	**261**	P	**Pn**	**05 11 51.6**	**+0.5**
SPIA	**Saint Paul Isl**	**4.39**	**356**	P	**Pn**	**05 11 57.0**	**+1.1**
ILAR	**Eielson Array**	**16.71**	**35**	P	**P**	**05 14 46.6**	**+1.0**
	0.0nm,0.3s,baz=227,slow=11,SNR=3.9						
PDAR	**Pinedale Array**	**40.52**	**79**	P	**P**	**05 18 29.2**	**+0.6**
	0.4nm,0.7s,baz=324,slow=7.3,SNR=4.1						
TXAR	**Lajitas Array**	**52.95**	**89**	P	**P**	**05 20 05.7**	**-0.2**
	0.5nm,0.7s,baz=308,slow=5.0,SNR=8.7						

IDC 19 05:13:45.1±3.8, 6°.20S×149°.83E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.4/42, mbtmp3.6/3, ML1.8/1, Error ellipse: s-maj=134.9km s-min=44.4km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.14**	**220**	Pn	Pn	05 14 51.8	+2.2
	4.6nm,0.3s,baz=43,slow=13,SNR=5.4						
PMG				Sn	Sn	05 15 37.7	-1.0
	8.1nm,0.3s,baz=44,slow=19,SNR=6.4						
WRA	**Warramunga Arr**	**20.32**	**226**	P	P	05 18 22.9	-0.1
	1.4nm,0.5s,baz=53,slow=11,SNR=7.7						
ASAR	**Alice Springs**	**23.15**	**220**	P	P	05 18 52.3	-1.1
	0.6nm,0.7s,baz=37,slow=11,SNR=5.7						
TORD	**Torodi Ar. Bea**	**147.86**	**285**	PKPbc	PKPbc	05 33 32.8	-0.5
	0.5nm,0.6s,baz=83,slow=2.4,SNR=4.7						

*IDC **19** 05:18:00.3±1.3, 9°.04S×110°.48E, h0km, mb4.0/9, mb1 4.1/11, mb1mx3.9/46, mbtmp4.0/11, ML3.3/2, MS2.9/2, Ms1 2.9/2, ms1mx2.5/38, Error ellipse: s-maj=39.9km s-min=16.4km az=51.0*
*NEIC **19** 05:18:05.3±0.5, 9°.05S×110°.54E, h35km, mb4.0/3, Error ellipse: s-maj=12.5km s-min=7.1km az=215.0*
*DJA **19** 05:18:05.4±0.8, 9°.S±4°×110°.0E±°, h12km±8km, M4.2/21, mb4.3/3, mB5.3/1, MLv4.2/21, Mw(mB)4.7/1*
*ISCJB **19** 05:18:06.5±0.9, 9°.17S±0°.07×110°.40E±0°.04, h71km±8km, mb3.9/12, Error ellipse: s-maj=12.2km s-min=6.6km az=7.1*

ISC 19 05:18:07.6±1.4, 9°.15S±0°.08×110°.45E±0°.04, h59km±14km, n35, σ1§78/37, mb4.0/12, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UGM	**Wanagama**	**1.23**	**3**	P	**Pn**	**05 18 27.9**	**-0.8**
UGM				S	**Sn**	**05 18 46.0**	**+1.6**
WOJI	**Wonogiri, Jawa**	**1.38**	**20**	P	**Pn**	**05 18 30.1**	**-0.6**
WOJI				S	**Sn**	**05 18 50.4**	**+2.4**
PWJI	**Pagerwojo**	**1.74**	**50**	P	**Pn**	**05 18 35.1**	**-0.4**
PWJI				S	**Sn**	**05 18 56.7**	**0.0**
NGJI	**Ngawi**	**2.03**	**30**	P	**Pn**	**05 18 40.4**	**+0.9**
SMRI	**Semarang**	**2.08**	**360**	P	**Pn**	**05 18 41.1**	**+0.9**
SMRI	**Semarang**	**2.08**	**360**	Pn	**Pn**	**05 18 37.7**	**-2.5**
SMRI				*e*Sn	**Sn**	**05 18 59.4**	**-5.7**
KPJI	**Karang Pucung**	**2.35**	**320**	P	**Pn**	**05 18 43.9**	**+0.1**
KPJI				S	**Sn**	**05 19 13.6**	**+2.1**
CMJI	**Cimerak**	**2.40**	**304**	P	**Pn**	**05 18 43.3**	**-1.2**
TBJI	**Tambak Boyo**	**2.70**	**31**	P	**Pn**	**05 18 50.0**	**+1.5**
UWJI	**Ujung Watu**	**2.75**	**10**	P	**Pn**	**05 18 50.5**	**+1.1**
CISI	**Cisompet, Garu**	**3.05**	**301**	P	**Pn**	**05 18 53.0**	**-0.4**
CISI	**Cisompet, Garu**	**3.05**	**301**	*e*Pn	**Pn**	**05 18 52.1**	**-1.4**
CISI				*e*Sn	**Sn**	**05 19 27.6**	**-1.2**
BLJI	**Banyuglugur**	**3.41**	**66**	P	**Pn**	**05 18 59.7**	**+1.4**
LEM	**Lembang**	**3.63**	**309**	Pn	Pn	05 18 57.4	-4.1
	4.1nm,0.3s,baz=131,slow=19,SNR=1.8						
LEM				Sn	**Sn**	**05 19 47.4**	**+4.2**
	4.1nm,0.3s,baz=127,slow=20,SNR=4.0						
LEM				LR	LR	05 20 19.2	
	comp=Z,137nm,21.2s,baz=134,slow=39						
JAGI	**Jajag, Banyuwa**	**3.72**	**80**	P	**Pn**	**05 19 03.9**	**+1.3**
JAGI	**Jajag, Banyuwa**	**3.72**	**80**	Pn	Pn	05 18 57.8	-4.7
JAGI				*e*Sn	**Sn**	**05 19 41.0**	**-4.1**
CNJI	**Cibinong**	**3.76**	**299**	P	**Pn**	**05 19 02.8**	**-0.3**
CGJI	**Cibinong**	**5.34**	**298**	P	**Pn**	**05 19 24.5**	**-0.3**
	40nm,1.3s,0.2nm						
KAPI	**Kappang**	**10.10**	**67**	Pn	Pn	05 20 25.7	-4.3
	0.2nm,0.3s,baz=107,slow=19,SNR=1.9						
KAPI				LR	LR	05 25 00.6	
	comp=Z,67nm,18.7s,baz=287,slow=42						
WRA	**Warramunga Arr**	**25.45**	**118**	P	**P**	**05 23 30.2**	**-0.1**
	3.5nm,0.7s,baz=291,slow=11,SNR=14						
WRAB	**Tennant Creek**	**25.46**	**118**	*e*P	**P**	**05 23 30.2**	**-0.1**
	2.7nm,0.6s						
ASAR	**Alice Springs**	**26.67**	**126**	P	**P**	**05 23 41.8**	**+0.6**
	1.5nm,0.6s,baz=298,slow=8.9,SNR=14						
STKA	**Stephens Creek**	**36.68**	**133**	P	**P**	**05 25 09.4**	**+0.5**
	1.7nm,0.6s,baz=288,slow=7.9,SNR=5.8						
H08S2	**Diego Garcia H**	**37.57**	**269**	T	T	06 05 24.2	
	baz=94						
H08S3	**Diego Garcia H**	**37.58**	**269**	T	T	06 05 26.3	
	baz=94						
H08S1	**Diego Carcia H**	**37.59**	**269**	T	T	06 05 25.9	
	baz=94						
KSAR	**Wonju Array Be**	**49.14**	**18**	P	**P**	**05 26 48.7**	**-0.7**
KSRS	**Korea Array**	**49.16**	**18**	P	**P**	**05 26 48.7**	**-0.9**
	1.4nm,0.6s,baz=207,slow=7.9,SNR=6.5						
MJAR	**Matsushiro Arr**	**52.41**	**28**	P	**P**	**05 27 13.3**	**-0.8**
	0.5nm,0.3s,baz=204,slow=8.3,SNR=5.9						
USRK	**Ussuriysk Ar.**	**56.57**	**18**	P	**P**	**05 27 44.4**	**+0.2**
	3.5nm,0.8s,baz=220,slow=5.6,SNR=6.9						
SONM	**Songino Array**	**56.84**	**357**	P	**P**	**05 27 46.5**	**+0.3**
	0.9nm,0.7s,baz=179,slow=8.9,SNR=4.3						
MKAR	**Makanchi Array**	**61.09**	**338**	P	**P**	**05 28 15.5**	**0.0**
	0.7nm,0.5s,baz=154,slow=7.3,SNR=9.1						
ZALV	**Zalesovo Beam**	**66.49**	**344**	P	**P**	**05 28 50.4**	**-0.5**
	1.2nm,0.5s,baz=160,slow=4.6,SNR=5.9						
ABKAR	**Akbulak array**	**73.01**	**328**	*e*P	**P**	**05 29 31.3**	**+0.2**
	1.4nm,0.6s						
VNDA	**Vanda**	**73.25**	**170**	*e*P	**P**	**05 29 32.3**	**+0.2**
	0.5nm,0.7s						

IDC 19 05:19:35.4±3.5, 5°.46S×150°.06E, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.6/37, mbtmp4.0/3, ML2.1/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/30, Error ellipse: s-maj=138.5km s-min=39.5km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.86**	**216**	Pn	Pn	05 20 51.3	+1.4
	4.9nm,0.3s,baz=36,slow=14,SNR=5.8						
PMG				Sn	Sn	05 21 42.2	-4.8
	12nm,0.3s,baz=60,slow=20,SNR=9.1						
HNR	**Honiara**	**10.57**	**113**	LR	LR	05 25 08.8	
	comp=Z,42nm,21.2s,baz=96,slow=32						
WRA	**Warramunga Arr**	**21.00**	**225**	P	P	05 24 20.7	-0.1
	3.4nm,0.4s,baz=50,slow=10,SNR=15						
ASAR	**Alice Springs**	**23.87**	**219**	P	P	05 24 50.0	-0.8
	1.5nm,0.3s,baz=53,slow=9.2,SNR=27						
PETK	**Petropavlovsk-**	**58.70**	**5**	LR	LR	05 51 03.9	
	comp=Z,26nm,19.9s,baz=88,slow=32						
TORD	**Torodi Ar. Bea**	**147.89**	**286**	PKPbc	PKPbc	05 39 23.3	-0.4
	0.5nm,0.5s,baz=98,slow=2.1,SNR=8.9						

*ISCJB **19** 05:21:24.8±0.6, 15°.2S±0°.2×174°.7W±0°.1, h150km, mb3.8/9, Error ellipse: s-maj=25.9km s-min=9.0km az=148.7*
*IDC **19** 05:21:27.3±1.6, 15°.22S×174°.52W, h163km±16km, mb3.7/9, mb1 3.9/10, mb1mx3.6/41, mbtmp4.2/10, MS2.3/1, Ms1 2.3/1, ms1mx2.1/31, Error ellipse: s-maj=26.1

s-maj=167.3km s-min=25.1km az=64.0
*ISCJB **19** 05:35:55.7±1.0, 1°44N±0.09°×127.79E±0.09, h134km, mb3.8/4, Error ellipse: s-maj=15.2km s-min=9.3km az=136.8*
*DJA **19** 05:35:58.2±0.4, 1°N±3"×12°8E±", h84km±5km, M4.4/13, mb4.4/6, mB5.3/2, MLv4.4/13, Mw(mB)4.8/2*

ISC 19 05:35:54.5±1.4, 1.6N±0.1×127.8E±0.1, h134km, n13, σ2.503/14, mb3.8/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.91**	**208**	P	**Pn**	**05 36 16.1**	**-0.9**
TNTI				S	**Sn**	**05 36 29.9**	**-4.1**
LBMI	**Labuha**	**2.22**	**188**	P	**Pn**	**05 36 31.6**	**+0.2**
LBMI				S	**Sn**	**05 36 58.2**	**-1.6**
SGSI	**Sangihe**	**3.08**	**313**	P	Pn	05 36 45.5	+3.1
KMSI	**Cibinong**	**3.94**	**255**	P	**Pn**	**05 36 55.4**	**+1.8**
SANI	**Sanana**	**4.03**	**207**	P	**Pn**	**05 36 55.7**	**+0.9**
AAI	**Ambon** 69nm,1.4s,0.3nm	**5.25**	**176**	P	**Pn**	**05 37 12.3**	**+1.3**
LUWI	**Luwuk** 68nm,1.0s,8µm0.6nm	**5.66**	**243**	P	**Pn**	**05 37 18.3**	**+1.8**
MRSI	**Marisa** 11nm,0.6s,1µm0.3nm	**5.96**	**259**	P	**Pn**	**05 37 22.8**	**+2.3**
FAKI	**Fak Fak** 34nm,1.8s,0.2nm	**6.31**	**135**	P	**Pn**	**05 37 27.6**	**+2.4**
WRA	**Warramunga Arr** 1.8nm,0.3s,baz=337,slow=11,SNR=18	**22.33**	**164**	P	**P**	**05 40 41.8**	**+0.4**
ASAR	**Alice Springs** 0.4nm,0.3s,baz=338,slow=6.6,SNR=7.7	**25.79**	**167**	P	**P**	**05 41 13.6**	**+0.4**
STKA	**Stephens Creek** 1.9nm,0.3s,baz=333,slow=9.0,SNR=9.0	**35.75**	**160**	P	**P**	**05 42 41.8**	**+1.2**
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=119,slow=8.3,SNR=4.3	**59.92**	**326**	P	**P**	**05 45 44.8**	**-1.6**

IDC 19 05:37:07.8±4.0, 3.34N×126.38E, h105km±38km, mb3.6/4, mb1 3.7/4, mb1mx3.3/41, mbtmp3.9/4, Error ellipse: s-maj=161.8km s-min=17.1km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 4.8nm,0.7s,baz=341,slow=10,SNR=16	**24.42**	**162**	P	P	05 42 16.3	-0.4
WRA				S	S	05 46 30.2	+1.0
ASAR	**Alice Springs** 0.6nm,0.4s,baz=343,slow=18,SNR=5.5	**27.83**	**165**	P	P	05 42 46.9	-0.5
STKA	**Stephens Creek** 0.4nm,0.4s,baz=339,slow=7.0,SNR=7.6	**37.89**	**159**	P	P	05 44 15.8	+1.0
MKAR	**Makanchi Array** 1.0nm,0.5s,baz=339,slow=7.7,SNR=5.1	**57.67**	**326**	P	P	05 46 47.7	+0.4
TORD	**Torodi Ar. Bea** 0.7nm,0.5s,baz=123,slow=8.9,SNR=7.1	**122.71**	**288**	PKP	PKPdf	05 55 51.0	-1.3
	0.1nm,0.5s,baz=85,slow=1.5,SNR=4.3						

*ISCJB **19** 05:37:06.8±1.0, 52.65N±0.05°×169.72W±0.05, h1km±6km, mb4.1/34, MS3.3/7, Error ellipse: s-maj=9.3km s-min=4.0km az=154.8*
*IDC **19** 05:37:06.6±0.7, 52.67N×169.93W, h0km, mb4.0/13, mb1 4.3/14, mb1mx3.9/56, mbtmp4.0/14, ML3.8/1, MS3.3/8, Ms1 3.3/8, ms1mx2.9/37, Error ellipse: s-maj=27.1km s-min=14.0km az=174.0*
*NEIC **19** 05:37:09.3±0.3, 52.74N×169.75W, h10km, mb4.2/28, ML4.1(AEIC), Error ellipse: s-maj=8.6km s-min=4.6km az=158.0*
*BJI **19** 05:37:09.2, 52.56N×169.80W, h11km, mb4.5/2, mB4.8/2, Ms4.2/1*

ISC 19 05:37:09.7±1.0, 52.66N±0.09×169.63W±0.04, h13km±5km, n94, σ1843/95, mb4.2/34, MS3.3/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.57**	**56**	P	**Pg**	**05 37 19.6**	**-1.3**
NIKH				*e*Sg	**Sg**	**05 37 26.1**	**-2.3**
NIKH				S	**Sb**	**05 37 27.8**	**-1.8**
OKWR	**Okmok West Rim**	**1.16**	**47**	P	**Pn**	**05 37 30.2**	**-1.5**
OKCE	**Okmok Cone E**	**1.18**	**48**	P	**Pn**	**05 37 30.2**	**-1.7**
OKCE				S	**Sg**	**05 37 48.4**	**+0.8**
OKTU	**Okmok Mt. Tuli**	**1.21**	**52**	P	**Pn**	**05 37 30.9**	**-1.4**
MGOD	**Makushin Gods**	**2.01**	**54**	P	**Pn**	**05 37 43.3**	**-0.1**
MGOD				S	**Sn**	**05 38 09.5**	**+1.0**
MCIR	**Makushin Cirqu**	**2.10**	**51**	P	**Pn**	**05 37 44.5**	**-0.1**
MSW	**Makushin Switc**	**2.13**	**52**	P	**Pn**	**05 37 45.3**	**+0.3**
MSW				S	**Sn**	**05 38 11.5**	**+0.3**
MTBL	**Makushin Table**	**2.21**	**52**	P	**Pn**	**05 37 46.5**	**+0.4**
AKRB	**Akutan Reef Bi**	**2.59**	**54**	P	**Pn**	**05 37 51.5**	**+0.1**
ZRO	**Akutan Zero**	**2.62**	**55**	P	**Pn**	**05 37 52.4**	**+0.7**
AKGG	**Akutan Green G**	**2.67**	**53**	P	**Pn**	**05 37 53.0**	**+0.6**
AKGG				S	**Sn**	**05 38 27.6**	**+2.9**
AKUT	**Akutan**	**2.75**	**56**	P	**Pn**	**05 37 53.6**	**+0.2**
ATKA	**Atka Island**	**2.83**	**263**	P	**Pn**	**05 37 53.5**	**-1.1**
ATKA				*e*Sn	**Sg**	**05 38 39.3**	**-1.2**
WESP	**Westdahl Peak**	**3.46**	**56**	P	**Pn**	**05 38 03.6**	**+0.3**
GSTR	**Great Sitkin T**	**3.98**	**264**	P	**Pn**	**05 38 10.2**	**-0.2**
GSMY	**Great Sitkin M**	**3.99**	**264**	P	**Pn**	**05 38 09.9**	**-0.6**
GSCK	**Great Sitkin C**	**4.06**	**263**	P	**Pn**	**05 38 10.6**	**-0.9**
FALS	**False Pass**	**4.30**	**57**	*e*Pn	**Pn**	**05 38 12.3**	**-2.4**
FALS				*e*Sn	**Sn**	**05 39 05.3**	**+0.7**
SPIA	**Saint Paul Isl**	**4.55**	**356**	P	**Pn**	**05 38 17.4**	**-0.7**
KIKV	**Kanaga Island**	**4.70**	**263**	P	**Pn**	**05 38 19.8**	**-0.4**
PPLA	**Purkeypile**	**13.80**	**35**	*e*Pn	**Pn**	**05 40 24.5**	**-0.4**
CAST	**Castle Rocks**	**14.18**	**34**	*e*Pn	**Pn**	**05 40 32.4**	**+2.4**
TRF	**Thorofare Moun**	**14.82**	**36**	*e*Pn	**Pn**	**05 40 41.1**	**+2.2**
BPAW	**Bear Paw Mtn.**	**14.99**	**33**	*e*Pn	**Pn**	**05 40 40.1**	**-0.9**
MCK	**McKinley** 42nm,2.0s	**15.47**	**36**	*e*Pn	**Pn**	**05 40 48.8**	**+1.4**
KLU	**Klutina** 6.1nm,0.7s	**15.55**	**46**	*e*Pn	**Pn**	**05 40 47.4**	**-1.0**
BWN	**Browne** 30nm,1.1s	**15.55**	**34**	*e*Pn	**Pn**	**05 40 50.1**	**+1.7**
CCB	**Clear Creek Bu** 34nm,2.2s	**16.41**	**35**	*e*Pn	**Pn**	**05 40 58.4**	**-1.1**
COLA	**College** 19nm,1.5s	**16.54**	**34**	*e*Pn	**Pn**	**05 41 00.2**	**-0.8**
HDA	**Harding Lake** 6.0nm,1.1s	**16.57**	**36**	*e*P	**P**	**05 41 05.9**	**+1.9**
ILAR	**Eielson Array** 0.2nm,0.3s,baz=237,slow=10,SNR=13	**16.81**	**35**	Pn	**Pn**	**05 41 01.5**	**-2.9**
ILAR				LR	LR	05 46 49.4	
	comp=Z,74nm,21.5s,baz=224,slow=34						
COLD	**Coldfoot** 31nm,1.8s	**17.43**	**26**	*e*P	**P**	**05 41 13.8**	**+0.4**
EGAK	**Eagle** 4.8nm,0.9s	**18.92**	**39**	*e*P	**P**	**05 41 29.8**	**-0.1**
EGAK				*e*S	**Sn**	**05 45 02.3**	**+0.5**
HYT	**Haines Junctio**	**19.25**	**52**	*e*P	**P**	**05 41 33.6**	**-0.1**
SKAG	**Skagway** 15nm,0.8s	**20.15**	**57**	*e*P	**P**	**05 41 44.2**	**+0.9**
SEY	**Seymchan** 7.3nm,0.9s,baz=102,slow=9.9,SNR=14	**22.36**	**312**	P	**P**	**05 42 05.5**	**-1.6**
DLBC	**Dease Lake** 8.1nm,0.9s,baz=273,slow=9.6,SNR=16	**22.88**	**60**	P	**P**	**05 42 13.9**	**+1.2**
DLBC	**Dease Lake**	**22.88**	**60**	*e*P	**P**	**05 42 14.8**	**+2.1**
INK	**Inuvik** 2.8nm,0.9s,baz=231,slow=9.4,SNR=6.7	**23.20**	**34**	P	**P**	**05 42 12.9**	**-2.9**
YKA	**Yellowknife Ar** 0.4nm,0.8s,baz=276,slow=8.0,SNR=3.1	**30.18**	**49**	P	**P**	**05 43 17.2**	**-1.9**
B08A	**Colville Reser** 3.5nm,0.9s	**31.74**	**77**	*e*P	**P**	**05 43 34.3**	**+1.1**
NEW	**Newport** 2.2nm,0.9s,baz=294,slow=8.2,SNR=4.4	**33.10**	**76**	P	**P**	**05 43 44.7**	**-0.4**
NEW	**Newport**	**33.10**	**76**	*e*P	**P**	**05 43 45.0**	**-0.1**
NEW				*e*PcP	**PcP**	**05 46 27.6**	**-0.4**
YBH	**Yreka Blue Hor** comp=Z,29nm,18.6s,baz=293,slow=34	**33.14**	**90**	LR	LR	05 55 41.4	
MOD	**Modoc** 5.8nm,1.3s	**34.51**	**88**	*e*P	**P**	**05 43 59.7**	**+2.1**
MCMT	**McKenzie Canyo**	**37.38**	**79**	*e*P	**P**	**05 44 22.5**	**+0.3**
EGMT	**Eagleton** 5.2nm,0.9s	**37.53**	**72**	*e*P	**P**	**05 44 22.9**	**-0.3**
H11N2	**WAKE ISLAND Hy** baz=5.4	**37.58**	**218**	T	T	06 24 10.5	
H11N3	**WAKE ISLAND Hy** baz=5.4	**37.59**	**218**	T	T	06 24 10.2	
H11N1	**WAKE ISLAND Hy** baz=5.4	**37.60**	**218**	T	T	06 24 15.2	
BOZ	**Bozeman (W)** 3.6nm,0.6s	**37.66**	**77**	*e*P	**P**	**05 44 24.7**	**+0.2**
NVAR	**Mina Array Bea** 1.6nm,0.8s,baz=296,slow=6.6,SNR=11	**37.83**	**91**	P	**P**	**05 44 27.2**	**+1.2**
ELK	**Elko** 3.0nm,0.8s,baz=292,slow=10,SNR=10	**38.27**	**86**	P	**P**	**05 44 30.8**	**+1.0**
ELK	**Elko**	**38.27**	**86**	*e*P	**P**	**05 44 31.0**	**+1.2**
H11S1	**WAKE ISLAND Hy** baz=22,slow=76,SNR=19	**38.77**	**217**	T	T	06 25 41.1	
H11S2	**WAKE ISLAND Hy** baz=22,slow=76,SNR=20	**38.78**	**217**	T	T	06 25 42.9	
H11S3	**WAKE ISLAND Hy** baz=22,slow=76,SNR=21	**38.79**	**217**	T	T	06 25 45.7	
IMW	**Indian Meadow** 2.8nm,0.8s	**39.03**	**79**	*e*P	**P**	**05 44 37.3**	**+1.1**
RLMT	**Red Lodge** 5.0nm,0.9s	**39.35**	**76**	*e*P	**P**	**05 44 40.0**	**+1.3**
R11A	**Troy Canyon, C** 3.4nm,0.9s	**39.54**	**89**	*e*P	**P**	**05 44 41.6**	**+1.2**
MJAR	**Matsushiro Arr** comp=Z,26nm,21.3s,baz=80,slow=33	**39.55**	**267**	LR	LR	05 58 53.0	
DUG	**Dugway** 5.1nm,1.3s	**40.08**	**85**	*e*P	**P**	**05 44 45.3**	**+0.5**
PDAR	**Pinedale Array** 1.4nm,0.7s,baz=314,slow=4.1,SNR=13	**40.51**	**79**	P	**P**	**05 44 48.6**	**+0.2**
NLU	**North Lily Min** 2.1nm,0.7s	**40.67**	**84**	*e*P	**P**	**05 44 51.3**	**+1.6**
GSC	**Goldstone** 3.3nm,0.8s	**40.77**	**94**	*e*P	**P**	**05 44 52.7**	**+2.2**
CCUT	**Cedar City** 1.6nm,0.7s	**41.40**	**88**	*e*P	**P**	**05 44 57.0**	**+1.2**
MVU	**Marysvale** 2.7nm,1.0s	**41.49**	**86**	*e*P	**P**	**05 44 58.3**	**+1.8**
SRU	**San Rafael** 3.1nm,0.9s	**42.13**	**84**	*e*P	**P**	**05 45 01.4**	**-0.3**
O20A	**White River Ci** 7.7nm,0.8s	**42.88**	**82**	*e*P	**P**	**05 45 08.5**	**+0.7**
PV04	**Paradox Valley**	**43.57**	**84**	*e*P	**P**	**05 45 13.7**	**+0.3**
JCJ	**Chichijima** comp=Z,44nm,20.2s,baz=114,slow=33	**43.83**	**254**	LR	LR	06 01 16.5	
PV01	**Paradox Valley** 432nm,0.7s	**43.94**	**84**	*e*P	**P**	**05 45 17.0**	**+0.6**
WUAZ	**Wupatki** 6.6nm,1.0s	**43.94**	**89**	*e*P	**P**	**05 45 17.9**	**+1.6**
KSRS	**Korea Array** comp=Z,17nm,20.7s,baz=40,slow=35	**45.21**	**276**	LR	LR	06 03 16.0	
214A	**Organ Pipe Nat** 1.7nm,0.6s	**45.49**	**94**	*e*P	**P**	**05 45 29.7**	**+1.1**
SDCO	**Great Sand Dun** 2.2nm,0.8s	**46.04**	**82**	*e*P	**P**	**05 45 33.8**	**+0.6**
JNU	**Nakatsue** comp=Z,33nm,21.2s,baz=298,slow=35	**46.30**	**269**	LR	LR	06 03 53.6	
TUC	**Tucson** 3.2nm,1.0s	**46.47**	**92**	*e*P	**P**	**05 45 37.7**	**+1.2**
ANMO	**Albuquerque** 0.6nm,0.6s,baz=337,slow=7.2,SNR=4.2	**47.31**	**86**	P	**P**	**05 45 42.5**	**-0.5**
SONM	**Songino Array** 0.3nm,0.4s,baz=46,slow=6.2,SNR=2.5	**51.02**	**300**	P	**P**	**05 46 09.7**	**-1.5**
SONM				PcP	**PcP**	**05 47 25.0**	**-2.1**
	0.6nm,0.8s,baz=48,slow=3.5,SNR=3.3						
WMOK	**Wichita Mounta** 2.8nm,0.8s	**52.09**	**80**	*e*P	**P**	**05 46 19.0**	**-0.3**
HHC	**Hu-ho-hao-te**	**52.67**	**291**	*e*P	**P**	**05 46 25.8**	**+2.2**
HHC				PP	**PP**	**05 48 25.8**	**+3.4**
HHC				S	**S**	**05 53 51.5**	**+0.8**
HHC				sS	**sS**	**05 53 59.1**	**+1.7**
HHC				SS	**SS**	**05 57 28.8**	**+0.2**
HHC				PMZ			
	76nm,5.4s						
HHC				LN			
	79nm,13.5s						
HHC				LE			
	77nm,15.9s						
TXAR	**Lajitas Array** 3.3nm,0.9s,baz=299,slow=5.6,SNR=25	**52.90**	**89**	P	**P**	**05 46 26.0**	**+0.6**
ZALV	**Zalesovo Beam** comp=Z,29nm,18.0s,baz=68,slow=38	**57.10**	**317**	LR	LR	06 12 48.0	
WMQ	**Urumqi**	**63.23**	**308**	*e*P	P	05 47 40.9	+3.3
CD2	**Chengdu**	**64.13**	**288**	P	**P**	**05 47 44.6**	**+0.9**
KMI	**Kunming**	**69.04**	**284**	P	**P**	**05 48 18.4**	**+3.1**
KMI				PMZ			
	6.0nm,0.6s						
WRA	**Warramunga Arr** 1.6nm,1.6s,baz=31,slow=5.8,SNR=3.5	**87.06**	**231**	P	**P**	**05 49 53.0**	**-1.8**
WRA	**Warramunga Arr**	**87.06**	**231**	P	**P**	**05 49 53.0**	**-1.8**
PSI	**Prapat** 5.5nm,0.8s,baz=28,slow=8.5,SNR=3.7	**88.67**	**273**	P	**P**	**05 50 00.0**	**-2.9**
PSI	**Prapat**	**88.67**	**273**	*e*P	**P**	**05 50 04.5**	**+1.6**
ASAR	**Alice Springs** 2.5nm,0.9s,baz=38,slow=5.3,SNR=12	**90.46**	**230**	P	**P**	**05 50 09.6**	**-1.3**
STKA	**Stephens Creek** comp=Z,57nm,18.9s,baz=34,slow=33	**94.31**	**220**	LR	LR	06 29 11.8	
BOSA	**Boshof** 3.0nm,0.8s,baz=0.0,slow=1.0,SNR=4.4	**153.57**	**330**	PKPbc	**PKPbc**	**05 57 05.9**	**-2.0**

IDC 19 05:48:46.1±1.9, 0.70N×125.63E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/36, mbtmp3.5/3, Error ellipse: s-maj=186.1km s-min=24.7km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 2.1nm,0.8s,baz=336,slow=11,SNR=4.0	**22.22**	**158**	P	P	05 53 42.9	-1.6
ASAR	**Alice Springs** 0.8nm,0.8s,baz=343,slow=9.6,SNR=10	**25.52**	**162**	P	P	05 54 17.8	+1.1
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=120,slow=8.5,SNR=2.7	**59.44**	**327**	P	P	05 58 50.7	-0.1

*IDC **19** 06:01:37.8±1.7, 52.65N×169.47W, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.4/36, mbtmp3.4/6, ML3.3/1, Error ellipse: s-maj=50.8km s-min=28.4km az=128.0*
*NEIC **19** 06:01:39.3, 52.80N×169.48W, h1km, ML3.3(AEIC), After AEIC.*
*ISCJB **19** 06:01:40.2±1.1, 52.8N±0.1×169.6W±0.1, h16km±8km, mb3.4/5, Error ellipse: s-maj=22.9km s-min=6.5km az=155.3*

ISC 19 06:01:39.1±2.3, 52.9N±0.2×169.48W±0.08, h4km±14km, n27, σ1812/28, mb3.3/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.40**	**72**	P	**Pb**	**06 01 49.2**	**+0.5**
NIKH				S	**Sb**	**06 01 56.1**	**+1.0**
OKCE	**Okmok Cone E**	**0.98**	**53**	P	**Pn**	**06 01 59.4**	**-0.3**
OKAK	**Okmok**	**0.99**	**42**	P	**Pg**	**06 01 58.6**	**+0.4**
OKAK				S	**Sg**	**06 02 10.8**	**-0.3**
OKTU	**Okmok Mt. Tuli**	**1.02**	**58**	P	**Pn**	**06 02 00.2**	**0.0**
MSOM	**Makushin Julie**	**1.80**	**56**	P	**Pb**	**06 02 12.0**	**-0.6**
MSOM				S	**Sg**	**06 02 37.3**	**+0.4**
MCIR	**Makushin Cirqu**	**1.90**	**54**	P	**Pb**	**06 02 14.2**	**-0.2**
MSW	**Makushin Switc**	**1.94**	**55**	P	**Pb**	**06 02 14.6**	**-0.4**
MSW				S	**Sb**	**06 02 40.5**	**+1.1**
MTBL	**Makushin Table**	**2.02**	**55**	P	**Pb**	**06 02 15.8**	**-0.5**
UNV	**Unalaska Valle**	**2.05**	**60**	P	**Pn**	**06 02 14.7**	**+0.4**
UNV				S	**Sb**	**06 02 41.5**	**-1.0**
AKRB	**Akutan Reef Bi**	**2.41**	**56**	P	**Pb**	**06 02 21.3**	**-1.6**
ZRO	**Akutan Zero**	**2.44**	**58**	P	**Pn**	**06 02 21.3**	**+1.6**
AKGG	**Akutan Green G**	**2.48**	**56**	P	**Pb**	**06 02 22.3**	**-1.9**
AKUT	**Akutan**	**2.56**	**58**	*e*Pn	**Pn**	**06 02 23.3**	**+2.0**
AKUT				*e*Sn	**Sn**	**06 02 54.2**	**+1.3**
AKSA	**Akutan Strait**	**2.60**	**59**	P	**Pb**	**06 02 24.1**	**-2.1**
ATKA	**Atka Island**	**2.95**	**259**	P	**Pn**	**06 02 27.1**	**+0.5**
ATKA				S	**Sn**	**06 03 04.5**	**+2.0**
ILAR	**Eielson Array** 0.0nm,0.3s,baz=231,slow=10,SNR=3.0	**16.59**	**35**	Pn	**Pn**	**06 05 32.5**	**+0.2**
INK	**Inuvik** 0.5nm,0.5s,baz=245,slow=4.9,SNR=3.1	**22.98**	**34**	P	**P**	**06 06 43.8**	**-0.5**
YKA	**Yellowknife Ar** 0.2nm,0.5s,baz=274,slow=7.5,SNR=3.7	**29.98**	**49**	P	**P**	**06 07 48.4**	**+0.2**
H11N2	**WAKE ISLAND Hy** baz=24,slow=76,SNR=14	**37.79**	**218**	T	T	06 48 56.7	
H11N3	**WAKE ISLAND Hy** baz=24,slow=76,SNR=12	**37.80**	**218**	T	T	06 48 47.7	
H11N1	**WAKE ISLAND Hy** baz=24,slow=76,SNR=14	**37.81**	**218**	T	T	06 48 56.6	
H11S1	**WAKE ISLAND Hy** baz=23,slow=76,SNR=193	**38.98**	**218**	T	T	06 50 19.6	
H11S2	**WAKE ISLAND Hy** baz=23,slow=76,SNR=128	**38.99**	**218**	T	T	06 50 16.2	
H11S3	**WAKE ISLAND Hy** baz=23,slow=76,SNR=134	**39.00**	**218**	T	T	06 50 20.5	
PDAR	**Pinedale Array** 0.3nm,0.6s,baz=336,slow=3.3,SNR=4.2	**40.38**	**80**	P	**P**	**06 09 17.2**	**-0.9**
TXAR	**Lajitas Array** 0.6nm,0.8s,baz=303,slow=4.8,SNR=10	**52.81**	**89**	P	**P**	**06 10 55.3**	**-0.2**
ASAR	**Alice Springs** 0.2nm,0.7s,baz=45,slow=4.7,SNR=4.5	**90.65**	**230**	P	**P**	**06 14 41.6**	**-1.0**

*ISCJB **19** 06:10:15.3±0.4, 28.97S±0.07°×13.08W±0.09, h11km, mb4.3/18, MS3.7/13, Error ellipse: s-maj=12.0km s-min=9.8km az=24.2*
*IDC **19** 06:10:15.2±0.6, 29.02S×13.10W, h0km, mb4.1/11, mb1 4.1/11, mb1mx4.0/29, mbtmp4.1/11, MS3.7/13, Ms1 3.7/13, ms1mx3.5/22, Error ellipse: s-maj=19.3km s-min=17.1km az=155.0*
*NEIC **19** 06:10:16.8±0.3, 29.01S×13.09W, h10km, mb4.3/6, Error ellipse: s-maj=9.4km s-min=7.9km az=164.0*

ISC 19 06:10:17.0±0.5, 29.0S±0.1×13.1W±0.1, h11km, n43, σ0882/32, mb4.2/18, MS3.7/13, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR** baz=176,slow=75,SNR=172	**9.96**	**355**	T	T	06 35 38.2	
H10S3	**ASCENSION HYDR** baz=176,slow=75,SNR=156	**9.97**	**355**	T	T	06 35 44.1	
H10S1	**ASCENSION HYDR** baz=176,slow=75,SNR=229	**9.98**	**355**	T	T	06 35 38.0	
TSUM	**Tsumeb** 1.9nm,0.6s,baz=253,slow=9.3,SNR=6.8	**29.56**	**78**	P	**P**	**06 16 21.8**	**-0.4**
TSUM				LR	LR	06 26 09.3	
	comp=Z,113nm,19.3s,baz=170,slow=32						
TSUM	**Tsumeb**	**29.56**	**78**	*e*P	**P**	**06 16 22.1**	**-0.1**
BOSA	**Boshof** comp=Z,230nm,18.6s,baz=202,slow=32	**33.51**	**99**	LR	LR	06 28 21.6	
BOSA	**Boshof** 3.9nm,1.1s	**33.51**	**99**	*e*P	**P**	**06 16 57.1**	**+0.4**
BDFB	**Brasilia** 6.3nm,0.6s,baz=109,slow=6.6,SNR=17	**34.79**	**285**	P	**P**	**06 17 08.0**	**0.0**
BDFB				LR	LR	06 28 35.4	
	comp=Z,190nm,21.5s,baz=66,slow=32						
LIC	**Lamto** 85nm,0.6s	**35.84**	**14**	*e*P	**P**	**06 17 14.0**	**-2.8**
KIC	**Kosan Boka** 80nm,1.4s	**36.03**	**14**	*e*P	**P**	**06 17 19.3**	**+0.8**
TIC	**Toumodi**	**36.25**	**14**	*e*P	**P**	**06 17 21.0**	**+0.7**
DBIC	**Dimbokro** 4.0nm,0.8s,baz=194,slow=8.3,SNR=5.3	**36.31**	**14**	P	**P**	**06 17 21.4**	**+0.6**
DBIC				LR	LR	06 28 14.2	
	comp=Z,59nm,19.5s,baz=156,slow=30						
DBIC	**Dimbokro** 4.2nm,0.7s	**36.31**	**14**	*e*P	**P**	**06 17 21.3**	**+0.5**
MATP	**Matopo** 4.2nm,0.9s,baz=252,slow=6.6,SNR=6.1	**38.57**	**87**	P	**P**	**06 17 40.0**	**-0.2**
CPUP	**Villa Florida** comp=Z,264nm,20.0s,baz=111,slow=32	**39.11**	**263**	LR	LR	06 31 15.2	
TRQA	**Tornquist** 3.4nm,0.6s	**41.36**	**244**	*e*P	**P**	**06 18 02.9**	**-0.2**
VNA1	**Neumayer--Stat**	**41.81**	**178**	P	**P**	**06 18 07.6**	**+1.3**
VNA2	**Neumayer--Watz** baz=345,slow=11	**42.12**	**177**	P	**P**	**06 18 08.5**	**-0.4**
SNAA	**Sanae** 0.5nm,0.9s,baz=339,slow=8.6,SNR=3.6	**43.12**	**175**	P	**P**	**06 18 16.7**	**-0.3**
SNAA	**Sanae**	**43.12**	**175**	*e*P	**P**	**06 18 17.2**	**+0.1**
TOB4	**Torodi Ar. Sit**	**44.23**	**21**	*e*P	**P**	**06 18 26.0**	**-0.4**
TORD	**Torodi Ar. Bea** 2.5nm,0.8s,baz=192,slow=9.0,SNR=18	**44.24**	**21**	P	**P**	**06 18 26.9**	**+0.4**
TORD				LR	LR	06 33 25.3	
	comp=Z,102nm,20.4s,baz=170,slow=31						
SIV	**San Ignacio** 2.1nm,0.7s,baz=128,slow=8.3,SNR=9.3	**45.89**	**276**	P	**P**	**06 18 40.3**	**+0.4**
CFAA	**Coronel Fontan** 0.4nm,0.6s,baz=82,slow=8.0,SNR=12	**47.27**	**252**	P	**P**	**06 18 49.3**	**-1.3**
SAML	**Samuel** 0.9nm,0.6s	**50.96**	**283**	*e*P	**P**	**06 19 20.1**	**+1.1**
LPAZ	**La Paz** comp=Z,110nm,21.3s,baz=121,slow=34	**51.94**	**272**	LR	LR	06 39 37.4	
KMBO	**Kilima Mbogo** comp=Z,137nm,20.6s,baz=272,slow=34	**55.35**	**69**	LR	LR	06 41 24.7	
MAW	**Mawson** 5.5nm,0.9s,baz=270,slow=6.1,SNR=10	**58.23**	**154**	P	**P**	**06 20 11.3**	**+0.4**
QSPA	**South Pole Qui** 8.8nm,0.9s	**61.26**	**180**	*e*P	**P**	**06 20 31.6**	**-0.5**
ROSC	**El Rosal** comp=Z,75nm,18.6s,baz=194,slow=35	**67.69**	**289**	LR	LR	06 49 48.7	
ESDC	**Sonseca Array** 0.2nm,0.3s,baz=177,slow=7.1,SNR=3.9	**68.82**	**8**	P	**P**	**06 21 21.5**	**+0.2**
ESDC				LR	LR	06 49 58.7	
	comp=Z,18nm,19.1s,baz=5.0,slow=35						
SBA	**Scott Base** 2.5nm,0.8s	**73.42**	**180**	*e*P	**P**	**06 21 49.3**	**+0.6**
BRTR	**Keskin Array B** 1.3nm,0.9s,baz=203,slow=5.9,SNR=5.4	**80.99**	**35**	P	**P**	**06 22 32.3**	**+0.5**
GERES	**GERESS Array B** comp=Z,31nm,21.6s,baz=204,slow=34	**81.08**	**18**	LR	LR	06 55 35.9	
NOA	**NORSAR Array B** comp=Z,12nm,19.7s,baz=5.0,slow=35	**91.85**	**12**	LR	LR	07 04 02.9	
SFJD	**Kangerlussuaq** comp=Z,25nm,19.6s,baz=240,slow=29	**99.79**	**346**	LR	LR	06 59 09.2	
ASAR	**Alice Springs** 0.4nm,0.6s,baz=220,slow=1.5,SNR=5.2	**118.78**	**145**	PKP	**PKPdf**	**06 29 05.0**	**-1.0**
YKA	**Yellowknife Ar** 0.5nm,0.8s,baz=92,slow=2.0,SNR=4.3	**120.53**	**328**	PKP	**PKPdf**	**06 29 07.5**	**-0.5**
WRA	**Warramunga Arr** 0.7nm,0.8s,baz=221,slow=2.5,SNR=4.1	**122.09**	**143**	PKP	**PKPdf**	**06 29 11.1**	**-1.3**
ILAR	**Eielson Array** 0.5nm,0.8s,baz=4.9,slow=2.0,SNR=7.7	**134.05**	**335**	PKP	**PKPdf**	**06 29 33.9**	**+0.1**
SEY	**Seymchan** 6.6nm,0.8s,baz=344,slow=3.5,SNR=14	**144.74**	**11**	PKP	**PKPdf**	**06 29 53.0**	**-0.1**
KSAR	**Wonju Array Be**	**146.46**	**65**	PKPbc	**PKPbc**	**06 29 58.6**	**+0.2**
KSRS	**Korea Array** 5.9nm,0.8s,baz=262,slow=2.7,SNR=18	**146.49**	**65**	PKPbc	**PKPbc**	**06 29 58.6**	**+0.2**

NNC 19 06:40:51.9±3.9, 54.25N×86.19E, h0km, mb4.0, mpv3.6, 9C-3D, Error ellipse: s-maj=28.9km s-min=23.1km az=61.0, Southwestern Siberia

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h m s | Res ISC |
|---|---

MSW				S	**Sb**	**06 43 22.6**	**+1.7**
UNV	**Unalaska Valle**	**2.10**	**61**	P	**Pb**	**06 42 56.8**	**-1.3**
UNV				S	**Sb**	**06 43 24.5**	**+0.3**
AKGG	**Akutan Green G**	**2.54**	**57**	P	**Pn**	**06 43 03.3**	**+2.3**
ATKA	**Atka Island**	**2.88**	**258**	P	**Pn**	**06 43 07.4**	**+1.8**
ILAR	**Eielson Array**	**16.62**	**35**	Pn	**Pn**	**06 46 10.2**	**-2.3**
	0.0nm,0.3s,baz=237,slow=13,SNR=2.7						
YKA	**Yellowknife Ar**	**30.02**	**49**	P	**P**	**06 48 29.5**	**+1.2**
	0.3nm,0.7s,baz=269,slow=7.8,SNR=3.1						
NVAR	**Mina Array Bea**	**37.83**	**91**	P	**P**	**06 49 36.1**	**-0.4**
	0.4nm,0.7s,baz=297,slow=7.9,SNR=3.3						
PDAR	**Pinedale Array**	**40.46**	**80**	P	**P**	**06 49 58.6**	**+0.2**
	0.4nm,0.9s,baz=318,slow=5.2,SNR=4.1						
PFO	**Pinyon Flat Ob**	**42.14**	**95**	LR	LR	07 03 40.9	
	comp=Z,72nm,21.7s,baz=177,slow=30						
TXAR	**Lajitas Array**	**52.89**	**89**	P	**P**	**06 51 36.0**	**+0.1**
	0.2nm,0.5s,baz=292,slow=7.9,SNR=4.4						
ASAR	**Alice Springs**	**90.61**	**230**	P	**P**	**06 55 20.4**	**-1.7**
	0.4nm,0.6s,baz=36,slow=4.9,SNR=3.6						

*IDC **19** 06:50:29.7±26.0, 52.˚10N×169.˚55W, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.2/47, mbtmp3.2/3, ML3.3/1, Error ellipse: s-maj=504.4km s-min=54.0km az=86.0*
*ISCJB **19** 06:50:31.1±1.4, 52.˚55N±0.˚10×169.˚3W±0.˚1, h10km±7km, mb3.2/2, Error ellipse: s-maj=19.8km s-min=8.3km az=139.7*
*NEIC **19** 06:50:32.2, 52.˚71N×169.˚32W, h4km, ML3.3(AEIC), After AEIC.*

ISC 19 06:50:32.8±1.9, 52.˚7N±0.˚1×169.˚38W±0.˚07, h7km±12km, n15, σ1s03/21, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.39**	**54**	P	**Pg**	**06 50 41.1**	**+0.7**
NIKH				S	**Sb**	**06 50 48.7**	**+0.5**
OKCE	**Okmok Cone E**	**1.00**	**47**	P	**Pg**	**06 50 51.5**	**-0.5**
OKCE				S	**Sn**	**06 51 07.6**	**0.0**
OKTU	**Okmok Mt. Tuli**	**1.03**	**51**	P	**Pg**	**06 50 52.1**	**-0.4**
OKAK	**Okmok**	**1.04**	**36**	P	**Pg**	**06 50 50.3**	**-2.4**
MSOM	**Makushin Julie**	**1.81**	**53**	P	**Pn**	**06 51 04.0**	**-0.3**
MSOM				S	**Sn**	**06 51 27.7**	**+0.2**
MCIR	**Makushin Cirqu**	**1.92**	**50**	P	**Pn**	**06 51 06.0**	**+0.1**
MSW	**Makushin Switc**	**1.95**	**52**	P	**Pn**	**06 51 05.8**	**-0.5**
MSW				S	**Sn**	**06 51 31.5**	**+0.6**
MTBL	**Makushin Table**	**2.03**	**52**	P	**Pn**	**06 51 07.5**	**+0.1**
UNV	**Unalaska Valle**	**2.05**	**56**	P	**Pn**	**06 51 06.5**	**-1.1**
UNV				S	**Sn**	**06 51 32.5**	**-0.9**
AKUT	**Akutan**	**2.57**	**56**	*e*Pn	**Pn**	**06 51 16.6**	**+1.9**
AKUT				*e*Pg	**Pg**	**06 51 22.4**	**+0.5**
ATKA	**Atka Island**	**2.99**	**261**	P	**Pn**	**06 51 20.8**	**+0.2**
SPIA	**Saint Paul Isl**	**4.47**	**354**	P	**Pn**	**06 51 41.9**	**+1.1**
ILAR	**Eielson Array**	**16.65**	**35**	Pn	**P**	**06 54 30.2**	**+1.5**
	0.0nm,0.3s,baz=232,slow=11,SNR=4.6						
PDAR	**Pinedale Array**	**40.34**	**80**	P	**P**	**06 58 10.6**	**-0.3**
	0.2nm,0.6s,baz=304,slow=3.4,SNR=4.1						
TXAR	**Lajitas Array**	**52.75**	**89**	P	**P**	**06 59 47.2**	**-1.0**
	0.3nm,0.6s,baz=305,slow=6.0,SNR=6.7						

MEX 19 07:08:33.4±0.5, 18.˚61N×96.˚04W, h108km±10km, MD3.7, Veracruz

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVIG	**Laguna Verde**	**1.17**	**342**	*e*P	Pn	07 08 54.9	-1.3
LVIG				*e*S	Sn	07 09 11.7	-1.7
TPIG	**Tehuac#an**	**1.26**	**262**	*e*P	Pn	07 08 56.8	-0.8
TPIG				*i* S	Sn	07 09 14.9	-0.9
VHO	**Vista Hermosa**	**1.66**	**203**	*e*P	Pn	07 09 01.2	-1.1
VHO				*e*S	Sn	07 09 22.5	-1.8
CMIG	**Matias Romero**	**1.87**	**144**	*e*P	Pn	07 09 04.1	-0.6
CMIG				*e*S	Sn	07 09 26.6	-1.9
PPM	**Popocatepetl**	**2.49**	**281**	*e*P	Pn	07 09 12.4	-0.9
PPM				*i* S	Sn	07 09 40.4	-3.4
PNIG	**Pinotepa**	**2.97**	**222**	*e*P	Pn	07 09 17.2	-1.7
PNIG				*i* S	Sn	07 09 52.1	-1.9

*IDC **19** 07:11:50.7±1.1, 52.˚84N×170.˚54W, h0km, mb3.7/9, mb1 4.0/10, mb1mx3.7/52, mbtmp3.7/10, ML3.8/1, MS3.2/3, Ms1 3.2/3, ms1mx2.7/45, Error ellipse: s-maj=40.7km s-min=19.7km az=142.0*
*NEIC **19** 07:11:58.5, 52.˚73N×169.˚28W, h6km, mb3.6/3, ML3.7(AEIC), After AEIC.*

ISC 19 07:11:55.1±1.3, 52.˚8N±0.˚1×169.˚81W±0.˚06, h6km±9km, n47, σ1s21/38, mb3.6/11, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.60**	**77**	P	**Pg**	**07 12 06.5**	**0.0**
NIKH				S	**Sg**	**07 12 14.3**	**0.0**
OKAK	**Okmok**	**1.14**	**49**	P	**Pg**	**07 12 16.2**	**-0.8**
OKCE	**Okmok Cone E**	**1.15**	**59**	P	**Pg**	**07 12 17.0**	**-0.1**
OKCE				S	**Sg**	**07 12 33.1**	**+1.0**
OKTU	**Okmok Mt. Tuli**	**1.20**	**62**	P	**Pg**	**07 12 17.6**	**-0.4**
MSOM	**Makushin Julie**	**1.98**	**59**	P	**Pn**	**07 12 29.1**	**+0.1**
MSOM				S	**Sn**	**07 12 52.0**	**-2.0**
MCIR	**Makushin Cirqu**	**2.07**	**56**	P	**Pn**	**07 12 31.5**	**+1.1**
MSW	**Makushin Switc**	**2.11**	**58**	P	**Pn**	**07 12 31.6**	**+0.8**
MSW				S	**Sn**	**07 12 57.8**	**+0.4**
MTBL	**Makushin Table**	**2.19**	**58**	P	**Pn**	**07 12 32.2**	**+0.2**
UNV	**Unalaska Valle**	**2.23**	**62**	P	**Pn**	**07 12 31.7**	**-0.7**
UNV				S	**Sn**	**07 12 59.9**	**-0.3**
AKRB	**Akutan Reef Bi**	**2.58**	**59**	P	**Pn**	**07 12 38.4**	**+1.1**
ZRO	**Akutan Zero**	**2.61**	**60**	P	**Pn**	**07 12 38.9**	**+1.2**
AKGG	**Akutan Green G**	**2.66**	**58**	P	**Pn**	**07 12 39.3**	**+1.0**
AKUT	**Akutan**	**2.74**	**60**	P	**Pn**	**07 12 39.7**	**+0.2**
ATKA	**Atka Island**	**2.75**	**258**	P	**Pg**	**07 12 48.0**	**+0.2**
WECS	**Westdahl Cape**	**3.44**	**59**	P	**Pn**	**07 12 50.8**	**+1.7**
WESP	**Westdahl Peak**	**3.45**	**59**	P	**Pn**	**07 12 50.8**	**+1.5**
GSTR	**Great Sitkin T**	**3.89**	**261**	*e*Pn	**Pb**	**07 13 02.9**	**-1.2**
GSTR				*e*Pg	Pg	07 13 19.2	+10
GSTR				*e*Sn	**Sb**	**07 13 53.2**	**+1.8**
GSTR				*e*Sg	Sg	07 14 11.2	+11
GSMY	**Great Sitkin M**	**3.90**	**261**	P	**Pb**	**07 13 02.4**	**-1.8**
GSTD	**Great Sitkin T**	**3.95**	**261**	P	**Pb**	**07 13 03.7**	**-1.4**
FALS	**False Pass**	**4.29**	**59**	*e*Pn	Pn	07 13 03.9	+3.1
SPIA	**Saint Paul Isl**	**4.35**	**357**	P	Pn	07 13 07.0	+5.4
TRF	**Thorofare Moun**	**14.73**	**36**	*e*Pn	Pn	07 15 20.3	-3.6
BPAW	**Bear Paw Mtn.**	**14.90**	**33**	*e*Pn	**Pn**	**07 15 29.3**	**+3.4**
	1.9nm,0.9s						
ILAR	**Eielson Array**	**16.72**	**35**	Pn	**Pn**	**07 15 46.8**	**-2.8**
	0.1nm,0.3s,baz=226,slow=11,SNR=18						
ILAR				LR	LR	07 21 50.5	
	comp=Z,53nm,20.4s,baz=129,slow=35						
EGAK	**Eagle**	**18.84**	**40**	*e*P	**Pn**	**07 16 16.4**	**+0.6**
	2.1nm,0.6s						
HYT	**Haines Junctio**	**19.22**	**53**	*e*P	**Pn**	**07 16 21.6**	**+1.1**
	7.3nm,0.6s						
H02N1	**VAN INLET T-PH**	**22.25**	**74**	T	T	07 39 38.5	
H02S1	**DAWSON INLET T**	**22.30**	**74**	T	T	07 39 40.6	
	SNR=16						
DLBC	**Dease Lake**	**22.88**	**60**	P	**P**	**07 16 59.4**	**+0.4**
	5.6nm,1.0s,baz=281,slow=10,SNR=4.1						
INK	**Inuvik**	**23.10**	**34**	P	**P**	**07 16 59.8**	**-1.4**
	1.8nm,0.8s,baz=264,slow=9.1,SNR=5.3						
INK				LR	LR	07 26 50.2	
	comp=Z,76nm,18.3s,baz=253,slow=38						
YKA	**Yellowknife Ar**	**30.14**	**49**	P	**P**	**07 18 05.3**	**+0.1**
	0.4nm,0.6s,baz=276,slow=7.0,SNR=13						
NEW	**Newport**	**33.16**	**76**	P	**P**	**07 18 32.1**	**+0.1**
	1.2nm,0.6s,baz=300,slow=20,SNR=4.1						
NEW				LR	LR	07 31 33.4	
	comp=Z,37nm,18.1s,baz=287,slow=35						
MCMT	**McKenzie Canyo**	**37.45**	**79**	*e*P	**P**	**07 19 09.4**	**+0.2**
	0.7nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**37.66**	**218**	T	T	07 59 00.1	
	baz=24,slow=76,SNR=43						
H11N3	**WAKE ISLAND Hy**	**37.67**	**218**	T	T	07 59 01.5	
	baz=24,slow=76,SNR=46						
H11N1	**WAKE ISLAND Hy**	**37.68**	**218**	T	T	07 58 59.5	
	baz=24,slow=76,SNR=34						
NVAR	**Mina Array Bea**	**37.94**	**91**	P	**P**	**07 19 13.5**	**+0.1**
	0.4nm,0.7s,baz=298,slow=8.7,SNR=4.7						
H11S1	**WAKE ISLAND Hy**	**38.85**	**217**	T	T	08 00 31.4	
	baz=23,slow=76,SNR=1079						
H11S2	**WAKE ISLAND Hy**	**38.87**	**217**	T	T	08 00 31.4	
	baz=23,slow=76,SNR=559						
H11S3	**WAKE ISLAND Hy**	**38.87**	**217**	T	T	08 00 31.9	
	baz=23,slow=76,SNR=510						
PDAR	**Pinedale Array**	**40.58**	**79**	P	**P**	**07 19 35.3**	**-0.1**
	1.0nm,0.7s,baz=317,slow=6.0,SNR=10						

PV01	**Paradox Valley**	**44.03**	**84**	*e*P	**P**	**07 20 03.4**	**-0.1**
	107nm,0.7s						
TXAR	**Lajitas Array**	**53.01**	**89**	P	**P**	**07 21 12.6**	**0.0**
	1.0nm,0.6s,baz=296,slow=5.2,SNR=20						
H06E1	**SOCORRO T-PHAS**	**56.54**	**104**	T	T	08 22 30.1	
	SNR=6.6						
WRA	**Warramunga Arr**	**87.09**	**231**	P	P	07 24 36.0	-5.5
	0.5nm,1.0s,baz=29,slow=6.1,SNR=2.7						
ASAR	**Alice Springs**	**90.49**	**230**	P	P	07 24 53.0	-4.5
	0.1nm,0.6s,baz=29,slow=5.7,SNR=2.5						
ASAR	**Alice Springs**	**90.49**	**230**	P	P	07 24 53.0	-4.5

*IDC **19** 07:15:40.6±15.0, 52.˚44N×169.˚84W, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/58, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=285.9km s-min=51.2km az=89.0*
*ISCJB **19** 07:15:41.3±1.2, 52.˚8N±0.˚2×169.˚8W±0.˚1, h4km±10km, mb3.3/3, Error ellipse: s-maj=28.4km s-min=6.3km az=158.1*
*NEIC **19** 07:15:41.9, 52.˚69N×169.˚68W, h5km, ML3.4(AEIC), After AEIC.*

ISC 19 07:15:41.8±1.7, 52.˚9N±0.˚1×169.˚86W±0.˚07, h0km±11km, n21, σ0s77/24, mb3.3/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.61**	**85**	P	**Pg**	**07 15 53.3**	**-0.2**
NIKH				S	**Sg**	**07 16 02.1**	**+0.7**
OKAK	**Okmok**	**1.12**	**53**	P	**Pg**	**07 16 02.4**	**-0.8**
OKAK				S	**Sg**	**07 16 17.1**	**-0.6**
OKCE	**Okmok Cone E**	**1.14**	**63**	P	**Pg**	**07 16 03.6**	**0.0**
OKCE				S	**Sn**	**07 16 21.2**	**-0.1**
OKTU	**Okmok Mt. Tuli**	**1.19**	**66**	P	**Pg**	**07 16 04.4**	**-0.2**
MSOM	**Makushin Julie**	**1.96**	**62**	P	**Pn**	**07 16 16.1**	**-0.1**
MSOM				S	**Sn**	**07 16 42.3**	**+0.8**
MCIR	**Makushin Cirqu**	**2.05**	**59**	P	**Pn**	**07 16 18.5**	**+0.9**
MSW	**Makushin Switc**	**2.09**	**60**	P	**Pn**	**07 16 18.4**	**+0.3**
MSW				S	**Sb**	**07 16 46.5**	**-0.6**
MTBL	**Makushin Table**	**2.17**	**60**	P	**Pn**	**07 16 19.3**	**+0.1**
UNV	**Unalaska Valle**	**2.21**	**64**	P	**Pn**	**07 16 19.3**	**-0.4**
UNV				S	**Sn**	**07 16 47.1**	**-0.6**
AKRB	**Akutan Reef Bi**	**2.56**	**60**	P	**Pn**	**07 16 25.3**	**+0.7**
ZRO	**Akutan Zero**	**2.60**	**62**	P	**Pn**	**07 16 25.8**	**+0.8**
AKUT	**Akutan**	**2.72**	**62**	P	**Pn**	**07 16 27.3**	**+0.5**
ATKA	**Atka Island**	**2.75**	**257**	P	**Pn**	**07 16 27.0**	**0.0**
GSCK	**Great Sitkin C**	**3.96**	**259**	P	**Pn**	**07 16 44.4**	**+0.5**
ILAR	**Eielson Array**	**16.67**	**36**	Pn	**Pn**	**07 19 37.9**	**+1.4**
	0.0nm,0.3s,baz=230,slow=12,SNR=4.1						
DLBC	**Dease Lake**	**22.86**	**60**	P	**P**	**07 20 47.7**	**+1.2**
	1.1nm,0.7s,baz=238,slow=19,SNR=2.9						
H11S1	**WAKE ISLAND Hy**	**38.90**	**217**	T	T	08 04 11.8	
	baz=22,slow=76,SNR=6.6						
H11S2	**WAKE ISLAND Hy**	**38.91**	**217**	T	T	08 04 13.2	
	baz=22,slow=76,SNR=7.7						
H11S3	**WAKE ISLAND Hy**	**38.92**	**217**	T	T	08 04 12.1	
	baz=22,slow=76,SNR=9.1						
PDAR	**Pinedale Array**	**40.59**	**79**	P	**P**	**07 23 23.1**	**-0.1**
	0.4nm,0.8s,baz=311,slow=6.8,SNR=4.0						
TXAR	**Lajitas Array**	**53.03**	**89**	P	**P**	**07 24 58.9**	**-1.6**
	0.3nm,0.8s,baz=300,slow=5.7,SNR=4.5						

KRSC 19 07:19:07.9±1.5, 50.˚59N×157.˚38E, h89km±14km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.81**	**277**	*e*P	Pn	07 19 26.6	+1.2
SKR				*e*S	Sn	07 19 38.9	+0.4
PAU	**Pauzhetka**	**0.95**	**338**	*e*P	Pn	07 19 28.4	+1.5
PAU				*e*S	Sn	07 19 43.2	+2.1
MIPR	**Malaya Ipel'ka**	**1.73**	**347**	*e*P	Pn	07 19 37.7	+1.1
ASAK	**Asacha**	**1.82**	**10**	*e*P	Pn	07 19 39.9	+2.1
MTVR	**Mutnovka**	**1.96**	**14**	*e*P	Pn	07 19 42.0	+2.3
MTVR				*e*S	Sn	07 20 06.8	+2.9
RUS	**Russkaya**	**1.98**	**21**	*e*P	Pn	07 19 41.6	+1.9
RUS				*e*S	Sn	07 20 08.8	+1.9
APC	**Apacha**	**2.34**	**357**	*e*P	Pn	07 19 45.7	+1.2
PET	**Petropavlovsk**	**2.56**	**17**	*e*P	Pn	07 19 48.7	+1.3
PET				*e*S	Sn	07 20 18.9	+1.1
UGLR	**Uglovaya**	**2.77**	**18**	*e*P	Pn	07 19 53.4	+3.0
AVH	**Avacha**	**2.81**	**17**	*e*P	Pn	07 19 53.6	+2.7
AVH				*e*S	Sn	07 20 26.8	+2.9
KOK	**Koryaka**	**2.81**	**16**	*e*P	Pn	07 19 54.2	+3.2
SMAR	**Somma**	**2.82**	**18**	*e*P	Pn	07 19 53.8	+2.6
KRER	**Koryakskii**	**2.84**	**17**	*e*P	Pn	07 19 54.4	+2.9
SDLR	**Sedlovina**	**2.85**	**18**	*e*P	Pn	07 19 53.7	+2.2
KRX	**Arik**	**2.88**	**15**	*e*P	Pn	07 19 54.7	+2.8
SPN	**Mys Shipunski**	**3.00**	**32**	*e*P	Pn	07 19 55.7	+2.4
SPN				*e*S	Sn	07 20 29.8	+1.5
GNL	**Ganaly**	**3.13**	**6**	*e*P	Pn	07 19 57.3	+2.1
MKZ	**Mys Kozlova**	**4.78**	**32**	*e*P	Pn	07 20 18.7	+1.4
MKZ				*e*S	Sn	07 21 11.2	-0.1
TUMR	**Tumrok**	**4.99**	**19**	*e*P	Pn	07 20 23.6	+3.2

*IDC **19** 07:23:27.0±1.2, 6.˚13S×150.˚57E, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.6/43, mbtmp3.7/6, ML1.6/1, MS3.6/1, Ms1 3.6/1, ms1mx3.2/23, Error ellipse: s-maj=80.3km s-min=22.3km az=127.0*

ISC 19 07:23:33.3±1.1, 6.˚0S±0.˚3×150.˚2E±0.˚4, h48km, n8, σ1s05/7, mb3.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.56**	**221**	Pn	**Pn**	**07 24 39.9**	**+0.2**
	1.8nm,0.3s,baz=79,slow=16,SNR=3.6						
WRA	**Warramunga Arr**	**20.75**	**226**	P	**P**	**07 28 11.1**	**+0.8**
	1.6nm,0.6s,baz=53,slow=11,SNR=13						
ASAR	**Alice Springs**	**23.57**	**220**	P	**P**	**07 28 40.6**	**+0.7**
	0.7nm,0.9s,baz=57,slow=8.7,SNR=12						
STKA	**Stephens Creek**	**27.02**	**196**	P	**P**	**07 29 09.9**	**-1.1**
	0.9nm,0.6s,baz=359,slow=13,SNR=3.1						
PPT	**Papeete**	**59.88**	**107**	LR	LR	07 56 23.8	
	comp=Z,56nm,21.1s,baz=275,slow=33						
ILAR	**Eielson Array**	**84.20**	**23**	P	**P**	**07 35 59.4**	**0.0**
	0.4nm,0.9s,baz=267,slow=4.7,SNR=4.7						
NVAR	**Mina Array Bea**	**94.84**	**52**	P	**P**	**07 36 51.3**	**+0.6**
	0.4nm,0.7s,baz=263,slow=4.2,SNR=3.3						
TORD	**Torodi Ar. Bea**	**148.13**	**285**	PKPbc	**PKPab**	**07 43 16.6**	**-1.2**
	1.1nm,0.6s,baz=57,slow=3.2,SNR=9.6						

*IDC **19** 07:24:35.8±0.6, 6.˚13S×150.˚50E, h0km, mb4.4/16, mb1 4.5/18, mb1mx4.4/24, mbtmp4.4/18, ML3.6/2, Error ellipse: s-maj=19.3km s-min=13.9km az=91.0*
*ISCJB **19** 07:24:41.6±0.4, 6.˚22S±0.˚04×150.˚38E±0.˚06, h48km, mb4.6/24, MS5.0/7, Error ellipse: s-maj=8.3km s-min=5.6km az=18.3*
*NEIC **19** 07:24:41.2±0.3, 6.˚12S×150.˚46E, h35km, mb5.0/10, Error ellipse: s-maj=9.0km s-min=6.5km az=97.0*
*BJI **19** 07:24:43.4, 6.˚69S×149.˚63E, h59km, mb4.9/6, mB5.1/5, Ms4.7/3, Ms7 4.6/4*
*DJA **19** 07:24:53.9±0.7, 6.˚S±4.˚×15.˚0E±.˚, h136km±7km, M5.6/23, mb4.9/23, mB5.7/3, MLv6.0/1, Mw(mB)5.3/3*

ISC 19 07:24:43.2±0.5, 6.˚23S±0.˚05×150.˚47E±0.˚07, h48km, n79, σ1s42/83, mb4.5/24, MS5.0/7, 2C-1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.64**	**40**	P	**Pn**	**07 25 24.9**	**+1.6**
	baz=2.7,SNR=8.6						
PMG	**Port Moresby**	**4.55**	**226**	Pn	**Pn**	**07 25 49.2**	**-0.4**
	49nm,0.3s,baz=42,slow=6.6,SNR=28						
PMG				Sn	**Sn**	**07 26 39.7**	**-1.6**
	88nm,0.3s,baz=98,slow=20,SNR=15						
PMG	**Port Moresby**	**4.55**	**226**	P	**Pn**	**07 25 50.7**	**+1.0**
	baz=4.5,SNR=13						
PMG				P	**Pn**	**07 25 50.7**	**+1.0**
	baz=4.5,SNR=13						
PMG				P	**Pn**	**07 25 50.7**	**+1.0**
	baz=4.5,SNR=13						
MANU	**Manus Island**	**5.18**	**323**	⇑P	Pn	07 26 02.6	+4.3
	baz=5.3,SNR=7.5						
COEN	**Coen**	**10.51**	**223**	P	**Pn**	**07 27 11.6**	**+0.2**
	baz=10,SNR=9.5						
GENI	**Genyem**	**10.89**	**289**	P	Pn	07 27 23.3	+6.8
	95nm,0.3s,3μm						
MTSU	**Mount Surprise**	**13.27**	**206**	P	**Pn**	**07 27 50.9**	**+1.8**
	baz=13,SNR=8.4						
CTA	**Charters Tower**	**14.37**	**196**	Pn	**Pn**	**07 28 03.9**	**-0.1**
	0.7nm,0.3s,baz=15,slow=13,SNR=2.9						

CTAO	**Charters Tower**	**14.37**	**196**	Pn	**Pn**	**07 28 04.4**	**+0.4**
RKPI	**Ransiki, Papua**	**16.91**	**285**	P	**P**	**07 28 40.5**	**+2.4**
	49nm,0.7s,20μm						
QIS	**Mount Isa**	**17.72**	**215**	P	**P**	**07 28 47.3**	**+0.3**
	baz=18,SNR=14						
FAKI	**Fak Fak**	**18.46**	**279**	P	**Pn**	**07 28 57.1**	**+1.4**
	42nm,1.3s						
KDU	**Kakadu**	**18.87**	**249**	P	**P**	**07 28 59.0**	**-0.7**
	baz=19,SNR=33						
EIDS	**Eidsvold**	**19.04**	**178**	P	**Pn**	**07 29 02.6**	**0.0**
	baz=19,SNR=4.5						
EIDS	**Eidsvold**	**19.04**	**178**	*e*P	**Pn**	**07 29 02.9**	**+0.2**
	20nm,1.1s						
EIDS				*e*S	**S**	**07 32 40.0**	**+4.8**
MTN	**Manton Dam**	**20.16**	**250**	P	**P**	**07 29 13.4**	**-0.4**
	baz=20,SNR=21						
RMQ	**Roma**	**20.21**	**184**	P	Pn	07 29 16.1	-0.4
	baz=20,SNR=11						
WRAB	**Tennant Creek**	**20.76**	**227**	*e*P	**P**	**07 29 19.9**	**-0.3**
	64nm,0.5s						
WRA	**Warramunga Arr**	**20.77**	**227**	P	**P**	**07 29 20.3**	**-0.1**
	88nm,0.7s,baz=51,slow=11,SNR=78						
WRA				PcP	**PcP**	**07 33 28.3**	**-0.1**
	4.0nm,0.8s,baz=42,slow=2.1,SNR=4.5						
WRA				ScP	**ScP**	**07 37 04.9**	**+3.5**
	2.3nm,0.6s,baz=50,slow=2.6,SNR=5.5						
PALU	**Palau**	**20.89**	**310**	⇓P	Pn	07 29 24.6	-0.1
	baz=21,SNR=3.6						
QLP	**Quilpie**	**21.09**	**196**	P	**P**	**07 29 24.6**	**+0.9**
	baz=21,SNR=27						
DZM	**Mont Dzumac**	**22.05**	**137**	P	**P**	**07 29 33.8**	**-0.3**
	13nm,1.0s,baz=270,slow=24,SNR=32						
KNRA	**Kununurra**	**23.26**	**244**	P	**P**	**07 29 45.6**	**-1.2**
	baz=23,SNR=18						
AS31	**Alice Springs**	**23.55**	**221**	*e*P	**P**	**07 29 49.9**	**+0.4**
ASAR	**Alice Springs**	**23.55**	**221**	P	**P**	**07 29 49.9**	**+0.4**
	24nm,0.3s,baz=54,slow=9.3,SNR=223						
ASAR				ScP	**ScP**	**07 37 11.7**	**+3.3**
	2.2nm,0.7s,baz=50,slow=3.3,SNR=6.6						
ARMA	**Armidale**	**24.09**	**178**	P	**P**	**07 29 55.2**	**+0.7**
	baz=24,SNR=7.4						
CMSA	**Cobar Meteorol**	**25.57**	**189**	P	**P**	**07 30 07.5**	**-0.3**
	baz=26,SNR=16						
SOEI	**Soe**	**26.18**	**261**	P	**P**	**07 30 12.5**	**-1.2**
	68nm,0.8s						
SOEI	**Soe**	**26.18**	**261**	⇑P	**P**	**07 30 12.4**	**-1.2**
	baz=26,SNR=4.2						
SOEI	**Soe**	**26.18**	**261**	*e*P	**P**	**07 30 12.6**	**-1.2**
	48nm,0.8s						
STKA	**Stephens Creek**	**26.83**	**197**	P	**P**	**07 30 18.6**	**-0.6**
	28nm,0.7s,baz=355,slow=7.8,SNR=40						
STKA	**Stephens Creek**	**26.83**	**197**	*e*P	**P**	**07 30 18.7**	**-0.6**
	5.6nm,0.8s						
WRKA	**Warakurna**	**28.30**	**226**	P	**P**	**07 30 32.0**	**-0.5**
	baz=28,SNR=35						
HTT	**Hallett**	**29.11**	**200**	P	**P**	**07 30 39.6**	**0.0**
	baz=29,SNR=7.8						
KAPI	**Kappang**	**30.59**	**271**	P	**P**	**07 30 51.2**	**-1.8**
	6.3nm,0.7s,baz=54,slow=17,SNR=3.1						
KAPI	**Kappang**	**30.59**	**271**	*e*P	**P**	**07 30 52.7**	**-0.3**
	4.1nm,0.4s						
FORT	**Forrest**	**32.23**	**218**	P	**P**	**07 31 07.0**	**-0.1**
	baz=32,SNR=17						
FORT	**Forrest**	**32.23**	**218**	*e*P	**P**	**07 31 06.4**	**-0.8**
	25nm,0.8s						
MBWA	**Marble Bar**	**33.25**	**240**	*e*P	**P**	**07 31 15.7**	**-0.5**
	27nm,0.6s						
JAGI	**Jajag, Banyuwa**	**36.08**	**264**	*e*P	**P**	**07 31 37.7**	**-3.1**
	18nm,0.4s						
MEEK	**Meekatharra**	**36.50**	**233**	P	**P**	**07 31 43.9**	**-0.3**
	baz=36,SNR=14						
KMBL	**Kambalda**	**36.62**	**223**	P	**P**	**07 31 45.0**	**-0.2**
	baz=37,SNR=18						
WOJI	**Wonogiri, Jawa**	**39.27**	**265**	P	**P**	**07 32 06.8**	**-0.9**
	113nm,0.8s						
KLBR	**Kellerberrin**	**39.65**	**226**	P	**P**	**07 32 09.7**	**-0.9**
	baz=40,SNR=34

13nm,0.6s,baz=67,slow=2.7,SNR=65
BDFB Brasilia 151.59 140 PKPbc **PKPbc 07 44 33.2 -0.2**
6.0nm,0.7s,baz=159,slow=5.0,SNR=9.3
BDFB PKPab **PKPab 07 44 42.3 +0.3**
1.9nm,0.4s,baz=251,slow=1.4,SNR=3.6

*IDC **19** 07:25:14.9±1.8,52.°47N×170.°08W,h0km,mb3.7/4, mb1 4.0/5,mb1mx3.6/29,mbtmp3.6/5,ML3.4/1,MS4.0/1, Ms1 4.0/1,ms1mx2.7/44,Error ellipse: s-maj=53.1km s-min=31.4km az=141.0*
*ISCJB **19** 07:25:18.1±1.4,52.°6N±0.°1×169.°7W±0.°1,h21km±10km, mb3.7/4,MS4.0/1,Error ellipse: s-maj=22.2km s-min=6.9km az=153.0*
*NEIC **19** 07:25:18.4,52.°64N×169.°61W,h4km,ML3.3(AEIC),After AEIC.*

ISC 19 07:25:18.5±1.7,52.°6N±0.°1×169.°67W±0.°07,h14km±10km, n20,σ1°27/21,mb3.6/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.60**	**56**	P	**Pg**	**07 25 29.8**	**-0.4**
NIKH				S	**Sg**	**07 25 38.6**	**+0.5**
OKCE	**Okmok Cone E**	**1.20**	**49**	P	**Pn**	**07 25 40.7**	**-0.3**
OKCE				S	**Sg**	**07 25 57.6**	**+0.3**
OKAK	**Okmok**	**1.23**	**40**	P	**Pn**	**07 25 38.6**	**-2.7**
MSOM	**Makushin Julie**	**2.02**	**53**	P	**Pn**	**07 25 53.0**	**+0.9**
MSOM				S	**Sn**	**07 26 18.9**	**+1.9**
MCIR	**Makushin Cirqu**	**2.12**	**51**	P	**Pn**	**07 25 54.7**	**+1.1**
MSW	**Makushin Switc**	**2.15**	**53**	P	**Pn**	**07 25 54.5**	**+0.5**
MSW				S	**Sn**	**07 26 21.6**	**+1.1**
MTBL	**Makushin Table**	**2.23**	**52**	P	**Pn**	**07 25 56.3**	**+1.1**
UNV	**Unalaska Valle**	**2.25**	**56**	P	**Pn**	**07 25 55.3**	**-0.1**
UNV				S	**Sn**	**07 26 23.5**	**+0.6**
ATKA	**Atka Island**	**2.81**	**263**	P	**Pn**	**07 26 03.9**	**+1.0**
GSCK	**Great Sitkin C**	**4.03**	**264**	P	**Pn**	**07 26 20.5**	**+0.7**
SPIA	**Saint Paul Isl**	**4.56**	**356**	P	**Pn**	**07 26 27.6**	**+0.6**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=227,slow=12,SNR=9.2	**16.83**	**35**	Pn	**Pn**	**07 29 13.0**	**-0.5**
NVAR	**Mina Array Bea** 0.4nm,0.7s,baz=301,slow=8.7,SNR=4.0	**37.85**	**91**	P	**P**	**07 32 35.1**	**+0.2**
H11S1	**WAKE ISLAND Hy** baz=23,slow=76,SNR=22	**38.75**	**217**	T	T	08 13 54.3	
H11S2	**WAKE ISLAND Hy** baz=23,slow=76,SNR=20	**38.76**	**217**	T	T	08 13 55.3	
H11S3	**WAKE ISLAND Hy** baz=23,slow=76,SNR=14	**38.76**	**217**	T	T	08 13 54.7	
PDAR	**Pinedale Array** 0.6nm,0.6s,baz=315,slow=5.0,SNR=6.3	**40.53**	**79**	P	**P**	**07 32 58.1**	**+0.8**
JNU	**Nakatsue** comp=Z,177nm,21.3s,baz=136,slow=35	**46.28**	**269**	LR	LR	07 52 15.9	
TXAR	**Lajitas Array** 0.7nm,0.8s,baz=295,slow=5.3,SNR=11	**52.93**	**89**	P	**P**	**07 34 34.9**	**+0.6**
ASAR	**Alice Springs** 1.4nm,0.7s,baz=31,slow=4.3,SNR=4.2	**90.43**	**230**	P	**P**	**07 38 16.7**	**-2.7**

*IDC **19** 07:25:36.6±0.6,6.°11S×150.°64E,h0km,mb4.5/22, mb1 4.5/24,mb1mx4.5/28,mbtmp4.5/24,ML3.9/2,MS4.3/6, Ms1 4.3/6,ms1mx4.0/17,Error ellipse: s-maj=21.5km s-min=12.9km az=101.0*
*ISCJB **19** 07:25:42.0±0.4,6.°09S±0.°05×150.°39E±0.°07,h48km, mb4.5/25,MS4.2/2,Error ellipse: s-maj=10.4km s-min=6.0km az=20.4*
*NEIC **19** 07:25:42.3±1.2,6.°07S×150.°50E,h36km±10km,mb5.0/6, Error ellipse: s-maj=10.8km s-min=6.3km az=86.0*
*GCMT **19** 07:25:42.3±0.2,6.°46S×150.°30E,h34km,MW5.2/76, Moment Tensor Solution. s76,c118; s71,c107; Duration: 1s0 Moment tensor: Scale 10^17^Nm; Mrr0.66±.02; Mθθ-0.75±.01; Mϕϕ0.09±.01; Mrθ0.39±.02; Mθϕ-0.00±.01; Mrϕ0.02±.02; Best double couple: M=0.80600×10^17^ NP1:ϕs89.00000°,δ59.00000°, λ89.00000°. NP2:ϕs271.00000°,δ31.00000°,λ93.00000°. Principal axes: T 0.7590, Plg76.0000°, Azm354.0000°; N 0.0950, Plg1.0000°, Azm89.0000°; P -0.8540, Plg14.0000°, Azm180.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 19 07:25:43.5±0.4,6.°10S×150.°45E±0.°08,h48km,n56, σ1°08/56,mb4.5/25,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** comp=Z,2μm,19.9s,baz=1.0,slow=31	**4.63**	**225**	LR	LR	07 28 05.0	
PMG	**Port Moresby**	**4.63**	**225**	Pn	**Pn**	**07 26 48.5**	**-2.5**
PMG				*e*Sn	**Sn**	**07 27 42.6**	**-0.8**
HNR	**Honiara** comp=Z,2μm,21.8s,baz=284,slow=35	**9.98**	**110**	LR	LR	07 31 23.1	
JAY	**Jayapura** 0.4nm,0.3s,baz=93,slow=19,SNR=3.0	**10.35**	**290**	Pn	**Pn**	**07 28 09.8**	**+0.3**
JAY				LR	LR	07 31 38.5	
CTA	**Charters Tower** 0.8nm,0.3s,baz=12,slow=16,SNR=2.4	**14.49**	**196**	Pn	**Pn**	**07 29 05.9**	**0.0**
CTA				LR	LR	07 34 28.0	
CTAO	**Charters Tower** 31nm,0.8s	**14.49**	**196**	*e*Pn	**Pn**	**07 29 05.8**	**0.0**
EIDS	**Eidsvold** 55nm,0.7s	**19.17**	**178**	*e*P	**Pn**	**07 30 04.5**	**+0.1**
GUMO	**Guam** 44nm,0.5s,baz=128,slow=13,SNR=6.6	**20.33**	**344**	P	**P**	**07 30 16.7**	**+0.8**
GUMO	**Guam** 39nm,0.5s	**20.33**	**344**	*e*P	**P**	**07 30 15.2**	**-0.7**
WRAB	**Tennant Creek** 35nm,0.5s	**20.83**	**227**	*e*P	**P**	**07 30 21.4**	**+0.2**
WRA	**Warramunga Arr** 20nm,0.5s,baz=51,slow=11,SNR=4.9	**20.84**	**227**	P	**P**	**07 30 21.3**	**-0.1**
WRA				PcP	**PcP**	**07 34 29.4**	**+0.5**
WRA	2.1nm,0.5s,baz=41,slow=1.8,SNR=5.4			ScP	**ScP**	**07 38 05.3**	**+3.5**
DZM	1.1nm,0.8s,baz=49,slow=2.9,SNR=4.7 **Mont Dzumac** comp=Z,366nm,20.8s,baz=0.0,slow=29	**22.16**	**137**	LR	LR	07 36 07.5	
ASAR	**Alice Springs** 4.8nm,0.5s,baz=53,slow=11,SNR=2.9	**23.63**	**221**	P	**P**	**07 30 52.0**	**+1.4**
ASAR	1.5nm,0.5s,baz=56,slow=3.5,SNR=4.1			PcP	**PcP**	**07 34 34.9**	**+0.5**
ASAR	0.9nm,0.8s,baz=30,slow=2.5,SNR=3.3			ScP	**ScP**	**07 38 11.9**	**+3.0**
BATI	**Baumata** 36nm,0.3s,baz=30,slow=20,SNR=2.0	**26.82**	**259**	P	**P**	**07 31 21.4**	**+1.7**
STKA	**Stephens Creek** 10nm,0.7s,baz=351,slow=8.0,SNR=4.3	**26.95**	**197**	P	**P**	**07 31 20.8**	**+0.3**
STKA	comp=Z,2μm,18.4s,baz=32,slow=38			LR	LR	07 42 40.6	
STKA	**Stephens Creek**	**26.95**	**197**	*e*P	**P**	**07 31 21.0**	**+0.4**
KAPI	**Kappang** 5.0nm,0.6s,baz=113,slow=7.7,SNR=2.8	**30.57**	**270**	P	**P**	**07 31 53.1**	**+0.1**
KAPI	**Kappang**	**30.57**	**270**	*e*P	**P**	**07 31 53.3**	**+0.3**
MBWA	**Marble Bar** 36nm,1.1s	**33.30**	**240**	*e*P	**P**	**07 32 16.0**	**-0.9**
NWAO	**Narrogin (SRO)** 12nm,1.0s,baz=149,slow=14,SNR=2.8	**40.82**	**225**	P	**P**	**07 33 20.2**	**-0.4**
LEM	**Lembang** 54nm,0.8s,baz=70,slow=7.7,SNR=3.5	**42.55**	**267**	P	**P**	**07 33 35.7**	**+0.4**
JNU	**Nakatsue** 4.8nm,0.4s,baz=79,slow=4.7,SNR=5.9	**43.21**	**336**	P	**P**	**07 33 40.5**	**+0.5**
MJAR	**Matsushiro Arr** 4.7nm,0.8s,baz=172,slow=8.6,SNR=9.9	**43.94**	**346**	P	**P**	**07 33 46.1**	**+0.3**
MAJO	**Matsushiro** 8.6nm,0.8s	**43.94**	**346**	*e*P	**P**	**07 33 44.8**	**-1.2**
MAT	**Matsushiro**	**43.94**	**346**	P	**P**	**07 33 47.2**	**+1.3**
MAT				S	**S**	**07 40 11.8**	**-2.5**
KSRS	**Korea Array** 2.5nm,0.5s,baz=153,slow=8.1,SNR=7.2	**48.16**	**336**	P	**P**	**07 34 19.5**	**+0.5**
KSAR	**Wonju Array Be**	**48.17**	**336**	P	**P**	**07 34 19.5**	**+0.4**
ASAJ	**Asahikawa** 5.2nm,0.4s,baz=208,slow=8.0,SNR=7.3	**50.48**	**353**	P	**P**	**07 34 37.6**	**+1.0**
USRK	**Ussuriysk Ar.** 2.2nm,0.5s,baz=146,slow=7.5,SNR=7.5	**52.77**	**343**	P	**P**	**07 34 55.3**	**+1.6**
PPT2	**Papeete2** 295nm,29.0s	**59.58**	**107**	*e*S	**S**	**07 43 49.1**	**-1.0**
PPT2	873nm,30.8s			*e*LQ	LQ	07 50 50.5	
TBI	**Tubuai** 650nm,35.2s	**60.18**	**113**	*e*LQ	LQ	07 51 04.5	
TBI	199nm,33.5s			*e*LR	LR	07 53 41.4	
SONM	**Songino Array** 1.7nm,0.5s,baz=143,slow=4.7,SNR=8.6	**66.20**	**329**	P	**P**	**07 36 26.8**	**+0.2**
SEY	**Seymchan**	**68.85**	**1**	P	**P**	**07 36 42.6**	**-0.1**
	1.5nm,0.5s,baz=177,slow=6.3,SNR=11						
VNDA	**Vanda** 2.4nm,0.8s,baz=341,slow=5.8,SNR=5.4	**71.63**	**177**	P	**P**	**07 37 00.5**	**+0.9**
RKT	**Rikitea** 213nm,27.0s	**73.46**	**112**	*e*LR	LR	07 59 47.8	
MK31	**Makanchi Array** 0.9nm,0.5s,baz=100,slow=7.2,SNR=11	**79.78**	**320**	*e*P	**P**	**07 37 47.9**	**+1.2**
MKAR	**Makanchi Array** 4.5nm,0.8s,baz=83,slow=2.2,SNR=3.5	**79.78**	**320**	P	**P**	**07 37 45.9**	**-0.8**
ZALV	**Zalesovo Bam** 1.4nm,0.5s,baz=90,slow=5.9,SNR=4.0	**80.94**	**327**	P	**P**	**07 37 52.6**	**-0.2**
MAW	**Mawson** 0.9nm,0.4s,baz=118,slow=15,SNR=2.9	**83.48**	**203**	P	**P**	**07 38 06.1**	**+0.4**
QSPA	**South Pole Qui** 7.4nm,0.7s	**83.87**	**180**	*e*P	**P**	**07 38 08.3**	**+0.3**
ILAR	**Eielson Array** 0.8nm,0.5s,baz=248,slow=5.3,SNR=9.9	**84.24**	**22**	P	**P**	**07 38 09.1**	**-0.7**
INK	**Inuvik** 0.8nm,0.5s,baz=294,slow=3.7,SNR=3.3	**90.50**	**21**	P	**P**	**07 38 38.1**	**-1.7**
INK	**Inuvik**	**90.50**	**21**	*e*P	**P**	**07 38 39.6**	**-0.2**
OSI	**Osito Adit** 40nm,0.4s	**94.10**	**56**	*e*P	**P**	**07 38 56.7**	**-0.7**
NVAR	**Mina Array Bea** 0.8nm,0.7s,baz=248,slow=7.1,SNR=4.9	**94.72**	**52**	P	**P**	**07 38 59.3**	**-1.1**
YKA	**Yellowknife Ar** 0.4nm,0.7s,baz=270,slow=5.1,SNR=4.4	**97.66**	**28**	P	**P**	**07 39 11.9**	**-0.9**
ARCES	**ARCESS Array B** 4.5nm,0.8s,baz=83,slow=2.2,SNR=3.5	**107.41**	**342**	PKiKP	**PKiKP**	**07 44 04.2**	**-0.2**
LRAL	**Lakeview Retre**	**120.45**	**55**	*e*PKPdf	**PKPdf**	**07 44 31.2**	**+0.9**
GERES	**GERESS Array B** 0.7nm,0.4s,baz=90,slow=2.0,SNR=5.7	**123.90**	**327**	PKP	**PKPdf**	**07 44 36.5**	**-0.1**
ROSC	**El Rosal** 3.0nm,0.5s,baz=355,slow=6.2,SNR=3.2	**135.42**	**89**	PKP	**PKPdf**	**07 44 59.7**	**-0.1**
LPAZ	**La Paz** 1.4nm,0.6s,baz=155,slow=7.4,SNR=3.4	**135.82**	**121**	PKP	**PKPdf**	**07 45 00.6**	**-0.2**
GRGR	**Grenville**	**147.76**	**77**	*e*PKPbc	**PKPbc**	**07 45 23.1**	**-1.0**
FDF	**Fort de France**	**147.80**	**72**	*e*PKPbc	**PKPab**	**07 45 26.7**	**-0.1**
TORD	**Torodi Ar. Bea** 12nm,0.5s,baz=66,slow=2.6,SNR=35	**148.43**	**285**	PKPbc	**PKPbc**	**07 45 26.0**	**0.0**
BDFB	**Brasilia** 9.6nm,0.7s,baz=234,slow=1.3,SNR=3.6	**151.70**	**140**	PKPbc	**PKPbc**	**07 45 34.8**	**+0.9**
DBIC	**Dimbokro** 2.0nm,0.4s,baz=44,slow=1.9,SNR=6.8	**155.45**	**273**	PKPbc	PKPdf	07 45 43.6	+11

*IDC **19** 07:27:46.5±26.0,52.°50N×169.°63W,h0km,mb3.3/2, mb1 3.6/3,mb1mx3.3/50,mbtmp3.2/3,ML3.1/1,MS4.1/1, Ms1 4.1/1,ms1mx2.7/21,Error ellipse: s-maj=497.1km s-min=50.6km az=87.0*
*ISCJB **19** 07:27:48.2±1.4,52.°6N±0.°2×169.°6W±0.°2,h23km±8km, mb3.2/2,MS4.1/1,Error ellipse: s-maj=34.8km s-min=9.0km az=148.5*
*NEIC **19** 07:27:48.3,52.°82N×169.°65W,h9km,ML3.1(AEIC),After AEIC.*

ISC 19 07:27:48.9±1.9,52.°7N±0.°2×169.°6W±0.°1,h13km±11km,n17, σ0°62/18,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.49**	**62**	P	**Pg**	**07 27 58.7**	**+0.2**
NIKH				S	**Sb**	**07 28 06.9**	**+0.5**
OKSP	**Okmok Steeple**	**0.93**	**56**	P	**Pb**	**07 28 06.5**	**-0.3**
OKSP				S	**Sg**	**07 28 19.4**	**+0.6**
OKCE	**Okmok Cone E**	**1.09**	**50**	P	**Pb**	**07 28 08.5**	**-1.1**
OKCE				S	**Sn**	**07 28 25.7**	**+0.9**
OKTU	**Okmok Mt. Tuli**	**1.12**	**54**	P	**Pb**	**07 28 09.1**	**-1.0**
MSOM	**Makushin Julie**	**1.91**	**55**	P	**Pn**	**07 28 21.1**	**+0.1**
MSOM				S	**Sn**	**07 28 44.7**	**-0.1**
MSW	**Makushin Switc**	**2.04**	**54**	P	**Pn**	**07 28 22.4**	**-0.6**
MTBL	**Makushin Table**	**2.12**	**53**	P	**Pn**	**07 28 24.1**	**0.0**
UNV	**Unalaska Valle**	**2.15**	**58**	P	**Pn**	**07 28 23.5**	**-0.9**
UNV				S	**Sn**	**07 28 51.2**	**+0.4**
AKGG	**Akutan Green G**	**2.59**	**54**	P	**Pn**	**07 28 30.9**	**+0.4**
ATKA	**Atka Island**	**2.88**	**261**	P	**Pn**	**07 28 34.6**	**+0.1**
ILAR	**Eielson Array** 0.0nm,0.3s,baz=232,slow=12,SNR=2.8	**16.71**	**35**	Pn	**Pn**	**07 31 42.3**	**-0.2**
H11S1	**WAKE ISLAND Hy** baz=22,slow=76,SNR=20	**38.86**	**217**	T	T	08 16 19.8	
H11S2	**WAKE ISLAND Hy** baz=22,slow=76,SNR=16	**38.88**	**217**	T	T	08 16 19.2	
H11S3	**WAKE ISLAND Hy** baz=22,slow=76,SNR=14	**38.88**	**218**	T	T	08 16 21.5	
PDAR	**Pinedale Array** 0.2nm,0.5s,baz=305,slow=3.2,SNR=2.9	**40.45**	**79**	P	**P**	**07 35 27.4**	**+0.3**
KSRS	**Korea Array** comp=Z,233nm,20.5s,baz=143,slow=35	**45.24**	**276**	LR	LR	07 53 59.4	
TXAR	**Lajitas Array** 0.3nm,0.6s,baz=305,slow=5.9,SNR=6.2	**52.86**	**89**	P	**P**	**07 37 04.2**	**-0.1**

*IDC **19** 07:38:38.0±1.6,52.°60N×169.°64W,h0km,mb3.5/6, mb1 3.8/7,mb1mx3.5/41,mbtmp3.4/7,ML3.2/1,Error ellipse: s-maj=48.4km s-min=26.9km az=140.0*
*ISCJB **19** 07:38:41.0±1.5,52.°6N±0.°2×169.°5W±0.°2,h26km±10km, mb3.5/6,Error ellipse: s-maj=32.7km s-min=8.2km az=147.0*
*NEIC **19** 07:38:40.5,52.°76N×169.°46W,h4km,ML3.1(AEIC),After AEIC.*

ISC 19 07:38:39.9±2.1,52.°6N±0.°2×169.°4W±0.°1,h7km±13km,n28, σ0°82/25,mb3.4/6,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.46**	**44**	P	**Pb**	**07 38 49.9**	**-0.5**
NIKH				S	**Sb**	**07 38 58.4**	**+1.0**
OKSP	**Okmok Steeple**	**0.90**	**47**	P	**Pg**	**07 38 57.5**	**+0.3**
OKSP				S	**Sn**	**07 39 11.8**	**-0.4**
OKCE	**Okmok Cone E**	**1.08**	**43**	P	**Pg**	**07 39 00.5**	**-0.1**
OKTU	**Okmok Mt. Tuli**	**1.10**	**47**	P	**Pb**	**07 39 01.3**	**0.0**
MSOM	**Makushin Julie**	**1.88**	**50**	P	**Pn**	**07 39 12.1**	**-0.2**
MGOD	**Makushin Gods**	**1.90**	**52**	P	**Pn**	**07 39 12.7**	**0.0**
MGOD				S	**Sn**	**07 39 37.5**	**+0.7**
MCIR	**Makushin Cirqu**	**1.99**	**48**	P	**Pn**	**07 39 13.8**	**-0.2**
MSW	**Makushin Switc**	**2.02**	**50**	P	**Pn**	**07 39 15.1**	**+0.9**
MTBL	**Makushin Table**	**2.10**	**50**	P	**Pn**	**07 39 16.6**	**+1.2**
UNV	**Unalaska Valle**	**2.11**	**54**	P	**Pn**	**07 39 15.3**	**-0.2**
UNV				S	**Sn**	**07 39 42.0**	**+0.1**
AHB	**Akutan Harbor**	**2.60**	**54**	P	**Pn**	**07 39 23.4**	**+1.2**
AKUT	**Akutan**	**2.63**	**54**	*e*Pn	**Pb**	**07 39 25.9**	**-1.4**
AKUT				*e*Sn	**Sn**	**07 39 54.4**	**-0.4**
ATKA	**Atka Island**	**2.98**	**263**	P	**Pn**	**07 39 28.3**	**+0.9**
ILAR	**Eielson Array** 0.0nm,0.3s,baz=231,slow=10,SNR=5.8	**16.73**	**35**	Pn	**Pn**	**07 42 32.9**	**-1.6**
H02N1	**VAN INLET T-PH**	**22.05**	**74**	T	T	08 06 27.5	
H02S1	**DAWSON INLET T**	**22.10**	**74**	T	T	08 06 31.2	
DLBC	**Dease Lake** 1.7nm,0.9s,baz=241,slow=17,SNR=4.7	**22.75**	**60**	P	**P**	**07 43 43.0**	**+0.6**
YKA	**Yellowknife Ar** 0.2nm,0.5s,baz=276,slow=7.5,SNR=3.2	**30.07**	**49**	P	**P**	**07 44 49.5**	**+0.3**
H11N2	**WAKE ISLAND Hy** baz=23,slow=76,SNR=44	**37.66**	**218**	T	T	08 25 46.5	
H11N3	**WAKE ISLAND Hy** baz=23,slow=76,SNR=53	**37.67**	**218**	T	T	08 25 46.7	
NVAR	**Mina Array Bea** 0.3nm,0.6s,baz=307,slow=8.9,SNR=2.2	**37.68**	**91**	P	**P**	**07 45 56.4**	**+0.6**
H11N1	**WAKE ISLAND Hy** baz=23,slow=76,SNR=33	**37.68**	**218**	T	T	08 25 49.5	
H11S1	**WAKE ISLAND Hy** baz=23,slow=76,SNR=491	**38.85**	**218**	T	T	08 27 15.8	
H11S2	**WAKE ISLAND Hy** baz=23,slow=76,SNR=392	**38.87**	**218**	T	T	08 27 16.9	
H11S3	**WAKE ISLAND Hy** baz=23,slow=76,SNR=237	**38.87**	**218**	T	T	08 27 16.8	
PDAR	**Pinedale Array** 0.3nm,0.6s,baz=340,slow=4.9,SNR=4.9	**40.36**	**79**	P	**P**	**07 46 18.8**	**+0.6**
TXAR	**Lajitas Array** 0.9nm,0.7s,baz=301,slow=5.7,SNR=11	**52.75**	**89**	P	**P**	**07 47 55.8**	**+0.4**
ASAR	**Alice Springs** 0.3nm,0.6s,baz=30,slow=5.8,SNR=3.6	**90.56**	**230**	P	**P**	**07 51 41.1**	**-1.4**

*IDC **19** 07:47:02.9±1.6,52.°66N×169.°47W,h0km,mb3.3/4, mb1 3.6/5,mb1mx3.4/51,mbtmp3.2/5,Error ellipse: s-maj=55.1km s-min=28.0km az=138.0*
*ISCJB **19** 07:47:03.6±1.6,52.°40N±0.°09×169.°2W±0.°2,h7km±10km, mb3.2/4,Error ellipse: s-maj=22.0km s-min=7.3km az=38.9*
*NEIC **19** 07:47:06.5,52.°64N×169.°31W,h10km,ML3.2(AEIC),After AEIC.*

ISC 19 07:47:03.8±3.7,52.°5N±0.°1×169.°23W±0.°10,h4km±24km, n22,σ1°15/22,mb3.1/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.51**	**26**	P	**Pb**	**07 47 15.4**	**0.0**
NIKH				S	**Sb**	**07 47 23.3**	**+0.1**
OKSP	**Okmok Steeple**	**0.93**	**37**	P	**Pb**	**07 47 23.2**	**+0.6**
OKSP				S	**Sb**	**07 47 36.2**	**+0.8**
OKCE	**Okmok Cone E**	**1.12**	**35**	P	**Pb**	**07 47 26.2**	**+0.4**
OKCE				S	**Sn**	**07 47 42.8**	**+0.5**
OKTU	**Okmok Mt. Tuli**	**1.13**	**39**	P	**Pn**	**07 47 27.1**	**+0.5**
MSOM	**Makushin Julie**	**1.89**	**46**	P	**Pb**	**07 47 38.4**	**-0.6**
MSOM				S	**Sb**	**07 48 02.5**	**-0.5**
MCIR	**Makushin Cirqu**	**2.01**	**43**	P	**Pn**	**07 47 39.6**	**+1.0**
MSW	**Makushin Switc**	**2.03**	**45**	P	**Pn**	**07 47 40.1**	**+1.2**
MSW				S	**Sb**	**07 48 06.3**	**-0.7**
MTBL	**Makushin Table**	**2.12**	**45**	P	**Pn**	**07 47 41.4**	**+1.3**
UNV	**Unalaska Valle**	**2.12**	**50**	P	**Pn**	**07 47 40.4**	**+0.4**
UNV				S	**Sn**	**07 48 07.5**	**+0.8**
AKGG	**Akutan Green G**	**2.57**	**48**	P	**Pn**	**07 47 48.1**	**+1.8**
ATKA	**Atka Island**	**3.06**	**266**	P	**Pn**	**07 47 54.0**	**+1.0**
ILAR	**Eielson Array** baz=228,slow=12,SNR=2.6	**16.78**	**34**	Pn	**Pn**	**07 50 56.8**	**-2.8**
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=276,slow=6.9,SNR=3.4	**37.62**	**219**	P	**P**	**07 53 12.9**	**-1.0**
H11N2	**WAKE ISLAND Hy** baz=24,slow=76,SNR=8.0	**37.62**	**219**	T	T	08 34 12.0	
H11N3	**WAKE ISLAND Hy** baz=24,slow=76,SNR=9.0	**37.63**	**219**	T	T	08 34 15.8	
H11N1	**WAKE ISLAND Hy** baz=24,slow=76,SNR=7.3	**37.64**	**219**	T	T	08 34 11.1	
H11S1	**WAKE ISLAND Hy** baz=23,slow=76,SNR=76	**38.81**	**218**	T	T	08 35 43.6	
H11S2	**WAKE ISLAND Hy** baz=23,slow=76,SNR=60	**38.82**	**218**	T	T	08 35 44.6	
H11S3	**WAKE ISLAND Hy** baz=23,slow=76,SNR=49	**38.83**	**218**	T	T	08 35 44.3	
PDAR	**Pinedale Array** 0.4nm,0.9s,baz=311,slow=5.9,SNR=3.4	**40.29**	**79**	P	**P**	**07 54 41.8**	**-0.4**
TXAR	**Lajitas Array** 0.1nm,0.5s,baz=311,slow=7.0,SNR=3.2	**52.66**	**89**	P	**P**	**07 56 20.8**	**+1.5**
ASAR	**Alice Springs** 0.2nm,0.5s,baz=46,slow=4.0,SNR=2.7	**90.55**	**230**	P	**P**	**08 00 06.5**	**-0.5**

*IDC **19** 07:50:11.8±10.0,52.°58N×170.°00W,h0km,mb3.5/5, mb1 3.8/6,mb1mx3.5/47,mbtmp3.4/6,ML3.3/1,Error ellipse: s-maj=196.7km s-min=42.7km az=85.0*
*ISCJB **19** 07:50:14.2±1.3,52.°48N±0.°08×169.°3W±0.°1,h5km±8km, mb3.4/5,Error ellipse: s-maj=18.2km s-min=7.9km az=135.9*
*NEIC **19** 07:50:16.6,52.°70N×169.°43W,h5km,ML3.5(AEIC),After AEIC.*

ISC 19 07:50:13.4±2.0,52.°5N±0.°1×169.°55W±0.°08,h1km±12km, n26,σ1°08/25,mb3.4/5,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.62**	**43**	P	**Pb**	**07 50 26.3**	**-0.7**
NIKH				S	**Sg**	**07 50 33.5**	**+0.3**
OKSP	**Okmok Steeple**	**1.05**	**46**	P	**Pg**	**07 50 33.9**	**+0.3**
OKSP				S	**Sg**	**07 50 47.1**	**-0.2**
OKCE	**Okmok Cone E**	**1.23**	**42**	P	**Pg**	**07 50 36.5**	**-0.5**
OKTU	**Okmok Mt. Tuli**	**1.25**	**46**	P	**Pg**	**07 50 37.4**	**0.0**
MSOM	**Makushin Julie**	**2.03**	**49**	P	**Pn**	**07 50 48.7**	**0.0**
MSOM				S	**Sn**	**07 51 14.6**	**-0.1**
MCIR	**Makushin Cirqu**	**2.14**	**47**	P	**Pn**	**07 50 51.3**	**+0.9**
MSW	**Makushin Switc**	**2.17**	**49**	P	**Pn**	**07 50 49.9**	**-0.7**
MSW				S	**Sn**	**07 51 18.8**	**+0.7**
MTBL	**Makushin Table**	**2.25**	**49**	P	**Pn**	**07 50 52.2**	**+0.4**
UNV	**Unalaska Valle**	**2.26**	**53**	P	**Pn**	**07 50 51.0**	**-0.9**
UNV				S	**Sn**	**07 51 18.4**	**-2.0**
AKRB	**Akutan Reef Bi**	**2.63**	**51**	P	**Pn**	**07 50 58.2**	**+1.2**
AKUT	**Akutan**	**2.78**	**53**	*e*Pn	**Pn**	**07 51 00.8**	**+1.8**
AKUT				*e*Pg	**Pg**	**07 51 07.4**	**+0.8**
ATKA	**Atka Island**	**2.87**	**265**	P	**Pb**	**07 51 04.3**	**-1.0**
SPIA	**Saint Paul Isl**	**4.68**	**355**	P	**Pn**	**07 51 26.9**	**+1.8**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=231,slow=11,SNR=5.5	**16.89**	**35**	Pn	**Pn**	**07 54 09.2**	**-1.6**
H02N1	**VAN INLET T-PH**	**22.18**	**73**	T	T	08 18 03.3	
DLBC	**Dease Lake** 2.5nm,0.9s,baz=285,slow=11,SNR=4.8	**22.90**	**59**	P	**P**	**07 55 19.1**	**+0.7**
YKA	**Yellowknife Ar** 0.1nm,0.4s,baz=276,slow=7.0,SNR=4.2	**30.22**	**49**	P	**P**	**07 56 23.8**	**-1.3**
H11N2	**WAKE ISLAND Hy** baz=23,slow=76,SNR=9.2	**37.51**	**218**	T	T	08 37 23.8	
H11N3	**WAKE ISLAND Hy** baz=23,slow=76,SNR=9.0	**37.52**	**218**	T	T	08 37 24.9	
H11N1	**WAKE ISLAND Hy** baz=23,slow=76,SNR=12	**37.53**	**218**	T	T	08 37 24.2	
NVAR	**Mina Array Bea** 0.2nm,0.6s,baz=277,slow=7.1,SNR=3.5	**37.78**	**91**	P	**P**	**07 57 31.7**	**+0.5**
H11S1	**WAKE ISLAND Hy** baz=23,slow=76,SNR=101	**38.70**	**218**	T	T	08 38 53.9	
H11S2	**WAKE ISLAND Hy** baz=23,slow=76,SNR=72	**38.71**	**218**	T	T	08 38 55.1	
H11S3	**WAKE ISLAND Hy** baz=23,slow=76,SNR=63	**38.72**	**218**	T	T	08 38 55.2	
PDAR	**Pinedale Array** 0.6nm,0.7s,baz=336,slow=3.3,SNR=6.6	**40.48**	**79**	P	**P**	**07 57 53.4**	**-0.4**
TXAR	**Lajitas Array** 1.1nm,0.8s,baz=302,slow=5.7,SNR=14	**52.85**	**89**	P	**P**	**07 59 32.3**	**+1.6**

TAP 19 07:54:35.4,23.°06N×120.°99E,h3km,ML3.6,12D,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau** baz=16	**0.13**	**13**

CHY					*e*S		Sb	07 55 00.3	+0.9	
	baz=311									
EAST	**Anshuo**	**0.69**	**191**	⇓*i*P			Pg	07 54 49.0	+0.4	
	baz=190									
EAST					*e*S		Sg	07 54 57.7	0.0	
	baz=190									
TAI1	**Yung-k'ang**	**0.70**	**268**	*e*P			Pn	07 54 52.0	-0.1	
	baz=284									
TAI1					*e*S		Sn	07 55 03.2	-0.2	
	baz=284									
TAW	**Tawu**	**0.71**	**187**	*e*P			Pg	07 54 49.1	+0.2	
	baz=186									
TAW					*e*S		Sb	07 54 59.3	-1.1	
	baz=186									
SCZT	**Fangliau**	**0.77**	**206**	⇓*i*P			Pg	07 54 50.1	0.0	
	baz=197									
SCZT					S		Sg	07 55 00.1	0.0	
	baz=197									
SMLT	**Sun Moon Lake**	**0.82**	**354**	*e*P			Pg	07 54 51.6	+0.4	
TYC	**Yuchr**	**0.84**	**352**	*e*P			Pn	07 54 53.5	-0.6	
	baz=358									
TYC					*e*S		Sn	07 55 06.4	-0.6	
	baz=358									
ESL	**Shilin**	**0.85**	**29**	*e*P			Pg	07 54 51.2	-0.5	
	baz=44									
WNT	**Mingjian**	**0.86**	**341**	*e*P			Pb	07 54 53.3	+0.5	
	baz=342									
WNT					*e*S		Sn	07 55 06.8	-0.5	
	baz=342									
TWP	**Hsiaoliuchiu**	**0.92**	**219**	*e*P			Pn	07 54 56.7	+1.6	
	baz=217									
TWP					*e*S		Sn	07 55 12.0	+3.2	
	baz=217									
HEN	**Hengchun**	**1.08**	**192**	*e*P			Pn	07 54 57.6	+0.3	
	baz=201									
WHF	**Hehuan Shan**	**1.11**	**13**	*e*P			Pg	07 54 56.0	-1.1	
	baz=14									
WHF					*e*S		Sb	07 55 13.4	+0.5	
	baz=14									
TCU	**Taichung**	**1.12**	**345**	*e*P			Pn	07 54 58.0	+0.1	
	baz=334									
TCU					*e*S		Sn	07 55 15.6	+1.9	
	baz=334									
TWK1	**Hengchun**	**1.13**	**189**	*e*P			Pn	07 54 57.9	-0.1	
	baz=178									
LAY	**Lan-yu**	**1.15**	**153**	*e*P			Pg	07 54 56.1	-1.3	
	baz=152									
TWD	**Chiawan**	**1.16**	**29**	*e*P			Pg	07 54 57.5	-0.1	
	baz=36									
TWD					S		Sg	07 55 12.5	0.0	
	baz=36									
TSEB	**Hengchuen, Pin**	**1.16**	**184**	*e*P			Pn	07 54 58.8	+0.4	
	baz=173									
TSEB					*e*S		Sn	07 55 17.1	+2.3	
	baz=173									
TWT	**Tachien**	**1.20**	**8**	*e*P			Pb	07 54 58.9	0.0	
	baz=14									
TWT					*e*S		Sn	07 55 15.9	-0.2	
	baz=14									
WDGT	**Dungji**	**1.24**	**279**	⇓P			Pg	07 54 58.8	-0.3	
	baz=281									
WDGT					*e*S		Sg	07 55 15.4	+0.3	
	baz=281									
TWQ1	**Liyutan**	**1.29**	**351**	*e*P			Pb	07 55 01.3	+1.0	
	baz=353									
TWQ1					*e*S		Sn	07 55 20.9	+2.7	
	baz=353									
NSY	**Sanyi**	**1.36**	**351**	*e*P			Pg	07 55 03.0	+1.5	
	baz=352									
PNG	**Penghu**	**1.41**	**291**	*e*P			Pn	07 55 01.2	-0.6	
	baz=290									
NNS	**Nan Shan**	**1.42**	**14**	*e*P			Pn	07 55 02.3	+0.2	
	baz=25									
NNS					*e*S		Sb	07 55 20.8	-0.4	
	baz=25									
ENA	**Nanau**	**1.52**	**27**	*e*P			Pn	07 55 03.3	-0.2	
	baz=38									
NSTT	**Nanjuang**	**1.56**	**0**	*e*P			Pg	07 55 05.1	-0.2	
	baz=344									
NSK	**Sanguang**	**1.64**	**12**	P			Pb	07 55 06.5	+0.2	
	baz=24									
NSK					*e*S		Sg	07 55 29.4	+1.1	
	baz=24									
ENTT	**Nioudou**	**1.66**	**19**	*e*P			Pn	07 55 05.6	+0.3	
	baz=36									
TWC	**Suao**	**1.73**	**27**	*e*P			Pb	07 55 07.5	-0.2	
	baz=29									
TWC					S		Sb	07 55 29.6	-0.3	
	baz=29									
TWE	**Neicheng**	**1.76**	**21**	*e*P			Pb	07 55 08.3	0.0	
	baz=38									
EGS		**1.97**	**26**	*e*P			Pb	07 55 12.2	+0.3	
	baz=28									
EGS					*e*S		Sb	07 55 37.2	+0.3	
	baz=28									
TWA	**Mucha**	**1.98**	**16**	*e*P			Pb	07 55 12.8	+0.6	
	baz=33									
TWA					*e*S		Sg	07 55 39.4	+0.1	
	baz=33									
TAP1	**Taipei**	**2.03**	**14**	*e*P			Pg	07 55 14.3	+0.1	
	baz=354									
NWF	**Wu-fen Shan**	**2.13**	**20**	*e*P			Pb	07 55 14.1	-0.6	
	baz=36									
NWF					*e*S		Sb	07 55 40.5	-1.0	
	baz=36									
TWB1	**Santiao Chiao**	**2.14**	**25**	*e*P			Pb	07 55 14.4	-0.4	
	baz=39									
YOJ	**Yonaguni jima**	**2.32**	**53**	*e*P			Pn	07 55 14.1	-0.3	
	baz=56									
PCYT	**Pengchaiyu**	**2.74**	**21**	*e*P			Pn	07 55 21.6	+1.4	
	baz=23									
KECS	**Kecovo**	**79.68**	**318**	*e*PG			P	08 06 27.4	-17	
KECS					*e*SG			08 06 35.5		

IDC ***19*** *08:19:00.8±3.5, 4.°22S×100.°80E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.6/50, mbtmp3.8/7, ML3.3/1, Error ellipse: s-maj=139.4km s-min=19.0km az=57.0*

DJA ***19*** *08:19:06.3±1.0, 4.°S±4.°×10.°1E±.°, h14km±9km, M4.3/17, mb4.9/2, MLv4.0/17*

ISC 19 08:19:04.2±1.1, 4.°28S±0.°09×100.°87E±0.°10, h29km, n32, σ1°27/19, mb3.7/6, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
PPSI	**Pulau Pagai**	**1.74**	**330**	P	Pb	08	19	40.7	+5.2
PPSI				S	Sb	08	20	06.4	+9.5
MASI	**Maura Aman, Be**	**1.77**	**50**	S	**Sb**	**08**	**19**	**58.0**	**-0.1**
KSI	**Kapahiang**	**1.83**	**70**	P	**Pn**	**08**	**19**	**34.7**	**+0.9**
MNAI	**Manna**	**2.08**	**92**	P	**Pn**	**08**	**19**	**36.7**	**-0.5**
LHSI	**Lahat**	**2.68**	**80**	P	**Pn**	**08**	**19**	**45.8**	**+0.3**
LWLI	**Liwa**	**3.26**	**103**	P	**Pn**	**08**	**19**	**52.6**	**-0.9**
MDSI	**Maura Dua**	**3.30**	**94**	P	**Pn**	**08**	**19**	**53.7**	**-0.3**
PDSI	**Padang**	**3.37**	**353**	P	**Pb**	**08**	**20**	**02.0**	**-1.4**
SISI	**Saibi**	**3.43**	**329**	P	**Pb**	**08**	**20**	**03.7**	**-0.7**
KASI	**Kota Agung**	**3.82**	**109**	P	**Pn**	**08**	**20**	**00.1**	**-1.0**
PPI	**Padang Panjang**	**3.83**	**353**	P	**Pb**	**08**	**20**	**08.0**	**-3.2**
KLSI		**3.87**	**96**	P	**Pn**	**08**	**20**	**02.0**	**+0.2**
BKNI	**Bangkinang**	**4.58**	**2**	P	Pb	08	20	17.9	-6.1
PBSI	**Pulau Batu**	**4.93**	**328**	P	Pb	08	20	24.4	-5.6
	112nm,0.9s,0.6nm								
CGJI	**Cibinong**	**5.33**	**116**	P	**Pn**	**08**	**20**	**20.3**	**-1.6**
CNJI	**Cibinong**	**6.91**	**116**	P	**Pn**	**08**	**20**	**42.2**	**-1.5**
PSI	**Prapat**	**7.30**	**345**	Pn	Pn	08	20	44.5	-4.6
	0.6nm,0.3s,baz=141,slow=13,SNR=2.7								
CMAR	**Chiang Mai Arr**	**22.68**	**355**	P	**P**	**08**	**24**	**03.7**	**+0.2**
	0.7nm,0.3s,baz=183,slow=10.0,SNR=5.0								
H08S2	**Diego Garcia H**	**28.42**	**262**	T	T	08	54	39.2	
	baz=84,slow=76,SNR=377								
H08S3	**Diego Garcia H**	**28.42**	**262**	T	T	08	54	39.8	
	baz=84,slow=76,SNR=113								
H08S1	**Diego Garcia H**	**28.43**	**262**	T	T	08	54	40.6	
	baz=84,slow=76,SNR=119								
H08N1	**Diego Garcia H**	**29.80**	**265**	T	T	08	56	56.8	
	baz=147,slow=75,SNR=15								
H08N2	**Diego Garcia H**	**29.81**	**265**	T	T	08	56	56.0	
	baz=147,slow=75,SNR=11								
H08N3	**Diego Garcia H**	**29.82**	**265**	T	T	08	56	56.6	
	baz=147,slow=75,SNR=16								
H01W3	**Cape Leeuwin H**	**32.84**	**160**	T	T	09	00	13.9	
	baz=336,slow=76,SNR=37								
H01W2	**Cape Leeuwin H**	**32.85**	**160**	T	T	09	00	13.3	
	baz=336,slow=76,SNR=36								
H01W1	**Cape Leeuwin H**	**32.85**	**160**	T	T	09	00	12.2	
	baz=336,slow=76,SNR=28								
WRA	**Warramunga Arr**	**36.12**	**118**	P	**P**	**08**	**26**	**05.4**	**+1.3**
	0.3nm,0.5s,baz=309,slow=9.1,SNR=8.2								
ASAR	**Alice Springs**	**37.23**	**124**	P	**P**	**08**	**26**	**15.2**	**+1.6**
	0.5nm,0.4s,baz=297,slow=7.4,SNR=8.3								
SONM	**Songino Array**	**52.12**	**5**	P	**P**	**08**	**28**	**12.8**	**+0.8**
	0.6nm,0.5s,baz=186,slow=7.7,SNR=2.0								
MKAR	**Makanchi Array**	**53.45**	**344**	P	**P**	**08**	**28**	**22.4**	**+0.8**
	1.1nm,0.7s,baz=138,slow=9.2,SNR=9.2								
ZALV	**Zalesovo Beam**	**59.56**	**349**	P	**P**	**08**	**29**	**05.0**	**0.0**
	1.2nm,0.6s,baz=163,slow=4.4,SNR=4.7								

IDC 19 08:19:48.9±2.8, 6.°05S×150.°59E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.6/44, mbtmp3.6/4, ML1.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/23, Error ellipse: s-maj=75.1km s-min=44.0km az=113.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
PMG	**Port Moresby**	**4.77**	**225**	Pn	Pn	08	21	03.3	+1.2
	3.2nm,0.3s,baz=42,slow=12,SNR=6.6								
PMG				Sn	Sn	08	21	51.5	-6.7
	2.6nm,0.3s,baz=112,slow=3.8,SNR=3.5								
PMG				LR	LR	08	22	42.9	
	comp=Z,222nm,19.4s,baz=352,slow=36								
WRA	**Warramunga Arr**	**20.98**	**227**	P	P	08	24	33.8	-0.2
	0.7nm,0.3s,baz=53,slow=11,SNR=8.4								
ASAR	**Alice Springs**	**23.77**	**221**	P	P	08	25	03.5	+0.1
	0.1nm,0.3s,baz=55,slow=9.4,SNR=4.7								
STKA	**Stephens Creek**	**27.04**	**197**	P	P	08	25	32.6	-0.5
	1.4nm,0.7s,baz=29,slow=10,SNR=2.6								
TORD	**Torodi Ar. Bea**	**148.56**	**285**	PKPbc	PKPbc	08	39	38.4	-0.5
	1.2nm,0.9s,baz=82,slow=2.5,SNR=4.0								

IDC ***19*** *08:20:27.9±0.3, 52.°67N×169.°38W, h0km, mb4.8/48, mb1 4.9/50, mb1mx4.8/66, mbtmp4.8/50, ML4.5/2, MS5.1/31, Ms1 5.1/31, ms1mx5.0/43, Error ellipse: s-maj=11.1km s-min=7.9km az=168.0*

ISCJB ***19*** *08:20:29.8±0.5, 52.°61N±0.°02×169.°28W±0.°02, h21km±3km, mb5.2/296, MS5.2/196, Error ellipse: s-maj=3.9km s-min=1.9km az=175.1*

NEIC ***19*** *08:20:30.2±0.1, 52.°66N×169.°33W, h10km, mb5.4/220, MS5.2/149, ML5.1(AEIC), Error ellipse: s-maj=4.5km s-min=2.2km az=165.0*

NEIC Felt at Nikolski.

GCMT ***19*** *08:20:30.2±0.1, 52.°62N×169.°41W, h12km, MW5.7/131, Moment Tensor Solution. s110,c202; s131,c318; Duration: 19.7 Moment tensor: Scale 10^17 Nm; Mrr-3.53±.04; Mθθ 1.07±.05; Mϕϕ 2.46±.04; Mrθ-0.36±.12; Mθϕ-1.94±.04; Mϕr 1.24±.12; Best double couple: M0 3.90100×10^17 NP1:ϕs152.00000°, δs55.00000°, λ-82.00000°. NP2:ϕs318.00000°, δ36.00000°, λ-101.00000°. Principal axes: T 4.0240, Plg9.0000°, Azm236.0000°; N -0.2480, Plg7.0000°, Azm327.0000°; P -3.7770, Plg79.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

BJI ***19*** *08:20:30.0, 53.°43N×169.°41W, h7km, mb4.9/46, mB5.2/49, Ms5.7/54, Ms7 5.4/52*

MOS ***19*** *08:20:31.9±1.3, 52.°73N×169.°36W, h33km, mb5.4/58, MS5.1/45, Error ellipse: s-maj=7.1km s-min=5.5km az=73.7*

SZGRF ***19*** *08:20:42.8, 53.°94N×168.°81W, h33km, mb5.0, Fox Islands, Aleutian Islands, United States*

ISC 19 08:20:31.2±0.3, 52.70N±0.°04×169.38W±0.°03, h15km±1km, h15km:pP-P, n1211, σ1943/1217, mb5.2/304, MS5.2/197, 14C-9D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
NIKH	**Nikolski High**	**0.42**	**49**	P	**Pg**	**08**	**20**	**38.8**	**-0.9**
OKSP	**Okmok Steeple**	**0.86**	**50**	P	**Pb**	**08**	**20**	**46.6**	**-1.3**
OKCE	**Okmok Cone E**	**1.03**	**45**	P	**Pb**	**08**	**20**	**49.5**	**-1.3**
OKCE				S	**Sn**	**08**	**21**	**06.6**	**+1.3**
OKTU	**Okmok Mt. Tuli**	**1.06**	**49**	P	**Pb**	**08**	**20**	**49.9**	**-1.4**
MCIR	**Makushin Cirqu**	**1.95**	**49**	P	**Pn**	**08**	**21**	**03.8**	**0.0**
MSW	**Makushin Switc**	**1.98**	**51**	P	**Pn**	**08**	**21**	**02.8**	**-1.4**
MTBL	**Makushin Table**	**2.06**	**51**	P	**Pn**	**08**	**21**	**04.2**	**-1.1**
UNV	**Unalaska Valle**	**2.08**	**55**	P	**Pn**	**08**	**21**	**03.4**	**-2.0**
UNV				S	**Sn**	**08**	**21**	**30.7**	**-0.3**
AKRB	**Akutan Reef Bi**	**2.45**	**53**	P	**Pn**	**08**	**21**	**10.2**	**-0.4**
ZRO	**Akutan Zero**	**2.47**	**54**	P	**Pn**	**08**	**21**	**10.1**	**-0.8**
AKGG	**Akutan Green G**	**2.52**	**52**	P	**Pn**	**08**	**21**	**11.3**	**-0.3**
AKGG				S	**Sn**	**08**	**21**	**42.5**	**+0.5**
AKUT	**Akutan**	**2.59**	**55**	P	**Pn**	**08**	**21**	**11.6**	**-1.0**
AKSA	**Akutan Strait**	**2.63**	**55**	P	**Pn**	**08**	**21**	**13.1**	**0.0**
WESP	**Westdahl Peak**	**3.31**	**55**	P	**Pn**	**08**	**21**	**22.6**	**+0.2**
WESP				S	**Sn**	**08**	**22**	**05.2**	**+3.7**
WESN	**West Dahl Nort**	**3.42**	**55**	P	**Pn**	**08**	**21**	**23.6**	**-0.3**
SSBA	**Shishaldin**	**3.75**	**54**	P	**Pn**	**08**	**21**	**29.7**	**+1.2**
SSLW	**Shishaldin Wes**	**3.75**	**54**	P	**Pn**	**08**	**21**	**29.2**	**+0.7**
GSTR	**Great Sitkin T**	**4.13**	**264**	*e*Pn	**Pn**	**08**	**21**	**33.5**	**-0.3**
GSMY	**Great Sitkin M**	**4.14**	**264**	P	**Pn**	**08**	**21**	**34.1**	**+0.3**
FALS	**False Pass**	**4.15**	**56**	P	**Pn**	**08**	**21**	**34.0**	**+0.2**
FALS				S	**Sn**	**08**	**22**	**24.6**	**+2.6**
GSTD	**Great Sitkin T**	**4.19**	**264**	P	**Pn**	**08**	**21**	**34.8**	**+0.2**
GSCK	**Great Sitkin C**	**4.21**	**263**	P	**Pn**	**08**	**21**	**33.8**	**-1.0**
ETKA	**Kagalaska Isla**	**4.39**	**262**	P	**Pn**	**08**	**21**	**37.2**	**-0.1**
ADAG	**Mount Adagdak**	**4.49**	**264**	P	**Pn**	**08**	**21**	**39.2**	**+0.6**
SPIA	**Saint Paul Isl**	**4.51**	**354**	P	**Pn**	**08**	**21**	**39.5**	**+0.6**
DT1	**Dutton Round H**	**4.84**	**57**	P	**Pn**	**08**	**21**	**43.8**	**+0.4**
KIKV	**Kanaga Island**	**4.85**	**263**	P	**Pn**	**08**	**21**	**43.6**	**0.0**
KICM	**Kanaga Island**	**4.86**	**264**	P	**Pn**	**08**	**21**	**44.1**	**+0.5**
DTNA	**Dutton South F**	**4.88**	**57**	P	**Pn**	**08**	**21**	**44.3**	**+0.4**
TAFP	**Tanaga Falls P**	**5.34**	**265**	P	**Pn**	**08**	**21**	**51.3**	**+1.1**
TASE	**Tanaga Southea**	**5.38**	**264**	P	**Pn**	**08**	**21**	**52.3**	**+1.3**
TANO	**Tanaga North**	**5.42**	**265**	P	**Pn**	**08**	**21**	**52.2**	**+0.8**
GAEA	**Gareloi East**	**5.83**	**265**	P	**Pn**	**08**	**21**	**57.5**	**+0.5**
SDPT	**Sand Point**	**5.88**	**60**	P	**Pn**	**08**	**21**	**58.2**	**+0.6**
VNWF	**Veniaminof 8**	**6.69**	**55**	P	**Pn**	**08**	**22**	**11.7**	**+2.7**
VNKR	**Veniaminof 5**	**6.74**	**56**	P	**Pn**	**08**	**22**	**11.0**	**+1.6**
CERAA	**Semis' Rag'd T**	**6.75**	**268**	P	**Pn**	**08**	**22**	**10.6**	**+0.9**
CEAP	**Semis' Anvil P**	**6.80**	**268**	P	**Pn**	**08**	**22**	**11.5**	**+1.2**
CESW	**Semis' Southwe**	**6.83**	**268**	P	**Pn**	**08**	**22**	**10.6**	**-0.1**
AMKA	**Amchitka**	**7.11**	**264**	P	**Pn**	**08**	**22**	**15.0**	**+0.5**
CHGN	**Chignik**	**7.33**	**56**	*e*Pn	**Pn**	**08**	**22**	**18.4**	**+0.8**
CHGN				*e*Sn	**Sn**	**08**	**23**	**42.8**	**+2.3**
LSPA	**Little Sitkin**	**7.42**	**269**	P	**Pn**	**08**	**22**	**20.7**	**+1.8**
LSNW	**Little Sitkin**	**7.45**	**269**	P	**Pn**	**08**	**22**	**20.7**	**+1.4**
LSSA	**Little Sitkin**	**7.46**	**269**	P	**Pn**	**08**	**22**	**20.8**	**+1.4**
SMY	**Shemya**	**10.03**	**277**	*e*P	**Pn**	**08**	**22**	**55.4**	**+0.9**
SMY				pmax	pmax				
	comp=Z,174nm,0.8s								
SMY	**Shemya**	**10.03**	**277**	*e*Pn	**Pn**	**08**	**22**	**55.4**	**+0.9**
	comp=Z,174nm,0.8s								
OHAK	**Old Harbor**	**10.30**	**58**	*e*Pn	**Pn**	**08**	**22**	**56.6**	**-1.5**
OHAK				*e*Sn	**Sn**	**08**	**24**	**49.9**	**-3.3**
KDAK	**Kodiak Island**	**10.85**	**55**	Pn	**Pn**	**08**	**23**	**05.0**	**-0.7**
	comp=Z,677nm,0.6s,SNR=32								
KDAK	**Kodiak Island**	**10.85**	**55**	*i* P	**Pn**	**08**	**23**	**04.5**	**-1.2**
KDAK	**Kodiak Island**	**10.85**	**55**	*e*Pn	**Pn**	**08**	**23**	**04.8**	**-0.8**
KDAK				*e*Sn	**Sn**	**08**	**25**	**07.9**	**+1.3**
SVW2	**Sparrevohn**	**11.28**	**36**	*e*Pn	Pn	08	23	15.1	+3.4
RSO	**Redoubt South**	**11.99**	**43**	*e*Pn	**Pn**	**08**	**23**	**23.1**	**+1.5**
	comp=Z,807nm,0.2s								
BRLK	**Bradley Lake**	**12.46**	**48**	*e*Pn	**Pn**	**08**	**23**	**28.2**	**+0.5**
TNA	**Tin City**	**12.92**	**3**	*e*Pn	**Pn**	**08**	**23**	**35.9**	**+1.9**
	comp=Z,52nm,0.8s								
TNA				*e*Sn	**Sn**	**08**	**25**	**57.4**	**+0.1**
RC01	**Rabbit Creek A**	**13.58**	**44**	*e*Pn	**Pn**	**08**	**23**	**43.4**	**+0.4**
	comp=Z,70nm,0.7s								
PPLA	**Purkeypile**	**13.67**	**35**	*e*Pn	**Pn**	**08**	**23**	**46.1**	**+1.7**
PPLA				*e*Sn	**Sn**	**08**	**26**	**16.6**	**+0.7**
CAST	**Castle Rocks**	**14.05**	**33**	*e*Pn	**Pn**	**08**	**23**	**51.5**	**+2.0**
PMR	**Palmer**	**14.09**	**43**	*e*P	**Pn**	**08**	**23**	**49.0**	**-0.9**
PMR				pmax	pmax				
	comp=Z,102nm,1.2s								
PMR	**Palmer**	**14.09**	**43**	*e*Pn	**Pn**	**08**	**23**	**49.0**	**-0.9**
	comp=Z,102nm,1.2s								
MID	**Middleton Isla**	**14.47**	**53**	*e*P	**Pn**	**08**	**23**	**56.0**	**+0.8**
MID				pmax	pmax				
	comp=Z,313nm,0.9s								
MID	**Middleton Isla**	**14.47**	**53**	*e*Pn	**Pn**	**08**	**23**	**56.0**	**+0.8**
	comp=Z,313nm,0.9s								
SML	**Sawmill**	**14.53**	**43**	*e*P	**Pn**	**08**	**23**	**55.8**	**-0.2**
SML				*e*		08	26	41.0	
SML				pmax	pmax				
	comp=Z,18nm,0.9s								
SML	**Sawmill**	**14.53**	**43**	*e*Pn	**Pn**	**08**	**23**	**55.8**	**-0.2**
	comp=Z,18nm,0.9s								
SML				*e*Sn	**Sn**	**08**	**26**	**41.0**	**+4.4**
TRF	**Thorofare Moun**	**14.69**	**35**	*e*Pn	**Pn**	**08**	**23**	**59.4**	**+1.0**
TRF				*e*Sn	Sn	08	26	47.0	+6.2
BPAW	**Bear Paw Mtn.**	**14.87**	**33**	*e*Pn	**Pn**	**08**	**24**	**01.5**	**+0.8**
BPAW				*e*Sn	**Sn**	**08**	**26**	**48.1**	**+3.2**
EYAK	**Cordova Ski Ar**	**15.12**	**49**	*e*Pn	**Pn**	**08**	**24**	**00.9**	**-3.1**
	comp=Z,85nm,1.0s								
DIV	**Divide**	**15.33**	**47**	*e*Pn	**Pn**	**08**	**24**	**05.6**	**-1.2**
	comp=Z,80nm,0.8s								
MCK	**McKinley**	**15.35**	**36**	*e*P	**Pn**	**08**	**24**	**08.3**	**+1.4**
MCK				pmax	pmax				
	comp=Z,123nm,1.2s								
MCK	**McKinley**	**15.35**	**36**	*e*Pn	**Pn**	**08**	**24**	**08.3**	**+1.4**
	comp=Z,123nm,1.2s								
KLU	**Klutina**	**15.41**	**46**	*e*Pn	**Pn**	**08**	**24**	**05.1**	**-2.8**
	comp=Z,100nm,0.8s								
BWN	**Browne**	**15.43**	**34**	*e*Pn	**Pn**	**08**	**24**	**09.7**	**+1.7**
	comp=Z,608nm,1.4s								
IM04	**Indian Mountai**	**15.43**	**24**	*e*Pn	**Pn**	**08**	**24**	**09.3**	**+1.2**
DHY	**Denali Highway**	**15.56**	**40**	*e*Pn	**Pn**	**08**	**24**	**10.8**	**+0.9**
	comp=Z,42nm,0.8s								
BMRM	**Bremner River**	**15.80**	**49**	*e*Pn	**Pn**	**08**	**24**	**11.1**	**-1.8**
	comp=Z,123nm,0.9s								
HARP	**HAARP**	**16.13**	**43**	*e*Pn	**Pn**	**08**	**24**	**17.0**	**-0.1**
	comp=Z,186nm,0.9s								
CCB	**Clear Creek Bu**	**16.29**	**34**	*e*Pn	**Pn**	**08**	**24**	**17.8**	**-1.3**
	comp=Z,95nm,1.0s								
COLA	**College**	**16.41**	**34**	*e*P	**Pn**	**08**	**24**	**19.7**	**-1.0**
COLA				pmax	pmax				
	comp=Z,191nm,1.3s								
COLA	**College**	**16.41**	**34**	*e*Pn	**Pn**	**08**	**24**	**19.7**	**-1.0**
	comp=Z,192nm,1.3s								
HDA	**Harding Lake**	**16.45**	**36**	*e*Pn	**Pn**	**08**	**24**	**19.7**	**-1.4**
	comp=Z,97nm,1.0s								
ILAR	**Eielson Array**	**16.68**	**35**	Pn	**Pn**	**08**	**24**	**21.7**	**-2.4**
	comp=Z,1.0nm,0.3s,baz=230,slow=11,SNR=63								
ILAR				LR	LR	08	30	59.3	
	comp=Z,11μm,20.0s,baz=232,slow=38								
MENT	**Mentasta**	**16.95**	**43**	*e*P	**P**	**08**	**24**	**30.0**	**+0.5**
COLD	**Coldfoot**	**17.32**	**25**	*e*P	**P**	**08**	**24**	**33.6**	**+0.2**
	comp=Z,2μm,2.5s								
EGAK	**Eagle**	**18.79**	**39**	*e*P	**P**	**08**	**24**	**47.3**	**-2.3**
	comp=Z,48nm,0.8s								
HYT	**Haines Junctio**	**19.10**	**52**	*e*P	**P**	**08**	**24**	**53.6**	**+0.4**
DAWY	**Dawson**	**19.19**	**42**	*e*P	**P**	**08**	**24**	**52.1**	**-1.9**
PET	**Petropavlovsk**	**19.22**	**284**	*e*P	**P**	**08**	**24**	**54.4**	**0.0**
PET				pmax	pmax				
	comp=Z,17nm,0.7s								
PET	**Petropavlovsk**	**19.22**	**284**	*e*P	**Pn**	**08**	**24**	**54.9**	**-0.5**
	comp=Z,95nm,0.9s								
BILL	**Bilibino**	**19.30**	**332**	*e*P	**Pn**	**08**	**24**	**56.4**	**+0.1**
BILL				pmax	pmax				
	comp=Z,36nm,1.0s								
BILL	**Bilibino**	**19.30**	**332**	*e*Pn	**Pn**	**08**	**24**	**58.5**	**+2.2**
	comp=Z,197nm,1.2s								
PEA0B	**Petropavlovsk-**	**19.77**	**284**	*e*P	**P**	**08**	**24**	**58.1**	**-2.4**
PETK	**Petropavlovsk-**	**19.77**	**284**	P	**P**	**08**	**24**	**59.3**	**-1.1**
	comp=Z,4.9nm,0.3s,baz=105,slow=14,SNR=51								
PETK				LR	LR	08	32	38.8	
	comp=Z,3μm,21.5s,baz=92,slow=37								
CRAG	**Craig**	**21.30**	**68**	*e*P	**P**	**08**	**25**	**18.6**	**+1.7**
	comp=Z,86nm,1.1s								
WRAK	**Wrangell Islan**	**21.62**	**65**	*e*P	**P**	**08**	**25**	**23.5**	**+3.2**
	comp=Z,64nm,1.0s								
WRAK				LR	LR				
	comp=Z,7μm,20.0s								
H02N1	**VAN INLET T-PH**	**22.04**	**74**	T	T	08	48	07.7	
	SNR=83						

comp=Z,102nm,0.9s
ETW Entiat 31.34 79 P **P 08 26 51.0 +0.1**
KEBM Edson Butte 31.35 90 *e*P **P 08 26 49.1 -1.9**
comp=Z,36nm,1.1s
I03D Drain, OR 31.49 88 P **P 08 26 52.0 -0.1**
baz=31
VLL Laurance Lake 31.57 84 P **P 08 26 54.3 +1.3**
B08A Colville Reser 31.59 77 P **P 08 26 52.6 -0.3**
TRW Toppenish Ridg 31.84 82 P **P 08 26 56.2 +0.9**
G05D Wamic, OR 31.91 84 P **P 08 26 57.4 +1.6**
baz=32,SNR=19
I04A Tendick Farm, 32.01 87 P **P 08 26 58.3 +1.5**
baz=32,SNR=26
L02D Cave Junction, 32.20 90 P **P 08 26 58.7 +0.3**
baz=32
HUMO Hull Mountain 32.34 89 *e*P P 08 27 03.0 +3.4
comp=Z,16nm,0.9s
I05D Terrebonne, OR 32.37 85 P **P 08 27 01.4 +1.5**
baz=32,SNR=21
HAWA Hanford 32.40 81 *e*P **P 08 26 59.7 -0.4**
comp=Z,40nm,0.9s
HAWA LR LR
comp=Z,3µm,21.0s
OD2 Odessa Site #2 32.41 79 P **P 08 26 59.7 -0.4**
D08A Wollman Farm, 32.44 79 *e*P **P 08 27 00.1 -0.3**
comp=Z,36nm,1.1s
ASAJ Asahikawa 32.47 274 ScP **ScP 08 33 30.8 +0.5**
baz=338,slow=11
ASAJ LR LR 08 40 49.2
comp=Z,3µm,20.2s,slow=38
J04D Umpqua Nationa 32.50 88 P **P 08 27 02.9 +1.7**
baz=32,SNR=13
KHMM Horse Mountain 32.87 93 *e*P P 08 27 07.9 +3.4
comp=Z,552nm,2.6s
NEW Newport 32.94 76 P **P 08 27 04.3 -0.6**
comp=Z,34nm,0.7s,baz=297,slow=8.8,SNR=46
NEW Newport 32.94 76 *e*P **P 08 27 04.5 -0.4**
NEW pmax pmax
comp=Z,48nm,0.7s
NEW MLR MLR
comp=Z,2µm,19.0s
NEW Newport 32.94 76 P **P 08 27 04.2 -0.6**
baz=33,SNR=76
NEW Newport 32.94 76 *e*P **P 08 27 04.5 -0.4**
comp=Z,48nm,0.7s
NEW LR LR
comp=Z,2µm,19.0s
YAK Yakutsk 32.95 311 P **P 08 27 04.9 +0.2**
comp=Z,2.0nm,0.4s,baz=84,slow=18,SNR=1.6
YAK LR LR 08 42 15.0
comp=Z,4µm,18.8s,baz=93,slow=40
YAK Yakutsk 32.95 311 *e*P **P 08 27 05.9 +1.2**
YAK pmax pmax
comp=Z,31nm,1.0s
YBH Yreka Blue Hor 32.99 90 P **P 08 27 06.2 +0.8**
comp=Z,15nm,0.8s,baz=319,slow=10,SNR=17
YBH LR LR 08 37 56.6
comp=Z,3µm,19.1s,baz=302,slow=32
YBH Yreka Blue Hor 32.99 90 *e*P **P 08 27 08.0 +2.6**
comp=Z,29nm,1.1s
J05D Fort Rock, OR 33.01 87 P **P 08 27 07.0 +1.4**
baz=33,SNR=35
EDM Edmonton 33.02 66 *e*P **P 08 27 04.9 -0.6**
EDM pmax pmax
comp=Z,33nm,0.6s
EDM Edmonton 33.02 66 *e*P **P 08 27 04.9 -0.6**
comp=Z,33nm,0.6s
K04D Chiloquin, OR 33.06 88 P **P 08 27 06.7 +0.7**
baz=33
M02C Callahan 33.10 91 P **P 08 27 07.1 +0.7**
baz=33
KMRM Mail Ridge 33.28 93 *e*P **P 08 27 07.2 -0.7**
comp=Z,33nm,0.9s
ERM Erimo 33.30 271 PFAKE 08 27 20.0 +12
ERM LR LR
comp=Z,3µm,21.0s
G08A Pilot Rock 33.31 82 *e*P **P 08 27 08.0 -0.2**
comp=Z,35nm,1.2s
N02D Trinity Center 33.44 92 P **P 08 27 09.6 +0.3**
baz=33
M04C Macdoel 33.49 90 P **P 08 27 10.8 +1.0**
baz=33,SNR=25
K05A Summer Lake 33.53 88 *e*P **P 08 27 11.8 +1.6**
comp=Z,110nm,0.9s
K05A *e*PcP **PcP 08 29 53.8 +3.2**
WDC Whiskeytown Da 33.77 92 *e*P **P 08 27 14.5 +2.4**
WDC pmax pmax
comp=Z,22nm,0.9s
WDC Whiskeytown Da 33.77 92 *e*P **P 08 27 14.5 +2.4**
comp=Z,22nm,0.9s
MOD Modoc 34.36 88 *e*P **P 08 27 16.9 -0.5**
comp=Z,102nm,1.4s
WALA Waterton Lakes 34.45 73 *e*P **P 08 27 17.4 -0.7**
comp=Z,68nm,1.3s
WALA Waterton Lakes 34.45 73 *e*P **PcP 08 29 55.7 +2.6**
BSMT Bassoo Peak 34.51 76 *e*P **P 08 27 18.2 -0.5**
comp=Z,34nm,0.7s
BMO Blue Mountains 34.53 82 *e*P **P 08 27 17.8 -1.0**
comp=Z,26nm,1.1s
BMO LR LR
comp=Z,4µm,21.0s
POHA Pohakuloa 34.60 157 PFAKE 08 27 30.0 +10
POHA LR LR
comp=Z,2µm,19.0s
BLMT Blacktail Moun 34.69 75 *e*P **P 08 27 19.8 -0.4**
HABR Khabarovsk 34.79 286 *e*P **P 08 27 19.9 -0.9**
HABR *e**PP **pP 08 27 29.8 +4.3**
HABR *e*PPP PPP 08 28 50.1
HABR *e* 08 29 52.0
HABR *e*S **S 08 32 49.2 -1.3**
HABR *e**SS sS 08 33 05.7 +7.5
HABR *e*SS **SnSn 08 35 06.3 +2.4**
HABR *e*SSS SSS 08 35 23.2
HABR *e* 08 37 38.2
HABR pmax pmax
comp=Z,49nm,1.3s
HABR MLR MLR
comp=Z,2µm,17.0s
JTMT Jette 34.86 76 *e*P **P 08 27 21.2 -0.5**
YBMT Yellow Bay 34.96 75 *e*P **P 08 27 22.0 -0.6**
comp=Z,19nm,0.7s
WVOR Wild Horse Val 35.06 86 *e*P **P 08 27 23.5 +0.1**
WVOR pmax pmax
comp=Z,91nm,1.0s
WVOR MLR MLR
comp=Z,4µm,20.0s
WVOR Wild Horse Val 35.06 86 *e*P **P 08 27 23.5 +0.1**
comp=Z,91nm,1.0s
WVOR LR LR
comp=Z,4µm,20.0s
SWMT Swartz Lake 35.15 76 *e*P **P 08 27 23.0 -1.1**
comp=Z,24nm,1.1s
MSO Missoula 35.52 77 P **P 08 27 27.0 -0.3**
baz=35,SNR=30
MSO Missoula 35.52 77 *e*P **P 08 27 26.5 -0.8**
comp=Z,66nm,1.4s
SLMT Seeley Lake 35.58 76 *e*P **P 08 27 26.8 -1.1**
comp=Z,32nm,0.9s
CHMT Chamberlain Mo 35.88 76 *e*P **P 08 27 29.4 -1.1**
comp=Z,13nm,0.5s
RES Resolute Bay 36.08 26 LR LR 08 44 43.0
comp=Z,5µm,18.5s,baz=271,slow=40
MFID Camas Ranch 36.21 83 *e*P **P 08 27 33.0 -0.3**
comp=Z,41nm,0.9s
CMB Columbia Colle 36.66 94 *e*P **P 08 27 38.2 +1.1**
CMB *e* 08 30 02.0
CMB pmax pmax
comp=Z,27nm,1.1s
CMB Columbia Colle 36.66 94 *e*P **P 08 27 38.2 +1.1**
comp=Z,27nm,1.1s
CMB *e*PcP **PcP 08 30 02.0 +2.3**
HRY Holter Researc 36.83 76 *e*P **P 08 27 37.6 -0.9**
comp=Z,32nm,0.6s
LRM Limekiln Ridge 36.92 77 *e*P **P 08 27 38.1 -1.4**
comp=Z,114nm,1.0s
WAKR Walker 36.94 92 *e*P **P 08 27 40.2 +0.5**
HLID Hailey 36.98 82 P **P 08 27 40.4 +0.5**
baz=37,SNR=34
HLID Hailey 36.98 82 *e*P **P 08 27 39.5 -0.4**
comp=Z,256nm,2.4s
HLID LR LR
comp=Z,3µm,20.0s
BMN Battle Mountai 37.10 88 *e*P **P 08 27 41.0 +0.1**
BMN *e* 08 30 04.6
BMN pmax pmax
comp=Z,46nm,1.0s
BMN Battle Mountai 37.10 88 *e*P **P 08 27 41.0 +0.1**
comp=Z,46nm,1.0s
BMN *e*PcP **PcP 08 30 04.6 +3.5**
MCMT McKenzie Canyo 37.22 79 *e*P **P 08 27 41.0 -1.0**
EGMT Eagleton 37.37 73 P **P 08 27 43.0 -0.1**
baz=37,SNR=110
EGMT Eagleton 37.37 73 *e*P **P 08 27 42.1 -1.0**
comp=Z,121nm,0.9s
EGMT *e*PcP **PcP 08 30 03.0 +1.3**
EGMT LR LR
comp=Z,2µm,21.0s
BOZ Bozeman (W) 37.51 77 *e*P **P 08 27 43.5 -0.8**
BOZ *e* 08 30 04.0
BOZ MLR MLR
comp=Z,2µm,20.0s
BOZ Bozeman (W) 37.51 77 P **P 08 27 44.2 -0.1**
baz=37,SNR=68
BOZ Bozeman (W) 37.51 77 *e*P **P 08 27 43.5 -0.8**
BOZ *e*PcP **PcP 08 30 04.0 +1.7**
BOZ LR LR
comp=Z,2µm,20.0s
A19A Klindworth Far 37.51 71 P **P 08 27 43.3 -0.9**
baz=37,SNR=25
NVAR Mina Array Bea 37.68 91 P **P 08 27 45.8 -0.2**
comp=Z,21nm,0.8s,baz=295,slow=8.0,SNR=36
NVAR PcP **PcP 08 30 02.4 -0.6**
comp=Z,8.5nm,0.8s,baz=266,slow=3.4,SNR=6.3
H11N2 WAKE ISLAND Hy 37.71 218 T T 09 07 44.9
baz=23,slow=76,SNR=1671
H11N3 WAKE ISLAND Hy 37.72 218 T T 09 07 46.8
baz=23,slow=76,SNR=7262
H11N1 WAKE ISLAND Hy 37.73 218 T T 09 07 47.6
baz=23,slow=76,SNR=4282
MLAC Mammoth Lakes 37.86 93 P **P 08 27 47.8 +0.3**
baz=38
A20A Cobblestone Ra 38.00 70 P **P 08 27 47.6 -0.8**
baz=38,SNR=7.7
QLMT Earthquake Lak 38.06 78 *e*P **P 08 27 48.9 -0.2**
comp=Z,2.9nm,0.9s
ELK Elko 38.12 86 *e*P **P 08 27 49.2 -0.4**
ELK pmax pmax
comp=Z,51nm,0.9s
ELK Elko 38.12 86 *e*P **P 08 27 49.2 -0.4**
comp=Z,51nm,0.9s
WAKE Wake Island 38.21 218 PFAKE 08 28 00.0 +10
WAKE LR LR
comp=Z,5µm,21.0s
YMR Madison River 38.43 78 *e*P **P 08 27 51.2 -1.0**
comp=Z,53nm,0.8s
RCTC Rector, Farmer 38.48 95 P **P 08 27 52.0 -0.3**
baz=38,SNR=8.9
A21A Bergtoll Ranch 38.52 70 P **P 08 27 52.2 -0.5**
baz=38
C20A Veseth Ranch, 38.55 72 P **P 08 27 53.0 +0.1**
baz=38,SNR=51
FFC Flin Flon 38.56 59 P **P 08 27 52.0 -0.8**
comp=Z,246nm,0.9s,SNR=9.5
FFC Flin Flon 38.56 59 *e*P **P 08 27 52.8 -0.1**
FFC pmax pmax
comp=Z,39nm,0.9s
FFC MLR MLR
comp=Z,3µm,22.0s
FFC Flin Flon 38.56 59 *e*P **P 08 27 52.8 -0.1**
comp=Z,39nm,0.9s
FFC LR LR
comp=Z,3µm,22.0s
TPH Tonopah 38.56 91 *e*P **P 08 27 53.2 -0.2**
TPH *e* 08 30 06.7
TPH pmax pmax
comp=Z,21nm,0.8s
TPH Tonopah 38.56 91 *e*P **P 08 27 53.1 -0.2**
comp=Z,21nm,0.8s
TPH *e*PcP **PcP 08 30 06.7 +1.0**
YNR Norris Junctio 38.58 78 *e*P **P 08 27 54.2 +0.8**
comp=Z,55nm,0.9s
GCMT Greycliff 38.59 76 *e*P **P 08 27 52.4 -1.0**
comp=Z,18nm,0.8s
GCMT *e*PcP **PcP 08 30 06.7 +1.2**
TIN Tinemaha 38.60 93 P **P 08 27 53.6 0.0**
baz=38
YFT Old Faithful 38.63 78 *e*P **P 08 27 54.2 +0.3**
comp=Z,22nm,0.7s
SMMC Simmler 38.68 97 P **P 08 27 54.1 0.0**
baz=39
H17A Grant Village 38.81 78 P **P 08 27 55.1 -0.3**
baz=39,SNR=32
H17A Grant Village 38.81 78 *e*P **P 08 27 56.0 +0.6**
comp=Z,30nm,0.8s
H17A *e*PcP **PcP 08 30 07.8 +1.4**
USRK Ussuriysk Ar. 38.82 282 P **P 08 27 54.3 -0.8**
comp=Z,3.3nm,0.8s,baz=52,slow=9.3,SNR=3.6
USRK PcP **PcP 08 30 05.8 -0.3**
comp=Z,7.6nm,0.9s,baz=55,slow=3.6,SNR=5.4
USRK ScP **ScP 08 33 53.0 -0.5**
comp=Z,1.6nm,0.8s,baz=72,slow=6.2,SNR=2.7
USRK LR LR 08 43 11.9
comp=Z,2µm,20.9s,baz=58,slow=35
LKWY Lake 38.82 78 *e*P **P 08 27 56.4 +0.9**
LKWY pmax pmax
comp=Z,52nm,0.8s
LKWY MLR MLR
comp=Z,3µm,20.0s
LKWY Lake 38.82 78 *e*P **P 08 27 56.4 +0.9**
comp=Z,52nm,0.8s
LKWY LR LR
comp=Z,3µm,20.0s
IMW Indian Meadow 38.88 79 *e*P **P 08 27 54.9 -1.1**
comp=Z,23nm,0.8s
IMW *e*PcP **PcP 08 30 07.9 +1.2**
H11S1 WAKE ISLAND Hy 38.90 218 T T 09 09 15.0
baz=23,slow=76
H11S2 WAKE ISLAND Hy 38.91 218 T T 09 09 16.9
baz=23,slow=76
FLWY Flagg Ranch 38.91 79 *e*P **P 08 27 56.2 0.0**
comp=Z,23nm,0.8s
FLWY *e*PcP **PcP 08 30 08.7 +2.0**
H11S3 WAKE ISLAND Hy 38.92 218 T T 09 09 15.8
baz=23,slow=76
FXWY Fox Creek 38.97 79 *e*P **P 08 27 56.5 -0.2**
comp=Z,10.0nm,0.8s
HVU Hansel Valley 38.99 83 *e*P **P 08 27 56.3 -0.6**
HVU pmax pmax
comp=Z,26nm,0.8s
HVU Hansel Valley 38.99 83 *e*P **P 08 27 56.3 -0.6**
comp=Z,26nm,0.8s
C21A Desert Coulee 39.01 71 P **P 08 27 55.8 -1.0**
baz=39,SNR=23
PKM Peak Mountain 39.07 97 P **P 08 27 58.6 +1.0**
baz=39,SNR=6.3
MOOW Moose Ponds 39.08 79 *e*P **P 08 27 57.0 -0.6**
comp=Z,14nm,1.0s
CWC Cottonwood Cre 39.10 94 P **P 08 27 58.0 +0.2**
baz=39,SNR=5.8
TPAW Teton Pass 39.10 79 *e*P **P 08 27 57.7 -0.2**
comp=Z,22nm,0.8s
GRAC Grapevine Rang 39.16 92 P **P 08 27 58.9 +0.7**
baz=39,SNR=7.6
RLMT Red Lodge 39.19 76 P **P 08 27 58.4 -0.1**
baz=39,SNR=70
RLMT Red Lodge 39.19 76 *e*P **P 08 27 57.6 -0.9**
comp=Z,78nm,0.9s
RLMT LR LR
comp=Z,2µm,22.0s
REDW Red Top Meadow 39.23 80 *e*P **P 08 27 58.4 -0.6**
comp=Z,78nm,1.6s
REDW *e*PcP **PcP 08 30 09.5 +1.7**
SNOW Snow King Moun 39.23 79 *e*P **P 08 27 58.8 -0.2**
comp=Z,15nm,0.8s
SNOW *e*PcP **PcP 08 30 10.2 +2.5**
LOHW Long Hollow 39.24 79 *e*P **P 08 27 58.3 -0.6**
comp=Z,14nm,0.8s
BGU Big Grassy Mou 39.35 84 *e*P **P 08 27 59.4 -0.4**
comp=Z,57nm,1.2s
ISA Isabella 39.37 95 *e*P **P 08 27 58.5 -1.5**
ISA pmax pmax
comp=Z,47nm,1.5s
ISA Isabella 39.37 95 P **P 08 27 58.5 -1.5**
baz=39,SNR=8.0
ISA Isabella 39.37 95 *e*P **P 08 27 58.5 -1.5**
comp=Z,47nm,1.5s
R11A Troy Canyon, C 39.38 89 P **P 08 27 59.2 -1.0**
baz=39,SNR=78
R11A Troy Canyon, C 39.38 89 *e*P **P 08 27 59.7 -0.5**
comp=Z,48nm,0.9s
AHID Auburn Hatcher 39.43 81 *e*P **P 08 28 00.3 -0.3**
comp=Z,41nm,1.0s
AHID LR LR
comp=Z,4µm,20.0s
SBC Santa Barbara 39.44 97 P **P 08 27 59.3 -1.2**
baz=39
SPUT South Promonto 39.47 83 *e*P **P 08 28 00.3 -0.6**
comp=Z,28nm,0.9s
F20A Billings 39.48 75 P **P 08 27 59.5 -1.2**
baz=39,SNR=30
DAC Darwin (Calif) 39.50 93 *e*P **P 08 28 00.0 -1.2**
DAC *e* 08 30 09.1
DAC pmax pmax
comp=Z,35nm,1.1s
DAC Darwin (Calif) 39.50 93 *e*P **P 08 27 60.0 -1.2**
comp=Z,35nm,1.1s
DAC *e*PcP **PcP 08 30 09.1 +0.5**
ARVC Arvin 39.51 96 P **P 08 28 01.1 0.0**
baz=39
H19A Powell 39.60 77 P **P 08 28 00.9 -1.1**
baz=39,SNR=37
MJAR Matsushiro Arr 39.70 267 P **P 08 28 01.3 -1.3**
comp=Z,4.1nm,0.6s,baz=50,slow=6.1,SNR=4.8
MJAR PcP **PcP 08 30 09.0 -0.1**
comp=Z,11nm,1.0s,baz=185,slow=0.6,SNR=7.4
MJAR LR LR 08 42 34.4
comp=Z,4µm,20.5s,baz=65,slow=33
MAJO Matsushiro 39.70 267 *e*P **P 08 28 02.2 -0.5**
MAJO pmax pmax
comp=Z,114nm,0.9s
MAJO Matsushiro 39.70 267 *e*P **P 08 28 02.8 +0.1**
comp=Z,39nm,1.0s
MAJO LR LR
comp=Z,8µm,22.0s
MAT Matsushiro 39.70 267 P **P 08 28 01.5 -1.2**
MAT S **S 08 34 05.0 -0.5**
E21A Keefer Ranch, 39.70 73 P **P 08 28 02.9 +0.3**
baz=40
MPMC Manual Prospec 39.70 94 P **P 08 28 03.2 +0.3**
baz=40,SNR=20
G20A Bridger 39.76 76 P **P 08 28 02.1 -1.0**
baz=40,SNR=63
BSC Santa Cruz Isl 39.80 98 P **P 08 28 03.2 -0.3**
baz=40
FURC Furnace Creek, 39.82 93 P **P 08 28 04.1 +0.5**
baz=40,SNR=60
HWUT Hardware Ranch 39.83 82 PFAKE 08 28 20.0 +16
HWUT LR LR
comp=Z,3µm,19.0s
TPNV Topopah Spring 39.88 92 P **P 08 28 04.3 0.0**
baz=40,SNR=64
DUG Dugway 39.92 85 *e*P **P 08 28 04.2 -0.4**
DUG pmax pmax
comp=Z,89nm,1.1s
DUG MLR MLR
comp=Z,3µm,22.0s
DUG Dugway 39.92 85 P **P 08 28 04.3 -0.4**
baz=40,SNR=104
DUG Dugway 39.92 85 *e*P **P 08 28 04.2 -0.4**
comp=Z,89nm,1.1s
DUG LR LR
comp=Z,3µm,22.0s
OSI Osito Adit 39.92 96 P **P 08 28 04.2 -0.4**
baz=40
I19A Meeteetse 39.96 78 P **P 08 28 04.3 -0.6**
baz=40,SNR=29
LRMC Laurel Mountai 39.97 94 P **P 08 28 03.9 -1.1**
baz=40,SNR=7.7
MDJ Mudanjiang 40.01 284 P **P 08 28 04.8 -0.3**
MDJ pP **pP 08 28 07.9 -1.9**
MDJ sP **sP 08 28 09.3 -2.4**
MDJ PP **PP 08 29 36.3 -0.6**
MDJ PcP **PcP 08 30 10.3 +0.4**
MDJ S **S 08 34 10.3 +0.4**
MDJ sS **sS 08 34 15.6 -2.1**
MDJ ScS **ScS 08 38 11.0 -0.2**
MDJ PMZ
comp=Z,7.0nm,0.6s
MDJ PMZ
comp=Z,66nm,3.5s
MDJ LN
comp=Z,2µm,19.8s
MDJ LE
comp=Z,3µm,18.9s
MDJ LZ
comp=Z,4µm,23.2s
MDJ Mudanjiang 40.01 284 PFAKE 08 28 20.0 +15
MDJ LR LR
comp=Z,4µm,21.0s
BLG Laguna Peak 40.06 97 P **P 08 28 04.8 -0.9**
baz=40
F21A Absaloka Mine, 40.06 74 P **P 08 28 04.3 -1.3**
baz=40
LAO LASA Array 40.12 72 P **P 08 28 05.5 -0.6**
baz=40,SNR=12
LAO LASA Array 40.12 72 *e*P **P 08 28 05.4 -0.7**
comp=Z,73nm,1.2s
LAO LR LR
comp=Z,2µm,21.0s
EDW2 Edwards Air Fo 40.19 95 P **P 08 28 06.1 -0.7**
baz=40,SNR=7.8
TCUT Toone Canyon 40.21 83 *e*P **P 08 28 06.9 -0.3**
comp=Z,80nm,1.1s
CTU Camp Tracy 40.26 84 *e*P **P 08 28 07.4 0.0**
comp=Z,37nm,1.0s
H20A Greybull 40.29 76 P **P 08 28 05.8 -1.8**
baz=40,SNR=33
G21A Lodge Grass 40.34 75 P **P 08 28 06.5 -1.5**
baz=40,SNR=36
BW06 Boulder Array 40.35 79 *e*P **P 08 28 07.1 -1.1**
comp=Z,64nm,1.0s
BW06 LR LR
comp=Z,2µm,20.0s
PDAR Pinedale Array 40.35 79 P **P 08 28 06.8 -1.4**
comp=Z,43nm,0.8s,baz=325,slow=5.2,SNR=94
PDAR LR LR 08 42 51.4
comp=Z,2µm,20.1s,baz=330,slow=33
J19A Crowheart 40.36 79 P **P 08 28 07.8 -0.5**
baz=40,SNR=38
DECC Green Verdugo 40.41 96 P **P 08 28 07.9 -0.7**
baz=40
E22A Miles City 40.41 73 P **P 08 28 07.2 -1.3**
baz=40,SNR=28
JLU Jordanelle 40.50 83 *e*P **P 08 28 09.3 -0.2**
comp=Z,52nm,1.3s
NLU North Lily Min 40.52 85 *e*P **P 08 28 08.8 -0.8**
comp=Z,53nm,1.0s
I20A Worland 40.52 77 P **P 08 28 08.1 -1.4**
baz=40,SNR=30
SHOC Shoshone 40.55 93 P **P 08 28 09.8 +0.1**
baz=40,SNR=17
PASC Pasadena Art C 40.55 96 *e*P **P 08 28 10.5 +0.8**
comp=Z,26nm,1.0s
MWC Mount Wilson 40.59 96 *e*P **P 08 28 10.1 -0.2**
MWC pmax pmax
comp=Z,73nm,1.2s
MWC Mount Wilson 40.59 96 *e*P **P 08 28 10.1 -0.2**
comp=Z,73nm,1.2s
F22A Rosebud 40.59 74 P **P 08 28 09.3 -0.7**
baz=40,SNR=14
GSC Goldstone 40.62 94 *e*P **P 08 28 10.5 +0.1**
GSC pmax pmax
comp=Z,63nm,0.9s
GSC Goldstone 40.62 94 P **P 08 28 09.9 -0.5**
baz=40,SNR=67
GSC Goldstone 40.62 94 *e*P **P 08 28 10.5 +0.1**
comp=Z,63nm,0.9s
C24A Savage 40.70 70 P **P 08 28 10.6 -0.3**
baz=40,SNR=31
A25A Svangstu Ranch 40.71 68 P **P 08 28 10.1 -0.7**
baz=40,SNR=17
FCC Fort Churchill 40.73 51 *e*P **P 08 28 10.1 -0.8**
FCC pmax pmax
comp=Z,54nm,0.9s
FCC Fort Churchill 40.73 51 *e*P **P 08 28 10.1 -0.8**
comp=Z,54nm,0.9s
MPU Maple Canyon 40.75 84 *e*P **P 08 28 10.8 -0.7**
comp=Z,119nm,1.0s
E23A Ismay 40.75 72 P **P 08 28 10.7 -0.6**
baz=41,SNR=28
H21A Big Horn, Sher 40.78 76 P **P 08 28 10.3 -1.3**
baz=41,SNR=13
RRX Edison Barstow 40.79 95 P **P 08 28 10.6 -1.1**
baz=41
FMP Fort Macarthur 40.80 97 P **P 08 28 10.2 -1.6**
baz=41
BFSC Mount Baldy Ra 40.83 96 P **P 08 28 12.2 +0.1**
baz=41,SNR=15
SHPR Sheep Range 40.83 91 *e*P **P 08 28 12.8 +0.6**
G22A Birney 40.88 74 P **P 08 28 12.1 -0.4**
baz=41,SNR=10.0

J20A	**Shoshoni**	**40.89**	**78**	P		**P**	**08 28 12.2**	**-0.3**
	baz=41,SNR=54								
CIS	**Catalina Islan**	**40.95**	**97**	P		**P**	**08 28 12.0**	**-1.0**
	baz=41								
D24A	**Glendive**	**40.98**	**71**	P		**P**	**08 28 12.8**	**-0.4**
	baz=41,SNR=32								
B25A	**Knox Farm, Ray**	**41.03**	**69**	P		**P**	**08 28 13.1**	**-0.4**
	baz=41,SNR=8.6								
TUQ	**Turquoise Moun**	**41.07**	**93**	P		**P**	**08 28 13.8**	**-0.3**
	baz=41								
I21A	**Big Trails, Te**	**41.09**	**77**	P		**P**	**08 28 12.8**	**-1.5**
	baz=41,SNR=35								
F23A	**Volborg**	**41.12**	**73**	P		**P**	**08 28 13.8**	**-0.6**
	baz=41,SNR=52								
H22A	**Clearmont**	**41.20**	**75**	P		**P**	**08 28 13.4**	**-1.7**
	baz=41								
HEC	**Hector,Ludlow**	**41.23**	**94**	P		**P**	**08 28 15.6**	**+0.3**
	baz=41,SNR=5.7								
CCUT	**Cedar City**	**41.24**	**89**	*e*P		**P**	**08 28 15.2**	**-0.4**
	comp=Z,32nm,0.9s								
BBRC	**Big Bear Solar**	**41.26**	**95**	P		**P**	**08 28 16.4**	**+0.6**
	baz=41,SNR=10.0								
J21A	**Lysite**	**41.27**	**77**	P		**P**	**08 28 14.9**	**-0.9**
	baz=41,SNR=36								
C25A	**Freed Ranch, W**	**41.27**	**69**	P		**P**	**08 28 14.8**	**-0.8**
	baz=41								
E24A	**Baker**	**41.30**	**71**	P		**P**	**08 28 14.8**	**-1.0**
	baz=41,SNR=12								
A26A	**Wade Farm, Ken**	**41.33**	**67**	P		**P**	**08 28 14.6**	**-1.4**
	baz=41,SNR=8.8								
MVU	**Marysvale**	**41.34**	**87**	*e*P		**P**	**08 28 16.2**	**-0.3**
	comp=Z,34nm,0.8s								
MSU	**Marysvale**	**41.35**	**87**	*e*P		**P**	**08 28 16.5**	**0.0**
MSU				*e*			08 30 17.4		
MSU				pmax		pmax			
	comp=Z,55nm,1.0s								
MSU	**Marysvale**	**41.35**	**87**	*e*P		**P**	**08 28 16.5**	**0.0**
	comp=Z,55nm,1.0s								
MSU				*e*PcP		**PcP**	**08 30 17.4**	**+2.8**
G23A	**Biddle**	**41.42**	**74**	P		**P**	**08 28 15.9**	**-1.0**
	baz=41,SNR=16								
TMUT	**Trail Mountain**	**41.45**	**85**	*e*P		**P**	**08 28 17.0**	**-0.4**
	comp=Z,100nm,0.9s								
B26A	**Jensen Ranch,**	**41.50**	**68**	P		**P**	**08 28 16.7**	**-0.7**
	baz=41,SNR=8.2								
I22A	**9 Mile Ranch,**	**41.53**	**76**	P		**P**	**08 28 17.6**	**-0.2**
	baz=41,SNR=26								
MURC	**Murrieta**	**41.54**	**96**	P		**P**	**08 28 17.4**	**-0.5**
	baz=41,SNR=10								
D25A	**Fairfield**	**41.54**	**70**	P		**P**	**08 28 16.4**	**-1.4**
	baz=41								
F24A	**Ekalaka**	**41.61**	**72**	P		**P**	**08 28 17.7**	**-0.8**
	baz=41,SNR=37								
GMRC	**Granite Mounta**	**41.67**	**94**	P		**P**	**08 28 19.6**	**+0.6**
	baz=42,SNR=63								
A27A	**Ledoux Ranch,**	**41.75**	**67**	P		**P**	**08 28 18.3**	**-1.1**
	baz=42								
BOD	**Bodaibo**	**41.78**	**309**	*e*P		**P**	**08 28 18.8**	**-0.7**
BOD				pmax		pmax			
	comp=Z,21nm,1.1s								
H23A	**Clabaugh Cattl**	**41.78**	**75**	P		**P**	**08 28 18.1**	**-1.8**
	baz=42								
LDFC	**Landfair**	**41.80**	**93**	*e*P		**P**	**08 28 18.9**	**-1.2**
	comp=Z,87nm,0.9s								
J22A	**Midwest**	**41.81**	**77**	P		**P**	**08 28 19.2**	**-1.0**
	baz=42,SNR=80								
E25A	**Miller Ranch,**	**41.85**	**71**	P		**P**	**08 28 20.3**	**-0.1**
	baz=42,SNR=22								
C26A	**Wahner Farm, P**	**41.87**	**69**	P		**P**	**08 28 19.7**	**-0.8**
	baz=42								
G24A	**Alzada**	**41.92**	**73**	P		**P**	**08 28 20.3**	**-0.6**
	baz=42,SNR=19								
SRU	**San Rafael**	**41.98**	**85**	*e*P		**P**	**08 28 21.1**	**-0.5**
SRU				pmax		pmax			
	comp=Z,49nm,0.9s								
SRU	**San Rafael**	**41.98**	**85**	*e*P		**P**	**08 28 21.1**	**-0.5**
	comp=Z,49nm,0.9s								
PFO	**Pinyon Flat Ob**	**41.98**	**95**	P		**P**	**08 28 21.3**	**-0.3**
	comp=Z,20nm,0.8s,baz=315,slow=5.2,SNR=23								
PFO				LR		LR	08 41 50.1		
	comp=Z,3μm,21.4s,baz=296,slow=30								
PFO	**Pinyon Flat Ob**	**41.98**	**95**	*e*P		**P**	**08 28 21.3**	**-0.3**
PFO				pmax		pmax			
	comp=Z,30nm,0.9s								
PFO	**Pinyon Flat Ob**	**41.98**	**95**	P		**P**	**08 28 21.6**	**0.0**
	baz=42,SNR=16								
PFO	**Pinyon Flat Ob**	**41.98**	**95**	*e*P		**P**	**08 28 21.3**	**-0.3**
	comp=Z,30nm,0.9s								
BELC	**Belle Mtn. Jos**	**41.99**	**95**	P		**P**	**08 28 21.3**	**-0.4**
	baz=42,SNR=31								
B27A	**Peters Farms,**	**42.03**	**67**	P		**P**	**08 28 20.1**	**-1.6**
	baz=42								
109C	**Camp Elliot, M**	**42.09**	**97**	P		**P**	**08 28 22.0**	**-0.3**
	baz=42,SNR=6.6								
I23A	**Meade Ranch, G**	**42.09**	**75**	P		**P**	**08 28 20.7**	**-1.7**
	baz=42								
D26A	**Manning**	**42.11**	**70**	P		**P**	**08 28 20.9**	**-1.5**
	baz=42								
F25A	**Bowman**	**42.14**	**72**	P		**P**	**08 28 22.1**	**-0.6**
	baz=42								
H24A	**Dirks Ranch, A**	**42.17**	**74**	P		**P**	**08 28 22.0**	**-1.0**
	baz=42,SNR=17								
K22A	**Casper**	**42.23**	**78**	P		**P**	**08 28 22.7**	**-0.9**
	baz=42,SNR=34								
K22A	**Casper**	**42.23**	**78**	*e*P		**P**	**08 28 22.2**	**-1.4**
	comp=Z,39nm,0.9s								
C27A	**Sayler Ranch,**	**42.27**	**68**	P		**P**	**08 28 22.5**	**-1.1**
	baz=42								
NEE2	**Needles Airpor**	**42.31**	**93**	P		**P**	**08 28 23.0**	**-1.1**
	baz=42								
A28A	**Rude Farm, Bot**	**42.32**	**66**	P		**P**	**08 28 23.1**	**-1.0**
	baz=42,SNR=27								
J23A	**Dilts Ranch, B**	**42.36**	**76**	P		**P**	**08 28 23.5**	**-1.1**
	baz=42								
IRM	**Iron Mountain**	**42.40**	**94**	P		**P**	**08 28 24.0**	**-0.9**
	baz=42,SNR=21								
E26A	**Carlson Angus**	**42.41**	**71**	P		**P**	**08 28 24.8**	**-0.1**
	baz=42,SNR=26								
BAR	**Barrett**	**42.49**	**97**	*e*P		**P**	**08 28 25.4**	**-0.3**
	comp=Z,57nm,1.1s								
MONP	**Monument Peak**	**42.50**	**96**	P		**P**	**08 28 26.1**	**+0.1**
	baz=42,SNR=34								
B28A	**Dugan Ranch, T**	**42.51**	**67**	P		**P**	**08 28 24.9**	**-0.7**
	baz=42,SNR=15								
BC3	**Big Chuckawall**	**42.56**	**95**	P		**P**	**08 28 26.3**	**0.0**
	baz=42,SNR=17								
G25A	**Newell**	**42.58**	**73**	P		**P**	**08 28 25.4**	**-0.9**
	baz=42,SNR=11								
D27A	**Center**	**42.59**	**69**	P		**P**	**08 28 25.5**	**-0.8**
	baz=42								
F26A	**Lodgepole**	**42.64**	**71**	P		**P**	**08 28 25.4**	**-1.3**
	baz=42,SNR=13								
I24A	**Kuemmerle Ranc**	**42.64**	**75**	P		**P**	**08 28 25.9**	**-0.9**
	baz=42,SNR=7.7								
K23A	**Bowen Ranch, D**	**42.70**	**77**	P		**P**	**08 28 26.3**	**-1.1**
	baz=42,SNR=17								
O20A	**White River Ci**	**42.72**	**82**	P		**P**	**08 28 26.4**	**-1.3**
	baz=43,SNR=133								
H25A	**Fruitdale**	**42.80**	**73**	P		**P**	**08 28 26.6**	**-1.5**
	baz=43								
RSSD	**Black Hills**	**42.83**	**74**	*e*P		**P**	**08 28 27.0**	**-1.6**
RSSD				pmax		pmax			
	comp=Z,78nm,1.4s								
RSSD	**Black Hills**	**42.83**	**74**	*e*P		**P**	**08 28 27.0**	**-1.6**
	comp=Z,78nm,1.4s								
SWSC	**Sam W. Stewart**	**42.84**	**96**	P		**P**	**08 28 26.9**	**-1.6**
	baz=43,SNR=9.4								
IBP	**Imperial Bould**	**42.86**	**96**	P		**P**	**08 28 27.4**	**-1.3**
	baz=43,SNR=5.3								
A29A	**Manning Farm,**	**42.88**	**66**	P		**P**	**08 28 27.5**	**-1.1**
	baz=43,SNR=35								
C28A	**Hausauer Farms**	**42.90**	**68**	P		**P**	**08 28 27.5**	**-1.3**
	baz=43								
CN2	**Changchun**	**42.92**	**285**	*e*P		**P**	**08 28 27.3**	**-1.6**
CN2				*es*P		**sP**	**08 28 34.4**	**-1.2**
CN2				*e*S		**S**	**08 34 50.0**	**-3.0**
CN2				SS		SS	08 37 55.0	-9.3
CN2				PMZ					
	comp=Z,10.0nm,1.0s								
CN2				PMZ					
	comp=Z,100nm,4.0s								
CN2				LN					
	comp=Z,3μm,17.0s								
CN2				LE					
	comp=Z,2μm,17.0s								
CN2				LZ					
	comp=Z,1μm,17.0s								
PDMCI	**Parker Dam,Lak**	**42.92**	**93**	P		**P**	**08 28 28.4**	**-0.6**
	baz=43,SNR=16								
J24A	**Dixon Ranch, L**	**42.93**	**76**	P		**P**	**08 28 28.0**	**-1.2**
	baz=43,SNR=9.1								
E27A	**Carson**	**42.95**	**70**	P		**P**	**08 28 28.2**	**-1.1**
	baz=43,SNR=25								
G26A	**Maurine**	**42.99**	**72**	P		**P**	**08 28 28.6**	**-1.1**
	baz=43,SNR=37								
F27A	**Lemmon**	**43.00**	**71**	P		**P**	**08 28 28.1**	**-1.6**
	baz=43,SNR=13								
Y12C	**Blythe**	**43.06**	**94**	P		**P**	**08 28 29.6**	**-0.6**
	baz=43,SNR=35								
B29A	**Wagenman Farm,**	**43.07**	**66**	P		**P**	**08 28 29.0**	**-1.1**
	baz=43,SNR=8.8								
D28A	**Regan**	**43.09**	**69**	P		**P**	**08 28 29.0**	**-1.3**
	baz=43								
HIA	**Hailar**	**43.10**	**295**	PFAKE			08 28 40.0	+10	
HIA				LR		LR			
	comp=Z,4μm,20.0s								
K24A	**Anderson Ranch**	**43.20**	**76**	P		**P**	**08 28 29.6**	**-1.9**
	baz=43								
MDND	**Maddock**	**43.27**	**67**	P		**P**	**08 28 30.4**	**-1.4**
	baz=43,SNR=13								
H26A	**Fairpoint**	**43.28**	**73**	P		**P**	**08 28 30.5**	**-1.5**
	baz=43,SNR=8.2								
G27A	**Dupree**	**43.33**	**72**	P		**P**	**08 28 31.4**	**-1.0**
	baz=43,SNR=18								
GLA	**Glamis**	**43.35**	**95**	*e*P		**P**	**08 28 32.1**	**-0.5**
GLA				pmax		pmax			
	comp=Z,43nm,0.9s								
GLA	**Glamis**	**43.35**	**95**	P		**P**	**08 28 32.5**	**-0.2**
	baz=43,SNR=28								
GLA	**Glamis**	**43.35**	**95**	*e*P		**P**	**08 28 32.1**	**-0.5**
	comp=Z,43nm,0.9s								
E28A	**Huff**	**43.36**	**69**	P		**P**	**08 28 32.0**	**-0.5**
	baz=43,SNR=12								
A30A	**Hoffart Farm,**	**43.39**	**65**	P		**P**	**08 28 30.9**	**-1.9**
	baz=43,SNR=10								
J25A	**Sunshine Ranch**	**43.40**	**75**	P		**P**	**08 28 31.7**	**-1.3**
	baz=43,SNR=8.0								
PV04	**Paradox Valley**	**43.41**	**84**	*e*P		**P**	**08 28 32.2**	**-1.1**
I26A	**New Underwood**	**43.58**	**74**	P		**P**	**08 28 33.4**	**-1.0**
	baz=43,SNR=6.2								
N23A	**Red Feather La**	**43.63**	**79**	P		**P**	**08 28 34.5**	**-0.6**
	baz=44,SNR=40								
B30A	**Myrvik Farm, E**	**43.65**	**66**	P		**P**	**08 28 33.2**	**-1.6**
	baz=43,SNR=19								
PHWY	**Pilot Hill**	**43.67**	**79**	*e*P		**P**	**08 28 34.1**	**-1.3**
	comp=Z,17nm,0.9s								
H27A	**Howes**	**43.68**	**73**	P		**P**	**08 28 33.8**	**-1.3**
	baz=44								
D29A	**Pettibone, Tap**	**43.71**	**68**	P		**P**	**08 28 34.1**	**-1.3**
	baz=44								
F28A	**McLaughlin**	**43.71**	**70**	P		**P**	**08 28 34.5**	**-0.9**
	baz=44								
PV01	**Paradox Valley**	**43.78**	**84**	*e*P		**P**	**08 28 35.0**	**-1.3**
	comp=Z,152nm,0.9s								
WUAZ	**Wupatki**	**43.78**	**89**	P		**P**	**08 28 35.9**	**-0.3**
	baz=44,SNR=62								
WUAZ	**Wupatki**	**43.78**	**89**	*e*P		**P**	**08 28 35.9**	**-0.3**
	comp=Z,75nm,0.8s								
WUAZ				LR		LR			
	comp=Z,3μm,20.0s								
K25A	**Mack Ranch, Ha**	**43.82**	**76**	P		**P**	**08 28 35.6**	**-0.8**
	baz=44								
J26A	**Sides Ranch, S**	**43.87**	**75**	P		**P**	**08 28 35.5**	**-1.3**
	baz=44								
E29A	**Napoleon**	**43.96**	**69**	P		**P**	**08 28 35.7**	**-1.7**
	baz=44								
C30A	**Mose, Pekin**	**43.98**	**67**	P		**P**	**08 28 36.3**	**-1.1**
	baz=44,SNR=9.9								
CBIJ	**Chichi jima**	**43.99**	**254**	P		**P**	**08 28 37.9**	**+0.1**
JCJ	**Chichijima**	**43.99**	**254**	P		**P**	**08 28 37.9**	**+0.1**
	comp=Z,44nm,0.7s,baz=90,slow=20,SNR=3.4								
JCJ				LR		LR	08 45 51.7		
	comp=Z,722nm,21.1s,baz=40,slow=35								
ULM	**Lac du Bonnet**	**44.00**	**62**	P		**P**	**08 28 36.2**	**-1.4**
	comp=Z,12nm,0.7s,baz=307,slow=8.2,SNR=10								
ULM				PcP		**PcP**	**08 30 22.0**	**-1.0**	
	comp=Z,13nm,0.9s,baz=297,slow=4.8,SNR=4.9								
ULM				LR		LR	08 47 30.6		
	comp=Z,3μm,21.3s,baz=322,slow=37								
I27A	**Quinn**	**44.02**	**73**	P		**P**	**08 28 37.3**	**-0.6**
	baz=44,SNR=11								
L25A	**Engebretsen Ra**	**44.04**	**77**	P		**P**	**08 28 37.3**	**-1.0**
	baz=44,SNR=7.3								
SMCO	**Snowmass**	**44.08**	**82**	*e*PcP		**PcP**	**08 30 26.5**	**+2.5**
G28A	**Parade**	**44.09**	**71**	P		**P**	**08 28 37.4**	**-1.1**
	baz=44								
D30A	**Buchanan**	**44.16**	**68**	P		**P**	**08 28 37.4**	**-1.5**
	baz=44,SNR=41								
K26A	**Motz Farm, Whi**	**44.18**	**75**	P		**P**	**08 28 37.2**	**-2.0**
	baz=44								
H28A	**Mission Ridge**	**44.27**	**72**	P		**P**	**08 28 38.3**	**-1.6**
	baz=44								
F29A	**Eureka**	**44.28**	**70**	P		**P**	**08 28 38.3**	**-1.7**
	baz=44,SNR=7.7								
E30A	**Jud**	**44.41**	**68**	P		**P**	**08 28 39.2**	**-1.8**
	baz=44								
MVCO	**Mesa Verde**	**44.42**	**85**	P		**P**	**08 28 40.2**	**-1.2**
	baz=44,SNR=20								
MVCO	**Mesa Verde**	**44.42**	**85**	*e*P		**P**	**08 28 40.6**	**-0.9**
	comp=Z,35nm,1.0s								
MVCO				LR		LR			
	comp=Z,2μm,22.0s								
M25A	**Palm-Egli Farm**	**44.43**	**77**	P		**P**	**08 28 39.7**	**-1.6**
	baz=44,SNR=23								
ISCO	**Idaho Springs**	**44.51**	**80**	*e*P		**P**	**08 28 41.2**	**-1.0**
ISCO				*e*			08 30 25.1		
ISCO				pmax		pmax			
	comp=Z,17nm,0.9s								
ISCO				MLR		MLR			
	comp=Z,4μm,21.0s								
ISCO	**Idaho Springs**	**44.51**	**80**	P		**P**	**08 28 41.4**	**-0.8**
	baz=44,SNR=23								
ISCO	**Idaho Springs**	**44.51**	**80**	*e*P		**P**	**08 28 41.2**	**-1.0**
	comp=Z,17nm,0.9s								
ISCO				*e*PcP		**PcP**	**08 30 25.1**	**-0.3**	
ISCO				LR		LR			
	comp=Z,4μm,21.0s								
J27A	**Elkhorn Farm,**	**44.53**	**74**	P		**P**	**08 28 40.8**	**-1.3**
	baz=44,SNR=10								
I28A	**Midland**	**44.58**	**73**	P		**P**	**08 28 41.4**	**-1.0**
	baz=44,SNR=8.5								
G29A	**Hoven**	**44.59**	**71**	P		**P**	**08 28 40.9**	**-1.6**
	baz=44								
L26A	**Underwood Farm**	**44.64**	**76**	P		**P**	**08 28 41.4**	**-1.6**
	baz=44								
K27A	**Flueckinger Fa**	**44.73**	**75**	P		**P**	**08 28 41.5**	**-2.2**
	baz=44								
F30A	**Leola**	**44.73**	**69**	P		**P**	**08 28 41.7**	**-1.9**
	baz=44								
H29A	**Onida**	**44.76**	**71**	P		**P**	**08 28 42.4**	**-1.4**
	baz=45,SNR=7.8								
J28A	**Allard Ranch,**	**44.88**	**73**	P		**P**	**08 28 43.2**	**-1.6**
	baz=45,SNR=32								
M26A	**McRoberts Ranc**	**44.95**	**77**	P		**P**	**08 28 44.8**	**-0.7**
	baz=45,SNR=6.4								
W18A	**Petrified Fore**	**45.05**	**88**	P		**P**	**08 28 45.0**	**-1.4**
	baz=45								
L27A	**T5 Ranch, Ells**	**45.06**	**76**	P		**P**	**08 28 44.5**	**-1.8**
	baz=45								
I29A	**Vivian Onida**	**45.07**	**72**	P		**P**	**08 28 45.1**	**-1.2**
	baz=45,SNR=19								
G30A	**Faulkton**	**45.08**	**70**	P		**P**	**08 28 45.4**	**-0.9**
	baz=45,SNR=14								
S22A	**4UR Ranch, Cre**	**45.08**	**83**	P		**P**	**08 28 46.5**	**-0.3**
	baz=45,SNR=35								
AGMN	**Agassiz Nation**	**45.09**	**65**	P		**P**	**08 28 44.8**	**-1.6**
	baz=45,SNR=32								
AGMN	**Agassiz Nation**	**45.09**	**65**	PFAKE			08 29 00.0	+14	
AGMN				LR		LR			
	comp=Z,3μm,19.0s								
K28A	**Ten Mile Ranch**	**45.23**	**74**	P		**P**	**08 28 46.9**	**-0.8**
	baz=45,SNR=5.4								
N26A	**Koester Ranch,**	**45.30**	**78**	P		**P**	**08 28 47.6**	**-0.6**
	baz=45,SNR=13								
Q24A	**Divide**	**45.32**	**81**	P		**P**	**08 28 48.1**	**-0.6**
	baz=45								
KULLO	**Kullorsuaq**	**45.32**	**20**	*i* P		**P**	**08 28 50.8**	**+3.0**
	comp=Z,5μm,18.0s								
214A	**Organ Pipe Nat**	**45.34**	**94**	P		**P**	**08 28 47.7**	**-0.9**
	baz=45,SNR=65								
214A	**Organ Pipe Nat**	**45.34**	**94**	*e*P		**P**	**08 28 47.9**	**-0.6**
	comp=Z,73nm,0.9s								
214A				*e*PcP		**PcP**	**08 30 28.1**	**+0.2**	
KSRS	**Korea Array**	**45.36**	**276**	P		**P**	**08 28 47.6**	**-0.9**
	comp=Z,3.4nm,0.7s,baz=46,slow=8.2,SNR=7.9								
KSRS				PcP		**PcP**	**08 30 27.4**	**-0.4**	
	comp=Z,7.2nm,1.0s,baz=53,slow=5.0,SNR=3.5								
KSRS				LR		LR	08 47 33.6		
	comp=Z,2μm,20.4s,baz=56,slow=36								
KSRS	**Korea Array**	**45.36**	**276**	P		**P**	**08 28 47.7**	**-0.9**
KSRS							08 30 27.4		
KSRS				pmax		pmax			
	comp=Z,3.0nm,0.7s								
KSRS				MLR		MLR			
	comp=Z,2μm,20.5s								
M27A	**Reverse DX Ran**	**45.36**	**76**	P		**P**	**08 28 47.8**	**-0.9**
	baz=45,SNR=8.9								
KSAR	**Wonju Array Be**	**45.39**	**276**	P		**P**	**08 28 47.7**	**-1.1**
KSAR							08 30 27.4		
KSAR	**Wonju Array Be**	**45.39**	**276**	P		**P**	**08 28 47.6**	**-1.1**
KSAR				PcP		**PcP**	**08 30 27.4**	**-0.5**	
J29A	**Okreek**	**45.42**	**73**	P		**P**	**08 28 48.1**	**-1.0**
	baz=45,SNR=30								
O26A	**Horse Wrangler**	**45.61**	**78**	P		**P**	**08 28 50.0**	**-0.7**
	baz=45,SNR=8.2								
I30A	**Oacoma**	**45.64**	**72**	P		**P**	**08 28 49.5**	**-1.3**
	baz=45								
N27A	**Anderson Farm,**	**45.72**	**77**	P		**P**	**08 28 50.7**	**-0.8**
	baz=46,SNR=21								
K29A	**Lazy Trails An**	**45.82**	**74**	P		**P**	**08 28 51.1**	**-1.1**
	baz=46,SNR=11								
SDCO	**Great Sand Dun**	**45.89**	**82**	P		**P**	**08 28 53.4**	**+0.2**
	baz=46,SNR=146								
SDCO	**Great Sand Dun**	**45.89**	**82**	*e*P		**P**	**08 28 52.2**	**-0.9**
	comp=Z,49nm,0.9s								
SDCO				LR		LR			
	comp=Z,2μm,21.0s								
OGNE	**Ogallala**	**45.93**	**77**	P		**P**	**08 28 52.0**	**-1.2**
	baz=46								
OGNE	**Ogallala**	**45.93**	**77**	*e*P		**P**	**08 28 52.5**	**-0.7**
	comp=Z,71nm,0.8s								
OGNE				LR		LR			
	comp=Z,2μm,19.0s								
J30A	**Dallas**	**45.96**	**72**	P		**P**	**08 28 52.6**	**-0.7**
	baz=46,SNR=14								
P26A	**Davis Ranch, A**	**46.02**	**79**	P		**P**	**08 28 53.0**	**-1.0**
	baz=46,SNR=62								
M28A	**Bar X Bar Ranc**	**46.04**	**76**	P		**P**	**08 28 53.0**	**-1.0**
	baz=46,SNR=6.4								
INCN	**Inchon**	**46.12**	**277**	PFAKE			08 29 10.0	+15	
INCN				LR		LR			
	comp=Z,3μm,22.0s								
O27A	**Beecher Island**	**46.14**	**78**	P		**P**	**08 28 53.9**	**-0.9**
	baz=46,SNR=17								
L29A	**Maesberg Ranch**	**46.15**	**74**	P		**P**	**08 28 53.9**	**-1.0**
	baz=46								
K30A	**Basset**	**46.28**	**73**	P		**P**	**08 28 54.9**	**-1.0**
	baz=46,SNR=13								
Q26A	**Hugo**	**46.32**	**80**	P		**P**	**08 28 55.9**	**-0.5**
	baz=46,SNR=12								
TUC	**Tucson**	**46.32**	**92**	*e*P		**P**	**08 28 55.5**	**-0.9**
TUC				pmax		pmax			
	comp=Z,66nm,1.1s								
TUC				MLR		MLR			
	comp=Z,2μm,19.0s								
TUC	**Tucson**	**46.32**	**92**	*e*P		**P**	**08 28 55.5**	**-0.9**
	comp=Z,66nm,1.1s								
TUC				LR		LR			
	comp=Z,2μm,19.0s								
N28A	**Pribbeno Ranch**	**46.38**	**77**	P		**P**	**08 28 55.6**	**-1.1**
	baz=46								
M29A	**Burnside Ranch**	**46.41**	**75**	P		**P**	**08 28 56.3**	**-0.6**
	baz=46,SNR=8.8								
JNU	**Nakatsue**	**46.46**	**270**	P		**P**	**08 28 56.8**	**-0.6**
	comp=Z,9.3nm,0.5s,baz=173,slow=3.6,SNR=10								
JNU				LR		LR	08 46 52.6		
	comp=Z,5μm,21.7s,baz=54,slow=34								
JNU	**Nakatsue**	**46.46**	**270**	*e*P		**P**	**08 28 56.9**	**-0.4**
	comp=Z,15nm,1.0s								
P27A	**Ficken Ranch,**	**46.48**	**79**	P		**P**	**08 28 56.6**	**-0.9**
	baz=46,SNR=14								
O28A	**Krutsinger Ran**	**46.60**	**77**	P		**P**	**08 28 57.3**	**-1.1**
	baz=46,SNR=20								
L30A	**Spencer Herefo**	**46.67**	**74**	P		**P**	**08 28 57.7**	**-1.2**
	baz=46								
R26A	**Arlington**	**46.76**	**80**	P		**P**	**08 28 58.9**	**-0.9**
	baz=47,SNR=42								
KSCO	**Kaye Shedlock'**	**46.80**	**79**	P		**P**	**08 28 59.3**	**-0.8**
	baz=47,SNR=16								
KSCO	**Kaye Shedlock'**	**46.80**	**79**	*e*P		**P**	**08 28 58.0**	**-2.1**
	comp=Z,148nm,1.0s								
M30A	**Dale-Ortello V**	**46.83**	**75**	P		**P**	**08 28 59.6**	**-0.6**
	baz=47,SNR=6.5								
N29A	**Votaw Ranch, W**	**46.84**	**76**	P		**P**	**08 28 59.2**	**-1.1**
	baz=47,SNR=9.0								
T25A	**Trinidad**	**46.94**	**82**	P		**P**	**08 29 00.3**	**-1.0**
	baz=47,SNR=80								
P28A	**Saint Francis**	**46.96**	**78**	P		**P**	**08 29 00.1**	**-1.2**
	baz=47,SNR=27								
L31A	**Butterfield Fa**	**47.04**	**73**	P		**P**	**08 29 00.8**	**-1.1**
	baz=47								
LAZ	**Ladron**	**47.11**	**87**	*e*P		**P**	**08 29 02.6**	**0.0**
	comp=Z,41nm,1.0s								
ANMO	**Albuquerque**	**47.16**	**86**	*d i*P		**P**	**08 29 02.2**	**-0.8**
ANMO				pmax		pmax			
	comp=Z,65nm,1.2s								
ANMO	**Albuquerque**	**47.16**	**86**	*e*P		**P**

baz=48,SNR=30
N32A Stulken Farm, 48.24 74 P P 08 29 10.0 -1.2
baz=48,SNR=6.7
Q30A Quinter 48.25 78 P P 08 29 10.8 -0.5
baz=48,SNR=11
U27A Thompson Grove 48.37 82 P P 08 29 11.5 -0.8
baz=48,SNR=44
M33A Taylor Creek F 48.38 73 P P 08 29 10.6 -1.6
baz=48,SNR=15
P31A Stockton 48.40 76 P P 08 29 11.3 -1.1
baz=48,SNR=14
O32A Brockman Farm, 48.58 75 P P 08 29 12.6 -1.2
baz=48
L34A Svendsen Farm, 48.60 72 P P 08 29 12.5 -1.4
baz=48,SNR=8.5
S29A Ulysses 48.60 80 P P 08 29 13.0 -1.0
baz=48,SNR=6.7
SPMN St. Paul 48.61 66 P P 08 29 12.2 -1.6
baz=48,SNR=17
KBS Kingsbay 48.63 360 PFAKE 08 29 30.0 +16
KBS LR LR
comp=Z,2μm,19.0s
CBKS Cedar Bluff 48.65 77 *e*P P 08 29 13.4 -0.9
CBKS pmax pmax
comp=Z,122nm,0.9s
CBKS MLR MLR
comp=Z,2μm,19.0s
CBKS Cedar Bluff 48.65 77 P P 08 29 12.7 -1.6
baz=48,SNR=13
CBKS Cedar Bluff 48.65 77 *e*P P 08 29 13.4 -0.9
comp=Z,122nm,0.9s
CBKS LR LR
comp=Z,2μm,19.0s
R30A Dighton 48.67 78 P P 08 29 13.4 -1.1
baz=48,SNR=48
FRB Frobisher Bay 48.71 36 LR LR 08 51 41.6
comp=Z,8μm,19.1s,baz=280,slow=38
Q31A Ellis 48.73 77 P P 08 29 14.5 -0.5
baz=48,SNR=17
N33A J Bar K, Exete 48.76 74 P P 08 29 13.4 -1.7
baz=49
U28A Mallet 48.76 82 P P 08 29 14.1 -1.1
baz=49,SNR=37
M34A Aspy Farms, Fr 48.77 73 P P 08 29 13.2 -2.0
baz=49
P32A Huiting Farm, 48.80 76 P P 08 29 14.5 -0.9
baz=49,SNR=11
T29A Hugoton 48.80 80 P P 08 29 14.5 -1.1
baz=49,SNR=13
V27A Dan Oppiter Fa 48.80 83 P P 08 29 14.9 -0.8
baz=49,SNR=19
S30A Montezuma 48.98 79 P P 08 29 16.1 -0.9
baz=49,SNR=8.2
L35A Bielow Farm, R 48.99 71 P P 08 29 14.5 -2.4
baz=49
O33A Hebron 49.10 75 P P 08 29 16.1 -1.7
baz=49,SNR=11
R31A Burdett 49.11 78 P P 08 29 16.8 -1.1
baz=49,SNR=47
V28A Channing 49.18 82 P P 08 29 17.7 -0.8
baz=49,SNR=13
Q32A Meitler Ranch, 49.23 76 P P 08 29 17.5 -1.3
baz=49,SNR=25
N34A Lincoln 49.25 73 P P 08 29 17.3 -1.5
baz=49,SNR=7.9
U29A Oasis Ranch, S 49.28 81 P P 08 29 17.8 -1.5
baz=49
M35A Neola 49.31 72 P P 08 29 18.4 -0.9
baz=49
T30A Plains 49.33 80 P P 08 29 18.6 -1.0
baz=49
SPITS Spitsbergen Ar 49.34 358 P P 08 29 18.8 -0.3
comp=Z,10nm,0.9s,baz=19,slow=6.2,SNR=7.0
SPITS PcP **PcP** 08 30 40.8 -0.6
comp=Z,3.4nm,0.5s,baz=30,slow=4.2,SNR=7.1
P33A Williams Farm, 49.45 75 P P 08 29 18.9 -1.5
baz=49
DAG Danmarks Havn 49.46 9 *i* P P 08 29 19.3 -0.7
comp=Z,13nm,0.9s
comp=Z,4μm,18.0s
DAG Danmarks Havn 49.46 9 *i* P **P** 08 29 19.3 -0.7
DAG pmax pmax
comp=Z,11nm,0.9s
DAG MLR MLR
comp=Z,4μm,18.0s
R32A Long Quarter, 49.51 77 P P 08 29 19.9 -1.1
baz=49,SNR=39
V29A Stinnett 49.52 82 P P 08 29 20.0 -1.1
baz=49,SNR=5.1
W28A Vega 49.52 83 P P 08 29 20.2 -0.9
baz=49,SNR=6.4
O34A Beatrice 49.55 74 P P 08 29 19.8 -1.4
baz=49,SNR=13
S31A Mullinville 49.58 78 P P 08 29 20.2 -1.3
baz=49,SNR=5.8
U30A WK&E Inc. Balk 49.60 80 P P 08 29 20.0 -1.7
baz=49,SNR=12
Q33A Connelly Farm, 49.65 76 P P 08 29 20.3 -1.7
baz=50,SNR=37
N35A Tabor 49.73 73 P P 08 29 21.1 -1.4
baz=50,SNR=16
S32A Newby Ranch, P 49.85 78 P P 08 29 22.0 -1.5
baz=50
P34A Walnut Farm, R 49.89 75 P P 08 29 22.2 -1.5
baz=50
W29A Amraillo 49.95 82 P P 08 29 23.4 -1.0
baz=50
O35A Humboldt 49.96 73 P P 08 29 22.4 -1.9
baz=50,SNR=5.4
R33A Olander Ranch, 50.02 77 P P 08 29 23.6 -1.2
baz=50,SNR=12
X28A Dimmitt 50.02 83 P P 08 29 23.9 -1.1
baz=50,SNR=14
MSTX Muleshoe 50.05 84 P P 08 29 23.6 -1.6
baz=50,SNR=17
V30A Spur Ranch, Mi 50.09 81 P P 08 29 23.4 -2.1
baz=50
TLY Talaya 50.14 306 P P 08 29 25.4 -0.1
comp=Z,5.5nm,0.6s,baz=329,slow=6.5,SNR=6.5
TLY PcP **PcP** 08 30 44.7 -0.1
comp=Z,8.1nm,0.9s,baz=0.0,slow=10,SNR=2.4
TLY Talaya 50.14 306 *c i* P P 08 29 26.1 +0.6
TLY *e* 08 30 48.5
TLY *e* 08 31 25.9
TLY *e*S **S** 08 36 34.2 -2.0
TLY pmax pmax
comp=Z,28nm,1.4s
TLY MLR MLR
comp=Z,2μm,17.0s
TLY Talaya 50.14 306 *e*P P 08 29 26.2 +0.6
comp=Z,18nm,1.0s
TLY PcP **PcP** 08 30 44.7 -0.1
TLY LR LR
comp=Z,2μm,19.0s
U31A Nine Bar Ranch 50.19 80 P P 08 29 25.0 -1.2
baz=50,SNR=7.6
T32A Huddler Ranch, 50.20 78 P P 08 29 24.8 -1.4
baz=50,SNR=11
Q34A Chapman 50.23 75 P P 08 29 24.6 -1.8
baz=50,SNR=8.5
ILULI Ilulissat 50.33 24 *i* P P 08 29 29.6 +2.9
P35A Duane Minner, 50.37 74 P P 08 29 25.1 -2.4
baz=50
X29A Tulia 50.38 83 P P 08 29 26.4 -1.2
baz=50,SNR=16
Y28A McKinney Farm, 50.41 84 P P 08 29 26.4 -1.5
baz=50,SNR=16
R34A Isabella, Hill 50.46 76 P P 08 29 26.4 -1.7
baz=50,SNR=16
SCIA State Center 50.46 70 *e*P P 08 29 26.4 -1.6
comp=Z,64nm,0.9s
SCIA LR LR
comp=Z,3μm,21.0s
S33A Kaszmaul Farm, 50.48 77 P P 08 29 26.2 -2.0
baz=50
W30A Crocket Farms 50.55 82 P P 08 29 27.7 -1.2
baz=50
V31A Spring Creek L 50.59 80 P P 08 29 28.0 -1.2
baz=50,SNR=11
O36A Bolckow 50.60 73 P P 08 29 27.3 -1.8
baz=50
BJI Beijing 50.67 287 P P 08 29 29.8 +0.2
BJI PMZ
comp=Z,15nm,0.5s
BJI PMZ
comp=Z,190nm,5.9s
BJI LN
comp=Z,3μm,20.4s
BJI LE
comp=Z,4μm,20.4s
BJI LZ
comp=Z,3μm,23.2s
BJI PMZ
comp=Z,12nm,1.1s
BJI PMZ
comp=Z,300nm,8.1s
T33A Patterson Ranc 50.67 78 P P 08 29 28.8 -0.9
baz=50
BJT Baijiatuau 50.69 287 PFAKE 08 29 40.0 +10
BJT LR LR
comp=Z,4μm,21.0s
U32A Winter Ranch, 50.69 79 P P 08 29 28.6 -1.3
baz=50,SNR=22
Z28A Tucker Farm, M 50.75 85 P P 08 29 29.4 -1.1
baz=51,SNR=19
ULN Ulaanbaatar 50.76 300 PFAKE 08 29 40.0 +10
ULN LR LR
comp=Z,3μm,19.0s
P36A Good Intent, A 50.79 74 P P 08 29 29.1 -1.5
baz=51,SNR=14
Y29A Porterfield Fa 50.79 84 P P 08 29 29.9 -0.8
baz=51,SNR=44
Q35A Mercer Eighty, 50.80 75 P P 08 29 28.8 -1.9
baz=51,SNR=8.5
X30A Coker Ranch, T 50.87 82 P P 08 29 29.7 -1.7
baz=51,SNR=10
W31A Holland Ranch, 50.93 81 P P 08 29 30.3 -1.4
baz=51,SNR=25
S34A Willow Spring 50.93 77 P P 08 29 30.1 -1.6
baz=51,SNR=8.6
R35A Emporia Munici 51.06 75 P P 08 29 31.4 -1.3
baz=51,SNR=6.0
Q36A Arnold C. Orve 51.07 74 P P 08 29 30.5 -2.2
baz=51
V32A Arapaho 51.11 80 P P 08 29 32.0 -1.0
baz=51
ZAK Zakamensk 51.12 305 *e*P P 08 29 38.0 +5.0
ZAK pmax pmax
comp=Z,7.0nm,1.5s
SONM Songino Array 51.12 301 P P 08 29 32.6 -0.5
comp=Z,1.3nm,0.6s,baz=60,slow=5.6,SNR=4.7
SONM PcP **PcP** 08 30 47.9 -0.7
comp=Z,20nm,0.9s,baz=62,slow=2.2,SNR=14
SONM LR LR 08 54 13.7
comp=Z,3μm,18.8s,baz=55,slow=40
128A Castleberry Fa 51.15 85 P P 08 29 32.6 -0.9
baz=51,SNR=70
Z29A Hungry Hill Ra 51.18 84 P P 08 29 32.7 -1.1
baz=51,SNR=70
U33A Lingo Farm, Me 51.19 79 P P 08 29 32.2 -1.4
baz=51,SNR=27
Y30A Stafford Cattl 51.25 83 P P 08 29 33.2 -0.9
baz=51,SNR=11
X31A McDonald Ranch 51.29 82 P P 08 29 33.5 -0.9
baz=51,SNR=12
T34A McClaskey Farm 51.34 77 P P 08 29 32.8 -2.0
baz=51,SNR=35
W32A Sentinel 51.39 81 P P 08 29 34.0 -1.1
baz=51,SNR=23
S35A Otter Creek Ra 51.42 76 P P 08 29 32.7 -2.6
baz=51,SNR=45
228A UT Block 9, Go 51.44 86 P P 08 29 33.8 -1.8
baz=51,SNR=12
MOY Mondy 51.44 307 *e*P P 08 29 36.1 +0.7
XMAS Kiritimati 51.45 165 *e*P P 08 29 36.0 +0.3
comp=Z,118nm,1.3s
XMAS LR LR
comp=Z,1μm,19.0s
R36A Gordon, Harris 51.47 75 P P 08 29 33.9 -1.8
baz=51,SNR=47
JFWS Jewell Farm 51.49 67 *e*P P 08 29 33.1 -2.7
JFWS pmax pmax
comp=Z,63nm,0.9s
JFWS MLR MLR
comp=Z,4μm,22.0s
JFWS Jewell Farm 51.49 67 *e*P P 08 29 33.1 -2.7
comp=Z,63nm,0.9s
JFWS LR LR
comp=Z,4μm,22.0s
V33A Lossen Ranch, 51.49 79 P P 08 29 34.2 -1.8
baz=51,SNR=11
Z30A Sanson Ranc 51.52 84 P P 08 29 35.0 -1.2
baz=51,SNR=52
129A Stewart Farms, 51.52 85 P P 08 29 35.1 -1.2
baz=51,SNR=48
U34A Anderson Ranch 51.53 78 P P 08 29 34.4 -1.7
baz=51,SNR=44
U34A Anderson Ranch 51.53 78 *e*P P 08 29 34.3 -1.9
comp=Z,122nm,0.9s
Y31A Rekieta Farm, 51.57 82 P P 08 29 35.9 -0.6
baz=51
Q37A Longview Farm, 51.72 74 P P 08 29 35.6 -2.0
baz=52
T35A Sooner Cattle 51.81 77 P P 08 29 36.3 -2.0
baz=52,SNR=22
S36A Lake Cedric, C 51.82 76 P P 08 29 36.5 -1.7
baz=52,SNR=16
W33A Caddo, Fort Co 51.84 80 P P 08 29 37.4 -1.1
baz=52,SNR=20
X32A Elmer 51.85 81 P P 08 29 37.2 -1.4
baz=52,SNR=34
R37A Teagarden Farm 51.87 75 P P 08 29 36.6 -2.1
baz=52
WMOK Wichita Mounta 51.93 81 *e*P P 08 29 37.9 -1.4
WMOK pmax pmax
comp=Z,49nm,0.8s
WMOK MLR MLR
comp=Z,2μm,21.0s
WMOK Wichita Mounta 51.93 81 *e*P P 08 29 37.9 -1.4
comp=Z,49nm,0.8s
WMOK LR LR
comp=Z,2μm,21.0s
V34A Guthrie 51.95 79 P P 08 29 37.4 -1.8
baz=52,SNR=46
V34A Guthrie 51.95 79 *e*P P 08 29 37.5 -1.8
comp=Z,92nm,0.9s
229A Bryant Ranch, 52.02 85 P P 08 29 38.6 -1.4
baz=52,SNR=8.0
Y32A R-V Farms, Ver 52.04 82 P P 08 29 38.9 -1.1
baz=52,SNR=31
U35A Pawnee 52.05 78 P P 08 29 37.9 -2.1
baz=52,SNR=30
SFJD Kangerlussuaq 52.08 26 *i* P P 08 29 45.5 +5.7
comp=Z,3μm,17.0s
SFJD Kangerlussuaq 52.08 26 PFAKE 08 29 50.0 +10
SFJD LR LR
comp=Z,2μm,20.0s
Z31A Sharp Cattle R 52.09 83 P P 08 29 38.9 -1.5
baz=52,SNR=20
130A Snyder 52.09 84 P P 08 29 39.3 -1.1
baz=52,SNR=14
T36A Boggs Farm, Ca 52.09 76 P P 08 29 38.9 -1.5
baz=52,SNR=14
W34A Bridge Creek, 52.20 79 P P 08 29 39.7 -1.5
baz=52,SNR=20
W34A Bridge Creek, 52.20 79 *e*P P 08 29 39.9 -1.2
comp=Z,42nm,0.9s
X33A Lawton 52.24 81 P P 08 29 40.4 -1.1
baz=52,SNR=7.5
S37A Fort Scott 52.24 75 P P 08 29 38.9 -2.6
baz=52,SNR=71
329A Wagon Wheel Ra 52.25 86 P P 08 29 40.1 -1.6
baz=52,SNR=46
131A Roby 52.39 84 P P 08 29 41.3 -1.4
baz=52,SNR=14
V35A Meyer Ranch, C 52.40 78 P P 08 29 40.5 -2.1
baz=52,SNR=21
230A Sterling City 52.50 85 P P 08 29 41.9 -1.6
baz=52,SNR=101
Z32A Haskell 52.50 82 P P 08 29 41.5 -2.0
baz=52,SNR=68
Y33A Hilltop Ranch, 52.53 81 P P 08 29 42.8 -0.8
baz=52,SNR=11
LPIG La Paz 52.55 99 LR LR 08 46 43.0
comp=Z,952nm,20.1s,baz=308,slow=30
X34A Smith Ranch, M 52.60 80 P P 08 29 42.8 -1.4
baz=52,SNR=11
T37A Cheneyville 18 52.62 76 P P 08 29 42.0 -2.2
baz=52,SNR=61
U36A Oologah 52.63 77 P P 08 29 42.2 -2.1
baz=52
TXAR Lajitas Array 52.75 89 P P 08 29 44.1 -1.3
comp=Z,68nm,0.8s,baz=297,slow=5.3,SNR=175
TXAR LR LR 08 49 46.1
TXAR comp=Z,1μm,20.8s,baz=0.0,slow=33
PKPPKP P'P'df 09 00 09.5 -5.8
comp=Z,0.2nm,0.6s,baz=204,slow=2.7,SNR=3.5
W35A Tecumseh 52.79 79 P P 08 29 43.6 -2.0
baz=53,SNR=41
HHC Hu-ho-hao-te 52.79 291 *e*P P 08 29 47.3 +1.7
HHC PP **PP** 08 31 47.8 +3.1
HHC S **S** 08 37 19.3 +6.0
HHC sS sS 08 37 26.8 +5.5
HHC ScS **ScS** 08 39 32.8 -1.9
HHC PMZ
comp=Z,19nm,1.2s
HHC PMZ
comp=Z,190nm,5.4s
HHC LN
comp=Z,3μm,18.8s
HHC LE
comp=Z,3μm,18.0s
HHC LZ
comp=Z,3μm,18.8s
330A Mertzon 52.80 85 P P 08 29 44.8 -0.9
baz=53,SNR=21
ABTX Abilene, Hawle 52.87 83 P P 08 29 45.5 -0.7
baz=53,SNR=18
ABTX Abilene, Hawle 52.87 83 *e*P P 08 29 44.0 -2.2
comp=Z,112nm,1.2s
429A Davenport Ranc 52.91 87 P P 08 29 45.3 -1.2
baz=53,SNR=95
V36A Jenks 52.92 78 P P 08 29 44.0 -2.5
baz=53,SNR=24
TUL1 Tulsa 52.92 77 P P 08 29 44.8 -1.7
baz=53,SNR=12
TUL1 Tulsa 52.92 77 *e*P P 08 29 44.4 -2.1
comp=Z,50nm,0.8s
Z33A Whitaker Ranch 52.94 82 P P 08 29 45.1 -1.6
baz=53,SNR=33
231A Bronte 52.95 84 P P 08 29 45.1 -1.7
baz=53,SNR=38
U37A Salina 52.98 77 P P 08 29 45.1 -1.8
baz=53,SNR=38
529A Stev Forest Ra 53.07 87 P P 08 29 46.6 -1.1
baz=53,SNR=52
SLBS Sierra La Lagu 53.08 99 *e*P P 08 29 47.3 -0.7
comp=Z,50nm,0.9s
Y34A Reagan Ranch, 53.08 81 P P 08 29 46.5 -1.2
baz=53,SNR=28
W36A Wetumka 53.19 78 P P 08 29 46.4 -2.1
baz=53,SNR=29
430A Baggett Ranch, 53.20 86 P P 08 29 47.3 -1.4
baz=53,SNR=102
X35A Drake 53.25 80 P P 08 29 47.9 -1.1
baz=53,SNR=37
TARA Tarawa 53.26 202 PFAKE 08 30 00.0 +11
TARA LR LR
comp=Z,1μm,19.0s
GUMO Guam 53.26 240 LR LR 08 49 13.6
comp=Z,1μm,21.4s,baz=58,slow=32
331A San Angelo 53.32 85 P P 08 29 47.8 -1.7
baz=53,SNR=65
133A Hamilton Ranch 53.32 83 P P 08 29 47.9 -1.6
baz=53,SNR=38
V37A Hulbert 53.33 77 P P 08 29 48.1 -1.3
baz=53,SNR=13
GLMI Grayling 53.34 62 *e*P P 08 29 51.3 +1.8
comp=Z,144nm,1.0s
GLMI LR LR
comp=Z,4μm,22.0s
232A Coleman 53.38 84 P P 08 29 48.7 -1.4
baz=53,SNR=50
U38A Gravette 53.39 76 P P 08 29 48.1 -1.9
baz=53,SNR=40
Z34A Collier Ranch, 53.39 81 P P 08 29 48.5 -1.6
baz=53,SNR=33
X36A Centrahoma 53.50 79 P P 08 29 49.7 -1.1
baz=53,SNR=15
Y35A Marietta 53.55 80 P P 08 29 49.9 -1.3
baz=53,SNR=62
HDIL Hopedale 53.58 69 P P 08 29 49.3 -2.0
baz=53,SNR=17
HDIL Hopedale 53.58 69 *e*P P 08 29 48.8 -2.5
comp=Z,101nm,0.9s
HDIL LR LR
comp=Z,3μm,22.0s
530A J-C Ranch, Com 53.59 87 P P 08 29 50.6 -0.9
baz=53,SNR=181
431A Sonora 53.65 86 P P 08 29 50.7 -1.3
baz=54,SNR=168
W37A Quinton 53.66 78 P P 08 29 50.7 -1.3
baz=54,SNR=51
332A Millersview 53.68 84 P P 08 29 50.9 -1.3
baz=54,SNR=79
233A Rising Star 53.74 83 P P 08 29 51.3 -1.3
baz=54,SNR=91
SSE Sheshan 53.76 275 P P 08 29 53.4 +0.7
SSE pP **pP** 08 29 56.6 -0.9
SSE S **S** 08 37 26.5 +0.2
SSE PMZ
comp=Z,40nm,0.7s
SSE PMZ
comp=Z,370nm,9.2s
SSE LN
comp=Z,2μm,24.4s
SSE LE
comp=Z,2μm,24.4s
SSE LZ
comp=Z,2μm,26.4s
V38A Canehill 53.77 77 P P 08 29 50.6 -2.2
baz=54,SNR=39
Z35A Perchaven, San 53.82 81 P P 08 29 51.7 -1.4
baz=54,SNR=6.5
134A White-Moore Ra 53.85 82 P P 08 29 52.3 -1.1
baz=54,SNR=13
Y36A Durant 54.01 80 P P 08 29 53.7 -0.8
baz=54,SNR=51
432A Menard 54.01 85 P P 08 29 53.0 -1.6
baz=54,SNR=63
531A Rocksprings 54.05 86 P P 08 29 53.6 -1.3
baz=54,SNR=63
X37A Clayton 54.08 78 P P 08 29 53.5 -1.4
baz=54,SNR=63
333A Richland Sprin 54.18 84 P P 08 29 54.5 -1.3
baz=54,SNR=91
234A Clairette 54.22 83 P P 08 29 55.0 -1.1
baz=54,SNR=36
W38A Poteau 54.25 77 P P 08 29 54.4 -1.8
baz=54,SNR=45
135A Vickery Place, 54.27 82 P P 08 29 55.0 -1.4
baz=54,SNR=15
JCT Junction City 54.28 85 P P 08 29 55.7 -0.9
baz=54,SNR=69
JCT Junction City 54.28 85 PFAKE 08 30 10.0 +13
JCT LR LR
comp=Z,2μm,22.0s
SLM Saint Louis 54.33 71 *e*P P 08 29 57.3 +0.5
SLM pmax pmax
comp=Z,90nm,1.2s
SLM Saint Louis 54.33 71 *e*P P 08 29 57.3 +0.5
comp=Z,90nm,1.2s
X38A Whitesboro 54.34 78 P P 08 29 55.5 -1.4
baz=54,SNR=19
Y37A Hugo 54.35 79 P P 08 29 56.2 -0.8
baz=54,SNR=12
Z36A Blue Ridge 54.35 80 P P 08 29 55.7 -1.3
baz=54,SNR=32
TIY Taiyuan 54.40 287 *e*P P 08 30 01.3 +3.9
TIY S **S** 08 37 33.3 -1.7
TIY PMZ
comp=Z,230nm,9.0s
TIY LN
comp=Z,2μm,15.1s
TIY LE
comp=Z,2μm,17.6s
TIY LZ
comp=Z,2μm,19.3s
532A Rocksprings 54.47 86 P P 08 29 56.8 -1.2
baz=54,SNR=32
NJ2 Nanjing 54.49 278 *e*P P 08 29 59.1 +1.1
NJ2 sP **sP** 08 30 04.1 -0.7
NJ2 PP **PP** 08 32 02.5 +2.4
NJ2 S **S** 08 37 35.0 -1.3
NJ2 sS **sS** 08 37 45.0 +0.7
NJ2 PMZ
comp=Z,50nm,0.8s
NJ2 PMZ
comp=Z,500nm,6.3s
NJ2 LN
comp=Z,5μm,26.9s
NJ2 LE
comp=Z,8μm,23.3s

NJ2 LZ
comp=Z,8µm,24.0s
433A Art 54.52 84 P P 08 29 57.4 -0.9
baz=54,SNR=60
631A Perdido Creek 54.57 87 P P 08 29 56.8 -1.9
baz=54,SNR=67
334A Lometa 54.63 83 P P 08 29 57.9 -1.2
baz=54,SNR=92
WHTX Lake Whitney 54.63 82 P P 08 29 58.7 -0.4
baz=54,SNR=32
WHTX Lake Whitney 54.63 82 eP P 08 29 57.5 -1.6
comp=Z,134nm,0.9s
136A Ennis 54.85 81 P P 08 29 59.9 -0.8
baz=55,SNR=7.5
Z37A Pogue Cattle C 54.89 80 P P 08 29 59.6 -1.3
baz=55
SCO Scoresbysund 54.90 13 iP P 08 30 01.1 +0.7
comp=Z,2µm,17.0s
SCO Scoresbysund 54.90 13 eP P 08 30 01.1 +0.7
SCO MLR MLR
comp=Z,2µm,17.0s
Y38A Idabel 54.92 78 P P 08 29 59.3 -1.8
baz=55
SFIN Scholer Farm 54.94 68 P P 08 29 59.7 -1.5
baz=55,SNR=7.9
SFIN Scholer Farm 54.94 68 eP P 08 29 58.9 -2.3
comp=Z,80nm,0.9s
434A Burnet 54.97 84 P P 08 30 00.4 -1.2
baz=55,SNR=98
632A Uvalde 54.98 86 P P 08 30 00.3 -1.4
baz=55,SNR=55
533A Kerrville 55.04 85 P P 08 30 00.5 -1.5
baz=55,SNR=47
335A Moody 55.15 83 P P 08 30 02.1 -0.8
baz=55,SNR=14
MIAR Mount Ida 55.17 77 eP P 08 30 01.0 -2.0
MIAR pmax pmax
comp=Z,62nm,1.0s
MIAR MLR MLR
comp=Z,2µm,20.0s
MIAR Mount Ida 55.17 77 P P 08 30 01.5 -1.4
baz=55,SNR=57
MIAR Mount Ida 55.17 77 eP P 08 30 01.0 -2.0
comp=Z,62nm,1.0s
MIAR LR LR
comp=Z,2µm,20.0s
236A Katherine and 55.19 81 P P 08 30 02.2 -0.9
baz=55,SNR=13
SCHQ Schefferville 55.20 43 P P 08 30 02.6 -0.3
comp=Z,12nm,0.9s,baz=325,slow=7.4,SNR=6.5
SCHQ LR LR 08 55 24.4
comp=Z,4µm,18.1s,baz=322,slow=38
SCHQ Schefferville 55.20 43 eP P 08 30 03.8 +0.9
comp=Z,17nm,0.9s
137A Heron Place, G 55.23 80 P P 08 30 02.5 -0.9
baz=55
Z38A Mt. Pleasant 55.24 79 P P 08 30 02.3 -1.2
baz=55,SNR=9.4
Y39A Lockesburg 55.29 78 P P 08 30 02.4 -1.4
baz=55,SNR=14
633A Saathoff Ranch 55.39 86 P P 08 30 03.6 -1.0
baz=55,SNR=8.4
534A Blanco 55.41 85 P P 08 30 03.6 -1.2
baz=55,SNR=47
435B Jarrell 55.41 83 P P 08 30 04.1 -0.6
baz=55,SNR=14
336A Riesel 55.43 82 P P 08 30 03.9 -0.9
baz=55,SNR=37
732A Laxson Ranch, 55.43 87 P P 08 30 03.5 -1.3
baz=55,SNR=32
PBMO Poplar Bluff 55.48 73 eP P 08 30 03.8 -1.3
comp=Z,111nm,1.4s
OLIL Olney 55.49 70 eP P 08 30 06.0 +0.9
comp=Z,94nm,1.1s
SIUC Southern Illin 55.54 71 eP P 08 30 03.2 -2.3
comp=Z,26nm,0.6s
AAM Ann Arbor 55.55 64 PFAKE 08 30 20.0 +14
AAM LR LR
comp=Z,3µm,20.0s
138A Matatall Enter 55.59 80 P P 08 30 04.9 -1.0
baz=55,SNR=12
237A Washetta, Mont 55.62 81 P P 08 30 04.9 -1.3
baz=55,SNR=8.4
Z39A Irene McRaven, 55.72 79 P P 08 30 05.5 -1.4
baz=56,SNR=8.0
UALR University of 55.74 76 eP P 08 30 07.8 +0.7
comp=Z,18nm,0.9s
832A Faith Ranch, C 55.75 87 P P 08 30 06.2 -1.0
baz=56,SNR=118
733A Divot King Ran 55.85 86 P P 08 30 06.8 -1.1
baz=56,SNR=18
436A Wall Ranch, Ga 55.90 83 P P 08 30 07.3 -0.9
baz=56
634A China Grove, S 55.95 85 P P 08 30 06.6 -2.0
baz=56
535A Dale 55.95 84 P P 08 30 07.8 -0.9
baz=56,SNR=13
139A Bunkhouse Ranc 55.99 79 P P 08 30 07.9 -0.9
baz=56
238A Jacksonville 56.03 80 P P 08 30 08.0 -1.1
baz=56,SNR=13
833A Chaparral WMA, 56.07 87 P P 08 30 08.7 -0.8
baz=56,SNR=92
734A La Parita Cree 56.20 86 P P 08 30 09.5 -0.9
baz=56,SNR=46
536A Bastrop 56.23 83 P P 08 30 10.0 -0.6
baz=56
437A Phantom Ranch, 56.25 82 P P 08 30 10.2 -0.5
baz=56
H06E1 SOCORRO T-PHAS 56.25 104 T T 09 30 59.7
USIN University of 56.26 70 eP P 08 30 10.9 +0.2
comp=Z,188nm,1.2s
H06S1 SOCORRO T 56.27 104 T T 09 31 02.5
635A Leesville 56.29 85 P P 08 30 10.3 -0.7
baz=56,SNR=44
338A Crockett 56.37 81 P P 08 30 10.8 -0.7
baz=56
239A Gary 56.41 80 P P 08 30 11.0 -0.9
baz=56
NATX Nacogdoches 56.48 80 P P 08 30 11.3 -1.0
baz=56
NATX Nacogdoches 56.48 80 eP P 08 30 13.2 +0.8
comp=Z,52nm,0.8s
735A Kenedy 56.65 85 P P 08 30 13.0 -0.6
baz=56,SNR=8.2
636A Smothers Creek 56.66 84 P P 08 30 13.4 -0.2
baz=56,SNR=8.7
933A Laredo 56.66 87 P P 08 30 13.8 +0.1
baz=56,SNR=21
537A Green Hill Far 56.68 83 P P 08 30 13.4 -0.3
baz=56,SNR=8.8
UTMT University of 56.69 72 eP P 08 30 15.3 +1.5
comp=Z,90nm,0.7s
438A Sam Houston St 56.71 82 P P 08 30 13.9 -0.1
baz=56,SNR=11
834A Tilden 56.73 86 P P 08 30 13.2 -0.9
baz=57,SNR=13
339A Huntington 56.84 81 P P 08 30 13.2 -1.7
baz=57
736A Circle Diamond 57.03 84 P P 08 30 15.6 -0.7
baz=57,SNR=11
835A Beeville 57.05 86 P P 08 30 16.1 -0.3
baz=57,SNR=13
HKT Hockley 57.06 83 eP P 08 30 17.0 +0.6
HKT pmax pmax
comp=Z,46nm,1.2s
HKT Hockley 57.06 83 eP P 08 30 17.0 +0.6
comp=Z,46nm,1.2s
538A Harpers Horsep 57.07 82 P P 08 30 16.1 -0.5
baz=57
439A Center Grove, 57.10 81 P P 08 30 16.3 -0.5
baz=57
637A Eagle Lake 57.13 83 P P 08 30 16.8 -0.2
baz=57
934A Benavides 57.13 87 P P 08 30 16.7 -0.3
baz=57,SNR=38
ZALV Zalesovo Beam 57.17 317 P P 08 30 16.8 -0.1
comp=Z,0.9nm,0.4s,baz=49,slow=6.5,SNR=2.5
ZALV PcP PcP 08 31 11.3 0.0
comp=Z,4.8nm,0.7s,baz=20,slow=4.7,SNR=5.7
ZALV LR LR 08 58 50.4
comp=Z,2µm,18.6s,baz=52,slow=40
340A Bronson 57.19 80 P P 08 30 16.5 -0.9
baz=57,SNR=9.3
KEV Kevo 57.27 353 PFAKE 08 30 30.0 +13
KEV LR LR
comp=Z,1µm,21.0s
ACSO Alum Creek Sta 57.33 65 PFAKE 08 30 30.0 +12
ACSO LR LR
comp=Z,3µm,22.0s
034A Hebbronville 57.42 87 P P 08 30 19.4 +0.3
baz=57,SNR=18
WVT Waverly 57.44 72 eP P 08 30 16.3 -2.8
WVT pmax pmax
comp=Z,87nm,1.4s
WVT Waverly 57.44 72 eP P 08 30 16.3 -2.8
comp=Z,87nm,1.4s
737A Port Lavaca 57.55 84 P P 08 30 20.0 +0.1
baz=57
ARCES ARCESS Array B 57.59 354 P P 08 30 18.5 -1.2
comp=Z,6.0nm,0.7s,baz=17,slow=8.9,SNR=10
ARCES PcP PcP 08 31 11.8 -1.0
comp=Z,4.8nm,0.7s,baz=46,slow=3.5,SNR=6.5
ARCES LR LR 08 56 01.2
comp=Z,1µm,21.1s,baz=0.5,slow=37
539A Cross D Ranch, 57.62 82 P P 08 30 19.7 -0.7
baz=57
440A Kirbyville 57.62 81 P P 08 30 19.2 -1.2
baz=57,SNR=8.4
OXF Oxford 57.65 74 eP P 08 30 19.0 -1.6
OXF Oxford 57.65 74 eP P 08 30 19.0 -1.6
comp=Z,207nm,0.9s
035A Encino 57.87 87 P P 08 30 22.9 +0.7
baz=58,SNR=11
738A Farr-Stevens R 57.97 83 P P 08 30 22.2 -0.7
baz=58
540A Vidor 57.99 81 P P 08 30 22.8 -0.2
baz=58
936A North Padre Is 57.99 86 P P 08 30 22.9 -0.1
baz=58
TATO Taipei 58.00 270 PFAKE 08 30 40.0 +17
TATO LR LR
comp=Z,3µm,22.0s
035Z Hargill 58.23 87 P P 08 30 24.8 0.0
baz=58,SNR=9.2
WHN Wuhan 58.27 280 P P 08 30 28.5 +3.5
WHN S S 08 38 20.1 -6.3
WHN LN
comp=Z,2µm,13.2s
WHN LE
comp=Z,3µm,15.2s
WHN LZ
comp=Z,7µm,25.7s
YHNB Yeheng 58.29 270 eP P 08 30 28.1 +2.8
comp=Z,19nm,0.8s
YHNB LR LR
comp=Z,4µm,22.0s
MMNY Mt. Morris Dam 58.34 60 eP P 08 30 27.3 +2.0
comp=Z,98nm,0.7s
LVZ Lovozero 58.39 350 PFAKE 08 30 40.0 +15
LVZ LR LR
comp=Z,870nm,19.0s
NACB Ninganchiao 58.53 269 eP P 08 30 28.1 +1.2
comp=Z,50nm,0.8s
VBMS Vicksburg 58.62 77 P P 08 30 26.8 -0.6
baz=58,SNR=8.1
LONY Lake Ozonia 58.73 56 eP P 08 30 26.4 -1.6
comp=Z,51nm,0.9s
LONY LR LR
comp=Z,3µm,19.0s
APA Apatity 58.84 350 ⇓iP P 08 30 30.0 +1.6
APA i 08 31 14.5
APA i 08 32 40.0
APA iS S 08 38 30.0 -2.8
APA iPS PnS 08 38 50.0 +5.2
APA i 08 40 20.0
APA pmax pmax
comp=Z,14nm,0.8s
APA MLR MLR
comp=Z,1µm,18.0s
SWET Sewanee 59.18 71 eP P 08 30 28.7 -2.6
comp=Z,12nm,0.6s
SSLB Suanglung 59.20 269 eP P 08 30 30.0 -1.6
YULB Yu-li 59.29 269 eP P 08 30 31.2 -1.0
comp=Z,85nm,1.3s
NCB Newcomb 59.37 57 eP P 08 30 32.7 +0.2
comp=Z,236nm,1.6s
NCB LR LR
comp=Z,4µm,19.0s
TZTN Tazewell 59.60 69 eP P 08 30 32.5 -1.7
comp=Z,62nm,1.1s
TPUB Ta-pu 59.76 269 eP P 08 30 38.6 +3.1
comp=Z,27nm,0.9s
QZH Quanzhou 59.78 272 ⇓iP P 08 30 39.1 +3.6
QZH S S 08 38 47.5 +1.4
QZH PMZ
comp=Z,700nm,7.4s
QZH LN
comp=Z,3µm,21.8s
QZH LE
comp=Z,1µm,16.1s
QZH LZ
comp=Z,5µm,22.9s
CPCT Cooper Cave 59.82 70 eP P 08 30 34.2 -1.5
SSPA Standing Stone 59.82 62 eP P 08 30 33.6 -2.0
comp=Z,66nm,1.0s
MDV Middlebury 59.88 56 eP P 08 30 36.5 +0.5
ACCN Adirondack Com 60.07 57 eP P 08 30 36.9 -0.4
comp=Z,49nm,1.1s
LRAL Lakeview Retre 60.11 74 eP P 08 30 34.5 -3.2
comp=Z,36nm,0.8s
KSPA Keystone Colle 60.29 60 eP P 08 30 39.9 +1.0
comp=Z,58nm,0.9s
BORG Borgarnes 60.31 15 PFAKE 08 30 50.0 +11
BORG LR LR
comp=Z,2µm,20.0s
GTA Gaotai 60.32 297 eP P 08 30 38.8 -0.4
GTA pP pP 08 30 43.0 -1.2
GTA sP sP 08 30 46.3 +0.3
GTA PcP PcP 08 31 25.6 +1.3
GTA S S 08 38 49.0 -4.0
GTA sS sS 08 38 57.3 -3.8
GTA SS SS 08 42 47.3 -2.6
GTA PMZ
comp=Z,7.0nm,0.9s
GTA PMZ
comp=Z,170nm,11.4s
GTA LN
comp=Z,2µm,19.7s
GTA LE
comp=Z,4µm,18.8s
GTA LZ
comp=Z,4µm,20.4s
LZH Lanzhou 60.46 292 eP P 08 30 44.1 +3.8
LZH pP pP 08 30 48.9 +3.7
LZH sP sP 08 30 52.0 +4.9
LZH PcP PcP 08 31 24.4 -0.6
LZH eS S 08 38 55.6 +0.7
LZH sS sS 08 39 04.3 +1.3
LZH PMZ
comp=Z,28nm,1.1s
LZH PMZ
comp=Z,130nm,4.5s
LZH LN
comp=Z,4µm,15.5s
LZH LE
comp=Z,4µm,14.6s
LZH LZ
comp=Z,5µm,16.2s
HNH Hanover 60.54 56 eP P 08 30 41.4 +0.9
comp=Z,36nm,1.1s
TRY Troy 60.54 57 eP P 08 30 40.5 0.0
comp=Z,39nm,0.9s
BLA Blacksburg 60.88 66 PFAKE 08 31 00.0 +17
BLA LR LR
comp=Z,3µm,19.0s
PKME Peaks-Kenny Pk 60.89 53 eP P 08 30 43.2 +0.4
comp=Z,28nm,1.0s
PKME LR LR
comp=Z,4µm,21.0s
VWCC Virginia Weste 61.10 66 eP P 08 30 43.8 -0.6
LUPA Lehigh Univers 61.19 60 eP P 08 30 43.5 -1.5
comp=Z,19nm,1.0s
WVL Waterville 61.22 53 eP P 08 30 46.3 +1.2
comp=Z,26nm,0.9s
ODNJ Ogdensburg 61.24 59 eP P 08 30 44.5 -0.8
comp=Z,64nm,0.9s
SDMD Soldier's Deli 61.26 62 eP P 08 30 45.7 +0.2
comp=Z,124nm,0.9s
ENH Enshi 61.37 283 PFAKE 08 31 00.0 +14
ENH LR LR
comp=Z,1µm,22.0s
QUA2 Belchertown 61.54 57 eP P 08 30 47.7 +0.4
comp=Z,61nm,1.4s
BRAL Brewton 61.54 75 eP P 08 30 45.9 -1.5
comp=Z,135nm,0.9s
BRAL LR LR
comp=Z,2µm,19.0s
BRNJ Basking Ridge 61.55 60 eP P 08 30 46.7 -0.7
comp=Z,98nm,0.9s
PAL Palisades 61.66 59 eP P 08 30 50.5 +2.4
PAL pmax pmax
comp=Z,90nm,1.0s
PAL Palisades 61.66 59 eP P 08 30 50.5 +2.4
comp=Z,90nm,1.0s
HRV Adam Dziewonsk 61.77 56 eP P 08 30 50.3 +1.4
HRV pmax pmax
comp=Z,58nm,1.1s
HRV Adam Dziewonsk 61.77 56 eP P 08 30 50.3 +1.4
comp=Z,58nm,1.1s
CPNY Central Park 61.79 59 eP P 08 30 49.8 +0.8
comp=Z,63nm,0.8s
CBN Corbin 61.84 63 eP P 08 30 49.8 +0.4
comp=Z,138nm,1.3s
CBN LR LR
comp=Z,4µm,20.0s
GOGA Godfrey 61.89 71 eP P 08 30 48.1 -1.7
GOGA pmax pmax
comp=Z,34nm,1.0s
GOGA MLR MLR
comp=Z,2µm,20.0s
GOGA Godfrey 61.89 71 eP P 08 30 48.1 -1.7
comp=Z,34nm,1.0s
GOGA LR LR
comp=Z,2µm,20.0s
JSRW J. Sargeant Re 61.94 64 eP P 08 30 49.1 -0.9
YLE Yale 61.94 58 eP P 08 30 52.8 +2.8
comp=Z,64nm,0.9s
KURK Kurchatov 62.12 318 P P 08 30 50.1 -1.0
KURK MLR MLR
comp=Z,3µm,20.0s
KURK Kurchatov 62.12 318 P P 08 30 50.1 -1.0
KURK LR LR
comp=Z,3µm,20.0s
EMMW East Machias 62.18 52 eP P 08 30 50.9 -0.6
comp=Z,123nm,1.4s
KURBB Kurchatov Arra 62.23 318 P P 08 30 50.1 -1.7
comp=Z,3.9nm,0.6s,baz=42,slow=7.3,SNR=11
JSC Jenkinsville 62.52 69 eP P 08 30 53.7 -0.3
JSC pmax pmax
comp=Z,60nm,1.0s
JSC Jenkinsville 62.52 69 eP P 08 30 53.7 -0.3
comp=Z,60nm,1.0s
PRGR Permogore 62.67 342 eP P 08 30 52.6 -1.9
PRGR pmax pmax
comp=Z,7.0nm,0.3s
TIGA Tifton 63.26 73 P P 08 30 56.8 -2.2
baz=63
TIGA Tifton 63.26 73 eP P 08 30 58.7 -0.2
comp=Z,30nm,0.9s
WMQ Urumqi 63.32 308 P P 08 31 02.3 +3.0
WMQ pP pP 08 31 07.8 +3.6
WMQ sP sP 08 31 08.8 +2.7
WMQ PcP PcP 08 31 39.5 +3.2
WMQ PMZ
comp=Z,12nm,0.8s
WMQ PMZ
comp=Z,280nm,7.0s
WMQ LN
comp=Z,910nm,22.0s
WMQ LE
comp=Z,1µm,26.0s
WMQ LZ
comp=Z,2µm,21.6s
BVAR Borovoye Array 63.43 324 P P 08 30 58.2 -1.6
comp=Z,6.9nm,0.6s,baz=48,slow=7.9,SNR=9.0
BRVK Borovoye 63.44 324 eP P 08 31 00.2 +0.4
BRVK pmax pmax
comp=Z,12nm,0.9s
BRVK MLR MLR
comp=Z,4µm,19.0s
BRVK Borovoye 63.44 324 eP P 08 31 00.2 +0.4
comp=Z,12nm,0.9s
BRVK LR LR
comp=Z,4µm,19.0s
MKAR Makanchi Array 63.57 313 P P 08 30 59.6 -1.2
comp=Z,0.9nm,0.5s,baz=45,slow=6.6,SNR=3.4
MKAR LR LR 09 02 32.2
comp=Z,2µm,18.3s,baz=36,slow=40
CNNC Cliffs of the 63.72 66 eP P 08 31 02.8 +0.9
comp=Z,66nm,1.1s
CNNC LR LR
comp=Z,4µm,19.0s
NHSC New Hope 63.99 69 PFAKE 08 31 20.0 +16
NHSC LR LR
comp=Z,3µm,19.0s
RGRS Roger Stewart 64.13 69 eP P 08 31 05.5 +0.9
comp=Z,3.8nm,0.4s
CSU Charleston Sou 64.14 69 eP P 08 31 06.5 +1.8
SZP Santa 64.22 265 eP P 08 31 05.9 +0.5
comp=Z,316nm,1.2s
CD2 Chengdu 64.26 288 P P 08 31 05.6 0.0
CD2 pP pP 08 31 08.8 -1.8
CD2 PP PP 08 33 26.6 -0.1
CD2 S S 08 39 39.4 -3.3
CD2 SS SS 08 43 51.6 -0.1
CD2 PMZ
comp=Z,30nm,0.5s
CD2 PMZ
comp=Z,410nm,8.4s
CD2 LN
comp=Z,2µm,20.2s
CD2 LZ
comp=Z,2µm,19.4s
ARU Arti 64.32 333 P P 08 31 04.4 -1.2
baz=31,slow=5.9
ARU Arti 64.32 333 diP P 08 31 06.8 +1.2
ARU 08 31 36.2
ARU 08 33 25.7
ARU S S 08 39 46.3 +3.7
ARU pmax pmax
comp=Z,11nm,1.0s
ARU Arti 64.32 333 eP P 08 31 07.0 +1.4
comp=Z,4.9nm,0.2s
ARU LR LR
comp=Z,2µm,19.0s
GZH Guangzhou 64.35 275 P P 08 31 08.8 +2.6
GZH PcP PcP 08 31 45.9 +5.2
GZH PP PP 08 33 29.9 +2.3
GZH S S 08 39 34.8 -9.0
GZH ScS SKSac 08 40 54.8 -5.0
GZH LN
comp=Z,2µm,20.6s
GZH LE
comp=Z,2µm,19.8s
FINES FINESS Array B 65.54 352 P P 08 31 11.5 -1.9
comp=Z,7.1nm,0.8s,baz=19,slow=5.8,SNR=16
FINES LR LR 09 01 12.4
comp=Z,1µm,20.3s,baz=14,slow=37
GYA Guiyang 65.85 282 ⇑iP P 08 31 17.9 +1.8
GYA PcP PcP 08 31 48.3 +1.2
GYA PP PP 08 33 45.0 +4.2
GYA ScP 08 35 50.8
GYA S S 08 40 03.5 +1.0
GYA SKS SKSac 08 41 10.0 -1.4
GYA SS SS 08 44 19.6 +2.8
GYA PMZ
comp=Z,40nm,0.8s
GYA PMZ
comp=Z,180nm,5.6s
GYA LN
comp=Z,2µm,18.2s
GYA LE
comp=Z,2µm,19.0s
GYA LZ
comp=Z,2µm,18.6s
TAOE Nuku Hiva Isla 66.21 148 eT T 09 43 13.0
comp=Z,320nm,0.2s
AFI Afiamalu 66.37 183 PFAKE 08 31 30.0 +11
AFI LR LR
comp=Z,821nm,22.0s
TGY Tagaytay City 66.60 262 P P 08 31 22.0 +1.1
comp=Z,145nm,0.4s,baz=339,slow=9.2,SNR=4.2
TGY Tagaytay City 66.60 262 P P 08 31 22.0 +1.1
NB2 NORSAR Subarra 66.61 360 P P 08 31 19.7 -0.6
comp=Z,7.8nm,1.1s,baz=360,slow=6.2
NOA NORSAR Array B 66.61 360 P P 08 31 19.2 -1.2
comp=Z,3.8nm,0.8s,baz=0.4,slow=6.2,SNR=6.9
HNR Honiara 67.22 213 LR LR 08 55 25.1
comp=Z,2µm,21.1s,baz=50,slow=31

HFS Hagfors 67.49 358 P P 08 31 24.4 -1.5
baz=20,slow=4.6
KONO Kongsberg 68.00 1 PFAKE 08 31 40.0 +11
KONO LR LR
comp=Z,1μm,21.0s
TEIG Tepich 68.83 84 eP P 08 31 36.1 +1.2
comp=Z,1.6nm,0.8s
KMI Kunming 69.18 284 P P 08 31 40.4 +3.1
KMI pP **pP 08 31 43.5 +1.2**
KMI PcP PcP 08 32 07.1 +6.0
KMI PP **PP 08 34 12.3 +2.5**
KMI S **S 08 40 45.0 +2.3**
KMI SS **SS 08 45 03.5 -5.0**
KMI PMZ
comp=Z,9.0nm,0.5s
KMI PMZ
comp=Z,250nm,6.9s
KMI LN
comp=Z,980nm,26.9s
KMI LE
comp=Z,720nm,26.9s
KMI LZ
comp=Z,1μm,36.2s
DAV Davao City (W) 69.40 254 PFAKE 08 31 50.0 +12
DAV LR LR
comp=Z,2μm,22.0s
QIZ Qiongzhong 69.55 275 P P 08 31 39.9 +0.6
QIZ S **S 08 40 47.0 +0.3**
QIZ LZ
comp=Z,1μm,29.1s
QIZ Qiongzhong 69.55 275 eP P 08 31 43.4 +4.0
comp=Z,20nm,0.9s
QIZ LR LR
comp=Z,1μm,21.0s
TKM2 Tokmak 2 69.55 315 PFAKE 08 31 50.0 +11
TKM2 LR LR
comp=Z,2μm,20.0s
AKTO Aktyubinsk 69.72 330 P P 08 31 39.0 -1.0
comp=Z,7.3nm,0.7s,baz=31,slow=6.9,SNR=9.0
AKTO Aktyubinsk 69.72 330 P P 08 31 39.0 -1.0
PMOR Pomariorio Ree 69.94 158 eT T 09 47 51.9
comp=Z,28nm,0.2s
FRU Bishkek 70.04 315 eP P 08 31 36.0 -6.2
FRU e 08 32 08.0
FRU pmax pmax
comp=Z,55nm,2.1s
AAK Ala-Archa 70.26 315 P P 08 32 32.2 +49
comp=Z,4.0nm,0.5s,baz=353,slow=9.3,SNR=4.0
AAK Ala-Archa 70.26 315 P P 08 32 32.2 +49
AAK LR LR
comp=Z,1μm,19.0s
OBN Obninsk 70.42 345 PFAKE 08 32 00.0 +16
OBN LR LR
comp=Z,1μm,19.0s
EKS2 Erkin-Say 70.54 316 PFAKE 08 32 00.0 +15
EKS2 LR LR
comp=Z,3μm,19.0s
MSVF Nonsavu 70.98 193 PFAKE 08 32 00.0 +12
MSVF LR LR
comp=Z,2μm,19.0s
MUD Monsted U'grnd 71.20 1 i P P 08 31 47.6 -1.3
comp=Z,1μm,18.0s
MUD Monsted U'grnd 71.20 1 eP P 08 31 47.6 -1.3
MUD MLR MLR
comp=Z,1μm,18.0s
KKAR Karatay Array 71.54 318 eP P 08 31 50.6 -0.6
KKAR Karatay Array 71.54 318 eP P 08 31 50.6 -0.6
ESK Eskdalemuir 71.74 8 PFAKE 08 32 00.0 +7.8
ESK LR LR
comp=Z,1μm,19.0s
COP Copenhagen 71.97 359 i P P 08 31 56.6 +3.1
comp=Z,440nm,26.0s
COP Copenhagen 71.97 359 eP P 08 31 56.6 +3.1
COP MLR MLR
comp=Z,440nm,26.0s
PPT Papeete 72.05 160 LR LR 08 55 37.5
comp=Z,431nm,21.2s,baz=341,slow=29
PPT2 Papeete2 72.08 160 eS S 08 41 17.0 +1.1
comp=Z,1μm,26.2s
PPT2 eLQ LQ 08 50 16.0
comp=Z,2μm,27.2s
PPT2 eLR LR 08 53 18.3
comp=Z,954nm,24.5s,baz=338
TIAR Tiarei 72.09 160 eT T 09 50 33.3
comp=Z,13nm,0.3s
PMG Port Moresby 72.12 225 PFAKE 08 32 10.0 +15
PMG LR LR
comp=Z,3μm,20.0s
PAE Paea 72.14 160 eT T 09 50 37.2
comp=Z,2.4nm,0.2s
KSH Kashi 72.14 312 P P 08 31 58.1 +3.0
KSH pP **pP 08 32 03.1 +3.0**
KSH PcP **PcP 08 32 17.1 +3.7**
KSH S **S 08 41 19.5 +2.8**
KSH sS **SKiKP 08 41 28.5 -2.1**
KSH SKS **SKSac 08 41 58.3 -0.5**
KSH PMZ
comp=Z,560nm,7.3s
KSH LN
comp=Z,790nm,10.5s
KSH LE
comp=Z,3μm,13.5s
KSH LZ
comp=Z,1μm,13.4s
LSA Lhasa 72.30 296 PFAKE 08 32 10.0 +13
LSA LR LR
comp=Z,2μm,21.0s
BSD Bornholm Skovb 72.49 357 i P P 08 32 00.0 +3.3
comp=Z,1μm,19.0s
SIJI Sorong 72.65 244 P P 08 31 57.0 -1.1
comp=Z,72nm,1.0s,baz=26,slow=7.5,SNR=18
BBSR BB Station 73.01 59 eP P 08 32 02.2 +2.1
comp=Z,72nm,1.0s
BBSR LR LR
comp=Z,2μm,20.0s
VSR Storozhevoye 73.70 342 eP P 08 31 55.3 -8.6
VSR pmax pmax
comp=N,6.0nm,0.4s
VSR pmax pmax
comp=E,5.0nm,0.4s
VSR pmax pmax
comp=Z,10.0nm,0.4s
SKNT Sakolnakorn 74.67 278 P P 08 32 09.7 -0.3
comp=Z,69nm,0.9s,comp=Z,1μm
UBPT Khong Chiam 75.08 276 eP P 08 32 12.0 -0.4
comp=Z,64nm,1.0s,comp=Z,986nm
MYLDM Lahad Datu 75.09 259 eP P 08 32 12.2 -0.3
CMAI Chiengmai2 75.33 284 P P 08 32 17.8 +3.7
comp=Z,21nm,1.2s,comp=Z,426nm
IBBN Ibbenburen 75.34 2 eP P 08 32 14.8 +1.4
comp=Z,28nm,1.1s
KKM Kota Kinabalu 75.78 261 PFAKE 08 32 30.0 +13
KKM LR LR
comp=Z,1μm,22.0s
AKASG Malin Array Be 75.78 348 P P 08 32 13.4 -2.6
comp=Z,2.6nm,0.4s,baz=13,slow=5.7,SNR=9.9
KIEV Kiev 75.79 348 eP P 08 32 13.9 -2.1
KIEV pmax pmax
comp=Z,12nm,1.0s
KIEV MLR MLR
comp=Z,1μm,19.0s
KIEV Kiev 75.79 348 eP P 08 32 13.9 -2.1
comp=Z,12nm,1.0s
KIEV LR LR
comp=Z,1μm,19.0s
AK01 Malin Array Si 75.79 348 eP P 08 32 14.6 -1.4
AK02 Malin Array Si 75.83 348 eP P 08 32 14.7 -1.5
CLZ Clausthal 75.83 0 eP P 08 32 17.3 +1.0
comp=Z,36nm,1.5s
DLV T Lat 75.84 271 eP P 08 32 19.2 +2.2
comp=Z,23nm,0.8s
LOEI Loei 75.89 280 P P 08 32 17.5 +0.4
comp=Z,14nm,1.1s,comp=Z,483nm
UTTA Uttaradit 76.13 281 P P 08 32 20.5 +2.1
comp=Z,7.6nm,0.8s,comp=Z,81nm
CMMT Chiang Mai 76.26 283 P P 08 32 22.2 +3.0
comp=Z,30nm,1.1s,comp=Z,540nm
CHTO Chiang Mai 76.26 283 P P 08 32 22.3 +3.1
comp=Z,46nm,1.0s,comp=Z,2μm
CHTO Chiang Mai 76.26 283 eP P 08 32 21.0 +1.8
CHTO pmax pmax
comp=Z,1.0nm,0.3s
CHTO MLR MLR
comp=Z,1μm,20.0s
CHTO Chiang Mai 76.26 283 eP P 08 32 21.0 +1.8
comp=Z,1.4nm,0.3s
CHTO LR LR
comp=Z,1μm,20.0s
CLL Collm 76.34 358 eP P 08 32 19.5 +0.3
comp=Z,7.0nm,1.0s
CLL Collm 76.34 358 eP P 08 32 19.0 -0.2
CLL pmax pmax
comp=Z,21nm,1.7s
CLL MLR MLR
comp=Z,1μm,18.9s
CLL Collm 76.34 358 eP P 08 32 19.0 -0.2
comp=Z,21nm,1.7s
CLL eS S 08 42 12.0 +8.9
CLL eSS SS 08 47 06.0 +10
CLL e 08 50 12.0
CLL Lm MLR 09 13 00.0
comp=N,1μm,19.7s
CLL Lm MLR 09 13 00.0
comp=E,400nm,18.2s
CLL Lm MLR 09 13 00.0
comp=Z,1μm,18.9s
CMAR Chiang Mai Arr 76.54 283 P P 08 32 19.9 -0.8
comp=Z,1.8nm,0.4s,baz=24,slow=6.0,SNR=14
CMAR LR LR 09 09 22.9
comp=Z,1μm,19.3s,baz=56,slow=38
CMAR Chiang Mai Arr 76.54 283 P P 08 32 20.0 -0.8
CHAI Chaiyaphum 76.70 279 P P 08 32 25.6 +3.9
comp=Z,7.1nm,0.9s,comp=Z,172nm
KSP Ksiaz 76.72 356 eP P 08 32 21.8 +0.5
KSP Ksiaz 76.72 356 eP P 08 32 21.8 +0.5
BRG Berggiesshubel 76.76 358 eP P 08 32 22.0 +0.5
comp=Z,12nm,1.5s
BRG Berggiesshubel 76.76 358 eP P 08 32 22.0 +0.5
comp=Z,24nm,1.9s
BRG Berggiesshubel 76.76 358 eP P 08 32 22.0 +0.5
BRG pmax pmax
comp=Z,12nm,1.5s
PBKT Sadao Pong 76.79 280 P P 08 32 23.8 +1.6
comp=Z,26nm,1.6s
MTDJ Mount Denham 76.82 77 eP P 08 32 23.4 +0.9
comp=Z,80nm,0.9s
MTDJ LR LR
comp=Z,1μm,19.0s
UBBA Unterbreizbach 76.85 0 eP P 08 32 21.3 -0.6
comp=Z,50nm,2.8s
GTBY Guantanamo Bay 76.93 74 eP P 08 32 26.1 +3.2
comp=Z,73nm,0.9s
GTBY LR LR
comp=Z,2μm,19.0s
MEM Membach 76.99 3 P P 08 32 26.1 +3.2
comp=Z,9.2nm,1.3s
MEM Membach 76.99 3 eP P 08 32 25.6 +2.8
MEM pmax pmax
comp=Z,19nm,1.1s
MEM Membach 76.99 3 eP P 08 32 25.6 +2.8
comp=Z,18nm,1.1s
MOX Moxa 77.03 359 eP P 08 32 24.1 +1.1
comp=Z,24nm,1.9s
SNF Seneffe 77.03 4 P P 08 32 26.6 +3.6
UPC Upice 77.06 356 eP P 08 32 25.0 +1.7
UPC ePCP **PcP 08 32 36.4 +2.3**
UPC eS **S 08 42 11.3 +0.2**
UPC eSS **SS 08 47 04.8 -1.9**
UPC AMS AMS 09 15 00.0
comp=Z,1μm,18.5s
UPC Upice 77.06 356 eP P 08 32 25.0 +1.7
UPC e 08 32 36.4
UPC eS **S 08 42 11.3 +0.2**
UPC eSS **SS 08 47 04.8 -1.9**
UPC MLR MLR
comp=Z,1μm,18.5s
PVCC Panska Ves 77.09 357 AMS AMS 09 17 30.0
comp=Z,1μm,16.5s
DPC Dobruska-Polom 77.21 356 eP P 08 32 24.7 +0.6
DPC epP **pP 08 32 28.8 -0.4**
DPC ePCP **PcP 08 32 34.0 -0.8**
DPC ex x 08 32 41.8
DPC eS **S 08 42 10.3 -2.4**
DPC AMS AMS 09 15 10.0
comp=Z,900nm,18.3s
DPC Dobruska-Polom 77.21 356 eP P 08 32 24.7 +0.6
DPC e 08 32 34.0
DPC e 08 32 37.1
DPC eS **S 08 42 10.3 -2.4**
DPC MLR MLR
comp=Z,900nm,18.3s
LVV L'vov 77.22 351 eP P 08 32 28.2 +4.0
TANN Tannenbergstha 77.25 359 eP P 08 32 24.7 +0.3
comp=Z,25nm,1.9s
MHMT Maesarieng 77.35 283 P P 08 32 31.3 +6.0
comp=Z,14nm,1.1s
DZM Mont Dzumac 77.38 203 P P 08 32 24.2 -1.1
comp=Z,23nm,1.1s,baz=4.7,slow=3.1,SNR=6.2
DZM Mont Dzumac 77.38 203 eP P 08 32 25.8 +0.6
comp=Z,35nm,1.0s
NKC Novy Kostel 77.43 359 eP P 08 32 26.0 +0.7
NKC epP **pP 08 32 32.2 +1.8**
NKC eS **S 08 42 14.7 -0.4**
NKC AMS AMS 09 14 10.0
comp=Z,900nm,19.1s
NKC Novy Kostel 77.43 359 eP P 08 32 26.0 +0.7
NKC e 08 32 32.2
NKC eS **S 08 42 14.7 -0.4**
NKC MLR MLR
comp=Z,900nm,19.1s
TNS Taunus Mts 77.44 1 eP P 08 32 26.3 +0.9
comp=Z,11nm,1.5s
DOU Dourbes 77.45 4 P P 08 32 28.6 +3.2
comp=Z,5.8nm,1.1s
KRLC Kraliky 77.47 356 eP P 08 32 26.3 +0.7
KRLC Kraliky 77.47 356 eP P 08 32 26.3 +0.7
KWP Kalwaria Pacla 77.53 352 eP P 08 32 26.5 +0.7
KWP Kalwaria Pacla 77.53 352 eP P 08 32 26.6 +0.7
PRA Prague 77.55 357 eP P 08 32 28.1 +2.1
PRA eS **S 08 42 14.9 -1.4**
PRA AMS AMS 09 17 40.0
comp=Z,1μm,18.4s
PRA Prague 77.55 357 eP P 08 32 28.1 +2.1
PRA eS **S 08 42 14.9 -1.4**
PRA MLR MLR
comp=Z,1μm,18.4s
PRU Pruhonice 77.63 357 eP P 08 32 26.3 -0.1
PRU epP **pP 08 32 30.2 -1.3**
PRU eS **S 08 42 16.4 -0.8**
PRU eSS SS 08 47 26.2 +11
PRU AMS AMS 09 17 30.0
comp=Z,1μm,17.6s
PRU Pruhonice 77.63 357 eP P 08 32 26.3 -0.1
PRU e 08 32 30.2
PRU eS **S 08 42 16.4 -0.8**
PRU MLR MLR
comp=Z,1μm,17.6s
OKC Ostrava-Krasne 77.64 355 eP P 08 32 27.9 +1.4
OKC ePCP **PcP 08 32 39.4 +2.8**
OKC eS **S 08 42 14.6 -2.7**
OKC eSS **SS 08 47 12.7 -2.7**
OKC AMS AMS 09 12 00.0
comp=Z,900nm,16.9s
OKC Ostrava-Krasne 77.64 355 eP P 08 32 27.9 +1.4
OKC e 08 32 39.4
OKC eS **S 08 42 14.6 -2.7**
OKC eSS **SS 08 47 12.7 -2.7**
OKC MLR MLR
comp=Z,900nm,16.9s
TBI Tubuai 77.69 161 eS S 08 42 19.1 +1.0
comp=Z,791nm,30.0s
TBI Tubuai 77.69 161 eLQ LQ 08 52 20.3
comp=Z,894nm,30.5s
TBI eLR LR 08 56 03.0
comp=Z,918nm,30.8s,baz=342
TBI Tubuai 77.69 161 eT T 09 57 33.5
comp=Z,56nm,0.3s
GOPC GO Pecny, Ondr 77.70 357 eP P 08 32 28.3 +1.5
GOPC eS **S 08 42 17.2 -0.8**
GOPC eSS **SS 08 47 18.2 +1.9**
GOPC AMS AMS 09 20 50.0
comp=Z,900nm,17.5s
ROTZ Rotzenmuhle 77.90 359 eP P 08 32 30.0 +2.1
comp=Z,19nm,1.9s
COEN Coen 77.91 227 eP P 08 32 28.3 -0.1
comp=Z,60nm,1.5s
WLF Walferdange 77.94 3 PFAKE 08 32 40.0 +12
WLF LR LR
comp=Z,1μm,20.0s
GRTK Grand Turk 78.00 70 PFAKE 08 32 40.0 +11
GRTK LR LR
comp=Z,2μm,19.0s
VRAC Vranov 78.24 356 P P 08 32 30.3 +0.5
comp=Z,5.2nm,0.5s,baz=0.6,slow=6.4
VRAC Vranov 78.24 356 ⇑P P 08 32 30.5 +0.7
VRAC Vranov 78.24 356 ⇑iP P 08 32 30.5 +0.7
KOLS Kolonicke sedl 78.26 352 eP P 08 32 31.2 +1.2
KOLS pmax pmax
comp=Z,3.0nm,0.9s
KOLS Kolonicke sedl 78.26 352 eP P 08 32 31.2 +1.2
TREC Trest 78.30 357 eP P 08 32 30.7 +0.5
TREC eS S 08 42 18.0 -6.4
TREC AMS AMS 09 17 40.0
comp=Z,1μm,16.2s
TREC Trest 78.30 357 eP P 08 32 30.7 +0.5
TREC eS S 08 42 18.0 -6.4
TREC MLR MLR
comp=Z,1μm,16.2s
NAYO Nakonayok 78.33 278 P P 08 32 34.1 +3.3
comp=Z,22nm,1.1s
UTHA Uthaitani 78.49 280 P P 08 32 35.2 +3.5
comp=Z,5.2nm,1.4s
WET Wettzell 78.51 358 eP P 08 32 32.3 +0.9
comp=Z,17nm,1.7s
JTS JuntasAbangare 78.52 88 eP P 08 32 32.5 +0.6
JTS pmax pmax
comp=Z,22nm,1.2s
JTS MLR MLR
comp=Z,858nm,20.0s
JTS JuntasAbangare 78.52 88 eP P 08 32 32.5 +0.6
comp=Z,22nm,1.2s
JTS LR LR
comp=Z,858nm,20.0s
GEC2 GERESS Array S 78.80 358 eP P 08 32 34.7 +1.7
comp=Z,16nm,1.7s
GERES GERESS Array B 78.80 358 P P 08 32 32.9 -0.2
comp=Z,2.1nm,0.8s,baz=19,slow=4.5,SNR=10
GERES PKKPbc **PKKPbc 08 51 26.5 +1.7**
comp=Z,0.3nm,0.2s,baz=198,slow=3.9,SNR=3.7
KECS Kecovo 78.84 353 eP P 08 32 35.2 +2.0
VYHS Vyhne 78.94 354 eP P 08 32 34.8 +1.1
BUR08 Bucovina Ar. S 79.26 350 eP P 08 32 35.2 -0.4
BURAR Bucovina Array 79.29 350 ⇓iP P 08 32 35.0 -0.8
BFO Black Forest 79.33 2 eP P 08 32 36.2 +0.3
comp=Z,56nm,2.2s
BFO Black Forest 79.33 2 iP P 08 32 37.2 +1.3
BFO Black Forest 79.33 2 PFAKE 08 32 50.0 +14
BFO LR LR
comp=Z,994nm,19.0s
ECH Echery 79.42 2 eP P 08 32 36.0 -0.3
ECH pmax pmax
comp=Z,19nm,1.0s
ECH MLR MLR
comp=Z,954nm,22.0s
ECH Echery 79.42 2 eP P 08 32 36.0 -0.3
comp=Z,19nm,1.0s
ECH LR LR
comp=Z,954nm,22.0s
PSZ Piszkesteto 79.45 354 ⇑iP P 08 32 34.8 -1.8
PSZ Piszkesteto 79.45 354 PFAKE 08 32 50.0 +13
PSZ LR LR
comp=Z,1μm,22.0s
CONA Conrad Observa 79.65 356 ⇑ipP P 08 32 38.9 +1.2
comp=Z,16nm,1.1s
KIV Kislovodsk 79.84 337 PFAKE 08 32 50.0 +11
KIV LR LR
comp=Z,1μm,22.0s
SDDR Presa de Saban 79.89 72 PFAKE 08 32 50.0 +11
SDDR LR LR
comp=Z,1μm,21.0s
ARSA Arzberg 80.34 357 ⇑isP sP 08 32 44.2 -4.0
comp=Z,9.5nm,1.1s
PHET Kaeng Krachan 80.45 279 P P 08 32 48.6 +6.2
comp=Z,8.3nm,1.1s
KBA Koelnbreinsper 80.57 358 ⇑ipP P 08 32 43.5 +0.7
comp=Z,34nm,1.0s
SIM Simferopol' 80.65 343 P P 08 32 43.0 0.0
SIM S **S 08 42 45.9 -3.6**
SIM pmax pmax
comp=Z,140nm,9.5s
FETA Feichten 80.66 360 ⇑iP P 08 32 40.9 -2.3
comp=Z,21nm,1.1s
GEYT Ailbeck 80.76 324 P P 08 32 43.0 -0.8
comp=Z,12nm,1.0s,baz=306,slow=5.2,SNR=11
SOC Sochi 80.87 339 eP P 08 32 42.6 -1.6
SOC e 08 35 46.9
SOC ePPP PPP 08 37 38.7
SOC eS **S 08 42 48.6 -3.2**
SOC eSS **SS 08 48 05.7 +1.7**
SOC eSSS SSS 08 51 28.8
SOC pmax pmax
comp=Z,17nm,0.7s
SOC MLR MLR
comp=Z,1μm,20.0s
DAVOX Davos/Dischmat 80.89 1 P P 08 32 44.0 -0.6
comp=Z,8.9nm,0.9s,baz=345,slow=16
DAVOX Davos/Dischmat 80.89 1 P P 08 32 44.0 -0.6
DAVOX pmax pmax
comp=Z,9.0nm,0.9s
ABTA Abfaltersbach 80.92 359 ⇑ipP P 08 32 45.8 +1.2
comp=Z,14nm,1.2s
SOKA Soboth 80.93 357 ⇑isP sP 08 32 47.1 -4.4
comp=Z,19nm,1.2s
SBUM Sibu 81.03 262 eP P 08 32 47.2 +1.8
FUORN Ofenpass-Fuorn 81.06 0 eP P 08 32 48.2 +2.7
TUE Stuetta 81.20 1 eP P 08 32 48.3 +2.1
comp=Z,6.5nm,0.8s
TUE LR LR
comp=Z,803nm,20.0s
RKT Rikitea 81.23 148 eLR LR 08 58 08.3
comp=Z,633nm,29.5s,baz=336
RKT Rikitea 81.23 148 eT T 10 01 59.4
comp=Z,11nm,0.3s
VOIR 81.46 350 ⇓iP P 08 32 48.4 +1.0
VOIR 81.46 350 ⇓iP P 08 32 48.4 +1.0
BZS Buzias 81.61 352 ⇑iP P 08 32 52.8 +4.7
BZS Buzias 81.61 352 ⇑iP P 08 32 52.8 +4.7
CTA Charters Tower 82.07 222 P P 08 32 50.0 -0.7
comp=Z,23nm,0.9s,baz=31,slow=6.3,SNR=14
CTAO Charters Tower 82.07 222 eP P 08 32 49.7 -1.0
CTAO pmax pmax
comp=Z,24nm,0.9s
CTAO MLR MLR
comp=Z,2μm,22.0s
CTAO Charters Tower 82.07 222 eP P 08 32 49.7 -1.0
comp=Z,24nm,0.9s
CTAO LR LR
comp=Z,2μm,22.0s
SSB Saint Sauveur 82.26 4 eP P 08 32 52.3 +0.7
SSB pmax pmax
comp=Z,14nm,0.9s
SSB MLR MLR
comp=Z,921nm,20.0s
SSB Saint Sauveur 82.26 4 eP P 08 32 52.3 +0.7
comp=Z,14nm,0.9s
SSB LR LR
comp=Z,921nm,20.0s
BCIP Isla Barro Col 82.51 85 eP P 08 32 54.4 +1.2
comp=Z,22nm,1.0s
BCIP LR LR
comp=Z,711nm,19.0s
KAPI Kappang 82.54 252 P P 08 32 52.0 -1.4
comp=Z,14nm,0.6s,baz=129,slow=1.2,SNR=8.8
KAPI Kappang 82.54 252 eP P 08 32 52.2 -1.2
comp=Z,12nm,0.6s
KAPI LR LR
comp=Z,701nm,20.0s
MTN Manton Dam 82.76 238 eP P 08 32 53.6 -0.8
GNI Garni 82.91 334 PFAKE 08 33 10.0 +15
GNI LR LR
comp=Z,592nm,21.0s
KSM Kuching 82.95 263 eP P 08 32 56.0 +0.5
comp=Z,60nm,1.1s
KSM LR LR
comp=Z,1μm,22.0s
CELP Cerrillos 83.31 69 eP P 08 33 00.1 +2.7
OBIP Obispado Ponce 83.33 69 eP P 08 32 59.0 +1.5
comp=Z,89nm,0.9s
SURA Surathani 83.38 276 P P 08 32 59.5 +1.7
comp=Z,37nm,1.1s
ICMP Isla Caja de M 83.50 69 eP P 08 33 00.2 +1.9
VLC Villacollemand 83.52 0 PFAKE 08 33 10.0 +12
VLC LR LR
comp=Z,1μm,21.0s
SJG San Juan 83.53 69 eP P 08 32 60.0 +1.5
comp=Z,69nm,0.9s
SJG LR LR

	comp=Z,2µm,19.0s								
SOEI	**Soe**	**83.85**	**245**	*e*P		**P**	**08 32 58.8**	**-1.5**	
	comp=Z,68nm,0.9s								
SURT	**Suratani**	**84.05**	**277**	P		P	08 33 05.6	+4.4	
	comp=Z,20nm,1.1s								
PGAV	**Gavieira, Arco**	**84.31**	**14**	*e*P		**P**	**08 33 03.2**	**+0.9**	
PGAV	**Gavieira, Arco**	**84.31**	**14**	*e*S		**S**	**08 43 23.4**	**-3.8**	
PGAV	**Gavieira, Arco**	**84.31**	**14**	*e*LR		LR	09 06 31.0		
	comp=Z,1µm,20.0s								
SKLT	**Songkhla**	**84.35**	**274**	P		**P**	**08 33 04.3**	**+1.6**	
	comp=Z,71nm,1.7s,comp=Z,1µm								
KRAB	**Krabi**	**84.39**	**276**	*e*P		**P**	**08 33 03.6**	**+0.7**	
	comp=Z,50nm,1.0s,comp=Z,8µm								
TRTT	**Trang**	**84.39**	**275**	P		**P**	**08 33 04.4**	**+1.4**	
	comp=Z,49nm,1.1s,comp=Z,834nm								
BATI	**Baumata**	**84.56**	**245**	P		**P**	**08 33 03.1**	**-0.6**	
	comp=Z,96nm,0.8s,baz=321,slow=19,SNR=5.9								
PCAB	**Cabril**	**84.59**	**14**	*e*P		P	08 32 59.1	-4.6	
PTCN	**Pitcairn Islan**	**84.68**	**145**	PFAKE			08 33 10.0	+6.0	
PTCN				LR		LR			
	comp=Z,2µm,19.0s								
PBRG	**Braganca**	**84.68**	**13**	*e*P		**P**	**08 33 06.1**	**+2.0**	
	comp=Z,19nm,2.8s								
POLO	**Lamas de Olo**	**84.95**	**14**	*e*P		**P**	**08 33 06.2**	**+0.6**	
	comp=Z,15nm,1.6s								
EIDS	**Eidsvold**	**85.04**	**215**	*e*P		**P**	**08 33 04.9**	**-0.9**	
	comp=Z,25nm,1.2s								
CHLP	**Challavanipeta**	**85.08**	**294**	*e*P		**P**	**08 33 07.0**	**+0.6**	
CHLP				IAmb		IAmb	08 33 08.0		
	comp=Z,12nm,1.0s								
CHLP				*e*SKSac		**SKSac**	**08 43 26.5**	**-4.1**	
MVO	**Moncorvo**	**85.27**	**13**	*e*P		**P**	**08 33 06.6**	**-0.5**	
	comp=Z,28nm,2.8s								
MVO	**Moncorvo**	**85.27**	**13**	*e*S		**S**	**08 43 37.0**	**+0.3**	
MVO	**Moncorvo**	**85.27**	**13**	*e*LQ		LQ	08 58 13.7		
MVO				*e*LR		LR	09 07 31.0		
	comp=Z,1µm,16.0s								
AQU	**L'Aquila**	**85.29**	**358**	PFAKE			08 33 20.0	+13	
AQU				LR		LR			
	comp=Z,1µm,20.0s								
PVIS	**Viseu**	**85.58**	**14**	*e*P		**P**	**08 33 06.5**	**-2.2**	
	comp=Z,31nm,2.2s								
BRTR	**Keskin Array B**	**85.80**	**342**	P		**P**	**08 33 10.1**	**+0.2**	
	comp=Z,2.0nm,0.9s,baz=30,slow=2.9,SNR=5.2								
KULM	**Kulim**	**85.81**	**273**	*e*P		**P**	**08 33 09.8**	**-0.3**	
KULM				LR		LR			
	comp=Z,749nm,21.0s								
MTE	**Manteigas**	**85.95**	**14**	*e*S		**S**	**08 43 43.8**	**+0.4**	
MTE	**Manteigas**	**85.95**	**14**	*e*LQ		LQ	08 58 24.3		
MTE				*e*LR		LR	09 06 06.6		
	comp=Z,1µm,20.0s								
MTE	**Manteigas**	**85.95**	**14**	PFAKE			08 33 20.0	+9.5	
MTE				LR		LR			
	comp=Z,1µm,21.0s								
TIR	**Tirane**	**85.99**	**353**	PFAKE			08 33 20.0	+9.4	
TIR				LR		LR			
	comp=Z,982nm,19.0s								
IPM	**Ipoh**	**86.22**	**272**	*e*P		**P**	**08 33 11.1**	**-1.0**	
	comp=Z,23nm,0.7s								
ANWB	**Willy Bob**	**86.33**	**66**	PFAKE			08 33 20.0	+7.4	
ANWB				LR		LR			
	comp=Z,1µm,20.0s								
PMRV	**Marv??o**	**86.92**	**14**	*e*P		**P**	**08 33 15.3**	**+0.1**	
	comp=Z,17nm,2.0s								
PMRV	**Marv??o**	**86.92**	**14**	*e*S		**S**	**08 43 54.8**	**+2.0**	
PMRV	**Marv??o**	**86.92**	**14**	*e*LQ		LQ	08 58 44.5		
PMRV				*e*LR		LR	09 06 30.9		
	comp=Z,1µm,22.0s								
ESDC	**Sonseca Array**	**87.13**	**11**	P		**P**	**08 33 14.3**	**-2.0**	
	comp=Z,6.8nm,0.8s,baz=345,slow=4.6,SNR=9.0								
ESLA	**Sonseca Array**	**87.13**	**11**	*e*P		**P**	**08 33 14.8**	**-1.5**	
	comp=Z,4.4nm,1.1s								
WRAB	**Tennant Creek**	**87.19**	**232**	*e*P		**P**	**08 33 16.5**	**-0.1**	
WRAB				pmax		pmax			
	comp=Z,20nm,0.9s								
WRAB				MLR		MLR			
	comp=Z,2µm,22.0s								
WRAB	**Tennant Creek**	**87.19**	**232**	*e*P		**P**	**08 33 16.5**	**-0.1**	
	comp=Z,20nm,0.9s								
WRAB				LR		LR			
	comp=Z,2µm,22.0s								
WRA	**Warramunga Arr**	**87.20**	**232**	P		**P**	**08 33 14.9**	**-1.7**	
	comp=Z,12nm,0.8s,baz=34,slow=5.8,SNR=14								
WRA				LR		LR	09 08 07.9		
	comp=Z,2µm,21.9s,baz=55,slow=33								
WRA	**Warramunga Arr**	**87.20**	**232**	P		**P**	**08 33 15.0**	**-1.7**	
PAB	**San Pablo**	**87.21**	**12**	PFAKE			08 33 30.0	+13	
PAB				LR		LR			
	comp=Z,2µm,19.0s								
RPR	**Rampur**	**87.40**	**298**	*e*P		**P**	**08 33 18.4**	**+0.6**	
RPR				IAmb		IAmb	08 33 19.7		
	comp=Z,23nm,0.4s								
CUC	**Castrocucco**	**87.57**	**356**	PFAKE			08 33 30.0	+12	
CUC				LR		LR			
	comp=Z,507nm,19.0s								
LZG	**Guadaloupe-1**	**87.58**	**66**	*e*P		**P**	**08 33 20.2**	**+1.6**	
SSG	**Sans Toucher**	**87.67**	**66**	*e*P		**P**	**08 33 22.1**	**+2.8**	
SRSP	**Sriramsagar**	**87.85**	**299**	*e*P		**P**	**08 33 20.1**	**+0.1**	
SRSP				IAmb		IAmb	08 33 23.0		
	comp=Z,44nm,1.6s								
SRSP				*e*SKSac		**SKSac**	**08 43 47.5**	**-0.3**	
MAKR	**Makrakomi, Fth**	**88.11**	**351**	*e*P		**P**	**08 33 19.9**	**-1.1**	
VSL	**Villasalto**	**88.17**	**1**	PFAKE			08 33 30.0	+8.8	
VSL				LR		LR			
	comp=Z,838nm,20.0s								
PBAR	**Barrancos**	**88.20**	**14**	*e*P		**P**	**08 33 20.1**	**-1.3**	
	comp=Z,56nm,1.4s								
EVR	**Evrytania**	**88.24**	**351**	*e*P		**P**	**08 33 21.2**	**-0.5**	
SDV	**Santo Domingo**	**88.26**	**78**	*e*P		**P**	**08 33 24.1**	**+1.8**	
	comp=Z,34nm,1.1s								
SDV				LR		LR			
	comp=Z,958nm,22.0s								
MESJ	**Messejana**	**88.35**	**15**	*e*P		**P**	**08 33 21.9**	**-0.2**	
MESJ				*e*PP		**PP**	**08 36 49.4**	**+0.7**	
DSF	**Desfina**	**88.67**	**351**	*e*P		**P**	**08 33 21.9**	**-1.8**	
EFP	**Efpalio**	**88.72**	**351**	*e*P		**P**	**08 33 25.6**	**+1.8**	
MORF	**Marmelete**	**88.81**	**15**	*e*P		**P**	**08 33 24.2**	**-0.2**	
MORF				*e*PP		**PP**	**08 36 53.5**	**+1.1**	
OUZ	**Omahuta**	**88.81**	**194**	*e*P		**P**	**08 33 26.2**	**+2.4**	
	comp=Z,45nm,1.2s								
PSI	**Prapat**	**88.82**	**273**	P		**P**	**08 33 23.2**	**-1.5**	
	comp=Z,114nm,0.9s,baz=359,slow=4.7,SNR=41								
PVAQ	**Vaqueiros**	**88.86**	**15**	*e*S		S	08 44 05.3	-6.0	
PVAQ	**Vaqueiros**	**88.86**	**15**	*e*LQ		LQ	08 59 59.3		
PVAQ				*e*LR		LR	09 06 05.8		
	comp=Z,1µm,18.0s								
LAKA	**Lakka**	**88.89**	**351**	*e*P		**P**	**08 33 26.6**	**+1.9**	
HYBB	**Hyderabad (bro**	**88.98**	**298**	*e*P		**P**	**08 33 25.3**	**-0.1**	
HYBB				IAmb		IAmb	08 33 27.8		
	comp=Z,242nm,2.7s								
HYBB				*e*SKSac		**SKSac**	**08 43 53.6**	**-1.0**	
HYB	**Hyderabad**	**88.98**	**298**	*i* P		**P**	**08 33 26.5**	**+1.1**	
FDF	**Fort de France**	**89.06**	**67**	*e*P		**P**	**08 33 26.0**	**+0.2**	
FDF				pmax		pmax			
	comp=Z,38nm,0.9s								
FDF				MLR		MLR			
	comp=Z,1µm,21.0s								
FDF	**Fort de France**	**89.06**	**67**	*e*P		**P**	**08 33 26.0**	**+0.2**	
	comp=Z,38nm,0.9s								
FDF				LR		LR			
	comp=Z,1µm,21.0s								
KLV	**Kalavryta, Ach**	**89.07**	**351**	*e*P		**P**	**08 33 24.0**	**-1.6**	
RLS	**Riolos of Patr**	**89.12**	**351**	*e*P		**P**	**08 33 27.6**	**+1.9**	
GUR	**Goura**	**89.16**	**351**	*e*P		**P**	**08 33 23.2**	**-2.8**	
ROSC	**El Rosal**	**89.24**	**83**	P		**P**	**08 33 26.0**	**-1.1**	
	comp=Z,9.7nm,0.9s,baz=287,slow=6.9,SNR=3.0								
ROSC	**El Rosal**	**89.24**	**83**	*e*P		**P**	**08 33 25.8**	**-1.2**	
NJS	**Nagarjunasagar**	**89.28**	**297**	IAmb		IAmb	08 33 25.9		
	comp=Z,287nm,3.1s								
NJS				*e*P		**P**	**08 33 26.6**	**-0.2**	
NJS				*e*SKSac		**SKSac**	**08 43 56.6**	**+0.3**	
KLRI	**Killari**	**89.48**	**300**	*e*P		**P**	**08 33 27.6**	**-0.2**	
KLRI				*e*SKSac		**SKSac**	**08 43 56.9**	**-0.7**	
BKNI	**Bangkinang**	**89.49**	**270**	*e*P		**P**	**08 33 29.4**	**+1.6**	
	comp=Z,63nm,0.6s								
FITZ	**Fitzroy Crossi**	**90.01**	**240**	P		**P**	**08 33 29.4**	**-0.5**	
	comp=Z,24nm,1.1s,baz=35,slow=6.0,SNR=7.9								
CLTB	**Caltabellotta**	**90.06**	**358**	PFAKE			08 33 40.0	+10	
CLTB				LR		LR			
	comp=Z,647nm,19.0s								
RCLA	**Racherla**	**90.37**	**296**	*e*P		**P**	**08 33 29.7**	**-2.2**	
RCLA				IAmb		IAmb	08 33 40.0		
	comp=Z,50nm,1.6s								
RCLA				*e*SKSac		**SKSac**	**08 44 03.5**	**+0.7**	
OTAV	**Otavalo**	**90.38**	**89**	*e*P		**P**	**08 33 31.5**	**-1.0**	
	comp=Z,22nm,0.9s								
OTAV				LR		LR			
	comp=Z,398nm,19.0s								
CSS	**Prodhromos**	**90.48**	**342**	PFAKE			08 33 40.0	+7.8	
CSS				LR		LR			
	comp=Z,238nm,22.0s								
AS31	**Alice Springs**	**90.60**	**230**	*e*P		**P**	**08 33 31.6**	**-1.0**	
ASAR	**Alice Springs**	**90.60**	**230**	P		**P**	**08 33 31.9**	**-0.8**	
	comp=Z,29nm,0.8s,baz=34,slow=4.8,SNR=28								
GRGR	**Grenville**	**90.89**	**69**	*e*P		**P**	**08 33 34.9**	**+0.5**	
	comp=Z,48nm,1.0s								
GRGR				LR		LR			
	comp=Z,2µm,20.0s								
BBGH	**Gun Hill**	**91.25**	**66**	PFAKE			08 33 50.0	+14	
BBGH				LR		LR			
	comp=Z,2µm,19.0s								
URZ	**Urewera**	**91.35**	**191**	P		**P**	**08 33 33.8**	**-1.9**	
	comp=Z,5.6nm,1.0s,baz=344,slow=15								
WDD	**Wield Dalam**	**91.73**	**357**	PFAKE			08 33 50.0	+12	
WDD				LR		LR			
	comp=Z,554nm,20.0s								
MMAI	**Mount Meron Ar**	**91.94**	**339**	P		**P**	**08 33 39.1**	**0.0**	
	comp=Z,0.8nm,0.3s,baz=293,slow=4.3,SNR=3.8								
BKZ	**Black Stump Fm**	**92.31**	**191**	*e*P		**P**	**08 33 43.1**	**+2.9**	
	comp=Z,38nm,1.4s								
STKA	**Stephens Creek**	**94.44**	**220**	P		**P**	**08 33 48.5**	**-1.6**	
	comp=Z,6.7nm,1.0s,baz=341,slow=7.4,SNR=4.3								
STKA	**Stephens Creek**	**94.44**	**220**	P		**P**	**08 33 48.6**	**-1.6**	
STKA				pmax		pmax			
	comp=Z,7.0nm,1.0s								
STKA	**Stephens Creek**	**94.44**	**220**	*e*P		**P**	**08 33 50.6**	**+0.4**	
	comp=Z,2.3nm,1.2s								
SNZO	**South Karori**	**94.64**	**192**	PFAKE			08 34 00.0	+9.2	
SNZO				LR		LR			
	comp=Z,1µm,19.0s								
CAN	**Canberra**	**94.86**	**213**	PFAKE			08 34 00.0	+8.0	
CAN				LR		LR			
	comp=Z,1µm,19.0s								
MBWA	**Marble Bar**	**95.67**	**242**	PFAKE			08 34 10.0	+14	
MBWA				LR		LR			
	comp=Z,1µm,22.0s								
RAYN	**Ar Rayn**	**98.24**	**328**	*e*P		Pdif	08 34 10.1	+2.1	
	comp=Z,6.2nm,0.9s								
RAYN				LR		LR			
	comp=Z,1µm,21.0s								
NNA	**Nana**	**100.96**	**95**	PFAKE			08 34 30.0	+10	
NNA				LR		LR			
	comp=Z,971nm,19.0s								
TAM	**Tamanrasset**	**104.70**	**5**	PFAKE			08 34 50.0	+13	
TAM				LR		LR			
	comp=Z,906nm,19.0s								
SACV	**Santiago Islan**	**106.42**	**35**	PFAKE			08 39 10.0		
SACV				LR		LR			
	comp=Z,2µm,20.0s								
SAML	**Samuel**	**106.88**	**83**	PFAKE			08 39 10.0		
SAML				LR		LR			
	comp=Z,745nm,20.0s								
LVC	**Limon Verde**	**113.93**	**96**	PFAKE			08 39 20.0		
LVC				LR		LR			
	comp=Z,535nm,19.0s								
TORD	**Torodi Ar. Bea**	**113.97**	**10**	PKP		**PKiKP**	**08 39 08.2**	**-1.5**	
	comp=Z,0.6nm,0.5s,baz=341,slow=2.7,SNR=8.4								
TORD				PKKPbc		**PKKPbc**	**08 49 47.6**	**-1.3**	
	comp=Z,1.8nm,1.0s,baz=167,slow=2.6,SNR=5.1								
LCO	**Las Campanas**	**117.60**	**102**	PFAKE			08 39 30.0	+14	
LCO				LR		LR			
	comp=Z,909nm,19.0s								
DBIC	**Dimbokro**	**119.41**	**18**	PKP		**PKPdf**	**08 39 18.8**	**-1.3**	
	comp=Z,2.5nm,0.4s,baz=13,slow=1.7,SNR=10								
DBIC				PKKPbc		**PKKPbc**	**08 49 30.8**	**+1.0**	
	comp=Z,3.6nm,0.7s,baz=208,slow=5.0,SNR=4.2								
MSEY	**Mahe Island**	**119.61**	**306**	PFAKE			08 39 30.0	+9.4	
MSEY				LR		LR			
	comp=Z,1µm,21.0s								
RCBR	**Riachuelo**	**119.78**	**56**	PFAKE			08 39 30.0	+9.1	
RCBR				LR		LR			
	comp=Z,1µm,20.0s								
CPUP	**Villa Florida**	**123.72**	**90**	PKP		**PKPdf**	**08 39 26.6**	**-1.4**	
	comp=Z,3.7nm,1.0s,baz=29,slow=2.4,SNR=4.7								
KMBO	**Kilima Mbogo**	**124.01**	**327**	PKP		**PKPdf**	**08 39 29.9**	**+0.6**	
	comp=Z,5.1nm,0.9s,baz=346,slow=5.1,SNR=4.0								
KMBO	**Kilima Mbogo**	**124.01**	**327**	PKIKP		**PKPdf**	**08 39 29.9**	**+0.6**	
KMBO				MLR		MLR			
	comp=Z,478nm,19.0s								
KMBO	**Kilima Mbogo**	**124.01**	**327**	PKP		**PKPdf**	**08 39 29.9**	**+0.6**	
KMBO				*e*PKPdf		**PKiKP**	**08 39 31.5**	**+1.9**	
KMBO				LR		LR			
	comp=Z,478nm,19.0s								
DRV	**Dumont d'Urvil**	**125.03**	**202**	SS		SS	08 58 14.0	-0.3	
DRV				L		L	09 12 00.0		
DRV				R			09 17 00.0		
BB16B	**Bebedouro**	**125.04**	**79**	(P)		**PKPdf**	**08 39 29.4**	**-1.3**	
BB16B				*i*			08 39 32.9		
BB16B				*i*			08 39 37.3		
BB16B				*i*			08 39 47.6		
BB16B				*i*			08 39 52.9		
MBAR	**Mbarara**	**125.43**	**335**	PFAKE			08 39 40.0	+8.1	
MBAR				LR		LR			
	comp=Z,870nm,22.0s								
TRQA	**Tornquist**	**129.11**	**104**	*e*PKPdf		**PKPdf**	**08 39 38.7**	**+0.8**	
TRQA				LR		LR			
	comp=Z,583nm,20.0s								
ASCN	**Ascension**	**130.94**	**34**	PFAKE			08 39 50.0	+7.9	
ASCN				LR		LR			
	comp=Z,2µm,20.0s								
SBA	**Scott Base**	**131.12**	**187**	*e*PKIKP		**PKPdf**	**08 39 42.3**	**+1.8**	
SBA				MLR		MLR			
	comp=Z,538nm,21.0s								
SBA	**Scott Base**	**131.12**	**187**	*e*PKPdf		**PKPdf**	**08 39 42.3**	**+1.8**	
SBA				LR		LR			
	comp=Z,538nm,21.0s								
VNDA	**Vanda**	**131.18**	**188**	PKP		**PKPdf**	**08 39 40.5**	**-0.2**	
	comp=Z,1.9nm,1.0s,baz=313,slow=4.0,SNR=5.2								
CASY	**Casey**	**133.10**	**213**	PFAKE			08 40 00.0	+15	
CASY				LR		LR			
	comp=Z,1µm,21.0s								
ABPO	**Ambohimpanom**	**135.99**	**306**	PFAKE			08 40 00.0	+8.3	
ABPO				LR		LR			
	comp=Z,592nm,20.0s								
EFI	**East Falkland**	**139.35**	**117**	PFAKE			08 40 10.0	+13	
EFI				LR		LR			
	comp=Z,2µm,19.0s								
LSZ	**Lusaka**	**140.15**	**333**	PKhKP		PKPpre	08 39 47.9		
	comp=Z,1.1nm,0.4s,baz=102,slow=17,SNR=1.6								
LSZ	**Lusaka**	**140.15**	**333**	PKHKP		PKPpre	08 39 47.9		
LSZ				*e*			08 39 55.9		
LSZ				MLR		MLR			
	comp=Z,950nm,21.0s								
LSZ	**Lusaka**	**140.15**	**333**	PKPpre		PKPpre	08 39 47.9		
LSZ				*e*PKPdf		**PKPdf**	**08 39 55.9**	**-3.5**	
LSZ				LR		LR			
	comp=Z,950nm,21.0s								
QSPA	**South Pole Qui**	**142.46**	**180**	PKhKP		PKPpre	08 39 55.4		
	comp=Z,11nm,0.7s,baz=185,slow=2.3,SNR=47								
QSPA	**South Pole Qui**	**142.46**	**180**	PKPpre		PKPpre	08 39 55.5		
QSPA				LR		LR			
	comp=Z,891nm,22.0s								
MATP	**Matopo**	**144.93**	**330**	PKP		**PKPab**	**08 40 05.0**	**-1.9**	
	comp=Z,19nm,0.8s,baz=354,slow=3.8,SNR=7.1								
TSUM	**Tsumeb**	**146.13**	**348**	PKPbc		**PKPdf**	**08 40 09.2**	**-0.6**	
	comp=Z,34nm,0.8s,baz=350,slow=5.7,SNR=7.2								
TSUM	**Tsumeb**	**146.13**	**348**	*e*PKPdf		**PKPdf**	**08 40 08.8**	**-1.0**	
TSUM				PKPbc		**PKPdf**	**08 40 09.2**	**-0.6**	
TSUM				LR		LR			
	comp=Z,849nm,21.0s								
LBTB	**Lobatse**	**150.12**	**332**	PKPbc		**PKPbc**	**08 40 20.3**	**-0.9**	
	comp=Z,103nm,0.9s,baz=358,slow=2.0,SNR=12								
LBTB	**Lobatse**	**150.12**	**332**	*e*PKPdf		**PKPbc**	**08 40 20.2**	**-0.9**	
MAW	**Mawson**	**151.13**	**219**	PKPbc		**PKPbc**	**08 40 21.0**	**-1.0**	
	comp=Z,38nm,1.0s,baz=96,slow=4.0,SNR=13								
HOPE	**Hope Point**	**152.33**	**112**	PFAKE			08 40 30.0	+4.8	
HOPE				LR		LR			
	comp=Z,1µm,19.0s								
BOSA	**Boshof**	**153.60**	**330**	PKP		**PKPdf**	**08 40 21.9**	**+0.7**	
	comp=Z,4.1nm,0.6s,baz=74,slow=2.1,SNR=3.6								
BOSA				PKPbc		**PKPbc**	**08 40 28.0**	**-1.1**	
	comp=Z,17nm,0.9s,baz=77,slow=1.2,SNR=14								
BOSA	**Boshof**	**153.60**	**330**	PKIKP		**PKPdf**	**08 40 22.0**	**+0.7**	
BOSA							08 40 28.0		
SUR	**Sutherland**	**158.39**	**336**	PFAKE			08 40 40.0	+12	
SUR				LR		LR			
	comp=Z,2µm,20.0s								
SYO	**Syowa Base**	**158.75**	**209**	*e*PKPdf		**PKPdf**	**08 40 26.0**	**-0.6**	
SYO	**Syowa Base**	**158.75**	**209**	*e*X		**PKPab**	**08 41 02.4**	**-0.1**	
VNA2	**Neumayer--Watz**	**160.00**	**163**	P		**PKPdf**	**08 40 26.2**	**-1.9**	
	baz=280,slow=1.6								
SNAA	**Sanae**	**160.05**	**168**	PKP		**PKPdf**	**08 40 25.3**	**-2.8**	
	comp=Z,1.8nm,1.0s,baz=167,slow=2.9,SNR=3.9								
SNAA				PKPab		**PKPab**	**08 41 06.9**	**-1.3**	
	comp=Z,6.7nm,0.8s,baz=204,slow=2.8,SNR=20								
SNAA	**Sanae**	**160.05**	**168**	*e*PKP2		**PKPab**	**08 41 07.3**	**-0.9**	
SNAA	**Sanae**	**160.05**	**168**	PKP		**PKPdf**	**08 40 25.3**	**-2.8**	
SNAA				*e*PKPdf		**PKPdf**	**08 40 29.1**	**+0.9**	
SNAA				PKPab		**PKPab**	**08 41 06.9**	**-1.3**	
SNAA	**Sanae**	**160.05**	**168**	*e*PKPbc		**PKPab**	**08 41 07.3**	**-0.9**	
VNA1	**Neumayer--Stat**	**160.06**	**162**	P		**PKPdf**	**08 40 27.6**	**-0.5**	

IGQ 19 08:20:58.0±0.3, 1.87S×79.61W, h3km±72km, Mb4.0,15D,
Error ellipse: s-maj=4.1km s-min=1.6km az=36.4,
Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
RIOE	**Riobamba**	**0.98**	**83**	⇓S	Sg	08	21	30.5	0.0
RIOE	**Riobamba**	**0.98**	**83**	⇓P	Pg	08	21	17.2	-0.2
IGUA	**Igualata**	**1.04**	**69**	⇓P	Pg	08	21	18.3	-0.5
BMAS	**Trigal station**	**1.19**	**72**	⇓P	Pb	08	21	21.6	0.0
BBIL	**Ulba Tungurahu**	**1.20**	**69**	⇓P	Pg	08	21	21.1	-0.4
ARRY	**Arrayan**	**1.21**	**72**	⇓P	Pg	08	21	21.8	+0.1
JUI6	**Juive**	**1.22**	**69**	P	Pg	08	21	21.3	-0.6
JUI6	**Juive**	**1.22**	**69**	S	Sg	08	21	38.0	-0.1
PAT1	**Patacocha**	**1.22**	**73**	⇓S	Sg	08	21	37.2	-1.3
PAT1	**Patacocha**	**1.22**	**73**	⇓P	Pg	08	21	21.4	-0.8
BPAT	**Tungurahua Vol**	**1.23**	**73**	⇓S	Sg	08	21	37.1	-1.5
BPAT	**Tungurahua Vol**	**1.23**	**73**	⇓P	Pg	08	21	21.4	-0.9
RETU	**Refugio**	**1.23**	**70**	P	Pn	08	21	22.8	0.0
RUN5	**Runtun**	**1.27**	**69**	P	Pg	08	21	22.1	-0.7
BULB	**Ulba Tungurahu**	**1.27**	**70**	⇓P	Pg	08	21	22.3	-0.7
BRUN	**Tungurahua Vol**	**1.28**	**69**	⇓P	Pg	08	21	22.1	-0.9
BRUN	**Tungurahua Vol**	**1.28**	**69**	⇓S	Sg	08	21	40.0	+0.1
PISA	**Pisayambo**	**1.47**	**56**	P	Pn	08	21	25.9	-0.1
CAMI	**Rancho Maria**	**1.62**	**43**	P	Pn	08	21	27.3	-0.8
BNAS	**Cotopaxi Volca**	**1.64**	**43**	⇓P	Pn	08	21	27.5	-1.0
BRFF	**Cotopaxi Volca**	**1.67**	**44**	P	Pn	08	21	28.4	-0.6
BTAM	**Cotopaxi Volca**	**1.70**	**45**	⇓P	Pn	08	21	28.2	-1.1
BVC2	**Cotopaxi Volca**	**1.70**	**45**	P	Pn	08	21	29.9	+0.5
TAMB	**Tambo**	**1.71**	**47**	P	Pn	08	21	29.7	+0.3
TAMB	**Tambo**	**1.71**	**47**	S	Sn	08	21	51.5	-0.6
VC1	**Cotopaxi 1**	**1.72**	**45**	P	Pn	08	21	29.0	-0.5
COV1	**Cotopaxi Volc**	**1.75**	**46**	P	Pn	08	21	28.3	-1.8
PITA	**Cotopaxi Volc**	**1.76**	**42**	P	Pn	08	21	29.4	-0.6
JUA2	**San Juan 2**	**1.93**	**31**	S	Sn	08	21	56.6	-1.0
JUA2	**San Juan 2**	**1.93**	**31**	P	Pn	08	21	32.6	+0.2
TERV	**Terraza Guagua**	**1.96**	**31**	P	Pn	08	21	32.3	-0.7
GGP	**Refugio Guagua**	**1.97**	**31**	P	Pn	08	21	32.6	-0.5
PINO	**Pino**	**1.98**	**30**	P	Pn	08	21	32.0	-1.1
ANTI	**Antisana**	**2.02**	**46**	P	Pn	08	21	34.6	+0.8
YANA	**Yana**	**2.03**	**31**	P	Pn	08	21	33.6	-0.2
OTAV	**Otavalo**	**2.40**	**29**	P	Pn	08	21	37.1	-1.6
CAYR	**Refugio Cayamb**	**2.47**	**40**	P	Pb	08	21	43.8	-0.1
COTA	**Cotacachi**	**2.54**	**30**	P	Pn	08	21	42.4	+1.6
URCU	**Urcuqui**	**2.67**	**30**	P	Pn	08	21	43.0	+0.6
LITE	**Lita**	**2.94**	**25**	P	Pn	08	21	45.4	-0.4

NIED ***19*** *08:21:00.44°.60N×141°.30E,h

YUK smax smax
comp=N,150nm,0.4s
YUK smax smax
comp=E,170nm,0.4s
UGL Uglegorsk 4.50 6 *e*PN **Pn** **08 23 03.6 +0.4**
UGL *e*S **S** **08 23 59.7 +1.0**
KUR Kuril'sk 4.70 80 *c i*PN **Pn** **08 23 07.4 +1.6**
KUR *i* S **S** **08 24 04.5 +1.3**
KUR pmax pmax
comp=E,41nm,0.7s
KUR pmax pmax
comp=Z,59nm,0.7s
KUR pmax pmax
comp=N,49nm,0.8s
KUR smax smax
comp=N,2µm,3.8s
KUR smax smax
comp=E,342nm,3.8s
KUR smax smax
comp=E,67nm,0.5s
KUR smax smax
comp=N,75nm,1.1s
HABR Khabarovsk 5.79 314 *d i*PN **Pn** **08 23 18.2 -0.8**
HABR *e*S **S** **08 24 26.3 -1.0**
HABR pmax pmax
comp=Z,382nm,0.9s
HABR pmax pmax
comp=N,116nm,0.9s
HABR pmax pmax
comp=E,220nm,0.9s
TYV Tymovskoe 6.32 8 *e*PN **Pn** **08 23 28.0 +2.4**
TYV *e*S **S** **08 24 40.0 +0.7**
TYV pmax pmax
comp=E,500nm,3.0s
TYV smax smax
comp=E,2µm,9.0s
TYV smax smax
comp=N,2µm,5.0s
USRK Ussuriysk Ar. 6.68 270 P **Pn** **08 23 30.1 -0.1**
comp=N,9.6nm,0.3s,baz=84,slow=13,SNR=292
VLA Vladivostok 6.97 261 *c i*PN **Pn** **08 23 32.9 -1.0**
VLA pmax pmax
comp=Z,189nm,0.8s
MSHR Mys Shultsa 7.64 258 *e*PN **Pn** **08 23 40.7 -1.6**
MDJ Mudanjiang 8.36 274 P **Pn** **08 23 51.1 -0.3**
MDJ S **S** **08 25 25.4 -0.9**
MDJ PcP **PcP** **08 29 56.1 -0.1**
MDJ ScP **ScP** **08 33 03.3 -0.4**
MDJ ScS **ScS** **08 36 34.3 -3.2**
MDJ PMZ
comp=Z,65nm,0.9s
MDJ PMZ
comp=Z,120nm,4.2s
MDJ LN
comp=Z,430nm,7.9s
MDJ LE
comp=Z,230nm,5.5s
MDJ LZ
comp=Z,260nm,7.9s
MDJ Mudanjiang 8.36 274 *e*Pn **Pn** **08 23 51.1 -0.3**
MAJO Matsushiro 8.40 197 *c i*PN **Pn** **08 23 49.9 -2.1**
MAJO Matsushiro 8.40 197 *e*Pn **Pn** **08 23 50.0 -2.0**
MAJO *e*S **S** **08 25 27.2 -0.3**
MAT Matsushiro 8.40 197 P **Pn** **08 23 49.9 -2.1**
MAT S **S** **08 25 30.1 +2.6**
MJAR Matsushiro Arr 8.40 197 P **Pn** **08 23 50.1 -2.0**
comp=Z,11nm,0.3s,baz=9.3,slow=12,SNR=161
NKL Nikolayevsk 8.55 357 *e*PN **Pn** **08 23 51.0 -2.7**
NKL *e* 08 25 30.0
NKL pmax pmax
comp=Z,130nm,1.5s
CN2 Changchun 11.41 271 *e*P **Pn** **08 24 27.6 -2.2**
CN2 *e*sP 08 25 26.8
CN2 *e*S **S** **08 26 33.4 -3.9**
CN2 PMZ
comp=Z,10.0nm,0.7s
CN2 PMZ
comp=Z,90nm,6.0s
JHJ2 Mitsune 11.54 186 *e*Pn Pn 08 24 27.6 -3.9
SKR Severo-Kuril's 11.68 53 ⇓ *i*PN **Pn** **08 24 32.5 -0.6**
SKR *e*S **S** **08 26 38.0 -5.3**
SKR pmax pmax
comp=Z,1µm,2.0s
SKR pmax pmax
comp=N,1µm,4.0s
SKR pmax pmax
comp=N,80nm,0.5s
SKR pmax pmax
comp=Z,220nm,0.5s
SKR pmax pmax
comp=E,100nm,0.7s
SKR smax smax
comp=N,50nm,0.5s
SKR smax smax
comp=E,80nm,0.3s
SKR smax smax
comp=N,800nm,10.0s
SKR smax smax
comp=E,1µm,12.0s
SKR MLR MLR
comp=Z,1µm,12.0s
KSRS Korea Array 12.37 239 P **Pn** **08 24 40.9 -0.8**
comp=Z,1.0nm,0.3s,baz=50,slow=13,SNR=37
KSRS Korea Array 12.37 239 PN **Pn** **08 24 40.9 -0.8**
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KSAR Wonju Array Be 12.40 239 PN **Pn** **08 24 40.9 -1.2**
KSAR Wonju Array Be 12.40 239 P **Pn** **08 24 40.9 -1.2**
SNY Shenyang 13.22 264 ⇑ P **Pn** **08 24 52.0 -0.2**
SNY PMZ
comp=Z,18nm,0.7s
SNY LN
comp=Z,280nm,7.6s
SNY LE
comp=Z,190nm,5.3s
SNY LZ
comp=Z,180nm,12.1s
TJN Taejon 13.41 237 *e*PN **Pn** **08 24 52.3 -2.2**
JNU Nakatsue 14.04 219 P **Pn** **08 25 00.7 -1.6**
comp=Z,2.3nm,0.3s,baz=35,slow=6.3,SNR=26
JNU S **S** **08 27 36.2 -1.6**
baz=66,slow=20,SNR=4.4
JNU Nakatsue 14.04 219 *e*Pn **Pn** **08 25 00.9 -1.4**
JNU *e*S **S** **08 27 36.7 -1.0**
PET Petropavlovsk 14.16 47 *e*P **P** **08 25 05.1 +1.2**
PET pmax pmax
comp=Z,81nm,0.9s
MA2 Magadan 16.05 18 *i* P **Pn** **08 25 25.3 -0.6**
CBIJ Chichi jima 17.50 177 P **P** **08 25 40.3 -0.4**
CBIJ S **S** **08 28 48.0 -1.4**
JCJ Chichijima 17.50 177 P **P** **08 25 40.3 -0.4**
comp=Z,30nm,0.3s,baz=83,slow=18,SNR=22
JCJ S **S** **08 28 48.0 -1.4**
comp=Z,6.9nm,0.3s,baz=294,slow=20,SNR=4.7
YAK Yakutsk 18.73 343 P **P** **08 25 51.5 -2.1**
comp=Z,0.0nm,0.3s,baz=162,slow=3.2,SNR=4.5
YAK S **S** **08 29 07.0 -5.8**
comp=Z,0.0nm,0.3s,baz=195,slow=20,SNR=2.9
YAK Yakutsk 18.73 343 *e*P **P** **08 25 51.0 -2.6**
YAK pmax pmax
comp=Z,36nm,1.0s
YAK pmax pmax
comp=N,16nm,1.5s
YAK pmax pmax
comp=E,9.0nm,1.0s
YAK Yakutsk 18.73 343 *e*P **P** **08 25 52.4 -1.2**
comp=E,48nm,0.7s
YAK S **S** **08 29 07.0 -5.8**
BJI Beijing 19.10 265 P **P** **08 25 56.9 -1.0**
BJI sP **sP** **08 27 08.6 -0.9**
BJI S **S** **08 29 18.1 -2.7**
BJI ScP **ScP** **08 33 22.3 +0.6**
BJI ScS **ScS** **08 37 04.4 +0.9**
BJI PMZ
comp=E,11nm,0.7s
BJI PMZ
comp=E,65nm,3.5s
SEY Seymchan 19.43 15 P **P** **08 26 00.9 -0.3**
comp=E,6.7nm,0.3s,baz=201,slow=7.6,SNR=26
SEY Seymchan 19.43 15 *e*P **P** **08 26 00.6 -0.6**
TIA Tai'an 20.18 254 ⇑ P **P** **08 26 07.9 -1.5**
TIA S **S** **08 29 39.6 -1.9**
TIA PMZ
comp=E,50nm,0.6s
TIA LN
comp=E,160nm,7.5s
TIA LE
comp=E,360nm,21.4s
TIA LZ
comp=E,260nm,6.6s
BOD Bodaibo 21.42 318 *e*P **P** **08 26 18.2 -3.7**
BOD pmax pmax
comp=Z,3.0nm,2.4s
NJ2 Nanjing 21.54 242 *e*P **P** **08 26 24.1 +0.9**
NJ2 S **S** **08 30 02.5 -1.7**
NJ2 PMZ
comp=Z,50nm,1.0s
NJ2 PMZ
comp=Z,280nm,5.0s
NJ2 LN
comp=Z,2µm,18.3s
NJ2 LE
comp=Z,960nm,23.0s
NJ2 LZ
comp=Z,1µm,23.8s
HHC Hu-ho-hao-te 22.11 271 *e*P **P** **08 26 28.1 -0.4**
HHC S **S** **08 30 10.1 -3.5**
HHC ScS **ScS** **08 37 13.0 -1.4**
HHC PMZ
comp=Z,23nm,1.2s
HHC PMZ
comp=Z,99nm,5.2s
SONM Songino Array 24.24 290 P **P** **08 26 48.6 +0.7**
comp=Z,15nm,0.4s,baz=87,slow=8.4,SNR=120
SONM PcP **PcP** **08 30 20.0 -0.5**
comp=Z,1.5nm,0.6s,baz=80,slow=1.3,SNR=5.2
ZAK Zakamensk 26.12 296 *e*P **P** **08 27 03.1 -1.6**
ZAK *e* 08 27 51.8
ZAK pmax pmax
comp=Z,3.0nm,1.0s
LZH Lanzhou 29.58 266 *e*P **P** **08 27 36.6 +1.1**
LZH pP **pP** **08 28 26.0 +0.9**
LZH sP **sP** **08 28 56.8 +2.6**
LZH *e*S **S** **08 32 13.8 +2.0**
LZH sS **sS** **08 33 39.9 -1.1**
LZH PMZ
comp=Z,28nm,1.2s
LZH PMZ
comp=Z,100nm,5.2s
LZH LN
comp=Z,420nm,12.9s
LZH LE
comp=Z,230nm,13.4s
LZH LZ
comp=Z,1µm,14.0s
GTA Gaotai 31.01 275 *e*P **P** **08 27 49.1 +1.1**
GTA pP **pP** **08 28 39.3 +1.5**
GTA sP **sP** **08 29 09.3 +2.5**
GTA PMZ
comp=Z,6.0nm,1.0s
GUMO Guam 31.07 173 P **P** **08 27 46.8 -1.7**
comp=Z,43nm,0.6s,baz=24,slow=10.0,SNR=3.6
CD2 Chengdu 32.38 258 P **P** **08 27 59.6 -0.4**
CD2 pP **pP** **08 28 49.5 -0.4**
CD2 sP **sP** **08 29 18.8 -0.1**
CD2 S **S** **08 32 55.9 +0.7**
CD2 sS **sS** **08 34 26.3 +1.3**
CD2 PMZ
comp=Z,20nm,0.7s
CD2 PMZ
comp=Z,120nm,7.2s
GYA Guiyang 33.18 249 *e*P **P** **08 28 08.8 +1.8**
GYA pP **pP** **08 29 00.3 +3.2**
GYA PP **PnPn** **08 29 31.0 +3.2**
GYA PcP **PcP** **08 30 45.4 +2.0**
GYA S **S** **08 33 10.0 +2.2**
GYA ScP **ScP** **08 34 04.8 +1.5**
GYA ScS **ScS** **08 38 04.3 -0.5**
GYA PMZ
comp=Z,10.0nm,0.8s
KMI Kunming 36.70 251 P **P** **08 28 38.0 +0.9**
KMI pP **pP** **08 29 29.6 +1.6**
KMI PP **PnPn** **08 30 12.5 +2.6**
KMI S **S** **08 34 00.9 -0.8**
KMI PMZ
comp=Z,19nm,1.0s
KMI PMZ
comp=Z,39nm,5.3s
KMI LN
comp=Z,330nm,11.4s
KMI LE
comp=Z,610nm,12.8s
KMI LZ
comp=Z,290nm,18.4s
ZAA0 Zalesovo Array 37.09 305 *e*P **P** **08 28 40.5 +0.7**
ZALV Zalesovo Beam 37.09 305 P **P** **08 28 40.2 +0.4**
comp=Z,2.2nm,0.4s,baz=79,slow=7.6,SNR=9.9
ZALV pP **pP** **08 29 28.6 -2.1**
comp=Z,3.9nm,0.7s,baz=93,slow=6.1,SNR=4.5
ZALV PcP **PcP** **08 30 54.6 +0.3**
comp=Z,3.0nm,0.5s,baz=84,slow=2.5,SNR=6.3
WMQ Urumqi 37.85 288 P **P** **08 28 47.3 +1.0**
WMQ PMZ
comp=Z,16nm,1.0s
WMQ PMZ
comp=Z,93nm,4.0s
WMQ LN
comp=Z,340nm,22.5s
WMQ LZ
comp=Z,110nm,24.6s
MK31 Makanchi Array 40.43 295 *i* P **P** **08 29 07.9 +0.4**
MK31 Makanchi Array 40.43 295 *e*P **P** **08 29 08.1 +0.5**
MK31 *e*pP **pP** **08 30 00.5 +1.3**
MKAR Makanchi Array 40.43 295 P **P** **08 29 08.0 +0.5**
comp=Z,4.3nm,0.6s,baz=85,slow=8.1,SNR=28
MKAR pP **pP** **08 29 58.0 -1.2**
comp=Z,5.3nm,1.0s,baz=73,slow=8.2,SNR=2.9
MKAR Makanchi Array 40.43 295 P **P** **08 29 08.0 +0.5**
MKAR *PP **pP** **08 29 58.0 -1.2**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR pmax pmax
comp=Z,5.0nm,1.0s
KURK Kurchatov 41.53 302 P **P** **08 29 17.2 +0.9**
KURK *PP **pP** **08 30 06.4 -1.9**
KURK Kurchatov 41.53 302 P **P** **08 29 17.2 +0.9**
KURK pP **pP** **08 30 06.4 -1.9**
KURBB Kurchatov Arra 41.61 301 P **P** **08 29 17.2 +0.2**
comp=Z,7.1nm,0.7s,baz=72,slow=9.0,SNR=11
KURBB pP **pP** **08 30 06.4 -2.6**
comp=Z,1.6nm,0.6s,baz=75,slow=9.0,SNR=1.2
KDAK Kodiak Island 41.76 47 *i* P **P** **08 29 18.7 +0.6**
ILAR Eielson Array 43.29 36 P **P** **08 29 30.0 -0.3**
comp=Z,15nm,0.6s,baz=278,slow=9.1,SNR=23
CHTO Chiang Mai 43.59 248 *e*P **P** **08 29 32.9 -0.4**
CHTO *e*PP **pP** **08 30 23.4 -2.4**
CHTO pmax pmax
comp=Z,6.0nm,0.6s
CHTO Chiang Mai 43.59 248 *e*P **P** **08 29 32.9 -0.4**
comp=Z,5.9nm,0.6s
CHTO *epP **pP** **08 30 23.4 -2.4**
CMAR Chiang Mai Arr 43.85 247 P **P** **08 29 35.8 +0.5**
comp=Z,1.4nm,0.4s,baz=42,slow=5.5,SNR=7.4
CMAR PcP **PcP** **08 31 17.9 +1.0**
comp=Z,2.6nm,0.6s,baz=354,slow=1.9,SNR=9.2
BVA0 Borovoye Array 45.66 307 *i* P **P** **08 29 49.4 +0.2**
BVA0 pmax pmax
comp=Z,3.0nm,0.3s
BVAR Borovoye Array 45.66 307 P **P** **08 29 48.7 -0.4**
comp=Z,2.8nm,0.3s,baz=77,slow=8.2,SNR=10.0
BVAR pP **pP** **08 30 41.1 -1.0**
comp=Z,2.0nm,0.6s,baz=72,slow=9.8,SNR=3.0
BRVK Borovoye 45.71 307 *e*P **P** **08 29 49.8 +0.3**
BRVK pmax pmax
comp=Z,5.0nm,0.9s
BRVK Borovoye 45.71 307 *e*P **P** **08 29 50.3 +0.8**
comp=Z,4.0nm,0.8s
BRVK *epP **pP** **08 30 41.9 -0.6**
TAPN Taplejung 45.82 267 *e*P **P** **08 29 50.8 -0.3**
comp=Z,13nm,0.4s
SIJI Sorong 46.16 194 P **P** **08 29 53.9 +0.5**
comp=Z,39nm,0.5s,baz=4.0,slow=11,SNR=28
SIJI ScP **ScP** **08 34 49.7 -3.9**
comp=Z,25nm,0.8s,baz=36,slow=7.1,SNR=3.8
ULHL Ulahol 46.18 291 P **P** **08 29 54.8 +1.2**
SNR=6.3
TKM2 Tokmak 2 46.31 292 P **P** **08 29 55.8 +1.3**
SNR=12
TKM2 Tokmak 2 46.31 292 P **P** **08 29 55.7 +1.1**
TKM2 pmax pmax
comp=Z,14nm,0.8s
TKM2 Tokmak 2 46.31 292 *e*P **P** **08 29 55.9 +1.3**
comp=Z,14nm,0.8s
ODAN Odare 46.34 266 *e*P **P** **08 29 54.3 -0.8**
GUN Gumba 46.79 269 *e*P **P** **08 29 59.1 +0.4**
comp=Z,23nm,0.4s
RAMN Ramite 46.85 267 *e*P **P** **08 29 59.2 +0.2**
comp=Z,21nm,0.4s
KBK Karagaybulak 46.85 292 P **P** **08 29 59.9 +1.2**
SNR=7.6
KZA Kyzart 46.91 291 P **P** **08 30 01.4 +1.8**
SNR=5.7
JAY Jayapura 46.92 181 P **P** **08 29 59.6 +0.2**
comp=Z,14nm,0.8s,baz=196,slow=1.0,SNR=3.7
AAK Ala-Archa 47.16 292 P P 08 30 50.5 +49
comp=Z,3.1nm,0.3s,baz=85,slow=6.5,SNR=4.3
PKI Pulchoki 47.33 268 *e*P **P** **08 30 02.7 -0.1**
comp=Z,6.6nm,0.3s
PKIN Phulchoki 47.34 268 *e*P **P** **08 30 02.8 0.0**
comp=Z,9.0nm,0.5s
DMN Daman 47.52 269 *e*P **P** **08 30 04.6 +0.4**
comp=Z,7.8nm,0.4s
KSH Kashi 47.61 288 P P 08 30 09.1 +4.5
KSH pP pP 08 31 04.0 +6.0
KSH PcP **PcP** **08 31 33.3 +3.4**
KSH PP PP 08 32 04.1 +5.8
KSH S **S** **08 36 46.3 +5.9**
KSH sS sS 08 38 23.1 +8.2
KSH SS **SS** **08 40 16.3 +4.7**
KSH PMZ
comp=Z,120nm,5.4s
KSH LN
comp=Z,150nm,4.9s
KSH LE
comp=Z,170nm,5.4s
KSH LZ
comp=Z,340nm,5.2s
EKS2 Erkin-Say 47.62 293 P **P** **08 30 05.5 +0.9**
SNR=5.7
EKS2 Erkin-Say 47.62 293 *e*P **P** **08 30 05.7 +1.0**
EKS2 *e*PP **pP** **08 31 00.1 +2.1**
EKS2 *e* 08 31 30.9
EKS2 pmax pmax
comp=Z,5.0nm,0.7s
EKS2 Erkin-Say 47.62 293 *e*P **P** **08 30 05.7 +1.0**
comp=Z,5.2nm,0.7s
EKS2 *epP **pP** **08 31 00.1 +2.1**
EKS2 *ePcP **PcP** **08 31 30.9 +0.9**
GKN Gorkha 47.63 269 *e*P **P** **08 30 05.1 +0.2**
comp=Z,23nm,0.4s
INK Inuvik 47.77 30 P **P** **08 30 05.2 0.0**
comp=Z,10nm,0.5s,baz=297,slow=8.8,SNR=14
FAKI Fak Fak 48.01 192 *e*P **P** **08 30 08.1 +0.4**
comp=Z,115nm,0.7s
FAKI *epP pP 08 30 54.9 -6.3
DANN Dangsing 48.05 270 *e*P **P** **08 30 09.4 +1.1**
KOLN Koldanda 48.51 270 *e*P **P** **08 30 12.2 +0.6**
comp=Z,18nm,0.3s
SFK Sufi-Kurgan 49.04 290 P **P** **08 30 15.9 +0.3**
SFK pmax pmax
comp=Z,8.0nm,0.7s
SBUM Sibu 49.21 220 *e*P **P** **08 30 18.0 +1.2**
comp=Z,22nm,0.5s
KK31 Karatay Array 49.56 295 *i* P **P** **08 30 19.6 +0.4**
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 49.56 295 *e*P **P** **08 30 19.9 +0.7**
KKAR *e*PP **pP** **08 31 16.2 +3.2**
KKAR Karatay Array 49.56 295 *e*P **P** **08 30 19.9 +0.7**
KKAR *epP **pP** **08 31 16.2 +3.2**
ARU Arti 50.79 315 P **P** **08 30 27.8 -0.4**
baz=66,slow=20
ARU Arti 50.79 315 P **P** **08 30 27.4 -0.8**
ARU 08 32 25.5
ARU S **S** **08 37 23.1 -0.7**
ARU SS **SS** **08 40 58.0 -3.2**
DLBC Dease Lake 52.84 41 P **P** **08 30 42.1 -1.2**
comp=Z,19nm,0.9s,baz=270,slow=9.1,SNR=1.5
DLBC pP **pP** **08 31 33.8 -4.0**
comp=Z,5.8nm,0.6s,baz=285,slow=19,SNR=2.0
KULM Kulim 52.87 234 *e*P **P** **08 30 44.3 +0.3**
comp=Z,13nm,0.7s
KAPI Kappang 53.06 207 P **P** **08 30 45.2 0.0**
comp=Z,11nm,0.4s,baz=26,slow=5.9,SNR=9.0
KAPI Kappang 53.06 207 *e*P **P** **08 30 45.5 +0.2**
comp=Z,16nm,0.6s
AB31 Akbulak array 53.20 306 *i* P **P** **08 30 46.6 +0.7**
AB31 pmax pmax
comp=Z,6.0nm,0.3s
ABKAR Akbulak array 53.20 306 *e*P **P** **08 30 46.6 +0.7**
AKTO Aktyubinsk 53.74 308 P **P** **08 30 49.1 -0.7**
comp=Z,1.7nm,0.4s,baz=77,slow=11,SNR=6.4
PMG Port Moresby 54.03 173 P **P** **08 30 51.5 -0.8**
comp=Z,19nm,0.7s,baz=0.0,slow=1.0,SNR=3.9
PSI Prapat 55.88 234 P **P** **08 31 05.4 -0.3**
comp=Z,6.0nm,0.8s,baz=9.3,slow=5.0,SNR=5.0
PSI Prapat 55.88 234 P **P** **08 31 05.4 -0.3**
PSI pmax pmax
comp=Z,6.0nm,0.8s
PSI Prapat 55.88 234 *e*P **P** **08 31 05.7 0.0**
comp=Z,6.9nm,0.8s
SOEI Soe 56.27 200 *e*P **P** **08 31 07.9 -0.4**
comp=Z,68nm,0.9s
BATI Baumata 56.85 201 P **P** **08 31 11.9 -0.4**
comp=Z,57nm,0.6s,baz=300,slow=3.5,SNR=5.5
YKA Yellowknife Ar 57.37 32 P **P** **08 31 16.0 +0.6**
comp=Z,7.1nm,0.7s,baz=305,slow=6.2,SNR=13
YKA PcP **PcP** **08 32 07.2 +1.0**
comp=Z,1.7nm,0.6s,baz=309,slow=3.6,SNR=6.5
COEN Coen 58.31 178 *e*P **P** **08 31 23.8 +1.3**
comp=Z,33nm,1.0s
GEYT Alibeck 60.30 295 P **P** **08 31 36.1 +0.2**
comp=Z,6.3nm,0.6s,baz=46,slow=4.3,SNR=9.1
GEYT pP **pP** **08 32 29.7 -2.3**
comp=Z,2.7nm,0.6s,baz=75,slow=6.1,SNR=2.4
OBN Obninsk 62.06 321 P **P** **08 31 46.0 -1.3**
OBN *e* 08 32 26.5
OBN *PP **pP** **08 32 42.0 -1.7**
OBN S **S** **08 39 53.0 +1.7**
OBN pmax pmax
comp=Z,8.0nm,1.0s
FINES FINESS Array B 62.12 331 P **P** **08 31 47.1 -0.5**
comp=Z,6.4nm,0.6s,baz=40,slow=6.6,SNR=6.6
FITZ Fitzroy Crossi 64.03 197 P **P** **08 32 00.9 +0.3**
comp=Z,1.1nm,0.7s,baz=340,slow=5.4,SNR=8.7
FITZ Fitzroy Crossi 64.03 197 *e*P **P** **08 32 01.3 +0.7**
CTA Charters Tower 64.54 175 P **P** **08 32 04.0 +0.1**
comp=Z,2.3nm,0.4s,baz=348,slow=6.8,SNR=7.7
WRAB Tennant Creek 64.55 187 *e*P **P** **08 32 03.6 -0.4**
WRAB pmax pmax
comp=Z,42nm,1.4s
WRAB Tennant Creek 64.55 187 *e*P **P** **08 32 03.5 -0.4**
comp=Z,20nm,0.9s
WRA Warramunga Arr 64.56 187 P **P** **08 32 03.9 -0.1**
comp=Z,9.6nm,0.5s,baz=3.7,slow=6.9,SNR=318
WRA PcP **PcP** **08 32 36.2 +0.5**
comp=Z,2.1nm,0.4s,baz=0.5,slow=4.6,SNR=7.8
GOF Gofitskoye 65.10 309 *e*P **P** **08 32 07.3 0.0**
YBH Yreka Blue Hor 65.90 55 P **P** **08 32 14.3 +1.7**
comp=Z,3.0nm,0.8s,baz=3.8,slow=6.6,SNR=6.1
KIV Kislovodsk 65.99 309 ⇑ *e*P **P** **08 32 14.7 +1.5**
KIV *i* 08 32 40.3
KIV *e*PP **pP** **08 33 14.7 +4.4**
KIV pmax pmax
comp=Z,12nm,1.1s
KBZ Khabaz 66.02 308 P **P** **08 32 14.4 +1.2**
comp=Z,4.4nm,0.6s,baz=50,slow=5.6,SNR=11
HFS Hagfors 67.18 335 P **P** **08 32 20.4 +0.1**
comp=Z,4.7nm,0.4s,baz=50,slow=7.8,SNR=4.0
NB2 NORSAR Subarra 67.20 336 P **P** **08 32 19.6 -0.8**
comp=Z,3.6nm,0.7s,baz=37,slow=6.5
NOA NORSAR Array B 67.20 336 P **P** **08 32 20.2 -0.2**
comp=Z,3.0nm,0.7s,baz=42,slow=7.3,SNR=7.3
NOA pP **pP** **08 33 16.1 -1.6**
comp=Z,2.3nm,0.9s,baz=35,slow=6.2,SNR=2.7
AS31 Alice Springs 68.28 187 *e*P **P** **08 32 28.4 +0.8**
ASAR Alice Springs 68.28 187 P **P** **08 32 28.4 +0.9**
comp=Z,17nm,0.6s,baz=360,slow=4.6,SNR=243
AKASG Malin Array Be 68.32 321 P **P** **08 32 27.3 -0.1**
comp=Z,7.6nm,0.4s,baz=42,slow=6.5,SNR=11
KIEV Kiev 68.33 321 *e*P **P** **08 32 26.4 -1.1**
MBWA Marble Bar 68.36 202 *e*P **P** **08 32 28.3 +0.3**
comp=Z,23nm,0.6s
FRB Frobisher Bay 69.43 14 P **P** **08 32 34.4 +0.3**
comp=Z,42nm,0.6s,baz=341,slow=8.0,SNR=13
EIDS Eidsvold 70.21 171 *e*P **P** **08 32 40.7 +1.4**
comp=Z,25nm,1.2s

DZM	Mont Dzumac	70.23	155	P		P	08 32 40.1	+0.6
	comp=Z,25nm,1.0s,baz=332,slow=3.0,SNR=7.1							
NVAR	Mina Array Bea	70.61	55	P		P	08 32 43.3	+1.3
	comp=Z,3.7nm,0.6s,baz=294,slow=6.6,SNR=7.9							
KIS	Kishinev	71.14	318	LRM		MLR	08 33 40.0	
	comp=Z,300nm,20.0s							
MALT	Malatya	72.12	306	⇓P		P	08 32 52.5	+1.6
MALT	Malatya	72.12	306	⇓*i*P		P	08 32 52.5	+1.6
PDAR	Pinedale Array	72.48	47	P		P	08 32 54.4	+1.3
	comp=Z,4.9nm,0.5s,baz=328,slow=3.2,SNR=18							
TESR	Tescani	72.52	319	⇑*i*P		P	08 32 53.3	+0.4
ULM	Lac du Bonnet	73.25	34	P		P	08 32 57.5	+0.3
	comp=Z,8.9nm,0.5s,baz=307,slow=5.0,SNR=7.5							
MSAB	Monastry St. A	73.72	316	⇓*i*P		P	08 32 58.8	-1.2
BRTR	Keskin Array B	73.83	310	P		P	08 33 01.2	+0.3
	comp=Z,1.3nm,0.6s,baz=55,slow=4.4,SNR=6.4							
BRTR	Keskin Array B	73.83	310	*i* P		P	08 33 01.6	+0.7
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
MORC	Moravsky Berou	74.00	326	⇑P		P	08 33 02.3	+0.7
MORC	Moravsky Berou	74.00	326	⇑*i*P		P	08 33 02.3	+0.7
CLL	Collm	74.51	329	⇑*i*P		P	08 33 04.9	+0.5
CLL				pmax		pmax		
	comp=Z,13nm,0.7s							
CLL	Collm	74.51	329	⇑*i*P		P	08 33 04.9	+0.5
	comp=Z,13nm,0.7s							
VRAC	Vranov	74.75	326	P		P	08 33 06.9	+1.1
	comp=Z,8.4nm,0.9s,baz=41,slow=7.9,SNR=2.4							
GOPC	GO Pecny, Ondr	74.97	327	*e*P		P	08 33 08.2	+1.1
PRU	Pruhonice	75.01	328	*e*P		P	08 33 08.5	+1.2
PRU	Pruhonice	75.01	328	*e*P		P	08 33 08.5	+1.2
EKA	Eskdalemuir Ar	75.98	340	P		P	08 33 13.7	+1.1
	comp=Z,1.3nm,0.4s,baz=24,slow=4.7,SNR=8.2							
FORT	Forrest	76.00	192	*e*P		P	08 33 13.9	+1.0
	comp=Z,62nm,0.7s							
STKA	Stephens Creek	76.13	180	P		P	08 33 14.5	+0.9
	comp=Z,7.2nm,0.5s,baz=1.3,slow=5.9,SNR=23							
STKA	Stephens Creek	76.13	180	*e*P		P	08 33 14.8	+1.2
STKA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
STKA	Stephens Creek	76.13	180	*e*P		P	08 33 14.8	+1.2
	comp=Z,2.3nm,0.8s							
GERES	GERESS Array B	76.26	327	P		P	08 33 15.0	+0.5
	comp=Z,2.3nm,0.7s,baz=21,slow=5.7,SNR=4.2							
MMAI	Mount Meron Ar	77.57	304	P		P	08 33 21.3	-0.7
	comp=Z,5.4nm,0.7s,baz=34,slow=8.8,SNR=5.1							
SCHQ	Schefferville	78.08	16	P		P	08 33 23.8	-0.6
	comp=Z,14nm,0.9s,baz=304,slow=13,SNR=2.6							
NWAO	Narrogin (SRO)	80.22	200	P		P	08 33 36.3	+0.3
	comp=Z,19nm,0.9s,baz=325,slow=2.4,SNR=6.8							
TXAR	Lajitas Array	85.57	53	P		P	08 34 03.9	0.0
	comp=Z,2.7nm,0.8s,baz=297,slow=4.0,SNR=3.0							
URZ	Urewera	88.60	153	P		P	08 34 17.3	-0.4
	comp=Z,5.7nm,0.8s,baz=326,slow=3.6,SNR=3.3							
ESDC	Sonseca Array	90.45	334	P		P	08 34 27.3	+0.5
	comp=Z,1.3nm,0.5s,baz=24,slow=4.1,SNR=2.7							
MDT	Midelt	96.92	332	P		P	08 34 55.6	-1.0
	comp=Z,0.9nm,0.5s,baz=347,slow=14,SNR=2.5							
TORD	Torodi Ar. Bea	111.82	317	PKiKP		PKiKP	08 39 58.2	-0.7
	comp=Z,0.3nm,0.3s,baz=15,slow=1.9,SNR=5.1							
TORD				PKKPbc		PKKPbc	08 50 49.6	-0.8
	comp=Z,1.1nm,0.8s,baz=215,slow=1.7,SNR=4.4							
VNDA	Vanda	122.53	175	PKP		PKPdf	08 40 16.1	-1.4
	comp=Z,2.3nm,0.6s,baz=336,slow=4.1,SNR=7.5							
BOSA	Boshof	127.53	265	*e*PKIKP		PKPdf	08 40 28.6	-0.1
BOSA	Boshof	127.53	265	*e*PKPdf		PKPdf	08 40 28.6	-0.1
NVL	N'lazarevskaya	144.18	206	⇑*i*PKIKP		PKPbc	08 40 57.1	+0.2
SIV	San Ignacio	145.78	41	PKPbc		PKPbc	08 41 03.4	0.0
	comp=Z,6.5nm,0.6s,baz=337,slow=2.6,SNR=14							
SIV				pPKPbc		pPKPbc	08 42 05.5	-0.7
	comp=Z,3.1nm,0.7s,baz=312,slow=2.0,SNR=4.1							
LVC	Limon Verde	146.92	58	PKPbc		PKPbc	08 41 06.9	+0.1
	comp=Z,21nm,0.7s,baz=298,slow=9.5,SNR=5.3							
SNAA	Sanae	147.90	200	*e*PKPab		PKPab	08 41 12.0	+0.8
VNA2	Neumayer--Watz	149.50	200	PKPdf		PKPdf	08 41 07.0	+0.1
	baz=225,slow=3.4							
VNA1	Neumayer--Stat	149.90	200	PKPdf		PKPdf	08 41 08.8	+1.3
BDFB	Brasilia	150.06	18	PKPbc		PKPbc	08 41 14.1	-0.7
	comp=Z,2.7nm,0.7s,baz=312,slow=1.8,SNR=5.2							
CFAA	Coronel Fontan	155.53	71	PKPbc		PKPbc	08 41 22.4	+0.2
	comp=Z,0.7nm,0.6s,baz=300,slow=2.2,SNR=11							
CPUP	Villa Florida	156.37	46	PKPab		PKPab	08 41 47.6	-0.3
	comp=Z,1.2nm,0.6s,baz=26,slow=16,SNR=3.9							

*ISCJB **19** 08:23:12.8±0.1,52.71N±0.03×169.57W±0.02,h14km, mb5.2/248,MS5.2/9,Error ellipse: s-maj=3.7km s-min=1.6km az=175.7*

*IDC **19** 08:23:12.1±0.3,52.69N×169.59W,h0km,mb4.7/50, mb1 4.8/52,mb1mx4.7/72,mbtmp4.7/52,ML4.3/2,Error ellipse: s-maj=11.7km s-min=8.0km az=164.0*

*BJI **19** 08:23:12.8,52.87N×169.97W,h10km,mb5.0/37, mB5.4/33,Ms5.5/34,Ms7 5.3/33*

*NEIC **19** 08:23:14.3±0.1,52.72N×169.56W,h10km,mb5.4/126, ML5.0(AEIC),Error ellipse: s-maj=5.6km s-min=2.5km az=168.0*

NEIC Felt at Nikolski.

*MOS **19** 08:23:14.3±0.2,52.58N×169.37W,h12km,MW5.5/110, Moment Tensor Solution. s51,c69; s110,c206; Duration: 1ŝ3 Moment tensor: Scale 10^17^Nm; Mrr-1.86±.05; Mθθ0.39±.06; Mϕϕ1.47±.04; Mrθ0.06±.19; Mθϕ-1.16±.04; Mϕr-0.13±. 16; Best double couple: Mo2.04100×10^17^ NP1:ϕs328.00000°,δ47.00000°, λ-89.00000°. NP2:ϕs147.00000°,δ43.00000°, λ-91.00000°. Principal axes: T 2.2160, Plg2.0000°, Azm57.0000°; N -0.3470, Plg1.0000°, Azm147.0000°; P -1.8650, Plg88.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SZGRF **19** 08:23:24.1,54.50N×169.50W,h12km,mb5.1,MS5.0,Fox Islands, Aleutian Islands, United States*

ISC 19 08:23:15.1±0.3,52.77N±0.05×169.61W±0.03,h16km±1km, h16km:pP-P,n957,σ1ŝ10/1034,mb5.3/254,MS5.1/12, 8C-8D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.50	66	*e*Pg	Pg	08 23 24.2	-0.9
NIKH				*e*Sg	Sg	08 23 31.4	-0.4
OKCE	Okmok Cone E	1.09	52	P	Pn	08 23 34.4	-1.2
OKCE				S	Sg	08 23 50.8	+0.4
MGOD	Makushin Gods	1.94	57	P	Pn	08 23 47.0	-0.3
MTBL	Makushin Table	2.13	54	P	Pn	08 23 50.0	+0.1
UNV	Unalaska Valle	2.15	59	P	Pn	08 23 49.0	-1.2
UNV				S	Sn	08 24 17.0	+0.5
AKRB	Akutan Reef Bi	2.52	56	P	Pn	08 23 55.5	+0.3
AKRB				S	Sn	08 24 27.6	+2.1
AKGG	Akutan Green G	2.59	55	P	Pn	08 23 56.9	+0.6
AKUT	Akutan	2.67	58	P	Pn	08 23 56.7	-0.6
WECS	Westdahl Cape	3.37	57	P	Pn	08 24 07.0	0.0
WESP	Westdahl Peak	3.38	57	P	Pn	08 24 07.6	+0.4
WESE	West Dahl East	3.44	58	P	Pn	08 24 09.2	+1.2
SSBA	Shishaldin	3.82	56	P	Pn	08 24 13.8	+0.6
SSLS	Shishaldin Sou	3.86	58	P	Pn	08 24 14.5	+0.9
GSTR	Great Sitkin T	4.01	263	P	Pn	08 24 18.7	+3.0
GSMY	Great Sitkin M	4.01	262	P	Pn	08 24 16.9	+1.1
GSTD	Great Sitkin T	4.07	262	P	Pn	08 24 18.8	+2.2
FALS	False Pass	4.22	58	P	Pn	08 24 19.9	+1.2
SPIA	Saint Paul Isl	4.43	356	*e*Pn	Pn	08 24 25.1	+3.6
KIRH	Kanaga Island	4.67	262	P	Pn	08 24 27.1	+2.3
KICM	Kanaga Island	4.73	263	P	Pn	08 24 29.6	+3.9
DRIA	Deer Island	4.87	60	P	Pn	08 24 29.0	+1.4
TAFP	Tanaga Falls P	5.21	264	P	Pn	08 24 34.5	+2.3
SDPT	Sand Point	5.96	61	P	Pn	08 24 43.3	+0.7
CEAP	Semis' Anvil P	6.67	268	P	Pn	08 24 54.7	+2.5
CESW	Semis' Southwe	6.70	267	P	Pn	08 24 54.6	+2.0
AMKA	Amchitka	6.98	263	P	Pn	08 24 59.4	+3.0
SMY	Shemya	9.88	276	*e*P	Pn	08 25 38.4	+2.1
SMY				*e*		08 27 27.5	
SMY	Shemya	9.88	276	*e*Pn	Pn	08 25 38.4	+2.1
SMY				*e*Sn	Sn	08 27 27.5	+0.8
OHAK	Old Harbor	10.37	58	*e*Pn	Pn	08 25 44.0	+1.0
KDAK	Kodiak Island	10.92	56	*e*P	Pn	08 25 50.0	-0.4
KDAK	Kodiak Island	10.92	56	*e*Pn	Pn	08 25 50.0	-0.4
RSO	Redoubt South	12.03	44	*e*Pn	Pn	08 26 08.0	+2.1
BRLK	Bradley Lake	12.51	49	*e*Pn	Pn	08 26 15.0	+2.8
TNA	Tin City	12.86	3	*e*Pn	Pn	08 26 20.4	+3.5
	161nm,1.2s						
EYAK	Cordova Ski Ar	15.18	50	*e*Pn	Pn	08 26 47.8	-0.8
	87nm,1.0s						
DIV	Divide	15.38	48	*e*Pn	Pn	08 26 50.9	-0.4
	71nm,0.8s						
DIV				*e*Sn	Sn	08 29 40.4	-0.7
BWN	Browne	15.45	34	*e*P	P	08 26 57.3	+0.9
	2µm,1.7s						
DHY	Denali Highway	15.59	40	*e*P	P	08 27 02.5	+4.3
	172nm,1.3s						
BMRM	Bremner River	15.86	49	*e*Pn	Pn	08 26 59.0	+1.7
	204nm,1.0s						
BMRM				*e*Sn	Sn	08 29 49.8	-2.8
COLA	College	16.43	34	*e*P	Pn	08 27 05.4	+0.8
ILAR	Eielson Array	16.70	35	Pn	Pn	08 27 06.3	-1.7
	0.4nm,0.3s,baz=257,slow=10,SNR=4.2						
PET	Petropavlovsk	19.07	283	*e*P	Pn	08 27 37.7	+0.4
PET				*e*S	Sn	08 31 05.9	-4.4
PET				pmax	pmax		
	comp=Z,120nm,1.3s						
PET				MLR	MLR		
	comp=Z,4µm,17.7s						
PET	Petropavlovsk	19.07	283	*e*P	Pn	08 27 39.0	+1.7
	comp=Z,788nm,2.2s						
BILL	Bilibino	19.18	332	*e*P	Pn	08 27 41.0	+2.5
BILL				pmax	pmax		
	comp=Z,249nm,1.0s						
BILL	Bilibino	19.18	332	*e*P	Pn	08 27 41.0	+2.5
	comp=Z,249nm,1.0s						
PEA0B	Petropavlovsk-	19.62	284	*e*P	Pn	08 27 45.5	+1.7
PETK	Petropavlovsk-	19.62	284	P	Pn	08 27 43.7	-0.1
	comp=Z,5.0nm,0.3s,baz=93,slow=13,SNR=12						
BESE	Bessie Mountai	20.27	60	*e*Pn	Pn	08 27 55.0	+3.4
	comp=Z,120nm,1.2s						
SKR	Severo-Kuril's	21.22	278	*e*P	P	08 28 02.9	+3.1
SKR				*e*		08 28 13.2	
SKR				pmax	pmax		
	comp=Z,110nm,1.0s						
SKR				MLR	MLR		
	comp=E,5µm,18.0s						
SKR				MLR	MLR		
	comp=Z,4µm,18.0s						
SKR				MLR	MLR		
	comp=N,4µm,20.0s						
CRAG	Craig	21.40	68	*e*P	P	08 28 04.5	+2.8
	comp=N,166nm,1.4s						
WRAK	Wrangell Islan	21.71	65	*e*P	P	08 28 09.7	+4.7
H02N1	VAN INLET T-PH	22.15	74	T	T	08 50 54.4	
H02S1	DAWSON INLET T	22.20	74	T	T	08 51 02.6	
	SNR=7.6						
SEY	Seymchan	22.29	312	P	P	08 28 12.3	+1.1
	comp=N,48nm,1.1s,baz=96,slow=11,SNR=5.5						
SEY				PcP	PcP	08 32 06.1	-0.2
	comp=N,6.4nm,0.6s,baz=145,slow=3.5,SNR=8.3						
SEY				ScP	ScP	08 35 44.1	+1.4
	comp=N,7.9nm,0.7s,baz=114,slow=3.5,SNR=12						
SEY	Seymchan	22.29	312	*d*iP	P	08 28 11.5	+0.3
MA2	Magadan	22.80	303	*e*P	P	08 28 16.8	+0.1
DLBC	Dease Lake	22.81	60	P	P	08 28 17.5	+0.7
	comp=N,32nm,1.0s,baz=249,slow=8.7,SNR=3.9						
INK	Inuvik	23.09	34	P	P	08 28 18.4	-1.2
	comp=N,18nm,0.7s,baz=229,slow=9.3,SNR=6.5						
INK				S	S	08 32 24.2	-5.4
	comp=N,24nm,1.2s,baz=218,slow=20,SNR=5.8						
INK				ScP	ScP	08 35 45.0	+0.3
	comp=N,7.0nm,1.1s,baz=118,slow=1.8,SNR=3.9						
BBB	Bella Bella	25.03	75	P	P	08 28 38.7	+0.7
	comp=N,12nm,1.0s,baz=260,slow=15,SNR=3.3						
E03A	Lebam	30.02	83	*e*P	P	08 29 28.6	+5.8
	comp=N,40nm,1.0s						
YKA	Yellowknife Ar	30.09	49	P	P	08 29 23.1	-0.1
	comp=N,12nm,0.6s,baz=273,slow=7.8,SNR=16						
YKA				PcP	PcP	08 32 23.8	-0.5
	comp=N,1.4nm,0.7s,baz=284,slow=2.6,SNR=4.2						
YKA				ScP	ScP	08 36 05.3	-0.2
	comp=N,1.5nm,0.8s,baz=288,slow=3.2,SNR=6.2						
F04D	Rainier, OR	30.59	84	P	P	08 29 29.4	+1.6
	baz=30						
D05A	Emmclaw	30.66	81	*e*P	P	08 29 30.7	+2.2
	comp=N,110nm,1.4s						
YSS	Yuzh-Sakhalins	30.79	279	*e*P	P	08 29 28.6	-0.9
YSS				pmax	pmax		
	comp=Z,18nm,1.3s						
G03D	McMinnville, O	30.88	85	P	P	08 29 31.8	+1.5
	baz=31						
LON	Longmire	30.98	82	*e*P	P	08 29 33.8	+2.4
LON				pmax	pmax		
	comp=Z,102nm,2.2s						
LON	Longmire	30.98	82	*e*P	P	08 29 33.8	+2.4
	comp=Z,102nm,2.2s						
COR	Corvallis	31.18	86	*e*P	P	08 29 35.5	+2.5
COR				pmax	pmax		
	comp=Z,59nm,1.0s						
COR	Corvallis	31.18	86	*e*P	P	08 29 35.5	+2.5
	comp=Z,59nm,1.0s						
I03D	Drain, OR	31.63	88	P	P	08 29 37.7	+0.7
	baz=32						
G05D	Wamic, OR	32.04	84	P	P	08 29 42.0	+1.4
	baz=32						
I04A	Tendick Farm,	32.14	87	P	P	08 29 42.8	+1.2
	baz=32,SNR=15						
ASAJ	Asahikawa	32.33	274	*e*P	P	08 29 43.8	+0.6
	comp=Z,11nm,1.1s						
ASAJ				ScP	ScP	08 36 14.6	+1.2
L02D	Cave Junction,	32.34	90	P	P	08 29 44.3	+1.0
	baz=32						
I05D	Terrebonne, OR	32.50	85	P	P	08 29 46.0	+1.3
	baz=32,SNR=10						
HAWA	Hanford	32.52	81	*e*P	P	08 29 46.0	+1.2
KIP	Kipapa	32.55	160	*i* P	P	08 29 45.8	+0.6
KIP				pmax	pmax		
	comp=Z,174nm,1.7s						
D08A	Wollman Farm,	32.56	79	*e*PcP	P	08 29 47.9	+2.7
J04D	Umpqua Nationa	32.63	88	P	P	08 29 46.5	+0.4
	baz=32						
YAK	Yakutsk	32.80	311	P	P	08 29 47.6	+0.5
	comp=Z,2.2nm,0.3s,baz=350,slow=9.3,SNR=2.6						
YAK	Yakutsk	32.80	311	*i* P	P	08 29 46.5	-0.5
YAK				pmax	pmax		
	comp=Z,89nm,1.3s						
KHMM	Horse Mountain	33.02	92	*e*P	P	08 29 52.4	+3.0
	comp=Z,78nm,1.4s						
NEW	Newport	33.05	76	P	P	08 29 49.0	-0.5
	comp=Z,7.6nm,0.5s,baz=298,slow=8.9,SNR=12						
NEW	Newport	33.05	76	P	P	08 29 49.0	-0.5
NEW	Newport	33.05	76	P	P	08 29 50.0	+0.5
	baz=33,SNR=14						
NEW	Newport	33.05	76	*e*PcP	P	08 29 50.0	+0.5
NEW	Newport	33.05	76	*e*	P	08 29 50.0	+0.5
EDM	Edmonton	33.12	66	*e*PcP	P	08 29 50.7	+0.7
YBH	Yreka Blue Hor	33.13	90	P	P	08 29 50.5	+0.2
	comp=Z,6.3nm,0.9s,baz=27,slow=4.5,SNR=6.7						
YBH	Yreka Blue Hor	33.13	90	P	P	08 29 50.5	+0.2
YBH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
YBH	Yreka Blue Hor	33.13	90	*e*P	P	08 29 52.7	+2.4
J05D	Fort Rock, OR	33.14	87	P	P	08 29 51.8	+1.4
	baz=33,SNR=8.4						
ERM	Erimo	33.17	270	*e*P	P	08 29 51.2	+0.7
ERM				pmax	pmax		
	comp=Z,42nm,1.4s						
K04D	Chiloquin, OR	33.20	88	P	P	08 29 51.4	+0.5
	baz=33						
M02C	Callahan	33.24	91	P	P	08 29 50.3	-0.9
	baz=33						
G08A	Pilot Rock	33.43	82	*e*P	P	08 29 54.0	+1.1
	comp=Z,67nm,1.7s						
G08A	Pilot Rock	33.43	82	*e*PcP	P	08 29 54.0	+1.1
N02D	Trinity Center	33.58	91	P	P	08 29 54.5	+0.3
	baz=33						
M04C	Macdoel	33.63	90	P	P	08 29 54.0	-0.6
	baz=34						
WDC	Whiskeytown Da	33.91	92	*e*P	P	08 29 59.3	+2.2
WDC				pmax	pmax		
	comp=Z,31nm,1.1s						
WDC	Whiskeytown Da	33.91	92	*e*P	P	08 29 59.2	+2.2
	comp=Z,31nm,1.1s						
BSMT	Bassoo Peak	34.63	76	*e*P	P	08 30 04.9	+1.5
HABR	Khabarovsk	34.63	286	*e*P	P	08 30 01.4	-1.7
HABR				*e**SP	sP	08 30 15.3	+5.1
HABR				*e*		08 31 17.4	
HABR				*e*		08 32 35.3	
HABR				*e*S	S	08 35 29.0	-2.7
HABR				*e*SS	SnSn	08 37 43.2	-0.7
HABR				*e*		08 40 21.1	
HABR				pmax	pmax		
	comp=Z,33nm,1.6s						
HABR				MLR	MLR		
	comp=Z,3µm,17.0s						
BMO	Blue Mountains	34.66	82	*e*P	P	08 30 04.5	+0.9
BLMT	Blacktail Moun	34.80	75	*e*P	P	08 30 05.7	+0.8
JTMT	Jette	34.98	76	*e*P	P	08 30 07.0	+0.7
YBMT	Yellow Bay	35.08	75	*e*P	P	08 30 07.7	+0.5
	comp=Z,38nm,1.0s						
WVOR	Wild Horse Val	35.20	86	*e*P	P	08 30 09.5	+1.3
WVOR	Wild Horse Val	35.20	86	*e*P	P	08 30 09.5	+1.3
SWMT	Swartz Lake	35.26	76	*e*P	P	08 30 10.0	+1.2
MSO	Missoula	35.64	77	P	P	08 30 11.3	-0.7
	baz=36						
RES	Resolute Bay	36.07	26	PcP	PcP	08 32 39.6	-1.2
	comp=Z,14nm,0.8s,baz=272,slow=2.9,SNR=3.7						
MFID	Camas Ranch	36.34	83	*e*P	P	08 30 17.3	-0.8
	comp=Z,36nm,1.2s						
HRY	Holter Researc	36.94	76	*e*P	P	08 30 23.2	+0.1
LRM	Limekiln Ridge	37.04	77	*e*P	P	08 30 28.1	+3.9
	comp=Z,85nm,1.0s						
WAKR	Walker	37.08	92	*e*P	P	08 30 25.4	+0.9
HLID	Hailey	37.10	82	P	P	08 30 24.8	+0.2
	baz=37						
HLID	Hailey	37.10	82	*e*P	P	08 30 23.6	-1.1
	comp=Z,48nm,1.4s						
BMN	Battle Mountai	37.23	88	*e*P	P	08 30 27.1	+1.3
BMN				pmax	pmax		
	comp=Z,30nm,1.0s						
BMN	Battle Mountai	37.23	88	*e*P	P	08 30 27.1	+1.3
	comp=Z,30nm,1.0s						
EGMT	Eagleton	37.48	73	P	P	08 30 27.7	+0.1
	baz=37,SNR=5.8						
A19A	Klindworth Far	37.62	71	P	P	08 30 28.4	-0.4
	baz=38						
BOZ	Bozeman (W)	37.62	77	P	P	08 30 28.9	0.0
	baz=38						
H11N2	WAKE ISLAND Hy	37.68	218	T	T	09 10 29.0	
	baz=24,slow=76,SNR=7.1						
H11N3	WAKE ISLAND Hy	37.69	218	T	T	09 10 29.8	
	baz=24,slow=76,SNR=11						
H11N1	WAKE ISLAND Hy	37.70	218	T	T	09 10 30.6	
	baz=24,slow=76,SNR=12						
NVAR	Mina Array Bea	37.82	91	P	P	08 30 31.0	+0.3
	comp=Z,7.5nm,0.7s,baz=307,slow=6.6,SNR=6.4						
MLAC	Mammoth Lakes	38.01	93	P	P	08 30 32.8	+0.4
	baz=38						
A20A	Cobblestone Ra	38.11	70	P	P	08 30 32.6	-0.3
	baz=38						
QLMT	Earthquake Lak	38.18	78	*e*P	P	08 30 35.2	+1.4
	comp=Z,2.8nm,1.0s						
YMR	Madison River	38.55	78	*e*P	P	08 30 37.4	+0.5
RCTC	Rector, Farmer	38.62	95	P	P	08 30 37.1	-0.1
	baz=38						
A21A	Bergtoll Ranch	38.62	70	P	P	08 30 37.4	+0.2
	baz=38						
FFC	Flin Flon	38.64	59	P	P	08 30 37.2	0.0
	comp=Z,204nm,1.1s,SNR=5.8						
FFC	Flin Flon	38.64	59	*e*P	P	08 30 36.5	-0.7
FFC				pmax	pmax		
	comp=Z,39nm,1.0s						
FFC	Flin Flon	38.64	59	*e*P	P	08 30 36.5	-0.7
	comp=Z,39nm,1.0s						
C20A	Veseth Ranch,	38.66	72	P	P	08 30 37.7	+0.2
	baz=38,SNR=21						
USRK	Ussuriysk Ar.	38.67	281	P	P	08 30 36.1	-1.5
	comp=Z,1.1nm,0.5s,baz=58,slow=11,SNR=2.6						
USRK				PcP	PcP	08 32 48.0	-1.2
	comp=Z,19nm,1.0s,baz=54,slow=3.3,SNR=9.7						
YNR	Norris Junctio	38.69	78	*e*P	P	08 30 42.3	+4.2
	comp=Z,41nm,0.8s						
YNR				*e*PcP	PcP	08 32 51.8	+2.0
TIN	Tinemaha	38.75	93	P	P	08 30 38.2	-0.3
	baz=39						
YFT	Old Faithful	38.75	78	*e*P	P	08 30 40.7	+2.2
	comp=Z,15nm,0.7s						
SMMC	Simmler	38.83	97	P	P	08 30 39.4	+0.3
	baz=39						
H11S1	WAKE ISLAND Hy	38.87	217	T	T	09 12 00.3	
	baz=23,slow=76,SNR=45						
H11S2	WAKE ISLAND Hy	38.89	217	T	T	09 11 59.8	
	baz=23,slow=76,SNR=50						
H11S3	WAKE ISLAND Hy	38.89	217	T	T	09 11 58.7	
	baz=23,slow=76,SNR=45						
H17A	Grant Village	38.93	78	P	P	08 30 41.2	+1.1
	baz=39						
H17A	Grant Village	38.93	78	*e*P	P	08 30 39.9	-0.2
	comp=Z,317nm,2.3s						
LKWY	Lake	38.94	78	*e*P	P	08 30 41.6	+1.4
LKWY				pmax	pmax		
	comp=Z,49nm,0.8s						
LKWY	Lake	38.94	78	*e*P	P	08 30 41.6	+1.4
	comp=Z,49nm,0.8s						
FLWY	Flagg Ranch	39.03	78	*e*P	P	08 30 42.5	+1.6
C21A	Desert Coulee	39.12	71	P	P	08 30 42.1	+0.7
	baz=39,SNR=6.4						
HVU	Hansel Valley	39.12	83	*e*P	P	08 30 42.5	+0.9
HVU				pmax	pmax		
	comp=Z,19nm,0.9s						
HVU	Hansel Valley	39.12	83	*e*P	P	08 30 42.5	+0.9
	comp=Z,19nm,0.9s						
MOOW	Moose Ponds	39.20	79	*e*P	P	08 30 43.9	+1.5
	comp=Z,7.3nm,1.0s						
PKM	Peak Mountain	39.22	97	P	P	08 30 43.5	+1.0
	baz=39						
CWC	Cottonwood Cre	39.24	94	P	P	08 30 43.0	+0.4

EDW2	Edwards Air Fo	40.33	95	P		P	08 30 51.4	-0.2	
	baz=40								
TCUT	Toone Canyon	40.34	83	eP		P	08 30 52.7	+0.8	
CTU	Camp Tracy	40.39	84	eP		P	08 30 52.7	+0.5	
	comp=Z,127nm,2.0s								
H20A	Greybull	40.41	76	P		P	08 30 51.7	-0.5	
	baz=40								
G21A	Lodge Grass	40.46	75	P		P	08 30 52.2	-0.4	
	baz=40,SNR=12								
PDAR	Pinedale Array	40.47	79	P		P	08 30 53.0	+0.1	
	comp=Z,30nm,0.8s,baz=314,slow=5.5,SNR=18								
J19A	Crowheart	40.48	78	P		P	08 30 52.2	-0.7	
	baz=40								
E22A	Miles City	40.52	73	P		P	08 30 52.9	-0.2	
	baz=40								
DECC	Green Verdugo	40.55	96	P		P	08 30 53.6	+0.2	
	baz=40								
JLU	Jordanelle	40.63	83	eP		P	08 30 55.5	+1.2	
	comp=Z,115nm,1.8s								
I20A	Worland	40.64	77	P		P	08 30 53.9	-0.3	
	baz=40								
SHOC	Shoshone	40.69	93	P		P	08 30 54.5	0.0	
	baz=40								
F22A	Rosebud	40.71	74	P		P	08 30 54.3	-0.3	
	baz=40								
MWC	Mount Wilson	40.74	96	eP		P	08 30 55.9	+0.8	
MWC	Mount Wilson	40.74	96	eP		P	08 30 55.9	+0.8	
GSC	Goldstone	40.77	94	eP		P	08 30 56.3	+1.1	
GSC				pmax		pmax			
	comp=Z,46nm,0.9s								
GSC	Goldstone	40.77	94	P		P	08 30 55.8	+0.5	
	baz=41,SNR=17								
GSC	Goldstone	40.77	94	eP		P	08 30 56.3	+1.1	
	comp=Z,46nm,0.9s								
FCC	Fort Churchill	40.80	51	eP		P	08 30 55.6	+0.6	
FCC	Fort Churchill	40.80	51	eP		P	08 30 55.6	+0.6	
A25A	Svangstu Ranch	40.81	68	P		P	08 30 55.2	-0.2	
	baz=41,SNR=20								
C24A	Savage	40.81	70	P		P	08 30 55.9	+0.5	
	baz=41,SNR=8.9								
E23A	Ismay	40.86	72	P		P	08 30 56.1	+0.2	
	baz=41,SNR=10								
MPU	Maple Canyon	40.88	84	eP		P	08 30 56.3	+0.1	
	comp=Z,73nm,1.0s								
H21A	Big Horn, Sher	40.89	75	P		P	08 30 56.0	-0.3	
	baz=41								
RRX	Edison Barstow	40.93	94	P		P	08 30 56.8	+0.2	
	baz=41								
FMP	Fort Macarthur	40.95	97	P		P	08 30 56.5	-0.1	
	baz=41								
BFSC	Mount Baldy Ra	40.97	96	P		P	08 30 57.4	+0.5	
	baz=41,SNR=10								
G22A	Birney	41.00	74	P		P	08 30 56.7	-0.4	
	baz=41								
J20A	Shoshoni	41.01	78	P		P	08 30 57.3	+0.1	
	baz=41								
D24A	Glendive	41.09	71	P		P	08 30 58.9	+1.1	
	baz=41,SNR=31								
CIS	Catalina Islan	41.09	97	P		P	08 30 57.3	-0.6	
	baz=41								
B25A	Knox Farm, Ray	41.13	69	P		P	08 30 57.9	-0.2	
	baz=41								
I21A	Big Trails, Te	41.21	77	P		P	08 30 58.6	-0.3	
	baz=41								
TUQ	Turquoise Moun	41.21	93	P		P	08 30 59.0	0.0	
	baz=41								
F23A	Volborg	41.23	73	P		P	08 30 58.9	-0.1	
	baz=41,SNR=20								
SCI	San Clemente I	41.30	98	P		P	08 30 59.5	-0.1	
	baz=41								
H22A	Clearmont	41.32	75	P		P	08 30 59.6	-0.2	
	baz=41								
HEC	Hector,Ludlow	41.37	94	P		P	08 31 00.1	-0.2	
	baz=41								
C25A	Freed Ranch, W	41.38	69	P		P	08 30 59.2	-0.9	
	baz=41								
J21A	Lysite	41.39	77	P		P	08 31 00.3	-0.1	
	baz=41								
BBRC	Big Bear Solar	41.40	95	P		P	08 31 00.1	-0.5	
	baz=41								
E24A	Baker	41.40	71	P		P	08 31 00.4	+0.1	
	baz=41,SNR=15								
A26A	Wade Farm, Ken	41.43	67	P		P	08 30 59.7	-0.8	
	baz=41,SNR=6.5								
G23A	Biddle	41.53	74	P		P	08 31 01.2	-0.3	
	baz=41								
TMUT	Trail Mountain	41.58	85	eP		P	08 31 03.2	+1.0	
B26A	Jensen Ranch,	41.60	68	P		P	08 31 02.2	+0.3	
	baz=41,SNR=6.8								
BOD	Bodaibo	41.63	308	eP		P	08 31 02.3	+0.4	
BOD				pmax		pmax			
	comp=Z,39nm,1.5s								
I22A	9 Mile Ranch,	41.64	76	P		P	08 31 02.4	-0.1	
	baz=42								
D25A	Fairfield	41.65	70	P		P	08 31 01.6	-0.7	
	baz=42								
MURC	Murrieta	41.68	96	P		P	08 31 03.1	+0.3	
	baz=42								
F24A	Ekalaka	41.72	72	P		P	08 31 03.1	+0.1	
	baz=42,SNR=16								
P17A	Butcher Ranch,	41.75	84	eP		P	08 31 05.4	+2.0	
GMRC	Granite Mounta	41.81	93	P		P	08 31 04.1	+0.2	
	baz=42,SNR=16								
A27A	Ledoux Ranch,	41.85	67	P		P	08 31 03.6	-0.3	
	baz=42								
J22A	Midwest	41.92	77	P		P	08 31 04.6	-0.2	
	baz=42								
LDFC	Landfair	41.95	93	eP		P	08 31 05.6	+0.7	
	comp=Z,70nm,1.0s								
E25A	Miller Ranch,	41.96	71	P		P	08 31 05.3	+0.5	
	baz=42,SNR=5.5								
C26A	Wahner Farm, P	41.97	69	P		P	08 31 05.0	0.0	
	baz=42,SNR=5.9								
G24A	Alzada	42.03	73	P		P	08 31 05.2	-0.4	
	baz=42,SNR=13								
PFO	Pinyon Flat Ob	42.13	95	P		P	08 31 06.7	+0.2	
	comp=Z,9.2nm,0.9s,baz=336,slow=2.5,SNR=7.5								
PFO	Pinyon Flat Ob	42.13	95	eP		P	08 31 06.4	-0.1	
PFO				pmax		pmax			
	comp=Z,22nm,1.0s								
PFO	Pinyon Flat Ob	42.13	95	P		P	08 31 06.4	-0.1	
	baz=42								
PFO	Pinyon Flat Ob	42.13	95	eP		P	08 31 06.4	-0.1	
	comp=Z,22nm,1.0s								
B27A	Peters Farms,	42.13	67	P		P	08 31 06.4	+0.2	
	baz=42,SNR=5.5								
BELC	Belle Mtn. Jos	42.14	95	P		P	08 31 06.4	-0.2	
	baz=42,SNR=7.9								
I23A	Meade Ranch, G	42.20	75	P		P	08 31 06.4	-0.6	
	baz=42								
D26A	Manning	42.22	70	P		P	08 31 06.8	-0.2	
	baz=42								
109C	Camp Elliot, M	42.23	97	P		P	08 31 07.1	-0.1	
	baz=42								
F25A	Bowman	42.25	72	P		P	08 31 07.5	+0.2	
	baz=42,SNR=5.5								
H24A	Dirks Ranch, A	42.28	74	P		P	08 31 07.3	-0.3	
	baz=42,SNR=5.7								
K22A	Casper	42.35	78	P		P	08 31 07.6	-0.6	
	baz=42								
K22A	Casper	42.35	78	eP		P	08 31 08.0	-0.2	
	comp=Z,29nm,0.8s								
C27A	Sayler Ranch,	42.37	68	P		P	08 31 07.8	-0.4	
	baz=42								
A28A	Rude Farm, Bot	42.41	66	P		P	08 31 08.3	-0.3	
	baz=42,SNR=18								
NEE2	Needles Airpor	42.45	93	P		P	08 31 08.9	0.0	
	baz=42								
J23A	Dilts Ranch, B	42.48	76	P		P	08 31 09.2	-0.1	
	baz=42								
E26A	Carlson Angus	42.51	70	P		P	08 31 09.0	-0.4	
	baz=42,SNR=8.3								
IRM	Iron Mountain	42.54	94	P		P	08 31 10.3	+0.5	
	baz=42,SNR=8.7								
B28A	Dugan Ranch, T	42.61	67	P		P	08 31 10.0	-0.1	
	baz=42,SNR=20								
BAR	Barrett	42.64	97	eP		P	08 31 11.4	+0.9	
	comp=Z,127nm,2.0s								
MONP	Monument Peak	42.65	96	P		P	08 31 11.4	+0.6	
	baz=42,SNR=8.6								
G25A	Newell	42.69	73	P		P	08 31 10.7	-0.1	
	baz=42								
D27A	Center	42.69	69	P		P	08 31 10.8	-0.1	
	baz=42								
BC3	Big Chuckawall	42.70	94	P		P	08 31 11.2	+0.1	
	baz=43								
F26A	Lodgepole	42.74	71	P		P	08 31 10.9	-0.4	
	baz=43,SNR=5.1								
I24A	Kuemmerle Ranc	42.75	75	P		P	08 31 10.7	-0.8	
	baz=43								
CN2	Changchun	42.77	285	eP		P	08 31 09.8	-1.6	
CN2				epP		pP	08 31 15.8	-0.7	
CN2				PP		PP	08 32 51.4	+1.0	
CN2				eS		S	08 37 31.4	-3.0	
CN2				SS		SS	08 40 35.3	-10	
CN2				PMZ					
	comp=Z,10.0nm,1.1s								
CN2				PMZ					
	comp=Z,70nm,3.0s								
CN2				LN					
	comp=Z,3µm,19.0s								
CN2				LE					
	comp=Z,3µm,19.0s								
CN2				LZ					
	comp=Z,800nm,21.0s								
K23A	Bowen Ranch, D	42.82	77	P		P	08 31 11.6	-0.5	
	baz=43								
O20A	White River Ci	42.85	82	P		P	08 31 11.8	-0.5	
	baz=43,SNR=18								
H25A	Fruitdale	42.91	73	P		P	08 31 12.4	-0.2	
	baz=43								
A29A	Manning Farm,	42.98	66	P		P	08 31 12.6	-0.5	
	baz=43,SNR=19								
SWSC	Sam W. Stewart	42.99	96	P		P	08 31 13.2	-0.1	
	baz=43								
C28A	Hausauer Farms	43.00	68	P		P	08 31 13.5	+0.2	
	baz=43								
IBP	Imperial Bould	43.00	96	P		P	08 31 13.1	-0.5	
	baz=43								
J24A	Dixon Ranch, L	43.04	76	P		P	08 31 13.5	-0.3	
	baz=43								
E27A	Carson	43.05	70	P		P	08 31 13.4	-0.3	
	baz=43								
PDMCI	Parker Dam,Lak	43.06	93	P		P	08 31 14.1	+0.3	
	baz=43,SNR=13								
G26A	Maurine	43.10	72	P		P	08 31 13.3	-0.9	
	baz=43								
F27A	Lemmon	43.10	71	P		P	08 31 13.3	-0.9	
	baz=43,SNR=13								
B29A	Wagenman Farm,	43.16	66	P		P	08 31 14.1	-0.5	
	baz=43,SNR=5.5								
D28A	Regan	43.19	69	P		P	08 31 14.8	-0.1	
	baz=43								
Y12C	Blythe	43.20	94	P		P	08 31 15.3	+0.3	
	baz=43,SNR=9.5								
K24A	Anderson Ranch	43.31	76	P		P	08 31 15.0	-1.1	
	baz=43								
MDND	Maddock	43.37	67	P		P	08 31 16.3	+0.1	
	baz=43,SNR=16								
MDND	Maddock	43.37	67	eP		P	08 31 16.6	+0.4	
	comp=Z,305nm,1.4s								
H26A	Fairpoint	43.39	73	P		P	08 31 15.2	-1.4	
	baz=43								
G27A	Dupree	43.44	71	P		P	08 31 16.2	-0.7	
	baz=43,SNR=18								
E28A	Huff	43.47	69	P		P	08 31 17.0	-0.1	
	baz=43,SNR=5.5								
A30A	Hoffart Farm,	43.49	65	P		P	08 31 16.5	-0.7	
	baz=43								
GLA	Glamis	43.50	95	eP		P	08 31 18.2	+0.7	
GLA				pmax		pmax			
	comp=Z,27nm,0.9s								
GLA	Glamis	43.50	95	P		P	08 31 17.6	+0.1	
	baz=43,SNR=9.2								
GLA	Glamis	43.50	95	eP		P	08 31 18.2	+0.7	
	comp=Z,27nm,0.9s								
J25A	Sunshine Ranch	43.51	75	P		P	08 31 16.6	-1.0	
	baz=43								
I26A	New Underwood	43.69	74	P		P	08 31 18.6	-0.4	
	baz=44								
B30A	Myrvik Farm, E	43.74	66	P		P	08 31 19.0	-0.2	
	baz=44,SNR=14								
N23A	Red Feather La	43.75	79	P		P	08 31 19.5	-0.2	
	baz=44								
H27A	Howes	43.79	72	P		P	08 31 18.7	-1.0	
	baz=44								
PHWY	Pilot Hill	43.79	78	eP		P	08 31 19.6	-0.5	
	comp=Z,9.4nm,0.9s								
D29A	Pettibone, Tap	43.81	68	P		P	08 31 19.5	-0.3	
	baz=44,SNR=6.1								
CBIJ	Chichi jima	43.88	254	P		P	08 31 20.5	-0.1	
JCJ	Chichijima	43.88	254	P		P	08 31 20.5	-0.1	
	comp=Z,92nm,0.6s,baz=320,slow=9.8,SNR=4.4								
WUAZ	Wupatki	43.92	89	P		P	08 31 21.5	+0.5	
	baz=44,SNR=11								
WUAZ	Wupatki	43.92	89	eP		P	08 31 22.2	+1.1	
	comp=Z,54nm,0.9s								
K25A	Mack Ranch, Ha	43.94	76	P		P	08 31 20.0	-1.1	
	baz=44								
J26A	Sides Ranch, S	43.99	75	P		P	08 31 22.6	+1.2	
	baz=44								
E29A	Napoleon	44.06	69	P		P	08 31 21.2	-0.7	
	baz=44								
C30A	Mose, Pekin	44.08	67	P		P	08 31 21.1	-0.8	
	baz=44								
ULM	Lac du Bonnet	44.09	62	P		P	08 31 21.0	-1.0	
	comp=Z,40nm,1.0s,baz=298,slow=9.3,SNR=8.7								
ULM				ScP		ScP	08 36 58.3	+0.5	
	comp=Z,5.4nm,0.9s,baz=281,slow=7.2,SNR=3.3								
I27A	Quinn	44.13	73	P		P	08 31 22.2	-0.3	
	baz=44,SNR=6.2								
L25A	Engebretsen Ra	44.16	76	P		P	08 31 22.8	-0.1	
	baz=44								
G28A	Parade	44.20	71	P		P	08 31 22.5	-0.5	
	baz=44,SNR=5.1								
SMCO	Snowmass	44.21	82	eP		P	08 31 23.5	-0.1	
	comp=Z,52nm,1.4s								
D30A	Buchanan	44.26	68	P		P	08 31 22.7	-0.7	
	baz=44,SNR=22								
K26A	Motz Farm, Whi	44.29	75	P		P	08 31 22.8	-1.0	
	baz=44								
H28A	Mission Ridge	44.37	72	P		P	08 31 23.9	-0.5	
	baz=44								
F29A	Eureka	44.38	70	P		P	08 31 23.9	-0.6	
	baz=44								
E30A	Jud	44.52	68	P		P	08 31 24.7	-0.8	
	baz=44								
M25A	Palm-Egli Farm	44.55	77	P		P	08 31 25.8	-0.2	
	baz=44,SNR=16								
MVCO	Mesa Verde	44.55	85	P		P	08 31 25.7	-0.4	
	baz=44								
ISCO	Idaho Springs	44.63	80	P		P	08 31 26.3	-0.5	
	baz=44								
J27A	Elkhorn Farm,	44.65	74	P		P	08 31 26.4	-0.3	
	baz=44								
I28A	Midland	44.69	73	P		P	08 31 26.5	-0.5	
	baz=44								
G29A	Hoven	44.70	71	P		P	08 31 26.8	-0.2	
	baz=44								
L26A	Underwood Farm	44.75	76	P		P	08 31 26.8	-0.8	
	baz=45								
F30A	Leola	44.84	69	P		P	08 31 27.4	-0.7	
	baz=45								
K27A	Flueckinger Fa	44.84	75	P		P	08 31 27.6	-0.7	
	baz=45								
H29A	Onida	44.87	71	P		P	08 31 27.8	-0.5	
	baz=45,SNR=13								
J28A	Allard Ranch,	44.99	73	P		P	08 31 29.1	-0.3	
	baz=45,SNR=16								
M26A	McRoberts Ranc	45.07	77	P		P	08 31 30.0	-0.1	
	baz=45								
I29A	Vivian Onida	45.18	72	P		P	08 31 30.0	-0.8	
	baz=45,SNR=13								
W18A	Petrified Fore	45.18	88	P		P	08 31 30.6	-0.6	
	baz=45								
G30A	Faulkton	45.18	70	P		P	08 31 30.1	-0.7	
	baz=45,SNR=21								
AGMN	Agassiz Nation	45.19	65	P		P	08 31 29.9	-0.9	
	baz=45,SNR=22								
AGMN	Agassiz Nation	45.19	65	eP		P	08 31 30.3	-0.5	
	comp=Z,82nm,1.0s								
S22A	4UR Ranch, Cre	45.21	83	P		P	08 31 31.7	+0.3	
	baz=45								
KSRS	Korea Array	45.21	276	P		P	08 31 31.0	-0.1	
	comp=Z,6.1nm,0.8s,baz=50,slow=7.5,SNR=7.2								
KSRS				PcP		PcP	08 33 10.5	-0.4	
	comp=Z,6.4nm,1.0s,baz=44,slow=4.2,SNR=7.3								
KSRS				ScP		ScP	08 37 04.2	+1.5	
	comp=Z,1.2nm,0.7s,baz=54,slow=5.8,SNR=4.4								
KSAR	Wonju Array Be	45.24	276	P		P	08 31 31.0	-0.3	
KSAR							08 33 10.5		
KSAR	Wonju Array Be	45.24	276	P		P	08 31 31.0	-0.3	
KSAR				PcP		PcP	08 33 10.5	-0.6	
KSAR				ScP		ScP	08 37 04.2	+1.4	
K28A	Ten Mile Ranch	45.35	74	P		P	08 31 31.6	-0.6	
	baz=45								
N26A	Koester Ranch,	45.41	77	P		P	08 31 33.0	+0.2	
	baz=45								
Q24A	Divide	45.44	81	P		P	08 31 33.6	+0.3	
	baz=45								
M27A	Reverse DX Ran	45.48	76	P		P	08 31 32.7	-0.5	
	baz=45								
214A	Organ Pipe Nat	45.48	94	P		P	08 31 33.3	-0.1	
	baz=45,SNR=19								
214A	Organ Pipe Nat	45.48	94	eP		P	08 31 33.2	-0.1	
	comp=Z,36nm,0.9s								
214A				ePcP		PcP	08 33 13.1	+1.0	
J29A	Okreek	45.53	73	P		P	08 31 33.2	-0.4	
	baz=45,SNR=28								
O26A	Horse Wrangler	45.73	78	P		P	08 31 35.1	-0.2	
	baz=46								
I30A	Oacoma	45.75	72	P		P	08 31 34.9	-0.5	
	baz=46								
N27A	Anderson Farm,	45.84	77	P		P	08 31 36.2	+0.1	
	baz=46								
K29A	Lazy Trails An	45.93	73	P		P	08 31 36.7	-0.1	
	baz=46,SNR=14								
SDCO	Great Sand Dun	46.01	82	P		P	08 31 37.7	-0.1	
	baz=46,SNR=23								
OGNE	Ogallala	46.05	77	P		P	08 31 37.6	-0.2	
	baz=46								
OGNE	Ogallala	46.05	77	eP		P	08 31 37.8	0.0	
	comp=Z,66nm,0.8s								
J30A	Dallas	46.07	72	P		P	08 31 37.0	-0.8	
	baz=46								
P26A	Davis Ranch, A	46.14	79	P		P	08 31 39.1	+0.5	
	baz=46,SNR=13								
M28A	Bar X Bar Ranc	46.16	76	P		P	08 31 38.5	-0.2	
	baz=46								
O27A	Beecher Island	46.26	78	P		P	08 31 39.2	-0.3	
	baz=46,SNR=9.5								
TJN	Taejon	46.26	275	eP		P	08 31 38.9	-0.5	
L29A	Maesberg Ranch	46.27	74	P		P	08 31 39.0	-0.5	
	baz=46								
JNU	Nakatsue	46.32	269	P		P	08 31 39.9	-0.1	
	comp=Z,13nm,0.7s,baz=338,slow=1.1,SNR=9.2								
JNU	Nakatsue	46.32	269	eP		P	08 31 41.0	+1.1	
	comp=Z,40nm,1.6s								
K30A	Basset	46.39	73	P		P	08 31 40.3	-0.2	
	baz=46,SNR=14								
Q26A	Hugo	46.44	80	P		P	08 31 40.5	-0.5	
	baz=46								
TUC	Tucson	46.46	92	eP		P	08 31 41.7	+0.5	
TUC				pmax		pmax			
	comp=Z,28nm,0.9s								
TUC	Tucson	46.46	92	eP		P	08 31 41.6	+0.5	
	comp=Z,28nm,0.9s								
N28A	Pribbeno Ranch	46.50	77	P		P	08 31 40.8	-0.5	
	baz=46								
M29A	Burnside Ranch	46.53	75	P		P	08 31 41.2	-0.4	
	baz=46								
P27A	Ficken Ranch,	46.60	78	P		P	08 31 41.5	-0.7	
	baz=46								
O28A	Krutsinger Ran	46.72	77	P		P	08 31 42.7	-0.4	
	baz=46								
L30A	Spencer Herefo	46.78	74	P		P	08 31 42.9	-0.6	
	baz=47								
R26A	Arlington	46.89	80	P		P	08 31 44.6	+0.1	
	baz=47,SNR=15								
KSCO	Kaye Shedlock'	46.92	79	P		P	08 31 45.0	+0.2	
	baz=47,SNR=6.7								
KSCO	Kaye Shedlock'	46.92	79	eP		P	08 31 44.9	+0.2	
	comp=Z,59nm,0.8s								
M30A	Dale-Ortello V	46.95	75	P		P	08 31 44.2	-0.6	
	baz=47								
N29A	Votaw Ranch, W	46.95	76	P		P	08 31 44.5	-0.4	
	baz=47								
T25A	Trinidad	47.07	82	P		P	08 31 46.1	+0.1	
	baz=47,SNR=20								
P28A	Saint Francis	47.08	78	P		P	08 31 45.5	-0.4	
	baz=47								
L31A	Butterfield Fa	47.15	73	P		P	08 31 46.2	-0.2	
	baz=47								
LAZ	Ladron	47.24	87	eP		P	08 31 48.1	+0.7	
N30A	Hueftle Ranch,	47.28	75	P		P	08 31 46.8	-0.6	
	baz=47								
R27A	Eads	47.28	80	P		P	08 31 47.5	-0.1	
	baz=47,SNR=12								
ANMO	Albuquerque	47.29	86	PcP		PcP	08 33 18.4	-0.1	
	comp=Z,7.7nm,1.0s,baz=298,slow=7.7,SNR=7.1								
ANMO	Albuquerque	47.29	86	i P		P	08 31 47.8	+0.1	
ANMO				pmax		pmax			
	comp=Z,109nm,1.7s								
O29A	4D Ranch, Culb	47.29	77	P		P	08 31 47.5	0.0	
	baz=47,SNR=11								
S26A	Kim	47.31	81	P		P	08 31 47.3	-0.5	
	baz=47,SNR=17								
Q28A	Sharon Springs	47.36	78	P		P	08 31 47.6	-0.5	
	baz=47								
ECSD	EROS Data Cent	47.47	70	P		P	08 31 47.6	-1.2	
	baz=47,SNR=17								
T26A	Comanche Natio	47.53	82	P		P	08 31 49.0	-0.6	
	baz=47								
P29A	Atwood	47.55	77	P		P	08 31 49.4	-0.1	
	baz=47,SNR=13								
M31A	Lambtecht Ranc	47.59	74	P		P	08 31 48.6	-1.2	
	baz=47								
Y22D	IRIS PASSCAL I	47.60	87	P		P	08 31 49.8	-0.3	
	baz=47								
LPM	Los Pinos Moun	47.61	87	eP		P	08 31 50.7	+0.5	
	comp=Z,19nm,1.0s								
S27A	Las Animas	47.62	81	P		P	08 31 49.9	-0.3	
	baz=47								
O30A	MW Ranch, Wils	47.70	76	P		P	08 31 50.3	-0.4	
	baz=48								
EYMN	Ely	47.77	63	P		P	08 31 50.3	-0.8	
	baz=48,SNR=18								
R28A	Tribune	47.84	79	P		P	08 31 51.7	-0.1	
	baz=48								
N31A	Bailey Ranch,	47.94	75	P		P	08 31 51.9	-0.6	
	baz=48								
Q29A	Oakley	47.98	78	P		P	08 31 52.1	-0.7	
	baz=48								
P30A	Selden	47.99	77	P		P	08 31 53.1	+0.1	
	baz=48,SNR=13								
BGNE	Belgrade	48.03	74	P		P	08 31 52.6	-0.6	
	baz=48								
BGNE	Belgrade	48.03	74	eP		P	08 31 53.1	-0.1	
	comp=Z,172nm,1.0s								
L33A	Hoskins	48.07	72	P		P	08 31 52.9	-0.6	
	baz=48								
121A	Cookes Peak, D	48.13	89	P		P	08 31 54.7	+0.4	
	baz=48,SNR=8.4								
T27A	Campo	48.13	81	P		P	08 31 53.5	-0.7	
	baz=48								
O31A	Woolen Ranch,	48.14	76	P		P	08 31 53.5	-0.6	
	baz=48,SNR=11								
R29A	Marienthal	48.19	79	P		P	08 31 54.6	+0.1	
	baz=48,SNR=16								
S28A	Manter	48.28	80	P		P	08 31 55.2	-0.1	
	baz=48,SNR=11								
N32A	Stulken Farm,	48.36	74	P

N33A	J Bar K, Exete	48.87	74	P		P	08 31 58.6	-1.1	
	baz=49								
U28A	Mallet	48.88	81	P		P	08 31 59.4	-0.6	
	baz=49,SNR=12								
M34A	Aspy Farms, Fr	48.88	72	P		P	08 31 58.4	-1.3	
	baz=49								
P32A	Huiting Farm,	48.91	76	P		P	08 31 59.2	-0.8	
	baz=49,SNR=12								
T29A	Hugoton	48.92	80	P		P	08 31 59.8	-0.4	
	baz=49,SNR=11								
V27A	Dan Oppiter Fa	48.93	82	P		P	08 31 59.7	-0.6	
	baz=49,SNR=9.9								
L35A	Bielow Farm, R	49.10	71	P		P	08 31 59.4	-1.9	
	baz=49								
S30A	Montezuma	49.10	79	P		P	08 32 00.9	-0.6	
	baz=49,SNR=11								
O33A	Hebron	49.22	75	P		P	08 32 01.1	-1.2	
	baz=49,SNR=15								
R31A	Burdett	49.23	78	P		P	08 32 01.8	-0.7	
	baz=49,SNR=13								
SPITS	Spitsbergen Ar	49.26	358	P		P	08 32 03.8	+1.6	
	comp=Z,1.7nm,0.5s,baz=89,slow=9.4,SNR=2.4								
SPITS				PcP		PcP	08 33 24.9	+0.1	
	comp=Z,3.8nm,0.5s,baz=35,slow=4.6,SNR=7.2								
V28A	Channing	49.30	82	P		P	08 32 02.4	-0.7	
	baz=49								
Q32A	Meitler Ranch,	49.35	76	P		P	08 32 02.5	-0.8	
	baz=49								
N34A	Lincoln	49.36	73	P		P	08 32 01.8	-1.6	
	baz=49								
U29A	Oasis Ranch, S	49.41	81	P		P	08 32 03.2	-0.7	
	baz=49								
M35A	Neola	49.42	72	P		P	08 32 03.1	-0.8	
	baz=49								
T30A	Plains	49.45	80	P		P	08 32 03.8	-0.5	
	baz=49								
P33A	Williams Farm,	49.56	75	P		P	08 32 04.3	-0.7	
	baz=49								
R32A	Long Quarter,	49.63	77	P		P	08 32 04.8	-0.7	
	baz=49,SNR=12								
V29A	Stinnett	49.64	81	P		P	08 32 04.9	-0.8	
	baz=50								
W28A	Vega	49.65	83	P		P	08 32 04.9	-0.9	
	baz=50								
O34A	Beatrice	49.67	74	P		P	08 32 04.5	-1.2	
	baz=50,SNR=14								
S31A	Mullinville	49.70	78	P		P	08 32 05.1	-0.9	
	baz=50								
U30A	WK&E Inc. Balk	49.73	80	P		P	08 32 05.6	-0.7	
	baz=50								
Q33A	Connelly Farm,	49.77	76	P		P	08 32 05.7	-0.9	
	baz=50,SNR=12								
N35A	Tabor	49.84	73	P		P	08 32 06.4	-0.7	
	baz=50,SNR=11								
S32A	Newby Ranch, P	49.97	78	P		P	08 32 06.8	-1.3	
	baz=50								
TLY	Talaya	49.98	306	P		P	08 32 09.3	+1.3	
	comp=Z,6.3nm,0.7s,baz=357,slow=6.7,SNR=5.3								
TLY				PcP		PcP	08 33 29.1	+1.2	
	comp=Z,6.5nm,0.7s,baz=14,slow=3.2,SNR=4.1								
TLY	Talaya	49.98	306	*c* /P		P	08 32 05.6	-2.4	
TLY				*e*			08 33 27.5		
TLY				*e*			08 34 08.7		
TLY				*e*S		S	08 39 13.2	-4.5	
TLY				pmax		pmax			
	comp=Z,36nm,1.5s								
TLY				MLR		MLR			
	comp=Z,1μm,17.0s								
TLY	Talaya	49.98	306	*e*P		P	08 32 08.1	+0.1	
	comp=Z,20nm,1.0s								
TLY				PcP		PcP	08 33 29.1	+1.2	
P34A	Walnut Farm, R	50.00	75	P		P	08 32 07.3	-1.0	
	baz=50								
O35A	Humboldt	50.07	73	P		P	08 32 07.4	-1.4	
	baz=50								
W29A	Amraillo	50.08	82	P		P	08 32 08.7	-0.3	
	baz=50								
R33A	Olander Ranch,	50.13	77	P		P	08 32 08.9	-0.4	
	baz=50								
X28A	Dimmitt	50.15	83	P		P	08 32 09.2	-0.5	
	baz=50								
MSTX	Muleshoe	50.18	84	P		P	08 32 09.5	-0.3	
	baz=50,SNR=9.2								
MSTX	Muleshoe	50.18	84	*e*P		P	08 32 09.9	0.0	
	comp=Z,34nm,0.9s								
V30A	Spur Ranch, Mi	50.22	81	P		P	08 32 09.4	-0.7	
	baz=50								
U31A	Nine Bar Ranch	50.31	80	P		P	08 32 10.4	-0.3	
	baz=50,SNR=10								
T32A	Huddler Ranch,	50.32	78	P		P	08 32 10.1	-0.7	
	baz=50								
Q34A	Chapman	50.34	75	P		P	08 32 09.9	-1.0	
	baz=50								
P35A	Duane Minner,	50.49	74	P		P	08 32 10.6	-1.4	
	baz=50								
X29A	Tulia	50.50	83	P		P	08 32 11.9	-0.3	
	baz=50								
Y28A	McKinney Farm,	50.54	84	P		P	08 32 11.9	-0.7	
	baz=50								
SCIA	State Center	50.56	70	*e*P		P	08 32 12.0	-0.5	
	comp=Z,75nm,1.1s								
R34A	Isabella, Hill	50.57	76	P		P	08 32 11.9	-0.7	
	baz=50,SNR=16								
W30A	Crocket Farms	50.68	81	P		P	08 32 13.5	-0.1	
	baz=50								
O36A	Bolckow	50.71	73	P		P	08 32 12.5	-1.2	
	baz=50								
V31A	Spring Creek L	50.72	80	P		P	08 32 13.6	-0.2	
	baz=50								
T33A	Patterson Ranc	50.79	78	P		P	08 32 13.2	-1.1	
	baz=51								
U32A	Winter Ranch,	50.81	79	P		P	08 32 14.0	-0.5	
	baz=51,SNR=10								
Z28A	Tucker Farm, M	50.88	85	P		P	08 32 14.1	-1.0	
	baz=51,SNR=11								
P36A	Good Intent, A	50.90	73	P		P	08 32 13.7	-1.4	
	baz=51,SNR=12								
Q35A	Mercer Eighty,	50.92	75	P		P	08 32 13.7	-1.5	
	baz=51								
Y29A	Porterfield Fa	50.92	83	P		P	08 32 14.9	-0.6	
	baz=51								
SONM	Songino Array	50.97	300	P		P	08 32 16.9	+1.3	
	comp=Z,3.3nm,0.8s,baz=66,slow=5.9,SNR=3.7								
SONM				PcP		PcP	08 33 31.7	0.0	
	comp=Z,32nm,1.1s,baz=65,slow=2.8,SNR=12								
SONM				ScP		ScP	08 37 28.0	+1.0	
	comp=Z,1.8nm,0.8s,baz=45,slow=3.2,SNR=4.0								
X30A	Coker Ranch, T	51.00	82	P		P	08 32 15.8	-0.2	
	baz=51								
S34A	Willow Spring	51.05	77	P		P	08 32 15.2	-1.0	
	baz=51								
W31A	Holland Ranch,	51.05	81	P		P	08 32 15.9	-0.4	
	baz=51,SNR=12								
R35A	Emporia Munici	51.18	75	P		P	08 32 15.9	-1.3	
	baz=51								
Q36A	Arnold C. Orve	51.19	74	P		P	08 32 16.2	-1.0	
	baz=51								
V32A	Arapaho	51.23	80	P		P	08 32 17.0	-0.6	
	baz=51								
128A	Castleberry Fa	51.28	85	P		P	08 32 18.0	-0.1	
	baz=51,SNR=13								
U33A	Lingo Farm, Me	51.31	78	P		P	08 32 17.2	-1.0	
	baz=51,SNR=7.6								
Z29A	Hungry Hill Ra	51.31	84	P		P	08 32 18.2	-0.1	
	baz=51,SNR=12								
Y30A	Stafford Cattl	51.38	83	P		P	08 32 18.4	-0.4	
	baz=51								
X31A	McDonald Ranch	51.41	81	P		P	08 32 18.6	-0.4	
	baz=51								
T34A	McClaskey Farm	51.46	77	P		P	08 32 18.1	-1.2	
	baz=51,SNR=10.0								
W32A	Sentinel	51.52	81	P		P	08 32 19.3	-0.5	
	baz=51,SNR=9.5								
S35A	Otter Creek Ra	51.53	76	P		P	08 32 18.6	-1.2	
	baz=51,SNR=13								
228A	UT Block 9, Go	51.57	86	P		P	08 32 19.4	-0.9	
	baz=51								
R36A	Gordon, Harris	51.58	75	P		P	08 32 18.9	-1.3	
	baz=51,SNR=11								
V33A	Lossen Ranch,	51.62	79	P		P	08 32 20.0	-0.5	
	baz=51								
Z30A	Sanderson Ranc	51.64	84	P		P	08 32 20.2	-0.6	
	baz=52,SNR=13								
U34A	Anderson Ranch	51.65	78	P		P	08 32 19.8	-1.0	
	baz=52,SNR=11								
U34A	Anderson Ranch	51.65	78	*e*P		P	08 32 20.1	-0.6	
129A	Stewart Farms,	51.65	85	P		P	08 32 20.4	-0.5	
	baz=52								
Y31A	Rekieta Farm,	51.70	82	P		P	08 32 20.6	-0.6	
	baz=52								
Q37A	Longview Farm,	51.83	74	P		P	08 32 20.7	-1.4	
	baz=52								
T35A	Sooner Cattle	51.93	77	P		P	08 32 21.7	-1.1	
	baz=52								
S36A	Lake Cedric, C	51.93	76	P		P	08 32 21.4	-1.4	
	baz=52								
W33A	Caddo, Fort Co	51.96	80	P		P	08 32 23.1	0.0	
	baz=52								
X32A	Elmer	51.97	81	P		P	08 32 22.8	-0.4	
	baz=52,SNR=15								
R37A	Teagarden Farm	51.99	74	P		P	08 32 21.7	-1.5	
	baz=52								
WMOK	Wichita Mounta	52.06	81	*e*P		P	08 32 23.1	-0.7	
WMOK	Wichita Mounta	52.06	81	*e*P		P	08 32 23.1	-0.7	
V34A	Guthrie	52.06	79	P		P	08 32 23.0	-0.8	
	baz=52,SNR=11								
V34A	Guthrie	52.06	79	*e*P		P	08 32 23.1	-0.7	
229A	Bryant Ranch,	52.15	85	P		P	08 32 24.1	-0.5	
	baz=52								
Y32A	R-V Farms, Ver	52.16	82	P		P	08 32 24.0	-0.6	
	baz=52,SNR=13								
U35A	Pawnee	52.17	78	P		P	08 32 23.4	-1.2	
	baz=52								
T36A	Boggs Farm, Ca	52.21	76	P		P	08 32 23.8	-1.1	
	baz=52								
Z31A	Sharp Cattle R	52.22	83	P		P	08 32 24.3	-0.7	
	baz=52								
130A	Snyder	52.22	84	P		P	08 32 24.5	-0.6	
	baz=52								
W34A	Bridge Creek,	52.32	79	P		P	08 32 25.0	-0.7	
	baz=52,SNR=5.9								
W34A	Bridge Creek,	52.32	79	*e*P		P	08 32 25.4	-0.3	
S37A	Fort Scott	52.36	75	P		P	08 32 24.3	-1.7	
	baz=52,SNR=23								
X33A	Lawton	52.36	81	P		P	08 32 25.3	-0.7	
	baz=52								
JOW	Kunigami	52.38	266	*e*P		P	08 32 26.9	+0.7	
	comp=Z,121nm,1.4s								
329A	Wagon Wheel Ra	52.38	86	P		P	08 32 25.6	-0.7	
	baz=52								
TIA	Tai'an	52.51	283	⇑P		P	08 32 26.9	-0.2	
TIA				PMZ					
	comp=Z,10.0nm,0.9s								
TIA				PMZ					
	comp=Z,340nm,8.3s								
TIA				LN					
	comp=Z,940nm,19.6s								
TIA				LE					
	comp=Z,2μm,14.9s								
TIA				LZ					
	comp=Z,430nm,11.9s								
131A	Roby	52.52	84	P		P	08 32 27.0	-0.2	
	baz=52								
V35A	Meyer Ranch, C	52.52	78	P		P	08 32 26.3	-0.9	
	baz=52,SNR=8.1								
Z32A	Haskell	52.62	82	P		P	08 32 27.3	-0.7	
	baz=52,SNR=18								
230A	Sterling City	52.63	85	P		P	08 32 27.6	-0.6	
	baz=52,SNR=8.9								
HHC	Hu-ho-hao-te	52.64	291	*e*P		P	08 32 28.8	+0.6	
HHC				PP		PP	08 34 28.8	+1.8	
HHC				S		S	08 39 53.3	-1.5	
HHC				ScS		ScS	08 42 14.9	-2.2	
HHC				SS		SS	08 43 29.9	-2.7	
HHC				PMZ					
	comp=Z,25nm,1.1s								
HHC				PMZ					
	comp=Z,280nm,5.4s								
HHC				LN					
	comp=Z,2μm,15.7s								
HHC				LE					
	comp=Z,1μm,16.9s								
HHC				LZ					
	comp=Z,2μm,14.9s								
Y33A	Hilltop Ranch,	52.65	81	P		P	08 32 27.4	-0.8	
	baz=52								
X34A	Smith Ranch, M	52.72	80	P		P	08 32 28.6	-0.1	
	baz=52								
T37A	Cheneyville 18	52.73	76	P		P	08 32 27.1	-1.7	
	baz=52,SNR=12								
U36A	Oologah	52.75	77	P		P	08 32 27.5	-1.3	
	baz=53								
TXAR	Lajitas Array	52.89	89	P		P	08 32 30.1	-0.1	
	comp=Z,22nm,0.7s,baz=305,slow=5.9,SNR=15								
W35A	Tecumseh	52.91	79	P		P	08 32 29.4	-0.7	
	baz=53,SNR=9.7								
330A	Mertzon	52.93	85	P		P	08 32 29.6	-0.7	
	baz=53								
ABTX	Abilene, Hawle	53.00	83	P		P	08 32 30.6	-0.3	
	baz=53,SNR=16								
ABTX	Abilene, Hawle	53.00	83	*e*P		P	08 32 31.0	+0.2	
	comp=Z,50nm,0.9s								
V36A	Jenks	53.03	78	P		P	08 32 30.2	-0.8	
	baz=53								
TUL1	Tulsa	53.04	77	P		P	08 32 29.7	-1.4	
	baz=53								
TUL1	Tulsa	53.04	77	*e*P		P	08 32 29.7	-1.4	
	comp=Z,27nm,0.9s								
429A	Davenport Ranc	53.04	87	P		P	08 32 30.4	-0.8	
	baz=53								
Z33A	Whitaker Ranch	53.07	82	P		P	08 32 30.1	-1.2	
	baz=53,SNR=13								
231A	Bronte	53.08	84	P		P	08 32 30.2	-1.2	
	baz=53								
U37A	Salina	53.10	76	P		P	08 32 30.1	-1.4	
	baz=53,SNR=12								
GUMO	Guam	53.18	240	P		P	08 32 29.8	-2.5	
	comp=Z,109nm,0.7s,baz=357,slow=13,SNR=8.3								
529A	Stev Forest Ra	53.20	87	P		P	08 32 32.5	+0.1	
	baz=53,SNR=7.3								
Y34A	Reagan Ranch,	53.21	80	P		P	08 32 32.1	-0.2	
	baz=53,SNR=15								
SLBS	Sierra La Lagu	53.23	99	*e*P		P	08 32 33.2	+0.5	
	comp=Z,183nm,1.9s								
W36A	Wetumka	53.31	78	P		P	08 32 32.6	-0.4	
	baz=53,SNR=12								
430A	Baggett Ranch,	53.33	86	P		P	08 32 32.8	-0.5	
	baz=53,SNR=9.1								
X35A	Drake	53.37	80	P		P	08 32 33.0	-0.6	
	baz=53,SNR=7.6								
GLMI	Gering	53.43	62	*e*P		P	08 32 34.3	+0.4	
	comp=Z,110nm,0.9s								
V37A	Hulbert	53.44	77	P		P	08 32 32.6	-1.5	
	baz=53								
133A	Hamilton Ranch	53.45	83	P		P	08 32 33.8	-0.3	
	baz=53,SNR=19								
331A	San Angelo	53.45	85	P		P	08 32 33.4	-0.8	
	baz=53,SNR=11								
U38A	Gravette	53.51	76	P		P	08 32 33.0	-1.5	
	baz=53								
232A	Coleman	53.51	84	P		P	08 32 33.6	-1.1	
	baz=53								
Z34A	Collier Ranch,	53.52	81	P		P	08 32 34.2	-0.5	
	baz=53,SNR=21								
X36A	Centrahoma	53.62	79	P		P	08 32 34.9	-0.5	
	baz=53								
Y35A	Marietta	53.67	80	P		P	08 32 35.4	-0.3	
	baz=54,SNR=22								
HDIL	Hopedale	53.68	69	P		P	08 32 34.5	-1.2	
	baz=54,SNR=13								
HDIL	Hopedale	53.68	69	*e*P		P	08 32 34.8	-0.9	
	comp=Z,104nm,0.9s								
530A	J-C Ranch, Com	53.72	87	P		P	08 32 35.9	-0.3	
	baz=54,SNR=11								
431A	Sonora	53.78	86	P		P	08 32 35.9	-0.8	
	baz=54,SNR=12								
W37A	Quinton	53.78	78	P		P	08 32 35.9	-0.7	
	baz=54,SNR=8.6								
332A	Millersview	53.81	84	P		P	08 32 36.2	-0.6	
	baz=54,SNR=8.7								
233A	Rising Star	53.87	83	P		P	08 32 36.8	-0.5	
	baz=54,SNR=24								
V38A	Canehill	53.89	76	P		P	08 32 36.0	-1.3	
	baz=54,SNR=9.8								
Z35A	Perchaven, San	53.95	81	P		P	08 32 36.7	-1.1	
	baz=54								
134A	White-Moore Ra	53.98	82	P		P	08 32 37.4	-0.6	
	baz=54								
Y36A	Durant	54.13	79	P		P	08 32 38.7	-0.4	
	baz=54,SNR=16								
432A	Menard	54.14	85	P		P	08 32 38.5	-0.7	
	baz=54,SNR=8.1								
531A	Rocksprings	54.19	86	P		P	08 32 38.7	-0.9	
	baz=54								
X37A	Clayton	54.20	78	P		P	08 32 39.1	-0.4	
	baz=54,SNR=17								
333A	Richland Sprin	54.31	84	P		P	08 32 40.0	-0.5	
	baz=54,SNR=15								
234A	Clairette	54.34	83	P		P	08 32 40.3	-0.3	
	baz=54,SNR=15								
NJ2	Nanjing	54.35	278	*e*P		P	08 32 39.1	-1.6	
NJ2				sP		sP	08 32 47.4	-0.5	
NJ2				S		S	08 40 22.0	+4.1	
NJ2				sS		sS	08 40 28.5	+2.0	
NJ2				PMZ					
	comp=Z,60nm,0.8s								
NJ2				PMZ					
	comp=Z,850nm,6.5s								
NJ2				LN					
	comp=Z,2μm,25.9s								
NJ2				LE					
	comp=Z,3μm,28.6s								
NJ2				LZ					
	comp=Z,3μm,29.9s								
W38A	Poteau	54.37	77	P		P	08 32 40.1	-0.7	
	baz=54								
135A	Vickery Place,	54.39	81	P		P	08 32 40.6	-0.4	
	baz=54,SNR=9.5								
JCT	Junction City	54.41	85	*e*P		P	08 32 40.4	-0.9	
JCT				*e*			08 33 44.6		
JCT				pmax		pmax			
	comp=Z,35nm,0.8s								
JCT	Junction City	54.41	85	P		P	08 32 40.5	-0.7	
	baz=54,SNR=8.0								
JCT	Junction City	54.41	85	*e*P		P	08 32 40.4	-0.9	
	comp=Z,35nm,0.8s								
JCT				*e*PcP		PcP	08 33 44.6	-0.2	
X38A	Whitesboro	54.46	78	P		P	08 32 40.9	-0.6	
	baz=54								
Y37A	Hugo	54.47	79	P		P	08 32 41.0	-0.6	
	baz=54								
Z36A	Blue Ridge	54.48	80	P		P	08 32 41.3	-0.3	
	baz=54,SNR=9.5								
532A	Rocksprings	54.60	85	P		P	08 32 41.4	-1.2	
	baz=54								
433A	Art	54.65	84	P		P	08 32 42.1	-0.8	
	baz=54,SNR=9.3								
631A	Perdido Creek	54.71	87	P		P	08 32 42.2	-1.1	
	baz=55								
334A	Lometa	54.76	83	P		P	08 32 43.5	-0.2	
	baz=55,SNR=18								
WHTX	Lake Whitney	54.76	82	P		P	08 32 43.4	-0.3	
	baz=55,SNR=17								
136A	Ennis	54.98	81	P		P	08 32 44.8	-0.4	
	baz=55,SNR=6.6								
Z37A	Pogue Cattle C	55.01	80	P		P	08 32 44.8	-0.7	
	baz=55								
Y38A	Idabel	55.04	78	P		P	08 32 44.6	-1.0	
	baz=55								
SFIN	Scholer Farm	55.04	68	P		P	08 32 44.5	-1.0	
	baz=55								
HVS	Khovu-Aksy	55.09	310	*e*P		P	08 32 43.7	-2.3	
434A	Burnet	55.10	84	P		P	08 32 45.6	-0.6	
	baz=55,SNR=17								
632A	Uvalde	55.12	86	P		P	08 32 45.7	-0.6	
	baz=55								
533A	Kerrville	55.17	85	P		P	08 32 46.0	-0.7	
	baz=55,SNR=8.7								
SCHQ	Schefferville	55.24	43	P		P	08 32 48.0	+1.2	
	comp=Z,12nm,0.9s,baz=1.2,slow=5.5,SNR=4.1								
335A	Moody	55.28	83	P		P	08 32 47.3	-0.1	
	baz=55,SNR=6.1								
MIAR	Mount Ida	55.29	77	*e*P		P	08 32 47.0	-0.5	
MIAR				pmax		pmax			
	comp=Z,64nm,1.3s								
MIAR	Mount Ida	55.29	77	P		P	08 32 46.6	-0.9	
	baz=55,SNR=10								
MIAR	Mount Ida	55.29	77	*e*P		P	08 32 47.0	-0.5	
	comp=Z,64nm,1.3s								
236A	Katherine and	55.31	81	P		P	08 32 47.3	-0.4	
	baz=55								
137A	Heron Place, G	55.35	80	P		P	08 32 47.4	-0.5	
	baz=55								
Z38A	Mt. Pleasant	55.36	79	P		P	08 32 47.3	-0.7	
	baz=55								
Y39A	Lockesburg	55.41	78	P		P	08 32 47.1	-1.2	
	baz=55								
633A	Saathoff Ranch	55.52	85	P		P	08 32 48.1	-1.1	
	baz=55								
435B	Jarrell	55.54	83	P		P	08 32 48.9	-0.4	
	baz=55								
534A	Blanco	55.54	84	P		P	08 32 48.3	-1.0	
	baz=55								
336A	Riesel	55.56	82	P		P	08 32 49.3	-0.1	
	baz=55,SNR=16								
732A	Laxson Ranch,	55.56	87	P		P	08 32 48.8	-0.7	
	baz=55								
PBMO	Poplar Bluff	55.59	73	*e*P		P	08 32 48.7	-0.9	
	comp=Z,67nm,1.4s								
SIUC	Southern Illin	55.65	71	*e*P		P	08 32 48.2	-1.8	
138A	Matatall Enter	55.71	80	P		P	08 32 50.4	-0.1	
	baz=56,SNR=9.1								
237A	Washetta, Mont	55.74	81	P		P	08 32 50.1	-0.6	
	baz=56								
Z39A	Irene McRaven,	55.84	79	P		P	08 32 50.7	-0.8	
	baz=56								
832A	Faith Ranch, C	55.88	87	P		P	08 32 51.4	-0.4	
	baz=56,SNR=10								
733A	Divot King Ran	55.98	86	P		P	08 32 52.4	-0.1	
	baz=56,SNR=6.1								
436A	Wall Ranch, Ga	56.02	83	P		P	08 32 52.4	-0.4	
	baz=56								
634A	China Grove, S	56.08	85	P		P	08 32 52.5	-0.7	
	baz=56								
535A	Dale	56.08	84	P		P	08 32 53.2	0.0	
	baz=56,SNR=9.7								
139A	Bunkhouse Ranc	56.11	79	P		P	08 32 52.9	-0.5	
	baz=56								
238A	Jacksonville	56.16	80	P		P	08 32 53.6	-0.1	
	baz=56								
BLO	Bloomington	56.18	68	*e*P		P	08 32 52.8	-1.1	
BLO				pmax		pmax			
	comp=Z,54nm,0.9s								
BLO	Bloomington	56.18	68	*e*P		P	08 32 52.8	-1.1	
	comp=Z,54nm,0.9s								
833A	Chaparral WMA,	56.21	87	P		P	08 32 54.3	+0.1	
	baz=56,SNR=11								
734A	La Parita Cree	56.34	85	P		P	08 32 55.1	0.0	
	baz=56,SNR=10.0								
536A	Bastrop	56.36	83	P		P	08 32 54.4	-0.7	
	baz=56								
USIN	University of	56.37	70	*e*P		P	08 32 53.5	-1.7	
	comp=Z,120nm,0.8s								
437A	Phantom Ranch,	56.38	82	P		P	08 32 55.3	0.0	
	baz=56								
H06E1	SOCORRO T-PHAS	56.40	104	T		T	09 33 41.0		
H06S1	SOCORRO T	56.42	104	T		T	09 33 44.3		
635A	Leesville	56.42	84	P		P	08 32 55.4	-0.2	
	baz=56,SNR=10								
338A	Crockett	56.50	81	P		P	08 32 56.0	-0.1	
	baz=56								
239A	Gary	56.53	80	P		P	08 32 55.6	-0.8	
	baz=56								
NATX	Nacogdoches	56.60	80	P		P	08 32 56.6	-0.3	
	baz=56								
735A	Kenedy	56.78	85	P		P	08 32 58.3	+0.1	
	baz=57								
636A	Smothers Creek	56.79	84	P		P	08 32 58.8

637A	**Eagle Lake**	**57.26**	**83**	P	**P**	**08 33 01.7**	**+0.2**
	baz=57						
934A	**Benavides**	**57.26**	**86**	P	**P**	**08 33 02.1**	**+0.5**
	baz=57						
340A	**Bronson**	**57.31**	**80**	P	**P**	**08 33 01.3**	**-0.6**
	baz=57,SNR=10.0						
ACSO	**Alum Creek Sta**	**57.43**	**65**	*e*P	**P**	**08 33 02.1**	**-0.6**
	comp=Z,37nm,1.2s						
ARCES	**ARCESS Array B**	**57.51**	**354**	P	**P**	**08 33 03.9**	**+1.1**
	comp=Z,4.8nm,0.8s,baz=6.7,slow=8.5,SNR=3.7						
ARCES				PcP	**PcP**	**08 33 56.2**	**+0.1**
	comp=Z,2.5nm,0.6s,baz=15,slow=5.0,SNR=5.6						
WVT	**Waverly**	**57.55**	**72**	*e*P	**P**	**08 33 02.6**	**-0.9**
WVT				pmax	pmax		
	comp=Z,36nm,1.1s						
WVT	**Waverly**	**57.55**	**72**	*e*P	**P**	**08 33 02.6**	**-0.9**
	comp=Z,36nm,1.1s						
034A	**Hebbronville**	**57.55**	**87**	P	**P**	**08 33 04.0**	**+0.4**
	baz=57						
737A	**Port Lavaca**	**57.68**	**84**	P	**P**	**08 33 04.5**	**0.0**
	baz=58						
539A	**Cross D Ranch,**	**57.74**	**82**	P	**P**	**08 33 05.3**	**+0.3**
	baz=58						
440A	**Kirbyville**	**57.74**	**80**	P	**P**	**08 33 05.1**	**+0.2**
	baz=58						
OXF	**Oxford**	**57.77**	**74**	*e*P	**P**	**08 33 04.3**	**-0.8**
OXF				pmax	pmax		
	comp=Z,87nm,0.8s						
OXF	**Oxford**	**57.77**	**74**	*e*P	**P**	**08 33 04.3**	**-0.8**
	comp=Z,87nm,0.8s						
035A	**Encino**	**58.00**	**87**	P	**P**	**08 33 07.5**	**+0.8**
	baz=58						
738A	**Farr-Stevens R**	**58.10**	**83**	P	**P**	**08 33 07.8**	**+0.3**
	baz=58						
YHNB	**Yeheng**	**58.16**	**270**	*e*P	**P**	**08 33 07.7**	**-0.4**
	comp=Z,28nm,0.8s						
035Z	**Hargill**	**58.37**	**87**	P	**P**	**08 33 09.8**	**+0.4**
	baz=58						
NACB	**Ninganchiao**	**58.39**	**269**	*e*P	**P**	**08 33 09.3**	**-0.3**
	comp=Z,26nm,0.7s						
VBMS	**Vicksburg**	**58.74**	**77**	P	**P**	**08 33 11.1**	**-0.9**
	baz=59						
LONY	**Lake Ozonia**	**58.80**	**56**	*e*P	**P**	**08 33 11.2**	**-1.0**
SSLB	**Suanglung**	**59.07**	**269**	*e*P	**P**	**08 33 14.6**	**+0.3**
	comp=Z,120nm,0.8s						
YULB	**Yu-li**	**59.15**	**269**	*e*P	**P**	**08 33 14.6**	**-0.3**
	comp=Z,197nm,1.6s						
SWET	**Sewanee**	**59.28**	**71**	*e*P	**P**	**08 33 13.8**	**-1.9**
TPUB	**Ta-pu**	**59.63**	**269**	*e*P	**P**	**08 33 17.3**	**-0.9**
	comp=Z,31nm,1.0s						
QZH	**Quanzhou**	**59.64**	**272**	⇓*i*P	**P**	**08 33 17.0**	**-1.2**
QZH				S	**S**	**08 41 32.0**	**+4.1**
QZH				PMZ			
	comp=Z,1μm,2.8s						
TZTN	**Tazewell**	**59.70**	**69**	*e*P	**P**	**08 33 17.9**	**-0.7**
	comp=Z,57nm,1.3s						
SSPA	**Standing Stone**	**59.91**	**62**	*e*P	**P**	**08 33 19.4**	**-0.5**
CPCT	**Cooper Cave**	**59.93**	**70**	*e*P	**P**	**08 33 18.5**	**-1.6**
ACCN	**Adirondack Com**	**60.15**	**57**	*e*P	**P**	**08 33 20.9**	**-0.6**
GTA	**Gaotai**	**60.17**	**297**	*e*P	**P**	**08 33 22.8**	**+0.9**
GTA				pP	**pP**	**08 33 27.1**	**0.0**
GTA				sP	**sP**	**08 33 30.3**	**+1.2**
GTA				PcP	**PcP**	**08 34 07.8**	**+0.4**
GTA				S	**S**	**08 41 32.5**	**-2.1**
GTA				sS	**sS**	**08 41 39.4**	**-3.9**
GTA				SS	**SS**	**08 45 29.1**	**-1.9**
GTA				PMZ			
	comp=Z,7.0nm,1.6s						
GTA				PMZ			
	comp=Z,150nm,5.5s						
GTA				LN			
	comp=Z,2μm,17.6s						
GTA				LE			
	comp=Z,4μm,18.0s						
GTA				LZ			
	comp=Z,4μm,21.4s						
LRAL	**Lakeview Retre**	**60.23**	**74**	*e*P	**P**	**08 33 20.0**	**-2.2**
LZH	**Lanzhou**	**60.30**	**291**	*e*P	**P**	**08 33 23.1**	**+0.2**
LZH				pP	**pP**	**08 33 26.8**	**-1.4**
LZH				sP	**sP**	**08 33 28.4**	**-1.8**
LZH				PcP	**PcP**	**08 34 08.8**	**+0.8**
LZH				PP	**PP**	**08 35 33.8**	**-1.7**
LZH				eS	**S**	**08 41 31.0**	**-5.5**
LZH				SS	**SS**	**08 45 33.6**	**+0.2**
LZH				PMZ			
	comp=Z,22nm,1.0s						
LZH				PMZ			
	comp=Z,180nm,5.3s						
LZH				LN			
	comp=Z,4μm,15.5s						
LZH				LE			
	comp=Z,860nm,14.6s						
LZH				LZ			
	comp=Z,5μm,16.2s						
KSPA	**Keystone Colle**	**60.37**	**59**	*e*P	**P**	**08 33 23.1**	**0.0**
	comp=Z,41nm,0.9s						
PKME	**Peaks-Kenny Pk**	**60.95**	**53**	*e*P	**P**	**08 33 26.1**	**-0.9**
	comp=Z,18nm,1.0s						
BLA	**Blacksburg**	**60.98**	**66**	*e*P	**P**	**08 33 26.7**	**-0.6**
BLA				pmax	pmax		
	comp=Z,105nm,1.0s						
BLA	**Blacksburg**	**60.98**	**66**	*e*P	**P**	**08 33 26.7**	**-0.6**
	comp=Z,105nm,1.0s						
VWCC	**Virginia Weste**	**61.20**	**66**	*e*P	**P**	**08 33 27.8**	**-1.0**
LUPA	**Lehigh Univers**	**61.27**	**60**	*e*P	**P**	**08 33 29.2**	**+0.1**
	comp=Z,13nm,1.0s						
ODNJ	**Ogdensburg**	**61.32**	**59**	*e*P	**P**	**08 33 29.4**	**-0.1**
	comp=Z,40nm,0.9s						
SDMD	**Soldier's Deli**	**61.35**	**62**	*e*P	**P**	**08 33 29.1**	**-0.6**
	comp=Z,155nm,1.1s						
TMCR	**Tamitsa**	**61.44**	**347**	*e*P	P	08 33 40.6	+11
TMCR				pmax	pmax		
	comp=Z,24nm,1.0s						
QUA2	**Belchertown**	**61.61**	**57**	*e*P	**P**	**08 33 31.0**	**-0.5**
	comp=Z,17nm,0.8s						
BRNJ	**Basking Ridge**	**61.63**	**59**	*e*P	**P**	**08 33 31.3**	**-0.3**
	comp=Z,62nm,1.1s						
BRAL	**Brewton**	**61.65**	**75**	*e*P	**P**	**08 33 30.9**	**-1.0**
	comp=Z,71nm,0.9s						
PAL	**Palisades**	**61.74**	**59**	*e*P	**P**	**08 33 34.7**	**+2.4**
PAL				pmax	pmax		
	comp=Z,47nm,0.9s						
PAL	**Palisades**	**61.74**	**59**	*e*P	**P**	**08 33 34.7**	**+2.4**
	comp=Z,47nm,0.9s						
HRV	**Adam Dziewonsk**	**61.85**	**56**	*e*P	**P**	**08 33 32.8**	**-0.3**
HRV				pmax	pmax		
	comp=Z,20nm,1.0s						
HRV	**Adam Dziewonsk**	**61.85**	**56**	*e*P	**P**	**08 33 32.8**	**-0.3**
	comp=Z,20nm,1.0s						
CBN	**Corbin**	**61.93**	**63**	*e*P	**P**	**08 33 33.3**	**-0.3**
	comp=Z,58nm,1.1s						
JSRW	**J. Sargeant Re**	**62.03**	**64**	*e*P	**P**	**08 33 33.0**	**-1.3**
EMMW	**East Machias**	**62.24**	**52**	*e*P	**P**	**08 33 34.6**	**-1.0**
	comp=Z,37nm,1.0s						
PRGR	**Permogore**	**62.56**	**342**	*e*P	**P**	**08 33 36.4**	**-1.1**
PRGR				pmax	pmax		
	comp=Z,21nm,1.0s						
JSC	**Jenkinsville**	**62.62**	**69**	*e*P	**P**	**08 33 37.8**	**-0.6**
JSC				pmax	pmax		
	comp=Z,42nm,1.1s						
JSC	**Jenkinsville**	**62.62**	**69**	*e*P	**P**	**08 33 37.8**	**-0.6**
	comp=Z,42nm,1.1s						
WMQ	**Urumqi**	**63.17**	**308**	P	**P**	**08 33 43.9**	**+1.9**
WMQ				pP	**pP**	**08 33 48.5**	**+1.2**
WMQ				sP	**sP**	**08 33 52.3**	**+3.0**
WMQ				PcP	**PcP**	**08 34 19.9**	**+0.5**
WMQ				S	**S**	**08 42 13.3**	**+0.9**
WMQ				SS	**SS**	**08 46 21.3**	**+3.6**
WMQ				PMZ			
	comp=Z,15nm,0.9s						
WMQ				PMZ			
	comp=Z,390nm,5.6s						
WMQ				LN			
	comp=Z,4μm,15.0s						
WMQ				LE			
	comp=Z,2μm,18.0s						
WMQ				LZ			
	comp=Z,2μm,18.0s						
SVE	**Sverdlovsk**	**63.26**	**332**	*e*P	**P**	**08 33 42.7**	**+0.4**
SVE				pmax	pmax		
	comp=Z,51nm,1.5s						
SVE				MLR	MLR		
	comp=Z,2μm,18.0s						
BVAR	**Borovoye Array**	**63.29**	**324**	P	**P**	**08 33 41.8**	**-0.7**
	baz=58,slow=6.6						
BRVK	**Borovoye**	**63.30**	**324**	*i* P	**P**	**08 33 42.1**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,12nm,0.8s						
BRVK	**Borovoye**	**63.30**	**324**	*e*P	**P**	**08 33 42.9**	**+0.3**
	comp=Z,10nm,0.8s						
MKAR	**Makanchi Array**	**63.42**	**313**	P	**P**	**08 33 42.6**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=38,slow=7.3,SNR=2.3						
SZP	**Santa**	**64.09**	**265**	*e*P	**P**	**08 33 48.8**	**+0.5**
	comp=Z,535nm,1.2s						
CD2	**Chengdu**	**64.11**	**287**	P	**P**	**08 33 47.3**	**-1.0**
CD2				pP	**pP**	**08 33 50.5**	**-3.1**
CD2				PP	**PP**	**08 36 07.8**	**-1.2**
CD2				S	**S**	**08 42 23.9**	**-0.5**
CD2				sS	**sS**	**08 42 29.5**	**-3.6**
CD2				SS	**SS**	**08 46 33.6**	**+0.7**
CD2				PMZ			
	comp=Z,20nm,0.5s						
CD2				PMZ			
	comp=Z,440nm,8.4s						
CD2				LN			
	comp=Z,1μm,21.9s						
CD2				LZ			
	comp=Z,1μm,27.8s						
ARU	**Arti**	**64.19**	**333**	*d* *i*P	**P**	**08 33 48.0**	**-0.4**
ARU						08 34 27.2	
ARU				PPP	PPP	08 37 48.8	
ARU				S	**S**	**08 42 23.6**	**-1.0**
ARU						08 43 40.9	
ARU				pmax	pmax		
	comp=Z,41nm,1.7s						
ARU				MLR	MLR		
	comp=Z,2μm,18.0s						
ARU	**Arti**	**64.19**	**333**	*e*P	**P**	**08 33 48.5**	**+0.1**
	comp=Z,17nm,1.0s						
FINES	**FINESS Array B**	**65.45**	**352**	P	**P**	**08 33 56.3**	**-0.2**
	comp=Z,8.9nm,0.9s,baz=35,slow=7.0,SNR=5.1						
FINES				PcP	**PcP**	**08 34 29.7**	**+1.4**
	comp=Z,6.0nm,0.8s,baz=52,slow=4.3,SNR=3.5						
GYA	**Guiyang**	**65.70**	**282**	⇑*i*P	**P**	**08 34 01.0**	**+2.2**
GYA				PcP	**PcP**	**08 34 32.4**	**+2.3**
GYA				PP	**PP**	**08 36 27.8**	**+4.7**
GYA				ScP		08 38 34.3	
GYA				S	**S**	**08 42 44.0**	**-0.2**
GYA				SS	**SS**	**08 47 00.8**	**+2.8**
GYA				PMZ			
	comp=Z,30nm,0.8s						
GYA				PMZ			
	comp=Z,160nm,5.4s						
GYA				LN			
	comp=Z,760nm,18.5s						
GYA				LE			
	comp=Z,690nm,19.2s						
GYA				LZ			
	comp=Z,730nm,18.8s						
TGY	**Tagaytay City**	**66.47**	**262**	P	**P**	**08 34 04.7**	**+0.9**
	comp=Z,262nm,0.5s,baz=315,slow=12,SNR=7.0						
NOA	**NORSAR Array B**	**66.54**	**360**	P	**P**	**08 34 03.4**	**-0.2**
	comp=Z,1.4nm,0.9s,baz=2.3,slow=6.1,SNR=3.0						
HFS	**Hagfors**	**67.42**	**358**	P	**P**	**08 34 08.9**	**-0.2**
	comp=Z,3.4nm,0.5s,baz=354,slow=1.4,SNR=4.5						
VSU	**Vasula**	**68.33**	**351**	*e*P	**P**	**08 34 14.6**	**-0.2**
VSU				pmax	pmax		
	comp=Z,39nm,1.0s						
KMI	**Kunming**	**69.03**	**284**	P	**P**	**08 34 21.3**	**+1.3**
KMI				pP	**pP**	**08 34 24.1**	**-1.3**
KMI				PP	**PP**	**08 36 52.0**	**-0.2**
KMI				S	**S**	**08 43 24.3**	**-0.1**
KMI				PMZ			
	comp=Z,9.0nm,0.5s						
KMI				PMZ			
	comp=Z,310nm,7.6s						
KMI				LN			
	comp=Z,1μm,22.1s						
KMI				LE			
	comp=Z,2μm,24.6s						
KMI				LZ			
	comp=Z,2μm,29.5s						
QIZ	**Qiongzhong**	**69.40**	**275**	*e*P	**P**	**08 34 22.6**	**+0.5**
	comp=Z,38nm,1.4s						
MOS	**Moscow**	**69.54**	**344**	*e*P	P	08 34 17.8	-4.6
MOS				pmax	pmax		
	comp=Z,63nm,1.1s						
AKTO	**Aktyubinsk**	**69.59**	**330**	P	**P**	**08 34 22.2**	**-0.7**
	comp=Z,11nm,0.9s,baz=33,slow=7.5,SNR=6.6						
FRU	**Bishkek**	**69.90**	**315**	*e*P	**P**	**08 34 24.0**	**-0.9**
FRU				*e*		08 34 55.0	
FRU				pmax	pmax		
	comp=Z,58nm,1.9s						
ABKAR	**Akbulak array**	**70.02**	**328**	*e*P	**P**	**08 34 25.5**	**+0.1**
	comp=Z,2.8nm,0.5s						
OBN	**Obninsk**	**70.32**	**344**	*i* P	**P**	**08 34 26.7**	**-0.5**
OBN				*PP	**pP**	**08 34 31.0**	**-1.5**
OBN						08 34 49.0	
OBN				pmax	pmax		
	comp=Z,21nm,1.2s						
OBN				MLR	MLR		
	comp=Z,1μm,26.0s						
EKS2	**Erkin-Say**	**70.40**	**316**	*e*P	**P**	**08 34 28.0**	**-0.1**
EKS2				pmax	pmax		
	comp=Z,8.0nm,0.8s						
EKS2	**Erkin-Say**	**70.40**	**316**	*e*P	**P**	**08 34 28.0**	**-0.1**
	comp=Z,8.2nm,0.8s						
KKAR	**Karatay Array**	**71.39**	**318**	*e*P	**P**	**08 34 34.4**	**+0.4**
KKAR	**Karatay Array**	**71.39**	**318**	*e*P	**P**	**08 34 34.4**	**+0.4**
EKA	**Eskdalemuir Ar**	**71.68**	**8**	P	**P**	**08 34 34.4**	**-1.1**
	comp=Z,2.2nm,0.6s,baz=350,slow=4.9,SNR=3.7						
ESK	**Eskdalemuir**	**71.69**	**8**	*i* P	**P**	**08 34 37.0**	**+1.4**
KSH	**Kashi**	**72.00**	**312**	P	P	08 34 41.3	+3.5
KSH				sP	sP	08 34 48.3	+3.1
KSH				PcP	**PcP**	**08 35 00.3**	**+3.9**
KSH				PP	PP	08 37 24.1	+6.9
KSH				S	**S**	**08 44 02.1**	**+3.6**
KSH				sS	sS	08 44 10.3	+2.9
KSH				SKS	**SKKSac**	**08 44 41.3**	**0.0**
KSH				PMZ			
	comp=Z,500nm,5.8s						
KSH				LN			
	comp=Z,750nm,10.0s						
KSH				LE			
	comp=Z,770nm,12.1s						
KSH				LZ			
	comp=Z,3μm,15.7s						
PMG	**Port Moresby**	**72.07**	**225**	P	**P**	**08 34 37.2**	**-1.0**
	comp=Z,16nm,0.9s,baz=35,slow=13,SNR=4.1						
PMG	**Port Moresby**	**72.07**	**225**	*i* P	**P**	**08 34 38.7**	**+0.4**
PMG				pmax	pmax		
	comp=Z,275nm,1.7s						
LPSR	**Galich'ya Gora**	**72.31**	**342**	*e*P	**P**	**08 34 37.9**	**-1.4**
LPSR				pmax	pmax		
	comp=E,8.0nm,0.9s						
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LPSR				pmax	pmax		
	comp=N,3.0nm,0.6s						
SIJI	**Sorong**	**72.56**	**244**	P	**P**	**08 34 41.4**	**+0.1**
	comp=N,100nm,1.0s,baz=16,slow=6.9,SNR=26						
VSR	**Storozhevoye**	**73.59**	**342**	*e*P	**P**	**08 34 45.6**	**-1.3**
VSR				pmax	pmax		
	comp=E,20nm,1.3s						
VSR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
VSR				pmax	pmax		
	comp=N,5.0nm,0.7s						
VSR				MLR	MLR		
	comp=N,1μm,23.0s						
VSR				MLR	MLR		
	comp=E,940nm,23.0s						
VSR				MLR	MLR		
	comp=Z,2μm,23.0s						
LBMI	**Labuha**	**74.45**	**248**	P	**P**	**08 34 51.2**	**-1.2**
	comp=Z,93nm,1.3s,comp=Z,1μm						
SKNT	**Sakolnakorn**	**74.52**	**278**	P	**P**	**08 34 53.7**	**+0.8**
	comp=Z,62nm,1.3s,comp=Z,1μm						
UBPT	**Khong Chiam**	**74.94**	**275**	P	**P**	**08 34 55.9**	**+0.6**
	comp=Z,81nm,1.5s,comp=Z,1μm						
SHL	**Shillong**	**74.95**	**292**	*e*P	**P**	**08 34 55.0**	**-0.5**
MYLDM	**Lahad Datu**	**74.97**	**259**	*e*P	**P**	**08 34 57.2**	**+1.7**
	comp=Z,192nm,1.5s						
IBBN	**Ibbenburen**	**75.27**	**2**	*e*P	**P**	**08 34 56.6**	**0.0**
	comp=Z,48nm,1.5s						
SDKM	**Sandakan**	**75.38**	**260**	⇑P	**P**	**08 34 58.6**	**+0.7**
AKASG	**Malin Array Be**	**75.68**	**348**	P	**P**	**08 34 57.9**	**-1.2**
	comp=Z,5.2nm,0.8s,baz=14,slow=5.6,SNR=5.0						
KIEV	**Kiev**	**75.69**	**348**	*e*P	**P**	**08 34 57.3**	**-1.8**
AK01	**Malin Array Si**	**75.69**	**348**	*e*P	**P**	**08 34 58.3**	**-0.8**
DLV	**T Lat**	**75.70**	**271**	*e*P	**P**	**08 35 00.7**	**+0.8**
AK02	**Malin Array Si**	**75.73**	**348**	*e*P	**P**	**08 34 58.5**	**-0.8**
LOEI	**Loei**	**75.74**	**280**	P	**P**	**08 34 59.8**	**-0.1**
	comp=Z,16nm,1.2s						
CLZ	**Clausthal**	**75.76**	**0**	*e*P	**P**	**08 34 59.8**	**+0.3**
	comp=Z,28nm,1.4s						
UTTA	**Uttaradit**	**75.98**	**281**	P	**P**	**08 35 03.7**	**+2.5**
	comp=Z,7.0nm,0.9s						
TSM	**Tawau**	**76.05**	**259**	⇓P	**P**	**08 35 02.5**	**+0.8**
CMMT	**Chiang Mai**	**76.11**	**283**	P	P	08 35 06.4	+4.4
	comp=Z,30nm,1.2s						
CHTO	**Chiang Mai**	**76.11**	**283**	P	P	08 35 06.4	+4.4
	comp=Z,107nm,1.3s						
CHTO	**Chiang Mai**	**76.11**	**283**	*e*P	**P**	**08 35 02.1**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,44nm,1.8s						
CHTO	**Chiang Mai**	**76.11**	**283**	*e*P	**P**	**08 35 02.1**	**+0.1**
	comp=Z,44nm,1.8s						
BUG	**Bochum--Univer**	**76.13**	**2**	*e*P	**P**	**08 35 01.2**	**-0.4**
	comp=Z,18nm,1.2s						
CLL	**Collm**	**76.27**	**358**	*e*P	**P**	**08 35 02.1**	**-0.3**
	comp=Z,46nm,2.2s						
CLL	**Collm**	**76.27**	**358**	⇓*i*P	**P**	**08 35 01.6**	**-0.8**
CLL				*i*		08 35 06.4	
CLL				pmax	pmax		
	comp=Z,44nm,2.2s						
CLL	**Collm**	**76.27**	**358**	⇓*i*P	**P**	**08 35 01.6**	**-0.8**
	comp=Z,44nm,2.2s						
CLL				*i* pP	**pP**	**08 35 06.4**	**-1.4**
	comp=Z,34nm,1.8s						
CLL				Lm	MLR	11 50 00.0	
	comp=Z,100nm,20.3s						
BNDI	**Bandanaira**	**76.34**	**243**	P	**P**	**08 35 01.3**	**-1.9**
	comp=Z,449nm,1.0s						
CMAR	**Chiang Mai Arr**	**76.39**	**282**	P	**P**	**08 35 03.8**	**+0.2**
	comp=Z,3.7nm,0.4s,baz=24,slow=5.9,SNR=5.2						
SANI	**Sanana**	**76.46**	**248**	P	**P**	**08 35 03.2**	**-0.8**
	comp=Z,122nm,1.0s,comp=Z,1μm						
AAI	**Ambon**	**76.58**	**245**	P	**P**	**08 35 02.8**	**-1.8**
	comp=Z,160nm,1.8s,comp=Z,3μm						
PBKT	**Sadao Pong**	**76.64**	**280**	P	**P**	**08 35 06.4**	**+1.4**
	comp=Z,21nm,0.7s,comp=Z,1μm						
BRG	**Berggiesshubel**	**76.69**	**358**	*e*P	**P**	**08 35 04.8**	**0.0**
	comp=Z,20nm,1.5s						
BRG	**Berggiesshubel**	**76.69**	**358**	*e*P	**P**	**08 35 04.7**	**0.0**
	comp=Z,20nm,1.5s						
BRG	**Berggiesshubel**	**76.69**	**358**	*e*P	**P**	**08 35 04.8**	**0.0**
BRG				pmax	pmax		
	comp=Z,20nm,1.5s						
MRSI	**Marisa**	**76.72**	**253**	P	**P**	**08 35 04.9**	**-0.5**
	comp=Z,112nm,1.3s,comp=Z,2μm						
UBBA	**Unterbreizbach**	**76.78**	**0**	*e*P	**P**	**08 35 05.1**	**-0.1**
	comp=Z,30nm,2.1s						
MEM	**Membach**	**76.93**	**3**	*e*P	**P**	**08 35 07.0**	**+0.9**
MEM				pmax	pmax		
	comp=Z,30nm,1.5s						
MEM	**Membach**	**76.93**	**3**	*e*P	**P**	**08 35 07.0**	**+0.9**
	comp=Z,30nm,1.5s						
MOX	**Moxa**	**76.95**	**359**	*e*P	**P**	**08 35 06.2**	**-0.1**
	comp=Z,30nm,1.8s						
MOX				*e*L	L	09 13 39.6	
	comp=Z,746nm,20.4s						
UPC	**Upice**	**76.99**	**356**	*e*P	**P**	**08 35 05.9**	**-0.6**
UPC				*e*pP	**pP**	**08 35 11.5**	**-0.4**
UPC				*e*PCP	**PcP**	**08 35 17.2**	**-0.3**
UPC	**Upice**	**76.99**	**356**	*e*P	**P**	**08 35 05.9**	**-0.6**
UPC				*e*		08 35 11.5	
UPC				*e*		08 35 17.2	
PVCC	**Panska Ves**	**77.01**	**357**	*e*P	**P**	**08 35 06.8**	**+0.2**
PVCC	**Panska Ves**	**77.01**	**357**	*e*P	**P**	**08 35 06.8**	**+0.2**
GTBY	**Guantanamo Bay**	**77.04**	**74**	*e*P	**P**	**08 35 09.5**	**+2.3**
	comp=Z,131nm,1.3s						
DPC	**Dobruska-Polom**	**77.13**	**356**	*e*P	**P**	**08 35 07.8**	**+0.4**
DPC				*e*pP	**pP**	**08 35 12.1**	**-0.7**
DPC				*e*PCP	**PcP**	**08 35 17.8**	**-0.3**
DPC	**Dobruska-Polom**	**77.13**	**356**	*e*P	**P**	**08 35 07.8**	**+0.4**
DPC				*e*		08 35 12.1	
DPC				*e*		08 35 17.8	
TANN	**Tannenbergstha**	**77.17**	**359**	*e*P	**P**	**08 35 07.8**	**+0.2**
	comp=Z,25nm,1.6s						
NKC	**Novy Kostel**	**77.36**	**359**	*e*P	**P**	**08 35 08.6**	**0.0**
NKC				*e*PCP	**PcP**	**08 35 19.6**	**+0.5**
NKC	**Novy Kostel**	**77.36**	**359**	*e*P	**P**	**08 35 08.6**	**0.0**
NKC				*e*		08 35 19.6	
TNS	**Taunus Mts**	**77.37**	**1**	*e*P	**P**	**08 35 08.7**	**0.0**
	comp=Z,18nm,1.4s						
KRLC	**Kraliky**	**77.39**	**356**	*e*P	**P**	**08 35 08.6**	**-0.2**
KRLC				*e*pP	**pP**	**08 35 13.7**	**-0.5**
KRLC	**Kraliky**	**77.39**	**356**	*e*P	**P**	**08 35 08.6**	**-0.2**
KRLC				*e*		08 35 13.7	
DZM	**Mont Dzumac**	**77.39**	**203**	P	**P**	**08 35 07.2**	**-1.8**
	comp=Z,14nm,1.1s,baz=90,slow=20,SNR=4.6						
DZM	**Mont Dzumac**	**77.39**	**203**	*e*P	**P**	**08 35 08.8**	**-0.3**
DOU	**Dourbes**	**77.39**	**4**	P	**P**	**08 35 08.8**	**+0.1**
	comp=Z,7.5nm,1.4s						
LUWI	**Luwuk**	**77.47**	**251**	P	**P**	**08 35 08.1**	**-1.5**
	comp=Z,345nm,1.1s,comp=Z,5μm						
LUWI	**Luwuk**	**77.47**	**251**	*e*P	**P**	**08 35 09.1**	**-0.6**
	comp=Z,248nm,0.8s						
OKC	**Ostrava-Krasne**	**77.56**	**355**	*e*P	**P**	**08 35 09.3**	**-0.4**
OKC				*e*pP	**pP**	**08 35 14.5**	**-0.6**
OKC	**Ostrava-Krasne**	**77.56**	**355**	*e*P	**P**	**08 35 09.3**	**-0.4**
OKC				*e*		08 35 14.5	
PRU	**Pruhonice**	**77.56**	**357**	*e*P	**P**	**08 35 09.7**	**0.0**
PRU	**Pruhonice**	**77.56**	**357**	*e*P	**P**	**08 35 09.7**	**0.0**
GOPC	**GO Pecny, Ondr**	**77.62**	**357**	*e*P	**P**	**08 35 10.6**	**+0.5**
GOPC				*e*pP	**pP**	**08 35 14.5**	**-1.0**
GOPC				*e*PCP	**PcP**	**08 35 20.5**	**+0.2**
MORC	**Moravsky Berou**	**77.65**	**355**	*e*P	**P**	**08 35 10.5**	**+0.2**
MORC				pmax	pmax		
	comp=Z,60nm,1.6s						
MORC	**Moravsky Berou**	**77.65**	**355**	*e*P	**P**	**08 35 10.4**	**+0.2**
	comp=Z,60nm,1.6s						
ROTZ	**Rotzenmuhle**	**77.83**	**359**	*e*P	**P**	**08 35 11.6**	**+0.4**
	comp=Z,32nm,1.7s						
COEN	**Coen**	**77.86**	**227**	*e*P	**P**	**08 35 11.2**	**-0.5**
	comp=Z,51nm,1.4s						
WLF	**Walferdange**	**77.88**	**3**	*e*P	**P**	**08 35 11.9**	**+0.4**
	comp=Z,15nm,0.6s						
GRF	**Grafenberg Arr**	**77.91**	**359**	*e*P	**P**	**08 35 12.5**	**+0.8**
	comp=Z,63nm,1.6s						
GRF				*e*pP	**pP**	**08 35 16.0**	**-1.1**
GRF				*e*L	L	09 13 49.0	
	comp=Z,702nm,19.8s						
APSI	**Ampana**	**78.01**	**252**	P	**P**	**08 35 11.9**	**-0.8**
	comp=Z,92nm,1.3s,comp=Z,1μm						
VRAC

KIS	**Kishinev**	**79.37**	**347**	*e*P		**P**	**08 35 20.0**	**+0.3**
KIS				MLR		MLR		
	comp=Z,1μm,18.0s							
KIS				MLR		MLR		
	comp=N,1μm,19.0s							
KIS				MLR		MLR		
	comp=E,900nm,20.0s							
KIS				MLR		MLR		
	comp=Z,2μm,22.0s							
MAK	**Makhachkala**	**79.42**	**333**	*e*P		**P**	**08 35 20.5**	**+0.5**
MAK				*e*			08 38 24.2	
MAK				*e*PPP		PPP	08 40 14.6	
MAK				*e*S		**S**	**08 45 16.3**	**-3.7**
MAK				*e*SSS		SSS	08 53 48.7	
MAK				pmax		pmax		
	comp=Z,125nm,2.0s							
FUR	**Furstenfeldbru**	**79.44**	**359**	*e*P		**P**	**08 35 20.4**	**+0.3**
	comp=Z,33nm,1.2s							
CONA	**Conrad Observa**	**79.57**	**356**	*i* pP		**P**	**08 35 21.9**	**+1.0**
	comp=Z,21nm,1.2s,SNR=6.1							
KIV	**Kislovodsk**	**79.72**	**337**	P		**P**	**08 35 22.0**	**+0.2**
KIV				*PP		**pP**	**08 35 28.0**	**+0.7**
KIV							08 35 33.0	
KIV				*i* SSS		SSS	08 53 49.6	
KIV				pmax		pmax		
	comp=Z,20nm,1.2s							
KIV				MLR		MLR		
	comp=Z,856nm,19.0s							
RJOB	**Jochberg**	**79.85**	**358**	*e*P		**P**	**08 35 22.6**	**+0.2**
	comp=Z,7.0nm,1.0s							
KBZ	**Khabaz**	**79.88**	**337**	P		**P**	**08 35 22.7**	**+0.1**
	comp=Z,5.7nm,0.9s,baz=334,slow=1.7,SNR=4.6							
KDI	**Kendari**	**79.93**	**250**	P		**P**	**08 35 22.2**	**-1.0**
	comp=Z,74nm,1.4s							
ANN	**Anapa**	**80.07**	**341**	*e*P		P	08 35 18.7	-4.8
ANN				*e*S		S	08 45 17.2	-10
ANN				pmax		pmax		
	comp=Z,35nm,1.2s							
ARSA	**Arzberg**	**80.26**	**356**	⇑ *i* pP		**P**	**08 35 25.5**	**+0.9**
	comp=Z,18nm,1.4s							
WTTA	**Wattenberg**	**80.34**	**359**	⇑ *i* pP		**P**	**08 35 25.9**	**+0.6**
	comp=Z,31nm,1.6s,SNR=5.3							
KBA	**Koelnbreinsper**	**80.50**	**358**	*i* pP		**P**	**08 35 27.2**	**+1.1**
	comp=Z,33nm,1.0s,SNR=8.8							
FETA	**Feichten**	**80.58**	**360**	⇓ *i* P		**P**	**08 35 25.0**	**-1.5**
	comp=Z,20nm,1.2s,SNR=5.7							
GEYT	**Alibeck**	**80.62**	**324**	P		**P**	**08 35 26.2**	**-0.5**
	comp=Z,9.9nm,0.8s,baz=355,slow=3.6,SNR=8.3							
SOC	**Sochi**	**80.75**	**339**	*e*P		**P**	**08 35 25.8**	**-1.5**
SOC				pmax		pmax		
	comp=Z,12nm,0.6s							
TTSI	**Tana Toraja**	**80.80**	**253**	P		**P**	**08 35 27.3**	**-0.5**
	comp=Z,102nm,1.4s,comp=Z,1μm							
DAVOX	**Davos/Dischmat**	**80.83**	**0**	P		**P**	**08 35 27.7**	**-0.1**
	comp=Z,4.8nm,0.8s,baz=11,slow=4.1,SNR=5.2							
DAVOX	**Davos/Dischmat**	**80.83**	**0**	P		**P**	**08 35 27.7**	**-0.1**
DAVOX				pmax		pmax		
	comp=Z,5.0nm,0.8s							
ABTA	**Abfaltersbach**	**80.84**	**359**	⇑ *i* pP		**P**	**08 35 28.4**	**+0.6**
	comp=Z,19nm,1.2s							
SOKA	**Soboth**	**80.85**	**357**	*i* pP		**P**	**08 35 28.6**	**+0.7**
	comp=Z,28nm,1.2s,SNR=8.1							
SBUM	**Sibu**	**80.90**	**262**	*e*P		**P**	**08 35 29.6**	**+1.1**
	comp=Z,165nm,1.7s							
FUORN	**Ofenpass-Fuorn**	**80.99**	**0**	*e*P		**P**	**08 35 30.0**	**+1.2**
	comp=Z,31nm,1.4s							
BKB	**Balikpapan**	**81.07**	**256**	P		**P**	**08 35 28.1**	**-1.2**
	comp=Z,180nm,1.2s							
TUE	**Stuetta**	**81.13**	**1**	*e*P		**P**	**08 35 31.1**	**+1.6**
	comp=Z,16nm,1.3s							
BBSI	**Bau Bau**	**81.21**	**249**	P		**P**	**08 35 28.9**	**-1.1**
	comp=Z,111nm,1.0s							
SPSI	**Sidrap Palu**	**81.57**	**252**	P		**P**	**08 35 31.5**	**-0.5**
	comp=Z,42nm,1.1s							
CTA	**Charters Tower**	**82.03**	**221**	P		**P**	**08 35 33.6**	**-0.6**
	comp=Z,7.7nm,0.6s,baz=23,slow=7.2,SNR=16							
CTAO	**Charters Tower**	**82.03**	**221**	*e*P		**P**	**08 35 33.6**	**-0.6**
CTAO				pmax		pmax		
	comp=Z,139nm,1.8s							
CTAO	**Charters Tower**	**82.03**	**221**	*e*P		**P**	**08 35 33.6**	**-0.6**
	comp=Z,139nm,1.8s							
SSB	**Saint Sauveur**	**82.20**	**4**	*e*P		**P**	**08 35 35.6**	**+0.6**
SSB				pmax		pmax		
	comp=Z,23nm,1.4s							
SSB	**Saint Sauveur**	**82.20**	**4**	*e*P		**P**	**08 35 35.6**	**+0.6**
	comp=Z,23nm,1.4s							
KAPI	**Kappang**	**82.43**	**251**	P		**P**	**08 35 37.8**	**+1.3**
	comp=Z,321nm,0.7s,SNR=5.3							
KAPI	**Kappang**	**82.43**	**251**	P		**P**	**08 35 36.6**	**+0.2**
	comp=Z,27nm,0.6s,baz=358,slow=0.5,SNR=22							
KAPI	**Kappang**	**82.43**	**251**	*e*P		**P**	**08 35 37.1**	**+0.7**
BKSI	**Bulukumba**	**82.47**	**251**	P		**P**	**08 35 36.2**	**-0.4**
	comp=Z,96nm,1.3s,comp=Z,1μm							
BCIP	**Isla Barro Col**	**82.64**	**85**	*e*P		**P**	**08 35 37.2**	**-0.5**
	comp=Z,81nm,1.5s							
MTN	**Manton Dam**	**82.68**	**238**	*e*P		**P**	**08 35 37.8**	**+0.1**
	comp=Z,52nm,0.8s							
KSM	**Kuching**	**82.83**	**263**	*e*P		**P**	**08 35 39.1**	**+0.5**
	comp=Z,225nm,1.4s							
BSSI	**Bau Bau, Buton**	**82.92**	**250**	P		**P**	**08 35 37.8**	**-1.2**
	comp=Z,100nm,1.0s							
SURA	**Surathani**	**83.24**	**276**	P		**P**	**08 35 42.2**	**+1.5**
	comp=Z,59nm,1.3s,comp=Z,4μm							
CELP	**Cerrillos**	**83.42**	**69**	*e*P		**P**	**08 35 42.5**	**+0.9**
OBIP	**Obispado Ponce**	**83.43**	**69**	*e*P		**P**	**08 35 41.7**	**+0.1**
	comp=Z,68nm,1.0s							
SJG	**San Juan**	**83.63**	**69**	P		**P**	**08 35 42.5**	**-0.2**
	comp=Z,23nm,0.8s,baz=9.5,slow=6.1,SNR=2.7							
SOEI	**Soe**	**83.76**	**245**	P		**P**	**08 35 40.6**	**-2.8**
	comp=Z,130nm,0.9s							
SOEI	**Soe**	**83.76**	**245**	*e*P		**P**	**08 35 43.4**	**-0.1**
	comp=Z,363nm,1.6s							
SKLT	**Songkhla**	**84.21**	**274**	P		**P**	**08 35 46.9**	**+1.2**
	comp=Z,104nm,1.4s,comp=Z,2μm							
KRAB	**Krabi**	**84.24**	**276**	P		**P**	**08 35 47.4**	**+1.5**
	comp=Z,58nm,1.0s,comp=Z,5μm							
TRTT	**Trang**	**84.25**	**275**	P		**P**	**08 35 47.1**	**+1.2**
	comp=Z,63nm,1.3s							
BATI	**Baumata**	**84.46**	**245**	P		P	08 35 42.4	-4.5
	comp=Z,136nm,1.0s							
BATI	**Baumata**	**84.46**	**245**	P		**P**	**08 35 46.8**	**-0.2**
	comp=Z,153nm,0.6s,baz=225,slow=1.1,SNR=12							
EIDS	**Eidsvold**	**85.02**	**215**	*e*P		**P**	**08 35 49.4**	**0.0**
	comp=Z,84nm,1.8s							
KULM	**Kulim**	**85.67**	**273**	*e*P		**P**	**08 35 54.2**	**+1.1**
	comp=Z,156nm,1.3s							
BRTR	**Keskin Array B**	**85.69**	**342**	P		**P**	**08 35 53.3**	**+0.3**
	comp=Z,1.7nm,1.0s,baz=352,slow=2.9,SNR=4.3							
BRTR				PKKPbc		**PKKPbc**	**08 53 52.5**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=186,slow=5.0,SNR=3.6							
KNT	**Kendrikon**	**85.82**	**351**	*e*PN		**P**	**08 35 53.9**	**+0.5**
IPM	**Ipoh**	**86.08**	**272**	*e*P		**P**	**08 35 55.5**	**+0.3**
	comp=Z,132nm,1.2s							
MYKOM	**Kota Tinggi**	**86.49**	**268**	*e*P		**P**	**08 35 58.2**	**+1.1**
	comp=Z,152nm,1.4s							
ESDC	**Sonseca Array**	**87.09**	**11**	P		**P**	**08 35 59.6**	**-0.2**
	comp=Z,2.6nm,0.6s,baz=347,slow=4.5,SNR=7.8							
WRAB	**Tennant Creek**	**87.13**	**231**	P		**P**	**08 35 59.1**	**-0.9**
	comp=Z,176nm,1.3s,SNR=6.0							
WRAB	**Tennant Creek**	**87.13**	**231**	*e*P		**P**	**08 35 59.1**	**-0.9**
WRAB				pmax		pmax		
	comp=Z,83nm,1.4s							
WRAB	**Tennant Creek**	**87.13**	**231**	*e*P		**P**	**08 35 58.8**	**-1.2**
	comp=Z,64nm,1.3s							
WRA	**Warramunga Arr**	**87.14**	**231**	P		**P**	**08 35 59.2**	**-0.9**
	comp=Z,16nm,0.8s,baz=36,slow=5.1,SNR=26							
SRBI	**Singaraja**	**87.54**	**253**	P		**P**	**08 36 00.3**	**-1.8**
	comp=Z,82nm,1.3s							
TPI	**Tanjungpandan**	**87.78**	**263**	P		**P**	**08 36 02.9**	**-0.4**
	comp=Z,54nm,1.4s							
DSRI	**Dabo**	**87.84**	**266**	P		**P**	**08 36 04.5**	**+0.9**
	comp=Z,298nm,1.7s,comp=Z,5μm							
ABJI	**Asem Bagus**	**87.88**	**254**	P		**P**	**08 36 02.0**	**-1.7**
	comp=Z,114nm,1.2s							
LHMI	**Lhok Sumawe**	**87.96**	**276**	P		**P**	**08 36 04.6**	**+0.4**
	comp=Z,196nm,1.3s							
DSL	**Palaion Diasel**	**88.00**	**352**	*e*PN		**P**	**08 36 03.8**	**-0.3**
MAKR	**Makrakomi, Fth**	**88.02**	**351**	*e*PN		**P**	**08 36 03.6**	**-0.6**
EVR	**Evrytania**	**88.15**	**351**	*e*PB		**P**	**08 36 04.2**	**-0.7**
SDV	**Santo Domingo**	**88.38**	**78**	*e*P		**P**	**08 36 06.3**	**-0.2**
	comp=Z,52nm,1.3s							
JAGI	**Jajag, Banyuwa**	**88.47**	**254**	P		**P**	**08 36 05.2**	**-1.3**
	comp=Z,59nm,2.0s							
TBJI	**Tambak Boyo**	**88.50**	**257**	P		**P**	**08 36 06.0**	**-0.7**
	comp=Z,84nm,1.2s							
DESF	**Desfina**	**88.58**	**350**	*e*PB		**P**	**08 36 05.6**	**-1.3**
DSF	**Desfina**	**88.58**	**350**	*e*PB		**P**	**08 36 05.6**	**-1.3**

EFP	**Efpalio**	**88.62**	**351**	*e*PN		**P**	**08 36 07.4**	**+0.4**
PSI	**Prapat**	**88.68**	**273**	*e*P		**P**	**08 36 08.1**	**+0.3**
PSI	**Prapat**	**88.68**	**273**	*e*P		**P**	**08 36 08.1**	**+0.3**
	comp=Z,200nm,0.9s							
HYB	**Hyderabad**	**88.82**	**298**	*i* P		**P**	**08 36 06.0**	**-2.3**
OUZ	**Omahuta**	**88.84**	**194**	*e*P		**P**	**08 36 08.8**	**+1.1**
	comp=Z,151nm,1.8s							
KLV	**Kalavryta, Ach**	**88.98**	**351**	*e*PN		**P**	**08 36 08.4**	**-0.4**
GUR	**Goura**	**89.07**	**351**	*e*PN		**P**	**08 36 08.4**	**-0.9**
NGJI	**Ngawi**	**89.17**	**257**	P		**P**	**08 36 08.6**	**-1.2**
	comp=Z,64nm,2.5s							
BKNI	**Bangkinang**	**89.35**	**270**	*e*P		**P**	**08 36 12.2**	**+1.4**
	comp=Z,298nm,1.1s							
ROSC	**El Rosal**	**89.36**	**83**	P		**P**	**08 36 11.4**	**+0.1**
	comp=Z,5.2nm,0.6s,baz=291,slow=7.2,SNR=4.7							
FITZ	**Fitzroy Crossi**	**89.93**	**239**	*e*P		**P**	**08 36 13.6**	**+0.3**
	comp=Z,98nm,1.4s							
OTAV	**Otavalo**	**90.52**	**89**	*e*P		**P**	**08 36 17.3**	**+0.5**
	comp=Z,29nm,1.4s							
AS31	**Alice Springs**	**90.54**	**230**	*e*P		**P**	**08 36 16.2**	**+0.1**
ASAR	**Alice Springs**	**90.54**	**230**	P		**P**	**08 36 15.9**	**-0.1**
	comp=Z,19nm,0.7s,baz=33,slow=4.6,SNR=38							
ASAR	**Alice Springs**	**90.54**	**230**	P		**P**	**08 36 16.0**	**-0.1**
GSI	**Gunungsitoli**	**90.68**	**273**	*e*P		**P**	**08 36 17.8**	**+0.8**
	comp=Z,179nm,1.5s							
ASF	**Jabal al Asfar**	**92.30**	**338**	P		**P**	**08 36 24.4**	**0.0**
	comp=Z,1.6nm,0.4s,baz=307,slow=6.3,SNR=3.7							
MDT	**Midelt**	**93.77**	**13**	P		**P**	**08 36 30.8**	**-0.4**
	comp=Z,4.0nm,1.0s,baz=8.7,slow=4.1,SNR=3.7							
STKA	**Stephens Creek**	**94.41**	**220**	P		**P**	**08 36 32.4**	**-1.3**
	comp=Z,3.2nm,0.7s,baz=336,slow=6.2,SNR=6.0							
STKA	**Stephens Creek**	**94.41**	**220**	P		**P**	**08 36 32.4**	**-1.3**
STKA				pmax		pmax		
	comp=Z,3.0nm,0.7s							
STKA	**Stephens Creek**	**94.41**	**220**	*e*P		**P**	**08 36 33.8**	**+0.1**
RAYN	**Ar Rayn**	**98.11**	**328**	*e*P		**P**	**08 36 50.3**	**-0.7**
	comp=Z,13nm,1.2s							
TORD	**Torodi Ar. Bea**	**113.92**	**9**	PKP		**PKiKP**	**08 41 52.0**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=339,slow=2.4,SNR=4.3							
TORD				PKKPbc		**PKKPbc**	**08 52 31.0**	**-1.8**
	comp=Z,0.6nm,0.7s,baz=132,slow=1.9,SNR=4.3							
TORD				PKKPab		**PKKPab**	**08 52 40.1**	**-4.2**
	comp=Z,4.9nm,0.8s,baz=170,slow=3.9,SNR=13							
DBIC	**Dimbokro**	**119.38**	**17**	PKP		**PKPdf**	**08 42 01.8**	**-1.9**
	comp=Z,1.5nm,0.4s,baz=21,slow=4.4,SNR=3.9							
CPUP	**Villa Florida**	**123.86**	**90**	PKP		**PKPdf**	**08 42 10.5**	**-1.4**
	comp=Z,1.6nm,0.8s,baz=297,slow=2.2,SNR=3.8							
KMBO	**Kilima Mbogo**	**123.88**	**327**	PKP		**PKPdf**	**08 42 13.1**	**+0.4**
	comp=Z,6.5nm,1.1s,baz=337,slow=6.7,SNR=5.5							
KMBO	**Kilima Mbogo**	**123.88**	**327**	PKP		**PKPdf**	**08 42 13.1**	**+0.4**
KMBO				*e*PKPdf		**PKiKP**	**08 42 13.3**	**+0.3**
SBA	**Scott Base**	**131.17**	**186**	*e*PKIKP		**PKPdf**	**08 42 25.4**	**+1.1**
SBA	**Scott Base**	**131.17**	**186**	*e*PKPdf		**PKPdf**	**08 42 25.4**	**+1.1**
VNDA	**Vanda**	**131.23**	**188**	PKP		**PKPdf**	**08 42 23.0**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=343,slow=6.5,SNR=2.9							
LSZ	**Lusaka**	**140.02**	**333**	*e*PKIKP		**PKPdf**	**08 42 42.0**	**-0.8**
LSZ	**Lusaka**	**140.02**	**333**	*e*PKPdf		**PKPdf**	**08 42 42.0**	**-0.8**
QSPA	**South Pole Qui**	**142.53**	**180**	PKhKP		PKPpre	08 42 39.6	
	comp=Z,6.9nm,0.6s,baz=342,slow=1.1,SNR=12							
MATP	**Matopo**	**144.80**	**330**	PKP		**PKPab**	**08 42 49.8**	**-0.3**
	comp=Z,49nm,1.0s,baz=20,slow=4.6,SNR=12							
TSUM	**Tsumeb**	**146.03**	**348**	PKPbc		**PKPab**	**08 42 54.5**	**-0.1**
	comp=Z,20nm,0.7s,baz=7.1,slow=3.6,SNR=16							
LBTB	**Lobatse**	**149.99**	**332**	PKPbc		**PKPbc**	**08 43 05.1**	**+0.6**
	comp=Z,99nm,0.9s,baz=27,slow=1.9,SNR=24							
LBTB	**Lobatse**	**149.99**	**332**	*e*PKPbc		**PKPbc**	**08 43 05.1**	**+0.6**
LBTB				*e*PKPab		**PKPab**	**08 43 10.2**	**0.0**
MAW	**Mawson**	**151.10**	**219**	PKPbc		**PKPbc**	**08 43 05.9**	**+0.2**
	comp=Z,12nm,0.5s,baz=116,slow=3.7,SNR=14							
BOSA	**Boshof**	**153.47**	**330**	PKPbc		**PKPbc**	**08 43 12.3**	**-0.1**
	comp=Z,20nm,1.0s,baz=37,slow=2.8,SNR=7.6							
BOSA	**Boshof**	**153.47**	**330**	*e*PKIKP		**PKPdf**	**08 43 06.0**	**+1.2**
BOSA							08 43 12.3	
BOSA				*e*			08 43 12.7	
BOSA	**Boshof**	**153.47**	**330**	*e*PKPdf		**PKPdf**	**08 43 06.0**	**+1.2**
BOSA				PKPbc		**PKPbc**	**08 43 12.3**	**-0.1**
BOSA				*e*PKPbc		**PKiKP**	**08 43 12.7**	**+0.1**
SYO	**Syowa Base**	**158.75**	**209**	⇓ *e*X		**PKPdf**	**08 43 08.2**	**-2.0**
VNA2	**Neumayer--Watz**	**160.10**	**163**	P		**PKPab**	**08 43 49.8**	**-2.2**
	baz=229,slow=3.6							
VNA2	**Neumayer--Watz**	**160.10**	**163**	PKPdf		**PKPdf**	**08 43 10.2**	**-1.6**
	baz=285,slow=0.7							
SNAA	**Sanae**	**160.15**	**168**	PKPab		**PKPab**	**08 43 49.5**	**-2.8**
	comp=Z,0.9nm,0.6s,baz=215,slow=6.8,SNR=5.9							
VNA1	**Neumayer--Stat**	**160.17**	**162**	P		**PKPab**	**08 43 51.6**	**-0.7**
VNA1	**Neumayer--Stat**	**160.17**	**162**	PKPdf		**PKPdf**	**08 43 11.2**	**-0.6**

NEIC 19 08:26:04.1,52.66N×169.26W,h10km,ML3.5(AEIC),
After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.40**	**38**	P	Pg	08 26 12.5	+0.6
NIKH				S	Sb	08 26 19.8	+0.4
OKSP	**Okmok Steeple**	**0.83**	**44**	P	Pg	08 26 20.1	-0.1
OKSP				S	Sb	08 26 32.4	+0.4
OKWE	**Okmok W'ng Wal**	**1.02**	**37**	P	Pg	08 26 23.4	-0.3
MSOM	**Makushin Julie**	**1.81**	**49**	P	Pn	08 26 35.1	-0.1
MSOM				S	Sb	08 26 59.8	0.0
MTBL	**Makushin Table**	**2.03**	**49**	P	Pn	08 26 38.7	+0.3
UNV	**Unalaska Valle**	**2.04**	**53**	P	Pn	08 26 37.3	-1.0
UNV				S	Sn	08 27 04.4	+0.6

IDC ***19*** *08:35:14.3±1.0,0.55S×133.18E,h0km,mb4.0/6, mb1 1.4/7,mb1mx3.8/23,mbtmp3.9/7,ML3.9/1,MS4.1/1, Ms1 4.1/1,ms1mx3.1/43,Error ellipse: s-maj=26.6km s-min=18.0km az=64.0*

ISCJB ***19*** *08:35:20.0±0.6,0.62S±0.05×133.07E±0.02,h58km±6km, mb4.2/8,MS4.0/1,Error ellipse: s-maj=8.6km s-min=3.7km az=0.7*

NEIC ***19*** *08:35:21.1±2.6,0.63S×133.21E,h47km±23km,mb4.1/3, Error ellipse: s-maj=23.2km s-min=11.2km az=57.0*

DJA ***19*** *08:35:21.3±0.3,1°S±4°×13°E±°,h52km±8km,M4.6/17, mb4.8/9,mB5.4/2,MLv4.6/17,Mw(mB)4.8/2*

ISC 19 08:35:21.0±1.1,0.63S±0.07×133.08E±0.04,h44km±12km,
n41,σ1ᵎ50/53,mb4.1/8,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.40**	**128**	P	Pn	**08 35 44.4**	**+0.3**
RKPI				S	Sn	**08 36 03.9**	**+2.4**
SIJI	**Sorong**	**1.83**	**263**	Pn	Pn	**08 35 49.4**	**-0.6**
	126nm,0.3s,baz=83,slow=9.7,SNR=154						
SIJI				Sn	Sn	**08 36 14.3**	**+2.3**
	65nm,0.3s,baz=43,slow=19,SNR=5.8						
SWI	**Sorong**	**1.83**	**263**	P	Pn	**08 35 49.8**	**-0.2**
SWI				S	Sn	**08 36 12.6**	**+0.5**
SWI	**Sorong**	**1.83**	**263**	P	Pn	**08 35 50.7**	**+0.7**
	baz=1.7,SNR=40						
FAKI	**Fak Fak**	**2.42**	**200**	P	Pn	**08 35 58.7**	**+0.6**
FAKI				S	Sn	**08 36 28.2**	**+1.7**
FAKI	**Fak Fak**	**2.42**	**200**	P	Pn	**08 35 58.3**	**+0.2**
	baz=2.1,SNR=66						
FAKI	**Fak Fak**	**2.42**	**200**	*e*Pn	Pn	**08 35 58.5**	**+0.4**
FAKI				*e*Sn	Sn	**08 36 23.0**	**-3.5**
BAKI	**Biak**	**3.08**	**100**	P	Pn	**08 36 07.6**	**+0.4**
BAKI				S	Sn	**08 36 43.8**	**+1.0**
SRPI	**Serui, Papua**	**3.39**	**111**	P	Pn	**08 36 11.9**	**+0.4**
SRPI				S	Sn	**08 36 52.7**	**+2.2**
MSAI	**Masohi**	**4.95**	**237**	P	Pn	**08 36 33.0**	**+0.1**
MSAI				S	Sn	**08 37 30.6**	**+1.8**
BNDI	**Bandanaira**	**5.00**	**219**	P	Pn	**08 36 33.1**	**-0.5**
BNDI				S	Sn	**08 37 32.7**	**+2.6**
LBMI	**Labuha**	**5.58**	**270**	P	Pn	**08 36 40.8**	**-0.7**
	46nm,1.3s,0.2nm						
AAI	**Ambon**	**5.75**	**238**	P	Pn	**08 36 44.0**	**+0.2**
	159nm,0.5s,0.6nm						
AAI				S	Sn	**08 37 50.8**	**+2.2**
	159nm,0.5s,0.6nm						
AAI	**Ambon**	**5.75**	**238**	P	Pn	**08 36 45.5**	**+1.7**
	baz=5.5,SNR=5.3						
SMPI	**Sarmi**	**5.79**	**104**	P	Pn	**08 36 44.5**	**+0.1**
	53nm,1.7s,1.1nm						
SMPI				S	Sn	**08 37 50.3**	**+0.7**
	53nm,1.7s,1.1nm						
TNTI	**Ternate**	**5.88**	**284**	S	Sn	**08 37 52.3**	**+0.5**
NLAI	**Namlea**	**6.51**	**246**	P	Pn	**08 36 54.4**	**+0.1**
	88nm,0.6s,0.3nm						
NLAI				S	Sn	**08 38 08.5**	**+1.1**
	88nm,0.6s,0.3nm						
SANI	**Sanana**	**7.23**	**259**	P	Pn	**08 37 04.1**	**-0.1**
	40nm,0.7s,0.2nm						
SANI				S	Sn	**08 38 27.2**	**+2.2**
	40nm,0.7s,0.2nm						
GENI	**Genyem**	**7.35**	**105**	P	Pn	**08 37 06.6**	**+0.8**
	50nm,1.2s,0.3nm						
JAY	**Jayapura**	**7.85**	**104**	P	Pn	**08 37 13.2**	**+0.5**
KDU	**Kakadu**	**11.99**	**183**	P	Pn	**08 38 08.0**	**-1.5**
	baz=12,SNR=21						
MTN	**Manton Dam**	**12.29**	**189**	P	Pn	**08 38 11.3**	**-2.2**
	baz=12,SNR=7.2						
KNRA	**Kununurra**	**15.54**	**196**	P	Pn	**08 38 55.0**	**-2.3**
	baz=15,SNR=10						
FITZ	**Fitzroy Crossi**	**18.84**	**202**	P	Pn	08 39 43.6	+5.4
	baz=19,SNR=4.7						
WRAB	**Tennant Creek**	**19.22**	**176**	*e*P	P	**08 39 41.7**	**+0.1**
	2.2nm,0.7s						
WRA	**Warramunga Arr**	**19.23**	**176**	P	P	**08 39 41.2**	**-0.5**
	0.3nm,0.3s,baz=356,slow=12,SNR=12						
WRA				S	S	08 43 02.9	-14
	0.1nm,0.3s,baz=356,slow=21,SNR=5.1						
AS31	**Alice Springs**	**22.91**	**178**	*e*P	P	**08 40 22.4**	**+1.1**
ASAR	**Alice Springs**	**22.91**	**178**	P	P	**08 40 20.6**	**-0.7**
	1.7nm,0.5s,baz=354,slow=11,SNR=17						
ASAR				S	S	**08 44 33.1**	**+4.9**
	4.1nm,1.2s,baz=2.9,slow=23,SNR=8.3						
CTA	**Charters Tower**	**23.24**	**147**	P	P	**08 40 24.3**	**-0.4**
	7.2nm,0.9s,baz=314,slow=13,SNR=5.4						
CTAO	**Charters Tower**	**23.24**	**147**	*e*P	P	**08 40 24.0**	**-0.6**
	4.4nm,0.6s						
LEM	**Lembang**	**26.13**	**256**	LR	LR	08 52 16.2	
	comp=Z,452nm,20.8s,baz=225,slow=39						
XMIS	**Christmas Isla**	**28.97**	**249**	*e*P	P	**08 41 18.1**	**+1.4**
	98nm,1.0s						
STKA	**Stephens Creek**	**32.10**	**166**	P	P	**08 41 43.1**	**-1.0**
	3.4nm,1.0s,baz=346,slow=8.9,SNR=10						
STKA	**Stephens Creek**	**32.10**	**166**	P	P	**08 41 43.3**	**-0.8**
	baz=32,SNR=6.8						
STKA	**Stephens Creek**	**32.10**	**166**	*e*P	P	**08 41 43.5**	**-0.7**
LHI	**Lord Howe Isla**	**39.34**	**144**	P	P	**08 42 45.2**	**-1.0**
	baz=39,SNR=3.2						
MK31	**Makanchi Array**	**64.76**	**324**	*e*P	P	**08 45 56.4**	**+1.3**
MKAR	**Makanchi Array**	**64.76**	**324**	P	P	**08 45 54.0**	**-1.1**
	1.2nm,0.5s,baz=120,slow=7.9,SNR=8.1						
ZALV	**Zalesovo Beam**	**67.38**	**331**	P	P	**08 46 11.8**	**+0.2**
	0.6nm,0.3s,baz=110,slow=8.4,SNR=2.7						
VNDA	**Vanda**	**78.38**	**174**	P	P	**08 47 14.8**	**-1.6**
	7.6nm,1.5s						
ILAR	**Eielson Array**	**86.31**	**25**	P	P	**08 47 57.6**	**-0.4**
	0.2nm,0.6s,baz=253,slow=4.9,SNR=5.5						

IDC ***19*** *08:36:48.1±1.6,52.72N×169.56W,h0km,mb3.5/5, mb1 3.8/6,mb1mx3.4/52,mbtmp3.4/6,ML3.0/1,MS4.1/1, Ms1 4.1/1,ms1mx3.4/40,Error ellipse: s-maj=47.7km s-min=27.9km az=139.0*

ISCJB ***19*** *08:36:52.1±1.4,53.0N±0.2×169.6W±0.4,h40km,mb3.4/5, MS4.1/1,Error ellipse: s-maj=37.7km s-min=22.2km az=42.8*

ISC 19 08:36:53.3±1.5,53.2N±0.3×169.7W±0.3,h40km,**n14,**
σ0ᵎ79/6,mb3.5/5,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**16.41**	**

MSOM S Sn 08 39 59.7 +1.2
UNV Unalaska Valle 1.99 51 P Pn 08 39 39.3 +0.2
UNV S Sn 08 40 04.2 +0.2
ATKA Atka Island 3.15 264 P Pn 08 39 55.6 +0.7
ILAR Eielson Array 16.66 34 Pn Pn 08 42 55.4 -3.1
0.1nm,0.3s,baz=222,slow=12,SNR=4.2
YKA Yellowknife Ar 29.96 49 P P 08 45 12.6 -0.7
0.3nm,0.5s,baz=273,slow=7.3,SNR=5.5
NVAR Mina Array Bea 37.51 92 P P 08 46 20.5 +1.1
0.6nm,0.8s,baz=302,slow=6.6,SNR=4.1
H11N2 WAKE ISLAND Hy 37.75 219 T T 09 26 17.6
baz=25
H11N3 WAKE ISLAND Hy 37.76 219 T T 09 26 17.0
baz=25
H11N1 WAKE ISLAND Hy 37.77 219 T T 09 26 18.3
baz=25
ELK Elko 37.95 86 P P 08 46 24.2 +1.0
0.6nm,0.4s,baz=321,slow=16,SNR=4.8
H11S1 WAKE ISLAND Hy 38.94 218 T T 09 27 46.1
baz=20,slow=74,SNR=5.3
H11S2 WAKE ISLAND Hy 38.95 218 T T 09 27 46.6
baz=20
H11S3 WAKE ISLAND Hy 38.95 218 T T 09 27 46.6
baz=20,slow=74,SNR=5.6
PDAR Pinedale Array 40.20 80 P P 08 46 41.5 -0.4
0.8nm,0.7s,baz=320,slow=4.6,SNR=6.5
TXAR Lajitas Array 52.58 89 P P 08 48 18.8 -0.3
1.3nm,0.6s,baz=298,slow=5.1,SNR=11
ASAR Alice Springs 90.68 230 P P 08 52 03.7 -4.4
0.2nm,0.8s,baz=42,slow=3.2,SNR=3.6

*IDC **19** 08:40:29.7±0.9,52.°86N×170.°07W,h0km,mb3.8/11, mb1 4.1/12,mb1mx3.8/49,mbtmp3.8/12,ML3.6/1,Error ellipse: s-maj=34.6km s-min=15.9km az=156.0*
*NEIC **19** 08:40:35.4,52.°76N×169.°23W,h2km,ML3.5(AEIC), After AEIC.*
ISC 19 08:40:35.3±1.0,53.°0N±0.°1×169.°42W±0.°06,h10km,n29, σ1$24/24,mb3.8/11,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	Nikolski High	0.35	99	P	Pb	08 40 43.5	0.0
NIKH				S	Sb	08 40 50.6	+1.6
OKSP	Okmok Steeple	0.72	71	P	Pn	08 40 51.5	0.0
OKSP				S	Sn	08 41 03.2	+0.6
OKCE	Okmok Cone E	0.85	62	P	Pn	08 40 54.1	+0.7
OKTU	Okmok Mt. Tuli	0.90	66	P	Pn	08 40 54.6	+0.5
MSOM	Makushin Julie	1.68	61	P	Pn	08 41 06.2	+1.6
MSOM				S	Sg	08 41 30.6	+1.4
MCIR	Makushin Cirqu	1.77	57	P	Pb	08 41 08.6	+0.7
MTBL	Makushin Table	1.89	59	P	Pb	08 41 10.5	+0.6
UNV	Unalaska Valle	1.93	64	P	Pn	08 41 08.9	+0.7
UNV				S	Sb	08 41 35.8	+1.2
AHB	Akutan Harbor	2.41	62	P	Pb	08 41 17.7	-1.1
ATKA	Atka Island	3.03	256	P	Pn	08 41 25.2	+2.0
WESP	Westdahl Peak	3.15	60	P	Pn	08 41 27.8	+2.8
ILAR	Eielson Array	16.43	36	Pn	Pn	08 44 24.9	-0.8
	0.1nm,0.3s,baz=228,slow=12,SNR=8.1						
DLBC	Dease Lake	22.58	60	P	P	08 45 34.3	-1.3
	0.6nm,0.5s,baz=315,slow=17,SNR=1.5						
INK	Inuvik	22.82	34	P	P	08 45 35.9	-2.0
	2.3nm,0.9s,baz=208,slow=7.3,SNR=4.1						
YKA	Yellowknife Ar	29.83	50	P	P	08 46 41.7	-0.5
	0.4nm,0.5s,baz=274,slow=7.9,SNR=7.3						
NEW	Newport	32.88	77	P	P	08 47 08.8	-0.5
	1.7nm,0.5s,baz=301,slow=6.6,SNR=5.3						
NVAR	Mina Array Bea	37.71	92	P	P	08 47 50.9	-0.2
	0.6nm,0.7s,baz=296,slow=8.8,SNR=4.2						
H11N2	WAKE ISLAND Hy 37.95 218			T	T	09 27 48.9	
	baz=24						
H11N3	WAKE ISLAND Hy 37.96 218			T	T	09 27 49.1	
	baz=24,slow=74,SNR=6.3						
H11N1	WAKE ISLAND Hy 37.97 218			T	T	09 27 49.8	
	baz=24,slow=74,SNR=4.4						
ELK	Elko	38.12	86	P	P	08 47 53.4	-1.2
	1.2nm,0.7s,baz=332,slow=8.5,SNR=6.7						
H11S1	WAKE ISLAND Hy 39.15 217			T	T	09 29 17.0	
	baz=22,slow=76,SNR=14						
H11S2	WAKE ISLAND Hy 39.16 217			T	T	09 29 18.5	
	baz=22,slow=76,SNR=10						
H11S3	WAKE ISLAND Hy 39.16 217			T	T	09 29 18.2	
	baz=22,slow=76,SNR=7.6						
MJAR	Matsushiro Arr	39.70	267	P	P	08 48 00.4	-7.1
	0.5nm,0.4s,baz=38,slow=7.8,SNR=2.7						
PDAR	Pinedale Array	40.31	80	P	P	08 48 12.6	-0.2
	1.6nm,0.6s,baz=318,slow=5.5,SNR=14						
TXAR	Lajitas Array	52.77	89	P	P	08 49 49.9	-0.6
	1.3nm,0.6s,baz=296,slow=5.5,SNR=13						
WRA	Warramunga Arr	87.39	232	P	P	08 53 16.0	-6.5
	1.4nm,1.3s,baz=34,slow=6.2,SNR=2.6						
ASAR	Alice Springs	90.80	230	P	P	08 53 32.7	-5.8
	1.0nm,1.1s,baz=29,slow=5.0,SNR=3.2						

*IDC **19** 08:42:37.3±1.2,52.°86N×170.°10W,h0km,mb3.6/7, mb1 3.9/8,mb1mx3.5/49,mbtmp3.5/8,ML3.2/1,Error ellipse: s-maj=45.7km s-min=22.0km az=148.0*
*ISCJB **19** 08:42:40.8±1.5,52.°7N±0.°2×169.°6W±0.°3,h23km±8km, mb3.6/7,Error ellipse: s-maj=40.2km s-min=10.1km az=142.6*
*NEIC **19** 08:42:43.7,52.°71N×169.°16W,h5km,ML3.3(AEIC), After AEIC.*
ISC 19 08:42:41.6±1.4,52.°9N±0.°2×169.°62W±0.°09,h16km±9km, n22,σ1$07/20,mb3.6/7,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	Nikolski High	0.47	80	P	Pg	08 42 50.8	-0.3
NIKH				S	Sg	08 42 57.5	+0.1
OKSP	Okmok Steeple	0.88	65	P	Pg	08 42 58.8	+0.2
OKSP				S	Sg	08 43 09.9	-0.2
OKWE	Okmok W'ng Wal	1.01	55	P	Pn	08 43 02.6	+1.5
MSOM	Makushin Julie	1.84	59	P	Pb	08 43 14.9	-0.1
MSOM				S	Sn	08 43 37.4	+1.9
MCIR	Makushin Cirqu	1.94	56	P	Pb	08 43 16.6	-0.1
MSW	Makushin Switc	1.98	58	P	Pn	08 43 15.1	+0.7
MSW				S	Sn	08 43 40.4	+1.4
UNV	Unalaska Valle	2.09	62	P	Pn	08 43 16.6	+0.6
UNV				S	Sn	08 43 41.6	-0.1
ATKA	Atka Island	2.88	258	P	Pb	08 43 33.5	+0.9
ILAR	Eielson Array	16.60	35	Pn	Pn	08 46 31.4	-2.0
	0.0nm,0.3s,baz=234,slow=7.7,SNR=3.7						
YKA	Yellowknife Ar	30.01	50	P	P	08 48 48.6	-0.5
	0.3nm,0.5s,baz=269,slow=7.6,SNR=4.5						
H11N2	WAKE ISLAND Hy 37.78 218			T	T	09 29 54.1	
	baz=22						
H11N3	WAKE ISLAND Hy 37.78 218			T	T	09 29 54.7	
	baz=22						
H11N1	WAKE ISLAND Hy 37.79 218			T	T	09 29 55.6	
	baz=22						
NVAR	Mina Array Bea	37.83	91	P	P	08 49 58.3	+0.9
	0.3nm,0.6s,baz=309,slow=5.7,SNR=3.0						
ELK	Elko	38.24	86	P	P	08 50 01.9	+0.9
	0.7nm,0.7s,baz=278,slow=7.9,SNR=4.7						
H11S1	WAKE ISLAND Hy 38.97 217			T	T	09 31 25.2	
	baz=25						
H11S2	WAKE ISLAND Hy 38.98 217			T	T	09 31 26.2	
	baz=25						
H11S3	WAKE ISLAND Hy 38.98 217			T	T	09 31 26.4	
	baz=25						
PDAR	Pinedale Array	40.45	80	P	P	08 50 19.7	+0.3
	0.8nm,0.7s,baz=329,slow=4.9,SNR=6.8						
TXAR	Lajitas Array	52.89	89	P	P	08 51 56.7	0.0
	1.1nm,0.7s,baz=299,slow=5.3,SNR=10						
WRA	Warramunga Arr	87.22	231	P	P	08 55 23.3	-3.7
	0.3nm,0.8s,baz=32,slow=7.3,SNR=2.6						
ASAR	Alice Springs	90.62	230	P	P	08 55 41.3	-1.7
	0.6nm,0.7s,baz=27,slow=3.6,SNR=4.2						

IDC 19 08:44:29.5±14.0,52.°55N×170.°63W,h0km,mb3.4/4, mb1 3.8/5,mb1mx3.4/48,mbtmp3.3/5,ML3.4/1,Error ellipse: s-maj=267.2km s-min=44.8km az=84.0,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILAR	Eielson Array	17.25	36	Pn	Pn	08 48 29.0	-2.5
	0.1nm,0.3s,baz=235,slow=9.5,SNR=3.4						
YKA	Yellowknife Ar	30.71	49	P	P	08 50 46.5	+1.0
	0.1nm,0.4s,baz=276,slow=7.1,SNR=4.1						
H11N2	WAKE ISLAND Hy 37.12 217			T	T	09 31 34.0	
	baz=19						
H11N3	WAKE ISLAND Hy 37.13 217			T	T	09 31 33.5	
	baz=19						
H11N1	WAKE ISLAND Hy 37.14 217			T	T	09 31 34.1	
	baz=19						
H11S1	WAKE ISLAND Hy 38.32 216			T	T	09 33 02.2	
	baz=21						
H11S2	WAKE ISLAND Hy 38.33 216			T	T	09 33 03.2	
	baz=21						
H11S3	WAKE ISLAND Hy 38.33 216			T	T	09 33 03.4	
	baz=21						
NVAR	Mina Array Bea	38.44	90	P	P	08 51 52.9	0.0
	0.3nm,0.6s,baz=306,slow=7.6,SNR=2.5						
PDAR	Pinedale Array	41.12	79	P	P	08 52 14.6	-0.8
	0.5nm,0.7s,baz=314,slow=5.1,SNR=5.2						
TXAR	Lajitas Array	53.51	88	P	P	08 53 51.6	-0.1
	0.8nm,0.6s,baz=303,slow=5.3,SNR=9.1						

*IDC **19** 08:46:44.2±18.0,52.°54N×170.°82W,h0km,mb3.2/2, mb1 3.5/3,mb1mx3.2/46,mbtmp3.1/3,ML2.9/1,Error ellipse: s-maj=358.2km s-min=52.9km az=88.0*
*ISCJB **19** 08:46:52.1±1.0,52.°54N±0.°07×169.°1W±0.°1,h10km, mb3.2/2,Error ellipse: s-maj=13.9km s-min=7.9km az=35.8*
*NEIC **19** 08:46:53.7,52.°66N×169.°13W,h5km,ML3.1(AEIC), After AEIC.*
ISC 19 08:46:53.7±1.3,52.°7N±0.°1×169.°16W±0.°10,h10km,n10, σ1$01/14,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	Nikolski High	0.32	35	P	Pb	08 47 01.6	0.0
NIKH				S	Sb	08 47 08.4	+1.6
OKWE	Okmok W'ng Wal	0.94	36	P	Pg	08 47 12.3	+0.4
OKAK	Okmok	0.99	29	P	Pg	08 47 11.2	-1.6
OKAK				S	Sg	08 47 25.4	-0.3
MSOM	Makushin Julie	1.73	49	P	Pn	08 47 24.1	+0.3
MSOM				S	Sb	08 47 48.5	+1.2
MTBL	Makushin Table	1.95	49	P	Pn	08 47 28.4	+1.4
UNV	Unalaska Valle	1.96	53	P	Pn	08 47 27.2	+0.2
UNV				S	Sn	08 47 51.8	+0.2
ATKA	Atka Island	3.12	263	P	Pn	08 47 43.9	+1.0
ILAR	Eielson Array	16.60	35	Pn	Pn	08 50 45.4	-0.8
	0.0nm,0.3s,baz=234,slow=8.8,SNR=3.2						
YKA	Yellowknife Ar	29.92	49	P	P	08 53 00.8	-0.6
	0.3nm,0.7s,baz=274,slow=7.3,SNR=3.2						
TXAR	Lajitas Array	52.61	89	P	P	08 56 07.4	-0.3
	0.3nm,0.8s,baz=304,slow=6.4,SNR=4.0						

*CSEM **19** 08:50:58.6,26.°18N×55.°41E,h29km±3km,mb3.1/8, ML3.6/4,2D,Error ellipse: s-maj=7.5km s-min=2.5km az=178.0,Southern Iran*
DSN 19 08:50:58.6±0.6,26.°18N×55.°41E,h29km±3km,mb3.1/8, ML3.6/4,2D,Error ellipse: s-maj=7.5km s-min=2.5km az=178.0,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NAZ	Nazwa, Dubai	1.21	169	P	Pn	08 51 20.1	+0.5
	SNR=25						
NAZ	Nazwa, Dubai	1.21	169	↓eP	Pn	08 51 20.1	+0.4
	SNR=25						
FAQ	Al Faqa, Dubai	1.44	173	P	Pn	08 51 22.6	-0.2
	SNR=29						
FAQ	Al Faqa, Dubai	1.44	173	eP	Pn	08 51 22.6	-0.2
	SNR=29						
HATD	Hatta, Dubai	1.50	154	P	Pn	08 51 23.7	+0.1
	SNR=14						
HATD	Hatta, Dubai	1.50	154	↓eP	Pn	08 51 23.7	0.0
	SNR=14						
ASUD	Al Ashush, Dub	1.55	183	P	Pn	08 51 24.6	+0.3
	SNR=36						
ASUD	Al Ashush, Dub	1.55	183	eP	Pn	08 51 24.6	+0.3
	SNR=36						

*IDC **19** 08:53:53.9±0.8,52.°82N×169.°64W,h0km,mb4.0/11, mb1 4.2/13,mb1mx3.9/34,mbtmp3.9/13,ML3.6/2,Error ellipse: s-maj=31.4km s-min=16.3km az=155.0*
*BJI **19** 08:53:55.1,52.°50N×169.°00W,h10km,mb4.8/4,Ms4.7/1, Ms7 4.4/1*
*ISCJB **19** 08:53:57.7±1.0,52.°64N±0.°07×169.°26W±0.°06,h21km±7km, mb4.4/26,Error ellipse: s-maj=11.5km s-min=5.5km az=159.7*
*NEIC **19** 08:53:57.4±0.4,52.°65N×169.°29W,h10km,mb4.2/19, ML3.9(AEIC),Error ellipse: s-maj=9.0km s-min=5.3km az=137.0*
ISC 19 08:53:58.8±1.5,52.°66N±0.°08×169.°14W±0.°05,h17km±8km, n77,σ1$33/78,mb4.2/26,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	Nikolski High	0.36	29	P	Pg	08 54 05.8	-0.5
NIKH				S	Sb	08 54 12.3	+0.3
OKSP	Okmok Steeple	0.79	41	P	Pg	08 54 13.6	-0.5
OKCE	Okmok Cone E	0.97	37	P	Pg	08 54 16.2	-1.4
OKCE				S	Sb	08 54 31.2	+1.7
OKTU	Okmok Mt. Tuli	0.98	42	P	Pg	08 54 16.9	-0.9
MSOM	Makushin Julie	1.75	48	P	Pn	08 54 29.2	+0.9
MSOM				S	Sn	08 54 51.8	+1.6
MCIR	Makushin Cirqu	1.87	45	P	Pn	08 54 30.7	+0.7
MSW	Makushin Switc	1.89	47	P	Pn	08 54 31.4	+1.1
MTBL	Makushin Table	1.98	47	P	Pn	08 54 31.8	+0.3
UNV	Unalaska Valle	1.98	52	P	Pn	08 54 31.0	-0.5
UNV				S	Sn	08 54 57.0	+1.2
AKRB	Akutan Reef Bi	2.36	50	P	Pn	08 54 36.9	+0.3
ZRO	Akutan Zero	2.38	52	P	Pn	08 54 37.5	+0.6
AKGG	Akutan Green G	2.43	49	P	Pn	08 54 38.7	+1.1
AKUT	Akutan	2.50	52	ePn	Pn	08 54 39.0	+0.4
AKUT				eSg	Sg	08 55 19.6	+0.5
ATKA	Atka Island	3.13	264	P	Pn	08 54 48.4	+1.2
WESP	Westdahl Peak	3.21	53	P	Pn	08 54 49.4	+1.0
WESN	West Dahl Nort	3.32	53	P	Pn	08 54 50.4	+0.6
FALS	False Pass	4.05	55	ePn	Pn	08 55 01.9	+2.1
FALS				eSn	Sn	08 55 42.3	-4.4
SPIA	Saint Paul Isl	4.57	352	P	Pn	08 55 06.9	-0.1
CHGN	Chignik	7.23	55	ePn	Pn	08 55 43.1	-0.4
AMKA	Amchitka	7.25	264	ePn	Pn	08 55 42.8	-0.9
	52nm,0.6s						
AMKA				eSn	Sn	08 57 05.9	+0.3
CAST	Castle Rocks	14.01	33	ePn	Pn	08 57 18.5	+2.3
TRF	Thorofare Moun	14.64	35	ePn	Pn	08 57 26.0	+1.1
BPAW	Bear Paw Mtn.	14.83	32	ePn	Pn	08 57 28.6	+1.2
KLU	Klutina	15.33	46	ePn	Pn	08 57 34.1	0.0
	6.4nm,0.8s						
CCB	Clear Creek Bu	16.24	34	ePn	Pn	08 57 45.4	-0.4
	22nm,0.8s						
COLA	College	16.37	33	ePn	Pn	08 57 47.4	0.0
	27nm,0.6s						
ILAR	Eielson Array	16.63	35	Pn	Pn	08 57 47.7	-3.0
	0.2nm,0.3s,baz=226,slow=11,SNR=11						
ILAR				Sn	Sn	09 00 25.5	-29
	2.6nm,0.3s,baz=194,slow=25,SNR=5.8						
COLD	Coldfoot	17.29	25	ePn	P	08 58 00.0	-0.4
	8.8nm,1.3s						
EGAK	Eagle	18.73	39	eP	P	08 58 14.7	-1.4
	7.8nm,0.8s						
HYT	Haines Junctio	19.01	52	eP	Pn	08 58 21.2	+0.9
DAWY	Dawson	19.12	42	eP	P	08 58 20.1	-0.4
SKAG	Skagway	19.89	57	eP	P	08 58 30.3	+1.3
	11nm,0.7s						
PETK	Petropavlovsk-	19.92	285	P	P	08 58 22.8	-6.5
	0.3nm,0.3s,baz=86,slow=19,SNR=3.8						
H02N1	VAN INLET T-PH	21.91	74	T	T	09 21 37.5	
H02S1	DAWSON INLET T	21.96	74	T	T	09 21 41.3	
DLBC	Dease Lake	22.62	60	P	P	08 58 58.0	-0.4
	2.6nm,1.0s,baz=270,slow=11,SNR=1.9						
INK	Inuvik	23.03	34	P	P	08 58 59.1	-3.4
	1.6nm,0.6s,baz=254,slow=9.7,SNR=3.7						
YKA	Yellowknife Ar	29.95	49	P	P	09 00 03.6	-1.9
	0.2nm,0.4s,baz=271,slow=8.3,SNR=9.3						
KIP	Kipapa	32.34	160	eP	P	09 00 28.6	+1.6
	204nm,0.4s						
NEW	Newport	32.80	76	P	P	09 00 31.0	+0.1
	2.1nm,0.7s,baz=286,slow=8.2,SNR=5.0						
NEW	Newport	32.80	76	eP	P	09 00 31.7	+0.8
	3.9nm,1.0s						
CHMT	Chamberlain Mo	35.75	76	eP	P	09 00 56.9	+0.3
	1.2nm,0.5s						
MCMT	McKenzie Canyo	37.08	79	eP	P	09 01 08.6	+0.5
BOZ	Bozeman (W)	37.37	77	eP	P	09 01 11.0	+0.6
	2.4nm,0.6s						
NVAR	Mina Array Bea	37.53	92	P	P	09 01 12.8	+0.9
	1.2nm,0.7s,baz=303,slow=7.0,SNR=9.0						
NVAR				PcP	PcP	09 03 29.2	-0.5
	0.6nm,0.8s,baz=283,slow=1.7,SNR=3.8						
H11N2	WAKE ISLAND Hy 37.77 219			T	T	09 41 10.5	
	baz=24,slow=76,SNR=50						
H11N3	WAKE ISLAND Hy 37.78 219			T	T	09 41 09.8	
	baz=24,slow=76,SNR=46						
H11N1	WAKE ISLAND Hy 37.79 219			T	T	09 41 11.9	
	baz=24,slow=76,SNR=53						
ELK	Elko	37.97	86	P	P	09 01 14.8	-0.9
	1.6nm,0.8s,baz=308,slow=8.8,SNR=5.6						
HVU	Hansel Valley	38.85	83	eP	P	09 01 24.4	+1.5
	63µm,1.1s						
H11S1	WAKE ISLAND Hy 38.96 218			T	T	09 42 40.9	
	baz=23,slow=76,SNR=320						
H11S2	WAKE ISLAND Hy 38.97 218			T	T	09 42 41.9	
	baz=23,slow=76,SNR=218						
H11S3	WAKE ISLAND Hy 38.98 218			T	T	09 42 41.6	
	baz=23,slow=76,SNR=38						
RLMT	Red Lodge	39.05	76	eP	P	09 01 25.1	+0.4
	4.1nm,0.8s						
R11A	Troy Canyon, C	39.24	89	eP	P	09 01 26.9	+0.7
	3.4nm,1.1s						
DUG	Dugway	39.78	85	eP	P	09 01 31.8	+1.1
	3.8nm,1.0s						
PDAR	Pinedale Array	40.21	80	P	P	09 01 34.4	0.0
	2.1nm,0.6s,baz=329,slow=5.1,SNR=13						
MSU	Marysvale	41.21	87	eP	P	09 01 43.6	+1.0
	2.3nm,0.9s						
SRU	San Rafael	41.84	85	eP	P	09 01 49.3	+1.6
	10nm,1.5s						
O20A	White River Ci	42.58	82	eP	P	09 01 54.2	+0.4
	9.4nm,0.8s						
PV01	Paradox Valley	43.64	84	eP	P	09 02 02.5	+0.1
	322nm,0.8s						
WUAZ	Wupatki	43.64	89	eP	P	09 02 03.7	+1.4
	5.2nm,0.8s						
SDCO	Great Sand Dun	45.74	83	eP	P	09 02 19.9	+0.7
	2.4nm,0.8s						
KSCO	Kaye Shedlock'	46.66	79	eP	P	09 02 27.3	+1.1
	10nm,1.1s						
LAZ	Ladron	46.96	87	eP	P	09 02 29.8	+1.1
	2.0nm,1.0s						
ANMO	Albuquerque	47.01	86	P	P	09 02 28.8	-0.3
	0.7nm,0.8s,baz=323,slow=12,SNR=2.9						
ANMO				PcP	PcP	09 03 59.5	-1.6
	1.1nm,0.7s,baz=346,slow=12,SNR=5.4						
ANMO	Albuquerque	47.01	86	eP	P	09 02 34.0	+4.9
ANMO				PcP	PcP	09 03 59.5	-1.6
SONM	Songino Array	51.27	301	PcP	PcP	09 04 13.5	-2.8
	1.9nm,0.8s,baz=33,slow=2.4,SNR=8.2						
TXAR	Lajitas Array	52.60	89	P	P	09 03 11.6	0.0
	3.7nm,0.8s,baz=299,slow=5.6,SNR=22						
TXAR				PcP	PcP	09 04 21.1	-0.5
	1.0nm,0.9s,baz=338,slow=1.9,SNR=2.0						
HHC	Hu-ho-hao-te	52.95	291	eP	P	09 03 15.8	+1.8
HHC				PP	PP	09 05 16.8	+3.5
HHC				S	S	09 10 42.8	+0.4
HHC				SS	SS	09 14 20.8	-0.1
HHC				PMZ			
	22nm,1.1s						
HHC				LN			
	190nm,14.3s						
HHC				LE			
	320nm,15.5s						
HHC				LZ			
	270nm,13.9s						
H06E1	SOCORRO T-PHAS	56.10	104	T	T	10 04 22.8	
WMQ	Urumqi	63.46	308	eP	P	09 04 30.6	+3.2
CD2	Chengdu	64.41	288	P	P	09 04 33.8	-0.1
CD2				PMZ			
	10.0nm,0.5s						
KMI	Kunming	69.33	284	P	P	09 05 07.3	+1.8
KMI				PMZ			
	5.0nm,0.7s						
WRA	Warramunga Arr	87.29	232	P	P	09 06 41.3	-3.0
	1.7nm,0.9s,baz=37,slow=5.7,SNR=8.3						
ASAR	Alice Springs	90.69	230	P	P	09 06 58.3	-2.0
	2.0nm,0.8s,baz=32,slow=4.4,SNR=14						
MAW	Mawson	151.19	219	PKPbc	PKPbc	09 13 46.8	-2.6
	2.9nm,0.9s,baz=56,slow=5.3,SNR=4.9						

NEIC 19 08:59:39.9,52.°59N×169.°18W,h7km,ML3.1(AEIC),After AEIC.,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	Nikolski High	0.43	28	P	Pb	08 59 49.1	-0.7
NIKH				S	Sb	08 59 56.9	+0.4
OKSP	Okmok Steeple	0.85	39	P	Pg	08 59 56.5	+0.1
OKSP				S	Sb	09 00 08.9	+0.1
OKCE	Okmok Cone E	1.04	36	P	Pg	08 59 59.6	-0.3
OKTU	Okmok Mt. Tuli	1.05	41	P	Pg	09 00 00.1	0.0
MSOM	Makushin Julie	1.82	47	P	Pn	09 00 10.7	-0.8
MSOM				S	Sn	09 00 33.8	-0.9
MSW	Makushin Switc	1.96	47	P	Pn	09 00 12.8	-0.7
UNV	Unalaska Valle	2.04	51	P	Pn	09 00 13.7	-0.9
UNV				S	Sn	09 00 39.1	-1.2

IDC 19 08:59:56.3±1.6,52.°90N×169.°82W,h0km,mb3.5/6, mb1 3.9/6,mb1mx3.5/49,mbtmp3.5/6,Error ellipse: s-maj=104.9km s-min=23.0km az=158.0,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLBC	Dease Lake	22.85	60	P	P	09 05 01.1	+0.1
	2.2nm,0.9s,baz=270,slow=13,SNR=2.4						
NVAR	Mina Array Bea	37.95	91	P	P	09 07 15.4	-0.3
	0.3nm,0.6s,baz=313,slow=7.8,SNR=2.3						
PDAR	Pinedale Array	40.57	79	P	P	09 07 36.9	-0.6
	0.3nm,0.7s,baz=304,slow=6.9,SNR=3.5						
TXAR	Lajitas Array	53.01	89	P	P	09 09 15.4	+0.5
	0.5nm,0.7s,baz=298,slow=5.4,SNR=4.7						
WRA	Warramunga Arr	87.12	231	P	P	09 12 44.6	+0.7
	0.3nm,0.9s,baz=37,slow=5.6,SNR=3.3						
ASAR	Alice Springs	90.53	230	P	P	09 12 59.2	-0.8
	0.5nm,1.0s,baz=26,slow=4.7,SNR=3.1						

*IDC **19** 09:01:02.9±1.7,52.°47N×169.°54W,h0km,mb3.5/4, mb1 3.8/5,mb1mx3.4/49,mbtmp3.4/5,ML3.3/1,Error ellipse: s-maj=55.2km s-min=29.5km az=136.0*
*NEIC **19** 09:01:06.4,52.°84N×169.°30W,h3km,ML3.9(AEIC),After AEIC.*
ISC 19 09:01:07.1±1.1,52.°9N±0.°1×169.°26W±0.°07,h10km,n18, σ1$97/20,mb3.4/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	Nikolski High	0.28	64	P	Pb	09 01 13.9	-0.3
NIKH				S	Sb	09 01 21.1	+2.2
OKSP	Okmok Steeple	0.71	55	P

mb1 4.5/23,mb1mx4.3/38,mbtmp4.2/23,ML4.0/1,MS3.9/1, Ms1 4.0/1,ms1mx3.1/47,Error ellipse: s-maj=19.7km s-min=11.4km az=4.0

NEIC ***19*** *09:02:05.3±0.3,52°.81N×169°.76W,h10km,mb4.6/65, ML4.2(AEIC),Error ellipse: s-maj=6.9km s-min=4.4km az=164.0*

MOS ***19*** *09:02:07.0±0.8,53°.08N×169°.76W,h33km,mb4.8/21, Error ellipse: s-maj=11.8km s-min=9.2km az=138.0*

ISC 19 09:02:05.5±0.6,52°.95N±0°.07×169°.75W±0°.03,h14km±3km, h14km:pP-P,n493,σ0s86/511,mb4.6/78,1C-4D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
NIKH	**Nikolski High**	**0.54**	**87**		P	**Pg**	**09 02 15.0**	**-1.1**
NIKH					S	**Sg**	**09 02 23.0**	**-0.4**
OKCE	**Okmok Cone E**	**1.07**	**63**		P	**Pb**	**09 02 25.1**	**-0.6**
OKCE					S	**Sn**	**09 02 40.8**	**+0.1**
OKTU	**Okmok Mt. Tuli**	**1.12**	**66**		P	**Pb**	**09 02 26.4**	**-0.2**
MSOM	**Makushin Julie**	**1.89**	**61**		P	**Pn**	**09 02 38.5**	**+1.2**
MSOM	**Makushin Julie**	**1.89**	**61**		P	**Pn**	**09 02 38.5**	**+1.2**
MCIR	**Makushin Cirqu**	**1.98**	**58**		P	**Pb**	**09 02 40.2**	**-1.1**
MCIR					S	**Sn**	**09 03 04.7**	**+1.5**
MSW	**Makushin Switc**	**2.02**	**60**		P	**Pn**	**09 02 40.0**	**+0.9**
MTBL	**Makushin Table**	**2.10**	**60**		P	**Pn**	**09 02 40.7**	**+0.5**
UNV	**Unalaska Valle**	**2.14**	**64**		P	**Pn**	**09 02 41.8**	**+1.1**
UNV					S	**Sb**	**09 03 09.5**	**-0.9**
ZRO	**Akutan Zero**	**2.52**	**62**		P	**Pn**	**09 02 46.9**	**+0.9**
AKGG	**Akutan Green G**	**2.57**	**59**		P	**Pn**	**09 02 46.9**	**+0.3**
AKUT	**Akutan**	**2.65**	**62**		P	**Pn**	**09 02 48.5**	**+0.7**
ATKA	**Atka Island**	**2.81**	**256**		P	**Pn**	**09 02 51.0**	**+1.1**
GSTR	**Great Sitkin T**	**3.95**	**260**	*e*Pn		**Pn**	**09 03 06.3**	**+0.7**
GSCK	**Great Sitkin C**	**4.03**	**259**	P		**Pn**	**09 03 08.1**	**+1.4**
FALS	**False Pass**	**4.21**	**60**	*e*Pn		**Pn**	**09 03 11.8**	**+2.8**
SPIA	**Saint Paul Isl**	**4.25**	**356**	P		**Pn**	**09 03 12.1**	**+2.4**
SDPT	**Sand Point**	**5.96**	**62**	*e*Pn		Pn	09 03 36.5	+3.4
AMKA	**Amchitka** 124nm,0.7s	**6.92**	**261**	*e*Pn		**Pn**	**09 03 49.1**	**+2.8**
CHGN	**Chignik**	**7.39**	**58**	*e*Pn		**Pn**	**09 03 54.5**	**+1.8**
KDAK	**Kodiak Island**	**10.89**	**57**	*i* P		**Pn**	**09 04 40.9**	**+0.2**
SVW2	**Sparrevohn**	**11.21**	**38**	*e*Pn		Pn	09 04 49.7	+4.5
PPLA	**Purkeypile** 117nm,1.7s	**13.60**	**36**	*e*Pn		Pn	09 05 22.1	+4.3
CAST	**Castle Rocks**	**13.97**	**34**	*e*Pn		P	09 05 27.7	-3.1
TRF	**Thorofare Moun**	**14.62**	**36**	*e*Pn		**P**	**09 05 36.3**	**-1.8**
BPAW	**Bear Paw Mtn.**	**14.79**	**34**	*e*Pn		**P**	**09 05 37.8**	**-2.0**
MCK	**McKinley**	**15.28**	**37**	*e*P		**P**	**09 05 44.1**	**-1.2**
MCK	comp=Z,36nm,1.3s				pmax	pmax		
MCK	**McKinley** comp=Z,36nm,1.3s	**15.28**	**37**	*e*P		**P**	**09 05 44.1**	**-1.2**
IM04	**Indian Mountai**	**15.30**	**25**	*e*P		**P**	**09 05 45.2**	**-0.3**
DIV	**Divide** comp=Z,26nm,1.2s	**15.33**	**48**	*e*P		**P**	**09 05 45.1**	**-0.8**
KLU	**Klutina** comp=Z,85nm,1.8s	**15.40**	**47**	*e*Pn		**Pn**	**09 05 40.1**	**-2.1**
DHY	**Denali Highway** comp=Z,7.5nm,0.8s	**15.51**	**40**	*e*P		**P**	**09 05 47.2**	**-0.8**
BMRM	**Bremner River** comp=Z,18nm,0.9s	**15.80**	**50**	*e*P		**P**	**09 05 50.3**	**-0.9**
HARP	**HAARP** comp=Z,88nm,1.2s	**16.10**	**44**	*e*P		**P**	**09 05 54.1**	**-0.3**
CCB	**Clear Creek Bu** comp=Z,20nm,1.1s	**16.21**	**35**	*e*P		**P**	**09 05 54.4**	**-1.2**
COLA	**College**	**16.33**	**34**	‖*e*P		**Pn**	**09 05 54.5**	**+0.5**
COLA	comp=Z,102nm,1.1s				pmax	pmax		
COLA	**College** comp=Z,22nm,1.0s	**16.33**	**34**	*e*P		**P**	**09 05 56.1**	**-0.8**
HDA	**Harding Lake** comp=Z,40nm,1.7s	**16.38**	**37**	*e*Pn		**Pn**	**09 05 55.5**	**+0.9**
ILAR	**Eielson Array** comp=Z,0.2nm,0.3s,baz=244,slow=11,SNR=18	**16.61**	**36**	Pn	PcP	**Pn PcP**	**09 05 57.0**	**-0.6**
ILAR	comp=Z,0.1nm,0.3s,baz=282,slow=3.0,SNR=4.4				LR	LR	09 12 07.8	
ILAR	**Eielson Array** comp=Z,347nm,18.0s,baz=248,slow=36	**16.61**	**36**		P	**Pn**	**09 05 57.0**	**-0.6**
COLD	**Coldfoot** comp=Z,32nm,1.3s	**17.19**	**26**	*e*P		**P**	**09 06 09.0**	**+2.6**
EGAK	**Eagle** comp=Z,124nm,2.5s	**18.73**	**40**	*e*P		**P**	**09 06 23.1**	**-0.4**
PET	**Petropavlovsk**	**18.95**	**283**	*i* P		**Pn**	**09 06 28.3**	**+1.8**
BILL	**Bilibino**	**18.98**	**332**	‖*e*P		**Pn**	**09 06 29.6**	**+2.8**
BILL	comp=Z,41nm,1.5s				pmax	pmax		
BILL	**Bilibino** comp=Z,31nm,1.2s	**18.98**	**332**	*e*Pn		**Pn**	**09 06 29.7**	**+2.8**
HYT	**Haines Junctio**	**19.13**	**53**	*e*Pn		**Pn**	**09 06 29.5**	**+0.7**
DAWY	**Dawson**	**19.15**	**43**	*e*Pn		**P**	**09 06 28.2**	**+0.1**
PETK	**Petropavlovsk-** baz=84,slow=13,SNR=1.9	**19.49**	**284**	P		**P**	**09 06 32.1**	**+0.3**
SKAG	**Skagway** comp=Z,51nm,0.9s	**20.05**	**57**	*e*Pn		Pn	09 06 39.5	-0.1
BESE	**Bessie Mountai** comp=Z,22nm,1.2s	**20.25**	**60**	*e*Pn		Pn	09 06 41.6	-0.5
SEY	**Seymchan** comp=Z,11nm,0.9s,baz=107,slow=12,SNR=19	**22.11**	**312**	P	PcP	**P PcP**	**09 07 00.2**	**+0.2**
SEY	comp=Z,1.9nm,0.8s,baz=127,slow=5.1,SNR=3.4				PcP	**PcP**	**09 10 55.8**	**-1.0**
SEY	**Seymchan**	**22.11**	**312**	‖ *i*P		**P**	**09 07 00.9**	**+0.9**
DLBC	**Dease Lake** comp=Z,50nm,1.1s,baz=266,slow=11,SNR=49	**22.79**	**60**	P		**P**	**09 07 08.0**	**+0.6**
DLBC	**Dease Lake**	**22.79**	**60**	*e*P		**P**	**09 07 09.9**	**+2.5**
INK	**Inuvik** comp=Z,13nm,1.0s,baz=239,slow=10.0,SNR=15	**22.99**	**34**	P	PcP	**P PcP**	**09 07 08.0**	**-1.3**
INK	comp=Z,3.1nm,1.0s,baz=242,slow=2.7,SNR=4.0				PcP	**PcP**	**09 10 57.8**	**-0.6**
YKA	**Yellowknife Ar** comp=Z,1.6nm,1.0s,baz=272,slow=7.4,SNR=7.2	**30.04**	**50**	P		**P**	**09 08 13.8**	**+0.3**
YKA	comp=Z,1.6nm,1.0s,baz=276,slow=2.2,SNR=5.7				PcP	**PcP**	**09 11 14.9**	**-0.1**
D05A	**Enumclaw** comp=Z,33nm,1.4s	**30.72**	**81**	*e*P		**P**	**09 08 21.9**	**+2.2**
I03D	**Drain, OR** baz=32	**31.71**	**88**	P		**P**	**09 08 29.8**	**+1.4**
B08A	**Colville Reser** comp=Z,14nm,1.1s	**31.75**	**78**	*e*P		**P**	**09 08 30.4**	**+1.6**
I04A	**Tendick Farm,** baz=32	**32.22**	**87**	P		**P**	**09 08 33.7**	**+0.6**
L02D	**Cave Junction,** baz=32	**32.42**	**91**	P		**P**	**09 08 37.5**	**+2.7**
I05D	**Terrebonne, OR** baz=32	**32.57**	**86**	P		**P**	**09 08 38.1**	**+2.0**
J04D	**Umpqua Nationa** baz=33	**32.71**	**88**	P		**P**	**09 08 38.3**	**+0.8**
NEW	**Newport** comp=Z,8.0nm,0.9s,baz=290,slow=7.8,SNR=13	**33.10**	**77**	P		**P**	**09 08 41.2**	**+0.5**
NEW	**Newport**	**33.10**	**77**	P		**P**	**09 08 41.2**	**+0.5**
NEW	comp=Z,8.0nm,0.9s				pmax	pmax		
NEW	**Newport** baz=33,SNR=13	**33.10**	**77**	P		**P**	**09 08 41.2**	**+0.5**
NEW	**Newport**	**33.10**	**77**	*e*P		**P**	**09 08 41.6**	**+0.9**
EDM	**Edmonton**	**33.12**	**66**	*e*P		**P**	**09 08 41.4**	**+0.6**
EDM	**Edmonton**	**33.12**	**66**	*e*P		**P**	**09 08 41.4**	**+0.6**
J05D	**Fort Rock, OR** baz=33,SNR=5.7	**33.21**	**87**	P		**P**	**09 08 42.0**	**+0.1**
G08A	**Pilot Rock** comp=Z,5.8nm,1.2s	**33.49**	**82**	*e*P		**P**	**09 08 44.1**	**-0.1**
G08A					*e*PcP	**PcP**	**09 11 25.0**	**+0.2**
N02D	**Trinity Center** baz=34	**33.67**	**92**	P		**P**	**09 08 47.2**	**+1.5**
M04C	**Macdoel** baz=34	**33.71**	**90**	P		**P**	**09 08 47.6**	**+1.4**
K05A	**Summer Lake** comp=Z,29nm,1.4s	**33.74**	**88**	*e*P		**P**	**09 08 48.9**	**+2.4**
MOD	**Modoc** comp=Z,15nm,1.3s	**34.57**	**88**	*e*P		**P**	**09 08 55.7**	**+2.1**
WALA	**Waterton Lakes** comp=Z,9.8nm,1.2s	**34.60**	**73**	*e*P		**P**	**09 08 53.8**	**0.0**
BSMT	**Bassoo Peak** comp=Z,9.6nm,1.1s	**34.67**	**76**	*e*P		**P**	**09 08 55.0**	**+0.5**
BLMT	**Blacktail Moun**	**34.84**	**75**	*e*P		**P**	**09 08 57.1**	**+1.2**
MSO	**Missoula** baz=36,SNR=11	**35.68**	**77**	P		**P**	**09 09 03.2**	**+0.1**
MSO	**Missoula** comp=Z,20nm,1.4s	**35.68**	**77**	*e*P		**P**	**09 09 03.6**	**+0.6**
MSO					*e*PcP	**PcP**	**09 11 31.2**	**+0.1**
SLMT	**Seeley Lake** comp=Z,16nm,1.3s	**35.73**	**76**	*e*P		**P**	**09 09 03.8**	**+0.2**
MFID	**Camas Ranch** comp=Z,12nm,1.4s	**36.40**	**83**	*e*P		**P**	**09 09 10.9**	**+1.6**
HLID	**Hailey** baz=37,SNR=7.0	**37.16**	**82**	P		**P**	**09 09 16.2**	**+0.4**
HLID	**Hailey** comp=Z,11nm,1.4s	**37.16**	**82**	*e*P		**P**	**09 09 16.9**	**+1.1**
HLID					*e*PcP	**PcP**	**09 11 37.0**	**+1.2**
WAKR	**Walker**	**37.17**	**92**	*e*P		**P**	**09 09 18.2**	**+2.2**
BMN	**Battle Mountai**	**37.31**	**88**	*e*P		**P**	**09 09 18.7**	**+1.5**
BMN	comp=Z,10.0nm,1.2s				pmax	pmax		
BMN	**Battle Mountai** comp=Z,10nm,1.2s	**37.31**	**88**	*e*P		**P**	**09 09 18.7**	**+1.5**
MCMT	**McKenzie Canyo**	**37.39**	**79**	*e*P		**P**	**09 09 18.6**	**+0.7**
EGMT	**Eagleton** baz=37,SNR=13	**37.51**	**73**	P		**P**	**09 09 18.8**	**+0.2**
EGMT	**Eagleton** comp=Z,21nm,1.1s	**37.51**	**73**	*e*P		**P**	**09 09 18.9**	**+0.2**
A19A	**Klindworth Far** baz=38	**37.64**	**71**	P		**P**	**09 09 19.6**	**-0.1**
BOZ	**Bozeman (W)**	**37.66**	**77**	*e*P		**P**	**09 09 20.6**	**+0.5**
BOZ	comp=Z,14nm,1.3s				pmax	pmax		
BOZ	**Bozeman (W)** baz=38,SNR=15	**37.66**	**77**	P		**P**	**09 09 20.8**	**+0.7**
BOZ	**Bozeman (W)** comp=Z,14nm,1.3s	**37.66**	**77**	*e*P		**P**	**09 09 20.6**	**+0.5**
NVAR	**Mina Array Bea** comp=Z,7.1nm,1.0s,baz=294,slow=8.3,SNR=30	**37.91**	**91**	P	PcP	**P PcP**	**09 09 23.1**	**+0.9**
NVAR	comp=Z,1.3nm,1.0s,baz=251,slow=2.8,SNR=4.7						**09 11 38.1**	**0.0**
QLMT	**Earthquake Lak** comp=Z,1.0nm,0.4s	**38.23**	**78**	*e*P		**P**	**09 09 25.5**	**+0.6**
ELK	**Elko** comp=Z,1.7nm,0.7s,baz=291,slow=8.6,SNR=9.0	**38.32**	**86**	P		**P**	**09 09 26.8**	**+1.1**
FFC	**Flin Flon**	**38.62**	**59**	*e*P		**P**	**09 09 27.6**	**-0.2**
FFC	comp=Z,9.0nm,1.0s				pmax	pmax		
FFC	**Flin Flon** comp=Z,8.8nm,1.0s	**38.62**	**59**	*e*P		**P**	**09 09 27.6**	**-0.2**
A21A	**Bergtoll Ranch** baz=38	**38.64**	**70**	P		**P**	**09 09 28.3**	**+0.1**
C20A	**Vensen Ranch,** baz=39	**38.68**	**72**	P		**P**	**09 09 28.8**	**+0.3**
RCTC	**Rector, Farmer** baz=39	**38.72**	**95**	P		**P**	**09 09 30.2**	**+1.4**
YNR	**Norris Junctio** comp=Z,108nm,0.4s	**38.74**	**78**	*e*P		P	09 09 24.8	-4.4
TPH	**Tonopah**	**38.79**	**91**	*e*P		**P**	**09 09 30.7**	**+1.1**
TPH	comp=Z,15nm,1.3s				pmax	pmax		
TPH	**Tonopah** comp=Z,15nm,1.3s	**38.79**	**91**	*e*P		**P**	**09 09 30.7**	**+1.1**
H17A	**Grant Village** comp=Z,32nm,0.5s	**38.98**	**78**	*e*P		P	09 09 26.6	-4.7
LKWY	**Lake**	**38.99**	**78**	*e*P		P	09 09 27.1	-4.2
LKWY	comp=Z,33nm,0.6s				pmax	pmax		
LKWY	**Lake** comp=Z,33nm,0.6s	**38.99**	**78**	*e*P		P	09 09 27.1	-4.2
IMW	**Indian Meadow** comp=Z,5.3nm,0.6s	**39.05**	**79**	*e*P		**P**	**09 09 33.0**	**+1.1**
FXWY	**Fox Creek** comp=Z,1.9nm,0.6s	**39.14**	**79**	*e*P		**P**	**09 09 33.7**	**+1.1**
C21A	**Desert Coulee** baz=39,SNR=5.7	**39.14**	**71**	P		**P**	**09 09 32.7**	**+0.3**
MOOW	**Moose Ponds**	**39.25**	**79**	*e*P		**P**	**09 09 34.3**	**+0.8**
RLMT	**Red Lodge** baz=39,SNR=16	**39.34**	**76**	P		**P**	**09 09 34.9**	**+0.6**
RLMT	**Red Lodge** comp=Z,23nm,1.2s	**39.34**	**76**	*e*P		**P**	**09 09 34.9**	**+0.6**
GRAC	**Grapevine Rang** baz=39	**39.39**	**92**	P		**P**	**09 09 35.6**	**+1.1**
REDW	**Red Top Meadow** comp=Z,8.9nm,1.4s	**39.41**	**80**	*e*P		**P**	**09 09 36.7**	**+1.9**
R11A	**Troy Canyon, C** baz=40,SNR=20	**39.60**	**89**	P		**P**	**09 09 37.1**	**+0.7**
R11A	**Troy Canyon, C** comp=Z,16nm,1.2s	**39.60**	**89**	*e*P		**P**	**09 09 37.2**	**+0.7**
ISA	**Isabella** baz=40	**39.61**	**95**	P		**P**	**09 09 37.2**	**+0.7**
F20A	**Billings** baz=40	**39.62**	**75**	P		**P**	**09 09 37.1**	**+0.7**
ARVC	**Arvin** baz=40	**39.76**	**96**	P		**P**	**09 09 38.4**	**+0.8**
H19A	**Powell** baz=40,SNR=9.3	**39.76**	**77**	P		**P**	**09 09 38.1**	**+0.5**
E21A	**Keefer Ranch,** baz=40	**39.84**	**73**	P		**P**	**09 09 38.2**	**0.0**
G20A	**Bridger** baz=40,SNR=15	**39.91**	**76**	P		**P**	**09 09 39.1**	**+0.2**
MPMC	**Manual Prospec** baz=40,SNR=10	**39.94**	**94**	P		**P**	**09 09 40.5**	**+1.2**
HWUT	**Hardware Ranch** comp=Z,47nm,2.5s	**40.01**	**82**	*e*P		**P**	**09 09 41.7**	**+1.8**
FURC	**Furnace Creek,** baz=40,SNR=7.1	**40.05**	**93**	P		**P**	**09 09 41.1**	**+1.1**
TPNV	**Topopah Spring** baz=40,SNR=12	**40.11**	**92**	P		**P**	**09 09 41.3**	**+0.7**
I19A	**Meeteetse** baz=40	**40.12**	**78**	P		**P**	**09 09 41.0**	**+0.2**
DUG	**Dugway**	**40.12**	**85**	*e*P		**P**	**09 09 41.6**	**+0.9**
DUG	comp=Z,20nm,1.4s				pmax	pmax		
DUG	**Dugway** baz=40,SNR=9.9	**40.12**	**85**	P		**P**	**09 09 41.6**	**+0.9**
DUG	**Dugway** comp=Z,20nm,1.4s	**40.12**	**85**	*e*P		**P**	**09 09 41.6**	**+0.9**
LRMC	**Laurel Mountai** baz=40	**40.21**	**94**	P		**P**	**09 09 41.5**	**+0.1**
LAO	**LASA Array** baz=40	**40.26**	**72**	P		**P**	**09 09 41.8**	**+0.1**
EDW2	**Edwards Air Fo** baz=40	**40.43**	**95**	P		**P**	**09 09 43.6**	**+0.3**
H20A	**Greybull** baz=40,SNR=6.3	**40.45**	**76**	P		**P**	**09 09 43.3**	**0.0**
G21A	**Lodge Grass** baz=40	**40.49**	**75**	P		**P**	**09 09 44.0**	**+0.3**
BW06	**Boulder Array** comp=Z,12nm,1.3s	**40.52**	**80**	*e*P		**P**	**09 09 44.0**	**-0.1**
PDAR	**Pinedale Array** comp=Z,2.4nm,0.8s,baz=320,slow=4.4,SNR=25	**40.52**	**80**	P		**P**	**09 09 43.7**	**-0.4**
J19A	**Crowheart** baz=40	**40.53**	**79**	P		**P**	**09 09 44.7**	**+0.6**
E22A	**Miles City** baz=40,SNR=5.5	**40.55**	**73**	P		**P**	**09 09 44.5**	**+0.4**
DECC	**Green Verdugo** baz=40	**40.66**	**96**	P		**P**	**09 09 44.7**	**-0.4**
I20A	**Worland** baz=41,SNR=9.5	**40.68**	**77**	P		**P**	**09 09 45.6**	**+0.3**
JLU	**Jordanelle** comp=Z,14nm,1.5s	**40.69**	**84**	*e*P		**P**	**09 09 47.2**	**+1.7**
NLU	**North Lily Min** comp=Z,20nm,1.7s	**40.71**	**85**	*e*P		**P**	**09 09 46.7**	**+1.0**
F22A	**Rosebud** baz=41	**40.74**	**74**	P		**P**	**09 09 46.0**	**+0.4**
A25A	**Svangstu Ranch** baz=41	**40.82**	**68**	P		**P**	**09 09 46.3**	**+0.1**
C24A	**Savage** baz=41,SNR=8.8	**40.83**	**70**	P		**P**	**09 09 47.1**	**+0.7**
MWC	**Mount Wilson** comp=Z,18nm,1.2s	**40.84**	**96**	*e*P		**P**	**09 09 47.4**	**+0.6**
MWC					pmax	pmax		
MWC	**Mount Wilson** comp=Z,18nm,1.2s	**40.84**	**96**	*e*P		**P**	**09 09 47.4**	**+0.6**
GSC	**Goldstone**	**40.86**	**94**	*e*P		**P**	**09 09 48.2**	**+1.4**
GSC	comp=Z,21nm,1.1s				pmax	pmax		
GSC	**Goldstone** baz=41,SNR=17	**40.86**	**94**	P		**P**	**09 09 48.0**	**+1.2**
GSC	**Goldstone** comp=Z,21nm,1.1s	**40.86**	**94**	*e*P		**P**	**09 09 48.2**	**+1.4**
E23A	**Ismay** baz=41,SNR=7.6	**40.89**	**72**	P		**P**	**09 09 47.4**	**+0.5**
H21A	**Big Horn, Sher** baz=41	**40.93**	**76**	P		**P**	**09 09 47.1**	**-0.3**
G22A	**Birney** baz=41	**41.03**	**74**	P		**P**	**09 09 48.5**	**+0.4**
J20A	**Shoshoni** baz=41,SNR=12	**41.05**	**78**	P		**P**	**09 09 48.8**	**+0.4**
SHPR	**Sheep Range**	**41.05**	**91**	*e*P		**P**	**09 09 49.7**	**+1.2**
BFSC	**Mount Baldy Ra** baz=41,SNR=5.8	**41.07**	**96**	P		**P**	**09 09 49.7**	**+1.1**
D24A	**Glendive** baz=41,SNR=12	**41.11**	**71**	P		**P**	**09 09 48.6**	**-0.1**
CIS	**Catalina Islan** baz=41	**41.20**	**97**	P		**P**	**09 09 49.5**	**0.0**
I21A	**Big Trails, Te** baz=41,SNR=5.6	**41.25**	**77**	P		**P**	**09 09 49.8**	**-0.2**
F23A	**Volborg** baz=41,SNR=6.7	**41.26**	**73**	P		**P**	**09 09 50.3**	**+0.4**
TUQ	**Turquoise Moun**	**41.30**	**93**	P		**P**	**09 09 50.7**	**+0.2**
H22A	**Clearmont** baz=41	**41.35**	**75**	P		**P**	**09 09 51.0**	**+0.3**
E24A	**Baker** baz=41	**41.43**	**72**	P		**P**	**09 09 52.0**	**+0.6**
J21A	**Lysite** baz=41,SNR=9.7	**41.43**	**77**	P		**P**	**09 09 51.4**	**-0.1**
A26A	**Wade Farm, Ken** baz=41	**41.44**	**67**	P		**P**	**09 09 51.9**	**+0.5**
BOD	**Bodaibo**	**41.45**	**308**	*e*P		**P**	**09 09 51.3**	**+0.1**
BOD	comp=Z,7.0nm,1.3s				pmax	pmax		
HEC	**Hector,Ludlow** baz=41	**41.47**	**94**	P		**P**	**09 09 52.5**	**+0.7**
BBRC	**Big Bear Solar** baz=41	**41.50**	**95**	P		**P**	**09 09 53.3**	**+1.0**
MSU	**Marysvale**	**41.56**	**87**	*e*P		**P**	**09 09 52.9**	**+0.2**
MSU	comp=Z,4.0nm,1.2s				pmax	pmax		
MSU	**Marysvale** comp=Z,4.2nm,1.2s	**41.56**	**87**	*e*P		**P**	**09 09 52.9**	**+0.2**
G23A	**Biddle** baz=42	**41.57**	**74**	P		**P**	**09 09 52.2**	**-0.3**
B26A	**Jensen Ranch,** baz=42	**41.61**	**68**	P		**P**	**09 09 53.3**	**+0.5**
D25A	**Fairfield** baz=42	**41.67**	**70**	P		**P**	**09 09 53.2**	**-0.1**
I22A	**9 Mile Ranch,** baz=42	**41.68**	**76**	P		**P**	**09 09 53.8**	**+0.3**
F24A	**Ekalaka** baz=42,SNR=5.7	**41.75**	**73**	P		**P**	**09 09 54.3**	**+0.3**
MURC	**Murrieta** baz=42	**41.79**	**96**	P		**P**	**09 09 54.5**	**+0.2**
A27A	**Ledoux Ranch,** baz=42	**41.86**	**67**	P		**P**	**09 09 55.0**	**+0.3**
GMRC	**Granite Mounta** baz=42,SNR=12	**41.91**	**94**	P		**P**	**09 09 55.3**	**-0.1**
J22A	**Midwest** baz=42,SNR=20	**41.97**	**77**	P		**P**	**09 09 55.8**	**-0.1**
E25A	**Miller Ranch,** baz=42	**41.98**	**71**	P		**P**	**09 09 56.4**	**+0.5**
LDFC	**Landfair** comp=Z,32nm,1.2s	**42.04**	**93**	*e*P		**P**	**09 09 57.6**	**+1.1**
G24A	**Alzada** baz=42,SNR=5.4	**42.06**	**73**	P		**P**	**09 09 56.2**	**-0.3**
B27A	**Peters Farms,** baz=42	**42.14**	**68**	P		**P**	**09 09 57.2**	**+0.2**
SRU	**San Rafael**	**42.18**	**85**	*e*P		**P**	**09 09 59.0**	**+1.3**
SRU	comp=Z,48nm,2.3s				pmax	pmax		
SRU	**San Rafael** comp=Z,48nm,2.3s	**42.18**	**85**	*e*P		**P**	**09 09 59.0**	**+1.3**
PFO	**Pinyon Flat Ob** comp=Z,6.0nm,1.1s,baz=313,slow=6.5,SNR=5.4	**42.23**	**95**	P		**P**	**09 09 57.7**	**-0.4**
PFO	**Pinyon Flat Ob** baz=42,SNR=5.3	**42.23**	**95**	P		**P**	**09 09 58.6**	**+0.5**
BELC	**Belle Mtn. Jos** baz=42,SNR=5.9	**42.23**	**95**	P		**P**	**09 09 57.7**	**-0.5**
D26A	**Manning** baz=42	**42.24**	**70**	P		**P**	**09 09 57.3**	**-0.5**
F25A	**Bowman** baz=42	**42.27**	**72**	P		**P**	**09 09 58.5**	**+0.2**
H24A	**Dirks Ranch, A** baz=42	**42.31**	**74**	P		**P**	**09 09 58.7**	**0.0**
109C	**Camp Elliot, M** baz=42	**42.34**	**97**	P		**P**	**09 09 58.7**	**0.0**
K22A	**Casper** baz=42,SNR=5.8	**42.39**	**78**	P		**P**	**09 09 59.2**	**-0.1**
K22A	**Casper**	**42.39**	**78**	*e*P		**P**	**09 09 59.4**	**+0.1**
A28A	**Rude Farm, Bot** baz=42,SNR=5.7	**42.42**	**66**	P		**P**	**09 09 59.1**	**-0.2**
E26A	**Carlson Angus** baz=42	**42.53**	**71**	P		**P**	**09 10 00.5**	**+0.2**
B28A	**Dugan Ranch, T** baz=42,SNR=7.6	**42.62**	**67**	P		**P**	**09 10 01.2**	**+0.3**
IRM	**Iron Mountain** baz=42,SNR=10.0	**42.64**	**94**	P		**P**	**09 10 02.4**	**+1.1**
CN2	**Changchun**	**42.64**	**285**	*e*P		**P**	**09 09 58.1**	**-3.0**
G25A	**Newell** baz=43	**42.72**	**73**	P		**P**	**09 10 01.9**	**+0.1**
BAR	**Barrett** comp=Z,14nm,1.1s	**42.74**	**97**	*e*P		**P**	**09 10 03.6**	**+1.5**
MONP	**Monument Peak** baz=43,SNR=6.8	**42.75**	**96**	P		**P**	**09 10 04.1**	**+1.7**
F26A	**Lodgepole** baz=43	**42.77**	**71**	P		**P**	**09 10 02.9**	**+0.6**
BC3	**Big Chuckawall** baz=43	**42.80**	**95**	P		**P**	**09 10 02.9**	**+0.2**
K23A	**Bowen Ranch, D** baz=43	**42.86**	**77**	P		**P**	**09 10 02.9**	**-0.2**
O20A	**White River Ci** baz=43,SNR=7.6	**42.91**	**82**	P		**P**	**09 10 03.6**	**0.0**
O20A	**White River Ci** comp=Z,28nm,1.4s	**42.91**	**82**	*e*P		**P**	**09 10 04.0**	**+0.4**
RSSD	**Black Hills**	**42.98**	**74**	*e*P		**P**	**09 10 04.5**	**+0.3**
RSSD	comp=Z,10.0nm,1.3s				pmax	pmax		
RSSD	**Black Hills** comp=Z,9.8nm,1.3s	**42.98**	**74**	*e*P		**P**	**09 10 04.5**	**+0.3**
A29A	**Manning Farm,** baz=43	**42.98**	**66**	P		**P**	**09 10 04.2**	**+0.3**
C28A	**Hausauer Farms** baz=43	**43.01**	**68**	P		**P**	**09 10 04.8**	**+0.6**
J24A	**Dixon Ranch, L** baz=43	**43.08**	**76**	P		**P**	**09 10 05.0**	**+0.1**
F27A	**Lemmon** baz=43	**43.13**	**71**	P		**P**	**09 10 05.4**	**+0.3**
G26A	**Maurine** baz=43,SNR=6.5	**43.13**	**72**	P		**P**	**09 10 05.0**	**-0.1**
PDMCI	**Parker Dam,Lak** baz=43	**43.15**	**93**	P		**P**	**09 10 06.0**	**+0.6**
B29A	**Wagenman Farm,** baz=43	**43.17**	**66**	P		**P**	**09 10 05.7**	**+0.3**
D28A	**Regan** baz=43	**43.20**	**69**	P		**P**	**09 10 06.0**	**+0.4**
Y12C	**Blythe** baz=43	**43.30**	**94**	P		**P**	**09 10 07.0**	**+0.5**
MDND	**Maddock** baz=43	**43.38**	**67**	P		**P**	**09 10 07.2**	**+0.2**
G27A	**Dupree** baz=43,SNR=5.8	**43.46**	**72**	P		**P**	**09 10 06.9**	**-1.0**
E28A	**Huff** baz=43	**43.48**	**69**	P		**P**	**09 10 07.8**	**-0.2**
A30A	**Hoffart Farm,** baz=43	**43.49**	**65**	P		**P**	**09 10 07.8**	**-0.2**
GLA	**Glamis**	**43.59**	**95**	*e*P		**P**	**09 10 09.5**	**+0.5**
GLA	comp=Z,3.0nm,0.6s				pmax	pmax		
GLA	**Glamis** baz=44	**43.59**	**95**	P		**P**	**09 10 08.8**	**-0.2**
GLA	**Glamis** comp=Z,3.5nm,0.6s	**43.59**	**95**	*e*P		**P**	**09 10 09.5**	**+0.5**
PV04	**Paradox Valley**	**43.61**	**84**	*e*P		**P**	**09 10 09.2**	**0.0**
I26A	**New Underwood** baz=44	**43.72**	**74**	P		**P**	**09 10 10.1**	**+0.2**
B30A	**Myrvik Farm, E** baz=44,SNR=6.3	**43.74**	**66**	P		**P**	**09 10 09.6**	**-0.4**
N23A	**Red Feather La** baz=44,SNR=6.9	**43.80**	**79**	P		**P

baz=44
J27A Elkhorn Farm, 44.68 74 P P 09 10 18.7 +1.0
baz=45
ISCO Idaho Springs 44.69 80 *e*P P 09 10 18.3 +0.2
ISCO pmax pmax
comp=Z,6.0nm,1.4s
ISCO Idaho Springs 44.69 80 P P 09 10 18.9 +0.9
baz=45
ISCO Idaho Springs 44.69 80 *e*P P 09 10 18.3 +0.2
comp=Z,5.8nm,1.4s
I28A Midland 44.72 73 P P 09 10 18.4 +0.5
baz=45
K27A Flueckinger Fa 44.88 75 P P 09 10 19.9 +0.6
baz=45
H29A Onida 44.89 71 P P 09 10 19.8 +0.5
baz=45
J28A Allard Ranch, 45.02 73 P P 09 10 20.0 -0.4
baz=45,SNR=6.1
M26A McRoberts Ranc 45.11 77 P P 09 10 21.2 +0.1
baz=45
AGMN Agassiz Nation 45.19 65 P P 09 10 20.9 -0.7
baz=45,SNR=7.3
AGMN Agassiz Nation 45.19 65 *e*P P 09 10 21.2 -0.3
comp=Z,11nm,1.0s
I29A Vivian Onida 45.20 72 P P 09 10 21.8 0.0
baz=45
G30A Faulkton 45.20 70 P P 09 10 21.4 -0.3
baz=45
S22A 4UR Ranch, Cre 45.28 83 P P 09 10 23.4 +0.6
baz=45
K28A Ten Mile Ranch 45.38 74 P P 09 10 24.0 +0.8
baz=45
N26A Koester Ranch, 45.46 78 P P 09 10 24.6 +0.7
baz=45
J29A Okreek 45.56 73 P P 09 10 24.1 -0.5
baz=45,SNR=9.4
214A Organ Pipe Nat 45.58 94 P P 09 10 25.8 +0.9
baz=46,SNR=14
214A Organ Pipe Nat 45.58 94 *e*P P 09 10 25.2 +0.4
comp=Z,21nm,1.2s
I30A Oacoma 45.77 72 P P 09 10 26.2 -0.1
baz=46
N27A Anderson Farm, 45.88 77 P P 09 10 27.6 +0.3
baz=46
K29A Lazy Trails An 45.96 74 P P 09 10 27.9 +0.1
baz=46
SDCO Great Sand Dun 46.07 82 P P 09 10 29.2 +0.1
baz=46,SNR=8.6
SDCO Great Sand Dun 46.07 82 *e*P P 09 10 29.3 +0.3
comp=Z,16nm,1.6s
OGNE Ogallala 46.09 77 P P 09 10 28.8 0.0
baz=46
J30A Dallas 46.09 72 P P 09 10 28.9 +0.1
baz=46
P26A Davis Ranch, A 46.19 79 P P 09 10 30.6 +0.8
baz=46,SNR=9.9
M28A Bar X Bar Ranc 46.19 76 P P 09 10 29.7 0.0
baz=46
L29A Maesberg Ranch 46.30 74 P P 09 10 30.9 +0.4
baz=46
O27A Beecher Island 46.30 78 P P 09 10 31.0 +0.4
baz=46
K30A Basset 46.42 73 P P 09 10 31.3 -0.2
baz=46,SNR=5.4
Q26A Hugo 46.49 80 P P 09 10 32.4 +0.2
baz=46,SNR=5.3
N28A Pribbeno Ranch 46.54 77 P P 09 10 32.9 +0.5
baz=46
TUC Tucson 46.55 92 *e*P P 09 10 33.7 +1.1
TUC pmax pmax
comp=Z,17nm,1.2s
TUC Tucson 46.55 92 *e*P P 09 10 33.7 +1.1
comp=Z,17nm,1.2s
M29A Burnside Ranch 46.56 75 P P 09 10 33.0 +0.4
baz=46
P27A Ficken Ranch, 46.65 78 P P 09 10 34.0 +0.6
baz=46
O28A Krutsinger Ran 46.76 77 P P 09 10 34.7 +0.6
baz=47
L30A Spencer Herefo 46.81 74 P P 09 10 34.6 +0.1
baz=47
R26A Arlington 46.94 80 P P 09 10 35.6 0.0
baz=47,SNR=9.2
KSCO Kaye Shedlock' 46.97 79 P P 09 10 36.7 +0.9
baz=47,SNR=5.8
P28A Saint Francis 47.12 78 P P 09 10 37.3 +0.3
baz=47
T25A Trinidad 47.13 82 P P 09 10 37.7 +0.5
baz=47,SNR=11
L31A Butterfield Fa 47.18 73 P P 09 10 37.7 +0.3
baz=47
LAZ Ladron 47.32 87 *e*P P 09 10 39.6 +0.9
comp=Z,17nm,1.9s
O29A 4D Ranch, Culb 47.34 77 P P 09 10 38.7 +0.1
baz=47
R27A Eads 47.34 80 P P 09 10 39.2 +0.5
baz=47,SNR=11
ANMO Albuquerque 47.36 86 P P 09 10 39.0 -0.1
comp=Z,1.3nm,1.0s,baz=306,slow=8.0,SNR=5.9
ANMO PcP PcP 09 12 10.2 +0.6
comp=Z,1.8nm,0.8s,baz=294,slow=2.8,SNR=6.3
ANMO Albuquerque 47.36 86 ⇓ *i*P P 09 10 38.7 -0.3
ANMO pmax pmax
comp=Z,26nm,1.9s
ANMO Albuquerque 47.36 86 P P 09 10 39.0 -0.1
comp=Z,47nm,2.9s
ANMO PcP PcP 09 12 10.2 +0.6
S26A Kim 47.37 81 P P 09 10 38.9 -0.2
baz=47,SNR=12
ECSD EROS Data Cent 47.49 70 P P 09 10 38.7 -1.1
baz=47,SNR=7.1
P29A Atwood 47.59 77 P P 09 10 40.1 -0.5
baz=48,SNR=8.5
T26A Comanche Natio 47.59 82 P P 09 10 40.8 0.0
baz=48
M31A Lambtecht Ranc 47.62 74 P P 09 10 40.9 +0.1
baz=48
O30A MW Ranch, Wils 47.74 76 P P 09 10 42.2 +0.5
baz=48
EYMN Ely 47.76 63 P P 09 10 41.0 -0.8
baz=48,SNR=6.8
EYMN Ely 47.76 63 *e*P P 09 10 41.3 -0.5
comp=Z,13nm,1.1s
R28A Tribune 47.89 79 P P 09 10 43.0 0.0
baz=48
Q29A Oakley 48.02 78 P P 09 10 44.5 +0.5
baz=48
P30A Selden 48.03 77 P P 09 10 44.0 0.0
baz=48,SNR=5.7
BGNE Belgrade 48.06 74 P P 09 10 45.1 +0.8
baz=48
O31A Woolen Ranch, 48.18 76 P P 09 10 45.0 -0.2
baz=48
T27A Campo 48.19 81 P P 09 10 45.2 -0.1
baz=48
121A Cookes Peak, D 48.21 89 P P 09 10 45.2 -0.4
baz=48,SNR=8.4
121A Cookes Peak, D 48.21 89 *e*P P 09 10 46.0 +0.4
comp=Z,12nm,1.1s
R29A Marienthal 48.23 79 P P 09 10 45.2 -0.4
baz=48,SNR=7.9
S28A Manter 48.33 80 P P 09 10 46.7 +0.3
baz=48,SNR=6.8
Q30A Quinter 48.42 77 P P 09 10 47.5 +0.5
baz=48
M33A Taylor Creek F 48.51 73 P P 09 10 47.5 -0.1
baz=48
U27A Thompson Grove 48.55 82 P P 09 10 48.3 +0.1
baz=48,SNR=5.8
P31A Stockton 48.56 76 P P 09 10 48.5 +0.4
baz=48
SPMN St. Paul 48.71 66 P P 09 10 49.1 0.0
baz=49
S29A Ulysses 48.77 79 P P 09 10 50.1 +0.3
baz=49
CBKS Cedar Bluff 48.81 77 P P 09 10 50.6 +0.6
baz=49
R30A Dighton 48.84 78 P P 09 10 50.9 +0.6
baz=49
Q31A Ellis 48.88 77 P P 09 10 51.0 +0.4
baz=49
P32A Huiting Farm, 48.95 76 P P 09 10 51.4 +0.3
baz=49
T29A Hugoton 48.98 80 P P 09 10 51.1 -0.3
baz=49
V27A Dan Oppiter Fa 48.99 83 P P 09 10 51.4 -0.1
baz=49
S30A Montezuma 49.15 79 P P 09 10 52.4 -0.3
baz=49
R31A Burdett 49.28 78 P P 09 10 53.0 -0.6
baz=49,SNR=7.3
V28A Channing 49.36 82 P P 09 10 54.6 +0.3
baz=49
Q32A Meitler Ranch, 49.39 76 P P 09 10 54.7 +0.3
baz=49
R32A Long Quarter, 49.67 77 P P 09 10 56.8 +0.2
baz=50
O34A Beatrice 49.70 74 P P 09 10 56.4 -0.4
baz=50
U30A WK&E Inc. Balk 49.78 80 P P 09 10 57.3 -0.2
baz=50
Q33A Connelly Farm, 49.81 76 P P 09 10 56.8 -0.8
baz=50,SNR=5.1
TLY Talaya 49.81 306 *e*P P 09 11 09.7 +12
TLY pmax pmax
comp=Z,7.0nm,0.9s
N35A Tabor 49.87 73 P P 09 10 58.0 0.0
baz=50
R33A Olander Ranch, 50.17 77 P P 09 11 00.6 +0.2
baz=50
X28A Dimmitt 50.22 83 P P 09 11 01.0 +0.1
baz=50
MSTX Muleshoe 50.25 84 P P 09 11 01.1 0.0
baz=50,SNR=5.3
MSTX Muleshoe 50.25 84 *e*P P 09 11 01.6 +0.5
U31A Nine Bar Ranch 50.36 80 P P 09 11 02.1 +0.2
baz=50
T32A Huddler Ranch, 50.37 78 P P 09 11 01.9 0.0
baz=50
P35A Duane Minner, 50.52 74 P P 09 11 02.5 -0.5
baz=50
R34A Isabella, Hill 50.61 76 P P 09 11 03.5 -0.2
baz=50
V31A Spring Creek L 50.77 80 P P 09 11 05.3 +0.4
baz=51
SONM Songino Array 50.81 300 P P 09 11 05.9 +0.7
comp=Z,1.0nm,1.0s,baz=74,slow=7.7,SNR=5.0
SONM PcP PcP 09 12 22.1 +0.2
comp=Z,0.8nm,0.6s,baz=56,slow=3.9,SNR=4.1
U32A Winter Ranch, 50.86 79 P P 09 11 05.8 +0.2
baz=51
P36A Good Intent, A 50.93 74 P P 09 11 06.1 0.0
baz=51
Z28A Tucker Farm, M 50.95 85 P P 09 11 06.4 0.0
baz=51
Q35A Mercer Eighty, 50.95 75 P P 09 11 06.1 -0.1
baz=51
Y29A Porterfield Fa 50.98 83 P P 09 11 06.7 0.0
baz=51
X30A Coker Ranch, T 51.06 82 P P 09 11 07.4 +0.2
baz=51
W31A Holland Ranch, 51.11 81 P P 09 11 07.6 +0.1
baz=51
R35A Emporia Munici 51.21 75 P P 09 11 08.1 -0.1
baz=51
Q36A Arnold C. Orve 51.22 74 P P 09 11 07.6 -0.6
baz=51
V32A Arapaho 51.28 80 P P 09 11 08.6 -0.2
baz=51
128A Castleberry Fa 51.35 85 P P 09 11 09.7 +0.3
baz=51,SNR=6.8
U33A Lingo Farm, Me 51.35 79 P P 09 11 09.6 +0.3
baz=51
Z29A Hungry Hill Ra 51.38 84 P P 09 11 09.8 +0.2
baz=51
X31A McDonald Ranch 51.47 82 P P 09 11 10.3 +0.1
baz=51
T34A McClaskey Farm 51.50 77 P P 09 11 09.6 -0.8
baz=51,SNR=5.2
W32A Sentinel 51.57 81 P P 09 11 11.0 0.0
baz=51,SNR=6.0
S35A Otter Creek Ra 51.57 76 P P 09 11 10.8 -0.1
baz=51
R36A Gordon, Harris 51.62 75 P P 09 11 11.0 -0.3
baz=52
228A UT Block 9, Go 51.64 86 P P 09 11 11.6 0.0
baz=52
V33A Lossen Ranch, 51.67 79 P P 09 11 11.3 -0.3
baz=52
U34A Anderson Ranch 51.69 78 P P 09 11 11.8 0.0
baz=52
Z30A Sanderson Ranc 51.71 84 P P 09 11 12.0 0.0
baz=52
S36A Lake Cedric, C 51.97 76 P P 09 11 13.6 -0.3
baz=52
T35A Sooner Cattle 51.97 77 P P 09 11 13.8 -0.2
baz=52
W33A Caddo, Fort Co 52.02 80 P P 09 11 15.3 +1.0
baz=52
X32A Elmer 52.03 81 P P 09 11 14.3 -0.1
baz=52
WMOK Wichita Mounta 52.11 81 *e*P P 09 11 14.3 -0.7
WMOK pmax pmax
comp=Z,10.0nm,1.2s
WMOK Wichita Mounta 52.11 81 *e*P P 09 11 14.3 -0.7
comp=Z,10nm,1.2s
V34A Guthrie 52.11 79 P P 09 11 14.8 -0.2
baz=52
U35A Pawnee 52.21 78 P P 09 11 15.4 -0.3
baz=52
229A Bryant Ranch, 52.22 85 P P 09 11 15.6 -0.3
baz=52
Y32A R-V Farms, Ver 52.22 82 P P 09 11 15.7 -0.1
baz=52,SNR=5.9
T36A Boggs Farm, Ca 52.25 76 P P 09 11 16.3 +0.4
baz=52
Z31A Sharp Cattle R 52.28 83 P P 09 11 16.3 0.0
baz=52
S37A Fort Scott 52.39 75 P P 09 11 15.8 -1.2
baz=52,SNR=7.7
X33A Lawton 52.41 81 P P 09 11 17.0 -0.2
baz=52
329A Wagon Wheel Ra 52.45 86 P P 09 11 18.2 +0.6
baz=52
HHC Hu-ho-hao-te 52.50 290 *e*P P 09 11 18.3 +0.4
HHC PP PP 09 13 17.8 +1.3
HHC S S 09 18 41.5 -2.4
HHC SS SS 09 22 17.5 -3.9
HHC PMZ
comp=Z,21nm,1.1s
HHC PMZ
comp=Z,130nm,5.5s
HHC LN
comp=Z,340nm,15.5s
HHC LE
comp=Z,160nm,15.3s
HHC LZ
comp=Z,260nm,14.1s
V35A Meyer Ranch, C 52.57 78 P P 09 11 18.4 +0.1
baz=52
131A Roby 52.58 84 P P 09 11 18.5 0.0
baz=52
Z32A Haskell 52.69 82 P P 09 11 18.9 -0.3
baz=53,SNR=8.1
230A Sterling City 52.70 85 P P 09 11 19.0 -0.4
baz=53
Y33A Hilltop Ranch, 52.71 81 P P 09 11 19.7 +0.3
baz=53
T37A Cheneyville 18 52.77 76 P P 09 11 18.7 -1.1
baz=53,SNR=5.9
X34A Smith Ranch, M 52.77 80 P P 09 11 20.8 +0.9
baz=53
W35A Tecumseh 52.96 79 P P 09 11 21.2 0.0
baz=53
TXAR Lajitas Array 52.97 89 P P 09 11 21.9 +0.4
comp=Z,5.1nm,0.7s,baz=302,slow=5.2,SNR=44
TXAR PcP PcP 09 12 30.6 +0.4
comp=Z,0.8nm,0.9s,baz=302,slow=1.7,SNR=1.6
330A Mertzon 53.00 85 P P 09 11 21.3 -0.3
baz=53
ABTX Abilene, Hawle 53.06 83 P P 09 11 22.0 -0.1
baz=53
ABTX Abilene, Hawle 53.06 83 *e*P P 09 11 22.6 +0.5
V36A Jenks 53.08 78 P P 09 11 22.1 0.0
baz=53
TUL1 Tulsa 53.08 77 P P 09 11 21.1 -1.0
baz=53
429A Davenport Ranc 53.12 87 P P 09 11 22.4 -0.2
baz=53,SNR=9.4
Z33A Whitaker Ranch 53.13 82 P P 09 11 22.7 +0.2
baz=53
231A Bronte 53.14 84 P P 09 11 22.3 -0.4
baz=53
U37A Salina 53.14 76 P P 09 11 22.1 -0.5
baz=53
Y34A Reagan Ranch, 53.26 81 P P 09 11 23.1 -0.4
baz=53,SNR=5.5
529A Stev Forest Ra 53.28 87 P P 09 11 23.8 +0.1
baz=53,SNR=7.0
W36A Wetumka 53.36 78 P P 09 11 23.8 -0.4
baz=53
430A Baggett Ranch, 53.40 86 P P 09 11 24.6 0.0
baz=53,SNR=6.9
X35A Drake 53.42 80 P P 09 11 24.9 +0.2
baz=53
V37A Hulbert 53.49 77 P P 09 11 24.8 -0.3
baz=53
133A Hamilton Ranch 53.51 83 P P 09 11 25.1 -0.2
baz=53,SNR=6.5
331A San Angelo 53.52 85 P P 09 11 24.8 -0.6
baz=53
U38A Gravette 53.55 76 P P 09 11 25.1 -0.5
baz=53
Z34A Collier Ranch, 53.58 81 P P 09 11 25.6 -0.2
baz=54
232A Coleman 53.58 84 P P 09 11 25.6 -0.3
baz=54
X36A Centrahoma 53.67 79 P P 09 11 26.5 0.0
baz=54
HDIL Hopedale 53.69 69 P P 09 11 26.0 -0.5
baz=54
Y35A Marietta 53.73 80 P P 09 11 26.7 -0.2
baz=54,SNR=7.1
530A J-C Ranch, Com 53.79 87 P P 09 11 27.1 -0.4
baz=54,SNR=14
W37A Quinton 53.83 78 P P 09 11 27.5 -0.1
baz=54
431A Sonora 53.85 86 P P 09 11 27.2 -0.8
baz=54,SNR=12
332A Millersview 53.88 84 P P 09 11 27.6 -0.5
baz=54,SNR=5.1
V38A Canehill 53.93 76 P P 09 11 27.5 -0.9
baz=54,SNR=5.9
233A Rising Star 53.94 83 P P 09 11 28.0 -0.5
baz=54,SNR=7.5
134A White-Moore Ra 54.04 82 P P 09 11 29.5 +0.3
baz=54
Y36A Durant 54.18 80 P P 09 11 29.7 -0.5
baz=54,SNR=5.8
432A Menard 54.21 85 P P 09 11 30.1 -0.4
baz=54
NJ2 Nanjing 54.24 277 *e*P P 09 11 32.1 +1.5
NJ2 PMZ
comp=Z,40nm,0.5s
X37A Clayton 54.24 78 P P 09 11 30.4 -0.3
baz=54,SNR=6.2
531A Rocksprings 54.26 86 P P 09 11 30.3 -0.6
baz=54,SNR=5.7
333A Richland Sprin 54.37 84 P P 09 11 31.1 -0.6
baz=54,SNR=6.1
234A Clairette 54.40 83 P P 09 11 31.8 -0.1
baz=54
W38A Poteau 54.41 77 P P 09 11 31.3 -0.6
baz=54,SNR=5.3
JCT Junction City 54.48 85 *e*P P 09 11 32.2 -0.3
JCT pmax pmax
comp=Z,16nm,1.3s
JCT Junction City 54.48 85 P P 09 11 31.6 -0.9
baz=54
JCT Junction City 54.48 85 *e*P P 09 11 32.2 -0.3
comp=Z,16nm,1.3s
X38A Whitesboro 54.51 78 P P 09 11 31.8 -0.8
baz=54
Y37A Hugo 54.52 79 P P 09 11 32.5 -0.1
baz=54
Z36A Blue Ridge 54.53 80 P P 09 11 31.9 -0.9
baz=54
532A Rocksprings 54.67 85 P P 09 11 33.5 -0.4
baz=55
433A Art 54.72 84 P P 09 11 33.8 -0.3
baz=55,SNR=5.8
631A Perdido Creek 54.78 87 P P 09 11 33.7 -1.0
baz=55,SNR=5.2
334A Lometa 54.82 83 P P 09 11 34.2 -0.7
baz=55
WHTX Lake Whitney 54.82 82 P P 09 11 34.8 0.0
baz=55
136A Ennis 55.03 81 P P 09 11 36.1 -0.3
baz=55
SFIN Scholer Farm 55.05 68 P P 09 11 35.7 -0.7
baz=55
434A Burnet 55.17 84 P P 09 11 37.4 -0.1
baz=55,SNR=8.9
632A Uvalde 55.19 86 P P 09 11 37.4 -0.2
baz=55
533A Kerrville 55.24 85 P P 09 11 37.7 -0.2
baz=55
MIAR Mount Ida 55.34 77 *e*P P 09 11 38.3 -0.3
MIAR pmax pmax
comp=Z,12nm,1.2s
MIAR Mount Ida 55.34 77 P P 09 11 37.6 -1.0
baz=55,SNR=7.4
MIAR Mount Ida 55.34 77 *e*P P 09 11 38.2 -0.3
comp=Z,12nm,1.2s
236A Katherine and 55.37 81 P P 09 11 39.3 +0.5
baz=55
534A Blanco 55.60 84 P P 09 11 40.8 +0.2
baz=56
336A Riesel 55.62 82 P P 09 11 40.5 -0.1
baz=56
732A Laxson Ranch, 55.64 87 P P 09 11 40.8 0.0
baz=56
138A Matatall Enter 55.76 80 P P 09 11 41.8 +0.1
baz=56
832A Faith Ranch, C 55.96 87 P P 09 11 43.0 -0.2
baz=56,SNR=10.0
733A Divot King Ran 56.05 86 P P 09 11 43.9 +0.1
baz=56
833A Chaparral WMA, 56.28 87 P P 09 11 45.5 +0.1
baz=56
734A La Parita Cree 56.41 86 P P 09 11 46.7 +0.4
baz=56
635A Leesville 56.49 84 P P 09 11 47.2 +0.4
baz=56
735A Kenedy 56.85 85 P P 09 11 49.8 +0.4
baz=57
636A Smothers Creek 56.85 84 P P 09 11 50.3 +0.9
baz=57
933A Laredo 56.87 87 P P 09 11 50.3 +0.7
baz=57
834A Tilden 56.93 86 P P 09 11 50.9 +0.9
baz=57
736A Circle Diamond 57.23 84 P P 09 11 52.5 +0.4
baz=57
835A Beeville 57.25 85 P P 09 11 53.0 +0.8
baz=57
934A Benavides 57.34 86 P P 09 11 54.0 +1.1
baz=57
034A Hebbronville 57.63 87 P P 09 11 56.2 +1.2
baz=58
KURK Kurchatov 61.79 318 P P 09 12 23.7 +0.4
KURK Kurchatov 61.79 318 P P 09 12 23.6 +0.4
KURBB Kurchatov Arra 61.90 318 P P 09 12 23.6 -0.3
comp=Z,0.3nm,0.3s,baz=43,slow=7.0,SNR=4.9
WMQ Urumqi 62.99 308 P P 09 12 32.9 +1.3
WMQ pP pP 09 12 37.9 +1.8
WMQ sP sP 09 12 39.9 +2.1
WMQ PMZ
comp=Z,12nm,1.0s
WMQ LN
comp=Z,180nm,20.6s
WMQ LE
comp=Z,150nm,20.0s
WMQ LZ
comp=Z,150nm,16.8s
BVAR Borovoye Array 63.10 324 P P 09 12 31.5 -0.5
comp=Z,0.5nm,0.4s,baz=35,slow=7.8,SNR=3.8
MKAR Makanchi Array 63.24 313 P P 09 12 32.6 -0.5
comp=Z,0.2nm,0.5s,baz=62,slow=3.4,SNR=3.2
MKAR Makanchi Array 63.24 313 *i* P P 09 12 38.7 +5.6
MKAR pmax pmax
comp=Z,1.0nm,0.8s
CD2 Chengdu 63.98 287 P P 09 12 37.8 -0.4
CD2 pP pP 09 12 40.1 -2.7
CD2 sP sP 09 12 41.4 -3.1
CD2 PP PP 09 14 57.8 -0.8
CD2 S S 09 21 13.8 +0.1
CD2 SS SS 09 25 22.8 +1.0
CD2 PMZ
comp=Z,20nm,0.7s
CD2 LN
comp=Z,280nm,15.2s
CD2 LZ
comp=Z,290nm,11.8s

ARU	**Arti**	**64.00**	**333**	*d*	*i*	**P**	**09 12 37.1**	**-0.8**
ARU							09 15 03.2	
ARU					S	**S**	**09 21 10.7**	**-2.5**
ARU					SS	**SS**	**09 25 16.6**	**-4.2**
ARU					pmax	pmax		
	comp=Z,5.0nm,1.2s							
GYA	**Guiyang**	**65.58**	**282**	*e*	P	**P**	**09 12 50.0**	**+1.2**
GYA					PMZ			
	comp=Z,10.0nm,1.0s							
NOA	**NORSAR Array B**	**66.36**	**359**		P	**P**	**09 12 53.3**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=0.9,slow=6.6,SNR=3.1							
KMI	**Kunming**	**68.90**	**284**		P	**P**	**09 13 11.4**	**+1.4**
KMI					PMZ			
	comp=Z,12nm,0.5s							
AKTO	**Aktyubinsk**	**69.39**	**330**		P	**P**	**09 13 11.7**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=76,slow=6.8,SNR=3.7							
DPC	**Dobruska-Polom**	**76.95**	**356**	*e*	P	**P**		
DPC				*e*	pP	**pP**	**09 14 02.2**	**+0.4**
DPC	**Dobruska-Polom**	**76.95**	**356**	*e*	P	**P**	**09 13 57.4**	**+0.3**
DPC				*e*			09 14 02.2	
GERES	**GERESS Array B**	**78.54**	**358**		P	**P**	**09 14 04.6**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=342,slow=6.2,SNR=2.5							
KBZ	**Khabaz**	**79.69**	**337**		P	**P**	**09 14 12.1**	**-0.1**
	comp=Z,1.9nm,0.9s,baz=180,slow=4.0,SNR=3.6							
WRA	**Warramunga Arr**	**87.19**	**231**		P	**P**	**09 14 49.8**	**-1.3**
	comp=Z,2.7nm,0.7s,baz=32,slow=6.1,SNR=13							
AS31	**Alice Springs**	**90.59**	**230**	*e*	P	**P**	**09 15 06.7**	**-0.4**
ASAR	**Alice Springs**	**90.59**	**230**		P	**P**	**09 15 06.7**	**-0.4**
	comp=Z,5.5nm,0.7s,baz=27,slow=4.6,SNR=29							
STKA	**Stephens Creek**	**94.49**	**220**		P	**P**	**09 15 26.8**	**+2.0**
	comp=Z,1.7nm,0.8s,baz=5.5,slow=6.0,SNR=3.0							
TORD	**Torodi Ar. Bea**	**113.76**	**9**		PKiKP	**PKiKP**	**09 20 43.1**	**-0.6**
	comp=Z,0.6nm,1.0s,baz=343,slow=2.9,SNR=3.2							
TORD					PKKPbc	**PKKPbc**	**09 31 23.3**	**-0.8**
	comp=Z,0.3nm,0.9s,baz=165,slow=3.4,SNR=2.5							
MAW	**Mawson**	**151.18**	**219**		PKPbc	**PKPbc**	**09 21 56.1**	**-0.5**
	comp=Z,2.1nm,0.5s,baz=108,slow=3.2,SNR=6.0							
BOSA	**Boshof**	**153.28**	**330**		PKPbc	**PKPbc**	**09 22 02.5**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=49,slow=1.4,SNR=3.9							

IDC ***19*** *09:16:03.8±1.0,52.°65N×169.°81W,h0km,mb3.9/9, mb1 4.2/10,mb1mx3.8/54,mbtmpb3.9/10,ML4.2/1,Error ellipse: s-maj=28.7km s-min=18.8km az=154.0*

NEIC ***19*** *09:16:04.5,52.°71N×169.°44W,h5km,mb4.2/5, ML4.0(AEIC),After AEIC.*

ISCJB ***19*** *09:16:05.1±0.3,52.°84N±0.°06×169.°60W±0.°05,h10km, mb3.9/10,Error ellipse: s-maj=9.4km s-min=3.5km az=160.8*

ISC 19 09:16:06.5±0.7,52.°80N±0.°10×169.°46W±0.°05,h10km,n87, σ1§23/85,mb3.9/10,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.41**	**64**	P	**Pg**	**09 16 14.2**	**-0.2**
NIKH				S	**Sb**	**09 16 21.2**	**-0.8**
OKSP	**Okmok Steeple**	**0.84**	**57**	P	**Pg**	**09 16 20.9**	**-1.7**
OKCE	**Okmok Cone E**	**1.00**	**51**	P	**Pg**	**09 16 24.5**	**-1.3**
OKCE				S	**Sn**	**09 16 40.9**	**0.0**
OKTU	**Okmok Mt. Tuli**	**1.04**	**55**	P	**Pg**	**09 16 25.2**	**-1.2**
MSOM	**Makushin Julie**	**1.82**	**55**	P	**Pn**	**09 16 36.0**	**-1.7**
MSOM				S	**Sb**	**09 17 02.5**	**-0.2**
MCIR	**Makushin Cirqu**	**1.92**	**52**	P	**Pn**	**09 16 39.1**	**-0.2**
MSW	**Makushin Switc**	**1.96**	**54**	P	**Pn**	**09 16 38.9**	**-0.8**
MTBL	**Makushin Table**	**2.04**	**54**	P	**Pn**	**09 16 40.0**	**-0.9**
UNV	**Unalaska Valle**	**2.06**	**58**	P	**Pn**	**09 16 39.5**	**-1.6**
UNV				S	**Sb**	**09 17 07.9**	**-1.7**
AKRB	**Akutan Reef Bi**	**2.43**	**55**	P	**Pn**	**09 16 45.6**	**-0.5**
ZRO	**Akutan Zero**	**2.45**	**57**	P	**Pn**	**09 16 46.0**	**-0.5**
AKGG	**Akutan Green G**	**2.50**	**54**	P	**Pn**	**09 16 47.1**	**-0.1**
AKUT	**Akutan**	**2.58**	**57**	P	**Pn**	**09 16 47.1**	**-1.1**
ATKA	**Atka Island**	**2.96**	**260**	P	**Pn**	**09 16 51.8**	**-1.6**
WESP	**Westdahl Peak**	**3.29**	**57**	P	**Pn**	**09 16 57.8**	**-0.3**
GSTR	**Great Sitkin T**	**4.10**	**263**	*e*Pn	**Pn**	**09 17 08.9**	**-0.3**
GSTR				*e*Sn	**Sn**	**09 17 58.4**	**+1.3**
GSTD	**Great Sitkin T**	**4.16**	**262**	P	**Pn**	**09 17 09.0**	**-1.0**
SPIA	**Saint Paul Isl**	**4.41**	**354**	P	**Pn**	**09 17 14.3**	**+0.9**
ADAG	**Mount Adagdak**	**4.45**	**262**	P	**Pn**	**09 17 14.0**	**+0.1**
AMKA	**Amchitka**	**7.07**	**263**	*e*Pn	**Pn**	**09 17 49.3**	**-0.6**
	54nm,0.8s						
CHGN	**Chignik**	**7.32**	**57**	*e*Pn	Pn	09 17 56.3	+3.0
MCK	**McKinley**	**15.29**	**36**	*e*Pn	**Pn**	**09 19 41.5**	**-0.7**
	2.4nm,0.5s						
ILAR	**Eielson Array**	**16.63**	**35**	Pn	**Pn**	**09 19 59.0**	**-0.4**
	0.3nm,0.3s,baz=227,slow=12,SNR=22						
ILAR	**Eielson Array**	**16.63**	**35**	Pn	**Pn**	**09 19 59.0**	**-0.4**
EGAK	**Eagle**	**18.74**	**39**	*e*P	**Pn**	**09 20 25.4**	**0.0**
	3.8nm,0.6s						
HYT	**Haines Junctio**	**19.08**	**52**	*e*P	**Pn**	**09 20 29.2**	**-0.5**
	13nm,0.6s						
PETK	**Petropavlovsk-**	**19.70**	**284**	P	**P**	**09 20 34.9**	**-0.8**
	baz=93,slow=14,SNR=1.9						
SKAG	**Skagway**	**19.98**	**57**	*e*P	**P**	**09 20 38.2**	**-0.4**
	21nm,0.8s						
SEY	**Seymchan**	**22.34**	**312**	P	**P**	**09 21 02.7**	**-1.4**
	2.5nm,0.9s,baz=140,slow=8.5,SNR=4.0						
DLBC	**Dease Lake**	**22.71**	**60**	P	**P**	**09 21 09.4**	**+1.3**
	8.9nm,1.1s,baz=275,slow=12,SNR=4.0						
INK	**Inuvik**	**23.02**	**34**	P	**P**	**09 21 11.6**	**+0.4**
	4.2nm,0.8s,baz=250,slow=6.6,SNR=11						
YKA	**Yellowknife Ar**	**30.00**	**49**	P	**P**	**09 22 16.1**	**+1.3**
	0.7nm,0.6s,baz=271,slow=7.3,SNR=10						
EGMT	**Eagleton**	**37.39**	**73**	P	**P**	**09 23 20.5**	**+1.2**
	baz=37						
BOZ	**Bozeman (W)**	**37.53**	**77**	P	**P**	**09 23 21.3**	**+0.7**
	baz=37						
NVAR	**Mina Array Bea**	**37.73**	**91**	P	**P**	**09 23 23.5**	**+1.1**
	1.1nm,0.6s,baz=305,slow=8.1,SNR=13						
H11N2	**WAKE ISLAND Hy**	**37.76**	**218**	T	T	10 03 19.8	
	baz=23,slow=76,SNR=8.6						
H11N3	**WAKE ISLAND Hy**	**37.76**	**218**	T	T	10 03 19.2	
	baz=23,slow=76,SNR=15						
H11N1	**WAKE ISLAND Hy**	**37.77**	**218**	T	T	10 03 19.8	
	baz=23,slow=76,SNR=16						
C20A	**Veseth Ranch,**	**38.56**	**72**	P	**P**	**09 23 30.8**	**+1.7**
	baz=38						
H11S1	**WAKE ISLAND Hy**	**38.95**	**218**	T	T	10 04 49.3	
	baz=17						
H11S2	**WAKE ISLAND Hy**	**38.96**	**218**	T	T	10 04 49.9	
	baz=17						
H11S3	**WAKE ISLAND Hy**	**38.96**	**218**	T	T	10 04 50.4	
	baz=17						
C21A	**Desert Coulee**	**39.03**	**71**	P	**P**	**09 23 34.1**	**+1.1**
	baz=39						
R11A	**Troy Canyon, C**	**39.43**	**89**	P	**P**	**09 23 38.6**	**+1.9**
	baz=39						
TPNV	**Topopah Spring**	**39.93**	**92**	P	**P**	**09 23 42.5**	**+1.8**
	baz=40						
DUG	**Dugway**	**39.96**	**85**	P	**P**	**09 23 42.8**	**+1.8**
	baz=40						
PDAR	**Pinedale Array**	**40.38**	**80**	P	**P**	**09 23 45.0**	**+0.5**
	1.4nm,0.6s,baz=317,slow=6.1,SNR=14						
E22A	**Miles City**	**40.43**	**73**	P	**P**	**09 23 46.4**	**+1.7**
	baz=40						
I20A	**Worland**	**40.54**	**77**	P	**P**	**09 23 47.4**	**+1.6**
	baz=40						
GSC	**Goldstone**	**40.68**	**94**	P	**P**	**09 23 48.1**	**+1.2**
	baz=40						
D24A	**Glendive**	**41.00**	**71**	P	**P**	**09 23 50.9**	**+1.5**
	baz=41						
J22A	**Midwest**	**41.83**	**77**	P	**P**	**09 23 56.2**	**-0.2**
	baz=42						
E25A	**Miller Ranch,**	**41.86**	**71**	P	**P**	**09 23 57.4**	**+0.9**
	baz=42						
B28A	**Dugan Ranch, T**	**42.52**	**67**	P	**P**	**09 24 02.9**	**+1.1**
	baz=42						
F26A	**Lodgepole**	**42.65**	**71**	P	**P**	**09 24 02.2**	**-0.7**
	baz=42						
O20A	**White River Ci**	**42.75**	**82**	P	**P**	**09 24 04.2**	**+0.2**
	baz=43						
O20A	**White River Ci**	**42.75**	**82**	P	**P**	**09 24 03.6**	**-0.4**
	4.4nm,0.7s						
G26A	**Maurine**	**43.01**	**72**	P	**P**	**09 24 06.8**	**+1.0**
	baz=43						
D28A	**Regan**	**43.09**	**69**	P	**P**	**09 24 08.5**	**+2.1**
	baz=43						
B30A	**Myrvik Farm, E**	**43.65**	**66**	P	**P**	**09 24 12.7**	**+1.8**
	baz=44						
PV01	**Paradox Valley**	**43.82**	**84**	P	**P**	**09 24 13.2**	**+0.5**
D30A	**Buchanan**	**44.16**	**68**	P	**P**	**09 24 16.3**	**+1.3**
	baz=44						
I28A	**Midland**	**44.59**	**73**	P	**P**	**09 24 19.9**	**+1.3**
	baz=44						
J28A	**Allard Ranch,**	**44.90**	**73**	P	**P**	**09 24 23.7**	**+2.6**
	baz=45						
AGMN	**Agassiz Nation**	**45.09**	**65**	P	**P**	**09 24 24.1**	**+1.7**
	baz=45						
SDCO	**Great Sand Dun**	**45.92**	**83**	P	**P**	**09 24 31.0**	**+1.5**
	baz=46						
S26A	**Kim**	**47.22**	**81**	P	**P**	**09 24 39.8**	**+0.3**
	baz=47						
T26A	**Comanche Natio**	**47.44**	**82**	P	**P**	**09 24 41.0**	**-0.3**
	baz=47						
P29A	**Atwood**	**47.45**	**77**	P	**P**	**09 24 41.6**	**+0.4**
	baz=47						
EYMN	**Ely**	**47.68**	**63**	P	**P**	**09 24 42.9**	**+0.1**
	baz=48						
Z32A	**Haskell**	**52.53**	**82**	P	**P**	**09 25 20.9**	**+1.2**
	baz=52						
TXAR	**Lajitas Array**	**52.80**	**89**	P	**P**	**09 25 22.2**	**+0.3**
	3.0nm,0.7s,baz=300,slow=6.4,SNR=38						
429A	**Davenport Ranc**	**52.95**	**87**	P	**P**	**09 25 25.3**	**+2.3**
	baz=53						
Z33A	**Whitaker Ranch**	**52.98**	**82**	P	**P**	**09 25 24.9**	**+1.9**
	baz=53						
529A	**Stev Forest Ra**	**53.11**	**87**	P	**P**	**09 25 24.9**	**+0.8**
	baz=53						
430A	**Baggett Ranch,**	**53.23**	**86**	P	**P**	**09 25 26.4**	**+1.3**
	baz=53						
133A	**Hamilton Ranch**	**53.36**	**83**	P	**P**	**09 25 27.6**	**+1.7**
	baz=53						
530A	**J-C Ranch, Com**	**53.63**	**87**	P	**P**	**09 25 30.1**	**+2.2**
	baz=54						
431A	**Sonora**	**53.69**	**86**	P	**P**	**09 25 29.6**	**+1.3**
	baz=54						
332A	**Millersview**	**53.72**	**84**	P	**P**	**09 25 29.2**	**+0.7**
	baz=54						
Y36A	**Durant**	**54.03**	**80**	P	**P**	**09 25 31.4**	**+0.6**
	baz=54						
531A	**Rocksprings**	**54.09**	**86**	P	**P**	**09 25 31.9**	**+0.6**
	baz=54						
X37A	**Clayton**	**54.10**	**78**	P	**P**	**09 25 31.2**	**-0.1**
	baz=54						
333A	**Richland Sprin**	**54.22**	**84**	P	**P**	**09 25 32.7**	**+0.5**
	baz=54						
JCT	**Junction City**	**54.32**	**85**	P	**P**	**09 25 34.5**	**+1.5**
	baz=54						
WRA	**Warramunga Arr**	**87.23**	**232**	P	**P**	**09 28 50.8**	**-2.1**
	0.3nm,0.6s,baz=34,slow=5.6,SNR=2.4						
ASAR	**Alice Springs**	**90.63**	**230**	P	**P**	**09 29 06.3**	**-2.6**
	0.4nm,0.6s,baz=25,slow=5.2,SNR=4.4						

IDC ***19*** *09:17:33.5±0.8,5.°30S×151.°95E,h0km,mb4.3/12, mb1 4.5/12,mb1mx4.2/37,mbtmp4.3/12,MS3.4/1, Ms1 3.4/1,ms1mx2.8/35,Error ellipse: s-maj=34.2km s-min=18.4km az=121.0*

ISCJB ***19*** *09:17:38.9±0.5,5.°26S±0.°08×151.°9E±0.°1,h45km, mb4.3/17,Error ellipse: s-maj=18.2km s-min=6.4km az=35.7*

NEIC ***19*** *09:17:39.0±0.4,5.°23S×151.°96E,h35km,mb4.5/5,Error ellipse: s-maj=19.4km s-min=7.2km az=122.0*

ISC 19 09:17:40.2±0.6,5.°31S±0.°09×152.°1E±0.°1,h45km,n35, σ1§40/39,mb4.4/16,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.11**	**6**	P	**Pn**	**09 18 00.9**	**+1.5**
	baz=1.0,SNR=86						
PMG	**Port Moresby**	**6.34**	**230**	Pn	**Pn**	**09 19 10.8**	**-0.3**
	6.3nm,0.3s,baz=53,slow=11,SNR=16						
PMG				Sn	**Sn**	**09 20 21.0**	**-1.2**
	16nm,0.3s,baz=350,slow=18,SNR=6.4						
PMG				LR	LR	09 21 39.1	
	comp=Z,348nm,18.9s,baz=22,slow=39						
PMG	**Port Moresby**	**6.34**	**230**	P	**Pn**	**09 19 13.5**	**+2.4**
	baz=6.5,SNR=7.9						
PMG				P	**Pn**	**09 19 13.5**	**+2.4**
	baz=6.5,SNR=7.9						
PMG				P	**Pn**	**09 19 13.5**	**+2.4**
	baz=6.5,SNR=7.9						
PMG	**Port Moresby**	**6.34**	**230**	Pn	**Pn**	**09 19 10.8**	**-0.3**
PMG				*e*Pn	Pn	09 19 11.2	+0.1
PMG				Sn	**Sn**	**09 20 21.0**	**-1.2**
MTSU	**Mount Surprise**	**14.82**	**210**	P	**P**	**09 21 13.3**	**+1.3**
	baz=15,SNR=5.1						
CTA	**Charters Tower**	**15.74**	**200**	Pn	**Pn**	**09 21 20.1**	**+1.1**
	0.3nm,0.3s,baz=26,slow=14,SNR=5.3						
QIS	**Mount Isa**	**19.39**	**217**	P	**P**	**09 22 02.8**	**+0.2**
	baz=20,SNR=4.5						
KDU	**Kakadu**	**20.67**	**248**	P	**P**	**09 22 16.0**	**-0.5**
	baz=21,SNR=14						
RMQ	**Roma**	**21.30**	**188**	P	**P**	**09 22 26.8**	**+3.6**
	baz=22,SNR=9.3						
MTN	**Manton Dam**	**21.96**	**249**	P	**P**	**09 22 32.3**	**+2.0**
	baz=22,SNR=12						
QLP	**Quilpie**	**22.44**	**199**	P	**P**	**09 22 34.6**	**-0.8**
	baz=23,SNR=5.9						
WRAB	**Tennant Creek**	**22.54**	**228**	*e*P	**P**	**09 22 36.1**	**-0.4**
	3.1nm,0.9s						
WRA	**Warramunga Arr**	**22.55**	**228**	P	**P**	**09 22 34.5**	**-2.3**
	3.9nm,0.8s,baz=50,slow=10,SNR=39						
KNRA	**Kununurra**	**25.08**	**244**	P	**P**	**09 23 00.7**	**-0.1**
	baz=25,SNR=31						
AS31	**Alice Springs**	**25.27**	**222**	*e*P	**P**	**09 23 02.1**	**-0.4**
ASAR	**Alice Springs**	**25.28**	**222**	P	**P**	**09 23 01.6**	**-1.0**
	7.6nm,0.8s,baz=53,slow=9.4,SNR=51						
NFK	**Norfolk Island**	**27.99**	**149**	P	**P**	**09 23 23.8**	**-3.1**
	baz=28,SNR=3.7						
STKA	**Stephens Creek**	**28.19**	**199**	P	**P**	**09 23 27.5**	**-1.1**
	2.3nm,0.7s,baz=18,slow=10,SNR=7.7						
STKA	**Stephens Creek**	**28.19**	**199**	P	**P**	**09 23 28.5**	**-0.2**
	baz=28,SNR=4.9						
WRKA	**Warakurna**	**30.07**	**227**	P	**P**	**09 23 44.5**	**-1.0**
	baz=30,SNR=11						
MEEK	**Meekatharra**	**38.31**	**233**	P	**P**	**09 24 56.0**	**-0.8**
	baz=38,SNR=24						
CMAR	**Chiang Mai Arr**	**57.42**	**296**	P	**P**	**09 27 23.9**	**-0.9**
	1.3nm,0.3s,baz=116,slow=6.5,SNR=4.5						
SONM	**Songino Array**	**66.36**	**328**	P	**P**	**09 28 25.1**	**+0.5**
	0.9nm,0.6s,baz=144,slow=7.1,SNR=5.4						
MKAR	**Makanchi Array**	**80.22**	**319**	P	**P**	**09 29 45.1**	**-1.0**
	1.3nm,0.8s,baz=111,slow=6.6,SNR=7.0						
TRF	**Thorofare Moun**	**80.95**	**23**	*e*P	**P**	**09 29 48.9**	**-0.9**
	3.2nm,0.7s						
ZALV	**Zalesovo Beam**	**81.16**	**327**	P	**P**	**09 29 49.8**	**-1.1**
	0.7nm,0.4s,baz=116,slow=6.8,SNR=3.5						
MCK	**McKinley**	**81.61**	**23**	*e*P	**P**	**09 29 52.5**	**-0.7**
	12nm,0.9s						
COLA	**College**	**82.59**	**22**	*e*P	**P**	**09 29 57.8**	**-0.5**
	3.8nm,0.7s						
ILAR	**Eielson Array**	**82.91**	**22**	P	**P**	**09 29 59.3**	**-0.6**
	3.5nm,0.7s,baz=247,slow=5.6,SNR=49						
EGAK	**Eagle**	**85.11**	**23**	*e*P	**P**	**09 30 11.4**	**+0.3**
	5.1nm,1.2s						
DLBC	**Dease Lake**	**88.20**	**31**	P	**P**	**09 30 27.4**	**+0.9**
	4.6nm,1.0s,baz=238,slow=3.9,SNR=7.0						
NVAR	**Mina Array Bea**	**92.98**	**52**	P	**P**	**09 30 50.3**	**+0.9**
	1.2nm,0.8s,baz=256,slow=6.1,SNR=9.4						
YKA	**Yellowknife Ar**	**96.22**	**28**	P	**P**	**09 31 03.6**	**+0.2**
	0.7nm,0.8s,baz=267,slow=5.1,SNR=5.3						
PDAR	**Pinedale Array**	**99.74**	**48**	P	**Pdif**	**09 31 19.9**	**-0.1**
	0.5nm,0.9s,baz=282,slow=1.7,SNR=4.3						
TORD	**Torodi Ar. Bea**	**149.75**	**287**	PKPbc	**PKPbc**	**09 37 25.9**	**-0.4**
	3.8nm,0.8s,baz=70,slow=2.3,SNR=21						

IDC ***19*** *09:18:31.2±1.2,52.°83N×169.°81W,h0km,mb3.7/7, mb1 4.0/8,mb1mx3.6/49,mbtmpb3.6/8,ML3.4/1,Error ellipse: s-maj=42.2km s-min=21.1km az=141.0*

ISCJB ***19*** *09:18:34.2±1.3,52.°6N±0.°1×169.°4W±0.°1,h25km±8km, mb3.7/7,Error ellipse: s-maj=22.2km s-min=8.2km az=149.5*

NEIC ***19*** *09:18:34.2,52.°68N×169.°36W,h5km,ML3.5(AEIC),After AEIC.*

ISC 19 09:18:34.4±1.8,52.°6N±0.°1×169.°34W±0.°08,h16km±10km, n27,σ1§19/26,mb3.6/7,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.47**	**39**	P	**Pg**	**09 18 43.5**	**-0.2**
NIKH				S	**Sg**	**09 18 50.9**	**+0.8**
OKSP	**Okmok Steeple**	**0.90**	**44**	P	**Pb**	**09 18 51.2**	**-0.4**
OKSP				S	**Sb**	**09 19 03.1**	**-0.2**
OKCE	**Okmok Cone E**	**1.08**	**41**	P	**Pb**	**09 18 54.3**	**-0.3**
OKCE				S	**Sb**	**09 19 10.0**	**+1.5**
OKTU	**Okmok Mt. Tuli**	**1.10**	**45**	P	**Pn**	**09 18 55.0**	**-0.2**
MSOM	**Makushin Julie**	**1.88**	**49**	P	**Pn**	**09 19 05.9**	**+0.2**
MSOM				S	**Sn**	**09 19 30.3**	**+1.3**
MCIR	**Makushin Cirqu**	**1.99**	**47**	P	**Pn**	**09 19 08.6**	**+1.3**
MSW	**Makushin Switc**	**2.01**	**49**	P	**Pn**	**09 19 07.6**	**0.0**
MTBL	**Makushin Table**	**2.10**	**49**	P	**Pn**	**09 19 09.1**	**+0.3**
UNV	**Unalaska Valle**	**2.11**	**53**	P	**Pn**	**09 19 08.4**	**-0.4**
UNV				S	**Sn**	**09 19 34.2**	**-0.4**
ZRO	**Akutan Zero**	**2.50**	**52**	P	**Pn**	**09 19 14.8**	**+0.4**
AKGG	**Akutan Green G**	**2.56**	**50**	P	**Pn**	**09 19 15.7**	**+0.6**
ATKA	**Atka Island**	**3.00**	**264**	P	**Pn**	**09 19 21.8**	**+0.6**
SPIA	**Saint Paul Isl**	**4.60**	**354**	P	**Pn**	**09 19 44.5**	**+1.3**
ILAR	**Eielson Array**	**16.74**	**35**	Pn	**Pn**	**09 22 24.7**	**-3.1**
	0.1nm,0.3s,baz=228,slow=12,SNR=4.3						
INK	**Inuvik**	**23.13**	**34**	P	**P**	**09 23 37.5**	**-1.8**
	0.8nm,0.4s,baz=248,slow=5.4,SNR=4.0						
YKA	**Yellowknife Ar**	**30.07**	**49**	P	**P**	**09 24 41.9**	**-0.5**
	0.3nm,0.4s,baz=274,slow=7.3,SNR=7.0						
NVAR	**Mina Array Bea**	**37.65**	**91**	P	**P**	**09 25 50.4**	**+1.8**
	0.6nm,0.8s,baz=293,slow=7.9,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**37.66**	**218**	T	T	10 05 47.7	
	baz=23,slow=76,SNR=33						
H11N3	**WAKE ISLAND Hy**	**37.66**	**218**	T	T	10 05 48.5	
	baz=23,slow=76,SNR=43						
H11N1	**WAKE ISLAND Hy**	**37.67**	**218**	T	T	10 05 49.3	
	baz=23,slow=76,SNR=47						
H11S1	**WAKE ISLAND Hy**	**38.85**	**218**	T	T	10 07 15.9	
	baz=23,slow=76,SNR=521						
H11S2	**WAKE ISLAND Hy**	**38.86**	**218**	T	T	10 07 17.0	
	baz=23,slow=76,SNR=466						
H11S3	**WAKE ISLAND Hy**	**38.86**	**218**	T	T	10 07 17.2	
	baz=23,slow=76,SNR=278						
PDAR	**Pinedale Array**	**40.34**	**79**	P	**P**	**09 26 12.4**	**+1.3**
	1.0nm,0.7s,baz=320,slow=5.7,SNR=9.0						
TXAR	**Lajitas Array**	**52.73**	**89**	P	**P**	**09 27 49.6**	**+1.4**
	1.7nm,0.8s,baz=297,slow=5.1,SNR=12						
WRA	**Warramunga Arr**	**87.17**	**232**	P	**P**	**09 31 18.6**	**-0.9**
	0.6nm,1.0s,baz=33,slow=6.0,SNR=3.6						
ASAR	**Alice Springs**	**90.57**	**230**	P	**P**	**09 31 34.7**	**-0.7**
	0.6nm,0.7s,baz=30,slow=4.4,SNR=6.1						

IDC 19 09:20:59.0±2.1,5.°38S×152.°42E,h0km,mb3.8/3, mb1 4.1/4,mb1mx3.6/36,mbtmp3.9/4,ML2.2/1,Error ellipse: s-maj=140.9km s-min=25.0km az=129.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.58**	**232**	Pn	Pn	09 22 38.2	+1.2
	2.8nm,0.3s,baz=53,slow=11,SNR=6.3						
PMG				Sn	Sn	09 23 48.3	-4.5
	4.4nm,0.3s,baz=156,slow=19,SNR=4.1						
WRA	**Warramunga Arr**	**22.78**	**229**	P	P	09 26 02.8	-0.6
	1.1nm,0.7s,baz=54,slow=9.9,SNR=4.7						
ASAR	**Alice Springs**	**25.47**	**223**	P	P	09 26 29.0	0.0
	1.5nm,0.5s,baz=56,slow=9.2,SNR=6.9						
ILAR	**Eielson Array**	**82.83**	**22**	P	P	09 33 25.3	+0.3
	1.0nm,0.7s,baz=248,slow=5.3,SNR=13						
TORD	**Torodi Ar. Bea**	**150.12**	**287**	PKPbc	PKPbc	09 40 52.2	-0.8
	1.1nm,0.8s,baz=85,slow=2.5,SNR=9.0						

IDC 19 09:24:51.7±16.0,52.°66N×170.°37W,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.3/44,mbtmp3.3/4,ML3.2/1,Error ellipse: s-maj=297.5km s-min=53.1km az=90.0,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILAR	**Eielson Array**	**17.06**	**36**	Pn	Pn	09 28 48.7	-2.7
	0.0nm,0.3s,baz=232,slow=10,SNR=4.5						
DLBC	**Dease Lake**	**23.26**	**60**	P	P	09 30 01.0	+0.4
	2.0nm,0.3s,baz=277,slow=11,SNR=4.6						
H11S1	**WAKE ISLAND Hy**	**38.50**	**216**	T	T	10 14 17.2	
	baz=23,slow=76						
H11S2	**WAKE ISLAND Hy**	**38.52**	**216**	T	T	10 14 18.1	
	baz=23,slow=76						
H11S3	**WAKE ISLAND Hy**	**38.52**	**216**	T	T	10 14 18.4	
	baz=23,slow=76						
PDAR	**Pinedale Array**	**40.95**	**79**	P	P	09 32 35.7	-0.4
	0.3nm,0.4s,baz=335,slow=4.6,SNR=3.9						
TXAR	**Lajitas Array**	**53.35**	**88**	P	P	09 34 12.7	-0.1
	0.3nm,0.4s,baz=306,slow=6.0,SNR=7.4						

IDC 19 09:25:57.4±12.0,15.°80S×174.°94W,h0km,mb3.4/2, mb1 3.7/2,mb1mx3.4/32,mbtmp3.4/2,Error ellipse: s-maj=559.6km s-min=64.3km az=140.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**48.31**	**257**	P	P	09 34 41.0	0.0

n74,σ1ᵍ41/73,mb4.2/20,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.42**	**86**	P	**Pb**	**09 37 42.8**	**-0.5**
NIKH				S	**Sb**	**09 37 49.9**	**+0.5**
OKSP	**Okmok Steeple**	**0.82**	**67**	P	**Pn**	**09 37 50.4**	**-0.8**
OKSP				S	**Sn**	**09 38 03.8**	**+0.8**
OKCE	**Okmok Cone E**	**0.96**	**59**	P	**Pn**	**09 37 53.1**	**0.0**
OKCE				S	**Sn**	**09 38 10.0**	**+3.5**
OKTU	**Okmok Mt. Tuli**	**1.01**	**63**	P	**Pn**	**09 37 53.4**	**-0.4**
MSOM	**Makushin Julie**	**1.79**	**60**	P	**Pb**	**09 38 05.0**	**-1.6**
MSOM				S	**Sb**	**09 38 28.4**	**-0.2**
MCIR	**Makushin Cirqu**	**1.88**	**56**	P	**Pb**	**09 38 06.9**	**-1.3**
MSW	**Makushin Switc**	**1.92**	**58**	P	**Pb**	**09 38 07.3**	**-1.6**
MTBL	**Makushin Table**	**2.00**	**58**	P	**Pb**	**09 38 08.3**	**-1.9**
UNV	**Unalaska Valle**	**2.04**	**62**	*e*Pn	**Pn**	**09 38 07.8**	**0.0**
UNV				S	**Sb**	**09 38 34.6**	**-1.2**
UNV				*e*Sn	**Sn**	**09 38 34.9**	**+2.0**
AKRB	**Akutan Reef Bi**	**2.39**	**59**	P	**Pb**	**09 38 14.2**	**-2.7**
ZRO	**Akutan Zero**	**2.42**	**60**	P	**Pb**	**09 38 14.6**	**-2.8**
AKGG	**Akutan Green G**	**2.47**	**58**	P	**Pb**	**09 38 15.2**	**-3.0**
AKUT	**Akutan**	**2.55**	**61**	*e*Pn	**Pb**	**09 38 16.4**	**-3.1**
ATKA	**Atka Island**	**2.93**	**257**	P	**Pn**	**09 38 19.7**	**-0.4**
GSTR	**Great Sitkin T**	**4.07**	**261**	*e*Pn	**Pn**	**09 38 37.8**	**+2.1**
FALS	**False Pass**	**4.10**	**60**	*e*Pn	Pb	09 38 41.1	-4.9
GSCK	**Great Sitkin C**	**4.15**	**260**	P	**Pn**	**09 38 36.9**	**+0.1**
SPIA	**Saint Paul Isl**	**4.26**	**355**	P	Pn	09 38 42.7	+4.3
ADAG	**Mount Adagdak**	**4.42**	**260**	P	**Pn**	**09 38 42.3**	**+1.7**
SDPT	**Sand Point**	**5.85**	**62**	*e*Pn	**Pn**	**09 39 01.8**	**+1.7**
RSO	**Redoubt South** 16nm,0.2s	**11.88**	**44**	*e*Pn	**Pn**	**09 40 24.0**	**+1.0**
BPAW	**Bear Paw Mtn.**	**14.72**	**33**	*e*Pn	**P**	**09 41 07.3**	**-0.4**
IM04	**Indian Mountai**	**15.26**	**25**	*e*P	**P**	**09 41 14.8**	**+1.2**
KLU	**Klutina** 6.4nm,0.6s	**15.32**	**47**	*e*Pn	**Pn**	**09 41 09.8**	**+0.3**
CCB	**Clear Creek Bu** 3.4nm,0.6s	**16.15**	**35**	*e*Pn	**P**	**09 41 22.4**	**-1.0**
ILAR	**Eielson Array** 0.2nm,0.3s,baz=226,slow=11,SNR=16	**16.54**	**35**	Pn	**Pn**	**09 41 25.1**	**-0.1**
COLD	**Coldfoot** 6.1nm,1.0s	**17.14**	**26**	*e*Pn	**P**	**09 41 37.0**	**+2.7**
EGAK	**Eagle** 6.1nm,1.1s	**18.66**	**40**	*e*P	**Pn**	**09 41 51.3**	**-0.1**
HYT	**Haines Junctio**	**19.04**	**53**	*e*Pn	**Pn**	**09 41 57.9**	**+1.8**
DAWY	**Dawson** 1.5nm,0.6s	**19.08**	**43**	*e*P	**P**	**09 41 55.9**	**+0.2**
PETK	**Petropavlovsk-** baz=76,slow=18,SNR=2.2	**19.61**	**284**	P	**P**	**09 42 00.3**	**-1.3**
SKAG	**Skagway** 14nm,0.8s	**19.95**	**57**	*e*Pn	**Pn**	**09 42 07.5**	**+0.7**
BESE	**Bessie Mountai** 8.1nm,1.3s	**20.15**	**60**	*e*Pn	Pn	09 42 09.0	-0.4
DLBC	**Dease Lake** 11nm,1.0s,baz=265,slow=9.5,SNR=14	**22.69**	**60**	P	**P**	**09 42 36.5**	**+1.6**
DLBC	**Dease Lake**	**22.69**	**60**	*e*P	**P**	**09 42 37.2**	**+2.4**
INK	**Inuvik** 3.1nm,0.9s,baz=248,slow=8.0,SNR=6.9	**22.93**	**34**	P	**P**	**09 42 36.5**	**-0.7**
INK	**Inuvik**	**22.93**	**34**	*e*P	**P**	**09 42 36.9**	**-0.2**
YKA	**Yellowknife Ar** 0.6nm,0.5s,baz=272,slow=7.6,SNR=11	**29.95**	**50**	P	**P**	**09 43 41.3**	**+0.1**
NEW	**Newport** 1.8nm,0.6s,baz=300,slow=8.0,SNR=5.9	**32.98**	**77**	P	**P**	**09 44 08.2**	**+0.1**
EDM	**Edmonton**	**33.02**	**66**	*e*P	**P**	**09 44 09.1**	**+0.8**
BSMT	**Bassoo Peak** 2.0nm,0.7s	**34.55**	**76**	*e*P	**P**	**09 44 21.1**	**-0.8**
SLMT	**Seeley Lake**	**35.62**	**76**	*e*P	**P**	**09 44 30.6**	**-0.5**
CHMT	**Chamberlain Mo** 1.0nm,0.6s	**35.92**	**76**	*e*P	**P**	**09 44 33.2**	**-0.5**
MCMT	**McKenzie Canyo**	**37.27**	**79**	*e*P	**P**	**09 44 45.6**	**+0.3**
BOZ	**Bozeman (W)** 34nm,2.5s	**37.55**	**77**	*e*P	**P**	**09 44 48.0**	**+0.5**
NVAR	**Mina Array Bea** 1.0nm,0.7s,baz=303,slow=8.2,SNR=8.5	**37.78**	**92**	P	**P**	**09 44 49.9**	**+0.2**
NVAR				PcP	**PcP**	**09 47 05.5**	**-0.7**
	0.4nm,0.6s,baz=290,slow=2.0,SNR=3.7						
H11N2	**WAKE ISLAND Hy** baz=23,slow=76,SNR=17	**37.84**	**218**	T	T	10 24 45.9	
H11N3	**WAKE ISLAND Hy** baz=23,slow=76,SNR=16	**37.84**	**218**	T	T	10 24 47.1	
H11N1	**WAKE ISLAND Hy** baz=23,slow=76,SNR=17	**37.85**	**218**	T	T	10 24 45.5	
H11S1	**WAKE ISLAND Hy** baz=23,slow=76,SNR=343	**39.03**	**217**	T	T	10 26 18.9	
H11S2	**WAKE ISLAND Hy** baz=23,slow=76,SNR=208	**39.04**	**217**	T	T	10 26 20.2	
H11S3	**WAKE ISLAND Hy** baz=23,slow=76,SNR=231	**39.05**	**217**	T	T	10 26 20.2	
RLMT	**Red Lodge** 42nm,2.5s	**39.23**	**76**	*e*P	**P**	**09 45 02.5**	**+0.7**
R11A	**Troy Canyon, C** 3.2nm,1.3s	**39.48**	**89**	*e*P	**P**	**09 45 04.3**	**+0.5**
MJAR	**Matsushiro Arr** comp=Z,59nm,21.7s,baz=300,slow=36	**39.61**	**267**	LR	LR	10 00 51.3	
DUG	**Dugway** 5.9nm,1.2s	**40.00**	**85**	*e*P	**P**	**09 45 08.8**	**+0.7**
PDAR	**Pinedale Array** 2.0nm,0.7s,baz=319,slow=5.4,SNR=24	**40.41**	**80**	P	**P**	**09 45 11.5**	**-0.1**
PV01	**Paradox Valley** 220nm,0.7s	**43.86**	**84**	*e*P	**P**	**09 45 39.5**	**-0.3**
WUAZ	**Wupatki** 4.8nm,1.0s	**43.88**	**89**	*e*P	**P**	**09 45 40.7**	**+0.8**
AGMN	**Agassiz Nation** 5.8nm,1.0s	**45.08**	**65**	*e*P	**P**	**09 45 48.9**	**-0.3**
SDCO	**Great Sand Dun** 11nm,1.9s	**45.95**	**83**	*e*P	**P**	**09 45 57.0**	**+0.4**
TUC	**Tucson**	**46.43**	**92**	*e*P	**P**	**09 46 00.3**	**+0.3**
SONM	**Songino Array** 0.4nm,0.5s,baz=77,slow=3.1,SNR=5.1	**50.91**	**300**	PcP	**PcP**	**09 47 50.1**	**-0.6**
WMOK	**Wichita Mounta** 2.1nm,0.7s	**51.99**	**81**	*e*P	**P**	**09 46 41.6**	**-0.9**
HHC	**Hu-ho-hao-te**	**52.61**	**290**	*e*P	**P**	**09 46 47.8**	**+0.6**
HHC				PP	**PP**	**09 48 47.8**	**+1.8**
HHC				S	**S**	**09 54 12.3**	**-1.3**
HHC				SS	**SS**	**09 57 48.9**	**-2.5**
HHC	78nm,5.7s			PMZ			
HHC	160nm,14.7s			LN			
HHC	240nm,14.7s			LE			
TXAR	**Lajitas Array** 3.1nm,0.8s,baz=301,slow=5.5,SNR=45	**52.85**	**89**	P	**P**	**09 46 48.6**	**-0.4**
WMQ	**Urumqi**	**63.09**	**308**	*e*P	**P**	**09 48 02.9**	**+2.3**
CD2	**Chengdu**	**64.09**	**287**	P	**P**	**09 48 06.3**	**-1.1**
CD2	10.0nm,0.5s			PMZ			
KMI	**Kunming**	**69.02**	**284**	P	**P**	**09 48 41.1**	**+1.9**
KMI	8.0nm,0.5s			PMZ			
WRA	**Warramunga Arr** 0.3nm,0.6s,baz=34,slow=6.1,SNR=3.8	**87.28**	**231**	P	**P**	**09 50 17.5**	**-2.4**
ASAR	**Alice Springs** 1.5nm,0.8s,baz=29,slow=5.0,SNR=9.8	**90.68**	**230**	P	**P**	**09 50 34.2**	**-1.6**
TORD	**Torodi Ar. Bea** 0.6nm,0.9s,baz=194,slow=3.0,SNR=2.8	**113.75**	**9**	PKKPbc	PKKPbc	10 06 56.6	+4.0
MAW	**Mawson** 0.9nm,0.5s,baz=72,slow=3.2,SNR=5.2	**151.25**	**219**	PKPbc	**PKPbc**	**09 57 24.3**	**-0.9**
BOSA	**Boshof** 2.1nm,0.8s,baz=18,slow=3.2,SNR=2.4	**153.34**	**330**	PKPbc	**PKPbc**	**09 57 31.3**	**0.0**

*IDC **19** 09:38:17.7±1.1,52.58N×169.64W,h0km,mb3.9/8, mb1 4.2/9,mb1mx3.7/61,mbtmp3.9/9,ML3.7/1,Error ellipse: s-maj=47.9km s-min=19.2km az=148.0*
*ISCJB **19** 09:38:18.4±0.7,52.6N±0.1×169.5W±0.2,h10km,mb3.9/8, Error ellipse: s-maj=21.4km s-min=7.0km az=44.1*
*NEIC **19** 09:38:21.7,52.77N×169.43W,h5km,ML3.7(AEIC),After AEIC.*

ISC 19 09:38:20.1±0.8,52.8N±0.2×169.47W±0.10,h10km,n23, σ1ᵍ22/19,mb3.9/8,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.43**	**60**	P	**Pg**	**09 38 29.7**	**+1.1**
NIKH				S	**Sb**	**09 38 37.2**	**+0.8**
OKCE	**Okmok Cone E**	**1.03**	**49**	P	**Pn**	**09 38 41.3**	**+0.6**
OKAK	**Okmok**	**1.06**	**39**	P	**Pg**	**09 38 39.7**	**-0.8**
MGOD	**Makushin Gods**	**1.87**	**55**	P	**Pb**	**09 38 54.3**	**-0.1**
MSW	**Makushin Switc**	**1.98**	**53**	P	**Pn**	**09 38 54.9**	**+1.2**
UNV	**Unalaska Valle**	**2.09**	**57**	P	**Pb**	**09 38 57.1**	**-0.9**
UNV				S	**Sn**	**09 39 22.6**	**+1.5**
GSTR	**Great Sitkin T**	**4.09**	**263**	*e*Pn	**Pn**	**09 39 25.2**	**+2.5**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=229,slow=11,SNR=5.1	**16.66**	**35**	Pn	**Pn**	**09 42 12.9**	**-0.6**
DLBC	**Dease Lake** 8.4nm,1.0s,baz=259,slow=11,SNR=7.1	**22.74**	**60**	P	**P**	**09 43 23.1**	**+0.9**
YKA	**Yellowknife Ar** 0.6nm,0.6s,baz=272,slow=7.8,SNR=6.0	**30.03**	**49**	P	**P**	**09 44 29.1**	**+0.3**
NEW	**Newport** 1.5nm,0.8s,baz=292,slow=6.2,SNR=3.0	**32.97**	**76**	P	**P**	**09 44 54.5**	**-0.4**
H11N2	**WAKE ISLAND Hy** baz=28	**37.72**	**218**	T	T	10 25 33.6	
H11N3	**WAKE ISLAND Hy** baz=28	**37.73**	**218**	T	T	10 25 33.6	
NVAR	**Mina Array Bea** 0.6nm,0.6s,baz=306,slow=7.9,SNR=4.0	**37.73**	**91**	P	**P**	**09 45 36.5**	**+0.4**
H11N1	**WAKE ISLAND Hy** baz=28	**37.74**	**218**	T	T	10 25 36.0	
H11S1	**WAKE ISLAND Hy** baz=24	**38.91**	**218**	T	T	10 27 02.4	
H11S2	**WAKE ISLAND Hy** baz=24	**38.93**	**218**	T	T	10 27 03.0	
H11S3	**WAKE ISLAND Hy** baz=24	**38.93**	**218**	T	T	10 27 04.2	
PDAR	**Pinedale Array** 1.4nm,0.7s,baz=321,slow=5.0,SNR=6.5	**40.39**	**80**	P	**P**	**09 45 58.4**	**+0.1**
TXAR	**Lajitas Array** 1.5nm,0.6s,baz=299,slow=5.7,SNR=7.9	**52.80**	**89**	P	**P**	**09 47 35.5**	**0.0**
WRA	**Warramunga Arr** 0.6nm,1.0s,baz=34,slow=6.0,SNR=3.0	**87.20**	**232**	P	**P**	**09 51 04.4**	**-2.1**
ASAR	**Alice Springs** 0.9nm,0.9s,baz=28,slow=4.4,SNR=4.4	**90.60**	**230**	P	**P**	**09 51 20.8**	**-1.7**
MAW	**Mawson** 1.1nm,0.5s,baz=63,slow=2.3,SNR=3.3	**151.14**	**219**	PKPbc	**PKPbc**	**09 58 10.7**	**-1.2**

IDC 19 09:42:13.6±1.7,5.81S×148.76E,h0km,mb3.3/2, mb1 3.6/4,mb1mx3.4/38,mbtmp3.3/4,ML3.4/1,MS2.6/1, Ms1 2.6/1,ms1mx2.4/18,Error ellipse: s-maj=109.3km s-min=25.9km az=121.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 1.3nm,0.3s,baz=87,slow=18,SNR=3.6	**3.91**	**204**	Pn	Pn	09 43 15.9	+1.1
JAY	**Jayapura** comp=Z,44nm,20.3s,baz=266,slow=38	**8.68**	**292**	LR	LR	09 47 46.3	
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=50,slow=11,SNR=6.3	**19.84**	**224**	P	P	09 46 45.8	-0.5
ASAR	**Alice Springs** 0.3nm,0.8s,baz=49,slow=9.9,SNR=6.0	**22.80**	**217**	P	P	09 47 17.9	-0.2
ILAR	**Eielson Array** 0.6nm,0.7s,baz=243,slow=5.6,SNR=9.9	**84.63**	**23**	P	P	09 54 48.8	0.0

IDC 19 09:42:23.6±2.9,4.99S×151.80E,h0km,mb3.6/2, mb1 3.9/3,mb1mx3.5/40,mbtmp3.7/3,ML1.7/1,Error ellipse: s-maj=126.5km s-min=35.9km az=125.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 0.9nm,0.3s,baz=42,slow=14,SNR=2.5	**6.36**	**226**	Pn	Pn	09 44 00.0	+1.3
PMG	3.3nm,0.3s,baz=142,slow=19,SNR=4.9			Sn	Sn	09 45 11.7	-0.5
WRA	**Warramunga Arr** 1.2nm,0.9s,baz=54,slow=10,SNR=6.8	**22.58**	**227**	P	P	09 47 25.9	0.0
ASAR	**Alice Springs** 1.5nm,0.8s,baz=56,slow=9.1,SNR=14	**25.35**	**221**	P	P	09 47 52.5	-0.1
TORD	**Torodi Ar. Bea** 0.3nm,0.3s,baz=65,slow=2.8,SNR=8.8	**149.42**	**287**	PKPbc	PKPbc	10 02 15.2	-0.6

KRSC 19 09:49:17.8±0.4,55.11N×160.26E,h-1km±3km,ML3.5, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**0.02**	**93**	*e*P	Pg	09 49 18.2	-0.2
TUMR	**Tumrok**	**0.18**	**339**	*e*P	Pg	09 49 21.8	+0.4
KMNR	**Kamenistaya**	**0.64**	**359**	*e*P	Pg	09 49 31.0	+0.7
KMNR				*e*S	Sb	09 49 41.2	-0.5
KOZ	**Kozyrevsk**	**0.97**	**347**	*e*P	Pb	09 49 38.0	+0.5
KOZ				*e*S	Sn	09 49 54.0	+0.8
MKZ	**Mys Kozlova**	**1.02**	**123**	*e*P	Pg	09 49 37.2	0.0
MKZ				*e*S	Sb	09 49 52.8	+0.7
ESO	**Esso**	**1.20**	**313**	*e*P	Pg	09 49 39.7	-1.2
ESO				*e*S	Sg	09 49 57.0	+0.5
SRDR	**Sredinnyy**	**1.24**	**346**	*e*P	Pb	09 49 42.1	-0.1
BDR	**Baidarnaya**	**1.55**	**20**	*e*P	Pg	09 49 47.9	+0.3
BDR				*e*S	Sg	09 50 11.6	+3.7
SMKR	**Semkarok**	**1.62**	**24**	*e*P	Pg	09 49 48.9	-0.1
SMKR				*e*S	Sg	09 50 13.8	+3.7
SRKR	**Sorokina**	**1.63**	**18**	*e*P	Pg	09 49 50.2	+1.2
KBTR	**Krutoberegovo**	**1.82**	**52**	*e*P	Pn	09 49 49.9	-0.4
GNL	**Ganaly**	**1.96**	**225**	*e*P	Pn	09 49 52.7	+0.3
GNL				*e*S	Sb	09 50 19.8	+0.1
KRX	**Arik**	**2.00**	**209**	*e*P	Pb	09 49 54.7	-0.4
SDLR	**Sedlovina**	**2.01**	**204**	*e*P	Pb	09 49 54.2	-1.1
SDLR				*e*S	Sg	09 50 22.8	+0.2
KRER	**Koryakskii**	**2.02**	**207**	*e*P	Pb	09 49 54.8	-0.8
NLC	**Nalytchevo**	**2.02**	**196**	*e*P	Pn	09 49 54.0	+1.0
NLC				*e*S	Sg	09 50 22.4	-0.2
SPN	**Mys Shipunski**	**2.02**	**184**	*e*P	Pn	09 49 52.8	-0.3
SPN				*e*S	Sn	09 50 19.4	+0.3
SMAR	**Somma**	**2.04**	**205**	*e*P	Pn	09 49 54.7	+1.0
SMAR				*e*S	Sg	09 50 23.4	-0.5
AVH	**Avacha**	**2.06**	**206**	*e*P	Pb	09 49 55.3	-0.8
AVH				*e*S	Sg	09 50 24.4	+0.4
KOK	**Koryaka**	**2.06**	**208**	*e*P	Pb	09 49 55.3	-0.8
UGLR	**Uglovaya**	**2.09**	**204**	P	Pb	09 49 55.4	-1.2
PET	**Petropavlovsk**	**2.30**	**205**	P	Pb	09 50 00.7	+0.7
PET				S	Sg	09 50 34.4	+2.9
APC	**Apacha**	**2.86**	**221**	P	Pn	09 50 04.4	-0.1
RUS	**Russkaya**	**2.88**	**202**	P	Pb	09 50 08.1	-1.8

IDC 19 09:49:23.5±1.4,14.54N×145.28E,h0km,mb3.6/3, mb1 4.0/3,mb1mx3.4/52,mbtmp3.6/3,Error ellipse: s-maj=186.7km s-min=20.9km az=115.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam** 292nm,0.3s,baz=78,slow=3.6,SNR=339	**1.03**	**203**	Pn	Pn	09 49 45.1	-0.1
GUMO	681nm,0.3s,baz=345,slow=20,SNR=48			Sn	Sg	09 49 57.2	+0.6
ILAR	**Eielson Array** 0.3nm,0.4s,baz=251,slow=5.9,SNR=11	**67.54**	**25**	P	P	10 00 21.3	-0.1
YKA	**Yellowknife Ar** 0.3nm,0.7s,baz=288,slow=5.9,SNR=2.7	**81.84**	**28**	P	P	10 01 44.5	+0.1
NVAR	**Mina Array Bea** 0.3nm,0.5s,baz=264,slow=5.3,SNR=5.4	**86.02**	**51**	P	P	10 02 06.7	+0.1

*NNC **19** 09:50:21.2±3.8,54.12N×86.98E,h0km,mb3.7,mpv3.4, Error ellipse: s-maj=31.4km s-min=24.9km az=173.0*

IDC 19 09:50:17.1±2.8,54.46N×86.93E,h0km,mb1 3.3/2, mb1mx3.1/31,mbtmp3.3/2,ML3.0/2,5C-4D,Error ellipse: s-maj=24.6km s-min=17.4km az=57.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=70,slow=317,SNR=1.6	**1.34**	**248**	*i*		09 58 20.0	
ZALV	**Zalesovo Beam** 2.6nm,0.3s,baz=68,slow=16,SNR=30	**1.34**	**248**	Pg	Pg	09 50 40.6	-2.2
ZALV	2.6nm,0.3s,baz=64,slow=31,SNR=18			Lg	Lg	09 51 01.1	
KURK	**Kurchatov** 2.0nm,0.9s	**6.30**	**237**	⇓Pn	Pn	09 51 53.3	+2.1
KURK	2.7nm,0.9s			⇑Sn	Sn	09 53 07.3	+3.6
KURK	7.5nm,0.9s			⇑Lg	Lg	09 53 34.5	
KURBB	**Kurchatov Arra** 3.9nm,0.6s	**6.40**	**237**	⇑Pn	Pn	09 51 52.8	+0.2
KURBB	11nm,0.7s			⇓Sn	Sn	09 53 07.1	+0.8
KURBB	22nm,0.8s			⇑Lg	Lg	09 53 36.8	
KURBB	**Kurchatov Arra** 0.3nm,0.3s,baz=54,slow=14,SNR=16	**6.40**	**237**	Pn	Pn	09 51 52.8	+0.2
KURBB	0.1nm,0.3s,baz=58,slow=30,SNR=3.9			Lg	Lg	09 53 39.7	
MK31	**Makanchi Array** 1.3nm,0.8s,baz=23,slow=12,SNR=7.4	**8.22**	**203**	⇑Pn	Pn	09 52 19.0	+1.4
MK31	3.0nm,0.8s,baz=24,slow=22,SNR=6.8			⇓Sn	Sn	09 53 48.3	-2.9
MK31	6.3nm,0.8s,baz=26,slow=29,SNR=3.6			⇓Lg	Lg	09 54 31.8	
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=20,slow=11,SNR=8.4	**8.22**	**203**	Pn	Pn	09 52 19.4	+1.8
MKAR	0.2nm,0.3s,baz=17,slow=23,SNR=5.7			Sn	Sn	09 53 50.1	-1.0
MKAR	0.1nm,0.3s,baz=17,slow=30,SNR=6.8			Lg	Lg	09 54 38.0	

IDC 19 09:51:44.2±3.8,5.42S×149.63E,h0km,mb2.8/2, mb1 3.3/3,mb1mx3.2/34,mbtmp3.1/3,ML1.3/1,MS3.1/1, Ms1 3.1/1,ms1mx2.7/7,Error ellipse: s-maj=153.6km s-min=35.5km az=114.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 1.0nm,0.3s,baz=86,slow=18,SNR=3.2	**4.66**	**212**	Pn	Pn	09 52 57.1	+1.3
PMG	1.3nm,0.3s,baz=176,slow=19,SNR=3.2			Sn	Sn	09 53 50.0	-0.6
HNR	**Honiara** comp=Z,99nm,18.2s,baz=58,slow=40	**10.97**	**112**	LR	LR	09 59 05.1	
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=49,slow=10,SNR=6.3	**20.73**	**225**	P	P	09 56 26.7	+0.2
ASAR	**Alice Springs** 0.1nm,0.4s,baz=55,slow=9.5,SNR=7.1	**23.63**	**218**	P	P	09 56 56.8	-0.5
TORD	**Torodi Ar. Bea** 0.5nm,1.1s,baz=85,slow=2.6,SNR=3.4	**147.47**	**286**	PKPbc	PKPbc	10 11 30.5	-0.8

*NEIC **19** 10:01:07.9,52.72N×169.41W,h0km,ML3.2(AEIC),After AEIC.*
*IDC **19** 10:01:07.6±17.0,52.56N×169.25W,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.4/47,mbtmp3.4/4,ML3.3/1,Error ellipse: s-maj=333.8km s-min=47.9km az=85.0*

ISC 19 10:01:08.8±1.1,52.8N±0.2×169.4W±0.1,h10km,n20, σ0ᵍ83/18,mb3.3/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.40**	**60**	P	**Pb**	**10 01 17.9**	**0.0**
NIKH				S	**Sb**	**10 01 25.8**	**+1.7**
OKSP	**Okmok Steeple**	**0.83**	**55**	P	**Pn**	**10 01 25.8**	**-0.8**
OKSP				S	**Sn**	**10 01 38.7**	**-0.2**
OKCE	**Okmok Cone E**	**1.00**	**49**	P	**Pn**	**10 01 29.3**	**+0.5**
OKTU	**Okmok Mt. Tuli**	**1.03**	**53**	P	**Pn**	**10 01 29.8**	**+0.5**
MSOM	**Makushin Julie**	**1.81**	**54**	P	**Pb**	**10 01 41.3**	**-0.7**
MSOM				S	**Sg**	**10 02 06.5**	**-0.5**
MCIR	**Makushin Cirqu**	**1.92**	**51**	P	**Pb**	**10 01 43.1**	**-0.7**
MSW	**Makushin Switc**	**1.95**	**53**	P	**Pb**	**10 01 43.9**	**-0.4**
UNV	**Unalaska Valle**	**2.05**	**57**	P	**Pb**	**10 01 44.5**	**-1.6**
UNV				S	**Sb**	**10 02 12.2**	**+0.5**
AKUT	**Akutan**	**2.57**	**57**	*e*Pn	**Pn**	**10 01 51.7**	**+1.3**
ATKA	**Atka Island**	**2.97**	**261**	P	**Pn**	**10 01 56.4**	**+0.5**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=228,slow=11,SNR=5.3	**16.63**	**35**	Pn	**Pn**	**10 05 01.6**	**-0.1**
YKA	**Yellowknife Ar** 0.2nm,0.4s,baz=272,slow=7.8,SNR=4.7	**30.00**	**49**	P	**P**	**10 07 17.1**	**0.0**
H11N2	**WAKE ISLAND Hy** baz=23,slow=76,SNR=5.3	**37.75**	**218**	T	T	10 48 15.2	
H11N3	**WAKE ISLAND Hy** baz=23,slow=76,SNR=5.3	**37.76**	**218**	T	T	10 48 16.0	
H11N1	**WAKE ISLAND Hy** baz=23,slow=76,SNR=4.3	**37.77**	**218**	T	T	10 48 14.0	
H11S1	**WAKE ISLAND Hy** baz=22,slow=76,SNR=9.3	**38.94**	**218**	T	T	10 49 47.2	
H11S2	**WAKE ISLAND Hy** baz=22,slow=76,SNR=10	**38.96**	**218**	T	T	10 49 47.6	
H11S3	**WAKE ISLAND Hy** baz=22,slow=76,SNR=9.2	**38.96**	**218**	T	T	10 49 48.4	
PDAR	**Pinedale Array** 0.5nm,0.7s,baz=310,slow=5.6,SNR=4.6	**40.36**	**80**	P	**P**	**10 08 46.7**	**0.0**
TXAR	**Lajitas Array** 0.7nm,0.7s,baz=295,slow=5.6,SNR=13	**52.77**	**89**	P	**P**	**10 10 23.7**	**-0.3**

*ISCJB **19** 10:02:08.6±1.1,41.25N±0.03×41.59E±0.09,h0km,Error ellipse: s-maj=10.1km s-min=4.6km az=169.6*
*CSEM **19** 10:02:08.6±0.2,41.25N×41.60E,h2km,MD2.7,Error ellipse: s-maj=8.2km s-min=2.3km az=84.0,Mining explosion.*
*DDA **19** 10:02:08.5,41.24N×41.62E,h7km,MD2.7*

ISC 19 10:02:08.9±1.5,41.25N±0.03×41.59E±0.06,h0km,n9, σ0ᵍ32/18,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCA	**Borcka**	**0.20**	**8**	*e*PG	**Pg**	**10 02 12.6**	**-0.1**
BCA				*e*SG	**Sg**	**10 02 15.3**	**+0.1**
BCA	**Borcka**	**0.20**	**8**	*e*Pg	**Pg**	**10 02 12.6**	**-0.1**
BCA				*e*Sg	**Sg**	**10 02 15.3**	**+0.1**
DBAD	**Bademkaya**	**0.25**	**161**	*i* P	**Pg**	**10 02 13.3**	**-0.3**
DBAD				*i* S	**Sg**	**10 02 16.9**	**+0.1**
DBAD	**Bademkaya**	**0.25**	**161**	*i* P	**Pg**	**10 02 13.3**	**-0.3**
DBAD				*i* S	**Sg**	**10 02 16.9**	**+0.1**
ARTV	**Artvin**	**0.27**	**104**	*i* P	**Pg**	**10 02 13.9**	**-0.1**
ARTV				*i* S	**Sg**	**10 02 17.3**	**-0.1**
ARTV	**Artvin**	**0.27**	**104**	*i* P	**Pg**	**10 02 13.9**	**-0.1**
ARTV				*i* S	**Sg**	**10 02 17.3**	**-0.1**
DAGI	**Agillar**	**0.30**	**125**	*i* P	**Pg**	**10 02 14.6**	**-0.1**
DAGI				*i* S	**Sg**	**10 02 18.9**	**+0.3**
DDEM	**Demirkent**	**0.38**	**161**	*i* P	**Pg**	**10 02 15.8**	**-0.4**
DDEM				*i* S	**Sg**	**10 02 21.7**	**+0.7**
DDEM	**Demirkent**	**0.38**	**161**	*i* P	**Pg**	**10 02 15.8**	**-0.4**
DDEM				*i* S	**Sg**	**10 02 21.7**	**+0.7**

*BJI **19** 10:07:06.2,52.60N×169.30W,h10km,mb4.6/2,mB4.6/1, Ms4.4/1*
*ISCJB **19** 10:07:08.6±1.3,52.54N±0.06×169.35W±0.06,h12km±8km, mb4.0/17,MS3.7/4,Error ellipse: s-maj=10.6km s-min=3.8km az=152.5*
*NEIC **19** 10:

	23nm,0.4s							
CNPM	China Poot	12.25	48	*e*Pn		Pn	10 10 04.9	+0.7
PPLA	Purkeypile	13.76	35	*e*Pn		Pn	10 10 27.2	+2.3
	46nm,1.5s							
CAST	Castle Rocks	14.14	33	*e*Pn		Pn	10 10 32.7	+2.6
TRF	Thorofare Moun	14.78	35	*e*Pn		Pn	10 10 38.2	-0.7
	7.0nm,0.9s							
BPAW	Bear Paw Mtn.	14.96	32	*e*Pn		Pn	10 10 42.6	+1.4
	9.1nm,0.8s							
MCK	McKinley	15.43	36	*e*Pn		Pn	10 10 47.6	+0.2
	12nm,1.1s							
KLU	Klutina	15.47	46	*e*Pn		Pn	10 10 46.5	-1.6
	23nm,1.4s							
IM04	Indian Mountai	15.54	24	*e*Pn		P	10 10 51.2	-1.9
BMRM	Bremner River	15.86	48	*e*Pn		Pn	10 10 54.2	+1.3
	14nm,1.0s							
WRH	Wood River Hil	16.17	34	*e*Pn		Pn	10 10 57.0	0.0
	77nm,2.4s							
HARP	HAARP	16.19	43	*e*P		P	10 10 59.9	-0.5
	19nm,1.0s							
CCB	Clear Creek Bu	16.38	34	*e*Pn		Pn	10 10 59.0	-0.6
	11nm,1.2s							
COLA	College	16.50	33	*e*Pn		Pn	10 11 00.2	-0.9
	8.0nm,0.9s							
IL13	Eielson Array	16.72	35	*e*Pn		Pn	10 11 03.1	-0.8
IL12	Eielson Array	16.73	35	*e*Pn		Pn	10 11 03.2	-0.8
IL14	Eielson Array	16.74	34	*e*Pn		Pn	10 11 03.2	-1.0
IL15	Eielson Array	16.75	34	*e*Pn		Pn	10 11 03.0	-1.4
IL05	Eielson Array	16.75	34	*e*Pn		Pn	10 11 03.5	-0.9
ILAR	Eielson Array	16.77	35	Pn		Pn	10 11 03.0	-1.5
	0.1nm,0.3s,baz=227,slow=12,SNR=8.6							
COLD	Coldfoot	17.42	25	*e*Pn		P	10 11 15.2	+1.3
	9.8nm,1.0s							
EGAK	Eagle	18.86	39	*e*Pn		Pn	10 11 31.0	+0.6
	4.0nm,0.8s							
HYT	Haines Junctio	19.15	52	*e*Pn		Pn	10 11 34.8	+0.8
DAWY	Dawson	19.26	42	*e*Pn		Pn	10 11 35.9	+0.7
PETK	Petropavlovsk-	19.84	285	P		P	10 11 40.7	+0.1
	baz=96,slow=13,SNR=1.9							
PETK					LR	LR	10 17 47.2	
	comp=Z,47nm,21.2s,baz=78,slow=32							
SKAG	Skagway	20.03	56	*e*Pn		Pn	10 11 43.6	-0.8
	16nm,0.7s							
SEY	Seymchan	22.56	312	P		P	10 12 10.7	+0.9
	2.5nm,0.8s,baz=97,slow=16,SNR=4.2							
DLBC	Dease Lake	22.75	59	P		P	10 12 13.9	+2.0
	7.1nm,1.1s,baz=252,slow=8.3,SNR=5.9							
INK	Inuvik	23.16	34	P		P	10 12 16.1	+0.1
	2.6nm,0.6s,baz=238,slow=11,SNR=7.8							
YKA	Yellowknife Ar	30.08	49	P		P	10 13 19.1	+0.2
	0.2nm,0.3s,baz=275,slow=7.4,SNR=5.9							
NEW	Newport	32.93	76	LR		LR	10 26 16.6	
	comp=Z,90nm,18.2s,baz=358,slow=35							
YBH	Yreka Blue Hor	32.95	90	LR		LR	10 23 31.7	
	comp=Z,98nm,20.8s,baz=282,slow=30							
WVOR	Wild Horse Val	35.03	86	*e*P		P	10 14 02.8	+0.3
	2.7nm,1.0s							
MCMT	McKenzie Canyo	37.20	79	*e*P		P	10 14 21.5	+0.3
	0.8nm,0.5s							
EGMT	Eagleton	37.37	72	*e*P		P	10 14 23.9	+1.4
	6.3nm,1.0s							
H11N2	WAKE ISLAND Hy	37.63	218	T		T	10 54 10.4	
	baz=24,slow=76,SNR=47							
NVAR	Mina Array Bea	37.63	91	P		P	10 14 25.4	+0.5
	0.7nm,0.8s,baz=297,slow=6.9,SNR=4.9							
H11N3	WAKE ISLAND Hy	37.64	218	T		T	10 54 10.9	
	baz=24,slow=76,SNR=75							
H11N1	WAKE ISLAND Hy	37.65	218	T		T	10 54 21.1	
	baz=24,slow=76,SNR=46							
H11S1	WAKE ISLAND Hy	38.82	218	T		T	10 55 44.6	
	baz=23,slow=76,SNR=376							
H11S2	WAKE ISLAND Hy	38.84	218	T		T	10 55 41.0	
	baz=23,slow=76,SNR=70							
H11S3	WAKE ISLAND Hy	38.84	218	T		T	10 55 43.6	
	baz=23,slow=76,SNR=178							
RLMT	Red Lodge	39.18	76	*e*P		P	10 14 38.5	+0.6
	2.6nm,0.8s							
MJAR	Matsushiro Arr	39.74	268	LR		LR	10 28 52.4	
	comp=Z,42nm,21.9s,baz=65,slow=33							
PDAR	Pinedale Array	40.33	79	P		P	10 14 48.0	+0.5
	1.3nm,0.7s,baz=339,slow=4.9,SNR=13							
O20A	White River Ci	42.70	82	*e*P		P	10 15 06.9	+0.1
	5.6nm,0.8s							
PV01	Paradox Valley	43.75	84	*e*P		P	10 15 16.2	+0.7
	192nm,0.7s							
WMOK	Wichita Mounta	51.91	81	*e*P		P	10 16 18.5	0.0
	1.8nm,0.8s							
TXAR	Lajitas Array	52.71	89	P		P	10 16 25.1	+0.6
	1.3nm,0.6s,baz=294,slow=5.2,SNR=20							
HHC	Hu-ho-hao-te	52.88	291	*e*P		P	10 16 25.9	+0.2
HHC				PP		PP	10 18 26.8	+1.9
HHC				S		S	10 23 52.3	-1.7
HHC				ScS		ScS	10 26 11.9	-2.9
HHC				SS		SS	10 27 29.9	-2.5
HHC				PMZ				
	45nm,5.6s							
HHC				LN				
	95nm,14.7s							
HHC				LE				
	130nm,14.7s							
WMQ	Urumqi	63.43	308	*e*P		P	10 17 40.8	+1.3
CD2	Chengdu	64.34	288	P		P	10 17 44.1	-1.5
JAY	Jayapura	69.05	235	LR		LR	10 43 02.5	
	comp=Z,458nm,20.6s,baz=106,slow=31							
KMI	Kunming	69.25	284	P		P	10 18 16.8	-0.4
KMI				PMZ				
	5.0nm,0.5s							
CMAR	Chiang Mai Arr	76.61	283	P		P	10 19 01.2	+0.7
	1.0nm,0.5s,baz=30,slow=7.0,SNR=5.4							
WRA	Warramunga Arr	87.16	232	P		P	10 19 54.9	-0.9
	0.8nm,0.9s,baz=35,slow=5.7,SNR=4.1							
ASAR	Alice Springs	90.55	230	P		P	10 20 11.6	-0.2
	1.2nm,0.8s,baz=27,slow=4.9,SNR=12							

IDC 19 10:15:58.1±3.4,5.98S×150.33E,h0km,mb3.6/2, mb1 3.9/3,mb1mx3.5/36,mbtmp3.8/3,ML1.8/1,Error ellipse: s-maj=127.0km s-min=40.9km az=119.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	4.63	223	Pn	Pn	10 17 10.4	+1.1
	3.2nm,0.3s,baz=57,slow=10,SNR=9.2						
PMG				Sn	Sn	10 18 01.7	-2.3
	4.4nm,0.3s,baz=90,slow=20,SNR=4.4						
WRA	Warramunga Arr	20.84	227	P	P	10 20 41.6	0.0
	4.5nm,0.9s,baz=52,slow=11,SNR=24						
ASAR	Alice Springs	23.65	220	P	P	10 21 10.6	-0.7
	1.0nm,0.7s,baz=55,slow=9.4,SNR=8.1						
TORD	Torodi Ar. Bea	148.29	285	PKPbc	PKPbc	10 35 46.9	-0.5
	0.4nm,0.6s,baz=73,slow=1.8,SNR=3.9						

*ISCJB **19** 10:18:48.0±0.2,52.58N±0.03×169.36W±0.05,h10km, mb4.1/28,MS3.2/1,Error ellipse: s-maj=5.5km s-min=3.7km az=143.3*

*IDC **19** 10:18:47.6±0.7,52.65N×169.50W,h0km,mb4.1/9, mb1 4.3/11,mb1mx3.9/59,mbtmp4.0/11,ML3.7/2,MS3.4/1, Ms1 3.4/1,ms1mx2.7/53,Error ellipse: s-maj=27.7km s-min=15.7km az=165.0*

*NEIC **19** 10:18:49.5,52.69N×169.33W,h6km,mb4.2/26, ML4.0(AEIC),After AEIC.*

ISC 19 10:18:49.7±0.6,52.68N±0.08×169.29W±0.05,h10km, n260,⌀0⌀93/256,mb4.2/29,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	Nikolski High	0.40	42	*e*Pg	Pb	10 18 58.7	-0.2
NIKH				*e*Sg	Sb	10 19 05.3	+0.3
OKSP	Okmok Steeple	0.83	46	P	Pg	10 19 05.9	+0.1
OKSP				S	Sb	10 19 18.3	+0.7
OKCE	Okmok Cone E	1.01	42	P	Pg	10 19 09.1	-0.1
OKTU	Okmok Mt. Tuli	1.03	47	P	Pg	10 19 09.6	0.0
MSOM	Makushin Julie	1.81	50	P	Pn	10 19 21.6	+0.7
MSOM				S	Sg	10 19 47.1	-0.7
MCIR	Makushin Cirqu	1.92	48	P	Pn	10 19 22.6	0.0
MSW	Makushin Switc	1.95	50	P	Pn	10 19 23.0	+0.1
MTBL	Makushin Table	2.03	50	P	Pn	10 19 24.5	+0.5
UNV	Unalaska Valle	2.04	54	*e*Pn	Pn	10 19 23.8	-0.3
AKRB	Akutan Reef Bi	2.42	52	P	Pn	10 19 30.3	+1.0
ZRO	Akutan Zero	2.44	53	P	Pn	10 19 30.1	+0.5
AKGG	Akutan Green G	2.49	51	P	Pn	10 19 31.2	+0.9
AKUT	Akutan	2.56	54	*e*Pn	Pn	10 19 32.2	+1.0
ATKA	Atka Island	3.04	263	P	Pn	10 19 38.0	+0.2
FALS	False Pass	4.11	56	*e*Pn	Pn	10 19 54.9	+2.3
GSTR	Great Sitkin T	4.19	265	*e*Pn	Pn	10 19 54.8	+1.2
GSTR				*e*Sn	Sn	10 20 43.8	+1.3
GSCK	Great Sitkin C	4.26	264	P	Pn	10 19 54.9	+0.2
SPIA	Saint Paul Isl	4.54	353	P	Pn	10 19 59.5	+1.1
AMKA	Amchitka	7.16	264	*e*Pn	Pn	10 20 34.7	+0.3
	55nm,0.8s						
CHGN	Chignik	7.30	56	Pn	Pn	10 20 38.7	+2.4
PPLA	Purkeypile	13.66	35	*e*Pn	Pn	10 22 06.0	+2.6
CAST	Castle Rocks	14.04	33	*e*Pn	Pn	10 22 11.9	+3.4
TRF	Thorofare Moun	14.68	35	*e*Pn	Pn	10 22 19.1	+1.7
BPAW	Bear Paw Mtn.	14.86	33	*e*Pn	P	10 22 23.4	-2.1
KLU	Klutina	15.38	46	*e*Pn	Pn	10 22 25.8	-0.9
	7.4nm,0.5s						
HARP	HAARP	16.10	43	*e*Pn	Pn	10 22 35.9	0.0
	12nm,0.6s						
CCB	Clear Creek Bu	16.28	34	*e*Pn	Pn	10 22 38.3	+0.2
	3.7nm,0.7s						
COLA	College	16.40	34	*e*Pn	Pn	10 22 39.5	-0.2
	3.6nm,0.7s						
ILAR	Eielson Array	16.67	35	Pn	Pn	10 22 41.5	-1.6
	0.2nm,0.3s,baz=228,slow=11,SNR=26						
COLD	Coldfoot	17.31	25	*e*P	P	10 22 55.4	+2.9
	29nm,1.9s						
EGAK	Eagle	18.77	39	*e*P	P	10 23 08.3	-0.3
	3.0nm,0.6s						
HYT	Haines Junctio	19.07	52	*e*Pn	Pn	10 23 13.9	+1.0
DAWY	Dawson	19.17	42	*e*P	P	10 23 12.4	-0.6
PETK	Petropavlovsk-	19.82	284	P	P	10 23 19.5	-0.8
	0.7nm,0.3s,baz=72,slow=16,SNR=3.1						
SKAG	Skagway	19.96	57	*e*Pn	Pn	10 23 23.7	+0.3
	16nm,0.8s						
SEY	Seymchan	22.49	312	P	P	10 23 47.2	-1.7
	2.3nm,0.9s,baz=102,slow=14,SNR=3.4						
DLBC	Dease Lake	22.69	60	P	P	10 23 51.8	+0.7
	4.7nm,1.0s,baz=274,slow=9.1,SNR=6.5						
INK	Inuvik	23.06	34	P	P	10 23 52.0	-2.8
	1.9nm,0.8s,baz=249,slow=9.6,SNR=6.9						
BBB	Bella Bella	24.87	75	LR	LR	10 31 38.6	
	comp=Z,81nm,20.2s,baz=186,slow=31						
YKA	Yellowknife Ar	30.00	49	P	P	10 24 57.4	-0.7
	0.8nm,0.5s,baz=274,slow=7.7,SNR=13						
YKA				PcP	PcP	10 27 59.2	-0.6
	0.6nm,0.9s,baz=300,slow=2.5,SNR=2.8						
B08A	Colville Reser	31.54	77	*e*P	P	10 25 13.3	+1.5
	3.4nm,0.7s						
G05D	Wamic, OR	31.86	84	P	P	10 25 17.1	+2.5
	baz=32						
I04A	Tendick Farm,	31.96	87	P	P	10 25 17.7	+2.1
	baz=32						
I05D	Terrebonne, OR	32.32	85	P	P	10 25 21.2	+2.4
	baz=32						
NEW	Newport	32.89	76	P	P	10 25 24.4	+0.7
	2.5nm,0.5s,baz=300,slow=6.5,SNR=9.0						
NEW	Newport	32.89	76	P	P	10 25 24.5	+0.8
	baz=33						
NEW	Newport	32.89	76	*e*P	P	10 25 24.7	+0.9
	2.7nm,0.6s						
J05D	Fort Rock, OR	32.95	87	P	P	10 25 26.9	+2.4
	baz=33						
MOD	Modoc	34.30	88	*e*P	P	10 25 38.7	+2.5
	2.4nm,0.8s						
MSO	Missoula	35.47	77	P	P	10 25 46.7	+0.5
	baz=35						
MSO	Missoula	35.47	77	*e*P	P	10 25 46.9	+0.7
	6.1nm,1.6s						
HLID	Hailey	36.93	82	P	P	10 25 59.5	+0.7
	baz=37						
HLID	Hailey	36.93	82	*e*P	P	10 26 00.1	+1.4
	7.3nm,1.6s						
MCMT	McKenzie Canyo	37.17	79	*e*P	P	10 26 01.8	+0.9
EGMT	Eagleton	37.33	73	P	P	10 26 02.7	+0.7
	baz=37						
BOZ	Bozeman (W)	37.46	77	P	P	10 26 03.2	0.0
	baz=37,SNR=8.8						
BOZ	Bozeman (W)	37.46	77	*e*P	P	10 26 04.2	+1.0
	3.6nm,0.6s						
A19A	Klondworth Far	37.46	71	P	P	10 26 03.5	+0.3
	baz=37						
NVAR	Mina Array Bea	37.62	91	P	P	10 26 05.6	+0.8
	1.2nm,0.7s,baz=300,slow=8.5,SNR=9.0						
NVAR				PcP	PcP	10 28 21.4	-0.9
	0.5nm,0.6s,baz=281,slow=2.7,SNR=4.4						
H11N2	WAKE ISLAND Hy	37.73	218	T	T	11 06 09.2	
	baz=23,slow=76,SNR=19						
H11N3	WAKE ISLAND Hy	37.73	218	T	T	11 06 09.8	
	baz=23,slow=76,SNR=30						
H11N1	WAKE ISLAND Hy	37.75	218	T	T	11 06 05.2	
	baz=23,slow=76,SNR=22						
RCTC	Rector, Farmer	38.42	95	P	P	10 26 13.0	+1.7
	baz=38						
C20A	Veseth Ranch,	38.50	72	P	P	10 26 12.8	+1.0
	baz=38						
H17A	Grant Village	38.76	78	P	P	10 26 15.6	+1.2
	baz=39						
H17A	Grant Village	38.76	78	*e*P	P	10 26 15.9	+1.6
	2.3nm,0.6s						
H11S1	WAKE ISLAND Hy	38.92	218	T	T	11 07 38.5	
	baz=23,slow=76,SNR=406						
H11S2	WAKE ISLAND Hy	38.93	218	T	T	11 07 39.7	
	baz=23,slow=76,SNR=262						
H11S3	WAKE ISLAND Hy	38.93	218	T	T	11 07 35.6	
	baz=23,slow=76,SNR=108						
C21A	Desert Coulee	38.97	71	P	P	10 26 16.1	+0.4
	baz=39						
TPAW	Teton Pass	39.05	80	*e*P	P	10 26 17.8	+1.0
RLMT	Red Lodge	39.14	76	P	P	10 26 17.7	+0.3
	baz=39						
RLMT	Red Lodge	39.14	76	*e*P	P	10 26 18.6	+1.2
	3.0nm,0.7s						
R11A	Troy Canyon, C	39.33	89	P	P	10 26 19.8	+0.8
	baz=39						
R11A	Troy Canyon, C	39.33	89	*e*P	P	10 26 20.6	+1.5
	2.4nm,0.9s						
SBC	Santa Barbara	39.39	97	P	P	10 26 19.9	+0.6
	baz=39						
F20A	Billings	39.43	75	P	P	10 26 19.9	+0.2
	baz=39						
H19A	Powell	39.56	77	P	P	10 26 21.8	+1.0
	baz=39						
G20A	Bridger	39.71	76	P	P	10 26 22.8	+0.7
	baz=40						
TPNV	Topopah Spring	39.82	92	P	P	10 26 24.1	+1.0
	baz=40						
DUG	Dugway	39.87	85	P	P	10 26 24.4	+0.9
	baz=40						
DUG	Dugway	39.87	85	*e*P	P	10 26 25.0	+1.5
	6.1nm,1.1s						
I19A	Meeteetse	39.91	78	P	P	10 26 24.2	+0.4
	baz=40						
EDW2	Edwards Air Fo	40.13	95	P	P	10 26 26.2	+0.5
	baz=40						
H20A	Greybull	40.24	76	P	P	10 26 26.9	+0.4
	baz=40						
G21A	Lodge Grass	40.30	75	P	P	10 26 27.0	0.0
	baz=40						
PDAR	Pinedale Array	40.30	80	P	P	10 26 27.6	+0.5
	3.0nm,0.6s,baz=323,slow=5.2,SNR=36						
J19A	Crowheart	40.31	79	P	P	10 26 27.6	+0.4
	baz=40						
I20A	Worland	40.47	77	P	P	10 26 28.9	+0.5
	baz=40						
SHOC	Shoshone	40.49	93	P	P	10 26 29.6	+1.1
	baz=40						
GSC	Goldstone	40.57	94	P	P	10 26 30.6	+1.4
	baz=40						
GSC	Goldstone	40.57	94	*e*P	P	10 26 31.5	+2.2
	4.8nm,1.0s						
C24A	Savage	40.66	70	P	P	10 26 30.1	+0.2
	baz=40						
A25A	Svangstu Ranch	40.66	68	P	P	10 26 30.6	+0.8
	baz=40						
E23A	Ismay	40.71	72	P	P	10 26 30.5	+0.2
	baz=41						
H21A	Big Horn, Sher	40.73	76	P	P	10 26 31.9	+1.4
	baz=41						
BFSC	Mount Baldy Ra	40.77	96	P	P	10 26 31.7	+0.7
	baz=41						
J20A	Shoshoni	40.84	78	P	P	10 26 32.3	+0.8
	baz=41						
D24A	Glendive	40.94	71	P	P	10 26 33.3	+1.1
	baz=41						
I21A	Big Trails, Te	41.05	77	P	P	10 26 33.5	+0.3
	baz=41						
F23A	Volborg	41.08	73	P	P	10 26 33.9	+0.6
	baz=41						
H22A	Clearmont	41.15	75	P	P	10 26 34.8	+0.8
	baz=41						
J21A	Lysite	41.22	77	P	P	10 26 35.4	+0.7
	baz=41						
MSU	Marysvale	41.30	87	*e*P	P	10 26 36.5	+1.1
	5.0nm,1.1s						
G23A	Biddle	41.38	74	P	P	10 26 36.1	+0.3
	baz=41						
I22A	9 Mile Ranch,	41.48	76	P	P	10 26 37.3	+0.6
	baz=41						
F24A	Ekalaka	41.57	72	P	P	10 26 37.9	+0.5
	baz=41						
GMRC	Granite Mounta	41.62	94	P	P	10 26 39.0	+1.0
	baz=42						
J22A	Midwest	41.76	77	P	P	10 26 39.2	+0.1
	baz=42,SNR=5.3						
SRU	San Rafael	41.93	85	*e*P	P	10 26 41.7	+1.1
PFO	Pinyon Flat Ob	41.93	96	P	P	10 26 41.3	+0.8
	baz=42						
BELC	Belle Mtn. Jos	41.94	95	P	P	10 26 41.6	+1.0
	baz=42						
K22A	Casper	42.18	78	P	P	10 26 42.5	0.0
	baz=42						
A28A	Rude Farm, Bot	42.27	66	P	P	10 26 43.3	+0.3
	baz=42						
IRM	Iron Mountain	42.34	94	P	P	10 26 44.5	+0.7
	baz=42						
I24A	Kuemmerle Ranc	42.59	75	P	P	10 26 46.4	+0.6
	baz=42						
O20A	White River Ci	42.67	82	P	P	10 26 46.9	+0.3
	baz=42,SNR=8.7						
O20A	White River Ci	42.67	82	*e*P	P	10 26 47.3	+0.7
	7.9nm,0.7s						
H25A	Fruitdale	42.75	73	P	P	10 26 47.4	+0.3
	baz=43						
A29A	Manning Farm,	42.84	66	P	P	10 26 47.5	-0.2
	baz=43						
PDMCI	Parker Dam,Lak	42.86	93	P	P	10 26 48.9	+1.0
	baz=43						
G26A	Maurine	42.95	72	P	P	10 26 49.0	+0.3
	baz=43						
F27A	Lemmon	42.95	71	P	P	10 26 49.0	+0.4
	baz=43						
G27A	Dupree	43.29	72	P	P	10 26 52.3	+1.0
	baz=43						
GLA	Glamis	43.30	95	P	P	10 26 53.1	+1.6
	baz=43						
E28A	Huff	43.32	69	P	P	10 26 52.3	+0.8
	baz=43						
PV04	Paradox Valley	43.36	84	*e*P	P	10 26 53.0	+0.8
N23A	Red Feather La	43.58	79	P	P	10 26 54.3	+0.2
	baz=44						
B30A	Myrvik Farm, E	43.60	66	P	P	10 26 53.9	+0.1
	baz=43						
F28A	McLaughlin	43.67	70	P	P	10 26 54.4	0.0
	baz=44						
WUAZ	Wupatki	43.73	89	P	P	10 26 56.4	+1.2
	baz=44						
D30A	Buchanan	44.11	68	P	P	10 26 57.8	-0.1
	baz=44						
MVCO	Mesa Verde	44.37	85	P	P	10 27 01.2	+0.8
	baz=44						
W18A	Petrified Fore	44.99	88	P	P	10 27 05.4	+0.1
	baz=45						
S22A	4UR Ranch, Cre	45.03	83	P	P	10 27 06.2	+0.5
	baz=45						
AGMN	Agassiz Nation	45.05	65	P	P	10 27 05.1	-0.3
	baz=45						
214A	Organ Pipe Nat	45.28	94	P	P	10 27 08.5	+1.0
	baz=45						
M27A	Reverse DX Ran	45.31	76	P	P	10 27 08.2	+0.6
	baz=45						
SDCO	Great Sand Dun	45.84	83	P	P	10 27 12.8	+0.8
	baz=46						
SDCO	Great Sand Dun	45.84	83	*e*P	P	10 27 13.1	+1.0
	2.2nm,0.9s						
P26A	Davis Ranch, A	45.97	79	P	P	10 27 13.3	+0.4
	baz=46,SNR=5.7						
TUC	Tucson	46.27	92	*e*P	P	10 27 16.7	+1.4
	2.7nm,0.9s						
Q26A	Hugo	46.27	80	P	P	10 27 15.7	+0.4
	baz=46						
O28A	Krutsinger Ran	46.55	77	P	P	10 27 17.8	+0.4
	baz=46						
R26A	Arlington	46.71	80	P	P	10 27 19.0	+0.2
	baz=47,SNR=5.3						
KSCO	Kaye Shedlock'	46.75	79	P	P	10 27 19.2	+0.2
	baz=47						
KSCO	Kaye Shedlock'	46.75	79	*e*P	P	10 27 19.6	+0.6
	12nm,1.4s						
T25A	Trinidad	46.89	82	P	P	10 27 21.0	+0.7
	baz=47,SNR=6.5						
LAZ	Ladron	47.05	87	*e*P	P	10 27 22.3	+0.7
	0.9nm,0.8s						
R27A	Eads	47.11	80	P	P	10 27 22.3	+0.5
	baz=47						
O29A	4D Ranch, Culb	47.13	77	P	P	10 27 22.1	+0.1
	baz=47						
S26A	Kim	47.14	81	P	P	10 27 22.2	+0.1
	baz=47						
Q28A	Sharon Springs	47.19	79	P	P	10 27 22.9	+0.5
	baz=47						
ECSD	EROS Data Cent	47.32	70	P	P	10 27 22.6	-0.7
	baz=47						
ECSD	EROS Data Cent	47.32	70	*e*P	P	10 27 22.5	-0.8
	69nm,3.0s						
T26A	Comanche Natio	47.36	82	P	P	10 27 24.4	+0.5
	baz=47						
P29A	Atwood	47.38	77	P	P	10 27 24.5	+0.6
	baz=47						
EYMN	Ely	47.64	63	P	P	10 27 26.0	+0.2
	baz=48						
R28A	Tribune	47.67	79	P	P	10 27 26.4	+0.3
	baz=48						
Q29A	Oakley	47.81	78	P	P	10 27 27.5	+0.3
	baz=48						
P30A	Selden	47.82	77	P	P	10 27 27.7	+0.4
	baz=48						
121A	Cookes Peak, D	47.94	90	P	P	10 27 29.0	+0.6
	baz=48						
O31A	Woolen Ranch,	47.98	76	P	P	10 27 28.9	+0.4
	baz=48						
R29A	Marienthal	48.02	79	P	P	10 27 29.5	+0.7
	baz=48						
S28A	Manter	48.10	80	P	P	10 27 30.0	+0.4
	baz=48						
U27A	Thompson Grove	48.32	82	P	P	10 27 31.5	+0.3
	baz=48						
P31A	Stockton	48.35	76	P	P	10 27 31.6	+0.2
	baz=48						
CBKS	Cedar Bluff	48.60	77	P	P	10 27 33.9	+0.6
	baz=48						
R30A	Dighton	48.62	78	P	P	10 27 33.4	-0.1
	baz=48						
P32A	Huiting Farm,	48.75	76	P	P	10 27 34.9	+0.5
	baz=49						
V27A	Dan Oppiter Fa	48.

SONM	**Songino Array**	**51.18**	**301**	PcP		**PcP**	**10 29 07.4**	**-0.8**
	1.1nm,0.8s,baz=42,slow=2.3,SNR=6.1							
X31A	**McDonald Ranch**	**51.23**	**82**	P		**P**	**10 27 53.7**	**+0.3**
	baz=51							
T34A	**McClaskey Farm**	**51.29**	**77**	P		**P**	**10 27 53.3**	**-0.4**
	baz=51							
W32A	**Sentinel**	**51.34**	**81**	P		**P**	**10 27 54.6**	**+0.5**
	baz=51							
S35A	**Otter Creek Ra**	**51.37**	**76**	P		**P**	**10 27 54.0**	**-0.3**
	baz=51							
228A	**UT Block 9, Go**	**51.39**	**86**	P		**P**	**10 27 55.0**	**+0.5**
	baz=51							
R36A	**Gordon, Harris**	**51.42**	**75**	P		**P**	**10 27 54.1**	**-0.6**
	baz=51							
Z30A	**Sanderson Ranc**	**51.46**	**84**	P		**P**	**10 27 55.3**	**+0.2**
	baz=51							
U34A	**Anderson Ranch**	**51.48**	**78**	P		**P**	**10 27 55.2**	**+0.1**
	baz=51							
Y31A	**Rekieta Farm,**	**51.52**	**82**	P		**P**	**10 27 55.6**	**+0.1**
	baz=51							
T35A	**Sooner Cattle**	**51.77**	**77**	P		**P**	**10 27 57.0**	**-0.3**
	baz=52							
WMOK	**Wichita Mounta**	**51.88**	**81**	*e*P		**P**	**10 27 58.1**	**-0.1**
	3.3nm,0.7s							
Y32A	**R-V Farms, Ver**	**51.99**	**82**	P		**P**	**10 27 59.5**	**+0.5**
	baz=52							
Z31A	**Sharp Cattle R**	**52.04**	**83**	P		**P**	**10 27 59.4**	**0.0**
	baz=52							
X33A	**Lawton**	**52.19**	**81**	P		**P**	**10 28 00.8**	**+0.4**
	baz=52							
S37A	**Fort Scott**	**52.20**	**75**	P		**P**	**10 28 00.0**	**-0.4**
	baz=52							
329A	**Wagon Wheel Ra**	**52.20**	**86**	P		**P**	**10 28 01.0**	**+0.4**
	baz=52							
Z32A	**Haskell**	**52.45**	**82**	P		**P**	**10 28 02.3**	**-0.1**
	baz=52,SNR=5.0							
T37A	**Cheneyville 18**	**52.57**	**76**	P		**P**	**10 28 02.7**	**-0.5**
	baz=52							
TXAR	**Lajitas Array**	**52.70**	**89**	P		**P**	**10 28 04.9**	**+0.5**
	3.2nm,0.6s,baz=297,slow=5.3,SNR=58							
TXAR				PcP		**PcP**	**10 29 14.0**	**-0.2**
	0.5nm,0.7s,baz=264,slow=1.6,SNR=2.2							
330A	**Mertzon**	**52.74**	**85**	P		**P**	**10 28 05.0**	**+0.3**
	baz=53							
W35A	**Tecumseh**	**52.74**	**79**	P		**P**	**10 28 04.8**	**+0.2**
	baz=53							
HHC	**Hu-ho-hao-te**	**52.85**	**291**	*e*P		P	10 28 13.3	+7.9
HHC				PP		PP	10 30 14.8	+10
HHC				S		S	10 35 41.5	+7.5
HHC				ScS		**ScS**	**10 37 59.0**	**+3.9**
HHC				SS		**SKiKP**	**10 39 20.0**	**-4.9**
HHC				PMZ				
	17nm,1.0s							
HHC				PMZ				
	38nm,5.3s							
HHC				LN				
	68nm,14.9s							
HHC				LE				
	80nm,14.5s							
429A	**Davenport Ranc**	**52.86**	**87**	P		**P**	**10 28 05.3**	**-0.2**
	baz=53							
TUL1	**Tulsa**	**52.87**	**77**	P		**P**	**10 28 05.0**	**-0.5**
	baz=53							
Z33A	**Whitaker Ranch**	**52.89**	**82**	P		**P**	**10 28 05.7**	**0.0**
	baz=53							
U37A	**Salina**	**52.94**	**77**	P		**P**	**10 28 05.7**	**-0.3**
	baz=53							
Y34A	**Reagan Ranch,**	**53.03**	**81**	P		**P**	**10 28 06.7**	**0.0**
	baz=53							
W36A	**Wetumka**	**53.14**	**79**	P		**P**	**10 28 07.4**	**-0.1**
	baz=53							
430A	**Baggett Ranch,**	**53.14**	**86**	P		**P**	**10 28 07.3**	**-0.3**
	baz=53							
X35A	**Drake**	**53.20**	**80**	P		**P**	**10 28 08.0**	**0.0**
	baz=53							
331A	**San Angelo**	**53.27**	**85**	P		**P**	**10 28 08.8**	**+0.3**
	baz=53							
133A	**Hamilton Ranch**	**53.27**	**83**	P		**P**	**10 28 08.8**	**+0.3**
	baz=53							
232A	**Coleman**	**53.33**	**84**	P		**P**	**10 28 09.2**	**+0.2**
	baz=53							
Z34A	**Collier Ranch,**	**53.34**	**81**	P		**P**	**10 28 09.4**	**+0.4**
	baz=53							
U38A	**Gravette**	**53.35**	**76**	P		**P**	**10 28 07.9**	**-1.1**
	baz=53							
X36A	**Centrahoma**	**53.45**	**79**	P		**P**	**10 28 10.2**	**+0.4**
	baz=53							
Y35A	**Marietta**	**53.50**	**80**	P		**P**	**10 28 10.6**	**+0.4**
	baz=53							
530A	**J-C Ranch, Com**	**53.53**	**87**	P		**P**	**10 28 10.3**	**-0.2**
	baz=53,SNR=7.5							
431A	**Sonora**	**53.60**	**86**	P		**P**	**10 28 10.4**	**-0.6**
	baz=54,SNR=7.6							
W37A	**Quinton**	**53.62**	**78**	P		**P**	**10 28 11.4**	**+0.4**
	baz=54							
332A	**Millersview**	**53.63**	**84**	P		**P**	**10 28 10.9**	**-0.3**
	baz=54							
233A	**Rising Star**	**53.69**	**83**	P		**P**	**10 28 11.8**	**+0.2**
	baz=54							
V38A	**Canehill**	**53.73**	**77**	P		**P**	**10 28 10.9**	**-0.9**
	baz=54							
134A	**White-Moore Ra**	**53.80**	**82**	P		**P**	**10 28 12.4**	**+0.1**
	baz=54							
432A	**Menard**	**53.95**	**85**	P		**P**	**10 28 13.5**	**-0.1**
	baz=54							
Y36A	**Durant**	**53.96**	**80**	P		**P**	**10 28 13.5**	**+0.1**
	baz=54							
531A	**Rocksprings**	**54.00**	**86**	P		**P**	**10 28 13.8**	**-0.2**
	baz=54							
X37A	**Clayton**	**54.03**	**78**	P		**P**	**10 28 14.0**	**0.0**
	baz=54							
333A	**Richland Sprin**	**54.13**	**84**	P		**P**	**10 28 14.8**	**0.0**
	baz=54							
W38A	**Poteau**	**54.20**	**77**	P		**P**	**10 28 15.1**	**-0.2**
	baz=54							
JCT	**Junction City**	**54.23**	**85**	P		**P**	**10 28 15.4**	**-0.2**
	baz=54							
JCT	**Junction City**	**54.23**	**85**	*e*P		**P**	**10 28 15.4**	**-0.2**
	4.2nm,0.9s							
X38A	**Whitesboro**	**54.30**	**78**	P		**P**	**10 28 15.6**	**-0.3**
	baz=54							
433A	**Art**	**54.47**	**84**	P		**P**	**10 28 17.5**	**+0.2**
	baz=54							
631A	**Perdido Creek**	**54.52**	**87**	P		**P**	**10 28 17.6**	**-0.1**
	baz=54							
334A	**Lometa**	**54.58**	**83**	P		**P**	**10 28 18.4**	**+0.4**
	baz=54							
WHTX	**Lake Whitney**	**54.58**	**82**	P		**P**	**10 28 18.3**	**+0.2**
	baz=54							
434A	**Burnet**	**54.92**	**84**	P		**P**	**10 28 20.1**	**-0.5**
	baz=55,SNR=5.1							
MIAR	**Mount Ida**	**55.13**	**77**	P		**P**	**10 28 22.3**	**+0.3**
	baz=55							
236A	**Katherine and**	**55.13**	**81**	P		**P**	**10 28 22.4**	**+0.4**
	baz=55							
336A	**Riesel**	**55.38**	**82**	P		**P**	**10 28 24.3**	**+0.5**
	baz=55							
832A	**Faith Ranch, C**	**55.70**	**87**	P		**P**	**10 28 26.5**	**+0.4**
	baz=56							
833A	**Chaparral WMA,**	**56.02**	**87**	P		**P**	**10 28 29.0**	**+0.5**
	baz=56							
734A	**La Parita Cree**	**56.15**	**86**	P		**P**	**10 28 29.8**	**+0.4**
	baz=56							
340A	**Bronson**	**57.13**	**80**	P		**P**	**10 28 37.1**	**+0.8**
	baz=57							
WMQ	**Urumqi**	**63.38**	**308**	*e*P		P	10 29 27.3	+8.3
CD2	**Chengdu**	**64.32**	**288**	P		P	10 29 31.1	+5.7
KMI	**Kunming**	**69.23**	**284**	P		P	10 30 06.1	+9.1
KMI				PMZ				
	6.0nm,0.7s							
WRA	**Warramunga Arr**	**87.23**	**232**	P		**P**	**10 31 34.5**	**-1.7**
	0.7nm,0.7s,baz=33,slow=6.3,SNR=6.0							
ASAR	**Alice Springs**	**90.63**	**230**	P		**P**	**10 31 51.1**	**-1.1**
	1.2nm,0.7s,baz=36,slow=4.4,SNR=16							
TORD	**Torodi Ar. Bea**	**113.98**	**10**	PKKPbc		PKKPbc	10 48 09.1	+0.7
	0.1nm,0.3s,baz=160,slow=3.2,SNR=2.4							
MAW	**Mawson**	**151.15**	**219**	PKPbc		**PKPbc**	**10 38 40.8**	**-0.7**
	0.8nm,0.5s,baz=346,slow=4.2,SNR=3.4							

IDC 19 10:21:55.8±3.4, 6.23S×149.84E, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.5/34, mbtmp3.8/3, ML1.9/1, Error ellipse: s-maj=126.0km s-min=37.0km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.12**	**220**	Pn	Pn	10 23 01.8	+1.7
	5.6nm,0.3s,baz=47,slow=10,SNR=16						
PMG				Sn	Sn	10 23 49.0	-0.1
	8.8nm,0.3s,baz=61,slow=21,SNR=6.1						
WRA	**Warramunga Arr**	**20.31**	**226**	P	P	10 26 33.8	+0.2
	3.6nm,0.5s,baz=52,slow=11,SNR=68						
ASAR	**Alice Springs**	**23.14**	**220**	P	P	10 27 03.2	-0.7
	0.5nm,0.4s,baz=46,slow=11,SNR=16						
TORD	**Torodi Ar. Bea**	**147.88**	**285**	PKPbc	PKPbc	10 41 43.4	-0.7
	0.9nm,0.7s,baz=79,slow=3.3,SNR=6.1						

*IDC **19** 10:36:44.3±1.6, 52.76N×170.04W, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.6/53, mbtmp3.6/7, ML3.6/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/47, Error ellipse: s-maj=43.5km s-min=26.6km az=132.0*

*ISCJB **19** 10:36:48.8±0.7, 52.53N±0.06×169.1W±0.1, h10km, mb3.6/6, MS3.5/1, Error ellipse: s-maj=11.5km s-min=6.1km az=44.6*

*NEIC **19** 10:36:50.6, 52.73N×169.16W, h5km, ML3.5(AEIC), After AEIC.*

ISC 19 10:36:49.9±1.0, 52.71N±0.10×169.10W±0.07, h10km, n25, σ1.920/24, mb3.7/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.31**	**29**	P	**Pb**	**10 36 57.6**	**+0.1**
NIKH				S	**Sb**	**10 37 04.8**	**+2.2**
OKSP	**Okmok Steeple**	**0.73**	**41**	P	**Pb**	**10 37 05.5**	**+0.6**
OKSP				S	**Sn**	**10 37 17.4**	**-0.3**
OKCE	**Okmok Cone E**	**0.92**	**38**	P	**Pb**	**10 37 09.1**	**+1.2**
OKTU	**Okmok Mt. Tuli**	**0.93**	**43**	P	**Pb**	**10 37 09.2**	**+1.0**
MSOM	**Makushin Julie**	**1.71**	**48**	P	**Pn**	**10 37 20.6**	**+0.9**
MSOM				S	**Sg**	**10 37 45.2**	**+0.5**
MCIR	**Makushin Cirqu**	**1.82**	**46**	P	**Pn**	**10 37 22.8**	**+1.4**
MTBL	**Makushin Table**	**1.93**	**48**	P	**Pn**	**10 37 23.5**	**+0.7**
UNV	**Unalaska Valle**	**1.93**	**53**	P	**Pn**	**10 37 23.0**	**+0.2**
UNV				S	**Sb**	**10 37 49.8**	**+0.4**
ZRO	**Akutan Zero**	**2.33**	**52**	P	**Pn**	**10 37 28.8**	**+0.5**
AKGG	**Akutan Green G**	**2.38**	**50**	P	**Pn**	**10 37 29.8**	**+0.7**
AKUT	**Akutan**	**2.45**	**53**	P	**Pn**	**10 37 30.9**	**+1.0**
ATKA	**Atka Island**	**3.16**	**263**	P	**Pn**	**10 37 41.2**	**+1.6**
GSTR	**Great Sitkin T**	**4.31**	**265**	*e*Pn	**Pn**	**10 37 56.0**	**+0.5**
SPIA	**Saint Paul Isl**	**4.53**	**352**	P	**Pn**	**10 37 58.8**	**+0.3**
ILAR	**Eielson Array**	**16.58**	**35**	Pn	**Pn**	**10 40 40.4**	**-1.8**
	0.1nm,0.3s,baz=226,slow=12,SNR=11						
INK	**Inuvik**	**22.98**	**34**	P	**P**	**10 41 51.6**	**-2.5**
	1.5nm,0.7s,baz=260,slow=6.1,SNR=4.5						
YKA	**Yellowknife Ar**	**29.90**	**49**	P	**P**	**10 42 55.7**	**-1.7**
	0.4nm,0.4s,baz=274,slow=7.8,SNR=7.6						
NVAR	**Mina Array Bea**	**37.51**	**92**	P	**P**	**10 44 05.1**	**+1.1**
	0.5nm,0.7s,baz=296,slow=8.2,SNR=4.0						
H11S1	**WAKE ISLAND Hy**	**39.01**	**218**	T	T	11 25 33.4	
	baz=21						
H11S2	**WAKE ISLAND Hy**	**39.02**	**218**	T	T	11 25 33.4	
	baz=21						
H11S3	**WAKE ISLAND Hy**	**39.03**	**218**	T	T	11 25 33.0	
	baz=21						
PDAR	**Pinedale Array**	**40.18**	**80**	P	**P**	**10 44 26.6**	**+0.2**
	1.3nm,0.7s,baz=320,slow=4.9,SNR=14						
JNU	**Nakatsue**	**46.63**	**270**	LR	LR	11 04 52.7	
	comp=Z,49nm,19.8s,baz=130,slow=37						
TXAR	**Lajitas Array**	**52.58**	**89**	P	**P**	**10 46 03.9**	**+0.2**
	1.0nm,0.6s,baz=297,slow=5.3,SNR=19						
ASAR	**Alice Springs**	**90.74**	**230**	P	P	10 49 47.2	-5.7
	0.3nm,0.7s,baz=33,slow=3.5,SNR=2.7						

*BJI **19** 10:36:54.0, 6.71S×149.63E, h11km, mb4.9/5, mB4.8/3, Ms4.5/2, Ms7 4.2/2*

*IDC **19** 10:36:54.2±0.6, 6.21S×150.50E, h0km, mb4.3/16, mb1 4.5/18, mb1mx4.3/38, mbtmp4.4/18, ML3.3/2, MS4.0/17, Ms1 4.0/17, ms1mx3.8/36, Error ellipse: s-maj=21.9km s-min=12.9km az=94.0*

*ISCJB **19** 10:36:58.2±0.4, 6.21S±0.05×150.41E±0.07, h35km, mb4.3/17, MS4.1/16, Error ellipse: s-maj=9.7km s-min=6.1km az=22.0*

*NEIC **19** 10:36:59.7±0.3, 6.23S×150.42E, h35km, mb4.8/5, Error ellipse: s-maj=9.5km s-min=5.5km az=101.0*

*GCMT **19** 10:36:59.7±0.3, 6.58S×150.36E, h26km±1km, MW5.0/61, Moment Tensor Solution. s36,c50; s61,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.92±.17; $M_{\theta\theta}$-2.84±.11; $M_{\phi\phi}$-0.07±.11; $M_{r\theta}$2.34±.21; $M_{\theta\phi}$-0.30±.09; $M_{\phi r}$-0.21±.25; Best double couple: $M_0$3.72800×10^{16} NP1:ϕ_s91.00000°, δ65.00000°, λ96.00000°. NP2: ϕ_s257.00000°, δ26.00000°, λ78.00000°. Principal axes: T 3.7730, Plg70.0000°, Azm13.0000°; N -0.0880, Plg5.0000°, Azm268.0000°; P -3.6830, Plg19.0000°, Azm176.00°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 19 10:37:00.7±0.5, 6.35S±0.06×150.50E±0.08, h35km, n67, σ1.942/66, mb4.3/17, MS4.0/16, 2C, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.71**	**38**	P	**Pn**	**10 37 43.6**	**+1.8**
	baz=2.6,SNR=131						
PMG	**Port Moresby**	**4.49**	**227**	Pn	**Pn**	**10 38 05.6**	**-0.7**
	26nm,0.3s,baz=46,slow=11,SNR=33						
PMG				Sn	**Sn**	**10 38 57.7**	**+0.2**
	45nm,0.3s,baz=74,slow=19,SNR=13						
PMG				LR	LR	10 39 46.2	
	comp=Z,1μm,18.4s,baz=13,slow=38						
PMG	**Port Moresby**	**4.49**	**227**	P	**Pn**	**10 38 07.9**	**+1.5**
	baz=4.6,SNR=19						
PMG				P	**Pn**	**10 38 07.9**	**+1.5**
	baz=4.6,SNR=19						
PMG				P	**Pn**	**10 38 07.9**	**+1.5**
	baz=4.6,SNR=19						
PMG	**Port Moresby**	**4.49**	**227**	Pn	**Pn**	**10 38 05.6**	**-0.7**
PMG				*e*Pn	Pn	10 38 06.7	+0.4
PMG				*e*Sn	**Sn**	**10 38 56.8**	**-0.6**
PMG				Sn	Sn	10 38 57.7	+0.2
HNR	**Honiara**	**9.84**	**109**	LR	LR	10 42 31.4	
	comp=Z,859nm,21.8s,baz=276,slow=34						
MTSU	**Mount Surprise**	**13.18**	**207**	P	**Pn**	**10 40 07.4**	**+1.9**
	baz=13,SNR=11						
CTA	**Charters Tower**	**14.27**	**196**	Pn	**Pn**	**10 40 19.6**	**-0.8**
	0.3nm,0.3s,baz=26,slow=12,SNR=5.8						
CTA				LR	LR	10 45 56.6	
	comp=Z,723nm,18.3s,baz=342,slow=38						
CTAO	**Charters Tower**	**14.27**	**196**	*e*Pn	**Pn**	**10 40 20.3**	**-0.1**
	42nm,1.4s						
QIS	**Mount Isa**	**17.64**	**216**	P	**P**	**10 41 05.7**	**+1.1**
	baz=18,SNR=9.6						
KDU	**Kakadu**	**18.86**	**249**	P	**P**	**10 41 18.1**	**+0.2**
	baz=19,SNR=6.7						
EIDS	**Eidsvold**	**18.92**	**178**	P	**P**	**10 41 19.8**	**+1.1**
	baz=19,SNR=14						
EIDS	**Eidsvold**	**18.92**	**178**	*e*P	**P**	**10 41 19.4**	**+0.8**
	30nm,0.8s						
RMQ	**Roma**	**20.10**	**185**	P	**P**	**10 41 33.3**	**+1.9**
	baz=20,SNR=20						
GUMO	**Guam**	**20.58**	**344**	LR	LR	10 47 46.6	
	comp=Z,508nm,21.4s,baz=176,slow=32						
WRAB	**Tennant Creek**	**20.70**	**228**	*e*P	**P**	**10 41 37.5**	**-0.6**
	55nm,0.7s						
WRA	**Warramunga Arr**	**20.71**	**228**	P	**P**	**10 41 37.5**	**-0.7**
	26nm,0.6s,baz=52,slow=11,SNR=128						
WRA				PcP	**PcP**	**10 45 46.7**	**-0.7**
	2.6nm,0.7s,baz=45,slow=2.4,SNR=5.2						
WRA				ScP	**ScP**	**10 49 24.3**	**+2.8**
	2.2nm,0.9s,baz=49,slow=2.9,SNR=6.2						
QLP	**Quilpie**	**20.99**	**196**	P	**P**	**10 41 41.9**	**+0.7**
	baz=21,SNR=21						
DZM	**Mont Dzumac**	**21.94**	**137**	P	**P**	**10 41 51.4**	**-0.2**
	8.9nm,0.6s,baz=270,slow=20,SNR=9.6						
DZM				LR	LR	10 48 48.1	
	comp=Z,583nm,21.1s,baz=0.0,slow=32						
KNRA	**Kununurra**	**23.24**	**245**	P	**P**	**10 42 05.0**	**-0.1**
	baz=23,SNR=19						
AS31	**Alice Springs**	**23.48**	**221**	*e*P	**P**	**10 42 06.9**	**-0.5**
ASAR	**Alice Springs**	**23.48**	**221**	P	**P**	**10 42 07.0**	**-0.5**
	5.5nm,0.8s,baz=53,slow=9.1,SNR=45						
ASAR				ScP	**ScP**	**10 49 29.4**	**+0.9**
	0.9nm,0.8s,baz=42,slow=3.4,SNR=5.1						
ARMA	**Armidale**	**23.97**	**178**	P	**P**	**10 42 14.2**	**+2.1**
	baz=24,SNR=12						
ARMA	**Armidale**	**23.97**	**178**	*e*P	**P**	**10 42 13.5**	**+1.4**
	95nm,1.6s						
CMSA	**Cobar Meteorol**	**25.46**	**190**	P	**P**	**10 42 25.4**	**-0.1**
	baz=26,SNR=10						
STKA	**Stephens Creek**	**26.73**	**197**	P	**P**	**10 42 36.2**	**-0.8**
	10nm,0.7s,baz=18,slow=13,SNR=20						
STKA				ScP	**ScP**	**10 49 40.9**	**+3.4**
	7.6nm,1.2s,baz=80,slow=4.2,SNR=4.0						
STKA				LR	LR	10 53 50.7	
	comp=Z,602nm,19.1s,baz=22,slow=38						
STKA	**Stephens Creek**	**26.73**	**197**	P	**P**	**10 42 36.5**	**-0.5**
	baz=27,SNR=21						
STKA	**Stephens Creek**	**26.73**	**197**	*e*P	**P**	**10 42 36.2**	**-0.8**
	2.2nm,0.7s						
STKA				ScP	**ScP**	**10 49 40.9**	**+3.4**
BATI	**Baumata**	**26.83**	**260**	P	**P**	**10 42 36.8**	**-1.3**
	26nm,0.5s,baz=94,slow=17,SNR=3.1						
BATI				LR	LR	10 56 19.6	
	comp=Z,558nm,18.2s,baz=110,slow=43						
FITZ	**Fitzroy Crossi**	**26.92**	**242**	P	**P**	**10 42 38.1**	**-0.7**
	baz=27,SNR=24						
WRKA	**Warakurna**	**28.24**	**226**	P	**P**	**10 42 49.8**	**-0.9**
	baz=28,SNR=17						
HTT	**Hallett**	**29.01**	**200**	P	**P**	**10 42 58.9**	**+1.4**
	baz=29,SNR=3.3						
KAPI	**Kappang**	**30.63**	**271**	LR	LR	10 58 22.0	
	comp=Z,163nm,18.6s,baz=108,slow=42						
MEEK	**Meekatharra**	**36.45**	**233**	P	**P**	**10 44 02.5**	**-0.1**
	baz=36,SNR=8.6						
KMBL	**Kambalda**	**36.56**	**223**	P	**P**	**10 44 02.9**	**-0.5**
	baz=37,SNR=6.1						
KLBR	**Kellerberrin**	**39.59**	**226**	P	**P**	**10 44 28.1**	**-0.8**
	baz=40,SNR=7.8						
URZ	**Urewera**	**39.89**	**147**	LR	LR	10 59 49.2	
	comp=Z,510nm,18.8s,baz=304,slow=34						
CISI	**Cisompet, Garu**	**42.38**	**266**	*e*P	P	10 44 49.8	-2.4
JNU	**Nakatsue**	**43.45**	**336**	P	**P**	**10 44 58.5**	**-2.1**
	7.2nm,0.9s,baz=149,slow=12,SNR=3.7						
MJAR	**Matsushiro Arr**	**44.19**	**346**	P	**P**	**10 45 04.5**	**-1.9**
	2.1nm,0.7s,baz=166,slow=9.4,SNR=5.9						
MJAR				ScP	**ScP**	**10 50 41.3**	**+1.0**
	2.2nm,1.0s,baz=157,slow=3.4,SNR=6.5						
MJAR				LR	LR	11 02 50.0	
	comp=Z,140nm,18.7s,baz=165,slow=35						
KSRS	**Korea Array**	**48.41**	**336**	P	**P**	**10 45 38.2**	**-1.3**
	3.5nm,0.8s,baz=150,slow=9.1,SNR=12						
KSAR	**Wonju Array Be**	**48.41**	**336**	P	**P**	**10 45 38.2**	**-1.3**
HHC	**Hu-ho-hao-te**	**59.01**	**326**	*e*P	**P**	**10 46 59.3**	**+2.1**
HHC				PP	**PP**	**10 49 11.5**	**+3.5**
HHC				S	**S**	**10 55 03.8**	**+2.2**
HHC				sS	sS	10 55 11.3	-7.8
HHC				ScS	**ScS**	**10 56 45.1**	**+0.3**
HHC				PMZ			
	20nm,1.2s						
HHC				PMZ			
	78nm,5.6s						
HHC				LN			
	110nm,14.7s						
HHC				LE			
	140nm,14.1s						
HHC				LZ			
	140nm,15.9s						
PPT2	**Papeete2**	**59.46**	**107**	*e*LR	LR	11 04 39.4	
	120nm,22.2s						
PETK	**Petropavlovsk-**	**59.54**	**5**	P	**P**	**10 46 58.9**	**-1.6**
	2.6nm,0.7s,baz=198,slow=7.1,SNR=3.1						
PETK				LR	LR	11 08 37.5	
	comp=Z,90nm,21.3s,baz=193,slow=32						
TBI	**Tubuai**	**60.03**	**113**	*e*S	**S**	**10 55 14.5**	**-0.7**
	161nm,28.8s						
TBI				*e*LQ	LQ	11 02 23.3	
	309nm,42.8s						
TBI				*e*LR	LR	11 04 52.7	
	188nm,34.5s						
SONM	**Songino Array**	**66.44**	**329**	P	**P**	**10 47 45.2**	**-1.5**
	1.8nm,0.8s,baz=132,slow=6.0,SNR=8.0						
SONM				LR	LR	11 16 26.7	
	comp=Z,114nm,21.1s,baz=128,slow=36						
TLY	**Talaya**	**70.29**	**331**	LR	LR	11 17 41.3	
	comp=Z,68nm,21.4s,baz=179,slow=35						
VNDA	**Vanda**	**71.39**	**177**	P	**P**	**10 48 16.8**	**+0.1**
	0.8nm,0.6s,baz=337,slow=6.5,SNR=7.0						
VNDA				LR	LR	11 15 03.0	
	comp=Z,91nm,21.3s,baz=326,slow=32						
RKT	**Rikitea**	**73.32**	**112**	*e*LR	LR	11 11 04.6	
	143nm,30.2s						
MKAR	**Makanchi Array**	**80.00**	**320**	P	**P**	**10 49 04.6**	**-2.0**
	1.0nm,0.8s,baz=114,slow=5.0,SNR=6.0						
MKAR				LR	LR	11 23 36.0	
	comp=Z,70nm,19.7s,baz=38,slow=35						
ZALV	**Zalesovo Beam**	**81.18**	**327**	P	P	10 49 09.5	-3.2
	0.9nm,0.6s,baz=101,slow=7.5,SNR=3.2						
ZALV				LR	LR	11 24 45.8	
	comp=Z,79nm,20.3s,baz=70,slow=35						
MAW	**Mawson**	**83.27**	**203**	LR	LR	11 23 21.5	
	comp=Z,146nm,21.5s,baz=63,slow=33						
QSPA	**South Pole Qui**	**83.62**	**180**	P	**P**	**10 49 25.0**	**-0.4**
	2.1nm,0.7s,baz=315,slow=4.3,SNR=12						
QSPA	**South Pole Qui**	**83.62**	**180**	*e*P	**P**	**10 49 25.6**	**+0.1**
ILAR	**Eielson Array**	**84.45**	**22**	P	P	10 49 26.1	-3.4
	1.3nm,0.7s,baz=253,slow=5.1,SNR=16						
HYT	**Haines Junctio**	**86.86**	**28**	*e*P	**P**	**10 49 40.4**	**-1.3**
	3.9nm,0.8s						
NVAR	**Mina Array Bea**	**94.83**	**52**	P	**P**	**10 50 19.3**	**-0.3**
	1.1nm,0.8s,baz=254,slow=6.5,SNR=6.8						
DPC	**Dobruska-Polom**	**121.88**	**327**	*e*PKPdf	**PKPdf**	**10 55 51.4**	**0.0**
TREC	**Trest**	**122.91**	**327**	AMS	AMS	11 49 20.0	
	comp=Z,200nm,20.5s						
PRU	**Pruhonice**	**123.03**	**328**	AMS	AMS	11 49 50.0	
	comp=Z,100nm,14.3s						
GERES	**GERESS Array B**	**124.13**	**327**	PKP	**PKPdf**	**10 55 55.0**	**-0.8**
	2.8nm,0.6s,baz=64,slow=2.3,SNR=17						
WTTA	**Wattenberg**	**126.18**	**326**	⇑*i*PKPdf	**PKPdf**	**10 55 59.7**	**-0.3**
	6.2nm,0.7s						
FETA	**Feichten**	**126.82**	**326**	⇑*i*PKiKP	**PKPdf**	**10 56 01.1**	**-0.1**
	4.4nm,0.9s						
SDV	**Santo Domingo**	**139.16**	**84**	*e*PKPdf	**PKPdf**	**10 56 23.5**	**-1.8**
TORD	**Torodi Ar. Bea**	**148.55**	**

BDR	**Baidarnaya**	**2.85**	**5**	*e*P	Pn	10 39 21.1	+4.5
SMKR	**Semkarok**	**2.88**	**7**	*e*P	Pn	10 39 21.0	+4.0
SRKR	**Sorokina**	**2.94**	**4**	*e*P	Pn	10 39 21.2	+3.5
BKI	**Bering**	**3.37**	**62**	*e*P	Pn	10 39 26.5	+3.1
BKI				*e*S	Sn	10 40 03.7	+1.6

IDC ***19*** *10:38:48.9±1.1,37.1S×73.6W, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.9/28, mbtmp3.9/9, ML4.2/1, MS3.1/3, Ms1 3.2/3, ms1mx3.0/21, Error ellipse: s-maj=34.4km s-min=18.4km az=100.0*

ISCJB ***19*** *10:38:49.7±0.9,37.1S±0.1×73.6W±0.2, h14km, mb3.9/8, MS3.6/1, Error ellipse: s-maj=25.2km s-min=10.2km az=27.4*

ISC 19 10:38:51.0±1.0, **37.1S**±0.1×**73.7W**±0.2, **h14km, n12, σ0.63/12, mb3.8/8, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**7.10**	**41**	Pn	**Pn**	**10 40 35.0**	**+0.5**
	0.1nm,0.3s,baz=218,slow=12,SNR=9.0						
CFAA				Sn	**Sn**	**10 41 55.2**	**+0.2**
	0.1nm,0.3s,baz=248,slow=19,SNR=3.5						
CFAA				LR	LR	10 43 05.1	
	comp=Z,19nm,20.2s,baz=215,slow=36						
LVC	**Limon Verde**	**15.02**	**17**	Pn	**P**	**10 42 27.0**	**-1.5**
	2.9nm,0.3s,baz=133,slow=8.4,SNR=1.7						
CPUP	**Villa Florida**	**17.55**	**57**	P	**Pn**	**10 42 54.8**	**-0.5**
	0.2nm,0.3s,baz=222,slow=12,SNR=3.4						
CPUP				LR	LR	10 49 41.5	
	comp=Z,156nm,19.5s,baz=238,slow=37						
LPAZ	**La Paz**	**21.31**	**15**	P	**P**	**10 43 38.0**	**0.0**
	2.6nm,0.8s,baz=177,slow=11,SNR=8.9						
SIV	**San Ignacio**	**23.82**	**31**	P	**P**	**10 44 04.1**	**+0.5**
	1.8nm,0.6s,baz=220,slow=13,SNR=9.2						
BDFB	**Brasilia**	**31.22**	**54**	LR	LR	10 58 13.4	
	comp=Z,118nm,18.8s,baz=231,slow=37						
SNAA	**Sanae**	**49.26**	**157**	P	**P**	**10 47 38.7**	**0.0**
	1.1nm,0.9s,baz=284,slow=7.9,SNR=10						
QSPA	**South Pole Qui**	**53.14**	**180**	P	**P**	**10 48 08.2**	**0.0**
	1.4nm,1.0s,baz=140,slow=1.3,SNR=3.0						
TXAR	**Lajitas Array**	**71.82**	**333**	P	**P**	**10 50 13.6**	**+0.3**
	0.4nm,0.7s,baz=147,slow=8.5,SNR=3.9						
DBIC	**Dimbokro**	**77.44**	**72**	P	**P**	**10 50 46.5**	**+0.3**
	4.9nm,1.0s,baz=252,slow=6.4,SNR=3.4						
BOSA	**Boshof**	**79.82**	**118**	P	**P**	**10 50 59.4**	**+0.1**
	3.4nm,1.0s,baz=225,slow=4.3,SNR=2.8						
TORD	**Torodi Ar. Bea**	**86.52**	**71**	P	**P**	**10 51 33.3**	**-0.5**
	0.5nm,0.8s,baz=214,slow=4.7,SNR=3.5						

IDC ***19*** *10:39:55.2±1.8,52.64N×169.73W, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.6/51, mbtmp3.6/7, ML3.5/1, Error ellipse: s-maj=49.0km s-min=28.6km az=137.0*

ISCJB ***19*** *10:39:56.5±0.8,52.57N±0.09×169.4W±0.1, h10km, mb3.7/6, Error ellipse: s-maj=16.6km s-min=6.6km az=136.5*

NEIC ***19*** *10:39:58.6,52.75N×169.38W, h5km, ML3.5(AEIC), After AEIC.*

ISC 19 10:39:58.1±0.9, **52.7N**±0.1×**169.36W**±0.08, **h10km, n25, σ1.22/23, mb3.7/6, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.42**	**47**	P	**Pb**	**10 40 07.4**	**-0.3**
NIKH				S	**Sb**	**10 40 14.9**	**+0.8**
OKSP	**Okmok Steeple**	**0.86**	**48**	P	**Pg**	**10 40 14.3**	**-0.4**
OKSP				S	**Sn**	**10 40 28.0**	**-1.0**
OKCE	**Okmok Cone E**	**1.04**	**44**	P	**Pg**	**10 40 17.9**	**-0.1**
OKTU	**Okmok Mt. Tuli**	**1.06**	**48**	P	**Pb**	**10 40 18.8**	**+0.2**
MSOM	**Makushin Julie**	**1.84**	**51**	P	**Pn**	**10 40 30.5**	**+0.8**
MSOM				S	**Sb**	**10 40 54.2**	**-0.6**
MCIR	**Makushin Cirqu**	**1.95**	**48**	P	**Pn**	**10 40 32.0**	**+0.7**
MSW	**Makushin Switc**	**1.98**	**50**	P	**Pn**	**10 40 32.1**	**+0.5**
MTBL	**Makushin Table**	**2.06**	**50**	P	**Pn**	**10 40 33.8**	**+1.0**
ZRO	**Akutan Zero**	**2.47**	**54**	P	**Pn**	**10 40 39.2**	**+0.8**
AKUT	**Akutan**	**2.59**	**54**	*e*Pn	**Pn**	**10 40 41.4**	**+1.4**
AKUT				*e*Sn	**Sn**	**10 41 13.8**	**+2.2**
ATKA	**Atka Island**	**3.00**	**263**	P	**Pn**	**10 40 47.2**	**+1.7**
SPIA	**Saint Paul Isl**	**4.53**	**354**	P	**Pn**	**10 41 07.8**	**+1.1**
ILAR	**Eielson Array**	**16.69**	**35**	Pn	**Pn**	**10 43 50.2**	**-1.5**
	0.1nm,0.3s,baz=226,slow=11,SNR=5.3						
DLBC	**Dease Lake**	**22.72**	**60**	P	**P**	**10 45 02.3**	**+2.4**
	4.0nm,1.0s,baz=265,slow=9.7,SNR=6.6						
YKA	**Yellowknife Ar**	**30.03**	**49**	P	**P**	**10 46 05.5**	**-1.2**
	0.4nm,0.5s,baz=272,slow=7.6,SNR=6.1						
NVAR	**Mina Array Bea**	**37.66**	**91**	P	**P**	**10 47 14.1**	**+0.6**
	0.4nm,0.8s,baz=302,slow=8.4,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**37.70**	**218**	T	T	11 27 06.2	
	baz=23,slow=76,SNR=4.0						
H11N3	**WAKE ISLAND Hy**	**37.71**	**218**	T	T	11 27 06.2	
	baz=23,slow=76,SNR=5.2						
H11N1	**WAKE ISLAND Hy**	**37.72**	**218**	T	T	11 27 07.4	
	baz=23,slow=76,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**38.89**	**218**	T	T	11 28 36.1	
	baz=22,slow=76,SNR=76						
H11S2	**WAKE ISLAND Hy**	**38.91**	**218**	T	T	11 28 36.6	
	baz=22,slow=76,SNR=150						
H11S3	**WAKE ISLAND Hy**	**38.91**	**218**	T	T	11 28 37.2	
	baz=22,slow=76,SNR=95						
PDAR	**Pinedale Array**	**40.34**	**79**	P	**P**	**10 47 36.1**	**+0.3**
	0.6nm,0.7s,baz=325,slow=4.9,SNR=6.9						
TXAR	**Lajitas Array**	**52.74**	**89**	P	**P**	**10 49 13.2**	**+0.1**
	1.4nm,0.7s,baz=297,slow=5.4,SNR=21						
ASAR	**Alice Springs**	**90.60**	**230**	P	**P**	**10 52 58.5**	**-1.9**
	0.8nm,1.0s,baz=36,slow=4.9,SNR=4.7						

IDC ***19*** *10:41:20.3±1.0,5.22S×152.12E, h0km, mb4.0/8, mb1 4.2/10, mb1mx4.0/37, mbtmp4.0/10, ML2.9/2, MS3.9/1, Ms1 3.9/1, ms1mx2.9/37, Error ellipse: s-maj=36.6km s-min=17.8km az=117.0*

ISCJB ***19*** *10:41:25.9±0.7,5.22S±0.10×152.0E±0.1, h45km, mb3.9/8, MS3.8/1, Error ellipse: s-maj=20.1km s-min=9.5km az=34.8*

ISC 19 10:41:28.3±1.1, **5.3S**±0.2×**152.1E**±0.2, **h45km, n21, σ1.70/21, mb4.0/8, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.35**	**230**	Pn	**Pn**	**10 42 57.8**	**-1.7**
	3.7nm,0.3s,baz=52,slow=12,SNR=5.8						
PMG				Sn	**Sn**	**10 44 09.9**	**-0.8**
	7.9nm,0.3s,baz=119,slow=19,SNR=6.0						
PMG	**Port Moresby**	**6.35**	**230**	P	**Pn**	**10 43 00.4**	**+1.0**
	baz=10,SNR=3.4						
PMG				P	**Pn**	**10 43 00.4**	**+1.0**
	baz=10,SNR=3.4						
PMG				P	**Pn**	**10 43 00.4**	**+1.0**
	baz=10,SNR=3.4						
CTA	**Charters Tower**	**15.75**	**201**	Pn	**Pn**	**10 45 06.8**	**-0.5**
	0.2nm,0.3s,baz=17,slow=9.3,SNR=4.0						
KDU	**Kakadu**	**20.69**	**248**	P	**P**	**10 46 04.2**	**-0.6**
	baz=24,SNR=16						
RMQ	**Roma**	**21.31**	**188**	P	**P**	**10 46 13.6**	**+2.2**
	baz=25,SNR=7.2						
MTN	**Manton Dam**	**21.98**	**249**	P	**P**	**10 46 19.7**	**+1.1**
	baz=25,SNR=6.0						
WRA	**Warramunga Arr**	**22.57**	**228**	P	**P**	**10 46 22.7**	**-2.3**
	2.8nm,0.8s,baz=52,slow=9.8,SNR=9.5						
WRA				PcP	**PcP**	**10 50 16.4**	**-1.0**
	0.4nm,0.8s,baz=51,slow=2.1,SNR=3.2						
KNRA	**Kununurra**	**25.10**	**244**	P	**P**	**10 46 50.1**	**+1.0**
	baz=28,SNR=6.5						
ASAR	**Alice Springs**	**25.29**	**222**	P	**P**	**10 46 48.7**	**-2.2**
	4.9nm,0.8s,baz=54,slow=9.7,SNR=14						
STKA	**Stephens Creek**	**28.21**	**199**	P	**P**	**10 47 16.2**	**-0.7**
	1.1nm,0.7s,baz=5.7,slow=10,SNR=3.9						
FITZ	**Fitzroy Crossi**	**28.78**	**242**	P	**P**	**10 47 20.5**	**-1.7**
	baz=32,SNR=6.4						
WRKA	**Warakurna**	**30.09**	**227**	P	**P**	**10 47 31.7**	**-2.1**
	baz=34,SNR=4.2						
AFI	**Afiamalu**	**36.62**	**106**	LR	LR	11 01 15.9	
	comp=Z,165nm,19.1s,baz=164,slow=33						
MEEK	**Meekatharra**	**38.32**	**233**	P	**P**	**10 48 47.0**	**+1.9**
	baz=42,SNR=17						
MORW	**Morawa**	**41.47**	**231**	P	**P**	**10 49 12.7**	**+1.6**
	baz=45,SNR=4.1						
CMAR	**Chiang Mai Arr**	**57.43**	**296**	P	**P**	**10 51 12.4**	**-0.6**
	0.6nm,0.4s,baz=104,slow=6.9,SNR=3.2						
SONM	**Songino Array**	**66.36**	**328**	P	P	10 52 10.9	-1.7
	0.5nm,0.4s,baz=134,slow=6.2,SNR=4.2						
MKAR	**Makanchi Array**	**80.22**	**319**	P	P	10 53 32.5	-1.7
	0.8nm,0.7s,baz=107,slow=4.8,SNR=5.5						
ILAR	**Eielson Array**	**82.89**	**22**	P	P	10 53 45.8	-2.2
	2.1nm,0.7s,baz=247,slow=5.4,SNR=30						
NVAR	**Mina Array Bea**	**92.96**	**52**	P	**P**	**10 54 36.1**	**-1.3**
	0.7nm,0.8s,baz=254,slow=6.5,SNR=4.9						
TORD	**Torodi Ar. Bea**	**149.76**	**287**	PKPbc	**PKPdf**	**11 01 13.0**	**+3.3**
	2.9nm,0.9s,baz=89,slow=2.5,SNR=31						

NNC 19 10:42:31.3±8.0, **34.94N×68.65E, h0km, mb3.9, mpv3.6, 6C-1D, Error ellipse: s-maj=110.2km s-min=66.5km az=84.0, Southeastern Afghanistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**3.86**	**2**	⇑Pn	Pn	10 43 30.5	-1.6
	0.7nm,0.2s						
DZET				⇑Pg	Pb	10 43 41.0	+0.5
	6.4nm,0.4s						
DZET				⇑Lg	Lg	10 44 29.8	
	23nm,0.5s						
SFK	**Sufi-Kurgan**	**6.37**	**36**	⇑Pn	Pn	10 44 05.7	-1.0
	2.8nm,0.4s						
KK31	**Karatay Array**	**8.28**	**10**	⇑Pn	Pn	10 44 36.2	+3.4
	4.8nm,0.8s,baz=193,slow=16,SNR=27						
KK31				⇑Sn	Sn	10 46 12.0	+5.0
	1.0nm,0.5s,baz=193,slow=21,SNR=3.7						
AB31	**Akbulak array**	**15.68**	**338**	⇓Pn	P	10 46 16.8	-0.9
	0.5nm,0.5s,baz=153,slow=12,SNR=9.9						

IDC 19 10:48:54.4±3.6, **6.20S×150.49E, h0km, mb2.9/2, mb1 3.3/2, mb1mx3.1/33, mbtmp3.0/2, Error ellipse: s-maj=140.7km s-min=46.6km az=118.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.80**	**227**	P	P	10 53 37.4	-0.1
	0.5nm,0.5s,baz=53,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**23.58**	**221**	P	P	10 54 06.5	-0.5
	0.1nm,0.5s,baz=57,slow=8.8,SNR=2.6						
TORD	**Torodi Ar. Bea**	**148.50**	**285**	PKPbc	PKPbc	11 08 44.0	-0.3
	0.2nm,0.5s,baz=53,slow=3.6,SNR=2.1						

NEIC ***19*** *10:56:04.8,52.58N×169.25W, h8km, ML2.9(AEIC), After AEIC.*

ISCJB ***19*** *10:56:05.9±0.9,52.6N±0.1×169.3W±0.2, h29km, mb3.2/3, Error ellipse: s-maj=22.2km s-min=7.8km az=141.0*

IDC ***19*** *10:56:09.2±16.0,52.67N×168.11W, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.3/53, mbtmp3.2/4, ML3.2/1, Error ellipse: s-maj=316.6km s-min=46.2km az=85.0*

ISC 19 10:56:07.8±1.2, **52.8N**±0.2×**169.3W**±0.1, **h29km, n17, σ1.53/15, mb3.1/3, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.33**	**52**	P	**Pb**	**10 56 14.5**	**-1.0**
NIKH				S	**Sb**	**10 56 22.2**	**+1.5**
OKSP	**Okmok Steeple**	**0.77**	**51**	P	**Pn**	**10 56 22.2**	**-0.4**
OKSP				S	**Sn**	**10 56 34.4**	**+1.1**
OKTU	**Okmok Mt. Tuli**	**0.97**	**50**	P	**Pb**	**10 56 25.3**	**-0.7**
MSOM	**Makushin Julie**	**1.75**	**52**	P	**Pn**	**10 56 35.9**	**-0.2**
MSOM				S	**Sb**	**10 57 02.9**	**+2.3**
MTBL	**Makushin Table**	**1.97**	**51**	P	**Pb**	**10 56 40.4**	**-2.6**
UNV	**Unalaska Valle**	**1.98**	**56**	P	**Pn**	**10 56 39.0**	**-0.3**
UNV				S	**Sb**	**10 57 05.1**	**-2.3**
ATKA	**Atka Island**	**3.06**	**261**	P	**Pn**	**10 56 53.7**	**-0.4**
ILAR	**Eielson Array**	**16.59**	**35**	Pn	**Pn**	**10 59 56.9**	**-1.1**
	0.0nm,0.3s,baz=232,slow=13,SNR=4.2						
YKA	**Yellowknife Ar**	**29.94**	**49**	P	**P**	**11 02 14.9**	**+2.1**
	0.2nm,0.6s,baz=273,slow=7.5,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**37.80**	**218**	T	T	11 43 16.4	
	baz=24,slow=76,SNR=5.7						
H11N3	**WAKE ISLAND Hy**	**37.81**	**218**	T	T	11 43 15.0	
	baz=24,slow=76,SNR=7.6						
H11N1	**WAKE ISLAND Hy**	**37.82**	**218**	T	T	11 43 22.3	
	baz=24,slow=76,SNR=6.4						
H11S1	**WAKE ISLAND Hy**	**38.99**	**218**	T	T	11 44 48.2	
	baz=22,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**39.01**	**218**	T	T	11 44 46.9	
	baz=22,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy**	**39.01**	**218**	T	T	11 44 48.4	
	baz=22,slow=76,SNR=18						
PDAR	**Pinedale Array**	**40.27**	**80**	P	**P**	**11 03 42.6**	**+0.3**
	0.2nm,0.6s,baz=302,slow=5.2,SNR=3.0						
TXAR	**Lajitas Array**	**52.69**	**89**	P	**P**	**11 05 19.4**	**-0.1**
	0.5nm,0.6s,baz=298,slow=5.9,SNR=9.2						

IDC 19 10:58:55.0±2.5, **6.28S×150.61E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/45, mbtmp3.8/4, ML1.8/1, Error ellipse: s-maj=67.4km s-min=37.6km az=124.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.62**	**228**	Pn	Pn	11 00 07.3	+1.2
	3.4nm,0.3s,baz=44,slow=12,SNR=10						
PMG				Sn	Sn	11 01 01.0	+0.4
	6.4nm,0.3s,baz=34,slow=18,SNR=7.9						
WRA	**Warramunga Arr**	**20.84**	**228**	P	P	11 03 38.3	-0.2
	3.0nm,0.7s,baz=52,slow=11,SNR=29						
ASAR	**Alice Springs**	**23.60**	**221**	P	P	11 04 07.6	-0.2
	0.7nm,0.4s,baz=56,slow=9.0,SNR=12						
STKA	**Stephens Creek**	**26.82**	**197**	P	P	11 04 36.6	-0.5
	1.1nm,0.7s,baz=27,slow=14,SNR=2.1						
TORD	**Torodi Ar. Bea**	**148.64**	**285**	PKPbc	PKPbc	11 18 45.2	0.0
	0.2nm,0.5s,baz=78,slow=1.7,SNR=4.2						

ISCJB ***19*** *11:00:11.1±1.3,52.7N±0.2×169.8W±0.2, h9km±7km, mb3.7/9, Error ellipse: s-maj=30.6km s-min=6.9km az=145.2*

IDC ***19*** *11:00:11.2±0.9,52.66N×169.83W, h0km, mb3.6/8, mb1 4.0/9, mb1mx3.6/51, mbtmp3.6/9, ML3.8/1, Error ellipse: s-maj=40.4km s-min=16.4km az=143.0*

NEIC ***19*** *11:00:14.7,52.69N×169.34W, h4km, ML3.5(AEIC), After AEIC.*

ISC 19 11:00:12.7±1.5, **52.8N**±0.2×**169.71W**±0.09, **h9km±9km, n33, σ1.19/30, mb3.7/9, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.56**	**68**	P	**Pg**	**11 00 23.8**	**+0.2**
NIKH				S	**Sg**	**11 00 31.1**	**+0.1**
OKSP	**Okmok Steeple**	**0.99**	**60**	P	**Pg**	**11 00 31.5**	**-0.2**
OKSP				S	**Sg**	**11 00 44.5**	**-0.1**
OKCE	**Okmok Cone E**	**1.15**	**54**	P	**Pg**	**11 00 34.7**	**0.0**
MSOM	**Makushin Julie**	**1.96**	**56**	P	**Pn**	**11 00 46.4**	**+0.2**
MSOM				S	**Sn**	**11 01 12.3**	**+1.5**
MCIR	**Makushin Cirqu**	**2.07**	**54**	P	**Pn**	**11 00 48.6**	**+1.0**
MSW	**Makushin Switc**	**2.10**	**56**	P	**Pn**	**11 00 49.2**	**+1.2**
MSW				S	**Sn**	**11 01 15.7**	**+1.4**
MTBL	**Makushin Table**	**2.18**	**55**	P	**Pn**	**11 00 49.8**	**+0.6**
UNV	**Unalaska Valle**	**2.21**	**59**	*e*Pn	**Pn**	**11 00 48.7**	**-0.8**
UNV				*e*Sn	**Sn**	**11 01 16.3**	**-0.6**
UNV				S	**Sb**	**11 01 16.6**	**-3.7**
AKGG	**Akutan Green G**	**2.65**	**56**	P	**Pn**	**11 00 56.6**	**+1.0**
AKUT	**Akutan**	**2.73**	**58**	*e*Pn	**Pn**	**11 00 58.0**	**+1.4**
AKUT				*e*Sn	**Sn**	**11 01 32.0**	**+2.4**
ATKA	**Atka Island**	**2.80**	**260**	P	**Pb**	**11 01 03.2**	**+0.3**
BPAW	**Bear Paw Mtn.**	**14.93**	**33**	Pn	**P**	**11 03 48.2**	**-1.1**
	0.7nm,0.8s						
ILAR	**Eielson Array**	**16.75**	**35**	Pn	**Pn**	**11 04 07.3**	**+0.1**
	0.1nm,0.3s,baz=224,slow=10,SNR=9.4						
DAWY	**Dawson**	**19.27**	**42**	*e*P	**P**	**11 04 37.3**	**-0.1**
PETK	**Petropavlovsk-**	**19.56**	**284**	P	P	11 04 32.7	-7.8
	0.5nm,0.3s,baz=67,slow=8.0,SNR=5.8						
H02N1	**VAN INLET T-PH**	**22.21**	**74**	T	T	11 28 04.8	
H02S1	**DAWSON INLET T**	**22.26**	**74**	T	T	11 28 08.5	
DLBC	**Dease Lake**	**22.86**	**60**	P	**P**	**11 05 17.8**	**+1.7**
	2.7nm,0.8s,baz=299,slow=12,SNR=6.9						
INK	**Inuvik**	**23.13**	**34**	P	**P**	**11 05 18.2**	**-0.6**
	1.8nm,0.9s,baz=233,slow=8.5,SNR=6.0						
YKA	**Yellowknife Ar**	**30.14**	**49**	P	**P**	**11 06 22.8**	**+0.3**
	0.4nm,0.5s,baz=276,slow=7.0,SNR=8.8						
H11N2	**WAKE ISLAND Hy**	**37.64**	**218**	T	T	11 47 23.5	
	baz=24,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**37.64**	**218**	T	T	11 47 24.1	
	baz=24,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy**	**37.65**	**218**	T	T	11 47 25.1	
	baz=24,slow=76,SNR=12						
NVAR	**Mina Array Bea**	**37.88**	**91**	P	**P**	**11 07 31.0**	**+0.9**
	0.1nm,0.4s,baz=306,slow=8.3,SNR=2.9						
H11S1	**WAKE ISLAND Hy**	**38.83**	**217**	T	T	11 48 52.9	
	baz=22,slow=76,SNR=123						
H11S2	**WAKE ISLAND Hy**	**38.84**	**217**	T	T	11 48 54.2	
	baz=22,slow=76,SNR=43						
H11S3	**WAKE ISLAND Hy**	**38.84**	**217**	T	T	11 48 54.1	
	baz=22,slow=76,SNR=85						
PDAR	**Pinedale Array**	**40.53**	**79**	P	**P**	**11 07 52.3**	**+0.1**
	0.6nm,0.6s,baz=317,slow=4.9,SNR=7.8						
TXAR	**Lajitas Array**	**52.95**	**89**	P	**P**	**11 09 29.3**	**-0.1**
	1.2nm,0.6s,baz=299,slow=5.3,SNR=22						
H06E1	**SOCORRO T-PHAS**	**56.46**	**104**	T	T	12 10 37.6	
	SNR=5.4						
PMG	**Port Moresby**	**72.02**	**225**	P	**P**	**11 11 36.2**	**-0.6**
	16nm,0.9s,baz=153,slow=2.3,SNR=2.7						
WRA	**Warramunga Arr**	**87.09**	**231**	P	**P**	**11 12 57.6**	**-1.1**
	0.6nm,0.8s,baz=34,slow=6.4,SNR=3.1						
ASAR	**Alice Springs**	**90.49**	**230**	P	**P**	**11 13 14.5**	**-0.1**
	0.4nm,0.8s,baz=25,slow=5.5,SNR=4.8						

IDC 19 11:00:14.1±3.9, **5.95S×149.81E, h0km, mb3.5/2, mb1 3.9/2, mb1mx3.3/42, mbtmp3.6/2, Error ellipse: s-maj=152.9km s-min=48.3km az=116.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.49**	**226**	P	P	11 04 54.4	+0.6
	2.6nm,0.9s,baz=52,slow=10,SNR=5.4						
ASAR	**Alice Springs**	**23.34**	**219**	P	P	11 05 23.7	-0.6
	0.9nm,0.8s,baz=52,slow=8.5,SNR=5.6						
TORD	**Torodi Ar. Bea**	**147.78**	**285**	PKPbc	PKPbc	11 20 01.5	-0.6
	0.3nm,0.6s,baz=60,slow=3.9,SNR=2.9						

NNC ***19*** *11:04:02.0±2.5,53.28N×86.67E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=19.1km s-min=14.9km az=18.0*

IDC 19 11:03:53.5±2.8, **53.52N×87.67E, h0km, mb1 3.7/3, mb1mx3.3/50, mbtmp3.7/3, ML3.4/3, 3C-6D, Error ellipse: s-maj=27.3km s-min=13.8km az=67.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.75**	**285**	*i*		11 15 08.8	
	baz=100,slow=322,SNR=31						
ZALV	**Zalesovo Beam**	**1.75**	**285**	Pn	Pn	11 04 24.0	-1.0
	14nm,0.3s,baz=103,slow=15,SNR=109						
ZALV				Lg	Lg	11 04 47.7	
	12nm,0.3s,baz=104,slow=24,SNR=18						
KURK	**Kurchatov**	**6.24**	**247**	⇑Pn	Pn	11 05 27.1	+0.4
	1.7nm,0.7s						
KURK				⇓Sn	Sn	11 06 33.3	-5.4
	2.1nm,0.6s						
KURK				⇑Lg	Lg	11 06 59.6	
	16nm,1.4s						
KURBB	**Kurchatov Arra**	**6.34**	**246**	⇑Pn	Pn	11 05 27.6	-0.4
	5.5nm,0.3s						
KURBB				⇓Sn	Sn	11 06 33.9	-7.2
	12nm,0.6s						
KURBB				⇓Lg	Lg	11 07 00.9	
	48nm,0.7s						
KURBB	**Kurchatov Arra**	**6.34**	**246**	Pn	Pn	11 05 28.5	+0.5
	0.6nm,0.3s,baz=62,slow=14,SNR=29						
MK31	**Makanchi Array**	**7.57**	**209**	⇓Pn	Pn	11 05 45.9	+1.0
	0.5nm,0.3s,baz=27,slow=12,SNR=34						
MK31				⇓Sn	Sn	11 07 09.6	-1.8
	3.1nm,0.9s,baz=29,slow=21,SNR=6.5						
MK31				⇓Lg	Lg	11 07 48.5	
	2.8nm,0.6s,baz=27,slow=27,SNR=4.6						
MKAR	**Makanchi Array**	**7.57**	**209**	Pn	Pn	11 05 46.0	+1.0
	1.1nm,0.3s,baz=27,slow=12,SNR=33						
MKAR				Sn	Sn	11 07 11.2	-0.3
	0.2nm,0.3s,baz=29,slow=22,SNR=8.6						
MKAR				Lg	Lg	11 07 52.1	
	0.2nm,0.3s,baz=28,slow=25,SNR=6.8						
BVAR	**Borovoye Array**	**10.36**	**274**	Pn	Pn	11 06 23.3	+0.1
	0.2nm,0.3s,baz=78,slow=13,SNR=3.8						

IDC ***19*** *11:08:39.5±1.1,52.73N×169.85W, h0km, mb3.5/8, mb1 3.8/9, mb1mx3.5/45, mbtmp3.5/9, ML3.4/1, MS3.9/1, Ms1 3.8/1, ms1mx2.7/47, Error ellipse: s-maj=41.1km s-min=20.1km az=142.0*

NEIC ***19*** *11:08:41.8,52.68N×169.34W, h5km, mb3.8/1, ML3.5(AEIC), After AEIC.*

ISC 19 11:08:40.2±1.6, **52.9N**±0.1×**169.77W**±0.08, **h4km**±10km, **n34, σ0.97/30, mb3.5/8, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.56**	**81**	P	**Pg**	**11 08 50.9**	**-0.2**
NIKH				S	**Sg**	**11 08 58.3**	**0.0**
OKSP	**Okmok Steeple**	**0.97**	**67**	P	**Pg**	**11 08 58.6**	**-0.2**
OKSP				S	**Sg**	**11 09 10.9**	**-0.4**
OKCE	**Okmok Cone E**	**1.11**	**60**	P	**Pg**	**11 09 01.3**	**-0.1**
**OK

σ1♀12/68, **mb3.8**/20, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.41**	**55**	S	**Sb**	**11 15 51.7**	**+0.7**
OKSP	**Okmok Steeple**	**0.85**	**52**	P	**Pg**	**11 15 52.1**	**+0.5**
OKSP				S	**Sb**	**11 16 04.1**	**+0.5**
OKCE	**Okmok Cone E**	**1.02**	**47**	P	**Pg**	**11 15 54.7**	**-0.1**
OKTU	**Okmok Mt. Tuli**	**1.05**	**51**	P	**Pg**	**11 15 55.6**	**+0.1**
MSOM	**Makushin Julie**	**1.83**	**53**	P	**Pn**	**11 16 07.0**	**+0.2**
MSOM				S	**Sb**	**11 16 31.4**	**-0.4**
MCIR	**Makushin Cirqu**	**1.94**	**50**	P	**Pn**	**11 16 08.6**	**+0.3**
MSW	**Makushin Switc**	**1.97**	**52**	P	**Pn**	**11 16 08.7**	**0.0**
MTBL	**Makushin Table**	**2.05**	**52**	P	**Pn**	**11 16 10.2**	**+0.3**
UNV	**Unalaska Valle**	**2.07**	**56**	S	**Sn**	**11 16 36.4**	**+0.6**
AKRB	**Akutan Reef Bi**	**2.44**	**54**	P	**Pn**	**11 16 16.0**	**+0.9**
ZRO	**Akutan Zero**	**2.46**	**55**	P	**Pn**	**11 16 16.1**	**+0.6**
AKGG	**Akutan Green G**	**2.51**	**53**	P	**Pn**	**11 16 17.0**	**+0.8**
AKUT	**Akutan**	**2.59**	**56**	P	**Pn**	**11 16 18.0**	**+0.8**
ATKA	**Atka Island**	**2.98**	**261**	P	**Pn**	**11 16 22.3**	**-0.2**
WESP	**Westdahl Peak**	**3.30**	**56**	P	**Pn**	**11 16 27.9**	**+0.8**
WESN	**West Dahl Nort**	**3.41**	**56**	P	**Pn**	**11 16 28.7**	**+0.2**
GSTR	**Great Sitkin T**	**4.12**	**264**	P	**Pn**	**11 16 39.5**	**+1.2**
GSCK	**Great Sitkin C**	**4.20**	**263**	P	**Pn**	**11 16 40.5**	**+1.1**
ADAG	**Mount Adagdak**	**4.47**	**263**	P	**Pn**	**11 16 44.2**	**+1.1**
SPIA	**Saint Paul Isl**	**4.47**	**354**	P	**Pn**	**11 16 44.9**	**+1.8**
KIKV	**Kanaga Island**	**4.84**	**263**	P	**Pn**	**11 16 48.9**	**+0.7**
AMKA	**Amchitka** 48nm,0.6s	**7.09**	**263**	*e*Pn	**Pn**	**11 17 20.8**	**+1.7**
CHGN	**Chignik**	**7.33**	**56**	*e*Pn	**Pn**	**11 17 23.1**	**+1.0**
TNA	**Tin City**	**12.88**	**3**	*e*Pn	**Pn**	**11 18 36.4**	**-1.8**
RC01	**Rabbit Creek A**	**13.57**	**44**	*e*Pn	**Pn**	**11 18 48.7**	**+1.1**
SML	**Sawmill**	**14.51**	**43**	*e*Pn	**Pn**	**11 19 01.0**	**+0.6**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=220,slow=11,SNR=9.7	**16.66**	**35**	Pn	**Pn**	**11 19 27.9**	**-0.6**
EGAK	**Eagle** 2.9nm,0.6s	**18.77**	**39**	*e*Pn	**Pn**	**11 19 55.4**	**+0.8**
DAWY	**Dawson**	**19.17**	**42**	*e*P	**Pn**	**11 20 00.3**	**+0.7**
SKAG	**Skagway** 15nm,0.8s	**19.99**	**57**	*e*P	Pn	11 20 08.8	-0.4
H02N1	**VAN INLET T-PH**	**22.04**	**74**	T	T	11 43 12.4	
H02S1	**DAWSON INLET T** SNR=5.7	**22.09**	**74**	T	T	11 43 15.0	
SEY	**Seymchan** 1.8nm,0.6s,baz=98,slow=9.2,SNR=4.1	**22.40**	**312**	P	**P**	**11 20 33.6**	**+0.1**
INK	**Inuvik** 1.5nm,0.6s,baz=250,slow=12,SNR=5.3	**23.05**	**34**	P	**P**	**11 20 39.4**	**-0.9**
INK	**Inuvik**	**23.05**	**34**	*e*P	**P**	**11 20 40.1**	**-0.2**
YKA	**Yellowknife Ar** 0.4nm,0.4s,baz=273,slow=8.0,SNR=6.2	**30.02**	**49**	P	**P**	**11 21 42.6**	**-1.1**
NEW	**Newport** 0.7nm,0.4s,baz=275,slow=10,SNR=4.3	**32.95**	**76**	P	**P**	**11 22 09.9**	**+0.1**
WVOR	**Wild Horse Val** 2.5nm,1.0s	**35.08**	**86**	*e*P	**P**	**11 22 29.2**	**+0.7**
NVAR	**Mina Array Bea** 0.4nm,0.7s,baz=316,slow=6.3,SNR=3.0	**37.70**	**91**	P	**P**	**11 22 52.8**	**+1.9**
H11N2	**WAKE ISLAND Hy** baz=27,slow=76	**37.73**	**218**	T	T	12 02 49.7	
H11N3	**WAKE ISLAND Hy** baz=27,slow=76	**37.74**	**218**	T	T	12 02 50.1	
H11N1	**WAKE ISLAND Hy** baz=27,slow=76	**37.75**	**218**	T	T	12 02 51.1	
H11S1	**WAKE ISLAND Hy** baz=22,slow=76,SNR=594	**38.92**	**218**	T	T	12 04 19.0	
H11S2	**WAKE ISLAND Hy** baz=22,slow=76,SNR=484	**38.93**	**218**	T	T	12 04 21.6	
H11S3	**WAKE ISLAND Hy** baz=22,slow=76,SNR=316	**38.94**	**218**	T	T	12 04 19.2	
RLMT	**Red Lodge** 2.3nm,0.8s	**39.20**	**76**	*e*P	**P**	**11 23 02.5**	**-1.0**
MJAR	**Matsushiro Arr** 0.7nm,0.6s,baz=52,slow=8.1,SNR=3.8	**39.69**	**267**	P	**P**	**11 23 06.5**	**-0.9**
BW06	**Boulder Array** 1.2nm,0.7s	**40.36**	**80**	*e*P	**P**	**11 23 13.0**	**-0.2**
PDAR	**Pinedale Array** 1.4nm,0.8s,baz=322,slow=5.8,SNR=13	**40.36**	**80**	P	**P**	**11 23 13.7**	**+0.4**
MSU	**Marysvale**	**41.37**	**87**	P	**P**	**11 23 21.6**	**+0.1**
PV01	**Paradox Valley** 164nm,0.7s	**43.79**	**84**	*e*P	**P**	**11 23 41.2**	**-0.1**
KSRS	**Korea Array** 0.9nm,0.8s,baz=45,slow=7.6,SNR=3.1	**45.34**	**276**	P	**P**	**11 23 52.5**	**-0.7**
KSRS				LR	LR	11 42 04.4	
	comp=Z,15nm,20.1s,baz=15,slow=35						
KSAR	**Wonju Array Be**	**45.37**	**276**	P	**P**	**11 23 52.5**	**-1.0**
JNU	**Nakatsue** 3.4nm,0.8s,baz=113,slow=7.7,SNR=3.5	**46.44**	**270**	P	**P**	**11 24 01.3**	**-0.8**
SONM	**Songino Array** 1.4nm,0.7s,baz=94,slow=2.4,SNR=9.7	**51.09**	**301**	PcP	**PcP**	**11 25 52.9**	**-0.6**
WMOK	**Wichita Mounta** 2.1nm,0.9s	**51.95**	**81**	*e*P	**P**	**11 24 43.8**	**-0.4**
HHC	**Hu-ho-hao-te**	**52.76**	**291**	*e*P	**P**	**11 24 51.4**	**+1.1**
HHC				PP	**P**	**11 26 51.8**	**+2.5**
HHC				S	**S**	**11 32 16.6**	**-1.8**
HHC				ScS	**ScS**	**11 34 37.6**	**-2.4**
HHC				SS	**SS**	**11 35 53.5**	**-2.9**
HHC	55nm,5.1s			PMZ			
HHC	49nm,14.1s			LN			
HHC	75nm,13.9s			LE			
HHC	90nm,13.5s			LZ			
TXAR	**Lajitas Array** 2.3nm,0.7s,baz=302,slow=5.2,SNR=16	**52.77**	**89**	P	**P**	**11 24 50.3**	**-0.2**
H06E1	**SOCORRO T-PHAS** SNR=8.5	**56.28**	**104**	T	T	12 26 02.9	
KURK	**Kurchatov**	**62.08**	**318**	P	**P**	**11 25 55.2**	**-0.5**
KURBB	**Kurchatov Arra** 0.4nm,0.7s,baz=47,slow=8.0,SNR=3.1	**62.19**	**318**	P	**P**	**11 25 55.2**	**-1.2**
WMQ	**Urumqi**	**63.28**	**308**	*e*P	**P**	**11 26 06.5**	**+2.5**
BVAR	**Borovoye Array** 0.6nm,0.5s,baz=49,slow=6.5,SNR=4.0	**63.39**	**324**	P	**P**	**11 26 03.7**	**-0.7**
CD2	**Chengdu**	**64.23**	**288**	P	**P**	**11 26 10.3**	**-0.1**
KMI	**Kunming** 4.0nm,0.7s	**69.15**	**284**	P PMZ	**P**	**11 26 44.8**	**+2.7**
BRTR	**Keskin Array B** 0.2nm,0.3s,baz=350,slow=7.3,SNR=2.4	**85.76**	**342**	P	**P**	**11 28 15.2**	**+0.5**
WRA	**Warramunga Arr** 0.5nm,0.5s,baz=33,slow=6.0,SNR=9.3	**87.21**	**232**	P	**P**	**11 28 19.9**	**-1.8**
ASAR	**Alice Springs** 1.3nm,0.6s,baz=30,slow=4.7,SNR=31	**90.61**	**230**	P	**P**	**11 28 36.9**	**-0.8**
MATP	**Matopo** 2.0nm,0.7s,baz=23,slow=5.0,SNR=4.2	**144.89**	**330**	PKP	**PKPab**	**11 35 10.2**	**-1.5**
TSUM	**Tsumeb** 0.9nm,0.6s,baz=346,slow=4.9,SNR=6.0	**146.09**	**348**	PKPbc	**PKPdf**	**11 35 14.5**	**-0.2**
LBTB	**Lobatse** 5.0nm,0.6s,baz=350,slow=2.5,SNR=11	**150.07**	**332**	PKPbc	**PKPbc**	**11 35 25.7**	**-0.4**
MAW	**Mawson** 1.0nm,0.6s,baz=166,slow=3.1,SNR=9.1	**151.15**	**219**	PKPbc	**PKPbc**	**11 35 26.7**	**-0.4**

*IDC **19** 11:18:41.6±1.2,52°.83N×169°.93W, h0km, mb3.5/8, mb1 3.9/9, mb1mx3.6/41, mbtmp3.5/9, ML3.2/1, Error ellipse: s-maj=40.4km s-min=21.1km az=142.0*
*NEIC **19** 11:18:46.3,52°.82N×169°.32W, h1km, ML3.1(AEIC), After AEIC.*

ISC 19 11:18:45.6±0.9, **52°.9N**±0°.1×**169°.41W**±0°.08, **h10**km, **n22,**
σ1♀**37**/19, **mb3.6**/8, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.34**	**78**	P	**Pb**	**11 18 53.7**	**-0.1**
NIKH				S	**Sb**	**11 19 01.0**	**+1.7**
OKAK	**Okmok**	**0.93**	**43**	P	**Pg**	**11 19 03.3**	**-0.2**
MSOM	**Makushin Julie**	**1.73**	**57**	P	**Pb**	**11 19 18.1**	**+0.5**
MSOM				S	**Sg**	**11 19 41.7**	**+0.3**
MSW	**Makushin Switc**	**1.87**	**56**	P	**Pb**	**11 19 20.0**	**+0.2**
MSW				S	**Sb**	**11 19 44.9**	**+1.7**
MTBL	**Makushin Table**	**1.95**	**56**	P	**Pb**	**11 19 21.1**	**-0.1**
UNV	**Unalaska Valle**	**1.98**	**60**	P	**Pn**	**11 19 20.9**	**+1.7**
UNV				S	**Sg**	**11 19 48.4**	**-0.9**
ATKA	**Atka Island**	**3.00**	**258**	P	**Pn**	**11 19 35.9**	**+2.7**
ILAR	**Eielson Array** 0.0nm,0.3s,baz=227,slow=11,SNR=2.8	**16.53**	**35**	Pn	**Pn**	**11 22 34.7**	**-2.4**
INK	**Inuvik** 1.5nm,1.0s,baz=263,slow=8.1,SNR=2.8	**22.91**	**34**	P	**P**	**11 23 49.8**	**+0.6**
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=274,slow=8.5,SNR=3.8	**29.91**	**50**	P	**P**	**11 24 52.6**	**-0.5**
NEW	**Newport** 0.6nm,0.4s,baz=255,slow=20,SNR=2.3	**32.91**	**77**	P	**P**	**11 25 19.4**	**-0.4**
NVAR	**Mina Array Bea** 0.2nm,0.6s,baz=287,slow=6.4,SNR=2.6	**37.70**	**92**	P	**P**	**11 26 02.1**	**+0.8**
H11N2	**WAKE ISLAND Hy** baz=25	**37.86**	**218**	T	T	12 06 00.4	
H11N3	**WAKE ISLAND Hy** baz=25	**37.87**	**218**	T	T	12 06 01.2	
H11N1	**WAKE ISLAND Hy** baz=25	**37.88**	**218**	T	T	12 05 59.5	
H11S1	**WAKE ISLAND Hy** baz=22,slow=76,SNR=37	**39.05**	**218**	T	T	12 07 28.6	
H11S2	**WAKE ISLAND Hy** baz=22,slow=76,SNR=38	**39.06**	**218**	T	T	12 07 27.6	
H11S3	**WAKE ISLAND Hy** baz=22,slow=76,SNR=32	**39.07**	**218**	T	T	12 07 30.1	
PDAR	**Pinedale Array** 0.6nm,0.5s,baz=328,slow=4.5,SNR=4.8	**40.33**	**80**	P	**P**	**11 26 23.2**	**0.0**
TXAR	**Lajitas Array** 0.7nm,0.8s,baz=304,slow=5.4,SNR=6.6	**52.76**	**89**	P	**P**	**11 28 00.4**	**-0.3**
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=35,slow=6.0,SNR=2.3	**87.32**	**232**	P	P	11 31 27.6	-4.8
ASAR	**Alice Springs** 0.4nm,0.8s,baz=28,slow=3.9,SNR=4.1	**90.72**	**230**	P	**P**	**11 31 46.1**	**-2.4**

*ISCJB **19** 11:22:30.4±0.8,52°.50N±0°.08×169°.3W±0°.1, h10km, mb3.3/5, Error ellipse: s-maj=15.1km s-min=7.1km az=135.2*
*IDC **19** 11:22:30.6±9.3,52°.60N×169°.42W, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.4/46, mbtmp3.3/6, Error ellipse: s-maj=169.4km s-min=41.7km az=83.0*
*NEIC **19** 11:22:32.6,52°.59N×169°.28W, h12km, ML3.2(AEIC), After AEIC.*

ISC 19 11:22:32.1±1.1, **52°.6N**±0°.1×**169°.31W**±0°.08, **h10**km, **n25,**
σ0♀**56**/22, **mb3.3**/5, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.47**	**36**	P	**Pb**	**11 22 42.3**	**-0.2**
NIKH				S	**Sb**	**11 22 49.8**	**+0.3**
OKSP	**Okmok Steeple**	**0.91**	**43**	P	**Pg**	**11 22 49.5**	**0.0**
OKSP				S	**Sb**	**11 23 02.4**	**+0.4**
OKCE	**Okmok Cone E**	**1.09**	**39**	P	**Pg**	**11 22 52.4**	**-0.5**
OKTU	**Okmok Mt. Tuli**	**1.10**	**44**	P	**Pb**	**11 22 53.1**	**-0.1**
MSOM	**Makushin Julie**	**1.88**	**48**	P	**Pn**	**11 23 03.7**	**-0.5**
MSOM				S	**Sn**	**11 23 27.4**	**-0.5**
MCIR	**Makushin Cirqu**	**1.99**	**46**	P	**Pn**	**11 23 05.9**	**0.0**
MSW	**Makushin Switc**	**2.02**	**48**	P	**Pn**	**11 23 05.9**	**-0.2**
MTBL	**Makushin Table**	**2.10**	**48**	P	**Pn**	**11 23 07.1**	**-0.3**
UNV	**Unalaska Valle**	**2.11**	**52**	P	**Pn**	**11 23 06.8**	**-0.6**
ZRO	**Akutan Zero**	**2.50**	**52**	P	**Pn**	**11 23 13.3**	**+0.5**
AKGG	**Akutan Green G**	**2.56**	**50**	P	**Pn**	**11 23 14.3**	**+0.7**
ATKA	**Atka Island**	**3.02**	**264**	P	**Pn**	**11 23 19.5**	**-0.3**
SPIA	**Saint Paul Isl**	**4.63**	**354**	P	**Pn**	**11 23 42.8**	**+0.8**
ILAR	**Eielson Array** baz=228,slow=11,SNR=2.5	**16.75**	**35**	Pn	**Pn**	**11 26 25.5**	**-1.0**
DLBC	**Dease Lake** 1.4nm,0.9s,baz=169,slow=18,SNR=4.1	**22.74**	**59**	P	**P**	**11 27 33.8**	**-0.3**
INK	**Inuvik** 0.8nm,0.8s,baz=232,slow=5.2,SNR=2.8	**23.14**	**34**	P	**P**	**11 27 37.2**	**-0.8**
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=273,slow=7.3,SNR=3.1	**30.07**	**49**	P	**P**	**11 28 41.4**	**+0.4**
H11N2	**WAKE ISLAND Hy** baz=25	**37.65**	**218**	T	T	12 09 51.3	
H11N3	**WAKE ISLAND Hy** baz=25	**37.66**	**218**	T	T	12 10 14.4	
H11N1	**WAKE ISLAND Hy** baz=25	**37.67**	**218**	T	T	12 10 14.9	
H11S1	**WAKE ISLAND Hy** baz=23,slow=76,SNR=76	**38.84**	**218**	T	T	12 11 18.5	
H11S2	**WAKE ISLAND Hy** baz=23,slow=76,SNR=64	**38.85**	**218**	T	T	12 11 17.5	
H11S3	**WAKE ISLAND Hy** baz=23,slow=76,SNR=52	**38.86**	**218**	T	T	12 11 17.8	
PDAR	**Pinedale Array** 0.4nm,0.7s,baz=324,slow=4.5,SNR=3.8	**40.33**	**79**	P	**P**	**11 30 10.4**	**+0.7**
TXAR	**Lajitas Array** 0.5nm,0.6s,baz=302,slow=5.2,SNR=10	**52.71**	**89**	P	**P**	**11 31 47.6**	**+0.8**

*NEIC **19** 11:31:17.6,52°.70N×169°.17W, h3km, mb3.5/1, ML3.4(AEIC), After AEIC.*
*IDC **19** 11:31:24.5±18.0,52°.65N×167°.44W, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.3/62, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=337.5km s-min=44.1km az=84.0*

ISC 19 11:31:19.7±2.6, **52°.7N**±0°.1×**168°.62W**±0°.07, **h4**km±13km,
n20, σ0♀**92**/17, **mb3.2**/3, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.35**	**336**	P	**Pg**	**11 31 25.6**	**-0.9**
NIKH				S	**Sg**	**11 31 32.4**	**+1.3**
OKSP	**Okmok Steeple**	**0.63**	**18**	P	**Pb**	**11 31 33.6**	**+0.2**
OKSP				S	**Sn**	**11 31 45.3**	**-0.7**
OKRE	**Okmok R'deer P**	**0.91**	**17**	P	**Pb**	**11 31 38.2**	**+0.1**
MSOM	**Makushin Julie**	**1.54**	**40**	P	**Pg**	**11 31 48.8**	**-0.4**
MSOM				S	Sn	11 32 14.5	+6.2
UNV	**Unalaska Valle**	**1.75**	**46**	P	**Pb**	**11 31 51.6**	**-0.6**
UNV				S	**Sg**	**11 32 17.0**	**+1.2**
MTBL	**Makushin Table**	**1.76**	**41**	P	**Pn**	**11 31 51.5**	**+0.5**
AKUT	**Akutan**	**2.26**	**48**	*e*Pn	**Pb**	**11 32 01.4**	**+0.3**
AKUT				*e*Sn	**Sg**	**11 32 31.4**	**-1.0**
ATKA	**Atka Island**	**3.44**	**265**	P	Pn	11 32 08.0	-6.0
KDAK	**Kodiak Island**	**10.49**	**54**	Pn	**Pn**	**11 33 52.0**	**+1.3**
ILAR	**Eielson Array** 0.0nm,0.3s,baz=226,slow=11,SNR=6.5	**16.46**	**34**	Pn	**Pn**	**11 35 10.4**	**-0.8**
HYT	**Haines Junctio** 1.9nm,0.7s	**18.77**	**52**	*e*P	**Pn**	**11 35 41.1**	**+1.1**
YKA	**Yellowknife Ar** 0.3nm,0.7s,baz=275,slow=9.6,SNR=3.4	**29.71**	**49**	P	**P**	**11 37 27.1**	**+0.7**
H11N2	**WAKE ISLAND Hy** baz=20	**37.96**	**219**	T	T	12 18 34.2	
H11N3	**WAKE ISLAND Hy** baz=20	**37.97**	**219**	T	T	12 18 33.9	
H11N1	**WAKE ISLAND Hy** baz=20	**37.98**	**219**	T	T	12 18 34.8	
H11S1	**WAKE ISLAND Hy** baz=20	**39.15**	**219**	T	T	12 20 02.3	
H11S2	**WAKE ISLAND Hy** baz=20	**39.16**	**219**	T	T	12 20 04.0	
H11S3	**WAKE ISLAND Hy** baz=20	**39.17**	**219**	T	T	12 20 04.6	
PDAR	**Pinedale Array** 0.4nm,0.6s,baz=316,slow=6.3,SNR=3.4	**39.90**	**80**	P	**P**	**11 38 54.0**	**-0.7**
TXAR	**Lajitas Array** 0.6nm,0.7s,baz=296,slow=6.0,SNR=8.9	**52.28**	**90**	P	**P**	**11 40 32.2**	**0.0**

*IDC **19** 11:32:04.5±1.1,52°.54N×169°.69W, h0km, mb3.7/7, mb1 4.0/9, mb1mx3.7/31, mbtmp3.7/9, ML3.1/2, Error ellipse: s-maj=35.7km s-min=19.1km az=167.0*
*ISCJB **19** 11:32:07.4±0.6,52°.50N±0°.06×169°.1W±0°.1, h10km, mb3.8/10, Error ellipse: s-maj=10.5km s-min=5.8km az=39.2*
*NEIC **19** 11:32:09.0,52°.73N×169°.26W, h5km, ML3.5(AEIC), After AEIC.*

ISC 19 11:32:08.6±0.9, **52°.6N**±0°.1×**169°.18W**±0°.08, **h10**km, **n34,**
σ1♀**25**/27, **mb3.8**/10, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.40**	**30**	P	**Pg**	**11 32 16.6**	**+0.1**
NIKH				S	**Sb**	**11 32 24.8**	**+0.9**
OKSP	**Okmok Steeple**	**0.83**	**40**	P	**Pg**	**11 32 24.4**	**-0.1**
OKSP				S	**Sb**	**11 32 36.8**	**+0.5**
OKWE	**Okmok W'ng Wal**	**1.02**	**34**	P	**Pg**	**11 32 27.8**	**-0.4**
MSOM	**Makushin Julie**	**1.79**	**48**	P	**Pb**	**11 32 40.6**	**-0.9**
MSOM				S	**Sb**	**11 33 03.0**	**-1.1**
MTBL	**Makushin Table**	**2.02**	**47**	P	**Pn**	**11 32 43.4**	**+0.7**
UNV	**Unalaska Valle**	**2.02**	**52**	P	**Pn**	**11 32 43.1**	**+0.4**
UNV				S	**Sn**	**11 33 08.2**	**+0.2**
ATKA	**Atka Island**	**3.10**	**264**	P	**Pn**	**11 32 57.9**	**+0.3**
GSTR	**Great Sitkin T**	**4.25**	**266**	*e*Pn	**Pn**	**11 33 15.1**	**+1.7**
SDPT	**Sand Point**	**5.81**	**59**	Pn	**Pn**	**11 33 37.6**	**+2.8**
BPAW	**Bear Paw Mtn.** 1.0nm,0.7s	**14.87**	**32**	*e*Pn	**Pn**	**11 35 39.9**	**+1.2**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=236,slow=9.7,SNR=3.7	**16.67**	**35**	Pn	**Pn**	**11 36 00.8**	**-1.3**
HYT	**Haines Junctio** 6.0nm,0.8s	**19.05**	**52**	*e*P	**Pn**	**11 36 31.4**	**-0.1**
PETK	**Petropavlovsk-** 0.2nm,0.3s,baz=96,slow=15,SNR=4.2	**19.91**	**285**	P	P	11 36 34.6	-5.5
H02N1	**VAN INLET T-PH**	**21.94**	**74**	T	T	11 59 56.0	
H02S1	**DAWSON INLET T** SNR=16	**21.99**	**74**	T	T	11 59 58.6	
DLBC	**Dease Lake** 2.0nm,0.9s,baz=272,slow=8.7,SNR=3.5	**22.65**	**60**	P	**P**	**11 37 10.4**	**+0.6**
INK	**Inuvik** 2.7nm,1.0s,baz=237,slow=7.3,SNR=3.6	**23.07**	**34**	P	**P**	**11 37 12.7**	**-1.1**
YKA	**Yellowknife Ar** 0.3nm,0.6s,baz=82,slow=15,SNR=5.9	**29.98**	**49**	P	**P**	**11 38 16.9**	**+0.1**
WVOR	**Wild Horse Val** 3.0nm,0.9s	**34.95**	**86**	*e*P	**P**	**11 39 01.0**	**+0.3**
EGMT	**Eagleton** 3.8nm,0.8s	**37.28**	**73**	*e*P	**P**	**11 39 21.4**	**+0.9**
NVAR	**Mina Array Bea** 1.0nm,0.8s,baz=293,slow=7.3,SNR=8.1	**37.55**	**91**	P	**P**	**11 39 24.0**	**+0.9**
H11N2	**WAKE ISLAND Hy** baz=24,slow=76,SNR=55	**37.73**	**219**	T	T	12 19 14.4	
H11N3	**WAKE ISLAND Hy** baz=24,slow=76,SNR=62	**37.73**	**219**	T	T	12 19 14.9	
H11N1	**WAKE ISLAND Hy** baz=24,slow=76,SNR=50	**37.75**	**219**	T	T	12 19 15.8	
H11S1	**WAKE ISLAND Hy** baz=22,slow=76,SNR=361	**38.92**	**218**	T	T	12 20 43.7	
H11S2	**WAKE ISLAND Hy** baz=22,slow=76,SNR=421	**38.93**	**218**	T	T	12 20 44.8	
H11S3	**WAKE ISLAND Hy** baz=22,slow=76,SNR=191	**38.93**	**218**	T	T	12 20 45.0	
DUG	**Dugway** 4.8nm,1.2s	**39.80**	**85**	P	**P**	**11 39 41.7**	**-0.1**
MJAR	**Matsushiro Arr** 0.7nm,0.7s,baz=41,slow=7.4,SNR=3.3	**39.82**	**268**	P	P	11 39 36.8	-5.1
PDAR	**Pinedale Array** 1.8nm,0.8s,baz=327,slow=5.9,SNR=14	**40.24**	**80**	P	**P**	**11 39 45.4**	**-0.2**
SONM	**Songino Array** 1.0nm,0.8s,baz=73,slow=2.9,SNR=8.4	**51.27**	**301**	PcP	**PcP**	**11 42 24.1**	**-3.4**
TXAR	**Lajitas Array** 2.3nm,0.7s,baz=297,slow=5.3,SNR=28	**52.63**	**89**	P	**P**	**11 41 22.1**	**-0.7**
H06E1	**SOCORRO T-PHAS**	**56.12**	**104**	T	T	12 42 37.2	
MAW	**Mawson** 1.7nm,0.9s,baz=180,slow=4.0,SNR=3.0	**151.15**	**219**	PKPbc	**PKPdf**	**11 51 56.7**	**+2.1**

*ISCJB **19** 11:37:21.9±1.5,6°.6S±0°.1×129°.6E±0°.1, h10km, mb3.9/1, Error ellipse: s-maj=21.3km s-min=15.6km az=40.1*
*IDC **19** 11:37:22.4±2.0,6°.51S×129°.69E, h0km, mb3.9/1, mb1 4.0/4, mb1mx3.6/39, mbtmp3.9/4, ML3.6/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/33, Error ellipse: s-maj=54.2km s-min=30.8km az=76.0*

ISC 19 11:37:23.3±1.5, **6°.5S**±0°.2×**129°.7E**±0°.2, **h10**km, **n10,**
σ1♀**21**/7, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe** baz=5.2,SNR=6.1	**6.26**	**239**	P	**Pn**	**11 38 56.1**	**+0.1**
MTN	**Manton Dam** baz=5.7,SNR=5.3	**6.43**	**167**	P	Pn	11 39 05.4	+7.3
KDU	**Kakadu** baz=6.2,SNR=51	**6.70**	**156**	P	Pb	11 39 11.6	-8.4
BATI	**Baumata** baz=101,slow=2.2	**7.00**	**238**	Pn	**Pn**	**11 39 05.4**	**-0.7**
BATI	16nm,0.3s,baz=24,slow=20,SNR=4.9			Sn	Sn	11 40 10.1	-16
KNRA	**Kununurra** baz=8.2,SNR=9.4	**9.14**	**186**	P	**Pn**	**11 39 35.9**	**+0.6**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=347,slow=13,SNR=9.9	**14.07**	**162**	Pn	**Pn**	**11 40 44.0**	**+1.1**
WRA	0.8nm,0.3s,baz=337,slow=22,SNR=11			Sn	Sn	11 43 08.4	-11
ASAR	**Alice Springs** 0.3nm,0.3s,baz=340,slow=9.3,SNR=49	**17.51**	**167**	P	**P**	**11 41 28.9**	**-0.1**
ASAR	comp=Z,89nm,21.6s,baz=94,slow=39			LR	LR	11 48 44.8	
MTSU	**Mount Surprise** baz=18,SNR=4.6	**18.33**	**130**	P	P	11 41 46.4	+8.4
EIDS	**Eidsvold** baz=28,SNR=4.5	**27.73**	**135**	P	**P**	**11 43 10.3**	**-1.9**
MKAR	**Makanchi Array** 0.6nm,0.5s,baz=116,slow=6.8,SNR=6.4	**67.67**	**327**	P	**P**	**11 48 21.5**	**+0.7**

*IDC **19** 11:39:11.4±1.3,6°.08S×150°.58E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.8/34, mbtmp4.0/6, ML1.5/1, MS3.0/3, Ms1 3.0/3, ms1mx2.7/32, Error ellipse: s-maj=50.7km s-min=21.3km az=118.0*
*ISCJB **19** 11:39:16.7±1.1,6°.1S±0°.2×150°.5E±0°.2, h48km, mb3.9/4, MS3.4/3, Error ellipse: s-maj=36.7km s-min=11.7km az=37.7*

ISC 19 11:39:18.0±1.2, **6°.1S**±0°.2×**150°.6E**±0°.3, **h48**km, **n10,**
σ1♀**21**/8, **mb3.9**/4, **MS3.0**/3, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 1.5nm,0.3s,baz=28,slow=8.4,SNR=4.9	**4.70**	**226**	Pn	**Pn**	**11 40 25.7**	**-0.7**
PMG	8.7nm,0.3s,baz=274,slow=23,SNR=8.1			Sn	**Sn**	**11 41 21.4**	**+1.6**
JAY	**Jayapura** comp=Z,70nm,21.2s,baz=354,slow=41	**10.47**	**290**	LR	LR	11 46 19.7	
GUMO	**Guam** comp=Z,36nm,18.6s,baz=102,slow=37	**20.38**	**344**	LR	LR	11 51 52.2	
WRA	**Warramunga Arr** 7.1nm,0.7s,baz=52,slow=10,SNR=14	**20.92**	**227**	P	**P**	**11 43 56.7**	**-0.1**
ASAR	**Alice Springs** 1.8nm,0.7s,baz=58,slow=8.1,SNR=30	**23.70**	**221**	P	**P**	**11 44 25.2**	**-0.5**
STKA	**Stephens Creek** 5.2nm,0.8s,baz=356,slow=5.1,SNR=7.9	**26.97**	**197**	P	**P**	**11 44 54.9**	**-0.3**
STKA	comp=Z,44nm,19.3s,baz=21,slow=38			LR	LR	11 56 21.8	
KSRS	**Korea Array** 1.0nm,0.6s,baz=158,slow=7.1,SNR=4.2	**48.23**	**336**	P	**P**	**11 47 54.2**	**+0.2**
YBH	**Yreka Blue Hor

baz=319
TWE Neicheng 1.24 313 *e*P Pg 11 45 28.8 -0.3
baz=315
TWE S Sg 11 45 45.5 +0.2
baz=315
ENTT Nioudou 1.26 308 P Pb 11 45 28.8 +0.1
baz=310
ENTT *e*S Sg 11 45 45.9 0.0
baz=310
EHY Hungye 1.28 254 ⇑P Pb 11 45 29.1 +0.1
baz=253
EHY *e*S Sb 11 45 45.4 +0.1
baz=253
JKRS Kuro-shima 1.28 73 P Pn 11 45 29.1 +0.5
JKRS *e*S Sb 11 45 45.9 +0.5
TWB1 Santiao Chiao 1.29 332 P Pn 11 45 28.6 -0.1
baz=334
TWB1 *e*S Sg 11 45 47.3 +0.5
baz=334
WHF Hehuan Shan 1.31 282 ⇓P Pn 11 45 29.2 -0.1
baz=283
WHF S Sn 11 45 46.7 -0.1
baz=283
NNS Nan Shan 1.31 296 P Pn 11 45 29.3 +0.2
baz=297
NNS *e*S Sn 11 45 46.4 0.0
baz=297
TWT Tachien 1.41 286 P Pb 11 45 31.5 +0.2
baz=287
TWT S Sb 11 45 49.6 +0.3
baz=287
CHKT Chengkung 1.42 238 P Pn 11 45 30.4 0.0
baz=236
CHKT *e*S Sn 11 45 47.3 -1.5
baz=236
NSK Sanguang 1.44 304 ⇓P Pn 11 45 31.1 +0.3
baz=306
NSK *e*S Sg 11 45 51.0 -0.5
baz=306
JIJ Ishigaki jima 1.44 70 P Pn 11 45 30.7 0.0
JIJ *e*S Sn 11 45 48.9 -0.5
NWF Wu-fen Shan 1.44 326 P Pb 11 45 31.8 +0.1
baz=328
NWF *e*S Sg 11 45 50.8 -0.9
baz=328
TWA Mucha 1.48 319 P Pb 11 45 32.6 +0.2
baz=320
TWA *e*S Sg 11 45 52.1 -0.8
baz=320
SMLT Sun Moon Lake 1.61 271 *e*P Pb 11 45 35.0 +0.3
baz=271
SMLT *e*S Sb 11 45 55.3 +0.3
baz=271
TYC Yuchr 1.65 272 *e*P Pb 11 45 34.8 -0.5
baz=272
ELDTW Lidau 1.66 246 P Pn 11 45 34.1 +0.3
baz=245
ELDTW *e*S Sn 11 45 54.7 -0.2
baz=245
JISG Ishigakijimahi 1.67 64 P Pn 11 45 33.7 -0.1
JISG *e*S Sb 11 45 56.2 -0.2
TWS1 Kuangyinshan 1.67 318 *e*P Pb 11 45 35.8 +0.2
baz=319
NSTT Nanjuang 1.70 297 ⇓*e*P Pb 11 45 35.6 -0.4
baz=298
NSTT *e*S Sb 11 45 56.9 -0.4
baz=298
TWY Chenhua 1.70 326 *e*P Pb 11 45 35.5 -0.7
baz=327
TWY *e*S Sb 11 45 56.9 -0.6
baz=327
ALS Alishan 1.74 259 *e*P Pb 11 45 36.8 -0.1
baz=258
ALS *e*S Sn 11 45 57.8 +0.5
baz=258
TTN Taitung 1.78 232 *e*P Pb 11 45 36.8 -0.7
baz=230
TTN *e*S Sn 11 45 57.5 -0.3
baz=230
TWQ1 Liyutan 1.79 286 *e*P Pb 11 45 37.6 0.0
baz=286
TWQ1 *e*S Sb 11 45 59.2 -0.8
baz=286
TWG Pinlang 1.79 235 P Pn 11 45 36.2 +0.6
baz=233
TWG *e*S Sn 11 45 57.9 -0.3
baz=233
NSY Sanyi 1.82 288 *e*P Pb 11 45 38.2 0.0
baz=288
CHN5 Tsauling 1.84 262 *e*P Pb 11 45 38.6 +0.1
baz=262
CHN5 *e*S Sg 11 46 02.8 -1.5
baz=262
TCU Taichung 1.84 279 *e*P Pb 11 45 38.9 +0.5
baz=279
STYT Tauyuan 1.89 249 *e*P Pb 11 45 38.5 -0.8
baz=248
STYT *e*S Sn 11 46 01.6 +1.1
baz=248
WTP Ta-pu 1.98 252 *e*P Pb 11 45 41.3 +0.4
baz=251
WTP *e*S Sb 11 46 06.0 +0.5
baz=251
JTJ Tarama 2.01 67 P Pn 11 45 39.1 +0.5
ECL Taimali 2.02 232 P Pn 11 45 38.8 +0.2
baz=230
ECL *e*S Sn 11 46 02.9 -0.7
baz=230
SGST Jiashian 2.06 248 *e*P Pb 11 45 42.8 +0.5
baz=247
SGST *e*S Sb 11 46 08.5 +0.7
baz=247
CHN1 Nanshi 2.07 251 *e*P Pb 11 45 42.4 -0.1
baz=251
CHN1 *e*S Sb 11 46 09.2 +1.0
baz=251
TWK Hsinying 2.08 254 *e*P Pb 11 45 42.9 +0.2
baz=253
TWK *e*S Sb 11 46 08.5 +0.1
baz=253
CHY Chiayi 2.08 260 *e*P Pb 11 45 41.7 -1.0
baz=260
CHY *e*S Sb 11 46 08.1 -0.3
baz=260
LAY Lan-yu 2.09 210 *e*P Pn 11 45 39.4 -0.2
baz=208
LAY *e*S Sn 11 46 04.6 -0.9
baz=208
SSD Sandimen 2.17 240 *e*P Pb 11 45 44.7 +0.5
baz=238
WTCT Ta-ch'eng 2.18 270 *e*S Sb 11 46 11.2 +0.1
baz=270
TAW Tawu 2.21 228 *e*P Pn 11 45 42.2 +0.8
baz=226
TAW *e*S Sn 11 46 08.0 -0.5
baz=226
EAST Anshuo 2.23 229 *e*P Pn 11 45 42.3 +0.7
baz=227
EAST *e*S Sn 11 46 08.8 -0.2
baz=227
WSF Szhu 2.25 265 *e*S Sb 11 46 12.8 -0.3
baz=264
TWM1 Shoushan 2.31 244 *e*P Pb 11 45 46.8 +0.3
baz=243
CHN8 Yiju 2.31 257 *e*S Sb 11 46 13.9 -0.9
baz=257
SCZT Fangliau 2.40 232 *e*P Pb 11 45 47.3 -0.7
baz=231
SCZT *e*S Sb 11 46 17.7 +0.2
baz=231
TWK1 Hengchun 2.57 222 *e*P Pn 11 45 47.9 +1.7
baz=221
TWK1 *e*S Sn 11 46 18.3 +1.0
baz=221
JIKM Ikemajima 2.58 65 P Pn 11 45 47.1 +0.7
JOGS Gusukube 2.66 70 P Pn 11 45 49.0 +1.5
WDGT Dungji 2.82 258 *e*P Pn 11 45 51.8 +2.1
baz=257
WDGT *e*S Sn 11 46 24.0 +0.5
baz=257
PNG Penghu 2.86 265 *e*P Pn 11 45 51.7 +1.4
baz=264
PNG *e*S Sn 11 46 25.3 +0.8
baz=264
JKE Kume jima 2 4.47 56 P Pn 11 46 12.1 -0.3
KSRS Korea Array 14.27 17 Pn Pn 11 48 29.0 +2.2
0.3nm,0.3s,baz=200,slow=13,SNR=6.1
SONM Songino Array 27.20 336 P P 11 50 45.7 -2.7
0.3nm,0.3s,baz=150,slow=9.0,SNR=3.5
MKAR Makanchi Array 39.51 316 P P 11 52 33.8 -1.5
0.3nm,0.4s,baz=98,slow=10.0,SNR=4.5
WRA Warramunga Arr 45.01 164 P P 11 53 20.4 +0.1
0.5nm,0.6s,baz=346,slow=8.7,SNR=9.7
ASAR Alice Springs 48.49 166 P P 11 53 48.6 +1.1
0.3nm,0.4s,baz=347,slow=7.5,SNR=20

NEIC ***19*** *11:46:55.8, 52.69N×169.57W, h2km, mb4.4/64, ML4.3(AEIC), After AEIC.*
BJI ***19*** *11:46:55.4, 53.39N×169.33W, h7km, mb4.7/8, mB4.9/5, Ms4.4/3, Ms7 4.1/3*
IDC ***19*** *11:46:55.1±0.5, 52.65N×169.62W, h0km, mb4.3/18, mb1 4.5/20, mb1mx4.2/40, mbtmp4.3/20, ML4.0/2, MS3.5/2, Ms1 3.5/2, ms1mx2.8/47, Error ellipse: s-maj=21.0km s-min=11.2km az=167.0*
ISCJB ***19*** *11:46:58.0±0.8, 52.70N±0.04×169.61W±0.04, h28km±5km, mb4.5/74, MS3.5/2, Error ellipse: s-maj=7.4km s-min=3.4km az=169.5*
ISC 19 11:46:57.3±1.0, 52.69N±0.08×169.59W±0.04, h13km±5km, n447, d0°86/454, mb4.4/74, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.53**	**57**	P		**Pg**	**11 47 07.5**	**-0.1**
NIKH				S		**Sb**	**11 47 15.4**	**-0.4**
OKSP	**Okmok Steeple**	**0.96**	**54**	P		**Pb**	**11 47 15.1**	**-0.8**
OKCE	**Okmok Cone E**	**1.13**	**49**	P		**Pb**	**11 47 17.7**	**-1.0**
OKTU	**Okmok Mt. Tuli**	**1.16**	**53**	P		**Pb**	**11 47 18.6**	**-0.7**
MCIR	**Makushin Cirqu**	**2.05**	**51**	P		**Pn**	**11 47 32.0**	**+0.5**
MCIR				S		**Sb**	**11 47 59.5**	**-0.3**
MSW	**Makushin Switc**	**2.08**	**53**	P		**Pn**	**11 47 32.1**	**+0.3**
MTBL	**Makushin Table**	**2.16**	**53**	P		**Pn**	**11 47 33.1**	**+0.1**
UNV	**Unalaska Valle**	**2.18**	**57**	P		**Pn**	**11 47 32.6**	**-0.6**
UNV				S		**Sb**	**11 48 02.4**	**-1.1**
AKRB	**Akutan Reef Bi**	**2.55**	**54**	P		**Pn**	**11 47 39.0**	**+0.8**
ZRO	**Akutan Zero**	**2.58**	**56**	P		**Pn**	**11 47 39.5**	**+0.9**
AKGG	**Akutan Green G**	**2.63**	**53**	P		**Pn**	**11 47 40.1**	**+0.8**
AKUT	**Akutan**	**2.70**	**56**	P		**Pn**	**11 47 40.3**	**0.0**
ATKA	**Atka Island**	**2.86**	**262**	P		**Pn**	**11 47 42.6**	**+0.1**
WESP	**Westdahl Peak**	**3.41**	**56**	P		**Pn**	**11 47 51.8**	**+1.6**
GSTR	**Great Sitkin T**	**4.01**	**264**	*e*Pn		**Pn**	**11 47 59.2**	**+0.8**
GSMY	**Great Sitkin M**	**4.02**	**263**	P		**Pn**	**11 47 59.4**	**+1.0**
GSTD	**Great Sitkin T**	**4.07**	**264**	P		**Pn**	**11 48 00.1**	**+0.9**
GSCK	**Great Sitkin C**	**4.09**	**263**	P		**Pn**	**11 47 59.9**	**+0.5**
FALS	**False Pass**	**4.25**	**57**	Pn		**Pn**	**11 48 04.2**	**+2.5**
ADAG	**Mount Adagdak**	**4.36**	**263**	P		**Pn**	**11 48 04.8**	**+1.7**
SPIA	**Saint Paul Isl**	**4.51**	**355**	P		**Pn**	**11 48 06.7**	**+1.6**
SDPT	**Sand Point**	**5.99**	**60**	*e*Pn		**Pn**	**11 48 26.9**	**+1.4**
CESW	**Semis' Southwe**	**6.71**	**268**	P		**Pn**	**11 48 36.1**	**+0.8**
AMKA	**Amchitka**	**6.98**	**264**	P		**Pn**	**11 48 41.5**	**+2.4**
LSNW	**Little Sitkin**	**7.33**	**269**	P		**Pn**	**11 48 45.8**	**+1.9**
CHGN	**Chignik**	**7.44**	**56**	*e*Pn		Pn	11 48 48.6	+3.3
OHAK	**Old Harbor**	**10.40**	**58**	*e*Pn		**Pn**	**11 49 25.2**	**-0.8**
RSO	**Redoubt South** 60nm,0.8s	**12.08**	**43**	*e*Pn		**Pn**	**11 49 51.5**	**+2.4**
PPLA	**Purkeypile**	**13.75**	**35**	*e*Pn		**P**	**11 50 19.6**	**-0.8**
CAST	**Castle Rocks**	**14.13**	**34**	*e*Pn		Pn	11 50 20.2	+3.3
PMR	**Palmer** 17nm,1.2s	**14.18**	**43**	*e*Pn		**Pn**	**11 50 18.8**	**+1.3**
SML	**Sawmill** 2.3nm,0.7s	**14.62**	**43**	*e*Pn		**Pn**	**11 50 24.1**	**+0.6**
TRF	**Thorofare Moun**	**14.77**	**36**	*e*Pn		**P**	**11 50 30.1**	**-1.7**
BPAW	**Bear Paw Mtn.**	**14.95**	**33**	*e*Pn		**Pn**	**11 50 30.3**	**+2.3**
MCK	**McKinley** 9.6nm,0.8s	**15.43**	**36**	*e*Pn		**P**	**11 50 37.2**	**-1.7**
IM04	**Indian Mountai**	**15.49**	**25**	*e*Pn		**P**	**11 50 38.4**	**-1.2**
KLU	**Klutina** 16nm,0.6s	**15.51**	**46**	*e*Pn		**Pn**	**11 50 34.1**	**-1.4**
BMRM	**Bremner River** 14nm,0.8s	**15.90**	**49**	*e*Pn		**Pn**	**11 50 40.5**	**+0.1**
HARP	**HAARP** 30nm,0.8s	**16.22**	**44**	*e*Pn		**P**	**11 50 46.7**	**-1.0**
CCB	**Clear Creek Bu** 6.7nm,0.8s	**16.37**	**35**	*e*Pn		**Pn**	**11 50 46.9**	**+0.5**
COLA	**College** 15nm,1.1s	**16.49**	**34**	*e*Pn		**Pn**	**11 50 49.0**	**+1.1**
HDA	**Harding Lake** 7.6nm,0.8s	**16.53**	**36**	*e*Pn		**Pn**	**11 50 48.6**	**+0.1**
ILAR	**Eielson Array** 0.6nm,0.3s,baz=227,slow=11,SNR=45	**16.76**	**35**	Pn		**Pn**	**11 50 50.7**	**-0.7**
ILAR	0.1nm,0.3s,baz=271,slow=3.1,SNR=4.6			PcP		**PcP**	**11 55 38.7**	**-0.4**
ILAR	0.0nm,0.3s,baz=268,slow=3.5,SNR=3.2			ScP		**ScP**	**11 59 14.2**	**+1.0**
MENT	**Mentasta**	**17.05**	**43**	*e*Pn		**Pn**	**11 50 55.5**	**+0.5**
COLD	**Coldfoot** 13nm,0.8s	**17.38**	**26**	*e*P		**P**	**11 51 03.3**	**+2.8**
EGAK	**Eagle** 10nm,0.7s	**18.87**	**39**	*e*P		**P**	**11 51 15.7**	**-1.1**
HYT	**Haines Junctio**	**19.20**	**52**	*e*Pn		**Pn**	**11 51 22.1**	**+0.5**
DAWY	**Dawson**	**19.28**	**42**	*e*P		**P**	**11 51 20.8**	**-0.6**
PETK	**Petropavlovsk-** 0.7nm,0.3s,baz=93,slow=12,SNR=7.1	**19.65**	**284**	P		**Pn**	**11 51 26.9**	**+0.1**
SKAG	**Skagway** 49nm,1.0s	**20.10**	**57**	*e*P		Pn	11 51 31.5	-0.7
BESE	**Bessie Mountai** 11nm,1.0s	**20.30**	**59**	*e*P		Pn	11 51 33.9	-0.7
SEY	**Seymchan** 3.1nm,0.8s,baz=255,slow=22,SNR=6.0	**22.35**	**312**	P		**P**	**11 51 55.3**	**+0.8**
SEY	2.7nm,0.7s,baz=110,slow=5.2,SNR=5.8			PcP		**PcP**	**11 55 49.2**	**+0.1**
SEY	1.7nm,0.8s,baz=111,slow=6.0,SNR=4.4			ScP		**ScP**	**11 59 26.5**	**+0.4**
DLBC	**Dease Lake** 36nm,1.0s,baz=272,slow=9.5,SNR=48	**22.84**	**60**	P		**P**	**11 52 01.7**	**+1.9**
DLBC	**Dease Lake**	**22.84**	**60**	*e*P		**P**	**11 52 02.4**	**+2.6**
INK	**Inuvik** 6.1nm,0.8s,baz=226,slow=9.0,SNR=21	**23.15**	**34**	P		**P**	**11 52 01.8**	**-1.1**
INK	**Inuvik**	**23.15**	**34**	*e*P		**P**	**11 52 01.9**	**-1.0**
BBB	**Bella Bella** 5.4nm,0.8s,baz=118,slow=17,SNR=2.9	**25.04**	**74**	P		**P**	**11 52 20.1**	**-0.7**
YKA	**Yellowknife Ar** 1.8nm,0.5s,baz=273,slow=7.9,SNR=28	**30.13**	**49**	P		**P**	**11 53 06.0**	**-0.2**
YKA	1.3nm,0.8s,baz=284,slow=2.5,SNR=6.5			PcP		**PcP**	**11 56 06.3**	**-0.9**
B08A	**Colville Reser** 5.5nm,0.8s	**31.71**	**77**	*e*P		**P**	**11 53 21.5**	**+1.1**
G05D	**Wamic, OR** baz=32	**32.03**	**84**	P		**P**	**11 53 25.3**	**+2.1**
I04A	**Tendick Farm,** baz=32	**32.13**	**87**	P		**P**	**11 53 25.9**	**+1.7**
I05D	**Terrebonne, OR** baz=32	**32.49**	**85**	P		**P**	**11 53 28.7**	**+1.4**
HAWA	**Hanford** 3.6nm,0.8s	**32.52**	**81**	*e*P		**P**	**11 53 28.7**	**+1.2**
J04D	**Umpqua Nationa** baz=32	**32.62**	**87**	P		**P**	**11 53 29.9**	**+1.2**
NEW	**Newport** baz=33,SNR=10	**33.06**	**76**	P		**P**	**11 53 33.2**	**+1.0**
NEW	**Newport** 9.7nm,1.1s	**33.06**	**76**	*e*P		**P**	**11 53 33.1**	**+0.8**
J05D	**Fort Rock, OR** baz=33	**33.13**	**87**	P		**P**	**11 53 35.1**	**+2.0**
EDM	**Edmonton**	**33.14**	**66**	*e*P		**P**	**11 53 33.5**	**+0.6**
G08A	**Pilot Rock** 4.6nm,1.1s	**33.43**	**82**	*e*P		**P**	**11 53 36.9**	**+1.3**
K05A	**Summer Lake** 133nm,2.7s	**33.65**	**87**	*e*P		**P**	**11 53 39.5**	**+1.9**
MOD	**Modoc** 4.0nm,0.8s	**34.48**	**88**	*e*P		**P**	**11 53 46.9**	**+2.1**
WALA	**Waterton Lakes** 16nm,1.3s	**34.58**	**73**	*e*P		**P**	**11 53 45.7**	**+0.2**
BLMT	**Blacktail Moun**	**34.81**	**75**	*e*P		**P**	**11 53 48.5**	**+0.9**
JTMT	**Jette**	**34.98**	**75**	*e*P		**P**	**11 53 50.0**	**+1.0**
WVOR	**Wild Horse Val** 29nm,1.5s	**35.19**	**86**	*e*P		**P**	**11 53 52.3**	**+1.4**
MSO	**Missoula** baz=36	**35.64**	**77**	P		**P**	**11 53 54.7**	**0.0**
MSO	**Missoula** 17nm,1.7s	**35.64**	**77**	*e*P		**P**	**11 53 55.1**	**+0.4**
CHMT	**Chamberlain Mo** 2.7nm,0.6s	**36.01**	**76**	*e*P		**P**	**11 53 58.2**	**+0.3**
MFID	**Camas Ranch** 5.8nm,1.0s	**36.33**	**83**	*e*P		**P**	**11 54 01.8**	**+1.1**
HRY	**Holter Researc** 5.3nm,0.7s	**36.95**	**76**	*e*P		**P**	**11 54 06.3**	**+0.4**
HLID	**Hailey** baz=37,SNR=6.7	**37.10**	**82**	P		**P**	**11 54 08.1**	**+0.8**
HLID	**Hailey** 8.1nm,1.4s	**37.10**	**82**	*e*P		**P**	**11 54 08.2**	**+0.9**
BMN	**Battle Mountai** 5.3nm,1.0s	**37.22**	**88**	*e*P		**P**	**11 54 10.0**	**+1.7**
MCMT	**McKenzie Canyo**	**37.34**	**79**	*e*P		**P**	**11 54 09.9**	**+0.5**
EGMT	**Eagleton** baz=37,SNR=13	**37.49**	**72**	P		**P**	**11 54 11.2**	**+0.7**
EGMT	**Eagleton** 27nm,1.1s	**37.49**	**72**	*e*P		**P**	**11 54 10.7**	**+0.2**
H11N2	**WAKE ISLAND Hy** baz=29	**37.62**	**218**	T		T	12 33 58.7	
BOZ	**Bozeman (W)** baz=38,SNR=12	**37.63**	**77**	P		**P**	**11 54 12.7**	**+1.0**
BOZ	**Bozeman (W)** 5.4nm,0.6s	**37.63**	**77**	*e*P		**P**	**11 54 12.7**	**+1.0**
A19A	**Klindworth Far** baz=38	**37.63**	**71**	P		**P**	**11 54 12.3**	**+0.7**
H11N3	**WAKE ISLAND Hy** baz=29	**37.63**	**218**	T		T	12 33 57.6	
H11N1	**WAKE ISLAND Hy** baz=29	**37.64**	**218**	T		T	12 34 02.4	
NVAR	**Mina Array Bea** 2.2nm,0.8s,baz=293,slow=7.4,SNR=17	**37.80**	**91**	P		**P**	**11 54 14.6**	**+1.3**
NVAR	1.1nm,0.7s,baz=301,slow=1.7,SNR=4.5			PcP		**PcP**	**11 56 30.3**	**+0.6**
ELK	**Elko** 4.1nm,0.8s	**38.24**	**86**	*e*P		**P**	**11 54 18.0**	**+1.0**
YMR	**Madison River**	**38.55**	**78**	*e*P		**P**	**11 54 20.1**	**+0.5**
A21A	**Bergtoll Ranch** baz=38	**38.64**	**70**	P		**P**	**11 54 20.3**	**+0.2**
C20A	**Veseth Ranch,** baz=38,SNR=15	**38.67**	**72**	P		**P**	**11 54 21.5**	**+1.2**
FFC	**Flin Flon**	**38.67**	**59**	*e*P		**P**	**11 54 19.9**	**-0.2**
TPH	**Tonopah** 9.7nm,1.4s	**38.68**	**91**	*e*P		**P**	**11 54 21.7**	**+1.0**
USRK	**Ussuriysk Ar.** comp=Z,56nm,19.0s,baz=44,slow=39	**38.70**	**281**	LR		LR	12 11 56.5	
SMMC	**Simmler** baz=39	**38.80**	**96**	P		**P**	**11 54 23.6**	**+2.1**
H11S1	**WAKE ISLAND Hy** baz=20	**38.82**	**218**	T		T	12 35 29.9	
H11S2	**WAKE ISLAND Hy** baz=20	**38.83**	**217**	T		T	12 35 35.2	
H11S3	**WAKE ISLAND Hy** baz=20	**38.83**	**218**	T		T	12 35 30.6	
H17A	**Grant Village** baz=39	**38.94**	**78**	P		**P**	**11 54 24.1**	**+1.3**
H17A	**Grant Village**	**38.94**	**78**	*e*P		**P**	**11 54 24.9**	**+2.1**
FXWY	**Fox Creek**	**39.09**	**79**	*e*P		**P**	**11 54 25.1**	**+1.0**
HVU	**Hansel Valley** 63µm,0.8s	**39.12**	**83**	*e*P		**P**	**11 54 25.6**	**+1.4**
C21A	**Desert Coulee** baz=39	**39.13**	**71**	P		**P**	**11 54 24.8**	**+0.6**
PKM	**Peak Mountain** baz=39	**39.19**	**97**	P		**P**	**11 54 25.7**	**+0.7**
CWC	**Cottonwood Cre** baz=39	**39.22**	**93**	P		**P**	**11 54 26.3**	**+1.1**
TPAW	**Teton Pass** 2.8nm,0.6s	**39.22**	**79**	*e*P		**P**	**11 54 26.3**	**+1.0**
GRAC	**Grapevine Rang** baz=39	**39.28**	**92**	P		**P**	**11 54 26.5**	**+0.9**
RLMT	**Red Lodge** baz=39,SNR=9.2	**39.31**	**76**	P		**P**	**11 54 26.9**	**+0.9**
RLMT	**Red Lodge** 9.1nm,0.9s	**39.31**	**76**	*e*P		**P**	**11 54 26.7**	**+0.8**
LOHW	**Long Hollow** 3.0nm,1.0s	**39.36**	**79**	*e*P		**P**	**11 54 27.2**	**+0.8**
ISA	**Isabella** baz=39	**39.49**	**95**	P		**P**	**11 54 27.9**	**+0.5**
R11A	**Troy Canyon, C** baz=39,SNR=13	**39.51**	**89**	P		**P**	**11 54 28.7**	**+1.1**
R11A	**Troy Canyon, C** 4.7nm,0.9s	**39.51**	**89**	*e*P		**P**	**11 54 28.6**	**+1.0**
MJAR	**Matsushiro Arr** 1.9nm,0.8s,baz=47,slow=6.7,SNR=4.3	**39.58**	**267**	P		**P**	**11 54 27.7**	**-0.3**
MJAR	1.1nm,0.9s,baz=177,slow=1.5,SNR=4.5			PcP		**PcP**	**11 56 35.1**	**+0.1**
F20A	**Billings** baz=39	**39.60**	**75**	P		**P**	**11 54 28.5**	**+0.3**
H19A	**Powell** baz=40,SNR=5.7	**39.73**	**77**	P		**P**	**11 54 30.7**	**+1.4**
E21A	**Keefer Ranch,** baz=40	**39.82**	**73**	P		**P**	**11 54 30.3**	**+0.3**
MPMC	**Manual Prospec** baz=40	**39.83**	**93**	P		**P**	**11 54 31.1**	**+0.8**
G20A	**Bridger** baz=40,SNR=10	**39.88**	**75**	P		**P**	**11 54 31.2**	**+0.6**
BSC	**Santa Cruz Isl** baz=40	**39.92**	**98**	P		**P**	**11 54 31.6**	**+0.7**
FURC	**Furnace Creek,** baz=40	**39.94**	**92**	P		**P**	**11 54 32.0**	**+1.1**
HWUT	**Hardware Ranch** 2.5nm,0.8s	**39.95**	**82**	*e*P		**P**	**11 54 32.4**	**+1.1**
TPNV	**Topopah Spring** baz=40,SNR=8.5	**40.00**	**91**	P		**P**	**11 54 32.9**	**+1.2**
DUG	**Dugway** baz=40,SNR=12	**40.05**	**85**	P		**P**	**11 54 33.1**	**+1.1**
DUG	**Dugway** 16nm,1.3s	**40.05**	**85**	*e*P		**P**	**11 54 33.2**	**+1.1**
I19A	**Meeteetse** baz=40	**40.08**	**77**	P		**P**	**11 54 32.8**	**+0.5**
LRMC	**Laurel Mountai** baz=40	**40.09**	**94**	P		**P**	**11 54 33.8**	**+1.3**
F21A	**Absaloka Mine,** baz=40	**40.19**	**74**	P		**P**	**11 54 33.5**	**+0.4**
LAO	**LASA Array** baz=40	**40.24**	**72**	P		**P**	**11 54 34.0**	**+0.6**
EDW2	**Edwards Air Fo** baz=40	**40.31**	**95**	P		**P**	**11 54 35.0**	**+0.9**
H20A	**Greybull** baz=40	**40.41**	**76**	P		**P**	**11 54 35.0**	**+0.1**
G21A	**Lodge Grass** baz=40,SNR=5.9	**40.47**	**75**	P		**P**	**11 54 35.9**	**+0.5**
BW06	**Boulder Array** 5.1nm,0.8s	**40.47**	**79**	*e*P		**P**	**11 54 35.9**	**+0.3**
PDAR	**Pinedale Array** 7.5nm,0.9s,baz=321,slow=4.9,SNR=45	**40.47**	**79**	P		**P**	**11 54 35.7**	**+0.1**
J19A	**Crowheart** baz=40	**40.48**	**78**	P		**P**	**11 54 36.4**	**+0.7**
E22A	**Miles City** baz=40	**40.53**	**72**	P		**P**	**11 54 36.2**	**+0.3**
JLU	**Jordanelle** 18nm,1.7s	**40.62**	**83**	*e*P		**P**	**11 54 38.2**	**+1.3**
NLU	**North Lily Min** 3.6nm,0.8s	**40.64**	**85**	*e*P		**P**	**11 54 38.2**	**+1.2**
I20A	**Worland** baz=40,SNR=5.3	**40.64**	**77**	P		**P**	**11 54 37.3**	**+0.4**
F22A	**Rosebud** baz=40	**40.72**	**73**	P		**P**	**11 54 37.8**	**+0.5**
GSC	**Goldstone** baz=41,SNR=6.9	**40.75**	**94**	P		**P**	**11 54 39.1**	**+1.3**
GSC	**Goldstone**	**40.75**	**94**	*e*P		**P**	**11 54 39.4**	**+1.6**
C24A	**Savage** baz=41,SNR=5.6	**40.82**	**70**	P		**P**	**11 54 39.4**	**+1.2**
A25A	**Svangstu Ranch** baz=41	**40.82**	**68**	P		**P**	**11 54 38.8**	**+0.6**
FCC	**Fort Churchill** 4.6nm,0.6s	**40.84**	**50**	*e*P		**P**	**11 54 37.7**	**-0.4**
E23A	**Ismay** baz=41	**40.87**	**72**	P		**P**	**11 54 39.5**	**+0.8**
H21A	**Big Horn, Sher** baz=41	**40.90**	**75**	P		**P**	**11 54 39.4**	**+0.4**
BFSC	**Mount Baldy Ra** baz=41	**40.95**	**96**	P		**P**	**11 54 40.3**	**+0.8**
G22A	**Birney** baz=41	**41.01**	**74**	P		**P**	**11 54 40.6**	**+0.8**
J20A	**Shoshoni** baz=41,SNR=8.0	**41.01**	**78**	P		**P**	**11 54 41.0**	**+1.0**
D24A	**Glendive** baz=41,SNR=11	**41.10**	**71**	P		**P**	**11 54 41.5**	**+0.9**
I21A	**Big Trails, Te** baz=41,SNR=6.2	**41.22**	**77**	P		**P**	**11 54 41.6**	**0.0**
F23A	**Volborg** baz=41,SNR=6.0	**41.24**	**73**	P		**P**	**11 54 41.9**	**+0.2**
H22A	**Clearmont** baz=41	**41.32**	**75**	P		**P**	**11 54 42.0**	**-0.5**
HEC	**Hector,Ludlow** baz=41	**41.35**	**94**	P		**P**	**11 54 44.0**	**+1.2**
CCUT	**Cedar City** 3.3nm,0.8s	**41.37**	**88**	*e*P		**P**	**11 54 44.0**	**+0.9**
BBRC	**Big Bear Solar** baz=41	**41.38**	**95**	P		**P**	**11 54 44.0**	**+0.8**
C25A	**Freed Ranch, W** baz=41	**41.39**	**69**	P		**P**	**11 54 43.8**	**+0.9**
J21A	**Lysite** baz=41	**41.39**	**77**	P		**P**	**11 54 43.1**	**-0.1**
E24A	**Baker** baz=41	**41.42**	**71**	P		**P**	**11 54 44.2**	**+1.0**
A26A	**Wade Farm, Ken** baz=41	**41.45**	**67**	P		**P**	**11 54 43.7**	**+0.3**
MVU	**Marysvale** 5.4nm,1.1s	**41.46**	**86**	*e*P		**P**	**11 54 44.7**	**+0.9**

MSU	Marysvale 6.2nm,1.1s	41.48	86	eP	P	11 54 45.0	+1.1
G23A	Biddle baz=41	41.54	74	P	P	11 54 44.4	+0.2
TMUT	Trail Mountain 6.3nm,0.5s	41.57	85	eP	P	11 54 45.5	+0.7
I22A	9 Mile Ranch, baz=42	41.65	76	P	P	11 54 45.9	+0.8
MURC	Murrieta baz=42	41.66	96	P	P	11 54 46.3	+1.1
F24A	Ekalaka baz=42	41.73	72	P	P	11 54 46.4	+0.6
GMRC	Granite Mounta baz=42,SNR=6.2	41.79	93	P	P	11 54 47.3	+0.9
LDFC	Landfair	41.93	93	eP	P	11 54 48.6	+1.1
J22A	Midwest baz=42,SNR=11	41.93	77	P	P	11 54 47.9	+0.4
E25A	Miller Ranch, baz=42	41.97	71	P	P	11 54 48.5	+0.8
G24A	Alzada baz=42	42.04	73	P	P	11 54 48.6	+0.3
SRU	San Rafael 7.5nm,0.9s	42.10	84	eP	P	11 54 50.3	+1.3
PFO	Pinyon Flat Ob baz=42	42.10	95	P	P	11 54 49.8	+0.8
PFO	Pinyon Flat Ob 7.8nm,1.3s	42.10	95	eP	P	11 54 50.1	+1.1
BELC	Belle Mtn. Jos baz=42	42.12	94	P	P	11 54 49.5	+0.4
B27A	Peters Farms, baz=42	42.15	67	P	P	11 54 49.6	+0.6
F25A	Bowman baz=42	42.26	72	P	P	11 54 50.3	+0.3
H24A	Dirks Ranch, A baz=42	42.29	74	P	P	11 54 50.6	+0.3
K22A	Casper baz=42	42.35	78	P	P	11 54 51.2	+0.2
K22A	Casper	42.35	78	eP	P	11 54 51.0	+0.1
A28A	Rude Farm, Bot baz=42,SNR=5.9	42.43	66	P	P	11 54 51.7	+0.3
IRM	Iron Mountain baz=42	42.52	94	P	P	11 54 53.2	+0.9
E26A	Carlson Angus baz=42	42.53	70	P	P	11 54 52.2	0.0
BAR	Barrett 4.4nm,0.9s	42.62	96	eP	P	11 54 54.6	+1.5
MONP	Monument Peak baz=42	42.62	96	P	P	11 54 54.0	+0.7
B28A	Dugan Ranch, T baz=42	42.63	67	P	P	11 54 53.3	+0.3
BC3	Big Chuckawall baz=43	42.68	94	P	P	11 54 54.0	+0.3
G25A	Newell baz=42	42.70	73	P	P	11 54 53.7	0.0
F26A	Lodgepole baz=43	42.76	71	P	P	11 54 54.5	+0.4
O20A	White River Ci baz=43,SNR=16	42.84	82	P	P	11 54 55.5	+0.5
O20A	White River Ci 18nm,0.8s	42.84	82	eP	P	11 54 55.4	+0.4
H25A	Fruitdale baz=43	42.92	73	P	P	11 54 55.7	+0.3
RSSD	Black Hills 3.5nm,0.6s	42.95	74	eP	P	11 54 56.0	+0.1
SWSC	Sam W. Stewart baz=43	42.97	95	P	P	11 54 56.5	+0.6
A29A	Manning Farm, baz=43,SNR=6.6	43.00	66	P	P	11 54 56.1	+0.2
PDMCI	Parker Dam,Lak baz=43	43.04	93	P	P	11 54 57.2	+0.8
J24A	Dixon Ranch, L baz=43	43.05	76	P	P	11 54 56.5	-0.1
E27A	Carson baz=43	43.06	70	P	P	11 54 56.7	+0.2
G26A	Maurine baz=43,SNR=5.6	43.11	72	P	P	11 54 57.3	+0.3
Y12C	Blythe baz=43	43.18	94	P	P	11 54 58.6	+1.1
B29A	Wagenman Farm, baz=43	43.18	66	P	P	11 54 57.5	0.0
D28A	Regan baz=43	43.20	68	P	P	11 54 57.9	+0.3
MDND	Maddock baz=43	43.38	67	P	P	11 54 59.1	0.0
MDND	Maddock 31nm,1.0s	43.38	67	eP	P	11 54 59.7	+0.6
H26A	Fairpoint baz=43	43.40	73	P	P	11 54 59.5	+0.2
G27A	Dupree baz=43	43.45	71	P	P	11 55 00.1	+0.4
E28A	Huff baz=43	43.48	69	P	P	11 55 00.1	+0.2
A30A	Hoffart Farm, baz=43	43.51	65	P	P	11 54 60.0	-0.1
J25A	Sunshine Ranch baz=43	43.52	75	P	P	11 55 00.1	-0.2
PV04	Paradox Valley	43.54	84	eP	P	11 55 01.4	+0.7
I26A	New Underwood baz=44	43.70	74	P	P	11 55 01.9	+0.1
N23A	Red Feather La baz=44,SNR=5.3	43.76	79	P	P	11 55 02.8	+0.4
B30A	Myrvik Farm, E baz=44	43.76	66	P	P	11 55 02.3	+0.2
PHWY	Pilot Hill 2.2nm,0.8s	43.80	78	eP	P	11 55 02.5	-0.4
H27A	Howes baz=44	43.80	72	P	P	11 55 03.2	+0.7
PV01	Paradox Valley 668nm,0.6s	43.90	84	eP	P	11 55 04.0	+0.3
WUAZ	Wupatki baz=44,SNR=7.2	43.91	89	P	P	11 55 04.9	+1.3
WUAZ	Wupatki 10nm,0.8s	43.91	89	eP	P	11 55 05.0	+1.3
C30A	Mose, Pekin baz=44	44.09	67	P	P	11 55 04.6	-0.2
ULM	Lac du Bonnet 6.1nm,0.8s,baz=308,slow=8.1,SNR=7.3	44.12	62	P	P	11 55 04.3	-0.6
ULM	Lac du Bonnet	44.12	62	eP	P	11 55 04.5	-0.4
I27A	Quinn baz=44	44.14	73	P	P	11 55 05.5	+0.2
L25A	Engebretsen Ra baz=44	44.16	76	P	P	11 55 06.1	+0.5
D30A	Buchanan baz=44,SNR=8.3	44.27	68	P	P	11 55 06.3	0.0
E30A	Jud baz=44	44.53	68	P	P	11 55 08.6	+0.3
MVCO	Mesa Verde baz=44	44.54	85	P	P	11 55 09.0	+0.2
MVCO	Mesa Verde 10nm,1.4s	44.54	85	eP	P	11 55 09.2	+0.4
M25A	Palm-Egli Farm baz=44	44.55	77	P	P	11 55 09.0	+0.3
ISCO	Idaho Springs baz=44	44.63	80	P	P	11 55 10.3	+0.7
I28A	Midland baz=44	44.70	73	P	P	11 55 09.9	+0.2
G29A	Hoven baz=44	44.71	70	P	P	11 55 10.1	+0.3
K27A	Flueckinger Fa baz=45	44.85	75	P	P	11 55 11.5	+0.5
H29A	Onida baz=45	44.88	71	P	P	11 55 11.8	+0.7
J28A	Allard Ranch, baz=45	45.00	73	P	P	11 55 12.2	0.0
W18A	Petrified Fore baz=45	45.17	88	P	P	11 55 14.6	+0.9
I29A	Vivian Onida baz=45	45.19	72	P	P	11 55 13.6	+0.1
G30A	Faulkton baz=45	45.20	70	P	P	11 55 13.4	-0.2
S22A	4UR Ranch, Cre baz=45,SNR=5.8	45.21	83	P	P	11 55 15.0	+0.9
AGMN	Agassiz Nation baz=45,SNR=6.4	45.21	65	P	P	11 55 13.2	-0.5
AGMN	Agassiz Nation 13nm,0.8s	45.21	65	eP	P	11 55 13.2	-0.5
KSRS	Korea Array 1.8nm,0.9s,baz=57,slow=7.2,SNR=5.7	45.24	276	P	P	11 55 14.6	+0.6
KSAR	Wonju Array Be	45.27	276	P	P	11 55 14.6	+0.4
K28A	Ten Mile Ranch baz=45	45.35	74	P	P	11 55 15.4	+0.4
214A	Organ Pipe Nat baz=45,SNR=6.9	45.46	94	P	P	11 55 16.9	+1.0
214A	Organ Pipe Nat 9.6nm,1.0s	45.46	94	eP	P	11 55 16.8	+0.9
J29A	Okreek baz=45	45.54	73	P	P	11 55 16.6	+0.2
I30A	Oacoma baz=46	45.76	72	P	P	11 55 18.2	+0.1
N27A	Anderson Farm, baz=46	45.84	77	P	P	11 55 19.4	+0.5
SDCO	Great Sand Dun baz=46,SNR=12	46.01	82	P	P	11 55 21.4	+0.9
SDCO	Great Sand Dun 4.7nm,0.9s	46.01	82	eP	P	11 55 21.5	+1.0
J30A	Dallas baz=46	46.08	72	P	P	11 55 21.2	+0.5
P26A	Davis Ranch, A baz=46,SNR=7.6	46.14	79	P	P	11 55 22.1	+0.7
O27A	Beecher Island baz=46	46.26	78	P	P	11 55 22.8	+0.6
K30A	Basset baz=46	46.40	73	P	P	11 55 24.3	+1.0
Q26A	Hugo baz=46	46.44	80	P	P	11 55 24.5	+0.7
TUC	Tucson	46.45	92	eP	P	11 55 24.7	+1.0
M29A	Burnside Ranch baz=46	46.53	75	P	P	11 55 24.8	+0.5
P27A	Ficken Ranch, baz=46	46.60	78	P	P	11 55 25.4	+0.5
O28A	Krutsinger Ran baz=47	46.72	77	P	P	11 55 26.6	+0.8
L30A	Spencer Herefo baz=47	46.79	74	P	P	11 55 26.2	-0.1
R26A	Arlington baz=47,SNR=7.6	46.89	80	P	P	11 55 27.6	+0.4
KSCO	Kaye Shedlock' baz=47	46.92	79	P	P	11 55 27.9	+0.5
KSCO	Kaye Shedlock'	46.92	79	eP	P	11 55 28.3	+0.8
M30A	Dale-Ortello V baz=47	46.95	74	P	P	11 55 28.0	+0.4
T25A	Trinidad baz=47,SNR=10	47.06	82	P	P	11 55 29.6	+1.0
P28A	Saint Francis baz=47	47.08	78	P	P	11 55 29.0	+0.4
LAZ	Ladron 2.9nm,1.1s	47.23	87	eP	P	11 55 31.0	+1.0
ANMO	Albuquerque 5.2nm,1.2s	47.28	86	eP	P	11 55 31.2	+0.9
R27A	Eads baz=47,SNR=9.1	47.28	80	P	P	11 55 31.1	+0.8
O29A	4D Ranch, Culb baz=47	47.30	77	P	P	11 55 30.6	+0.3
S26A	Kim baz=47,SNR=9.1	47.31	81	P	P	11 55 30.9	+0.4
Q28A	Sharon Springs baz=47	47.36	78	P	P	11 55 30.8	-0.1
ECSD	EROS Data Cent baz=47,SNR=8.6	47.48	70	P	P	11 55 30.9	-0.7
T26A	Comanche Natio baz=47,SNR=6.0	47.53	82	P	P	11 55 32.6	+0.4
P29A	Atwood baz=47	47.55	77	P	P	11 55 32.8	+0.6
Y22D	IRIS PASSCAL I baz=47	47.59	87	P	P	11 55 32.2	-0.5
LPM	Los Pinos Moun 2.8nm,0.9s	47.60	87	eP	P	11 55 33.7	+0.8
S27A	Las Animas baz=48	47.62	81	P	P	11 55 33.0	+0.2
O30A	MW Ranch, Wils baz=48	47.70	76	P	P	11 55 33.8	+0.4
EYMN	Ely baz=48,SNR=9.4	47.79	63	P	P	11 55 33.7	-0.3
EYMN	Ely 12nm,0.9s	47.79	63	eP	P	11 55 33.2	-0.7
R28A	Tribune baz=48	47.84	79	P	P	11 55 35.0	+0.4
Q29A	Oakley baz=48	47.98	78	P	P	11 55 35.8	+0.2
P30A	Selden baz=48	47.99	77	P	P	11 55 36.1	+0.4
121A	Cookes Peak, D baz=48,SNR=6.1	48.12	89	P	P	11 55 37.9	+1.0
O31A	Woolen Ranch, baz=48	48.15	76	P	P	11 55 37.2	+0.3
R29A	Marienthal baz=48,SNR=5.3	48.19	79	P	P	11 55 37.5	+0.3
S28A	Manter baz=48	48.28	80	P	P	11 55 38.6	+0.7
Q30A	Quinter baz=48	48.38	77	P	P	11 55 39.2	+0.6
U27A	Thompson Grove baz=48	48.49	82	P	P	11 55 39.7	+0.1
M33A	Taylor Creek F baz=48	48.50	73	P	P	11 55 39.2	-0.3
P31A	Stockton baz=48	48.52	76	P	P	11 55 40.0	+0.2
SPMN	St. Paul baz=48	48.72	66	P	P	11 55 41.2	0.0
S29A	Ulysses baz=49	48.73	79	P	P	11 55 42.4	+1.1
CBKS	Cedar Bluff baz=49	48.77	77	P	P	11 55 42.0	+0.4
R30A	Dighton baz=49,SNR=5.3	48.79	78	P	P	11 55 41.9	+0.1
Q31A	Ellis baz=49	48.85	77	P	P	11 55 42.0	-0.3
U28A	Mallet baz=49	48.88	81	P	P	11 55 42.7	+0.1
P32A	Huiting Farm, baz=49	48.92	76	P	P	11 55 42.7	0.0
T29A	Hugoton baz=49	48.92	80	P	P	11 55 43.9	+1.0
V27A	Dan Oppiter Fa baz=49	48.93	82	P	P	11 55 43.3	+0.4
S30A	Montezuma baz=49	49.10	79	P	P	11 55 44.7	+0.5
O33A	Hebron baz=49	49.22	75	P	P	11 55 44.8	-0.3
R31A	Burdett baz=49	49.24	78	P	P	11 55 45.6	+0.4
Q32A	Meitler Ranch, baz=49	49.35	76	P	P	11 55 46.3	+0.2
R32A	Long Quarter, baz=50	49.63	77	P	P	11 55 48.5	+0.2
O34A	Beatrice baz=50	49.68	74	P	P	11 55 48.2	-0.3
S31A	Mullinville baz=50	49.70	78	P	P	11 55 48.8	0.0
U30A	WK&E Inc. Balk baz=50	49.73	80	P	P	11 55 48.8	-0.3
Q33A	Connelly Farm, baz=50	49.78	76	P	P	11 55 49.3	0.0
N35A	Tabor baz=50	49.85	72	P	P	11 55 49.5	-0.3
MSTX	Muleshoe	50.17	84	eP	P	11 55 53.0	+0.5
T32A	Huddler Ranch, baz=50	50.33	78	P	P	11 55 53.4	-0.1
P35A	Duane Minner, baz=50	50.49	74	P	P	11 55 53.7	-1.0
Y28A	McKinney Farm, baz=50	50.53	84	P	P	11 55 55.1	-0.1
R34A	Isabella, Hill baz=50	50.58	76	P	P	11 55 55.9	+0.5
S33A	Kaszmaul Farm, baz=50	50.60	77	P	P	11 55 55.8	+0.3
V31A	Spring Creek L baz=51	50.72	80	P	P	11 55 56.9	+0.4
Z28A	Tucker Farm, M baz=51	50.88	84	P	P	11 55 58.2	+0.4
P36A	Good Intent, A baz=51	50.91	73	P	P	11 55 57.2	-0.6
Y29A	Porterfield Fa baz=51	50.92	83	P	P	11 55 58.7	+0.7
SONM	Songino Array 0.2nm,0.4s,baz=31,slow=8.6,SNR=2.5	51.02	300	P	P	11 55 59.2	+0.5
SONM				PcP	PcP	11 57 14.1	-0.5
W31A	1.3nm,0.7s,baz=64,slow=3.4,SNR=5.6 Holland Ranch, baz=51	51.05	81	P	P	11 55 59.5	+0.4
S34A	Willow Spring baz=51	51.06	77	P	P	11 55 58.6	-0.3
R35A	Emporia Munici baz=51	51.18	75	P	P	11 56 00.4	+0.5
128A	Castleberry Fa baz=51,SNR=8.2	51.28	85	P	P	11 56 01.1	+0.3
U33A	Lingo Farm, Me baz=51	51.31	78	P	P	11 56 01.3	+0.4
Z29A	Hungry Hill Ra baz=51,SNR=7.2	51.31	84	P	P	11 56 01.0	-0.1
Y30A	Stafford Cattl baz=51	51.37	83	P	P	11 56 01.8	+0.3
X31A	McDonald Ranch baz=51	51.41	81	P	P	11 56 02.0	+0.3
T34A	McClaskey Farm baz=51,SNR=5.3	51.46	77	P	P	11 56 02.1	0.0
W32A	Sentinel baz=51	51.52	80	P	P	11 56 02.6	+0.1
S35A	Otter Creek Ra baz=51,SNR=5.0	51.54	76	P	P	11 56 02.2	-0.3
228A	UT Block 9, Go baz=51	51.56	86	P	P	11 56 03.7	+0.7
R36A	Gordon, Harris baz=51	51.59	75	P	P	11 56 02.7	-0.2
V33A	Lossen Ranch, baz=52	51.62	79	P	P	11 56 03.4	+0.2
129A	Stewart Farms, baz=52	51.65	85	P	P	11 56 03.4	-0.1
U34A	Anderson Ranch baz=52	51.65	78	P	P	11 56 03.4	-0.1
T35A	Sooner Cattle baz=52	51.94	77	P	P	11 56 05.6	0.0
X32A	Elmer baz=52	51.97	81	P	P	11 56 06.2	+0.4
WMOK	Wichita Mounta 11nm,1.1s	52.06	80	eP	P	11 56 06.2	-0.3
V34A	Guthrie baz=52	52.07	79	P	P	11 56 06.5	-0.1
V34A	Guthrie 12nm,0.8s	52.07	79	P	P	11 56 06.3	-0.2
Y32A	R-V Farms, Ver baz=52	52.16	82	P	P	11 56 07.6	+0.2
U35A	Pawnee baz=52	52.17	78	P	P	11 56 07.4	+0.1
Z31A	Sharp Cattle R baz=52	52.21	83	P	P	11 56 07.7	0.0
T36A	Boggs Farm, Ca baz=52	52.21	76	P	P	11 56 07.2	-0.5
W34A	Bridge Creek, baz=52	52.32	79	P	P	11 56 08.8	+0.3
S37A	Fort Scott baz=52,SNR=10	52.36	75	P	P	11 56 07.9	-0.8
329A	Wagon Wheel Ra baz=52	52.37	86	P	P	11 56 09.5	+0.5
131A	Roby baz=52	52.51	84	P	P	11 56 09.8	-0.1
V35A	Meyer Ranch, C baz=52	52.52	78	P	P	11 56 09.9	0.0
230A	Sterling City baz=52	52.62	85	P	P	11 56 10.9	+0.1
Z32A	Haskell baz=52,SNR=12	52.62	82	P	P	11 56 10.9	+0.1
Y33A	Hilltop Ranch, baz=52	52.65	81	P	P	11 56 10.2	-0.7
HHC	Hu-ho-hao-te	52.68	291	eP	P	11 56 11.8	+0.6
HHC				PP	PP	11 58 11.8	+1.7
HHC				S	S	12 03 36.3	-2.1
HHC				ScS	ScS	12 05 57.9	-2.6
HHC				SS	SS	12 07 12.9	-3.4
HHC				PMZ			
HHC	21nm,1.0s			PMZ			
HHC	80nm,5.4s			LN			
HHC	120nm,14.3s			LE			
HHC	110nm,14.5s			LZ			
X34A	64nm,14.9s Smith Ranch, M baz=53	52.72	80	P	P	11 56 11.4	0.0
T37A	Cheneyville 18 baz=53,SNR=6.5	52.74	76	P	P	11 56 10.6	-1.0
TXAR	Lajitas Array 8.6nm,0.7s,baz=298,slow=5.3,SNR=146	52.87	89	P	P	11 56 13.1	+0.4
330A	Mertzon baz=53	52.92	85	P	P	11 56 13.4	+0.4
ABTX	Abilene, Hawle baz=53,SNR=5.4	53.00	83	P	P	11 56 14.2	+0.6
ABTX	Abilene, Hawle 22nm,1.1s	53.00	83	eP	P	11 56 13.6	+0.1
429A	Davenport Ranc baz=53,SNR=7.7	53.03	86	P	P	11 56 13.8	-0.1
V36A	Jenks baz=53	53.04	78	P	P	11 56 13.8	+0.1
TUL1	Tulsa baz=53	53.04	77	P	P	11 56 12.7	-1.0
Z33A	Whitaker Ranch baz=53	53.06	82	P	P	11 56 14.0	0.0
U37A	Salina baz=53	53.11	76	P	P	11 56 13.8	-0.4
529A	Stev Forest Ra baz=53	53.19	87	P	P	11 56 15.3	+0.3
Y34A	Reagan Ranch, baz=53,SNR=5.4	53.21	80	P	P	11 56 15.3	+0.3
W36A	Wetumka baz=53	53.31	78	P	P	11 56 15.5	-0.3
430A	Baggett Ranch, baz=53,SNR=10	53.32	86	P	P	11 56 16.4	+0.4
X35A	Drake baz=53	53.37	80	P	P	11 56 16.2	0.0
331A	San Angelo baz=53	53.44	85	P	P	11 56 17.0	+0.2
133A	Hamilton Ranch baz=53,SNR=5.5	53.45	83	P	P	11 56 17.1	+0.3
V37A	Hulbert baz=53	53.45	77	P	P	11 56 15.7	-1.1
232A	Coleman baz=53	53.51	84	P	P	11 56 17.3	0.0
U38A	Gravette baz=53	53.52	76	P	P	11 56 16.1	-1.2
Z34A	Collier Ranch, baz=53	53.52	81	P	P	11 56 17.4	+0.1
X36A	Centrahoma baz=54	53.63	79	P	P	11 56 18.2	+0.1
Y35A	Marietta baz=54,SNR=6.1	53.67	80	P	P	11 56 18.9	+0.5
HDIL	Hopedale baz=54	53.70	69	P	P	11 56 17.6	-0.9
530A	J-C Ranch, Com baz=54,SNR=20	53.71	86	P	P	11 56 19.1	+0.3
431A	Sonora baz=54,SNR=13	53.77	85	P	P	11 56 19.5	+0.2
W37A	Quinton baz=54,SNR=5.2	53.79	78	P	P	11 56 19.1	-0.2
332A	Millersview baz=54,SNR=5.8	53.80	84	P	P	11 56 19.4	-0.1
233A	Rising Star baz=54,SNR=5.7	53.87	83	P	P	11 56 20.1	+0.1
V38A	Canehill baz=54,SNR=6.5	53.90	76	P	P	11 56 19.4	-0.7
134A	White-Moore Ra baz=54	53.98	82	P	P	11 56 21.4	+0.8
Y36A	Durant baz=54	54.13	79	P	P	11 56 22.3	+0.5
432A	Menard baz=54	54.13	85	P	P	11 56 22.6	+0.7
531A	Rocksprings baz=54,SNR=5.5	54.18	86	P	P	11 56 22.6	+0.3
X37A	Clayton baz=54,SNR=7.3	54.20	78	P	P	11 56 22.1	-0.1
333A	Richland Sprin baz=54,SNR=6.0	54.30	84	P	P	11 56 23.2	+0.1
234A	Clairette baz=54	54.34	82	P	P	11 56 24.0	+0.7
W38A	Poteau baz=54,SNR=5.4	54.37	77	P	P	11 56 23.4	-0.2
135A	Vickery Place, baz=54	54.39	81	P	P	11 56 24.2	+0.5
JCT	Junction City baz=54,SNR=7.4	54.41	85	P	P	11 56 23.7	-0.2
X38A	Whitesboro baz=54	54.47	78	P	P	11 56 24.3	+0.1
Z36A	Blue Ridge baz=54	54.48	80	P	P	11 56 24.8	+0.5
532A	Rocksprings baz=54	54.59	85	P	P	11 56 25.1	-0.2
433A	Art baz=54,SNR=6.8	54.64	84	P	P	11 56 25.3	-0.3
631A	Perdido Creek baz=55	54.70	87	P	P	11 56 25.6	-0.4
334A	Lometa baz=55,SNR=8.8	54.75	83	P	P	11 56 26.5	+0.2
WHTX	Lake Whitney baz=55	54.76	82	P	P	11 56 26.8	+0.4
WHTX	Lake Whitney 30nm,1.3s	54.76	82	eP	P	11 56 26.4	0.0
SFIN	Scholer Farm baz=55	55.05	68	P	P	11 56 28.6	+0.2
SFIN	Scholer Farm	55.05	68	eP	P	11 56 27.9	-0.5
434A	Burnet baz=55,SNR=8.1	55.10	84	P	P	11 56 29.1	+0.2
632A	Uvalde baz=55	55.11	86	P	P	11 56 28.8	-0.1

533A	**Kerrville** baz=55	**55.16**	**85**	P	**P**	**11 56 29.1**	**-0.3**
MIAR	**Mount Ida** baz=55,SNR=6.4	**55.30**	**77**	P	**P**	**11 56 30.3**	**+0.1**
633A	**Saathoff Ranch** baz=55	**55.51**	**85**	P	**P**	**11 56 31.6**	**-0.2**
534A	**Blanco** baz=55	**55.53**	**84**	P	**P**	**11 56 31.8**	**-0.2**
336A	**Riesel** baz=55	**55.55**	**82**	P	**P**	**11 56 33.2**	**+1.1**
832A	**Faith Ranch, C** baz=56,SNR=6.1	**55.87**	**87**	P	**P**	**11 56 34.6**	**+0.2**
733A	**Divot King Ran** baz=56	**55.97**	**86**	P	**P**	**11 56 36.2**	**+1.0**
833A	**Chaparral WMA,** baz=56	**56.20**	**87**	P	**P**	**11 56 37.4**	**+0.7**
734A	**La Parita Cree** baz=56	**56.33**	**85**	P	**P**	**11 56 38.2**	**+0.5**
635A	**Leesville** baz=56	**56.41**	**84**	P	**P**	**11 56 39.3**	**+1.0**
239A	**Gary** baz=56	**56.53**	**80**	P	**P**	**11 56 41.6**	**+2.5**
636A	**Smothers Creek** baz=57	**56.78**	**84**	P	**P**	**11 56 42.4**	**+1.5**
934A	**Benavides** baz=57	**57.25**	**86**	P	**P**	**11 56 45.6**	**+1.3**
034A	**Hebbronville** baz=57	**57.54**	**87**	P	**P**	**11 56 47.3**	**+1.0**
738A	**Farr-Stevens R** baz=58	**58.09**	**83**	P	**P**	**11 56 52.2**	**+2.0**
BLA	**Blacksburg** 14nm,0.9s	**61.00**	**66**	*e*P	**P**	**11 57 10.0**	**-0.2**
WMQ	**Urumqi**	**63.23**	**308**	P	**P**	**11 57 26.9**	**+1.8**
CD2	**Chengdu**	**64.15**	**288**	P	**P**	**11 57 30.3**	**-1.0**
CD2				pP	**pP**	**11 57 33.5**	**-2.0**
CD2				PP	**PP**	**11 59 50.8**	**-1.2**
CD2				S	**S**	**12 06 07.0**	**-0.9**
CD2				SS	**SS**	**12 10 16.8**	**+0.3**
CD2	20nm,0.5s			PMZ			
CD2	120nm,6.3s			PMZ			
CD2	180nm,6.7s			LN			
CD2	160nm,8.0s			LZ			
KMI	**Kunming**	**69.06**	**284**	P	**P**	**11 58 05.1**	**+2.1**
KMI	4.0nm,0.6s			PMZ			
SIJI	**Sorong** 12nm,0.8s,baz=30,slow=6.9,SNR=4.8	**72.53**	**244**	P	**P**	**11 58 23.3**	**-0.6**
AKASG	**Malin Array Be** 0.4nm,0.4s,baz=12,slow=6.0,SNR=3.5	**75.76**	**348**	P	**P**	**11 58 40.5**	**-1.7**
KBZ	**Khabaz** 0.8nm,0.6s,baz=133,slow=2.7,SNR=3.8	**79.96**	**337**	P	**P**	**11 59 07.2**	**+1.5**
DAVOX	**Davos/Dischmat** comp=Z,27nm,21.4s,baz=94,slow=36	**80.91**	**0**	LR	LR	12 35 01.3	
BRTR	**Keskin Array B** 0.5nm,0.8s,baz=304,slow=0.5,SNR=2.8	**85.78**	**342**	P	**P**	**11 59 36.5**	**+0.4**
WRA	**Warramunga Arr** 2.6nm,1.0s,baz=36,slow=5.8,SNR=11	**87.10**	**231**	P	**P**	**11 59 41.6**	**-1.0**
ESDC	**Sonseca Array** 0.2nm,0.3s,baz=350,slow=5.2,SNR=3.6	**87.17**	**11**	P	**P**	**11 59 42.2**	**-0.7**
ASAR	**Alice Springs** 4.0nm,0.8s,baz=30,slow=4.7,SNR=18	**90.50**	**230**	P	**P**	**11 59 58.4**	**-0.2**
TORD	**Torodi Ar. Bea** 0.2nm,0.6s,baz=318,slow=1.9,SNR=3.6	**114.00**	**9**	PKP	**PKiKP**	**12 05 34.4**	**-1.7**
MAW	**Mawson** 4.7nm,0.9s,baz=10,slow=3.4,SNR=7.9	**151.04**	**219**	PKPbc	**PKPbc**	**12 06 48.4**	**+0.1**
BOSA	**Boshof** 2.3nm,0.6s,baz=13,slow=3.5,SNR=6.4	**153.55**	**330**	PKPbc	**PKPbc**	**12 06 55.3**	**-0.1**

*IDC **19** 11:47:55.9±0.6,52.°44N×169.°66W,h0km,mb4.2/13, mb1 4.4/15,mb1mx4.1/40,mbtmp4.1/15,ML3.7/2,MS3.7/5, Ms1 3.7/5,ms1mx3.1/46,Error ellipse: s-maj=30.0km s-min=12.9km az=168.0*

*NEIC **19** 11:47:59.3,52.°82N×169.°38W,h2km,mb4.2/15, ML4.0(AEIC),After AEIC.*

ISC 19 11:47:58.6±0.6,52.°9N±0.°1×169.°50W±0.°06,h10km,n51, σ1°46/42,mb4.2/28,MS3.4/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.40**	**78**	P	**Pb**	**11 48 07.2**	**-0.5**
NIKH				S	**Sb**	**11 48 14.8**	**+0.9**
OKSP	**Okmok Steeple**	**0.81**	**63**	P	**Pb**	**11 48 15.4**	**+0.6**
OKSP				S	**Sn**	**11 48 27.5**	**-0.7**
OKWE	**Okmok W'ng Wal**	**0.95**	**52**	P	**Pn**	**11 48 18.5**	**+0.5**
MGOD	**Makushin Gods**	**1.81**	**59**	P	**Pn**	**11 48 31.2**	**+1.3**
MGOD				S	**Sg**	**11 48 56.1**	**-0.7**
MTBL	**Makushin Table**	**2.00**	**56**	P	**Pb**	**11 48 35.0**	**0.0**
UNV	**Unalaska Valle**	**2.03**	**61**	P	**Pb**	**11 48 35.1**	**-0.4**
UNV				S	**Sg**	**11 49 02.5**	**-1.4**
ATKA	**Atka Island**	**2.95**	**258**	P	**Pn**	**11 48 48.2**	**+2.7**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=228,slow=12,SNR=2.2	**16.57**	**35**	Pn	**P**	**11 51 53.0**	**-0.2**
ILAR	comp=Z,451nm,19.2s,baz=234,slow=36			LR	LR	11 58 13.3	
PETK	**Petropavlovsk-** 1.0nm,0.3s,baz=92,slow=13,SNR=6.4	**19.66**	**284**	P	**P**	**11 52 27.3**	**+0.1**
H02N1	**VAN INLET T-PH** SNR=34	**22.05**	**74**	T	T	12 15 47.5	
H02S1	**DAWSON INLET T**	**22.10**	**74**	T	T	12 15 46.8	
DLBC	**Dease Lake** 21nm,1.2s,baz=273,slow=9.2,SNR=7.0	**22.69**	**60**	P	**P**	**11 53 03.6**	**+3.6**
DLBC	comp=Z,79nm,18.4s,baz=324,slow=37			LR	LR	12 01 59.8	
YKA	**Yellowknife Ar** 0.6nm,0.5s,baz=273,slow=7.6,SNR=4.9	**29.96**	**50**	P	**P**	**11 54 07.3**	**+0.7**
WALA	**Waterton Lakes** 13nm,1.5s	**34.47**	**74**	*e*P	**P**	**11 54 48.2**	**+1.8**
WVOR	**Wild Horse Val** 7.4nm,1.1s	**35.12**	**86**	*e*P	**P**	**11 54 51.8**	**-0.3**
MFID	**Camas Ranch** 6.6nm,1.3s	**36.25**	**83**	*e*P	**P**	**11 55 03.4**	**+1.6**
HLID	**Hailey** 2.9nm,1.1s	**37.02**	**82**	*e*P	**P**	**11 55 11.3**	**+2.9**
MCMT	**McKenzie Canyo** 1.3nm,0.5s	**37.25**	**79**	*e*P	**P**	**11 55 10.7**	**+0.3**
NVAR	**Mina Array Bea** 1.4nm,0.9s,baz=297,slow=9.8,SNR=3.7	**37.75**	**92**	P	**P**	**11 55 14.5**	**-0.2**
NVAR	0.4nm,0.5s,baz=267,slow=1.8,SNR=3.2			PcP	**PcP**	**11 57 32.8**	**+1.4**
H11N2	**WAKE ISLAND Hy** baz=21,slow=76	**37.82**	**218**	T	T	12 35 10.6	
H11N3	**WAKE ISLAND Hy** baz=21,slow=76	**37.82**	**218**	T	T	12 35 07.4	
H11N1	**WAKE ISLAND Hy** baz=21,slow=76	**37.83**	**218**	T	T	12 35 09.3	
ELK	**Elko** comp=Z,497nm,21.1s,baz=290,slow=32	**38.17**	**86**	LR	LR	12 08 23.7	
ELK	**Elko** 3.3nm,1.0s	**38.17**	**86**	P	**P**	**11 55 17.6**	**-0.6**
IMW	**Indian Meadow** 5.9nm,1.2s	**38.91**	**79**	*e*P	**P**	**11 55 27.4**	**+2.9**
H11S1	**WAKE ISLAND Hy** baz=19,slow=76	**39.01**	**217**	T	T	12 36 38.6	
H11S2	**WAKE ISLAND Hy** baz=19,slow=76	**39.02**	**217**	T	T	12 36 39.8	
H11S3	**WAKE ISLAND Hy** baz=19,slow=76	**39.02**	**217**	T	T	12 36 39.8	
RLMT	**Red Lodge** 8.9nm,1.0s	**39.21**	**76**	P	**P**	**11 55 29.1**	**+2.2**
R11A	**Troy Canyon, C** 7.2nm,1.3s	**39.45**	**89**	*e*P	**P**	**11 55 28.2**	**-0.7**
MJAR	**Matsushiro Arr** 1.3nm,0.7s,baz=50,slow=7.4,SNR=4.7	**39.64**	**267**	P	**P**	**11 55 28.8**	**-1.5**
MJAR	1.3nm,0.8s,baz=132,slow=1.9,SNR=5.1			PcP	**PcP**	**11 57 35.6**	**-1.5**
PDAR	**Pinedale Array** 3.1nm,0.9s,baz=315,slow=3.9,SNR=5.0	**40.38**	**80**	P	**P**	**11 55 36.2**	**-0.5**
GSC	**Goldstone** 5.5nm,1.0s	**40.71**	**94**	P	**P**	**11 55 38.4**	**-0.9**
MVU	**Marysvale** 4.7nm,1.0s	**41.39**	**87**	*e*P	**P**	**11 55 44.9**	**-0.2**
MSU	**Marysvale** 12nm,1.5s	**41.41**	**87**	*e*P	**P**	**11 55 45.2**	**0.0**
ULM	**Lac du Bonnet** comp=Z,84nm,18.0s,baz=291,slow=39	**43.98**	**63**	LR	LR	12 16 50.3	
AGMN	**Agassiz Nation** 9.1nm,1.1s	**45.07**	**65**	*e*P	**P**	**11 56 16.4**	**+2.0**
KSRS	**Korea Array** 1.6nm,0.9s,baz=54,slow=7.3,SNR=4.6	**45.27**	**276**	P	**P**	**11 56 14.3**	**-1.7**
KSAR	**Wonju Array Be**	**45.30**	**276**	P	P	11 56 14.3	-2.0
JNU	**Nakatsue**	**46.39**	**269**	P	**P**	**11 56 23.2**	**-1.8**
	2.4nm,0.4s,baz=141,slow=6.5,SNR=3.9						
LAZ	**Ladron** 1.7nm,0.9s	**47.17**	**87**	*e*P	**P**	**11 56 31.2**	**-0.1**
SONM	**Songino Array** 0.4nm,0.5s,baz=56,slow=6.1,SNR=2.8	**50.97**	**300**	P	**P**	**11 57 00.3**	**+0.2**
SONM	3.1nm,0.7s,baz=56,slow=2.0,SNR=10.0			PcP	**PcP**	**11 58 15.1**	**-1.1**
WMOK	**Wichita Mounta** 4.7nm,0.9s	**51.97**	**81**	P	**P**	**11 57 06.2**	**-1.5**
TXAR	**Lajitas Array** 6.7nm,0.8s,baz=300,slow=5.3,SNR=10	**52.82**	**89**	P	**P**	**11 57 13.0**	**-1.2**
H06E1	**SOCORRO T-PHAS**	**56.36**	**104**	T	T	12 58 26.5	
NOA	**NORSAR Array B** comp=Z,9.9nm,21.2s,baz=100,slow=34	**66.42**	**360**	LR	LR	12 25 29.4	
CMAR	**Chiang Mai Arr** 0.6nm,0.5s,baz=27,slow=6.2,SNR=3.5	**76.43**	**283**	P	P	11 59 45.7	-2.7
KAPI	**Kappang** 8.4nm,0.8s,baz=102,slow=14,SNR=2.3	**82.53**	**252**	P	**P**	**12 00 20.2**	**-1.4**
WRA	**Warramunga Arr** 1.6nm,0.7s,baz=34,slow=5.9,SNR=7.6	**87.27**	**231**	P	P	12 00 41.5	-3.7
ASAR	**Alice Springs** 2.7nm,0.7s,baz=28,slow=4.3,SNR=11	**90.67**	**230**	P	P	12 00 58.4	-2.8
MAW	**Mawson** 2.7nm,0.9s,baz=223,slow=3.6,SNR=3.6	**151.23**	**219**	PKPbc	**PKPbc**	**12 07 49.2**	**-1.4**

IDC 19 11:56:32.2±3.8,5.°71S×149.°92E,h0km,mb3.1/2, mb1 3.5/2,mb1mx3.2/18,mbtmp3.2/2,MS3.8/1,Ms1 3.8/1, ms1mx3.0/8,Error ellipse: s-maj=137.4km s-min=50.4km az=115.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.7nm,0.6s,baz=52,slow=11,SNR=5.3	**20.73**	**226**	P	P	12 01 15.4	+0.9
ASAR	**Alice Springs** 0.5nm,0.8s,baz=51,slow=9.1,SNR=4.1	**23.59**	**219**	P	P	12 01 44.3	-0.6
ASAR	comp=Z,228nm,21.8s,baz=318,slow=34			LR	LR	12 09 46.1	
TORD	**Torodi Ar. Bea** 0.6nm,0.8s,baz=72,slow=2.2,SNR=4.7	**147.82**	**286**	PKPbc	PKPbc	12 16 19.4	-0.8

MAN 19 11:57:18,18.°17N×120.°76E,h12km,mb4.2,ML3.0,MS2.7, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.37**	**230**	⇑*i*P	Pb	11 57 26.0	-0.5
SIPP				*e*S	Sb	11 57 37.2	+4.9
ABRA	**Dolores**	**0.52**	**185**	*e*P	Pb	11 57 29.2	+0.2
APYP	**Conner**	**0.55**	**123**	*e*P	Pb	11 57 29.5	-0.2
APYP				*e*S	Sn	11 57 41.5	+0.6
CAUP	**Cauayan**	**1.59**	**140**	*e*P	Pb	11 57 46.6	-0.6
CAUP				*e*S	Sb	11 58 07.8	+0.5
BALP	**Baler**	**2.54**	**162**	*e*P	Pn	11 58 00.6	+1.6

*IDC **19** 12:00:38.5±0.9,35.°00S×73.°02W,h0km,mb4.0/8, mb1 4.1/11,mb1mx4.0/34,mbtmp4.0/11,ML3.3/2,Error ellipse: s-maj=28.9km s-min=21.6km az=91.0*

*ISCJB **19** 12:00:42.1±0.9,34.°9S±0.°1×72.°9W±0.°2,h33km,mb3.9/8, Error ellipse: s-maj=19.3km s-min=15.2km az=29.1*

ISC 19 12:00:44.0±0.9,34.°9S±0.°1×72.°9W±0.°2,h35km,n16, σ0°62/16,mb4.1/8,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan** 0.3nm,0.3s,baz=223,slow=12,SNR=8.1	**5.14**	**51**	Pn	**Pn**	**12 01 58.4**	**-0.2**
CFAA	0.3nm,0.3s,baz=112,slow=17,SNR=4.7			Lg	Lg	12 03 17.6	
LVC	**Limon Verde** 5.4nm,0.3s,baz=198,slow=9.6,SNR=5.3	**12.76**	**17**	Pn	**Pn**	**12 03 43.2**	**-0.1**
CPUP	**Villa Florida** baz=192,slow=20,SNR=1.7	**15.92**	**62**	Pn	**Pn**	**12 04 25.8**	**+0.4**
LPAZ	**La Paz** 0.1nm,0.3s,baz=234,slow=12,SNR=3.9	**19.05**	**14**	P	**Pn**	**12 05 05.4**	**+0.5**
SIV	**San Ignacio** 3.9nm,0.9s,baz=225,slow=9.4,SNR=8.9	**21.65**	**32**	P	**P**	**12 05 30.5**	**-1.0**
PTGA	**Pitinga** 0.3nm,0.3s,baz=206,slow=6.0,SNR=6.1	**36.11**	**22**	P	**P**	**12 07 43.0**	**+0.2**
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=155,slow=8.7,SNR=8.1	**70.19**	**332**	P	**P**	**12 11 53.5**	**+0.2**
MAW	**Mawson** 4.4nm,0.9s,baz=286,slow=10,SNR=7.7	**72.50**	**164**	P	**P**	**12 12 07.0**	**+0.3**
BOSA	**Boshof** 2.3nm,0.8s,baz=209,slow=6.9,SNR=5.3	**80.30**	**118**	P	**P**	**12 12 51.0**	**-0.8**
NVAR	**Mina Array Bea** 0.8nm,1.1s,baz=170,slow=6.5,SNR=4.0	**84.22**	**326**	P	**P**	**12 13 10.9**	**-1.1**
ELK	**Elko** 1.1nm,0.8s,baz=76,slow=6.9,SNR=3.6	**84.77**	**329**	P	**P**	**12 13 14.4**	**-0.3**
TORD	**Torodi Ar. Bea** 1.1nm,0.8s,baz=246,slow=4.1,SNR=5.8	**85.22**	**70**	P	**P**	**12 13 17.3**	**0.0**
BVAR	**Borovoye Array** 1.2nm,0.7s,baz=302,slow=2.8,SNR=5.5	**148.46**	**44**	PKPbc	**PKPbc**	**12 20 27.0**	**+0.6**
ZALV	**Zalesovo Beam** 2.0nm,0.7s,baz=302,slow=5.7,SNR=7.0	**155.40**	**33**	PKPab	**PKPab**	**12 20 59.5**	**+0.8**
MKAR	**Makanchi Array** 0.6nm,0.9s,baz=349,slow=3.6,SNR=3.8	**157.93**	**50**	PKPab	**PKPab**	**12 21 10.0**	**+0.1**
SONM	**Songino Array** 0.6nm,0.8s,baz=349,slow=3.6,SNR=3.8	**167.09**	**2**	PKPab	**PKPab**	**12 21 50.8**	**+0.8**

*IDC **19** 12:12:00.7±1.1,6.°06S×150.°79E,h0km,mb3.8/8, mb1 4.0/9,mb1mx3.7/40,mbtmp3.9/9,ML1.9/1,Error ellipse: s-maj=42.1km s-min=18.4km az=111.0*

*ISCJB **19** 12:12:06.3±0.9,6.°1S±0.°1×150.°5E±0.°2,h48km,mb3.8/7, Error ellipse: s-maj=30.5km s-min=9.4km az=33.1*

*NEIC **19** 12:12:06.0±0.7,6.°11S×150.°75E,h35km,mb4.1/1,Error ellipse: s-maj=25.8km s-min=9.4km az=118.0*

ISC 19 12:12:07.6±1.0,6.°1S±0.°2×150.°6E±0.°2,h48km,n13, σ0°81/14,mb3.8/7,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 3.3nm,0.3s,baz=102,slow=3.3,SNR=11	**4.74**	**226**	Pn	**Pn**	**12 13 17.4**	**+0.8**
PMG	9.8nm,0.3s,baz=221,slow=12,SNR=6.9			Sn	**Sn**	**12 14 09.2**	**-1.1**
WRAB	**Tennant Creek** 6.6nm,0.8s	**20.94**	**228**	*e*P	**P**	**12 16 46.8**	**+0.1**
WRA	**Warramunga Arr** 2.1nm,0.4s,baz=52,slow=11,SNR=43	**20.96**	**228**	P	**P**	**12 16 47.1**	**+0.3**
AS31	**Alice Springs**	**23.73**	**221**	*e*P	**P**	**12 17 15.7**	**+0.1**
ASAR	**Alice Springs** 1.8nm,0.4s,baz=54,slow=8.9,SNR=83	**23.73**	**221**	P	**P**	**12 17 16.2**	**+0.7**
STKA	**Stephens Creek** 1.4nm,0.6s,baz=9.2,slow=9.1,SNR=5.5	**26.98**	**197**	P	P	12 17 44.4	-0.6
JNU	**Nakatsue** 2.4nm,0.7s,baz=14,slow=8.3,SNR=3.0	**43.30**	**336**	P	**P**	**12 20 05.6**	**+0.7**
SONM	**Songino Array** 0.2nm,0.4s,baz=115,slow=6.5,SNR=2.7	**66.31**	**329**	P	**P**	**12 22 50.2**	**-1.1**
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=104,slow=6.1,SNR=2.3	**81.06**	**327**	P	**P**	**12 24 17.7**	**+0.2**
ILAR	**Eielson Array** 0.2nm,0.5s,baz=257,slow=5.0,SNR=6.6	**84.19**	**22**	P	**P**	**12 24 32.4**	**-1.2**
NVAR	**Mina Array Bea** 0.5nm,0.7s,baz=254,slow=6.5,SNR=5.1	**94.60**	**52**	P	**P**	**12 25 24.4**	**+0.5**
GERES	**GERESS Array B** 0.6nm,0.5s,baz=48,slow=1.5,SNR=3.9	**124.01**	**327**	PKP	**PKPdf**	**12 31 01.6**	**+0.7**
TORD	**Torodi Ar. Bea** 1.6nm,0.4s,baz=74,slow=2.3,SNR=25	**148.61**	**285**	PKPbc	**PKPbc**	**12 31 51.2**	**+0.7**

*IDC **19** 12:19:12.9±0.6,11.°29N×57.°52E,h0km,mb4.0/23, mb1 4.1/23,mb1mx3.9/50,mbtmp4.0/23,MS3.4/14, Ms1 3.4/14,ms1mx3.1/52,Error ellipse: s-maj=16.9km s-min=13.3km az=129.0*

*ISCJB **19** 12:19:13.4±0.5,11.°27N±0.°06×57.°49E±0.°08,h14km, mb4.0/25,MS3.3/14,Error ellipse: s-maj=11.5km s-min=7.8km az=14.0*

*NEIC **19** 12:19:14.5±0.4,11.°32N×57.°49E,h10km,mb4.1/3,Error ellipse: s-maj=10.0km s-min=8.3km az=126.0*

ISC 19 12:19:15.2±0.7,11.°25N±0.°09×57.°5E±0.°1,h14km,n48, σ1°26/36,mb4.0/25,MS3.3/14,1C-1D,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMDO	**Jabal Madar** SNR=6.9	**11.07**	**3**	P	**Pn**	**12 21 55.1**	**+1.8**
WBK	**Wadi Bani Khal**	**11.38**	**7**	⇑P	**Pn**	**12 21 57.8**	**+0.3**
BSY	**Bisya** SNR=7.5	**11.43**	**359**	P	**Pn**	**12 22 00.5**	**+2.3**
SMDO	**Samad** SNR=5.5	**11.76**	**3**	P	**Pn**	**12 22 04.0**	**+1.3**
ARQ	**Araqi** SNR=7.5	**12.05**	**356**	P	**Pn**	**12 22 09.3**	**+2.6**
HOQ	**Hoqain** SNR=8.8	**12.27**	**359**	P	**Pn**	**12 22 11.9**	**+2.4**
ASHO	**Ashiyiah**	**13.43**	**354**	⇓P	**Pn**	**12 22 27.4**	**+1.9**
RAYN	**Ar Rayn** 7.7nm,1.0s	**16.71**	**318**	*e*Pn	**Pn**	**12 23 07.3**	**-1.8**
H08N2	**Diego Garcia H** baz=322,slow=76,SNR=15	**22.04**	**142**	T	T	12 46 56.5	
H08N3	**Diego Garcia H** baz=322,slow=76,SNR=13	**22.05**	**142**	T	T	12 46 58.6	
H08N1	**Diego Carcia H** baz=322,slow=76,SNR=15	**22.06**	**142**	T	T	12 46 58.2	
PALK	**Pallekele** comp=Z,124nm,21.2s,baz=275,slow=31	**23.24**	**98**	LR	LR	12 31 22.0	
KMBO	**Kilima Mbogo** 10nm,1.0s,baz=40,slow=12,SNR=14	**23.58**	**240**	P	**P**	**12 24 27.2**	**+1.2**
KMBO	comp=Z,54nm,21.2s,baz=96,slow=34			LR	LR	12 32 48.7	
GEYT	**Alibeck** 2.8nm,0.6s,baz=179,slow=11,SNR=4.1	**26.57**	**1**	P	**P**	**12 24 54.0**	**+1.1**
EIL	**Elat** comp=Z,92nm,18.6s,baz=61,slow=35	**27.86**	**314**	LR	LR	12 35 26.8	
MMAI	**Mount Meron Ar** comp=Z,66nm,18.3s,baz=35,slow=39	**29.67**	**320**	LR	LR	12 38 19.4	
GNI	**Garni** comp=Z,53nm,19.4s,baz=128,slow=39	**30.92**	**341**	LR	LR	12 39 18.9	
EKS2	**Erkin-Say** 10nm,1.0s	**34.36**	**22**	*e*P	**P**	**12 26 02.8**	**+1.0**
KBZ	**Khabaz** 4.4nm,0.9s,baz=179,slow=6.8,SNR=8.4	**34.74**	**341**	P	**P**	**12 26 05.4**	**+0.5**
KBZ	comp=Z,56nm,20.4s,baz=162,slow=39			LR	LR	12 41 47.7	
BRTR	**Keskin Array B** 1.1nm,0.6s,baz=140,slow=9.7,SNR=6.5	**35.38**	**327**	P	**P**	**12 26 11.1**	**+0.4**
BRTR	comp=Z,47nm,18.3s,baz=94,slow=38			LR	LR	12 41 43.8	
ABKAR	**Akbulak array** 2.6nm,0.8s	**37.94**	**3**	*e*P	**P**	**12 26 31.7**	**-0.5**
AKTO	**Aktyubinsk** 4.3nm,0.7s,baz=163,slow=7.5,SNR=14	**39.07**	**1**	P	**P**	**12 26 41.5**	**-0.3**
AKTO	comp=Z,40nm,18.7s,baz=80,slow=39			LR	LR	12 44 36.8	
LSZ	**Lusaka** 1.7nm,0.6s,baz=43,slow=11,SNR=4.8	**39.20**	**228**	P	**P**	**12 26 43.6**	**+0.2**
CMAR	**Chiang Mai Arr** 1.6nm,0.8s,baz=274,slow=9.2,SNR=7.8	**40.63**	**75**	P	**P**	**12 26 55.4**	**+0.2**
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=199,slow=8.8,SNR=5.4	**41.17**	**26**	P	**P**	**12 26 58.8**	**-0.5**
MKAR	comp=Z,28nm,19.1s,baz=219,slow=38			LR	LR	12 45 35.8	
MATP	**Matopo** 5.4nm,1.0s,baz=38,slow=8.1,SNR=7.9	**42.48**	**222**	P	**P**	**12 27 11.0**	**+0.6**
KURBB	**Kurchatov Arra** 0.6nm,0.6s,baz=216,slow=8.0,SNR=6.5	**42.89**	**20**	P	**P**	**12 27 12.8**	**-0.4**
BVAR	**Borovoye Array** 0.8nm,0.6s,baz=165,slow=6.0,SNR=5.0	**42.94**	**11**	P	**P**	**12 27 13.0**	**-0.5**
KURK	**Kurchatov**	**43.00**	**20**	P	**P**	**12 27 12.8**	**-1.3**
ZAA0	**Zalesovo Array**	**47.82**	**21**	*e*P	**P**	**12 27 51.2**	**-1.0**
ZALV	**Zalesovo Beam** 2.2nm,0.6s,baz=229,slow=7.6,SNR=6.7	**47.82**	**21**	P	**P**	**12 27 51.2**	**-1.0**
ZALV	comp=Z,39nm,19.0s,baz=244,slow=38			LR	LR	12 49 02.2	
TSUM	**Tsumeb** 1.2nm,0.7s,baz=45,slow=14,SNR=3.6	**49.62**	**233**	P	**P**	**12 28 07.2**	**+0.5**
BOSA	**Boshof** comp=Z,37nm,20.2s,baz=356,slow=34	**50.41**	**217**	LR	LR	12 48 04.7	
GERES	**GERESS Array B** 0.3nm,0.3s,baz=124,slow=8.8,SNR=3.0	**52.17**	**325**	P	**P**	**12 28 23.7**	**-1.8**
TORD	**Torodi Ar. Bea** 1.4nm,0.7s,baz=92,slow=6.6,SNR=8.4	**54.48**	**278**	P	**P**	**12 28 43.4**	**+0.5**
SONM	**Songino Array** 0.4nm,0.7s,baz=235,slow=8.4,SNR=3.4	**54.71**	**38**	P	**P**	**12 28 43.8**	**-0.5**
FINES	**FINESS Array B** 2.3nm,0.7s,baz=131,slow=13,SNR=6.0	**55.09**	**342**	P	**P**	**12 28 45.4**	**-1.2**
FINES	comp=Z,52nm,18.5s,baz=171,slow=38			LR	LR	12 54 27.1	
HFS	**Hagfors** 1.3nm,0.5s,baz=139,slow=9.2,SNR=7.6	**58.52**	**336**	P	**P**	**12 29 09.5**	**-1.4**
HFS	comp=Z,47nm,18.4s,baz=140,slow=39			LR	LR	12 57 07.6	
NOA	**NORSAR Array B** comp=Z,21nm,19.2s,baz=105,slow=39	**60.04**	**336**	LR	LR	12 57 52.6	
ESDC	**Sonseca Array** 0.4nm,0.5s,baz=80,slow=6.0,SNR=5.0	**60.98**	**309**	P	**P**	**12 29 27.8**	**-0.6**
ARCES	**ARCESS Array B** 3.8nm,0.8s,baz=127,slow=7.8,SNR=5.5	**61.70**	**348**	P	**P**	**12 29 31.4**	**-1.2**
H01W3	**Cape Leeuwin H** baz=300,slow=75,SNR=11	**70.55**	**133**	T	T	13 47 24.1	
H01W2	**Cape Leeuwin H** baz=300,slow=75,SNR=9.6	**70.55**	**133**	T	T	13 47 24.8	
H01W1	**Cape Leeuwin H** baz=300,slow=75,SNR=11	**70.56**	**133**	T	T	13 47 25.2	
MJAR	**Matsushiro Arr** 0.4nm,0.4s,baz=271,slow=5.6,SNR=8.5	**75.98**	**55**	P	**P**	**12 31 04.0**	**+1.8**
WRA	**Warramunga Arr** 0.6nm,1.0s,baz=294,slow=4.6,SNR=3.9	**81.71**	**112**	P	**P**	**12 31 32.8**	**-1.1**
ASAR	**Alice Springs** 0.4nm,0.5s,baz=292,slow=5.1,SNR=12	**82.30**	**116**	P	**P**	**12 31 35.9**	**-1.1**
AS31	**Alice Springs**	**82.31**	**116**	P	**P**	**12 31 36.9**	**-0.1**

*ISCJB **19** 12:20:43.8±0.6,52.°53N±0.°08×169.°4W±0.°1,h10km, mb3.6/6,MS3.0/1,Error ellipse: s-maj=14.2km s-min=5.5km az=140.0*

*IDC **19** 12:20:43.3±1.1,52.°54N×169.°50W,h0km,mb3.7/6, mb1 3.9/8,mb1mx3.6/31,mbtmp3.6/8,ML3.3/2,MS3.1/1, Ms1 3.1/1,ms1mx2.4/57,Error ellipse: s-maj=39.9km s-min=20.8km az=158.0*

*NEIC **19** 12:20:48.6,52.°77N×169.°23W,h4km,ML3.4(AEIC),After AEIC.*

ISC 19 12:20:46.6±1.0,52.°7N±0.°1×169.°24W±0.°07,h10km,n27, σ1°53/20,mb3.6/6,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.39**	**36**	P	**Pb**	**12 20 55.7**	**+0.1**
NIKH				S	**Sb**	**12 21 02.8**	**+1.1**
OKSP	**Okmok Steeple**	**0.82**	**44**	P	**Pb**	**12 21 03.5**	**+0.5**
OKSP				S	**Sn**	**12 21 15.4**	**-1.1**
MSOM	**Makushin Julie**	**1.80**	**49**	P	**Pb**	**12 21 19.8**	**+0.2**
MSOM				S	**Sb**	**12 21 41.8**	**-0.3**
MTBL	**Makushin Table**	**2.02**	**48**	P	**Pb**	**12 21 23.0**	**-0.4**
UNV	**Unalaska Valle**	**2.03**	**53**	P	**Pn**	**12 21 21.7**	**+0.9**
AKUT	**Akutan**	**2.54**	**53**	*e*Pn	**Pn**	**12 21 30.6**	**+2.7**
AKUT

*IDC **19** 12:25:59.4±1.1,52.˚63N×169.˚66W,h0km,mb3.7/6, mb1 4.0/7,mb1mx3.6/29,mbtmp3.6/7,ML3.4/1,MS2.9/1, Ms1 2.9/1,ms1mx2.3/54,Error ellipse: s-maj=48.8km s-min=21.5km az=148.0*

*ISCJB **19** 12:26:00.1±0.6,52.˚61N±0.˚08×169.˚4W±0.˚1,h10km, mb3.6/7,MS2.8/1,Error ellipse: s-maj=13.7km s-min=5.0km az=143.7*

*NEIC **19** 12:26:01.8,52.˚77N×169.˚38W,h4km,mb3.6/3, ML3.6(AEIC), After AEIC.*

ISC 19 12:26:01.3±0.8,52.˚7N±0.˚1×169.˚39W±0.˚07,h10km,n36, σ0s88/31,mb3.6/7,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.43**	**49**	P	**Pb**	**12 26 10.5**	**-0.5**
NIKH				S	**Sb**	**12 26 17.2**	**-0.2**
OKSP	**Okmok Steeple**	**0.87**	**50**	P	**Pb**	**12 26 18.1**	**-0.4**
OKSP				S	**Sb**	**12 26 30.3**	**+0.2**
OKCE	**Okmok Cone E**	**1.04**	**45**	P	**Pg**	**12 26 20.7**	**-0.5**
OKTU	**Okmok Mt. Tuli**	**1.07**	**49**	P	**Pb**	**12 26 21.5**	**-0.3**
MSOM	**Makushin Julie**	**1.85**	**52**	P	**Pn**	**12 26 33.2**	**+0.3**
MSOM				S	**Sb**	**12 26 57.5**	**-0.8**
MCIR	**Makushin Cirqu**	**1.96**	**49**	P	**Pn**	**12 26 35.5**	**+0.9**
MSW	**Makushin Switc**	**1.98**	**51**	P	**Pn**	**12 26 35.0**	**+0.1**
MTBL	**Makushin Table**	**2.07**	**51**	P	**Pn**	**12 26 36.9**	**+0.8**
UNV	**Unalaska Valle**	**2.08**	**55**	P	**Pn**	**12 26 35.7**	**-0.5**
UNV				S	**Sn**	**12 27 02.5**	**+0.4**
AKGG	**Akutan Green G**	**2.53**	**52**	P	**Pn**	**12 26 43.6**	**+1.2**
AKUT	**Akutan**	**2.60**	**55**	P	**Pn**	**12 26 44.3**	**+0.9**
ATKA	**Atka Island**	**2.98**	**262**	P	**Pn**	**12 26 49.2**	**+0.7**
WESP	**Westdahl Peak**	**3.31**	**55**	P	**Pn**	**12 26 55.0**	**+1.7**
GSTR	**Great Sitkin T**	**4.13**	**264**	Pn	Pn	12 27 08.6	+4.2
GSCK	**Great Sitkin C**	**4.21**	**263**	P	**Pn**	**12 27 06.4**	**+0.9**
SPIA	**Saint Paul Isl**	**4.52**	**354**	P	**Pn**	**12 27 11.1**	**+1.4**
RSO	**Redoubt South** 65nm,0.5s	**12.00**	**43**	Pn	Pn	12 28 59.4	+7.0
BPAW	**Bear Paw Mtn.** 0.9nm,0.9s	**14.88**	**33**	*e*Pn	**Pn**	**12 29 31.1**	**-0.4**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=228,slow=12,SNR=4.8	**16.69**	**35**	Pn	**Pn**	**12 29 54.1**	**-0.8**
COLD	**Coldfoot** 5.5nm,1.1s	**17.32**	**25**	*e*Pn	**P**	**12 30 04.0**	**-0.2**
HYT	**Haines Junctio** 3.1nm,0.5s	**19.11**	**52**	*e*P	**Pn**	**12 30 25.0**	**+0.1**
YKA	**Yellowknife Ar** 0.1nm,0.4s,baz=276,slow=7.2,SNR=4.4	**30.04**	**49**	P	**P**	**12 32 10.4**	**+0.5**
NEW	**Newport** comp=Z,21nm,20.7s,baz=226,slow=31	**32.94**	**76**	LR	LR	12 43 20.8	
MCMT	**McKenzie Canyo** 0.7nm,0.6s	**37.23**	**79**	P	**P**	**12 33 13.1**	**+0.2**
NVAR	**Mina Array Bea** 0.4nm,0.5s,baz=296,slow=6.9,SNR=5.0	**37.68**	**91**	P	**P**	**12 33 19.0**	**+2.2**
H11N2	**WAKE ISLAND Hy** baz=23,slow=76	**37.70**	**218**	T	T	13 13 16.5	
H11N3	**WAKE ISLAND Hy** baz=23,slow=76	**37.71**	**218**	T	T	13 13 16.2	
H11N1	**WAKE ISLAND Hy** baz=23,slow=76	**37.72**	**218**	T	T	13 13 17.9	
H11S1	**WAKE ISLAND Hy** baz=23,slow=76,SNR=365	**38.89**	**218**	T	T	13 14 44.9	
H11S2	**WAKE ISLAND Hy** baz=23,slow=76,SNR=192	**38.91**	**218**	T	T	13 14 46.0	
H11S3	**WAKE ISLAND Hy** baz=23,slow=76,SNR=178	**38.91**	**218**	T	T	13 14 46.5	
PDAR	**Pinedale Array** 0.5nm,0.6s,baz=340,slow=5.0,SNR=5.0	**40.35**	**79**	P	**P**	**12 33 39.4**	**+0.2**
TXAR	**Lajitas Array** 0.8nm,0.7s,baz=297,slow=5.4,SNR=14	**52.75**	**89**	P	**P**	**12 35 16.8**	**+0.4**
WRA	**Warramunga Arr** 0.6nm,0.7s,baz=33,slow=6.0,SNR=4.3	**87.20**	**232**	P	**P**	**12 38 45.9**	**-1.7**
ASAR	**Alice Springs** 0.6nm,0.6s,baz=29,slow=5.2,SNR=7.3	**90.60**	**230**	P	**P**	**12 39 02.9**	**-0.7**
MAW	**Mawson** 1.2nm,0.9s,baz=103,slow=3.3,SNR=4.1	**151.12**	**219**	PKPbc	**PKPbc**	**12 45 52.5**	**-0.6**

*IDC **19** 12:28:33.1±1.2,52.˚14N×169.˚38W,h0km,mb3.5/5, mb1 3.8/6,mb1mx3.4/68,mbtmp3.4/6,ML3.3/1,Error ellipse: s-maj=57.8km s-min=22.9km az=143.0*

*ISCJB **19** 12:28:34.2±0.8,52.˚51N±0.˚07×169.˚1W±0.˚1,h10km, mb3.4/5,Error ellipse: s-maj=14.1km s-min=6.3km az=38.0*

*NEIC **19** 12:28:35.7,52.˚91N×169.˚31W,h1km,ML3.1(AEIC), After AEIC.*

ISC 19 12:28:35.4±1.0,52.˚65N±0.˚10×169.˚04W±0.˚08,h10km,n24, σ1ş15/20,mb3.4/5,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.35**	**19**	P	**Pb**	**12 28 43.5**	**-0.1**
NIKH				S	**Sb**	**12 28 50.5**	**+1.2**
OKSP	**Okmok Steeple**	**0.76**	**36**	P	**Pn**	**12 28 51.1**	**-1.0**
OKSP				S	**Sn**	**12 29 03.0**	**-0.7**
OKCE	**Okmok Cone E**	**0.94**	**34**	P	**Pn**	**12 28 53.8**	**-0.9**
OKTU	**Okmok Mt. Tuli**	**0.95**	**39**	P	**Pn**	**12 28 54.6**	**-0.3**
MSOM	**Makushin Julie**	**1.72**	**46**	P	**Pb**	**12 29 06.4**	**-0.6**
MSOM				S	**Sg**	**12 29 30.6**	**-0.1**
MCIR	**Makushin Cirqu**	**1.84**	**44**	P	**Pb**	**12 29 08.4**	**-0.7**
MSW	**Makushin Switc**	**1.86**	**46**	P	**Pn**	**12 29 07.9**	**+0.6**
MTBL	**Makushin Table**	**1.94**	**46**	P	**Pn**	**12 29 09.4**	**+0.9**
UNV	**Unalaska Valle**	**1.94**	**51**	P	**Pn**	**12 29 09.4**	**+1.0**
UNV				S	**Sb**	**12 29 35.5**	**+0.4**
AKGG	**Akutan Green G**	**2.40**	**48**	P	**Pb**	**12 29 16.5**	**-2.1**
AKUT	**Akutan**	**2.46**	**51**	*e*Pn	**Pn**	**12 29 17.0**	**+1.5**
ATKA	**Atka Island**	**3.19**	**264**	P	**Pn**	**12 29 26.2**	**+0.7**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=228,slow=12,SNR=4.7	**16.61**	**34**	Pn	**P**	**12 32 31.5**	**+1.0**
YKA	**Yellowknife Ar** 0.3nm,0.8s,baz=278,slow=6.9,SNR=3.3	**29.91**	**49**	P	P	12 34 47.9	+5.0
H11N2	**WAKE ISLAND Hy** baz=24	**37.80**	**219**	T	T	13 15 50.0	
H11N3	**WAKE ISLAND Hy** baz=24	**37.80**	**219**	T	T	13 15 52.0	
H11N1	**WAKE ISLAND Hy** baz=24	**37.81**	**219**	T	T	13 15 51.1	
H11S1	**WAKE ISLAND Hy** baz=22,slow=76,SNR=28	**38.98**	**218**	T	T	13 17 18.1	
H11S2	**WAKE ISLAND Hy** baz=22,slow=76,SNR=33	**39.00**	**218**	T	T	13 17 21.8	
H11S3	**WAKE ISLAND Hy** baz=22,slow=76,SNR=42	**39.00**	**218**	T	T	13 17 22.0	
PDAR	**Pinedale Array** 0.3nm,0.5s,baz=330,slow=6.6,SNR=2.0	**40.16**	**80**	P	**P**	**12 36 12.6**	**+1.0**
TXAR	**Lajitas Array** 0.4nm,0.8s,baz=308,slow=5.8,SNR=4.1	**52.54**	**89**	P	**P**	**12 37 49.8**	**+0.9**
WRA	**Warramunga Arr** 0.5nm,1.0s,baz=36,slow=5.6,SNR=3.1	**87.33**	**232**	P	P	12 41 18.9	-3.5
ASAR	**Alice Springs** 0.2nm,0.6s,baz=29,slow=5.4,SNR=5.3	**90.73**	**230**	P	**P**	**12 41 36.0**	**-2.3**

*IDC **19** 12:29:11.8±1.4,52.˚67N×170.˚30W,h0km,mb3.5/4, mb1 3.9/4,mb1mx3.3/69,mbtmp3.5/4,Error ellipse: s-maj=98.2km s-min=28.9km az=150.0*

*ISCJB **19** 12:29:13.7±1.2,52.˚7N±0.˚1×169.˚5W±0.˚2,h10km,mb3.5/4, Error ellipse: s-maj=22.6km s-min=8.9km az=148.7*

*NEIC **19** 12:29:16.3,52.˚79N×169.˚24W,h10km,ML3.3(AEIC),After AEIC.*

ISC 19 12:29:17.6±1.3,52.˚8N±0.˚1×169.˚21W±0.˚08,h10km,n12, σ0s80/13,mb3.5/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.26**	**57**	P	**Pg**	**12 29 22.4**	**-0.4**
NIKH				S	**Sb**	**12 29 29.3**	**+0.4**
OKSP	**Okmok Steeple**	**0.70**	**52**	P	**Pg**	**12 29 30.2**	**-0.8**
OKSP				S	**Sb**	**12 29 42.2**	**+0.7**
OKTU	**Okmok Mt. Tuli**	**0.90**	**51**	P	**Pg**	**12 29 34.3**	**-0.6**
MTBL	**Makushin Table**	**1.90**	**52**	P	**Pn**	**12 29 49.4**	**-0.7**
UNV	**Unalaska Valle**	**1.92**	**57**	P	**Pn**	**12 29 49.6**	**-0.6**
UNV				S	**Sb**	**12 30 16.4**	**-0.1**
AKGG	**Akutan Green G**	**2.36**	**53**	P	**Pn**	**12 29 55.2**	**-1.2**
ATKA	**Atka Island**	**3.11**	**260**	P	**Pn**	**12 30 05.8**	**-0.8**
SPIA	**Saint Paul Isl**	**4.40**	**353**	P	**Pn**	**12 30 23.9**	**-0.3**
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=277,slow=7.7,SNR=4.4	**29.87**	**49**	P	**P**	**12 35 25.9**	**+1.1**
TXAR	**Lajitas Array** 0.4nm,0.6s,baz=292,slow=4.6,SNR=5.3	**52.65**	**89**	P	**P**	**12 38 32.4**	**+0.6**
WRA	**Warramunga Arr** 0.3nm,0.9s,baz=40,slow=5.3,SNR=3.1	**87.37**	**232**	P	P	12 41 56.8	-7.9
ASAR	**Alice Springs**	**90.76**	**230**	P	P	12 42 14.6	-6.0
	0.4nm,0.7s,baz=26,slow=4.6,SNR=5.7						

*IDC **19** 12:39:28.7±1.1,6.˚25S×150.˚79E,h0km,mb3.9/7, mb1 4.1/8,mb1mx3.8/39,mbtmp3.9/8,ML2.0/1,MS2.8/1, Ms1 2.8/1,ms1mx2.4/34,Error ellipse: s-maj=36.3km s-min=22.1km az=129.0*

*ISCJB **19** 12:39:33.0±1.0,6.˚4S±0.˚2×150.˚8E±0.˚1,h36km,mb3.8/6, Error ellipse: s-maj=28.9km s-min=10.8km az=144.2*

ISC 19 12:39:34.2±1.0,6.˚3S±0.˚2×150.˚8E±0.˚2,h36km,n9, σ0s72/10,mb3.9/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 4.4nm,0.3s,baz=59,slow=8.9,SNR=15	**4.71**	**229**	Pn	**Pn**	**12 40 43.4**	**+0.7**
PMG				Sn	**Sn**	**12 41 35.5**	**-0.6**
	4.4nm,0.3s,baz=145,slow=18,SNR=4.0						
PMG				LR	LR	12 42 31.4	
	comp=Z,91nm,18.4s,baz=220,slow=38						
WRA	**Warramunga Arr** 3.5nm,0.4s,baz=53,slow=11,SNR=54	**20.93**	**228**	P	**P**	**12 44 13.6**	**-0.4**
DZM	**Mont Dzumac** 3.0nm,0.6s	**21.79**	**138**	P	**P**	**12 44 22.9**	**-0.3**
ASAR	**Alice Springs** 1.1nm,0.6s,baz=56,slow=9.0,SNR=44	**23.67**	**221**	P	**P**	**12 44 42.9**	**+0.2**
STKA	**Stephens Creek** 3.6nm,1.0s,baz=30,slow=13,SNR=5.7	**26.83**	**197**	P	**P**	**12 45 10.7**	**-0.6**
MAW	**Mawson** 0.5nm,0.5s,baz=73,slow=17,SNR=2.9	**83.39**	**203**	P	**P**	**12 51 58.1**	**+0.7**
ILAR	**Eielson Array** 0.5nm,0.8s,baz=270,slow=4.5,SNR=5.0	**84.33**	**22**	P	**P**	**12 52 01.4**	**-0.9**
NVAR	**Mina Array Bea** 0.5nm,0.7s,baz=259,slow=7.7,SNR=4.1	**94.61**	**52**	P	**P**	**12 52 52.8**	**+0.8**
TORD	**Torodi Ar. Bea** 0.9nm,0.4s,baz=48,slow=2.2,SNR=13	**148.79**	**285**	PKPbc	**PKPbc**	**12 59 18.6**	**-0.4**

IDC 19 12:40:14.4±1.2,52.˚46N×169.˚64W,h0km,mb3.6/3, mb1 3.7/4,mb1mx3.3/60,mbtmp3.4/4,ML3.1/1,Error ellipse: s-maj=70.7km s-min=24.7km az=141.0,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array** 0.0nm,0.3s,baz=233,slow=8.9,SNR=4.0	**16.97**	**35**	Pn	Pn	12 44 10.8	-2.1
H11N2	**WAKE ISLAND Hy** baz=19	**37.42**	**218**	T	T	13 26 48.7	
H11N3	**WAKE ISLAND Hy** baz=19	**37.43**	**218**	T	T	13 26 48.7	
H11N1	**WAKE ISLAND Hy** baz=19	**37.44**	**218**	T	T	13 26 48.6	
H11S1	**WAKE ISLAND Hy** baz=22	**38.61**	**218**	T	T	13 28 17.8	
H11S2	**WAKE ISLAND Hy** baz=22	**38.63**	**218**	T	T	13 28 18.3	
H11S3	**WAKE ISLAND Hy** baz=22	**38.63**	**218**	T	T	13 28 18.5	
PDAR	**Pinedale Array** 0.4nm,0.6s,baz=328,slow=6.6,SNR=3.3	**40.55**	**79**	P	P	12 47 55.1	-0.4
WRA	**Warramunga Arr** 0.2nm,0.6s,baz=37,slow=5.4,SNR=2.8	**86.93**	**231**	P	P	12 53 00.6	-0.5
ASAR	**Alice Springs** 0.3nm,0.6s,baz=23,slow=5.1,SNR=8.3	**90.33**	**230**	P	P	12 53 17.6	+0.5

*ISCJB **19** 12:40:40.8±0.6,52.˚60N±0.˚08×169.˚6W±0.˚1,h10km, mb3.7/10,Error ellipse: s-maj=13.6km s-min=6.2km az=140.5*

*IDC **19** 12:40:40.5±0.9,52.˚59N×169.˚63W,h0km,mb3.8/9, mb1 4.0/11,mb1mx3.7/61,mbtmp3.7/11,ML3.3/2,MS3.0/1, Ms1 3.1/1,ms1mx2.4/38,Error ellipse: s-maj=33.6km s-min=17.5km az=154.0*

*NEIC **19** 12:40:43.6,52.˚61N×169.˚25W,h5km,mb3.8/3, ML3.7(AEIC),After AEIC.*

ISC 19 12:40:43.4±0.8,52.˚68N±0.˚09×169.˚34W±0.˚07,h10km,n34, σ1ş26/29,mb3.7/10,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.41**	**45**	P	**Pg**	**12 40 52.6**	**+1.1**
NIKH				S	**Sb**	**12 41 00.0**	**+0.9**
OKWE	**Okmok W'ng Wal**	**1.03**	**39**	P	**Pb**	**12 41 04.0**	**+0.7**
OKAK	**Okmok**	**1.08**	**33**	P	**Pb**	**12 41 02.3**	**-1.7**
OKAK				S	**Sg**	**12 41 15.6**	**-2.5**
MCIR	**Makushin Cirqu**	**1.94**	**48**	P	**Pn**	**12 41 17.3**	**+0.8**
MCIR				S	**Sb**	**12 41 44.4**	**+1.2**
MSW	**Makushin Switc**	**1.97**	**50**	P	**Pn**	**12 41 17.7**	**+0.9**
UNV	**Unalaska Valle**	**2.06**	**54**	P	**Pn**	**12 41 17.5**	**-0.6**
UNV				S	**Sn**	**12 41 43.9**	**+0.1**
ZRO	**Akutan Zero**	**2.46**	**54**	P	**Pn**	**12 41 23.9**	**+0.4**
AKUT	**Akutan**	**2.58**	**54**	P	**Pn**	**12 41 25.7**	**+0.5**
ATKA	**Atka Island**	**3.01**	**263**	P	**Pn**	**12 41 33.1**	**+2.0**
SPIA	**Saint Paul Isl**	**4.54**	**354**	P	**Pn**	**12 41 53.3**	**+1.3**
BPAW	**Bear Paw Mtn.** 1.4nm,0.7s	**14.88**	**33**	*e*Pn	**Pn**	**12 44 15.3**	**+1.8**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=225,slow=13,SNR=5.6	**16.68**	**35**	Pn	**Pn**	**12 44 35.5**	**-1.5**
ILAR				LR	LR	12 51 31.7	
	comp=Z,57nm,20.3s,baz=240,slow=39						
COLD	**Coldfoot** 2.9nm,0.9s	**17.32**	**25**	Pn	**P**	**12 44 47.6**	**+1.2**
HYT	**Haines Junctio** 9.3nm,0.6s	**19.09**	**52**	*e*P	**Pn**	**12 45 07.5**	**+0.7**
PETK	**Petropavlovsk-** 0.1nm,0.3s,baz=90,slow=14,SNR=2.6	**19.80**	**284**	P	**P**	**12 45 11.6**	**-2.1**
H02N1	**VAN INLET T-PH**	**22.01**	**74**	T	T	13 08 17.7	
H02S1	**DAWSON INLET T** SNR=12	**22.07**	**74**	T	T	13 08 22.0	
DLBC	**Dease Lake** 1.4nm,0.9s,baz=257,slow=12,SNR=2.3	**22.71**	**60**	P	**P**	**12 45 45.5**	**+0.5**
INK	**Inuvik** 1.0nm,0.5s,baz=219,slow=6.5,SNR=3.3	**23.08**	**34**	P	**P**	**12 45 48.5**	**-0.2**
BBB	**Bella Bella** 6.3nm,1.0s,baz=276,slow=19,SNR=2.4	**24.90**	**75**	P	**P**	**12 46 06.9**	**+0.8**
YKA	**Yellowknife Ar** 0.2nm,0.4s,baz=277,slow=7.0,SNR=4.8	**30.02**	**49**	P	**P**	**12 46 51.9**	**0.0**
MCMT	**McKenzie Canyo** 1.0nm,0.5s	**37.20**	**79**	*e*P	**P**	**12 47 55.3**	**+0.5**
NVAR	**Mina Array Bea** 0.5nm,0.8s,baz=279,slow=7.5,SNR=5.3	**37.65**	**91**	P	**P**	**12 47 59.8**	**+1.1**
H11N2	**WAKE ISLAND Hy** baz=22	**37.71**	**218**	T	T	13 28 18.2	
H11N3	**WAKE ISLAND Hy** baz=22	**37.72**	**218**	T	T	13 27 59.2	
H11N1	**WAKE ISLAND Hy** baz=22	**37.73**	**218**	T	T	13 28 01.4	
H11S1	**WAKE ISLAND Hy** baz=23	**38.90**	**218**	T	T	13 28 58.7	
H11S2	**WAKE ISLAND Hy** baz=23	**38.91**	**218**	T	T	13 29 29.7	
H11S3	**WAKE ISLAND Hy** baz=23	**38.92**	**218**	T	T	13 29 30.5	
PDAR	**Pinedale Array** 0.1nm,0.8s,baz=326,slow=5.1,SNR=7.4	**40.33**	**80**	P	**P**	**12 48 21.0**	**0.0**
SONM	**Songino Array** 0.8nm,0.6s,baz=90,slow=2.9,SNR=5.9	**51.16**	**301**	PcP	**PcP**	**12 51 00.1**	**-1.7**
TXAR	**Lajitas Array** 1.5nm,0.6s,baz=298,slow=5.4,SNR=9.9	**52.72**	**89**	P	**P**	**12 49 57.8**	**-0.4**
WRA	**Warramunga Arr** 0.5nm,0.8s,baz=34,slow=5.8,SNR=5.6	**87.21**	**232**	P	P	12 53 26.7	-3.0
ASAR	**Alice Springs** 1.5nm,0.8s,baz=31,slow=4.9,SNR=11	**90.61**	**230**	P	**P**	**12 53 43.9**	**-1.8**

MSW	**Makushin Switc**	**1.94**	**48**	P	**Pn**	**12 44 50.5**	**+0.1**
UNV	**Unalaska Valle**	**2.04**	**53**	P	**Pn**	**12 44 51.7**	**+0.1**
AKUT	**Akutan**	**2.56**	**53**	*e*Pn	**Pn**	**12 44 59.0**	**+0.3**
ATKA	**Atka Island**	**3.07**	**264**	P	**Pn**	**12 45 06.7**	**+0.9**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=226,slow=12,SNR=5.0	**16.68**	**35**	Pn	**Pn**	**12 48 09.8**	**-1.0**
H02N1	**VAN INLET T-PH**	**21.97**	**74**	T	T	13 11 58.6	
H02S1	**DAWSON INLET T** SNR=4.1	**22.02**	**74**	T	T	13 12 05.0	
INK	**Inuvik** 0.7nm,0.7s,baz=237,slow=9.5,SNR=4.8	**23.07**	**34**	P	**P**	**12 49 20.6**	**-2.0**
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=271,slow=7.4,SNR=3.6	**30.00**	**49**	P	**P**	**12 50 26.4**	**+0.8**
H11N2	**WAKE ISLAND Hy** baz=24	**37.72**	**219**	T	T	13 31 29.9	
H11N3	**WAKE ISLAND Hy** baz=24	**37.73**	**219**	T	T	13 31 29.8	
H11N1	**WAKE ISLAND Hy** baz=24	**37.74**	**219**	T	T	13 31 31.8	
H11S1	**WAKE ISLAND Hy** baz=22	**38.91**	**218**	T	T	13 32 58.7	
H11S2	**WAKE ISLAND Hy** baz=22	**38.92**	**218**	T	T	13 33 02.0	
H11S3	**WAKE ISLAND Hy** baz=22	**38.93**	**218**	T	T	13 33 02.2	
PDAR	**Pinedale Array** 0.3nm,0.4s,baz=317,slow=3.7,SNR=4.3	**40.27**	**80**	P	**P**	**12 51 55.3**	**+0.8**
TXAR	**Lajitas Array** 0.6nm,0.5s,baz=298,slow=5.0,SNR=5.9	**52.66**	**89**	P	**P**	**12 53 32.8**	**+1.1**
WRA	**Warramunga Arr** 0.3nm,0.8s,baz=34,slow=6.2,SNR=3.2	**87.24**	**232**	P	**P**	**12 57 02.3**	**-1.5**
ASAR	**Alice Springs** 0.4nm,0.7s,baz=35,slow=4.4,SNR=6.4	**90.64**	**230**	P	**P**	**12 57 18.9**	**-0.9**

*IDC **19** 12:44:31.1±1.0,52.˚78N×169.˚85W,h0km,mb3.7/7, mb1 4.0/8,mb1mx3.6/63,mbtmp3.6/8,ML3.6/1,Error ellipse: s-maj=42.7km s-min=19.6km az=144.0*

*NEIC **19** 12:44:34.1,52.˚70N×169.˚25W,h5km,ML3.6(AEIC),After AEIC.*

ISC 19 12:44:33.8±0.8,52.˚7N±0.˚2×169.˚3W±0.˚1,h10km,n16, σ1ş27/19,mb3.6/7,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.37**	**50**	P	**Pb**	**12 44 42.3**	**-0.2**
NIKH				S	**Sb**	**12 44 49.0**	**+0.7**
OKWR	**Okmok West Rim**	**0.97**	**44**	P	**Pg**	**12 44 52.9**	**+0.4**
OKRE	**Okmok R'deer P**	**1.05**	**41**	P	**Pb**	**12 44 54.4**	**+0.3**
MGOD	**Makushin Gods**	**1.81**	**53**	P	**Pn**	**12 45 04.9**	**-0.2**
MGOD				S	**Sb**	**12 45 29.9**	**0.0**
MTBL	**Makushin Table**	**2.01**	**51**	P	**Pn**	**12 45 08.9**	**+1.1**
UNV	**Unalaska Valle**	**2.03**	**56**	P	**Pn**	**12 45 08.2**	**+0.2**
UNV				S	**Sb**	**12 45 35.7**	**-0.2**
ATKA	**Atka Island**	**3.03**	**262**	P	**Pn**	**12 45 23.4**	**+1.7**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=232,slow=11,SNR=4.2	**16.63**	**35**	Pn	**Pn**	**12 48 26.0**	**-0.8**
INK	**Inuvik** 1.1nm,0.6s,baz=249,slow=8.9,SNR=3.6	**23.02**	**34**	P	**P**	**12 49 37.2**	**-1.3**
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=274,slow=8.0,SNR=6.7	**29.98**	**49**	P	**P**	**12 50 42.6**	**+0.6**
NVAR	**Mina Array Bea** 0.4nm,0.7s,baz=289,slow=8.3,SNR=3.2	**37.64**	**91**	P	**P**	**12 51 51.3**	**+2.3**
PDAR	**Pinedale Array** 0.7nm,0.7s,baz=342,slow=5.7,SNR=4.0	**40.31**	**80**	P	**P**	**12 52 11.4**	**+0.1**
TXAR	**Lajitas Array** 1.3nm,0.8s,baz=298,slow=5.3,SNR=9.2	**52.71**	**89**	P	**P**	**12 53 49.6**	**+1.0**
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=34,slow=6.0,SNR=4.6	**87.25**	**232**	P	**P**	**12 57 17.7**	**-2.7**
ASAR	**Alice Springs** 0.7nm,0.7s,baz=25,slow=5.2,SNR=9.0	**90.65**	**230**	P	**P**	**12 57 34.8**	**-1.6**
MAW	**Mawson** 1.8nm,1.1s,baz=0.0,slow=0.0,SNR=3.8	**151.18**	**219**	PKPbc	**PKPbc**	**13 04 24.4**	**-1.3**

*NNC **19** 12:47:27.6±3.9,54.˚07N×87.˚27E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=30.6km s-min=25.3km az=4.0*

IDC 19 12:47:26.0±2.8,54.˚25N×87.˚28E,h0km,mb1 3.1/3, mb1mx3.0/58,mbtmp3.1/3,ML2.9/3,4C-4D,Error ellipse: s-maj=25.4km s-min=15.4km az=70.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=78,slow=317,SNR=12	**1.48**	**259**	*i*		12 56 23.8	
ZALV	**Zalesovo Beam** 2.8nm,0.3s,baz=78,slow=16,SNR=33	**1.48**	**259**	Pg	Pn	12 47 52.3	-1.6
ZALV				Lg	Lg	12 48 12.9	
	2.0nm,0.3s,baz=76,slow=21,SNR=4.9						
KURK	**Kurchatov** 1.1nm,0.8s	**6.37**	**240**	⇑Pn	Pn	12 49 00.8	-0.2
KURK				⇑Sn	Sn	12 50 13.9	-0.4
	0.4nm,0.5s						
KURK				⇑Lg	Lg	12 50 51.1	
	1.6nm,0.7s						
KURBB	**Kurchatov Arra** 1.7nm,0.6s,baz=54,slow=14	**6.47**	**239**	⇑Pn	Pn	12 49 01.9	-0.5
KURBB				⇓Sn	Sn	12 50 17.0	+0.2
	2.1nm,0.5s						
KURBB				⇓Lg	Lg	12 50 53.6	
	3.8nm,0.6s,baz=11,slow=23						
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=55,slow=14,SNR=11	**6.47**	**239**	Pn	Pn	12 49 02.6	+0.2
KURBB				Lg	Lg	12 50 51.1	
	0.0nm,0.3s,baz=55,slow=36,SNR=3.7						
MK31	**Makanchi Array** 0.5nm,0.6s,baz=26,slow=12,SNR=3.8	**8.11**	**205**	⇓Pn	Pn	12 49 26.3	+1.3
MK31				⇓Sn	Sn	12 50 55.5	-1.9
	0.4nm,0.5s						
MK31				Lg	Lg	12 51 37.9	
	4.1nm,1.2s,baz=26,slow=14,SNR=7.6						
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=21,slow=12,SNR=3.9	**8.11**	**205**	Pn	Pn	12 49 25.9	+0.8
MKAR				Sn	Sn	12 50 57.6	+0.2
	0.1nm,0.3s,baz=24,slow=23,SNR=4.6						
MKAR				Lg	Lg	12 51 44.2	
	0.1nm,0.3s,baz=20,slow=31,SNR=3.2						
BVAR	**Borovoye Array** 0.2nm,0.3s,baz=75,slow=14,SNR=3.2	**10.11**	**270**	Pn	Pn	12 49 51.6	-0.7

NEIC 19 12:51:24.8,52.˚69N×169.˚59W,h18km,ML3.0(AEIC), After AEIC.,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.53**	**57**	P	Pg	12 51 34.7	-0.7
NIKH				S	Sb	12 51 42.9	+0.2
OKSP	**Okmok Steeple**	**0.96**	**54**	P	Pb	12 51 42.5	-0.5
OKAK	**Okmok**	**1.16**	**39**	P	Pn	12 51 43.6	-2.4
OKAK				S	Sb	12 51 58.1	-2.7
MSOM	**Makushin Julie**	**1.94**	**54**	P	Pn	12 51 57.0	+0.3
MCIR	**Makushin Cirqu**	**2.05**	**51**	P	Pn	12 51 59.0	+0.7
MSW

NIKH S Sb 12 52 17.9 0.0
OKSP Okmok Steeple 0.90 50 P Pb 12 52 18.1 -0.6
OKCE Okmok Cone E 1.08 46 P Pb 12 52 20.6 -1.0
OKCE S Sg 12 52 35.8 -0.3
MGOD Makushin Gods 1.91 53 P Pn 12 52 34.0 +0.7
MCIR Makushin Cirqu 1.99 49 P Pn 12 52 35.4 +0.9
MTBL Makushin Table 2.10 51 P Pn 12 52 37.0 +1.0
UNV Unalaska Valle 2.12 56 P Pn 12 52 35.7 -0.5
UNV S Sn 12 53 02.0 -0.2
AKRB Akutan Reef Bi 2.49 53 P Pn 12 52 41.6 +0.3
ZRO Akutan Zero 2.51 54 P Pn 12 52 41.9 +0.3
AKUT Akutan 2.64 55 ePn Pn 12 52 42.8 -0.5
ATKA Atka Island 2.94 262 P Pb 12 52 50.9 -2.5
GSTR Great Sitkin T 4.09 264 ePn Pn 12 53 03.6 +0.3
GSTR eSn Sn 12 53 52.4 +1.5
FALS False Pass 4.19 56 ePn Pn 12 53 06.8 +2.2
SPIA Saint Paul Isl 4.53 355 P Pn 12 53 11.2 +2.0
DTNA Dutton South F 4.92 57 P Pn 12 53 16.3 +1.7
SDPT Sand Point 5.93 60 ePn Pn 12 53 30.5 +2.1
AMKA Amchitka 7.06 264 ePn Pn 12 53 46.4 +2.4
173nm,0.5s
CHGN Chignik 7.38 56 ePn Pn 12 53 50.8 +2.5
SMY Shemya 9.99 277 eP Pn 12 54 25.6 +1.5
SMY pmax pmax
comp=Z,44nm,0.8s
SMY Shemya 9.99 277 ePn Pn 12 54 25.6 +1.5
comp=Z,44nm,0.8s
OHAK Old Harbor 10.34 58 ePn Pn 12 54 28.2 -0.7
KDAK Kodiak Island 10.89 55 i P Pn 12 54 36.2 -0.2
SVW2 Sparrevohn 11.32 36 ePn Pn 12 54 44.5 +2.2
RSO Redoubt South 12.03 43 ePn Pn 12 54 53.6 +1.3
comp=Z,76nm,0.9s
PPLA Purkeypile 13.71 35 ePn Pn 12 55 17.3 +2.3
CAST Castle Rocks 14.09 33 ePn Pn 12 55 22.9 +2.7
PMR Palmer 14.13 43 eP Pn 12 55 22.1 +1.5
PMR pmax pmax
comp=Z,9.0nm,0.8s
PMR Palmer 14.13 43 ePn Pn 12 55 22.1 +1.5
comp=Z,8.7nm,0.8s
SML Sawmill 14.57 43 eP Pn 12 55 26.8 +0.1
SML pmax pmax
comp=Z,7.0nm,1.0s
SML Sawmill 14.57 43 ePn Pn 12 55 26.8 +0.1
comp=Z,6.6nm,1.0s
TRF Thorofare Moun 14.73 35 ePn P 12 55 32.5 -2.6
BPAW Bear Paw Mtn. 14.91 33 ePn Pn 12 55 33.1 +1.8
DIV Divide 15.37 47 ePn Pn 12 55 35.6 -1.9
comp=Z,21nm,1.1s
MCK McKinley 15.38 36 eP Pn 12 55 39.6 +2.0
MCK pmax pmax
comp=Z,51nm,1.6s
MCK McKinley 15.38 36 ePn Pn 12 55 39.6 +2.0
comp=Z,51nm,1.6s
KLU Klutina 15.45 46 ePn Pn 12 55 35.8 -2.7
comp=Z,20nm,0.9s
IM04 Indian Mountai 15.47 24 ePn Pn 12 55 40.8 +2.1
BMRM Bremner River 15.84 49 ePn Pn 12 55 42.1 -1.5
comp=Z,35nm,1.2s
HARP HAARP 16.17 43 ePn Pn 12 55 49.0 +1.3
comp=Z,31nm,0.9s
CCB Clear Creek Bu 16.33 34 ePn Pn 12 55 49.4 -0.3
comp=Z,41nm,1.2s
COLA College 16.45 34 eP Pn 12 55 51.4 +0.1
COLA pmax pmax
comp=Z,27nm,1.0s
COLA College 16.45 34 ePn Pn 12 55 51.4 +0.1
comp=Z,27nm,1.0s
HDA Harding Lake 16.48 36 ePn Pn 12 55 51.1 -0.6
comp=Z,11nm,0.8s
ILAR Eielson Array 16.72 35 Pn Pn 12 55 52.5 -2.2
comp=Z,0.3nm,0.3s,baz=226,slow=11,SNR=24
ILAR LR LR 13 02 29.1
comp=Z,363nm,20.8s,baz=233,slow=38
ILAR Eielson Array 16.72 35 Pn Pn 12 55 52.5 -2.2
COLD Coldfoot 17.35 25 eP P 12 56 05.1 +1.2
comp=Z,44nm,1.3s
HYT Haines Junctio 19.15 52 ePn Pn 12 56 25.1 +0.4
PET Petropavlovsk 19.19 284 eP Pn 12 56 25.4 +0.3
PET eS Sn 12 59 57.1 -2.5
PET pmax pmax
comp=Z,23nm,0.9s
PET MLR MLR
comp=Z,200nm,20.0s
PET MLR MLR
comp=Z,200nm,17.0s
PET Petropavlovsk 19.19 284 ePn Pn 12 56 26.1 +1.0
comp=Z,32nm,1.2s
BILL Bilibino 19.30 332 eP Pn 12 56 28.6 +2.2
BILL Bilibino 19.30 332 ePn Pn 12 56 28.6 +2.2
PETK Petropavlovsk- 19.73 284 P Pn 12 56 31.2 -0.4
comp=Z,0.6nm,0.3s,baz=93,slow=13,SNR=7.7
PETK LR LR 13 04 07.1
comp=Z,129nm,21.2s,baz=91,slow=37
PETK Petropavlovsk- 19.73 284 P Pn 12 56 34.7 -0.5
SKAG Skagway 20.04 57 eP Pn 12 56 34.7 -0.5
comp=Z,56nm,1.1s
BESE Bessie Mountai 20.23 59 eP P 12 56 36.6 +0.9
comp=Z,28nm,1.4s
H02N1 VAN INLET T-PH 22.08 74 T T 13 19 39.0
SNR=39
H02S1 DAWSON INLET T 22.13 74 T T 13 19 47.9
SNR=93
SEY Seymchan 22.42 312 P P 12 56 59.6 +0.5
comp=Z,6.3nm,1.0s,baz=111,slow=10.0,SNR=9.9
SEY PcP PcP 13 00 53.2 +0.2
comp=Z,0.8nm,0.4s,baz=128,slow=4.3,SNR=5.9
SEY Seymchan 22.42 312 P P 12 56 59.6 +0.5
SEY PcP PcP 13 00 53.2 +0.2
DLBC Dease Lake 22.77 60 P P 12 57 04.3 +1.4
comp=Z,14nm,1.0s,baz=274,slow=9.9,SNR=22
DLBC LR LR 13 06 55.0
comp=Z,203nm,18.5s,baz=258,slow=39
DLBC Dease Lake 22.77 60 eP P 12 57 04.7 +1.8
INK Inuvik 23.11 34 P P 12 57 03.9 -2.3
comp=Z,7.9nm,0.8s,baz=249,slow=9.3,SNR=12
INK PcP PcP 13 00 54.4 +0.1
comp=Z,2.0nm,0.7s,baz=222,slow=0.7,SNR=3.9
INK LR LR 13 06 40.3
comp=Z,381nm,20.0s,baz=254,slow=38
INK Inuvik 23.11 34 P P 12 57 03.9 -2.3
INK 13 00 54.4
INK pmax pmax
comp=Z,8.0nm,0.8s
INK MLR MLR
comp=Z,381nm,20.0s
INK Inuvik 23.11 34 eP P 12 57 03.5 -2.7
comp=Z,10nm,0.8s
INK PcP PcP 13 00 54.4 +0.1
BBB Bella Bella 24.96 74 P P 12 57 24.3 +0.5
comp=Z,8.6nm,1.0s,baz=173,slow=8.1,SNR=1.9
BBB LR LR 13 04 49.1
comp=Z,154nm,21.5s,baz=242,slow=31
BBB Bella Bella 24.96 74 P P 12 57 24.3 +0.5
YKA Yellowknife Ar 30.07 49 P P 12 58 08.9 -0.6
comp=Z,1.5nm,0.6s,baz=272,slow=7.6,SNR=14
YKA PcP PcP 13 01 11.1 +0.4
comp=Z,1.3nm,0.9s,baz=286,slow=2.6,SNR=5.0
YKA Yellowknife Ar 30.07 49 P P 12 58 08.9 -0.6
YKA PcP PcP 13 01 11.1 +0.4
D05A Enumclaw 30.58 81 eP P 12 58 16.4 +2.1
comp=Z,34nm,1.1s
LON Longmire 30.90 82 eP P 12 58 19.1 +2.0
LON pmax pmax
comp=Z,36nm,2.2s
LON Longmire 30.90 82 eP P 12 58 19.1 +2.0
comp=Z,36nm,2.2s
I03D Drain, OR 31.54 88 P P 12 58 24.2 +1.6
baz=31
B08A Colville Reser 31.63 77 eP P 12 58 24.3 +0.8
comp=Z,8.0nm,0.8s
B08A ePcP PcP 13 01 15.9 +0.6
G05D Wamic, OR 31.95 84 P P 12 58 27.8 +1.5
baz=32
I04A Tendick Farm, 32.05 87 P P 12 58 29.4 +2.1
baz=32,SNR=8.1
L02D Cave Junction, 32.24 90 P P 12 58 29.8 +1.0
baz=32
I05D Terrebonne, OR 32.41 85 P P 12 58 32.0 +1.6
baz=32
HAWA Hanford 32.45 81 eP P 12 58 31.2 +0.6
comp=Z,15nm,1.1s
D08A Wollman Farm, 32.49 79 eP P 12 58 31.8 +0.8
comp=Z,17nm,1.4s
J04D Umpqua Nationa 32.54 88 P P 12 58 32.3 +0.6
baz=32

YAK Yakutsk 32.93 311 eP P 12 58 33.3 -1.3
YAK e 13 01 17.3
YAK pmax pmax
comp=Z,14nm,1.2s
YAK pmax pmax
comp=E,6.0nm,1.8s
YAK MLR MLR
comp=Z,137nm,19.0s
YAK MLR MLR
comp=N,112nm,18.0s
NEW Newport 32.98 76 eP P 12 58 35.8 +0.4
NEW pmax pmax
comp=Z,12nm,0.9s
NEW Newport 32.98 76 P P 12 58 35.9 +0.6
baz=33,SNR=12
NEW Newport 32.98 76 eP P 12 58 35.8 +0.4
comp=Z,12nm,0.9s
J05D Fort Rock, OR 33.05 87 P P 12 58 37.1 +1.0
baz=33,SNR=5.4
EDM Edmonton 33.06 66 eP P 12 58 36.1 +0.1
EDM Edmonton 33.06 66 eP P 12 58 36.1 +0.1
G08A Pilot Rock 33.35 82 eP P 12 58 39.5 +0.8
M04C Macdoel 33.53 90 P P 12 58 39.8 -0.5
baz=33
K05A Summer Lake 33.57 87 eP P 12 58 43.0 +2.3
comp=Z,40nm,1.2s
MOD Modoc 34.40 88 eP P 12 58 49.1 +1.2
comp=Z,23nm,1.3s
MOD ePcP PcP 13 01 24.1 +0.9
WALA Waterton Lakes 34.50 73 eP P 12 58 48.5 -0.2
comp=Z,5.8nm,0.9s
BSMT Bassoo Peak 34.56 76 eP P 12 58 49.6 +0.4
comp=Z,7.8nm,0.9s
BMO Blue Mountains 34.58 82 eP P 12 58 49.5 +0.2
comp=Z,28nm,1.8s
BLMT Blacktail Moun 34.73 75 eP P 12 58 51.2 +0.5
JTMT Jette 34.91 75 eP P 12 58 52.7 +0.6
YBMT Yellow Bay 35.01 75 eP P 12 58 52.7 -0.3
comp=Z,5.5nm,0.8s
WVOR Wild Horse Val 35.11 86 eP P 12 58 54.4 +0.5
WVOR pmax pmax
comp=Z,35nm,1.3s
WVOR Wild Horse Val 35.11 86 eP P 12 58 54.4 +0.5
comp=Z,35nm,1.3s
SWMT Swartz Lake 35.19 76 eP P 12 58 54.7 +0.1
comp=Z,1.7nm,0.7s
MSO Missoula 35.56 77 P P 12 58 57.7 -0.1
baz=35,SNR=6.3
MSO Missoula 35.56 77 eP P 12 58 57.9 0.0
comp=Z,24nm,1.5s
MSO ePcP PcP 13 01 26.6 +0.2
SLMT Seeley Lake 35.62 76 eP P 12 58 58.4 +0.1
comp=Z,5.4nm,0.7s
MFID Camas Ranch 36.25 83 eP P 12 59 04.1 +0.3
comp=Z,13nm,1.1s
HRY Holter Researc 36.87 76 eP P 12 59 09.1 +0.1
comp=Z,6.4nm,0.6s
LRM Limekiln Ridge 36.97 77 eP P 12 59 09.3 -0.7
comp=Z,22nm,0.9s
HLID Hailey 37.02 82 P P 12 59 10.5 +0.1
baz=37,SNR=10
HLID Hailey 37.02 82 eP P 12 59 10.3 -0.1
comp=Z,12nm,1.3s
HLID ePcP PcP 13 01 31.9 +1.0
DLMT Dillon 37.13 78 eP P 12 59 11.6 +0.4
comp=Z,21nm,1.9s
DLMT ePcP PcP 13 01 32.2 +1.0
BMN Battle Mountai 37.14 88 eP P 12 59 12.4 +1.0
BMN e 13 01 32.3
BMN pmax pmax
comp=Z,19nm,1.3s
BMN Battle Mountai 37.14 88 eP P 12 59 12.4 +1.0
comp=Z,19nm,1.3s
BMN ePcP PcP 13 01 32.3 +0.9
MCMT McKenzie Canyo 37.27 79 eP P 12 59 12.7 +0.2
EGMT Eagleton 37.42 73 P P 12 59 13.4 -0.2
baz=37,SNR=14
EGMT Eagleton 37.42 73 eP P 12 59 13.3 -0.2
comp=Z,26nm,1.0s
BOZ Bozeman (W) 37.55 77 eP P 12 59 15.0 +0.2
BOZ pmax pmax
comp=Z,9.0nm,0.6s
BOZ Bozeman (W) 37.55 77 P P 12 59 14.8 0.0
baz=37,SNR=18
BOZ Bozeman (W) 37.55 77 eP P 12 59 15.0 +0.2
comp=Z,9.0nm,0.6s
A19A Klindworth Far 37.55 71 P P 12 59 14.3 -0.4
baz=37
H11N2 WAKE ISLAND Hy 37.67 218 T T 13 39 13.7
baz=24,slow=76,SNR=147
H11N3 WAKE ISLAND Hy 37.68 218 T T 13 39 15.6
baz=24,slow=76,SNR=197
H11N1 WAKE ISLAND Hy 37.69 218 T T 13 39 14.9
baz=24,slow=76,SNR=97
NVAR Mina Array Bea 37.72 91 P P 12 59 17.8 +1.4
comp=Z,4.3nm,0.8s,baz=304,slow=5.3,SNR=17
NVAR PcP PcP 13 01 33.9 +0.7
comp=Z,3.1nm,0.8s,baz=290,slow=2.0,SNR=7.6
NVAR Mina Array Bea 37.72 91 P P 12 59 17.8 +1.4
NVAR PcP PcP 13 01 33.9 +0.7
ELK Elko 38.16 86 eP P 12 59 20.7 +0.6
ELK pmax pmax
comp=Z,9.0nm,0.9s
ELK Elko 38.16 86 eP P 12 59 20.6 +0.6
comp=Z,9.2nm,0.9s
A21A Bergtoll Ranch 38.56 70 P P 12 59 22.7 -0.5
baz=38
C20A Veseth Ranch, 38.59 72 P P 12 59 23.6 +0.1
baz=38,SNR=5.9
FFC Flin Flon 38.60 59 eP P 12 59 23.3 -0.1
FFC pmax pmax
comp=Z,8.0nm,1.1s
FFC Flin Flon 38.60 59 eP P 12 59 23.2 -0.1
comp=Z,8.0nm,1.1s
TPH Tonopah 38.60 91 eP P 12 59 24.7 +0.9
TPH pmax pmax
comp=Z,28nm,1.6s
TPH Tonopah 38.60 91 eP P 12 59 24.7 +0.9
comp=Z,28nm,1.6s
USRK Ussuriysk Ar. 38.78 282 PcP PcP 13 01 37.2 +1.0
comp=Z,0.7nm,0.3s,baz=238,slow=22,SNR=6.9
USRK LR LR 13 14 29.2
comp=Z,93nm,22.0s,baz=58,slow=35
H17A Grant Village 38.86 78 P P 12 59 26.9 +0.9
baz=39
H17A Grant Village 38.86 78 ePcP PcP 13 01 39.5 +2.8
H11S1 WAKE ISLAND Hy 38.86 218 T T 13 40 43.4
baz=23,slow=76,SNR=448
LKWY Lake 38.87 78 eP P 12 59 27.9 +1.9
LKWY pmax pmax
comp=Z,16nm,0.7s
LKWY Lake 38.87 78 eP P 12 59 27.9 +1.9
comp=Z,16nm,0.7s
H11S2 WAKE ISLAND Hy 38.87 218 T T 13 40 45.2
baz=23,slow=76,SNR=586
H11S3 WAKE ISLAND Hy 38.88 218 T T 13 40 44.7
baz=23,slow=76,SNR=485
FLWY Flagg Ranch 38.96 78 eP P 12 59 27.4 +0.6
comp=Z,8.0nm,1.0s
FXWY Fox Creek 39.01 79 eP P 12 59 28.1 +0.8
comp=Z,23nm,2.2s
FXWY ePcP PcP 13 01 38.0 +0.8
HVU Hansel Valley 39.04 83 eP P 12 59 28.4 +1.0
HVU Hansel Valley 39.04 83 eP P 12 59 28.4 +1.0
C21A Desert Coulee 39.06 71 P P 12 59 27.5 +0.1
baz=39
PKM Peak Mountain 39.11 97 P P 12 59 28.5 +0.4
baz=39
MOOW Moose Ponds 39.12 79 eP P 12 59 28.8 +0.7
comp=Z,24nm,2.3s
CWC Cottonwood Cre 39.14 94 P P 12 59 28.5 +0.2
baz=39
TPAW Teton Pass 39.14 79 eP P 12 59 29.0 +0.6
comp=Z,3.7nm,0.7s
GRAC Grapevine Rang 39.20 92 P P 12 59 28.9 +0.2
baz=39
RLMT Red Lodge 39.23 76 P P 12 59 29.1 0.0
baz=39,SNR=15
RLMT Red Lodge 39.23 76 eP P 12 59 29.5 +0.5
comp=Z,20nm,1.0s
REDW Red Top Meadow 39.28 80 eP P 12 59 30.4 +0.9
comp=Z,29nm,1.9s
LOHW Long Hollow 39.28 79 eP P 12 59 29.6 +0.1
comp=Z,2.2nm,0.7s
BGU Big Grassy Mou 39.39 84 eP P 12 59 30.2 -0.1
comp=Z,6.9nm,1.0s
ISA Isabella 39.41 95 eP P 12 59 31.8 +1.3

ISA Isabella 39.41 95 eP P 12 59 31.8 +1.3
comp=Z,892nm,1.1s
R11A Troy Canyon, C 39.43 89 P P 12 59 31.0 +0.4
baz=39,SNR=26
R11A Troy Canyon, C 39.43 89 eP P 12 59 31.1 +0.5
comp=Z,23nm,1.3s
DAC Darwin (Calif) 39.54 93 eP P 12 59 32.2 +0.5
DAC pmax pmax
comp=Z,29nm,1.8s
DAC Darwin (Calif) 39.54 93 eP P 12 59 32.2 +0.5
comp=Z,30nm,1.8s
H19A Powell 39.65 77 P P 12 59 32.6 +0.1
baz=39,SNR=7.0
MAJO Matsushiro 39.66 267 eP P 12 59 32.5 0.0
MAJO pmax pmax
comp=Z,13nm,1.0s
MAJO Matsushiro 39.66 267 eP P 12 59 32.5 0.0
comp=Z,13nm,1.0s
MAT Matsushiro 39.66 267 P P 12 59 32.7 +0.3
MAT S S 13 05 35.8 +0.7
MJAR Matsushiro Arr 39.66 267 P P 12 59 32.2 -0.2
comp=Z,3.2nm,0.8s,baz=51,slow=6.8,SNR=9.7
MJAR PcP PcP 13 01 38.8 -0.3
comp=Z,2.9nm,0.9s,baz=138,slow=0.2,SNR=6.2
MJAR Matsushiro Arr 39.66 267 P P 12 59 32.2 -0.2
MJAR PcP PcP 13 01 38.8 -0.3
MPMC Manual Prospec 39.75 94 P P 12 59 33.6 +0.2
baz=40,SNR=6.1
G20A Bridger 39.80 75 P P 12 59 33.6 -0.1
baz=40,SNR=15
BSC Santa Cruz Isl 39.84 98 P P 12 59 34.9 +0.9
baz=40
FURC Furnace Creek, 39.86 93 P P 12 59 34.3 +0.3
baz=40
HWUT Hardware Ranch 39.87 82 eP P 12 59 35.1 +0.8
comp=Z,9.4nm,1.3s
TPNV Topopah Spring 39.92 91 P P 12 59 35.3 +0.5
baz=40,SNR=13
DUG Dugway 39.97 85 eP P 12 59 35.9 +0.8
DUG pmax pmax
comp=Z,32nm,1.2s
DUG Dugway 39.97 85 P P 12 59 35.6 +0.5
baz=40,SNR=24
DUG Dugway 39.97 85 eP P 12 59 35.9 +0.8
comp=Z,32nm,1.2s
I19A Meeteetse 40.00 77 P P 12 59 35.1 -0.3
baz=40
LRMC Laurel Mountai 40.01 94 P P 12 59 35.5 0.0
baz=40
F21A Absaloka Mine, 40.11 74 P P 12 59 35.7 -0.4
baz=40
LAO LASA Array 40.16 72 P P 12 59 36.7 +0.1
baz=40
LAO LASA Array 40.16 72 eP P 12 59 37.1 +0.5
comp=Z,5.4nm,0.5s
EDW2 Edwards Air Fo 40.23 95 P P 12 59 37.6 +0.3
baz=40
TCUT Toone Canyon 40.26 83 eP P 12 59 38.3 +0.6
comp=Z,14nm,1.1s
CTU Camp Tracy 40.31 84 eP P 12 59 39.0 +1.1
comp=Z,11nm,1.1s
H20A Greybull 40.34 76 P P 12 59 37.5 -0.6
baz=40
G21A Lodge Grass 40.39 75 P P 12 59 38.2 -0.3
baz=40,SNR=6.3
BW06 Boulder Array 40.39 79 eP P 12 59 38.6 -0.2
comp=Z,6.3nm,0.8s
PDAR Pinedale Array 40.39 79 P P 12 59 38.8 +0.1
comp=Z,8.3nm,0.9s,baz=329,slow=5.5,SNR=44
PDAR LR LR 13 14 10.7
comp=Z,108nm,20.3s,baz=314,slow=33
PDAR Pinedale Array 40.39 79 P P 12 59 38.8 +0.1
J19A Crowheart 40.41 78 P P 12 59 38.6 -0.2
baz=40
E22A Miles City 40.46 73 P P 12 59 39.2 +0.2
baz=40
JLU Jordanelle 40.54 83 eP P 12 59 40.8 +0.8
comp=Z,31nm,1.6s
NLU North Lily Min 40.56 85 eP P 12 59 41.0 +0.8
comp=Z,13nm,1.1s
I20A Worland 40.56 77 P P 12 59 40.3 +0.3
baz=40,SNR=9.5
SHOC Shoshone 40.59 93 P P 12 59 40.4 +0.3
baz=40,SNR=6.2
GSC Goldstone 40.66 94 eP P 12 59 42.1 +1.2
GSC pmax pmax
comp=Z,20nm,1.1s
GSC Goldstone 40.66 94 P P 12 59 41.3 +0.4
baz=40,SNR=10
GSC Goldstone 40.66 94 eP P 12 59 42.1 +1.2
comp=Z,20nm,1.1s
C24A Savage 40.75 70 P P 12 59 41.3 0.0
baz=40
FCC Fort Churchill 40.78 51 eP P 12 59 41.1 -0.3
FCC pmax pmax
comp=Z,10.0nm,1.0s
FCC Fort Churchill 40.78 51 eP P 12 59 41.1 -0.3
comp=Z,10nm,1.0s
E23A Ismay 40.80 72 P P 12 59 42.1 +0.3
baz=40
H21A Big Horn, Sher 40.82 75 P P 12 59 41.8 -0.4
baz=41
BFSC Mount Baldy Ra 40.87 96 P P 12 59 43.1 +0.5
baz=41,SNR=5.3
SHPR Sheep Range 40.87 91 eP P 12 59 43.6 +1.0
G22A Birney 40.93 74 P P 12 59 42.5 -0.5
baz=41
J20A Shoshoni 40.93 78 P P 12 59 43.2 +0.1
baz=41,SNR=9.7
D24A Glendive 41.03 71 P P 12 59 44.1 +0.4
baz=41,SNR=6.0
B25A Knox Farm, Ray 41.08 69 P P 12 59 43.3 -0.8
baz=41
TUQ Turquoise Moun 41.11 93 P P 12 59 44.3 -0.3
baz=41
I21A Big Trails, Te 41.14 77 P P 12 59 44.5 -0.3
baz=41,SNR=11
F23A Volborg 41.17 73 P P 12 59 44.8 -0.1
baz=41,SNR=6.2
H22A Clearmont 41.25 75 P P 12 59 45.1 -0.5
baz=41
HEC Hector,Ludlow 41.27 94 P P 12 59 46.0 +0.2
baz=41,SNR=8.6
CCUT Cedar City 41.29 88 eP P 12 59 46.5 +0.4
comp=Z,41nm,1.8s
BBRC Big Bear Solar 41.30 95 P P 12 59 47.0 +0.8
baz=41
J21A Lysite 41.32 77 P P 12 59 46.0 -0.3
baz=41,SNR=15
E24A Baker 41.34 71 P P 12 59 46.5 +0.2
baz=41
A26A Wade Farm, Ken 41.38 67 P P 12 59 46.0 -0.5
baz=41
MVU Marysvale 41.38 86 eP P 12 59 47.4 +0.5
comp=Z,14nm,1.1s
MSU Marysvale 41.40 86 eP P 12 59 47.8 +0.7
MSU pmax pmax
comp=Z,14nm,1.2s
MSU Marysvale 41.40 86 eP P 12 59 47.8 +0.7
comp=Z,14nm,1.2s
G23A Biddle 41.47 74 P P 12 59 46.9 -0.5
baz=41
TMUT Trail Mountain 41.49 85 eP P 12 59 48.5 +0.6
comp=Z,28nm,1.1s
I22A 9 Mile Ranch, 41.57 76 P P 12 59 47.5 -0.8
baz=41
F24A Ekalaka 41.66 72 P P 12 59 48.8 -0.1
baz=41,SNR=5.5
GMRC Granite Mounta 41.71 93 P P 12 59 49.6 +0.1
baz=42,SNR=15
BOD Bodaibo 41.76 309 eP P 12 59 48.2 -1.3
BOD pmax pmax
comp=Z,5.0nm,0.8s
LDFC Landfair 41.85 93 eP P 12 59 51.3 +0.6
comp=Z,20nm,0.9s
J22A Midwest 41.85 77 P P 12 59 50.5 -0.2
baz=42,SNR=25
E25A Miller Ranch, 41.90 71 P P 12 59 50.8 -0.1
baz=42
G24A Alzada 41.97 73 P P 12 59 50.9 -0.6
baz=42,SNR=5.4
SRU San Rafael 42.02 85 eP P 12 59 53.0 +0.9
SRU pmax pmax
comp=Z,25nm,1.2s
SRU San Rafael 42.02 85 eP P 12 59 53.0 +0.9
comp=Z,25nm,1.2s
PFO Pinyon Flat Ob 42.02 95 eP P 12 59 52.5 +0.4
PFO pmax pmax

comp=Z,11nm,1.4s
PFO **Pinyon Flat Ob** 42.02 95 P P 12 59 52.2 +0.1
baz=42,SNR=5.3
PFO **Pinyon Flat Ob** 42.02 95 eP P 12 59 52.5 +0.4
comp=Z,11nm,1.4s
BELC **Belle Mtn. Jos** 42.03 95 P P 12 59 52.2 0.0
baz=42,SNR=5.7
F25A **Bowman** 42.19 72 P P 12 59 52.9 -0.3
baz=42
H24A **Dirks Ranch, A** 42.22 74 P P 12 59 52.3 -1.2
baz=42
K22A **Casper** 42.27 78 P P 12 59 53.2 -0.9
baz=42
K22A **Casper** 42.27 78 eP P 12 59 53.9 -0.2
comp=Z,9.7nm,0.8s
C27A **Sayler Ranch,** 42.31 68 P P 12 59 53.6 -0.6
baz=42
A28A **Rude Farm, Bot** 42.36 66 P P 12 59 54.1 -0.5
baz=42
J23A **Dilts Ranch, B** 42.41 76 P P 12 59 54.7 -0.4
baz=42
IRM **Iron Mountain** 42.44 94 P P 12 59 55.9 +0.5
baz=42,SNR=8.9
E26A **Carlson Angus** 42.45 70 P P 12 59 54.4 -1.0
baz=42
BAR **Barrett** 42.53 97 eP P 12 59 57.3 +1.1
comp=Z,17nm,1.1s
MONP **Monument Peak** 42.54 96 P P 12 59 56.6 +0.2
baz=42,SNR=5.2
B28A **Dugan Ranch, T** 42.56 67 P P 12 59 55.6 -0.5
baz=42
BC3 **Big Chuckawall** 42.60 95 P P 12 59 56.7 -0.1
baz=42
G25A **Newell** 42.62 73 P P 12 59 56.1 -0.7
baz=42
D27A **Center** 42.63 69 P P 12 59 56.4 -0.4
baz=42
F26A **Lodgepole** 42.68 71 P P 12 59 56.9 -0.3
baz=42
I24A **Kuemmerle Ranc** 42.68 75 P P 12 59 56.6 -0.8
baz=42
K23A **Bowen Ranch, D** 42.74 77 P P 12 59 57.5 -0.4
baz=42
O20A **White River Ci** 42.77 82 P P 12 59 58.0 -0.2
baz=42,SNR=22
O20A **White River Ci** 42.77 82 eP P 12 59 58.0 -0.2
comp=Z,33nm,0.9s
H25A **Fruitdale** 42.84 73 P P 12 59 57.8 -0.8
baz=43
RSSD **Black Hills** 42.88 74 eP P 12 59 57.4 -1.7
RSSD pmax pmax
comp=Z,14nm,1.5s
RSSD **Black Hills** 42.88 74 eP P 12 59 57.4 -1.7
comp=Z,14nm,1.5s
SWSC **Sam W. Stewart** 42.88 96 P P 12 59 58.8 -0.2
baz=43
A29A **Manning Farm,** 42.93 66 P P 12 59 58.5 -0.7
baz=43
C28A **Hausauer Farms** 42.94 68 P P 12 59 59.0 -0.3
baz=43
PDMCI **Parker Dam,Lak** 42.96 93 P P 12 59 59.2 -0.4
baz=43
J24A **Dixon Ranch, L** 42.97 76 P P 12 59 59.5 -0.3
baz=43
G26A **Maurine** 43.04 72 P P 12 59 59.9 -0.2
baz=43,SNR=7.0
F27A **Lemmon** 43.04 71 P P 12 59 59.7 -0.5
baz=43
Y12C **Blythe** 43.10 94 P P 13 00 01.0 +0.3
baz=43
D28A **Regan** 43.13 69 P P 13 00 00.5 -0.3
baz=43
H26A **Fairpoint** 43.33 73 P P 13 00 01.4 -1.1
baz=43
G27A **Dupree** 43.38 71 P P 13 00 02.2 -0.7
baz=43
GLA **Glamis** 43.39 95 eP P 13 00 03.3 +0.2
GLA pmax pmax
comp=Z,19nm,1.2s
GLA **Glamis** 43.39 95 P P 13 00 03.1 0.0
baz=43,SNR=11
GLA **Glamis** 43.39 95 eP P 13 00 03.3 +0.2
comp=Z,19nm,1.2s
PV04 **Paradox Valley** 43.46 84 eP P 13 00 04.1 +0.3
N23A **Red Feather La** 43.68 79 P P 13 00 05.3 -0.3
baz=43,SNR=9.3
B30A **Myrvik Farm, E** 43.69 66 P P 13 00 04.0 -1.3
baz=43
PV01 **Paradox Valley** 43.82 84 eP P 13 00 06.9 +0.2
comp=Z,906nm,0.7s
WUAZ **Wupatki** 43.83 89 P P 13 00 07.7 +1.0
baz=44,SNR=13
WUAZ **Wupatki** 43.83 89 eP P 13 00 07.7 +1.0
comp=Z,26nm,1.0s
J26A **Sides Ranch, S** 43.92 75 P P 13 00 06.7 -0.6
baz=44
C30A **Mose, Pekin** 44.02 67 P P 13 00 07.2 -0.8
baz=44
ULM **Lac du Bonnet** 44.05 62 P P 13 00 06.6 -1.5
comp=Z,2.2nm,0.6s,baz=296,slow=7.1,SNR=2.7
ULM PcP PcP 13 01 52.4 -0.8
baz=3.0,slow=6.6
ULM LR LR 13 18 59.2
comp=Z,126nm,18.6s,baz=327,slow=37
ULM **Lac du Bonnet** 44.05 62 P P 13 00 06.6 -1.5
ULM PcP PcP 13 01 52.5 -0.8
I27A **Quinn** 44.07 73 P P 13 00 07.5 -1.0
baz=44
G28A **Parade** 44.14 71 P P 13 00 07.0 -1.9
baz=44
D30A **Buchanan** 44.20 68 P P 13 00 09.4 -0.1
baz=44
F29A **Eureka** 44.32 70 P P 13 00 10.5 +0.1
baz=44
E30A **Jud** 44.46 68 P P 13 00 11.3 -0.2
baz=44
MVCO **Mesa Verde** 44.46 85 P P 13 00 11.4 -0.5
baz=44,SNR=6.2
MVCO **Mesa Verde** 44.46 85 eP P 13 00 11.8 -0.1
comp=Z,30nm,1.5s
M25A **Palm-Egli Farm** 44.47 77 P P 13 00 12.0 +0.2
baz=44
ISCO **Idaho Springs** 44.55 80 eP P 13 00 13.1 +0.4
ISCO pmax pmax
comp=Z,21nm,1.9s
ISCO **Idaho Springs** 44.55 80 P P 13 00 12.1 -0.6
baz=44
ISCO **Idaho Springs** 44.55 80 eP P 13 00 13.1 +0.4
comp=Z,21nm,1.9s
I28A **Midland** 44.62 73 P P 13 00 12.3 -0.6
baz=44
G29A **Hoven** 44.64 71 P P 13 00 11.3 -1.7
baz=44
K27A **Flueckinger Fa** 44.77 75 P P 13 00 13.9 -0.2
baz=44
F30A **Leola** 44.78 69 P P 13 00 13.9 -0.2
baz=44
H29A **Onida** 44.81 71 P P 13 00 13.9 -0.4
baz=44
J28A **Allard Ranch,** 44.93 73 P P 13 00 14.9 -0.5
baz=45
W18A **Petrified Fore** 45.09 88 P P 13 00 17.7 +0.8
baz=45,SNR=8.4
W18A **Petrified Fore** 45.09 88 eP P 13 00 17.4 +0.6
comp=Z,34nm,1.2s
I29A **Vivian Onida** 45.11 72 P P 13 00 16.2 -0.6
baz=45
G30A **Faulkton** 45.12 70 P P 13 00 16.4 -0.4
baz=45
S22A **4UR Ranch, Cre** 45.13 83 P P 13 00 17.5 +0.2
baz=45,SNR=11
AGMN **Agassiz Nation** 45.14 65 P P 13 00 15.9 -0.9
baz=45,SNR=5.3
AGMN **Agassiz Nation** 45.14 65 eP P 13 00 15.8 -1.1
comp=Z,8.4nm,0.9s
K28A **Ten Mile Ranch** 45.28 74 P P 13 00 17.9 -0.2
baz=45
KSRS **Korea Array** 45.32 276 P P 13 00 18.5 +0.1
comp=Z,3.2nm,0.9s,baz=48,slow=7.5,SNR=7.2
KSRS PcP PcP 13 01 58.5 +0.7
comp=Z,2.6nm,0.9s,baz=61,slow=3.0,SNR=7.7
KSRS LR LR 13 19 00.9
comp=Z,82nm,19.8s,baz=60,slow=36
KSRS **Korea Array** 45.32 276 P P 13 00 18.5 +0.1
KSRS 13 01 58.6
KSRS pmax pmax
comp=Z,3.0nm,0.9s
KSRS MLR MLR
comp=Z,82nm,19.8s
KSAR **Wonju Array Be** 45.35 276 P P 13 00 18.5 -0.1
KSAR 13 01 58.6
KSAR **Wonju Array Be** 45.35 276 P P 13 00 18.5 -0.1
KSAR PcP PcP 13 01 58.5 +0.6
214A **Organ Pipe Nat** 45.38 94 P P 13 00 19.6 +0.6
baz=45,SNR=11
214A **Organ Pipe Nat** 45.38 94 eP P 13 00 19.5 +0.5
comp=Z,17nm,0.9s
J29A **Okreek** 45.47 73 P P 13 00 19.3 -0.3
baz=45,SNR=8.8
O26A **Horse Wrangler** 45.65 78 P P 13 00 19.7 -1.5
baz=45
N27A **Anderson Farm,** 45.76 77 P P 13 00 22.0 0.0
baz=46
SDCO **Great Sand Dun** 45.93 82 P P 13 00 24.0 +0.4
baz=46,SNR=16
SDCO **Great Sand Dun** 45.93 82 eP P 13 00 23.8 +0.2
comp=Z,12nm,1.0s
OGNE **Ogallala** 45.97 77 P P 13 00 23.8 +0.2
baz=46
J30A **Dallas** 46.00 72 P P 13 00 23.7 -0.1
baz=46
P26A **Davis Ranch, A** 46.06 79 P P 13 00 25.0 +0.5
baz=46,SNR=12
O27A **Beecher Island** 46.18 78 P P 13 00 25.0 -0.4
baz=46
K30A **Basset** 46.33 73 P P 13 00 25.4 -0.9
baz=46
Q26A **Hugo** 46.36 80 P P 13 00 27.0 +0.1
baz=46
TUC **Tucson** 46.36 92 eP P 13 00 27.0 +0.2
TUC pmax pmax
comp=Z,18nm,1.1s
TUC **Tucson** 46.36 92 eP P 13 00 27.0 +0.2
comp=Z,18nm,1.1s
JNU **Nakatsue** 46.41 270 P P 13 00 27.0 -0.2
comp=Z,3.4nm,0.8s,baz=29,slow=19,SNR=3.7
JNU LR LR 13 18 32.3
comp=Z,215nm,21.9s,baz=99,slow=34
JNU **Nakatsue** 46.41 270 P P 13 00 27.0 -0.2
M29A **Burnside Ranch** 46.46 75 P P 13 00 26.9 -0.6
baz=46
R26A **Arlington** 46.81 80 P P 13 00 30.5 +0.2
baz=47,SNR=16
KSCO **Kaye Shedlock'** 46.84 79 P P 13 00 30.8 +0.3
baz=47
KSCO **Kaye Shedlock'** 46.84 79 eP P 13 00 31.3 +0.7
comp=Z,26nm,0.9s
T25A **Trinidad** 46.98 82 P P 13 00 32.6 +0.8
baz=47,SNR=23
P28A **Saint Francis** 47.00 78 P P 13 00 31.7 -0.1
baz=47
LAZ **Ladron** 47.15 87 eP P 13 00 33.8 +0.7
comp=Z,12nm,1.2s
ANMO **Albuquerque** 47.20 86↓ eP P 13 00 33.2 -0.3
ANMO pmax pmax
comp=Z,47nm,1.3s
ANMO **Albuquerque** 47.20 86 eP P 13 00 33.5 +0.1
comp=Z,11nm,1.1s
ANMO ePcP PcP 13 02 05.7 +0.9
R27A **Eads** 47.21 80 P P 13 00 33.6 +0.2
baz=47,SNR=12
O29A **4D Ranch, Culb** 47.22 77 P P 13 00 33.2 -0.2
baz=47
S26A **Kim** 47.23 81 P P 13 00 33.8 +0.2
baz=47,SNR=18
Q28A **Sharon Springs** 47.28 78 P P 13 00 33.5 -0.5
baz=47
ECSD **EROS Data Cent** 47.41 70 P P 13 00 33.4 -1.4
baz=47
ECSD **EROS Data Cent** 47.41 70 eP P 13 00 33.2 -1.6
comp=Z,7.9nm,1.1s
T26A **Comanche Natio** 47.45 82 P P 13 00 34.9 -0.5
baz=47,SNR=7.9
P29A **Atwood** 47.47 77 P P 13 00 35.1 -0.3
baz=47
LPM **Los Pinos Moun** 47.52 87 eP P 13 00 36.4 +0.4
comp=Z,16nm,1.1s
S27A **Las Animas** 47.54 81 P P 13 00 35.8 -0.2
baz=47,SNR=7.3
O30A **MW Ranch, Wils** 47.62 76 P P 13 00 36.6 +0.1
baz=47
EYMN **Ely** 47.73 63 P P 13 00 36.2 -1.0
baz=47,SNR=5.9
EYMN **Ely** 47.73 63 eP P 13 00 36.5 -0.7
comp=Z,18nm,1.3s
R28A **Tribune** 47.76 79 P P 13 00 37.3 -0.4
baz=48
Q29A **Oakley** 47.90 78 P P 13 00 38.6 -0.2
baz=48
P30A **Selden** 47.92 77 P P 13 00 38.8 0.0
baz=48
121A **Cookes Peak, D** 48.04 89 P P 13 00 40.6 +0.6
baz=48,SNR=13
121A **Cookes Peak, D** 48.04 89 eP P 13 00 40.4 +0.5
comp=Z,29nm,1.3s
T27A **Campo** 48.05 81 P P 13 00 39.4 -0.6
baz=48
O31A **Woolen Ranch,** 48.07 76 P P 13 00 39.5 -0.5
baz=48
R29A **Marienthal** 48.11 79 P P 13 00 40.3 -0.1
baz=48,SNR=7.1
S28A **Manter** 48.20 80 P P 13 00 41.2 +0.1
baz=48,SNR=6.6
Q30A **Quinter** 48.30 77 P P 13 00 41.0 -0.8
baz=48
U27A **Thompson Grove** 48.41 82 P P 13 00 42.6 -0.2
baz=48,SNR=5.3
P31A **Stockton** 48.45 76 P P 13 00 42.4 -0.5
baz=48
SPMN **St. Paul** 48.65 66 P P 13 00 43.5 -0.8
baz=48
CBKS **Cedar Bluff** 48.69 77 P P 13 00 44.3 -0.5
baz=48
R30A **Dighton** 48.71 78 P P 13 00 44.9 -0.1
baz=48,SNR=7.1
U28A **Mallet** 48.80 81 P P 13 00 45.4 -0.4
baz=49
P32A **Huiting Farm,** 48.84 76 P P 13 00 44.9 -1.0
baz=49
V27A **Dan Oppiter Fa** 48.85 83 P P 13 00 45.7 -0.4
baz=49
S30A **Montezuma** 49.02 79 P P 13 00 47.3 -0.1
baz=49
O33A **Hebron** 49.15 75 P P 13 00 47.4 -0.9
baz=49
R31A **Burdett** 49.16 78 P P 13 00 47.6 -0.8
baz=49
V28A **Channing** 49.22 82 P P 13 00 48.5 -0.5
baz=49
Q32A **Meitler Ranch,** 49.27 76 P P 13 00 48.5 -0.8
baz=49
V29A **Stinnett** 49.56 81 P P 13 00 50.6 -1.0
baz=49
O34A **Beatrice** 49.60 74 P P 13 00 51.2 -0.5
baz=49
S31A **Mullinville** 49.62 78 P P 13 00 51.7 -0.3
baz=49
U30A **WK&E Inc. Balk** 49.65 80 P P 13 00 51.9 -0.3
baz=49
Q33A **Connelly Farm,** 49.70 76 P P 13 00 51.7 -0.7
baz=49
N35A **Tabor** 49.78 73 P P 13 00 52.1 -0.9
baz=50
R33A **Olander Ranch,** 50.06 77 P P 13 00 54.3 -1.0
baz=50
MSTX **Muleshoe** 50.09 84 P P 13 00 55.8 +0.2
baz=50
MSTX **Muleshoe** 50.09 84 eP P 13 00 55.8 +0.2
comp=Z,36nm,1.3s
T32A **Huddler Ranch,** 50.25 78 P P 13 00 56.2 -0.5
baz=50
Q34A **Chapman** 50.27 75 P P 13 00 56.4 -0.5
baz=50
P35A **Duane Minner,** 50.42 74 P P 13 00 57.1 -0.9
baz=50
X29A **Tulia** 50.42 83 P P 13 00 56.9 -1.2
baz=50
Y28A **McKinney Farm,** 50.45 84 P P 13 00 57.9 -0.5
baz=50,SNR=5.2
R34A **Isabella, Hill** 50.50 76 P P 13 00 57.7 -0.9
baz=50
S33A **Kaszmaul Farm,** 50.52 77 P P 13 00 58.1 -0.6
baz=50
V31A **Spring Creek L** 50.64 80 P P 13 00 59.5 -0.2
baz=50
U32A **Winter Ranch,** 50.73 79 P P 13 00 59.7 -0.7
baz=50
Z28A **Tucker Farm, M** 50.80 85 P P 13 01 00.6 -0.3
baz=51,SNR=6.4
P36A **Good Intent, A** 50.84 73 P P 13 00 59.9 -1.1
baz=51
Y29A **Porterfield Fa** 50.84 83 P P 13 01 01.2 -0.1
baz=51
X30A **Coker Ranch, T** 50.92 82 P P 13 01 01.4 -0.4
baz=51
W31A **Holland Ranch,** 50.98 81 P P 13 01 01.9 -0.3
baz=51
S34A **Willow Spring** 50.98 77 P P 13 01 01.7 -0.5
baz=51
SONM **Songino Array** 51.09 301 P P 13 01 02.9 -0.1
comp=Z,0.9nm,0.7s,baz=54,slow=6.5,SNR=5.9
SONM PcP PcP 13 02 18.5 -0.2
comp=Z,9.2nm,0.9s,baz=60,slow=2.2,SNR=26
SONM **Songino Array** 51.09 301 P P 13 01 02.9 -0.1
SONM PcP PcP 13 02 18.5 -0.2
R35A **Emporia Munici** 51.11 75 P P 13 01 02.1 -1.0
baz=51
128A **Castleberry Fa** 51.20 85 P P 13 01 04.2 +0.2
baz=51,SNR=7.0
Z29A **Hungry Hill Ra** 51.23 84 P P 13 01 04.1 -0.1
baz=51,SNR=9.7
X31A **McDonald Ranch** 51.33 82 P P 13 01 03.7 -1.2
baz=51
T34A **McClaskey Farm** 51.39 77 P P 13 01 04.4 -0.8
baz=51,SNR=6.6
W32A **Sentinel** 51.44 81 P P 13 01 05.2 -0.4
baz=51
S35A **Otter Creek Ra** 51.46 76 P P 13 01 04.9 -0.8
baz=51
228A **UT Block 9, Go** 51.48 86 P P 13 01 06.0 -0.1
baz=51
R36A **Gordon, Harris** 51.51 75 P P 13 01 05.1 -1.1
baz=51,SNR=5.6
V33A **Lossen Ranch,** 51.54 79 P P 13 01 05.7 -0.7
baz=51
Z30A **Sanderson Ranc** 51.56 84 P P 13 01 06.0 -0.6
baz=51,SNR=9.7
129A **Stewart Farms,** 51.56 85 P P 13 01 05.8 -0.9
baz=51
U34A **Anderson Ranch** 51.57 78 P P 13 01 05.8 -0.8
baz=51,SNR=5.1
U34A **Anderson Ranch** 51.57 78 eP P 13 01 05.8 -0.8
comp=Z,16nm,0.8s
T35A **Sooner Cattle** 51.86 77 P P 13 01 08.2 -0.6
baz=52
S36A **Lake Cedric, C** 51.86 76 P P 13 01 07.6 -1.2
baz=52
W33A **Caddo, Fort Co** 51.88 80 P P 13 01 09.4 +0.5
baz=52
X32A **Elmer** 51.89 81 P P 13 01 07.9 -1.1
baz=52
R37A **Teagarden Farm** 51.92 74 P P 13 01 07.6 -1.6
baz=52
WMOK **Wichita Mounta** 51.98 81 eP P 13 01 09.3 -0.4
WMOK pmax pmax
comp=Z,15nm,0.9s
WMOK **Wichita Mounta** 51.98 81 eP P 13 01 09.3 -0.4
comp=Z,15nm,0.9s
V34A **Guthrie** 51.99 79 P P 13 01 08.8 -0.9
baz=52
229A **Bryant Ranch,** 52.06 85 P P 13 01 10.2 -0.3
baz=52
Y32A **R-V Farms, Ver** 52.08 82 P P 13 01 10.1 -0.4
baz=52
U35A **Pawnee** 52.09 78 P P 13 01 10.0 -0.6
baz=52
Z31A **Sharp Cattle R** 52.13 83 P P 13 01 10.4 -0.5
baz=52,SNR=6.4
130A **Snyder** 52.13 84 P P 13 01 10.6 -0.4
baz=52
T36A **Boggs Farm, Ca** 52.14 76 P P 13 01 10.1 -0.7
baz=52
W34A **Bridge Creek,** 52.24 79 P P 13 01 11.5 -0.2
baz=52
S37A **Fort Scott** 52.29 75 P P 13 01 10.9 -1.1
baz=52,SNR=7.7
329A **Wagon Wheel Ra** 52.29 86 P P 13 01 12.0 -0.1
baz=52
131A **Roby** 52.43 84 P P 13 01 12.7 -0.4
baz=52
V35A **Meyer Ranch, C** 52.44 78 P P 13 01 12.7 -0.4
baz=52
230A **Sterling City** 52.54 85 P P 13 01 13.6 -0.4
baz=52,SNR=6.9
Z32A **Haskell** 52.54 82 P P 13 01 13.8 -0.1
baz=52,SNR=12
Y33A **Hilltop Ranch,** 52.57 81 P P 13 01 13.7 -0.4
baz=52
X34A **Smith Ranch, M** 52.64 80 P P 13 01 14.3 -0.3
baz=52
T37A **Cheneyville 18** 52.66 76 P P 13 01 13.5 -1.2
baz=52
HHC **Hu-ho-hao-te** 52.76 291 eP P 13 01 16.4 +0.9
HHC PP PP 13 03 16.8 +2.2
HHC S S 13 08 41.6 -1.5
HHC sS sS 13 08 49.3 -1.5
HHC ScS ScS 13 11 02.5 -2.2
HHC SS SS 13 12 18.5 -2.7
HHC PMZ
comp=Z,16nm,1.0s
HHC PMZ
comp=Z,51nm,5.2s
HHC LN
comp=Z,120nm,14.1s
HHC LE
comp=Z,120nm,16.1s
HHC LZ
comp=Z,160nm,16.3s
TXAR **Lajitas Array** 52.79 89 P P 13 01 15.9 0.0
comp=Z,13nm,0.8s,baz=298,slow=5.5,SNR=142
TXAR PcP PcP 13 02 25.6 +0.4
comp=Z,4.7nm,1.0s,baz=259,slow=1.1,SNR=3.8
TXAR LR LR 13 21 26.0
comp=Z,95nm,19.8s,baz=0.0,slow=34
TXAR **Lajitas Array** 52.79 89 P P 13 01 15.9 0.0
TXAR PcP PcP 13 02 25.6 +0.4
W35A **Tecumseh** 52.84 79 P P 13 01 15.5 -0.5
baz=53,SNR=5.9
330A **Mertzon** 52.84 85 P P 13 01 15.7 -0.5
baz=53,SNR=7.0
ABTX **Abilene, Hawle** 52.92 83 P P 13 01 16.5 -0.2
baz=53,SNR=8.5
ABTX **Abilene, Hawle** 52.92 83 eP P 13 01 16.8 +0.1
comp=Z,33nm,1.1s
429A **Davenport Ranc** 52.95 87 P P 13 01 16.5 -0.6
baz=53,SNR=16
V36A **Jenks** 52.96 78 P P 13 01 16.0 -0.9
baz=53
TUL1 **Tulsa** 52.97 77 P P 13 01 16.1 -0.9
baz=53
Z33A **Whitaker Ranch** 52.99 82 P P 13 01 16.2 -1.0
baz=53
231A **Bronte** 52.99 84 P P 13 01 16.4 -0.8
baz=53
U37A **Salina** 53.03 76 P P 13 01 16.4 -1.1
baz=53,SNR=5.9
529A **Stev Forest Ra** 53.11 87 P P 13 01 17.7 -0.4
baz=53
SLBS **Sierra La Lagu** 53.12 99 eP P 13 01 18.9 +0.5
comp=Z,24nm,1.1s
Y34A **Reagan Ranch,** 53.13 81 P P 13 01 18.2 0.0
baz=53,SNR=7.5
W36A **Wetumka** 53.23 78 P P 13 01 18.2 -0.8
baz=53
430A **Baggett Ranch,** 53.24 86 P P 13 01 18.9 -0.2
baz=53,SNR=20
X35A **Drake** 53.29 80 P P 13 01 18.7 -0.8
baz=53
331A **San Angelo** 53.36 85 P P 13 01 19.4 -0.6
baz=53,SNR=6.5
133A **Hamilton Ranch** 53.37 83 P P 13 01 20.0 0.0
baz=53,SNR=7.1
V37A **Hulbert** 53.37 77 P P 13 01 19.3 -0.7
baz=53
232A **Coleman** 53.43 84 P P 13 01 20.0 -0.5
baz=53,SNR=7.7
U38A **Gravette** 53.44 76 P P 13 01 19.3 -1.2
baz=53
Z34A **Collier Ranch,** 53.44 81 P P 13 01 20.3 -0.2
baz=53
X36A **Centrahoma** 53.55 79 P P 13 01 20.6 -0.6
baz=53
Y35A **Marietta** 53.60 80 P P 13 01 21.8 +0.1
baz=53,SNR=6.9

HDIL	Hopedale	53.62	69	P		P	13 01 20.7	-1.1
	baz=53							
HDIL	Hopedale	53.62	69	*eP*		P	13 01 20.6	-1.1
	comp=Z,21nm,0.8s							
530A	J-C Ranch, Com	53.63	87	P		P	13 01 22.3	+0.3
	baz=53,SNR=32							
431A	Sonora	53.69	86	P		P	13 01 21.4	-1.1
	baz=54,SNR=12							
W37A	Quinton	53.71	78	P		P	13 01 22.1	-0.4
	baz=53,SNR=6.6							
332A	Millersview	53.72	84	P		P	13 01 22.2	-0.5
	baz=54,SNR=8.0							
233A	Rising Star	53.79	83	P		P	13 01 23.0	-0.1
	baz=54,SNR=11							
V38A	Canehill	53.82	76	P		P	13 01 22.1	-1.2
	baz=54,SNR=8.0							
134A	White-Moore Ra	53.90	82	P		P	13 01 23.4	-0.5
	baz=54,SNR=5.3							
432A	Menard	54.05	85	P		P	13 01 24.5	-0.6
	baz=54,SNR=11							
Y36A	Durant	54.05	80	P		P	13 01 24.7	-0.2
	baz=54							
531A	Rocksprings	54.10	86	P		P	13 01 24.9	-0.6
	baz=54,SNR=12							
X37A	Clayton	54.12	78	P		P	13 01 25.2	-0.3
	baz=54,SNR=11							
333A	Richland Sprin	54.22	84	P		P	13 01 25.7	-0.6
	baz=54,SNR=12							
W38A	Poteau	54.30	77	P		P	13 01 26.1	-0.6
	baz=54,SNR=7.4							
135A	Vickery Place,	54.31	82	P		P	13 01 26.5	-0.3
	baz=54							
JCT	Junction City	54.33	85	*eP*		P	13 01 26.6	-0.5
JCT				pmax	pmax			
	comp=Z,32nm,1.2s							
JCT	Junction City	54.33	85	P		P	13 01 26.1	-0.9
	baz=54,SNR=7.5							
JCT	Junction City	54.33	85	*eP*		P	13 01 26.6	-0.5
	comp=Z,32nm,1.2s							
X38A	Whitesboro	54.39	78	P		P	13 01 26.2	-1.3
	baz=54							
Z36A	Blue Ridge	54.40	80	P		P	13 01 27.0	-0.5
	baz=54							
NJ2	Nanjing	54.45	278	*eP*		P	13 01 29.0	+1.1
NJ2				PMZ				
	comp=Z,30nm,0.7s							
532A	Rocksprings	54.51	86	P		P	13 01 27.5	-0.9
	baz=54,SNR=6.4							
433A	Art	54.56	84	P		P	13 01 28.2	-0.6
	baz=54,SNR=15							
631A	Perdido Creek	54.62	87	P		P	13 01 28.4	-0.7
	baz=54,SNR=5.9							
334A	Lometa	54.67	83	P		P	13 01 29.2	-0.3
	baz=54,SNR=13							
WHTX	Lake Whitney	54.68	82	P		P	13 01 29.4	-0.2
	baz=54,SNR=5.4							
WHTX	Lake Whitney	54.68	82	*eP*		P	13 01 29.9	+0.3
	comp=Z,52nm,1.2s							
SFIN	Scholer Farm	54.98	68	P		P	13 01 30.5	-1.1
	baz=55							
SFIN	Scholer Farm	54.98	68	*eP*		P	13 01 30.8	-0.8
	comp=Z,156nm,2.3s							
434A	Burnet	55.02	84	P		P	13 01 31.8	-0.3
	baz=55,SNR=12							
632A	Uvalde	55.03	86	P		P	13 01 31.5	-0.6
	baz=55,SNR=6.8							
533A	Kerrville	55.08	85	P		P	13 01 32.0	-0.5
	baz=55							
MIAR	Mount Ida	55.22	77	*eP*		P	13 01 32.5	-0.9
MIAR				pmax	pmax			
	comp=Z,18nm,1.0s							
MIAR	Mount Ida	55.22	77	P		P	13 01 32.7	-0.8
	baz=55,SNR=12							
MIAR	Mount Ida	55.22	77	*eP*		P	13 01 32.5	-0.9
	comp=Z,18nm,1.0s							
236A	Katherine and	55.23	81	P		P	13 01 33.2	-0.3
	baz=55							
534A	Blanco	55.45	85	P		P	13 01 34.2	-1.0
	baz=55,SNR=5.5							
336A	Riesel	55.47	82	P		P	13 01 35.5	+0.2
	baz=55,SNR=5.0							
732A	Laxson Ranch,	55.47	87	P		P	13 01 35.1	-0.2
	baz=55							
832A	Faith Ranch, C	55.79	87	P		P	13 01 37.3	-0.3
	baz=56,SNR=9.9							
733A	Divot King Ran	55.89	86	P		P	13 01 38.4	+0.1
	baz=56							
436A	Wall Ranch, Ga	55.94	83	P		P	13 01 39.4	+0.7
	baz=56							
833A	Chaparral WMA,	56.12	87	P		P	13 01 40.0	+0.1
	baz=56,SNR=9.4							
437A	Phantom Ranch,	56.29	82	P		P	13 01 40.5	-0.6
	baz=56							
636A	Smothers Creek	56.70	84	P		P	13 01 44.2	+0.2
	baz=56							
933A	Laredo	56.70	87	P		P	13 01 44.6	+0.5
	baz=56,SNR=5.0							
834A	Tilden	56.77	86	P		P	13 01 44.4	-0.2
	baz=56							
HKT	Hockley	57.11	83	*eP*		P	13 01 47.3	+0.5
HKT				pmax	pmax			
	comp=Z,48nm,1.8s							
HKT	Hockley	57.11	83	*eP*		P	13 01 47.3	+0.5
	comp=Z,48nm,1.8s							
ZALV	Zalesovo Beam	57.16	317	P		P	13 01 47.1	+0.1
	comp=Z,1.0nm,0.7s,baz=46,slow=4.2,SNR=3.1							
ZALV				PcP		PcP	13 02 42.0	+0.5
	comp=Z,2.1nm,0.7s,baz=27,slow=3.7,SNR=5.8							
ZALV	Zalesovo Beam	57.16	317	P		P	13 01 47.1	+0.1
ZALV				PcP		PcP	13 02 42.0	+0.5
034A	Hebbronville	57.46	87	P		P	13 01 49.6	+0.1
	baz=57							
WVT	Waverly	57.48	72	*eP*		P	13 01 48.7	-0.8
WVT	Waverly	57.48	72	*eP*		P	13 01 48.7	-0.8
ARCES	ARCESS Array B	57.60	354	PcP		PcP	13 02 42.6	-0.3
	comp=Z,1.8nm,0.8s,baz=354,slow=5.4,SNR=4.2							
ARCES	ARCESS Array B	57.60	354	PcP		PcP	13 02 42.6	-0.3
OXF	Oxford	57.70	74	*eP*		P	13 01 50.1	-1.0
OXF				pmax	pmax			
	comp=Z,57nm,0.9s							
OXF	Oxford	57.70	74	*eP*		P	13 01 50.1	-1.0
	comp=Z,57nm,0.9s							
035A	Encino	57.91	87	P		P	13 01 52.8	+0.1
	baz=58							
SSLB	Suanglung	59.16	269	*eP*		P	13 02 01.2	-0.2
	comp=Z,42nm,0.9s							
TZTN	Tazewell	59.64	69	*eP*		P	13 02 03.9	-0.7
	comp=Z,12nm,0.9s							
SSPA	Standing Stone	59.87	62	*eP*		P	13 02 05.5	-0.6
	comp=Z,49nm,1.8s							
LZH	Lanzhou	60.42	292	*eP*		P	13 02 11.6	+1.4
LZH				pP		pP	13 02 15.6	+0.7
LZH				sP		sP	13 02 18.3	+1.6
LZH				PMZ				
	comp=Z,10.0nm,1.0s							
BLA	Blacksburg	60.92	66	*eP*		P	13 02 13.1	-0.3
BLA				pmax	pmax			
	comp=Z,20nm,0.9s							
BLA	Blacksburg	60.92	66	*eP*		P	13 02 13.1	-0.3
	comp=Z,20nm,0.9s							
KURK	Kurchatov	62.10	318	*eP*		P	13 02 22.4	+1.3
KURK	Kurchatov	62.10	318	*eP*		P	13 02 22.4	+1.3
WMQ	Urumqi	63.30	308	P		P	13 02 31.5	+2.2
WMQ				pP		pP	13 02 36.0	+2.0
WMQ				sP		sP	13 02 38.5	+2.7
WMQ				PMZ				
	comp=Z,11nm,0.8s							
WMQ				PMZ				
	comp=Z,70nm,3.8s							
WMQ				LN				
	comp=Z,100nm,17.6s							
WMQ				LE				
	comp=Z,91nm,24.6s							
WMQ				LZ				
	comp=Z,80nm,20.0s							
BVAR	Borovoye Array	63.42	324	P		P	13 02 29.8	-0.1
	comp=Z,4.9nm,0.8s,baz=54,slow=6.9,SNR=17							
BVAR	Borovoye Array	63.42	324	P		P	13 02 29.8	-0.1
BRVK	Borovoye	63.43	324	*ceP*		P	13 02 29.6	-0.3
BRVK				pmax	pmax			
	comp=Z,9.0nm,1.4s							
MKAR	Makanchi Array	63.55	313	P		P	13 02 30.5	-0.3
	comp=Z,1.0nm,0.7s,baz=50,slow=6.5,SNR=9.4							
MKAR	Makanchi Array	63.55	313	P		P	13 02 30.5	-0.3
CD2	Chengdu	64.23	288	P		P	13 02 35.0	-0.6
CD2				pP		pP	13 02 38.3	-2.0
CD2				sP		sP	13 02 39.6	-2.5
CD2				PP		PP	13 04 55.8	-0.7
CD2				S		S	13 11 12.4	-0.1
CD2				sS		sS	13 11 17.9	-2.4
CD2				SS		SS	13 15 22.5	+1.1
CD2				PMZ				
	comp=Z,20nm,0.6s							
CD2				PMZ				
	comp=Z,140nm,8.4s							
CD2				LN				
	comp=Z,160nm,6.3s							
CD2				LZ				
	comp=Z,190nm,6.7s							
ARU	Arti	64.32	333	*d iP*		P	13 02 34.9	-0.8
ARU							13 05 00.3	
ARU				PPP		PPP	13 06 33.3	
ARU				S		S	13 11 11.9	-0.8
ARU				SS		SS	13 15 19.6	-1.8
ARU				pmax	pmax			
	comp=Z,8.0nm,1.2s							
FINES	FINESS Array B	65.55	352	P		P	13 02 42.7	-0.9
	comp=Z,2.7nm,0.8s,baz=75,slow=8.1,SNR=6.4							
FINES	FINESS Array B	65.55	352	P		P	13 02 42.7	-0.9
GYA	Guiyang	65.81	282	*eP*		P	13 02 47.3	+1.3
GYA				PMZ				
	comp=Z,10.0nm,1.0s							
NB2	NORSAR Subarra	66.62	360	P		P	13 02 50.0	-0.6
	comp=Z,0.7nm,0.6s,baz=2.0,slow=6.2							
NOA	NORSAR Array B	66.62	360	P		P	13 02 50.3	-0.3
	comp=Z,1.3nm,0.8s,baz=358,slow=6.1,SNR=4.2							
NOA	NORSAR Array B	66.62	360	P		P	13 02 50.3	-0.3
KMI	Kunming	69.14	284	P		P	13 03 08.9	+1.7
KMI				PMZ				
	comp=Z,6.0nm,0.5s							
AKTO	Aktyubinsk	69.71	330	P		P	13 03 09.8	-0.3
	comp=Z,3.6nm,0.8s,baz=47,slow=6.2,SNR=12							
AKTO	Aktyubinsk	69.71	330	P		P	13 03 09.8	-0.3
ABKAR	Akbulak array	70.14	328	*eP*		P	13 03 12.4	-0.3
EKA	Eskdalemuir Ar	71.75	8	P		P	13 03 22.2	-0.1
	comp=Z,2.8nm,0.9s,baz=348,slow=6.1,SNR=3.6							
EKA	Eskdalemuir Ar	71.75	8	P		P	13 03 22.2	-0.1
KSH	Kashi	72.12	312	P		P	13 03 28.5	+3.4
KSH				PMZ				
	comp=Z,300nm,6.9s							
SIJI	Song	72.60	244	P		P	13 03 28.2	+0.2
	comp=Z,22nm,0.9s,baz=24,slow=6.3,SNR=10							
MYLDM	Lahad Datu	75.05	259	*eP*		P	13 03 44.1	+1.7
	comp=Z,17nm,0.9s							
AKASG	Malin Array Be	75.79	348	P		P	13 03 44.3	-1.8
	comp=Z,2.1nm,0.6s,baz=13,slow=5.7,SNR=10							
AKASG	Malin Array Be	75.79	348	P		P	13 03 44.3	-1.8
CLL	Collm	76.36	358	*eP*		P	13 03 49.0	-0.4
CLL	Collm	76.36	358	*eP*		P	13 03 49.0	-0.4
CMAR	Chiang Mai Arr	76.50	283	P		P	13 03 51.3	+0.6
	comp=Z,5.7nm,1.0s,baz=27,slow=6.7,SNR=12							
CMAR	Chiang Mai Arr	76.50	283	P		P	13 03 51.3	+0.6
UPC	Upice	77.08	356	*eP*		P	13 03 53.5	0.0
UPC				*ex*		x	13 03 56.7	
UPC	Upice	77.08	356	*eP*		P	13 03 53.5	0.0
DPC	Dobruska-Polom	77.22	356	*eP*		P	13 03 54.2	-0.2
DPC				*ex*		x	13 03 58.3	
DPC	Dobruska-Polom	77.22	356	*eP*		P	13 03 54.2	-0.2
DPC				*e*			13 03 58.3	
PRU	Pruhonice	77.65	357	*eP*		P	13 03 56.4	-0.3
PRU	Pruhonice	77.65	357	*eP*		P	13 03 56.4	-0.3
GOPC	GO Pecny, Ondr	77.71	357	*eP*		P	13 03 56.6	-0.5
GOPC				*ex*		x	13 04 00.7	
TREC	Trest	78.31	357	*eP*		P	13 04 00.2	-0.2
TREC	Trest	78.31	357	*eP*		P	13 04 00.2	-0.2
GERES	GERESS Array B	78.81	358	P		P	13 04 03.1	-0.1
	comp=Z,0.7nm,0.6s,baz=345,slow=3.5,SNR=5.6							
GERES	GERESS Array B	78.81	358	P		P	13 04 03.1	-0.1
BFO	Black Forest	79.34	2	*i* P		P	13 04 07.1	+1.0
CONA	Conrad Observa	79.66	356	⇑ *iP*		P	13 04 08.4	+0.5
	comp=Z,12nm,1.3s							
KBZ	Khabaz	80.00	337	P		P	13 04 10.2	+0.6
	comp=Z,3.7nm,0.9s,baz=110,slow=2.0,SNR=7.4							
KBZ	Khabaz	80.00	337	P		P	13 04 10.2	+0.6
KBA	Koelnbreinsper	80.59	358	⇑ *iP*		P	13 04 13.5	+0.5
	comp=Z,15nm,1.1s							
FETA	Feichten	80.67	360	⇑ *iP*		P	13 04 14.1	+0.6
	comp=Z,7.0nm,1.0s							
GEYT	Alibeck	80.75	324	P		P	13 04 13.4	-0.5
	comp=Z,1.4nm,0.5s,baz=343,slow=4.6,SNR=3.8							
GEYT				LR		LR	13 46 08.9	
	comp=Z,64nm,18.7s,baz=170,slow=40							
DAVOX	Davos/Dischmat	80.91	0	P		P	13 04 15.6	+0.8
	comp=Z,2.6nm,0.7s,baz=44,slow=5.0,SNR=4.2							
DAVOX	Davos/Dischmat	80.91	0	P		P	13 04 15.6	+0.8
DAVOX				pmax	pmax			
	comp=Z,3.0nm,0.7s							
DAVOX	Davos/Dischmat	80.91	0	P		P	13 04 15.6	+0.8
ABTA	Abfaltersbach	80.93	359	⇑ *iP*		P	13 04 16.0	+1.2
	comp=Z,5.3nm,0.8s							
SOKA	Soboth	80.94	357	⇑ *iP*		P	13 04 15.1	+0.2
	comp=Z,11nm,1.1s							
CTA	Charters Tower	82.03	222	P		P	13 04 20.5	-0.2
	comp=Z,8.9nm,0.8s,baz=2.8,slow=7.6,SNR=11							
CTA	Charters Tower	82.03	222	P		P	13 04 20.5	-0.2
KAPI	Kappang	82.50	252	P		P	13 04 23.8	+0.6
	comp=Z,6.1nm,0.5s,baz=260,slow=7.0,SNR=4.2							
KAPI	Kappang	82.50	252	P		P	13 04 23.8	+0.6
BATI	Baumata	84.51	245	P		P	13 04 33.5	-0.1
	comp=Z,31nm,0.7s,baz=306,slow=19,SNR=3.2							
BATI	Baumata	84.51	245	P		P	13 04 33.5	-0.1
BRTR	Keskin Array B	85.81	342	P		P	13 04 38.2	-1.8
	comp=Z,0.9nm,1.0s,baz=336,slow=1.7,SNR=3.0							
BRTR				LR		LR	13 48 37.1	
	comp=Z,20nm,18.0s,baz=45,slow=40							
BRTR	Keskin Array B	85.81	342	P		P	13 04 38.2	-1.8
IPM	Ipoh	86.18	272	*eP*		P	13 04 41.9	-0.2
WRAB	Tennant Creek	87.15	232	*eP*		P	13 04 46.1	-0.5
WRAB	Tennant Creek	87.15	232	*eP*		P	13 04 46.1	-0.5
ESDC	Sonseca Array	87.16	11	P		P	13 04 46.1	-0.5
	comp=Z,2.0nm,0.7s,baz=350,slow=4.6,SNR=11							
ESDC	Sonseca Array	87.16	11	P		P	13 04 46.1	-0.5
WRA	Warramunga Arr	87.16	232	P		P	13 04 45.7	-0.9
	comp=Z,4.9nm,0.7s,baz=33,slow=5.8,SNR=33							
WRA	Warramunga Arr	87.16	232	P		P	13 04 45.7	-0.9
PSI	Prapat	88.78	273	P		P	13 04 55.0	+0.3
	comp=Z,52nm,0.8s,baz=0.1,slow=3.8,SNR=34							
PSI	Prapat	88.78	273	P		P	13 04 55.0	+0.3
PSI	Prapat	88.78	273	P		P	13 04 55.0	+0.3
OTAV	Otavalo	90.42	89	*eP*		P	13 05 03.5	+0.7
ASAR	Alice Springs	90.56	230	P		P	13 05 02.5	-0.2
	comp=Z,11nm,0.8s,baz=33,slow=4.7,SNR=114							
ASAR	Alice Springs	90.56	230	P		P	13 05 02.5	-0.2
STKA	Stephens Creek	94.41	220	P		P	13 05 19.5	-0.6
	comp=Z,4.3nm,1.0s,baz=5.6,slow=7.2,SNR=4.6							
STKA	Stephens Creek	94.41	220	P		P	13 05 19.5	-0.6
MAW	Mawson	151.09	219	PKPbc		PKPbc	13 11 52.1	0.0
	comp=Z,12nm,0.9s,baz=74,slow=1.7,SNR=22							
MAW	Mawson	151.09	219	PKPbc		PKPbc	13 11 52.1	0.0
BOSA	Boshof	153.60	330	PKPbc		PKPbc	13 11 59.2	0.0
	comp=Z,5.1nm,1.0s,baz=70,slow=3.0,SNR=4.9							
BOSA	Boshof	153.60	330	PKPbc		PKPbc	13 11 59.2	0.0
VNA2	Neumayer--Watz	159.99	163	PKPab		PKPab	13 12 36.7	-1.3
	baz=232,slow=3.5							
VNA1	Neumayer--Stat	160.06	162	PKPab		PKPab	13 12 37.7	-0.6
ATKA	Atka Island	2.80	257	P		Pg	12 54 22.8	0.0
ILAR	Eielson Array	16.65	36	Pn		Pn	12 57 22.7	-0.5
	baz=226,slow=9.8,SNR=2.0							
YKA	Yellowknife Ar	30.07	49	P		P	12 59 42.9	+3.7
	0.5nm,0.4s,baz=273,slow=7.6,SNR=4.5							
PDAR	Pinedale Array	40.54	79	P		P	13 01 10.9	+1.3
	1.4nm,0.7s,baz=312,slow=4.3,SNR=2.8							
TXAR	Lajitas Array	52.98	89	P		P	13 02 47.1	+0.2
	1.8nm,0.8s,baz=299,slow=5.3,SNR=3.2							
WRA	Warramunga Arr	87.15	231	P		P	13 06 15.4	-0.9
	0.6nm,0.7s,baz=35,slow=6.0,SNR=4.2							
ASAR	Alice Springs	90.56	230	P		P	13 06 32.1	-0.3
	1.0nm,0.7s,baz=32,slow=4.8,SNR=4.3							
MAW	Mawson	151.14	219	PKPbc		PKPbc	13 13 21.4	-0.7
	1.0nm,0.8s,baz=141,slow=14,SNR=2.4							

IDC ***19*** *12:53:28.9±1.1, 52.66N×169.88W, h0km, mb4.0/5, mb1 4.3/6, mb1mx3.7/63, mbtmp3.9/6, Error ellipse: s-maj=55.6km s-min=21.3km az=144.0*
NEIC ***19*** *12:53:32.5, 52.88N×169.28W, h1km, ML3.8(AEIC), After AEIC.*

ISC 19 12:53:29.3±1.5**, 52.9N**±0.2×**169.76W**±0.07**, h4**km±10km**, n17**, σ0.84/21**, mb4.0/5**, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.55	82	P	Pg	12 53 39.8	-0.1
NIKH				S	Sg	12 53 46.8	-0.3
OKSP	Okmok Steeple	0.95	68	P	Pg	12 53 47.6	0.0
OKSP				S	Sg	12 53 59.6	-0.4
OKCE	Okmok Cone E	1.10	61	P	Pg	12 53 50.2	-0.1
MSOM	Makushin Julie	1.92	60	P	Pn	12 54 03.1	+0.4
MSOM				S	Sn	12 54 26.8	-0.4
MCIR	Makushin Cirqu	2.01	57	P	Pn	12 54 04.7	+0.6
MSW	Makushin Switc	2.05	59	P	Pn	12 54 05.5	+0.9
MSW				S	Sn	12 54 31.1	+0.5
MTBL	Makushin Table	2.13	59	P	Pn	12 54 06.5	+0.7
UNV	Unalaska Valle	2.17	63	P	Pn	12 54 06.8	+0.7
UNV				S	Sn	12 54 31.4	-2.0
ZRO	Akutan Zero	2.56	61	P	Pn	12 54 12.6	+1.1
ATKA	Atka Island	2.80	257	P	Pg	12 54 22.8	0.0
ILAR	Eielson Array	16.65	36	Pn	Pn	12 57 22.7	-0.5
	baz=226,slow=9.8,SNR=2.0						
YKA	Yellowknife Ar	30.07	49	P	P	12 59 42.9	+3.7
	0.5nm,0.4s,baz=273,slow=7.6,SNR=4.5						
PDAR	Pinedale Array	40.54	79	P	P	13 01 10.9	+1.3
	1.4nm,0.7s,baz=312,slow=4.3,SNR=2.8						
TXAR	Lajitas Array	52.98	89	P	P	13 02 47.1	+0.2
	1.8nm,0.8s,baz=299,slow=5.3,SNR=3.2						
WRA	Warramunga Arr	87.15	231	P	P	13 06 15.4	-0.9
	0.6nm,0.7s,baz=35,slow=6.0,SNR=4.2						
ASAR	Alice Springs	90.56	230	P	P	13 06 32.1	-0.3
	1.0nm,0.7s,baz=32,slow=4.8,SNR=4.3						
MAW	Mawson	151.14	219	PKPbc	PKPbc	13 13 21.4	-0.7
	1.0nm,0.8s,baz=141,slow=14,SNR=2.4						

IDC 19 12:53:55.5±2.5**, 6.10S**×**150.24E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.5/38, mbtmp3.9/4, ML1.9/1, Error ellipse: s-maj=74.9km s-min=35.5km az=119.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.49	223	Pn	Pn	12 55 07.0	+2.2
	4.2nm,0.3s,baz=45,slow=14,SNR=15						
PMG				Sn	Sn	12 55 56.8	-0.9
	2.9nm,0.3s,baz=175,slow=17,SNR=6.3						
WRA	Warramunga Arr	20.69	227	P	P	12 58 37.7	+0.3
	6.0nm,0.8s,baz=51,slow=11,SNR=35						
ASAR	Alice Springs	23.50	220	P	P	12 59 06.8	-0.4
	0.7nm,0.7s,baz=53,slow=9.4,SNR=9.5						
STKA	Stephens Creek	26.89	196	P	P	12 59 37.2	-1.0
	2.2nm,0.8s,baz=30,slow=12,SNR=3.4						
TORD	Torodi Ar. Bea	148.24	285	PKPbc	PKPbc	13 13 44.3	-0.4
	0.7nm,0.6s,baz=64,slow=2.7,SNR=5.0						

ISCJB ***19*** *12:56:48.5±0.8, 52.56N±0.09×169.3W±0.1, h10km, mb3.5/4, Error ellipse: s-maj=16.0km s-min=6.6km az=135.5*
IDC ***19*** *12:56:48.1±1.8, 52.48N×169.24W, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.5/29, mbtmp3.5/5, ML3.6/1, Error ellipse: s-maj=60.1km s-min=30.1km az=135.0*
NEIC ***19*** *12:56:49.4, 52.76N×169.33W, h0km, ML3.4(AEIC), After AEIC.*

ISC 19 12:56:49.9±1.0**, 52.7N**±0.1×**169.16W**±0.08**, h10km, n22,** σ0.70/19**, mb3.4/4, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.37	30	P	Pb	12 56 58.4	-0.1
NIKH				S	Sb	12 57 05.4	+1.0
OKSP	Okmok Steeple	0.80	41	P	Pn	12 57 06.2	-1.0
OKSP				S	Sn	12 57 18.4	-0.7
OKCE	Okmok Cone E	0.98	37	P	Pn	12 57 09.9	+0.2
OKTU	Okmok Mt. Tuli	0.99	42	P	Pn	12 57 10.3	+0.4
MCIR	Makushin Cirqu	1.88	45	P	Pb	12 57 23.7	-0.6
MSW	Makushin Switc	1.90	47	P	Pb	12 57 23.9	-0.8
MTBL	Makushin Table	1.99	47	P	Pb	12 57 25.2	-0.9
UNV	Unalaska Valle	1.99	52	P	Pn	12 57 25.6	-0.6
UNV				S	Sb	12 57 51.6	+0.6
AKGG	Akutan Green G	2.44	49	P	Pn	12 57 30.7	+0.9
ATKA	Atka Island	3.12	264	P	Pn	12 57 39.4	+0.4
SPIA	Saint Paul Isl	4.58	353	P	Pn	12 57 59.1	0.0
ILAR	Eielson Array	16.64	35	Pn	Pn	13 00 42.9	0.0
	0.1nm,0.3s,baz=228,slow=12,SNR=6.2						
YKA	Yellowknife Ar	29.96	49	P	P	13 02 58.1	+0.2
	0.4nm,0.6s,baz=271,slow=7.6,SNR=4.6						
H11N2	WAKE ISLAND Hy	37.76	219	T	T	13 44 19.5	
	baz=26						
H11N3	WAKE ISLAND Hy	37.77	219	T	T	13 44 14.6	
	baz=26						
H11N1	WAKE ISLAND Hy	37.78	219	T	T	13 44 15.9	
	baz=26						
H11S1	WAKE ISLAND Hy	38.95	218	T	T	13 45 47.8	
	baz=21						
H11S2	WAKE ISLAND Hy	38.96	218	T	T	13 45 49.1	
	baz=21						
H11S3	WAKE ISLAND Hy	38.96	218	T	T	13 45 50.9	
	baz=21						
PDAR	Pinedale Array	40.22	80	P	P	13 04 27.0	+0.3
	0.3nm,0.5s,baz=313,slow=4.5,SNR=2.5						
TXAR	Lajitas Array	52.61	89	P	P	13 06 04.6	+0.7
	0.3nm,0.8s,baz=308,slow=4.4,SNR=3.6						
ASAR	Alice Springs	90.68	230	P	P	13 09 51.6	-1.0
	0.6nm,0.9s,baz=32,slow=5.5,SNR=4.5						

ISCJB ***19*** *

2.1nm,0.8s,baz=254,slow=7.4,SNR=4.5
YKA Yellowknife Ar 30.12 49 P P 13 32 29.5 +0.1
0.4nm,0.5s,baz=274,slow=7.8,SNR=6.9
NEW Newport 33.03 76 P P 13 32 55.8 +0.6
1.1nm,0.5s,baz=296,slow=10,SNR=4.3
WVOR Wild Horse Val 35.15 86 eP P 13 33 15.2 +1.5
3.0nm,0.8s
MCMT McKenzie Canyo 37.31 79 eP P 13 33 32.8 +0.4
0.7nm,0.5s
EGMT Eagleton 37.47 72 eP P 13 33 33.5 +0.1
3.1nm,0.7s
BOZ Bozeman (W) 37.60 77 eP P 13 33 35.0 +0.3
1.0nm,0.6s
H11N2 WAKE ISLAND Hy 37.63 218 T T 14 13 28.0
baz=24,slow=76,SNR=40
H11N3 WAKE ISLAND Hy 37.63 218 T T 14 13 28.5
baz=24,slow=76,SNR=55
H11N1 WAKE ISLAND Hy 37.64 218 T T 14 13 30.4
baz=24,slow=76,SNR=42
NVAR Mina Array Bea 37.76 91 P P 13 33 37.9 +1.7
1.0nm,0.8s,baz=302,slow=8.4,SNR=8.2
ELK Elko 38.20 86 eP P 13 33 41.0 +1.1
1.8nm,0.9s
H11S1 WAKE ISLAND Hy 38.82 218 T T 14 14 57.2
baz=23,slow=76,SNR=566
H11S2 WAKE ISLAND Hy 38.83 218 T T 14 15 06.8
baz=23,slow=76,SNR=503
H11S3 WAKE ISLAND Hy 38.83 218 T T 14 14 58.5
baz=23,slow=76,SNR=392
IMW Indian Meadow 38.97 79 eP P 13 33 47.0 +0.7
1.7nm,0.8s
RLMT Red Lodge 39.28 76 eP P 13 33 48.7 -0.2
5.2nm,1.1s
R11A Troy Canyon, C 39.47 89 eP P 13 33 51.4 +0.9
3.4nm,1.1s
BW06 Boulder Array 40.44 79 eP P 13 33 57.8 -0.8
2.2nm,0.8s
PDAR Pinedale Array 40.44 79 P P 13 33 58.8 +0.2
2.9nm,0.9s,baz=322,slow=5.1,SNR=17
MVU Marysvale 41.42 86 eP P 13 34 07.6 +0.9
2.8nm,1.0s
PV01 Paradox Valley 43.87 84 eP P 13 34 26.7 +0.1
204nm,0.6s
WUAZ Wupatki 43.87 89 eP P 13 34 27.2 +0.7
11nm,1.2s
KSRS Korea Array 45.28 276 P P 13 34 37.2 -0.3
0.5nm,0.5s,baz=50,slow=6.2,SNR=3.5
KSAR Wonju Array Be 45.31 276 P P 13 34 37.2 -0.5
SDCO Great Sand Dun 45.98 82 eP P 13 34 43.8 +0.3
1.9nm,0.8s
TUC Tucson 46.41 92 eP P 13 34 47.5 +0.9
1.6nm,0.8s
LAZ Ladron 47.20 87 eP P 13 34 54.1 +1.2
2.5nm,1.1s
SONM Songino Array 51.07 301 PcP PcP 13 36 38.1 0.0
1.8nm,0.8s,baz=65,slow=2.6,SNR=8.7
WMOK Wichita Mounta 52.02 81 eP P 13 35 29.5 0.0
1.7nm,0.7s
TXAR Lajitas Array 52.84 89 P P 13 35 36.0 +0.4
4.2nm,0.7s,baz=296,slow=5.4,SNR=59
KURK Kurchatov 62.09 318 P P 13 36 41.2 +0.7
KURBB Kurchatov Arra 62.20 318 P P 13 36 41.2 0.0
0.4nm,0.6s,baz=46,slow=7.3,SNR=3.9
WRA Warramunga Arr 87.11 231 P P 13 39 04.8 -1.0
0.6nm,0.7s,baz=34,slow=5.9,SNR=4.6
ESDC Sonseca Array 87.19 11 P P 13 39 05.2 -1.0
0.2nm,0.2s,baz=347,slow=5.3,SNR=3.5
ASAR Alice Springs 90.51 230 P P 13 39 21.8 -0.1
1.4nm,0.7s,baz=31,slow=4.7,SNR=29
LBTB Lobatse 150.11 332 ePKPbc PKPbc 13 46 11.1 +0.2
MAW Mawson 151.04 219 PKPbc PKPbc 13 46 11.3 -0.3
2.0nm,0.9s,baz=113,slow=3.7,SNR=3.9

IDC 19 13:26:28.7±3.4, 5.70S×150.34E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.3/37, mbtmp3.5/3, ML1.6/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/17, Error ellipse: s-maj=136.0km s-min=40.8km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	4.85	220	Pn	Pn	13 27 44.6	+1.6
	1.7nm,0.3s,baz=54,slow=4.9,SNR=7.0						
PMG				Sn	Sn	13 28 36.5	-3.4
	2.8nm,0.3s,baz=311,slow=20,SNR=4.2						
WRA	Warramunga Arr	21.04	226	P	P	13 31 14.0	-0.4
	1.1nm,0.5s,baz=52,slow=10,SNR=15						
WRA				LR	LR	13 39 13.0	
	comp=Z,70nm,21.6s,baz=45,slow=36						
ASAR	Alice Springs	23.87	220	P	P	13 31 43.4	-0.7
	0.3nm,0.5s,baz=54,slow=9.1,SNR=14						
TORD	Torodi Ar. Bea	148.22	286	PKPbc	PKPbc	13 46 17.5	-0.4
	0.4nm,0.8s,baz=63,slow=2.4,SNR=3.8						

IDC 19 13:29:13.8±3.4, 5.80S×149.79E, h0km, mb3.2/2, mb1 3.7/3, mb1mx3.4/37, mbtmp3.5/3, ML1.3/1, Error ellipse: s-maj=131.4km s-min=35.8km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	4.43	216	Pn	Pn	13 30 24.1	+1.8
	1.1nm,0.3s,baz=233,slow=6.9,SNR=3.4						
PMG				Sn	Sn	13 31 15.5	+0.8
	1.5nm,0.3s,baz=155,slow=19,SNR=3.3						
WRA	Warramunga Arr	20.57	226	P	P	13 33 54.5	0.0
	1.5nm,0.6s,baz=51,slow=11,SNR=9.6						
ASAR	Alice Springs	23.44	219	P	P	13 34 24.1	-0.9
	0.4nm,0.9s,baz=54,slow=9.5,SNR=6.4						
TORD	Torodi Ar. Bea	147.73	285	PKPbc	PKPbc	13 49 01.1	-0.5
	0.1nm,0.4s,baz=66,slow=2.4,SNR=2.7						

IDC ***19*** *13:30:21.8±0.7, 52.59N×169.72W, h0km, mb3.8/12, mb1 4.1/14, mb1mx3.8/59, mbtmp3.8/14, ML3.6/2, Error ellipse: s-maj=24.5km s-min=14.3km az=173.0*

ISCJB ***19*** *13:30:22.3±0.3, 52.63N±0.06×169.63W±0.06, h10km, mb4.2/32, Error ellipse: s-maj=8.7km s-min=3.9km az=155.1*

NEIC ***19*** *13:30:23.1, 52.66N×169.57W, h5km, mb4.2/21, ML4.2(AEIC), After AEIC.*

ISC 19 13:30:23.5±0.6, 52.65N±0.10×169.56W±0.05, h10km, n88, σ0s85/87, mb4.1/32, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	Nikolski High	0.54	53	P	Pb	13 30 34.4	-0.6
NIKH				S	Sb	13 30 42.6	-0.2
OKSP	Okmok Steeple	0.98	51	P	Pb	13 30 42.2	-0.4
OKSP				S	Sb	13 30 51.3	-0.2
OKCE	Okmok Cone E	1.15	47	P	Pb	13 30 45.0	-0.4
OKTU	Okmok Mt. Tuli	1.18	51	P	Pb	13 30 45.5	-0.5
MSOM	Makushin Julie	1.96	52	P	Pn	13 30 56.6	-0.1
MCIR	Makushin Cirqu	2.07	50	P	Pn	13 30 58.5	+0.2
MSW	Makushin Switc	2.10	52	P	Pn	13 30 58.8	+0.2
MTBL	Makushin Table	2.18	51	P	Pn	13 31 00.3	+0.5
UNV	Unalaska Valle	2.20	56	P	Pn	13 30 59.8	-0.2
UNV				S	Sn	13 31 27.4	+0.2
AKRB	Akutan Reef Bi	2.57	53	P	Pn	13 31 05.6	+0.5
ZRO	Akutan Zero	2.59	55	P	Pn	13 31 06.1	+0.7
AKGG	Akutan Green G	2.64	53	P	Pn	13 31 07.0	+0.9
AKUT	Akutan	2.71	55	ePn	Pn	13 31 08.1	+1.1
ATKA	Atka Island	2.87	263	P	Pn	13 31 09.2	-0.1
GSTR	Great Sitkin T	4.02	265	ePn	Pn	13 31 26.7	+1.6
GSCK	Great Sitkin C	4.10	264	P	Pn	13 31 27.2	+1.1
FALS	False Pass	4.27	56	ePn	Pn	13 31 29.8	+1.4
SPIA	Saint Paul Isl	4.56	355	P	Pn	13 31 34.0	+1.6
SDPT	Sand Point	6.00	60	ePn	Pn	13 31 55.8	+3.6
	81nm,0.6s						
AMKA	Amchitka	6.99	264	ePn	Pn	13 32 08.5	+2.7
	123nm,0.7s						
CHGN	Chignik	7.45	56	Pn	Pn	13 32 13.7	+1.6
SML	Sawmill	14.64	43	eP	P	13 33 56.9	+0.1
	2.9nm,0.9s						
TRF	Thorofare Moun	14.80	36	eP	P	13 33 58.2	-0.5
	6.8nm,0.7s						
BMRM	Bremner River	15.92	49	ePn	Pn	13 34 07.8	+0.5
	12nm,1.0s						
ILAR	Eielson Array	16.79	35	Pn	Pn	13 34 18.1	-0.3
	0.1nm,0.3s,baz=230,slow=11,SNR=7.5						
ILAR	Eielson Array	16.79	35	Pn	Pn	13 34 18.1	-0.3
COLD	Coldfoot	17.41	26	eP	P	13 34 28.1	+0.6
	71nm,1.8s						
EGAK	Eagle	18.90	39	eP	Pn	13 34 43.8	-0.6
	2.0nm,0.6s						
HYT	Haines Junctio	19.22	52	eP	Pn	13 34 48.8	+0.3
PETK	Petropavlovsk-	19.68	284	P	Pn	13 34 52.8	-1.0
	0.4nm,0.3s,baz=88,slow=13,SNR=5.0						
PETK	Petropavlovsk-	19.68	284	P	Pn	13 34 52.8	-1.0
SKAG	Skagway	20.12	57	eP	Pn	13 34 58.8	-0.1
	32nm,0.9s						
SEY	Seymchan	22.39	312	P	P	13 35 21.8	+0.2
	1.1nm,0.9s,baz=133,slow=12,SNR=5.2						
SEY	Seymchan	22.39	312	P	P	13 35 21.8	+0.2
DLBC	Dease Lake	22.84	60	P	P	13 35 28.1	+1.6
	7.9nm,1.0s,baz=279,slow=9.1,SNR=11						
DLBC	Dease Lake	22.84	60	P	P	13 35 28.1	+1.6
DLBC				eP	P	13 35 28.6	+2.1
INK	Inuvik	23.18	34	P	P	13 35 28.6	-1.2
	0.9nm,0.4s,baz=230,slow=8.1,SNR=4.4						
INK	Inuvik	23.18	34	P	P	13 35 28.6	-1.2
YKA	Yellowknife Ar	30.15	49	P	P	13 36 33.6	+0.5
	0.7nm,0.5s,baz=273,slow=7.6,SNR=9.5						
YKA				PcP	PcP	13 39 34.0	0.0
	0.4nm,0.7s,baz=257,slow=2.5,SNR=3.0						
YKA	Yellowknife Ar	30.15	49	P	P	13 36 33.6	+0.5
YKA				PcP	PcP	13 39 34.0	0.0
NEW	Newport	33.06	76	P	P	13 36 59.5	+0.5
	1.9nm,0.7s,baz=311,slow=9.3,SNR=4.2						
NEW	Newport	33.06	76	P	P	13 36 59.5	+0.5
BSMT	Bassoo Peak	34.63	75	eP	P	13 37 13.7	+0.9
	4.0nm,0.7s						
WVOR	Wild Horse Val	35.18	86	P	P	13 37 18.9	+1.4
	6.2nm,0.9s						
MCMT	McKenzie Canyo	37.34	79	eP	P	13 37 36.9	+0.8
	2.9nm,0.5s						
EGMT	Eagleton	37.49	72	eP	P	13 37 36.9	-0.2
	6.7nm,0.8s						
H11N2	WAKE ISLAND Hy	37.60	218	T	T	14 17 23.1	
	baz=23						
H11N3	WAKE ISLAND Hy	37.61	218	T	T	14 17 25.9	
	baz=23						
H11N1	WAKE ISLAND Hy	37.62	218	T	T	14 17 25.6	
	baz=23						
BOZ	Bozeman (W)	37.62	77	eP	P	13 37 39.1	+0.7
	0.9nm,0.6s						
NVAR	Mina Array Bea	37.79	91	P	P	13 37 41.0	+1.1
	0.7nm,0.8s,baz=308,slow=8.7,SNR=5.5						
NVAR				PcP	PcP	13 39 56.4	-0.1
	0.4nm,0.6s,baz=311,slow=3.3,SNR=3.1						
NVAR	Mina Array Bea	37.79	91	P	P	13 37 41.0	+1.1
NVAR				PcP	PcP	13 39 56.4	-0.1
ELK	Elko	38.23	86	eP	P	13 37 44.8	+1.2
	2.9nm,0.8s						
H11S1	WAKE ISLAND Hy	38.79	218	T	T	14 18 59.6	
	baz=22						
H11S2	WAKE ISLAND Hy	38.80	218	T	T	14 18 56.7	
	baz=22						
H11S3	WAKE ISLAND Hy	38.81	218	T	T	14 18 52.6	
	baz=22						
IMW	Indian Meadow	38.99	79	eP	P	13 37 50.9	+0.9
RLMT	Red Lodge	39.31	76	eP	P	13 37 53.5	+0.9
	1µm,0.3s						
R11A	Troy Canyon, C	39.49	89	eP	P	13 37 55.2	+1.0
	4.3nm,1.1s						
BW06	Boulder Array	40.47	79	eP	P	13 38 02.3	0.0
	2.8nm,1.1s						
PDAR	Pinedale Array	40.47	79	P	P	13 38 03.0	+0.7
	1.7nm,0.8s,baz=321,slow=5.9,SNR=9.1						
PDAR	Pinedale Array	40.47	79	P	P	13 38 03.0	+0.7
CCUT	Cedar City	41.36	88	eP	P	13 38 10.3	+0.7
	3.2nm,0.8s						
MVU	Marysvale	41.45	86	P	P	13 38 11.4	+1.0
	4.1nm,1.0s						
MSU	Marysvale	41.47	86	eP	P	13 38 11.2	+0.7
	2.4nm,0.8s						
LDFC	Landfair	41.91	93	eP	P	13 38 15.3	+1.2
	8.4nm,0.9s						
PV01	Paradox Valley	43.90	84	eP	P	13 38 30.8	+0.5
	528nm,0.7s						
WUAZ	Wupatki	43.90	89	eP	P	13 38 31.0	+0.8
	1.3nm,0.6s						
AGMN	Agassiz Nation	45.22	65	eP	P	13 38 39.9	-0.5
	3.6nm,0.6s						
SDCO	Great Sand Dun	46.00	82	eP	P	13 38 47.8	+0.7
	3.0nm,1.3s						
LAZ	Ladron	47.22	87	eP	P	13 38 57.4	+0.8
	2.9nm,1.1s						
SONM	Songino Array	51.06	301	P	P	13 39 25.1	-0.6
	0.2nm,0.3s,baz=54,slow=7.3,SNR=2.4						
SONM	Songino Array	51.06	301	P	P	13 39 25.1	-0.6
WMOK	Wichita Mounta	52.05	80	eP	P	13 39 33.5	+0.3
	58nm,1.2s						
TXAR	Lajitas Array	52.86	89	P	P	13 39 39.9	+0.6
	3.0nm,0.7s,baz=298,slow=5.3,SNR=37						
TXAR	Lajitas Array	52.86	89	P	P	13 39 39.9	+0.6
JCT	Junction City	54.40	85	eP	P	13 39 50.6	0.0
	4.9nm,0.8s						
KURK	Kurchatov	62.09	318	P	P	13 40 43.7	-0.2
KURBB	Kurchatov Arra	62.19	318	P	P	13 40 43.7	-1.0
	0.7nm,0.5s,baz=35,slow=8.0,SNR=5.3						
WRA	Warramunga Arr	87.08	231	P	P	13 43 08.2	-1.0
	0.7nm,0.8s,baz=35,slow=5.9,SNR=5.1						
ASAR	Alice Springs	90.48	230	P	P	13 43 25.1	-0.2
	1.6nm,0.9s,baz=24,slow=4.5,SNR=17						
ASAR	Alice Springs	90.48	230	P	P	13 43 25.1	-0.2
QSPA	South Pole Qui	142.41	180	ePKPpre	PKPpre	13 49 49.8	
TSUM	Tsumeb	146.16	348	ePKPdf	PKPbc	13 50 03.4	-0.5
LBTB	Lobatse	150.11	332	ePKPbc	PKPbc	13 50 14.0	-0.3
MAW	Mawson	151.02	219	PKPbc	PKPbc	13 50 14.4	-0.6
	1.4nm,0.8s,baz=149,slow=5.9,SNR=3.9						
MAW	Mawson	151.02	219	PKPbc	PKPbc	13 50 14.4	-0.6
BOSA	Boshof	153.59	330	PKPbc	PKPbc	13 50 21.6	-0.6
	0.9nm,0.4s,baz=18,slow=3.2,SNR=4.3						

ISCJB ***19*** *13:30:36.3±0.4, 52.28N±0.1×169.46W±0.09, h10km, mb4.1/20, MS3.3/1, Error ellipse: s-maj=15.2km s-min=7.6km az=0.7*

IDC ***19*** *13:30:36.2±0.5, 52.65N×169.47W, h0km, mb4.1/20, mb1 4.3/22, mb1mx4.1/58, mbtmp4.1/22, ML3.8/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/43, Error ellipse: s-maj=19.5km s-min=11.7km az=175.0*

ISC 19 13:30:37.7±0.5, 52.7N±0.1×169.41W±0.07, h10km, n64, σ0s78/69, mb4.1/20, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILAR	Eielson Array	16.67	35	Pn	Pn	13 34 31.0	-0.1
	0.3nm,0.3s,baz=223,slow=11,SNR=9.0						
ILAR	Eielson Array	16.67	35	Pn	Pn	13 34 31.0	-0.1
PETK	Petropavlovsk-	19.75	284	P	Pn	13 35 08.7	-0.2
	0.5nm,0.3s,baz=78,slow=11,SNR=5.3						
PETK	Petropavlovsk-	19.75	284	P	Pn	13 35 08.7	-0.2
SEY	Seymchan	22.41	312	P	P	13 35 37.0	+1.0
	3.0nm,0.8s,baz=113,slow=7.6,SNR=6.1						
SEY				PcP	PcP	13 39 30.7	+0.5
	1.6nm,0.6s,baz=229,slow=5.4,SNR=7.4						
SEY	Seymchan	22.41	312	P	P	13 35 37.0	+1.0
SEY				PcP	PcP	13 39 30.7	+0.5
DLBC	Dease Lake	22.72	60	P	P	13 35 40.9	+1.4
	4.7nm,0.9s,baz=277,slow=11,SNR=5.8						
DLBC	Dease Lake	22.72	60	P	P	13 35 40.9	+1.4
INK	Inuvik	23.06	34	P	P	13 35 41.7	-1.1
	3.9nm,0.6s,baz=250,slow=8.5,SNR=7.7						
INK	Inuvik	23.06	34	P	P	13 35 41.7	-1.1
YKA	Yellowknife Ar	30.03	49	P	P	13 36 46.0	-0.2
	0.8nm,0.5s,baz=272,slow=7.7,SNR=8.0						
YKA				PcP	PcP	13 39 48.2	+0.4
	0.7nm,0.8s,baz=270,slow=2.9,SNR=5.2						
YKA	Yellowknife Ar	30.03	49	P	P	13 36 46.0	-0.2
YKA				PcP	PcP	13 39 48.2	+0.4
NEW	Newport	32.95	76	P	P	13 37 12.1	-0.1
	4.3nm,0.6s,baz=297,slow=8.7,SNR=6.3						
NEW	Newport	32.95	76	P	P	13 37 12.1	-0.1
NVAR	Mina Array Bea	37.70	91	P	P	13 37 54.5	+1.2
	2.1nm,0.8s,baz=302,slow=8.4,SNR=11						
NVAR				PcP	PcP	13 40 11.0	+0.7
	1.0nm,0.7s,baz=326,slow=2.7,SNR=6.3						
NVAR	Mina Array Bea	37.70	91	P	P	13 37 54.5	+1.2
NVAR				PcP	PcP	13 40 11.0	+0.7
H11N2	WAKE ISLAND Hy	37.72	218	T	T	14 17 53.8	
	baz=24,slow=76,SNR=52						
H11N3	WAKE ISLAND Hy	37.73	218	T	T	14 17 52.0	
	baz=24,slow=76,SNR=63						
H11N1	WAKE ISLAND Hy	37.74	218	T	T	14 17 52.9	
	baz=24,slow=76,SNR=66						
H11S1	WAKE ISLAND Hy	38.91	218	T	T	14 19 20.1	
	baz=23,slow=76,SNR=484						
H11S2	WAKE ISLAND Hy	38.92	218	T	T	14 19 21.2	
	baz=23,slow=76,SNR=444						
H11S3	WAKE ISLAND Hy	38.93	218	T	T	14 19 22.2	
	baz=23,slow=76,SNR=396						
MJAR	Matsushiro Arr	39.69	267	P	P	13 38 10.2	+0.4
	1.0nm,0.6s,baz=48,slow=5.1,SNR=4.2						
MJAR	Matsushiro Arr	39.69	267	P	P	13 38 10.2	+0.4
PDAR	Pinedale Array	40.36	80	P	P	13 38 16.1	+0.5
	4.1nm,0.7s,baz=325,slow=5.5,SNR=14						
PDAR	Pinedale Array	40.36	80	P	P	13 38 16.1	+0.5
MVU	Marysvale	41.35	87	e	P	13 38 25.2	+1.4
MSU	Marysvale	41.37	87	e	P	13 38 24.8	+0.9
LDFC	Landfair	41.82	93	e	P	13 38 28.2	+0.7
PV01	Paradox Valley	43.79	84	e	P	13 38 44.1	+0.4
AGMN	Agassiz Nation	45.10	65	e	P	13 38 52.3	-1.3
KSRS	Korea Array	45.34	276	LR	LR	13 58 09.6	
	comp=Z,35nm,18.1s,baz=58,slow=36						
SDCO	Great Sand Dun	45.90	82	e	P	13 39 01.1	+0.6
LAZ	Ladron	47.12	87	e	P	13 39 10.7	+0.7
ANMO	Albuquerque	47.17	86	P	P	13 39 10.6	+0.2
	1.3nm,0.8s,baz=329,slow=8.7,SNR=4.0						
ANMO				PcP	PcP	13 40 42.9	+1.0
	1.1nm,0.5s,baz=317,slow=4.1,SNR=5.4						
ANMO	Albuquerque	47.17	86	P	P	13 39 10.6	+0.2
ANMO				PcP	PcP	13 40 42.9	+1.0
SONM	Songino Array	51.10	301	P	P	13 39 40.7	+0.5
	0.5nm,0.5s,baz=61,slow=6.8,SNR=2.9						
SONM				PcP	PcP	13 40 56.0	+0.2
	3.1nm,0.6s,baz=66,slow=2.5,SNR=14						
SONM	Songino Array	51.10	301	PcP	PcP	13 40 56.0	+0.2
WMOK	Wichita Mounta	51.95	81	e	P	13 39 46.5	-0.1
TXAR	Lajitas Array	52.77	89	P	P	13 39 53.5	+0.6
	5.8nm,0.6s,baz=310,slow=5.6,SNR=33						
TXAR				PcP	PcP	13 41 02.6	+0.3
	1.0nm,0.7s,baz=275,slow=1.3,SNR=2.4						
TXAR	Lajitas Array	52.77	89	PcP	PcP	13 41 02.6	+0.3
ZALV	Zalesovo Beam	57.14	317	PcP	PcP	13 41 18.6	0.0
	0.5nm,0.3s,baz=38,slow=5.9,SNR=3.5						
ZALV	Zalesovo Beam	57.14	317	PcP	PcP	13 41 18.6	0.0
ARCES	ARCESS Array B	57.56	354	PcP	PcP	13 41 19.6	-0.4
	2.5nm,0.9s,baz=23,slow=4.9,SNR=4.1						
ARCES	ARCESS Array B	57.56	354	PcP	PcP	13 41 19.6	-0.4
KURBB	Kurchatov Arra	62.20	318	P	P	13 40 59.0	+0.2
	1.3nm,0.7s,baz=42,slow=7.2,SNR=6.9						
BVAR	Borovoye Array	63.40	324	P	P	13 41 07.0	+0.1
	1.6nm,0.6s,baz=38,slow=5.8,SNR=7.1						
BVAR				PcP	PcP	13 41 43.9	+0.2
	1.7nm,0.6s,baz=67,slow=3.9,SNR=5.2						
BVAR	Borovoye Array	63.40	324	P	P	13 41 07.0	+0.1
BVAR				PcP	PcP	13 41 43.9	+0.2
MKAR	Makanchi Array	63.54	313	P	P	13 41 08.8	+0.8
	0.2nm,0.3s,baz=56,slow=5.4,SNR=2.5						
MKAR	Makanchi Array	63.54	313	P	P	13 41 08.8	+0.8
AKASG	Malin Array Be	75.75	348	P	P	13 42 22.1	-1.0
	1.0nm,0.5s,baz=15,slow=6.2,SNR=3.1						
AKASG	Malin Array Be	75.75	348	P	P	13 42 22.1	-1.0
CMAR	Chiang Mai Arr	76.52	283	P	P	13 42 28.5	+0.6
	0.9nm,0.6s,baz=26,slow=6.9,SNR=2.6						
CMAR	Chiang Mai Arr	76.52	283	P	P	13 42 28.5	+0.6
CTA	Charters Tower	82.08	222	P	P	13 42 57.5	-0.5
	1.6nm,0.5s,baz=45,slow=11,SNR=3.8						
CTA	Charters Tower	82.08	222	P	P	13 42 57.5	-0.5
ESDC	Sonseca Array	87.11	11	P	P	13 43 23.0	-0.5
	1.0nm,0.6s,baz=345,slow=3.8,SNR=3.4						
ESDC	Sonseca Array	87.11	11	P	P	13 43 23.0	-0.5
WRA	Warramunga Arr	87.21	232	P	P	13 43 23.0	-1.0
	1.5nm,0.7s,baz=33,slow=6.0,SNR=9.7						
ASAR	Alice Springs	90.61	230	P	P	13 43 39.7	-0.3
	3.8nm,0.7s,baz=31,slow=4.7,SNR=21						
ASAR	Alice Springs	90.61	230	P	P	13 43 39.7	-0.3
TSUM	Tsumeb	146.10	348	e	PKPbc	13 50 17.7	-0.3
MAW	Mawson	151.14	219	PKPbc	PKPbc	13 50 27.2	-2.2
	4.7nm,0.9s,baz=266,slow=18,SNR=6.6						
MAW	Mawson	151.14	219	PKPbc	PKPbc	13 50 27.2	-2.2

NEIC 19 13:35:27.5, 52.70N×169.46W, h2km, ML3.3(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	Nikolski High	0.46	54	P	Pb	13 35 37.9	-0.5
NIKH				S	Sb	13 35 46.0	+0.4
OKSP	Okmok Steeple	0.90	52	P	Pb	13 35 46.1	+0.2
OKSP				S	Sb	13 35 59.0	+0.6
OKCE	Okmok Cone E	1.07	47	P	Pb	13 35 48.9	+0.1
OKTU	Okmok Mt. Tuli	1.09	51	P	Pn	13 35 49.7	-0.3
MSOM	Makushin Julie	1.88	53	P	Pn	13 36 00.4	-0.3
MSOM				S	Sg	13 36 27.5	-0.3
MCIR	Makushin Cirqu	1.98	50	P	Pn	13 36 02.4	+0.2
MTBL	Makushin Table	2.10	52	P	Pn	13 36 04.7	+1.0
UNV	Unalaska Valle	2.11	56	P	Pn	13 36 04.3	+0.4
UNV				S	Sn	13 36 31.6	+0.8
ATKA	Atka Island	2.94	262	P	Pn	13 36 15.1	-0.1

IDC 19 13:35:39.5±1.2, 52.40N×169.38W, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.4/51, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=58.2km s-min=24.5km az=144.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILAR	Eielson Array	16.93	34	Pn	Pn	13 39 35.5	-2.0
	0.1nm,0.3s,baz=232,slow=10,SNR=3.9						
H11N2	WAKE ISLAND Hy	37.47	219	T	T	14 22 54.9	
	baz=24,slow=76,SNR=28						
H11N3	WAKE ISLAND Hy	37.48	219	T	T	14 22 55.4	
	baz=24,slow=76,SNR=36						
H11N1	WAKE ISLAND Hy	37.49	219	T	T	14 22 56.4	
	baz=24,slow=76,SNR=67						
H11S1	WAKE ISLAND Hy	38.66	218	T	T	14 24 23.5	
	baz=23,slow=76,SNR=120						
H11S2	WAKE ISLAND Hy	38.68	218	T	T	14 24 24.7	
	baz=23,slow=76,SNR=120						
H11S3	WAKE ISLAND Hy	38.68	218	T	T	14 24 25.6	
	baz=23,slow=76

IDC ***19*** *13:43:15.9±0.5,52.˚65N×169.˚60W,h0km,mb4.2/22, mb1 4.4/24,mb1mx4.3/50,mbtmp4.2/24,ML4.0/2,MS3.6/14, Ms1 3.6/14,ms1mx3.3/43,Error ellipse: s-maj=16.9km s-min=10.8km az=172.0*

NEIC ***19*** *13:43:18.0±0.2,52.˚69N×169.˚55W,h10km,mb4.6/87, ML4.4(AEIC),Error ellipse: s-maj=5.4km s-min=2.7km az=165.0*

BJI ***19*** *13:43:19.9,52.˚70N×169.˚10W,h30km,mb4.4/4,mB4.8/3, Ms4.3/2,Ms7 4.0/2*

MOS ***19*** *13:43:20.4±1.7,52.˚52N×169.˚32W,h33km,mb4.8/32, Error ellipse: s-maj=11.0km s-min=9.7km az=152.2*

ISC 19 13:43:17.8±1.5,52.˚57N±0.˚07×169.˚42W±0.˚05,h12km±8km, n531,σ1§15/515,mb4.6/107,MS3.6/14,5C-2D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.53**	**40**	P	**Pb**	**13 43 28.5**	**-0.4**
NIKH				S	**Sb**	**13 43 35.8**	**-0.7**
OKSP	**Okmok Steeple**	**0.96**	**44**	P	**Pb**	**13 43 36.0**	**-0.4**
OKCE	**Okmok Cone E**	**1.14**	**41**	P	**Pb**	**13 43 38.6**	**-0.9**
OKCE				S	**Sn**	**13 43 55.5**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**1.16**	**45**	P	**Pb**	**13 43 39.3**	**-0.5**
MCIR	**Makushin Cirqu**	**2.05**	**47**	P	**Pb**	**13 43 53.2**	**-1.8**
MCIR				S	**Sb**	**13 44 19.5**	**-0.9**
MSW	**Makushin Switc**	**2.08**	**49**	P	**Pn**	**13 43 52.8**	**+0.4**
MTBL	**Makushin Table**	**2.16**	**48**	P	**Pn**	**13 43 54.5**	**+1.0**
UNV	**Unalaska Valle**	**2.17**	**53**	P	**Pn**	**13 43 53.5**	**0.0**
UNV				S	**Sb**	**13 44 21.8**	**-1.9**
AKRB	**Akutan Reef Bi**	**2.54**	**51**	P	**Pn**	**13 43 60.0**	**+1.2**
AKGG	**Akutan Green G**	**2.62**	**50**	P	**Pn**	**13 44 01.1**	**+1.3**
AKUT	**Akutan**	**2.69**	**53**	P	**Pn**	**13 44 01.8**	**+1.1**
ATKA	**Atka Island**	**2.95**	**265**	P	**Pn**	**13 44 04.3**	**-0.1**
WESP	**Westdahl Peak**	**3.40**	**54**	P	**Pn**	**13 44 12.7**	**+2.1**
WESN	**West Dahl Nort**	**3.51**	**53**	P	**Pn**	**13 44 13.7**	**+1.6**
ISNN	**Isanotski Nort**	**4.04**	**54**	P	**Pn**	**13 44 22.3**	**+2.9**
GSTR	**Great Sitkin T**	**4.10**	**266**	*eP*	**Pn**	**13 44 20.7**	**+0.5**
GSMY	**Great Sitkin M**	**4.11**	**265**	P	**Pn**	**13 44 21.2**	**+0.9**
GSTD	**Great Sitkin T**	**4.16**	**266**	P	**Pn**	**13 44 21.6**	**+0.5**
GSCK	**Great Sitkin C**	**4.18**	**265**	P	**Pn**	**13 44 22.3**	**+1.0**
FALS	**False Pass**	**4.24**	**55**	*eP*	**Pn**	**13 44 24.1**	**+2.2**
ETKA	**Kagalaska Isla**	**4.36**	**263**	P	**Pn**	**13 44 24.2**	**+0.6**
ADAG	**Mount Adagdak**	**4.45**	**265**	P	**Pn**	**13 44 25.9**	**+0.9**
SPIA	**Saint Paul Isl**	**4.64**	**354**	P	**Pn**	**13 44 28.1**	**+0.6**
AMKA	**Amchitka** 154nm,0.6s	**7.07**	**265**	*eP*	**Pn**	**13 45 02.7**	**+1.8**
CHGN	**Chignik**	**7.42**	**55**	*eP*	Pn	13 45 09.5	+3.8
SMY	**Shemya** 92nm,1.3s	**10.02**	**277**	*eP*	**Pn**	**13 45 40.8**	**-0.5**
OHAK	**Old Harbor** 14nm,0.5s	**10.38**	**57**	*eP*	**Pn**	**13 45 45.6**	**-0.6**
KDAK	**Kodiak Island**	**10.94**	**55**	*i* P	**Pn**	**13 45 54.4**	**+0.6**
KDAK	**Kodiak Island** 11nm,0.6s	**10.94**	**55**	*eP*	**Pn**	**13 45 53.6**	**-0.2**
RSO	**Redoubt South** 84nm,0.8s	**12.10**	**43**	P	**Pn**	**13 46 08.2**	**-1.7**
PMR	**Palmer** 10nm,0.8s	**14.20**	**43**	P	**Pn**	**13 46 40.8**	**+2.5**
SML	**Sawmill** 6.3nm,1.1s	**14.63**	**43**	*eP*	**Pn**	**13 46 44.5**	**+0.2**
TRF	**Thorofare Moun** 49nm,1.3s	**14.81**	**35**	*eP*	**P**	**13 46 49.9**	**-2.9**
BPAW	**Bear Paw Mtn.** 5.5nm,0.7s	**14.99**	**32**	*eP*	**Pn**	**13 46 50.3**	**+1.1**
DIV	**Divide** 22nm,0.9s	**15.43**	**47**	*eP*	**Pn**	**13 46 53.6**	**-1.5**
MCK	**McKinley** 20nm,1.0s	**15.46**	**36**	*eP*	**Pn**	**13 46 56.8**	**+1.5**
IM04	**Indian Mountai**	**15.56**	**24**	*eP*	**Pn**	**13 46 57.6**	**+0.9**
BMRM	**Bremner River** 21nm,0.8s	**15.90**	**48**	*eP*	**Pn**	**13 47 00.2**	**-0.9**
PAX	**Paxson** 6.5nm,0.5s	**16.37**	**41**	*eP*	**Pn**	**13 47 06.8**	**-0.3**
COLA	**College**	**16.53**	**33**	*i*P	**Pn**	**13 47 09.7**	**+0.6**
COLA	comp=Z,54nm,1.1s			pmax	pmax		
COLA	**College** comp=Z,24nm,0.9s	**16.53**	**33**	*eP*	**Pn**	**13 47 08.9**	**-0.2**
ILAR	**Eielson Array** comp=Z,0.5nm,0.3s,baz=228,slow=11,SNR=31	**16.80**	**35**	Pn	**Pn**	**13 47 11.4**	**-1.1**
ILAR	comp=Z,0.1nm,0.3s,baz=274,slow=3.7,SNR=6.9			ScP	**ScP**	**13 55 32.8**	**-1.3**
COLD	**Coldfoot** comp=Z,25nm,1.2s	**17.44**	**25**	*eP*	**P**	**13 47 21.0**	**-0.7**
EGAK	**Eagle** comp=Z,8.9nm,0.6s	**18.90**	**39**	*eP*	**P**	**13 47 36.2**	**-1.5**
HYT	**Haines Junctio** comp=Z,46nm,0.6s	**19.20**	**52**	*eP*	**Pn**	**13 47 42.8**	**+0.7**
DAWY	**Dawson** comp=Z,6.6nm,0.6s	**19.30**	**42**	*eP*	**P**	**13 47 41.1**	**-1.1**
BILL	**Bilibino**	**19.41**	**332**	*d*/*i*P	Pn	13 47 49.5	+5.0
BILL	comp=Z,38nm,1.0s			pmax	pmax		
PEA0B	**Petropavlovsk-**	**19.78**	**285**	*eP*	**P**	**13 47 45.8**	**-1.7**
PETK	**Petropavlovsk-** comp=Z,0.6nm,0.3s,baz=93,slow=13,SNR=8.3	**19.78**	**285**	P	**P**	**13 47 47.6**	**+0.1**
PETK	comp=Z,29nm,21.7s,baz=90,slow=36			LR	LR	13 55 03.7	
SKAG	**Skagway** comp=Z,33nm,0.6s	**20.08**	**56**	*eP*	Pn	13 47 52.0	-0.5
H02S1	**DAWSON INLET T** SNR=12	**22.14**	**74**	T	T	14 11 16.9	
SEY	**Seymchan** comp=Z,8.2nm,0.7s,baz=102,slow=9.3,SNR=11	**22.51**	**312**	P	**P**	**13 48 16.5**	**-0.4**
SEY	comp=Z,3.2nm,0.6s,baz=107,slow=2.2,SNR=11			PcP	**PcP**	**13 52 10.2**	**+0.1**
SEY	comp=Z,2.0nm,0.7s,baz=116,slow=5.0,SNR=8.1			ScP	**ScP**	**13 55 46.8**	**-0.4**
SEY	**Seymchan**	**22.51**	**312**	*ce*P	**P**	**13 48 21.4**	**+4.6**
DLBC	**Dease Lake** comp=Z,20nm,0.8s,baz=278,slow=9.6,SNR=48	**22.81**	**59**	P	**P**	**13 48 23.2**	**+3.1**
DLBC	**Dease Lake** comp=Z,33nm,1.0s	**22.81**	**59**	*eP*	**P**	**13 48 22.9**	**+2.8**
INK	**Inuvik** comp=Z,4.5nm,0.5s,baz=233,slow=8.1,SNR=20	**23.20**	**34**	P	**P**	**13 48 22.2**	**-1.7**
YKA	**Yellowknife Ar** comp=Z,3.1nm,0.5s,baz=273,slow=7.9,SNR=31	**30.13**	**49**	P	**P**	**13 49 26.5**	**-0.4**
YKA	comp=Z,1.4nm,0.7s,baz=292,slow=2.5,SNR=6.9			PcP	**PcP**	**13 52 28.2**	**+0.4**
YKA	comp=Z,0.8nm,0.8s,baz=286,slow=3.1,SNR=5.8			ScP	**ScP**	**13 56 09.3**	**-0.2**
I03D	**Drain, OR** baz=32	**31.52**	**88**	P	**P**	**13 49 42.4**	**+3.1**
G05D	**Wamic, OR** baz=32	**31.94**	**84**	P	**P**	**13 49 45.9**	**+2.8**
I04A	**Tendick Farm,** baz=32	**32.04**	**87**	P	**P**	**13 49 47.1**	**+3.1**
I05D	**Terrebonne, OR** baz=32,SNR=5.2	**32.40**	**85**	P	**P**	**13 49 49.5**	**+2.4**
HAWA	**Hanford** comp=Z,7.6nm,0.8s	**32.44**	**81**	*eP*	**P**	**13 49 49.3**	**+1.9**
NEW	**Newport**	**32.99**	**76**	*eP*	**P**	**13 49 53.5**	**+1.3**
NEW	comp=Z,8.0nm,0.8s			pmax	pmax		
NEW	**Newport** baz=33,SNR=9.0	**32.99**	**76**	P	**P**	**13 49 53.8**	**+1.6**
NEW	**Newport** comp=Z,7.6nm,0.8s	**32.99**	**76**	*eP*	**P**	**13 49 53.5**	**+1.3**
YBH	**Yreka Blue Hor** comp=Z,1.7nm,0.8s,baz=311,slow=11,SNR=3.4	**33.01**	**90**	P	**P**	**13 49 54.8**	**+2.2**
YAK	**Yakutsk** comp=Z,188nm,19.9s,baz=93,slow=37	**33.02**	**311**	LR	LR	14 03 22.2	
YAK	**Yakutsk**	**33.02**	**311**	*eP*	**P**	**13 49 54.3**	**+2.1**
YAK				*e**PP	pP	13 50 12.3	+16
YAK				*e*		13 51 01.3	
YAK				*e*PPP	PPP	13 51 16.2	
YAK				*e*		13 52 34.8	
YAK				*e*S	**S**	**13 55 11.4**	**+1.3**
YAK	comp=E,6.0nm,1.4s			pmax	pmax		
YAK	comp=Z,10.0nm,0.9s			pmax	pmax		
YAK	comp=N,1.0nm,1.5s			pmax	pmax		
YAK	comp=Z,8.0nm,1.3s			pmax	pmax		
YAK	comp=E,8.0nm,1.7s			pmax	pmax		
YAK	comp=N,26nm,2.3s			smax	smax		
YAK	comp=E,52nm,3.0s			smax	smax		
YAK	comp=N,38nm,3.7s			MLR	MLR		
YAK	comp=Z,197nm,21.0s			MLR	MLR		
YAK	comp=E,145nm,18.0s			MLR	MLR		
YAK	comp=N,119nm,22.0s			MLR	MLR		
J05D	**Fort Rock, OR** baz=33,SNR=6.9	**33.03**	**87**	P	**P**	**13 49 55.0**	**+2.2**
M02C	**Callahan** baz=33	**33.12**	**91**	P	P	13 49 56.9	+3.4
M04C	**Macdoel** baz=34	**33.51**	**89**	P	**P**	**13 49 59.4**	**+2.4**
MOD	**Modoc** comp=N,4.5nm,0.7s	**34.38**	**88**	*eP*	**P**	**13 50 07.2**	**+2.6**
WALA	**Waterton Lakes** comp=N,14nm,1.1s	**34.51**	**73**	*eP*	**P**	**13 50 06.5**	**+1.0**
BSMT	**Bassoo Peak** comp=N,7.2nm,0.7s	**34.56**	**75**	*eP*	**P**	**13 50 07.7**	**+1.6**
BLMT	**Blacktail Moun** comp=N,9.5nm,0.6s	**34.74**	**75**	*eP*	**P**	**13 50 09.0**	**+1.4**
WVOR	**Wild Horse Val**	**35.09**	**86**	*eP*	**P**	**13 50 12.2**	**+1.5**
WVOR	comp=Z,14nm,1.0s			pmax	pmax		
WVOR	**Wild Horse Val** comp=Z,14nm,1.0s	**35.09**	**86**	*eP*	**P**	**13 50 12.2**	**+1.5**
MSO	**Missoula** baz=36	**35.57**	**77**	P	**P**	**13 50 16.4**	**+1.8**
CHMT	**Chamberlain Mo** comp=Z,4.3nm,0.6s	**35.94**	**76**	*eP*	**P**	**13 50 18.6**	**+0.7**
RES	**Resolute Bay** comp=Z,105nm,21.0s,baz=280,slow=40	**36.20**	**26**	LR	LR	14 07 36.1	
MFID	**Camas Ranch** comp=Z,8.0nm,1.1s	**36.25**	**83**	*eP*	**P**	**13 50 22.1**	**+1.5**
HRY	**Holter Researc** comp=Z,6.7nm,0.6s	**36.88**	**75**	*eP*	**P**	**13 50 26.3**	**+0.4**
HLID	**Hailey** baz=37,SNR=6.9	**37.02**	**82**	P	**P**	**13 50 28.7**	**+1.5**
HLID	**Hailey** comp=Z,4.8nm,1.2s	**37.02**	**82**	*eP*	**P**	**13 50 28.9**	**+1.7**
BMN	**Battle Mountai**	**37.12**	**88**	*eP*	**P**	**13 50 30.3**	**+2.2**
BMN	comp=Z,8.0nm,0.9s			pmax	pmax		
BMN	**Battle Mountai** comp=Z,7.6nm,0.9s	**37.12**	**88**	*eP*	**P**	**13 50 30.3**	**+2.2**
MCMT	**McKenzie Canyo** comp=Z,4.8nm,0.6s	**37.27**	**79**	*eP*	**P**	**13 50 30.5**	**+1.1**
EGMT	**Eagleton** baz=37,SNR=20	**37.43**	**72**	P	**P**	**13 50 31.4**	**+0.9**
EGMT	**Eagleton** comp=Z,28nm,1.0s	**37.43**	**72**	*eP*	**P**	**13 50 31.2**	**+0.7**
BOZ	**Bozeman (W)**	**37.55**	**77**	*eP*	**P**	**13 50 32.9**	**+1.3**
BOZ	comp=Z,8.0nm,0.7s			pmax	pmax		
BOZ	**Bozeman (W)** baz=38,SNR=14	**37.55**	**77**	P	**P**	**13 50 33.0**	**+1.3**
BOZ	**Bozeman (W)** comp=Z,7.6nm,0.7s	**37.55**	**77**	*eP*	**P**	**13 50 32.9**	**+1.3**
A19A	**Klindworth Far** baz=38	**37.57**	**71**	P	**P**	**13 50 33.2**	**+1.5**
H11N2	**WAKE ISLAND Hy** baz=24,slow=76,SNR=29	**37.59**	**218**	T	T	14 30 23.4	
H11N3	**WAKE ISLAND Hy** baz=24,slow=76,SNR=34	**37.60**	**218**	T	T	14 30 54.6	
H11N1	**WAKE ISLAND Hy** baz=24,slow=76,SNR=31	**37.61**	**218**	T	T	14 30 31.5	
NVAR	**Mina Array Bea** comp=Z,2.9nm,0.8s,baz=295,slow=8.1,SNR=24	**37.70**	**91**	P	**P**	**13 50 35.2**	**+2.2**
NVAR	comp=Z,1.9nm,0.7s,baz=296,slow=2.5,SNR=8.7			PcP	**PcP**	**13 52 51.1**	**+1.0**
A20A	**Cobblestone Ra** baz=38	**38.06**	**70**	P	**P**	**13 50 37.2**	**+1.3**
QLMT	**Earthquake Lak** comp=Z,0.3nm,0.5s	**38.11**	**78**	*eP*	**P**	**13 50 37.7**	**+1.2**
ELK	**Elko**	**38.15**	**86**	*eP*	**P**	**13 50 38.3**	**+1.5**
ELK	comp=Z,7.0nm,0.8s			pmax	pmax		
ELK	**Elko** comp=Z,6.8nm,0.8s	**38.15**	**86**	*eP*	**P**	**13 50 38.3**	**+1.5**
TPH	**Tonopah**	**38.58**	**91**	*eP*	**P**	**13 50 42.8**	**+2.3**
TPH	comp=Z,5.0nm,0.9s			pmax	pmax		
TPH	**Tonopah** comp=Z,5.1nm,0.9s	**38.58**	**91**	*eP*	**P**	**13 50 42.8**	**+2.3**
A21A	**Bergtoll Ranch** baz=38	**38.58**	**70**	P	**P**	**13 50 41.3**	**+1.1**
C20A	**Veseth Ranch,** baz=38,SNR=6.7	**38.61**	**72**	P	**P**	**13 50 41.5**	**+1.1**
GCMT	**Greycliff** comp=Z,2.3nm,0.6s	**38.64**	**75**	*eP*	**P**	**13 50 42.2**	**+1.4**
FFC	**Flin Flon**	**38.64**	**59**	*eP*	**P**	**13 50 40.7**	**+0.2**
FFC	comp=Z,7.0nm,1.0s			pmax	pmax		
FFC	**Flin Flon** comp=Z,6.7nm,1.0s	**38.64**	**59**	*eP*	**P**	**13 50 40.7**	**+0.2**
H11S1	**WAKE ISLAND Hy** baz=20	**38.78**	**218**	T	T	14 32 01.3	
H11S2	**WAKE ISLAND Hy** baz=20	**38.80**	**218**	T	T	14 31 56.0	
H11S3	**WAKE ISLAND Hy** baz=20	**38.80**	**218**	T	T	14 32 04.3	
USRK	**Ussuriysk Ar.** comp=Z,44nm,18.4s,baz=14,slow=39	**38.82**	**282**	LR	LR	14 08 27.6	
H17A	**Grant Village** baz=39	**38.86**	**78**	P	**P**	**13 50 45.0**	**+2.2**
H17A	**Grant Village** comp=Z,8.9nm,0.9s	**38.86**	**78**	*eP*	**P**	**13 50 45.5**	**+2.7**
VES	**Vestal, Richgr** baz=39	**38.89**	**95**	P	**P**	**13 50 45.6**	**+2.8**
IMW	**Indian Meadow** comp=Z,6.8nm,0.8s	**38.92**	**79**	*eP*	**P**	**13 50 44.8**	**+1.4**
FLWY	**Flagg Ranch** comp=Z,6.1nm,0.8s	**38.96**	**78**	*eP*	**P**	**13 50 45.4**	**+1.8**
HVU	**Hansel Valley**	**39.03**	**83**	*eP*	**P**	**13 50 45.9**	**+1.8**
HVU	comp=Z,6.0nm,0.9s			pmax	pmax		
HVU	**Hansel Valley** comp=Z,6.0nm,0.9s	**39.03**	**83**	*eP*	**P**	**13 50 45.9**	**+1.8**
C21A	**Desert Coulee** baz=39,SNR=5.7	**39.07**	**71**	P	**P**	**13 50 44.9**	**+0.6**
CWC	**Cottonwood Cre** baz=39	**39.11**	**93**	P	**P**	**13 50 47.1**	**+2.3**
MOOW	**Moose Ponds** comp=Z,1.5nm,0.8s	**39.12**	**79**	*eP*	**P**	**13 50 46.2**	**+1.3**
TPAW	**Teton Pass** comp=Z,3.5nm,0.6s	**39.14**	**79**	*eP*	**P**	**13 50 47.0**	**+1.8**
GRAC	**Grapevine Rang** baz=39	**39.18**	**92**	P	**P**	**13 50 47.8**	**+2.5**
RLMT	**Red Lodge** baz=39,SNR=13	**39.24**	**76**	P	**P**	**13 50 47.5**	**+1.5**
RLMT	**Red Lodge** comp=Z,1.4nm,0.9s	**39.24**	**76**	*eP*	**P**	**13 50 47.2**	**+1.3**
LOHW	**Long Hollow** comp=Z,2.6nm,0.8s	**39.28**	**79**	*eP*	**P**	**13 50 47.5**	**+1.2**
ISA	**Isabella**	**39.38**	**95**	*eP*	**P**	**13 50 48.5**	**+1.5**
ISA	comp=Z,3.0nm,0.9s			pmax	pmax		
ISA	**Isabella** comp=Z,3.0nm,0.9s	**39.38**	**95**	*eP*	**P**	**13 50 48.5**	**+1.5**
BGU	**Big Grassy Mou** comp=Z,5.7nm,1.0s	**39.38**	**84**	*eP*	**P**	**13 50 49.0**	**+1.9**
R11A	**Troy Canyon, C** baz=39,SNR=20	**39.41**	**89**	P	**P**	**13 50 49.2**	**+1.8**
R11A	**Troy Canyon, C** comp=Z,8.7nm,1.0s	**39.41**	**89**	*eP*	**P**	**13 50 49.2**	**+1.8**
H19A	**Powell** baz=40,SNR=6.7	**39.65**	**77**	P	**P**	**13 50 50.4**	**+1.1**
MAJO	**Matsushiro**	**39.68**	**268**	*i* P	P	13 50 53.4	+4.0
MAJO	comp=Z,113nm,2.4s			pmax	pmax		
MJAR	**Matsushiro Arr** comp=Z,0.9nm,0.5s,baz=34,slow=6.5,SNR=5.2	**39.68**	**268**	P	**P**	**13 50 49.1**	**-0.4**
MJAR	comp=Z,3.0nm,0.9s,baz=221,slow=0.9,SNR=7.8			PcP	**PcP**	**13 52 56.2**	**+0.2**
MJAR	comp=Z,40nm,21.8s,baz=50,slow=34			LR	LR	14 05 23.6	
MPMC	**Manual Prospec** baz=40	**39.72**	**93**	P	**P**	**13 50 52.3**	**+2.4**
G20A	**Bridger** baz=40,SNR=9.8	**39.81**	**75**	P	**P**	**13 50 51.2**	**+0.6**
FURC	**Furnace Creek,** baz=40	**39.83**	**92**	P	**P**	**13 50 52.9**	**+2.2**
HWUT	**Hardware Ranch** comp=Z,4.3nm,1.0s	**39.86**	**82**	*eP*	**P**	**13 50 52.6**	**+1.5**
TPNV	**Topopah Spring** baz=40,SNR=11	**39.89**	**91**	P	**P**	**13 50 54.0**	**+2.5**
DUG	**Dugway**	**39.95**	**85**	*eP*	**P**	**13 50 53.8**	**+1.9**
DUG	comp=Z,22nm,1.3s			pmax	pmax		
DUG	**Dugway** baz=40,SNR=12	**39.95**	**85**	P	**P**	**13 50 53.3**	**+1.5**
DUG	**Dugway** comp=Z,22nm,1.3s	**39.95**	**85**	*eP*	**P**	**13 50 53.8**	**+1.9**
I19A	**Meeteetse** baz=40	**40.00**	**77**	P	**P**	**13 50 53.2**	**+0.9**
BLG	**Laguna Peak** baz=40	**40.07**	**97**	P	**P**	**13 50 54.0**	**+1.3**
LAO	**LASA Array** baz=40	**40.18**	**72**	P	**P**	**13 50 54.8**	**+1.2**
EDW2	**Edwards Air Fo** baz=40	**40.20**	**95**	P	**P**	**13 50 55.2**	**+1.4**
H20A	**Greybull** baz=40	**40.34**	**76**	P	**P**	**13 50 55.4**	**+0.4**
BW06	**Boulder Array** comp=Z,8.3nm,0.8s	**40.39**	**79**	*eP*	**P**	**13 50 56.5**	**+0.9**
PDAR	**Pinedale Array** comp=Z,8.4nm,0.7s,baz=328,slow=5.4,SNR=62	**40.39**	**79**	P	**P**	**13 50 56.4**	**+0.8**
PDAR	comp=Z,55nm,19.8s,baz=318,slow=33			LR	LR	14 05 47.6	
G21A	**Lodge Grass** baz=40,SNR=5.7	**40.40**	**75**	P	**P**	**13 50 55.8**	**+0.4**
J19A	**Crowheart** baz=40,SNR=6.4	**40.41**	**78**	P	**P**	**13 50 56.6**	**+1.0**
E22A	**Miles City** baz=40,SNR=5.9	**40.47**	**72**	P	**P**	**13 50 56.8**	**+0.9**
NLU	**North Lily Min** comp=Z,13nm,1.3s	**40.55**	**85**	*eP*	**P**	**13 50 58.2**	**+1.4**
SHOC	**Shoshone** baz=40	**40.56**	**93**	P	**P**	**13 50 59.1**	**+2.3**
I20A	**Worland** baz=40	**40.57**	**77**	P	**P**	**13 50 58.0**	**+1.1**
GSC	**Goldstone**	**40.64**	**94**	*eP*	**P**	**13 50 59.9**	**+2.4**
GSC	comp=Z,15nm,1.0s			pmax	pmax		
GSC	**Goldstone** baz=41,SNR=9.8	**40.64**	**94**	P	**P**	**13 50 59.4**	**+2.0**
GSC	**Goldstone** comp=Z,15nm,1.0s	**40.64**	**94**	*eP*	**P**	**13 50 59.9**	**+2.4**
F22A	**Rosebud** baz=40	**40.65**	**73**	P	**P**	**13 50 58.6**	**+1.1**
C24A	**Savage** baz=41	**40.77**	**70**	P	**P**	**13 50 59.6**	**+1.2**
A25A	**Svangstu Ranch** baz=41	**40.77**	**68**	P	**P**	**13 50 59.5**	**+1.1**
E23A	**Ramay** baz=41,SNR=5.5	**40.81**	**72**	P	**P**	**13 50 60.0**	**+1.2**
H21A	**Big Horn, Sher** baz=41	**40.83**	**75**	P	**P**	**13 51 00.1**	**+1.1**
BFSC	**Mount Baldy Ra** baz=41	**40.83**	**96**	P	**P**	**13 51 01.3**	**+2.1**
FCC	**Fort Churchill**	**40.83**	**50**	*eP*	**P**	**13 50 58.6**	**-0.1**
FCC	comp=Z,9.0nm,0.9s			pmax	pmax		
FCC	**Fort Churchill** comp=Z,8.7nm,0.9s	**40.83**	**50**	*eP*	**P**	**13 50 58.6**	**-0.1**
J20A	**Shoshoni** baz=41,SNR=8.1	**40.94**	**78**	P	**P**	**13 51 01.3**	**+1.4**
G22A	**Birney** baz=41	**40.94**	**74**	P	**P**	**13 51 00.7**	**+0.8**
D24A	**Glendive** baz=41,SNR=14	**41.05**	**71**	P	**P**	**13 51 02.4**	**+1.7**
B25A	**Knox Farm, Ray** baz=41	**41.10**	**68**	P	**P**	**13 51 01.7**	**+0.6**
I21A	**Big Trails, Te** baz=41,SNR=8.8	**41.14**	**77**	P	**P**	**13 51 02.2**	**+0.6**
F23A	**Volborg** baz=41,SNR=6.8	**41.18**	**73**	P	**P**	**13 51 02.4**	**+0.6**
HEC	**Hector,Ludlow** baz=41	**41.24**	**94**	P	**P**	**13 51 04.8**	**+2.3**
H22A	**Clearmont** baz=41	**41.26**	**75**	P	**P**	**13 51 03.2**	**+0.7**
CCUT	**Cedar City** comp=Z,4.3nm,0.8s	**41.27**	**88**	*eP*	**P**	**13 51 04.6**	**+1.8**
J21A	**Lysite** baz=41,SNR=7.6	**41.32**	**77**	P	**P**	**13 51 04.1**	**+0.9**
C25A	**Freed Ranch, W** baz=41	**41.34**	**69**	P	**P**	**13 51 04.7**	**+1.6**
E24A	**Baker** baz=41	**41.36**	**71**	P	**P**	**13 51 04.7**	**+1.4**
MVU	**Marysvale** comp=Z,8.7nm,1.0s	**41.37**	**86**	*eP*	**P**	**13 51 05.4**	**+1.8**
MSU	**Marysvale**	**41.38**	**86**	*eP*	**P**	**13 51 05.7**	**+1.9**
MSU	comp=Z,10.0nm,1.1s			pmax	pmax		
MSU	**Marysvale** comp=Z,9.5nm,1.1s	**41.38**	**86**	*eP*	**P**	**13 51 05.7**	**+1.9**
A26A	**Wade Farm, Ken** baz=41	**41.40**	**67**	P	**P**	**13 51 04.5**	**+1.0**
G23A	**Biddle** baz=41,SNR=5.7	**41.48**	**74**	P	**P**	**13 51 05.0**	**+0.7**
TMUT	**Trail Mountain** comp=Z,22nm,1.1s	**41.48**	**85**	*eP*	**P**	**13 51 06.5**	**+1.8**
MURC	**Murrieta** baz=42	**41.55**	**96**	P	**P**	**13 51 06.7**	**+1.8**
B26A	**Jensen Ranch,** baz=41	**41.57**	**68**	P	**P**	**13 51 05.3**	**+0.4**
I22A	**9 Mile Ranch,** baz=42,SNR=7.4	**41.58**	**76**	P	**P**	**13 51 06.4**	**+1.2**
F24A	**Ekalaka** baz=42	**41.67**	**72**	P	**P**	**13 51 06.4**	**+0.5**
GMRC	**Granite Mounta** baz=42,SNR=14	**41.68**	**93**	P	**P**	**13 51 08.1**	**+2.0**
LDFC	**Landfair** comp=Z,18nm,0.9s	**41.82**	**93**	*eP*	**P**	**13 51 08.9**	**+1.6**
BOD	**Bodaibo**	**41.84**	**309**	*eP*	**P**	**13 51 06.3**	**-0.7**
BOD	comp=Z,4.0nm,1.2s			pmax	pmax		
J22A	**Midwest** baz=42,SNR=11	**41.86**	**77**	P	**P**	**13 51 08.3**	**+0.8**
E25A	**Miller Ranch,** baz=42	**41.91**	**71**	P	**P**	**13 51 08.2**	**+0.4**
C26A	**Wahner Farm, P** baz=42	**41.94**	**68**	P	**P**	**13 51 08.4**	**+0.4**
G24A	**Alzada** baz=42	**41.98**	**73**	P	**P**	**13 51 09.2**	**+0.8**
PFO	**Pinyon Flat Ob** comp=Z,4.8nm,0.8s,baz=299,slow=4.5,SNR=5.3	**41.99**	**95**	P	**P**	**13 51 10.3**	**+1.7**
PFO	comp=Z,95nm,19.7s,baz=306,slow=31			LR	LR	14 04 54.4	
PFO	**Pinyon Flat Ob**	**41.99**	**95**	*eP*	**P**	**13 51 10.2**	**+1.5**
PFO	comp=Z,11nm,1.1s			pmax	pmax		
PFO	**Pinyon Flat Ob** baz=42,SNR=5.4	**41.99**	**95**	P	**P**	**13 51 10.4**	**+1.7**
PFO	**Pinyon Flat Ob** comp=Z,11nm,1.1s	**41.99**	**95**	*eP*	**P**	**13 51 10.2**	**+1.5**
BELC	**Belle Mtn. Jos** baz=42	**42.00**	**94**	P	**P**	**13 51 10.3**	**+1.6**
SRU	**San Rafael**	**42.01**	**84**	*eP*	**P**	**13 51 10.5**	**+1.7**
SRU	comp=Z,10.0nm,0.7s			pmax	pmax		
SRU	**San Rafael** comp=Z,10nm,0.7s	**42.01**	**84**	*eP*	**P**	**13 51 10.5**	**+1.7**
B27A	**Peters Farms,** baz=42	**42.10**	**67**	P	**P**	**13 51 10.0**	**+0.8**
F25A	**Bowman** baz=42	**42.20**	**72**	P	**P**	**13 51 11.7**	**+1.5**
H24A	**Dirks Ranch, A** baz=42	**42.23**	**74**	P	**P**	**13 51 11.3**	**+0.8**
K22A	**Casper** baz=42	**42.27**	**77**	P	**P**	**13 51 11.4**	**+0.5**
K22A	**Casper** comp=Z,4.5nm,0.4s	**42.27**	**77**	*eP*	**P**	**13 51 11.6**	**+0.6**
C27A	**Sayler Ranch,** baz=42	**42.34**	**68**	P	**P**	**13 51 11.8**	**+0.6**
A28A	**Rude Farm, Bot** baz=42,SNR=6.7	**42.39**	**66**	P	**P**	**13 51 12.1**	**+0.4**
IRM	**Iron Mountain** baz=42,SNR=5.2	**42.41**	**94**	P	**P**	**13 51 13.8**	**+1.8**
J23A	**Dilts Ranch, B** baz=42	**42.41**	**76**	P	**P**	**13 51 12.7**	**+0.7**
E26A	**Carlson Angus** baz=42,SNR=5.4	**42.47**	**70**	P	**P**	**13 51 13.1**	**+0.8**
BAR	**Barrett** comp=Z,7.9nm,1.0s	**42.50**	**96**	*eP*	**P**	**13 51 14.9**	**+2.2**
MONP	**Monument Peak** baz=42,SNR=6.1	**42.51**	**96**	P	**P**	**13 51 14.4**	**+1.4**
BC3	**Big Chuckawall** baz=43	**42.57**

O20A	White River Ci	42.76	82	P	P	13 51 15.8	+0.8
	baz=43,SNR=19						
O20A	White River Ci	42.76	82	eP	P	13 51 15.9	+0.9
	comp=Z,27nm,0.8s						
SWSC	Sam W. Stewart	42.85	95	P	P	13 51 17.2	+1.7
	baz=43						
RSSD	Black Hills	42.89	74	eP	P	13 51 16.4	+0.4
RSSD				pmax	pmax		
	comp=Z,9.0nm,1.1s						
RSSD	Black Hills	42.89	74	eP	P	13 51 16.4	+0.4
	comp=Z,9.1nm,1.1s						
PDMCI	Parker Dam,Lak	42.93	93	P	P	13 51 17.6	+1.4
	baz=43						
A29A	Manning Farm,	42.96	66	P	P	13 51 16.0	-0.2
	baz=43,SNR=7.0						
C28A	Hausauer Farms	42.97	68	P	P	13 51 17.4	+1.1
	baz=43						
J24A	Dixon Ranch, L	42.98	75	P	P	13 51 16.8	+0.2
	baz=43						
E27A	Carson	43.01	70	P	P	13 51 17.2	+0.5
	baz=43						
G26A	Maurine	43.05	72	P	P	13 51 17.4	+0.3
	baz=43,SNR=6.2						
F27A	Lemmon	43.06	71	P	P	13 51 17.4	+0.3
	baz=43,SNR=6.2						
Y12C	Blythe	43.07	94	P	P	13 51 18.6	+1.3
	baz=43						
B29A	Wagenman Farm,	43.14	66	P	P	13 51 18.3	+0.6
	baz=43						
D28A	Regan	43.15	68	P	P	13 51 18.7	+0.9
	baz=43						
H26A	Fairpoint	43.34	73	P	P	13 51 19.5	+0.1
	baz=43						
GLA	Glamis	43.36	95	P	P	13 51 20.9	+1.2
	baz=43						
G27A	Dupree	43.39	71	P	P	13 51 20.0	+0.2
	baz=43						
PV04	Paradox Valley	43.45	84	eP	P	13 51 21.5	+1.0
J25A	Sunshine Ranch	43.45	75	P	P	13 51 20.5	+0.1
	baz=43						
A30A	Hoffart Farm,	43.46	65	P	P	13 51 20.4	+0.1
	baz=43						
N23A	Red Feather La	43.68	79	P	P	13 51 23.3	+0.9
	baz=44,SNR=8.5						
B30A	Myrvik Farm, E	43.72	66	P	P	13 51 22.7	+0.3
	baz=44						
F28A	McLaughlin	43.78	70	P	P	13 51 23.5	+0.7
	baz=44						
D29A	Pettibone, Tap	43.78	68	P	P	13 51 23.9	+1.0
	baz=44						
WUAZ	Wupatki	43.81	89	P	P	13 51 25.2	+1.8
	baz=44,SNR=17						
WUAZ	Wupatki	43.81	89	eP	P	13 51 25.5	+2.1
	comp=Z,16nm,0.9s						
PV01	Paradox Valley	43.81	84	eP	P	13 51 24.5	+0.9
	comp=Z,1um,0.6s						
C30A	Mose, Pekin	44.05	67	P	P	13 51 25.5	+0.5
	baz=44						
I27A	Quinn	44.08	73	P	P	13 51 25.7	+0.3
	baz=44						
ULM	Lac du Bonnet	44.08	62	P	P	13 51 25.1	-0.1
	comp=Z,8.1nm,0.8s,baz=299,slow=8.0,SNR=9.0						
ULM	Lac du Bonnet	44.08	62	eP	P	13 51 25.1	-0.1
ULM				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ULM	Lac du Bonnet	44.08	62	eP	P	13 51 25.1	-0.1
	comp=Z,7.3nm,0.8s						
L25A	Engebretsen Ra	44.09	76	P	P	13 51 26.3	+0.7
	baz=44						
D30A	Buchanan	44.22	68	P	P	13 51 26.4	0.0
	baz=44,SNR=6.3						
K26A	Motz Farm, Whi	44.23	75	P	P	13 51 27.2	+0.6
	baz=44						
H28A	Mission Ridge	44.33	72	P	P	13 51 27.9	+0.6
	baz=44						
F29A	Eureka	44.34	70	P	P	13 51 27.2	-0.2
	baz=44						
MVCO	Mesa Verde	44.45	85	P	P	13 51 29.5	+0.9
	baz=44						
MVCO	Mesa Verde	44.45	85	eP	P	13 51 29.5	+0.9
M25A	Palm-Egli Farm	44.48	77	P	P	13 51 29.7	+0.9
	baz=44						
E30A	Jud	44.48	68	P	P	13 51 28.8	+0.2
	baz=44						
ISCO	Idaho Springs	44.55	80	eP	P	13 51 30.8	+1.3
ISCO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ISCO	Idaho Springs	44.55	80	P	P	13 51 30.4	+0.9
	baz=44						
ISCO	Idaho Springs	44.55	80	eP	P	13 51 30.8	+1.3
	comp=Z,4.1nm,0.9s						
J27A	Elkhorn Farm,	44.59	74	P	P	13 51 30.2	+0.7
	baz=44						
I28A	Midland	44.64	73	P	P	13 51 30.3	+0.5
	baz=44,SNR=5.5						
G29A	Hoven	44.66	70	P	P	13 51 30.4	+0.4
	baz=44						
F30A	Leola	44.80	69	P	P	13 51 31.2	+0.1
	baz=45						
H29A	Onida	44.82	71	P	P	13 51 31.6	+0.3
	baz=45						
J28A	Allard Ranch,	44.94	73	P	P	13 51 32.7	+0.4
	baz=45,SNR=5.4						
W18A	Petrified Fore	45.07	88	P	P	13 51 34.8	+1.3
	baz=45						
S22A	4UR Ranch, Cre	45.12	83	P	P	13 51 35.1	+1.1
	baz=45						
I29A	Vivian Onida	45.13	72	P	P	13 51 33.8	+0.1
	baz=45						
G30A	Faulkton	45.14	70	P	P	13 51 33.8	0.0
	baz=45,SNR=5.6						
AGMN	Agassiz Nation	45.17	65	P	P	13 51 33.5	-0.5
	baz=45						
AGMN	Agassiz Nation	45.17	65	eP	P	13 51 33.9	-0.1
	comp=Z,20nm,0.9s						
K28A	Ten Mile Ranch	45.29	74	P	P	13 51 35.6	+0.6
	baz=45						
214A	Organ Pipe Nat	45.35	94	P	P	13 51 37.1	+1.5
	baz=45,SNR=8.0						
214A	Organ Pipe Nat	45.35	94	eP	P	13 51 37.6	+2.0
	comp=Z,17nm,1.1s						
KSRS	Korea Array	45.35	276	P	P	13 51 35.1	-0.4
	comp=Z,1.3nm,0.7s,baz=58,slow=7.6,SNR=3.2						
KSRS				LR	LR	14 10 09.0	
	comp=Z,38nm,18.4s,baz=56,slow=36						
KSAR	Wonju Array Be	45.38	276	P	P	13 51 35.1	-0.7
KSAR	Wonju Array Be	45.38	276	P	P	13 51 35.1	-0.7
J29A	Okreek	45.48	73	P	P	13 51 36.9	+0.3
	baz=45,SNR=8.7						
O26A	Horse Wrangler	45.65	78	P	P	13 51 39.1	+1.0
	baz=46						
N27A	Anderson Farm,	45.77	77	P	P	13 51 39.8	+0.9
	baz=46						
K29A	Lazy Trails An	45.87	73	P	P	13 51 40.3	+0.6
	baz=46						
SDCO	Great Sand Dun	45.92	82	P	P	13 51 41.8	+1.4
	baz=46,SNR=15						
SDCO	Great Sand Dun	45.92	82	eP	P	13 51 41.5	+1.1
	comp=Z,6.3nm,0.9s						
OGNE	Ogallala	45.98	77	P	P	13 51 40.9	+0.4
	baz=46						
J30A	Dallas	46.02	72	P	P	13 51 41.1	+0.3
	baz=46						
P26A	Davis Ranch, A	46.06	79	P	P	13 51 42.6	+1.2
	baz=46,SNR=7.0						
M28A	Bar X Bar Ranc	46.09	76	P	P	13 51 41.9	+0.5
	baz=46						
O27A	Beecher Island	46.18	78	P	P	13 51 42.9	+0.6
	baz=46						
TUC	Tucson	46.34	92	eP	P	13 51 45.2	+1.7
TUC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TUC	Tucson	46.34	92	eP	P	13 51 45.2	+1.7
	comp=Z,10nm,1.0s						
K30A	Basset	46.34	73	P	P	13 51 44.2	+0.8
	baz=46						
Q26A	Hugo	46.36	80	P	P	13 51 44.7	+1.0
	baz=46						
M29A	Burnside Ranch	46.46	75	P	P	13 51 45.2	+0.8
	baz=46						
P27A	Ficken Ranch,	46.52	78	P	P	13 51 45.8	+0.9
	baz=46						
O28A	Krutsinger Ran	46.65	77	P	P	13 51 46.3	+0.5
	baz=46						
L30A	Spencer Herefo	46.72	74	P	P	13 51 46.8	+0.5
	baz=47						
R26A	Arlington	46.80	80	P	P	13 51 48.2	+1.1
	baz=47,SNR=12						
KSCO	Kaye Shedlock'	46.84	79	P	P	13 51 48.3	+0.9
	baz=47						
KSCO	Kaye Shedlock'	46.84	79	eP	P	13 51 48.7	+1.3
	comp=Z,16nm,0.6s						
T25A	Trinidad	46.98	82	P	P	13 51 50.0	+1.4
	baz=47,SNR=13						
P28A	Saint Francis	47.01	78	P	P	13 51 49.3	+0.7
	baz=47						
LAZ	Ladron	47.13	87	eP	P	13 51 51.6	+1.7
	comp=Z,5.2nm,0.9s						
ANMO	Albuquerque	47.18	86	eP	P	13 51 51.0	+0.8
ANMO				pmax	pmax		
	comp=Z,25nm,1.2s						
R27A	Eads	47.20	80	P	P	13 51 51.4	+1.2
	baz=47						
O29A	4D Ranch, Culb	47.23	77	P	P	13 51 51.2	+0.9
	baz=47						
S26A	Kim	47.23	81	P	P	13 51 51.1	+0.6
	baz=47,SNR=17						
Q28A	Sharon Springs	47.29	78	P	P	13 51 51.3	+0.4
	baz=47						
ECSD	EROS Data Cent	47.43	70	P	P	13 51 51.0	-0.8
	baz=47,SNR=11						
ECSD	EROS Data Cent	47.43	70	eP	P	13 51 51.2	-0.6
	comp=Z,8.3nm,0.7s						
T26A	Comanche Natio	47.45	82	P	P	13 51 52.8	+0.5
	baz=47,SNR=9.8						
P29A	Atwood	47.48	77	P	P	13 51 53.0	+0.7
	baz=47						
LPM	Los Pinos Moun	47.50	87	eP	P	13 51 54.7	+2.0
	comp=Z,9.7nm,1.2s						
S27A	Las Animas	47.53	81	P	P	13 51 53.3	+0.4
	baz=47						
EYMN	Ely	47.76	63	P	P	13 51 53.5	-0.8
	baz=48,SNR=9.8						
EYMN	Ely	47.76	63	eP	P	13 51 52.8	-1.5
	comp=Z,17nm,1.0s						
R28A	Tribune	47.76	79	P	P	13 51 54.7	+0.2
	baz=48						
N31A	Bailey Ranch,	47.87	75	P	P	13 51 55.4	+0.1
	baz=48						
Q29A	Oakley	47.91	78	P	P	13 51 56.1	+0.4
	baz=48						
P30A	Selden	47.92	77	P	P	13 51 56.5	+0.8
	baz=48,SNR=5.8						
BGNE	Belgrade	47.98	74	P	P	13 51 56.3	+0.2
	baz=48						
121A	Cookes Peak, D	48.02	89	P	P	13 51 58.5	+1.8
	baz=48,SNR=7.4						
121A	Cookes Peak, D	48.02	89	eP	P	13 51 58.4	+1.8
	comp=Z,25nm,1.3s						
T27A	Campo	48.05	81	P	P	13 51 57.8	+1.0
	baz=48						
O31A	Woolen Ranch,	48.08	76	P	P	13 51 57.3	+0.4
	baz=48						
R29A	Marienthal	48.11	79	P	P	13 51 57.7	+0.5
	baz=48,SNR=5.5						
S28A	Manter	48.20	80	P	P	13 51 58.8	+0.9
	baz=48						
N32A	Stulken Farm,	48.30	74	P	P	13 51 58.8	+0.3
	baz=48						
Q30A	Quinter	48.30	77	P	P	13 51 59.1	+0.4
	baz=48						
U27A	Thompson Grove	48.41	82	P	P	13 52 00.3	+0.7
	baz=48						
M33A	Taylor Creek F	48.43	73	P	P	13 51 59.7	+0.1
	baz=48						
P31A	Stockton	48.45	76	P	P	13 52 00.1	+0.3
	baz=48						
S29A	Ulysses	48.65	79	P	P	13 52 01.7	+0.4
	baz=48						
L34A	Svendsen Farm,	48.66	72	P	P	13 52 00.7	-0.7
	baz=48						
SPMN	St. Paul	48.68	66	P	P	13 52 00.7	-0.7
	baz=48						
CBKS	Cedar Bluff	48.69	77	eP	P	13 52 02.2	+0.5
CBKS				pmax	pmax		
	comp=Z,28nm,0.8s						
CBKS	Cedar Bluff	48.69	77	P	P	13 52 02.4	+0.7
	baz=49,SNR=5.8						
CBKS	Cedar Bluff	48.69	77	eP	P	13 52 02.2	+0.5
	comp=Z,28nm,0.8s						
R30A	Dighton	48.72	78	P	P	13 52 02.7	+0.8
	baz=49,SNR=8.0						
Q31A	Ellis	48.77	77	P	P	13 52 02.2	-0.1
	baz=49						
U28A	Mallet	48.80	81	P	P	13 52 03.1	+0.5
	baz=49,SNR=6.6						
FRB	Frobisher Bay	48.83	35	LR	LR	14 13 47.6	
	comp=Z,165nm,18.0s,baz=310,slow=38						
P32A	Huiting Farm,	48.85	76	P	P	13 52 02.9	+0.1
	baz=49						
O33A	Hebron	49.16	75	P	P	13 52 05.0	-0.2
	baz=49						
R31A	Burdett	49.16	78	P	P	13 52 05.4	+0.1
	baz=49						
Q32A	Meitler Ranch,	49.28	76	P	P	13 52 06.6	+0.5
	baz=49,SNR=5.9						
O34A	Beatrice	49.61	74	P	P	13 52 08.6	0.0
	baz=50						
S31A	Mullinville	49.62	78	P	P	13 52 08.8	0.0
	baz=50						
Q33A	Connelly Farm,	49.70	76	P	P	13 52 09.3	0.0
	baz=50						
N35A	Tabor	49.79	72	P	P	13 52 09.3	-0.6
	baz=50						
MSTX	Muleshoe	50.08	84	P	P	13 52 13.2	+0.7
	baz=50,SNR=6.1						
MSTX	Muleshoe	50.08	84	eP	P	13 52 13.1	+0.7
	comp=Z,21nm,1.1s						
U31A	Nine Bar Ranch	50.23	80	P	P	13 52 14.4	+0.9
	baz=50						
T32A	Huddler Ranch,	50.25	78	P	P	13 52 13.7	+0.1
	baz=50						
Q34A	Chapman	50.28	75	P	P	13 52 13.7	-0.1
	baz=50						
P35A	Duane Minner,	50.43	74	P	P	13 52 15.3	+0.4
	baz=50						
Y28A	McKinney Farm,	50.44	84	P	P	13 52 15.3	+0.1
	baz=50						
R34A	Isabella, Hill	50.51	76	P	P	13 52 15.3	-0.2
	baz=50						
S33A	Kaszmaul Farm,	50.53	77	P	P	13 52 15.6	0.0
	baz=50						
V31A	Spring Creek L	50.64	80	P	P	13 52 16.8	+0.3
	baz=50						
O36A	Bolckow	50.65	73	P	P	13 52 16.8	+0.3
	baz=50						
U32A	Winter Ranch,	50.73	79	P	P	13 52 17.5	+0.3
	baz=51						
Z28A	Tucker Farm, M	50.78	84	P	P	13 52 18.4	+0.7
	baz=51						
P36A	Good Intent, A	50.85	73	P	P	13 52 17.4	-0.6
	baz=51						
W31A	Holland Ranch,	50.97	81	P	P	13 52 19.1	+0.1
	baz=51						
R35A	Emporia Munici	51.11	75	P	P	13 52 20.0	0.0
	baz=51						
SONM	Songino Array	51.17	301	P	P	13 52 21.0	+0.5
	comp=Z,0.6nm,0.7s,baz=60,slow=8.5,SNR=4.2						
SONM				PcP	PcP	13 53 34.9	-0.9
	comp=Z,7.6nm,0.9s,baz=48,slow=2.2,SNR=9.4						
SONM				ScP	ScP	13 57 29.9	-1.8
	comp=Z,0.6nm,0.7s,baz=57,slow=5.3,SNR=3.7						
SONM				LR	LR	14 16 57.6	
	comp=Z,79nm,18.1s,baz=48,slow=40						
128A	Castleberry Fa	51.18	85	P	P	13 52 21.5	+0.8
	baz=51,SNR=5.8						
Z29A	Hungry Hill Ra	51.22	84	P	P	13 52 21.6	+0.7
	baz=51,SNR=5.7						
U33A	Lingo Farm, Me	51.23	78	P	P	13 52 20.6	-0.3
	baz=51						
X31A	McDonald Ranch	51.33	81	P	P	13 52 21.7	0.0
	baz=51						
T34A	McClaskey Farm	51.39	77	P	P	13 52 21.8	-0.4
	baz=51,SNR=9.1						
W32A	Sentinel	51.43	80	P	P	13 52 22.5	0.0
	baz=51						
S35A	Otter Creek Ra	51.47	76	P	P	13 52 22.5	-0.1
	baz=51,SNR=5.2						
228A	UT Block 9, Go	51.47	86	P	P	13 52 23.4	+0.6
	baz=51						
R36A	Gordon, Harris	51.52	75	P	P	13 52 23.0	-0.1
	baz=51						
V33A	Lossen Ranch,	51.54	79	P	P	13 52 23.1	-0.2
	baz=51						
Z30A	Sanderson Ranc	51.55	84	P	P	13 52 23.8	+0.4
	baz=52,SNR=9.8						
JFWS	Jewell Farm	51.56	67	eP	P	13 52 22.2	-1.1
JFWS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
JFWS	Jewell Farm	51.56	67	eP	P	13 52 22.2	-1.1
	comp=Z,10nm,1.0s						
U34A	Anderson Ranch	51.57	78	P	P	13 52 23.4	-0.1
	baz=52						
U34A	Anderson Ranch	51.57	78	eP	P	13 52 23.5	0.0
	comp=Z,14nm,0.7s						
T35A	Sooner Cattle	51.86	77	P	P	13 52 25.7	0.0
	baz=52						
W33A	Caddo, Fort Co	51.88	80	P	P	13 52 26.2	+0.4
	baz=52						
X32A	Elmer	51.89	81	P	P	13 52 26.0	+0.2
	baz=52						
R37A	Teagarden Farm	51.93	74	P	P	13 52 25.7	-0.4
	baz=52						
WMOK	Wichita Mounta	51.98	81	eP	P	13 52 27.1	+0.6
WMOK				pmax	pmax		
	comp=Z,17nm,0.9s						
WMOK	Wichita Mounta	51.98	81	eP	P	13 52 27.1	+0.6
	comp=Z,17nm,0.9s						
Y32A	R-V Farms, Ver	52.08	82	P	P	13 52 27.5	+0.2
	baz=52						
U35A	Pawnee	52.10	78	P	P	13 52 27.1	-0.3
	baz=52						
Z31A	Sharp Cattle R	52.12	83	P	P	13 52 28.0	+0.3
	baz=52						
130A	Snyder	52.12	84	P	P	13 52 28.2	+0.5
	baz=52						
T36A	Boggs Farm, Ca	52.14	76	P	P	13 52 27.6	-0.1
	baz=52						
329A	Wagon Wheel Ra	52.28	86	P	P	13 52 29.0	+0.1
	baz=52						
S37A	Fort Scott	52.30	75	P	P	13 52 27.8	-1.0
	baz=52,SNR=9.7						
131A	Roby	52.42	84	P	P	13 52 29.8	0.0
	baz=52						
V35A	Meyer Ranch, C	52.45	78	P	P	13 52 29.8	-0.2
	baz=52						
230A	Sterling City	52.53	85	P	P	13 52 31.3	+0.6
	baz=52,SNR=8.2						
Z32A	Haskell	52.53	82	P	P	13 52 30.8	+0.1
	baz=52,SNR=11						
Y33A	Hilltop Ranch,	52.57	81	P	P	13 52 31.1	+0.2
	baz=52						
T37A	Cheneyville 18	52.67	76	P	P	13 52 30.6	-1.0
	baz=52,SNR=5.5						
TXAR	Lajitas Array	52.77	89	P	P	13 52 33.6	+1.0
	comp=Z,14nm,0.7s,baz=297,slow=5.4,SNR=161						
TXAR				PcP	PcP	13 53 42.8	+0.8
	comp=Z,1.7nm,0.6s,baz=297,slow=1.7,SNR=4.2						
HHC	Hu-ho-hao-te	52.82	291	eP	P	13 52 37.1	+4.3
HHC				PP	PP	13 54 37.9	+6.0
HHC				S	S	14 00 01.8	+0.8
HHC				ScS	ScS	14 02 20.8	-1.4
HHC				SS	SS	14 03 39.5	+0.3
HHC				PMZ			
	comp=Z,14nm,1.1s						
HHC				PMZ			
	comp=Z,57nm,5.5s						
HHC				LN			
	comp=Z,120nm,14.7s						
HHC				LE			
	comp=Z,56nm,14.5s						
HHC				LZ			
	comp=Z,94nm,14.9s						
330A	Mertzon	52.83	85	P	P	13 52 32.9	0.0
	baz=53						
W35A	Tecumseh	52.84	79	P	P	13 52 33.0	+0.1
	baz=53						
ABTX	Abilene, Hawle	52.91	83	P	P	13 52 34.2	+0.7
	baz=53						
ABTX	Abilene, Hawle	52.91	83	eP	P	13 52 34.1	+0.7
	comp=Z,13nm,0.8s						
429A	Davenport Ranc	52.94	87	P	P	13 52 34.1	+0.3
	baz=53,SNR=12						
V36A	Jenks	52.96	78	P	P	13 52 33.7	-0.1
	baz=53						
TUL1	Tulsa	52.97	77	P	P	13 52 34.0	+0.2
	baz=53						
231A	Bronte	52.98	84	P	P	13 52 34.4	+0.4
	baz=53						
Z33A	Whitaker Ranch	52.98	82	P	P	13 52 34.4	+0.4
	baz=53						
U37A	Salina	53.03	76	P	P	13 52 34.3	0.0
	baz=53						
529A	Stev Forest Ra	53.09	87	P	P	13 52 35.7	+0.8
	baz=53,SNR=15						
Y34A	Reagan Ranch,	53.12	80	P	P	13 52 35.6	+0.5
	baz=53,SNR=7.8						
430A	Baggett Ranch,	53.23	86	P	P	13 52 36.5	+0.6
	baz=53,SNR=11						
W36A	Wetumka	53.23	78	P	P	13 52 35.8	0.0
	baz=53						
X35A	Drake	53.29	80	P	P	13 52 36.5	+0.2
	baz=53						
331A	San Angelo	53.35	85	P	P	13 52 36.9	+0.1
	baz=53						
133A	Hamilton Ranch	53.36	83	P	P	13 52 37.4	+0.6
	baz=53,SNR=8.4						
V37A	Hulbert	53.38	77	P	P	13 52 36.7	-0.1
	baz=53						
232A	Coleman	53.42	84	P	P	13 52 38.0	+0.7
	baz=53,SNR=5.6						
Z34A	Collier Ranch,	53.43	81	P	P	13 52 37.6	+0.3
	baz=53						
U38A	Gravette	53.45	76	P	P	13 52 36.8	-0.5
	baz=53						
X36A	Centrahoma	53.55	79	P	P	13 52 38.4	+0.2
	baz=53						
Y35A	Marietta	53.59	80	P	P	13 52 39.4	+0.9
	baz=54,SNR=8.0						
530A	J-C Ranch, Com	53.61	87	P	P	13 52 39.5	+0.8
	baz=54,SNR=26						
HDIL	Hopedale	53.64	69	P	P	13 52 37.9	-0.8
	baz=54						
431A	Sonora	53.68	86	P	P	13 52 39.6	+0.4
	baz=54,SNR=17						
W37A	Quinton	53.71	78	P	P	13 52 39.8	+0.4
	baz=54,SNR=8.9						
332A	Millersview	53.71	84	P	P	13 52 39.8	+0.4
	baz=54,SNR=7.7						
233A	Rising Star	53.78	83	P	P	13 52 40.6	+0.7
	baz=54,SNR=7.8						
V38A	Canehill	53.82	76	P	P	13 52 39.5	-0.6
	baz=54,SNR=6.4						
Z35A	Perchaven, San	53.86	81	P	P	13 52 40.9	+0.4
	baz=54						
134A	White-Moore Ra	53.89	82	P	P	13 52 41.2	+0.6
	baz=54						
432A	Menard	54.04	85	P	P	13 52 42.2	+0.4
	baz=54						
Y36A	Durant	54.05	79	P	P	13 52 42.2	+0.4
	baz=54						
531A	Rocksprings	54.08	86	P	P	13 52 42.5	+0.3
	baz=54,SNR=8.2						
X37A	Clayton	54.12	78	P	P	13 52 42.7	+0.3
	baz=54,SNR=10						
333A	Richland Sprin	54.22	84	P	P	13 52 43.3	+0.3
	baz=54,SNR=8.0						
234A	Clairette	54.25	83	P	P	13 52 43.7	+0.3
	baz=54						
W38A	Poteau	54.30	77	P	P	13 52 43.9	+0.3
	baz=54,SNR=5.9						
135A	Vickery Place,	54.30	81	P	P	13 52 44.0	+0.3
	baz=54						
JCT	Junction City	54.31	85	eP	P	13 52 44.2	+0.4
JCT				pmax	pmax		
	comp=Z,9.0nm,0.7s						
JCT	Junction City	54.31	85	P	P	13 52 44.2	+0.4
	baz=54,SNR=6.5						
JCT	Junction City	54.31	85	eP	P	13 52 44.2	+0.4
	comp=Z,8.7nm,0.7s						
X38A	Whitesboro	54.39	78	P	P	13 52 44.4	+0.1
	baz=54						
Z36A	Blue Ridge	54.40	80	P	P	13 52 44.5	+0.2
	baz=54						
532A	Rocksprings	54.50	85	P	P	13 52 44.7	-0.5
	baz=54						
433A	Art	54.55	84	P	P	13 52 45.6	0.0
	baz=54,SNR=7.9						
631A	Perdido Creek	54.60	87	P	P	13 52 45.9	0.0
	baz=54,SNR=8.0						
334A	Lometa	54.66	83	P	P	13 52 46.9	+0.6
	baz=55,SNR=13						
WHTX	Lake Whitney	54.67	82	P	P	13 52 46.6	+0.2
	baz=55						

WHTX	**Lake Whitney**	**54.67**	**82**	*e*P		**P**	**13 52 47.2**	**+0.8**
	comp=Z,11nm,0.8s							
SFIN	**Scholer Farm**	**55.01**	**68**	P		**P**	**13 52 48.3**	**-0.4**
	baz=55,SNR=5.4							
SFIN	**Scholer Farm**	**55.01**	**68**	*e*P		**P**	**13 52 47.9**	**-0.7**
	comp=Z,27nm,1.1s							
434A	**Burnet**	**55.01**	**84**	P		**P**	**13 52 49.3**	**+0.5**
	baz=55,SNR=10							
632A	**Uvalde**	**55.01**	**86**	P		**P**	**13 52 49.2**	**+0.3**
	baz=55							
533A	**Kerrville**	**55.07**	**85**	P		**P**	**13 52 49.6**	**+0.3**
	baz=55							
335A	**Moody**	**55.19**	**83**	P		**P**	**13 52 50.6**	**+0.5**
	baz=55							
MIAR	**Mount Ida**	**55.22**	**77**	*e*P		**P**	**13 52 50.3**	**0.0**
MIAR				pmax		pmax		
	comp=Z,10.0nm,0.9s							
MIAR	**Mount Ida**	**55.22**	**77**	P		**P**	**13 52 50.4**	**0.0**
	baz=55,SNR=6.8							
MIAR	**Mount Ida**	**55.22**	**77**	*e*P		**P**	**13 52 50.3**	**0.0**
	comp=Z,9.8nm,0.9s							
SCHQ	**Schefferville**	**55.31**	**43**	LR		LR	14 19 29.0	
	comp=Z,78nm,20.4s,baz=320,slow=39							
633A	**Saathoff Ranch**	**55.42**	**85**	P		**P**	**13 52 52.0**	**+0.2**
	baz=55							
534A	**Blanco**	**55.44**	**84**	P		**P**	**13 52 52.8**	**+0.8**
	baz=55							
732A	**Laxson Ranch,**	**55.46**	**87**	P		**P**	**13 52 53.2**	**+1.2**
	baz=55							
336A	**Riesel**	**55.47**	**82**	P		**P**	**13 52 52.8**	**+0.8**
	baz=55							
138A	**Matatall Enter**	**55.63**	**80**	P		**P**	**13 52 54.2**	**+0.9**
	baz=56							
832A	**Faith Ranch, C**	**55.78**	**87**	P		**P**	**13 52 55.2**	**+0.8**
	baz=56,SNR=6.9							
733A	**Divot King Ran**	**55.88**	**86**	P		**P**	**13 52 56.0**	**+0.9**
	baz=56							
833A	**Chaparral WMA,**	**56.10**	**87**	P		**P**	**13 52 57.7**	**+1.1**
	baz=56,SNR=6.2							
635A	**Leesville**	**56.32**	**84**	P		**P**	**13 52 59.4**	**+1.1**
	baz=56							
438A	**Sam Houston St**	**56.75**	**82**	P		**P**	**13 53 03.0**	**+1.8**
	baz=57							
ARCES	**ARCESS Array B**	**57.72**	**354**	PcP		**PcP**	**13 53 59.4**	**-0.9**
	comp=Z,3.6nm,0.9s,baz=9.8,slow=5.9,SNR=4.0							
035Z	**Hargill**	**58.26**	**87**	P		**P**	**13 53 13.7**	**+1.8**
	baz=58							
LONY	**Lake Ozonia**	**58.82**	**56**	*e*P		**P**	**13 53 14.5**	**-1.1**
SSLB	**Suanglung**	**59.18**	**269**	*e*P		**P**	**13 53 17.8**	**-0.6**
	comp=Z,18nm,0.7s							
CPCT	**Cooper Cave**	**59.88**	**70**	P		**P**	**13 53 22.2**	**-1.0**
SSPA	**Standing Stone**	**59.90**	**62**	*e*P		**P**	**13 53 23.0**	**-0.2**
	comp=Z,14nm,1.1s							
LRAL	**Lakeview Retre**	**60.17**	**74**	*e*P		**P**	**13 53 23.9**	**-1.2**
	comp=Z,5.0nm,0.7s							
BLA	**Blacksburg**	**60.95**	**66**	*e*P		**P**	**13 53 30.4**	**-0.1**
BLA				pmax		pmax		
	comp=Z,22nm,1.0s							
BLA	**Blacksburg**	**60.95**	**66**	*e*P		**P**	**13 53 30.4**	**-0.1**
	comp=Z,22nm,1.0s							
BRVK	**Borovoye**	**63.53**	**324**	*e*P		**P**	**13 53 50.0**	**+2.6**
BRVK				pmax		pmax		
	comp=Z,3.0nm,1.0s							
MKAR	**Makanchi Array**	**63.65**	**313**	P		**P**	**13 53 47.8**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=52,slow=7.5,SNR=4.0							
MKAR	**Makanchi Array**	**63.65**	**313**	*i* P		P	13 53 54.4	+6.1
ARU	**Arti**	**64.43**	**333**	*d i* P		P	13 53 56.8	+3.5
ARU							13 56 21.9	
ARU				S		**S**	**14 02 34.2**	**+3.0**
ARU				SS		SS	14 06 47.4	+7.2
ARU				pmax		pmax		
	comp=Z,8.0nm,1.7s							
FINES	**FINESS Array B**	**65.67**	**352**	P		**P**	**13 54 00.3**	**-0.9**
	comp=Z,4.2nm,0.9s,baz=1.4,slow=5.6,SNR=3.7							
FINES	**FINESS Array B**	**65.67**	**352**	*i* P		P	13 54 05.8	+4.6
FINES				pmax		pmax		
	comp=Z,3.0nm,0.7s							
TAOE	**Nuku Hiva Isla**	**66.11**	**148**	*e*T		T	15 06 03.9	
	comp=Z,102nm,0.3s							
NOA	**NORSAR Array B**	**66.74**	**360**	P		**P**	**13 54 07.3**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=1.6,slow=6.3,SNR=2.9							
HNR	**Honiara**	**67.10**	**213**	LR		LR	14 22 20.5	
	comp=Z,25nm,18.2s,baz=236,slow=35							
JAY	**Jayapura**	**69.00**	**235**	LR		LR	14 19 09.7	
	comp=Z,27nm,20.1s,baz=1.0,slow=31							
KMI	**Kunming**	**69.19**	**284**	P		P	13 54 29.3	+4.9
KMI				PMZ				
	comp=Z,4.0nm,0.7s							
PMOR	**Pomariorio Ree**	**69.82**	**158**	*e*T		T	15 10 45.6	
	comp=Z,7.2nm,0.2s							
ABKAR	**Akbulak array**	**70.25**	**328**	*e*P		**P**	**13 54 29.1**	**-1.2**
	comp=Z,2.8nm,0.7s							
KKAR	**Karatay Array**	**71.62**	**318**	P		**P**	**13 54 38.6**	**-0.1**
KKAR	**Karatay Array**	**71.62**	**318**	P		**P**	**13 54 38.6**	**-0.1**
PPT2	**Papeete2**	**71.96**	**160**	*e*LR		LR	14 16 34.8	
	comp=Z,54nm,23.2s							
TIAR	**Tiarei**	**71.98**	**160**	*e*T		T	15 13 29.8	
	comp=Z,3.5nm,0.3s							
AKASG	**Malin Array Be**	**75.90**	**348**	P		**P**	**13 55 01.7**	**-1.9**
	comp=Z,2.3nm,0.6s,baz=18,slow=6.3,SNR=8.1							
CMAR	**Chiang Mai Arr**	**76.55**	**283**	P		**P**	**13 55 07.8**	**0.0**
	comp=Z,1.7nm,0.7s,baz=28,slow=7.0,SNR=8.5							
CMAR				LR		LR	14 32 07.8	
	comp=Z,66nm,18.1s,baz=120,slow=38							
CMAR	**Chiang Mai Arr**	**76.55**	**283**	*i* P		P	13 55 11.1	+3.3
CMAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
DPC	**Dobruska-Polom**	**77.34**	**356**	*e*P		P	13 55 15.2	+3.3
DPC	**Dobruska-Polom**	**77.34**	**356**	*e*P		P	13 55 15.2	+3.3
TBI	**Tubuai**	**77.58**	**161**	*e*LR		LR	14 19 27.1	
	comp=Z,91nm,37.2s							
TBI	**Tubuai**	**77.58**	**161**	*e*T		T	15 20 32.2	
	comp=Z,13nm,0.3s							
GERES	**GERESS Array B**	**78.93**	**358**	P		**P**	**13 55 20.8**	**0.0**
	comp=Z,0.4nm,0.4s,baz=358,slow=6.3,SNR=2.3							
KIV	**Kislovodsk**	**79.95**	**337**	*e*P		P	13 55 30.3	+3.9
KIV				pmax		pmax		
	comp=Z,6.0nm,0.8s							
KIV				MLR		MLR		
	comp=Z,41nm,18.0s							
RKT	**Rikitea**	**81.13**	**148**	*e*T		T	15 24 57.5	
	comp=Z,2.6nm,0.3s							
CTA	**Charters Tower**	**81.96**	**222**	P		**P**	**13 55 36.3**	**-0.8**
	comp=Z,3.5nm,0.6s,baz=13,slow=6.0,SNR=5.3							
BATI	**Baumata**	**84.49**	**245**	P		**P**	**13 55 50.0**	**-0.4**
	comp=Z,38nm,0.6s,baz=86,slow=1.1,SNR=7.1							
BRTR	**Keskin Array B**	**85.92**	**342**	P		**P**	**13 55 58.1**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=1.4,slow=6.1,SNR=2.3							
BRTR	**Keskin Array B**	**85.92**	**342**	*i* P		P	13 56 04.9	+7.4
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
IPM	**Ipoh**	**86.21**	**272**	*e*P		**P**	**13 55 58.9**	**-0.2**
	comp=Z,13nm,0.9s							
WRA	**Warramunga Arr**	**87.11**	**232**	P		**P**	**13 56 02.5**	**-0.7**
	comp=Z,2.6nm,0.8s,baz=35,slow=6.0,SNR=18							
ESDC	**Sonseca Array**	**87.26**	**11**	P		**P**	**13 56 03.3**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=342,slow=4.5,SNR=4.2							
ASAR	**Alice Springs**	**90.50**	**230**	P		**P**	**13 56 19.2**	**0.0**
	comp=Z,5.9nm,0.8s,baz=29,slow=4.8,SNR=62							
TORD	**Torodi Ar. Bea**	**114.10**	**9**	PKP			14 01 55.2	
	comp=Z,0.3nm,0.6s,baz=342,slow=1.5,SNR=2.7							
QSPA	**South Pole Qui**	**142.33**	**180**	PKhKP		PKPpre	14 02 43.6	
	comp=Z,3.1nm,0.6s,baz=96,slow=0.7,SNR=34							
TSUM	**Tsumeb**	**146.25**	**348**	*e*PKPdf		**PKPdf**	**14 02 57.8**	**+0.7**
LBTB	**Lobatse**	**150.22**	**332**	PKPbc		**PKPbc**	**14 03 08.3**	**-0.1**
	comp=Z,24nm,0.8s,baz=9.4,slow=1.7,SNR=49							
MAW	**Mawson**	**151.01**	**219**	PKP		**PKPdf**	**14 03 03.6**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=93,slow=2.0,SNR=5.6							
MAW				PKPbc		**PKPbc**	**14 03 07.0**	**-1.8**
	comp=Z,9.3nm,0.7s,baz=120,slow=1.8,SNR=31							
MAW	**Mawson**	**151.01**	**219**	*e*PKIKP		**PKPdf**	**14 03 02.7**	**-0.3**
MAW							14 03 03.6	
MAW				*e*			14 03 09.4	
MAW	**Mawson**	**151.01**	**219**	*e*PKPdf		**PKPdf**	**14 03 02.7**	**-0.3**
MAW				PKP		**PKPdf**	**14 03 03.6**	**+0.5**
MAW				PKPbc		**PKPbc**	**14 03 07.0**	**-1.8**
MAW				*e*PKPbc		PKPab	14 03 09.4	-7.1
BOSA	**Boshof**	**153.71**	**330**	PKPbc		**PKPbc**	**14 03 16.1**	**-0.2**
	comp=Z,3.1nm,0.5s,baz=49,slow=2.1,SNR=8.5							

*IDC **19** 14:01:13.8±1.2, 52°.72N×169°.74W, h0km, mb3.9/8, mb1 4.2/9, mb1mx3.7/55, mbtmp3.8/9, ML3.6/1, MS3.0/4, Ms1 3.1/4, ms1mx2.7/41, Error ellipse: s-maj=40.2km s-min=21.5km az=139.0*

*ISCJB **19** 14:01:16.0±1.1, 52°.66N±0°.09×169°.49W±0°.09, h19km±7km, mb3.8/9, MS3.1/2, Error ellipse: s-maj=17.4km s-min=5.5km az=154.8*

*NEIC **19** 14:01:15.5, 52°.72N×169°.45W, h3km, mb3.7/4, ML3.7(AEIC), After AEIC.*

ISC 19 14:01:16.6±1.8, 52.7N±0°.1×169°.41W±0°.07, h13km±11km, n45, σ1°07/40, mb3.8/9, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.44**	**50**	P			**Pg**	**14 01 25.4**	**+0.1**
NIKH				S			**Sb**	**14 01 33.0**	**+0.2**
OKSP	**Okmok Steeple**	**0.88**	**50**	P			**Pg**	**14 01 33.0**	**-0.5**
OKSP				S			**Sb**	**14 01 45.5**	**0.0**
OKCE	**Okmok Cone E**	**1.05**	**45**	P			**Pg**	**14 01 36.0**	**-0.9**
OKTU	**Okmok Mt. Tuli**	**1.08**	**49**	P			**Pg**	**14 01 36.6**	**-0.8**
MSOM	**Makushin Julie**	**1.86**	**52**	P			**Pn**	**14 01 47.9**	**-0.2**
MSOM				S			**Sb**	**14 02 13.8**	**+0.2**
MCIR	**Makushin Cirqu**	**1.97**	**49**	P			**Pn**	**14 01 50.0**	**+0.2**
MSW	**Makushin Switc**	**2.00**	**51**	P			**Pn**	**14 01 50.3**	**+0.2**
MSW				S			**Sb**	**14 02 17.5**	**-0.1**
MTBL	**Makushin Table**	**2.08**	**51**	P			**Pn**	**14 01 51.5**	**+0.2**
UNV	**Unalaska Valle**	**2.10**	**55**	P			**Pn**	**14 01 50.6**	**-0.8**
UNV				S			**Sn**	**14 02 18.1**	**+0.8**
AKRB	**Akutan Reef Bi**	**2.47**	**53**	P			**Pn**	**14 01 57.5**	**+1.0**
ZRO	**Akutan Zero**	**2.49**	**54**	P			**Pn**	**14 01 57.6**	**+0.8**
AKGG	**Akutan Green G**	**2.54**	**52**	P			**Pn**	**14 01 58.7**	**+1.1**
AKUT	**Akutan**	**2.62**	**55**	*e*Pn			**Pn**	**14 01 59.1**	**+0.6**
ATKA	**Atka Island**	**2.97**	**262**	P			**Pn**	**14 02 03.3**	**-0.1**
GSTR	**Great Sitkin T**	**4.12**	**264**	*e*Pn			**Pn**	**14 02 20.6**	**+1.5**
GSCK	**Great Sitkin C**	**4.19**	**263**	P			**Pn**	**14 02 20.8**	**+0.6**
SPIA	**Saint Paul Isl**	**4.52**	**354**	P			**Pn**	**14 02 25.2**	**+0.5**
AMKA	**Amchitka**	**7.09**	**264**	P			**Pn**	**14 03 00.3**	**+0.4**
BPAW	**Bear Paw Mtn.**	**14.89**	**33**	*e*P			**Pn**	**14 04 49.0**	**+2.4**
	1.7nm,0.7s								
ILAR	**Eielson Array**	**16.70**	**35**	Pn			**Pn**	**14 05 08.7**	**-1.4**
	0.1nm,0.3s,baz=226,slow=11,SNR=12								
ILAR				LR			LR	14 11 32.1	
	comp=Z,65nm,20.3s,baz=196,slow=37								
COLD	**Coldfoot**	**17.34**	**25**	*e*Pn			**Pn**	**14 05 16.8**	**-1.2**
	11nm,1.4s								
EGAK	**Eagle**	**18.80**	**39**	*e*P			**P**	**14 05 34.0**	**-1.5**
	2.7nm,0.7s								
PETK	**Petropavlovsk-**	**19.75**	**284**	LR			LR	14 12 56.0	
	comp=Z,21nm,20.1s,baz=114,slow=36								
H02N1	**VAN INLET T-PH**	**22.06**	**74**	T			T	14 29 06.6	
H02S1	**DAWSON INLET T**	**22.11**	**74**	T			T	14 29 08.4	
	SNR=15								
DLBC	**Dease Lake**	**22.75**	**60**	P			**P**	**14 06 20.7**	**+2.5**
	8.0nm,1.0s,baz=269,slow=11,SNR=14								
DLBC	**Dease Lake**	**22.75**	**60**	*e*P			**P**	**14 06 20.7**	**+2.5**
	14nm,1.1s								
INK	**Inuvik**	**23.09**	**34**	P			**P**	**14 06 19.7**	**-1.9**
	0.8nm,0.5s,baz=248,slow=10,SNR=4.0								
YKA	**Yellowknife Ar**	**30.05**	**49**	P			**P**	**14 07 24.9**	**0.0**
	0.4nm,0.6s,baz=271,slow=7.8,SNR=7.5								
NEW	**Newport**	**32.96**	**76**	P			**P**	**14 07 51.3**	**+0.5**
	2.3nm,0.7s,baz=287,slow=11,SNR=3.9								
NEW				LR			LR	14 20 18.3	
	comp=Z,45nm,18.1s,baz=232,slow=34								
CHMT	**Chamberlain Mo**	**35.90**	**76**	*e*P			**P**	**14 08 16.3**	**-0.1**
BOZ	**Bozeman (W)**	**37.52**	**77**	*e*P			**P**	**14 08 30.4**	**+0.2**
H11N2	**WAKE ISLAND Hy**	**37.69**	**218**	T			T	14 48 32.6	
	baz=24,slow=76,SNR=22								
H11N3	**WAKE ISLAND Hy**	**37.70**	**218**	T			T	14 48 29.3	
	baz=24,slow=76,SNR=33								
NVAR	**Mina Array Bea**	**37.70**	**91**	P			**P**	**14 08 33.3**	**+1.4**
	0.5nm,0.6s,baz=304,slow=8.4,SNR=4.4								
H11N1	**WAKE ISLAND Hy**	**37.71**	**218**	T			T	14 48 32.6	
	baz=24,slow=76,SNR=21								
H11S1	**WAKE ISLAND Hy**	**38.88**	**218**	T			T	14 49 59.5	
	baz=22								
H11S2	**WAKE ISLAND Hy**	**38.89**	**218**	T			T	14 50 00.1	
	baz=22,slow=74,SNR=161								
H11S3	**WAKE ISLAND Hy**	**38.90**	**218**	T			T	14 50 00.3	
	baz=22,slow=74,SNR=117								
R11A	**Troy Canyon, C**	**39.40**	**89**	*e*P			**P**	**14 08 46.7**	**+0.6**
	1.0nm,0.8s								
PDAR	**Pinedale Array**	**40.37**	**79**	P			**P**	**14 08 54.3**	**+0.1**
	1.5nm,0.7s,baz=323,slow=5.2,SNR=13								
JNU	**Nakatsue**	**46.44**	**270**	LR			LR	14 28 44.5	
	comp=Z,17nm,18.9s,baz=138,slow=36								
TXAR	**Lajitas Array**	**52.77**	**89**	P			**P**	**14 10 31.4**	**+0.1**
	2.2nm,0.7s,baz=298,slow=5.2,SNR=30								
ASAR	**Alice Springs**	**90.58**	**230**	P			**P**	**14 14 17.2**	**-1.2**
	0.7nm,0.7s,baz=29,slow=4.7,SNR=11								
MAW	**Mawson**	**151.11**	**219**	PKPbc			**PKPbc**	**14 21 07.0**	**-0.8**
	1.7nm,0.8s,baz=103,slow=4.7,SNR=4.2								

IDC 19 14:10:17.2±5.0, 6°.19S×149°.18E, h96km±48km, mb2.8/2, mb1 3.2/4, mb1mx3.0/35, mbtmp3.3/4, MS3.7/1, Ms1 3.7/1, ms1mx2.7/6, Error ellipse: s-maj=117.5km s-min=33.0km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.77**	**212**	P			Pn	14 11 11.9	-1.3
	0.6nm,0.3s,baz=27,slow=11,SNR=2.1								
PMG				S			Sn	14 11 59.5	+2.9
	0.7nm,0.3s,baz=47,slow=21,SNR=1.7								
WRA	**Warramunga Arr**	**19.87**	**225**	P			P	14 14 42.0	+1.1
	0.1nm,0.3s,baz=51,slow=11,SNR=8.4								
ASAR	**Alice Springs**	**22.76**	**219**	P			P	14 15 11.9	+0.3
	0.2nm,0.6s,baz=55,slow=9.2,SNR=5.4								
BATI	**Baumata**	**25.57**	**259**	LR			LR	14 28 00.5	
	comp=Z,148nm,18.1s,baz=80,slow=42								
ILAR	**Eielson Array**	**84.81**	**23**	P			P	14 22 41.4	+0.8
	0.2nm,0.7s,baz=230,slow=5.6,SNR=2.9								
TORD	**Torodi Ar. Bea**	**147.24**	**285**	PKPbc		PKPdf		14 29 48.3	+0.3
	0.3nm,0.7s,baz=78,slow=2.4,SNR=2.4								

IDC 19 14:15:05.0±7.8, 5.94S×150.23E, h112km±52km, mb3.2/2, mb1 3.3/3, mb1mx3.0/38, mbtmp3.6/3, Error ellipse: s-maj=113.7km s-min=54.4km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.60**	**221**	P			Pn	14 16 12.1	-0.3
	0.7nm,0.3s,baz=66,slow=12,SNR=2.6								
PMG				S			Sn	14 17 05.7	+0.8
	2.3nm,0.3s,baz=142,slow=16,SNR=1.9								
WRA	**Warramunga Arr**	**20.79**	**227**	P			P	14 19 37.4	0.0
	0.7nm,0.5s,baz=53,slow=11,SNR=13								
ASAR	**Alice Springs**	**23.61**	**220**	P			P	14 20 06.2	+0.1
	1.8nm,0.7s,baz=51,slow=9.7,SNR=30								
TORD	**Torodi Ar. Bea**	**148.18**	**285**	PKPbc		PKPbc		14 34 38.1	-0.8
	0.8nm,0.6s,baz=88,slow=2.9,SNR=7.0								

JMA 19 14:18:01.6±0.1, 36.46N×141.20E, h42km±2km, M0.9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.53**	**287**	P			Pn	14 18 12.7	-0.1
JHO				S			Sn	14 18 20.6	-0.2
JFT	**Otama**	**1.26**	**327**	P			Pn	14 18 23.5	+0.7

IDC 19 14:21:33.8±27.0, 19.00S×173.87W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/43, mbtmp4.0/4, Error ellipse: s-maj=505.4km s-min=155.3km az=73.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.53**	**262**	P			P	14 28 50.7	+0.8
	1.8nm,0.4s,baz=94,slow=13,SNR=7.0								
STKA	**Stephens Creek**	**41.93**	**243**	P			P	14 29 26.5	+0.1
	1.0nm,0.6s,baz=89,slow=14,SNR=6.2								
ASAR	**Alice Springs**	**48.65**	**255**	P			P	14 30 19.4	-0.6
	1.8nm,0.5s,baz=89,slow=8.0,SNR=68								
WRA	**Warramunga Arr**	**48.67**	**260**	P			P	14 30 19.5	-0.6
	0.6nm,0.4s,baz=97,slow=8.7,SNR=10								

*ISCJB **19** 14:22:28.0±0.5, 52°.58N±0°.08×169°.51W±0°.08, h10km, mb4.0/15, Error ellipse: s-maj=12.4km s-min=4.2km az=149.8*

*IDC **19** 14:22:28.2±0.7, 52°.52N×169°.64W, h0km, mb4.0/13, mb1 4.2/15, mb1mx3.9/56, mbtmp3.9/15, ML3.6/2, Error ellipse: s-maj=26.3km s-min=12.6km az=167.0*

*NEIC **19** 14:22:29.9, 52°.64N×169°.37W, h7km, mb4.5/6, ML4.0(AEIC), After AEIC.*

ISC 19 14:22:29.9±0.6, 52.67N±0°.10×169°.43W±0°.06, h10km, n51, σ1°15/46, mb4.1/15, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.46**	**48**	P			**Pb**	**14 22 39.8**	**-0.5**
NIKH				S			**Sb**	**14 22 48.0**	**+0.8**
OKSP	**Okmok Steeple**	**0.90**	**49**	P			**Pg**	**14 22 47.4**	**+0.1**
OKSP				S			**Sn**	**14 23 01.1**	**-0.8**
OKCE	**Okmok Cone E**	**1.08**	**45**	P			**Pg**	**14 22 50.0**	**-0.7**
OKTU	**Okmok Mt. Tuli**	**1.10**	**49**	P			**Pb**	**14 22 50.8**	**-0.3**
MSOM	**Makushin Julie**	**1.88**	**51**	P			**Pn**	**14 23 02.1**	**0.0**
MSOM				S			**Sn**	**14 23 26.3**	**+0.4**
MCIR	**Makushin Cirqu**	**1.99**	**49**	P			**Pn**	**14 23 04.3**	**+0.5**
MSW	**Makushin Switc**	**2.02**	**51**	P			**Pn**	**14 23 03.6**	**-0.4**
MTBL	**Makushin Table**	**2.10**	**51**	P			**Pn**	**14 23 05.0**	**-0.2**
UNV	**Unalaska Valle**	**2.12**	**55**	P			**Pn**	**14 23 04.6**	**-0.8**
UNV				S			**Sn**	**14 23 31.5**	**-0.2**
AKRB	**Akutan Reef Bi**	**2.49**	**53**	P			**Pn**	**14 23 10.9**	**+0.4**
AKGG	**Akutan Green G**	**2.56**	**52**	P			**Pn**	**14 23 11.6**	**0.0**
AKUT	**Akutan**	**2.64**	**55**	P			**Pn**	**14 23 12.0**	**-0.5**
ATKA	**Atka Island**	**2.96**	**263**	P			**Pn**	**14 23 18.2**	**+1.4**
SPIA	**Saint Paul Isl**	**4.54**	**354**	P			**Pn**	**14 23 40.0**	**+1.3**
SDPT	**Sand Point**	**5.92**	**59**	*e*Pn			**Pn**	**14 23 58.8**	**+1.2**
	4μm,0.2s								
AMKA	**Amchitka**	**7.08**	**264**	*e*Pn			**Pn**	**14 24 14.5**	**+1.1**
ILAR	**Eielson Array**	**16.73**	**35**	Pn			**Pn**	**14 26 23.7**	**-0.3**
	0.2nm,0.3s,baz=228,slow=11,SNR=10								
EGAK	**Eagle**	**18.83**	**39**	*e*P			**Pn**	**14 26 50.3**	**+0.3**
	6.1nm,1.0s								
PETK	**Petropavlovsk-**	**19.75**	**284**	P			**P**	**14 26 59.8**	**+0.1**
	0.3nm,0.3s,baz=89,slow=14,SNR=4.6								
SKAG	**Skagway**	**20.04**	**57**	P			**P**	**14 27 02.1**	**-0.6**
	16nm,0.8s								
H02N1	**VAN INLET T-PH**	**22.07**	**74**	T			T	14 50 15.7	
H02S1	**DAWSON INLET T**	**22.12**	**74**	T			T	14 50 21.2	
SEY	**Seymchan**	**22.44**	**312**	P			**P**	**14 27 28.6**	**0.0**
	1.0nm,0.7s,baz=86,slow=19,SNR=2.3								
DLBC	**Dease Lake**	**22.76**	**60**	P			**P**	**14 27 35.0**	**+2.8**
	15nm,1.1s,baz=269,slow=8.6,SNR=14								
DLBC	**Dease Lake**	**22.76**	**60**	*e*P			**P**	**14 27 33.8**	**+1.6**
	32nm,1.3s								
INK	**Inuvik**	**23.12**	**34**	P			**P**	**14 27 36.1**	**+0.4**
	6.1nm,1.0s,baz=202,slow=11,SNR=4.3								
INK	**Inuvik**	**23.12**	**34**	*e*P			**P**	**14 27 32.6**	**-3.0**
	9.5nm,1.1s								
YKA	**Yellowknife Ar**	**30.07**	**49**	P			**P**	**14 28 39.5**	**+0.6**
	0.4nm,0.5s,baz=275,slow=9.5,SNR=4.0								
EGMT	**Eagleton**	**37.41**	**73**	*e*P			**P**	**14 29 43.1**	**+0.2**
	14nm,1.0s								
H11N2	**WAKE ISLAND Hy**	**37.66**	**218**	T			T	15 09 37.2	
	baz=25								
H11N3	**WAKE ISLAND Hy**	**37.67**	**218**	T			T	15 09 36.3	
	baz=25								
H11N1	**WAKE ISLAND Hy**	**37.68**	**218**	T			T	15 09 39.6	
	baz=25								
NVAR	**Mina Array Bea**	**37.70**	**91**	P			**P**	**14 29 48.2**	**+2.5**
	1.5nm,0.8s,baz=297,slow=7.9,SNR=12								
NVAR				ScP			**ScP**	**14 35 50.2**	**+0.3**
	0.9nm,0.7s,baz=304,slow=4.9,SNR=3.9								
H11S1	**WAKE ISLAND Hy**	**38.85**	**218**	T			T	15 11 06.8	
	baz=20								
H11S2	**WAKE ISLAND Hy**	**38.87**	**218**	T			T	15 11 08.1	
	baz=20								
H11S3	**WAKE ISLAND Hy**	**38.87**	**218**	T			T	15 11 08.1	
	baz=20								
MJAR	**Matsushiro Arr**	**39.67**	**267**	P			**P**	**14 29 59.1**	**-2.9**
	0.6nm,0.5s,baz=40,slow=6.5,SNR=3.6								
PDAR	**Pinedale Array**	**40.38**	**79**	P

LBTB **Lobatse** 150.09 332 *e*PKPbc **PKPbc** 14 43 13.2 -0.7
MAW **Mawson** 151.04 219 PKPbc **PKPbc** 14 43 14.1 -0.5
2.2nm,0.9s,baz=118,slow=3.6,SNR=2.8

IDC ***19*** *14:24:38.9±0.3,52.87N×169.54W,h0km,mb4.5/32, mb1 4.7/33,mb1mx4.6/44,mbtmp4.5/33,ML4.0/1,MS4.0/6, Ms1 4.1/6,ms1mx3.8/22,Error ellipse: s-maj=12.9km s-min=9.1km az=158.0*
MOS ***19*** *14:24:39.9±0.9,52.76N×169.57W,h29km,mb4.9/18, Error ellipse: s-maj=10.7km s-min=7.3km az=97.9*
GCMT ***19*** *14:24:40.5±0.2,52.60N×169.39W,h12km,MW5.1/108, Moment Tensor Solution. s65,c85; s108,c173; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=4.74±.11; Mθθ0.94±.12; Mϕϕ3.80±.09; Mrθ-0.43±.33; Mθϕ-2.34±.09; Mϕr0.41±.29; Best double couple: M₀4.96300×10^16 NP1:φs148.00000°,δ48.00000°,λ-93.00000°. NP2: φs333.00000°,δ42.00000°,λ-87.00000°. Principal axes: T 5.1460, Plg3.0000°, Azm241.0000°; N -0.3620, Plg2.0000°, Azm150.0000°; P -4.7800, Plg86.0000°, Azm26.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***19*** *14:24:40.5,52.72N×169.41W,h2km,mb5.0/29, ML4.7(AEIC),After AEIC.*
ISCJB ***19*** *14:24:41.3±0.7,52.67N±0.03×169.48W±0.02,h30km±4km, mb5.1/119,MS4.2/12,Error ellipse: s-maj=5.5km s-min=2.3km az=175.5*
BJI ***19*** *14:24:42.1,53.06N×170.24W,h7km,mb4.7/41,mB5.0/30, Ms4.8/32,Ms7 4.5/34*
ISC 19 14:24:40.9±0.4,52.68N±0.05×169.49W±0.03,h14km±1km, h14km:pP-P,n568,σ1s02/622,mb5.1/122,MS4.2/13,7C-4D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.48**	**53**	P		**Pg**	**14 24 50.0**	**-0.4**
NIKH				S		**Sg**	**14 24 57.1**	**+0.1**
OKCE	**Okmok Cone E**	**1.09**	**47**	P		**Pb**	**14 25 00.7**	**-0.8**
OKCE				S		**Sn**	**14 25 17.7**	**+1.0**
MGOD	**Makushin Gods**	**1.93**	**54**	P		**Pn**	**14 25 12.8**	**-0.5**
MGOD				S		**Sn**	**14 25 38.0**	**+0.8**
MCIR	**Makushin Cirqu**	**2.01**	**50**	P		**Pn**	**14 25 15.4**	**+1.0**
MTBL	**Makushin Table**	**2.12**	**51**	P		**Pn**	**14 25 16.3**	**+0.4**
UNV	**Unalaska Valle**	**2.14**	**56**	P		**Pn**	**14 25 15.6**	**-0.4**
UNV				S		**Sb**	**14 25 45.0**	**-0.7**
AKGG	**Akutan Green G**	**2.59**	**53**	P		**Pn**	**14 25 22.8**	**+0.6**
AKUT	**Akutan**	**2.66**	**55**	P		**Pn**	**14 25 23.7**	**+0.6**
ATKA	**Atka Island**	**2.92**	**262**	P		**Pn**	**14 25 28.8**	**+2.0**
WESP	**Westdahl Peak**	**3.37**	**56**	P		**Pn**	**14 25 34.1**	**+1.0**
WESN	**West Dahl Nort**	**3.48**	**55**	P		**Pn**	**14 25 36.0**	**+1.5**
SSBA	**Shishaldin**	**3.81**	**55**	P		**Pn**	**14 25 40.2**	**+1.0**
SSLW	**Shishaldin Wes**	**3.81**	**55**	P		**Pn**	**14 25 40.1**	**+1.0**
GSTD	**Great Sitkin T**	**4.12**	**264**	P		**Pn**	**14 25 46.4**	**+3.0**
FALS	**False Pass**	**4.21**	**56**	P		**Pn**	**14 25 45.4**	**+0.9**
SPIA	**Saint Paul Isl**	**4.53**	**355**	P		**Pn**	**14 25 50.6**	**+1.8**
KICM	**Kanaga Island**	**4.79**	**264**	P		Pn	14 25 55.9	+3.4
DRIA	**Deer Island**	**4.86**	**59**	P		**Pn**	**14 25 54.7**	**+1.3**
DT1	**Dutton Round H**	**4.91**	**57**	P		**Pn**	**14 25 55.0**	**+1.0**
TAFP	**Tanaga Falls P**	**5.27**	**265**	P		Pn	14 26 02.9	+3.8
CESW	**Semis' Southwe**	**6.76**	**268**	P		**Pn**	**14 26 22.1**	**+2.6**
VNKR	**Veniaminof 5**	**6.80**	**56**	P		**Pn**	**14 26 22.6**	**+2.5**
AMKA	**Amchitka**	**7.04**	**264**	*e*Pn		**Pn**	**14 26 26.2**	**+2.9**
LSNW	**Little Sitkin**	**7.38**	**269**	P		Pn	14 26 31.6	+3.5
SMY	**Shemya**	**9.96**	**277**	*e*P		**Pn**	**14 27 04.0**	**+0.6**
SMY	**Shemya**	**9.96**	**277**	*e*Pn		**Pn**	**14 27 04.0**	**+0.6**
KDAK	**Kodiak Island**	**10.91**	**55**	P		**Pn**	**14 27 15.0**	**-1.3**
	517nm,0.7s,SNR=13							
KDAK	**Kodiak Island**	**10.91**	**55**	*ce*P		**Pn**	**14 27 15.1**	**-1.3**
IM04	**Indian Mountai**	**15.48**	**25**	*e*Pn		**Pn**	**14 28 20.5**	**+2.1**
COLA	**College**	**16.47**	**34**	*e*P		**Pn**	**14 28 30.3**	**-0.8**
ILAR	**Eielson Array**	**16.74**	**35**	Pn		**Pn**	**14 28 34.5**	**0.0**
	1.1nm,0.3s,baz=229,slow=11,SNR=23							
ILAR				Sn		**Sn**	**14 31 42.7**	**+2.8**
	baz=213,slow=8.8,SNR=1.7							
ILAR				PcP		**PcP**	**14 33 22.4**	**-0.1**
	0.1nm,0.3s,baz=274,slow=3.0,SNR=5.2							
ILAR				LR		LR	14 35 25.2	
	comp=Z,1μm,19.0s,baz=236,slow=39							
ILAR				ScP		**ScP**	**14 36 55.9**	**-0.6**
	0.1nm,0.3s,baz=301,slow=3.0,SNR=5.3							
EGAK	**Eagle**	**18.84**	**39**	*e*P		**Pn**	**14 29 01.6**	**+1.1**
PET	**Petropavlovsk**	**19.16**	**284**	*c i*P		**Pn**	**14 29 04.4**	**0.0**
PET				*e*S		**Sn**	**14 32 36.4**	**-2.3**
PET				pmax	pmax			
	comp=Z,30μm,0.9s							
PET				pmax	pmax			
	comp=Z,500nm,10.8s							
PET				pmax	pmax			
	comp=Z,500nm,9.9s							
PET				MLR	MLR			
	comp=Z,600nm,21.0s							
PET				MLR	MLR			
	comp=Z,500nm,20.0s							
HYT	**Haines Junctio**	**19.17**	**52**	*e*P		**Pn**	**14 29 04.7**	**+0.1**
	comp=Z,47nm,0.6s							
BILL	**Bilibino**	**19.29**	**332**	*i*P		**Pn**	**14 29 06.8**	**+0.9**
BILL				pmax	pmax			
	comp=Z,158nm,1.3s							
PETK	**Petropavlovsk-**	**19.71**	**284**	P		**Pn**	**14 29 10.5**	**-0.5**
	comp=Z,2.1nm,0.3s,baz=88,slow=14,SNR=24							
PETK				LR		LR	14 35 46.5	
	comp=Z,399nm,21.1s,baz=92,slow=34							
SKAG	**Skagway**	**20.06**	**57**	*e*P		Pn	14 29 14.8	-0.3
	comp=Z,12nm,0.9s							
SKR	**Severo-Kuril's**	**21.30**	**278**	*e*P		**P**	**14 29 30.0**	**+3.3**
SKR				*e*			14 30 03.0	
SKR				*e*			14 33 10.0	
SKR				pmax	pmax			
	comp=Z,600nm,10.0s							
SKR				pmax	pmax			
	comp=E,600nm,12.0s							
SKR				smax	smax			
	comp=N,800nm,12.0s							
SKR				smax	smax			
	comp=E,600nm,12.0s							
SKR				MLR	MLR			
	comp=Z,900nm,16.0s							
SKR				MLR	MLR			
	comp=N,700nm,18.0s							
SKR				MLR	MLR			
	comp=E,900nm,18.0s							
WRAK	**Wrangell Islan**	**21.69**	**65**	P		**P**	**14 29 33.9**	**+3.1**
	comp=E,52nm,0.6s							
H02N1	**VAN INLET T-PH**	**22.11**	**74**	T		T	14 52 27.8	
	SNR=5.0							
H02S1	**DAWSON INLET T**	**22.16**	**74**	T		T	14 52 36.0	
	SNR=7.1							
SEY	**Seymchan**	**22.40**	**312**	P		**P**	**14 29 38.9**	**+0.4**
	comp=E,18nm,0.9s,baz=95,slow=10,SNR=14							
SEY				PcP		**PcP**	**14 33 33.1**	**+0.5**
	comp=E,7.7nm,0.7s,baz=149,slow=1.9,SNR=12							
SEY				ScP		**ScP**	**14 37 09.8**	**+0.4**
	comp=E,2.1nm,0.7s,baz=113,slow=5.5,SNR=4.7							
SEY	**Seymchan**	**22.40**	**312**	*ce*P		**P**	**14 29 39.2**	**+0.7**
DLBC	**Dease Lake**	**22.79**	**60**	P		**P**	**14 29 46.5**	**+3.7**
	comp=E,38nm,1.0s,baz=273,slow=11,SNR=16							
DLBC	**Dease Lake**	**22.79**	**60**	*e*P		**P**	**14 29 45.4**	**+2.7**
	comp=E,66nm,1.1s							
MA2	**Magadan**	**22.91**	**303**	*e*P		**P**	**14 29 42.4**	**-1.4**
INK	**Inuvik**	**23.13**	**34**	P		**P**	**14 29 45.0**	**-1.0**
	comp=E,19nm,0.8s,baz=242,slow=9.3,SNR=14							
INK				PcP		**PcP**	**14 33 34.5**	**+0.5**
	comp=E,5.7nm,0.7s,baz=230,slow=3.8,SNR=5.2							
INK				S		**S**	**14 33 52.0**	**-4.5**
	comp=E,14nm,1.0s,baz=222,slow=16,SNR=6.4							
INK	**Inuvik**	**23.13**	**34**	P		**P**	**14 29 45.0**	**-1.0**
INK							14 33 34.5	
INK				S		**S**	**14 33 52.0**	**-4.5**
INK				pmax	pmax			
	comp=Z,19nm,0.9s							
INK				smax	smax			
	comp=N,14nm,1.0s							
INK	**Inuvik**	**23.13**	**34**	*e*P		**P**	**14 29 44.2**	**-1.8**
	comp=N,33nm,1.0s							
INK				PcP		**PcP**	**14 33 34.5**	**+0.5**
INK				S		**S**	**14 33 52.0**	**-4.5**
BBB	**Bella Bella**	**24.99**	**74**	LR		LR	14 38 01.6	
	comp=N,332nm,18.9s,baz=248,slow=32							
YKA	**Yellowknife Ar**	**30.09**	**49**	P		**P**	**14 30 49.3**	**0.0**
	comp=N,3.8nm,0.3s,baz=274,slow=8.4,SNR=15							
YKA				PcP		**PcP**	**14 33 50.9**	**+0.4**
	comp=N,3.7nm,0.8s,baz=286,slow=2.3,SNR=10							
YKA				ScP		**ScP**	**14 37 32.3**	**+0.4**
	comp=N,1.3nm,0.8s,baz=278,slow=3.2,SNR=6.9							
G03D	**McMinnville, O**	**30.81**	**85**	P		**P**	**14 30 57.6**	**+1.7**
	baz=31							
G05D	**Wamic, OR**	**31.98**	**84**	P		**P**	**14 31 07.2**	**+1.0**
	baz=32							
I04A	**Tendick Farm,**	**32.08**	**87**	P		**P**	**14 31 08.5**	**+1.4**
	baz=32							
ASAJ	**Asahikawa**	**32.41**	**274**	PcP		**PcP**	**14 33 57.4**	**+0.4**
	baz=45,slow=4.3							
I05D	**Terrebonne, OR**	**32.44**	**85**	P		**P**	**14 31 11.4**	**+1.1**
	baz=32							
KIP	**Kipapa**	**32.44**	**160**	*ce*P		**P**	**14 31 10.4**	**+0.1**
KIP				pmax	pmax			
	comp=Z,167nm,2.5s							
J04D	**Umpqua Nationa**	**32.57**	**88**	P		**P**	**14 31 12.5**	**+1.0**
	baz=32							
YAK	**Yakutsk**	**32.91**	**311**	PcP		**PcP**	**14 33 57.7**	**-0.3**
	comp=Z,3.6nm,0.4s,baz=66,slow=20,SNR=1.6							
YAK	**Yakutsk**	**32.91**	**311**	*e*P		**P**	**14 31 14.6**	**+0.5**
YAK				*e**PP		pP	14 31 24.0	+5.5
YAK				*e*			14 32 21.5	
YAK				*e*PPP		PPP	14 32 37.8	
YAK				*e*			14 33 57.2	
YAK				*e*S		**S**	**14 36 33.1**	**+2.1**
YAK				pmax	pmax			
	comp=Z,25nm,1.1s							
YAK				pmax	pmax			
	comp=N,3.0nm,1.3s							
YAK				pmax	pmax			
	comp=E,14nm,1.4s							
YAK				pmax	pmax			
	comp=Z,12nm,0.8s							
YAK				pmax	pmax			
	comp=N,2.0nm,0.6s							
YAK				pmax	pmax			
	comp=E,9.0nm,1.1s							
YAK				smax	smax			
	comp=N,65nm,3.0s							
YAK				smax	smax			
	comp=E,49nm,3.3s							
YAK				MLR	MLR			
	comp=Z,442nm,17.0s							
YAK				MLR	MLR			
	comp=E,330nm,17.0s							
YAK				MLR	MLR			
	comp=N,262nm,15.0s							
NEW	**Newport**	**33.01**	**76**	P		**P**	**14 31 16.7**	**+1.5**
	baz=33,SNR=9.7							
YBH	**Yreka Blue Hor**	**33.06**	**90**	P		**P**	**14 31 17.9**	**+2.1**
	comp=N,5.2nm,0.9s,baz=311,slow=5.7,SNR=5.7							
J05D	**Fort Rock, OR**	**33.07**	**87**	P		**P**	**14 31 17.8**	**+1.9**
	baz=33,SNR=13							
M02C	**Callahan**	**33.17**	**91**	P		**P**	**14 31 18.6**	**+1.9**
	baz=33							
N02D	**Trinity Center**	**33.51**	**91**	P		**P**	**14 31 20.9**	**+1.3**
	baz=33							
M04C	**Macdoel**	**33.56**	**90**	P		**P**	**14 31 21.3**	**+1.2**
	baz=33							
WALA	**Waterton Lakes**	**34.52**	**73**	*e*P		**P**	**14 31 29.4**	**+0.9**
	comp=N,18nm,1.1s							
MSO	**Missoula**	**35.59**	**77**	P		**P**	**14 31 38.4**	**+0.7**
	baz=35							
HLID	**Hailey**	**37.05**	**82**	P		**P**	**14 31 51.1**	**+0.9**
	baz=37							
EGMT	**Eagleton**	**37.44**	**72**	P		**P**	**14 31 54.7**	**+1.3**
	baz=37,SNR=18							
EGMT	**Eagleton**	**37.44**	**72**	*e*P		**P**	**14 31 54.2**	**+0.8**
	comp=N,31nm,0.7s							
BOZ	**Bozeman (W)**	**37.57**	**77**	P		**P**	**14 31 55.5**	**+0.9**
	baz=37,SNR=12							
A19A	**Klindworth Far**	**37.58**	**71**	P		**P**	**14 31 54.8**	**+0.3**
	baz=37							
H11N2	**WAKE ISLAND Hy**	**37.65**	**218**	T		T	15 11 58.4	
	baz=24,slow=76,SNR=578							
H11N3	**WAKE ISLAND Hy**	**37.66**	**218**	T		T	15 11 58.4	
	baz=24,slow=76,SNR=1155							
H11N1	**WAKE ISLAND Hy**	**37.67**	**218**	T		T	15 11 58.8	
	baz=24,slow=76,SNR=595							
NVAR	**Mina Array Bea**	**37.74**	**91**	P		**P**	**14 31 58.0**	**+1.8**
	comp=N,5.2nm,0.8s,baz=293,slow=8.2,SNR=10							
NVAR				PcP		**PcP**	**14 34 13.8**	**+0.9**
	comp=N,3.7nm,0.6s,baz=254,slow=3.7,SNR=9.4							
A20A	**Cobblestone Ra**	**38.07**	**70**	P		**P**	**14 31 59.7**	**+1.0**
	baz=38							
A21A	**Bergtoll Ranch**	**38.59**	**70**	P		**P**	**14 32 04.0**	**+1.0**
	baz=38							
C20A	**Veseth Ranch,**	**38.62**	**72**	P		**P**	**14 32 04.2**	**+0.9**
	baz=38,SNR=12							
USRK	**Ussuriysk Ar.**	**38.76**	**282**	PcP		**PcP**	**14 34 16.5**	**+0.9**
	comp=N,7.1nm,0.8s,baz=82,slow=2.3,SNR=12							
H11S1	**WAKE ISLAND Hy**	**38.84**	**218**	T		T	15 13 27.1	
	baz=23,slow=76,SNR=5371							
H11S2	**WAKE ISLAND Hy**	**38.86**	**218**	T		T	15 13 28.7	
	baz=23,slow=76,SNR=6792							
H11S3	**WAKE ISLAND Hy**	**38.86**	**218**	T		T	15 13 26.8	
	baz=23,slow=76,SNR=4331							
H17A	**Grant Village**	**38.88**	**78**	P		**P**	**14 32 06.3**	**+0.5**
	baz=39							
HVU	**Hansel Valley**	**39.06**	**83**	*e*P		**P**	**14 32 08.0**	**+0.8**
HVU				pmax	pmax			
	comp=Z,15nm,1.1s							
HVU	**Hansel Valley**	**39.06**	**83**	*e*P		**P**	**14 32 08.0**	**+0.8**
	comp=Z,15nm,1.1s							
C21A	**Desert Coulee**	**39.08**	**71**	P		**P**	**14 32 08.1**	**+0.9**
	baz=39							
CWC	**Cottonwood Cre**	**39.16**	**94**	P		**P**	**14 32 08.6**	**+0.5**
	baz=39							
GRAC	**Grapevine Rang**	**39.23**	**92**	P		**P**	**14 32 09.2**	**+0.6**
	baz=39							
RLMT	**Red Lodge**	**39.26**	**76**	P		**P**	**14 32 10.2**	**+1.4**
	baz=39,SNR=17							
LOHW	**Long Hollow**	**39.31**	**79**	*e*P		**P**	**14 32 09.7**	**+0.4**
	comp=Z,5.1nm,0.8s							
BGU	**Big Grassy Mou**	**39.42**	**84**	*e*P		**P**	**14 32 10.4**	**+0.2**
	comp=Z,8.0nm,0.8s							
R11A	**Troy Canyon, C**	**39.45**	**89**	P		**P**	**14 32 11.6**	**+1.1**
	baz=39,SNR=22							
F20A	**Billings**	**39.55**	**75**	P		**P**	**14 32 11.5**	**+0.4**
	baz=39							
MJAR	**Matsushiro Arr**	**39.63**	**267**	P		**P**	**14 32 12.5**	**+0.7**
	comp=Z,6.1nm,0.8s,baz=55,slow=7.1,SNR=15							
MJAR				PcP		**PcP**	**14 34 19.0**	**+0.4**
	comp=Z,11nm,0.9s,baz=132,slow=1.6,SNR=15							
MAJO	**Matsushiro**	**39.63**	**267**	*e*P		**P**	**14 32 12.2**	**+0.3**
H19A	**Powell**	**39.67**	**77**	P		**P**	**14 32 12.6**	**+0.3**
	baz=40							
MPMC	**Manual Prospec**	**39.77**	**93**	P		**P**	**14 32 14.6**	**+1.3**
	baz=40,SNR=9.7							
E21A	**Keefer Ranch,**	**39.77**	**73**	P		**P**	**14 32 14.6**	**+1.6**
	baz=40							
G20A	**Bridger**	**39.83**	**75**	P		**P**	**14 32 14.3**	**+0.8**
	baz=40,SNR=13							
BSC	**Santa Cruz Isl**	**39.86**	**98**	P		**P**	**14 32 15.5**	**+1.7**
	baz=40							
FURC	**Furnace Creek,**	**39.88**	**92**	P		**P**	**14 32 15.3**	**+1.5**
	baz=40							
TPNV	**Topopah Spring**	**39.94**	**91**	P		**P**	**14 32 15.9**	**+1.3**
	baz=40,SNR=12							
MDJ	**Mudanjiang**	**39.95**	**284**	P		**P**	**14 32 14.0**	**-0.3**
MDJ				pP		**pP**	**14 32 16.8**	**-2.0**
MDJ				sP		**sP**	**14 32 18.1**	**-2.5**
MDJ				PP		**PP**	**14 33 45.5**	**-0.5**
MDJ				PcP		**PcP**	**14 34 19.8**	**+0.4**
MDJ				S		**S**	**14 38 18.8**	**0.0**
MDJ				ScS		**ScS**	**14 42 22.1**	**+1.4**
MDJ				PMZ				
	comp=Z,3.0nm,0.5s							
MDJ				PMZ				
	comp=Z,23nm,3.6s							
MDJ				LN				
	comp=Z,300nm,17.2s							
MDJ				LE				
	comp=Z,270nm,17.8s							
MDJ				LZ				
	comp=Z,450nm,18.5s							
DUG	**Dugway**	**39.99**	**85**	P		**P**	**14 32 16.2**	**+1.2**
	baz=40,SNR=18							
I19A	**Meeteetse**	**40.02**	**77**	P		**P**	**14 32 15.5**	**+0.3**
	baz=40							
LRMC	**Laurel Mountai**	**40.04**	**94**	P		**P**	**14 32 15.4**	**+0.1**
	baz=40							
BLG	**Laguna Peak**	**40.13**	**97**	P		**P**	**14 32 16.6**	**+0.6**
	baz=40							
F21A	**Absaloka Mine,**	**40.13**	**74**	P		**P**	**14 32 16.1**	**+0.1**
	baz=40							
LAO	**LASA Array**	**40.19**	**72**	P		**P**	**14 32 17.0**	**+0.6**
	baz=40							
EDW2	**Edwards Air Fo**	**40.25**	**95**	P		**P**	**14 32 17.3**	**+0.3**
	baz=40							
CTU	**Camp Tracy**	**40.33**	**83**	*e*P		**P**	**14 32 19.4**	**+1.5**
	comp=Z,16nm,1.0s							
H20A	**Greybull**	**40.36**	**76**	P		**P**	**14 32 18.4**	**+0.5**
	baz=40							
G21A	**Lodge Grass**	**40.41**	**75**	P		**P**	**14 32 18.5**	**+0.1**
	baz=40							
PDAR	**Pinedale Array**	**40.42**	**79**	P		**P**	**14 32 18.9**	**+0.4**
	comp=Z,12nm,0.7s,baz=320,slow=4.7,SNR=20							
J19A	**Crowheart**	**40.43**	**78**	P		**P**	**14 32 19.2**	**+0.6**
	baz=40,SNR=7.1							
E22A	**Miles City**	**40.48**	**72**	P		**P**	**14 32 19.2**	**+0.4**
	baz=40							
I20A	**Worland**	**40.59**	**77**	P		**P**	**14 32 19.9**	**+0.1**
	baz=40							
SHOC	**Shoshone**	**40.61**	**93**	P		**P**	**14 32 20.5**	**+0.5**
	baz=40							
MWC	**Mount Wilson**	**40.66**	**96**	*e*P		**P**	**14 32 21.5**	**+0.9**
MWC				pmax	pmax			
	comp=Z,24nm,1.1s							
MWC	**Mount Wilson**	**40.66**	**96**	*e*P		**P**	**14 32 21.4**	**+0.9**
	comp=Z,24nm,1.1s							
F22A	**Rosebud**	**40.66**	**74**	P		**P**	**14 32 20.5**	**+0.1**
	baz=40							
GSC	**Goldstone**	**40.69**	**94**	P		**P**	**14 32 22.3**	**+1.6**
	baz=40,SNR=12							
C24A	**Savage**	**40.77**	**70**	P		**P**	**14 32 22.5**	**+1.2**
	baz=40,SNR=5.9							
A25A	**Svangstu Ranch**	**40.78**	**68**	P		**P**	**14 32 21.6**	**+0.4**
	baz=40							
FCC	**Fort Churchill**	**40.80**	**51**	*e*P		**P**	**14 32 20.7**	**-0.5**
FCC				pmax	pmax			
	comp=Z,10.0nm,0.7s							
FCC	**Fort Churchill**	**40.80**	**51**	*e*P		**P**	**14 32 20.7**	**-0.5**
	comp=Z,10nm,0.7s							
MPU	**Maple Canyon**	**40.81**	**84**	P		**P**	**14 32 22.9**	**+1.0**
	comp=Z,32nm,0.8s							
E23A	**Ismay**	**40.82**	**72**	P		**P**	**14 32 22.6**	**+1.0**
	baz=41,SNR=17							
H21A	**Big Horn, Sher**	**40.85**	**75**	P		**P**	**14 32 21.9**	**-0.1**
	baz=41							
BFSC	**Mount Baldy Ra**	**40.89**	**96**	P		**P**	**14 32 24.0**	**+1.6**
	baz=41,SNR=8.4							
G22A	**Birney**	**40.95**	**74**	P		**P**	**14 32 22.2**	**-0.7**
	baz=41							
J20A	**Shoshoni**	**40.96**	**78**	P		**P**	**14 32 24.0**	**+1.1**
	baz=41,SNR=6.7							
D24A	**Glendive**	**41.05**	**71**	P		**P**	**14 32 24.8**	**+1.2**
	baz=41,SNR=23							
B25A	**Knox Farm, Ray**	**41.10**	**69**	P		**P**	**14 32 24.0**	**+0.1**
	baz=41							
TUQ	**Turquoise Moun**	**41.14**	**93**	P		**P**	**14 32 24.8**	**+0.4**
	baz=41							
I21A	**Big Trails, Te**	**41.16**	**77**	P		**P**	**14 32 25.4**	**+0.8**
	baz=41,SNR=9.1							
F23A	**Volborg**	**41.19**	**73**	P		**P**	**14 32 24.7**	**0.0**
	baz=41							
H22A	**Clearmont**	**41.27**	**75**	P		**P**	**14 32 25.4**	**0.0**
	baz=41							
HEC	**Hector,Ludlow**	**41.30**	**94**	P		**P**	**14 32 26.9**	**+1.2**
	baz=41,SNR=11							
J21A	**Lysite**	**41.34**	**77**	P		**P**	**14 32 26.6**	**+0.5**
	baz=41,SNR=11							
E24A	**Baker**	**41.37**	**71**	P		**P**	**14 32 26.9**	**+0.7**
	baz=41							
A26A	**Wade Farm, Ken**	**41.40**	**67**	P		**P**	**14 32 26.3**	**0.0**
	baz=41							
G23A	**Biddle**	**41.49**	**74**	P		**P**	**14 32 26.9**	**-0.3**
	baz=41							
TMUT	**Trail Mountain**	**41.52**	**85**	*e*P		**P**	**14 32 27.7**	**0.0**
B26A	**Jensen Ranch,**	**41.57**	**68**	P		**P**	**14 32 27.4**	**-0.3**
	baz=41							
I22A	**9 Mile Ranch,**	**41.59**	**76**	P		**P**	**14 32 28.1**	**-0.1**
	baz=41							
MURC	**Murrieta**	**41.60**	**96**	P		**P**	**14 32 28.3**	**+0.1**
	baz=42							
GMRC	**Granite Mounta**	**41.74**	**93**	P		**P**	**14 32 30.1**	**+0.7**
	baz=42,SNR=8.9							
BOD	**Bodaibo**	**41.74**	**309**	*e*P		**P**	**14 32 27.6**	**-1.3**
BOD				pmax	pmax			
	comp=Z,10.0nm,1.7s							
J22A	**Midwest**	**41.88**	**77**	P		**P**	**14 32 30.9**	**+0.4**
	baz=42,SNR=10							
E25A	**Miller Ranch,**	**41.92**	**71**	P		**P**	**14 32 31.0**	**+0.3**
	baz=42							
C26A	**Wahner Farm, P**	**41.94**	**69**	P		**P**	**14 32 30.8**	**0.0**
	baz=42							
G24A	**Alzada**	**41.99**	**73**	P		**P**	**14 32 30.7**	**-0.6**
	baz=42							
PFO	**Pinyon Flat Ob**	**42.05**	**95**	P		**P**	**14 32 33.4**	**+1.4**
	comp=Z,18nm,1.1s,baz=352,slow=2.4,SNR=5.5							
PFO	**Pinyon Flat Ob**	**42.05**	**95**	P		**P**	**14 32 32.2**	**+0.3**
	baz=42							
BELC	**Belle Mtn. Jos**	**42.06**	**95**	P		**P**	**14 32 32.4**	**+0.4**
	baz=42,SNR=7.5							
F25A	**Bowman**	**42.21**	**72**	P		**P**	**14 32 33.1**	**+0.1**
	baz=42							
H24A	**Dirks Ranch, A**	**42.24**	**74**	P		**P**	**14 32 33.0**	**-0.3**
	baz=42							
K22A	**Casper**	**42.30**	**78**	P		**P**	**14 32 33.6**	**-0.3**
	baz=42							
C27A	**Sayler Ranch,**	**42.34**	**68**	P		**P**	**14 32 34.2**	**+0.2**
	baz=42							
NEE2	**Needles Airpor**	**42.38**	**93**	P		**P**	**14 32 35.2**	**+0.8**
	baz=42							
A28A	**Rude Farm, Bot**	**42.38**	**66**	P		**P**	**14 32 34.5**	**+0.1**
	baz=42							
J23A	**Diits Ranch, B**	**42.43**	**76**	P		**P**	**14 32 35.5**	**+0.5**
	baz=42							
IRM	**Iron Mountain**	**42.47**	**94**	P		**P**	**14 32 36.0**	**+0.8**
	baz=42,SNR=12							
E26A	**Carlson Angus**	**42.48**	**70**	P		**P**	**14 32

	baz=43								
D28A	**Regan**	43.15	68	P		P	14 32 40.1	-0.5	
	baz=43								
MDND	**Maddock**	43.34	67	P		P	14 32 42.3	+0.2	
	baz=43								
H26A	**Fairpoint**	43.35	73	P		P	14 32 42.4	+0.1	
	baz=43								
GLA	**Glamis**	43.42	95	P		P	14 32 42.5	-0.5	
	baz=43								
A30A	**Hoffart Farm,**	43.46	65	P		P	14 32 42.6	-0.4	
	baz=43								
J25A	**Sunshine Ranch**	43.47	75	P		P	14 32 42.4	-0.9	
	baz=43								
PV04	**Paradox Valley**	43.48	84	*e*P		P	14 32 44.2	+0.6	
N23A	**Red Feather La**	43.70	79	P		P	14 32 45.6	+0.2	
	baz=44,SNR=10								
B30A	**Myrvik Farm, E**	43.71	66	P		P	14 32 44.7	-0.4	
	baz=44								
F28A	**McLaughlin**	43.78	70	P		P	14 32 45.8	+0.1	
	baz=44								
WUAZ	**Wupatki**	43.85	89	P		P	14 32 47.5	+0.9	
	baz=44,SNR=14								
J26A	**Sides Ranch, S**	43.94	75	P		P	14 32 47.0	-0.2	
	baz=44								
E29A	**Napoleon**	44.03	69	P		P	14 32 47.5	-0.2	
	baz=44								
C30A	**Moose, Pekin**	44.05	67	P		P	14 32 47.8	-0.1	
	baz=44								
ULM	**Lac du Bonnet**	44.07	62	P		P	14 32 47.9	-0.1	
	comp=Z,9.6nm,0.9s,baz=308,slow=10,SNR=5.5								
ULM				PcP		PcP	14 34 32.6	-0.3	
	comp=Z,4.7nm,0.5s,baz=269,slow=2.0,SNR=3.4								
I27A	**Quinn**	44.09	73	P		P	14 32 47.9	-0.4	
	baz=44								
G28A	**Parade**	44.16	71	P		P	14 32 48.6	-0.2	
	baz=44								
D30A	**Buchanan**	44.22	68	P		P	14 32 49.3	+0.1	
	baz=44								
H28A	**Mission Ridge**	44.34	72	P		P	14 32 49.7	-0.5	
	baz=44								
E30A	**Jud**	44.48	68	P		P	14 32 51.4	+0.1	
	baz=44								
MVCO	**Mesa Verde**	44.49	85	P		P	14 32 51.7	0.0	
	baz=44								
M25A	**Palm-Egli Farm**	44.50	77	P		P	14 32 51.7	0.0	
	baz=44								
ISCO	**Idaho Springs**	44.58	80	P		P	14 32 52.2	-0.3	
	baz=44								
J27A	**Elkhorn Farm,**	44.60	74	P		P	14 32 52.0	-0.4	
	baz=44								
I28A	**Midland**	44.65	73	P		P	14 32 52.9	+0.2	
	baz=44								
K27A	**Flueckinger Fa**	44.80	75	P		P	14 32 54.1	+0.1	
	baz=45								
H29A	**Onida**	44.83	71	P		P	14 32 54.4	+0.2	
	baz=45								
J28A	**Allard Ranch,**	44.95	73	P		P	14 32 55.5	+0.3	
	baz=45,SNR=10								
W18A	**Petrified Fore**	45.11	88	P		P	14 32 57.3	+0.6	
	baz=45								
I29A	**Vivian Onida**	45.14	72	P		P	14 32 56.3	-0.3	
	baz=45								
G30A	**Faulkton**	45.15	70	P		P	14 32 56.5	-0.1	
	baz=45								
S22A	**4UR Ranch, Cre**	45.15	83	P		P	14 32 57.1	0.0	
	baz=45								
AGMN	**Agassiz Nation**	45.16	65	P		P	14 32 56.9	+0.2	
	baz=45,SNR=14								
KSRS	**Korea Array**	45.29	276	P		P	14 32 57.0	-0.8	
	comp=Z,3.7nm,0.9s,baz=56,slow=7.2,SNR=9.5								
KSRS				PcP		PcP	14 34 38.0	+0.6	
	comp=Z,5.8nm,0.8s,baz=56,slow=3.8,SNR=12								
KSRS	**Korea Array**	45.29	276	P		P	14 32 57.0	-0.8	
KSRS							14 34 38.0		
KSRS				pmax		pmax			
	comp=Z,4.0nm,0.9s								
K28A	**Ten Mile Ranch**	45.30	74	P		P	14 32 57.9	0.0	
	baz=45								
KSAR	**Wonju Array Be**	45.33	276	P		P	14 32 57.0	-1.1	
KSAR							14 34 38.0		
KSAR	**Wonju Array Be**	45.33	276	P		P	14 32 57.0	-1.1	
KSAR				PcP		PcP	14 34 38.0	+0.5	
Q24A	**Divide**	45.38	81	P		P	14 32 59.0	0.0	
	baz=45								
214A	**Organ Pipe Nat**	45.40	94	P		P	14 32 59.4	+0.5	
	baz=45,SNR=8.8								
J29A	**Okreek**	45.49	73	P		P	14 32 59.5	+0.1	
	baz=45,SNR=18								
O26A	**Horse Wrangler**	45.68	78	P		P	14 33 01.1	+0.1	
	baz=46								
I30A	**Oacoma**	45.71	72	P		P	14 33 00.8	-0.3	
	baz=46								
N27A	**Anderson Farm,**	45.79	77	P		P	14 33 01.6	-0.3	
	baz=46								
K29A	**Lazy Trails An**	45.89	73	P		P	14 33 02.8	+0.2	
	baz=46								
SDCO	**Great Sand Dun**	45.95	82	P		P	14 33 04.3	+0.8	
	baz=46,SNR=18								
J30A	**Dallas**	46.02	72	P		P	14 33 03.6	0.0	
	baz=46								
P26A	**Davis Ranch, A**	46.09	79	P		P	14 33 02.4	-1.9	
	baz=46								
M28A	**Bar X Bar Ranc**	46.11	76	P		P	14 33 03.7	-0.7	
	baz=46								
O27A	**Beecher Island**	46.21	78	P		P	14 33 04.4	-0.8	
	baz=46								
L29A	**Maesberg Ranch**	46.22	74	P		P	14 33 04.9	-0.3	
	baz=46								
TJN	**Taejon**	46.34	276	*e*P		P	14 33 06.0	-0.1	
K30A	**Basset**	46.35	73	P		P	14 33 05.7	-0.5	
	baz=46								
Q26A	**Hugo**	46.39	80	P		P	14 33 05.8	-0.9	
	baz=46								
JNU	**Nakatsue**	46.39	270	P		P	14 33 06.9	+0.3	
	comp=Z,18nm,1.0s,baz=23,slow=8.4,SNR=7.7								
P27A	**Ficken Ranch,**	46.55	78	P		P	14 33 07.4	-0.5	
	baz=46								
R26A	**Arlington**	46.83	80	P		P	14 33 11.0	+0.9	
	baz=47,SNR=17								
KSCO	**Kaye Shedlock'**	46.87	79	P		P	14 33 10.6	+0.2	
	baz=47								
T25A	**Trinidad**	47.01	82	P		P	14 33 12.4	+0.8	
	baz=47,SNR=12								
L31A	**Butterfield Fa**	47.11	73	P		P	14 33 12.0	-0.1	
	baz=47								
ANMO	**Albuquerque**	47.22	86	*i* P		P	14 33 11.6	-1.7	
ANMO				pmax		pmax			
	comp=Z,37nm,1.2s								
R27A	**Eads**	47.23	80	P		P	14 33 13.4	+0.1	
	baz=47,SNR=9.5								
O29A	**4D Ranch, Culb**	47.24	77	P		P	14 33 13.0	-0.2	
	baz=47								
S26A	**Kim**	47.26	81	P		P	14 33 14.0	+0.5	
	baz=47,SNR=19								
Q28A	**Sharon Springs**	47.31	78	P		P	14 33 13.9	+0.1	
	baz=47								
ECSD	**EROS Data Cent**	47.44	70	P		P	14 33 14.1	-0.5	
	baz=47,SNR=15								
T26A	**Comanche Natio**	47.48	82	P		P	14 33 15.0	-0.3	
	baz=47,SNR=6.5								
O30A	**MW Ranch, Wils**	47.65	76	P		P	14 33 16.4	0.0	
	baz=47								
EYMN	**Ely**	47.75	63	P		P	14 33 16.8	-0.2	
	baz=48,SNR=16								
R28A	**Tribune**	47.79	79	P		P	14 33 17.2	-0.4	
	baz=48								
Q29A	**Oakley**	47.93	78	P		P	14 33 18.1	-0.5	
	baz=48								
P30A	**Selden**	47.94	77	P		P	14 33 18.6	-0.1	
	baz=48								
L33A	**Hoskins**	48.03	72	P		P	14 33 18.5	-0.8	
	baz=48								
121A	**Cookes Peak, D**	48.06	89	P		P	14 33 20.3	+0.6	
	baz=48,SNR=13								
121A	**Cookes Peak, D**	48.06	89	*e*P		P	14 33 20.4	+0.6	
	comp=Z,20nm,0.8s								
T27A	**Campo**	48.08	81	P		P	14 33 20.0	+0.1	
	baz=48								
R29A	**Marienthal**	48.13	79	P		P	14 33 20.4	+0.2	
	baz=48								
S28A	**Manter**	48.22	80	P		P	14 33 21.1	+0.2	
	baz=48								
N32A	**Stulken Farm,**	48.31	74	P		P	14 33 20.9	-0.6	
	baz=48								
Q30A	**Quinter**	48.32	77	P		P	14 33 21.7	0.0	
	baz=48								
U27A	**Thompson Grove**	48.44	82	P		P	14 33 22.4	-0.2	
	baz=48								
M33A	**Taylor Creek F**	48.45	73	P		P	14 33 22.1	-0.4	
	baz=48								
P31A	**Stockton**	48.47	76	P		P	14 33 21.9	-0.8	
	baz=48								
L34A	**Svendsen Farm,**	48.67	72	P		P	14 33 23.1	-1.1	
	baz=48								
S29A	**Ulysses**	48.67	79	P		P	14 33 23.7	-0.7	
	baz=48								
SPMN	**St. Paul**	48.67	66	P		P	14 33 23.1	-1.1	
	baz=48								
CBKS	**Cedar Bluff**	48.72	77	P		P	14 33 23.9	-0.7	
	baz=48								
R30A	**Dighton**	48.74	78	P		P	14 33 24.1	-0.7	
	baz=48								
N33A	**J Bar K, Exete**	48.83	74	P		P	14 33 24.6	-0.8	
	baz=49								
U28A	**Mallet**	48.83	81	P		P	14 33 25.0	-0.6	
	baz=49								
S30A	**Montezuma**	49.05	79	P		P	14 33 26.4	-0.8	
	baz=49								
O33A	**Hebron**	49.17	75	P		P	14 33 28.0	-0.1	
	baz=49,SNR=9.9								
R31A	**Burdett**	49.18	78	P		P	14 33 27.7	-0.6	
	baz=49								
V28A	**Channing**	49.25	82	P		P	14 33 27.4	-1.4	
	baz=49								
Q32A	**Meitler Ranch,**	49.30	76	P		P	14 33 27.6	-1.4	
	baz=49								
SPITS	**Spitsbergen Ar**	49.35	358	P		P	14 33 29.4	+0.4	
	comp=Z,5.9nm,0.9s,baz=1.9,slow=8.7,SNR=2.6								
SPITS				PcP		PcP	14 34 50.9	-0.3	
	comp=Z,2.4nm,0.5s,baz=98,slow=3.1,SNR=6.3								
T30A	**Plains**	49.40	80	P		P	14 33 29.5	-0.4	
	baz=49								
DAG	**Danmarks Havn**	49.49	8	*i* P		P	14 33 29.1	-0.9	
	comp=Z,10nm,1.1s								
DAG	**Danmarks Havn**	49.49	8	*i* P		P	14 33 29.1	-0.9	
DAG				pmax		pmax			
	comp=Z,13nm,1.1s								
P33A	**Williams Farm,**	49.52	75	P		P	14 33 29.1	-1.7	
	baz=49								
O34A	**Beatrice**	49.62	74	P		P	14 33 31.1	-0.5	
	baz=49								
U30A	**WK&E Inc. Balk**	49.67	80	P		P	14 33 30.8	-1.2	
	baz=50								
Q33A	**Connelly Farm,**	49.72	76	P		P	14 33 31.5	-0.8	
	baz=50								
N35A	**Tabor**	49.80	73	P		P	14 33 32.0	-0.8	
	baz=50								
TLY	**Talaya**	50.09	306	*e*P		P	14 33 33.1	-1.9	
TLY				*e*			14 35 33.1		
TLY				pmax		pmax			
	comp=Z,8.0nm,0.9s								
TLY				MLR		MLR			
	comp=Z,260nm,17.0s								
MSTX	**Muleshoe**	50.12	84	P		P	14 33 34.6	-0.9	
	baz=50								
V30A	**Spur Ranch, Mi**	50.16	81	P		P	14 33 34.9	-0.9	
	baz=50								
P35A	**Duane Minner,**	50.44	74	P		P	14 33 36.7	-1.1	
	baz=50								
Y28A	**McKinney Farm,**	50.48	84	P		P	14 33 37.7	-0.5	
	baz=50								
R34A	**Isabella, Hill**	50.53	76	P		P	14 33 37.9	-0.5	
	baz=50								
BJI	**Beijing**	50.61	287	P		P	14 33 39.0	0.0	
BJI				S		S	14 40 53.0	+0.1	
BJI				PMZ					
	comp=Z,12nm,0.8s								
BJI				PMZ					
	comp=Z,120nm,5.0s								
BJI				LN					
	comp=Z,360nm,17.0s								
BJI				LE					
	comp=Z,360nm,23.3s								
BJI				LZ					
	comp=Z,260nm,22.0s								
V31A	**Spring Creek L**	50.66	80	P		P	14 33 39.0	-0.5	
	baz=50								
U32A	**Winter Ranch,**	50.76	79	P		P	14 33 39.2	-1.0	
	baz=50								
Z28A	**Tucker Farm, M**	50.82	85	P		P	14 33 40.3	-0.5	
	baz=51								
P36A	**Good Intent, A**	50.86	73	P		P	14 33 39.6	-1.3	
	baz=51								
W31A	**Holland Ranch,**	51.00	81	P		P	14 33 41.1	-1.0	
	baz=51								
SONM	**Songino Array**	51.08	301	P		P	14 33 40.5	-2.0	
	comp=Z,0.9nm,0.5s,baz=67,slow=5.7,SNR=5.3								
SONM				PcP		PcP	14 34 58.3	+0.1	
	comp=Z,14nm,0.9s,baz=52,slow=2.0,SNR=21								
ZAK	**Zakamensk**	51.08	305	*e*P		P	14 33 40.7	-1.8	
ZAK				pmax		pmax			
	comp=Z,4.0nm,1.5s								
128A	**Castleberry Fa**	51.22	85	P		P	14 33 44.4	+0.6	
	baz=51,SNR=14								
Z29A	**Hungry Hill Ra**	51.25	84	P		P	14 33 44.2	+0.2	
	baz=51								
X31A	**McDonald Ranch**	51.35	82	P		P	14 33 44.4	-0.3	
	baz=51								
T34A	**McClaskey Farm**	51.41	77	P		P	14 33 44.8	-0.3	
	baz=51,SNR=11								
W32A	**Sentinel**	51.46	81	P		P	14 33 45.4	-0.1	
	baz=51								
S35A	**Otter Creek Ra**	51.48	76	P		P	14 33 44.9	-0.6	
	baz=51,SNR=7.7								
228A	**UT Block 9, Go**	51.51	86	P		P	14 33 45.0	-0.9	
	baz=51								
R36A	**Gordon, Harris**	51.54	75	P		P	14 33 45.4	-0.5	
	baz=51,SNR=12								
V33A	**Lossen Ranch,**	51.56	79	P		P	14 33 45.8	-0.5	
	baz=51								
Z30A	**Sanderson Ranc**	51.58	84	P		P	14 33 46.5	+0.1	
	baz=51,SNR=16								
129A	**Stewart Farms,**	51.59	85	P		P	14 33 46.5	0.0	
	baz=51								
U34A	**Anderson Ranch**	51.60	78	P		P	14 33 45.8	-0.6	
	baz=51								
T35A	**Sooner Cattle**	51.88	77	P		P	14 33 48.1	-0.5	
	baz=52								
S36A	**Lake Cedric, C**	51.89	76	P		P	14 33 48.1	-0.5	
	baz=52								
W33A	**Caddo, Fort Co**	51.91	80	P		P	14 33 48.2	-0.6	
	baz=52								
X32A	**Elmer**	51.92	81	P		P	14 33 48.6	-0.3	
	baz=52								
R37A	**Teagarden Farm**	51.94	74	P		P	14 33 48.3	-0.7	
	baz=52								
V34A	**Guthrie**	52.01	79	P		P	14 33 49.0	-0.6	
	baz=52								
Y32A	**R-V Farms, Ver**	52.11	82	P		P	14 33 49.8	-0.5	
	baz=52								
U35A	**Pawnee**	52.12	78	P		P	14 33 49.9	-0.5	
	baz=52								
Z31A	**Sharp Cattle R**	52.16	83	P		P	14 33 50.4	-0.3	
	baz=52								
130A	**Snyder**	52.16	84	P		P	14 33 50.6	-0.1	
	baz=52								
W34A	**Bridge Creek,**	52.27	79	P		P	14 33 51.0	-0.5	
	baz=52								
X33A	**Lawton**	52.31	81	P		P	14 33 51.6	-0.2	
	baz=52								
S37A	**Fort Scott**	52.31	75	P		P	14 33 51.3	-0.4	
	baz=52,SNR=12								
329A	**Wagon Wheel Ra**	52.32	86	P		P	14 33 51.8	-0.1	
	baz=52								
131A	**Roby**	52.45	84	P		P	14 33 52.8	-0.1	
	baz=52								
V35A	**Meyer Ranch, C**	52.47	78	P		P	14 33 52.7	-0.2	
	baz=52								
230A	**Sterling City**	52.56	85	P		P	14 33 53.6	-0.1	
	baz=52								
Z32A	**Haskell**	52.57	82	P		P	14 33 53.6	-0.1	
	baz=52,SNR=11								
Y33A	**Hilltop Ranch,**	52.60	81	P		P	14 33 53.6	-0.3	
	baz=52								
X34A	**Smith Ranch, M**	52.66	80	P		P	14 33 54.7	+0.3	
	baz=52								
T37A	**Cheneyville 18**	52.69	76	P		P	14 33 53.9	-0.6	
	baz=52,SNR=8.3								
HHC	**Hu-ho-hao-te**	52.74	291	*e*P		P	14 33 56.4	+1.4	
HHC				PP		PP	14 35 56.8	+2.8	
HHC				S		S	14 41 21.6	-0.8	
HHC				sS		sS	14 41 29.3	-0.7	
HHC				ScS		ScS	14 43 42.5	-1.7	
HHC				SS		SS	14 44 58.5	-2.0	
HHC				PMZ					
	comp=Z,20nm,1.1s								
HHC				PMZ					
	comp=Z,120nm,5.3s								
HHC				LN					
	comp=Z,350nm,15.3s								
HHC				LE					
	comp=Z,300nm,16.3s								
HHC				LZ					
	comp=Z,190nm,14.7s								
TXAR	**Lajitas Array**	52.82	89	P		P	14 33 56.3	+0.6	
	comp=Z,18nm,0.7s,baz=299,slow=5.5,SNR=23								
TXAR				PcP		PcP	14 35 05.8	+0.9	
	comp=Z,4.0nm,0.7s,baz=224,slow=1.1,SNR=3.9								
W35A	**Tecumseh**	52.86	79	P		P	14 33 55.2	-0.7	
	baz=53								
330A	**Mertzon**	52.86	85	P		P	14 33 55.3	-0.7	
	baz=53								
ABTX	**Abilene, Hawle**	52.94	83	P		P	14 33 56.2	-0.3	
	baz=53								
429A	**Davenport Ranc**	52.98	87	P		P	14 33 56.8	-0.1	
	baz=53,SNR=8.3								
V36A	**Jenks**	52.98	78	P		P	14 33 55.8	-1.0	
	baz=53								
231A	**Bronte**	53.01	84	P		P	14 33 56.7	-0.4	
	baz=53								
U37A	**Salina**	53.05	76	P		P	14 33 56.4	-0.9	
	baz=53								
529A	**Stev Forest Ra**	53.13	87	P		P	14 33 58.1	+0.1	
	baz=53,SNR=12								
Y34A	**Reagan Ranch,**	53.15	81	P		P	14 33 58.0	0.0	
	baz=53,SNR=8.2								
GUMO	**Guam**	53.19	240	P		P	14 33 56.8	-1.7	
	comp=Z,62nm,0.6s,baz=2.7,slow=8.3,SNR=5.7								
W36A	**Wetumka**	53.26	78	P		P	14 33 58.2	-0.6	
	baz=53								
430A	**Baggett Ranch,**	53.26	86	P		P	14 33 59.1	+0.1	
	baz=53,SNR=16								
X35A	**Drake**	53.32	80	P		P	14 33 59.2	-0.1	
	baz=53								
331A	**San Angelo**	53.39	85	P		P	14 33 58.9	-1.0	
	baz=53								
133A	**Hamilton Ranch**	53.39	83	P		P	14 33 59.9	+0.1	
	baz=53,SNR=10								
V37A	**Hulbert**	53.40	77	P		P	14 33 59.2	-0.6	
	baz=53								
232A	**Coleman**	53.45	84	P		P	14 33 59.5	-0.8	
	baz=53								
U38A	**Gravette**	53.46	76	P		P	14 33 59.0	-1.3	
	baz=53								
Z34A	**Collier Ranch,**	53.46	81	P		P	14 34 00.0	-0.3	
	baz=53								
X36A	**Centrahoma**	53.57	79	P		P	14 34 00.7	-0.4	
	baz=53								
Y35A	**Marietta**	53.62	80	P		P	14 34 01.5	+0.1	
	baz=53								
HDIL	**Hopedale**	53.65	69	P		P	14 34 00.9	-0.6	
	baz=53								
530A	**J-C Ranch, Com**	53.65	87	P		P	14 34 02.0	+0.2	
	baz=54,SNR=21								
SSE	**Sheshan**	53.69	275	P		P	14 34 02.9	+0.9	
SSE				S		S	14 41 34.6	-0.7	
SSE				PMZ					
	comp=Z,39nm,0.7s								
SSE				PMZ					
	comp=Z,160nm,4.5s								
SSE				LN					
	comp=Z,340nm,25.7s								
SSE				LE					
	comp=Z,270nm,25.7s								
SSE				LZ					
	comp=Z,350nm,24.5s								
431A	**Sonora**	53.72	86	P		P	14 34 02.7	+0.4	
	baz=54,SNR=22								
W37A	**Quinton**	53.73	78	P		P	14 34 02.2	-0.1	
	baz=54								
332A	**Millersview**	53.75	84	P		P	14 34 02.4	-0.1	
	baz=54,SNR=7.8								
233A	**Rising Star**	53.81	83	P		P	14 34 02.9	0.0	
	baz=54								
V38A	**Canehill**	53.84	76	P		P	14 34 02.8	-0.3	
	baz=54								
432A	**Menard**	54.08	85	P		P	14 34 04.0	-0.8	
	baz=54								
Y36A	**Durant**	54.08	80	P		P	14 34 04.1	-0.6	
	baz=54								
531A	**Rocksprings**	54.12	86	P		P	14 34 05.2	-0.1	
	baz=54,SNR=8.2								
X37A	**Clayton**	54.15	78	P		P	14 34 05.2	-0.1	
	baz=54,SNR=12								
333A	**Richland Sprin**	54.25	84	P		P	14 34 06.0	-0.1	
	baz=54,SNR=11								
234A	**Clairette**	54.28	83	P		P	14 34 06.2	-0.1	
	baz=54								
W38A	**Poteau**	54.32	77	P		P	14 34 05.7	-0.8	
	baz=54								
135A	**Vickery Place,**	54.33	82	P		P	14 34 06.1	-0.6	
	baz=54								
JCT	**Junction City**	54.35	85	P		P	14 34 06.7	-0.2	
	baz=54,SNR=5.8								
X38A	**Whitesboro**	54.41	78	P		P	14 34 06.5	-0.7	
	baz=54								
Y37A	**Hugo**	54.42	79	P		P	14 34 07.5	+0.2	
	baz=54								
Z36A	**Blue Ridge**	54.42	80	P		P	14 34 07.4	+0.1	
	baz=54								
NJ2	**Nanjing**	54.43	278	*e*P		P	14 34 08.4	+1.0	
NJ2				pP		pP	14 34 11.3	-0.6	
NJ2				sP		sP	14 34 13.0	-0.7	
NJ2				S		S	14 41 46.0	+0.7	
NJ2				sS		sS	14 41 53.0	+0.2	
NJ2				PMZ					
	comp=Z,20nm,0.8s								
NJ2				PMZ					
	comp=Z,300nm,7.0s								
NJ2				LN					
	comp=Z,880nm,27.9s								
NJ2				LE					
	comp=Z,1μm,24.9s								
NJ2				LZ					
	comp=Z,1μm,24.8s								
532A	**Rocksprings**	54.54	85	P		P	14 34 07.7	-0.6	
	baz=54								
433A	**Art**	54.59	84	P		P	14 34 08.5	-0.1	
	baz=54,SNR=11								
631A	**Perdido Creek**	54.64	87	P		P	14 34 08.6	-0.4	
	baz=54,SNR=9.6								
334A	**Lometa**	54.70	83	P		P	14 34 10.1	+0.8	
	baz=54,SNR=16								
WHTX	**Lake Whitney**	54.70	82	P		P	14 34 09.3	-0.1	
	baz=54								
Z37A	**Pogue Cattle C**	54.96	80	P		P	14 34 11.2	0.0	
	baz=55								
SFIN	**Scholer Farm**	55.01	68	P		P	14 34 11.1	-0.4	
	baz=55,SNR=7.7								
434A	**Burnet**	55.04	84	P		P	14 34 12.0	+0.2	
	baz=55,SNR=14								
632A	**Uvalde**	55.05	86	P		P	14 34 11.8	-0.1	
	baz=55								
533A	**Kerrville**	55.11	85	P		P	14 34 12.0	-0.3	
	baz=55								
335A	**Moody**	55.22	83	P		P	14 34 12.9	-0.2	
	baz=55								
MIAR	**Mount Ida**	55.24	77	P		P	14 34 12.9	-0.3	
	baz=55,SNR=7.5								
236A	**Katherine and**	55.26	81	P		P	14 34 12.8	-0.6	
	baz=55								
SCHQ	**Schefferville**	55.26	43	P		P	14 34 12.6	-0.5	
	comp=Z,

baz=56
933A Laredo 56.73 87 P **P** **14 34 24.0 +0.1**
baz=57
438A Sam Houston St 56.78 82 P **P** **14 34 24.3 +0.1**
baz=57
ZALV Zalesovo Beam 57.14 317 P **P** **14 34 26.1 -0.4**
comp=Z,0.7nm,0.4s,baz=47,slow=6.3,SNR=3.8
ZALV PcP **PcP** **14 35 21.5 +0.4**
comp=Z,1.5nm,0.5s,baz=43,slow=3.3,SNR=4.3
934A Benavides 57.20 87 P **P** **14 34 28.0 +0.7**
baz=57
034A Hebbronville 57.49 87 P **P** **14 34 29.4 +0.1**
baz=57
ARCES ARCESS Array B 57.60 354 P **P** **14 34 29.8 +0.2**
comp=Z,1.2nm,0.5s,baz=22,slow=9.9,SNR=6.4
ARCES PcP **PcP** **14 35 22.7 0.0**
comp=Z,3.3nm,0.6s,baz=28,slow=5.5,SNR=6.2
737A Port Lavaca 57.62 84 P **P** **14 34 30.2 0.0**
baz=57
WHN Wuhan 58.21 280 P P 14 34 40.8 +6.5
WHN LZ
comp=Z,780nm,20.4s
SWET Sewanee 59.25 71 *e*P **P** **14 34 40.0 -1.5**
comp=Z,5.5nm,0.7s
GTA Gaotai 60.27 297 *e*P **P** **14 34 48.8 +0.1**
GTA pP **pP** **14 34 53.1 -0.2**
GTA sP **sP** **14 34 56.1 +1.0**
GTA PMZ
comp=Z,5.0nm,1.0s
LZH Lanzhou 60.40 292 *e*P **P** **14 34 50.3 +0.6**
LZH pP **pP** **14 34 53.8 -0.5**
LZH sP **sP** **14 34 56.4 +0.4**
LZH PcP **PcP** **14 35 35.1 +0.6**
LZH PP **PP** **14 37 05.3 +2.8**
LZH *e*S **S** **14 43 03.6 -0.5**
LZH sS **sS** **14 43 11.3 -0.4**
LZH SS **SS** **14 46 59.0 -2.3**
LZH PMZ
comp=Z,19nm,1.1s
LZH PMZ
comp=Z,52nm,4.1s
LZH LN
comp=Z,390nm,13.2s
LZH LE
comp=Z,240nm,14.5s
LZH LZ
comp=Z,400nm,15.7s
BLA Blacksburg 60.95 66 *e*P **P** **14 34 52.5 -0.7**
BLA pmax pmax
comp=Z,33nm,0.9s
BLA Blacksburg 60.95 66 *e*P **P** **14 34 52.5 -0.7**
comp=Z,33nm,0.9s
GOGA Godfrey 61.96 71 *e*P **P** **14 34 58.5 -1.6**
GOGA pmax pmax
comp=Z,10.0nm,0.9s
GOGA Godfrey 61.96 71 *e*P **P** **14 34 58.5 -1.6**
comp=Z,10.0nm,0.9s
KURK Kurchatov 62.09 318 P **P** **14 34 59.4 -1.2**
comp=Z,49nm,0.8s,SNR=5.2
KURK Kurchatov 62.09 318 *e*P **P** **14 34 59.1 -1.5**
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURK Kurchatov 62.09 318 *e*P **P** **14 34 59.1 -1.5**
comp=Z,5.8nm,0.8s
PRGR Permogore 62.66 342 P **P** **14 35 02.5 -1.8**
PRGR pmax pmax
comp=Z,5.0nm,0.6s
WMQ Urumqi 63.28 308 P **P** **14 35 11.5 +2.7**
WMQ pP **pP** **14 35 14.1 +0.7**
WMQ sP **sP** **14 35 20.0 +4.8**
WMQ PcP **PcP** **14 35 48.3 +2.4**
WMQ S **S** **14 43 41.5 +1.4**
WMQ PMZ
comp=Z,11nm,0.8s
WMQ PMZ
comp=Z,96nm,3.8s
WMQ LN
comp=Z,330nm,14.6s
WMQ LE
comp=Z,220nm,19.5s
WMQ LZ
comp=Z,230nm,20.8s
SVE Sverdlovsk 63.38 332 *e*P **P** **14 35 09.0 -0.1**
BRVK Borovoye 63.41 324 *e*P **P** **14 35 08.7 -0.7**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BRVK Borovoye 63.41 324 *e*P **P** **14 35 08.5 -0.9**
comp=Z,7.0nm,0.9s
MKAR Makanchi Array 63.53 313 P **P** **14 35 10.2 -0.2**
comp=Z,0.9nm,0.7s,baz=46,slow=5.2,SNR=4.4
CD2 Chengdu 64.20 288 P **P** **14 35 14.8 -0.2**
CD2 pP **pP** **14 35 18.0 -1.7**
CD2 PP **PP** **14 37 35.4 -0.5**
CD2 S **S** **14 43 51.8 -0.1**
CD2 sS **sS** **14 43 57.3 -2.2**
CD2 SS **SS** **14 48 01.8 +1.1**
CD2 PMZ
comp=Z,20nm,0.7s
CD2 PMZ
comp=Z,120nm,8.4s
CD2 LN
comp=Z,280nm,9.3s
CD2 LZ
comp=Z,250nm,18.1s
ARU Arti 64.31 333*c i*P **P** **14 35 13.9 -1.3**
ARU 14 35 47.9
ARU 14 37 33.1
ARU S **S** **14 43 50.2 -2.1**
ARU pmax pmax
comp=Z,13nm,1.7s
FINES FINESS Array B 65.55 352 P **P** **14 35 22.8 -0.5**
comp=Z,2.5nm,0.7s,baz=34,slow=5.2,SNR=6.3
GYA Guiyang 65.79 282 P **P** **14 35 27.3 +1.8**
GYA PcP **PcP** **14 35 58.3 +1.7**
GYA PP **PP** **14 37 53.0 +3.0**
GYA ScP 14 40 01.4
GYA S **S** **14 44 11.5 -0.1**
GYA SKS **SKSac** **14 45 19.8 -1.1**
GYA SS **SS** **14 48 27.6 +1.9**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,5.6s
GYA LN
comp=Z,560nm,18.7s
GYA LE
comp=Z,490nm,19.0s
GYA LZ
comp=Z,530nm,18.9s
TAOE Nuku Hiva Isla 66.22 148 *e*T T 15 47 21.2
comp=Z,153nm,0.2s
TGY Tagaytay City 66.53 262 P **P** **14 35 31.4 +1.1**
comp=Z,93nm,0.4s,baz=64,slow=21,SNR=6.7
NB2 NORSAR Subarra 66.63 360 P **P** **14 35 30.4 +0.2**
comp=Z,1.1nm,0.6s,baz=1.3,slow=6.2
NOA NORSAR Array B 66.63 360 P **P** **14 35 30.4 +0.2**
comp=Z,1.6nm,0.7s,baz=360,slow=6.2,SNR=5.4
KMI Kunming 69.12 284 P **P** **14 35 48.8 +2.1**
KMI PMZ
comp=Z,7.0nm,0.8s
GENI Genyem 69.36 235 P **P** **14 35 48.3 +0.4**
comp=Z,55nm,0.9s
SMPI Sarmi 69.58 237 P **P** **14 35 48.6 -0.7**
comp=Z,69nm,1.3s
AKTO Aktyubinsk 69.70 330 LR LR 15 10 08.8
comp=Z,177nm,18.4s,baz=37,slow=39
PMOR Pomariorio Ree 69.94 158 *e*T T 15 52 09.5
comp=Z,16nm,0.2s
FRU Bishkek 70.01 315 *e*P P 14 35 48.0 -3.7
PPT2 Papeete2 72.08 160 *e*LR LR 14 57 32.0
comp=Z,158nm,29.8s
TIAR Tiarei 72.10 160 *e*T T 15 54 46.9
comp=Z,5.3nm,0.2s
PAE Paea 72.15 160 *e*T T 15 54 44.3
comp=Z,1.5nm,0.3s
SWI Sorong 72.58 244 P **P** **14 36 07.4 -0.1**
comp=Z,119nm,1.1s,comp=Z,1μm
SIJI Sorong 72.58 244 P **P** **14 36 07.6 +0.1**
comp=Z,79nm,0.8s,baz=33,slow=6.3,SNR=38
TNTI Ternate 73.40 249 P **P** **14 36 12.0 -0.4**
comp=Z,61nm,1.3s
FAKI Fak Fak 73.75 242 P **P** **14 36 14.7 +0.2**
comp=Z,72nm,1.5s
CRAI Chiangrai 74.26 283 P **P** **14 36 15.7 -1.7**
comp=Z,152nm,0.8s,comp=Z,16μm
LBMI Labuha 74.48 248 P **P** **14 36 18.2 -0.5**
comp=Z,48nm,1.1s,comp=Z,591nm
SKNT Sakolnakorn 74.60 278 P **P** **14 36 19.9 +0.4**
comp=Z,31nm,1.1s
UBPT Khong Chiam 75.01 276 P **P** **14 36 22.1 +0.3**
comp=Z,43nm,1.0s,comp=Z,582nm
KMSI Cibinong 75.50 251 P **P** **14 36 24.7 +0.1**
comp=Z,208nm,0.9s
AKASG Malin Array Be 75.78 348 P **P** **14 36 23.9 -1.8**
comp=Z,0.8nm,0.4s,baz=10,slow=5.5,SNR=8.1
BNDI Bandanaira 76.36 243 P **P** **14 36 28.2 -1.3**
comp=Z,299nm,1.3s
CLL Collm 76.36 358 *e*P **P** **14 36 28.0 -1.0**
CLL pmax pmax
comp=Z,11nm,1.6s
CLL Collm 76.36 358 *e*P **P** **14 36 28.0 -1.0**
comp=Z,11nm,1.6s
CLL Lm MLR 15 17 00.0
comp=Z,100nm,18.9s
CM31 Chiang Mai Arr 76.47 283 *e*P **P** **14 36 30.2 0.0**
CMAR Chiang Mai Arr 76.47 283 P **P** **14 36 29.8 -0.4**
comp=Z,4.3nm,0.8s,baz=28,slow=7.4,SNR=10
SANI Sanana 76.49 248 P **P** **14 36 29.9 -0.3**
comp=Z,139nm,0.8s,comp=Z,1μm
CHAI Chaiyaphum 76.64 279 P **P** **14 36 32.3 +1.2**
comp=Z,4.3nm,1.0s
PBKT Sadao Pong 76.73 280 P **P** **14 36 32.8 +1.2**
comp=Z,9.3nm,1.5s
MRSI Marisa 76.76 253 P **P** **14 36 30.7 -1.1**
comp=Z,63nm,1.2s,comp=Z,759nm
BRG Berggiesshubel 76.78 358 *e*P **P** **14 36 30.2 -1.2**
comp=Z,13nm,1.7s
BRG Berggiesshubel 76.78 358 *e*P **P** **14 36 30.2 -1.2**
BRG pmax pmax
comp=Z,13nm,1.7s
UPC Upice 77.08 356 *e*P **P** **14 36 32.8 -0.3**
UPC *ex* x 14 36 40.9
UPC *ex* x 14 36 48.9
UPC AMS AMS 15 18 50.0
comp=Z,100nm,16.0s
UPC Upice 77.08 356 *e*P **P** **14 36 32.8 -0.3**
UPC *e* 14 36 40.9
UPC MLR MLR
comp=Z,100nm,16.0s
DPC Dobruska-Polom 77.22 356 *e*P **P** **14 36 34.0 0.0**
DPC *ex* x 14 36 40.2
DPC *ex* x 14 36 41.9
DPC *ex* x 14 36 49.9
DPC AMS AMS 15 19 00.0
comp=Z,200nm,18.6s
DPC Dobruska-Polom 77.22 356 *e*P **P** **14 36 34.0 0.0**
DPC *e* 14 36 40.2
DPC *e* 14 36 41.9
DPC MLR MLR
comp=Z,200nm,18.6s
DZM Mont Dzumac 77.33 203 P **P** **14 36 36.1 +1.3**
comp=Z,8.6nm,0.8s,baz=1.4,slow=11,SNR=4.2
NKC Novy Kostel 77.45 359 *e*P **P** **14 36 34.9 -0.3**
NKC Novy Kostel 77.45 359 *e*P **P** **14 36 34.9 -0.3**
KRLC Kraliky 77.48 356 *e*P **P** **14 36 35.3 -0.1**
KRLC *e*pP **pP** **14 36 40.4 +0.2**
KRLC *ex* x 14 36 42.5
KRLC *ex* x 14 36 51.3
KRLC Kraliky 77.48 356 *e*P **P** **14 36 35.3 -0.1**
KRLC *e* 14 36 40.4
KRLC *e* 14 36 42.5
LUWI Luwuk 77.51 251 P **P** **14 36 34.3 -1.7**
comp=Z,215nm,0.8s,comp=Z,2μm
LUWI Luwuk 77.51 251 *e*P **P** **14 36 34.2 -1.7**
comp=Z,108nm,0.6s
PRA Prague 77.57 357 *e*P **P** **14 36 35.8 0.0**
PRA Prague 77.57 357 *e*P **P** **14 36 35.8 0.0**
PRU Pruhonice 77.65 357 AMS AMS 15 18 40.0
comp=Z,200nm,15.1s
OKC Ostrava-Krasne 77.65 355 *e*P **P** **14 36 35.6 -0.7**
OKC AMS AMS 15 23 20.0
OKC Ostrava-Krasne 77.65 355 *e*P **P** **14 36 35.6 -0.7**
TBI Tubuai 77.70 161 *e*T T 16 01 47.8
comp=Z,24nm,0.3s
GOPC GO Pecny, Ondr 77.72 357 *e*P **P** **14 36 36.5 -0.2**
GOPC AMS AMS 15 21 20.0
comp=Z,100nm,19.6s
APSI Ampana 78.05 252 P **P** **14 36 38.1 -0.9**
comp=Z,57nm,1.1s
MPSI Mapaga 78.07 255 P **P** **14 36 38.6 -0.5**
comp=Z,73nm,0.9s,comp=Z,927nm
NAYO Nakonayok 78.27 278 P **P** **14 36 41.6 +1.4**
comp=Z,227nm,1.0s
TREC Trest 78.31 357 *e*P **P** **14 36 39.9 -0.1**
TREC AMS AMS 15 23 00.0
comp=Z,100nm,18.2s
TREC Trest 78.31 357 *e*P **P** **14 36 39.9 -0.1**
TREC MLR MLR
comp=Z,100nm,18.2s
UTHA Uthaitani 78.43 280 P P 14 36 44.6 +3.5
comp=Z,3.6nm,1.1s
SAUI Saumlaki 78.51 240 P **P** **14 36 39.2 -2.3**
comp=Z,499nm,1.1s
GERES GERESS Array B 78.81 358 P **P** **14 36 42.4 -0.6**
comp=Z,1.4nm,0.8s,baz=15,slow=5.5,SNR=7.8
PCI Palu 79.10 254 P **P** **14 36 43.6 -1.2**
comp=Z,105nm,1.1s,comp=Z,968nm
SDDR Presa de Saban 79.96 72 *e*P **P** **14 36 49.8 +0.2**
comp=Z,12nm,0.7s
KDI Kendari 79.97 250 P **P** **14 36 49.8 +0.3**
comp=Z,49nm,1.2s
KBZ Khabaz 79.99 337 P **P** **14 36 49.5 +0.3**
comp=Z,2.6nm,0.8s,baz=320,slow=4.9,SNR=4.3
KBA Koelnbreinsper 80.59 358 *i*P **P** **14 36 52.9 +0.2**
comp=Z,16nm,0.9s
FETA Feichten 80.67 360 *i*P **P** **14 36 53.6 +0.4**
comp=Z,9.1nm,1.0s
GEYT Alibeck 80.73 324 P **P** **14 36 53.0 -0.5**
comp=Z,5.0nm,0.9s,baz=316,slow=6.2,SNR=8.5
TTSI Tana Toraja 80.84 253 P **P** **14 36 54.2 0.0**
comp=Z,66nm,1.2s,comp=Z,668nm
ABTA Abfaltersbach 80.93 359 *i*P **P** **14 36 54.6 +0.1**
comp=Z,8.8nm,1.1s
SOKA Soboth 80.94 357 *i*P **P** **14 36 54.4 0.0**
comp=Z,19nm,1.5s
RKT Rikitea 81.25 148 *e*T T 16 06 12.7
comp=Z,6.5nm,0.3s
SPSI Sidrap Palu 81.61 252 P **P** **14 36 57.4 -0.9**
comp=Z,30nm,0.9s
CTA Charters Tower 82.01 221 P **P** **14 37 00.2 0.0**
comp=Z,13nm,0.7s,baz=34,slow=8.2,SNR=19
KAPI Kappang 82.47 252 *e*P **P** **14 37 03.3 +0.5**
comp=Z,21nm,0.7s
BKSI Bulukumba 82.51 251 P **P** **14 37 02.4 -0.6**
comp=Z,91nm,1.0s,comp=Z,784nm
BSSI Bau Bau, Buton 82.96 250 P **P** **14 37 03.3 -2.0**
comp=Z,67nm,1.4s
STKI Sintang 83.30 261 P **P** **14 37 07.2 +0.1**
comp=Z,43nm,1.5s,comp=Z,7μm
SURA Surathani 83.32 276 P **P** **14 37 09.0 +1.8**
comp=Z,28nm,1.1s
SOEI Soe 83.79 245 P **P** **14 37 08.6 -1.1**
comp=Z,98nm,0.8s
SOEI Soe 83.79 245 *e*P **P** **14 37 08.9 -0.8**
comp=Z,63nm,0.7s
MMRI Maumere 84.00 247 P **P** **14 37 09.4 -1.3**
comp=Z,67nm,1.0s
SKLT Songkhla 84.29 274 P **P** **14 37 13.1 +0.9**
comp=Z,61nm,1.2s,comp=Z,695nm
KRAB Krabi 84.32 276 P **P** **14 37 13.7 +1.3**
comp=Z,35nm,0.9s
TRTT Trang 84.33 275 P **P** **14 37 13.5 +1.1**
comp=Z,36nm,1.1s
BATI Baumata 84.49 245 P **P** **14 37 11.6 -1.6**
comp=Z,105nm,0.7s
PBKI Pangkalan Bun 85.38 259 P **P** **14 37 17.5 -0.2**
comp=Z,56nm,1.1s
KULM Kulin 85.75 273 *e*P **P** **14 37 20.1 +0.5**
comp=Z,75nm,1.3s
BRTR Keskin Array B 85.80 342 P **P** **14 37 19.5 -0.2**
comp=Z,0.9nm,0.6s,baz=0.0,slow=1.4,SNR=5.3
BRTR PKKPbc **PKKPbc** **14 55 19.1 +0.4**
comp=Z,0.9nm,0.8s,baz=175,slow=5.8,SNR=4.0
BRTR LR LR 15 19 33.5
comp=Z,51nm,20.4s,baz=346,slow=38
WSI Waingapu 85.94 248 P **P** **14 37 18.3 -2.1**
comp=Z,266nm,1.0s
IPM Ipoh 86.16 272 *e*P **P** **14 37 21.8 +0.2**
comp=Z,118nm,1.4s
TPRI Tanjung Pinang 86.83 267 P **P** **14 37 24.9 0.0**
comp=Z,66nm,1.2s
WRA Warramunga Arr 87.14 231 P **P** **14 37 25.5 -0.6**
comp=Z,13nm,0.8s,baz=33,slow=5.9,SNR=65
ESDC Sonseca Array 87.16 11 P **P** **14 37 25.9 -0.4**
comp=Z,3.0nm,0.6s,baz=353,slow=4.9,SNR=14
BWJI Bawean 87.30 257 P **P** **14 37 26.2 -0.9**
comp=Z,104nm,1.4s
KMMI Kalianget 87.48 255 P **P** **14 37 26.5 -1.4**
comp=Z,82nm,2.0s
TPI Tanjungpandan 87.84 263 P **P** **14 37 29.0 -0.7**
comp=Z,29nm,1.3s
DSRI Dabo 87.90 266 P **P** **14 37 29.5 -0.5**
comp=Z,2μm,0.9s,comp=Z,83μmcomp=Z,466μm
IGBI Denpasar 88.21 253 P **P** **14 37 30.0 -1.4**
comp=Z,117nm,1.3s
SDV Santo Domingo 88.33 78 *e*P **P** **14 37 32.2 -0.2**
comp=Z,12nm,0.9s
UWJI Ujung Watu 88.77 258 P **P** **14 37 31.9 -2.2**
comp=Z,74nm,1.4s
NGJI Ngawi 89.22 257 P **P** **14 37 34.3 -1.9**
comp=Z,71nm,1.6s
ROSC El Rosal 89.31 83 P **P** **14 37 38.3 +1.2**
comp=Z,5.8nm,0.4s,baz=11,slow=6.2,SNR=3.7
ROSC LR LR 15 20 42.8
comp=Z,37nm,18.5s,baz=18,slow=38
JMBI JAMBI 89.38 267 P **P** **14 37 36.1 -0.9**
comp=Z,481nm,0.3s
BKNI Bangkinang 89.42 270 P **P** **14 37 37.8 +0.6**
comp=Z,162nm,1.1s,comp=Z,2μm
BKNI Bangkinang 89.42 270 *e*P **P** **14 37 38.0 +0.8**
comp=Z,83nm,0.7s
OTAV Otavalo 90.45 89 *e*P **P** **14 37 43.4 +0.8**
comp=Z,8.0nm,0.8s
AS31 Alice Springs 90.54 230 *e*P **P** **14 37 42.0 -0.1**
ASAR Alice Springs 90.54 230 P **P** **14 37 42.3 +0.2**
comp=Z,22nm,0.8s,baz=32,slow=4.7,SNR=109
ASAR PKiKP **PKiKP** **14 42 35.9 -0.9**
comp=Z,0.3nm,0.6s,baz=43,slow=1.4,SNR=7.6
GSI Gunungsitoli 90.76 273 P **P** **14 37 44.0 +0.5**
comp=Z,41nm,1.0s
GSI Gunungsitoli 90.76 273 *e*P **P** **14 37 45.0 +1.5**
comp=Z,27nm,0.8s
KLSI 91.13 264 P **P** **14 37 42.9 -2.2**
STKA Stephens Creek 94.39 220 P **P** **14 38 00.1 +0.4**
comp=Z,4.4nm,0.7s,baz=359,slow=5.0,SNR=11
TORD Torodi Ar. Bea 114.00 9 PKiKP **PKiKP** **14 43 18.6 -0.9**
comp=Z,0.5nm,0.5s,baz=347,slow=3.0,SNR=7.5
TORD PKKPbc **PKKPbc** **14 53 58.2 -0.5**
comp=Z,0.3nm,0.6s,baz=190,slow=2.4,SNR=4.5
TORD PKKPab **PKKPab** **14 54 06.5 -3.6**
comp=Z,6.7nm,0.8s,baz=175,slow=3.9,SNR=27
DBIC Dimbokro 119.45 18 PKP **PKPdf** **14 43 29.4 -0.6**
comp=Z,2.9nm,0.9s,baz=6.5,slow=5.1,SNR=4.5
CPUP Villa Florida 123.79 90 PKP **PKPdf** **14 43 37.6 -0.2**
comp=Z,2.4nm,1.0s,baz=356,slow=1.8,SNR=4.6
KMBO Kilima Mbogo 123.99 327 PKP **PKPdf** **14 43 40.0 +1.0**
comp=Z,3.5nm,0.7s,baz=37,slow=4.0,SNR=7.7
KMBO Kilima Mbogo 123.99 327 PKiKP **PKPdf** **14 43 40.0 +1.0**
KMBO pmax pmax
comp=Z,4.0nm,0.7s
KMBO Kilima Mbogo 123.99 327 *e*PKPdf **PKPdf** **14 43 39.2 +0.1**
KMBO PKP **PKPdf** **14 43 40.0 +1.0**
VNDA Vanda 131.16 188 PKP **PKPdf** **14 43 50.3 -0.1**
comp=Z,0.6nm,0.6s,baz=311,slow=5.1,SNR=4.1
VNDA SKPbc **SKPbc** **14 47 14.4 +0.1**
comp=Z,0.8nm,0.8s,baz=320,slow=3.9,SNR=3.7
TSUM Tsumeb 146.13 348 *e*PKPdf **PKPbc** **14 44 20.4 -0.1**
LBTB Lobatse 150.10 332 *e*PKiKP **PKPbc** **14 44 31.3 +0.4**
LBTB Lobatse 150.10 332 *e*PKPbc **PKPbc** **14 44 31.3 +0.4**
MAW Mawson 151.07 219 PKPbc **PKPbc** **14 44 32.1 +0.4**
comp=Z,19nm,0.7s,baz=118,slow=3.0,SNR=49
MAW PKPab **PKPab** **14 44 39.7 +0.1**
comp=Z,11nm,0.7s,baz=118,slow=9.2,SNR=8.1
MAW Mawson 151.07 219 PKiKP **PKPbc** **14 44 32.1 +0.4**
MAW 14 44 39.7
MAW pmax pmax
comp=Z,19nm,0.7s
MAW Mawson 151.07 219 *e*PKPbc **PKPbc** **14 44 31.6 -0.1**
MAW *e*PKPab **PKPab** **14 44 39.6 +0.1**
BOSA Boshof 153.59 330 PKPbc **PKPbc** **14 44 38.6 -0.2**
comp=Z,16nm,0.9s,baz=47,slow=2.9,SNR=14
BOSA Boshof 153.59 330 PKiKP **PKPbc** **14 44 38.6 -0.2**
BOSA pmax pmax
comp=Z,16nm,0.9s
BOSA Boshof 153.59 330 *e*PKPbc **PKPbc** **14 44 38.2 -0.6**
SYO Syowa Base 158.71 209 *e*P **PKPab** **14 45 13.0 +1.0**
VNA2 Neumayer--Watz 160.00 163 PKPab **PKPab** **14 45 17.5 -0.2**
baz=222,slow=3.7
VNA2 Neumayer--Watz 160.00 163 PKPdf **PKPdf** **14 44 35.5 -2.4**
baz=243,slow=0.6
VNA1 Neumayer--Stat 160.07 162 PKPab **PKPab** **14 45 17.6 -0.3**

IDC 19 14:26:23.4±2.3, 6.05S×150.53E, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.7/37, mbtmp4.2/4, ML2.2/1, Error ellipse: s-maj=67.7km s-min=35.1km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.72**	**225**	Pn	Pn	14 27 38.1	+2.2
	7.2nm,0.3s,baz=47,slow=10,SNR=25						
PMG				Sn	Sn	14 28 29.6	-1.7
	11nm,0.3s,baz=79,slow=17,SNR=8.0						
PMG	**Port Moresby**	**4.72**	**225**	P	Pn	14 27 38.5	+2.7
	baz=5.5,SNR=16						
PMG				P	Pn	14 27 38.5	+2.7
	baz=5.5,SNR=16						
WRA	**Warramunga Arr**	**20.93**	**227**	P	P	14 31 07.9	0.0
	4.2nm,0.5s,baz=51,slow=11,SNR=53						
ASAR	**Alice Springs**	**23.72**	**221**	P	P	14 31 37.5	+0.2
	1.6nm,0.4s,baz=54,slow=9.2,SNR=59						
STKA	**Stephens Creek**	**27.02**	**197**	P	P	14 32 06.3	-1.0
	3.2nm,0.8s,baz=0.0,slow=11,SNR=12						
TORD	**Torodi Ar. Bea**	**148.50**	**285**	PKPbc	PKPbc	14 46 12.9	-0.4
	0.7nm,0.8s,baz=94,slow=3.2,SNR=4.6						

NEIC 19 14:28:33.8, 52.77N×169.28W, h3km, ML3.6(AEIC), **After AEIC., Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.33**	**52**	P	Pb	14 28 41.8	-0.5
NIKH				S	Sb	14 28 47.9	-0.2
OKCE	**Okmok Cone E**	**0.94**	**45**	P	Pg	14 28 52.1	+0.3
OKCE				S	Sn	14 29 08.0	0.0
OKRE	**Okmok R'deer P**	**1.01**	**42**	P	Pb	14 28 53.9	0.0
MSOM	**Makushin Julie**	**1.75**	**52**	P	Pn	14 29 05.1	+0.1
MSOM				S	Sb	14 29 28.6	-0.2
MTBL	**Makushin Table**	**1.97**	**51**	P	Pn	14 29 08.0	-0.1
UNV	**Unalaska Valle**	**1.99**	**56**	P	Pn	14 29 08.2	0.0
UNV				S	Sb	14 29 34.8	-0.9

IDC 19 14:35:51.5±1.7, 52.39N×169.52W, h0km, mb3.6/5, mb1 4.0/6, mb1mx3.5/38, mbtmp3.6/6, ML3.3/1, Error ellipse: s-maj=50.8km s-min=28.6km az=141.0

ISC 19 14:35:56.4±1.6, 52.9N±0.3×169.8W±0.3, h40km, n12, σ1°72/6, mb3.7/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILAR	**Eielson Array**	**16.68**	**35**	Pn	P	**14 39 48.0**	**-0.8**
	0.1nm,0.3s,baz=228,slow=13,SNR=3.8						
DLBC	**Dease Lake**	**22.84**	**60**	P	P	**14 40 58.2**	**+2.4**
	2.3nm,0.8s,baz=268,slow=7.9,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**37.70**	**218**	T	T	15 22 58.0	
	baz=22						
H11N3	**WAKE ISLAND Hy**	**37.71**	**218**	T	T	15 22 58.7	
	baz=22						
H11N1	**WAKE ISLAND Hy**	**37.72**	**218**	T	T	15 23 01.3	
	baz=22						
NVAR	**Mina Array Bea**	**37.91**	**91**	P	P	**14 43 09.7**	**-0.2**
	0.2nm,0.5s,baz=272,slow=10,SNR=2.5						
H11S1	**WAKE ISLAND Hy**	**38.90**	**217**	T	T	15 24 31.9	
	baz=22,slow=76,SNR=9.8						
H11S2	**WAKE ISLAND Hy**	**38.91**	**217**	T	T	15 24 34.2	
	baz=22,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**38.91**	**217**	T	T	15 24 34.4	
	baz=22,slow=76,SNR=9.2						
PDAR	**Pinedale Array**	**40.55**	**79**	P	P	**14 43 30.3**	**-1.6**
	0.6nm,0.7s,baz=323,slow=7.3,SNR=4.3						
TXAR	**Lajitas Array**	**52.98**	**89**	P	P	**14 45 08.8**	**-0.2**
	0.8nm,0.7s,baz=291,slow=5.6,SNR=8.7						
ASAR	**Alice Springs**	**90.54**	**230**	P	P	**14 48 54.2**	**+0.3**
	0.8nm,0.9s,baz=32,slow=4.9,SNR=5.9						

*IDC **19** 14:44:43.4±1.7,52˚.50N×169˚.58W,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.4/50,mbtmp3.5/4,ML3.3/1,Error ellipse: s-maj=60.7km s-min=30.7km az=143.0*
*ISCJB **19** 14:44:44.6±0.8,52˚.43N±0˚.07×169˚.1W±0˚.1,h10km, mb3.7/3,Error ellipse: s-maj=13.7km s-min=6.7km az=34.9*
*NEIC **19** 14:44:46.6,52˚.65N×169˚.22W,h5km,ML2.9(AEIC),After AEIC.*

ISC 19 14:44:46.1±1.0,52˚.6N±0˚.1×169˚.12W±0˚.09,h10km,n20, σ1°01/16,mb3.8/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.43**	**22**	P	**Pb**	**14 44 55.2**	**-0.7**
NIKH				S	**Sb**	**14 45 03.6**	**+1.1**
OKSP	**Okmok Steeple**	**0.85**	**36**	P	**Pb**	**14 45 02.8**	**-0.1**
OKSP				S	**Sn**	**14 45 16.2**	**-0.4**
OKCE	**Okmok Cone E**	**1.03**	**34**	P	**Pg**	**14 45 05.6**	**-0.4**
OKTU	**Okmok Mt. Tuli**	**1.04**	**38**	P	**Pb**	**14 45 06.7**	**+0.4**
MSOM	**Makushin Julie**	**1.81**	**45**	P	**Pn**	**14 45 16.9**	**-0.4**
MSOM				S	**Sb**	**14 45 42.2**	**+0.3**
MSW	**Makushin Switc**	**1.95**	**45**	P	**Pn**	**14 45 20.1**	**+0.9**
UNV	**Unalaska Valle**	**2.03**	**50**	P	**Pn**	**14 45 20.3**	**0.0**
UNV				S	**Sn**	**14 45 46.8**	**+1.2**
ATKA	**Atka Island**	**3.13**	**265**	P	**Pn**	**14 45 36.6**	**+1.2**
ILAR	**Eielson Array**	**16.70**	**34**	Pn	**Pn**	**14 48 39.1**	**-0.8**
	0.0nm,0.3s,baz=229,slow=9.8,SNR=4.2						
H02N1	**VAN INLET T-PH**	**21.92**	**74**	T	T	15 12 31.3	
H02S1	**DAWSON INLET T**	**21.97**	**74**	T	T	15 12 35.0	
H11N2	**WAKE ISLAND Hy**	**37.71**	**219**	T	T	15 31 52.0	
	baz=24,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**37.71**	**219**	T	T	15 31 51.8	
	baz=24,slow=76,SNR=18						
H11N1	**WAKE ISLAND Hy**	**37.72**	**219**	T	T	15 31 52.9	
	baz=24,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy**	**38.89**	**218**	T	T	15 33 21.0	
	baz=22,slow=76,SNR=219						
H11S2	**WAKE ISLAND Hy**	**38.91**	**218**	T	T	15 33 21.7	
	baz=22,slow=76,SNR=44						
H11S3	**WAKE ISLAND Hy**	**38.91**	**218**	T	T	15 33 22.2	
	baz=22,slow=76,SNR=91						
PDAR	**Pinedale Array**	**40.22**	**80**	P	**P**	**14 52 23.7**	**+0.9**
	0.4nm,0.6s,baz=334,slow=5.4,SNR=4.1						
TXAR	**Lajitas Array**	**52.59**	**89**	P	**P**	**14 54 00.9**	**+0.9**
	0.8nm,0.6s,baz=300,slow=5.1,SNR=12						
ASAR	**Alice Springs**	**90.64**	**230**	P	**P**	**14 57 46.3**	**-2.3**
	0.5nm,0.7s,baz=20,slow=4.5,SNR=7.1						

*IDC **19** 14:57:23.7±1.6,52˚.51N×170˚.71W,h0km,mb3.6/4, mb1 3.9/5,mb1mx3.4/58,mbtmp3.5/5,ML3.4/1,Error ellipse: s-maj=57.9km s-min=28.1km az=138.0*
*ISCJB **19** 14:57:30.0±0.8,52˚.52N±0˚.08×169˚.2W±0˚.1,h10km, mb3.4/3,Error ellipse: s-maj=13.9km s-min=7.0km az=44.8*
*NEIC **19** 14:57:31.9,52˚.66N×169˚.29W,h10km,ML3.4(AEIC),After AEIC.*

ISC 19 14:57:31.6±1.1,52˚.6N±0˚.1×169˚.25W±0˚.08,h10km,n26, σ0°66/22,mb3.4/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.43**	**34**	P	**Pb**	**14 57 41.0**	**-0.3**
NIKH				S	**Sb**	**14 57 48.1**	**+0.3**
OKSP	**Okmok Steeple**	**0.86**	**42**	P	**Pb**	**14 57 48.5**	**-0.2**
OKSP				S	**Sb**	**14 58 00.3**	**0.0**
OKCE	**Okmok Cone E**	**1.04**	**38**	P	**Pg**	**14 57 51.0**	**-0.6**
MSOM	**Makushin Julie**	**1.83**	**48**	P	**Pn**	**14 58 02.4**	**-0.7**
MSOM				S	**Sn**	**14 58 27.1**	**+0.8**
MCIR	**Makushin Cirqu**	**1.94**	**46**	P	**Pn**	**14 58 05.0**	**+0.2**
MSW	**Makushin Switc**	**1.97**	**48**	P	**Pn**	**14 58 04.8**	**-0.2**
MTBL	**Makushin Table**	**2.05**	**48**	P	**Pn**	**14 58 06.0**	**-0.2**
UNV	**Unalaska Valle**	**2.06**	**52**	P	**Pn**	**14 58 05.4**	**-0.8**
UNV				S	**Sn**	**14 58 31.1**	**-0.8**
AKRB	**Akutan Reef Bi**	**2.43**	**50**	P	**Pn**	**14 58 11.8**	**+0.4**
ZRO	**Akutan Zero**	**2.45**	**52**	P	**Pn**	**14 58 12.5**	**+0.9**
AKGG	**Akutan Green G**	**2.51**	**50**	P	**Pn**	**14 58 12.9**	**+0.5**
AKUT	**Akutan**	**2.58**	**52**	*e*Pn	**Pn**	**14 58 13.6**	**+0.3**
ATKA	**Atka Island**	**3.06**	**264**	P	**Pn**	**14 58 19.7**	**-0.3**
SPIA	**Saint Paul Isl**	**4.61**	**353**	P	**Pn**	**14 58 41.9**	**+0.7**
ILAR	**Eielson Array**	**16.70**	**35**	Pn	**Pn**	**15 01 24.3**	**-1.2**
	0.1nm,0.3s,baz=233,slow=11,SNR=3.8						
H02N1	**VAN INLET T-PH**	**21.98**	**74**	T	T	15 25 16.1	
H02S1	**DAWSON INLET T**	**22.03**	**74**	T	T	15 25 19.9	
YKA	**Yellowknife Ar**	**30.02**	**49**	P	**P**	**15 03 40.9**	**+0.8**
	0.2nm,0.4s,baz=277,slow=8.0,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**37.70**	**219**	T	T	15 44 45.7	
	baz=24,slow=76,SNR=17						
H11N3	**WAKE ISLAND Hy**	**37.70**	**219**	T	T	15 44 44.2	
	baz=24,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy**	**37.72**	**219**	T	T	15 44 45.7	
	baz=24,slow=76,SNR=15						
H11S1	**WAKE ISLAND Hy**	**38.89**	**218**	T	T	15 46 15.3	
	baz=23,slow=76,SNR=185						
H11S2	**WAKE ISLAND Hy**	**38.90**	**218**	T	T	15 46 13.3	
	baz=23,slow=76,SNR=114						
H11S3	**WAKE ISLAND Hy**	**38.90**	**218**	T	T	15 46 13.8	
	baz=23,slow=76,SNR=92						
PDAR	**Pinedale Array**	**40.28**	**79**	P	**P**	**15 05 08.6**	**-0.3**
	0.3nm,0.6s,baz=329,slow=3.4,SNR=3.2						
TXAR	**Lajitas Array**	**52.67**	**89**	P	**P**	**15 06 47.1**	**+1.1**
	0.9nm,0.7s,baz=300,slow=5.5,SNR=8.5						

*IDC **19** 15:00:48.7±15.0,52˚.50N×170˚.11W,h0km,mb3.5/4, mb1 3.9/5,mb1mx3.4/52,mbtmp3.4/5,ML3.2/1,Error ellipse: s-maj=285.7km s-min=43.6km az=83.0*
*ISCJB **19** 15:00:52.5±0.8,52˚.51N±0˚.07×169˚.2W±0˚.1,h10km, mb3.5/4,Error ellipse: s-maj=13.4km s-min=6.9km az=41.1*
*NEIC **19** 15:00:54.6,52˚.67N×169˚.29W,h10km,ML3.3(AEIC),After AEIC.*

ISC 19 15:00:54.2±1.1,52˚.6N±0˚.1×169˚.23W±0˚.08,h10km,n21, σ0°50/19,mb3.5/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.42**	**33**	P	**Pb**	**15 01 03.5**	**-0.3**
NIKH				S	**Sb**	**15 01 10.5**	**+0.3**
OKSP	**Okmok Steeple**	**0.85**	**42**	P	**Pg**	**15 01 10.7**	**+0.1**
OKSP				S	**Sb**	**15 01 23.2**	**+0.6**
OKTU	**Okmok Mt. Tuli**	**1.05**	**43**	P	**Pg**	**15 01 14.2**	**-0.2**
MSOM	**Makushin Julie**	**1.82**	**48**	P	**Pn**	**15 01 25.6**	**0.0**
MSOM				S	**Sn**	**15 01 48.8**	**+0.2**
MCIR	**Makushin Cirqu**	**1.94**	**46**	P	**Pn**	**15 01 27.2**	**0.0**
MSW	**Makushin Switc**	**1.96**	**48**	P	**Pn**	**15 01 28.3**	**+0.8**
MTBL	**Makushin Table**	**2.04**	**48**	P	**Pn**	**15 01 28.6**	**-0.1**
UNV	**Unalaska Valle**	**2.05**	**52**	P	**Pn**	**15 01 28.2**	**-0.5**
UNV				S	**Sn**	**15 01 54.2**	**-0.1**
ATKA	**Atka Island**	**3.07**	**264**	P	**Pn**	**15 01 42.7**	**+0.1**
SPIA	**Saint Paul Isl**	**4.60**	**353**	P	**Pn**	**15 02 04.0**	**+0.3**
ILAR	**Eielson Array**	**16.70**	**35**	Pn	**Pn**	**15 04 46.8**	**-1.1**
	0.0nm,0.3s,baz=231,slow=11,SNR=4.0						
YKA	**Yellowknife Ar**	**30.01**	**49**	P	**P**	**15 07 02.6**	**0.0**
	0.2nm,0.5s,baz=275,slow=7.4,SNR=3.5						
NVAR	**Mina Array Bea**	**37.59**	**91**	P	**P**	**15 08 09.7**	**+0.7**
	0.7nm,1.0s,baz=280,slow=10.0,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**37.70**	**219**	T	T	15 48 06.9	
	baz=24,slow=76,SNR=9.0						
H11N3	**WAKE ISLAND Hy**	**37.71**	**219**	T	T	15 48 09.0	
	baz=24,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**37.72**	**219**	T	T	15 48 07.9	
	baz=24,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy**	**38.89**	**218**	T	T	15 49 36.3	
	baz=23,slow=76,SNR=37						
H11S2	**WAKE ISLAND Hy**	**38.91**	**218**	T	T	15 49 38.3	
	baz=23,slow=76,SNR=30						
H11S3	**WAKE ISLAND Hy**	**38.91**	**218**	T	T	15 49 37.0	
	baz=23,slow=76,SNR=34						
PDAR	**Pinedale Array**	**40.27**	**80**	P	**P**	**15 08 31.0**	**-0.5**
	0.9nm,0.8s,baz=312,slow=5.4,SNR=5.7						
TXAR	**Lajitas Array**	**52.66**	**89**	P	**P**	**15 10 09.0**	**+0.4**
	1.2nm,0.7s,baz=295,slow=4.8,SNR=12						

*ISCJB **19** 15:01:23.9±0.3,4˚.23S±0˚.05×152˚.90E±0˚.06,h35km, mb4.3/25,MS3.0/1,Error ellipse: s-maj=9.8km s-min=5.9km az=37.2*
*NEIC **19** 15:01:25.6±0.3,4˚.15S×152˚.90E,h35km,mb4.6/7,Error ellipse: s-maj=12.6km s-min=8.3km az=109.0*

*IDC **19** 15:01:27.2±1.9,4˚.26S×152˚.95E,h50km±15km,mb4.0/18, mb1 4.1/20,mb1mx4.0/35,mbtmp4.2/20,ML3.0/2,MS3.3/5, Ms1 3.3/5,ms1mx3.0/29,Error ellipse: s-maj=16.8km s-min=10.4km az=116.0*

ISC 19 15:01:25.7±0.5,4˚.15S±0˚.07×152˚.90E±0˚.08,h35km,n60, σ1°26/62,mb4.3/25,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.74**	**267**	P	**Pn**	**15 01 40.5**	**+0.8**
	baz=1.0,SNR=627						
MANU	**Manus Island**	**5.91**	**291**	P	Pn	15 02 55.7	+4.8
	baz=5.9,SNR=5.1						
PMG	**Port Moresby**	**7.73**	**227**	P	**Pn**	**15 03 17.7**	**+1.9**
	3.5nm,0.3s,baz=54,slow=15,SNR=12						
PMG				S	**Sn**	**15 04 42.1**	**-0.1**
	2.0nm,0.3s,baz=72,slow=19,SNR=2.2						
PMG				LR	LR	15 06 24.2	
	comp=Z,326nm,21.6s,baz=59,slow=39						
PMG	**Port Moresby**	**7.73**	**227**	P	Pn	15 03 19.3	+3.4
	baz=8.2,SNR=9.1						
PMG				P	Pn	15 03 19.3	+3.4
	baz=8.2,SNR=9.1						
PMG				P	Pn	15 03 19.3	+3.4
	baz=8.2,SNR=9.1						
PMG	**Port Moresby**	**7.73**	**227**	*e*P	**Pn**	**15 03 18.2**	**+2.4**
PMG				S	**Sn**	**15 04 42.1**	**-0.1**
HNR	**Honiara**	**8.74**	**127**	LR	LR	15 07 03.8	
	comp=Z,177nm,20.3s,baz=291,slow=39						
HNR	**Honiara**	**8.74**	**127**	*e*P	**Pn**	**15 03 31.9**	**+2.1**
JAY	**Jayapura**	**12.29**	**277**	LR	LR	15 08 00.8	
	comp=Z,165nm,20.5s,baz=12,slow=32						
COEN	**Coen**	**13.67**	**224**	P	**P**	**15 04 47.2**	**+1.6**
	baz=14,SNR=7.3						
MTSU	**Mount Surprise**	**16.24**	**211**	P	**P**	**15 05 16.1**	**+2.0**
	baz=17,SNR=9.0						
CTA	**Charters Tower**	**17.11**	**202**	P	**Pn**	**15 05 22.8**	**+0.5**
	0.1nm,0.3s,baz=19,slow=15,SNR=3.0						
GUMO	**Guam**	**19.35**	**336**	LR	LR	15 13 53.8	
	comp=Z,85nm,18.1s,baz=180,slow=38						
QIS	**Mount Isa**	**20.82**	**217**	P	**P**	**15 06 04.4**	**0.0**
	baz=21,SNR=8.8						
SIJI	**Sorong**	**21.86**	**278**	P	**P**	**15 06 17.5**	**+1.9**
	5.0nm,0.6s,baz=108,slow=16,SNR=3.3						
KDU	**Kakadu**	**21.90**	**246**	P	**P**	**15 06 14.6**	**-1.4**
	baz=22,SNR=12						
MTN	**Manton Dam**	**23.18**	**247**	P	**P**	**15 06 28.2**	**-1.3**
	baz=23,SNR=5.3						
WRAB	**Tennant Creek**	**23.94**	**228**	*e*P	**P**	**15 06 35.3**	**-1.5**
	14nm,0.6s						
WRA	**Warramunga Arr**	**23.95**	**228**	P	**P**	**15 06 35.3**	**-1.6**
	10nm,0.5s,baz=54,slow=9.8,SNR=130						
WRA				PcP	**PcP**	**15 10 18.3**	**-0.6**
	0.8nm,0.7s,baz=44,slow=2.8,SNR=4.0						
WRA				S	**S**	**15 10 49.8**	**-1.7**
	6.7nm,1.1s,baz=55,slow=18,SNR=8.9						
WRA				ScP	**ScP**	**15 13 53.4**	**-1.5**
	1.0nm,0.8s,baz=51,slow=2.8,SNR=6.1						
KNRA	**Kununurra**	**26.35**	**243**	P	**P**	**15 06 59.6**	**+0.8**
	baz=27,SNR=21						
AS31	**Alice Springs**	**26.69**	**222**	*e*P	**P**	**15 06 59.6**	**-2.2**
ASAR	**Alice Springs**	**26.70**	**222**	P	**PcP**	**15 10 24.1**	**-1.0**
	0.5nm,0.6s,baz=46,slow=5.3,SNR=3.3						
ASAR	**Alice Springs**	**26.70**	**222**	P	**P**	**15 07 00.4**	**-1.5**
	2.5nm,0.4s,baz=56,slow=9.2,SNR=90						
ASAR				PcP	**PcP**	**15 10 24.4**	**-0.7**
	0.6nm,0.7s,baz=61,slow=3.4,SNR=3.2						
ASAR				ScP	**ScP**	**15 14 01.7**	**-1.0**
	1.6nm,0.8s,baz=45,slow=2.7,SNR=12						
STKA	**Stephens Creek**	**29.55**	**200**	P	**P**	**15 07 26.8**	**-0.4**
	1.6nm,0.8s,baz=16,slow=16,SNR=3.9						
FITZ	**Fitzroy Crossi**	**30.06**	**240**	P	**P**	**15 07 30.2**	**-1.7**
	baz=30,SNR=19						
WRKA	**Warakurna**	**31.47**	**226**	P	**P**	**15 07 42.2**	**-2.1**
	baz=32,SNR=43						
FORT	**Forrest**	**35.35**	**219**	P	**P**	**15 08 16.4**	**-1.6**
	baz=36,SNR=9.9						
MEEK	**Meekatharra**	**39.67**	**232**	P	**P**	**15 08 53.2**	**-1.6**
	baz=40,SNR=14						
URZ	**Urewera**	**40.49**	**150**	P	**P**	**15 09 00.7**	**-0.5**
	1.9nm,0.3s,baz=247,slow=3.1,SNR=9.2						
JNU	**Nakatsue**	**42.54**	**332**	P	**P**	**15 09 19.3**	**+1.1**
	3.6nm,0.7s,baz=74,slow=7.4,SNR=3.1						
MJAR	**Matsushiro Arr**	**42.75**	**342**	LR	LR	15 26 48.0	
	comp=Z,16nm,18.6s,baz=260,slow=36						
MORW	**Morwa**	**42.83**	**231**	P	**P**	**15 09 19.0**	**-1.6**
	baz=43,SNR=7.4						
BLDU	**Ballidu**	**43.08**	**228**	P	**P**	**15 09 20.9**	**-1.7**
	baz=44,SNR=5.4						
KSRS	**Korea Array**	**47.47**	**333**	P	**P**	**15 09 58.6**	**+1.4**
	1.6nm,1.0s,baz=141,slow=10,SNR=5.2						
KSAR	**Wonju Array Be**	**47.48**	**333**	P	**P**	**15 09 58.6**	**+1.3**
PETK	**Petropavlovsk-**	**57.19**	**3**	P	**P**	**15 11 10.2**	**+1.0**
	8.0nm,1.0s,baz=155,slow=7.3,SNR=7.0						
PETK				PcP	**PcP**	**15 12 01.8**	**-1.6**
	1.8nm,0.7s,baz=177,slow=7.2,SNR=2.6						
CMAR	**Chiang Mai Arr**	**57.70**	**295**	P	**P**	**15 11 15.1**	**+1.7**
	0.4nm,0.5s,baz=119,slow=5.4,SNR=3.3						
SONM	**Songino Array**	**65.84**	**328**	P	**P**	**15 12 08.7**	**+0.8**
	0.6nm,0.6s,baz=153,slow=7.3,SNR=3.9						
SONM				PcP	**PcP**	**15 12 38.6**	**0.0**
	0.5nm,0.5s,baz=169,slow=2.3,SNR=5.3						
VNDA	**Vanda**	**73.47**	**178**	P	**P**	**15 12 54.7**	**+0.5**
	3.2nm,0.8s,baz=325,slow=6.6,SNR=19						
SBA	**Scott Base**	**74.01**	**177**	*e*P	**P**	**15 12 59.0**	**+1.7**
	2.8nm,0.9s						
SML	**Sawmill**	**79.50**	**24**	*e*P	**P**	**15 13 28.1**	**-0.5**
	1.6nm,0.6s						
TRF	**Thorofare Moun**	**79.57**	**22**	*e*P	**P**	**15 13 27.9**	**-1.2**
	5.5nm,0.8s						
IM04	**Indian Mountai**	**79.73**	**19**	*e*P	**P**	**15 13 29.1**	**-0.6**
MKAR	**Makanchi Array**	**79.91**	**319**	P	**P**	**15 13 31.5**	**+0.4**
	0.3nm,0.7s,baz=107,slow=6.8,SNR=4.4						
COLA	**Cape**	**81.22**	**22**	*e*P	**P**	**15 13 36.5**	**-1.2**
	7.8nm,0.8s						
ILAR	**Eielson Array**	**81.53**	**22**	P	**P**	**15 13 38.0**	**-1.3**
	4.5nm,0.7s,baz=250,slow=5.4,SNR=60						
EGAK	**Eagle**	**83.73**	**23**	*e*P	**P**	**15 13 50.4**	**-0.4**
	4.1nm,0.8s						
QSPA	**South Pole Qui**	**85.80**	**180**	*e*P	**P**	**15 14 01.4**	**-0.1**
	10nm,1.0s						
DLBC	**Dease Lake**	**86.78**	**31**	P	**P**	**15 14 05.7**	**-0.6**
	2.1nm,0.7s,baz=222,slow=4.8,SNR=5.4						
DLBC	**Dease Lake**	**86.78**	**31**	*e*P	**P**	**15 14 06.7**	**+0.3**
INK	**Inuvik**	**87.82**	**21**	P	**P**	**15 14 10.8**	**-0.2**
	2.5nm,0.6s,baz=265,slow=5.9,SNR=7.2						
NVAR	**Mina Array Bea**	**91.61**	**52**	P	**P**	**15 14 30.1**	**+0.3**
	0.8nm,0.8s,baz=253,slow=7.5,SNR=4.4						
YKA	**Yellowknife Ar**	**94.81**	**28**	P	**P**	**15 14 43.2**	**-0.4**
	1.1nm,0.8s,baz=273,slow=4.6,SNR=8.6						
PDAR	**Pinedale Array**	**98.34**	**48**	P	**P**	**15 14 59.2**	**-1.2**
	0.3nm,0.7s,baz=266,slow=8.0,SNR=2.4						
TXAR	**Lajitas Array**	**103.73**	**61**	Pdiff	**Pdif**	**15 15 25.2**	**+0.6**
	0.2nm,0.3s,baz=304,slow=4.9,SNR=3.2						
AKASG	**Malin Array Be**	**114.03**	**325**	PKP	PKPdf	15 20 00.4	-0.8
	0.2nm,0.2s,baz=46,slow=2.1,SNR=2.8						
CLL	**Collm**	**122.34**	**331**	*i* PKPdf	**PKPdf**	**15 20 16.8**	**-0.4**
	comp=Z,4.0nm,0.8s						
CLL				Lm	MLR	16 21 00.0	
	comp=Z,100nm,21.6s						
GERES	**GERESS Array B**	**123.56**	**329**	PKP	**PKPdf**	**15 20 19.0**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=90,slow=1.3,SNR=8.1						
LPAZ	**La Paz**	**134.63**	**118**	PKP	**PKPdf**	**15 20 41.9**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=250,slow=3.8,SNR=4.6						
TORD	**Torodi Ar. Bea**	**150.20**	**289**	PKPbc	**PKPbc**	**15 21 12.9**	**-1.2**
	comp=Z,2.5nm,0.4s,baz=92,slow=2.2,SNR=29						
BDFB	**Brasilia**	**151.44**	**134**	PKPbc	**PKPbc**	**15 21 16.2**	**-1.0**
	comp=Z,7.1nm,0.6s,baz=209,slow=3.9,SNR=12						

DDA 19 15:05:24.1,37.04N×38.11E,h10km,MD2.8,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URFA	**Urfa**	**0.70**	**54**	*e*PG	Pg	15 05 35.2	-2.5
URFA				*e*SG	Sg	15 05 47.3	+0.3
KUZU	**Kuzuini**	**0.87**	**253**	*i* P	Pg	15 05 40.5	-0.5
KUZU				*i* S	Sn	15 05 58.0	+2.7
MALT	**Malatya**	**1.30**	**11**	*e*PG	Pn	15 05 43.9	-4.6
ELZG	**Elazig**	**1.61**	**25**	*i* P	Pb	15 05 54.3	0.0
ELZG				*i* S	Sg	15 06 19.4	+2.8

DJA 19 15:22:20.9±0.4,8˚.3S±0˚.11˚2E±˚,h100km±4km,M3.7/19, mb4.6/1,MLv3.3/19,Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC

NGJI	**Ngawi**	**0.33**	**332**	P	Pn	15 22 37.0	+1.3
NGJI				S	Sn	15 22 48.7	+2.1
PCJI	**Pacitan**	**0.69**	**220**	P	Pn	15 22 39.0	+0.8
TBJI	**Tambak Boyo**	**0.87**	**15**	P	Pn	15 22 40.4	+0.4
TBJI				S	Sn	15 22 55.6	+1.4
UGM	**Wanagama**	**1.11**	**257**	P	Pn	15 22 42.8	+0.1
GRJI	**Gresik**	**1.13**	**49**	P	Pn	15 22 43.1	+0.3
SMRI	**Semarang**	**1.32**	**297**	P	Pn	15 22 45.7	+0.7
SMRI				S	Sn	15 23 04.2	+1.0
UWJI	**Ujung Watu**	**1.40**	**332**	P	Pn	15 22 46.3	+0.3
UWJI				S	Sn	15 23 06.6	+1.6
BLJI	**Banyuglugur**	**1.96**	**93**	P	Pn	15 22 52.8	-0.1
BLJI				S	Sn	15 23 18.4	+1.0
BWJI	**Bawean**	**2.07**	**30**	P	Pn	15 22 53.6	-0.8
BWJI				S	Sn	15 23 20.4	+0.4
KMMI	**Kalianget**	**2.41**	**76**	P	Pn	15 22 57.5	-1.3
ABJI	**Asem Bagus**	**2.59**	**93**	P	Pn	15 23 01.1	-0.2
JAGI	**Jajag, Banyuwa**	**2.63**	**108**	P	Pn	15 23 01.7	-0.1
JAGI				S	Sn	15 23 34.2	+0.9
KPJI	**Karang Pucung**	**2.69**	**277**	P	Pn	15 23 01.7	-0.8
KPJI				S	Sn	15 23 34.8	+0.3

*IDC **19** 15:29:46.0±1.1,5˚.81S×150˚.98E,h0km,mb3.8/7, mb1 4.0/9,mb1mx3.7/35,mbtmp3.8/9,ML2.8/2,Error ellipse: s-maj=43.9km s-min=18.6km az=112.0*
*NEIC **19** 15:29:51.4±0.7,5˚.81S×150˚.89E,h35km,mb4.0/1,Error ellipse: s-maj=27.2km s-min=10.4km az=114.0*

ISC 19 15:29:52.3±0.8,6˚.0S±0˚.1×150˚.9E±0˚.2,h43km,n15, σ1°78/15,mb3.8/8,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.24**	**36**	P	**Pn**	**15 30 29.6**	**+2.7**
	baz=0.8,SNR=54						
PMG	**Port Moresby**	**4.97**	**227**	Pn	**Pn**	**15 31 06.0**	**+1.5**
	5.1nm,0.3s,baz=48,slow=8.5,SNR=22						
PMG	**Port Moresby**	**4.97**	**227**	*e*Pn	**Pn**	**15 31 06.6**	**+2.2**
	40nm,0.4s						
CTA	**Charters Tower**	**14.68**	**197**	Pn	**P**	**15 33 20.3**	**-2.4**
	0.1nm,0.3s,baz=8.4,slow=14,SNR=3.5						
WRAB	**Tennant Creek**	**21.18**	**228**	*e*P	**P**	**15 34 34.9**	**+0.6**
	4.1nm,0.6s						
WRA	**Warramunga Arr**	**21.19**	**228**	P	**P**	**15 34 34.8**	**+0.4**
	1.7nm,0.5s,baz=52,slow=11,SNR=22						
AS31	**Alice Springs**	**23.95**	**221**	*e*P	**P**	**15 35 04.2**	**+1.5**
ASAR	**Alice Springs**	**23.95**	**221**	P	**P**	**15 35 03.7**	**+0.9**
	0.8nm,0.6s,baz=57,slow=9.7,SNR=21						
STKA	**Stephens Creek**	**27.14**	**197**	P	**P**	**15 35 34.5**	**+3.0**
	3.2nm,0.8s,baz=7.1,slow=8.1,SNR=5.6						
KSRS	**Korea Array**	**48.26**	**335**	P	**P**	**15 38 29.2**	**+0.1**
	0.9nm,0.9s,baz=156,slow=5.9,SNR=4.3						
KSAR	**Wonju Array Be**	**48.27**	**335**	P	**P**	**15 38 29.2**	**0.0**
SONM	**Songino Array**	**66.35**	**329**	P	**P**	**15 40 36.0**	**-0.8**
	0.3nm,0.5s,baz=120,slow=2.3,SNR=3.4						
ILAR	**Eielson Array**	**84.02**	**22**	P	**P**	**15 42 16.0**	**-1.9**
	0.4nm,0.7s,baz=245,slow=5.9,SNR=4.3						
NVAR	**Mina Array Bea**	**94.36**	**52**	P	**P**	**15 43 07.1**	**-0.9**
	0.3nm,0.6s,baz=251,slow=5.6,SNR=2.2						
TORD	**Torodi Ar. Bea**	**148.81**	**285**	PKPbc	**PKPbc**	**15 49 35.5**	**-0.8**
	2.5nm,0.7s,baz=88,slow=2.1,SNR=15						

*IDC **19** 15:30:27.4±0.7,5˚.92S×151˚.47E,h0km,mb4.3/17, mb1 4.5/17,mb1mx4.3/32,mbtmp4.3/17,Error ellipse: s-maj=22.9km s-min=14.8km az=108.0*
*ISCJB **19** 15:30:32.0±0.5,5˚.91S±0˚.06×151˚.31E±0˚.08,h41km, mb4.3/19,Error ellipse: s-maj=12.8km s-min=6.6km az=27.6*
*NEIC **19** 15:30:32.8±0.4,5˚.90S×151˚.41E,h35km,mb4.6/4,Error ellipse: s-maj=13.0km s-min=6.3km az=113.0*

ISC 19 15:30:33.5±0.6,5˚.90S±0˚.08×151˚.4E±0˚.1,h41km,n45, σ0°88/46,mb4.4/19,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.42**	**230**	Pn	**Pn**	**15 31 54.2**

IDC ***19*** *15:34:15.6±0.5,6.02S×151.16E,h0km,mb4.6/21, mb1 4.7/23,mb1mx4.6/35,mbtmp4.6/23,ML3.2/2,MS4.2/20, Ms1 4.3/20,ms1mx4.2/25,Error ellipse: s-maj=17.5km s-min=10.6km az=105.0*

BJI ***19*** *15:34:18.4,6.47S×151.44E,h51km,mb4.7/41,mB5.0/29, Ms4.7/31,Ms7 4.5/35*

ISCJB ***19*** *15:34:18.6±1.1,6.07S±0.03×151.02E±0.03,h23km±7km, mb4.8/51,MS4.4/23,Error ellipse: s-maj=5.7km s-min=5.4km az=44.7*

MOS ***19*** *15:34:20.2±1.2,5.96S×150.91E,h33km,mb5.3/13, MS4.6/6,Error ellipse: s-maj=12.8km s-min=8.0km az=75.2*

NEIC ***19*** *15:34:22.5±1.0,6.06S×151.03E,h46km±9km,mb5.0/26, Error ellipse: s-maj=7.7km s-min=5.6km az=82.0*

NEIC Felt at Kokopo.

GCMT ***19*** *15:34:22.5±0.2,6.34S×151.17E,h20km,MW5.2/75, Moment Tensor Solution. s70,c101; s75,c122; Duration: 1s0 Moment tensor: Scale 10¹⁶Nm; Mrr5.07±.17; Mθθ-5.42±.12; Mϕϕ0.34±.12; Mrθ5.41±.28; Mθϕ-0.77±.09; Mϕr1.32±.24; Best double couple: M₀7.68600×10¹⁶ NP1:ϕ₁78.00000°,δ68.00000°, λ86.00000°. NP2:ϕ₂268.00000°,δ22.00000°,λ99.00000°. Principal axes: T 7.4790, Plg67.0000°, Azm341.0000°; N 0.4120, Plg4.0000°, Azm79.0000°; P -7.8930, Plg23.0000°, Azm171.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

DJA ***19*** *15:34:27.2±0.8,6.5S×15.1E±°,h78km±9km,M5.4/30, mb4.8/30,mB5.5/3,MLv5.8/1,Mw(mB)4.9/3*

ISC 19 15:34:22.9±0.4,6.13S±0.04×151.13E±0.05,h47km±2km, h47km:pP-P,n219,σ1§42/270,mb4.8/50,MS4.4/23, 25C-15D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.19**	**28**	⇓P		**Pn**	**15 34 56.2**	**-0.7**
	baz=2.2							
PMG	**Port Moresby**	**5.10**	**230**	Pn		**Pn**	**15 35 36.9**	**0.0**
	9.0nm,0.3s,baz=56,slow=10,SNR=8.5							
PMG				Sn		**Sn**	**15 36 36.7**	**+2.1**
	25nm,0.3s,baz=280,slow=23,SNR=8.3							
PMG	**Port Moresby**	**5.10**	**230**	*c iP*		**Pn**	**15 35 37.1**	**+0.2**
PMG				pmax		pmax		
	comp=Z,816nm,1.0s							
PMG	**Port Moresby**	**5.10**	**230**	⇑P		**Pn**	**15 35 37.5**	**+0.5**
	baz=5.1,SNR=24							
PMG				⇑P		**Pn**	**15 35 37.5**	**+0.5**
	baz=5.1,SNR=24							
PMG				⇑P		**Pn**	**15 35 37.5**	**+0.5**
	baz=5.1,SNR=24							
HNR	**Honiara**	**9.33**	**111**	LR		LR	15 39 47.6	
	comp=Z,2μm,21.1s,baz=280,slow=36							
JAY	**Jayapura**	**10.99**	**289**	P		**Pn**	**15 36 58.1**	**+0.4**
	comp=Z,34nm,1.2s,comp=Z,3μm							
JAY	**Jayapura**	**10.99**	**289**	LR		LR	15 41 18.5	
	comp=Z,1μm,19.6s,baz=70,slow=38							
COEN	**Coen**	**11.03**	**225**	⇑P		**Pn**	**15 36 57.3**	**-1.0**
	baz=11,SNR=6.0							
COEN	**Coen**	**11.03**	**225**	*eP*		**Pn**	**15 36 57.3**	**-1.0**
	comp=Z,40nm,1.1s							
MTSU	**Mount Surprise**	**13.66**	**209**	⇓P		**Pn**	**15 37 34.0**	**-0.2**
	baz=14,SNR=18							
CTA	**Charters Tower**	**14.66**	**198**	Pn		**Pn**	**15 37 47.1**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=27,slow=15,SNR=5.7							
CTA				LR		LR	15 43 29.1	
	comp=Z,1μm,18.6s,baz=22,slow=38							
CTAO	**Charters Tower**	**14.66**	**198**	*eP*		**Pn**	**15 37 47.3**	**-0.3**
CTAO				pmax		pmax		
	comp=Z,72nm,1.3s							
CTAO	**Charters Tower**	**14.66**	**198**	*eP*		**Pn**	**15 37 47.2**	**-0.3**
	comp=Z,72nm,1.3s							
SRPI	**Serui, Papua**	**15.44**	**285**	P		**Pn**	**15 37 57.4**	**-0.3**
	comp=Z,50nm,0.8s							
BAKI	**Biak**	**15.77**	**288**	P		**Pn**	**15 38 01.8**	**-0.2**
	comp=Z,82nm,1.2s							
QIS	**Mount Isa**	**18.18**	**217**	P		**P**	**15 38 31.2**	**-0.7**
	baz=18,SNR=40							
FAKI	**Fak Fak**	**19.09**	**279**	P		**P**	**15 38 40.9**	**-0.9**
	comp=Z,31nm,1.2s							
EIDS	**Eidsvold**	**19.13**	**180**	P		**Pn**	**15 38 42.9**	**-0.5**
	baz=19,SNR=21							
EIDS	**Eidsvold**	**19.13**	**180**	*eP*		**P**	**15 38 42.7**	**+0.5**
	comp=Z,113nm,1.2s							
KDU	**Kakadu**	**19.51**	**249**	P		**P**	**15 38 45.5**	**-1.0**
	baz=20,SNR=18							
RMQ	**Roma**	**20.37**	**186**	⇓P		Pn	15 38 57.1	-1.1
	baz=20,SNR=109							
SIJI	**Sorong**	**20.50**	**284**	P		**P**	**15 38 55.2**	**-2.0**
	comp=Z,1.9nm,0.5s,baz=122,slow=9.5,SNR=2.2							
SWI	**Sorong**	**20.50**	**284**	P		**P**	**15 38 56.6**	**-0.7**
	comp=Z,30nm,2.2s,comp=Z,608nm							
GUMO	**Guam**	**20.55**	**342**	P		**P**	**15 38 55.1**	**-2.7**
	comp=Z,212nm,1.1s,baz=138,slow=3.4,SNR=4.3							
GUMO				LR		LR	15 47 45.8	
	comp=Z,560nm,18.0s,baz=170,slow=40							
GUMO	**Guam**	**20.55**	**342**	P		**P**	**15 38 55.1**	**-2.7**
GUMO				pmax		pmax		
	comp=Z,212nm,1.1s							
GUMO				MLR		MLR		
	comp=Z,560nm,18.0s							
GUMO	**Guam**	**20.55**	**342**	P		**P**	**15 38 56.3**	**-1.5**
MTN	**Manton Dam**	**20.81**	**250**	⇑P		**P**	**15 38 59.9**	**-0.6**
	baz=21,SNR=11							
WRAB	**Tennant Creek**	**21.31**	**228**	P		**P**	**15 39 05.0**	**-0.9**
	comp=Z,380nm,1.0s,SNR=19							
WRAB	**Tennant Creek**	**21.31**	**228**	*d iP*		**P**	**15 39 05.3**	**-0.6**
WRAB				pmax		pmax		
	comp=Z,245nm,1.4s							
WRAB	**Tennant Creek**	**21.31**	**228**	*eP*		**P**	**15 39 05.5**	**-0.5**
	comp=Z,46nm,0.8s							
WRA	**Warramunga Arr**	**21.32**	**228**	P		**P**	**15 39 05.4**	**-0.7**
	comp=Z,44nm,0.8s,baz=52,slow=11,SNR=50							
WRA				S		**S**	**15 42 57.9**	**-2.6**
	comp=Z,16nm,1.3s,baz=56,slow=20,SNR=10							
WRA				ScP		**ScP**	**15 46 46.0**	**+3.4**
	comp=Z,3.8nm,1.1s,baz=48,slow=2.8,SNR=5.5							
WRA				LR		LR	15 48 53.8	
	comp=Z,844nm,18.2s,baz=35,slow=41							
QLP	**Quilpie**	**21.38**	**197**	⇑P		**P**	**15 39 07.0**	**+0.5**
	baz=22,SNR=44							
DZM	**Mont Dzumac**	**21.69**	**138**	*eP*		**P**	**15 39 10.4**	**+0.4**
	comp=Z,40nm,0.8s							
KNRA	**Kununurra**	**23.90**	**245**	⇓P		**P**	**15 39 32.0**	**-0.5**
	baz=24,SNR=18							
AS31	**Alice Springs**	**24.05**	**222**	*eP*		**P**	**15 39 34.1**	**+0.2**
ASAR	**Alice Springs**	**24.05**	**222**	P		**P**	**15 39 34.2**	**+0.2**
	comp=Z,39nm,0.7s,baz=54,slow=9.5,SNR=109							
ASAR				S		**S**	**15 43 54.0**	**+5.7**
	comp=Z,11nm,1.0s,baz=38,slow=20,SNR=11							
ASAR				ScP		**ScP**	**15 46 53.9**	**+4.2**
	comp=Z,1.1nm,0.9s,baz=36,slow=2.9,SNR=5.3							
ASAR				LR		LR	15 49 09.0	
	comp=Z,1μm,18.1s,baz=54,slow=37							
NLAI	**Namlea**	**24.12**	**276**	P		**P**	**15 39 33.5**	**-1.1**
	comp=Z,30nm,0.9s							
ARMA	**Armidale**	**24.17**	**179**	⇑P		**P**	**15 39 35.5**	**+0.6**
	baz=24,SNR=7.3							
ARMA	**Armidale**	**24.17**	**179**	*eP*		**P**	**15 39 35.4**	**+0.4**
	comp=Z,165nm,1.9s							
LBMI	**Labuha**	**24.20**	**282**	P		**P**	**15 39 34.3**	**-1.1**
	comp=Z,27nm,1.3s							
TNTI	**Ternate**	**24.69**	**285**	P		**P**	**15 39 38.9**	**-0.9**
	comp=Z,25nm,1.3s							
CMSA	**Cobar Meteorol**	**25.79**	**191**	P		**P**	**15 39 50.4**	**+0.8**
	baz=26,SNR=12							
SOEI	**Soe**	**26.84**	**261**	P		**P**	**15 39 58.0**	**-1.4**
	comp=Z,59nm,1.2s							
STKA	**Stephens Creek**	**27.12**	**198**	P		**P**	**15 40 01.2**	**-0.4**
	comp=Z,20nm,0.8s,baz=0.2,slow=11,SNR=14							
STKA				LR		LR	15 50 39.8	
	comp=Z,1μm,19.5s,baz=21,slow=36							
STKA	**Stephens Creek**	**27.12**	**198**	P		**P**	**15 40 01.3**	**-0.4**
STKA				pmax		pmax		
	comp=Z,20nm,0.8s							
STKA				MLR		MLR		
	comp=Z,1μm,19.5s							
STKA	**Stephens Creek**	**27.12**	**198**	P		**P**	**15 40 03.7**	**+2.1**
	baz=27,SNR=9.8							
STKA	**Stephens Creek**	**27.12**	**198**	*eP*		**P**	**15 40 00.8**	**-0.8**
	comp=Z,12nm,1.0s							
BATI	**Baumata**	**27.48**	**260**	P		**P**	**15 40 03.5**	**-1.6**
	comp=Z,30nm,1.4s							
FITZ	**Fitzroy Crossi**	**27.57**	**242**	⇑P		**P**	**15 40 05.0**	**-0.8**
	baz=28,SNR=18							
KMSI	**Cibinong**	**27.91**	**283**	P		**P**	**15 40 07.7**	**-1.1**
	comp=Z,56nm,1.2s							
KDI	**Kendari**	**28.48**	**273**	P		**P**	**15 40 12.7**	**-1.3**
	comp=Z,29nm,0.9s							
MMRI	**Maumere**	**28.75**	**263**	P		**P**	**15 40 15.2**	**-1.2**
	comp=Z,72nm,1.2s,comp=Z,2μm							
WRKA	**Warakurna**	**28.84**	**227**	⇑P		**P**	**15 40 16.6**	**-0.5**
	baz=29,SNR=15							
HTT	**Hallett**	**29.44**	**201**	⇑P		**P**	**15 40 21.9**	**-0.4**
	baz=30,SNR=3.6							
MEEK	**Meekatharra**	**37.08**	**233**	P		**P**	**15 41 28.6**	**-0.4**
	baz=37,SNR=11							
URZ	**Urewera**	**39.73**	**147**	P		**P**	**15 41 50.7**	**-0.3**
	comp=Z,9.8nm,1.0s,baz=338,slow=5.4,SNR=3.7							
MORW	**Morawa**	**40.22**	**231**	⇓P		**P**	**15 41 55.9**	**+0.7**
	baz=40,SNR=3.8							
NACB	**Ninganchiao**	**41.67**	**317**	*eP*		**P**	**15 42 06.7**	**-0.4**
	comp=Z,42nm,1.1s							
YHNB	**Yeheng**	**42.15**	**318**	*eP*		**P**	**15 42 10.8**	**-0.4**
	comp=Z,61nm,1.1s							
CISI	**Cisompet, Garu**	**43.01**	**266**	⇓P		**P**	**15 42 16.2**	**-2.1**
	baz=43,SNR=4.5							
LEM	**Lembang**	**43.23**	**267**	P		**P**	**15 42 19.4**	**-0.7**
	comp=Z,34nm,0.8s,baz=51,slow=8.0,SNR=8.2							
JNU	**Nakatsue**	**43.52**	**335**	P		**P**	**15 42 21.7**	**-0.4**
	comp=Z,22nm,0.9s,baz=123,slow=4.2,SNR=9.3							
JNU	**Nakatsue**	**43.52**	**335**	*eP*		**P**	**15 42 21.6**	**-0.4**
	comp=Z,8.3nm,0.8s							
MJAR	**Matsushiro Arr**	**44.14**	**345**	P		**P**	**15 42 24.9**	**-2.1**
	comp=Z,0.9nm,0.9s,baz=166,slow=7.1,SNR=2.6							
MJAR				ScP		**ScP**	**15 48 02.5**	**+2.9**
	comp=Z,5.0nm,1.1s,baz=182,slow=6.2,SNR=9.9							
MJAR				LR		LR	16 00 21.5	
	comp=Z,203nm,19.0s,baz=160,slow=36							
MAT	**Matsushiro**	**44.14**	**345**	P		**P**	**15 42 25.7**	**-1.3**
MAT				S		**S**	**15 48 54.0**	**-2.7**
QZH	**Quanzhou**	**44.23**	**316**	*eP*		**P**	**15 42 30.9**	**+3.0**
QZH				S		S	15 49 06.6	+8.3
QZH				LZ				
	comp=Z,810nm,16.3s							
SSE	**Sheshan**	**46.79**	**324**	P		**P**	**15 42 47.3**	**-0.7**
SSE				S		**S**	**15 49 33.1**	**-2.0**
SSE				sS		**sS**	**15 49 57.0**	**+0.4**
SSE				PMZ				
	comp=Z,41nm,0.7s							
SSE				PMZ				
	comp=Z,180nm,4.6s							
SSE				LN				
	comp=Z,300nm,22.3s							
SSE				LE				
	comp=Z,330nm,22.3s							
SSE				LZ				
	comp=Z,450nm,22.0s							
QIZ	**Qiongzhong**	**47.74**	**303**	P		**P**	**15 42 54.4**	**-1.2**
QIZ				S		**S**	**15 49 47.6**	**-1.4**
QIZ				LZ				
	comp=Z,330nm,21.4s							
KSRS	**Korea Array**	**48.47**	**335**	P		**P**	**15 43 00.4**	**-0.4**
	comp=Z,3.2nm,1.0s,baz=151,slow=8.9,SNR=11							
KSRS				LR		LR	16 01 39.8	
	comp=Z,232nm,20.8s,baz=159,slow=34							
KSAR	**Wonju Array Be**	**48.47**	**335**	P		**P**	**15 43 00.4**	**-0.5**
KSAR	**Wonju Array Be**	**48.47**	**335**	P		**P**	**15 43 00.4**	**-0.5**
NJ2	**Nanjing**	**48.86**	**323**	*eP*		**P**	**15 43 03.1**	**-0.9**
NJ2				pP		**pP**	**15 43 15.9**	**-1.1**
NJ2				sP		**sP**	**15 43 23.1**	**+0.7**
NJ2				S		**S**	**15 50 07.0**	**+2.6**
NJ2				sS		**sS**	**15 50 26.5**	**+0.5**
NJ2				PMZ				
	comp=Z,40nm,0.8s							
NJ2				PMZ				
	comp=Z,220nm,6.2s							
NJ2				LN				
	comp=Z,300nm,22.2s							
NJ2				LE				
	comp=Z,580nm,23.3s							
NJ2				LZ				
	comp=Z,580nm,25.9s							
WHN	**Wuhan**	**50.69**	**318**	P		**P**	**15 43 19.0**	**+1.0**
WHN				S		**S**	**15 50 36.0**	**+6.0**
WHN				LZ				
	comp=Z,1μm,21.5s							
USRK	**Ussuriysk Ar.**	**52.99**	**343**	LR		LR	16 04 27.2	
	comp=Z,162nm,21.2s,baz=168,slow=34							
GYA	**Guiyang**	**53.90**	**309**	P		**P**	**15 43 43.3**	**+1.2**
GYA				pP		**pP**	**15 43 57.4**	**+2.2**
GYA				PcP		**PcP**	**15 44 48.8**	**+1.6**
GYA				PP		**PP**	**15 45 46.3**	**+2.5**
GYA				ScP		**ScP**	**15 48 40.0**	**-1.5**
GYA				S		**S**	**15 51 13.1**	**-1.3**
GYA				sS		**sS**	**15 51 37.8**	**+1.5**
GYA				SS		**SKiKP**	**15 54 53.4**	**+1.6**
GYA				PMZ				
	comp=Z,20nm,0.8s							
GYA				PMZ				
	comp=Z,120nm,5.2s							
GYA				LN				
	comp=Z,520nm,18.2s							
GYA				LE				
	comp=Z,490nm,19.4s							
GYA				LZ				
	comp=Z,550nm,18.5s							
MDJ	**Mudanjiang**	**54.10**	**341**	P		**P**	**15 43 43.6**	**+0.6**
MDJ				pP		**pP**	**15 43 57.3**	**+1.2**
MDJ				sP		**sP**	**15 44 03.3**	**+1.8**
MDJ				PcP		**PcP**	**15 44 47.3**	**0.0**
MDJ				PP		**PP**	**15 45 45.4**	**+0.3**
MDJ				S		**S**	**15 51 17.5**	**+1.3**
MDJ				ScS		**ScS**	**15 53 28.0**	**-0.4**
MDJ				SS		**SS**	**15 55 01.3**	**+2.7**
MDJ				PMZ				
	comp=Z,4.0nm,0.6s							
MDJ				PMZ				
	comp=Z,51nm,3.3s							
MDJ				LN				
	comp=Z,130nm,17.1s							
MDJ				LE				
	comp=Z,100nm,20.1s							
MDJ				LZ				
	comp=Z,180nm,19.5s							
CN2	**Changchun**	**54.85**	**337**	*eP*		**P**	**15 43 51.3**	**+2.8**
CN2				*es*P		**sP**	**15 44 09.4**	**+2.4**
CN2				*e*S		**S**	**15 51 28.3**	**+2.0**
CN2				SS		**SS**	**15 55 12.1**	**+1.7**
CN2				LN				
	comp=Z,200nm,17.0s							
CN2				LE				
	comp=Z,100nm,17.0s							
CN2				LZ				
	comp=Z,100nm,19.0s							
BJI	**Beijing**	**56.10**	**328**	P		**P**	**15 43 56.9**	**-0.6**
BJI				sP		**sP**	**15 44 19.4**	**+3.3**
BJI				PP		**PP**	**15 46 03.0**	**-0.1**
BJI				S		**S**	**15 51 43.9**	**+0.8**
BJI				sS		**sS**	**15 52 05.1**	**0.0**
BJI				PMZ				
	comp=Z,9.0nm,0.5s							
BJI				PMZ				
	comp=Z,150nm,5.6s							
BJI				LN				
	comp=Z,240nm,22.1s							
BJI				LE				
	comp=Z,240nm,17.7s							
BJI				LZ				
	comp=Z,200nm,24.3s							
KMI	**Kunming**	**56.37**	**306**	P		**P**	**15 44 01.9**	**+1.9**
KMI				PMZ				
	comp=Z,4.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**56.95**	**297**	P		**P**	**15 44 02.3**	**-1.7**
	comp=Z,0.5nm,0.8s,baz=128,slow=7.0,SNR=4.6							
CMAR				LR		LR	16 08 26.1	
	comp=Z,108nm,19.3s,baz=124,slow=36							
CD2	**Chengdu**	**58.36**	**312**	P		**P**	**15 44 12.9**	**-0.8**
CD2				pP		**pP**	**15 44 26.9**	**-0.1**
CD2				sP		**sP**	**15 44 33.0**	**+0.6**
CD2				PP		**PP**	**15 46 22.5**	**-0.9**
CD2				S		**S**	**15 52 12.4**	**-0.9**
CD2				sS		**sS**	**15 52 36.5**	**+1.1**
CD2				SS		**SS**	**15 56 06.4**	**+0.1**
CD2				PMZ				
	comp=Z,20nm,0.5s							
CD2				PMZ				
	comp=Z,140nm,6.7s							
CD2				LN				
	comp=Z,180nm,6.7s							
CD2				LZ				
	comp=Z,170nm,10.1s							
PPT	**Papeete**	**58.93**	**107**	LR		LR	16 04 37.4	
	comp=Z,52nm,20.5s,baz=251,slow=31							
PPT2	**Papeete2**	**58.93**	**107**	*e*S		**S**	**15 52 24.3**	**+3.1**
	comp=Z,313nm,25.8s							
PPT2				*e*LQ		LQ	15 59 13.5	
	comp=Z,567nm,28.5s							
PPT2				*e*LR		LR	16 01 34.6	
	comp=Z,142nm,25.8s							
HHC	**Hu-ho-hao-te**	**59.18**	**326**	*e*P		**P**	**15 44 21.9**	**+2.6**
HHC				PP		**PP**	**15 46 34.8**	**+4.2**
HHC				S		**S**	**15 52 24.6**	**+0.9**
HHC				sS		**sS**	**15 52 46.1**	**+0.3**
HHC				SS		**SS**	**15 56 21.0**	**+2.1**
HHC				PMZ				
	comp=Z,20nm,1.1s							
HHC				PMZ				
	comp=Z,140nm,5.1s							
HHC				LN				
	comp=Z,280nm,14.3s							
HHC				LE				
	comp=Z,200nm,15.1s							
HHC				LZ				
	comp=Z,340nm,15.3s							
PETK	**Petropavlovsk-**	**59.27**	**5**	P		**P**	**15 44 17.7**	**-1.9**
	comp=Z,1.1nm,0.4s,baz=171,slow=7.7,SNR=6.3							
PETK				LR		LR	16 06 22.3	
	comp=Z,169nm,21.1s,baz=193,slow=33							
TBI	**Tubuai**	**59.55**	**113**	*e*S		**S**	**15 52 31.2**	**+2.3**
	comp=Z,176nm,31.8s							
TBI				*e*LQ		LQ	15 59 30.4	
	comp=Z,657nm,34.5s							
TBI				*e*LR		LR	16 02 04.6	
	comp=Z,405nm,35.8s							
LZH	**Lanzhou**	**61.04**	**317**	*e*P		**P**	**15 44 32.3**	**+0.1**
LZH				pP		**pP**	**15 44 44.8**	**-0.7**
LZH				sP		**sP**	**15 44 49.5**	**-1.4**
LZH				*e*S		**S**	**15 52 47.6**	**-0.3**
LZH				sS		**sS**	**15 53 09.4**	**-0.8**
LZH				SS		**SS**	**15 56 50.3**	**+1.9**
LZH				PMZ				
	comp=Z,33nm,1.2s							
LZH				PMZ				
	comp=Z,75nm,4.0s							
LZH				LN				
	comp=Z,240nm,14.8s							
LZH				LE				
	comp=Z,880nm,14.2s							
LZH				LZ				
	comp=Z,1μm,15.0s							
GTA	**Gaotai**	**65.52**	**318**	*e*P		**P**	**15 45 01.5**	**-0.3**
GTA				PMZ				
	comp=Z,7.0nm,0.9s							
SONM	**Songino Array**	**66.58**	**329**	P		**P**	**15 45 07.8**	**-0.6**
	comp=Z,9.4nm,1.4s,baz=134,slow=5.7,SNR=13							
SONM				LR		LR	16 13 29.4	
	comp=Z,333nm,21.7s,baz=132,slow=35							
SEY	**Seymchan**	**68.87**	**1**	LR		LR	16 14 59.0	
	comp=Z,167nm,19.2s,slow=36							
BOD	**Bodaibo**	**70.45**	**340**	*e*P		**P**	**15 45 30.0**	**-2.2**
BOD				pmax		pmax		
	comp=Z,4.0nm,1.2s							
VNDA	**Vanda**	**71.58**	**178**	P		**P**	**15 45 39.7**	**+1.0**
	comp=Z,5.1nm,0.8s,baz=346,slow=3.7,SNR=8.1							
VNDA				LR		LR	16 15 21.0	
	comp=Z,148nm,18.8s,baz=18,slow=34							
WMQ	**Urumqi**	**75.60**	**318**	P		**P**	**15 46 04.3**	**+1.2**
WMQ				pP		**pP**	**15 46 18.3**	**+1.6**
WMQ				sP		**sP**	**15 46 21.8**	**-0.2**
WMQ				S		**S**	**15 55 40.0**	**-0.8**
WMQ				SS		**SS**	**16 00 33.8**	**+0.9**
WMQ				LN				
	comp=Z,110nm,22.1s							
WMQ				LE				
	comp=Z,120nm,23.2s							
WMQ				LZ				
	comp=Z,120nm,20.9s							
MK31	**Makanchi Array**	**80.24**	**319**	*e*P		**P**	**15 46 27.5**	**-1.2**
MK31	**Makanchi Array**	**80.24**	**319**	*e*P		**P**	**15 46 27.5**	**-1.2**
MKAR	**Makanchi Array**	**80.24**	**319**	P		**P**	**15 46 27.6**	**-1.1**
	comp=Z,3.6nm,0.9s,baz=110,slow=6.6,SNR=17							
MKAR				PP		**PP**	**15 49 30.1**	**-1.7**
	comp=Z,1.2nm,0.9s,baz=119,slow=6.2,SNR=3.8							
MKAR				LR		LR	16 22 37.4	
	comp=Z,148nm,18.8s,baz=88,slow=36							
ZALV	**Zalesovo Beam**	**81.34**	**327**	P		**P**	**15 46 31.9**	**-2.4**
	comp=Z,1.0nm,0.5s,baz=103,slow=5.2,SNR=6.4							
ZALV				LR		LR	16 22 57.8	
	comp=Z,176nm,20.6s,baz=70,slow=36							
SML	**Sawmill**	**82.02**	**25**	*e*P		**P**	**15 46 37.8**	**-0.1**
SML				pmax		pmax		
	comp=Z,2.0nm,0.7s							
SML	**Sawmill**	**82.02**	**25**	*e*P		**P**	**15 46 37.8**	**-0.1**
	comp=Z,2.4nm,0.7s							
TRF	**Thorofare Moun**	**82.06**	**23**	*e*P		**P**	**15 46 37.3**	**-0.9**
	comp=Z,5.4nm,0.8s							
MCK	**McKinley**	**82.72**	**23**	*e*P		**P**	**15 46 39.8**	**-1.7**
MCK				pmax		pmax		
	comp=Z,20nm,0.9s							
MCK	**McKinley**	**82.72**	**23**	*e*P		**P**	**15 46 39.8**	**-1.7**
	comp=Z,20nm,0.9s							
COLA	**College**	**83.70**	**22**	*d iP*		**P**	**15 46 44.6**	**-1.8**
COLA				pmax		pmax		
	comp=Z,46nm,1.1s							
COLA	**College**	**83.70**	**22**	*e*P		**P**	**15 46 43.8**	**-2.6**
	comp=Z,15nm,0.3s							
MAW	**Mawson**	**83.71**	**203**	P		**P**	**15 46 45.9**	**-0.6**
	comp=Z,5.3nm,1.0s,baz=134,slow=7.4,SNR=8.3							
MAW				LR		LR	16 21 59.3	
	comp=Z,292nm,20.1s,baz=62,slow=34							
KURK	**Kurchatov**	**83.79**	**322**	P		**P**	**15 46 45.0**	**-2.3**
	comp=Z,70nm,1.0s,SNR=12							
KURK	**Kurchatov**	**83.79**	**322**	*e*P		**P**	**15 46 44.9**	**-2.3**
KURK				pmax		pmax		
	comp=Z,15nm,1.1s							
KURK	**Kurchatov**	**83.79**	**322**	*e*P		**P**	**15 46 44.9**	**-2.3**
	comp=Z,15nm,1.1s							
QSPA	**South Pole Qui**	**83.84**	**180**	P		**P**	**15 46 47.0**	**-0.4**
	comp=Z,5.7nm,0.8s,baz=303,slow=1.5,SNR=20							
ILAR	**Eielson Array**	**84.01**	**22**	P		**P**	**15 46 45.9**	**-2.2**
	comp=Z,5.7nm,1.0s,baz=256,slow=5.0,SNR=30							
ILAR				LR		LR	16 22 55.4	
	comp=Z,278nm,18.9s,baz=274,slow=35							
COLD	**Coldfoot**	**84.06**	**20**	*e*P		**P**	**15 46 48.3**	**+0.1**
	comp=Z,4.9nm,1.0s							
EKS2	**Erkin-Say**	**84.89**	**314**	*e*P		**P**	**15 46 52.0**	**-1.2**
EKS2				pmax		pmax		
	comp=Z,8.0nm,1.0s							
EKS2	**Erkin-Say**	**84.89**	**314**	*e*P		**P**	**15 46 52.0**	**-1.2**
	comp=Z,7.9nm,1.0s							
EGAK	**Eagle**	**86.23**	**

CWC	**Cottonwood Cre**	**94.23**	**54**	P	**P**	**15 47 38.3**	**+0.7**
	baz=94						
WVOR	**Wild Horse Val**	**94.26**	**48**	*e*P	**P**	**15 47 38.1**	**+0.5**
WVOR				pmax	pmax		
	comp=Z,11nm,1.6s						
WVOR	**Wild Horse Val**	**94.26**	**48**	*e*P	**P**	**15 47 38.1**	**+0.5**
	comp=Z,11nm,1.6s						
LRMC	**Laurel Mountai**	**94.48**	**55**	P	**P**	**15 47 40.1**	**+1.4**
	baz=95						
DAC	**Darwin (Calif)**	**94.61**	**54**	*e*P	**P**	**15 47 40.4**	**+1.0**
DAC				pmax	pmax		
	comp=Z,13nm,1.2s						
DAC	**Darwin (Calif)**	**94.61**	**54**	*e*P	**P**	**15 47 40.4**	**+1.0**
	comp=Z,13nm,1.2s						
MPMC	**Manual Prospec**	**94.68**	**54**	P	**P**	**15 47 41.1**	**+1.4**
	baz=95						
GRAC	**Grapevine Rang**	**94.84**	**53**	P	**P**	**15 47 41.1**	**+0.9**
	baz=95						
MONP	**Monument Peak**	**95.34**	**58**	P	**P**	**15 47 44.4**	**+1.5**
	baz=95						
BMO	**Blue Mountains**	**95.39**	**46**	*e*P	**P**	**15 47 42.8**	**+0.2**
BMO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BMO	**Blue Mountains**	**95.39**	**46**	*e*P	**P**	**15 47 42.8**	**+0.2**
	comp=Z,2.5nm,1.0s						
NEW	**Newport**	**95.69**	**42**	P	**P**	**15 47 43.7**	**-0.2**
	baz=96						
TPNV	**Topopah Spring**	**95.74**	**54**	P	**P**	**15 47 45.4**	**+0.9**
	baz=96						
BELC	**Belle Mtn. Jos**	**95.77**	**57**	P	**P**	**15 47 45.2**	**+0.5**
	baz=96						
GMRC	**Granite Mounta**	**96.09**	**56**	P	**P**	**15 47 46.5**	**+0.5**
	baz=96						
R11A	**Troy Canyon, C**	**96.34**	**52**	P	**P**	**15 47 47.7**	**+0.5**
	baz=96						
YKA	**Yellowknife Ar**	**97.37**	**28**	P	**P**	**15 47 50.4**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=270,slow=4.5,SNR=6.4						
WALA	**Waterton Lakes**	**97.84**	**41**	*e*P	Pdif	15 47 54.5	+0.8
	comp=Z,6.3nm,1.0s						
EDM	**Edmonton**	**98.18**	**37**	*e*P	**P**	**15 47 54.6**	**-0.4**
EDM				pmax	pmax		
	comp=Z,7.0nm,0.9s						
EDM	**Edmonton**	**98.18**	**37**	*e*P	**P**	**15 47 54.6**	**-0.4**
	comp=Z,7.4nm,0.9s						
BOZ	**Bozeman (W)**	**99.41**	**45**	P	**Pdif**	**15 48 01.2**	**+0.4**
	baz=100						
PDAR	**Pinedale Array**	**100.97**	**48**	P	**Pdif**	**15 48 07.8**	**-0.1**
	comp=Z,1.7nm,1.0s,baz=294,slow=1.5,SNR=11						
A21A	**Bergtoll Ranch**	**102.44**	**41**	P	**Pdif**	**15 48 14.7**	**+0.7**
	baz=102						
J21A	**Lysite**	**102.49**	**47**	P	**Pdif**	**15 48 14.5**	**-0.1**
	baz=102						
I21A	**Big Trails, Te**	**102.57**	**47**	P	**Pdif**	**15 48 15.4**	**+0.5**
	baz=103						
I22A	**9 Mile Ranch,**	**103.15**	**46**	P	**Pdif**	**15 48 18.0**	**+0.6**
	baz=103						
J22A	**Midwest**	**103.19**	**47**	P	**Pdif**	**15 48 17.7**	**0.0**
	baz=103						
AKASG	**Malin Array Be**	**114.58**	**324**	PKP	PKPdf	15 52 57.2	-0.7
	comp=Z,0.4nm,0.4s,baz=64,slow=2.2,SNR=4.1						
BRTR	**Keskin Array B**	**114.93**	**311**	PKP	PKPdf	15 52 58.8	-0.5
	comp=Z,1.6nm,0.9s,baz=94,slow=3.7,SNR=6.2						
NB2	**NORSAR Subarra**	**117.58**	**339**	PKPdf	**PKPdf**	**15 53 02.7**	**-0.8**
	comp=Z,2.4nm,0.9s,baz=44,slow=1.9						
NOA	**NORSAR Array B**	**117.58**	**339**	PKP	**PKPdf**	**15 53 02.7**	**-0.8**
	comp=Z,2.4nm,0.9s,baz=44,slow=2.0,SNR=5.1						
BURAR	**Bucovina Array**	**118.21**	**322**	⇑PKIKP	**PKPdf**	**15 53 06.5**	**+1.3**
BURAR	**Bucovina Array**	**118.21**	**322**	⇑*i*P	**PKPdf**	**15 53 06.5**	**+1.3**
MLR	**Muntele Rosu**	**118.58**	**319**	⇑PKIKP	**PKPdf**	**15 53 05.8**	**-0.3**
MLR	**Muntele Rosu**	**118.58**	**319**	⇑*i*P	**PKPdf**	**15 53 05.8**	**-0.3**
VOIR		**119.18**	**319**	⇑PKIKP	**PKPdf**	**15 53 08.4**	**+1.3**
VOIR		**119.18**	**319**	⇑*i*P	**PKPdf**	**15 53 08.4**	**+1.3**
NIE	**Niedzica**	**120.31**	**325**	*e*PKP	**PKPdf**	**15 53 09.8**	**+0.7**
NIE	**Niedzica**	**120.31**	**325**	*e*PKIKP	**PKPdf**	**15 53 09.9**	**+0.8**
SIRR	**Siria**	**120.99**	**321**	⇑*i*P	**PKPdf**	**15 53 10.6**	**+0.1**
BZS	**Buzias**	**121.30**	**321**	⇑PKIKP	**PKPdf**	**15 53 10.4**	**-0.7**
BZS	**Buzias**	**121.30**	**321**	⇑*i*P	**PKPdf**	**15 53 10.4**	**-0.7**
OKC	**Ostrava-Krasne**	**121.32**	**326**	AMS	AMS	16 52 20.0	
	comp=Z,100nm,18.8s						
MORC	**Moravsky Berou**	**121.68**	**327**	*e*PKIKP	**PKPdf**	**15 53 11.0**	**-0.8**
MORC	**Moravsky Berou**	**121.68**	**327**	⇓*i*P	**PKPdf**	**15 53 11.2**	**-0.6**
MORC	**Moravsky Berou**	**121.68**	**327**	*e*PKPdf	**PKPdf**	**15 53 11.0**	**-0.8**
KRLC	**Kraliky**	**121.93**	**327**	*e*PKPdf	**PKPdf**	**15 53 11.8**	**-0.5**
KRLC				*ex*	x	15 53 17.7	
KRLC				*ep*PKP	**pPKPdf**	**15 53 22.8**	**-3.9**
KRLC	**Kraliky**	**121.93**	**327**	*e*PKIKP	**PKPdf**	**15 53 11.8**	**-0.5**
KRLC				*e*		15 53 17.7	
KRLC				*e*		15 53 22.8	
DPC	**Dobruska-Polom**	**122.03**	**328**	*e*PKPdf	**PKPdf**	**15 53 12.4**	**0.0**
DPC				*ep*PKP	**pPKPdf**	**15 53 22.9**	**-4.0**
DPC				AMS	AMS	16 47 40.0	
	comp=Z,200nm,24.2s						
DPC	**Dobruska-Polom**	**122.03**	**328**	*e*PKIKP	**PKPdf**	**15 53 12.4**	**0.0**
DPC				*e*		15 53 22.9	
DPC				MLR	MLR		
	comp=Z,200nm,24.2s						
UPC	**Upice**	**122.11**	**328**	*e*PKPdf	**PKPdf**	**15 53 12.4**	**-0.1**
UPC				*ex*	x	15 53 21.5	
UPC				AMS	AMS	16 47 40.0	
	comp=Z,300nm,23.7s						
UPC	**Upice**	**122.11**	**328**	*e*PKIKP	**PKPdf**	**15 53 12.4**	**-0.1**
UPC				*e*		15 53 21.5	
UPC				MLR	MLR		
	comp=Z,300nm,23.7s						
VRAC	**Vranov**	**122.45**	**326**	⇑PKIKP	**PKPdf**	**15 53 09.9**	**-3.3**
VRAC	**Vranov**	**122.45**	**326**	⇑*i*P	**PKPdf**	**15 53 09.9**	**-3.3**
PKSM	**Moragy**	**122.87**	**322**	⇓PKIKP	**PKPdf**	**15 53 14.7**	**+0.6**
PKSM	**Moragy**	**122.87**	**322**	⇓*i*P	**PKPdf**	**15 53 14.7**	**+0.6**
BRG	**Berggiesshubel**	**122.97**	**329**	*e*PKP	**PKPdf**	**15 53 13.9**	**-0.2**
	comp=Z,10nm,1.1s						
BRG	**Berggiesshubel**	**122.97**	**329**	*e*PKIKP	**PKPdf**	**15 53 13.9**	**-0.2**
BRG				pmax	pmax		
	comp=Z,10.0nm,1.1s						
DIVS	**Divibare**	**123.01**	**320**	⇓*i*P	**PKPdf**	**15 53 15.3**	**+0.7**
TREC	**Trest**	**123.07**	**327**	*e*PKPdf	**PKPdf**	**15 53 14.5**	**+0.1**
TREC				*ex*	x	15 53 19.7	
TREC				*ex*	x	15 53 24.4	
TREC				AMS	AMS	16 47 30.0	
	comp=Z,200nm,19.0s						
TREC	**Trest**	**123.07**	**327**	*e*PKIKP	**PKPdf**	**15 53 14.5**	**+0.1**
TREC				*e*		15 53 24.4	
TREC				MLR	MLR		
	comp=Z,200nm,19.0s						
GOPC	**GO Pecny, Ondr**	**123.09**	**328**	*e*PKPdf	**PKPdf**	**15 53 14.1**	**-0.3**
GOPC				*ex*	x	15 53 19.4	
GOPC				*ep*PKP	**pPKPdf**	**15 53 24.9**	**-4.0**
GOPC				AMS	AMS	16 48 10.0	
	comp=Z,200nm,18.0s						
PRU	**Pruhonice**	**123.18**	**328**	*e*PKPdf	**PKPdf**	**15 53 14.1**	**-0.5**
PRU				*ex*	x	15 53 20.3	
PRU				AMS	AMS	16 48 10.0	
	comp=Z,200nm,15.9s						
PRU	**Pruhonice**	**123.18**	**328**	*e*PKIKP	**PKPdf**	**15 53 14.1**	**-0.5**
PRU				*e*		15 53 20.3	
PRU				MLR	MLR		
	comp=Z,200nm,15.9s						
CLL	**Collm**	**123.18**	**330**	*e*PKIKP	**PKPdf**	**15 53 13.0**	**-1.5**
CLL				*i*		15 53 19.8	
CLL				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CLL	**Collm**	**123.18**	**330**	*e*PKPdf	**PKPdf**	**15 53 13.0**	**-1.5**
	comp=Z,9.0nm,1.0s						
CLL				*i*		15 53 19.8	
CLL				LmV		16 49 00.0	
	comp=Z,100nm,21.0s						
CONA	**Conrad Observa**	**123.61**	**325**	⇑*i*PKiKP	**PKPdf**	**15 53 15.3**	**-0.3**
	comp=Z,5.2nm,1.0s						
NKC	**Novy Kostel**	**124.12**	**329**	*e*PKPdf	**PKPdf**	**15 53 16.1**	**-0.3**
NKC	**Novy Kostel**	**124.12**	**329**	*e*PKIKP	**PKPdf**	**15 53 16.1**	**-0.3**
GERES	**GERESS Array B**	**124.29**	**327**	PKP	**PKPdf**	**15 53 16.6**	**-0.2**
	comp=Z,3.5nm,0.8s,baz=74,slow=1.9,SNR=19						
ABTA	**Abfaltersbach**	**126.16**	**326**	⇑*i*PKiKP	**PKPdf**	**15 53 19.4**	**-1.1**
	comp=Z,12nm,1.2s						
WTTA	**Wattenberg**	**126.34**	**327**	⇓*i*PKiKP	**PKPdf**	**15 53 20.5**	**-0.5**
	comp=Z,17nm,1.1s,SNR=5.6						
MOTA	**Moosalm**	**126.58**	**327**	⇓*i*PKiKP	**PKPdf**	**15 53 20.8**	**-0.6**
	comp=Z,14nm,1.0s,SNR=6.3						
MEM	**Membach**	**126.98**	**333**	PKP	**PKPdf**	**15 53 22.4**	**+0.5**
FETA	**Feichten**	**126.98**	**327**	*i* PKiKP	**PKPdf**	**15 53 22.3**	**+0.1**
	comp=Z,12nm,1.0s,SNR=6.8						
DAVA	**Damuels**	**127.27**	**328**	⇑*i*PKiKP	**PKPdf**	**15 53 22.6**	**-0.2**
	comp=Z,9.2nm,1.2s						
BFO	**Black Forest**	**127.41**	**329**	*i* PKIKP	**PKPdf**	**15 53 23.3**	**+0.5**
WLF	**Walferdange**	**127.57**	**332**	PKP	**PKPdf**	**15 53 23.9**	**+0.9**
SNF	**Seneffe**	**127.82**	**334**	PKP	**PKPdf**	**15 53 24.4**	**+1.0**
DOU	**Dourbes**	**127.98**	**333**	PKP	**PKPdf**	**15 53 24.8**	**+1.1**
TUE	**Stuetta**	**128.07**	**327**	*e*PKPdf	**PKPdf**	**15 53 23.7**	**-0.6**
ECH	**Echery**	**128.07**	**330**	*e*PKIKP	**PKPdf**	**15 53 23.3**	**-0.8**
ECH	**Echery**	**128.07**	**330**	*e*PKPdf	**PKPdf**	**15 53 23.3**	**-0.8**
KEST	**Kesra**	**134.21**	**315**	PKP	**PKPdf**	**15 53 36.4**	**+0.3**
	comp=Z,2.5nm,1.0s,baz=270,slow=4.0,SNR=4.9						
TOA0	**Torodi Ar. Sit**	**149.09**	**285**	*e*PKPbc	**PKPbc**	**15 54 06.0**	**-1.1**
TORD	**Torodi Ar. Bea**	**149.09**	**285**	PKPbc	**PKPbc**	**15 54 06.3**	**-0.8**
	comp=Z,19nm,0.9s,baz=68,slow=2.1,SNR=54						
BDFB	**Brasilia**	**151.24**	**139**	PKPbc	**PKPbc**	**15 54 11.6**	**-0.8**
	comp=Z,4.9nm,0.7s,baz=185,slow=2.9,SNR=6.8						
DBIC	**Dimbokro**	**156.13**	**273**	PKPab	**PKPab**	**15 54 40.7**	**-0.4**
	comp=Z,9.6nm,1.1s,baz=74,slow=4.4,SNR=4.5						

IDC 19 15:56:31.9±3.4, 5.83S×150.67E, h0km, mb3.1/2, mb1 3.5/2, mb1mx3.2/23, mbtmp3.2/2, Error ellipse: s-maj=132.8km s-min=45.4km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.18**	**227**	P	P	16 01 19.4	+0.3
	0.6nm,0.8s,baz=53,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**23.98**	**221**	P	P	16 01 48.5	+0.1
	0.6nm,0.6s,baz=57,slow=9.5,SNR=13						
TORD	**Torodi Ar. Bea**	**148.57**	**286**	PKPbc	PKPbc	16 16 21.0	-0.9
	0.3nm,0.6s,baz=99,slow=2.3,SNR=2.3						

IDC 19 16:02:18.8±3.4, 5.78S×150.05E, h0km, mb2.9/2, mb1 3.4/3, mb1mx3.2/23, mbtmp3.2/3, ML1.1/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/6, Error ellipse: s-maj=139.0km s-min=36.1km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.60**	**218**	Pn	Pn	16 03 31.4	+1.7
	0.6nm,0.3s,baz=27,slow=11,SNR=3.8						
PMG				Sn	Sn	16 04 24.1	+0.2
	0.4nm,0.3s,baz=19,slow=18,SNR=2.7						
GUMO	**Guam**	**19.92**	**345**	LR	LR	16 12 08.7	
	comp=Z,23nm,21.6s,baz=268,slow=30						
WRA	**Warramunga Arr**	**20.77**	**226**	P	P	16 07 01.5	-0.1
	0.8nm,0.9s,baz=52,slow=11,SNR=3.8						
ASAR	**Alice Springs**	**23.62**	**220**	P	P	16 07 31.0	-0.7
	0.3nm,0.8s,baz=54,slow=9.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**147.96**	**286**	PKPbc	PKPbc	16 22 06.7	-0.5
	0.3nm,1.0s,baz=68,slow=2.2,SNR=2.6						

*ISCJB **19** 16:06:19.5±0.7, 58.3N±0.1×31.7W±0.2, h10km, mb3.7/12, MS3.1/6, Error ellipse: s-maj=21.5km s-min=12.9km az=12.9*

*IDC **19** 16:06:19.8±0.9, 58.33N×31.68W, h0km, mb3.7/12, mb1 3.9/12, mb1mx3.7/39, mbtmp3.7/12, MS3.4/10, Ms1 3.4/10, ms1mx3.1/46, Error ellipse: s-maj=25.6km s-min=16.7km az=14.0*

ISC 19 16:06:21.3±0.8, 58.4N±0.2×31.7W±0.1, h10km, n25, σ1§14/14, mb3.8/12, MS3.1/6, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**8.09**	**33**	LR	LR	16 10 44.0	
	comp=Z,277nm,18.1s,slow=33						
SFJD	**Kangerlussuaq**	**12.23**	**323**	LR	LR	16 13 13.0	
	comp=Z,234nm,18.7s,baz=140,slow=34						
EKA	**Eskdalemuir Ar**	**15.84**	**89**	Pn	**P**	**16 10 08.0**	**+0.1**
	baz=283,slow=8.5,SNR=3.5						
FRB	**Frobisher Bay**	**18.45**	**303**	LR	LR	16 16 45.4	
	comp=Z,196nm,19.1s,baz=136,slow=34						
SCHQ	**Schefferville**	**19.53**	**275**	LR	LR	16 16 56.4	
	comp=Z,127nm,19.9s,baz=106,slow=33						
NOA	**NORSAR Array B**	**21.52**	**65**	LR	LR	16 17 53.7	
	comp=Z,48nm,21.8s,baz=45,slow=32						
HFS	**Hagfors**	**22.93**	**66**	P	**P**	**16 11 26.5**	**+1.3**
	2.8nm,0.8s,baz=298,slow=3.2,SNR=3.7						
HFS				LR	LR	16 19 19.6	
	comp=Z,54nm,20.0s,baz=312,slow=34						
ESDC	**Sonseca Array**	**25.77**	**124**	P	**P**	**16 11 52.6**	**+0.6**
	0.2nm,0.3s,baz=323,slow=8.3,SNR=5.8						
ESDC				LR	LR	16 20 18.0	
	comp=Z,44nm,20.1s,baz=345,slow=32						
DAVOX	**Davos/Dischmat**	**27.33**	**97**	LR	LR	16 22 25.9	
	comp=Z,74nm,18.3s,baz=262,slow=35						
FINES	**FINESS Array B**	**28.32**	**59**	P	**P**	**16 12 13.0**	**-1.7**
	2.0nm,0.8s,baz=298,slow=12,SNR=3.5						
VRAC	**Vranov**	**29.29**	**87**	LR	LR	16 24 16.9	
	comp=Z,88nm,19.3s,baz=308,slow=37						
AKASG	**Malin Array Be**	**35.03**	**75**	P	**P**	**16 13 13.6**	**-0.2**
	0.3nm,0.4s,baz=304,slow=8.5,SNR=5.1						
KEST	**Kesra**	**35.15**	**112**	LR	LR	16 26 00.3	
	comp=Z,38nm,21.1s,baz=298,slow=34						
YKA	**Yellowknife Ar**	**38.49**	**312**	P	**P**	**16 13 41.9**	**-1.2**
	0.5nm,0.6s,baz=57,slow=8.6,SNR=5.2						
ILAR	**Eielson Array**	**47.83**	**328**	P	**P**	**16 14 58.0**	**-0.4**
	0.6nm,0.9s,baz=32,slow=7.5,SNR=6.9						
PDAR	**Pinedale Array**	**48.98**	**287**	P	**P**	**16 15 08.5**	**+0.6**
	0.6nm,0.7s,baz=64,slow=6.9,SNR=6.0						
TORD	**Torodi Ar. Bea**	**51.61**	**137**	P	**P**	**16 15 26.7**	**-1.1**
	1.8nm,0.7s,baz=338,slow=7.6,SNR=15						
TXAR	**Lajitas Array**	**56.19**	**272**	P	**P**	**16 16 01.9**	**+0.6**
	0.3nm,0.3s,baz=30,slow=9.3,SNR=3.8						
ZALV	**Zalesovo Beam**	**56.89**	**29**	P	**P**	**16 16 07.8**	**+2.0**
	0.4nm,0.3s,baz=316,slow=6.0,SNR=2.5						
MKAR	**Makanchi Array**	**61.95**	**45**	P	**P**	**16 16 40.9**	**-0.1**
	1.2nm,0.6s,baz=341,slow=4.7,SNR=6.6						
H10S1	**ASCENSION HYDR**	**68.47**	**162**	T	T	17 31 25.7	
	baz=351,slow=75,SNR=4.0						
H10S3	**ASCENSION HYDR**	**68.48**	**162**	T	T	17 31 28.3	
	baz=351,slow=75,SNR=4.6						
H10S2	**ASCENSION HYDR**	**68.49**	**162**	T	T	17 31 24.9	
	baz=351,slow=75,SNR=4.6						
SONM	**Songino Array**	**68.68**	**29**	P	**P**	**16 17 24.4**	**-0.3**
	0.5nm,0.8s,baz=319,slow=4.2,SNR=3.4						
ASAR	**Alice Springs**	**143.84**	**23**	PKP	**PKPdf**	**16 25 57.8**	**+1.3**
	0.5nm,1.1s,baz=17,slow=1.8,SNR=4.5						

IDC 19 16:23:42.9±3.0, 5.94S×150.50E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/26, mbtmp3.3/3, ML1.2/1, Error ellipse: s-maj=118.2km s-min=35.7km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.78**	**224**	Pn	Pn	16 24 57.9	+1.7
	0.7nm,0.3s,baz=42,slow=12,SNR=3.3						
PMG				Sn	Sn	16 25 51.9	-0.4
	3.4nm,0.3s,baz=74,slow=18,SNR=7.0						
WRA	**Warramunga Arr**	**20.99**	**227**	P	P	16 28 27.5	-0.5
	0.8nm,0.6s,baz=53,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**23.78**	**220**	P	P	16 28 57.1	-0.3
	0.5nm,0.5s,baz=55,slow=9.1,SNR=18						
TORD	**Torodi Ar. Bea**	**148.44**	**285**	PKPbc	PKPbc	16 43 32.1	-0.5
	0.5nm,0.5s,baz=66,slow=3.1,SNR=6.9						

IDC 19 16:28:06.7±3.5, 5.80S×149.84E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.4/29, mbtmp3.6/3, ML1.6/1, Error ellipse: s-maj=137.6km s-min=35.6km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.45**	**216**	Pn	Pn	16 29 17.5	+2.0
	2.4nm,0.3s,baz=45,slow=13,SNR=8.4						
PMG				Sn	Sn	16 30 09.8	+1.6
	2.5nm,0.3s,baz=143,slow=20,SNR=4.7						
WRA	**Warramunga Arr**	**20.60**	**226**	P	P	16 32 47.9	+0.2
	3.1nm,0.8s,baz=51,slow=11,SNR=17						
ASAR	**Alice Springs**	**23.46**	**219**	P	P	16 33 16.6	-1.5
	0.6nm,0.9s,baz=53,slow=9.8,SNR=10.0						
TORD	**Torodi Ar. Bea**	**147.77**	**285**	PKPbc	PKPbc	16 47 54.4	-0.3
	0.2nm,0.3s,baz=87,slow=2.5,SNR=2.7						

*IDC **19** 16:36:07.2±1.7, 52.52N×169.60W, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.6/53, mbtmp3.7/6, ML3.6/1, MS3.0/1, Ms1 3.1/1, ms1mx2.3/57, Error ellipse: s-maj=55.9km s-min=28.3km az=138.0*

*NEIC **19** 16:36:08.4, 52.73N×169.47W, h0km, mb3.8/1, ML3.5(AEIC), After AEIC.*

ISC 19 16:36:09.3±0.8, 52.9N±0.1×169.56W±0.07, h10km, n30, σ1§27/28, mb3.9/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.43**	**79**	P	**Pb**	**16 36 18.9**	**-0.1**
NIKH				S	**Sb**	**16 36 26.9**	**+1.2**
OKCE	**Okmok Cone E**	**0.99**	**57**	P	**Pn**	**16 36 29.5**	**+0.1**
OKAK	**Okmok**	**1.00**	**46**	P	**Pg**	**16 36 28.9**	**+0.4**
OKAK				S	**Sg**	**16 36 43.0**	**+1.6**
OKTU	**Okmok Mt. Tuli**	**1.04**	**61**	P	**Pn**	**16 36 30.2**	**+0.3**
MSOM	**Makushin Julie**	**1.82**	**58**	P	**Pb**	**16 36 42.6**	**0.0**
MSOM				S	**Sg**	**16 37 07.2**	**-0.5**
MCIR	**Makushin Cirqu**	**1.92**	**55**	P	**Pb**	**16 36 44.3**	**0.0**
MSW	**Makushin Switc**	**1.95**	**57**	P	**Pb**	**16 36 44.1**	**-0.8**
MTBL	**Makushin Table**	**2.03**	**57**	P	**Pn**	**16 36 44.9**	**+1.2**
UNV	**Unalaska Valle**	**2.06**	**61**	P	**Pn**	**16 36 44.4**	**+0.4**
UNV				S	**Sb**	**16 37 12.4**	**-0.1**
AKRB	**Akutan Reef Bi**	**2.42**	**58**	P	**Pb**	**16 36 51.1**	**-1.9**
ZRO	**Akutan Zero**	**2.45**	**59**	P	**Pb**	**16 36 51.2**	**-2.3**
AKGG	**Akutan Green G**	**2.50**	**57**	P	**Pb**	**16 36 52.5**	**-1.8**
AKUT	**Akutan**	**2.58**	**60**	*e*Pn	**Pb**	**16 36 53.6**	**-2.1**
ATKA	**Atka Island**	**2.92**	**258**	P	**Pn**	**16 36 56.7**	**+1.0**
GSTR	**Great Sitkin T**	**4.05**	**261**	*e*Pn	**Pn**	**16 37 12.2**	**+0.8**
GSCK	**Great Sitkin C**	**4.14**	**260**	P	**Pn**	**16 37 13.3**	**+0.8**
BPAW	**Bear Paw Mtn.**	**14.77**	**33**	*e*P	**P**	**16 39 43.3**	**-0.8**
	4.0nm,1.7s						
ILAR	**Eielson Array**	**16.59**	**35**	Pn	**P**	**16 40 03.3**	**-0.9**
	0.1nm,0.3s,baz=228,slow=11,SNR=5.0						
ILAR				LR	LR	16 45 35.6	
	comp=Z,52nm,21.1s,baz=298,slow=34						
DLBC	**Dease Lake**	**22.72**	**60**	P	**P**	**16 41 12.1**	**+1.0**
	2.8nm,0.7s,baz=266,slow=8.5,SNR=7.3						
DLBC	**Dease Lake**	**22.72**	**60**	*e*P	**P**	**16 41 14.0**	**+2.9**
	3.6nm,1.0s						
YKA	**Yellowknife Ar**	**29.98**	**50**	P	**P**	**16 42 18.5**	**+1.0**
	0.3nm,0.5s,baz=276,slow=8.2,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**37.80**	**218**	T	T	17 23 04.4	
	baz=24,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**37.80**	**218**	T	T	17 23 13.9	
	baz=24,slow=76,SNR=22						
H11N1	**WAKE ISLAND Hy**	**37.81**	**218**	T	T	17 23 14.2	
	baz=24,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**38.99**	**217**	T	T	17 24 46.2	
	baz=23,slow=76,SNR=401						
H11S2	**WAKE ISLAND Hy**	**39.00**	**217**	T	T	17 24 46.2	
	baz=23,slow=76,SNR=314						
H11S3	**WAKE ISLAND Hy**	**39.00**	**217**	T	T	17 24 35.1	
	baz=23,slow=76,SNR=277						
PDAR	**Pinedale Array**	**40.42**	**80**	P	**P**	**16 43 47.9**	**+0.1**
	0.9nm,0.7s,baz=319,slow=4.1,SNR=8.2						
TXAR	**Lajitas Array**	**52.85**	**89**	P	**P**	**16 45 25.0**	**-0.2**
	1.2nm,0.6s,baz=299,slow=4.9,SNR=14						
ASAR	**Alice Springs**	**90.64**	**230**	P	**P**	**16 49 10.2**	**-1.7**
	0.6nm,0.9s,baz=28,slow=4.0,SNR=5.4						

IDC 19 16:38:30.9±2.0, 5.04N×126.45E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/35, mbtmp3.5/4, Error ellipse: s-maj=163.4km s-min=25.9km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.01**	**163**	P	P	16 44 05.3	-0.5
	0.9nm,0.7s,baz=344,slow=10.0,SNR=9.9						
ASAR	**Alice Springs**	**29.45**	**166**	P	P	16 44 35.8	-0.8
	0.1nm,0.5s,baz=342,slow=7.2,SNR=4.9						
STKA	**Stephens Creek**	**39.45**	**160**	P	P	16 46 04.1	+1.2
	1.7nm,0.8s,baz=337,slow=8.2,SNR=4.5						
MKAR	**Makanchi Array**	**56.33**	**325**	P	P	16 48 13.6	-0.1
	0.2nm,0.5s,baz=124,slow=6.8,SNR=4.8						

*NIED **19** 16:46:00, 33.60N×140.40E, h65km, Mw3.8 Best double couple: M0 6.12000×10^14 NP1:φs 174.00000°, δ36.00000°, λ-53.00000°. NP2:φs 310.00000°, δ62.00000°, λ-114.00000°.*

*IDC **19** 16:46:40.8±2.5, 33.07N×139.46E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.6/

ellipse: s-maj=78.6km s-min=39.4km az=110.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.17	218	Pn	Pn	16 51 59.9	+1.5
	5.3nm,0.3s,baz=32,slow=15,SNR=28						
WRA	Warramunga Arr	20.33	226	P	P	16 55 31.4	-0.2
	2.6nm,0.5s,baz=51,slow=11,SNR=24						
ASAR	Alice Springs	23.18	219	P	P	16 56 00.8	-1.3
	0.4nm,0.4s,baz=55,slow=9.2,SNR=22						
STKA	Stephens Creek	26.75	196	P	P	16 56 35.2	+0.2
	2.0nm,0.8s,baz=22,slow=12,SNR=4.2						
TORD	Torodi Ar. Bea	147.76	285	PKPbc	PKPbc	17 10 41.3	-0.2
	0.6nm,0.5s,baz=70,slow=3.7,SNR=8.4						

NEIC ***19*** *16:56:02.0,52.°69N×169.°42W,h2km,mb3.9/6, ML3.7(AEIC),After AEIC.*
IDC ***19*** *16:56:10.0±0.7,52.°74N×169.°57W,h0km,mb3.8/12, mb1 4.1/14,mb1mx3.8/50,mbtmp3.8/14,ML3.5/2,MS3.0/2, Ms1 3.0/2,ms1mx2.6/65,Error ellipse: s-maj=25.2km s-min=14.5km az=174.0*
ISC 19 16:56:11.8±0.8,52.°9N±0.°2×169.°38W±0.°07,h10km,n43, σ1.°26/26,mb4.0/17,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.33	77	P	Pg	16 56 12.5	-5.8
NIKH				S	Sg	16 56 20.3	-2.4
OKCE	Okmok Cone E	0.90	54	P	Pb	16 56 22.8	-6.7
OKTU	Okmok Mt. Tuli	0.94	59	P	Pb	16 56 23.5	-6.7
MCIR	Makushin Cirqu	1.82	54	P	Pn	16 56 37.5	-5.8
MSW	Makushin Switc	1.86	56	P	Pn	16 56 37.9	-5.8
MTBL	Makushin Table	1.94	55	P	Pn	16 56 37.9	-6.9
UNV	Unalaska Valle	1.97	60	P	Pn	16 56 37.4	-7.7
UNV				S	Sn	16 57 07.5	-2.4
AKUT	Akutan	2.48	59	ePn	Pn	16 56 46.3	-5.9
AKUT				e		16 56 57.8	
ATKA	Atka Island	3.02	259	P	Pn	16 56 50.9	-8.7
GSTR	Great Sitkin T	4.16	261	ePn	Pn	16 57 08.8	-6.5
SPIA	Saint Paul Isl	4.32	354	P	Pn	16 57 13.3	-4.1
AMKA	Amchitka	7.13	262	ePn	Pn	16 57 49.0	-7.0
	35nm,0.6s						
AMKA						16 57 57.4	
BPAW	Bear Paw Mtn.	14.71	33	Pn	Pn	16 59 33.9	-5.7
	1.3nm,0.7s						
ILAR	Eielson Array	16.52	35	Pn	Pn	17 00 03.7	+0.5
	0.1nm,0.3s,baz=234,slow=9.0,SNR=7.1						
ILAR				LR	LR	17 07 02.5	
	comp=Z,60nm,18.1s,baz=195,slow=39						
EGAK	Eagle	18.63	39	P	P	17 00 23.1	-6.0
	2.3nm,0.6s						
EGAK				e		17 00 31.1	
HYT	Haines Junctio	18.98	53	eP	Pn	17 00 36.5	+2.7
PETK	Petropavlovsk-	19.72	284	P	Pn	17 00 41.8	-0.9
	0.2nm,0.3s,baz=100,slow=13,SNR=4.0						
DLBC	Dease Lake	22.62	60	P	P	17 01 14.1	+1.6
	5.8nm,1.2s,baz=292,slow=8.8,SNR=5.2						
YKA	Yellowknife Ar	29.90	50	P	P	17 02 21.0	+1.7
	0.4nm,0.4s,baz=274,slow=7.8,SNR=7.0						
CHMT	Chamberlain Mo	35.84	76	eP	P	17 03 11.3	-0.2
MCMT	McKenzie Canyo	37.18	79	eP	P	17 03 15.0	-8.0
	0.9nm,0.5s						
MCMT				e		17 03 23.8	
BOZ	Bozeman (W)	37.46	77	eP	P	17 03 26.0	+0.7
	1.2nm,0.5s						
NVAR	Mina Array Bea	37.68	92	P	P	17 03 28.6	+1.3
	1.2nm,0.9s,baz=303,slow=8.5,SNR=5.0						
NVAR				PcP	PcP	17 05 44.8	+0.4
	0.5nm,0.6s,baz=336,slow=3.3,SNR=3.8						
H11N2	WAKE ISLAND Hy	37.87	218	T	T	17 43 25.3	
	baz=24,slow=76,SNR=91						
H11N3	WAKE ISLAND Hy	37.87	218	T	T	17 43 28.4	
	baz=24,slow=76,SNR=70						
H11N1	WAKE ISLAND Hy	37.88	218	T	T	17 43 29.3	
	baz=24,slow=76,SNR=72						
H11S1	WAKE ISLAND Hy	39.06	218	T	T	17 44 55.1	
	baz=23,slow=76,SNR=1094						
H11S2	WAKE ISLAND Hy	39.07	218	T	T	17 44 53.9	
	baz=23,slow=76,SNR=585						
H11S3	WAKE ISLAND Hy	39.07	218	T	T	17 44 56.4	
	baz=23,slow=76,SNR=834						
PDAR	Pinedale Array	40.31	80	P	P	17 03 50.0	+0.7
	2.1nm,0.8s,baz=315,slow=5.5,SNR=12						
MVU	Marysvale	41.33	87	eP	P	17 03 58.9	+1.2
	3.1nm,1.1s						
KSRS	Korea Array	45.34	276	P	P	17 04 29.8	+0.1
	0.8nm,0.7s,baz=62,slow=8.0,SNR=4.3						
KSAR	Wonju Array Be	45.37	276	P	P	17 04 29.8	-0.2
SDCO	Great Sand Dun	45.86	83	eP	P	17 04 34.9	+0.6
	1.9nm,0.9s						
SONM	Songino Array	51.02	300	P	P	17 05 13.1	-0.7
	0.2nm,0.5s,baz=57,slow=5.3,SNR=2.4						
SONM				PcP	PcP	17 06 29.8	+0.1
	1.8nm,0.7s,baz=41,slow=3.5,SNR=11						
WMOK	Wichita Mounta	51.90	81	eP	P	17 05 20.4	0.0
	2.5nm,0.8s						
TXAR	Lajitas Array	52.75	89	P	P	17 05 27.1	+0.3
	2.8nm,0.6s,baz=300,slow=5.3,SNR=11						
TXAR				PcP	PcP	17 06 36.7	+0.4
	0.5nm,0.6s,baz=276,slow=3.5,SNR=2.8						
MKAR	Makanchi Array	63.43	313	P	P	17 06 41.7	+0.3
	0.3nm,0.7s,baz=64,slow=3.4,SNR=3.3						
FINES	FINESS Array B	65.34	352	P	P	17 06 53.5	0.0
	2.7nm,1.1s,baz=337,slow=8.7,SNR=3.5						
HFS	Hagfors	67.29	358	P	P	17 07 05.8	-0.3
	0.4nm,0.3s,baz=48,slow=2.1,SNR=4.1						
TEIG	Tepich	68.81	84	LR	LR	17 37 09.2	
	comp=Z,7.2nm,20.5s,baz=206,slow=36						
WRA	Warramunga Arr	87.33	232	P	P	17 08 56.7	-2.0
	0.7nm,0.7s,baz=35,slow=5.5,SNR=6.3						
ASAR	Alice Springs	90.73	230	P	P	17 09 13.5	-1.2
	1.3nm,0.6s,baz=25,slow=4.7,SNR=11						

IDC ***19*** *17:09:20.8±0.5,52.°70N×169.°69W,h0km,mb4.1/29, mb1 4.2/31,mb1mx4.1/64,mbtmp4.1/31,ML3.9/2,MS3.4/1, Ms1 3.4/1,ms1mx2.9/64,Error ellipse: s-maj=16.7km s-min=9.7km az=176.0*
ISCJB ***19*** *17:09:21.1±0.2,52.°68N±0.°05×169.°62W±0.°05,h10km, mb4.2/63,Error ellipse: s-maj=7.2km s-min=3.2km az=158.8*
NEIC ***19*** *17:09:21.8,52.°65N×169.°43W,h2km,mb4.4/39, ML4.2(AEIC),After AEIC.*
ISC 19 17:09:22.4±0.5,52.°71N±0.°08×169.°49W±0.°05,h10km, n121,σ1.°23/115,mb4.3/63,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.47	56	P	Pb	17 09 32.3	-0.5
NIKH				S	Sb	17 09 40.5	+0.7
OKCE	Okmok Cone E	1.07	48	P	Pg	17 09 42.8	-0.3
OKCE				S	Sn	17 10 01.2	+2.7
OKAK	Okmok	1.10	38	P	Pb	17 09 41.8	-1.8
OKTU	Okmok Mt. Tuli	1.10	52	P	Pn	17 09 43.4	-0.6
MSOM	Makushin Julie	1.89	53	P	Pn	17 09 55.0	+0.4
MSOM				S	Sg	17 10 21.3	-1.7
MCIR	Makushin Cirqu	1.99	50	P	Pn	17 09 56.9	+0.7
MSW	Makushin Switc	2.02	52	P	Pn	17 09 57.0	+0.4
MTBL	Makushin Table	2.11	52	P	Pn	17 09 58.4	+0.6
UNV	Unalaska Valle	2.12	57	P	Pn	17 09 57.8	-0.1
UNV				S	Sb	17 10 26.1	-1.3
ZRO	Akutan Zero	2.52	55	P	Pn	17 10 04.3	+0.9
AKGG	Akutan Green G	2.57	53	P	Pn	17 10 05.3	+1.2
AKUT	Akutan	2.64	56	P	Pn	17 10 05.4	+0.3
ATKA	Atka Island	2.92	262	P	Pn	17 10 09.8	+0.9
WESP	Westdahl Peak	3.36	56	P	Pn	17 10 16.3	+1.4
WESN	West Dahl Nort	3.46	56	P	Pn	17 10 17.8	+1.4
GSTR	Great Sitkin T	4.07	264	ePn	Pn	17 10 25.2	+0.5
GSMY	Great Sitkin M	4.08	263	P	Pn	17 10 26.6	+1.8
GSCK	Great Sitkin C	4.15	263	P	Pn	17 10 27.3	+1.6
FALS	False Pass	4.20	57	ePn	Pn	17 10 28.4	+2.0
ADAG	Mount Adagdak	4.42	263	P	Pn	17 10 31.6	+2.1
SPIA	Saint Paul Isl	4.50	355	P	Pn	17 10 32.9	+2.4
SDPT	Sand Point	5.93	60	ePn	Pn	17 10 52.6	+2.4
	115nm,0.9s						
AMKA	Amchitka	7.04	264	ePn	Pn	17 11 07.4	+2.0
	48nm,0.6s						
CHGN	Chignik	7.38	56	ePn	Pn	17 11 12.9	+2.8
RC01	Rabbit Creek A	13.62	44	ePn	Pn	17 12 37.5	+2.0
PPLA	Purkeypile	13.70	35	eP	Pn	17 12 36.0	-0.6
	48nm,1.3s						
TRF	Thorofare Moun	14.72	36	eP	Pn	17 12 50.7	+0.1
	37nm,1.5s						
BPAW	Bear Paw Mtn.	14.90	33	eP	Pn	17 12 54.2	+1.3
	3.4nm,0.8s						
MCK	McKinley	15.38	36	eP	P	17 13 02.1	-1.8
	8.5nm,1.1s						
IM04	Indian Mountai	15.45	25	eP	P	17 13 05.6	+0.9
BMRM	Bremner River	15.84	49	eP	P	17 13 08.0	-1.1
	10nm,0.7s						
ILAR	Eielson Array	16.71	35	Pn	Pn	17 13 15.6	-0.7
	0.3nm,0.3s,baz=226,slow=11,SNR=17						
COLD	Coldfoot	17.34	26	eP	P	17 13 27.2	+1.6
	45nm,1.5s						
EGAK	Eagle	18.82	39	eP	Pn	17 13 41.8	-0.5
	2.9nm,0.4s						
HYT	Haines Junctio	19.15	52	eP	Pn	17 13 47.5	+0.9
	12nm,0.6s						
PETK	Petropavlovsk-	19.70	284	P	P	17 13 51.8	+0.2
	1.0nm,0.3s,baz=94,slow=13,SNR=12						
PETK				LR	LR	17 20 26.4	
	comp=Z,116nm,21.5s,baz=94,slow=34						
SKAG	Skagway	20.05	57	eP	Pn	17 13 57.8	+0.7
	35nm,0.9s						
H02N1	VAN INLET T-PH	22.10	74	T	T	17 37 17.6	
	SNR=23						
H02S1	DAWSON INLET T	22.15	74	T	T	17 37 17.6	
	SNR=54						
SEY	Seymchan	22.38	312	P	P	17 14 19.1	-1.4
	2.6nm,0.8s,baz=40,slow=23,SNR=6.7						
SEY				PcP	PcP	17 18 15.4	+0.5
	1.8nm,0.6s,baz=180,slow=3.0,SNR=9.8						
DLBC	Dease Lake	22.78	60	P	P	17 14 27.2	+2.5
	15nm,1.1s,baz=275,slow=9.2,SNR=19						
DLBC	Dease Lake	22.78	60	eP	P	17 14 28.3	+3.5
INK	Inuvik	23.10	34	P	P	17 14 29.6	+1.6
	4.8nm,0.7s,baz=233,slow=10,SNR=6.5						
INK	Inuvik	23.10	34	eP	P	17 14 29.4	+1.4
	5.5nm,0.9s						
YKA	Yellowknife Ar	30.07	49	P	P	17 15 31.6	+0.2
	0.8nm,0.4s,baz=273,slow=7.9,SNR=16						
NEW	Newport	33.00	76	P	P	17 15 58.6	+1.3
	2.6nm,0.5s,baz=313,slow=8.3,SNR=4.8						
NEW	Newport	33.00	76	eP	P	17 15 58.5	+1.1
	3.3nm,0.7s						
MOD	Modoc	34.42	88	eP	P	17 16 09.2	-0.8
	12nm,1.4s						
BSMT	Bassoo Peak	34.58	76	eP	P	17 16 12.4	+1.1
	11nm,1.4s						
BMO	Blue Mountains	34.60	82	eP	P	17 16 07.6	-3.8
	8.4nm,1.5s						
WVOR	Wild Horse Val	35.13	86	eP	P	17 16 16.4	+0.4
	14nm,1.4s						
SLMT	Seeley Lake	35.64	76	eP	P	17 16 23.9	+3.5
	5.3nm,1.0s						
CHMT	Chamberlain Mo	35.95	76	eP	P	17 16 23.3	+0.2
	1.6nm,0.6s						
BMN	Battle Mountai	37.17	88	eP	P	17 16 34.4	+0.9
	6.2nm,1.2s						
MCMT	McKenzie Canyo	37.28	79	eP	P	17 16 35.2	+0.7
	2.0nm,0.6s						
EGMT	Eagleton	37.43	73	eP	P	17 16 36.5	+0.9
	19nm,1.2s						
BOZ	Bozeman (W)	37.57	77	eP	P	17 16 37.8	+0.9
	2.1nm,0.6s						
H11N2	WAKE ISLAND Hy	37.68	218	T	T	17 56 30.0	
	baz=24,slow=76,SNR=196						
H11N3	WAKE ISLAND Hy	37.68	218	T	T	17 56 34.0	
	baz=24,slow=76,SNR=302						
H11N1	WAKE ISLAND Hy	37.69	218	T	T	17 56 31.3	
	baz=24,slow=76,SNR=165						
NVAR	Mina Array Bea	37.75	91	P	P	17 16 40.7	+2.2
	1.5nm,0.7s,baz=301,slow=8.4,SNR=9.4						
ELK	Elko	38.18	86	P	P	17 16 43.8	+1.6
	2.5nm,0.9s,baz=296,slow=5.3,SNR=6.0						
ELK	Elko	38.18	86	eP	P	17 16 43.5	+1.3
	4.7nm,1.2s						
USRK	Ussuriysk Ar.	38.75	281	P	P	17 16 44.5	-2.1
	1.3nm,0.5s,baz=146,slow=42,SNR=3.2						
H11S1	WAKE ISLAND Hy	38.87	218	T	T	17 57 58.2	
	baz=23,slow=76,SNR=2601						
H11S2	WAKE ISLAND Hy	38.88	218	T	T	17 57 59.4	
	baz=23,slow=76,SNR=2767						
H11S3	WAKE ISLAND Hy	38.88	218	T	T	17 57 59.5	
	baz=23,slow=76,SNR=2036						
RLMT	Red Lodge	39.25	76	eP	P	17 16 52.5	+1.5
	21nm,1.6s						
R11A	Troy Canyon, C	39.45	89	eP	P	17 16 53.9	+1.1
	11nm,1.4s						
MJAR	Matsushiro Arr	39.63	267	P	P	17 16 54.1	0.0
	1.2nm,0.6s,baz=35,slow=6.7,SNR=6.3						
MJAR				PcP	PcP	17 19 01.1	+0.2
	1.5nm,0.9s,baz=167,slow=1.3,SNR=4.3						
DUG	Dugway	39.99	85	eP	P	17 16 58.5	+1.3
	14nm,1.4s						
BW06	Boulder Array	40.41	79	eP	P	17 17 01.5	+0.7
	4.2nm,0.9s						
PDAR	Pinedale Array	40.41	79	P	P	17 17 01.1	+0.3
	1.9nm,0.7s,baz=321,slow=4.9,SNR=14						
GSC	Goldstone	40.69	94	eP	P	17 17 04.0	+1.0
	9.4nm,1.1s						
CCUT	Cedar City	41.31	88	eP	P	17 17 09.9	+1.7
	12nm,1.5s						
MVU	Marysvale	41.40	86	eP	P	17 17 11.1	+2.1
	6.8nm,1.1s						
MSU	Marysvale	41.42	86	eP	P	17 17 11.1	+2.0
	6.0nm,1.2s						
SRU	San Rafael	42.05	85	eP	P	17 17 15.2	+1.0
	21nm,1.5s						
PFO	Pinyon Flat Ob	42.05	95	P	P	17 17 13.6	-0.6
	1.6nm,0.6s,baz=276,slow=8.6,SNR=2.5						
K22A	Casper	42.29	78	eP	P	17 17 16.5	+0.4
	2.4nm,0.4s						
MDND	Maddock	43.32	67	eP	P	17 17 24.8	+0.6
	14nm,0.9s						
ULM	Lac du Bonnet	44.06	62	P	P	17 17 30.0	-0.1
	2.2nm,0.6s,baz=312,slow=12,SNR=3.8						
AGMN	Agassiz Nation	45.15	65	eP	P	17 17 38.3	-0.6
	15nm,1.1s						
KSRS	Korea Array	45.29	276	P	P	17 17 40.6	+0.5
	1.0nm,0.7s,baz=59,slow=4.9,SNR=3.3						
KSAR	Wonju Array Be	45.32	276	P	P	17 17 40.5	+0.2
SDCO	Great Sand Dun	45.95	82	eP	P	17 17 46.7	+1.1
	2.3nm,0.8s						
TUC	Tucson	46.39	92	eP	P	17 17 50.1	+1.1
	8.9nm,1.3s						
LAZ	Ladron	47.17	87	eP	P	17 17 56.8	+1.6
	4.7nm,1.2s						
ANMO	Albuquerque	47.22	86	P	P	17 17 56.0	+0.4
	0.8nm,0.6s,baz=300,slow=9.1,SNR=5.0						
EYMN	Ely	47.73	63	eP	P	17 17 58.9	-0.3
	17nm,1.3s						
121A	Cookes Peak, D	48.06	89	eP	P	17 18 02.6	+0.5
	12nm,1.3s						
SONM	Songino Array	51.06	300	P	P	17 18 23.7	-1.0
	0.3nm,0.4s,baz=141,slow=5.5,SNR=3.3						
SONM				PcP	PcP	17 19 39.7	-0.8
	1.5nm,0.7s,baz=57,slow=2.4,SNR=9.2						
WMOK	Wichita Mounta	52.00	81	eP	P	17 18 31.6	-0.1
	4.1nm,0.9s						
TXAR	Lajitas Array	52.82	89	P	P	17 18 38.4	+0.4
	3.5nm,0.8s,baz=299,slow=5.6,SNR=27						
WHTX	Lake Whitney	54.70	82	eP	P	17 18 52.4	+0.8
	26nm,1.2s						
HKT	Hockley	57.13	83	eP	P	17 19 09.5	+0.6
	48nm,1.9s						
KURK	Kurchatov	62.07	318	P	P	17 19 42.6	-0.1
KURBB	Kurchatov Arra	62.17	318	P	P	17 19 42.6	-0.8
	0.8nm,0.9s,baz=43,slow=7.3,SNR=9.0						
BVAR	Borovoye Array	63.38	324	P	P	17 19 49.7	-1.8
	0.7nm,0.5s,baz=46,slow=6.9,SNR=4.9						
MKAR	Makanchi Array	63.51	313	P	P	17 19 51.3	-1.2
	0.1nm,0.4s,baz=53,slow=5.6,SNR=2.5						
FINES	FINESS Array B	65.52	352	P	P	17 20 05.7	+0.4
	2.5nm,0.9s,baz=353,slow=9.6,SNR=3.5						
HFS	Hagfors	67.48	358	P	P	17 20 18.3	+0.5
	0.9nm,0.7s,baz=135,slow=38,SNR=3.1						
AKTO	Aktyubinsk	69.67	330	P	P	17 20 31.9	+0.1
	0.8nm,0.6s,baz=22,slow=8.3,SNR=3.9						
OBN	Obninsk	70.39	344	P	P	17 20 36.7	+0.6
	13nm,0.4s,baz=6.4,slow=20,SNR=2.7						
SIJI	Sorong	72.59	244	P	P	17 20 49.7	-0.2
	5.1nm,0.7s,baz=105,slow=16,SNR=3.8						
FAKI	Fak Fak	73.77	242	P	P	17 20 57.9	+1.1
	baz=5.1,SNR=8.2						
AKASG	Malin Array Be	75.75	348	P	P	17 21 06.6	-1.3
	0.3nm,0.4s,baz=9.8,slow=6.3,SNR=3.2						
CMAR	Chiang Mai Arr	76.47	283	P	P	17 21 12.3	-0.1
	0.6nm,0.8s,baz=34,slow=6.6,SNR=3.6						
VRAC	Vranov	78.22	356	P	P	17 21 22.0	+0.1
	1.9nm,0.6s,baz=231,slow=4.9,SNR=3.7						
GERES	GERESS Array B	78.78	358	P	P	17 21 23.7	-1.3
	0.2nm,0.5s,baz=7.8,slow=7.9,SNR=2.6						
GEYT	Alibeck	80.71	324	P	P	17 21 35.3	-0.3
	0.6nm,0.5s,baz=12,slow=7.4,SNR=2.2						
CTA	Charters Tower	82.03	221	P	P	17 21 42.6	0.0
	1.1nm,0.6s,baz=309,slow=8.5,SNR=3.9						
ESDC	Sonseca Array	87.13	11	P	P	17 22 08.7	+0.3
	0.1nm,0.3s,baz=343,slow=8.2,SNR=2.3						
WRA	Warramunga Arr	87.16	231	P	P	17 22 07.2	-1.3
	1.3nm,0.7s,baz=36,slow=5.7,SNR=18						
AS31	Alice Springs	90.56	230	eP	P	17 22 21.9	-2.6
ASAR	Alice Springs	90.56	230	P	P	17 22 23.1	-1.5
	2.3nm,0.6s,baz=22,slow=4.9,SNR=58						
TORD	Torodi Ar. Bea	113.97	9	PKKPab	PKKPab	17 38 48.2	-4.3
	1.2nm,0.7s,baz=170,slow=4.2,SNR=7.1						
TSUM	Tsumeb	146.10	348	ePKPdf	PKPab	17 29 02.8	-0.5
LBTB	Lobatse	150.08	332	ePKPbc	PKPbc	17 29 13.0	-0.2
MAW	Mawson	151.09	219	PKPbc	PKPbc	17 29 13.6	-0.5
	1.9nm,0.5s,baz=77,slow=4.4,SNR=14						
BOSA	Boshof	153.56	330	PKPbc	PKPbc	17 29 20.6	-0.5
	1.4nm,0.4s,baz=26,slow=2.5,SNR=7.7						

ISCJB ***19*** *17:09:56.3±0.4,67.°06N±0.°02×20.°93E±0.°08,h0km,Error ellipse: s-maj=4.8km s-min=2.7km az=175.2*
UPP ***19*** *17:09:57.1,67.°07N×20.°94E,h0km,ML2.3,Mining explosion.*
CSEM ***19*** *17:09:57.7±0.2,67.°05N×21.°02E,h2km,ML2.3,Error ellipse: s-maj=4.1km s-min=2.8km az=79.0,Mining explosion.*
HEL ***19*** *17:09:57.7,67.°07N×20.°91E,h0km,ML2.5,Explosion*
HEL ***19*** *17:09:57.7±0.1,67.°08N×20.°92E,h0km,ML2.5, ML2.3(UPP),Explosion*
IDC ***19*** *17:09:57.5±0.9,67.°05N×21.°17E,h0km,mb1 3.0/4, mb1mx2.8/60,mbtmp2.9/4,ML2.4/4,Error ellipse: s-maj=14.8km s-min=7.7km az=114.0*
NAO ***19*** *17:09:58.1±0.9,67.°06N×21.°20E,ML3.0*
BER ***19*** *17:10:00.7±2.5,67.°06N×20.°84E,h0km,ML1.9, ML3.0(NAO),Suspected explosion*
ISC 19 17:09:57.2±0.7,67.°06N±0.°02×20.°92E±0.°03,h0km,n75, σ1.°09/116,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	Ertsjaerv	0.71	135	eP	Pg	17 10 10.3	-0.5
ERTU				eS	Sg	17 10 20.7	+0.6
ERTU	Ertsjaerv	0.71	135	P	Pg	17 10 10.3	-0.5
ERTU				S	Sg	17 10 20.7	+0.6
ERTU	Ertsjaerv	0.71	135	P	Pg	17 10 10.5	-0.3
ERTU				S	Sg	17 10 20.7	+0.6
PAJU	Pajala	0.86	91	iP	Pg	17 10 13.1	-0.6
PAJU	Pajala	0.86	91	P	Pg	17 10 13.1	-0.6
PAJU	Pajala	0.86	91	P	Pg	17 10 13.1	-0.6
HARU	Harads	0.90	179	eP	Pg	17 10 14.1	-0.3
HARU	Harads	0.90	179	P	Pg	17 10 14.1	-0.3
HARU	Harads	0.90	179	P	Pg	17 10 14.1	-0.3
KUA	Kurravaara	0.93	346	eP	Pg	17 10 14.3	-0.7
KUA	Kurravaara	0.93	346	P	Pg	17 10 14.3	-0.7
KUA	Kurravaara	0.93	346	P	Pg	17 10 14.3	-0.7
LANU	Lannavaara	1.08	22	eP	Pg	17 10 16.7	-1.1
LANU	Lannavaara	1.08	22	P	Pg	17 10 16.8	-1.1
LANU	Lannavaara	1.08	22	P	Pg	17 10 16.8	-1.1
NIKU	Nikkaluokta	1.09	319	eP	Pg	17 10 17.5	-0.6
NIKU	Nikkaluokta	1.09	319	P	Pg	17 10 17.5	-0.6
NIKU	Nikkaluokta	1.09	319	P	Pg	17 10 17.5	-0.6
KALU	Kalix	1.55	140	eP	Pn	17 10 25.4	-0.6
KALU				eSN	Sg	17 10 47.5	+0.5
KALU	Kalix	1.55	140	P	Pn	17 10 25.4	-0.6
KALU				Sn	Sg	17 10 47.4	+0.5
KALU	Kalix	1.55	140	P	Pn	17 10 25.5	-0.6
SJUU	Sjulsmark	1.58	170	eP	Pn	17 10 26.3	-0.2
SJUU	Sjulsmark	1.58	170	P	Pn	17 10 26.2	-0.2
SJUU	Sjulsmark	1.58	170	P	Pn	17 10 26.3	-0.2
HEF	Hetta	1.71	36	eP	Pn	17 10 27.8	-0.6
	baz=217						
HEF				MSG		17 10 48.5	
	comp=Z,38nm,0.2s						
HEF				eSN	Sn	17 10 50.9	+0.1
HEF	Hetta	1.71	36	P	Pn	17 10 27.7	-0.6
HEF				Sn	Sn	17 10 50.9	+0.1
KIF	Kilpisjarvi	1.96	359	Pn	Pb	17 10 33.1	-0.6
KIF				Lg	Lg	17 11 00.3	
KIF	Kilpisjarvi	1.96	359	Pn	Pb	17 10 33.1	-0.6
KIF				eSg	Sg	17 11 00.3	+0.3
KIF	Kilpisjarvi	1.96	359	ePG	Pb	17 10 32.9	-0.7
	baz=178						
KIF				MSG		17 10 56.5	
	comp=Z,37nm,0.2s						
KIF				eSG	Sg	17 10 59.8	-0.2
KIF	Kilpisjarvi	1.96	359	Pn	Pb	17 10 33.1	-0.6
	SNR=50						
KIF				eSg	Sg	17 11 00.3	+0.3
	SNR=90						
RNF	Rovaniemi	2.06	100	ePB	Pn	17 10 33.9	+0.7
RNF				eSG	Sb	17 11 01.7	0.0
RNF	Rovaniemi	2.06	100	Pb	Pn	17 10 33.8	+0.7
RNF				Sb	Sb	17 11 01.7	0.0
KTK1	Kautokeino	2.15	23	eP	Pn	17 10 35.7	+1.4
KTK1				eS	Sn	17 11 02.8	+1.2
KTK1				IAML		17 11 04.9	
	comp=Z,14nm,0.2s						
KTK1	Kautokeino	2.15	23	eP	Pn	17 10 35.7	+1.4
	SNR=50						
KTK1				eS	Sn	17 11 02.8	+1.2
	SNR=50						
SGF	Sodankyl	2.21	77	eP	Pn	17 10 35.7	+0.6
SGF				eSG	Sb	17 11 06.2	+0.3
SGF	Sodankyl	2.21	77	P	Pn	17 10 35.7	+0.6
SGF				Sg	Sb	17 11 06.2	+0.3
STEI	Steigen	2.35	294	eP	Pn	17 10 38.4	+1.3
STEI	Steigen	2.35	294	eP	Pn	17 10 38.3	+1.3
	SNR=50						
TRO	Tromso	2.69	345	eS	Sn	17 11 14.9	0.0
TRO				IAML		17 11 24.9	
	comp=Z,13nm,0.1s						
TRO	Tromso	2.69	345	eS	Sn	17 11 14.9	0.0
	SNR=50						
MOR8	Moi Rana	2.73	254	eSg	Sb	17 11 19.8	-1.1
MOR8				IAML		17 11 22.1	
	comp=Z,17nm,0.1s						
OUL	Oulu	2.83	132	eP	Pn	17 10 45.0	+1.3
OUL				eSG	Sb	17 11 25.8	+2.0
OUL	Oulu	2.83	132	P	Pn	17 10 44.9	+1.3
OUL				Sg	Sb	17 11 25.8	+2.0
ARA0	ARCESS Array S	3.02	32	Pn	Pn	17 10 46.4	+0.2
	baz=217,slow=16						
ARA0				Sn	Sn	17 11 23.4	+0.4
	baz=213,slow=22						
ARA0	ARCESS Array S	3.02	32	Pn	Pn	17 10 46.4	+0.2
	baz=217,slow=16						
ARA0				Sn	Sn	17 11 23.4	+0.4
	baz=213,slow=22						
ARA0	ARCESS Array S	3.02	32	Pn	Pn	17 10 46.4	+0.2
	baz=217,slow=15,SNR=50						
ARA0				Sn	Sn	17 11 23.4	+0.4
	baz=213,slow=22,SNR=50						
ARCES	ARCESS Array B	3.02	32	Pn	Pn	17 10 46.1	0.0
	comp=Z,0.8nm,0.3s,baz=210,slow=14,SNR=77						
ARCES				Sn	Sn	17 11 21.7	-1.3
	comp=Z,0.4nm,0.3s,baz=195,slow=17,SNR=5.0						
ARCES				Lg	Lg	17 11 34.9	
	comp=Z,1.9nm,0.3s,baz=207,slow=29,SNR=6.1						
ARE0	ARCESS Array S	3.02	32	eP	Pn	17 10 46.1	-0.1
	baz=213						
ARE0				eS	Sn	17 11 23.4	+0.4
ARE0	ARCESS Array S	3.02	32	P	Pn	17 10 46.1	-0.1
ARE0				S	Sn	17 11 23.4	+0.4
KONS	Konsvik	3.14	263	eP	Pn	17 10 49.5	+1.6
KONS	Konsvik	3.14	263	eP	Pn	17 10 49.5	+1.6
	SNR=50						
UMAU	Umeaa	3.19	182	eP	Pn	17 10 49.3	+0.7
UMAU				eSG	Sb	17 11 36.2	+2.1
UMAU	Umeaa	3.19	182	P	Pn	17 10 49.2	+0.7
UMAU				Sg	Sb	17 11 36.1	+2.1
MSF	Maaselka	3.45	106	eP	Pn	17 10 52.8	+0.6
MSF	Maaselka	3.45	106	P	Pn	17 10 52.8	+0.6
KEV	Kevo	3.52	37	Pn	Pn	17 10 53.6	+0.5
KEV				Sn	Sn	17 11 35.3	-0.1
KEV	Kevo	3.52	37	Pn	Pn	17 10 53.6	+0.5
KEV				Sn	Sn	17 11 35.3	-0.1
KEV	Kevo	3.52	37	eP	Pn	17 10 53.2	0.0

KEV	**Kevo**	**3.52**	**37**	P		**Pn**	**17 10 53.1**	**0.0**
KEV	**Kevo**	**3.52**	**37**	Pn		**Pn**	**17 10 53.6**	**+0.5**
	SNR=50							
KEV				Sn		**Sn**	**17 11 35.3**	**-0.1**
	SNR=50							
KU6	**Riekki**	**3.73**	**102**	*e*P		**Pn**	**17 10 56.3**	**+0.3**
	baz=290							
KU6	**Riekki**	**3.73**	**102**	P		**Pn**	**17 10 56.3**	**+0.3**
HAMF	**Hammerfest**	**3.74**	**14**	*e*P		**Pn**	**17 10 57.3**	**+1.2**
HAMF				*e*S		**Sn**	**17 11 43.3**	**+2.6**
HAMF	**Hammerfest**	**3.74**	**14**	*e*P		**Pn**	**17 10 57.3**	**+1.2**
	SNR=50							
HAMF				*e*S		**Sn**	**17 11 43.3**	**+2.6**
	SNR=50							
VAF	**Ylistaro**	**4.10**	**169**	*e*P		**Pn**	**17 11 02.0**	**+0.9**
VAF				*e*S		**Sn**	**17 11 50.0**	**+0.3**
VAF	**Ylistaro**	**4.10**	**169**	P		**Pn**	**17 11 01.9**	**+0.9**
VAF				S		**Sn**	**17 11 49.9**	**+0.3**
FIA0	**FINESS Array S**	**6.07**	**156**	Pn		**Pn**	**17 11 29.1**	**+1.1**
	baz=346,slow=14							
FIA0				Sn		**Sn**	**17 12 36.4**	**-1.6**
	baz=340,slow=28							
FIA0	**FINESS Array S**	**6.07**	**156**	Pn		**Pn**	**17 11 29.1**	**+1.1**
	baz=346,slow=14							
FIA0				Sn		**Sn**	**17 12 36.4**	**-1.6**
	baz=340,slow=28							
FIA0	**FINESS Array S**	**6.07**	**156**	Pn		**Pn**	**17 11 29.1**	**+1.1**
	baz=346,slow=13,SNR=50							
FIA0				Sn		**Sn**	**17 12 36.4**	**-1.6**
	baz=340,slow=23,SNR=50							
FINES	**FINESS Array B**	**6.07**	**156**	Pn		**Pn**	**17 11 29.1**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=348,slow=12,SNR=17							
FINES				Sn		**Sn**	**17 12 35.6**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=341,slow=22,SNR=12							
FINES				Lg		Lg	17 13 05.9	
	comp=Z,0.3nm,0.3s,baz=352,slow=28,SNR=2.8							
NOA	**NORSAR Array B**	**7.38**	**220**	Pn		**Pn**	**17 11 45.1**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=33,slow=14,SNR=5.9							
NOA				Sn		**Sn**	**17 13 07.4**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=223,slow=9.2,SNR=2.8							
HFS	**Hagfors**	**7.65**	**208**	Pn		**Pn**	**17 11 49.8**	**0.0**
	baz=26,slow=14							
HFS				Sn		**Sn**	**17 13 14.4**	**-2.7**
	baz=24,slow=28							
HFS	**Hagfors**	**7.65**	**208**	P		**Pn**	**17 11 49.8**	**0.0**
	baz=26,slow=14							
HFS				Sn		**Sn**	**17 13 14.4**	**-2.7**
	baz=24,slow=28							
HFS	**Hagfors**	**7.65**	**208**	Pn		**Pn**	**17 11 49.3**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=32,slow=14,SNR=11							
HFS				Sn		**Sn**	**17 13 13.5**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=27,slow=26,SNR=5.7							
HFS	**Hagfors**	**7.65**	**208**	P		**Pn**	**17 11 49.8**	**0.0**
	baz=26,slow=14,SNR=47							

NEIC 19 17:11:20.3, 52.76N×169.60W, h5km, ML3.6(AEIC), **After AEIC., Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.50**	**65**	P	Pg	17 11 30.0	+0.1
NIKH				S	Sb	17 11 38.1	-1.1
OKAK	**Okmok**	**1.11**	**42**	P	Pg	17 11 39.6	-2.0
OKAK				S	Sg	17 11 53.3	-2.7
OKRE	**Okmok R'deer P**	**1.15**	**48**	P	Pg	17 11 41.9	-0.5
MSOM	**Makushin Julie**	**1.91**	**55**	P	Pn	17 11 53.4	-0.1
MSOM				S	Sn	17 12 18.6	+0.8
MTBL	**Makushin Table**	**2.13**	**54**	P	Pn	17 11 57.3	+0.7
UNV	**Unalaska Valle**	**2.15**	**59**	P	Pn	17 11 57.0	+0.1
UNV				S	Sn	17 12 23.4	-0.5

*GCMT **19** 17:15:04.6±0.2, 49.27N×130.24W, h15km, MW5.4/114, Moment Tensor Solution. s89,c146; s114,c216; Duration: 1s2 Moment tensor: Scale 10^17^Nm; Mrr0.02±.02; Mθθ-1.37±.02; Mφφ1.35±.03; Mrθ0.48±.07; Mrφ0.54±.02; Mθφ0.17±.06; Best double couple: M0 1.55000×10^17^ NP1:φs235.00000°, δ86.00000°, λ-18.00000°. NP2:φs327.00000°, δ72.00000°, λ-176.00000°. Principal axes: T 1.5020, Plg10.0000°, Azm282.0000°; N 0.0970, Plg71.0000°, Azm45.0000°; P -1.5980, Plg15.0000°, Azm190.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **19** 17:15:04.6, 49.46N×130.05W, h10km, mb5.2/135, MS4.9/118, MW5.3(OTT), After OTT.*

*PGC **19** 17:15:04.6±0.4, 49.46N×130.05W, h10km, ML4.4/40, Mw5.4, 233km Wsw of Pt. Hardy, Bc Vancouver Island Region*

*BJI **19** 17:15:04.9, 49.60N×129.60W, h8km, mb4.8/28, mB5.2/22, Ms5.3/20, Ms7 4.9/20*

*ISCJB **19** 17:15:06.7±0.6, 49.67N±0.01×129.69W±0.02, h12km±4km, mb4.9/149, MS4.8/163, Error ellipse: s-maj=2.9km s-min=1.8km az=142.9*

*IDC **19** 17:15:06.4±3.0, 49.56N×129.82W, h12km±18km, mb4.2/35, mb1 4.4/46, mb1mx4.3/68, mbtmp4.4/46, ML4.2/7, MS4.7/30, Ms1 4.6/30, ms1mx4.6/40, Error ellipse: s-maj=13.7km s-min=8.1km az=53.0*

*MOS **19** 17:15:07.4±1.2, 49.69N×129.74W, h19km, mb5.2/36, MS4.8/43, Error ellipse: s-maj=7.6km s-min=4.2km az=117.4*

*SZGRF **19** 17:15:08.2, 49.44N×130.63W, h33km, mb4.9, MS4.9, Vancouver Island, Canada, region*

ISC 19 17:15:08.4±0.6, 49.64N±0.04×129.72W±0.04, h13km±2km, h13km:pP-P, n1163, σ1942/1046, mb5.0/150, MS4.8/165, 4C-6D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.36**	**67**	Pn	**Pn**	**17 15 30.9**	**-2.2**
BPBC				Sn	**Sn**	**17 15 50.8**	**-0.3**
BPBC	**Brooks Peninsu**	**1.36**	**67**	Pn	**Pn**	**17 15 30.9**	**-2.2**
BPBC				Sn	**Sn**	**17 15 50.8**	**-0.3**
HOLB	**Holberg**	**1.43**	**45**	Pn	**Pn**	**17 15 32.5**	**-1.5**
HOLB				Sn	**Sn**	**17 15 52.0**	**-0.6**
HOLB	**Holberg**	**1.43**	**45**	Pn	**Pn**	**17 15 32.5**	**-1.5**
HOLB				Sn	**Sn**	**17 15 52.0**	**-0.6**
EDB	**Eliza Dome**	**1.70**	**81**	Pn	**Pn**	**17 15 35.4**	**-2.4**
EDB				Sn	**Sn**	**17 15 57.7**	**-1.6**
FHRB	**Fair Harbour**	**1.73**	**75**	Pn	**Pn**	**17 15 36.3**	**-1.9**
FHRB				Sn	**Sn**	**17 15 59.6**	**-0.4**
MAYB	**Maynard**	**1.81**	**64**	Pn	**Pn**	**17 15 37.5**	**-1.8**
PHC	**Port Hardy**	**1.82**	**53**	Pn	**Pn**	**17 15 38.0**	**-1.3**
PHC				Sn	**Sn**	**17 16 01.8**	**-0.3**
TLCB	**Telegraph Cove**	**2.07**	**63**	Pn	**Pn**	**17 15 41.6**	**-1.1**
TLCB				Sn	**Sn**	**17 16 08.9**	**+0.7**
ETB	**Estevan Point**	**2.09**	**96**	Pn	**Pn**	**17 15 41.3**	**-1.8**
WOSB	**Woss**	**2.10**	**74**	Pn	**Pn**	**17 15 42.0**	**-1.3**
GDR	**Gold River**	**2.40**	**85**	Pn	**Pn**	**17 15 45.4**	**-1.9**
NCRB	**Newcastle Ridg**	**2.48**	**71**	Pn	**Pn**	**17 15 48.0**	**-0.6**
TOFB	**Tofino**	**2.54**	**100**	Pn	**Pn**	**17 15 47.3**	**-1.9**
TOFB				Sn	**Sn**	**17 16 17.6**	**-2.3**
SPLB	**Strathcona Par**	**2.65**	**83**	Pn	**Pn**	**17 15 50.0**	**-0.8**
BTB	**Buttle Lake**	**2.74**	**92**	Pn	**Pn**	**17 15 49.8**	**-2.3**
BTB				Sn	**Sn**	**17 16 23.7**	**-1.5**
BBB	**Bella Bella**	**2.74**	**21**	Pn	**Pn**	**17 15 51.4**	**-0.6**
	413nm,0.3s,baz=222,slow=7.7,SNR=4827						
BBB				Sn	**Sn**	**17 16 23.3**	**-1.6**
	baz=323,slow=20,SNR=3.3						
BBB				LR	LR	17 17 00.6	
	comp=Z,11μm,21.5s,baz=244,slow=40						
BBB	**Bella Bella**	**2.74**	**21**	Pn	**Pn**	**17 15 51.3**	**-0.6**
BBB				Sn	**Sn**	**17 16 25.3**	**+0.3**
OZB	**Mount Ozzard**	**2.85**	**102**	Pn	**Pn**	**17 15 50.8**	**-2.7**
MWAB	**Mount Washingt**	**2.87**	**86**	Pn	**Pn**	**17 15 52.8**	**-1.1**
BMSB	**Bamfield Mari**	**3.11**	**103**	Pn	**Pn**	**17 15 54.9**	**-2.1**
B928	**Bamfield**	**3.11**	**103**	Pn	**Pn**	**17 15 54.7**	**-2.3**
BNB	**Barry Inlet**	**3.21**	**337**	Pn	**Pn**	**17 15 54.7**	**-3.7**
ALB	**Alberni**	**3.21**	**95**	Pn	**Pn**	**17 15 56.7**	**-1.7**
B927	**Port Alberni**	**3.23**	**96**	Pn	**Pn**	**17 15 57.9**	**-0.8**
BCBC	**Bella Coola**	**3.31**	**33**	Pn	**Pn**	**17 16 00.7**	**+0.9**
MGB	**Mount Grey**	**3.35**	**99**	Pn	**Pn**	**17 15 58.9**	**-1.7**
GHNB	**Nanoose**	**3.59**	**93**	Pn	**Pn**	**17 16 02.0**	**-1.6**
OCP	**Olym-Cheeka Pk**	**3.62**	**110**	Pn	**Pn**	**17 16 01.9**	**-2.2**
PFB	**Port Renfrew**	**3.63**	**105**	Pn	**Pn**	**17 16 02.1**	**-2.1**
YOUB	**Youbou, Lake C**	**3.65**	**100**	Pn	**Pn**	**17 16 02.7**	**-1.9**
NLLB	**Nanaimo Lost L**	**3.76**	**94**	Pn	**Pn**	**17 16 05.1**	**-0.9**
NLLB	**Nanaimo Lost L**	**3.76**	**94**	P	**Pn**	**17 16 04.6**	**-1.4**
MOBC	**Moresby Island**	**3.78**	**339**	Pn	**Pn**	**17 16 03.9**	**-2.4**
DIB	**Dawson Inlet,**	**3.96**	**335**	Pn	**Pn**	**17 16 05.8**	**-2.9**
H02S1	**DAWSON INLET T**	**3.96**	**335**	Pn	**Pn**	**17 16 07.5**	**-1.2**
H02S1				T	T	17 20 14.3	
BPCB	**Bare Point**	**4.00**	**98**	Pn	**Pn**	**17 16 09.6**	**+0.3**
LZB	**Mount Lazard**	**4.01**	**103**	Pn	**Pn**	**17 16 07.6**	**-1.9**
H02N1	**VAN INLET T-PH**	**4.02**	**335**	Pn	**Pn**	**17 16 06.7**	**-3.0**
H02N1				T	T	17 20 21.2	
VIB	**Van Inlet**	**4.02**	**335**	Pn	**Pn**	**17 16 06.6**	**-3.1**
BIB	**Bowen Island**	**4.18**	**91**	Pn	**Pn**	**17 16 10.8**	**-1.0**
WPB	**Watts Point**	**4.23**	**87**	Pn	**Pn**	**17 16 12.9**	**+0.4**
PGC	**Sidney**	**4.23**	**101**	Pn	**Pn**	**17 16 11.9**	**-0.6**
PGC	**Sidney**	**4.23**	**101**	*e*Pn	**Pn**	**17 16 12.0**	**-0.4**
SNB	**Saturna Island**	**4.38**	**99**	Pn	**Pn**	**17 16 14.0**	**-0.6**
SNB	**Saturna Island**	**4.38**	**99**	P	**Pn**	**17 16 12.8**	**-1.7**
VGZ	**Gonzales**	**4.38**	**104**	Pn	**Pn**	**17 16 13.9**	**-0.7**
WSLR	**Whistler**	**4.42**	**81**	Pn	**Pn**	**17 16 15.1**	**-0.1**
NLWA	**Neilton Lookou**	**4.49**	**118**	*e*Pn	**Pn**	**17 16 14.8**	**-1.4**
MCW	**Mount Constitu**	**4.62**	**99**	P	**Pn**	**17 16 18.0**	**+0.1**
MCW	**Mount Constitu**	**4.62**	**99**	Pn	**Pn**	**17 16 17.5**	**-0.3**
MCW	**Mount Constitu**	**4.62**	**99**	P	**Pn**	**17 16 18.0**	**+0.1**
HNB	**Haney**	**4.67**	**92**	Pn	**Pn**	**17 16 18.1**	**-0.4**
SQM	**Sequim**	**4.68**	**107**	Pn	**Pn**	**17 16 17.9**	**-0.7**
BLN	**Blyn Mountain**	**4.75**	**108**	Pn	**Pn**	**17 16 19.0**	**-0.6**
NDB	**Naden**	**4.76**	**336**	Pn	**Pn**	**17 16 17.9**	**-1.9**
UBRB	**Upper Baezaeko**	**4.81**	**45**	Pn	**Pn**	**17 16 22.1**	**+1.6**
HDW	**Hoodsport**	**4.85**	**112**	Pn	**Pn**	**17 16 20.4**	**-0.6**
VDB	**Vedder Mountai**	**5.02**	**94**	P	**Pn**	**17 16 23.3**	**0.0**
A05A	**Maple Falls**	**5.04**	**94**	Pn	**Pn**	**17 16 23.6**	**+0.1**
A05A	**Maple Falls**	**5.04**	**94**	*e*Pn	**Pn**	**17 16 23.9**	**+0.4**
LLLB	**Lillooet**	**5.13**	**76**	Pn	**Pn**	**17 16 25.0**	**+0.1**
CMW	**Cultus Mountai**	**5.15**	**101**	Pn	**Pn**	**17 16 25.1**	**-0.1**
CMW	**Cultus Mountai**	**5.15**	**101**	P	**Pn**	**17 16 25.2**	**+0.1**
E03A	**Lebam**	**5.16**	**125**	*e*Pn	**Pn**	**17 16 25.5**	**+0.3**
MBW	**Mount Baker**	**5.20**	**97**	Pn	**Pn**	**17 16 26.3**	**+0.4**
MBW	**Mount Baker**	**5.20**	**97**	P	**Pn**	**17 16 26.1**	**+0.2**
JCW	**Jim Creek**	**5.34**	**103**	Pn	**Pn**	**17 16 27.4**	**-0.3**
JCW	**Jim Creek**	**5.34**	**103**	P	**Pn**	**17 16 27.9**	**+0.2**
HOPB	**Hope**	**5.41**	**90**	Pn	**Pn**	**17 16 29.3**	**+0.6**
B06A	**Marblemount**	**5.53**	**99**	Pn	**Pn**	**17 16 30.1**	**-0.1**
B06A	**Marblemount**	**5.53**	**99**	*e*Pn	**Pn**	**17 16 29.9**	**-0.3**
RPW	**Rockport**	**5.53**	**99**	Pn	**Pn**	**17 16 30.2**	**-0.1**
RPW	**Rockport**	**5.53**	**99**	*e*Pn	**Pn**	**17 16 31.2**	**+0.8**
F03A	**Seaside**	**5.57**	**129**	*e*Pn	Pn	17 16 36.0	+5.2
D05A	**Enumclaw**	**5.70**	**113**	*e*Pn	**Pn**	**17 16 33.4**	**+0.7**
FSB	**Fort Saint Jam**	**5.87**	**32**	Pn	**Pn**	**17 16 35.0**	**-0.1**
FMW	**Mount Fremont**	**6.02**	**114**	Pn	**Pn**	**17 16 35.9**	**-1.3**
LON	**Longmire**	**6.03**	**116**	*e*P	**Pn**	**17 16 37.3**	**+0.1**
LON	**Longmire**	**6.03**	**116**	Pn	**Pn**	**17 16 36.9**	**-0.3**
LON	**Longmire**	**6.03**	**116**	*e*Pn	**Pn**	**17 16 37.3**	**+0.1**
F04A	**Amboy**	**6.16**	**124**	*e*Pn	**Pn**	**17 16 40.0**	**+1.1**
F04A				eLg	Lg	17 18 38.3	
CRAG	**Craig**	**6.19**	**342**	*e*Pn	**Pn**	**17 16 39.7**	**+0.3**
G03D	**McMinnville, O**	**6.23**	**133**	P	**Pn**	**17 16 40.1**	**+0.1**
	baz=6.3						
LTY	**Liberty**	**6.47**	**108**	Pn	**Pn**	**17 16 42.8**	**-0.5**
LTY	**Liberty**	**6.47**	**108**	*e*Pn	**Pn**	**17 16 44.5**	**+1.1**
ASR	**Mount Adams--S**	**6.48**	**120**	*e*Pn	**Pn**	**17 16 43.9**	**+0.3**
ETW	**Entiat**	**6.55**	**105**	*e*Pn	**Pn**	**17 16 45.7**	**+1.3**
PNT	**Penticton**	**6.59**	**89**	*e*P	**Pn**	**17 16 45.5**	**+0.6**
PNT	**Penticton**	**6.59**	**89**	Pn	**Pn**	**17 16 45.4**	**+0.4**
PNT	**Penticton**	**6.59**	**89**	*e*Pn	**Pn**	**17 16 45.5**	**+0.6**
COR	**Corvallis**	**6.69**	**137**	*e*P	**Pn**	**17 16 46.8**	**+0.6**
COR	**Corvallis**	**6.69**	**137**	*e*Pn	**Pn**	**17 16 46.8**	**+0.6**
B08A	**Colville Reser**	**6.95**	**97**	Pn	**Pn**	**17 16 50.1**	**+0.2**
B08A	**Colville Reser**	**6.95**	**97**	*e*Pn	**Pn**	**17 16 50.4**	**+0.5**
WRAK	**Wrangell Islan**	**6.97**	**348**	Pn	**Pn**	**17 16 50.6**	**+0.6**
BLBC	**Blue River**	**7.06**	**66**	Pn	**Pn**	**17 16 52.5**	**+0.9**
H04A	**Detroit Lake**	**7.14**	**131**	*e*Pn	**Pn**	**17 16 53.0**	**+0.5**
G05D	**Wamic, OR**	**7.20**	**125**	P	**Pn**	**17 16 53.5**	**+0.2**
	baz=7.3						
ALVY	**Alvey**	**7.28**	**138**	*e*ScP	**ScP**	**17 27 14.8**	**+3.8**
DOWB	**Downie Slide**	**7.38**	**71**	Pn	**Pn**	**17 16 55.6**	**-0.1**
I03D	**Drain, OR**	**7.38**	**141**	P	**Pn**	**17 16 56.4**	**+0.6**
	baz=7.4,SNR=5.3						
SLEB	**Sale Mountain**	**7.56**	**74**	Pn	**Pn**	**17 16 59.5**	**+1.1**
HAWA	**Hanford**	**7.56**	**112**	*e*Pn	**Pn**	**17 17 01.4**	**+3.2**
G06A	**Carlson Farm,**	**7.57**	**122**	*e*Pn	**Pn**	**17 16 59.8**	**+1.4**
MNB	**Mounoet Dainar**	**7.61**	**66**	Pn	**Pn**	**17 17 00.5**	**+1.4**
D08A	**Wollman Farm,**	**7.64**	**106**	*e*Pn	**Pn**	**17 16 59.2**	**-0.1**
OD2	**Odessa Site #2**	**7.65**	**103**	*e*Pn	**Pn**	**17 16 59.3**	**+0.1**
I04A	**Tendick Farm,**	**7.71**	**137**	P	**Pn**	**17 16 59.3**	**-1.0**
	baz=7.7,SNR=5.7						
KEBM	**Edson Butte**	**7.73**	**149**	*e*Pn	**Pn**	**17 17 03.1**	**+2.5**
C09A	**Chrisman Ranch**	**7.79**	**99**	Pn	**Pn**	**17 17 01.4**	**0.0**
C09A	**Chrisman Ranch**	**7.79**	**99**	*e*Pn	Pn	17 16 56.1	-5.3
I05D	**Terrebonne, OR**	**7.80**	**130**	P	**Pn**	**17 17 00.8**	**-0.8**
	baz=7.8						
J04D	**Umpqua Nationa**	**8.28**	**138**	P	**Pn**	**17 17 07.9**	**-0.3**
	baz=8.3						
E09A	**Wood Farm, Sta**	**8.36**	**108**	*e*Pn	**Pn**	**17 17 09.9**	**+0.8**
NEW	**Newport**	**8.41**	**95**	Pn	**Pn**	**17 17 07.8**	**-2.0**
	10nm,0.3s,baz=298,slow=13,SNR=59						
NEW				Sn	Sn	17 18 53.5	+9.0
	baz=168,slow=20,SNR=2.2						
NEW				LR	LR	17 20 25.7	
	comp=Z,17μm,18.3s,baz=282,slow=38						
NEW	**Newport**	**8.41**	**95**	P	**Pn**	**17 17 07.8**	**-2.0**
NEW						17 18 53.5	
NEW				pmax	pmax		
	comp=Z,10.0nm,0.3s						
NEW				MLR	MLR		
	comp=Z,17μm,18.3s						
NEW	**Newport**	**8.41**	**95**	P	**Pn**	**17 17 08.3**	**-1.6**
	baz=8.6						
NEW	**Newport**	**8.41**	**95**	*e*Pn	**Pn**	**17 17 10.5**	**+0.6**
NEW				Sn	Sn	17 18 53.5	+9.0
HUMO	**Hull Mountain**	**8.46**	**144**	*e*Pn	**Pn**	**17 17 12.7**	**+2.2**
G08A	**Pilot Rock**	**8.49**	**117**	*e*Pn	**Pn**	**17 17 12.2**	**+1.1**
L02D	**Cave Junction,**	**8.61**	**148**	P	**Pn**	**17 17 12.1**	**-0.5**
	baz=8.6						
J05D	**Fort Rock, OR**	**8.64**	**134**	P	**Pn**	**17 17 13.4**	**+0.2**
	baz=8.7,SNR=23						
DLBC	**Dease Lake**	**8.82**	**359**	Pn	**Pn**	**17 17 15.8**	**+0.3**
	comp=Z,2.0nm,0.3s,baz=194,slow=13,SNR=39						
DLBC				Lg	Lg	17 19 45.4	
	comp=Z,0.9nm,0.3s,baz=342,slow=20,SNR=3.7						
DLBC				LR	LR	17 20 25.5	
	comp=Z,7μm,20.9s,baz=182,slow=36						
DLBC	**Dease Lake**	**8.82**	**359**	Pn	**Pn**	**17 17 16.7**	**+1.3**
DLBC	**Dease Lake**	**8.82**	**359**	*e*Pn	**Pn**	**17 17 17.9**	**+2.5**
DLBC				Lg	Lg	17 19 45.4	
K04D	**Chiloquin, OR**	**8.93**	**139**	P	**Pn**	**17 17 16.9**	**-0.2**
	baz=8.9						
F10A	**Beach Ranch, E**	**9.17**	**109**	*e*Pn	**Pn**	**17 17 20.2**	**-0.1**
K05A	**Summer Lake**	**9.23**	**135**	*e*Pn	**Pn**	**17 17 23.4**	**+2.0**
YBH	**Yreka Blue Hor**	**9.30**	**146**	Pn	**Pn**	**17 17 22.2**	**0.0**
	comp=Z,0.3nm,0.3s,baz=339,slow=14,SNR=17						
YBH	**Yreka Blue Hor**	**9.30**	**146**	*e*P	**Pn**	**17 17 23.9**	**+1.7**
YBH				pmax	pmax		
	comp=Z,140nm,1.2s						
YBH	**Yreka Blue Hor**	**9.30**	**146**	*e*P	**Pn**	**17 17 23.9**	**+1.7**
	comp=Z,140nm,1.2s						
M02C	**Callahan**	**9.55**	**147**	P	**Pn**	**17 17 27.2**	**+1.7**
	baz=9.5,SNR=16						
M04C	**Macdoel**	**9.59**	**142**	P	**Pn**	**17 17 26.8**	**+0.6**
	baz=9.6,SNR=19						
BMO	**Blue Mountains**	**9.70**	**115**	*e*P	**Pn**	**17 17 27.3**	**-0.4**
	comp=Z,190nm,1.8s						
KHMM	**Horse Mountain**	**9.73**	**152**	*e*Pn	**Pn**	**17 17 30.6**	**+2.5**
N02D	**Trinity Center**	**9.97**	**148**	P	**Pn**	**17 17 32.2**	**+0.9**
	baz=9.9,SNR=19						
N02D				S	**Sn**	**17 19 23.0**	**0.0**
	baz=9.9						
BSMT	**Bassoo Peak**	**10.03**	**95**	*e*Pn	**Pn**	**17 17 32.6**	**+0.4**
FNBB	**Fort Nelson**	**10.06**	**20**	Pn	**Pn**	**17 17 33.2**	**+0.8**
MOD	**Modoc**	**10.15**	**136**	*e*P	**Pn**	**17 17 35.2**	**+1.4**
	comp=Z,78nm,1.4s						
BLMT	**Blacktail Moun**	**10.26**	**93**	*e*Pn	**Pn**	**17 17 36.0**	**+0.6**
WALA	**Waterton Lakes**	**10.34**	**87**	Pn	**Pn**	**17 17 37.7**	**+1.4**
WALA	**Waterton Lakes**	**10.34**	**87**	*e*Pn	**Pn**	**17 17 38.1**	**+1.8**
SKAG	**Skagway**	**10.36**	**344**	*e*P	Pn	17 17 41.7	+5.2
	comp=Z,161nm,1.5s						
WDC	**Whiskeytown Da**	**10.38**	**148**	*e*P	**Pn**	**17 17 39.5**	**+2.7**
WDC	**Whiskeytown Da**	**10.38**	**148**	*e*Pn	**Pn**	**17 17 39.5**	**+2.7**
JTMT	**Jette**	**10.38**	**95**	*e*Pn	**Pn**	**17 17 37.3**	**+0.3**
YBMT	**Yellow Bay**	**10.53**	**94**	*e*Pn	**Pn**	**17 17 39.3**	**+0.3**
WVOR	**Wild Horse Val**	**10.54**	**129**	*e*P	**Pn**	**17 17 41.3**	**+2.1**
WVOR	**Wild Horse Val**	**10.54**	**129**	*e*Pn	**Pn**	**17 17 41.3**	**+2.1**
SWMT	**Swartz Lake**	**10.63**	**96**	*e*Pn	**Pn**	**17 17 40.4**	**0.0**
KIPM	**Iron Peak**	**10.78**	**153**	*e*Pn	**Pn**	**17 17 45.0**	**+2.5**
EDM	**Edmonton**	**10.83**	**64**	*e*P	**Pn**	**17 17 45.5**	**+2.5**
EDM	**Edmonton**	**10.83**	**64**	*e*Pn	**Pn**	**17 17 45.5**	**+2.5**
MSO	**Missoula**	**10.89**	**99**	P	**Pn**	**17 17 43.2**	**-0.8**
	baz=11						
SLMT	**Seeley Lake**	**11.04**	**96**	*e*P	**Pn**	**17 17 44.8**	**-1.3**
	comp=Z,65nm,1.0s						
CHMT	**Chamberlain Mo**	**11.31**	**98**	*e*Pn	**Pn**	**17 17 49.7**	**0.0**
MFID	**Camas Ranch**	**11.41**	**118**	*e*Pn	**Pn**	**17 17 53.3**	**+2.3**
OHCM	**Honcut**	**11.86**	**147**	*e*Pn	Pn	17 17 51.5	-5.5
HLID	**Hailey**	**12.15**	**114**	P	**Pn**	**17 18 01.0**	**-0.2**
	baz=12						
HLID	**Hailey**	**12.15**	**114**	*e*Pn	**Pn**	**17 18 03.3**	**+2.1**
LRM	**Limekiln Ridge**	**12.24**	**102**	*e*Pn	**Pn**	**17 18 02.8**	**+0.4**
HRY	**Holter Researc**	**12.29**	**97**	*e*Pn	**Pn**	**17 18 03.4**	**+0.2**
MCMT	**McKenzie Canyo**	**12.43**	**106**	*e*Pn	**Pn**	**17 18 05.8**	**+0.7**
BMN	**Battle Mountai**	**12.75**	**132**	*e*P	**Pn**	**17 18 11.5**	**+2.1**
BMN	**Battle Mountai**	**12.75**	**132**	*e*Pn	**Pn**	**17 18 11.5**	**+2.1**
BOZ	**Bozeman (W)**	**12.83**	**101**	*e*P	**Pn**	**17 18 10.9**	**+0.4**
BOZ				pmax	pmax		
	comp=Z,221nm,1.6s						
BOZ	**Bozeman (W)**	**12.83**	**101**	P	**Pn**	**17 18 10.2**	**-0.3**
	baz=13						
BOZ	**Bozeman (W)**	**12.83**	**101**	*e*P	**Pn**	**17 18 10.9**	**+0.4**
	comp=Z,221nm,1.6s						
LOGN	**Logan Glacier**	**12.90**	**335**	P	**Pn**	**17 18 10.2**	**-1.1**
GRNC	**Granite Creek**	**13.04**	**333**	P	**Pn**	**17 18 15.0**	**+1.7**
EGMT	**Eagleton**	**13.25**	**89**	P	**Pn**	**17 18 15.6**	**-0.6**
	baz=13						
EGMT	**Eagleton**	**13.25**	**89**	*e*P	**Pn**	**17 18 16.3**	**+0.2**
	comp=Z,48nm,0.2s						
QLMT	**Earthquake Lak**	**13.32**	**104**	*e*Pn	**Pn**	**17 18 18.1**	**+0.9**
WAKR	**Walker**	**13.35**	**143**	*e*Pn	**Pn**	**17 18 20.7**	**+3.1**
CMB	**Columbia Colle**	**13.40**	**146**	*e*P	P	17 18 23.3	-4.4
CMB	**Columbia Colle**	**13.40**	**146**	*e*Pn	P	17 18 23.3	-4.4
ELK	**Elko**	**13.52**	**126**	Pn	**Pn**	**17 18 20.4**	**+0.4**
	comp=Z,0.0nm,0.3s,baz=314,slow=12,SNR=15						
ELK				LR	LR	17 23 29.2	
	comp=Z,3μm,20.9s,baz=312,slow=37						
ELK	**Elko**	**13.52**	**126**	*e*Pn	**Pn**	**17 18 22.4**	**+2.3**
YMR	**Madison River**	**13.69**	**104**	*e*Pn	**Pn**	**17 18 25.1**	**+2.9**
YHH	**Holmes Hill**	**13.70**	**104**	*e*Pn	Pn	**17 18 23.5**	**+1.0**
A19A	**Klindworth Far**	**13.71**	**85**	P	Pn	**17 18 21.2**	**-1.2**
	baz=14						
RAGM	**Ragged Mountai**	**13.72**	**327**	*e*Pn	Pn	17 18 25.9	+3.4
MCID	**Moose Creek**	**13.78**	**106**	*e*Pn	**Pn**	**17 18 25.4**	**+1.9**
YNR	**Norris Junctio**	**13.85**	**104**	*e*Pn	**Pn**	**17 18 27.1**

baz=16
JLU Jordanelle 15.71 118 *e*P Pn 17 18 50.4 +0.9
comp=Z,220nm,1.7s
KDAK Kodiak Island 15.74 310 *e*P Pn 17 18 49.0 -0.4
KDAK pmax pmax
comp=Z,112nm,1.2s
KDAK Kodiak Island 15.74 310 *e*Pn Pn 17 18 49.0 -0.4
comp=Z,112nm,1.2s
NLU North Lily Min 15.80 121 *e*Pn Pn 17 18 52.5 +1.9
comp=Z,172nm,1.5s
BRLK Bradley Lake 15.81 318 *e*Pn P 17 18 53.7 -0.5
comp=Z,186nm,1.3s
I20A Worland 15.82 103 P Pn 17 18 51.6 +0.8
baz=16
VES Vestal, Richgr 15.83 147 P P 17 18 52.7 -1.8
baz=16
PAX Paxson 15.89 333 *e*P P 17 18 58.9 +3.6
PAX pmax pmax
comp=Z,81nm,1.4s
PAX Paxson 15.89 333 *e*Pn P 17 18 58.9 +3.6
comp=Z,81nm,1.4s
OHAK Old Harbor 15.90 307 *e*Pn Pn 17 18 50.2 -1.4
comp=Z,486nm,2.2s
LAO LASA Array 15.94 92 P Pn 17 18 51.9 -0.3
baz=16
LAO LASA Array 15.94 92 *e*P Pn 17 18 52.6 +0.4
comp=Z,156nm,1.1s
SMMC Simmler 15.99 150 P Pn 17 18 54.2 +1.2
baz=16
SML Sawmill 16.00 327 *e*P P 17 18 58.5 +2.2
SML pmax pmax
comp=Z,30nm,1.2s
SML Sawmill 16.00 327 *e*Pn P 17 18 58.5 +2.2
comp=Z,30nm,1.2s
TPNV Topopah Spring 16.00 137 *e*P Pn 17 18 54.0 +0.8
TPNV pmax pmax
comp=Z,137nm,1.3s
TPNV Topopah Spring 16.00 137 P Pn 17 18 53.6 +0.4
baz=16
TPNV Topopah Spring 16.00 137 *e*Pn Pn 17 18 54.0 +0.8
comp=Z,137nm,1.3s
MPU Maple Canyon 16.00 120 *e*P Pn 17 18 54.3 +1.1
comp=Z,512nm,1.8s
DAC Darwin (Calif) 16.01 142 *e*P Pn 17 18 53.7 +0.4
DAC pmax pmax
comp=Z,65nm,1.4s
DAC Darwin (Calif) 16.01 142 *e*P Pn 17 18 53.7 +0.4
comp=Z,65nm,1.4s
RC01 Rabbit Creek A 16.07 323 *e*Pn P 17 18 56.3 -0.8
comp=Z,158nm,1.5s
FURC Furnace Creek, 16.14 140 P Pn 17 18 56.0 +1.2
baz=16
J20A Shoshoni 16.14 105 P Pn 17 18 55.4 +0.5
baz=16
PMR Palmer 16.15 325 *e*P P 17 18 59.7 +1.8
PMR pmax pmax
comp=Z,119nm,1.3s
PMR Palmer 16.15 325 *e*Pn P 17 18 59.7 +1.8
comp=Z,119nm,1.3s
E22A Miles City 16.20 92 P Pn 17 18 55.7 +0.1
baz=16
H21A Big Horn, Sher 16.20 99 P Pn 17 18 55.5 -0.2
baz=16
ISA Isabella 16.21 145 *e*P Pn 17 18 56.5 +0.7
ISA pmax pmax
comp=Z,44nm,1.2s
ISA Isabella 16.21 145 P Pn 17 18 56.5 +0.7
baz=16
ISA Isabella 16.21 145 *e*Pn Pn 17 18 56.5 +0.7
comp=Z,44nm,1.2s
MPMC Manual Prospec 16.24 142 P Pn 17 18 57.0 +0.8
baz=16
F22A Rosebud 16.24 95 P Pn 17 18 56.0 -0.1
baz=16
EGAK Eagle 16.34 342 *e*P P 17 18 59.1 -1.0
I21A Big Trails, Te 16.42 102 P Pn 17 18 58.5 0.0
baz=16
PKM Peak Mountain 16.43 150 P Pn 17 18 59.5 +0.7
baz=16
G22A Birney 16.43 97 P Pn 17 18 58.5 -0.1
baz=17
J21A Lysite 16.55 104 P Pn 17 19 00.6 +0.4
baz=17
ARVC Arvin 16.56 147 P P 17 19 01.5 -1.2
baz=16
E23A Ismay 16.60 92 P Pn 17 19 00.3 -0.3
baz=17
H22A Clearmont 16.66 99 P Pn 17 19 01.6 +0.1
baz=17
LRMC Laurel Mountai 16.67 144 P Pn 17 19 02.1 +0.4
baz=17
TMUT Trail Mountain 16.73 121 *e*Pn Pn 17 19 03.6 +0.9
comp=Z,261nm,1.8s
CCCA Chr Cany lake 16.75 143 *e*Sn Sn 17 22 01.9 -6.6
MVU Marysvale 16.75 125 *e*Pn Pn 17 19 03.5 +0.6
comp=Z,84nm,1.3s
MSU Marysvale 16.77 125 *e*P Pn 17 19 03.1 +0.1
MSU Marysvale 16.77 125 *e*Pn Pn 17 19 03.0 +0.1
F23A Volborg 16.81 94 P Pn 17 19 02.4 -1.0
baz=17
C24A Savage 16.85 88 P Pn 17 19 03.1 -0.6
baz=17
SHPR Sheep Range 16.86 136 *e*Pn Pn 17 19 04.9 +0.8
SHOC Shoshone 16.87 139 P P 17 19 05.9 -0.3
baz=17
CCUT Cedar City 16.88 130 *e*Pn Pn 17 19 04.6 +0.2
comp=Z,181nm,1.6s
I22A 9 Mile Ranch, 16.89 101 P Pn 17 19 04.2 -0.2
baz=17
RSO Redoubt South 16.97 318 *e*Pn P 17 19 08.4 +1.1
G23A Biddle 17.02 96 P Pn 17 19 06.2 +0.1
baz=17
SPU Mount Spurr 17.05 321 *e*Pn P 17 19 09.7 +1.7
OSI Osito Adit 17.06 148 P P 17 19 07.9 -0.3
baz=17
OSI Osito Adit 17.06 148 P P 17 19 08.5 +0.3
comp=Z,38nm,1.1s
EDW2 Edwards Air Fo 17.08 145 P P 17 19 08.4 -0.1
baz=17
J22A Midwest 17.13 102 P Pn 17 19 07.8 +0.4
baz=17
GSC Goldstone 17.17 142 *e*P P 17 19 09.5 -0.1
GSC pmax pmax
comp=Z,81nm,1.5s
GSC Goldstone 17.17 142 P P 17 19 08.9 -0.6
baz=17
GSC Goldstone 17.17 142 *e*Pn P 17 19 09.5 -0.1
comp=Z,81nm,1.5s
E24A Baker 17.23 91 P Pn 17 19 09.2 +0.7
baz=17
SRU San Rafael 17.25 120 *e*P P 17 19 10.1 -0.4
SRU pmax pmax
comp=Z,408nm,1.9s
SRU San Rafael 17.25 120 *e*Pn P 17 19 10.1 -0.4
comp=Z,408nm,1.9s
RND Reindeer 17.26 330 *e*P P 17 19 13.6 +3.3
RND pmax pmax
comp=Z,175nm,1.6s
RND Reindeer 17.26 330 *e*Pn P 17 19 13.6 +3.3
comp=Z,175nm,1.6s
H23A Clabaugh Cattl 17.29 98 P Pn 17 19 09.1 -0.3
baz=17
BSC Santa Cruz Isl 17.32 151 P P 17 19 11.1 -0.1
baz=17
A25A Svangstu Ranch 17.34 82 P P 17 19 11.4 0.0
baz=18
FLSC Flash Two Peak 17.37 143 *e*Pn Pn 17 19 02.4 -8.0
F24A Ekalaka 17.39 93 P Pn 17 19 11.1 +0.4
baz=18
TUQ Turquoise Moun 17.42 139 P Pn 17 19 11.5 +0.4
baz=17
HDA Harding Lake 17.42 335 *e*Pn P 17 19 15.3 +3.3
comp=Z,182nm,1.8s
RRX Edison Barstow 17.46 143 P Pn 17 19 11.9 +0.4
baz=17
B25A Knox Farm, Ray 17.47 84 P P 17 19 12.3 -0.4
baz=18
K22A Casper 17.49 105 P Pn 17 19 12.1 +0.2
baz=18
K22A Casper 17.49 105 *e*Pn P 17 19 13.5 +0.4
comp=Z,537nm,1.5s
I23A Meade Ranch, G 17.52 100 P Pn 17 19 10.6 -1.7
baz=18
MCK McKinley 17.52 331 *e*P P 17 19 15.4 +2.3
MCK pmax pmax
comp=Z,111nm,1.4s
MCK McKinley 17.52 331 *e*Pn P 17 19 15.4 +2.3
comp=Z,111nm,1.4s
DECC Green Verdugo 17.53 147 P P 17 19 13.6 +0.2
baz=18
C25A Freed Ranch, W 17.55 86 P Pn 17 19 12.7 +0.1
baz=18
KNB Kanab 17.57 130 *e*P Pn 17 19 13.5 +0.6
KNB pmax pmax
comp=Z,242nm,1.7s
KNB Kanab 17.57 130 *e*Pn Pn 17 19 13.5 +0.6
comp=Z,242nm,1.7s
G24A Alzada 17.61 95 P Pn 17 19 12.3 -1.0
baz=18
MWC Mount Wilson 17.65 146 *e*P P 17 19 19.2 +4.3
MWC pmax pmax
comp=Z,92nm,1.5s
MWC Mount Wilson 17.65 146 *e*Pn P 17 19 19.2 +4.3
comp=Z,92nm,1.5s
D25A Fairfield 17.68 88 P Pn 17 19 13.7 -0.5
baz=18
ILAR Eielson Array 17.69 335 Pn P 17 19 14.7 -0.3
comp=Z,0.1nm,0.3s,baz=154,slow=9.4,SNR=37
FFC Flin Flon 17.69 63 *e*P Pn 17 19 14.2 0.0
FFC pmax pmax
comp=Z,440nm,1.0s
FFC Flin Flon 17.69 63 *e*Pn Pn 17 19 14.2 0.0
comp=Z,440nm,1.0s
J23A Dilts Ranch, B 17.72 101 P Pn 17 19 14.3 -0.5
baz=18
H24A Dirks Ranch, A 17.75 96 P Pn 17 19 14.6 -0.6
baz=18
TRF Thorofare Moun 17.76 329 *e*Pn P 17 19 17.8 +1.8
comp=Z,110nm,1.4s
HEC Hector,Ludlow 17.77 141 P P 17 19 16.6 +0.5
baz=18
BFSC Mount Baldy Ra 17.78 145 P P 17 19 16.7 +0.4
baz=18
WRH Wood River Hil 17.80 333 *e*Pn P 17 19 18.2 +2.1
comp=Z,66nm,1.0s
E25A Miller Ranch, 17.83 90 P Pn 17 19 15.8 -0.3
baz=18
CCB Clear Creek Bu 17.84 334 *e*Pn P 17 19 17.8 +1.1
comp=Z,128nm,1.4s
O20A White River Ci 17.89 114 P Pn 17 19 16.9 0.0
baz=18
O20A White River Ci 17.89 114 *e*Pn P 17 19 18.4 +0.9
comp=Z,236nm,1.4s
SBI Santa Barbara 17.99 150 *e*ScP ScP 17 27 28.3 +0.8
K23A Bowen Ranch, D 18.00 103 P Pn 17 19 18.6 +0.3
baz=18
F25A Bowman 18.00 92 P Pn 17 19 17.6 -0.5
baz=18
FMP Fort Macarthur 18.02 148 P P 17 19 19.7 +0.9
baz=18
COLA College 18.03 335 *e*P P 17 19 24.1 +5.4
COLA pmax pmax
comp=Z,335nm,1.2s
COLA College 18.03 335 *e*Pn P 17 19 25.7 +7.0
comp=Z,342nm,1.8s
BBRC Big Bear Solar 18.04 144 P P 17 19 20.0 +0.7
baz=18
B26A Jensen Ranch, 18.04 83 P Pn 17 19 17.8 -0.8
baz=18
A26A Wade Farm, Ken 18.05 82 P Pn 17 19 17.9 -0.7
baz=18
LDFC Landfair 18.07 138 *e*Pn P 17 19 24.1 +4.6
comp=Z,97nm,1.0s
PPLA Purkeypile 18.08 326 *e*Pn P 17 19 25.5 +6.0
comp=Z,181nm,1.6s
GMRC Granite Mounta 18.09 140 P P 17 19 19.9 +0.1
baz=18
I24A Kuemmerle Ranc 18.10 99 P Pn 17 19 19.0 -0.4
baz=18
MDM Murphy Dome 18.20 334 *e*Pn P 17 19 22.9 +2.2
comp=Z,151nm,1.3s
CIS Catalina Islan 18.27 148 P P 17 19 22.2 +0.6
baz=18
C26A Wahner Farm, P 18.27 85 P Pn 17 19 20.3 -1.2
baz=18
D26A Manning 18.29 88 P P 17 19 21.8 0.0
baz=18
G25A Newell 18.31 94 P Pn 17 19 21.8 -0.1
baz=18
J24A Dixon Ranch, L 18.32 101 P Pn 17 19 22.1 -0.1
baz=18
RSSD Black Hills 18.36 98 *e*P Pn 17 19 22.4 -0.4
RSSD pmax pmax
comp=Z,106nm,1.0s
RSSD Black Hills 18.36 98 *e*Pn Pn 17 19 22.4 -0.4
comp=Z,106nm,1.0s
H25A Fruitdale 18.42 96 P Pn 17 19 23.4 +0.1
baz=19
CHGN Chignik 18.43 302 *e*P P 17 19 21.6 -1.6
BPAW Bear Paw Mtn. 18.43 330 *e*P Pn 17 19 24.8 +1.6
comp=Z,28nm,1.9s
PV09 Paradox Valley 18.45 119 *e*P Pn 17 19 24.6 +0.6
E26A Carlson Angus 18.45 89 P Pn 17 19 24.2 +0.5
baz=19
HMTC Hemet 18.49 145 *e*ScP ScP 17 27 33.2 +4.6
SVW2 Sparrevohn 18.49 318 *e*P P 17 19 23.6 -0.3
comp=Z,530nm,2.0s
MURC Murrieta 18.52 145 P Pn 17 19 25.3 +0.8
baz=18
K24A Anderson Ranch 18.53 102 P P 17 19 24.3 -0.3
baz=19
F26A Lodgepole 18.54 91 P Pn 17 19 25.1 +0.3
baz=19
A27A Ledoux Ranch, 18.55 81 P P 17 19 24.1 -0.4
baz=19
NEE2 Needles Airpor 18.55 138 P Pn 17 19 26.6 +1.7
baz=18
PV10 Paradox Valley 18.59 119 *e*P Pn 17 19 27.0 +1.4
SCI San Clemente I 18.61 149 P Pn 17 19 27.3 +1.7
baz=19
BELC Belle Mtn. Jos 18.63 142 P Pn 17 19 26.9 +1.0
baz=19
PV04 Paradox Valley 18.66 119 *e*P Pn 17 19 26.9 +0.5
B27A Peters Farms, 18.66 83 P Pn 17 19 26.5 +0.3
baz=19
C27A Sayler Ranch, 18.69 85 P Pn 17 19 27.0 +0.4
baz=19
FYU Fort Yukon 18.74 341 *e*P Pn 17 19 30.0 +3.0
comp=Z,245nm,1.5s
PV05 Paradox Valley 18.77 120 *e*P Pn 17 19 29.0 +1.3
PFO Pinyon Flat Ob 18.79 144 P P 17 19 26.9 -0.6
comp=Z,0.3nm,0.3s,baz=322,slow=7.8,SNR=8.6
PFO Pinyon Flat Ob 18.79 144 *e*P Pn 17 19 28.6 +0.6
PFO pmax pmax
comp=Z,120nm,2.1s
PFO Pinyon Flat Ob 18.79 144 P Pn 17 19 30.0 +2.0
baz=19
PFO Pinyon Flat Ob 18.79 144 *e*P Pn 17 19 28.6 +0.6
comp=Z,120nm,2.1s
PFO *e*PcP PcP 17 23 56.9 +2.5
G26A Maurine 18.80 93 P Pn 17 19 28.3 +0.4
baz=19
INK Inuvik 18.82 356 P Pn 17 19 27.9 0.0
comp=Z,0.2nm,0.3s,baz=170,slow=11,SNR=62
INK LR LR 17 26 16.0
comp=Z,4µm,18.3s,baz=174,slow=35
INK Inuvik 18.82 356 *e*P Pn 17 19 28.8 +1.0
comp=Z,658nm,1.9s
N23A Red Feather La 18.82 109 P Pn 17 19 28.8 +0.4
baz=19
N23A Red Feather La 18.82 109 *e*P P 17 19 27.9 0.0
comp=Z,262nm,1.4s
IRM Iron Mountain 18.84 140 P Pn 17 19 30.8 +2.4
baz=19
J25A Sunshine Ranch 18.85 99 P P 17 19 28.3 +0.3
baz=19
D27A Center 18.86 87 P Pn 17 19 28.9 +0.4
baz=19
PHWY Pilot Hill 18.89 107 *e*P P 17 19 28.9 +0.3
comp=Z,666nm,2.1s
F27A Lemmon 18.95 91 P Pn 17 19 30.5 +0.7
baz=19
H26A Fairpoint 18.96 95 P Pn 17 19 30.6 +0.8
baz=19
MLY Manley 18.99 332 *e*P Pn 17 19 30.7 +0.6
comp=Z,187nm,1.6s
PV01 Paradox Valley 19.02 119 *e*P Pn 17 19 31.1 +0.3
E27A Carson 19.05 89 P Pn 17 19 31.6 +0.7
baz=19
BC3 Big Chuckawall 19.15 141 P Pn 17 19 34.0 +1.8
baz=19
DPP Dos Picos Cty 19.15 145 *e*P P 17 19 27.6 -3.7
PDMCI Parker Dam,Lak 19.15 137 P Pn 17 19 34.4 +2.2
baz=19
I26A New Underwood 19.16 97 P Pn 17 19 33.0 +0.7
baz=19
A28A Rude Farm, Bot 19.18 81 P Pn 17 19 32.9 +0.4
baz=19
K25A Mack Ranch, Ha 19.18 102 P Pn 17 19 33.2 +0.5
baz=19
109C Camp Elliot, M 19.19 146 P Pn 17 19 35.0 +2.3
baz=19
G27A Dupree 19.20 92 P Pn 17 19 33.1 +0.3
baz=19
B28A Dugan Ranch, T 19.23 82 P Pn 17 19 33.7 +0.6
baz=19
SMCO Snowmass 19.25 114 *e*P Pn 17 19 34.0 +0.3
comp=Z,107nm,1.4s
J26A Sides Ranch, S 19.35 99 P Pn 17 19 35.2 +0.6
baz=20
L25A Engebretsen Ra 19.36 103 P Pn 17 19 35.6 +0.9
baz=20
H27A Howes 19.40 94 P Pn 17 19 35.5 +0.3
baz=20
C28A Hausauer Farms 19.41 84 P Pn 17 19 35.8 +0.6
baz=20
MONP Monument Peak 19.44 144 P Pn 17 19 35.9 0.0
baz=19
D28A Regan 19.45 86 P Pn 17 19 36.3 +0.6
baz=20
Y12C Blythe 19.45 139 P Pn 17 19 35.8 0.0
baz=20
WUAZ Wupatki 19.46 130 P Pn 17 19 35.8 -0.3
baz=20
WUAZ Wupatki 19.46 130 *e*P Pn 17 19 36.0 -0.1
comp=Z,105nm,1.4s
SDPT Sand Point 19.47 299 *e*P P 17 19 33.7 -0.9
comp=Z,266nm,1.4s
CBKC Canebrake 19.50 144 *e*PcP PcP 17 23 55.3 -0.2
E28A Huff 19.57 88 P Pn 17 19 37.5 +0.4
baz=20
K26A Motz Farm, Whi 19.58 101 P Pn 17 19 37.5 +0.1
baz=20
SWSC Sam W. Stewart 19.64 143 P Pn 17 19 39.4 +1.4
baz=20
I27A Quinn 19.66 96 P Pn 17 19 37.9 -0.4
baz=20
ISCO Idaho Springs 19.68 111 *e*P Pn 17 19 38.9 +0.1
ISCO pmax pmax
comp=Z,49nm,0.9s
ISCO Idaho Springs 19.68 111 P Pn 17 19 38.6 -0.2
baz=20
ISCO Idaho Springs 19.68 111 *e*P Pn 17 19 38.9 +0.1
comp=Z,48nm,0.9s
M25A Palm-Egli Farm 19.69 105 P Pn 17 19 38.7 -0.1
baz=20
MVCO Mesa Verde 19.71 121 P Pn 17 19 39.6 +0.4
baz=20
MVCO Mesa Verde 19.71 121 *e*P P 17 19 38.1 +0.4
comp=Z,270nm,1.3s
F28A McLaughlin 19.75 90 P Pn 17 19 39.5 +0.1
baz=20
IBP Imperial Bould 19.77 144 P Pn 17 19 41.0 +1.4
baz=20
A29A Manning Farm, 19.84 80 P Pn 17 19 39.7 -0.7
baz=20
B29A Wagenman Farm, 19.88 82 P Pn 17 19 40.1 -0.7
baz=20
MDND Maddock 19.88 84 P Pn 17 19 40.4 -0.4
baz=20
MDND Maddock 19.88 84 *e*P Pn 17 19 41.5 +0.6
comp=Z,1µm,1.6s
GLA Glamis 19.93 141 *e*P Pn 17 19 41.0 -0.5
GLA pmax pmax
comp=Z,55nm,1.3s
GLA Glamis 19.93 141 P Pn 17 19 41.3 -0.2
baz=20
GLA Glamis 19.93 141 *e*P Pn 17 19 41.0 -0.5
comp=Z,55nm,1.3s
G28A Parade 19.98 92 P Pn 17 19 41.7 -0.3
baz=20
L26A Underwood Farm 19.98 102 P Pn 17 19 42.0 -0.1
baz=20
J27A Elkhorn Farm, 20.07 98 P Pn 17 19 42.7 -0.5
baz=20
H28A Mission Ridge 20.07 93 P Pn 17 19 42.9 -0.3
baz=20
D29A Pettibone, Tap 20.12 86 P Pn 17 19 43.0 -0.7
baz=20
K27A Flueckinger Fa 20.18 100 P Pn 17 19 43.6 -0.9
baz=20
M26A McRoberts Ranc 20.25 104 P Pn 17 19 44.7 -0.6
baz=20
E29A Napoleon 20.25 87 P Pn 17 19 44.8 -0.4
baz=20
I28A Midland 20.27 95 P Pn 17 19 44.5 -0.9
baz=20
S22A 4UR Ranch, Cre 20.29 117 P Pn 17 19 45.5 -0.6
baz=20
S22A 4UR Ranch, Cre 20.29 117 *e*P P 17 19 45.0 +1.0
comp=Z,245nm,1.4s
F29A Eureka 20.39 89 P P 17 19 45.6 +0.9
baz=20
A30A Hoffart Farm, 20.43 80 P P 17 19 46.1 +0.9
baz=21
L27A T5 Ranch, Ells 20.45 101 P P 17 19 46.3 +0.8
baz=21
COLD Coldfoot 20.45 337 *e*P Pn 17 19 47.5 +0.2
comp=Z,263nm,1.7s
Q24A Divide 20.48 112 P P 17 19 47.1 +1.0
baz=21
J28A Allard Ranch, 20.48 97 P Pn 17 19 47.2 -0.8
baz=21
B30A Myrvik Farm, E 20.54 81 P P 17 19 46.9 +0.6
baz=21
N26A Koester Ranch, 20.55 105 P P 17 19 47.2 +0.5
baz=21
IM04 Indian Mountai 20.56 332 *e*P P 17 19 47.3 +0.9
G29A Hoven 20.57 91 P P 17 19 47.4 +0.6
baz=21
W18A Petrified Fore 20.61 127 P P 17 19 48.0 +0.7
baz=21
W18A Petrified Fore 20.61 127 *e*P Pn 17 19 48.8 -0.9
comp=Z,404nm,1.3s
H29A Onida 20.62 93 P P 17 19 47.9 +0.7
baz=21
C30A Mose, Pekin 20.65 83 P P 17 19 47.8 +0.2
baz=21
D30A Buchanan 20.65 85 P P 17 19 48.4 +0.9
baz=21
M27A Reverse DX Ran 20.69 103 P P 17 19 48.9 +0.7
baz=21
K28A Ten Mile Ranch 20.74 99 P Pn 17 19 49.9 -1.1
baz=21
E30A Jud 20.75 87 P P 17 19 49.5 +0.8
baz=21
I29A Vivian Onida 20.82 94 P P 17 19 50.1 +0.7
baz=21
O26A Horse Wrangler 20.83 107 P P 17 19 50.5 +0.8
baz=21
F30A Leola 20.91 89 P P 17 19 51.5 +1.1
baz=21
N27A Anderson Farm, 20.99 105 P P 17 19 52.3 +0.9
baz=21
L28A Connealy Angus 20.99 101 P P 17 19 52.7 +1.3
baz=21
SDCO Great Sand Dun 21.06 115 P P 17 19 53.0 +0.7
baz=21
SDCO Great Sand Dun 21.06 115 *e*P P 17 19 53.1 +0.7
comp=Z,201nm,1.6s
SDCO LR LR
comp=Z,5µm,19.0s
J29A Okreek 21.08 96 P P 17 19 53.1 +0.9
baz=21
G30A Faulkton 21.11 91 P P 17 19 53.0 +0.5
baz=21
FALS False Pass 21.14 297 *e*P P 17 19 57.0 +4.3
comp=Z,94nm,1.2s
P26A Davis Ranch, A 21.21 108 P P 17 19 54.4 +0.6
baz=21
OGNE Ogallala 21.23 104 P P 17 19 54.7 +0.8
baz=21
OGNE Ogallala 21.23 104 *e*P P 17 19 55.0 +1.0
comp=Z,439nm,1.2s
OGNE LR LR
comp=Z,3µm,19.0s
O27A Beecher Island 21.38 106 P P 17 19 55.6 +0.1
baz=22
K29A Lazy Trails An 21.39 98 P P 17 19 56.1 +0.5
baz=22
M28A Bar X Bar Ranc 21.41 102 P P 17 19 56.4 +0.6
baz=22
I30A Oacoma 21.43 94 P P 17 19 56.3 +0.3

baz=22
Q26A Hugo 21.49 110 P P 17 19 57.9 +1.0
baz=22
L29A Maesberg Ranch 21.63 99 P P 17 19 59.0 +0.8
baz=22
J30A Dallas 21.66 95 P P 17 19 58.3 -0.1
baz=22
N28A Pribbeno Ranch 21.69 104 P P 17 19 59.7 +0.9
baz=22
ULM Lac du Bonnet 21.69 75 P P 17 19 57.6 -1.0
comp=Z,92nm,0.9s,baz=284,slow=11,SNR=32
ULM LR LR 17 27 14.0
comp=Z,1µm,21.6s,baz=279,slow=33
ULM Lac du Bonnet 21.69 75 P P 17 19 57.6 -1.0
ULM pmax pmax
comp=Z,92nm,0.9s
ULM MLR MLR
comp=Z,1µm,21.6s
ULM Lac du Bonnet 21.69 75 eP P 17 19 58.7 +0.1
comp=Z,506nm,1.2s
P27A Ficken Ranch, 21.69 107 P P 17 19 59.4 +0.5
baz=22
214A Organ Pipe Nat 21.73 138 P P 17 19 59.2 0.0
baz=22
214A Organ Pipe Nat 21.73 138 eP P 17 19 59.0 -0.2
comp=Z,40nm,1.1s
M29A Burnside Ranch 21.82 101 P P 17 20 00.7 +0.5
baz=22
O28A Krutsinger Ran 21.86 105 P P 17 20 01.1 +0.5
baz=22
K30A Basset 21.89 97 P P 17 20 01.9 +1.0
baz=22
R26A Arlington 21.93 111 P P 17 20 02.1 +0.6
baz=22
KSCO Kaye Shedlock' 21.99 109 P P 17 20 03.0 +0.9
baz=22
KSCO Kaye Shedlock' 21.99 109 eP P 17 20 03.8 +1.7
comp=Z,1µm,1.7s
T25A Trinidad 22.11 115 P P 17 20 04.3 +0.7
baz=22
T25A Trinidad 22.11 115 eP P 17 20 04.6 +1.0
comp=Z,440nm,1.5s
AGMN Agassiz Nation 22.16 80 P P 17 20 03.6 -0.2
baz=22
AGMN Agassiz Nation 22.16 80 eP P 17 20 06.3 +2.5
comp=Z,156nm,1.0s
AGMN LR LR
comp=Z,11µm,19.0s
L30A Spencer Herefo 22.18 99 P P 17 20 04.5 +0.4
baz=22
P28A Saint Francis 22.19 106 P P 17 20 04.2 0.0
baz=22
N29A Votaw Ranch, W 22.19 102 P P 17 20 04.4 +0.1
baz=22
M30A Dale-Ortello V 22.29 100 P P 17 20 05.7 +0.4
baz=22
R27A Eads 22.33 110 P P 17 20 06.2 +0.4
baz=22
TUC Tucson 22.35 134 eP P 17 20 06.5 +0.5
TUC pmax pmax
comp=Z,68nm,1.2s
TUC MLR MLR
comp=Z,3µm,19.0s
TUC Tucson 22.35 134 eP P 17 20 06.5 +0.5
comp=Z,68nm,1.2s
TUC LR LR
comp=Z,3µm,19.0s
S26A Kim 22.35 113 P P 17 20 06.0 0.0
baz=22
Q28A Sharon Springs 22.45 108 P P 17 20 07.1 +0.1
baz=22
O29A 4D Ranch, Culb 22.47 104 P P 17 20 07.4 +0.2
baz=23
ANMO Albuquerque 22.50 122 P P 17 20 06.5 -1.1
comp=Z,16nm,1.0s,baz=321,slow=12,SNR=16
ANMO LR LR 17 29 10.6
comp=Z,2µm,18.3s,baz=314,slow=38
ANMO Albuquerque 22.50 122 P P 17 20 06.5 -1.1
ANMO pmax pmax
comp=Z,16nm,1.0s
ANMO MLR MLR
comp=Z,2µm,18.3s
ANMO Albuquerque 22.50 122 eP P 17 20 08.0 +0.4
comp=Z,242nm,1.8s
LAZ Ladron 22.53 124 eP P 17 20 08.3 +0.2
AKUT Akutan 22.53 295 eP P 17 20 13.1 +5.4
N30A Hueftle Ranch, 22.54 102 P P 17 20 08.0 +0.1
baz=23
T26A Comanche Natio 22.57 114 P P 17 20 08.4 -0.1
baz=23
L31A Butterfield Fa 22.63 97 P P 17 20 09.5 +0.6
baz=23
S27A Las Animas 22.66 112 P P 17 20 09.4 +0.1
baz=23
P29A Atwood 22.69 105 P P 17 20 10.0 +0.4
baz=23
LENM Lemitar 22.80 124 eP P 17 20 11.8 +0.9
LPM Los Pinos Moun 22.87 123 eP P 17 20 13.2 +1.5
Y22D IRIS PASSCAL I 22.90 124 P P 17 20 12.8 +1.0
baz=23
R28A Tribune 22.90 109 P P 17 20 12.1 +0.3
baz=23
O30A MW Ranch, Wils 22.91 103 P P 17 20 12.0 +0.2
baz=23
M31A Lambtecht Ranc 22.96 99 P P 17 20 12.5 +0.1
baz=23
UNV Unalaska Valle 22.98 295 eP P 17 20 15.6 +3.2
comp=Z,73nm,1.2s
BNM Barren Site 23.00 124 eP P 17 20 13.2 +0.2
Q29A Oakley 23.08 107 P P 17 20 14.3 +0.7
baz=23
P30A Selden 23.15 105 P P 17 20 14.6 +0.3
baz=23
T27A Campo 23.17 113 P P 17 20 14.8 +0.2
baz=23
N31A Bailey Ranch, 23.26 101 P P 17 20 15.8 +0.4
baz=23
R29A Marienthal 23.27 108 P P 17 20 15.8 +0.3
baz=23
S28A Manter 23.32 111 P P 17 20 16.5 +0.4
baz=23
ECSD EROS Data Cent 23.34 92 P P 17 20 16.2 0.0
baz=24
ECSD EROS Data Cent 23.34 92 eP P 17 20 16.0 -0.1
comp=Z,562nm,1.7s
ECSD LR LR
comp=Z,5µm,22.0s
O31A Woolen Ranch, 23.39 102 P P 17 20 16.4 -0.3
baz=24
BGNE Belgrade 23.46 98 P P 17 20 18.1 +0.6
baz=24
BGNE Belgrade 23.46 98 eP P 17 20 18.1 +0.6
comp=Z,557nm,1.2s
Q30A Quinter 23.50 106 P P 17 20 18.1 +0.2
baz=24
U27A Thompson Grove 23.54 114 P P 17 20 18.6 +0.3
baz=24
121A Cookes Peak, D 23.64 128 P P 17 20 19.6 +0.2
baz=24
121A Cookes Peak, D 23.64 128 eP P 17 20 19.2 -0.2
comp=Z,126nm,1.5s
L33A Hoskins 23.64 96 P P 17 20 19.4 +0.2
baz=24
N32A Stulken Farm, 23.71 100 P P 17 20 20.5 +0.7
baz=24
P31A Stockton 23.71 104 P P 17 20 20.3 +0.4
baz=24
S29A Ulysses 23.78 109 P P 17 20 20.9 +0.3
baz=24
R30A Dighton 23.89 107 P P 17 20 22.0 +0.4
baz=24
CBKS Cedar Bluff 23.90 106 eP P 17 20 22.7 +1.0
CBKS pmax pmax
comp=Z,761nm,1.6s
CBKS MLR MLR
comp=Z,2µm,21.0s
CBKS Cedar Bluff 23.90 106 P P 17 20 22.2 +0.5
baz=24
CBKS Cedar Bluff 23.90 106 eP P 17 20 22.7 +1.0
comp=Z,761nm,1.6s
CBKS LR LR
comp=Z,2µm,21.0s
U28A Mallet 23.92 113 P P 17 20 22.1 +0.1
baz=24
T29A Hugoton 23.97 111 P P 17 20 22.7 +0.3
baz=24
V27A Dan Oppiter Fa 23.98 115 P P 17 20 22.8 +0.2
baz=24

M33A Taylor Creek F 23.99 97 P P 17 20 22.5 0.0
baz=24
O32A Brockman Farm, 24.00 101 P P 17 20 23.0 +0.4
baz=24
Q31A Ellis 24.00 105 P P 17 20 22.6 -0.1
baz=24
P32A Huiting Farm, 24.15 103 P P 17 20 24.2 +0.2
baz=24
S30A Montezuma 24.17 109 P P 17 20 24.5 +0.2
baz=24
N33A J Bar K, Exete 24.27 99 P P 17 20 25.1 0.0
baz=24
L34A Svendsen Farm, 24.32 96 P P 17 20 25.4 -0.2
baz=24
V28A Channing 24.35 114 P P 17 20 26.1 +0.2
baz=24
R31A Burdett 24.35 106 P P 17 20 26.4 +0.5
baz=24
M34A Aspy Farms, Fr 24.42 97 P P 17 20 26.4 -0.1
baz=24
U29A Oasis Ranch, S 24.45 112 P P 17 20 26.3 -0.5
baz=24
T30A Plains 24.51 110 P P 17 20 27.6 +0.2
baz=25
Q32A Meitler Ranch, 24.54 104 P P 17 20 27.6 0.0
baz=25
O33A Hebron 24.54 101 P P 17 20 27.6 0.0
baz=25
V29A Stinnett 24.68 113 P P 17 20 28.8 -0.2
baz=25
W28A Vega 24.70 115 P P 17 20 29.0 -0.2
baz=25
U30A WK&E Inc. Balk 24.77 111 P P 17 20 29.8 0.0
baz=25
R32A Long Quarter, 24.78 105 P P 17 20 30.0 +0.3
baz=25
S31A Mullinville 24.79 108 P P 17 20 29.6 -0.3
baz=25
L35A Bielow Farm, R 24.79 95 P P 17 20 29.8 0.0
baz=25
N34A Lincoln 24.82 98 P P 17 20 30.2 +0.1
baz=25
P33A Williams Farm, 24.83 102 P P 17 20 30.5 +0.3
baz=25
Q33A Connelly Farm, 24.99 103 P P 17 20 32.0 +0.4
baz=25
M35A Neola 25.02 96 P P 17 20 32.4 +0.6
baz=25
O34A Beatrice 25.05 100 P P 17 20 32.6 +0.4
baz=25
EYMN Ely 25.06 79 P P 17 20 32.8 +0.6
baz=25
EYMN Ely 25.06 79 eP P 17 20 32.8 +0.6
comp=Z,250nm,1.4s
EYMN LR LR
comp=Z,7µm,21.0s
S32A Newby Ranch, P 25.08 107 P P 17 20 32.3 -0.1
baz=25
W29A Amraillo 25.12 115 P P 17 20 32.0 -1.0
baz=25
SPMN St. Paul 25.19 86 P P 17 20 31.7 -1.6
baz=25
SPMN St. Paul 25.19 86 eP P 17 20 35.0 +1.7
comp=Z,262nm,1.4s
X28A Dimmitt 25.22 116 P P 17 20 32.9 -0.9
baz=25
V30A Spur Ranch, Mi 25.26 112 P P 17 20 33.1 -1.0
baz=25
MSTX Muleshoe 25.28 118 P P 17 20 34.1 -0.3
baz=25
MSTX Muleshoe 25.28 118 eP P 17 20 34.7 +0.2
comp=Z,232nm,1.6s
R33A Older Ranch, 25.30 105 P P 17 20 34.1 -0.4
baz=25
P34A Walnut Farm, R 25.32 101 P P 17 20 34.6 0.0
baz=25
U31A Nine Bar Ranch 25.36 110 P P 17 20 35.4 +0.3
baz=25
N35A Tabor 25.36 97 P P 17 20 35.9 +0.9
baz=26
T32A Huddler Ranch, 25.41 108 P P 17 20 35.7 +0.3
baz=26
O35A Humboldt 25.51 99 P P 17 20 36.2 -0.1
baz=26
X29A Tulia 25.56 116 P P 17 20 36.4 -0.6
baz=26
Q34A Chapman 25.60 102 P P 17 20 37.4 +0.3
baz=26
Y28A McKinney Farm, 25.63 117 P P 17 20 37.1 -0.4
baz=26
GDL2 Guadalupe Moun 25.71 123 eP P 17 20 40.3 +2.0
comp=Z,1.5nm,0.1s
W30A Crocket Farms 25.72 113 P P 17 20 38.3 0.0
baz=26
S33A Kaszmaul Farm, 25.73 106 P P 17 20 38.4 +0.1
baz=26
V31A Spring Creek L 25.76 111 P P 17 20 39.0 +0.3
baz=26
R34A Isabella, Hill 25.77 104 P P 17 20 38.9 +0.2
baz=26
P35A Duane Minner, 25.84 100 P P 17 20 39.3 -0.1
baz=26
U32A Winter Ranch, 25.88 109 P P 17 20 39.9 +0.2
baz=26
CLNB Carlsbad 25.92 122 eP P 17 20 42.7 +2.5
comp=Z,16nm,1.5s
Y29A Porterfield Fa 26.00 117 P P 17 20 40.2 -0.7
baz=26
Z28A Tucker Farm, M 26.00 119 P P 17 20 40.2 -0.7
baz=26
X30A Coker Ranch, T 26.05 115 P P 17 20 41.2 -0.1
baz=26
W31A Holland Ranch, 26.09 112 P P 17 20 41.8 +0.1
baz=26
O36A Bolckow 26.19 98 P P 17 20 41.8 -0.7
baz=26
Q35A Mercer Eighty, 26.21 101 P P 17 20 43.1 +0.3
baz=26
S34A Willow Spring 26.22 105 P P 17 20 42.5 -0.3
baz=26
V32A Arapaho 26.28 110 P P 17 20 43.7 +0.3
baz=26
P36A Good Intent, A 26.32 99 P P 17 20 44.2 +0.5
baz=26
U33A Lingo Farm, Me 26.39 108 P P 17 20 44.6 +0.3
baz=26
SCIA State Center 26.40 93 eP P 17 20 48.2 +3.8
comp=Z,223nm,1.4s
SCIA LR LR
comp=Z,4µm,19.0s
Z29A Hungry Hill Ra 26.41 118 P P 17 20 43.6 -1.0
baz=26
R35A Emporia Munici 26.43 103 P P 17 20 44.9 +0.2
baz=26
128A Castleberry Fa 26.43 120 P P 17 20 44.9 +0.1
baz=26
Y30A Stanford Cattl 26.43 116 P P 17 20 45.0 +0.2
baz=26
X31A McDonald Ranch 26.45 113 P P 17 20 45.2 +0.3
baz=26
Q36A Arnold C. Orve 26.52 101 P P 17 20 46.0 +0.5
baz=27
W32A Sentinel 26.56 112 P P 17 20 46.0 +0.1
baz=27
T34A McClaskey Farm 26.59 106 P P 17 20 46.4 +0.2
baz=27
V33A Lossen Ranch, 26.68 109 P P 17 20 47.0 +0.1
baz=27
Z30A Sanderson Ranc 26.72 117 P P 17 20 46.9 -0.5
baz=27
S35A Otter Creek Ra 26.73 104 P P 17 20 47.2 -0.2
baz=27
U34A Anderson Ranch 26.74 107 P P 17 20 47.7 +0.1
baz=27
228A UT Block 9, Go 26.75 121 P P 17 20 47.9 +0.2
baz=27
Y31A Rekieta Farm, 26.75 115 P P 17 20 47.1 -0.5
baz=27
129A Stewart Farms, 26.78 119 P P 17 20 48.0 0.0
baz=27
R36A Gordon, Harris 26.87 102 P P 17 20 48.8 +0.2
baz=27
W33A Caddo, Fort Co 27.01 111 P P 17 20 50.2 +0.2
baz=27
X32A Elmer 27.01 113 P P 17 20 49.9 -0.1
baz=27
T35A Sooner Cattle 27.08 105 P P 17 20 50.7 +0.2
baz=27

WMOK Wichita Mounta 27.10 112 eP P 17 20 51.0 +0.3
WMOK pmax pmax
comp=Z,65nm,1.0s
WMOK MLR MLR
comp=Z,5µm,20.0s
WMOK Wichita Mounta 27.10 112 eP P 17 20 51.0 +0.3
comp=Z,65nm,1.0s
WMOK LR LR
comp=Z,5µm,20.0s
V34A Guthrie 27.14 108 P P 17 20 51.3 +0.2
baz=27
S36A Lake Cedric, C 27.17 103 P P 17 20 51.6 +0.3
baz=27
Y32A R-V Farms, Ver 27.21 114 P P 17 20 51.6 -0.1
baz=27
Q37A Longview Farm, 27.22 100 P P 17 20 51.4 -0.3
baz=27
Z31A Sharp Cattle R 27.27 116 P P 17 20 51.8 -0.5
baz=27
U35A Pawnee 27.29 107 P P 17 20 52.5 +0.1
baz=27
229A Bryant Ranch, 27.30 120 P P 17 20 52.6 0.0
baz=27
R37A Teagarden Farm 27.30 101 P P 17 20 52.5 0.0
baz=27
130A Snyder 27.32 118 P P 17 20 52.5 -0.2
baz=27
W34A Bridge Creek, 27.38 110 P P 17 20 53.2 -0.1
baz=28
W34A Bridge Creek, 27.38 110 eP P 17 20 54.1 +0.8
comp=Z,78nm,0.9s
T36A Boggs Farm, Ca 27.39 104 P P 17 20 53.5 +0.2
baz=28
X33A Lawton 27.40 112 P P 17 20 53.2 -0.2
baz=28
329A Wagon Wheel Ra 27.56 121 P P 17 20 54.6 -0.4
baz=28
131A Roby 27.59 117 P P 17 20 54.7 -0.5
baz=28
V35A Meyer Ranch, C 27.61 108 P P 17 20 55.2 -0.1
baz=28
S37A Fort Scott 27.63 102 P P 17 20 55.8 +0.4
baz=28
Z32A Haskell 27.67 115 P P 17 20 55.6 -0.3
baz=28
Y33A Hilltop Ranch, 27.69 113 P P 17 20 55.6 -0.4
baz=28
230A Sterling City 27.75 119 P P 17 20 56.5 -0.2
baz=28
X34A Smith Ranch, M 27.77 111 P P 17 20 57.2 +0.5
baz=28
JFWS Jewell Farm 27.85 89 eP P 17 21 00.3 +2.9
JFWS pmax pmax
comp=Z,99nm,1.0s
JFWS MLR MLR
comp=Z,5µm,19.0s
JFWS Jewell Farm 27.85 89 eP P 17 21 00.3 +2.9
comp=Z,99nm,1.0s
JFWS LR LR
comp=Z,5µm,19.0s
U36A Oologah 27.90 105 P P 17 20 58.1 +0.2
baz=28
T37A Cheneyville 18 27.96 103 P P 17 20 58.5 +0.2
baz=28
W35A Tecumseh 27.98 109 P P 17 20 58.5 -0.2
baz=28
ABTX Abilene, Hawle 28.06 116 P P 17 20 59.0 -0.4
baz=28
ABTX Abilene, Hawle 28.06 116 eP P 17 20 59.5 +0.1
comp=Z,218nm,1.8s
330A Mertzon 28.08 120 P P 17 20 59.3 -0.3
baz=28
Z33A Whitaker Ranch 28.11 114 P P 17 20 59.6 -0.2
baz=28
V36A Jenks 28.15 107 P P 17 20 59.7 -0.4
baz=28
TUL1 Tulsa 28.16 106 P P 17 21 00.6 +0.4
baz=28
TUL1 Tulsa 28.16 106 eP P 17 21 01.0 +0.8
comp=Z,394nm,1.8s
231A Bronte 28.17 118 P P 17 20 59.5 -0.9
baz=28
Y34A Reagan Ranch, 28.25 112 P P 17 21 00.7 -0.3
baz=28
429A Davenport Ranc 28.27 122 P P 17 21 01.1 -0.2
baz=28
U37A Salina 28.27 105 P P 17 21 01.0 -0.2
baz=28
TXAR Lajitas Array 28.32 126 P P 17 21 00.1 -1.7
comp=Z,0.7nm,0.7s,baz=316,slow=7.6,SNR=4.6
W36A Wetumka 28.39 108 P P 17 21 01.6 -0.7
baz=28
X35A Drake 28.43 110 P P 17 21 01.8 -0.8
baz=28
529A Stev Forest Ra 28.47 123 P P 17 21 02.8 -0.3
baz=28
133A Hamilton Ranch 28.50 115 P P 17 21 02.5 -0.8
baz=29
430A Baggett Ranch, 28.51 121 P P 17 21 03.1 -0.4
baz=29
Z34A Collier Ranch, 28.56 113 P P 17 21 03.0 -0.8
baz=29
331A San Angelo 28.57 119 P P 17 21 03.6 -0.4
baz=29
V37A Hulbert 28.59 106 P P 17 21 03.4 -0.6
baz=29
232A Coleman 28.59 117 P P 17 21 02.7 -1.5
baz=29
X36A Centrahoma 28.69 109 P P 17 21 04.9 0.0
baz=29
U38A Gravette 28.71 104 P P 17 21 04.7 -0.5
baz=29
Y35A Marietta 28.72 111 P P 17 21 05.1 -0.1
baz=29
W37A Quinton 28.89 107 P P 17 21 06.3 -0.4
baz=29
332A Millersview 28.91 118 P P 17 21 06.0 -0.9
baz=29
233A Rising Star 28.93 116 P P 17 21 06.6 -0.6
baz=29
530A J-C Ranch, Com 28.94 122 P P 17 21 06.8 -0.4
baz=29
431A Sonora 28.94 120 P P 17 21 06.8 -0.5
baz=29
Z35A Perchaven, San 28.98 112 P P 17 21 06.9 -0.7
baz=29
134A White-Moore Ra 29.02 114 P P 17 21 07.1 -0.8
baz=29
V38A Canehill 29.06 105 P P 17 21 07.9 -0.3
baz=29
Y36A Durant 29.18 110 P P 17 21 09.2 -0.1
baz=29
432A Menard 29.26 119 P P 17 21 09.4 -0.7
baz=29
X37A Clayton 29.28 108 P P 17 21 09.9 -0.3
baz=29
531A Rocksprings 29.37 121 P P 17 21 10.4 -0.6
baz=29
333A Richland Sprin 29.39 117 P P 17 21 10.3 -0.9
baz=30
234A Clairette 29.39 115 P P 17 21 09.4 -1.9
baz=30
135A Vickery Place, 29.43 113 P P 17 21 11.0 -0.5
baz=30
W38A Poteau 29.50 106 P P 17 21 12.2 +0.1
baz=30
Z36A Blue Ridge 29.52 111 P P 17 21 12.1 -0.2
baz=30
Y37A Hugo 29.54 109 P P 17 21 12.2 -0.3
baz=30
JCT Junction City 29.55 119 eP P 17 21 12.4 -0.2
JCT pmax pmax
comp=Z,348nm,2.3s
JCT MLR MLR
comp=Z,1µm,19.0s
JCT Junction City 29.55 119 P P 17 21 11.9 -0.8
baz=30
JCT Junction City 29.55 119 eP P 17 21 12.4 -0.2
comp=Z,348nm,2.3s
JCT LR LR
comp=Z,1µm,19.0s
X38A Whitesboro 29.57 107 P P 17 21 13.0 +0.3
baz=30
HDIL Hopedale 29.64 92 P P 17 21 12.9 -0.4
baz=30
HDIL Hopedale 29.64 92 eP P 17 21 16.3 +3.0
comp=Z,5.5nm,0.9s
HDIL LR LR

comp=Z,5µm,19.0s
433A Art 29.75 118 P **P** 17 21 13.9 -0.5
baz=30
532A Rocksprings 29.76 120 P **P** 17 21 14.0 -0.5
baz=30
WHTX Lake Whitney 29.80 114 P **P** 17 21 13.6 -1.2
baz=30
WHTX Lake Whitney 29.80 114 *e*P **P** 17 21 17.0 +2.2
comp=Z,76nm,1.4s
334A Lometa 29.82 116 P **P** 17 21 14.0 -1.0
baz=30
631A Perdido Creek 29.93 122 P **P** 17 21 14.8 -1.1
baz=30
136A Ennis 30.02 112 P **P** 17 21 15.7 -1.0
baz=30
Z37A Pogue Cattle C 30.06 110 P **P** 17 21 16.4 -0.7
baz=30
SLM Saint Louis 30.07 96 *e*P **P** 17 21 18.4 +1.3
SLM Saint Louis 30.07 96 *e*P **P** 17 21 18.4 +1.3
Y38A Idabel 30.12 108 P **P** 17 21 17.4 -0.2
baz=30
434A Burnet 30.18 117 P **P** 17 21 17.6 -0.6
baz=30
533A Kerrville 30.29 119 P **P** 17 21 18.3 -0.9
baz=30
632A Uvalde 30.29 120 P **P** 17 21 18.0 -1.2
baz=30
335A Moody 30.33 115 P **P** 17 21 18.3 -1.2
baz=30
236A Katherine and 30.35 113 P **P** 17 21 17.9 -1.8
baz=30
137A Heron Place, G 30.40 111 P **P** 17 21 19.4 -0.7
baz=30
Z38A Mt. Pleasant 30.42 109 P **P** 17 21 19.4 -0.9
baz=30
MIAR Mount Ida 30.43 106 *e*P **P** 17 21 21.5 +1.2
MIAR pmax pmax
comp=Z,127nm,1.3s
MIAR MLR MLR
comp=Z,1µm,20.0s
MIAR Mount Ida 30.43 106 P **P** 17 21 20.2 -0.2
baz=30
MIAR Mount Ida 30.43 106 *e*P **P** 17 21 21.5 +1.2
comp=Z,127nm,1.3s
MIAR LR LR
comp=Z,1µm,20.0s
Y39A Lockesburg 30.51 107 P **P** 17 21 20.8 -0.2
baz=31
336A Riesel 30.60 114 P **P** 17 21 21.6 -0.2
baz=31
435B Jarrell 30.60 116 P **P** 17 21 21.3 -0.6
baz=31
GLMI Grayling 30.64 82 PFAKE 17 21 30.0 +7.9
GLMI LR LR
comp=Z,8µm,20.0s
534A Blanco 30.64 118 P **P** 17 21 21.5 -0.8
baz=31
633A Saathoff Ranch 30.67 120 P **P** 17 21 21.9 -0.7
baz=31
138A Matatall Enter 30.76 110 P **P** 17 21 22.8 -0.5
baz=31
237A Washetta, Mont 30.78 112 P **P** 17 21 23.2 -0.3
baz=31
732A Laxson Ranch, 30.79 122 P **P** 17 21 23.4 -0.1
baz=31
Z39A Irene McRaven, 30.92 109 P **P** 17 21 24.0 -0.7
baz=31
PBMO Poplar Bluff 31.02 99 *e*P **P** 17 21 25.1 -0.5
comp=Z,65nm,1.5s
UALR University of 31.05 104 *e*P **P** 17 21 28.8 +2.9
comp=Z,26nm,0.8s
436A Wall Ranch, Ga 31.07 115 P **P** 17 21 25.7 -0.3
baz=31
832A Faith Ranch, C 31.13 122 P **P** 17 21 25.9 -0.7
baz=31
SFIN Scholer Farm 31.16 91 P **P** 17 21 26.0 -0.7
baz=31
SFIN Scholer Farm 31.16 91 *e*P **P** 17 21 29.7 +3.0
comp=Z,66nm,1.3s
535A Dale 31.16 117 P **P** 17 21 26.6 -0.3
baz=31
139A Bunkhouse Ranc 31.17 110 P **P** 17 21 26.6 -0.3
baz=31
733A Divot King Ran 31.17 121 P **P** 17 21 25.9 -1.0
baz=31
238A Jacksonville 31.20 111 P **P** 17 21 26.3 -0.8
baz=31
634A China Grove, S 31.20 119 P **P** 17 21 25.6 -1.6
baz=31
SIUC Southern Illin 31.25 97 *e*P **P** 17 21 29.8 +2.2
comp=Z,41nm,0.8s
OLIL Olney 31.40 94 *e*P **P** 17 21 31.6 +2.7
comp=Z,238nm,1.6s
437A Phantom Ranch, 31.42 114 P **P** 17 21 27.7 -1.4
baz=32
833A Chaparral WMA, 31.42 121 P **P** 17 21 28.4 -0.7
baz=32
536A Bastrop 31.43 116 P **P** 17 21 28.7 -0.4
baz=32
734A La Parita Cree 31.49 120 P **P** 17 21 27.6 -2.2
baz=32
635A Leesville 31.53 118 P **P** 17 21 29.1 -1.0
baz=32
338A Crockett 31.54 112 P **P** 17 21 28.5 -1.7
baz=32
239A Gary 31.58 111 P **P** 17 21 29.6 -0.9
baz=32
NATX Nacogdoches 31.64 111 P **P** 17 21 30.4 -0.7
baz=32
537A Green Hill Far 31.86 115 P **P** 17 21 32.4 -0.6
baz=32
636A Smothers Creek 31.87 117 P **P** 17 21 32.9 -0.1
baz=32
438A Sam Houston St 31.87 113 P **P** 17 21 32.9 -0.1
baz=32
735A Kenedy 31.91 119 P **P** 17 21 33.6 +0.2
baz=32
AMKA Amchitka 31.94 293 *e*P **P** 17 21 35.3 +1.9
339A Huntington 32.01 112 P **P** 17 21 34.4 +0.2
baz=32
933A Laredo 32.04 122 P **P** 17 21 34.1 -0.5
baz=32
834A Tilden 32.05 121 P **P** 17 21 34.8 +0.2
baz=32
USIN University of 32.11 95 *e*P **P** 17 21 37.2 +2.1
comp=Z,77nm,0.8s
BLO Bloomington 32.18 92 *e*P **P** 17 21 37.4 +1.7
BLO pmax pmax
comp=Z,28nm,0.6s
BLO Bloomington 32.18 92 *e*P **P** 17 21 37.4 +1.7
comp=Z,28nm,0.6s
HKT Hockley 32.24 115 *e*P **P** 17 21 37.7 +1.5
HKT pmax pmax
comp=Z,104nm,1.5s
HKT Hockley 32.24 115 *e*P **P** 17 21 37.7 +1.5
comp=Z,104nm,1.5s
538A Harpers Horsep 32.24 114 P **P** 17 21 35.7 -0.6
baz=32
736A Circle Diamond 32.26 118 P **P** 17 21 35.7 -0.7
baz=32
439A Center Grove, 32.27 113 P **P** 17 21 36.3 -0.2
baz=32
637A Eagle Lake 32.32 116 P **P** 17 21 36.7 -0.3
baz=32
340A Bronson 32.35 111 P **P** 17 21 35.8 -1.5
baz=32
AAM Ann Arbor 32.42 85 PFAKE 17 21 50.0 +12
AAM LR LR
comp=Z,7µm,22.0s
934A Benavides 32.47 121 P **P** 17 21 37.7 -0.6
baz=32
737A Port Lavaca 32.76 117 P **P** 17 21 40.1 -0.8
baz=33
539A Cross D Ranch, 32.78 113 P **P** 17 21 40.9 -0.1
baz=33
034A Hebbronville 32.80 122 P **P** 17 21 40.9 -0.4
baz=33
OXF Oxford 33.08 102 *e*P **P** 17 21 44.7 +1.1
OXF Oxford 33.08 102 *e*P **P** 17 21 44.7 +1.1
comp=Z,238nm,1.0s
WVT Waverly 33.09 98 *e*P **P** 17 21 43.3 -0.4
WVT pmax pmax
comp=Z,98nm,1.6s
WVT Waverly 33.09 98 *e*P **P** 17 21 43.3 -0.4
comp=Z,98nm,1.6s
540A Vidor 33.16 112 P **P** 17 21 44.1 -0.2
baz=33
738A Farr-Stevens R 33.17 116 P **P** 17 21 44.7 +0.3
baz=33
035A Encino 33.22 121 P **P** 17 21 45.7 +0.9
baz=33
936A North Padre Is 33.29 120 P **P** 17 21 45.7 +0.2
baz=33
035Z Hargill 33.61 122 P **P** 17 21 48.0 -0.2
baz=34
VBMS Vicksburg 33.88 106 P **P** 17 21 50.6 0.0
baz=34
VBMS Vicksburg 33.88 106 *e*P P 17 21 54.1 +3.5
comp=Z,170nm,1.1s
ACSO Alum Creek Sta 33.91 88 *e*P **P** 17 21 53.1 +2.3
comp=Z,61nm,1.1s
ACSO LR LR
comp=Z,6µm,21.0s
SWET Sewanee 34.87 98 *e*P **P** 17 21 59.1 -0.1
ALLY Alegheny Colle 35.01 84 *e*P **P** 17 22 01.9 +1.5
LRAL Lakeview Retre 35.56 102 *e*P **P** 17 22 05.2 0.0
comp=Z,44nm,1.3s
TZTN Tazewell 35.61 94 *e*P **P** 17 22 08.0 +2.5
comp=Z,117nm,1.5s
CPCT Cooper Cave 35.63 96 *e*P **P** 17 22 07.8 +2.1
BILL Bilibino 35.78 325 *e*P P 17 22 11.9 +5.2
BILL pmax pmax
comp=Z,10.0nm,1.1s
MMNY Mt. Morris Dam 35.92 81 *e*P **P** 17 22 11.0 +2.9
comp=Z,83nm,1.3s
TKL Tuckaleechee C 35.99 95 P **P** 17 22 07.5 -1.3
comp=Z,11nm,0.7s,baz=299,slow=6.0,SNR=13
TKL LR LR 17 37 60.0
comp=Z,774nm,18.6s,baz=306,slow=38
TKL Tuckaleechee C 35.99 95 P **P** 17 22 07.5 -1.3
TKL pmax pmax
comp=Z,11nm,0.7s
TKL MLR MLR
comp=Z,774nm,18.7s
TKL Tuckaleechee C 35.99 95 *e*P **P** 17 22 10.8 +1.9
BRAL Brewton 36.87 104 *e*P **P** 17 22 19.4 +3.1
comp=Z,166nm,1.4s
BRAL LR LR
comp=Z,1µm,20.0s
SSPA Standing Stone 37.00 84 *e*P **P** 17 22 17.4 +0.1
comp=Z,58nm,1.8s
LONY Lake Ozonia 37.13 76 *e*P **P** 17 22 20.6 +2.2
comp=Z,21nm,1.1s
LONY LR LR
comp=Z,2µm,22.0s
BLA Blacksburg 37.25 90 *e*P **P** 17 22 22.2 +2.6
BLA pmax pmax
comp=Z,58nm,1.4s
BLA MLR MLR
comp=Z,2µm,20.0s
BLA Blacksburg 37.25 90 *e*P **P** 17 22 22.2 +2.6
comp=Z,58nm,1.4s
BLA LR LR
comp=Z,2µm,20.0s
GOGA Godfrey 37.59 98 PFAKE 17 22 30.0 +7.6
GOGA LR LR
comp=Z,3µm,21.0s
NCB Newcomb 37.66 77 PFAKE 17 22 30.0 +7.0
NCB LR LR
comp=Z,2µm,21.0s
SCHQ Schefferville 37.70 57 P **P** 17 22 22.9 -0.3
comp=Z,43nm,1.1s,baz=288,slow=7.3,SNR=13
SCHQ Schefferville 37.70 57 *e*P **P** 17 22 24.6 +1.4
comp=Z,67nm,1.2s
KSPA Keystone Colle 37.88 81 *e*P **P** 17 22 27.6 +2.8
comp=Z,47nm,1.5s
ALE Alert 38.17 11 P **P** 17 22 27.9 +1.0
comp=Z,54nm,1.4s,SNR=6.2
JSC Jenkinsville 38.46 95 *e*P **P** 17 22 30.0 +0.2
JSC pmax pmax
comp=Z,59nm,1.3s
JSC Jenkinsville 38.46 95 *e*P **P** 17 22 30.0 +0.2
comp=Z,59nm,1.3s
JSRW J. Sargeant Re 38.62 88 *e*P **P** 17 22 33.3 +2.2
JSRW *e*PP **PnPn** 17 24 04.0 +2.6
LUPA Lehigh Univers 38.64 82 *e*P **P** 17 22 34.1 +2.8
comp=Z,12nm,1.5s
LUPA *e*PP **PnPn** 17 24 02.8 +1.2
CBN Corbin 38.66 87 PFAKE 17 22 40.0 +8.6
CBN LR LR
comp=Z,342nm,20.0s
TIGA Tifton 38.79 100 P **P** 17 22 31.5 -1.0
baz=39
TIGA Tifton 38.79 100 *e*PP PP 17 24 04.2 +2.9
ODNJ Ogdensburg 38.88 81 *e*P **P** 17 22 35.0 +1.8
comp=Z,66nm,1.5s
ODNJ *e*PP **PnPn** 17 24 07.1 +2.7
URVA University of 38.92 88 *e*P **P** 17 22 36.5 +2.9
URVA *e*PP **PnPn** 17 24 07.9 +2.9
PAL Palisades 39.37 81 *e*PP PP 17 24 11.5 +4.1
NHSC New Hope 39.90 95 PFAKE 17 22 50.0 +8.2
NHSC LR LR
comp=Z,5µm,19.0s
CSU Charleston Sou 40.05 95 *e*P **P** 17 22 45.5 +2.5
CNNC Cliffs of the 40.06 91 PFAKE 17 22 50.0 +6.9
CNNC LR LR
comp=Z,3µm,19.0s
PKME Peaks-Kenny Pk 40.13 72 PFAKE 17 22 50.0 +6.4
PKME LR LR
comp=Z,4µm,20.0s
WVL Waterville 40.24 73 *e*P **P** 17 22 47.5 +3.0
comp=Z,20nm,0.8s
EMMW East Machias 41.54 72 *e*P P 17 22 58.7 +3.5
comp=Z,95nm,1.8s
SFJD Kangerlussuaq 41.67 35 PFAKE 17 23 10.0 +14
SFJD LR LR
comp=Z,991nm,19.0s
MIDW Midway 41.94 257 PFAKE 17 23 00.0 +1.4
MIDW LR LR
comp=Z,806nm,19.0s
SEY Seymchan 42.44 318 P **P** 17 23 00.4 -1.9
comp=Z,1.3nm,0.7s,baz=86,slow=13,SNR=3.4
SEY Seymchan 42.44 318 *i*P P 17 23 06.1 +3.8
CMIG Matias Romero 42.92 127 P **P** 17 23 04.4 -2.4
comp=Z,1.0nm,0.5s,baz=31,slow=5.9,SNR=2.0
PET Petropavlovsk 43.17 303 *e*P **P** 17 23 10.5 +2.1
PET *e*S **S** 17 29 35.9 +1.7
PET pmax pmax
comp=Z,26nm,1.8s
PET pmax pmax
comp=Z,200nm,6.4s
PET MLR MLR
comp=Z,500nm,20.0s
PET Petropavlovsk 43.17 303 PFAKE 17 23 20.0 +12
PET LR LR
comp=Z,886nm,21.0s
PETK Petropavlovsk- 43.65 304 P **P** 17 23 09.7 -2.6
comp=Z,3.8nm,0.8s,baz=78,slow=10,SNR=4.6
PETK LR LR 17 38 45.2
comp=Z,467nm,20.3s,baz=71,slow=32
TEIG Tepich 44.05 117 PFAKE 17 23 30.0 +14
TEIG LR LR
comp=Z,25nm,21.0s
DRLN Deer Lake 45.24 61 *e*P P 17 23 28.4 +3.3
comp=Z,71nm,1.3s
DAG Danmarks Havn 46.72 17 *i*P **P** 17 23 36.1 -0.2
comp=Z,11nm,1.2s
DAG Danmarks Havn 46.72 17 *e*P **P** 17 23 36.1 -0.2
DAG pmax pmax
comp=Z,17nm,1.2s
KBS Kingsbay 49.69 9 PFAKE 17 24 10.0 +11
KBS LR LR
comp=Z,853nm,20.0s
BBSR BB Station 50.42 84 PFAKE 17 24 20.0 +15
BBSR LR LR
comp=Z,2µm,20.0s
SPITS Spitsbergen Ar 50.78 9 P **P** 17 24 05.1 -2.4
comp=Z,11nm,1.0s,baz=331,slow=7.9,SNR=2.3
MTDJ Mount Denham 52.04 108 PFAKE 17 24 30.0 +12
MTDJ LR LR
comp=Z,418nm,21.0s
YAK Yakutsk 52.14 324 P **P** 17 24 17.4 -0.5
comp=Z,5.5nm,0.4s,baz=240,slow=0.8,SNR=5.4
YAK S **S** 17 31 41.7 +0.3
comp=Z,1.9nm,0.3s,baz=54,slow=19,SNR=1.9
YAK Yakutsk 52.14 324 *e*P **P** 17 24 18.4 +0.6
YAK *e**PP pP 17 24 28.5 +6.5
YAK *e* 17 25 32.2
YAK *e* 17 26 17.9
YAK *e*PPP PPP 17 27 20.5
YAK *e*S **S** **17 31 36.2 -5.1**
YAK *e**SS **sS** **17 31 50.4 +2.2**
YAK *e*SSS SSS 17 36 52.9
YAK pmax pmax
comp=Z,12nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.5s
YAK pmax pmax
comp=E,10.0nm,1.6s
YAK pmax pmax
comp=Z,6.0nm,0.6s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK smax smax
comp=N,35nm,4.5s
YAK smax smax
comp=E,64nm,3.8s
YAK MLR MLR
comp=Z,761nm,17.0s
YAK MLR MLR
comp=N,406nm,13.0s
YAK MLR MLR
comp=E,383nm,18.0s
YAK Yakutsk 52.14 324 P **P** 17 24 17.4 -0.5
YAK S **S** **17 31 41.7 +0.3**
YAK LR LR
comp=Z,675nm,19.0s
GTBY Guantanamo Bay 52.29 104 PFAKE 17 24 30.0 +11
GTBY LR LR
comp=Z,694nm,20.0s
NKL Nikolayevsk 52.46 311 *e*P P 17 24 26.0 +5.7
NKL *e* 17 31 50.0
NKL MLR MLR
comp=N,600nm,17.0s
NKL MLR MLR
comp=E,1µm,17.0s
NKL MLR MLR
comp=Z,1µm,17.0s
BORG Borgarnes 53.24 31 PFAKE 17 24 40.0 +14
BORG LR LR
comp=Z,747nm,22.0s
GRTK Grand Turk 53.66 99 PFAKE 17 24 40.0 +10
GRTK LR LR
comp=Z,971nm,22.0s
JTS JuntasAbangare 53.91 121 PFAKE 17 24 40.0 +8.5
JTS LR LR
comp=Z,840nm,20.0s
YSS Yuzh-Sakhalins 55.05 303 PFAKE 17 24 50.0 +11
YSS LR LR
comp=Z,168nm,19.0s
YUK Yuzh-Kuril'sk 55.12 299 P **P** **17 24 42.7 +2.8**
YUK *e*S **S** **17 32 22.1 0.0**
SDDR Presa de Saban 55.41 102 PFAKE 17 24 50.0 +7.6
SDDR LR LR
comp=Z,1µm,19.0s
BCIP Isla Barro Col 57.73 117 PFAKE 17 25 10.0 +11
BCIP LR LR
comp=Z,549nm,20.0s
ERM Erimo 57.93 299 PFAKE 17 25 10.0 +10
ERM LR LR
comp=Z,448nm,22.0s
H11N2 WAKE ISLAND Hy 58.04 263 T T 18 27 34.2
baz=43,slow=75,SNR=1795
H11N3 WAKE ISLAND Hy 58.04 263 T T 18 27 34.2
baz=43,slow=75,SNR=1472
H11N1 WAKE ISLAND Hy 58.05 263 T T 18 27 36.1
baz=43,slow=75,SNR=1066
HABR Khabarovsk 58.15 309 *e*P **P** **17 25 04.3 +2.9**
HABR *e**PP pP 17 25 14.2 +8.6
HABR *e* 17 25 54.6
HABR *e* 17 27 13.8
HABR *e*S **S** **17 33 05.5 +3.4**
HABR *e* 17 33 17.8
HABR *e**SS sS 17 33 22.5 +13
HABR *e* 17 34 50.6
HABR *e*SS **SS** **17 36 59.9 +7.0**
HABR pmax pmax
comp=Z,39nm,2.3s
HABR MLR MLR
comp=Z,329nm,16.0s
WAKE Wake Island 58.52 263 PFAKE 17 25 10.0 +5.6
WAKE LR LR
comp=Z,805nm,19.0s
TAOE Nuku Hiva Isla 58.96 192 *e*T T 18 28 32.3
comp=Z,49nm,0.2s
H11S1 WAKE ISLAND Hy 59.05 262 T T 18 28 50.7
baz=50,slow=76
H11S2 WAKE ISLAND Hy 59.06 262 T T 18 28 51.2
baz=50,slow=76
H11S3 WAKE ISLAND Hy 59.07 262 T T 18 28 52.0
baz=50,slow=76
KLR Kul'dur 59.30 311 *e*P **P** **17 25 08.4 -1.0**
SJG San Juan 59.34 98 PFAKE 17 25 20.0 +10
SJG LR LR
comp=Z,829nm,20.0s
KEV Kevo 59.70 9 PFAKE 17 25 20.0 +8.1
KEV LR LR
comp=Z,675nm,20.0s
ARCES ARCESS Array B 59.75 10 LR LR 17 52 59.0
comp=Z,443nm,18.1s,baz=330,slow=38
PAYG Puerto Ayora 60.45 133 PFAKE 17 25 30.0 +12
PAYG LR LR
comp=Z,681nm,21.0s
BOD Bodaibo 60.80 327 *e*P **P** **17 25 16.9 -2.7**
BOD pmax pmax
comp=Z,7.0nm,1.6s
LVZ Lovozero 62.20 7 PFAKE 17 25 40.0 +11
LVZ LR LR
comp=Z,659nm,19.0s
ANWB Willy Bob 62.48 95 PFAKE 17 25 40.0 +8.6
ANWB LR LR
comp=Z,1µm,21.0s
USRK Ussuriysk Ar. 62.58 307 P **P** **17 25 31.9 +0.1**
comp=Z,5.2nm,0.9s,baz=74,slow=11,SNR=3.2
SDV Santo Domingo 63.47 109 *e*P **P** **17 25 39.5 +1.2**
comp=Z,7.6nm,0.8s
SDV LR LR
comp=Z,443nm,20.0s
MDJ Mudanjiang 63.53 308 P P 17 25 33.3 -4.8
MDJ PcP PcP 17 26 05.5 -9.1
MDJ PP **PP** **17 27 56.0 -1.4**
MDJ S **S** **17 34 06.8 -4.1**
MDJ ScS **SKKSac** **17 35 27.9 -3.0**
MDJ Mudanjiang 63.53 308 SS SS 17 38 16.1 -1.2
MDJ pmax pmax
comp=Z,5.0nm,2.1s
MDJ pmax pmax
comp=Z,110nm,5.8s
MDJ LR LR
comp=N,320nm,21.9s
MDJ LR LR
comp=E,380nm,23.3s
MDJ LR LR
comp=Z,540nm,21.9s
MDJ Mudanjiang 63.53 308 PFAKE 17 25 50.0 +12
MDJ LR LR
comp=Z,558nm,21.0s
ROSC El Rosal 64.42 115 P **P** **17 25 44.5 -0.2**
comp=Z,5.0nm,0.4s,baz=93,slow=9.4,SNR=6.5
ROSC LR LR 17 56 43.7
comp=Z,227nm,21.1s,baz=354,slow=39
MAJO Matsushiro 64.44 297 *e*P P 17 25 47.7 +3.5
MAJO pmax pmax
comp=Z,46nm,1.1s
MAJO Matsushiro 64.44 297 PFAKE 17 25 50.0 +5.8
MAJO LR LR
comp=Z,328nm,20.0s
MJAR Matsushiro Arr 64.44 297 P **P** **17 25 41.1 -3.1**
comp=Z,1.2nm,0.7s,baz=40,slow=6.8,SNR=2.9
HIA Hailar 64.87 317 PFAKE 17 26 00.0 +13
HIA LR LR
comp=Z,697nm,20.0s
FDF Fort de France 65.05 97 PFAKE 17 26 00.0 +12
FDF LR LR
comp=Z,1µm,22.0s
NB2 NORSAR Subarra 65.28 20 P **P** **17 25 48.3 -1.1**
comp=Z,13nm,1.4s,baz=336,slow=6.5
NOA NORSAR Array B 65.28 20 P **P** **17 25 48.1 -1.3**
comp=Z,2.3nm,1.0s,baz=333,slow=6.5,SNR=2.9
NOA LR LR 17 53 38.3
comp=Z,408nm,19.6s,baz=335,slow=35
OTAV Otavalo 65.80 121 *e*P **P** **17 25 57.0 +3.1**
comp=Z,44nm,1.4s
OTAV LR LR
comp=Z,450nm,21.0s
KONO Kongsberg 66.16 21 PFAKE 17 26 10.0 +15
KONO LR LR
comp=Z,661nm,19.0s

CN2 Changchun 66.20 310 *e*P **P** **17 25 58.5 +3.0**
CN2 PP PP 17 28 25.9 +5.2
ESK Eskdalemuir 66.27 30 PFAKE 17 26 10.0 +14
ESK LR LR
comp=Z,981nm,19.0s
EKA Eskdalemuir Ar 66.28 30 P **P** **17 25 54.8 -1.0**
comp=Z,1.8nm,0.8s,baz=338,slow=5.4,SNR=4.2
PMOR Pomariorio Ree 66.33 199 *e*T T 18 37 43.4
comp=Z,29nm,0.3s
VAH Vaihoa 66.50 199 *e*T T 18 37 52.4
comp=Z,11nm,0.4s
HFS Hagfors 66.64 19 P **P** **17 25 56.8 -1.2**
comp=Z,6.5nm,1.0s,baz=324,slow=7.3,SNR=4.2
HFS LR LR 17 55 40.2
comp=Z,840nm,19.6s,baz=338,slow=36
GRGR Grenville 66.66 99 PFAKE 17 26 10.0 +11
GRGR LR LR
comp=Z,483nm,19.0s
BBGH Gun Hill 67.26 96 PFAKE 17 26 10.0 +7.4
BBGH LR LR
comp=Z,2µm,21.0s
FINES FINESS Array B 67.58 12 P **P** **17 26 03.2 -0.7**
comp=Z,4.4nm,0.8s,baz=71,slow=9.0,SNR=6.3
FINES LR LR 17 56 58.8
comp=Z,717nm,18.6s,baz=341,slow=37
PRGR Permogore 69.01 2 *e*P **P** **17 26 10.6 -2.3**
PRGR pmax pmax
comp=Z,12nm,0.3s
PPT Papeete 69.19 200 LR LR 17 48 59.5
comp=Z,421nm,21.3s,baz=9.0,slow=29
PPT2 Papeete2 69.21 200 *e*S **S** **17 35 24.6 +4.3**
comp=Z,1µm,27.2s
PPT2 *e*LQ LQ 17 43 41.7
comp=Z,647nm,27.0s
PPT2 *e*LR LR 17 47 11.0
comp=Z,1µm,26.2s,baz=9.2
PPT2 Papeete2 69.21 200 *e*T T 18 41 18.5
comp=Z,15nm,0.3s
TVO Taravao 69.32 200 *e*T T 18 41 27.4
comp=Z,4.7nm,0.3s
TLY Talaya 69.32 328 P **P** **17 26 13.1 -2.0**
comp=Z,2.5nm,0.6s,baz=180,slow=2.0,SNR=1.9
TLY Talaya 69.32 328 *e*P **P** **17 26 13.8 -1.3**
TLY *e*S **S** **17 35 17.5 -3.6**
TLY *e*SSS SSS 17 42 54.4
TLY pmax pmax
comp=Z,15nm,2.0s
TLY MLR MLR
comp=Z,439nm,18.0s
TLY Talaya 69.32 328 P **P** **17 26 13.1 -2.0**
TLY LR LR
comp=Z,575nm,20.0s
KSRS Korea Array 69.55 304 P **P** **17 26 14.6 -2.1**
comp=Z,0.5nm,0.5s,baz=36,slow=7.7,SNR=3.4
KSRS Korea Array 69.55 304 P **P** **17 26 14.6 -2.1**
KSRS pmax pmax
comp=Z,1.0nm,0.5s
KSAR Wonju Array Be 69.58 304 P **P** **17 26 14.6 -2.3**
KSAR Wonju Array Be 69.58 304 P **P** **17 26 14.6 -2.3**
INCN Inchon 70.22 305 PFAKE 17 26 30.0 +9.1
INCN LR LR
comp=Z,221nm,19.0s
MOY Mondy 70.24 329 *e*P P 17 26 26.7 +5.8
JNU Nakatsue 71.09 299 P **P** **17 26 26.3 +0.1**
comp=Z,7.8nm,1.0s,baz=159,slow=8.6,SNR=1.7
ULN Ulaanbaatar 71.22 323 PFAKE 17 26 40.0 +13
ULN LR LR
comp=Z,798nm,20.0s
BSEG Bad Segeberg 71.45 24 *e*P **P** **17 26 27.9 -0.1**
comp=Z,23nm,1.4s
SONM Songino Array 71.50 324 P **P** **17 26 27.2 -1.4**
comp=Z,0.6nm,0.6s,baz=54,slow=2.5,SNR=3.5
IBBN Ibbenburen 72.21 26 *e*P **P** **17 26 32.5 -0.1**
comp=Z,67nm,1.7s
NVS Novosibirsk 72.28 341 *e*P **P** **17 26 31.1 -1.9**
NVS *e* 17 29 17.4
NVS pmax pmax
comp=Z,30nm,1.7s
NVS pmax pmax
comp=N,15nm,1.9s
NVS pmax pmax
comp=E,9.0nm,1.4s
RKT Rikitea 72.58 185 *e*S **S** **17 36 03.3 +4.1**
comp=E,823nm,27.8s
RKT Rikitea 72.58 185 *e*LR LR 17 48 40.9
comp=E,2µm,27.2s,baz=8.0
RKT Rikitea 72.58 185 *e*T T 18 45 35.1
comp=E,5.1nm,0.3s
ZAA0 Zalesovo Array 72.76 339 *e*P **P** **17 26 34.5 -1.4**
ZALV Zalesovo Beam 72.76 339 P **P** **17 26 32.9 -3.0**
comp=E,1.2nm,0.6s,baz=17,slow=6.2,SNR=6.1
BUG Bochum--Univer 72.84 27 *e*P **P** **17 26 35.9 -0.4**
comp=Z,17nm,1.2s
MEM Membach 73.20 28 P **P** **17 26 40.8 +2.3**
comp=Z,11nm,1.6s
MEM Membach 73.20 28 *e*sP sP 17 26 44.9 +0.5
DOU Dourbes 73.21 29 P P 17 26 42.0 +3.4
comp=Z,10nm,1.9s
AFI Afiamalu 73.31 223 LR LR 17 52 32.7
comp=Z,205nm,20.1s,baz=52,slow=31
CLZ Clausthal 73.35 25 *e*P **P** **17 26 39.6 +0.2**
comp=Z,23nm,1.4s
SVE Sverdlovsk 73.55 354 *e*P P 17 26 45.8 +5.3
SVE pmax pmax
comp=Z,28nm,1.4s
BJI Beijing 73.56 313 P P 17 26 35.6 -5.2
BJI S **SKiKP** **17 36 11.3 +0.9**
BJI pmax pmax
comp=Z,9.0nm,0.4s
BJI LR LR
comp=N,440nm,18.8s
BJI LR LR
comp=E,440nm,16.3s
BJI LR LR
comp=Z,340nm,20.1s
BJT Baijiatuan 73.58 313 PFAKE 17 26 50.0 +9.1
BJT LR LR
comp=Z,497nm,20.0s
ARU Arti 74.07 355 P **P** **17 26 41.5 -2.1**
baz=6.9,slow=5.5
ARU Arti 74.07 355 *d iP* P 17 26 49.3 +5.8
ARU 17 29 36.4
ARU PPP PPP 17 31 21.8
ARU SS SS 17 41 06.2 +7.2
ARU pmax pmax
comp=Z,16nm,1.2s
ARU Arti 74.07 355 *e*P **P** **17 26 42.5 -1.0**
comp=Z,40nm,1.6s
ARU LR LR
comp=Z,316nm,20.0s
WLF Walferdange 74.08 28 *e*P **P** **17 26 43.7 0.0**
comp=Z,99nm,3.0s
WLF Walferdange 74.08 28 PFAKE 17 26 50.0 +6.3
WLF LR LR
comp=Z,1µm,21.0s
UBBA Unterbreizbach 74.17 25 *e*P **P** **17 26 44.1 0.0**
comp=Z,38nm,1.9s
TNS Taunus Mts 74.26 26 *e*P **P** **17 26 44.5 -0.4**
comp=Z,8.0nm,0.9s
PTCN Pitcairn Islan 74.38 180 PFAKE 17 26 50.0 +4.5
PTCN LR LR
comp=Z,2µm,20.0s
MOS Moscow 74.46 7 *e*P P 17 26 50.0 +4.2
MOS pmax pmax
comp=Z,31nm,0.9s
CLL Collm 74.53 23 *e*P **P** **17 26 45.7 -0.6**
comp=Z,15nm,1.6s
CLL Collm 74.53 23 *e*P **P** **17 26 46.0 -0.3**
CLL *i* 17 26 50.9
CLL pmax pmax
comp=Z,9.0nm,1.5s
CLL MLR MLR
comp=Z,800nm,18.5s
CLL Collm 74.53 23 *e*P **P** **17 26 46.0 -0.3**
comp=Z,9.0nm,1.5s
CLL *i* sP **sP** **17 26 50.9 -1.3**
comp=Z,16nm,1.6s
CLL *i* 17 27 11.5
CLL *e*S S 17 36 29.0 +8.2
CLL Lm MLR 18 00 00.0
comp=N,600nm,18.6s
CLL Lm MLR 18 00 00.0
comp=E,400nm,18.0s
CLL Lm MLR 18 00 00.0
comp=Z,800nm,18.5s
TBI Tubuai 74.76 199 *e*S **S** **17 36 27.2 +3.5**
comp=Z,682nm,33.8s
TBI Tubuai 74.76 199 *e*LR LR 17 49 38.0
comp=Z,983nm,31.0s,baz=12
TBI Tubuai 74.76 199 *e*T T 18 48 14.6
comp=Z,10nm,0.3s
MOX Moxa 74.77 24 *e*P **P** **17 26 47.1 -0.6**
comp=Z,7.0nm,1.3s
MOX *e*L L 18 00 45.6
comp=Z,588nm,19.4s
OBN Obninsk 74.98 8 P **P** **17 26 46.4 -2.5**
comp=Z,4.9nm,0.3s,baz=308,slow=4.8,SNR=5.4
OBN Obninsk 74.98 8 *c iP* **P** **17 26 48.6 -0.2**
OBN *e* 17 26 51.6
OBN *e* 17 26 57.5
OBN *i* SS SS 17 41 19.9 +7.0
OBN pmax pmax
comp=Z,27nm,1.0s
OBN MLR MLR
comp=Z,492nm,19.0s
OBN Obninsk 74.98 8 P **P** **17 26 46.4 -2.5**
OBN LR LR
comp=Z,543nm,19.0s
HHC Hu-ho-hao-te 75.04 316 *e*P **P** **17 26 52.3 +2.7**
HHC PP PP 17 29 42.8 +5.9
HHC S **S** **17 36 23.5 -3.7**
HHC ScS **SKSac** **17 36 55.8 -2.5**
HHC SS **SS** **17 41 14.8 0.0**
HHC PMZ
comp=Z,17nm,1.2s
HHC PMZ
comp=Z,130nm,5.3s
HHC LN
comp=Z,480nm,14.5s
HHC LE
comp=Z,800nm,17.3s
HHC LZ
comp=Z,360nm,22.2s
BRG Berggiesshubel 75.16 23 *e*P **P** **17 26 50.3 +0.3**
comp=Z,30nm,2.0s
BRG S S 17 36 39.0 +11
comp=N,249nm,20.0s
comp=E,168nm,18.6s
comp=Z,236nm,16.1s
BRG Berggiesshubel 75.16 23 *e*P **P** **17 26 49.6 -0.4**
comp=Z,12nm,1.1s
BRG Berggiesshubel 75.16 23 *e*P **P** **17 26 50.3 +0.3**
BRG pmax pmax
comp=Z,30nm,2.0s
BRG MLR MLR
comp=N,249nm,20.0s
BRG MLR MLR
comp=E,168nm,18.6s
BRG MLR MLR
comp=Z,236nm,16.1s
TANN Tannenbergstha 75.20 24 *e*P **P** **17 26 49.4 -0.9**
comp=Z,5.0nm,1.1s
PGAV Gavieira, Arco 75.33 41 *e*S S 17 36 40.5 +10
PGAV Gavieira, Arco 75.33 41 *e*LR LR 17 53 12.8
comp=Z,412nm,18.0s
NKC Novy Kostel 75.36 24 *e*P P 17 26 56.5 +5.3
NKC *e*S **S** **17 36 33.6 +3.4**
NKC AMS AMS 18 02 20.0
comp=Z,600nm,15.6s
NKC Novy Kostel 75.36 24 *e*P P 17 26 56.5 +5.3
NKC *e*S **S** **17 36 33.6 +3.4**
NKC MLR MLR
comp=Z,600nm,15.6s
GRF Grafenberg Arr 75.52 25 *e*P **P** **17 26 52.4 +0.3**
comp=Z,31nm,1.5s
GRF *e*L L 17 58 32.1
comp=Z,516nm,21.2s
PVCC Panska Ves 75.64 23 *e*P **P** **17 26 53.1 +0.4**
PVCC *ex* x 17 26 59.7
PVCC *ex* x 17 27 16.1
PVCC AMS AMS 18 02 00.0
comp=Z,600nm,15.8s
PVCC Panska Ves 75.64 23 *e*P **P** **17 26 53.1 +0.4**
PVCC *e* 17 26 59.7
PVCC MLR MLR
comp=Z,600nm,15.8s
ECH Echery 75.67 28 *e*P **P** **17 26 53.2 +0.2**
ECH pmax pmax
comp=Z,15nm,1.3s
ECH MLR MLR
comp=Z,565nm,20.0s
ECH Echery 75.67 28 *e*P **P** **17 26 53.2 +0.2**
comp=Z,15nm,1.3s
ECH LR LR
comp=Z,565nm,20.0s
ROTZ Rotzenmuhle 75.72 24 *e*P **P** **17 26 53.1 -0.1**
comp=Z,13nm,1.6s
KSP Ksiaz 75.77 21 *e*P **P** **17 26 54.1 +0.7**
KSP Ksiaz 75.77 21 *e*P **P** **17 26 54.1 +0.7**
STU Stuttgart 75.78 27 *e*P **P** **17 26 53.3 -0.3**
comp=Z,10.0nm,0.8s
BFO Black Forest 75.92 27 *e*P **P** **17 26 53.9 -0.5**
comp=Z,31nm,1.5s
BFO Black Forest 75.92 27 *e*P **P** **17 26 54.5 +0.1**
BFO pmax pmax
comp=Z,29nm,1.5s
BFO MLR MLR
comp=Z,726nm,20.0s
BFO Black Forest 75.92 27 *e*P **P** **17 26 54.5 +0.1**
comp=Z,29nm,1.5s
BFO LR LR
comp=Z,726nm,20.0s
UPC Upice 76.01 22 *e*P **P** **17 26 56.8 +1.9**
UPC *ex* x 17 27 18.9
UPC *e*S S 17 36 46.2 +8.8
UPC AMS AMS 18 01 20.0
comp=Z,1µm,17.6s
UPC Upice 76.01 22 *e*P **P** **17 26 56.8 +1.9**
UPC MLR MLR
comp=Z,1µm,17.6s
PRA Prague 76.02 23 *e*S S 17 36 44.8 +7.3
PRA AMS AMS 18 04 50.0
comp=Z,900nm,17.9s
PRU Pruhonice 76.13 23 *e*P **P** **17 26 55.4 -0.1**
PRU *ep*P **pP** **17 27 00.9 +1.1**
PRU *ex* x 17 27 17.8
PRU *e*S **S** **17 36 41.6 +3.0**
PRU AMS AMS 18 05 00.0
comp=Z,700nm,15.9s
PRU Pruhonice 76.13 23 *e*P **P** **17 26 55.4 -0.1**
PRU *e* 17 27 00.9
PRU *e*S **S** **17 36 41.6 +3.0**
PRU MLR MLR
comp=Z,700nm,15.9s
DPC Dobruska-Polom 76.23 22 *e*P **P** **17 26 56.1 -0.1**
DPC *ex* x 17 27 01.9
DPC *ex* x 17 27 18.9
DPC *e*S **S** **17 36 45.1 +5.2**
DPC AMS AMS 18 01 30.0
comp=Z,900nm,18.1s
DPC Dobruska-Polom 76.23 22 *e*P **P** **17 26 56.1 -0.1**
DPC *e* 17 27 01.9
DPC *e*S **S** **17 36 45.1 +5.2**
DPC MLR MLR
comp=Z,900nm,18.1s
GOPC GO Pecny, Ondr 76.26 23 *e*P **P** **17 26 56.3 0.0**
GOPC *e*S **S** **17 36 45.8 +5.7**
GOPC AMS AMS 18 02 40.0
comp=Z,800nm,16.5s
BRVK Borovoye 76.28 348⇑ *e*P P 17 26 59.6 +3.3
BRVK pmax pmax
comp=Z,14nm,2.5s
BRVK Borovoye 76.28 348 *e*P **P** **17 26 55.2 -1.1**
comp=Z,34nm,1.9s
BRVK LR LR
comp=Z,413nm,19.0s
BVAR Borovoye Array 76.30 348 P **P** **17 26 54.2 -2.2**
comp=Z,0.6nm,0.6s,baz=27,slow=6.8,SNR=4.4
WET Wettzell 76.47 24 *e*P **P** **17 26 57.0 -0.5**
comp=Z,8.0nm,1.5s
MVO Moncorvo 76.52 41 *e*S **S** **17 36 38.0 -5.4**
MVO Moncorvo 76.52 41 *e*LR LR 17 52 58.6
comp=Z,349nm,16.0s
KRLC Kraliky 76.60 21 *e*P **P** **17 26 58.3 +0.1**
KRLC *ep*P **pP** **17 27 03.8 +1.2**
KRLC *ex* x 17 27 19.6
KRLC Kraliky 76.60 21 *e*P **P** **17 26 58.3 +0.1**
KRLC *e* 17 27 03.8
FUR Furstenfeldbru 76.92 26 *e*P **P** **17 26 59.9 -0.2**
comp=Z,16nm,0.9s
MTE Manteigas 76.93 42 *e*S **S** **17 36 53.0 +5.1**
MTE Manteigas 76.93 42 *e*LQ LQ 17 47 17.7
MTE *e*LR LR 17 52 28.4
comp=Z,347nm,18.0s
MTE Manteigas 76.93 42 PFAKE 17 27 10.0 +10
MTE LR LR
comp=Z,468nm,21.0s
GEC2 GERESS Array S 76.96 24 *e*P **P** **17 26 59.9 -0.5**
comp=Z,13nm,1.6s
GEC2 GERESS Array S 76.96 24 *e*P **P** **17 27 01.3 +0.9**
GEC2 GERESS Array S 76.96 24 *e*P **P** **17 27 01.3 +0.9**
GERES GERESS Array B 76.96 24 P **P** **17 26 59.5 -0.9**
comp=Z,1.2nm,0.8s,baz=320,slow=6.0,SNR=8.3
GERES LR LR 18 02 38.3
comp=Z,644nm,18.1s,baz=332,slow=37
TREC Trest 77.00 23 *e*P **P** **17 27 00.7 +0.2**
TREC *es*P **sP** **17 27 07.5 +1.1**
TREC *ex* x 17 27 23.0
TREC *e*S **S** **17 36 46.1 -2.2**
TREC AMS AMS 18 03 20.0
comp=Z,700nm,17.9s
TREC Trest 77.00 23 *e*P **P** **17 27 00.7 +0.2**
TREC *e* 17 27 07.5
TREC *e*S **S** **17 36 46.1 -2.2**
TREC MLR MLR
comp=Z,700nm,17.9s
KURK Kurchatov 77.13 342 *e*P **P** **17 26 59.7 -1.4**
KURK pmax pmax
comp=Z,4.0nm,1.1s
KURK MLR MLR
comp=Z,387nm,20.0s
KURK Kurchatov 77.13 342 *e*P **P** **17 26 59.7 -1.4**
comp=Z,4.2nm,1.1s
KURK LR LR
comp=Z,387nm,20.0s
OKC Ostrava-Krasne 77.14 21 *e*P **P** **17 27 01.0 -0.2**
OKC *ep*P **pP** **17 27 06.7 +1.2**
OKC *ex* x 17 27 22.4
OKC *e*S **S** **17 36 52.4 +2.7**
OKC AMS AMS 18 03 10.0
comp=Z,700nm,16.7s
OKC Ostrava-Krasne 77.14 21 *e*P **P** **17 27 01.0 -0.2**
OKC *e* 17 27 06.7
OKC *e*S **S** **17 36 52.4 +2.7**
OKC MLR MLR
comp=Z,700nm,16.7s
OJC Ojcow 77.15 20 *e*P **P** **17 27 01.5 +0.2**
OJC Ojcow 77.15 20 *e*P P 17 27 05.3 +4.0
OJC pmax pmax
comp=Z,10.0nm,1.1s
OJC Ojcow 77.15 20 *e*P P 17 27 05.3 +4.0
comp=Z,9.7nm,1.1s
KURBB Kurchatov Arra 77.23 342 P **P** **17 26 59.5 -2.2**
comp=Z,3.4nm,0.9s,baz=19,slow=5.4,SNR=11
VRAC Vranov 77.26 22 P **P** **17 26 59.8 -2.2**
comp=Z,1.2nm,0.5s,baz=0.0,slow=3.0,SNR=4.6
VRAC LR LR 18 02 27.6
comp=Z,727nm,18.8s,baz=336,slow=37
DAVA Damuels 77.32 27⇓ *iP* **P** **17 27 04.2 +1.7**
comp=Z,18nm,1.4s
SENIN Lac Senin/Sane 77.36 29 *e*P P 17 27 07.3 +4.5
SSB Saint Sauveur 77.42 31 PFAKE 17 27 10.0 +7.0
SSB LR LR
comp=Z,780nm,21.0s
PTGA Pitinga 77.56 106 *e*P **P** **17 27 05.6 +1.5**
comp=Z,62nm,1.9s
LPSR Galich'ya Gora 77.68 7 *e*P **P** **17 27 03.3 -0.9**
LPSR pmax pmax
comp=N,8.0nm,1.0s
LPSR pmax pmax
comp=E,9.0nm,1.0s
LPSR pmax pmax
comp=Z,20nm,1.0s
LPSR MLR MLR
comp=N,500nm,20.0s
LPSR MLR MLR
comp=E,240nm,20.0s
LPSR MLR MLR
comp=Z,470nm,20.0s
RJOB Jochberg 77.73 25 *e*P **P** **17 27 04.3 -0.4**
comp=Z,5.0nm,1.2s
DAVOX Davos/Dischmat 77.77 27 P **P** **17 27 05.9 +0.8**
comp=Z,2.1nm,0.7s,baz=0.2,slow=4.3,SNR=5.5
DAVOX LR LR 18 01 51.0
comp=Z,1µm,19.5s,baz=314,slow=36
DAVOX Davos/Dischmat 77.77 27 P **P** **17 27 05.9 +0.8**
DAVOX pmax pmax
comp=Z,2.0nm,0.7s
DAVOX MLR MLR
comp=Z,1µm,19.5s
PMRV Marv??o 77.80 42 *e*S S 17 37 04.7 +7.5
PMRV Marv??o 77.80 42 *e*LR LR 17 51 25.2
comp=Z,397nm,18.0s
FETA Feichten 77.81 26⇓ *iP* **P** **17 27 05.7 +0.5**
comp=Z,15nm,1.3s
WTTA Wattenberg 77.84 26⇑ *iP* **P** **17 27 06.2 +0.8**
comp=Z,14nm,1.3s
TUE Stuetta 77.89 28 PFAKE 17 27 20.0 +14
TUE LR LR
comp=Z,770nm,21.0s
SSE Sheshan 77.99 304 P **P** **17 27 06.9 +0.6**
SSE S **S** **17 36 59.0 -0.5**
SSE PMZ
comp=Z,38nm,0.7s
SSE PMZ
comp=Z,170nm,4.9s
SSE LN
comp=Z,270nm,35.2s
SSE LE
comp=Z,350nm,35.2s
SSE LZ
comp=Z,470nm,32.7s
NIE Niedzica 78.01 19 *e*P **P** **17 27 06.8 +0.6**
NIE Niedzica 78.01 19 *e*P **P** **17 27 06.8 +0.6**
FUORN Ofenpass-Fuorn 78.03 27 *e*P **P** **17 27 08.6 +1.9**
comp=Z,30nm,1.4s
AKASG Malin Array Be 78.43 13 P **P** **17 27 06.6 -1.8**
comp=Z,5.8nm,0.4s,baz=347,slow=5.3,SNR=15
AKASG LR LR 18 02 27.7
comp=Z,992nm,20.0s,baz=335,slow=36
AKASG Malin Array Be 78.43 13 *i* P **P** **17 27 07.5 -0.9**
AKASG pmax pmax
comp=Z,9.0nm,1.1s
KIEV Kiev 78.43 13 *e*P **P** **17 27 07.5 -0.9**
KIEV pmax pmax
comp=Z,16nm,1.3s
KIEV MLR MLR
comp=Z,1µm,20.0s
KIEV Kiev 78.43 13 *e*P **P** **17 27 07.5 -0.9**
comp=Z,16nm,1.3s
KIEV LR LR
comp=Z,1µm,20.0s
NJ2 Nanjing 78.48 306 *e*P **P** **17 27 06.1 -2.9**
NJ2 S **S** **17 37 07.5 +2.7**
NJ2 SKS **SKSac** **17 37 22.0 -1.5**
NJ2 SS **SS** **17 42 12.0 +5.0**
NJ2 PMZ
comp=Z,20nm,0.9s
NJ2 PMZ
comp=Z,760nm,4.2s
NJ2 LN
comp=Z,1µm,27.0s
NJ2 LE
comp=Z,2µm,28.3s
NJ2 LZ
comp=Z,1µm,27.4s
KBA Koelnbreinsper 78.49 25⇓ *iP* **P** **17 27 09.3 +0.3**
comp=Z,14nm,1.4s
VYHS Vyhne 78.56 21 *e*P **P** **17 27 08.4 -0.8**
VYHS pmax pmax
comp=Z,3.0nm,1.2s
VYHS Vyhne 78.56 21 *e*P **P** **17 27 08.4 -0.8**
VYHS *e* 17 53 11.6
KOLS Kolonicke sedl 78.89 18 *e*P **P** **17 27 10.6 -0.4**
KOLS pmax pmax
comp=Z,4.0nm,1.8s
KOLS Kolonicke sedl 78.89 18 *e*P **P** **17 27 10.6 -0.4**
KOLS *e* 17 52 55.4
KECS Kecovo 78.94 20 *e*P **P** **17 27 10.7 -0.5**
KECS pmax pmax
comp=Z,5.0nm,1.4s
KECS Kecovo 78.94 20 *e*P **P** **17 27 10.7 -0.5**
KECS *e* 17 53 03.3
PAB San Pablo 79.00 40 PFAKE 17 27 20.0 +8.2
PAB LR LR
comp=Z,477nm,20.0s
ESDC Sonseca Array 79.05 40 P **P** **17 27 11.5 -0.6**

comp=Z,2.1nm,0.9s,baz=326,slow=5.0,SNR=14
VSR Storozhevoye 79.07 7 *e*P **P 17 27 11.4 -0.5**
VSR pmax pmax
comp=N,7.0nm,0.8s
VSR pmax pmax
comp=E,8.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR MLR MLR
comp=N,560nm,24.0s
VSR MLR MLR
comp=E,170nm,24.0s
VSR MLR MLR
comp=Z,740nm,24.0s
UZH Uzhgorod 79.18 18 *e*P **P 17 27 11.2 -1.3**
UZH *e* 17 27 14.6
UZH *e* 17 27 16.2
UZH *e* 17 27 21.0
SOKA Soboth 79.31 24⇑ *i*P **P 17 27 13.6 +0.2**
comp=Z,16nm,1.4s
PSZ Piszkesteto 79.34 20 *e*P **P 17 27 14.0 +0.4**
PSZ pmax pmax
comp=Z,32nm,1.7s
PSZ MLR MLR
comp=Z,319nm,19.0s
PSZ Piszkesteto 79.34 20 *e*P **P 17 27 14.0 +0.4**
comp=Z,32nm,1.7s
PSZ LR LR
comp=Z,319nm,19.0s
MK31 Makanchi Array 80.02 338 *e*P **P 17 27 15.7 -1.5**
MK31 Makanchi Array 80.02 338 *e*P **P 17 27 15.7 -1.5**
MKAR Makanchi Array 80.02 338 P **P 17 27 14.9 -2.3**
comp=Z,0.7nm,0.6s,baz=40,slow=3.2,SNR=9.2
MKAR Makanchi Array 80.02 338 *i*P **P 17 27 17.7 +0.5**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 80.02 338 *e*P **P 17 27 16.2 -1.0**
AKTO Aktyubinsk 80.08 355 P **P 17 27 15.3 -2.1**
comp=Z,1.0nm,0.8s,baz=5.7,slow=10,SNR=2.8
AKTO LR LR 18 05 42.6
comp=Z,177nm,19.9s,slow=38
VLC Villacollemand 80.30 28 PFAKE 17 27 30.0 +11
VLC LR LR
comp=Z,1μm,19.0s
ABKAR Akbulak array 81.13 354 *e*P **P 17 27 22.2 -0.9**
WHN Wuhan 82.01 308 P P 17 27 21.5 -6.5
WHN Wuhan 82.01 308 S **S 17 37 39.3 -2.6**
WHN LR LR
comp=Z,2μm,30.6s
SAML Samuel 82.05 114 *e*P **P 17 27 28.9 +0.5**
comp=Z,52nm,2.3s
SAML LR LR
comp=Z,386nm,21.0s
LZH Lanzhou 82.37 319 *e*P P 17 27 24.3 -5.8
LZH pP pP 17 27 27.9 -6.5
LZH sP sP 17 27 30.1 -5.9
LZH Lanzhou 82.37 319 *e*S S 17 37 33.1 -13
LZH Lanzhou 82.37 319 sS S 17 37 37.1 -8.7
LZH Lanzhou 82.37 319 SS SS 17 42 57.8 -7.3
LZH pmax pmax
comp=Z,9.0nm,1.0s
LZH pmax pmax
comp=Z,73nm,5.7s
LZH LR LR
comp=N,680nm,18.7s
LZH LR LR
comp=E,940nm,18.0s
LZH LR LR
comp=Z,750nm,19.2s
TATO Taipei 82.59 300 PFAKE 17 27 40.0 +8.9
TATO LR LR
comp=Z,492nm,21.0s
AQU L'Aquila 82.84 27 PFAKE 17 27 40.0 +7.7
AQU LR LR
comp=Z,666nm,21.0s
YHNB Yeheng 82.89 300 PFAKE 17 27 40.0 +7.2
YHNB LR LR
comp=Z,417nm,22.0s
VSL Villasalto 84.19 31 PFAKE 17 27 50.0 +11
VSL LR LR
comp=Z,553nm,20.0s
ENH Enshi 84.65 312 PFAKE 17 27 50.0 +8.3
ENH LR LR
comp=Z,186nm,19.0s
HNR Honiara 84.71 249 PFAKE 17 27 50.0 +8.0
HNR LR LR
comp=Z,378nm,19.0s
SIM Simferopol' 84.74 11 P P 17 27 48.4 +6.5
SIM S **S 17 38 12.9 +3.8**
SIM pmax pmax
comp=Z,28nm,9.5s
SIM MLR MLR
comp=Z,270nm,16.0s
LPAZ La Paz 85.11 122 P **P 17 27 42.4 -2.3**
comp=Z,4.4nm,0.9s,baz=8.9,slow=8.6,SNR=11
LPAZ LR LR 18 09 20.1
comp=Z,225nm,19.2s,baz=334,slow=38
LPAZ La Paz 85.11 122 P **P 17 27 42.4 -2.3**
LPAZ pmax pmax
comp=Z,4.0nm,0.9s
LPAZ MLR MLR
comp=Z,225nm,19.2s
LPAZ La Paz 85.11 122 *e*P **P 17 27 42.8 -1.9**
comp=Z,12nm,1.0s
TKM2 Tokmak 2 85.19 342 *e*P **P 17 27 46.9 +2.5**
TKM2 pmax pmax
comp=Z,18nm,1.5s
TKM2 MLR MLR
comp=Z,448nm,20.0s
TKM2 Tokmak 2 85.19 342 *e*P **P 17 27 46.9 +2.5**
comp=Z,18nm,1.5s
TKM2 LR LR
comp=Z,448nm,20.0s
ANN Anapa 85.28 9 *e*P P 17 27 48.3 +3.8
ANN pmax pmax
comp=Z,61nm,2.0s
ANN MLR MLR
comp=Z,458nm,19.0s
FRU Bishkek 85.47 342 *e*P P 17 27 52.0 +6.4
TIR Tirane 85.53 22 PFAKE 17 27 50.0 +4.1
TIR LR LR
comp=Z,801nm,20.0s
AAK Ala-Archa 85.69 342 PFAKE 17 28 00.0 +13
AAK LR LR
comp=Z,305nm,19.0s
CUC Castrocucco 85.72 26 PFAKE 17 28 00.0 +13
CUC LR LR
comp=Z,376nm,20.0s
EKS2 Erkin-Say 85.80 343 *e*P **P 17 27 47.2 -0.2**
EKS2 pmax pmax
comp=Z,16nm,1.5s
EKS2 MLR MLR
comp=Z,387nm,20.0s
EKS2 Erkin-Say 85.80 343 *e*P **P 17 27 47.2 -0.2**
comp=Z,16nm,1.5s
EKS2 LR LR
comp=Z,387nm,20.0s
KIV Kislovodsk 86.55 5 *e*P **P 17 27 53.8 +2.8**
KIV *e* 17 27 59.5
KIV *i* 17 28 05.5
KIV *e* 17 38 19.9
KIV *e* 17 39 33.8
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,362nm,18.0s
KIV Kislovodsk 86.55 5 P **P 17 27 50.6 -0.4**
comp=Z,20nm,1.2s
KIV LR LR
comp=Z,409nm,19.0s
TIP Timpagrande 86.74 25 PFAKE 17 28 00.0 +8.0
TIP LR LR
comp=Z,252nm,21.0s
KBZ Khabaz 86.79 5 P **P 17 27 50.6 -1.4**
comp=Z,2.7nm,0.8s,baz=3.4,slow=8.8,SNR=4.0
KBZ LR LR 18 10 16.6
comp=Z,411nm,19.2s,baz=358,slow=38
CLTB Caltabellotta 87.17 29 PFAKE 17 28 00.0 +5.8
CLTB LR LR
comp=Z,457nm,19.0s
KEST Kesra 87.58 32 LR LR 18 08 05.2
comp=Z,180nm,18.2s,baz=289,slow=36
SACV Santiago Islan 88.81 68 PFAKE 17 28 10.0 +7.8
SACV LR LR
comp=Z,605nm,22.0s
WDD Wield Dalam 89.16 28 PFAKE 17 28 10.0 +6.5
WDD LR LR
comp=Z,550nm,19.0s
GYA Guiyang 89.19 312 P P 17 28 00.3 -3.7
GYA PP **PP 17 31 30.6 -3.0**
GYA SKS **SKSac 17 38 30.0 -3.8**
GYA S **SKKSac 17 38 47.4 +1.7**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.5s
GYA LN
comp=Z,490nm,18.8s
GYA LE
comp=Z,520nm,19.9s
GYA LZ
comp=Z,480nm,18.6s
ANTO Ankara 89.54 13 PFAKE 17 28 10.0 +4.6
ANTO LR LR
comp=Z,309nm,21.0s
BRTR Keskin Array B 89.81 13 P **P 17 28 03.5 -3.1**
comp=Z,0.4nm,0.4s,baz=318,slow=1.7,SNR=4.8
BRTR LR LR 18 10 05.2
comp=Z,203nm,21.7s,baz=326,slow=37
BRTR Keskin Array B 89.81 13 *i*P **P 17 28 06.0 -0.7**
GNI Garni 90.45 4 PFAKE 17 28 20.0 +10
GNI LR LR
comp=Z,326nm,21.0s
KMI Kunming 92.19 314 P P 17 28 13.6 -4.5
KMI PMZ
comp=Z,3.0nm,0.7s
GEYT Alibeck 92.53 354 P P 17 28 15.8 -3.4
comp=Z,0.7nm,0.5s,baz=353,slow=10,SNR=2.2
GEYT LR LR 18 12 30.7
comp=Z,175nm,21.4s,baz=290,slow=37
PMG Port Moresby 92.67 259 PFAKE 17 28 30.0 +10
PMG LR LR
comp=Z,373nm,19.0s
LSA Lhasa 93.05 325 PFAKE 17 28 30.0 +7.7
LSA LR LR
comp=Z,356nm,19.0s
QIZ Qiongzhong 93.74 305 PFAKE 17 28 30.0 +5.0
QIZ LR LR
comp=Z,244nm,20.0s
DAV Davao City (W) 94.06 286 PFAKE 17 28 30.0 +3.5
DAV LR LR
comp=Z,557nm,20.0s
LCO Las Campanas 94.22 131 PFAKE 17 28 40.0 +13
LCO LR LR
comp=Z,342nm,20.0s
CSS Prodhromos 94.43 14 PFAKE 17 28 40.0 +12
CSS LR LR
comp=Z,89nm,21.0s
BDFB Brasilia 96.50 106 LR LR 18 18 01.9
comp=Z,271nm,18.5s,baz=314,slow=39
RCBR Riachuelo 96.88 91 PFAKE 17 28 50.0 +11
RCBR LR LR
comp=Z,518nm,20.0s
TAM Tamanrasset 97.66 41 PFAKE 17 28 50.0 +6.9
TAM LR LR
comp=Z,319nm,20.0s
CPUP Villa Florida 99.13 120 LR LR 18 19 20.4
comp=Z,170nm,19.5s,baz=342,slow=39
CHTO Chiang Mai 99.39 314 PFAKE 17 29 00.0 +9.4
CHTO LR LR
comp=Z,392nm,19.0s
EIL Elat 99.87 14 LR LR 18 16 28.6
comp=Z,146nm,20.3s,baz=320,slow=37
KKM Kota Kinabalu 100.61 293 PFAKE 17 29 00.0 +3.8
KKM LR LR
comp=Z,268nm,20.0s
RAYN Ar Rayn 107.04 5 PFAKE 17 33 40.0
RAYN LR LR
comp=Z,260nm,20.0s
KAPI Kappang 107.04 283 PFAKE 17 33 40.0
KAPI LR LR
comp=Z,220nm,19.0s
KSM Kuching 107.77 295 PFAKE 17 33 40.0
KSM LR LR
comp=Z,250nm,21.0s
WRAB Tennant Creek 108.71 261 PFAKE 17 33 40.0
WRAB LR LR
comp=Z,438nm,20.0s
KULM Kulim 110.08 305 PFAKE 17 33 50.0
KULM LR LR
comp=Z,274nm,19.0s
ASCN Ascension 112.33 75 PFAKE 17 33 50.0
ASCN LR LR
comp=Z,586nm,22.0s
MBAR Mbarara 128.35 25 PFAKE 17 34 20.0 +4.9
MBAR LR LR
comp=Z,644nm,20.0s
NWAO Narrogin (SRO) 128.69 263 PKP **PKPdf 17 34 12.9 -2.0**
comp=Z,8.0nm,1.0s,baz=330,slow=5.4,SNR=2.6
HOPE Hope Point 129.57 131 PFAKE 17 34 20.0 +4.2
HOPE LR LR
comp=Z,2μm,19.0s
KMBO Kilima Mbogo 130.40 17 PFAKE 17 34 30.0 +11
KMBO LR LR
comp=Z,236nm,19.0s
SBA Scott Base 132.94 195 PFAKE 17 34 30.0 +8.4
SBA LR LR
comp=Z,261nm,19.0s
QSPA South Pole Qui 139.45 180 PFAKE 17 34 40.0 +6.0
QSPA LR LR
comp=Z,729nm,20.0s
TSUM Tsumeb 139.95 52 PFAKE 17 34 50.0 +13
TSUM LR LR
comp=Z,583nm,21.0s
LSZ Lusaka 141.29 35 PFAKE 17 34 50.0 +11
LSZ LR LR
comp=Z,451nm,20.0s
CASY Casey 145.63 218 PFAKE 17 34 50.0 +4.4
CASY LR LR
comp=Z,849nm,20.0s
VNA1 Neumayer--Stat 146.05 149 P **PKPbc 17 34 46.1 -0.3**
VNA2 Neumayer--Watz 146.29 150 P **PKPdf 17 34 46.2 +0.3**
baz=315,slow=6.1
SNAA Sanae 147.59 152 *e*PKP2 **PKPbc 17 34 50.9 0.0**
SNAA Sanae 147.59 152 *e*P **PKPbc 17 34 50.9 0.0**
BOSA Boshof 151.63 52 PKPbc **PKPbc 17 35 01.0 -1.3**
comp=Z,4.2nm,0.7s,baz=339,slow=3.2,SNR=10
MAW Mawson 160.91 195 PKP **PKPdf 17 35 06.0 -0.7**
comp=Z,0.3nm,0.3s,baz=344,slow=7.7,SNR=2.7
MAW PKPab **PKPab 17 35 47.2 -2.2**
comp=Z,2.8nm,1.1s,baz=233,slow=5.1,SNR=2.4

PGC 19 17:17:22.0±1.7, **62°.11N**×**135°.33W**, **h1**km, **ML2.7**/4,
152km northeast of Whitehorse, Yt Southern Yukon Territory, Canada, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WHY	**Whitehorse**	**1.47**	**171**	Pn	Pn	17 17 48.0	-1.8
WHY				Sg	Sg	17 18 08.4	-1.1
HYT	**Haines Junctio**	**1.66**	**220**	Pn	Pn	17 17 51.7	-0.7
HYT				Sg	Sn	17 18 13.9	-0.6
HYT	**Haines Junctio**	**1.66**	**220**	P	Pn	17 17 51.6	-0.8
HYT				S	Sn	17 18 14.7	+0.3
DAWY	**Dawson**	**2.70**	**319**	Pn	Pn	17 18 06.3	-0.3
DAWY				Sg	Sb	17 18 45.0	+0.3
PLBC	**Pleasant Camp**	**2.71**	**191**	Pg	Pb	17 18 11.1	-0.2
PLBC				Sg	Sb	17 18 45.9	+0.9

IDC ***19*** *17:19:53.9±2.1, 9°.13S×128°.87E, h0km, mb3.3/1, mb1 3.9/4, mb1mx3.5/21, mbtmp3.7/4, ML4.0/3, Error ellipse: s-maj=49.2km s-min=31.9km az=64.0*

ISC 19 17:19:59.2±1.4, **9°.3S**±0°.1×**128°.7E**±0°.1, **h35**km, **n9**, **σ2^{s}05**/8,
Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**4.21**	**146**	P	Pn	17 21 07.8	+7.0
	baz=5.9,SNR=66						
SOEI	**Soe**	**4.42**	**264**	P	**Pn**	**17 21 04.6**	**+0.8**
	baz=5.7,SNR=7.9						
KDU	**Kakadu**	**4.96**	**132**	P	**Pn**	**17 21 12.8**	**+1.7**
	baz=6.3,SNR=39						
BATI	**Baumata**	**5.06**	**260**	Pn	**Pn**	**17 21 14.2**	**+1.5**
	8.9nm,0.3s,baz=275,slow=1.2,SNR=22						
BATI				Sn	Sn	17 22 22.9	+13
	7.0nm,0.3s,baz=104,slow=22,SNR=8.8						
FITZ	**Fitzroy Crossi**	**9.21**	**199**	P	Pn	17 22 19.4	+10
	baz=12,SNR=3.7						
WRA Warramunga Arr 11.85 153 Pn **Pn 17 22 46.2 +0.4**
0.7nm,0.3s,baz=328,slow=14,SNR=32
WRA Sn Sn 17 25 07.7 +11
0.8nm,0.3s,baz=332,slow=22,SNR=9.8
ASAR Alice Springs 15.08 161 Pn **Pn 17 23 30.3 +0.5**
0.5nm,0.3s,baz=340,slow=9.2,SNR=48
ASAR Sn **S 17 26 28.5 -3.7**
0.1nm,0.3s,baz=335,slow=24,SNR=2.5
WRKA Warakurna 15.61 181 P **P 17 23 40.7 +0.1**
baz=18,SNR=14
SONM Songino Array 60.27 343 P **P 17 30 03.1 -1.1**
0.4nm,0.8s,baz=144,slow=5.2,SNR=2.0

IDC ***19*** *17:25:08.5±0.6, 52°.73N×169°.84W, h0km, mb4.1/24, mb1 4.3/26, mb1mx4.2/39, mbtmp4.1/26, ML3.7/2, MS4.0/9, Ms1 4.0/9, ms1mx3.6/47, Error ellipse: s-maj=18.3km s-min=11.0km az=173.0*

NEIC ***19*** *17:25:10.5, 52°.68N×169°.51W, h6km, mb4.5/27, ML4.3(AEIC), After AEIC.*

ISCJB ***19*** *17:25:11.4±0.8, 52°.79N±0°.05×169°.68W±0°.04, h27km±5km, mb4.3/49, MS4.0/8, Error ellipse: s-maj=9.0km s-min=3.7km az=165.6*

MOS ***19*** *17:25:12.0±0.9, 52°.79N×169°.73W, h33km, mb4.5/16, Error ellipse: s-maj=10.6km s-min=8.6km az=78.2*

ISC 19 17:25:11.1±1.3, **52.78N**±0°.07×**169.65W**±0°.04, **h16**km±7km, **n143**, **σ1^{s}11**/136, **mb4.3**/49, **MS3.8**/8, **5C-1D, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.52**	**68**	P	**Pg**	**17 25 20.1**	**-1.3**
NIKH				S	**Sg**	**17 25 28.3**	**-0.2**
OKCE	**Okmok Cone E**	**1.11**	**54**	P	**Pb**	**17 25 31.5**	**-0.5**
OKCE				S	**Sg**	**17 25 48.5**	**+1.5**
OKAK	**Okmok**	**1.12**	**44**	P	**Pb**	**17 25 29.5**	**-2.5**
OKAK				S	**Sb**	**17 25 44.0**	**-2.4**
MSOM	**Makushin Julie**	**1.93**	**56**	P	**Pn**	**17 25 44.0**	**+0.8**
MSOM				S	**Sn**	**17 26 08.0**	**+0.9**
MSOM	**Makushin Julie**	**1.93**	**56**	P	**Pn**	**17 25 44.0**	**+0.8**
MSOM				S	**Sn**	**17 26 08.0**	**+0.9**
MCIR	**Makushin Cirqu**	**2.03**	**54**	P	**Pn**	**17 25 45.5**	**+0.8**
MTBL	**Makushin Table**	**2.14**	**55**	P	**Pn**	**17 25 46.1**	**-0.2**
UNV	**Unalaska Valle**	**2.17**	**59**	P	**Pn**	**17 25 46.2**	**-0.4**
UNV				S	**Sn**	**17 26 13.1**	**-0.1**
AKRB	**Akutan Reef Bi**	**2.53**	**56**	P	**Pn**	**17 25 52.1**	**+0.6**
ZRO	**Akutan Zero**	**2.56**	**58**	P	**Pn**	**17 25 52.2**	**+0.2**
AKGG	**Akutan Green G**	**2.61**	**56**	P	**Pn**	**17 25 52.7**	**+0.1**
AKUT	**Akutan**	**2.69**	**58**	*e*P	Pn	17 25 47.8	-5.9
ATKA	**Atka Island**	**2.84**	**260**	P	**Pn**	**17 25 56.8**	**+1.1**
ATKA				S	**Sb**	**17 25 56.9**	**-1.9**
GSTR	**Great Sitkin T**	**3.98**	**263**	*e*P	**Pn**	**17 26 12.7**	**+1.2**
GSMY	**Great Sitkin M**	**3.99**	**262**	P	**Pn**	**17 26 12.9**	**+1.2**
GSCK	**Great Sitkin C**	**4.06**	**262**	P	**Pn**	**17 26 14.1**	**+1.5**
FALS	**False Pass**	**4.24**	**58**	*e*P	**Pn**	**17 26 16.8**	**+1.7**
ADAG	**Mount Adagdak**	**4.33**	**262**	P	**Pn**	**17 26 18.6**	**+2.3**
SPIA	**Saint Paul Isl**	**4.42**	**356**	P	**Pn**	**17 26 19.3**	**+1.9**
DTNA	**Dutton South F**	**4.97**	**59**	P	**Pn**	**17 26 26.6**	**+1.5**
SDPT	**Sand Point**	**5.98**	**61**	P	**Pn**	**17 26 40.9**	**+2.0**
AMKA	**Amchitka**	**6.95**	**263**	*e*P	Pn	17 26 55.8	+3.6
	90nm,0.9s						
CHGN	**Chignik**	**7.43**	**57**	*e*P	Pn	17 27 02.5	+3.8
KDAK	**Kodiak Island**	**10.94**	**56**	*ce*P	**Pn**	**17 27 46.3**	**-0.5**
RSO	**Redoubt South**	**12.05**	**44**	*e*P	Pn	17 28 05.7	+3.6
	38nm,0.9s						
PPLA	**Purkeypile**	**13.70**	**35**	*e*P	**P**	**17 28 32.2**	**-1.2**
	70nm,1.5s						
SML	**Sawmill**	**14.58**	**43**	*e*P	**Pn**	**17 28 38.6**	**+2.0**
SML				pmax	pmax		
	comp=Z,6.0nm,1.3s						
SML	**Sawmill**	**14.58**	**43**	*e*P	**Pn**	**17 28 38.6**	**+2.0**
	comp=Z,5.7nm,1.3s						
TRF	**Thorofare Moun**	**14.72**	**36**	*e*P	**P**	**17 28 44.5**	**-0.3**
	comp=Z,60nm,1.5s						
BPAW	**Bear Paw Mtn.**	**14.90**	**33**	*e*P	**P**	**17 28 44.6**	**-1.9**
	comp=Z,4.2nm,0.8s						
IM04	**Indian Mountai**	**15.43**	**25**	*e*P	**P**	**17 28 51.7**	**-0.7**
COLA	**College**	**16.44**	**34**	*e*P	**Pn**	**17 29 01.9**	**+1.1**
COLA				pmax	pmax		
	comp=Z,58nm,1.1s						
COLA	**College**	**16.44**	**34**	*e*P	**P**	**17 29 02.7**	**-0.8**
	comp=Z,15nm,1.0s						
ILAR	**Eielson Array**	**16.71**	**35**	Pn	**Pn**	**17 29 04.0**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=230,slow=11,SNR=20						
ILAR				LR	LR	17 36 16.6	
	comp=Z,344nm,20.1s,baz=242,slow=40						
ILAR	**Eielson Array**	**16.71**	**35**	P	**Pn**	**17 29 04.0**	**-0.3**
COLD	**Coldfoot**	**17.32**	**26**	*e*P	**P**	**17 29 16.6**	**+3.3**
	comp=Z,67nm,1.7s						
EGAK	**Eagle**	**18.83**	**39**	*e*P	**P**	**17 29 30.1**	**+0.3**
	comp=Z,5.6nm,0.5s						
PET	**Petropavlovsk**	**19.04**	**283**	*e*P	**P**	**17 29 32.9**	**+0.6**
PET				pmax	pmax		
	comp=Z,11nm,1.0s						
BILL	**Bilibino**	**19.16**	**332**	*ce*P	**Pn**	**17 29 35.0**	**+0.6**
BILL				pmax	pmax		
	comp=Z,40nm,1.7s						
HYT	**Haines Junctio**	**19.18**	**53**	*e*P	**Pn**	**17 29 35.8**	**+0.9**
	comp=Z,18nm,0.5s						
PETK	**Petropavlovsk-**	**19.59**	**284**	P	**P**	**17 29 38.2**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=96,slow=14,SNR=10						
SKAG	**Skagway**	**20.09**	**57**	*e*P	Pn	17 29 45.4	-0.1
	comp=Z,34nm,0.9s						
SEY	**Seymchan**	**22.26**	**312**	P	**P**	**17 30 07.6**	**+0.5**
	comp=Z,4.3nm,0.8s,baz=339,slow=20,SNR=11						
SEY	**Seymchan**	**22.26**	**312**	*i* P	**P**	**17 30 08.0**	**+0.9**
MA2	**Magadan**	**22.77**	**303**	*e*P	**P**	**17 30 14.2**	**+1.7**
DLBC	**Dease Lake**	**22.82**	**60**	P	**P**	**17 30 15.8**	**+2.7**
	comp=Z,17nm,0.9s,baz=269,slow=11,SNR=29						
DLBC	**Dease Lake**	**22.82**	**60**	*e*P	**P**	**17 30 16.2**	**+3.0**
	comp=Z,58nm,1.3s						
INK	**Inuvik**	**23.10**	**34**	P	**P**	**17 30 15.4**	**-0.4**
	comp=Z,4.0nm,0.6s,baz=226,slow=11,SNR=7.4						
INK				LR	LR	17 40 36.3	
	comp=Z,309nm,19.3s,baz=274,slow=40						
BBB	**Bella Bella**	**25.06**	**75**	LR	LR	17 38 58.4	
	comp=Z,118nm,18.1s,baz=123,slow=33						
YKA	**Yellowknife Ar**	**30.10**	**49**	P	**P**	**17 31 19.5**	**0.0**
	comp=Z,1.1nm,0.5s,baz=272,slow=7.7,SNR=14						
YAK	**Yakutsk**	**32.77**	**311**	*i* P	**P**	**17 31 44.1**	**+1.1**
NEW	**Newport**	**33.08**	**76**	P	**P**	**17 31 46.7**	**+0.8**
	comp=Z,4.1nm,0.7s,baz=300,slow=14,SNR=5.7						
EDM	**Edmonton**	**33.14**	**66**	*e*P	**P**	**17 31 47.2**	**+0.9**
EDM				pmax	pmax		
	comp=Z,12nm,0.8s						
EDM	**Edmonton**	**33.14**	**66**	*e*P	**P**	**17 31 47.2**	**+0.9**
	comp=Z,12nm,0.8s						
YBH	**Yreka Blue Hor**	**33.15**	**90**	LR	LR	17 42 13.3	
	comp=Z,78nm,21.0s,baz=342,slow=31						
BSMT	**Bassoo Peak**	**34.65**	**76**	*e*P	**P**	**17 31 59.6**	**-0.2**
	comp=Z,14nm,1.2s						
WVOR	**Wild Horse Val**	**35.22**	**86**	*e*P	**P**	**17 32 06.3**	**+1.7**
WVOR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
WVOR	**Wild Horse Val**	**35.22**	**86**	*e*P	**P**	**17 32 06.3**	**+1.7**
	comp=Z,8.6nm,1.1s						
CHMT	**Chamberlain Mo**	**36.02**	**76**	*e*P	**P**	**17 32 11.3**	**-0.2**
	comp=Z,1.3nm,0.5s						
EGMT	**Eagleton**	**37.51**	**73**	*e*P	**P**	**17 32 24.4**	**+0.3**
	comp=Z,29nm,1.1s						
BOZ	**Bozeman (W)**	**37.65**	**77**	*e*P	**P**	**17 32 26.0**	**+0.7**
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BOZ	**Bozeman (W)**	**37.65**	**77**	*e*P	**P**	**17 32 26.0**	**+0.7**
	comp=Z,3.5nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**37.67**	**218**	T	T	18 12 16.8	
	baz=24,slow=76,SNR=10						
H11N3	**WAKE ISLAND Hy**	**37.68**	**218**	T	T	18 12 07.6	
	baz=24,slow=76,SNR=9.4						
H11N1	**WAKE ISLAND Hy**	**37.69**	**218**	T	T	18 12 20.1	
	baz=24,slow=76,SNR=8.0						
NVAR	**Mina Array Bea**	**37.84**	**91**	P	**P**	**17 32 28.9**	**+1.8**
	comp=Z,2.3nm,0.7s,baz=295,slow=8.7,SNR=15						
ELK	**Elko**	**38.27**	**86**	LR	LR	17 45 24.0	
	comp=Z,131nm,21.3s,baz=26,slow=32						
FFC	**Flin Flon**	**38.66**	**59**	*e*P	**P**	**17 32 32.4**	**-1.1**
FFC	**Flin Flon**	**38.66**	**59**	*e*P	**P**	**17 32 32.4**	**-1.1**
H11S1	**WAKE ISLAND Hy**	**38.86**	**217**	T	T	18 13 43.6	
	baz=23,slow=76,SNR=62						
H11S2	**WAKE ISLAND Hy**	**38.88**	**217**	T	T	18 13 47.3	
	baz=23,slow=76,SNR=6.8						
H11S3	**WAKE ISLAND Hy**	**38.88**	**217**	T	T	18 13 41.2	
	baz=23,slow=76,SNR=55						
IMW	**Indian Meadow**	**39.02**	**79**	*e*P	**P**	**17 32 38.4**	**+1.3**
	comp=Z,3.4nm,0.8s						

HVU	**Hansel Valley**	**39.15**	**83**	*e*P		**P**	**17 32 39.3**	**+1.3**
HVU				pmax		pmax		
	comp=Z,3.0nm,0.9s							
HVU	**Hansel Valley**	**39.15**	**83**	*e*P		**P**	**17 32 39.3**	**+1.3**
	comp=Z,3.1nm,0.9s							
RLMT	**Red Lodge**	**39.33**	**76**	*e*P		**P**	**17 32 40.0**	**+0.5**
	comp=Z,19nm,1.4s							
MAT	**Matsushiro**	**39.54**	**267**	P		**P**	**17 32 41.7**	**+0.5**
MAT				S		S	17 38 49.4	+6.5
MJAR	**Matsushiro Arr**	**39.54**	**267**	P		**P**	**17 32 40.7**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=50,slow=4.3,SNR=4.6							
MJAR				LR		LR	17 47 31.1	
	comp=Z,152nm,21.0s,baz=75,slow=34							
DUG	**Dugway**	**40.08**	**85**	*e*P		**P**	**17 32 47.0**	**+1.3**
DUG				pmax		pmax		
	comp=Z,7.0nm,1.1s							
DUG	**Dugway**	**40.08**	**85**	*e*P		**P**	**17 32 47.0**	**+1.3**
	comp=Z,7.3nm,1.1s							
BW06	**Boulder Array**	**40.50**	**79**	*e*P		**P**	**17 32 49.7**	**+0.4**
	comp=Z,7.9nm,1.1s							
PDAR	**Pinedale Array**	**40.50**	**79**	P		**P**	**17 32 49.8**	**+0.5**
	comp=Z,4.0nm,0.8s,baz=331,slow=3.8,SNR=20							
GSC	**Goldstone**	**40.79**	**94**	*e*P		**P**	**17 32 52.7**	**+1.1**
GSC				pmax		pmax		
	comp=Z,7.0nm,1.1s							
GSC	**Goldstone**	**40.79**	**94**	*e*P		**P**	**17 32 52.7**	**+1.1**
	comp=Z,6.7nm,1.1s							
CCUT	**Cedar City**	**41.41**	**88**	*e*P		**P**	**17 32 57.9**	**+1.1**
	comp=Z,57nm,2.4s							
BOD	**Bodaibo**	**41.60**	**308**	*e*P		**P**	**17 32 57.9**	**0.0**
BOD				pmax		pmax		
	comp=Z,4.0nm,1.3s							
SRU	**San Rafael**	**42.13**	**84**	*e*P		**P**	**17 33 03.6**	**+0.9**
SRU				pmax		pmax		
	comp=Z,10.0nm,1.2s							
SRU	**San Rafael**	**42.13**	**84**	*e*P		**P**	**17 33 03.6**	**+0.9**
	comp=Z,10nm,1.2s							
PFO	**Pinyon Flat Ob**	**42.16**	**95**	P		**P**	**17 33 03.5**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=281,slow=5.2,SNR=2.5							
O20A	**White River Ci**	**42.87**	**82**	*e*P		**P**	**17 33 09.2**	**+0.5**
	comp=Z,16nm,0.8s							
PV01	**Paradox Valley**	**43.94**	**84**	*e*P		**P**	**17 33 17.3**	**-0.1**
	comp=Z,443nm,0.8s							
ULM	**Lac du Bonnet**	**44.11**	**62**	P		**P**	**17 33 19.3**	**+1.0**
	comp=Z,3.8nm,0.7s,baz=282,slow=12,SNR=4.4							
KSRS	**Korea Array**	**45.19**	**276**	P		**P**	**17 33 27.0**	**0.0**
	comp=Z,1.1nm,0.8s,baz=48,slow=8.9,SNR=3.6							
KSRS	**Korea Array**	**45.19**	**276**	P		**P**	**17 33 27.0**	**0.0**
KSRS				pmax		pmax		
	comp=Z,1.0nm,0.8s							
AGMN	**Agassiz Nation**	**45.21**	**65**	*e*P		**P**	**17 33 27.0**	**-0.1**
	comp=Z,18nm,1.2s							
KSAR	**Wonju Array Be**	**45.22**	**276**	P		**P**	**17 33 27.0**	**-0.3**
KSAR	**Wonju Array Be**	**45.22**	**276**	P		**P**	**17 33 27.0**	**-0.3**
SDCO	**Great Sand Dun**	**46.04**	**82**	*e*P		**P**	**17 33 34.5**	**+0.4**
	comp=Z,4.4nm,1.0s							
ANMO	**Albuquerque**	**47.31**	**86**	*i* P		**P**	**17 33 44.2**	**+0.1**
ANMO				pmax		pmax		
	comp=Z,6.0nm,1.0s							
ECSD	**EROS Data Cent**	**47.49**	**70**	*e*P		**P**	**17 33 44.0**	**-1.1**
EYMN	**Ely**	**47.79**	**63**	*e*P		**P**	**17 33 46.5**	**-0.9**
	comp=Z,12nm,1.1s							
FRB	**Frobisher Bay**	**48.74**	**35**	LR		LR	17 54 22.7	
	comp=Z,307nm,19.3s,baz=248,slow=36							
SONM	**Songino Array**	**50.94**	**300**	P		**P**	**17 34 11.3**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=58,slow=12,SNR=2.3							
WMOK	**Wichita Mounta**	**52.08**	**81**	*e*P		**P**	**17 34 20.0**	**-0.2**
WMOK				pmax		pmax		
	comp=Z,6.0nm,0.8s							
WMOK	**Wichita Mounta**	**52.08**	**81**	*e*P		**P**	**17 34 20.0**	**-0.2**
	comp=Z,6.3nm,0.8s							
TXAR	**Lajitas Array**	**52.91**	**89**	P		**P**	**17 34 26.7**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=305,slow=5.1,SNR=17							
MIAR	**Mount Ida**	**55.32**	**77**	*e*P		**P**	**17 34 43.4**	**-0.4**
MIAR				pmax		pmax		
	comp=Z,25nm,1.6s							
MIAR	**Mount Ida**	**55.32**	**77**	*e*P		**P**	**17 34 43.4**	**-0.4**
	comp=Z,25nm,1.6s							
KURK	**Kurchatov**	**61.95**	**318**	P		**P**	**17 35 29.8**	**+0.1**
KURK	**Kurchatov**	**61.95**	**318**	P		**P**	**17 35 29.8**	**+0.1**
KURBB	**Kurchatov Arra**	**62.06**	**318**	P		**P**	**17 35 29.8**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=43,slow=7.3,SNR=12							
BRVK	**Borovoye**	**63.28**	**324**	*e*P		**P**	**17 35 38.3**	**-0.3**
BRVK				pmax		pmax		
	comp=Z,1.0nm,0.9s							
MK31	**Makanchi Array**	**63.40**	**313**	*e*P		**P**	**17 35 39.6**	**+0.1**
MK31	**Makanchi Array**	**63.40**	**313**	*e*P		**P**	**17 35 39.6**	**+0.1**
MKAR	**Makanchi Array**	**63.40**	**313**	*ce*P		**P**	**17 35 39.9**	**+0.4**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
ARU	**Arti**	**64.17**	**333**	P		**P**	**17 35 45.2**	**+0.7**
	baz=34,slow=3.6							
ARU	**Arti**	**64.17**	**333**	*d* P		**P**	**17 35 43.9**	**-0.5**
ARU							17 38 07.4	
ARU				S		**S**	**17 44 20.3**	**-0.3**
ARU				SS		**SS**	**17 48 25.6**	**-3.2**
ARU				pmax		pmax		
	comp=Z,4.0nm,1.0s							
FINES	**FINESS Array B**	**65.44**	**352**	P		**P**	**17 35 52.7**	**+0.2**
	comp=Z,3.2nm,1.1s,baz=21,slow=9.1,SNR=5.9							
FINES	**FINESS Array B**	**65.44**	**352**	*ce*P		**P**	**17 35 54.9**	**+2.3**
FINES				pmax		pmax		
	comp=Z,3.0nm,1.0s							
NOA	**NORSAR Array B**	**66.53**	**360**	P		**P**	**17 35 59.8**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=0.9,slow=5.8,SNR=2.6							
HFS	**Hagfors**	**67.41**	**358**	P		**P**	**17 36 04.4**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=339,slow=3.3,SNR=7.8							
AKTO	**Aktyubinsk**	**69.57**	**330**	P		**P**	**17 36 18.6**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=64,slow=12,SNR=6.4							
ABKAR	**Akbulak array**	**69.99**	**328**	*e*P		**P**	**17 36 21.1**	**-0.4**
	comp=Z,0.5nm,0.4s							
SIJI	**Sorong**	**72.54**	**244**	P		**P**	**17 36 35.6**	**-1.7**
	comp=Z,6.8nm,0.8s,baz=79,slow=10,SNR=4.2							
AKASG	**Malin Array Be**	**75.67**	**348**	P		**P**	**17 36 53.6**	**-1.5**
	comp=Z,1.4nm,0.6s,baz=14,slow=5.5,SNR=3.3							
AKASG	**Malin Array Be**	**75.67**	**348**	P		**P**	**17 36 53.6**	**-1.5**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.6s							
CLL	**Collm**	**76.26**	**358**	*e*P		**P**	**17 36 59.0**	**+0.5**
CLL	**Collm**	**76.26**	**358**	*e*P		**P**	**17 36 59.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**76.36**	**282**	P		**P**	**17 36 58.7**	**-0.9**
	comp=Z,1.1nm,0.9s,baz=32,slow=7.5,SNR=7.2							
CMAR	**Chiang Mai Arr**	**76.36**	**282**	*ce*P		**P**	**17 36 59.4**	**-0.2**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.9s							
DPC	**Dobruska-Polom**	**77.12**	**356**	*e*P		**P**	**17 37 03.5**	**0.0**
DPC	**Dobruska-Polom**	**77.12**	**356**	*e*P		**P**	**17 37 03.5**	**0.0**
GERES	**GERESS Array B**	**78.71**	**358**	P		**P**	**17 37 11.9**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=0.0,slow=2.7,SNR=4.4							
GERES	**GERESS Array B**	**78.71**	**358**	P		**P**	**17 37 12.0**	**-0.4**
WRA	**Warramunga Arr**	**87.12**	**231**	P		**P**	**17 37 54.7**	**-1.4**
	comp=Z,2.1nm,0.9s,baz=34,slow=6.0,SNR=8.4							
WRA				LR		LR	18 11 57.6	
	comp=Z,247nm,21.7s,baz=95,slow=32							
ASAR	**Alice Springs**	**90.53**	**230**	P		**P**	**17 38 12.4**	**+0.3**
	comp=Z,4.4nm,0.9s,baz=35,slow=4.7,SNR=24							
STKA	**Stephens Creek**	**94.40**	**220**	LR		LR	18 18 02.6	
	comp=Z,217nm,18.6s,baz=32,slow=34							
LBTB	**Lobatse**	**149.97**	**332**	*e*PKP2		**PKPbc**	**17 45 01.1**	**+0.4**
LBTB	**Lobatse**	**149.97**	**332**	*e*PKPbc		**PKPbc**	**17 45 01.1**	**+0.4**
MAW	**Mawson**	**151.09**	**219**	PKPbc		**PKPbc**	**17 45 01.3**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=182,slow=4.3,SNR=7.8							
MAW	**Mawson**	**151.09**	**219**	PKIKP		**PKPbc**	**17 45 01.3**	**-0.5**
MAW				pmax		pmax		
	comp=Z,1.0nm,0.5s							
MAW	**Mawson**	**151.09**	**219**	*e*PKPbc		**PKPbc**	**17 45 01.6**	**-0.2**
BOSA	**Boshof**	**153.45**	**330**	PKPbc		**PKPbc**	**17 45 08.2**	**-0.3**
	comp=Z,2.9nm,0.6s,baz=16,slow=2.3,SNR=12							

*ISCJB **19** 17:25:18.0±0.7,58°.29N±0°.10×32°.0W±0°.2,h13km, mb3.9/19,MS3.7/5,Error ellipse: s-maj=14.9km s-min=11.8km az=23.8*
*IDC **19** 17:25:17.8±0.9,58°.27N×32°.01W,h0km,mb3.9/17, mb1 4.1/18,mb1mx3.9/36,mbtmp3.9/18,ML4.0/1,MS3.8/5, Ms1 3.8/5,ms1mx3.3/53,Error ellipse: s-maj=21.8km s-min=16.2km az=30.0*
*NEIC **19** 17:25:19.2±0.6,58°.26N×32°.03W,h10km,mb4.1/1,Error ellipse: s-maj=12.6km s-min=10.0km az=200.0*

ISC 19 17:25:19.7±0.8,58°.3N±0°.1×32°.0W±0°.1,h13km,n26,
σ0s91/23,mb4.0/19,MS3.9/5,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BORG	**Borgarnes**	**8.26**	**34**	*e*P		**Pn**	**17 27 18.8**	**-0.2**
EKA	**Eskdalemuir Ar**	**16.01**	**88**	Pn		**Pn**	**17 29 05.6**	**+1.3**
	baz=70,slow=7.4,SNR=3.4							
NOA	**NORSAR Array B**	**21.71**	**64**	P		**P**	**17 30 11.9**	**+1.7**
	1.3nm,1.0s,baz=281,slow=9.1,SNR=3.2							
NOA				LR		LR	17 37 25.4	
	comp=Z,69nm,20.2s,baz=340,slow=34							
HFS	**Hagfors**	**23.12**	**66**	P		**P**	**17 30 25.9**	**+0.9**
	2.9nm,0.8s,baz=292,slow=7.6,SNR=4.3							
ESDC	**Sonseca Array**	**25.86**	**124**	P		**P**	**17 30 51.1**	**+0.3**
	0.2nm,0.3s,baz=326,slow=8.9,SNR=6.7							
ARCES	**ARCESS Array B**	**26.55**	**42**	P		**P**	**17 30 56.9**	**+0.1**
	2.7nm,0.8s,baz=293,slow=9.3,SNR=4.8							
DAVOX	**Davos/Dischmat**	**27.48**	**96**	P		**P**	**17 31 05.0**	**-0.6**
	1.7nm,0.7s,baz=317,slow=19,SNR=3.2							
GERES	**GERESS Array B**	**28.22**	**89**	LR		LR	17 41 54.4	
	comp=Z,144nm,19.6s,baz=314,slow=35							
FINES	**FINESS Array B**	**28.50**	**59**	P		**P**	**17 31 13.4**	**-0.9**
	3.3nm,0.9s,baz=297,slow=8.4,SNR=5.1							
AKASG	**Malin Array Be**	**35.22**	**75**	P		**P**	**17 32 10.5**	**-2.7**
	1.5nm,0.7s,baz=310,slow=9.0,SNR=4.9							
YKA	**Yellowknife Ar**	**38.43**	**312**	P		**P**	**17 32 40.3**	**-0.1**
	1.0nm,0.8s,baz=51,slow=9.2,SNR=6.4							
BRTR	**Keskin Array B**	**44.88**	**85**	P		**P**	**17 33 34.6**	**+0.8**
	0.9nm,0.8s,baz=328,slow=4.4,SNR=4.1							
ARU	**Arti**	**45.33**	**51**	P		**P**	**17 33 37.1**	**+0.1**
	baz=319,slow=19							
KBZ	**Khabaz**	**46.80**	**74**	P		**P**	**17 33 49.2**	**+0.6**
	1.8nm,0.9s,baz=304,slow=11,SNR=3.3							
ILAR	**Eielson Array**	**47.81**	**328**	P		**P**	**17 33 56.9**	**+0.6**
	1.9nm,1.0s,baz=34,slow=7.0,SNR=13							
PDAR	**Pinedale Array**	**48.84**	**287**	P		**P**	**17 34 04.9**	**+0.1**
	0.6nm,0.7s,baz=57,slow=3.3,SNR=2.4							
PDAR				LR		LR	17 53 20.8	
	comp=Z,169nm,19.2s,baz=86,slow=34							
AKTO	**Aktyubinsk**	**49.27**	**58**	P		**P**	**17 34 07.9**	**+0.2**
	2.6nm,0.6s,baz=305,slow=6.9,SNR=12							
ABKAR	**Akbulak array**	**50.98**	**57**	*e*P		**P**	**17 34 21.0**	**+0.4**
	2.4nm,0.9s							
TORD	**Torodi Ar. Bea**	**51.66**	**136**	P		**P**	**17 34 26.0**	**-0.1**
	2.0nm,0.7s,baz=339,slow=7.7,SNR=13							
ANMO	**Albuquerque**	**53.10**	**278**	LR		LR	17 54 39.0	
	comp=Z,114nm,19.5s,baz=88,slow=33							
DBIC	**Dimbokro**	**55.59**	**147**	P		**P**	**17 34 54.9**	**+0.1**
	2.1nm,0.8s,baz=310,slow=12,SNR=5.2							
YBH	**Yreka Blue Hor**	**56.08**	**296**	LR		LR	17 57 13.3	
	comp=Z,151nm,20.2s,baz=3.0,slow=34							
KURK	**Kurchatov**	**57.52**	**45**	P		**P**	**17 35 08.3**	**+0.1**
KURBB	**Kurchatov Arra**	**57.56**	**45**	P		**P**	**17 35 08.3**	**-0.2**
	1.6nm,0.7s,baz=326,slow=7.0,SNR=21							
MKAR	**Makanchi Array**	**62.13**	**45**	P		**P**	**17 35 39.3**	**-0.8**
	2.0nm,0.6s,baz=324,slow=5.7,SNR=28							
SONM	**Songino Array**	**68.84**	**29**	P		**P**	**17 36 23.4**	**-0.1**
	0.5nm,0.6s,baz=342,slow=7.4,SNR=2.5							

IDC 19 17:28:50.7±3.3,6°.03S×150°.58E,h0km,mb3.2/2, mb1 3.6/3,mb1mx3.3/39,mbtmp3.4/3,ML1.4/1,Error ellipse: s-maj=126.1km s-min=41.0km az=120.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.77**	**225**	Pn		Pn	17 30 05.1	+1.3
	1.2nm,0.3s,baz=252,slow=17,SNR=6.2							
PMG				Sn		Sn	17 30 54.0	-6.0
	0.7nm,0.3s,baz=188,slow=18,SNR=3.1							
WRA	**Warramunga Arr**	**20.98**	**227**	P		P	17 33 35.0	-0.9
	1.0nm,0.7s,baz=52,slow=11,SNR=6.3							
ASAR	**Alice Springs**	**23.77**	**221**	P		P	17 34 04.9	-0.3
	0.7nm,1.0s,baz=58,slow=8.9,SNR=8.9							
TORD	**Torodi Ar. Bea**	**148.54**	**285**	PKPbc		PKPbc	17 48 40.4	-0.3
	0.3nm,0.5s,baz=64,slow=3.6,SNR=2.7							

IDC 19 17:31:50.1±3.1,5°.95S×150°.03E,h0km,mb3.3/2, mb1 3.8/4,mb1mx3.4/46,mbtmp3.7/4,ML1.8/1,Error ellipse: s-maj=65.7km s-min=38.4km az=101.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.46**	**219**	Pn		Pn	17 32 60.0	+0.9
	3.3nm,0.3s,baz=57,slow=7.3,SNR=16							
PMG				Sn		Sn	17 33 49.4	-2.3
	4.2nm,0.3s,baz=191,slow=17,SNR=5.1							
SIJI	**Sorong**	**19.39**	**284**	P		P	17 36 17.6	-0.4
	0.3nm,0.3s,baz=216,slow=19,SNR=3.9							
WRA	**Warramunga Arr**	**20.64**	**226**	P		P	17 36 31.3	-0.2
	1.8nm,0.6s,baz=52,slow=11,SNR=14							
ASAR	**Alice Springs**	**23.48**	**220**	P		P	17 37 01.1	-0.5
	0.4nm,0.7s,baz=55,slow=9.2,SNR=6.8							
TORD	**Torodi Ar. Bea**	**147.99**	**285**	PKPbc		PKPbc	17 51 38.3	-0.4
	0.3nm,0.3s,baz=98,slow=2.5,SNR=7.2							

*NEIC **19** 17:32:04.4,52°.76N×169°.56W,h1km,ML3.4(AEIC),After AEIC.*
*IDC **19** 17:32:04.9±1.8,53°.04N×169°.84W,h0km,mb3.7/6, mb1 3.9/7,mb1mx3.5/67,mbtmp3.6/7,ML3.2/1,Error ellipse: s-maj=54.8km s-min=29.6km az=145.0*
*ISCJB **19** 17:32:05.7±0.5,52°.9N±0°.1×169°.68W±0°.08,h10km, mb3.6/6,Error ellipse: s-maj=17.0km s-min=4.4km az=158.9*

ISC 19 17:32:06.1±0.8,53°.0N±0°.1×169°.65W±0°.05,h10km,n17,
σ1s26/20,mb3.6/6,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.48**	**95**	P		**Pb**	**17 32 15.0**	**-1.7**
NIKH				S		**Sb**	**17 32 25.2**	**+1.4**
OKAK	**Okmok**	**0.95**	**54**	P		**Pb**	**17 32 24.2**	**-0.5**
OKAK				S		**Sb**	**17 32 39.8**	**+2.3**
OKTU	**Okmok Mt. Tuli**	**1.03**	**69**	P		**Pn**	**17 32 26.5**	**-0.2**
MSOM	**Makushin Julie**	**1.80**	**63**	P		**Pb**	**17 32 38.1**	**-1.1**
MTBL	**Makushin Table**	**2.01**	**61**	P		**Pn**	**17 32 40.9**	**+0.7**
UNV	**Unalaska Valle**	**2.06**	**65**	P		**Pb**	**17 32 41.9**	**-1.6**
UNV				S		**Sb**	**17 33 09.9**	**+0.8**
ATKA	**Atka Island**	**2.89**	**255**	P		**Pn**	**17 32 52.3**	**+0.1**
ATKA				S		**Sn**	**17 33 28.0**	**+1.0**
GSTR	**Great Sitkin T**	**4.02**	**259**	*e*P		**Pn**	**17 33 07.0**	**-0.7**
GSCK	**Great Sitkin C**	**4.11**	**258**	P		**Pn**	**17 33 09.7**	**+0.8**
BPAW	**Bear Paw Mtn.**	**14.69**	**34**	*e*P		**P**	**17 35 38.7**	**-1.3**
	1.1nm,0.6s							
ILAR	**Eielson Array**	**16.51**	**36**	Pn		**Pn**	**17 35 55.5**	**-2.0**
	0.0nm,0.3s,baz=222,slow=12,SNR=1.8							
DLBC	**Dease Lake**	**22.70**	**60**	P		**P**	**17 37 09.0**	**+1.3**
	1.5nm,0.7s,baz=278,slow=7.2,SNR=2.5							
NVAR	**Mina Array Bea**	**37.85**	**92**	P		P	17 39 26.0	+3.0
	0.3nm,0.6s,baz=316,slow=5.0,SNR=2.3							
ELK	**Elko**	**38.26**	**86**	P		**P**	**17 39 27.4**	**+1.0**
	0.6nm,0.5s,baz=307,slow=6.7,SNR=2.0							
PDAR	**Pinedale Array**	**40.45**	**80**	P		**P**	**17 39 44.3**	**-0.4**
	0.4nm,0.7s,baz=334,slow=6.0,SNR=2.6							
TXAR	**Lajitas Array**	**52.91**	**89**	P		**P**	**17 41 23.2**	**+0.9**
	1.2nm,0.7s,baz=297,slow=5.5,SNR=6.8							
ASAR	**Alice Springs**	**90.69**	**230**	P		**P**	**17 45 08.8**	**0.0**
	1.4nm,0.9s,baz=45,slow=5.4,SNR=5.1							

IDC 19 17:34:01.8±3.3,5°.65S×151°.16E,h0km,mb3.5/2, mb1 3.8/3,mb1mx3.3/45,mbtmp3.7/3,ML1.9/1,Error ellipse: s-maj=119.8km s-min=44.8km az=120.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.45**	**226**	Pn		Pn	17 35 26.1	+1.9
	2.6nm,0.3s,baz=47,slow=12,SNR=7.4							
WRA	**Warramunga Arr**	**21.66**	**228**	P		P	17 38 53.9	-0.3
	0.7nm,0.5s,baz=53,slow=11,SNR=11							
ASAR	**Alice Springs**	**24.43**	**221**	P		P	17 39 21.9	-0.6
	1.3nm,0.6s,baz=55,slow=9.1,SNR=13							
TORD	**Torodi Ar. Bea**	**148.99**	**286**	PKPbc		PKPbc	17 53 52.5	-0.4
	0.3nm,0.5s,baz=84,slow=3.0,SNR=4.6							

*IDC **19** 17:34:51.8±0.6,5°.84S×151°.49E,h0km,mb4.3/19, mb1 4.3/21,mb1mx4.3/27,mbtmp4.2/21,ML2.9/2,MS3.7/5, Ms1 3.7/5,ms1mx3.4/32,Error ellipse: s-maj=24.9km s-min=13.8km az=116.0*
*NEIC **19** 17:34:55.9±4.2,5°.88S×151°.43E,h27km±29km,mb4.5/2, Error ellipse: s-maj=15.6km s-min=9.2km az=97.0*
*ISCJB **19** 17:34:56.3±0.4,5°.88S±0°.06×151°.32E±0°.09,h41km, mb4.2/21,MS3.8/3,Error ellipse: s-maj=13.7km s-min=6.2km az=28.6*

ISC 19 17:34:57.8±0.5,5°.90S±0°.09×151°.4E±0°.1,h41km,n49,
σ0s98/50,mb4.3/21,MS3.8/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.48**	**230**	Pn		**Pn**	**17 36 17.4**	**+0.5**
	9.9nm,0.3s,baz=40,slow=12,SNR=7.7							
PMG				Sn		**Sn**	**17 37 16.8**	**-1.9**
	6.2nm,0.3s,baz=96,slow=17,SNR=3.1							
PMG				LR		LR	17 38 08.7	
	comp=Z,389nm,19.8s,baz=22,slow=35							
PMG	**Port Moresby**	**5.48**	**230**	P		**Pn**	**17 36 18.3**	**+1.4**
	baz=5.3,SNR=6.5							
PMG				P		**Pn**	**17 36 18.3**	**+1.4**
	baz=5.3,SNR=6.5							
PMG				P		**Pn**	**17 36 18.3**	**+1.4**
	baz=5.3,SNR=6.5							
HNR	**Honiara**	**9.15**	**113**	LR		LR	17 40 07.5	
	comp=Z,348nm,21.9s,baz=272,slow=35							
CTA	**Charters Tower**	**14.97**	**199**	Pn		**Pn**	**17 38 25.5**	**-1.3**
	0.1nm,0.3s,baz=9.5,slow=6.1,SNR=1.7							
QIS	**Mount Isa**	**18.55**	**217**	P		**Pn**	**17 39 12.6**	**+0.9**
	baz=18,SNR=3.1							
KDU	**Kakadu**	**19.87**	**249**	P		**P**	**17 39 25.2**	**-0.4**
	baz=20,SNR=3.8							
RMQ	**Roma**	**20.63**	**187**	P		**P**	**17 39 34.5**	**+0.6**
	baz=21,SNR=4.5							
MTN	**Manton Dam**	**21.16**	**250**	P		**P**	**17 39 39.7**	**0.0**
	baz=21,SNR=3.9							
WRAB	**Tennant Creek**	**21.68**	**228**	*e*P		**P**	**17 39 43.9**	**-1.3**
	12nm,0.8s							
QLP	**Quilpie**	**21.68**	**198**	P		**P**	**17 39 45.2**	**0.0**
	baz=22,SNR=5.6							
WRA	**Warramunga Arr**	**21.69**	**228**	P		**P**	**17 39 44.2**	**-1.2**
	3.5nm,0.5s,baz=54,slow=10,SNR=14							
WRA				PcP		**PcP**	**17 43 46.8**	**+1.2**
	1.8nm,0.9s,baz=34,slow=2.2,SNR=5.5							
KNRA	**Kununurra**	**24.26**	**245**	P		**P**	**17 40 11.4**	**+0.1**
	baz=24,SNR=4.4							
AS31	**Alice Springs**	**24.42**	**222**	*e*P		**P**	**17 40 12.6**	**-0.2**
ASAR	**Alice Springs**	**24.42**	**222**	P		**P**	**17 40 12.5**	**-0.3**
	5.1nm,0.7s,baz=55,slow=9.4,SNR=20							
STKA	**Stephens Creek**	**27.43**	**198**	P		**P**	**17 40 40.6**	**+0.7**
	3.2nm,0.8s,baz=20,slow=10,SNR=6.2							
STKA				LR		LR	17 52 39.2	
	comp=Z,169nm,18.0s,baz=24,slow=39							
BATI	**Baumata**	**27.80**	**259**	P		**P**	**17 40 43.9**	**+0.4**
	10nm,0.5s,baz=129,slow=4.0,SNR=2.8							
WRKA	**Warakurna**	**29.21**	**227**	P		**P**	**17 40 54.7**	**-1.1**
	baz=29,SNR=5.3							
MEEK	**Meekatharra**	**37.45**	**233**	P		**P**	**17 42 07.4**	**-0.2**
	baz=37,SNR=4.1							
JNU	**Nakatsue**	**43.43**	**335**	P		**P**	**17 42 58.2**	**+1.4**
	10nm,0.8s,baz=163,slow=11,SNR=2.9							
LEM	**Lembang**	**43.53**	**266**	P		**P**	**17 42 58.5**	**+0.4**
	12nm,0.6s,baz=60,slow=5.5,SNR=4.5							
MJAR	**Matsushiro Arr**	**43.99**	**345**	P		**P**	**17 42 59.9**	**-1.4**
	0.2nm,0.3s,baz=130,slow=9.6,SNR=2.6							
KSRS	**Korea Array**	**48.38**	**335**	P		**P**	**17 43 34.9**	**-0.9**
	0.5nm,0.6s,baz=156,slow=8.9,SNR=3.3							
KSAR	**Wonju Array Be**	**48.38**	**335**	P		**P**	**17 43 34.9**	**-0.9**
PETK	**Petropavlovsk-**	**59.02**	**4**	P		**P**	**17 44 52.3**	**-1.0**
	1.1nm,0.5s,baz=171,slow=8.0,SNR=5.8							
SONM	**Songino Array**	**66.53**	**329**	P		**P**	**17 45 44.5**	**+0.9**
	0.7nm,0.5s,baz=138,slow=4.7,SNR=6.0							
LSA	**Lhasa**	**67.73**	**305**	*e*P		**P**	**17 45 52.0**	**-0.1**
SEY	**Seymchan**	**68.64**	**0**	P		**P**	**17 45 55.7**	**

BOSA Boshof 117.09 234 PKP **PKPdf 18 01 48.1 -0.8**
1.4nm,0.9s,baz=219,slow=6.5,SNR=2.4
GERES GERESS Array B 124.18 327 PKP **PKPdf 18 02 02.0 +0.1**
0.3nm,0.5s,baz=17,slow=1.4,SNR=5.2
TORD Torodi Ar. Bea 148.74 285 PKPbc **PKPbc 18 02 51.0 -0.4**
1.6nm,0.6s,baz=76,slow=2.2,SNR=14

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*THR **19** 17:45:37.5±1.2,27˚.45N×63˚.08E,h13km,ML4.7*
*ISCJB **19** 17:45:37.2±0.2,27˚.60N±0˚.03×62˚.78E±0˚.03,h10km, mb4.5/74,MS3.6/2,Error ellipse: s-maj=5.1km s-min=3.6km az=157.4*
*BJI **19** 17:45:40.9,27˚.72N×62˚.57E,h37km, mb4.6/9,mB4.8/5, Ms4.8/1,Ms7 4.6/1*
*SZGRF **19** 17:45:42.2,27˚.00N×61˚.95E,h33km, mb4.7, Southern Iran*
*CSEM **19** 17:45:42.1±0.2,27˚.60N×62˚.95E,h40km, mb4.6/34,Ms4.3, Error ellipse: s-maj=7.7km s-min=5.8km az=148.0*
*OMAN **19** 17:45:43.5±99.0,26˚.60N×63˚.49E, h20km±999km, Error ellipse: s-maj=545.9km s-min=45.4km az=235.0*
*IDC **19** 17:45:43.4±3.6,27˚.61N×62˚.66E, h48km±32km, mb4.1/34, mb1 4.2/36,mb1mx4.1/59,mbtmp4.3/36,ML2.4/2,MS3.3/2, Ms1 3.3/2,ms1mx2.9/44,Error ellipse: s-maj=17.2km s-min=10.9km az=166.0*
*TEH **19** 17:45:48.5,27˚.83N×62˚.66E, h34km, ML4.6*
*NEIC **19** 17:45:48.4,27˚.84N×62˚.65E, h34km, mb4.5/12, After TEH.*
*DSN **19** 17:45:57.5±2.8,27˚.19N×61˚.78E, h35km,mb4.0/5, Ms4.3/4, Error ellipse: s-maj=61.1km s-min=13.2km az=2.0*
ISC 19 17:45:37.6±0.4,27˚.50N±0˚.04×62˚.99E±0˚.04,h10km,n268,
σ1§38/239,mb4.6/74,26C-13D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZHSF	**Zahedan**	**2.87**	**318**	*e*Pn	Pn	17 46 27.2	+3.6
ZHSF	**Zahedan**	**2.87**	**318**	*e*Pn	Pn	17 46 27.1	+3.6
ZHSF	**Zahedan**	**2.87**	**318**	*e*P	Pn	17 46 27.0	+3.4
ZHSF	**Zahedan**	**2.87**	**318**	*e*Pn	Pn	17 46 27.2	+3.6
ZHSF				*e*S	**Sn**	**17 46 58.0**	**-0.2**
ZHSF	**Zahedan**	**2.87**	**318**	*e*P	Pn	17 46 27.0	+3.4
ZHSF				*e*S	**Sn**	**17 46 58.0**	**-0.2**
CHBR	**Chabahar**	**2.94**	**230**	*e*Pn	**Pn**	**17 46 26.4**	**+1.9**
CHBR	comp=E,3μm,0.2s			AML	AML	17 46 59.0	
CHMN	**Cheshme madani**	**5.33**	**297**	*e*Pn	**Pn**	**17 46 59.0**	**+1.3**
CHMN	**Cheshme madani**	**5.33**	**297**	*e*Pn	**Pn**	**17 46 59.0**	**+1.3**
IBND	**Bandar-abas**	**5.73**	**271**	*e*Pn	Pn	17 47 07.0	+4.1
IBND				*e*Sn	Sn	17 48 03.0	-5.8
IBND	comp=E,5μm,0.1s			*e*		17 48 12.9	
IBND	**Bandar-abas**	**5.73**	**271**	Pn	Pn	17 47 06.9	+4.1
IBND	**Bandar-abas**	**5.73**	**271**	Pn	Pn	17 47 06.9	+4.1
IBND				Sn	Sn	17 48 02.9	-5.8
IDAH	**Dahanechah**	**5.88**	**333**	*e*Pn	**Pn**	**17 47 06.7**	**+1.6**
IDAH	**Dahanechah**	**5.88**	**333**	Pn	Pn	**17 47 06.9**	**+1.8**
IDAH	**Dahanechah**	**5.88**	**333**	Pn	Pn	**17 47 06.9**	**+1.8**
NGRK	**Negar Kerman**	**5.91**	**293**	*e*Pn	**Pn**	**17 47 08.7**	**+3.1**
NGRK	**Negar Kerman**	**5.91**	**293**	*e*Pn	**Pn**	**17 47 08.6**	**+3.1**
IKOO	**Kooshah**	**6.00**	**326**	*e*		17 47 08.2	
IKOO	comp=Z,1μm,0.1s			*e*Pn	**Pn**	**17 47 07.4**	**+0.7**
IKOO				*e*Sn	Sn	17 48 06.9	-9.0
KRBR	**Kerman**	**6.00**	**296**	*e*Pn	**Pn**	**17 47 09.1**	**+2.3**
KRBR	**Kerman**	**6.00**	**296**	*e*P	**Pn**	**17 47 09.0**	**+2.2**
KRBR	**Kerman**	**6.00**	**296**	*e*Pn	**Pn**	**17 47 09.4**	**+2.6**
KRBR	**Kerman**	**6.00**	**296**	*e*P	**Pn**	**17 47 09.0**	**+2.2**
BNDS	**Bandar-Abbas**	**6.06**	**271**	*e*P	**Pn**	**17 47 09.7**	**+2.2**
BNDS	comp=N,188nm,0.3s			AML	AML	17 48 16.0	
BNDS	**Bandar-Abbas**	**6.06**	**271**	*e*P	**Pn**	**17 47 09.0**	**+1.5**
BNDS	**Bandar-Abbas**	**6.06**	**271**	*e*P	**Pn**	**17 47 09.0**	**+1.5**
WBK	**Wadi Bani Khal**	**6.09**	**218**	P	**Pn**	**17 47 07.4**	**-0.3**
WBK	SNR=51			P	**Pn**	**17 47 07.5**	**-0.3**
WBK	SNR=13			⇑S	Sn	17 48 07.3	-10
BANOM	**Banah**	**6.19**	**257**	⇓P	**Pn**	**17 47 09.8**	**+0.6**
BANOM	**Banah**	**6.19**	**257**	P	Pn	**17 47 09.8**	**+0.6**
SMDO	**Samad**	**6.29**	**226**	P	**Pn**	**17 47 12.0**	**+1.3**
SMDO	SNR=9.8			P	**Pn**	**17 47 12.2**	**+1.5**
SMDO	**Samad**	**6.29**	**226**	P	**Pn**	**17 47 12.2**	**+1.5**
KHGB	**Koh Gabri**	**6.39**	**298**	*e*Pn	**Pn**	**17 47 14.3**	**+2.2**
KHGB	**Koh Gabri**	**6.39**	**298**	*e*Pn	**Pn**	**17 47 14.3**	**+2.2**
HOQ	**Hoqain**	**6.45**	**234**	⇓P	**Pn**	**17 47 12.2**	**-0.5**
ITEG	**Tejag**	**6.51**	**327**	*e*Pn	**Pn**	**17 47 14.7**	**+1.0**
ITEG	comp=Z,544nm,0.3s			*e*		17 47 55.0	
ITEG	**Tejag**	**6.51**	**327**	*e*Pn	**Pn**	**17 47 14.7**	**+1.0**
ITEG	**Tejag**	**6.51**	**327**	Pn	Pn	**17 47 14.7**	**+1.0**
SHRT	**Shahrakht**	**6.55**	**340**	*e*Pn	**Pn**	**17 47 16.0**	**+1.8**
HATD	**Hatta, Dubai**	**6.72**	**248**	⇓*i*P	**Pn**	**17 47 16.4**	**0.0**
JMDO	**Jabal Madar**	**6.77**	**222**	P	**Pn**	**17 47 17.7**	**+0.6**
JMDO	SNR=29			P	**Pn**	**17 47 18.8**	**+1.7**
JMDO	**Jabal Madar**	**6.77**	**222**	P	**Pn**	**17 47 18.8**	**+1.7**
ASHO	**Ashiyiah**	**6.84**	**247**	⇓P	**Pn**	**17 47 18.2**	**+0.1**
NAZ	**Nazwa, Dubai**	**7.04**	**251**	P	**Pn**	**17 47 23.6**	**+2.7**
NAZ	**Nazwa, Dubai**	**7.04**	**251**	⇓*i*P	**Pn**	**17 47 23.6**	**+2.7**
BSYO	**Bisya**	**7.05**	**229**	P	**Pn**	**17 47 23.4**	**+2.4**
BSY	**Bisya**	**7.07**	**229**	P	**Pn**	**17 47 23.4**	**+2.1**
ARQ	**Araqi**	**7.17**	**236**	P	Pn	17 47 26.4	+3.8
ARQ	**Araqi**	**7.17**	**236**	P	Pn	17 47 26.4	+3.8
FAQ	**Al Faqa, Dubai**	**7.20**	**249**	P	**Pn**	**17 47 25.4**	**+2.4**
FAQ	**Al Faqa, Dubai**	**7.20**	**249**	⇑*i*P	**Pn**	**17 47 25.4**	**+2.4**
BHJ	**Bhuj**	**7.36**	**124**	*e*P	Pn	17 47 30.6	+5.3
BHJ	comp=Z,122nm,0.1s			AMB	AMB	17 47 31.8	
BHJ				*ex*	x	17 48 49.1	
ASUD	**Al Ashush, Dub**	**7.46**	**249**	P	**Pn**	**17 47 29.3**	**+2.7**
ASUD	SNR=49 **Al Ashush, Dub**	**7.46**	**249**	⇓*i*P	**Pn**	**17 47 29.3**	**+2.7**
IBAF	SNR=49 **Bafgh**	**7.64**	**304**	*e*Pn	**Pn**	**17 47 31.8**	**+2.6**
IBAF	comp=Z,468nm,0.4s			*e*		17 48 20.1	
IBAF	**Bafgh**	**7.64**	**304**	*e*Pn	**Pn**	**17 47 31.8**	**+2.6**
IMEH	**Mehriz**	**8.27**	**300**	*e*Pn	Pn	17 47 41.7	+3.8
IMEH	**Mehriz**	**8.27**	**300**	*e*Pn	Pn	17 47 41.7	+3.8
IMEH	**Mehriz**	**8.27**	**300**	Pn	Pn	17 47 41.7	+3.8
KBL	**Kabul**	**8.72**	**35**	*e*Pn	Pn	17 47 50.2	+6.1
KBL	**Kabul**	**8.72**	**35**	*e*Pn	Pn	17 47 50.2	+6.1
ISRV	**Sarvestan**	**8.90**	**284**	*e*Pn	**Pn**	**17 47 48.1**	**+1.5**
ISRV				*e*Sn	Sn	17 49 16.8	-11
ISRV	comp=Z,2μm,0.1s			*e*		17 49 26.9	
ISRV	**Sarvestan**	**8.90**	**284**	*e*Pn	**Pn**	**17 47 48.1**	**+1.5**
IPAR	**Pars**	**9.04**	**287**	*e*Pn	**Pn**	**17 47 50.0**	**+1.5**
IPAR				*e*Sn	Sn	17 49 18.7	-12
IPAR	comp=Z,910nm,0.2s			*e*		17 49 25.7	
IPAR	**Pars**	**9.04**	**287**	*e*Pn	**Pn**	**17 47 50.0**	**+1.5**
ISAD	**Sadrabad**	**9.21**	**301**	*e*Pn	**Pn**	**17 47 53.7**	**+2.8**
ISAD	**Sadrabad**	**9.21**	**301**	Pn	**Pn**	**17 47 53.6**	**+2.8**
ISAD	**Sadrabad**	**9.21**	**301**	Pn	**Pn**	**17 47 53.6**	**+2.8**
THW	**Thamme Wali**	**9.23**	**53**	P	Pn	17 47 55.0	+4.2
CEP	**Cherat**	**9.93**	**48**	P	Pn	17 48 05.4	+4.9
CEP				S	**Sn**	**17 49 48.0**	**-4.1**
IKAZ	**Kazeroun**	**10.06**	**286**	*e*Pn	**Pn**	**17 48 02.6**	**+0.1**
IKAZ				*e*Sn	Sn	17 49 43.5	-12
IKAZ	comp=Z,3μm,0.2s			*e*		17 49 49.5	
IKAZ	**Kazeroun**	**10.06**	**286**	*e*Pn	**Pn**	**17 48 02.6**	**+0.1**
IZEF	**Zefreh**	**10.67**	**303**	*e*Pn	Pn	17 48 14.7	+3.7
IZEF	**Zefreh**	**10.67**	**303**	Pn	Pn	17 48 14.6	+3.7
IZEF	**Zefreh**	**10.67**	**303**	Pn	Pn	17 48 14.6	+3.7
CHCP	**Chirah Chowk**	**10.77**	**53**	P	Pn	17 48 16.7	+4.8
GEYT	**Alibeck**	**11.18**	**340**	P	**Pn**	**17 48 19.3**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=165,slow=12,SNR=7.7						
GEYT				LR	LR	17 53 04.1	
	comp=Z,172nm,21.1s,baz=155,slow=40						
SMLA	**Simla**	**12.88**	**70**	*e*P	Pn	17 48 45.8	+4.9
SMLA	comp=Z,17nm,1.2s			AMB	AMB	17 48 48.1	
SMLA				*ex*	x	17 50 59.3	
POO	**Poona**	**13.40**	**130**	*e*P	**Pn**	**17 48 48.5**	**+0.5**
POO	comp=Z,34nm,2.4s			AMB	AMB	17 49 05.5	
DDI	**Dehra Dun**	**13.49**	**74**	*e*P	P	17 48 54.9	-3.6
DDI	comp=Z,12nm,0.8s			AMB	AMB	17 49 06.7	
BHPL	**Bhopal**	**13.72**	**105**	*e*P	**P**	**17 48 58.0**	**-3.0**
BHPL	comp=Z,15nm,1.6s			AMB	AMB	17 49 12.4	
RAYN	**Ar Rayn**	**16.28**	**260**	*e*P	Pn	17 49 22.3	-4.2
KKAR	comp=Z,17nm,0.7s **Karatay Array**	**16.72**	**19**	*e*P	**P**	**17 49 34.8**	**+0.5**
KKAR	comp=Z,1nm,0.5s **Karatay Array**	**16.72**	**19**	*e*P	**P**	**17 49 34.8**	**+0.5**
DMN	comp=Z,2.1nm,0.5s **Daman**	**19.61**	**85**	*e*P	Pn	17 50 14.7	+6.9
GNI	comp=Z,18nm,0.8s **Garni**	**19.68**	**315**	P	**P**	**17 50 06.2**	**-0.8**
PKIN	comp=Z,0.3nm,0.3s,baz=225,slow=18,SNR=2.5 **Phulchoki**	**19.87**	**85**	*e*P	Pn	17 50 18.0	+7.1
PKI	comp=Z,11nm,0.6s **Pulchoki**	**19.88**	**85**	*e*P	Pn	17 50 18.7	+7.6
RAMN	**Ramite**	**21.00**	**86**	*e*P	Pn	17 50 29.1	+4.9
ODAN	comp=Z,19nm,0.6s **Odare**	**21.71**	**86**	*e*P	P	17 50 38.8	+10
ABKAR	comp=Z,28nm,0.7s **Akbulak array**	**21.85**	**355**	*e*P	**P**	**17 50 30.0**	**-0.2**
ABKAR	comp=Z,6.6nm,0.6s **Akbulak array**	**21.85**	**355**	*e*P	**P**	**17 50 29.9**	**-0.2**
KBZ	comp=Z,6.8nm,0.6s **Khabaz**	**22.91**	**320**	P	**P**	**17 50 41.6**	**0.0**
ASF	comp=Z,2.8nm,0.8s,baz=110,slow=15,SNR=4.6 **Jabal al Asfar**	**23.09**	**288**	P	**P**	**17 50 45.5**	**+1.9**
KIV	comp=Z,1.3nm,0.6s,baz=40,slow=16,SNR=3.0 **Kislovodsk**	**23.17**	**320**	*e*P	**P**	**17 50 47.3**	**+2.9**
AKTO	comp=Z,17nm,1.1s **Aktyubinsk**	**23.21**	**352**	P	**P**	**17 50 43.4**	**-1.3**
MMAI	comp=Z,2.2nm,0.3s,baz=158,slow=12,SNR=10 **Mount Meron Ar**	**24.42**	**290**	P	**P**	**17 50 56.4**	**-0.1**
MKAR	comp=Z,1.5nm,0.7s,baz=60,slow=8.5,SNR=3.5 **Makanchi Array**	**24.53**	**33**	P	**P**	**17 50 59.7**	**+2.4**
EIL	comp=Z,4.8nm,0.6s,baz=229,slow=9.0,SNR=8.5 **Elat**	**24.70**	**282**	P	**P**	**17 50 55.5**	**-3.5**
LSA	comp=Z,1.3nm,0.4s,baz=49,slow=20,SNR=2.7 **Lhasa**	**24.80**	**78**	*e*P	P	17 51 05.1	+4.7
LSA	comp=Z,3.8nm,0.9s **Lhasa**	**24.80**	**78**	*e*P	P	17 51 05.1	+4.7
SHL	comp=Z,3.8nm,0.9s **Shillong**	**25.90**	**88**	*e*P	**P**	**17 51 13.8**	**+3.7**
KURBB	**Kudrukov Arra**	**25.94**	**23**	P	**P**	**17 51 10.9**	**+0.9**
KURK	comp=Z,2.1nm,0.6s,baz=218,slow=8.8,SNR=4.2 **Kurchatov**	**26.05**	**23**	P	**P**	**17 51 10.9**	**-0.1**
KURK	**Kurchatov**	**26.05**	**23**	P	**P**	**17 51 10.9**	**-0.1**
BVAR	**Borovoye Array**	**26.08**	**10**	P	**P**	**17 51 11.5**	**+0.2**
BRVK	comp=Z,3.7nm,0.4s,baz=182,slow=11,SNR=34 **Borovoye**	**26.10**	**10**	*e*P	**P**	**17 51 11.5**	**+0.1**
BRVK	**Borovoye**	**26.10**	**10**	*e*P	**P**	**17 51 11.5**	**+0.1**
PALK	**Pallekele**	**26.21**	**137**	LR	LR	18 04 18.2	
BRTR	comp=Z,56nm,18.3s,baz=346,slow=42 **Keskin Array B**	**27.19**	**304**	P	**P**	**17 51 20.1**	**-1.5**
ARU	comp=Z,0.6nm,0.4s,baz=133,slow=12,SNR=5.5 **Arti**	**29.08**	**355**	P	**P**	**17 51 37.0**	**-1.1**
ARU	baz=222,slow=16 **Arti**	**29.08**	**355**	P	**P**	**17 51 37.0**	**-1.1**
ZALV	**Zalesovo Beam**	**30.91**	**25**	P	**P**	**17 51 55.2**	**+0.8**
GTA	comp=Z,4.8nm,0.4s,baz=233,slow=10,SNR=18 **Gaotai**	**32.72**	**59**	*e*P	P	17 52 14.8	+4.2
GTA				pP	pP	17 52 19.8	+6.1
GTA	comp=Z,6.0nm,0.9s			PMZ			
VRI	**Vrincioaia**	**34.00**	**312**	⇑*i*P	**P**	**17 52 20.3**	**-1.2**
VRI	**Vrincioaia**	**34.00**	**312**	⇑*i*P	**P**	**17 52 20.3**	**-1.2**
TESR	**Tescani**	**34.27**	**313**	⇓*i*P	**P**	**17 52 24.1**	**+0.2**
TESR	**Tescani**	**34.27**	**313**	⇓*i*P	**P**	**17 52 24.1**	**+0.2**
MLR	**Muntele Rosu**	**34.39**	**311**	⇑*i*P	**P**	**17 52 22.9**	**-2.2**
MLR	**Muntele Rosu**	**34.39**	**311**	⇑*i*P	**P**	**17 52 22.9**	**-2.2**
AKASG	**Malin Array Be**	**34.51**	**321**	P	P	17 52 23.0	-2.8
DOPR	comp=Z,2.0nm,0.4s,baz=124,slow=7.6,SNR=10 **Dopca**	**34.91**	**312**	⇑*i*P	**P**	**17 52 29.8**	**+0.3**
DOPR	**Dopca**	**34.91**	**312**	⇑*i*P	**P**	**17 52 29.8**	**+0.3**
VOIR		**34.97**	**311**	⇑*i*P	**P**	**17 52 30.0**	**-0.1**
VOIR		**34.97**	**311**	⇑*i*P	**P**	**17 52 30.0**	**-0.1**
ARR	**Arges**	**35.23**	**311**	⇑*i*P	**P**	**17 52 32.3**	**0.0**
ARR	**Arges**	**35.23**	**311**	⇑*i*P	**P**	**17 52 32.3**	**0.0**
BURAR	**Bucovina Array**	**35.58**	**315**	⇑*i*P	**P**	**17 52 35.4**	**+0.1**
BURAR	**Bucovina Array**	**35.58**	**315**	⇑*i*P	**P**	**17 52 35.4**	**+0.1**
BUR08	**Bucovina Ar. S**	**35.60**	**315**	*e*P	**P**	**17 52 35.0**	**-0.5**
BUR08	**Bucovina Ar. S**	**35.60**	**315**	*e*P	**P**	**17 52 35.0**	**-0.5**
BOLS	**Boljevac**	**36.69**	**307**	*e*P	**P**	**17 52 42.8**	**-1.9**
DRGR		**36.93**	**312**	⇑*i*P	**P**	**17 52 46.8**	**0.0**
DRGR		**36.93**	**312**	⇑*i*P	**P**	**17 52 46.8**	**0.0**
BZS	**Buzias**	**37.34**	**310**	⇑*i*P	**P**	**17 52 49.0**	**-1.2**
BZS	**Buzias**	**37.34**	**310**	⇑*i*P	**P**	**17 52 49.0**	**-1.2**
SIRR	**Siria**	**37.48**	**311**	⇑*i*P	**P**	**17 52 51.8**	**+0.4**
SIRR	**Siria**	**37.48**	**311**	⇑*i*P	**P**	**17 52 51.8**	**+0.4**
IVAS	**Ivanjica**	**37.92**	**306**	*e*P	**P**	**17 52 53.8**	**-1.4**
DIVS	**Divibare**	**38.13**	**307**	*e*P	**P**	**17 52 55.5**	**-1.5**
BBLS	**Lazići**	**38.50**	**307**	*e*P	**P**	**17 53 01.3**	**+1.1**
SONM	**Songino Array**	**39.26**	**47**	P	P	17 53 10.1	+3.5
PKSM	comp=Z,2.6nm,0.6s,baz=252,slow=9.2,SNR=25 **Moragy**	**39.50**	**310**	⇓*i*P	**P**	**17 53 08.2**	**-0.2**
PKSM	**Moragy**	**39.50**	**310**	⇓*i*P	**P**	**17 53 08.2**	**-0.2**
TIP	**Timpagrande**	**39.95**	**299**	*e*P	**P**	**17 53 11.6**	**-0.7**
TIP	comp=Z,12nm,0.8s **Timpagrande**	**39.95**	**299**	*e*P	**P**	**17 53 11.6**	**-0.7**
CUC	comp=Z,12nm,0.8s **Castrocucco**	**40.72**	**300**	*e*P	**P**	**17 53 18.3**	**-0.3**
CUC	comp=Z,102nm,0.6s **Castrocucco**	**40.72**	**300**	*e*P	**P**	**17 53 18.3**	**-0.3**
CUC	comp=Z,102nm,0.6s			*e*		17 53 38.8	
MORC	**Moravsky Berou**	**41.09**	**315**	*e*P	**P**	**17 53 21.0**	**-0.5**
KRLC	**Kraliky**	**41.64**	**316**	*e*P	**P**	**17 53 25.4**	**-0.7**
KRLC	**Kraliky**	**41.64**	**316**	P	**P**	**17 53 25.4**	**-0.7**
CONA	**Conrad Observa**	**41.72**	**312**	P	**P**	**17 53 26.4**	**-0.4**
CONA	comp=Z,5.5nm,0.9s **Conrad Observa**	**41.72**	**312**	⇑*i*P	**P**	**17 53 26.4**	**-0.4**
ARSA	comp=Z,5.5nm,0.9s **Arzberg**	**41.81**	**311**	P	**P**	**17 53 26.7**	**-0.8**
ARSA	comp=Z,5.0nm,0.7s **Arzberg**	**41.81**	**311**	⇑*i*P	**P**	**17 53 26.7**	**-0.8**
HHC	comp=Z,5.0nm,0.7s **Hu-ho-hao-te**	**41.83**	**59**	*e*P	P	17 53 36.5	+8.7
HHC				PP	PcP	17 55 16.9	-6.9
HHC				S	S	17 59 51.6	+6.0
HHC				SS	**SS**	**18 02 52.9**	**+1.3**
HHC	comp=Z,19nm,1.2s			pmax	pmax		
HHC	comp=Z,74nm,5.3s			pmax	pmax		
HHC	comp=N,200nm,14.5s			LR	LR		
HHC	comp=E,190nm,13.7s			LR	LR		
HHC	comp=Z,120nm,15.1s			LR	LR		
FINES	**FINESS Array B**	**41.92**	**334**	P	**P**	**17 53 27.1**	**-1.0**
DPC	comp=Z,3.3nm,0.4s,baz=137,slow=9.6,SNR=53 **Dobruska-Polom**	**41.99**	**316**	*e*P	**P**	**17 53 28.9**	**-0.1**
DPC				*ep*P	pP	17 53 38.9	+6.8
DPC				*es*P	sP	17 53 48.5	+15
DPC	**Dobruska-Polom**	**41.99**	**316**	P	**P**	**17 53 28.9**	**-0.1**
UPC	**Upice**	**42.23**	**316**	*e*P	**P**	**17 53 30.7**	**-0.1**
UPC	**Upice**	**42.23**	**316**	P	**P**	**17 53 30.7**	**-0.1**
TREC	**Trest**	**42.26**	**314**	*e*P	**P**	**17 53 30.7**	**-0.5**
TREC	**Trest**	**42.26**	**314**	P	**P**	**17 53 30.7**	**-0.5**
MOA	**Molln**	**42.76**	**312**	P	**P**	**17 53 34.3**	**-0.9**
MOA	comp=Z,12nm,0.6s,SNR=8.4 **Molln**	**42.76**	**312**	⇑*i*P	**P**	**17 53 34.3**	**-0.9**
PRU	comp=Z,12nm,0.6s,SNR=8.4 **Pruhonice**	**43.02**	**315**	*e*P	**P**	**17 53 36.2**	**-1.0**
PRU				*es*P	sP	17 53 55.4	+14
PRU	**Pruhonice**	**43.02**	**315**	P	**P**	**17 53 36.2**	**-1.0**
KBA	**Koelnbreinsper**	**43.25**	**311**	P	**P**	**17 53 38.7**	**-0.7**
KBA	comp=Z,4.2nm,0.7s **Koelnbreinsper**	**43.25**	**311**	⇓*i*P	**P**	**17 53 38.7**	**-0.7**
GEC2	comp=Z,4.2nm,0.7s **GERESS Array S**	**43.32**	**313**	*e*P	**P**	**17 53 39.0**	**-0.8**
GEC2	comp=Z,14nm,0.9s **GERESS Array S**	**43.32**	**313**	*e*P	**P**	**17 53 39.0**	**-0.8**
GERES	comp=Z,14nm,0.9s **GERESS Array B**	**43.32**	**313**	P	**P**	**17 53 39.1**	**-0.8**
GERES	comp=Z,9.0nm,0.8s,baz=100,slow=7.5,SNR=74			PcP	**PcP**	**17 55 28.6**	**0.0**
BRG	comp=Z,1.5nm,0.7s,baz=108,slow=3.2,SNR=4.8 **Berggiesshubel**	**43.59**	**316**	*e*P	**P**	**17 53 42.0**	**0.0**
BRG	comp=Z,3.8nm,1.1s			*e*PKPPKP	P	**17 53 41.8**	**0.0**
BRG	comp=Z,3.8nm,1.1s comp=N,637nm,16.9s comp=E,499nm,15.1s comp=Z,853nm,16.4s **Berggiesshubel**	**43.59**	**316**	*e*P	**P**	**17 53 41.9**	**0.0**
BRG	comp=Z,3.0nm,0.7s **Berggiesshubel**	**43.59**	**316**	*e*P	**P**	**17 53 41.9**	**0.0**
RJOB	comp=Z,3.0nm,0.7s **Jochberg**	**43.72**	**311**	*e*P	**P**	**17 53 41.7**	**-1.3**
RJOB	comp=Z,25nm,0.6s **Jochberg**	**43.72**	**311**	*e*P	**P**	**17 53 41.7**	**-1.3**
ABTA	comp=Z,25nm,0.6s **Abfaltersbach**	**43.76**	**310**	P	**P**	**17 53 41.9**	**-1.5**
ABTA	comp=Z,9.1nm,0.8s **Abfaltersbach**	**43.76**	**310**	⇓*i*P	**P**	**17 53 41.9**	**-1.5**
CLL	comp=Z,9.1nm,0.8s **Collm**	**44.27**	**316**	*e*P	**P**	**17 53 47.2**	**-0.1**
CLL	comp=Z,10.0nm,1.2s **Collm**	**44.27**	**316**	*e*P	**P**	**17 53 47.2**	**-0.1**
CLL	comp=Z,10.0nm,1.2s **Collm**	**44.27**	**316**	*i*P	**P**	**17 53 47.4**	**+0.1**
CLL				*e*		17 54 10.0	
WTTA	**Wattenberg**	**44.43**	**311**	P	**P**	**17 53 47.5**	**-1.3**
WTTA	comp=Z,28nm,1.4s,SNR=8.5 **Wattenberg**	**44.43**	**311**	*i*P	**P**	**17 53 47.5**	**-1.3**
ROTZ	comp=Z,28nm,1.4s,SNR=8.5 **Rotzenmuhle**	**44.45**	**314**	*e*P	**P**	**17 53 48.5**	**-0.3**
ROTZ	comp=Z,5.0nm,1.0s **Rotzenmuhle**	**44.45**	**314**	*e*P	**P**	**17 53 48.5**	**-0.3**
WATA	comp=Z,5.0nm,1.0s **Walderalm**	**44.48**	**311**	P	**P**	**17 53 47.5**	**-1.7**
WATA	comp=Z,9.2nm,0.8s **Walderalm**	**44.48**	**311**	⇑*i*P	**P**	**17 53 47.5**	**-1.7**
MOTA	comp=Z,9.2nm,0.8s **Moosalm**	**44.80**	**311**	P	**P**	**17 53 49.9**	**-1.9**
MOTA	comp=Z,12nm,0.9s,SNR=7.3 **Moosalm**	**44.80**	**311**	⇓*i*P	**P**	**17 53 49.9**	**-1.9**
MOX	comp=Z,12nm,0.9s,SNR=7.3 **Moxa**	**44.99**	**315**	*e*P	**P**	**17 53 53.1**	**0.0**
MOX	comp=Z,9.0nm,1.3s **Moxa**	**44.99**	**315**	*e*P	**P**	**17 53 53.1**	**0.0**
FETA	comp=Z,9.0nm,1.3s **Feichten**	**45.01**	**310**	P	**P**	**17 53 52.3**	**-1.2**
FETA	comp=Z,15nm,0.9s,SNR=8.5 **Feichten**	**45.01**	**310**	⇑*i*P	**P**	**17 53 52.3**	**-1.2**
RETA	comp=Z,15nm,0.9s,SNR=8.5 **Reutte**	**45.05**	**311**	P	**P**	**17 53 51.7**	**-1.9**
RETA	comp=Z,14nm,0.8s,SNR=6.1 **Reutte**	**45.05**	**311**	⇑*i*P	**P**	**17 53 51.7**	**-1.9**
GRA1	comp=Z,14nm,0.8s,SNR=6.1 **Grafenberg Arr**	**45.07**	**314**	*e*P	**P**	**17 53 54.2**	**+0.5**
GRF	comp=Z,9.0nm,1.1s **Grafenberg Arr**	**45.07**	**314**	*e*P	**P**	**17 53 54.2**	**+0.5**
DAVOX	comp=Z,9.0nm,1.1s **Davos/Dischmat**	**45.56**	**310**	P	**P**	**17 53 56.7**	**-1.3**
DAVA	comp=Z,3.9nm,0.3s,baz=32,slow=2.5,SNR=14 **Damuels**	**45.62**	**310**	P	**P**	**17 53 56.9**	**-1.4**
DAVA	comp=Z,36nm,1.1s,SNR=11 **Damuels**	**45.62**	**310**	*i*P	**P**	**17 53 56.9**	**-1.4**
CLZ	comp=Z,36nm,1.1s,SNR=11 **Clausthal**	**45.99**	**317**	*e*P	**P**	**17 54 00.7**	**-0.3**
CLZ	comp=Z,7.0nm,1.0s **Clausthal**	**45.99**	**317**	*e*P	**P**	**17 54 00.7**	**-0.3**
BSEG	comp=Z,7.0nm,1.0s **Bad Segeberg**	**46.46**	**320**	*e*P	**P**	**17 54 04.5**	**-0.1**
BSEG	comp=Z,10.0nm,0.7s **Bad Segeberg**	**46.46**	**320**	*e*P	**P**	**17 54 04.5**	**-0.1**
HFS	comp=Z,10.0nm,0.7s **Hagfors**	**46.56**	**328**	P	**P**	**17 54 03.3**	**-2.0**
HFS	comp=Z,2.0nm,0.3s,baz=108,slow=9.0,SNR=27			PcP	**PcP**	**17 55 37.1**	**-2.2**
BFO	comp=Z,1.4nm,0.7s,baz=108,slow=9.3,SNR=2.2 **Black Forest**	**46.77**	**312**	*e*P	**P**	**17 54 05.5**	**-1.7**
BFO	comp=Z,5.0nm,1.1s **Black Forest**	**46.77**	**312**	*e*P	**P**	**17 54 05.5**	**-1.7**
TNS	comp=Z,5.0nm,1.1s **Taunus Mts**	**46.92**	**314**	*e*P	**P**	**17 54 08.7**	**+0.3**
TNS

ASAR	**Alice Springs**	**85.24**	**120**	P	**P**	**17 58 16.1**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=306,slow=5.2,SNR=13						
EGAK	**Eagle**	**86.11**	**10**	*eP*	**P**	**17 58 18.7**	**+0.2**
EGAK	**Eagle**	**86.11**	**10**	*eP*	**P**	**17 58 18.7**	**+0.2**
DAWY	**Dawson**	**87.05**	**10**	*eP*	**P**	**17 58 24.0**	**+0.8**
	comp=Z,14nm,1.2s						
DAWY	**Dawson**	**87.05**	**10**	Pn	**P**	**17 58 23.5**	**+0.2**
DAWY	**Dawson**	**87.05**	**10**	*eP*	**P**	**17 58 24.0**	**+0.8**
	comp=Z,14nm,1.2s						
SCHQ	**Scheffer ville**	**87.39**	**334**	P	**P**	**17 58 23.4**	**-1.6**
	comp=Z,1.9nm,0.6s,baz=9.5,slow=6.1,SNR=3.3						
SML	**Sawmill**	**87.48**	**14**	*eP*	**P**	**17 58 25.3**	**0.0**
	comp=Z,2.6nm,1.1s						
SML	**Sawmill**	**87.48**	**14**	*eP*	**P**	**17 58 25.3**	**0.0**
	comp=Z,2.6nm,1.1s						
YKB0	**Yellowknife Ar**	**90.18**	**359**	Pn	**P**	**17 58 38.0**	**0.0**
YKW3	**Yellowknife Ar**	**90.23**	**359**	*eP*	**P**	**17 58 38.7**	**+0.5**
	comp=Z,0.1nm,0.8s						
YKW3	**Yellowknife Ar**	**90.23**	**359**	*eP*	**P**	**17 58 38.7**	**+0.5**
	comp=Z,0.1nm,0.8s						
YKA	**Yellowknife Ar**	**90.30**	**359**	*eP*	**P**	**17 58 38.9**	**+0.5**
	comp=Z,4.6nm,0.7s,baz=352,slow=5.0,SNR=39						
YKA	**Yellowknife Ar**	**90.30**	**359**	P	**P**	**17 58 39.0**	**+0.5**
YKR6	**Yellowknife Ar**	**90.30**	**359**	Pn	**P**	**17 58 38.8**	**+0.3**
YKR1	**Yellowknife Ar**	**90.30**	**359**	Pn	**P**	**17 58 37.6**	**-0.9**
DLBC	**Dease Lake**	**93.70**	**7**	P	**P**	**17 58 54.6**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=330,slow=11,SNR=3.7						
NVAR	**Mina Array Bea**	**114.40**	**1**	PKP	PKPdf	18 04 19.1	+0.8
	comp=Z,0.3nm,0.4s,baz=30,slow=5.5,SNR=3.4						
TXAR	**Lajitas Array**	**122.06**	**346**	PKP	**PKPdf**	**18 04 33.0**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=165,slow=1.5,SNR=4.5						

*IDC **19** 17:45:42.7±11.0, 52°.81N×170°.67W, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.5/65, mbtmp3.5/7, ML3.4/1, Error ellipse: s-maj=204.9km s-min=36.1km az=80.0*
*ISCJB **19** 17:45:48.5±1.2, 52°.81N±0°.10×169°.65W±0°.10, h9km±7km, mb3.5/6, Error ellipse: s-maj=17.3km s-min=7.5km az=156.7*
*NEIC **19** 17:45:48.5, 52°.70N×169°.47W, h4km, mb3.6/2, ML3.8(AEIC), After AEIC.*

ISC 19 17:45:48.1±2.2, 52°.8N±0°.1×169°.55W±0°.07, h2km±14km, n32, σ1°29/31, mb3.6/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.46**	**66**	P	**Pb**	**17 45 58.4**	**-0.6**
NIKH				S	**Sb**	**17 46 06.2**	**0.0**
OKWR	**Okmok West Rim**	**1.04**	**51**	P	**Pn**	**17 46 09.8**	**0.0**
OKCE	**Okmok Cone E**	**1.05**	**52**	P	**Pg**	**17 46 08.7**	**+0.5**
OKAK	**Okmok**	**1.07**	**42**	P	**Pg**	**17 46 07.8**	**-0.8**
OKAK				S	**Sg**	**17 46 22.1**	**-0.3**
OKTU	**Okmok Mt. Tuli**	**1.09**	**56**	P	**Pb**	**17 46 09.5**	**-0.1**
MSOM	**Makushin Julie**	**1.87**	**56**	P	**Pn**	**17 46 21.5**	**+0.5**
MSOM				S	**Sb**	**17 46 46.9**	**+0.2**
MCIR	**Makushin Cirqu**	**1.97**	**53**	P	**Pn**	**17 46 23.4**	**+0.8**
MSW	**Makushin Switc**	**2.00**	**55**	P	**Pn**	**17 46 24.0**	**+1.1**
MSW				S	**Sb**	**17 46 49.7**	**-1.0**
MTBL	**Makushin Table**	**2.09**	**54**	P	**Pn**	**17 46 24.2**	**+0.1**
UNV	**Unalaska Valle**	**2.11**	**59**	P	**Pn**	**17 46 24.9**	**+0.4**
UNV				S	**Sb**	**17 46 52.6**	**-1.1**
AKRB	**Akutan Reef Bi**	**2.48**	**56**	P	**Pn**	**17 46 30.6**	**+1.1**
ZRO	**Akutan Zero**	**2.50**	**57**	P	**Pn**	**17 46 30.4**	**+0.6**
AKGG	**Akutan Green G**	**2.55**	**55**	P	**Pn**	**17 46 31.3**	**+0.9**
AKUT	**Akutan**	**2.63**	**58**	*eP*	**Pn**	**17 46 33.4**	**+1.9**
ATKA	**Atka Island**	**2.90**	**260**	P	**Pn**	**17 46 35.5**	**+0.3**
SPIA	**Saint Paul Isl**	**4.42**	**355**	P	**Pn**	**17 46 57.1**	**+1.0**
BPAW	**Bear Paw Mtn.**	**14.85**	**33**	*eP*	**Pn**	**17 49 20.7**	**+1.8**
	1.0nm,0.9s						
ILAR	**Eielson Array**	**16.67**	**35**	Pn	**Pn**	**17 49 39.6**	**-2.9**
	0.1nm,0.3s,baz=226,slow=11,SNR=2.9						
COLD	**Coldfoot**	**17.28**	**26**	*eP*	**P**	**17 49 53.6**	**+1.8**
	5.3nm,1.1s						
HYT	**Haines Junctio**	**19.13**	**53**	*eP*	**Pn**	**17 50 14.7**	**+1.7**
	2.9nm,0.6s						
INK	**Inuvik**	**23.06**	**34**	P	**P**	**17 50 53.7**	**-0.6**
	1.2nm,0.5s,baz=240,slow=4.1,SNR=2.2						
YKA	**Yellowknife Ar**	**30.05**	**49**	P	**P**	**17 51 56.6**	**-1.5**
	0.2nm,0.5s,baz=271,slow=7.6,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**37.72**	**218**	T	T	18 32 47.8	
	baz=28						
H11N3	**WAKE ISLAND Hy**	**37.72**	**218**	T	T	18 32 45.0	
	baz=28						
H11N1	**WAKE ISLAND Hy**	**37.73**	**218**	T	T	18 32 44.2	
	baz=28						
NVAR	**Mina Array Bea**	**37.78**	**91**	P	**P**	**17 53 07.6**	**+1.8**
	0.4nm,0.7s,baz=302,slow=10,SNR=3.3						
ELK	**Elko**	**38.21**	**86**	P	**P**	**17 53 11.7**	**+2.3**
	0.4nm,0.3s,baz=284,slow=8.3,SNR=3.1						
H11S1	**WAKE ISLAND Hy**	**38.91**	**217**	T	T	18 34 27.1	
	baz=28						
H11S2	**WAKE ISLAND Hy**	**38.92**	**217**	T	T	18 34 24.6	
	baz=28						
H11S3	**WAKE ISLAND Hy**	**38.92**	**217**	T	T	18 34 23.0	
	baz=28						
PDAR	**Pinedale Array**	**40.43**	**79**	P	**P**	**17 53 26.8**	**-1.1**
	1.0nm,0.8s,baz=305,slow=4.1,SNR=7.4						
TXAR	**Lajitas Array**	**52.85**	**89**	P	**P**	**17 55 03.8**	**-1.4**
	1.2nm,0.7s,baz=302,slow=5.1,SNR=11						

NNC 19 17:46:23.3±1.1, 44°.38N×81°.03E, h0km, mb3.6, mpv3.2, 16C-6D, Error ellipse: s-maj=14.8km s-min=4.3km az=120.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**1.54**	**227**	⇑P	Pn	17 46 50.9	-1.0
	68nm,0.3s						
PDGK				⇓S	Sn	17 47 12.5	-0.1
	132nm,0.5s						
MK31	**Makanchi Array**	**2.57**	**20**	⇓Pn	Pn	17 47 05.8	-0.4
	0.4nm,0.2s,baz=204,slow=15,SNR=224						
MK31				⇓Pg	Pg	17 47 12.5	-0.1
	2.5nm,0.3s						
MK31				Lg	Lg	17 47 42.8	
	7.1nm,0.2s,baz=193,slow=30,SNR=19						
KNDC	**Almaty**	**3.17**	**250**	⇓Pn	Pn	17 47 14.5	0.0
	6.7nm,0.3s						
KNDC				⇑Pg	Pg	17 47 23.1	-1.0
	35nm,0.4s						
KNDC				⇑Lg	Lg	17 48 03.6	
	39nm,0.4s						
TKM2	**Tokmak 2**	**4.21**	**252**	⇑Pn	Pn	17 47 29.3	+0.4
	2.6nm,0.6s						
TKM2				⇑Pg	Pb	17 47 40.8	+2.3
	7.9nm,0.5s						
TKM2				⇓Lg	Lg	17 48 33.9	
	38nm,0.9s						
AAK	**Ala-Archa**	**5.07**	**252**	⇑Lg	Lg	17 49 06.0	
	13nm,0.5s						
KURBB	**Kurchatov Arra**	**6.47**	**346**	⇓Pn	Pn	17 48 00.8	+1.0
	1.0nm,0.8s						
KURBB				⇑Sn	Sn	17 49 13.9	-0.3
	6.1nm,0.8s						
KURBB				⇑Lg	Lg	17 49 50.7	
	45nm,0.7s						
KURK	**Kurchatov**	**6.55**	**346**	⇑Pn	Pn	17 48 00.9	+0.2
	1.3nm,1.3s						
KURK				⇑Sn	Sn	17 49 13.5	-2.5
	1.8nm,0.9s						
KURK				⇑Lg	Lg	17 49 49.5	
	4.5nm,0.6s						
OTUK	**Ortayu**	**7.15**	**306**	⇑Pn	Pn	17 48 09.1	-0.1
	0.7nm,0.8s						
OTUK				⇑Sn	Sn	17 49 34.4	+3.3
	1.4nm,0.4s						
OTUK				⇑Lg	Lg	17 50 15.1	
	28nm,0.8s						
KK31	**Karatay Array**	**7.73**	**264**	⇑Pg	Pb	17 48 43.3	+5.2
	0.2nm,0.3s						
KK31				⇑Lg	Lg	17 50 29.9	
	6.9nm,0.7s						

*IDC **19** 17:46:49.5±0.6, 52°.44N×169°.60W, h0km, mb4.0/15, mb1 4.2/17, mb1mx4.0/37, mbtmp4.0/17, ML3.7/2, MS3.7/3, Ms1 3.8/3, ms1mx3.2/35, Error ellipse: s-maj=24.1km s-min=12.9km az=165.0*
*ISCJB **19** 17:46:50.4±1.9, 52°.52N±0°.06×169°.55W±0°.07, h13km±12km, mb4.2/21, MS4.0/1, Error ellipse: s-maj=12.4km s-min=4.5km az=148.8*
*NEIC **19** 17:46:51.4, 52°.66N×169°.49W, h3km, mb4.3/8, ML4.0(AEIC), After AEIC.*

ISC 19 17:46:50.7±2.0, 52°.58N±0°.09×169°.51W±0°.06, h5km±12km, n55, σ1°19/49, mb4.1/21, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.56**	**45**	P	**Pg**	**17 47 01.7**	**+0.2**
NIKH				S	**Sb**	**17 47 10.7**	**-0.6**
OKCE	**Okmok Cone E**	**1.18**	**43**	P	**Pg**	**17 47 13.2**	**-0.1**
OKCE				S	**Sn**	**17 47 30.5**	**+0.3**
OKAK	**Okmok**	**1.22**	**34**	P	**Pg**	**17 47 11.6**	**-2.5**
MSOM	**Makushin Julie**	**1.98**	**50**	P	**Pn**	**17 47 25.2**	**+0.4**
MSOM				S	**Sn**	**17 47 50.7**	**+0.8**
MSW	**Makushin Switc**	**2.12**	**50**	P	**Pn**	**17 47 27.3**	**+0.6**
MSW				S	**Sn**	**17 47 54.6**	**+1.2**
MTBL	**Makushin Table**	**2.20**	**49**	P	**Pn**	**17 47 28.1**	**+0.2**
UNV	**Unalaska Valle**	**2.21**	**54**	P	**Pn**	**17 47 28.5**	**+0.5**
UNV				S	**Sn**	**17 47 56.2**	**+0.6**
AKGG	**Akutan Green G**	**2.66**	**51**	P	**Pn**	**17 47 34.4**	**+0.3**
ATKA	**Atka Island**	**2.90**	**264**	P	**Pn**	**17 47 38.7**	**+1.3**
GSTR	**Great Sitkin T**	**4.05**	**266**	*ePn*	**Pn**	**17 47 54.0**	**+0.7**
GSCK	**Great Sitkin C**	**4.13**	**265**	P	**Pn**	**17 47 56.9**	**+2.5**
SPIA	**Saint Paul Isl**	**4.63**	**355**	P	**Pn**	**17 48 01.4**	**+0.2**
AMKA	**Amchitka**	**7.02**	**265**	*ePn*	**Pn**	**17 48 36.1**	**+2.1**
	82nm,0.8s						
PPLA	**Purkeypile**	**13.82**	**35**	*ePn*	P	17 50 12.7	-3.0
	43nm,1.3s						
TRF	**Thorofare Moun**	**14.84**	**35**	*ePn*	Pn	17 50 18.2	-2.8
	12nm,1.0s						
BPAW	**Bear Paw Mtn.**	**15.02**	**33**	*ePn*	**Pn**	**17 50 25.5**	**+2.1**
	3.4nm,0.9s						
ILAR	**Eielson Array**	**16.83**	**35**	Pn	**Pn**	**17 50 45.8**	**-0.9**
	0.2nm,0.3s,baz=229,slow=11,SNR=8.1						
ILAR				LR	LR	17 57 34.3	
	comp=Z,406nm,19.3s,baz=238,slow=38						
COLD	**Coldfoot**	**17.46**	**25**	*eP*	**P**	**17 50 56.6**	**+0.7**
	72nm,1.9s						
EGAK	**Eagle**	**18.93**	**39**	*eP*	**Pn**	**17 51 13.2**	**+0.6**
	7.3nm,0.9s						
HYT	**Haines Junctio**	**19.24**	**52**	*eP*	**Pn**	**17 51 17.4**	**+0.9**
	15nm,0.9s						
BILL	**Bilibino**	**19.38**	**332**	*eP*	**Pn**	**17 51 18.9**	**+0.9**
	84nm,1.9s						
PETK	**Petropavlovsk-**	**19.73**	**285**	P	**P**	**17 51 20.4**	**-0.5**
	0.4nm,0.3s,baz=88,slow=13,SNR=4.5						
PETK				LR	LR	17 58 53.0	
	comp=Z,126nm,20.6s,baz=96,slow=37						
H02N1	**VAN INLET T-PH**	**22.14**	**73**	T	T	18 14 48.6	
H02S1	**DAWSON INLET T**	**22.20**	**74**	T	T	18 14 53.5	
	SNR=5.4						
SEY	**Seymchan**	**22.47**	**312**	P	**P**	**17 51 49.5**	**-0.8**
	2.5nm,0.8s,baz=85,slow=7.4,SNR=7.3						
DLBC	**Dease Lake**	**22.85**	**59**	P	**P**	**17 51 55.0**	**+0.4**
	3.5nm,0.6s,baz=279,slow=8.2,SNR=5.3						
DLBC	**Dease Lake**	**22.85**	**59**	*eP*	**P**	**17 51 57.7**	**+3.2**
INK	**Inuvik**	**23.22**	**34**	P	**P**	**17 51 58.9**	**+0.7**
	1.3nm,0.3s,baz=252,slow=12,SNR=3.4						
YKA	**Yellowknife Ar**	**30.17**	**49**	P	**P**	**17 53 01.5**	**+0.2**
	0.5nm,0.5s,baz=274,slow=7.6,SNR=7.0						
BSMT	**Basso Peak**	**34.62**	**75**	*eP*	**P**	**17 53 42.1**	**+1.5**
	12nm,1.4s						
MCMT	**McKenzie Canyo**	**37.32**	**79**	*eP*	**P**	**17 54 04.5**	**+0.7**
	2.8nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**37.56**	**218**	T	T	18 33 59.5	
	baz=29,slow=75						
H11N3	**WAKE ISLAND Hy**	**37.57**	**218**	T	T	18 33 59.2	
	baz=29,slow=75						
H11N1	**WAKE ISLAND Hy**	**37.58**	**218**	T	T	18 33 59.0	
	baz=29,slow=75						
NVAR	**Mina Array Bea**	**37.75**	**91**	P	**P**	**17 54 06.0**	**-1.6**
	0.2nm,0.4s,baz=298,slow=8.1,SNR=3.0						
H11S1	**WAKE ISLAND Hy**	**38.76**	**218**	T	T	18 35 24.1	
	baz=19,slow=76						
H11S2	**WAKE ISLAND Hy**	**38.77**	**218**	T	T	18 35 28.1	
	baz=19,slow=76						
H11S3	**WAKE ISLAND Hy**	**38.77**	**218**	T	T	18 35 24.9	
	baz=19,slow=76						
MJAR	**Matsushiro Arr**	**39.62**	**267**	P	**P**	**17 54 22.1**	**-0.9**
	1.2nm,0.8s,baz=39,slow=8.1,SNR=3.7						
BW06	**Boulder Array**	**40.45**	**79**	*eP*	**P**	**17 54 31.5**	**+1.4**
	4.1nm,1.0s						
PDAR	**Pinedale Array**	**40.45**	**79**	P	**P**	**17 54 30.3**	**+0.2**
	2.3nm,0.8s,baz=302,slow=4.6,SNR=8.9						
PV01	**Paradox Valley**	**43.87**	**84**	*eP*	**P**	**17 54 58.3**	**+0.2**
	248nm,0.7s						
ANMO	**Albuquerque**	**47.24**	**86**	P	**P**	**17 55 26.1**	**+1.3**
	0.3nm,0.4s,baz=354,slow=9.2,SNR=5.9						
WMOK	**Wichita Mounta**	**52.03**	**80**	*eP*	**P**	**17 56 01.0**	**0.0**
	3.4nm,0.9s						
TXAR	**Lajitas Array**	**52.83**	**89**	P	**P**	**17 56 07.6**	**+0.5**
	1.4nm,0.6s,baz=300,slow=5.4,SNR=14						
BVAR	**Borovoye Array**	**63.48**	**324**	P	**P**	**17 57 22.6**	**+1.3**
	0.6nm,0.5s,baz=51,slow=12,SNR=5.3						
SIJI	**Sorong**	**72.53**	**244**	P	**P**	**17 58 17.1**	**-1.5**
	8.0nm,0.9s,baz=18,slow=16,SNR=3.9						
CMAR	**Chiang Mai Arr**	**76.49**	**283**	P	**P**	**17 58 42.1**	**+0.5**
	0.7nm,0.7s,baz=26,slow=7.1,SNR=2.9						
BATI	**Baumata**	**84.44**	**245**	P	**P**	**17 59 23.2**	**-1.1**
	16nm,0.6s,baz=307,slow=2.0,SNR=4.1						
WRA	**Warramunga Arr**	**87.07**	**231**	P	**P**	**17 59 35.5**	**-1.7**
	0.9nm,0.8s,baz=28,slow=5.6,SNR=4.3						
PSI	**Prapat**	**88.75**	**273**	P	**P**	**17 59 45.1**	**-0.6**
	4.5nm,0.6s,baz=36,slow=8.7,SNR=4.3						
ASAR	**Alice Springs**	**90.47**	**230**	P	**P**	**17 59 52.4**	**-0.9**
	2.7nm,0.8s,baz=32,slow=4.5,SNR=12						
EIL	**Eilat**	**95.36**	**339**	LR	LR	18 50 55.8	
	comp=Z,48nm,18.3s,baz=232,slow=40						
MAW	**Mawson**	**150.98**	**219**	PKPbc	**PKPbc**	**18 06 42.6**	**-0.3**
	2.6nm,0.9s,baz=108,slow=1.9,SNR=5.1						
BOSA	**Boshof**	**153.67**	**330**	PKPbc	**PKPbc**	**18 06 49.4**	**-1.1**
	1.1nm,0.5s,baz=322,slow=0.6,SNR=5.0						

*IDC **19** 17:48:01.1±3.7, 57°.12N×32°.39W, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.6/35, mbtmp3.8/9, ML3.7/1, Error ellipse: s-maj=89.0km s-min=26.9km az=4.0*

ISC 19 17:48:03.2±2.4, 57°.2N±0°.4×32°.4W±0°.2, h10km, n9, σ1°14/9, mb3.9/8, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**9.26**	**31**	Pn	**Pn**	**17 50 16.4**	**-0.1**
	0.8nm,0.3s,baz=188,slow=10,SNR=6.0						
NOA	**NORSAR Array B**	**22.39**	**62**	P	**P**	**17 53 02.8**	**+1.4**
	1.2nm,1.0s,baz=281,slow=9.1,SNR=2.6						
ARCES	**ARCESS Array B**	**27.49**	**40**	P	**P**	**17 53 49.1**	**0.0**
	2.9nm,0.8s,baz=276,slow=9.0,SNR=3.0						
YKA	**Yellowknife Ar**	**38.96**	**313**	P	**P**	**17 55 28.4**	**-0.5**
	0.2nm,0.6s,baz=80,slow=19,SNR=2.9						
ILAR	**Eielson Array**	**48.58**	**329**	P	**P**	**17 56 47.5**	**+1.5**
	1.1nm,1.0s,baz=33,slow=5.6,SNR=9.1						
AKTO	**Aktyubinsk**	**50.03**	**57**	P	**P**	**17 56 57.5**	**+0.2**
	2.3nm,0.8s,baz=316,slow=7.7,SNR=6.5						
KURBB	**Kurchatov Arra**	**58.47**	**44**	P	**P**	**17 57 58.2**	**-0.6**
	0.8nm,0.7s,baz=326,slow=7.0,SNR=7.4						
MKAR	**Makanchi Array**	**63.04**	**44**	P	**P**	**17 58 30.2**	**+0.2**
	0.9nm,0.7s,baz=322,slow=5.5,SNR=8.3						
SONM	**Songino Array**	**69.87**	**28**	P	**P**	**17 59 12.1**	**-1.7**
	1.0nm,1.1s,baz=325,slow=7.2,SNR=3.7						

WEL 19 18:04:11.0±0.7, 36°.16S×178°.45E, h196km±6km, ML3.7/9, 1C-2D, Error ellipse: s-maj=5.8km s-min=5.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**1.65**	**181**	⇑PN	Pn	18 04 45.8	+0.2
WMGZ				SN	Sn	18 05 12.1	-0.8
HAZ	**Te Kaha**	**1.68**	**198**	PN	Pn	18 04 45.1	-0.8
HAZ				SN	Sn	18 05 12.2	-1.0
PUZ	**Puketiti**	**1.91**	**185**	⇓PN	Pn	18 04 47.9	-0.3
PUZ				SN	Sn	18 05 16.1	-1.3
PUZ				AML	AML	18 05 19.8	
TWGZ	**Tauwhareparae**	**2.04**	**190**	PN	Pn	18 04 50.1	+0.5
KUZ	**Kuaotunu**	**2.28**	**254**	PN	Pn	18 04 52.1	0.0
MWZ	**Matawai**	**2.29**	**199**	PN	Pn	18 04 52.6	+0.3
TKGZ	**Te Karaka**	**2.32**	**192**	⇓PN	Pn	18 04 52.8	+0.3
TKGZ				SN	Sn	18 05 25.6	+0.4
CNGZ	**Carnagh Statio**	**2.33**	**185**	PN	Pn	18 04 53.1	+0.5
URZ	**Urewera**	**2.35**	**207**	PN	Pn	18 04 52.6	-0.2
URZ				AML	AML	18 05 28.6	
RIGZ	**Rimuhau**	**2.60**	**192**	PN	Pn	18 04 55.7	0.0
SNGZ	**Shannon Statio**	**2.76**	**198**	PN	Pn	18 04 58.0	+0.5
KNZ	**Kokohu**	**2.92**	**192**	PN	Pn	18 04 59.1	-0.2
RAHZ	**Arahi**	**2.96**	**201**	PN	Pn	18 05 00.3	+0.5
WHHZ	**Waihua**	**3.06**	**198**	PN	Pn	18 05 01.6	+0.5
ARHZ	**Aropaoanui**	**3.30**	**200**	PN	Pn	18 05 04.2	+0.2
BKZ	**Black Stump Fm**	**3.38**	**207**	PN	Pn	18 05 05.1	+0.2
MCHZ	**McNeill Hill**	**3.56**	**202**	PN	Pn	18 05 07.4	+0.3
BHHZ	**Black Hill Sta**	**3.82**	**209**	PN	Pn	18 05 10.6	+0.2
KAHZ	**Kahuranaki**	**3.83**	**198**	PN	Pn	18 05 10.3	-0.2
PXZ	**Pawanui**	**4.06**	**198**	PN	Pn	18 05 12.3	-0.9
PXZ				SN	Sn	18 06 02.2	-0.1
TSZ	**Takapari Road**	**4.36**	**206**	PN	Pn	18 05 15.8	-1.3
MRZ	**Mangatainoka R**	**5.03**	**206**	PN	Pn	18 05 24.2	-1.3
OGWZ	**Otaki Gorge**	**5.31**	**208**	PN	Pn	18 05 27.7	-1.5
TCW	**Tory Channel**	**6.01**	**212**	PN	Pn	18 05 36.3	-1.9
NNZ	**Nelson**	**6.42**	**217**	*eP*	Pn	18 05 41.9	-1.6
KHZ	**Kahutara**	**7.31**	**210**	AML	AML	18 06 10.4	
MQZ	**McQueen's Vall**	**8.75**	**209**	SN	Sn	18 07 45.5	-6.4

IDC 19 18:11:09.7±3.7, 5°.96S×150°.14E, h0km, mb3.1/2, mb1 3.5/3, mb1mx3.3/26, mbtmp3.4/3, ML1.1/1, Error ellipse: s-maj=153.4km s-min=39.4km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.53**	**221**	Pn	Pn	18 12 21.2	+1.6
	0.7nm,0.3s,baz=336,slow=12,SNR=2.3						
PMG				SN	Sn	18 13 12.9	0.0
	1.2nm,0.3s,baz=131,slow=20,SNR=2.8						
WRA	**Warramunga Arr**	**20.71**	**226**	P	P	18 15 50.5	-1.4
	1.3nm,0.7s,baz=52,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**23.54**	**220**	P	P	18 16 22.2	+0.3
	0.4nm,0.7s,baz=56,slow=9.2,SNR=7.5						
TORD	**Torodi Ar. Bea**	**148.10**	**285**	PKPbc	PKPbc	18 30 58.1	-0.4
	0.6nm,1.1s,baz=58,slow=3.6,SNR=2.1						

*ISCJB **19** 18:11:42.5±1.1, 52°.72N±0°.08×169°.91W±0°.06, h8km±8km, mb4.0/15, Error ellipse: s-maj=14.3km s-min=3.9km az=157.3*
*IDC **19** 18:11:42.4±1.2, 52°.66N×169°.96W, h0km, mb4.0/8, mb1 4.2/10, mb1mx3.8/33, mbtmp3.9/10, ML3.4/2, Error ellipse: s-maj=30.5km s-min=19.2km az=178.0*
*NEIC **19** 18:11:43.0, 52°.62N×169°.82W, h6km, mb4.0/10, ML4.0(AEIC), After AEIC.*

ISC 19 18:11:42.5±1.7, 52°.8N±0°.1×169°.96W±0°.06, h0km±11km, n49, σ1°08/52, mb4.0/15, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.69**	**75**	P	**Pg**	**18 11 56.1**	**+0.3**
NIKH				S	**Sg**	**18 12 05.5**	**+0.8**
OKWR	**Okmok West Rim**	**1.23**	**58**	P	**Pb**	**18 12 06.7**	**0.0**
OKAK	**Okmok**	**1.24**	**51**	P	**Pg**	**18 12 05.0**	**-1.3**
OKAK				S	**Sg**	**18 12 21.0**	**-1.2**
OKCE	**Okmok Cone E**	**1.25**	**59**	P	**Pg**	**18 12 06.1**	**-0.4**
OKCE				S	**Sn**	**18 12 24.6**	**-0.1**
OKTU	**Okmok Mt. Tuli**	**1.29**	**63**	P	**Pg**	**18 12 07.1**	**-0.2**
MSOM	**Makushin Julie**	**2.07**	**60**	P	**Pn**	**18 12 18.9**	**+0.5**
MSOM				S	**Sn**	**18 12 45.9**	**+1.0**
MCIR	**Makushin Cirqu**	**2.17**	**57**	P	**Pn**	**18 12 20.8**	**+0.9**
MSW	**Makushin Switc**	**2.20**	**58**	P	**Pn**	**18 12 20.1**	**-0.3**
MSW				S	**Sn**	**18 12 49.0**	**+0.7**
MTBL	**Makushin Table**	**2.28**	**58**	P	**Pn**	**18 12 22.4**	**+0.9**
UNV	**Unalaska Valle**	**2.32**	**62**	P	**Pn**	**18 12 22.3**	**+0.4**
UNV				S	**Sn**	**18 12 50.7**	**-0.4**
ATKA	**Atka Island**	**2.66**	**259**	P	**Pn**	**18 12 26.5**	**0.0**
AKRB	**Akutan Reef Bi**	**2.68**	**59**	P	**Pn**	**18 12 27.2**	**+0.3**
ZRO	**Akutan Zero**	**2.71**	**60**	P	**Pn**	**18 12 27.7**	**+0.5**
AKGG	**Akutan Green G**	**2.75**	**58**	P	**Pn**	**18 12 28.6**	**+0.8**
AKUT	**Akutan**	**2.83**	**60**	P	**Pn**	**18 12 29.9**	**+0.9**
GSTR	**Great Sitkin T**	**3.80**	**262**	*eP*	**Pn**	**18 12 43.2**	**+0.9**
GSMY	**Great Sitkin M**	**3.81**	**261**	P	**Pn**	**18 12 43.7**	**+1.3**
GSCK	**Great Sitkin C**	**3.88**	**261**	P	**Pn**	**18 12 44.4**	**+1.0**
ADAG	**Mount Adagdak**	**4.15**	**261**	P	**Pn**	**18 12 48.9**	**+1.8**
FALS	**False Pass**

0.4nm,1.0s,baz=66,slow=3.0,SNR=2.5

CSEM ***19*** *18:20:38.0±0.4,36.51N×20.41E,h2km,ML3.2,Error ellipse: s-maj=7.4km s-min=5.0km az=30.0*
ATH ***19*** *18:20:38.1,36.56N×20.39E,h19km±1km,MD3.7/14*
THE ***19*** *18:20:39.4,36.56N×20.45E,h0km±2km,ML3.2/5,Error ellipse: s-maj=3.2km s-min=1.3km az=241.0*

ISC 19 18:20:38.4±2.0,36.56N±0.06×20.40E±0.07,h19km±3km, n74,σ1§10/95,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SFD	**Strofades**	**0.85**	**35**	*e*PN		**Pg**	**18 20 54.8**	**-0.3**
SFD	**Strofades**	**0.85**	**35**	P		**Pn**	**18 20 55.0**	**-0.4**
SFD				S		**Sn**	**18 21 07.8**	**+0.4**
SFD	**Strofades**	**0.85**	**35**	P		**Pn**	**18 20 55.0**	**-0.4**
SFD				S		**Sn**	**18 21 07.8**	**+0.4**
PYL	**PYLOS**	**1.13**	**72**	*e*PN		**Pg**	**18 21 00.1**	**-0.2**
PYL				*e*SN		**Sg**	**18 21 16.2**	**+1.0**
PYL	**PYLOS**	**1.13**	**72**	P		**Pg**	**18 21 00.1**	**-0.2**
PYL				S		**Sg**	**18 21 15.5**	**+0.3**
PYL				*e*Sn		**Sg**	**18 21 16.2**	**+1.0**
PYL	**PYLOS**	**1.13**	**72**	P		**Pg**	**18 21 00.1**	**-0.2**
PYL				S		**Sg**	**18 21 15.5**	**+0.3**
ZKS	**Zakynthos**	**1.18**	**15**	*e*PN		**Pb**	**18 21 00.1**	**-0.1**
ZKS	**Zakynthos**	**1.18**	**15**	*e*Pn		**Pb**	**18 21 00.1**	**-0.1**
ZKS	**Zakynthos**	**1.18**	**15**	P		**Pg**	**18 21 00.5**	**-0.8**
ZKS				S		**Sg**	**18 21 18.8**	**+2.0**
ZKS	**Zakynthos**	**1.18**	**15**	P		**Pg**	**18 21 00.5**	**-0.8**
ZKS				S		**Sg**	**18 21 18.8**	**+2.0**
ITM	**Ithomi**	**1.37**	**63**	*e*PN		**Pb**	**18 21 03.8**	**+0.3**
ITM				*e*SN		**Sg**	**18 21 22.5**	**-0.4**
ITM	**Ithomi**	**1.37**	**63**	P		**Pb**	**18 21 03.8**	**+0.3**
ITM				*e*Sn		**Sg**	**18 21 22.5**	**-0.4**
ITM	**Ithomi**	**1.37**	**63**	P		**Pb**	**18 21 03.8**	**+0.3**
AMT	**Artemida-Makis**	**1.43**	**47**	*e*PN		**Pb**	**18 21 04.9**	**+0.5**
AMT	**Artemida-Makis**	**1.43**	**47**	P		**Pb**	**18 21 05.0**	**+0.5**
AMT				S		**Sg**	**18 21 24.9**	**+0.2**
AMT	**Artemida-Makis**	**1.43**	**47**	P		**Pb**	**18 21 05.0**	**+0.5**
AMT				S		**Sg**	**18 21 24.9**	**+0.2**
KFL	**Anninata**	**1.58**	**11**	P		**Pb**	**18 21 06.7**	**-0.4**
KFL	**Anninata**	**1.58**	**11**	P		**Pb**	**18 21 06.7**	**-0.4**
VLS	**Valsamata**	**1.63**	**5**	*e*PN		**Pb**	**18 21 07.7**	**-0.1**
VLS	**Valsamata**	**1.63**	**5**	*e*Pn		**Pb**	**18 21 07.7**	**-0.1**
VLS	**Valsamata**	**1.63**	**5**	P		**Pb**	**18 21 08.0**	**+0.2**
VLS	**Valsamata**	**1.63**	**5**	P		**Pb**	**18 21 08.0**	**+0.2**
RLS	**Riolos of Patr**	**1.73**	**29**	P		**Pb**	**18 21 10.0**	**+0.5**
RLS	**Riolos of Patr**	**1.73**	**29**	P		**Pb**	**18 21 10.0**	**+0.5**
DRO	**Drossia**	**1.74**	**36**	*e*PN		**Pb**	**18 21 09.9**	**+0.1**
DRO	**Drossia**	**1.74**	**36**	P		**Pb**	**18 21 09.8**	**0.0**
DRO	**Drossia**	**1.74**	**36**	P		**Pb**	**18 21 09.8**	**0.0**
VLX	**Vlachokerasia**	**1.78**	**62**	*e*PN		**Pb**	**18 21 09.7**	**-0.8**
VLX				*e*SN		**Sb**	**18 21 33.1**	**+0.6**
VLX	**Vlachokerasia**	**1.78**	**62**	*e*Pn		**Pb**	**18 21 09.7**	**-0.8**
VLX				*e*Sn		**Sb**	**18 21 33.1**	**+0.6**
VLX				S		**Sg**	**18 21 34.6**	**-1.3**
VLX	**Vlachokerasia**	**1.78**	**62**	P		**Pb**	**18 21 09.8**	**-0.8**
VLX				S		**Sg**	**18 21 34.6**	**-1.3**
EXG	**Exogi**	**1.91**	**5**	*e*PN		**Pb**	**18 21 12.2**	**-0.4**
EXG	**Exogi**	**1.91**	**5**	P		**Pb**	**18 21 12.3**	**-0.4**
EXG	**Exogi**	**1.91**	**5**	P		**Pb**	**18 21 12.3**	**-0.4**
KLV	**Kalavryta, Ach**	**2.04**	**43**	*e*PB		**Pb**	**18 21 13.4**	**-1.5**
KLV	**Kalavryta, Ach**	**2.04**	**43**	P		**Pb**	**18 21 13.6**	**-1.3**
KLV	**Kalavryta, Ach**	**2.04**	**43**	P		**Pb**	**18 21 13.6**	**-1.3**
VLI	**Veliai**	**2.05**	**85**	*e*PN		**Pb**	**18 21 14.6**	**-0.4**
VLI				*e*SN		**Sb**	**18 21 40.2**	**+0.2**
VLI	**Veliai**	**2.05**	**85**	*e*Pn		**Pb**	**18 21 14.6**	**-0.4**
VLI				*e*Sn		**Sb**	**18 21 40.2**	**+0.2**
VLI	**Veliai**	**2.05**	**85**	P		**Pb**	**18 21 15.2**	**+0.2**
VLI				S		**Sb**	**18 21 40.5**	**+0.5**
GUR	**Goura**	**2.07**	**48**	*e*PN		**Pb**	**18 21 14.1**	**-1.4**
GUR				*e*SN		**Sb**	**18 21 41.6**	**+0.7**
GUR	**Goura**	**2.07**	**48**	P		**Pb**	**18 21 14.1**	**-1.4**
GUR				*e*Sn		**Sb**	**18 21 41.6**	**+0.7**
GUR	**Goura**	**2.07**	**48**	P		**Pb**	**18 21 14.1**	**-1.4**
LAKA	**Lakka**	**2.10**	**36**	*e*PN		**Pb**	**18 21 15.1**	**-0.8**
LAKA	**Lakka**	**2.10**	**36**	*e*Pn		**Pb**	**18 21 15.1**	**-0.8**
LAKA	**Lakka**	**2.10**	**36**	P		**Pb**	**18 21 15.2**	**-0.7**
PDO	**Prodromos**	**2.13**	**17**	*e*PN		**Pb**	**18 21 15.7**	**-0.7**
PDO	**Prodromos**	**2.13**	**17**	P		**Pb**	**18 21 15.7**	**-0.7**
PDO	**Prodromos**	**2.13**	**17**	P		**Pb**	**18 21 15.7**	**-0.7**
KYTH	**Kithira**	**2.14**	**97**	*e*PN		**Pb**	**18 21 15.8**	**-0.8**
KYTH	**Kithira**	**2.14**	**97**	P		**Pb**	**18 21 15.8**	**-0.8**
KYTH	**Kithira**	**2.14**	**97**	P		**Pb**	**18 21 15.8**	**-0.8**
KALE	**Kalithea**	**2.30**	**37**	*e*PN		**Pb**	**18 21 18.2**	**-1.1**
KALE				*e*SN		**Sb**	**18 21 46.2**	**-1.1**
KALE	**Kalithea**	**2.30**	**37**	*e*Pn		**Pb**	**18 21 18.2**	**-1.1**
KALE				*e*Sn		**Sb**	**18 21 46.2**	**-1.1**
KALE	**Kalithea**	**2.30**	**37**	P		**Pb**	**18 21 18.4**	**-0.9**
KRND	**KRANIDI**	**2.35**	**69**	*e*PN		**Pn**	**18 21 17.3**	**+1.3**
KRND	**KRANIDI**	**2.35**	**69**	*e*Pn		**Pn**	**18 21 17.3**	**+1.3**
ACOR	**Acrocorinthos**	**2.38**	**55**	P		**Pn**	**18 21 18.0**	**+1.6**
ANKY	**Antikythira Is**	**2.44**	**105**	P		**Pn**	**18 21 17.6**	**+0.3**
ANKY	**Antikythira Is**	**2.44**	**105**	P		**Pn**	**18 21 17.6**	**+0.3**
DID	**Didima**	**2.46**	**66**	*e*PN		**Pn**	**18 21 18.7**	**+1.2**
DID	**Didima**	**2.46**	**66**	*e*Pn		**Pn**	**18 21 18.7**	**+1.2**
DID	**Didima**	**2.46**	**66**	P		**Pb**	**18 21 19.7**	**-2.3**
DID	**Didima**	**2.46**	**66**	P		**Pb**	**18 21 19.7**	**-2.3**
DSF	**Desfina**	**2.51**	**42**	*e*PN		**Pb**	**18 21 20.4**	**-2.5**
DSF	**Desfina**	**2.51**	**42**	*e*Pn		**Pb**	**18 21 20.4**	**-2.5**
DSF	**Desfina**	**2.51**	**42**	P		**Pb**	**18 21 20.5**	**-2.5**
LTK	**Loutraki**	**2.52**	**54**	*e*PN		**Pn**	**18 21 20.0**	**+1.7**
LTK	**Loutraki**	**2.52**	**54**	*e*Pn		**Pn**	**18 21 20.0**	**+1.7**
DSL	**Palaion Diasel**	**2.63**	**12**	*e*PB		**Pb**	**18 21 22.5**	**-2.5**
DSL	**Palaion Diasel**	**2.63**	**12**	*e*Pb		**Pb**	**18 21 22.5**	**-2.5**
DSL	**Palaion Diasel**	**2.63**	**12**	P		**Pb**	**18 21 22.9**	**-2.1**
DSL	**Palaion Diasel**	**2.63**	**12**	P		**Pb**	**18 21 22.9**	**-2.1**
TIP	**Timpagrande**	**3.89**	**313**	P		Pn	18 21 40.8	+3.5
TIP	**Timpagrande**	**3.89**	**313**	P		Pn	18 21 40.8	+3.5

NEIC 19 18:30:48.7,52.74N×169.28W,h5km,ML2.6(AEIC),After AEIC.,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.35**	**48**	P		Pg	18 30 55.9	+0.5
NIKH				S		Sb	18 31 03.6	+0.5
OKAK	**Okmok**	**1.00**	**33**	P		Pg	18 31 05.7	-2.2
OKAK				S		Sg	18 31 19.3	-1.8
MSOM	**Makushin Julie**	**1.76**	**51**	P		Pn	18 31 19.5	-0.4
MSOM				S		Sn	18 31 42.2	-0.4
MTBL	**Makushin Table**	**1.98**	**51**	P		Pn	18 31 23.3	+0.3
UNV	**Unalaska Valle**	**2.00**	**55**	P		Pn	18 31 22.3	-0.8
UNV				S		Sb	18 31 50.6	0.0
ATKA	**Atka Island**	**3.06**	**262**	P		Pn	18 31 37.9	+0.3

IDC 19 18:30:59.3±66.0,16.02S×173.69W,h0km,mb3.7/3, mb1 3.8/3,mb1mx3.5/29,mbtmp3.7/3,Error ellipse: s-maj=1259.0km s-min=189.9km az=79.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.49**	**240**	P		P	18 39 04.8	+0.2
	1.8nm,0.9s,baz=90,slow=8.1,SNR=1.7							
WRA	**Warramunga Arr**	**49.43**	**257**	P		P	18 39 50.9	-0.6
	0.3nm,0.7s,baz=95,slow=7.1,SNR=1.4							
ASAR	**Alice Springs**	**49.66**	**252**	P		P	18 39 53.1	-0.1
	0.7nm,0.5s,baz=86,slow=7.8,SNR=26							

FUNV 19 18:33:15.3,9.81N×73.98W,h17km,MW3.6,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
VIRV	**Villa del Rosa**	**1.70**	**66**	*e*P		Pn	18 33 43.2	-1.0
VIRV				*e*S		Sn	18 34 04.6	-1.0
CAPV	**Capacho**	**2.53**	**139**	*e*P		Pn	18 33 55.3	-0.7
CAPV				*e*S		Sn	18 34 24.7	-2.1
VIGV	**El Vigia**	**2.75**	**110**	*e*P		Pn	18 33 57.7	-1.1
VIGV				*e*S		Sn	18 34 30.0	-1.8
QARV	**Quebrada Arrib**	**3.42**	**83**	*e*P		Pn	18 34 07.3	-0.8
QARV				*e*S		Sn	18 34 45.1	-3.4
SOCV	**Socops**	**3.43**	**116**	*e*P		Pn	18 34 06.5	-1.7
SOCV				*e*S		Sn	18 34 45.7	-2.9
CURV	**Curarigua**	**3.96**	**87**	*e*P		Pn	18 34 14.3	-1.2
MONV	**Montecano**	**4.48**	**61**	*e*P		Pn	18 34 22.0	-0.5
MAPV	**Macapo**	**5.44**	**89**	*e*P		Pn	18 34 34.5	-1.3
BAUV	**El Baul**	**5.92**	**98**	*e*P		Pn	18 34 40.1	-2.2

NEIC 19 18:33:51.9,61.60N×149.81W,h28km,ML2.7(AEIC), After AEIC.,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PMR	**Palmer**	**0.33**	**91**	*e*P		Pb	18 33 59.1	-0.4
PMR	**Palmer**	**0.33**	**91**	P		Pb	18 33 59.4	-0.1
PMR				S		Sn	18 34 06.2	-0.3
SUA	**Susitna One**	**0.47**	**253**	P		Pb	18 34 01.2	-0.6
FIB	**Fire Island**	**0.47**	**202**	P		Pb	18 34 01.7	0.0
RC01	**Rabbit Creek A**	**0.52**	**176**	P		Pb	18 34 01.0	-1.4
RC01				S		Sn	18 34 10.6	-0.7
VOGL	**Vogel Lake**	**0.68**	**206**	P		Pb	18 34 05.0	-0.1
SML	**Sawmill**	**0.73**	**73**	P		Pb	18 34 04.5	-1.7
SML				S		Sb	18 34 15.4	-0.6
CUT	**Chulitna**	**0.83**	**345**	P		Pn	18 34 06.1	-1.7
SKT	**Skwentna**	**0.90**	**296**	P		Pn	18 34 06.6	-2.1
SKT				S		Sb	18 34 19.2	-1.3
STLK	**Strandline Lak**	**0.97**	**265**	P		Pn	18 34 08.1	-1.6
SPCG	**Spurr Capps Gl**	**1.10**	**255**	P		Pn	18 34 10.3	-1.3
SPCG				S		Sn	18 34 25.2	-0.9
SLKM	**Skilak Lake**	**1.12**	**190**	P		Pn	18 34 10.2	-1.5
CKN	**Chakachatna No**	**1.20**	**253**	P		Pn	18 34 12.1	-0.7
SCM	**Sheep Creek Mo**	**1.21**	**78**	P		Pn	18 34 11.8	-1.2
SPBG	**Spurr Blockage**	**1.28**	**256**	P		Pn	18 34 12.8	-1.1
CKL	**Chakachamna La**	**1.28**	**253**	P		Pn	18 34 12.6	-1.4
BGL	**Barrier Glacie**	**1.28**	**256**	P		Pn	18 34 12.8	-1.3
GLI	**Glacier Island**	**1.50**	**118**	P		Pn	18 34 15.5	-1.4
JPK	**Jack Peak**	**1.65**	**108**	P		Pn	18 34 18.1	-0.9
PPLA	**Purkeypile**	**1.71**	**321**	*e*P		Pn	18 34 18.6	-1.4
DFR	**Drift River**	**1.72**	**235**	P		Pn	18 34 18.9	-1.2
VLZ	**Valdez**	**1.74**	**104**	P		Pn	18 34 18.9	-1.3
RSO	**Redoubt South**	**1.83**	**233**	*e*P		Pn	18 34 22.1	+0.4
NCT	**North Crescent**	**1.84**	**237**	P		Pn	18 34 20.9	-0.8
RND	**Reindeer**	**1.86**	**13**	P		Pn	18 34 21.4	-0.7
KLU	**Klutina**	**1.87**	**7**	P		Pn	18 34 20.7	-1.4
TRF	**Thorofare Moun**	**1.87**	**353**	P		Pn	18 34 21.4	-0.8
BRLK	**Bradley Lake**	**1.92**	**196**	P		Pn	18 34 23.0	+0.3
DIV	**Divide**	**2.00**	**102**	P		Pn	18 34 22.4	-1.6
CAST	**Castle Rocks**	**2.11**	**331**	P		Pn	18 34 24.5	-0.8
MCK	**McKinley**	**2.18**	**10**	P		Pn	18 34 25.3	-1.0
CNPM	**China Poot**	**2.20**	**199**	P		Pn	18 34 25.2	-1.3
EYAK	**Cordova Ski Ar**	**2.24**	**116**	P		Pn	18 34 25.5	-1.6
HARP	**HAARP**	**2.34**	**68**	P		Pn	18 34 28.2	-0.3
PAX	**Paxson**	**2.45**	**54**	*e*P		Pn	18 34 28.6	-1.5
PAX	**Paxson**	**2.45**	**54**	P		Pn	18 34 29.4	-0.7
SGAM	**Sherman Glacie**	**2.50**	**114**	P		Pn	18 34 29.9	-0.8
BPAW	**Bear Paw Mtn.**	**2.56**	**348**	P		Pn	18 34 30.2	-1.4
BMRM	**Bremner River**	**2.59**	**102**	*e*P		Pn	18 34 30.4	-1.6
WASW	**Wrangell South**	**2.70**	**81**	P		Pn	18 34 32.9	-0.9
RAGM	**Ragged Mountai**	**2.79**	**114**	P		Pn	18 34 34.2	-0.4
WRH	**Wood River Hil**	**2.99**	**14**	P		Pn	18 34 36.4	-1.0
MENT	**Mentasta**	**3.15**	**62**	*e*P		Pn	18 34 40.9	+1.3
TT01	**Tatalina**	**3.18**	**297**	P		Pn	18 34 38.6	-1.4
CCB	**Clear Creek Bu**	**3.19**	**16**	P		Pn	18 34 39.2	-0.9
ILB	**Eielson Array**	**3.45**	**21**	P		Pn	18 34 42.4	-1.3
TGL	**Tana Glacier**	**3.49**	**101**	P		Pn	18 34 43.8	-0.6
GRNC	**Granite Creek**	**4.00**	**99**	P		Pn	18 34 50.3	-1.3
IM04	**Indian Mountai**	**4.73**	**340**	*e*Pn		Pn	18 35 00.4	-0.9
IM3	**Indian Mountai**	**4.73**	**340**	P		Pn	18 35 00.8	-0.5
EGAK	**Eagle**	**5.05**	**47**	*e*Pn		Pn	18 35 07.1	+1.5
	3.8nm,0.6s							

IDC 19 18:36:37.6±2.6,6.23S×150.78E,h0km,mb3.7/3, mb1 4.0/4,mb1mx3.4/33,mbtmp3.8/4,ML1.8/1,Error ellipse: s-maj=74.1km s-min=40.6km az=117.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PMG	**Port Moresby**	**4.78**	**228**	Pn		Pn	18 37 51.8	+0.9
	3.1nm,0.3s,baz=31,slow=11,SNR=13							
PMG				Sn		Sn	18 38 42.4	-4.6
	6.4nm,0.3s,baz=234,slow=11,SNR=9.4							
WRA	**Warramunga Arr**	**21.00**	**228**	P		P	18 41 22.6	-0.2
	3.9nm,0.7s,baz=53,slow=1,SNR=25							
ASAR	**Alice Springs**	**23.75**	**221**	P		P	18 41 51.3	-0.5
	1.1nm,0.9s,baz=58,slow=8.8,SNR=19							
STKA	**Stephens Creek**	**26.92**	**197**	P		P	18 42 20.4	-0.2
	1.3nm,0.7s,baz=15,slow=11,SNR=4.1							
TORD	**Torodi Ar. Bea**	**148.78**	**285**	PKPbc		PKPbc	18 56 28.1	-0.1
	0.7nm,0.6s,baz=60,slow=3.0,SNR=6.2							

IDC 19 18:39:26.5±3.0,8.02S×155.93E,h0km,mb3.7/4, mb1 3.8/4,mb1mx3.5/18,mbtmp3.7/4,MS3.5/1,Ms1 3.5/1, ms1mx2.7/37,Error ellipse: s-maj=104.2km s-min=33.4km az=104.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.04**	**238**	P		P	18 44 42.8	-0.7
	1.6nm,1.1s,baz=64,slow=9.3,SNR=4.6							
STKA	**Stephens Creek**	**27.23**	**207**	P		P	18 45 13.3	+0.9
	1.4nm,0.8s,baz=27,slow=15,SNR=2.9							
JCJ	**Chichijima**	**37.37**	**340**	LR		LR	19 00 31.2	
	comp=Z,70nm,20.0s,baz=196,slow=34							
SONM	**Songino Array**	**70.70**	**327**	P		P	18 50 45.2	+0.8
	0.8nm,1.0s,baz=113,slow=3.4,SNR=4.3							
MKAR	**Makanchi Array**	**84.78**	**319**	P		P	18 52 02.9	0.0
	0.2nm,0.5s,baz=121,slow=3.4,SNR=3.6							
BRTR	**Keskin Array B**	**119.75**	**311**	PKP		PKPdf	18 58 17.7	-1.6
	0.3nm,0.4s,baz=48,slow=2.1,SNR=2.5							

BJI ***19*** *18:41:06.5,6.50S×150.60E,h10km,mb4.7/5,mB5.0/5, Ms4.4/2,Ms7 4.0/1*
IDC ***19*** *18:41:07.8±0.5,6.55S×150.54E,h0km,mb4.4/22, mb1 4.6/24,mb1mx4.5/35,mbtmp4.4/24,ML2.9/2,MS3.6/7, Ms1 3.6/7,ms1mx3.3/40,Error ellipse: s-maj=18.5km s-min=12.3km az=101.0*
ISCJB ***19*** *18:41:11.7±0.3,6.60S±0.04×150.52E±0.04,h33km, mb4.6/39,MS3.6/6,Error ellipse: s-maj=6.4km s-min=5.0km az=20.9*
NEIC ***19*** *18:41:13.7±0.4,6.54S×150.35E,h35km,mb4.7/10,Error ellipse: s-maj=14.2km s-min=7.7km az=107.0*
DJA ***19*** *18:41:17.3±0.7,7.3S×4.4×15.0E±°,h58km±7km,M5.3/36, mb4.9/36,mB5.4/6,MLv5.8/1,Mw(mB)4.8/6*

ISC 19 18:41:13.4±0.5,6.61S±0.06×150.57E±0.07,h33km,n89, σ1§33/90,mb4.7/38,MS3.6/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
RABL	**Rabaul**	**2.87**	**34**	P		**Pn**	**18 41 57.7**	**+0.8**
	baz=2.9,SNR=16							
PMG	**Port Moresby**	**4.38**	**230**	Pn		**Pn**	**18 42 17.1**	**-0.6**
	11nm,0.3s,baz=21,slow=6.0,SNR=30							
PMG				Sn		**Sn**	**18 43 07.3**	**-0.2**
	43nm,0.3s,baz=342,slow=16,SNR=20							
PMG				LR		LR	18 43 42.1	
	comp=Z,338nm,19.1s,baz=63,slow=35							
PMG	**Port Moresby**	**4.38**	**230**	P		**Pn**	**18 42 18.7**	**+1.1**
	baz=4.4,SNR=42							
PMG				P		**Pn**	**18 42 18.7**	**+1.1**
	baz=4.4,SNR=42							
PMG				P		**Pn**	**18 42 18.7**	**+1.1**
	baz=4.4,SNR=42							
MANU	**Manus Island**	**5.55**	**325**	P		Pn	18 42 38.9	+5.1
	baz=5.7,SNR=4.7							
GENI	**Genyem**	**11.11**	**291**	P		**Pn**	**18 43 50.7**	**+0.6**
	30nm,1.0s,2μm							
SMPI	**Sarmi**	**12.68**	**291**	P		**Pn**	**18 44 12.0**	**+0.4**
	54nm,1.4s,2μm							
MTSU	**Mount Surprise**	**12.98**	**207**	P		**Pn**	**18 44 16.1**	**+0.4**
	baz=13,SNR=3.8							
CTA	**Charters Tower**	**14.04**	**197**	Pn		**Pn**	**18 44 27.9**	**-2.3**
	0.2nm,0.3s,baz=29,slow=15,SNR=3.2							
CTAO	**Charters Tower**	**14.04**	**197**	*e*P		**Pn**	**18 44 27.9**	**-2.3**
SRPI	**Serui, Papua**	**15.04**	**288**	P		**Pn**	**18 44 44.1**	**+0.3**
	74nm,0.5s,2μm							
BAKI	**Biak**	**15.40**	**290**	P		**Pn**	**18 44 48.7**	**+0.3**
	145nm,1.4s							
QIS	**Mount Isa**	**17.48**	**216**	P		**Pn**	**18 45 14.2**	**-0.6**
	baz=18,SNR=9.7							
FAKI	**Fak Fak**	**18.62**	**280**	P		**P**	**18 45 27.7**	**-0.7**
	23nm,1.1s							
EIDS	**Eidsvold**	**18.66**	**179**	P		**P**	**18 45 29.4**	**+0.6**
	baz=19,SNR=4.6							
EIDS	**Eidsvold**	**18.66**	**179**	*e*P		**P**	**18 45 29.1**	**+0.4**
	61nm,1.1s							
KDU	**Kakadu**	**18.83**	**250**	P		**Pn**	**18 45 31.2**	**-0.1**
	baz=19,SNR=6.9							
SAUI	**Saumlaki**	**19.17**	**265**	P		**Pn**	**18 45 34.7**	**-0.7**
	403nm,1.0s							
RMQ	**Roma**	**19.85**	**185**	P		**P**	**18 45 42.8**	**+1.1**
	baz=20,SNR=32							
SIJI	**Sorong**	**20.08**	**286**	P		**P**	**18 45 43.5**	**-0.8**
	7.8nm,0.8s,baz=77,slow=14,SNR=6.3							
SIJI				LR		LR	18 54 47.5	
	comp=Z,208nm,18.5s,baz=105,slow=41							
SWI	**Sorong**	**20.09**	**286**	P		**P**	**18 45 44.2**	**-0.3**
	20nm,1.2s							
MTN	**Manton Dam**	**20.13**	**251**	P		**P**	**18 45 45.4**	**+0.5**
	baz=20,SNR=16							
WRAB	**Tennant Creek**	**20.58**	**228**	*e*P		**P**	**18 45 49.2**	**-0.6**
	52nm,0.8s							
WRA	**Warramunga Arr**	**20.60**	**228**	P		**P**	**18 45 48.9**	**-1.0**
	33nm,0.9s,baz=53,slow=11,SNR=34							
WRA				ScP		**ScP**	**18 53 38.3**	**+3.8**
	0.8nm,0.9s,baz=41,slow=1.8,SNR=3.8							
BNDI	**Bandanaira**	**20.67**	**275**	P		**P**	**18 45 50.8**	**0.0**
	556nm,0.9s							
QLP	**Quilpie**	**20.76**	**196**	P		**P**	**18 45 51.6**	**0.0**
	baz=21,SNR=21							
DZM	**Mont Dzumac**	**21.71**	**137**	P		**P**	**18 46 00.0**	**-1.9**
	5.6nm,0.8s,baz=270,slow=20,SNR=3.1							
DZM				LR		LR	18 53 06.9	
	comp=Z,249nm,19.8s,baz=0.0,slow=33							
KNRA	**Kununurra**	**23.20**	**245**	P		**P**	**18 46 17.4**	**-0.2**
	baz=23,SNR=11							
ASAR	**Alice Springs**	**23.33**	**222**	P		**P**	**18 46 17.5**	**-1.5**
	19nm,0.8s,baz=58,slow=8.5,SNR=55							
ASAR				ScP		**ScP**	**18 53 46.3**	**+4.8**
	0.4nm,1.0s,baz=26,slow=2.8,SNR=3.0							
NLAI	**Namlea**	**23.62**	**277**	P		**P**	**18 46 22.0**	**+0.2**
	40nm,1.0s,893nm							
ARMA	**Armidale**	**23.71**	**178**	P		**P**	**18 46 23.0**	**+0.4**
	baz=24,SNR=5.8							
ARMA	**Armidale**	**23.71**	**178**	*e*P		**P**	**18 46 22.5**	**-0.2**
	33nm,1.1s							
LBMI	**Labuha**	**23.77**	**284**	P		**P**	**18 46 23.3**	**+0.1**
	43nm,1.8s							
CMSA	**Cobar Meteorol**	**25.22**	**190**	P		**P**	**18 46 36.8**	**+0.5**
	baz=25,SNR=13							
SOEI	**Soe**	**26.22**	**261**	P		**P**	**18 46 45.6**	**-0.1**
	76nm,1.4s							
STKA	**Stephens Creek**	**26.50**	**197**	P		**P**	**18 46 47.0**	**-0.9**
	13nm,0.8s,baz=5.3,slow=9.8,SNR=24							
STKA				LR		LR	18 56 56.6	
	comp=Z,132nm,20.1s,baz=23,slow=36							
STKA	**Stephens Creek**	**26.50**	**197**	P		**P**	**18 46 47.4**	**-0.6**
	baz=27,SNR=16							
STKA	**Stephens Creek**	**26.50**	**197**	*e*P		**P**	**18 46 46.3**	**-1.7**
	2.5nm,0.8s							
BATI	**Baumata**	**26.85**	**260**	P		**P**	**18 46 51.3**	**-0.1**
	37nm,1.2s							
BATI	**Baumata**	**26.85**	**260**	P		**P**	**18 46 50.2**	**-1.1**
	19nm,0.8s,baz=84,slow=4.3,SNR=6.1							
SGSI	**Sangihe**	**27.01**	**292**	P		**P**	**18 46 52.3**	**-0.4**
	591nm,0.9s							
KMSI	**Cibinong**	**27.48**	**284**	P		**P**	**18 46 57.2**	**+0.3**
	57nm,1.2s							
WRKA	**Warakurna**	**28.11**	**227**	P		**P**	**18 47 02.3**	**-0.2**
	baz=28,SNR=13							
MMRI	**Maumere**	**28.15**	**264**	P		**P**	**18 47 02.7**	**-0.3**
	72nm,1.2s							
HTT	**Hallett**	**28.80**	**201**	P		**P**	**18 47 08.9**	**+0.3**

comp=Z,0.9nm,0.6s,baz=48,slow=2.0,SNR=9.6
TOA0 Torodi Ar. Sit 148.68 284 *e*PKPbc **PKPbc 19 00 58.3 -0.1**
TORD Torodi Ar. Bea 148.68 284 PKPbc **PKPbc 19 00 58.3 0.0**
comp=Z,9.6nm,0.9s,baz=70,slow=2.2,SNR=47

*IDC **19** 18:51:10.7±0.9, 52°.91N × 170°.04W, h0km, mb3.8/9, mb1 4.0/11, mb1mx3.7/54, mbtmp3.7/11, ML3.3/2, MS3.1/1, Ms1 3.2/1, ms1mx2.5/59, Error ellipse: s-maj=28.1km s-min=17.0km az=162.0*
*ISCJB **19** 18:51:11.7±0.8, 52°.8N±0°.1 × 169°.8W±0°.1, h10km, mb3.7/9, Error ellipse: s-maj=21.6km s-min=6.8km az=148.0*
*NEIC **19** 18:51:15.8, 52°.71N × 169°.27W, h5km, ML3.7(AEIC), After AEIC.*

ISC 19 18:51:15.0±0.9, 52°.9N±0°.1 × 169°.46W±0°.08, h10km, n35, σ1§46/27, mb3.8/9, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.38**	**74**	P	**Pg**	**18 51 23.4**	**+0.8**
NIKH				S	**Sb**	**18 51 30.9**	**+1.0**
OKWR	**Okmok West Rim**	**0.95**	**53**	P	**Pb**	**18 51 35.0**	**+1.5**
OKCE	**Okmok Cone E**	**0.96**	**54**	P	**Pb**	**18 51 34.9**	**+1.2**
OKAK	**Okmok**	**0.97**	**43**	P	**Pg**	**18 51 33.1**	**-0.6**
OKAK				S	**Sg**	**18 51 46.3**	**-0.1**
OKTU	**Okmok Mt. Tuli**	**1.00**	**58**	P	**Pb**	**18 51 35.4**	**+1.0**
MSOM	**Makushin Julie**	**1.78**	**57**	P	**Pn**	**18 51 47.1**	**+1.3**
MSOM				S	**Sb**	**18 52 11.9**	**+1.8**
MCIR	**Makushin Cirqu**	**1.88**	**54**	P	**Pn**	**18 51 48.5**	**+1.2**
MSW	**Makushin Switc**	**1.92**	**56**	P	**Pn**	**18 51 48.9**	**+1.2**
MTBL	**Makushin Table**	**2.00**	**55**	P	**Pn**	**18 51 49.9**	**+1.0**
UNV	**Unalaska Valle**	**2.03**	**60**	P	**Pn**	**18 51 49.2**	**+0.1**
UNV				S	**Sb**	**18 52 18.2**	**+1.1**
ZRO	**Akutan Zero**	**2.42**	**58**	P	**Pn**	**18 51 55.8**	**+1.2**
AKUT	**Akutan**	**2.54**	**59**	*e*Pn	**Pn**	**18 51 57.0**	**+0.8**
ATKA	**Atka Island**	**2.97**	**259**	P	**Pn**	**18 52 04.5**	**+2.4**
BPAW	**Bear Paw Mtn.** 1.2nm,0.7s	**14.76**	**33**	*e*P	**P**	**18 54 49.6**	**0.0**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=221,slow=11,SNR=2.3	**16.57**	**35**	Pn	**Pn**	**18 55 05.0**	**-2.2**
ILAR				LR	LR	19 01 07.8	
	comp=Z,61nm,20.3s,baz=226,slow=36						
PETK	**Petropavlovsk-** 0.4nm,0.3s,baz=80,slow=10,SNR=3.9	**19.68**	**284**	P	P	18 55 36.7	-7.3
H02N1	**VAN INLET T-PH**	**22.04**	**74**	T	T	19 19 01.2	
H02S1	**DAWSON INLET T** SNR=5.1	**22.09**	**74**	T	T	19 19 10.9	
SEY	**Seymchan** 0.7nm,0.6s,baz=96,slow=10,SNR=2.6	**22.29**	**312**	P	P	18 56 04.3	-7.7
DLBC	**Dease Lake** 8.2nm,1.0s,baz=268,slow=10,SNR=9.2	**22.68**	**60**	P	**P**	**18 56 16.6**	**+0.3**
DLBC	**Dease Lake**	**22.68**	**60**	*e*P	**P**	**18 56 18.9**	**+2.6**
INK	**Inuvik** 2.3nm,0.7s,baz=226,slow=7.2,SNR=3.1	**22.96**	**34**	P	**P**	**18 56 17.6**	**-1.5**
YKA	**Yellowknife Ar** 0.4nm,0.6s,baz=275,slow=8.6,SNR=4.8	**29.96**	**49**	P	**P**	**18 57 23.2**	**+0.2**
NVAR	**Mina Array Bea** 0.2nm,0.3s,baz=300,slow=7.2,SNR=4.0	**37.73**	**92**	P	**P**	**18 58 29.9**	**-1.1**
H11N2	**WAKE ISLAND Hy** baz=21	**37.81**	**218**	T	T	19 38 33.7	
H11N3	**WAKE ISLAND Hy** baz=21	**37.82**	**218**	T	T	19 38 30.5	
H11N1	**WAKE ISLAND Hy** baz=21	**37.83**	**218**	T	T	19 38 37.4	
H11S1	**WAKE ISLAND Hy** baz=23	**39.00**	**218**	T	T	19 39 57.6	
H11S2	**WAKE ISLAND Hy** baz=23	**39.02**	**218**	T	T	19 39 58.7	
H11S3	**WAKE ISLAND Hy** baz=23	**39.02**	**218**	T	T	19 39 58.8	
PDAR	**Pinedale Array** 0.9nm,0.7s,baz=324,slow=9.0,SNR=6.1	**40.37**	**80**	P	**P**	**18 58 51.6**	**-1.4**
TXAR	**Lajitas Array** 1.4nm,0.8s,baz=296,slow=5.5,SNR=8.1	**52.80**	**89**	P	**P**	**19 00 30.0**	**-0.4**
WRA	**Warramunga Arr** 1.1nm,1.0s,baz=35,slow=6.4,SNR=3.8	**87.27**	**232**	P	P	19 03 58.3	-3.3
ASAR	**Alice Springs** 1.1nm,0.9s,baz=30,slow=4.9,SNR=6.3	**90.67**	**230**	P	P	19 04 15.1	-2.5
QSPA	**South Pole Qui** 1.0nm,0.8s,baz=77,slow=2.8,SNR=5.0	**142.63**	**180**	PKP	**PKPdf**	**19 10 43.7**	**-3.1**

*CSEM **19** 18:51:35.2±0.8, 51°.54N × 16°.05E, h1km, ML2.4/4, Error ellipse: s-maj=11.8km s-min=5.0km az=2.0*
PRU 19 18:51:36.2, 51°.52N × 16°.10E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPC	**Upice**	**1.02**	**183**	*e*PG	Pg	18 51 55.1	-0.6
UPC				*e*SG	Sg	18 52 08.4	-0.5
	comp=Z,3.3nm,0.2s						
UPC	**Upice**	**1.02**	**183**	Pg	Pg	18 51 55.1	-0.6
UPC				Sg	Sg	18 52 08.4	-0.5
	3.3nm,0.2s						
DPC	**Dobruska-Polom**	**1.18**	**173**	*e*PG	Pg	18 51 58.0	-0.9
DPC				*e*SG	Sg	18 52 13.4	-0.9
	comp=Z,1.2nm,0.2s						
DPC	**Dobruska-Polom**	**1.18**	**173**	Pg	Pg	18 51 58.0	-0.9
DPC				Sg	Sg	18 52 13.4	-0.9
	1.2nm,0.2s						
PVCC	**Panska Ves**	**1.39**	**225**	*e*PG	Pg	18 52 02.0	-0.8
PVCC				*e*SG	Sg	18 52 20.6	-0.2
	comp=Z,8.5nm,0.2s						
PVCC	**Panska Ves**	**1.39**	**225**	Pg	Pg	18 52 02.0	-0.8
PVCC				Sg	Sg	18 52 20.6	-0.2
	8.5nm,0.2s						
BRG	**Berggiesshubel** 2.6nm,0.6s	**1.50**	**245**	SG	Sg	18 52 23.7	-0.9
KRLC	**Kraliky**	**1.51**	**163**	*e*PG	Pn	18 52 03.9	-0.7
KRLC				*e*SG	Sg	18 52 24.0	-0.9
KRLC	**Kraliky**	**1.51**	**163**	Pg	Pn	18 52 03.9	-0.7
KRLC				Sg	Sg	18 52 24.0	-0.9
GOPC	**GO Pecny, Ondr**	**1.81**	**208**	*e*SG	Sb	18 52 33.9	+0.3
GOPC	**GO Pecny, Ondr**	**1.81**	**208**	Sg	Sb	18 52 33.9	+0.3
PRU	**Pruhonice**	**1.82**	**213**	*e*PG	Pb	18 52 09.7	-0.8
PRU				*e*SG	Sb	18 52 34.3	+0.4
	comp=Z,2.0nm,0.4s						
PRU	**Pruhonice**	**1.82**	**213**	Pg	Pb	18 52 09.7	-0.8
PRU				Sg	Sb	18 52 34.3	+0.4
	2.0nm,0.4s						

*ISCJB **19** 18:52:40.3±0.4, 50°.24N±0°.03 × 18°.66E±0°.02, h0km, Error ellipse: s-maj=4.4km s-min=2.2km az=8.1*
*CSEM **19** 18:52:40.8±0.2, 50°.25N × 18°.70E, h2km, ML2.6/10, Error ellipse: s-maj=5.5km s-min=2.6km az=13.0*
*IPEC **19** 18:52:41.6±0.2, 50°.24N × 18°.75E, h0km, 2km, ML1.6/3, Error ellipse: s-maj=2.2km s-min=1.1km az=166.0*
*PRU **19** 18:52:41.5, 50°.23N × 18°.71E, h0km*
ISC 19 18:52:41.8±0.8, 50°.21N±0°.03 × 18°.71E±0°.02, h0km, n37, σ0§84/63, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.20**	**66**	*e*Pg	**Pg**	**18 52 45.6**	**-0.1**
CHZP				*e*Sg	**Sg**	**18 52 48.4**	**+0.1**
OKC	**Ostrava-Krasne**	**0.52**	**224**	*e*PG	**Pg**	**18 52 51.7**	**0.0**
OKC				*e*SG	**Sg**	**18 52 59.0**	**+0.6**
	comp=Z,8.5nm,0.3s						
OKC	**Ostrava-Krasne**	**0.52**	**224**	Pg	**Pg**	**18 52 51.7**	**0.0**
OKC				Sg	**Sg**	**18 52 59.0**	**+0.6**
	8.5nm,0.3s						
OJC	**Ojcow**	**0.70**	**89**	*e*Pg	**Pg**	**18 52 54.7**	**-0.6**
OJC				*e*Sg	**Sg**	**18 53 04.3**	**0.0**
OJC	**Ojcow**	**0.70**	**89**	*e*Pg	**Pg**	**18 52 54.7**	**-0.6**
OJC	**Ojcow**	**0.70**	**89**	*e*Sg	**Sg**	**18 53 04.3**	**0.0**
MORC	**Moravsky Berou**	**0.87**	**240**	*e*Pg	**Pg**	**18 52 58.8**	**+0.4**
MORC				*e*Sg	**Sg**	**18 53 10.0**	**+0.4**
	8.5nm,0.2s,baz=59						
LANS	**Liptovska Anna**	**1.17**	**155**	*e*Sg	**Sb**	**18 53 21.0**	**+0.4**
LANS	**Liptovska Anna**	**1.17**	**155**	*e*SG	**Sb**	**18 53 21.0**	**+0.4**
KRLC	**Kraliky**	**1.25**	**265**	*e*PG	**Pg**	**18 53 04.6**	**-1.1**
KRLC				*e*SG	**Sg**	**18 53 21.7**	**-0.1**
KRLC	**Kraliky**	**1.25**	**265**	Pg	**Pg**	**18 53 04.6**	**-1.1**
KRLC				Sg	**Sg**	**18 53 21.7**	**-0.1**
NIE	**Niedzica**	**1.30**	**127**	*i* Pg	**Pg**	**18 53 06.6**	**-0.1**
NIE				*i* Sg	**Sn**	**18 53 25.6**	**+0.2**
NIE	**Niedzica**	**1.30**	**127**	*i* Pg	**Pg**	**18 53 06.6**	**-0.1**
NIE	**Niedzica**	**1.30**	**127**	*i* Sg	**Sn**	**18 53 25.6**	**+0.2**
DPC	**Dobruska-Polom**	**1.54**	**276**	*e*PG	**Pn**	**18 53 09.8**	**-0.7**
DPC				*e*SG	**Sg**	**18 53 31.1**	**0.0**
	comp=Z,14nm,0.4s						
DPC	**Dobruska-Polom**	**1.54**	**276**	Pg	**Pn**	**18 53 09.8**	**-0.7**
DPC				Sg	**Sg**	**18 53 31.1**	**0.0**
	14nm,0.4s						
VRAC	**Vranov**	**1.64**	**237**	*e*Pn	**Pn**	**18 53 12.1**	**+0.2**
VRAC	baz=55			*e*Sg	**Sb**	**18 53 34.2**	**+0.1**
	6.8nm,0.3s,baz=55						
KSP	**Ksiaz**	**1.67**	**293**	*e*Pg	**Pg**	**18 53 13.2**	**-0.5**
KSP				*e*Sg	**Sg**	**18 53 35.4**	**+0.1**
KSP	**Ksiaz**	**1.67**	**293**	*e*Pg	**Pg**	**18 53 13.2**	**-0.5**
KSP				*e*Sg	**Sg**	**18 53 35.4**	**+0.1**
VYHS	**Vyhne**	**1.72**	**177**	*e*Pn	**Pn**	**18 53 12.4**	**-0.6**
VYHS				*e*Sn	**Sn**	**18 53 35.9**	**+0.2**
VYHS	**Vyhne**	**1.72**	**177**	*e*PN	**Pn**	**18 53 12.4**	**-0.6**
VYHS				*e*SN	**Sn**	**18 53 35.9**	**+0.2**
UPC	**Upice**	**1.75**	**281**	*e*PG	**Pn**	**18 53 13.7**	**+0.3**
UPC				*e*SG	**Sg**	**18 53 37.9**	**-0.1**
	comp=Z,4.1nm,0.2s						
UPC	**Upice**	**1.75**	**281**	Pg	**Pn**	**18 53 13.7**	**+0.3**
UPC				Sg	**Sg**	**18 53 37.9**	**-0.1**
	4.1nm,0.2s						
KRUC	**Moravsky** baz=52	**1.89**	**233**	*e*Pn	**Pn**	**18 53 15.7**	**+0.3**
KRUC				*e*Sg	**Sb**	**18 53 42.0**	**+0.7**
	2.9nm,0.3s,baz=52						
KECS	**Kecovo**	**2.08**	**145**	*e*Pn	**Pn**	**18 53 16.9**	**-1.1**
KECS				*e*Sn	**Sn**	**18 53 42.7**	**-1.9**
KECS	**Kecovo**	**2.08**	**145**	*e*PN	**Pn**	**18 53 16.9**	**-1.1**
KECS				*e*SN	**Sn**	**18 53 42.7**	**-1.9**
TREC	**Trest** comp=Z,4.0nm,0.4s	**2.28**	**248**	*e*SG	**Sg**	**18 53 54.2**	**-0.8**
TREC	**Trest** 4.0nm,0.4s	**2.28**	**248**	Sg	**Sg**	**18 53 54.2**	**-0.8**
GOPC	**GO Pecny, Ondr**	**2.54**	**265**	*e*PG	**Pb**	**18 53 28.7**	**+0.4**
GOPC				*e*SG	**Sb**	**18 54 00.7**	**+0.6**
	comp=Z,3.4nm,0.2s						
GOPC	**GO Pecny, Ondr**	**2.54**	**265**	Pg	**Pb**	**18 53 28.7**	**+0.4**
GOPC				Sg	**Sb**	**18 54 00.7**	**+0.6**
	3.4nm,0.2s						
KOLS	**Kolonicke sedl**	**2.65**	**117**	*e*Pg	**Pn**	**18 53 27.8**	**+2.0**
KOLS				*e*Sn	**Sn**	**18 53 56.7**	**-1.9**
KOLS	**Kolonicke sedl**	**2.65**	**117**	*e*PG	**Pn**	**18 53 27.8**	**+2.0**
KOLS				*e*SN	**Sn**	**18 53 56.7**	**-1.9**
PVCC	**Panska Ves** comp=Z,6.6nm,0.2s	**2.67**	**278**	*e*SG	**Sg**	**18 54 06.5**	**-1.0**
PVCC	**Panska Ves** 6.6nm,0.2s	**2.67**	**278**	Sg	**Sg**	**18 54 06.5**	**-1.0**
PRU	**Pruhonice**	**2.69**	**267**	*e*PG	**Pb**	**18 53 31.7**	**+0.9**
PRU				*e*SG	**Sb**	**18 54 05.3**	**+1.0**
	comp=Z,2.8nm,0.3s						
PRU	**Pruhonice**	**2.69**	**267**	Pg	**Pb**	**18 53 31.7**	**+0.9**
PRU				Sg	**Sb**	**18 54 05.3**	**+1.0**
	2.8nm,0.3s						
BRG	**Berggiesshubel** 2.3nm,0.4s	**3.11**	**284**	SG	**Sg**	**18 54 23.0**	**+1.3**

IDC 19 18:53:57.7±1.9, 17°.88S × 178°.36E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/34, mbtmp3.7/5, MS4.2/1, Ms1 4.2/1, ms1mx3.0/36, Error ellipse: s-maj=150.1km s-min=22.9km az=152.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** comp=Z,50nm,18.4s,baz=154,slow=34	**10.28**	**69**	LR	LR	18 59 42.2	
STKA	**Stephens Creek** 1.4nm,1.0s,baz=47,slow=19,SNR=5.3	**35.96**	**240**	P	P	19 01 01.6	+1.2
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=97,slow=6.1,SNR=12	**41.61**	**260**	P	P	19 01 46.9	-1.0
ASAR	**Alice Springs** 0.8nm,0.6s,baz=93,slow=8.1,SNR=18	**41.84**	**254**	P	P	19 01 49.4	-0.4
BATI	**Baumata** comp=Z,228nm,18.0s,baz=200,slow=37	**53.45**	**270**	LR	LR	19 26 40.9	
NVAR	**Mina Array Bea** 0.1nm,0.4s,baz=228,slow=8.0,SNR=2.6	**81.56**	**45**	P	P	19 06 18.2	+0.5
PDAR	**Pinedale Array** 0.3nm,0.5s,baz=241,slow=9.2,SNR=3.4	**89.47**	**44**	P	P	19 06 56.6	-0.4

*ISCJB **19** 19:06:27.8±0.9, 52°.53N±0°.08 × 169°.3W±0°.2, h10km, mb3.4/3, Error ellipse: s-maj=16.5km s-min=7.1km az=41.4*
*IDC **19** 19:06:27.8±21.0, 52°.47N × 169°.23W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.3/60, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=380.4km s-min=45.7km az=85.0*
*NEIC **19** 19:06:29.7, 52°.70N × 169°.32W, h5km, ML3.2(AEIC), After AEIC.*

ISC 19 19:06:29.4±1.1, 52°.7N±0°.1 × 169°.36W±0°.10, h10km, n21, σ0§92/19, mb3.3/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.40**	**51**	P	**Pg**	**19 06 37.8**	**+0.5**
NIKH				S	**Sb**	**19 06 44.5**	**-0.2**
OKWR	**Okmok West Rim**	**1.00**	**44**	P	**Pb**	**19 06 49.3**	**+0.4**
OKCE	**Okmok Cone E**	**1.01**	**45**	P	**Pb**	**19 06 49.5**	**+0.5**
OKCE				S	**Sn**	**19 07 05.3**	**+1.4**
OKAK	**Okmok**	**1.05**	**35**	P	**Pg**	**19 06 47.8**	**-1.8**
MSOM	**Makushin Julie**	**1.82**	**52**	P	**Pn**	**19 07 00.9**	**+0.2**
MSOM				S	**Sb**	**19 07 26.3**	**+0.8**
MCIR	**Makushin Cirqu**	**1.93**	**49**	P	**Pn**	**19 07 02.7**	**+0.4**
MTBL	**Makushin Table**	**2.04**	**51**	P	**Pn**	**19 07 04.3**	**+0.5**
UNV	**Unalaska Valle**	**2.05**	**56**	P	**Pn**	**19 07 03.9**	**-0.1**
UNV				S	**Sb**	**19 07 32.5**	**+0.2**
ZRO	**Akutan Zero**	**2.45**	**55**	P	**Pn**	**19 07 09.9**	**+0.5**
AKUT	**Akutan**	**2.57**	**55**	*e*P	**Pn**	**19 07 12.8**	**+1.8**
ATKA	**Atka Island**	**3.00**	**262**	P	**Pn**	**19 07 18.0**	**+1.0**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=225,slow=10,SNR=3.7	**16.66**	**35**	Pn	**Pn**	**19 10 22.2**	**-0.5**
NVAR	**Mina Array Bea** 0.3nm,0.6s,baz=305,slow=3.2,SNR=2.6	**37.67**	**91**	P	**P**	**19 13 43.7**	**-1.1**
H11N2	**WAKE ISLAND Hy** baz=28	**37.73**	**218**	T	T	19 53 46.0	
H11N3	**WAKE ISLAND Hy** baz=28	**37.74**	**218**	T	T	19 53 46.5	
H11N1	**WAKE ISLAND Hy** baz=28	**37.75**	**218**	T	T	19 53 47.4	
H11S1	**WAKE ISLAND Hy** baz=21	**38.92**	**218**	T	T	19 55 12.9	
H11S2	**WAKE ISLAND Hy** baz=21	**38.94**	**218**	T	T	19 55 15.0	
H11S3	**WAKE ISLAND Hy** baz=21	**38.94**	**218**	T	T	19 55 13.6	
PDAR	**Pinedale Array** 0.4nm,0.6s,baz=283,slow=4.5,SNR=3.8	**40.33**	**80**	P	**P**	**19 14 07.0**	**-0.2**
TXAR	**Lajitas Array** 0.5nm,0.7s,baz=292,slow=5.1,SNR=8.4	**52.74**	**89**	P	**P**	**19 15 43.7**	**-0.7**

IDC 19 19:06:50.1±33.0, 53°.55S × 139°.16E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/36, mbtmp3.9/3, Error ellipse: s-maj=607.4km s-min=145.4km az=146.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 2.4nm,0.6s,baz=158,slow=13,SNR=7.6	**21.73**	**6**	P	P	19 11 42.4	-0.4
H01W1	**Cape Leeuwin H** baz=142,slow=75,SNR=5.8	**25.65**	**307**	T	T	19 40 06.6	
H01W2	**Cape Leeuwin H** baz=142,slow=75,SNR=6.4	**25.65**	**307**	T	T	19 40 06.9	
H01W3	**Cape Leeuwin H** baz=142,slow=75,SNR=4.3	**25.66**	**307**	T	T	19 40 08.2	
ASAR	**Alice Springs** 1.1nm,0.6s,baz=171,slow=8.8,SNR=19	**30.11**	**350**	P	P	19 13 01.8	+0.4
WRA	**Warramunga Arr** 1.6nm,0.8s,baz=173,slow=8.9,SNR=14	**33.75**	**352**	P	P	19 13 33.1	-0.2

*BJI **19** 19:09:03.5, 53°.56N × 169°.16W, h11km, mb4.5/7, mB4.8/7, Ms4.5/5, Ms7 4.1/5*
*IDC **19** 19:09:05.2±0.4, 52°.85N × 169°.96W, h0km, mb4.4/33, mb1 4.6/35, mb1mx4.5/57, mbtmp4.4/35, ML4.0/2, MS4.2/37, Ms1 4.2/37, ms1mx4.1/57, Error ellipse: s-maj=15.3km s-min=8.5km az=171.0*
*GCMT **19** 19:09:06.6±0.2, 52°.79N × 169°.76W, h12km, MW5.0/103, Moment Tensor Solution. s54,c65; s103,c172; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-4.34±.09; Mθθ3.48±.10; Mϕϕ0.86±.08; Mrθ-1.05±.27; Mθϕ-1.97±.07; Mϕr0.60±.30; Best double couple: M0 4.60000×10^16 NP1: ϕs 119.00000°, δ53.00000°, λ-89.00000°. NP2: ϕs 298.00000°, δ37.00000°, λ-91.00000°. Principal axes: T 4.6980, Plg8.0000°, Azm208.0000°; N -0.1960, Plg0.0000°, Azm298.0000°; P -4.5030, Plg82.0000°, Azm32.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **19** 19:09:06.6, 52°.78N × 169°.70W, h5km, mb4.8/80, ML4.5(AEIC), After AEIC.*
*MOS **19** 19:09:08.9±1.1, 52°.87N × 169°.88W, h33km, mb5.0/22, Error ellipse: s-maj=9.4km s-min=7.4km az=64.4*
*ISCJB **19** 19:09:08.4±0.7, 52°.88N±0°.04 × 169°.86W±0°.03, h28km±4km, mb4.7/113, MS4.2/43, Error ellipse: s-maj=5.9km s-min=2.6km az=172.5*

ISC 19 19:09:08.0±0.7, 52°.81N±0°.07 × 169°.78W±0°.03, h17km±4km, n563, σ1§29/551, mb4.7/113, MS4.2/44, 7C-2D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.58**	**74**	P	**Pg**	**19 09 17.6**	**-2.0**
NIKH				S	**Sg**	**19 09 27.3**	**0.0**
OKWR	**Okmok West Rim**	**1.13**	**56**	P	**Pn**	**19 09 27.8**	**-1.4**
OKAK	**Okmok**	**1.15**	**48**	P	Pn	19 09 25.9	-3.3
OKCE	**Okmok Cone E**	**1.15**	**57**	P	**Pn**	**19 09 27.4**	**-2.0**
OKCE				S	**Sn**	**19 09 44.9**	**+0.2**
OKTU	**Okmok Mt. Tuli**	**1.19**	**61**	P	**Pn**	**19 09 28.2**	**-1.8**
MCIR	**Makushin Cirqu**	**2.07**	**55**	P	**Pn**	**19 09 42.2**	**+0.2**
MCIR				S	**Sn**	**19 10 08.7**	**+1.3**
MSW	**Makushin Switc**	**2.11**	**57**	P	**Pn**	**19 09 42.7**	**+0.3**
MTBL	**Makushin Table**	**2.19**	**57**	P	**Pn**	**19 09 43.8**	**+0.2**
UNV	**Unalaska Valle**	**2.22**	**61**	P	**Pn**	**19 09 43.6**	**-0.4**
UNV				S	**Sn**	**19 10 11.8**	**+0.9**
AKRB	**Akutan Reef Bi**	**2.58**	**58**	P	**Pn**	**19 09 49.4**	**+0.5**
ZRO	**Akutan Zero**	**2.61**	**59**	P	**Pn**	**19 09 50.0**	**+0.7**
AKGG	**Akutan Green G**	**2.65**	**57**	P	**Pn**	**19 09 50.4**	**+0.5**
AKGG				S	**Sn**	**19 10 22.6**	**+0.9**
AKUT	**Akutan**	**2.74**	**59**	P	**Pn**	**19 09 51.6**	**+0.6**
ATKA	**Atka Island**	**2.77**	**259**	P	**Pn**	**19 09 51.6**	**+0.1**
ATKA				S	**Sn**	**19 10 26.5**	**+2.0**
WESP	**Westdahl Peak**	**3.45**	**59**	P	**Pn**	**19 10 01.3**	**+0.4**
WESN	**West Dahl Nort**	**3.55**	**58**	P	**Pn**	**19 10 02.7**	**+0.3**
SSBA	**Shishaldin**	**3.88**	**57**	P	**Pn**	**19 10 07.9**	**+1.0**
SSLW	**Shishaldin Wes**	**3.89**	**57**	P	**Pn**	**19 10 07.5**	**+0.5**
GSTR	**Great Sitkin T**	**3.91**	**262**	*e*Pn	**Pn**	**19 10 07.6**	**+0.4**
GSMY	**Great Sitkin M**	**3.92**	**261**	P	**Pn**	**19 10 08.0**	**+0.6**
GSTD	**Great Sitkin T**	**3.97**	**262**	P	**Pn**	**19 10 08.8**	**+0.7**
GSCK	**Great Sitkin C**	**3.99**	**261**	P	**Pn**	**19 10 09.0**	**+0.6**
ISNN	**Isanotski Nort**	**4.09**	**58**	P	**Pn**	**19 10 11.1**	**+1.4**
ETKA	**Kagalaska Isla**	**4.18**	**259**	P	**Pn**	**19 10 12.4**	**+1.5**
ADAG	**Mount Adagdak**	**4.26**	**261**	P	**Pn**	**19 10 13.6**	**+1.5**
FALS	**False Pass**	**4.29**	**59**	*e*Pn	**Pn**	**19 10 14.9**	**+2.6**
SPIA	**Saint Paul Isl**	**4.38**	**357**	P	**Pn**	**19 10 14.2**	**+0.5**
DT1	**Dutton Round H**	**4.99**	**60**	P	**Pn**	**19 10 22.8**	**+0.8**
SDPT	**Sand Point**	**6.03**	**61**	P	**Pn**	**19 10 38.5**	**+2.1**
VNWF	**Veniaminof 8**	**6.83**	**57**	P	Pn	19 10 51.1	+3.7
VNKR	**Veniaminof 5**	**6.88**	**58**	P	**Pn**	**19 10 50.2**	**+2.2**
AMKA	**Amchitka**	**6.88**	**262**	P	**Pn**	**19 10 50.0**	**+2.0**
LSPA	**Little Sitkin**	**7.18**	**268**	P	**Pn**	**19 10 54.9**	**+2.7**
LSNW	**Little Sitkin**	**7.21**	**268**	P	**Pn**	**19 10 54.4**	**+1.8**
LSSA	**Little Sitkin**	**7.22**	**268**	P	**Pn**	**19 10 55.0**	**+2.3**
CHGN	**Chignik**	**7.47**	**58**	*e*Pn	Pn	19 10 59.7	+3.7
KABR	**Katmai Barrier**	**9.94**	**52**	P	**Pn**	**19 11 31.8**	**+1.7**
OHAK	**Old Harbor** 24nm,0.6s	**10.44**	**58**	*e*Pn	**Pn**	**19 11 35.8**	**-0.9**
KDAK	**Kodiak Island**	**10.98**	**56**	*e*P	**Pn**	**19 11 44.3**	**+0.2**
KDAK	comp=Z,24nm,0.6s			pmax	pmax		
KDAK	**Kodiak Island** comp=Z,24nm,0.6s	**10.98**	**56**	*e*Pn	**Pn**	**19 11 44.3**	**+0.2**
RSO	**Redoubt South** comp=Z,110nm,0.7s	**12.07**	**44**	*e*Pn	Pn	19 12 03.6	+4.3
PPLA	**Purkeypile** comp=Z,35nm,0.8s	**13.72**	**36**	*e*Pn	Pn	19 12 25.9	+4.3
PMR	**Palmer**	**14.17**	**44**	*e*P	Pn	19 12 30.8	+3.2
PMR	comp=Z,40nm,1.2s			pmax	pmax		
PMR	**Palmer** comp=Z,40nm,1.2s	**14.17**	**44**	*e*P	Pn	19 12 30.8	+3.2
SML	**Sawmill**	**14.61**	**44**	*e*P	**Pn**	**19 12 34.4**	**+0.7**
SML	comp=Z,28nm,1.6s			pmax	pmax		
SML	**Sawmill** comp=Z,28nm,1.6s	**14.61**	**44**	*e*P	**Pn**	**19 12 34.4**	**+0.7**
TRF	**Thorofare Moun** comp=Z,262nm,1.7s	**14.74**	**36**	*e*P	**P**	**19 12 39.2**	**-2.4**
BPAW	**Bear Paw Mtn.** comp=Z,12nm,0.7s	**14.91**	**33**	*e*Pn	**Pn**	**19 12 40.5**	**+2.7**
MCK	**McKinley**	**15.40**	**37**	*e*P	**P**	**19 12 47.1**	**-1.6**
MCK	comp=Z,117nm,1.7s			pmax	pmax		
MCK	**McKinley** comp=Z,117nm,1.7s	**15.40**	**37**	*e*P	**P**	**19 12 47.0**	**-1.6**
IM04	**Indian Mountai**	**15.43**	**25**	*e*Pn	**Pn**	**19 12 46.8**	**+2.1**
COLA	**College**	**16.45**	**34**	*c i*P	**P**	**19 12 59.0**	**-1.4**
ILAR	**Eielson Array** comp=Z,0.7nm,0.3s,baz=236,slow=10,SNR=42	**16.73**	**35**	Pn	**Pn**	**19 13 00.2**	**-1.0**
ILAR	comp=Z,1μm,21.9s,baz=244,slow=38			LR	LR	19 19 35.9	
COLD	**Coldfoot** comp=Z,24nm,1.1s	**17.32**	**26**	*e*P	**P**	**19 13 11.5**	**+1.

BBOR **Butler Butte** 32.59 89 P P 19 15 42.4 +3.9
I05D **Terrebonne, OR** 32.60 85 P P **19 15 40.5 +2.1**
baz=32
HAWA **Hanford** 32.62 81 eP P **19 15 40.7 +2.2**
comp=Z,7.3nm,0.8s
OD2 **Odessa Site #2** 32.62 79 P P **19 15 40.7 +2.2**
VTHM **Trough** 32.62 83 P P **19 15 41.0 +2.4**
YAK **Yakutsk** 32.69 311 P P **19 15 38.2 -0.8**
comp=Z,0.6nm,0.3s,baz=72,slow=20,SNR=3.6
YAK **Yakutsk** 32.69 311 eP P **19 15 36.8 -2.1**
YAK e 19 16 47.5
YAK ePPP PPP 19 17 00.4
YAK e 19 18 24.2
YAK eS S **19 20 51.3 -2.8**
YAK e*SS sS **19 21 04.8 +2.0**
YAK pmax pmax
comp=Z,4.0nm,1.2s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK pmax pmax
comp=Z,3.0nm,0.6s
YAK smax smax
comp=N,59nm,5.1s
YAK smax smax
comp=E,67nm,4.5s
YAK MLR MLR
comp=Z,836nm,23.0s
YAK MLR MLR
comp=E,435nm,19.0s
YAK MLR MLR
comp=N,197nm,18.0s
YAK **Yakutsk** 32.69 311 eP P **19 15 38.7 -0.3**
comp=N,12nm,0.9s
J04D **Umpqua Nationa** 32.73 88 P P **19 15 41.8 +2.0**
baz=33
NEW **Newport** 33.15 76 P P **19 15 43.9 +0.8**
comp=N,14nm,0.7s,baz=302,slow=7.1,SNR=27
NEW **Newport** 33.15 76 P P **19 15 43.9 +0.8**
NEW pmax pmax
comp=Z,15nm,0.7s
NEW **Newport** 33.15 76 P P **19 15 44.7 +1.6**
baz=33,SNR=14
NEW **Newport** 33.15 76 eP P **19 15 44.7 +1.6**
comp=Z,20nm,0.8s
EDM **Edmonton** 33.19 66 eP P **19 15 44.0 +0.5**
EDM pmax pmax
comp=Z,16nm,0.6s
EDM **Edmonton** 33.19 66 eP P **19 15 44.0 +0.5**
comp=Z,16nm,0.6s
YBH **Yreka Blue Hor** 33.23 90 P P **19 15 45.3 +1.2**
comp=Z,5.9nm,0.8s,baz=289,slow=4.6,SNR=9.1
YBH LR LR 19 26 33.4
comp=Z,129nm,20.4s,baz=303,slow=31
J05D **Fort Rock, OR** 33.24 87 P P **19 15 47.0 +2.9**
baz=33,SNR=14
K04D **Chiloquin, OR** 33.30 88 P P **19 15 46.7 +2.0**
baz=33
M02C **Callahan** 33.34 91 P P **19 15 47.5 +2.5**
baz=33
N02D **Trinity Center** 33.68 91 P P **19 15 49.9 +2.0**
baz=34
M04C **Macdoel** 33.73 90 P P **19 15 51.2 +2.8**
baz=34,SNR=7.9
LTIM **Timbered Crate** 34.30 90 P P 19 15 56.6 +3.3
LBCM **Butte Creek Ri** 34.59 90 P P **19 15 58.8 +2.9**
WALA **Waterton Lakes** 34.65 73 eP P **19 15 57.1 +0.8**
comp=Z,16nm,1.1s
BSMT **Basseo Peak** 34.72 76 P P **19 15 59.0 +2.0**
BMO **Blue Mountains** 34.76 82 eP P **19 15 59.0 +1.8**
comp=Z,16nm,1.5s
BLMT **Blacktail Moun** 34.89 75 eP P **19 15 59.9 +1.4**
comp=Z,26nm,0.7s
JTMT **Jette** 35.07 75 eP P **19 16 01.3 +1.4**
comp=Z,8.0nm,0.7s
YBMT **Yellow Bay** 35.17 75 eP P **19 16 02.3 +1.5**
comp=Z,7.5nm,0.6s
WVOR **Wild Horse Val** 35.30 86 eP P **19 16 03.6 +1.7**
WVOR pmax pmax
comp=Z,28nm,0.9s
WVOR **Wild Horse Val** 35.30 86 eP P **19 16 03.6 +1.7**
comp=Z,28nm,0.9s
SWMT **Swartz Lake** 35.35 76 eP P **19 16 03.0 +0.6**
comp=Z,11nm,1.3s
MSO **Missoula** 35.73 77 P P **19 16 07.3 +1.7**
baz=36
SLMT **Seeley Lake** 35.78 76 eP P **19 16 07.3 +1.2**
comp=Z,10nm,0.8s
RES **Resolute Bay** 36.08 26 P P **19 16 07.3 -0.8**
comp=Z,7.9nm,0.7s,baz=268,slow=4.6,SNR=3.6
CHMT **Chamberlain Mo** 36.09 76 eP P **19 16 08.9 +0.1**
comp=Z,8.1nm,0.6s
MFID **Camas Ranch** 36.43 83 eP P **19 16 13.2 +1.6**
comp=Z,5.7nm,0.9s
HRY **Holter Researc** 37.03 76 eP P **19 16 17.6 +0.8**
comp=Z,12nm,0.6s
LRM **Limekiln Ridge** 37.13 77 eP P **19 16 18.2 +0.5**
comp=Z,30nm,0.8s
WAKR **Walker** 37.19 92 eP P **19 16 21.0 +2.7**
comp=Z,29nm,1.3s
HLID **Hailey** 37.20 82 P P **19 16 20.2 +2.0**
baz=37,SNR=8.5
HLID **Hailey** 37.20 82 eP P **19 16 19.3 +1.0**
comp=Z,3.6nm,0.8s
DLMT **Dillon** 37.29 78 eP P **19 16 20.1 +1.0**
comp=Z,5.5nm,0.8s
MCMT **McKenzie Canyo** 37.43 79 eP P **19 16 20.6 +0.3**
comp=Z,9.8nm,0.6s
EGMT **Eagleton** 37.57 73 P P **19 16 22.4 +1.2**
baz=37,SNR=9.0
EGMT **Eagleton** 37.57 73 eP P **19 16 22.7 +1.5**
comp=Z,11nm,0.8s
A19A **Klindworth Far** 37.70 71 P P **19 16 23.3 +1.0**
baz=38
BOZ **Bozeman (W)** 37.71 77 P P **19 16 24.1 +1.6**
baz=38,SNR=14
NVAR **Mina Array Bea** 37.92 91 P P **19 16 25.1 +0.6**
comp=Z,13nm,0.7s,baz=298,slow=8.1,SNR=91
ELK **Elko** 38.35 86 P P **19 16 28.7 +0.6**
comp=Z,14nm,0.7s,baz=302,slow=8.7,SNR=77
ELK LR LR 19 31 13.1
comp=Z,160nm,19.6s,baz=308,slow=34
ELK **Elko** 38.35 86 P P **19 16 28.7 +0.6**
ELK pmax pmax
comp=Z,14nm,0.7s
ELK MLR MLR
comp=Z,160nm,19.6s
ELK **Elko** 38.35 86 eP P **19 16 29.6 +1.6**
comp=Z,15nm,0.8s
USRK **Ussuriysk Ar.** 38.56 281 PcP PcP 19 18 40.4 -1.4
comp=Z,4.9nm,0.8s,baz=38,slow=2.2,SNR=7.8
USRK LR LR 19 32 04.2
comp=Z,328nm,21.0s,baz=61,slow=36
FFC **Flin Flon** 38.70 59 eP P **19 16 30.5 -0.1**
FFC pmax pmax
comp=Z,5.0nm,0.8s
FFC **Flin Flon** 38.70 59 eP P **19 16 30.5 -0.1**
comp=Z,5.4nm,0.8s
C20A **Veseth Ranch,** 38.74 72 P P **19 16 32.5 +1.4**
baz=38,SNR=17
GCMT **Greycliff** 38.79 76 eP P **19 16 32.8 +1.1**
comp=Z,4.0nm,0.6s
H11S1 **WAKE ISLAND Hy** 38.84 217 T T 19 57 39.3
baz=23,slow=76,SNR=519
TIN **Tinemaha** 38.85 93 P P **19 16 34.6 +2.4**
baz=39
H11S2 **WAKE ISLAND Hy** 38.86 217 T T 19 57 40.4
baz=23,slow=76,SNR=325
H11S3 **WAKE ISLAND Hy** 38.86 217 T T 19 57 40.4
baz=23,slow=76,SNR=300
SMMC **Simmler** 38.94 96 P P **19 16 34.5 +1.7**
baz=39
H17A **Grant Village** 39.02 78 P P **19 16 35.6 +1.8**
baz=39
IMW **Indian Meadow** 39.09 79 eP P **19 16 36.2 +1.8**
comp=Z,9.6nm,0.9s
C21A **Desert Coulee** 39.20 71 P P **19 16 35.6 +0.7**
baz=39,SNR=8.9
HVU **Hansel Valley** 39.22 83 eP P **19 16 36.4 +1.2**
HVU pmax pmax
comp=Z,5.0nm,0.8s
HVU **Hansel Valley** 39.22 83 eP P **19 16 36.4 +1.2**
comp=Z,5.1nm,0.8s
PKM **Peak Mountain** 39.32 97 P P **19 16 38.1 +1.8**
baz=39
CWC **Cottonwood Cre** 39.34 93 P P **19 16 38.2 +1.9**
baz=39
RLMT **Red Lodge** 39.39 76 P P **19 16 38.4 +1.6**
baz=39
RLMT **Red Lodge** 39.39 76 eP P **19 16 38.7 +2.0**
GRAC **Grapevine Rang** 39.41 92 P P **19 16 39.0 +2.3**
baz=39
LOHW **Long Hollow** 39.45 79 eP P **19 16 37.7 +0.4**
comp=Z,4.2nm,0.7s
MAJO **Matsushiro** 39.47 267 eP P **19 16 38.0 +0.8**
MAJO pmax pmax
comp=Z,39nm,0.8s
MAJO **Matsushiro** 39.47 267 eP P **19 16 36.6 -0.7**
comp=Z,7.5nm,0.8s
MJAR **Matsushiro Arr** 39.47 267 P P **19 16 36.3 -0.9**
comp=Z,1.9nm,0.8s,baz=53,slow=6.9,SNR=8.8
MJAR PcP PcP **19 18 43.1 -1.6**
comp=Z,2.2nm,0.8s,baz=71,slow=2.2,SNR=4.1
MJAR LR LR 19 30 52.6
comp=Z,412nm,21.8s,baz=70,slow=33
BGU **Big Grassy Mou** 39.58 84 eP P **19 16 40.0 +1.7**
comp=Z,24nm,1.6s
ISA **Isabella** 39.62 95 P P **19 16 39.9 +1.4**
baz=40
R11A **Troy Canyon, C** 39.62 89 P P **19 16 39.9 +1.2**
baz=40,SNR=41
R11A **Troy Canyon, C** 39.62 89 eP P **19 16 40.0 +1.2**
F20A **Billings** 39.68 75 P P **19 16 40.3 +1.4**
baz=40,SNR=7.6
DAC **Darwin (Calif)** 39.74 93 eP P **19 16 41.2 +1.4**
DAC pmax pmax
comp=Z,23nm,1.3s
DAC **Darwin (Calif)** 39.74 93 eP P **19 16 41.1 +1.4**
comp=Z,23nm,1.3s
H19A **Powell** 39.81 77 P P **19 16 42.0 +1.8**
baz=40,SNR=7.2
MPMC **Manual Prospec** 39.95 93 P P **19 16 43.2 +1.7**
baz=40,SNR=7.6
G20A **Bridger** 39.96 75 P P **19 16 42.6 +1.2**
baz=40,SNR=16
HWUT **Hardware Ranch** 40.05 82 eP P **19 16 43.7 +1.5**
comp=Z,39nm,2.0s
FURC **Furnace Creek,** 40.06 92 P P **19 16 44.2 +2.1**
baz=40,SNR=7.1
TPNV **Topopah Spring** 40.12 91 P P **19 16 44.7 +1.8**
baz=40,SNR=26
DUG **Dugway** 40.15 85 eP P **19 16 44.4 +1.4**
DUG pmax pmax
comp=Z,32nm,1.3s
DUG **Dugway** 40.15 85 P P **19 16 44.9 +1.9**
baz=40,SNR=20
DUG **Dugway** 40.15 85 eP P **19 16 44.4 +1.4**
comp=Z,32nm,1.3s
I19A **Meeteetse** 40.17 77 P P **19 16 45.3 +2.1**
baz=40
LRMC **Laurel Mountai** 40.22 94 P P **19 16 45.3 +1.7**
baz=40
F21A **Absaloka Mine,** 40.26 74 P P **19 16 45.3 +1.5**
baz=40
LAO **LASA Array** 40.31 72 P P **19 16 45.8 +1.6**
baz=40
LAO **LASA Array** 40.31 72 eP P **19 16 44.5 +0.3**
comp=Z,6.0nm,0.6s
EDW2 **Edwards Air Fo** 40.44 95 P P **19 16 47.2 +1.9**
baz=40,SNR=6.3
H20A **Greybull** 40.50 76 P P **19 16 47.5 +1.7**
baz=40
BW06 **Boulder Array** 40.56 79 eP P **19 16 47.7 +1.1**
comp=Z,7.3nm,0.6s
PDAR **Pinedale Array** 40.56 79 P P **19 16 47.1 +0.5**
comp=Z,11nm,0.9s,baz=325,slow=4.8,SNR=54
J19A **Crowheart** 40.58 78 P P **19 16 48.3 +1.8**
baz=40
E22A **Miles City** 40.61 72 P P **19 16 48.3 +1.7**
baz=40
I20A **Worland** 40.73 77 P P **19 16 49.3 +1.6**
baz=40,SNR=6.8
NLU **North Lily Min** 40.74 85 eP P **19 16 49.1 +1.1**
comp=Z,9.1nm,0.9s
SHOC **Shoshone** 40.79 93 P P **19 16 50.3 +2.1**
baz=41,SNR=6.6
F22A **Rosebud** 40.79 73 P P **19 16 49.9 +1.8**
baz=41
JHJ **Hachijo jima 2** 40.84 262 LR LR 19 32 53.5
comp=Z,138nm,20.3s,baz=68,slow=35
FCC **Fort Churchill** 40.85 51 eP P **19 16 47.8 -0.5**
FCC pmax pmax
comp=Z,7.0nm,0.8s
FCC **Fort Churchill** 40.85 51 eP P **19 16 47.8 -0.5**
comp=Z,7.1nm,0.8s
GSC **Goldstone** 40.87 94 eP P **19 16 51.2 +2.2**
GSC pmax pmax
comp=Z,27nm,0.9s
GSC **Goldstone** 40.87 94 P P **19 16 50.9 +2.0**
baz=41,SNR=6.1
GSC **Goldstone** 40.87 94 eP P **19 16 51.2 +2.2**
comp=Z,27nm,0.9s
A25A **Svangstu Ranch** 40.89 68 P P **19 16 50.3 +1.4**
baz=41
C24A **Savage** 40.89 70 P P **19 16 50.1 +1.2**
baz=41
E23A **Ismay** 40.95 72 P P **19 16 51.2 +1.8**
baz=41
H21A **Big Horn, Sher** 40.98 75 P P **19 16 51.4 +1.6**
baz=41
SHPR **Sheep Range** 41.07 91 eP P **19 16 52.5 +1.8**
comp=Z,11nm,1.1s
BFSC **Mount Baldy Ra** 41.07 96 P P **19 16 53.0 +2.3**
baz=41,SNR=8.4
J20A **Shoshoni** 41.10 78 P P **19 16 52.5 +1.7**
baz=41,SNR=9.9
D24A **Glendive** 41.17 71 P P **19 16 52.5 +1.3**
baz=41
I21A **Big Trails, Te** 41.30 77 P P **19 16 53.5 +1.0**
baz=41,SNR=11
TUQ **Turquoise Moun** 41.32 93 P P **19 16 54.1 +1.4**
baz=41
F23A **Volborg** 41.32 73 P P **19 16 53.9 +1.4**
baz=41
H22A **Clearmont** 41.41 75 P P **19 16 54.2 +1.0**
baz=41
HEC **Hector,Ludlow** 41.48 94 P P **19 16 55.8 +1.8**
baz=41,SNR=10
J21A **Lysite** 41.48 77 P P **19 16 55.5 +1.5**
baz=41,SNR=13
CCUT **Cedar City** 41.48 88 eP P **19 16 56.0 +1.8**
comp=Z,10nm,0.7s
A26A **Wade Farm, Ken** 41.51 67 P P **19 16 54.5 +0.5**
baz=41
BOD **Bodaibo** 41.52 308 eP P **19 16 53.7 -0.2**
BOD pmax pmax
comp=Z,7.0nm,1.7s
G23A **Biddle** 41.62 74 P P **19 16 55.8 +0.7**
baz=41
TMUT **Trail Mountain** 41.68 85 eP P **19 16 57.2 +1.4**
comp=Z,19nm,0.8s
I22A **9 Mile Ranch,** 41.73 76 P P **19 16 57.7 +1.7**
baz=42,SNR=11
MURC **Murrieta** 41.79 96 P P **19 16 57.8 +1.4**
baz=42
F24A **Ekalaka** 41.81 72 P P **19 16 57.5 +1.0**
baz=42
GMRC **Granite Mounta** 41.92 93 P P **19 16 59.4 +1.8**
baz=42,SNR=19
J22A **Midwest** 42.01 77 P P **19 16 59.6 +1.3**
baz=42,SNR=22
C26A **Wahner Farm, P** 42.05 69 P P **19 16 59.4 +0.9**
baz=42
G24A **Alzada** 42.12 73 P P **19 16 59.8 +0.7**
baz=42
SRU **San Rafael** 42.21 84 eP P **19 17 00.6 +0.6**
SRU pmax pmax
comp=Z,38nm,1.2s
SRU **San Rafael** 42.21 84 eP P **19 17 00.6 +0.6**
comp=Z,38nm,1.2s
B27A **Peters Farms,** 42.21 67 P P **19 17 01.2 +1.5**
baz=42
PFO **Pinyon Flat Ob** 42.23 95 P P **19 17 01.2 +1.0**
comp=Z,7.6nm,0.7s,baz=325,slow=7.5,SNR=10
PFO **Pinyon Flat Ob** 42.23 95 P P **19 17 01.2 +1.0**
PFO pmax pmax
comp=Z,8.0nm,0.7s
PFO **Pinyon Flat Ob** 42.23 95 P P **19 17 01.7 +1.6**
baz=42,SNR=5.2
PFO **Pinyon Flat Ob** 42.23 95 eP P **19 17 01.4 +1.3**
comp=Z,7.5nm,0.8s
BELC **Belle Mtn. Jos** 42.24 94 P P **19 17 01.9 +1.7**
baz=42,SNR=13
109C **Camp Elliot, M** 42.34 97 P P **19 17 02.4 +1.5**
baz=42
H24A **Dirks Ranch, A** 42.37 74 P P **19 17 02.0 +0.8**
baz=42
K22A **Casper** 42.44 78 P P **19 17 03.1 +1.3**
baz=42,SNR=7.5
K22A **Casper** 42.44 78 eP P **19 17 02.5 +0.7**
comp=Z,13nm,0.8s
A28A **Rude Farm, Bot** 42.49 66 P P **19 17 02.9 +0.9**
baz=42
J23A **Dilts Ranch, B** 42.57 76 P P **19 17 03.5 +0.7**
baz=42
E26A **Carlson Angus** 42.60 70 P P **19 17 03.5 +0.6**
baz=42
IRM **Iron Mountain** 42.65 94 P P **19 17 05.1 +1.7**
baz=42,SNR=12
MONP **Monument Peak** 42.75 96 P P **19 17 06.2 +1.7**
baz=43,SNR=9.4
G25A **Newell** 42.77 73 P P **19 17 05.0 +0.6**
baz=43
BC3 **Big Chuckawall** 42.81 94 P P **19 17 05.8 +1.0**
baz=43,SNR=7.5
I24A **Kuemmerle Ranc** 42.84 75 P P **19 17 05.1 +0.1**
baz=43
K23A **Bowen Ranch, D** 42.91 77 P P **19 17 04.7 -1.0**
baz=43
O20A **White River Ci** 42.94 82 P P **19 17 07.1 +1.2**
baz=43,SNR=19
O20A **White River Ci** 42.94 82 eP P **19 17 06.4 +0.4**
comp=Z,22nm,0.8s
H25A **Fruitdale** 43.00 73 P P **19 17 07.3 +1.1**
baz=43
RSSD **Black Hills** 43.03 74 eP P **19 17 07.4 +0.7**
RSSD pmax pmax
comp=Z,5.0nm,0.6s
RSSD **Black Hills** 43.03 74 eP P **19 17 07.4 +0.7**
comp=Z,5.4nm,0.6s
A29A **Manning Farm,** 43.06 66 P P **19 17 07.2 +0.7**
baz=43
SWSC **Sam W. Stewart** 43.09 95 P P **19 17 08.1 +1.2**
baz=43
IBP **Imperial Bould** 43.11 96 P P **19 17 09.0 +1.8**
baz=43,SNR=7.0
J24A **Dixon Ranch, L** 43.13 76 P P **19 17 08.3 +0.9**
baz=43
PDMCI **Parker Dam,Lak** 43.16 93 P P **19 17 09.1 +1.6**
baz=43,SNR=9.3
F27A **Lemmon** 43.19 71 P P **19 17 08.3 +0.6**
baz=43
G26A **Maurine** 43.19 72 P P **19 17 08.1 +0.4**
baz=43
D28A **Regan** 43.27 68 P P **19 17 08.9 +0.6**
baz=43
Y12C **Blythe** 43.30 93 P P **19 17 10.6 +1.9**
baz=43,SNR=14
H26A **Fairpoint** 43.48 73 P P **19 17 10.8 +0.7**
baz=43
G27A **Dupree** 43.52 71 P P **19 17 11.4 +1.0**
baz=43
E28A **Huff** 43.55 69 P P **19 17 11.9 +1.4**
baz=43
GLA **Glamis** 43.60 94 eP P **19 17 12.7 +1.5**
GLA pmax pmax
comp=Z,24nm,1.2s
GLA **Glamis** 43.60 94 P P **19 17 12.9 +1.7**
baz=43
GLA **Glamis** 43.60 94 eP P **19 17 12.7 +1.5**
comp=Z,24nm,1.2s
J25A **Sunshine Ranch** 43.60 75 P P **19 17 12.3 +1.2**
baz=43
PV04 **Paradox Valley** 43.64 84 eP P **19 17 12.1 +0.5**
I26A **New Underwood** 43.77 74 P P **19 17 13.3 +0.9**
baz=44
JCJ **Chichijima** 43.79 253 LR LR 19 34 00.3
comp=Z,161nm,20.1s,baz=43,slow=34
B30A **Myrvik Farm, E** 43.82 66 P P **19 17 13.3 +0.7**
baz=44
N23A **Red Feather La** 43.85 79 P P **19 17 14.8 +1.4**
baz=44,SNR=9.0
PHWY **Pilot Hill** 43.89 78 eP P **19 17 13.4 -0.3**
comp=Z,3.1nm,0.4s
F28A **McLaughlin** 43.90 70 P P **19 17 14.6 +1.1**
baz=44
PV01 **Paradox Valley** 44.01 84 eP P **19 17 15.3 +0.7**
comp=Z,2µm,0.7s
WUAZ **Wupatki** 44.02 89 P P **19 17 16.5 +1.8**
baz=44,SNR=25
WUAZ **Wupatki** 44.02 89 eP P **19 17 16.2 +1.6**
comp=Z,30nm,0.7s
J26A **Sides Ranch, S** 44.07 75 P P **19 17 15.5 +0.6**
baz=44
ULM **Lac du Bonnet** 44.16 62 P P **19 17 15.3 -0.1**
comp=Z,2.3nm,0.6s,baz=322,slow=4.9,SNR=3.6
I27A **Quinn** 44.22 73 P P **19 17 16.8 +0.7**
baz=44
L25A **Engebretsen Ra** 44.25 76 P P **19 17 17.2 +0.8**
baz=44
F29A **Eureka** 44.46 70 P P **19 17 19.6 +1.6**
baz=44
M25A **Palm-Egli Farm** 44.64 77 P P **19 17 21.6 +2.0**
baz=44
MVCO **Mesa Verde** 44.65 85 P P **19 17 21.4 +1.7**
baz=44,SNR=5.9
MVCO **Mesa Verde** 44.65 85 eP P **19 17 20.7 +0.9**
comp=Z,9.9nm,0.6s
ISCO **Idaho Springs** 44.73 80 eP P **19 17 21.6 +1.2**
ISCO pmax pmax
comp=Z,2.0nm,0.8s
ISCO **Idaho Springs** 44.73 80 P P **19 17 21.6 +1.2**
baz=44
ISCO **Idaho Springs** 44.73 80 eP P **19 17 21.6 +1.2**
comp=Z,2.1nm,0.8s
J27A **Elkhorn Farm,** 44.73 74 P P **19 17 21.5 +1.3**
baz=44
I28A **Midland** 44.77 73 P P **19 17 21.8 +1.4**
baz=45
K27A **Flueckinger Fa** 44.93 75 P P **19 17 22.9 +1.1**
baz=45
H29A **Onida** 44.95 71 P P **19 17 23.0 +1.2**
baz=45
J28A **Allard Ranch,** 45.08 73 P P **19 17 23.8 +0.9**
baz=45
KSRS **Korea Array** 45.11 276 P P **19 17 22.7 -0.4**
comp=Z,2.8nm,0.8s,baz=53,slow=7.2,SNR=9.3
KSRS PcP PcP **19 19 02.8 -0.6**
comp=Z,2.3nm,0.9s,baz=67,slow=3.8,SNR=6.1
KSRS LR LR 19 34 44.1
comp=Z,212nm,21.3s,baz=60,slow=34
KSRS **Korea Array** 45.11 276 P P **19 17 22.7 -0.4**
KSRS 19 19 02.8
KSRS pmax pmax
KSRS comp=Z,3.0nm,0.9s MLR MLR
comp=Z,212nm,21.3s
KSAR **Wonju Array Be** 45.14 276 P P **19 17 22.7 -0.6**
KSAR 19 19 02.8
KSAR **Wonju Array Be** 45.14 276 P P **19 17 22.7 -0.6**
KSAR PcP PcP **19 19 02.8 -0.8**
AGMN **Agassiz Nation** 45.26 65 P P **19 17 24.7 +0.5**
baz=45
AGMN **Agassiz Nation** 45.26 65 eP P **19 17 23.4 -0.8**
comp=Z,8.3nm,0.8s
L27A **T5 Ranch, Ells** 45.26 75 P P **19 17 25.2 +0.7**
baz=45
W18A **Petrified Fore** 45.28 88 P P **19 17 25.6 +0.8**
baz=45
S22A **4UR Ranch, Cre** 45.31 83 P P **19 17 27.1 +2.1**
baz=45,SNR=11
K28A **Ten Mile Ranch** 45.43 74 P P **19 17 26.7 +1.0**
baz=45
N26A **Koester Ranch,** 45.51 77 P P **19 17 27.5 +1.1**
baz=45
214A **Organ Pipe Nat** 45.59 94 P P **19 17 28.7 +1.7**
baz=45,SNR=12
214A **Organ Pipe Nat** 45.59 94 eP P **19 17 28.0 +1.0**
comp=Z,23nm,0.8s
J29A **Okreek** 45.62 73 P P **19 17 28.4 +1.3**
baz=45,SNR=5.2
O26A **Horse Wrangler** 45.82 78 P P **19 17 29.7 +0.8**
baz=46
I30A **Oacoma** 45.83 72 P P **19 17 29.8 +1.0**
baz=46
N27A **Anderson Farm,** 45.92 77 P P **19 17 30.5 +0.8**
baz=46
SDCO **Great Sand Dun** 46.11 82 P P **19 17 32.8 +1.4**
baz=46,SNR=14
SDCO **Great Sand Dun** 46.11 82 eP P **19 17 32.1 +0.7**
comp=Z,11nm,1.0s
OGNE **Ogallala** 46.14 77 P P **19 17 32.3 +1.0**

baz=46
OGNE Ogallala 46.14 77 *e*P **P 19 17 32.9 +1.5**
comp=Z,22nm,0.8s
J30A Dallas 46.15 72 P **P 19 17 32.0 +0.7**
baz=46
JNU Nakatsue 46.22 269 P **P 19 17 30.8 -1.1**
comp=Z,6.1nm,0.8s,baz=56,slow=11,SNR=3.8
JNU LR LR 19 35 32.8
comp=Z,413nm,21.5s,baz=71,slow=34
M28A Bar X Bar Ranc 46.24 76 P **P 19 17 32.9 +0.7**
baz=46
O27A Beecher Island 46.35 78 P **P 19 17 33.8 +0.7**
baz=46
TUC Tucson 46.57 92 *e*P **P 19 17 36.5 +1.7**
TUC pmax pmax
comp=Z,41nm,1.3s
TUC Tucson 46.57 92 *e*P **P 19 17 36.5 +1.7**
comp=Z,41nm,1.3s
O28A Krutsinger Ran 46.81 77 P **P 19 17 37.5 +0.9**
baz=47
R26A Arlington 46.98 80 P **P 19 17 39.7 +1.6**
baz=47,SNR=6.6
KSCO Kaye Shedlock' 47.01 79 P **P 19 17 39.1 +0.9**
baz=47
T25A Trinidad 47.16 82 P **P 19 17 41.2 +1.7**
baz=47,SNR=14
P28A Saint Francis 47.17 78 P **P 19 17 40.5 +1.0**
baz=47
LAZ Ladron 47.34 87 *e*P **P 19 17 42.7 +1.8**
comp=Z,7.3nm,0.7s
R27A Eads 47.38 80 P **P 19 17 42.5 +1.4**
baz=47,SNR=6.4
O29A 4D Ranch, Culb 47.38 77 P **P 19 17 42.1 +1.0**
baz=47,SNR=5.1
ANMO Albuquerque 47.39 86 P **P 19 17 42.1 +0.8**
comp=Z,3.4nm,0.9s,baz=324,slow=9.6,SNR=9.4
ANMO PcP **PcP 19 19 12.9 +1.1**
comp=Z,3.3nm,0.8s,baz=267,slow=3.1,SNR=6.3
ANMO LR LR 19 36 50.1
comp=Z,101nm,21.2s,baz=309,slow=35
ANMO Albuquerque 47.39 86 *i*P **P 19 17 42.6 +1.3**
ANMO pmax pmax
comp=Z,24nm,1.4s
ANMO Albuquerque 47.39 86 *e*P **P 19 17 42.2 +0.8**
comp=Z,4.3nm,0.9s
ANMO PcP **PcP 19 19 12.9 +1.1**
S26A Kim 47.41 81 P **P 19 17 42.6 +1.3**
baz=47,SNR=17
Q28A Sharon Springs 47.45 78 P **P 19 17 41.9 +0.3**
baz=47
ECSD EROS Data Cent 47.55 70 P **P 19 17 41.8 -0.5**
baz=47
ECSD EROS Data Cent 47.55 70 *e*P **P 19 17 41.0 -1.3**
comp=Z,3.8nm,0.4s
T26A Comanche Natio 47.63 82 P **P 19 17 44.2 +1.1**
baz=47,SNR=11
P29A Atwood 47.64 77 P **P 19 17 44.6 +1.5**
baz=47
LPM Los Pinos Moun 47.71 87 *e*P **P 19 17 44.6 +0.8**
comp=Z,9.7nm,0.8s
S27A Las Animas 47.71 81 P **P 19 17 44.5 +0.7**
baz=48
O30A MW Ranch, Wils 47.79 76 P **P 19 17 45.1 +0.9**
baz=48
EYMN Ely 47.84 63 P **P 19 17 44.8 +0.4**
baz=48
R28A Tribune 47.93 79 P **P 19 17 46.2 +0.8**
baz=48
Q29A Oakley 48.07 78 P **P 19 17 47.1 +0.7**
baz=48
P30A Selden 48.08 77 P **P 19 17 47.7 +1.2**
baz=48,SNR=6.4
BGNE Belgrade 48.12 73 P **P 19 17 47.4 +0.7**
baz=48
T27A Campo 48.23 81 P **P 19 17 48.7 +1.0**
baz=48
121A Cookes Peak, D 48.23 89 P **P 19 17 49.4 +1.4**
baz=48,SNR=15
121A Cookes Peak, D 48.23 89 *e*P **P 19 17 49.3 +1.4**
comp=Z,22nm,0.8s
O31A Woolen Ranch, 48.23 76 P **P 19 17 48.6 +0.9**
baz=48
R29A Marienthal 48.28 79 P **P 19 17 49.3 +1.3**
baz=48
S28A Manter 48.37 80 P **P 19 17 50.1 +1.3**
baz=48
Q30A Quinter 48.46 77 P **P 19 17 50.2 +0.8**
baz=48
M33A Taylor Creek F 48.57 73 P **P 19 17 51.1 +0.9**
baz=48
U27A Thompson Grove 48.59 82 P **P 19 17 51.3 +0.8**
baz=48
P31A Stockton 48.61 76 P **P 19 17 51.1 +0.6**
baz=48
FRB Frobisher Bay 48.76 35 LR LR 19 39 18.9
comp=Z,803nm,20.1s,baz=296,slow=37
CBKS Cedar Bluff 48.85 77 *e*P **P 19 17 53.9 +1.5**
CBKS pmax pmax
comp=Z,22nm,0.6s
CBKS Cedar Bluff 48.85 77 P **P 19 17 53.3 +0.8**
baz=49
CBKS Cedar Bluff 48.85 77 *e*P **P 19 17 53.9 +1.5**
comp=Z,22nm,0.6s
R30A Dighton 48.88 78 P **P 19 17 53.5 +0.8**
baz=49
V27A Dan Oppiter Fa 49.03 82 P **P 19 17 54.4 +0.6**
baz=49
S30A Montezuma 49.19 79 P **P 19 17 55.9 +0.8**
baz=49
O33A Hebron 49.30 74 P **P 19 17 56.5 +0.7**
baz=49
R31A Burdett 49.32 78 P **P 19 17 57.0 +1.0**
baz=49
V28A Channing 49.40 82 P **P 19 17 57.5 +0.8**
baz=49
Q32A Meitler Ranch, 49.44 76 P **P 19 17 57.7 +0.8**
baz=49
N34A Lincoln 49.44 73 P **P 19 17 57.7 +0.8**
baz=49
T30A Plains 49.55 79 P **P 19 17 58.6 +0.9**
baz=49
V29A Stinnett 49.74 81 P **P 19 18 00.1 +0.9**
baz=50
W28A Vega 49.74 82 P **P 19 18 00.2 +0.8**
baz=50
O34A Beatrice 49.75 74 P **P 19 17 59.5 +0.2**
baz=50
Q33A Connelly Farm, 49.86 76 P **P 19 18 01.2 +1.1**
baz=50
TLY Talaya 49.88 306 *e*P **P 19 17 59.7 -0.3**
TLY pmax pmax
comp=Z,5.0nm,1.3s
N35A Tabor 49.93 72 P **P 19 18 01.4 +0.8**
baz=50
R33A Olander Ranch, 50.22 77 P **P 19 18 03.7 +0.9**
baz=50
V30A Spur Ranch, Mi 50.31 81 P **P 19 18 04.5 +0.9**
baz=50
U31A Nine Bar Ranch 50.41 80 P **P 19 18 05.2 +0.9**
baz=50
T32A Huddler Ranch, 50.41 78 P **P 19 18 05.2 +0.9**
baz=50
P35A Duane Minner, 50.57 74 P **P 19 18 05.6 +0.1**
baz=50
X29A Tulia 50.60 83 P **P 19 18 06.6 +0.8**
baz=50
Y28A McKinney Farm, 50.64 84 P **P 19 18 06.9 +0.8**
baz=50
R34A Isabella, Hill 50.66 76 P **P 19 18 06.9 +0.8**
baz=50
S33A Kaszmaul Farm, 50.69 77 P **P 19 18 07.2 +0.9**
baz=50
V31A Spring Creek L 50.81 80 P **P 19 18 08.2 +0.9**
baz=51
SONM Songino Array 50.86 300 P **P 19 18 07.4 -0.2**
comp=Z,0.5nm,0.6s,baz=64,slow=3.4,SNR=5.1
SONM PcP **PcP 19 19 23.9 -0.2**
comp=Z,2.3nm,0.7s,baz=45,slow=3.0,SNR=9.0
SONM ScP **ScP 19 23 20.2 +0.9**
comp=Z,1.0nm,0.7s,baz=48,slow=3.3,SNR=8.2
SONM LR LR 19 41 37.6
comp=Z,361nm,19.9s,baz=54,slow=38
ZAK Zakamensk 50.86 304 *e*P **P 19 18 09.8 +2.2**
ZAK *e* 19 19 24.9
ZAK pmax pmax
comp=Z,2.0nm,1.5s
T33A Patterson Ranc 50.88 78 P **P 19 18 08.5 +0.7**
baz=51
U32A Winter Ranch, 50.91 79 P **P 19 18 08.6 +0.5**
baz=51
Z28A Tucker Farm, M 50.98 84 P **P 19 18 09.2 +0.5**
baz=51
Q35A Mercer Eighty, 51.01 75 P **P 19 18 09.0 +0.2**
baz=51
Y29A Porterfield Fa 51.02 83 P **P 19 18 09.9 +0.9**
baz=51
X30A Coker Ranch, T 51.10 82 P **P 19 18 10.4 +0.9**
baz=51
S34A Willow Spring 51.14 76 P **P 19 18 10.7 +0.9**
baz=51
W31A Holland Ranch, 51.15 81 P **P 19 18 10.9 +1.0**
baz=51
R35A Emporia Munici 51.27 75 P **P 19 18 11.6 +0.9**
baz=51
128A Castleberry Fa 51.38 85 P **P 19 18 12.7 +0.9**
baz=51,SNR=10
U33A Lingo Farm, Me 51.40 78 P **P 19 18 12.6 +0.9**
baz=51
Z29A Hungry Hill Ra 51.41 84 P **P 19 18 12.7 +0.8**
baz=51,SNR=13
Y30A Stafford Cattl 51.47 83 P **P 19 18 12.9 +0.6**
baz=51
X31A McDonald Ranch 51.51 81 P **P 19 18 13.1 +0.6**
baz=51
T34A McCluskey Farm 51.55 77 P **P 19 18 12.7 -0.1**
baz=51,SNR=6.4
W32A Sentinel 51.61 80 P **P 19 18 14.0 +0.7**
baz=51
S35A Otter Creek Ra 51.62 76 P **P 19 18 13.6 +0.3**
baz=51
R36A Gordon, Harris 51.67 75 P **P 19 18 13.6 -0.1**
baz=52,SNR=6.2
U34A Anderson Ranch 51.74 78 P **P 19 18 15.2 +0.9**
baz=52
U34A Anderson Ranch 51.74 78 *e*P **P 19 18 15.0 +0.8**
comp=Z,14nm,0.6s
Z30A Sanderson Ranc 51.74 83 P **P 19 18 15.2 +0.8**
baz=52,SNR=24
S36A Lake Cedric, C 52.02 75 P **P 19 18 16.8 +0.5**
baz=52
T35A Sooner Cattle 52.02 77 P **P 19 18 16.4 0.0**
baz=52
WMOK Wichita Mounta 52.15 80 *e*P **P 19 18 17.9 +0.5**
WMOK pmax pmax
comp=Z,15nm,0.9s
WMOK Wichita Mounta 52.15 80 *e*P **P 19 18 17.9 +0.5**
comp=Z,15nm,0.9s
V34A Guthrie 52.16 79 P **P 19 18 18.2 +0.8**
baz=52
229A Bryant Ranch, 52.25 85 P **P 19 18 18.9 +0.7**
baz=52
U35A Pawnee 52.26 77 P **P 19 18 18.9 +0.8**
baz=52
Y32A R-V Farms, Ver 52.26 82 P **P 19 18 19.1 +1.0**
baz=52
T36A Boggs Farm, Ca 52.30 76 P **P 19 18 19.1 +0.7**
baz=52
Z31A Sharp Cattle R 52.31 83 P **P 19 18 19.4 +0.9**
baz=52
130A Snyder 52.32 84 P **P 19 18 19.5 +0.9**
baz=52
W34A Bridge Creek, 52.41 79 P **P 19 18 20.1 +0.8**
baz=52
S37A Fort Scott 52.45 75 P **P 19 18 19.4 -0.1**
baz=52,SNR=8.9
329A Wagon Wheel Ra 52.48 86 P **P 19 18 20.7 +0.7**
baz=52
HHC Hu-ho-hao-te 52.53 290 *e*P **P 19 18 21.8 +1.6**
HHC PP **PP 19 20 21.4 +2.5**
HHC S **S 19 25 45.4 -0.6**
HHC ScS **ScS 19 28 08.1 -1.0**
HHC SS **SS 19 29 21.1 -2.6**
HHC PMZ
comp=Z,14nm,1.1s
HHC PMZ
comp=Z,40nm,5.3s
HHC LN
comp=Z,150nm,15.1s
HHC LE
comp=Z,180nm,14.7s
HHC LZ
comp=Z,92nm,15.1s
V35A Meyer Ranch, C 52.61 78 P **P 19 18 21.7 +1.0**
baz=52
Z32A Haskell 52.72 82 P **P 19 18 22.3 +0.8**
baz=52,SNR=11
230A Sterling City 52.73 85 P **P 19 18 22.6 +0.9**
baz=52,SNR=6.0
Y33A Hilltop Ranch, 52.75 81 P **P 19 18 22.3 +0.5**
baz=53
LPIG La Paz 52.81 99 LR LR 19 35 44.1
comp=Z,104nm,20.1s,baz=184,slow=30
T37A Cheneyville 18 52.82 76 P **P 19 18 22.4 +0.2**
baz=53,SNR=5.8
TXAR Lajitas Array 52.99 89 P **P 19 18 24.2 +0.5**
comp=Z,23nm,0.8s,baz=300,slow=5.1,SNR=223
W35A Tecumseh 53.01 79 P **P 19 18 24.2 +0.6**
baz=53
330A Mertzon 53.03 85 P **P 19 18 24.3 +0.4**
baz=53
ABTX Abilene, Hawle 53.10 83 P **P 19 18 24.6 +0.3**
baz=53
ABTX Abilene, Hawle 53.10 83 *e*P **P 19 18 25.6 +1.2**
comp=Z,17nm,1.0s
GUMO Guam 53.11 240 LR LR 19 37 13.2
comp=Z,162nm,21.7s,baz=79,slow=32
V36A Jenks 53.13 77 P **P 19 18 24.5 0.0**
baz=53
TUL1 Tulsa 53.13 77 P **P 19 18 24.6 +0.1**
baz=53
429A Davenport Ranc 53.14 86 P **P 19 18 25.5 +0.7**
baz=53,SNR=16
231A Bronte 53.17 84 P **P 19 18 25.2 +0.3**
baz=53
U37A Salina 53.19 76 P **P 19 18 25.4 +0.4**
baz=53,SNR=6.7
529A Stev Forest Ra 53.30 87 P **P 19 18 26.9 +0.9**
baz=53,SNR=15
Y34A Reagan Ranch, 53.30 80 P **P 19 18 26.8 +1.0**
baz=53,SNR=5.7
W36A Wetumka 53.40 78 P **P 19 18 27.1 +0.6**
baz=53
430A Baggett Ranch, 53.43 86 P **P 19 18 27.7 +0.8**
baz=53,SNR=12
X35A Drake 53.47 79 P **P 19 18 27.7 +0.6**
baz=53
V37A Hulbert 53.53 77 P **P 19 18 27.4 -0.2**
baz=53
133A Hamilton Ranch 53.55 82 P **P 19 18 28.3 +0.6**
baz=53,SNR=6.4
331A San Angelo 53.55 85 P **P 19 18 27.1 -0.6**
baz=53
U38A Gravette 53.60 76 P **P 19 18 27.8 -0.2**
baz=53
X36A Centrahoma 53.72 79 P **P 19 18 29.4 +0.5**
baz=54
HDIL Hopedale 53.76 69 P **P 19 18 29.5 +0.4**
baz=54
Y35A Marietta 53.77 80 P **P 19 18 29.5 +0.3**
baz=54
530A J-C Ranch, Com 53.82 86 P **P 19 18 30.3 +0.6**
baz=54,SNR=21
W37A Quinton 53.88 78 P **P 19 18 30.1 +0.1**
baz=54,SNR=5.5
431A Sonora 53.88 85 P **P 19 18 30.7 +0.5**
baz=54,SNR=10
332A Millersview 53.91 84 P **P 19 18 31.3 +0.9**
baz=54,SNR=7.1
233A Rising Star 53.97 83 P **P 19 18 31.7 +0.9**
baz=54
V38A Canehill 53.98 76 P **P 19 18 30.6 -0.2**
baz=54,SNR=6.7
134A White-Moore Ra 54.07 82 P **P 19 18 32.4 +0.9**
baz=54
Y36A Durant 54.22 79 P **P 19 18 33.3 +0.8**
baz=54
432A Menard 54.24 85 P **P 19 18 33.3 +0.5**
baz=54,SNR=5.9
531A Rocksprings 54.29 86 P **P 19 18 33.5 +0.3**
baz=54
X37A Clayton 54.29 78 P **P 19 18 33.5 +0.5**
baz=54,SNR=7.6
333A Richland Sprin 54.41 84 P **P 19 18 35.0 +1.1**
baz=54,SNR=12
234A Clairette 54.44 82 P **P 19 18 34.6 +0.4**
baz=54
W38A Poteau 54.46 77 P **P 19 18 35.1 +0.9**
baz=54
135A Vickery Place, 54.49 81 P **P 19 18 35.4 +0.9**
baz=54
JCT Junction City 54.51 85 *e*P **P 19 18 35.5 +0.7**
JCT pmax pmax
comp=Z,25nm,0.9s
JCT Junction City 54.51 85 P **P 19 18 35.2 +0.4**
baz=54,SNR=6.3
JCT Junction City 54.51 85 *e*P **P 19 18 35.5 +0.7**
comp=Z,25nm,0.9s
X38A Whitesboro 54.55 78 P **P 19 18 36.1 +1.1**
baz=54
Y37A Hugo 54.56 79 P **P 19 18 35.8 +0.8**
baz=54
Z36A Blue Ridge 54.57 80 P **P 19 18 35.8 +0.7**
baz=54
433A Art 54.75 84 P **P 19 18 37.0 +0.6**
baz=55,SNR=8.4
631A Perdido Creek 54.81 86 P **P 19 18 36.8 -0.1**
baz=55,SNR=6.5
334A Lometa 54.85 83 P **P 19 18 37.8 +0.6**
baz=55,SNR=11
WHTX Lake Whitney 54.86 82 P **P 19 18 37.8 +0.6**
baz=55,SNR=5.8
WHTX Lake Whitney 54.86 82 *e*P **P 19 18 38.6 +1.4**
comp=Z,16nm,0.8s
SFIN Scholer Farm 55.12 67 P **P 19 18 38.8 -0.1**
baz=55
434A Burnet 55.20 84 P **P 19 18 39.9 +0.2**
baz=55,SNR=13
632A Uvalde 55.22 86 P **P 19 18 40.5 +0.6**
baz=55
533A Kerrville 55.27 85 P **P 19 18 41.3 +1.1**
baz=55
SCHQ Schefferville 55.28 43 P **P 19 18 40.0 0.0**
comp=Z,3.2nm,0.7s,baz=324,slow=7.7,SNR=4.8
SCHQ LR LR 19 42 54.4
comp=Z,539nm,20.4s,baz=303,slow=37
MIAR Mount Ida 55.38 77 *e*P **P 19 18 40.7 -0.3**
MIAR pmax pmax
comp=Z,12nm,1.1s
MIAR Mount Ida 55.38 77 P **P 19 18 41.3 +0.4**
baz=55,SNR=7.6
MIAR Mount Ida 55.38 77 *e*P **P 19 18 40.7 -0.3**
comp=Z,12nm,1.1s
236A Katherine and 55.41 81 P **P 19 18 42.2 +1.1**
baz=55
336A Riesel 55.65 82 P **P 19 18 43.9 +1.0**
baz=56
732A Laxson Ranch, 55.66 87 P **P 19 18 43.9 +0.8**
baz=56
JMIC Jan Mayen 55.78 7 LR LR 19 41 03.1
comp=Z,201nm,21.9s,baz=334,slow=34
832A Faith Ranch, C 55.98 87 P **P 19 18 46.1 +0.7**
baz=56,SNR=12
733A Divot King Ran 56.08 86 P **P 19 18 46.7 +0.7**
baz=56
535A Dale 56.18 84 P **P 19 18 47.4 +0.6**
baz=56
833A Chaparral WMA, 56.31 86 P **P 19 18 48.4 +0.7**
baz=56,SNR=7.2
SADO Sadowa 56.43 59 LR LR 19 44 17.9
comp=Z,286nm,20.0s,baz=337,slow=37
734A La Parita Cree 56.44 85 P **P 19 18 49.6 +1.1**
baz=56
536A Bastrop 56.45 83 P **P 19 18 49.9 +1.3**
baz=56
635A Leesville 56.52 84 P **P 19 18 50.6 +1.4**
baz=56,SNR=5.1
636A Smothers Creek 56.88 84 P **P 19 18 53.0 +1.3**
baz=57
933A Laredo 56.90 87 P **P 19 18 52.9 +1.1**
baz=57
537A Green Hill Far 56.90 83 P **P 19 18 52.9 +1.0**
baz=57
934A Benavides 57.36 86 P **P 19 18 56.4 +1.2**
baz=57
ARCES ARCESS Array B 57.45 354 LR LR 19 43 33.2
comp=Z,260nm,21.1s,baz=3.0,slow=36
034A Hebbronville 57.65 87 P **P 19 18 58.9 +1.7**
baz=58
035A Encino 58.10 87 P **P 19 19 01.6 +1.3**
baz=58
LONY Lake Ozonia 58.87 56 *e*P **P 19 19 03.9 -1.6**
comp=Z,8.3nm,0.8s
SSLB Suanglung 58.96 269 *e*P **P 19 19 04.7 -1.8**
comp=Z,11nm,0.6s
NCB Newcomb 59.51 57 *e*P **P 19 19 08.6 -1.3**
comp=Z,5.4nm,0.6s
SSPA Standing Stone 59.98 61 *e*P **P 19 19 12.2 -1.0**
comp=Z,7.3nm,0.7s
BORG Borgarnes 60.27 15 LR LR 19 48 28.6
comp=Z,127nm,18.8s,baz=307,slow=39
TKL Tuckaleechee C 60.29 69 LR LR 19 44 04.9
comp=Z,286nm,20.3s,baz=317,slow=35
BRVK Borovoye 63.21 324 *ce*P **P 19 19 35.3 +0.5**
BRVK pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 63.32 313 P **P 19 19 35.4 -0.3**
comp=Z,0.8nm,0.7s,baz=64,slow=6.7,SNR=4.4
MKAR LR LR 19 48 22.7
comp=Z,165nm,18.5s,baz=24,slow=37
SZP Santa 63.99 265 *e*P **P 19 19 39.8 -0.6**
comp=Z,56nm,0.8s
ARU Arti 64.11 333 *ci*P **P 19 19 41.6 +0.9**
ARU 19 22 01.1
ARU S **S 19 28 15.5 -0.8**
ARU SS **SS 19 32 22.2 -2.1**
ARU pmax pmax
comp=Z,8.0nm,1.7s
FINES FINESS Array B 65.39 352 P **P 19 19 48.7 -0.2**
comp=Z,2.9nm,0.9s,baz=20,slow=5.6,SNR=8.6
FINES FINESS Array B 65.39 352 *ce*P **P 19 19 50.4 +1.5**
FINES pmax pmax
comp=Z,3.0nm,0.9s
TGY Tagaytay City 66.38 262 P **P 19 19 55.7 -0.3**
comp=Z,85nm,0.3s,baz=176,slow=9.5,SNR=4.7
TAOE Nuku Hiva Isla 66.43 148 *e*T T 20 32 00.0
comp=Z,109nm,0.2s
NB2 NORSAR Subarra 66.49 359 P **P 19 19 56.0 -0.1**
comp=Z,1.0nm,0.7s,baz=3.0,slow=6.5
NOA NORSAR Array B 66.49 359 P **P 19 19 56.2 +0.1**
comp=Z,1.4nm,0.8s,baz=0.8,slow=6.3,SNR=5.9
NOA LR LR 19 47 27.5
comp=Z,86nm,21.5s,baz=5.0,slow=35
HNR Honiara 67.18 213 LR LR 19 43 32.3
comp=Z,149nm,21.2s,baz=28,slow=31
KMI Kunming 68.92 284 P **P 19 20 13.3 +1.1**
KMI PMZ
comp=Z,3.0nm,1.1s
ABKAR Akbulak array 69.92 328 *e*P **P 19 20 16.4 -1.4**
comp=Z,1.4nm,0.5s
PMOR Pomariorio Ree 70.13 157 *e*T T 20 36 35.0
comp=Z,7.4nm,0.2s
PMG Port Moresby 72.03 225 LR LR 19 48 43.2
comp=Z,214nm,19.5s,baz=3.5,slow=33
PPT Papeete 72.24 160 LR LR 19 44 45.4
comp=Z,120nm,19.6s,baz=1.0,slow=30
PPT2 Papeete2 72.26 160 *e*LR LR 19 42 19.0
comp=Z,475nm,31.0s
SIJI Sorong 72.48 244 P **P 19 20 33.0 -0.6**
comp=Z,16nm,0.8s,baz=43,slow=7.0,SNR=9.0
SIJI LR LR 19 48 01.2
comp=Z,148nm,21.8s,baz=54,slow=32
AKASG Malin Array Be 75.62 348 P **P 19 20 49.7 -1.8**
comp=Z,1.3nm,0.7s,baz=13,slow=5.5,SNR=6.7
CLL Collm 76.23 358 *e*P **P 19 20 57.0 +2.0**
CLL *e* 19 21 01.0
CLL Collm 76.23 358 *e*P **P 19 20 57.0 +2.0**
CLL Lm MLR 19 58 00.0
comp=N,100nm,22.0s
CLL Lm MLR 19 58 00.0
comp=E,100nm,20.7s
CLL Lm MLR 19 58 00.0
comp=Z,100nm,19.9s
CMAR Chiang Mai Arr 76.28 282 P **P 19 20 54.4 -1.4**
comp=Z,2.6nm,0.8s,baz=35,slow=7.1,SNR=14
UPC Upice 76.94 356 *e*P **P 19 20 59.9 +0.9**
UPC epP **pP 19 21 01.9 -2.8**
UPC Upice 76.94 356 *e*P **P 19 20 59.9 +0.9**
DPC Dobruska-Polom 77.08 356 *e*P **P 19 21 01.0 +1.1**
DPC epP **pP 19 21 03.0 -2.5**
DPC AMS AMS 19 55 10.0
comp=Z,200nm,17.9s
DPC Dobruska-Polom 77.08 356 *e*P **P 19 21 01.0 +1.1**
DPC MLR MLR

	comp=Z,200nm,17.9s							
KRLC	**Kraliky**	**77.34**	**356**	*e*P		**P**	**19 21 02.3**	**+1.0**
KRLC	**Kraliky**	**77.34**	**356**	*e*P		**P**	**19 21 02.3**	**+1.0**
OKC	**Ostrava-Krasne**	**77.50**	**355**	AMS		AMS	19 53 50.0	
	comp=Z,200nm,20.9s							
PRU	**Pruhonice**	**77.51**	**357**	AMS		AMS	20 01 10.0	
	comp=Z,200nm,19.0s							
GOPC	**GO Pecny, Ondr**	**77.58**	**357**	*e*P		**P**	**19 21 02.1**	**-0.5**
GOPC				AMS		AMS	20 01 10.0	
	comp=Z,200nm,17.8s							
TBI	**Tubuai**	**77.88**	**161**	*e*LR		LR	19 44 14.3	
	comp=Z,310nm,34.8s							
TBI	**Tubuai**	**77.88**	**161**	*e*T		T	20 46 14.7	
	comp=Z,12nm,0.2s							
VRAC	**Vranov**	**78.11**	**356**	LR		LR	19 54 40.4	
	comp=Z,132nm,21.1s,baz=360,slow=35							
TREC	**Trest**	**78.17**	**356**	AMS		AMS	20 04 10.0	
	comp=Z,100nm,17.0s							
GERES	**GERESS Array B**	**78.67**	**358**	P		**P**	**19 21 08.0**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=14,slow=5.9,SNR=11							
KIV	**Kislovodsk**	**79.64**	**337**	P		**P**	**19 21 17.0**	**+2.8**
KIV				*e*			19 21 19.8	
KIV							19 21 28.0	
KIV				*e*S		S	19 31 26.6	+11
KIV				SSS		SSS	19 39 48.0	
KIV				pmax		pmax		
	comp=Z,7.0nm,0.9s							
KIV				MLR		MLR		
	comp=Z,159nm,22.0s							
KBZ	**Khabaz**	**79.80**	**337**	P		**P**	**19 21 14.9**	**0.0**
	comp=Z,1.8nm,0.8s,baz=6.1,slow=3.9,SNR=5.6							
KBZ				LR		LR	20 00 06.5	
	comp=Z,137nm,19.3s,baz=13,slow=38							
GEYT	**Alibeck**	**80.52**	**324**	LR		LR	20 03 00.2	
	comp=Z,240nm,18.9s,baz=60,slow=40							
DAVOX	**Davos/Dischmat**	**80.78**	**0**	LR		LR	19 55 48.8	
	comp=Z,69nm,22.0s,baz=352,slow=35							
RKT	**Rikitea**	**81.46**	**148**	*e*T		T	20 50 46.1	
	comp=Z,3.3nm,0.4s							
CTA	**Charters Tower**	**82.00**	**221**	P		**P**	**19 21 26.5**	**-0.3**
	comp=Z,6.6nm,0.9s,baz=20,slow=10.0,SNR=6.3							
BATI	**Baumata**	**84.39**	**245**	P		**P**	**19 21 38.4**	**-0.9**
	comp=Z,11nm,0.5s,baz=90,slow=7.1,SNR=3.3							
BATI				LR		LR	19 53 48.7	
	comp=Z,122nm,20.7s,baz=354,slow=32							
BRTR	**Keskin Array B**	**85.62**	**342**	P		**P**	**19 21 45.4**	**-0.1**
	comp=Z,20.6nm,0.8s,baz=20,slow=3.9,SNR=4.0							
BRTR	**Keskin Array B**	**85.62**	**342**	*e*P		P	19 21 49.4	+3.9
ESDC	**Sonseca Array**	**87.07**	**11**	P		**P**	**19 21 52.4**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=351,slow=5.1,SNR=6.5							
WRA	**Warramunga Arr**	**87.09**	**231**	P		**P**	**19 21 52.0**	**-0.6**
	comp=Z,3.0nm,0.7s,baz=36,slow=5.8,SNR=15							
WRA				LR		LR	19 56 52.8	
	comp=Z,232nm,21.8s,baz=215,slow=33							
WRA	**Warramunga Arr**	**87.09**	**231**	P		**P**	**19 21 52.0**	**-0.6**
AS31	**Alice Springs**	**90.49**	**230**	*e*P		**P**	**19 22 09.1**	**+0.4**
ASAR	**Alice Springs**	**90.49**	**230**	P		**P**	**19 22 08.2**	**-0.4**
	comp=Z,10.0nm,0.8s,baz=30,slow=4.1,SNR=50							
ASAR				LR		LR	19 59 36.9	
	comp=Z,66nm,21.2s,baz=325,slow=34							
OTAV	**Otavalo**	**90.62**	**89**	*e*P		**P**	**19 22 11.5**	**+1.4**
	comp=Z,4.8nm,0.8s							
STKA	**Stephens Creek**	**94.38**	**220**	LR		LR	20 01 07.6	
	comp=Z,316nm,18.8s,baz=22,slow=33							
TORD	**Torodi Ar. Bea**	**113.90**	**9**	PKiKP		**PKiKP**	**19 27 44.8**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=358,slow=2.6,SNR=4.6							
TORD				PKKPbc		**PKKPbc**	**19 38 26.0**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=161,slow=2.3,SNR=4.3							
TORD				PKKPab		**PKKPab**	**19 38 34.0**	**-3.2**
	comp=Z,1.8nm,0.7s,baz=146,slow=2.8,SNR=13							
KMBO	**Kilima Mbogo**	**123.79**	**327**	PKP		**PKPdf**	**19 28 05.4**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=41,slow=7.6,SNR=5.0							
KMBO	**Kilima Mbogo**	**123.79**	**327**	*i* PKIKP		**PKPdf**	**19 28 07.3**	**+2.0**
KMBO				pmax		pmax		
	comp=Z,1.0nm,0.3s							
QSPA	**South Pole Qui**	**142.58**	**180**	*e*P		**PKPdf**	**19 28 33.7**	**-4.8**
LBTB	**Lobatse**	**149.91**	**331**	*e*PKP2		**PKPbc**	**19 28 57.3**	**+0.2**
LBTB	**Lobatse**	**149.91**	**331**	*e*PKPbc		**PKPbc**	**19 28 57.3**	**+0.2**
MAW	**Mawson**	**151.06**	**219**	LRPcbc		**PKPbc**	**19 28 58.9**	**+0.5**
	comp=Z,7.4nm,0.7s,baz=78,slow=2.8,SNR=15							
BOSA	**Boshof**	**153.38**	**329**	PKPbc		**PKPbc**	**19 29 04.3**	**-0.8**
	comp=Z,8.1nm,0.8s,baz=26,slow=2.5,SNR=16							

*IDC **19** 19:09:26.6±0.5,9.°42N×126.°09E, h0km, mb4.3/24, mb1 4.3/25, mb1mx4.2/48, mbtmp4.3/25, ML4.6/1, MS3.5/2, Ms1 3.5/2, ms1mx2.8/45, Error ellipse: s-maj=22.3km s-min=10.8km az=85.0*

*ISCJB **19** 19:09:35.6±0.6, 9.°44N±0.°03×126.°35E±0.°05, h86km±5km, mb4.2/28, Error ellipse: s-maj=8.7km s-min=4.6km az=162.8*

*NEIC **19** 19:09:37.0±1.5, 9.°41N×126.°19E, h86km±15km, mb4.4/5, Error ellipse: s-maj=14.5km s-min=7.7km az=82.0*

*MAN **19** 19:09:37, 9.°46N×126.°11E, h18km, mb5.0, ML3.9, MS4.0*

MAN INTENSITY II - SOCORRO SURIGAO DEL NORTE.

ISC 19 19:09:36.6±0.9, 9.°46N±0.°04×126.°32E±0.°06, h80km±9km, n67, σ1§33/70, mb4.3/28, 3C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
BUTP	**Butuan**	**0.84**	**235**	*e*P		Pn	19 09 50.8	-3.0
BUTP				*e*S		**Sn**	**19 10 05.1**	**-1.6**
BIPH	**Bislig**	**1.27**	**178**	*i* P		**Pn**	**19 10 00.7**	**+1.8**
BIPH				*i* S		**Sn**	**19 10 16.4**	**+0.8**
MSLP	**Maasin**	**1.59**	**295**	*e*P		**Pn**	**19 10 02.6**	**-0.5**
MSLP				*e*S		**Sn**	**19 10 25.1**	**+2.0**
CGP	**Cagayan de Oro**	**1.89**	**238**	*e*P		**Pn**	**19 10 06.8**	**-0.2**
CGP				*e*S		**Sn**	**19 10 31.6**	**+1.4**
BUKP	**Musuan**	**2.00**	**219**	*e*P		**Pn**	**19 10 08.3**	**-0.2**
BUKP				*e*S		**Sn**	**19 10 37.9**	**+5.0**
PLP	**Palo**	**2.15**	**322**	*e*P		**Pn**	**19 10 08.8**	**-1.7**
PLP				*i* S		**Sn**	**19 10 36.9**	**+0.5**
OCLP	**Ormoc**	**2.31**	**313**	*e*P		**Pn**	**19 10 12.7**	**0.0**
TBP	**Tagbilaran**	**2.44**	**276**	*e*P		**Pn**	**19 10 14.4**	**+0.1**
TBP				*e*S		**Sn**	**19 10 44.2**	**+0.9**
DAV	**Davao City (W)**	**2.48**	**197**	*e*P		**Pn**	**19 10 15.4**	**+0.5**
CTBH	**Cotabato--PC H**	**3.02**	**223**	*i* P		**Pn**	**19 10 22.1**	**-0.2**
DCPH	**Dipolog City**	**3.06**	**254**	*e*P		**Pn**	**19 10 23.2**	**+0.4**
DCPH				*e*S		**Sn**	**19 10 58.2**	**-0.1**
PAGZ	**Pagadian**	**3.32**	**241**	*e*P		**Pn**	**19 10 27.4**	**+1.2**
GUIM	**Jordan**	**3.86**	**288**	*e*P		**Pn**	**19 10 34.1**	**+0.6**
IPIL	**Ipil**	**4.06**	**246**	*e*P		**Pn**	**19 10 38.9**	**+2.5**
PVCP	**Virac**	**4.63**	**333**	*i* P		**Pn**	**19 10 46.8**	**+2.7**
PALU	**Palau**	**8.33**	**104**	P		Pn	19 11 24.6	-10
	baz=8.1,SNR=9.9							
SWI	**Sorong**	**11.37**	**154**	P		**Pn**	**19 12 15.5**	**-0.6**
	baz=11,SNR=10							
SIJI	**Sorong**	**11.38**	**154**	Pn		Pn	19 12 12.2	-4.0
	3.9nm,0.3s,baz=330,slow=20,SNR=19							
SIJI				Sn		Sn	19 14 12.0	-10
	0.8nm,0.3s,baz=342,slow=20,SNR=4.8							
SIJI				LR		LR	19 18 59.0	
	comp=Z,87nm,18.0s,baz=260,slow=50							
FAKI	**Fak Fak**	**13.64**	**154**	P		**Pn**	**19 12 44.2**	**-2.5**
	baz=14,SNR=7.5							
MTN	**Manton Dam**	**22.66**	**168**	P		**P**	**19 14 30.7**	**-0.8**
	baz=23,SNR=8.0							
KDU	**Kakadu**	**22.83**	**164**	P		**P**	**19 14 31.9**	**-1.2**
	baz=23,SNR=9.1							
JCJ	**Chichijima**	**23.08**	**38**	P		**P**	**19 14 34.7**	**-0.9**
	37nm,0.6s,baz=234,slow=19,SNR=4.3							
CBIJ	**Chichi jima**	**23.08**	**38**	P		**P**	**19 14 34.7**	**-0.9**
JNU	**Nakatsue**	**23.92**	**9**	P		**P**	**19 14 42.5**	**-0.8**
	4.8nm,0.9s,baz=199,slow=12,SNR=3.6							
LEM	**Lembang**	**24.68**	**230**	P		**P**	**19 14 46.9**	**-3.6**
	6.1nm,0.4s,baz=27,slow=18,SNR=2.4							
KNRA	**Kununurra**	**25.09**	**174**	P		**P**	**19 14 53.9**	**0.0**
	baz=25,SNR=11							
FITZ	**Fitzroy Crossi**	**27.39**	**181**	P		**P**	**19 15 14.9**	**+0.2**
	baz=28,SNR=9.3							
KSAR	**Wonju Array Be**	**27.90**	**3**	P		**P**	**19 15 19.4**	**+0.4**
KSRS	**Korea Array**	**27.91**	**3**	P		**P**	**19 15 19.4**	**+0.3**
	3.3nm,0.7s,baz=183,slow=9.3,SNR=17							
MJAR	**Matsushiro Arr**	**29.04**	**20**	P		**P**	**19 15 28.1**	**-1.2**
	1.5nm,0.8s,baz=196,slow=9.7,SNR=6.4							
WRAB	**Tennant Creek**	**30.25**	**165**	*e*P		**P**	**19 15 38.6**	**-1.5**
	9.1nm,1.2s							
WRA	**Warramunga Arr**	**30.26**	**165**	P		**P**	**19 15 38.9**	**-1.3**
	0.8nm,0.6s,baz=345,slow=8.8,SNR=7.6							
QIS	**Mount Isa**	**32.56**	**156**	P		**P**	**19 16 00.2**	**-0.3**
	baz=33,SNR=3.6							
ASAR	**Alice Springs**	**33.74**	**167**	P		**P**	**19 16 10.1**	**-0.7**
	0.7nm,0.3s,baz=351,slow=7.1,SNR=48							
WRKA	**Warakurna**	**34.34**	**177**	P		**P**	**19 16 16.3**	**+0.5**
	baz=35,SNR=24							
USRK	**Ussuriysk Ar.**	**34.96**	**7**	P		**P**	**19 16 21.9**	**+0.9**
	2.8nm,0.7s,baz=181,slow=7.6,SNR=6.8							
MDJ	**Mudanjiang**	**35.14**	**4**	*e*P		**P**	**19 16 22.5**	**0.0**
	6.0nm,0.8s							
CTA	**Charters Tower**	**35.31**	**146**	P		**P**	**19 16 24.6**	**+0.2**
	0.9nm,0.5s,baz=342,slow=9.6,SNR=3.2							
CTAO	**Charters Tower**	**35.31**	**146**	*e*P		**P**	**19 16 24.5**	**+0.2**
	2.8nm,0.7s							
MEEK	**Meekatharra**	**36.65**	**192**	P		**P**	**19 16 36.5**	**+0.8**
	baz=37,SNR=5.8							
ASAJ	**Asahikawa**	**37.31**	**19**	P		**P**	**19 16 42.4**	**+1.4**
	3.6nm,0.7s,baz=217,slow=6.6							
MORW	**Morawa**	**39.56**	**194**	P		P	19 16 42.4	-18
	baz=40,SNR=4.8							
FORT	**Forrest**	**40.04**	**178**	P		**P**	**19 17 04.8**	**+0.8**
	baz=40,SNR=15							
KMBL	**Kambalda**	**40.81**	**186**	P		**P**	**19 17 11.4**	**+1.1**
	baz=41,SNR=6.3							
SONM	**Songino Array**	**41.80**	**340**	P		**P**	**19 17 18.1**	**-0.3**
	0.4nm,0.4s,baz=144,slow=6.5,SNR=3.6							
NWAO	**Narrogin (SRO)**	**43.03**	**191**	P		**P**	**19 17 29.3**	**+0.9**
	6.5nm,0.6s,baz=335,slow=3.9,SNR=6.2							
BBOO	**Buckleboo**	**43.04**	**168**	P		**P**	**19 17 29.0**	**+0.4**
	baz=43,SNR=9.2							
STKA	**Stephens Creek**	**43.62**	**161**	P		**P**	**19 17 33.2**	**+0.1**
	1.8nm,0.4s,baz=344,slow=7.4,SNR=21							
STKA	**Stephens Creek**	**43.62**	**161**	P		**P**	**19 17 33.3**	**+0.1**
	baz=44,SNR=15							
STKA	**Stephens Creek**	**43.62**	**161**	*e*P		**P**	**19 17 33.0**	**-0.2**
DZM	**Mont Dzumac**	**50.30**	**129**	P		**P**	**19 18 26.9**	**+1.4**
	5.2nm,0.6s,baz=333,slow=2.3,SNR=7.9							
PETK	**Petropavlovsk-**	**50.35**	**24**	P		**P**	**19 18 26.9**	**+1.5**
	5.0nm,0.6s,baz=195,slow=3.2,SNR=6.3							
LHI	**Lord Howe Isla**	**51.41**	**144**	P		**P**	**19 18 30.5**	**-3.0**
	baz=52,SNR=3.2							
MK31	**Makanchi Array**	**52.70**	**323**	P		**P**	**19 18 42.9**	**-0.2**
	baz=53,SNR=4.3							
MK31	**Makanchi Array**	**52.70**	**323**	*e*P		**P**	**19 18 41.8**	**-1.2**
MKAR	**Makanchi Array**	**52.70**	**323**	P		**P**	**19 18 43.0**	**-0.1**
	1.7nm,0.5s,baz=126,slow=8.0,SNR=28							
ZALV	**Zalesovo Beam**	**55.36**	**332**	P		**P**	**19 19 01.4**	**-0.9**
	0.7nm,0.4s,baz=120,slow=6.0,SNR=4.9							
SEY	**Seymchan**	**56.59**	**14**	P		**P**	**19 19 13.1**	**+2.3**
	1.6nm,0.6s,baz=201,slow=8.6,SNR=3.6							
KURK	**Kurchatov**	**56.76**	**326**	*e*P		**P**	**19 19 11.8**	**-0.4**
	9.5nm,1.5s							
KKAR	**Karatay Array**	**58.86**	**315**	*e*P		**P**	**19 19 27.0**	**-0.1**
	0.7nm,0.6s							
GNI	**Garni**	**77.55**	**309**	LR		LR	19 59 11.5	
	comp=Z,87nm,21.4s,baz=346,slow=39							
ILAR	**Eielson Array**	**80.15**	**26**	P		**P**	**19 21 37.4**	**-0.4**
	0.7nm,0.6s,baz=284,slow=4.3,SNR=7.3							
SPITS	**Spitsbergen Ar**	**84.82**	**349**	P		**P**	**19 22 02.1**	**+0.3**
	2.0nm,0.5s,baz=97,slow=6.8,SNR=4.2							
ARCES	**ARCESS Array B**	**84.97**	**340**	P		**P**	**19 22 02.7**	**-0.1**
	4.5nm,0.6s,baz=82,slow=6.8,SNR=22							
FINES	**FINESS Array B**	**86.63**	**332**	P		**P**	**19 22 11.0**	**0.0**
	1.7nm,0.4s,baz=96,slow=4.9,SNR=33							
NOA	**NORSAR Array B**	**93.51**	**334**	P		**P**	**19 22 43.1**	**-0.3**
	0.9nm,0.8s,baz=67,slow=4.6,SNR=3.1							
YKA	**Yellowknife Ar**	**94.47**	**24**	P		**P**	**19 22 49.2**	**+1.5**
	1.5nm,0.7s,baz=302,slow=4.7,SNR=11							

*NEIC **19** 19:15:21.3, 52.°70N×169.°61W, h1km, ML3.7(AEIC), After AEIC.*

*ISCJB **19** 19:15:22.3±0.5, 52.°76N±0.°09×169.°70W±0.°07, h10km, mb4.0/8, Error ellipse: s-maj=13.2km s-min=4.1km az=156.6*

*IDC **19** 19:15:23.2±1.0, 52.°62N×169.°38W, h0km, mb4.1/8, mb1 4.3/10, mb1mx3.8/59, mbtmp4.0/10, ML3.4/2, Error ellipse: s-maj=34.8km s-min=19.1km az=165.0*

ISC 19 19:15:23.3±0.8, 52.°84N±0.°10×169.°65W±0.°05, h10km, n37, σ1§27/36, mb4.2/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
NIKH	**Nikolski High**	**0.50**	**74**	P		**Pb**	**19 15 33.2**	**-1.0**
NIKH				S		**Sb**	**19 15 41.4**	**-0.2**
OKWR	**Okmok West Rim**	**1.05**	**55**	P		**Pn**	**19 15 44.0**	**-0.2**
OKCE	**Okmok Cone E**	**1.07**	**56**	P		**Pn**	**19 15 43.4**	**-1.0**
OKAK	**Okmok**	**1.07**	**46**	P		**Pb**	**19 15 42.1**	**-1.9**
OKAK				S		**Sb**	**19 15 57.4**	**-0.6**
OKTU	**Okmok Mt. Tuli**	**1.11**	**60**	P		**Pg**	**19 15 44.6**	**-0.1**
MSOM	**Makushin Julie**	**1.89**	**58**	P		**Pn**	**19 15 56.2**	**-1.7**
MSOM				S		**Sb**	**19 16 21.9**	**+0.3**
MCIR	**Makushin Cirqu**	**1.99**	**55**	P		**Pb**	**19 15 58.0**	**-1.6**
MSW	**Makushin Switc**	**2.03**	**57**	P		**Pb**	**19 15 58.2**	**-2.0**
MTBL	**Makushin Table**	**2.11**	**56**	P		**Pb**	**19 15 59.8**	**-1.8**
UNV	**Unalaska Valle**	**2.14**	**61**	P		**Pb**	**19 16 00.0**	**-2.1**
UNV				S		**Sb**	**19 16 27.4**	**-1.3**
AKRB	**Akutan Reef Bi**	**2.50**	**57**	P		**Pn**	**19 16 04.8**	**+0.8**
ZRO	**Akutan Zero**	**2.53**	**59**	P		**Pn**	**19 16 05.3**	**+0.9**
AKGG	**Akutan Green G**	**2.57**	**57**	P		**Pn**	**19 16 06.0**	**+1.0**
AKUT	**Akutan**	**2.66**	**59**	P		**Pn**	**19 16 07.0**	**+0.9**
ATKA	**Atka Island**	**2.85**	**259**	P		**Pn**	**19 16 08.0**	**-0.8**
WESP	**Westdahl Peak**	**3.37**	**59**	P		**Pn**	**19 16 17.5**	**+1.5**
SSBA	**Shishaldin**	**3.81**	**57**	P		**Pn**	**19 16 22.9**	**+0.9**
GSTR	**Great Sitkin T**	**3.99**	**262**	*e*Pn		**Pn**	**19 16 23.8**	**-0.7**
GSCK	**Great Sitkin C**	**4.07**	**261**	P		**Pn**	**19 16 25.0**	**-0.6**
ADAG	**Mount Adagdak**	**4.34**	**261**	P		**Pn**	**19 16 29.6**	**+0.3**
SPIA	**Saint Paul Isl**	**4.36**	**356**	P		**Pn**	**19 16 30.7**	**+1.2**
BPAW	**Bear Paw Mtn.**	**14.85**	**33**	*e*Pn		**P**	**19 18 56.7**	**-2.2**
	3.4nm,1.0s							
ILAR	**Eielson Array**	**16.66**	**35**	Pn		**Pn**	**19 19 16.4**	**-0.2**
	0.1nm,0.3s,baz=226,slow=11,SNR=10							
PETK	**Petropavlovsk-**	**19.58**	**284**	P		**Pn**	**19 19 54.5**	**+2.1**
	0.2nm,0.3s,baz=82,slow=13,SNR=4.1							
SKAG	**Skagway**	**20.05**	**57**	*e*P		Pn	19 19 57.7	-0.4
DLBC	**Dease Lake**	**22.79**	**60**	P		**P**	**19 20 27.0**	**+1.2**
	8.2nm,0.9s,baz=273,slow=9.9,SNR=15							
YKA	**Yellowknife Ar**	**30.06**	**49**	P		**P**	**19 21 33.8**	**+1.6**
	0.2nm,0.4s,baz=270,slow=7.4,SNR=4.1							
NEW	**Newport**	**33.06**	**76**	P		**P**	**19 21 59.8**	**+1.0**
	2.2nm,0.4s,baz=284,slow=12,SNR=4.0							
NVAR	**Mina Array Bea**	**37.84**	**91**	P		**P**	**19 22 39.5**	**-0.7**
	2.4nm,0.3s,baz=289,slow=8.5,SNR=14							
ELK	**Elko**	**38.27**	**86**	P		**P**	**19 22 43.9**	**+0.1**
	0.7nm,0.6s,baz=276,slow=8.7,SNR=4.0							
H11S1	**WAKE ISLAND Hy**	**38.91**	**217**	T		T	20 04 00.5	
	baz=19							
H11S2	**WAKE ISLAND Hy**	**38.92**	**217**	T		T	20 04 07.7	
	baz=19							
H11S3	**WAKE ISLAND Hy**	**38.93**	**217**	T		T	20 04 01.4	
	baz=19							
PDAR	**Pinedale Array**	**40.48**	**79**	P		**P**	**19 23 02.5**	**+0.3**
	0.7nm,0.6s,baz=312,slow=5.4,SNR=5.6							
TXAR	**Lajitas Array**	**52.91**	**89**	P		**P**	**19 24 39.8**	**+0.3**
	2.0nm,0.9s,baz=303,slow=5.7,SNR=16							
ASAR	**Alice Springs**	**90.57**	**230**	P		P	19 28 27.1	+1.7
	2.9nm,0.7s,baz=31,slow=4.6,SNR=18							
BOSA	**Boshof**	**153.40**	**330**	PKPbc		**PKPbc**	**19 35 23.6**	**+2.0**
	1.8nm,0.6s,baz=20,slow=3.3,SNR=8.0							

*CSEM **19** 19:15:50.0±0.6, 36.°51N×20.°43E, h5km, MD3.7, Error ellipse: s-maj=11.6km s-min=7.2km az=47.0*

*THE **19** 19:15:51.2, 36.°56N×20.°43E, h3km±1km, ML3.0/5, Error ellipse: s-maj=2.5km s-min=1.8km az=40.0*

*ATH **19** 19:15:52.6, 36.°67N×20.°56E, h24km±1km, MD3.7/15*

ISC 19 19:15:50.5±2.4, 36.°57N±0.°09×20.°46E±0.°09, h3km±13km, n57, σ0§73/79, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
SFD	**Strofades**	**0.81**	**33**	*e*Pn		**Pg**	**19 16 06.3**	**+0.1**
SFD	**Strofades**	**0.81**	**33**	P		**Pg**	**19 16 06.4**	**+0.2**
SFD				S		**Sb**	**19 16 19.3**	**+0.5**
SFD	**Strofades**	**0.81**	**33**	P		**Pg**	**19 16 06.4**	**+0.2**
SFD				S		**Sb**	**19 16 19.3**	**+0.5**
PYL	**PYLOS**	**1.08**	**72**	*e*Pn		**Pg**	**19 16 11.5**	**+0.2**
PYL	**PYLOS**	**1.08**	**72**	P		**Pg**	**19 16 11.2**	**-0.1**
PYL	**PYLOS**	**1.08**	**72**	*e*Pn		**Pg**	**19 16 11.5**	**+0.2**
PYL				S		**Sn**	**19 16 28.1**	**0.0**
PYL	**PYLOS**	**1.08**	**72**	P		**Pg**	**19 16 11.2**	**-0.1**
PYL				S		**Sn**	**19 16 28.1**	**0.0**
ZKS	**Zakynthos**	**1.16**	**13**	*e*Pn		**Pg**	**19 16 11.9**	**-0.8**
ZKS	**Zakynthos**	**1.16**	**13**	P		**Pg**	**19 16 12.1**	**-0.6**
ZKS				S		**Sn**	**19 16 31.0**	**+1.0**
ZKS	**Zakynthos**	**1.16**	**13**	P		**Pg**	**19 16 12.1**	**-0.6**
ZKS				S		**Sn**	**19 16 31.0**	**+1.0**
ITM	**Ithomi**	**1.33**	**62**	*e*Pn		**Pn**	**19 16 15.3**	**-0.7**
ITM	**Ithomi**	**1.33**	**62**	P		**Pn**	**19 16 15.3**	**-0.7**
ITM	**Ithomi**	**1.33**	**62**	P		**Pn**	**19 16 15.3**	**-0.7**
AMT	**Artemida-Makis**	**1.39**	**46**	*e*PN		**Pn**	**19 16 16.6**	**-0.3**
AMT	**Artemida-Makis**	**1.39**	**46**	*e*Pn		**Pn**	**19 16 16.6**	**-0.3**
AMT				S		**Sn**	**19 16 38.0**	**+2.3**
AMT	**Artemida-Makis**	**1.39**	**46**	P		**Pn**	**19 16 16.5**	**-0.3**
AMT				S		**Sn**	**19 16 38.0**	**+2.3**
KFL	**Anninata**	**1.56**	**10**	P		**Pb**	**19 16 20.0**	**-0.1**
KFL	**Anninata**	**1.56**	**10**	P		**Pb**	**19 16 20.0**	**-0.1**
RLS	**Riolos of Patr**	**1.69**	**28**	*e*PN		**Pn**	**19 16 21.0**	**0.0**
RLS	**Riolos of Patr**	**1.69**	**28**	P		**Pn**	**19 16 21.0**	**0.0**
RLS	**Riolos of Patr**	**1.69**	**28**	P		**Pn**	**19 16 21.0**	**0.0**
DRO	**Drossia**	**1.70**	**36**	*e*PN		**Pn**	**19 16 21.3**	**+0.1**
DRO	**Drossia**	**1.70**	**36**	*e*Pn		**Pn**	**19 16 21.3**	**+0.1**
DRO	**Drossia**	**1.70**	**36**	P		**Pn**	**19 16 21.6**	**+0.4**
DRO	**Drossia**	**1.70**	**36**	P		**Pn**	**19 16 21.6**	**+0.4**
VLX	**Vlachokerasia**	**1.73**	**62**	*e*PN		**Pn**	**19 16 21.3**	**-0.4**
VLX	**Vlachokerasia**	**1.73**	**62**	P		**Pn**	**19 16 21.4**	**-0.3**
VLX				S		**Sb**	**19 16 45.5**	**+0.2**
VLX	**Vlachokerasia**	**1.73**	**62**	P		**Pn**	**19 16 21.4**	**-0.3**
VLX				S		**Sb**	**19 16 45.5**	**+0.2**
EXG	**Exogi**	**1.89**	**4**	*e*PN		**Pn**	**19 16 23.9**	**+0.2**
EXG				*e*SN		**Sn**	**19 16 46.6**	**-1.6**
EXG	**Exogi**	**1.89**	**4**	P		**Pn**	**19 16 24.0**	**+0.2**
EXG				*e*Sn		**Sn**	**19 16 46.6**	**-1.6**
EXG	**Exogi**	**1.89**	**4**	P		**Pn**	**19 16 24.0**	**+0.2**
KLV	**Kalavryta, Ach**	**2.00**	**42**	*e*PN		**Pn**	**19 16 25.3**	**0.0**
KLV	**Kalavryta, Ach**	**2.00**	**42**	*e*Pn		**Pn**	**19 16 25.3**	**0.0**
KLV	**Kalavryta, Ach**	**2.00**	**42**	P		**Pn**	**19 16 25.2**	**0.0**
VLI	**Veliai**	**2.00**	**85**	*e*PB		**Pn**	**19 16 25.2**	**0.0**
VLI	**Veliai**	**2.00**	**85**	*e*Pb		**Pn**	**19 16 25.2**	**0.0**
VLI				S		**Sb**	**19 16 52.7**	**-0.1**
VLI	**Veliai**	**2.00**	**85**	P		**Pn**	**19 16 25.4**	**+0.2**
VLI				S		**Sb**	**19 16 52.7**	**-0.1**
GUR	**Goura**	**2.03**	**47**	*e*PN		**Pn**	**19 16 25.8**	**0.0**
GUR	**Goura**	**2.03**	**47**	P		**Pn**	**19 16 25.9**	**+0.1**
GUR				S		**Sn**	**19 16 51.8**	**+0.1**
GUR	**Goura**	**2.03**	**47**	P		**Pn**	**19 16 25.9**	**+0.1**
GUR				S		**Sn**	**19 16 51.8**	**+0.1**
LAKA	**Lakka**	**2.06**	**36**	*e*PN		**Pn**	**19 16 26.9**	**+0.8**
LAKA	**Lakka**	**2.06**	**36**	P		**Pn**	**19 16 26.9**	**+0.8**
LAKA	**Lakka**	**2.06**	**36**	P		**Pn**	**19 16 26.9**	**+0.8**
KYTH	**Kithira**	**2.10**	**97**	P		**Pn**	**19 16 28.0**	**+1.4**
KYTH	**Kithira**	**2.10**	**97**	P		**Pn**	**19 16 28.0**	**+1.4**
PDO	**Prodromos**	**2.11**	**16**	*e*PN		**Pn**	**19 16 27.2**	**+0.5**
PDO	**Prodromos**	**2.11**	**16**	P		**Pn**	**19 16 27.2**	**+0.5**
PDO				S		**Sn**	**19 16 53.4**	**0.0**
PDO	**Prodromos**	**2.11**	**16**	P		**Pn**	**19 16 27.2**	**+0.5**
PDO				S		**Sn**	**19 16 53.4**	**0.0**
KRND	**KRANIDI**	**2.30**	**69**	*

SPIA	Saint Paul Isl	4.49	353	P		Pn	19 32 14.4	+0.9
AMKA	Amchitka	7.17	264	*e*P		Pn	19 32 49.8	-0.5
	25nm,0.6s							
BPAW	Bear Paw Mtn.	14.81	33	*e*P		P	19 34 38.8	-1.9
	1.1nm,0.6s							
ILAR	Eielson Array	16.62	35	Pn		Pn	19 34 57.1	-1.1
	0.1nm,0.3s,baz=226,slow=11,SNR=5.0							
HYT	Haines Junctio	19.03	52	*e*P		P	19 35 28.3	+0.8
	6.8nm,0.6s							
SEY	Seymchan	22.47	312	P		P	19 36 05.0	+0.6
	1.7nm,0.9s,baz=0.0,slow=20,SNR=2.6							
DLBC	Dease Lake	22.65	60	P		P	19 36 08.2	+1.7
	0.7nm,0.4s,baz=306,slow=10,SNR=3.3							
YKA	Yellowknife Ar	29.96	49	P		P	19 37 13.7	+0.2
	0.3nm,0.6s,baz=274,slow=7.8,SNR=4.1							
CHMT	Chamberlain Mo	35.81	76	*e*P		P	19 38 04.3	-0.7
	2.4nm,1.0s							
NVAR	Mina Array Bea	37.61	92	P		P	19 38 21.3	+0.9
	0.4nm,0.6s,baz=309,slow=9.4,SNR=3.6							
H11N2	WAKE ISLAND Hy	37.77	218	T		T	20 18 20.9	
	baz=23,slow=76,SNR=73							
H11N3	WAKE ISLAND Hy	37.78	218	T		T	20 18 19.6	
	baz=23,slow=76,SNR=92							
H11N1	WAKE ISLAND Hy	37.79	218	T		T	20 18 20.1	
	baz=23,slow=76,SNR=45							
ELK	Elko	38.05	86	P		P	19 38 24.5	+0.4
	0.6nm,0.4s,baz=302,slow=11,SNR=5.9							
H11S1	WAKE ISLAND Hy	38.96	218	T		T	20 19 48.4	
	baz=23,slow=76,SNR=607							
H11S2	WAKE ISLAND Hy	38.98	218	T		T	20 19 49.8	
	baz=23,slow=76,SNR=326							
H11S3	WAKE ISLAND Hy	38.98	218	T		T	20 19 48.4	
	baz=23,slow=76,SNR=184							
PDAR	Pinedale Array	40.28	80	P		P	19 38 42.4	-0.3
	1.3nm,0.6s,baz=314,slow=5.2,SNR=12							
SONM	Songino Array	51.16	301	PcP		PcP	19 41 21.2	-2.6
	0.6nm,0.7s,baz=78,slow=3.3,SNR=4.1							
TXAR	Lajitas Array	52.68	89	P		P	19 40 19.8	-0.3
	1.3nm,0.6s,baz=316,slow=3.8,SNR=7.0							
WRA	Warramunga Arr	87.27	232	P		P	19 43 49.4	-2.7
	0.6nm,0.9s,baz=35,slow=6.0,SNR=4.1							
ASAR	Alice Springs	90.67	230	P		P	19 44 05.2	-2.9
	1.0nm,0.8s,baz=35,slow=3.6,SNR=11							

IDC ***19*** *19:36:19.7±0.8,52.59N×169.75W,h0km,mb3.9/12, mb1 4.2/14,mb1mx3.8/77,mbtmp3.9/14,ML3.4/2,MS3.5/7, Ms1 3.6/7,ms1mx3.1/53,Error ellipse: s-maj=24.2km s-min=14.7km az=169.0*

ISCJB ***19*** *19:36:20.4±0.5,52.70N±0.07×169.68W±0.07,h10km, mb4.0/15,MS3.5/6,Error ellipse: s-maj=11.3km s-min=3.9km az=155.3*

NEIC ***19*** *19:36:20.3,52.70N×169.50W,h0km,ML3.7(AEIC),After AEIC.*

ISC 19 19:36:21.2±0.7,52.73N±0.09×169.52W±0.06,h10km,n53, σ1§46/43,mb4.0/15,MS3.4/6,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	Nikolski High	0.47	59	P	Pb	19 36 30.8	-0.8
NIKH				S	Sb	19 36 38.7	0.0
OKWR	Okmok West Rim	1.06	48	P	Pn	19 36 42.7	+0.5
OKCE	Okmok Cone E	1.07	49	P	Pg	19 36 41.3	-0.6
OKAK	Okmok	1.10	39	P	Pb	19 36 40.8	-1.6
OKAK				S	Sg	19 36 56.5	-0.2
OKTU	Okmok Mt. Tuli	1.11	53	P	Pn	19 36 42.7	-0.1
MSOM	Makushin Julie	1.89	54	P	Pb	19 36 54.0	-1.7
MSOM				S	Sg	19 37 20.7	-1.3
MCIR	Makushin Cirqu	2.00	51	P	Pb	19 36 56.1	-1.5
MSW	Makushin Switc	2.03	53	P	Pb	19 36 56.0	-2.1
MTBL	Makushin Table	2.11	53	P	Pb	19 36 58.1	-1.4
UNV	Unalaska Valle	2.13	57	P	Pb	19 36 57.9	-2.0
UNV				S	Sb	19 37 25.8	-0.5
AKRB	Akutan Reef Bi	2.50	54	P	Pb	19 37 03.4	-2.7
ZRO	Akutan Zero	2.52	56	P	Pn	19 37 03.2	+1.0
AKGG	Akutan Green G	2.57	54	P	Pn	19 37 04.1	+1.2
ATKA	Atka Island	2.91	261	P	Pn	19 37 08.2	+0.7
GSTR	Great Sitkin T	4.05	264	*e*Pn	Pn	19 37 22.8	-0.5
SPIA	Saint Paul Isl	4.48	355	P	Pn	19 37 30.4	+1.4
AMKA	Amchitka	7.03	263	*e*P	Pn	19 38 04.7	+0.7
	37nm,0.7s						
PPLA	Purkeypile	13.70	35	*e*P	P	19 39 39.8	-4.5
	37nm,1.3s						
TRF	Thorofare Moun	14.72	36	*e*P	P	19 39 55.2	-0.3
	12nm,1.1s						
BPAW	Bear Paw Mtn.	14.89	33	*e*P	P	19 39 54.5	-2.9
	5.6nm,1.3s						
IM04	Indian Mountai	15.44	25	*e*P	P	19 40 02.7	-0.8
ILAR	Eielson Array	16.71	35	Pn	P	19 40 16.5	-1.0
	0.1nm,0.3s,baz=245,slow=11,SNR=13						
ILAR				LR	LR	19 46 38.2	
	comp=Z,238nm,18.9s,baz=240,slow=37						
COLD	Coldfoot	17.33	26	*e*P	P	19 40 27.6	+3.4
	54nm,1.8s						
HYT	Haines Junctio	19.15	52	*e*P	Pn	19 40 47.6	+2.3
	17nm,1.1s						
PETK	Petropavlovsk-	19.68	284	P	P	19 40 49.8	-0.4
	0.3nm,0.3s,baz=97,slow=12,SNR=5.3						
SKAG	Skagway	20.05	57	*e*P	Pn	19 40 57.6	+1.6
	32nm,1.0s						
SEY	Seymchan	22.36	312	P	P	19 41 18.8	-0.2
	1.7nm,0.8s,baz=141,slow=13,SNR=3.1						
DLBC	Dease Lake	22.78	60	P	P	19 41 26.3	+2.6
	17nm,1.1s,baz=267,slow=7.4,SNR=21						
DLBC				LR	LR	19 49 12.6	
	comp=Z,86nm,20.5s,baz=268,slow=34						
INK	Inuvik	23.10	34	P	P	19 41 27.4	+0.7
	3.6nm,1.0s,baz=228,slow=12,SNR=3.0						
INK				LR	LR	19 50 14.6	
	comp=Z,171nm,18.8s,baz=274,slow=36						
YKA	Yellowknife Ar	30.07	49	P	P	19 42 31.1	+0.9
	0.6nm,0.6s,baz=273,slow=9.9,SNR=5.0						
BSMT	Bassoo Peak	34.59	76	*e*P	P	19 43 13.1	+2.9
	2.2nm,1.0s						
BMO	Blue Mountains	34.61	82	*e*P	P	19 43 13.5	+3.1
	5.8nm,1.4s						
EGMT	Eagleton	37.45	73	*e*P	P	19 43 36.5	+1.9
	14nm,1.1s						
H11N2	WAKE ISLAND Hy	37.68	218	T	T	20 23 26.1	
	baz=24,slow=76,SNR=16						
H11N3	WAKE ISLAND Hy	37.69	218	T	T	20 23 27.5	
	baz=24,slow=76,SNR=15						
H11N1	WAKE ISLAND Hy	37.70	218	T	T	20 23 22.7	
	baz=24,slow=76,SNR=19						
NVAR	Mina Array Bea	37.76	91	P	P	19 43 39.5	+2.1
	0.9nm,0.8s,baz=283,slow=8.1,SNR=5.6						
H11S1	WAKE ISLAND Hy	38.87	218	T	T	20 24 54.3	
	baz=23,slow=76,SNR=64						
H11S2	WAKE ISLAND Hy	38.88	218	T	T	20 24 55.5	
	baz=23,slow=76,SNR=53						
H11S3	WAKE ISLAND Hy	38.89	218	T	T	20 24 59.4	
	baz=23,slow=76,SNR=64						
MJAR	Matsushiro Arr	39.62	267	LR	LR	19 58 07.7	
	comp=Z,566nm,21.6s,baz=95,slow=33						
PDAR	Pinedale Array	40.43	79	P	P	19 44 00.6	+0.9
	2.1nm,0.9s,baz=326,slow=4.1,SNR=14						
KSRS	Korea Array	45.27	276	LR	LR	20 02 57.9	
	comp=Z,35nm,19.5s,baz=54,slow=35						
SONM	Songino Array	51.03	300	PcP	PcP	19 46 37.6	-1.6
	0.8nm,0.8s,baz=52,slow=2.6,SNR=5.1						
TXAR	Lajitas Array	52.83	89	P	P	19 45 37.0	+0.1
	2.7nm,0.9s,baz=302,slow=6.4,SNR=8.2						
SADO	Sadowa	56.34	59	LR	LR	20 11 51.2	
	comp=Z,118nm,18.2s,baz=124,slow=38						
KURK	Kurchatov	62.04	318	P	P	19 46 42.1	+0.7
KURBB	Kurchatov Arra	62.15	318	P	P	19 46 42.1	-0.1
	0.1nm,0.3s,baz=44,slow=8.4,SNR=4.5						
BVAR	Borovoye Array	63.35	324	P	P	19 46 49.9	-0.2
	0.4nm,0.5s,baz=34,slow=10,SNR=2.7						
FINES	FINESS Array B	65.50	352	LR	LR	20 19 07.5	
	comp=Z,27nm,18.2s,baz=9.5,slow=39						
SIJI	Sorong	72.59	244	P	P	19 47 48.6	-0.1
	6.0nm,0.9s,baz=54,slow=5.3,SNR=4.1						
WRA	Warramunga Arr	87.16	231	P	P	19 49 07.6	+0.2
	0.9nm,0.9s,baz=45,slow=4.6,SNR=5.3						
ASAR	Alice Springs	90.56	230	P	P	19 49 21.2	-2.2
	2.0nm,0.9s,baz=34,slow=4.9,SNR=13						

IDC 19 19:39:40.0±3.6,5.21S×149.73E,h0km,mb3.2/2, mb1 3.6/3,mb1mx3.2/37,mbtmp3.4/3,ML1.2/1,Error ellipse: s-maj=134.3km s-min=40.4km az=112.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	4.89	211	Pn	Pn	19 40 56.7	+1.9
	0.7nm,0.3s,baz=10,slow=11,SNR=2.9						
PMG				Sn	Sn	19 41 49.7	-2.4
	1.9nm,0.3s,baz=342,slow=20,SNR=3.1						
WRA	Warramunga Arr	20.95	224	P	P	19 44 24.8	+0.1
	0.5nm,0.3s,baz=51,slow=10,SNR=11						
ASAR	Alice Springs	23.86	218	P	P	19 44 54.3	-1.0
	0.5nm,0.7s,baz=45,slow=9.2,SNR=6.0						
TORD	Torodi Ar. Bea	147.50	286	PKPbc	PKPbc	19 59 26.5	-0.7
	1.4nm,0.7s,baz=65,slow=2.9,SNR=12						

IDC ***19*** *19:45:57.9±1.2,36.75N×20.64E,h0km,mb3.7/7, mb1 3.7/9,mb1mx3.5/46,mbtmp3.6/9,ML3.7/1,Error ellipse: s-maj=25.0km s-min=20.3km az=46.0*

ISCJB ***19*** *19:45:58.9±0.8,36.58N±0.04×20.37E±0.04,h15km±5km, mb3.6/7,Error ellipse: s-maj=6.6km s-min=4.4km az=26.8*

CSEM ***19*** *19:45:59.2±0.4,36.62N×20.45E,h2km,MD3.4,Error ellipse: s-maj=8.1km s-min=4.4km az=33.0*

THE ***19*** *19:45:59.9,36.58N×20.48E,h2km±1km,ML3.4/5,Error ellipse: s-maj=2.2km s-min=1.2km az=24.0*

ATH ***19*** *19:46:01.7,36.70N×20.64E,h22km±1km,MD3.4/28*

ISC 19 19:45:59.5±2.1,36.61N±0.04×20.51E±0.04,h10km±15km, n136,σ1§19/177,mb3.7/7,1C,Central Mediterraneaan Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFD	Strofades	0.76	32	*e*PN	Pb	19 46 14.8	-0.1
SFD				*e*SN	Sg	19 46 23.4	-0.7
SFD	Strofades	0.76	32	P	Pb	19 46 14.7	-0.1
SFD				S	Sg	19 46 25.3	+1.2
SFD	Strofades	0.76	32	P	Pb	19 46 14.7	-0.1
SFD				S	Sg	19 46 25.3	+1.2
PYL	PYLOS	1.03	73	*e*PN	Pb	19 46 19.8	+0.4
PYL				*e*SN	Sb	19 46 31.8	-1.2
PYL	PYLOS	1.03	73	P	Pb	19 46 19.2	-0.2
PYL	PYLOS	1.03	73	*e*Pn	Pb	19 46 19.8	+0.4
PYL				S	Sn	19 46 34.8	+0.3
PYL	PYLOS	1.03	73	P	Pb	19 46 19.2	-0.2
PYL				S	Sn	19 46 34.8	+0.3
ZKS	Zakynthos	1.11	11	*e*PN	Pb	19 46 20.4	-0.4
ZKS				*e*SN	Sb	19 46 35.0	-0.3
ZKS	Zakynthos	1.11	11	P	Pb	19 46 20.3	-0.5
ZKS				*e*Sn	Sb	19 46 35.0	-0.3
ZKS				S	Sg	19 46 39.1	+3.9
ZKS	Zakynthos	1.11	11	P	Pb	19 46 20.3	-0.5
ZKS				S	Sg	19 46 39.1	+3.9
ITM	Ithomi	1.27	63	*e*PN	Pb	19 46 23.5	+0.1
ITM				*e*SN	Sb	19 46 38.7	-1.3
ITM	Ithomi	1.27	63	P	Pn	19 46 23.2	-0.2
ITM	Ithomi	1.27	63	*e*Pn	Pn	19 46 23.5	+0.1
ITM				*e*Sn	Sb	19 46 38.7	-1.3
ITM				S	Sg	19 46 42.9	+2.5
ITM	Ithomi	1.27	63	P	Pn	19 46 23.2	-0.2
ITM				S	Sg	19 46 42.9	+2.5
AMT	Artemida-Makis	1.33	46	*e*PN	Pb	19 46 25.1	+0.5
AMT				*e*SN	Sn	19 46 41.6	-0.4
AMT	Artemida-Makis	1.33	46	*e*Pn	Pb	19 46 25.1	+0.5
AMT				*e*Sn	Sn	19 46 41.6	-0.4
AMT	Artemida-Makis	1.33	46	P	Pb	19 46 24.9	+0.3
KFL	Anninata	1.52	8	P	Pn	19 46 26.8	+0.1
KFL	Anninata	1.52	8	P	Pn	19 46 26.8	+0.1
VLS	Valsamata	1.57	2	P	Pn	19 46 27.2	-0.2
VLS				S	Sb	19 46 49.2	+0.7
VLS	Valsamata	1.57	2	P	Pn	19 46 27.2	-0.2
VLS				S	Sb	19 46 49.2	+0.7
RLS	Riolos of Patr	1.64	28	*e*PB	Pn	19 46 28.6	+0.3
RLS				*e*SN	Sn	19 46 49.7	+0.2
RLS	Riolos of Patr	1.64	28	*e*Pb	Pn	19 46 28.6	+0.3
RLS	Riolos of Patr	1.64	28	P	Pn	19 46 29.2	+0.9
RLS				*e*Sn	Sn	19 46 49.7	+0.2
RLS				S	Sg	19 46 52.5	+0.4
RLS	Riolos of Patr	1.64	28	P	Pn	19 46 29.2	+0.9
RLS				S	Sg	19 46 52.5	+0.4
DRO	Drossia	1.65	35	*e*PN	Pb	19 46 29.9	-0.1
DRO	Drossia	1.65	35	P	Pn	19 46 29.4	+0.9
DRO	Drossia	1.65	35	*e*Pn	Pb	19 46 29.9	-0.1
DRO	Drossia	1.65	35	P	Pn	19 46 29.4	+0.9
VLX	Vlachokerasia	1.68	62	*e*PN	Pn	19 46 29.7	+0.7
VLX	Vlachokerasia	1.68	62	P	Pn	19 46 29.8	+0.7
VLX	Vlachokerasia	1.68	62	P	Pn	19 46 29.8	+0.7
EXG	Exogi	1.85	3	*e*PB	Pn	19 46 32.3	+1.0
EXG				*e*SN	Sb	19 46 56.3	-0.4
EXG	Exogi	1.85	3	P	Pn	19 46 32.3	+1.0
EXG				*e*Sn	Sb	19 46 56.3	-0.4
EXG	Exogi	1.85	3	P	Pn	19 46 32.3	+1.0
KLV	Kalavryta, Ach	1.94	42	*e*PN	Pn	19 46 33.6	+1.0
KLV	Kalavryta, Ach	1.94	42	P	Pn	19 46 33.6	+1.0
KLV	Kalavryta, Ach	1.94	42	P	Pn	19 46 33.6	+1.0
VLI	Veliai	1.96	86	*e*PN	Pn	19 46 34.1	+1.4
VLI	Veliai	1.96	86	P	Pn	19 46 34.1	+1.4
VLI				S	Sb	19 46 59.0	-0.6
VLI	Veliai	1.96	86	P	Pn	19 46 34.1	+1.4
VLI				S	Sb	19 46 59.0	-0.6
GUR	Goura	1.97	47	*e*PN	Pn	19 46 34.1	+1.0
GUR	Goura	1.97	47	*e*Pn	Pn	19 46 34.1	+1.0
GUR	Goura	1.97	47	P	Pn	19 46 34.0	+1.0
LAKA	Lakka	2.00	35	*e*PN	Pb	19 46 35.2	-0.9
LAKA	Lakka	2.00	35	P	Pb	19 46 35.1	-1.0
LAKA	Lakka	2.00	35	P	Pb	19 46 35.1	-1.0
PDO	Prodromos	2.06	15	*e*PN	Pn	19 46 35.6	+1.4
PDO	Prodromos	2.06	15	P	Pn	19 46 35.5	+1.4
PDO	Prodromos	2.06	15	P	Pn	19 46 35.5	+1.4
KYTH	Kithira	2.06	98	*e*PN	Pb	19 46 36.6	-0.5
KYTH	Kithira	2.06	98	*e*PN	Pb	19 46 36.5	-0.5
KYTH	Kithira	2.06	98	P	Pn	19 46 35.8	+1.6
KYTH	Kithira	2.06	98	*e*Pn	Pb	19 46 36.5	-0.5
KYTH	Kithira	2.06	98	P	Pn	19 46 35.8	+1.6
EFP	Efpalio	2.13	31	*e*PN	Pb	19 46 37.1	-1.0
EFP	Efpalio	2.13	31	P	Pb	19 46 37.1	-1.0
EFP	Efpalio	2.13	31	P	Pb	19 46 37.1	-1.0
TRIZ	Trizonia	2.15	35	P	Pb	19 46 37.3	-1.2
TRIZ	Trizonia	2.15	35	P	Pb	19 46 37.3	-1.2
KALE	Kalithea	2.20	36	*e*PN	Pb	19 46 38.1	-1.3
KALE	Kalithea	2.20	36	*e*Pn	Pb	19 46 38.1	-1.3
THAL	Thalero	2.23	50	*e*PN	Pn	19 46 38.0	+1.5
THAL	Thalero	2.23	50	P	Pn	19 46 38.0	+1.5
THAL				S	Sb	19 47 07.9	+0.3
THAL	Thalero	2.23	50	P	Pn	19 46 38.0	+1.5
THAL				S	Sb	19 47 07.9	+0.3
KRND	KRANIDI	2.25	69	*e*PB	Pn	19 46 37.8	+1.0
KRND				*e*SN	Sn	19 47 05.6	+1.0
KRND	KRANIDI	2.25	69	P	Pn	19 46 37.4	+0.6
KRND	KRANIDI	2.25	69	*e*Pb	Pn	19 46 37.8	+1.0
KRND				*e*Sn	Sn	19 47 05.6	+1.0
KRND	KRANIDI	2.25	69	P	Pn	19 46 37.4	+0.6
DID	Didima	2.36	67	*e*PN	Pn	19 46 38.9	+0.6
DID	Didima	2.36	67	*e*Pn	Pn	19 46 38.9	+0.6
DID				S	Sb	19 47 10.1	-1.2
DID	Didima	2.36	67	P	Pn	19 46 38.7	+0.4
DID				S	Sb	19 47 10.1	-1.2
ANKY	Antikythira Is	2.38	107	P	Pn	19 46 40.0	+1.5
ANKY				S	Sb	19 47 10.7	-1.0
ANKY	Antikythira Is	2.38	107	P	Pn	19 46 40.0	+1.5
ANKY				S	Sb	19 47 10.7	-1.0
DSF	Desfina	2.41	41	*e*PB	Pn	19 46 40.5	+1.4
DSF	Desfina	2.41	41	*e*Pb	Pn	19 46 40.5	+1.4
DESF	Desfina	2.42	41	*e*PB	Pn	19 46 40.6	+1.5
DESF	Desfina	2.42	41	*e*Pb	Pn	19 46 40.6	+1.5
LTK	Loutraki	2.42	53	*e*PN	Pn	19 46 40.3	+1.2
LTK	Loutraki	2.42	53	P	Pn	19 46 39.9	+0.8
LTK	Loutraki	2.42	53	*e*Pn	Pn	19 46 40.3	+1.2
LTK	Loutraki	2.42	53	P	Pn	19 46 39.9	+0.8
EVR	Evrytania	2.52	24	*e*PN	Pn	19 46 42.2	+1.5
EVR	Evrytania	2.52	24	*e*Pn	Pn	19 46 42.2	+1.5
EVR	Evrytania	2.52	24	P	Pb	19 46 43.3	-1.7
EVR	Evrytania	2.52	24	P	Pb	19 46 43.3	-1.7
DSL	Palaion Diasel	2.56	10	*e*PN	Pn	19 46 43.0	+1.9
DSL	Palaion Diasel	2.56	10	P	Pn	19 46 42.6	+1.5
DSL	Palaion Diasel	2.56	10	*e*Pn	Pn	19 46 43.0	+1.9
DSL	Palaion Diasel	2.56	10	P	Pn	19 46 42.6	+1.5
MAKR	Makrakomi, Fth	2.72	28	P	Pn	19 46 45.9	+2.6
MAKR	Makrakomi, Fth	2.72	28	P	Pn	19 46 45.9	+2.6
AXAR	Agios Charalam	2.75	38	*e*PN	Pn	19 46 45.1	+1.4
AXAR	Agios Charalam	2.75	38	*e*Pn	Pn	19 46 45.1	+1.4
AGG	Agios Georgios	2.81	30	*e*PN	Pn	19 46 46.3	+1.8
AGG	Agios Georgios	2.81	30	*e*Pn	Pn	19 46 46.3	+1.8
LKR	Lokris	2.84	43	*e*PN	Pn	19 46 45.9	+1.0
LKR				*e*SB	Sn	19 47 19.4	+0.2
LKR	Lokris	2.84	43	*e*Pn	Pn	19 46 45.9	+1.0
LKR				*e*Sb	Sn	19 47 19.4	+0.2
IGT	Igoumenitsa	2.92	357	P	Pn	19 46 46.5	+0.4
IGT	Igoumenitsa	2.92	357	P	Pn	19 46 46.5	+0.4
SGD	Sagiada	3.01	356	*e*PN	Pn	19 46 48.9	+1.7
SGD				*e*SB	Sn	19 47 25.0	+1.7
SGD	Sagiada	3.01	356	P	Pn	19 46 48.3	+1.1
SGD	Sagiada	3.01	356	*e*Pn	Pn	19 46 48.9	+1.7
SGD				*e*Sb	Sn	19 47 25.0	+1.7
SGD	Sagiada	3.01	356	P	Pn	19 46 48.3	+1.1
SMIA	Simia	3.12	43	P	Pn	19 46 49.6	+0.9
SMIA	Simia	3.12	43	P	Pn	19 46 49.6	+0.9
THL	Klokotos Trika	3.18	21	*e*PN	Pn	19 46 50.9	+1.3
THL	Klokotos Trika	3.18	21	*e*Pn	Pn	19 46 50.9	+1.3
THL	Klokotos Trika	3.18	21	P	Pn	19 46 51.0	+1.3
SRN	Sarande	3.29	353	P	Pn	19 46 51.9	+0.8
SRN	Sarande	3.29	353	P	Pn	19 46 51.9	+0.8
NEO	Neokhori	3.44	38	*e*PN	Pn	19 46 54.2	+1.0
NEO				*e*SN	Sn	19 47 33.7	-0.4
NEO	Neokhori	3.44	38	*e*Pn	Pn	19 46 54.2	+1.0
NEO				*e*Sn	Sn	19 47 33.7	-0.4
XOR	Xorichti	3.47	37	*e*PN	Pn	19 46 54.5	+0.8
XOR	Xorichti	3.47	37	*e*Pn	Pn	19 46 54.5	+0.8
IDI	Anoyia	3.79	109	Pn	Pn	19 46 55.5	-2.6
	0.2nm,0.3s,baz=293,slow=17,SNR=2.8						
IDI				Sn	Sn	19 47 44.1	+1.4
	1.6nm,0.3s,baz=320,slow=18,SNR=6.7						
NEST	Nestorio	3.82	6	P	Pn	19 47 00.4	+1.9
NEST	Nestorio	3.82	6	P	Pn	19 47 00.4	+1.9
TIP	Timpagrande	3.92	312	P	Pn	19 47 00.5	+0.6
TIP	Timpagrande	3.92	312	P	Pn	19 47 00.5	+0.6
FNA	Florina	4.22	9	*e*PN	Pn	19 47 05.3	+1.3
FNA	Florina	4.22	9	*e*Pn	Pn	19 47 05.3	+1.3
BARS	Barje	6.28	9	*e*Pn	Pn	19 47 31.8	-0.4
STON	Ston	6.62	342	*i* Pn	Pn	19 47 36.0	-0.8
STON				Sn	Sn	19 48 45.3	-7.0
STON	Ston	6.62	342	*i* Pn	Pn	19 47 36.0	-0.8
IVAS	Ivanjica	6.97	358	*e*Pn	Pn	19 47 40.3	-1.3
GRUS	Gruza	7.27	1	*e*Pn	Pn	19 47 44.7	-1.1
SOKA	Soboth	10.86	340	*i* Pn	Pn	19 48 34.1	-0.9
GERES	GERESS Array B	13.21	340	Pn	Pn	19 49 06.4	-0.7
	0.2nm,0.3s,baz=159,slow=14,SNR=5.6						
HFS	Hagfors	23.95	352	P	P	19 51 11.7	-1.9
	1.3nm,0.6s,baz=151,slow=9.9,SNR=7.9						
EKA	Eskdalemuir Ar	24.72	327	P	P	19 51 19.7	-1.0
	0.4nm,0.5s,baz=131,slow=8.6,SNR=2.9						
FINES	FINESS Array B	25.11	6	P	P	19 51 22.4	-1.8
	3.5nm,1.1s,baz=186,slow=11,SNR=2.9						
NOA	NORSAR Array B	25.16	349	P	P	19 51 24.0	-0.7
	0.8nm,0.7s,baz=158,slow=9.1,SNR=3.4						
TORD	Torodi Ar. Bea	28.82	221	P	P	19 51 59.7	+1.8
	0.8nm,0.6s,baz=29,slow=9.2,SNR=5.7						
MKAR	Makanchi Array	46.15	57	P	P	19 54 22.8	-1.3
	0.5nm,0.4s,baz=273,slow=7.9,SNR=12						
ZALV	Zalesovo Beam	46.76	47	P	P	19 54 27.8	-0.9
	0.5nm,0.4s,baz=281,slow=8.7,SNR=2.6						

MEX 19 19:46:11.0±0.4,13.97N×92.42W,h20km,MD3.7,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		1.89	336	*e*P	Pn	19 46 39.5	-2.7
PCIG				*e*S	Sn	19 47 01.4	-4.0

IDC ***19*** *19:47:39.9±1.8,52.57N×169.87W,h0km,mb3.8/5, mb1 4.1/6,mb1mx3.5/60,mbtmp3.7/6,ML3.6/1,Error ellipse: s-maj=51.6km s-min=28.6km az=142.0*

ISCJB ***19*** *19:47:40.3±1.3,52.7N±0.1×169.7W±0.1,h7km±7km, mb3.7/5,Error ellipse: s-maj=24.6km s-min=7.2km az=147.1*

NEIC ***19*** *19:47:41.5,52.68N×169.62W,h5km,ML3.3(AEIC),After AEIC.*

ISC 19 19:47:41.0±1.8,52.9N±0.1×169.79W±0.08,h3km±11km, n25,σ1§02/24,mb3.9/5,Fox Islands

| Code | Station Name | Δ° | AZ° | Phase

MEX 19 19:57:54.1±0.6, 15°83N×97°29W, h16km±14km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.98**	**305**	*eP*	Pb	19 58 09.4	-3.5
PNIG				*i* S	Sb	19 58 21.4	-4.2
VHO	**Vista Hermosa**	**1.34**	**23**	*eP*	Pn	19 58 14.8	-3.8
VHO				*eS*	Sn	19 58 30.6	-5.7
TLIG	**Tlapa**	**2.11**	**325**	*eP*	Pn	19 58 26.2	-2.8
TLIG				*i* S	Sn	19 58 50.5	-4.6
TPIG	**Tehuac#an**	**2.58**	**358**	*i* P	Pn	19 58 33.2	-2.2
TPIG				*i* S	Sn	19 59 01.9	-4.7
CMIG	**Matias Romero**	**2.62**	**61**	*i* P	Pn	19 58 33.5	-2.4
CMIG				*i* S	Sn	19 59 04.1	-3.4

*ISCJB **19** 19:59:29.1±0.7, 7°47S±0°05×126°80E±0°08, h300km, mb3.5/1, Error ellipse: s-maj=10.9km s-min=6.3km az=22.7*
*IDC **19** 19:59:29.2±1.6, 7°54S×126°90E, h286km±48km, mb3.3/1, mb1 3.5/5, mb1mx2.9/34, mbtmp4.2/5, Error ellipse: s-maj=64.0km s-min=13.8km az=120.0*
ISC 19 19:59:29.5±1.0, 7°49S±0°08×126°9E±0°1, h300km, n11, σ1§47/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.41**	**229**	P	**Pn**	**20 00 30.5**	**+1.0**
	baz=3.5,SNR=23						
BATI	**Baumata**	**4.15**	**229**	P	**Pn**	**20 00 38.1**	**+0.7**
	28nm,0.3s,baz=60,slow=2.3,SNR=61						
BATI				S	**S**	**20 01 29.6**	**-2.3**
	26nm,0.3s,baz=136,slow=4.6,SNR=8.0						
MTN	**Manton Dam**	**6.78**	**142**	P	Pn	20 01 12.6	+4.4
	baz=6.7,SNR=6.0						
FAKI	**Fak Fak**	**7.03**	**50**	P	**Pn**	**20 01 12.6**	**+1.2**
	baz=6.9,SNR=6.6						
SIJI	**Sorong**	**7.91**	**34**	P	**Pn**	**20 01 22.6**	**+0.5**
	1.5nm,0.3s,baz=253,slow=22,SNR=18						
SIJI				S	**S**	**20 02 51.2**	**-2.3**
	1.2nm,0.3s,baz=281,slow=23,SNR=15						
SWI	**Sorong**	**7.92**	**34**	P	**Pn**	**20 01 22.9**	**+0.8**
	baz=7.9,SNR=4.4						
KNRA	**Kununurra**	**8.35**	**167**	P	**Pn**	**20 01 29.6**	**+2.3**
	baz=8.4,SNR=14						
WRA	**Warramunga Arr**	**14.35**	**150**	P	**Pn**	**20 02 40.2**	**-0.1**
	0.7nm,0.3s,baz=325,slow=12,SNR=7.9						
WRA				S	**S**	**20 05 15.5**	**-1.8**
	0.2nm,0.3s,baz=324,slow=21,SNR=6.7						
ASAR	**Alice Springs**	**17.45**	**158**	P	**P**	**20 03 14.2**	**+0.8**
	1.1nm,0.3s,baz=335,slow=11,SNR=92						
ASAR				S	**S**	**20 06 18.6**	**-0.6**
	0.1nm,0.3s,baz=325,slow=17,SNR=5.9						
WRKA	**Warakurna**	**17.50**	**176**	P	**P**	**20 03 13.8**	**-0.1**
	baz=18,SNR=74						
STKA	**Stephens Creek**	**27.88**	**152**	P	**P**	**20 04 51.9**	**-0.5**
	1.6nm,0.7s,baz=342,slow=9.6,SNR=4.0						

*ISCJB **19** 20:03:50.6±0.9, 52°9N±0°1×169°6W±0°1, h10km, mb3.7/3, Error ellipse: s-maj=16.4km s-min=7.3km az=157.1*
*IDC **19** 20:03:50.4±1.8, 52°62N×169°03W, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.3/55, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=59.0km s-min=32.0km az=141.0*
*NEIC **19** 20:03:51.3, 52°67N×169°20W, h5km, ML3.3(AEIC), After AEIC.*
ISC 19 20:03:51.7±1.0, 52°8N±0°1×169°31W±0°10, h10km, n19, σ0§98/17, mb3.7/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.32**	**62**	P	**Pb**	**20 03 60.0**	**+0.5**
NIKH				S	**Sb**	**20 04 05.7**	**+1.1**
OKWE	**Okmok W'ng Wal**	**0.92**	**44**	P	**Pg**	**20 04 10.6**	**+1.3**
OKAK	**Okmok**	**0.95**	**37**	P	**Pg**	**20 04 09.0**	**-1.0**
OKAK				S	**Sg**	**20 04 21.9**	**-0.4**
MSOM	**Makushin Julie**	**1.73**	**54**	P	**Pn**	**20 04 23.0**	**+1.2**
MSOM				S	**Sb**	**20 04 46.0**	**+0.7**
MTBL	**Makushin Table**	**1.95**	**53**	P	**Pn**	**20 04 25.2**	**+0.3**
UNV	**Unalaska Valle**	**1.97**	**58**	P	**Pn**	**20 04 24.3**	**-0.8**
UNV				S	**Sb**	**20 04 53.0**	**+0.8**
AKUT	**Akutan**	**2.49**	**57**	*eP*	**Pn**	**20 04 33.2**	**+1.0**
AKSA	**Akutan Strait**	**2.53**	**57**	P	**Pn**	**20 04 33.7**	**+0.9**
ATKA	**Atka Island**	**3.05**	**260**	P	**Pn**	**20 04 40.9**	**+1.0**
ILAR	**Eielson Array**	**16.56**	**35**	Pn	**Pn**	**20 07 42.6**	**-1.1**
	0.1nm,0.3s,baz=229,slow=11,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**37.83**	**218**	T	T	20 51 04.2	
	baz=24,slow=76,SNR=22						
H11N3	**WAKE ISLAND Hy**	**37.84**	**218**	T	T	20 51 04.5	
	baz=24,slow=76,SNR=31						
H11N1	**WAKE ISLAND Hy**	**37.85**	**218**	T	T	20 51 04.7	
	baz=24,slow=76,SNR=26						
H11S1	**WAKE ISLAND Hy**	**39.02**	**218**	T	T	20 52 33.4	
	baz=23,slow=76,SNR=300						
H11S2	**WAKE ISLAND Hy**	**39.04**	**218**	T	T	20 52 34.4	
	baz=23,slow=76,SNR=167						
H11S3	**WAKE ISLAND Hy**	**39.04**	**218**	T	T	20 52 33.9	
	baz=23,slow=76,SNR=173						
PDAR	**Pinedale Array**	**40.28**	**80**	P	**P**	**20 11 28.1**	**-0.9**
	0.6nm,0.6s,baz=311,slow=8.2,SNR=6.1						
TXAR	**Lajitas Array**	**52.71**	**89**	P	**P**	**20 13 05.3**	**-1.1**
	0.6nm,0.6s,baz=314,slow=7.9,SNR=11						
ASAR	**Alice Springs**	**90.72**	**230**	P	**P**	**20 16 54.9**	**+0.3**
	0.3nm,0.6s,baz=22,slow=5.4,SNR=4.5						

MEX 19 20:05:07.4±0.7, 15°76N×97°28W, h16km±16km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.03**	**308**	*eP*	Pb	20 05 23.1	-3.8
PNIG				*eS*	Sb	20 05 35.6	-4.6
VHO	**Vista Hermosa**	**1.40**	**22**	*eP*	Pn	20 05 28.6	-4.0
VHO				*eS*	Sn	20 05 45.2	-5.8
TLIG	**Tlapa**	**2.17**	**326**	*eP*	Pn	20 05 39.7	-3.4
TLIG				*i* S	Sn	20 06 05.0	-4.8
CMIG	**Matias Romero**	**2.65**	**60**	*eP*	Pn	20 05 47.0	-2.6
CMIG				*i* S	Sn	20 06 17.4	-3.9

*IDC **19** 20:08:26.8±0.9, 52°35N×169°54W, h0km, mb3.9/12, mb1 4.1/13, mb1mx3.8/55, mbtmp3.8/13, ML3.8/1, MS3.2/4, Ms1 3.2/4, ms1mx2.8/39, Error ellipse: s-maj=25.6km s-min=17.6km az=165.0*
*ISCJB **19** 20:08:27.2±0.5, 52°56N±0°08×169°53W±0°08, h10km, mb3.8/12, MS3.2/3, Error ellipse: s-maj=12.8km s-min=3.9km az=151.1*
*NEIC **19** 20:08:27.3, 52°66N×169°54W, h3km, mb4.0/2, ML4.0(AEIC), After AEIC.*
ISC 19 20:08:28.3±0.8, 52°7N±0°1×169°54W±0°07, h10km, n49, σ1§38/41, mb3.8/12, MS3.0/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.50**	**55**	P	**Pb**	**20 08 38.2**	**-1.1**
NIKH				S	**Sb**	**20 08 46.1**	**-0.5**
OKWR	**Okmok West Rim**	**1.10**	**47**	P	**Pn**	**20 08 49.7**	**-0.1**
OKCE	**Okmok Cone E**	**1.11**	**48**	P	**Pb**	**20 08 48.7**	**-0.9**
OKCE				S	**Sn**	**20 09 06.9**	**+1.6**
OKAK	**Okmok**	**1.14**	**38**	P	**Pb**	**20 08 47.7**	**-2.4**
OKTU	**Okmok Mt. Tuli**	**1.14**	**52**	P	**Pg**	**20 08 49.6**	**-0.6**
MSOM	**Makushin Julie**	**1.92**	**53**	P	**Pb**	**20 09 01.9**	**-1.5**
MSOM				S	**Sb**	**20 09 26.3**	**-1.1**
MCIR	**Makushin Cirqu**	**2.03**	**50**	P	**Pb**	**20 09 03.5**	**-1.8**
MSW	**Makushin Switc**	**2.06**	**52**	P	**Pn**	**20 09 03.2**	**+0.3**
MTBL	**Makushin Table**	**2.14**	**52**	P	**Pb**	**20 09 05.3**	**-1.9**
UNV	**Unalaska Valle**	**2.16**	**56**	P	**Pn**	**20 09 03.9**	**-0.4**
UNV				S	**Sb**	**20 09 32.6**	**-1.7**
AKRB	**Akutan Reef Bi**	**2.53**	**54**	P	**Pn**	**20 09 09.8**	**+0.4**
ZRO	**Akutan Zero**	**2.55**	**55**	P	**Pn**	**20 09 11.1**	**+1.3**
AKGG	**Akutan Green G**	**2.60**	**53**	P	**Pn**	**20 09 11.3**	**+0.8**
AKUT	**Akutan**	**2.68**	**56**	P	**Pn**	**20 09 12.5**	**+1.1**
ATKA	**Atka Island**	**2.89**	**262**	P	**Pn**	**20 09 13.8**	**-0.5**
WESP	**Westdahl Peak**	**3.39**	**56**	P	**Pn**	**20 09 23.2**	**+1.8**
GSTR	**Great Sitkin T**	**4.04**	**264**	P	**Pn**	**20 09 30.1**	**-0.1**
GSCK	**Great Sitkin C**	**4.12**	**263**	P	**Pn**	**20 09 31.4**	**+0.2**
FALS	**False Pass**	**4.23**	**57**	*ePn*	**Pn**	**20 09 33.4**	**+0.7**
ADAG	**Mount Adagdak**	**4.39**	**264**	P	**Pn**	**20 09 36.3**	**+1.4**
SPIA	**Saint Paul Isl**	**4.52**	**355**	P	**Pn**	**20 09 37.4**	**+0.7**
SDPT	**Sand Point**	**5.97**	**60**	*ePn*	**Pn**	**20 09 57.9**	**+1.3**
	45nm,0.7s						
LSNW	**Little Sitkin**	**7.36**	**269**	P	**Pn**	**20 10 17.1**	**+1.4**
TRF	**Thorofare Moun**	**14.76**	**36**	*eP*	**P**	**20 12 01.5**	**-1.6**
	18nm,1.5s						
IM04	**Indian Mountai**	**15.48**	**25**	*eP*	**Pn**	**20 12 05.3**	**-1.2**
ILAR	**Eielson Array**	**16.75**	**35**	Pn	**Pn**	**20 12 22.7**	**0.0**
	0.1nm,0.3s,baz=226,slow=11,SNR=11						
ILAR				LR	LR	20 18 45.1	
	comp=Z,113nm,20.6s,baz=270,slow=36						
COLD	**Coldfoot**	**17.37**	**26**	*eP*	**P**	**20 12 34.8**	**+3.0**
	18nm,1.4s						
HYT	**Haines Junctio**	**19.18**	**52**	*eP*	**Pn**	**20 12 52.6**	**-0.2**
	9.2nm,0.8s						
DLBC	**Dease Lake**	**22.81**	**60**	P	**P**	**20 13 33.1**	**+2.1**
	12nm,1.1s,baz=273,slow=9.5,SNR=11						
INK	**Inuvik**	**23.14**	**34**	P	**P**	**20 13 36.8**	**+2.6**
	1.7nm,0.6s,baz=256,slow=6.8,SNR=4.5						
YKA	**Yellowknife Ar**	**30.11**	**49**	P	**P**	**20 14 38.7**	**+1.1**
	0.4nm,0.5s,baz=271,slow=7.6,SNR=6.1						
H11N2	**WAKE ISLAND Hy**	**37.83**	**218**	T	T	20 55 31.6	
	baz=24,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**37.65**	**218**	T	T	20 55 34.4	
	baz=24,slow=76,SNR=16						
H11N1	**WAKE ISLAND Hy**	**37.66**	**218**	T	T	20 55 33.0	
	baz=24,slow=76,SNR=12						
NVAR	**Mina Array Bea**	**37.77**	**91**	P	**P**	**20 15 46.3**	**+1.7**
	0.9nm,0.8s,baz=295,slow=7.2,SNR=4.5						
H11S1	**WAKE ISLAND Hy**	**38.83**	**218**	T	T	20 57 15.8	
	baz=23,slow=76,SNR=71						
H11S2	**WAKE ISLAND Hy**	**38.85**	**218**	T	T	20 57 16.6	
	baz=23,slow=76,SNR=60						
H11S3	**WAKE ISLAND Hy**	**38.85**	**218**	T	T	20 57 03.3	
	baz=23,slow=76,SNR=55						
MJAR	**Matsushiro Arr**	**39.61**	**267**	LR	LR	20 29 51.8	
	comp=Z,21nm,21.6s,baz=90,slow=32						
PDAR	**Pinedale Array**	**40.44**	**79**	P	**P**	**20 16 06.8**	**-0.1**
	1.8nm,0.9s,baz=353,slow=6.0,SNR=4.7						
KSRS	**Korea Array**	**45.27**	**276**	LR	LR	20 38 51.6	
	comp=Z,18nm,18.3s,baz=48,slow=40						
TXAR	**Lajitas Array**	**52.84**	**89**	P	**P**	**20 17 44.3**	**+0.3**
	2.0nm,0.6s,baz=299,slow=5.0,SNR=18						
SCHQ	**Schefferville**	**55.27**	**43**	LR	LR	20 44 07.3	
	comp=Z,45nm,20.8s,baz=75,slow=39						
MKAR	**Makanchi Array**	**63.51**	**313**	P	P	20 19 01.4	+3.0
	0.1nm,0.5s,baz=61,slow=7.1,SNR=2.3						
FINES	**FINESS Array B**	**65.54**	**352**	P	P	20 19 14.5	+3.2
	0.8nm,0.8s,baz=9.0,slow=6.6,SNR=2.5						
GERES	**GERESS Array B**	**78.81**	**358**	P	P	20 20 33.8	+2.7
	0.2nm,0.6s,baz=352,slow=8.1,SNR=3.7						
GEYT	**Alibeck**	**80.71**	**324**	P	**P**	**20 20 41.9**	**+0.4**
	0.6nm,0.5s,baz=24,slow=7.9,SNR=2.5						
WRA	**Warramunga Arr**	**87.12**	**231**	P	**P**	**20 21 12.0**	**-2.2**
	0.9nm,0.8s,baz=33,slow=5.9,SNR=5.4						
ASAR	**Alice Springs**	**90.52**	**230**	P	**P**	**20 21 29.4**	**-0.9**
	1.8nm,0.8s,baz=37,slow=3.9,SNR=16						

*ISCJB **19** 20:08:48.8±0.5, 39°14S±0°04×174°79E±0°06, h247km±5km, mb3.3/2, Error ellipse: s-maj=8.4km s-min=4.8km az=43.0*
*IDC **19** 20:08:49.1±1.0, 39°15S×175°03E, h224km±13km, mb3.1/2, mb1 3.5/3, mb1mx3.2/21, mbtmp4.0/3, Error ellipse: s-maj=44.4km s-min=18.3km az=145.0*
*WEL **19** 20:08:51.5±0.4, 39°08S×174°90E, h229km±3km, ML4.9/21, Error ellipse: s-maj=1.8km s-min=1.8km az=90.0*
ISC 19 20:08:49.5±0.9, 39°20S±0°06×174°79E±0°06, h235km±6km, n122, σ1§36/131, 41C-16D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.08**	**344**	PN	**Pn**	**20 09 20.3**	**+0.3**
VRZ				SN	**S**	**20 09 42.7**	**-1.2**
MHEZ	**Mangahewa**	**0.38**	**289**	↓PN	**Pn**	**20 09 21.9**	**+1.5**
LRE	**Lake Rotokare**	**0.39**	**229**	↑PN	**Pn**	**20 09 22.0**	**+1.6**
PKVZ	**Pokaka**	**0.44**	**102**	PN	**Pn**	**20 09 21.5**	**+0.9**
PKVZ				SN	**S**	**20 09 44.0**	**-1.0**
DREZ	**Durham Road**	**0.46**	**271**	↑PN	**Pn**	**20 09 22.1**	**+1.5**
PREZ	**Palmer Road**	**0.51**	**254**	↑PN	**Pn**	**20 09 22.4**	**+1.6**
TWVZ	**Taurewa**	**0.52**	**76**	↑PN	**Pn**	**20 09 21.5**	**+0.6**
TWVZ				SN	**S**	**20 09 43.7**	**-1.7**
NEZ	**North Egmont**	**0.54**	**263**	↑PN	**Pn**	**20 09 22.5**	**+1.6**
MTVZ	**Mangateitei**	**0.56**	**109**	PN	**Pn**	**20 09 22.0**	**+1.0**
WAZ	**Wanganui**	**0.57**	**165**	↑PN	**Pn**	**20 09 22.8**	**+1.9**
COVZ	**Chateau Observ**	**0.59**	**90**	↑PN	**Pn**	**20 09 21.9**	**+0.8**
WPVZ	**Whakapapa**	**0.59**	**90**	↑PN	**Pn**	**20 09 22.0**	**+0.8**
FWVZ	**Far West T-bar**	**0.60**	**95**	↑PN	**Pn**	**20 09 22.1**	**+0.8**
TRVZ	**Turoa**	**0.60**	**100**	↑PN	**Pn**	**20 09 22.2**	**+0.9**
DRZ	**Dome Shelter**	**0.61**	**97**	PN	**Pn**	**20 09 22.4**	**+1.0**
KHEZ	**Kahui Hut**	**0.61**	**261**	↓PN	**Pn**	**20 09 22.7**	**+1.5**
PKE	**Pukeiti**	**0.62**	**270**	↑PN	**Pn**	**20 09 22.5**	**+1.3**
WHVZ	**Whangaehu Hut**	**0.63**	**97**	↑PN	**Pn**	**20 09 22.3**	**+0.8**
WTVZ	**West Tongariro**	**0.63**	**82**	PN	**Pn**	**20 09 22.0**	**+0.7**
WTVZ				SN	**S**	**20 09 44.7**	**-1.5**
NGZ	**Ngauruhoe**	**0.63**	**88**	↑PN	**Pn**	**20 09 22.2**	**+0.8**
WNVZ	**Wahianoa**	**0.64**	**101**	PN	**Pn**	**20 09 22.3**	**+0.9**
KRVZ	**Karewarewa**	**0.67**	**81**	↑PN	**Pn**	**20 09 22.2**	**+0.7**
TUVZ	**Tukino**	**0.68**	**96**	PN	**Pn**	**20 09 22.5**	**+1.0**
OTVZ	**Oturere**	**0.68**	**87**	PN	**Pn**	**20 09 22.6**	**+1.0**
HIZ	**Hauiti**	**0.69**	**4**	↓PN	**Pn**	**20 09 21.7**	**+0.2**
NWEZ	**Newall Road**	**0.72**	**264**	PN	**Pn**	**20 09 23.2**	**+1.7**
NMEZ	**Namu Road**	**0.74**	**253**	PN	**Pn**	**20 09 23.5**	**+1.9**
KATZ	**Kakaramea**	**0.74**	**72**	PN	**Pn**	**20 09 22.2**	**+0.4**
MOVZ	**Moawhango**	**0.78**	**106**	↑PN	**Pn**	**20 09 22.5**	**+0.6**
RATZ	**Rangitukua**	**0.84**	**67**	↑PN	**Pn**	**20 09 22.4**	**+0.3**
RITZ	**Rihia Road**	**0.86**	**75**	PN	**Pn**	**20 09 23.0**	**+0.7**
WATZ	**Wairara**	**0.89**	**57**	PN	**Pn**	**20 09 23.0**	**+0.6**
BHHZ	**Black Hill Sta**	**1.03**	**106**	↑PN	**Pn**	**20 09 23.9**	**+0.7**
TLZ	**Tolley Road**	**1.05**	**34**	PN	**Pn**	**20 09 23.1**	**-0.3**
HATZ	**Hinemaiaia**	**1.06**	**73**	PN	**Pn**	**20 09 23.4**	**+0.0**
KUTZ	**Kaahu Road**	**1.08**	**49**	PN	**Pn**	**20 09 23.7**	**+0.2**
TSZ	**Takapari Road**	**1.25**	**134**	PN	**Pn**	**20 09 26.1**	**+1.6**
TSZ				AML	AML	20 09 53.4	
TSZ				AML	AML	20 09 53.6	
KWHZ	**Kaweka Forest**	**1.29**	**100**	PN	**Pn**	**20 09 26.1**	**+1.2**
KRHZ	**Kereru**	**1.30**	**110**	↑PN	**Pn**	**20 09 26.0**	**+1.0**
PNHZ	**Pukenui**	**1.30**	**124**	↑PN	**Pn**	**20 09 26.3**	**+1.3**
BKZ	**Black Stump Fm**	**1.32**	**89**	PN	**Pn**	**20 09 25.5**	**+0.4**
BKZ				AML	AML	20 09 50.8	
BKZ				AML	AML	20 09 52.3	
ALRZ	**Allen Road**	**1.37**	**63**	PN	**Pn**	**20 09 25.2**	**-0.2**
POWZ	**Post Office Ro**	**1.41**	**148**	↑PN	**Pn**	**20 09 27.2**	**+1.5**
MCHZ	**McNeill Hill**	**1.50**	**100**	↓PN	**Pn**	**20 09 28.0**	**+1.6**
DVHZ	**Dannevirke**	**1.53**	**136**	↑PN	**Pn**	**20 09 27.9**	**+1.3**
WPHZ	**Waipukurau**	**1.54**	**125**	↑PN	**Pn**	**20 09 28.2**	**+1.5**
NMHZ	**Naumai**	**1.57**	**87**	↓PN	**Pn**	**20 09 28.3**	**+1.2**
TOZ	**Tahuroa Road**	**1.57**	**21**	PN	**Pn**	**20 09 26.5**	**-0.5**
MRZ	**Mangatainoka R**	**1.58**	**158**	↑PN	**Pn**	**20 09 28.4**	**+1.4**
MRZ				AML	AML	20 09 57.1	
MRZ				AML	AML	20 09 58.1	
RRRZ	**Republican Roa**	**1.60**	**58**	↓PN	**Pn**	**20 09 26.9**	**-0.4**
PRWZ	**Pori Road**	**1.63**	**146**	PN	**Pn**	**20 09 29.1**	**+1.7**
OGWZ	**Otaki Gorge**	**1.64**	**170**	↑PN	**Pn**	**20 09 29.4**	**+1.9**
TARZ	**Mount Tarawera**	**1.66**	**55**	PN	**Pn**	**20 09 27.7**	**-0.2**
KIW	**Kapiti Island**	**1.66**	**177**	↑PN	**Pn**	**20 09 29.3**	**+1.6**
KIW				AML	AML	20 09 59.4	
KIW				AML	AML	20 10 00.4	
ARHZ	**Aropaoanui**	**1.72**	**93**	↓PN	**Pn**	**20 09 29.3**	**+1.1**
KAHZ	**Kahuranaki**	**1.72**	**111**	↑PN	**Pn**	**20 09 29.8**	**+1.5**
DUWZ	**D'Urville Isla**	**1.73**	**202**	↑PN	**Pn**	**20 09 30.2**	**+1.9**
PRHZ	**Porangahau**	**1.78**	**127**	↑PN	**Pn**	**20 09 30.2**	**+1.5**
HOWZ	**Holdsworth Sta**	**1.78**	**162**	↑PN	**Pn**	**20 09 30.2**	**+1.4**
TIWZ	**Tintock**	**1.78**	**152**	↑PN	**Pn**	**20 09 30.3**	**+1.5**
TIWZ				AML	AML	20 10 01.2	
TIWZ				AML	AML	20 10 02.6	
PXZ	**Pawanui**	**1.80**	**118**	↑PN	**Pn**	**20 09 30.2**	**+1.3**
PXZ				AML	AML	20 09 59.7	
PXZ				AML	AML	20 09 59.7	
PXZ				AML	AML	20 10 02.0	
PXZ				AML	AML	20 10 02.1	
ANWZ	**Angora Road**	**1.81**	**135**	↑PN	**Pn**	**20 09 30.5**	**+1.6**
RAHZ	**Arahi**	**1.81**	**82**	↓PN	**Pn**	**20 09 29.6**	**+0.5**
RAHZ				SN	**S**	**20 09 57.8**	**-2.2**
CKHZ	**Cape Kidnapper**	**1.83**	**105**	PN	**Pn**	**20 09 30.6**	**+1.5**
BFZ	**Birch Farm**	**1.85**	**143**	PN	**Pn**	**20 09 30.7**	**+1.3**
WHHZ	**Waihua**	**1.91**	**87**	↓PN	**Pn**	**20 09 30.6**	**+0.7**
CAW	**Cannon Point**	**1.92**	**174**	PN	**Pn**	**20 09 31.5**	**+1.6**
CAW				AML	AML	20 10 03.8	
CAW				AML	AML	20 10 05.1	
CPWZ	**Castlepoint**	**2.02**	**148**	PN	**Pn**	**20 09 32.6**	**+1.7**
MTW	**Mount Morrison**	**2.03**	**165**	↑PN	**Pn**	**20 09 32.3**	**+1.4**
MTW				AML	AML	20 10 05.1	
MTW				AML	AML	20 10 05.4	
TCW	**Tory Channel**	**2.04**	**191**	↑PN	**Pn**	**20 09 33.1**	**+2.0**
TCW				AML	AML	20 10 05.7	
TCW				AML	AML	20 10 06.7	
URZ	**Urewera**	**2.05**	**63**	PN	**Pn**	**20 09 30.1**	**-1.2**
URZ				AML	AML	20 10 00.9	
URZ				AML	AML	20 10 01.7	
URZ	**Urewera**	**2.05**	**63**	P	**Pn**	**20 09 30.0**	**-1.2**
	67nm,0.3s,baz=254,slow=3.8,SNR=403						
URZ				S	**S**	**20 09 58.5**	**-5.3**
	57nm,0.3s,baz=143,slow=23,SNR=8.3						
WEL	**Wellington**	**2.08**	**180**	PN	**Pn**	**20 09 33.2**	**+1.7**
WEL				AML	AML	20 10 06.8	
WEL				AML	AML	20 10 07.3	
TMWZ	**Te Maipa**	**2.08**	**156**	↑PN	**Pn**	**20 09 32.9**	**+1.4**
MKAZ	**Moumakai**	**2.11**	**8**	↓PN	**Pn**	**20 09 31.6**	**-0.2**
RAGZ	**Rawiri**	**2.17**	**72**	PN	**Pn**	**20 09 32.1**	**-0.4**
BHW	**Baring Head**	**2.20**	**178**	PN	**Pn**	**20 09 34.1**	**+1.5**
BHW				AML	AML	20 10 08.6	
BHW				AML	AML	20 10 08.6	
PAWZ	**Paruwai Farm**	**2.23**	**168**	↑PN	**Pn**	**20 09 34.4**	**+1.5**
PAWZ				AML	AML	20 10 08.6	
PAWZ				AML	AML	20 10 08.6	
MSWZ	**Moikau Station**	**2.24**	**171**	↑PN	**Pn**	**20 09 34.5**	**+1.5**
MSWZ				AML	AML	20 10 09.2	
MSWZ				AML	AML	20 10 10.4	
KNZ	**Kokohu**	**2.25**	**86**	↓PN	**Pn**	**20 09 33.5**	**+0.3**
NNZ	**Nelson**	**2.28**	**208**	PN	**Pn**	**20 09 35.2**	**+1.8**
TRWZ	**Traveller**	**2.30**	**163**	PN	**Pn**	**20 09 35.0**	**+1.4**
TRWZ				AML	AML	20 10 10.4	
TRWZ				AML	AML	20 10 10.8	
MWZ	**Matawai**	**2.31**	**69**	↓PN	**Pn**	**20 09 33.1**	**-0.7**
MWZ				AML	AML	20 10 04.6	
MWZ				AML	AML	20 10 04.8	
MWZ				AML	AML	20 10 06.0	
MWZ				AML	AML	20 10 06.1	
TUWZ	**Tuamarina**	**2.32**	**196**	PN	**Pn**	**20 09 35.7**	**+2.0**
TUWZ				AML	AML	20 10 10.7	
TUWZ				AML	AML	20 10 10.9	
RIGZ	**Rimuhau**	**2.37**	**79**	↓PN	**Pn**	**20 09 34.5**	**+0.1**
QRZ	**Quartz Range**	**2.37**	**226**	PN	**Pn**	**20 09 35.1**	**+0.8**
PLWZ	**Palliser**	**2.39**	**172**	↑PN	**Pn**	**20 09 35.9**	**+1.3**
PRGZ	**Paritu Road**	**2.43**	**84**	↓PN	**Pn**	**20 09 35.2**	**+0.2**
TKGZ	**Te Karaka**	**2.51**	**73**	PN	**Pn**	**20 09 35.8**	**0.0**
CMWZ	**Cape Campbell**	**2.58**	**190**	PN	**Pn**	**20 09 38.8**	**+2.3**
CMWZ				AML	AML	20 10 17.7	
CMWZ				AML	AML	20 10 18.2	
BSWZ	**Blackbirch Sta**	**2.60**	**195**	PN	**Pn**	**20 09 38.7**	**+2.0**
BSWZ				AML	AML	20 10 17.9	
BSWZ				AML	AML	20 10 18.4	
TWGZ	**Tauwhareparae**	**2.70**	**69**	PN	**Pn**	**20 09 37.5**	**-0.4**
HAZ	**Te Kaha**	**2.76**	**59**	PN	**Pn**	**20 09 36.6**	**-1.9**
CNGZ	**Carnagh Statio**	**2.77**	**76**	PN	**Pn**	**20 09 38.8**	**+0.3**
THZ	**Tophouse**	**2.93**	**209**	↑PN	**Pn**	**20 09 41.8**	**+1.5**
PUZ	**Puketiti**	**2.94**	**69**	PN	**Pn**	**20 09 39.4**	**-1.1**
PUZ				AML	AML	20 10 17.1	
PUZ				AML	AML	20 10 17.7	
WMGZ	**Waiomatatini S**	**3.16**	**65**	PN	**Pn**	**20 09 41.7**	**-1.2**
KHZ	**Kahutara**	**3.35**	**196**	↑PN	**Pn**	**20 09 46.5**	**+1.6**
KHZ				AML	AML	20 10 30.1	
KHZ				AML	AML	20 10 30.9	
DSZ	**Denniston Nort**	**3.41**	**221**	↑PN	**Pn**	**20 09 46.6**	**+0.9**
LTZ	**Lake Taylor**	**4.05**	**207**	PN	**Pn**	**20

*IDC **19** 20:30:02.0±1.7,26˚.59S×176˚.44W,h0km,mb4.1/6, mb1 4.2/7,mb1mx3.9/37,mbtmp4.1/7,ML4.4/1,MS3.2/5, Ms1 3.2/5,ms1mx2.9/29,Error ellipse: s-maj=48.2km s-min=26.9km az=119.0*

*NEIC **19** 20:30:06.5±1.4,26˚.75S×176˚.31W,h35km,mb4.3/1,Error ellipse: s-maj=40.5km s-min=21.6km az=116.0*

ISC 19 20:30:06.8±1.5,26˚.8S±0˚.1×176˚.5W±0˚.3,h29km,n19, σ1§55/17,mb4.0/7,MS3.2/3,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.74**	**207**	Pn	**Pn**	**20 30 50.3**	**+1.4**
	54nm,0.3s,baz=219,slow=18,SNR=6.1						
RAO				Sn	**Sb**	**20 31 26.8**	**-1.4**
	95nm,0.3s,baz=87,slow=21,SNR=3.6						
RAO	**Raoul Island**	**2.74**	**207**	*e*P	**Pn**	**20 30 49.6**	**+0.8**
RAO				Pn	**Pn**	**20 30 50.3**	**+1.4**
RAO				Sn	**Sb**	**20 31 26.9**	**-1.4**
URZ	**Urewera**	**12.62**	**204**	LR	LR	20 37 07.6	
	comp=Z,110nm,19.4s,baz=20,slow=33						
RAR	**Rarotonga**	**16.27**	**74**	LR	LR	20 38 52.1	
	comp=Z,40nm,21.3s,baz=245,slow=33						
PPT2	**Papeete2**	**26.52**	**75**	*e*LR	LR	20 41 46.5	
	87nm,24.0s						
PPT	**Papeete**	**26.53**	**75**	LR	LR	20 44 51.0	
	comp=Z,25nm,18.2s,baz=230,slow=34						
HNR	**Honiara**	**28.18**	**303**	LR	LR	20 45 27.2	
	comp=Z,69nm,19.8s,baz=167,slow=33						
CTA	**Charters Tower**	**34.72**	**273**	P	**P**	**20 36 56.3**	**+1.8**
	2.5nm,0.5s,baz=145,slow=23,SNR=3.1						
ASAR	**Alice Springs**	**44.74**	**263**	P	**P**	**20 38 17.0**	**-0.9**
	0.3nm,0.4s,baz=105,slow=8.1,SNR=5.0						
WRAB	**Tennant Creek**	**45.40**	**268**	*e*P	**P**	**20 38 23.5**	**+0.3**
	3.9nm,0.9s						
WRA	**Warramunga Arr**	**45.41**	**268**	P	**P**	**20 38 22.5**	**-0.8**
	1.3nm,0.6s,baz=106,slow=7.8,SNR=6.6						
SIJI	**Sorong**	**56.34**	**288**	P	**P**	**20 39 44.8**	**-0.8**
	7.6nm,0.8s,baz=287,slow=8.4,SNR=4.9						
MJAR	**Matsushiro Arr**	**76.08**	**324**	P	**P**	**20 41 50.2**	**-1.5**
	1.6nm,0.9s,baz=150,slow=5.0,SNR=4.3						
DLBC	**Dease Lake**	**93.31**	**22**	LR	LR	21 15 47.3	
	comp=Z,54nm,20.2s,baz=135,slow=30						
CMAR	**Chiang Mai Arr**	**93.47**	**289**	P	**P**	**20 43 21.1**	**+1.0**
	0.3nm,0.7s,baz=123,slow=2.5,SNR=4.4						
NB2	**NORSAR Subarra**	**145.37**	**353**	PKP	**PKPbc**	**20 49 38.9**	**-2.3**
	comp=Z,1.2nm,0.8s,baz=7.3,slow=3.6						
NOA	**NORSAR Array B**	**145.37**	**353**	PKPbc	**PKPbc**	**20 49 39.0**	**-2.3**
	comp=Z,1.7nm,0.9s,baz=7.0,slow=2.5,SNR=4.6						
AKASG	**Malin Array Be**	**149.11**	**327**	PKPbc	**PKPdf**	**20 49 49.8**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=44,slow=4.0,SNR=2.4						
BRTR	**Keskin Array B**	**151.83**	**305**	PKPbc	**PKPbc**	**20 50 00.4**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=63,slow=2.3,SNR=2.4						
BRTR				PKPab	**PKPab**	**20 50 07.8**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=73,slow=3.3,SNR=5.6						

MEX 19 20:33:17.5±0.4,14˚.31N×92˚.52W,h20km,MD3.5,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.54**	**334**	*e*P	Pn	20 33 41.2	-2.6
PCIG				*e*S	Sn	20 33 58.4	-4.9

*ISCJB **19** 20:43:31.9±0.7,52˚.57N±0˚.08×169˚.4W±0˚.1,h10km, mb3.7/6,MS3.0/3,Error ellipse: s-maj=14.8km s-min=6.1km az=138.0*

*IDC **19** 20:43:31.3±1.6,52˚.42N×169˚.39W,h0km,mb3.7/6, mb1 4.0/7,mb1mx3.5/48,mbtmp3.7/7,ML3.7/1,MS3.0/4, Ms1 3.0/4,ms1mx2.6/45,Error ellipse: s-maj=42.1km s-min=25.9km az=135.0*

*NEIC **19** 20:43:33.9,52˚.78N×169˚.42W,h5km,ML3.6(AEIC),After AEIC.*

ISC 19 20:43:33.4±0.9,52˚.7N±0˚.1×169˚.40W±0˚.07,h10km,n30, σ0§98/26,mb3.8/6,MS3.1/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.43**	**50**	P	**Pg**	**20 43 42.1**	**+0.4**
NIKH				S	**Sb**	**20 43 49.4**	**-0.1**
OKWR	**Okmok West Rim**	**1.03**	**44**	P	**Pb**	**20 43 53.2**	**-0.1**
OKCE	**Okmok Cone E**	**1.04**	**45**	P	**Pg**	**20 43 52.8**	**-0.6**
OKCE				S	**Sn**	**20 44 09.6**	**+1.0**
OKTU	**Okmok Mt. Tuli**	**1.07**	**50**	P	**Pg**	**20 43 53.7**	**-0.2**
OKAK	**Okmok**	**1.08**	**35**	P	**Pg**	**20 43 51.5**	**-2.6**
MSOM	**Makushin Julie**	**1.85**	**52**	P	**Pn**	**20 44 05.2**	**+0.1**
MSOM				S	**Sb**	**20 44 29.9**	**-0.5**
MCIR	**Makushin Cirqu**	**1.96**	**49**	P	**Pn**	**20 44 07.2**	**+0.6**
MSW	**Makushin Switc**	**1.98**	**51**	P	**Pn**	**20 44 07.6**	**+0.6**
MTBL	**Makushin Table**	**2.07**	**51**	P	**Pn**	**20 44 09.2**	**+1.1**
UNV	**Unalaska Valle**	**2.08**	**55**	P	**Pn**	**20 44 08.3**	**0.0**
UNV				S	**Sn**	**20 44 34.8**	**+0.6**
AKRB	**Akutan Reef Bi**	**2.45**	**53**	P	**Pn**	**20 44 14.3**	**+0.9**
AKGG	**Akutan Green G**	**2.53**	**52**	P	**Pn**	**20 44 15.1**	**+0.7**
AKUT	**Akutan**	**2.60**	**55**	P	**Pn**	**20 44 16.1**	**+0.7**
ATKA	**Atka Island**	**2.98**	**262**	P	**Pn**	**20 44 21.6**	**+1.0**
SPIA	**Saint Paul Isl**	**4.51**	**354**	P	**Pn**	**20 44 42.4**	**+0.8**
ILAR	**Eielson Array**	**16.69**	**35**	Pn	**Pn**	**20 47 27.2**	**+0.2**
	0.1nm,0.3s,baz=234,slow=12,SNR=6.3						
ILAR				LR	LR	20 53 26.2	
	comp=Z,46nm,21.9s,baz=252,slow=35						
DLBC	**Dease Lake**	**22.73**	**60**	P	**P**	**20 48 36.7**	**+1.5**
	3.0nm,0.8s,baz=268,slow=8.7,SNR=6.9						
INK	**Inuvik**	**23.08**	**34**	P	**P**	**20 48 39.7**	**+1.0**
	0.9nm,0.3s,baz=260,slow=6.1,SNR=3.7						
INK				LR	LR	20 58 34.3	
	comp=Z,36nm,21.6s,baz=220,slow=39						
NVAR	**Mina Array Bea**	**37.69**	**91**	P	**P**	**20 50 47.1**	**-1.9**
	0.2nm,0.3s,baz=304,slow=7.5,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**37.70**	**218**	T	T	21 30 43.7	
	baz=23,slow=76,SNR=25						
H11N3	**WAKE ISLAND Hy**	**37.71**	**218**	T	T	21 30 43.5	
	baz=23,slow=76,SNR=25						
H11N1	**WAKE ISLAND Hy**	**37.72**	**218**	T	T	21 30 46.7	
	baz=23,slow=76,SNR=24						
H11S1	**WAKE ISLAND Hy**	**38.89**	**218**	T	T	21 32 14.9	
	baz=23,slow=76,SNR=470						
H11S2	**WAKE ISLAND Hy**	**38.91**	**218**	T	T	21 32 14.7	
	baz=23,slow=76,SNR=177						
H11S3	**WAKE ISLAND Hy**	**38.91**	**218**	T	T	21 32 15.6	
	baz=23,slow=76,SNR=199						
PDAR	**Pinedale Array**	**40.36**	**79**	P	**P**	**20 51 11.8**	**+0.5**
	0.6nm,0.6s,baz=308,slow=4.4,SNR=4.1						
KSRS	**Korea Array**	**45.35**	**276**	LR	LR	21 13 01.2	
	comp=Z,23nm,18.6s,baz=126,slow=39						
TXAR	**Lajitas Array**	**52.76**	**89**	P	**P**	**20 52 48.2**	**-0.3**
	0.8nm,0.7s,baz=303,slow=5.8,SNR=11						
SCHQ	**Schefferville**	**55.21**	**43**	LR	LR	21 16 35.1	
	comp=Z,18nm,21.4s,baz=16,slow=36						
ASAR	**Alice Springs**	**90.59**	**230**	P	**P**	**20 56 34.5**	**-1.1**
	0.7nm,0.7s,baz=26,slow=5.1,SNR=9.6						

*ISCJB **19** 20:52:39.0±0.5,52˚.77N±0˚.08×169˚.76W±0˚.07,h10km, mb4.0/9,MS2.7/1,Error ellipse: s-maj=12.9km s-min=4.5km az=158.3*

*NEIC **19** 20:52:39.6,52˚.73N×169˚.57W,h3km,mb3.7/2, ML3.7(AEIC),After AEIC.*

*IDC **19** 20:52:39.1±0.8,52˚.67N×169˚.76W,h0km,mb4.1/9, mb1 4.3/10,mb1mx3.8/53,mbtmp4.0/10,ML3.8/1,MS2.7/1, Ms1 2.7/1,ms1mx2.3/43,Error ellipse: s-maj=30.3km s-min=17.1km az=165.0*

ISC 19 20:52:40.2±0.7,52˚.81N±0˚.10×169˚.69W±0˚.05,h10km,n43, σ1§09/36,mb3.9/9,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.53**	**71**	P	**Pb**	**20 52 50.2**	**-1.4**
NIKH				S	**Sb**	**20 52 58.4**	**-0.9**
OKWR	**Okmok West Rim**	**1.09**	**54**	P	**Pn**	**20 53 01.0**	**-0.6**
OKCE	**Okmok Cone E**	**1.11**	**55**	P	**Pb**	**20 53 00.6**	**-0.8**
OKAK	**Okmok**	**1.11**	**45**	P	**Pb**	**20 52 59.2**	**-2.3**
OKTU	**Okmok Mt. Tuli**	**1.15**	**59**	P	**Pn**	**20 53 02.3**	**0.0**
MSOM	**Makushin Julie**	**1.93**	**57**	P	**Pn**	**20 53 12.7**	**-0.3**
MSOM				S	**Sb**	**20 53 38.1**	**-1.4**
MCIR	**Makushin Cirqu**	**2.03**	**54**	P	**Pb**	**20 53 15.5**	**-1.7**
MSW	**Makushin Switc**	**2.06**	**56**	P	**Pb**	**20 53 15.9**	**-1.9**
MTBL	**Makushin Table**	**2.15**	**56**	P	**Pn**	**20 53 16.2**	**+0.1**
UNV	**Unalaska Valle**	**2.18**	**60**	P	**Pn**	**20 53 16.5**	**+0.1**
UNV				S	**Sn**	**20 53 43.3**	**0.0**
AKRB	**Akutan Reef Bi**	**2.54**	**57**	P	**Pn**	**20 53 22.2**	**+0.8**
ZRO	**Akutan Zero**	**2.56**	**58**	P	**Pn**	**20 53 22.2**	**+0.4**
AKGG	**Akutan Green G**	**2.61**	**56**	P	**Pn**	**20 53 22.8**	**+0.4**
AKUT	**Akutan**	**2.69**	**59**	*e*P	Pb	20 53 25.1	-3.3
ATKA	**Atka Island**	**2.82**	**259**	P	**Pn**	**20 53 24.6**	**-0.7**
GSTR	**Great Sitkin T**	**3.96**	**262**	*e*P	**Pn**	**20 53 39.3**	**-1.7**
ADAG	**Mount Adagdak**	**4.32**	**262**	P	**Pn**	**20 53 46.5**	**+0.7**
SPIA	**Saint Paul Isl**	**4.39**	**356**	P	**Pn**	**20 53 47.7**	**+0.9**
PPLA	**Purkeypile**	**13.70**	**36**	*e*P	Pn	20 55 58.2	+3.9
BPAW	**Bear Paw Mtn.**	**14.89**	**33**	*e*P	**Pn**	**20 56 12.2**	**+1.7**
	2.0nm,0.7s						
ILAR	**Eielson Array**	**16.70**	**35**	Pn	**P**	**20 56 34.9**	**-1.4**
	0.1nm,0.3s,baz=228,slow=11,SNR=7.9						
EGAK	**Eagle**	**18.82**	**39**	*e*P	**Pn**	**20 57 00.1**	**0.0**
	1.8nm,0.6s						
HYT	**Haines Junctio**	**19.18**	**53**	*e*P	**Pn**	**20 57 04.6**	**-0.1**
	4.6nm,0.6s						
SEY	**Seymchan**	**22.23**	**312**	P	**P**	**20 57 36.2**	**-0.4**
	4.1nm,0.8s,baz=93,slow=10,SNR=6.9						
DLBC	**Dease Lake**	**22.83**	**60**	P	**P**	**20 57 44.5**	**+1.4**
	3.1nm,0.8s,baz=284,slow=8.5,SNR=7.4						
DLBC	**Dease Lake**	**22.83**	**60**	*e*P	**P**	**20 57 45.2**	**+2.1**
NEW	**Newport**	**33.09**	**76**	P	P	20 59 18.1	+2.2
	2.9nm,0.6s,baz=319,slow=0.6,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**37.68**	**218**	T	T	21 40 12.3	
	baz=23,slow=76,SNR=7.9						
H11N3	**WAKE ISLAND Hy**	**37.68**	**218**	T	T	21 40 12.7	
	baz=23,slow=76,SNR=7.1						
H11N1	**WAKE ISLAND Hy**	**37.70**	**218**	T	T	21 40 11.4	
	baz=23,slow=76,SNR=6.7						
NVAR	**Mina Array Bea**	**37.87**	**91**	P	**P**	**20 59 58.6**	**+1.4**
	1.2nm,0.8s,baz=301,slow=8.1,SNR=6.8						
ELK	**Elko**	**38.29**	**86**	P	**P**	**21 00 00.9**	**+0.1**
	1.8nm,0.7s,baz=297,slow=10,SNR=9.1						
H11S1	**WAKE ISLAND Hy**	**38.87**	**217**	T	T	21 41 39.1	
	baz=23,slow=76,SNR=205						
H11S2	**WAKE ISLAND Hy**	**38.88**	**217**	T	T	21 41 40.1	
	baz=23,slow=76,SNR=115						
H11S3	**WAKE ISLAND Hy**	**38.89**	**217**	T	T	21 41 39.9	
	baz=23,slow=76,SNR=80						
MJAR	**Matsushiro Ar**	**39.52**	**267**	LR	LR	21 16 24.6	
	comp=Z,10nm,19.7s,baz=175,slow=36						
PDAR	**Pinedale Array**	**40.51**	**79**	P	**P**	**21 00 19.3**	**0.0**
	1.4nm,0.7s,baz=337,slow=3.9,SNR=8.2						
PV01	**Paradox Valley**	**43.95**	**84**	*e*P	**P**	**21 00 47.9**	**+0.5**
TXAR	**Lajitas Array**	**52.93**	**89**	P	**P**	**21 01 56.3**	**-0.3**
	3.4nm,0.8s,baz=295,slow=5.1,SNR=28						
WRA	**Warramunga Arr**	**87.12**	**231**	P	**P**	**21 05 26.2**	**+0.1**
	0.6nm,1.0s,baz=34,slow=6.2,SNR=5.5						
ASAR	**Alice Springs**	**90.53**	**230**	P	**P**	**21 05 42.0**	**-0.2**
	2.1nm,0.8s,baz=33,slow=4.6,SNR=20						
MAW	**Mawson**	**151.09**	**219**	PKPab	**PKPab**	**21 12 41.2**	**+1.6**
	1.6nm,0.6s,baz=34,slow=1.5,SNR=4.2						
BOSA	**Boshof**	**153.42**	**330**	PKPbc	**PKPbc**	**21 12 39.1**	**+0.6**
	1.8nm,0.6s,baz=340,slow=2.3,SNR=6.0						

IDC 19 21:06:46.4±3.4,5˚.47S×150˚.40E,h0km,mb3.4/2, mb1 3.7/3,mb1mx3.4/27,mbtmp3.5/3,ML1.2/1,Error ellipse: s-maj=136.6km s-min=39.8km az=117.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.06**	**219**	Pn	Pn	21 08 04.6	+1.0
	0.7nm,0.3s,baz=293,slow=13,SNR=2.5						
PMG				Sn	Sn	21 08 57.9	-4.9
	2.2nm,0.3s,baz=153,slow=16,SNR=3.4						
WRA	**Warramunga Arr**	**21.23**	**226**	P	P	21 11 34.0	-0.2
	1.0nm,0.4s,baz=51,slow=0.5,SNR=10						
ASAR	**Alice Springs**	**24.07**	**220**	P	P	21 12 03.2	-0.6
	0.3nm,0.3s,baz=57,slow=9.1,SNR=7.6						
TORD	**Torodi Ar. Bea**	**148.22**	**286**	PKPbc	PKPbc	21 26 35.1	-0.4
	1.1nm,0.6s,baz=67,slow=3.1,SNR=15						

*CASC **19** 21:13:03.3±0.6,13˚.97N×92˚.69W,h35km±999km,MD4.1*

*MEX **19** 21:13:04.5±0.8,14˚.31N×92˚.74W,h8km±120km,MD3.6*

ISC 19 21:13:03.3±3.7,14˚.3N±0˚.3×92˚.7W±0˚.2,h35km,n7, σ0§70/11,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**1.05**	**88**	*e*P	**Pn**	**21 13 22.0**	**+0.5**
JAT				*e*S	**Sn**	**21 13 34.0**	**-0.9**
PCIG		**1.50**	**341**	*e*P	**Pn**	**21 13 28.3**	**+0.6**
PCIG				*e*S	**Sn**	**21 13 45.1**	**-0.9**
FUG	**Fuego 3**	**1.82**	**85**	*e*P	**Pn**	**21 13 32.0**	**-0.4**
IXG	**Ixpaco**	**2.20**	**92**	*e*P	**Pn**	**21 13 37.7**	**+0.2**
IXG				*e*S	**Sn**	**21 14 03.9**	**+0.4**
RBDL	**Robledal**	**2.94**	**93**	*e*P	**Pn**	**21 13 47.9**	**+0.2**
RBDL				*e*S	**Sn**	**21 14 22.9**	**+1.0**
SBLS	**San Blas**	**3.03**	**98**	*e*P	**Pn**	**21 13 48.7**	**-0.3**
LFRS	**El Faro**	**3.61**	**100**	*e*P	**Pn**	**21 13 56.3**	**-0.5**

*ISCJB **19** 21:30:22.9±0.3,10˚.25S±0˚.05×161˚.32E±0˚.06,h56km, mb4.7/41,MS3.7/9,Error ellipse: s-maj=9.6km s-min=5.4km az=35.2*

*IDC **19** 21:30:23.8±0.7,10˚.34S×161˚.46E,h57km±4km,mb4.2/20, mb1 4.2/21,mb1mx4.1/38,mbtmp4.4/21,MS3.7/10, Ms1 3.7/10,ms1mx3.4/29,Error ellipse: s-maj=19.2km s-min=12.5km az=105.0*

*NEIC **19** 21:30:28.4±1.3,10˚.29S×161˚.30E,h93km±11km,mb4.7/24, Error ellipse: s-maj=11.3km s-min=6.4km az=120.0*

ISC 19 21:30:23.9±0.6,10˚.34S±0˚.06×161˚.56E±0˚.07,h57km±4km, h57km:pP-P,n97,σ1§28/100,mb4.7/41,MS3.8/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.82**	**299**	LR	LR	21 31 50.4	
	comp=Z,508nm,20.1s,baz=131,slow=50						
HNR	**Honiara**	**1.82**	**299**	*e*Pn	**Pn**	**21 30 54.3**	**+1.3**
HNR				*e*Sn	**Sn**	**21 31 16.9**	**+1.9**
DZM	**Mont Dzumac**	**12.57**	**159**	P	**Pn**	**21 33 22.0**	**+1.9**
	0.9nm,0.3s,baz=90,slow=24,SNR=26						
DZM				S	**Sn**	**21 35 35.6**	**-3.1**
	0.2nm,0.3s,baz=270,slow=20,SNR=2.4						
PMG	**Port Moresby**	**14.22**	**272**	LR	LR	21 38 48.8	
	comp=Z,296nm,21.4s,baz=103,slow=36						
CTA	**Charters Tower**	**17.65**	**235**	P	**P**	**21 34 27.8**	**+1.5**
	0.7nm,0.3s,baz=59,slow=13,SNR=14						
CTAO	**Charters Tower**	**17.65**	**235**	*e*Pn	**P**	**21 34 27.4**	**+1.2**
	21nm,1.0s						
EIDS	**Eidsvold**	**17.95**	**212**	P	**Pn**	**21 34 31.2**	**+1.6**
	baz=18,SNR=5.0						
EIDS	**Eidsvold**	**17.95**	**212**	*e*Pn	**Pn**	**21 34 31.5**	**+1.9**
	82nm,1.8s						
COEN	**Coen**	**18.33**	**257**	P	**Pn**	**21 34 37.3**	**+3.1**
	baz=18,SNR=4.4						
COEN	**Coen**	**18.33**	**257**	*e*P	**Pn**	**21 34 34.4**	**+0.1**
	22nm,1.1s						
MTSU	**Mount Surprise**	**18.41**	**243**	P	**Pn**	**21 34 37.6**	**+2.4**
	baz=18,SNR=20						
RMQ	**Roma**	**20.11**	**215**	P	Pn	21 34 55.1	-0.2
	baz=20,SNR=11						
ARMA	**Armidale**	**22.02**	**203**	P	**P**	**21 35 13.9**	**+0.2**
	baz=22,SNR=4.9						
ARMA	**Armidale**	**22.02**	**203**	*e*P	**P**	**21 35 13.9**	**+0.2**
	15nm,1.0s						
JAY	**Jayapura**	**22.12**	**289**	P	**P**	**21 35 14.8**	**-0.1**
	4.0nm,0.4s,baz=170,slow=18,SNR=3.8						
QLP	**Quilpie**	**23.00**	**223**	P	**P**	**21 35 23.7**	**-0.2**
	baz=23,SNR=8.7						
QIS	**Mount Isa**	**23.44**	**242**	P	**P**	**21 35 27.4**	**-1.0**
	baz=23,SNR=4.1						
CMSA	**Cobar Meteorol**	**25.72**	**213**	P	**P**	**21 35 50.5**	**+1.5**
	baz=26,SNR=9.5						
AFI	**Afiamalu**	**26.30**	**100**	LR	LR	21 44 21.7	
	comp=Z,85nm,19.1s,baz=4.0,slow=32						
WRA	**Warramunga Arr**	**27.92**	**247**	P	**P**	**21 36 08.0**	**-0.9**
	7.8nm,0.7s,baz=76,slow=9.2,SNR=37						
WRA				LR	LR	21 45 55.5	
	comp=Z,162nm,21.3s,baz=65,slow=34						
STKA	**Stephens Creek**	**28.29**	**218**	P	**P**	**21 36 12.0**	**-0.1**
	3.0nm,0.6s,baz=82,slow=19,SNR=8.8						
STKA				LR	LR	21 47 17.7	
	comp=Z,264nm,19.1s,baz=28,slow=36						
STKA	**Stephens Creek**	**28.29**	**218**	P	P	21 36 17.1	+5.0
	baz=28,SNR=4.7						
KDU	**Kakadu**	**28.59**	**262**	P	**P**	**21 36 14.1**	**-0.8**
	baz=28,SNR=4.1						
AS12	**Alice Springs**	**29.51**	**240**	*e*P	**P**	**21 36 21.5**	**-1.5**
ASAR	**Alice Springs**	**29.51**	**240**	P	**P**	**21 36 21.5**	**-1.5**
	2.3nm,0.6s,baz=73,slow=9.1,SNR=22						
ASAR				LR	LR	21 47 44.7	
	comp=Z,306nm,21.5s,baz=82,slow=35						
MTN	**Manton Dam**	**29.90**	**262**	P	**P**	**21 36 27.7**	**+1.1**
	baz=29,SNR=3.2						
TOO	**Toolangi**	**30.73**	**205**	P	**P**	**21 36 34.3**	**+0.6**
	baz=31,SNR=4.5						
HTT	**Hallett**	**30.99**	**219**	P	**P**	**21 36 35.9**	**-0.2**
	baz=31,SNR=3.7						
KNRA	**Kununurra**	**32.37**	**257**	P	**P**	**21 36 47.8**	**-0.5**
	baz=32,SNR=21						
BBOO	**Buckleboo**	**32.43**	**223**	P	**P**	**21 36 48.3**	**-0.3**
	baz=32,SNR=5.3						
BBOO	**Buckleboo**	**32.43**	**223**	*e*P	**P**	**21 36 48.1**	**-0.5**
	112nm,1.9s						
WRKA	**Warakurna**	**34.78**	**241**	P	**P**	**21 37 07.7**	**-1.5**
	baz=34,SNR=23						
FITZ	**Fitzroy Crossi**	**35.61**	**253**	P	**P**	**21 37 15.3**	**-1.1**
	baz=35,SNR=19						
FITZ	**Fitzroy Crossi**	**35.61**	**253**	*e*P	**P**	**21 37 15.1**	**-1.3**
	7.1nm,0.6s						
BATI	**Baumata**	**37.27**	**267**	P	**P**	**21 37 30.7**	**+0.1**
	17nm,0.5s,baz=132,slow=2.1						
MBWA	**Marble Bar**	**41.55**	**250**	*e*P	**P**	**21 38 04.5**	**-1.7**
	127nm,1.9s						
KMBL	**Kambalda**	**42.26**	**234**	P	**P**	**21 38 11.6**	**-0.2**
	baz=42,SNR=4.6						
MEEK	**Meekatharra**	**43.60**	**242**	P	**P**	**21 38 22.6**	**-0.2**
	baz=43,SNR=11						
BLDU	**Ballidu**	**46.23**	**237**	P	**P**	**21 38 43.0**	**-0.6**
	baz=46,SNR=7.7						
MORW	**Morawa**	**46.39**	**240**	P	**P**	**21 38 44.4**	**-0.5**
	baz=46,SNR=3.7						
NWAO	**Narrogin (SRO)**	**46.49**	**234**	P	**P**	**21 38 44.5**	**-1.2**
	8.5nm,0.8s,baz=148,slow=3.7,SNR=8.1						
KKM	**Kota Kinabalu**	**48.00**	**288**	*e*P	**P**	**21 38 54.6**	**-3.1**
	26nm,1.3s						
MJAR	**Matsushiro Arr**	**51.55**	**336**	P	**P**	**21 39 22.9**	**-1.2**
	2.1nm,0.6s,baz=169,slow=8.9,SNR=15						
MJAR				pP	**pP**	**21 39 38.2**	**-1.2**
	1.3nm,0.7s,baz=169,slow=9.3,SNR=3.4						
MAJO	**Matsushiro**	**51.55**	**336**	*e*P	**P**	**21 39 22.9**	**-1.2**
	5.8nm,0.9s						
MAJO				*e*pP	**pP**	**21 39 38.2**	**-1.2**
MAT	**Matsushiro**	**51.55**	**336**	P	**P**	**21 39 23.4**	**-0.8**
KSRS	**Korea Array**	**57.04**	**328**	P	**P**	**21 40 04.0**	**-0.1**
	1.9nm,0.6s,baz=139,slow=7.3,SNR=6.2						
KSRS				pP	**pP**	**21 40 18.9**	**-0.6**
	0.3nm,0.3s,baz=148,slow=41,SNR=1.8						
KS15	**Wonju Array Si**	**57.05**	**328**	*e*P	**P**	**21 40 04.0**	**-0.2**
KS15				*e*pP	**pP**	**21 40 18.9**	**-0.7**
KSAR	**Wonju Array Be**	**57.05**	**328**	P	**P**	**21 40 04.0**	**-0.2**
KSAR				pP	**pP**	**21 40 18.9**	**-0.7**
USRK	**Ussuriysk Ar.**	**60.55**	**336**	P	**P**	**21 40 28.7**	**+0.4**
	9.4nm,0.9s,baz=146,slow=6.1,SNR=22						
USRK				pP	**pP**	**21 40 44.1**	**+0.3**
	2.3nm,0.8s,baz=128,slow=7.1,SNR=3.0						
PETK	**Petropavlovsk-**	**63.28**	**357**	LR	LR	22 03 50.7	
	comp=Z,16nm,21.9s,baz=196,slow=32						
VNDA	**Vanda**	**67.17**	**180**	P	**P**	**21 41 11.8**	**+0.4**
	1.6nm,0.7s,baz=349,slow=5.1,SNR=6.8						
CM31	**Chiang Mai Arr**	**68.07**	**295**	*e*P	**P**	**21 41 17.7**	**-0.3**
CM31				*e*pP	**pP**	**21 41 32.9**	**-0.9**
CMAR	**Chiang Mai Arr**	**68.07**	**295**	P	**P**	**21 41 17.7**	**-0.3**
	0.9nm,0.6s,baz=127,slow=5.1,SNR=11						
CMAR				pP	**pP**	**21 41 32.9**	**-0.9**
	1.0nm,0.7s,baz=110,slow=4.5,SNR=4.6						
SEY	**Seymchan**	**73.39**	**356**	P	**P**	**21 41 49.5**	**+0.1**
	0.9nm,0.3s,baz=119,slow=3.7,SNR=4.2						
SEY				pP	**pP**	**21 42 05.2**	**-0.2**
	1.1nm,0.3s,baz=113,slow=7.9,SNR=2.1						
SONA0	**Songino Array**	**75.70**	**325**	*e*P	**P**	**21 42 03.9**	**+0.5**
SONA0				*e*pP	**pP**	**21 42 19.5**	**+0.1**
SONM	**Songino Array**	**75.70**	**325**	P	**P**	**21 42 03.9**	**+0.5**
	8.5nm,0.7s,baz=142,slow=5.8,SNR=54						
SONM				pP	**pP**	**21 42 19.5**	**+0.1**
	2.1nm,0.7s,baz=143,slow=6.9,SNR=4.2						

OKTU	**Okmok Mt. Tuli**	**1.25**	**64**	P		**Pg**	**21 32 34.9**	**-0.1**
MSOM	**Makushin Julie**	**2.03**	**60**	P		**Pn**	**21 32 46.1**	**+0.3**
MSOM				S		**Sn**	**21 33 11.7**	**+0.1**
MCIR	**Makushin Cirqu**	**2.12**	**58**	P		**Pn**	**21 32 48.7**	**+1.5**
MSW	**Makushin Switc**	**2.16**	**59**	P		**Pn**	**21 32 49.4**	**+1.7**
MTBL	**Makushin Table**	**2.24**	**59**	P		**Pn**	**21 32 50.4**	**+1.5**
UNV	**Unalaska Valle**	**2.28**	**63**	P		**Pn**	**21 32 49.4**	**+0.1**
UNV				S		**Sn**	**21 33 17.9**	**+0.2**
AKRB	**Akutan Reef Bi**	**2.63**	**59**	P		**Pn**	**21 32 55.3**	**+1.1**
ATKA	**Atka Island**	**2.69**	**258**	P		**Pg**	**21 33 02.8**	**+0.3**
AKUT	**Akutan**	**2.79**	**61**	*e*Pn		**Pn**	**21 32 57.3**	**+1.0**
AKUT				*e*Sn		**Sn**	**21 33 29.7**	**-0.7**
ILAR	**Eielson Array**	**16.75**	**36**	Pn		**Pn**	**21 36 05.0**	**-1.0**
	0.1nm,0.3s,baz=232,slow=12,SNR=3.2							
H11N2	**WAKE ISLAND Hy**	**37.63**	**217**	T		T	22 19 24.2	
	baz=24,slow=76,SNR=40							
H11N3	**WAKE ISLAND Hy**	**37.64**	**217**	T		T	22 19 21.4	
	baz=24,slow=76,SNR=47							
H11N1	**WAKE ISLAND Hy**	**37.65**	**217**	T		T	22 19 25.5	
	baz=24,slow=76,SNR=42							
H11S1	**WAKE ISLAND Hy**	**38.82**	**217**	T		T	22 20 53.9	
	baz=23,slow=76,SNR=359							
H11S2	**WAKE ISLAND Hy**	**38.84**	**217**	T		T	22 20 55.8	
	baz=23,slow=76,SNR=312							
H11S3	**WAKE ISLAND Hy**	**38.84**	**217**	T		T	22 20 56.3	
	baz=23,slow=76,SNR=258							
PDAR	**Pinedale Array**	**40.64**	**79**	P		**P**	**21 39 52.8**	**+0.7**
	0.6nm,0.8s,baz=320,slow=6.4,SNR=4.3							
TXAR	**Lajitas Array**	**53.07**	**89**	P		**P**	**21 41 29.9**	**+0.6**
	0.6nm,0.7s,baz=301,slow=6.0,SNR=9.0							
BOSA	**Boshof**	**153.31**	**329**	PKPbc		**PKPbc**	**21 52 07.2**	**-2.9**
	1.9nm,0.9s,baz=51,slow=1.3,SNR=3.6							

*IDC **19** 21:37:12.8±9.2, 52°.54N×169°.83W, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.5/58, mbtmp3.6/6, ML3.5/1, Error ellipse: s-maj=169.0km s-min=42.4km az=83.0*
*ISCJB **19** 21:37:17.7±0.9, 52°.9N±0°.1×169°.63W±0°.10, h10km, mb3.6/5, Error ellipse: s-maj=17.3km s-min=7.0km az=163.1*
*NEIC **19** 21:37:17.9, 52°.90N×169°.52W, h2km, ML3.3(AEIC), After AEIC.*

ISC 19 21:37:17.3±1.0, 52°.9N±0°.1×169°.54W±0°.07, h10km, n24, σ1§41/22, mb3.7/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIKH	**Nikolski High**	**0.42**	**79**	P		**Pg**	**21 37 26.3**	**+0.7**
NIKH				S		**Sb**	**21 37 33.6**	**+0.3**
OKWR	**Okmok West Rim**	**0.97**	**56**	P		**Pb**	**21 37 36.9**	**+0.7**
OKAK	**Okmok**	**0.98**	**46**	P		**Pg**	**21 37 35.5**	**-0.7**
OKAK				S		**Sg**	**21 37 49.1**	**+0.1**
MSOM	**Makushin Julie**	**1.81**	**58**	P		**Pn**	**21 37 49.4**	**+1.0**
MCIR	**Makushin Cirqu**	**1.90**	**55**	P		**Pn**	**21 37 50.9**	**+1.0**
MSW	**Makushin Switc**	**1.94**	**57**	P		**Pn**	**21 37 51.8**	**+1.5**
MSW				S		**Sb**	**21 38 18.4**	**+1.5**
MTBL	**Makushin Table**	**2.02**	**57**	P		**Pn**	**21 37 53.1**	**+1.7**
UNV	**Unalaska Valle**	**2.05**	**61**	P		**Pn**	**21 37 52.6**	**+0.8**
UNV				S		**Sb**	**21 38 20.8**	**+0.7**
ZRO	**Akutan Zero**	**2.44**	**59**	P		**Pn**	**21 37 59.3**	**+2.1**
AKGG	**Akutan Green G**	**2.49**	**57**	P		**Pb**	**21 38 00.4**	**-1.6**
AKUT	**Akutan**	**2.57**	**60**	*e*Pn		**Pn**	**21 38 00.7**	**+1.8**
ATKA	**Atka Island**	**2.93**	**258**	P		**Pn**	**21 38 05.6**	**+1.8**
ILAR	**Eielson Array**	**16.58**	**35**	Pn		**Pn**	**21 41 08.4**	**-1.1**
	0.1nm,0.3s,baz=226,slow=12,SNR=3.9							
DLBC	**Dease Lake**	**22.71**	**60**	P		**P**	**21 42 20.4**	**+1.5**
	1.8nm,0.6s,baz=274,slow=12,SNR=6.0							
INK	**Inuvik**	**22.96**	**34**	P		**P**	**21 42 23.0**	**+1.6**
	2.0nm,0.5s,baz=231,slow=6.5,SNR=3.9							
YKA	**Yellowknife Ar**	**29.97**	**50**	P		**P**	**21 43 24.9**	**-0.5**
	0.4nm,0.5s,baz=274,slow=7.2,SNR=3.0							
H11N2	**WAKE ISLAND Hy**	**37.80**	**218**	T		T	22 24 21.6	
	baz=23,slow=76,SNR=8.0							
H11N3	**WAKE ISLAND Hy**	**37.81**	**218**	T		T	22 24 24.1	
	baz=23,slow=76,SNR=9.8							
H11N1	**WAKE ISLAND Hy**	**37.82**	**218**	T		T	22 24 25.9	
	baz=23,slow=76,SNR=8.2							
H11S1	**WAKE ISLAND Hy**	**39.00**	**217**	T		T	22 25 54.8	
	baz=23,slow=76,SNR=93							
H11S2	**WAKE ISLAND Hy**	**39.01**	**217**	T		T	22 25 55.7	
	baz=23,slow=76,SNR=76							
H11S3	**WAKE ISLAND Hy**	**39.01**	**217**	T		T	22 25 56.0	
	baz=23,slow=76,SNR=55							
PDAR	**Pinedale Array**	**40.41**	**80**	P		**P**	**21 44 53.5**	**-2.2**
	0.4nm,0.5s,baz=308,slow=6.7,SNR=3.8							
TXAR	**Lajitas Array**	**52.84**	**89**	P		**P**	**21 46 31.8**	**-1.2**
	0.9nm,0.7s,baz=295,slow=5.3,SNR=15							

*IDC **19** 21:40:01.4±0.9, 0°.55S×133°.32E, h0km, mb4.1/7, mb1 4.3/11, mb1mx4.0/48, mbtmp4.3/11, ML4.3/4, MS3.2/2, Ms1 3.3/2, ms1mx2.8/28, Error ellipse: s-maj=27.9km s-min=17.3km az=75.0*
*ISCJB **19** 21:40:03.7±0.6, 0°.64S±0°.07×133°.28E±0°.06, h28km, mb4.1/7, MS3.6/1, Error ellipse: s-maj=9.9km s-min=8.3km az=35.5*

ISC 19 21:40:05.5±0.9, 0°.62S±0°.09×133°.16E±0°.09, h28km, n22, σ1§20/21, mb4.3/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**1.91**	**262**	Pn		**Pn**	**21 40 35.9**	**-0.4**
	121nm,0.3s,baz=55,slow=14,SNR=146							
SIJI				Sn		**Sb**	**21 41 01.2**	**-2.0**
	93nm,0.3s,baz=310,slow=23,SNR=5.4							
SIJI				LR		LR	21 41 42.2	
	comp=Z,345nm,21.2s,baz=134,slow=48							
SWI	**Sorong**	**1.92**	**263**	P		**Pn**	**21 40 37.3**	**+0.9**
	baz=1.7,SNR=89							
FAKI	**Fak Fak**	**2.46**	**202**	P		**Pn**	**21 40 45.1**	**+1.2**
	baz=2.1,SNR=99							
KDU	**Kakadu**	**12.01**	**183**	P		**Pn**	**21 42 53.8**	**-1.2**
	baz=12,SNR=36							
MTN	**Manton Dam**	**12.31**	**189**	P		**Pn**	**21 42 57.8**	**-1.3**
	baz=12,SNR=45							
BATI	**Baumata**	**13.42**	**224**	Pn		**Pn**	**21 43 15.9**	**+1.7**
	5.0nm,0.3s,baz=28,slow=5.3,SNR=6.3							
KAPI	**Kappang**	**14.09**	**252**	Pn		P	21 43 26.7	-4.1
	0.5nm,0.3s,baz=76,slow=17,SNR=4.0							
KNRA	**Kununurra**	**15.58**	**196**	P		**Pn**	**21 43 40.7**	**-2.7**
	baz=15,SNR=20							
FITZ	**Fitzroy Crossi**	**18.89**	**203**	P		**Pn**	**21 44 24.0**	**-0.6**
	baz=19,SNR=62							
WRA	**Warramunga Arr**	**19.24**	**177**	P		**P**	**21 44 27.8**	**-0.1**
	0.6nm,0.3s,baz=355,slow=13,SNR=14							
WRA				S		Sn	21 47 49.9	-14
	0.4nm,0.3s,baz=357,slow=24,SNR=6.2							
QIS	**Mount Isa**	**20.80**	**163**	P		Pn	21 44 48.9	+1.6
	baz=21,SNR=3.9							
ASAR	**Alice Springs**	**22.93**	**178**	P		**P**	**21 45 08.2**	**+0.6**
	3.7nm,0.3s,baz=355,slow=11,SNR=37							
ASAR				S		**S**	**21 49 16.0**	**+0.1**
	4.4nm,1.1s,baz=3.2,slow=22,SNR=10							
CTA	**Charters Tower**	**23.21**	**147**	P		**P**	**21 45 10.3**	**-0.2**
	6.6nm,0.7s,baz=328,slow=13,SNR=7.7							
WRKA	**Warakurna**	**24.73**	**191**	P		**P**	**21 45 25.3**	**+0.6**
	baz=24,SNR=7.0							
STKA	**Stephens Creek**	**32.10**	**166**	P		**P**	**21 46 30.6**	**+0.2**
	baz=32,SNR=4.1							
ARPS	**Mount Arapiles**	**36.86**	**168**	P		**P**	**21 47 12.6**	**+1.1**
	baz=37,SNR=4.8							
MKAR	**Makanchi Array**	**64.80**	**324**	P		**P**	**21 50 42.9**	**+1.1**
	1.2nm,0.5s,baz=119,slow=7.5,SNR=20							
ZALV	**Zalesovo Beam**	**67.40**	**331**	P		**P**	**21 50 58.3**	**0.0**
	0.8nm,0.6s,baz=146,slow=6.3,SNR=4.3							
KURBB	**Kurchatov Arra**	**68.87**	**326**	P		**P**	**21 51 08.4**	**+0.8**
	3.0nm,0.8s,baz=124,slow=5.5,SNR=10							
BVAR	**Borovoye Array**	**74.47**	**326**	P		**P**	**21 51 41.9**	**+0.6**
	1.6nm,0.8s,baz=125,slow=7.8,SNR=9.8							
ILAR	**Eielson Array**	**86.27**	**25**	P				
	0.4nm,0.6s,baz=249,slow=5.1,SNR=6.3							
ARCES	**ARCESS Array B**	**96.70**	**340**	LR		LR	22 43 31.6	
	comp=Z,20nm,18.2s,baz=355,slow=39							

*IDC **19** 21:41:34.7±1.1, 52°.53N×170°.10W, h0km, mb4.0/9, mb1 4.2/10, mb1mx3.8/61, mbtmp4.0/10, ML3.8/1, MS3.5/3, Ms1 3.5/3, ms1mx2.9/38, Error ellipse: s-maj=29.9km s-min=19.6km az=11.0*
*NEIC **19** 21:41:36.0, 52°.60N×169°.67W, h2km, ML3.8(AEIC), After AEIC.*
*ISCJB **19** 21:41:36.4±0.5, 52°.69N±0°.09×169°.80W±0°.07, h10km, mb3.9/10, MS3.4/2, Error ellipse: s-maj=13.9km s-min=3.7km az=156.6*

ISC 19 21:41:37.2±0.7, 52°.7N±0°.1×169°.70W±0°.06, h10km, n39, σ1§04/38, mb3.9/10, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIKH	**Nikolski High**	**0.58**	**61**	P		**Pb**	**21 41 49.0**	**-0.5**
NIKH				S		**Sb**	**21 41 58.6**	**+0.8**
OKWR	**Okmok West Rim**	**1.17**	**50**	P		**Pg**	**21 41 59.8**	**+0.2**
OKCE	**Okmok Cone E**	**1.18**	**51**	P		**Pg**	**21 41 59.9**	**+0.1**
OKAK	**Okmok**	**1.20**	**42**	P		**Pn**	**21 41 57.9**	**-2.1**
OKAK				S		**Sb**	**21 42 15.2**	**-0.3**
OKTU	**Okmok Mt. Tuli**	**1.21**	**55**	P		**Pg**	**21 42 00.2**	**-0.3**
MSOM	**Makushin Julie**	**2.00**	**55**	P		**Pn**	**21 42 11.4**	**+0.4**
MSOM				S		**Sb**	**21 42 38.8**	**+0.3**
MCIR	**Makushin Cirqu**	**2.10**	**52**	P		**Pb**	**21 42 13.5**	**-1.9**
MSW	**Makushin Switc**	**2.13**	**54**	P		**Pn**	**21 42 13.2**	**+0.4**
MTBL	**Makushin Table**	**2.21**	**54**	P		**Pn**	**21 42 14.7**	**+0.6**
UNV	**Unalaska Valle**	**2.24**	**58**	P		**Pn**	**21 42 14.4**	**+0.1**
UNV				S		**Sb**	**21 42 45.2**	**-0.2**
AKRB	**Akutan Reef Bi**	**2.60**	**55**	P		**Pn**	**21 42 20.2**	**+0.8**
ZRO	**Akutan Zero**	**2.63**	**56**	P		**Pn**	**21 42 20.4**	**+0.7**
AKGG	**Akutan Green G**	**2.68**	**54**	P		**Pn**	**21 42 21.3**	**+1.0**
AKUT	**Akutan**	**2.76**	**57**	P		**Pn**	**21 42 22.5**	**+1.1**
ATKA	**Atka Island**	**2.80**	**262**	P		**Pn**	**21 42 21.9**	**0.0**
GSTR	**Great Sitkin T**	**3.94**	**264**	*e*Pn		**Pn**	**21 42 38.5**	**+0.7**
GSMY	**Great Sitkin M**	**3.95**	**263**	P		**Pn**	**21 42 38.4**	**+0.6**
GSTD	**Great Sitkin T**	**4.00**	**263**	P		**Pn**	**21 42 39.3**	**+0.7**
GSCK	**Great Sitkin C**	**4.02**	**263**	P		**Pn**	**21 42 38.7**	**-0.1**
ADAG	**Mount Adagdak**	**4.29**	**263**	P		**Pn**	**21 42 44.0**	**+1.4**
SPIA	**Saint Paul Isl**	**4.50**	**356**	P		**Pn**	**21 42 47.6**	**+2.2**
PPLA	**Purkeypile**	**13.79**	**35**	*e*Pn		**Pn**	**21 44 52.9**	**+0.3**
	54nm,1.5s							
ILAR	**Eielson Array**	**16.80**	**35**	Pn		**Pn**	**21 45 32.8**	**+0.5**
	0.1nm,0.3s,baz=226,slow=12,SNR=13							
ILAR				LR		LR	21 52 46.3	
	comp=Z,147nm,18.1s,baz=258,slow=39							
SEY	**Seymchan**	**22.30**	**312**	P		**P**	**21 46 33.8**	**-0.6**
	1.3nm,0.4s,baz=121,slow=8.9,SNR=4.9							
DLBC	**Dease Lake**	**22.89**	**60**	P		**P**	**21 46 43.2**	**+2.5**
	6.4nm,0.6s,baz=273,slow=9.7,SNR=18							
INK	**Inuvik**	**23.18**	**34**	LR		LR	21 55 43.3	
	comp=Z,84nm,19.1s,baz=270,slow=36							
NVAR	**Mina Array Bea**	**37.87**	**91**	P		**P**	**21 48 55.3**	**+0.9**
	1.5nm,0.7s,baz=298,slow=6.8,SNR=8.2							
H11S1	**WAKE ISLAND Hy**	**38.78**	**217**	T		T	22 30 07.5	
	baz=22,slow=76,SNR=105							
H11S2	**WAKE ISLAND Hy**	**38.79**	**217**	T		T	22 30 08.6	
	baz=22,slow=76,SNR=72							
H11S3	**WAKE ISLAND Hy**	**38.80**	**217**	T		T	22 30 08.7	
	baz=22,slow=76,SNR=64							
PDAR	**Pinedale Array**	**40.54**	**79**	P		**P**	**21 49 17.1**	**+0.5**
	1.4nm,0.8s,baz=314,slow=4.0,SNR=11							
TXAR	**Lajitas Array**	**52.94**	**89**	P		**P**	**21 50 54.8**	**+1.1**
	1.4nm,0.7s,baz=301,slow=4.9,SNR=20							
SADO	**Sadowa**	**56.45**	**59**	LR		LR	22 17 25.9	
	comp=Z,42nm,18.1s,baz=75,slow=38							
FINES	**FINESS Array B**	**65.52**	**352**	P		**P**	**21 52 19.6**	**-0.5**
	1.4nm,0.9s,baz=14,slow=7.2,SNR=2.8							
KMI	**Kunming**	**68.99**	**284**	P		**P**	**21 52 43.8**	**+0.8**
KMI				pmax		pmax		
	comp=Z,4.0nm,0.9s							
AKASG	**Malin Array Be**	**75.74**	**348**	P		**P**	**21 53 21.1**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=16,slow=5.7,SNR=4.1							
GERES	**GERESS Array B**	**78.79**	**358**	P		**P**	**21 53 39.9**	**0.0**
	comp=Z,0.3nm,0.5s,baz=4.1,slow=5.4,SNR=3.1							
ASAR	**Alice Springs**	**90.45**	**230**	P		**P**	**21 54 36.9**	**-2.0**
	comp=Z,2.2nm,0.6s,baz=26,slow=4.5,SNR=5.9							
BOSA	**Boshof**	**153.51**	**329**	PKPbc		**PKPbc**	**22 01 35.5**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=102,slow=1.6,SNR=6.1							

*NOU **19** 21:44:09.8±2.0, 21°.34S×170°.18E, h10km, MD3.3, ML3.5*
*IDC **19** 21:44:12.4±7.4, 21°.55S×170°.07E, h74km±50km, mb3.7/4, mb1 4.0/5, mb1mx3.5/40, mbtmp4.0/5, ML3.8/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/20, Error ellipse: s-maj=66.7km s-min=46.0km az=141.0*

ISC 19 21:44:07.7±1.6, 21°.4S±0°.2×170°.3E±0°.1, h35km, n12, σ1§38/16, mb4.0/4, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LIFNC	**LIFOU**	**2.92**	**282**	*e*P		**Pn**	**21 44 53.6**	**+1.9**
LIFNC				*e*S		**Sn**	**21 45 24.3**	**-1.3**
LIFNC				AMP			21 45 34.8	
	comp=Z,672μm,5.9s							
BAYA	**Yate Dam**	**3.26**	**256**	*e*P		**Pn**	**21 44 58.3**	**+2.0**
BAYA				*e*S		**Sn**	**21 45 33.9**	**0.0**
LASL	**Noumea**	**3.59**	**256**	*e*S		**Sn**	**21 45 42.0**	**0.0**
NORM	**Noumea**	**3.64**	**256**	*e*P		**Pn**	**21 45 02.9**	**+1.4**
NORM				*e*S		**Sn**	**21 45 42.7**	**-0.5**
NORM				AMP			21 45 45.4	
	comp=Z,507nm,1.7s							
DZM	**Mont Dzumac**	**3.64**	**259**	P		**Pn**	**21 45 03.6**	**+2.0**
	comp=Z,8.2nm,0.3s,baz=337,slow=0.1,SNR=144							
DZM				S		**Sn**	**21 45 43.0**	**-0.5**
	comp=Z,45nm,0.3s,baz=80,slow=20,SNR=36							
NOUC	**Port Laguerre**	**3.78**	**259**	*e*P		**Pn**	**21 45 04.8**	**+1.4**
NOUC				*e*S		**Sn**	**21 45 46.3**	**-0.4**
NOUC				AMP			21 45 49.4	
	comp=Z,169nm,4.2s							
URZ	**Urewera**	**17.79**	**162**	LR		LR	21 52 58.8	
	comp=Z,93nm,21.9s,baz=332,slow=30							
STKA	**Stephens Creek**	**27.62**	**242**	P		**P**	**21 49 50.8**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=100,slow=12,SNR=5.4							
WRA	**Warramunga Arr**	**33.63**	**266**	P		**P**	**21 50 43.4**	**-1.8**
	comp=Z,1.3nm,0.5s,baz=99,slow=8.4,SNR=5.0							
ASAR	**Alice Springs**	**33.63**	**259**	P		**P**	**21 50 43.9**	**-1.4**
	comp=Z,1.6nm,0.8s,baz=82,slow=9.8,SNR=8.7							
CMAR	**Chiang Mai Arr**	**80.30**	**294**	P		**P**	**21 56 16.2**	**+0.7**
	comp=Z,1.3nm,0.9s,baz=136,slow=4.0,SNR=6.1							
GERES	**GERESS Array B**	**146.86**	**331**	PKPbc		**PKPdf**	**22 03 44.8**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=31,slow=3.2,SNR=16							

*NEIC **19** 21:45:12.6±4.2, 11°.41N×125°.87E, h15km±26km, mb4.5/9, Error ellipse: s-maj=11.2km s-min=6.2km az=73.0*
NEIC Felt [III PIVS] at Hernani and [II PIVS] at Llorente.
*ISCJB **19** 21:45:13.3±0.3, 11°.48N±0°.03×126°.00E±0°.04, h33km, mb4.3/26, Error ellipse: s-maj=5.8km s-min=4.5km az=175.7*
*MAN **19** 21:45:15, 11°.55N×125°.82E, h29km, mb5.4, ML4.3, MS4.5*
MAN INTENSITY III - HERNANI EASTERN SAMAR; INTENSITY II - LLORENTE; BOROMGAN EASTERN SAMAR.
*IDC **19** 21:45:21.8±3.3, 11°.25N×125°.67E, h92km±31km, mb3.8/18, mb1 3.9/20, mb1mx3.7/52, mbtmp4.2/20, MS3.6/1, Ms1 3.6/1, ms1mx2.8/23, Error ellipse: s-maj=27.2km s-min=10.0km az=67.0*

ISC 19 21:45:15.3±0.5, 11°.38N±0°.04×125°.82E±0°.05, h33km, n84, σ1§21/81, mb4.3/26, 3C-2D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLP	**Palo**	**0.86**	**256**	*e*P		**Pn**	**21 45 30.6**	**-0.4**
PLP				*i* S		**Sn**	**21 45 41.0**	**-1.5**
OCLP	**Ormoc**	**1.24**	**255**	*e*P		**Pb**	**21 45 37.6**	**-0.5**
OCLP				*e*S		**Sb**	**21 45 53.7**	**0.0**
MSLP	**Maasin**	**1.56**	**218**	*e*P		**Pb**	**21 45 43.4**	**-0.2**
MSLP				*e*S		**Sb**	**21 46 04.4**	**+1.5**
BUTP	**Butuan**	**2.40**	**185**	*e*P		**Pn**	**21 45 56.1**	**-1.8**
TBP	**Tagbilaran**	**2.56**	**229**	*e*P		**Pn**	**21 45 56.5**	**+2.0**
TBP				*e*S		**Sb**	**21 46 32.5**	**+0.9**
PVCP	**Virac**	**2.74**	**324**	*i*P		**Pn**	**21 45 57.6**	**+0.6**
PVCP				*i* S		**Pb**	**21 46 03.6**	**-0.1**
CGP	**Cagayan de Oro**	**3.11**	**201**	*e*P		**Pb**	**21 46 09.9**	**0.0**
BIPH	**Bislig**	**3.22**	**170**	*e*P		**Pb**	**21 46 10.2**	**-1.5**
GUIM	**Jordan**	**3.26**	**257**	*e*P		**Pn**	**21 46 06.5**	**+2.3**
BUKP	**Musuan**	**3.56**	**192**	*e*P		**Pn**	**21 46 11.4**	**+3.1**
AUQP	**San Andres**	**3.63**	**302**	*e*P		Pn	21 46 13.8	+4.6
DCPH	**Dipolog City**	**3.69**	**221**	*e*P		**Pn**	**21 46 12.4**	**+2.3**
PAGZ	**Pagadian**	**4.25**	**215**	*e*P		**Pn**	**21 46 20.4**	**+2.6**
CTBH	**Cotabato--PC H**	**4.41**	**201**	*i*P		Pn	21 46 25.4	+5.3
SJMP	**San Jose**	**4.73**	**284**	*e*P		**Pn**	**21 46 27.2**	**+2.9**
TGY	**Tagaytay City**	**5.48**	**300**	P		Pn	21 46 41.2	+6.4
	24nm,0.3s,baz=210,slow=16,SNR=2.9							
LUBP	**Lubang**	**5.93**	**294**	*e*P		Pn	21 46 44.8	+4.0
ENPP	**El Nido**	**6.28**	**269**	*e*P		**Pn**	**21 46 48.6**	**+2.9**
MYLDM	**Lahad Datu**	**9.51**	**230**	*e*Pn		**Pn**	**21 47 27.8**	**-2.2**
TPUB	**Ta-pu**	**12.85**	**338**	Pn		**Pn**	**21 48 14.9**	**-0.9**
SBUM	**Sibu**	**16.15**	**238**	*e*Pn		**P**	**21 49 02.4**	**-0.4**
	15nm,0.8s							

KAPI	**Kappang**	**17.37**	**201**	P		**Pn**	**21 49 15.2**	**-0.1**
	0.6nm,0.3s,baz=95,slow=18,SNR=2.4							
GUMO	**Guam**	**18.72**	**81**	LR		LR	21 55 52.0	
	comp=Z,215nm,21.5s,baz=216,slow=33							
BATI	**Baumata**	**21.55**	**186**	P		**P**	**21 50 04.4**	**+2.3**
	14nm,0.3s,baz=104,slow=3.5,SNR=6.3							
CBIJ	**Chichi jima**	**21.94**	**42**	*e*P		**P**	**21 50 03.4**	**-2.8**
	222nm,1.4s							
MTN	**Manton Dam**	**24.63**	**167**	P		**P**	**21 50 34.0**	**+1.0**
	baz=22,SNR=7.0							
KDU	**Kakadu**	**24.80**	**164**	P		**P**	**21 50 35.0**	**+0.6**
	baz=22,SNR=5.2							
IPM	**Ipoh**	**25.48**	**256**	*e*P		**P**	**21 50 40.9**	**+0.1**
	5.7nm,0.7s							
CM31	**Chiang Mai Arr**	**26.89**	**288**	*e*P		**P**	**21 50 52.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**26.89**	**288**	P		**P**	**21 50 52.8**	**-0.7**
	1.7nm,0.9s,baz=102,slow=7.6,SNR=11							
KNRA	**Kununurra**	**27.04**	**174**	P		**P**	**21 50 54.6**	**-0.1**
	baz=24,SNR=3.1							
WRA	**Warramunga Arr**	**32.23**	**165**	P		**P**	**21 51 39.5**	**-1.3**
	0.3nm,0.3s,baz=326,slow=12,SNR=5.4							
USRK	**Ussuriysk Ar.**	**33.13**	**8**	P		**P**	**21 51 50.5**	**+2.1**
	1.5nm,0.6s,baz=174,slow=6.9,SNR=4.6							
QIS	**Mount Isa**	**34.51**	**157**	P		**P**	**21 52 01.2**	**+0.5**
	baz=32,SNR=4.2							
AS12	**Alice Springs**	**35.71**	**167**	*e*P		**P**	**21 52 10.2**	**-0.8**
ASAR	**Alice Springs**	**35.71**	**167**	P		**P**	**21 52 10.2**	**-0.8**
	0.7nm,0.3s,baz=352,slow=7.3,SNR=10							
WRKA	**Warakurna**	**36.27**	**176**	P		**P**	**21 52 16.1**	**+0.3**
	baz=33,SNR=7.3							
CTA	**Charters Tower**	**37.18**	**147**	P		**P**	**21 52 23.8**	**+0.3**
	3.6nm,0.8s,baz=313,slow=13,SNR=3.9							
MEEK	**Meekatharra**	**38.43**	**190**	P		**P**	**21 52 33.3**	**-0.8**
	baz=35,SNR=6.7							
TAPN	**Taplejung**	**39.12**	**300**	*e*P		**P**	**21 52 37.6**	**-2.7**
ODAN	**Odare**	**39.26**	**299**	*e*P		**P**	**21 52 41.5**	**+0.1**
	20nm,0.7s							
SONA0	**Songino Array**	**39.84**	**340**	*e*P		**P**	**21 52 45.4**	**-0.4**
SONM	**Songino Array**	**39.84**	**340**	P		**P**	**21 52 45.4**	**-0.4**
	2.2nm,1.0s,baz=161,slow=9.6,SNR=9.4							
RAMN	**Ramite**	**39.97**	**299**	*e*P		**P**	**21 52 47.5**	**+0.2**
	19nm,0.9s							
H11N1	**WAKE ISLAND Hy**	**40.34**	**73**	T		T	22 36 04.8	
	baz=265,slow=74							
H11N2	**WAKE ISLAND Hy**	**40.34**	**73**	T		T	22 36 04.5	
	baz=265							
H11N3	**WAKE ISLAND Hy**	**40.36**	**73**	T		T	22 36 04.7	
	baz=265,slow=74							
PKI	**Pulchoki**	**41.15**	**299**	*e*P		**P**	**21 52 56.8**	**-0.3**
	13nm,0.8s							
PKIN	**Phulchoki**	**41.16**	**299**	*e*P		**P**	**21 52 56.8**	**-0.4**
	8.7nm,0.7s							
MORW	**Morawa**	**41.30**	**193**	P		**P**	**21 52 56.9**	**-1.0**
	baz=38,SNR=6.4							
DMN	**Daman**	**41.42**	**299**	*e*P		**P**	**21 52 59.1**	**-0.2**
GKN	**Gorkha**	**41.92**	**299**	*e*P		**P**	**21 53 02.8**	**-0.5**
FORT	**Forrest**	**41.97**	**177**	*e*P		**P**	**21 53 03.8**	**+0.5**
	36nm,0.5s							
KMBL	**Kambalda**	**42.67**	**185**	P		**P**	**21 53 08.6**	**-0.4**

KMSI **Cibinong** 10.85 189 P Pn 21 49 07.6 +10
179nm,0.5s,5µm
MRSI **Marisa** 11.45 200 P Pn 21 49 15.3 +10
15nm,0.7s,1µm
LBMI **Labuha** 12.04 172 P **P** 21 49 23.2 -1.1
33nm,1.0s,1µm
MPSI **Mapaga** 12.39 208 P **P** 21 49 27.7 -0.5
8.9nm,0.9s
LUWI **Luwuk** 12.67 194 P **P** 21 49 31.3 +0.1
58nm,1.1s,2µm
APSI **Ampana** 12.85 199 P **P** 21 49 33.4 +0.1
43nm,0.9s
SIJI **Sorong** 13.32 155 P **Pn** 21 49 29.6 -1.5
0.6nm,0.3s,baz=55,slow=1.7,SNR=3.8
NLAI **Namlea** 14.56 175 P **P** 21 49 54.7 +2.4
39nm,0.8s
TTSI **Tana Toraja** 15.48 203 P **P** 21 50 05.0 +2.5
48nm,0.9s
KDI **Kendari** 15.53 192 P **P** 21 50 06.7 +3.7
44nm,0.8s
FAKI **Fak Fak** 15.58 155 P **P** 21 50 08.3 +4.7
29nm,1.1s
SBUM **Sibu** 16.08 238 ⇑P **P** 21 50 10.4 +1.3
SBUM **Sibu** 16.08 238 ⇑P **P** 21 50 10.4 +1.3
SBUM **Sibu** 16.08 238 *e*P **Pn** 21 50 07.9 +1.0
BAKI **Biak** 16.16 140 P P 21 50 15.0 +4.9
86nm,1.3s
SPSI **Sidrap Palu** 16.34 202 P **P** 21 50 15.6 +3.5
29nm,0.9s
KAPI **Kappang** 17.32 200 P **Pn** 21 50 21.1 -1.3
1.1nm,0.3s,baz=100,slow=17,SNR=2.5
BKSI **Bulukumba** 17.49 199 P **P** 21 50 28.1 +3.4
22nm,1.2s
BSSI **Bau Bau, Buton** 18.16 197 P **Pn** 21 50 35.0 +2.5
50nm,1.6s
KSM **Kuching** 18.20 238 ⇓P **Pn** 21 50 37.0 +3.8
KSM **Kuching** 18.20 238 ⇓P **Pn** 21 50 37.0 +3.8
SMPI **Sarmi** 18.48 135 P **Pn** 21 50 40.2 +3.7
37nm,1.2s,2µm
PBKI **Pangkalan Bun** 19.78 226 P **Pn** 21 50 53.0 +1.0
64nm,1.0s
GENI **Genyem** 19.94 133 P **Pn** 21 50 55.2 +1.4
66nm,0.7s
UBPT **Khong Chiam** 20.12 283 P Pn 21 50 56.9 +1.0
17nm,1.3s
MMRI **Maumere** 20.16 190 P Pn 21 50 58.2 +1.7
42nm,1.3s
SOEI **Soe** 21.02 184 P **P** 21 51 07.1 +3.7
78nm,0.8s
SOEI **Soe** 21.02 184 *e*P **P** 21 51 04.0 +0.6
52nm,0.6s
BWJI **Bawean** 21.50 218 P **P** 21 51 11.4 +3.0
107nm,1.1s
BATI **Baumata** 21.52 186 P **P** 21 51 10.4 +1.8
98nm,0.6s
BATI **Baumata** 21.52 186 P **P** 21 51 07.7 -0.9
132nm,0.5s,baz=43,slow=1.4,SNR=28
NJ2 **Nanjing** 21.56 344 *e*P P 21 51 18.3 +9.4
NJ2 pmax pmax
comp=Z,50nm,0.8s
WHN **Wuhan** 21.83 333 P **P** 21 51 13.1 +1.3
CBI **Chichi jima** 22.00 42 *e*P **P** 21 51 13.2 -0.5
JCJ **Chichijima** 22.00 42 P **P** 21 51 13.2 -0.5
comp=Z,60nm,0.8s,baz=280,slow=19,SNR=5.5
CBIJ **Chichi jima** 22.00 42 P **P** 21 51 13.2 -0.5
KTGM **Kuala Trenggan** 23.16 257 ⇑P **P** 21 51 26.9 +0.9
KTGM **Kuala Trenggan** 23.16 257 ⇑P **P** 21 51 26.9 +0.9
GYA **Guiyang** 23.44 313 P **P** 21 51 27.8 -0.9
GYA pP **pP** 21 51 43.4 0.0
GYA sP **sP** 21 51 52.0 +0.6
GYA PP **PnPn** 21 52 01.6 +3.5
GYA S **S** 21 55 33.3 -4.0
GYA sS Sn 21 56 00.8 -0.9
GYA SS **SnSn** 21 56 25.6 +6.5
GYA PMZ
comp=Z,10.0nm,0.8s
GYA PMZ
comp=Z,90nm,4.8s
GYA LN
comp=Z,470nm,15.0s
GYA LE
comp=Z,490nm,16.2s
GYA LZ
comp=Z,450nm,15.4s
MYKOM **Kota Tinggi** 23.72 248 ⇑P **P** 21 51 33.1 +1.9
MYKOM **Kota Tinggi** 23.72 248 ⇑P **P** 21 51 33.1 +1.9
MYKOM **Kota Tinggi** 23.72 248 *e*P **P** 21 51 33.3 +2.1
comp=Z,9.4nm,0.7s
KGM **Kluang** 24.11 249 ⇑P **P** 21 51 37.5 +2.7
KGM **Kluang** 24.11 249 ⇑P **P** 21 51 37.5 +2.7
IPM **Ipoh** 25.41 256 ⇑P **P** 21 51 48.0 +1.4
IPM **Ipoh** 25.41 256 ⇑P **P** 21 51 48.0 +1.4
IPM **Ipoh** 25.41 256 *e*P **P** 21 51 46.5 0.0
comp=Z,18nm,0.7s
LEM **Lembang** 25.53 226 P **P** 21 51 47.2 -0.5
comp=Z,17nm,0.6s,baz=294,slow=19,SNR=2.4
KULM **Kulim** 25.55 258 *e*P **P** 21 51 49.0 +1.2
comp=Z,16nm,0.7s
KMI **Kunming** 25.74 305 P **P** 21 51 51.5 +1.8
KMI pP **pP** 21 52 06.8 +1.5
KMI sP **sP** 21 52 14.0 +1.0
KMI S **S** 21 56 13.4 -0.9
KMI sS **sS** 21 56 40.0 -1.2
KMI PMZ
comp=Z,7.0nm,0.9s
KMI PMZ
comp=Z,110nm,5.5s
KMI LN
comp=Z,120nm,22.0s
KMI LE
comp=Z,99nm,12.4s
KMI LZ
comp=Z,160nm,16.4s
CRAI **Chiangrai** 25.94 293 P **P** 21 51 50.3 -1.0
comp=Z,16nm,0.8s
SUKH **Sukhothai** 26.01 287 P **P** 21 51 53.0 +1.1
comp=Z,3.8nm,0.9s
KS15 **Wonju Array Si** 26.05 4 *e*P **P** 21 51 51.9 -0.2
KS15 **Wonju Array Si** 26.05 4 *e*PcP **PcP** 21 55 19.4 +0.8
KSAR **Wonju Array Be** 26.05 4 P **P** 21 51 51.9 -0.1
KSAR 21 55 19.4
KSAR **Wonju Array Be** 26.05 4 P **P** 21 51 51.9 -0.1
KSAR PcP **PcP** 21 55 19.4 +0.8
KSRS **Korea Array** 26.06 4 P **P** 21 51 51.9 -0.3
comp=Z,3.3nm,0.7s,baz=183,slow=10.0,SNR=12
KSRS PcP **PcP** 21 55 19.4 +0.8
comp=Z,1.8nm,0.7s,baz=200,slow=2.3,SNR=4.5
CM31 **Chiang Mai Arr** 26.83 288 *e*P **P** 21 51 58.8 -0.5
CMAR **Chiang Mai Arr** 26.83 288 P **P** 21 51 58.9 -0.5
comp=Z,4.9nm,0.8s,baz=95,slow=7.0,SNR=11
CHTO **Chiang Mai** 26.90 289 *e*P **P** 21 51 59.4 -0.6
CHTO pmax pmax
comp=Z,4.0nm,0.9s
CHTO **Chiang Mai** 26.90 289 *e*P **P** 21 51 59.4 -0.6
comp=Z,4.5nm,0.9s
CMAI **Chiengmai2** 27.07 292 P **P** 21 52 02.0 +0.4
comp=Z,219nm,0.8s,comp=Z,8µm
XAN **Xi'an** 27.32 328 P **P** 21 52 02.9 -0.7
XAN PMZ
comp=Z,3.0nm,0.9s
XAN PMZ
comp=Z,15nm,4.7s
MJAR **Matsushiro Arr** 27.48 22 P **P** 21 52 03.2 -1.7
comp=Z,1.9nm,0.8s,baz=195,slow=9.7,SNR=7.2
MJAR PcP **PcP** 21 55 22.4 +0.4
comp=Z,1.5nm,0.6s,baz=188,slow=3.4,SNR=6.7
MAJO **Matsushiro** 27.48 22 *e*P **P** 21 52 03.3 -1.7
MAJO pmax pmax
comp=Z,4.0nm,0.8s
MAJO **Matsushiro** 27.48 22 *e*P **P** 21 52 03.2 -1.7
comp=Z,3.9nm,0.8s
CD2 **Chengdu** 28.18 317 P **P** 21 52 10.8 -0.5
CD2 pP **pP** 21 52 26.1 -1.0
CD2 sP **sP** 21 52 33.8 -1.0
CD2 S **S** 21 56 52.6 +0.3
CD2 sS **sS** 21 57 19.8 +0.5
CD2 PMZ
comp=Z,30nm,0.5s
CD2 PMZ
comp=Z,110nm,5.5s
CD2 LN
comp=Z,440nm,16.4s
CD2 LZ
comp=Z,480nm,17.3s
FITZ **Fitzroy Crossi** 29.27 180 *e*P **P** 21 52 20.2 -0.8
comp=Z,28nm,1.2s
BJI **Beijing** 29.80 345 P **P** 21 52 25.8 +0.3
BJI S **S** 21 57 20.0 +2.5
BJI PMZ
comp=Z,12nm,1.2s
BJI LN
comp=Z,130nm,13.0s
BJI LE
comp=Z,96nm,16.6s
HHC **Hu-ho-hao-te** 31.93 339 *e*P **P** 21 52 46.1 +1.7
HHC PP **PnPn** 21 53 54.1 +2.5
HHC S **S** 21 57 52.3 +1.3
HHC sS **sS** 21 58 17.8 -0.4
HHC ScS **ScS** 22 03 09.1 -0.9
HHC PMZ
comp=Z,13nm,1.0s
HHC PMZ
comp=Z,63nm,5.1s
HHC LN
comp=Z,100nm,14.1s
HHC LE
comp=Z,80nm,13.3s
WRA **Warramunga Arr** 32.23 165 P **P** 21 52 44.7 -2.4
comp=Z,3.2nm,0.5s,baz=344,slow=9.6,SNR=14
WRA PcP **PcP** 21 55 34.3 -0.2
comp=Z,2.7nm,0.7s,baz=344,slow=3.2,SNR=8.3
CN2 **Changchun** 32.33 360 *e*P **P** 21 52 47.5 -0.2
CN2 *ep*P **pP** 21 53 02.6 -1.0
CN2 *e*S **S** 21 57 58.0 +1.1
CN2 SS **SnSn** 21 59 57.8 +2.8
CN2 LN
comp=Z,100nm,17.0s
CN2 LE
comp=Z,90nm,17.0s
CN2 LZ
comp=Z,200nm,19.0s
USRK **Ussuriysk Ar.** 33.17 8 P **P** 21 52 54.8 -0.2
comp=Z,6.2nm,0.7s,baz=195,slow=7.9,SNR=12
MDJ **Mudanjiang** 33.31 5 P **P** 21 52 58.3 +2.0
MDJ pP **pP** 21 53 12.9 +0.7
MDJ sP **sP** 21 53 20.5 +0.6
MDJ PP **PP** 21 54 14.6 +1.9
MDJ S **S** 21 58 16.3 +4.2
MDJ sS **sS** 21 58 41.4 +2.1
MDJ PMZ
comp=Z,4.0nm,1.0s
MDJ PMZ
comp=Z,32nm,2.9s
SHL **Shillong** 34.98 299 *e*P **P** 21 53 12.0 +0.8
AS12 **Alice Springs** 35.71 167 *e*P **P** 21 53 15.9 -1.3
ASAR **Alice Springs** 35.71 167 P **P** 21 53 15.9 -1.3
comp=Z,5.3nm,0.6s,baz=344,slow=6.6,SNR=26
ASAR PcP **PcP** 21 55 44.0 -0.4
comp=Z,1.5nm,0.6s,baz=344,slow=2.9,SNR=4.2
ASAJ **Asahikawa** 35.73 21 P **P** 21 53 17.5 +0.3
comp=Z,4.1nm,0.6s,baz=211,slow=10,SNR=4.4
GTA **Gaotai** 36.21 325 *e*P **P** 21 53 22.3 +0.8
GTA PMZ
comp=Z,8.0nm,1.4s
LSA **Lhasa** 36.99 305 *e*P **P** 21 53 29.1 +0.4
LSA pmax pmax
comp=Z,4.0nm,0.7s
LSA **Lhasa** 36.99 305 *e*P **P** 21 53 29.1 +0.4
comp=Z,4.0nm,0.7s
CTA **Charters Tower** 37.19 147 P **P** 21 53 29.8 -0.2
comp=Z,11nm,0.7s,baz=329,slow=11,SNR=14
CTAO **Charters Tower** 37.19 147 *e*P **P** 21 53 29.8 -0.2
CTAO pmax pmax
comp=Z,12nm,0.7s
CTAO **Charters Tower** 37.19 147 *e*P **P** 21 53 29.8 -0.2
comp=Z,12nm,0.7s
KLR **Kul'dur** 38.09 6 *e*P **P** 21 53 34.0 -3.1
TAPN **Taplejung** 39.07 300 *e*P **P** 21 53 45.6 -0.5
comp=Z,15nm,0.4s
ODAN **Odare** 39.21 299 *e*P **P** 21 53 46.6 -0.6
comp=Z,46nm,0.7s
SONA0 **Songino Array** 39.83 340 *e*P **P** 21 53 52.5 +0.5
SONA0 **Songino Array** 39.83 340 *e*PcP **PcP** 21 55 56.3 -0.6
SONM **Songino Array** 39.83 340 P **P** 21 53 52.5 +0.5
comp=Z,3.4nm,0.6s,baz=158,slow=8.7,SNR=13
SONM PcP **PcP** 21 55 56.3 -0.6
comp=Z,1.3nm,0.6s,baz=161,slow=4.4,SNR=3.5
RAMN **Ramite** 39.92 299 *e*P **P** 21 53 52.5 -0.6
comp=Z,33nm,0.7s
H11N1 **WAKE ISLAND Hy** 40.41 73 T T 22 37 12.2
baz=265,slow=75
H11N2 **WAKE ISLAND Hy** 40.42 73 T T 22 37 11.8
baz=265,slow=75
H11N3 **WAKE ISLAND Hy** 40.43 73 T T 22 37 15.2
baz=265,slow=75
GUN **Gumba** 40.79 300 *e*P **P** 21 53 59.7 -0.7
comp=Z,58nm,0.8s
PKI **Pulchoki** 41.10 299 *e*P **P** 21 54 01.8 -1.2
comp=Z,29nm,0.8s
PKIN **Phchoki** 41.11 299 *e*P **P** 21 54 01.6 -1.4
comp=Z,11nm,0.5s
KKN **Kakani** 41.27 299 *e*P **P** 21 54 03.1 -1.1
comp=Z,25nm,0.8s
DMN **Daman** 41.37 299 *e*P **P** 21 54 03.9 -1.2
comp=Z,31nm,0.9s
GKN **Gorkha** 41.87 299 *e*P **P** 21 54 07.8 -1.3
comp=Z,11nm,0.5s
FORT **Forrest** 41.95 177 *e*P **P** 21 54 08.9 -0.4
comp=Z,36nm,0.5s
KOLN **Koldanda** 42.70 299 *e*P **P** 21 54 14.9 -1.0
comp=Z,26nm,0.7s
ZAK **Zakamensk** 43.08 339 *e*P **P** 21 54 17.1 -1.3
ZAK pmax pmax
comp=Z,2.0nm,1.0s
TLY **Talaya** 44.05 340 *e*P **P** 21 54 27.0 +0.9
TLY pmax pmax
comp=Z,8.0nm,0.7s
TLY **Talaya** 44.05 340 *e*P **P** 21 54 26.4 +0.3
comp=Z,9.2nm,0.7s
NWAO **Narrogin (SRO)** 44.78 190 P **P** 21 54 31.3 -0.8
comp=Z,14nm,0.6s,baz=331,slow=4.3,SNR=23
MOY **Mondy** 44.96 338 *e*P **P** 21 54 34.6 +1.1
BBOO **Buckleboo** 45.01 168 *e*P **P** 21 54 33.3 -0.6
comp=Z,22nm,0.8s
STKA **Stephens Creek** 45.59 161 P **P** 21 54 38.1 -0.4
comp=Z,26nm,0.6s,baz=338,slow=7.8,SNR=46
STKA **Stephens Creek** 45.59 161 *e*P **P** 21 54 38.3 -0.2
STKA pmax pmax
comp=Z,5.0nm,0.6s
STKA **Stephens Creek** 45.59 161 *e*P **P** 21 54 38.2 -0.2
comp=Z,4.9nm,0.6s
WMQ **Urumqi** 46.06 322 P **P** 21 54 43.1 +0.8
WMQ pP **pP** 21 54 56.3 -2.6
WMQ sP **sP** 21 55 04.8 -1.6
WMQ PMZ
comp=Z,7.0nm,0.7s
WMQ PMZ
comp=Z,64nm,4.4s
WMQ LN
comp=Z,67nm,17.0s
WMQ LE
comp=Z,81nm,18.9s
WMQ LZ
comp=Z,94nm,17.0s
BOD **Bodaibo** 47.23 351 *e*P **P** 21 54 51.4 +0.3
BOD pmax pmax
comp=Z,5.0nm,1.4s
ARMA **Armidale** 48.42 150 *e*P **P** 21 55 00.2 -0.6
comp=Z,76nm,2.0s
PETK **Petropavlovsk-** 48.87 25 P **P** 21 55 04.2 +0.4
comp=Z,2.8nm,0.5s,baz=203,slow=5.3,SNR=5.0
PEA2 **Petropavlovsk-** 48.87 25 *e*P **P** 21 55 04.2 +0.4
YAK **Yakutsk** 50.67 2 *e*P **P** 21 55 16.4 -0.9
YAK *e* 21 55 32.1
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,0.9s
MK32 **Makanchi Array** 50.86 322 *e*P **P** 21 55 19.5 +0.4
MKAR **Makanchi Array** 50.86 322 P **P** 21 55 19.5 +0.4
comp=E,3.5nm,0.5s,baz=125,slow=7.9,SNR=24
MKAR ScP **ScP** 22 00 25.6 -0.1
comp=E,0.7nm,0.8s,baz=108,slow=4.0,SNR=3.5
MKAR **Makanchi Array** 50.86 322 *e*P **P** 21 55 19.6 +0.5
DZM **Mont Dzumac** 51.92 130 P **P** 21 55 28.2 +0.7
comp=E,19nm,0.6s,baz=270,slow=24,SNR=26
KSH **Kashi** 52.14 312 P **P** 21 55 31.1 +2.2
KSH PMZ
comp=E,180nm,5.1s
ZALV **Zalesovo Beam** 53.44 331 P **P** 21 55 37.8 -0.2
comp=E,5.7nm,0.7s,baz=119,slow=7.4,SNR=16
ZAA1 **Zalesovo Array** 53.44 331 *e*P **P** 21 55 37.8 -0.2
NVS **Novosibirsk** 54.71 331 ⇓*i*P **P** 21 55 46.6 -0.7
NVS pmax pmax
comp=N,4.0nm,0.9s
NVS pmax pmax
comp=Z,12nm,0.9s
NVS pmax pmax
comp=E,4.0nm,0.8s
KURK **Kurchatov** 54.89 325 *e*P **P** 21 55 49.0 +0.3
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURK **Kurchatov** 54.89 325 *e*P **P** 21 55 49.0 +0.3
comp=Z,7.6nm,0.8s
KURBB **Kurchatov Arra** 54.90 325 P **P** 21 55 48.9 +0.2
comp=Z,5.0nm,0.5s,baz=125,slow=6.9,SNR=12
SEY **Seymchan** 54.90 15 P **P** 21 55 49.5 +0.9
comp=Z,1.5nm,0.5s,baz=260,slow=4.8,SNR=5.8
KBL **Kabul** 56.31 304 *e*P **P** 21 55 58.6 -0.8
KBL pmax pmax
comp=Z,6.0nm,0.6s
KBL **Kabul** 56.31 304 *e*P **P** 21 55 58.6 -0.8
comp=Z,5.7nm,0.6s
KKAR **Karatay Array** 57.14 314 *e*P **P** 21 56 05.0 +0.1
KKAR **Karatay Array** 57.14 314 *e*P **P** 21 56 05.0 +0.1
AMKA **Amchitka** 58.83 36 *e*P **P** 21 56 16.4 -0.1
BVAR **Borovoye Array** 60.49 325 P **P** 21 56 28.0 0.0
comp=Z,2.5nm,0.6s,baz=134,slow=8.2,SNR=13
BVAR **Borovoye Array** 60.49 325 P **P** 21 56 28.0 0.0
BRVK **Borovoye** 60.56 325 *c i*P **P** 21 56 28.4 0.0
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK **Borovoye** 60.56 325 *e*P **P** 21 56 28.8 +0.3
comp=Z,6.0nm,0.7s
ITEG **Tejag** 64.66 301 *e*P **P** 21 56 55.6 -0.7
GEYT **Alibeck** 65.50 307 P **P** 21 57 00.8 -0.7
comp=Z,4.7nm,0.9s,baz=112,slow=1.6,SNR=7.4
ABKAR **Akbulak array** 65.73 319 *e*P **P** 21 57 01.9 -0.8
SVE **Sverdlovsk** 67.03 327 *e*P **P** 21 57 10.9 0.0
ARU **Arti** 68.05 326 *c i*P **P** 21 57 16.4 -0.9
ARU 21 59 44.2
ARU S **S** 22 06 15.4 +3.7
ARU SS **SS** 22 10 37.3 +2.4
ARU pmax pmax
comp=Z,5.0nm,0.6s
ARU **Arti** 68.05 326 *e*P **P** 21 57 16.6 -0.7
comp=Z,6.2nm,0.6s
RPZ **Rata Peaks** 68.56 146 P **P** 21 57 21.1 +0.4
comp=Z,17nm,0.6s,baz=264,slow=4.7,SNR=9.0
URZ **Urewera** 68.81 139 P **P** 21 57 22.2 -0.1
comp=Z,5.1nm,0.6s,baz=265,slow=5.6,SNR=3.4
BKZ **Black Stump Fm** 68.93 140 *e*P **P** 21 57 24.0 +0.9
comp=Z,37nm,0.6s
IKAZ **Kazeroun** 70.56 298 *e*P **P** 21 57 31.2 -2.5
IPIR **Pirpir** 71.27 301 *e*P P 21 57 34.4 -3.6
IKOM **Komasi** 74.04 302 *e*P **P** 21 57 52.1 -2.1
PRGR **Permogore** 75.39 331 *e*P **P** 21 57 59.5 -1.8
PRGR *e* 21 58 11.7
PRGR pmax pmax
comp=Z,8.0nm,0.8s
KDAK **Kodiak Island** 76.03 33 *i* P **P** 21 58 05.6 +0.6
CAST **Castle Rocks** 76.42 27 *e*P **P** 21 58 07.9 +0.8
comp=Z,6.2nm,0.8s
BPAW **Bear Paw Mtn.** 76.92 27 *e*P **P** 21 58 10.8 +0.9
comp=Z,3.3nm,0.9s
MLY **Manley** 77.04 26 *e*P **P** 21 58 12.1 +1.4
comp=Z,8.2nm,0.7s
KBZ **Khabaz** 77.11 312 P **P** 21 58 10.9 -0.5
comp=Z,3.0nm,0.8s,baz=74,slow=5.7,SNR=5.6
TRF **Thorofare Moun** 77.22 27 *e*P **P** 21 58 12.5 +0.7
comp=Z,7.1nm,0.8s
KIV **Kislovodsk** 77.25 313 *d i*P **P** 21 58 12.3 0.0
KIV *e* 21 58 19.8
KIV *e**SP **sP** 21 58 35.9 -1.4
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,70nm,16.0s
KIV **Kislovodsk** 77.25 313 *e*P **P** 21 58 11.8 -0.5
comp=Z,8.5nm,0.7s
COLD **Coldfoot** 77.30 23 *e*P **P** 21 58 13.9 +1.9
comp=Z,6.4nm,0.8s
MCK **McKinley** 77.83 27 *e*P **P** 21 58 15.6 +0.5
MCK pmax pmax
comp=Z,16nm,0.8s
MCK **McKinley** 77.83 27 *e*P **P** 21 58 15.6 +0.5
comp=Z,16nm,0.8s
MDM **Murphy Dome** 78.11 26 *e*P **P** 21 58 17.6 +1.0
comp=Z,4.7nm,0.8s
WRH **Wood River Hil** 78.18 26 *e*P **P** 21 58 17.4 +0.4
comp=Z,10nm,1.4s
COLA **College** 78.28 26 *e*P **P** 21 58 17.3 -0.1
COLA pmax pmax
comp=Z,17nm,0.9s
CCB **Clear Creek Bu** 78.30 26 *e*P **P** 21 58 17.7 +0.2
comp=Z,2.9nm,0.6s
SCM **Sheep Creek Mo** 78.63 29 *e*P **P** 21 58 20.5 +1.0
SCM pmax pmax
comp=Z,14nm,0.8s
SCM **Sheep Creek Mo** 78.63 29 *e*P **P** 21 58 20.5 +1.0
comp=Z,14nm,0.8s
HDA **Harding Lake** 78.68 26 *e*P **P** 21 58 19.2 -0.5
comp=Z,6.3nm,0.6s
ILAR **Eielson Array** 78.69 26 P **P** 21 58 18.7 -1.1
comp=Z,2.4nm,0.6s,baz=238,slow=5.1,SNR=18
ILB **Eielson Array** 78.69 26 *e*P **P** 21 58 18.7 -1.1
VSR **Storozhevoye** 79.12 320 *e*P **P** 21 58 21.2 -1.1
VSR pmax pmax
comp=N,4.0nm,0.7s
VSR pmax pmax
comp=Z,7.0nm,0.7s
VSR pmax pmax
comp=E,8.0nm,0.8s
LPSR **Galich'ya Gora** 79.16 322 *e*P **P** 21 58 21.2 -1.3
LPSR pmax pmax
comp=N,3.0nm,0.8s
LPSR pmax pmax
comp=E,2.0nm,0.8s
LPSR pmax pmax
comp=Z,10.0nm,0.8s
DIV **Divide** 79.41 30 *e*P **P** 21 58 25.1 +1.3
comp=Z,11nm,0.8s
OBN **Obninsk** 80.32 324 P **P** 21 58 29.0 +0.2
OBN pmax pmax
comp=Z,5.0nm,0.5s
OBN MLR MLR
comp=Z,71nm,21.0s
EGAK **Eagle** 81.13 26 *e*P **P** 21 58 33.9 +0.9
comp=Z,3.4nm,0.8s
DAWY **Dawson** 82.00 26 *e*P **P** 21 58 38.7 +1.1
OPO **Ambohidratompo** 82.97 250 P **P** 21 58 42.6 -1.0
comp=Z,8.8nm,0.7s,baz=65,slow=3.5,SNR=14
ARA0 **ARCESS Array S** 83.01 340 *e*P **P** 21 58 42.5 -0.2
ARCES **ARCESS Array B** 83.01 340 P **P** 21 58 42.5 -0.2
comp=Z,5.0nm,0.7s,baz=75,slow=6.2,SNR=20
HYT **Haines Junctio** 83.45 29 *e*P **P** 21 58 47.1 +1.8
INK **Inuvik** 83.47 22 P **P** 21 58 45.3 +0.2
comp=Z,3.4nm,0.8s,baz=308,slow=8.0,SNR=4.9
BR101 **Keskin Array S** 84.46 309 *e*P **P** 21 58 49.7 -1.2
BRTR **Keskin Array B** 84.46 309 P **P** 21 58 49.7 -1.2
comp=Z,1.1nm,0.7s,baz=111,slow=3.9,SNR=6.9
FIA0 **FINESS Array S** 84.70 332 *e*P **P** 21 58 51.2 -0.3
FIA0 **FINESS Array S** 84.70 332 *e*P **P** 21 58 51.1 -0.3
FINES **FINESS Array B** 84.70 332 P **P** 21 58 51.1 -0.3
comp=Z,2.4nm,0.4s,baz=92,slow=4.8,SNR=21
VSU **Vasula** 85.09 329 *e*P **P** 21 58 52.1 -1.3
VSU pmax pmax
comp=Z,40nm,1.0s
AKASG **Malin Array Be** 85.41 321 P **P** 21 58 54.0 -1.2
comp=Z,3.6nm,0.5s,baz=61,slow=5.2,SNR=16
AKASG LR LR 22 40 16.4
comp=Z,34nm,19.1s,baz=55,slow=38
AKBB **Malin Array Si** 85.41 321 *e*P **P** 21 58 54.0 -1.2
AKBB **Malin Array Si** 85.41 321 *e*P **P** 21 58 54.0 -1.2
KIEV **Kiev** 85.42 321 *e*P **P** 21 58 54.2 -1.1
KIEV pmax pmax
comp=Z,14nm,1.4s
KIEV **Kiev** 85.42 321 *e*P **P** 21 58 54.2 -1.1
comp=Z,14nm,1.4s
TESR **Tescani** 88.04 317 ⇑*i*P **P** 21 59 07.3 -0.8
BURAR **Bucovina Array** 88.70 318 ⇓*i*P **P** 21 59 10.9 -0.5
MAW **Mawson** 90.54 200 P **P** 21 59 17.7 -1.5
comp=Z,1.0nm,0.5s,baz=93,slow=3.9,SNR=6.5
VNDA **Vanda** 91.06 173 P **P** 21 59 19.8 -1.7
comp=Z,1.1nm,0.7s,baz=332,slow=7.3,SNR=4.2
NB2 **NORSAR Subarra** 91.57 334 P **P** 21 59 22.6 -1.8

	comp=Z,1.8nm,0.8s,baz=64,slow=4.4							
NB200	**NORSAR Array S**	**91.57**	**334**	*e*P		**P**	**21 59 22.6**	**-1.8**
NOA	**NORSAR Array B**	**91.57**	**334**	P		**P**	**21 59 22.6**	**-1.8**
	comp=Z,1.2nm,0.8s,baz=64,slow=4.5,SNR=5.5							
YKA	**Yellowknife Ar**	**92.98**	**24**	P		**P**	**21 59 30.2**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=304,slow=4.6,SNR=3.7							
YKB5	**Yellowknife Ar**	**92.98**	**24**	*e*P		**P**	**21 59 30.2**	**-0.5**
BRG	**Berggiesshubel**	**94.56**	**324**	*e*PKP			22 03 40.0	
	comp=Z,4.9nm,0.8s							
GEC2	**GERESS Array S**	**95.53**	**322**	*e*P		**P**	**21 59 42.1**	**-0.9**
GEC2	**GERESS Array S**	**95.53**	**322**	*e*P		**P**	**21 59 42.1**	**-0.9**
GERES	**GERESS Array B**	**95.53**	**322**	P		**P**	**21 59 42.1**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=76,slow=7.2,SNR=3.9							
ALCT	**Alcott Element**	**96.11**	**39**	*e*P		**P**	**21 59 43.0**	**-2.4**
HAWA	**Hanford**	**98.20**	**39**	*e*P		**P**	**21 59 54.4**	**-0.6**
	comp=Z,4.7nm,0.5s							
GLA	**Glamis**	**107.36**	**50**	*e*P		**Pdif**	**22 00 43.3**	**+7.2**
GLA	**Glamis**	**107.36**	**50**	*e*Pdif		**Pdif**	**22 00 43.3**	**+7.2**
PHWY	**Pilot Hill**	**109.53**	**39**	*e*Pdif		**Pdif**	**22 00 47.5**	**+1.6**
VNA2	**Neumayer--Watz**	**113.91**	**195**	P		**PKiKP**	**22 04 55.1**	**-0.6**
	baz=47,slow=0.7							
LTX	**Lajitas**	**117.50**	**48**	*e*PKIKP		**PKPdf**	**22 05 03.4**	**-0.7**
LTX	**Lajitas**	**117.50**	**48**	*e*PKPdf		**PKPdf**	**22 05 03.4**	**-0.7**
TXAR	**Lajitas Array**	**117.50**	**48**	PKP		**PKPdf**	**22 05 03.4**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=251,slow=0.8,SNR=14							
TOA0	**Torodi Ar. Sit**	**119.39**	**292**	*e*PKPdf		**PKPdf**	**22 05 05.4**	**-2.5**
TORD	**Torodi Ar. Bea**	**119.39**	**292**	PKP		**PKPdf**	**22 05 05.4**	**-2.4**
	comp=Z,0.6nm,0.8s,baz=60,slow=2.8,SNR=6.2							
JCT	**Junction City**	**119.61**	**45**	*e*PKIKP		**PKPdf**	**22 05 08.6**	**+0.6**
JCT	**Junction City**	**119.61**	**45**	*e*PKPdf		**PKPdf**	**22 05 08.6**	**+0.6**
MIAR	**Mount Ida**	**121.05**	**38**	*e*PKIKP		**PKPdf**	**22 05 11.8**	**+1.2**
MIAR	**Mount Ida**	**121.05**	**38**	*e*PKPdf		**PKPdf**	**22 05 11.8**	**+1.2**

NEIC 19 21:47:01.3, 52°.94N×169°.86W, h14km, ML3.0(AEIC), **After AEIC., Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OKAK	**Okmok**	**1.11**	**54**	P		Pb	21 47 19.4	-2.8
OKWR	**Okmok West Rim**	**1.11**	**63**	P		Pb	21 47 21.6	-0.8
OKCE	**Okmok Cone E**	**1.13**	**64**	P		Pb	21 47 21.6	-1.1
OKRE	**Okmok R'deer P**	**1.17**	**59**	P		Pn	21 47 22.5	-0.8
OKRE				S		Sn	21 47 38.9	-0.2
MSOM	**Makushin Julie**	**1.95**	**62**	P		Pn	21 47 33.7	-0.2
MSOM				S		Sn	21 47 58.9	+0.7
MCIR	**Makushin Cirqu**	**2.04**	**59**	P		Pn	21 47 35.2	-0.1
MSW	**Makushin Switc**	**2.08**	**61**	P		Pn	21 47 36.3	+0.5
MTBL	**Makushin Table**	**2.16**	**60**	P		Pn	21 47 37.5	+0.6
UNV	**Unalaska Valle**	**2.21**	**64**	P		Pn	21 47 38.2	+0.8
UNV				S		Sn	21 48 04.6	+0.2
ZRO	**Akutan Zero**	**2.59**	**62**	P		Pn	21 47 43.8	+1.0
ATKA	**Atka Island**	**2.75**	**256**	P		Pn	21 47 45.1	+0.3

*ISCJB **19** 21:48:20.8±0.7, 20°.3S±0°.2×66°.4E±0°.1, h10km, mb3.9/8, MS3.5/3, Error ellipse: s-maj=24.1km s-min=17.0km az=146.8*
*IDC **19** 21:48:21.2±0.8, 20°.30S×66°.36E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.7/44, mbtmp3.9/8, MS3.5/3, Ms1 3.5/3, ms1mx3.0/27, Error ellipse: s-maj=27.3km s-min=21.1km az=141.0*

ISC 19 21:48:22.8±0.9, 20°.3S±0°.2×66°.3E±0°.2, h10km, n16, σ1§05/8, mb3.9/8, MS3.4/3, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H08S1	**Diego Garcia H**	**13.91**	**26**	T		T	22 05 45.3	
	baz=204,slow=76,SNR=60							
H08S2	**Diego Garcia H**	**13.92**	**26**	T		T	22 06 01.0	
	baz=204,slow=76,SNR=35							
H08S3	**Diego Garcia H**	**13.93**	**26**	T		T	22 05 45.5	
	baz=204,slow=76,SNR=46							
H08N3	**Diego Garcia H**	**14.58**	**19**	T		T	22 07 05.0	
	baz=197,slow=76,SNR=19							
H08N1	**Diego Garcia H**	**14.59**	**19**	T		T	22 06 46.8	
	baz=197,slow=76,SNR=12							
H08N2	**Diego Garcia H**	**14.60**	**19**	T		T	22 06 39.6	
	baz=197,slow=76,SNR=26							
KMBO	**Kilima Mbogo**	**34.22**	**300**	LR		LR	22 05 53.9	
	comp=Z,55nm,18.2s,baz=117,slow=31							
LBTB	**Lobatse**	**37.79**	**255**	P		**P**	**21 55 39.8**	**+0.2**
	2.0nm,0.8s,baz=108,slow=6.5,SNR=4.0							
BOSA	**Boshof**	**38.15**	**249**	P		**P**	**21 55 41.5**	**-1.1**
	1.6nm,0.8s,baz=106,slow=6.7,SNR=3.8							
MAW	**Mawson**	**47.35**	**182**	P		**P**	**21 56 57.7**	**+1.1**
	2.4nm,0.6s,baz=349,slow=8.1,SNR=9.7							
CMAR	**Chiang Mai Arr**	**50.05**	**42**	P		**P**	**21 57 18.6**	**+0.6**
	0.5nm,0.8s,baz=233,slow=7.5,SNR=2.6							
CMAR				LR		LR	22 17 22.0	
	comp=Z,62nm,18.0s,baz=187,slow=35							
ASAR	**Alice Springs**	**62.23**	**107**	P		**P**	**21 58 44.5**	**-0.7**
	1.2nm,0.7s,baz=248,slow=6.5,SNR=8.2							
WRA	**Warramunga Arr**	**63.41**	**103**	P		**P**	**21 58 52.1**	**-1.0**
	1.6nm,0.9s,baz=262,slow=5.8,SNR=5.0							
MKAR	**Makanchi Array**	**68.31**	**12**	P		**P**	**21 59 24.8**	**+0.8**
	0.5nm,0.8s,baz=190,slow=7.0,SNR=2.3							
ZALV	**Zalesovo Beam**	**75.63**	**11**	P		**P**	**22 00 07.0**	**-0.7**
	0.8nm,0.6s,baz=201,slow=6.4,SNR=4.0							
KSRS	**Korea Array**	**81.57**	**45**	LR		LR	22 36 10.3	
	comp=Z,17nm,19.6s,baz=182,slow=35							

*CSEM **19** 21:57:22.6, 38°.79N×30°.10W, h5km, ML3.0*
PDA 19 21:57:22.6±0.9, 38°.79N×30°.10W, h5km±7km, MD3.5, ML3.0, Error ellipse: s-maj=13.6km s-min=2.0km az=31.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H07S1	**FLORES T-PHASE**	**1.04**	**305**	*e*P		Pg	21 57 39.3	-3.4
H07S1				*e*S		Sg	21 57 51.0	-5.2
PCED	**Cedros**	**1.10**	**98**	*e*P		Pg	21 57 39.4	-4.4
PCED				*e*S		Sg	21 57 53.1	-5.1
PCED				A		A	21 57 54.1	
	85nm,0.4s							
PCED	**Cedros**	**1.10**	**98**	*e*P		Pg	21 57 39.4	-4.4
PCED				*e*S		Sg	21 57 53.1	-5.1
CALA	**Caldeira**	**1.11**	**100**	*e*P		Pg	21 57 40.4	-3.7
CALA				*e*S		Sg	21 57 52.9	-5.7
CALA	**Caldeira**	**1.11**	**100**	*e*P		Pg	21 57 40.4	-3.7
CALA				*e*S		Sg	21 57 52.9	-5.7
HOR	**Horta**	**1.18**	**103**	*e*P		Pg	21 57 40.5	-4.7
HOR				*e*S		Sg	21 57 54.3	-6.2
HOR	**Horta**	**1.18**	**103**	*e*P		Pg	21 57 40.5	-4.7
HOR				*e*S		Sg	21 57 54.3	-6.2
H07N1	**FLORES T-PHASE**	**1.20**	**319**	*e*P		Pg	21 57 41.5	-4.2
H07N1				*e*S		Sg	21 57 54.9	-6.3
PCAN	**Candelaria**	**1.31**	**104**	*e*P		Pn	21 57 42.5	-5.0
PCAN				*e*S		Sg	21 57 57.8	-6.9
PCAN				A		A	21 58 00.7	
	107nm,0.2s							
PCAN	**Candelaria**	**1.31**	**104**	*e*P		Pn	21 57 42.5	-5.0
PCAN				*e*S		Sg	21 57 57.8	-6.9
ROSA	**Rosais**	**1.45**	**92**	*e*P		Pn	21 57 44.4	-5.2
ROSA				*e*S		Sb	21 58 01.2	-7.8
ROSA				A		A	21 58 03.1	
	100nm,0.4s							
ROSA	**Rosais**	**1.45**	**92**	*e*P		Pn	21 57 44.4	-5.2
ROSA				*e*S		Sb	21 58 01.2	-7.8
PPNO	**Prainha do Nor**	**1.47**	**102**	*e*S		Sn	21 58 02.0	-7.6
PPNO				A		A	21 58 04.4	
	86nm,0.3s							
PPNO	**Prainha do Nor**	**1.47**	**102**	*e*S		Sn	21 58 02.0	-7.6
PMAN	**Manadas**	**1.58**	**95**	*e*P		Pn	21 57 46.4	-4.9
PMAN				*e*S		Sn	21 58 04.3	-7.8
PMAN				A		A	21 58 05.1	
	19nm,0.2s							
PMAN	**Manadas**	**1.58**	**95**	*e*P		Pn	21 57 46.4	-4.9
PMAN				*e*S		Sn	21 58 04.3	-7.8
PGRA	**Graciosa**	**1.67**	**81**	*e*P		Pn	21 57 47.6	-4.9
PGRA	**Graciosa**	**1.67**	**81**	*e*P		Pn	21 57 47.6	-4.9

*ISCJB **19** 22:00:30.3±0.5, 21°.65S±0°.04×68°.23W±0°.07, h119km±6km, mb4.2/9, Error ellipse: s-maj=10.7km s-min=6.3km az=179.8*
*GUC **19** 22:00:32.1±0.4, 21°.60S×68°.59W, h135km±2km, ML4.0*
*IDC **19** 22:00:32.1±0.7, 21°.72S×68°.13W, h118km±8km, mb3.7/7, mb1 3.9/11, mb1mx3.6/36, mbtmp4.1/11, Error ellipse: s-maj=15.9km s-min=11.7km az=108.0*

ISC 19 22:00:31.0±0.7, 21°.68S±0°.05×68°.21W±0°.06, h111km±7km, n29, σ1§45/38, mb4.2/9, 6C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB09	**IPOC Station P**	**0.97**	**263**	⇑*i*P		**Pn**	**22 00 53.4**	**+1.2**
PB09				*i* S		**Sn**	**22 01 09.1**	**+1.0**
PB09				AML		AML	22 01 11.4	
	comp=E,4μm,0.7s							
LVC	**Limon Verde**	**1.14**	**215**	P		**Pn**	**22 00 56.1**	**+2.1**
	comp=E,8μm,0.3s,baz=16,slow=6.7,SNR=3683							
LVC				S		**Sn**	**22 01 13.9**	**+2.5**
	comp=E,3μm,0.3s,baz=243,slow=14,SNR=7.5							
PB04	**IPOC Station P**	**1.33**	**244**	⇑*i*P		Pn	22 01 02.9	+7.1
PB04				*i* S		Sn	22 01 26.4	+12
PB04				AML		AML	22 01 29.4	
	comp=N,1μm,0.2s							
PB01	**IPOC Station P**	**1.35**	**298**	⇑*i*P		**Pn**	**22 00 56.2**	**0.0**
PB01				*i* S		**Sn**	**22 01 14.0**	**-1.3**
PB01				AML		AML	22 01 15.6	
	comp=N,2μm,0.4s							
PB07	**IPOC Station P**	**1.56**	**268**	⇑*e*P		**Pn**	**22 00 58.5**	**-0.3**
PB07				*i* S		**Sn**	**22 01 18.2**	**-1.7**
PB07				AML		AML	22 01 20.1	
	comp=E,2μm,0.3s							
PB06	**IPOC Station P**	**1.63**	**231**	⇑*i*P		**Pn**	**22 01 00.6**	**+1.0**
PB06				*i* S		**Sn**	**22 01 22.2**	**+0.9**
PB06				AML		AML	22 01 23.3	
	comp=E,2μm,0.4s							
PB11	**IPOC Station P**	**2.34**	**324**	⇑*i*P		**Pn**	**22 01 08.3**	**-0.3**
PB11				*i* S		**Sn**	**22 01 36.0**	**-1.3**
PB10	**IPOC Station P**	**2.84**	**229**	*e*P		**Pn**	**22 01 15.2**	**+0.3**
PB10				⇓*i*S		**Sn**	**22 01 48.0**	**-0.7**
PB10				AML		AML	22 01 57.8	
	comp=E,1μm,0.2s							
MNMC	**Minimini**	**2.85**	**333**	*e*P		**Pn**	**22 01 15.4**	**+0.1**
MNMC				*i* S		**Sn**	**22 01 48.8**	**-0.6**
MNMC				AML		AML	22 02 01.1	
	comp=N,794nm,0.5s							
ANCH	**Antofagasta**	**2.85**	**225**	*e*P		**Pn**	**22 01 15.7**	**+0.6**
LPAZ	**La Paz**	**5.36**	**1**	P		**Pn**	**22 01 52.0**	**+2.6**
	comp=N,1.6nm,0.3s,baz=149,slow=8.3,SNR=36							
LPAZ				S		**Sn**	**22 02 53.5**	**+3.2**
	baz=247,slow=13,SNR=2.6							
SIV	**San Ignacio**	**8.81**	**51**	P		**Pn**	**22 02 34.9**	**-0.6**
	comp=N,10nm,0.3s,baz=251,slow=12,SNR=94							
SIV				S		**Sn**	**22 04 08.3**	**-4.8**
	comp=N,0.3nm,0.3s,baz=142,slow=20,SNR=3.8							
CFAA	**Coronel Fontan**	**9.89**	**180**	P		**Pn**	**22 02 49.3**	**-0.8**
	comp=N,0.1nm,0.3s,baz=0.7,slow=8.8,SNR=9.4							
CPUP	**Villa Florida**	**10.97**	**117**	P		**Pn**	**22 03 04.9**	**+0.3**
	comp=N,0.2nm,0.3s,baz=290,slow=11,SNR=6.0							
BDFB	**Brasilia**	**20.04**	**76**	P		**P**	**22 04 55.4**	**-0.1**
	comp=N,0.3nm,0.3s,baz=207,slow=11,SNR=2.6							
PTGA	**Pitinga**	**22.32**	**22**	P		**P**	**22 05 18.5**	**-1.2**
	comp=N,2.3nm,0.4s,baz=330,slow=23,SNR=7.3							
TXAR	**Lajitas Array**	**61.15**	**325**	P		**P**	**22 10 33.8**	**-0.2**
	comp=N,0.3nm,0.7s,baz=149,slow=9.0,SNR=3.2							
LIC	**Lamto**	**67.81**	**73**	*e*P		**P**	**22 11 16.8**	**-0.8**
	comp=N,102nm,1.7s							
TIC	**Toumodi**	**68.00**	**73**	*e*P		**P**	**22 11 19.2**	**+0.4**
KIC	**Kosan Boka**	**68.12**	**73**	*e*P		**P**	**22 11 20.0**	**+0.4**
	comp=N,14nm,0.5s							
DBIC	**Dimbokro**	**68.16**	**73**	P		**P**	**22 11 19.8**	**+0.1**
	comp=N,7.2nm,0.6s,baz=219,slow=6.3,SNR=15							
PDAR	**Pinedale Array**	**74.59**	**330**	P		**P**	**22 11 59.5**	**+1.4**
	comp=N,0.3nm,0.6s,baz=116,slow=10,SNR=3.3							
NVAR	**Mina Array Bea**	**76.04**	**322**	P		**P**	**22 12 07.7**	**+1.2**
	comp=N,0.5nm,0.5s,baz=164,slow=5.9,SNR=4.6							
TORD	**Torodi Ar. Bea**	**76.80**	**70**	P		**P**	**22 12 11.4**	**+0.4**
	comp=N,2.6nm,0.6s,baz=254,slow=5.7,SNR=40							
TOB3	**Torodi Ar. Sit**	**76.80**	**70**	*e*P		**P**	**22 12 11.0**	**0.0**
YKA	**Yellowknife Ar**	**91.57**	**340**	P		**P**	**22 13 25.1**	**+0.3**
	comp=N,1.4nm,0.5s,baz=134,slow=4.7,SNR=11							
ASAR	**Alice Springs**	**130.06**	**207**	PKP		**PKPdf**	**22 19 28.0**	**-0.6**
	comp=N,0.1nm,0.3s,baz=159,slow=3.8,SNR=4.2							
WRA	**Warramunga Arr**	**133.13**	**210**	PKP		**PKPdf**	**22 19 33.5**	**-0.9**
	comp=N,0.4nm,0.3s,baz=154,slow=1.9,SNR=3.0							
MKAR	**Makanchi Array**	**145.39**	**37**	PKPbc		**PKPdf**	**22 19 56.4**	**+0.5**
	comp=N,1.1nm,0.8s,baz=305,slow=4.3,SNR=6.5							

*KRNET **19** 22:10:30.7±0.1, 40°.91N×74°.87E, h6km, mb3.7*
*BJI **19** 22:10:31.7, 40°.87N×74°.49E, h20km, ML3.4/7*
*NNC **19** 22:10:33.4±0.9, 40°.88N×74°.88E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=13.8km s-min=4.0km az=127.0*
*IDC **19** 22:10:35.4±1.9, 40°.88N×74°.21E, h0km, mb3.5/2, mb1 3.7/8, mb1mx3.4/41, mbtmp3.6/8, ML2.8/6, Error ellipse: s-maj=30.8km s-min=15.6km az=147.0*

ISC 19 22:10:33.8±1.1, 41°.00N±0°.02×74°.79E±0°.03, h3km±8km, n48, σ2§05/65, mb3.6/3, 28C-12D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ARLS	**Aral**	**0.93**	**338**	⇓*i*P		**Pg**	**22 10 50.8**	**-0.9**
	baz=337							
ARLS				⇓*e*S		**Sg**	**22 11 04.6**	**+0.8**
	baz=337							
NRN	**Naryn**	**1.01**	**64**	*e*P		**Pg**	**22 10 50.4**	**-2.8**
	baz=58							
NRN				*e*S		**Sg**	**22 11 03.7**	**-2.7**
	baz=58							
KZA	**Kyzart**	**1.14**	**18**	P		**Pg**	**22 10 54.5**	**-1.1**
	SNR=87							
KZA	**Kyzart**	**1.14**	**18**	⇑*i*P		**Pg**	**22 10 54.3**	**-1.3**
	baz=14							
KZA				⇑*i*S		**Sg**	**22 11 10.1**	**-0.2**
	baz=14							
UCH	**Uchtor**	**1.25**	**351**	P		**Pg**	**22 10 57.2**	**-0.6**
	SNR=53							
UCH	**Uchtor**	**1.25**	**351**	⇑*i*P		**Pg**	**22 10 56.9**	**-0.8**
	baz=349							
UCH				⇑*i*S		**Sn**	**22 11 16.8**	**+0.7**
	baz=349							
SFK	**Sufi-Kurgan**	**1.39**	**225**	⇓P		**Pg**	**22 10 57.6**	**-2.7**
	20nm,0.4s							
SFK				⇑S		**Sg**	**22 11 17.6**	**-0.7**
	291nm,0.5s							
SFK	**Sufi-Kurgan**	**1.39**	**225**	*e*P		**Pg**	**22 10 57.6**	**-2.7**
	baz=230							
SFK				*e*S		**Sg**	**22 11 16.1**	**-2.2**
	baz=230							
AML	**Almayashu**	**1.40**	**325**	P		**Pb**	**22 11 01.0**	**+0.2**
	SNR=19							
AAK	**Ala-Archa**	**1.65**	**352**	P		**Pb**	**22 11 04.5**	**-0.5**
	SNR=68							
AAK	**Ala-Archa**	**1.65**	**352**	⇓Pn		**Pb**	**22 11 04.4**	**-0.5**
	81nm,0.5s							
AAK				⇑Lg		Lg	22 11 31.9	
	312nm,0.9s							
AAK	**Ala-Archa**	**1.65**	**352**	⇑*i*P		**Pn**	**22 11 04.3**	**+0.5**
	baz=351							
AAK				⇑*i*S		**Sg**	**22 11 27.9**	**+1.0**
	baz=351							
ULHL	**Ulahol**	**1.66**	**41**	P		**Pn**	**22 11 03.4**	**-0.6**
	SNR=50							
ULHL	**Ulahol**	**1.66**	**41**	⇑*i*P		**Pn**	**22 11 03.2**	**-0.8**
	baz=37							
ULHL				⇑*i*S		**Sn**	**22 11 24.2**	**-1.7**
	baz=37							
KBK	**Karagaybulak**	**1.67**	**4**	P		**Pb**	**22 11 04.7**	**-0.5**
	SNR=89							
KBK	**Karagaybulak**	**1.67**	**4**	⇑*i*P		**Pn**	**22 11 04.3**	**+0.3**
	baz=2.0							
KBK				⇑*i*S		**Sg**	**22 11 28.3**	**+1.0**
	baz=2.0							
KSH	**Kashi**	**1.73**	**148**	Pg		**Pg**	**22 11 07.8**	**+0.8**
KSH				Sg		**Sg**	**22 11 33.9**	**+4.5**
KSH				SMN				
	500nm,0.5s							
KSH				SME				
	340nm,0.6s							
EKS2	**Erkin-Say**	**1.83**	**336**	P		**Pb**	**22 11 07.9**	**0.0**
	SNR=36							
EKS2	**Erkin-Say**	**1.83**	**336**	⇑*i*P		**Pb**	**22 11 07.5**	**-0.4**
	baz=335							
EKS2				⇑*i*S		**Sg**	**22 11 33.5**	**+1.0**
	baz=335							
EKS	**Erkin-Say**	**1.83**	**336**	*i* P		**Pb**	**22 11 08.0**	**0.0**
	baz=335							
EKS				*e*S		**Sg**	**22 11 34.0**	**+1.4**
	baz=335							
FRU	**Bishkek**	**1.84**	**356**	*e*P		**Pb**	**22 11 08.0**	**-0.1**
	baz=354							
FRU				*e*S		**Sg**	**22 11 38.0**	**+5.1**
	baz=354							
CHMS	**Chumysh**	**2.00**	**359**	P		**Pb**	**22 11 10.7**	**-0.2**
	SNR=92							
CHMS	**Chumysh**	**2.00**	**359**	⇓*i*P		**Pb**	**22 11 10.5**	**-0.4**
	baz=358							
CHMS				⇓*i*S		**Sg**	**22 11 40.3**	**+2.2**
	baz=358							
TKM2	**Tokmak 2**	**2.02**	**17**	P		**Pb**	**22 11 10.5**	**-0.8**
	SNR=116							
TKM2	**Tokmak 2**	**2.02**	**17**	⇑Pn		**Pb**	**22 11 10.6**	**-0.6**
	33nm,0.3s							
TKM2				⇑Lg		Lg	22 11 39.8	
	236nm,0.5s							
TKM2	**Tokmak 2**	**2.02**	**17**	⇑*i*P		**Pb**	**22 11 10.4**	**-0.8**
	baz=15							
TKM2				⇑*i*S		**Sg**	**22 11 38.4**	**-0.2**
	baz=15							
USP	**Ospenovka**	**2.28**	**355**	P		**Pb**	**22 11 15.4**	**-0.2**
	SNR=211							
KNDC	**Almaty**	**2.75**	**35**	⇓Pn		**Pb**	**22 11 22.0**	**-1.6**
	49nm,0.6s							
KNDC				⇑Lg		Lg	22 12 01.7	
	324nm,0.5s							
KK31	**Karatay Array**	**3.82**	**305**	Pn		**Pn**	**22 11 36.0**	**+2.5**
	2.2nm,0.8s,baz=118,slow=12,SNR=148							
KK31				⇑Pg		**Pb**	**22 11 43.1**	**+1.4**
	15nm,0.6s,baz=127,slow=15,SNR=77							
KK31				⇑Lg		Lg	22 12 34.4	
	23nm,0.4s,baz=125,slow=28,SNR=12							
PDGK	**Podgornoye**	**4.20**	**55**	⇓Pn		**Pn**	**22 11 39.6**	**+1.0**
	9.7nm,1.0s							
PDGK				⇑Pg		**Pb**	**22 11 48.7**	**+0.4**
	20nm,0.7s							
PDGK				⇑Lg		Lg	22 12 44.0	
	88nm,0.9s							
DZET	**Dzherino**	**5.08**	**246**	⇑Pn		**Pn**	**22 11 52.4**	**+1.5**
	10.0nm,0.7s							
DZET				⇓Sn		**Sn**	**22 12 55.2**	**+5.1**
	34nm,0.7s							
DZET				⇓Lg		Lg	22 13 19.1	
	56nm,0.6s							
CHCP	**Chirah Chowk**	**7.42**	**190**	P		**Pn**	**22 12 24.5**	**+1.5**
OTUK	**Ortayu**	**7.46**	**347**	⇑Lg		Lg	22 14 32.8	
	15nm,1.0s							
CEP	**Cherat**	**7.51**	**199**	P		**Pn**	**22 12 25.9**	**+1.5**
MK31	**Makanchi Array**	**7.93**	**41**	⇓Lg		Lg	22 14 45.5	
	5.0nm,0.8s,baz=222,slow=26,SNR=4.0							
MKAR	**Makanchi Array**	**7.93**	**41**	Pn		Pn	22 12 38.6	+8.7
	0.1nm,0.3s,baz=225,slow=14,SNR=5.3							
MKAR				Lg		Lg	22 14 45.3	
	0.4nm,0.3s,baz=242,slow=30,SNR=5.4							
THW	**Thamme Wali**	**8.54**	**198**	P		**Pn**	**22 12 36.8**	**-1.5**
KURBB	**Kurchatov Arra**	**9.98**	**14**	Pn		**Pn**	**22 13 00.2**	**+2.3**
	0.1nm,0.3s,baz=199,slow=14,SNR=2.9							
KURBB				Lg		Lg	22 15 48.3	
	0.1nm,0.3s,baz=197,slow=29,SNR=8.8							
KURK	**Kurchatov**	**10.08**	**14**	⇓Lg		Lg	22 15 56.0	
	9.9nm,1.0s							
BVA0	**Borovoye Array**	**12.40**	**348**	⇑Pn		**Pn**	**22 13 34.1**	**+3.0**
	3.3nm,1.6s,baz=161,slow=14,SNR=4.5							
BVA0				⇑Lg		Lg	22 17 12.7	
	7.9nm,1.0s,baz=170,slow=30,SNR=3.5							
BVAR	**Borovoye Array**	**12.40**	**348**	Pn		**Pn**	**22 13 30.3**	**-0.8**
	0.1nm,0.3s,baz=158,slow=12,SNR=4.1							
BVAR				Lg		Lg	22 17 11.0	
	0.1nm,0.3s,baz=161,slow=24,SNR=4.5							
GEYT	**Alibeck**	**13.24**	**262**	Pn		Pn	22 13 38.5	-4.2
	0.2nm,0.3s,baz=106,slow=11,SNR=5.3							
GEYT				Sn		**Sn**	**22 16 04.7**	**-5.7**
	0.2nm,0.3s,baz=85,slow=27,SNR=2.6							
AB31	**Akbulak array**	**13.33**	**313**	⇑Pn		**Pn**	**22 13 41.9**	**-1.9**
	1.3nm,0.9s,baz=125,slow=12,SNR=6.3							
ZALV	**Zalesovo Beam**	**14.61**	**24**	Pn		**P**	**22 14 08.0**	**+0.2**
	0.1nm,0.3s,baz=216,slow=7.3,SNR=4.2							
AKTO	**Aktyubinsk**	**15.01**	**315**	Pn		**Pn**	**22 14 04.2**	**-2.6**
	0.1nm,0.3s,baz=126,slow=10,SNR=3.6							
HHC	**Hu-ho-hao-te**	**27.66**	**78**	*e*P		**P**	**22 16 23.3**	**+0.4**
HHC				PP		**PnPn**	**22 17 11.1**	**+3.2**
HHC				S		**S**	**22 21 04.1**	**-1.4**
HHC				SS		**SnSn**	**22 22 21.8**	**+5.5**
HHC				pmax		pmax		
	comp=Z,14nm,1.1s							
HHC				pmax		pmax	

NIKH				S	**Sb**	**22 33 11.8**	**+0.1**
OKAK	**Okmok**	**1.03**	**42**	P	**Pg**	**22 33 14.5**	**-0.8**
OKRE	**Okmok R'deer P**	**1.07**	**49**	P	**Pg**	**22 33 17.4**	**+1.3**
MTBL	**Makushin Table**	**2.05**	**55**	P	**Pn**	**22 33 31.9**	**+1.8**
UNV	**Unalaska Valle**	**2.08**	**59**	P	**Pn**	**22 33 31.7**	**+1.3**
UNV				S	**Sn**	**22 33 57.7**	**+1.4**
ATKA	**Atka Island**	**2.92**	**260**	P	**Pn**	**22 33 44.7**	**+2.7**
ILAR	**Eielson Array**	**16.63**	**35**	Pn	**Pn**	**22 36 47.7**	**-0.7**
	baz=228,slow=11,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**37.75**	**218**	T	T	23 19 38.3	
	baz=25						
H11N3	**WAKE ISLAND Hy**	**37.76**	**218**	T	T	23 19 30.2	
	baz=25						
H11N1	**WAKE ISLAND Hy**	**37.77**	**218**	T	T	23 19 35.7	
	baz=25						
H11S1	**WAKE ISLAND Hy**	**38.94**	**217**	T	T	23 21 03.8	
	baz=22						
H11S2	**WAKE ISLAND Hy**	**38.96**	**217**	T	T	23 21 03.0	
	baz=22						
H11S3	**WAKE ISLAND Hy**	**38.96**	**218**	T	T	23 21 04.7	
	baz=22						
PDAR	**Pinedale Array**	**40.41**	**80**	P	**P**	**22 40 33.2**	**-0.6**
	0.5nm,0.6s,baz=328,slow=2.9,SNR=5.2						
TXAR	**Lajitas Array**	**52.83**	**89**	P	**P**	**22 42 10.9**	**-0.2**
	0.8nm,0.7s,baz=293,slow=5.0,SNR=10						
AKASG	**Malin Array Be**	**75.64**	**348**	P	**P**	**22 44 39.3**	**-1.0**
	0.2nm,0.4s,baz=16,slow=7.0,SNR=6.0						
WRA	**Warramunga Arr**	**87.21**	**231**	P	**P**	**22 45 40.1**	**-1.8**
	0.2nm,0.2s,baz=35,slow=5.8,SNR=2.3						
ASAR	**Alice Springs**	**90.62**	**230**	P	**P**	**22 45 56.8**	**-1.1**
	0.5nm,0.6s,baz=32,slow=5.2,SNR=3.3						

IDC 19 22:52:01.5±2.8, 5°41'S×149°24'E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.5/31, mbtmp3.8/4, ML2.0/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/26, Error ellipse: s-maj=88.2km s-min=38.1km az=103.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.47**	**207**	Pn	Pn	22 53 09.5	-1.1
	6.0nm,0.3s,baz=348,slow=2.4,SNR=7.9						
PMG				Sn	Sn	22 53 59.3	-4.2
	5.4nm,0.3s,baz=97,slow=18,SNR=4.5						
PMG				LR	LR	22 54 57.7	
	comp=Z,106nm,19.1s,baz=355,slow=39						
WRA	**Warramunga Arr**	**20.46**	**224**	P	P	22 56 39.9	-1.1
	1.6nm,0.5s,baz=52,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**23.40**	**218**	P	P	22 57 12.4	+0.1
	0.9nm,0.7s,baz=56,slow=7.9,SNR=8.5						
STKA	**Stephens Creek**	**27.29**	**194**	P	P	22 57 49.2	+1.3
	1.3nm,0.6s,baz=20,slow=10.0,SNR=5.4						
TORD	**Torodi Ar. Bea**	**147.09**	**286**	PKPbc	PKPbc	23 11 46.6	-1.0
	0.6nm,0.4s,baz=73,slow=2.3,SNR=22						

IDC 19 22:56:46.4±3.5, 6°10'S×150°19'E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.3/32, mbtmp3.5/3, ML1.7/1, Error ellipse: s-maj=160.9km s-min=35.6km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.45**	**222**	Pn	Pn	22 57 56.3	+1.2
	3.0nm,0.3s,baz=39,slow=13,SNR=3.9						
PMG				Sn	Sn	22 58 47.1	-0.5
	1.8nm,0.3s,baz=155,slow=19,SNR=2.8						
WRA	**Warramunga Arr**	**20.65**	**227**	P	P	23 01 28.1	+0.3
	1.2nm,0.5s,baz=53,slow=1,SNR=6.3						
ASAR	**Alice Springs**	**23.46**	**220**	P	P	23 01 57.3	-0.4
	0.3nm,0.6s,baz=54,slow=9.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**148.18**	**285**	PKPbc	PKPbc	23 16 34.7	-0.7
	0.2nm,0.3s,baz=94,slow=2.3,SNR=12						

*ISCJB **19** 23:03:13.7±0.7, 52°.56N±0°.09×169°.5W±0°.1, h10km, mb3.7/4, Error ellipse: s-maj=15.4km s-min=4.9km az=146.8*
*IDC **19** 23:03:13.9±1.7, 52°.51N×169°.35W, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.5/42, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=61.8km s-min=28.2km az=141.0*
*NEIC **19** 23:03:14.8, 52°.75N×169°.47W, h3km, ML3.5(AEIC), After AEIC.*

ISC 19 23:03:15.1±0.9, 52°.7N±0°.1×169°.43W±0°.07, h10km, n27, σ0s80/25, mb3.7/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.45**	**51**	P	**Pb**	**23 03 24.6**	**-0.6**
NIKH				S	**Sb**	**23 03 32.5**	**+0.5**
OKWR	**Okmok West Rim**	**1.05**	**44**	P	**Pn**	**23 03 35.6**	**-0.4**
OKCE	**Okmok Cone E**	**1.07**	**45**	P	**Pb**	**23 03 35.0**	**-0.7**
OKCE				S	**Sn**	**23 03 52.0**	**+1.1**
OKTU	**Okmok Mt. Tuli**	**1.09**	**50**	P	**Pb**	**23 03 35.7**	**-0.4**
MGOD	**Makushin Gods**	**1.90**	**53**	P	**Pn**	**23 03 47.8**	**+0.3**
MGOD				S	**Sb**	**23 04 13.6**	**+0.1**
MCIR	**Makushin Cirqu**	**1.98**	**49**	P	**Pn**	**23 03 49.1**	**+0.4**
MSW	**Makushin Switc**	**2.01**	**51**	P	**Pn**	**23 03 49.6**	**+0.5**
MTBL	**Makushin Table**	**2.09**	**51**	P	**Pn**	**23 03 50.5**	**+0.2**
UNV	**Unalaska Valle**	**2.11**	**55**	P	**Pn**	**23 03 49.8**	**-0.6**
UNV				S	**Sb**	**23 04 18.1**	**-1.5**
AKRB	**Akutan Reef Bi**	**2.48**	**53**	P	**Pn**	**23 03 55.9**	**+0.4**
ZRO	**Akutan Zero**	**2.50**	**54**	P	**Pn**	**23 03 56.6**	**+0.8**
AKGG	**Akutan Green G**	**2.56**	**52**	P	**Pn**	**23 03 57.2**	**+0.6**
ATKA	**Atka Island**	**2.96**	**262**	P	**Pn**	**23 04 01.8**	**-0.2**
GSTR	**Great Sitkin T**	**4.10**	**264**	P	**Pn**	**23 04 18.4**	**+0.5**
GSCK	**Great Sitkin C**	**4.18**	**263**	P	**Pn**	**23 04 18.9**	**+0.1**
SPIA	**Saint Paul Isl**	**4.53**	**354**	P	**Pn**	**23 04 23.7**	**+0.2**
ILAR	**Eielson Array**	**16.71**	**35**	Pn	**Pn**	**23 07 08.0**	**-1.0**
	0.1nm,0.3s,baz=233,slow=8.1,SNR=4.6						
DLBC	**Dease Lake**	**22.76**	**60**	P	**P**	**23 08 19.5**	**+2.2**
	1.5nm,0.5s,baz=284,slow=9.1,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**37.68**	**218**	T	T	23 50 24.0	
	baz=23,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**37.69**	**218**	T	T	23 50 21.1	
	baz=23,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**37.70**	**218**	T	T	23 50 24.7	
	baz=23,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**38.87**	**218**	T	T	23 51 54.2	
	baz=22,slow=76,SNR=206						
H11S2	**WAKE ISLAND Hy**	**38.88**	**218**	T	T	23 51 54.0	
	baz=22,slow=76,SNR=138						
H11S3	**WAKE ISLAND Hy**	**38.89**	**218**	T	T	23 51 54.7	
	baz=22,slow=76,SNR=86						
PDAR	**Pinedale Array**	**40.38**	**79**	P	**P**	**23 10 52.2**	**-1.0**
	0.6nm,0.7s,baz=260,slow=5.9,SNR=3.7						
TXAR	**Lajitas Array**	**52.78**	**89**	P	**P**	**23 12 30.4**	**+0.1**
	1.0nm,0.7s,baz=303,slow=4.9,SNR=5.4						
ASAR	**Alice Springs**	**90.57**	**230**	P	**P**	**23 16 17.5**	**+0.2**
	0.3nm,0.6s,baz=44,slow=4.1,SNR=2.8						

*ECX **19** 23:06:12.6±0.5, 32°.14N×115°.18W, h10km, MD3.8, ML4.0*
*NEIC **19** 23:06:12.3, 32°.14N×115°.20W, h0km, ML3.8(ECX), ML3.9(PAS), After ECX.*
NEIC Felt at San Luis Rio Colorado, Sonora. Felt at Yuma, Arizona and at Carlsbad, El Cajon, Murrieta and Vista, California.

ISC 19 23:06:10.5±1.2, 32°.16N±0°.03×115°.13W±0°.03, h3km±11km, n37, σ1s17/48, 7C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMSC	**East Mesa**	**0.59**	**12**	*i*P	**Pb**	**23 06 23.8**	**+0.3**
YMD	**Yuma Desert**	**0.63**	**51**	*i*P	**Pb**	**23 06 24.4**	**+0.2**
ECBX	**El Chinero**	**0.69**	**175**	*e*P	**Pg**	**23 06 24.5**	**+0.7**
ECBX				*e*S	**Sg**	**23 06 33.9**	**+1.1**
DREC	**Desert Rsrch C**	**0.69**	**337**	*e*P	**Pb**	**23 06 25.4**	**+0.1**
COA	**Coachella**	**0.70**	**0**	*i*P	**Pb**	**23 06 25.1**	**-0.3**
SGL	**Mount Signal**	**0.70**	**314**	*i*P	**Pg**	**23 06 24.6**	**+0.6**
RDX	**Rancho Dawling**	**0.73**	**252**	*e*P	**Pg**	**23 06 25.1**	**+0.5**
RDX				*e*S	**Sg**	**23 06 34.4**	**+0.4**
RDX				*e*		23 06 35.8	
RDX				IAML		23 06 35.8	
	comp=N,3μm,0.3s						
ERPC	**Ernies Place**	**0.73**	**322**	*e*P	**Pb**	**23 06 25.8**	**-0.3**
WESC	**Westside Schoo**	**0.78**	**320**	*e*P	**Pg**	**23 06 26.2**	**+0.6**
YUH	**Yuha Desert**	**0.83**	**306**	*i*P	**Pg**	**23 06 26.4**	**0.0**
RMX	**La Rumorosa**	**0.92**	**299**	*e*P	**Pg**	**23 06 28.1**	**0.0**
RMX				*e*S	**Sg**	**23 06 40.6**	**+0.6**
RMX				*e*		23 06 41.7	
RMX				IAML		23 06 41.7	
	comp=N,6μm,0.1s						
GLA	**Glamis**	**0.92**	**16**	P	**Pg**	**23 06 28.4**	**+0.1**
	baz=1.0						
GLA				S	**Sg**	**23 06 40.4**	**+0.2**
	baz=1.0						
GLA	**Glamis**	**0.92**	**16**	*e*P	**Pg**	**23 06 28.1**	**-0.1**
GLA				*e*S	**Sg**	**23 06 40.3**	**+0.1**
IBP	**Imperial Bould**	**0.95**	**302**	P	**Pg**	**23 06 28.6**	**-0.2**
	baz=0.9						
IBP				S	**Sg**	**23 06 41.6**	**+0.3**
	baz=0.9						
SWSC	**Sam W. Stewart**	**0.96**	**324**	P	**Pg**	**23 06 28.2**	**-0.7**
	baz=1.0						
ZAX	**El Zacaton**	**1.17**	**237**	*e*P	**Pg**	**23 06 32.2**	**-0.8**
ZAX				*e*		23 06 50.4	
ZAX				IAML		23 06 50.4	
	comp=E,7μm,0.6s						
MONP	**Monument Peak**	**1.31**	**304**	P	**Pn**	**23 06 34.0**	**-2.0**
	baz=1.3						
MONP				S	**Sg**	**23 06 51.9**	**-0.8**
	baz=1.3						
ECNX	**Esteban Cantu**	**1.35**	**248**	*e*P	**Pn**	**23 06 35.0**	**-1.5**
BAR	**Barrett**	**1.40**	**292**	*e*P	**Pn**	**23 06 35.7**	**-1.4**
BAR				*e*S	**Sb**	**23 06 53.0**	**-2.8**
BAR	**Barrett**	**1.40**	**292**	*i*P	**Pn**	**23 06 35.6**	**-1.6**
PBX	**Punta Banda**	**1.42**	**253**	*i*P	**Pn**	**23 06 36.1**	**-1.3**
BC3	**Big Chuckawall**	**1.51**	**350**	P	**Pn**	**23 06 36.9**	**-1.8**
	baz=1.5						
SDRC	**San Diego Road**	**1.64**	**291**	*e*P	**Pn**	**23 06 40.3**	**0.0**
Y12C	**Blythe**	**1.66**	**18**	P	**Pn**	**23 06 39.4**	**-1.2**
	baz=1.7						
109C	**Camp Elliot, M**	**1.82**	**294**	P	**Pn**	**23 06 41.5**	**-1.3**
	baz=1.8						
109C				Sb	**Sn**	**23 07 06.6**	**+0.2**
	baz=1.8						
PFO	**Pinyon Flat Ob**	**1.82**	**323**	P	**Pn**	**23 06 41.0**	**-2.0**
	baz=1.8						
214A	**Organ Pipe Nat**	**1.98**	**95**	P	**Pn**	**23 06 43.6**	**-1.4**
	baz=2.0						
214A	**Organ Pipe Nat**	**1.98**	**95**	*e*Pn	**Pn**	**23 06 43.6**	**-1.4**
214A				*e*Sn	**Sb**	**23 07 13.0**	**+0.7**
IRM	**Iron Mountain**	**1.99**	**359**	Pb	**Pn**	**23 06 45.9**	**+0.7**
	baz=2.0						
MURC	**Murrieta**	**2.26**	**310**	Sb	**Sb**	**23 07 20.6**	**+0.3**
	baz=2.2						
GMRC	**Granite Mounta**	**2.65**	**350**	P	**Pn**	**23 06 53.2**	**-1.2**
	baz=2.7						
SCI	**San Clemente I**	**3.00**	**287**	Sb	**Sb**	**23 07 41.9**	**+0.2**
	baz=2.9						
CIS	**Catalina Islan**	**3.02**	**295**	Sb	**Sb**	**23 07 42.7**	**+0.2**
	baz=3.0						
MWC	**Mount Wilson**	**3.20**	**311**	*e*Pn	**Pn**	**23 07 03.2**	**+1.2**
MWC				*e*Sn	**Sn**	**23 07 43.4**	**+2.5**
PASC	**Pasadena Art C**	**3.25**	**309**	*e*Pn	**Pn**	**23 07 04.3**	**+1.8**
DECC	**Green Verdugo**	**3.40**	**309**	Sb	**Sb**	**23 07 54.9**	**+1.8**
	baz=3.4						
TUC	**Tucson**	**3.68**	**87**	*e*Pn	**Pn**	**23 07 06.7**	**-1.9**

*IDC **19** 23:07:38.3±15.0, 52°.42N×169°.96W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/39, mbtmp3.4/4, ML2.8/1, Error ellipse: s-maj=283.6km s-min=50.1km az=89.0*
*NEIC **19** 23:07:42.5, 52°.74N×169°.29W, h1km, ML3.3(AEIC), After AEIC.*

ISC 19 23:07:43.5±1.1, 53°.0N±0°.1×169°.44W±0°.07, h10km, n19, σ0s95/20, mb3.5/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.35**	**86**	P	**Pb**	**23 07 51.4**	**-0.5**
NIKH				S	**Sb**	**23 07 58.3**	**+0.8**
OKWR	**Okmok West Rim**	**0.89**	**56**	P	**Pn**	**23 08 02.4**	**+0.3**
OKCE	**Okmok Cone E**	**0.90**	**57**	P	**Pn**	**23 08 02.0**	**-0.3**
OKCE				S	**Sn**	**23 08 17.6**	**+2.2**
OKAK	**Okmok**	**0.91**	**45**	P	**Pg**	**23 08 00.6**	**-0.3**
OKTU	**Okmok Mt. Tuli**	**0.95**	**62**	P	**Pn**	**23 08 02.6**	**-0.3**
MSOM	**Makushin Julie**	**1.73**	**59**	P	**Pb**	**23 08 14.3**	**-1.0**
MSOM				S	**Sg**	**23 08 39.1**	**+0.2**
MCIR	**Makushin Cirqu**	**1.82**	**56**	P	**Pb**	**23 08 16.4**	**-0.5**
MSW	**Makushin Switc**	**1.86**	**58**	P	**Pb**	**23 08 16.7**	**-0.9**
MTBL	**Makushin Table**	**1.94**	**57**	P	**Pb**	**23 08 18.0**	**-0.9**
UNV	**Unalaska Valle**	**1.97**	**62**	P	**Pn**	**23 08 17.5**	**+0.5**
UNV				S	**Sb**	**23 08 44.5**	**+0.4**
AKGG	**Akutan Green G**	**2.41**	**57**	P	**Pn**	**23 08 23.4**	**+0.5**
ATKA	**Atka Island**	**3.00**	**257**	P	**Pn**	**23 08 31.8**	**+0.7**
ILAR	**Eielson Array**	**16.50**	**35**	Pn	**P**	**23 11 36.6**	**-0.8**
	0.0nm,0.3s,baz=237,slow=12,SNR=3.6						
DLBC	**Dease Lake**	**22.63**	**60**	P	**P**	**23 12 46.0**	**+1.6**
	1.8nm,0.7s,baz=262,slow=7.1,SNR=2.5						
H11S1	**WAKE ISLAND Hy**	**39.08**	**218**	T	T	23 56 28.0	
	baz=24						
H11S2	**WAKE ISLAND Hy**	**39.09**	**218**	T	T	23 56 30.0	
	baz=24						
H11S3	**WAKE ISLAND Hy**	**39.09**	**218**	T	T	23 56 29.4	
	baz=24						
PDAR	**Pinedale Array**	**40.34**	**80**	P	**P**	**23 15 20.9**	**-0.3**
	0.3nm,0.6s,baz=285,slow=7.2,SNR=2.9						
TXAR	**Lajitas Array**	**52.78**	**89**	P	**P**	**23 16 57.5**	**-1.2**
	0.6nm,0.8s,baz=313,slow=4.7,SNR=6.2						

*IDC **19** 23:08:18.6±5.0, 36°.30N×71°.34E, h146km±37km, mb3.4/4, mb1 3.3/10, mb1mx3.1/47, mbtmp3.8/10, Error ellipse: s-maj=46.3km s-min=19.7km az=147.0*
*ISCJB **19** 23:08:21.7±0.4, 36°.67N±0°.03×71°.17E±0°.05, h150km, mb3.6/4, Error ellipse: s-maj=6.6km s-min=3.9km az=147.6*
*NNC **19** 23:08:28.3±1.7, 37°.11N×71°.15E, h193km±11km, mb3.0, mpv4.0, Error ellipse: s-maj=16.2km s-min=6.7km az=164.0*

ISC 19 23:08:22.5±0.7, 36°.69N±0°.06×71°.22E±0°.06, h150km, n35, σ1s66/42, mb3.6/4, 6C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.84**	**319**	*i*P	Pn	23 09 11.6	+3.7
	36nm,0.5s						
DZET				*i*S	**Sn**	**23 09 46.3**	**+3.2**
	293nm,0.5s						
SFK	**Sufi-Kurgan**	**3.78**	**28**	P	Pn	23 09 23.2	+3.2
	36nm,0.3s						
SFK				*i*S	**Sn**	**23 10 06.7**	**+2.1**
	67nm,0.3s						
DLH	**Dalhousie**	**5.69**	**135**	*e*P	**Pn**	**23 09 46.0**	**+0.7**
DLH				*e*S	**Sn**	**23 10 52.0**	**+2.1**
AML	**Almayashu**	**5.77**	**19**	P	**Pn**	**23 09 48.2**	**+1.8**
	SNR=44						
UCH	**Uchtor**	**6.09**	**24**	P	**Pn**	**23 09 52.4**	**+1.7**
	SNR=8.5						
EKS2	**Erkin-Say**	**6.29**	**17**	P	**Pn**	**23 09 55.2**	**+2.2**
	SNR=13						
KK31	**Karatay Array**	**6.43**	**355**	P	**Pn**	**23 09 56.8**	**+1.9**
	5.2nm,0.4s,baz=177,slow=12,SNR=100						
KK31				S	**Sn**	**23 11 06.0**	**-1.3**
	12nm,0.4s,baz=185,slow=17,SNR=15						
AAK	**Ala-Archa**	**6.45**	**22**	*i*P	**Pn**	**23 09 56.5**	**+1.2**
	6.1nm,0.5s						
AAK				*i*S	**Sn**	**23 11 06.6**	**-1.4**
	48nm,1.1s						
CHMS	**Chumysh**	**6.87**	**22**	P	**Pn**	**23 10 02.4**	**+1.7**
	SNR=8.2						
TKM2	**Tokmak 2**	**7.08**	**27**	P	**Pn**	**23 10 05.1**	**+1.4**
	SNR=11						
TKM2	**Tokmak 2**	**7.08**	**27**	*i*P	**Pn**	**23 10 04.6**	**+1.0**
	5.7nm,0.5s						
TKM2				*i*S	**Sn**	**23 11 20.8**	**-2.3**
	5.2nm,0.6s						
SMLA	**Simla**	**7.42**	**137**	*i* P	**Pn**	**23 10 09.1**	**+0.9**
SMLA				*i* S	**Sn**	**23 11 27.9**	**-3.2**
SMLA				*i* S	**Sn**	**23 11 28.6**	**-2.5**
SMLA				AML	AML	23 11 32.0	
	comp=N,438nm,0.2s						
SMLA				AML	AML	23 11 32.9	
	comp=E,432nm,0.2s						
GEYT	**Alibeck**	**10.51**	**281**	P	**Pn**	**23 10 48.9**	**-0.3**
	comp=E,0.6nm,0.3s,baz=123,slow=11,SNR=7.4						
GEYT				S	**Sn**	**23 12 44.4**	**-1.1**
	comp=E,0.8nm,0.3s,baz=33,slow=44,SNR=4.7						
MKAR	**Makanchi Array**	**13.04**	**36**	P	**Pn**	**23 11 22.0**	**0.0**
	comp=E,0.1nm,0.3s,baz=225,slow=14,SNR=5.5						
KOLN	**Koldanda**	**13.73**	**127**	*e*P	**Pn**	**23 11 29.5**	**-1.7**
	comp=E,8.9nm,0.3s						
GKN	**Gorkha**	**14.26**	**124**	*e*P	**Pn**	**23 11 37.1**	**-0.6**
	comp=E,17nm,0.4s						
KKN	**Kakani**	**14.82**	**123**	*e*P	**Pn**	**23 11 44.2**	**-0.7**
	comp=E,18nm,0.6s						
DMN	**Daman**	**14.83**	**124**	*e*P	**Pn**	**23 11 44.9**	**-0.1**
	comp=E,18nm,0.4s						
KURBB	**Kurchatov Arra**	**14.89**	**18**	P	**Pn**	**23 11 45.2**	**-0.1**
	comp=E,0.1nm,0.3s,baz=207,slow=10,SNR=5.0						
AB31	**Akbulak array**	**15.01**	**330**	P	**Pn**	**23 11 45.4**	**-1.4**
	comp=E,0.8nm,0.3s,baz=145,slow=11,SNR=24						
AB31				S	Sn	23 14 24.0	-9.4
	comp=E,1.6nm,0.5s,baz=148,slow=23,SNR=12						
PKIN	**Phulchoki**	**15.04**	**123**	*e*P	**Pn**	**23 11 47.3**	**-0.4**
	comp=E,20nm,0.4s						
PKI	**Pulchoki**	**15.05**	**123**	*e*P	**Pn**	**23 11 47.2**	**-0.7**
	comp=E,23nm,0.5s						
RAMN	**Ramite**	**16.26**	**122**	*e*P	**P**	**23 12 03.5**	**+0.6**
	comp=E,7.3nm,0.4s						
BVAR	**Borovoye Array**	**16.35**	**358**	P	**Pn**	**23 12 03.1**	**-0.1**
	comp=E,0.4nm,0.3s,baz=164,slow=11,SNR=7.3						
AKTO	**Aktyubinsk**	**16.71**	**329**	P	**P**	**23 12 08.4**	**+1.0**
	comp=E,4.7nm,0.5s						
AKTO				S	**S**	**23 15 08.4**	**-4.8**
	comp=E,5.4nm,1.2s						
AKTO	**Aktyubinsk**	**16.71**	**329**	P	**P**	**23 12 08.4**	**+1.0**
	comp=E,1.8nm,0.3s,baz=136,slow=9.4,SNR=33						
TAPN	**Taplejung**	**16.78**	**119**	*e*P	**Pn**	**23 12 10.9**	**+1.9**
	comp=E,9.1nm,0.3s						
ODAN	**Odare**	**16.86**	**121**	*e*P	**Pn**	**23 12 11.1**	**+1.2**
	comp=E,9.8nm,0.5s						
ZALV	**Zalesovo Beam**	**19.67**	**24**	P	**P**	**23 12 39.2**	**-0.4**
	comp=E,0.6nm,0.3s,baz=214,slow=11,SNR=8.4						
ARU	**Arti**	**21.52**	**341**	P	**P**	**23 12 59.6**	**+0.3**
	baz=109,slow=18						
FINES	**FINESS Array B**	**37.43**	**326**	P	**P**	**23 15 20.6**	**-0.1**
	comp=E,0.8nm,0.6s,baz=144,slow=13,SNR=6.2						
ARCES	**ARCESS Array B**	**41.04**	**337**	P	**P**	**23 15 50.4**	**-0.2**
	comp=E,0.7nm,0.4s,baz=114,slow=8.1,SNR=7.6						
NB2	**NORSAR Subarra**	**44.34**	**323**	P	**P**	**23 16 16.5**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.34**	**323**	P	**P**	**23 16 16.6**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=96,slow=7.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**65.90**	**269**	P	P	23 18 49.4	-3.1
	comp=Z,0.7nm,0.5s,baz=52,slow=5.7,SNR=14						

NNC 19 23:20:43.7±1.3, 39°.45N×72°.33E, h0km, mb3.6, mpv3.3, 6C-9D, Error ellipse: s-maj=16.2km s-min=5.7km az=163.0, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.07**	**57**	*i*P	Pg	23 21 03.8	-0.8
	30nm,0.2s						
SFK				*i*S	Sg	23 21 19.2	+0.6
	115nm,0.2s						
DZET	**Dzherino**	**2.80**	**258**	*i*Pn	Pn	23 21 30.9	+0.9
	12nm,0.4s						
DZET				*i*Pg	Pb	23 21 34.0	-0.8
	30nm,0.5s						
DZET				*i*Lg	Lg	23 22 10.3	
	104nm,0.5s						
AAK	**Ala-Archa**	**3.58**	**26**	*i*Pn	Pn	23 21 42.8	+2.1
	3.8nm,0.8s						
AAK				*i*Pg	Pg	23 21 52.9	+0.2
	5.5nm,0.5s						
AAK				*i*Lg	Lg	23 22 33.4	
	30nm,0.9s						
KK31	**Karatay Array**	**3.90**	**340**	Pn	Pn	23 21 45.9	+0.8
	1.8nm,0.5s,baz=146,slow=12,SNR=49						
KK31				*i*Pg	Pb	23 21 55.2	+1.7
	2.1nm,0.3s,baz=156,slow=15,SNR=12						
KK31				*i*Sn	Sn	23 22 31.6	+0.1
	2.1nm,0.3s						
KK31				*i*Lg	Lg	23 22 49.2	
	2.3nm,0.3s,baz=162,slow=29						
TKM2	**Tokmak 2**	**4.26**	**34**	*i*Pn	Pn	23 21 50.9	+0.8
	1.5nm,0.7s						
TKM2				*i*Pg	Pb	23 22 02.2	+2.5
	2.6nm,0.7s						
TKM2				*i*Lg	Lg	23 22 56.4	
	13nm,0.6s						
AB31	**Akbulak array**	**13.20**	**322**	*i*Pn	Pn	23 23 48.4	-4.0
	0.4nm,0.5s,baz=136,slow=13,SNR=6.2						

*ISCJB **19** 23:21:58.6±0.5, 6°.21S±0°.04×150°.29E±0°.07, h35km, mb4.7/21, MS3.4/5, Error ellipse: s-maj=9.8km s-min=6.1km az=177.6*
*BJI **19** 23:22:01.9, 6°.36S×150°.07E, h65km, mb4.8/11, mB4.9/9, Ms4.6/7, Ms7 4.4/5*
*NEIC **19** 23:22:03.1±1.1, 6°.39S×150°.50E, h64km±10km, mb4.8/9, Error ellipse: s-maj=10.7km s-min=9.4km az=76.0*
*DJA **19** 23:22:04.0±1.0, 6°.5S×150°.0E±°, h67km±9km, MS.5/25, mb4.9/25, mB6.3/3, MLv5.7/1, Mw(mB)6.0/3*
*IDC **19** 23:22:07.7±3.4, 6°.46S×150°.25E, h100km±28km, mb4.0/11, mb1 4.2/14, mb1mx3.9/41, mbtmp4.4/14, MS3.4/6, Ms1 3.4/6, ms1mx3.0/32, Error ellipse: s-maj=28.0km s-min=13.4km az=81.0*

ISC 19 23:22:00.2±0.5, 6°.21S±0°.05×150°.41E±0°.07, h35km, n67, σ1s71/75, mb4.7/21, MS3.4/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.53**	**225**	P	**Pn**	**23 23 08.6**	**+2.3**
	42nm,0.3s,baz=41,slow=3.2,SNR=46						
PMG				S

48nm,1.4s
SGSI Sangihe 26.72 291 P **P** **23 27 34.3 -2.4**
299nm,0.8s,15µm
BATI Baumata 26.77 260 P **P** **23 27 35.3 -1.8**
36nm,1.4s
BATI Baumata 26.77 260 P **P** **23 27 37.3 +0.2**
18nm,0.8s,baz=106,slow=20,SNR=2.1
STKA Stephens Creek 26.84 197 P **P** **23 27 36.4 -1.1**
18nm,0.7s,baz=3.6,slow=8.0,SNR=24
STKA LR LR 23 38 01.5
comp=Z,170nm,19.1s,baz=35,slow=36
STKA Stephens Creek 26.84 197 P **P** **23 27 36.2 -1.2**
baz=26,SNR=17
STKA Stephens Creek 26.84 197 *eP* **P** **23 27 36.3 -1.2**
5.0nm,1.0s
FITZ Fitzroy Crossi 26.90 242 P **P** **23 27 37.5 -0.7**
baz=26,SNR=8.5
FITZ Fitzroy Crossi 26.90 242 *eP* **P** **23 27 37.5 -0.7**
18nm,0.6s
BBSI Bau Bau 27.70 270 P **P** **23 27 41.4 -4.1**
60nm,1.1s
KDI Kendari 27.77 273 P **P** **23 27 44.1 -2.0**
36nm,0.8s
LUWI Luwuk 28.05 279 P **P** **23 27 46.5 -2.1**
51nm,1.1s,3µm
WRKA Warakurna 28.27 226 P **P** **23 27 49.2 -1.2**
baz=27,SNR=35
HTT Hallett 29.11 200 P **P** **23 27 57.4 -0.5**
baz=28,SNR=5.3
BBOO Buckleboo 29.65 205 P **P** **23 28 01.1 -1.5**
baz=29,SNR=6.1
BBOO Buckleboo 29.65 205 *eP* **P** **23 28 01.0 -1.6**
101nm,1.9s
FORT Forrest 32.21 218 P **P** **23 28 24.9 -0.3**
baz=31,SNR=7.4
FORT Forrest 32.21 218 *eP* **P** **23 28 24.5 -0.7**
20nm,0.8s
MBWA Marble Bar 33.21 240 *eP* **P** **23 28 32.9 -1.2**
267nm,2.6s
MEEK Meekatharra 36.47 233 P **P** **23 29 01.5 -0.7**
baz=36,SNR=13
KLBR Kellerberrin 39.62 226 P **P** **23 29 27.7 -0.9**
baz=39,SNR=8.0
RPZ Rata Peaks 41.53 157 P **P** **23 29 44.6 +0.3**
14nm,1.1s,baz=13,slow=18,SNR=3.5
JNU Nakatsue 43.29 336 P P 23 30 01.7 +2.9
4.5nm,0.7s,baz=93,slow=19,SNR=3.3
JNU LR LR 23 43 57.8
comp=Z,37nm,21.5s,baz=139,slow=30
MJAR Matsushiro Arr 44.04 346 LR LR 23 47 55.3
comp=Z,34nm,19.1s,baz=150,slow=35
KSRS Korea Array 48.24 336 P **P** **23 30 39.6 +2.0**
0.3nm,0.3s,baz=146,slow=7.8,SNR=2.6
KSAR Wonju Array Be 48.25 336 P **P** **23 30 39.6 +1.9**
RAR Rarotonga 50.41 112 LR LR 23 49 19.0
comp=Z,38nm,18.5s,baz=278,slow=32
GYA Guiyang 53.40 309 *eP* **P** **23 31 17.0 0.0**
GYA PMZ
10.0nm,1.0s
KMI Kunming 55.84 306 P **P** **23 31 35.4 +0.6**
KMI PMZ
5.0nm,0.6s
CD2 Chengdu 57.88 312 P **P** **23 31 47.5 -1.5**
CD2 pP **pP** **23 32 04.4 +4.8**
CD2 sP sP 23 32 12.0 +8.2
CD2 PP **PP** **23 33 56.4 -1.3**
CD2 S **S** **23 39 43.3 -3.4**
CD2 sS sS 23 40 12.6 +8.4
CD2 SS **SS** **23 43 36.4 -1.8**
CD2 PMZ
20nm,0.5s
CD2 PMZ
100nm,6.3s
CD2 LN
190nm,5.8s
CD2 LZ
130nm,8.0s
HHC Hu-ho-hao-te 58.84 326 *eP* **P** **23 31 57.3 +1.7**
HHC PP **PP** **23 34 09.8 +3.8**
HHC S **S** **23 39 56.8 -2.2**
HHC sS sS 23 40 24.3 +7.8
HHC SS **SS** **23 43 52.8 -0.2**
HHC PMZ
20nm,1.1s
HHC PMZ
59nm,5.3s
HHC LN
97nm,15.1s
HHC LE
82nm,14.7s
SONM Songino Array 66.28 329 P **P** **23 32 46.4 +1.3**
0.3nm,0.4s,baz=139,slow=5.9,SNR=3.2
VNDA Vanda 71.53 177 P **P** **23 33 16.0 -1.1**
2.2nm,0.8s,baz=315,slow=6.4,SNR=9.6
WMQ Urumqi 75.18 318 P **P** **23 33 39.3 0.0**
WMQ pP **PcP** **23 33 54.8 +2.1**
WMQ sP sP 23 34 02.8 +8.5
WMQ PMZ
13nm,0.9s
WMQ PMZ
73nm,3.8s
WMQ LN
36nm,17.6s
WMQ LE
29nm,20.0s
ZALV Zalesovo Beam 81.02 327 P **P** **23 34 11.0 -0.3**
0.9nm,0.7s,baz=116,slow=6.8,SNR=3.9
ZALV LR LR 00 12 26.3
comp=Z,21nm,18.1s,baz=70,slow=37
QSPA South Pole Qui 83.76 180 *eP* **P** **23 34 24.5 -1.1**
5.9nm,1.0s
ILAR Eielson Array 84.36 23 P **P** **23 34 30.5 +2.0**
0.8nm,0.7s,baz=257,slow=5.5,SNR=8.4
GERES GERESS Array B 123.97 327 PKP **PKPdf** **23 40 53.3 -1.7**
0.2nm,0.5s,baz=52,slow=1.6,SNR=2.7
TORD Torodi Ar. Bea 148.43 285 PKPbc **PKPdf** **23 41 42.0 +1.4**
1.2nm,0.3s,baz=64,slow=2.3,SNR=36
BDFB Brasilia 151.64 140 PKPbc **PKPbc** **23 41 50.6 -1.5**
2.4nm,0.7s,baz=310,slow=7.6,SNR=3.6

*DDA **19** 23:39:19.5, 35°.83N×35°.93E, h7km, MD3.0*
*CSEM **19** 23:39:21.8±1.0, 35°.86N×36°.11E, h5km, MD2.5, Error ellipse: s-maj=21.4km s-min=11.5km az=157.0*
*ISK **19** 23:39:28.8, 36°.32N×36°.04E, h20km, MD2.5*
ISC 19 23:39:23.2±2.0, 36°.0N±0°.1×36°.06E±0°.04, h8km±6km, n17, σ0s87/26, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAYL	**Yayladag**	**0.08**	**30**	*i* P	**Pg**	**23 39 24.6**	**-0.8**
YAYL				*i* S	**Sg**	**23 39 28.3**	**+1.2**
YAYL	**Yayladag**	**0.08**	**30**	*i* P	**Pg**	**23 39 24.6**	**-0.8**
YAYL				*i* S	**Sg**	**23 39 28.3**	**+1.2**
TAHT	**Tahtakopru-Hat**	**0.42**	**14**	*e*PG	**Pb**	**23 39 33.4**	**+0.4**
TAHT				*e*SG	**Sg**	**23 39 36.5**	**-0.6**
TAHT	**Tahtakopru-Hat**	**0.42**	**14**	*e*Pg	**Pb**	**23 39 33.4**	**+0.4**
TAHT				*e*Sg	**Sg**	**23 39 36.5**	**-0.6**
KRTS	**Karatas**	**0.82**	**318**	*e*PG	**Pn**	**23 39 41.2**	**+0.1**
KRTS				*e*SG	**Sg**	**23 39 49.9**	**+0.2**
KRTS	**Karatas**	**0.82**	**318**	*e*Pg	**Pn**	**23 39 41.2**	**+0.1**
KRTS				*e*Sg	**Sg**	**23 39 49.9**	**+0.2**
CEYT	**Ceyhan**	**1.07**	**347**	*e*PG	**Pg**	**23 39 43.8**	**-0.1**
CEYT	**Ceyhan**	**1.07**	**347**	*e*Pg	**Pg**	**23 39 43.8**	**-0.1**
KUZU	**Kuzuini**	**1.15**	**45**	*i* P	**Pb**	**23 39 45.0**	**-0.4**
KUZU				*i* S	**Sg**	**23 40 01.2**	**+0.9**
KUZU	**Kuzuini**	**1.15**	**45**	*i* P	**Pb**	**23 39 45.0**	**-0.4**
KUZU				*i* S	**Sg**	**23 40 01.2**	**+0.9**
KARA	**Karaisali**	**1.52**	**328**	*e*PN	**Pn**	**23 39 50.7**	**-0.1**
KARA	**Karaisali**	**1.52**	**328**	*e*Pn	**Pn**	**23 39 50.7**	**-0.1**
KOZT	**Kozan**	**1.52**	**353**	*e*PN	**Pn**	**23 39 50.3**	**-0.5**
KOZT	**Kozan**	**1.52**	**353**	*e*Pn	**Pn**	**23 39 50.3**	**-0.5**
MERS	**Mersin**	**1.53**	**307**	*e*PN	**Pg**	**23 39 53.1**	**+0.5**
MERS	**Mersin**	**1.53**	**307**	*e*Pn	**Pg**	**23 39 53.1**	**+0.5**
HCB	**Kahramanmara¯**	**1.54**	**26**	*i* P	**Pg**	**23 39 55.1**	**+2.3**
HCB				*i* S	**Sn**	**23 40 09.6**	**-1.6**

*ISCJB **19** 23:40:55.8±0.5, 38°.24N±0°.03×27°.67E±0°.03, h4km±5km, Error ellipse: s-maj=4.4km s-min=3.9km az=27.9*
*DDA **19** 23:40:55.6, 38°.24N×27°.68E, h7km, MD2.9*
*ISK **19** 23:40:55.7, 38°.24N×27°.64E, h6km, MD2.7*
*CSEM **19** 23:40:56.0±0.1, 38°.23N×27°.67E, h5km, MD2.7, Error ellipse: s-maj=1.8km s-min=1.6km az=20.0*

ISC 19 23:40:55.9±1.0, 38°.24N±0°.02×27°.67E±0°.02, h8km±10km, n39, σ0s49/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDB	**Zeytinkoy-Aydi**	**0.34**	**149**	*e*PG	**Pg**	**23 41 03.1**	**+0.4**
AYDB				*e*SG	**Sg**	**23 41 07.7**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**0.34**	**149**	*e*Pg	**Pg**	**23 41 03.1**	**+0.4**
AYDB				*e*Sg	**Sg**	**23 41 07.7**	**+0.5**
IZM	**Izmir**	**0.36**	**297**	*e*PG	**Pg**	**23 41 03.0**	**0.0**
IZM	**Izmir**	**0.36**	**297**	*e*Pg	**Pg**	**23 41 03.0**	**0.0**
BLCB	**Balcova**	**0.52**	**287**	*e*PG	**Pg**	**23 41 06.2**	**+0.3**
BLCB				*e*SG	**Sg**	**23 41 12.7**	**0.0**
BLCB	**Balcova**	**0.52**	**287**	*e*Pg	**Pg**	**23 41 06.2**	**+0.3**
BLCB				*e*Sg	**Sg**	**23 41 12.7**	**0.0**
AKHS	**Akhisar**	**0.65**	**10**	*i* P	**Pg**	**23 41 08.3**	**-0.2**
AKHS				*i* S	**Sg**	**23 41 17.0**	**0.0**
AKHS	**Akhisar**	**0.65**	**10**	*i* P	**Pg**	**23 41 08.3**	**-0.2**
AKS	**Akhisar**	**0.65**	**10**	*e*PG	**Pg**	**23 41 08.6**	**+0.1**
AKS	**Akhisar**	**0.65**	**10**	*e*Pg	**Pg**	**23 41 08.6**	**+0.1**
MANT	**Manisa**	**0.74**	**70**	*i* P	**Pg**	**23 41 10.4**	**+0.1**
MANT	**Manisa**	**0.74**	**70**	*i* P	**Pg**	**23 41 10.4**	**+0.1**
KULA	**Kula-Manisa**	**0.83**	**70**	*e*PG	**Pb**	**23 41 12.3**	**-0.2**
KULA	**Kula-Manisa**	**0.83**	**70**	*e*Pg	**Pb**	**23 41 12.4**	**-0.2**
URLA	**Izmir**	**0.85**	**279**	*i* P	**Pg**	**23 41 12.6**	**+0.2**
URLA				*i* S	**Sb**	**23 41 24.3**	**-0.3**
URLA	**Izmir**	**0.85**	**279**	*i* P	**Pg**	**23 41 12.6**	**+0.2**
URLA				*i* S	**Sb**	**23 41 24.3**	**-0.3**
ZEY	**¨zmir**	**0.92**	**270**	*i* P	**Pb**	**23 41 13.7**	**-0.4**
ZEY				*i* S	**Sb**	**23 41 26.3**	**-0.1**
DEMI	**Demirci**	**1.15**	**45**	*i* P	**Pg**	**23 41 17.8**	**-0.2**
DEMI				*i* S	**Sg**	**23 41 31.8**	**-1.2**
DEMI	**Demirci**	**1.15**	**45**	*i* P	**Pg**	**23 41 17.8**	**-0.2**
DEMI				*i* S	**Sg**	**23 41 31.8**	**-1.2**
DENT	**Denizli**	**1.18**	**114**	*e*PN	**Pn**	**23 41 19.6**	**+0.8**
DENT	**Denizli**	**1.18**	**114**	*e*Pn	**Pn**	**23 41 19.6**	**+0.8**
BDRM	**Kayabasi**	**1.18**	**189**	*i* P	**Pg**	**23 41 18.1**	**-0.6**
BDRM				*i* S	**Sg**	**23 41 33.0**	**-1.0**
BDRM	**Kayabasi**	**1.18**	**189**	*i* P	**Pg**	**23 41 18.1**	**-0.6**
BDRM				*i* S	**Sg**	**23 41 33.0**	**-1.0**
YER	**Yerkesik**	**1.20**	**156**	*e*PN	**Pn**	**23 41 19.5**	**+0.4**
YER	**Yerkesik**	**1.20**	**156**	*e*Pn	**Pn**	**23 41 19.5**	**+0.4**
BODT	**Bodrum**	**1.21**	**194**	*e*PN	**Pn**	**23 41 19.3**	**+0.2**
BODT	**Bodrum**	**1.21**	**194**	*e*Pn	**Pn**	**23 41 19.3**	**+0.2**
CHOS	**Chios island**	**1.28**	**277**	*e*PN	**Pg**	**23 41 20.6**	**+0.1**
CHOS	**Chios island**	**1.28**	**277**	*e*Pn	**Pg**	**23 41 20.6**	**+0.1**
AYVA	**Ayvalik**	**1.31**	**325**	*i* P	**Pg**	**23 41 21.1**	**-0.1**
AYVA				*i* S	**Sn**	**23 41 38.7**	**+0.4**
AYVA	**Ayvalik**	**1.31**	**325**	*i* P	**Pg**	**23 41 21.1**	**-0.1**
KHAL	**Karahalli**	**1.44**	**84**	*i* P	**Pb**	**23 41 23.0**	**-0.1**
KHAL	**Karahalli**	**1.44**	**84**	*i* P	**Pb**	**23 41 23.0**	**-0.1**
DST	**Dursunbey**	**1.55**	**28**	*e*PN	**Pb**	**23 41 24.7**	**-0.3**
DST	**Dursunbey**	**1.55**	**28**	*e*Pn	**Pb**	**23 41 24.7**	**-0.3**
SIGR	**SIGRI**	**1.72**	**305**	*e*PN	**Pn**	**23 41 26.6**	**+0.5**
SIGR	**SIGRI**	**1.72**	**305**	*e*Pn	**Pn**	**23 41 26.6**	**+0.5**
EZN	**Ezine**	**1.90**	**327**	*e*PN	**Pn**	**23 41 29.5**	**+0.9**
EZN	**Ezine**	**1.90**	**327**	*e*Pn	**Pn**	**23 41 29.5**	**+0.9**

IDC 19 23:45:10.7±3.5, 6°.01S×149°.90E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.3/41, mbtmp3.4/3, ML1.3/1, Error ellipse: s-maj=140.1km s-min=37.2km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.33**	**219**	Pn	Pn	23 46 15.7	-2.1
	1.1nm,0.3s,baz=312,slow=15,SNR=3.2						
PMG				Sn	Sn	23 47 10.3	+1.3
	1.5nm,0.3s,baz=198,slow=20,SNR=2.9						
WRA	**Warramunga Arr**	**20.51**	**226**	P	P	23 49 51.2	+0.7
	1.1nm,0.5s,baz=52,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**23.35**	**220**	P	P	23 50 21.4	+0.5
	0.3nm,0.5s,baz=57,slow=10,SNR=3.1						
TORD	**Torodi Ar. Bea**	**147.89**	**285**	PKPbc	PKPbc	00 04 58.1	-0.8
	0.2nm,0.6s,baz=95,slow=2.6,SNR=5.9						

TAP 19 23:47:32.3, 21°.73N×121°.05E, h21km±1km, ML2.8, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin**	**0.22**	**320**	P	Pb	23 47 38.9	+0.6
	baz=312						
TSEB				*e*S	Sb	23 47 44.0	+1.6
	baz=312						
TWK1	**Hengchun**	**0.31**	**312**	P	Pb	23 47 39.4	+0.2
	baz=312						
TWK1				S	Sb	23 47 44.9	+1.0
	baz=312						
HEN	**Hengchun**	**0.40**	**313**	P	Pb	23 47 41.3	+0.7
	baz=313						
HEN				S	Sb	23 47 47.7	+1.4
	baz=313						
LAY	**Lan-yu**	**0.55**	**56**	*e*P	Pn	23 47 44.4	-0.6
	baz=56						
LAY				*e*S	Sn	23 47 52.4	-1.3
	baz=56						
EAST	**Anshuo**	**0.68**	**344**	*e*P	Pb	23 47 45.8	+0.2
	baz=344						
EAST				*e*S	Sn	23 47 56.1	-0.7
	baz=344						
SCZT	**Fangliau**	**0.75**	**328**	*e*P	Pb	23 47 47.0	+0.2
	baz=328						
SCZT				*e*S	Sn	23 47 58.3	-0.2
	baz=328						

*IDC **19** 23:47:45.7±0.8, 20°.84N×121°.78E, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.7/47, mbtmp3.8/12, ML3.8/1, MS3.1/4, Ms1 3.2/4, ms1mx2.9/27, Error ellipse: s-maj=30.0km s-min=15.8km az=74.0*
*ISCJB **19** 23:47:48.8±0.7, 20°.84N±0°.09×121°.8E±0°.2, h33km, mb3.8/11, MS3.0/3, Error ellipse: s-maj=22.6km s-min=12.2km az=171.0*
ISC 19 23:47:50.8±0.9, 20°.9N±0°.1×121°.8E±0°.2, h35km, n20, σ1s36/12, mb3.8/11, MS2.9/3, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**17.37**	**17**	P	**Pn**	**23 51 48.7**	**-1.7**
	0.3nm,0.3s,baz=201,slow=12,SNR=6.5						
KSRS				LR	LR	23 58 43.6	
	comp=Z,59nm,18.9s,baz=199,slow=38						
MJAR	**Matsushiro Arr**	**21.21**	**39**	P	**P**	**23 52 35.3**	**+1.8**
	0.6nm,0.3s,baz=223,slow=7.5,SNR=3.5						
MJAR				LR	LR	00 00 01.6	
	comp=Z,39nm,19.6s,baz=120,slow=35						
CMAR	**Chiang Mai Arr**	**21.61**	**268**	LR	LR	00 00 54.0	
	comp=Z,48nm,19.8s,baz=142,slow=36						
USRK	**Ussuriysk Ar.**	**24.76**	**18**	P	**P**	**23 53 10.3**	**+1.1**
	2.2nm,0.8s,baz=189,slow=11,SNR=4.4						
SONM	**Songino Array**	**29.62**	**339**	P	**P**	**23 53 51.8**	**-1.0**
	1.2nm,0.7s,baz=159,slow=9.3,SNR=6.4						
MKAR	**Makanchi Array**	**41.11**	**318**	P	**P**	**23 55 33.0**	**+1.6**
	1.5nm,0.6s,baz=116,slow=9.5,SNR=16						
H11N1	**WAKE ISLAND Hy**	**42.24**	**83**	T	T	00 40 28.4	
	baz=280,slow=75,SNR=38						
H11N2	**WAKE ISLAND Hy**	**42.25**	**83**	T	T	00 40 27.2	
	baz=280,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**42.26**	**83**	T	T	00 40 29.8	
	baz=280,slow=75,SNR=34						
H11S3	**WAKE ISLAND Hy**	**42.27**	**85**	T	T	00 40 31.1	
	baz=282,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**42.28**	**85**	T	T	00 40 31.1	
	baz=282,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**42.29**	**85**	T	T	00 40 32.1	
	baz=282,slow=75,SNR=18						
PETK	**Petropavlovsk-**	**42.35**	**32**	LR	LR	00 14 36.5	
	comp=Z,32nm,18.1s,baz=244,slow=38						
WRA	**Warramunga Arr**	**42.40**	**162**	P	**P**	**23 55 40.2**	**-1.8**
	0.4nm,0.4s,baz=344,slow=9.1,SNR=3.5						
ZALV	**Zalesovo Beam**	**43.32**	**329**	P	**P**	**23 55 49.0**	**-0.2**
	2.2nm,0.7s,baz=116,slow=6.8,SNR=10						
KURBB	**Kurchatov Array**	**45.00**	**322**	P	**P**	**23 56 03.3**	**+0.6**
	2.3nm,0.8s,baz=119,slow=7.4,SNR=14						
ASAR	**Alice Springs**	**45.83**	**164**	P	**P**	**23 56 10.3**	**+0.8**
	0.4nm,0.5s,baz=346,slow=7.6,SNR=6.0						
STKA	**Stephens Creek**	**55.79**	**160**	P	**P**	**23 57 25.0**	**+0.5**
	1.6nm,0.8s,baz=317,slow=11,SNR=4.0						
ILAR	**Eielson Array**	**71.90**	**27**	P	**P**	**23 59 10.4**	**+0.3**
	0.3nm,0.6s,baz=280,slow=5.4,SNR=3.7						
YKA	**Yellowknife Ar**	**85.80**	**23**	P	**P**	**00 00 25.3**	**-1.0**
	1.2nm,0.8s,baz=309,slow=5.0,SNR=5.4						

*ISCJB **19** 23:49:54.1±0.9, 52°.57N±0°.10×169°.4W±0°.1, h10km, mb3.3/2, Error ellipse: s-maj=16.9km s-min=7.0km az=142.6*
*NEIC **19** 23:49:56.5, 52°.66N×169°.33W, h12km, ML3.4(AEIC), After AEIC.*
*IDC **19** 23:49:58.5±22.0, 52°.54N×168°.45W, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.2/53, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=408.8km s-min=48.6km az=86.0*
ISC 19 23:49:56.1±1.2, 52.7°N±0°.1×169°.32W±0°.08, h10km, n21, σ0s62/18, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.43**	**41**	P	**Pg**	**23 50 04.6**	**+0.1**
NIKH				S	**Sb**	**23 50 11.7**	**-0.6**
OKWR	**Okmok West Rim**	**1.03**	**40**	P	**Pb**	**23 50 16.8**	**+0.7**
OKCE	**Okmok Cone E**	**1.04**	**41**	P	**Pg**	**23 50 16.2**	**0.0**
OKCE				S	**Sn**	**23 50 31.5**	**0.0**
OKTU	**Okmok Mt. Tuli**	**1.07**	**46**	P	**Pg**	**23 50 16.5**	**-0.1**
OKAK	**Okmok**	**1.09**	**32**	P	Pb	23 50 14.2	-3.0
MSOM	**Makushin Julie**	**1.84**	**50**	P	**Pn**	**23 50 27.6**	**-0.1**
MSOM				S	**Sb**	**23 50 52.5**	**-0.4**
MSW	**Makushin Switc**	**1.98**	**49**	P	**Pn**	**23 50 29.5**	**-0.2**
MTBL	**Makushin Table**	**2.06**	**49**	P	**Pn**	**23 50 30.5**	**-0.3**
UNV	**Unalaska Valle**	**2.07**	**54**	P	**Pn**	**23 50 30.4**	**-0.5**
UNV				S	**Sn**	**23 50 58.5**	**+1.8**
AKGG	**Akutan Green G**	**2.52**	**51**	P	**Pn**	**23 50 37.2**	**+0.1**
GSTD	**Great Sitkin T**	**4.23**	**265**	P	**Pn**	**23 51 00.6**	**+0.1**
SPIA	**Saint Paul Isl**	**4.57**	**354**	P	**Pn**	**23 51 04.9**	**-0.3**
ILAR	**Eielson Array**	**16.70**	**35**	Pn	**Pn**	**23 53 49.6**	**-0.3**
	0.1nm,0.3s,baz=237,slow=12,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**37.69**	**218**	T	T	00 37 10.7	
	baz=22						
H11N3	**WAKE ISLAND Hy**	**37.70**	**218**	T	T	00 37 12.1	
	baz=22						
H11N1	**WAKE ISLAND Hy**	**37.71**	**218**	T	T	00 37 14.9	
	baz=22						
H11S1	**WAKE ISLAND Hy**	**38.88**	**218**	T	T	00 38 39.7	
	baz=17						
H11S2	**WAKE ISLAND Hy**	**38.90**	**218**	T	T	00 38 40.9	
	baz=17						
H11S3	**WAKE ISLAND Hy**	**38.90**	**218**	T	T	00 38 42.1	
	baz=17						
PDAR	**Pinedale Array**	**40.32**	**79**	P	**P**	**23 57 32.8**	**-0.9**
	0.2nm,0.4s,baz=316,slow=3.8,SNR=2.5						
TXAR	**Lajitas Array**	**52.71**	**89**	P	**P**	**23 59 11.3**	**+0.4**
	0.4nm,0.8s,baz=284,slow=4.9,SNR=6.0						

*IDC **19** 23:50:48.5±1.2, 52°.63N×169°.59W, h0km, mb3.7/6, mb1 4.1/7, mb1mx3.6/51, mbtmp3.7/7, ML3.4/1, MS3.1/5, Ms1 3.1/5, ms1mx2.8/34, Error ellipse: s-maj=46.3km s-min=22.1km az=146.0*
*ISCJB **19** 23:50:49.7±0.8, 52°.55N±0°.08×169°.2W±0°.2, h10km, mb3.7/6, MS3.1/5, Error ellipse: s-maj=16.7km s-min=6.9km az=35.4*
*NEIC **19** 23:50:51.8, 52°.71N×169°.17W, h3km, ML3.4(AEIC), After AEIC.*
ISC 19 23:50:51.8±0.9, 52.7°N±0°.1×169°.11W±0°.09, h10km, n25, σ1s12/16, mb3.7/6, MS3.0/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.30**	**32**	P	**Pb**	**23 50 59.7**	**+0.4**
NIKH				S	**Sb**	**23 51 06.3**	**+2.0**
OKTU	**Okmok Mt. Tuli**	**0.93**	**44**	P	**Pn**	**23 51 11.0**	**0.0**
OKAK	**Okmok**	**0.97**	**28**	P	**Pg**	**23 51 09.1**	**-1.4**
MGOD	**Makushin Gods**	**1.72**	**50**	P	**Pn**	**23 51 22.9**	**+1.0**
MSW	**Makushin Switc**	**1.84**	**48**	P	**Pn**	**23 51 24.4**	**+0.9**
MSW				S	**Sg**	**23 51 50.8**	**-0.2**
UNV	**Unalaska Valle**	**1.93**	**53**	P	**Pn**	**23 51 25.6**	**+0.9**
UNV				S	**Sb**	**23 51 51.0**	**-0.2**
ATKA	**Atka Island**	**3.15**	**263**	P	**Pn**	**23 51 42.6**	**+1.1**
ILAR	**Eielson Array**	**16.57**	**35**	Pn	**Pn**	**23 54 42.8**	**-1.3**
	0.1nm,0.3s,baz=232,slow=10,SNR=3.2						
INK	**Inuvik**	**22.97**	**34**	LR	LR	00 04 31.6	
	comp=Z,43nm,18.1s,baz=220,slow=36						
BBB	**Bella Bella**	**24.76**	**75**	LR	LR	00 03 42.9	
	comp=Z,37nm,20.4s,baz=72,slow=31						
YKA	**Yellowknife Ar**	**29.89**	**49**	P	**P**	**23 56 59.5**	**+0.3**
	0.8nm,1.0s,baz=270,slow=7.4,SNR=3.1						
NEW	**Newport**	**32.77**	**77**	LR	LR	00 08 05.5	
	comp=Z,44nm,19.0s,baz=294,slow=31						
NVAR	**Mina Array Bea**	**37.52**	**92**	P	**P**	**23 58 06.0**	**+0.1**
	0.7nm,1.0s,baz=316,slow=5.0,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**37.83**	**219**	T	T	00 38 07.4	
	baz=22						
H11N3	**WAKE ISLAND Hy**	**37.83**	**219**	T	T	00 38 07.4	
	baz=22						
H11N1	**WAKE ISLAND Hy**	**37.84**	**219**	T	T	00 38 10.5	
	baz=22						
H11S1	**WAKE ISLAND Hy**	**39.01**	**218**	T	T	00 39 36.2	
	baz=24						
H11S2	**WAKE ISLAND Hy**	**39.03**	**218**	T	T	00 39 37.3	
	baz=24						
H11S3	**WAKE ISLAND Hy**	**39.03**	**218**	T	T	00 39 37.4	
	baz=24						
PDAR	**Pinedale Array**	**40.19**	**80**	P	**P**	**23 58 29.2**	**+0.9**
	0.9nm,0.7s,baz=328,slow=5.0,SNR=7.8						
KSRS	**Korea Array**	**45.52**	**277**	LR	LR	00 21 17.2	
	comp=Z,18nm,18.1s,baz=204,slow=40						
TXAR	**Lajitas Array**	**52.59**	**89**	P	**P**	**00 00 06.4**	**+0.7**
	1.1nm,0.7s,baz=305,slow=6.3,SNR=13						
ARCES	**ARCESS Array B**	**57.59**	**354**	LR	LR	00 28 38.8	
	comp=Z,20nm,18.3s,baz=58,slow=39						
WRA	**Warramunga Arr**	**87.34**	**232**	P	P	00 03 34.8	-4.1
	0.4nm,0.4s,baz=33,slow=6.5,SNR=2.7						
ASAR	**Alice Springs**	**90.74**	**230**	P	**P**	**00 03 53.0**	**-1.7**
	0.7nm,0.7s,baz=38,slow=4.3,SNR=5.0						

DJA 19 23:53:03.6±0.5, 8°.S±3°.×10°.7E±°, h35km±4km, M4.1/23, MLv4.1/23, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.63**	**46**	P	Pn	23 53 16.3	+0.1
CISI				S	Sn	23 53 26.0	+0.9
CNJI	**Cibinong**	**0.72**	**342**	P	Pn	23 53 17.1	-0.2
CNJI				S	Sn	23 53 25.8	-1.4
CMJI	**Cimerak**	**1.10**	**79**	P	Pn	23 53 23.4	+0.9
CMJI				S	Sn	23 53 37.5	+1.0
LEM	**Lembang**	**1.19**	**12**	P	Pn	23 53 24.9	+0.9
LEM				S	Sn	23 53 40.6	+1.4
SKJI	**Sukabumi**	**1.27**	**321**	P	Pn	23 53 25.9	+1.0
SKJI				S	Sn	23 53 41.5	+0.8
TNG	**Tangerang**	**1.95**	**339**	P	Pn	23 53 34.6	+0.4
TNG				P	Pn	23 53 34.5	+0.3
TNG				S	Sn	23 53 59.4	+1.9
TNG				S	Sn	23 53 59.5	+2.0
CGJI	**Cibinong**	**2.15**	**310**	P	Pn	23 53 36.9	-0.1
CGJI			

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.55**	**60**	P	**Pn**	**00 00 37.6**	**-1.0**
	SNR=48						
AML	**Almayashu**	**1.55**	**60**	⇑*iP*	**Pn**	**00 00 37.7**	**-0.9**
	baz=58						
AML				⇑*iS*	**Sn**	**00 00 58.2**	**-1.0**
	baz=58						
SFK	**Sufi-Kurgan**	**1.82**	**137**	⇓Pn	**Pn**	**00 00 41.9**	**-0.3**
	18nm,0.3s						
SFK				⇑Sn	**Sb**	**00 01 06.4**	**-0.7**
	74nm,0.3s						
SFK	**Sufi-Kurgan**	**1.82**	**137**	*eP*	**Pn**	**00 00 41.9**	**-0.3**
	baz=137						
SFK				*eS*	**Sb**	**00 01 06.4**	**-0.7**
	baz=137						
ARLS	**Aral**	**1.89**	**74**	⇓*iP*	**Pn**	**00 00 43.8**	**+0.8**
	baz=73						
ARLS				⇓*eS*	**Sb**	**00 01 09.6**	**+0.7**
	baz=73						
EKS2	**Erkin-Say**	**1.91**	**47**	P	**Pb**	**00 00 45.0**	**-0.5**
	SNR=33						
EKS2	**Erkin-Say**	**1.91**	**47**	⇑*iP*	**Pb**	**00 00 44.8**	**-0.6**
	baz=46						
EKS2				⇑*iS*	**Sb**	**00 01 10.6**	**+1.0**
	baz=46						
EKS	**Erkin-Say**	**1.92**	**47**	*i* P	**Pb**	**00 00 45.4**	**-0.2**
	baz=46						
EKS				*eS*	**Sb**	**00 01 11.8**	**+2.0**
	baz=46						
KK31	**Karatay Array**	**2.02**	**330**	Pn	**Pb**	**00 00 46.4**	**-0.8**
	8.1nm,0.2s,baz=143,slow=16,SNR=502						
KK31				⇑Sn	**Sb**	**00 01 13.2**	**+0.6**
	112nm,0.4s,baz=150,slow=29,SNR=23						
UCH	**Uchtor**	**2.14**	**65**	P	**Pn**	**00 00 47.7**	**+0.9**
	SNR=12						
UCH	**Uchtor**	**2.14**	**65**	⇑*iP*	**Pn**	**00 00 47.6**	**+0.8**
	baz=65						
UCH				⇑*iS*	**Sn**	**00 01 15.6**	**+1.7**
	baz=65						
AAK	**Ala-Archa**	**2.31**	**56**	P	**Pb**	**00 00 52.0**	**-0.4**
	SNR=10						
AAK	**Ala-Archa**	**2.31**	**56**	⇑Pn	**Pn**	**00 00 50.2**	**+1.2**
	9.9nm,0.4s						
AAK				⇓Sn	**Sb**	**00 01 22.0**	**+0.7**
	17nm,0.5s						
AAK	**Ala-Archa**	**2.31**	**56**	⇑*iP*	**Pb**	**00 00 51.7**	**-0.7**
	baz=55						
AAK				⇑*iS*	**Sb**	**00 01 21.5**	**+0.2**
	baz=55						
FRU	**Bishkek**	**2.50**	**53**	*eP*	**Pb**	**00 00 56.0**	**+0.5**
	baz=52						
FRU				*eS*	**Sb**	**00 01 27.0**	**+0.5**
	baz=52						
KZA	**Kyzart**	**2.61**	**73**	P	**Pb**	**00 00 57.5**	**0.0**
	SNR=41						
KZA	**Kyzart**	**2.61**	**73**	⇑*iP*	**Pn**	**00 00 54.7**	**+1.5**
	baz=72						
KZA				⇑*iS*	**Sb**	**00 01 29.3**	**-0.7**
	baz=72						
KBK	**Karagaybulak**	**2.62**	**59**	P	**Pn**	**00 00 55.1**	**+2.0**
	SNR=9.8						
KBK	**Karagaybulak**	**2.62**	**59**	⇑*iP*	**Pn**	**00 00 55.1**	**+2.0**
	baz=59						
KBK				⇑*iS*	**Sb**	**00 01 29.7**	**-0.2**
	baz=59						
CHMS	**Chumysh**	**2.68**	**51**	P	**Pn**	**00 00 55.3**	**+1.5**
	SNR=10						
CHMS	**Chumysh**	**2.68**	**51**	⇑*eP*	**Pn**	**00 00 55.1**	**+1.3**
	baz=51						
CHMS				⇑*iS*	**Sb**	**00 01 30.1**	**-1.5**
	baz=51						
USP	**Ospenovka**	**2.71**	**45**	P	**Pn**	**00 00 55.6**	**+1.4**
	SNR=8.2						
NRN	**Naryn**	**3.09**	**87**	*eP*	**Pn**	**00 01 02.1**	**+2.4**
	baz=87						
NRN				*eS*	**Sb**	**00 01 43.6**	**-0.1**
	baz=87						
TKM2	**Tokmak 2**	**3.16**	**59**	⇑Pn	**Pn**	**00 00 59.7**	**-0.9**
	3.4nm,0.3s						
TKM2				⇑Lg	Lg	00 01 49.9	
	30nm,0.7s						
ULHL	**Ulahol**	**3.37**	**73**	P	**Pb**	**00 01 11.3**	**+1.0**
	SNR=7.8						
DZET	**Dzherino**	**3.48**	**224**	⇓Pn	**Pn**	**00 01 06.0**	**+1.2**
	18nm,0.5s						
DZET				⇓Sn	**Sn**	**00 01 47.6**	**+1.3**
	42nm,0.5s						
PDGK	**Podgornoye**	**5.96**	**68**	⇑Lg	Lg	00 03 17.1	
	7.9nm,0.8s						
MKAR	**Makanchi Array**	**9.24**	**51**	Pn	**Pn**	**00 02 24.6**	**+0.7**
	0.0nm,0.3s,baz=240,slow=14,SNR=3.5						
ZALV	**Zalesovo Beam**	**15.27**	**30**	Pn	**P**	**00 03 49.4**	**-1.7**
	0.2nm,0.3s,baz=213,slow=13,SNR=4.1						
ARCES	**ARCESS Array B**	**36.98**	**335**	P	**P**	**00 07 18.8**	**-1.0**
	1.8nm,0.8s,baz=111,slow=9.2,SNR=5.2						

*ATH **20** 00:07:20.0, 41.68N×19.37E, h15km±10km, MD3.5/8*
*BEO **20** 00:07:26.6±0.7, 41.03N×19.72E, h0km, ML2.4/5*
*SKO **20** 00:07:28.3, 41.09N×20.05E, h0km*
*TIR **20** 00:07:29.8±1.6, 41.29N×20.06E, h9km±31km, ML2.5*
*CSEM **20** 00:07:29.4±0.2, 41.22N×19.98E, h2km, ML2.5, Error ellipse: s-maj=7.4km s-min=3.6km az=66.0*
ISC 20 00:07:30.3±0.8, 41.28N±0.02×19.95E±0.03, h16km±5km, n56, σ1ᵖ14/75, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.09**	**318**	*i* PG	**Pg**	**00 07 33.0**	**-0.7**
TIR				*i* SG	**Sg**	**00 07 36.6**	**+0.7**
TIR	**Tirane**	**0.09**	**318**	*e*Pg	**Pg**	**00 07 32.9**	**-0.8**
TIR	**Tirane**	**0.09**	**318**	*i* Pg	**Pg**	**00 07 33.0**	**-0.7**
	SNR=110						
TIR				*i* Sg	**Sg**	**00 07 36.6**	**+0.7**
	SNR=110						
PHP	**Peshkopia**	**0.55**	**42**	*i* PG	**Pg**	**00 07 39.5**	**-1.7**
PHP				*i* SG	**Sg**	**00 07 47.3**	**-1.3**
PHP	**Peshkopia**	**0.55**	**42**	*i* Pg	**Pg**	**00 07 39.5**	**-1.7**
	SNR=94						
PHP				*i* Sg	**Sg**	**00 07 47.3**	**-1.3**
	SNR=94						
PUK	**Puka**	**0.77**	**357**	*i* PG	**Pg**	**00 07 44.2**	**-1.1**
PUK				*i* SG	**Sn**	**00 07 57.4**	**-0.4**
PUK	**Puka**	**0.77**	**357**	*i* Pg	**Pg**	**00 07 44.2**	**-1.1**
	SNR=93						
PUK				*i* Sg	**Sn**	**00 07 57.4**	**-0.4**
	SNR=93						
KBN	**Korca**	**0.91**	**136**	*i* PG	**Pb**	**00 07 47.9**	**+0.1**
KBN				*i* SG	**Sb**	**00 07 59.5**	**-0.2**
KBN	**Korca**	**0.91**	**136**	*i* Pg	**Pb**	**00 07 47.9**	**+0.1**
	SNR=92						
FNA	**Florina**	**1.19**	**114**	*e*PB	**Pn**	**00 07 51.1**	**-1.2**
FNA	**Florina**	**1.19**	**114**	*e*Pb	**Pn**	**00 07 51.1**	**-1.2**
NEST	**Nestorio**	**1.20**	**136**	*e*PN	**Pn**	**00 07 52.2**	**-0.3**
NEST	**Nestorio**	**1.20**	**136**	*e*Pn	**Pn**	**00 07 52.2**	**-0.3**
PDG	**Podgorica**	**1.26**	**336**	*e*Pg	**Pn**	**00 07 52.7**	**-0.6**
PDG				*e*Sg	**Sg**	**00 08 12.9**	**+1.8**
PDG	**Podgorica**	**1.26**	**336**	*e*Pg	**Pn**	**00 07 52.7**	**-0.6**
PDG				*e*Sg	**Sg**	**00 08 12.9**	**+1.8**
SKO	**Skopje**	**1.31**	**58**	*e*Pn	**Pn**	**00 07 54.3**	**+0.3**
SKO				*e*Sn	**Sg**	**00 08 13.2**	**+0.4**
SKO	**Skopje**	**1.31**	**58**	*e*Pg	**Pb**	**00 07 55.1**	**+0.5**
SKO	**Skopje**	**1.31**	**58**	*e*Pn	**Pn**	**00 07 54.3**	**+0.3**
SKO	**Skopje**	**1.31**	**58**	*e*Pg	**Pb**	**00 07 55.1**	**+0.5**
SKO				*e*Sn	**Sg**	**00 08 13.2**	**+0.4**
KZN	**Kozani**	**1.69**	**124**	*e*PN	**Pn**	**00 07 59.5**	**+0.2**
KZN				*e*SN	**Sg**	**00 08 28.0**	**+3.2**
KZN	**Kozani**	**1.69**	**124**	*e*Pn	**Pn**	**00 07 59.5**	**+0.2**
IGT	**Igoumenitsa**	**1.77**	**170**	*e*PN	**Pn**	**00 07 59.4**	**-0.9**
IGT				*e*SN	**Sg**	**00 08 27.9**	**+0.6**
IGT	**Igoumenitsa**	**1.77**	**170**	*e*Pn	**Pn**	**00 07 59.4**	**-0.9**
TREB	**Trebinje**	**1.87**	**321**	*e*Pn	**Pn**	**00 08 00.1**	**-1.5**
TREB				*e*Sg	**Sb**	**00 08 28.8**	**+1.6**
TREB	**Trebinje**	**1.87**	**321**	*e*Pn	**Pn**	**00 08 00.1**	**-1.5**
TREB				*e*Sg	**Sb**	**00 08 28.8**	**+1.6**
VAY	**Valandovo**	**1.98**	**88**	*e*Pn	**Pn**	**00 08 04.1**	**+1.0**
VAY	**Valandovo**	**1.98**	**88**	*e*Pn	**Pn**	**00 08 04.1**	**+1.0**
SJES	**Sjenica**	**1.98**	**1**	*e*Pn	**Pb**	**00 08 05.5**	**-0.6**
SJES				*e*Sn	**Sg**	**00 08 33.4**	**-0.7**
SJES	**Sjenica**	**1.98**	**1**	*e*Pn	**Pb**	**00 08 05.5**	**-0.6**
SJES				*e*Sn	**Sg**	**00 08 33.4**	**-0.7**
BARS	**Barje**	**2.07**	**42**	*e*Pn	**Pb**	**00 08 06.3**	**-1.3**
BARS	**Barje**	**2.07**	**42**	*e*Pn	**Pb**	**00 08 06.3**	**-1.3**
SELS	**Selova**	**2.12**	**24**	*e*Pn	**Pb**	**00 08 07.3**	**-1.2**
KNT	**Kendrikon**	**2.23**	**92**	*e*PN	**Pn**	**00 08 05.5**	**-1.1**
KNT				*e*SN	**Sb**	**00 08 38.8**	**+1.3**
KNT	**Kendrikon**	**2.23**	**92**	*e*Pn	**Pn**	**00 08 05.5**	**-1.1**
KNT				*e*Sn	**Sb**	**00 08 38.8**	**+1.3**
LIT	**Litokhoron**	**2.26**	**121**	*e*PN	**Pn**	**00 08 07.3**	**+0.2**
LIT	**Litokhoron**	**2.26**	**121**	*e*Pn	**Pn**	**00 08 07.3**	**+0.2**
IVAS	**Ivanjica**	**2.30**	**4**	*e*Pn	**Pn**	**00 08 09.2**	**+1.5**
IVAS	**Ivanjica**	**2.30**	**4**	*e*Pn	**Pn**	**00 08 09.2**	**+1.5**
THL	**Klokotos Trika**	**2.33**	**137**	*e*PN	**Pn**	**00 08 08.7**	**+0.8**
THL	**Klokotos Trika**	**2.33**	**137**	*e*Pn	**Pn**	**00 08 08.7**	**+0.8**
BBLS	**Lazići**	**2.62**	**351**	*e*Pn	**Pn**	**00 08 13.8**	**+1.8**
BBLS	**Lazići**	**2.62**	**351**	*e*Pn	**Pn**	**00 08 13.8**	**+1.8**
GRUS	**Gruza**	**2.67**	**12**	*e*Pn	**Pn**	**00 08 14.6**	**+1.9**
GRUS	**Gruza**	**2.67**	**12**	*e*Pn	**Pn**	**00 08 14.6**	**+1.9**
EVR	**Evrytania**	**2.76**	**148**	*e*PN	**Pn**	**00 08 14.1**	**+0.2**
EVR	**Evrytania**	**2.76**	**148**	*e*Pn	**Pn**	**00 08 14.1**	**+0.2**
PLG	**Polygyros**	**2.80**	**108**	*e*PN	**Pn**	**00 08 14.4**	**-0.1**
PLG	**Polygyros**	**2.80**	**108**	*e*Pn	**Pn**	**00 08 14.4**	**-0.1**
MAKR	**Makrakomi, Fth**	**2.81**	**143**	*e*PN	**Pn**	**00 08 15.1**	**+0.4**
MAKR	**Makrakomi, Fth**	**2.81**	**143**	*e*Pn	**Pn**	**00 08 15.1**	**+0.4**
ZAPS	**Zavoj**	**2.82**	**44**	*e*Pn	**Pn**	**00 08 16.8**	**+2.1**
ZAPS	**Zavoj**	**2.82**	**44**	*e*Pn	**Pn**	**00 08 16.8**	**+2.1**
AGG	**Agios Georgios**	**2.90**	**140**	*e*PN	**Pn**	**00 08 16.5**	**+0.6**
AGG	**Agios Georgios**	**2.90**	**140**	*e*Pn	**Pn**	**00 08 16.5**	**+0.6**
VLS	**Valsamata**	**3.14**	**171**	*e*PN	**Pn**	**00 08 18.5**	**-0.6**
VLS	**Valsamata**	**3.14**	**171**	*e*Pn	**Pn**	**00 08 18.5**	**-0.6**

IDC 20 00:37:30.7±4.8, 5.69S×150.44E, h0km, mb3.5/2, mb1 3.9/2, mb1mx3.4/18, mbtmp3.6/2, Error ellipse: s-maj=227.6km s-min=48.9km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.11**	**226**	P	P	00 42 17.7	+0.5
	1.2nm,0.5s,baz=50,slow=9.6,SNR=6.7						
ASAR	**Alice Springs**	**23.93**	**220**	P	P	00 42 46.4	-0.3
	1.1nm,0.7s,baz=53,slow=9.7,SNR=11						
TORD	**Torodi Ar. Bea**	**148.31**	**286**	PKPbc	PKPbc	00 57 19.4	-0.7
	0.2nm,0.5s,baz=73,slow=3.0,SNR=5.5						

*ISCJB **20** 00:45:41.3±0.3, 43.99N±0.01×19.34E±0.02, h4km±2km, Error ellipse: s-maj=2.1km s-min=1.8km az=175.6*
*BEO **20** 00:45:42.7±0.3, 43.91N×19.35E, h6km±2km, ML3.5/1*
*CSEM **20** 00:45:42.0±0.1, 43.95N×19.33E, h2km, ML3.5, Ms3.2, Error ellipse: s-maj=2.6km s-min=2.3km az=55.0*
*PDG **20** 00:45:42.8±0.3, 43.92N×19.36E, h2km, ML3.2/11, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
*PRU **20** 00:45:43.1, 43.94N×19.39E, h3km*
*VIE **20** 00:45:43.6±0.4, 44.02N×19.43E, h10km, mb2.8/10, ML3.0/6, Ms3.2/4, Error ellipse: s-maj=5.2km s-min=2.6km az=75.0*
*LDG **20** 00:45:43.3±0.1, 43.99N×19.31E, h2km, Ml3.5/8, Error ellipse: s-maj=3.2km s-min=2.2km az=174.0*
*THE **20** 00:45:48.2, 43.99N×20.29E, h5km±10km, ML3.4/2, Error ellipse: s-maj=12.0km s-min=0.9km az=350.0*
*TIR **20** 00:45:49.0, 43.44N×19.56E, h7km, ML3.7*
ISC 20 00:45:42.2±0.8, 43.95N±0.01×19.37E±0.02, h6km±6km, n230, σ1ᵖ39/329, 39C-44D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBLS	**Lazići**	**0.08**	**163**	*e*Pg	**Pg**	**00 45 44.3**	**+0.1**
BBLS				*e*Sg	**Sg**	**00 45 45.6**	**0.0**
BBLS	**Lazići**	**0.08**	**163**	*e*Pg	**Pg**	**00 45 44.3**	**+0.1**
BBLS				*e*Sg	**Sg**	**00 45 45.6**	**0.0**
DIVS	**Divibare**	**0.47**	**71**	*e*Pg	**Pg**	**00 45 52.3**	**+0.9**
DIVS				*e*Sg	**Sg**	**00 45 58.8**	**+1.2**
DIVS	**Divibare**	**0.47**	**71**	⇓*iP*	**Pg**	**00 45 52.2**	**+0.9**
DIVS				S	**Sb**	**00 45 59.3**	**-1.0**
DIVS	**Divibare**	**0.47**	**71**	P	**Pg**	**00 45 52.3**	**+0.9**
DIVS				S	**Sg**	**00 45 56.5**	**-1.1**
DIVS				*e*Sg	**Sg**	**00 45 58.8**	**+1.2**
DIVS	**Divibare**	**0.47**	**71**	P	**Pg**	**00 45 52.3**	**+0.9**
DIVS				S	**Sg**	**00 45 56.5**	**-1.1**
TEKS	**Tekeris**	**0.61**	**11**	*e*Pg	**Pb**	**00 45 55.3**	**-0.1**
TEKS				*e*Sg	**Sb**	**00 46 04.7**	**+0.4**
TEKS	**Tekeris**	**0.61**	**11**	*e*Pg	**Pb**	**00 45 55.3**	**-0.1**
PLE	**Pljevlja**	**0.62**	**179**	⇑*iPg*	**Pg**	**00 45 54.0**	**-0.1**
PLE				*e*Sg	**Sg**	**00 46 02.7**	**+0.6**
PLE	**Pljevlja**	**0.62**	**179**	⇑*iPg*	**Pg**	**00 45 54.0**	**-0.1**
PLE				*e*Sg	**Sg**	**00 46 02.7**	**+0.6**
IVAS	**Ivanjica**	**0.68**	**123**	*e*Pg	**Pg**	**00 45 55.0**	**-0.2**
IVAS				*e*Sg	**Sg**	**00 46 03.9**	**-0.1**
IVAS	**Ivanjica**	**0.68**	**123**	*e*Pg	**Pg**	**00 45 55.0**	**-0.2**
IVAS				*e*Sg	**Sg**	**00 46 03.9**	**-0.1**
TRUS	**Trudelj**	**0.80**	**69**	*e*Pg	**Pg**	**00 45 57.1**	**-0.4**
TRUS				*e*Sg	**Sb**	**00 46 09.3**	**-0.2**
TRUS				*e*Sg	**Sb**	**00 46 09.3**	**-0.2**
TRUS	**Trudelj**	**0.80**	**69**	*e*Pg	**Pg**	**00 45 57.1**	**-0.4**
TRUS				*e*Sg	**Sb**	**00 46 09.3**	**-0.2**
SJES	**Sjenica**	**0.81**	**147**	*e*Pg	**Pg**	**00 45 57.3**	**-0.5**
UPM	**Unac-Piva**	**0.82**	**205**	⇓*iPg*	**Pg**	**00 45 57.4**	**-0.5**
UPM				*e*Sg	**Sg**	**00 46 09.4**	**+0.9**
UPM	**Unac-Piva**	**0.82**	**205**	⇓*iPg*	**Pg**	**00 45 57.4**	**-0.5**
UPM				*e*Sg	**Sg**	**00 46 09.4**	**+0.9**
GRUS	**Gruza**	**0.97**	**93**	*e*Pg	**Pg**	**00 46 01.3**	**+0.4**
GRUS				*e*Sg	**Sb**	**00 46 15.1**	**+0.5**
GRUS	**Gruza**	**0.97**	**93**	*e*Pg	**Pg**	**00 46 01.3**	**+0.4**
GRUS				*e*Sg	**Sb**	**00 46 15.1**	**+0.5**
BEY	**Berane**	**1.14**	**160**	⇓*iPg*	**Pg**	**00 46 03.2**	**-0.9**
BEY				*e*Sg	**Sn**	**00 46 20.9**	**+0.2**
IVA	**Berane**	**1.14**	**160**	⇓*iPg*	**Pg**	**00 46 03.2**	**-0.9**
IVA				*e*Sg	**Sn**	**00 46 20.9**	**+0.2**
NKY	**Niksic**	**1.17**	**194**	⇑*iPg*	**Pg**	**00 46 03.8**	**-0.8**
NKY				*e*Sg	**Sn**	**00 46 22.0**	**+0.6**
NKY	**Niksic**	**1.17**	**194**	⇑*iPg*	**Pg**	**00 46 03.8**	**-0.8**
NKY				*e*Sg	**Sn**	**00 46 22.0**	**+0.6**
BEO	**Beograd**	**1.17**	**42**	*e*Pg	**Pg**	**00 46 03.7**	**-1.0**
BEO				*e*Sg	**Sb**	**00 46 20.1**	**-0.1**
BEO	**Beograd**	**1.17**	**42**	*e*Pg	**Pg**	**00 46 03.7**	**-1.0**
BEO				*e*Sg	**Sb**	**00 46 20.1**	**-0.1**
BRY	**Bratogost**	**1.21**	**210**	⇓*iPg*	**Pg**	**00 46 04.0**	**-1.4**
BRY				*e*Sg	**Sn**	**00 46 23.1**	**+0.6**
BRY	**Bratogost**	**1.21**	**210**	⇓*iPg*	**Pg**	**00 46 04.0**	**-1.4**
BRY				*e*Sg	**Sn**	**00 46 23.1**	**+0.6**
NKME	**Niksic**	**1.22**	**195**	⇓*iPg*	**Pg**	**00 46 04.3**	**-1.2**
NKME				*e*Sg	**Sn**	**00 46 23.3**	**+0.7**
NKME	**Niksic**	**1.22**	**195**	⇓*iPg*	**Pg**	**00 46 04.3**	**-1.2**
NKME				*e*Sg	**Sn**	**00 46 23.3**	**+0.7**
FGSL	**Fruska Gora**	**1.25**	**14**	*e*Pg	**Pg**	**00 46 06.1**	**-0.1**
FGSL				*e*Sg	**Sn**	**00 46 24.4**	**+1.0**
FRGS	**Fruska Gora**	**1.25**	**14**	*e*Pg	**Pg**	**00 46 06.1**	**-0.1**
FRGS				*e*Sg	**Sn**	**00 46 24.4**	**+1.0**
SVIS	**Svilajnac**	**1.37**	**76**	*e*Pg	**Pg**	**00 46 08.5**	**+0.1**
SVIS				*e*Sg	**Sn**	**00 46 26.8**	**+0.6**
PVY	**Plav**	**1.42**	**162**	⇓*iPg*	**Pn**	**00 46 08.9**	**+0.3**
PVY				*e*Sg	**Sg**	**00 46 30.7**	**+2.9**
PVY	**Plav**	**1.42**	**162**	⇓*iPg*	**Pg**	**00 46 08.9**	**+0.3**
PVY				*e*Sg	**Sg**	**00 46 30.7**	**+2.9**
SELS	**Selova**	**1.46**	**119**	*e*Pg	**Pn**	**00 46 09.2**	**0.0**
SELS				*e*Sg	**Sg**	**00 46 30.1**	**+0.9**
SELS	**Selova**	**1.46**	**119**	*e*Pg	**Pn**	**00 46 09.2**	**0.0**
SELS				*e*Sg	**Sg**	**00 46 30.1**	**+0.9**
PDG	**Podgorica**	**1.52**	**183**	*e*Pg	**Pn**	**00 46 10.2**	**+0.4**
PDG	**Podgorica**	**1.52**	**183**	P	**Pn**	**00 46 09.4**	**-0.5**
PDG	**Podgorica**	**1.52**	**183**	⇑*iPg*	**Pn**	**00 46 10.3**	**+0.4**
PDG				*e*Sg	**Sg**	**00 46 33.4**	**+2.5**
PDG	**Podgorica**	**1.52**	**183**	P	**Pn**	**00 46 09.4**	**-0.5**
TTG	**Podgorica**	**1.52**	**183**	⇑*iPg*	**Pn**	**00 46 10.3**	**+0.4**
TTG				*e*Sg	**Sg**	**00 46 33.4**	**+2.5**
STON	**Ston**	**1.62**	**229**	*i* Pn	**Pn**	**00 46 11.6**	**+0.3**
STON					**Sg**	**00 46 35.8**	**+1.4**
HCY	**Herceg Novi**	**1.63**	**203**	⇑*iPn*	**Pb**	**00 46 12.3**	**-0.4**
HCY				*e*Sn	**Sg**	**00 46 38.0**	**+3.5**
HCY	**Herceg Novi**	**1.63**	**203**	⇑*iPn*	**Pb**	**00 46 12.3**	**-0.4**
BUM	**Brajici-Budva**	**1.68**	**192**	⇑*iPn*	**Pb**	**00 46 13.1**	**-0.5**
BUM				*e*Sn	**Sg**	**00 46 38.8**	**+2.6**
BUM	**Brajici-Budva**	**1.68**	**192**	⇑*iPn*	**Pb**	**00 46 13.1**	**-0.5**
BLY	**Banja Luka**	**1.76**	**298**	*e*Pg	**Pb**	**00 46 15.2**	**+0.3**
BLY				*e*Sg	**Sg**	**00 46 38.4**	**-0.4**
BLY	**Banja Luka**	**1.76**	**298**	*e*Pg	**Pb**	**00 46 15.2**	**+0.3**
BLY				*e*Sg	**Sg**	**00 46 38.4**	**-0.4**
DRME	**Dracevica, Mon**	**1.76**	**185**	⇓*iPn*	**Pb**	**00 46 15.6**	**+0.7**
DRME				*e*Sn	**Sg**	**00 46 40.5**	**+1.6**
DRME	**Dracevica, Mon**	**1.76**	**185**	⇓*iPn*	**Pb**	**00 46 15.6**	**+0.7**
BOLS	**Boljevac**	**1.87**	**93**	*e*Pn	**Pn**	**00 46 14.1**	**-0.6**
BOLS	**Boljevac**	**1.87**	**93**	*e*Pn	**Pn**	**00 46 14.1**	**-0.6**
BANR	**Banloc**	**1.91**	**41**	⇓*iP*	**Pn**	**00 46 14.9**	**-0.4**
BANR	**Banloc**	**1.91**	**41**	⇓*iP*	**Pn**	**00 46 14.9**	**-0.4**
BANR				S	**Sn**	**00 46 38.1**	**-1.5**
PUK	**Puka**	**1.94**	**168**	*i* PN	**Pb**	**00 46 17.5**	**-0.5**
PUK				*i* SN	**Sg**	**00 46 46.9**	**+2.3**
PUK	**Puka**	**1.94**	**168**	*i* Pn	**Pb**	**00 46 17.5**	**-0.5**
ULC	**Ulcinj**	**1.98**	**183**	⇑*i*Pn	**Pb**	**00 46 17.9**	**-0.8**
ULC				*e*Sn	**Sg**	**00 46 45.5**	**-0.4**
ULC	**Ulcinj**	**1.98**	**183**	⇑*i*Pn	**Pb**	**00 46 17.9**	**-0.8**
BARS	**Barje**	**2.11**	**122**	*e*Pn	**Pn**	**00 46 18.4**	**+0.4**
BARS	**Barje**	**2.11**	**122**	*e*Pn	**Pn**	**00 46 18.4**	**+0.4**
BZS	**Buzias**	**2.31**	**43**	*e*Pn	**Pn**	**00 46 20.8**	**0.0**
BZS	**Buzias**	**2.31**	**43**	⇓*iP*	**Pn**	**00 46 20.7**	**0.0**
BZS	**Buzias**	**2.31**	**43**	*e*Pn	**Pn**	**00 46 20.8**	**0.0**
BZS				S	**Sn**	**00 46 48.9**	**-0.7**
PKSM	**Moragy**	**2.32**	**347**	*e*Pn	**Pn**	**00 46 20.8**	**-0.2**
PKSM	**Moragy**	**2.32**	**347**	⇓*iP*	**Pn**	**00 46 20.9**	**0.0**
PKSM	**Moragy**	**2.32**	**347**	S	**Sn**	**00 46 48.5**	**-1.3**
PKSM	**Moragy**	**2.32**	**347**	⇓*iP*	**Pn**	**00 46 20.9**	**0.0**
PKSM	**Moragy**	**2.32**	**347**	⇓*epn*	**Pn**	**00 46 21.0**	**0.0**
PKSM				*esn*	**Sg**	**00 46 57.5**	**+0.6**
DJES	**Djerdap**	**2.37**	**71**	*e*Pn	**Pn**	**00 46 22.1**	**+0.4**
DJES	**Djerdap**	**2.37**	**71**	*e*Pn	**Pn**	**00 46 22.1**	**+0.4**
PHP	**Peshkopia**	**2.39**	**160**	*i* PN	**Pb**	**00 46 25.9**	**+0.2**
PHP				*i* SN	**Sb**	**00 46 55.8**	**+0.3**
PHP	**Peshkopia**	**2.39**	**160**	P	**Pn**	**00 46 23.7**	**+1.7**
PHP	**Peshkopia**	**2.39**	**160**	*i* Pn	**Pb**	**00 46 25.9**	**+0.2**
PHP	**Peshkopia**	**2.39**	**160**	P	**Pn**	**00 46 23.7**	**+1.7**
ZAPS	**Zavoj**	**2.46**	**105**	*e*Pn	**Pn**	**00 46 24.1**	**+1.2**
PKS2	**Kecel**	**2.55**	**358**	*e*Pn	**Pb**	**00 46 26.8**	**-1.5**
PKS2	**Kecel**	**2.55**	**358**	*e*	**Pb**	**00 46 26.8**	**-1.5**
PKS2				*e*		00 47 06.9	
TIR	**Tirane**	**2.62**	**172**	*i* PN	**Pg**	**00 46 33.2**	**+0.7**
TIR				*i* SN	**Sb**	**00 47 02.6**	**+0.6**
TIR	**Tirane**	**2.62**	**172**	P	**Pg**	**00 46 31.9**	**-0.5**
TIR				S	**Sg**	**00 47 05.1**	**-1.3**
SISC	**Sisak**	**2.63**	**307**	*e*Pn	**Pn**	**00 46 27.3**	**+2.1**
SISC				Sn	**Sb**	**00 46 59.7**	**-2.5**
SISC	**Sisak**	**2.63**	**307**	*e*Pn	**Pn**	**00 46 27.2**	**+2.1**
SISC				Sn	**Sb**	**00 46 59.6**	**-2.5**
UDBI	**Udbina**	**2.66**	**284**	*e*Pn	**Pn**	**00 46 27.4**	**+1.7**
UDBI				Sn	**Sg**	**00 47 09.1**	**+1.5**
UDBI	**Udbina**	**2.66**	**284**	*e*Pn	**Pn**	**00 46 27.3**	**+1.7**
PKS9	**Tamasi**	**2.75**	**344**	*e*	**Sg**	**00 47 14.1**	**+3.5**
SIRR	**Siria**	**2.83**	**34**	⇓*iP*	**Pn**	**00 46 27.7**	**-0.3**
SIRR	**Siria**	**2.83**	**34**	⇓*iP*	**Pn**	**00 46 27.7**	**-0.3**
SIRR				S	**Sn**	**00 47 02.1**	**-0.3**
SRE	**Strehaia**	**2.84**	**74**	⇑*iP*	**Pn**	**00 46 29.8**	**+1.7**
SRE	**Strehaia**	**2.84

BURAR	Bucovina Array	5.49	46	⇓*i*P	Pn	00 47 04.9	+0.3
BURAR	Bucovina Array	5.49	46	⇓*i*P	Pn	00 47 04.9	+0.3
BURAR				S	Sn	00 48 08.2	+0.1
VRI	Vrincioaia	5.57	67	⇑*i*P	Pn	00 47 07.8	+2.3
VRI	Vrincioaia	5.57	67	⇑*i*P	Pn	00 47 07.8	+2.3
ABTA	Abfaltersbach	5.59	302	Pn	Pn	00 47 07.7	+1.8
	SNR=8.3						
ABTA				Sn	Sn	00 48 11.9	+1.5
ABTA	Abfaltersbach	5.59	302	⇓*i*Pn	Pn	00 47 07.7	+1.8
	SNR=8.3						
ABTA				⇓*i*Sn	Sn	00 48 11.9	+1.5
VRAC	Vranov	5.70	341	*e*PN	Pn	00 47 09.7	+2.4
ALN	Alexandroupoli	5.80	119	*e*PN	Pn	00 47 10.4	+1.6
OKC	Ostrava-Krasne	5.95	352	*e*PN	Pn	00 47 11.6	+0.8
OKC				*ex*	x	00 47 15.2	
OKC				*ex*	x	00 47 18.8	
OKC				*e*SN	Sn	00 48 18.2	-1.1
OKC	Ostrava-Krasne	5.95	352	Pn	Pn	00 47 11.6	+0.8
OKC				Sn	Sn	00 48 18.2	-1.1
MORC	Moravsky Berou	5.97	349	⇑*i*P	Pn	00 47 11.6	+0.5
MORC	Moravsky Berou	5.97	349	⇑*i*P	Pn	00 47 11.6	+0.5
TREC	Trest	5.98	335	*e*PN	Pn	00 47 11.8	+0.6
TREC				*ex*	x	00 47 20.0	
TREC				*ex*	x	00 47 24.8	
TREC				*e*SN	Sn	00 48 19.0	-1.0
TREC				AMS	AMS	00 49 30.0	
	comp=Z,100nm,8.6s						
TREC	Trest	5.98	335	Pn	Pn	00 47 11.8	+0.6
TREC				Sn	Sn	00 48 19.0	-1.0
WTTA	Wattenberg	6.36	304	Pn	Pn	00 47 17.8	+1.2
	SNR=10						
WTTA				Sn	Sn	00 48 30.8	+1.3
WTTA	Wattenberg	6.36	304	⇓*i*Pn	Pn	00 47 17.8	+1.2
	SNR=10						
WTTA				⇓*i*Sn	Sn	00 48 30.8	+1.3
CFR	Carcaliu	6.38	76	⇑*i*P	Pn	00 47 19.3	+2.6
CFR	Carcaliu	6.38	76	⇑*i*P	Pn	00 47 19.3	+2.6
KRLC	Kraliky	6.38	345	*e*PN	Pn	00 47 17.1	+0.3
KRLC				*e*SN	Sn	00 48 29.1	-0.8
KRLC	Kraliky	6.38	345	Pn	Pn	00 47 17.1	+0.3
KRLC				Sn	Sn	00 48 29.1	-0.8
WATA	Walderalm	6.43	305	Pn	Pn	00 47 18.5	+1.0
WATA				Sn	Sn	00 48 32.9	+1.7
WATA	Walderalm	6.43	305	⇓*i*Pn	Pn	00 47 18.5	+1.0
WATA				⇑⇓*i*Sn	Sn	00 48 32.9	+1.7
KHC	Kasperske Hory	6.54	324	*e*PN	Pn	00 47 22.5	+3.5
KHC				*ex*	x	00 47 31.0	
KHC				*e*SN	Sn	00 48 35.0	+1.1
KHC				*ex*	x	00 48 44.5	
KHC				*ex*	x	00 48 52.5	
MOTA	Moosalm	6.72	303	Pn	Pn	00 47 22.4	+0.9
	SNR=5.3						
MOTA	Moosalm	6.72	303	⇓*i*Pn	Pn	00 47 22.4	+0.9
	SNR=5.3						
DPC	Dobruska-Polom	6.74	343	*e*PN	Pn	00 47 22.1	+0.5
DPC				*ex*	x	00 47 24.1	
DPC				*e*SN	Sn	00 48 37.4	-1.2
DPC				AMS	AMS	00 50 30.0	
	comp=Z,100nm,8.6s						
DPC	Dobruska-Polom	6.74	343	Pn	Pn	00 47 22.1	+0.5
DPC				Sn	Sn	00 48 37.4	-1.2
GOPC	GO Pecny, Ondr	6.74	334	*ex*	x	00 48 50.6	
GOPC				AMS	AMS	00 49 50.0	
	comp=Z,100nm,10.2s						
FETA	Feichten	6.81	300	Pn	Pn	00 47 23.9	+1.2
	SNR=6.0						
FETA	Feichten	6.81	300	⇑*i*Pn	Pn	00 47 23.9	+1.2
	SNR=6.0						
PRU	Pruhonice	6.89	333	*e*PN	Pn	00 47 24.2	+0.6
PRU				*ex*	x	00 47 32.6	
PRU				*e*SN	Sn	00 48 40.5	-1.8
PRU				*ex*	x	00 48 54.8	
PRU				AMS	AMS	00 50 10.0	
	comp=Z,100nm,7.9s						
PRU	Pruhonice	6.89	333	Pn	Pn	00 47 24.2	+0.6
UPC	Upice	6.95	342	*e*PN	Pn	00 47 24.2	-0.3
UPC				*ex*	x	00 47 33.3	
UPC				AMS	AMS	00 50 40.0	
	comp=Z,100nm,9.4s						
UPC	Upice	6.95	342	Pn	Pn	00 47 24.2	-0.3
PRA	Prague	6.99	333	AMS	AMS	00 50 00.0	
	comp=Z,200nm,9.7s						
ITM	Ithomi	7.03	163	*e*PN	Pn	00 47 26.8	+1.1
PVCC	Panska Ves	7.35	335	*e*SN	Sn	00 48 51.2	-2.4
PVCC				*ex*	x	00 49 17.0	
PGF	Pioggiola	7.70	263	*e*Pn	Pn	00 47 33.4	-1.5
PGF				*e*Sn	Sn	00 48 55.9	-6.6
	24nm,1.2s						
PGF	Pioggiola	7.70	263	*e*Pn	Pn	00 47 33.4	-1.5
NKC	Novy Kostel	7.86	326	*e*SN	Sn	00 49 03.6	-2.7
NKC				*ex*	x	00 49 27.6	
CLL	Collm	8.53	332	*e*(Sn)	Sn	00 49 13.0	-10
CLL				*e*Sb	Sg	00 49 50.0	-26
CLL				*e*Sg	Sg	00 50 11.0	-4.7
SBF	Sospel	8.62	274	*e*Pn	Pn	00 47 45.9	-1.6
SBF				*e*Sn	Sn	00 49 17.6	-7.4
	11nm,0.7s						
SBF	Sospel	8.62	274	*e*Pn	Pn	00 47 45.9	-1.6
MBDF	Montbardon	9.07	279	*e*Pn	Pn	00 47 52.5	-1.2
MBDF				*e*Sn	Sn	00 49 28.6	-7.5
	3.1nm,0.7s						
MBDF	Montbardon	9.07	279	*e*Pn	Pn	00 47 52.5	-1.2
LPG	La Plagne	9.12	284	*e*Pn	Pn	00 47 53.1	-1.4
LPG				*e*Sn	Sn	00 49 30.0	-7.6
	5.3nm,0.7s						
LPG	La Plagne	9.12	284	*e*Pn	Pn	00 47 53.1	-1.4
LPL	La Plagne	9.13	284	*e*Pn	Pn	00 47 53.2	-1.5
LPL				*e*Sn	Sn	00 49 30.1	-7.8
	4.3nm,0.7s						
LPL	La Plagne	9.13	284	*e*Pn	Pn	00 47 53.2	-1.5
LMR	La Mourre	9.35	271	*e*Pn	Pn	00 47 55.9	-1.5
LMR	La Mourre	9.35	271	*e*Pn	Pn	00 47 55.9	-1.5
CDF	Champ du Feu	9.50	302	*e*Pn	Pn	00 47 58.0	-1.6
CDF	Champ du Feu	9.50	302	*e*Pn	Pn	00 47 58.0	-1.6
HINF	Hinteralfeld	9.55	298	*e*Pn	Pn	00 47 58.5	-1.7
HINF				*e*Sn	Sn	00 49 39.7	-8.1
	1.7nm,0.4s						
HINF	Hinteralfeld	9.55	298	*e*Pn	Pn	00 47 58.5	-1.7
ORIF	Oris-en-Rattie	9.70	280	*e*Pn	Pn	00 48 01.1	-1.3
ORIF				*e*Sn	Sn	00 49 43.7	-7.9
	4.8nm,0.7s						
ORIF	Oris-en-Rattie	9.70	280	*e*Pn	Pn	00 48 01.1	-1.3
CABF	La Chapelle	9.74	291	*e*Pn	Pn	00 48 01.1	-1.7
CABF	La Chapelle	9.74	291	*e*Pn	Pn	00 48 01.1	-1.7
HAU	Haudompre	9.93	299	*e*Pn	Pn	00 48 03.7	-1.7
HAU	Haudompre	9.93	299	*e*Pn	Pn	00 48 03.7	-1.7
SMRF	Simiane la Rot	9.95	275	*e*Pn	Pn	00 48 04.1	-1.6
SMRF	Simiane la Rot	9.95	275	*e*Pn	Pn	00 48 04.1	-1.6
VIVF	Saint-Julien-l	10.56	280	*e*Pn	Pn	00 48 12.4	-1.6
VIVF	Saint-Julien-l	10.56	280	*e*Pn	Pn	00 48 12.4	-1.6
LASF	Ste Croix	11.18	276	*e*Pn	Pn	00 48 20.8	-1.7
LASF	Ste Croix	11.18	276	*e*Pn	Pn	00 48 20.8	-1.7
LOR	Lormes	11.36	292	*e*Pn	Pn	00 48 23.1	-1.9
	baz=105						
LOR	Lormes	11.36	292	*e*Pn	Pn	00 48 23.1	-1.9
SSF	Saint Saulge	11.56	291	*e*Pn	Pn	00 48 25.7	-2.0
SSF	Saint Saulge	11.56	291	*e*Pn	Pn	00 48 25.7	-2.0

IDC **20** *00:46:43.7±0.7,0.°39S×98.°11E,h0km,mb4.2/13, mb1 4.2/15,mb1mx4.0/45,mbtmp4.2/15,ML4.2/2,MS3.6/10, Ms1 3.6/10,ms1mx3.2/31,Error ellipse: s-maj=24.2km s-min=15.6km az=63.0*

ISCJB **20** *00:46:47.8±0.7,0.°28S±0.°04×98.°06E±0.°05,h40km±6km, mb4.3/18,MS3.5/8,Error ellipse: s-maj=9.4km s-min=5.5km az=143.8*

NEIC **20** *00:46:48.9±1.0,0.°37S×98.°06E,h35km±8km,mb4.4/7, Error ellipse: s-maj=12.0km s-min=5.7km az=53.0*

DJA **20** *00:46:50.4±0.4,0.°S±2.°×9.°8E±.°,h14km±3km,M4.5/23, mb4.6/13,mB5.1/4,MLv4.5/23,Mw(mB)4.5/4*

ISC 20 00:46:48.4±1.3,**0.°30S**±0.°06×**98.°09E**±0.°06,**h28**km±8km, **n75**,σ1°**17**/64,**mb4.2**/18,**MS3.5**/8,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.31**	**38**	P	**Pb**	**00 46 54.8**	**-1.1**
PBSI				S	**Sb**	**00 47 00.7**	**-0.2**
SISI	**Saibi**	**1.43**	**135**	P	**Pn**	**00 47 13.5**	**+0.9**
GSI	**Gunungsitoli**	**1.67**	**342**	P	**Pb**	**00 47 19.0**	**+0.4**
GSI				S	**Sb**	**00 47 42.0**	**+2.7**
GSI	**Gunungsitoli**	**1.67**	**342**	*e*Pn	**Pn**	**00 47 16.1**	**+0.1**
GSI				*e*Sn	Sb	00 47 44.6	+5.3
MNSI	**Mandailing Nat**	**1.85**	**54**	P	**Pn**	**00 47 18.6**	**+0.2**
MNSI				S	**Sn**	**00 47 40.3**	**-0.5**
PPI	**Padang Panjang**	**2.32**	**94**	P	**Pn**	**00 47 24.2**	**-0.6**
PPI				S	**Sn**	**00 47 53.8**	**+1.4**
PDSI	**Padang**	**2.45**	**104**	P	**Pn**	**00 47 25.7**	**-1.0**
PDSI				S	**Sn**	**00 47 57.4**	**+1.6**
BKNI	**Bangkinang**	**3.02**	**78**	P	**Pn**	**00 47 36.2**	**+1.7**
BKNI				S	**Sn**	**00 48 10.1**	**+0.3**
BKNI	**Bangkinang**	**3.02**	**78**	*e*Pn	**Pn**	**00 47 37.6**	**+3.2**
PSI	**Prapat**	**3.19**	**15**	Pn	**Pn**	**00 47 36.2**	**-0.8**
	15nm,0.3s,baz=205,slow=11,SNR=26						
PSI	**Prapat**	**3.19**	**15**	*e*Pn	**Pn**	**00 47 35.5**	**-1.5**
SDSI	**Sungai Dareh**	**3.40**	**101**	P	**Pn**	**00 47 41.2**	**+1.5**
TSI	**Tuntungan**	**3.81**	**7**	P	**Pn**	**00 47 47.6**	**+2.3**
IPM	**Ipoh**	**5.58**	**32**	*e*Pn	**Pn**	**00 48 11.3**	**+1.6**
KSI	**Kapahiang**	**5.60**	**127**	P	**Pn**	**00 48 11.6**	**+1.6**
	183nm,0.6s,4μm1.7nm						
LHMI	**Lhok Sumawe**	**5.61**	**348**	*e*Pn	**Pn**	**00 48 10.2**	**+0.1**
KULM	**Kulim**	**6.12**	**25**	*e*Pn	**Pn**	**00 48 17.2**	**+0.2**
MYKOM	**Kota Tinggi**	**6.13**	**70**	*e*Pn	**Pn**	**00 48 17.4**	**+0.1**
MNAI	**Manna**	**6.32**	**130**	P	**Pn**	**00 48 21.8**	**+1.9**
	228nm,1.1s,1.8nm						
MNAI	**Manna**	**6.32**	**130**	*e*Pn	**Pn**	**00 48 19.0**	**-0.9**
LHSI	**Lahat**	**6.46**	**123**	P	**Pn**	**00 48 24.0**	**+2.2**
	94nm,0.6s,0.4nm						
DSRI	**Dabo**	**6.50**	**92**	P	**Pn**	**00 48 24.0**	**+1.7**
	9.7nm,0.9s,1μm0.3nm						
MDSI	**Maura Dua**	**7.37**	**124**	P	**Pn**	**00 48 35.9**	**+1.6**
	35nm,1.0s,0.1nm						
LWLI	**Liwa**	**7.58**	**128**	P	**Pn**	**00 48 39.1**	**+1.7**
	66nm,0.6s,0.6nm						
KLSI		**7.94**	**123**	P	**Pn**	**00 48 43.8**	**+1.7**
	56nm,0.6s,0.3nm						
SBUM	**Sibu**	**14.39**	**79**	*e*Pn	**Pn**	**00 50 12.0**	**+1.5**
CM31	**Chiang Mai Arr**	**18.66**	**3**	*e*P	**Pn**	**00 51 04.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**18.66**	**3**	P	**Pn**	**00 51 04.6**	**-0.3**
	0.5nm,0.3s,baz=194,slow=10,SNR=10						
CMAR				LR	LR	00 59 08.4	
	comp=Z,231nm,18.9s,baz=187,slow=40						
PALK	**Pallekele**	**18.90**	**294**	LR	LR	00 57 38.3	
	comp=Z,106nm,18.7s,baz=115,slow=34						
CHTO	**Chiang Mai**	**19.02**	**2**	*e*P	P	00 51 02.5	-5.8
	21nm,2.0s						
KKM	**Kota Kinabalu**	**19.16**	**71**	*e*P	**P**	**00 51 10.1**	**0.0**
	29nm,0.6s						
KAPI	**Kappang**	**22.14**	**103**	LR	LR	01 01 11.6	
	comp=Z,119nm,18.0s,baz=297,slow=39						
H08S2	**Diego Garcia H**	**26.54**	**253**	T	T	01 19 58.9	
	baz=75,slow=75,SNR=3519						
H08S3	**Diego Garcia H**	**26.54**	**253**	T	T	01 19 59.3	
	baz=75,slow=75,SNR=2820						
H08S1	**Diego Garcia H**	**26.55**	**253**	T	T	01 20 05.2	
	baz=75,slow=75,SNR=2424						
BATI	**Baumata**	**27.27**	**112**	LR	LR	01 03 58.1	
	comp=Z,201nm,18.1s,baz=145,slow=38						
H08N1	**Diego Garcia H**	**27.67**	**257**	T	T	01 22 14.4	
	baz=179,slow=74,SNR=37						
H08N2	**Diego Garcia H**	**27.68**	**257**	T	T	01 22 22.9	
	baz=179,slow=74,SNR=29						
H08N3	**Diego Garcia H**	**27.69**	**257**	T	T	01 22 20.9	
	baz=179,slow=74,SNR=33						
H01W3	**Cape Leeuwin H**	**37.53**	**158**	T	T	01 34 03.2	
	baz=334,slow=75,SNR=8.1						
H01W2	**Cape Leeuwin H**	**37.54**	**158**	T	T	01 34 07.5	
	baz=334,slow=75,SNR=7.3						
H01W1	**Cape Leeuwin H**	**37.55**	**158**	T	T	01 34 07.7	
	baz=334,slow=75,SNR=7.9						
WRA	**Warramunga Arr**	**40.50**	**121**	P	P	00 54 23.2	-2.2
	1.9nm,0.6s,baz=300,slow=9.0,SNR=8.8						
AS12	**Alice Springs**	**41.79**	**126**	*e*P	**P**	**00 54 34.9**	**-1.1**
ASAR	**Alice Springs**	**41.79**	**126**	P	**P**	**00 54 34.9**	**-1.1**
	1.1nm,0.5s,baz=295,slow=7.7,SNR=12						
ASAR				PcP	**PcP**	**00 56 31.9**	**-0.1**
	0.3nm,0.5s,baz=299,slow=2.8,SNR=4.6						
KS15	**Wonju Array Si**	**46.57**	**33**	*e*P	**P**	**00 55 13.2**	**-0.8**
KSAR	**Wonju Array Be**	**46.57**	**33**	P	**P**	**00 55 13.2**	**-0.8**
KSRS	**Korea Array**	**46.60**	**33**	P	**P**	**00 55 13.2**	**-1.0**
	0.8nm,0.5s,baz=215,slow=10,SNR=5.9						
KSRS				LR	LR	01 15 37.8	
	comp=Z,51nm,18.4s,baz=227,slow=37						
TKM2	**Tokmak 2**	**47.53**	**338**	*e*P	**P**	**00 55 23.0**	**+1.3**
	2.7nm,0.6s						
BBOO	**Jackieboo**	**48.19**	**136**	*e*P	P	00 55 24.6	-2.1
	197nm,2.5s						
SONA0	**Songino Array**	**48.49**	**7**	*e*P	**P**	**00 55 29.6**	**+0.7**
SONM	**Songino Array**	**48.49**	**7**	P	**P**	**00 55 29.6**	**+0.7**
	4.5nm,0.7s,baz=190,slow=8.6,SNR=12						
MK32	**Makanchi Array**	**48.90**	**346**	*e*P	**P**	**00 55 32.7**	**+0.7**
MKAR	**Makanchi Array**	**48.90**	**346**	P	**P**	**00 55 32.7**	**+0.7**
	7.2nm,0.5s,baz=155,slow=8.3,SNR=106						
MKAR	**Makanchi Array**	**48.90**	**346**	*e*P	**P**	**00 55 32.9**	**+0.9**
STKA	**Stephens Creek**	**51.70**	**132**	P	**P**	**00 55 52.7**	**-0.7**
	0.7nm,0.4s,baz=292,slow=5.1,SNR=4.9						
STKA				LR	LR	01 19 19.9	
	comp=Z,68nm,20.8s,baz=209,slow=38						
STKA	**Stephens Creek**	**51.70**	**132**	*e*P	**P**	**00 55 52.7**	**-0.7**
	20nm,2.8s						
HIA	**Hailar**	**52.78**	**18**	*e*P	**P**	**00 55 60.0**	**-1.1**
	15nm,0.3s						
KURK	**Kurchatov**	**53.46**	**345**	*e*P	**P**	**00 56 06.4**	**+0.3**
	2.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**53.61**	**30**	P	**P**	**00 56 07.1**	**-0.1**
	8.1nm,0.8s,baz=229,slow=5.2,SNR=11						
USRK				LR	LR	01 21 05.6	
	comp=Z,25nm,18.6s,baz=129,slow=38						
ZALV	**Zalesovo Beam**	**55.17**	**350**	P	**P**	**00 56 18.7**	**+0.2**
	9.3nm,0.7s,baz=185,slow=6.5,SNR=38						
ZALV				LR	LR	01 22 39.4	
	comp=Z,44nm,18.1s,baz=68,slow=39						
ZAA1	**Zalesovo Array**	**55.18**	**350**	*e*P	**P**	**00 56 18.7**	**+0.2**
BRVK	**Borovoye**	**58.01**	**341**	*e*P	**P**	**00 56 37.7**	**-1.0**
	2.2nm,0.8s						
ABKAR	**Akbulak array**	**59.25**	**332**	*e*P	**P**	**00 56 47.0**	**-0.4**
BR101	**Keskin Array S**	**70.77**	**313**	*e*P	**P**	**00 58 01.9**	**-0.9**
BRTR	**Keskin Array B**	**70.77**	**313**	P	**P**	**00 58 01.9**	**-0.9**
	0.4nm,0.7s,baz=74,slow=5.1,SNR=2.8						
MAW	**Mawson**	**71.46**	**193**	LR	LR	01 22 02.9	
	comp=Z,57nm,19.2s,baz=241,slow=30						
SEY	**Seymchan**	**74.79**	**23**	P	**P**	**00 58 26.2**	**+0.3**
	1.7nm,0.4s,baz=274,slow=6.2,SNR=5.9						
BOSA	**Boshof**	**74.81**	**241**	P	**P**	**00 58 27.5**	**+0.6**
	1.7nm,0.7s,baz=64,slow=5.6,SNR=4.2						
AKASG	**Malin Array Be**	**76.98**	**322**	P	**P**	**00 58 38.2**	**-0.5**
	0.3nm,0.4s,baz=91,slow=4.6,SNR=4.0						
AKBB	**Malin Array Si**	**76.98**	**322**	*e*P	**P**	**00 58 38.2**	**-0.5**
FIA0	**FINESS Array S**	**81.73**	**332**	*e*P	**P**	**00 59 04.1**	**-0.2**
FINES	**FINESS Array B**	**81.73**	**332**	P	**P**	**00 59 04.1**	**-0.2**
	0.6nm,0.5s,baz=121,slow=7.4,SNR=4.6						
NOA	**NORSAR Array B**	**88.74**	**331**	LR	LR	01 43 31.8	
	comp=Z,15nm,18.2s,baz=265,slow=38						
TXAR	**Lajitas Array**	**144.44**	**34**	PKP	PKPbc	01 06 22.1	+0.6
	1.8nm,0.6s,baz=298,slow=0.1,SNR=40						

IDC **20** *00:49:03.3±1.2,36.°53N×27.°07E,h0km,mb3.5/3, mb1 3.4/6,mb1mx3.3/38,mbtmp3.3/6,ML3.0/3,MS2.6/1, Ms1 2.6/1,ms1mx1.9/36,Error ellipse: s-maj=41.7km s-min=18.3km az=162.0*

DDA **20** *00:49:04.4,36.°47N×26.°95E,h5km,MD3.4*

ATH **20** *00:49:04.9,36.°52N×26.°99E,h21km±1km,MD3.1/10*

CSEM **20** *00:49:05.3±0.1,36.°45N×26.°95E,h2km,MD3.1,Error ellipse: s-maj=3.6km s-min=2.3km az=151.0*

ISCJB **20** *00:49:05.5±0.5,36.°47N±0.°02×26.°98E±0.°02,h11km±4km, mb3.4/3,Error ellipse: s-maj=3.9km s-min=2.8km az=150.7*

ISK **20** *00:49:06.0,36.°51N×26.°97E,h6km,MD3.2*

THE **20** *00:49:06.2,36.°50N×27.°03E,h10km±1km,ML3.4/5,Error ellipse: s-maj=1.4km s-min=0.4km az=64.0*

ISC 20 00:49:05.5±0.8,**36.°47N**±0.°02×**26.°99E**±0.°02,**h10**km±6km, **n101**,σ0°**83**/135,**mb3.6**/3,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.18**	**38**	*e*PB	**Pg**	**00 49 09.7**	**+0.3**
NISR				*e*SB	**Sg**	**00 49 12.1**	**-0.1**
NISR	**Nisiros**	**0.18**	**38**	P	**Pg**	**00 49 09.5**	**+0.1**
NISR				S	**Sg**	**00 49 11.8**	**-0.4**
NISR				*e*Sb	**Sg**	**00 49 12.1**	**-0.1**
NISR	**Nisiros**	**0.18**	**38**	P	**Pg**	**00 49 09.5**	**+0.1**
NISR				S	**Sg**	**00 49 11.8**	**-0.4**
NIS1	**Nisyros Isl.**	**0.20**	**49**	*e*PG	**Pb**	**00 49 10.8**	**-0.5**
NIS1				*e*SG	**Sg**	**00 49 13.9**	**+1.1**
NIS1	**Nisyros Isl.**	**0.20**	**49**	*e*PB	**Pg**	**00 49 10.0**	**+0.1**
NIS1				*e*SB	**Sg**	**00 49 13.2**	**+0.4**
NIS1	**Nisyros Isl.**	**0.20**	**49**	P	**Pg**	**00 49 09.9**	**+0.1**
NIS1				S	**Sg**	**00 49 13.0**	**+0.2**
BODT	**Bodrum**	**0.65**	**23**	*e*PG	**Pg**	**00 49 18.2**	**+0.1**
BODT				*e*SG	**Sb**	**00 49 27.2**	**-0.8**
BODT	**Bodrum**	**0.65**	**23**	*e*Pg	**Pg**	**00 49 18.2**	**+0.1**
BODT				*e*Sg	**Sb**	**00 49 27.2**	**-0.8**
BDRM	**Kayabasi**	**0.70**	**31**	*i*P	**Pg**	**00 49 18.9**	**-0.2**
BDRM				*i*S	**Sg**	**00 49 28.6**	**+0.3**
BDRM	**Kayabasi**	**0.70**	**31**	*i*P	**Pg**	**00 49 18.9**	**-0.2**
BDRM				*i*S	**Sg**	**00 49 28.6**	**+0.3**
KARP	**Karpathos**	**0.93**	**171**	*e*PN	**Pb**	**00 49 24.2**	**+0.5**
KARP				*e*SN	**Sn**	**00 49 37.5**	**-0.5**
KARP	**Karpathos**	**0.93**	**171**	P	**Pb**	**00 49 23.8**	**+0.1**
KARP				*e*Pn	**Pn**	**00 49 24.2**	**+0.5**
KARP				*e*Sn	**Sn**	**00 49 37.5**	**-0.5**
KARP	**Karpathos**	**0.93**	**171**	P	**Pb**	**00 49 23.8**	**+0.1**
KARP				S	**Sn**	**00 49 37.7**	**-0.3**
ARG	**Arkhangelos**	**0.95**	**105**	*e*PN	**Pg**	**00 49 23.2**	**-0.6**
ARG				*e*SN	**Sb**	**00 49 37.4**	**+0.7**
ARG	**Arkhangelos**	**0.95**	**105**	P	**Pg**	**00 49 23.1**	**-0.7**
ARG				S	**Sb**	**00 49 37.0**	**+0.3**
ARG	**Arkhangelos**	**0.95**	**105**	P	**Pg**	**00 49 23.1**	**-0.7**
ARG				S	**Sb**	**00 49 37.0**	**+0.3**
YER	**Yerkesik**	**1.23**	**57**	*e*PN	**Pb**	**00 49 28.9**	**0.0**
YER	**Yerkesik**	**1.23**	**57**	*e*Pn	**Pb**	**00 49 28.9**	**0.0**
SANT	**Santorini**	**1.24**	**266**	*e*PN	**Pn**	**00 49 28.7**	**-0.1**
SANT	**Santorini**	**1.24**	**266**	P	**Pn**	**00 49 28.3**	**-0.5**
SANT	**Santorini**	**1.24**	**266**	*e*Pn	**Pn**	**00 49 28.7**	**-0.1**
SANT				S	**Sg**	**00 49 45.9**	**+0.6**
SANT	**Santorini**	**1.24**	**266**	P	**Pn**	**00 49 28.3**	**-0.5**
SANT				S	**Sg**	**00 49 45.9**	**+0.6**
THR1	**Thera Island**	**1.24**	**266**	*e*PN	**Pg**	**00 49 29.7**	**+0.4**
THR1	**Thera Island**	**1.24**	**266**	P	**Pn**	**00 49 28.1**	**-0.7**
THR1	**Thera Island**	**1.24**	**266**	*e*Pn	**Pg**	**00 49 29.7**	**+0.4**
THR1	**Thera Island**	**1.24**	**266**	P	**Pn**	**00 49 28.1**	**-0.7**
SMG	**Samos**	**1.25**	**354**	*e*PN	**Pn**	**00 49 27.9**	**-1.0**
SMG	**Samos**	**1.25**	**354**	*e*Pn	**Pn**	**00 49 27.9**	**-1.0**
THR2	**Thira island,**	**1.25**	**270**	P	**Pn**	**00 49 29.1**	**+0.1**
THR2	**Thira island,**	**1.25**	**270**	P	**Pn**	**00 49 29.1**	**+0.1**
THR7	**Fira-Santorini**	**1.26**	**268**	P	**Pn**	**00 49 29.2**	**+0.1**
THR7	**Fira-Santorini**	**1.26**	**268**	P	**Pn**	**00 49 29.2**	**+0.1**
THR3	**Thira Island,**	**1.28**	**268**	P	**Pn**	**00 49 29.1**	**-0.3**
THR3	**Thira Island,**	**1.28**	**268**	P	**Pn**	**00 49 29.1**	**-0.3**
THR6	**Thira Island,**	**1.29**	**266**	P	**Pn**	**00 49 29.5**	**0.0**
THR6	**Thira Island,**	**1.29**	**266**	P	**Pn**	**00 49 29.5**	**0.0**
APE	**Apeiranthos**	**1.32**	**298**	*e*PN	**Pg**	**00 49 30.9**	**+0.1**
APE	**Apeiranthos**	**1.32**	**298**	*e*PN	**Pn**	**00 49 29.6**	**-0.4**
APE	**Apeiranthos**	**1.32**	**298**	P	**Pn**	**00 49 29.5**	**-0.4**
APE	**Apeiranthos**	**1.32**	**298**	*e*Pn	**Pg**	**00 49 30.9**	**+0.1**
APE				S	**Sb**	**00 49 47.0**	**-0.2**
APE	**Apeiranthos**	**1.32**	**298**	P	**Pn**	**00 49 29.5**	**-0.4**
APE				S	**Sb**	**00 49 47.0**	**-0.2**
THR5	**Thira Island,**	**1.32**	**268**	*e*PN	**Pg**	**00 49 31.1**	**+0.3**
THR5	**Thira Island,**	**1.32**	**268**	P	**Pn**	**00 49 30.0**	**0.0**
THR5	**Thira Island,**	**1.32**	**268**	*e*Pn	**Pg**	**00 49 31.2**	**+0.3**
THR5	**Thira Island,**	**1.32**	**268**	P	**Pn**	**00 49 30.0**	**0.0**
TURN	**Turunc**	**1.36**	**72**	*i*P	Pn	00 49 25.5	-5.0
TURN				*i*S	Sb	00 49 39.8	-8.6
DALY	**Dalyan (Mu¨la**	**1.38**	**75**	*e*PN	**Pg**	**00 49 32.0**	**-0.1**
DALY	**Dalyan (Mu¨la**	**1.38**	**75**	*e*Pn	**Pg**	**00 49 32.0**	**-0.1**
AYDN	**Tasoluk**	**1.39**	**31**	*i*P	**Pb**	**00 49 31.4**	**-0.2**
AYDN	**Tasoluk**	**1.39**	**31**	*i*P	**Pb**	**00 49 31.4**	**-0.2**
NPS

LFU	**La Fuente**	**1.28**	**326**	*eP*	**Pn**	**01 06 46.9 -0.4**
LFU				*eS*	**Sn**	**01 07 03.3 0.0**
SNET	**Serv Nac Est T**	**1.30**	**320**	*eP*	**Pn**	**01 06 47.0 -0.6**
SNET				*eS*	**Sn**	**01 07 03.7 -0.1**
SNET				AML	AML	01 07 06.0
	comp=Z,3µm,0.2s					
BOQS	**Boqueron**	**1.36**	**320**	*eP*	**Pn**	**01 06 47.9 -0.7**
BOQS				*eS*	**Sn**	**01 07 06.7 +1.1**
SBLS	**San Blas**	**1.67**	**313**	*eP*	**Pn**	**01 06 52.4 -0.4**
SNJE	**San Jose**	**1.68**	**314**	*eP*	**Pn**	**01 06 52.8 -0.1**
SNJE				*eS*	**Sn**	**01 07 14.0 +0.7**
RTR	**El Retiro**	**1.72**	**314**	*eP*	**Pn**	**01 06 53.6 +0.1**
RTR				*eS*	**Sn**	**01 07 15.1 +0.6**
TGUH	**Tegucigalpa,Un**	**1.73**	**38**	*eP*	**Pn**	**01 06 53.4 0.0**
RBDL	**Robledal**	**1.91**	**318**	*eP*	**Pn**	**01 06 56.0 +0.1**
IXG	**Ixpaco**	**2.50**	**306**	*eP*	**Pn**	**01 07 03.7 -0.5**
MRL	**Marmol**	**2.69**	**332**	*eP*	**Pn**	**01 07 08.4 +1.7**
NBG	**Las Nubes**	**2.69**	**315**	*eP*	**Pn**	**01 07 08.5 +1.7**
PCG	**Pacaya**	**2.75**	**308**	*eP*	**Pn**	**01 07 08.6 +0.9**
FUG	**Fuego 3**	**2.97**	**306**	*eP*	**Pn**	**01 07 11.2 +0.6**
VCR	**Vista de Mar**	**3.70**	**133**	*eP*	**Pn**	**01 07 18.9 -1.7**
JTS	**JuntasAbangare**	**4.11**	**125**	Pg	**Pn**	**01 07 27.0 +0.8**
	comp=Z,1.4nm,0.3s,baz=280,slow=14,SNR=5.2					
JTS				Sn	Sn	01 08 25.1 +12
	comp=Z,6.7nm,0.3s,baz=159,slow=19,SNR=12					
JCR	**Jicaral**	**4.27**	**131**	*eP*	**Pn**	**01 07 27.8 -0.5**
CGA2	**Cerro Gallo 2**	**4.66**	**124**	*eP*	**Pn**	**01 07 34.7 +0.9**
URSC	**Ursasca**	**5.33**	**122**	*eP*	**Pn**	**01 07 44.8 +1.9**
BUS	**Buena Vista**	**5.50**	**124**	*eP*	**Pn**	**01 07 46.5 +0.9**
TXAR	**Lajitas Array**	**21.82**	**322**	P	**P**	**01 11 14.0 -0.2**
	comp=Z,1.2nm,0.7s,baz=142,slow=11,SNR=14					
PDAR	**Pinedale Array**	**35.14**	**332**	P	**P**	**01 13 14.1 -1.0**
	comp=Z,0.4nm,0.5s,baz=123,slow=11,SNR=4.9					
YKA	**Yellowknife Ar**	**53.15**	**345**	P	P	01 15 35.2 -3.3
	comp=Z,0.6nm,0.8s,baz=152,slow=7.1,SNR=5.8					

MEX 20 01:40:00.3±0.7, 19°32N×98°33W, h2km±4km, MD3.8, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPM	**Popocatepetl**	**0.38**	**228**	*eP*	Pg	01 40 06.8	-1.4
PPM				*i* S	Sg	01 40 13.2	-0.3
IIO	**Organos**	**0.46**	**306**	*eP*	Pg	01 40 08.5	-1.0
IIO				*i* S	Sg	01 40 15.5	-0.3
AMVM	**AMECAMECA**	**0.47**	**246**	*eP*	Pg	01 40 08.8	-0.8
AMVM				*eS*	Sg	01 40 15.8	-0.2
VTVM	**Tizayuca**	**0.61**	**317**	*eP*	Pg	01 40 11.5	-1.0
VTVM				*i* S	Sg	01 40 20.7	0.0
YAIG	**Yautepec**	**0.83**	**237**	*eP*	Pg	01 40 14.2	-2.2
YAIG				*eS*	Sg	01 40 25.9	-1.5
MZVM		**0.86**	**261**	*eP*	Pg	01 40 14.9	-1.8
MZVM				*i* S	Sg	01 40 26.8	-1.1
ZUVM	**ZUMPANGO**	**0.86**	**306**	*eP*	Pg	01 40 16.0	-1.3
ZUVM				*i* S	Sg	01 40 28.5	-0.2
MAVM	**Malinalco, Edo**	**1.16**	**252**	*eP*	Pg	01 40 20.6	-2.2
MAVM				*i* S	Sg	01 40 35.2	-2.8
TPIG	**Tehuac#an**	**1.28**	**134**	*eP*	Pg	01 40 21.8	-3.4
TPIG				*eS*	Sg	01 40 38.3	-3.7
PLIG	**Platanillo**	**1.44**	**230**	*eP*	Pn	01 40 24.3	-3.2
PLIG				*eS*	Sg	01 40 42.5	-4.4
TLIG	**Tlapa**	**1.76**	**187**	*eP*	Pn	01 40 28.6	-3.4
TLIG				*i* S	Sn	01 40 50.3	-4.8
LVIG	**Laguna Verde**	**1.85**	**77**	*eP*	Pn	01 40 30.4	-2.7

*MAN **20** 01:40:18, 20°.11N×121°.32E, h9km, mb4.8, ML3.7, MS3.7*
*ISCJB **20** 01:40:21.8±0.3, 19°.89N±0°.02×121°.44E±0°.07, h40km, mb4.2/28, MS3.5/17, Error ellipse: s-maj=9.5km s-min=3.1km az=2.5*
*NEIC **20** 01:40:22.7±0.3, 19°.83N×121°.38E, h35km, mb4.4/6, Error ellipse: s-maj=9.0km s-min=4.3km az=93.0*
*IDC **20** 01:40:26.7±2.9, 19°.77N×121°.42E, h74km±29km, mb3.8/21, mb1 4.0/23, mb1mx3.8/45, mbtmp4.2/23, MS3.6/19, Ms1 3.6/19, ms1mx3.4/39, Error ellipse: s-maj=17.3km s-min=10.1km az=80.0*

ISC 20 01:40:23.5±0.4, 19°.88N±0°.03×121°.37E±0°.08, h40km, n59, σ1§31/59, mb4.1/28, MS3.5/17, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**2.13**	**204**	ǁ *iP*	**Pn**	**01 40 57.7**	**+1.1**
CVP	**Callao Caves**	**2.21**	**169**	*i* P	**Pn**	**01 40 59.2**	**+1.5**
CVP				*i* S	**Sn**	**01 41 24.2**	**+0.4**
SZP	**Santa**	**2.47**	**201**	*e*Pn	**Pn**	**01 41 00.7**	**-0.6**
SZP				*eS*	**Sn**	**01 41 31.9**	**+1.5**
TWG	**Pinlang**	**2.94**	**355**	*e*Pn	**Pn**	**01 41 05.9**	**-1.8**
TWG				*eS*	**Sn**	**01 41 46.6**	**+4.9**
TPUB	**Ta-pu**	**3.47**	**349**	*e*Pn	**Pn**	**01 41 13.5**	**-1.6**
TPUB				*eS*	**Sn**	**01 41 54.9**	**-0.1**
YUB	**Yu-li**	**3.49**	**359**	*e*Pn	**Pn**	**01 41 15.1**	**-0.3**
YULB				*eS*	**Sn**	**01 41 56.1**	**+0.6**
SSLB	**Suanglung**	**3.91**	**354**	*e*Pn	**Pn**	**01 41 20.8**	**-0.3**
SSLB				*eS*	Sn	01 42 17.6	+12
NACB	**Ninganchiao**	**4.28**	**3**	*e*Pn	**Pn**	**01 41 24.6**	**-1.5**
NACB				*eS*	**Sn**	**01 42 15.2**	**+0.4**
YHNB	**Yeheng**	**4.76**	**0**	*e*Pn	**Pn**	**01 41 33.4**	**+0.4**
YHNB				*eS*	**Sn**	**01 42 24.8**	**-2.1**
YOJ	**Yonaguni jima**	**4.81**	**18**	*e*Pn	**Pn**	**01 41 33.2**	**-0.1**
YOJ				*eS*	**Sn**	**01 42 26.7**	**-1.1**
TATO	**Taipei**	**5.07**	**1**	*e*Pn	**Pn**	**01 41 37.9**	**+0.9**
	110nm,0.8s						
TATO				*eS*	**Sn**	**01 42 37.4**	**+3.0**
TGY	**Tagaytay City**	**5.76**	**184**	P	**Pn**	**01 41 48.8**	**+2.2**
	28nm,0.3s,baz=134,slow=5.1,SNR=4.3						
QIZ	**Qiongzhong**	**10.90**	**267**	*e*Pn	**Pn**	**01 42 54.6**	**-2.5**
	16nm,0.8s						
QIZ				*eS*	Sn	01 44 48.7	-9.2
KKM	**Kota Kinabalu**	**14.64**	**201**	*e*Pn	**Pn**	**01 43 47.9**	**-0.2**
	35nm,1.1s						
JNU	**Nakatsue**	**15.68**	**31**	P	**P**	**01 44 05.2**	**0.0**
	0.4nm,0.3s,baz=174,slow=3.8,SNR=8.0						
JNU				LR	LR	01 49 50.9	
	comp=Z,237nm,21.6s,baz=182,slow=36						
KSAR	**Wonju Array Be**	**18.40**	**17**	P	**Pn**	**01 44 36.0**	**+0.6**
KSRS	**Korea Array**	**18.42**	**17**	P	**Pn**	**01 44 36.0**	**+0.3**
	1.4nm,0.3s,baz=196,slow=11,SNR=28						
KSRS				LR	LR	01 52 10.4	
	comp=Z,160nm,18.6s,baz=204,slow=38						
JCJ	**Chichijima**	**20.38**	**65**	LR	LR	01 50 59.6	
	comp=Z,130nm,21.6s,baz=122,slow=31						
BJT	**Baijiatuau**	**20.56**	**349**	*eP*	**P**	**01 44 59.1**	**+0.4**
	35nm,0.6s						
CMAR	**Chiang Mai Arr**	**21.23**	**270**	P	**P**	**01 45 07.0**	**+0.8**
	1.3nm,0.7s,baz=73,slow=8.5,SNR=5.2						
CMAR				LR	LR	01 52 34.8	
	comp=Z,69nm,18.7s,baz=92,slow=34						
KSM	**Kuching**	**21.25**	**212**	*eP*	**P**	**01 45 06.2**	**-0.2**
	18nm,0.6s						
MJAR	**Matsushiro Arr**	**22.21**	**38**	P	**P**	**01 45 17.6**	**+1.1**
	1.3nm,0.5s,baz=217,slow=8.0,SNR=6.6						
SIJI	**Sorong**	**22.79**	**154**	P	**P**	**01 45 21.6**	**-1.3**
	8.2nm,0.5s,baz=357,slow=15,SNR=4.3						
GUMO	**Guam**	**23.35**	**102**	LR	LR	01 54 22.7	
	comp=Z,80nm,19.1s,baz=116,slow=36						
KAPI	**Kappang**	**24.79**	**184**	P	**P**	**01 45 41.5**	**-0.3**
	12nm,0.6s,baz=299,slow=3.4,SNR=9.0						
KAPI				LR	LR	01 55 42.2	
	comp=Z,161nm,21.8s,baz=6.3,slow=37						
USRK	**Ussuriysk Ar.**	**25.82**	**18**	P	**P**	**01 45 51.2**	**+0.2**
	1.4nm,0.4s,baz=196,slow=9.6,SNR=5.5						
USRK				LR	LR	01 56 56.5	
	comp=Z,85nm,18.9s,baz=154,slow=38						
PSI	**Prapat**	**27.72**	**235**	LR	LR	01 56 48.2	
	comp=Z,123nm,19.1s,baz=49,slow=35						
JAY	**Jayapura**	**29.26**	**137**	LR	LR	01 55 41.6	
	comp=Z,101nm,20.0s,baz=314,slow=31						
ASAJ	**Asahikawa**	**29.96**	**31**	LR	LR	01 59 30.9	
	comp=Z,57nm,20.7s,baz=172,slow=38						
BATI	**Baumata**	**29.98**	**175**	P	**P**	**01 46 26.4**	**-2.0**
	31nm,0.5s,baz=121,slow=2.8,SNR=4.3						
SONM	**Songino Array**	**30.42**	**340**	P	**P**	**01 46 32.3**	**+0.2**
	2.6nm,0.7s,baz=162,slow=9.9,SNR=11						
SONM				LR	LR	02 00 05.3	
	comp=Z,226nm,19.9s,baz=146,slow=39						
WRAB	**Tennant Creek**	**41.56**	**161**	*eP*	**P**	**01 48 05.6**	**-1.9**
	6.8nm,0.6s						
WRA	**Warramunga Arr**	**41.57**	**161**	P	**P**	**01 48 05.8**	**-1.8**
	7.4nm,0.6s,baz=343,slow=9.1,SNR=22						
MK31	**Makanchi Array**	**41.62**	**319**	*eP*	**P**	**01 48 08.4**	**+0.6**
MKAR	**Makanchi Array**	**41.62**	**319**	P	**P**	**01 48 08.9**	**+1.1**
	1.3nm,0.6s,baz=113,slow=9.6,SNR=14						
MKAR				LR	LR	02 08 09.6	
	comp=Z,54nm,18.9s,baz=153,slow=40						
H11N1	**WAKE ISLAND Hy**	**42.73**	**82**	T	T	02 34 22.7	
	baz=278,slow=74,SNR=9.4						
H11N2	**WAKE ISLAND Hy**	**42.73**	**82**	T	T	02 34 23.0	
	baz=278,slow=74,SNR=14						
H11N3	**WAKE ISLAND Hy**	**42.75**	**82**	T	T	02 34 22.7	
	baz=278,slow=74,SNR=9.3						
PETK	**Petropavlovsk-**	**43.38**	**31**	P	**P**	**01 48 22.9**	**+1.0**
	3.2nm,0.8s,baz=250,slow=4.4,SNR=5.0						
PETK				LR	LR	02 06 18.7	
	comp=Z,40nm,19.9s,baz=253,slow=36						
ZAA0	**Zalesovo Array**	**43.98**	**330**	*eP*	**P**	**01 48 27.2**	**+0.5**
ZALV	**Zalesovo Beam**	**43.98**	**330**	P	**P**	**01 48 27.3**	**+0.6**
	2.2nm,0.7s,baz=110,slow=8.3,SNR=8.2						
ZALV				LR	LR	02 08 33.4	
	comp=Z,93nm,18.1s,baz=72,slow=38						
AS31	**Alice Springs**	**44.98**	**164**	*eP*	**P**	**01 48 34.2**	**-0.8**
ASAR	**Alice Springs**	**44.98**	**164**	P	**P**	**01 48 34.1**	**-0.9**
	3.5nm,0.3s,baz=345,slow=7.8,SNR=43						
KURK	**Kurchatov**	**45.55**	**323**	*eP*	**P**	**01 48 38.6**	**-0.6**
	2.0nm,0.6s						
KURBB	**Kurchatov Arra**	**45.56**	**323**	P	**P**	**01 48 40.1**	**+0.7**
	1.6nm,0.6s,baz=116,slow=7.7,SNR=18						
SEY	**Seymchan**	**47.96**	**19**	P	**P**	**01 48 59.7**	**+1.7**
	0.7nm,0.4s,baz=72,slow=5.2,SNR=3.3						
KKAR	**Karatay Array**	**48.29**	**310**	*eP*	**P**	**01 49 02.2**	**+1.4**
	0.7nm,0.6s						
FORT	**Forrest**	**50.78**	**173**	*eP*	**P**	**01 49 18.9**	**-0.9**
	20nm,0.6s						
STKA	**Stephens Creek**	**55.00**	**159**	P	**P**	**01 49 49.7**	**-1.2**
	2.1nm,0.6s,baz=354,slow=8.0,SNR=6.2						
ABKAR	**Akbulak array**	**56.61**	**316**	*eP*	**P**	**01 50 03.1**	**+0.8**
	0.7nm,0.5s						
GEYT	**Alibeck**	**57.19**	**303**	P	**P**	**01 50 07.2**	**+0.5**
	1.4nm,0.7s,baz=308,slow=51,SNR=4.1						
GEYT				LR	LR	02 17 06.2	
	comp=Z,63nm,21.7s,baz=195,slow=38						
ILAR	**Eielson Array**	**72.95**	**27**	P	**P**	**01 51 47.5**	**-1.1**
	0.6nm,0.5s,baz=264,slow=4.6,SNR=9.7						
ARCES	**ARCESS Array B**	**73.58**	**339**	P	**P**	**01 51 51.6**	**-0.6**
	1.3nm,0.7s,baz=64,slow=8.2,SNR=7.0						
ARCES				LR	LR	02 26 21.5	
	comp=Z,16nm,20.3s,baz=38,slow=37						
FINES	**FINESS Array B**	**75.24**	**330**	P	**P**	**01 52 02.2**	**+0.3**
	1.1nm,0.6s,baz=78,slow=2.7,SNR=5.3						
FINES				LR	LR	02 28 23.2	
	comp=Z,70nm,18.3s,baz=61,slow=38						
AKASG	**Malin Array Be**	**76.20**	**319**	P	**P**	**01 52 07.7**	**+0.1**
	0.3nm,0.4s,baz=62,slow=6.4,SNR=2.8						
NB2	**NORSAR Subarra**	**82.09**	**333**	P	**P**	**01 52 39.6**	**-0.1**
	comp=Z,3.8nm,0.8s,baz=65,slow=5.6						
NOA	**NORSAR Array B**	**82.09**	**333**	P	**P**	**01 52 39.8**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=63,slow=5.2,SNR=2.8						
NOA				LR	LR	02 33 11.0	
	comp=Z,59nm,18.2s,baz=55,slow=38						
GERES	**GERESS Array B**	**86.27**	**321**	LR	LR	02 35 27.9	
	comp=Z,58nm,18.9s,baz=85,slow=38						
YKA	**Yellowknife Ar**	**86.85**	**23**	P	**P**	**01 53 04.0**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=308,slow=4.7,SNR=12						

*IDC **20** 01:51:35.4±1.4, 54°.35N×156°.64W, h0km, mb3.4/6, mb1 3.8/8, mb1mx3.6/34, mbtmp3.6/8, ML4.0/2, MS3.2/2, Ms1 3.2/2, ms1mx2.7/34, Error ellipse: s-maj=34.0km s-min=21.4km az=16.0*
*ISCJB **20** 01:51:37.9±0.6, 54°.69N±0°.05×156°.66W±0°.05, h33km, mb3.5/7, MS3.3/1, Error ellipse: s-maj=8.2km s-min=3.3km az=157.6*
*NEIC **20** 01:51:40.1, 54°.68N×156°.76W, h25km, mb4.0/2, ML3.5(AEIC), After AEIC.*

ISC 20 01:51:40.6±0.8, 54°.73N±0°.09×156°.73W±0°.05, h35km, n61, σ1§04/59, mb3.5/7, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**1.85**	**329**	*e*Pn	**Pn**	**01 52 08.4**	**-1.3**
CHGN				*eS*	**Sn**	**01 52 30.8**	**-1.1**
VNKR	**Veniaminof 5**	**2.00**	**312**	P	**Pn**	**01 52 11.4**	**-0.5**
VNHG	**Veniaminof 1**	**2.04**	**318**	P	**Pn**	**01 52 11.8**	**-0.7**
VNWF	**Veniaminof 8**	**2.16**	**313**	P	**Pn**	**01 52 14.2**	**0.0**
SDPT	**Sand Point**	**2.25**	**288**	*e*Pn	**Pn**	**01 52 13.7**	**-1.5**
ANPK	**Aniakchak Peak**	**2.26**	**340**	P	**Pn**	**01 52 15.2**	**-0.4**
AZAC	**Aniakchak**	**2.33**	**339**	P	**Pn**	**01 52 16.2**	**-0.3**
PS4A	**Pavlof South-4**	**3.02**	**284**	P	**Pn**	**01 52 25.1**	**-0.8**
PS4A				S	**Sn**	**01 52 60.0**	**-0.7**
PN7A	**Pavlof North-7**	**3.11**	**285**	P	**Pn**	**01 52 27.2**	**0.0**
OHAK	**Old Harbor**	**3.16**	**36**	P	**Pn**	**01 52 27.3**	**-0.5**
OHAK				S	**Sn**	**01 53 03.6**	**-0.6**
DTNA	**Dutton South F**	**3.22**	**280**	P	**Pn**	**01 52 27.9**	**-0.7**
DT1	**Dutton Round H**	**3.23**	**279**	P	**Pn**	**01 52 28.0**	**-0.8**
CAHL	**Cahill**	**3.43**	**13**	P	**Pn**	**01 52 31.4**	**-0.1**
BALA	**Baldy Mountain**	**3.53**	**280**	P	**Pn**	**01 52 33.1**	**+0.2**
KABR	**Katmai Barrier**	**3.55**	**15**	P	**Pn**	**01 52 33.2**	**0.0**
KCE	**Katmai Mt Cerb**	**3.63**	**13**	P	**Pn**	**01 52 34.6**	**+0.4**
KAWH	**Katmai**	**3.82**	**15**	P	**Pn**	**01 52 36.5**	**-0.4**
KDAK	**Kodiak Island**	**3.84**	**35**	*e*Pn	**Pn**	**01 52 36.4**	**-0.6**
FALS	**False Pass**	**3.88**	**275**	*e*Pn	**Pn**	**01 52 37.1**	**-0.5**
ISNN	**Isanotski Nort**	**4.09**	**274**	P	**Pn**	**01 52 40.3**	**-0.2**
SSLN	**Shishaldin Nor**	**4.21**	**274**	P	**Pn**	**01 52 42.4**	**+0.1**
SSLS	**Shishaldin Sou**	**4.22**	**273**	P	**Pn**	**01 52 41.8**	**-0.6**
SSLS				S	**Sn**	**01 53 31.2**	**+0.8**
WESN	**West Dahl Nort**	**4.57**	**271**	P	**Pn**	**01 52 47.1**	**0.0**
MCNL	**McNeil River**	**4.66**	**15**	P	**Pn**	**01 52 48.4**	**0.0**
WEBT	**Westdahl Beart**	**4.66**	**272**	P	**Pn**	**01 52 47.8**	**-0.7**
AKSA	**Akutan Strait**	**5.27**	**267**	P	**Pn**	**01 52 56.4**	**-0.4**
AKSA				S	**Sn**	**01 53 53.9**	**-2.3**
OPT	**Oil Point**	**5.29**	**20**	P	**Pn**	**01 52 57.4**	**+0.3**
AKGG	**Akutan Green G**	**5.43**	**268**	P	**Pn**	**01 52 58.5**	**-0.5**
CNPM	**China Poot**	**5.66**	**30**	P	**Pn**	**01 53 01.9**	**-0.3**
CNPM				S	**Sn**	**01 54 04.1**	**-1.8**
UNV	**Unalaska Valle**	**5.79**	**265**	*e*Pn	**Pn**	**01 53 03.0**	**-0.9**
MTBL	**Makushin Table**	**5.87**	**267**	P	**Pn**	**01 53 03.9**	**-1.2**
MSW	**Makushin Switc**	**5.94**	**266**	P	**Pn**	**01 53 05.0**	**-1.1**
MSW				S	**Sn**	**01 54 10.1**	**-2.7**
BRLK	**Bradley Lake**	**5.96**	**30**	P	**Pn**	**01 53 04.6**	**-1.6**
RSO	**Redoubt South**	**6.13**	**19**	*e*Pn	**Pn**	**01 53 08.8**	**0.0**
SEW	**Seward**	**6.67**	**33**	*e*Pn	**Pn**	**01 53 16.9**	**+1.0**
PWL	**Port Wells**	**7.60**	**33**	P	**Pn**	**01 53 28.4**	**-0.4**
GLI	**Glacier Island**	**8.02**	**36**	P	**Pn**	**01 53 33.4**	**-1.2**
RAGM	**Ragged Mountai**	**8.60**	**44**	P	**Pn**	**01 53 40.5**	**-2.0**
KLU	**Klutina**	**8.86**	**36**	P	**Pn**	**01 53 45.3**	**-0.8**
BMRM	**Bremner River**	**8.98**	**41**	P	**Pn**	**01 53 46.8**	**-1.0**
KIAG	**Kiagna River**	**9.85**	**45**	P	**Pn**	**01 53 59.4**	**-0.2**
GRNC	**Granite Creek**	**10.00**	**47**	P	**Pn**	**01 54 01.0**	**-0.8**
ILAR	**Eielson Array**	**11.21**	**22**	Pn	**Pn**	**01 54 15.6**	**-2.6**
	0.3nm,0.3s,baz=213,slow=12,SNR=15						
EGAK	**Eagle**	**12.72**	**31**	*e*Pn	**Pn**	**01 54 39.7**	**+0.9**
	2.8nm,0.7s						
DLBC	**Dease Lake**	**15.12**	**65**	LR	LR	02 00 08.4	
	comp=Z,62nm,19.3s,baz=250,slow=34						
INK	**Inuvik**	**17.37**	**29**	P	**P**	**01 55 41.9**	**+1.0**
	0.4nm,0.3s,baz=262,slow=10,SNR=9.1						
INK	**Inuvik**	**17.37**	**29**	*e*Pn	**P**	**01 55 40.9**	**0.0**
	9.6nm,0.9s						
YKA	**Yellowknife Ar**	**22.89**	**53**	P	**P**	**01 56 41.3**	**+0.4**
	0.4nm,0.8s,baz=270,slow=8.6,SNR=3.1						
PDAR	**Pinedale Array**	**32.70**	**92**	P	**P**	**01 58 10.3**	**+0.6**
	0.2nm,0.4s,baz=290,slow=8.6,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**44.50**	**233**	T	T	02 47 25.4	
	baz=29,slow=76,SNR=7.0						
H11N3	**WAKE ISLAND Hy**	**44.50**	**233**	T	T	02 47 35.3	
	baz=29,slow=76,SNR=10						
H11N1	**WAKE ISLAND Hy**	**44.51**	**233**	T	T	02 47 24.3	
	baz=29,slow=76,SNR=7.1						
TXAR	**Lajitas Array**	**45.46**	**102**	P	**P**	**01 59 54.5**	**-1.6**
	0.1nm,0.3s,baz=332,slow=3.1,SNR=2.5						
H11S1	**WAKE ISLAND Hy**	**45.65**	**232**	T	T	02 48 56.9	
	baz=22,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**45.66**	**232**	T	T	02 49 01.6	
	baz=22,slow=76,SNR=24						
H11S3	**WAKE ISLAND Hy**	**45.67**	**232**	T	T	02 49 00.7	
	baz=22,slow=76,SNR=22						
SONM	**Songino Array**	**56.28**	**306**	P	**P**	**02 01 19.0**	**+1.6**
	1.9nm,0.9s,baz=49,slow=7.3,SNR=10						
ZALV	**Zalesovo Beam**	**60.42**	**323**	LR	LR	02 31 11.0	
	comp=Z,24nm,20.0s,baz=70,slow=39						
MKAR	**Makanchi Array**	**67.25**	**320**	P	P	02 02 34.5	+3.4
	0.2nm,0.5s,baz=31,slow=3.9,SNR=2.9						
ABKAR	**Akbulak array**	**71.91**	**336**	*eP*	**P**	**02 03 01.3**	**+1.5**
	1.6nm,0.8s						
AKASG	**Malin Array Be**	**74.82**	**356**	P	**P**	**02 03 17.7**	**+0.8**
	0.6nm,0.5s,baz=5.0,slow=6.2,SNR=7.0						

*CSEM **20** 02:01:49.7, 37°.38N×24°.66W, h5km, ML2.0*
PDA 20 02:01:49.7±0.7, 37°.38N×24°.66W, h5km, MD3.8, ML2.0, Error ellipse: s-maj=6.5km s-min=1.6km az=86.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.49**	**221**	*eP*	Pg	02 01 58.3	-0.9
PSMN				*eS*	Sg	02 02 04.5	-1.1
PSMN				A	A	02 02 09.8	
	27nm,0.3s						
PSMN	**Pico do Norte,**	**0.49**	**221**	*eP*	Pg	02 01 58.3	-0.9
PSMN				*eS*	Sg	02 02 04.5	-1.1
PSMA	**Santa Maria**	**0.53**	**224**	*eP*	Pg	02 01 58.9	-1.0
PSMA				*eS*	Sg	02 02 05.7	-1.2
PSMA				A	A	02 02 06.2	
	28nm,0.1s						
BART	**Pico Bartolome**	**0.57**	**315**	*eP*	Pg	02 01 59.5	-1.2
BART				*eS*	Sg	02 02 06.4	-1.8
BART				A	A	02 02 10.5	
	55nm,0.5s						
BART	**Pico Bartolome**	**0.57**	**315**	*eP*	Pg	02 01 59.5	-1.2
BART				*eS*	Sg	02 02 06.4	-1.8
GRON	**Grota Negra**	**0.79**	**300**	*eP*	Pg	02 02 01.1	-3.9
GRON				*eS*	Sg	02 02 09.8	-5.6
GRON				A	A	02 02 12.5	
	23nm,0.1s						
PDA	**Ponta Delgada**	**0.88**	**295**	*eP*	Pg	02 02 04.0	-2.5
PDA				*eS*	Sg	02 02 14.5	-3.4
PDA				A	A	02 02 15.1	
	57nm,0.1s						
PDA	**Ponta Delgada**	**0.88**	**295**	*eP*	Pg	02 02 04.0	-2.5
PDA				*eS*	Sg	02 02 14.5	-3.4
PSET	**Sete Cidades**	**0.95**	**298**	*eS*	Sg	02 02 16.4	-4.0
PSET				A	A	02 02 18.2	
	45nm,0.4s						
PSET	**Sete Cidades**	**0.95**	**298**	*eS*	Sg	02 02 16.4	-4.0

*ISCJB **20** 02:03:07.6±0.6, 52°.44N±0°.08×169°.35W±0°.09, h10km, mb3.8/4, Error ellipse: s-maj=12.9km s-min=4.4km az=146.9*
*IDC **20** 02:03:07.8±1.8, 52°.23N×169°.38W, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.5/40, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=58.0km s-min=30.0km az=139.0*
*NEIC **20** 02:03:07.4, 52°.54N×169°.40W, h3km, ML3.4(AEIC), After AEIC.*

ISC 20 02:03:09.1±0.9, 52°.6N±0°.1×169°.37W±0°.08, h10km, n25, σ1§07/28, mb3.8/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.48**	**41**	P	**Pb**	**02 03 19.1**	**-0.5**
NIKH				S	**Sb**	**02 03 27.5**	**+0.8**
OKWR	**Okmok West Rim**	**1.08**	**40**	P	**Pn**	**02 03 30.4**	**0.0**
OKCE	**Okmok Cone E**	**1.09**	**41**	P	**Pb**	**02 03 29.4**	**-0.7**
OKCE				S	**Sn**	**02 03 47.2**	**+1.6**
OKTU	**Okmok Mt. Tuli**	**1.11**	**46**	P	**Pg**	**02 03 30.2**	**-0.3**
OKAK	**Okmok**	**1.14**	**32**	P	**Pn**	**02 03 28.7**	**-2.5**
OKRE	**Okmok R'deer P**	**1.16**	**38**	P	**Pg**	**02 03 31.8**	**+0.4**
MSOM	**Makushin Julie**	**1.89**	**49**	P	**Pn**	**02 03 41.2**	**-0.2**
MSOM				S	**Sb**	**02 04 08.2**	**+0.9**
MCIR	**Makushin Cirqu**	**2.00**	**47**	P	**Pn**	**02 03 43.0**	**0.0**
MSW	**Makushin Switc**	**2.03**	**49**	P	**Pn**	**02 03 43.3**	**0.0**
MTBL	**Makushin

H11N1	**WAKE ISLAND Hy**	**37.62**	**218**	T	T	02 59 18.7		
	baz=24,slow=76,SNR=42							
H11S1	**WAKE ISLAND Hy**	**38.80**	**218**	T	T	03 00 58.1		
	baz=23,slow=76,SNR=747							
H11S2	**WAKE ISLAND Hy**	**38.81**	**218**	T	T	03 00 59.1		
	baz=23,slow=76,SNR=666							
H11S3	**WAKE ISLAND Hy**	**38.81**	**218**	T	T	03 00 55.7		
	baz=23,slow=76,SNR=490							
MJAR	**Matsushiro Arr**	**39.65**	**267**	P	**P**	**02 19 49.7**	**-0.5**	
	0.6nm,0.4s,baz=37,slow=7.4,SNR=3.0							
PDAR	**Pinedale Array**	**40.42**	**79**	P	**P**	**02 19 57.5**	**+0.7**	
	0.8nm,0.7s,baz=322,slow=5.1,SNR=6.7							
SONM	**Songino Array**	**51.12**	**301**	PcP	**PcP**	**02 22 35.7**	**-1.0**	
	0.7nm,0.6s,baz=48,slow=2.2,SNR=3.9							
TXAR	**Lajitas Array**	**52.80**	**89**	P	**P**	**02 21 34.6**	**+0.7**	
	1.2nm,0.6s,baz=298,slow=5.4,SNR=21							
FINES	**FINESS Array B**	**65.62**	**352**	P	**P**	**02 23 00.7**	**-1.4**	
	1.9nm,1.1s,baz=164,slow=7.7,SNR=2.7							
BOSA	**Boshof**	**153.65**	**330**	PKPbc	**PKPbc**	**02 32 16.6**	**-0.8**	
	0.8nm,0.5s,baz=238,slow=2.8,SNR=4.7							

PGC 20 02:16:54.6±1.3, 49.42N×130.01W, h10km, ML2.2/6, Mw2.8/6, 234km Wsw of Pt. Hardy, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.63**	**62**	Pn	Pn	02 17 21.1	-2.3
BPBC				Sn	Sn	02 17 40.7	-3.8
HOLB	**Holberg**	**1.72**	**44**	Pn	Pn	02 17 22.8	-1.9
HOLB				Sn	Sn	02 17 42.4	-4.4
EDB	**Eliza Dome**	**1.94**	**75**	Pn	Pn	02 17 25.5	-2.1
EDB				Sn	Sn	02 17 48.2	-3.7
MAYB	**Maynard**	**2.08**	**61**	Pn	Pn	02 17 27.8	-2.0
PHC	**Port Hardy**	**2.10**	**51**	Pn	Pn	02 17 28.3	-1.5
PHC				Sn	Sn	02 17 52.0	-4.1
WOSB	**Woss**	**2.35**	**70**	Pn	Pn	02 17 32.2	-1.2
NCRB	**Newcastle Ridg**	**2.74**	**67**	Pn	Pn	02 17 38.1	-0.7
BBB	**Bella Bella**	**3.02**	**23**	Pn	Pn	02 17 41.4	-1.0
BBB				Sn	Sn	02 18 15.2	-3.4
BBB	**Bella Bella**	**3.02**	**23**	P	Pn	02 17 41.2	-1.2
	8.3nm,0.9s,baz=232,slow=8.4,SNR=13						

*ISCJB **20** 02:20:08.3±0.6, 6.41S±0.09×149.7E±0.1, h43km, mb3.9/6, MS3.7/4, Error ellipse: s-maj=18.7km s-min=7.6km az=35.2*
*IDC **20** 02:20:10.7±2.4, 6.52S×149.85E, h51km±19km, mb3.8/7, mb1 4.1/8, mb1mx3.8/29, mbtmp4.1/8, ML2.7/1, MS3.8/6, Ms1 3.8/6, ms1mx3.4/30, Error ellipse: s-maj=34.1km s-min=12.6km az=120.0*
ISC 20 02:20:10.0±0.7, 6.4S±0.1×149.7E±0.1, h43km, n26, σ1§09/28, mb4.0/6, MS3.8/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.28**	**48**	P	**Pn**	**02 20 59.8**	**+0.8**
	baz=3.3,SNR=8.1						
PMG	**Port Moresby**	**3.91**	**220**	P	**Pn**	**02 21 08.3**	**+0.7**
	41nm,0.3s,baz=45,slow=5.5,SNR=46						
PMG				S	**Sn**	**02 21 54.1**	**+1.8**
	64nm,0.3s,baz=248,slow=24,SNR=27						
PMG				LR	LR	02 22 50.1	
	comp=Z,1μm,20.9s,baz=34,slow=41						
PMG	**Port Moresby**	**3.91**	**220**	P	**Pn**	**02 21 08.4**	**+0.8**
	baz=4.0,SNR=27						
PMG				P	**Pn**	**02 21 08.4**	**+0.8**
	baz=4.0,SNR=27						
PMG				P	**Pn**	**02 21 08.4**	**+0.8**
	baz=4.0,SNR=27						
JAY	**Jayapura**	**9.80**	**293**	LR	LR	02 26 00.5	
	comp=Z,501nm,18.0s,baz=136,slow=35						
COEN	**Coen**	**9.88**	**220**	P	**Pn**	**02 22 29.7**	**0.0**
	baz=10.0,SNR=4.6						
MTSU	**Mount Surprise**	**12.79**	**204**	P	**Pn**	**02 23 10.1**	**+0.8**
	baz=13,SNR=7.8						
QIS	**Mount Isa**	**17.15**	**214**	P	**P**	**02 24 08.2**	**+0.4**
	baz=17,SNR=7.8						
KDU	**Kakadu**	**18.11**	**249**	P	**P**	**02 24 15.8**	**-2.8**
	baz=18,SNR=4.5						
RMQ	**Roma**	**19.98**	**183**	P	**Pn**	**02 24 39.2**	**-1.6**
	baz=20,SNR=5.2						
WRA	**Warramunga Arr**	**20.10**	**227**	P	**P**	**02 24 40.4**	**+0.1**
	22nm,0.8s,baz=51,slow=11,SNR=76						
QLP	**Quilpie**	**20.73**	**194**	P	**P**	**02 24 46.6**	**-0.3**
	baz=21,SNR=22						
ASAR	**Alice Springs**	**22.93**	**220**	P	**P**	**02 25 09.9**	**-0.7**
	3.3nm,0.7s,baz=57,slow=9.3,SNR=31						
ASAR				S	**S**	**02 29 18.0**	**+0.3**
	2.9nm,0.9s,baz=39,slow=24,SNR=6.8						
ASAR				LR	LR	02 34 35.3	
	comp=Z,214nm,18.6s,baz=28,slow=38						
ARMA	**Armidale**	**23.94**	**176**	P	**P**	**02 25 20.6**	**+0.2**
	baz=24,SNR=4.8						
CMSA	**Cobar MeteorO**	**25.27**	**188**	P	**P**	**02 25 31.5**	**-0.9**
	baz=26,SNR=6.0						
STKA	**Stephens Creek**	**26.45**	**196**	P	**P**	**02 25 41.5**	**-1.6**
	5.8nm,0.7s,baz=352,slow=5.9,SNR=11						
STKA				LR	LR	02 37 00.1	
	comp=Z,308nm,18.1s,baz=16,slow=38						
STKA	**Stephens Creek**	**26.45**	**196**	P	**P**	**02 25 43.6**	**+0.6**
	baz=27,SNR=7.5						
WRKA	**Warakurna**	**27.64**	**226**	P	**P**	**02 25 53.9**	**0.0**
	baz=28,SNR=22						
BBOO	**Buckleboo**	**29.18**	**204**	P	**P**	**02 26 09.2**	**+1.8**
	baz=29,SNR=5.8						
MJAR	**Matsushiro Arr**	**44.08**	**347**	LR	LR	02 44 02.0	
	comp=Z,38nm,21.4s,baz=190,slow=32						
PETK	**Petropavlovsk-**	**59.68**	**6**	P	**P**	**02 30 11.2**	**+1.3**
	1.4nm,0.7s,baz=218,slow=9.0,SNR=3.2						
VNDA	**Vanda**	**71.35**	**177**	P	**P**	**02 31 24.5**	**-0.5**
	1.3nm,0.7s,baz=332,slow=6.3,SNR=7.2						
VNDA				LR	LR	02 59 48.3	
	comp=Z,87nm,18.0s,baz=16,slow=33						
MKAR	**Makanchi Array**	**79.56**	**320**	P	**P**	**02 32 12.9**	**+0.3**
	0.2nm,0.5s,baz=156,slow=6.0,SNR=2.5						
ILAR	**Eielson Array**	**84.81**	**23**	P	**P**	**02 32 38.3**	**-1.3**
	0.4nm,0.8s,baz=253,slow=5.7,SNR=5.7						
GERES	**GERESS Array B**	**123.77**	**327**	PKP	**PKPdf**	**02 39 02.8**	**-0.6**
	0.5nm,0.6s,baz=115,slow=2.2,SNR=6.6						
TORD	**Torodi Ar. Bea**	**147.82**	**284**	PKPbc	**PKPbc**	**02 39 51.1**	**-0.3**
	2.1nm,0.6s,baz=91,slow=2.6,SNR=22						
BDFB	**Brasilia**	**151.91**	**141**	PKPbc	**PKPbc**	**02 40 01.9**	**+0.4**
	3.2nm,0.9s,baz=105,slow=5.9,SNR=3.8						

IDC 20 02:46:42.0±8.4, 6.37S×150.31E, h60km±63km, mb3.6/3, mb1 3.9/4, mb1mx3.4/40, mbtmp4.0/4, ML2.1/1, Error ellipse: s-maj=68.0km s-min=50.8km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.34**	**226**	P	Pn	02 47 45.4	-0.1
	7.1nm,0.3s,baz=44,slow=6.4,SNR=9.7						
PMG				S	Sn	02 48 36.0	+1.1
	6.7nm,0.3s,baz=351,slow=20,SNR=5.7						
WRA	**Warramunga Arr**	**20.56**	**227**	P	P	02 51 16.0	0.0
	10nm,0.7s,baz=51,slow=11,SNR=19						
ASAR	**Alice Springs**	**23.34**	**221**	P	P	02 51 45.1	-0.2
	1.3nm,0.8s,baz=55,slow=10,SNR=8.7						
STKA	**Stephens Creek**	**26.65**	**197**	P	P	02 52 14.6	-0.7
	1.0nm,0.6s,baz=35,slow=12,SNR=3.8						
TORD	**Torodi Ar. Bea**	**148.37**	**285**	PKPbc	PKPbc	03 06 22.6	-0.3
	1.6nm,0.6s,baz=87,slow=2.2,SNR=38						

*NIED **20** 02:52:00, 21.10N×121.90E, h5km, Mw4.5 Best double couple: M0 6.74000×10^15 NP1:φs 117.00000°, δ 11.00000°, λ -106.00000°. NP2:φs 313.00000°, δ 79.00000°, λ -87.00000°.*
*IDC **20** 02:52:46.3±0.6, 20.95N×121.84E, h0km, mb4.3/20, mb1 4.4/22, mb1mx4.2/43, mbtmp4.3/22, ML3.8/2, MS3.6/12, Ms1 3.6/12, ms1mx3.2/47, Error ellipse: s-maj=21.3km s-min=12.9km az=82.0*
*TAP **20** 02:52:47.5, 21.08N×121.99E, h25km±2km, ML4.3, D*
*ISCJB **20** 02:52:48.6±0.7, 21.15N±0.02×122.06E±0.03, h24km±5km, mb4.3/38, MS3.5/10, Error ellipse: s-maj=4.1km s-min=3.2km az=174.1*
*JMA **20** 02:52:48.0±0.4, 21.15N×121.93E, h117km, M3.7*
*NEIC **20** 02:52:49.2±3.0, 21.12N×121.96E, h15km±19km, mb4.5/11, Error ellipse: s-maj=11.7km s-min=7.2km az=91.0*

*MOS **20** 02:52:49.4±0.8, 20.95N×121.96E, h33km, mb4.6/17, Error ellipse: s-maj=13.8km s-min=7.5km az=100.0*
ISC 20 02:52:47.2±2.8, 21.11N±0.03×122.02E±0.04, h4km±17km, n155, σ1§56/180, mb4.4/38, MS3.5/10, 1C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**1.03**	**335**	P	**Pb**	**02 53 06.4**	**-1.1**
	baz=337						
TSEB	**Hengchuen, Pin**	**1.31**	**307**	P	**Pn**	**02 53 11.4**	**-0.9**
	baz=308						
TSEB				S	**Sn**	**02 53 29.1**	**-1.0**
	baz=308						
TWK1	**Hengchun**	**1.41**	**307**	P	**Pn**	**02 53 12.0**	**-1.6**
	baz=309						
TWK1				S	**Sn**	**02 53 30.1**	**-2.4**
	baz=309						
HEN	**Hengchun**	**1.49**	**307**	*e*P	**Pn**	**02 53 13.7**	**-1.1**
	baz=309						
HEN				*e*S	**Sn**	**02 53 32.9**	**-1.8**
	baz=309						
TAW	**Tawu**	**1.63**	**320**	*e*P	**Pn**	**02 53 15.2**	**-1.4**
	baz=322						
TAW				S	**Sn**	**02 53 35.4**	**-2.6**
	baz=322						
EAST	**Anshuo**	**1.68**	**320**	P	**Pn**	**02 53 15.9**	**-1.4**
	baz=322						
EAST				*e*S	**Sn**	**02 53 36.7**	**-2.5**
	baz=322						
ECL	**Taimali**	**1.78**	**326**	*e*P	**Pn**	**02 53 17.7**	**-1.1**
	baz=328						
ECL				*e*S	**Sn**	**02 53 39.1**	**-2.8**
	baz=328						
SCZT	**Fangliau**	**1.81**	**314**	*e*P	**Pn**	**02 53 18.5**	**-0.7**
	baz=328						
TTN	**Taitung**	**1.83**	**334**	*e*P	**Pn**	**02 53 18.5**	**-0.9**
	baz=345						
TWG	**Pinlang**	**1.92**	**333**	*e*P	**Pn**	**02 53 19.6**	**-1.1**
	baz=320						
TWG	**Pinlang**	**1.92**	**333**	*e*Pn	**Pn**	**02 53 19.8**	**-0.9**
TWG				*e*S	**Sn**	**02 53 44.0**	**-1.3**
TWP	**Hsiaoliuchiu**	**1.98**	**309**	*e*P	**Pn**	**02 53 22.4**	**+0.9**
	baz=296						
CHKT	**Chengkung**	**2.07**	**343**	*e*P	**Pn**	**02 53 20.6**	**-2.1**
	baz=354						
CHKT				*e*S	**Sn**	**02 53 45.2**	**-3.9**
	baz=354						
SSD	**Sandimen**	**2.08**	**322**	*e*P	**Pn**	**02 53 22.3**	**-0.6**
	baz=335						
TWM1	**Shoushan**	**2.26**	**319**	*e*P	**Pn**	**02 53 27.1**	**+1.7**
	baz=332						
STYT	**Tauyuan**	**2.36**	**330**	*e*P	**Pn**	**02 53 26.9**	**+0.2**
	baz=332						
STYT				*e*S	**Sn**	**02 53 56.2**	**+0.1**
	baz=332						
YULB	**Yu-li**	**2.37**	**344**	*e*Pn	**Pn**	**02 53 25.3**	**-1.6**
YULB				*e*S	**Sn**	**02 53 54.9**	**-1.5**
SGST	**Jiashian**	**2.38**	**326**	*e*P	**Pn**	**02 53 27.9**	**+1.0**
	baz=328						
EHY	**Hungye**	**2.47**	**345**	*e*P	**Pn**	**02 53 27.2**	**-1.1**
	baz=332						
EHY				*e*S	**Sn**	**02 53 57.4**	**-1.6**
	baz=332						
CHN1	**Nanshi**	**2.49**	**326**	*e*P	**Pn**	**02 53 29.9**	**+1.3**
	baz=328						
CHN1				*e*S	**Sb**	**02 54 01.9**	**-1.6**
	baz=328						
WTP	**Ta-pu**	**2.50**	**329**	*e*P	**Pn**	**02 53 29.6**	**+0.9**
	baz=331						
WTP				*e*S	**Sb**	**02 54 01.7**	**-2.1**
	baz=331						
TPUB	**Ta-pu**	**2.54**	**330**	*e*Pn	**Pn**	**02 53 30.4**	**+1.2**
TPUB				*e*S	**Sb**	**02 54 03.3**	**-1.6**
TWK	**Hsinying**	**2.58**	**327**	*e*P	**Pn**	**02 53 30.9**	**+1.2**
	baz=329						
ALS	**Alishan**	**2.64**	**335**	*e*P	**Pn**	**02 53 31.4**	**+0.5**
	baz=336						
ESL	**Shilin**	**2.75**	**349**	*e*P	**Pn**	**02 53 31.8**	**-0.3**
	baz=337						
ESL				*e*S	**Sn**	**02 54 02.5**	**-3.2**
	baz=337						
CHN5	**Tsauling**	**2.77**	**334**	*e*P	**Pn**	**02 53 33.7**	**+1.2**
	baz=319						
CHN5				*e*S	**Sn**	**02 54 07.8**	**+1.4**
	baz=319						
CHY	**Chiayi**	**2.80**	**328**	*e*P	**Pb**	**02 53 35.8**	**-2.0**
	baz=330						
SSLB	**Suanglung**	**2.84**	**340**	*e*Pn	**Pn**	**02 53 33.4**	**0.0**
SSLB				*e*Pg	**Pb**	**02 53 39.6**	**+1.0**
SSLB				*e*S	**Sb**	**02 54 11.5**	**-2.3**
SMLT	**Sun Moon Lake**	**2.95**	**340**	*e*P	**Pn**	**02 53 35.9**	**+0.9**
	baz=326						
SMLT				*e*S	**Sn**	**02 54 13.0**	**+2.1**
	baz=326						
TYC	**Yuchr**	**2.98**	**339**	P	**Pn**	**02 53 37.0**	**+1.7**
	baz=327						
TYC				*e*S	**Sn**	**02 54 13.2**	**+1.7**
	baz=327						
WNT	**Mingjian**	**3.02**	**336**	*e*P	**Pn**	**02 53 37.2**	**+1.3**
	baz=324						
WDGT	**Dungji**	**3.06**	**315**	*e*P	**Pn**	**02 53 37.1**	**+0.7**
	baz=316						
WDGT				*e*S	**Sn**	**02 54 11.3**	**-2.2**
	baz=316						
NACB	**Ninganchiao**	**3.08**	**353**	*e*Pn	**Pn**	**02 53 34.5**	**-2.1**
NACB				*e*S	**Sn**	**02 54 10.1**	**-3.8**
WHF	**Hehuan Shan**	**3.10**	**347**	*e*P	**Pn**	**02 53 36.2**	**-1.1**
	baz=349						
WHF				*e*S	**Sn**	**02 54 13.6**	**-1.5**
	baz=349						
TWT	**Tachien**	**3.23**	**346**	*e*P	**Pn**	**02 53 37.7**	**-1.1**
	baz=356						
ENA	**Nanau**	**3.31**	**356**	*e*P	**Pn**	**02 53 38.9**	**-1.0**
	baz=357						
ENA				*e*S	**Sn**	**02 54 16.1**	**-3.6**
	baz=357						
PNG	**Penghu**	**3.35**	**317**	*e*P	**Pn**	**02 53 40.6**	**+0.3**
	baz=319						
PNG				*e*S	**Sn**	**02 54 18.7**	**-1.8**
	baz=319						
HATJ	**Hateruma jima**	**3.37**	**29**	P	**Pn**	**02 53 40.2**	**-0.3**
HATJ				*e*S	**Sn**	**02 54 18.5**	**-2.4**
NNS	**Nan Shan**	**3.37**	**350**	*e*P	**Pn**	**02 53 42.6**	**+1.8**
	baz=1.0						
CVP	**Callao Caves**	**3.39**	**183**	*e*P	**Pn**	**02 53 41.0**	**+0.1**
CVP				*e*S	**Sn**	**02 54 19.2**	**-2.4**
TWQ1	**Liyutan**	**3.43**	**341**	*e*P	**Pn**	**02 53 43.5**	**+2.1**
	baz=330						
TWQ1				*e*S	**Sn**	**02 54 25.2**	**+2.8**
	baz=330						
JYNG	**Yonagunijimaku**	**3.44**	**14**	P	**Pn**	**02 53 39.9**	**-1.6**
JYNG				S	**Sn**	**02 54 20.5**	**-2.2**
YOJ	**Yonaguni jima**	**3.46**	**15**	P	**Pn**	**02 53 41.5**	**-0.3**
YOJ				S	**Sn**	**02 54 21.6**	**-1.7**
YOJ	**Yonaguni jima**	**3.46**	**15**	*e*P	**Pn**	**02 53 41.2**	**-0.6**
YOJ				*e*S	**Sn**	**02 54 26.1**	**+2.8**
YOJ	**Yonaguni jima**	**3.46**	**15**	*e*Pn	**Pn**	**02 53 41.2**	**-0.6**
YOJ				*e*S	**Sn**	**02 54 26.1**	**+2.8**
TWC	**Suao**	**3.49**	**357**	*e*P	**Pn**	**02 53 41.9**	**-0.4**
	baz=358						
TWC				*e*S	**Sn**	**02 54 21.6**	**-2.4**
	baz=358						
NSY	**Sanyi**	**3.49**	**341**	*e*P	**Pn**	**02 53 43.6**	**+1.2**
	baz=328						
ENTT	**Nioudou**	**3.54**	**353**	*e*P	**Pn**	**02 53 44.1**	**+1.1**
	baz=355						
IRIF	**Iriomote-Funau**	**3.58**	**26**	P	**Pn**	**02 53 43.3**	**-0.2**
IRIF				S	**Sn**	**02 54 23.3**	**-2.9**
YHNB	**Yeheng**	**3.60**	**351**	*e*Pn	**Pn**	**02 53 43.7**	**-0.1**
YHNB				*e*S	**Sn**	**02 54 25.2**	**-1.5**
NSK	**Sanguang**	**3.60**	**350**	*e*P	**Pn**	**02 53 44.1**	**+0.2**
	baz=2.0						
NSK				*e*S	**Sn**	**02 54 26.0**	**-1.0**
	baz=2.0						
JKRS	**Kuro-shima**	**3.62**	**30**	P	**Pn**	**02 53 43.9**	**-0.1**
JKRS				S	**Sn**	**02 54 26.2**	**-0.9**
NSTT	**Nanjuang**	**3.63**	**345**	*e*P	**Pn**	**02 53 44.6**	**+0.3**
	baz=332						
EGS		**3.72**	**359**	*e*P	**Pn**	**02 53 46.0**	**+0.5**
	baz=9.0						
JIJ	**Ishigaki jima**	**3.79**	**31**	P	**Pn**	**02 53 45.4**	**-0.9**
JIJ				S	**Sn**	**02 54 27.4**	**-3.9**
SZP	**Santa**	**3.83**	**203**	*e*Pn	**Pn**	**02 53 50.0**	**+3.0**
SZP				*e*S	**Sb**	**02 54 38.4**	**-3.9**
TWA	**Mucha**	**3.88**	**354**	*e*P	**Pn**	**02 53 48.9**	**+1.3**
	baz=355						
TATO	**Taipei**	**3.88**	**353**	*e*Pn	**Pn**	**02 53 47.9**	**+0.2**
TATO				*e*S	**Sn**	**02 54 33.5**	**-0.2**
TWB1	**Santiao Chiao**	**3.88**	**360**	*e*P	**Pn**	**02 53 47.3**	**-0.3**
	baz=11						
NWF	**Wu-fen Shan**	**3.95**	**357**	P	**Pn**	**02 53 49.3**	**+0.6**
	baz=357						
NWF				*e*S	**Sn**	**02 54 33.6**	**-1.9**
	baz=357						
JISG	**Ishigakijimahi**	**4.06**	**31**	P	**Pn**	**02 53 49.2**	**-0.8**
JISG				S	**Sn**	**02 54 35.7**	**-2.3**
JTJ	**Tarama**	**4.30**	**35**	*e*S	**Sn**	**02 54 43.0**	**-0.9**
PCYT	**Pengchaiyu**	**4.50**	**1**	*e*P	**Pn**	**02 53 55.8**	**-0.3**
	baz=2.0						
KNM	**Kinmen**	**4.67**	**316**	*e*P	**Pn**	**02 53 58.7**	**+0.2**
	baz=316						
JIRB	**Irabujima**	**4.71**	**37**	*e*S	**Sn**	**02 54 49.2**	**-4.8**
BCPH	**Baguio City Da**	**4.89**	**196**	*i*P	**Pn**	**02 54 01.5**	**-0.3**
BCPH				*i* S	**Sn**	**02 54 56.9**	**-2.1**
JNU	**Nakatsue**	**14.32**	**31**	Pn	**Pn**	**02 56 13.2**	**+2.3**
	0.4nm,0.3s,baz=317,slow=9.4,SNR=3.0						
JNU				LR	LR	03 01 43.5	
	comp=Z,230nm,21.9s,baz=192,slow=37						
KKM	**Kota Kinabalu**	**16.00**	**201**	*e*Pn	**P**	**02 56 36.5**	**-0.4**
	30nm,1.1s						
KSAR	**Wonju Array Be**	**17.05**	**16**	P	**P**	**02 56 48.3**	**-0.1**
KSAR	**Wonju Array Be**	**17.05**	**16**	P	**P**	**02 56 48.3**	**-0.1**
KSRS	**Korea Array**	**17.08**	**16**	P	**Pn**	**02 56 48.3**	**+1.5**
	0.3nm,0.3s,baz=199,slow=12,SNR=20						
KSRS				LR	LR	03 04 13.0	
	comp=Z,133nm,18.2s,baz=207,slow=40						
JCJ	**Chichijima**	**19.34**	**68**	LR	LR	03 02 59.3	
	comp=Z,88nm,21.0s,baz=180,slow=31						
MAJO	**Matsushiro**	**20.87**	**39**	*e*P	Pn	02 57 33.4	+0.6
MAJO				pmax	pmax		
	comp=Z,40nm,1.7s						
MAJO	**Matsushiro**	**20.87**	**39**	P	**P**	**02 57 32.3**	**+2.1**
	comp=Z,7.5nm,0.8s						
MAT	**Matsushiro**	**20.87**	**39**	P	Pn	02 57 33.9	+1.1
MJAR	**Matsushiro Arr**	**20.87**	**39**	P	**P**	**02 57 32.1**	**+1.8**
	comp=Z,1.5nm,0.7s,baz=225,slow=9.0,SNR=8.5						
MJAR				LR	LR	03 05 14.0	
	comp=Z,72nm,21.6s,baz=205,slow=35						
CMAR	**Chiang Mai Arr**	**21.87**	**267**	LR	LR	03 07 08.1	
	comp=Z,103nm,18.0s,baz=99,slow=40						
MDJ	**Mudanjiang**	**24.27**	**13**	*e*P	**P**	**02 58 07.0**	**+1.6**
	comp=Z,16nm,1.0s						
USRK	**Ussuriysk Ar.**	**24.47**	**17**	P	**P**	**02 58 10.2**	**+3.0**
	comp=Z,9.4nm,0.9s,baz=206,slow=9.4,SNR=15						
USRK				LR	LR	03 08 59.4	
	comp=Z,124nm,18.0s,baz=184,slow=39						
KAPI	**Kappang**	**26.05**	**185**	P	**P**	**02 58 21.7**	**-0.1**
	comp=Z,6.7nm,0.5s,baz=358,slow=3.7,SNR=5.3						
KAPI				LR	LR	03 09 23.7	
	comp=Z,101nm,18.5s,baz=0.3,slow=38						
ASAJ	**Asahikawa**	**28.60**	**32**	P	**P**	**02 58 47.5**	**+3.0**
	comp=Z,8.9nm,0.8s,baz=239,slow=9.1						
ASAJ				LR	LR	03 11 52.0	
	comp=Z,94nm,18.6s,slow=40						
ASAJ	**Asahikawa**	**28.60**	**32**	P	**P**	**02 58 47.5**	**+3.0**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ASAJ				MLR	MLR		
	comp=Z,94nm,18.6s						
PSI	**Prapat**	**28.93**	**234**	LR	LR	03 10 42.1	
	comp=Z,128nm,18.3s,baz=68,slow=37						
KLR	**Kul'dur**	**29.11**	**13**	*e*P	**P**	**02 58 46.8**	**-2.2**
SONM	**Songino Array**	**29.50**	**338**	P	**P**	**02 58 52.3**	**-0.2**
	comp=Z,6.0nm,0.8s,baz=160,slow=10,SNR=27						
ZAK	**Zakamensk**	**32.74**	**338**	*e*P	**P**	**02 59 18.9**	**-2.2**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TLY	**Talaya**	**33.71**	**339**	*e*P	P	02 59 22.0	-7.4
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,73nm,13.0s						
MK31	**Makanchi Array**	**41.11**	**318**	*e*P	**P**	**03 00 32.8**	**+0.6**
MK31	**Makanchi Array**	**41.11**	**318**	*e*P	**P**	**03 00 32.8**	**+0.6**
MKAR	**Makanchi Array**	**41.11**	**318**	P	**P**	**03 00 33.2**	**+1.0**
	comp=Z,5.1nm,0.7s,baz=115,slow=9.5,SNR=47						
H11N1	**WAKE ISLAND Hy**	**41.97**	**84**	T	T	03 45 31.8	
	baz=281,slow=75,SNR=102						
H11N2	**WAKE ISLAND Hy**	**41.97**	**84**	T	T	03 45 31.9	
	baz=281,slow=75,SNR=88						
H11N3	**WAKE ISLAND Hy**	**41.99**	**84**	T	T	03 45 32.2	
	baz=281,slow=75,SNR=80						
H11S3	**WAKE ISLAND Hy**	**42.00**	**85**	T	T	03 45 29.8	
	baz=281,slow=75,SNR=115						
H11S1	**WAKE ISLAND Hy**	**42.01**	**85**	T	T	03 45 30.5	
	baz=281,slow=75,SNR=122						
PETK	**Petropavlovsk-**	**42.02**	**32**	P	**P**	**03 00 41.1**	**+1.5**
	comp=Z,4.5nm,0.9s,baz=225,slow=8.2,SNR=4.8						
PETK				LR	LR	03 18 12.3	
	comp=Z,65nm,21.0s,baz=240,slow=36						
H11S2	**WAKE ISLAND Hy**	**42.02**	**85**	T	T	03 45 31.1	
	baz=281,slow=75,SNR=91						
PET	**Petropavlovsk**	**42.44**	**32**	*i* P	**P**	**03 00 43.9**	**+0.9**
PET				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WRAB	**Tennant Creek**	**42.53**	**163**	*e*P	**P**	**03 00 42.4**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WRAB	**Tennant Creek**	**42.53**	**163**	*e*P	**P**	**03 00 42.4**	**-1.7**
	comp=Z,5.1nm,0.9s						
WRA	**Warramunga Arr**	**42.54**	**163**	P	**P**	**03 00 42.3**	**-1.8**
	comp=Z,1.7nm,0.6s,baz=343,slow=9.0,SNR=6.0						
WRA	**Warramunga Arr**	**42.54**	**163**	*i* P	**P**	**03 00 42.2**	**-1.9**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
**Z

comp=Z,1.1nm,0.6s,baz=44,slow=5.3,SNR=7.7
EGAK Eagle 73.98 26 *e*P **P 03 04 24.5 +1.0**
comp=Z,3.4nm,0.9s
FINES FINESS Array B 74.48 330 P **P 03 04 25.7 -0.8**
comp=Z,2.1nm,0.8s,baz=48,slow=5.7,SNR=7.3
FINES FINESS Array B 74.48 330 *i* P **P 03 04 26.8 +0.3**
FINES pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 75.63 307 P **P 03 04 33.1 -0.7**
comp=Z,0.9nm,0.7s,baz=98,slow=5.9,SNR=6.0
BRTR Keskin Array B 75.63 307 *ce* P **P 03 04 34.2 +0.4**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
AKASG Malin Array Be 75.68 319 P **P 03 04 32.5 -1.1**
comp=Z,1.9nm,0.7s,baz=61,slow=5.3,SNR=8.1
KIEV Kiev 75.69 319 *e*P **P 03 04 33.0 -0.7**
KWP Kalwaria Pacla 80.00 319 *e*P **P 03 04 57.6 -0.2**
KWP Kalwaria Pacla 80.00 319 *e*P **P 03 04 57.7 -0.1**
DLBC Dease Lake 81.19 30 P **P 03 05 05.2 +1.1**
comp=Z,1.0nm,0.5s,baz=291,slow=11,SNR=3.5
NIE Niedzica 81.53 320 *e*P **P 03 05 06.3 +0.3**
NIE Niedzica 81.53 320 *e*P **P 03 05 06.3 +0.3**
OJC Ojcow 81.53 321 *e*P **P 03 05 05.6 -0.3**
OJC Ojcow 81.53 321 *e*P **P 03 05 05.7 -0.2**
DPC Dobruska-Polom 83.51 322 *e*P **P 03 05 17.0 +0.6**
DPC Dobruska-Polom 83.51 322 *e*P **P 03 05 17.0 +0.6**
TREC Trest 84.45 321 *e*P **P 03 05 21.5 +0.3**
TREC Trest 84.45 321 *e*P **P 03 05 21.5 +0.3**
BRG Berggiesshubel 84.64 323 *e*P P 03 05 30.6 +8.5
comp=Z,5.8nm,1.4s
BRG Berggiesshubel 84.64 323 *e*P P 03 05 30.5 +8.5
BRG pmax pmax
comp=Z,6.0nm,1.4s
PRU Pruhonice 84.70 322 *e*pP P 03 05 27.4 +5.1
PRU Pruhonice 84.70 322 *e*P P 03 05 27.4 +5.1
CLL Collm 84.97 323 *e*P **P 03 05 23.0 -0.7**
CLL pmax pmax
comp=Z,3.0nm,0.8s
CLL Collm 84.97 323 *e*P **P 03 05 23.0 -0.7**
comp=Z,3.0nm,0.8s
YKW3 Yellowknife Ar 85.44 23 *e*P **P 03 05 25.8 0.0**
comp=Z,0.1nm,0.8s
YKA Yellowknife Ar 85.49 23 P **P 03 05 26.3 +0.3**
comp=Z,3.9nm,0.7s,baz=310,slow=4.7,SNR=43
GERES GERESS Array B 85.70 321 P **P 03 05 27.5 0.0**
comp=Z,0.8nm,0.7s,baz=60,slow=5.3,SNR=8.5

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*IDC **20** 02:52:57.9±16.0, 51.°86N×176.°94W, h0km, mb3.5/4, mb1 4.0/4, mb1mx3.5/45, mbtmp3.6/4, Error ellipse: s-maj=320.2km s-min=62.0km az=83.0*
*ISCJB **20** 02:52:58.8±0.6, 52.°0N±0.°2×179.°88E±0.°07, h143km±7km, mb3.4/4, Error ellipse: s-maj=29.9km s-min=6.7km az=178.5*
*NEIC **20** 02:53:00.9, 51.°90N×179.°86E, h136km, MG3.2(AEIC), After AEIC.*

ISC 20 02:52:59.7±0.9, 52.°0N±0.°2×179.°87E±0.°05, h139km±8km, n26, σ0.°62/31, mb3.6/4, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CERAA	**Semis' Rag'd T**	**0.13**	**238**	P		**Pn**	**02 53 18.5**	**0.0**
CERB	**Semis' Cerberu**	**0.15**	**253**	P		**Pn**	**02 53 18.9**	**+0.4**
CERB				S		**Sn**	**02 53 33.2**	**+0.4**
CEAP	**Semis' Anvil P**	**0.18**	**279**	P		**Pn**	**02 53 18.9**	**+0.4**
CESW	**Semis' Southwe**	**0.20**	**248**	P		**Pn**	**02 53 18.6**	**0.0**
AMKA	**Amchitka**	**0.69**	**211**	*e*Pg		**Pn**	**02 53 20.9**	**0.0**
AMKA				*e*S		**Sn**	**02 53 36.2**	**-0.8**
LSPA	**Little Sitkin**	**0.80**	**269**	P		**Pn**	**02 53 22.2**	**+0.5**
LSNW	**Little Sitkin**	**0.83**	**270**	P		**Pn**	**02 53 22.1**	**+0.2**
LSSA	**Little Sitkin**	**0.84**	**269**	P		**Pn**	**02 53 22.2**	**+0.2**
GALAA	**Gareloi Lava P**	**0.87**	**104**	P		**Pn**	**02 53 22.6**	**+0.3**
GAEA	**Gareloi East**	**0.88**	**102**	P		**Pn**	**02 53 22.6**	**+0.3**
TASE	**Tanaga Southea**	**1.31**	**95**	P		**Pn**	**02 53 26.6**	**+0.2**
TAFP	**Tanaga Falls P**	**1.33**	**92**	P		**Pn**	**02 53 26.7**	**+0.1**
TAFP				S		**Sn**	**02 53 46.8**	**-0.4**
KICM	**Kanaga Island**	**1.82**	**91**	P		**Pn**	**02 53 32.2**	**+0.3**
KIKV	**Kanaga Island**	**1.84**	**92**	P		**Pn**	**02 53 32.2**	**+0.1**
KIRH	**Kanaga Island**	**1.88**	**91**	P		**Pn**	**02 53 32.9**	**+0.2**
ETKA	**Kagalaska Isla**	**2.31**	**91**	P		**Pn**	**02 53 38.0**	**+0.2**
GSCK	**Great Sitkin C**	**2.46**	**88**	P		**Pn**	**02 53 39.6**	**-0.1**
GSTR	**Great Sitkin T**	**2.52**	**86**	*e*Pn		**Pn**	**02 53 41.0**	**+0.5**
GSTR				*e*S		**Sn**	**02 54 12.4**	**+0.5**
GSMY	**Great Sitkin M**	**2.52**	**87**	P		**Pn**	**02 53 40.8**	**+0.3**
SMY	**Shemya**	**3.62**	**284**	*e*Pn		**Pn**	**02 53 54.2**	**-0.3**
ATKA	**Atka Island**	**3.67**	**84**	P		**Pn**	**02 53 55.2**	**0.0**
ATKA				S		**Sn**	**02 54 37.1**	**-1.1**
SDPT	**Sand Point**	**12.13**	**66**	*e*Pn		**Pn**	**02 55 46.9**	**-0.8**
ILAR	**Eielson Array**	**21.31**	**40**	P		**P**	**02 57 33.8**	**-1.3**
	0.2nm,0.3s,baz=240,slow=9.0,SNR=16							
YKA	**Yellowknife Ar**	**35.42**	**47**	P		**P**	**02 59 43.0**	**+1.2**
	0.9nm,0.5s,baz=283,slow=7.7,SNR=16							
PDAR	**Pinedale Array**	**46.92**	**72**	P		**P**	**03 01 15.2**	**-1.0**
	0.8nm,0.7s,baz=338,slow=6.0,SNR=7.5							
TXAR	**Lajitas Array**	**59.38**	**81**	P		**P**	**03 02 48.6**	**+1.3**
	0.4nm,0.6s,baz=304,slow=6.5,SNR=8.6							

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*IDC **20** 02:55:12.0±1.1, 52.°74N×169.°98W, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.7/48, mbtmp3.8/9, ML3.8/1, Error ellipse: s-maj=30.4km s-min=21.5km az=165.0*
*ISCJB **20** 02:55:13.7±1.2, 52.°8N±0.°1×169.°76W±0.°08, h12km±8km, mb3.8/8, Error ellipse: s-maj=17.9km s-min=5.1km az=159.4*
*NEIC **20** 02:55:13.5, 52.°84N×169.°67W, h1km, ML3.7(AEIC), After AEIC.*

ISC 20 02:55:13.5±1.5, 52.°86N±0.°10×169.°79W±0.°05, h5km±10km, n30, σ1.°09/37, mb3.8/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.58**	**78**	P		**Pg**	**02 55 24.3**	**-0.3**
NIKH				S		**Sg**	**02 55 32.5**	**+0.4**
OKWR	**Okmok West Rim**	**1.11**	**58**	P		**Pg**	**02 55 35.0**	**+0.2**
OKAK	**Okmok**	**1.12**	**49**	P		**Pg**	**02 55 33.0**	**-2.0**
OKCE	**Okmok Cone E**	**1.13**	**59**	P		**Pg**	**02 55 34.6**	**-0.6**
OKCE				S		**Sb**	**02 55 51.2**	**+0.7**
OKTU	**Okmok Mt. Tuli**	**1.18**	**63**	P		**Pg**	**02 55 35.5**	**-0.5**
MSOM	**Makushin Julie**	**1.96**	**59**	P		**Pn**	**02 55 48.0**	**+0.8**
MSOM				S		**Sn**	**02 56 12.6**	**+0.5**
MCIR	**Makushin Cirqu**	**2.05**	**57**	P		**Pn**	**02 55 49.4**	**+0.8**
MSW	**Makushin Switc**	**2.09**	**58**	P		**Pn**	**02 55 49.7**	**+0.6**
MTBL	**Makushin Table**	**2.17**	**58**	P		**Pn**	**02 55 51.1**	**+0.8**
UNV	**Unalaska Valle**	**2.21**	**62**	*e*Pn		**Pn**	**02 55 50.5**	**-0.2**
UNV				*e*S		**Sn**	**02 56 17.6**	**-0.7**
AKRB	**Akutan Reef Bi**	**2.56**	**59**	P		**Pn**	**02 55 56.5**	**+0.9**
AKGG	**Akutan Green G**	**2.63**	**58**	P		**Pn**	**02 55 56.9**	**+0.3**
AKUT	**Akutan**	**2.72**	**60**	*e*Pn		**Pn**	**02 55 58.8**	**+1.0**
AKUT				*e*S		**Sb**	**02 56 35.9**	**-0.2**
ATKA	**Atka Island**	**2.77**	**258**	P		**Pn**	**02 55 59.7**	**+1.2**
WESP	**Westdahl Peak**	**3.43**	**59**	P		**Pn**	**02 56 09.4**	**+1.8**
GSTR	**Great Sitkin T**	**3.91**	**261**	*e*Pn		**Pn**	**02 56 15.8**	**+1.7**
GSTR				*e*S		**Sb**	**02 57 08.8**	**-1.6**
GSCK	**Great Sitkin C**	**3.99**	**260**	P		**Pn**	**02 56 17.0**	**+1.7**
FALS	**False Pass**	**4.27**	**60**	*e*Pn		**Pn**	**02 56 20.1**	**+1.1**
FALS				*e*S		**Sb**	**02 57 21.1**	**+0.3**
SPIA	**Saint Paul Isl**	**4.34**	**357**	P		**Pn**	**02 56 21.8**	**+1.9**
AMKA	**Amchitka**	**6.88**	**262**	*e*Pn		**Pn**	**02 56 57.2**	**+2.3**
ILAR	**Eielson Array**	**16.70**	**35**	Pn		**Pn**	**02 59 08.0**	**+0.1**
	0.1nm,0.3s,baz=227,slow=11,SNR=9.5							
SEY	**Seymchan**	**22.15**	**312**	P		**P**	**03 00 09.1**	**-0.7**
	0.8nm,0.3s,baz=139,slow=7.0,SNR=4.4							
DLBC	**Dease Lake**	**22.86**	**60**	P		**P**	**03 00 18.8**	**+1.4**
	3.7nm,0.6s,baz=276,slow=6.7,SNR=12							
INK	**Inuvik**	**23.08**	**34**	P				
	2.1nm,0.6s,baz=178,slow=4.7,SNR=3.7					**P**	**03 00 18.6**	**-0.9**
YKA	**Yellowknife Ar**	**30.11**	**49**	P		**P**	**03 01 24.0**	**+0.5**
	0.2nm,0.5s,baz=275,slow=7.2,SNR=3.9							
NVAR	**Mina Array Bea**	**37.93**	**91**	P		**P**	**03 02 32.0**	**+0.1**
	0.8nm,0.7s,baz=302,slow=7.7,SNR=4.9							
PDAR	**Pinedale Array**	**40.56**	**79**	P		**P**	**03 02 54.0**	**+0.2**
	0.6nm,0.5s,baz=352,slow=2.9,SNR=8.3							
TXAR	**Lajitas Array**	**52.99**	**89**	P		**P**	**03 04 31.1**	**0.0**
	1.9nm,0.7s,baz=298,slow=5.4,SNR=22							
ASAR	**Alice Springs**	**90.52**	**230**	P		**P**	**03 08 15.3**	**-0.9**
	1.1nm,0.7s,baz=35,slow=4.9,SNR=8.9							
BOSA	**Boshof**	**153.34**	**329**	PKPbc		**PKPbc**	**03 15 11.2**	**-1.2**
	1.6nm,0.8s,baz=39,slow=3.7,SNR=4.0							

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*VIE **20** 03:07:55.5±0.2, 46.°37N×15.°10E, h0km, mb1.0/2, ML1.0/3, Error ellipse: s-maj=1.7km s-min=1.3km az=115.0, Suspected Mining induced.*
*CSEM **20** 03:07:56.1±0.2, 46.°39N×15.°07E, h1km, ML1.3/4, Error ellipse: s-maj=5.5km s-min=3.5km az=83.0, Suspected Mining induced.*

LJU 20 03:07:56.1, 46.°39N×15.°07E, h0km, ML0.6, 5C-1D Rockburst, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PERS	**Pernice**	**0.25**	**7**	*i* Pg	Pg		03 08 01.1	+0.1
PERS				*i* Sg	Sg		03 08 05.1	+0.8
	comp=Z,10.0nm,0.2s							
PERS	**Pernice**	**0.25**	**7**	*i* Pg	Pg		03 08 01.1	+0.1
PERS				*i* Sg	Sg		03 08 05.1	+0.8
	comp=Z,10.0nm,0.2s							
SOKA	**Soboth**	**0.29**	**355**	Pg	Pg		03 08 01.6	-0.2
SOKA				Sg	Sg		03 08 06.0	+0.3
	comp=Z,11nm,0.5s							
SOKA	**Soboth**	**0.29**	**355**	⇑ *i* Pg	Pg		03 08 01.6	-0.2
SOKA				⇑ *i* Sg	Sg		03 08 06.0	+0.3
	comp=Z,11nm,0.5s							
OBKA	**Obir**	**0.38**	**288**	Pg	Pg		03 08 03.4	-0.2
OBKA				Sg	Sg		03 08 08.9	+0.3
	comp=Z,11nm,0.4s							
OBKA	**Obir**	**0.38**	**288**	⇑ *i* Pg	Pg		03 08 03.4	-0.1
OBKA				⇑ *i* Sg	Sg		03 08 08.9	+0.3
	comp=Z,11nm,0.4s							
LEGS	**Legarje**	**0.47**	**159**	*i* Pg	Pg		03 08 05.2	0.0
LEGS				*i* Sg	Sg		03 08 12.4	+1.0
LEGS	**Legarje**	**0.47**	**159**	*i* Pg	Pg		03 08 05.2	0.0
LEGS				*i* Sg	Sg		03 08 12.4	+1.0
ARSA	**Arzberg**	**0.92**	**20**	Pg	Pg		03 08 12.9	-0.8
ARSA				Sg	Sg		03 08 26.5	+0.8
	comp=Z,1.9nm,0.3s							
ARSA	**Arzberg**	**0.92**	**20**	⇑ *i* Pg	Pg		03 08 12.9	-0.8
ARSA				⇓ *i* Sg	Sg		03 08 26.5	+0.8
	comp=Z,1.9nm,0.3s							

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*IDC **20** 03:09:29.2±9.2, 52.°56N×170.°18W, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.6/64, mbtmp3.6/7, ML3.4/1, MS3.0/1, Ms1 3.1/1, ms1mx2.5/39, Error ellipse: s-maj=165.2km s-min=37.8km az=81.0*
*ISCJB **20** 03:09:32.7±0.6, 52.°63N±0.°09×169.°45W±0.°08, h10km, mb3.6/6, Error ellipse: s-maj=14.5km s-min=4.0km az=155.5*
*NEIC **20** 03:09:33.5, 52.°65N×169.°38W, h5km, mb3.8/3, ML3.7(AEIC), After AEIC.*

ISC 20 03:09:34.3±0.9, 52.°7N±0.°1×169.°40W±0.°07, h10km, n38, σ1.°07/37, mb3.6/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.42**	**53**	P		**Pb**	**03 09 43.2**	**-0.5**
NIKH				S		**Sb**	**03 09 50.3**	**+0.2**
OKWR	**Okmok West Rim**	**1.02**	**45**	P		**Pg**	**03 09 54.5**	**-0.2**
OKCE	**Okmok Cone E**	**1.03**	**46**	P		**Pg**	**03 09 53.5**	**-0.5**
OKTU	**Okmok Mt. Tuli**	**1.06**	**50**	P		**Pg**	**03 09 54.6**	**0.0**
MSOM	**Makushin Julie**	**1.84**	**52**	P		**Pn**	**03 10 05.8**	**0.0**
MSOM				S		**Sb**	**03 10 30.8**	**-0.2**
MGOD	**Makushin Gods**	**1.86**	**54**	P		**Pn**	**03 10 06.1**	**-0.1**
MCIR	**Makushin Cirqu**	**1.95**	**50**	P		**Pn**	**03 10 07.6**	**+0.3**
MSW	**Makushin Switc**	**1.98**	**52**	P		**Pn**	**03 10 06.8**	**-0.9**
MTBL	**Makushin Table**	**2.06**	**51**	P		**Pn**	**03 10 09.3**	**+0.4**
UNV	**Unalaska Valle**	**2.07**	**56**	*e*Pn		**Pn**	**03 10 08.2**	**-0.9**
UNV				*e*S		**Sg**	**03 10 39.9**	**-1.0**
AKRB	**Akutan Reef Bi**	**2.44**	**53**	P		**Pn**	**03 10 14.5**	**+0.3**
ZRO	**Akutan Zero**	**2.47**	**55**	P		**Pn**	**03 10 14.5**	**0.0**
AKGG	**Akutan Green G**	**2.52**	**53**	P		**Pn**	**03 10 15.8**	**+0.6**
AKUT	**Akutan**	**2.59**	**55**	*e*Pn		**Pn**	**03 10 16.8**	**+0.6**
AKUT				*e*S		**Sn**	**03 10 49.4**	**+1.6**
ATKA	**Atka Island**	**2.98**	**262**	P		**Pn**	**03 10 21.3**	**-0.2**
GSTR	**Great Sitkin T**	**4.12**	**264**	*e*Pn		**Pn**	**03 10 37.1**	**-0.2**
GSTR				*e*S		**Sn**	**03 11 24.7**	**-0.9**
FALS	**False Pass**	**4.14**	**57**	*e*Pn		**Pn**	**03 10 37.9**	**+0.4**
FALS				*e*S		**Sb**	**03 11 33.1**	**-4.2**
GSCK	**Great Sitkin C**	**4.20**	**263**	P		**Pn**	**03 10 38.6**	**+0.2**
SPIA	**Saint Paul Isl**	**4.49**	**354**	P		**Pn**	**03 10 43.4**	**+1.1**
SDPT	**Sand Point**	**5.88**	**60**	*e*Pn		Pn	03 11 05.1	+3.8
AMKA	**Amchitka**	**7.10**	**264**	*e*Pn		**Pn**	**03 11 18.5**	**+0.4**
OHAK	**Old Harbor**	**10.29**	**58**	*e*Pn		**Pn**	**03 12 02.4**	**+0.6**
ILAR	**Eielson Array**	**16.67**	**35**	Pn		**Pn**	**03 13 27.2**	**-0.5**
	0.1nm,0.3s,baz=227,slow=11,SNR=4.8							
ILAR				LR		LR	03 20 02.1	
	comp=Z,54nm,20.2s,baz=260,slow=37							
EGAK	**Eagle**	**18.78**	**39**	*e*Pn		**Pn**	**03 13 53.7**	**0.0**
	1.9nm,0.6s							
HYT	**Haines Junctio**	**19.10**	**52**	*e*P		**Pn**	**03 13 58.5**	**+0.7**
	3.1nm,0.5s							
DLBC	**Dease Lake**	**22.72**	**60**	P		**P**	**03 14 37.8**	**+1.7**
	3.5nm,1.0s,baz=280,slow=11,SNR=5.0							
DLBC	**Dease Lake**	**22.72**	**60**	*e*P		**P**	**03 14 38.1**	**+2.1**
	4.9nm,1.1s							
INK	**Inuvik**	**23.07**	**34**	P		**P**	**03 14 40.3**	**+0.9**
	1.9nm,0.7s,baz=262,slow=4.9,SNR=3.8							
YKA	**Yellowknife Ar**	**30.03**	**49**	P		**P**	**03 15 42.2**	**-0.6**
	0.2nm,0.5s,baz=274,slow=7.7,SNR=5.3							
NVAR	**Mina Array Bea**	**37.69**	**91**	P		**P**	**03 16 51.3**	**+1.4**
	0.3nm,0.5s,baz=303,slow=7.0,SNR=3.3							
H11N2	**WAKE ISLAND Hy**	**37.72**	**218**	T		T	03 56 48.3	
	baz=23,slow=76,SNR=37							
H11N3	**WAKE ISLAND Hy**	**37.72**	**218**	T		T	03 56 47.5	
	baz=23,slow=76,SNR=46							
H11N1	**WAKE ISLAND Hy**	**37.73**	**218**	T		T	03 56 42.7	
	baz=23,slow=76,SNR=36							
H11S1	**WAKE ISLAND Hy**	**38.91**	**218**	T		T	03 58 18.7	
	baz=23,slow=76,SNR=595							
H11S2	**WAKE ISLAND Hy**	**38.92**	**218**	T		T	03 58 10.4	
	baz=23,slow=76,SNR=221							
H11S3	**WAKE ISLAND Hy**	**38.92**	**218**	T		T	03 58 18.8	
	baz=23,slow=76,SNR=242							
PDAR	**Pinedale Array**	**40.36**	**80**	P		**P**	**03 17 11.7**	**-0.5**
	0.7nm,0.6s,baz=327,slow=4.5,SNR=6.8							
TXAR	**Lajitas Array**	**52.76**	**89**	P		**P**	**03 18 49.4**	**0.0**
	1.6nm,0.8s,baz=299,slow=5.5,SNR=17							

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*IDC **20** 03:10:21.0±0.4, 35.°91N×22.°07E, h0km, mb4.5/35, mb1 4.6/43, mb1mx4.5/55, mbtmp4.5/43, ML4.2/7, MS4.0/32, Ms1 4.0/32, ms1mx3.9/52, Error ellipse: s-maj=11.0km s-min=10.2km az=98.0*
*CSEM **20** 03:10:22.3±0.1, 35.°74N×21.°82E, h10km, mb4.9/43, Ms3.9, Error ellipse: s-maj=3.5km s-min=2.5km az=15.0*
*BJI **20** 03:10:22.8, 36.°27N×21.°74E, h28km, mb4.9/31, mB4.9/24, Ms4.8/14, Ms7 4.4/8*
*NEIC **20** 03:10:23.5, 35.°74N×21.°96E, h22km, mb4.9/57, ML4.8(ATH), ML4.8(THE), After ATH.*
*ATH **20** 03:10:23.5, 35.°74N±21.°96E, h22km±1km, ML4.8*
*THE **20** 03:10:24.1, 35.°78N×21.°97E, h3km, ML4.8/8, Error ellipse: s-maj=1.1km s-min=0.5km az=67.0*
*ISCJB **20** 03:10:24.3±0.5, 35.°96N±0.°02×21.°93E±0.°02, h23km±3km, mb4.7/118, MS4.1/29, Error ellipse: s-maj=3.4km s-min=2.0km az=17.5*
*BEO **20** 03:10:25.4±0.9, 36.°01N×21.°44E, h0km, ML4.5/3*
*MOS **20** 03:10:25.3±1.0, 36.°05N×22.°06E, h33km, mb5.1/36, MS4.0/19, Error ellipse: s-maj=6.2km s-min=3.0km az=92.1*
*SZGRF **20** 03:10:27.7, 36.°89N×22.°05E, h10km, mb4.7, MS3.9, Southern Greece*
*PDG **20** 03:10:28.8±0.4, 36.°29N×21.°58E, h13km±4km, ML4.6/12, Error ellipse: s-maj=5.0km s-min=2.0km az=90.0*
*HLW **20** 03:11:27.0, 31.°83N×25.°63E, h33km±27km, Md3.2, Ml3.1*

ISC 20 03:10:25.4±0.3, 35.°92N±0.°02×21.°92E±0.°02, h28km±1km, h27km:pP-P, n1326, σ1.°56/1396, mb4.8/117, MS4.1/29, 64C-43D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.98**	**68**	*e*PN		**Pn**	**03 10 43.2**	**-0.1**
KYTH	**Kithira**	**0.98**	**68**	*e*Pn		**Pn**	**03 10 43.2**	**-0.1**
KYTH	**Kithira**	**0.98**	**68**	P		**Pn**	**03 10 43.1**	**-0.2**
KYTH	**Kithira**	**0.98**	**68**	P		**Pn**	**03 10 43.1**	**-0.2**
PYL	**PYLOS**	**0.99**	**352**	*e*PN		**Pb**	**03 10 45.3**	**+1.4**
PYL				*e*SN		**Sb**	**03 11 01.9**	**+5.4**
PYL	**PYLOS**	**0.99**	**352**	P		**Pb**	**03 10 45.0**	**+1.1**
PYL	**PYLOS**	**0.99**	**352**	*e*Pn		**Pb**	**03 10 45.3**	**+1.4**
PYL				S		**Sb**	**03 11 01.8**	**+5.3**
PYL	**PYLOS**	**0.99**	**352**	P		**Pb**	**03 10 45.0**	**+1.1**
PYL				S		**Sb**	**03 11 01.8**	**+5.3**
ANKY	**Antikythira Is**	**1.12**	**92**	P		**Pn**	**03 10 44.7**	**-0.6**
ANKY				S		**Sb**	**03 11 00.0**	**-0.4**
ANKY	**Antikythira Is**	**1.12**	**92**	P		**Pn**	**03 10 44.7**	**-0.6**
ANKY	**Antikythira Is**	**1.12**	**92**	P		**Pn**	**03 10 44.7**	**-0.6**
ANKY				S		**Sb**	**03 11 00.0**	**-0.4**
VLI	**Veliai**	**1.15**	**46**	*e*PN		**Pb**	**03 10 47.1**	**+0.5**
VLI				*e*SN		**Sb**	**03 11 05.4**	**+4.3**
VLI	**Veliai**	**1.15**	**46**	P		**Pb**	**03 10 46.7**	**+0.1**
VLI	**Veliai**	**1.15**	**46**	*e*Pn		**Pb**	**03 10 47.1**	**+0.5**
VLI				S		**Sb**	**03 11 04.5**	**+3.4**
VLI				*e*Sn		**Sb**	**03 11 05.4**	**+4.3**
VLI	**Veliai**	**1.15**	**46**	P		**Pb**	**03 10 46.7**	**+0.1**
VLI	**Veliai**	**1.15**	**46**	P		**Pb**	**03 10 46.7**	**+0.1**
VLI				S		**Sb**	**03 11 04.5**	**+3.4**
ITM	**Ithomi**	**1.26**	**0**	*e*PN		**Pb**	**03 10 50.1**	**+1.6**
ITM				*e*SN		**Sb**	**03 11 09.9**	**+5.5**
ITM	**Ithomi**	**1.26**	**0**	P		**Pb**	**03 10 49.1**	**+0.6**
ITM	**Ithomi**	**1.26**	**0**	*e*Pn		**Pb**	**03 10 50.1**	**+1.6**
ITM				S		**Sb**	**03 11 09.1**	**+4.7**
ITM	**Ithomi**	**1.26**	**0**	P		**Pb**	**03 10 49.1**	**+0.6**
ITM	**Ithomi**	**1.26**	**0**	P		**Pb**	**03 10 49.1**	**+0.6**
ITM				S		**Sb**	**03 11 09.1**	**+4.7**
VLX	**Vlachokerasia**	**1.50**	**14**	*e*PN		**Pb**	**03 10 53.8**	**+1.2**
VLX	**Vlachokerasia**	**1.50**	**14**	P		**Pb**	**03 10 52.4**	**-0.2**
VLX	**Vlachokerasia**	**1.50**	**14**	*e*Pn		**Pb**	**03 10 53.8**	**+1.2**
VLX				S		**Sb**	**03 11 15.0**	**+3.8**
VLX	**Vlachokerasia**	**1.50**	**14**	P		**Pb**	**03 10 52.4**	**-0.2**
VLX				S		**Sb**	**03 11 15.0**	**+3.8**
VLX	**Vlachokerasia**	**1.50**	**14**	P		**Pb**	**03 10 52.4**	**-0.2**
VLX				S		**Sb**	**03 11 15.0**	**+3.8**
SFD	**Strofades**	**1.52**	**332**	P		**Pb**	**03 10 52.8**	**-0.1**
SFD	**Strofades**	**1.52**	**332**	P		**Pb**	**03 10 52.8**	**-0.1**
SFD				S		**Sb**	**03 11 16.1**	**+4.4**
AMT	**Artemida-Makis**	**1.62**	**354**	*e*PB		**Pb**	**03 10 54.9**	**+0.2**
AMT	**Artemida-Makis**	**1.62**	**354**	P		**Pb**	**03 10 54.6**	**-0.1**
AMT	**Artemida-Makis**	**1.62**	**354**	*e*Pb		**Pb**	**03 10 54.9**	**+0.2**
AMT				S		**Sb**	**03 11 18.4**	**+3.7**
AMT	**Artemida-Makis**	**1.62**	**354**	P		**Pb**	**03 10 54.6**	**-0.1**
AMT				S		**Sb**	**03 11 18.4**	**+3.7**
KRND	**KRANIDI**	**1.77**	**34**	*e*PB		**Pb**	**03 10 56.5**	**-0.6**
KRND	**KRANIDI**	**1.77**	**34**	*e*Pb		**Pb**	**03 10 56.5**	**-0.6**
DIDY	**Didyma**	**1.87**	**33**	*e*PB		**Pb**	**03 10 58.1**	**-0.9**
DIDY	**Didyma**	**1.87**	**33**	*e*Pb		**Pb**	**03 10 58.1**	**-0.9**
DIDY	**Didyma**	**1.87**	**33**	P		**Pb**	**03 10 58.0**	**-0.9**
DID	**Didima**	**1.91**	**33**	P		**Pb**	**03 10 58.0**	**-1.5**
DID	**Didima**	**1.91**	**33**	P		**Pb**	**03 10 58.0**	**-1.5**
DID	**Didima**	**1.91**	**33**	P		**Pb**	**03 10 58.0**	**-1.5**
VAM	**Vamos**	**1.93**	**105**	*e*PN		**Pn**	**03 10 56.8**	**+0.5**
VAM	**Vamos**	**1.93**	**105**	*e*Pn		**Pn**	**03 10 56.8**	**+0.5**
ZKS	**Zakynthos**	**2.00**	**333**	P		**Pn**	**03 10 58.5**	**+1.2**
ZKS	**Zakynthos**	**2.00**	**333**	P		**Pn**	**03 10 58.5**	**+1.2**
DRO	**Drossia**	**2.04**	**355**	P		**Pb**	**03 11 01.0**	**-0.8**
DRO				S		**Sb**	**03 11 28.2**	**+1.5**
DRO	**Drossia**	**2.04**	**355**	P		**Pb**	**03 11 01.0**	**-0.8**
DRO				S		**Sb**	**03 11 28.2**	**+1.5**
GUR	**Goura**	**2.04**	**9**	*e*PB		**Pb**	**03 11 02.0**	**+0.1**
GUR	**Goura**	**2.04**	**9**	P		**Pn**	**03 11 00.1**	**+2.0**
GUR	**Goura**	**2.04**	**9**	*e*Pb		**Pb**	**03 11 02.0**	**+0.1**
GUR				S		**Sb**	**03 11 28.6**	**+1.6**
GUR	**Goura**	**2.04**	**9**	P		**Pn**	**03 11 00.1**	**+2.0**
GUR				S		**Sb**	**03 11 28.6**	**+1.6**
GUR	**Goura**	**2.04**	**9**	P		**Pn**	**03 11 00.1**	**+2.0**
GUR				S		**Sb**	**03 11 28.6**	**+1.6**
GVD	**Gavdhos**	**2.07**	**121**	*e*Pn		**Pn**	**03 10 57.3**	**-1.0**
GVD	**Gavdhos**	**2.07**	**121**	*e*Pn		**Pb**	**03 10 57.3**	**-1.0**
VTN	**Vitineika**	**2.08**	**344**

LKR	Lokris	2.86	17	P		Pn	03 11 11.6 +2.4	CUC	Castrococco	6.31	312	*e*Pn		Pn	03 11 57.1 +0.5	UDBI	Udbina	9.80	333	*i* Pn		Pn	03 12 45.9 +1.5
LKR	Lokris	2.86	17	P		Pn	03 11 11.6 +2.4	CUC				*e*S		Sn	03 13 12.1 +4.3	VOIR		9.80	13	⇓*i*P		Pn	03 12 46.4 +1.9
LKR	Lokris	2.86	17	P		Pn	03 11 11.6 +2.4	CUC	Castrococco	6.31	312	*e*Pn		Pn	03 11 57.1 +0.5	VOIR		9.80	13	⇓*i*P		Pn	03 12 46.4 +1.9
SANT	Santorini	2.90	80	*e*PN		Pn	03 11 10.3 +0.5	CUC				*e*S		Sn	03 13 12.1 +4.3	TIRR	Tirgusor	9.87	28	*e*P		Pn	03 12 45.9 +0.6
SANT	Santorini	2.90	80	P		Pn	03 11 10.3 +0.5	KDZ	Kurdzhali	6.34	24	*i* P		Pn	03 11 58.8 +1.8	TIRR	Tirgusor	9.87	28	⇑*i*P		Pn	03 12 47.0 +1.7
SANT	Santorini	2.90	80	P		Pn	03 11 10.3 +0.5	KDZ	Kurdzhali	6.34	24	*i* P		Pn	03 11 58.8 +1.8	TIRR	Tirgusor	9.87	28	*e*P		Pn	03 12 45.9 +0.6
SANT	Santorini	2.90	80	P		Pn	03 11 10.3 +0.5	ULC	Ulcinj	6.39	342	⇑*i*Pn		Pn	03 11 57.8 +0.1	TIRR	Tirgusor	9.87	28	*e*Pn		Pn	03 12 45.9 +0.6
THR1	Thera Island	2.90	80	*e*PN		Pn	03 11 10.4 +0.6	ULC				*e*Sn		Sn	03 13 05.5 -4.2	BR131	Keskin Array S	10.02	64	*e*Pn		Pn	03 12 47.2 -0.4
THR1	Thera Island	2.90	80	*e*Pn		Pn	03 11 10.4 +0.6	ULC	Ulcinj	6.39	342	⇑*i*Pn		Pn	03 11 57.8 +0.1		comp=E,12nm,0.8s						
AXAR	Agios Charalam	2.91	12	*e*PN		Pn	03 11 13.0 +3.1	EDC	Edincik	6.44	45	*e*PN		Pn	03 12 00.9 +2.6	BR131	Keskin Array S	10.02	64	*e*Pn		Pn	03 12 47.2 -0.4
AXAR	Agios Charalam	2.91	12	P		Pn	03 11 12.9 +3.1	EDC	Edincik	6.44	45	*e*Pn		Pn	03 12 01.0 +2.6		comp=E,12nm,0.8s						
AXAR	Agios Charalam	2.91	12	P		Pn	03 11 12.9 +3.1	DST	Dursunbey	6.46	53	*e*PN		Pn	03 12 01.6 +2.9	BRTR	Keskin Array B	10.02	64	Pn		Pn	03 12 50.0 +2.4
AXAR	Agios Charalam	2.91	12	P		Pn	03 11 12.9 +3.1	DST	Dursunbey	6.46	53	*e*Pn		Pn	03 12 01.6 +2.9		comp=E,0.5nm,0.3s,baz=248,slow=13,SNR=28						
ATAL	Atalanti	2.91	17	P		Pn	03 11 12.0 +2.2	ELL	Elmali	6.50	80	*e*PN		Pn	03 12 03.1 +0.9	BRTR				LR		LR	03 17 06.5
ATAL	Atalanti	2.91	17	P		Pn	03 11 12.0 +2.2	ELL	Elmali	6.50	80	*e*Pn		Pn	03 12 00.3 +0.9		comp=E,854nm,21.4s,baz=246,slow=41						
ATAL	Atalanti	2.91	17	P		Pn	03 11 12.0 +2.2	KHL	Karahalli	6.53	66	*e*PN		Pn	03 12 02.4 +2.7	MLR	Muntele Rosu	10.04	16	Pn		Pn	03 12 49.4 +1.6
KARY	Karystos	2.92	43	P		Pn	03 11 12.1 +2.1	KHL	Karahalli	6.53	66	*e*Pn		Pn	03 12 02.4 +2.7		comp=E,0.2nm,0.3s,baz=194,slow=6.9,SNR=11						
EREA	Eretria	2.97	32	*e*PN		Pn	03 11 14.1 +3.4	PLD	Plovdiv	6.55	18	*e*Pn		Pn	03 12 02.6 +2.8	MLR				LR		LR	03 17 33.1
EREA	Eretria	2.97	32	P		Pn	03 11 13.5 +2.8	PLD	Plovdiv	6.55	18	P		Pb	03 12 09.9 -8.6		comp=E,494nm,18.2s,baz=196,slow=43						
EREA	Eretria	2.97	32	*e*Pn		Pn	03 11 14.1 +3.4	PLD	Plovdiv	6.55	18	*e*Pn		Pn	03 12 02.6 +2.8	MLR	Muntele Rosu	10.04	16	⇑*i*P		Pn	03 12 49.4 +1.6
EREA	Eretria	2.97	32	P		Pn	03 11 13.5 +2.8	DRME	Dracevica, Mon	6.61	342	⇑*i*Pn		Pn	03 12 01.2 +0.5	NVLJ	Novalja	10.17	330	*e*Pn		Pn	03 12 49.5 0.0
EVR	Evrytania	3.00	358	*e*PB		Pb	03 11 16.0 -2.1	DRME				*e*Sn		Sn	03 13 11.1 -4.1	NVLJ				Sn		Sn	03 14 37.5 -5.1
LAST	Lasithi	3.00	104	P		Pn	03 11 11.4 +0.2	DRME	Dracevica, Mon	6.61	342	⇑*i*Pn		Pn	03 12 01.2 +0.5	NVLJ	Novalja	10.17	330	*e*Pn		Pn	03 12 49.5 0.0
LAST	Lasithi	3.00	104	P		Pn	03 11 11.4 +0.2	KCTX	Karacabey (Bur	6.68	48	*e*PN		Pn	03 12 04.5 +2.8	KEST	Kesra	10.21	273	Pn		Pn	03 12 51.9 +1.7
LAST	Lasithi	3.00	104	P		Pn	03 11 11.4 +0.2	KCTX	Karacabey (Bur	6.68	48	*e*Pn		Pn	03 12 04.5 +2.8		comp=E,0.1nm,0.3s,baz=80,slow=14,SNR=5.0						
NPS	Neapolis	3.08	101	*e*PN		Pn	03 11 12.5 +0.3	DIM	Dimitrovgrad	6.74	24	*i* P		Pn	03 12 05.6 +3.1	KEST				LR		LR	03 17 54.0
NPS	Neapolis	3.08	101	*e*Pn		Pn	03 11 12.5 +0.3	DIM	Dimitrovgrad	6.74	24	*i* P		Pn	03 12 05.6 +3.1		comp=E,170nm,19.0s,baz=29,slow=44						
MRKA	Markates	3.09	25	*e*PN		Pn	03 11 15.8 +3.5	BUM	Brajici-Budva	6.79	341	⇓*i*Pn		Pn	03 12 03.1 -0.2	KEST	Kesra	10.21	273	*e*Pn		Pn	03 12 52.4 +2.2
MRKA	Markates	3.09	25	P		Pn	03 11 14.7 +2.4	BUM				*e*Sn		Sn	03 13 14.5 -5.2	KEST	Kesra	10.21	273	*e*Pn		Pn	03 12 52.4 +2.2
MRKA	Markates	3.09	25	*e*Pn		Pn	03 11 15.8 +3.5	BUM	Brajici-Budva	6.79	341	⇓*i*Pn		Pn	03 12 03.1 -0.2	HFRF	Wahat Farafira	10.30	146	P		Pn	03 12 43.1 -8.2
MRKA	Markates	3.09	25	P		Pn	03 11 14.7 +2.4	PDG	Podgorica	6.83	343	*e*Pn		Pn	03 12 03.8 +0.2		baz=152						
MAKR	Makrakomi, Fth	3.10	3	*e*PN		Pb	03 11 17.0 -2.8	PDG				*e*Sn		Sn	03 13 17.5 -2.9	HFRF	Wahat Farafira	10.30	146	P		Pn	03 12 43.1 -8.2
MAKR	Makrakomi, Fth	3.10	3	*e*Pn		Pb	03 11 17.0 -2.8	PDG	Podgorica	6.83	343	*e*Pn		Pn	03 12 03.8 +0.2		baz=152						
AGG	Agios Georgios	3.12	6	*e*PN		Pn	03 11 16.0 +3.3	TTG	Podgorica	6.83	343	⇓*i*Pn		Pn	03 12 03.6 0.0	SIRR	Siria	10.34	359	⇓*i*P		Pn	03 12 53.0 +1.1
AGG	Agios Georgios	3.12	6	*e*P		Pn	03 11 16.4 +3.6	TTG				*e*Sn		Sn	03 13 15.6 -4.8	SIRR	Siria	10.34	359	⇓*i*P		Pn	03 12 53.0 +1.1
AGG				*e*			03 11 49.1	PVY	Plav	6.84	348	⇓*i*Pn		Pn	03 12 05.2 +1.2	CFR	Carcaliu	10.39	25	⇑*i*P		Pn	03 12 53.5 +1.1
AGG	Agios Georgios	3.12	6	*e*PN		Pn	03 11 16.8 +4.1	PVY				*e*Sn		Sn	03 13 17.0 -3.9	CFR	Carcaliu	10.39	25	⇑*i*Pn		Pn	03 12 53.5 +1.1
AGG	Agios Georgios	3.12	6	*e*P		Pn	03 11 16.4 +3.6	PVY	Plav	6.84	348	⇓*i*Pn		Pn	03 12 05.2 +1.2	PLOR	Plostina	10.55	18	⇓*i*P		Pn	03 12 56.8 +2.1
AGG				*e*S		Sn	03 11 49.1 0.0	PGB	Panagyurishte	6.85	14	*i* P		Pn	03 12 06.5 +2.5	PLOR	Plostina	10.55	18	⇓*i*Pn		Pn	03 12 56.8 +2.1
AGG	Agios Georgios	3.12	6	*e*Pn		Pn	03 11 16.4 +3.6	PGB	Panagyurishte	6.85	14	*i* P		Pn	03 12 06.5 +2.5	VSL	Villasalto	10.56	294	*e*Pn		Pn	03 12 54.7 -0.1
AGG				*e*Sn		Sn	03 11 49.1 0.0	BARS	Barje	6.89	359	*e*Pn		Pn	03 12 05.8 +1.2	VSL				*e*S		Sn	03 14 50.0 -2.1
APE	Apeiranthos	3.13	67	*e*PN		Pn	03 11 13.3 +0.4	BARS	Barje	6.89	359	*e*Pn		Pn	03 12 05.8 +1.2	VSL	Villasalto	10.56	294	*e*Pn		Pn	03 12 54.7 -0.1
APE	Apeiranthos	3.13	67	*d*⇓*i*P		Pn	03 11 13.3 +0.4	TVSB	Tavsanli	6.94	57	*e*PN		Pn	03 12 07.1 +1.7	VSL				*e*S		Sn	03 14 50.0 -2.1
APE	Apeiranthos	3.13	67	⇓*i*P		Pn	03 11 13.4 +0.4	TVSB	Tavsanli	6.94	57	*e*Pn		Pn	03 12 07.1 +1.7	PKSM	Moragy	10.58	348	⇓*i*P		Pn	03 12 53.8 -1.2
APE				S		Sn	03 11 50.5 +1.1	HCY	Herceg Novi	7.04	339	⇑*i*Pn		Pn	03 12 06.1 -0.5	PKSM	Moragy	10.58	348	⇑*e*PKiKP		Pn	03 12 53.4 -1.6
APE	Apeiranthos	3.13	67	*i* P		Pn	03 11 13.3 +0.4	HCY				*e*Sn		Sn	03 13 21.1 -4.6	VRI	Vrincioaia	10.58	19	⇓*i*P		Pn	03 12 57.5 +2.4
SMIA	Simia	3.13	19	*e*PN		Pn	03 11 15.4 +2.5	HCY	Herceg Novi	7.04	339	⇑*i*Pn		Pn	03 12 06.1 -0.5	VRI	Vrincioaia	10.58	19	⇓*i*P		Pn	03 12 57.5 +2.4
SMIA	Simia	3.13	19	*e*Pn		Pn	03 11 15.4 +2.5	MDNY	Mudanya-Bursa	7.06	49	*e*PN		Pn	03 12 09.9 +3.0	NBNS	Bani Suef	10.76	130	P		Pn	03 12 52.3 -5.3
SMIA	Simia	3.13	19	P		Pn	03 11 15.2 +2.3	MDNY	Mudanya-Bursa	7.06	49	*e*Pn		Pn	03 12 09.9 +3.0		baz=121						
DSL	Palaion Diasel	3.28	349	*e*PN		Pn	03 11 18.1 +3.2	ANTB	Antalya	7.11	80	*e*PN		Pn	03 12 08.0 +0.4	NBNS	Bani Suef	10.76	130	P		Pn	03 12 52.3 -5.3
DSL	Palaion Diasel	3.28	349	*e*Pn		Pn	03 11 18.1 +3.2	ANTB	Antalya	7.11	80	*e*Pn		Pn	03 12 08.0 +0.4		baz=121						
DSL	Palaion Diasel	3.28	349	P		Pn	03 11 18.2 +3.3	BEY	Berane	7.12	348	*e*PN		Pn	03 12 09.1 +1.3	BOJS	Bojanci	10.83	334	*e*Pn		Pn	03 12 58.7 +0.3
DSL	Palaion Diasel	3.28	349	P		Pn	03 11 18.2 +3.3	IVA	Berane	7.12	348	*e*Pn		Pn	03 12 09.1 +1.3	BOJS				*e*Sn		Sn	03 14 52.8 -5.9
NEO	Neokhori	3.54	17	P		Pn	03 11 21.3 +2.8	IVA				*e*Sn		Sn	03 13 23.4 -4.4	BOJS	Bojanci	10.83	334	*e*Pn		Pn	03 12 58.7 +0.3
NEO	Neokhori	3.54	17	P		Pn	03 11 21.3 +2.8	BCK	Bucak	7.13	75	*e*PN		Pn	03 12 09.2 +1.2	DRGR		10.88	3	⇑*i*P		Pn	03 13 00.6 +1.3
NEO	Neokhori	3.54	17	P		Pn	03 11 21.3 +2.8	BCK	Bucak	7.13	75	*e*Pn		Pn	03 12 09.2 +1.2	DRGR		10.88	3	⇑*i*P		Pn	03 13 00.6 +1.3
FYTO	Fytoko, Volos	3.58	13	P		Pn	03 11 21.9 +2.9	CLTB	Caltabellotta	7.18	286	*e*PN		Pn	03 12 10.2 +1.6	GBRS	Gornja Briga	11.01	333	*e*Pn		Pn	03 13 01.0 0.0
FYTO	Fytoko, Volos	3.58	13	P		Pn	03 11 21.9 +2.9	CLTB				*e*S		Sn	03 13 28.8 -0.5	MMAI	Mount Meron Ar	11.50	101	Pn		Pn	03 13 03.8 -4.1
FYTO	Fytoko, Volos	3.58	13	P		Pn	03 11 21.9 +2.9	CLTB	Caltabellotta	7.18	286	*e*Pn		Pn	03 12 10.2 +1.6		comp=E,2.2nm,0.3s,baz=255,slow=13,SNR=3.9						
XOR	Xorichti	3.59	16	*e*PN		Pn	03 11 22.1 +2.9	CLTB				*e*S		Sn	03 13 28.8 -0.5	LJU	Ljubljana	11.55	333	*e*Pn		Pn	03 13 09.0 +0.6
XOR	Xorichti	3.59	16	*e*Pn		Pn	03 11 22.1 +2.9	NKME	Niksic	7.22	342	⇑*i*Pn		Pn	03 12 08.9 -0.1	TRI	Trieste	11.56	330	*e*P		Pn	03 13 06.8 -1.7
AOS	Alonnisos	3.60	25	*e*PN		Pn	03 11 22.1 +2.7	NKME				*e*Sn		Sn	03 13 25.3 -4.8	TRI				*e*S		Sn	03 15 12.2 -4.4
AOS	Alonnisos	3.60	25	*e*PN		Pn	03 11 22.2 +2.8	NKME	Niksic	7.22	342	⇑*i*Pn		Pn	03 12 08.9 -0.1	TRI	Trieste	11.56	330	*e*P		Pn	03 13 06.8 -1.7
AOS	Alonnisos	3.60	25	*e*Pn		Pn	03 11 22.2 +2.8	NKY	Niksic	7.25	343	⇑*i*Pn		Pn	03 12 09.5 -0.1	TRI				*e*S		Sn	03 15 12.2 -4.4
IGT	Igoumenitsa	3.82	341	*e*PN		Pn	03 11 24.0 +1.6	NKY				*e*Sn		Sn	03 13 26.3 -4.7	TRI	Trieste	11.56	330	*e*Pn		Pn	03 13 06.8 -1.7
IGT	Igoumenitsa	3.82	341	*e*Pn		Pn	03 11 24.0 +1.6	NKY	Niksic	7.25	343	⇑*i*Pn		Pn	03 12 09.5 -0.1	TRI				*e*S		Sn	03 15 12.2 -4.4
CHOS	Chios island	4.12	52	*e*PN		Pn	03 11 28.4 +1.8	SWA2		7.29	155	P		Pn	03 12 06.7 -3.4	SOKA	Soboth	11.93	336	Pn		Pn	03 13 12.2 -1.4
CHOS	Chios island	4.12	52	*e*Pn		Pn	03 11 28.4 +1.8		baz=184								SNR=14						
LIT	Litokhoron	4.20	6	*e*PN		Pn	03 11 30.5 +2.9	SWA2		7.29	155	P		Pn	03 12 06.7 -3.4	SOKA	Soboth	11.93	336	⇑*i*Pn		Pn	03 13 12.2 -1.4
LIT	Litokhoron	4.20	6	*e*Pn		Pn	03 11 30.5 +2.9		baz=184								SNR=14						
PAIG	Paliouri	4.24	19	*e*PN		Pn	03 11 30.6 +2.5	SELS	Selova	7.32	355	*e*Pn		Pn	03 12 10.5 +0.1	OBKA	Obir	11.94	335	Pn		Pn	03 13 13.2 -0.6
PAIG	Paliouri	4.24	19	*e*Pn		Pn	03 11 30.6 +2.5	TREB	Trebinje	7.33	339	*e*Pn		Pn	03 12 09.7 -0.9		SNR=8.6						
NIS1	Nisyros Isl.	4.31	79	*e*PN		Pn	03 11 29.8 +0.7	TREB	Trebinje	7.33	339	*e*Pn		Pn	03 12 09.7 -0.9	OBKA	Obir	11.94	335	⇑*i*Pn		Pn	03 13 13.2 -0.6
NIS1	Nisyros Isl.	4.31	79	*e*PN		Pn	03 11 30.2 +1.1	ZAPS	Zavoj	7.37	4	*e*Pn		Pn	03 12 12.9 +1.8		SNR=8.6						
NIS1	Nisyros Isl.	4.31	79	*e*Pn		Pn	03 11 30.2 +1.1	IZI	Iznik	7.41	51	*e*PN		Pn	03 12 13.3 +1.5	OBKA				⇓*i*Sn		Sn	03 15 21.2 -4.9
URLA	Izmir	4.46	55	*i* P		Pn	03 11 32.6 +1.4	IZI	Iznik	7.41	51	*e*Pn		Pn	03 12 13.3 +1.5	BURAR	Bucovina Array	11.94	11	⇑*i*P		Pn	03 13 15.9 +2.1
URLA				*i* S		Sn	03 12 19.7 -2.5	BRY	Bratogost	7.45	340	⇓*i*Pn		Pn	03 12 12.0 -0.3	BURAR	Bucovina Array	11.94	11	⇑*i*P		Pn	03 13 15.9 +2.1
URLA	Izmir	4.46	55	*i* P		Pn	03 11 32.6 +1.4	BRY				*e*Sn		Sn	03 13 31.3 -4.6	BUR08	Bucovina Ar. S	11.97	11	*e*Pn		Pn	03 13 15.3 +1.1
BODT	Bodrum	4.49	74	*e*PN		Pn	03 11 32.9 +1.2	BRY	Bratogost	7.45	340	⇓*i*Pn		Pn	03 12 12.0 -0.3	BUR08	Bucovina Ar. S	11.97	11	*e*Pn		Pn	03 13 15.3 +1.1
BODT	Bodrum	4.49	74	*e*Pn		Pn	03 11 32.9 +1.2	SJES	Sjenica	7.49	349	*e*Pn		Pn	03 12 13.4 +0.6	PSZ	Piszkesteto	12.09	353	*e*P		Pn	03 13 15.4 -0.4
SIGR	SIGRI	4.54	42	*e*PN		Pn	03 11 35.1 +2.9	SJES				*e*Sn		Sn	03 13 33.5 -3.3	PSZ	Piszkesteto	12.09	353	⇓*i*P		Pn	03 13 17.1 +1.3
SIGR	SIGRI	4.54	42	*e*Pn		Pn	03 11 35.1 +2.9	MPEP	Malo Peshtene	7.56	10	*i* P		Pn	03 12 17.1 +3.4	PSZ	Piszkesteto	12.09	353	*e*P		Pn	03 13 15.4 -0.4
BDRM	Kayabasi	4.60	74	*i* P		Pn	03 11 33.8 +0.7	MPEP	Malo Peshtene	7.56	10	*i* P		Pn	03 12 17.1 +3.4	PSZ	Piszkesteto	12.09	353	*e*Pn		Pn	03 13 15.4 -0.4
BDRM	Kayabasi	4.60	74	*i* P		Pn	03 11 33.8 +0.7	ADVT	Abdulvahap	7.63	51	*e*PN		Pn	03 12 16.7 +2.0	PSZ	Piszkesteto	12.09	353	⇓*e*P		Pn	03 13 15.8 0.0
OUR	Ouranopolis	4.70	20	*e*PN		Pn	03 11 37.2 +2.7	ADVT	Abdulvahap	7.63	51	*e*Pn		Pn	03 12 16.7 +2.0	HDK1	Dakhla	12.17	146	P		Pn	03 13 09.4 -7.6
OUR	Ouranopolis	4.70	20	*e*Pn		Pn	03 11 37.2 +2.7	UPM	Unac-Piva	7.64	343	⇑*i*Pn		Pn	03 12 15.2 +0.2		baz=151						
BLCB	Balcova	4.78	57	*e*PN		Pn	03 11 36.8 +1.3	UPM				*e*Sn		Sn	03 13 35.9 -4.8	HDK1	Dakhla	12.17	146	P		Pn	03 13 09.4 -7.6
BLCB	Balcova	4.78	57	*e*Pn		Pn	03 11 36.8 +1.3	UPM	Unac-Piva	7.64	343	⇑*i*Pn		Pn	03 12 15.2 +0.2		baz=151						
IZM	Izmir	4.94	58	*e*PN		Pn	03 11 39.7 +2.0	PLE	Pljevlja	7.66	346	⇑*i*Pn		Pn	03 12 16.1 +0.9	KIS	Kishinev	12.21	23	*e*P	P	03 13 26.0 -3.6
IZM	Izmir	4.94	58	*e*Pn		Pn	03 11 39.7 +2.0	PLE				*e*Sn		Sn	03 13 36.1 -4.9	KIS				*e*S	Sn	03 15 47.0 +14
AYDN	Tasoluk	5.09	68	*i* P		Pn	03 11 41.5 +1.6	PLE	Pljevlja	7.66	346	⇑*i*Pn		Pn	03 12 16.1 +0.9	KIS				*e*LQ	LQ	03 16 58.0	
AYDN	Tasoluk	5.09	68	*i* P		Pn	03 11 41.5 +1.6	STON	Ston	7.67	336	*e*Pn		Pn	03 12 14.8 -0.5	KIS				LRM	MLR	03 18 36.0	
AYDB	Zeytinkoy-Aydi	5.20	65	*e*PN		Pn	03 11 43.8 +2.4	STON				Sn		Sn	03 13 37.6 -3.6		comp=E,2μm,14.0s						
AYDB	Zeytinkoy-Aydi	5.20	65	*e*Pn		Pn	03 11 43.8 +2.4	STON	Ston	7.67	336	*e*Pn		Pn	03 12 14.7 -0.5	ARSA	Arzberg	12.29	339	⇑*i*Pn		Pn	03 13 17.0 -1.4
SLUM		5.20	147	P		Pn	03 11 37.8 -3.5	IVAS	Ivanjica	7.77	350	*e*Pn		Pn	03 12 16.8 +0.1		SNR=13						
	baz=227							IVAS	Ivanjica	7.77	350	*e*Pn		Pn	03 12 16.9 +0.2	MYKA	Terra Mystica	12.37	332	Pn		Pn	03 13 19.5 -0.2
SLUM		5.20	147	P		Pn	03 11 37.8 -3.5	IVAS	Ivanjica	7.77	350	*e*Pn		Pn	03 12 16.9 +0.2		SNR=7.1						
	baz=227							BOLS	Boljevac	7.90	0	*e*Pn		Pn	03 12 18.2 -0.2	MYKA	Terra Mystica	12.37	332	⇓*i*Pn		Pn	03 13 19.5 -0.2
SLUM		5.20	147	P		Pn	03 11 37.8 -3.5	BOLS	Boljevac	7.90	0	*e*Pn		Pn	03 12 18.2 -0.2		SNR=7.1						
EZN	Ezine	5.23	40	*e*PN		Pn	03 11 44.5 +2.7	SZH	Strazhica	7.97	22	P		Pn	03 12 20.1 +0.8	MYKA				⇑*i*Sn		Sn	03 15 32.1 -4.5
EZN	Ezine	5.23	40	*e*Pn		Pn	03 11 44.5 +2.7	SZH	Strazhica	7.97	22	P		Pn	03 12 20.1 +0.8	SOP	Sopron	12.41	343	⇓*e*P		Pn	03 13 19.9 -0.3
TIP	Timpagrande	5.24	310	*e*Pn		Pn	03 11 42.5 +0.6	GRUS	Gruza	8.02	354	*e*Pn		Pn	03 12 19.9 -0.1	SOP	Sopron	12.41	343	⇓*e*pPKiKP		Pn	03 13 19.9 -0.3
TIP				*e*S		Sn	03 12 38.2 -3.1	GRUS	Gruza	8.02	354	*e*Pn		Pn	03 12 19.9 -0.1	KECS	Kecovo	12.60	356	*e*P		Pn	03 13 23.0 +0.3
TIP	Timpagrande	5.24	310	*e*Pn		Pn	03 11 42.5 +0.6	GULT	Gulveren	8.13	54	*e*PN		Pn	03 12 22.9 +1.2	KECS	Kecovo	12.60	356	*e*P		Pn	03 13 23.0 +0.3
TIP				*e*S		Sn	03 12 38.2 -3.1	GULT	Gulveren	8.13	54	*e*Pn		Pn	03 12 22.9 +1.2	KECS	Kecovo	12.60	356	*e*PN		Pn	03 13 23.0 +0.3
YER	Yerkesik	5.27	75	*e*PN		Pn	03 11 43.7 +1.4	BBLS	Lazići	8.17	347	*e*Pn		Pn	03 12 21.7 -0.5	KECS				*e*PG	P	03 14 25.0 +51
YER	Yerkesik	5.27	75	*e*Pn		Pn	03 11 43.7 +1.4	BBLS	Lazići	8.17	347	*e*Pn		Pn	03 12 21.7 -0.5	EIL	Elat	12.61	116	Pn		Pn	03 13 19.1 -3.7
GADA	Gvkgeada	5.30	35	*e*PN		Pn	03 11 45.9 +3.2	DIVS	Divibare	8.30	350	*e*Pn		Pn	03 12 23.7 -0.3		comp=E,1.3nm,0.3s,baz=342,slow=4.3,SNR=21						
GADA	Gvkgeada	5.30	35	*e*Pn		Pn	03 11 45.9 +3.2	DIVS				*e*Sn		Sn	03 13 53.4 -3.5	UZH	Uzhgorod	12.71	1	⇑*i*P		Pn	03 13 24.2 0.0
VAY	Valandovo	5.42	5	*e*Pn		Pn	03 11 47.5 +3.1	DIVS	Divibare	8.30	350	⇑*i*P		Pn	03 12 24.8 +0.8	UZH				*e*S		Sn	03 15 46.6 +2.0
VAY				*e*Sn		Sn	03 12 48.5 +2.7	DIVS	Divibare	8.30	350	*e*Pn		Pn	03 12 23.7 -0.3	UZH				MLR	MLR		
VAY				*e*Lg		Lg	03 12 48.8	DIVS	Divibare	8.30	350	⇑*i*P		Pn	03 12 24.8 +0.8		comp=N,900nm,10.0s						
	comp=N,485nm,1.8s							TRUS	Trudelj	8.38	353	*e*Pn		Pn	03 12 23.9 -1.0	UZH				MLR	MLR		
VAY				*e*Lg		Lg	03 12 49.9	SVRH	Sivrihisar-ESK	8.39	62	*e*PN		Pn	03 12 26.3 +1.1		comp=E,1μm,10.0s						
	comp=E,142nm,0.8s							SVRH	Sivrihisar-ESK	8.39	62	*e*Pn		Pn	03 12 26.3 +1.1	UZH				MLR	MLR		
VAY	Valandovo	5.42	5	*e*Pn		Pn	03 11 46.5 +2.2	GAZI	Gazipasa	8.43	85	*i* P		Pn	03 12 27.1 -3.5		comp=Z,500nm,10.0s						
VAY	Valandovo	5.42	5	*e*Pn		Pn	03 11 46.5 +2.2	GAZI				*i* S		Sn	03 13 48.6 -11	UZH	Uzhgorod	12.71	1	*i* P		Pn	03 13 24.2 0.0
VAY				*e*Sn		Sn	03 12 48.5 +2.7	KIZT	Kizilcal	8.46	67	*e*PN		Pn	03 12 27.7 +1.5	VYHS	Vyhne	12.77	351	*e*P		Pn	03 13 24.4 -0.7
VAY				*e*Lg		Lg	03 12 49.8	KIZT	Kizilcal	8.46	67	*e*Pn		Pn	03 12 27.7 +1.5	VYHS	Vyhne	12.77	351	*e*PN		Pn	03 13 24.4 -0.7
	comp=E,142nm,0.8s							MDUB	Mudurnu	8.60	55	*e*PN		Pn	03 12 30.4 +2.3	VYHS				*e*PG	P	03 14 26.8 +51
TURN	Turunc	5.48	78	*i* P		Pn	03 11 41.8 -3.3	MDUB	Mudurnu	8.60	55	*e*Pn		Pn	03 12 30.4 +2.3	CONA	Conrad Observa	12.81	341	Pn		Pn	03 13 24.9 -0.8
TURN				*i* S		Sn	03 12 40.4 -6.8	SRE	Strehaia	8.79	6	⇓*i*P		Pn	03 12 32.9 +2.3	CONA	Conrad Observa	12.81	341	⇑*i*Pn		Pn	03 13 24.9 -0.8
DALY	Dalyan (Mu¨la	5.51	79	*e*PN		Pn	03 11 47.2 +1.6	SRE	Str

SNR=11
WATA Walderalm 13.77 329⇑ *i*Pn **Pn** **03 13 38.7 -0.1**
SNR=11
FUORN Ofenpass-Fuorn 13.81 324 *e*Pn **Pn** **03 13 41.1 +1.7**
FUORN Ofenpass-Fuorn 13.81 324 *e*Pn **Pn** **03 13 41.1 +1.7**
FETA Feichten 13.89 326 Pn **Pn** **03 13 41.4 +0.9**
SNR=12
FETA Feichten 13.89 326⇑ *i*Pn **Pn** **03 13 41.4 +0.9**
SNR=12
FETA ⇑ *i*Sn **Sn** **03 16 10.3 -3.5**
VRAC Vranov 13.94 345 Pn **Pn** **03 13 39.8 -1.2**
comp=Z,0.2nm,0.3s,baz=167,slow=12,SNR=9.7
VRAC LR LR 03 19 32.9
comp=Z,617nm,19.2s,baz=166,slow=40
MOTA Moosalm 13.97 328 Pn **Pn** **03 13 41.9 +0.3**
SNR=13
MOTA Moosalm 13.97 328⇓ *i*Pn **Pn** **03 13 41.9 +0.3**
SNR=13
MOTA ⇓ *i*Sn **Sn** **03 16 11.2 -4.6**
LVV L'vov 13.98 6⇓ *i*P **Pn** **03 13 44.1 +2.6**
LVV MLR MLR
comp=N,100nm,10.0s
LVV MLR MLR
comp=E,200nm,10.0s
LVV MLR MLR
comp=Z,300nm,10.0s
DAVOX Davos/Dischmat 14.11 324 Pn **Pn** **03 13 44.5 +1.0**
comp=Z,0.5nm,0.3s,baz=138,slow=16,SNR=12
DAVOX Sn **Sn** **03 16 21.6 +2.5**
comp=Z,0.9nm,0.3s,baz=323,slow=23,SNR=6.6
DAVOX LR LR 03 21 07.1
comp=Z,363nm,18.0s,baz=116,slow=46
DAVOX Davos/Dischmat 14.11 324 P **Pn** **03 13 44.5 +1.0**
DAVOX 03 16 21.6
DAVOX pmax pmax
comp=Z,1.0nm,0.3s
DAVOX smax smax
comp=N,1.0nm,0.3s
DAVOX MLR MLR
comp=Z,363nm,18.0s
TUE Stuetta 14.15 322 *e*Pn **Pn** **03 13 45.5 +1.4**
TUE *e*S **Sn** **03 16 17.6 -2.6**
TUE Stuetta 14.15 322 *e*Pn **Pn** **03 13 45.5 +1.4**
TUE *e*S **Sn** **03 16 17.6 -2.6**
TREC Trest 14.18 343 *e*P **Pn** **03 13 41.8 -2.4**
TREC *ex* x 03 13 52.0
TREC *es*P 03 14 02.0
TREC AMS AMS 03 20 20.0
comp=Z,1μm,15.2s
TREC Trest 14.18 343 *e*P **Pn** **03 13 41.8 -2.4**
TREC MLR MLR
comp=Z,1μm,15.2s
OKC Ostrava-Krasne 14.18 350 *e*P **Pn** **03 13 43.2 -1.1**
OKC *ex* x 03 13 53.2
OKC *ep*P P 03 13 59.1 +7.7
OKC *ex* x 03 14 04.1
OKC AMS AMS 03 21 20.0
comp=Z,800nm,12.4s
OKC Ostrava-Krasne 14.18 350 *e*P **Pn** **03 13 43.2 -1.1**
OKC MLR MLR
comp=Z,800nm,12.4s
MORC Moravsky Berou 14.22 348 *e*P **Pn** **03 13 44.2 -0.6**
MORC pmax pmax
comp=Z,52nm,0.5s
MORC Moravsky Berou 14.22 348⇑ *i*P **Pn** **03 13 45.6 +0.8**
MORC Moravsky Berou 14.22 348 *e*Pn **Pn** **03 13 44.2 -0.6**
comp=Z,52nm,0.5s
MORC Moravsky Berou 14.22 348 *e*Pn **Pn** **03 13 44.2 -0.6**
comp=Z,52nm,0.5s
RETA Reutte 14.23 328 Pn **Pn** **03 13 45.8 +0.7**
RETA Reutte 14.23 328⇓ *i*Pn **Pn** **03 13 45.8 +0.7**
GEC2 GERESS Array S 14.26 337 *e*P **Pn** **03 13 44.1 -1.4**
GEC2 GERESS Array S 14.26 337 *e*P **Pn** **03 13 44.1 -1.4**
GEC2 pmax pmax
comp=Z,7μm,1.3s
GEC2 GERESS Array S 14.26 337 *e*Pn **Pn** **03 13 44.1 -1.4**
comp=Z,7μm,1.3s
GERES GERESS Array B 14.26 337 Pn **Pn** **03 13 45.6 +0.1**
comp=Z,0.8nm,0.3s,baz=152,slow=12,SNR=52
GERES Sn **Sn** **03 16 17.6 -5.2**
comp=Z,0.4nm,0.3s,baz=154,slow=23,SNR=3.8
GERES LR LR 03 20 36.8
comp=Z,1μm,18.9s,baz=137,slow=43
SURF Saint Ours 14.35 311⇑ *e*P **Pn** **03 13 50.0 +3.2**
OJC Ojcow 14.38 355 *e*P **Pn** **03 13 47.3 +0.3**
OJC *e* 03 13 55.1
OJC Ojcow 14.38 355 *e*P **Pn** **03 13 47.3 +0.3**
OJC Ojcow 14.38 355 *e*Pn **Pn** **03 13 48.9 +1.9**
OJC Ojcow 14.38 355 *e*Pn **Pn** **03 13 48.9 +1.9**
DAVA Damuels 14.48 325 Pn **Pn** **03 13 49.8 +1.3**
SNR=11
DAVA Damuels 14.48 325⇑ *i*Pn **Pn** **03 13 49.8 +1.3**
SNR=11
DAVA ⇓ *i*Sn **Sn** **03 16 26.2 -1.8**
FUR Furstenfeldbru 14.55 331 *e*P **Pn** **03 13 49.5 +0.1**
KHC Kasperske Hory 14.55 338 *e*P **Pn** **03 13 49.5 +0.1**
KHC *ex* x 03 13 58.0
KHC *e*S **Sn** **03 16 25.5 -4.2**
KHC *ex* x 03 16 34.0
KHC Kasperske Hory 14.55 338 *e*P **Pn** **03 13 49.5 +0.1**
KHC *e*S **Sn** **03 16 25.5 -4.2**
KRLC Kraliky 14.64 347 *e*P **Pn** **03 13 50.3 -0.2**
KRLC *ex* x 03 13 58.8
KRLC *ep*P pP 03 14 06.7
KRLC Kraliky 14.64 347 *e*P **Pn** **03 13 50.3 -0.2**
OG25 Le Caire 14.75 310⇑ *e*P **P** **03 13 56.7 -1.2**
ANN Anapa 14.77 48 *e*P **Pn** **03 13 54.1 +1.9**
ANN *e*S **Sn** **03 16 39.3 +4.5**
ANN pmax pmax
comp=Z,41nm,0.8s
WET Wettzell 14.79 336 *e*P **Pn** **03 13 51.6 -1.0**
GOPC GO Pecny, Ondr 14.92 342 *e*P **Pn** **03 13 53.1 -1.2**
GOPC *ex* x 03 14 01.4
GOPC *es*P 03 14 11.3
GOPC AMS AMS 03 20 40.0
comp=Z,1μm,15.8s
DPC Dobruska-Polom 14.99 346 *e*P **Pn** **03 13 53.5 -1.7**
DPC *ex* x 03 14 02.3
DPC *ep*P 03 14 08.7
DPC *es*P 03 14 13.3
DPC AMS AMS 03 21 00.0
comp=Z,900nm,10.5s
DPC Dobruska-Polom 14.99 346 *e*P **Pn** **03 13 53.5 -1.7**
DPC MLR MLR
comp=Z,900nm,10.5s
PRU Pruhonice 15.05 341 *e*P **Pn** **03 13 55.6 -0.5**
PRU *ex* x 03 14 02.8
PRU *ep*P **pP** **03 14 11.2 +2.7**
PRU AMS AMS 03 20 50.0
comp=Z,1μm,13.8s
PRU Pruhonice 15.05 341 *e*P **Pn** **03 13 55.6 -0.5**
PRU MLR MLR
comp=Z,1μm,13.8s
SENIN Lac Senin/Sane 15.15 318 *e*Pn **Pn** **03 13 58.9 +1.3**
SENIN Lac Senin/Sane 15.15 318 *e*Pn **Pn** **03 13 58.9 +1.3**
PRA Prague 15.16 341 *e*P **Pn** **03 13 56.9 -0.5**
PRA *ex* x 03 14 04.0
PRA AMS AMS 03 20 50.0
comp=Z,1μm,15.0s
PRA Prague 15.16 341 *e*P **Pn** **03 13 56.9 -0.5**
PRA MLR MLR
comp=Z,1μm,15.0s
UPC Upice 15.20 345 *e*P **Pn** **03 13 54.6 -3.4**
UPC *ex* x 03 14 04.9
UPC *ep*P **pP** **03 14 11.3 +1.2**
UPC AMS AMS 03 21 00.0
comp=Z,600nm,12.0s
UPC Upice 15.20 345 *e*P **Pn** **03 13 54.6 -3.4**
UPC MLR MLR
comp=Z,600nm,12.0s
KSP Ksiaz 15.46 347 *e*P **Pn** **03 14 01.4 0.0**
KSP *e* 03 14 07.5
KSP *e*S **S** **03 17 08.8 +1.7**
KSP Ksiaz 15.46 347 *e*P **Pn** **03 14 01.4 0.0**
PVCC Panska Ves 15.54 342 *e*P **Pn** **03 14 02.6 +0.1**
PVCC *ex* x 03 14 08.6
PVCC AMS AMS 03 21 10.0
comp=Z,1μm,15.8s
PVCC Panska Ves 15.54 342 *e*P **Pn** **03 14 02.6 +0.1**
PVCC MLR MLR
comp=Z,1μm,15.8s
ROTZ Rotzenmuhle 15.55 336 *e*P **Pn** **03 14 01.3 -1.3**
AK02 Malin Array Si 15.65 17 *e*Pn **Pn** **03 14 02.1 -1.7**
AK02 *e*S **S** **03 17 06.3 -4.5**
AK02 Malin Array Si 15.65 17 *e*Pn **Pn** **03 14 02.1 -1.7**
AK02 *e*S **S** **03 17 06.3 -4.5**
SOC Sochi 15.67 55 *e*P **P** **03 14 07.2 -0.8**
SOC pmax pmax
comp=Z,14nm,0.9s
SOC MLR MLR
comp=Z,430nm,15.0s
SOC Sochi 15.67 55 *e*P **P** **03 14 07.2 -0.8**
comp=Z,430nm,15.0s
AK01 Malin Array Si 15.68 17 *e*Pn **Pn** **03 14 02.4 -1.8**
AK01 Malin Array Si 15.68 17 *e*Pn **Pn** **03 14 02.4 -1.8**
KIEV Kiev 15.68 17 *e*P **Pn** **03 14 02.3 -2.0**
KIEV pmax pmax
comp=Z,38nm,1.1s
KIEV Kiev 15.68 17 *e*Pn **Pn** **03 14 02.3 -2.0**
comp=Z,38nm,1.1s
KIEV *e*S **S** **03 17 05.7 -5.8**
KIEV Kiev 15.68 17 *e*Pn **Pn** **03 14 02.3 -2.0**
comp=Z,38nm,1.1s
KIEV *e*S **S** **03 17 05.7 -5.8**
AKASG Malin Array Be 15.69 17 Pn **Pn** **03 14 02.3 -2.1**
comp=Z,2.7nm,0.3s,baz=205,slow=12,SNR=31
AKASG LR LR 03 20 57.3
comp=Z,447nm,19.4s,baz=200,slow=41
AKASG Malin Array Be 15.69 17 *i* P **Pn** **03 14 02.2 -2.2**
AKASG pmax pmax
comp=Z,11nm,0.7s
AKBB Malin Array Si 15.69 17 *e*P **Pn** **03 14 02.5 -1.9**
AKBB Malin Array Si 15.69 17 *e*Pn **Pn** **03 14 02.5 -1.9**
AKBB Malin Array Si 15.69 17 *e*Pn **Pn** **03 14 02.5 -1.9**
BBS Basel-Blauen 15.75 322⇑ *e*P **Pn** **03 14 05.2 0.0**
FELD Feldberg im Sc 15.79 323⇑ *e*P **Pn** **03 14 05.2 -0.6**
GRF Grafenberg Arr 15.82 334 *e*P **Pn** **03 14 05.5 -0.6**
GRF *e*L L 03 21 01.3
comp=Z,709nm,19.3s
GRFO Grafenberg 15.82 334 *e*P **Pn** **03 14 06.2 +0.1**
GRFO pmax pmax
comp=Z,99nm,1.2s
GRFO Grafenberg 15.82 334 *e*Pn **Pn** **03 14 06.2 +0.1**
comp=Z,100nm,1.2s
GRFO Grafenberg 15.82 334 *e*Pn **Pn** **03 14 06.2 +0.1**
comp=Z,100nm,1.2s
NKC Novy Kostel 15.87 337 *e*P Pn 03 13 58.8 -8.0
NKC *ex* x 03 14 09.8
NKC *ex* x 03 14 21.6
NKC AMS AMS 03 21 20.0
comp=Z,2μm,16.0s
NKC Novy Kostel 15.87 337 *e*P Pn 03 13 58.8 -8.0
NKC MLR MLR
comp=Z,2μm,16.0s
STU Stuttgart 15.89 328 *e*P **Pn** **03 14 07.0 0.0**
STU Stuttgart 15.89 328 *e*P **Pn** **03 14 07.0 0.0**
STU pmax pmax
comp=Z,45nm,1.3s
STU Stuttgart 15.89 328 *e*P **Pn** **03 14 07.0 0.0**
STU Stuttgart 15.89 328 *e*Pn **Pn** **03 14 07.0 0.0**
comp=Z,45nm,1.3s
BEL Belsk 15.94 357 *e*P **P** **03 14 12.8 +1.9**
BEL *e*S **S** **03 17 17.6 +0.9**
BEL Belsk 15.94 357 *e*P **P** **03 14 12.9 +2.0**
BFO Black Forest 15.95 325 *e*P **Pn** **03 14 07.3 -0.5**
comp=Z,16nm,1.1s
BFO Black Forest 15.95 325 *e*P **Pn** **03 14 08.4 +0.6**
BFO pmax pmax
comp=Z,13nm,1.0s
BFO Black Forest 15.95 325 *e*P **Pn** **03 14 08.4 +0.6**
comp=Z,13nm,1.0s
BFO *e*S Sn 03 16 52.4 -11
BFO Black Forest 15.95 325 *e*Pn **Pn** **03 14 08.4 +0.6**
comp=Z,13nm,1.0s
BFO *e*S Sn 03 16 52.4 -11
BRG Berggiesshubel 16.02 341 *e*P **Pn** **03 14 08.6 0.0**
comp=Z,18nm,1.4s
comp=N,770nm,17.9s
comp=E,677nm,10.5s
comp=Z,1μm,15.9s
BRG Berggiesshubel 16.02 341 *e*P **Pn** **03 14 08.6 0.0**
BRG Berggiesshubel 16.02 341 *e*P **Pn** **03 14 08.6 0.0**
BRG pmax pmax
comp=Z,18nm,1.4s
BRG MLR MLR
comp=N,770nm,17.9s
BRG MLR MLR
comp=E,677nm,10.5s
BRG MLR MLR
comp=Z,1μm,15.9s
LOMF Lomont 16.02 320⇑ *e*P **Pn** **03 14 08.5 -0.3**
TANN Tannenbergstha 16.03 338 *e*P **Pn** **03 14 10.5 +1.7**
TANN Tannenbergstha 16.03 338 *e*P **Pn** **03 14 10.5 +1.7**
SSB Saint Sauveur 16.15 311 *e*P **Pn** **03 14 10.7 +0.4**
SSB pmax pmax
comp=Z,50nm,1.5s
SSB Saint Sauveur 16.15 311 *e*P **Pn** **03 14 10.7 +0.4**
comp=Z,50nm,1.5s
SSB Saint Sauveur 16.15 311 *e*Pn **Pn** **03 14 10.7 +0.4**
comp=Z,50nm,1.5s
MOF Molkenrain 16.20 322⇑ *e*P **Pn** **03 14 11.5 +0.5**
ECH Echery 16.43 323 *e*P **Pn** **03 14 13.6 -0.3**
ECH *e*S **Sn** **03 17 11.7 -3.6**
ECH pmax pmax
comp=Z,32nm,1.4s
ECH Echery 16.43 323 *e*Pn **Pn** **03 14 13.6 -0.3**
comp=Z,32nm,1.4s
ECH Echery 16.43 323⇑ *e*P **Pn** **03 14 13.9 0.0**
ECH *e*S **Sn** **03 17 11.7 -3.6**
ECH Echery 16.43 323 *e*Pn **Pn** **03 14 13.6 -0.3**
comp=Z,32nm,1.4s
ECH *e*S **Sn** **03 17 11.7 -3.6**
MOX Moxa 16.50 336 *e*P **Pn** **03 14 14.2 -0.5**
comp=Z,68nm,2.0s
MOX *e*L L 03 21 55.8
comp=Z,1μm,19.1s
MOX Moxa 16.50 336 *e*P **Pn** **03 14 14.2 -0.5**
comp=Z,68nm,2.0s
CLL Collm 16.66 340 *e*P **Pn** **03 14 17.6 +0.8**
comp=Z,43nm,1.4s
CLL Collm 16.66 340 *e*P **Pn** **03 14 18.1 +1.3**
CLL pmax pmax
comp=Z,99nm,1.7s
CLL Collm 16.66 340 *e*P **Pn** **03 14 17.6 +0.8**
comp=Z,43nm,1.4s
CLL Collm 16.66 340 *e*Pn **Pn** **03 14 18.1 +1.3**
comp=Z,99nm,1.7s
CLL Collm 16.66 340 *e*Pn **Pn** **03 14 18.1 +1.3**
comp=Z,99nm,1.7s
CLL Collm 16.66 340 *e*P **Pn** **03 14 17.0 +0.2**
CLL *i* 03 14 19.3
comp=Z,14nm,1.3s
CLL *i* (pP) **P** **03 14 20.9 +1.9**
comp=Z,43nm,1.4s
CLL *e* 03 14 40.0
CLL *e*S **S** **03 17 30.0 -1.6**
CLL LmH 03 19 00.0
comp=N,800nm,21.0s
CLL LmH 03 19 00.0
comp=E,1μm,21.9s
CLL Lmax 03 21 00.0
TOD Tromm 16.69 329⇑ *e*P **Pn** **03 14 18.0 +0.8**
LBL Lubilhac 16.93 309 *e*P **Pn** **03 14 21.2 +0.9**
THEF They Montfort 17.02 321⇑ *e*P **Pn** **03 14 21.0 -0.4**
PLDF La Plantade 17.05 312⇑ *e*P **Pn** **03 14 21.7 -0.1**
UBBA Unterbreizbach 17.20 334 *e*P **Pn** **03 14 23.3 -0.1**
comp=Z,22nm,1.4s
UBBA Unterbreizbach 17.20 334 *e*P **Pn** **03 14 23.3 -0.1**
comp=Z,22nm,1.4s
TNS Taunus Mts 17.32 330 *e*P **P** **03 14 26.2 -0.1**
comp=Z,43nm,1.0s
TNS Taunus Mts 17.32 330 *e*P **P** **03 14 26.2 -0.1**
comp=Z,43nm,1.0s
PYM Petit Puy Mans 17.32 310⇑ *e*P **Pn** **03 14 26.0 +0.9**
RUE Ruedersdorf 17.54 343 *e*Pn **P** **03 14 28.9 +0.3**
RUE Ruedersdorf 17.54 343 *e*Pn **P** **03 14 28.9 +0.3**
KIV Kislovodsk 17.80 57 *i* P **Pn** **03 14 30.2 -1.0**
KIV pmax pmax
comp=Z,10.0nm,0.6s
KIV MLR MLR
comp=Z,372nm,18.0s
KIV Kislovodsk 17.80 57 *i* P **Pn** **03 14 30.2 -1.0**
comp=Z,372nm,18.0s
KIV Kislovodsk 17.80 57 *e*Pn **P** **03 14 32.5 +0.8**
comp=Z,19nm,0.7s
KIV Kislovodsk 17.80 57 *e*Pn **P** **03 14 32.5 +0.8**
comp=Z,19nm,0.7s
KBZ Khabaz 17.87 58 P **P** **03 14 32.7 +0.3**
comp=Z,0.6nm,0.3s,baz=255,slow=12,SNR=17
KBZ LR LR 03 22 52.2
comp=Z,469nm,19.2s,baz=260,slow=42
WLF Walferdange 17.91 325 P **P** **03 14 34.7 +2.0**
comp=Z,60nm,1.8s
WLF Walferdange 17.91 325 *e*P **P** **03 14 34.6 +1.8**
comp=Z,146nm,1.6s
WLF Walferdange 17.91 325 *e*P **P** **03 14 34.4 +1.6**
WLF pmax pmax
comp=Z,95nm,1.3s
WLF Walferdange 17.91 325 *e*Pn **P** **03 14 34.4 +1.6**
comp=Z,95nm,1.3s
WLF Walferdange 17.91 325 *e*Pn **P** **03 14 34.4 +1.6**
comp=Z,95nm,1.3s
CLZ Clausthal 17.93 336 *e*P **P** **03 14 34.9 +1.9**
comp=Z,24nm,1.1s
ONI Oni 17.94 62 P **P** **03 14 34.7 +1.5**
SUW Suwalki 18.12 2 *e*P **Pn** **03 14 34.8 0.0**
SUW *e*S **Sn** **03 17 57.7 +1.7**
SUW Suwalki 18.12 2 *e*P **Pn** **03 14 34.9 +0.1**
SUW *e*S **Sn** **03 17 57.7 +1.7**
SUW Suwalki 18.12 2 *e*P **Pn** **03 14 34.9 +0.1**
SUW *e*S **Sn** **03 17 57.7 +1.7**
GOF Gofitskoye 18.44 54 *e*P **P** **03 14 34.9 -3.7**
GOF pmax pmax
comp=Z,30nm,1.2s
GNI Garni 18.46 70 P **P** **03 14 38.8 -0.3**
comp=Z,1.0nm,0.3s,baz=8.7,slow=12,SNR=5.1
GNI LR LR 03 22 55.4
comp=Z,675nm,18.6s,baz=265,slow=41
GNI Garni 18.46 70 *i* P **P** **03 14 38.2 -0.8**
GNI pmax pmax
comp=Z,9.0nm,0.9s
GNI Garni 18.46 70 *e*P **Pn** **03 14 39.1 -0.2**
comp=Z,20nm,0.8s
GNI Garni 18.46 70 *e*P **Pn** **03 14 39.1 -0.2**
comp=Z,20nm,0.8s
MEM Membach 18.65 327 P **Pn** **03 14 43.7 +2.5**
comp=Z,24nm,1.3s
MEM Membach 18.65 327 *e*P **Pn** **03 14 43.8 +2.5**
MEM pmax pmax
comp=Z,40nm,1.1s
MEM Membach 18.65 327 *e*P **Pn** **03 14 43.8 +2.5**
comp=Z,40nm,1.1s
MEM Membach 18.65 327 *e*P **Pn** **03 14 43.8 +2.5**
comp=Z,40nm,1.1s
TBLG Delisi 18.68 65 P **P** **03 14 37.7 -3.6**
TBLG Delisi 18.68 65 P **P** **03 14 37.7 -3.6**
BUG Bochum--Univer 18.73 330 *e*P **Pn** **03 14 43.8 +1.5**
comp=Z,212nm,1.9s
HGN Heimansgroeve 18.79 327 *e*P **Pn** **03 14 44.9 +1.9**
comp=Z,114nm,1.5s
HGN *e*S S 03 18 23.4 +9.0
HGN *e*L L 03 23 35.5
comp=Z,444nm,21.8s
BEBN Eben Emael 18.93 327 P **Pn** **03 14 47.8 +3.2**
DOU Dourbes 18.94 324 P **Pn** **03 14 45.4 +0.6**
comp=Z,23nm,1.2s
MNK Minsk 19.03 11 *e*P **P** **03 14 41.0 -4.0**
MICGM Minsk 19.04 11 *e* **P** **03 14 41.0 -4.1**
DGRG David-gareji 19.10 66 P P 03 14 40.1 -5.9
IBBN Ibbenburen 19.23 333 *e*P **Pn** **03 14 50.9 +2.7**
comp=Z,46nm,1.4s
NACGM Naroch 19.28 9 *e*P **P** **03 14 46.0 -1.8**
NACGM Naroch 19.28 9 *e*P **P** **03 14 46.0 -1.8**
WTSB Winterswijk 19.32 331 *e*P **Pn** **03 14 50.1 +0.7**
TAM Tamanrasset 19.34 232 *e*P **P** **03 14 47.3 -1.5**
TAM pmax pmax
comp=Z,5.0nm,0.9s
TAM Tamanrasset 19.34 232 *e*P **P** **03 14 47.3 -1.5**
comp=Z,5.4nm,0.9s
TAM Tamanrasset 19.34 232 *e*P **P** **03 14 47.3 -1.5**
comp=Z,5.4nm,0.9s
IAZR Azarshahr 19.34 78 *e*P **P** **03 14 48.3 -0.6**
IAZR Azarshahr 19.34 78 *e*P **P** **03 14 48.3 -0.6**
SNF Seneffe 19.37 324 P **Pn** **03 14 50.1 +0.1**
IIGN Ignalina 19.66 7 *e*P **P** **03 14 51.1 -0.8**
IIGN IAmb IAmb 03 14 52.8
comp=Z,42nm,0.8s
IIGN Ignalina 19.66 7 *e*P **P** **03 14 51.1 -0.8**
SNR=40
VSR Storozhevoye 19.67 34 *e*P **P** **03 14 51.7 -0.4**
VSR *e*S **S** **03 18 30.5 -1.9**
VSR pmax pmax
comp=N,50nm,0.9s
VSR pmax pmax
comp=E,30nm,0.9s
VSR pmax pmax
comp=Z,30nm,0.9s
VSR smax smax
comp=N,50nm,1.5s
VSR smax smax
comp=E,70nm,1.5s
VSR smax smax
comp=Z,20nm,1.6s
VSR MLR MLR
comp=N,450nm,15.0s
VSR MLR MLR
comp=E,470nm,15.0s
VSR MLR MLR
comp=Z,890nm,15.0s
VSR Storozhevoye 19.67 34 *e*P **P** **03 14 51.7 -0.4**
IDID Didziasalis 19.68 8 *e*P **P** **03 14 51.3 -0.8**
IDID IAmb IAmb 03 14 52.8
comp=Z,32nm,0.8s
IDID Didziasalis 19.68 8 *e*P **P** **03 14 51.3 -0.8**
SNR=40
BSEG Bad Segeberg 19.75 339 *e*P **Pn** **03 14 54.2 -0.3**
comp=Z,151nm,1.4s
BSD Bornholm Skovb 19.80 348⇑ *i*P **P** **03 14 53.1 -0.3**
comp=Z,47nm,0.5s
BSD Bornholm Skovb 19.80 348⇑ *i*P **P** **03 14 53.1 -0.3**
BSD pmax pmax
comp=Z,47nm,0.5s
BSD Bornholm Skovb 19.80 348 *i* P **P** **03 14 53.1 -0.3**
comp=Z,47nm,0.5s
ISAL Salakas 19.87 7 *e*P **P** **03 14 53.7 -0.4**
ISAL IAmb IAmb 03 14 55.1
comp=Z,39nm,0.7s
ISAL Salakas 19.87 7 *e*P **P** **03 14 53.7 -0.4**
SNR=40
IDHR Dehrash 20.00 86 *e*P **P** **03 14 55.0 -1.0**
IDHR Dehrash 20.00 86 *e*P **P** **03 14 55.0 -1.0**
IZAR Zarasai 20.06 7 *e*P **P** **03 14 55.6 -0.6**
IZAR IAmb IAmb 03 14 57.1
comp=Z,71nm,0.8s
IZAR Zarasai 20.06 7 *e*P **P** **03 14 55.6 -0.6**
SNR=35
LPSR Galich'ya Gora 20.57 31 *e*P **P** **03 15 01.1 -0.7**
LPSR *e*S **S** **03 18 46.8 -3.5**
LPSR pmax pmax
comp=N,10.0nm,0.8s
LPSR pmax pmax
comp=E,9.0nm,0.8s
LPSR pmax pmax
comp=Z,60nm,0.8s
LPSR smax smax
comp=E,240nm,1.9s
LPSR smax smax
comp=Z,30nm,1.3s
LPSR smax smax
comp=N,100nm,1.5s
LPSR MLR MLR
comp=N,430nm,14.0s
LPSR MLR MLR
comp=E,170nm,14.0s
LPSR MLR MLR
comp=Z,360nm,14.0s
LPSR Galich'ya Gora 20.57 31 *e*P **P** **03 15 01.1 -0.7**
ESDC Sonseca Array 20.77 288 P **P** **03 15 04.8 +0.6**
comp=Z,8.3nm,0.9s,baz=86,slow=11,SNR=47
ESDC LR LR 03 23 23.7
comp=Z,108nm,20.4s,baz=120,slow=38
ESLA Sonseca Array 20.77 288 *e*P **P** **03 15 04.9 +0.7**
comp=Z,5.4nm,1.0s
ESLA Sonseca Array 20.77 288 *e*P **P** **03 15 04.9 +0.7**
comp=Z,5.5nm,1.0s
COP Copenhagen 20.81 345⇑ *i*P **P** **03 15 05.1 +0.7**
comp=Z,49nm,0.9s
COP Copenhagen 20.81 345⇑ *i*P **P** **03 15 05.1 +0.7**
COP pmax pmax
comp=Z,49nm,0.9s
COP Copenhagen 20.81 345 *i* P **P** **03 15 05.1 +0.7**
comp=Z,49nm,0.9s
MAK Makhachkala 20.93 63 *e*P **P** **03 15 04.0 -1.8**
MAK *e*S **S** **03 18 56.7 -0.8**
MAK *e*SS **SnSn** **03 19 20.1 +1.3**

MAK pmax pmax
comp=Z,176nm,1.9s
MAK MLR MLR
comp=Z,212nm,11.0s
MAK Makhachkala 20.93 63 *eP* **P 03 15 04.0 -1.8**
comp=Z,176nm,1.9s
IKOM Komasi 21.01 87 *eP* **P 03 15 06.2 -0.7**
IKOM Komasi 21.01 87 *eP* **P 03 15 06.2 -0.7**
PAB San Pablo 21.06 288 *eP* **P 03 15 08.3 +0.9**
PAB pmax pmax
comp=Z,31nm,1.0s
PAB San Pablo 21.06 288 *eP* **P 03 15 08.3 +0.9**
comp=Z,31nm,1.0s
PAB San Pablo 21.06 288 *eP* **P 03 15 08.3 +0.9**
comp=Z,31nm,1.0s
OBN Obninsk 21.69 23 P **P 03 15 12.5 -1.2**
comp=Z,53nm,0.6s,baz=210,slow=3.8,SNR=19
OBN LR LR 03 24 19.7
comp=Z,488nm,18.0s,baz=264,slow=39
OBN Obninsk 21.69 23⇓ *eP* **P 03 15 12.3 -1.5**
OBN *i* 03 15 21.5
OBN pmax pmax
comp=Z,85nm,1.0s
OBN MLR MLR
comp=Z,469nm,16.0s
OBN Obninsk 21.69 23 *eP* **P 03 15 12.9 -0.8**
comp=Z,64nm,0.7s
OBN Obninsk 21.69 23 *eP* **P 03 15 12.9 -0.8**
comp=Z,64nm,0.7s
JSA Saint Aubin 22.04 314 *eP* **P 03 15 18.6 +1.0**
JSA AMB AMB 03 15 19.3
comp=Z,66nm,2.0s
JSA Saint Aubin 22.04 314 *eP* **P 03 15 18.6 +1.0**
MDT Midelt 22.09 270 P **P 03 15 18.5 -0.1**
comp=Z,6.5nm,0.9s,baz=89,slow=9.9,SNR=10
MDT LR LR 03 25 46.9
comp=Z,511nm,20.6s,baz=87,slow=42
MUD Monsted U'grnd 22.29 341 *i P* **P 03 15 20.6 +0.4**
comp=Z,296nm,2.0s
MUD Monsted U'grnd 22.29 341 *eP* **P 03 15 20.6 +0.4**
MUD pmax pmax
comp=Z,300nm,2.0s
MUD Monsted U'grnd 22.29 341 *eP* **P 03 15 20.6 +0.4**
comp=Z,300nm,2.0s
MOS Moscow 22.54 24 *eP* **P 03 15 21.8 -1.2**
MOS *e* 03 15 27.5
MOS *eS* **S 03 19 23.2 -5.2**
MOS *e* 03 19 34.2
MOS pmax pmax
comp=Z,100nm,0.9s
MOS pmax pmax
comp=Z,126nm,0.9s
MOS MLR MLR
comp=Z,1μm,17.0s
IRAZ Razeghan 22.74 83 *eP* **P 03 15 26.2 +0.7**
VSU Vasula 22.78 7 *eP* **P 03 15 22.7 -2.7**
VSU pmax pmax
comp=Z,161nm,1.3s
IGZV Ghazvin 22.83 80 *eP* **P 03 15 27.1 +0.6**
PBRG Braganca 23.02 294 *eP* **P 03 15 28.1 -0.1**
comp=Z,52nm,1.5s
SWN1 Swindon 23.02 320 *eP* **P 03 15 28.5 +0.5**
SWN1 AMB AMB 03 15 30.7
comp=Z,175nm,1.2s
SWN1 Swindon 23.02 320 *eP* **P 03 15 28.5 +0.5**
MVO Moncorvo 23.18 292 *eP* **P 03 15 29.7 -0.2**
comp=Z,58nm,1.7s
PBAR Barrancos 23.18 284 *eP* **P 03 15 29.9 +0.1**
comp=Z,75nm,0.9s
BATH Bath 23.26 319 *eP* **P 03 15 30.9 +0.5**
BATH Bath 23.26 319 *eP* **P 03 15 30.9 +0.5**
CWF Charnwood Fore 23.48 323 *eP* **P 03 15 32.9 +0.3**
CWF AMB AMB 03 15 34.8
comp=Z,61nm,1.9s
CWF Charnwood Fore 23.48 323 *eP* **P 03 15 32.9 +0.3**
PCBR Castelo Branco 23.48 288 *eP* **P 03 15 33.0 +0.3**
comp=Z,20nm,1.8s
MTE Manteigas 23.54 290 *eP* **P 03 15 33.2 -0.2**
comp=Z,26nm,1.6s
PESTR Estremoz 23.58 286 *eP* **P 03 15 34.0 +0.2**
comp=Z,34nm,1.0s
PVRL Vila Real 23.71 292 *eP* **P 03 15 35.2 +0.2**
MONM Monmouth 23.73 320 *eP* **P 03 15 35.4 +0.4**
MONM AMB AMB 03 15 36.6
comp=Z,53nm,1.5s
MONM Monmouth 23.73 320 *eP* **P 03 15 35.4 +0.4**
POLO Lamas de Olo 23.77 292 *eP* **P 03 15 36.6 +1.0**
comp=Z,16nm,1.4s
PVIS Viseu 23.82 291 *eP* **P 03 15 35.7 -0.3**
comp=Z,24nm,1.3s
RAYN Ar Rayn 23.85 115 *eP* **P 03 15 36.4 -0.1**
comp=Z,6.0nm,0.8s
RAYN Ar Rayn 23.85 115 *eP* **P 03 15 36.4 -0.1**
comp=Z,6.0nm,0.8s
HEX Exmoor 23.86 317 *eP* **P 03 15 36.9 +0.6**
HEX Exmoor 23.86 317 *eP* **P 03 15 36.9 +0.6**
KBI1 Birley Grange 23.89 324 *eP* **P 03 15 36.9 +0.3**
KBI1 Birley Grange 23.89 324 *eP* **P 03 15 36.9 +0.3**
MCH1 Michaelchurch 23.91 320 *eP* **P 03 15 36.5 -0.2**
MCH1 AMB AMB 03 15 39.1
comp=Z,98nm,1.6s
MCH1 Michaelchurch 23.91 320 *eP* **P 03 15 36.5 -0.2**
PCAB Cabril 23.97 293 *eP* **P 03 15 37.7 +0.3**
comp=Z,48nm,1.4s
IAFJ Afjeh 24.10 81 *eP* **P 03 15 39.0 0.0**
IPIR Pirpir 24.11 89 *eP* **P 03 15 37.2 -2.0**
STNC Stoke 24.12 323 *eP* **P 03 15 39.3 +0.6**
STNC AMB AMB 03 15 41.9
comp=Z,150nm,1.3s
STNC Stoke 24.12 323 *eP* **P 03 15 39.3 +0.6**
HLM1 Long Mynd 24.13 321 *eP* **P 03 15 38.7 -0.1**
HLM1 AMB AMB 03 15 40.2
comp=Z,61nm,2.0s
HLM1 Long Mynd 24.13 321 *eP* **P 03 15 38.7 -0.1**
PTOM Tomar 24.20 288 *eP* **P 03 15 40.4 +0.8**
comp=Z,34nm,1.9s
IDMV Damavand 24.40 82 *eP* **P 03 15 41.4 -0.4**
PUL Pulkovo 24.48 10 *eP* **P 03 15 39.8 -2.1**
PUL pmax pmax
comp=Z,51nm,0.7s
FOEL Foel Wylfa 24.50 322 *eP* **P 03 15 42.8 +0.6**
FOEL AMB AMB 03 15 45.3
comp=Z,119nm,1.2s
FOEL Foel Wylfa 24.50 322 *eP* **P 03 15 42.8 +0.6**
IKLH Kolahrood 24.51 87 *eP* **P 03 15 43.3 +0.6**
LCP Cassop 24.79 327 *eP* **P 03 15 45.0 +0.3**
LCP Cassop 24.79 327 *eP* **P 03 15 45.0 +0.3**
HFS Hagfors 24.81 350 P **P 03 15 44.8 0.0**
comp=Z,20nm,0.7s,baz=149,slow=12,SNR=72
HFS LR LR 03 28 07.8
comp=Z,265nm,19.3s,baz=164,slow=43
WPM1 Penmaenmawr 25.06 322 *eP* **P 03 15 48.3 +1.1**
WPM1 Penmaenmawr 25.06 322 *eP* **P 03 15 48.3 +1.1**
KONO Kongsberg 25.06 345 *eP* **P 03 15 47.9 +0.8**
KONO IAmb IAmb 03 15 49.8
comp=Z,214nm,1.9s
KONO Kongsberg 25.06 345 *eP* **P 03 15 47.2 0.0**
KONO pmax pmax
comp=Z,43nm,1.0s
KONO Kongsberg 25.06 345 *eP* **P 03 15 47.9 +0.8**
SNR=38
KONO Kongsberg 25.06 345 *eP* **P 03 15 47.1 0.0**
comp=Z,43nm,1.0s
YRE Yr Eifl 25.18 321 *eP* **P 03 15 49.5 +1.3**
YRE Yr Eifl 25.18 321 *eP* **P 03 15 49.5 +1.3**
IZEF Zefreh 25.22 88 *eP* **P 03 15 48.3 -0.9**
ISHM Shahmirzad 25.38 81 *eP* **P 03 15 50.0 -0.6**
YRC Rhoscolyn 25.39 321 *eP* **P 03 15 51.9 +1.7**
YRC Rhoscolyn 25.39 321 *eP* **P 03 15 51.9 +1.7**
KESW Keswick, Cumbr 25.44 325 *eP* **P 03 15 51.1 +0.5**
KESW AMB AMB 03 15 53.6
comp=Z,106nm,1.2s
KESW Keswick, Cumbr 25.44 325 *eP* **P 03 15 51.1 +0.5**
FINES FINESS Array B 25.68 5 P **P 03 15 52.5 -0.2**
comp=Z,6.5nm,0.5s,baz=160,slow=12,SNR=50
FINES LR LR 03 27 35.4
comp=Z,736nm,19.0s,baz=186,slow=40
FIA1 FINESS Array S 25.68 5 *eP* **P 03 15 52.7 -0.1**
FIA1 FINESS Array S 25.68 5 *eP* **P 03 15 52.7 -0.1**
NC602 NORSAR Array S 25.71 348 *eP* **P 03 15 53.8 +0.8**
NC602 NORSAR Array S 25.71 348 *eP* **P 03 15 53.8 +0.8**
SNR=32
IKAZ Kazeroun 25.81 95 *eP* **P 03 15 55.4 +0.7**
ECK Cauldkaine Hil 25.81 326 *eP* **P 03 15 55.1 +1.1**
ECK Cauldkaine Hil 25.81 326 *eP* **P 03 15 55.1 +1.1**

EKA Eskdalemuir Ar 25.92 326 P **P 03 15 55.5 +0.5**
comp=Z,27nm,0.5s,baz=128,slow=7.8,SNR=72
NAO01 NORSAR Array S 25.93 348 *eP* **P 03 15 55.0 0.0**
comp=Z,12nm,0.6s
NAO01 NORSAR Array S 25.93 348 *eP* **P 03 15 55.0 0.0**
comp=Z,12nm,0.6s
ESK Eskdalemuir 25.93 326 *eP* **P 03 15 54.8 -0.3**
ESK AMB AMB 03 15 58.2
comp=Z,94nm,1.2s
ESK Eskdalemuir 25.93 326 *eP* **P 03 15 55.0 -0.1**
ESK pmax pmax
comp=Z,105nm,1.0s
ESK Eskdalemuir 25.93 326 *eP* **P 03 15 54.8 -0.3**
ESK Eskdalemuir 25.93 326 *eP* **P 03 15 55.0 -0.1**
comp=Z,105nm,1.0s
GCD Castle Douglas 26.00 325 *eP* **P 03 15 56.2 +0.6**
GCD Castle Douglas 26.00 325 *eP* **P 03 15 56.2 +0.6**
ESY Stoneypath 26.05 328 *eP* **P 03 15 56.7 +0.6**
ESY Stoneypath 26.05 328 *eP* **P 03 15 56.7 +0.6**
NB2 NORSAR Subarra 26.05 348 P **P 03 15 54.3 -1.9**
comp=Z,41nm,1.4s,baz=160,slow=9.3
NB2 NORSAR Subarra 26.05 348 P **P 03 15 54.3 -1.9**
baz=160,slow=9.3
NOA NORSAR Array B 26.05 348 P **P 03 15 54.4 -1.9**
comp=Z,14nm,0.8s,baz=159,slow=9.9,SNR=39
NOA LR LR 03 29 38.4
comp=Z,159nm,18.4s,baz=150,slow=44
EBL Broad Law 26.14 327 *eP* **P 03 15 57.4 +0.4**
EBL Broad Law 26.14 327 *eP* **P 03 15 57.4 +0.4**
EDI Edinburgh 26.30 327 *eP* **P 03 15 58.7 +0.3**
EDI AMB AMB 03 16 01.7
comp=Z,103nm,1.1s
EDI Edinburgh 26.30 327 *eP* **P 03 15 59.4 +1.0**
EDI pmax pmax
comp=Z,64nm,1.0s
EDI Edinburgh 26.30 327 *eP* **P 03 15 58.7 +0.3**
EDI Edinburgh 26.30 327 *eP* **P 03 15 59.4 +1.0**
comp=Z,64nm,1.0s
DSB Dublin 26.32 320 *eP* **P 03 16 02.3 +3.7**
comp=Z,42nm,1.2s
ISAD Sadrabad 26.60 89 *eP* **P 03 16 02.6 +0.9**
GMM Mts of Mourne 26.61 322 *eP* **P 03 16 02.3 +1.1**
GMM Mts of Mourne 26.61 322 *eP* **P 03 16 02.3 +1.1**
EDU Dundee 26.63 329 *eP* **P 03 16 02.0 +0.6**
EDU Dundee 26.63 329 *eP* **P 03 16 02.0 +0.6**
DRUM Mains of Drumt 26.65 330 *eP* **P 03 16 01.3 -0.2**
DRUM Mains of Drumt 26.65 330 *eP* **P 03 16 01.3 -0.2**
PGBU Glenifferbraes 26.81 326 *eP* **P 03 16 04.2 +1.2**
PGBU Glenifferbraes 26.81 326 *eP* **P 03 16 04.2 +1.2**
IMEH Mehriz 27.51 90 *eP* **P 03 16 09.6 -0.3**
MDO Dochfour 27.77 329 *eP* **P 03 16 11.8 +0.2**
MDO Dochfour 27.77 329 *eP* **P 03 16 11.8 +0.2**
KSB Sheil Bridge 28.07 328 *eP* **P 03 16 14.6 +0.3**
KSB Sheil Bridge 28.07 328 *eP* **P 03 16 14.6 +0.3**
KAC Achnashellach 28.20 328 *eP* **P 03 16 16.6 +1.1**
KAC Achnashellach 28.20 328 *eP* **P 03 16 16.6 +1.1**
KPL Plockton 28.25 328 *eP* **P 03 16 15.7 -0.2**
KPL AMB AMB 03 16 18.0
comp=Z,40nm,1.5s
KPL Plockton 28.25 328 *eP* **P 03 16 15.7 -0.2**
YEL1 Yell 28.72 336 *eP* **P 03 16 19.6 -0.4**
YEL1 Yell 28.72 336 *eP* **P 03 16 19.6 -0.4**
GEYT Alibeck 28.90 75 P **P 03 16 21.3 -0.7**
comp=Z,1.7nm,0.4s,baz=244,slow=9.5,SNR=3.3
TOA0 Torodi Ar. Sit 29.07 224 *eP* **P 03 16 22.5 -1.1**
TOA0 Torodi Ar. Sit 29.07 224 *eP* **P 03 16 22.8 -0.8**
TOA0 Torodi Ar. Sit 29.07 224 *eP* **P 03 16 22.8 -0.8**
TORD Torodi Ar. Bea 29.07 224 P **P 03 16 23.5 -0.1**
comp=Z,2.4nm,0.6s,baz=36,slow=9.9,SNR=34
TORD LR LR 03 29 23.2
comp=Z,345nm,20.0s,baz=35,slow=39
NSS Namsos 29.27 351 *eP* **P 03 16 26.0 +1.2**
NSS Namsos 29.27 351 *eP* **P 03 16 26.0 +1.2**
SNR=32
AKTO Aktyubinsk 29.72 49 P **P 03 16 27.9 -1.1**
comp=Z,5.5nm,0.8s,baz=254,slow=10.0,SNR=22
AKTO Aktyubinsk 29.72 49 P **P 03 16 27.6 -1.5**
AKTO pmax pmax
comp=Z,9.0nm,1.0s
PRGR Permogore 29.77 23 *eP* P 03 16 25.0 -4.3
PRGR *PP pP 03 16 34.6 -2.8
PRGR *e* 03 17 19.1
PRGR *eS* S 03 21 16.9 -6.8
PRGR *SS sS 03 21 33.6 -3.5
PRGR pmax pmax
comp=Z,25nm,0.7s
TMCR Tamitsa 29.93 14 *eP* P 03 16 43.5 +13
TMCR pmax pmax
comp=Z,24nm,1.1s
AB31 Akbulak array 30.66 52 P **P 03 16 35.8 -1.6**
AB31 pmax pmax
comp=Z,2.0nm,0.5s
ABKAR Akbulak array 30.66 52 *eP* **P 03 16 35.9 -1.5**
comp=Z,1.0nm,0.6s
ABKAR Akbulak array 30.66 52 *eP* **P 03 16 35.9 -1.5**
comp=Z,1.0nm,0.6s
ARU Arti 32.07 39*c iP* **P 03 16 49.1 -0.6**
ARU 03 17 57.5
ARU 03 19 36.8
ARU S **S 03 21 59.9 +0.1**
ARU SS **SnSn 03 23 51.7 +1.2**
ARU pmax pmax
comp=Z,18nm,1.0s
ARU MLR MLR
comp=Z,450nm,16.0s
ARU Arti 32.07 39 *eP* **P 03 16 49.0 -0.6**
comp=Z,16nm,1.0s
ARU Arti 32.07 39 *eP* **P 03 16 49.0 -0.6**
comp=Z,16nm,1.0s
KTK1 Kautokeino 33.16 1 *eP* **P 03 16 59.0 0.0**
KTK1 Kautokeino 33.16 1 *eP* **P 03 16 59.0 0.0**
SNR=31
SVE Sverdlovsk 33.28 39 *eP* **P 03 16 59.0 -1.2**
SVE pmax pmax
comp=Z,29nm,0.9s
SVE MLR MLR
comp=Z,451nm,15.0s
ARCES ARCESS Array B 33.73 2 P **P 03 17 03.7 -0.4**
comp=Z,28nm,0.4s,baz=186,slow=9.6,SNR=353
ARCES LR LR 03 32 06.7
comp=Z,492nm,19.3s,baz=181,slow=39
ARE0 ARCESS Array S 33.73 2 *eP* **P 03 17 03.5 -0.5**
ARE0 ARCESS Array S 33.73 2 *eP* **P 03 17 03.5 -0.5**
TRO Tromso 33.81 358 *eP* **P 03 17 02.5 -2.2**
TRO IAmb IAmb 03 17 03.4
comp=Z,24nm,1.0s
KEV Kevo 34.01 3 *eP* **P 03 17 06.4 0.0**
KEV pmax pmax
comp=Z,23nm,0.4s
KEV Kevo 34.01 3 *eP* **P 03 17 06.4 0.0**
comp=Z,23nm,0.4s
KEV Kevo 34.01 3 *eP* **P 03 17 06.4 0.0**
comp=Z,23nm,0.4s
BRVK Borovoye 37.71 48 *i P* **P 03 17 37.9 -0.4**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 37.71 48 *eP* **P 03 17 37.7 -0.6**
comp=Z,6.1nm,0.9s
BRVK Borovoye 37.71 48 *eP* **P 03 17 37.7 -0.6**
comp=Z,6.1nm,0.9s
KK31 Karatay Array 37.73 64 P **P 03 17 38.3 -0.4**
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 37.73 64 *eP* **P 03 17 38.4 -0.3**
KKAR pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 37.73 64 *eP* **P 03 17 38.4 -0.3**
comp=Z,2.9nm,0.5s
KKAR Karatay Array 37.73 64 *eP* **P 03 17 38.4 -0.3**
comp=Z,2.9nm,0.5s
BVA0 Borovoye Array 37.77 48 P **P 03 17 36.4 -2.4**
BVA0 pmax pmax
comp=Z,4.0nm,0.8s
DBIC Dimbokro 38.07 227 P **P 03 17 41.8 +0.1**
comp=Z,7.1nm,0.6s,baz=16,slow=10.0,SNR=19
DBIC LR LR 03 34 26.1
comp=Z,208nm,20.5s,baz=10,slow=38
TIC Toumodi 38.19 227 *eP* **P 03 17 42.6 -0.2**
KIC Kosan Boka 38.25 226 *eP* **P 03 17 43.2 -0.1**
comp=Z,15nm,0.6s
OTUK Ortayu 38.73 55 P **P 03 17 46.1 -0.9**
OTUK pmax pmax
comp=Z,18nm,1.1s
KMBO Kilima Mbogo 39.53 155 P **P 03 17 54.1 -0.1**
comp=Z,2.0nm,0.8s,baz=305,slow=3.9,SNR=4.9

KMBO LR LR 03 35 04.2
comp=Z,186nm,21.5s,baz=346,slow=38
KMBO Kilima Mbogo 39.53 155 *i* P P 03 17 57.2 +3.0
KMBO pmax pmax
comp=Z,1.0nm,0.4s
EKS2 Erkin-Say 40.17 64 *eP* **P 03 17 59.5 +0.2**
EKS2 pmax pmax
comp=Z,5.0nm,0.8s
EKS2 Erkin-Say 40.17 64 *eP* **P 03 17 59.5 +0.2**
comp=Z,5.0nm,0.8s
EKS2 Erkin-Say 40.17 64 *eP* **P 03 17 59.5 +0.2**
comp=Z,5.0nm,0.8s
KSH Kashi 42.38 68 P **P 03 18 16.1 -1.3**
KSH sP **sP 03 18 28.1 -1.0**
KSH PP **PP 03 19 58.1 +2.4**
KSH PcP **PcP 03 20 12.3 +1.9**
KSH S **S 03 24 33.3 -3.8**
KSH sS sS 03 24 46.0 -4.8
KSH SS SS 03 27 36.1 -10
KSH PMZ
comp=Z,200nm,5.1s
KSH LN
comp=Z,190nm,4.7s
KSH LE
comp=Z,200nm,5.4s
KSH LZ
comp=Z,350nm,6.2s
SPA0 Spitsbergen Ar 42.43 358 *eP* **P 03 18 18.3 +1.1**
SPA0 Spitsbergen Ar 42.43 358 *eP* **P 03 18 18.3 +1.1**
SNR=29
SPITS Spitsbergen Ar 42.43 358 P **P 03 18 17.7 +0.5**
comp=Z,8.1nm,0.4s,baz=153,slow=9.4,SNR=25
KURBB Kurchatov Arra 42.71 52 P **P 03 18 18.3 -1.5**
comp=Z,3.1nm,0.5s,baz=282,slow=8.7,SNR=28
KURK Kurchatov 42.77 51 P **P 03 18 18.4 -1.8**
KURK pmax pmax
comp=Z,6.0nm,1.5s
KURK Kurchatov 42.77 51 *eP* **P 03 18 18.9 -1.4**
comp=Z,6.2nm,1.3s
KURK Kurchatov 42.77 51 *eP* **P 03 18 18.9 -1.4**
comp=Z,6.2nm,1.3s
KBS Kingsbay 43.32 357 *eP* **P 03 18 25.9 +1.5**
KBS Kingsbay 43.32 357 *eP* **P 03 18 25.9 +1.5**
SNR=29
NVS Novosibirsk 45.43 45⇑ *iP* **P 03 18 40.6 -0.9**
NVS *eS* **S 03 25 17.8 -3.2**
NVS pmax pmax
comp=E,7.0nm,0.8s
NVS pmax pmax
comp=Z,11nm,0.8s
NVS pmax pmax
comp=N,2.0nm,0.5s
NVS smax smax
comp=N,20nm,2.1s
NVS smax smax
comp=E,2.0nm,0.8s
MK31 Makanchi Array 45.57 57 *eP* **P 03 18 41.5 -1.3**
MK31 Makanchi Array 45.57 57 *eP* **P 03 18 41.5 -1.3**
MK31 Makanchi Array 45.57 57 *eP* **P 03 18 41.5 -1.3**
MKAR Makanchi Array 45.57 57 P **P 03 18 41.6 -1.1**
comp=E,16nm,0.7s,baz=273,slow=7.4,SNR=133
MKAR Makanchi Array 45.57 57 *i P* **P 03 18 41.7 -1.1**
MKAR pmax pmax
comp=Z,16nm,0.7s
ZAA0 Zalesovo Array 46.40 47 *eP* **P 03 18 47.4 -1.8**
ZAA0 Zalesovo Array 46.40 47 *eP* **P 03 18 47.4 -1.8**
ZALV Zalesovo Beam 46.40 47 P **P 03 18 47.5 -1.6**
comp=Z,5.3nm,0.4s,baz=273,slow=8.9,SNR=35
ZALV LR LR 03 40 51.3
comp=Z,128nm,20.8s,baz=250,slow=40
NDI New Delhi 46.77 82 *eP* **P 03 18 52.0 -0.5**
WMQ Urumqi 49.91 60 P **P 03 19 16.4 -0.1**
WMQ pP **pP 03 19 25.8 +0.8**
WMQ sP **sP 03 19 29.4 +1.1**
WMQ PMZ
comp=Z,16nm,0.9s
WMQ PMZ
comp=Z,110nm,7.0s
WMQ LN
comp=Z,130nm,24.0s
WMQ LE
comp=Z,140nm,20.4s
LSZ Lusaka 51.26 172 P **P 03 19 26.4 -0.5**
comp=Z,3.4nm,0.8s,baz=10,slow=8.8,SNR=10
LSZ Lusaka 51.26 172 *eP* **P 03 19 25.6 -1.3**
LSZ pmax pmax
comp=Z,10.0nm,1.4s
LSZ Lusaka 51.26 172 *eP* **P 03 19 25.6 -1.3**
comp=Z,10nm,1.4s
LSZ Lusaka 51.26 172 *eP* **P 03 19 25.6 -1.3**
comp=Z,10nm,1.4s
DANN Dangsing 52.16 80 *eP* **P 03 19 33.3 -0.6**
GKN Gorkha 53.00 80 *eP* **P 03 19 38.3 -1.7**
comp=Z,25nm,0.6s
KKN Kakani 53.61 80 *eP* **P 03 19 43.2 -1.4**
comp=Z,14nm,0.5s
PKIN Phulchoki 53.79 80 *eP* **P 03 19 44.8 -1.2**
PKI Pulchoki 53.81 80 *eP* **P 03 19 44.8 -1.4**
comp=Z,17nm,0.7s
TSUM Tsumeb 54.97 185 P **P 03 19 54.1 -0.2**
comp=Z,1.1nm,0.8s,baz=277,slow=4.2,SNR=3.7
RAMN Ramite 55.03 80 *eP* **P 03 19 53.1 -1.9**
comp=Z,21nm,0.9s
TLY Talaya 58.01 47 *eP* **P 03 20 16.3 +0.8**
TLY pmax pmax
comp=Z,5.0nm,0.8s
TLY MLR MLR
comp=Z,146nm,15.0s
ZAK Zakamensk 58.22 48⇑ *iP* **P 03 20 16.3 -0.8**
ZAK pmax pmax
comp=Z,6.0nm,1.0s
GTA Gaotai 59.92 61 *eP* **P 03 20 28.8 -0.3**
GTA pP **pP 03 20 38.6 +0.9**
GTA sP **sP 03 20 41.9 +0.9**
GTA PcP **PcP 03 21 13.9 -1.4**
GTA S **S 03 28 38.5 -1.1**
GTA sS **sS 03 28 54.9 +1.2**
GTA ScS **ScS 03 30 11.8 -6.1**
GTA PMZ
comp=Z,15nm,1.0s
GTA PMZ
comp=Z,88nm,4.5s
GTA LN
comp=Z,160nm,20.9s
GTA LE
comp=Z,170nm,16.2s
SCHQ Schefferville 60.88 319 P **P 03 20 36.1 +0.8**
comp=Z,4.6nm,0.5s,baz=49,slow=3.9,SNR=16
SCHQ LR LR 03 46 15.1
comp=Z,85nm,19.9s,baz=34,slow=35
SONM Songino Array 61.04 50 P **P 03 20 36.1 -0.5**
comp=Z,8.2nm,1.0s,baz=285,slow=8.9,SNR=31
SONM LR LR 03 50 23.4
comp=Z,194nm,18.8s,baz=272,slow=39
BOD Bodaibo 61.48 37 *eP* **P 03 20 37.5 -1.7**
BOD pmax pmax
comp=Z,9.0nm,0.9s
LZH Lanzhou 64.22 63 *eP* **P 03 20 58.4 +0.3**
LZH pP **pP 03 21 05.3 -1.4**
LZH sP **sP 03 21 09.1 -0.9**
LZH PMZ
comp=Z,29nm,1.0s
LZH PMZ
comp=Z,130nm,4.3s
BOSA Boshof 64.26 177 P **P 03 20 58.5 +0.3**
comp=Z,1.3nm,0.8s,baz=23,slow=7.7,SNR=3.0
BOSA LR LR 03 50 53.6
comp=Z,211nm,19.3s,baz=357,slow=38
YAK Yakutsk 66.53 29 *eP* **P 03 21 10.6 -1.7**
YAK *e* 03 21 23.2
YAK pmax pmax
comp=Z,21nm,0.8s
YAK pmax pmax
comp=N,2.0nm,0.8s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK MLR MLR
comp=E,92nm,20.0s
YAK MLR MLR
comp=Z,190nm,18.0s
YAK MLR MLR
comp=N,98nm,16.0s
CD2 Chengdu 66.58 68 P **P 03 21 13.1 -0.1**
CD2 pP **pP 03 21 21.8 -0.1**
CD2 sP **sP 03 21 25.3 +0.1**
CD2 PP **PP 03 23 39.1 -0.7**

CD2 S **S** 03 30 01.4 -1.3
CD2 sS **sS** 03 30 16.3 -0.7
CD2 SS **SS** 03 34 18.9 -0.9
CD2 PMZ
comp=N,20nm,0.8s
CD2 PMZ
comp=N,110nm,4.5s
CD2 LN
comp=N,200nm,5.9s
CD2 LZ
comp=N,140nm,9.7s
HHC Hu-ho-hao-te 67.40 55 eP **P** 03 21 18.3 -0.1
HHC pP **pP** 03 21 26.1 -1.0
HHC sP **sP** 03 21 29.3 -1.0
HHC PP **PP** 03 23 48.4 +1.6
HHC S **S** 03 30 09.5 -3.0
HHC ScS **SKSac** 03 31 10.0 -4.3
HHC PMZ
comp=N,27nm,0.6s
HHC PMZ
comp=N,68nm,6.1s
HHC LN
comp=N,100nm,18.2s
HHC LE
comp=N,99nm,18.6s
KMI Kunming 68.66 74 P **P** 03 21 27.1 +0.4
KMI pP **pP** 03 21 35.8 +0.4
KMI sP **sP** 03 21 39.1 +0.5
KMI PP **PP** 03 24 00.3 +2.1
KMI S **S** 03 30 25.3 -2.9
KMI sS **sS** 03 30 39.5 -3.0
KMI SS **SS** 03 34 50.8 -1.8
KMI PMZ
comp=N,3.0nm,0.8s
KMI PMZ
comp=N,69nm,4.1s
KMI LN
comp=N,160nm,13.6s
KMI LE
comp=N,100nm,9.6s
KMI LZ
comp=N,110nm,13.3s
CMAR Chiang Mai Arr 69.10 82 P **P** 03 21 28.5 -0.7
comp=N,0.7nm,0.3s,baz=310,slow=11,SNR=5.9
FCC Fort Churchill 71.76 330 eP **P** 03 21 45.9 +1.1
FCC pmax pmax
comp=Z,9.0nm,0.8s
FCC Fort Churchill 71.76 330 eP **P** 03 21 45.9 +1.1
comp=Z,8.9nm,0.8s
FCC Fort Churchill 71.76 330 eP **P** 03 21 45.9 +1.1
comp=Z,8.9nm,0.8s
SEY Seymchan 73.84 21 P **P** 03 21 57.2 +0.2
comp=Z,5.4nm,0.6s,baz=296,slow=5.3,SNR=20
INK Inuvik 74.47 351 P **P** 03 22 00.7 0.0
comp=Z,0.9nm,0.5s,baz=20,slow=5.7,SNR=4.6
CN2 Changchun 74.61 47 eP **P** 03 22 01.6 -0.4
CN2 PMZ
comp=Z,10.0nm,0.8s
KLR Kul'dur 74.90 40 eP P 03 21 58.7 -4.8
YKW3 Yellowknife Ar 75.84 341 eP **P** 03 22 08.7 +0.1
comp=Z,0.1nm,0.6s
YKW3 Yellowknife Ar 75.84 341 eP **P** 03 22 08.7 +0.1
comp=Z,0.1nm,0.6s
YKA Yellowknife Ar 75.89 341 P **P** 03 22 09.4 +0.5
comp=Z,4.0nm,0.8s,baz=37,slow=5.7,SNR=30
MA2 Magadan 75.90 24 *i* P **P** 03 22 09.4 +0.3
NJ2 Nanjing 76.99 60 eP **P** 03 22 16.9 +1.2
NJ2 PMZ
comp=Z,20nm,0.7s
COLD Coldfoot 77.00 357 eP **P** 03 22 16.6 +1.4
COLD Coldfoot 77.00 357 eP **P** 03 22 16.6 +1.4
EYMN Ely 77.56 321 eP **P** 03 22 19.8 +1.1
EYMN Ely 77.56 321 P **P** 03 22 19.6 +1.0
baz=77
EYMN Ely 77.56 321 eP **P** 03 22 19.8 +1.1
FFC Flin Flon 77.69 330 eP **P** 03 22 19.8 +0.5
FFC pmax pmax
comp=Z,10.0nm,0.8s
FFC Flin Flon 77.69 330 eP **P** 03 22 19.8 +0.5
comp=Z,10nm,0.8s
FFC Flin Flon 77.69 330 eP **P** 03 22 19.8 +0.5
comp=Z,10nm,0.8s
USRK Ussuriysk Ar. 78.15 44 P **P** 03 22 21.2 -0.7
comp=Z,3.4nm,0.6s,baz=294,slow=3.0,SNR=7.1
IM04 Indian Mountai 78.38 358 eP **P** 03 22 24.1 +1.2
IM04 Indian Mountai 78.38 358 eP **P** 03 22 24.1 +1.2
MDM Murphy Dome 79.16 356 eP **P** 03 22 28.1 +0.9
MDM Murphy Dome 79.16 356 eP **P** 03 22 28.1 +0.9
MLY Manley 79.22 357 eP **P** 03 22 29.1 +1.5
MLY Manley 79.22 357 eP **P** 03 22 29.1 +1.5
COLA College 79.22 356 eP **P** 03 22 28.1 +0.6
COLA pmax pmax
comp=Z,12nm,1.6s
ILAR Eielson Array 79.26 355 P **P** 03 22 28.6 +0.9
comp=Z,1.9nm,0.8s,baz=358,slow=4.5,SNR=34
CCB Clear Creek Bu 79.44 356 eP **P** 03 22 29.2 +0.5
CCB Clear Creek Bu 79.44 356 eP **P** 03 22 29.2 +0.5
AGMN Agassiz Nation 79.51 323 eP **P** 03 22 30.4 +1.0
AGMN Agassiz Nation 79.51 323 P **P** 03 22 29.9 +0.6
baz=79
AGMN Agassiz Nation 79.51 323 eP **P** 03 22 30.4 +1.0
HDA Harding Lake 79.62 355 eP **P** 03 22 30.4 +0.7
HDA Harding Lake 79.62 355 eP **P** 03 22 30.4 +0.7
WRH Wood River Hil 79.63 356 eP **P** 03 22 30.6 +0.8
WRH Wood River Hil 79.63 356 eP **P** 03 22 30.6 +0.8
KSAR Wonju Array Be 79.87 51 P **P** 03 22 31.3 -0.3
KSAR Wonju Array Be 79.87 51 P **P** 03 22 31.2 -0.3
KSAR Wonju Array Be 79.87 51 P **P** 03 22 31.2 -0.3
KSRS Korea Array 79.89 51 P **P** 03 22 31.2 -0.4
comp=Z,3.0nm,0.8s,baz=301,slow=5.3,SNR=5.9
KSRS LR LR 04 03 05.0
comp=Z,80nm,18.0s,baz=320,slow=40
SFIN Scholer Farm 79.93 313 P **P** 03 22 32.4 +0.6
baz=80
SPMN St. Paul 80.02 319 eP **P** 03 22 32.6 +0.3
SPMN St. Paul 80.02 319 P **P** 03 22 32.8 +0.6
baz=80
SPMN St. Paul 80.02 319 eP **P** 03 22 32.6 +0.3
BPAW Bear Paw Mtn. 80.16 357 eP **P** 03 22 32.4 -0.3
comp=Z,0.7nm,0.7s
BPAW Bear Paw Mtn. 80.16 357 eP **P** 03 22 32.4 -0.3
comp=Z,0.7nm,0.7s
A30A Hoffart Farm, 80.23 325 P **P** 03 22 33.8 +0.5
baz=80
MCK McKinley 80.42 356 eP **P** 03 22 33.9 -0.2
MCK McKinley 80.42 356 eP **P** 03 22 33.9 -0.2
MCK McKinley 80.42 356 eP **P** 03 22 33.9 -0.2
B30A Myrvik Farm, E 80.59 324 P **P** 03 22 35.7 +0.5
baz=80,SNR=7.9
A29A Manning Farm, 80.68 325 P **P** 03 22 36.6 +0.9
baz=81
TRF Thorofare Moun 80.77 356 eP **P** 03 22 36.2 +0.1
comp=Z,3.1nm,0.7s
TRF Thorofare Moun 80.77 356 eP **P** 03 22 36.2 +0.1
comp=Z,3.1nm,0.7s
CAST Castle Rocks 80.89 357 eP **P** 03 22 37.7 +1.1
CAST Castle Rocks 80.89 357 eP **P** 03 22 37.7 +1.1
B29A Wagenman Farm, 81.06 325 P **P** 03 22 38.2 +0.5
baz=81
A28A Rude Farm, Bot 81.16 326 P **P** 03 22 38.5 +0.2
baz=81
C30A Mose, Pekin 81.19 324 P **P** 03 22 38.7 +0.2
baz=81
CPCT Cooper Cave 81.39 308 eP **P** 03 22 41.8 +2.0
CPCT Cooper Cave 81.39 308 eP **P** 03 22 41.8 +2.0
PPLA Purkeypile 81.41 357 eP **P** 03 22 40.6 +1.1
PPLA Purkeypile 81.41 357 eP **P** 03 22 40.6 +1.1
B28A Dugan Ranch, T 81.54 325 P **P** 03 22 40.4 +0.1
baz=81
MDND Maddock 81.62 325 P **P** 03 22 41.3 +0.6
baz=82
D30A Buchanan 81.74 324 P **P** 03 22 41.8 +0.4
baz=82
YSS Yuzh-Sakhalins 81.93 36 eP **P** 03 22 42.0 -0.3
A26A Wade Farm, Ken 81.98 326 P **P** 03 22 43.9 +1.3
baz=82,SNR=9.1
B27A Peters Farms, 81.98 326 P **P** 03 22 44.1 +1.4
baz=82
C28A Hausauer Farms 82.08 325 P **P** 03 22 44.0 +0.8
baz=82
HYT Haines Junctio 82.14 350 eP **P** 03 22 44.6 +1.2
comp=Z,9.9nm,1.1s
HYT Haines Junctio 82.14 350 eP **P** 03 22 44.6 +1.2
comp=Z,9.9nm,1.1s
D29A Pettibone, Tap 82.18 324 P **P** 03 22 44.3 +0.6
baz=82
SCM Sheep Creek Mo 82.20 355 eP **P** 03 22 44.9 +1.3
SCM Sheep Creek Mo 82.20 355 eP **P** 03 22 44.9 +1.3
SCM Sheep Creek Mo 82.20 355 eP **P** 03 22 44.9 +1.3
E30A Jud 82.24 323 P **P** 03 22 44.8 +0.7
baz=82
SML Sawmill 82.30 355 eP **P** 03 22 44.1 0.0
SML pmax pmax
comp=Z,1.0nm,0.7s
SML Sawmill 82.30 355 eP **P** 03 22 44.1 0.0
comp=Z,1.1nm,0.7s
SML Sawmill 82.30 355 eP **P** 03 22 44.1 0.0
comp=Z,1.1nm,0.7s
A25A Svangstu Ranch 82.42 327 P **P** 03 22 46.1 +1.2
baz=82
KLU Klutina 82.43 354 eP **P** 03 22 45.9 +1.1
KLU Klutina 82.43 354 eP **P** 03 22 45.9 +1.1
B26A Jensen Ranch, 82.45 326 P **P** 03 22 46.1 +1.0
baz=82
D28A Regan 82.54 325 P **P** 03 22 46.3 +0.7
baz=82
E29A Napoleon 82.55 324 P **P** 03 22 46.5 +0.8
baz=82,SNR=5.4
PMR Palmer 82.56 356 eP **P** 03 22 46.4 +1.0
PMR Palmer 82.56 356 eP **P** 03 22 46.4 +1.0
PMR Palmer 82.56 356 eP **P** 03 22 46.4 +1.0
C27A Sayler Ranch, 82.60 325 P **P** 03 22 47.2 +1.3
baz=82
F30A Leola 82.78 323 P **P** 03 22 47.8 +1.0
baz=83
C26A Wahner Farm, P 82.79 326 P **P** 03 22 48.1 +1.2
baz=83
B25A Knox Farm, Ray 82.94 327 P **P** 03 22 49.1 +1.4
baz=83
ECSD EROS Data Cent 83.03 320 eP **P** 03 22 48.8 +0.6
comp=Z,7.7nm,0.6s
ECSD EROS Data Cent 83.03 320 P **P** 03 22 49.0 +0.8
baz=83,SNR=13
ECSD EROS Data Cent 83.03 320 eP **P** 03 22 48.8 +0.6
comp=Z,7.7nm,0.6s
E28A Huff 83.05 324 P **P** 03 22 49.2 +0.9
baz=83
D27A Center 83.05 325 P **P** 03 22 49.4 +1.2
baz=83
DLBC Dease Lake 83.11 346 P **P** 03 22 50.0 +1.6
comp=Z,1.7nm,0.7s,baz=356,slow=3.8,SNR=4.3
EDM Edmonton 83.11 335 eP **P** 03 22 48.5 0.0
EDM pmax pmax
comp=Z,14nm,0.7s
EDM Edmonton 83.11 335 eP **P** 03 22 48.5 0.0
comp=Z,14nm,0.7s
EDM Edmonton 83.11 335 eP **P** 03 22 48.5 0.0
comp=Z,14nm,0.7s
F29A Eureka 83.17 323 P **P** 03 22 49.5 +0.6
baz=83
TIGA Tifton 83.25 304 P **P** 03 22 50.6 +1.1
baz=83
G30A Faulkton 83.34 322 P **P** 03 22 50.5 +0.7
baz=83
PETK Petropavlovsk- 83.38 25 LR LR 04 02 18.8
comp=Z,74nm,21.2s,baz=322,slow=37
D26A Manning 83.53 325 P **P** 03 22 51.9 +1.1
baz=83
E27A Carson 83.57 325 P **P** 03 22 51.9 +0.9
baz=83
BDFB Brasilia 83.58 246 LR LR 04 00 52.9
comp=Z,249nm,19.2s,baz=79,slow=36
F28A McLaughlin 83.63 324 P **P** 03 22 52.2 +0.9
baz=84
G29A Hoven 83.68 323 P **P** 03 22 52.2 +0.7
baz=84
D25A Fairfield 83.85 326 P **P** 03 22 53.9 +1.5
baz=84
ASAJ Asahikawa 83.87 39 P **P** 03 22 52.1 -0.3
comp=Z,3.9nm,0.7s,baz=319,slow=11
ASAJ Asahikawa 83.87 39 P **P** 03 22 52.2 -0.3
ASAJ pmax pmax
comp=Z,4.0nm,0.7s
E26A Carlson Angus 83.96 325 P **P** 03 22 54.2 +1.2
baz=84
C24A Savage 84.06 327 P **P** 03 22 54.7 +1.2
baz=84
M35A Neola 84.12 318 P **P** 03 22 54.6 +0.8
baz=84
L34A Svendsen Farm, 84.14 319 P **P** 03 22 54.2 +0.3
baz=84
F27A Lemmon 84.19 324 P **P** 03 22 54.9 +0.8
baz=84
H29A Onida 84.23 323 P **P** 03 22 55.2 +0.8
baz=84
G28A Parade 84.25 323 P **P** 03 22 55.9 +1.4
baz=84
D24A Glendive 84.33 326 P **P** 03 22 55.9 +1.1
baz=84
I30A Oacoma 84.35 322 P **P** 03 22 55.5 +0.6
baz=84
E25A Miller Ranch, 84.37 326 P **P** 03 22 56.2 +1.1
baz=84
L33A Hoskins 84.48 319 P **P** 03 22 56.3 +0.6
baz=84
LRAL Lakeview Retre 84.50 307 eP **P** 03 22 55.4 -0.5
comp=Z,4.5nm,0.7s
LRAL Lakeview Retre 84.50 307 eP **P** 03 22 55.4 -0.5
comp=Z,4.5nm,0.7s
N35A Tabor 84.51 318 P **P** 03 22 56.8 +1.0
baz=84
G27A Dupree 84.51 324 P **P** 03 22 55.9 +0.1
baz=84
F26A Lodgepole 84.51 325 P **P** 03 22 56.7 +0.9
baz=84
M34A Aspy Farms, Fr 84.57 318 P **P** 03 22 57.0 +0.9
baz=84
H28A Mission Ridge 84.59 323 P **P** 03 22 57.2 +1.0
baz=84
O36A Bockow 84.63 317 P **P** 03 22 57.3 +0.8
baz=84
I29A Vivian Onida 84.71 322 P **P** 03 22 57.6 +0.8
baz=85
J30A Dallas 84.80 321 P **P** 03 22 58.2 +0.9
baz=85,SNR=5.0
F25A Bowman 84.83 325 P **P** 03 22 58.0 +0.6
baz=85
A19A Klindworth Far 84.83 330 P **P** 03 22 58.2 +0.9
baz=85
M33A Taylor Creek F 84.85 319 P **P** 03 22 57.9 +0.4
baz=85
G26A Maurine 84.89 324 P **P** 03 22 58.3 +0.6
baz=85
N34A Lincoln 84.99 318 P **P** 03 22 58.6 +0.4
baz=85
C21A Desert Coulee 85.00 328 P **P** 03 22 59.3 +1.1
baz=85
O35A Humboldt 85.06 317 P **P** 03 22 59.0 +0.4
baz=85
P36A Good Intent, A 85.12 316 P **P** 03 22 59.6 +0.7
baz=85
H27A Howes 85.13 324 P **P** 03 22 59.6 +0.6
baz=85
I28A Midland 85.15 323 P **P** 03 22 59.8 +0.8
baz=85
J29A Okreek 85.17 322 P **P** 03 23 00.5 +1.4
baz=85,SNR=6.9
Q37A Longview Farm, 85.20 315 P **P** 03 23 00.4 +1.1
baz=85
E23A Ismay 85.24 326 P **P** 03 23 00.3 +0.8
baz=85
L31A Butterfield Fa 85.29 320 P **P** 03 23 00.8 +1.1
baz=85
K30A Basset 85.33 321 P **P** 03 23 01.6 +1.7
baz=85,SNR=9.9
F24A Ekaka 85.34 326 P **P** 03 23 00.8 +0.8
baz=85
G25A Newell 85.35 325 P **P** 03 23 00.6 +0.6
baz=85
C20A Veseth Ranch, 85.47 329 P **P** 03 23 02.1 +1.5
baz=85
BGNE Belgrade 85.47 319 P **P** 03 23 02.0 +1.3
baz=85
H26A Fairpoint 85.48 324 P **P** 03 23 01.3 +0.6
baz=85
LAO LASA Array 85.50 327 eP **P** 03 23 01.0 +0.2
comp=Z,62nm,1.5s
LAO LASA Array 85.50 327 P **P** 03 23 02.7 +1.9
baz=85
LAO LASA Array 85.50 327 eP **P** 03 23 01.0 +0.2
comp=Z,62nm,1.5s
I27A Quinn 85.54 323 P **P** 03 23 01.8 +0.9
baz=85
O34A Beatrice 85.55 318 P **P** 03 23 01.8 +0.8
baz=85,SNR=6.7
E22A Miles City 85.57 327 P **P** 03 23 02.2 +1.1
baz=85
N33A J Bar K, Exete 85.57 318 P **P** 03 23 01.8 +0.6
baz=86
J28A Allard Ranch, 85.61 322 P **P** 03 23 02.5 +1.1
baz=86,SNR=5.0
K29A Lazy Trails An 85.63 321 P **P** 03 23 02.9 +1.4
baz=86
P35A Duane Minner, 85.64 317 P **P** 03 23 02.5 +1.0
baz=86
Q36A Arnold C. Orve 85.72 316 P **P** 03 23 02.8 +0.9
baz=86
G24A Alzada 85.72 325 P **P** 03 23 02.4 +0.5
baz=86
R37A Teagarden Farm 85.80 315 P **P** 03 23 03.0 +0.7
baz=86,SNR=5.4
H25A Fruitdale 85.87 324 P **P** 03 23 03.1 +0.4
baz=86
F23A Volborg 85.87 326 P **P** 03 23 03.4 +0.8
baz=86
EGMT Eagleton 85.95 330 eP **P** 03 23 04.0 +1.0
comp=Z,44nm,0.9s
EGMT Eagleton 85.95 330 P **P** 03 23 04.2 +1.2
baz=86,SNR=11
EGMT Eagleton 85.95 330 eP **P** 03 23 04.0 +1.0
comp=Z,44nm,0.9s
M31A Lambtecht Ranc 85.96 320 P **P** 03 23 04.7 +1.5
baz=86
E21A Keefer Ranch, 85.99 327 P **P** 03 23 04.5 +1.3
baz=86
N32A Stulken Farm, 86.01 319 P **P** 03 23 04.4 +1.1
baz=86
P34A Walnut Farm, R 86.07 317 P **P** 03 23 04.8 +1.1
baz=86,SNR=5.0
Q35A Mercer Eighty, 86.11 316 P **P** 03 23 04.5 +0.6
baz=86
O33A Hebron 86.11 318 P **P** 03 23 04.6 +0.7
baz=86
R36A Gordon, Harris 86.18 316 P **P** 03 23 04.6 +0.4
baz=86
S37A Fort Scott 86.18 315 P **P** 03 23 05.0 +0.8
baz=86,SNR=6.5
K28A Ten Mile Ranch 86.19 322 P **P** 03 23 06.1 +1.8
baz=86
F22A Rosebud 86.21 327 P **P** 03 23 05.1 +0.8
baz=86
L29A Maesberg Ranch 86.22 321 P **P** 03 23 05.7 +1.2
baz=86
H24A Dirks Ranch, A 86.22 325 P **P** 03 23 04.8 +0.4
baz=86
G23A Biddle 86.26 326 P **P** 03 23 05.4 +0.8
baz=86
M30A Dale-Ortello V 86.29 320 P **P** 03 23 06.1 +1.4
baz=86
N31A Bailey Ranch, 86.32 319 P **P** 03 23 05.6 +0.7
baz=86
O32A Brockman Farm, 86.36 318 P **P** 03 23 05.8 +0.7
baz=86
RSSD Black Hills 86.45 324 eP **P** 03 23 07.3 +1.6
RSSD Black Hills 86.45 324 eP **P** 03 23 07.3 +1.6
RSSD Black Hills 86.45 324 eP **P** 03 23 07.3 +1.6
KDAK Kodiak Island 86.54 357 *i* P **P** 03 23 07.2 +1.7
F21A Asaloka Mine, 86.56 327 P **P** 03 23 07.1 +1.0
baz=86
Q34A Chapman 86.57 317 P **P** 03 23 06.8 +0.6
baz=86
R35A Emporia Munici 86.57 316 P **P** 03 23 07.4 +1.3
baz=86
J26A Sides Ranch, S 86.59 323 P **P** 03 23 06.6 +0.3
baz=86
P33A Williams Farm, 86.62 318 P **P** 03 23 07.4 +1.0
baz=86
K27A Flueckinger Fa 86.63 322 P **P** 03 23 07.9 +1.4
baz=86
S36A Lake Cedric, C 86.64 315 P **P** 03 23 07.2 +0.7
baz=86,SNR=8.5
G22A Birney 86.66 326 P **P** 03 23 07.7 +1.1
baz=86
T37A Cheneyville 18 86.67 314 P **P** 03 23 07.3 +0.7
baz=87,SNR=6.0
WALA Waterton Lakes 86.74 333 eP **P** 03 23 06.2 -0.7
comp=Z,15nm,1.1s
WALA Waterton Lakes 86.74 333 eP **P** 03 23 06.2 -0.7
comp=Z,15nm,1.1s
MAT Matsushiro 86.75 46 P **P** 03 23 06.5 -0.6
MJAR Matsushiro Arr 86.75 46 P **P** 03 23 06.6 -0.5
comp=Z,3.7nm,0.8s,baz=304,slow=5.0,SNR=12
U38A Gravette 86.83 314 P **P** 03 23 09.0 +1.5
baz=87,SNR=5.8
P32A Huiting Farm, 86.99 318 P **P** 03 23 09.4 +1.2
baz=87
Q33A Connelly Farm, 87.01 317 P **P** 03 23 09.3 +1.0
baz=87
S35A Otter Creek Ra 87.09 316 P **P** 03 23 09.1 +0.4
baz=87
H22A Clearmont 87.17 326 P **P** 03 23 09.7 +0.6
baz=87
R34A Isabella, Hill 87.18 317 P **P** 03 23 10.2 +1.1
baz=87,SNR=9.9
N29A Votaw Ranch, W 87.20 320 P **P** 03 23 09.6 +0.4
baz=87
V38A Canehill 87.24 313 P **P** 03 23 09.9 +0.4
baz=87,SNR=6.7
T36A Boggs Farm, Ca 87.27 315 P **P** 03 23 10.2 +0.7
baz=87
U37A Salina 87.28 314 P **P** 03 23 10.6 +0.9
baz=87
VBMS Vicksburg 87.29 308 P **P** 03 23 11.5 +1.8
baz=87
O30A MW Ranch, Wils 87.36 319 P **P** 03 23 10.9 +0.9
baz=87
Q32A Meitler Ranch, 87.41 318 P **P** 03 23 11.0 +0.7
baz=87
H21A Big Horn, Sher 87.45 326 P **P** 03 23 11.4 +0.9
baz=87
P31A Stockton 87.48 319 P **P** 03 23 11.2 +0.7
baz=87
K25A Mack Ranch, Ha 87.50 323 P **P** 03 23 11.4 +0.6
baz=87
G20A Bridger 87.51 327 P **P** 03 23 11.4 +0.7
baz=87,SNR=5.7
S34A Willow Spring 87.52 316 P **P** 03 23 11.9 +1.1
baz=87
M27A Reverse DX Ran 87.58 322 P **P** 03 23 12.5 +1.4
baz=88
R33A Olander Ranch, 87.58 317 P **P** 03 23 12.4 +1.3
baz=88
MIAR Mount Ida 87.63 312 eP **P** 03 23 11.2 -0.2
MIAR Mount Ida 87.63 312 eP **P** 03 23 11.2 -0.2
MIAR Mount Ida 87.63 312 P **P** 03 23 12.3 +1.0
baz=88,SNR=8.3
MIAR Mount Ida 87.63 312 eP **P** 03 23 11.2 -0.2
V37A Hulbert 87.65 314 P **P** 03 23 12.1 +0.7
baz=88
GCMT Greycliff 87.69 328 eP **P** 03 23 13.2 +1.6
GCMT Greycliff 87.69 328 eP **P** 03 23 13.2 +1.6
T35A Sooner Cattle 87.73 315 P **P** 03 23 12.8 +1.0
baz=88,SNR=9.1
I22A 9 Mile Ranch, 87.77 325 P **P** 03 23 12.6 +0.6
baz=88
N28A Pribbeno Ranch 87.77 321 P **P** 03 23 12.7 +0.7
baz=88
W38A Poteau 87.84 313 P **P** 03 23 13.5 +1.2
baz=88
Q31A Ellis 87.86 318 P **P** 03 23 13.3 +0.9
baz=88
R32A Long Quarter, 87.90 317 P **P** 03 23 13.7 +1.1
baz=88
JTMT Jette 87.96 332 eP **P** 03 23 13.7 +0.8
comp=Z,26nm,1.2s
JTMT Jette 87.96 332 eP **P** 03 23 13.7 +0.8
comp=Z,26nm,1.2s
H20A Greybull 87.99 327 P **P** 03 23 14.1 +1.1
baz=88
M26A McRoberts Ranc 88.00 322 P **P** 03 23 14.2 +1.0
baz=88
TUL1 Tulsa 88.02 314 P **P** 03 23 13.7 +0.6
baz=88
T34A McClaskey Farm 88.04 316 P **P** 03 23 14.3 +1.0
baz=88,SNR=7.5
RLMT Red Lodge 88.05 328 eP **P** 03 23 13.7 +0.2
comp=Z,25nm,1.4s
RLMT Red Lodge 88.05 328 P **P** 03 23 14.2 +0.8
baz=88,SNR=7.8
RLMT Red Lodge 88.05 328 eP **P** 03 23 13.7 +0.2
comp=Z,25nm,1.4s

SWMT	**Swartz Lake**	**88.05**	**332**	*e*P	**P**	**03 23 14.4 +1.1**
	comp=Z,13nm,1.1s					
SWMT	**Swartz Lake**	**88.05**	**332**	*e*P	**P**	**03 23 14.4 +1.1**
	comp=Z,13nm,1.1s					
BSMT	**Bassoo Peak**	**88.07**	**332**	*e*P	**P**	**03 23 15.0 +1.6**
	comp=Z,7.9nm,1.3s					
BSMT	**Bassoo Peak**	**88.07**	**332**	*e*P	**P**	**03 23 15.0 +1.6**
	comp=Z,7.9nm,1.3s					
SLMT	**Seeley Lake**	**88.08**	**331**	*e*P	**P**	**03 23 13.4 -0.1**
	comp=Z,10nm,1.3s					
SLMT	**Seeley Lake**	**88.08**	**331**	*e*P	**P**	**03 23 13.3 -0.1**
	comp=Z,10nm,1.3s					
J22A	**Midwest**	**88.14**	**325**	P	**P**	**03 23 13.7 -0.1**
	baz=88					
CBKS	**Cedar Bluff**	**88.18**	**318**	P	**P**	**03 23 14.7 +0.8**
	baz=88					
N27A	**Anderson Farm,**	**88.19**	**321**	P	**P**	**03 23 14.6 +0.5**
	baz=88					
I21A	**Big Trails, Te**	**88.20**	**326**	P	**P**	**03 23 14.0 -0.1**
	baz=88,SNR=8.1					
K23A	**Bowen Ranch, D**	**88.24**	**324**	P	**P**	**03 23 15.0 +0.7**
	baz=88					
U35A	**Pawnee**	**88.24**	**315**	P	**P**	**03 23 15.6 +1.4**
	baz=88,SNR=6.2					
P29A	**Atwood**	**88.25**	**320**	P	**P**	**03 23 15.4 +1.1**
	baz=88					
H19A	**Powell**	**88.28**	**327**	P	**P**	**03 23 15.8 +1.4**
	baz=88,SNR=17					
X38A	**Whitesboro**	**88.30**	**313**	P	**P**	**03 23 15.9 +1.3**
	baz=88,SNR=11					
Q30A	**Quinter**	**88.32**	**319**	P	**P**	**03 23 15.5 +0.9**
	baz=88					
W37A	**Quinton**	**88.34**	**313**	P	**P**	**03 23 15.4 +0.7**
	baz=88					
R31A	**Burdett**	**88.44**	**318**	P	**P**	**03 23 16.2 +1.0**
	baz=88,SNR=7.4					
I20A	**Worland**	**88.47**	**326**	P	**P**	**03 23 16.0 +0.7**
	baz=88,SNR=14					
M25A	**Palm-Egli Farm**	**88.48**	**323**	P	**P**	**03 23 17.2 +1.7**
	baz=88					
S32A	**Newby Ranch, P**	**88.54**	**317**	P	**P**	**03 23 16.2 +0.6**
	baz=88					
NEW	**Newport**	**88.57**	**334**	LR	LR	04 05 27.9
	comp=Z,84nm,18.0s,baz=34,slow=37					
NEW	**Newport**	**88.57**	**334**	*e*P	**P**	**03 23 16.2 +0.6**
NEW				pmax	pmax	
	comp=Z,30nm,1.4s					
NEW	**Newport**	**88.57**	**334**	*e*P	**P**	**03 23 16.2 +0.6**
	comp=Z,30nm,1.4s					
NEW	**Newport**	**88.57**	**334**	P	**P**	**03 23 16.5 +0.9**
	baz=88					
NEW	**Newport**	**88.57**	**334**	*e*P	**P**	**03 23 16.2 +0.6**
	comp=Z,30nm,1.4s					
MSO	**Missoula**	**88.59**	**331**	P	**P**	**03 23 16.8 +1.0**
	baz=88					
T33A	**Patterson Ranc**	**88.60**	**316**	P	**P**	**03 23 17.6 +1.7**
	baz=88					
BOZ	**Bozeman (W)**	**88.63**	**329**	*e*P	**P**	**03 23 17.6 +1.5**
BOZ				pmax	pmax	
	comp=Z,14nm,1.4s					
BOZ	**Bozeman (W)**	**88.63**	**329**	*e*P	**P**	**03 23 17.6 +1.5**
	comp=Z,14nm,1.4s					
BOZ	**Bozeman (W)**	**88.63**	**329**	P	**P**	**03 23 17.0 +1.0**
	baz=88,SNR=9.7					
BOZ	**Bozeman (W)**	**88.63**	**329**	*e*P	**P**	**03 23 17.6 +1.5**
	comp=Z,14nm,1.4s					
J21A	**Lysite**	**88.63**	**326**	P	**P**	**03 23 17.0 +0.8**
	baz=88					
U34A	**Anderson Ranch**	**88.65**	**315**	P	**P**	**03 23 17.8 +1.6**
	baz=88					
X37A	**Clayton**	**88.68**	**313**	P	**P**	**03 23 17.6 +1.3**
	baz=89,SNR=7.0					
P28A	**Saint Francis**	**88.70**	**320**	P	**P**	**03 23 18.0 +1.5**
	baz=89					
V35A	**Meyer Ranch, C**	**88.73**	**315**	P	**P**	**03 23 17.5 +1.0**
	baz=89					
K22A	**Casper**	**88.74**	**325**	*e*P	**P**	**03 23 16.9 +0.2**
	comp=Z,12nm,1.1s					
K22A	**Casper**	**88.74**	**325**	P	**P**	**03 23 16.8 +0.2**
	baz=89,SNR=6.9					
K22A	**Casper**	**88.74**	**325**	*e*P	**P**	**03 23 16.9 +0.2**
	comp=Z,12nm,1.1s					
Y38A	**Idabel**	**88.75**	**312**	P	**P**	**03 23 17.6 +1.0**
	baz=89					
I19A	**Meeteetse**	**88.79**	**327**	P	**P**	**03 23 17.6 +0.7**
	baz=89,SNR=23					
W36A	**Wetumka**	**88.81**	**314**	P	**P**	**03 23 18.1 +1.2**
	baz=89					
LRM	**Limekiln Ridge**	**88.82**	**330**	*e*P	**P**	**03 23 17.1 0.0**
	comp=Z,17nm,0.8s					
LRM	**Limekiln Ridge**	**88.82**	**330**	*e*P	**P**	**03 23 17.1 0.0**
	comp=Z,17nm,0.8s					
R30A	**Dighton**	**88.86**	**318**	P	**P**	**03 23 18.0 +0.9**
	baz=89					
Z39A	**Irene McRaven,**	**88.89**	**311**	P	**P**	**03 23 18.5 +1.2**
	baz=89					
S31A	**Mullinville**	**88.90**	**317**	P	**P**	**03 23 18.5 +1.2**
	baz=89					
T32A	**Huddler Ranch,**	**88.91**	**317**	P	**P**	**03 23 18.3 +0.9**
	baz=89					
J20A	**Shoshoni**	**88.92**	**326**	P	**P**	**03 23 17.7 +0.3**
	baz=89					
U33A	**Lingo Farm, Me**	**88.99**	**316**	P	**P**	**03 23 18.5 +0.7**
	baz=89					
V34A	**Guthrie**	**89.07**	**315**	P	**P**	**03 23 19.1 +1.0**
	baz=89					
Q28A	**Sharon Springs**	**89.11**	**320**	P	**P**	**03 23 19.0 +0.5**
	baz=89					
P27A	**Ficken Ranch,**	**89.14**	**320**	P	**P**	**03 23 19.1 +0.5**
	baz=89					
W35A	**Tecumseh**	**89.18**	**314**	P	**P**	**03 23 20.2 +1.5**
	baz=89					
R29A	**Marienthal**	**89.22**	**319**	P	**P**	**03 23 19.6 +0.7**
	baz=89					
Y37A	**Hugo**	**89.25**	**313**	P	**P**	**03 23 20.3 +1.3**
	baz=89					
PHWY	**Pilot Hill**	**89.27**	**323**	*e*P	**P**	**03 23 19.2 -0.2**
	comp=Z,10nm,0.8s					
PHWY	**Pilot Hill**	**89.27**	**323**	*e*P	**P**	**03 23 19.2 -0.2**
	comp=Z,10nm,0.8s					
X36A	**Centrahoma**	**89.28**	**313**	P	**P**	**03 23 20.3 +1.2**
	baz=89,SNR=5.3					
Z38A	**Mt. Pleasant**	**89.37**	**312**	P	**P**	**03 23 21.0 +1.5**
	baz=89					
J19A	**Crowheart**	**89.42**	**327**	P	**P**	**03 23 20.1 +0.2**
	baz=89,SNR=6.4					
S30A	**Montezuma**	**89.42**	**318**	P	**P**	**03 23 20.3 +0.5**
	baz=89					
V33A	**Lossen Ranch,**	**89.52**	**315**	P	**P**	**03 23 21.9 +1.6**
	baz=89					
U32A	**Winter Ranch,**	**89.53**	**316**	P	**P**	**03 23 21.4 +1.1**
	baz=89					
P26A	**Davis Ranch, A**	**89.53**	**321**	P	**P**	**03 23 21.3 +0.8**
	baz=89					
KSCO	**Kaye Shedlock'**	**89.57**	**320**	P	**P**	**03 23 22.0 +1.4**
	baz=89					
R28A	**Tribune**	**89.63**	**319**	P	**P**	**03 23 21.7 +0.8**
	baz=90					
Y36A	**Durant**	**89.70**	**313**	P	**P**	**03 23 22.3 +1.2**
	baz=90					
IMW	**Indian Meadow**	**89.75**	**328**	*e*P	**P**	**03 23 21.1 -0.4**
	comp=Z,10.0nm,1.1s					
IMW	**Indian Meadow**	**89.75**	**328**	*e*P	**P**	**03 23 21.1 -0.4**
	comp=Z,10.0nm,1.1s					
X35A	**Drake**	**89.76**	**314**	P	**P**	**03 23 22.6 +1.1**
	baz=90					
MOOW	**Moose Ponds**	**89.78**	**328**	*e*P	**P**	**03 23 22.3 +0.7**
	comp=Z,10nm,1.4s					
MOOW	**Moose Ponds**	**89.78**	**328**	*e*P	**P**	**03 23 22.3 +0.7**
	comp=Z,10nm,1.4s					
S29A	**Ulysses**	**89.79**	**318**	P	**P**	**03 23 22.7 +1.1**
	baz=90					
Z37A	**Pogue Cattle C**	**89.80**	**312**	P	**P**	**03 23 23.1 +1.6**
	baz=90					
MCMT	**McKenzie Canyo**	**89.80**	**330**	*e*P	**P**	**03 23 22.1 +0.4**
MCMT	**McKenzie Canyo**	**89.80**	**330**	*e*P	**P**	**03 23 22.1 +0.4**
N23A	**Red Feather La**	**89.82**	**323**	P	**P**	**03 23 22.4 +0.5**
	baz=90,SNR=9.7					
138A	**Matatall Enter**	**89.84**	**311**	P	**P**	**03 23 23.6 +1.8**
	baz=90					
V32A	**Arapaho**	**90.02**	**316**	P	**P**	**03 23 23.9 +1.3**
	baz=90					
BW06	**Boulder Array**	**90.05**	**327**	*e*P	**P**	**03 23 22.3 -0.6**
	comp=Z,15nm,1.5s					
BW06	**Boulder Array**	**90.05**	**327**	*e*P	**P**	**03 23 22.3 -0.6**
	comp=Z,15nm,1.5s					
PDAR	**Pinedale Array**	**90.05**	**327**	P	**P**	**03 23 23.1 +0.3**
	comp=Z,2.7nm,0.9s,baz=52,slow=5.8,SNR=21					
TPAW	**Teton Pass**	**90.08**	**328**	*e*P	**P**	**03 23 24.3 +1.2**
TPAW	**Teton Pass**	**90.08**	**328**	*e*P	**P**	**03 23 24.3 +1.2**
W33A	**Caddo, Fort Co**	**90.10**	**315**	P	**P**	**03 23 24.5 +1.5**
	baz=90					
X34A	**Smith Ranch, M**	**90.12**	**314**	P	**P**	**03 23 24.6 +1.5**
	baz=90					
Y35A	**Marietta**	**90.15**	**313**	P	**P**	**03 23 24.4 +1.2**
	baz=90					
R27A	**Eads**	**90.20**	**320**	P	**P**	**03 23 24.5 +1.0**
	baz=90					
T29A	**Hugoton**	**90.23**	**318**	P	**P**	**03 23 24.7 +1.1**
	baz=90					
Z36A	**Blue Ridge**	**90.23**	**312**	P	**P**	**03 23 24.7 +1.0**
	baz=90,SNR=5.0					
S28A	**Manter**	**90.23**	**319**	P	**P**	**03 23 24.5 +0.8**
	baz=90,SNR=5.3					
137A	**Heron Place, G**	**90.29**	**312**	P	**P**	**03 23 25.7 +1.8**
	baz=90					
V31A	**Spring Creek L**	**90.43**	**316**	P	**P**	**03 23 25.6 +1.0**
	baz=90					
ISCO	**Idaho Springs**	**90.49**	**322**	*e*P	**P**	**03 23 25.1 0.0**
ISCO	**Idaho Springs**	**90.49**	**322**	*e*P	**P**	**03 23 25.1 0.0**
ISCO	**Idaho Springs**	**90.49**	**322**	P	**P**	**03 23 25.5 +0.3**
	baz=90,SNR=6.5					
ISCO	**Idaho Springs**	**90.49**	**322**	*e*P	**P**	**03 23 25.1 0.0**
W32A	**Sentinel**	**90.56**	**315**	P	**P**	**03 23 26.1 +0.9**
	baz=90					
WMOK	**Wichita Mounta**	**90.57**	**315**	*e*P	**P**	**03 23 26.9 +1.7**
WMOK	**Wichita Mounta**	**90.57**	**315**	*e*P	**P**	**03 23 26.9 +1.7**
WMOK	**Wichita Mounta**	**90.57**	**315**	*e*P	**P**	**03 23 26.9 +1.7**
Z35A	**Perchaven, San**	**90.68**	**313**	P	**P**	**03 23 27.0 +1.3**
	baz=91					
T28A	**Walsh**	**90.70**	**319**	P	**P**	**03 23 26.9 +1.0**
	baz=91					
136A	**Ennis**	**90.85**	**312**	P	**P**	**03 23 27.9 +1.4**
	baz=91					
338A	**Crockett**	**90.88**	**310**	P	**P**	**03 23 28.8 +2.2**
	baz=91					
Q24A	**Divide**	**90.90**	**322**	P	**P**	**03 23 27.7 +0.7**
	baz=91					
W31A	**Holland Ranch,**	**90.91**	**316**	P	**P**	**03 23 28.1 +1.3**
	baz=91					
439A	**Center Grove,**	**90.93**	**310**	P	**P**	**03 23 28.6 +1.7**
	baz=91					
Y33A	**Hilltop Ranch,**	**91.00**	**314**	P	**P**	**03 23 28.8 +1.6**
	baz=91					
Z34A	**Collier Ranch,**	**91.04**	**313**	P	**P**	**03 23 29.4 +2.0**
	baz=91					
S26A	**Kim**	**91.05**	**320**	P	**P**	**03 23 29.3 +1.8**
	baz=91					
X32A	**Elmer**	**91.09**	**315**	P	**P**	**03 23 29.4 +1.8**
	baz=91					
236A	**Katherine and**	**91.18**	**312**	P	**P**	**03 23 29.3 +1.3**
	baz=91					
U28A	**Mallet**	**91.31**	**318**	P	**P**	**03 23 29.5 +0.8**
	baz=91					
X31A	**McDonald Ranch**	**91.34**	**316**	P	**P**	**03 23 29.7 +0.9**
	baz=91					
HLID	**Hailey**	**91.48**	**330**	P	**P**	**03 23 30.3 +0.9**
	baz=91					
O20A	**White River Ci**	**91.51**	**324**	*e*P	**P**	**03 23 29.6 -0.1**
	comp=Z,5.1nm,0.8s					
O20A	**White River Ci**	**91.51**	**324**	P	**P**	**03 23 30.1 +0.4**
	baz=91,SNR=5.9					
O20A	**White River Ci**	**91.51**	**324**	*e*P	**P**	**03 23 29.6 -0.1**
	comp=Z,5.1nm,0.8s					
BMO	**Blue Mountains**	**91.53**	**332**	*e*P	**P**	**03 23 29.2 -0.4**
	comp=Z,13nm,1.4s					
BMO	**Blue Mountains**	**91.53**	**332**	*e*P	**P**	**03 23 29.2 -0.4**
	comp=Z,13nm,1.4s					
Z33A	**Whitaker Ranch**	**91.60**	**314**	P	**P**	**03 23 31.0 +1.0**
	baz=92					
134A	**White-Moore Ra**	**91.70**	**313**	P	**P**	**03 23 31.7 +1.2**
	baz=92					
V28A	**Channing**	**91.77**	**318**	P	**P**	**03 23 31.6 +0.8**
	baz=92					
HWUT	**Hardware Ranch**	**91.87**	**327**	*e*P	**P**	**03 23 31.2 -0.1**
	comp=Z,8.6nm,0.9s					
HWUT	**Hardware Ranch**	**91.87**	**327**	*e*P	**P**	**03 23 31.2 -0.1**
	comp=Z,8.6nm,0.9s					
T25A	**Trinidad**	**91.90**	**320**	P	**P**	**03 23 32.1 +0.5**
	baz=92					
X30A	**Coker Ranch, T**	**91.98**	**316**	P	**P**	**03 23 33.1 +1.4**
	baz=92					
Y31A	**Rekieta Farm,**	**91.98**	**315**	P	**P**	**03 23 32.9 +1.2**
	baz=92					
Z32A	**Haskell**	**92.00**	**314**	P	**P**	**03 23 33.3 +1.4**
	baz=92					
SDCO	**Great Sand Dun**	**92.01**	**321**	*e*P	**P**	**03 23 32.6 +0.5**
	comp=Z,4.6nm,1.1s					
SDCO	**Great Sand Dun**	**92.01**	**321**	P	**P**	**03 23 32.8 +0.6**
	baz=92					
SDCO	**Great Sand Dun**	**92.01**	**321**	*e*P	**P**	**03 23 32.6 +0.5**
	comp=Z,4.6nm,1.1s					
W28A	**Vega**	**92.12**	**317**	P	**P**	**03 23 33.5 +1.0**
	baz=92					
234A	**Clairette**	**92.14**	**313**	P	**P**	**03 23 34.0 +1.5**
	baz=92					
MFID	**Camas Ranch**	**92.17**	**331**	*e*P	**P**	**03 23 32.8 +0.2**
	comp=Z,14nm,1.3s					
MFID	**Camas Ranch**	**92.17**	**331**	*e*P	**P**	**03 23 32.8 +0.2**
	comp=Z,14nm,1.3s					
133A	**Hamilton Ranch**	**92.17**	**314**	P	**P**	**03 23 34.1 +1.5**
	baz=92					
Z31A	**Sharp Cattle R**	**92.38**	**315**	P	**P**	**03 23 34.8 +1.2**
	baz=92					
233A	**Rising Star**	**92.59**	**313**	P	**P**	**03 23 36.0 +1.4**
	baz=92					
ABTX	**Abilene, Hawle**	**92.59**	**314**	P	**P**	**03 23 35.9 +1.3**
	baz=92					
X28A	**Dimmitt**	**92.66**	**317**	P	**P**	**03 23 36.2 +1.1**
	baz=92					
S22A	**4UR Ranch, Cre**	**92.68**	**322**	P	**P**	**03 23 36.1 +0.8**
	baz=93					
334A	**Lometa**	**92.68**	**312**	P	**P**	**03 23 36.4 +1.4**
	baz=93					
Z30A	**Sanderson Ranc**	**92.97**	**315**	P	**P**	**03 23 37.2 +0.9**
	baz=93					
131A	**Roby**	**92.99**	**314**	P	**P**	**03 23 37.7 +1.3**
	baz=93					
BGU	**Big Grassy Mou**	**93.06**	**328**	*e*P	**P**	**03 23 37.8 +1.0**
BGU	**Big Grassy Mou**	**93.06**	**328**	*e*P	**P**	**03 23 37.8 +1.0**
434A	**Burnet**	**93.06**	**312**	P	**P**	**03 23 38.2 +1.3**
	baz=93					
232A	**Coleman**	**93.12**	**313**	P	**P**	**03 23 38.0 +0.9**
	baz=93					
333A	**Richland Sprin**	**93.13**	**313**	P	**P**	**03 23 38.2 +1.1**
	baz=93					
Y28A	**McKinney Farm,**	**93.14**	**316**	P	**P**	**03 23 38.2 +1.0**
	baz=93					
PV04	**Paradox Valley**	**93.20**	**323**	*e*P	**P**	**03 23 38.9 +1.4**
PV04	**Paradox Valley**	**93.20**	**323**	*e*P	**P**	**03 23 38.9 +1.4**
PV01	**Paradox Valley**	**93.24**	**323**	*e*P	**P**	**03 23 38.2 +0.5**
	comp=Z,577nm,1.0s					
PV01	**Paradox Valley**	**93.24**	**323**	*e*P	**P**	**03 23 38.2 +0.5**
	comp=Z,577nm,1.0s					
636A	**Smothers Creek**	**93.26**	**310**	P	**P**	**03 23 39.2 +1.5**
	baz=93					
Z29A	**Hungry Hill Ra**	**93.31**	**316**	P	**P**	**03 23 38.8 +0.8**
	baz=93					
MSTX	**Muleshoe**	**93.39**	**317**	P	**P**	**03 23 38.8 +0.4**
	baz=93					
231A	**Bronte**	**93.48**	**314**	P	**P**	**03 23 40.1 +1.4**
	baz=93					
332A	**Millersview**	**93.54**	**313**	P	**P**	**03 23 40.3 +1.3**
	baz=93					
DUG	**Dugway**	**93.56**	**327**	P	**P**	**03 23 40.1 +1.0**
	baz=93					
433A	**Art**	**93.60**	**312**	P	**P**	**03 23 40.5 +1.2**
	baz=94					
736A	**Circle Diamond**	**93.64**	**310**	P	**P**	**03 23 41.1 +1.7**
	baz=94					
MVCO	**Mesa Verde**	**93.93**	**322**	P	**P**	**03 23 41.8 +0.8**
	baz=94					
331A	**San Angelo**	**94.00**	**314**	P	**P**	**03 23 42.6 +1.5**
	baz=94					
128A	**Castleberry Fa**	**94.23**	**316**	P	**P**	**03 23 43.4 +1.2**
	baz=94					
I04A	**Tendick Farm,**	**94.29**	**335**	P	**P**	**03 23 43.4 +1.1**
	baz=94					
J05D	**Fort Rock, OR**	**94.32**	**334**	P	**P**	**03 23 43.5 +1.0**
	baz=94					
330A	**Mertzon**	**94.37**	**314**	P	**P**	**03 23 44.4 +1.6**
	baz=94					
532A	**Rocksprings**	**94.54**	**312**	P	**P**	**03 23 44.9 +1.2**
	baz=94					
431A	**Sonora**	**94.56**	**313**	P	**P**	**03 23 45.0 +1.2**
	baz=94					
633A	**Saathoff Ranch**	**94.58**	**311**	P	**P**	**03 23 45.2 +1.5**
	baz=94					
ANMO	**Albuquerque**	**94.64**	**320**	*i* P	**P**	**03 23 44.8 +0.6**
ANMO				pmax	pmax	
	comp=Z,6.0nm,1.2s					
I03D	**Drain, OR**	**94.69**	**336**	P	**P**	**03 23 44.9 +1.0**
	baz=94					
531A	**Rocksprings**	**94.90**	**313**	P	**P**	**03 23 46.5 +1.2**
	baz=95					
631A	**Perdido Creek**	**95.46**	**312**	P	**P**	**03 23 48.7 +0.9**
	baz=95					
832A	**Faith Ranch, C**	**95.91**	**311**	P	**P**	**03 23 51.3 +1.4**
	baz=96					
YBH	**Yreka Blue Hor**	**96.21**	**334**	LR	LR	04 09 55.0
	comp=Z,82nm,19.2s,baz=18,slow=37					
CPUP	**Villa Florida**	**96.99**	**243**	LR	LR	04 09 58.9
	comp=Z,148nm,19.0s,baz=54,slow=37					
TXAR	**Lajitas Array**	**97.34**	**314**	P	Pdif	03 23 57.3 +0.7
	comp=Z,1.1nm,1.0s,baz=70,slow=4.4,SNR=7.6					
TXAR				LR	LR	04 10 41.2
	comp=Z,40nm,18.3s,baz=0.0,slow=37					
NVAR	**Mina Array Bea**	**97.38**	**330**	P	Pdif	03 23 57.3 +0.5
	comp=Z,0.5nm,0.7s,baz=79,slow=3.1,SNR=4.6					
LPAZ	**La Paz**	**99.41**	**257**	LR	LR	04 09 32.5
	comp=Z,69nm,19.3s,baz=58,slow=36					
ASAR	**Alice Springs**	**120.78**	**98**	PKP	**PKPdf**	**03 29 14.1 -1.1**
	comp=Z,0.8nm,0.7s,baz=322,slow=2.4,SNR=6.7					

IDC 20 03:12:48.0±2.3, 6.11S×150.23E, h0km, mb4.0/3, mb1 4.3/4, mb1mx3.7/37, mbtmp4.1/4, ML2.2/1, Error ellipse: s-maj=74.9km s-min=34.3km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.47**	**223**	Pn	Pn	03 13 58.6	+1.5
	8.4nm,0.3s,baz=66,slow=5.3,SNR=11						
PMG				Sn	Sn	03 14 51.1	+1.2
	4.4nm,0.3s,baz=99,slow=19,SNR=3.8						
WRA	**Warramunga Arr**	**20.68**	**227**	P	P	03 17 29.9	0.0
	14nm,0.7s,baz=51,slow=11,SNR=46						
ASAR	**Alice Springs**	**23.48**	**220**	P	P	03 17 59.0	-0.6
	1.8nm,0.9s,baz=55,slow=9.4,SNR=10						
STKA	**Stephens Creek**	**26.88**	**196**	P	P	03 18 30.1	-0.6
	2.4nm,0.7s,baz=20,slow=8.0,SNR=4.3						
TORD	**Torodi Ar. Bea**	**148.22**	**285**	PKPbc	PKPbc	03 32 36.9	-0.3
	1.8nm,0.6s,baz=67,slow=2.5,SNR=36						

*NIED **20** 03:25:00, 44.10N×148.30E, h47km, Mw4.1 Best double couple: M0 1.39000×10^15 NP1: φs 252.00000°, δ 11.00000°, λ 124.00000°. NP2: φs 38.00000°, δ 81.00000°, λ 84.00000°.*
*MOS **20** 03:25:41.2±1.2, 44.62N×148.49E, h57km, mb4.5/13, Error ellipse: s-maj=8.5km s-min=6.5km az=81.4*
*ISCJB **20** 03:25:42.3±0.6, 44.59N±0.03×148.47E±0.05, h67km±4km, mb4.0/34, Error ellipse: s-maj=7.1km s-min=4.3km az=34.7*
*IDC **20** 03:25:42.7±0.7, 44.71N×148.41E, h52km±5km, mb3.8/22, mb1 4.0/29, mb1mx3.9/43, mbtmp4.1/29, MS3.0/6, Ms1 3.0/6, ms1mx2.7/50, Error ellipse: s-maj=14.7km s-min=10.4km az=149.0*
*JMA **20** 03:25:43.4±0.5, 44.13N×148.26E, h0km, M4.9*
*SKHL **20** 03:25:43.4±0.3, 44.68N×148.44E, h75km±4km, mb4.7/12*
SKHL Felt (II-III) at Gorny, Goryachie Kluchi, (II) at Kurilsk, Kitovy, Redovo.
*NEIC **20** 03:25:43.9±0.8, 44.69N×148.39E, h63km±7km, mb4.2/8, Error ellipse: s-maj=9.3km s-min=5.3km az=135.0*

ISC 20 03:25:42.5±0.5, 44.58N±0.05×148.54E±0.05, h54km±4km, h54km:pP-P, n143, σ1°31/168, mb4.1/34, 4C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.81**	**324**	*d* iPN	**Pn**	**03 25 58.2**	**+0.4**
KUR				*i* S	**Sn**	**03 26 09.2**	**+0.2**
KUR				pmax	pmax		
	comp=N,293nm,0.3s						
KUR				pmax	pmax		
	comp=Z,3μm,0.3s						
KUR				pmax	pmax		
	comp=E,443nm,0.2s						
KUR				smax	smax		
	comp=N,8μm,0.4s						
KUR				smax	smax		
	comp=E,2μm,0.4s						
KUR	**Kuril'sk**	**0.81**	**324** ‖	*i* P	**Pn**	**03 25 58.0**	**+0.2**
KUR				AMB	AMB	03 25 59.0	
	comp=E,4μm,0.5s						
KUR				*i* S	**Sn**	**03 26 09.0**	**0.0**
KUR				A	A	03 26 09.8	
	comp=E,8μm,0.4s						
KUR				A	A	03 26 09.8	
	comp=E,2μm,0.4s						
KUR				A	A	03 26 10.6	
	comp=E,15μm,2.0s						
KUR				A	A	03 26 10.6	
	comp=E,44μm,2.0s						
SHO	**Shikotan**	**1.42**	**241**	*e*P	**Pn**	**03 26 05.8**	**-0.1**
SHO				AMB	AMB	03 26 09.6	
	comp=E,270nm,0.4s						
SHO				*e*S	**Sn**	**03 26 22.3**	**-1.2**
SHO				A	A	03 26 26.2	
	comp=E,430nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.00**	**255** ‖	*i* PN	**Pn**	**03 26 15.6**	**+1.8**
YUK				*i* S	**Sn**	**03 26 40.1**	**+2.5**
YUK				pmax	pmax		
	comp=N,65nm,0.2s						
YUK				pmax	pmax		
	comp=E,83nm,0.2s						
YUK				pmax	pmax		
	comp=Z,568nm,0.2s						
YUK				smax	smax		
	comp=N,945nm,0.4s						
YUK				smax	smax		
	comp=E,1μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.00**	**255** ‖	*i* P	**Pn**	**03 26 15.7**	**+1.9**
YUK				AMB	AMB	03 26 15.8	
	comp=E,70nm,0.2s						
YUK				AMB	AMB	03 26 15.8	
	comp=E,80nm,0.2s						
YUK				AMB	AMB	03 26 15.8	
	comp=E,570nm,0.2s						
YUK				*i* S	**Sn**	**03 26 40.1**	**+2.5**
YUK				A	A	03 26 41.0	
	comp=E,950nm,0.4s						
YUK				A	A	03 26 41.0	
	comp=E,1μm,0.4s						
YUK				A	A	03 26 41.0	
	comp=E,1μm,0.4s						
NEM2	**Nemuro 2**	**2.36**	**240**	P	**Pn**	**03 26 18.5**	**-0.2**
NEM2				*e*S	**Sn**	**03 26 44.4**	**-2.0**
JRA	**Rausu**	**2.54**	**257**	P	**Pn**	**03 26 22.9**	**+1.8**
JNK	**Nakash**	**2.93**	**252**	P	**Pn**	**03 26 28.0**	**+1.5**
JNK				*e*S	**Sn**	**03 27 01.6**	**+1.2**
JAK	**Akkeshi**	**3.20**	**242**	P	**Pn**	**03 26 30.6**	**+0.4**
JAK				*e*S	**Sn**	**03 27 05.2**	**-1.9**
JTKR	**Abashiri--Toko**	**3.38**	**261**	P	**Pn**	**03 26 34.4**	**+1.7**
JAR	**Ashorobuto**	**3.68**	**251**	P	**Pn**	**03 26 38.8**	**+2.0**
JKK2	**Kamakawa 2**	**4.22**	**262**	P	**Pn**	**03 26 47.2**	**+2.9**
JCH	**Churui**	**4.24**	**244**	*e*S	**Sn**	**03 27 32.4**	**-0.3**
JSE	**Soyaes**	**4.26**	**277**	P	**Pn**	**03 26 46.6**	**+1.9**
JKA	**Kamikawa-asahi**	**4.29**	**266**	*e*P	**Pn**	**03 26 46.0**	**+0.9**
ASAJ	**Asahikawa**	**4.29**	**266**	P	**Pn**	**03 26 46.0**	**+0.9**
	baz=69,slow=9.5						
ASAJ				LR	LR	03 28 42.7	
	comp=E,214nm,19.2s,baz=344,slow=43						
ASAJ	**Asahikawa**	**4.29**	**266**	*e*Pn	**Pn**	**03 26 47.1**	**+2.0**
ASAJ				*e*S	**Sn**	**03 27 37.

YSS A A 03 27 46.5
comp=N,60nm,0.7s
YSS AMS AMS 03 28 36.0
comp=N,500nm,16.0s
JWK2 Keihoku 4.77 281 P Pn 03 26 56.6 +4.8
JNBK Urakawa-nobuka 4.80 243 P **Pn** **03 26 53.6 +1.4**
JYG Yagishiri 5.09 271 P Pn 03 26 59.4 +3.3
JSK Shakotan 5.95 261 P Pn 03 27 12.8 +4.9
JKB Kayabe 6.11 246 P **Pn** **03 27 11.6 +1.5**
JKB eS **Sn** **03 28 17.5 -1.0**
UGL Uglegorsk 6.32 318 *e*PN **Pn** **03 27 12.4 -0.6**
UGL eS **Sn** **03 28 23.5 -0.2**
UGL Uglegorsk 6.32 318 *e*P **Pn** **03 27 13.3 +0.3**
UGL AMB AMB 03 27 15.0
comp=N,50nm,0.5s
UGL eS **Sn** **03 28 21.5 -2.2**
UGL A A 03 28 39.6
comp=N,150nm,0.4s
JOT Ohata 6.36 242 P **Pn** **03 27 14.4 +0.9**
JOT eS **Sn** **03 28 22.1 -2.5**
JANG Nango 6.68 233 P **Pn** **03 27 17.1 -0.8**
JANG eS **Sn** **03 28 28.1 -4.5**
TYV Tymovskoe 7.43 330 *e*P Pn 03 27 32.2 +4.0
TYV AMB AMB 03 27 33.4
comp=N,20nm,0.5s
TYV eS **Sn** **03 28 51.3 +0.3**
TYV A A 03 29 36.4
comp=N,10.0nm,0.6s
SKR Severo-Kuril's 7.96 37 *e*PN **Pn** **03 27 35.5 +0.1**
SKR Severo-Kuril's 7.96 37⇑ *e*P **Pn** **03 27 35.6 +0.1**
SKR AMB AMB 03 27 35.8
comp=N,80nm,0.4s
SKR eS **Sn** **03 29 01.4 -2.6**
OKH Okha 9.70 340 *e*P **Pn** **03 28 01.7 +2.5**
NKL Nikolayevsk 10.01 332 *e*PN **Pn** **03 28 05.0 +1.6**
NKL Nikolayevsk 10.01 332 *e*P **Pn** **03 28 04.3 +0.9**
NKL AMB AMB 03 28 06.0
comp=N,20nm,1.0s
HABR Khabarovsk 10.08 297 *e*PN **Pn** **03 28 03.0 -1.4**
HABR pmax pmax
comp=Z,4.0nm,0.7s
HABR Khabarovsk 10.08 297 *e*P **Pn** **03 28 03.0 -1.4**
HABR AMB AMB 03 28 03.4
comp=Z,4.0nm,0.7s
PETK Petropavlovsk- 10.45 32 P **Pn** **03 28 09.3 -0.1**
comp=Z,0.2nm,0.3s,baz=196,slow=15,SNR=3.8
PETK LR LR 03 32 02.4
comp=Z,30nm,18.9s,baz=241,slow=37
PET Petropavlovsk 10.76 35 *e*PN Pn 03 28 16.8 +3.2
PET Petropavlovsk 10.76 35 *e*P Pn 03 28 16.8 +3.2
PET eS **Sn** **03 30 10.8 -1.5**
PET AMS AMS 03 32 07.0
comp=Z,100nm,14.0s
MJA0 Matsu Arr-Jizo 11.21 228 *e*PN **Pn** **03 28 20.0 +0.1**
MJA0 pmax pmax
comp=Z,1.0nm,0.3s
MJAR Matsushiro Arr 11.22 228 P **Pn** **03 28 20.1 -0.1**
comp=Z,0.7nm,0.3s,baz=25,slow=13,SNR=14
MJAR LR LR 03 32 48.9
comp=Z,64nm,19.2s,baz=105,slow=38
MAJO Matsushiro 11.23 228 *e*PN **Pn** **03 28 20.0 -0.2**
MAJO pmax pmax
comp=Z,6.0nm,0.5s
MAJO Matsushiro 11.23 228 *e*Pn **Pn** **03 28 20.0 -0.2**
comp=Z,6.3nm,0.5s
USRK Ussuriysk Ar. 11.85 274 P **Pn** **03 28 29.0 +0.4**
comp=Z,0.5nm,0.3s,baz=92,slow=12,SNR=9.5
KLR Kul'dur 12.38 298 *e*PN **Pn** **03 28 38.7 +2.8**
KLR Kul'dur 12.38 298 *e*P **Pn** **03 28 38.7 +2.8**
EKMR Ekimchan 13.31 315 *e*P **Pn** **03 28 50.0 +1.6**
EKMR AMB AMB 03 28 53.8
comp=Z,4.0nm,0.6s
YASR Yasnyy 16.03 310 *e*P **Pn** **03 29 21.0 -3.1**
YASR AMB AMB 03 29 21.7
comp=Z,4.0nm,0.5s
BMKR Bomnak 16.24 316 *e*P **P** **03 29 28.9 -0.1**
KROS Kirovskiy 17.06 313 *e*P **P** **03 29 39.0 +0.8**
KROS AMB AMB 03 29 40.6
comp=Z,10.0nm,0.7s
KSRS Korea Array 17.09 253 P **Pn** **03 29 36.5 -0.9**
comp=Z,0.2nm,0.3s,baz=61,slow=12,SNR=7.9
KSRS LR LR 03 35 28.7
comp=Z,41nm,19.6s,baz=110,slow=34
KSAR Wonju Array Be 17.12 253 P **Pn** **03 29 36.6 -1.2**
KSAR Wonju Array Be 17.12 253 *e*P **Pn** **03 29 36.6 -1.2**
KSAR Wonju Array Be 17.12 253 P **Pn** **03 29 36.5 -1.2**
JNU Nakatsue 17.85 236 P **P** **03 29 47.8 +0.8**
comp=Z,0.8nm,0.3s,baz=60,slow=5.9,SNR=9.3
JNU Nakatsue 17.85 236 *e*Pn **P** **03 29 48.4 +1.4**
comp=Z,8.0nm,1.1s
SEY Seymchan 18.52 6 P **P** **03 29 53.1 -1.0**
comp=Z,0.4nm,0.3s,baz=181,slow=7.3,SNR=8.0
YAK Yakutsk 20.66 334 LR LR 03 38 37.5
comp=Z,77nm,18.1s,baz=144,slow=38
HHC Hu-ho-hao-te 27.27 275 *e*P **P** **03 31 21.1 -0.6**
HHC pP **pP** **03 31 35.8 +0.5**
HHC sP **sP** **03 31 42.3 +0.6**
HHC PP **PnPn** **03 32 09.0 +1.4**
HHC S **S** **03 35 53.9 -3.3**
HHC sS **sS** **03 36 18.5 -1.8**
HHC ScS **ScS** **03 42 04.6 -2.7**
HHC PMZ
comp=Z,5.0nm,0.6s
HHC PMZ
comp=Z,41nm,6.0s
HHC LN
comp=Z,110nm,13.2s
HHC LE
comp=Z,140nm,13.8s
HHC LZ
comp=Z,88nm,14.9s
SONM Songino Array 29.09 292 P **P** **03 31 37.1 -0.7**
comp=Z,0.7nm,0.7s,baz=99,slow=9.2,SNR=3.5
SONM Songino Array 29.09 292 *e*P **P** **03 31 39.0 +1.2**
SONM pmax pmax
comp=Z,1.0nm,0.6s
H11N2 WAKE ISLAND Hy 29.11 142 T T 04 02 27.4
baz=333,slow=76,SNR=418
H11N1 WAKE ISLAND Hy 29.12 142 T T 04 02 28.4
baz=333,slow=76,SNR=532
H11N3 WAKE ISLAND Hy 29.13 142 T T 04 02 31.5
baz=333,slow=76,SNR=436
H11S1 WAKE ISLAND Hy 30.11 144 T T 04 03 45.3
baz=334,slow=76,SNR=241
H11S3 WAKE ISLAND Hy 30.12 144 T T 04 03 43.0
baz=334,slow=76,SNR=205
H11S2 WAKE ISLAND Hy 30.13 144 T T 04 03 47.9
baz=334,slow=76,SNR=152
GUMO Guam 31.04 187 LR LR 03 42 07.1
comp=Z,30nm,19.6s,baz=122,slow=32
GTA Gaotai 36.15 279 *e*P **P** **03 32 40.6 +1.1**
GTA PMZ
comp=Z,5.0nm,1.2s
COLA College 39.81 37 *e*P **P** **03 33 09.6 -0.3**
COLA pmax pmax
comp=Z,12nm,1.1s
COLA College 39.81 37 *e*P **P** **03 33 09.6 -0.3**
ILAR Eielson Array 40.23 37 P **P** **03 33 13.2 -0.1**
comp=Z,0.6nm,0.5s,baz=266,slow=8.7,SNR=19
ILAR PcP **PcP** **03 35 15.2 -1.1**
comp=Z,0.2nm,0.4s,baz=283,slow=3.4,SNR=4.9
ILAR Eielson Array 40.23 37 *e*P **P** **03 33 13.4 +0.1**
ILAR pmax pmax
comp=Z,1.0nm,0.5s
ILAR Eielson Array 40.23 37 *e*P **P** **03 33 13.4 +0.1**
ZALV Zalesovo Beam 41.30 307 P **P** **03 33 21.6 -0.8**
comp=Z,0.7nm,0.3s,baz=97,slow=9.0,SNR=2.5
ZALV PcP **PcP** **03 35 20.0 +0.1**
comp=Z,0.9nm,0.3s,baz=59,slow=3.1,SNR=5.1
EGAK Eagle 42.67 37 *e*P **P** **03 33 33.5 +0.1**
comp=Z,3.8nm,1.0s
MKAR Makanchi Array 45.09 297 P **P** **03 33 51.9 -1.1**
comp=Z,0.4nm,0.4s,baz=80,slow=9.2,SNR=5.9
MKAR PcP **PcP** **03 35 32.7 -0.1**
comp=Z,1.3nm,0.7s,baz=72,slow=4.0,SNR=6.8
MKAR Makanchi Array 45.09 297 *e*P **P** **03 33 52.9 -0.1**
MKAR Makanchi Array 45.09 297 *e*P **P** **03 33 52.9 -0.1**
INK Inuvik 45.18 31 P **P** **03 33 53.8 +0.4**
comp=Z,1.0nm,0.4s,baz=311,slow=10,SNR=8.2
INK PcP **PcP** **03 35 32.0 -0.7**
comp=Z,1.7nm,0.7s,baz=326,slow=3.4,SNR=3.3
KURK Kurchatov 45.90 304 P **P** **03 33 59.1 -0.2**
KURK 03 35 35.9
KURK Kurchatov 45.90 304 *e*P **P** **03 33 59.1 -0.2**
KURK Kurchatov 45.90 304 P **P** **03 33 59.1 -0.2**
KURK PcP **PcP** **03 35 35.9 +0.4**
KURBB Kurchatov Arra 45.98 304 P **P** **03 33 59.1 -0.9**
comp=Z,0.7nm,0.3s,baz=73,slow=7.2,SNR=9.0
KURBB PcP **PcP** **03 35 35.9 +0.1**
comp=Z,1.0nm,0.7s,baz=75,slow=3.6,SNR=10
CMAR Chiang Mai Arr 48.72 254 P **P** **03 34 22.5 +0.9**
comp=Z,1.4nm,0.3s,baz=32,slow=8.6,SNR=3.2
DLBC Dease Lake 49.39 43 P **P** **03 34 27.7 +1.3**
comp=Z,0.8nm,0.5s,baz=285,slow=4.7,SNR=3.4
BVAR Borovoye Array 49.75 309 PcP **PcP** **03 35 49.5 +0.2**
comp=Z,0.5nm,0.4s,baz=79,slow=3.2,SNR=3.9
YKA Yellowknife Ar 54.55 34 P **P** **03 35 05.0 +0.5**
comp=Z,0.9nm,0.5s,baz=308,slow=6.9,SNR=13
YKA pP **pP** **03 35 18.4 -0.7**
comp=Z,0.7nm,0.7s,baz=296,slow=6.4,SNR=3.3
YKA Yellowknife Ar 54.55 34 P **P** **03 35 05.0 +0.5**
YKA *PP **pP** **03 35 18.4 -0.7**
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA pmax pmax
comp=Z,1.0nm,0.7s
ABKAR Akbulak array 57.32 309 *e*P **P** **03 35 24.2 -0.3**
comp=Z,1.6nm,0.4s
ARCES ARCESS Array B 58.82 340 P **P** **03 35 34.9 +0.1**
comp=Z,2.1nm,0.8s,baz=43,slow=6.4,SNR=7.0
ARCES pP **pP** **03 35 48.5 -1.0**
comp=Z,1.3nm,0.8s,baz=57,slow=6.7,SNR=1.6
ARCES PcP **PcP** **03 36 23.4 -0.3**
comp=Z,1.2nm,0.9s,baz=51,slow=3.9,SNR=3.6
SLMT Seeley Lake 63.61 49 *e*P **P** **03 36 08.6 +1.0**
comp=Z,1.9nm,0.7s
FFC Flin Flon 64.44 37 *e*P **P** **03 36 13.3 +0.5**
FFC pmax pmax
comp=Z,3.0nm,0.8s
FFC Flin Flon 64.44 37 *e*P **P** **03 36 13.3 +0.5**
FFC Flin Flon 64.44 37 *e*P **P** **03 36 13.3 +0.5**
comp=Z,2.8nm,0.8s
FINES FINESS Array B 64.59 333 P **P** **03 36 11.9 -1.7**
comp=Z,1.8nm,0.6s,baz=46,slow=6.9,SNR=14
FINES FINESS Array B 64.59 333 *e*P **P** **03 36 12.6 -1.0**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 64.59 333 *e*P **P** **03 36 12.6 -1.0**
GEYT Alibeck 64.91 299 P **P** **03 36 15.5 -0.6**
comp=Z,1.4nm,0.4s,baz=102,slow=13,SNR=3.3
LRM Limekiln Ridge 65.05 50 *e*P **P** **03 36 18.4 +1.2**
comp=Z,15nm,0.4s
OBN Obninsk 65.23 324 *e*P **P** **03 36 17.3 -0.6**
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN Obninsk 65.23 324 *e*P **P** **03 36 17.3 -0.6**
WRAB Tennant Creek 65.50 195 P **P** **03 36 20.0 +0.1**
WRAB Tennant Creek 65.50 195 P **P** **03 36 20.0 +0.1**
WRA Warramunga Arr 65.51 195 P **P** **03 36 20.3 +0.3**
comp=Z,1.5nm,0.7s,baz=12,slow=6.7,SNR=6.0
WRA Warramunga Arr 65.51 195 *e*P **P** **03 36 19.7 -0.3**
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 65.51 195 *e*P **P** **03 36 19.7 -0.3**
BOZ Bozeman (W) 65.61 49 *e*P **P** **03 36 21.8 +1.1**
BOZ pmax pmax
comp=Z,4.0nm,0.7s
BOZ Bozeman (W) 65.61 49 *e*P **P** **03 36 21.8 +1.1**
comp=Z,4.4nm,0.7s
NVAR Mina Array Bea 66.29 59 P **P** **03 36 26.1 +0.8**
comp=Z,0.9nm,0.6s,baz=294,slow=6.9,SNR=10.0
NVAR pP **pP** **03 36 40.2 -0.1**
comp=Z,1.7nm,0.7s,baz=294,slow=6.8,SNR=9.8
IMW Indian Meadow 67.11 50 *e*P **P** **03 36 31.6 +1.1**
comp=Z,2.1nm,0.6s
MOOW Moose Ponds 67.31 51 *e*P **P** **03 36 32.1 +0.4**
comp=Z,0.9nm,0.6s
PDAR Pinedale Array 68.61 51 P **P** **03 36 40.5 +0.7**
comp=Z,1.4nm,0.6s,baz=324,slow=2.2,SNR=14
NB2 NORSAR Subarra 69.19 339 P **P** **03 36 42.2 -0.7**
comp=Z,1.8nm,0.8s,baz=30,slow=6.5
NOA NORSAR Array B 69.19 339 P **P** **03 36 41.9 -1.0**
comp=Z,0.8nm,0.4s,baz=19,slow=6.6,SNR=15
ASAR Alice Springs 69.22 194 P **P** **03 36 45.0 +1.5**
comp=Z,1.0nm,0.6s,baz=10,slow=5.5,SNR=11
ASAR Alice Springs 69.22 194 P **P** **03 36 45.0 +1.5**
ASAR Alice Springs 69.22 194 *e*P **P** **03 36 45.0 +1.5**
KIV Kislovodsk 69.95 312 *e*P **P** **03 36 49.6 +1.6**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV Kislovodsk 69.95 312 *e*P **P** **03 36 49.6 +1.6**
STKA Stephens Creek 76.35 186 P **P** **03 37 26.9 +1.4**
comp=Z,1.9nm,0.8s,baz=343,slow=9.1,SNR=2.9
SCHQ Schefferville 76.50 20 P **P** **03 37 26.0 -0.3**
comp=Z,2.1nm,0.5s,baz=290,slow=6.8,SNR=7.2
DPC Dobruska-Polom 76.73 331 *e*P **P** **03 37 27.7 0.0**
DPC Dobruska-Polom 76.73 331 *e*P **P** **03 37 27.7 0.0**
CLL Collm 77.03 333⇑ *i*P **P** **03 37 28.6 -0.7**
CLL *e*PP **pP** **03 37 45.0 +0.4**
CLL pmax pmax
comp=Z,8.0nm,1.0s
CLL Collm 77.03 333⇑ *i*P **P** **03 37 28.6 -0.7**
CLL Collm 77.03 333⇑ *i*P **P** **03 37 28.6 -0.7**
comp=Z,8.0nm,1.0s
CLL *e*pP **pP** **03 37 45.0 +0.4**
PRU Pruhonice 77.65 332 *e*P **P** **03 37 32.4 -0.4**
PRU Pruhonice 77.65 332 *e*P **P** **03 37 32.4 -0.4**
PRU Pruhonice 77.65 332 *e*P **P** **03 37 32.4 -0.4**
BRTR Keskin Array B 77.69 314 P **P** **03 37 32.3 -1.1**
comp=Z,0.9nm,0.7s,baz=72,slow=4.0,SNR=6.0
BRTR Keskin Array B 77.69 314 *e*P **P** **03 37 33.1 -0.3**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 78.92 331 P **P** **03 37 39.1 -0.9**
comp=Z,1.1nm,0.3s,baz=39,slow=6.0,SNR=14
GERES GERESS Array B 78.92 331 *e*P **P** **03 37 39.6 -0.3**
GERES pmax pmax
comp=Z,1.0nm,0.3s
GERES GERESS Array B 78.92 331 *e*P **P** **03 37 39.6 -0.3**
TXAR Lajitas Array 81.36 57 P **P** **03 37 54.2 +0.8**
comp=Z,1.3nm,0.6s,baz=294,slow=4.3,SNR=30
TXAR pP **pP** **03 38 08.4 -0.4**
comp=Z,1.3nm,0.7s,baz=294,slow=4.1,SNR=10.0
TORD Torodi Ar. Bea 115.13 324 PKP **PKPdf** **03 44 17.0 -1.0**
comp=Z,0.3nm,0.5s,baz=22,slow=1.8,SNR=17
VNDA Vanda 122.10 177 PKP **PKPdf** **03 44 28.7 -0.6**
comp=Z,0.7nm,0.7s,baz=302,slow=3.8,SNR=3.7
QSPA South Pole Qui 134.31 180 PKP **PKPdf** **03 44 53.8 +0.9**
comp=Z,1.1nm,0.7s,baz=175,slow=1.0,SNR=8.6

*IDC **20** 03:33:25.9±1.9,6°.11S×131°.15E, h0km, mb4.1/3, mb1 4.1/5, mb1mx3.8/19, mbtmp4.0/5, ML4.2/2, MS3.6/1, Ms1 3.6/1, ms1mx2.7/28, Error ellipse: s-maj=229.2km s-min=22.3km az=69.0*

ISC 20 03:33:27.7±1.8, 6°.2S±0°.5×13°.1E±°, h10km, n13, σ1§69/6, mb4.2/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**6.58**	**177**	P	Pn	03 35 09.5	+4.9
	baz=5.9,SNR=44						
KDU	**Kakadu**	**6.63**	**166**	P	Pb	03 35 15.9	-7.3
	baz=6.5,SNR=208						
KNRA	**Kununurra**	**9.60**	**192**	P	Pn	03 35 40.1	-5.9
	baz=8.2,SNR=7.3						
WRA	**Warramunga Arr**	**14.06**	**166**	Pn	**Pn**	**03 36 48.4**	**+1.2**
	1.6nm,0.3s,baz=330,slow=14,SNR=21						
WRA				Sn	Sn	03 39 10.6	-13
	3.0nm,0.3s,baz=330,slow=23,SNR=9.1						
QIS	**Mount Isa**	**16.62**	**150**	P	P	03 37 31.1	+7.6
	baz=17,SNR=8.3						
ASAR	**Alice Springs**	**17.60**	**171**	P	**P**	**03 37 33.0**	**-1.3**
	0.5nm,0.3s,baz=337,slow=9.5,SNR=16						
ASAR				Sn	Sn	03 40 31.2	-18
	0.5nm,0.3s,baz=352,slow=26,SNR=5.7						
WRKA	**Warakurna**	**18.86**	**187**	P	P	03 37 40.9	-7.2
	baz=18,SNR=4.3						
FORT	**Forrest**	**24.56**	**186**	P	P	03 38 40.2	-7.7
	baz=23,SNR=7.9						
STKA	**Stephens Creek**	**27.45**	**160**	P	**P**	**03 39 14.5**	**+0.5**
	0.5nm,0.3s,baz=315,slow=12,SNR=3.2						
USRK	**Ussuriysk Ar.**	**50.20**	**1**	LR	LR	04 04 20.7	
	comp=Z,61nm,19.8s,baz=282,slow=37						
MKAR	**Makanchi Array**	**68.02**	**326**	P	**P**	**03 44 27.8**	**+0.4**
	1.2nm,0.5s,baz=126,slow=7.8,SNR=21						
ZALV	**Zalesovo Beam**	**71.24**	**333**	P	**P**	**03 44 47.8**	**+0.7**
	0.8nm,0.4s,baz=132,slow=5.3,SNR=4.0						
CPUP	**Villa Florida**	**146.69**	**167**	PKPbc	**PKPbc**	**03 53 08.5**	**-2.1**
	2.0nm,0.9s,baz=157,slow=7.7,SNR=2.4						

DJA 20 03:33:49.9±1.0, 0°.N±5°.×12°.0E±°, h90km±10km, M2.9/4, MLv2.9/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**0.41**	**264**	P	Pn	03 34 04.9	+0.9
MPSI				S	Sn	03 34 18.0	+3.5
PCI	**Palu**	**1.36**	**200**	P	Pn	03 34 14.7	+0.7
PCI				S	Sn	03 34 31.8	-0.3
MRSI	**Marisa**	**1.63**	**87**	P	Pn	03 34 17.5	+0.2
MRSI				S	Sn	03 34 38.4	+0.2
APSI	**Ampana**	**1.85**	**134**	P	Pn	03 34 20.1	-0.1
APSI				S	Sn	03 34 45.2	+1.9

*CSEM **20** 03:38:47.1±0.3, 43°.37N×18°.18E, h2km, ML2.2, Error ellipse: s-maj=5.1km s-min=4.5km az=159.0*

BEO 20 03:38:47.7±0.4, 43°.41N×18°.13E, h13km±4km, ML2.2/7, 5C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STON	**Ston**	**0.62**	**210**	*i* Pg	Pg	03 38 57.2	-2.6
STON				Sg	Sg	03 39 06.6	-1.5
STON	**Ston**	**0.62**	**210**	*i* Pg	Pg	03 38 57.2	-2.6
STON				Sg	Sg	03 39 06.5	-1.6
TREB	**Trebinje**	**0.71**	**167**	*e*Pg	Pg	03 38 58.7	-2.8
TREB	**Trebinje**	**0.71**	**167**	*e*Pg	Pg	03 38 58.7	-2.8
BBLS	**Lazići**	**1.03**	**63**	*e*Sg	Sb	03 39 20.1	-1.0
BBLS	**Lazići**	**1.03**	**63**	*e*Sg	Sb	03 39 20.1	-1.0
PDG	**Podgorica**	**1.28**	**139**	*e*Pg	Pb	03 39 11.7	0.0
PDG				*e*Sg	Sn	03 39 28.6	+0.3
PDG	**Podgorica**	**1.28**	**139**	*e*Pg	Pb	03 39 11.7	0.0
PDG				*e*Sg	Sn	03 39 28.6	+0.3
SJES	**Sjenica**	**1.35**	**96**	*e*Pg	Pn	03 39 12.2	-0.3
SJES				*e*Sg	Sb	03 39 31.0	+0.6
IVAS	**Ivanjica**	**1.48**	**83**	*e*Pg	Pn	03 39 13.9	-0.3
IVAS				*e*Sg	Sb	03 39 34.3	+0.3
IVAS	**Ivanjica**	**1.48**	**83**	*e*Pg	Pn	03 39 13.9	-0.3
IVAS				*e*Sg	Sb	03 39 34.3	+0.3
BLY	**Banja Luka**	**1.50**	**333**	*e*Pg	Pg	03 39 16.1	-0.5
BLY				*e*Sg	Sg	03 39 36.2	+0.1
BLY	**Banja Luka**	**1.50**	**333**	*e*Pg	Pg	03 39 16.1	-0.5
BLY				*e*Sg	Sg	03 39 36.2	+0.1
DIVS	**Divibare**	**1.51**	**62**	*e*Pg	Pn	03 39 15.1	+0.4
DIVS				*e*Sg	Sb	03 39 35.0	0.0
DIVS	**Divibare**	**1.51**	**62⇑**	*i*P	Pb	03 39 16.0	+0.2
DIVS	**Divibare**	**1.51**	**62**	*e*Pg	Pn	03 39 15.1	+0.4
DIVS	**Divibare**	**1.51**	**62⇑**	*i*P	Pb	03 39 16.0	+0.2
DIVS				*e*Sg	Sb	03 39 35.0	0.0
DIVS				S	Sg	03 39 36.1	-0.6
TEKS	**Tekeris**	**1.52**	**41**	*e*Pg	Pb	03 39 16.0	+0.1
TEKS				*e*Sg	Sb	03 39 35.2	+0.1
TEKS	**Tekeris**	**1.52**	**41**	*e*Pg	Pb	03 39 16.0	+0.1
TEKS				*e*Sg	Sb	03 39 35.2	+0.1
TRUS	**Trudelj**	**1.84**	**63**	*e*Pn	Pn	03 39 18.8	-0.2
TRUS				*e*Sg	Sg	03 39 46.3	-0.6
TRUS	**Trudelj**	**1.84**	**63**	*e*Pn	Pn	03 39 18.8	-0.2
TRUS				*e*Sg	Sg	03 39 46.3	-0.6
GRUS	**Gruza**	**1.94**	**75**	*e*Pg	Pb	03 39 23.3	+0.4
GRUS				*e*Sg	Sg	03 39 49.6	-0.4
GRUS	**Gruza**	**1.94**	**75**	*e*Pg	Pb	03 39 23.3	+0.4
GRUS				*e*Sg	Sg	03 39 49.6	-0.4
UDBI	**Udbina**	**2.04**	**304**	*e*Pn	Pb	03 39 25.3	+0.5
UDBI				Sn	Sg	03 39 56.3	+2.8
UDBI	**Udbina**	**2.04**	**304**	*e*Pn	Pb	03 39 25.2	+0.4
NVLJ	**Novalja**	**2.62**	**297**	*i* Pn	Pb	03 39 32.9	-1.6
NVLJ				Sn	Sb	03 40 07.7	+1.1
NVLJ	**Novalja**	**2.62**	**297**	*i* Pn	Pb	03 39 32.8	-1.7
NVLJ				Sn	Sb	03 40 07.6	+1.0
BARS	**Barje**	**2.76**	**101**	*e*Pn	Pn	03 39 32.1	+0.4
BARS				*e*Sn	Sn	03 40 04.8	-0.2
BARS	**Barje**	**2.76**	**101**	*e*Pn	Pn	03 39 32.1	+0.4
BARS				*e*Sn	Sn	03 40 04.8	-0.2
PKSM	**Moragy**	**2.83**	**7⇑**	*i*P	Pn	03 39 33.4	+0.9
PKSM	**Moragy**	**2.83**	**7⇑**	*i*P	Pn	03 39 33.4	+0.9
BZS	**Buzias**	**3.33**	**47⇑**	*i*P	Pb	03 39 48.5	+1.9
BZS				S	Sn	03 40 20.8	+1.9
BZS	**Buzias**	**3.33**	**47**	S	Sn	03 40 20.8	+1.9

*IDC **20** 03:39:51.4±0.8, 52°.72N×169°.85W, h0km, mb4.1/11, mb1 4.4/13, mb1mx4.0/43, mbtmp4.1/13, ML3.6/2, MS3.4/7, Ms1 3.4/7, ms1mx3.0/47, Error ellipse: s-maj=27.3km s-min=14.3km az=168.0*

*NEIC **20** 03:39:52.7, 52°.69N×169°.57W, h3km, mb4.3/23, ML4.0(AEIC), After AEIC.*

*ISCJB **20** 03:39:54.4±0.8, 52°.69N±0°.05×169°.62W±0°.05, h28km±6km, mb4.3/28, MS3.4/6, Error ellipse: s-maj=8.9km s-min=3.8km az=158.6*

ISC 20 03:39:53.2±1.7, 52°.75N±0°.09×169°.62W±0°.05, h8km±10km, n278, σ0§85/277, mb4.3/28, MS3.4/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.51**	**64**	P	**Pg**	**03 40 03.6**	**+0.5**
NIKH				S	**Sb**	**03 40 12.2**	**+0.2**
OKWR	**Okmok West Rim**	**1.09**	**51**	P	**Pn**	**03 40 15.1**	**+0.2**
OKCE	**Okmok Cone E**	**1.11**	**52**	P	**Pg**	**03 40 13.9**	**-0.5**
OKCE				S	**Sn**	**03 40 31.8**	**+1.2**
OKTU	**Okmok Mt. Tuli**	**1.14**	**56**	P	**Pg**	**03 40 14.8**	**-0.3**
MSOM	**Makushin Julie**	**1.92**	**55**	P	**Pn**	**03 40 26.9**	**+0.7**
MSOM				S	**Sn**	**03 40 51.5**	**+0.9**
MGOD	**Makushin Gods**	**1.95**	**57**	P	**Pn**	**03 40 26.6**	**-0.1**
MCIR	**Makushin Cirqu**	**2.03**	**53**	P	**Pn**	**03 40 28.8**	**+1.0**
MSW	**Makushin Switc**	**2.06**	**54**	P	**Pn**	**03 40 28.7**	**+0.5**
MTBL	**Makushin Table**	**2.14**	**54**	P	**Pn**	**03 40 29.8**	**+0.5**
UNV	**Unalaska Valle**	**2.17**	**58**	*e*Pn	**Pn**	**03 40 29.7**	**+0.1**
UNV				eS	**Sn**	**03 40 57.4**	**+0.8**
AKRB	**Akutan Reef Bi**	**2.53**	**56**	P	**Pn**	**03 40 36.1**	**+1.5**
ZRO	**Akutan Zero**	**2.56**	**57**	P	**Pn**	**03 40 36.1**	**+1.2**
AKGG	**Akutan Green G**	**2.61**	**55**	P	**Pn**	**03 40 36.7**	**+1.1**
AKUT	**Akutan**	**2.69**	**57**	*e*Pn	**Pn**	**03 40 37.5**	**+0.9**
AKUT				eS	**Sb**	**03 41 14.9**	**+0.4**
ATKA	**Atka Island**	**2.85**	**261**	P	**Pn**	**03 40 39.1**	**+0.1**
WESN	**West Dahl Nort**	**3.50**	**57**	P	**Pn**	**03 40 49.9**	**+1.9**
GSTR	**Great Sitkin T**	**4.00**	**263**	*e*Pn	**Pn**	**03 40 55.8**	**+1.0**
GSTR				eS	**Sn**	**03 41 42.5**	**+0.7**
GSMY	**Great Sitkin M**	**4.01**	**262**	P	**Pn**	**03 40 56.2**	**+1.3**
GSTD	**Great Sitkin T**	**4.06**	**263**	P	**Pn**	**03 40 57.0**	**+1.4**
GSCK	**Great Sitkin C**	**4.08**	**262**	P	**Pn**	**03 40 57.0**	**+1.1**
FALS	**False Pass**	**4.24**	**58**	*e*Pn	**Pn**	**03 40 59.1**	**+1.1**
FALS				eS	**Sb**	**03 41 56.4**	**-2.8**
ADAG	**Mount Adagdak**	**4.35**	**263**	P	**Pn**	**03 41 01.2**	**+1.6**
SPIA	**Saint Paul Isl**	**4.45**	**356**	P	**Pn**	**03 41 03.4**	**+2.5**
SDPT	**Sand Point**	**5.98**	**61**	*e*Pn	**Pn**	**03 41 23.2**	**+1.3**
	89nm,0.8s						
SDPT				eS	**Sb**	**03 42 47.6**	**-1.6**
AMKA	**Amchitka**	**6.97**	**263**	*e*Pn	**Pn**	**03 41 36.9**	**+1.4**
	57nm,0.7s						
AMKA				eS	Sb	03 43 08.1	-10
CHGN	**Chignik**	**7.42**	**57**	*e*Pn	**Pn**	**03 41 39.9**	**-1.9**
CHGN				eS	**Sn**	**03 43 07.5**	**+1.5**
PPLA	**Purkeypile**	**13.71**	**35**	*e*Pn	**Pn**	**03 43 09.8**	**+2.0**
	59nm,1.4s						
SML	**Sawmill**	**14.59**	**43**	*e*Pn	**Pn**	**03 43 20.0**	**+0.4**
	1.9nm,0.8s						
SML				eS	**Sn**	**03 46 02.6**	**+1.2**
BPAW	**Bear Paw Mtn.**	**14.91**	**33**	*e*Pn	**P**	**03 43 27.2**	**-2.6**
	4.5nm,0.7s						
IM04	**Indian Mountai**	**15.45**	**25**	*e*Pn	**P**	**03 43 34.4**	**-1.4**
BMRM	**Bremner River**	**15.87**	**49**	*e*Pn	**Pn**	**03 43 37.0**	**+0.2**
	22nm,1.2s						
**

40nm,1.2s
INK **Inuvik** 23.11 34 P P 03 44 57.9 -1.3
3.7nm,0.9s,baz=235,slow=12,SNR=4.0
INK LR LR 03 55 12.8
comp=Z,152nm,19.0s,baz=276,slow=40
INK **Inuvik** 23.11 34 eP P 03 44 57.9 -1.3
6.4nm,0.9s
YKA **Yellowknife Ar** 30.11 49 P P 03 46 01.9 -0.9
1.1nm,0.6s,baz=272,slow=7.8,SNR=12
I04A **Tendick Farm,** 32.15 87 P P 03 46 23.1 +2.0
baz=32
NEW **Newport** 33.06 76 P P 03 46 30.5 +1.4
4.6nm,0.8s,baz=292,slow=7.6,SNR=8.5
NEW **Newport** 33.06 76 P P 03 46 30.4 +1.3
baz=33,SNR=5.7
NEW **Newport** 33.06 76 eP P 03 46 29.6 +0.5
5.4nm,0.8s
EDM **Edmonton** 33.13 66 eP P 03 46 30.0 +0.4
7.6nm,0.8s
J05D **Fort Rock, OR** 33.15 87 P P 03 46 31.5 +1.5
baz=33
M04C **Macdoel** 33.63 90 P P 03 46 35.6 +1.4
baz=34
BSMT **Bassoo Peak** 34.64 76 eP P 03 46 43.5 +0.5
9.9nm,1.2s
MSO **Missoula** 35.65 77 P P 03 46 53.2 +1.6
baz=36
CHMT **Chamberlain Mo** 36.01 76 eP P 03 46 54.1 -0.6
1.7nm,0.6s
HRY **Holter Researc** 36.95 76 eP P 03 47 02.6 -0.1
2.6nm,0.5s
HLID **Hailey** 37.11 82 P P 03 47 04.9 +0.8
baz=37
MCMT **McKenzie Canyo** 37.35 79 eP P 03 47 06.6 +0.3
1.2nm,0.6s
BOZ **Bozeman (W)** 37.63 77 P P 03 47 09.0 +0.5
baz=38
H11N2 **WAKE ISLAND Hy** 37.66 218 T T 04 26 58.3
baz=24,slow=76,SNR=82
H11N3 **WAKE ISLAND Hy** 37.67 218 T T 04 27 00.5
baz=24,slow=76,SNR=80
H11N1 **WAKE ISLAND Hy** 37.68 218 T T 04 27 00.7
baz=24,slow=76,SNR=55
NVAR **Mina Array Bea** 37.82 91 P P 03 47 11.2 +1.0
2.1nm,0.8s,baz=292,slow=7.1,SNR=14
C20A **Veseth Ranch,** 38.67 72 P P 03 47 18.5 +1.4
baz=38,SNR=6.9
H11S1 **WAKE ISLAND Hy** 38.85 217 T T 04 28 26.2
baz=23,slow=76,SNR=1035
H11S2 **WAKE ISLAND Hy** 38.87 217 T T 04 28 31.5
baz=23,slow=76,SNR=600
H11S3 **WAKE ISLAND Hy** 38.87 217 T T 04 28 30.0
baz=23,slow=76,SNR=677
H17A **Grant Village** 38.94 78 P P 03 47 20.7 +1.0
baz=39
RLMT **Red Lodge** 39.31 76 P P 03 47 23.8 +1.1
baz=39
RLMT **Red Lodge** 39.31 76 eP P 03 47 23.9 +1.1
9.2nm,1.2s
R11A **Troy Canyon, C** 39.52 89 P P 03 47 25.3 +0.8
baz=39
R11A **Troy Canyon, C** 39.52 89 eP P 03 47 24.8 +0.3
2.6nm,0.8s
MJAR **Matsushiro Arr** 39.56 267 P P 03 47 23.3 -1.4
1.5nm,0.9s,baz=38,slow=6.2,SNR=4.6
H19A **Powell** 39.73 77 P P 03 47 26.2 +0.1
baz=40
MPMC **Manual Prospec** 39.85 93 P P 03 47 28.9 +1.7
baz=40
G20A **Bridger** 39.88 75 P P 03 47 28.4 +1.0
baz=40
BSC **Santa Cruz Isl** 39.95 98 P P 03 47 29.5 +1.7
baz=40
FURC **Furnace Creek,** 39.96 92 P P 03 47 29.9 +2.0
baz=40
TPNV **Topopah Spring** 40.02 91 P P 03 47 30.0 +1.4
baz=40
DUG **Dugway** 40.06 85 P P 03 47 29.3 +0.4
baz=40,SNR=5.1
DUG **Dugway** 40.06 85 eP P 03 47 29.8 +0.9
6.4nm,1.1s
I19A **Meeteetse** 40.08 77 P P 03 47 29.9 +0.7
baz=40
LAO **LASA Array** 40.24 72 P P 03 47 31.2 +1.0
baz=40
H20A **Greybull** 40.42 76 P P 03 47 32.2 +0.5
baz=40
BW06 **Boulder Array** 40.48 79 eP P 03 47 32.6 +0.1
4.3nm,0.9s
PDAR **Pinedale Array** 40.48 79 P P 03 47 32.2 -0.2
3.6nm,0.9s,baz=315,slow=4.6,SNR=25
J19A **Crowheart** 40.49 78 P P 03 47 33.1 +0.6
baz=40
I20A **Worland** 40.65 77 P P 03 47 34.6 +0.9
baz=40
F22A **Rosebud** 40.72 74 P P 03 47 34.6 +0.4
baz=40
GSC **Goldstone** 40.77 94 P P 03 47 36.6 +1.8
baz=41
GSC **Goldstone** 40.77 94 eP P 03 47 36.0 +1.3
4.6nm,0.8s
A25A **Svangstu Ranch** 40.82 68 P P 03 47 35.9 +1.0
baz=41
C24A **Savage** 40.82 70 P P 03 47 36.0 +1.0
baz=41
E23A **Ismay** 40.87 72 P P 03 47 36.9 +1.4
baz=41
G22A **Birney** 41.01 74 P P 03 47 37.7 +1.0
baz=41
J20A **Shoshoni** 41.02 78 P P 03 47 37.2 +0.4
baz=41
D24A **Glendive** 41.10 71 P P 03 47 38.6 +1.3
baz=41
I21A **Big Trails, Te** 41.22 77 P P 03 47 39.0 +0.5
baz=41
F23A **Volborg** 41.24 73 P P 03 47 39.1 +0.5
baz=41
H22A **Clearmont** 41.33 75 P P 03 47 39.9 +0.6
baz=41
J21A **Lysite** 41.40 77 P P 03 47 40.2 +0.2
baz=41
A26A **Wade Farm, Ken** 41.44 67 P P 03 47 40.6 +0.5
baz=41
G23A **Biddle** 41.55 74 P P 03 47 41.1 +0.1
baz=41
B26A **Jensen Ranch,** 41.61 68 P P 03 47 42.6 +1.1
baz=41
I22A **9 Mile Ranch,** 41.65 76 P P 03 47 43.0 +1.0
baz=42
MURC **Murrieta** 41.69 96 P P 03 47 42.9 +0.7
baz=42
F24A **Ekalaka** 41.73 72 P P 03 47 42.8 +0.2
baz=42
GMRC **Granite Mounta** 41.82 93 P P 03 47 44.3 +0.9
baz=42
J22A **Midwest** 41.93 77 P P 03 47 44.6 +0.3
baz=42
E25A **Miller Ranch,** 41.97 71 P P 03 47 44.7 +0.3
baz=42
C26A **Wahner Farm, P** 41.99 69 P P 03 47 45.4 +0.9
baz=42
G24A **Alzada** 42.04 73 P P 03 47 45.1 0.0
baz=42
PFO **Pinyon Flat Ob** 42.13 95 P P 03 47 46.9 +0.9
baz=42
D26A **Manning** 42.23 70 P P 03 47 47.1 +0.5
baz=42
H24A **Dirks Ranch, A** 42.29 74 P P 03 47 47.8 +0.7
baz=42
K22A **Casper** 42.36 78 P P 03 47 45.2 -2.6
baz=42
C27A **Sayler Ranch,** 42.38 68 P P 03 47 47.6 -0.1
baz=42
A28A **Rude Farm, Bot** 42.43 66 P P 03 47 48.7 +0.6
baz=42
E26A **Carlson Angus** 42.52 70 P P 03 47 49.6 +0.6
baz=42
IRM **Iron Mountain** 42.55 94 P P 03 47 49.9 +0.6
baz=42
B28A **Dugan Ranch, T** 42.62 67 P P 03 47 50.4 +0.7
baz=42
MONP **Monument Peak** 42.65 96 P P 03 47 51.1 +0.8
baz=42
K23A **Bowen Ranch, D** 42.83 77 P P 03 47 52.1 +0.5
baz=43
O20A **White River Ci** 42.85 82 P P 03 47 52.6 +0.7
baz=43,SNR=6.4
O20A **White River Ci** 42.85 82 eP P 03 47 51.8 -0.1
11nm,0.8s

H25A **Fruitdale** 42.92 73 P P 03 47 53.5 +1.2
baz=43
A29A **Manning Farm,** 42.99 66 P P 03 47 52.9 +0.2
baz=43
J24A **Dixon Ranch, L** 43.05 76 P P 03 47 54.2 +0.8
baz=43
PDMCI **Parker Dam,Lak** 43.06 93 P P 03 47 54.2 +0.9
baz=43
G26A **Maurine** 43.11 72 P P 03 47 54.1 +0.3
baz=43
D28A **Regan** 43.20 68 P P 03 47 55.0 +0.6
baz=43
Y12C **Blythe** 43.20 94 P P 03 47 55.3 +0.8
baz=43
G27A **Dupree** 43.45 71 P P 03 47 56.7 +0.2
baz=43
B30A **Myrvik Farm, E** 43.75 66 P P 03 47 59.0 +0.2
baz=44,SNR=6.1
N23A **Red Feather La** 43.76 79 P P 03 47 59.5 +0.2
baz=44
H27A **Howes** 43.80 72 P P 03 47 59.7 +0.4
baz=44
PV01 **Paradox Valley** 43.92 84 eP P 03 48 00.7 +0.1
349nm,0.8s
WUAZ **Wupatki** 43.93 89 P P 03 48 00.6 0.0
baz=44
J26A **Sides Ranch, S** 44.00 75 P P 03 48 00.8 -0.1
baz=44
I27A **Quinn** 44.14 73 P P 03 48 02.6 +0.5
baz=44
D30A **Buchanan** 44.27 68 P P 03 48 02.6 -0.4
baz=44,SNR=5.4
E30A **Jud** 44.53 68 P P 03 48 05.6 +0.5
baz=44
MVCO **Mesa Verde** 44.56 85 P P 03 48 05.6 -0.1
baz=44
ISCO **Idaho Springs** 44.64 80 P P 03 48 07.3 +0.9
baz=44
I28A **Midland** 44.70 73 P P 03 48 07.1 +0.6
baz=44
I29A **Vivian Onida** 45.19 72 P P 03 48 10.5 +0.2
baz=45
AGMN **Agassiz Nation** 45.20 65 P P 03 48 10.4 0.0
baz=45,SNR=7.5
214A **Organ Pipe Nat** 45.48 94 P P 03 48 13.1 +0.3
baz=45
214A **Organ Pipe Nat** 45.48 94 eP P 03 48 13.5 +0.6
4.5nm,0.9s
J29A **Okreek** 45.54 73 P P 03 48 13.1 -0.1
baz=45,SNR=6.2
N27A **Anderson Farm,** 45.84 77 P P 03 48 16.1 +0.4
baz=46
SDCO **Great Sand Dun** 46.02 82 P P 03 48 17.4 0.0
baz=46
SDCO **Great Sand Dun** 46.02 82 eP P 03 48 16.2 -1.2
2.9nm,1.0s
J30A **Dallas** 46.08 72 P P 03 48 17.5 +0.1
baz=46
P26A **Davis Ranch, A** 46.15 79 P P 03 48 18.9 +0.7
baz=46
K30A **Basset** 46.40 73 P P 03 48 20.2 +0.2
baz=46
TUC **Tucson** 46.47 92 eP P 03 48 21.6 +0.9
2.6nm,0.8s
R26A **Arlington** 46.90 80 P P 03 48 24.5 +0.5
baz=47
T25A **Trinidad** 47.07 82 P P 03 48 26.0 +0.5
baz=47,SNR=5.4
S26A **Kim** 47.32 81 P P 03 48 27.5 +0.1
baz=47
ECSD **EROS Data Cent** 47.48 70 P P 03 48 28.3 -0.1
baz=47
ECSD **EROS Data Cent** 47.48 70 eP P 03 48 26.7 -1.7
5.8nm,1.0s
T26A **Comanche Natio** 47.54 82 P P 03 48 28.8 -0.4
baz=47
P29A **Atwood** 47.56 77 P P 03 48 29.0 -0.1
baz=47
EYMN **Ely** 47.78 63 P P 03 48 30.6 -0.1
baz=48
R28A **Tribune** 47.85 79 P P 03 48 31.5 +0.1
baz=48
Q29A **Oakley** 47.99 78 P P 03 48 32.5 0.0
baz=48
P30A **Selden** 48.00 77 P P 03 48 33.4 +0.9
baz=48
121A **Cookes Peak, D** 48.14 89 P P 03 48 34.2 +0.4
baz=48
S28A **Manter** 48.29 80 P P 03 48 34.7 -0.1
baz=48
Q30A **Quinter** 48.38 77 P P 03 48 36.3 +0.9
baz=48
T28A **Walsh** 48.47 81 P P 03 48 36.2 0.0
baz=48
M33A **Taylor Creek F** 48.50 73 P P 03 48 36.4 +0.2
baz=48
U27A **Thompson Grove** 48.50 82 P P 03 48 36.7 +0.1
baz=48
P31A **Stockton** 48.53 76 P P 03 48 36.9 +0.4
baz=48
R30A **Dighton** 48.80 78 P P 03 48 38.9 +0.2
baz=49
Q31A **Ellis** 48.85 77 P P 03 48 39.6 +0.5
baz=49
O33A **Hebron** 49.23 75 P P 03 48 41.7 -0.2
baz=49
R31A **Burdett** 49.24 78 P P 03 48 41.9 -0.2
baz=49
R32A **Long Quarter,** 49.64 77 P P 03 48 45.2 +0.2
baz=50
O34A **Beatrice** 49.68 74 P P 03 48 45.2 -0.1
baz=50
U30A **WK&E Inc. Balk** 49.73 80 P P 03 48 46.5 +0.6
baz=50
Q33A **Connelly Farm,** 49.78 76 P P 03 48 46.5 +0.4
baz=50
N35A **Tabor** 49.85 72 P P 03 48 46.6 0.0
baz=50
TLY **Talaya** 49.99 306 LR LR 04 11 31.6
comp=Z,30nm,18.6s,baz=358,slow=38
MSTX **Muleshoe** 50.19 84 P P 03 48 49.7 +0.3
baz=50
P35A **Duane Minner,** 50.50 74 P P 03 48 50.6 -0.9
baz=50
Y28A **McKinney Farm,** 50.55 84 P P 03 48 52.2 +0.1
baz=50
R34A **Isabella, Hill** 50.58 76 P P 03 48 52.4 +0.2
baz=50
U32A **Winter Ranch,** 50.82 79 P P 03 48 53.5 -0.6
baz=51
Z28A **Tucker Farm, M** 50.89 84 P P 03 48 55.3 +0.6
baz=51
P36A **Good Intent, A** 50.91 73 P P 03 48 54.6 -0.1
baz=51
SONM **Songino Array** 50.97 300 PcP PcP 03 50 10.3 -1.0
0.9nm,0.9s,baz=82,slow=3.2,SNR=4.2
S34A **Wild Spring** 51.06 77 P P 03 48 55.7 -0.1
baz=51
128A **Castleberry Fa** 51.29 85 P P 03 48 58.2 +0.5
baz=51,SNR=5.7
U33A **Lingo Farm, Me** 51.31 78 P P 03 48 57.7 0.0
baz=51
Z29A **Hungry Hill Ra** 51.32 84 P P 03 48 58.1 +0.2
baz=51
Y30A **Stafford Cattl** 51.38 83 P P 03 48 58.5 +0.2
baz=51
T34A **McClaskey Farm** 51.47 77 P P 03 48 58.3 -0.5
baz=51
W32A **Sentinel** 51.52 80 P P 03 48 59.5 +0.1
baz=51
S35A **Otter Creek Ra** 51.54 76 P P 03 48 59.2 -0.2
baz=51
R36A **Gordon, Harris** 51.59 75 P P 03 48 59.3 -0.5
baz=51
Z30A **Sanderson Ranc** 51.65 84 P P 03 49 00.7 +0.3
baz=52
U34A **Anderson Ranch** 51.66 78 P P 03 49 00.6 +0.3
baz=52
T35A **Sooner Cattle** 51.94 77 P P 03 49 03.0 +0.6
baz=52
S36A **Lake Cedric, C** 51.94 76 P P 03 49 02.5 +0.1
baz=52
W33A **Caddo, Fort Co** 51.97 80 P P 03 49 03.2 +0.6
baz=52
X32A **Elmer** 51.98 81 P P 03 49 03.3 +0.6
baz=52
WMOK **Wichita Mounta** 52.07 81 eP P 03 49 03.1 -0.3
4.3nm,0.8s

V34A **Guthrie** 52.07 79 P P 03 49 03.6 +0.2
baz=52
U35A **Pawnee** 52.18 78 P P 03 49 04.4 +0.2
baz=52
T36A **Boggs Farm, Ca** 52.22 76 P P 03 49 04.3 -0.2
baz=52
Z31A **Sharp Cattle R** 52.22 83 P P 03 49 04.5 -0.1
baz=52
W34A **Bridge Creek,** 52.33 79 P P 03 49 05.9 +0.6
baz=52
S37A **Fort Scott** 52.37 75 P P 03 49 04.7 -0.9
baz=52,SNR=5.8
329A **Wagon Wheel Ra** 52.39 86 P P 03 49 05.5 -0.4
baz=52
131A **Roby** 52.52 84 P P 03 49 06.5 -0.3
baz=52
V35A **Meyer Ranch, C** 52.53 78 P P 03 49 06.8 0.0
baz=52
Z32A **Haskell** 52.63 82 P P 03 49 07.1 -0.5
baz=52
Y33A **Hilltop Ranch,** 52.66 81 P P 03 49 07.2 -0.6
baz=52
T37A **Cheneyville 18** 52.74 76 P P 03 49 07.8 -0.5
baz=53
TXAR **Lajitas Array** 52.89 89 P P 03 49 09.7 0.0
3.7nm,0.7s,baz=296,slow=5.5,SNR=43
TXAR PcP PcP 03 50 18.8 +0.2
0.7nm,0.7s,baz=316,slow=2.5,SNR=2.1
W35A **Tecumseh** 52.92 79 P P 03 49 09.2 -0.5
baz=53
330A **Mertzon** 52.93 85 P P 03 49 09.5 -0.4
baz=53
ABTX **Abilene, Hawle** 53.01 83 P P 03 49 10.2 -0.1
baz=53
TUL1 **Tulsa** 53.05 77 P P 03 49 10.5 -0.1
baz=53
429A **Davenport Ranc** 53.05 87 P P 03 49 10.8 0.0
baz=53
Z33A **Whitaker Ranch** 53.08 82 P P 03 49 10.5 -0.4
baz=53
U37A **Salina** 53.11 76 P P 03 49 11.0 0.0
baz=53
529A **Stev Forest Ra** 53.21 87 P P 03 49 11.8 -0.1
baz=53
Y34A **Reagan Ranch,** 53.22 80 P P 03 49 12.1 +0.2
baz=53
430A **Baggett Ranch,** 53.33 86 P P 03 49 12.6 -0.3
baz=53
X35A **Drake** 53.38 80 P P 03 49 12.7 -0.4
baz=53
331A **San Angelo** 53.46 85 P P 03 49 13.6 -0.2
baz=53
133A **Hamilton Ranch** 53.46 83 P P 03 49 13.9 +0.2
baz=53
U38A **Gravette** 53.52 76 P P 03 49 13.6 -0.5
baz=53
X36A **Centrahoma** 53.63 79 P P 03 49 14.1 -0.8
baz=54
530A **J-C Ranch, Com** 53.73 86 P P 03 49 15.6 -0.1
baz=54,SNR=7.9
431A **Sonora** 53.79 85 P P 03 49 15.9 -0.3
baz=54
W37A **Quinlan** 53.79 78 P P 03 49 15.9 -0.2
baz=54
332A **Millersview** 53.82 84 P P 03 49 16.3 -0.1
baz=54
233A **Rising Star** 53.88 83 P P 03 49 16.6 -0.2
baz=54
V38A **Canehill** 53.90 76 P P 03 49 16.6 -0.2
baz=54
134A **White-Moore Ra** 53.98 82 P P 03 49 18.0 +0.5
baz=54
Y36A **Durant** 54.14 79 P P 03 49 18.6 0.0
baz=54
432A **Menard** 54.15 85 P P 03 49 18.6 -0.2
baz=54
531A **Rocksprings** 54.19 86 P P 03 49 18.8 -0.3
baz=54
X37A **Clayton** 54.20 78 P P 03 49 18.7 -0.4
baz=54
333A **Richland Sprin** 54.32 84 P P 03 49 19.4 -0.6
baz=54
234A **Clairette** 54.35 82 P P 03 49 19.9 -0.4
baz=54
W38A **Poteau** 54.38 77 P P 03 49 19.6 -0.7
baz=54
135A **Vickery Place,** 54.40 81 P P 03 49 19.7 -0.8
baz=54
JCT **Junction City** 54.42 85 P P 03 49 20.6 -0.2
baz=54
X38A **Whitesboro** 54.47 78 P P 03 49 20.9 -0.1
baz=54
532A **Rocksprings** 54.61 85 P P 03 49 21.3 -0.8
baz=54
433A **Art** 54.66 84 P P 03 49 22.4 -0.1
baz=54
631A **Perdido Creek** 54.71 87 P P 03 49 22.9 0.0
baz=55
334A **Lometa** 54.76 83 P P 03 49 23.2 0.0
baz=55
WHTX **Lake Whitney** 54.77 82 P P 03 49 23.0 -0.2
baz=55
434A **Burnet** 55.11 84 P P 03 49 25.7 0.0
baz=55
632A **Uvalde** 55.12 86 P P 03 49 25.7 -0.1
baz=55
SCHQ **Schefferville** 55.26 43 LR LR 04 15 32.1
comp=Z,59nm,19.9s,baz=339,slow=39
MIAR **Mount Ida** 55.30 77 P P 03 49 26.4 -0.7
baz=55
534A **Blanco** 55.55 84 P P 03 49 29.2 +0.3
baz=55
336A **Riesel** 55.56 82 P P 03 49 28.8 -0.2
baz=55
732A **Laxson Ranch,** 55.57 87 P P 03 49 29.2 +0.2
baz=55
832A **Faith Ranch, C** 55.89 87 P P 03 49 31.2 -0.2
baz=56
833A **Chaparral WMA,** 56.21 87 P P 03 49 33.6 -0.1
baz=56
734A **La Parita Cree** 56.34 85 P P 03 49 34.2 -0.4
baz=56
SADO **Sadowa** 56.38 59 P P 03 49 35.4 +0.7
3.4nm,0.7s,baz=328,slow=10,SNR=4.0
438A **Sam Houston St** 56.84 82 P P 03 49 37.0 -1.1
baz=57
934A **Benavides** 57.27 86 P P 03 49 41.0 -0.2
baz=57
ARCES **ARCESS Array B** 57.52 354 LR LR 04 13 49.1
comp=Z,31nm,21.6s,baz=10,slow=35
034A **Hebbronville** 57.56 87 P P 03 49 43.6 +0.3
baz=57
CLL **Collm** 76.29 358 eP P 03 51 44.0 +1.9
CMAR **Chiang Mai Arr** 76.39 282 LR LR 04 29 02.4
comp=Z,19nm,19.1s,baz=55,slow=39
BRTR **Keskin Array B** 85.71 342 LR LR 04 37 10.8
comp=Z,5.1nm,19.4s,baz=52,slow=40
ASAR **Alice Springs** 90.53 230 P P 03 52 54.4 -1.1
2.3nm,0.9s,baz=46,slow=3.9,SNR=10
LBTB **Lobatse** 150.01 332 ePKPbc PKPbc 03 59 43.8 -0.3
MAW **Mawson** 151.08 219 PKPbc PKPbc 03 59 44.2 -1.0
4.1nm,0.8s,baz=31,slow=4.6,SNR=5.8
BOSA **Boshof** 153.49 330 PKPbc PKPbc 03 59 50.2 -1.8
1.4nm,0.6s,baz=70,slow=0.9,SNR=5.1

OTT 20 03:45:15.7±0.4,74°43N×92°96W,h18km,ML3.9/8,
Boothia Ungava Seismic Zone. 96km southeast from
Resolute, Nu,Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
GIFN	**Gifford Fjord,**	5.63	137	P	PN	Pn	03 46 38.5	+0.2
GIFN				S	SN	Sn	03 47 37.8	-4.7
GIFN				T	rac		03 47 42.1	
	comp=Z,14nm,0.1s							
AP3N	**Apex site 3 Nu**	5.64	148	P	N	Pn	03 46 39.0	+0.5
AP3N				S	SN	Sn	03 47 37.9	-4.9
AP3N				T	rac		03 47 42.9	
	comp=Z,10nm,0.1s							
LAIN	**Lailor River,**	6.10	146	P	N	Pn	03 46 45.0	+0.2
LAIN				S	SN	Sn	03 47 50.9	-3.1
LAIN				T	rac		03 47 52.1	
	comp=Z,12nm,0.1s							
ILON	**Igloolik, Nuna**	6.14	140	P	N	Pn	03 46 45.9	+0.6
ILON				S	SN	Sn	03 47 50.6	-4.3
ILON				T	rac		03 47 55.1	
	comp=Z,17nm,0.1s							

TULEG	**Thule**	**6.39**	**59**	PN	Pn	03 46 48.3	-0.4
TULEG				SN	Sn	03 47 56.0	-5.1
CB03	**Cambridge Bay**	**6.50**	**222**	PN	Pn	03 46 48.7	-1.6
CB31	**Cambridge Bay**	**6.53**	**222**	PN	Pn	03 46 49.5	-1.1
CB31				SN	Sn	03 48 00.0	-4.5
BULN	**Bullion Camp,**	**8.07**	**180**	PN	Pn	03 47 11.0	-0.8
BULN				SN	Sn	03 48 35.3	-7.1
BULN				Trac		03 49 42.6	
	comp=Z,27nm,0.6s						
QILN	**Qililugaq Expl**	**8.11**	**161**	PN	Pn	03 47 12.7	+0.4
QILN				SN	Sn	03 48 38.2	-5.1
QILN				Trac		03 48 39.6	
	comp=Z,7.8nm,0.1s						
WAGN	**Wager Bay**	**8.67**	**170**	PN	Pn	03 47 19.2	-0.8
WAGN				SN	Sn	03 48 49.6	-7.5
WAGN				Trac		03 49 58.0	
	comp=Z,10nm,0.2s						
NUNN	**Nunuq Camp, NU**	**9.28**	**175**	PN	Pn	03 47 27.2	-1.2
NUNN				SN	Sn	03 49 02.2	-10
NUNN				Trac		03 50 18.3	
	comp=Z,9.1nm,0.3s						
SEDN	**First Sedna Si**	**11.25**	**176**	PN	Pn	03 47 52.8	-2.4
SEDN				SN	Sn	03 49 50.6	-10
DHRN	**Dharma Camp**	**11.36**	**243**	PN	Pn	03 47 55.5	-1.2
DHRN				SN	Sn	03 49 52.7	-10
COKN	**Cook Lake**	**12.50**	**215**	PN	Pn	03 48 09.9	-2.4
COKN				SN	Sn	03 50 18.9	-12
FRB	**Frobisher Bay**	**13.65**	**129**	PN	Pn	03 48 25.1	-2.9
FRB				SN	Sn	03 50 46.1	-13

NEIC 20 03:54:12.2, 52.68N×169.61W, h3km, ML3.2(AEIC), **After AEIC., Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.54**	**57**	P	Pb	03 54 23.6	-0.8
NIKH				S	Sb	03 54 31.7	-0.9
OKWR	**Okmok West Rim**	**1.14**	**48**	P	Pb	03 54 34.6	0.0
OKCE	**Okmok Cone E**	**1.15**	**49**	P	Pg	03 54 34.0	-0.4
OKCE				S	Sn	03 54 50.9	-0.6
OKAK	**Okmok**	**1.18**	**39**	P	Pg	03 54 32.7	-2.0
OKAK				S	Sg	03 54 46.7	-3.3
OKTU	**Okmok Mt. Tuli**	**1.18**	**53**	P	Pg	03 54 34.9	0.0
MSOM	**Makushin Julie**	**1.96**	**53**	P	Pn	03 54 46.2	-0.1
MSOM				S	Sb	03 55 12.7	-0.6
MCIR	**Makushin Cirqu**	**2.07**	**51**	P	Pn	03 54 48.8	+0.9
MSW	**Makushin Switc**	**2.10**	**53**	P	Pn	03 54 48.8	+0.6
MSW				S	Sb	03 55 16.2	-1.1
MTBL	**Makushin Table**	**2.18**	**52**	P	Pn	03 54 49.4	0.0
UNV	**Unalaska Valle**	**2.20**	**57**	*e*Pn	Pn	03 54 49.2	-0.4
UNV				*e*S	Sn	03 55 17.2	-0.1
AKRB	**Akutan Reef Bi**	**2.57**	**54**	P	Pn	03 54 55.6	+0.9
ZRO	**Akutan Zero**	**2.59**	**55**	P	Pn	03 54 55.4	+0.3
AKGG	**Akutan Green G**	**2.64**	**53**	P	Pn	03 54 56.9	+1.1
AKUT	**Akutan**	**2.72**	**56**	*e*Pn	Pn	03 54 57.3	+0.6
AKUT				*e*S	Sb	03 55 34.7	-0.5
ATKA	**Atka Island**	**2.85**	**262**	P	Pn	03 54 58.1	-0.5
GSTR	**Great Sitkin T**	**4.00**	**264**	*e*Pn	Pn	03 55 14.7	+0.4
GSTR				*e*S	Sb	03 56 08.7	-3.3
SPIA	**Saint Paul Isl**	**4.53**	**356**	P	Pn	03 55 21.6	+0.1

*ISCJB **20** 03:55:51.0±0.6, 54.°84N±0.°06×156.°79W±0.°06, h24km, mb3.8/16, Error ellipse: s-maj=9.5km s-min=2.8km az=156.0*
*NEIC **20** 03:55:53.1, 54.°69N×156.°71W, h35km, ML3.5(AEIC), After AEIC.*
*IDC **20** 03:55:56.2±4.4, 54.°82N×156.°98W, h40km±36km, mb3.6/15, mb1 3.8/17, mb1mx3.6/61, mbtmp3.9/17, ML4.2/2, Error ellipse: s-maj=34.5km s-min=16.8km az=15.0*
ISC 20 03:55:53.6±0.8, 54.°89N±0.°09×156.°85W±0.°05, h24km, n77, σ1°44/84, mb4.0/16, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**1.67**	**329**	*e*Pn	Pn	**03 56 21.4**	**+0.1**
VNKR	**Veniaminof 5**	**1.83**	**310**	P	Pn	**03 56 24.5**	**+0.9**
VNSW	**Veniaminof 7**	**1.94**	**309**	P	Pn	**03 56 24.9**	**-0.3**
ANPB	**Aniakchak Pben**	**2.08**	**338**	P	Pn	**03 56 28.2**	**+1.2**
SDPT	**Sand Point**	**2.13**	**284**	*e*Pn	Pn	**03 56 26.4**	**-1.3**
AZAC	**Aniakchak**	**2.16**	**339**	P	Pn	**03 56 29.4**	**+1.3**
PS4A	**Pavlof South-4**	**2.91**	**281**	P	Pn	**03 56 38.0**	**-0.4**
PS4A				S	Sn	**03 57 13.2**	**+0.6**
OHAK	**Old Harbor**	**3.08**	**39**	P	Pn	**03 56 40.0**	**-0.6**
OHAK				S	Sn	**03 57 14.7**	**-1.9**
OHAK	**Old Harbor**	**3.08**	**39**	*e*Pn	Pn	**03 56 39.7**	**-0.9**
DTNA	**Dutton South F**	**3.12**	**277**	P	Pn	**03 56 41.0**	**-0.2**
DTNA				S	Sn	**03 57 17.5**	**-0.2**
DT1	**Dutton Round H**	**3.13**	**276**	P	Pn	**03 56 40.9**	**-0.5**
CAHL	**Cahill**	**3.29**	**15**	P	Pn	**03 56 44.3**	**+0.9**
ANCK	**Angle Creek**	**3.40**	**12**	P	Pn	**03 56 46.2**	**+1.0**
KABR	**Katmai Barrier**	**3.41**	**17**	P	Pn	**03 56 46.2**	**+0.9**
BALA	**Baldy Mountain**	**3.43**	**278**	P	Pn	**03 56 44.7**	**-0.8**
KAKN	**Katmai Knife C**	**3.56**	**15**	P	Pn	**03 56 48.6**	**+1.2**
KAWH	**Katmai**	**3.68**	**17**	P	Pn	**03 56 49.6**	**+0.6**
KDAK	**Kodiak Island**	**3.75**	**38**	P	Pn	**03 56 49.1**	**-0.8**
KDAK	**Kodiak Island**	**3.75**	**38**	*e*Pn	Pn	**03 56 49.3**	**-0.6**
FALS	**False Pass**	**3.79**	**272**	*e*Pn	Pn	**03 56 49.9**	**-0.6**
FALS				*e*S	Sn	**03 57 33.0**	**-1.2**
BRPK	**Brown Peak**	**4.00**	**269**	P	Pn	**03 56 53.1**	**-0.3**
ISNN	**Isanotski Nort**	**4.00**	**272**	P	Pn	**03 56 53.1**	**-0.3**
SSLW	**Shishaldin Wes**	**4.21**	**271**	P	Pn	**03 56 56.2**	**0.0**
SSBA	**Shishaldin**	**4.21**	**271**	P	Pn	**03 56 56.1**	**-0.1**
SSBA				S	Sn	**03 57 46.1**	**+1.5**
WESN	**West Dahl Nort**	**4.49**	**269**	P	Pn	**03 57 00.4**	**+0.2**
WESP	**Westdahl Peak**	**4.58**	**268**	P	Pn	**03 57 01.2**	**-0.2**
WESP				S	Sn	**03 57 52.9**	**-1.0**
AKSA	**Akutan Strait**	**5.21**	**265**	P	Pn	**03 57 09.5**	**-0.4**
AKSA				S	Sn	**03 58 07.1**	**-2.1**
AKUT	**Akutan**	**5.25**	**265**	*e*Pn	Pn	**03 57 10.1**	**-0.4**
AKUT				*e*S	Sn	**03 58 06.9**	**-3.3**
AHB	**Akutan Harbor**	**5.28**	**265**	P	Pn	**03 57 10.1**	**-0.9**
ZRO	**Akutan Zero**	**5.38**	**265**	P	Pn	**03 57 11.5**	**-0.8**
CNPM	**China Poot**	**5.56**	**31**	P	Pn	**03 57 14.9**	**+0.1**
CNPM				S	Sn	**03 58 16.4**	**-1.4**
UNV	**Unalaska Valle**	**5.74**	**263**	*e*Pn	Pn	**03 57 15.7**	**-1.4**
UNV				*e*S	Sn	**03 58 17.3**	**-4.9**
MTBL	**Makushin Table**	**5.81**	**265**	P	Pn	**03 57 17.3**	**-0.9**
BRLK	**Bradley Lake**	**5.86**	**31**	P	Pn	**03 57 18.1**	**-0.8**
MSW	**Makushin Switc**	**5.88**	**265**	P	Pn	**03 57 17.1**	**-2.1**
MSW				S	Sn	**03 58 23.8**	**-2.0**
NCT	**North Crescent**	**6.06**	**19**	P	Pn	**03 57 22.3**	**+0.6**
SEW	**Seward**	**6.57**	**34**	*e*Pn	Pn	**03 57 27.4**	**-1.2**
SEW				*e*S	Sn	**03 58 38.1**	**-4.5**
STLK	**Strandline Lak**	**7.14**	**20**	P	Pn	**03 57 36.2**	**-0.2**
SKT	**Skwentna**	**7.64**	**19**	P	Pn	**03 57 43.9**	**+0.6**
TT01	**Tatalina**	**8.05**	**3**	P	Pn	**03 57 49.5**	**+0.6**
VLZ	**Valdez**	**8.38**	**37**	P	Pn	**03 57 52.5**	**-0.9**
RAGM	**Ragged Mountai**	**8.54**	**45**	P	Pn	**03 57 54.6**	**-1.0**
SCM	**Sheep Creek Mo**	**8.57**	**32**	P	Pn	**03 57 55.7**	**-0.3**
BMRM	**Bremner River** 8.1nm,0.5s	**8.91**	**42**	*e*Pn	Pn	03 57 55.5	-5.3
BMRM				*e*S	Sn	**03 59 36.8**	**-3.4**
BALM	**Baldy**	**9.85**	**45**	P	Pn	**03 58 12.1**	**-1.6**
PTPK	**Patty Peak**	**9.89**	**45**	P	Pn	**03 58 13.0**	**-1.2**
GRNC	**Granite Creek**	**9.94**	**48**	P	Pn	**03 58 13.0**	**-2.1**
PAX	**Paxson** 2.5nm,0.4s	**10.00**	**31**	*e*Pn	Pn	**03 58 16.2**	**+0.6**
PAX				*e*S	Sn	**04 00 04.7**	**-2.3**
ILAR	**Eielson Array** 0.6nm,0.3s,baz=212,slow=13,SNR=28	**11.09**	**23**	Pn	Pn	**03 58 28.4**	**-2.1**
ILB	**Eielson Array**	**11.09**	**23**	P	Pn	**03 58 28.1**	**-2.4**
IM04	**Indian Mountai**	**11.22**	**6**	*e*Pn	Pn	**03 58 30.8**	**-1.5**
HYT	**Haines Junctio** 1.1nm,0.6s	**11.87**	**52**	*e*Pn	Pn	**03 58 38.4**	**-2.9**
EGAK	**Eagle** 2.5nm,0.6s	**12.63**	**32**	*e*Pn	Pn	**03 58 52.0**	**+0.6**
INK	**Inuvik** 0.8nm,0.3s,baz=230,slow=13,SNR=9.4	**17.27**	**30**	P	Pn	**03 59 53.3**	**+0.6**
YKA	**Yellowknife Ar** 0.3nm,0.7s,baz=274,slow=9.8,SNR=4.3	**22.86**	**53**	P	P	**04 00 54.9**	**+0.2**
PETK	**Petropavlovsk-** 1.6nm,0.5s,baz=76,slow=13,SNR=2.5	**26.42**	**285**	P	P	**04 01 27.7**	**-0.4**
SEY	**Seymchan** 2.2nm,0.7s,baz=91,slow=8.4,SNR=6.6	**26.75**	**308**	P	P	**04 01 30.4**	**-0.6**
PDAR	**Pinedale Array** 0.3nm,0.6s,baz=318,slow=2.0,SNR=3.1	**32.78**	**92**	P	P	**04 02 26.0**	**+1.2**
H11N2	**WAKE ISLAND Hy** baz=29,slow=76,SNR=10	**44.54**	**233**	T	T	04 51 42.6	
H11N3	**WAKE ISLAND Hy**	**44.54**	**233**	T	T	04 51 42.3	
	baz=29,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy** baz=29,slow=76,SNR=7.6	**44.55**	**233**	T	T	04 51 39.5	
TXAR	**Lajitas Array** 0.4nm,0.6s,baz=310,slow=6.5,SNR=5.8	**45.56**	**102**	P	P	**04 04 12.9**	**+1.4**
H11S1	**WAKE ISLAND Hy** baz=28,slow=76,SNR=9.3	**45.69**	**232**	T	T	04 53 12.1	
H11S2	**WAKE ISLAND Hy** baz=28,slow=76,SNR=12	**45.70**	**232**	T	T	04 53 09.3	
H11S3	**WAKE ISLAND Hy** baz=28,slow=76,SNR=9.2	**45.71**	**232**	T	T	04 53 11.0	
ARCES	**ARCESS Array B** 2.3nm,0.9s,baz=18,slow=8.2,SNR=6.6	**55.87**	**359**	P	P	**04 05 29.4**	**+0.9**
SONM	**Songino Array** 2.1nm,0.9s,baz=43,slow=7.4,SNR=9.0	**56.13**	**306**	P	P	**04 05 31.5**	**+0.6**
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=32,slow=5.6,SNR=2.5	**60.24**	**323**	P	P	**04 05 59.7**	**+0.3**
FINES	**FINESS Array B** 1.5nm,0.7s,baz=25,slow=6.3,SNR=6.5	**63.99**	**358**	P	P	**04 06 25.3**	**+1.0**
NOA	**NORSAR Array B** 0.9nm,0.8s,baz=352,slow=6.6,SNR=4.2	**64.03**	**6**	P	P	**04 06 25.8**	**+1.1**
KURK	**Kurchatov**	**65.05**	**325**	P	P	**04 06 33.6**	**+2.2**
KURBB	**Kurchatov Arra** 0.3nm,0.3s,baz=23,slow=6.3,SNR=4.2	**65.16**	**325**	P	P	**04 06 33.6**	**+1.5**
BVAR	**Borovoye Array** 1.0nm,0.7s,baz=22,slow=8.2,SNR=3.3	**65.57**	**331**	P	P	**04 06 36.0**	**+1.2**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=46,slow=8.3,SNR=3.5	**67.08**	**320**	P	P	**04 06 44.7**	**+0.1**
AKTO	**Aktyubinsk** 1.1nm,0.5s,baz=29,slow=6.8,SNR=6.3	**71.07**	**337**	P	P	**04 07 10.0**	**+0.7**
ABKAR	**Akbulak array** 1.7nm,0.7s	**71.73**	**336**	*e*P	P	**04 07 14.4**	**+1.1**
AKASG	**Malin Array Be** 0.2nm,0.3s,baz=6.8,slow=6.0,SNR=7.7	**74.66**	**356**	P	P	**04 07 30.9**	**+0.5**

*ISCJB **20** 04:00:45.2±0.8, 15.°5S±0.°3×175.°3W±0.°1, h262km, mb3.9/6, Error ellipse: s-maj=38.2km s-min=10.1km az=154.5*
*IDC **20** 04:00:46.2±1.4, 15.°72S×175.°14W, h262km±17km, mb3.8/6, mb1 3.9/7, mb1mx3.4/34, mbtmp4.4/7, Error ellipse: s-maj=43.5km s-min=15.8km az=140.0*
ISC 20 04:00:46.3±0.8, 15.°6S±0.°3×175.°2W±0.°2, h262km, n13, σ0°62/15, mb4.0/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.75**	**64**	P	Pn	**04 01 49.1**	**+1.3**
AFI	20nm,0.3s,baz=208,slow=1.2,SNR=7.3			S	S	**04 02 35.8**	**-1.0**
STKA	21nm,0.3s,baz=1.1,slow=22,SNR=5.6 **Stephens Creek**	**42.40**	**240**	P	P	**04 08 15.7**	**+0.2**
WRA	0.9nm,0.7s,baz=20,slow=12,SNR=3.3 **Warramunga Arr**	**48.07**	**257**	P	P	**04 09 00.1**	**0.0**
WRA	3.2nm,0.3s,baz=91,slow=7.3,SNR=52			PcP	PcP	**04 10 23.5**	**-0.1**
ASAR	0.6nm,0.5s,baz=94,slow=3.5,SNR=3.3 **Alice Springs**	**48.36**	**252**	P	P	**04 09 02.5**	**+0.2**
ASAR	19nm,0.4s,baz=86,slow=8.0,SNR=257			PcP	PcP	**04 10 24.4**	**-0.2**
SEY	0.7nm,0.6s,baz=116,slow=3.7,SNR=3.4 **Seymchan**	**82.27**	**346**	P	P	**04 12 37.7**	**-0.3**
ILAR	2.1nm,0.7s,baz=134,slow=5.8,SNR=5.0 **Eielson Array**	**83.00**	**12**	P	P	**04 12 41.2**	**-0.6**
MAW	0.4nm,0.5s,baz=223,slow=5.7,SNR=13 **Mawson**	**87.03**	**199**	P	P	**04 13 01.2**	**-0.6**
ARCES	1.2nm,0.5s,baz=81,slow=23,SNR=4.0 **ARCESS Array B**	**124.56**	**351**	PKP	PKPdf	**04 19 13.3**	**-0.6**
KMBO	2.1nm,0.8s,baz=29,slow=2.1,SNR=8.3 **Kilima Mbogo**	**143.84**	**246**	PKP	PKPbc	04 19 50.1	0.0
BRTR	0.6nm,0.3s,baz=245,slow=3.6,SNR=3.7 **Keskin Array B**	**145.18**	**319**	PKPbc	**PKPbc**	**04 19 53.6**	**+0.3**
MLR	3.7nm,0.8s,baz=73,slow=2.0,SNR=22 **Muntele Rosu**	**145.29**	**333**	PKPbc	**PKPab**	**04 19 54.2**	**+0.4**
GERES	0.5nm,0.8s,baz=167,slow=5.6,SNR=3.3 **GERESS Array B**	**146.05**	**349**	PKPbc	**PKPbc**	**04 19 55.7**	**+0.2**
MMAI	0.8nm,0.7s,baz=29,slow=3.0,SNR=6.5 **Mount Meron Ar**	**147.31**	**308**	PKPbc	**PKPbc**	**04 20 00.2**	**+0.7**
	5.0nm,0.7s,baz=58,slow=7.9,SNR=4.1						

IDC 20 04:10:51.3±2.6, 5.°96S×150.°27E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.6/33, mbtmp3.9/4, ML1.9/1, MS2.6/1, Ms1 2.6/1, ms1mx2.3/28, Error ellipse: s-maj=81.5km s-min=39.9km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 4.4nm,0.3s,baz=39,slow=11,SNR=5.9	**4.61**	**222**	Pn	Pn	04 12 03.9	+1.6
PMG	3.2nm,0.3s,baz=93,slow=21,SNR=5.3			Sn	Sn	04 12 52.4	-4.3
PMG	comp=Z,63nm,20.5s,baz=288,slow=33			LR	LR	04 13 24.2	
WRA	**Warramunga Arr** 4.7nm,0.7s,baz=51,slow=11,SNR=17	**20.81**	**227**	P	P	04 15 35.2	+0.6
ASAR	**Alice Springs** 1.1nm,0.9s,baz=51,slow=11,SNR=6.4	**23.63**	**220**	P	P	04 16 03.4	-1.0
STKA	**Stephens Creek** 2.4nm,0.7s,baz=14,slow=9.8,SNR=5.6	**27.04**	**196**	P	P	04 16 35.0	-0.4
TORD	**Torodi Ar. Bea** 0.5nm,0.6s,baz=68,slow=1.8,SNR=12	**148.22**	**285**	PKPbc	PKPbc	04 30 40.0	-0.5

IDC 20 04:24:43.0±4.3, 5.°67S×149.°81E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.3/25, mbtmp3.3/2, Error ellipse: s-maj=174.5km s-min=49.0km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.8nm,0.3s,baz=51,slow=11,SNR=5.2	**20.68**	**225**	P	P	04 29 23.7	-1.1
ASAR	**Alice Springs** 0.4nm,0.6s,baz=58,slow=8.8,SNR=3.6	**23.55**	**219**	P	P	04 29 56.0	+0.7
TORD	**Torodi Ar. Bea** 0.3nm,0.8s,baz=83,slow=2.8,SNR=6.5	**147.71**	**286**	PKPbc	PKPbc	04 44 30.1	-0.7

*CSEM **20** 04:28:01.5±0.8, 35.°76N×22.°03E, h2km, ML2.5, Error ellipse: s-maj=15.9km s-min=7.3km az=37.0*
*ATH **20** 04:28:01.0, 35.°72N×21.°90E, h16km±2km, MD3.5/16*
*THE **20** 04:28:04.6, 35.°90N×22.°08E, h0km±1km, ML2.5/5, Error ellipse: s-maj=2.5km s-min=0.7km az=209.0*
ISC 20 04:28:00.8±2.0, 35.°72N±0.°08×21.°91E±0.°07, h16km±10km, n49, σ1°14/70, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.07**	**58**	*e*PB	Pb	**04 28 20.8**	**-0.3**
KYTH	**Kithira**	**1.07**	**58**	P	Pb	**04 28 20.9**	**-0.2**
KYTH	**Kithira**	**1.07**	**58**	P	Pb	**04 28 20.9**	**-0.2**
ANKY	**Antikythira Is**	**1.14**	**82**	*e*PN	Pg	**04 28 22.9**	**+0.1**
ANKY				*e*SN	Sg	**04 28 39.0**	**+1.1**
ANKY	**Antikythira Is**	**1.14**	**82**	P	Pg	**04 28 23.0**	**+0.1**
ANKY				*e*Sn	Sg	**04 28 39.0**	**+1.1**
ANKY	**Antikythira Is**	**1.14**	**82**	P	Pg	**04 28 23.0**	**+0.1**
ANKY				S	Sn	**04 28 38.0**	**+0.4**
PYL	**PYLOS**	**1.18**	**354**	*e*PN	Pb	**04 28 23.1**	**+0.2**
PYL				*e*SN	Sg	**04 28 40.0**	**+0.9**
PYL	**PYLOS**	**1.18**	**354**	*e*Pn	Pb	**04 28 23.1**	**+0.2**
PYL	**PYLOS**	**1.18**	**354**	P	Pg	**04 28 23.5**	**-0.2**
PYL				S	Sg	**04 28 39.1**	**0.0**
PYL				*e*Sn	Sg	**04 28 40.0**	**+0.9**
PYL	**PYLOS**	**1.18**	**354**	P	Pg	**04 28 23.5**	**-0.2**
PYL				S	Sg	**04 28 39.1**	**0.0**
VLI	**Veliai**	**1.30**	**40**	*e*PN	Pb	**04 28 25.1**	**+0.2**
VLI	**Veliai**	**1.30**	**40**	P	Pn	**04 28 24.6**	**+0.2**
VLI	**Veliai**	**1.30**	**40**	*e*Pn	Pb	**04 28 25.1**	**+0.2**
VLI				S	Sb	**04 28 40.6**	**-0.8**
VLI	**Veliai**	**1.30**	**40**	P	Pn	**04 28 24.6**	**+0.2**
VLI				S	Sb	**04 28 40.6**	**-0.8**
ITM	**Ithomi**	**1.46**	**1**	*e*PN	Pg	**04 28 28.5**	**-0.4**
ITM				*e*SN	Sg	**04 28 48.4**	**+0.5**
ITM	**Ithomi**	**1.46**	**1**	P	Pg	**04 28 28.5**	**-0.4**
ITM				S	Sg	**04 28 47.7**	**-0.2**
ITM				*e*Sn	Sg	**04 28 48.4**	**+0.5**
ITM	**Ithomi**	**1.46**	**1**	P	Pg	**04 28 28.5**	**-0.4**
ITM				S	Sg	**04 28 47.7**	**-0.2**
VLX	**Vlachokerasia**	**1.69**	**13**	*e*PN	Pb	**04 28 31.9**	**+0.2**
VLX	**Vlachokerasia**	**1.69**	**13**	P	Pb	**04 28 31.6**	**-0.1**
VLX	**Vlachokerasia**	**1.69**	**13**	*e*Pn	Pb	**04 28 31.9**	**+0.2**
VLX				S	Sb	**04 28 52.6**	**-0.2**
VLX	**Vlachokerasia**	**1.69**	**13**	P	Pb	**04 28 31.6**	**-0.1**
VLX				S	Sb	**04 28 52.6**	**-0.2**
AMT	**Artemida-Makis**	**1.82**	**355**	*e*PN	Pb	**04 28 34.3**	**+0.5**
AMT				*e*SN	Sb	**04 28 57.3**	**+1.0**
AMT	**Artemida-Makis**	**1.82**	**355**	*e*Pn	Pb	**04 28 34.3**	**+0.5**
AMT				*e*Sn	Sb	**04 28 57.3**	**+1.0**
AMT	**Artemida-Makis**	**1.82**	**355**	P	Pb	**04 28 34.4**	**+0.6**
DIDY	**Didyma**	**2.04**	**31**	*e*PB	Pb	**04 28 36.4**	**+1.7**
DIDY	**Didyma**	**2.04**	**31**	*e*Pb	Pn	**04 28 36.4**	**+1.7**
DID	**Didima**	**2.08**	**31**	*e*PB	Pb	**04 28 37.0**	**-1.3**
DID	**Didima**	**2.08**	**31**	*e*Pb	Pb	**04 28 37.0**	**-1.3**
DID	**Didima**	**2.08**	**31**	P	Pb	**04 28 37.5**	**-0.8**
DID	**Didima**	**2.08**	**31**	P	Pb	**04 28 37.5**	**-0.8**
DRO	**Drossia**	**2.23**	**356**	*e*PN	Pb	**04 28 39.8**	**-1.1**
DRO	**Drossia**	**2.23**	**356**	*e*Pn	Pb	**04 28 39.8**	**-1.1**
DRO	**Drossia**	**2.23**	**356**	P	Pb	**04 28 40.4**	**-0.5**
DRO				S	Sb	**04 29 06.9**	**-1.4**
DRO	**Drossia**	**2.23**	**356**	P	Pb	**04 28 40.4**	**-0.5**
DRO				S	Sb	**04 29 06.9**	**-1.4**
GUR	**Goura**	**2.24**	**9**	*e*PN	Pb	**04 28 40.2**	**-0.8**
GUR	**Goura**	**2.24**	**9**	*e*Pn	Pb	**04 28 40.2**	**-0.8**
KLV	**Kalavryta, Ach**	**2.33**	**5**	*e*PN	Pb	**04 28 41.0**	**-1.5**
KLV	**Kalavryta, Ach**	**2.33**	**5**	P	Pb	**04 28 41.0**	**-1.5**
KLV				S	Sb	**04 29 09.4**	**-1.7**
KLV	**Kalavryta, Ach**	**2.33**	**5**	P	Pb	**04 28 41.0**	**-1.5**
KLV				S	Sb	**04 29 09.4**	**-1.7**
IDI	**Anoyia**	**2.47**	**99**	*e*PB	Pb	**04 28 43.2**	**-1.7**
IDI	**Anoyia**	**2.47**	**99**	*e*Pb	Pb	**04 28 43.2**	**-1.7**
LAKA	**Lakka**	**2.52**	**1**	*e*PN	Pn	**04 28 43.2**	**+2.0**
LAKA	**Lakka**	**2.52**	**1**	*e*Pn	Pn	**04 28 43.2**	**+2.0**
KALE	**Kalithea**	**2.67**	**4**	*e*PB	Pb	**04 28 46.8**	**-1.6**
KALE	**Kalithea**	**2.67**	**4**	*e*Pb	Pb	**04 28 46.8**	**-1.6**
EFP	**Efpalio**	**2.70**	**360**	*e*PB	Pb	**04 28 46.8**	**-2.0**
EFP	**Efpalio**	**2.70**	**360**	*e*Pb	Pb	**04 28 46.8**	**-2.0**
MAKR	**Makrakomi, Fth**	**3.29**	**3**	*e*PB	Pb	**04 28 56.0**	**-2.9**
MAKR	**Makrakomi, Fth**	**3.29**	**3**	*e*Pb	Pb	**04 28 56.0**	**-2.9**

*IDC **20** 04:31:22.7±1.2, 52.°58N×169.°54W, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.7/61, mbtmp3.8/9, ML3.6/1, MS3.2/7, Ms1 3.2/7, ms1mx2.9/37, Error ellipse: s-maj=29.7km s-min=22.4km az=171.0*
*ISCJB **20** 04:31:23.1±1.2, 52.°55N±0.°07×169.°22W±0.°06, h6km±7km, mb3.8/10, MS3.1/6, Error ellipse: s-maj=12.1km s-min=4.2km az=153.7*
*NEIC **20** 04:31:24.2, 52.°69N×169.°27W, h3km, mb4.1/7, ML3.9(AEIC), After AEIC.*
ISC 20 04:31:24.8±1.9, 52.°7N±0.°1×169.°27W±0.°05, h5km±12km, n52, σ1°8/35/50, mb3.9/10, MS3.1/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.35**	**45**	P	Pg	**04 31 32.9**	**+1.2**
NIKH				S	Sb	**04 31 40.4**	**+1.1**
OKWR	**Okmok West Rim**	**0.95**	**42**	P	Pn	**04 31 44.4**	**-0.5**
OKCE	**Okmok Cone E**	**0.97**	**43**	P	Pg	**04 31 43.6**	**+0.3**
OKCE				S	Sn	**04 31 59.5**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**0.99**	**48**	P	Pg	**04 31 44.1**	**+0.3**
OKAK	**Okmok**	**1.01**	**32**	P	Pg	**04 31 42.3**	**-2.0**
MSOM	**Makushin Julie**	**1.77**	**51**	P	Pn	**04 31 55.6**	**-0.3**
MSOM				S	Sb	**04 32 19.6**	**-0.5**
MCIR	**Makushin Cirqu**	**1.88**	**48**	P	Pn	**04 31 57.9**	**+0.3**
MSW	**Makushin Switc**	**1.91**	**50**	P	Pn	**04 31 57.6**	**-0.3**
MTBL	**Makushin Table**	**1.99**	**50**	P	Pn	**04 31 59.2**	**+0.1**
UNV	**Unalaska Valle**	**2.00**	**55**	*e*Pn	Pn	**04 31 58.7**	**-0.5**
UNV				*e*S	Sn	**04 32 23.7**	**-0.9**
AKRB	**Akutan Reef Bi**	**2.37**	**52**	P	Pn	**04 32 04.8**	**+0.4**
ZRO	**Akutan Zero**	**2.40**	**54**	P	Pn	**04 32 04.6**	**0.0**
AKGG	**Akutan Green G**	**2.45**	**52**	P	Pn	**04 32 06.1**	**+0.7**
AKUT	**Akutan**	**2.52**	**55**	*e*Pn	Pn	**04 32 07.9**	**+1.6**
AKUT				*e*S	Sb	**04 32 41.9**	**+0.2**
ATKA	**Atka Island**	**3.06**	**262**	P	Pn	**04 32 13.8**	**+0.1**
ATKA				S	Sn	**04 32 52.4**	**+1.8**
WESP	**Westdahl Peak**	**3.23**	**55**	P	Pn	**04 32 17.3**	**+1.1**
FALS	**False Pass**	**4.07**	**56**	*e*Pn	Pn	**04 32 27.0**	**-0.7**
FALS				*e*S	Sn	**04 33 18.2**	**+2.6**
GSTR	**Great Sitkin T**	**4.21**	**264**	*e*Pn	Pn	**04 32 29.4**

OKCE				S		Sn	04 37 14.4	+1.8
OKAK	**Okmok**	**1.07**	**38**	P		Pg	04 36 55.9	-1.2
OKTU	**Okmok Mt. Tuli**	**1.07**	**52**	P		Pg	04 36 57.4	+0.4
MSOM	**Makushin Julie**	**1.86**	**53**	P		Pn	04 37 08.8	0.0
MSOM				S		Sb	04 37 34.6	+0.4
MCIR	**Makushin Cirqu**	**1.96**	**51**	P		Pn	04 37 11.0	+0.6
MSW	**Makushin Switc**	**1.99**	**53**	P		Pn	04 37 11.1	+0.4
MTBL	**Makushin Table**	**2.08**	**52**	P		Pn	04 37 12.1	+0.2
UNV	**Unalaska Valle**	**2.10**	**57**	*e*Pn		Pn	04 37 11.5	-0.6
UNV				*e*S		Sb	04 37 41.8	+0.7
AKRB	**Akutan Reef Bi**	**2.46**	**54**	P		Pn	04 37 18.0	+0.8
ZRO	**Akutan Zero**	**2.49**	**56**	P		Pn	04 37 18.7	+1.2
AKGG	**Akutan Green G**	**2.54**	**53**	P		Pn	04 37 19.3	+1.1
AKUT	**Akutan**	**2.61**	**56**	*e*Pn		Pn	04 37 20.3	+1.1
AKUT				*e*S		Sb	04 37 55.3	-0.7
ATKA	**Atka Island**	**2.94**	**261**	P		Pn	04 37 25.6	+1.8
GSTR	**Great Sitkin T**	**4.09**	**264**	*e*Pn		Pn	04 37 39.6	0.0
GSTR				*e*S		Sn	04 38 29.5	+1.7
FALS	**False Pass**	**4.17**	**57**	Pn		Pn	04 37 40.6	+0.1
SPIA	**Saint Paul Isl**	**4.47**	**355**	P		Pn	04 37 46.1	+1.3
SDPT	**Sand Point**	**5.90**	**60**	*e*Pn		Pn	04 38 03.3	-1.1
SDPT				*e*S		Sb	04 39 32.6	+2.0
AMKA	**Amchitka**	**7.06**	**263**	*e*Pn		Pn	04 38 20.9	+0.6
CHGN	**Chignik**	**7.35**	**57**	Pn		Pn	04 38 28.1	+3.8
OHAK	**Old Harbor**	**10.32**	**58**	*e*Pn		Pn	04 39 04.4	-0.4
ILAR	**Eielson Array**	**16.68**	**35**	Pn		Pn	04 40 29.9	-0.7
	0.1nm,0.3s,baz=229,slow=11,SNR=6.6							
HYT	**Haines Junctio**	**19.12**	**52**	*e*P		Pn	04 41 01.2	+0.4
	7.3nm,0.6s							
DLBC	**Dease Lake**	**22.75**	**60**	P		P	04 41 42.1	+3.0
	5.8nm,0.9s,baz=273,slow=9.8,SNR=8.9							
YKA	**Yellowknife Ar**	**30.04**	**49**	P		P	04 42 45.2	-0.6
	0.4nm,0.5s,baz=272,slow=7.8,SNR=9.0							
H11N2	**WAKE ISLAND Hy**	**37.71**	**218**	T		T	05 23 47.0	
	baz=24,slow=75,SNR=18							
H11N3	**WAKE ISLAND Hy**	**37.72**	**218**	T		T	05 23 45.8	
	baz=24,slow=75,SNR=18							
H11N1	**WAKE ISLAND Hy**	**37.73**	**218**	T		T	05 23 48.8	
	baz=24,slow=75,SNR=18							
NVAR	**Mina Array Bea**	**37.73**	**91**	P		P	04 43 54.6	+1.5
	0.7nm,0.7s,baz=311,slow=6.9,SNR=4.4							
H11S1	**WAKE ISLAND Hy**	**38.90**	**218**	T		T	05 25 16.3	
	baz=23,slow=76,SNR=60							
H11S2	**WAKE ISLAND Hy**	**38.91**	**218**	T		T	05 25 19.7	
	baz=23,slow=76,SNR=55							
H11S3	**WAKE ISLAND Hy**	**38.92**	**218**	T		T	05 25 20.2	
	baz=23,slow=76,SNR=49							
PDAR	**Pinedale Array**	**40.39**	**79**	P		P	04 44 15.2	-0.2
	1.2nm,0.7s,baz=324,slow=5.4,SNR=11							
TXAR	**Lajitas Array**	**52.80**	**89**	P		P	04 45 52.3	-0.2
	2.0nm,0.8s,baz=299,slow=5.6,SNR=25							
TXAR				LR		LR	05 07 21.0	
	comp=Z,53nm,18.4s,baz=0.0,slow=35							
KURK	**Kurchatov**	**62.06**	**318**	P		P	04 46 56.3	-1.2
KURBB	**Kurchatov Arra**	**62.17**	**318**	P		P	04 46 56.3	-1.9
	0.2nm,0.3s,baz=46,slow=7.2,SNR=3.8							
MKAR	**Makanchi Array**	**63.51**	**313**	P		P	04 47 02.6	-4.6
	0.2nm,0.3s,baz=46,slow=8.3,SNR=7.5							
WRA	**Warramunga Arr**	**87.19**	**232**	P		P	04 49 21.4	-2.1
	0.4nm,0.3s,baz=36,slow=5.5,SNR=7.3							
ASAR	**Alice Springs**	**90.59**	**230**	P		P	04 49 38.1	-1.3
	0.9nm,0.7s,baz=29,slow=4.8,SNR=6.6							
ASAR				LR		LR	05 23 16.8	
	comp=Z,135nm,21.1s,baz=133,slow=31							

IDC 20 04:49:42.7±3.4, 6°43S×149°90E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/27, mbtmp3.5/3, ML1.2/1, Error ellipse: s-maj=128.4km s-min=41.0km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.01**	**222**	Pn	Pn	04 50 44.3	-1.2
	1.1nm,0.3s,baz=204,slow=19,SNR=2.9						
PMG				Sn	Sb	04 51 39.8	-3.7
	2.2nm,0.3s,baz=76,slow=19,SNR=2.8						
WRA	**Warramunga Arr**	**20.22**	**227**	P	Pn	04 54 20.5	-0.9
	3.2nm,0.6s,baz=52,slow=11,SNR=12						
ASAR	**Alice Springs**	**23.03**	**220**	P	P	04 54 49.0	-0.7
	0.4nm,0.7s,baz=57,slow=8.5,SNR=5.0						
TORD	**Torodi Ar. Bea**	**147.99**	**284**	PKPbc	PKPbc	05 09 30.8	-0.5
	0.3nm,0.4s,baz=92,slow=2.6,SNR=12						

*IDC **20** 05:23:35.5±1.2, 10°.57N×93°.89E, h0km, mb3.8/7, mb1 3.8/7, mb1mx3.6/40, mbtmp3.8/7, MS3.1/3, Ms1 3.1/3, ms1mx2.6/54, Error ellipse: s-maj=63.8km s-min=18.9km az=51.0*

*ISCJB **20** 05:23:36.3±1.1, 10°.5N±0°.3×93°.9E±0°.3, h19km, mb3.7/7, MS3.4/1, Error ellipse: s-maj=57.9km s-min=16.6km az=142.9*

ISC 20 05:23:38.4±1.3, 10°.6N±0°.3×93°.9E±0°.4, h19km, n10, σ1§35/7, mb3.6/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.23**	**31**	LR	LR	05 29 08.1	
	comp=Z,72nm,21.6s,baz=212,slow=36						
PALK	**Pallekele**	**13.44**	**257**	LR	LR	05 30 56.6	
	comp=Z,60nm,21.8s,baz=292,slow=33						
MKAR	**Makanchi Array**	**37.42**	**347**	P	P	05 30 49.3	-1.0
	0.6nm,0.6s,baz=159,slow=7.8,SNR=5.9						
KURBB	**Kurchatov Arra**	**41.88**	**345**	P	P	05 31 27.5	+0.1
	0.3nm,0.7s,baz=159,slow=8.0,SNR=5.0						
GEYT	**Alibeck**	**42.06**	**316**	P	P	05 31 30.9	+1.8
	10nm,0.8s,baz=137,slow=7.3,SNR=11						
ZALV	**Zalesovo Beam**	**43.86**	**352**	P	P	05 31 43.8	+0.4
	0.9nm,0.4s,baz=162,slow=10.0,SNR=6.0						
WRA	**Warramunga Arr**	**50.05**	**127**	P	P	05 32 31.9	-0.3
	0.5nm,0.8s,baz=306,slow=8.3,SNR=2.9						
ASAR	**Alice Springs**	**51.85**	**131**	P	P	05 32 46.3	+0.5
	0.2nm,0.5s,baz=299,slow=6.3,SNR=3.4						
ARU	**Arti**	**53.33**	**336**	LR	LR	06 00 08.0	
	comp=Z,32nm,18.1s,baz=56,slow=41						
BRTR	**Keskin Array B**	**60.51**	**310**	P	P	05 33 46.0	-1.6
	1.0nm,0.7s,baz=119,slow=6.8,SNR=5.9						

*DDA **20** 05:23:38.8, 41°.20N×39°.78E, h7km, MD3.5*

*ISCJB **20** 05:23:40.7±0.8, 41°.16N±0°.04×39°.76E±0°.03, h8km±5km, Error ellipse: s-maj=6.5km s-min=3.4km az=166.2*

*CSEM **20** 05:23:40.7±0.3, 41°.14N×39°.75E, h2km, MD3.3, Error ellipse: s-maj=7.5km s-min=5.0km az=179.0*

*ISK **20** 05:23:40.0, 41°.15N×39°.76E, h4km, MD3.3*

ISC 20 05:23:40.2±1.3, 41°.19N±0°.04×39°.76E±0°.02, h5km±9km, n50, σ1§17/74, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTUT	**Trabzon**	**0.20**	**179**	*e*PG	Pg	05 23 44.4	+0.3
KTUT				*e*SG	Sg	05 23 46.7	0.0
KTUT	**Trabzon**	**0.20**	**179**	*e*Pg	Pg	05 23 44.4	+0.3
KTUT				*e*Sg	Sg	05 23 46.7	0.0
MACK	**Trabzon**	**0.24**	**179**	*i* P	Pg	05 23 45.4	+0.5
MACK				*i* S	Sg	05 23 48.8	+0.7
MACK	**Trabzon**	**0.24**	**179**	*i* P	Pg	05 23 45.4	+0.5
MACK				*i* S	Sg	05 23 48.8	+0.7
GUMT	**Gumushane**	**0.76**	**197**	*e*PG	Pg	05 23 53.5	-1.2
GUMT	**Gumushane**	**0.76**	**197**	*e*Pg	Pg	05 23 53.5	-1.2
KELT	**Kelkit**	**1.11**	**201**	*i* P	Pg	05 23 60.0	-1.4
KELT				*i* S	Sg	05 24 13.0	-2.7
KELT	**Kelkit**	**1.11**	**201**	*i* P	Pg	05 24 00.0	-1.4
KELT				*i* S	Sg	05 24 13.0	-2.7
GRSN	**GIRESUNGRSN**	**1.16**	**257**	*i* P	Pg	05 24 01.4	-1.0
GRSN				*i* S	Sg	05 24 16.1	-1.4
GRSN	**GIRESUNGRSN**	**1.16**	**257**	*i* P	Pg	05 24 01.4	-1.0
GRSN				*i* S	Sg	05 24 16.1	-1.4
KOPT	**Kop Dagi**	**1.29**	**154**	*i* P	Pg	05 24 04.2	-0.8
KOPT				*i* S	Sg	05 24 20.9	-0.8
BCA	**Borcka**	**1.42**	**79**	*e*PN	Pn	05 24 06.9	+0.2
BCA	**Borcka**	**1.42**	**79**	*e*Pn	Pn	05 24 06.9	+0.2
DBOC	**Borcka**	**1.44**	**83**	*i* P	Pn	05 24 06.7	-0.3
DBOC				*i* S	Sb	05 24 25.8	-0.4
EZC	**Erzincan**	**1.47**	**192**	*e*Pn	Pg	05 24 09.4	+1.1
DBAD	**Bademkaya**	**1.47**	**96**	*i* P	Pn	05 24 07.2	-0.3
DBAD				*i* S	Sb	05 24 26.6	-0.5
EUZM	**Uzumlu**	**1.48**	**182**	*i* P	Pn	05 24 06.0	-1.6
EUZM				*i* S	Sb	05 24 24.6	-2.7
EUZM	**Uzumlu**	**1.48**	**182**	*i* P	Pn	05 24 06.0	-1.6
EUZM				*i* S	Sb	05 24 24.6	-2.7
DDEM	**Demirkent**	**1.53**	**100**	*i* P	Pn	05 24 08.4	+0.1
DDEM				*i* S	Sn	05 24 28.4	-0.2
ERZN	**Erzincan**	**1.60**	**181**	*e*PN	Pn	05 24 09.4	+0.2
DAGI	**Agillar**	**1.63**	**93**	*i* P	Pn	05 24 09.7	+0.1
DAGI				*i* S	Sn	05 24 29.8	-1.2
ARTV	**Artvin**	**1.63**	**89**	*i* P	Pn	05 24 09.7	-0.1
ARTV				*i* S	Sn	05 24 31.0	-0.3
ARTV	**Artvin**	**1.63**	**89**	*i* S	Sn	05 24 31.0	-0.3
EZM	**Erzurum**	**1.77**	**136**	*e*PN	Pb	05 24 12.6	-0.6
ERZM	**Erzurum**	**1.77**	**136**	*i* P	Pg	05 24 14.0	-0.1
ERZM	**Erzurum**	**1.77**	**136**	*i* P	Pg	05 24 14.0	-0.1
HOMI	**Horasan**	**1.99**	**124**	*i* P	Pg	05 24 17.9	-0.4
HOMI				*i* S	Sg	05 24 45.8	+1.7
RSDY	**Resadiye-TOKAT**	**2.01**	**248**	*e*PN	Pn	05 24 15.8	+1.1
RSDY	**Resadiye-TOKAT**	**2.01**	**248**	*e*Pn	Pn	05 24 15.9	+1.1
KEMA	**Kemaliye**	**2.15**	**207**	*i* P	Pn	05 24 17.6	+0.8
KEMA				*i* S	Sn	05 24 44.6	+0.7
KEMA	**Kemaliye**	**2.15**	**207**	*i* P	Pn	05 24 17.6	+0.8
KEMA				*i* S	Sn	05 24 44.6	+0.7
BNGB	**Bing˜ll**	**2.30**	**162**	*e*PN	Pn	05 24 19.8	+0.9
ERBA	**Erbaa**	**2.33**	**259**	*i* P	Pn	05 24 20.1	+0.8
ERBA				*i* S	Sn	05 24 49.2	+0.9
ERBA	**Erbaa**	**2.33**	**259**	*i* P	Pn	05 24 20.1	+0.8
ERBA				*i* S	Sn	05 24 49.2	+0.9
BINT	**Bingol**	**2.37**	**166**	*e*Pn	Pn	05 24 19.8	-0.1
VRTB	**Varto-Mus**	**2.40**	**147**	*e*PN	Pn	05 24 20.6	+0.3
VRTB	**Varto-Mus**	**2.40**	**147**	*e*Pn	Pn	05 24 20.6	+0.3
SVSK	**Karacayir**	**2.46**	**240**	*e*PN	Pn	05 24 22.2	+1.3
SVSK	**Karacayir**	**2.46**	**240**	*e*Pn	Pn	05 24 22.2	+1.3
EATA	**Eleskirt**	**2.46**	**122**	*i* P	Pg	05 24 30.1	+2.7
CUKAN	**kangal_SIVAS**	**2.56**	**224**	*i* P	Pn	05 24 24.2	+1.7
CUKAN				*i* S	Sb	05 24 59.6	+1.0
ELZG	**Elazig**	**2.75**	**193**	*i* P	Pn	05 24 26.3	+1.2
ELZG				*i* S	Sb	05 25 04.7	+0.7
ELZG	**Elazig**	**2.75**	**193**	*i* P	Pn	05 24 26.3	+1.2
KVT	**Kavak**	**2.81**	**269**	*e*PN	Pn	05 24 26.5	+0.7
KVT	**Kavak**	**2.81**	**269**	*e*Pn	Pn	05 24 26.5	+0.7
MALT	**Malatya**	**3.05**	**200**	*e*PN	Pn	05 24 29.2	+0.1
MALT	**Malatya**	**3.05**	**200**	*e*Pn	Pn	05 24 29.2	+0.1
DARE	**Darende-Malaty**	**3.15**	**215**	*e*PN	Pn	05 24 31.8	+1.3
DARE	**Darende-Malaty**	**3.15**	**215**	*e*Pn	Pn	05 24 31.8	+1.3
AKCD	**Akcadag**	**3.22**	**207**	*i* P	Pb	05 24 38.7	+0.8
AKCD				*i* S	Sb	05 25 20.0	+2.6

IDC 20 05:26:16.5±5.5, 27°.50S×66°.34E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/32, mbtmp3.7/3, Error ellipse: s-maj=221.0km s-min=38.3km az=43.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**60.38**	**103**	P	P	05 36 28.3	+0.4
	0.4nm,0.6s,baz=243,slow=6.1,SNR=4.0						
WRA	**Warramunga Arr**	**62.04**	**99**	P	P	05 36 39.1	-0.1
	0.2nm,0.3s,baz=260,slow=7.5,SNR=3.2						
ZALV	**Zalesovo Beam**	**62.67**	**11**	P	P	05 38 41.2	-0.2
	0.7nm,0.3s,baz=190,slow=4.2,SNR=3.2						
YKA	**Yellowknife Ar**	**145.00**	**1**	PKPbc	PKPbc	05 45 53.4	-0.9
	0.3nm,0.5s,baz=344,slow=3.5,SNR=11						

MEX 20 05:35:22.9±0.8, 16°.91N×94°.20W, h140km±8km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.68**	**286**	*e*P	Pn	05 35 42.7	-1.5
CMIG				*e*S	Sn	05 35 58.4	-2.0
TGIG		**1.04**	**97**	*e*P	Pn	05 35 46.0	-1.2
TGIG				*e*S	Sn	05 36 04.0	-1.7
CCIG	**Comitan**	**2.08**	**107**	*e*P	Pn	05 35 57.4	-1.2
CCIG				*i* S	Sn	05 36 24.2	-1.8
HUIG	**Huatulco**	**2.15**	**238**	*e*P	Pn	05 35 56.4	-2.9
HUIG				*e*S	Sn	05 36 25.7	-1.5
VHO	**Vista Hermosa**	**2.43**	**274**	*i* P	Pn	05 36 02.1	-0.8
VHO				*i* S	Sn	05 36 32.1	-1.6

*NEIC **20** 05:38:10.9, 52°.57N×169°.28W, h11km, ML3.0(AEIC), After AEIC.*

*ISCJB **20** 05:38:12.0±1.2, 52°.8N±0°.1×169°.5W±0°.2, h30km±8km, mb3.3/3, Error ellipse: s-maj=28.4km s-min=9.1km az=150.5*

*IDC **20** 05:38:11.1±17.0, 52°.58N×169°.00W, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.3/53, mbtmp3.3/4, ML3.4/1, MS2.5/1, Ms1 2.5/1, ms1mx2.2/27, Error ellipse: s-maj=322.0km s-min=46.6km az=85.0*

ISC 20 05:38:11.9±1.8, 52°.9N±0°.1×169°.5W±0°.08, h14km±11km, n23, σ0§98/21, mb3.3/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.43**	**76**	P	Pg	05 38 20.7	+0.2
NIKH				S	Sb	05 38 28.5	+0.9
OKWR	**Okmok West Rim**	**0.98**	**54**	P	Pb	05 38 31.4	+0.7
OKCE	**Okmok Cone E**	**1.00**	**56**	P	Pb	05 38 30.8	-0.1
OKAK	**Okmok**	**1.01**	**45**	P	Pb	05 38 29.8	-1.2
OKAK				S	Sb	05 38 43.5	-0.5
OKTU	**Okmok Mt. Tuli**	**1.04**	**60**	P	Pb	05 38 31.6	-0.1
OKRE	**Okmok R'deer P**	**1.05**	**51**	P	Pb	05 38 32.3	+0.4
OKRE				S	Sn	05 38 49.5	+2.9
MSOM	**Makushin Julie**	**1.82**	**58**	P	Pn	05 38 42.3	-0.4
MSOM				S	Sn	05 39 05.7	+0.2
MSW	**Makushin Switc**	**1.96**	**57**	P	Pn	05 38 44.6	+0.1
MTBL	**Makushin Table**	**2.04**	**56**	P	Pn	05 38 45.2	-0.5
UNV	**Unalaska Valle**	**2.07**	**61**	P	Pn	05 38 45.3	-0.8
UNV				S	Sn	05 39 11.4	-0.2
ZRO	**Akutan Zero**	**2.46**	**59**	P	Pn	05 38 51.5	0.0
ATKA	**Atka Island**	**2.92**	**259**	P	Pn	05 38 58.0	+0.3
ILAR	**Eielson Array**	**16.60**	**35**	Pn	Pn	05 42 03.4	-0.4
	0.1nm,0.3s,baz=227,slow=10.0,SNR=3.2						
PETK	**Petropavlovsk-**	**19.63**	**284**	LR	LR	05 51 43.8	
	comp=Z,12nm,18.1s,baz=99,slow=41						
YKA	**Yellowknife Ar**	**29.99**	**49**	P	P	05 44 20.7	+1.2
	0.1nm,0.4s,baz=272,slow=7.7,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**37.78**	**218**	T	T	06 25 22.4	
	baz=24						
H11N3	**WAKE ISLAND Hy**	**37.79**	**218**	T	T	06 25 27.4	
	baz=24						
H11N1	**WAKE ISLAND Hy**	**37.80**	**218**	T	T	06 25 28.6	
	baz=24						
H11S1	**WAKE ISLAND Hy**	**38.97**	**217**	T	T	06 26 55.3	
	baz=23,slow=76,SNR=59						
H11S2	**WAKE ISLAND Hy**	**38.99**	**217**	T	T	06 26 55.8	
	baz=23,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**38.99**	**217**	T	T	06 26 57.2	
	baz=23,slow=76,SNR=40						
PDAR	**Pinedale Array**	**40.41**	**80**	P	P	05 45 48.7	-0.8
	0.3nm,0.5s,baz=309,slow=4.5,SNR=3.0						
TXAR	**Lajitas Array**	**52.85**	**89**	P	P	05 47 25.8	-1.1
	0.7nm,0.8s,baz=305,slow=5.1,SNR=7.5						

*TIR **20** 05:48:39.4±2.9, 39°.95N×20°.83E, h0km±999km, ML3.0*

*PDG **20** 05:48:39.4±0.4, 39°.81N×20°.89E, h3km±1km, ML3.3/12, Error ellipse: s-maj=1.2km s-min=1.2km az=90.0*

*ATH **20** 05:48:40.3, 40°.06N×20°.67E, h28km±1km, MD3.3/57*

*THE **20** 05:48:40.9, 40°.01N×20°.79E, h0km±1km, ML3.3/10, Error ellipse: s-maj=1.5km s-min=0.5km az=324.0*

*CSEM **20** 05:48:41.3±0.1, 39°.96N×20°.88E, h2km, ML3.3, Error ellipse: s-maj=3.5km s-min=2.5km az=73.0*

*SKO **20** 05:48:41.6, 39°.96N×20°.85E, h3km, M2.6, ML3.0*

*IDC **20** 05:48:45.2±2.5, 40°.00N×20°.71E, h45km±35km, mb3.3/6, mb1 3.4/10, mb1mx3.3/32, mbtmp3.4/10, ML2.9/3, Error ellipse: s-maj=25.1km s-min=16.1km az=83.0*

*SOF **20** 05:48:46.5, 40°.13N×21°.52E, h0km, MD2.9*

ISC 20 05:48:41.2±0.7, 39°.99N±0°.01×20°.81E±0°.02, h10km±5km, n233, σ1§31/286, mb3.4/5, 11C-19D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEV	**Metsovon**	**0.38**	**122**	P	Pg	05 48 48.6	-0.2
MEV	**Metsovon**	**0.38**	**122**	P	Pg	05 48 48.6	-0.2
NEST	**Nestorio**	**0.46**	**23**	*e*PB	Pg	05 48 49.4	-0.9
NEST				*e*SB	Sg	05 48 57.4	+0.8
NEST	**Nestorio**	**0.46**	**23**	*e*Pb	Pg	05 48 49.4	-0.9
NEST				*e*Sb	Sg	05 48 57.2	+0.8
SGD	**Sagiada**	**0.58**	**230**	*e*PN	Pg	05 48 51.3	-1.2
SGD				*e*SN	Sg	05 49 00.9	+0.7
SGD	**Sagiada**	**0.58**	**230**	*e*Pn	Pg	05 48 51.4	-1.2
SGD	**Sagiada**	**0.58**	**230**	P	Pg	05 48 51.9	-0.6
SGD				S	Sg	05 49 00.9	+0.7
IGT	**Igoumenitsa**	**0.59**	**219**	*e*PN	Pg	05 48 51.5	-1.1
IGT				*e*SN	Sg	05 49 01.3	+1.0
IGT	**Igoumenitsa**	**0.59**	**219**	P	Pg	05 48 51.7	-0.9
IGT				*e*Sn	Sg	05 49 01.3	+1.0
IGT	**Igoumenitsa**	**0.59**	**219**	P	Pg	05 48 51.7	-0.9
IGT				S	Sb	05 49 01.7	-0.3
SRN	**Sarande**	**0.63**	**260**	*i* PN	Pg	05 48 53.2	-0.3
SRN				*i* SN	Sb	05 49 04.5	+1.2
SRN	**Sarande**	**0.63**	**260**	P	Pg	05 48 52.9	-0.6
SRN	**Sarande**	**0.63**	**260**	*i* Pn	Pg	05 48 53.2	-0.3
SRN				*i* Sn	Sb	05 49 04.5	+1.2
SRN	**Sarande**	**0.63**	**260**	P	Pg	05 48 52.9	-0.6
SRN				S	Sg	05 49 01.3	-0.5
KBN	**Korca**	**0.63**	**358**	*i* PN	Pg	05 48 52.8	-0.7
KBN				*i* SN	Sg	05 49 02.9	+1.0
KBN	**Korca**	**0.63**	**358**	P	Pg	05 48 52.5	-1.0
KBN	**Korca**	**0.63**	**358**	*i* Pn	Pg	05 48 52.8	-0.7
KBN				S	Sg	05 49 01.9	0.0
KBN				*i* Sn	Sg	05 49 02.8	+1.0
KBN	**Korca**	**0.63**	**358**	P	Pg	05 48 52.5	-1.0
KBN				S	Sg	05 49 01.9	0.0
KZN	**Kozani**	**0.80**	**66**	*e*PN	Pb	05 48 57.2	-0.1
KZN				*e*SN	Sn	05 49 10.8	+0.1
KZN	**Kozani**	**0.80**	**66**	P	Pg	05 48 55.7	-1.0
KZN	**Kozani**	**0.80**	**66**	*e*Pn	Pb	05 48 57.2	-0.1
KZN				S	Sb	05 49 08.6	+0.3
KZN				*e*Sn	Sn	05 49 10.8	+0.1
KZN	**Kozani**	**0.80**	**66**	P	Pg	05 48 55.7	-1.0
KZN				S	Sb	05 49 08.6	+0.3
DSL	**Palaion Diasel**	**0.88**	**165**	*e*PN	Pb	05 48 58.8	+0.1
DSL				*e*SN	Sn	05 49 12.8	+0.1
DSL	**Palaion Diasel**	**0.88**	**165**	P	Pg	05 48 57.4	-0.8
DSL	**Palaion Diasel**	**0.88**	**165**	*e*Pn	Pb	05 48 58.8	+0.1
DSL				*e*Sn	Sn	05 49 12.8	+0.1
DSL	**Palaion Diasel**	**0.88**	**165**	P	Pg	05 48 57.4	-0.8
DSL				S	Sb	05 49 11.7	+1.2
FNA	**Florina**	**0.90**	**28**	*e*PN	Pg	05 48 57.3	-1.4
FNA				*e*SN	Sb	05 49 11.3	+0.1
FNA	**Florina**	**0.90**	**28**	P	Pg	05 48 57.2	-1.4
FNA				S	Sb	05 49 11.5	+0.3
FNA	**Florina**	**0.90**	**28**	P	Pg	05 48 57.2	-1.4
FNA				S	Sb	05 49 11.5	+0.3
THL	**Klokotos Trika**	**1.02**	**114**	*e*PB	Pb	05 49 01.0	0.0
THL				*e*SN	Sn	05 49 17.5	+1.5
THL	**Klokotos Trika**	**1.02**	**114**	P	Pg	05 49 00.1	-0.7
THL	**Klokotos Trika**	**1.02**	**114**	*e*Pb	Pb	05 49 01.0	0.0
THL				*e*Sn	Sn	05 49 17.5	+1.5
THL	**Klokotos Trika**	**1.02**	**114**	P	Pg	05 49 00.1	-0.7
THL				S	Sn	05 49 16.2	+0.2
LIT	**Litokhoron**	**1.29**	**85**	*e*PB	Pg	05 49 05.3	-0.8
LIT				*e*SN	Sn	05 49 24.4	+1.6
LIT	**Litokhoron**	**1.29**	**85**	P	Pg	05 49 05.2	-0.8
LIT				*e*Sn	Sn	05 49 24.4	+1.6
LIT	**Litokhoron**	**1.29**	**85**	P	Pg	05 49 05.2	-0.8
LIT				S	Sn	05 49 24.7	+1.9
EVR	**Evrytania**	**1.32**	**144**	*e*PN	Pn	05 49 06.1	+0.2
EVR				*e*SN	Sn	05 49 26.0	+2.4
EVR	**Evrytania**	**1.32**	**144**	P	Pn	05 49 05.8	-0.1
EVR	**Evrytania**	**1.32**	**144**	*e*Pn	Pn	05 49 06.1	+0.2
EVR				*e*Sn	Sn	05 49 26.0	+2.4
EVR	**Evrytania**	**1.32**	**144**	P	Pn	05 49 05.8	-0.1
EVR				S	Sn	05 49 25.0	+1.4
MAKR	**Makrakomi, Fth**	**1.41**	**133**	*e*PN	Pb	05 49 07.8	+0.1
MAKR	**Makrakomi, Fth**	**1.41**	**133**	*e*Pn	Pb	05 49 07.8	+0.1
MAKR	**Makrakomi, Fth**	**1.41**	**133**	P	Pb	05 49 07.7	+0.1
MAKR				S	Sn	05 49 28.4	+2.7
PDO	**Prodromos**	**1.42**	**168**	*e*PN	Pg	05 49 08.6	+0.1
PDO	**Prodromos**	**1.42**	**168**	P	Pn	05 49 07.5

ATAL	Atalanti	2.15	126	P		Pn	05 49 18.2	+1.1
DRO	Drossia	2.15	161	*e*PB		Pb	05 49 19.0	-1.3
DRO	Drossia	2.15	161	*e*Pb		Pb	05 49 19.0	-1.3
LKR	Lokris	2.16	128	*e*PN		Pn	05 49 18.9	+1.6
LKR	Lokris	2.16	128	*e*Pn		Pn	05 49 18.9	+1.6
SMIA	Simia	2.16	120	*e*PB		Pb	05 49 19.1	-1.4
SMIA	Simia	2.16	120	*e*Pb		Pb	05 49 19.1	-1.4
PUK	Puka	2.17	342	*i* PN		Pb	05 49 20.4	-0.2
PUK	Puka	2.17	342	*i* Pn		Pb	05 49 20.4	-0.2
	SNR=40							
KLV	Kalavryta, Ach	2.21	151	*e*PB		Pb	05 49 20.0	-1.3
KLV	Kalavryta, Ach	2.21	151	*e*Pb		Pb	05 49 20.0	-1.3
PAIG	Paliouri	2.21	91	*e*PN		Pn	05 49 18.1	+0.2
PAIG	Paliouri	2.21	91	*e*Pn		Pn	05 49 18.1	+0.2
ZKS	Zakynthos	2.29	180	*e*PB		Pn	05 49 20.7	+1.6
ZKS	Zakynthos	2.29	180	*e*Pb		Pn	05 49 20.7	+1.6
ULC	Ulcinj	2.30	329	⇑*i* Pn		Pb	05 49 21.6	-1.3
ULC				*e*Sn		Sg	05 49 55.5	+0.3
ULC	Ulcinj	2.30	329	⇑*i* Pn		Pb	05 49 21.6	-1.3
ULC				*e*Sn		Sg	05 49 55.5	+0.3
GUR	Goura	2.37	149	*e*PB		Pn	05 49 22.1	+1.8
GUR	Goura	2.37	149	*e*Pb		Pn	05 49 22.1	+1.8
SRS	Serrai	2.40	61	*e*PN		Pn	05 49 20.6	0.0
SRS	Serrai	2.40	61	*e*Pn		Pn	05 49 20.6	0.0
OUR	Ouranopolis	2.46	81	*e*PN		Pn	05 49 22.0	+0.7
OUR	Ouranopolis	2.46	81	P		Pn	05 49 21.5	+0.2
OUR	Ouranopolis	2.46	81	*e*Pn		Pn	05 49 22.0	+0.7
OUR	Ouranopolis	2.46	81	P		Pn	05 49 21.5	+0.2
MRKA	Markates	2.51	120	*e*PN		Pn	05 49 23.0	+0.9
MRKA	Markates	2.51	120	*e*Pn		Pn	05 49 23.0	+0.9
AOS	Alonnisos	2.51	108	*e*PN		Pn	05 49 22.3	+0.2
AOS	Alonnisos	2.51	108	*e*Pn		Pn	05 49 22.3	+0.2
DRME	Dracevica, Mon	2.52	331	⇓*i* Pn		Pb	05 49 24.2	+2.0
DRME				*e*Sn		Sg	05 50 00.2	-1.8
DRME	Dracevica, Mon	2.52	331	⇓*i* Pn		Pb	05 49 24.2	+2.0
DRME				*e*Sn		Sg	05 50 00.2	-1.8
KKB	Krupnik	2.55	42	*i* P		Pn	05 49 23.3	+0.7
KKB	Krupnik	2.55	42	*i* P		Pn	05 49 23.3	+0.7
AMT	Artemida-Makis	2.55	164	*e*PN		Pn	05 49 23.2	+0.5
AMT	Artemida-Makis	2.55	164	*e*Pn		Pn	05 49 23.2	+0.5
LTK	Loutraki	2.58	139	*e*PB		Pb	05 49 25.7	-2.0
LTK	Loutraki	2.58	139	*e*Pb		Pb	05 49 25.7	-2.0
VIL2	Platees	2.61	132	*e*PN		Pn	05 49 25.9	+2.4
LOUT	Loutraki	2.62	139	*e*PB		Pn	05 49 25.9	+2.3
LOUT	Loutraki	2.62	139	*e*Pb		Pn	05 49 25.9	+2.3
VILL	Villia	2.67	132	*e*Pn		Pn	05 49 25.9	+1.6
PVY	Plav	2.68	346	⇑*i* Pn		Pn	05 49 27.0	+2.4
PVY				*e*Sn		Sb	05 50 04.4	+2.0
PVY	Plav	2.68	346	⇑*i* Pn		Pn	05 49 27.0	+2.4
PVY				*e*Sn		Sb	05 50 04.4	+2.0
PDG	Podgorica	2.71	335	⇓*i* Pn		Pb	05 49 28.1	-1.6
PDG				*e*Sn		Sb	05 50 04.4	+1.4
TTG	Podgorica	2.71	335	⇓*i* Pn		Pb	05 49 28.1	-1.6
TTG				*e*Sn		Sb	05 50 04.4	+1.4
BUM	Brajici-Budva	2.73	329	⇑*i* Pn		Pn	05 49 27.4	+2.3
BUM				*e*Sn		Sb	05 50 05.8	+2.2
BUM	Brajici-Budva	2.73	329	⇑*i* Pn		Pn	05 49 27.4	+2.3
BUM				*e*Sn		Sb	05 50 05.8	+2.2
MMB	Musomiste	2.73	53	*i* P		Pn	05 49 25.6	+0.4
MMB	Musomiste	2.73	53	*i* P		Pn	05 49 25.6	+0.4
EREA	Eretria	2.89	122	*e*PN		Pn	05 49 28.1	+0.8
EREA	Eretria	2.89	122	*e*Pn		Pn	05 49 28.1	+0.8
BARS	Barje	2.92	15	*e*Pn		Pn	05 49 28.6	+0.8
ITM	Ithomi	2.94	162	*e*PB		Pn	05 49 30.7	+2.7
ITM	Ithomi	2.94	162	*e*Pb		Pn	05 49 30.7	+2.7
BEY	Berane	2.96	347	⇑*i* Pn		Pn	05 49 31.1	+2.7
BEY				*e*Sn		Sb	05 50 11.4	+1.0
IVA	Berane	2.96	347	⇑*i* Pn		Pn	05 49 31.1	+2.7
IVA				*e*Sn		Sb	05 50 11.4	+1.0
KAVA	Kavala	3.00	69	*e*PN		Pn	05 49 28.8	0.0
KAVA	Kavala	3.00	69	*e*Pn		Pn	05 49 28.8	0.0
HCY	Herceg Novi	3.01	325	*e*Pn		Pb	05 49 32.7	-2.3
HCY				*e*Sn		Sb	05 50 12.4	+0.6
HCY	Herceg Novi	3.01	325	*e*Pn		Pb	05 49 32.7	-2.3
HCY				*e*Sn		Sb	05 50 12.4	+0.6
NAIG	Nisos Aigina	3.06	136	*e*PN		Pn	05 49 31.5	+1.9
NAIG	Nisos Aigina	3.06	136	*e*Pn		Pn	05 49 31.5	+1.9
NKME	Niksic	3.11	334	⇓*i* Pn		Pn	05 49 33.8	+3.4
NKME				*e*Sn		Sb	05 50 15.0	+0.4
NKME	Niksic	3.11	334	⇓*i* Pn		Pn	05 49 33.8	+3.4
NKME				*e*Sn		Sb	05 50 15.0	+0.4
DID	Didima	3.12	142	*e*PN		Pn	05 49 32.1	+1.5
DID	Didima	3.12	142	*e*Pn		Pn	05 49 32.1	+1.5
DIDY	Didyma	3.13	142	*e*PN		Pn	05 49 33.2	+2.4
DIDY	Didyma	3.13	142	*e*Pn		Pn	05 49 33.2	+2.4
NKY	Niksic	3.13	335	⇓*i* Pn		Pn	05 49 34.4	+3.6
NKY				*e*Sn		Sb	05 50 14.9	-0.5
NKY	Niksic	3.13	335	⇓*i* Pn		Pn	05 49 34.4	+3.6
NKY				*e*Sn		Sb	05 50 14.9	-0.5
PYL	PYLOS	3.17	166	*e*PN		Pn	05 49 32.6	+1.4
PYL	PYLOS	3.17	166	*e*Pn		Pn	05 49 32.6	+1.4
KRND	KRANIDI	3.18	144	*e*PN		Pn	05 49 33.5	+2.2
KRND	KRANIDI	3.18	144	*e*Pn		Pn	05 49 33.5	+2.2
BRY	Bratogost	3.37	330	⇓*i* Pn		Pn	05 49 37.0	+2.9
BRY				*e*Sn		Sb	05 50 20.8	-1.5
BRY	Bratogost	3.37	330	⇓*i* Pn		Pn	05 49 37.0	+2.9
BRY				*e*Sn		Sb	05 50 20.8	-1.5
UPM	Unac-Piva	3.51	337	⇓*i* Pn		Pn	05 49 38.4	+2.3
UPM				*e*Sn		Sb	05 50 24.2	-2.2
UPM	Unac-Piva	3.51	337	⇓*i* Pn		Pn	05 49 38.4	+2.3
UPM				*e*Sn		Sb	05 50 24.2	-2.2
IVAS	Ivanjica	3.62	352	*e*Pn		Pn	05 49 37.9	+0.5
VLI	Veliai	3.67	152	*e*PN		Pn	05 49 40.4	+2.4
VLI	Veliai	3.67	152	*e*Pn		Pn	05 49 40.4	+2.4
STON	Ston	3.71	322	*e*Pn		Pn	05 49 39.2	+0.7
STON				Sn		Sn	05 50 21.7	-0.7
STON	Ston	3.71	322	*e*Pn		Pn	05 49 39.2	+0.7
STON				Sn		Sn	05 50 21.6	-0.7
GRUS	Gruza	3.90	359	*e*Pn		Pn	05 49 41.1	-0.1
SIGR	SIGRI	3.97	100	*e*PN		Pn	05 49 43.7	+1.5
SIGR	SIGRI	3.97	100	*e*Pn		Pn	05 49 43.7	+1.5
BBLS	Lazići	4.01	345	*e*Pn		Pn	05 49 44.9	+2.1
MPEP	Malo Peshtene	4.02	32	P		Pn	05 49 43.4	+0.6
ALN	Alexandroupoli	4.10	76	*e*PN		Pn	05 49 44.8	+0.9
ALN	Alexandroupoli	4.10	76	*e*Pn		Pn	05 49 44.8	+0.9
DIVS	Divibare	4.15	352	⇑*i* P		Pn	05 49 46.5	+1.8
DIVS	Divibare	4.15	352	*e*Pn		Pn	05 49 43.8	-0.9
DIVS	Divibare	4.15	352	⇑*i* Pn		Pn	05 49 46.5	+1.8
CHOS	Chios island	4.38	113	*e*PN		Pn	05 49 49.3	+1.4
CHOS	Chios island	4.38	110	*e*Pn		Pn	05 49 49.3	+1.4
ANKY	Antikythira Is	4.56	154	*e*PN		Pn	05 49 53.7	+3.4
ANKY	Antikythira Is	4.56	154	*e*Pn		Pn	05 49 53.7	+3.4
TEKS	Tekeris	4.65	349	*e*Pn		Pn	05 49 52.2	+0.6
IDI	Anoyia	5.70	144	P		Pn	05 50 09.8	+3.8
	comp=N,0.3nm,0.3s,baz=176,slow=16,SNR=3.3							
IDI				S		Sn	05 51 11.8	+0.2
	comp=N,0.5nm,0.3s,baz=296,slow=16,SNR=2.3							
VOIR		6.28	28	⇓*i* P		Pn	05 50 17.8	+3.9
VOIR		6.28	28	⇓*i* P		Pn	05 50 17.8	+3.9
PKSM	Moragy	6.42	346	⇓*i* P		Pn	05 50 18.6	+2.8
PKSM	Moragy	6.42	346	⇓*i* P		Pn	05 50 18.6	+2.8
MLR	Muntele Rosu	6.67	33	P		Pn	05 50 22.4	+3.0
	comp=N,0.1nm,0.3s,baz=229,slow=9.3,SNR=4.1							
MLR	Muntele Rosu	6.67	33	⇑*i* P		Pn	05 50 24.1	+4.7
PLOR	Plostina	7.26	34	⇓*i* P		Pn	05 50 30.7	+3.4
PLOR	Plostina	7.26	34	⇓*i* P		Pn	05 50 30.7	+3.4
VRI	Vrincioaia	7.30	35	⇓*i* P		Pn	05 50 32.3	+4.4
BRTR	Keskin Array B	9.87	87	P		Pn	05 51 05.8	+2.5
	comp=N,0.2nm,0.3s,baz=270,slow=11,SNR=4.7							
ESDC	Sonseca Array	19.02	277	P		P	05 53 01.0	-2.3
	comp=N,0.4nm,0.3s,baz=84,slow=10,SNR=3.4							
HFS	Hagfors	20.65	350	P		P	05 53 19.7	-1.1
	comp=N,1.2nm,0.6s,baz=153,slow=10.0,SNR=4.4							
FINES	FINESS Array B	21.72	7	P		P	05 53 31.6	-0.7
	comp=N,2.4nm,0.9s,baz=174,slow=21,SNR=3.7							
NB2	NORSAR Subarra	21.89	347	P		P	05 53 33.5	-0.7
	comp=Z,1.0nm,0.7s,baz=160,slow=11							
NB2	NORSAR Subarra	21.89	347	P		P	05 53 33.5	-0.7
	comp=Z,1.0nm,0.7s,SNR=8.1							
NOA	NORSAR Array B	21.89	347	P		P	05 53 34.1	-0.1
	comp=Z,1.4nm,0.6s,baz=164,slow=11,SNR=7.4							
EKA	Eskdalemuir Ar	22.11	322	P		P	05 53 35.9	-0.7
	comp=Z,0.9nm,0.8s,baz=122,slow=12,SNR=3.2							
TORD	Torodi Ar. Bea	31.59	218	P		P	05 55 04.1	-0.1
	comp=Z,0.9nm,0.8s,baz=35,slow=9.8,SNR=8.0							
MKAR	Makanchi Array	44.18	60	P		P	05 56 50.0	-0.2
	comp=Z,0.3nm,0.6s,baz=280,slow=8.6,SNR=3.1							

SJA 20 05:54:16.3±0.9, 24°35S×65°10W, h17^{km}±3^{km}, ML3.5,

Salta Province

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AZAP	Zapla	0.13	13	*i* P		Pb	05 54 21.4	+0.7
AZAP				*i* S		Sb	05 54 24.8	+1.2
AZAP				AML		AML	05 54 26.1	
	comp=Z,16μm,0.5s							
SLA	San Lorenzo	0.52	225	*e*P		Pn	05 54 28.5	-0.7
SLA				*e*S		Sb	05 54 35.3	+0.7
SLA				AML		AML	05 54 38.6	
	comp=Z,3μm,0.6s							
ASTB	Santa Barbara	0.69	55	*e*P		Pb	05 54 29.9	-0.3
ASTB				*i* S		Sn	05 54 41.8	-0.2
HJA	Humahuaca	1.18	346	*i* P		Pg	05 54 39.6	0.0
HJA				*i* P		Pg	05 54 39.6	0.0
HJA				*i* S		Sg	05 54 56.4	+1.1
FSA	Cafayete	1.92	205	*i* P		Pn	05 54 49.4	+1.0
FSA				AML		AML	05 55 20.8	
	comp=Z,439nm,0.1s							
YJA	Yavi	2.20	350	*i* P		Pb	05 54 55.8	-0.5
YJA				AML		AML	05 55 36.2	
	comp=Z,100nm,1.1s							
AHML	Horco Molle	2.43	185	*i* P		Pb	05 54 57.8	-1.9
AHML				AML		AML	05 55 34.5	
	comp=Z,372nm,0.5s							
CYA	Choya	4.12	189	*i* P		Pn	05 55 22.1	+3.6
CYA				AML		AML	05 56 32.9	
	comp=Z,50nm,0.3s							

*NSSC **20** 06:02:28.4±0.8, 37°.04N×31°.10E, h38^{km}±999^{km}, MD2.0, ML3.0*
*DDA **20** 06:02:30.6, 37°.08N×32°.06E, h9^{km}, ML3.9*
*ISK **20** 06:02:30.7, 37°.02N×32°.04E, h5^{km}, ML3.9*
*IDC **20** 06:02:31.5±0.8, 37°.14N×31°.90E, h0^{km}, mb3.9/7, mb1 4.0/11, mb1mx3.8/29, mbtmp3.9/11, ML3.7/5, MS2.8/8, Ms1 2.8/8, ms1mx2.6/39, Error ellipse: s-maj=18.0km s-min=14.2km az=118.0*
*ISCJB **20** 06:02:31.5±0.5, 37°.03N±0°.02×32°.00E±0°.02, h4^{km}±4^{km}, mb4.0/8, MS2.8/2, Error ellipse: s-maj=3.4km s-min=2.1km az=41.6*
*CSEM **20** 06:02:32.1±0.1, 37°.03N×32°.02E, h2^{km}, ML3.9, Error ellipse: s-maj=3.9km s-min=3.0km az=34.0*
*NIC **20** 06:02:33.3, 36°.89N×31°.75E, h16^{km}, mb4.3, ML4.0*
ISC 20 06:02:31.3±1.1, 37°.04N±0°.02×32°.03E±0°.02, h0^{km}±8^{km}, n181, σ1°36/213, mb3.8/8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HDMB	Hadim	0.37	101	*e*PG		Pg	06 02 38.3	-0.2
HDMB				*e*SG		Sg	06 02 44.8	+1.4
HDMB	Hadim	0.37	101	*e*Pg		Pg	06 02 38.3	-0.2
HDMB				*e*Sg		Sg	06 02 44.8	+1.4
ERMK	Ermenek	0.81	119	*i* P		Pg	06 02 46.2	-0.7
ERMK				*i* S		Sb	06 02 59.8	-0.2
ERMK	Ermenek	0.81	119	*i* P		Pg	06 02 46.2	-0.7
ERMK				*i* S		Sb	06 02 59.8	-0.2
GAZI	Gazipasa	0.83	164	*i* P		Pg	06 02 47.7	+0.4
GAZI				*i* S		Sb	06 02 59.9	-0.6
GAZI	Gazipasa	0.83	164	*i* P		Pg	06 02 47.7	+0.4
GAZI				*i* S		Sb	06 02 59.9	-0.6
KONT	Konya--Tatoy	0.94	16	*e*PG		Pg	06 02 48.5	-0.9
KONT	Konya--Tatoy	0.94	16	*e*Pg		Pg	06 02 48.5	-0.9
ANTB	Antalya	1.11	263	*e*PN		Pb	06 02 53.6	+0.2
ANTB	Antalya	1.11	263	*e*Pn		Pb	06 02 53.6	+0.2
BCK	Bucak	1.22	291	*e*PN		Pg	06 02 54.3	-0.5
BCK				*e*SN		Sn	06 03 13.9	+0.8
BCK	Bucak	1.22	291	*e*Pn		Pg	06 02 54.3	-0.5
BCK				*e*Sn		Sn	06 03 13.9	+0.8
KORT	Korkueli	1.34	269	*i* P		Pg	06 02 56.1	-1.0
KORT				*i* S		Sn	06 03 18.6	+2.4
KORT	Korkueli	1.34	269	*i* P		Pg	06 02 56.1	-1.0
KORT				*i* S		Sn	06 03 18.5	+2.4
BAGO	Egridir - ISPA	1.37	314	*i* P		Pn	06 02 56.7	-1.2
BAGO				*i* S		Sb	06 03 16.4	+0.4
KDHN	Kadinhani	1.48	3	*i* P		Pn	06 02 58.2	-1.2
KDHN				*i* S		Sg	06 03 19.3	+0.3
KDHN	Kadinhani	1.48	3	*i* P		Pn	06 02 58.2	-1.2
KDHN				*i* S		Sg	06 03 19.3	+0.3
YESY	Yesilyurt	1.56	61	*e*PN		Pn	06 03 00.7	+0.3
YESY	Yesilyurt	1.56	61	*e*Pn		Pn	06 03 00.7	+0.3
SULT	Sultanhani-AKS	1.66	45	*e*PN		Pn	06 03 02.2	+0.5
SULT	Sultanhani-AKS	1.66	45	*e*Pn		Pn	06 03 02.2	+0.5
CHBY	Cihanbeyli	1.69	24	*e*PN		Pb	06 03 03.1	-0.2
CHBY	Cihanbeyli	1.69	24	*e*Pn		Pb	06 03 03.1	-0.2
ELL	Elmali	1.72	261	*e*PN		Pn	06 03 03.3	+0.6
ELL	Elmali	1.72	261	*e*Pn		Pn	06 03 03.3	+0.6
KIZK	Mersin	1.79	107	*i* P		Pn	06 03 03.3	-0.2
KIZK				*i* S		Sg	06 03 29.0	+0.2
KIZK	Mersin	1.79	107	*i* P		Pn	06 03 03.3	-0.2
KIZK				*i* S		Sg	06 03 29.0	+0.2
KIZT	Kizilcal	1.84	356	*e*PN		Pn	06 03 04.9	+0.5
KIZT	Kizilcal	1.84	356	*e*Pn		Pn	06 03 04.9	+0.5
BOLV	Bolvadin	1.88	333	*i* P		Pn	06 03 04.2	-0.7
BOLV	Bolvadin	1.88	333	*i* P		Pn	06 03 04.2	-0.7
ALFC	Alevga	1.93	166	P		Pn	06 03 03.6	-1.9
	baz=338							
ALFC				S		Sn	06 03 27.3	-3.2
ALFC	Alevga	1.93	166	P		Pn	06 03 03.6	-1.9
ALFC				S		Sn	06 03 27.3	-3.2
GOLH	Golhisar	1.98	277	*i* P		Pn	06 03 07.0	+0.7
GOLH	Golhisar	1.98	277	*i* P		Pn	06 03 07.0	+0.7
MERS	Mersin	2.00	94	*e*PN		Pn	06 03 07.1	+0.6
MERS	Mersin	2.00	94	*e*Pn		Pn	06 03 07.1	+0.6
AKMC	Akamas	2.02	173	P		Pn	06 03 04.9	-1.8
	baz=345							
AKMC	Akamas	2.02	173	P		Pn	06 03 04.9	-1.8
LEF	Lefka	2.04	160	*e*PN		Pn	06 03 07.0	+0.2
LEF	Lefka	2.04	160	*e*Pn		Pn	06 03 07.1	+0.2
AKAS	Kas	2.11	248	*i* P		Pb	06 03 09.8	-0.7
AKAS				*i* S		Sg	06 03 39.0	-0.1
AKAS	Kas	2.11	248	*i* P		Pb	06 03 09.8	-0.7
AKAS				*i* S		Sg	06 03 39.0	-0.1
LFK	Lefkose	2.13	145	*e*PN		Pn	06 03 08.6	+0.3
LFK	Lefkose	2.13	145	*e*Pn		Pn	06 03 08.6	+0.3
KULU	Kulu	2.15	21	*e*PN		Pn	06 03 09.3	+0.8
KULU	Kulu	2.15	21	*e*Pn		Pn	06 03 09.3	+0.8
PPCY	Paphos	2.16	173	P		Pb	06 03 10.7	-0.7
	baz=346							
PPCY	Paphos	2.16	173	P		Pb	06 03 10.7	-0.7
GULA	Gulagac	2.18	53	*e*PN		Pn	06 03 09.1	+0.1
GULA	Gulagac	2.18	53	*e*Pn		Pn	06 03 09.1	+0.1
SERE	Sereflikochisa	2.26	32	*e*PN		Pn	06 03 10.2	+0.1
SERE	Sereflikochisa	2.26	32	*e*Pn		Pn	06 03 10.2	+0.1
EREN	Erenkoy	2.29	130	*e*PN		Pn	06 03 11.1	+0.7
EREN	Erenkoy	2.29	130	*e*Pn		Pn	06 03 11.1	+0.7
NIG	Nigde	2.31	62	*e*PN		Pn	06 03 11.4	+0.4
NIG	Nigde	2.31	62	*e*Pn		Pn	06 03 11.4	+0.4
CSS	Prodhromos	2.32	153	P		Pn	06 03 10.1	-0.8
	baz=326							
CSS				S		Sn	06 03 38.9	-1.2
CSS	Prodhromos	2.32	153	*e*PN		Pn	06 03 10.8	0.0
CSS	Prodhromos	2.32	153	P		Pn	06 03 10.1	-0.8
CSS	Prodhromos	2.32	153	*e*Pn		Pn	06 03 10.9	0.0
CSS				S		Sn	06 03 38.9	-1.2
KHL	Karahalli	2.37	304	*e*PN		Pn	06 03 12.3	+0.8
KHL	Karahalli	2.37	304	*e*Pn		Pn	06 03 12.3	+0.8
SZAC	Souni-Zanaja	2.38	163	P		Pb	06 03 14.3	-0.8
	baz=336							
SZAC				S		Sg	06 03 49.7	+1.9
SZAC	Souni-Zanaja	2.38	163	P		Pb	06 03 14.3	-0.8
KHAL	Karahalli	2.41	304	*i* P		Pn	06 03 11.9	-0.3
KHAL	Karahalli	2.41	304	*i* P		Pn	06 03 11.9	-0.3
KARA	Karaisali	2.43	84	*e*PN		Pn	06 03 13.8	+1.5
KARA	Karaisali	2.43	84	*e*Pn		Pn	06 03 13.8	+1.5
AUSIV	SIVRIHISAR	2.43	351	*i* P		Pn	06 03 12.0	-0.4
SVRH	Sivrihisar-ESK	2.44	351	*e*PN		Pn	06 03 13.4	+1.0
SVRH	Sivrihisar-ESK	2.44	351	*e*Pn		Pn	06 03 13.5	+1.0
AUKIR	K¨¬rka- Seyitg	2.53	333	*i* P		Pn	06 03 13.6	-0.1
AFSR	Af¨ar-Bala (A	2.54	19	*e*PN		Pn	06 03 15.4	+1.5
AFSR	Af¨ar-Bala (A	2.54	19	*e*Pn		Pn	06 03 15.4	+1.5
BBAL	Bala	2.65	19	*i* P		Pn	06 03 16.3	+0.9
BBAL	Bala	2.65	19	*i* P		Pn	06 03 16.3	+0.9
SEYT	Eskypehyr	2.65	340	*i* P		Pn	06 03 14.4	-1.0
SEYT	Eskypehyr	2.65	340	*i* P		Pn	06 03 14.4	-1.0
KAMT	Kaman	2.68	29	*e*PN		Pn	06 03 16.8	+0.9
KAMT	Kaman	2.68	29	*e*Pn		Pn	06 03 16.8	+0.9
DALY	Dalyan (Mu¨la	2.71	266	*e*PN		Pn	06 03 17.5	+1.4
DALY	Dalyan (Mu¨la	2.71	266	*e*Pn		Pn	06 03 17.5	+1.4

KRTS	Karatas	2.73	99	*e*PN		Pn	06 03 17.8	+1.4
KRTS	Karatas	2.73	99	*e*Pn		Pn	06 03 17.8	+1.4
TURN	Turunc	2.75	268	*i* P		Pg	06 03 23.4	-0.6
TURN				*i* S		Sg	06 04 00.9	+1.2
AVNT	Avonos	2.83	51	*i* P		Pn	06 03 18.7	+0.7
AVNT	Avonos	2.83	51	*i* P		Pn	06 03 18.7	+0.7
AUMIH	MIHALICIK	2.86	352	*i* P		Pn	06 03 18.5	+0.2
GDZ	Gediz	2.87	316	*i* P		Pn	06 03 18.8	+0.3
GDZ	Gediz	2.87	316	*i* P		Pn	06 03 18.8	+0.3
YURE	YUREGIR	2.90	93	*i* P		Pn	06 03 20.6	+1.9
YURE				*i* S		Sg	06 04 06.2	+1.8
YURE	YUREGIR	2.90	93	*i* P		Pn	06 03 20.6	+1.9
LOD	Lodumlu	2.91	11	*e*PN		Pn	06 03 20.9	+2.0
LOD	Lodumlu	2.91	11	*e*Pn		Pn	06 03 20.9	+2.0
BRTR	Keskin Array B	2.97	25	Pn		Pn	06 03 20.0	+0.2
	1.3nm,0.3s,baz=194,slow=17,SNR=15							
CEYT	Ceyhan	2.98	89	*e*PN		Pn	06 03 20.7	+0.9
CEYT	Ceyhan	2.98	89	*e*Pn		Pn	06 03 20.7	+0.9
YER	Yerkesik	3.00	273	*e*PN		Pn	06 03 20.7	+0.5
YER	Yerkesik	3.00	273	*e*Pn		Pn	06 03 20.7	+0.5
KULA	Kula-Manisa	3.05	300	*e*PN		Pn	06 03 21.2	+0.3
KULA	Kula-Manisa	3.05	300	*e*Pn		Pn	06 03 21.2	+0.3
KOZT	Kozan	3.06	81	*e*PN		Pn	06 03 22.5	+1.5
KOZT	Kozan	3.06	81	*e*Pn		Pn	06 03 22.5	+1.5
BORA	Eskisehir	3.10	337	*i* P		Pn	06 03 20.3	-1.2
BORA	Eskisehir	3.10	337	*i* P		Pn	06 03 20.3	-1.2
MANT	Manisa	3.11	299	*i* P		Pn	06 03 21.5	-0.3
MANT	Manisa	3.11	299	*i* P		Pn	06 03 21.5	-0.3
TVSB	Tavsanli	3.14	321	*e*PN		Pn	06 03 23.7	+1.5
TVSB	Tavsanli	3.14	321	*e*Pn		Pn	06 03 23.7	+1.5
CDAG	Cicekdag	3.17	35	*i* P		Pn	06 03 23.2	+0.6
CDAG	Cicekdag	3.17	35	*i* P		Pn	06 03 23.2	+0.6
DEMI	Demirci	3.29	308	*i* P		Pn	06 03 24.4	+0.1
DEMI	Demirci	3.29	308	*i* P		Pn	06 03 24.4	+0.1
AYDN	Tasoluk	3.36	282	*i* P		Pn	06 03 25.7	+0.5
AYDN				*i* S		Sn	06 04

KIC	**Kosan Boka**	**45.32**	**237**	*e*P	**P**	**06 10 49.6**	**-1.7**
	comp=N,13nm,0.5s							
YKA	**Yellowknife Ar**	**77.24**	**345**	P	**P**	**06 14 25.6**	**-1.3**
	comp=N,0.2nm,0.5s,baz=14,slow=6.7,SNR=6.6							

*ISCJB **20** 06:12:03.2±0.7, 4.9N±0.1×123.1E±0.2, h592km, mb3.9/9, Error ellipse: s-maj=24.9km s-min=9.0km az=146.7*
*IDC **20** 06:12:05.5±5.8, 4.85N×123.08E, h603km±87km, mb3.3/9, mb1 3.5/10, mb1mx3.1/29, mbtmp4.4/10, Error ellipse: s-maj=60.7km s-min=12.2km az=50.0*
ISC 20 06:12:05.0±0.9, 4.9N±0.1×123.0E±0.2, h592km, n18, σ1§10/18, mb4.0/9, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**6.81**	**280**	P	**P**	**06 13 52.3**	**-0.8**
	baz=6.8,SNR=21						
BATI	**Baumata**	**14.97**	**177**	P	**P**	**06 15 12.4**	**-0.9**
	5.3nm,0.3s,baz=346,slow=5.7,SNR=3.9						
MTN	**Manton Dam**	**19.37**	**155**	P	**P**	**06 15 56.4**	**+3.0**
	baz=20,SNR=6.3						
KDU	**Kakadu**	**19.83**	**152**	P	**P**	**06 15 56.5**	**-1.2**
	baz=20,SNR=5.5						
PSI	**Prapat**	**24.06**	**266**	P	**P**	**06 16 36.5**	**+0.9**
	2.9nm,0.5s,baz=135,slow=10.0,SNR=4.8						
WRA	**Warramunga Arr**	**27.06**	**156**	P	**P**	**06 17 00.6**	**-1.2**
	8.4nm,0.6s,baz=337,slow=9.5,SNR=58						
CMAR	**Chiang Mai Arr**	**27.07**	**302**	P	**P**	**06 17 03.4**	**+1.5**
	1.7nm,0.6s,baz=114,slow=7.3,SNR=7.2						
QIS	**Mount Isa**	**30.08**	**148**	P	**P**	**06 17 27.6**	**-0.4**
	baz=30,SNR=4.2						
WRKA	**Warakurna**	**30.16**	**170**	P	**P**	**06 17 28.7**	**+0.1**
	baz=30,SNR=14						
ASAR	**Alice Springs**	**30.29**	**160**	P	**P**	**06 17 29.4**	**-0.3**
	4.0nm,0.4s,baz=338,slow=6.9,SNR=60						
MEEK	**Meekatharra**	**31.58**	**187**	P	**P**	**06 17 40.8**	**+0.1**
	baz=32,SNR=4.7						
STKA	**Stephens Creek**	**40.61**	**155**	P	**P**	**06 18 54.8**	**0.0**
	3.7nm,0.4s,baz=338,slow=7.4,SNR=18						
STKA	**Stephens Creek**	**40.61**	**155**	P	**P**	**06 18 55.1**	**+0.3**
	baz=41,SNR=7.1						
HTT	**Hallett**	**40.97**	**159**	P	**P**	**06 18 58.2**	**+0.5**
	baz=41,SNR=6.2						
MKAR	**Makanchi Array**	**54.52**	**327**	P	**P**	**06 20 38.9**	**+0.6**
	1.7nm,0.5s,baz=126,slow=8.5,SNR=23						
ZALV	**Zalesovo Beam**	**57.92**	**334**	P	**P**	**06 21 01.1**	**-0.4**
	0.5nm,0.3s,baz=163,slow=12,SNR=2.6						
BVAR	**Borovoye Array**	**64.35**	**328**	P	**P**	**06 21 43.5**	**0.0**
	0.6nm,0.5s,baz=140,slow=7.6,SNR=4.0						
FINES	**FINESS Array B**	**89.06**	**332**	P	**P**	**06 23 56.8**	**-0.9**
	2.2nm,1.0s,baz=48,slow=2.1,SNR=3.5						

*ISCJB **20** 06:20:01.6±0.8, 52.8N±0.1×169.8W±0.1, h10km, mb3.6/8, MS2.9/1, Error ellipse: s-maj=17.5km s-min=7.1km az=154.5*
*IDC **20** 06:20:01.8±1.1, 52.60N×169.65W, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.7/51, mbtmp3.6/9, ML3.3/1, MS2.8/3, Ms1 2.9/3, ms1mx2.6/47, Error ellipse: s-maj=31.2km s-min=21.6km az=165.0*
*NEIC **20** 06:20:03.2, 52.48N×169.27W, h10km, ML3.8(AEIC), After AEIC.*
ISC 20 06:20:04.5±0.8, 52.8N±0.1×169.53W±0.08, h10km, n32, σ1§26/29, mb3.6/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.44**	**68**	P	**Pg**	**06 20 14.1**	**+1.0**
NIKH				S	**Sb**	**06 20 22.9**	**+2.0**
OKWR	**Okmok West Rim**	**1.01**	**51**	P	**Pb**	**06 20 25.0**	**+0.9**
OKCE	**Okmok Cone E**	**1.03**	**52**	P	**Pb**	**06 20 24.1**	**-0.3**
OKK	**Okmok**	**1.04**	**42**	P	**Pn**	**06 20 23.3**	**-1.9**
OKAK				S	**Sb**	**06 20 37.2**	**-1.2**
OKTU	**Okmok Mt. Tuli**	**1.07**	**57**	P	**Pb**	**06 20 25.4**	**+0.3**
OKRE	**Okmok R'deer P**	**1.09**	**48**	P	**Pn**	**06 20 25.4**	**-0.4**
OKRE				S	**Sn**	**06 20 44.4**	**+3.5**
MSOM	**Makushin Julie**	**1.85**	**56**	P	**Pn**	**06 20 35.5**	**-0.7**
MSOM				S	**Sn**	**06 21 00.2**	**+0.6**
MCIR	**Makushin Cirqu**	**1.95**	**53**	P	**Pn**	**06 20 37.7**	**0.0**
MTBL	**Makushin Table**	**2.06**	**55**	P	**Pn**	**06 20 38.3**	**-1.0**
UNV	**Unalaska Valle**	**2.09**	**59**	P	**Pn**	**06 20 38.9**	**-0.6**
ZRO	**Akutan Zero**	**2.48**	**57**	P	**Pn**	**06 20 43.8**	**-1.1**
AKGG	**Akutan Green G**	**2.53**	**55**	P	**Pn**	**06 20 45.3**	**-0.3**
AKUT	**Akutan**	**2.61**	**58**	P	**Pn**	**06 20 46.4**	**-0.3**
ATKA	**Atka Island**	**2.92**	**260**	P	**Pn**	**06 20 52.1**	**+1.3**
FALS	**False Pass**	**4.16**	**58**	*e*Pn	**Pn**	**06 21 07.5**	**-0.4**
ILAR	**Eielson Array**	**16.64**	**35**	Pn	**Pn**	**06 23 56.6**	**-1.0**
	0.1nm,0.3s,baz=230,slow=11,SNR=5.2						
ILAR				LR	LR	06 30 17.5	
	comp=Z,37nm,19.0s,baz=233,slow=36						
PETK	**Petropavlovsk-**	**19.66**	**284**	LR	LR	06 31 26.4	
	comp=Z,18nm,20.5s,baz=76,slow=35						
DLBC	**Dease Lake**	**22.75**	**60**	P	**P**	**06 25 06.8**	**+0.3**
	1.3nm,0.5s,baz=63,slow=5.6,SNR=6.6						
INK	**Inuvik**	**23.04**	**34**	P	**P**	**06 25 11.7**	**+2.4**
	1.9nm,0.8s,baz=230,slow=7.9,SNR=3.1						
YKA	**Yellowknife Ar**	**30.03**	**49**	P	**P**	**06 26 13.6**	**+0.6**
	0.2nm,0.6s,baz=273,slow=7.7,SNR=6.5						
H11N2	**WAKE ISLAND Hy**	**37.74**	**218**	T	T	07 07 18.7	
	baz=24,slow=76,SNR=20						
H11N3	**WAKE ISLAND Hy**	**37.75**	**218**	T	T	07 07 20.1	
	baz=24,slow=76,SNR=39						
H11N1	**WAKE ISLAND Hy**	**37.76**	**218**	T	T	07 07 21.0	
	baz=24,slow=76,SNR=31						
NVAR	**Mina Array Bea**	**37.77**	**91**	P	**P**	**06 27 20.4**	**-0.3**
	0.5nm,0.7s,baz=304,slow=8.3,SNR=5.5						
NVAR				PcP	**PcP**	**06 29 37.6**	**+0.2**
	0.4nm,0.7s,baz=291,slow=2.5,SNR=4.1						
H11S1	**WAKE ISLAND Hy**	**38.93**	**217**	T	T	07 08 49.0	
	baz=23,slow=76,SNR=342						
H11S2	**WAKE ISLAND Hy**	**38.95**	**217**	T	T	07 08 48.4	
	baz=23,slow=76,SNR=305						
H11S3	**WAKE ISLAND Hy**	**38.95**	**218**	T	T	07 08 50.3	
	baz=23,slow=76,SNR=138						
MJAR	**Matsushiro Arr**	**39.62**	**267**	LR	LR	06 41 43.9	
	comp=Z,21nm,21.8s,baz=105,slow=33						
PDAR	**Pinedale Array**	**40.42**	**80**	P	**P**	**06 27 41.8**	**-1.1**
	0.9nm,0.7s,baz=314,slow=4.7,SNR=9.0						
TXAR	**Lajitas Array**	**52.84**	**89**	P	**P**	**06 29 19.1**	**-1.1**
	1.4nm,0.8s,baz=304,slow=5.2,SNR=16						
MKAR	**Makanchi Array**	**63.43**	**313**	P	**P**	**06 30 32.8**	**-1.2**
	0.3nm,0.7s,baz=10,slow=9.1,SNR=3.2						
ASAR	**Alice Springs**	**90.60**	**230**	P	**P**	**06 33 05.4**	**-1.4**
	1.0nm,0.8s,baz=31,slow=4.8,SNR=6.9						

*CSEM **20** 06:27:01.5, 38.73N×30.19W, h2km, ML2.8*
PDA 20 06:27:01.5±0.8, 38.73N×30.19W, h2km±8km, MD3.6, ML2.8, Error ellipse: s-maj=18.7km s-min=3.7km az=33.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07S1	**FLORES T-PHASE**	**1.02**	**310**	*e*P	Pg	06 27 18.1	-3.1
PCED	**Cedros**	**1.17**	**94**	*e*P	Pg	06 27 19.8	-4.1
PCED				*e*S	Sg	06 27 33.5	-5.6
PCED				A	A	06 27 35.1	
	40nm,0.3s						
PCED	**Cedros**	**1.17**	**94**	*e*P	Pg	06 27 19.8	-4.1
PCED				*e*S	Sg	06 27 33.5	-5.6
CALA	**Caldeira**	**1.17**	**97**	*e*S	Sg	06 27 33.9	-5.6
CALA	**Caldeira**	**1.17**	**97**	*e*S	Sg	06 27 33.9	-5.6
H07N1	**FLORES T-PHASE**	**1.20**	**323**	*e*P	Pg	06 27 20.1	-4.5
HOR	**Horta**	**1.24**	**99**	*e*S	Sg	06 27 35.2	-6.1
HOR	**Horta**	**1.24**	**99**	*e*S	Sg	06 27 35.2	-6.1
PCAN	**Candelaria**	**1.36**	**101**	*e*P	Pn	06 27 22.4	-5.1
PCAN				*e*S	Sg	06 27 38.3	-7.1
PCAN				A	A	06 27 38.8	
	71nm,0.3s						
PCAN	**Candelaria**	**1.36**	**101**	*e*P	Pn	06 27 22.4	-5.1
PCAN				*e*S	Sg	06 27 38.3	-7.1
ROSA	**Rosais**	**1.52**	**90**	*e*P	Pn	06 27 25.1	-4.6
ROSA				*e*S	Sn	06 27 42.3	-7.8
ROSA				A	A	06 27 43.7	
	40nm,0.2s						
ROSA	**Rosais**	**1.52**	**90**	*e*P	Pn	06 27 25.1	-4.6
ROSA				*e*S	Sn	06 27 42.3	-7.8
PPNO	**Prainha do Nor**	**1.53**	**99**	*e*S	Sn	06 27 42.9	-7.5
PPNO				A	A	06 27 45.0	
	74nm,0.2s						
PPNO	**Prainha do Nor**	**1.53**	**99**	*e*S	Sn	06 27 42.9	-7.5
PMAN	**Manadas**	**1.65**	**93**	*e*S	Sn	06 27 45.2	-7.9
PMAN				A	A	06 27 46.0	
	16nm,0.3s						
PMAN	**Manadas**	**1.65**	**93**	*e*S	Sn	06 27 45.2	-7.9

*TIR **20** 06:32:27.5±10.0, 39.55N×21.08E, h14km±29km, ML3.6*
*PDG **20** 06:32:33.6±0.4, 39.69N×20.89E, h2km±1km, ML3.6/12, Error ellipse: s-maj=1.5km s-min=1.1km az=90.0*
*ATH **20** 06:32:33.6, 39.71N×20.91E, h13km, MD3.7/55, ML3.7*
*SKO **20** 06:32:33.9, 39.55N×21.00E, h0km, M3.0, ML3.3*
*THE **20** 06:32:34.1, 39.74N×20.92E, h0km±1km, ML3.6/14, Error ellipse: s-maj=1.4km s-min=0.5km az=290.0*
*CSEM **20** 06:32:34.5±0.1, 39.68N×20.94E, h2km, ML3.6, Error ellipse: s-maj=2.6km s-min=1.6km az=66.0*
*IDC **20** 06:32:38.2±2.3, 39.73N×20.84E, h36km±20km, mb3.7/13, mb1 3.8/18, mb1mx3.7/34, mbtmp3.8/18, ML3.6/5, MS2.7/5, Ms1 2.7/5, ms1mx2.5/44, Error ellipse: s-maj=16.8km s-min=13.7km az=69.0*
ISC 20 06:32:34.1±1.0, 39.70N±0.01×20.92E±0.01, h6km±7km, n320, σ1§26/415, mb3.8/12, 20C-27D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEV	**Metsovon**	**0.25**	**71**	*e*PG	**Pg**	**06 32 39.2**	**0.0**
MEV	**Metsovon**	**0.25**	**71**	P	**Pg**	**06 32 39.2**	**0.0**
MEV	**Metsovon**	**0.25**	**71**	P	**Pg**	**06 32 39.2**	**0.0**
IGT	**Igoumenitsa**	**0.48**	**250**	*e*PB	**Pg**	**06 32 43.1**	**-0.4**
IGT				*e*SB	**Sg**	**06 32 49.6**	**-0.2**
IGT	**Igoumenitsa**	**0.48**	**250**	*e*Pb	**Pg**	**06 32 43.1**	**-0.4**
IGT				*e*Sb	**Sg**	**06 32 49.6**	**-0.2**
IGT				S	**Sg**	**06 32 50.9**	**+1.1**
IGT	**Igoumenitsa**	**0.48**	**250**	P	**Pg**	**06 32 43.0**	**-0.4**
IGT				S	**Sg**	**06 32 50.9**	**+1.1**
SGD	**Sagiada**	**0.54**	**261**	*e*PB	**Pg**	**06 32 44.1**	**-0.4**
SGD				*e*SB	**Sg**	**06 32 52.0**	**+0.6**
SGD	**Sagiada**	**0.54**	**261**	*e*Pb	**Pg**	**06 32 44.1**	**-0.4**
SGD				*e*Sb	**Sg**	**06 32 52.0**	**+0.6**
SGD	**Sagiada**	**0.54**	**261**	P	**Pg**	**06 32 44.0**	**-0.4**
SGD				S	**Sg**	**06 32 52.6**	**+1.2**
DSL	**Palaion Diasel**	**0.58**	**166**	*e*PB	**Pg**	**06 32 45.2**	**-0.2**
DSL				*e*SB	**Sg**	**06 32 53.1**	**+0.1**
DSL	**Palaion Diasel**	**0.58**	**166**	P	**Pg**	**06 32 44.2**	**-1.2**
DSL	**Palaion Diasel**	**0.58**	**166**	*e*Pb	**Pg**	**06 32 45.2**	**-0.2**
DSL				*e*Sb	**Sg**	**06 32 53.1**	**+0.1**
DSL				S	**Sb**	**06 32 54.8**	**-0.5**
DSL	**Palaion Diasel**	**0.58**	**166**	P	**Pg**	**06 32 44.2**	**-1.2**
DSL				S	**Sb**	**06 32 54.8**	**-0.5**
NEST	**Nestorio**	**0.72**	**8**	*e*PG	**Pg**	**06 32 47.0**	**-1.0**
NEST				*e*SB	**Sg**	**06 32 57.4**	**+0.1**
NEST	**Nestorio**	**0.72**	**8**	*e*Pg	**Pg**	**06 32 47.0**	**-1.0**
NEST				*e*Sb	**Sg**	**06 32 57.4**	**+0.1**
NEST				S	**Sb**	**06 32 58.5**	**-0.8**
SRN	**Sarande**	**0.73**	**284**	*i* PN	**Pg**	**06 32 47.5**	**-0.6**
SRN				*i* SN	**Sb**	**06 32 59.9**	**+0.4**
SRN	**Sarande**	**0.73**	**284**	P	**Pg**	**06 32 47.4**	**-0.8**
SRN				S	**Sb**	**06 32 59.1**	**-0.4**
SRN	**Sarande**	**0.73**	**284**	P	**Pg**	**06 32 47.4**	**-0.8**
SRN				S	**Sb**	**06 32 59.1**	**-0.4**
THL	**Klokotos Trika**	**0.86**	**99**	*e*PB	**Pg**	**06 32 50.2**	**-0.4**
THL				*e*SB	**Sg**	**06 33 02.2**	**+0.5**
THL	**Klokotos Trika**	**0.86**	**99**	P	**Pg**	**06 32 50.2**	**-0.4**
THL				*e*Sb	**Sg**	**06 33 02.2**	**+0.5**
THL				S	**Sb**	**06 33 03.0**	**-0.2**
THL	**Klokotos Trika**	**0.86**	**99**	P	**Pg**	**06 32 50.2**	**-0.4**
THL				S	**Sb**	**06 33 03.9**	**+0.7**
KZN	**Kozani**	**0.89**	**47**	*e*PB	**Pg**	**06 32 50.5**	**-0.8**
KZN				*e*SB	**Sg**	**06 33 03.0**	**+0.2**
KZN	**Kozani**	**0.89**	**47**	P	**Pg**	**06 32 50.2**	**-1.1**
KZN	**Kozani**	**0.89**	**47**	*e*Pb	**Pg**	**06 32 50.5**	**-0.8**
KZN				*e*Sb	**Sg**	**06 33 03.0**	**+0.2**
KZN	**Kozani**	**0.89**	**47**	P	**Pg**	**06 32 50.2**	**-1.1**
KZN				S	**Sg**	**06 33 03.3**	**+0.5**
KBN	**Korca**	**0.93**	**354**	*i* PG	**Pg**	**06 32 51.2**	**-0.8**
KBN				*i* SG	**Sb**	**06 33 06.5**	**+1.2**
KBN	**Korca**	**0.93**	**354**	*i* Pg	**Pg**	**06 32 51.2**	**-0.8**
	SNR=90						
KBN				S	**Sg**	**06 33 03.6**	**-0.4**
KBN				*i* Sg	**Sb**	**06 33 06.5**	**+1.2**
	SNR=90						
KBN	**Korca**	**0.93**	**354**	P	**Pg**	**06 32 51.1**	**-0.8**
KBN				S	**Sg**	**06 33 03.6**	**-0.4**
EVR	**Evrytania**	**1.04**	**138**	*e*PG	**Pg**	**06 32 53.2**	**-0.9**
EVR				*e*SB	**Sb**	**06 33 08.3**	**-0.4**
EVR	**Evrytania**	**1.04**	**138**	P	**Pg**	**06 32 53.3**	**-0.9**
EVR				*e*Sb	**Sb**	**06 33 08.3**	**-0.4**
EVR				S	**Sb**	**06 33 09.5**	**+0.8**
EVR	**Evrytania**	**1.04**	**138**	P	**Pg**	**06 32 53.3**	**-0.9**
EVR				S	**Sb**	**06 33 09.5**	**+0.8**
PDO	**Prodromos**	**1.12**	**169**	*e*PB	**Pg**	**06 32 55.0**	**-0.6**
PDO				*e*SB	**Sb**	**06 33 10.9**	**+0.2**
PDO	**Prodromos**	**1.12**	**169**	P	**Pg**	**06 32 55.0**	**-0.6**
PDO				*e*Sb	**Sb**	**06 33 10.9**	**+0.2**
PDO	**Prodromos**	**1.12**	**169**	P	**Pg**	**06 32 55.0**	**-0.6**
FNA	**Florina**	**1.14**	**18**	*e*PG	**Pg**	**06 32 54.6**	**-1.3**
FNA				*e*SB	**Sg**	**06 33 10.5**	**-0.2**
FNA	**Florina**	**1.14**	**18**	P	**Pg**	**06 32 54.5**	**-1.4**
FNA				*e*Sb	**Sg**	**06 33 10.5**	**-0.2**
FNA	**Florina**	**1.14**	**18**	P	**Pg**	**06 32 54.6**	**-1.3**
FNA				S	**Sg**	**06 33 10.3**	**-0.4**
MAKR	**Makrakomi, Fth**	**1.17**	**126**	*e*PG	**Pg**	**06 32 55.6**	**-0.9**
MAKR				*e*SB	**Sb**	**06 33 11.9**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.17**	**126**	*e*Pg	**Pg**	**06 32 55.6**	**-0.9**
MAKR				*e*Sb	**Sb**	**06 33 11.9**	**-0.2**
PVO	**Paravola**	**1.18**	**156**	*e*PB	**Pg**	**06 32 56.7**	**-0.1**
PVO				*e*SB	**Sg**	**06 33 12.2**	**+0.1**
PVO	**Paravola**	**1.18**	**156**	*e*Pb	**Pg**	**06 32 56.7**	**-0.1**
PVO				*e*Sb	**Sg**	**06 33 12.2**	**+0.1**
PVO	**Paravola**	**1.18**	**156**	P	**Pg**	**06 32 56.6**	**-0.2**
PVO				S	**Sn**	**06 33 15.0**	**+1.4**
EXG	**Exogi**	**1.26**	**190**	*e*PG	**Pg**	**06 32 57.3**	**-1.0**
EXG				*e*SB	**Sb**	**06 33 15.2**	**+0.5**
EXG	**Exogi**	**1.26**	**190**	P	**Pg**	**06 32 57.2**	**-1.0**
EXG				*e*Sb	**Sb**	**06 33 15.2**	**+0.5**
EXG	**Exogi**	**1.26**	**190**	P	**Pg**	**06 32 57.2**	**-1.0**
LIT	**Litokhoron**	**1.27**	**71**	*e*PB	**Pg**	**06 32 58.1**	**-0.4**
LIT				*e*SB	**Sb**	**06 33 15.6**	**+0.4**
LIT	**Litokhoron**	**1.27**	**71**	*e*Pb	**Pg**	**06 32 58.1**	**-0.4**
LIT				*e*Sb	**Sb**	**06 33 15.6**	**+0.4**
LIT				S	**Sb**	**06 33 16.0**	**+0.8**
LIT	**Litokhoron**	**1.27**	**71**	P	**Pg**	**06 32 57.9**	**-0.6**
LIT				S	**Sb**	**06 33 16.0**	**+0.8**
AGG	**Agios Georgios**	**1.29**	**121**	*e*PG	**Pg**	**06 32 57.5**	**-1.3**
AGG	**Agios Georgios**	**1.29**	**121**	P	**Pg**	**06 32 57.6**	**-1.3**
AGG				S	**Sn**	**06 33 17.5**	**+1.2**
AGG	**Agios Georgios**	**1.29**	**121**	P	**Pg**	**06 32 57.6**	**-1.3**
AGG				S	**Sn**	**06 33 17.5**	**+1.2**
VLO	**Vlora**	**1.33**	**306**	*i* PN	**Pb**	**06 33 01.5**	**+2.0**
VLO	**Vlora**	**1.33**	**306**	*i* Pn	**Pb**	**06 33 01.5**	**+2.0**
	SNR=40						
EFP	**Efpalio**	**1.49**	**149**	*e*PB	**Pn**	**06 33 01.7**	**+0.3**
EFP	**Efpalio**	**1.49**	**149**	P	**Pn**	**06 33 01.6**	**+0.2**
EFP				S	**Sn**	**06 33 23.7**	**+2.6**
EFP	**Efpalio**	**1.49**	**149**	P	**Pn**	**06 33 01.6**	**+0.2**
EFP				S	**Sn**	**06 33 23.7**	**+2.6**
VLS	**Valsamata**	**1.54**	**190**	*e*PB	**Pb**	**06 33 02.9**	**-0.2**
VLS	**Valsamata**	**1.54**	**190**	P	**Pn**	**06 33 02.7**	**+0.5**
VLS				S	**Sg**	**06 33 25.2**	**+1.5**
VLS	**Valsamata**	**1.54**	**190**	P	**Pn**	**06 33 02.7**	**+0.5**
VLS				S	**Sg**	**06 33 25.2**	**+1.5**
UPR	**University Cam**	**1.57**	**154**	*e*PB	**Pb**	**06 33 03.4**	**-0.2**
UPR	**University Cam**	**1.57**	**154**	*e*Pb	**Pb**	**06 33 03.4**	**-0.2**
FYTO	**Fytoko, Volos**	**1.59**	**100**	P	**Pn**	**06 33 02.7**	**-0.1**
FYTO	**Fytoko, Volos**	**1.59**	**100**	P	**Pn**	**06 33 02.7**	**-0.1**
KFL	**Anninata**	**1.59**	**184**	*e*PB	**Pb**	**06 33 03.7**	**-0.3**
KFL	**Anninata**	**1.59**	**184**	P	**Pn**	**06 33 02.9**	**0.0**
KFL	**Anninata**	**1.59**	**184**	*e*Pb	**Pb**	**06 33 03.7**	**-0.3**
KFL	**Anninata**	**1.59**	**184**	P	**Pn**	**06 33 02.9**	**0.0**
TRIZ	**Trizonia**	**1.61**	**146**	*e*PB	**Pb**	**06 33 04.2**	**0.0**
TRIZ	**Trizonia**	**1.61**	**146**	P	**Pn**	**06 33 03.8**	**+0.7**
TRIZ	**Trizonia**	**1.61**	**146**	*e*Pb	**Pb**	**06 33 04.2**	**0.0**
TRIZ	**Trizonia**	**1.61**	**146**	P	**Pn**	**06 33 03.8**	**+0.7**
KALE	**Kalithea**	**1.62**	**144**	*e*PG	**Pn**	**06 33 03.9**	**+0.6**
KALE	**Kalithea**	**1.62**	**144**	P	**Pn**	**06 33 03.2**	**-0.1**
KALE	**Kalithea**	**1.62**	**144**	*e*Pg	**Pn**	**06 33 03.9**	**+0.6**
KALE	**Kalithea**	**1.62**	**144**	P	**Pn**	**06 33 03.2**	**-0.1**
AXAR	**Agios Charalam**	**1.64**	**124**	*e*PB	**Pb**	**06 33 05.0**	**+0.2**
AXAR	**Agios Charalam**	**1.64**	**124**	*e*Pb	**Pb**	**06 33 05.0**	**+0.2**
LAKA	**Lakka**	**1.68**	**150**	*e*PG	**Pb**	**06 33 05.4**	**0.0**
LAKA	**Lakka**	**1.68**	**150**	P	**Pn**	**06 33 04.7**	**+0.6**
LAKA	**Lakka**	**1.68**	**150**	*e*Pg	**Pb**	**06 33 05.4**	**0.0**
LAKA	**Lakka**	**1.68**	**150**	P	**Pn**	**06 33 04.7**	**+0.6**
RLS	**Riolos of Patr**	**1.70**	**165**	*e*PG	**Pb**	**06 33 05.6**	**-0.1**
RLS	**Riolos of Patr**	**1.70**	**165**	P	**Pn**	**06 33 04.3**	**0.0**
RLS	**Riolos of Patr**	**1.70**	**165**	*e*Pg	**Pb**	**06 33 05.6**	**-0.1**
RLS	**Riolos of Patr**	**1.70**	**165**	P	**Pn**	**06 33 04.3**	**0.0**
XOR	**Xorichti**	**1.79**	**100**	*e*PN	**Pn**	**06 33 05.9**	**+0.3**
XOR	**Xorichti**	**1.79**	**100**	P	**Pn**	**06 33 05.5**	**-0.1**
XOR	**Xorichti**	**1.79**	**100**	*e*Pn	**Pn**	**06 33 05.9**	**+0.3**
XOR	**Xorichti**	**1.79**	**100**	P	**Pn**	**06 33 05.5**	**-0.1**
VTN	**Vitineika**	**1.79**	**173**	*e*PG	**Pb**	**06 33 07.0**	**-0.4**
VTN	**Vitineika**	**1.79**	**173**	*e*Pg	**Pb**	**06 33 07.0**	**-0.4**
DSF	**Desfina**	**1.80**	**135**	*e*PN	**Pn**	**06 33 06.8**	**+1.1**
DSF	**Desfina**	**1.80**	**135**	P	**Pn**	**06 33 06.6**	**+0.9**
DSF	**Desfina**	**1.80**	**135**	P	**Pn**	**06 33 06.6**	**+0.9**
DESF	**Desfina**	**1.80**	**135**	*e*PN	**Pn**	**06 33 06.7**	**+0.9**
DESF	**Desfina**	**1.80**	**135**	*e*Pn	**Pn**	**06 33 06.7**	**+0.9**
THE	**Thessaloniki**	**1.82**	**59**	*e*PN	**Pn**	**06 33 06.5**	**+0.5**
THE	**Thessaloniki**	**1.82**	**59**	*e*Pn	**Pn**	**06 33 06.5**	**+0.5**
NEO	**Neokhori**	**1.83**	**102**	*e*PN	**Pn**	**06 33 06.3**	**+0.2**
NEO	**Neokhori**	**1.83**	**102**	P	**Pn**	**06 33 06.4**	**+0.3**
NEO	**Neokhori**	**1.83**	**102**	P	**Pn**	**06 33 06.4**	**+0.3**
TIR	**Tirane**	**1.83**	**334**	*i* PN	**Pg**	**06 33 08.9**	**-0.3**
TIR				*i* SN	Sg	06 33 43.4	+10
TIR	**Tirane**	**1.83**	**334**	*i* Pn	**Pg**	**06 33 08.9**	**-0.3**
	SNR=40						
DRO	**Drossia**	**1.85**	**160**	*e*PN	**Pn**	**06 33 07.5**	**+1.0**
DRO	**Drossia**	**1.85**	**160**	P	**Pn**	**06 33 06.9**	**+0.4**
DRO	**Drossia**	**1.85**	**160**	*e*Pn	**Pn**	**06 33 07.5**	**+1.0**
DRO				S	**Sb**	**06 33 32.5**	**+0.6**
DRO	**Drossia**	**1.85**	**160**	P	**Pn**	**06 33 06.9**	**+0.4**
DRO				S	**Sb**	**06 33 32.5**	**+0.6**
HORT	**Hortiatis**	**1.90**	**61**	*e*PN	**Pn**	**06 33 07.6**	**+0.5**
HORT	**Hortiatis**	**1.90**	**61**	P	**Pn**	**06 33 06.7**	**-0.4**
HORT	**Hortiatis**	**1.90**	**61**	*e*Pn	**Pn**	**06 33 07.6**	**+0.5**
HORT				S	**Sb**	**06 33 33.0**	**-0.2**
HORT	**Hortiatis**	**1.90**	**61**	P	**Pn**	**06 33 06.7**	**-0.4**
HORT				S	**Sb**	**06 33 33.0**	**-0.2**
KLV	**Kalavryta, Ach**	**1.92**	**149**	*e*PN	**Pn**	**06 33 08.5**	**+1.1**
KLV	**Kalavryta, Ach**	**1.92**	**149**	P	**Pn**	**06 33 07.9**	**+0.5**
KLV	**Kalavryta, Ach**	**1.92**	**149**	*e*Pn	**Pn**	**06 33 08.5**	**+1.1**
KLV	**Kalavryta, Ach**	**1.92**	**149**	P	**Pn**	**06 33 07.9**	**+0.5**
ATAL	**Atalanti**	**1.92**	**121**	P	**Pn**	**06 33 07.7**	**+0.3**
ATAL				S	**Sb**	**06 33 33.5**	**-0.3**
ATAL	**Atalanti**	**1.92**	**121**	P	**Pn**	**06 33 07.7**	**+0.3**
ATAL				S	**Sb**	**06 33 33.5**	**-0.3**
LKR	**Lokris**	**1.93**	**122**	*e*PN	**Pn**	**06 33 08.3**	**+0.8**
LKR	**Lokris**	**1.93**	**122**	P	**Pn**	**06 33 07.4**	**-0.1**
LKR	**Lokris**	**1.93**	**122**	*e*Pn	**Pn**	**06 33 08.3**	**+0.8**
LKR	**Lokris**	**1.93**	**122**	P	**Pn**	**06 33 07.4**	**-0.1**
SMIA	**Simia**	**1.96**	**114**	*e*PN	**Pn**	**06 33 08.4**	**+0.5**
SMIA	**Simia**	**1.96**	**114**

PVY Plav 2.98 346 ⇑ *i* Pn Pn 06 33 23.8 +1.7
PVY *e* Sn Sb 06 34 02.5 -1.9
PVY Plav 2.98 346 ⇑ *i* Pn Pn 06 33 23.8 +1.7
PVY *e* Sn Sb 06 34 02.5 -1.9
PDG Podgorica 3.00 336 ⇑ *i* Pn Pn 06 33 22.8 +0.6
PDG *e* Sn Sb 06 34 02.8 -2.1
TTG Podgorica 3.00 336 ⇑ *i* Pn Pn 06 33 22.8 +0.6
TTG *e* Sn Sb 06 34 02.8 -2.1
BUM Brajici-Budva 3.02 330 ⇓ *i* Pn Pn 06 33 23.1 +0.6
BUM *e* Sn Sb 06 34 03.1 -2.3
BUM Brajici-Budva 3.02 330 ⇓ *i* Pn Pn 06 33 23.1 +0.6
BUM *e* Sn Sb 06 34 03.1 -2.3
KAVA Kavala 3.04 64 *e* PN Pn 06 33 23.8 +1.1
KAVA Kavala 3.04 64 *e* Pn Pn 06 33 23.8 +1.1
BARS Barje 3.19 12 *e* Pn Pn 06 33 25.8 +1.0
BEY Berane 3.26 347 ⇓ *i* Pn Pn 06 33 27.4 +1.5
BEY *e* Sn Sn 06 34 08.1 +3.0
IVA Berane 3.26 347 ⇓ *i* Pn Pn 06 33 27.4 +1.5
IVA *e* Sn Sn 06 34 08.1 +3.0
HCY Herceg Novi 3.30 327 ⇓ *i* Pn Pn 06 33 28.0 +1.7
HCY *e* Sn Sn 06 34 09.5 +3.6
HCY Herceg Novi 3.30 327 ⇓ *i* Pn Pn 06 33 28.0 +1.7
HCY *e* Sn Sn 06 34 09.5 +3.6
VLI Veliai 3.38 151 *e* PN Pn 06 33 28.7 +1.3
VLI Veliai 3.38 151 P Pn 06 33 28.6 +1.2
VLI Veliai 3.38 151 P Pn 06 33 28.6 +1.2
NKME Niksic 3.40 335 ⇑ *i* Pn Pn 06 33 28.8 +1.0
NKME *e* Sn Sn 06 34 12.2 +3.7
NKME Niksic 3.40 335 ⇑ *i* Pn Pn 06 33 28.8 +1.0
NKME *e* Sn Sn 06 34 12.2 +3.7
NKY Niksic 3.43 336 ⇑ *i* Pn Pn 06 33 29.7 +1.5
NKY *e* Sn Sn 06 34 11.9 +2.6
NKY Niksic 3.43 336 ⇑ *i* Pn Pn 06 33 29.7 +1.5
NKY *e* Sn Sn 06 34 11.9 +2.6
BRY Bratogost 3.67 331 ⇑ *i* Pn Pn 06 33 32.2 +0.7
BRY *e* Sn Sn 06 34 18.1 +3.0
BRY Bratogost 3.67 331 ⇑ *i* Pn Pn 06 33 32.2 +0.7
BRY *e* Sn Sn 06 34 18.1 +3.0
KYTH Kithira 3.80 153 *e* PN Pn 06 33 35.8 +2.5
KYTH Kithira 3.80 153 *e* Pn Pn 06 33 35.8 +2.5
PLE Pljevlja 3.80 343 ⇑ *i* Pn Pn 06 33 35.2 +1.8
PLE *e* Sn Sn 06 34 21.9 +3.4
PLE Pljevlja 3.80 343 ⇑ *i* Pn Pn 06 33 35.2 +1.8
PLE *e* Sn Sn 06 34 21.9 +3.4
UPM Unac-Piva 3.81 337 ⇑ *i* Pn Pn 06 33 35.3 +1.7
UPM *e* Sn Sn 06 34 21.9 +3.1
UPM Unac-Piva 3.81 337 ⇑ *i* Pn Pn 06 33 35.3 +1.7
UPM *e* Sn Sn 06 34 21.9 +3.1
IVAS Ivanjica 3.91 352 *e* Pn Pn 06 33 36.9 +2.0
STON Ston 3.99 324 *i* Pn Pn 06 33 35.0 -0.8
STON *e* Sn Sn 06 34 20.7 -2.1
STON Ston 3.99 324 *i* Pn Pn 06 33 35.0 -0.8
STON *e* Sn Sn 06 34 20.7 -2.1
ALN Alexandroupoli 4.10 71 *e* PN Pn 06 33 38.8 +1.5
ALN Alexandroupoli 4.10 71 *e* Pn Pn 06 33 38.8 +1.5
PRK Paraskevi 4.17 95 *e* PN Pn 06 33 40.3 +2.0
PRK Paraskevi 4.17 95 *e* Pn Pn 06 33 40.3 +2.0
GRUS Gruza 4.19 358 *e* Pn Pn 06 33 40.0 +1.5
BOLS Boljevac 4.20 10 *e* Pn Pn 06 33 37.7 -1.0
CHOS Chios island 4.21 107 *e* PN Pn 06 33 39.6 +0.7
CHOS Chios island 4.21 107 *e* Pn Pn 06 33 39.6 +0.7
ANKY Antikythira Is 4.27 153 *e* PN Pn 06 33 41.6 +2.0
ANKY Antikythira Is 4.27 153 P Pn 06 33 40.6 +1.0
ANKY Antikythira Is 4.27 153 *e* Pn Pn 06 33 41.6 +2.0
ANKY Antikythira Is 4.27 153 P Pn 06 33 40.6 +1.0
BBLS Lazići 4.31 345 *e* Pn Pn 06 33 41.6 +1.3
DIVS Divibare 4.45 351 ⇓ *i* P Pn 06 33 43.6 +1.4
DIVS Divibare 4.45 351 S Sn 06 34 35.8 +1.5
DIVS Divibare 4.45 351 ⇓ *i* P Pn 06 33 43.6 +1.4
APE Apeiranthos 4.48 125 ⇓ *i* P Pn 06 33 45.6 +3.0
APE Apeiranthos 4.48 125 *e* PN Pn 06 33 43.1 +0.5
APE Apeiranthos 4.48 125 *e* Pn Pn 06 33 43.1 +0.5
APE Apeiranthos 4.48 125 ⇓ *i* P Pn 06 33 45.6 +3.0
TEKS Tekeris 4.95 348 *e* Pn Pn 06 33 50.3 +1.2
VAM Vamos 5.02 148 *e* PN Pn 06 33 50.6 +0.6
VAM Vamos 5.02 148 *e* Pn Pn 06 33 50.6 +0.6
SMG Samos 5.04 111 *e* PN Pn 06 33 52.9 +2.6
SMG Samos 5.04 111 *e* Pn Pn 06 33 52.9 +2.6
IDI Anoyia 5.42 143 Pn Pn 06 33 55.8 +0.2
comp=N,1.6nm,0.3s,baz=311,slow=15,SNR=8.1
IDI Sn Sn 06 34 58.3 0.0
comp=N,1.0nm,0.3s,baz=306,slow=19,SNR=2.3
IDI LR LR 06 36 30.7
comp=N,59nm,19.5s,baz=262,slow=42
BZS Buzias 5.93 5 ⇓ *i* P Pn 06 34 03.7 +1.2
BZS Buzias 5.93 5 ⇓ *i* P Pn 06 34 03.7 +1.2
LOT Lotru 6.12 19 ⇓ *i* P Pn 06 34 07.4 +2.3
LOT Lotru 6.12 19 ⇓ *i* P Pn 06 34 07.4 +2.3
UDBI Udbina 6.16 323 *i* Pn Pn 06 34 07.0 +1.3
UDBI Sn Sn 06 35 13.1 -3.4
UDBI Udbina 6.16 323 *i* Pn Pn 06 34 07.0 +1.3
ARR Arges 6.29 25 ⇓ *i* P Pn 06 34 08.1 +0.6
ARR Arges 6.29 25 ⇓ *i* P Pn 06 34 08.1 +0.6
VOIR 6.49 27 ⇓ *i* P Pn 06 34 14.3 +4.0
SIRR Siria 6.58 4 ⇓ *i* P Pn 06 34 14.2 +2.7
SIRR Siria 6.58 4 ⇓ *i* P Pn 06 34 14.2 +2.7
NVLJ Novalja 6.62 319 *e* Pn Pn 06 34 10.1 -1.8
NVLJ Sn Sn 06 35 22.2 -5.4
PKSM Moragy 6.72 346 ⇓ *i* P Pn 06 34 14.3 +1.0
PKSM Moragy 6.72 346 *e* P Pn 06 34 14.1 +0.8
PKSM Moragy 6.72 346 *e* Pn Pn 06 34 14.1 +0.8
ISR Istrita 6.83 36 ⇑ *i* P Pn 06 34 19.2 +4.4
MLR Muntele Rosu 6.87 31 Pn Pn 06 34 18.0 +2.5
comp=N,0.8nm,0.3s,baz=335,slow=5.4,SNR=19
MLR LR LR 06 37 47.2
comp=N,30nm,18.6s,baz=194,slow=45
BOJS Bojanci 7.15 326 *e* Pn Pn 06 34 21.2 +2.0
BOJS *e* Sn Sn 06 35 40.4 -0.3
BOJS Bojanci 7.15 326 *e* Pn Pn 06 34 21.2 +2.0
BOJS *e* Sn Sn 06 35 40.4 -0.3
CRES Cresnjev 7.32 329 *e* Pn Pn 06 34 21.3 -0.3
CRES Cresnjev 7.32 329 *e* Pn Pn 06 34 21.3 -0.3
GBRS Gornja Briga 7.36 324 *e* Pn Pn 06 34 22.8 +0.6
PLOR Plostina 7.45 33 ⇓ *i* P Pn 06 34 25.9 +2.5
PLOR Plostina 7.45 33 ⇓ *i* P Pn 06 34 25.9 +2.5
VRI Vrincioaia 7.50 33 ⇓ *i* P Pn 06 34 26.9 +2.9
VRI Vrincioaia 7.50 33 ⇓ *i* P Pn 06 34 26.9 +2.9
TESR Tescani 7.99 30 ⇑ *i* P Pn 06 34 35.7 +4.9
SOKA Soboth 8.19 330 Pn Pn 06 34 33.5 -0.1
SOKA Soboth 8.19 330 ⇑ *i* Pn Pn 06 34 33.5 -0.1
PSZ Piszkesteto 8.25 355 ⇑ *i* P Pn 06 34 36.3 +2.0
PSZ Piszkesteto 8.25 355 ⇑ *i* P Pn 06 34 36.3 +2.0
BURAR Bucovina Array 8.50 20 ⇓ *i* P Pn 06 34 42.8 +5.0
ARSA Arzberg 8.50 334 Pn Pn 06 34 39.1 +1.3
ARSA Arzberg 8.50 334 ⇑ *i* Pn Pn 06 34 39.1 +1.3
BRTR Keskin Array B 9.80 86 Pn Pn 06 34 58.4 +2.6
comp=N,0.1nm,0.3s,baz=263,slow=12,SNR=3.2
VRAC Vranov 10.09 344 LR LR 06 38 54.4
comp=N,35nm,20.1s,baz=195,slow=38
GERES GERESS Array B 10.50 333 Pn Pn 06 35 06.8 +1.6
comp=N,0.2nm,0.3s,baz=150,slow=12,SNR=8.9
GERES LR LR 06 40 00.9
comp=N,112nm,18.4s,baz=136,slow=42
DAVOX Davos/Dischmat 10.71 315 Pn Pn 06 35 09.7 +1.5
comp=N,0.5nm,0.3s,baz=136,slow=18,SNR=4.8
AKASG Malin Array Be 12.45 25 Pn Pn 06 35 33.4 +1.6
comp=N,0.2nm,0.3s,baz=211,slow=13,SNR=2.3
HFS Hagfors 20.95 350 P P 06 37 16.5 -1.0
comp=N,6.7nm,0.6s,baz=162,slow=10,SNR=15
FINES FINESS Array B 22.00 7 P P 06 37 27.5 -1.3
comp=N,2.1nm,0.6s,baz=193,slow=11,SNR=9.4
NB2 NORSAR Subarra 22.19 347 P P 06 37 30.0 -0.9
comp=Z,5.8nm,0.7s,baz=164,slow=11
NB2 NORSAR Subarra 22.19 347 P P 06 37 30.0 -0.9
comp=Z,5.8nm,0.7s,SNR=9.7
NOA NORSAR Array B 22.19 347 P P 06 37 30.5 -0.4
comp=Z,3.4nm,0.7s,baz=164,slow=10,SNR=16
NOA LR LR 06 46 09.1
comp=Z,17nm,22.0s,baz=150,slow=37
EKA Eskdalemuir Ar 22.39 322 P P 06 37 31.7 -1.3
comp=Z,1.8nm,0.6s,baz=121,slow=11,SNR=10
AKTO Aktyubinsk 28.04 55 P P 06 38 26.7 +0.7
comp=Z,0.7nm,0.4s,baz=238,slow=8.2,SNR=3.7
ARCES ARCESS Array B 30.00 3 P P 06 38 42.0 -1.2
comp=Z,0.8nm,0.5s,baz=166,slow=9.8,SNR=11
TORD Torodi Ar. Bea 31.41 218 P P 06 38 55.7 -0.4
comp=Z,2.0nm,0.7s,baz=31,slow=9.3,SNR=12
MKAR Makanchi Array 44.25 60 P P 06 40 44.0 -0.3
comp=Z,2.6nm,0.5s,baz=273,slow=7.6,SNR=36
ZALV Zalesovo Beam 44.45 49 P P 06 40 46.2 +0.5
comp=Z,1.8nm,0.5s,baz=284,slow=7.3,SNR=3.8
BOSA Boshof 68.08 176 P P 06 43 35.2 +0.5
comp=Z,2.2nm,0.6s,baz=351,slow=6.5,SNR=8.1
YKA Yellowknife Ar 72.07 340 P P 06 43 58.1 -0.5
comp=Z,0.2nm,0.5s,baz=38,slow=5.6,SNR=7.4
ILAR Eielson Array 75.42 355 P P 06 44 17.5 -0.9
comp=Z,0.2nm,0.6s,baz=2.3,slow=4.5,SNR=3.3
TXAR Lajitas Array 94.14 314 P P 06 45 53.1 -1.0
comp=Z,0.1nm,0.6s,baz=80,slow=5.0,SNR=2.8

IDC 20 07:00:59.3±2.7, 6°32S×150°57E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/34, mbtmp4.0/4, ML1.9/1, Error ellipse: s-maj=73.0km s-min=41.3km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
PMG	**Port Moresby**	**4.57**	**228**	Pn	Pn	07 02 11.3	+1.6
	4.2nm,0.3s,baz=332,slow=5.5,SNR=8.6						
PMG				Sn	Sn	07 02 59.5	-4.1
	7.8nm,0.3s,baz=188,slow=23,SNR=9.3						
WRA	**Warramunga Arr**	**20.79**	**228**	P	P	07 05 41.8	-0.5
	5.4nm,0.6s,baz=52,slow=11,SNR=30						
ASAR	**Alice Springs**	**23.55**	**221**	P	P	07 06 10.8	-0.9
	0.7nm,0.5s,baz=59,slow=8.5,SNR=9.7						
STKA	**Stephens Creek**	**26.78**	**197**	P	P	07 06 40.9	-0.2
	3.1nm,0.7s,baz=17,slow=12,SNR=6.7						
TORD	**Torodi Ar. Bea**	**148.61**	**285**	PKPbc	PKPbc	07 20 49.5	+0.1
	0.4nm,0.4s,baz=86,slow=2.3,SNR=6.5						

*ISCJB **20** 07:19:58.5±0.2, 30°.73N±0°.02×49°.75E±0°.03, h10km, mb4.3/49, MS3.5/24, Error ellipse: s-maj=3.8km s-min=2.9km az=139.8*
*IDC **20** 07:19:59.3±0.7, 30°.94N×49°.66E, h0km, mb4.2/24, mb1 4.3/31, mb1mx4.2/38, mbtmp4.2/31, ML4.0/6, MS3.5/22, Ms1 3.5/22, ms1mx3.4/51, Error ellipse: s-maj=16.7km s-min=12.3km az=170.0*
*CSEM **20** 07:20:00.7±0.1, 30°.81N×49°.73E, h10km, mb4.3/16, Ms5.0, Error ellipse: s-maj=5.6km s-min=4.3km az=46.0*
*MOS **20** 07:20:02.7±1.7, 30°.88N×49°.64E, h33km, mb4.5/23, Error ellipse: s-maj=8.1km s-min=5.2km az=102.3*
*NEIC **20** 07:20:02.5, 30°.93N×49°.84E, h5km, mb4.4/19, ML4.6(THR), MN4.7(TEH), After TEH.*
*SGS **20** 07:20:02.3, 31°.00N×49°.73E, h15km*
*TEH **20** 07:20:02.5, 30°.93N×49°.84E, h5km, ML4.7*
*BJI **20** 07:20:03.1, 31°.42N×49°.99E, h5km, mb4.6/11, mB4.6/6, Ms4.5/3, Ms7.4.4/1*
*DSN **20** 07:20:09.7±1.2, 30°.60N×50°.68E, h14km±17km, mb4.6/8, Ms5.0/8, Error ellipse: s-maj=23.1km s-min=3.5km az=80.0*
*ISN **20** 07:20:17.2±1.9, 31°.11N×48°.43E, h0km±5km, ML4.0*
*OMAN **20** 07:21:10.2±99.0, 27°.20N×54°.15E, h1km±999km, Error ellipse: s-maj=826.1km s-min=44.3km az=315.0*

ISC 20 07:20:01.1±0.4, 30°.80N±0°.03×49°.80E±0°.03, h10km, n300, σ1°54/293, mb4.4/49, MS3.5/25, 24C-6D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
IKAZ	**Kazeroun**	**2.03**	**119**	*e*Pn	Pb	07 20 37.9	-0.4
IKAZ				*e*	Sg	07 21 08.3	+1.9
	comp=Z,56μm,0.3s						
IKAZ	**Kazeroun**	**2.03**	**119**	*e*Pn	Pb	07 20 37.9	-0.4
IKAZ	**Kazeroun**	**2.03**	**119**	Pn	Pb	07 20 37.9	-0.4
IPIR	**Pirpir**	**2.10**	**26**	*e*Pn	Pn	07 20 35.9	-0.7
IPIR				*e*		07 20 37.7	
	comp=Z,60μm,0.2s						
IPIR				*e*Sg	Sn	07 21 03.6	+0.6
IPIR	**Pirpir**	**2.10**	**26**	*e*Pn	Pn	07 20 35.9	-0.7
IPIR				Sg	Sn	07 21 03.5	+0.6
IPIR	**Pirpir**	**2.10**	**26**	Pn	Pn	07 20 35.8	-0.8
IPIR				Sg	Sn	07 21 03.5	+0.6
IGAR	**Gharneh**	**2.50**	**49**	*e*Pn	Pn	07 20 42.2	+0.3
IGAR				*e*	Sg	07 21 25.1	+3.8
	comp=E,2μm,0.2s						
SHI	**Shiraz**	**2.61**	**115**	*e*Pn	Pb	07 20 46.3	-1.8
SHI				*e*		07 21 38.2	
	comp=Z,35μm,0.3s						
SHI	**Shiraz**	**2.61**	**115**	*e*Pn	Pb	07 20 46.3	-1.8
IKLH	**Kolahrood**	**2.93**	**30**	*e*Pn	Pn	07 20 49.2	+1.2
IKLH				*e*	Sg	07 21 35.6	+0.2
	comp=N,51μm,0.2s						
IKLH	**Kolahrood**	**2.93**	**30**	*e*Pn	Pn	07 20 49.2	+1.2
IKLH	**Kolahrood**	**2.93**	**30**	Pn	Pn	07 20 49.2	+1.2
IPAR	**Pars**	**2.96**	**108**	*e*Pn	Pn	07 20 50.4	+1.9
IPAR				*e*		07 21 47.4	
	comp=Z,22μm,0.4s						
IPAR	**Pars**	**2.96**	**108**	Pn	Pn	07 20 50.3	+1.9
IPAR	**Pars**	**2.96**	**108**	Pn	Pn	07 20 50.3	+1.9
IZEF	**Zefreh**	**3.00**	**45**	*e*Pn	Pn	07 20 49.1	+0.2
IZEF				*e*	Pg	07 20 55.6	-3.0
	comp=Z,13μm,0.3s						
IZEF	**Zefreh**	**3.00**	**45**	*e*Pn	Pn	07 20 49.2	+0.2
IZEF	**Zefreh**	**3.00**	**45**	Pn	Pn	07 20 49.1	+0.2
NSR	**Nassriya**	**3.15**	**275**	*e*PG	x	07 20 57.8	
NSR				*e*SG	x	07 21 28.8	
NSR	**Nassriya**	**3.15**	**275**	*e*Pg	Pb	07 20 57.8	+0.6
	SNR=90						
IKFM	**Kafar-mosalman**	**3.19**	**329**	*e*Pn	Pn	07 20 51.5	+0.3
IKFM				*e*		07 21 57.0	
	comp=Z,99nm,0.5s						
IKFM	**Kafar-mosalman**	**3.19**	**329**	*e*Pn	Pn	07 20 51.5	+0.3
ISAD	**Sadrabad**	**3.50**	**70**	*e*Pn	Pn	07 20 56.4	+0.5
ISAD				*e*		07 21 05.8	
	comp=Z,19μm,0.2s						
ISAD	**Sadrabad**	**3.50**	**70**	*e*Pn	Pn	07 20 56.4	+0.5
ISAD	**Sadrabad**	**3.50**	**70**	Pn	Pn	07 20 56.3	+0.5
GHIR	**Ghir-Karzin**	**3.73**	**131**	Pn	Pn	07 20 59.6	+0.7
GHIR	**Ghir-Karzin**	**3.73**	**131**	Pn	Pn	07 20 59.6	+0.7
ASAO	**Ashtian**	**3.75**	**3**	*e*Pn	Pn	07 20 59.9	+0.7
ASAO	**Ashtian**	**3.75**	**3**	*e*Pn	Pn	07 20 59.9	+0.7
GHVR	**GHOM**	**3.88**	**19**	*e*Pn	Pn	07 21 01.8	+0.9
GHVR	**GHOM**	**3.88**	**19**	*e*Pn	Pn	07 21 01.8	+0.9
IKOM	**Komasi**	**3.89**	**331**	*e*Pn	Pn	07 21 01.7	+0.7
IKOM				*e*		07 21 16.1	
	comp=Z,13μm,0.2s						
IKOM	**Komasi**	**3.89**	**331**	*e*Pn	Pn	07 21 01.7	+0.7
IKOM	**Komasi**	**3.89**	**331**	Pn	Pn	07 21 01.7	+0.7
IBZA	**Bozab**	**4.01**	**336**	*e*	Pg	07 21 17.3	-0.7
	comp=Z,8μm,0.2s						
IBZA				*e*Pn	Pn	07 21 02.9	0.0
IBDR	**Badra**	**4.02**	**306**	*e*PG	x	07 21 20.7	
IBDR				*e*SG	x	07 22 07.2	
IMEH	**Mehriz**	**4.17**	**81**	*e*	Pg	07 21 22.1	+1.1
	comp=Z,6μm,0.3s						
IMEH				*e*Pn	Pn	07 21 05.5	+0.5
ICHK	**Chekchek**	**4.19**	**69**	*e*	Pn	07 21 09.9	+4.7
	comp=Z,9μm,0.1s						
ICHK				*e*Pn	Pn	07 21 05.4	+0.2
IVIS	**Veis**	**4.48**	**327**	*e*	Pg	07 21 29.0	+2.2
	comp=Z,5μm,0.2s						
IVRN	**Varamin**	**4.49**	**21**	*e*	Pg	07 21 27.7	+0.6
	comp=Z,5μm,0.3s						
IVRN				*e*Pn	Pn	07 21 09.0	-0.3
IVRN	**Varamin**	**4.49**	**21**	*e*Pn	Pn	07 21 09.0	-0.3
IRAZ	**Razeghan**	**4.60**	**1**	*e*Pn	Pn	07 21 10.7	-0.2
IRAZ				*e*		07 22 35.7	
	comp=Z,8μm,0.4s						
IRAZ	**Razeghan**	**4.60**	**1**	*e*Pn	Pn	07 21 10.7	-0.2
IRAZ	**Razeghan**	**4.60**	**1**	Pn	Pn	07 21 10.6	-0.2
SNGE	**Sanandaj**	**4.76**	**335**	*e*Pn	Pn	07 21 13.7	+0.7
SNGE	**Sanandaj**	**4.76**	**335**	*e*Pn	Pn	07 21 13.7	+0.7
IDHR	**Dehrash**	**4.84**	**324**	*e*Pn	Pn	07 21 13.7	-0.5
IDHR				*e*		07 22 10.2	
	comp=Z,12μm,0.2s						
IDHR	**Dehrash**	**4.84**	**324**	*e*Pn	Pn	07 21 13.7	-0.5
IDHR	**Dehrash**	**4.84**	**324**	Pn	Pn	07 21 13.7	-0.5
BOQSS		**4.92**	**184**	P	Pn	07 21 17.0	+1.9
BOQSS		**4.92**	**184**	P	Pn	07 21 17.3	+2.2
IBAF	**Bafgh**	**5.00**	**79**	*e*Pn	Pn	07 21 16.1	-0.3
IBAF				*e*		07 21 41.4	
	comp=Z,3μm,0.2s						
IBAF	**Bafgh**	**5.00**	**79**	*e*Pn	Pn	07 21 16.1	-0.3
IBAF	**Bafgh**	**5.00**	**79**	Pn	Pn	07 21 16.0	-0.3
DAMV	**Damavand**	**5.15**	**20**	*e*Pn	Pn	07 21 18.2	-0.3
DAMV	**Damavand**	**5.15**	**20**	*e*Pn	Pn	07 21 18.2	-0.3
BHD	**Baghdad**	**5.22**	**300**	*e*PN	x	07 21 21.2	
BHD				*e*SN	x	07 22 06.3	
BHD	**Baghdad**	**5.22**	**300**	*e*Pn	Pn	07 21 21.2	+2.0
	SNR=39						
ILAS	**Lasjerd**	**5.29**	**29**	*e*Pn	Pn	07 21 20.5	+0.2
ILAS				*e*		07 22 48.2	
	comp=Z,5μm,0.5s						
ILAS	**Lasjerd**	**5.29**	**29**	*e*Pn	Pn	07 21 20.5	+0.2
ILAS	**Lasjerd**	**5.29**	**29**	Pn	Pn	07 21 20.5	+0.2
ISHM	**Shahmirzad**	**5.79**	**29**	*e*Pn	Pn	07 21 26.9	-0.5
ISHM				*e*		07 21 51.6	
	comp=Z,3μm,0.2s						
ISHM	**Shahmirzad**	**5.79**	**29**	Pn	Pn	07 21 26.8	-0.5
ISHM	**Shahmirzad**	**5.79**	**29**	Pn	Pn	07 21 26.8	-0.5
ASYS		**5.79**	**237**	P	Pn	07 21 27.0	-0.1
ASYS		**5.79**	**237**	P	Pn	07 21 27.2	+0.1
IANJ	**Anjilo**	**5.80**	**35**	*e*Pn	Pn	07 21 26.8	-0.5
IANJ				*e*		07 23 12.7	
	comp=Z,2μm,0.3s						
IANJ	**Anjilo**	**5.80**	**35**	*e*Pn	Pn	07 21 26.8	-0.5
IANJ	**Anjilo**	**5.80**	**35**	Pn	Pn	07 21 26.8	-0.5
IPRN	**Peran**	**5.83**	**21**	*e*Pn	Pn	07 21 28.0	+0.2
IPRN				*e*		07 21 55.8	
	comp=Z,4μm,0.3s						
IPRN	**Peran**	**5.83**	**21**	Pn	Pn	07 21 27.9	+0.2
IALA	**Alasht**	**5.84**	**25**	*e*Pn	Pn	07 21 28.5	+0.5
IALA				*e*		07 21 30.3	
	comp=Z,3μm,0.2s						
IALA	**Alasht**	**5.84**	**25**	*e*Pn	Pn	07 21 28.5	+0.5
IALA	**Alasht**	**5.84**	**25**	Pn	Pn	07 21 28.5	+0.5
SLWS		**6.02**	**173**	P	Pn	07 21 32.0	+1.8
SLWS		**6.02**	**173**	P	Pn	07 21 32.4	+2.1
IKIA	**Kiasar**	**6.30**	**30**	*e*Pn	Pn	07 21 33.6	-0.6
IKIA				*e*		07 23 29.2	
	comp=Z,2μm,0.6s						
IKIA	**Kiasar**	**6.30**	**30**	*e*Pn	Pn	07 21 33.6	-0.6
IKIA	**Kiasar**	**6.30**	**30**	Pn	Pn	07 21 33.6	-0.6
IKRK	**Kirkuk**	**6.49**	**317**	*e*PN	x	07 21 41.0	
IKRK				*e*SN	x	07 22 41.1	
BTHS		**6.79**	**172**	P	Pn	07 21 42.0	+1.3
BTHS				S	Sn	07 22 58.0	-0.1
BTHS		**6.79**	**172**	P	Pn	07 21 42.1	+1.4
BANOM	**Banah**	**7.50**	**129**	P	Pn	07 21 49.4	-1.2
	SNR=19						
BANOM	**Banah**	**7.50**	**129**	P	Pn	07 21 49.4	-1.2
	SNR=19						
NAZ	**Nazwa, Dubai**	**7.77**	**137**	P	Pn	07 21 53.9	-0.3
	SNR=24						
NAZ	**Nazwa, Dubai**	**7.77**	**137**	⇑ *i* P	Pn	07 21 53.9	-0.3
	SNR=24						
ASUD	**Al Ashush, Dub**	**7.86**	**140**	P	Pn	07 21 55.8	+0.4
	SNR=216						
ASUD	**Al Ashush, Dub**	**7.86**	**140**	*i* P	Pn	07 21 55.8	+0.4
	SNR=216						
MSL	**Mosul**	**7.90**	**317**	*e*PN	x	07 22 01.6	
MSL				*e*SN	x	07 23 15.0	
FAQ	**Al Faqa, Dubai**	**7.91**	**138**	P	Pn	07 21 55.9	-0.3
	SNR=49						
FAQ	**Al Faqa, Dubai**	**7.91**	**138**	⇓ *i* P	Pn	07 21 55.9	-0.3
	SNR=49						
HATD	**Hatta, Dubai**	**8.17**	**135**	P	Pn	07 21 59.4	-0.4
	SNR=31						
HATD	**Hatta, Dubai**	**8.17**	**135**	⇑ *i* P	Pn	07 21 59.4	-0.4
	SNR=31						
RAYN	**Ar Rayn**	**8.19**	**209**	*e*Pn	Pn	07 21 59.5	-0.6
	comp=Z,68nm,0.7s						
RAYN	**Ar Rayn**	**8.19**	**209**	*e*Pn	Pn	07 21 59.5	-0.6
	comp=Z,68nm,0.7s						
ASHO	**Ashiyiah**	**8.23**	**136**	P	Pn	07 21 59.8	-0.8
	SNR=25						
ASHO	**Ashiyiah**	**8.23**	**136**	P	Pn	07 21 59.8	-0.8
	SNR=25						
CUKT	**Cukurca**	**8.24**	**323**	*e*PN	Pn	07 21 59.3	-1.4
RTB	**Rutbah**	**8.37**	**288**	*e*PN	x	07 22 06.1	
RTB				*e*SN	x	07 23 05.8	
SIRT	**Sirnak**	**9.05**	**320**	*e*PN	Pn	07 22 05.2	-6.7
ARQ	**Araqi**	**9.54**	**140**	⇑ P	Pn	07 22 17.8	-0.8
	SNR=14						
ARQ	**Araqi**	**9.54**	**140**	P	Pn	07 22 17.8	-0.8
	SNR=14						
HOQ	**Hoqain**	**9.81**	**135**	P	Pn	07 22 21.3	-1.0
	SNR=8.3						
HOQ	**Hoqain**	**9.81**	**135**	P	Pn	07 22 21.3	-1.0
	SNR=8.3						
GEYT	**Alibeck**	**9.89**	**42**	Pn	Pn	07 22 24.0	+0.7
	comp=Z,2.5nm,0.3s,baz=243,slow=14,SNR=30						
GEYT				LR	LR	07 27 02.9	
	comp=Z,237nm,21.7s,baz=215,slow=43						
GNI	**Garni**	**10.20**	**338**	Pn	Pn	07 22 28.6	+0.8
	comp=Z,0.2nm,0.3s,baz=197,slow=20,SNR=1.8						
MAZI	**Mazidag**	**10.21**	**313**	*e*PN	Pn	07 22 23.5	-4.2
BSY	**Bisya**	**10.39**	**139**	⇑ P	Pn	07 22 29.3	-0.9
	SNR=58						
BSYO	**Bisya**	**10.42**	**139**	P	Pn	07 22 29.3	-1.3
	SNR=58						
SMDO	**Samad**	**10.65**	**134**	P	Pn	07 22 32.4	-1.5
	SNR=46						
SMDO	**Samad**	**10.65**	**134**	P	Pn	07 22 32.4	-1.5
	SNR=46						
ASF	**Jabal al Asfar**	**11.10**	**280**	Pn	Pn	07 22 37.9	-2.1
	comp=Z,2.4nm,0.3s,baz=58,slow=9.2,SNR=8.4						
JMDO	**Jabal Madar**	**11.20**	**137**	⇑ P	Pn	07 22 40.8	-0.5
	SNR=22						
JMDO	**Jabal Madar**	**11.20**	**137**	P	Pn	07 22 40.8	-0.5
	SNR=22						
URFA	**Urfa**	**11.25**	**309**	*e*PN	Pn	07 22 41.3	-0.7
WBK	**Wadi Bani Khal**	**11.55**	**133**	⇑ P	Pn	07 22 43.

comp=Z,2.1nm,0.5s,baz=205,slow=11,SNR=11
AKTO LR LR 07 34 24.3
comp=Z,209nm,21.4s,baz=179,slow=42
AKTO Aktyubinsk 20.56 15 P **P 07 24 39.0 -0.8**
AKTO Aktyubinsk 20.56 15 P **P 07 24 39.0 -0.8**
IDI Anoyia 21.34 289 P **P 07 24 49.2 +0.8**
comp=Z,10.0nm,0.4s,baz=94,slow=9.3,SNR=14
IDI LR LR 07 35 30.7
comp=Z,70nm,21.3s,baz=93,slow=44
IDI Anoyia 21.34 289 *eP* **P 07 24 49.5 +1.1**
comp=Z,28nm,0.8s
IDI Anoyia 21.34 289 *eP* **P 07 24 49.5 +1.1**
comp=Z,28nm,0.8s
TIRR Tirgusor 21.67 315 ⇓P **P 07 24 51.1 -0.7**
TIRR Tirgusor 21.67 315 ⇓*i*P **P 07 24 51.0 -0.7**
TIRR Tirgusor 21.67 315 P **P 07 24 51.1 -0.7**
VSR Storozhevoye 21.88 342 *eP* **P 07 24 51.5 -2.5**
VSR *eS* S 07 28 47.2 -8.4
VSR pmax pmax
comp=N,9.0nm,0.4s
VSR pmax pmax
comp=E,8.0nm,0.4s
VSR pmax pmax
comp=Z,10.0nm,0.4s
VSR smax smax
comp=N,70nm,1.2s
VSR smax smax
comp=E,60nm,1.2s
VSR smax smax
comp=Z,10.0nm,1.2s
VSR Storozhevoye 21.88 342 *eP* **P 07 24 51.5 -2.5**
CFR Carcaliu 22.22 316 ⇑P **P 07 24 55.1 -2.5**
CFR Carcaliu 22.22 316 ⇑*i*P **P 07 24 55.1 -2.5**
CFR Carcaliu 22.22 316 P **P 07 24 55.1 -2.5**
EKS2 Erkin-Say 22.49 52 *eP* **P 07 25 02.2 +1.4**
EKS2 pmax pmax
comp=Z,6.0nm,0.7s
EKS2 Erkin-Say 22.49 52 *eP* **P 07 25 02.2 +1.4**
comp=Z,5.9nm,0.7s
EKS2 Erkin-Say 22.49 52 *eP* **P 07 25 02.2 +1.4**
comp=Z,5.9nm,0.7s
ISR Istrita 23.15 315 ⇑P P 07 25 14.9 +7.4
ISR Istrita 23.15 315 ⇑*i*P P 07 25 14.9 +7.4
LPSR Galich'ya Gora 23.20 343 *eP* **P 07 25 04.9 -3.0**
LPSR *eS* **S 07 29 13.1 -6.5**
LPSR pmax pmax
comp=N,7.0nm,0.6s
LPSR pmax pmax
comp=E,6.0nm,0.6s
LPSR pmax pmax
comp=Z,20nm,0.6s
LPSR smax smax
comp=N,130nm,2.1s
LPSR smax smax
comp=E,290nm,2.1s
LPSR smax smax
comp=Z,10.0nm,1.5s
MLR Muntele Rosu 23.70 315 P **P 07 25 13.7 +0.6**
comp=Z,1.1nm,0.5s,baz=124,slow=3.6,SNR=8.5
MLR LR LR 07 36 18.5
comp=Z,55nm,20.5s,baz=105,slow=42
MLR Muntele Rosu 23.70 315 ⇑*i*P **P 07 25 14.3 +1.2**
TKM2 Tokmak 2 23.82 52 *eP* **P 07 25 17.1 +2.6**
TKM2 pmax pmax
comp=Z,4.0nm,0.7s
TKM2 Tokmak 2 23.82 52 *eP* **P 07 25 17.1 +2.6**
comp=Z,4.1nm,0.7s
TKM2 Tokmak 2 23.82 52 *eP* **P 07 25 17.1 +2.6**
comp=Z,4.1nm,0.7s
NDI New Delhi 23.88 88 *eP* **P 07 25 15.0 +0.2**
VOIR 24.22 314 ⇑P **P 07 25 18.2 +0.2**
VOIR 24.22 314 ⇑*i*P **P 07 25 18.2 +0.2**
VOIR 24.22 314 P **P 07 25 18.2 +0.2**
ARR Arges 24.45 314 ⇑*i*P **P 07 25 20.4 +0.3**
AK02 Malin Array Si 25.09 328 *eP* **P 07 25 23.6 -2.1**
AK02 Malin Array Si 25.09 328 *eP* **P 07 25 23.6 -2.1**
AK01 Malin Array Si 25.11 328 *eP* **P 07 25 23.7 -2.2**
AK01 Malin Array Si 25.11 328 *eP* **P 07 25 23.7 -2.2**
AKASG Malin Array Be 25.12 328 P **P 07 25 23.8 -2.1**
comp=Z,1.0nm,0.3s,baz=136,slow=9.1,SNR=10
KIEV Kiev 25.12 328 *eP* **P 07 25 23.9 -2.0**
KIEV pmax pmax
comp=Z,6.0nm,0.5s
KIEV Kiev 25.12 328 *eP* **P 07 25 23.9 -2.0**
comp=Z,5.8nm,0.5s
KIEV Kiev 25.12 328 *eP* **P 07 25 23.9 -2.0**
comp=Z,5.8nm,0.5s
BURAR Bucovina Array 25.24 319 ⇑P **P 07 25 26.6 -0.6**
BURAR Bucovina Array 25.24 319 ⇑*i*P **P 07 25 26.6 -0.6**
BUR08 Bucovina Ar. S 25.26 319 *eP* **P 07 25 26.6 -0.8**
BUR08 Bucovina Ar. S 25.26 319 *eP* **P 07 25 26.6 -0.8**
CJR Cluj-Napoca 25.72 316 ⇑P **P 07 25 31.3 -0.3**
CJR Cluj-Napoca 25.72 316 ⇑*i*P **P 07 25 31.3 -0.3**
CJR Cluj-Napoca 25.72 316 P **P 07 25 31.3 -0.3**
OBN Obninsk 26.07 343 P **P 07 25 34.3 -0.3**
comp=Z,18nm,0.5s,baz=165,slow=20,SNR=5.5
OBN Obninsk 26.07 343 ⇑*e*P **P 07 25 33.4 -1.2**
OBN *e* 07 26 08.4
OBN pmax pmax
comp=Z,55nm,1.5s
OBN MLR MLR
comp=Z,118nm,19.0s
OBN Obninsk 26.07 343 *eP* **P 07 25 34.5 0.0**
comp=Z,21nm,0.6s
OBN Obninsk 26.07 343 *eP* **P 07 25 34.5 0.0**
comp=Z,21nm,0.6s
DRGR 26.30 315 ⇑P **P 07 25 37.2 +0.4**
DRGR 26.30 315 ⇑*i*P **P 07 25 37.2 +0.4**
DRGR 26.30 315 P **P 07 25 37.2 +0.4**
ARU Arti 26.36 11 *d i*P **P 07 25 35.7 -1.4**
ARU 07 26 15.2
ARU S **S 07 30 11.0 +1.0**
ARU SS **SnSn 07 31 16.0 +5.8**
ARU pmax pmax
comp=Z,4.0nm,1.2s
ARU Arti 26.36 11 *i* P **P 07 25 35.7 -1.4**
comp=Z,4.0nm,1.2s
ARU Arti 26.36 11 *eP* **P 07 25 41.0 +3.9**
comp=Z,4.8nm,0.8s
MOS Moscow 26.38 344 *eP* **P 07 25 37.6 +0.3**
MOS Moscow 26.38 344 *eP* **P 07 25 37.6 +0.3**
SIRR Siria 26.71 313 ⇑*i*P **P 07 25 41.1 +0.6**
BRVK Borovoye 26.78 28 P **P 07 25 42.9 +1.9**
BRVK pmax pmax
comp=Z,5.0nm,0.6s
BRVK Borovoye 26.78 28 P **P 07 25 42.9 +1.9**
comp=Z,5.0nm,0.6s
BRVK Borovoye 26.78 28 *eP* **P 07 25 44.8 +3.8**
comp=Z,2.5nm,0.6s
BVA0 Borovoye Array 26.80 28 P **P 07 25 41.7 +0.5**
BVA0 pmax pmax
comp=Z,7.0nm,0.8s
BVA0 Borovoye Array 26.80 28 P **P 07 25 41.7 +0.5**
comp=Z,7.0nm,0.8s
BVAR Borovoye Array 26.80 28 P **P 07 25 42.0 +0.8**
comp=Z,3.0nm,0.5s,baz=210,slow=8.3,SNR=14
BVAR LR LR 07 38 05.9
comp=Z,184nm,18.5s,baz=232,slow=41
BVAR Borovoye Array 26.80 28 P **P 07 25 42.0 +0.8**
BVAR Borovoye Array 26.80 28 P **P 07 25 42.0 +0.8**
TIP Timpagrande 28.21 296 *eP* **P 07 25 56.5 +2.4**
TIP Timpagrande 28.21 296 *eP* **P 07 25 56.5 +2.4**
KURBB Kurchatov Arra 29.15 39 P **P 07 26 01.1 -1.0**
comp=Z,2.7nm,0.7s,baz=238,slow=9.7,SNR=7.7
KURBB ScP **ScP 07 32 48.7 -2.6**
comp=Z,0.1nm,0.3s,baz=229,slow=4.5,SNR=5.0
KURK Kurchatov 29.25 39 P **P 07 26 04.2 +1.2**
KURK pmax pmax
comp=Z,4.0nm,0.9s
KURK Kurchatov 29.25 39 P **P 07 26 04.2 +1.2**
comp=Z,4.0nm,0.9s
KURK ScP **ScP 07 32 48.7 -2.9**
KURK Kurchatov 29.25 39 *eP* P 07 26 07.2 +4.1
comp=Z,3.6nm,0.6s
KURK ScP **ScP 07 32 48.7 -2.9**
KOLN Koldanda 29.57 87 *eP* **P 07 26 07.4 +1.0**
comp=Z,6.9nm,0.5s
MK31 Makanchi Array 29.67 48 P **P 07 26 05.8 -1.1**
MK31 pmax pmax
comp=Z,1.0nm,0.3s
MK31 Makanchi Array 29.67 48 P **P 07 26 05.8 -1.1**
comp=Z,1.0nm,0.3s
MK31 Makanchi Array 29.67 48 *eP* **P 07 26 05.8 -1.1**
MKAR Makanchi Array 29.67 48 P **P 07 26 06.2 -0.8**
comp=Z,2.7nm,0.7s,baz=237,slow=9.6,SNR=15
MKAR LR LR 07 39 22.4
comp=Z,90nm,18.5s,baz=252,slow=39
MKAR Makanchi Array 29.67 48 *i* P **P 07 26 06.1 -0.9**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
OKC Ostrava-Krasne 30.40 318 AMS AMS 07 40 30.0
comp=Z,200nm,17.0s
GKN Gorkha 30.40 86 *eP* **P 07 26 11.4 -2.4**
comp=Z,8.9nm,0.3s
DMN Daman 30.90 87 *eP* **P 07 26 16.9 -1.4**
comp=Z,11nm,0.3s
PRGR Permogore 30.97 356 P **P 07 26 20.9 +2.8**
PRGR pmax pmax
comp=Z,10.0nm,0.6s
KKN Kakani 31.01 86 *eP* **P 07 26 17.5 -1.7**
comp=Z,17nm,0.5s
PKIN Phulchoki 31.16 87 *eP* **P 07 26 19.5 -1.1**
comp=Z,6.7nm,0.3s
PKI Pulchoki 31.17 87 *eP* **P 07 26 19.3 -1.5**
comp=Z,28nm,0.7s
GUN Gumba 31.49 86 *eP* P 07 26 20.4 -3.2
DPC Dobruska-Polom 31.68 318 *eP* **P 07 26 22.9 -1.8**
DPC *ep*P **pP 07 26 29.3 +1.6**
DPC AMS AMS 07 41 40.0
comp=Z,100nm,15.2s
DPC Dobruska-Polom 31.68 318 *eP* **P 07 26 22.9 -1.8**
DPC *e* 07 26 29.3
DPC MLR MLR
comp=Z,100nm,15.2s
DPC Dobruska-Polom 31.68 318 *eP* **P 07 26 22.9 -1.8**
comp=Z,100nm,15.2s
TREC Trest 31.75 315 AMS AMS 07 43 10.0
comp=Z,100nm,12.6s
UPC Upice 31.93 318 *eP* P 07 26 22.6 -4.2
UPC *ex* x 07 26 26.0
UPC *ex* x 07 26 32.0
UPC AMS AMS 07 42 00.0
comp=Z,100nm,12.8s
UPC Upice 31.93 318 *eP* P 07 26 22.6 -4.2
UPC *e* 07 26 32.0
UPC MLR MLR
comp=Z,100nm,12.8s
RAMN Ramite 32.36 87 *eP* **P 07 26 30.2 -0.9**
comp=Z,18nm,0.6s
GOPC GO Pecny, Ondr 32.41 316 AMS AMS 07 42 10.0
comp=Z,100nm,10.3s
GERES GERESS Array B 32.67 314 P **P 07 26 31.7 -1.7**
comp=Z,0.5nm,0.2s,baz=110,slow=8.8,SNR=3.1
GERES GERESS Array B 32.67 314 P **P 07 26 31.7 -1.7**
GERES pmax pmax
comp=Z,1.0nm,0.2s
CLL Collm 34.00 318 *eP* **P 07 26 43.0 -1.8**
CLL *e* 07 26 52.0
CLL Collm 34.00 318 *e*(sP) **sP 07 26 52.0 +2.9**
CLL Lm MLR 07 40 00.0
comp=Z,100nm,22.0s
KEST Kesra 34.01 289 LR LR 07 44 24.9
comp=Z,35nm,18.7s,baz=234,slow=43
FETA Feichten 34.05 310 ⇑*i*P **P 07 26 44.1 -1.4**
comp=Z,7.8nm,1.2s
ZAA0 Zalesovo Array 34.16 37 *eP* **P 07 26 47.8 +1.6**
ZAA0 Zalesovo Array 34.16 37 *eP* **P 07 26 47.8 +1.6**
ZALV Zalesovo Bram 34.16 37 P **P 07 26 44.9 -1.3**
comp=Z,3.3nm,0.5s,baz=252,slow=9.7,SNR=9.2
ZALV LR LR 07 42 33.7
comp=Z,66nm,19.4s,baz=250,slow=40
TMCR Tamitsa 34.20 351 *eP* P 07 26 51.2 +4.8
TMCR *e* 07 28 08.3
TMCR pmax pmax
comp=Z,16nm,0.6s
FINES FINESS Array B 34.38 340 P **P 07 26 45.6 -2.3**
comp=Z,1.9nm,0.3s,baz=151,slow=9.8,SNR=19
FINES LR LR 07 41 51.0
comp=Z,89nm,21.2s,baz=148,slow=38
DAVOX Davos/Dischmat 34.55 309 P **P 07 26 49.3 -0.6**
comp=Z,1.6nm,0.4s,baz=344,slow=14,SNR=3.5
DAVOX Davos/Dischmat 34.55 309 P **P 07 26 49.3 -0.6**
DAVOX pmax pmax
comp=Z,2.0nm,0.4s
DAVA Damuels 34.67 310 ⇑*i*P **P 07 26 49.3 -1.6**
comp=Z,5.3nm,0.5s
HFS Hagfors 37.91 331 P **P 07 27 15.6 -2.6**
comp=Z,5.5nm,0.4s,baz=126,slow=9.3,SNR=22
NB2 NORSAR Subarra 39.43 331 P **P 07 27 27.9 -3.1**
comp=Z,1.7nm,0.6s,baz=124,slow=8.6
NB2 NORSAR Subarra 39.43 331 P **P 07 27 27.9 -3.1**
comp=Z,1.7nm,0.6s,SNR=3.9
NOA NORSAR Array B 39.43 331 P **P 07 27 28.0 -3.0**
comp=Z,0.4nm,0.3s,baz=126,slow=8.2,SNR=8.4
NOA LR LR 07 45 42.3
comp=Z,33nm,18.3s,baz=120,slow=39
ARCES ARCESS Array B 41.17 347 P **P 07 27 43.1 -2.2**
comp=Z,2.1nm,0.8s,baz=148,slow=9.8,SNR=8.6
GTA Gaotai 41.36 64 *eP* P 07 27 50.8 +3.3
GTA pP pP 07 27 57.5 +6.9
GTA sP sP 07 28 00.0 +8.2
GTA PMZ
comp=Z,10.0nm,1.2s
ZAK Zakamensk 44.01 48 *eP* P 07 28 12.2 +3.4
ZAK pmax pmax
comp=Z,2.0nm,0.9s
ESDC Sonseca Array 44.23 297 P **P 07 28 12.5 +1.9**
comp=Z,0.7nm,0.5s,baz=76,slow=8.7,SNR=6.6
CHTO Chiang Mai 45.85 93 *eP* **P 07 28 26.6 +2.9**
CHTO pmax pmax
comp=Z,7.0nm,0.8s
CHTO Chiang Mai 45.85 93 *eP* **P 07 28 26.6 +2.9**
comp=Z,6.8nm,0.8s
SONM Songino Array 45.92 52 P **P 07 28 25.0 +1.0**
comp=Z,2.0nm,0.8s,baz=281,slow=8.4,SNR=5.1
SONM LR LR 07 48 38.8
comp=Z,90nm,18.5s,baz=250,slow=37
CMAR Chiang Mai Arr 46.00 94 P **P 07 28 26.9 +2.1**
comp=Z,4.2nm,0.8s,baz=295,slow=8.3,SNR=16
CMAR LR LR 07 50 20.2
comp=Z,89nm,19.2s,baz=280,slow=40
TOA0 Torodi Ar. Sit 47.56 259 *eP* **P 07 28 37.5 +0.4**
TOA0 Torodi Ar. Sit 47.56 259 *eP* **P 07 28 37.5 +0.4**
TORD Torodi Ar. Bea 47.56 259 P **P 07 28 36.5 -0.6**
comp=Z,0.7nm,0.3s,baz=56,slow=8.2,SNR=11
TORD LR LR 07 49 08.0
comp=Z,67nm,18.4s,baz=205,slow=37
HHC Hu-ho-hao-te 50.15 61 *eP* **P 07 28 58.9 +2.0**
HHC PP **PP 07 30 56.3 +4.4**
HHC S **S 07 36 09.3 +0.6**
HHC ScS **ScS 07 38 49.8 +1.3**
HHC PMZ
comp=Z,34nm,0.6s
HHC PMZ
comp=Z,44nm,5.9s
HHC LN
comp=Z,130nm,18.8s
HHC LE
comp=Z,140nm,15.5s
BOD Bodaibo 50.89 38 *eP* **P 07 29 01.5 -0.5**
BOD pmax pmax
comp=Z,5.0nm,1.0s
TIA Tai'an 55.39 65 ⇓P P 07 29 39.5 +3.9
TIA PMZ
comp=Z,10.0nm,1.0s
DBIC Dimbokro 56.41 257 P **P 07 29 42.2 -0.9**
comp=Z,2.8nm,0.6s,baz=61,slow=8.9,SNR=4.2
DBIC LR LR 07 57 07.0
comp=Z,62nm,19.0s,baz=29,slow=40
DBIC Dimbokro 56.41 257 P **P 07 29 42.2 -0.9**
DBIC pmax pmax
comp=Z,3.0nm,0.6s
DBIC MLR MLR
comp=Z,62nm,19.0s
LBTB Lobatse 60.14 205 *eP* **P 07 30 11.7 +2.7**
LBTB pmax pmax
comp=Z,4.0nm,0.7s
LBTB Lobatse 60.14 205 *eP* **P 07 30 11.7 +2.7**
comp=Z,4.2nm,0.7s
SUMG Summit 60.42 340 *eP* **P 07 30 12.6 +1.9**
SUMG pmax pmax
comp=Z,5.0nm,1.1s
SUMG Summit 60.42 340 *eP* **P 07 30 12.6 +1.9**
comp=Z,5.2nm,1.1s
SUMG Summit 60.42 340 *eP* **P 07 30 12.6 +1.9**
comp=Z,5.2nm,1.1s
KSAR Wonju Array Be 63.27 61 P **P 07 30 28.6 -1.4**
KSAR Wonju Array Be 63.27 61 P **P 07 30 28.5 -1.4**
KSAR Wonju Array Be 63.27 61 P **P 07 30 28.6 -1.4**
KSRS Korea Array 63.29 61 P **P 07 30 28.6 -1.6**
comp=Z,1.9nm,0.5s,baz=286,slow=6.0,SNR=8.0
KSRS LR LR 08 01 12.3
comp=Z,36nm,19.6s,baz=284,slow=39
KSRS Korea Array 63.29 61 P **P 07 30 28.6 -1.6**
KSRS pmax pmax
comp=Z,2.0nm,0.5s
KSRS MLR MLR
comp=Z,36nm,19.6s
BOSA Boshof 63.55 204 P **P 07 30 32.0 +0.1**
comp=Z,4.7nm,0.8s,baz=26,slow=6.9,SNR=8.3
BOSA LR LR 07 59 47.8
comp=Z,94nm,18.3s,baz=31,slow=38
BOSA Boshof 63.55 204 P **P 07 30 32.0 +0.1**
BOSA pmax pmax
comp=Z,5.0nm,0.9s
BOSA MLR MLR
comp=Z,94nm,18.3s
BOSA Boshof 63.55 204 *eP* P 07 30 35.5 +3.7
comp=Z,6.3nm,1.0s
USRK Ussuriysk Ar. 64.02 52 P **P 07 30 35.8 +1.0**
comp=Z,1.8nm,0.6s,baz=282,slow=3.7,SNR=4.3
JNU Nakatsue 67.10 64 LR LR 08 04 35.8
comp=Z,31nm,19.2s,baz=279,slow=40
SEY Seymchan 68.45 29 P **P 07 31 01.2 -1.8**
comp=Z,2.2nm,0.6s,baz=280,slow=5.8,SNR=6.4
BILL Bilibino 70.87 21 *eP* **P 07 31 17.5 -0.3**
BILL pmax pmax
comp=Z,2.0nm,1.2s
MJAR Matsushiro Arr 71.26 58 LR LR 08 05 16.0
comp=Z,36nm,19.1s,baz=275,slow=38
PETK Petropavlovsk- 75.70 36 LR LR 08 07 44.4
comp=Z,21nm,19.4s,baz=292,slow=38
SCHQ Schefferville 78.91 328 P **P 07 32 04.8 +0.2**
comp=Z,2.8nm,0.8s,baz=37,slow=5.1,SNR=3.9
IM04 Indian Mountai 81.84 10 *eP* **P 07 32 20.4 +0.3**
IM04 Indian Mountai 81.84 10 *eP* **P 07 32 20.4 +0.3**
ILAR Eielson Array 83.86 7 P **P 07 32 28.2 -2.4**
comp=Z,0.5nm,0.7s,baz=339,slow=4.8,SNR=4.7
BPAW Bear Paw Mtn. 84.01 9 *eP* **P 07 32 32.4 +1.0**
comp=Z,0.5nm,0.6s
BPAW Bear Paw Mtn. 84.01 9 *eP* **P 07 32 32.4 +1.0**
comp=Z,0.5nm,0.6s
EGAK Eagle 84.36 5 *eP* **P 07 32 35.2 +2.1**
comp=Z,3.0nm,0.7s
EGAK Eagle 84.36 5 *eP* **P 07 32 35.2 +2.1**
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 86.19 353 P **P 07 32 40.3 -2.0**
comp=Z,0.4nm,0.5s,baz=4.5,slow=5.4,SNR=17
SML Sawmill 86.56 9 *eP* **P 07 32 45.6 +1.4**
SML pmax pmax
comp=Z,1.0nm,0.7s
SML Sawmill 86.56 9 *eP* **P 07 32 45.6 +1.4**
comp=Z,1.4nm,0.7s
SML Sawmill 86.56 9 *eP* **P 07 32 45.6 +1.4**
comp=Z,1.4nm,0.7s

ISCJB ***20*** *07:21:13.9±1.3, 52.7°N±0.1°×169.5°W±0.1, h8km±7km, mb3.1/4, Error ellipse: s-maj=21.0km s-min=7.7km az=151.1*
IDC ***20*** *07:21:13.0±16.0, 52.59°N×169.65°W, h0km, mb3.2/4, mb1 3.6/5, mb1mx3.4/28, mbtmp3.2/5, ML3.2/1, Error ellipse: s-maj=295.3km s-min=46.8km az=83.0*
NEIC ***20*** *07:21:15.7, 52.80°N×169.46°W, h5km, ML3.2(AEIC), After AEIC.*

ISC 20 07:21:15.1±1.8, 52.8°N±0.1°×169.50°W±0.07, h6km±10km, n27,σ1°00/26, mb3.1/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.44**	**63**	P	**Pg**	**07 21 23.5**	**-0.1**
NIKH				S	**Sg**	**07 21 30.9**	**+1.4**
OKSP	**Okmok Steeple**	**0.88**	**56**	P	**Pg**	**07 21 31.4**	**-0.5**
OKSP				S	**Sg**	**07 21 43.9**	**+0.6**
OKWR	**Okmok West Rim**	**1.03**	**49**	P	**Pg**	**07 21 35.3**	**+0.5**
OKAK	**Okmok**	**1.06**	**40**	P	**Pg**	**07 21 33.0**	**-2.5**
OKTU	**Okmok Mt. Tuli**	**1.08**	**55**	P	**Pg**	**07 21 35.5**	**-0.2**
MSOM	**Makushin Julie**	**1.86**	**55**	P	**Pn**	**07 21 47.1**	**-0.4**
MSOM				S	**Sn**	**07 22 12.0**	**+0.8**
MCIR	**Makushin Cirqu**	**1.96**	**52**	P	**Pn**	**07 21 49.0**	**0.0**
MSW	**Makushin Switc**	**1.99**	**54**	P	**Pn**	**07 21 48.7**	**-0.7**
MTBL	**Makushin Table**	**2.08**	**54**	P	**Pn**	**07 21 50.4**	**-0.2**
UNV	**Unalaska Valle**	**2.10**	**58**	P	**Pn**	**07 21 50.3**	**-0.4**
UNV				S	**Sn**	**07 22 17.9**	**+0.7**
AKRB	**Akutan Reef Bi**	**2.46**	**55**	P	**Pn**	**07 21 56.6**	**+0.7**
ZRO	**Akutan Zero**	**2.49**	**56**	P	**Pn**	**07 21 57.3**	**+1.1**
AKGG	**Akutan Green G**	**2.54**	**54**	P	**Pn**	**07 21 57.2**	**+0.3**
AKUT	**Akutan**	**2.62**	**57**	*e*Pn	**Pn**	**07 21 58.1**	**+0.2**
AKUT				*e*Sn	**Sn**	**07 22 31.6**	**+1.7**
ATKA	**Atka Island**	**2.92**	**261**	P	**Pn**	**07 22 02.8**	**+0.7**
SPIA	**Saint Paul Isl**	**4.44**	**355**	P	**Pn**	**07 22 24.1**	**+1.2**
ILAR	**Eielson Array**	**16.67**	**35**	Pn	**Pn**	**07 25 07.8**	**-1.2**
	0.0nm,0.3s,baz=225,slow=10,SNR=3.9						
YKA	**Yellowknife Ar**	**30.04**	**49**	P	**P**	**07 27 24.9**	**+0.5**
	0.2nm,0.5s,baz=274,slow=8.0,SNR=6.0						
H11N2	**WAKE ISLAND Hy**	**37.72**	**218**	T	T	08 08 32.5	
	baz=23,slow=76,SNR=3.1						
H11N3	**WAKE ISLAND Hy**	**37.73**	**218**	T	T	08 08 36.6	
	baz=23,slow=76,SNR=5.5						
H11N1	**WAKE ISLAND Hy**	**37.74**	**218**	T	T	08 08 34.5	
	baz=23,slow=76,SNR=4.4						
NVAR	**Mina Array Bea**	**37.75**	**91**	P	**P**	**07 28 32.4**	**+0.5**
	0.2nm,0.5s,baz=311,slow=6.8,SNR=3.3						
H11S1	**WAKE ISLAND Hy**	**38.91**	**218**	T	T	08 10 00.0	
	baz=23,slow=76,SNR=34						
H11S2	**WAKE ISLAND Hy**	**38.92**	**218**	T	T	08 10 01.1	
	baz=23,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**38.93**	**218**	T	T	08 10 00.6	
	baz=23,slow=76,SNR=19						
PDAR	**Pinedale Array**	**40.41**	**79**	P	**P**	**07 28 53.2**	**-0.9**
	0.3nm,0.8s,baz=309,slow=5.7,SNR=3.2						
TXAR	**Lajitas Array**	**52.82**	**89**	P	**P**	**07 30 30.3**	**-1.1**
	0.2nm,0.6s,baz=308,slow=6.1,SNR=4.1						

IDC ***20*** *07:26:10.3±16.0, 52.73°N×170.21°W, h0km, mb3.2/4, mb1 3.6/5, mb1mx3.4/28, mbtmp3.1/5, ML3.3/1, Error ellipse: s-maj=302.0km s-min=46.3km az=84.0*
ISCJB ***20*** *07:26:12.0±1.4, 52.9°N±0.1°×169.9°W±0.1, h5km±10km, mb3.0/4, Error ellipse: s-maj=24.7km s-min=7.8km az=155.9*
NEIC ***20*** *07:26:13.4, 52.65°N×169.56°W, h5km, ML3.0(AEIC), After AEIC.*

ISC 20 07:26:13.5±1.8, 52.9°N±0.1°×169.81°W±0.07, h7km±11km, n17,σ1°03/22, mb3.0/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.58**	**85**	P	**Pg**	**07 26 24.5**	**-0.2**
NIKH				S	**Sb**	**07 26 32.3**	**-2.1**
OKAK	**Okmok**	**1.09**	**53**	P	**Pg**	**07 26 32.9**	**-1.4**
OKAK				S	**Sg**	**07 26 47.5**	**-1.0**
OKWE	**Okmok W'ng Wal**	**1.09**	**60**	P	**Pg**	**07 26 34.6**	**+0.2**
OKWE				S	**Sg**	**07 26 50.4**	**+1.9**
OKWR	**Okmok West Rim**	**1.09**	**62**	P	**Pb**	**07 26 35.6**	**+0.8**
OKTU	**Okmok Mt. Tuli**	**1.16**	**66**	P	**Pg**	**07 26 35.9**	**+0.2**
MSOM	**Makushin Julie**	**1.93**	**62**	P	**Pn**	**07 26 46.7**	**0.0**
MSOM				S	**Sn**	**07 27 12.7**	**+1.5**
MCIR	**Makushin Cirqu**	**2.02**	**58**	P	**Pn**	**07 26 49.1**	**+1.0**
MSW	**Makushin Switc**	**2.06**	**60**	P	**Pn**	**07 26 49.4**	**+0.8**
MTBL	**Makushin Table**	**2.14**	**60**	P	**Pn**	**07 26 50.3**	**+0.6**
UNV	**Unalaska Valle**	**2.18**	**64**	P	**Pn**	**07 26 50.0**	**-0.2**
UNV				S	**Sb**	**07 27 20.0**	**-0.5**
ZRO	**Akutan Zero**	**2.57**	**62**	P	**Pn**	**07 26 55.3**	**-0.2**
ATKA	**Atka Island**	**2.77**	**256**	P	**Pn**	**07 26 58.7**	**+0.4**
ILAR	**Eielson Array**	**16.64**	**36**	Pn	**Pn**	**07 30 06.2**	**-0.8**
	0.0nm,0.3s,baz=223,slow=9.9,SNR=5.9						
YKA	**Yellowknife Ar**	**30.08**	**50**	P	**P**	**07 32 23.1**	**+0.1**
	0.1nm,0.5s,baz=272,slow=7.3,SNR=5.2						
NVAR	**Mina Array Bea**	**37.94**	**91**	P	**P**	**07 33 32.7**	**+0.9**
	0.2nm,0.5s,baz=308,slow=7.8,SNR=3.8						
PDAR	**Pinedale Array**	**40.56**	**79**	P	**P**	**07 33 53.3**	**-0.3**
	0.2nm,0.6s,baz=300,slow=6.1,SNR=3.0						
TXAR	**Lajitas Array**	**53.01**	**89**	P	**P**	**07 35 30.1**	**-0.9**
	0.2nm,0.5s,baz=318,slow=6.1,SNR=4.2						

IDC 20 07:27:24.6±3.6, 6.11S×150.09E, h0km, mb3.3/2, mb1 3.7/2, mb1mx3.3/31, mbtmp3.4/2, MS2.5/2, Ms1 2.5/2, ms1mx2.4/19, Error ellipse: s-maj=135.8km s-min=47.6km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC

WRA	**Warramunga Arr**	**20.58**	**227**	P	P	07 32 05.3	0.0
	2.0nm,0.6s,baz=52,slow=11,SNR=7.7						
ASAR	**Alice Springs**	**23.39**	**220**	P	P	07 32 34.9	-0.4
	0.2nm,0.5s,baz=56,slow=9.2,SNR=4.5						
TGY	**Tagaytay City**	**35.22**	**305**	LR	LR	07 47 14.1	
	comp=Z,12nm,21.9s,baz=240,slow=34						
NWAO	**Narrogin (SRO)**	**40.56**	**225**	LR	LR	07 52 11.7	
	comp=Z,4.3nm,19.1s,baz=326,slow=37						
TORD	**Torodi Ar. Bea**	**148.09**	**285**	PKPbc	PKPbc	07 47 12.9	-0.5
	0.2nm,0.4s,baz=93,slow=2.9,SNR=3.6						

IDC 20 07:42:27.6±1.8, 13°90N×93°03E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.4/44, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=45.2km s-min=25.6km az=70.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.27**	**51**	P	Pn	07 44 16.8	+1.6
	0.3nm,0.3s,baz=240,slow=16,SNR=4.2						
CMAR				Sn	Sn	07 45 37.0	-1.4
	0.8nm,0.3s,baz=234,slow=24,SNR=4.3						
MKAR	**Makanchi Array**	**34.01**	**347**	P	P	07 49 12.9	-0.3
	0.8nm,0.7s,baz=156,slow=7.4,SNR=7.7						
WRA	**Warramunga Arr**	**52.75**	**129**	P	P	07 51 44.6	-0.1
	0.2nm,0.4s,baz=312,slow=8.0,SNR=6.4						
ASAR	**Alice Springs**	**54.69**	**133**	P	P	07 51 58.8	-0.1
	0.4nm,0.4s,baz=310,slow=7.1,SNR=11						

*IDC **20** 07:43:52.0±16.0, 52°39N×169°72W, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.4/45, mbtmp3.2/4, ML3.3/1, Error ellipse: s-maj=310.5km s-min=50.3km az=85.0*
*NEIC **20** 07:43:55.4, 52°75N×169°56W, h5km, ML3.2(AEIC), After AEIC.*
ISC 20 07:43:54.7±1.9, 52°8N±0°2×169°62W±0°09, h4km±12km, n24, σ0°93/24, mb3.1/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.49**	**69**	P	**Pg**	**07 44 05.2**	**+0.9**
NIKH				S	**Sb**	**07 44 13.6**	**0.0**
OKSP	**Okmok Steeple**	**0.92**	**60**	P	**Pg**	**07 44 13.2**	**+0.8**
OKSP				S	**Sb**	**07 44 27.0**	**+1.1**
OKWR	**Okmok West Rim**	**1.06**	**52**	P	**Pb**	**07 44 16.6**	**+0.8**
OKCE	**Okmok Cone E**	**1.08**	**54**	P	**Pg**	**07 44 15.7**	**+0.3**
OKCE				S	**Sn**	**07 44 32.9**	**+0.8**
OKAK	**Okmok**	**1.09**	**43**	P	**Pg**	**07 44 14.4**	**-1.2**
OKTU	**Okmok Mt. Tuli**	**1.12**	**58**	P	**Pg**	**07 44 16.1**	**0.0**
MSOM	**Makushin Julie**	**1.90**	**56**	P	**Pn**	**07 44 28.1**	**+0.3**
MSOM				S	**Sb**	**07 44 55.0**	**+1.0**
MCIR	**Makushin Cirqu**	**2.00**	**54**	P	**Pn**	**07 44 30.1**	**+0.8**
MSW	**Makushin Switc**	**2.04**	**55**	P	**Pn**	**07 44 30.6**	**+0.8**
MTBL	**Makushin Table**	**2.12**	**55**	P	**Pn**	**07 44 32.3**	**+1.3**
UNV	**Unalaska Valle**	**2.14**	**59**	P	**Pn**	**07 44 31.5**	**+0.2**
UNV				S	**Sb**	**07 45 01.1**	**+0.2**
AKGG	**Akutan Green G**	**2.58**	**56**	P	**Pn**	**07 44 37.6**	**+0.4**
AKUT	**Akutan**	**2.66**	**58**	*e*Pn	**Pb**	**07 44 41.7**	**-1.2**
AKUT				*e*Sg	**Sg**	**07 45 18.9**	**-1.3**
ATKA	**Atka Island**	**2.86**	**260**	P	**Pn**	**07 44 42.0**	**+0.9**
ILAR	**Eielson Array**	**16.69**	**35**	Pn	**Pn**	**07 47 50.1**	**+1.0**
	0.1nm,0.3s,baz=232,slow=11,SNR=4.5						
YKA	**Yellowknife Ar**	**30.08**	**49**	P	**P**	**07 50 04.6**	**0.0**
	0.1nm,0.4s,baz=274,slow=7.7,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**37.70**	**218**	T	T	08 31 01.5	
	baz=24						
H11N3	**WAKE ISLAND Hy**	**37.70**	**218**	T	T	08 31 01.5	
	baz=24						
H11N1	**WAKE ISLAND Hy**	**37.71**	**218**	T	T	08 31 02.8	
	baz=24						
H11S1	**WAKE ISLAND Hy**	**38.89**	**217**	T	T	08 32 30.2	
	baz=18						
H11S2	**WAKE ISLAND Hy**	**38.90**	**217**	T	T	08 32 33.7	
	baz=18						
H11S3	**WAKE ISLAND Hy**	**38.90**	**217**	T	T	08 32 31.6	
	baz=18						
PDAR	**Pinedale Array**	**40.47**	**79**	P	**P**	**07 51 33.5**	**-1.0**
	0.3nm,0.6s,baz=341,slow=4.4,SNR=3.5						
TXAR	**Lajitas Array**	**52.89**	**89**	P	**P**	**07 53 10.6**	**-1.2**
	0.6nm,0.7s,baz=288,slow=4.7,SNR=7.0						

IDC 20 07:44:44.2±2.5, 54°27N×86°00E, h0km, mb1 2.8/2, mb1mx2.8/30, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=18.9km s-min=11.6km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.77**	**246**	*i*		07 50 20.0	
	baz=61,slow=314,SNR=2.0						
ZALV	**Zalesovo Beam**	**0.77**	**246**	Pg	Pg	07 44 58.0	-0.9
	0.8nm,0.3s,baz=71,slow=18,SNR=4.9						
ZALV				Lg	Lg	07 45 09.7	
	8.1nm,0.3s,baz=68,slow=30,SNR=44						
ZALV				Rg	Rg	07 45 14.4	
	15nm,0.8s,baz=61,slow=34,SNR=23						
KURBB	**Kurchatov Arra**	**5.85**	**234**	Pn	Pn	07 46 13.3	+1.3
	0.1nm,0.3s,baz=50,slow=14,SNR=7.0						
MKAR	**Makanchi Array**	**7.85**	**199**	Pn	Pn	07 46 40.1	+0.5
	0.1nm,0.3s,baz=21,slow=12,SNR=6.6						

*NNC **20** 07:47:41.0±3.7, 54°05N×90°36E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=30.4km s-min=24.7km az=9.0*
IDC 20 07:47:35.8±3.7, 53°79N×91°42E, h0km, mb1 3.5/3, mb1mx3.2/31, mbtmp3.5/3, ML2.9/3, 6C-3D, Error ellipse: s-maj=33.9km s-min=29.1km az=93.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.91**	**275**	*i*		08 09 00.0	
	baz=91,slow=316,SNR=3.1						
ZALV	**Zalesovo Beam**	**3.91**	**275**	Pn	Pn	07 48 37.7	+0.6
	1.0nm,0.3s,baz=94,slow=15,SNR=12						
ZALV				Sn	Sb	07 49 31.7	-1.8
	2.7nm,0.3s,baz=96,slow=29,SNR=3.8						
TLY	**Talaya**	**7.72**	**101**	Lg	Lg	07 51 40.8	
	0.0nm,0.3s,baz=180,slow=18,SNR=8.6						
KURK	**Kurchatov**	**8.43**	**254**	⇓Pn	Pn	07 49 38.2	-0.9
	1.4nm,0.7s						
KURK				⇓Sn	Sn	07 51 08.2	-6.8
	4.7nm,0.8s						
KURK				⇑Lg	Lg	07 51 57.7	
	20nm,1.0s						
KURBB	**Kurchatov Arra**	**8.53**	**253**	⇑Pn	Pn	07 49 39.3	-1.2
	4.9nm,0.5s						
KURBB				⇑Sn	Sn	07 51 10.4	-6.8
	36nm,0.7s						
KURBB				⇑Lg	Lg	07 51 57.7	
	27nm,0.8s						
KURBB	**Kurchatov Arra**	**8.53**	**253**	Pn	Pn	07 49 39.5	-1.0
	0.3nm,0.3s,baz=65,slow=14,SNR=14						
KURBB				Sn	Sn	07 51 15.9	-1.4
	0.1nm,0.3s,baz=68,slow=27,SNR=14						
KURBB				Lg	Lg	07 51 58.5	
	0.1nm,0.3s,baz=66,slow=32,SNR=6.7						
MK31	**Makanchi Array**	**9.11**	**223**	⇑Pn	Pn	07 49 48.8	+0.2
	1.0nm,0.6s,baz=38,slow=14,SNR=11						
MK31				⇓Sn	Sn	07 51 33.2	+1.3
	3.4nm,0.8s,baz=31,slow=21,SNR=2.8						
MK31				⇑Lg	Lg	07 52 22.8	
	15nm,0.9s,baz=31,slow=23,SNR=4.2						
MKAR	**Makanchi Array**	**9.11**	**223**	Pn	Pn	07 49 49.6	+1.1
	0.3nm,0.3s,baz=41,slow=11,SNR=9.6						
MKAR				Sn	Sn	07 51 30.2	-1.6
	0.2nm,0.3s,baz=35,slow=22,SNR=6.4						
MKAR				Lg	Lg	07 52 16.6	
	0.1nm,0.3s,baz=46,slow=29,SNR=3.6						
SONM	**Songino Array**	**11.18**	**116**	Lg	Lg	07 53 38.8	
	0.2nm,0.3s,baz=304,slow=26,SNR=8.1						

*IDC **20** 07:50:44.9±1.7, 6°59S×130°10E, h0km, mb4.1/2, mb1 4.1/4, mb1mx3.7/30, mbtmp3.9/4, ML3.8/2, Error ellipse: s-maj=139.4km s-min=24.3km az=66.0*
ISC 20 07:50:46.9±1.3, 6°66S±0°10×129°9E±0°2, h10km, n9, σ1°19/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.41**	**33**	P	**Pg**	**07 52 11.5**	**+0.1**
	baz=4.9,SNR=4.8						

MTN	**Manton Dam**	**6.27**	**169**	P	Pn	07 52 13.9	-5.6
	baz=5.1,SNR=4.7						
KDU	**Kakadu**	**6.52**	**157**	P	Pn	07 52 16.3	-6.6
	baz=5.1,SNR=4.1						
KNRA	**Kununurra**	**9.03**	**187**	P	Pn	07 53 01.8	+4.5
	baz=8.3,SNR=8.7						
WRA	**Warramunga Arr**	**13.90**	**162**	Pn	**Pn**	**07 54 05.2**	**+1.0**
	0.3nm,0.3s,baz=345,slow=12,SNR=8.6						
WRA				Sn	Sn	07 56 28.4	-10
	1.2nm,0.3s,baz=337,slow=23,SNR=7.8						
ASAR	**Alice Springs**	**17.35**	**167**	Pn	**P**	**07 54 50.8**	**0.0**
	0.7nm,0.3s,baz=344,slow=9.3,SNR=22						
ASAR				Sn	Sn	07 57 50.9	-12
	0.2nm,0.3s,baz=354,slow=28,SNR=4.5						
WRKA	**Warakurna**	**18.34**	**185**	P	**P**	**07 55 01.4**	**-0.2**
	baz=18,SNR=3.1						
STKA	**Stephens Creek**	**27.38**	**158**	P	**P**	**07 56 30.8**	**-1.8**
	0.9nm,0.4s,baz=335,slow=10.0,SNR=6.4						
MKAR	**Makanchi Array**	**67.87**	**327**	P	**P**	**08 01 45.8**	**+0.2**
	1.1nm,0.4s,baz=125,slow=7.9,SNR=16						

IDC 20 08:00:43.5±35.0, 6°30N×122°21E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/39, mbtmp3.8/3, Error ellipse: s-maj=600.5km s-min=310.3km az=149.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.68**	**156**	P	P	08 06 42.4	0.0
	0.9nm,0.4s,baz=335,slow=9.6,SNR=13						
ASAR	**Alice Springs**	**31.90**	**159**	P	P	08 07 10.8	-0.1
	0.4nm,0.6s,baz=335,slow=6.8,SNR=12						
STKA	**Stephens Creek**	**42.23**	**155**	P	P	08 08 38.5	0.0
	0.9nm,0.6s,baz=320,slow=9.2,SNR=6.1						

*KRNET **20** 08:01:02.0±0.1, 39°56N×76°22E, mb3.5*
*NNC **20** 08:01:03.6±2.5, 39°55N×74°53E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=17.6km s-min=9.9km az=171.0*
ISC 20 08:01:00.9±2.1, 39°6N±0°1×74°90E±0°08, h10km, n8, σ2°43/13, 6C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.16**	**292**	P	Pn	08 01 20.7	-2.7
	3.8nm,0.2s						
SFK				⇑S	**Sb**	**08 01 34.5**	**-4.0**
	32nm,0.3s						
SFK	**Sufi-Kurgan**	**1.16**	**292**	*e*P	**Sn**	**08 01 38.6**	**-0.9**
	baz=283						
SFK				*e*S	Sg	08 02 04.9	+26
	baz=283						
NRN	**Naryn**	**2.03**	**24**	*e*P	**Pn**	**08 01 35.0**	**-0.5**
	baz=354						
NRN				*e*S	**Sn**	**08 01 58.4**	**-2.7**
	baz=354						
ARLS	**Aral**	**2.32**	**349**	*i* P	**Pb**	**08 01 44.1**	**+1.2**
	baz=328						
ARLS				*e*S	**Sb**	**08 02 15.2**	**+3.5**
	baz=328						
AAK	**Ala-Archa**	**3.07**	**354**	⇑Pg	**Pg**	**08 01 58.9**	**-0.7**
	4.0nm,0.5s						
AAK				Lg	Lg	08 02 37.2	
	9.2nm,0.6s						
TKM2	**Tokmak 2**	**3.38**	**9**	⇓Pn	**Pb**	**08 02 02.0**	**+1.0**
	5.1nm,0.7s						
TKM2				⇑Sn	**Sb**	**08 02 42.4**	**+0.2**
	11nm,0.5s						
DZET	**Dzherino**	**4.78**	**263**	⇑Pg	**Pb**	**08 02 28.0**	**+3.1**
	1.9nm,0.3s						
DZET				⇑Sn	**Sn**	**08 03 06.8**	**-1.9**
	8.5nm,0.4s						
DZET				Lg	Lg	08 03 30.3	
	22nm,0.4s						
KK31	**Karatay Array**	**4.83**	**318**	Pg	**Pb**	**08 02 25.4**	**-0.2**
	0.4nm,0.5s,baz=132,slow=16						
KK31				⇑Sn	**Sn**	**08 03 12.2**	**+2.6**
	0.7nm,0.4s						
KK31				⇓Lg	Lg	08 03 31.4	
	0.9nm,0.3s,baz=138,slow=28,SNR=4.5						

*ISCJB **20** 08:03:47.9±0.7, 49°61N±0°04×129°97W±0°06, h10km, Error ellipse: s-maj=7.0km s-min=4.3km az=32.1*
*IDC **20** 08:03:47.2±3.1, 49°45N×130°12W, h0km, mb1 3.5/7, mb1mx3.3/41, mbtmp3.2/7, ML3.1/5, Error ellipse: s-maj=47.3km s-min=15.6km az=60.0*
*PGC **20** 08:03:48.3±0.6, 49°49N×130°16W, h10km, ML2.8/23, Mw3.4/23, 238km Wsw of Pt. Hardy, Bc Vancouver Island Region*
ISC 20 08:03:49.4±1.3, 49°58N±0°07×129°94W±0°08, h10km, n43, σ1°06/51, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BPBC	**Brooks Peninsu**	**1.52**	**67**	Pn	**Pn**	**08 04 15.4**	**-1.2**
BPBC				Sn	**Sn**	**08 04 35.2**	**-1.3**
HOLB	**Holberg**	**1.58**	**47**	Pn	**Pn**	**08 04 17.0**	**-0.4**
HOLB				Sn	**Sn**	**08 04 37.2**	**-0.7**
EDB	**Eliza Dome**	**1.86**	**80**	Pn	**Pn**	**08 04 19.8**	**-1.5**
EDB				Sn	**Sn**	**08 04 43.2**	**-1.5**
FHRB	**Fair Harbour**	**1.89**	**74**	Pn	**Pn**	**08 04 20.5**	**-1.1**
MAYB	**Maynard**	**1.97**	**64**	Pn	**Pn**	**08 04 22.1**	**-0.9**
MAYB				Sn	**Sn**	**08 04 46.6**	**-1.2**
PHC	**Port Hardy**	**1.97**	**54**	Pn	**Pn**	**08 04 22.4**	**-0.4**
PHC				Sn	**Sn**	**08 04 46.5**	**-1.0**
TLCB	**Telegraph Cove**	**2.23**	**63**	Pn	**Pn**	**08 04 26.0**	**-0.3**
TLCB				Sn	**Sn**	**08 04 53.8**	**0.0**
WOSB	**Woss**	**2.26**	**74**	Pn	**Pn**	**08 04 26.6**	**-0.3**
NCRB	**Newcastle Ridg**	**2.64**	**70**	Pn	**Pn**	**08 04 32.5**	**+0.4**
TOFB	**Tofino**	**2.67**	**98**	Sn	**Sn**	**08 05 04.0**	**-0.9**
BBB	**Bella Bella**	**2.85**	**23**	Pn	**Pn**	**08 04 35.2**	**+0.3**
	12nm,0.3s,baz=202,slow=6.5,SNR=177						
BBB				Sn	**Sn**	**08 05 08.1**	**-1.2**
	5.8nm,0.3s,baz=280,slow=22,SNR=7.3						
BBB	**Bella Bella**	**2.85**	**23**	Pn	**Pn**	**08 04 35.2**	**+0.3**
BBB				Sn	**Sn**	**08 05 08.3**	**-1.0**
BTB	**Buttle Lake**	**2.88**	**91**	Pn	**Pn**	**08 04 35.6**	**0.0**
BTB				Sn	**Sn**	**08 05 09.3**	**-1.1**
OZB	**Mount Ozzard**	**2.98**	**100**	Pn	**Pn**	**08 04 36.1**	**-0.7**
CBB	**Campbell River**	**3.00**	**80**	Pn	**Pn**	**08 04 37.4**	**+0.5**
CBB				Sn	**Sn**	**08 05 12.8**	**-0.2**
ALB	**Alberni**	**3.35**	**93**	Pn	**Pn**	**08 04 42.4**	**+0.6**
MGB	**Mount Grey**	**3.49**	**98**	Pn	**Pn**	**08 04 43.9**	**+0.2**
MGB				Sn	**Sn**	**08 05 23.9**	**-1.3**
TXB	**Texada**	**3.58**	**86**	Pn	**Pn**	**08 04 45.7**	**+0.7**
PFB	**Port Renfrew**	**3.76**	**104**	Pn	**Pn**	**08 04 47.4**	**0.0**
YOUB	**Youbou, Lake C**	**3.78**	**98**	Pn	**Pn**	**08 04 48.1**	**+0.3**
MOBC	**Moresby Island**	**3.79**	**341**	Pn	**Pn**	**08 04 46.3**	**-1.5**
NLLB	**Nanaimo Lost L**	**3.91**	**93**	Pn	**Pn**	**08 04 50.5**	**+1.1**
SHB	**Sechelt**	**3.95**	**87**	Pn	**Pn**	**08 04 50.8**	**+0.7**
SHB				Sn	**Sn**	**08 05 35.6**	**-0.9**
DIB	**Dawson Inlet,**	**3.96**	**337**	Pn	**Pn**	**08 04 48.0**	**-2.1**
H02S1	**DAWSON INLET T**	**3.96**	**337**	Pn	**Pn**	**08 04 48.1**	**-2.0**
H02S1				T	T	08 08 49.4	
H02N1	**VAN INLET T-PH**	**4.02**	**337**	Pn	**Pn**	08 04 47.3	-3.8
H02N1				T	T	08 08 54.0	
VIB	**Van Inlet**	**4.02**	**337**	Pn	**Pn**	**08 04 49.0**	**-2.1**
BIB	**Bowen Island**	**4.33**	**90**	Pn	**Pn**	**08 04 56.1**	**+0.9**
WPB	**Watts Point**	**4.38**	**86**	Pn	**Pn**	**08 04 56.7**	**+0.8**
UBRB	**Upper Baezaeko**	**4.95**	**46**	Pn	**Pn**	**08 05 06.1**	**+2.2**
VDB	**Vedder Mountai**	**5.16**	**93**	Pn	**Pn**	**08 05 07.5**	**+0.8**
A05A	**Maple Falls**	**5.18**	**93**	Pn	**Pn**	**08 05 08.0**	**+1.2**
LLLB	**Lillooet**	**5.29**	**76**	Pn	**Pn**	**08 05 10.4**	**+1.9**
FSB	**Fort Saint Jam**	**6.00**	**33**	Pn	**Pn**	**08 05 19.3**	**+1.0**
NEW	**Newport**	**8.55**	**94**	Pn	**Pn**	**08 05 53.2**	**0.0**
	0.4nm,0.3s,baz=291,slow=8.6,SNR=5.2						
DLBC	**Dease Lake**	**8.88**	**360**	Pn	**Pn**	**08 05 58.3**	**+0.6**
	0.1nm,0.3s,baz=184,slow=16,SNR=2.2						
NVAR	**Mina Array Bea**	**13.92**	**139**	Pn	**Pn**	**08 07 07.8**	**+0.9**
	0.0nm,0.3s,baz=329,slow=14,SNR=2.2						
YKA	**Yellowknife Ar**	**15.46**	**27**	Pn	**Pn**	**08 07 26.8**	**-0.4**
	0.0nm,0.3s,baz=214,slow=13,SNR=4.7						
PDAR	**Pinedale Array**	**15.65**	**108**	Pn	**P**	**08 07 33.7**	**-0.6**
	baz=310,slow=10,SNR=5.5						
ILAR	**Eielson Array**	**17.68**	**336**	P	**P**	**08 07 57.4**	**+1.0**
	baz=150,slow=12,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**57.88**	**263**	T	T	09 16 12.5	
	baz=43						
H11N3	**WAKE ISLAND Hy**	**57.89**	**263**	T	T	09 16 11.3	
	baz=43						
H11N1	**WAKE ISLAND Hy**	**57.90**	**263**	T	T	09 16 11.4	
	baz=43						

*JMA **20** 08:04:25.0±0.4, 22°42N×123°10E, h53km, MS3.5*
*TAP **20** 08:04:26.6, 22°34N×122°90E, h85km±1km, ML3.8, D*
ISC 20 08:04:21.0±3.0, 22°32N±0°05×123°13E±0°04, h14km±22km, n46, σ1°60/89, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**1.49**	**260**	*e*P	**Pb**	**08 04 48.6**	**+0.2**
	baz=256						
LAY				*e*S	**Sn**	**08 05 04.7**	**-2.0**
	baz=256						
CHKT	**Chengkung**	**1.81**	**296**	*i* P	**Pn**	**08 04 53.0**	**+1.3**
	baz=298						
CHKT				S	**Sn**	**08 05 12.2**	**-2.2**
	baz=298						
HATJ	**Hateruma jima**	**1.84**	**20**	P	**Pb**	**08 04 54.1**	**-0.3**
HATJ				S	**Sn**	**08 05 14.6**	**-0.7**
TTN	**Taitung**	**1.88**	**284**	*e*P	**Pn**	**08 04 54.4**	**+1.6**
	baz=284						
TTN				*e*S	**Sn**	**08 05 14.7**	**-1.7**
	baz=284						
TWG	**Pinlang**	**1.97**	**285**	*e*P	**Pb**	**08 04 55.8**	**-0.8**
	baz=290						
TWG				*e*S	**Sn**	**08 05 17.7**	**-0.7**
	baz=290						
TWF1	**Yuli**	**1.98**	**302**	*i* P	**Pn**	**08 04 55.7**	**+1.6**
	baz=312						
TWF1				*e*S	**Sn**	**08 05 17.2**	**-1.6**
	baz=312						
EHY	**Hungye**	**2.04**	**306**	*e*P	**Pn**	**08 04 56.7**	**+1.7**
	baz=314						
EHY				*e*S	**Sn**	**08 05 19.7**	**-0.7**
	baz=314						
JKRS	**Kuro-shima**	**2.07**	**23**	P	**Pb**	**08 04 57.5**	**-1.0**
JKRS				S	**Sn**	**08 05 21.1**	**0.0**
IRIF	**Iriomote-Funau**	**2.08**	**15**	P	**Pn**	**08 04 57.0**	**+1.5**
IRIF				S	**Sn**	**08 05 21.0**	**-0.3**
TSEB	**Hengchuen, Pin**	**2.11**	**259**	*e*P	**Pb**	**08 04 58.7**	**-0.4**
	baz=257						
TSEB				*e*S	**Sn**	**08 05 22.0**	**+0.1**
	baz=257						
EAST	**Anshuo**	**2.11**	**272**	*e*P	**Pn**	**08 04 57.7**	**+1.7**
	baz=265						
EAST				*e*S	**Sn**	**08 05 19.9**	**-2.2**
	baz=265						
JYNG	**Yonagunijimaku**	**2.13**	**355**	P	**Pb**	**08 04 58.5**	**-0.9**
JYNG				S	**Sn**	**08 05 21.8**	**-0.7**
ELDTW	**Lidau**	**2.13**	**294**	*e*P	**Pn**	**08 04 57.9**	**+1.5**
	baz=296						
ELDTW				*e*S	**Sn**	**08 05 20.9**	**-1.8**
	baz=296						
YOJ	**Yonaguni jima**	**2.14**	**357**	P	**Pn**	**08 04 58.4**	**+2.1**
YOJ				S	**Sn**	**08 05 22.5**	**-0.1**
ESL	**Shilin**	**2.16**	**314**	*e*P	**Pb**	**08 04 59.0**	**-0.9**
	baz=318						
ESL				*e*S	**Sn**	**08 05 21.3**	**-1.8**
	baz=318						
TWK1	**Hengchun**	**2.19**	**261**	*e*P	**Pn**	**08 04 59.0**	**+2.0**
	baz=258						
TWK1				*e*S	**Sn**	**08 05 22.2**	**-1.7**
	baz=258						
HEN	**Hengchun**	**2.24**	**262**	*e*P	**Pn**	**08 04 59.6**	**+1.9**
	baz=261						
HEN				*e*S	**Sn**	**08 05 23.5**	**-1.7**
	baz=261						
JIJ	**Ishigaki jima**	**2.24**	**24**	P	**Pn**	**08 04 59.0**	**+1.3**
JIJ				S	**Sn**	**08 05 23.6**	**-1.6**
TWD	**Chiawan**	**2.25**	**321**	*e*P	**Pn**	**08 04 59.5**	**+1.6**
	baz=332						
TWD				*e*S	**Sn**	**08 05 24.4**	**-1.0**
	baz=332						
SCZT	**Fangliau**	**2.32**	**272**	*e*P	**Pb**	**08 05 01.4**	**-1.3**
	baz=265						
SCZT				*e*S	**Sn**	**08 05 25.7**	**-1.5**
	baz=265						
SSD	**Sandimen**	**2.35**	**281**	*e*P	**Pb**	**08 05 03.3**	**+0.2**
	baz=274						
ALS	**Alishan**	**2.45**	**299**	*e*P	**Pb**	**08 05 03.5**	**-1.5**
	baz=297						
ENA	**Nanau**	**2.46**	**329**	*e*P	**Pn**	**08 05 03.0**	**+2.3**
	baz=327						
ENA				*e*S	**Sn**	**08 05 30.0**	**-0.6**
	baz=327						
WTP	**Ta-pu**	**2.50**	**292**	*e*P	**Pb**	**08 05 04.8**	**-0.9**
	baz=297						
WTP				*e*S	**Sn**	**08 05 33.3**	**+1.7**
	baz=297						
WHF	**Hehuan Shan**	**2.50**	**317**	*e*P	**Pn**	**08 05 03.5**	**+1.9**
	baz=320						
WHF				*e*S	**Sn**	**08 05 30.8**	**-1.4**
	baz=320						
JISG	**Ishigakijimahi**	**2.50**	**25**	P	**Pn**	**08 05 03.0**	**+1.6**
JISG				S	**Sn**	**08 05 31.0**	**-0.7**
CHN1	**Nanshi**	**2.55**	**290**	*e*P	**Pb**	**08 05 06.2**	**-0.4**
	baz=295						
CHN1				*e*S	**Sn**	**08 05 35.8**	**+2.9**
	baz=295						
TWM1	**Shoushan**	**2.55**	**282**	*e*P	**Pb**	**08 05 05.7**	**-0.9**
	baz=273						
TWC	**Suao**	**2.57**	**333**	*e*P	**Pn**	**08 05 04.5**	**+2.4**
	baz=344						
TWC				*e*S	**Sn**	**08 05 32.3**	**-0.9**
	baz=344						
SMLT	**Sun Moon Lake**	**2.58**	**308**	*e*P	**Pn**	**08 05 04.8**	**+2.4**
	baz=314						
SMLT				*e*S	**Sn**	**08 05 33.1**	**-0.6**
	baz=314						
CHN5	**Tsauling**	**2.59**	**300**	*e*P	**Pb**	**08 05 06.8**	**-0.6**
	baz=308						
CHN5				*e*S	**Sn**	**08 05 36.5**	**+2.5**
	baz=308						
TWK	**Hsinying**	**2.61**	**292**	*e*P	**Pb**	**08 05 07.0**	**-0.7**
	baz=293						
TWK				*e*S	**Sb**	**08 05 38.2**	**-1.

JIRB S **Sn** 08 05 46.3 -0.7

IDC 20 08:20:36.3±3.3, 53.46N×87.44E, h0km, mb1 2.9/2, mb1mx2.8/46, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=33.1km s-min=15.7km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.63**	**288**	*i*		08 30 57.9	
	baz=107,slow=320,SNR=8.5						
ZALV	**Zalesovo Beam**	**1.63**	**288**	Pg	Pn	08 21 04.8	-1.5
	1.7nm,0.3s,baz=106,slow=17,SNR=9.4						
ZALV				Lg	Lg	08 21 28.2	
	2.3nm,0.3s,baz=107,slow=29,SNR=8.3						
KURBB	**Kurchatov Arra**	**6.19**	**246**	Pn	Pn	08 22 10.0	+1.1
	0.1nm,0.3s,baz=62,slow=14,SNR=3.0						
MKAR	**Makanchi Array**	**7.45**	**208**	Pn	Pn	08 22 27.2	+0.9
	0.2nm,0.3s,baz=25,slow=13,SNR=8.2						

*IDC **20** 08:23:07.2±1.2, 6.11S×150.41E, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.7/33, mbtmp3.8/6, ML1.4/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/34, Error ellipse: s-maj=78.3km s-min=20.4km az=127.0*

*ISCJB **20** 08:23:12.5±1.0, 6.2S±0.3×150.4E±0.4, h48km, mb3.7/4, MS3.2/1, Error ellipse: s-maj=63.6km s-min=11.5km az=43.3*

ISC 20 08:23:13.8±1.1, 6.2S±0.3×150.4E±0.4, h48km, n8, σ0s59/8, mb3.8/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.51**	**224**	Pn	**Pn**	**08 24 18.7**	**-0.9**
	1.4nm,0.3s,baz=48,slow=14,SNR=3.3						
PMG				Sn	**Sn**	**08 25 11.7**	**+0.9**
	6.1nm,0.3s,baz=18,slow=20,SNR=8.7						
WRA	**Warramunga Arr**	**20.73**	**227**	P	**P**	**08 27 50.6**	**+0.2**
	3.9nm,0.7s,baz=53,slow=11,SNR=23						
ASAR	**Alice Springs**	**23.52**	**221**	P	**P**	**08 28 20.0**	**+0.2**
	1.4nm,0.6s,baz=55,slow=8.9,SNR=19						
STKA	**Stephens Creek**	**26.86**	**197**	P	**P**	**08 28 50.1**	**+0.1**
	2.9nm,0.9s,baz=5.7,slow=10,SNR=4.3						
TGY	**Tagaytay City**	**35.45**	**305**	LR	LR	08 41 41.6	
	comp=Z,50nm,21.3s,slow=31						
ILAR	**Eielson Array**	**84.33**	**23**	P	**P**	**08 35 40.7**	**+0.2**
	0.2nm,0.6s,baz=232,slow=4.4,SNR=3.4						
NVAR	**Mina Array Bea**	**94.84**	**52**	P	**P**	**08 36 31.2**	**0.0**
	0.4nm,0.7s,baz=254,slow=5.9,SNR=5.0						
TORD	**Torodi Ar. Bea**	**148.35**	**285**	PKPbc	**PKPbc**	**08 42 55.8**	**-0.1**
	0.9nm,0.6s,baz=49,slow=2.6,SNR=7.3						

IDC 20 08:25:18.8±2.6, 6.32S×150.23E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.6/37, mbtmp3.9/4, ML2.0/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/33, Error ellipse: s-maj=75.7km s-min=39.5km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.32**	**225**	Pn	Pn	08 26 27.5	+1.8
	5.3nm,0.3s,baz=46,slow=9.3,SNR=4.3						
PMG				Sn	Sn	08 27 13.4	-3.5
	4.4nm,0.3s,baz=106,slow=18,SNR=5.2						
PMG				LR	LR	08 28 10.3	
	comp=Z,116nm,21.1s,baz=32,slow=40						
WRA	**Warramunga Arr**	**20.54**	**227**	P	P	08 29 58.9	-0.1
	3.6nm,0.6s,baz=52,slow=11,SNR=15						
ASAR	**Alice Springs**	**23.33**	**221**	P	P	08 30 27.9	-0.8
	0.6nm,0.5s,baz=54,slow=9.4,SNR=5.4						
STKA	**Stephens Creek**	**26.68**	**197**	P	P	08 30 59.2	-0.5
	2.9nm,1.0s,baz=20,slow=14,SNR=5.2						
TORD	**Torodi Ar. Bea**	**148.28**	**285**	PKPbc	PKPbc	08 45 07.8	-0.3
	1.1nm,0.6s,baz=88,slow=2.2,SNR=12						

*IDC **20** 08:27:32.6±11.0, 52.90N×170.66W, h0km, mb3.3/4, mb1 3.6/5, mb1mx3.3/63, mbtmp3.2/5, ML3.3/1, Error ellipse: s-maj=210.0km s-min=48.4km az=88.0*

*ISCJB **20** 08:27:38.5±1.9, 52.6N±0.1×169.4W±0.1, h11km±14km, mb3.2/4, Error ellipse: s-maj=21.4km s-min=8.6km az=142.4*

*NEIC **20** 08:27:39.9, 52.69N×169.36W, h5km, ML3.5(AEIC), After AEIC.*

ISC 20 08:27:39.0±2.2, 52.7N±0.1×169.40W±0.08, h5km±13km, n30, σ0s89/26, mb3.2/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.44**	**48**	P	**Pb**	**08 27 49.0**	**-0.3**
NIKH				S	**Sb**	**08 27 56.3**	**0.0**
OKSP	**Okmok Steeple**	**0.88**	**49**	P	**Pg**	**08 27 56.7**	**+0.7**
OKSP				S	**Sb**	**08 28 09.2**	**+0.3**
OKWR	**Okmok West Rim**	**1.05**	**43**	P	**Pb**	**08 27 59.8**	**+0.1**
OKCE	**Okmok Cone E**	**1.06**	**44**	P	**Pg**	**08 27 59.2**	**-0.1**
OKTU	**Okmok Mt. Tuli**	**1.08**	**49**	P	**Pg**	**08 28 00.0**	**+0.2**
OKAK	**Okmok**	**1.10**	**34**	P	**Pg**	**08 27 58.3**	**-1.8**
MSOM	**Makushin Julie**	**1.86**	**51**	P	**Pn**	**08 28 10.8**	**-0.7**
MSOM				S	**Sb**	**08 28 37.3**	**+0.2**
MCIR	**Makushin Cirqu**	**1.97**	**49**	P	**Pn**	**08 28 14.2**	**+1.1**
MSW	**Makushin Switc**	**2.00**	**51**	P	**Pn**	**08 28 14.1**	**+0.6**
MTBL	**Makushin Table**	**2.08**	**51**	P	**Pn**	**08 28 15.8**	**+1.1**
UNV	**Unalaska Valle**	**2.10**	**55**	P	**Pn**	**08 28 14.1**	**-0.6**
UNV				S	**Sn**	**08 28 40.9**	**-0.3**
AKRB	**Akutan Reef Bi**	**2.47**	**53**	P	**Pn**	**08 28 20.8**	**+1.0**
ZRO	**Akutan Zero**	**2.49**	**54**	P	**Pn**	**08 28 21.3**	**+1.1**
AKGG	**Akutan Green G**	**2.54**	**52**	P	**Pn**	**08 28 21.7**	**+0.8**
AKUT	**Akutan**	**2.62**	**55**	*e*Pn	**Pn**	**08 28 21.2**	**-0.7**
AKUT				*e*Sg	**Sb**	**08 29 00.3**	**+1.6**
ATKA	**Atka Island**	**2.97**	**263**	P	**Pn**	**08 28 27.4**	**+0.6**
SPIA	**Saint Paul Isl**	**4.54**	**354**	P	**Pn**	**08 28 49.2**	**+1.0**
ILAR	**Eielson Array**	**16.71**	**35**	Pn	Pn	08 31 27.6	-5.9
	0.0nm,0.3s,baz=230,slow=10,SNR=3.1						
H02N1	**VAN INLET T-PH**	**22.05**	**74**	T	T	08 55 30.5	
H02S1	**DAWSON INLET T**	**22.11**	**74**	T	T	08 55 34.3	
DLBC	**Dease Lake**	**22.74**	**60**	P	**P**	**08 32 42.6**	**+0.8**
	0.8nm,0.6s,baz=273,slow=4.1,SNR=3.4						
YKA	**Yellowknife Ar**	**30.05**	**49**	P	**P**	**08 33 47.2**	**-1.3**
	0.1nm,0.3s,baz=276,slow=7.2,SNR=5.5						
H11N2	**WAKE ISLAND Hy**	**37.69**	**218**	T	T	09 14 45.9	
	baz=24,slow=76,SNR=23						
H11N3	**WAKE ISLAND Hy**	**37.69**	**218**	T	T	09 14 45.3	
	baz=24,slow=76,SNR=35						
H11N1	**WAKE ISLAND Hy**	**37.70**	**218**	T	T	09 14 46.5	
	baz=24,slow=76,SNR=28						
H11S1	**WAKE ISLAND Hy**	**38.88**	**218**	T	T	09 16 13.8	
	baz=23,slow=76,SNR=589						
H11S2	**WAKE ISLAND Hy**	**38.89**	**218**	T	T	09 16 12.7	
	baz=23,slow=76,SNR=352						
H11S3	**WAKE ISLAND Hy**	**38.89**	**218**	T	T	09 16 14.5	
	baz=23,slow=76,SNR=276						
PDAR	**Pinedale Array**	**40.37**	**79**	P	**P**	**08 35 18.0**	**+0.3**
	0.2nm,0.5s,baz=305,slow=3.2,SNR=2.6						
TXAR	**Lajitas Array**	**52.76**	**89**	P	**P**	**08 36 54.5**	**-0.4**
	0.5nm,0.6s,baz=290,slow=5.2,SNR=7.3						

*IDC **20** 08:29:26.3±14.0, 52.50N×170.19W, h0km, mb3.3/4, mb1 3.7/5, mb1mx3.3/62, mbtmp3.3/5, ML3.5/1, Error ellipse: s-maj=264.7km s-min=44.7km az=83.0*

*NEIC **20** 08:29:31.1, 52.69N×169.40W, h5km, ML3.2(AEIC), After AEIC.*

ISC 20 08:29:31.4±0.9, 52.9N±0.2×169.57W±0.08, h10km, n19, σ0s60/23, mb3.2/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.45**	**75**	P	**Pg**	**08 29 40.2**	**0.0**
NIKH				S	**Sb**	**08 29 47.9**	**-0.3**
OKSP	**Okmok Steeple**	**0.86**	**63**	P	**Pb**	**08 29 48.7**	**+0.2**
OKSP				S	**Sn**	**08 30 02.2**	**-0.2**
OKWR	**Okmok West Rim**	**1.00**	**54**	P	**Pb**	**08 29 51.5**	**+0.6**
OKAK	**Okmok**	**1.02**	**45**	P	**Pb**	**08 29 49.6**	**-1.6**
OKTU	**Okmok Mt. Tuli**	**1.06**	**60**	P	**Pn**	**08 29 52.1**	**-0.2**
MSOM	**Makushin Julie**	**1.84**	**58**	P	**Pn**	**08 30 03.4**	**+0.4**
MSOM				S	**Sb**	**08 30 28.2**	**+0.1**
MGOD	**Makushin Gods**	**1.87**	**59**	P	**Pn**	**08 30 03.2**	**-0.3**
MSW	**Makushin Switc**	**1.97**	**57**	P	**Pn**	**08 30 05.3**	**+0.4**
MTBL	**Makushin Table**	**2.05**	**56**	P	**Pn**	**08 30 06.8**	**+0.7**
UNV	**Unalaska Valle**	**2.08**	**61**	P	**Pn**	**08 30 06.3**	**-0.1**
UNV				S	**Sn**	**08 30 33.2**	**+0.8**
ZRO	**Akutan Zero**	**2.47**	**59**	P	**Pn**	**08 30 12.1**	**+0.3**
ATKA	**Atka Island**	**2.90**	**259**	P	**Pn**	**08 30 17.3**	**-0.4**
GSCK	**Great Sitkin C**	**4.12**	**261**	P	**Pn**	**08 30 34.5**	**0.0**
ADAG	**Mount Adagdak**	**4.40**	**261**	P	**Pn**	**08 30 39.2**	**+1.0**
ILAR	**Eielson Array**	**16.61**	**35**	Pn	**Pn**	**08 33 24.8**	**+0.6**
	0.1nm,0.3s,baz=227,slow=12,SNR=5.7						
YKA	**Yellowknife Ar**	**30.01**	**49**	P	**P**	**08 35 40.2**	**+0.3**
	0.1nm,0.4s,baz=275,slow=7.2,SNR=7.2						
NVAR	**Mina Array Bea**	**37.79**	**91**	P	**P**	**08 36 47.1**	**-0.9**
	0.3nm,0.7s,baz=304,slow=8.4,SNR=2.1						
PDAR	**Pinedale Array**	**40.43**	**80**	P	**P**	**08 37 09.9**	**-0.1**
	0.5nm,0.8s,baz=323,slow=4.9,SNR=4.6						
TXAR	**Lajitas Array**	**52.86**	**89**	P	**P**	**08 38 47.0**	**-0.3**
	0.3nm,0.6s,baz=308,slow=4.4,SNR=3.2						

*IDC **20** 08:31:59.3±0.5, 8.76S×157.76E, h0km, mb4.4/21, mb1 4.5/24, mb1mx4.4/44, mbtmp4.4/24, ML3.9/3, MS4.1/22, Ms1 4.1/22, ms1mx4.0/31, Error ellipse: s-maj=18.5km s-min=12.6km az=85.0*

*ISCJB **20** 08:32:00.7±0.2, 8.73S±0.03×157.70E±0.04, h16km, mb4.7/62, MS4.2/25, Error ellipse: s-maj=6.3km s-min=4.6km az=12.1*

*NEIC **20** 08:32:03.6±2.3, 8.71S×157.70E, h25km±16km, mb4.9/46, Error ellipse: s-maj=5.8km s-min=5.6km az=176.0*

*GCMT **20** 08:32:03.6±0.3, 8.83S×157.82E, h28km±1km, MW5.0/58, Moment Tensor Solution. s20,c24; s58,c80; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.75±.21; $M_{\theta\theta}$-2.24±.16; $M_{\phi\phi}$0.49±.15; $M_{r\theta}$-2.73±.29; $M_{r\phi}$1.63±.09; $M_{\theta\phi}$0.63±.22; Best double couple: M_o3.70700×10^{16} NP1:ϕ281.00000°, δ71.00000°, λ76.00000°. NP2: ϕ139.00000°, δ23.00000°, λ125.00000°. Principal axes: T 3.1500, Plg62.0000°, Azm170.0000°; N 1.1150, Plg13.0000°, Azm286.0000°; P -4.2630, Plg25.0000°, Azm22.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **20** 08:32:03.1±0.9, 8.69S×157.64E, h33km, mb5.0/14 Error ellipse: s-maj=9.8km s-min=8.5km az=72.7*

ISC 20 08:32:02.6±0.3, 8.70S±0.05×157.72E±0.04, h16km, n170, σ1s49/165, mb4.8/62, MS4.2/25, 2C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.32**	**109**	*e*P	**Pn**	**08 32 39.0**	**-1.1**
HNR				*e*S	**Sg**	**08 33 19.3**	**+2.2**
HNR	**Honiara**	**2.32**	**109**	*i* P	**Pb**	**08 32 44.0**	**0.0**
HNR				*i* S	**Sb**	**08 33 11.0**	**-1.4**
HNR	**Honiara**	**2.32**	**109**	*e*Pn	**Pn**	**08 32 39.0**	**-1.1**
HNR				*e*S	**Sg**	**08 33 19.3**	**+2.2**
PMG	**Port Moresby**	**10.46**	**265**	LR	LR	08 37 55.5	
	comp=Z,481nm,20.7s,baz=67,slow=34						
COEN	**Coen**	**15.19**	**249**	*e*P	**P**	**08 35 42.0**	**+0.4**
	75nm,1.4s						
DZM	**Mont Dzumac**	**15.72**	**149**	Pn	**Pn**	**08 35 42.0**	**-1.6**
	0.2nm,0.3s,baz=270,slow=20,SNR=7.7						
DZM				LR	LR	08 40 41.8	
	comp=Z,1μm,20.5s,baz=0.0,slow=33						
CTA	**Charters Tower**	**15.85**	**223**	Pn	**Pn**	**08 35 44.3**	**-1.0**
	0.5nm,0.3s,baz=42,slow=15,SNR=4.0						
CTA				Sn	Sn	08 38 30.2	-11
	0.5nm,0.3s,baz=316,slow=20,SNR=5.5						
CTAO	**Charters Tower**	**15.85**	**223**	*e*P	**Pn**	**08 35 46.1**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,125nm,2.1s						
CTAO	**Charters Tower**	**15.85**	**223**	*e*P	**Pn**	**08 35 46.0**	**+0.8**
	comp=Z,125nm,2.1s						
MTSU	**Mount Surprise**	**16.05**	**233**	P	**P**	**08 35 53.0**	**+1.8**
	baz=16,SNR=5.1						
EIDS	**Eidsvold**	**17.75**	**200**	P	**P**	**08 36 10.0**	**+0.1**
	baz=18,SNR=6.2						
EIDS	**Eidsvold**	**17.75**	**200**	*e*P	**Pn**	**08 36 09.3**	**+0.1**
	comp=Z,16nm,0.8s						
JAY	**Jayapura**	**18.01**	**289**	P	**Pn**	**08 36 11.2**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=117,slow=9.0,SNR=3.3						
JAY				LR	LR	08 42 37.6	
	comp=Z,381nm,18.8s,baz=119,slow=35						
JAY	**Jayapura**	**18.01**	**289**	P	P	08 36 21.3	+8.4
	baz=18,SNR=3.4						
RMQ	**Roma**	**19.63**	**205**	P	**Pn**	**08 36 33.7**	**+1.7**
	baz=19,SNR=8.7						
QIS	**Mount Isa**	**21.10**	**234**	P	**P**	**08 36 47.1**	**+0.5**
	baz=21,SNR=8.3						
MSVF	**Nonsavu**	**21.71**	**116**	*e*P	**P**	**08 36 56.1**	**+2.8**
MSVF				pmax	pmax		
	comp=Z,198nm,2.1s						
MSVF	**Nonsavu**	**21.71**	**116**	*e*P	**P**	**08 36 56.1**	**+2.8**
	comp=Z,198nm,2.1s						
QLP	**Quilpie**	**21.91**	**214**	P	**P**	**08 36 54.3**	**-0.9**
	baz=22,SNR=14						
ARMA	**Armidale**	**22.35**	**194**	P	**P**	**08 37 01.8**	**+1.8**
	baz=22,SNR=11						
ARMA	**Armidale**	**22.35**	**194**	*e*P	**P**	**08 37 01.3**	**+1.2**
	comp=Z,33nm,1.0s						
KDU	**Kakadu**	**25.12**	**259**	P	**P**	**08 37 27.1**	**+0.1**
	baz=25,SNR=5.2						
WRAB	**Tennant Creek**	**25.21**	**241**	*e*P	**P**	**08 37 27.1**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,21nm,0.8s						
WRAB	**Tennant Creek**	**25.21**	**241**	*e*P	**P**	**08 37 27.1**	**-0.8**
	comp=Z,21nm,0.8s						
WRA	**Warramunga Arr**	**25.23**	**241**	P	**P**	**08 37 27.2**	**-0.8**
	comp=Z,29nm,0.9s,baz=68,slow=9.3,SNR=156						
WRA				PcP	**PcP**	**08 41 00.3**	**-1.3**
	comp=Z,1.1nm,0.7s,baz=65,slow=2.1,SNR=3.3						
WRA				LR	LR	08 46 52.8	
	comp=Z,762nm,19.7s,baz=80,slow=35						
CMSA	**Cobar Meteorol**	**25.34**	**205**	P	**P**	**08 37 28.6**	**-0.2**
	baz=25,SNR=34						
GUMO	**Guam**	**25.55**	**330**	LR	LR	08 46 04.6	
	comp=Z,174nm,21.3s,baz=122,slow=33						
FAKI	**Fak Fak**	**25.97**	**281**	P	**P**	**08 37 36.2**	**+1.4**
	baz=26,SNR=3.4						
FAKI	**Fak Fak**	**25.97**	**281**	*e*P	**P**	**08 37 36.3**	**+1.4**
	comp=Z,27nm,0.9s						
AS31	**Alice Springs**	**27.22**	**234**	*e*P	**P**	**08 37 44.3**	**-1.8**
ASAR	**Alice Springs**	**27.22**	**234**	P	**P**	**08 37 44.3**	**-1.8**
	comp=Z,4.9nm,0.9s,baz=64,slow=9.1,SNR=31						
ASAR				PcP	**PcP**	**08 41 05.6**	**-0.6**
	comp=Z,1.2nm,1.0s,baz=69,slow=2.6,SNR=3.9						
ASAR				LR	LR	08 47 33.3	
	comp=Z,795nm,22.0s,baz=86,slow=34						
SIJI	**Sorong**	**27.47**	**285**	LR	LR	08 50 35.4	
	comp=Z,206nm,18.2s,baz=246,slow=41						
STKA	**Stephens Creek**	**27.51**	**211**	P	**P**	**08 37 47.8**	**-0.7**
	comp=Z,15nm,0.7s,baz=48,slow=14,SNR=40						
STKA				LR	LR	08 48 35.8	
	comp=Z,542nm,18.1s,baz=29,slow=36						
STKA	**Stephens Creek**	**27.51**	**211**	P	**P**	**08 37 47.8**	**-0.7**
STKA				pmax	pmax		
	comp=Z,15nm,0.7s						
STKA				MLR	MLR		
	comp=Z,542nm,18.1s						
STKA	**Stephens Creek**	**27.51**	**211**	P	**P**	**08 37 48.1**	**-0.4**
	baz=27,SNR=36						
STKA	**Stephens Creek**	**27.51**	**211**	*e*P	**P**	**08 37 48.6**	**+0.1**
	comp=Z,3.4nm,0.8s						
CNB	**Canberra Magne**	**27.58**	**195**	P	**P**	**08 37 53.0**	**+3.8**
	baz=27,SNR=5.8						
H11N1	**WAKE ISLAND Hy**	**29.64**	**18**	T	T	09 08 15.3	
	baz=196,slow=76,SNR=21						
H11N3	**WAKE ISLAND Hy**	**29.65**	**18**	T	T	09 08 14.1	
	baz=196,slow=76,SNR=18						
H11N2	**WAKE ISLAND Hy**	**29.66**	**18**	T	T	09 08 14.7	
	baz=196,slow=76,SNR=14						
HTT	**Hallett**	**30.11**	**212**	P	**P**	**08 38 11.2**	**-0.5**
	baz=30,SNR=6.8						
OUZ	**Omahuta**	**30.14**	**154**	*e*P	**P**	**08 38 12.4**	**+0.6**
	comp=Z,13nm,1.1s						
TOO	**Toolangi**	**30.80**	**199**	P	**P**	**08 38 17.7**	**0.0**
	baz=31,SNR=5.3						
BBOO	**Buckleboo**	**31.27**	**217**	P	**P**	**08 38 21.1**	**-0.7**
	baz=31,SNR=23						
BBOO	**Buckleboo**	**31.27**	**217**	*e*P	**P**	**08 38 21.0**	**-0.9**
	comp=Z,22nm,0.8s						
WRKA	**Warakurna**	**32.40**	**236**	P	**P**	**08 38 30.3**	**-1.6**
	baz=32,SNR=12						
BATI	**Baumata**	**33.62**	**265**	LR	LR	08 53 43.9	
	comp=Z,964nm,18.2s,baz=122,slow=39						
URZ	**Urewera**	**34.23**	**152**	P	**P**	**08 38 46.7**	**-1.0**
	comp=Z,5.8nm,0.8s,baz=312,slow=15,SNR=3.0						
URZ	**Urewera**	**34.23**	**152**	*e*P	**P**	**08 38 46.9**	**-0.7**
	comp=Z,13nm,1.1s						
BKZ	**Black Stump Fm**	**34.70**	**154**	*e*P	**P**	**08 38 51.7**	**-0.1**
	comp=Z,24nm,1.3s						
TAU	**Tasmania Unive**	**35.28**	**193**	*e*P	**P**	**08 38 57.3**	**+0.6**
TAU				pmax	pmax		
	comp=Z,63nm,1.5s						
TAU	**Tasmania Unive**	**35.28**	**193**	*e*P	**P**	**08 38 57.3**	**+0.6**
	comp=Z,63nm,1.5s						
FORT	**Forrest**	**35.33**	**227**	P	**P**	**08 38 56.1**	**-1.2**
	baz=35,SNR=9.4						
FORT	**Forrest**	**35.33**	**227**	*e*P	**P**	**08 38 55.9**	**-1.3**
	comp=Z,19nm,0.7s						
LUWI	**Luwuk**	**35.62**	**280**	*e*P	**P**	**08 38 58.4**	**-1.6**
	comp=Z,86nm,0.8s						
KHZ	**Kahutara**	**36.36**	**160**	*e*P	**P**	**08 39 04.6**	**-1.3**
	comp=Z,284nm,2.0s						
RPZ	**Rata Peaks**	**36.78**	**164**	P	**P**	**08 39 07.7**	**-1.8**
	comp=Z,8.4nm,0.8s,baz=270,slow=4.0,SNR=3.3						
RPZ	**Rata Peaks**	**36.78**	**164**	*e*P	**P**	**08 39 10.8**	**+1.3**
	comp=Z,35nm,1.3s						
KAPI	**Kappang**	**37.86**	**273**	LR	LR	08 55 41.1	
	comp=Z,98nm,20.0s,baz=122,slow=38						
MBWA	**Marble Bar**	**38.63**	**247**	*e*P	**P**	**08 39 23.9**	**-1.6**
	comp=Z,26nm,1.1s						
KMBL	**Kambalda**	**40.24**	**231**	P	**P**	**08 39 38.3**	**-0.5**
	baz=40,SNR=6.0						
MEEK	**Meekatharra**	**41.09**	**239**	P	**P**	**08 39 45.1**	**-0.9**
	baz=41,SNR=11						
JAGI	**Jajag, Banyuwa**	**43.06**	**267**	*e*P	**P**	**08 40 00.9**	**-1.3**
	comp=Z,65nm,0.8s						
BLDU	**Balidiu**	**44.01**	**235**	P	**P**	**08 40 08.8**	**-0.8**
	baz=44,SNR=5.4						
JOW	**Kunigami**	**45.42**	**322**	*e*P	**P**	**08 40 21.5**	**+0.6**
	comp=Z,13nm,1.2s						
YHNB	**Yeheng**	**48.54**	**314**	*e*P	**P**	**08 40 46.5**	**+1.1**
	comp=Z,18nm,0.9s						
MJAR	**Matsushiro Arr**	**48.59**	**339**	P	**P**	**08 40 44.3**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=167,slow=8.7,SNR=6.3						
MJAR				LR	LR	08 59 54.9	
	comp=Z,84nm,21.3s,baz=165,slow=34						
MAJO	**Matsushiro**	**48.59**	**339**	*e*P	**P**	**08 40 44.3**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,37nm,1.1s						
MAT	**Matsushiro**	**48.59**	**339**	P	**P**	**08 40 42.9**	**-2.6**
JNU	**Nakatsue**	**48.81**	**330**	P	**P**	**08 40 47.2**	**-0.1**
	comp=Z,13nm,0.9s,baz=99,slow=6.6,SNR=5.9						
JNU	**Nakatsue**	**48.81**	**330**	*e*P	**P**	**08 40 47.2**	**-0.1**
	comp=Z,7.5nm,1.0s						
LEM	**Lembang**	**49.65**	**268**	LR	LR	09 05 30.4	
	comp=Z,236nm,18.0s,slow=40						
PPT	**Papeete**	**51.94**	**105**	LR	LR	09 00 05.8	
	comp=Z,78nm,19.1s,baz=284,slow=32						
PPT2	**Papeete2**	**51.94**	**105**	*e*LQ	LQ	08 54 17.0	
	comp=Z,483nm,27.0s						
PPT2				*e*LR	LR	08 56 29.4	
	comp=Z,140nm,24.5s						
TBI	**Tubuai**	**52.53**	**113**	*e*LR	LR	08 56 48.7	
	comp=Z,266nm,26.8s						
KSRS	**Korea Array**	**53.72**	**331**	P	**P**	**08 41 24.1**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=147,slow=6.8,SNR=4.7						
KSRS				LR	LR	09 02 50.7	
	comp=Z,111nm,20.3s,baz=138,slow=34						
KSAR	**Wonju Array Be**	**53.73**	**331**	P	**P**	**08 41 24.1**	**+0.1**
KSAR	**Wonju Array Be**	**53.73**	**331**	P	**P**	**08 41 24.1**	**+0.1**
QIZ	**Qiongzhong**	**54.65**	**301**	P	P	08 41 35.8	+4.7
QIZ				S	S	08 49 17.9	+7.1
QIZ				PMZ			
	comp=Z,6.0nm,1.6s						
QIZ				LZ			
	comp=Z,220nm,24.6s						
NJ2	**Nanjing**	**54.95**	**319**	*e*P	**P**	**08 41 32.9**	**-0.1**
NJ2				PMZ			
	comp=Z,10.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**57.57**	**338**	P	**P**	**08 41 51.4**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=158,slow=8.7,SNR=3.7						
PSI	**Prapat**	**59.72**	**278**	LR	LR	09 11 15.8	
	comp=Z,144nm,19.2s,baz=82,slow=39						
CN2	**Changchun**	**59.89**	**333**	*e*P	**P**	**08 42 10.8**	**+3.1**
CN2				PMZ			
	comp=Z,10.0nm,0.4s						
GYA	**Guiyang**	**60.63**	**307**	P	**P**	**08 42 15.0**	**+1.7**
GYA				sP	sP	08 42 28.8	+8.4
GYA				PP	**PP**	**08 44 30.0**	**+2.9**
GYA				ScP	**ScP**	**08 46 55.3**	**-3.2**
GYA				S	**S**	**08 50 27.5**	**-1.9**
GYA				PMZ			
	comp=Z,20nm,0.8s						
GYA				PMZ			
	comp=Z,120nm,5.4s						
GYA				LN			
	comp=Z,520nm,18.8s						
GYA				LE			
	comp=Z,490nm,19.2s						
GYA				LZ			
	comp=Z,500nm,18.4s						
PET	**Petropavlovsk**	**61.48**	**1**	*e*P	**P**	**08 42 16.3**	**-2.0**
PET				*e*S	S	08 50 33.5	-5.5
PET				*e*SS	**SS**	**08 54 35.2**	**-5.1**
PET				pmax	pmax		
	comp=Z,100nm,13.4s						
PETK	**Petropavlovsk-**	**61.56**	**360**	P	**P**	**08 42 19.2**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=141,slow=9.6,SNR=3.6						
PETK				LR	LR	09 06 09.2	
	comp=Z,286nm,20.9s,baz=166,slow=33						
BJI	**Beijing**	**61.85**	**325**	P

comp=Z,32nm,1.2s

LZH					PMZ				

comp=Z,160nm,4.8s

VNDA	**Vanda**	**68.83**	**179**	P	**P**	**08 43 04.7**	**-1.1**
	comp=Z,2.2nm,0.8s,baz=343,slow=7.5,SNR=10						
VNDA				LR	LR	09 08 43.7	

comp=Z,265nm,18.5s,baz=354,slow=32

VNDA	**Vanda**	**68.83**	**179**	*e*P	**P**	**08 43 04.9**	**-0.9**
	comp=Z,2.6nm,0.8s						
UNV	**Unalaska Valle**	**69.25**	**22**	*e*P	**P**	**08 43 09.0**	**+0.3**
	comp=Z,23nm,0.7s						
SBA	**Scott Base**	**69.29**	**178**	*e*P	**P**	**08 43 08.4**	**-0.2**
SBA				pmax	pmax		

comp=Z,13nm,1.6s

SBA	**Scott Base**	**69.29**	**178**	*e*P	**P**	**08 43 08.4**	**-0.2**
	comp=Z,13nm,1.6s						
SEY	**Seymchan**	**71.53**	**357**⇑	*e*P	**P**	**08 43 23.2**	**+0.8**
GTA	**Gaotai**	**71.82**	**316**	*e*P	**P**	**08 43 26.4**	**+1.5**
GTA				pP	**pP**	**08 43 34.6**	**+4.5**
GTA				sP	sP	08 43 38.3	+6.2
GTA				S	**S**	**08 52 45.8**	**+0.7**
GTA				PMZ			

comp=Z,5.0nm,1.0s

GTA					PMZ				

comp=Z,76nm,5.0s

GTA					LN				

comp=Z,130nm,14.3s

GTA					LE				

comp=Z,170nm,16.6s

GTA					LZ				

comp=Z,120nm,15.2s

SONM	**Songino Array**	**72.23**	**326**	P	**P**	**08 43 27.6**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=156,slow=5.0,SNR=5.6						
SHL	**Shillong**	**72.48**	**300**	*e*P	**P**	**08 43 30.0**	**+0.8**
SDPT	**Sand Point**	**72.68**	**24**	*e*P	**P**	**08 43 28.8**	**-0.7**
	comp=Z,18nm,0.8s						
BOD	**Bodaibo**	**75.20**	**338**	*e*P	**P**	**08 43 43.9**	**-0.2**
BOD				pmax	pmax		

comp=Z,5.0nm,1.2s

TLY	**Talaya**	**75.90**	**329**	*e*P	P	08 44 00.7	+12
TLY				*e*		08 54 06.7	
TLY				pmax	pmax		

comp=Z,7.0nm,1.0s

TLY					MLR	MLR			

comp=Z,79nm,15.0s

OHAK	**Old Harbor**	**76.89**	**25**	*e*P	**P**	**08 43 53.5**	**-0.3**
	comp=Z,39nm,1.5s						
KDAK	**Kodiak Island**	**77.54**	**25**	*e*P	**P**	**08 43 57.7**	**+0.3**
KDAK				pmax	pmax		

comp=Z,27nm,1.3s

KDAK	**Kodiak Island**	**77.54**	**25**	*e*P	**P**	**08 43 57.7**	**+0.3**
	comp=Z,27nm,1.3s						
PPLA	**Purkeypile**	**80.97**	**21**	*e*P	**P**	**08 44 15.7**	**-0.6**
	comp=Z,14nm,1.3s						
PMR	**Palmer**	**81.28**	**23**	*e*P	**P**	**08 44 17.2**	**-0.5**
PMR				pmax	pmax		

comp=Z,8.0nm,0.9s

PMR	**Palmer**	**81.28**	**23**	*e*P	**P**	**08 44 17.2**	**-0.5**
	comp=Z,8.4nm,0.9s						
CAST	**Castle Rocks**	**81.34**	**20**	*e*P	**P**	**08 44 18.1**	**0.0**
	comp=Z,10nm,0.7s						
SML	**Sawmill**	**81.71**	**23**	*e*P	**P**	**08 44 19.6**	**-0.5**
SML				pmax	pmax		

comp=Z,3.0nm,0.9s

SML	**Sawmill**	**81.71**	**23**	*e*P	**P**	**08 44 19.6**	**-0.5**
	comp=Z,3.2nm,0.9s						
WMQ	**Urumqi**	**81.91**	**317**	P	**P**	**08 44 21.6**	**0.0**
WMQ				pP	**PcP**	**08 44 31.6**	**+4.4**
WMQ				sP	sP	08 44 35.6	+6.8
WMQ				PMZ			

comp=Z,11nm,0.8s

WMQ					PMZ				

comp=Z,110nm,4.6s

WMQ					LN				

comp=Z,69nm,18.8s

WMQ					LZ				

comp=Z,85nm,23.5s

TRF	**Thorofare Moun**	**81.99**	**21**	*e*P	**P**	**08 44 20.8**	**-0.9**
	comp=Z,12nm,0.9s						
SCM	**Sheep Creek Mo**	**82.11**	**23**	*e*P	**P**	**08 44 23.5**	**+1.2**
SCM				pmax	pmax		

comp=Z,131nm,2.4s

SCM	**Sheep Creek Mo**	**82.11**	**23**	*e*P	**P**	**08 44 23.5**	**+1.2**
	comp=Z,130nm,2.4s						
BPAW	**Bear Paw Mtn.**	**82.15**	**20**	*e*P	**P**	**08 44 21.2**	**-1.1**
	comp=Z,0.6nm,0.7s						
IM04	**Indian Mountai**	**82.46**	**18**	*e*P	**P**	**08 44 23.8**	**-0.2**
RND	**Reindeer**	**82.47**	**21**	*e*P	**P**	**08 44 23.7**	**-0.4**
RND				pmax	pmax		

comp=Z,17nm,1.0s

RND	**Reindeer**	**82.47**	**21**	*e*P	**P**	**08 44 23.7**	**-0.4**
	comp=Z,17nm,1.0s						
MCK	**McKinley**	**82.64**	**21**	*e*P	**P**	**08 44 24.3**	**-0.6**
MCK				pmax	pmax		

comp=Z,28nm,0.9s

MCK	**McKinley**	**82.64**	**21**	*e*P	**P**	**08 44 24.3**	**-0.6**
	comp=Z,28nm,0.9s						
MLY	**Manley**	**82.82**	**20**	*e*P	**P**	**08 44 25.2**	**-0.7**
	comp=Z,5.8nm,0.6s						
WRH	**Wood River Hil**	**83.38**	**21**	*e*P	**P**	**08 44 28.0**	**-0.7**
	comp=Z,12nm,1.1s						
CCB	**Clear Creek Bu**	**83.58**	**21**	*e*P	**P**	**08 44 28.6**	**-1.1**
	comp=Z,3.8nm,0.8s						
MDM	**Murphy Dome**	**83.62**	**20**	*e*P	**P**	**08 44 29.2**	**-0.8**
	comp=Z,13nm,1.1s						
COLA	**College**	**83.70**	**20***d*	*i*P	**P**	**08 44 29.1**	**-1.2**
COLA				pmax	pmax		

comp=Z,30nm,0.6s

COLA	**College**	**83.70**	**20**	*e*P	**P**	**08 44 29.4**	**-0.9**
	comp=Z,14nm,0.8s						
MAW	**Mawson**	**83.88**	**203**	P	**P**	**08 44 30.7**	**-0.5**
	comp=Z,5.2nm,0.7s,baz=72,slow=12,SNR=14						
MAW				LR	LR	09 19 05.1	

comp=Z,200nm,18.6s,baz=61,slow=34

MAW	**Mawson**	**83.88**	**203**	P	**P**	**08 44 31.8**	**+0.6**
	baz=83,SNR=8.4						
MAW	**Mawson**	**83.88**	**203**	*e*P	**P**	**08 44 31.2**	**0.0**
	comp=Z,1.8nm,0.9s						
ILAR	**Eielson Array**	**83.98**	**21**	P	**P**	**08 44 30.4**	**-1.3**
	comp=Z,2.3nm,0.8s,baz=273,slow=4.2,SNR=25						
ILAR				LR	LR	09 19 29.8	

comp=Z,176nm,19.4s,baz=252,slow=34

MENT	**Mentasta**	**84.13**	**23**	*e*P	**P**	**08 44 32.8**	**+0.2**
HYT	**Haines Junctio**	**85.67**	**26**	*e*P	**P**	**08 44 40.8**	**+0.2**
EGAK	**Eagle**	**86.05**	**22**	*e*P	**P**	**08 44 42.6**	**+0.4**
	comp=Z,28nm,1.7s						
SKAG	**Skagway**	**86.07**	**28**	*e*P	**P**	**08 44 41.7**	**-0.6**
	comp=Z,7.9nm,1.0s						
DAWY	**Dawson**	**86.38**	**23**	*e*P	**P**	**08 44 45.5**	**+0.6**
	comp=Z,13nm,1.3s						
MK31	**Makanchi Array**	**86.46**	**318**	*e*P	**P**	**08 44 44.4**	**-0.3**
MK31	**Makanchi Array**	**86.46**	**318**	*e*P	**P**	**08 44 44.4**	**-0.3**
MKAR	**Makanchi Array**	**86.46**	**318**	P	**P**	**08 44 43.9**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=105,slow=5.7,SNR=9.7						
MKAR	**Makanchi Array**	**86.46**	**318**	*i*P	**P**	**08 44 44.5**	**-0.2**
MKAR				pmax	pmax		

comp=Z,1.0nm,0.5s

MKAR	**Makanchi Array**	**86.46**	**318**	*e*P	**P**	**08 44 44.8**	**+0.1**
ZALV	**Zalesovo Beam**	**87.10**	**326**	P	**P**	**08 44 46.8**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=126,slow=4.9,SNR=2.4						
ZALV				LR	LR	09 25 00.1	

comp=Z,35nm,19.4s,baz=70,slow=36

KSH	**Kashi**	**89.17**	**310**	P	P	08 45 07.1	+9.2
KSH				pP	pP	08 45 10.3	+7.0
KSH				PP	**PP**	**08 48 33.1**	**+4.7**
KSH	**Kashi**	**89.17**	**310**	SKS	**SKSac**	**08 55 24.0**	**-3.6**
KSH	**Kashi**	**89.17**	**310**	S	S	08 55 58.0	+11
KSH	**Kashi**	**89.17**	**310**	sS	S	08 56 03.3	+17
KSH	**Kashi**	**89.17**	**310**	SS	SS	09 01 44.1	+3.1
KSH				pmax	pmax		

comp=Z,120nm,4.5s

KSH					LR	LR			

comp=N,180nm,4.6s

KSH					LR	LR			

comp=E,99nm,3.8s

KSH					LR	LR			

comp=Z,340nm,6.9s

NVAR	**Mina Array Bea**	**90.66**	**51**	P	**P**	**08 45 05.1**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=243,slow=7.4,SNR=12						
TPNV	**Topopah Spring**	**92.01**	**53**	*e*P	**P**	**08 45 10.9**	**-0.4**
TPNV	**Topopah Spring**	**92.01**	**53**	*e*P	**P**	**08 45 10.8**	**-0.4**
BVAR	**Borovoye Array**	**95.28**	**323**	P	**P**	**08 45 25.8**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=95,slow=7.2,SNR=3.0						
BRVK	**Borovoye**	**95.34**	**323**	*i*P	**P**	**08 45 24.8**	**-1.2**
YKA	**Yellowknife Ar**	**96.57**	**28**	P	**P**	**08 45 30.8**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=261,slow=4.7,SNR=10.0						
PDAR	**Pinedale Array**	**97.83**	**48**	P	**P**	**08 45 36.2**	**-1.6**
	comp=Z,0.4nm,0.8s,baz=270,slow=1.5,SNR=3.6						
PDAR				LR	LR	09 25 34.0	

comp=Z,82nm,19.6s,baz=284,slow=33

TXAR	**Lajitas Array**	**101.68**	**62**	P	**Pdif**	**08 45 54.4**	**-0.8**
	comp=Z,0.1nm,0.6s,baz=260,slow=5.4,SNR=2.5						
OKC	**Ostrava-Krasne**	**127.00**	**328**	AMS	AMS	09 52 30.0	

comp=Z,100nm,20.0s

DPC	**Dobruska-Polom**	**127.61**	**330**	AMS	AMS	09 59 00.0	

comp=Z,100nm,19.9s

UPC	**Upice**	**127.67**	**330**	AMS	AMS	09 50 50.0	

comp=Z,200nm,17.2s

LPAZ	**La Paz**	**128.28**	**119**	PKP	**PKPdf**	**08 51 08.7**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=153,slow=2.3,SNR=3.5						
GOPC	**GO Pecny, Ondr**	**128.65**	**330**	AMS	AMS	09 51 30.0	

comp=Z,200nm,22.0s

PRU	**Pruhonice**	**128.72**	**330**	AMS	AMS	09 54 00.0	

comp=Z,100nm,18.2s

BDFB	**Brasilia**	**144.86**	**133**	PKP	**PKPab**	**08 51 38.3**	**-0.8**
	comp=Z,11nm,0.8s,baz=249,slow=2.6,SNR=12						
BDFB	**Brasilia**	**144.86**	**133**	PKIKP	**PKPab**	**08 51 38.3**	**-0.8**
BDFB				pmax	pmax		

comp=Z,11nm,0.8s

BDFB	**Brasilia**	**144.86**	**133**	*e*PKPdf	**PKPab**	**08 51 38.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**156.06**	**283**	PKP	**PKPdf**	**08 51 56.4**	**-0.9**
	comp=Z,0.7nm,1.1s,baz=101,slow=1.2,SNR=2.9						
RCBR	**Riachuelo**	**160.18**	**136**	*e*PKPdf	**PKPdf**	**08 52 01.5**	**-1.0**

*IDC **20** 08:35:37.5±2.9, 14°.09N×93°.35W, h0km, mb3.6/2, mb1 3.6/5, mb1mx3.4/35, mbtmp3.2/5, ML3.0/3, MS2.7/1, Ms1 2.7/1, ms1mx2.4/25, Error ellipse: s-maj=54.1km s-min=42.1km az=35.0*

ISC 20 08:35:42.1±2.2, 14°.1N±0°.2×93°.3W±0°.1, h37km, n7, σ1§97/7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**3.38**	**332**	Pn	**Pn**	**08 36 32.4**	**+0.2**
	0.7nm,0.3s,baz=153,slow=13,SNR=18						
CMIG				Sn	**Sn**	**08 37 11.6**	**+0.5**

2.1nm,0.3s,baz=121,slow=9.3,SNR=5.3

TEIG	**Tepich**	**7.74**	**37**	Pn	**Pn**	**08 37 32.1**	**-0.1**
	0.1nm,0.3s,baz=250,slow=12,SNR=5.3						
TXAR	**Lajitas Array**	**17.98**	**329**	P	**Pn**	**08 39 47.5**	**-1.7**
	0.0nm,0.3s,baz=155,slow=15,SNR=2.9						
TKL	**Tuckaleechee C**	**23.11**	**20**	LR	LR	08 49 48.0	
	comp=Z,19nm,20.1s,baz=267,slow=37						
NVAR	**Mina Array Bea**	**32.85**	**322**	P	**P**	**08 42 12.5**	**-0.1**
	0.6nm,0.9s,baz=130,slow=8.3,SNR=2.5						
YKA	**Yellowknife Ar**	**50.67**	**347**	P	**P**	**08 44 38.1**	**+0.6**
	1.0nm,0.8s,baz=152,slow=7.2,SNR=13						
CMAR	**Chiang Mai Arr**	**145.50**	**339**	PKPbc	**PKPab**	**08 55 17.9**	**+0.5**
	0.6nm,0.3s,baz=348,slow=3.4,SNR=4.6						

IDC 20 08:39:31.3±3.1, 6°.29S×150°.80E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.7/3, MS2.5/1, Ms1 2.5/1, ms1mx2.5/27, Error ellipse: s-maj=84.3km s-min=47.9km az=110.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.97**	**228**	P	P	08 44 16.1	-0.2
	1.6nm,0.5s,baz=53,slow=11,SNR=14						
ASAR	**Alice Springs**	**23.72**	**221**	P	P	08 44 45.5	+0.3
	0.8nm,0.6s,baz=58,slow=9.1,SNR=10						
STKA	**Stephens Creek**	**26.87**	**198**	P	P	08 45 13.3	-0.5
	1.5nm,0.9s,baz=9.5,slow=12,SNR=3.4						
TGY	**Tagaytay City**	**35.89**	**305**	LR	LR	09 02 14.1	
	comp=Z,7.2nm,18.5s,baz=246,slow=38						
TORD	**Torodi Ar. Bea**	**148.82**	**285**	PKPbc	PKPbc	08 59 21.7	-0.3
	0.3nm,0.5s,baz=60,slow=1.9,SNR=3.4						

IDC 20 08:43:19.0±4.7, 22°.11S×174°.02W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/31, mbtmp3.7/3, MS3.5/1, Ms1 3.5/1, ms1mx2.8/30, Error ellipse: s-maj=239.0km s-min=59.8km az=155.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**7.94**	**206**	LR	LR	08 48 56.4	
	comp=Z,301nm,19.1s,baz=128,slow=42						
CTA	**Charters Tower**	**37.05**	**266**	P	P	08 50 31.6	+0.6
	1.7nm,0.5s,baz=122,slow=13,SNR=2.7						
ASAR	**Alice Springs**	**47.78**	**258**	P	P	08 51 57.5	-1.0
	0.1nm,0.4s,baz=94,slow=7.5,SNR=4.4						
WRA	**Warramunga Arr**	**48.07**	**263**	P	P	08 52 00.6	-0.1
	0.4nm,0.3s,baz=101,slow=8.6,SNR=22						
BRTR	**Keskin Array B**	**150.65**	**313**	PKPbc	PKPbc	09 03 13.1	-0.4
	0.9nm,0.7s,baz=347,slow=5.9,SNR=4.9						

*ISCJB **20** 08:45:56.1±1.1, 35°.96N±0°.08×69°.62E±0°.08, h112km, mb3.7/1, Error ellipse: s-maj=11.0km s-min=8.8km az=168.8*

*NNC **20** 08:45:58.5±2.6, 36°.10N×69°.50E, h134km±24km, mb3.1, mpv3.9, Error ellipse: s-maj=22.9km s-min=13.8km az=0.0*

*IDC **20** 08:46:01.9±16.0, 36°.02N×69°.58E, h164km±157km, mb3.4/2, mb1 3.2/6, mb1mx2.9/48, mbtmp3.8/6, ML3.5/4, Error ellipse: s-maj=94.1km s-min=56.0km az=169.0*

ISC 20 08:45:57.1±1.6, 36°.0N±0°.1×69°.56E±0°.09, h112km, n22, σ1§08/28, 6C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.88**	**349**	⇓P	**Pn**	**08 46 41.9**	**+0.3**
	14nm,0.3s						
DZET				⇓S	**Sn**	**08 47 16.6**	**+0.6**

170nm,0.5s

SFK	**Sufi-Kurgan**	**5.09**	**37**	⇑P	**Pn**	**08 47 11.7**	**+0.4**
	5.8nm,0.4s						
SFK				⇓S	**Sn**	**08 48 10.7**	**+1.6**

39nm,0.5s

AML	**Almayashu**	**6.93**	**26**	P	**Pn**	**08 47 36.3**	**-0.1**
	SNR=8.3						
KK31	**Karatay Array**	**7.15**	**6**	⇓P	**Pn**	**08 47 40.2**	**+1.2**
	1.9nm,0.3s,baz=189,slow=14,SNR=64						
KK31				⇑S	**Sn**	**08 48 58.6**	**-0.1**

3.3nm,0.5s,baz=188,slow=24,SNR=5.6

UCH	**Uchtor**	**7.33**	**30**	P	**Pn**	**08 47 41.9**	**0.0**
	SNR=6.8						
EKS2	**Erkin-Say**	**7.43**	**25**	P	**Pn**	**08 47 43.8**	**+0.9**
	SNR=9.0						
KZA	**Kyzart**	**7.53**	**34**	P	**Pn**	**08 47 43.8**	**-0.7**
	SNR=8.3						
AAK	**Ala-Archa**	**7.67**	**28**	P	**Pn**	**08 47 46.2**	**+0.1**
	SNR=6.5						
AAK	**Ala-Archa**	**7.67**	**28**	⇓P	**Pn**	**08 47 44.9**	**-1.2**
	7.5nm,0.5s						
AAK				⇓S	**Sn**	**08 49 10.8**	**-0.6**

18nm,0.8s

KBK	**Karagaybulak**	**7.87**	**30**	P	**Pn**	**08 47 49.1**	**+0.2**
	SNR=6.4						
CHMS	**Chumysh**	**8.07**	**28**	P	**Pn**	**08 47 51.3**	**-0.2**
	SNR=10						
ULHL	**Ulahol**	**8.13**	**38**	P	**Pn**	**08 47 53.3**	**+0.8**
	SNR=7.1						
USP	**Ospenovka**	**8.21**	**26**	P	**Pn**	**08 47 53.7**	**+0.3**
	SNR=5.9						
TKM2	**Tokmak 2**	**8.36**	**32**	⇑P	**Pn**	**08 47 54.8**	**-0.7**
	2.5nm,0.4s						
TKM2				⇓S	**Sn**	**08 49 28.0**	**-0.2**

5.6nm,0.7s

MKAR	**Makanchi Array**	**14.40**	**37**	P	**P**	**08 49 18.0**	**-1.2**
	0.1nm,0.3s,baz=226,slow=12,SNR=6.7						
AB31	**Akbulak array**	**15.02**	**335**	P	**Pn**	**08 49 23.9**	**+0.5**
	0.7nm,0.3s,baz=162,slow=13,SNR=61						
AB31				⇑S	Sn	08 52 01.6	-7.5

1.2nm,0.6s,baz=152,slow=25,SNR=5.7

KURBB	**Kurchatov Arra**	**16.01**	**21**	P	**Pn**	**08 49 36.4**	**+0.8**
	0.1nm,0.3s,baz=211,slow=10,SNR=11						
AKTO	**Aktyubinsk**	**16.69**	**334**	⇑P	**P**	**08 49 46.6**	**+2.2**
	1.0nm,0.4s						
AKTO				⇑S	**Sn**	**08 52 46.1**	**-3.2**

1.7nm,0.8s

AKTO	**Aktyubinsk**	**16.69**	**334**	P	**P**	**08 49 45.1**	**+0.7**
	0.4nm,0.3s,baz=135,slow=14,SNR=5.7						
AKTO				pP	pP	08 50 15.9	+11

0.2nm,0.3s,baz=146,slow=19,SNR=3.9

BVAR	**Borovoye Array**	**17.05**	**2**	P	**P**	**08 49 49.6**	**+1.1**
	0.4nm,0.3s,baz=164,slow=9.2,SNR=5.9						
ZALV	**Zalesovo Beam**	**20.88**	**26**	P	**P**	**08 50 30.4**	**+0.4**
	2.2nm,0.5s,baz=227,slow=12,SNR=6.9						
TORD	**Torodi Ar. Bea**	**64.54**	**268**	P	**P**	**08 56 21.8**	**-0.7**
	0.5nm,0.4s,baz=49,slow=6.4,SNR=9.0						

MEX 20 08:46:12.6±0.5, 16°.58N×99°.07W, h7km±7km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.93**	**102**	*e*P	Pg	08 46 28.0	-2.5
PNIG				*i* S	Sg	08 46 40.2	-2.4
TLIG	**Tlapa**	**1.09**	**26**	*e*P	Pg	08 46 30.3	-3.4
TLIG				*e*S	Sg	08 46 44.1	-3.8
CAIG	**El Cayaco**	**1.23**	**292**	*e*P	Pb	08 46 32.0	-4.3
CAIG				*e*S	Sb	08 46 47.9	-4.5
MEIG	**Mezcala**	**1.43**	**339**	*e*P	Pn	08 46 35.9	-3.3
MEIG				*i* S	Sn	08 46 53.8	-4.5

*SJA **20** 09:02:13.5±0.7, 34°.04S×73°.83W, h19km±34km, ML3.5*

*GUC **20** 09:02:28.6±0.6, 34°.01S×72°.29W, h4km±2km, ML3.5*

*ISCJB **20** 09:02:29.3±1.4, 34°.02S±0°.04×72°.4W±0°.1, h17km, Error ellipse: s-maj=13.5km s-min=6.0km az=5.8*

ISC 20 09:02:29.6±2.2, 34°.04S±0°.05×72°.4W±0°.1, h17km, n15, σ1§60/25, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**1.18**	**31**⇑	*i*P	**Pn**	**09 02 49.5**	**-1.7**
IHA				*i* S	**Sb**	**09 03 05.3**	**-1.0**
TACH	**Talagante**	**1.24**	**72**⇓	*i*P	**Pn**	**09 02 50.6**	**-1.6**
TACH				*i* S	**Sb**	**09 03 07.2**	**-1.1**
NICH	**Los Niches**	**1.34**	**136**⇑	*i*P	**Pn**	**09 02 52.5**	**-1.0**
NICH				*i* S	**Sn**	**09 03 11.3**	**+0.5**
TALC	**Talca**	**1.48**	**156**⇑	*i*P	**Pn**	**09 02 54.9**	**-0.5**
TALC				*i* S	**Sn**	**09 03 15.4**	**+1.1**
SAN	**Santiago**	**1.53**	**68**	*e*P	**Pn**	**09 02 55.3**	**-0.8**
LACH	**Col Las Americ**	**1.63**	**69**⇑	*i*P	**Pn**	**09 02 56.5**	**-1.0**
LACH				*i* S	**Sn**	**09 03 17.9**	**-0.3**
CLCH	**Cerro Calan**	**1.65**	**68**	*e*P	**Pn**	**09 02 57.1**	**-0.7**
CLCH				*i* S	**Sn**	**09 03 18.1**	**-0.5**
CLCH				AML	AML	09 03 30.2	

comp=E,748nm,0.4s

PEL	**Peldehue**	**1.66**	**58**⇓	*i*P	**Pn**	**09 02 57.5**	**-0.5**
PEL				*i* S	**Sn**	**09 03 19.1**	**+0.2**
PEL				AML	AML	09 03 27.6	

comp=E,2μm,0.6s

AUSP	**Uspallata**	**3.08**	**55**	*i* P	**Pn**	**09 03 20.0**	**+2.2**
AUSP				*i* S	**Sg**	**09 04 08.7**	**+0.1**
AAGR	**Agrelo**	**3.10**	**73**	*i* P	Pn	09 03 21.1	+3.3
ARCO	**CERRO ARCO**	**3.10**	**68**	*i* P	Pn	09 03 21.3	+3.4
ARCO				AML	AML	09 04 17.9	

comp=Z,58nm,0.7s

RTLS	**Leoncito**	**3.41**	**50**	*i* P	**Pn**	**09 03 23.7**	**+1.5**
RTLS				*i* S	**Sg**	**09 04 15.7**	**-3.4**
RTCV	**Cerro Valdivia**	**3.87**	**57**	*i* P	**Pn**	**09 03 30.6**	**+2.2**
RTCV				*i* S	**Sb**	**09 04 27.1**	**+3.0**
CFAA	**Coronel Fontan**	**4.23**	**56**	*i* P	**Pn**	**09 03 34.7**	**+1.4**
CFAA				*i* S	**Sb**	**09 04 36.9**	**+2.5**
RTLL	**Cerro Villicun**	**4.24**	**51**	*i* P	**Pn**	**09 03 35.0**	**+1.5**
RTLL				*i* S	**Sb**	**09 04 34.9**	**+0.1**

*NNC **20** 09:14:45.4±8.3, 53°.38N×87°.86E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=65.1km s-min=47.1km az=24.0*

IDC 20 09:14:43.5±2.7, 53°.59N×87°.84E, h0km, mb1 3.4/2, mb1mx3.1/30, mbtmp3.4/2, ML2.8/2, 3C-5D, Error ellipse: s-maj=23.3km s-min=14.5km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.83**	**283**	*i*		09 26 32.9	
	baz=96,slow=321,SNR=9.2						
ZALV	**Z

	4.3nm,1.1s							
ILAR	**Eielson Array**	**16.59**	**35**	Pn	**Pn**	**09 24 50.9**	**-0.5**
	0.1nm,0.3s,baz=229,slow=11,SNR=16							
EGAK	**Eagle**	**18.70**	**39**	*eP*	**P**	**09 25 16.5**	**-0.6**
	1.4nm,0.7s							
HYT	**Haines Junctio**	**19.03**	**52**	*eP*	**Pn**	**09 25 23.5**	**+1.9**
	3.4nm,0.5s							
SKAG	**Skagway**	**19.93**	**57**	*eP*	**Pn**	**09 25 32.6**	**+0.4**
	10nm,1.0s							
INK	**Inuvik**	**22.98**	**34**	P	**P**	**09 26 01.8**	**-1.5**
	1.0nm,0.5s,baz=243,slow=5.8,SNR=3.7							
YKA	**Yellowknife Ar**	**29.95**	**49**	P	**P**	**09 27 06.8**	**-0.1**
	0.4nm,0.5s,baz=272,slow=7.7,SNR=13							
EGMT	**Eagleton**	**37.33**	**73**	*eP*	**P**	**09 28 12.2**	**+0.9**
	1.6nm,0.8s							
NVAR	**Mina Array Bea**	**37.67**	**92**	P	**P**	**09 28 16.1**	**+1.7**
	0.5nm,0.8s,baz=292,slow=7.4,SNR=4.4							
H11N2	**WAKE ISLAND Hy**	**37.80**	**218**	T	T	10 08 15.5		
	baz=23,slow=76,SNR=5.6							
H11N3	**WAKE ISLAND Hy**	**37.81**	**218**	T	T	10 08 19.3		
	baz=23,slow=76,SNR=11							
H11N1	**WAKE ISLAND Hy**	**37.82**	**218**	T	T	10 08 16.7		
	baz=23,slow=76,SNR=7.6							
H11S1	**WAKE ISLAND Hy**	**38.99**	**218**	T	T	10 09 46.4		
	baz=23,slow=76,SNR=110							
H11S2	**WAKE ISLAND Hy**	**39.00**	**218**	T	T	10 09 47.8		
	baz=23,slow=76,SNR=66							
H11S3	**WAKE ISLAND Hy**	**39.01**	**218**	T	T	10 09 47.6		
	baz=23,slow=76,SNR=69							
PDAR	**Pinedale Array**	**40.32**	**80**	P	**P**	**09 28 37.4**	**+0.8**
	0.7nm,0.6s,baz=321,slow=4.1,SNR=8.0							
SDCO	**Great Sand Dun**	**45.86**	**83**	*eP*	**P**	**09 29 22.7**	**+1.1**
	1.2nm,1.0s							
ECSD	**EROS Data Cent**	**47.32**	**70**	*eP*	**P**	**09 29 31.7**	**-0.9**
	1.3nm,0.8s							
TXAR	**Lajitas Array**	**52.74**	**89**	P	**P**	**09 30 14.1**	**+0.1**
	0.5nm,0.6s,baz=304,slow=6.1,SNR=7.8							
WRA	**Warramunga Arr**	**87.28**	**232**	P	**P**	**09 33 44.0**	**-1.6**
	0.5nm,0.9s,baz=37,slow=5.5,SNR=4.4							
ASAR	**Alice Springs**	**90.68**	**230**	P	**P**	**09 33 59.9**	**-1.7**
	0.5nm,0.8s,baz=31,slow=4.5,SNR=6.4							

IDC 20 09:33:58.9±2.4, 6°21'S×150°65'E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/39, mbtmp3.7/4, ML1.3/1, Error ellipse: s-maj=72.1km s-min=35.8km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.70**	**227**	Pn	Pn	09 35 11.5	+0.5
	1.0nm,0.3s,baz=117,slow=4.5,SNR=2.9						
PMG				Sn	Sn	09 36 05.6	-0.6
	1.1nm,0.3s,baz=18,slow=20,SNR=2.4						
WRA	**Warramunga Arr**	**20.91**	**228**	P	P	09 38 42.9	-0.3
	1.6nm,0.5s,baz=53,slow=11,SNR=18						
ASAR	**Alice Springs**	**23.68**	**221**	P	P	09 39 13.2	+0.8
	1.0nm,0.8s,baz=58,slow=9.3,SNR=10.0						
STKA	**Stephens Creek**	**26.90**	**197**	P	P	09 39 41.2	-0.5
	1.8nm,0.9s,baz=5.8,slow=9.7,SNR=4.0						
TORD	**Torodi Ar. Bea**	**148.66**	**285**	PKPbc	PKPbc	09 53 48.4	-0.7
	0.3nm,0.6s,baz=98,slow=3.1,SNR=2.8						

*ISCJB **20** 09:36:34.6±1.3, 52°.6N±0°.1×169°.7W±0°.1, h10km±8km, mb3.2/4, Error ellipse: s-maj=21.0km s-min=5.9km az=151.2*
*IDC **20** 09:36:34.1±1.7, 52°.54N×169°.56W, h0km, mb3.3/4, mb1 3.7/5, mb1mx3.3/46, mbtmp3.3/5, ML3.4/1, Error ellipse: s-maj=53.0km s-min=29.4km az=147.0*
*NEIC **20** 09:36:35.6, 52°.76N×169°.68W, h2km, ML3.3(AEIC), After AEIC.*

ISC 20 09:36:34.8±1.8, 52°.8N±0°.1×169°.74W±0°.06, h6km±12km, n29, σ1°.07/29, mb3.1/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.58**	**68**	P	**Pg**	**09 36 46.7**	**+0.7**
NIKH				S	**Sb**	**09 36 55.4**	**-0.5**
OKSP	**Okmok Steeple**	**1.01**	**60**	P	**Pg**	**09 36 54.7**	**+0.5**
OKSP				S	**Sb**	**09 37 08.9**	**+0.6**
OKWR	**Okmok West Rim**	**1.15**	**53**	P	**Pb**	**09 36 57.6**	**+0.4**
OKCE	**Okmok Cone E**	**1.17**	**54**	P	**Pg**	**09 36 57.1**	**0.0**
OKAK	**Okmok**	**1.17**	**45**	P	**Pg**	**09 36 55.8**	**-1.5**
OKTU	**Okmok Mt. Tuli**	**1.20**	**58**	P	**Pb**	**09 36 58.3**	**+0.3**
MSOM	**Makushin Julie**	**1.98**	**57**	P	**Pn**	**09 37 10.2**	**+1.4**
MSOM				S	**Sb**	**09 37 36.0**	**-0.3**
MCIR	**Makushin Cirqu**	**2.09**	**54**	P	**Pb**	**09 37 12.1**	**-1.0**
MSW	**Makushin Switc**	**2.12**	**56**	P	**Pn**	**09 37 11.8**	**+1.0**
MSW				S	**Sb**	**09 37 39.7**	**-0.5**
MTBL	**Makushin Table**	**2.20**	**55**	P	**Pb**	**09 37 14.0**	**-1.1**
UNV	**Unalaska Valle**	**2.23**	**59**	P	**Pn**	**09 37 12.7**	**+0.5**
UNV				S	**Sn**	**09 37 40.8**	**+0.7**
AKRB	**Akutan Reef Bi**	**2.59**	**56**	P	**Pn**	**09 37 18.5**	**+1.2**
ZRO	**Akutan Zero**	**2.62**	**58**	P	**Pn**	**09 37 19.2**	**+1.6**
AKGG	**Akutan Green G**	**2.67**	**56**	P	**Pn**	**09 37 19.7**	**+1.4**
AKUT	**Akutan**	**2.75**	**58**	*eP*	**Pn**	**09 37 20.8**	**+1.5**
AKUT				*eS*	**Sn**	**09 37 53.9**	**+1.1**
ATKA	**Atka Island**	**2.78**	**260**	P	**Pn**	**09 37 20.8**	**+1.0**
GSCK	**Great Sitkin C**	**4.00**	**262**	P	**Pn**	**09 37 38.0**	**+1.3**
SPIA	**Saint Paul Isl**	**4.44**	**356**	P	**Pn**	**09 37 44.2**	**+1.6**
ILAR	**Eielson Array**	**16.76**	**35**	Pn	**Pn**	**09 40 28.9**	**-1.1**
	0.1nm,0.3s,baz=225,slow=8.6,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**37.62**	**218**	T	T	10 23 41.7	
	baz=19,slow=76,SNR=4.6						
H11N3	**WAKE ISLAND Hy**	**37.62**	**218**	T	T	10 23 40.7	
	baz=19						
H11N1	**WAKE ISLAND Hy**	**37.64**	**218**	T	T	10 23 37.9	
	baz=19,slow=76,SNR=4.0						
NVAR	**Mina Array Bea**	**37.90**	**91**	P	**P**	**09 43 51.4**	**-1.4**
	0.3nm,0.7s,baz=312,slow=8.1,SNR=2.9						
H11S1	**WAKE ISLAND Hy**	**38.81**	**217**	T	T	10 25 11.1	
	baz=22,slow=76,SNR=25						
H11S2	**WAKE ISLAND Hy**	**38.83**	**217**	T	T	10 25 10.4	
	baz=22,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**38.83**	**217**	T	T	10 25 08.9	
	baz=22,slow=76,SNR=18						
PDAR	**Pinedale Array**	**40.55**	**79**	P	**P**	**09 44 15.5**	**+0.5**
	0.3nm,0.7s,baz=302,slow=5.2,SNR=2.7						
TXAR	**Lajitas Array**	**52.97**	**89**	P	**P**	**09 45 51.2**	**-0.9**
	0.2nm,0.9s,baz=293,slow=7.6,SNR=3.5						
ASAR	**Alice Springs**	**90.47**	**230**	P	**P**	**09 49 37.2**	**0.0**
	0.3nm,0.8s,baz=22,slow=5.1,SNR=2.9						

*ISCJB **20** 09:40:17.5±1.3, 52°.60N±0°.10×169°.4W±0°.1, h6km±7km, mb3.4/7, MS3.0/1, Error ellipse: s-maj=20.2km s-min=7.1km az=142.4*
*IDC **20** 09:40:17.7±1.2, 52°.47N×169°.39W, h0km, mb3.4/7, mb1 3.7/8, mb1mx3.4/45, mbtmp3.4/8, ML3.5/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/25, Error ellipse: s-maj=48.9km s-min=20.8km az=145.0*
*NEIC **20** 09:40:19.3, 52°.78N×169°.44W, h4km, ML3.2(AEIC), After AEIC.*

ISC 20 09:40:17.2±1.8, 52°.7N±0°.1×169°.57W±0°.07, h1km±11km, n31, σ0°.89/30, mb3.3/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.53**	**55**	P	**Pg**	**09 40 28.1**	**+0.8**
NIKH				S	**Sg**	**09 40 35.0**	**+0.8**
OKSP	**Okmok Steeple**	**0.97**	**52**	P	**Pg**	**09 40 36.3**	**+0.6**
OKSP				S	**Sb**	**09 40 49.1**	**-1.0**
OKWR	**Okmok West Rim**	**1.12**	**46**	P	**Pb**	**09 40 39.4**	**-0.1**
OKCE	**Okmok Cone E**	**1.14**	**48**	P	**Pg**	**09 40 38.5**	**-0.5**
OKAK	**Okmok**	**1.17**	**38**	P	**Pg**	**09 40 37.7**	**-1.9**
OKTU	**Okmok Mt. Tuli**	**1.17**	**52**	P	**Pg**	**09 40 39.1**	**-0.4**
MSOM	**Makushin Julie**	**1.95**	**53**	P	**Pn**	**09 40 50.9**	**-0.6**
MSOM				S	**Sn**	**09 41 15.5**	**-1.0**
MCIR	**Makushin Cirqu**	**2.05**	**50**	P	**Pn**	**09 40 53.5**	**+0.5**
MSW	**Makushin Switc**	**2.08**	**52**	P	**Pn**	**09 40 53.9**	**+0.6**
MTBL	**Makushin Table**	**2.17**	**52**	P	**Pn**	**09 40 55.1**	**+0.6**
UNV	**Unalaska Valle**	**2.19**	**56**	P	**Pn**	**09 40 53.7**	**-1.0**
UNV				S	**Sn**	**09 41 22.2**	**-0.2**
ZRO	**Akutan Zero**	**2.58**	**55**	P	**Pn**	**09 41 00.4**	**+0.2**
AKGG	**Akutan Green G**	**2.63**	**53**	P	**Pn**	**09 41 01.0**	**+0.2**
AKUT	**Akutan**	**2.70**	**56**	*eP*	**Pn**	**09 41 02.7**	**+0.9**
AKUT				*eP*	**Pg**	**09 41 08.7**	**-0.3**
AKUT				*eS*	**Sn**	**09 41 34.2**	**-0.9**
ATKA	**Atka Island**	**2.87**	**262**	P	**Pb**	**09 41 08.3**	**-0.9**
SPIA	**Saint Paul Isl**	**4.53**	**355**	P	**Pn**	**09 41 28.6**	**+1.6**
ILAR	**Eielson Array**	**16.77**	**35**	Pn	**Pn**	**09 44 13.0**	**-0.1**
	0.1nm,0.3s,baz=230,slow=11,SNR=5.1						
DLBC	**Dease Lake**	**22.84**	**60**	P	**P**	**09 45 22.9**	**+1.3**
	1.0nm,0.7s,baz=312,slow=12,SNR=2.6						
INK	**Inuvik**	**23.16**	**34**	LR	LR	09 54 15.0	
	comp=Z,53nm,19.9s,baz=82,slow=36						
YKA	**Yellowknife Ar**	**30.13**	**49**	P	**P**	**09 46 29.2**	**+1.0**
	0.2nm,0.6s,baz=273,slow=7.6,SNR=6.8						
H11N2	**WAKE ISLAND Hy**	**37.62**	**218**	T	T	10 27 34.1	
	baz=23,slow=76,SNR=10.0						
H11N3	**WAKE ISLAND Hy**	**37.62**	**218**	T	T	10 27 34.1	
	baz=23,slow=76,SNR=10.0						
H11N1	**WAKE ISLAND Hy**	**37.63**	**218**	T	T	10 27 34.9	
	baz=23,slow=76,SNR=7.1						
NVAR	**Mina Array Bea**	**37.79**	**91**	P	**P**	**09 47 36.0**	**+0.9**
	0.3nm,0.6s,baz=297,slow=6.5,SNR=3.6						
H11S1	**WAKE ISLAND Hy**	**38.81**	**218**	T	T	10 29 02.8	
	baz=23,slow=76,SNR=92						
H11S2	**WAKE ISLAND Hy**	**38.82**	**218**	T	T	10 29 04.1	
	baz=23,slow=76,SNR=90						
H11S3	**WAKE ISLAND Hy**	**38.82**	**218**	T	T	10 29 05.8	
	baz=23,slow=76,SNR=60						
PDAR	**Pinedale Array**	**40.47**	**79**	P	**P**	**09 47 56.3**	**-1.2**
	0.3nm,0.5s,baz=310,slow=4.6,SNR=3.4						
TXAR	**Lajitas Array**	**52.86**	**89**	P	**P**	**09 49 34.0**	**-0.6**
	0.3nm,0.7s,baz=292,slow=6.2,SNR=5.7						
WRA	**Warramunga Arr**	**87.10**	**231**	P	**P**	**09 53 04.8**	**+0.2**
	0.6nm,1.0s,baz=32,slow=5.3,SNR=2.6						
ASAR	**Alice Springs**	**90.50**	**230**	P	**P**	**09 53 21.2**	**+0.6**
	0.3nm,0.8s,baz=31,slow=5.6,SNR=3.1						

*NIED **20** 09:40:00, 43°.30N×147°.60E, h5km, Mw3.8 Best double couple: Mo5.46000×10^14 NP1:φ=336.00000°, δ=13.00000°, λ=134.00000°. NP2:φ=112.00000°, δ=80.00000°, λ=81.00000°.*

JMA 20 09:40:51.8±0.2, 43°.28N×147°.61E, h9km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.36**	**274**	P	Pn	09 41 17.0	0.0
NEM2				*eS*	Sn	09 41 35.4	+0.2
JRA	**Rausu**	**1.92**	**291**	P	Pn	09 41 25.2	+0.5
JRA				*eS*	Sn	09 41 49.6	+0.6
JNK	**Nakash**	**2.13**	**279**	P	Pn	09 41 27.9	+0.4
JNK				*eS*	Sn	09 41 54.3	+0.2
JAK	**Akkeshi**	**2.15**	**263**	P	Pn	09 41 28.5	+0.7
JAK				*eS*	Sn	09 41 54.9	+0.3
JTKR	**Abashiri--Toko**	**2.77**	**286**	P	Pn	09 41 37.8	+1.4
JTKR				*eS*	Sn	09 42 11.3	+1.3
JOB	**Onbets**	**2.79**	**264**	P	Pn	09 41 37.7	+1.1
JOB				*eS*	Sn	09 42 11.3	+0.9
JAR	**Ashorobuto**	**2.80**	**272**	P	Pn	09 41 38.0	+1.2
JAR				*eS*	Sn	09 42 12.1	+1.3
JMP	**Maruseppu**	**3.17**	**285**	P	Pn	09 41 43.8	+1.9
JCH	**Churui**	**3.19**	**259**	P	Pn	09 41 42.8	+0.7
JCH				*eS*	Sn	09 42 20.6	+0.4

IDC 20 09:49:33.5±4.0, 5°.88S×150°.97E, h0km, mb2.8/2, mb1 3.2/2, mb1mx3.1/25, mbtmp2.9/2, Error ellipse: s-maj=161.7km s-min=51.1km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.37**	**228**	P	P	09 54 22.2	-0.5
	0.3nm,0.4s,baz=53,slow=9.9,SNR=6.8						
ASAR	**Alice Springs**	**24.14**	**221**	P	P	09 54 51.9	+0.4
	0.2nm,0.7s,baz=53,slow=9.5,SNR=3.2						
TORD	**Torodi Ar. Bea**	**148.87**	**286**	PKPbc	PKPbc	10 09 23.6	-0.7
	0.4nm,0.5s,baz=65,slow=3.4,SNR=4.8						

*IDC **20** 09:58:22.2±15.0, 52°.69N×170°.35W, h0km, mb3.2/4, mb1 3.6/5, mb1mx3.4/42, mbtmp3.2/5, ML3.4/1, Error ellipse: s-maj=275.9km s-min=45.2km az=83.0*
*ISCJB **20** 09:58:27.1±1.3, 52°.56N±0°.10×169°.4W±0°.1, h7km±7km, mb3.2/4, Error ellipse: s-maj=19.7km s-min=8.0km az=141.7*
*NEIC **20** 09:58:28.1, 52°.67N×169°.38W, h3km, ML3.2(AEIC), After AEIC.*

ISC 20 09:58:26.2±1.9, 52°.7N±0°.1×169°.60W±0°.07, h4km±11km, n27, σ1°.25/27, mb3.2/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.55**	**56**	P	**Pb**	**09 58 37.8**	**-0.6**
NIKH				S	**Sg**	**09 58 45.0**	**+1.2**
OKSP	**Okmok Steeple**	**0.99**	**53**	P	**Pg**	**09 58 45.6**	**+0.5**
OKSP				S	**Sg**	**09 58 57.9**	**0.0**
OKWR	**Okmok West Rim**	**1.14**	**47**	P	**Pn**	**09 58 49.0**	**+0.1**
OKCE	**Okmok Cone E**	**1.15**	**48**	P	**Pn**	**09 58 49.3**	**+0.2**
OKAK	**Okmok**	**1.18**	**39**	P	**Pg**	**09 58 47.2**	**-1.6**
OKTU	**Okmok Mt. Tuli**	**1.19**	**52**	P	**Pg**	**09 58 48.9**	**0.0**
MSOM	**Makushin Julie**	**1.97**	**53**	P	**Pn**	**09 59 01.4**	**+1.2**
MSOM				S	**Sn**	**09 59 26.4**	**+1.2**
MCIR	**Makushin Cirqu**	**2.07**	**51**	P	**Pn**	**09 59 03.1**	**+1.4**
MSW	**Makushin Switc**	**2.10**	**52**	P	**Pn**	**09 59 02.2**	**+0.1**
MTBL	**Makushin Table**	**2.19**	**52**	P	**Pn**	**09 59 04.8**	**+1.5**
UNV	**Unalaska Valle**	**2.21**	**56**	P	**Pn**	**09 59 03.5**	**0.0**
UNV				S	**Sn**	**09 59 31.6**	**+0.4**
ZRO	**Akutan Zero**	**2.60**	**55**	P	**Pn**	**09 59 10.6**	**+1.6**
AKGG	**Akutan Green G**	**2.65**	**53**	P	**Pn**	**09 59 11.1**	**+1.4**
AKUT	**Akutan**	**2.72**	**56**	*ePn*	**Pn**	**09 59 12.7**	**+2.1**
AKUT				*ePg*	**Pg**	**09 59 18.4**	**+0.1**
AKUT				*eSn*	**Sn**	**09 59 43.0**	**-0.9**
ATKA	**Atka Island**	**2.85**	**262**	P	**Pb**	**09 59 17.1**	**-0.4**
SPIA	**Saint Paul Isl**	**4.54**	**356**	P	**Pn**	**09 59 37.9**	**+2.4**
ILAR	**Eielson Array**	**16.79**	**35**	Pn	**Pn**	**10 02 19.1**	**-2.6**
	0.1nm,0.3s,baz=231,slow=12,SNR=5.9						
YKA	**Yellowknife Ar**	**30.15**	**49**	P	**P**	**10 04 35.9**	**-0.8**
	0.2nm,0.6s,baz=279,slow=8.1,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**37.60**	**218**	T	T	10 45 44.9	
	baz=23,slow=76,SNR=6.7						
H11N3	**WAKE ISLAND Hy**	**37.61**	**218**	T	T	10 45 45.5	
	baz=23,slow=76,SNR=7.1						
H11N1	**WAKE ISLAND Hy**	**37.62**	**218**	T	T	10 45 44.7	
	baz=23,slow=76,SNR=8.3						
NVAR	**Mina Array Bea**	**37.81**	**91**	P	**P**	**10 05 43.6**	**-0.1**
	0.2nm,0.6s,baz=320,slow=8.3,SNR=2.2						
H11S1	**WAKE ISLAND Hy**	**38.79**	**217**	T	T	10 47 14.1	
	baz=23,slow=76,SNR=107						
H11S2	**WAKE ISLAND Hy**	**38.80**	**217**	T	T	10 47 15.4	
	baz=23,slow=76,SNR=67						
H11S3	**WAKE ISLAND Hy**	**38.81**	**218**	T	T	10 47 15.6	
	baz=23,slow=76,SNR=71						
PDAR	**Pinedale Array**	**40.49**	**79**	P	**P**	**10 06 06.5**	**+0.4**
	0.3nm,0.6s,baz=339,slow=4.8,SNR=3.2						
TXAR	**Lajitas Array**	**52.88**	**89**	P	**P**	**10 07 43.8**	**+0.7**
	0.3nm,0.6s,baz=313,slow=4.5,SNR=4.5						

IDC 20 09:59:35.7±3.6, 6°.17S×150°.18E, h0km, mb3.1/2, mb1 3.6/3, mb1mx3.3/19, mbtmp3.4/3, ML2.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/14, Error ellipse: s-maj=129.1km s-min=44.4km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.39**	**223**	Pn	Pn	10 00 44.9	+1.1
	5.6nm,0.3s,baz=59,slow=3.9,SNR=16						
PMG				Sn	Sn	10 01 30.9	-4.7
	9.7nm,0.3s,baz=13,slow=14,SNR=13						
WRA	**Warramunga Arr**	**20.60**	**227**	P	P	10 04 15.8	-0.9
	0.5nm,0.4s,baz=53,slow=11,SNR=10						
ASAR	**Alice Springs**	**23.40**	**220**	P	P	10 04 46.4	-0.2
	0.4nm,0.6s,baz=54,slow=9.1,SNR=4.9						
JNU	**Nakatsue**	**43.16**	**336**	LR	LR	10 23 28.1	
	comp=Z,24nm,18.1s,baz=12,slow=33						
TORD	**Torodi Ar. Bea**	**148.19**	**285**	PKPbc	PKPbc	10 19 24.4	-0.4
	0.2nm,0.5s,baz=90,slow=2.2,SNR=4.1						

MEX 20 10:04:27.0±0.9, 14°.57N×95°.02W, h30km±47km, MD3.8, Off coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.59**	**319**	*eP*	Pn	10 04 50.2	-2.9
HUIG				*i* S	Sn	10 05 09.2	-3.5
HUIG	**Huatulco**	**1.59**	**319**	*eP*	Pn	10 04 51.6	-1.5
HUIG				*i* S	Sn	10 05 09.2	-3.5
PCIG		**2.08**	**57**	*eP*	Pn	10 04 57.7	-2.1
PCIG				*i* S	Sn	10 05 22.1	-2.6
PCIG		**2.08**	**57**	*eP*	Pn	10 04 57.7	-2.1
PCIG				*i* S	Sn	10 05 21.8	-2.9
CMIG	**Matias Romero**	**2.51**	**3**	*eP*	Pn	10 05 04.8	-1.1
CMIG				*i* S	Sn	10 05 33.4	-2.1
CMIG	**Matias Romero**	**2.51**	**3**	*eP*	Pn	10 05 04.8	-1.1
CMIG				*i* S	Sn	10 05 33.4	-2.1
PNIG	**Pinotepa**	**3.50**	**302**	*eP*	Pn	10 05 18.5	-1.0
PNIG				*eS*	Sn	10 05 56.7	-3.2
PNIG	**Pinotepa**	**3.50**	**302**	*eP*	Pn	10 05 18.5	-1.0
PNIG				*eS*	Sn	10 05 56.7	-3.2

IDC 20 10:04:44.9±3.1, 6°.06S×150°.44E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/18, mbtmp3.6/3, Error ellipse: s-maj=87.7km s-min=48.4km az=109.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.86**	**227**	P	P	10 09 28.7	+0.1
	1.9nm,0.7s,baz=53,slow=11,SNR=10.0						
ASAR	**Alice Springs**	**23.65**	**221**	P	P	10 09 57.9	-0.3
	1.3nm,1.1s,baz=55,slow=9.0,SNR=8.4						
STKA	**Stephens Creek**	**26.98**	**197**	P	P	10 10 28.4	-0.1
	1.0nm,0.8s,baz=25,slow=14,SNR=2.6						
TORD	**Torodi Ar. Bea**	**148.41**	**285**	PKPbc	PKPbc	10 24 34.2	-0.3
	0.3nm,0.5s,baz=84,slow=2.1,SNR=3.4						

*ISCJB **20** 10:18:02.8±0.4, 32°.50N±0°.02×115°.63W±0°.02, h9km±2km, Error ellipse: s-maj=3.6km s-min=2.7km az=10.7*
*ECX **20** 10:18:04.1±0.6, 32°.49N×115°.65W, h4km, MD3.3, ML3.6*
*NEIC **20** 10:18:04.3, 32°.48N×115°.64W, h5km, ML3.5(ECX), ML3.5(PAS), After ECX.*
NEIC Felt at Rosarito. Also felt at Yuma, Arizona and at Beaumont, Corona and San Diego, California.

ISC 20 10:18:03.5±1.1, 32°.48N±0°.02×115°.66W±0°.02, h4km±9km, n44, σ1°.52/72, 7C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.18**	**342**	⇓*iP*	**Pg**	**10 18 07.1**	**+0.1**
ERPC	**Ernies Place**	**0.26**	**360**	⇓*iP*	**Pg**	**10 18 09.0**	**+0.4**
YUH	**Yuha Desert**	**0.28**	**307**	⇑*iP*	**Pg**	**10 18 09.2**	**+0.3**
WESC	**Westside Schoo**	**0.28**	**348**	⇓*iP*	**Pg**	**10 18 09.3**	**+0.3**
WESC				*eS*	**Sg**	**10 18 14.0**	**+1.3**
DREC	**Desert Rsrch C**	**0.37**	**29**	*eP*	**Pg**	**10 18 10.9**	**+0.3**
COK	**Cook Ranch**	**0.37**	**351**	⇓*iP*	**Pg**	**10 18 11.0**	**+0.4**
RMX	**La Rumorosa**	**0.37**	**289**	⇑*eP*	**Pg**	**10 18 11.3**	**+0.5**
RMX				*eS*	**Sg**	**10 18 16.8**	**+1.2**
RMX				⇓*e*		10 18 18.1	
RMX				IAML		10 18 18.1	
	comp=N,4μm,0.2s						
IBP	**Imperial Bould**	**0.41**	**296**	P	**Pg**	**10 18 11.8**	**+0.5**
	baz=0.4						
IBP				S	**Sg**	**10 18 17.7**	**+1.0**
	baz=0.4						
SWSC	**Sam W. Stewart**	**0.47**	**346**	P	**Pg**	**10 18 12.4**	**-0.1**
	baz=0.5						
SWSC	**Sam W. Stewart**	**0.47**	**346**	⇓*iP*	**Pg**	**10 18 12.5**	**-0.1**
CRR	**Carrizo Plain**	**0.48**	**327**	⇓*iP*	**Pg**	**10 18 12.9**	**+0.1**
RDX	**Rancho Dawling**	**0.60**	**203**	⇑*eP*	**Pg**	**10 18 15.2**	**+0.2**
RDX				*eS*	**Sg**	**10 18 23.5**	**+0.6**
RDX				⇑*e*		10 18 24.3	
RDX				IAML		10 18 24.3	
	comp=N,2μm,0.4s						
MONP	**Monument Peak**	**0.76**	**303**	P	**Pg**	**10 18 18.2**	**+0.1**
	baz=0.8						
MONP				S	**Sg**	**10 18 28.2**	**+0.3**
	baz=0.8						
BAR	**Barrett**	**0.88**	**283**	*ePg*	**Pg**	**10 18 20.2**	**-0.1**
BAR				*eSg*	**Sg**	**10 18 31.9**	**+0.2**
BAR	**Barrett**	**0.88**	**283**	⇑*iP*	**Pg**	**10 18 20.2**	**-0.1**
BAR				*eS*	**Sg**	**10 18 32.0**	**+0.3**
GLA	**Glamis**	**0.91**	**51**	P	**Pg**	**10 18 18.8**	**-2.0**
	baz=0.9						
GLA				S	**Sg**	**10 18 30.1**	**-2.5**
	baz=0.9						
GLA	**Glamis**	**0.91**	**51**	*ePg*	**Pg**	**10 18 18.8**	**-2.0**
GLA				*eSg*	**Sg**	**10 18 30.6**	**-2.0**
ZAX	**El Zacaton**	**1.09**	**209**	⇑*e*	**Sn**	**10 18 40.9**	**-0.4**
ZAX				IAML		10 18 40.9	
	comp=E,2μm,0.3s						
SDRC	**San Diego Road**	**1.11**	**284**	⇑*iP*	**Pg**	**10 18 24.1**	**-0.6**
SDRC				*eS*	**Sg**	**10 18 38.7**	**-0.5**
ECBX	**El Chinero**	**1.13**	**153**	*eP*	**Pg**	**10 18 23.6**	**-1.5**
ECBX				*eS*	**Sg**	**10 18 39.4**	**-0.4**
BC3	**Big Chuckawall**	**1.18**	**8**	P	**Pg**

0.8nm,0.3s,baz=171,slow=12,SNR=8.4
KK31 Sn Sn 10 47 34.1 +2.2
5.6nm,0.3s,baz=171,slow=28,SNR=9.9
AAK Ala-Archa 4.15 34 ⇓Pg Pb 10 46 55.8 -1.4
9.3nm,0.6s
AAK ⇑Lg Lg 10 47 55.1
16nm,0.6s
TKM2 Tokmak 2 4.88 39 ⇑Pn Pn 10 46 59.9 +1.8
7.7nm,0.4s
TKM2 ⇑Lg Lg 10 48 17.6
9.7nm,0.6s

*BJI **20** 10:49:20.2,9.˝16S×125.˚72E,h10km,mb4.7/31,mB4.9/23, Ms4.4/14,Ms7 4.2/13*
*ISCJB **20** 10:49:26.9±0.2,8.˚42S±0.˚03×125.˚31E±0.˚03,h10km, mb4.5/28,MS3.0/1, Error ellipse: s-maj=4.3km s-min=3.3km az=145.0*
*IDC **20** 10:49:26.3±0.5,8.˚33S×125.˚23E,h0km,mb4.5/20, mb1 4.5/22,mb1mx4.4/39,mbtmp4.5/22,ML4.3/2,MS3.5/3, Ms1 3.5/3,ms1mx2.8/31,Error ellipse: s-maj=18.4km s-min=10.5km az=74.0*
*NEIC **20** 10:49:28.2±3.0,8.˚36S×125.˚42E,h12km±19km,mb4.5/10, Error ellipse: s-maj=9.9km s-min=5.8km az=57.0*
NEIC Felt [II] at Dili. Also felt at Dare.
*DJA **20** 10:49:34.8±0.5,8.˚S±4.˚×12.˚5E±.˚,h10km,M4.6/17, mb4.9/17,mB5.1/9,MLv4.6/14,Mw(mB)4.4/9*

ISC 20 10:49:29.1±0.3,8.˚49S±0.˚03×125.˚32E±0.˚04,h10km,n108, σ1s85/121,mb4.6/28,1C,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.63**	**220**	*e*Pn	**Pg**	**10 50 01.1**	**+0.7**
SOEI				*e*Sn	**Sn**	**10 50 18.5**	**-0.6**
BATI	**Baumata**	**2.36**	**224**	P	**Pb**	**10 50 11.8**	**0.0**
BATI	**Baumata**	**2.36**	**224**	Pn	**Pn**	**10 50 08.7**	**+0.7**
82nm,0.3s,baz=78,slow=0.8,SNR=48							
BATI				Sn	**Sb**	**10 50 41.5**	**+0.5**
172nm,0.3s,baz=37,slow=18,SNR=6.8							
MMRI	**Maumere**	**3.05**	**267**	P	**Pn**	**10 50 18.4**	**+0.9**
MMRI				S	**Sn**	**10 50 51.4**	**-2.7**
MMRI	**Maumere**	**3.05**	**267**	*e*Pn	**Pn**	**10 50 17.9**	**+0.5**
MMRI				*e*Sn	**Sn**	**10 50 53.7**	**-0.4**
MMRI				*e*Sg	**Sg**	**10 51 09.6**	**+2.3**
KDI	**Kendari**	**5.24**	**329**	P	**Pn**	**10 50 47.1**	**-0.5**
BSSI	**Bau Bau, Buton**	**5.33**	**296**	P	**Pn**	**10 50 48.6**	**-0.2**
BSSI				S	**Sn**	**10 51 47.5**	**-2.8**
NLAI	**Namlea**	**5.51**	**19**	P	Pn	10 50 55.8	+4.6
81nm,0.7s,1μm0.3nm							
BKSI	**Bulukumba**	**6.04**	**301**	P	**Pn**	**10 50 58.4**	**-0.2**
59nm,0.7s,710nm0.2nm							
SANI	**Sanana**	**6.43**	**6**	P	**Pn**	**10 51 04.6**	**+0.7**
KAPI	**Kappang**	**6.52**	**302**	Pn	**Pn**	**10 51 04.9**	**-0.2**
5.7nm,0.3s,baz=184,slow=4.3,SNR=20							
KAPI				Sn	**Sn**	**10 52 15.4**	**-4.2**
2.2nm,0.3s,baz=218,slow=18,SNR=3.2							
KAPI	**Kappang**	**6.52**	**302**	*e*Pn	**Pn**	**10 51 05.5**	**+0.4**
KAPI				*e*Sn	**Sn**	**10 52 21.3**	**+1.7**
SPSI	**Sidrap Palu**	**7.12**	**309**	P	**Pn**	**10 51 13.8**	**+0.5**
96nm,0.8s,857nm0.3nm							
MTN	**Manton Dam**	**7.17**	**128**	P	Pn	10 51 10.4	-3.5
baz=7.2,SNR=6.6							
MTN	**Manton Dam**	**7.17**	**128**	*e*Pn	**Pn**	**10 51 12.2**	**-1.8**
TTSI	**Tana Toraja**	**7.70**	**314**	P	**Pn**	**10 51 21.9**	**+0.6**
76nm,0.9s,641nm0.2nm							
LUWI	**Luwuk**	**7.82**	**341**	P	**Pn**	**10 51 24.1**	**+1.1**
180nm,0.7s,2μm0.6nm							
LUWI	**Luwuk**	**7.82**	**341**	P	**Pn**	**10 51 22.4**	**-0.7**
baz=7.8,SNR=8.3							
KNRA	**Kununurra**	**7.90**	**155**	P	**Pn**	**10 51 26.2**	**+2.2**
baz=8.0,SNR=72							
LBMI	**Labuha**	**8.10**	**16**	P	Pn	10 51 30.8	+4.0
59nm,1.1s							
KDU	**Kakadu**	**8.17**	**121**	P	**Pn**	**10 51 30.4**	**+2.6**
baz=8.2,SNR=52							
APSI	**Ampana**	**8.37**	**334**	P	**Pn**	**10 51 31.1**	**+0.5**
139nm,1.0s,2μm							
FAKI	**Fak Fak**	**8.84**	**52**	P	Pn	10 51 47.9	+11
FAKI	**Fak Fak**	**8.84**	**52**	P	Pn	10 51 41.1	+4.1
baz=8.9,SNR=18							
KMSI	**Cibinong**	**9.10**	**351**	P	Pn	10 51 44.3	+3.7
113nm,0.8s							
MRSI	**Marisa**	**9.52**	**339**	P	**Pn**	**10 51 48.6**	**+2.2**
42nm,0.9s,586nm							
SIJI	**Sorong**	**9.61**	**38**	Pn	**Pn**	**10 51 49.7**	**+2.1**
0.6nm,0.3s,baz=253,slow=20,SNR=2.4							
MPSI	**Mapaga**	**10.30**	**328**	P	**Pn**	**10 51 57.3**	**+0.3**
TOLI	**Toli-Toli**	**10.56**	**334**	*e*Pn	**Pn**	**10 51 59.1**	**-1.5**
MBWA	**Marble Bar**	**13.70**	**203**	*e*Pn	**Pn**	**10 52 43.0**	**-0.6**
MBWA				*e*Sn	**Sn**	**10 55 15.6**	**-0.4**
WRAB	**Tennant Creek**	**14.35**	**143**	*e*Pn	**Pn**	**10 52 49.8**	**-2.6**
WRAB				*e*Sn	Sn	10 55 23.9	-7.8
WRA	**Warramunga Arr**	**14.35**	**143**	Pn	**Pn**	**10 52 49.8**	**-2.6**
3.0nm,0.3s,baz=321,slow=14,SNR=101							
WRA				Sn	Sn	10 55 20.8	-11
3.6nm,0.3s,baz=319,slow=24,SNR=8.6							
UGM	**Wanagama**	**14.66**	**271**	P	**Pn**	**10 52 58.3**	**+1.6**
baz=15,SNR=3.8							
WRKA	**Warakurna**	**16.70**	**171**	P	**Pn**	**10 53 22.4**	**-0.9**
baz=17,SNR=100							
SBUM	**Sibu**	**16.99**	**309**	*e*P	**P**	**10 53 30.2**	**+1.3**
60nm,1.1s							
AS31	**Alice Springs**	**17.18**	**152**	*e*Pn	**Pn**	**10 53 29.1**	**-0.3**
AS31				*e*Sn	Sn	10 56 31.9	-8.9
ASAR	**Alice Springs**	**17.18**	**152**	P	**Pn**	**10 53 28.4**	**-1.1**
0.8nm,0.3s,baz=318,slow=10,SNR=80							
ASAR				S	Sn	10 56 28.6	-12
0.6nm,0.3s,baz=325,slow=21,SNR=5.8							
ASAR				LR	LR	11 01 38.1	
comp=Z,290nm,19.4s,baz=323,slow=42							
LEM	**Lembang**	**17.62**	**274**	LR	LR	11 01 48.9	
comp=Z,209nm,18.1s,baz=174,slow=42							
KSM	**Kuching**	**17.94**	**303**	P	Pn	10 53 31.1	-7.8
baz=18,SNR=7.0							
KSM	**Kuching**	**17.94**	**303**	*e*P	**P**	**10 53 39.6**	**+0.1**
39nm,0.9s							
QIS	**Mount Isa**	**18.29**	**133**	P	**P**	**10 53 45.5**	**+2.3**
baz=18,SNR=21							
COEN	**Coen**	**18.33**	**109**	P	**P**	**10 53 45.2**	**+1.4**
baz=18,SNR=21							
MEEK	**Meekatharra**	**19.14**	**199**	P	**P**	**10 53 53.1**	**+0.5**
baz=19,SNR=11							
MTSU	**Mount Surprise**	**20.80**	**119**	P	Pn	10 54 13.1	-0.2
baz=21,SNR=24							
PMG	**Port Moresby**	**21.59**	**94**	P	P	10 54 13.0	-6.2
baz=22,SNR=4.4							
PMG				P	P	10 54 13.0	-6.2
baz=22,SNR=4.4							
PMG				P	P	10 54 13.0	-6.2
baz=22,SNR=4.4							
MORW	**Morawa**	**22.25**	**202**	P	**P**	**10 54 25.7**	**-0.6**
baz=22,SNR=14							
FORT	**Forrest**	**22.32**	**174**	P	**P**	**10 54 28.0**	**+1.0**
baz=22,SNR=8.9							
FORT	**Forrest**	**22.32**	**174**	*e*P	**P**	**10 54 27.3**	**+0.3**
9.6nm,0.6s							
KMBL	**Kambalda**	**22.99**	**188**	P	**P**	**10 54 33.8**	**-0.2**
baz=23,SNR=9.3							
CTA	**Charters Tower**	**23.30**	**122**	P	**P**	**10 54 37.2**	**-0.1**
3.4nm,0.5s,baz=298,slow=18,SNR=5.0							
BLDU	**Ballidu**	**23.44**	**199**	P	**P**	**10 54 37.9**	**-0.8**
baz=24,SNR=42							
KLBR	**Kellerberrin**	**24.04**	**196**	P	**P**	**10 54 43.8**	**-0.6**
baz=24,SNR=15							
QLP	**Quilpie**	**25.41**	**137**	P	**P**	**10 54 59.1**	**+2.1**
baz=26,SNR=17							
NWAO	**Narrogin (SRO)**	**25.45**	**196**	P	**P**	**10 54 56.4**	**-0.9**
9.3nm,0.7s,baz=340,slow=2.4,SNR=13							
BBOO	**Buckleboo**	**26.17**	**159**	P	**P**	**10 55 04.7**	**+1.0**
baz=26,SNR=12							
BBOO	**Buckleboo**	**26.17**	**159**	*e*P	**P**	**10 55 04.8**	**+1.0**
3.4nm,0.4s							
RKGY	**Rocky Gully**	**27.10**	**195**	P	**P**	**10 55 13.0**	**+0.8**
baz=27,SNR=6.8							
STKA	**Stephens Creek**	**27.76**	**149**	P	**P**	**10 55 19.6**	**+1.4**
3.9nm,0.4s,baz=327,slow=8.4,SNR=9.6							
STKA	**Stephens Creek**	**27.76**	**149**	P	**P**	**10 55 19.7**	**+1.6**
baz=28,SNR=6.6							
STKA	**Stephens Creek**	**27.76**	**149**	*e*P	**P**	**10 55 19.4**	**+1.2**
1.7nm,0.7s							
HTT	**Hallett**	**27.82**	**155**	P	**P**	**10 55 20.5**	**+1.8**
baz=28,SNR=8.2							
PSI	**Prapat**	**28.61**	**292**	P	**P**	**10 55 23.7**	**-2.4**
2.1nm,0.4s,baz=147,slow=17,SNR=3.3							
CMSA	**Cobar Meteorol**	**29.76**	**143**	P	**P**	**10 55 38.5**	**+2.6**
baz=30,SNR=13							
ARPS	**Mount Arapiles**	**31.91**	**154**	P	**P**	**10 55 56.9**	**+2.2**
baz=32,SNR=5.0							
ARMA	**Armidale**	**32.87**	**135**	P	P	10 56 07.6	+4.0
baz=33,SNR=5.0							
TOO	**Toolangi**	**34.23**	**151**	P	P	10 56 18.5	+3.4
baz=34,SNR=4.2							
CMAR	**Chiang Mai Arr**	**37.34**	**316**	P	**P**	**10 56 40.1**	**-1.9**
2.7nm,0.8s,baz=141,slow=6.6,SNR=12							
CMAR				LR	LR	11 13 23.6	
comp=Z,24nm,19.7s,baz=130,slow=39							
KMI	**Kunming**	**40.00**	**327**	P	**P**	**10 57 04.4**	**-0.2**
KMI				PMZ			
11nm,0.8s							
NJ2	**Nanjing**	**40.78**	**352**	*e*P	**P**	**10 57 10.3**	**-0.3**
NJ2				PMZ			
10.0nm,0.6s							
JNU	**Nakatsue**	**41.72**	**7**	P	P	10 57 14.6	-3.8
9.7nm,1.0s,baz=265,slow=11,SNR=4.0							
DZM	**Mont Dzumac**	**41.76**	**114**	P	**P**	**10 57 18.7**	**-0.3**
4.6nm,0.9s,baz=287,slow=19,SNR=2.5							
CD2	**Chengdu**	**44.30**	**333**	P	**P**	**10 57 40.3**	**+1.0**
CD2				pP	**pP**	**10 57 43.4**	**+0.9**
CD2				sP	**sP**	**10 57 44.8**	**+1.1**
CD2				PP	**PcP**	**10 59 24.5**	**+0.9**
CD2				S	**S**	**11 04 17.0**	**+3.5**
CD2				sS	**sS**	**11 04 22.5**	**+3.9**
CD2				PMZ			
20nm,0.5s							
CD2				PMZ			
90nm,5.3s							
CD2				LN			
180nm,5.0s							
CD2				LZ			
140nm,7.6s							
KSAR	**Wonju Array Be**	**45.75**	**3**	P	**P**	**10 57 48.8**	**-1.9**
KSRS	**Korea Array**	**45.77**	**3**	P	**P**	**10 57 48.8**	**-2.0**
2.5nm,0.8s,baz=181,slow=9.5,SNR=10							
MJAR	**Matsushiro Arr**	**46.40**	**14**	P	**P**	**10 57 53.8**	**-2.1**
11nm,0.9s,baz=194,slow=9.6,SNR=32							
MAJO	**Matsushiro**	**46.40**	**14**	*e*P	**P**	**10 57 54.0**	**-1.9**
11nm,0.8s							
MAT	**Matsushiro**	**46.40**	**14**	P	**P**	**10 57 53.7**	**-2.2**
HHC	**Hu-ho-hao-te**	**50.70**	**347**	*e*P	**P**	**10 58 31.3**	**+2.2**
HHC				pP	**pP**	**10 58 35.8**	**+3.5**
HHC				sP	sP	10 58 38.4	+4.9
HHC				PP	**PP**	**11 00 28.8**	**+3.5**
HHC				S	**S**	**11 05 46.4**	**+1.9**
HHC				sS	**sS**	**11 05 53.5**	**+3.8**
HHC				ScS	**ScS**	**11 08 20.3**	**-0.1**
HHC				PMZ			
12nm,0.6s							
HHC				PMZ			
43nm,6.2s							
HHC				LN			
100nm,15.6s							
HHC				LE			
110nm,15.2s							
HHC				LZ			
61nm,17.7s							
CN2	**Changchun**	**52.04**	**0**	*e*P	P	10 58 41.6	+2.7
CN2				PMZ			
10.0nm,0.5s							
USRK	**Ussuriysk Ar.**	**52.79**	**6**	P	**P**	**10 58 43.1**	**-1.3**
6.1nm,0.6s,baz=194,slow=5.9,SNR=12							
MDJ	**Mudanjiang**	**53.00**	**4**	P	**P**	**10 58 45.0**	**-1.0**
MDJ				PMZ			
28nm,0.8s							
MDJ				PMZ			
38nm,5.4s							
MDJ	**Mudanjiang**	**53.00**	**4**	*e*P	**P**	**10 58 44.9**	**-1.1**
24nm,9s							
RPZ	**Rata Peaks**	**53.01**	**139**	P	**P**	**10 58 47.0**	**+0.7**
17nm,0.8s,baz=280,slow=5.7,SNR=6.4							
GTA	**Gaotai**	**53.21**	**335**	*e*P	**P**	**10 58 46.1**	**-1.7**
GTA				pP	**pP**	**10 58 50.8**	**-0.2**
GTA				sP	**sP**	**10 58 53.1**	**+0.9**
GTA				PMZ			
7.0nm,1.2s							
URZ	**Urewera**	**55.10**	**131**	P	**P**	**10 59 02.3**	**+0.7**
5.1nm,0.6s,baz=225,slow=4.9,SNR=5.6							
SONM	**Songino Array**	**58.53**	**345**	P	**P**	**10 59 23.6**	**-2.3**
5.2nm,0.9s,baz=164,slow=8.4,SNR=13							
WMQ	**Urumqi**	**62.23**	**330**	P	**P**	**10 59 52.6**	**+1.4**
WMQ				pP	**pP**	**10 59 57.6**	**+3.2**
WMQ				sP	**sP**	**10 59 59.6**	**+4.0**
WMQ				PMZ			
8.0nm,1.0s							
WMQ				PMZ			
79nm,4.0s							
WMQ				LN			
24nm,16.0s							
WMQ				LZ			
22nm,16.8s							
TLY	**Talaya**	**62.77**	**345**	P	**P**	**10 59 52.5**	**-2.0**
2.8nm,0.7s,baz=192,slow=4.4,SNR=5.4							
KSH	**Kashi**	**66.08**	**320**	P	**P**	**11 00 14.8**	**-1.8**
KSH				sP	sP	11 00 26.1	+5.1
KSH				PcP	**PcP**	**11 00 48.1**	**+1.1**
KSH				PP	PP	11 02 47.3	+5.1
KSH				S	**S**	**11 09 00.3**	**-4.8**
KSH				sS	**sS**	**11 09 14.0**	**+3.6**
KSH				ScS	**SKSac**	**11 10 11.1**	**-2.0**
KSH				PMZ			
220nm,5.0s							
KSH				LN			
210nm,6.4s							
KSH				LE			
100nm,4.2s							
KSH				LZ			
360nm,7.5s							
MK31	**Makanchi Array**	**67.03**	**329**	*e*P	**P**	**11 00 19.7**	**-2.7**
MKAR	**Makanchi Array**	**67.03**	**329**	P	**P**	**11 00 19.9**	**-2.6**
6.3nm,0.6s,baz=135,slow=7.7,SNR=52							
PETK	**Petropavlovsk-**	**67.25**	**20**	P	**P**	**11 00 21.8**	**-1.8**
6.0nm,0.9s,baz=193,slow=6.1,SNR=6.5							
ZAA0	**Zalesovo Array**	**70.95**	**336**	*e*P	**P**	**11 00 43.6**	**-3.0**
ZALV	**Zalesovo Beam**	**70.95**	**336**	P	**P**	**11 00 43.7**	**-2.9**
3.2nm,0.5s,baz=132,slow=4.4,SNR=14							
VNDA	**Vanda**	**71.58**	**172**	P	**P**	**11 00 50.0**	**-0.1**
1.8nm,0.6s,baz=324,slow=7.2,SNR=14							
VNDA	**Vanda**	**71.58**	**172**	*e*P	**P**	**11 00 50.0**	**-0.1**
MAW	**Mawson**	**71.89**	**201**	P	**P**	**11 00 50.9**	**-1.1**
0.8nm,0.5s,baz=73,slow=11,SNR=5.5							
SEY	**Seymchan**	**74.18**	**12**	P	**P**	**11 01 03.7**	**-1.9**
4.8nm,0.8s							
SYO	**Syowa Base**	**80.60**	**201**	⇑*e*P	**P**	**11 01 40.0**	**-1.6**
ABKAR	**Akbulak array**	**80.84**	**323**	*e*P	**P**	**11 01 40.1**	**-3.0**
1.4nm,0.6s							
QSPA	**South Pole Qui**	**81.50**	**180**	*e*P	**P**	**11 01 46.7**	**+0.1**
5.1nm,0.8s							
SNAA	**Sanae**	**93.11**	**194**	P	**P**	**11 02 43.3**	**+0.2**
SNAA	**Sanae**	**93.11**	**194**	*e*P	**P**	**11 02 43.3**	**+0.2**
1.1nm,0.7s							
RSO	**Reduit South**	**93.36**	**29**	*e*P	**P**	**11 02 42.9**	**-1.5**
13nm,0.4s							
TORD	**Torodi Ar. Bea**	**124.53**	**280**	PKP	**PKPdf**	**11 08 25.9**	**-3.9**
0.6nm,0.5s,baz=108,slow=1.3,SNR=4.4							
TXAR	**Lajitas Array**	**129.66**	**59**	PKP	**PKPdf**	**11 08 37.2**	**-2.2**
0.1nm,0.5s,baz=176,slow=2.7,SNR=3.8							
CPUP	**Villa Florida**	**145.29**	**176**	PKPbc	**PKPab**	**11 09 07.5**	**-0.2**
4.2nm,0.8s,baz=215,slow=3.5,SNR=8.3							
LPAZ	**La Paz**	**152.01**	**152**	PKPbc	**PKPbc**	**11 09 25.6**	**-0.8**
2.5nm,0.8s,baz=160,slow=2.5,SNR=9.3							

IDC 20 10:56:22.1±2.0,6.˚03S×150.˚59E,h0km,mb3.7/3, mb1 4.1/4,mb1mx3.6/38,mbtmp3.9/4,ML2.2/1,MS3.2/5, Ms1 3.2/5,ms1mx2.9/24,Error ellipse: s-maj=127.3km s-min=25.7km az=127.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.78**	**225**	Pn	Pn	10 57 36.4	+1.1
7.5nm,0.3s,baz=45,slow=5.3,SNR=14							
PMG				Sn	Sn	10 58 27.4	-4.1
7.2nm,0.3s,baz=99,slow=19,SNR=6.8							
PMG				LR	LR	10 58 58.8	
comp=Z,157nm,18.1s,baz=24,slow=33							
HNR	**Honiara**	**9.87**	**111**	LR	LR	11 01 59.3	
comp=Z,115nm,20.0s,baz=238,slow=34							
GUMO	**Guam**	**20.30**	**344**	LR	LR	11 07 29.9	
comp=Z,62nm,20.8s,baz=108,slow=33							
WRA	**Warramunga Arr**	**20.99**	**227**	P	P	11 01 07.7	+0.4
9.8nm,0.8s,baz=53,slow=12,SNR=19							
ASAR	**Alice Springs**	**23.78**	**221**	P	P	11 01 35.5	-1.1
2.0nm,0.9s,baz=56,slow=9.9,SNR=5.0							
MJAR	**Matsushiro Arr**	**43.91**	**346**	LR	LR	11 22 57.1	
comp=Z,19nm,18.6s,baz=215,slow=36							
ZALV	**Zalesovo Beam**	**80.96**	**327**	LR	LR	11 44 35.8	
comp=Z,27nm,19.2s,baz=68,slow=36							
ILAR	**Eielson Array**	**84.12**	**22**	P	P	11 08 54.0	-0.7
0.2nm,0.5s,baz=246,slow=6.8,SNR=3.4							
TORD	**Torodi Ar. Bea**	**148.55**	**285**	PKPbc	PKPbc	11 16 12.5	+0.5
0.8nm,0.6s,baz=98,slow=2.3,SNR=5.7							

IDC 20 11:01:32.6±1.9,2.˚03N×127.˚54E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.4/39,mbtmp3.4/3,Error ellipse: s-maj=175.1km s-min=24.6km az=67.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.83**	**163**	P	P	11 06 37.8	+0.2
1.1nm,0.4s,baz=342,slow=11,SNR=15							
WRA				PcP	PcP	11 10 28.3	-0.9
0.3nm,0.8s,baz=341,slow=2.7,SNR=4.5							
ASAR	**Alice Springs**	**26.28**	**167**	P	P	11 07 10.1	0.0
0.1nm,0.3s,baz=348,slow=9.9,SNR=4.7							
MKAR	**Makanchi Array**	**59.40**	**325**	P	P	11 11 37.3	+0.2
0.2nm,0.3s,baz=122,slow=5.4,SNR=2.9							

*ISCJB **20** 11:06:02.0±1.6,55.˚0S±0.˚2×129.˚5W±0.˚5,h10km,mb3.4/3, MS4.0/4, Error ellipse: s-maj=42.5km s-min=28.8km az=6.4*
*IDC **20** 11:06:01.4±7.7,55.˚33S×129.˚10W,h0km,mb3.4/3, mb1 3.8/3,mb1mx3.5/22,mbtmp3.4/3,MS3.9/4,Ms1 3.9/4, ms1mx3.8/7,Error ellipse: s-maj=522.6km s-min=37.9km az=140.0*
*GCMT **20** 11:06:08.0±0.4,55.˚38S×128.˚51W,h25km±2km,MW5.0/80, Moment Tensor Solution. s33,c34; s80,c99; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.18±.25; Mθθ2.77±.25; Mϕϕ-2.59±.23; Mrθ-0.01±.46; Mrϕ2.93±.16; Mθϕ1.39±.47; Best double couple: Mw4.20800×10^16 NP1:ϕs202.00000°,δ83.00000°,λ-162.00000°. NP2: ϕs110.00000°,δ72.00000°,λ-7.00000°. Principal axes: T 4.1340, Plg8.0000°, Azm335.0000°; N 0.1470, Plg71.0000°, Azm222.0000°; P -4.2830, Plg17.0000°, Azm67.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 20 11:06:03.7±1.5,55.˚0S±0.˚2×129.˚5W±0.˚3,h10km,n22, σ0s56/6,mb3.4/3,MS4.1/4,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKT	**Rikitea**	**32.11**	**350**	*e*LR	LR	11 21 14.3	
828nm,29.0s							
RKT	**Rikitea**	**32.11**	**350**	*e*T	T	11 46 15.8	
9.6nm,0.3s							
VNDA	**Vanda**	**32.49**	**202**	LR	LR	11 22 23.8	
comp=Z,140nm,21.9s,baz=80,slow=30							
TBI	**Tubuai**	**34.94**	**327**	*e*LR	LR	11 22 13.0	
662nm,31.2s,baz=166							
TBI	**Tubuai**	**34.94**	**327**	*e*T	T	11 49 58.7	
50nm,0.4s							
TVO	**Taravao**	**40.12**	**330**	*e*T	T	11 56 25.5	
0.7nm,0.3s							
PPT2	**Papeete2**	**40.40**	**330**	*e*S	**S**	**11 19 50.0**	**0.0**
109nm,27.0s							
PPT2				*e*LR	LR	11 24 47.4	
800nm,26.5s,baz=167							
VAH	**Vaihoa**	**42.11**	**333**	*e*T	T	11 58 52.7	
65nm,0.3s							
PMOR	**Pomariorio Ree**	**42.40**	**333**	*e*T	T	11 59 14.9	
6.6nm,0.3s							
MAW	**Mawson**	**57.35**	**186**	LR	LR	11 38 20.5	
comp=Z,117nm,18.4s,baz=172,slow=34							
CPUP	**Villa Florida**	**58.74**	**92**	LR	LR	11 37 44.5	
comp=Z,136nm,18.2s,baz=226,slow=32							
STKA	**Stephens Creek**	**63.97**	**251**	LR	LR	11 38 52.7	
comp=Z,137nm,21.6s,baz=199,slow=31							
ASAR	**Alice Springs**	**74.60**	**251**	P	**P**	**11 17 42.4**	**-0.5**
0.6nm,0.9s,baz=147,slow=5.2,SNR=4.3							
H01W1	**Cape Leeuwin H**	**75.21**	**230**	T	T	12 41 19.9	
baz=146,slow=76,SNR=153							
H01W2	**Cape Leeuwin H**	**75.21**	**230**	T	T	12 41 21.5	
baz=146,slow=76,SNR=139							
H01W3	**Cape Leeuwin H**	**75.22**	**230**	T	T	12 41 22.7	
baz=146,slow=76,SNR=141							
WRA	**Warramunga Arr**	**77.35**	**253**	P	**P**	**11 17 58.7**	**0.0**
0.3nm,0.9s,baz=144,slow=5.3,SNR=4.0							
TXAR	**Lajitas Array**	**86.89**	**22**	P	**P**	**11 18 47.9**	**-0.3**
0.2nm,0.9s,baz=177,slow=8.0,SNR=2.8							
H02S1	**DAWSON INLET T**	**107.88**	**358**	T	T	13 21 30.1	
H02N1	**VAN INLET T-PH**	**107.93**	**358**	T	T	13 21 32.2	
ILAR	**Eielson Array**	**120.20**	**351**	PKP	**PKPdf**	**11 24 53.8**	**+0.5**
0.3nm,0.8s,baz=185,slow=2.0,SNR=3.7							
SONM	**Songino Array**	**145.25**	**282**	PKPbc	**PKPbc**	**11 25 41.0**	**+0.6**
1.2nm,0.8s,baz=106,slow=1.5,SNR=2.3							

*NNC **20** 11:32:34.5±3.9,54.˚51N×86.˚70E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=33.6km s-min=26.0km az=164.0*

IDC 20 11:32:31.4±3.0,54.˚60N×86.˚77E,h0km,mb1 3.0/2, mb1mx2.9/33,mbtmp3.0/2,ML2.6/2,5C-4D,Error ellipse: s-maj=25.2km s-min=16.6km az=59.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.31**	**241**	*i*		11 40 30.0	
baz=58,slow=313,SNR=17							
ZALV	**Zalesovo Beam**	**1.31**	**241**	Pg	Pg	11 32 55.8	-0.8
0.8nm,0.3s,baz=58,slow=18,SNR=9.2							
ZALV				Lg	Lg	11 33 13.8	
1.7nm,0.3s,baz=58,slow=27,SNR=13							
KURK	**Kurchatov**	**6.30**	**235**	⇓Pn	Pn	11 34 07.4	+2.0
1.3nm,0.9s							
KURK				⇑Sn	Sn	11 35 21.2	+3.2
0.8nm,0.6

*DJA **20** 11:56:29.8±0.3,0˚S±3˚×12˚3E±˚, h120km±4km, M4.8/22, mb5.0/11, mB5.1/8, MLv5.0/22, Mw(mB)4.5/8*

ISC 20 11:56:28.7±0.3,**0.14S**±0.04×**122.95E**±0.04,**h155**km±2km, **h155**km:**pP-P,n133,**σ1s**43**/170,**mb4.3**/37,**9C-2D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.91**	**191**	P	**Pn**	**11 56 52.2**	**-1.0**
LUWI				S	**Sn**	**11 57 10.5**	**-1.5**
LUWI	**Luwuk**	**0.91**	**191**	P	**Pn**	**11 56 52.9**	**-0.3**
	baz=0.7,SNR=218						
LUWI	**Luwuk**	**0.91**	**191**	*e*Pn	**Pn**	**11 56 53.0**	**-0.3**
LUWI				*e*Sn	**Sn**	**11 57 10.6**	**-1.4**
MRSI	**Marisa**	**1.18**	**301**	P	**Pn**	**11 56 53.9**	**-1.6**
MRSI				S	**Sn**	**11 57 12.2**	**-3.8**
KMSI	**Cibinong**	**1.25**	**55**	P	**Pn**	**11 56 57.4**	**+1.2**
APSI	**Ampana**	**1.51**	**240**	P	**Pn**	**11 56 58.3**	**-0.4**
APSI				S	**Sn**	**11 57 20.0**	**-1.7**
TOLI	**Toli-Toli**	**2.49**	**300**	*e*Pn	**Pn**	**11 57 09.2**	**-0.8**
TOLI				*e*Sn	**Sn**	**11 57 39.5**	**-2.4**
MPSI	**Mapaga**	**3.09**	**279**	P	**Pn**	**11 57 17.3**	**-0.1**
PCI	**Palu**	**3.20**	**256**	P	**Pn**	**11 57 19.3**	**+0.5**
SANI	**Sanana**	**3.58**	**122**	P	**Pn**	**11 57 23.5**	**-0.2**
KDI	**Kendari**	**3.80**	**185**	P	**Pn**	**11 57 26.7**	**+0.1**
TTSI	**Tana Toraja**	**4.25**	**227**	P	**Pn**	**11 57 32.9**	**+0.5**
TNTI	**Ternate**	**4.51**	**78**	P	**Pn**	**11 57 35.7**	**-0.1**
TNTI	**Ternate**	**4.51**	**78**	*e*Pn	**Pn**	**11 57 36.0**	**+0.1**
LBMI	**Labuha**	**4.58**	**96**	P	**Pn**	**11 57 36.3**	**-0.4**
LBMI				S	**Sn**	**11 58 27.7**	**-2.0**
SPSI	**Sidrap Palu**	**4.95**	**220**	P	**Pn**	**11 57 42.5**	**+0.9**
	161nm,0.7s,2μm0.7nm						
NLAI	**Namlea**	**5.17**	**127**	P	**Pn**	**11 57 46.1**	**+1.7**
	316nm,0.6s,11μm9.9nm						
KAPI	**Kappang**	**5.80**	**213**	P	**Pn**	**11 57 52.9**	**+0.1**
	12nm,0.3s,baz=50,slow=4.4,SNR=41						
KAPI	**Kappang**	**5.80**	**213**	*e*Pn	**Pn**	**11 57 54.3**	**+1.5**
BKSI	**Bulukumba**	**5.87**	**209**	P	**Pn**	**11 57 56.8**	**+3.1**
	45nm,0.5s,824nm0.2nm						
BKB	**Balikpapan**	**6.15**	**260**	P	**Pn**	**11 57 58.8**	**+1.3**
	182nm,1.2s,0.7nm						
BSSI	**Bau Bau, Buton**	**6.45**	**202**	P	**Pn**	**11 58 03.5**	**+2.1**
	188nm,0.5s,3μm0.7nm						
TSM	**Tawau**	**6.72**	**311**	⇑P	**Pn**	**11 58 02.1**	**-2.9**
TSM	**Tawau**	**6.72**	**311**	⇑P	**Pn**	**11 58 02.1**	**-2.9**
MYLDM	**Lahad Datu**	**6.91**	**320**	⇑P	**Pn**	**11 58 05.4**	**-2.1**
MYLDM	**Lahad Datu**	**6.91**	**320**	⇑P	**Pn**	**11 58 05.4**	**-2.1**
MYLDM	**Lahad Datu**	**6.91**	**320**	*e*Pn	**Pn**	**11 58 08.5**	**+0.9**
CTBH	**Cotabato--PC H**	**7.43**	**10**	⇓P	**Pn**	**11 58 15.6**	**+1.1**
SDKM	**Sandakan**	**8.12**	**315**	⇑P	**Pn**	**11 58 21.4**	**-2.5**
SDKM	**Sandakan**	**8.12**	**315**	⇑P	**Pn**	**11 58 21.4**	**-2.5**
SWI	**Sorong**	**8.34**	**95**	P	**Pn**	**11 58 29.2**	**+2.4**
	baz=8.3,SNR=5.6						
SIJI	**Sorong**	**8.35**	**95**	P	**Pn**	**11 58 26.8**	**-0.1**
	4.3nm,0.3s,baz=259,slow=13,SNR=8.6						
SIJI				S	**Sn**	**12 00 00.1**	**+0.2**
	2.1nm,0.3s,baz=240,slow=20,SNR=3.0						
KDM	**Kudat**	**9.29**	**319**	⇑P	**Pn**	**11 58 37.2**	**-2.1**
KDM	**Kudat**	**9.29**	**319**	⇑P	**Pn**	**11 58 37.2**	**-2.1**
SOEI	**Soe**	**9.64**	**172**	P	Pn	11 58 49.2	+5.1
	baz=9.5,SNR=5.0						
SOEI	**Soe**	**9.64**	**172**	*e*Pn	Pn	11 58 47.3	+3.3
FAKI	**Fak Fak**	**9.70**	**107**	P	**Pn**	**11 58 45.0**	**+0.2**
FAKI	**Fak Fak**	**9.70**	**107**	P	**Pn**	**11 58 44.7**	**0.0**
	baz=9.6,SNR=8.3						
BATI	**Baumata**	**10.02**	**176**	P	**Pn**	**11 58 50.5**	**+1.4**
	5.6nm,0.3s,baz=4.8,slow=1.5,SNR=6.4						
KSM	**Kuching**	**12.74**	**277**	P	**P**	**11 59 31.6**	**+2.0**
	baz=13,SNR=6.2						
MTN	**Manton Dam**	**15.00**	**148**	P	Pn	11 59 44.8	-8.3
	baz=15,SNR=4.9						
KDU	**Kakadu**	**15.64**	**143**	P	**P**	**12 00 02.4**	**+0.6**
	baz=16,SNR=5.8						
KNRA	**Kununurra**	**16.47**	**160**	P	**P**	**12 00 10.4**	**-0.5**
	baz=16,SNR=28						
LEM	**Lembang**	**16.67**	**246**	P	**Pn**	**12 00 13.6**	**-0.1**
	4.1nm,0.3s,baz=331,slow=19,SNR=6.7						
MBWA	**Marble Bar**	**21.12**	**188**	*e*P	**P**	**12 01 01.1**	**-0.4**
	34nm,1.2s						
IPM	**Ipoh**	**22.38**	**282**	*e*P	**P**	**12 01 14.8**	**+0.3**
	13nm,0.8s						
PPI	**Padang Panjang**	**22.55**	**269**	P	**P**	**12 01 16.2**	**+0.1**
	baz=23,SNR=7.5						
WRAB	**Tennant Creek**	**22.62**	**151**	*e*P	**P**	**12 01 16.8**	**+0.1**
	30nm,1.2s						
WRA	**Warramunga Arr**	**22.62**	**151**	P	**P**	**12 01 16.6**	**-0.1**
	9.9nm,0.4s,baz=326,slow=11,SNR=235						
WRA				pP	**pP**	**12 01 44.8**	**-0.3**
	16nm,1.1s,baz=330,slow=11,SNR=5.1						
WRA				PcP	**PcP**	**12 05 03.0**	**-1.4**
	0.6nm,0.5s,baz=333,slow=2.2,SNR=3.9						
WRA				ScP	**ScP**	**12 08 25.6**	**-2.1**
	1.3nm,0.8s,baz=322,slow=2.6,SNR=9.2						
SSLB	**Suanglung**	**23.87**	**355**	*e*P	**P**	**12 01 28.0**	**-0.1**
	37nm,1.2s						
GIRL	**Giralia**	**23.92**	**200**	P	**P**	**12 01 29.4**	**+0.9**
	baz=24,SNR=4.3						
PSI	**Prapat**	**24.19**	**277**	P	**P**	**12 01 31.4**	**+0.1**
	5.8nm,0.7s,baz=108,slow=2.9,SNR=5.1						
PSI	**Prapat**	**24.19**	**277**	*e*P	**P**	**12 01 32.3**	**+1.0**
COEN	**Coen**	**24.28**	**125**	P	**P**	**12 01 33.3**	**+1.5**
	baz=24,SNR=13						
KRAB	**Krabi**	**25.09**	**290**	P	**P**	**12 01 42.4**	**+3.2**
	19nm,0.8s						
SKNT	**Sakolnakorn**	**25.27**	**313**	P	**P**	**12 01 41.8**	**+0.9**
	14nm,1.6s						
WRKA	**Warakurna**	**25.28**	**169**	P	**P**	**12 01 41.3**	**+0.3**
	baz=25,SNR=100						
ASAR	**Alice Springs**	**25.69**	**156**	P	**P**	**12 01 45.0**	**+0.4**
	3.8nm,0.4s,baz=345,slow=16,SNR=87						
ASAR				pP	**pP**	**12 02 17.4**	**+0.5**
	6.3nm,0.8s,baz=335,slow=7.7,SNR=8.6						
ASAR				PcP	**PcP**	**12 05 10.5**	**-0.6**
	2.3nm,0.6s,baz=341,slow=1.9,SNR=14						
ASAR				ScP	**ScP**	**12 08 35.0**	**-1.2**
	1.0nm,0.6s,baz=339,slow=2.7,SNR=8.7						
QIS	**Mount Isa**	**26.02**	**142**	P	**P**	**12 01 48.6**	**+1.0**
	baz=26,SNR=25						
PHET	**Kaeng Krachan**	**26.51**	**300**	P	**P**	**12 01 53.9**	**+1.9**
	6.4nm,0.8s						
MEEK	**Meekatharra**	**26.67**	**189**	P	**P**	**12 01 53.0**	**-0.3**
	baz=27,SNR=13						
LAMP	**Lampang**	**29.47**	**310**	P	**P**	**12 02 19.5**	**+1.1**
	4.7nm,0.7s						
MORW	**Morawa**	**29.51**	**192**	P	**P**	**12 02 18.3**	**-0.3**
	baz=29,SNR=9.7						
CMAR	**Chiang Mai Arr**	**29.97**	**309**	P	**P**	**12 02 22.3**	**-0.5**
	4.8nm,0.7s,baz=134,slow=7.1,SNR=31						
CMAR				PcP	**PcP**	**12 05 20.9**	**-0.7**
	0.6nm,0.5s,baz=166,slow=1.9,SNR=4.5						
CRAI	**Chiangrai**	**29.97**	**314**	P	**P**	**12 02 23.6**	**+0.8**
	4.6nm,1.0s						
CHTO	**Chiang Mai**	**30.17**	**310**	P	**P**	**12 02 25.2**	**+0.7**
CHTO	**Chiang Mai**	**30.17**	**310**	*e*P	**P**	**12 02 25.3**	**+0.7**
	8.5nm,0.7s						
GYA	**Guiyang**	**30.75**	**331**	*e*P	**P**	**12 02 32.0**	**+2.3**
GYA				pP	**pP**	**12 03 04.8**	**+2.4**
GYA				sP	**sP**	**12 03 22.4**	**+2.2**
GYA				PP	**PP**	**12 03 40.5**	**-1.8**
GYA				S	**S**	**12 07 23.0**	**+1.4**
GYA				sS	**sS**	**12 08 20.8**	**+1.6**
GYA				PMZ			
	10.0nm,0.8s						
FORT	**Forrest**	**30.85**	**171**	P	**P**	**12 02 30.6**	**+0.2**
	baz=31,SNR=20						
FORT	**Forrest**	**30.85**	**171**	*e*P	**P**	**12 02 30.5**	**+0.2**
	29nm,0.6s						
BLDU	**Ballidu**	**30.88**	**191**	P	**P**	**12 02 30.1**	**-0.5**
	baz=31,SNR=38						
KLBR	**Kellerberrin**	**31.66**	**188**	P	**P**	**12 02 37.2**	**-0.3**
	baz=32,SNR=9.3						
KMI	**Kunming**	**31.83**	**324**	P	**P**	**12 02 41.0**	**+1.7**
KMI				pP	**pP**	**12 03 12.4**	**+0.3**
KMI				sP	**sP**	**12 03 31.1**	**+1.2**
KMI				PP	**PP**	**12 03 52.8**	**-1.5**
KMI				S	**S**	**12 07 40.3**	**+1.7**
KMI				sS	**sS**	**12 08 36.8**	**+0.5**
KMI				SS	**SnSn**	**12 09 43.0**	**-2.6**
KMI				PMZ			
	5.0nm,1.0s						
KMI				PMZ			
	50nm,6.6s						
KMI				LN			
	98nm,9.1s						
KMI				LE			
	86nm,8.8s						
KMI				LZ			
	79nm,11.7s						
NJ2	**Nanjing**	**32.25**	**353**	*e*P	**P**	**12 02 43.9**	**+1.3**
NJ2				PMZ			
	10.0nm,0.7s						
CBIJ	**Chichi jima**	**32.80**	**33**	P	**P**	**12 02 46.5**	**-0.9**
JCJ	**Chichijima**	**32.80**	**33**	P	**P**	**12 02 46.5**	**-0.9**
	50nm,0.9s,baz=303,slow=22,SNR=4.7						
NWAO	**Narrogin (SRO)**	**33.05**	**189**	P	**P**	**12 02 49.2**	**-0.4**
	4.9nm,0.4s,baz=324,slow=5.4,SNR=13						
QLP	**Quilpie**	**33.33**	**144**	P	**P**	**12 02 53.2**	**+1.1**
	baz=33,SNR=11						
RKGY	**Rocky Gully**	**34.74**	**189**	P	**P**	**12 03 05.2**	**+1.1**
	baz=35,SNR=8.6						
BBOO	**Buckleboo**	**34.77**	**160**	P	**P**	**12 03 04.6**	**+0.3**
	baz=35,SNR=23						
CD2	**Chengdu**	**35.86**	**331**	P	**P**	**12 03 14.1**	**+0.3**
CD2				pP	**pP**	**12 03 46.4**	**-0.7**
CD2				sP	**sP**	**12 04 03.8**	**-1.0**
CD2				PP	**PP**	**12 04 39.0**	**+0.4**
CD2				S	**S**	**12 08 42.1**	**+1.9**
CD2				sS	**sS**	**12 09 39.3**	**+0.7**
CD2				PMZ			
	10.0nm,0.8s						
CD2				PMZ			
	90nm,4.9s						
STKA	**Stephens Creek**	**36.16**	**153**	P	**P**	**12 03 17.1**	**+0.8**
	8.6nm,0.6s,baz=329,slow=8.0,SNR=50						
STKA				PcP	**PcP**	**12 05 38.4**	**-0.3**
	2.5nm,0.4s,baz=322,slow=3.4,SNR=4.2						
STKA	**Stephens Creek**	**36.16**	**153**	P	**P**	**12 03 17.1**	**+0.8**
	baz=36,SNR=30						
HTT	**Hallett**	**36.36**	**157**	P	**P**	**12 03 19.3**	**+1.2**
	baz=36,SNR=24						
KSAR	**Wonju Array Be**	**37.68**	**6**	P	**P**	**12 03 28.5**	**-0.5**
KSRS	**Korea Array**	**37.69**	**6**	P	**P**	**12 03 28.5**	**-0.6**
	1.2nm,0.8s,baz=187,slow=9.3,SNR=3.6						
CMSA	**Cobar Meteorol**	**37.93**	**148**	P	**P**	**12 03 32.7**	**+1.4**
	baz=38,SNR=36						
MAT	**Matsushiro**	**39.15**	**20**	P	**P**	**12 03 39.8**	**-1.6**
MJAR	**Matsushiro Arr**	**39.15**	**20**	P	**P**	**12 03 39.6**	**-1.8**
	4.1nm,0.8s,baz=195,slow=9.7,SNR=16						
ARPS	**Mount Arapiles**	**40.43**	**156**	P	**P**	**12 03 53.0**	**+1.1**
	baz=40,SNR=16						
BJI	**Beijing**	**40.47**	**352**	P	**P**	**12 03 55.0**	**+2.9**
BJI				PMZ			
	9.0nm,0.6s						
ARMA	**Armidale**	**40.62**	**140**	P	**P**	**12 03 56.1**	**+2.4**
	baz=40,SNR=6.3						
HHC	**Hu-ho-hao-te**	**42.09**	**347**	*e*P	P	12 04 09.0	+3.4
HHC				pP	pP	12 04 40.6	+0.9
HHC				sP	sP	12 04 56.3	-0.9
HHC				S	**S**	**12 10 18.0**	**+4.5**
HHC				sS	sS	12 11 06.6	-6.3
HHC				ScS	**ScS**	**12 13 55.3**	**+3.7**
HHC				PMZ			
	13nm,0.6s						
HHC				PMZ			
	64nm,6.0s						
TOO	**Toolangi**	**42.66**	**153**	P	**P**	**12 04 12.3**	**+2.2**
	baz=43,SNR=15						
ODAN	**Odare**	**43.48**	**311**	*e*P	**P**	**12 04 16.3**	**-0.8**
TAPN	**Taplejung**	**43.50**	**312**	*e*P	**P**	**12 04 16.9**	**-0.5**
RAMN	**Ramite**	**44.12**	**311**	*e*P	**P**	**12 04 22.4**	**+0.1**
	31nm,0.6s						
GTA	**Gaotai**	**44.70**	**334**	*e*P	**P**	**12 04 27.9**	**+1.4**
GTA				pP	**pP**	**12 05 02.4**	**+1.4**
GTA				sP	**sP**	**12 05 20.8**	**+2.5**
GTA				PMZ			
	3.0nm,1.2s						
USRK	**Ussuriysk Ar.**	**44.88**	**9**	P	**P**	**12 04 27.0**	**-0.6**
	2.5nm,0.6s,baz=198,slow=4.8,SNR=10						
GUN	**Gumba**	**45.17**	**311**	*e*P	**P**	**12 04 29.4**	**-1.3**
	24nm,0.5s						
PKI	**Pulchoki**	**45.35**	**311**	*e*P	**P**	**12 04 31.2**	**-0.9**
KKN	**Kakani**	**45.56**	**311**	*e*P	**P**	**12 04 33.0**	**-0.6**
DMN	**Daman**	**45.60**	**310**	*e*P	**P**	**12 04 34.3**	**+0.3**
GKN	**Gorkha**	**46.16**	**311**	*e*P	**P**	**12 04 37.7**	**-0.5**
	15nm,0.6s						
KOLN	**Koldanda**	**46.84**	**310**	*e*P	**P**	**12 04 43.3**	**-0.3**
	13nm,0.6s						
ASAJ	**Asahikawa**	**47.42**	**19**	P	**P**	**12 04 46.5**	**-1.0**
	3.7nm,0.7s,baz=164,slow=19						
ULN	**Ulaanbaatar**	**49.78**	**346**	*e*P	**P**	**12 05 06.1**	**+0.5**
	2.5nm,0.8s						
SONM	**Songino Array**	**49.91**	**345**	P	**P**	**12 05 06.0**	**-0.7**
	1.8nm,0.5s,baz=163,slow=9.2,SNR=7.2						
SONM				pP	**pP**	**12 05 41.8**	**-0.1**
	1.5nm,0.9s,baz=163,slow=9.2,SNR=2.5						
WMQ	**Urumqi**	**53.89**	**329**	P	**P**	**12 05 37.9**	**+1.8**
WMQ				pP	**pP**	**12 06 11.9**	**+0.1**
WMQ				sP	**sP**	**12 06 28.9**	**+0.1**
WMQ				PMZ			
	7.0nm,0.7s						
WMQ				PMZ			
	41nm,3.9s						
WMQ				LN			
	36nm,21.2s						
WMQ				LZ			
	33nm,17.7s						
MKAR	**Makanchi Array**	**58.71**	**328**	P	**P**	**12 06 09.1**	**-1.0**
	1.7nm,0.5s,baz=125,slow=8.7,SNR=18						
MKAR	**Makanchi Array**	**58.71**	**328**	*e*P	**P**	**12 06 09.2**	**-0.9**
ZALV	**Zalesovo Beam**	**62.42**	**336**	P	**P**	**12 06 32.8**	**-2.3**
	0.8nm,0.4s,baz=131,slow=8.5,SNR=3.3						
ZALV				pP	**pP**	**12 07 12.0**	**+0.2**
	1.0nm,0.4s,baz=124,slow=6.5,SNR=3.2						
URZ	**Urewera**	**62.46**	**134**	P	**P**	**12 06 35.3**	**-0.4**
	3.7nm,0.4s,baz=257,slow=6.0,SNR=13						
KURK	**Kurchatov**	**63.07**	**330**	*e*P	**P**	**12 06 38.1**	**-1.3**
	5.3nm,0.7s						
CASY	**Casey**	**66.59**	**185**	*e*P	**P**	**12 07 02.3**	**+0.3**
	11nm,0.8s						
SEY	**Seymchan**	**66.66**	**14**	P	**P**	**12 07 02.2**	**-0.2**
	1.2nm,0.5s,baz=188,slow=4.3,SNR=9.5						
BVAR	**Borovoye Array**	**68.58**	**329**	P	**P**	**12 07 13.2**	**-1.5**
	0.5nm,0.4s,baz=133,slow=8.3,SNR=2.9						
ABKAR	**Akbulak array**	**72.81**	**322**	P	**P**	**12 07 40.2**	**-0.2**
	0.3nm,0.2s						
MAW	**Mawson**	**78.85**	**200**	P	**P**	**12 08 14.3**	**+0.1**
	6.4nm,0.9s,baz=38,slow=6.2,SNR=10						
VNDA	**Vanda**	**80.11**	**172**	P	**P**	**12 08 20.9**	**-0.1**
	4.5nm,0.8s,baz=318,slow=6.2,SNR=24						
SYO	**Syowa Base**	**87.48**	**201**	⇑*e*P	**P**	**12 08 57.0**	**-1.4**
SYO	**Syowa Base**	**87.48**	**201**	⇓*e*P	**P**	**12 09 00.0**	**+1.6**
BRTR	**Keskin Array B**	**89.56**	**310**	P	**P**	**12 09 08.4**	**-0.7**
	0.8nm,0.8s,baz=150,slow=3.2,SNR=3.2						
QSPA	**South Pole Qui**	**89.79**	**180**	P	**P**	**12 09 09.7**	**+0.1**
	5.9nm,1.1s,baz=319,slow=0.9,SNR=15						
ILAR	**Eielson Array**	**90.20**	**25**	P	**P**	**12 09 08.6**	**-2.7**
	0.5nm,0.6s,baz=241,slow=5.5,SNR=16						
CLL	**Collm**	**102.48**	**323**	*e*Pdif	**Pdif**	**12 10 08.0**	**+0.7**
CLL				*e*PP	**PP**	**12 14 20.0**	**-1.8**
YKA	**Yellowknife Ar**	**104.55**	**24**	PKiKP	**PKiKP**	**12 14 30.1**	**-1.2**
	0.2nm,0.5s,baz=307,slow=2.0,SNR=6.3						
NVAR	**Mina Array Bea**	**112.29**	**48**	PKiKP	**PKiKP**	**12 14 47.1**	**+0.2**
	0.7nm,0.7s,baz=227,slow=2.2,SNR=6.5						
PDAR	**Pinedale Array**	**116.74**	**41**	PKP	**PKPdf**	**12 14 53.8**	**-1.5**
	0.4nm,0.6s,baz=5.6,slow=3.7,SNR=3.2						
TORD	**Torodi Ar. Bea**	**120.39**	**285**	PKP	**PKPdf**	**12 15 01.0**	**-1.8**
	2.7nm,0.6s,baz=67,slow=1.5,SNR=19						
SCHQ	**Schefferville**	**124.90**	**7**	PKP	**PKPdf**	**12 15 09.0**	**-1.3**
	1.3nm,0.7s,baz=18,slow=5.7,SNR=4.5						
TXAR	**Lajitas Array**	**126.94**	**53**	PKP	**PKPdf**	**12 15 14.2**	**-0.9**
	0.5nm,0.6s,baz=187,slow=0.7,SNR=9.1						
CPUP	**Villa Florida**	**153.68**	**179**	PKPbc	**PKPbc**	**12 16 08.5**	**-1.5**
	2.5nm,0.7s,baz=193,slow=4.8,SNR=4.2						
CPUP				PKPab	**PKPab**	**12 16 19.8**	**-3.3**
	4.2nm,0.9s,baz=194,slow=8.1,SNR=5.0						

*ISCJB **20** 12:12:35.9±0.3,52˚61N±0.04˚×169˚46W±0.05, h10km, mb4.2/39, MS3.4/9, Error ellipse: s-maj=6.8km s-min=2.7km az=150.1*

*IDC **20** 12:12:35.4±0.5,52˚62N×169˚54W, h0km, mb4.0/20, mb1 4.2/22, mb1mx4.1/33, mbtmp4.0/22, ML3.8/2, MS3.5/10, Ms1 3.5/10, ms1mx3.1/38, Error ellipse: s-maj=19.1km s-min=11.7km az=165.0*

*NEIC **20** 12:12:37.7±0.3,52˚66N×169˚43W, h10km, mb4.2/28, ML4.1(AEIC), Error ellipse: s-maj=7.3km s-min=3.3km az=156.0*

ISC 20 12:12:36.9±0.5,**52˚58N**±0.07˚×**169˚38W**±0.05,**h10**km, **n109,**σ1s**41**/124,**mb4.3**/39,**MS3.4**/9,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.51**	**39**	*e*Pg	**Pg**	**12 12 47.2**	**+0.4**
OKWR	**Okmok West Rim**	**1.11**	**39**	P	**Pg**	**12 12 57.9**	**-0.3**
OKCE	**Okmok Cone E**	**1.12**	**40**	P	**Pb**	**12 12 57.2**	**-1.2**
OKCE				S	**Sb**	**12 13 13.5**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**1.14**	**45**	P	**Pb**	**12 12 58.0**	**-0.8**
OKAK	**Okmok**	**1.17**	**31**	P	**Pb**	**12 12 56.5**	**-2.8**
MGOD	**Makushin Gods**	**1.94**	**50**	P	**Pn**	**12 13 09.4**	**-0.5**
MGOD				S	**Sn**	**12 13 34.3**	**-0.1**
MCIR	**Makushin Cirqu**	**2.03**	**46**	P	**Pn**	**12 13 11.7**	**+0.5**
MSW	**Makushin Switc**	**2.05**	**48**	P	**Pn**	**12 13 11.0**	**-0.5**
MSW				S	**Sn**	**12 13 37.5**	**+0.4**
MTBL	**Makushin Table**	**2.14**	**48**	P	**Pn**	**12 13 12.3**	**-0.4**
UNV	**Unalaska Valle**	**2.14**	**53**	P	**Pn**	**12 13 11.8**	**-0.9**
UNV				S	**Sn**	**12 13 38.5**	**-0.8**
AKRB	**Akutan Reef Bi**	**2.52**	**51**	P	**Pn**	**12 13 18.2**	**+0.3**
ZRO	**Akutan Zero**	**2.54**	**52**	P	**Pn**	**12 13 18.5**	**+0.3**
AKGG	**Akutan Green G**	**2.60**	**50**	P	**Pn**	**12 13 19.3**	**+0.4**
AKUT	**Akutan**	**2.66**	**53**	P	**Pn**	**12 13 19.8**	**0.0**
ATKA	**Atka Island**	**2.98**	**265**	*e*Pn	**Pn**	**12 13 26.4**	**+2.3**
WESP	**Westdahl Peak**	**3.38**	**54**	P	**Pn**	**12 13 30.7**	**+1.0**
WESN	**West Dahl Nort**	**3.48**	**53**	P	**Pn**	**12 13 32.0**	**+0.9**
SSBA	**Shishaldin**	**3.82**	**53**	P	**Pn**	**12 13 36.2**	**+0.4**
GSTR	**Great Sitkin T**	**4.13**	**266**	*e*Pn	**Pn**	**12 13 41.6**	**+1.6**
GSTR				*e*Sn	**Sn**	**12 14 27.9**	**-0.4**
GSCK	**Great Sitkin C**	**4.20**	**265**	P	**Pn**	**12 13 42.1**	**+1.1**
FALS	**False Pass**	**4.21**	**55**	*e*Pn	**Pn**	**12 13 43.2**	**+2.2**
FALS				Sn	**Sn**	**12 14 29.9**	**-0.4**
ADAG	**Mount Adagdak**	**4.48**	**265**	P	**Pn**	**12 13 46.3**	**+1.5**
SPIA	**Saint Paul Isl**	**4.63**	**354**	P	**Pn**	**12 13 48.2**	**+1.3**
SDPT	**Sand Point**	**5.94**	**59**	*e*Pn	**Pn**	**12 14 06.7**	**+1.9**
SDPT				*e*Sn	**Sn**	**12 15 10.3**	**-2.6**
AMKA	**Amchitka**	**7.10**	**265**	*e*Pn	**Pn**	**12 14 23.0**	**+2.3**
	52nm,0.5s						
CHGN	**Chignik**	**7.40**	**55**	*e*Pn	**Pn**	**12 14 26.1**	**+1.3**
CHGN				*e*Sn	**Sn**	**12 15 53.2**	**+4.6**
OHAK	**Old Harbor**	**10.36**	**57**	*e*Pn	**Pn**	**12 15 04.2**	**-1.1**
OHAK				*e*Sn	**Sn**	**12 17 01.3**	**-0.1**
KDAK	**Kodiak Island**	**10.91**	**55**	*e*Pn	**Pn**	**12 15 13.5**	**+0.6**
KDAK				*e*Sn	**Sn**	**12 17 15.4**	**+0.5**
RSO	**Redoubt South**	**12.08**	**43**	*e*Pn	**Pn**	**12 15 28.0**	**-1.1**
	35nm,0.7s						
RSO				*e*Sn	**Sn**	**12 17 47.2**	**+3.5**
SEW	**Seward**	**13.33**	**48**	*e*Pn	**Pn**	**12 15 45.8**	**-0.2**
	9.8nm,0.5s						
SEW				*e*Sn	**Sn**	**12 18 09.8**	**-4.2**
PPLA	**Purkeypile**	**13.77**	**35**	Pn	**Pn**	**12 15 53.2**	**+1.1**
PPLA				*e*Sn	**Sn**	**12 18 27.8**	**+2.8**
CAST	**Castle Rocks**	**14.15**	**33**	*e*Pn	**Pn**	**12 16 00.0**	**+2.8**
PMR	**Palmer**	**14.17**	**43**	*e*Pn	**Pn**	**12 15 59.2**	**+1.8**
	9.5nm,1.2s						
PMR				*e*Sn	**Sn**	**12 18 35.4**	**+0.8**
SML	**Sawmill**	**14.61**	**43**	*e*Pn	**Pn**	**12 16 04.6**	**+1.1**
	3.7nm,1.0s						
SML				*e*Sn	**Sn**	**12 18 47.8**	**+2.5**
TRF	**Thorofare Moun**	**14.79**	**35**	*e*Pn	**Pn**	**12 16 08.3**	**+2.2**
TRF				*e*Sn	**Sn**	**12 18 54.9**	**+5.0**
BPAW	**Bear Paw Mtn.**	**14.97**	**32**	*e*Pn	**Pn**	**12 16 09.5**	**+1.1**
	13nm,0.8s						
MCK	**McKinley**	**15.44**	**36**	Pn	**Pn**	**12 16 15.1**	**+0.6**
	11nm,0.9s						
IM04	**Indian Mountai**	**15.54**	**24**	*e*Pn	**P**	**12 16 19.3**	**-1.0**
IM04				*e*Sn	**Sn**	**12 19 05.3**	**-2.6**
BMRM	**Bremner River**	**15.88**	**48**	*e*Pn	**Pn**	**12 16 21.3**	**+1.0**
	8.5nm,0.6s						
BMRM				*e*Sn	**Sn**	**12 19 16.9**	**+0.8**
HARP	**HAARP**	**16.21**	**43**	*e*P	P	12 16 33.1	+5.4
	15nm,0.8s						
PAX	**Paxson**	**16.34**	**41**	*e*Pn	**Pn**	**12 16 27.9**	**

JCJ	**Chichijima**	**43.96**	**254**	LR	LR	12 36 29.2	
	comp=Z,32nm,20.4s,baz=118,slow=33						
KSRS	**Korea Array**	**45.37**	**276**	P	**P**	**12 20 55.4**	**+0.1**
	1.1nm,0.7s,baz=56,slow=6.6,SNR=5.5						
KSRS				LR	LR	12 39 48.3	
	comp=Z,31nm,18.3s,baz=93,slow=36						
KSAR	**Wonju Array Be**	**45.41**	**276**	P	**P**	**12 20 55.4**	**-0.1**
SDCO	**Great Sand Dun**	**45.90**	**82**	*e*P	**P**	**12 21 01.6**	**+1.9**
	5.0nm,1.4s						
TUC	**Tucson**	**46.32**	**92**	*e*P	**P**	**12 21 04.5**	**+1.7**
	3.5nm,1.0s						
JNU	**Nakatsue**	**46.46**	**270**	P	**P**	**12 21 03.9**	**0.0**
	5.2nm,0.9s,baz=80,slow=6.1,SNR=4.2						
JNU				LR	LR	12 39 40.6	
	comp=Z,52nm,19.9s,baz=132,slow=35						
LAZ	**Ladron**	**47.11**	**87**	*e*P	**P**	**12 21 11.0**	**+1.8**
	3.5nm,1.2s						
121A	**Cookes Peak, D**	**47.99**	**89**	*e*P	**P**	**12 21 17.4**	**+1.4**
	7.2nm,1.2s						
SONM	**Songino Array**	**51.19**	**301**	P	**P**	**12 21 40.4**	**+0.3**
	0.6nm,0.5s,baz=57,slow=8.8,SNR=2.6						
SONM				PcP	**PcP**	**12 22 54.6**	**-0.8**
	4.3nm,0.7s,baz=62,slow=2.2,SNR=13						
WMOK	**Wichita Mounta**	**51.95**	**81**	*e*P	**P**	**12 21 46.0**	**+0.1**
	4.2nm,1.0s						
TXAR	**Lajitas Array**	**52.75**	**89**	P	**P**	**12 21 52.7**	**+0.7**
	2.7nm,0.7s,baz=300,slow=5.5,SNR=40						
SCHQ	**Scheffer ville**	**55.28**	**43**	LR	LR	12 46 57.4	
	comp=Z,104nm,18.3s,baz=288,slow=37						
H06E1	**SOCORRO T-PHAS**	**56.22**	**104**	T	T	13 23 05.6	
ZALV	**Zalesovo Beam**	**57.26**	**317**	PcP	**PcP**	**12 23 17.3**	**-1.0**
	0.7nm,0.4s,baz=44,slow=4.5,SNR=3.8						
ARCES	**ARCESS Array B**	**57.71**	**354**	P	**P**	**12 22 27.1**	**+0.1**
	1.7nm,0.9s,baz=354,slow=8.3,SNR=2.5						
ARCES				PcP	**PcP**	**12 23 19.2**	**-0.6**
	1.3nm,0.7s,baz=28,slow=5.5,SNR=5.7						
SSLB	**Suanglung**	**59.20**	**270**	*e*P	**P**	**12 22 38.0**	**-0.2**
	14nm,0.9s						
MKAR	**Makanchi Array**	**63.66**	**313**	P	**P**	**12 23 06.6**	**-1.3**
	0.7nm,0.7s,baz=56,slow=5.2,SNR=6.0						
MKAR				LR	LR	12 52 51.0	
	comp=Z,38nm,21.8s,baz=1.5,slow=38						
FINES	**FINESS Array B**	**65.66**	**352**	P	**P**	**12 23 19.6**	**-1.1**
	0.6nm,0.4s,baz=336,slow=2.3,SNR=4.9						
FINES				LR	LR	12 52 14.2	
	comp=Z,25nm,21.7s,baz=4.0,slow=36						
HFS	**Hagfors**	**67.61**	**358**	P	**P**	**12 23 32.4**	**-0.8**
	0.7nm,0.4s,baz=20,slow=4.7,SNR=7.6						
SIJI	**Sorong**	**72.60**	**244**	P	**P**	**12 24 03.2**	**-1.2**
	14nm,0.7s,baz=17,slow=14,SNR=3.9						
AKASG	**Malin Array Be**	**75.90**	**348**	P	**P**	**12 24 21.2**	**-2.0**
	1.4nm,0.5s,baz=15,slow=5.7,SNR=7.3						
CMAR	**Chiang Mai Arr**	**76.56**	**283**	P	**P**	**12 24 27.1**	**-0.4**
	1.1nm,0.6s,baz=24,slow=7.4,SNR=5.9						
WRA	**Warramunga Arr**	**87.13**	**232**	P	**P**	**12 25 22.1**	**-0.8**
	1.9nm,0.8s,baz=33,slow=5.9,SNR=15						
ASAR	**Alice Springs**	**90.53**	**230**	P	**P**	**12 25 38.8**	**-0.1**
	3.8nm,0.7s,baz=30,slow=4.6,SNR=62						
STKA	**Stephens Creek**	**94.36**	**220**	P	**P**	**12 25 56.0**	**-0.3**
	1.5nm,1.0s,baz=23,slow=7.7,SNR=3.0						
TORD	**Torodi Ar. Bea**	**114.09**	**10**	PKKPab	PKKPab	12 42 02.3	-4.2
	1.3nm,0.7s,baz=172,slow=3.3,SNR=8.0						
TSUM	**Tsumeb**	**146.25**	**348**	*e*PKPdf	**PKPdf**	**12 32 17.4**	**+0.8**
MAW	**Mawson**	**151.04**	**219**	PKPbc	**PKPbc**	**12 32 28.7**	**+0.2**
	4.3nm,0.9s,baz=144,slow=1.4,SNR=11						
BOSA	**Boshof**	**153.71**	**330**	PKPbc	**PKPbc**	**12 32 35.7**	**-0.2**
	1.3nm,0.6s,baz=107,slow=0.7,SNR=2.8						

*JMA **20** 12:16:26.1,34°.06N×136°.18E,h405km,M2.8*
*ISCJB **20** 12:16:27.5±0.9,34°.1N±0°.1×136°.3E±0°.1,h393km±10km, mb2.6/1,Error ellipse: s-maj=22.2km s-min=16.4km az=140.4*
*IDC **20** 12:16:28.3±1.2,34°.02N×136°.39E,h374km±23km,mb2.6/1, mb1 2.8/4,mb1mx2.6/55,mbtmp3.4/4,Error ellipse: s-maj=36.8km s-min=27.9km az=154.0*
ISC 20 12:16:28.7±1.1,34°.1N±0°.1×136°.3E±0°.1,h382km±11km, n13,σ1ᵎ28/18,Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JWZ	**Kozaga**	**0.73**	**218**			P	**Pn**	**12 17 16.8**	**-0.2**
HMMJ	**Hamamatsu 2**	**1.43**	**58**			P	**Pn**	**12 17 20.0**	**+0.5**
JAO	**Obara**	**1.43**	**35**			P	**Pn**	**12 17 20.0**	**+0.4**
JHMK	**Hamakita**	**1.43**	**60**			P	**Pn**	**12 17 19.7**	**+0.3**
JNY	**Yasuok**	**1.82**	**46**			P	**Pn**	**12 17 22.1**	**+0.3**
JNY						S	**S**	**12 18 04.8**	**+0.1**
JKG	**Kaga**	**2.17**	**2**			P	**Pn**	**12 17 24.4**	**+0.5**
JOD2	**Odawara 2**	**2.60**	**63**			P	**Pn**	**12 17 28.1**	**+0.9**
JOD2						S	**S**	**12 18 17.3**	**+2.8**
JRY	**Ryogami san**	**2.89**	**48**			P	**Pn**	**12 17 29.6**	**+0.1**
JRY						S	**S**	**12 18 17.9**	**-0.8**
MJAR	**Matsushiro Arr**	**2.91**	**33**			P	**Pn**	**12 17 29.5**	**-0.1**
	1.6nm,0.3s,baz=205,slow=9.2,SNR=18								
MJAR						S	**S**	**12 18 17.8**	**-1.1**
	baz=214,slow=23,SNR=3.6								
JHU	**Hanno**	**3.04**	**54**			P	**Pn**	**12 17 30.8**	**+0.1**
JHU						S	**S**	**12 18 17.5**	**-3.3**
JNU	**Nakatsue**	**4.59**	**259**			P	**Pn**	**12 17 45.8**	**+0.2**
	1.1nm,0.3s,baz=72,slow=6.4,SNR=14								
USRK	**Ussuriysk Ar.**	**10.61**	**343**	P		P	**P**	**12 18 54.0**	**+0.6**
	0.5nm,0.3s,baz=150,slow=12,SNR=5.9								
WRA	**Warramunga Arr**	**53.77**	**182**	P		P	**P**	**12 25 12.9**	**-0.4**
	0.2nm,0.6s,baz=359,slow=7.6,SNR=4.5								

*ISCJB **20** 12:20:22.9±1.0,33°.77S±0°.07×70°.4W±0°.1,h119km±9km, Error ellipse: s-maj=17.1km s-min=6.2km az=38.9*
*SJA **20** 12:20:22.2±0.8,33°.77S×70°.30W,h132km±9km,ML2.5*
*GUC **20** 12:20:24.2±0.5,33°.74S×70°.46W,h116km±3km,ML3.6*
ISC 20 12:20:23.9±1.8,33°.77S±0°.07×70°.36W±0°.09, h112km±12km,n17,σ0ᵎ57/30,3C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCH	**Pirque**	**0.20**	**319**	⇓	*i*P	P	**Pn**	**12 20 39.6**	**0.0**
PCH					*i*	S	**Sn**	**12 20 51.4**	**-0.1**
CHCH	**Chadas Angostu**	**0.29**	**236**	⇓	*i*P	P	**Pn**	**12 20 39.8**	**-0.1**
CHCH					*i*	S	**Sn**	**12 20 52.0**	**+0.1**
CLCH	**Cerro Calan**	**0.40**	**338**	⇑	*i*P	P	**Pn**	**12 20 40.6**	**+0.1**
CLCH					*i*	S	**Sn**	**12 20 53.0**	**+0.1**
CLCH					AML	AML		12 20 53.9	
	comp=N,2μm,0.7s								
SAN	**Santiago**	**0.40**	**321**	⇑	*i*P	P	**Pn**	**12 20 40.1**	**-0.3**
SAN					*i*	S	**Sn**	**12 20 52.4**	**-0.5**
PEL	**Peldehue**	**0.68**	**336**	⇓	*i*P	P	**Pn**	**12 20 42.2**	**-0.1**
PEL					*i*	S	**Sn**	**12 20 56.1**	**-0.2**
PEL					AML	AML		12 20 57.1	
	comp=N,3μm,0.4s								
LNV	**Longovilo**	**0.89**	**258**	⇑	*i*P	P	**Pn**	**12 20 43.9**	**-0.3**
NICH	**Los Niches**	**1.43**	**210**		*e*P	P	**Pn**	**12 20 50.1**	**+0.2**
NICH					*i*	S	**Sn**	**12 21 10.2**	**+0.5**
AAGR	**Agrelo**	**1.45**	**62**		*i*P	P	**Pn**	**12 20 50.3**	**-0.1**
AAGR					*i*	P	**Pn**	**12 20 50.3**	**-0.1**
ARCO	**CERRO ARCO**	**1.51**	**53**		*i*P	P	**Pn**	**12 20 50.5**	**-0.6**
ARCO					*i*	S	**Sn**	**12 21 12.6**	**+0.8**
ARCO					AML	AML		12 21 15.2	
	comp=Z,40nm,0.3s								
ASAL	**Salagasta**	**1.74**	**48**		*i*P	P	**Pn**	**12 20 54.1**	**+0.3**
ASAL					*i*	S	**Sn**	**12 21 17.1**	**+0.5**
AUSP	**Uspallata**	**1.75**	**28**		*i*P	P	**Pn**	**12 20 54.1**	**0.0**
AUSP					*i*	S	**Sn**	**12 21 18.7**	**+1.6**
RTLS	**Leoncito**	**2.16**	**25**		*i*P	P	**Pn**	**12 21 00.2**	**+0.9**
RTLS					*i*	S	**Sn**	**12 21 27.0**	**+0.7**
RTCV	**Cerro Valdivia**	**2.44**	**39**		*i*P	P	**Pn**	**12 21 02.4**	**-0.3**
RTCV					*i*	S	**Sn**	**12 21 32.0**	**-0.5**
CFAA	**Coronel Fontan**	**2.80**	**40**		*i*P	P	**Pn**	**12 21 07.0**	**-0.4**
CFAA					*i*	S	**Sn**	**12 21 40.0**	**-0.9**
RTLL	**Cerro Villicun**	**2.91**	**34**		*i*P	P	**Pn**	**12 21 08.6**	**-0.2**
ACAN	**Cantantal**	**3.05**	**62**		*i*P	P	**Pn**	**12 21 10.1**	**-0.6**
AMOG	**MOGNA**	**3.23**	**30**		*i*P	P	**Pn**	**12 21 12.4**	**-0.7**

*IDC **20** 12:22:23.7±0.8,6°.27S×150°.86E,h0km,mb4.2/8, mb1 4.4/10,mb1mx4.1/37,mbtmp4.2/10,ML2.8/2,Error ellipse: s-maj=27.6km s-min=18.4km az=111.0*
*ISCJB **20** 12:22:27.7±0.5,6°.36S±0°.06×150°.86E±0°.07,h36km, mb4.4/11,Error ellipse: s-maj=11.4km s-min=6.2km az=39.7*
*NEIC **20** 12:22:29.8±1.7,6°.36S×150°.88E,h42km±15km,mb4.7/5, Error ellipse: s-maj=15.1km s-min=10.1km az=162.0*

ISC 20 12:22:29.4±0.5,6°.33S±0°.08×150°.89E±0°.08,h36km,n38, σ0ᵎ93/45,mb4.6/12,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.48**	**31**			P	**Pn**	**12 23 08.9**	**+1.7**
	baz=2.7,SNR=17								
PMG	**Port Moresby**	**4.79**	**230**		Pn	Pn	**Pn**	**12 23 39.6**	**+0.6**
	4.0nm,0.3s,baz=37,slow=4.0,SNR=18								
PMG					Sn	Sn	**Sn**	**12 24 33.4**	**0.0**
	12nm,0.3s,baz=95,slow=22,SNR=4.5								
PMG	**Port Moresby**	**4.79**	**230**		P	P	**Pn**	**12 23 40.0**	**+0.9**
	baz=4.8,SNR=15								
PMG					P	P	**Pn**	**12 23 40.0**	**+0.9**
	baz=4.8,SNR=15								
PMG					P	P	**Pn**	**12 23 40.0**	**+0.9**
	baz=4.8,SNR=15								
PMG	**Port Moresby**	**4.79**	**230**	*e*	Pn	P	**Pn**	**12 23 39.5**	**+0.4**
PMG				*e*	Sn	S	**Sn**	**12 24 35.9**	**+2.5**
MTSU	**Mount Surprise**	**13.37**	**208**		P	P	**Pn**	**12 25 36.5**	**-0.2**
	baz=13,SNR=8.3								
CTA	**Charters Tower**	**14.39**	**198**		Pn	P	**Pn**	**12 25 50.7**	**0.0**
	0.2nm,0.3s,baz=18,slow=16,SNR=2.6								
CTAO	**Charters Tower**	**14.39**	**198**	*e*	Pn	P	**Pn**	**12 25 51.0**	**+0.3**
CTAO				*e*	Sn	S	**Sn**	**12 28 30.7**	**+1.5**
QIS	**Mount Isa**	**17.88**	**217**		P	P	**P**	**12 26 36.0**	**+0.2**
	baz=18,SNR=5.7								
KDU	**Kakadu**	**19.22**	**249**		P	P	**P**	**12 26 50.0**	**-0.5**
	baz=19,SNR=5.1								
RMQ	**Roma**	**20.14**	**186**		P	P	**P**	**12 27 01.3**	**+0.8**
	baz=20,SNR=22								
MTN	**Manton Dam**	**20.52**	**250**		P	P	**P**	**12 27 04.4**	**-0.3**
	baz=21,SNR=3.2								
WRAB	**Tennant Creek**	**21.00**	**228**	*e*	P	P	**P**	**12 27 09.3**	**-0.6**
	23nm,0.7s								
WRA	**Warramunga Arr**	**21.01**	**228**		P	P	**P**	**12 27 09.2**	**-0.9**
	20nm,0.6s,baz=53,slow=11,SNR=143								
QLP	**Quilpie**	**21.11**	**197**		P	P	**P**	**12 27 10.9**	**-0.2**
	baz=21,SNR=24								
DZM	**Mont Dzumac**	**21.69**	**138**		P	P	**P**	**12 27 17.6**	**+0.2**
	6.2nm,0.5s,baz=270,slow=20,SNR=10								
DZM	**Mont Dzumac**	**21.69**	**138**	*e*	P	P	**P**	**12 27 17.8**	**+0.4**
TARA	**Tarawa**	**23.29**	**72**	*e*	P	P	**P**	**12 27 33.2**	**-0.9**
	25nm,0.5s								
KNRA	**Kununurra**	**23.60**	**245**		P	P	**P**	**12 27 36.9**	**-0.2**
	baz=24,SNR=4.3								
AS31	**Alice Springs**	**23.74**	**222**	*e*	P	P	**P**	**12 27 38.0**	**-0.5**
ASAR	**Alice Springs**	**23.74**	**222**		P	P	**P**	**12 27 38.1**	**-0.4**
	14nm,0.7s,baz=56,slow=8.9,SNR=225								
STKA	**Stephens Creek**	**26.86**	**198**		P	P	**P**	**12 28 05.6**	**-1.1**
	14nm,0.8s,baz=4.9,slow=9.9,SNR=28								
STKA	**Stephens Creek**	**26.86**	**198**		P	P	**P**	**12 28 05.7**	**-1.0**
	baz=27,SNR=28								
STKA	**Stephens Creek**	**26.86**	**198**	*e*	P	P	**P**	**12 28 05.8**	**-1.0**
WRKA	**Warakurna**	**28.53**	**227**		P	P	**P**	**12 28 21.1**	**-0.7**
	baz=29,SNR=31								
MSVF	**Nonsavu**	**28.83**	**116**	*e*	P	P	**P**	**12 28 23.5**	**-1.2**
HTT	**Hallett**	**29.16**	**201**		P	P	**P**	**12 28 26.8**	**-0.5**
	baz=29,SNR=8.8								
MEEK	**Meekatharra**	**36.77**	**233**		P	P	**P**	**12 29 33.6**	**-0.1**
	baz=37,SNR=9.3								
BLDU	**Ballidu**	**40.14**	**229**		P	P	**P**	**12 30 01.4**	**-0.7**
	baz=40,SNR=5.4								
XMIS	**Christmas Isla**	**44.91**	**262**	*e*	P	P	**P**	**12 30 40.4**	**-0.7**
	26nm,0.5s								
MKAR	**Makanchi Array**	**80.24**	**320**		P	P	**P**	**12 34 36.7**	**+0.3**
	0.4nm,0.7s,baz=116,slow=6.6,SNR=2.8								
ZALV	**Zalesovo Beam**	**81.38**	**327**		P	P	**P**	**12 34 41.3**	**-1.0**
	0.4nm,0.4s,baz=134,slow=6.2,SNR=2.7								
QSPA	**South Pole Qui**	**83.64**	**180**	*e*	P	P	**P**	**12 34 54.6**	**+0.5**
	6.3nm,1.0s								
ILAR	**Eielson Array**	**84.29**	**22**		P	P	**P**	**12 34 56.4**	**-0.8**
	1.3nm,0.8s,baz=259,slow=5.5,SNR=16								
HYT	**Haines Junctio**	**86.67**	**28**	*e*	P	P	**P**	**12 35 11.6**	**+2.3**
	3.9nm,0.9s								
NVAR	**Mina Array Bea**	**94.52**	**52**		P	P	**P**	**12 35 47.4**	**+0.7**
	0.3nm,0.6s,baz=254,slow=6.5,SNR=1.9								
TOA0	**Torodi Ar. Sit**	**148.91**	**285**	*e*	PKPdf	**PKPdf**	**12 42 08.8**	**-1.7**
TOA0				*e*	PKPbc	**PKPbc**	**12 42 14.0**	**-0.5**
TOA0				*e*	PKPab	**PKPab**	**12 42 19.2**	**+0.7**
TORD	**Torodi Ar. Bea**	**148.91**	**285**		PKPbc	**PKPbc**	**12 42 14.3**	**-0.2**
	2.9nm,0.7s,baz=66,slow=2.1,SNR=14								
BDFB	**Brasilia**	**151.24**	**140**		PKPbc	**PKPbc**	**12 42 20.5**	**+0.3**
	1.4nm,0.4s,baz=149,slow=5.9,SNR=2.6								

*ISCJB **20** 12:23:09.8±1.2,39°.31N±0°.08×36°.96E±0°.05,h6km,Error ellipse: s-maj=11.0km s-min=5.9km az=5.9*
*DDA **20** 12:23:09.7,39°.26N×36°.97E,h7km,MD2.7*
ISC 20 12:23:09.6±1.6,39°.30N±0°.08×37°.00E±0°.04,h6km,n3, σ0ᵎ81/6,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CUKAN	**kangal_SIVAS**	**0.36**	**87**		*i*P	P	**Pg**	**12 23 16.6**	**0.0**
CUKAN					*i*S	S	**Sb**	**12 23 24.0**	**-0.4**
CUSAR	**Sarkisla-SIVAS**	**0.60**	**282**		*i*P	P	**Pg**	**12 23 21.0**	**-0.2**
CUSAR					*i*S	S	**Sg**	**12 23 29.5**	**+0.4**
SVSK	**Karacayir**	**0.62**	**360**		*e*PG	P	**Pg**	**12 23 20.8**	**-0.6**
SVSK					*e*SG	S	**Sg**	**12 23 30.6**	**+1.1**

*IDC **20** 12:26:34.4±0.7,51°.50N×176°.85W,h0km,mb3.7/10, mb1 4.0/11,mb1mx3.7/47,mbtmp3.7/11,ML3.2/1,MS2.9/1, Ms1 2.9/1,ms1mx2.4/41,Error ellipse: s-maj=30.4km s-min=17.2km az=155.0*
*ISCJB **20** 12:26:40.8±0.7,51°.6N±0°.1×176°.69W±0°.06,h60km±6km, mb3.7/9,Error ellipse: s-maj=19.2km s-min=4.2km az=167.0*
*NEIC **20** 12:26:40.6,51°.47N×176°.67W,h41km,ML3.6(AEIC),After AEIC.*
ISC 20 12:26:41.5±1.4,51°.5N±0°.1×176°.70W±0°.04,h48km±12km, n48,σ0ᵎ88/48,mb3.7/9,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ETKA	**Kagalaska Isla**	**0.40**	**27**			P	**Pn**	**12 26 50.8**	**-0.6**
KIRH	**Kanaga Island**	**0.46**	**328**			P	**Pn**	**12 26 51.7**	**-0.4**
KIKV	**Kanaga Island**	**0.47**	**322**			P	**Pn**	**12 26 51.8**	**-0.5**
ADAG	**Mount Adagdak**	**0.47**	**7**			P	**Pn**	**12 26 51.8**	**-0.5**
KICM	**Kanaga Island**	**0.51**	**323**			P	**Pn**	**12 26 52.3**	**-0.4**
GSCK	**Great Sitkin C**	**0.60**	**33**			P	**Pn**	**12 26 53.5**	**-0.4**
GSTD	**Great Sitkin T**	**0.65**	**32**			P	**Pn**	**12 26 54.0**	**-0.5**
GSTD						S	**Sn**	**12 27 03.9**	**0.0**
GSMY	**Great Sitkin M**	**0.67**	**37**			P	**Pn**	**12 26 54.2**	**-0.5**
GSTR	**Great Sitkin T**	**0.71**	**34**		*e*Pn	P	**Pn**	**12 26 55.1**	**-0.2**
GSTR					*e*Sn	S	**Sn**	**12 27 07.4**	**+2.2**
TAPA	**Tanaga Point A**	**0.76**	**294**			P	**Pn**	**12 26 55.5**	**-0.4**
TAFL	**Tanaga Flats**	**0.79**	**289**			P	**Pn**	**12 26 56.0**	**-0.2**
TAFL						S	**Sn**	**12 27 07.7**	**+0.7**
TAFP	**Tanaga Falls P**	**0.89**	**297**			P	**Pn**	**12 26 57.4**	**-0.2**
TASE	**Tanaga Southea**	**0.89**	**292**			P	**Pn**	**12 26 57.8**	**0.0**
TANO	**Tanaga North**	**0.97**	**295**			P	**Pn**	**12 26 58.9**	**+0.2**
GAEA	**Gareloi East**	**1.30**	**283**			P	**Pn**	**12 27 03.6**	**+0.4**
GAEA						S	**Sn**	**12 27 21.3**	**+1.8**
GALA	**Gareloi Lava P**	**1.31**	**282**			P	**Pn**	**12 27 03.8**	**+0.4**
ATKA	**Atka Island**	**1.70**	**65**			P	**Pn**	**12 27 08.3**	**-0.3**
CERAA	**Semis' Rag'd T**	**2.28**	**281**			P	**Pn**	**12 27 16.6**	**0.0**
CESW	**Semis' Southwe**	**2.36**	**281**			P	**Pn**	**12 27 17.6**	**0.0**
CESW						S	**Sn**	**12 27 46.9**	**+1.6**
CEAP	**Semis' Anvil P**	**2.37**	**283**			P	**Pn**	**12 27 17.9**	**+0.2**
AMKA	**Amchitka**	**2.50**	**269**			P	**Pn**	**12 27 19.7**	**+0.1**
AMKA						S	**Sn**	**12 27 50.4**	**+1.4**
LSPA	**Little Sitkin**	**2.97**	**280**			P	**Pn**	**12 27 26.7**	**+0.7**
LSSE	**Little Sitkin**	**2.97**	**280**			P	**Pn**	**12 27 26.8**	**+0.7**
LSNW	**Little Sitkin**	**3.01**	**281**			P	**Pn**	**12 27 26.9**	**+0.3**
LSSA	**Little Sitkin**	**3.01**	**280**			P	**Pn**	**12 27 26.8**	**+0.2**
OKAK	**Okmok**	**5.50**	**65**			P	**Pn**	**12 28 00.6**	**0.0**
OKTU	**Okmok Mt. Tuli**	**5.62**	**67**			P	**Pn**	**12 28 03.7**	**+1.3**
UNV	**Unalaska Valle**	**6.63**	**65**			P	**Pn**	**12 28 18.2**	**+2.0**
SPIA	**Saint Paul Isl**	**6.81**	**31**			P	**Pn**	**12 28 21.0**	**+2.3**
SEY	**Seymchan**	**20.04**	**317**			P	**P**	**12 31 09.8**	**-0.2**
	0.1nm,0.3s,baz=115,slow=17,SNR=4.1								
ILAR	**Eielson Array**	**20.33**	**38**			P	**P**	**12 31 13.2**	**0.0**
	0.5nm,0.6s,baz=239,slow=10.0,SNR=11								
INK	**Inuvik**	**26.60**	**35**			P	**P**	**12 32 13.3**	**-1.5**
	1.1nm,0.6s,baz=243,slow=2.3,SNR=3.5								
YKA	**Yellowknife Ar**	**34.19**	**47**			P	**P**	**12 33 21.1**	**-0.6**
	0.3nm,0.6s,baz=276,slow=9.2,SNR=4.2								
YKA						PcP	**PcP**	**12 35 57.3**	**-0.2**
	0.7nm,0.8s,baz=284,slow=3.2,SNR=8.7								
H11N2	**WAKE ISLAND Hy**	**34.24**	**208**			T	T	13 09 51.7	
	baz=18,slow=76,SNR=236								
H11N3	**WAKE ISLAND Hy**	**34.24**	**208**			T	T	13 09 54.2	
	baz=18,slow=76,SNR=249								
H11N1	**WAKE ISLAND Hy**	**34.26**	**208**			T	T	13 09 54.9	
	baz=18,slow=76,SNR=194								
H11S1	**WAKE ISLAND Hy**	**35.45**	**208**			T	T	13 11 25.4	
	baz=18,slow=76,SNR=93								
H11S2	**WAKE ISLAND Hy**	**35.47**	**208**			T	T	13 11 26.0	
	baz=18,slow=76,SNR=87								
H11S3	**WAKE ISLAND Hy**	**35.47**	**208**			T	T	13 11 18.1	
	baz=18,slow=76,SNR=85								
JNU	**Nakatsue**	**41.89**	**265**	LR		LR	LR	12 52 37.8	
	comp=Z,15nm,20.7s,baz=143,slow=37								
NVAR	**Mina Array Bea**	**42.23**	**84**	P		P	**P**	**12 34 31.1**	**+1.2**
	0.4nm,0.7s,baz=300,slow=9.0,SNR=3.5								
PDAR	**Pinedale Array**	**45.01**	**74**	P		P	**P**	**12 34 52.5**	**+0.2**
	0.8nm,0.6s,baz=345,slow=4.3,SNR=10								
TXAR	**Lajitas Array**	**57.33**	**83**	P		P	**P**	**12 36 24.6**	**0.0**
	0.4nm,0.5s,baz=311,slow=5.7,SNR=11								
CMAR	**Chiang Mai Arr**	**72.30**	**277**	P		P	**P**	**12 38 01.4**	**-0.6**
	0.9nm,0.3s,baz=29,slow=6.8,SNR=4.6								
WRA	**Warramunga Arr**	**83.03**	**226**	P		P	**P**	**12 39 00.7**	**-0.8**
	0.7nm,0.8s,baz=34,slow=6.0,SNR=3.5								
ASAR	**Alice Springs**	**86.48**	**224**	P		P	**P**	**12 39 18.8**	**-0.2**
	0.6nm,0.8s,baz=19,slow=5.5,SNR=5.2								
STKA	**Stephens Creek**	**90.77**	**214**	P		P	**P**	**12 39 39.0**	**+0.1**
	0.7nm,0.8s,baz=90,slow=8.1,SNR=3.4								
BOSA	**Boshof**	**151.83**	**316**	PKPbc		PKPbc	**PKPbc**	**12 46 29.7**	**-1.1**
	2.1nm,0.7s,baz=14,slow=3.0,SNR=5.9								

*IDC **20** 12:26:56.3±0.9,5°.79S×150°.81E,h0km,mb4.0/8, mb1 4.2/9,mb1mx3.9/34,mbtmp4.1/9,ML2.3/1,MS3.5/4, Ms1 3.4/4,ms1mx3.1/29,Error ellipse: s-maj=26.6km s-min=20.2km az=92.0*
*ISCJB **20** 12:27:00.5±0.6,5°.83S±0°.08×150°.78E±0°.08,h43km, mb4.0/11,MS3.4/2,Error ellipse: s-maj=12.9km s-min=9.5km az=137.0*
*NEIC **20** 12:27:03.1±2.7,5°.89S×150°.80E,h49km±25km,mb4.4/2, Error ellipse: s-maj=18.3km s-min=15.8km az=197.0*
ISC 20 12:27:02.7±0.7,5°.9S±0°.1×150°.82E±0°.10,h43km,n27, σ1ᵎ17/30,mb4.1/11,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.05**	**226**		Pn	P	**Pn**	**12 28 16.2**	**+0.3**
	7.3nm,0.3s,baz=46,slow=10,SNR=11								
PMG					Sn	Sn	**Sn**	**12 29 10.0**	**-3.0**
	18nm,0.3s,baz=69,slow=21,SNR=7.5								
PMG					LR	LR		12 30 14.6	
	comp=Z,529nm,21.7s,baz=8.0,slow=39								
PMG	**Port Moresby**	**5.05**	**226**		P	P	**Pn**	**12 28 17.1**	**+1.2**
	baz=5.7,SNR=6.2								
PMG					P	P	**Pn**	**12 28 17.1**	**+1.2**
	baz=5.7,SNR=6.2								
PMG					P	P	**Pn**	**12 28 17.1**	**+1.2**
	baz=5.7,SNR=6.2								
PMG	**Port Moresby**	**5.05**	**226**	*e*	Pn	P	**Pn**	**12 28 16.7**	**+0.8**
PMG				*e*	Sn	S	**Sn**	**

WESN West Dahl Nort 3.44 55 P **Pn** 12 54 44.8 +1.0
SSBA Shishaldin 3.77 55 P **Pn** 12 54 49.4 +1.0
SSLW Shishaldin Wes 3.78 55 P **Pn** 12 54 49.1 +0.7
ISNN Isanotski Nort 3.98 55 P **Pn** 12 54 52.9 +1.7
GSTR Great Sitkin T 4.10 264 *e*Pn **Pn** 12 54 54.1 +1.2
GSTR *e*Sn **Sn** 12 55 45.5 +4.8
GSMY Great Sitkin M 4.11 263 P **Pn** 12 54 54.0 +1.0
GSTD Great Sitkin T 4.16 264 P **Pn** 12 54 54.3 +0.6
FALS False Pass 4.17 56 *e*Pn **Pn** 12 54 55.8 +2.0
GSCK Great Sitkin C 4.18 263 P **Pn** 12 54 54.7 +0.7
ETKA Kagalaska Isla 4.36 262 P **Pn** 12 54 57.6 +1.1
ADAG Mount Adagdak 4.45 263 P **Pn** 12 54 59.6 +1.9
SPIA Saint Paul Isl 4.51 354 P **Pn** 12 55 00.8 +2.4
KIKV Kanaga Island 4.82 263 P **Pn** 12 55 03.9 +1.2
KICM Kanaga Island 4.82 264 P **Pn** 12 55 04.1 +1.3
DTNA Dutton South F 4.90 57 P **Pn** 12 55 05.0 +1.1
TAFP Tanaga Falls P 5.30 265 P **Pn** 12 55 10.9 +1.6
TASE Tanaga Southea 5.35 264 P **Pn** 12 55 12.5 +2.4
SDPT Sand Point 5.91 60 *e*Pn **Pn** 12 55 20.3 +2.6
VNKR Veniaminof 5 6.76 56 P **Pn** 12 55 31.7 +2.3
CESW Semis' Southwe 6.79 268 P **Pn** 12 55 32.8 +3.0
AMKA Amchitka 7.07 264 P **Pn** 12 55 36.7 +3.1
CHGN Chignik 7.36 56 *e*Pn **Pn** 12 55 39.2 +1.7
LSPA Little Sitkin 7.39 269 P **Pn** 12 55 41.1 +3.1
LSSA Little Sitkin 7.42 269 P **Pn** 12 55 41.3 +2.8
SMY Shemya 9.99 277 *e*P Pn 12 56 19.9 +6.3
SMY Shemya 9.99 277 *e*Pn Pn 12 56 19.9 +6.3
OHAK Old Harbor 10.32 58 *e*Pn **Pn** 12 56 17.6 -0.5
KDAK Kodiak Island 10.87 55 Pn **Pn** 12 56 26.0 +0.4
299nm,0.6s,SNR=22
KDAK Kodiak Island 10.87 55 *i* P **Pn** 12 56 25.6 0.0
KDAK Kodiak Island 10.87 55 *e*Pn **Pn** 12 56 26.5 +0.9
SVW2 Sparrevohn 11.30 36 *e*Pn Pn 12 56 37.6 +6.1
RSO Redoubt South 12.01 43 *e*Pn Pn 12 56 44.8 +3.4
130nm,0.9s
CNPM China Poot 12.21 49 *e*Pn **Pn** 12 56 44.1 +0.1
BRLK Bradley Lake 12.48 48 *e*Pn Pn 12 56 51.4 +3.8
SEW Seward 13.28 48 *e*Pn **Pn** 12 57 03.5 +0.6
RC01 Rabbit Creek A 13.60 44 *e*Pn **Pn** 12 57 03.5 +0.6
PPLA Purkeypile 13.69 35 *e*Pn Pn 12 57 08.3 +4.1
CAST Castle Rocks 14.07 34 *e*Pn Pn 12 57 12.9 +3.6
PMR Palmer 14.11 43 *e*P **Pn** 12 57 11.1 +1.3
PMR pmax pmax
comp=Z,33nm,1.1s
PMR Palmer 14.11 43 *e*Pn **Pn** 12 57 11.1 +1.3
comp=Z,33nm,1.1s
SML Sawmill 14.54 43 *e*P **Pn** 12 57 15.9 +0.1
SML pmax pmax
comp=Z,7.0nm,0.9s
SML Sawmill 14.54 43 *e*Pn **Pn** 12 57 15.9 +0.1
comp=Z,6.7nm,0.9s
TRF Thorofare Moun 14.71 35 *e*Pn **P** 12 57 21.5 -2.8
BPAW Bear Paw Mtn. 14.89 33 *e*Pn **Pn** 12 57 22.8 +2.3
EYAK Cordova Ski Ar 15.15 49 *e*Pn **Pn** 12 57 23.1 -0.9
comp=Z,22nm,0.9s
DIV Divide 15.35 47 *e*Pn **Pn** 12 57 25.5 -1.2
comp=Z,30nm,1.0s
MCK McKinley 15.36 36 *e*P **P** 12 57 29.7 -1.7
MCK pmax pmax
comp=Z,254nm,2.2s
MCK McKinley 15.36 36 *e*P **P** 12 57 29.7 -1.7
comp=Z,254nm,2.2s
KLU Klutina 15.43 46 *e*Pn **Pn** 12 57 25.1 -2.7
comp=Z,38nm,0.6s
IM04 Indian Mountai 15.45 25 *e*P **P** 12 57 30.8 -1.5
BMRM Bremner River 15.82 49 *e*Pn **Pn** 12 57 28.6 -4.2
comp=Z,55nm,1.2s
HARP HAARP 16.15 44 *e*Pn **Pn** 12 57 38.0 +1.1
comp=Z,116nm,1.3s
PAX Paxson 16.28 41 *e*P **P** 12 57 40.3 -1.3
PAX pmax pmax
comp=Z,31nm,1.2s
PAX Paxson 16.28 41 *e*Pn **P** 12 57 40.3 -1.3
comp=Z,31nm,1.2s
CCB Clear Creek Bu 16.31 34 *e*Pn **Pn** 12 57 38.1 -0.8
comp=Z,572nm,3.0s
COLA College 16.43 34 *de*P **Pn** 12 57 41.0 +0.6
COLA pmax pmax
comp=Z,79nm,1.0s
COLA College 16.43 34 *e*Pn **Pn** 12 57 40.6 +0.2
comp=Z,325nm,2.4s
HDA Harding Lake 16.46 36 *e*Pn **Pn** 12 57 40.4 -0.5
comp=Z,19nm,0.9s
ILAR Eielson Array 16.70 35 Pn **Pn** 12 57 42.8 -1.1
comp=Z,1.3nm,0.3s,baz=230,slow=11,SNR=67
ILAR PcP **PcP** 13 02 32.0 -0.2
comp=Z,0.1nm,0.3s,baz=292,slow=3.1,SNR=4.8
ILAR LR LR 13 04 19.5
comp=Z,709nm,19.9s,baz=222,slow=38
ILAR ScP **ScP** 13 06 05.8 -0.5
comp=Z,0.0nm,0.3s,baz=300,slow=2.8,SNR=4.7
MENT Mentasta 16.98 43 *e*Pn **Pn** 12 57 47.5 0.0
COLD Coldfoot 17.33 26 *e*Pn **P** 12 57 54.7 +1.6
comp=Z,219nm,1.8s
EGAK Eagle 18.80 39 *e*P **P** 12 58 08.4 -1.0
comp=Z,21nm,0.6s
HYT Haines Junctio 19.13 52 *e*Pn **Pn** 12 58 15.3 +1.4
PET Petropavlovsk 19.19 284 *c i*P **Pn** 12 58 15.8 +1.2
PET *e*S **Sn** 13 01 44.1 -5.1
PET pmax pmax
comp=Z,200nm,16.1s
PET pmax pmax
comp=Z,22nm,0.9s
PET MLR MLR
comp=Z,300nm,19.0s
DAWY Dawson 19.21 42 *e*P **P** 12 58 13.4 -0.5
BILL Bilibino 19.28 332 *d i*P **Pn** 12 58 17.2 +1.6
BILL pmax pmax
comp=Z,94nm,2.3s
BILL MLR MLR
comp=Z,342nm,15.0s
BILL Bilibino 19.28 332 *e*Pn **Pn** 12 58 17.3 +1.6
PETK Petropavlovsk- 19.73 284 P **P** 12 58 18.6 -1.0
comp=Z,1.4nm,0.3s,baz=94,slow=13,SNR=6.7
SKAG Skagway 20.02 57 *e*Pn Pn 12 58 24.6 +0.1
comp=Z,92nm,0.9s
WRAK Wrangell Islan 21.65 65 *e*P P 12 58 45.4 +5.1
comp=Z,32nm,1.2s
H02N1 VAN INLET T-PH 22.07 74 T T 13 21 22.3
SNR=54
H02S1 DAWSON INLET T 22.12 74 T T 13 21 34.9
SEY Seymchan 22.41 312 P **P** 12 58 49.4 +0.9
comp=Z,2.1nm,0.6s,baz=120,slow=12,SNR=7.9
SEY PcP **PcP** 13 02 42.0 -0.5
comp=Z,2.1nm,0.7s,baz=118,slow=3.4,SNR=4.5
SEY ScP **ScP** 13 06 20.6 +1.2
comp=Z,1.6nm,0.6s,baz=145,slow=3.4,SNR=6.1
SEY Seymchan 22.41 312 *d i*P **P** 12 58 49.0 +0.6
DLBC Dease Lake 22.75 60 P **P** 12 58 52.7 +0.5
comp=Z,48nm,1.1s,baz=270,slow=11,SNR=50
DLBC LR LR 13 07 04.8
comp=Z,267nm,21.4s,baz=290,slow=35
INK Inuvik 23.09 34 P **P** 12 58 53.7 -1.8
comp=Z,9.4nm,0.5s,baz=212,slow=17,SNR=27
INK PcP **PcP** 13 02 44.0 +0.1
comp=Z,2.3nm,0.6s,baz=200,slow=6.2,SNR=4.8
INK LR LR 13 07 55.3
comp=Z,503nm,19.2s,baz=250,slow=37
INK Inuvik 23.09 34 P **P** 12 58 53.7 -1.8
INK 13 02 44.0
INK pmax pmax
comp=Z,9.0nm,0.5s
INK MLR MLR
comp=Z,503nm,19.2s
INK Inuvik 23.09 34 *e*P **P** 12 58 53.2 -2.3
comp=Z,26nm,1.0s
INK PcP **PcP** 13 02 44.0 +0.1
BBB Bella Bella 24.95 75 P **P** 12 59 13.8 +0.6
comp=Z,13nm,1.0s,baz=295,slow=9.1,SNR=7.9
NLWA Neilton Lookou 29.35 82 *e*P **P** 12 59 55.2 +2.4
comp=Z,12nm,0.9s
CMW Cultus Mountai 29.93 79 P **P** 13 00 00.2 +2.2
E03A Lebam 29.93 83 *e*P **P** 13 00 00.9 +3.0
comp=Z,42nm,0.9s
YKW3 Yellowknife Ar 30.04 49 *e*P **P** 12 59 58.5 -0.3
comp=Z,0.1nm,0.5s
YKA Yellowknife Ar 30.05 49 P **P** 12 59 58.5 -0.3
comp=Z,2.5nm,0.5s,baz=272,slow=7.5,SNR=58
YKA PcP **PcP** 13 03 00.7 +0.5
comp=Z,0.9nm,0.7s,baz=278,slow=2.7,SNR=4.9
YKA ScP **ScP** 13 06 42.3 +0.6
comp=Z,0.5nm,0.7s,baz=280,slow=3.5,SNR=4.5
D05A Enumclaw 30.57 81 *e*P **P** 13 00 06.3 +2.7
comp=Z,51nm,1.0s
G03D McMinnville, O 30.78 85 P **P** 13 00 06.9 +1.4
baz=31
TDL Tradedollar La 30.84 83 P **P** 13 00 08.2 +2.1
LON Longmire 30.89 82 *e*P **P** 13 00 08.4 +1.9
LON pmax pmax
comp=Z,8.0nm,0.9s
LON Longmire 30.89 82 *e*P **P** 13 00 08.4 +1.9
comp=Z,8.2nm,0.9s
TBM Table Mountain 31.42 80 P **P** 13 00 12.7 +1.5
I03D Drain, OR 31.53 88 P **P** 13 00 12.1 +0.1
baz=31
VLL Laurance Lake 31.61 84 P **P** 13 00 15.1 +2.2
G05D Wamic, OR 31.94 84 P **P** 13 00 17.3 +1.6
baz=32,SNR=9.2
I04A Tendick Farm, 32.05 87 P **P** 13 00 18.6 +2.0
baz=32,SNR=10
CROR Criterion Ridg 32.27 84 P **P** 13 00 20.8 +2.1
I05D Terrebonne, OR 32.40 85 P **P** 13 00 21.6 +1.8
baz=32,SNR=15
VTHM Trough 32.43 83 P **P** 13 00 21.9 +1.8
HAWA Hanford 32.43 81 *e*P **P** 13 00 21.6 +1.6
comp=Z,34nm,1.0s
D08A Wollman Farm, 32.47 79 *e*P **P** 13 00 21.3 +0.9
comp=Z,18nm,1.1s
J04D Umpqua Nationa 32.53 88 P **P** 13 00 22.8 +1.7
baz=32,SNR=5.8
YAK Yakutsk 32.92 311 *e*P **P** 13 00 23.3 -0.7
YAK *e**PP pP 13 00 33.7 +5.4
YAK *e* 13 01 30.9
YAK *e*PPP PPP 13 01 44.0
YAK *e* 13 03 05.9
YAK *e*S **S** **13 05 42.9 +1.8**
YAK *e**SS sS 13 06 00.8 +13
YAK *e*SS **SnSn** **13 07 40.3 +2.3**
YAK *e* 13 10 47.1
YAK pmax pmax
comp=Z,8.0nm,1.1s
YAK pmax pmax
comp=N,2.0nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.4s
YAK pmax pmax
comp=Z,16nm,1.6s
YAK pmax pmax
comp=E,14nm,1.6s
YAK pmax pmax
comp=N,15nm,2.0s
YAK smax smax
comp=E,16nm,2.0s
YAK smax smax
comp=N,19nm,2.5s
YAK MLR MLR
comp=Z,258nm,18.0s
YAK MLR MLR
comp=N,284nm,21.0s
YAK MLR MLR
comp=E,183nm,18.0s
NEW Newport 32.97 76 *e*P **P** 13 00 25.7 +1.0
NEW pmax pmax
comp=Z,26nm,0.9s
NEW Newport 32.97 76 P **P** 13 00 25.4 +0.7
baz=33,SNR=21
NEW Newport 32.97 76 *e*P **P** 13 00 25.7 +1.0
comp=Z,26nm,0.9s
YBH Yreka Blue Hor 33.02 90 *e*P **P** 13 00 28.1 +2.8
YBH pmax pmax
comp=Z,110nm,2.4s
YBH Yreka Blue Hor 33.02 90 *e*P **P** 13 00 28.1 +2.8
comp=Z,110nm,2.4s
J05D Fort Rock, OR 33.04 87 P **P** 13 00 27.3 +1.8
baz=33,SNR=9.0
EDM Edmton 33.05 66 *e*P **P** 13 00 26.1 +0.7
EDM Edmonton 33.05 66 *e*P **P** 13 00 26.1 +0.7
M02C Callahan 33.14 91 P **P** 13 00 28.2 +2.0
baz=33
G08A Pilot Rock 33.34 82 *e*P **P** 13 00 29.5 +1.4
comp=Z,14nm,1.0s
N02D Trinity Center 33.47 91 P **P** 13 00 30.9 +1.7
baz=33
M04C Macdoel 33.52 90 P **P** 13 00 31.4 +1.6
baz=33
K05A Summer Lake 33.56 87 *e*P **P** 13 00 32.4 +2.3
comp=Z,47nm,1.0s
WDC Whiskeytown Da 33.81 92 *e*P **P** 13 00 34.1 +2.1
WDC pmax pmax
comp=Z,10.0nm,1.0s
WDC Whiskeytown Da 33.81 92 *e*P **P** 13 00 34.1 +2.1
comp=Z,10nm,1.0s
MOD Modoc 34.39 88 *e*P **P** 13 00 39.4 +2.1
comp=Z,27nm,1.1s
WALA Waterton Lakes 34.49 73 *e*P **P** 13 00 38.8 +0.8
comp=Z,19nm,1.0s
BSMT Bassoo Peak 34.55 76 *e*P **P** 13 00 39.6 +1.0
comp=Z,16nm,0.7s
BMO Blue Mountains 34.57 82 *e*P **P** 13 00 39.8 +1.1
comp=Z,16nm,1.2s
BLMT Blacktail Moun 34.72 75 *e*P **P** 13 00 41.0 +0.9
HABR Khabarovsk 34.75 286 *e*P **P** 13 00 38.3 -1.8
HABR *e* 13 01 54.1
HABR 13 03 11.3
HABR *e*S **S** **13 06 09.1 -0.6**
HABR *e*SS **SnSn** **13 08 24.0 +1.2**
HABR *e*SSS SSS 13 08 39.9
HABR *e* 13 11 00.0
HABR pmax pmax
comp=Z,9.0nm,1.5s
HABR MLR MLR
comp=Z,147nm,20.0s
JTMT Jette 34.89 76 *e*P **P** 13 00 42.8 +1.2
WVOR Wild Horse Val 35.10 86 *e*P **P** 13 00 44.6 +1.2
WVOR pmax pmax
comp=Z,36nm,0.9s
WVOR Wild Horse Val 35.10 86 *e*P **P** 13 00 44.6 +1.2
comp=Z,36nm,0.9s
SWMT Swartz Lake 35.18 76 *e*P **P** 13 00 44.6 +0.7
comp=Z,3.0nm,0.7s
MSO Missoula 35.55 77 P **P** 13 00 48.3 +1.1
baz=35,SNR=7.5
MSO Missoula 35.55 77 *e*P **P** 13 00 48.1 +0.9
comp=Z,11nm,0.8s
MSO *e*PcP **PcP** 13 03 16.4 +0.4
MFID Camas Ranch 36.24 83 *e*P **P** 13 00 52.8 -0.3
comp=Z,21nm,0.9s
CMB Columbia Colle 36.70 94 *e*P **P** 13 00 59.1 +2.1
CMB pmax pmax
comp=Z,6.0nm,1.0s
CMB Columbia Colle 36.70 94 *e*P **P** 13 00 59.1 +2.1
comp=Z,6.0nm,1.0s
HRY Holter Researc 36.86 76 *e*P **P** 13 00 59.0 +0.6
comp=Z,10nm,0.6s
LRM Limekiln Ridge 36.96 77 *e*P **P** 13 01 00.0 +0.6
comp=Z,58nm,1.0s
WAKR Walker 36.98 92 *e*P **P** 13 01 01.7 +2.1
HLID Hailey 37.01 82 P **P** 13 01 00.5 +0.7
baz=37,SNR=20
HLID Hailey 37.01 82 *e*P **P** 13 01 00.8 +1.0
comp=Z,22nm,1.3s
BMN Battle Mountai 37.13 88 *e*P **P** 13 01 02.4 +1.5
BMN pmax pmax
comp=Z,23nm,1.0s
BMN Battle Mountai 37.13 88 *e*P **P** 13 01 02.4 +1.5
comp=Z,22nm,1.0s
MCMT McKenzie Canyo 37.25 79 *e*P **P** 13 01 02.5 +0.6
EGMT Eagleton 37.41 73 P **P** 13 01 03.0 0.0
baz=37,SNR=52
EGMT Eagleton 37.41 73 *e*P **P** 13 01 03.2 +0.3
comp=Z,37nm,0.8s
BOZ Bozeman (W) 37.54 77 *e*P **P** 13 01 04.8 +0.6
BOZ pmax pmax
comp=Z,17nm,0.8s
BOZ Bozeman (W) 37.54 77 P **P** 13 01 04.5 +0.3
baz=37,SNR=43
BOZ Bozeman (W) 37.54 77 *e*P **P** 13 01 04.8 +0.6
comp=Z,17nm,0.8s
A19A Klindworth Far 37.54 71 P **P** 13 01 04.2 +0.2
baz=37,SNR=7.0
H11N2 WAKE ISLAND Hy 37.69 218 T T 13 41 06.6
baz=28,slow=74
H11N3 WAKE ISLAND Hy 37.70 218 T T 13 41 06.6
baz=28,slow=74
H11N1 WAKE ISLAND Hy 37.71 218 T T 13 41 06.6
baz=28
NVAR Mina Array Bea 37.71 91 P **P** 13 01 07.2 +1.4
comp=Z,10nm,0.9s,baz=295,slow=8.0,SNR=52
NVAR PcP **PcP** 13 03 23.1 +0.4
comp=Z,0.7nm,0.4s,baz=272,slow=3.0,SNR=6.0
A20A Cobblestone Ra 38.03 70 P **P** 13 01 08.4 +0.2
baz=38,SNR=5.9
QLMT Earthquake Lak 38.10 78 *e*P **P** 13 01 10.0 +1.0
comp=Z,0.6nm,0.5s
ELK Elko 38.15 86 *e*P **P** 13 01 10.8 +1.3
ELK pmax pmax
comp=Z,20nm,0.9s
ELK Elko 38.15 86 *e*P **P** 13 01 10.8 +1.3
comp=Z,20nm,0.9s
C20A Veseth Ranch, 38.58 72 P **P** 13 01 13.4 +0.5
baz=38,SNR=37
FFC Flin Flon 38.58 59 *e*P **P** 13 01 13.1 +0.4
FFC pmax pmax
comp=Z,13nm,1.0s
FFC Flin Flon 38.58 59 *e*P **P** 13 01 13.1 +0.4
comp=Z,13nm,1.0s
TPH Tonopah 38.59 91 *e*P **P** 13 01 14.5 +1.2
TPH pmax pmax
comp=Z,9.0nm,0.9s
TPH Tonopah 38.59 91 *e*P **P** 13 01 14.5 +1.2
comp=Z,8.5nm,0.9s
YNR Norris Junctio 38.61 78 *e*P **P** 13 01 15.1 +1.7
comp=Z,28nm,0.8s
GCMT Greycliff 38.62 76 *e*P **P** 13 01 13.8 +0.5
comp=Z,10nm,0.8s
GCMT *e*PcP **PcP** 13 03 26.3 +1.0
USRK Ussuriysk Ar. 38.78 282 LR LR 13 16 43.5
comp=Z,129nm,21.9s,baz=56,slow=36
H17A Grant Village 38.85 78 P **P** 13 01 17.1 +1.7
baz=39,SNR=8.5
H17A Grant Village 38.85 78 *e*P **P** 13 01 17.5 +2.1
comp=Z,19nm,0.9s
H17A *e*PcP **PcP** 13 03 28.8 +2.6
LKWY Lake 38.86 78 *e*P **P** 13 01 17.3 +1.9
LKWY pmax pmax
comp=Z,28nm,0.8s
LKWY Lake 38.86 78 *e*P **P** 13 01 17.3 +1.9
comp=Z,28nm,0.8s
H11S1 WAKE ISLAND Hy 38.88 218 T T 13 42 37.3
baz=23,slow=76,SNR=4558
H11S2 WAKE ISLAND Hy 38.90 218 T T 13 42 38.3
baz=23,slow=76,SNR=4119
H11S3 WAKE ISLAND Hy 38.90 218 T T 13 42 38.5
baz=23,slow=76,SNR=3767
IMW Indian Meadow 38.91 79 *e*P **P** 13 01 16.9 +0.9
comp=Z,14nm,0.8s
FLWY Flagg Ranch 38.95 79 *e*P **P** 13 01 17.7 +1.6
comp=Z,15nm,0.8s
FXWY Fox Creek 39.00 79 *e*P **P** 13 01 17.6 +1.0
comp=Z,4.4nm,0.8s
HVU Hansel Valley 39.03 83 *e*P **P** 13 01 17.7 +0.9
HVU pmax pmax
comp=Z,16nm,0.8s
HVU Hansel Valley 39.03 83 *e*P **P** 13 01 17.7 +0.9
comp=Z,16nm,0.8s
C21A Desert Coulee 39.04 71 P **P** 13 01 17.4 +0.6
baz=39,SNR=8.2
PKM Peak Mountain 39.11 97 P **P** 13 01 19.1 +1.6
baz=39
MOOW Moose Ponds 39.11 79 *e*P **P** 13 01 18.4 +0.8
comp=Z,4.2nm,0.9s
CWC Cottonwood Cre 39.13 94 P **P** 13 01 18.9 +1.2
baz=39,SNR=6.2
TPAW Teton Pass 39.13 79 *e*P **P** 13 01 18.8 +1.0
comp=Z,8.3nm,0.9s
GRAC Grapevine Rang 39.20 92 P **P** 13 01 19.8 +1.7
baz=39
RLMT Red Lodge 39.22 76 P **P** 13 01 19.1 +0.6
baz=39,SNR=39
RLMT Red Lodge 39.22 76 *e*P **P** 13 01 19.3 +0.9
comp=Z,43nm,1.0s
REDW Red Top Meadow 39.26 80 *e*P **P** 13 01 20.3 +1.4
comp=Z,7.8nm,0.9s
BGU Big Grassy Mou 39.38 84 *e*P **P** 13 01 20.9 +1.2
comp=Z,17nm,1.0s
ISA Isabella 39.41 95 *e*P **P** 13 01 21.0 +1.1
ISA pmax pmax
comp=Z,11nm,1.1s
ISA Isabella 39.41 95 P **P** 13 01 20.5 +0.6
baz=39,SNR=7.4
ISA Isabella 39.41 95 *e*P **P** 13 01 21.0 +1.1
comp=Z,11nm,1.1s
R11A Troy Canyon, C 39.42 89 P **P** 13 01 20.8 +0.7
baz=39,SNR=41
R11A Troy Canyon, C 39.42 89 *e*P **P** 13 01 21.0 +0.9
comp=Z,21nm,1.0s
F20A Billings 39.51 75 P **P** 13 01 21.3 +0.6
baz=39,SNR=11
DAC Darwin (Calif) 39.53 93 *e*P **P** 13 01 21.5 +0.4
DAC pmax pmax
comp=Z,9.0nm,0.9s
DAC Darwin (Calif) 39.53 93 *e*P **P** 13 01 21.5 +0.4
comp=Z,8.6nm,0.9s
ARVC Arvin 39.55 96 P **P** 13 01 22.9 +1.9
baz=39
H19A Powell 39.64 77 P **P** 13 01 22.7 +0.9
baz=40,SNR=21
MAJO Matsushiro 39.67 267 *i*P **P** 13 01 21.8 -0.2
MAJO pmax pmax
comp=Z,90nm,1.6s
MAJO Matsushiro 39.67 267 *e*P **P** 13 01 22.3 +0.3
comp=Z,8.4nm,0.8s
MAT Matsushiro 39.67 267 P **P** 13 01 22.8 +0.8
MAT S **S** **13 07 24.0 -0.8**
MJAR Matsushiro Arr 39.67 267 P **P** 13 01 21.2 -0.8
comp=Z,1.2nm,0.5s,baz=38,slow=7.0,SNR=6.9
MJAR PcP **PcP** 13 03 28.9 +0.3
comp=Z,1.8nm,0.8s,baz=111,slow=2.7,SNR=4.9
MJAR ScP **ScP** 13 07 16.0 -0.7
comp=Z,1.2nm,0.8s,baz=46,slow=3.3,SNR=4.8
MJAR LR LR 13 15 43.1
comp=Z,134nm,21.8s,baz=60,slow=33
E21A Keefer Ranch, 39.73 73 P **P** 13 01 22.9 +0.4
baz=40
MPMC Manual Prospec 39.74 94 P **P** 13 01 24.0 +1.2
baz=40,SNR=15
G20A Bridger 39.79 75 P **P** 13 01 23.3 +0.2
baz=40,SNR=42
FURC Furnace Creek, 39.85 93 P **P** 13 01 24.9 +1.4
baz=40,SNR=15
HWUT Hardware Ranch 39.86 82 *e*P **P** 13 01 24.9 +1.2
comp=Z,10.0nm,1.0s
TPNV Topopah Spring 39.91 91 P **P** 13 01 25.2 +1.0
baz=40,SNR=27
DUG Dugway 39.95 85 *e*P **P** 13 01 25.7 +1.2
DUG pmax pmax
comp=Z,47nm,1.1s
DUG Dugway 39.95 85 P **P** 13 01 25.5 +1.0
baz=40,SNR=42
DUG Dugway 39.95 85 *e*P **P** 13 01 25.7 +1.2
comp=Z,47nm,1.1s
I19A Meeteetse 39.99 77 P **P** 13 01 25.4 +0.5
baz=40,SNR=10
LRMC Laurel Mountai 40.01 94 P **P** 13 01 25.5 +0.5
baz=40
F21A Absaloka Mine, 40.10 74 P **P** 13 01 25.7 +0.1
baz=40
BLG Laguna Peak 40.10 97 P **P** 13 01 26.3 +0.7
baz=40
LAO LASA Array 40.15 72 P **P** 13 01 26.8 +0.9
baz=40,SNR=11
LAO LASA Array 40.15 72 *e*P **P** 13 01 26.9 +0.9
comp=Z,17nm,0.9s
EDW2 Edwards Air Fo 40.22 95 P **P** 13 01 27.1 +0.4
baz=40,SNR=5.9
TCUT Toone Canyon 40.25 83 *e*P **P** 13 01 28.3 +1.3
comp=Z,17nm,0.9s
CTU Camp Tracy 40.30 84 *e*P **P** 13 01 28.6 +1.2
comp=Z,14nm,1.0s
H20A Greybull 40.32 76 P **P** 13 01 27.5 0.0
baz=40,SNR=6.8
G21A Lodge Grass 40.38 75 P **P** 13 01 27.9 0.0
baz=40,SNR=10
BW06 Boulder Array 40.38 79 *e*P **P** 13 01 28.6 +0.5
comp=Z,20nm,0.8s
PDAR Pinedale Array 40.38 79 P **P** 13 01 28.5 +0.4
comp=Z,22nm,0.8s,baz=327,slow=5.0,SNR=145
PDAR PcP **PcP** 13 03 30.6 -0.4
comp=Z,0.5nm,0.4s,baz=0.0,slow=1.0,SNR=5.4
PDAR LR LR 13 16 44.5
comp=Z,62nm,21.8s,baz=316,slow=34
J19A Crowheart 40.40 79 P **P** 13 01 28.4 +0.2
baz=40,SNR=7.5
E22A Miles City 40.45 73 P **P** 13 01 29.0 +0.6
baz=40,SNR=9.8
JLU Jordanelle 40.53 83 *e*P **P** 13 01 30.5 +1.1
comp=Z,15nm,0.9s
NLU North Lily Min 40.55 85 *e*P **P** 13 01 30.5 +1.0
comp=Z,23nm,1.0s

I20A	Worland	40.55	77	P		P	13 01 29.8	+0.4
	baz=40,SNR=6.1							
SHOC	Shoshone	40.58	93	P		P	13 01 30.7	+1.1
	baz=40,SNR=10.0							
F22A	Rosebud	40.63	74	P		P	13 01 30.3	+0.4
	baz=40,SNR=5.3							
MWC	Mount Wilson	40.63	96	eP		P	13 01 31.6	+1.4
MWC					pmax	pmax		
	comp=Z,27nm,1.1s							
MWC	Mount Wilson	40.63	96	eP		P	13 01 31.6	+1.4
	comp=Z,27nm,1.1s							
GSC	Goldstone	40.66	94	eP		P	13 01 32.0	+1.7
GSC					pmax	pmax		
	comp=Z,31nm,1.0s							
GSC	Goldstone	40.66	94	P		P	13 01 30.7	+0.4
	baz=40,SNR=28							
GSC	Goldstone	40.66	94	eP		P	13 01 31.9	+1.7
	comp=Z,31nm,1.0s							
C24A	Savage	40.73	70	P		P	13 01 30.6	-0.1
	baz=41							
A25A	Svangstu Ranch	40.74	68	P		P	13 01 30.8	+0.1
	baz=41,SNR=12							
FCC	Fort Churchill	40.76	51	eP		P	13 01 30.6	-0.1
FCC					pmax	pmax		
	comp=Z,7.0nm,0.5s							
FCC	Fort Churchill	40.76	51	eP		P	13 01 30.6	-0.1
	comp=Z,6.5nm,0.5s							
MPU	Maple Canyon	40.78	84	eP		P	13 01 32.4	+1.0
	comp=Z,71nm,1.1s							
E23A	Ismay	40.78	72	P		P	13 01 32.1	+0.9
	baz=41,SNR=13							
H21A	Big Horn, Sher	40.81	76	P		P	13 01 31.6	+0.1
	baz=41,SNR=9.0							
FMP	Fort Macarthur	40.84	97	P		P	13 01 32.0	+0.4
	baz=41							
BFSC	Mount Baldy Ra	40.86	96	P		P	13 01 33.0	+1.0
	baz=41,SNR=9.2							
SHPR	Sheep Range	40.86	91	eP		P	13 01 33.0	+0.9
G22A	Birney	40.92	74	P		P	13 01 32.6	+0.2
	baz=41,SNR=9.5							
J20A	Shoshoni	40.92	78	P		P	13 01 33.4	+1.0
	baz=41,SNR=27							
CIS	Catalina Islan	40.98	97	P		P	13 01 33.2	+0.3
	baz=41							
D24A	Glendive	41.01	71	P		P	13 01 34.2	+1.1
	baz=41,SNR=20							
B25A	Knox Farm, Ray	41.06	69	P		P	13 01 33.4	0.0
	baz=41							
TUQ	Turquoise Moun	41.10	93	P		P	13 01 34.2	+0.2
	baz=41							
I21A	Big Trails, Te	41.13	77	P		P	13 01 34.0	-0.2
	baz=41,SNR=18							
F23A	Volborg	41.16	73	P		P	13 01 34.4	+0.1
	baz=41,SNR=21							
H22A	Clearmont	41.23	75	P		P	13 01 35.2	+0.2
	baz=41,SNR=11							
HEC	Hector,Ludlow	41.26	94	P		P	13 01 35.9	+0.6
	baz=41							
CCUT	Cedar City	41.28	88	eP		P	13 01 36.5	+0.9
	comp=Z,15nm,0.9s							
BBRC	Big Bear Solar	41.29	95	P		P	13 01 36.6	+0.9
	baz=41							
J21A	Lysite	41.30	77	P		P	13 01 35.6	-0.1
	baz=41,SNR=30							
C25A	Freed Ranch, W	41.30	69	P		P	13 01 35.5	+0.1
	baz=41							
E24A	Baker	41.33	71	P		P	13 01 36.3	+0.6
	baz=41,SNR=8.1							
A26A	Wade Farm, Ken	41.36	67	P		P	13 01 35.8	0.0
	baz=41,SNR=11							
MVU	Marysvale	41.37	87	eP		P	13 01 37.7	+1.3
	comp=Z,20nm,0.9s							
MSU	Marysvale	41.39	86	eP		P	13 01 37.6	+1.1
MSU					pmax	pmax		
	comp=Z,19nm,0.9s							
MSU	Marysvale	41.39	86	eP		P	13 01 37.6	+1.1
	comp=Z,19nm,0.9s							
G23A	Biddle	41.45	74	P		P	13 01 36.7	0.0
	baz=41,SNR=6.7							
TMUT	Trail Mountain	41.48	85	eP		P	13 01 38.8	+1.5
	comp=Z,53nm,1.0s							
B26A	Jensen Ranch,	41.53	68	P		P	13 01 37.3	+0.1
	baz=41							
I22A	9 Mile Ranch,	41.56	76	P		P	13 01 38.0	+0.3
	baz=41,SNR=17							
D25A	Fairfield	41.57	70	P		P	13 01 37.7	+0.1
	baz=41							
MURC	Murrieta	41.57	96	P		P	13 01 38.3	+0.5
	baz=41							
F24A	Ekalaka	41.64	72	P		P	13 01 38.3	-0.1
	baz=42,SNR=7.9							
P17A	Butcher Ranch,	41.66	84	eP		P	13 01 39.6	+1.0
GMRC	Granite Mounta	41.70	93	P		P	13 01 39.8	+0.8
	baz=42,SNR=28							
BOD	Bodaibo	41.75	309	eP		P	13 01 39.4	+0.5
BOD					pmax	pmax		
	comp=Z,5.0nm,0.9s							
A27A	Ledoux Ranch,	41.78	67	P		P	13 01 39.1	-0.2
	baz=42							
H23A	Clabaugh Cattl	41.81	75	P		P	13 01 39.1	-0.7
	baz=42							
J22A	Midwest	41.84	77	P		P	13 01 40.1	+0.1
	baz=42,SNR=58							
LDFC	Landfair	41.84	93	eP		P	13 01 41.1	+1.0
	comp=Z,36nm,0.9s							
E25A	Miller Ranch,	41.88	71	P		P	13 01 40.6	+0.3
	baz=42,SNR=8.6							
G24A	Alzada	41.95	73	P		P	13 01 40.3	-0.5
	baz=42,SNR=8.6							
SRU	San Rafael	42.01	85	eP		P	13 01 42.7	+1.2
SRU					pmax	pmax		
	comp=Z,38nm,1.2s							
SRU	San Rafael	42.01	85	eP		P	13 01 42.7	+1.2
	comp=Z,38nm,1.2s							
PFO	Pinyon Flat Ob	42.02	95	P		P	13 01 42.0	+0.5
	comp=Z,71nm,1.0s,SNR=7.3							
PFO	Pinyon Flat Ob	42.02	95	eP		P	13 01 42.3	+0.7
PFO					pmax	pmax		
	comp=Z,19nm,1.2s							
PFO	Pinyon Flat Ob	42.02	95	P		P	13 01 42.0	+0.5
	baz=42,SNR=9.4							
PFO	Pinyon Flat Ob	42.02	95	eP		P	13 01 42.3	+0.7
	comp=Z,19nm,1.2s							
BELC	Belle Mtn. Jos	42.03	95	P		P	13 01 42.1	+0.5
	baz=42,SNR=14							
B27A	Peters Farms,	42.06	67	P		P	13 01 41.4	-0.2
	baz=42							
D26A	Manning	42.14	70	P		P	13 01 42.0	-0.3
	baz=42							
F25A	Bowman	42.17	72	P		P	13 01 42.1	-0.5
	baz=42							
H24A	Dirks Ranch, A	42.20	74	P		P	13 01 42.4	-0.5
	baz=42,SNR=7.4							
K22A	Casper	42.26	78	P		P	13 01 43.2	-0.3
	baz=42,SNR=14							
K22A	Casper	42.26	78	eP		P	13 01 43.5	0.0
	comp=Z,21nm,0.8s							
C27A	Sayler Ranch,	42.30	68	P		P	13 01 42.2	-1.4
	baz=42							
A28A	Rude Farm, Bot	42.35	66	P		P	13 01 44.1	+0.2
	baz=42,SNR=11							
J23A	Dilts Ranch, B	42.39	76	P		P	13 01 45.0	+0.4
	baz=42,SNR=7.4							
IRM	Iron Mountain	42.43	94	P		P	13 01 45.9	+1.1
	baz=42,SNR=17							
E26A	Carlson Angus	42.44	70	P		P	13 01 44.8	+0.1
	baz=42,SNR=12							
BAR	Barrett	42.53	97	eP		P	13 01 47.0	+1.4
	comp=Z,24nm,1.0s							
MONP	Monument Peak	42.53	96	P		P	13 01 46.5	+0.7
	baz=42,SNR=12							
B28A	Dugan Ranch, T	42.54	67	P		P	13 01 45.5	0.0
	baz=42							
BC3	Big Chuckawall	42.59	95	P		P	13 01 46.6	+0.4
	baz=42,SNR=6.4							
G25A	Newell	42.61	73	P		P	13 01 45.9	-0.3
	baz=42							
D27A	Center	42.62	69	P		P	13 01 46.1	0.0
	baz=42							
F26A	Lodgepole	42.67	71	P		P	13 01 46.0	-0.7
	baz=42							
I24A	Kuemmerle Ranc	42.67	75	P		P	13 01 46.2	-0.6
	baz=42							
K23A	Bowen Ranch, D	42.73	77	P		P	13 01 47.1	-0.2
	baz=42,SNR=7.9							
O20A	White River Ci	42.75	82	P		P	13 01 47.9	+0.4
	baz=43,SNR=45							
O20A	White River Ci	42.75	82	eP		P	13 01 48.0	+0.4
	comp=Z,61nm,0.8s							
H25A	Fruitdale	42.83	73	P		P	13 01 48.0	0.0
	baz=43,SNR=9.5							
RSSD	Black Hills	42.87	74	eP		P	13 01 48.0	-0.4
RSSD					pmax	pmax		
	comp=Z,31nm,1.5s							
RSSD	Black Hills	42.87	74	eP		P	13 01 48.0	-0.4
	comp=Z,32nm,1.5s							
SWSC	Sam W. Stewart	42.88	96	P		P	13 01 48.8	+0.4
	baz=43							
A29A	Manning Farm,	42.91	66	P		P	13 01 48.6	+0.1
	baz=43							
C28A	Hausauer Farms	42.93	68	P		P	13 01 48.7	+0.1
	baz=43							
PDMCI	Parker Dam,Lak	42.95	93	P		P	13 01 49.4	+0.5
	baz=43,SNR=7.5							
J24A	Dixon Ranch, L	42.96	76	P		P	13 01 49.1	0.0
	baz=43,SNR=9.5							
E27A	Carson	42.98	70	P		P	13 01 49.2	+0.1
	baz=43,SNR=5.8							
G26A	Maurine	43.03	72	P		P	13 01 49.7	+0.2
	baz=43,SNR=16							
F27A	Lemmon	43.03	71	P		P	13 01 50.0	+0.5
	baz=43,SNR=9.6							
Y12C	Blythe	43.09	94	P		P	13 01 50.9	+0.8
	baz=43,SNR=11							
B29A	Wagenman Farm,	43.10	66	P		P	13 01 50.2	+0.2
	baz=43							
D28A	Regan	43.12	69	P		P	13 01 50.6	+0.4
	baz=43							
K24A	Anderson Ranch	43.23	76	P		P	13 01 51.1	-0.2
	baz=43							
H26A	Fairpoint	43.31	73	P		P	13 01 51.7	-0.2
	baz=43,SNR=7.7							
G27A	Dupree	43.36	72	P		P	13 01 51.8	-0.4
	baz=43							
GLA	Glamis	43.39	95	eP		P	13 01 53.9	+1.3
GLA					pmax	pmax		
	comp=Z,23nm,1.0s							
GLA	Glamis	43.39	95	P		P	13 01 53.3	+0.7
	baz=43,SNR=8.7							
GLA	Glamis	43.39	95	eP		P	13 01 53.9	+1.3
	comp=Z,23nm,1.0s							
E28A	Huff	43.39	69	P		P	13 01 52.5	+0.1
	baz=43,SNR=6.7							
A30A	Hoffart Farm,	43.42	65	P		P	13 01 52.4	-0.2
	baz=43							
J25A	Sunshine Ranch	43.43	75	P		P	13 01 52.6	-0.3
	baz=43							
PV04	Paradox Valley	43.45	84	eP		P	13 01 54.0	+0.9
I26A	New Underwood	43.61	74	P		P	13 01 54.5	+0.2
	baz=43							
N23A	Red Feather La	43.66	79	P		P	13 01 55.5	+0.5
	baz=44,SNR=20							
B30A	Myrvik Farm, E	43.67	66	P		P	13 01 54.6	-0.1
	baz=44,SNR=6.6							
PHWY	Pilot Hill	43.71	78	eP		P	13 01 55.3	-0.1
	comp=Z,9.7nm,0.9s							
H27A	Howes	43.71	72	P		P	13 01 54.6	-0.4
	baz=44							
D29A	Pettibone, Tap	43.74	68	P		P	13 01 54.9	-0.3
	baz=44							
F28A	McLaughlin	43.74	70	P		P	13 01 55.4	+0.1
	baz=44,SNR=8.2							
PV01	Paradox Valley	43.81	84	eP		P	13 01 56.6	+0.4
WUAZ	Wupatki	43.82	89	P		P	13 01 57.5	+1.3
	baz=44,SNR=45							
WUAZ	Wupatki	43.82	89	eP		P	13 01 57.3	+1.1
	comp=Z,41nm,0.8s							
K25A	Mack Ranch, Ha	43.85	76	P		P	13 01 56.0	-0.3
	baz=44							
J26A	Sides Ranch, S	43.90	75	P		P	13 01 56.5	-0.1
	baz=44							
JCJ	Chichijima	43.96	254	LR		LR	13 16 56.4	
	comp=Z,66nm,21.9s,slow=32							
E29A	Napoleon	43.99	69	P		P	13 01 57.1	-0.2
	baz=44							
C30A	Mose, Pekin	44.01	67	P		P	13 01 57.2	-0.2
	baz=44							
I27A	Quinn	44.05	73	P		P	13 01 57.7	-0.2
	baz=44,SNR=8.8							
SMCO	Snowmass	44.12	82	eP		P	13 01 58.9	+0.1
	comp=Z,13nm,1.1s							
G28A	Parade	44.12	71	P		P	13 01 58.3	0.0
	baz=44							
D30A	Buchanan	44.19	68	P		P	13 01 58.4	-0.4
	baz=44,SNR=13							
K26A	Motz Farm, Whi	44.21	75	P		P	13 01 58.9	-0.3
	baz=44							
H28A	Mission Ridge	44.30	72	P		P	13 01 59.5	-0.3
	baz=44							
F29A	Eureka	44.31	70	P		P	13 02 00.0	+0.2
	baz=44							
E30A	Jud	44.45	68	P		P	13 02 00.1	-0.8
	baz=44,SNR=5.2							
MVCO	Mesa Verde	44.45	85	P		P	13 02 01.4	+0.1
	baz=44,SNR=11							
MVCO	Mesa Verde	44.45	85	eP		P	13 02 01.8	+0.4
	comp=Z,49nm,1.5s							
M25A	Palm-Egli Farm	44.46	77	P		P	13 02 01.5	+0.3
	baz=44,SNR=11							
ISCO	Idaho Springs	44.54	80	eP		P	13 02 02.9	+0.8
ISCO					pmax	pmax		
	comp=Z,8.0nm,0.9s							
ISCO	Idaho Springs	44.54	80	P		P	13 02 02.3	+0.2
	baz=44,SNR=11							
ISCO	Idaho Springs	44.54	80	eP		P	13 02 02.9	+0.8
	comp=Z,8.0nm,0.9s							
J27A	Elkhorn Farm,	44.57	74	P		P	13 02 02.3	+0.3
	baz=44							
I28A	Midland	44.61	73	P		P	13 02 02.0	-0.3
	baz=44,SNR=12							
G29A	Hoven	44.63	71	P		P	13 02 02.4	+0.1
	baz=44							
L26A	Underwood Farm	44.67	76	P		P	13 02 03.3	+0.5
	baz=44							
K27A	Flueckinger Fa	44.76	75	P		P	13 02 03.7	+0.2
	baz=45							
F30A	Leola	44.77	69	P		P	13 02 03.3	-0.2
	baz=45							
H29A	Onida	44.79	71	P		P	13 02 03.5	-0.1
	baz=45,SNR=14							
J28A	Allard Ranch,	44.91	73	P		P	13 02 04.7	0.0
	baz=45,SNR=12							
M26A	McRoberts Ranc	44.98	77	P		P	13 02 05.8	+0.4
	baz=45							
W18A	Petrified Fore	45.08	88	P		P	13 02 07.0	+0.8
	baz=45,SNR=9.5							
W18A	Petrified Fore	45.08	88	eP		P	13 02 07.6	+1.3
	comp=Z,45nm,1.2s							
I29A	Vivian Onida	45.10	72	P		P	13 02 05.9	-0.3
	baz=45,SNR=7.2							
G30A	Faulkton	45.11	70	P		P	13 02 05.5	-0.7
	baz=45,SNR=9.4							
S22A	4UR Ranch, Cre	45.12	83	P		P	13 02 07.1	+0.4
	baz=45,SNR=22							
AGMN	Agassiz Nation	45.12	65	P		P	13 02 05.6	-0.6
	baz=45,SNR=8							
AGMN	Agassiz Nation	45.12	65	eP		P	13 02 05.7	-0.6
	comp=Z,23nm,0.8s							
K28A	Ten Mile Ranch	45.27	74	P		P	13 02 07.5	0.0
	baz=45,SNR=8.5							
KSRS	Korea Array	45.32	276	P		P	13 02 07.5	-0.4
	comp=Z,0.9nm,0.6s,baz=56,slow=7.3,SNR=3.5							
KSRS					PcP	PcP	13 03 47.7	+0.4
	comp=Z,1.4nm,0.8s,baz=60,slow=3.0,SNR=4.5							
KSRS					LR	LR	13 21 02.5	
	comp=Z,92nm,19.8s,baz=58,slow=36							
N26A	Koester Ranch,	45.33	78	P		P	13 02 08.6	+0.5
	baz=45							
Q24A	Divide	45.35	81	P		P	13 02 08.6	+0.1
	baz=45							
KSAR	Wonju Array Be	45.35	276	P		P	13 02 07.5	-0.7
KSAR							13 03 47.7	
KSAR	Wonju Array Be	45.35	276	P		P	13 02 07.5	-0.7
KSAR					PcP	PcP	13 03 47.7	+0.2
214A	Organ Pipe Nat	45.37	94	P		P	13 02 08.9	+0.5
	baz=45,SNR=19							
214A	Organ Pipe Nat	45.37	94	eP		P	13 02 09.2	+0.8
	comp=Z,33nm,1.0s							
M27A	Reverse DX Ran	45.39	76	P		P	13 02 08.5	0.0
	baz=45							
J29A	Okreek	45.45	73	P		P	13 02 08.8	-0.1
	baz=45,SNR=24							
O26A	Horse Wrangler	45.64	78	P		P	13 02 10.8	+0.2
	baz=46							
I30A	Oacoma	45.67	72	P		P	13 02 10.5	-0.1
	baz=46							
N27A	Anderson Farm,	45.75	77	P		P	13 02 11.6	+0.2
	baz=46,SNR=12							
K29A	Lazy Trails An	45.85	74	P		P	13 02 12.2	+0.1
	baz=46,SNR=8.0							
SDCO	Great Sand Dun	45.92	82	P		P	13 02 13.6	+0.6
	baz=46,SNR=39							
SDCO	Great Sand Dun	45.92	82	eP		P	13 02 13.7	+0.6
	comp=Z,20nm,1.0s							
OGNE	Ogallala	45.96	77	P		P	13 02 13.4	+0.4
	baz=46							
J30A	Dallas	45.99	72	P		P	13 02 12.9	-0.3
	baz=46,SNR=7.8							
P26A	Davis Ranch, A	46.05	79	P		P	13 02 14.6	+0.7
	baz=46,SNR=17							
M28A	Bar X Bar Ranc	46.07	76	P		P	13 02 14.0	+0.1
	baz=46							
O27A	Beecher Island	46.17	78	P		P	13 02 14.6	-0.1
	baz=46							
K30A	Basset	46.31	73	P		P	13 02 15.7	0.0
	baz=46,SNR=7.0							
Q26A	Hugo	46.35	80	P		P	13 02 16.6	+0.3
	baz=46,SNR=7.1							
TUC	Tucson	46.36	92	eP		P	13 02 16.8	+0.5
TUC					pmax	pmax		
	comp=Z,24nm,0.9s							
TUC	Tucson	46.36	92	eP		P	13 02 16.8	+0.5
	comp=Z,24nm,0.9s							
JNU	Nakatsue	46.42	270	P		P	13 02 16.6	-0.1
	comp=Z,2.5nm,0.4s,baz=60,slow=14,SNR=7.1							
M29A	Burnside Ranch	46.44	75	P		P	13 02 16.7	-0.1
	baz=46							
P27A	Ficken Ranch,	46.51	78	P		P	13 02 17.2	-0.3
	baz=46							
O28A	Krutsinger Ran	46.63	77	P		P	13 02 18.1	-0.2
	baz=46							
L30A	Spencer Herefo	46.70	74	P		P	13 02 18.5	-0.3
	baz=46							
R26A	Arlington	46.80	80	P		P	13 02 20.0	+0.3
	baz=47,SNR=15							
KSCO	Kaye Shedlock'	46.83	79	P		P	13 02 20.7	+0.7
	baz=47,SNR=15							
KSCO	Kaye Shedlock'	46.83	79	eP		P	13 02 20.8	+0.8
	comp=Z,61nm,1.0s							
N29A	Votaw Ranch, W	46.87	76	P		P	13 02 19.9	-0.3
	baz=47							
T25A	Trinidad	46.97	82	P		P	13 02 21.7	+0.5
	baz=47,SNR=35							
P28A	Saint Francis	46.99	78	P		P	13 02 21.3	+0.1
	baz=47,SNR=6.7							
L31A	Butterfield Fa	47.07	73	P		P	13 02 21.3	-0.4
	baz=47							
LAZ	Ladron	47.14	87	eP		P	13 02 23.8	+1.3
	comp=Z,13nm,0.9s							
ANMO	Albuquerque	47.19	86	dP		P	13 02 23.3	+0.4
ANMO					pmax	pmax		
	comp=Z,68nm,1.2s							
ANMO	Albuquerque	47.19	86	eP		P	13 02 23.6	+0.7
ANMO				eP	cP	PcP	13 03 54.8	+0.5
R27A	Eads	47.20	80	P		P	13 02 23.2	+0.4
	baz=47,SNR=20							
O29A	4D Ranch, Culb	47.21	77	P		P	13 02 22.6	-0.2
	baz=47,SNR=7.4							
S26A	Kim	47.22	81	P		P	13 02 23.3	+0.3
	baz=47,SNR=39							
Q28A	Sharon Springs	47.27	78	P		P	13 02 23.4	0.0
	baz=47,SNR=6.1							
ECSD	EROS Data Cent	47.40	70	P		P	13 02 23.1	-1.0
	baz=47,SNR=12							
ECSD	EROS Data Cent	47.40	70	eP		P	13 02 23.2	-1.0
	comp=Z,23nm,1.1s							
LENM	Lemitar	47.40	87	eP		P	13 02 25.8	+1.3
	comp=Z,75nm,1.0s							
T26A	Comanche Natio	47.44	82	P		P	13 02 24.8	0.0
	baz=47,SNR=16							
P29A	Atwood	47.46	77	P		P	13 02 25.0	+0.1
	baz=47,SNR=13							
LPM	Los Pinos Moun	47.51	87	eP		P	13 02 26.6	+1.2
	comp=Z,26nm,1.2s							
M31A	Lambtecht Ranc	47.51	74	P		P	13 02 24.8	-0.4
	baz=47							
S27A	Las Animas	47.53	81	P		P	13 02 25.4	0.0
	baz=47							
O30A	MW Ranch, Wils	47.61	76	P		P	13 02 26.1	+0.1
	baz=47							
EYMN	Ely	47.71	63	P		P	13 02 25.9	-0.6
	baz=48,SNR=14							
EYMN	Ely	47.71	63	eP		P	13 02 26.0	-0.6
	comp=Z,26nm,1.0s							
R28A	Tribune	47.75	79	P		P	13 02 26.9	-0.2
	baz=48,SNR=5.4							
N31A	Bailey Ranch,	47.85	75	P		P	13 02 27.7	-0.1
	baz=48							
Q29A	Oakley	47.89	78	P		P	13 02 28.2	0.0
	baz=48							
BGNE	Belgrade	47.95	74	P		P	13 02 28.6	0.0
	baz=48							
BGNE	Belgrade	47.95	74	eP		P	13 02 28.8	+0.2
	comp=Z,70nm,0.8s							
L33A	Hoskins	47.99	72	P		P	13 02 28.0	-0.8
	baz=48							
121A	Cookes Peak, D	48.03	89	P		P	13 02 30.1	+0.7
	baz=48,SNR=25							
121A	Cookes Peak, D	48.03	89	eP		P	13 02 30.2	+0.8
	comp=Z,28nm,0.8s							
T27A	Campo	48.04	81	P		P	13 02 28.8	-0.6
	baz=48							
O31A	Woolen Ranch,	48.06	76	P		P	13 02 29.4	0.0
	baz=48							
R29A	Marienthal	48.10	79	P		P	13 02 29.9	+0.2
	baz=48,SNR=8.6							
S28A	Manter	48.19	80	P		P	13 02 30.7	+0.2
	baz=48,SNR=5.1							
N32A	Stulken Farm,	48.28	74	P		P	13 02 30.3	-0.7
	baz=48							
Q30A	Quinter	48.29	77	P		P	13 02 31.4	+0.2
	baz=48,SNR=6.5							
T28A	Walsh	48.37	81	P		P	13 02 31.8	-0.1
	baz=48							
U27A	Thompson Grove	48.40	82	P		P	13 02 32.5	+0.3
	baz=48,SNR=9.7							
M33A	Taylor Creek F	48.41	73	P		P	13 02 31.4	-0.6
	baz=48,SNR=6.9							
P31A	Stockton	48.43	76	P		P	13 02 32.1	-0.2
	baz=48,SNR=6.7							
L34A	Svendsen Farm,	48.63	72	P		P	13 02 33.1	-0.6
	baz=48							
S29A	Ulysses	48.63	79	P		P	13 02 34.1	+0.2
	baz=48							
SPMN	St. Paul	48.63	66	P		P	13 02 33.0	-0.7
	baz=48							
SPMN	St. Paul	48.63	66	eP		P	13 02 33.2	-0.5
	comp=Z,26nm,1.1s							
CBKS	Cedar Bluff	48.68	77	eP		P	13 02 34.9	+0.7
CBKS					pmax	pmax		
	comp=Z,61nm,0.9s							
CBKS	Cedar Bluff	48.68	77	P		P	13 02 34.1	-0.1
	baz=48,SNR=5.9							
CBKS	Cedar Bluff	48.68	77	eP		P	13 02 34.9	+0.7
	comp=Z,61nm,0.9s							
R30A	Dighton	48.70	78	P		P	13 02 34.3	-0.1
	baz=48,SNR=14							
Q31A	Ellis	48.76	77	P		P	13 02 34.5	-0.3
	baz=49							
N33A	J Bar K, Exete	48.79	74	P		P	13 02 34.8	-0.2
	baz=49							
U28A	Mallet	48.79	81	P		P

baz=49
R32A **Long Quarter,** 49.54 77 P P 13 02 41.0 +0.2
baz=49
V29A **Stinnett** 49.55 81 P P 13 02 41.0 0.0
baz=49
W28A **Vega** 49.55 83 P P 13 02 41.0 0.0
baz=49
O34A **Beatrice** 49.59 74 P P 13 02 40.0 -1.1
baz=49,SNR=8.6
S31A **Mullinville** 49.61 78 P P 13 02 41.7 +0.3
baz=49
Q33A **Connelly Farm,** 49.69 76 P P 13 02 41.6 -0.3
baz=50,SNR=12
N35A **Tabor** 49.76 73 P P 13 02 41.9 -0.5
baz=50
P34A **Walnut Farm, R** 49.92 75 P P 13 02 42.8 -0.8
baz=50
R33A **Olander Ranch,** 50.05 77 P P 13 02 44.0 -0.7
baz=50
X28A **Dimmitt** 50.06 83 P P 13 02 44.5 -0.4
baz=50
MSTX **Muleshoe** 50.09 84 P P 13 02 44.7 -0.3
baz=50,SNR=6.3
MSTX **Muleshoe** 50.09 84 eP P 13 02 45.6 +0.5
TLY **Talaya** 50.11 306 eP P 13 02 44.8 -0.1
TLY e 13 04 05.3
TLY pmax pmax
comp=Z,2.0nm,0.9s
TLY MLR MLR
comp=Z,188nm,18.0s
U31A **Nine Bar Ranch** 50.22 80 P P 13 02 45.5 -0.5
baz=50
T32A **Huddler Ranch,** 50.24 78 P P 13 02 45.6 -0.5
baz=50
Q34A **Chapman** 50.26 75 P P 13 02 45.7 -0.6
baz=50
P35A **Duane Minner,** 50.41 74 P P 13 02 46.4 -1.0
baz=50,SNR=10
X29A **Tulia** 50.41 83 P P 13 02 46.8 -0.7
baz=50
Y28A **McKinney Farm,** 50.44 84 P P 13 02 47.6 -0.2
baz=50,SNR=9.0
SUMG **Summit** 50.47 17 eP P 13 02 48.7 +0.8
SUMG pmax pmax
comp=Z,12nm,0.9s
SUMG **Summit** 50.47 17 eP P 13 02 48.7 +0.8
comp=Z,12nm,0.9s
R34A **Isabella, Hill** 50.49 76 P P 13 02 47.4 -0.5
baz=50,SNR=10
S33A **Kaszmaul Farm,** 50.51 77 P P 13 02 47.5 -0.6
baz=50
V31A **Spring Creek L** 50.63 80 P P 13 02 48.8 -0.2
baz=50
O36A **Bolckow** 50.63 73 P P 13 02 48.6 -0.3
baz=50
BJI **Beijing** 50.64 287 P P 13 02 48.0 -1.0
BJI PMZ
comp=Z,9.0nm,0.5s
BJI LN
comp=Z,210nm,18.9s
BJI LE
comp=Z,140nm,21.2s
BJI LZ
comp=Z,120nm,23.0s
T33A **Patterson Ranc** 50.70 78 P P 13 02 48.9 -0.7
baz=50
U32A **Winter Ranch,** 50.72 79 P P 13 02 49.5 -0.2
baz=50,SNR=8.0
Z28A **Tucker Farm, M** 50.79 85 P P 13 02 50.2 -0.2
baz=51,SNR=8.0
P36A **Good Intent, A** 50.82 74 P P 13 02 49.4 -1.1
baz=51,SNR=6.6
Y29A **Porterfield Fa** 50.83 84 P P 13 02 50.6 -0.1
baz=51,SNR=7.3
Q35A **Mercer Eighty,** 50.84 75 P P 13 02 49.6 -0.9
baz=51
X30A **Coker Ranch, T** 50.91 82 P P 13 02 51.0 -0.2
baz=51
W31A **Holland Ranch,** 50.96 81 P P 13 02 51.4 -0.2
baz=51,SNR=9.7
S34A **Willow Spring** 50.97 77 P P 13 02 51.0 -0.5
baz=51
SONM **Songino Array** 51.09 301 P P 13 02 53.3 +0.7
comp=Z,0.7nm,0.4s,baz=72,slow=6.7,SNR=2.8
SONM PcP PcP 13 04 08.1 -0.1
comp=Z,5.9nm,0.6s,baz=59,slow=3.1,SNR=13
SONM LR LR 13 27 31.6
comp=Z,242nm,18.9s,baz=14,slow=40
R35A **Emporia Munici** 51.09 75 P P 13 02 52.1 -0.4
baz=51
Q36A **Arnold C. Orve** 51.10 74 P P 13 02 52.1 -0.4
baz=51
V32A **Arapaho** 51.14 80 P P 13 02 53.2 +0.3
baz=51
128A **Castleberry Fa** 51.19 85 P P 13 02 53.6 +0.2
baz=51,SNR=41
U33A **Lingo Farm, Me** 51.22 79 P P 13 02 52.7 -0.7
baz=51,SNR=6.0
Z29A **Hungry Hill Ra** 51.22 84 P P 13 02 53.4 -0.2
baz=51,SNR=20
Y30A **Stafford Cattl** 51.28 83 P P 13 02 54.1 +0.1
baz=51
X31A **McDonald Ranch** 51.32 82 P P 13 02 54.4 +0.1
baz=51,SNR=5.7
T34A **McClaskey Farm** 51.37 77 P P 13 02 53.8 -0.9
baz=51,SNR=14
W32A **Sentinel** 51.42 81 P P 13 02 55.0 -0.1
baz=51,SNR=6.4
S35A **Otter Creek Ra** 51.45 76 P P 13 02 54.8 -0.4
baz=51,SNR=13
228A **UT Block 9, Go** 51.47 86 P P 13 02 55.5 0.0
baz=51,SNR=5.5
R36A **Gordon, Harris** 51.50 75 P P 13 02 54.5 -1.1
baz=51,SNR=16
JFWS **Jewell Farm** 51.52 67 eP P 13 02 54.6 -1.0
JFWS pmax pmax
comp=Z,21nm,0.9s
JFWS **Jewell Farm** 51.52 67 eP P 13 02 54.6 -1.0
comp=Z,21nm,0.9s
V33A **Lossen Ranch,** 51.53 79 P P 13 02 55.3 -0.5
baz=51
Z30A **Sanderson Ranc** 51.55 84 P P 13 02 55.8 -0.3
baz=51,SNR=19
129A **Stewart Farms,** 51.55 85 P P 13 02 55.9 -0.3
baz=51
U34A **Anderson Ranch** 51.56 78 P P 13 02 55.6 -0.5
baz=51,SNR=10
U34A **Anderson Ranch** 51.56 78 eP P 13 02 56.0 -0.1
comp=Z,58nm,0.9s
Y31A **Rekieta Farm,** 51.61 82 P P 13 02 55.9 -0.5
baz=51
T35A **Sooner Cattle** 51.85 77 P P 13 02 57.2 -1.0
baz=52,SNR=5.9
S36A **Lake Cedric, C** 51.85 76 P P 13 02 57.1 -1.0
baz=52,SNR=6.3
W33A **Caddo, Fort Co** 51.87 80 P P 13 02 58.8 +0.4
baz=52
X32A **Elmer** 51.88 81 P P 13 02 58.3 -0.2
baz=52,SNR=8.4
R37A **Teagarden Farm** 51.90 75 P P 13 02 57.8 -0.8
baz=52
WMOK **Wichita Mounta** 51.97 81 eP P 13 02 59.2 +0.1
WMOK pmax pmax
comp=Z,32nm,0.9s
WMOK **Wichita Mounta** 51.97 81 eP P 13 02 59.2 +0.1
comp=Z,32nm,0.9s
V34A **Guthrie** 51.98 79 P P 13 02 58.6 -0.6
baz=52,SNR=6.0
V34A **Guthrie** 51.98 79 eP P 13 02 59.0 -0.1
comp=Z,33nm,0.9s
229A **Bryant Ranch,** 52.05 85 P P 13 02 59.2 -0.6
baz=52
Y32A **R-V Farms, Ver** 52.07 82 P P 13 02 59.6 -0.3
baz=52,SNR=9.4
U35A **Pawnee** 52.08 78 P P 13 02 59.2 -0.7
baz=52
Z31A **Sharp Cattle R** 52.12 83 P P 13 02 59.9 -0.4
baz=52,SNR=12
T36A **Boggs Farm, Ca** 52.12 76 P P 13 02 59.6 -0.6
baz=52
130A **Snyder** 52.12 84 P P 13 03 00.5 +0.1
baz=52,SNR=6.0
W34A **Bridge Creek,** 52.23 79 P P 13 03 00.9 -0.2
baz=52
S37A **Fort Scott** 52.27 75 P P 13 03 00.2 -1.2
baz=52,SNR=20
329A **Wagon Wheel Ra** 52.28 86 P P 13 03 01.3 -0.2
baz=52,SNR=12

131A **Roby** 52.42 84 P P 13 03 02.6 +0.1
baz=52,SNR=6.2
V35A **Meyer Ranch, C** 52.43 78 P P 13 03 01.8 -0.7
baz=52,SNR=6.5
230A **Sterling City** 52.53 85 P P 13 03 03.1 -0.2
baz=52,SNR=11
Z32A **Haskell** 52.53 82 P P 13 03 02.9 -0.4
baz=52,SNR=24
Y33A **Hilltop Ranch,** 52.56 81 P P 13 03 03.2 -0.3
baz=52,SNR=5.3
X34A **Smith Ranch, M** 52.63 80 P P 13 03 04.0 -0.1
baz=52
T37A **Cheneyville 18** 52.65 76 P P 13 03 02.7 -1.4
baz=52,SNR=16
HHC **Hu-ho-hao-te** 52.76 291 eP P 13 03 04.5 -0.5
HHC pP pP 13 03 09.1 -0.3
HHC sP sP 13 03 11.4 +0.3
HHC PP PP 13 05 05.3 +1.3
HHC S S 13 10 29.1 -3.6
HHC sS sS 13 10 36.3 -3.6
HHC ScS ScS 13 12 51.0 -3.3
HHC PMZ
comp=Z,14nm,0.6s
HHC PMZ
comp=Z,120nm,6.0s
HHC LN
comp=Z,220nm,19.0s
HHC LE
comp=Z,190nm,17.5s
HHC LZ
comp=Z,120nm,17.5s
TXAR **Lajitas Array** 52.78 89 P P 13 03 05.7 +0.4
comp=Z,30nm,0.7s,baz=298,slow=5.4,SNR=397
TXAR LR LR 13 24 33.7
comp=Z,61nm,18.6s,baz=0.0,slow=35
W35A **Tecumseh** 52.83 79 P P 13 03 05.0 -0.5
baz=53,SNR=11
330A **Mertzon** 52.83 85 P P 13 03 05.1 -0.5
baz=53,SNR=8.7
ABTX **Abilene, Hawle** 52.91 83 P P 13 03 05.7 -0.4
baz=53,SNR=9.2
ABTX **Abilene, Hawle** 52.91 83 eP P 13 03 06.3 +0.2
comp=Z,48nm,1.1s
429A **Davenport Ranc** 52.94 87 P P 13 03 05.9 -0.6
baz=53,SNR=27
V36A **Jenks** 52.95 78 P P 13 03 05.7 -0.6
baz=53,SNR=6.6
TUL1 **Tulsa** 52.95 77 P P 13 03 05.8 -0.6
baz=53
TUL1 **Tulsa** 52.95 77 eP P 13 03 06.2 -0.2
comp=Z,23nm,0.9s
Z33A **Whitaker Ranch** 52.98 82 P P 13 03 06.2 -0.4
baz=53,SNR=9.2
231A **Bronte** 52.98 84 P P 13 03 06.3 -0.4
baz=53,SNR=5.2
U37A **Salina** 53.02 76 P P 13 03 06.1 -0.7
baz=53,SNR=8.0
529A **Stev Forest Ra** 53.10 87 P P 13 03 07.6 0.0
baz=53,SNR=29
Y34A **Reagan Ranch,** 53.12 81 P P 13 03 07.5 -0.1
baz=53,SNR=13
W36A **Wetumka** 53.22 78 P P 13 03 07.7 -0.7
baz=53,SNR=7.3
430A **Baggett Ranch,** 53.23 86 P P 13 03 08.2 -0.3
baz=53,SNR=27
GUMO **Guam** 53.23 240 LR LR 13 22 00.8
comp=Z,69nm,21.9s,baz=90,slow=32
X35A **Drake** 53.28 80 P P 13 03 08.3 -0.6
baz=53,SNR=12
331A **San Angelo** 53.35 85 P P 13 03 09.0 -0.5
baz=53,SNR=10
133A **Hamilton Ranch** 53.35 83 P P 13 03 09.0 -0.4
baz=53,SNR=14
V37A **Hulbert** 53.36 77 P P 13 03 08.4 -1.0
baz=53
232A **Coleman** 53.42 84 P P 13 03 09.7 -0.2
baz=53,SNR=11
U38A **Gravette** 53.43 76 P P 13 03 08.6 -1.3
baz=53,SNR=6.3
Z34A **Collier Ranch,** 53.43 81 P P 13 03 09.5 -0.4
baz=53
X36A **Centrahoma** 53.54 79 P P 13 03 10.0 -0.7
baz=53
Y35A **Marietta** 53.59 80 P P 13 03 11.3 +0.2
baz=53,SNR=16
HDIL **Hopedale** 53.61 69 P P 13 03 10.0 -1.1
baz=53,SNR=5.4
HDIL **Hopedale** 53.61 69 eP P 13 03 10.5 -0.6
comp=Z,47nm,0.9s
530A **J-C Ranch, Com** 53.62 87 P P 13 03 11.2 -0.2
baz=53,SNR=61
431A **Sonora** 53.68 86 P P 13 03 11.7 -0.2
baz=54,SNR=39
W37A **Quinton** 53.70 78 P P 13 03 11.5 -0.3
baz=54,SNR=14
332A **Millersview** 53.71 84 P P 13 03 11.9 -0.2
baz=54,SNR=16
233A **Rising Star** 53.78 83 P P 13 03 12.4 -0.1
baz=54,SNR=15
V38A **Canehill** 53.81 76 P P 13 03 11.7 -1.0
baz=54,SNR=15
Z35A **Perchaven, San** 53.85 81 P P 13 03 12.4 -0.6
baz=54
134A **White-Moore Ra** 53.88 82 P P 13 03 13.4 +0.1
baz=54,SNR=10
Y36A **Durant** 54.04 80 P P 13 03 14.3 0.0
baz=54,SNR=12
432A **Menard** 54.04 85 P P 13 03 14.0 -0.5
baz=54,SNR=10
531A **Rocksprings** 54.09 86 P P 13 03 14.3 -0.6
baz=54,SNR=21
X37A **Clayton** 54.11 78 P P 13 03 14.8 -0.1
baz=54,SNR=22
333A **Richland Sprin** 54.21 84 P P 13 03 15.5 -0.2
baz=54,SNR=21
234A **Clairette** 54.25 83 P P 13 03 15.7 -0.2
baz=54,SNR=12
W38A **Poteau** 54.28 77 P P 13 03 15.7 -0.5
baz=54,SNR=13
135A **Vickery Place,** 54.30 82 P P 13 03 16.2 -0.1
baz=54
JCT **Junction City** 54.32 85 eP P 13 03 16.1 -0.4
JCT pmax pmax
comp=Z,40nm,0.9s
JCT **Junction City** 54.32 85 P P 13 03 16.0 -0.4
baz=54,SNR=17
JCT **Junction City** 54.32 85 eP P 13 03 16.1 -0.4
comp=Z,40nm,0.9s
X38A **Whitesboro** 54.38 78 P P 13 03 16.5 -0.3
baz=54,SNR=11
Y37A **Hugo** 54.38 79 P P 13 03 17.2 +0.3
baz=54
Z36A **Blue Ridge** 54.39 80 P P 13 03 16.4 -0.5
baz=54,SNR=5.7
NJ2 **Nanjing** 54.46 278 eP P 13 03 18.9 +1.5
NJ2 PMZ
comp=Z,20nm,0.8s
532A **Rocksprings** 54.50 86 P P 13 03 17.1 -0.8
baz=54,SNR=10
433A **Art** 54.55 84 P P 13 03 17.7 -0.4
baz=54,SNR=27
631A **Perdido Creek** 54.61 87 P P 13 03 17.7 -0.9
baz=54,SNR=18
334A **Lometa** 54.66 83 P P 13 03 19.0 0.0
baz=54,SNR=22
WHTX **Lake Whitney** 54.67 82 P P 13 03 19.1 +0.2
baz=54,SNR=9.7
WHTX **Lake Whitney** 54.67 82 eP P 13 03 19.6 +0.7
Z37A **Pogue Cattle C** 54.92 80 P P 13 03 21.0 +0.2
baz=55
SFIN **Scholer Farm** 54.97 68 P P 13 03 20.4 -0.7
baz=55
SFIN **Scholer Farm** 54.97 68 eP P 13 03 20.6 -0.4
comp=Z,40nm,1.0s
434A **Burnet** 55.01 84 P P 13 03 21.3 -0.2
baz=55,SNR=22
632A **Uvalde** 55.02 86 P P 13 03 21.2 -0.4
baz=55,SNR=13
533A **Kerrville** 55.07 85 P P 13 03 21.4 -0.6
baz=55,SNR=8.7
335A **Moody** 55.19 83 P P 13 03 22.3 -0.4
baz=55
MIAR **Mount Ida** 55.21 77 eP P 13 03 22.5 -0.3
MIAR pmax pmax
comp=Z,32nm,1.0s
MIAR **Mount Ida** 55.21 77 P P 13 03 21.9 -1.0
baz=55,SNR=17
MIAR **Mount Ida** 55.21 77 eP P 13 03 22.5 -0.3

comp=Z,32nm,1.0s
SCHQ **Schefferville** 55.22 43 P P 13 03 22.2 -0.5
comp=Z,2.6nm,0.4s,baz=307,slow=10,SNR=4.8
SCHQ LR LR 13 27 03.8
comp=Z,154nm,19.1s,baz=318,slow=36
633A **Saathoff Ranch** 55.42 86 P P 13 03 24.5 0.0
baz=55
534A **Blanco** 55.44 85 P P 13 03 24.2 -0.4
baz=55,SNR=10.0
435B **Jarrell** 55.44 83 P P 13 03 25.0 +0.4
baz=55
336A **Riesel** 55.46 82 P P 13 03 24.8 +0.1
baz=55
732A **Laxson Ranch,** 55.47 87 P P 13 03 24.8 +0.1
baz=55
PBMO **Poplar Bluff** 55.51 73 eP P 13 03 23.5 -1.5
OLIL **Olney** 55.52 70 eP P 13 03 24.5 -0.5
comp=Z,36nm,0.9s
SIUC **Southern Illin** 55.57 71 eP P 13 03 24.3 -1.1
comp=Z,16nm,0.6s
138A **Matatall Enter** 55.62 80 P P 13 03 26.2 +0.4
baz=55
Z39A **Irene McRaven,** 55.75 79 P P 13 03 26.9 +0.1
baz=56
832A **Faith Ranch, C** 55.78 87 P P 13 03 26.9 -0.2
baz=56,SNR=22
733A **Divot King Ran** 55.88 86 P P 13 03 27.9 +0.2
baz=56,SNR=5.1
436A **Wall Ranch, Ga** 55.93 83 P P 13 03 28.1 +0.1
baz=56
535A **Dale** 55.99 84 P P 13 03 28.5 0.0
baz=56
139A **Bunkhouse Ranc** 56.02 79 P P 13 03 28.6 -0.1
baz=56
238A **Jacksonville** 56.06 80 P P 13 03 29.4 +0.4
baz=56
833A **Chaparral WMA,** 56.11 87 P P 13 03 29.4 +0.1
baz=56,SNR=13
734A **La Parita Cree** 56.24 86 P P 13 03 30.6 +0.3
baz=56,SNR=7.4
437A **Phantom Ranch,** 56.28 82 P P 13 03 30.9 +0.3
baz=56
H06E1 **SOCORRO T-PHAS** 56.29 104 T T 14 04 09.3
SNR=26
USIN **University of** 56.29 70 eP P 13 03 29.9 -0.7
comp=Z,61nm,0.7s
635A **Leesville** 56.33 85 P P 13 03 31.0 +0.1
baz=56
239A **Gary** 56.44 80 P P 13 03 31.9 +0.1
baz=56
NATX **Nacogdoches** 56.51 80 P P 13 03 32.6 +0.4
baz=56
735A **Kenedy** 56.69 85 P P 13 03 34.3 +0.8
baz=56
636A **Smothers Creek** 56.69 84 P P 13 03 34.1 +0.6
baz=56
933A **Laredo** 56.70 87 P P 13 03 33.4 -0.2
baz=56,SNR=5.5
438A **Sam Houston St** 56.74 82 P P 13 03 34.5 +0.7
baz=57
834A **Tilden** 56.76 86 P P 13 03 35.0 +0.9
baz=57,SNR=5.3
736A **Circle Diamond** 57.06 84 P P 13 03 37.4 +1.3
baz=57
835A **Beeville** 57.08 85 P P 13 03 37.4 +1.1
baz=57
HKT **Hockley** 57.09 83 eP P 13 03 36.5 +0.2
HKT **Hockley** 57.09 83 eP P 13 03 36.5 +0.2
ZALV **Zalesovo Beam** 57.15 317 P P 13 03 36.8 +0.4
comp=Z,1.0nm,0.4s,baz=31,slow=6.9,SNR=3.9
ZALV PcP PcP 13 04 31.1 +0.1
comp=Z,1.1nm,0.4s,baz=19,slow=4.9,SNR=4.3
ZALV LR LR 13 29 46.2
comp=Z,88nm,18.5s,baz=70,slow=38
934A **Benavides** 57.16 87 P P 13 03 38.2 +1.3
baz=57,SNR=5.9
034A **Hebbronville** 57.45 87 P P 13 03 39.7 +0.7
baz=57,SNR=7.5
WVT **Waverly** 57.47 72 eP P 13 03 38.4 -0.6
WVT **Waverly** 57.47 72 eP P 13 03 38.4 -0.6
ARCES **ARCESS Array B** 57.58 354 P P 13 03 39.5 +0.2
comp=Z,2.4nm,0.9s,baz=21,slow=10,SNR=6.3
ARCES PcP PcP 13 04 32.0 -0.4
comp=Z,1.6nm,0.4s,baz=8.4,slow=4.9,SNR=9.9
ARCES LR LR 13 29 49.8
comp=Z,102nm,20.0s,baz=358,slow=38
OXF **Oxford** 57.69 74 eP P 13 03 39.6 -0.9
OXF **Oxford** 57.69 74 eP P 13 03 39.6 -0.9
comp=Z,76nm,0.8s
035A **Encino** 57.90 87 P P 13 03 42.7 +0.6
baz=58
WHN **Wuhan** 58.24 280 P P 13 03 47.3 +2.9
035Z **Hargill** 58.27 87 P P 13 03 45.4 +0.8
baz=58
MMNY **Mt. Morris Dam** 58.36 60 eP P 13 03 45.2 +0.1
comp=Z,75nm,1.3s
LVZ **Lovozero** 58.38 350 eP P 13 03 44.7 -0.2
LVZ pmax pmax
comp=Z,31nm,1.7s
LONY **Lake Ozonia** 58.75 56 eP P 13 03 46.9 -0.9
comp=Z,21nm,1.0s
SSLB **Suanglung** 59.17 269 eP P 13 03 50.0 -1.0
NCB **Newcomb** 59.40 57 eP P 13 03 52.0 -0.3
comp=Z,32nm,1.2s
TZTN **Tazewell** 59.63 69 eP P 13 03 53.5 -0.5
comp=Z,28nm,1.3s
SSPA **Standing Stone** 59.85 62 eP P 13 03 54.6 -0.9
LRAL **Lakeview Retre** 60.15 74 eP P 13 03 56.2 -1.3
comp=Z,13nm,0.8s
GTA **Gaotai** 60.29 297 eP P 13 03 58.5 -0.2
GTA pP pP 13 04 03.1 0.0
GTA sP sP 13 04 05.5 +0.7
GTA PcP PcP 13 04 43.9 +0.1
GTA S S 13 12 12.3 -0.1
GTA sS sS 13 12 19.8 +0.1
GTA PMZ
comp=Z,3.0nm,1.1s
GTA PMZ
comp=Z,74nm,5.1s
GTA LN
comp=Z,210nm,16.2s
GTA LE
comp=Z,240nm,17.6s
GTA LZ
comp=Z,250nm,17.6s
KSPA **Keystone Colle** 60.32 60 eP P 13 03 58.9 +0.3
comp=Z,23nm,1.0s
BLA **Blacksburg** 60.91 66 eP P 13 04 02.9 +0.1
BLA pmax pmax
comp=Z,27nm,0.7s
BLA **Blacksburg** 60.91 66 eP P 13 04 02.9 +0.1
comp=Z,27nm,0.7s
LUPA **Lehigh Univers** 61.21 60 eP P 13 04 05.0 +0.3
comp=Z,8.8nm,1.1s
ODNJ **Ogdensburg** 61.27 59 eP P 13 04 05.3 +0.2
comp=Z,16nm,0.8s
SDMD **Soldier's Deli** 61.29 62 eP P 13 04 04.8 -0.5
comp=Z,43nm,0.8s
KMSC **Kings Mountain** 61.89 68 eP P 13 04 08.9 -0.5
comp=Z,17nm,0.8s
GOGA **Godfrey** 61.92 71 eP P 13 04 08.4 -1.2
GOGA pmax pmax
comp=Z,13nm,0.8s
GOGA **Godfrey** 61.92 71 eP P 13 04 08.4 -1.2
comp=Z,13nm,0.8s
JSRW **J. Sargeant Re** 61.96 64 eP P 13 04 09.8 -0.1
JSC **Jenkinsville** 62.55 69 eP P 13 04 13.5 -0.4
JSC **Jenkinsville** 62.55 69 eP P 13 04 13.5 -0.4
PRGR **Permogore** 62.65 342 P P 13 04 12.1 -2.0
PRGR pmax pmax
comp=Z,10.0nm,0.9s
WMQ **Urumqi** 63.29 308 P P 13 04 19.9 +1.2
WMQ pP pP 13 04 24.8 +1.6
WMQ sP sP 13 04 27.6 +2.8
WMQ PMZ
comp=Z,15nm,0.8s
WMQ PMZ
comp=Z,90nm,4.8s
WMQ LN
comp=Z,250nm,17.4s
WMQ LE
comp=Z,120nm,22.0s
WMQ LZ
comp=Z,160nm,18.7s
BRVK **Borovoye** 63.41 324 eP P 13 04 19.3 0.0
BRVK pmax pmax
comp=Z,4.0nm,0.8s

BRVK	**Borovoye**	**63.41**	**324**	*e*P		**P**	**13 04 19.7**	**+0.4**
MKAR	**Makanchi Array**	**63.54**	**313**	P		**P**	**13 04 19.2**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=60,slow=8.5,SNR=5.1							
MKAR				LR	LR		13 34 49.6	
	comp=Z,84nm,18.2s,baz=24,slow=39							
CD2	**Chengdu**	**64.23**	**288**	P		**P**	**13 04 23.6**	**-1.5**
CD2				PP		**PP**	**13 06 44.3**	**-1.7**
CD2				S		**S**	**13 13 00.6**	**-1.5**
CD2				sS		**sS**	**13 13 06.1**	**-3.3**
CD2				PMZ				
	comp=Z,10.0nm,0.6s							
CD2				PMZ				
	comp=Z,140nm,9.3s							
CD2				LN				
	comp=Z,220nm,5.9s							
CD2				LZ				
	comp=Z,140nm,7.6s							
ARU	**Arti**	**64.30**	**333***d i*P			**P**	**13 04 24.2**	**-0.9**
ARU							13 05 02.5	
ARU							13 06 44.1	
ARU				S		**S**	**13 13 02.9**	**+0.7**
ARU				SS		**SS**	**13 17 11.8**	**+1.1**
ARU				pmax	pmax			
	comp=Z,9.0nm,1.2s							
FINES	**FINESS Array B**	**65.53**	**352**	P		**P**	**13 04 32.5**	**-0.4**
	comp=Z,1.6nm,0.4s,baz=16,slow=5.9,SNR=15							
FINES				LR	LR		13 35 17.4	
	comp=Z,100nm,18.8s,baz=2.0,slow=38							
GYA	**Guiyang**	**65.82**	**282**	P		**P**	**13 04 37.0**	**+1.5**
GYA				PcP		**PcP**	**13 05 07.8**	**+1.2**
GYA				PP		**PP**	**13 07 03.3**	**+3.2**
GYA				ScP			13 09 10.4	
GYA				S		**S**	**13 13 21.1**	**-0.8**
GYA				SKS		**SKSac**	**13 14 29.0**	**-2.0**
GYA				PMZ				
	comp=Z,20nm,0.8s							
GYA				PMZ				
	comp=Z,120nm,5.0s							
GYA				LN				
	comp=Z,540nm,18.9s							
GYA				LE				
	comp=Z,510nm,19.0s							
GYA				LZ				
	comp=Z,560nm,18.8s							
NB2	**NORSAR Subarra**	**66.60**	**360**	P		**P**	**13 04 39.6**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=1.3,slow=6.9							
NOA	**NORSAR Array B**	**66.60**	**360**	P		**P**	**13 04 39.8**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=360,slow=5.9,SNR=3.1							
NOA				LR	LR		13 34 37.7	
	comp=Z,53nm,18.8s,baz=355,slow=37							
VSU	**Vasula**	**68.41**	**351**	P		**P**	**13 04 51.0**	**-0.3**
VSU				pmax	pmax			
	comp=Z,136nm,3.5s							
JAY	**Jayapura**	**69.06**	**235**	LR	LR		13 31 05.4	
	comp=Z,69nm,19.9s,baz=73,slow=32							
KMI	**Kunming**	**69.14**	**284**	P		**P**	**13 04 58.3**	**+1.6**
KMI				PP		**PP**	**13 07 32.4**	**+3.2**
KMI				S		**S**	**13 14 00.9**	**-1.2**
KMI				SKS		**SKSac**	**13 14 53.8**	**-2.7**
KMI				PMZ				
	comp=Z,5.0nm,0.8s							
KMI				PMZ				
	comp=Z,39nm,4.3s							
KMI				LN				
	comp=Z,140nm,18.8s							
KMI				LE				
	comp=Z,130nm,18.1s							
KMI				LZ				
	comp=Z,160nm,19.9s							
ABKAR	**Akbulak array**	**70.13**	**328**	*e*P		**P**	**13 05 01.6**	**-0.5**
OBN	**Obninsk**	**70.41**	**344**	P		**P**	**13 05 04.5**	**+0.8**
OBN				*e*			13 05 25.8	
OBN				*e*			13 07 41.1	
OBN				pmax	pmax			
	comp=Z,8.0nm,0.5s							
PPT	**Papeete**	**72.07**	**160**	LR	LR		13 29 46.5	
	comp=Z,26nm,20.5s,baz=12,slow=30							
BBSR	**BB Station**	**73.03**	**59**	*e*P		**P**	**13 05 19.8**	**-0.1**
AKASG	**Malin Array Be**	**75.77**	**348**	P		**P**	**13 05 33.8**	**-1.7**
	comp=Z,1.7nm,0.4s,baz=14,slow=5.9,SNR=7.7							
KIEV	**Kiev**	**75.78**	**348**	P		**P**	**13 05 34.0**	**-1.6**
CLZ	**Clausthal**	**75.83**	**0**	*e*P		**P**	**13 05 36.0**	**+0.1**
	comp=Z,9.0nm,1.2s							
CLL	**Collm**	**76.34**	**358**	*e*P		**P**	**13 05 38.0**	**-0.8**
CLL				*i*			13 05 42.5	
CLL				pmax	pmax			
	comp=Z,5.0nm,1.0s							
CLL	**Collm**	**76.34**	**358**	*e*P		**P**	**13 05 38.0**	**-0.8**
	comp=Z,5.0nm,1.0s							
CLL				*i* pP		**pP**	**13 05 42.5**	**-0.8**
CLL				LmV			13 43 00.0	
	comp=Z,100nm,19.0s							
CMAR	**Chiang Mai Arr**	**76.50**	**283**	P		**P**	**13 05 40.0**	**-0.2**
	comp=Z,3.8nm,0.9s,baz=11,slow=5.3,SNR=9.5							
CMAR				LR	LR		13 42 04.9	
	comp=Z,68nm,19.1s,baz=60,slow=38							
CMAR	**Chiang Mai Arr**	**76.50**	**283**	P		**P**	**13 05 40.0**	**-0.2**
FBE	**Freiberg**	**76.72**	**358**	*e*P		**P**	**13 05 41.1**	**+0.2**
	comp=Z,34nm,1.7s							
BRG	**Berggiesshubel**	**76.76**	**358**	*e*P		**P**	**13 05 40.7**	**-0.5**
	comp=Z,12nm,1.6s							
BRG	**Berggiesshubel**	**76.76**	**358**	*e*P		**P**	**13 05 41.3**	**+0.2**
	comp=Z,7.0nm,1.3s							
BRG	**Berggiesshubel**	**76.76**	**358**	*e*P		**P**	**13 05 40.7**	**-0.5**
BRG				pmax	pmax			
	comp=Z,12nm,1.6s							
MOX	**Moxa**	**77.02**	**359**	*e*P		**P**	**13 05 42.6**	**-0.1**
	comp=Z,6.0nm,1.1s							
UPC	**Upice**	**77.06**	**356**	*e*P		**P**	**13 05 42.8**	**-0.1**
UPC				AMS	AMS		13 52 30.0	
	comp=Z,100nm,14.4s							
UPC	**Upice**	**77.06**	**356**	*e*P		**P**	**13 05 42.8**	**-0.1**
UPC				MLR	MLR			
	comp=Z,100nm,14.4s							
DPC	**Dobruska-Polom**	**77.20**	**356**	*e*P		**P**	**13 05 44.1**	**+0.4**
DPC				*e*pP		**pP**	**13 05 48.3**	**0.0**
DPC	**Dobruska-Polom**	**77.20**	**356**	*e*P		**P**	**13 05 44.1**	**+0.4**
DPC				*e*			13 05 48.3	
TANN	**Tannenbergstha**	**77.24**	**359**	*e*P		**P**	**13 05 44.0**	**0.0**
	comp=Z,13nm,1.8s							
WERN	**Wernitzgruen**	**77.37**	**359**	*e*P		**P**	**13 05 44.5**	**-0.2**
	comp=Z,7.0nm,1.3s							
KRLC	**Kraliky**	**77.46**	**356**	*e*P		**P**	**13 05 45.3**	**+0.1**
KRLC	**Kraliky**	**77.46**	**356**	*e*P		**P**	**13 05 45.3**	**+0.1**
PRU	**Pruhonice**	**77.63**	**357**	*e*P		**P**	**13 05 45.4**	**-0.6**
PRU	**Pruhonice**	**77.63**	**357**	*e*P		**P**	**13 05 45.4**	**-0.6**
OKC	**Ostrava-Krasne**	**77.63**	**355**	*e*P		**P**	**13 05 45.9**	**-0.2**
OKC				*e*pP		**pP**	**13 05 49.3**	**-1.3**
OKC				AMS	AMS		13 50 10.0	
	comp=Z,100nm,11.8s							
OKC	**Ostrava-Krasne**	**77.63**	**355**	*e*P		**P**	**13 05 45.9**	**-0.2**
OKC				*e*			13 05 49.3	
OKC				MLR	MLR			
	comp=Z,100nm,11.8s							
GOPC	**GO Pecny, Ondr**	**77.69**	**357**	*e*P		**P**	**13 05 46.6**	**+0.1**
GOPC				AMS	AMS		13 50 40.0	
	comp=Z,100nm,11.1s							
ROTZ	**Rotzenmuhle**	**77.89**	**359**	*e*P		**P**	**13 05 47.5**	**-0.1**
	comp=Z,13nm,1.7s							
GRF	**Grafenberg Arr**	**77.98**	**360**	*e*P		**P**	**13 05 48.4**	**+0.4**
	comp=Z,6.0nm,0.6s							
TREC	**Trest**	**78.29**	**357**	*e*P		**P**	**13 05 49.7**	**-0.1**
TREC				AMS	AMS		13 50 20.0	
	comp=Z,100nm,13.8s							
TREC	**Trest**	**78.29**	**357**	*e*P		**P**	**13 05 49.7**	**-0.1**
TREC				MLR	MLR			
	comp=Z,100nm,13.8s							
GEC2	**GERESS Array S**	**78.79**	**358**	*e*P		**P**	**13 05 52.0**	**-0.7**
	comp=Z,5.0nm,1.3s							
GERES	**GERESS Array B**	**78.79**	**358**	P		**P**	**13 05 51.8**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=15,slow=5.5,SNR=8.2							
KECS	**Kecovo**	**78.83**	**353**	*e*P		**P**	**13 05 52.2**	**-0.6**
KECS				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KECS	**Kecovo**	**78.83**	**353**	*e*P		**P**	**13 05 52.2**	**-0.6**
VYHS	**Vyhne**	**78.93**	**354**	*e*P		**P**	**13 05 53.3**	**0.0**
VYHS				pmax	pmax			
	comp=Z,3.0nm,1.0s							
VYHS	**Vyhne**	**78.93**	**354**	*e*P		**P**	**13 05 53.3**	**0.0**
BUR08	**Bucovina Ar. S**	**79.25**	**350**	*e*P		**P**	**13 05 55.0**	**-0.3**
BFO	**Black Forest**	**79.32**	**2**	*e*P		**P**	**13 05 55.7**	**+0.2**
	comp=Z,5.0nm,1.0s							
BFO	**Black Forest**	**79.32**	**2**	*i* P		**P**	**13 05 56.7**	**+1.2**
ECH	**Echery**	**79.41**	**2**	*e*P		**P**	**13 05 56.4**	**+0.4**
ECH				pmax	pmax			
	comp=Z,6.0nm,0.9s							
ECH	**Echery**	**79.41**	**2**	*e*P		**P**	**13 05 56.4**	**+0.4**
	comp=Z,5.5nm,0.9s							
KIV	**Kislovodsk**	**79.82**	**337**⇑	*e*P		**P**	**13 05 58.6**	**+0.2**
KIV				*e*			13 06 02.6	
KIV				*e*			13 09 02.4	
KIV				pmax	pmax			
	comp=Z,8.0nm,0.9s							
KIV				MLR	MLR			
	comp=Z,71nm,20.0s							
RJOB	**Jochberg**	**79.92**	**358**	*e*P		**P**	**13 05 59.0**	**+0.2**
	comp=Z,3.0nm,0.8s							
KBZ	**Khabaz**	**79.98**	**337**	P		**P**	**13 05 58.8**	**-0.3**
	comp=Z,2.7nm,0.9s,baz=90,slow=1.0,SNR=5.1							
KBZ				LR	LR		13 44 00.5	
	comp=Z,72nm,21.6s,baz=3.5,slow=38							
ANN	**Anapa**	**80.16**	**341**	*e*		P	13 05 55.4	-4.6
ANN				pmax	pmax			
	comp=Z,18nm,1.1s							
KBA	**Koelnbreinsper**	**80.57**	**358**⇓	*i*P		**P**	**13 06 02.9**	**+0.5**
	comp=Z,17nm,1.1s							
FETA	**Feichten**	**80.65**	**360**⇓	*i*P		**P**	**13 06 03.0**	**+0.1**
	comp=Z,8.6nm,1.1s							
GEYT	**Alibeck**	**80.73**	**324**	P		**P**	**13 06 03.2**	**-0.1**
	comp=Z,1.3nm,0.3s,baz=0.0,slow=1.5,SNR=4.4							
GEYT				LR	LR		13 46 23.0	
	comp=Z,177nm,18.2s,baz=340,slow=39							
SOKA	**Soboth**	**80.92**	**357**⇑	*i*P		**P**	**13 06 04.2**	**0.0**
	comp=Z,9.7nm,0.9s							
CTA	**Charters Tower**	**82.05**	**222**	P		**P**	**13 06 09.7**	**-0.5**
	comp=Z,1.1nm,0.4s,baz=4.1,slow=13,SNR=3.7							
BATI	**Baumata**	**84.53**	**245**	P		**P**	**13 06 22.4**	**-0.8**
	comp=Z,19nm,0.6s,baz=60,slow=20,SNR=4.2							
BRTR	**Keskin Array B**	**85.79**	**342**	P		**P**	**13 06 29.8**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=27,slow=1.4,SNR=4.0							
BRTR				LR	LR		13 48 44.8	
	comp=Z,41nm,20.3s,baz=356,slow=38							
IPM	**Ipoh**	**86.19**	**272**	*e*P		**P**	**13 06 31.9**	**+0.3**
	comp=Z,44nm,1.5s							
ESDC	**Sonseca Array**	**87.14**	**11**	P		**P**	**13 06 35.1**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=352,slow=4.5,SNR=10.0							
ESDC				LR	LR		13 49 52.2	
	comp=Z,52nm,18.0s,baz=320,slow=39							
WRAB	**Tennant Creek**	**87.17**	**232**⇑	*e*P		**P**	**13 06 35.4**	**-0.7**
WRAB				pmax	pmax			
	comp=Z,95nm,3.9s							
WRA	**Warramunga Arr**	**87.18**	**232**	P		**P**	**13 06 34.7**	**-1.5**
	comp=Z,1.1nm,0.5s,baz=36,slow=5.6,SNR=36							
ROSC	**El Rosal**	**89.27**	**83**	LR	LR		13 51 24.0	
	comp=Z,28nm,18.2s,baz=28,slow=39							
OTAV	**Otavalo**	**90.41**	**89**	*e*P		**P**	**13 06 53.1**	**+0.9**
	comp=Z,8.6nm,0.9s							
AS31	**Alice Springs**	**90.58**	**230**	*e*P		**P**	**13 06 52.4**	**+0.2**
ASAR	**Alice Springs**	**90.58**	**230**	P		**P**	**13 06 51.6**	**-0.6**
	comp=Z,2.3nm,0.5s,baz=24,slow=4.8,SNR=59							
LEM	**Lembang**	**91.12**	**260**	LR	LR		13 44 31.5	
	comp=Z,30nm,19.7s,slow=33							
KEST	**Kesra**	**91.92**	**1**	P		**P**	**13 06 59.3**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=1.7,slow=5.3,SNR=5.4							
STKA	**Stephens Creek**	**94.43**	**220**	LR	LR		13 43 07.9	
	comp=Z,170nm,21.3s,baz=25,slow=31							
TORD	**Torodi Ar. Bea**	**113.97**	**9**	PKiKP		**PKiKP**	**13 12 28.3**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=342,slow=3.5,SNR=4.0							
TORD				PKKPbc		**PKKPbc**	**13 23 08.6**	**0.0**
	comp=Z,0.3nm,0.3s,baz=179,slow=1.7,SNR=5.9							
DBIC	**Dimbokro**	**119.41**	**18**	PKP		**PKPdf**	**13 12 39.1**	**-0.7**
	comp=Z,1.4nm,0.3s,baz=6.1,slow=2.6,SNR=9.2							
TSUM	**Tsumeb**	**146.12**	**348**	*e*PKPdf		**PKPbc**	**13 13 30.4**	**0.0**
LBTB	**Lobatse**	**150.10**	**332**	*e*PKIKP		**PKPbc**	**13 13 41.3**	**+0.5**
LBTB				*e*			13 13 47.3	
LBTB	**Lobatse**	**150.10**	**332**	*e*PKPbc		**PKPbc**	**13 13 41.3**	**+0.5**
LBTB				*e*PKPab		**PKPab**	**13 13 47.3**	**+0.6**
MAW	**Mawson**	**151.11**	**219**	PKPbc		**PKPbc**	**13 13 41.6**	**0.0**
	comp=Z,5.7nm,0.8s,baz=57,slow=1.4,SNR=14							
BOSA	**Boshof**	**153.58**	**330**	PKPbc		**PKPbc**	**13 13 48.6**	**0.0**
	comp=Z,3.4nm,0.6s,baz=26,slow=2.6,SNR=8.5							
SNAA	**Sanae**	**160.06**	**168**	PKPab		**PKPab**	**13 14 26.7**	**-1.2**
VNA1	**Neumayer--Stat**	**160.08**	**162**	PKPab		**PKPab**	**13 14 27.0**	**-0.8**

IDC 20 12:54:02.2±2.5, 6.°01S×150.°63E, *h*0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/32, mbtmp4.0/4, ML2.1/1, Error ellipse: s-maj=73.3km s-min=39.2km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.82**	**225**	Pn	Pn	12 55 17.8	+1.8
	6.1nm,0.3s,baz=38,slow=12,SNR=19						
PMG				Sn	Sn	12 56 08.3	-4.3
	8.7nm,0.3s,baz=92,slow=17,SNR=8.7						
WRA	**Warramunga Arr**	**21.03**	**227**	P	P	12 58 47.7	-0.1
	2.8nm,0.5s,baz=51,slow=11,SNR=37						
ASAR	**Alice Springs**	**23.81**	**221**	P	P	12 59 17.0	-0.1
	1.0nm,0.4s,baz=54,slow=9.3,SNR=58						
STKA	**Stephens Creek**	**27.09**	**197**	P	P	12 59 45.7	-1.0
	1.7nm,0.6s,baz=20,slow=11,SNR=7.1						
TORD	**Torodi Ar. Bea**	**148.58**	**286**	PKPbc	PKPbc	13 13 52.1	-0.2
	0.3nm,0.6s,baz=66,slow=2.4,SNR=2.5						

*CRAAG **20** 12:55:39.2, 35.°91N×4.°10E, Ml3.4*
*ISCJB **20** 12:55:40.2±0.5, 35.°93N±0.°06×4.°14E±0.°03, h10km, Error ellipse: s-maj=8.3km s-min=3.4km az=9.4*
*CSEM **20** 12:55:41.3±0.3, 35.°89N×4.°07E, h2km, ML2.8/6, Error ellipse: s-maj=11.5km s-min=4.0km az=6.0*
*MDD **20** 12:55:41.6±0.6, 35.°88N×4.°10E, h0km, mb4.1/9, Error ellipse: s-maj=11.2km s-min=3.4km az=11.0, PRXIMO*
ISC 20 12:55:41.3±0.8, 35.°89N±0.°05×4.°12E±0.°02, h10km, n69, σ1s20/79, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAF	**Djebel Tarf**	**0.13**	**99**	P	**Pg**	**12 55 43.1**	**-1.3**
ATAF	**Djebel Tarf**	**0.13**	**99**	Pg	**Pg**	**12 55 43.1**	**-1.3**
ATAF	**Djebel Tarf**	**0.13**	**99**	P	**Pg**	**12 55 43.1**	**-1.3**
AKET	**Djebel Ketaf**	**0.25**	**308**	P	**Pg**	**12 55 45.0**	**-1.4**
AKET	**Djebel Ketaf**	**0.25**	**308**	Pg	**Pg**	**12 55 45.0**	**-1.4**
AKET	**Djebel Ketaf**	**0.25**	**308**	P	**Pg**	**12 55 45.0**	**-1.4**
ADJB	**Djebel Djouab**	**0.61**	**296**	P	**Pg**	**12 55 52.8**	**-0.4**
ADJB	**Djebel Djouab**	**0.61**	**296**	Pg	**Pg**	**12 55 52.8**	**-0.4**
ADJB	**Djebel Djouab**	**0.61**	**296**	P	**Pg**	**12 55 52.8**	**-0.4**
EMHD	**Djebel Mahouad**	**0.99**	**288**	P	**Pg**	**12 56 00.6**	**+0.2**
EMHD	**Djebel Mahouad**	**0.99**	**288**	Pg	**Pg**	**12 56 00.6**	**+0.2**
EMHD	**Djebel Mahouad**	**0.99**	**288**	P	**Pg**	**12 56 00.6**	**+0.2**
ABMS	**Boumerdes**	**1.00**	**329**	P	**Pg**	**12 56 00.2**	**-0.3**
ABMS	**Boumerdes**	**1.00**	**329**	Pg	**Pg**	**12 56 00.2**	**-0.3**
ABMS	**Boumerdes**	**1.00**	**329**	P	**Pg**	**12 56 00.2**	**-0.3**
SET	**Setif**	**1.08**	**73**	P	**Pn**	**12 56 03.0**	**+0.4**
SET	**Setif**	**1.08**	**73**	Pg	**Pn**	**12 56 03.0**	**+0.4**
SET	**Setif**	**1.08**	**73**	P	**Pn**	**12 56 03.0**	**+0.4**
CKHR	**Kef el Ahmar**	**1.14**	**83**	P	**Pb**	**12 56 02.7**	**-0.4**
CKHR	**Kef el Ahmar**	**1.14**	**83**	Pg	**Pb**	**12 56 02.7**	**-0.4**
CKHR	**Kef el Ahmar**	**1.14**	**83**	P	**Pb**	**12 56 02.7**	**-0.4**
DFRA	**Djebel Bou Aff**	**1.56**	**65**	P	**Pb**	**12 56 10.7**	**+0.4**
DFRA	**Djebel Bou Aff**	**1.56**	**65**	Pg	**Pb**	**12 56 10.7**	**+0.4**
DFRA	**Djebel Bou Aff**	**1.56**	**65**	P	**Pb**	**12 56 10.7**	**+0.4**
CTEI	**Djebel Teioual**	**1.86**	**84**	P	**Pb**	**12 56 15.9**	**+0.4**
CTEI	**Djebel Teioual**	**1.86**	**84**	Pg	**Pb**	**12 56 15.9**	**+0.4**
CTEI	**Djebel Teioual**	**1.86**	**84**	P	**Pb**	**12 56 15.9**	**+0.4**
CASM	**Ain Smara**	**1.95**	**79**	P	**Pg**	**12 56 18.3**	**-0.4**
CASM	**Ain Smara**	**1.95**	**79**	Pg	**Pg**	**12 56 18.3**	**-0.4**
CASM	**Ain Smara**	**1.95**	**79**	P	**Pg**	**12 56 18.3**	**-0.4**
EBNR	**Beni Rached**	**2.13**	**281**	P	Pg	12 56 27.9	+5.7
CKFL	**Kef-Lekhel**	**2.16**	**76**	P	**Pg**	**12 56 22.6**	**-0.2**
CKFL	**Kef-Lekhel**	**2.16**	**76**	Pg	**Pg**	**12 56 22.6**	**-0.2**
CKFL	**Kef-Lekhel**	**2.16**	**76**	P	**Pg**	**12 56 22.6**	**-0.2**
ECHA	**Ech Chlef**	**2.25**	**277**	P	Pg	12 56 32.0	+7.7
ECHF	**Ech Chlef**	**2.27**	**277**	Pn	Pg	12 56 32.0	+7.2
ETRT	**Tiaret**	**2.35**	**258**	P	**Pn**	**12 56 20.4**	**+0.3**
ETRT	**Tiaret**	**2.35**	**258**	Pn	**Pn**	**12 56 20.4**	**+0.3**
ETRT	**Tiaret**	**2.35**	**258**	P	**Pn**	**12 56 20.4**	**+0.3**
EANR	**'Ain N'Sour**	**2.45**	**272**	P	**Pn**	**12 56 22.5**	**+1.1**
EANR	**'Ain N'Sour**	**2.45**	**272**	Pn	**Pn**	**12 56 22.5**	**+1.1**
EANR	**'Ain N'Sour**	**2.45**	**272**	P	**Pn**	**12 56 22.5**	**+1.1**
CMAH	**Djebel Manchou**	**2.76**	**74**	P	**Pn**	**12 56 28.3**	**+2.6**
CMAH				P	**Pb**	**12 56 28.4**	**-2.4**
CMAH	**Djebel Manchou**	**2.76**	**74**	Pg	**Pn**	**12 56 28.3**	**+2.6**
CMAH				Pg	**Pb**	**12 56 28.4**	**-2.4**
CMAH	**Djebel Manchou**	**2.76**	**74**	P	**Pn**	**12 56 28.3**	**+2.6**
OJGS	**Djebel Guires**	**2.77**	**263**	P	**Sg**	**12 57 08.0**	**-2.3**
OJGS	**Djebel Guires**	**2.77**	**263**	Pn	**Sg**	**12 57 08.0**	**-2.3**
OKGL	**Djebel Kef Gue**	**2.83**	**274**	Pn	**Pn**	**12 56 26.1**	**-0.4**
	17nm,0.3s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**2.83**	**274**	Pn	**Pn**	**12 56 26.1**	**-0.4**
	17nm,0.3s,SNR=7.9						
ODJA	**Bouhanifia**	**3.52**	**262**	P	Sn	12 57 07.0	-11
ODJA	**Bouhanifia**	**3.52**	**262**	Pn	Sn	12 57 07.0	-11
EIBI	**Ibiza**	**3.83**	**326**	Pn	**Pn**	**12 56 40.7**	**+0.5**
	1.9nm,0.1s,SNR=7.9						
EIBI				Sn	**Sn**	**12 57 25.5**	**+0.2**
	2.1nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.83**	**326**	Pn	**Pn**	**12 56 40.7**	**+0.5**
	1.9nm,0.1s,SNR=7.9						
EIBI				Sn	**Sn**	**12 57 25.5**	**+0.2**
	2.1nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**4.00**	**345**	Pn	**Pn**	**12 56 42.6**	**-0.1**
	2.3nm,0.2s,SNR=13						
ETOS				Sn	**Sn**	**12 57 28.7**	**-0.9**
	0.5nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**4.00**	**345**	Pn	**Pn**	**12 56 42.6**	**-0.1**
	2.3nm,0.2s,SNR=13						
OLHC	**Oulhaca**	**4.56**	**264**	P	**Pg**	**12 57 09.0**	**+0.4**
OLHC	**Oulhaca**	**4.56**	**264**	Pn	**Pg**	**12 57 09.0**	**+0.4**
EMUR	**La Murta**	**4.72**	**296**	Pn	**Pn**	**12 56 53.0**	**+0.5**
	5.4nm,0.3s,SNR=7.7						
EMUR				Sn	**Sn**	**12 57 49.6**	**+2.3**
	0.6nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**4.72**	**296**	Pn	**Pn**	**12 56 53.0**	**+0.5**
	5.4nm,0.3s,SNR=7.7						
EMUR				Sn	**Sn**	**12 57 49.6**	**+2.3**
	0.6nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.29**	**303**	Pn	**Pn**	**12 57 01.3**	**+0.9**
	1.3nm,0.2s,SNR=9.1						
ETOB				Sn	**Sn**	**12 58 04.2**	**+2.8**
	0.6nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.29**	**303**	Pn	**Pn**	**12 57 01.3**	**+0.9**
	1.3nm,0.2s,SNR=9.1						
ETOB				Sn	**Sn**	**12 58 04.2**	**+2.8**
	0.6nm,0.2s,SNR=7.9						
EBER	**Berja**	**5.74**	**282**	Pn	**Pn**	**12 57 06.9**	**+0.1**
	2.2nm,0.2s,SNR=7.9						
EBER				Sn	**Sn**	**12 58 12.4**	**-0.4**
	0.9nm,0.4s,SNR=7.9						
EBER	**Berja**	**5.74**	**282**	Pn	**Pn**	**12 57 06.9**	**+0.1**
	2.2nm,0.2s,SNR=7.9						
EBER				Sn	**Sn**	**12 58 12.4**	**-0.4**
	0.9nm,0.4s,SNR=7.9						
SESP	**Santiago Espad**	**5.78**	**295**	Pn	**Pn**	**12 57 08.0**	**+0.8**
	4.1nm,0.2s,SNR=7.9						
SESP				Sn	**Sn**	**12 58 13.9**	**+0.3**
	0.2nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**5.78**	**295**	Pn	**Pn**	**12 57 08.0**	**+0.8**
	4.1nm,0.2s,SNR=7.9						
SESP				Sn	**Sn**	**12 58 13.9**	**+0.3**
	0.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**6.07**	**290**	Pn	**Pn**	**12 57 12.5**	**+1.3**
	1.9nm,0.2s,SNR=12						
EQES				Sn	**Sn**	**12 58 23.5**	**+2.7**
	3.0nm,0.3s,SNR=4.6						
EQES	**Quesada**	**6.07**	**290**	Pn	**Pn**	**12 57 12.5**	**+1.3**
	1.9nm,0.2s,SNR=12						
EQES				Sn	**Sn**	**12 58 23.5**	**+2.7**
	3.0nm,0.3s,SNR=4.6						
EQUE	**Quentar**	**6.22**	**284**	Pn	**Pn**	**12 57 13.4**	**+0.1**
	1.1nm,0.2s,SNR=5.0						
EQUE	**Quentar**	**6.22**	**284**	Pn	**Pn**	**12 57 13.4**	**+0.1**
	1.1nm,0.2s,SNR=5.0						

*NEIC **20** 13:04:25.6, 52.°53N×169.°20W, h8km, ML3.3(AEIC), After AEIC.*
*IDC **20** 13:04:26.1±2.2, 52.°80N×169.°15W, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.5/48, mbtmp3.4/6, ML3.2/1, Error ellipse: s-maj=48.3km s-min=26.8km az=27.0*
ISC 20 13:04:25.8±2.4, 52.°8N±0.°2×169.°32W±0.°09, h4km±14km, n28, σ1s06/24, mb3.3/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikol

IDC 20 13:15:12.2±7.4, 19°33S×168°37E, h269km±35km, mb3.3/4, mb1 3.4/4, mb1mx3.1/28, mbtmp4.0/4, Error ellipse: s-maj=92.4km s-min=66.9km az=80.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.27**	**213**	P	Pn	13 16 09.6	+0.8
	0.2nm,0.3s,baz=90,slow=20,SNR=4.7						
DZM				S	S	13 16 53.7	-0.2
	0.3nm,0.3s,baz=270,slow=20,SNR=2.2						
CTA	**Charters Tower**	**20.83**	**264**	P	P	13 19 35.2	+1.4
	1.2nm,0.5s,baz=106,slow=18,SNR=2.9						
STKA	**Stephens Creek**	**27.11**	**237**	P	P	13 20 30.9	+0.2
	1.8nm,0.7s,baz=56,slow=11,SNR=5.8						
WRA	**Warramunga Arr**	**32.03**	**263**	P	P	13 21 13.1	-1.1
	0.4nm,0.3s,baz=90,slow=8.5,SNR=20						
ASAR	**Alice Springs**	**32.31**	**256**	P	P	13 21 16.3	-0.3
	4.5nm,0.6s,baz=82,slow=9.1,SNR=114						

*IDC **20** 13:15:51.0±0.8, 31°.96S×67°.98W, h0km, mb4.0/5, mb1 4.2/6, mb1mx4.0/21, mbtmp4.0/6, ML5.1/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/20, Error ellipse: s-maj=27.3km s-min=7.8km az=56.0*

*ISCJB **20** 13:15:53.7±0.6, 31°.81S±0°.04×68°.32W±0°.05, h32km±4km, mb3.9/6, Error ellipse: s-maj=7.6km s-min=5.9km az=29.3*

*SJA **20** 13:15:53.1±0.7, 31°.87S×68°.33W, h23km±8km, ML4.0*

*NEIC **20** 13:15:54.1±1.1, 31°.87S×68°.08W, h21km±8km, mb4.2/2, MD3.9(SJA), Error ellipse: s-maj=9.9km s-min=7.7km az=105.0*

NEIC Felt [IV] at San Juan.

ISC 20 13:15:54.4±1.3, 31°.85S±0°.05×68°.32W±0°.05, h24km±10km, n31, σ0°.94/33, mb3.9/6, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTCV	**Cerro Valdivia**	**0.19**	**266**	*i* P	Pn	13 15 58.9	-2.8
CFAA	**Coronel Fontan**	**0.25**	**17**	Pg	Pn	13 16 00.0	-2.7
	96nm,0.3s,baz=185,slow=12,SNR=3866						
CFAA				Lg	Lg	13 16 04.2	
	baz=282,slow=20						
CFAA	**Coronel Fontan**	**0.25**	**17**	*i* P	Pn	13 16 00.1	-2.7
SJA	**San Juan**	**0.38**	**328**	*i* P	**Pb**	**13 16 02.3**	**-0.3**
SJA				*i* S	**Sb**	**13 16 08.0**	**-0.2**
SJA				AML	AML	13 16 08.6	
	comp=Z,15μm,0.2s						
RTLL	**Cerro Villicun**	**0.54**	**346**	*i* P	Pn	13 16 04.4	-2.2
RTLS	**Leoncito**	**0.83**	**273**	*i* P	**Pn**	**13 16 09.7**	**-1.1**
ASAL	**Salagasta**	**0.86**	**210**	*i* P	**Pn**	**13 16 10.0**	**-1.0**
ASAL				*i* S	**Sn**	**13 16 21.8**	**-1.1**
AUSP	**Uspallata**	**0.98**	**247**	*i* P	**Pn**	**13 16 12.5**	**-0.3**
ACAN	**Cantantal**	**1.05**	**114**	*i* P	**Pn**	**13 16 13.5**	**-0.2**
ACAN				*i* S	**Sn**	**13 16 27.9**	**+0.3**
ARCO	**CERRO ARCO**	**1.12**	**207**	*i* P	**Pn**	**13 16 14.6**	**-0.1**
ARCO				AML	AML	13 16 36.9	
	comp=Z,3μm,0.6s						
U73B	**San Pedro**	**3.32**	**231**	*e*Pn	**Pn**	**13 16 46.7**	**+1.9**
U73B				*e*Sn	**Sn**	**13 17 22.6**	**-0.9**
LCO	**Las Campanas**	**3.50**	**323**	*e*Pn	Pn	13 16 51.0	+3.5
U65B	**HualaæØ**	**4.25**	**222**	*e*Pn	**Pn**	**13 16 59.1**	**+1.5**
TRQA	**Tornquist**	**8.09**	**142**	*e*P	**Pn**	**13 17 50.1**	**-0.2**
LVC	**Limon Verde**	**9.21**	**357**	Pn	**Pn**	**13 18 07.7**	**+1.7**
	comp=Z,20nm,0.3s,baz=173,slow=9.0,SNR=8.3						
LVC				Sn	**Sn**	**13 19 48.2**	**-0.9**
	comp=Z,24nm,0.3s,baz=280,slow=19,SNR=2.2						
LVC				LR	LR	13 22 14.0	
	comp=Z,305nm,20.5s,baz=217,slow=41						
LVC	**Limon Verde**	**9.21**	**357**	*e*Pn	**Pn**	**13 18 07.3**	**+1.3**
LVC				Sn	**Sn**	**13 19 48.2**	**-0.9**
CPUP	**Villa Florida**	**11.07**	**63**	Pn	**Pn**	**13 18 31.4**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=259,slow=6.0,SNR=4.4						
CPUP				Lg	Lg	13 21 33.9	
	comp=Z,0.5nm,0.3s,baz=131,slow=17,SNR=2.4						
CPUP	**Villa Florida**	**11.07**	**63**	*e*Pn	Pn	13 18 28.0	-3.3
CPUP				Lg	Lg	13 21 33.9	
BDFB	**Brasilia**	**24.54**	**54**	P	**P**	**13 21 10.7**	**-1.8**
	comp=Z,1.6nm,0.5s,baz=186,slow=9.2,SNR=3.9						
PTGA	**Pitinga**	**31.94**	**16**	*e*P	**P**	**13 22 18.4**	**0.0**
SNAA	**Sanae**	**52.42**	**159**	P	**P**	**13 25 04.1**	**-0.4**
SNAA	**Sanae**	**52.42**	**159**	*e*P	**P**	**13 25 03.9**	**-0.6**
	comp=Z,0.6nm,0.4s						
VNDA	**Vanda**	**66.80**	**190**	P	**P**	**13 26 44.5**	**+1.1**
	comp=Z,1.4nm,0.3s,baz=108,slow=3.2,SNR=21						
VNDA	**Vanda**	**66.80**	**190**	*e*P	**P**	**13 26 42.9**	**-0.5**
	comp=Z,2.2nm,0.7s						
TXAR	**Lajitas Array**	**69.50**	**327**	P	**P**	**13 27 02.0**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=160,slow=8.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**80.53**	**68**	P	**P**	**13 28 04.8**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=286,slow=7.0,SNR=12						
NVAR	**Mina Array Bea**	**83.99**	**323**	P	**P**	**13 28 23.7**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=122,slow=5.4,SNR=4.1						
WRA	**Warramunga Arr**	**124.11**	**206**	PKP	**PKPdf**	**13 34 50.1**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=161,slow=1.8,SNR=8.2						
ZAA0	**Zalesovo Array**	**150.73**	**33**	*e*PKPbc	**PKPbc**	**13 35 43.8**	**-0.2**
ZALV	**Zalesovo Beam**	**150.73**	**33**	PKPbc	**PKPbc**	**13 35 43.8**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=284,slow=2.8,SNR=8.2						
ZALV				PKPab	**PKPab**	**13 35 51.5**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=279,slow=2.9,SNR=5.0						
MKAR	**Makanchi Array**	**153.00**	**48**	PKPbc	**PKPbc**	**13 35 49.3**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=309,slow=2.0,SNR=7.8						
MKAR				PKPab	**PKPab**	**13 36 00.8**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=281,slow=4.2,SNR=4.9						

IDC 20 13:17:23.2±2.6, 6°27S×150°82E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/33, mbtmp3.8/4, ML1.8/1, MS4.0/1, Ms1 4.0/1, ms1mx2.8/28, Error ellipse: s-maj=76.1km s-min=39.9km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.78**	**229**	Pn	Pn	13 18 37.7	+1.2
	2.7nm,0.3s,baz=44,slow=3.3,SNR=7.5						
PMG				Sn	Sn	13 19 30.4	-2.3
	1.5nm,0.3s,baz=0.0,slow=20,SNR=2.8						
WRA	**Warramunga Arr**	**21.00**	**228**	P	P	13 22 07.8	-0.6
	2.4nm,0.5s,baz=53,slow=11,SNR=30						
ASAR	**Alice Springs**	**23.74**	**222**	P	P	13 22 37.7	+0.3
	0.7nm,0.6s,baz=57,slow=9.4,SNR=15						
STKA	**Stephens Creek**	**26.89**	**198**	P	P	13 23 05.5	-0.4
	1.5nm,0.8s,baz=12,slow=9.3,SNR=3.2						
AFI	**Afiamalu**	**37.55**	**105**	LR	LR	13 36 48.0	
	comp=Z,233nm,20.3s,baz=173,slow=31						
TORD	**Torodi Ar. Bea**	**148.84**	**285**	PKPbc	PKPbc	13 37 13.3	-0.6
	0.6nm,0.8s,baz=78,slow=3.7,SNR=2.4						

IDC 20 13:28:23.3±2.1, 6°17S×151°58E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.5/29, mbtmp3.5/4, ML1.0/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/26, Error ellipse: s-maj=125.4km s-min=28.2km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.43**	**233**	Pn	Pn	13 29 47.4	+1.8
	0.3nm,0.3s,baz=53,slow=15,SNR=2.9						
PMG				Sn	Sn	13 30 42.6	-6.3
	1.0nm,0.3s,baz=284,slow=19,SNR=2.7						
HNR	**Honiara**	**8.90**	**112**	LR	LR	13 33 43.7	
	comp=Z,71nm,20.8s,baz=28,slow=36						
WRA	**Warramunga Arr**	**21.63**	**229**	P	P	13 33 14.5	-0.9
	1.3nm,0.8s,baz=55,slow=11,SNR=7.9						
ASAR	**Alice Springs**	**24.32**	**223**	P	P	13 33 43.0	0.0
	1.1nm,0.7s,baz=56,slow=9.3,SNR=20						
ILAR	**Eielson Array**	**83.88**	**22**	P	P	13 40 54.7	0.0
	0.2nm,0.6s,baz=251,slow=6.0,SNR=4.3						

*IDC **20** 13:28:25.1±22.0, 52°.54N×171°.49W, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.3/48, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=411.9km s-min=54.2km az=90.0*

*ISCJB **20** 13:28:32.5±1.6, 52°.7N±0°.2×169°.8W±0°.2, h5km±8km, mb3.3/3, Error ellipse: s-maj=35.9km s-min=11.1km az=148.8*

*NEIC **20** 13:28:35.0, 52°.61N×169°.40W, h3km, ML3.2(AEIC), After AEIC.*

ISC 20 13:28:35.9±2.5, 52°.8N±0°.2×169°.5W±0°.1, h5km±16km, n24, σ0°.87/23, mb3.4/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.45**	**60**	P	**Pb**	**13 28 45.8**	**-0.5**
NIKH				S	**Sb**	**13 28 54.0**	**+0.7**
OKSP	**Okmok Steeple**	**0.88**	**55**	P	**Pb**	**13 28 53.7**	**0.0**
OKSP				S	**Sb**	**13 29 06.9**	**+1.1**
OKWR	**Okmok West Rim**	**1.03**	**48**	P	**Pg**	**13 28 56.1**	**+0.4**
OKCE	**Okmok Cone E**	**1.05**	**49**	P	**Pg**	**13 28 56.3**	**+0.3**
OKAK	**Okmok**	**1.07**	**39**	P	**Pg**	**13 28 55.4**	**-1.1**
OKTU	**Okmok Mt. Tuli**	**1.08**	**54**	P	**Pg**	**13 28 57.0**	**+0.4**
MSOM	**Makushin Julie**	**1.86**	**54**	P	**Pn**	**13 29 08.3**	**-0.2**
MSOM				S	**Sb**	**13 29 34.6**	**+0.7**
MGOD	**Makushin Gods**	**1.89**	**55**	P	**Pn**	**13 29 09.0**	**+0.2**
MCIR	**Makushin Cirqu**	**1.97**	**51**	P	**Pn**	**13 29 10.9**	**+0.9**
MSW	**Makushin Switc**	**2.00**	**53**	P	**Pn**	**13 29 10.4**	**0.0**
MSW				S	**Sb**	**13 29 38.7**	**+0.8**
MTBL	**Makushin Table**	**2.08**	**53**	P	**Pn**	**13 29 11.0**	**-0.5**
UNV	**Unalaska Valle**	**2.10**	**57**	P	**Pn**	**13 29 11.1**	**-0.7**
UNV				S	**Sb**	**13 29 40.8**	**-0.1**
AKGG	**Akutan Green G**	**2.54**	**54**	P	**Pn**	**13 29 18.1**	**+0.2**
ATKA	**Atka Island**	**2.93**	**261**	P	**Pn**	**13 29 23.6**	**+0.5**
ILAR	**Eielson Array**	**16.68**	**35**	Pn	**Pn**	**13 32 29.3**	**-0.8**
	0.0nm,0.3s,baz=232,slow=8.2,SNR=4.1						
DLBC	**Dease Lake**	**22.75**	**60**	P	**P**	**13 33 41.2**	**+2.4**
	1.5nm,0.8s,baz=252,slow=9.6,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**37.71**	**218**	T	T	14 15 47.1	
	baz=23,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**37.72**	**218**	T	T	14 15 47.7	
	baz=23,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**37.73**	**218**	T	T	14 15 48.2	
	baz=23,slow=76,SNR=15						
H11S1	**WAKE ISLAND Hy**	**38.90**	**218**	T	T	14 17 16.5	
	baz=23,slow=76,SNR=400						
H11S2	**WAKE ISLAND Hy**	**38.91**	**218**	T	T	14 17 17.6	
	baz=23,slow=76,SNR=199						
H11S3	**WAKE ISLAND Hy**	**38.92**	**218**	T	T	14 17 17.7	
	baz=23,slow=76,SNR=148						
PDAR	**Pinedale Array**	**40.41**	**79**	P	**P**	**13 36 13.8**	**-1.2**
	0.3nm,0.6s,baz=323,slow=6.8,SNR=3.5						
TXAR	**Lajitas Array**	**52.82**	**89**	P	**P**	**13 37 51.8**	**-0.5**
	0.4nm,0.7s,baz=292,slow=5.4,SNR=5.5						

IDC 20 13:29:25.9±3.4, 6°15S×150°63E, h0km, mb3.4/2, mb1 3.8/2, mb1mx3.3/28, mbtmp3.5/2, Error ellipse: s-maj=131.1km s-min=46.1km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.71**	**227**	Sn	Sn	13 31 31.7	-2.1
	1.3nm,0.3s,baz=122,slow=17,SNR=2.3						
WRA	**Warramunga Arr**	**20.93**	**228**	P	P	13 34 10.2	-0.3
	1.3nm,0.5s,baz=53,slow=11,SNR=7.5						
ASAR	**Alice Springs**	**23.70**	**221**	P	P	13 34 39.6	0.0
	0.6nm,0.6s,baz=56,slow=9.1,SNR=5.5						
TORD	**Torodi Ar. Bea**	**148.62**	**285**	PKPbc	PKPbc	13 49 15.5	-0.5
	0.3nm,0.6s,baz=71,slow=3.7,SNR=2.7						

*IDC **20** 13:35:23.9±1.3, 6°.02S×150°.90E, h0km, mb4.3/6, mb1 4.5/7, mb1mx4.0/35, mbtmp4.4/7, ML2.2/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/26, Error ellipse: s-maj=34.9km s-min=24.9km az=128.0*

*ISCJB **20** 13:35:28.4±0.7, 6°.1S±0°.1×150°.82E±0°.09, h43km, mb4.3/9, Error ellipse: s-maj=16.4km s-min=9.6km az=145.4*

*NEIC **20** 13:35:28.8±0.6, 6°.03S×150°.87E, h35km, mb4.6/4, Error ellipse: s-maj=17.1km s-min=9.6km az=139.0*

ISC 20 13:35:29.8±0.9, 6°.1S±0°.1×150°.9E±0°.1, h43km, n29, σ0°.77/32, mb4.4/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.92**	**228**	Pn	**Pn**	**13 36 41.7**	**+0.5**
	7.0nm,0.3s,baz=66,slow=6.7,SNR=22						
PMG				Sn	**Sn**	**13 37 35.7**	**-1.2**
	5.8nm,0.3s,baz=217,slow=20,SNR=6.5						
PMG				LR	LR	13 38 23.2	
	comp=Z,180nm,21.6s,baz=43,slow=36						
PMG	**Port Moresby**	**4.92**	**228**	P	**Pn**	**13 36 41.6**	**+0.5**
	baz=5.6,SNR=18						
PMG				P	**Pn**	**13 36 41.6**	**+0.5**
	baz=5.6,SNR=18						
PMG				P	**Pn**	**13 36 41.6**	**+0.5**
	baz=5.6,SNR=18						
COEN	**Coen**	**10.86**	**223**	Pn	**Pn**	**13 38 02.0**	**-0.8**
MTSU	**Mount Surprise**	**13.55**	**207**	P	**Pn**	**13 38 38.9**	**-0.7**
	baz=14,SNR=7.5						
CTA	**Charters Tower**	**14.61**	**197**	Pn	**P**	**13 38 58.2**	**-1.2**
	0.3nm,0.3s,baz=13,slow=14,SNR=6.0						
QIS	**Mount Isa**	**18.04**	**216**	P	**P**	**13 39 38.7**	**+1.2**
	baz=19,SNR=6.3						
KDU	**Kakadu**	**19.27**	**249**	P	**Pn**	**13 39 51.5**	**-0.7**
	baz=20,SNR=6.2						
RMQ	**Roma**	**20.37**	**185**	P	**P**	**13 40 03.4**	**+0.5**
	baz=21,SNR=25						
MTN	**Mamon Dam**	**20.56**	**250**	P	**P**	**13 40 05.6**	**+0.6**
	baz=21,SNR=6.0						
WRAB	**Tennant Creek**	**21.12**	**228**	*e*P	**P**	**13 40 11.3**	**+0.2**
	23nm,0.6s						
WRA	**Warramunga Arr**	**21.14**	**228**	P	**P**	**13 40 11.0**	**-0.3**
	23nm,0.6s,baz=51,slow=10,SNR=143						
QLP	**Quilpie**	**21.32**	**196**	P	**P**	**13 40 13.1**	**-0.1**
	baz=22,SNR=17						
DZM	**Mont Dzumac**	**21.89**	**138**	P	**P**	**13 40 19.2**	**-0.3**
	5.8nm,0.6s,baz=270,slow=20,SNR=8.4						
KNRA	**Kununurra**	**23.66**	**244**	P	**P**	**13 40 38.4**	**+0.9**
	baz=24,SNR=6.2						
AS31	**Alice Springs**	**23.89**	**221**	*e*P	**P**	**13 40 39.8**	**+0.1**
ASAR	**Alice Springs**	**23.89**	**221**	P	**P**	**13 40 39.9**	**+0.1**
	11nm,0.8s,baz=54,slow=8.9,SNR=218						
CMSA	**Cobar Meteorol**	**25.77**	**190**	P	**P**	**13 40 56.9**	**+0.3**
	baz=26,SNR=6.6						
STKA	**Stephens Creek**	**27.07**	**197**	P	**P**	**13 41 09.3**	**+0.9**
	11nm,0.7s,baz=355,slow=8.7,SNR=26						
STKA	**Stephens Creek**	**27.07**	**197**	P	**P**	**13 41 09.9**	**+1.5**
	baz=28,SNR=21						
STKA	**Stephens Creek**	**27.07**	**197**	*e*P	**P**	**13 41 09.5**	**+1.1**
	2.3nm,0.8s						
WRKA	**Warakurna**	**28.66**	**227**	P	**P**	**13 41 22.6**	**-0.2**
	baz=29,SNR=8.3						
HTT	**Hallett**	**29.37**	**201**	P	**P**	**13 41 28.1**	**-0.8**
	baz=30,SNR=3.9						
MEEK	**Meekatharra**	**36.88**	**233**	P	**P**	**13 42 34.8**	**+0.4**
	baz=38,SNR=5.4						
KLBR	**Kellerberrin**	**40.01**	**226**	P	**P**	**13 43 00.5**	**-0.2**
	baz=41,SNR=5.8						
VNDA	**Vanda**	**71.62**	**177**	P	**P**	**13 46 47.2**	**+0.9**
	1.7nm,0.8s,baz=337,slow=3.1,SNR=7.2						
QSPA	**South Pole Qui**	**83.87**	**180**	*e*P	**P**	**13 47 54.9**	**0.0**
	3.7nm,0.8s						
ILAR	**Eielson Array**	**84.09**	**22**	P	**P**	**13 47 55.7**	**-0.1**
	0.3nm,0.7s,baz=252,slow=4.5,SNR=5.6						
DLBC	**Dease Lake**	**89.49**	**31**	*e*P	**P**	**13 48 21.0**	**-1.4**
	2.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**148.81**	**285**	PKPbc	**PKPbc**	**13 55 14.7**	**+0.9**
	1.1nm,0.6s,baz=47,slow=3.4,SNR=3.6						

IDC 20 13:40:35.2±2.5, 6°.32S×150°.75E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.6/35, mbtmp4.1/4, ML1.2/1, Error ellipse: s-maj=71.6km s-min=39.7km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.70**	**229**	Pn	Pn	13 41 47.0	-0.5
	0.8nm,0.3s,baz=11,slow=5.2,SNR=4.1						
PMG				Sn	Sn	13 42 42.6	-0.1
	1.5nm,0.3s,baz=46,slow=16,SNR=1.8						
WRA	**Warramunga Arr**	**20.92**	**228**	P	P	13 45 20.0	+0.3
	3.7nm,0.5s,baz=52,slow=11,SNR=26						
ASAR	**Alice Springs**	**23.66**	**221**	P	P	13 45 48.6	-0.1
	2.6nm,0.7s,baz=56,slow=8.8,SNR=39						
STKA	**Stephens Creek**	**26.83**	**197**	P	P	13 46 16.8	-0.6
	2.4nm,0.7s,baz=23,slow=11,SNR=6.8						
TORD	**Torodi Ar. Bea**	**148.78**	**285**	PKPbc	PKPbc	14 00 25.7	-0.1
	0.3nm,0.3s,baz=88,slow=3.2,SNR=4.2						

IDC 20 13:52:30.7±3.2, 30°.02S×177°.35W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/27, mbtmp3.3/2, Error ellipse: s-maj=66.7km s-min=26.5km az=78.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.91**	**327**	Pn	Pn	13 52 51.7	+0.9
	178nm,0.3s,baz=115,slow=14,SNR=18						
RAO				Sn	Sn	13 53 03.6	-1.0
	169nm,0.3s,baz=98,slow=22,SNR=5.8						
URZ	**Urewera**	**9.41**	**208**	Sn	Sn	13 56 28.7	-5.2
	0.3nm,0.3s,baz=127,slow=20,SNR=3.6						
ASAR	**Alice Springs**	**43.69**	**266**	P	P	14 00 37.4	-0.3
	0.2nm,0.7s,baz=104,slow=7.3,SNR=4.6						
WRA	**Warramunga Arr**	**44.65**	**271**	P	P	14 00 45.2	-0.1
	0.4nm,0.7s,baz=111,slow=7.6,SNR=7.7						
FINES	**FINESS Array B**	**144.98**	**341**	PKP	PKPab	14 12 07.7	-0.7
	2.3nm,1.0s,baz=54,slow=2.4,SNR=3.8						

*KRSC **20** 13:52:37.6±0.8, 55°.12N×160°.38E, h0km±3km, ML3.9*

*ISCJB **20** 13:52:39.0±0.5, 55°.12N±0°.02×160°.40E±0°.05, h1km±4km, mb3.7/5, MS4.0/2, Error ellipse: s-maj=5.0km s-min=2.5km az=20.0*

*IDC **20** 13:52:38.1±1.0, 55°.12N×160°.13E, h0km, mb3.5/5, mb1 3.9/6, mb1mx3.5/43, mbtmp3.5/6, ML2.2/1, MS4.0/2, Ms1 4.1/2, ms1mx3.2/22, Error ellipse: s-maj=43.3km s-min=21.0km az=143.0*

*MOS **20** 13:52:39.1±0.7, 55°.16N×160°.33E, h13km, mb4.2/1, Error ellipse: s-maj=16.6km s-min=5.3km az=82.9*

ISC 20 13:52:38.8±0.8, 55°.10N±0°.02×160°.28E±0°.03, h7km±5km, n65, σ0°.87/94, mb3.6/5, 1C, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**0.01**	**47**	*i* P	**Pg**	**13 52 40.1**	**-0.3**
KZV				S	**Sg**	**13 52 41.8**	**+0.4**
TUMR	**Tumrok**	**0.20**	**337**	*i* P	**Pg**	**13 52 43.0**	**+0.2**
TUMR	**Tumrok**	**0.20**	**337**	PN	**Pg**	**13 52 43.0**	**+0.2**
KMNR	**Kamenistaya**	**0.65**	**358**	*i* P	**Pg**	**13 52 51.2**	**-0.3**
KMNR				*e*S	**Sb**	**13 53 01.3**	**-0.7**
KMNR	**Kamenistaya**	**0.65**	**358**	PN	**Pg**	**13 52 51.2**	**-0.3**
KMNR				S	**Sb**	**13 53 01.3**	**-0.7**
BZMR	**Bezymyannaya**	**0.84**	**8**	*e*P	**Pg**	**13 52 54.3**	**-0.7**
BZMR				*e*S	**Sb**	**13 53 06.7**	**-0.7**
KIRR	**Kirishev**	**0.85**	**2**	*e*P	**Pg**	**13 52 54.6**	**-0.6**
KIRR				*e*S	**Sb**	**13 53 07.1**	**-0.6**
BZWR	**Bezymyannyi-We**	**0.87**	**8**	*e*P	**Pb**	**13 52 55.6**	**-0.8**
BZWR				*e*S	**Sb**	**13 53 08.7**	**+0.4**
BZGR	**Bezymyannyi-Gr**	**0.87**	**16**	*e*P	**Pg**	**13 52 54.7**	**-0.9**
BZGR				*e*S	**Sb**	**13 53 07.6**	**-0.6**
ZLN	**Zelenaya**	**0.96**	**18**	*e*P	**Pg**	**13 52 56.6**	**-0.7**
ZLN				*e*S	**Sb**	**13 53 10.3**	**-0.6**
KOZ	**Kozyrevsk**	**0.98**	**347**	*e*P	**Pg**	**13 52 57.4**	**-0.3**
KOZ				*e*S	**Sb**	**13 53 11.6**	**+0.2**
KOZ	**Kozyrevsk**	**0.98**	**347**	PN	**Pg**	**13 52 57.4**	**-0.3**
KOZ				S	**Sb**	**13 53 11.6**	**+0.2**
MKZ	**Mys Kozlova**	**1.00**	**123**	*e*P	**Pg**	**13 52 57.4**	**-0.7**
MKZ				*e*S	**Sb**	**13 53 12.0**	**+0.1**
MKZ	**Mys Kozlova**	**1.00**	**123**	PN	**Pg**	**13 52 57.4**	**-0.7**
MKZ				S	**Sb**	**13 53 12.0**	**+0.1**
LGNR	**Loginova**	**1.01**	**13**	*e*P	**Pg**	**13 52 57.8**	**-0.4**
LGNR				*e*S	**Sb**	**13 53 12.9**	**+0.5**
LGNR	**Loginova**	**1.01**	**13**	PN	**Pg**	**13 52 57.8**	**-0.4**
LGNR				S	**Sb**	**13 53 12.9**	**+0.5**
CIRR	**Tsirk**	**1.05**	**15**	*e*P	**Pg**	**13 52 58.6**	**-0.4**
CIRR				*e*S	**Sb**	**13 53 14.1**	**+0.7**
CIRR	**Tsirk**	**1.05**	**15**	PN	**Pg**	**13 52 58.6**	**-0.4**
CIRR				S	**Sb**	**13 53 14.1**	**+0.7**
KII	**Karymskiy**	**1.17**	**205**	PN	Pg	13 52 56.6	-4.7
ESO	**Esso**	**1.22**	**313**	P	**Pg**	**13 53 00.6**	**-1.6**
ESO				*e*S	**Sg**	**13 53 17.3**	**-0.7**
ESO	**Esso**	**1.22**	**313**	PN	**Pg**	**13 53 00.6**	**-1.6**
ESO				S	**Sg**	**13 53 17.3**	**-0.7**
KLY	**Klyuchi**	**1.23**	**10**	P	**Pg**	**13 53 01.3**	**-1.1**
KLY				S	**Sn**	**13 53 19.6**	**+0.3**
SRDR	**Sredinnyy**	**1.26**	**346**	*e*P	**Pg**	**13 53 02.0**	**-0.9**
SRDR	**Sredinnyy**	**1.26**	**346**	PN	**Pg**	**13 53 02.0**	**-0.9**
BDR	**Baidarnaya**	**1.56**	**19**	P	**Pn**	**13 53 06.9**	**-0.1**
BDR				S	**Sg**	**13 53 29.0**	**+0.1**
SRKR	**Sorokina**	**1.63**	**18**	*e*P	**Pn**	**13 53 08.4**	**+0.4**
SRKR				*e*S	**Sg**	**13 53 31.4**	**+0.1**
SRKR	**Sorokina**	**1.63**	**18**	PN	**Pn**	**13 53 08.4**	**+0.4**
SRKR				S	**Sg**	**13 53 31.4**	**+0.1**
KBG	**Krutoberegovo**	**1.79**	**49**	*e*P	**Pn**	**13 53 09.5**	**-0.7**
KBTR	**Krutoberegovo**	**1.82**	**51**	*e*P	Pn	13 53 01.0	-9.5
KBTR				*e*S	**Sn**	**13 53 33.6**	**-0.1**
KBTR	**Krutoberegovo**	**1.82**	**51**	PN	**Pn**	**13 53 10.0**	**-0.5**
KBTR				S	**Sn**	**13 53 33.6**	**-0.1**
GNL	**Ganaly**	**1.96**	**225**	*e*P	**Pb**	**13 53 14.4**	**-0.5**
GN

	33nm,0.3s							
WEIN	**Weingarten**	**0.24**	**162**	⇑*i*Pg	Pg	13 54 17.5	+0.3	
	33nm,0.3s							
SLE	**Schleitheim**	**0.26**	**272**	⇑*i*Pg	Pg	13 54 17.7	+0.1	
	36nm,0.3s							
SLE	**Schleitheim**	**0.26**	**272**	⇑*i*Pg	Pg	13 54 17.7	+0.1	
	36nm,0.3s							
SULZ	**Cheisacher**	**0.57**	**247**	*e*Pg	Pg	13 54 23.6	+0.2	
SULZ	**Cheisacher**	**0.57**	**247**	*e*Pg	Pg	13 54 23.6	+0.2	
LIENZ	**Kamor/St.Gall**	**0.62**	**138**	⇑*i*Pg	Pg	13 54 25.1	+0.5	
LIENZ	**Kamor/St.Gall**	**0.62**	**138**	⇑*i*Pg	Pg	13 54 25.1	+0.5	

KRSC ***20*** *13:54:14.7±0.6,55˚.11N×160˚.41E,h-2km±5km,ML4.4*
MOS ***20*** *13:54:15.2±1.0,55˚.13N×160˚.39E,h9km,mb4.8/13, MS4.0/9,Error ellipse: s-maj=9.5km s-min=4.2km az=83.1*
ISCJB ***20*** *13:54:16.0±0.6,55˚.13N±0˚.02×160˚.39E±0˚.04,h8km±3km, mb4.2/34,MS3.9/12,Error ellipse: s-maj=4.1km s-min=2.3km az=21.9*
IDC ***20*** *13:54:15.0±0.6,55˚.03N×160˚.37E,h0km,mb4.0/17, mb1 4.3/19,mb1mx4.1/30,mbtmp4.0/19,ML3.0/1,MS3.6/7, Ms1 3.6/7,ms1mx3.3/28,Error ellipse: s-maj=19.7km s-min=13.2km az=145.0*
NEIC ***20*** *13:54:21.1±1.0,55˚.02N×160˚.32E,h44km±10km,mb4.6/10, Error ellipse: s-maj=9.8km s-min=7.0km az=150.0*
BJI ***20*** *13:54:21.7,55˚.75N×159˚.68E,h30km,mb4.2/9,mB4.6/7, Ms4.4/5,Ms7 4.3/5*

ISC 20 13:54:16.2±0.9,55˚.10N±0˚.02×160˚.32E±0˚.02,h6km±5km, n139,σ1§28/172,mb4.5/34,MS3.9/12,3C-2D,Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZV	**Kizimen**	**0.02**	**318**	*i* P	**Pg**	**13 54 16.5**	**-1.1**
TUMR	**Tumrok**	**0.21**	**332**	*i* P	**Pg**	**13 54 19.7**	**-0.7**
TUMR	**Tumrok**	**0.21**	**332**	PN	**Pg**	**13 54 19.7**	**-0.7**
KMNR	**Kamenistaya**	**0.66**	**356**	*e*P	**Pg**	**13 54 28.2**	**-0.7**
KMNR				*e*S	**Sb**	**13 54 38.6**	**-1.1**
KMNR	**Kamenistaya**	**0.66**	**356**	PN	**Pg**	**13 54 28.2**	**-0.7**
KMNR				S	**Sb**	**13 54 38.6**	**-1.1**
BZMR	**Bezymyannaya**	**0.85**	**7**	*e*P	**Pg**	**13 54 32.0**	**-0.4**
BZMR				*e*S	**Sb**	**13 54 45.2**	**+0.2**
KIRR	**Kirishev**	**0.86**	**1**	*e*P	**Pg**	**13 54 32.0**	**-0.6**
KIRR				*e*S	**Sb**	**13 54 45.2**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**0.87**	**14**	*e*P	**Pg**	**13 54 31.6**	**-1.3**
BZGR				*e*S	**Sb**	**13 54 44.7**	**-1.0**
BZWR	**Bezymyannyi-We**	**0.88**	**7**	*e*P	**Pb**	**13 54 33.6**	**-0.2**
BZWR				*e*S	**Sn**	**13 54 47.6**	**-0.7**
MKZ	**Mys Kozlova**	**0.98**	**123**	*i* P	**Pg**	**13 54 34.2**	**-0.7**
MKZ				*e*S	**Sb**	**13 54 48.7**	**+0.1**
MKZ	**Mys Kozlova**	**0.98**	**123**	PN	**Pg**	**13 54 34.2**	**-0.7**
MKZ				S	**Sb**	**13 54 48.7**	**+0.1**
KOZ	**Kozyrevsk**	**1.00**	**345**	*e*P	**Pg**	**13 54 34.4**	**-0.9**
KOZ				*e*S	**Sb**	**13 54 49.1**	**-0.1**
KOZ	**Kozyrevsk**	**1.00**	**345**	PN	**Pg**	**13 54 34.4**	**-0.9**
KOZ				S	**Sb**	**13 54 49.1**	**-0.1**
LGNR	**Loginova**	**1.01**	**12**	*e*P	**Pg**	**13 54 35.0**	**-0.6**
LGNR				*e*S	**Sb**	**13 54 50.6**	**+0.8**
LGNR	**Loginova**	**1.01**	**12**	PN	**Pg**	**13 54 35.0**	**-0.6**
LGNR				S	**Sb**	**13 54 50.6**	**+0.8**
CIRR	**Tsirk**	**1.05**	**13**	*e*P	**Pg**	**13 54 34.9**	**-1.4**
CIRR				*e*S	**Sb**	**13 54 50.2**	**-0.6**
CIRR	**Tsirk**	**1.05**	**13**	PN	**Pg**	**13 54 34.9**	**-1.4**
CIRR				S	**Sb**	**13 54 50.2**	**-0.6**
KRSR	**Krestovskiy**	**1.13**	**7**	*e*P	**Pb**	**13 54 38.0**	**-0.2**
KRSR	**Krestovskiy**	**1.13**	**7**	PN	**Pb**	**13 54 38.0**	**-0.2**
KLY	**Klyuchi**	**1.23**	**9**	*e*P	**Pg**	**13 54 38.6**	**-1.2**
KLY				*e*S	**Sn**	**13 54 56.8**	**0.0**
ESO	**Esso**	**1.24**	**313**	*e*P	**Pg**	**13 54 37.3**	**-2.6**
ESO				*e*S	**Sg**	**13 54 54.5**	**-1.5**
ESO	**Esso**	**1.24**	**313**	PN	**Pg**	**13 54 37.3**	**-2.6**
ESO				S	**Sg**	**13 54 54.5**	**-1.5**
SRDR	**Sredinnyy**	**1.27**	**345**	*e*P	**Pg**	**13 54 40.1**	**-0.4**
SRDR	**Sredinnyy**	**1.27**	**345**	PN	**Pg**	**13 54 40.1**	**-0.4**
BDR	**Baidarnaya**	**1.56**	**18**	*e*P	**Pg**	**13 54 45.6**	**-0.4**
SMKR	**Semkarok**	**1.62**	**23**	*e*P	**Pb**	**13 54 45.8**	**-0.7**
SMKR				*e*S	**Sg**	**13 55 08.8**	**+0.5**
SMKR	**Semkarok**	**1.62**	**23**	PN	**Pb**	**13 54 45.8**	**-0.7**
SMKR				S	**Sg**	**13 55 08.8**	**+0.5**
SRKR	**Sorokina**	**1.63**	**17**	*e*P	**Pb**	**13 54 46.3**	**-0.4**
SRKR				*e*S	**Sg**	**13 55 09.6**	**+1.0**
SRKR	**Sorokina**	**1.63**	**17**	PN	**Pb**	**13 54 46.3**	**-0.4**
SRKR				S	**Sg**	**13 55 09.6**	**+1.0**
KBG	**Krutoberegovo**	**1.78**	**48**	*e*P	**Pn**	**13 54 46.8**	**-0.6**
KBG				*e*S	**Sn**	**13 55 10.2**	**-0.1**
KBTR	**Krutoberegovo**	**1.80**	**51**	*i* P	**Pn**	**13 54 46.8**	**-0.9**
KBTR				*e*S	**Sn**	**13 55 11.0**	**+0.2**
KBTR	**Krutoberegovo**	**1.80**	**51**	PN	**Pn**	**13 54 46.8**	**-0.9**
KBTR				S	**Sn**	**13 55 11.0**	**+0.2**
GNL	**Ganaly**	**1.98**	**226**	*i* P	**Pb**	**13 54 51.1**	**-1.5**
GNL				*e*S	**Sb**	**13 55 17.7**	**+0.3**
GNL	**Ganaly**	**1.98**	**226**	PN	**Pb**	**13 54 51.1**	**-1.5**
GNL				S	**Sb**	**13 55 17.7**	**+0.3**
KRX	**Arik**	**2.00**	**210**	*i* P	**Pb**	**13 54 52.3**	**-0.6**
SDLR	**Sedlovina**	**2.01**	**205**	*i* P	**Pb**	**13 54 52.3**	**-0.8**
SDLR				*e*S	**Sg**	**13 55 16.2**	**-0.8**
SDLR	**Sedlovina**	**2.01**	**205**	PN	**Pb**	**13 54 52.3**	**-0.8**
SDLR				S	**Sg**	**13 55 19.8**	**-0.8**
SPN	**Mys Shipunski**	**2.01**	**185**	*i* P	**Pn**	**13 54 50.2**	**-0.4**
SPN				*e*S	**Sn**	**13 55 16.2**	**+0.2**
SPN	**Mys Shipunski**	**2.01**	**185**	PN	**Pn**	**13 54 50.2**	**-0.4**
SPN				S	**Sn**	**13 55 16.2**	**+0.2**
KRER	**Koryakskii**	**2.02**	**208**	*i* P	**Pg**	**13 54 53.5**	**-1.3**
KRER				*e*S	**Sg**	**13 55 22.1**	**+1.1**
SMAR	**Somma**	**2.04**	**207**	*i* P	**Pb**	**13 54 53.3**	**-0.4**
SMAR				*e*S	**Sg**	**13 55 21.9**	**+0.2**
SMAR	**Somma**	**2.04**	**207**	PN	**Pb**	**13 54 53.3**	**-0.4**
SMAR				S	**Sg**	**13 55 21.9**	**+0.2**
AVH	**Avacha**	**2.06**	**207**	*i* P	**Pb**	**13 54 53.3**	**-0.6**
AVH				*e*S	**Sg**	**13 55 22.4**	**+0.2**
AVH	**Avacha**	**2.06**	**207**	PN	**Pb**	**13 54 53.3**	**-0.6**
AVH				S	**Sg**	**13 55 22.4**	**+0.2**
KOK	**Koryaka**	**2.06**	**209**	*i* P	**Pb**	**13 54 53.5**	**-0.5**
KOK	**Koryaka**	**2.06**	**209**	PN	**Pb**	**13 54 53.5**	**-0.5**
UGLR	**Uglovaya**	**2.09**	**206**	*i* P	**Pb**	**13 54 53.4**	**-1.0**
INSR	**Institute**	**2.27**	**207**	*e*P	**Pn**	**13 54 55.3**	**+1.2**
INSR				*e*S	**Sg**	**13 55 26.9**	**-2.2**
PET	**Petropavlovsk**	**2.30**	**206**	P	**Pb**	**13 54 56.4**	**-1.5**
PET				*e*P	Pg	13 54 56.9	-3.2
PET				*e*S	**Sb**	**13 55 27.3**	**+0.8**
PET	**Petropavlovsk**	**2.30**	**206**	⇑*i*PN	**Pb**	**13 54 56.4**	**-1.5**
PET				*e*S	**Sb**	**13 55 26.4**	**-0.1**
PET				pmax	pmax		
	comp=Z,800nm,2.5s						
PET				pmax	pmax		
	comp=Z,397nm,0.8s						
PET				smax	smax		
	comp=N,901nm,0.7s						
PET				smax	smax		
	comp=E,991nm,1.0s						
PET				MLR	MLR		
	comp=Z,3μm,9.0s						
PET				MLR	MLR		
	comp=Z,5μm,10.0s						
PET	**Petropavlovsk**	**2.30**	**206**	*e*Pn	**Pn**	**13 54 55.3**	**+0.8**
I44RU	**PETROPAVLOVSK-**	**2.52**	**219**	*i*		14 07 20.0	
	baz=37,slow=317,SNR=1.3						
PEA0B	**Petropavlovsk-**	**2.52**	**219**	*e*Pn	**Pn**	**13 54 58.2**	**+0.6**
PETK	**Petropavlovsk-**	**2.52**	**219**	Pn	**Pn**	**13 54 58.5**	**+1.0**
	comp=Z,16nm,0.3s,baz=62,slow=17,SNR=22						
PETK				Lg	Lg	13 55 38.2	
	comp=Z,7.6nm,0.3s,baz=48,slow=33,SNR=3.5						
APC	**Apacha**	**2.87**	**222**	*e*P	**Pn**	**13 55 04.6**	**+2.3**
APC				*e*S	**Sb**	**13 55 41.0**	**-1.9**
APC	**Apacha**	**2.87**	**222**	PN	**Pn**	**13 55 04.6**	**+2.3**
APC				S	**Sb**	**13 55 41.0**	**-1.9**
RUS	**Russkaya**	**2.88**	**203**	*i* P	**Pn**	**13 55 04.0**	**+1.6**
RUS				*e*S	**Sb**	**13 55 40.6**	**-2.6**
ASAK	**Asacha**	**3.08**	**209**	*i* P	**Pb**	**13 55 09.3**	**-2.0**
ASAK				*e*S	**Sb**	**13 55 48.4**	**-0.6**
BKI	**Bering**	**3.25**	**86**	P	**Pn**	**13 55 06.6**	**-0.9**
BKI				*e*S	**Sn**	**13 55 44.2**	**-2.2**
BKI	**Bering**	**3.25**	**86**	PN	**Pn**	**13 55 06.6**	**-0.9**
MIPR	**Malaya Ipel'ka**	**3.53**	**218**	*i* P	**Pn**	**13 55 13.5**	**+2.0**
MIPR				*e*S	**Sn**	**13 55 56.8**	**+3.3**
PAU	**Pauzhetka**	**4.20**	**211**	*e*P	Pn	13 55 24.8	+4.1
PAU	**Pauzhetka**	**4.20**	**211**	PN	Pn	13 55 24.8	+4.1
OSSR	**Ossora**	**4.42**	**19**	P	Pb	13 55 29.2	-4.9
SKR	**Severo-Kuril's**	**5.10**	**212**	P	**Pn**	**13 55 32.7**	**-0.3**
SKR	**Severo-Kuril's**	**5.10**	**212**	*e*PN	**Pn**	**13 55 34.0**	**+1.0**
SKR				pmax	pmax		
	comp=N,20nm,0.7s						
SKR				pmax	pmax		
	comp=Z,50nm,0.7s						
SKR				MLR	MLR		
	comp=N,900nm,10.0s						
SKR				MLR	MLR		
	comp=E,1μm,10.0s						
SKR				MLR	MLR		
	comp=Z,500nm,10.0s						
UGL	**Uglegorsk**	**12.72**	**249**	PN	**Pn**	**13 57 19.5**	**+2.1**
BILL	**Bilibino**	**13.28**	**10**	⇑*i*PN	P	13 57 31.4	-3.5
BILL				pmax	pmax		
	comp=Z,21nm,1.8s						
ASAJ	**Asahikawa**	**15.84**	**233**	Pn	**Pn**	**13 58 00.1**	**+0.6**
	baz=36,slow=7.2						
ASAJ	**Asahikawa**	**15.84**	**233**	P	**P**	**13 58 01.8**	**-1.7**
HABR	**Khabarovsk**	**16.92**	**257**	P	**Pn**	**13 58 14.2**	**+0.9**
HABR				*e*S	**Sn**	**14 01 22.1**	**+0.7**
HABR				pmax	pmax		
	comp=N,16nm,2.0s						
HABR				pmax	pmax		
	comp=E,16nm,1.9s						
HABR				pmax	pmax		
	comp=Z,38nm,1.1s						
HABR				MLR	MLR		
	comp=Z,328nm,17.0s						
YAK	**Yakutsk**	**17.29**	**306**	P	P	13 58 24.2	+4.9
	baz=107,slow=19,SNR=6.6						
YAK				LR	LR	14 05 27.0	
	comp=Z,340nm,21.1s,baz=104,slow=39						
YAK	**Yakutsk**	**17.29**	**306**	*e*P	**P**	**13 58 23.8**	**+4.5**
YAK				*e*S	**S**	**14 01 36.1**	**-3.1**
YAK				pmax	pmax		
	comp=Z,18nm,0.8s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				smax	smax		
	comp=N,24nm,2.3s						
YAK				MLR	MLR		
	comp=Z,544nm,14.0s						
YAK				MLR	MLR		
	comp=N,335nm,14.0s						
YAK				MLR	MLR		
	comp=E,222nm,12.0s						
YAK	**Yakutsk**	**17.29**	**306**	Pn	**P**	**13 58 20.7**	**+1.4**
	comp=E,37nm,0.7s						
KLR	**Kul'dur**	**18.40**	**263**	*e*P	**P**	**13 58 34.0**	**+2.3**
KLR				MLR	MLR		
	comp=Z,1μm,13.0s						
CLNS	**Chul'man**	**19.77**	**290**	*e*P	**Pn**	**13 58 47.9**	**-0.2**
CLNS				*e*S	**S**	**14 02 29.2**	**-0.3**
CLNS				pmax	pmax		
	comp=Z,11nm,0.9s						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,12nm,1.0s						
CLNS				smax	smax		
	comp=N,72nm,12.7s						
CLNS				smax	smax		
	comp=E,119nm,12.9s						
CLNS				MLR	MLR		
	comp=Z,403nm,11.0s						
CLNS				MLR	MLR		
	comp=N,124nm,12.0s						
CLNS				MLR	MLR		
	comp=E,369nm,11.0s						
USRK	**Ussuriysk Ar.**	**21.19**	**251**	P	**P**	**13 59 03.8**	**+1.7**
	comp=E,7.4nm,0.9s,baz=50,slow=11,SNR=13						
USRK				LR	LR	14 07 55.2	
	comp=E,276nm,18.2s,baz=55,slow=39						
MAJO	**Matsushiro**	**23.94**	**228**	P	**P**	**13 59 31.0**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,37nm,0.9s						
MAJO				MLR	MLR		
	comp=Z,585nm,19.0s						
MAJO	**Matsushiro**	**23.94**	**228**	*e*P	**P**	**13 59 29.8**	**-1.0**
	comp=Z,10nm,0.9s						
MAT	**Matsushiro**	**23.94**	**228**	P	**P**	**13 59 30.8**	**-0.1**
MJAR	**Matsushiro Arr**	**23.94**	**228**	P	**P**	**13 59 30.4**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=29,slow=8.1,SNR=5.9						
IM04	**Indian Mountai**	**24.45**	**45**	*e*P	**P**	**13 59 34.4**	**-0.9**
BOD	**Bodaibo**	**25.35**	**295**	*e*P	**P**	**13 59 44.4**	**+0.9**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.1s						
COLA	**College**	**26.92**	**48**	P	**P**	**14 00 01.0**	**+3.4**
COLA				pmax	pmax		
	comp=Z,29nm,2.7s						
ILAR	**Eielson Array**	**27.34**	**48**	P	**P**	**14 00 01.2**	**-0.2**
	comp=Z,0.6nm,0.9s,baz=266,slow=7.9,SNR=7.2						
ILAR				LR	LR	14 11 29.4	
	comp=E,84nm,18.8s,baz=288,slow=38						
EGAK	**Eagle**	**29.77**	**47**	*e*P	**P**	**14 00 22.3**	**-0.7**
INK	**Inuvik**	**32.22**	**40**	P	**P**	**14 00 44.1**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=258,slow=9.3,SNR=3.1						
ZAK	**Zakamensk**	**34.02**	**286**	*e*P	**P**	**14 01 00.9**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.9s						
H11N2	**WAKE ISLAND Hy**	**35.66**	**169**	T	T	14 38 24.5	
	baz=355,slow=76,SNR=22						
H11N3	**WAKE ISLAND Hy**	**35.67**	**169**	T	T	14 38 24.0	
	baz=355,slow=76,SNR=19						
H11N1	**WAKE ISLAND Hy**	**35.67**	**169**	T	T	14 38 24.5	
	baz=355,slow=76,SNR=12						
YKA	**Yellowknife Ar**	**41.61**	**44**	P	**P**	**14 02 03.6**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=302,slow=8.1,SNR=8.7						
NVS	**Novosibirsk**	**42.11**	**303**	*e*P	**P**	**14 02 08.6**	**0.0**
NVS				pmax	pmax		
	comp=Z,13nm,1.4s						
NVS				pmax	pmax		
	comp=E,13nm,1.5s						
KURK	**Kurchatov**	**46.81**	**300**	*e*P	**P**	**14 02 45.8**	**-0.4**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KURK	**Kurchatov**	**46.81**	**300**	*e*P	**P**	**14 02 45.8**	**-0.4**
	comp=Z,8.9nm,0.9s						
MK31	**Makanchi Array**	**47.43**	**294**	*e*P	**P**	**14 02 50.5**	**-0.6**
MK31	**Makanchi Array**	**47.43**	**294**	*e*P	**P**	**14 02 50.5**	**-0.6**
MKAR	**Makanchi Array**	**47.43**	**294**	P	**P**	**14 02 50.6**	**-0.5**
	comp=Z,2.5nm,0.6s,baz=54,slow=7.9,SNR=16						
MKAR	**Makanchi Array**	**47.43**	**294**	*i* P	**P**	**14 02 52.2**	**+1.1**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRVK	**Borovoye**	**49.29**	**307**	*ce*P	**P**	**14 03 05.7**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BRVK				MLR	MLR		
	comp=Z,284nm,19.0s						
BSMT	**Bassoo Peak**	**50.26**	**61**	P	**P**	**14 03 13.2**	**+0.2**
	comp=Z,7.0nm,1.0s						
BMO	**Blue Mountains**	**50.99**	**65**	P	**P**	**14 03 21.0**	**+2.6**
	comp=Z,2.4nm,1.0s						
ARCES	**ARCESS Array B**	**51.42**	**341**	LR	LR	14 28 28.4	
	comp=Z,46nm,19.5s,baz=58,slow=40						
ARU	**Arti**	**52.02**	**316**	*d*iP	**P**	**14 03 26.8**	**+0.9**
ARU				S	**S**	**14 10 48.4**	**-1.0**
ARU				SS	**SS**	**14 14 19.8**	**-5.8**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ARU				MLR	MLR		
	comp=Z,259nm,19.0s						
ARU	**Arti**	**52.02**	**316**	*e*P	**P**	**14 03 25.6**	**-0.3**
	comp=Z,9.9nm,1.0s						
PRGR	**Permogore**	**52.82**	**327**	P	**P**	**14 03 28.8**	**-2.9**
PRGR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NVAR	**Mina Array Bea**	**54.96**	**72**	P	**P**	**14 03 49.1**	**+1.1**
	comp=Z,2.4nm,0.8s,baz=295,slow=7.5,SNR=11						
HWUT	**Hardware Ranch**	**56.26**	**64**	*e*P	**P**	**14 03 58.9**	**+1.7**
	comp=Z,5.7nm,1.2s						
PDAR	**Pinedale Array**	**56.45**	**62**	P	**P**	**14 03 58.9**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=325,slow=1.8,SNR=8.4						
ABKAR	**Akbulak array**	**56.61**	**309**	*e*P	**P**	**14 03 59.4**	**0.0**
	comp=Z,6.7nm,1.0s						
FINES	**FINESS Array B**	**58.33**	**336**	P	**P**	**14 04 12.1**	**+0.7**
	comp=Z,3.4nm,0.8s,baz=113,slow=4.4,SNR=7.9						
OBN	**Obninsk**	**60.90**	**327**	*e*P	**P**	**14 04 32.2**	**+3.1**
OBN				*e*		14 06 45.7	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,107nm,18.0s						
NB2	**NORSAR Subarra**	**61.65**	**344**	P	**P**	**14 04 34.9**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=20,slow=6.9						
NOA	**NORSAR Array B**	**61.65**	**344**	P	**P**	**14 04 34.6**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=20,slow=6.7,SNR=4.7						
NOA				LR	LR	14 32 30.2	
	comp=Z,24nm,21.9s,baz=50,slow=37						
VSR	**Storozhevoye**	**63.31**	**323**	*e*P	**P**	**14 04 45.5**	**+0.2**
VSR				pmax	pmax		
	comp=N,10.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,5.0nm,0.6s						
VSR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HNR	**Honiara**	**64.29**	**180**	LR	LR	14 32 23.4	
	comp=Z,30nm,18.2s,baz=20,slow=36						
GEYT	**Alibeck**	**66.12**	**302**	P	**P**	**14 05 04.3**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=20,slow=4.7,SNR=5.4						
KIEV	**Kiev**	**66.98**	**329**	‖*e*P	**P**	**14 05 10.7**	**+1.6**
WMOK	**Wichita Mounta**	**68.00**	**61**	*e*P	**P**	**14 05 15.4**	**-0.5**
WMOK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
WMOK	**Wichita Mounta**	**68.00**	**61**	*e*P	**P**	**14 05 15.4**	**-0.5**
	comp=Z,4.5nm,1.0s						
KBZ	**Khabaz**	**68.17**	**316**	P	**P**	**14 05 16.9**	**0.0**
	comp=Z,3.5nm,0.8s,baz=17,slow=6.5,SNR=6.1						
TXAR	**Lajitas Array**	**69.74**	**68**	P	**P**	**14 05 26.9**	**0.0**
	comp=Z,1.8nm,0.8s,baz=336,slow=2.0,SNR=3.7						
CLL	**Collm**	**70.53**	**339**	*i* P	**P**	**14 05 31.0**	**-0.3**
CLL	**Collm**	**70.53**	**339**	*i* P	**P**	**14 05 31.0**	**-0.3**
CLL				LmV		14 41 00.0	
	comp=Z,100nm,18.1s						
UPC	**Upice**	**70.63**	**337**	AMS	AMS	14 42 30.0	
	comp=Z,100nm,11.8s						
DPC	**Dobruska-Polom**	**70.70**	**336**	*e*P	**P**	**14 05 33.3**	**+0.8**
DPC	**Dobruska-Polom**	**70.70**	**336**	*e*P	**P**	**14 05 33.3**	**+0.8**
OKC	**Ostrava-Krasne**	**70.75**	**335**	AMS	AMS	14 40 40.0	
BUR08	**Bucovina Ar. S**	**70.89**	**330**	*e*P	**P**	**14 05 33.6**	**-0.1**
PRU	**Pruhonice**	**71.44**	**337**	AMS	AMS	14 42 10.0	
	comp=Z,100nm,16.9s						
GERES	**GERESS Array B**	**72.71**	**338**	P	**P**	**14 05 45.1**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=64,slow=3.1,SNR=4.7						
BRTR	**Keskin Array B**	**75.16**	**320**	P	**P**	**14 05 59.8**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=87,slow=3.1,SNR=6.3						
BRTR	**Keskin Array B**	**75.16**	**320**	*i* P	P	14 06 03.4	+4.2
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRAB	**Tennant Creek**	**77.95**	**205**	P	**P**	**14 06 13.1**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WRAB	**Tennant Creek**	**77.95**	**205**	P	**P**	**14 06 13.1**	**-1.7**
	comp=Z,4.9nm,0.9s						
WRA	**Warramunga Arr**	**77.96**	**205**	P	**P**	**14 06 13.4**	**-1.4**
	comp=Z,1.6nm,0.8s,baz=18,slow=6.0,SNR=10						
AS31	**Alice Springs**	**81.64**	**204**	*e*P	**P**	**14 06 34.7**	**-0.1**
ASAR	**Alice Springs**	**81.64**	**204**	P	**P**	**14 06 33.5**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=15,slow=5.5,SNR=10						
PPT	**Papeete**	**83.91**	**133**	LR	LR	14 39 04.9	
	comp=Z,44nm,21.0s,baz=340,slow=32						

IDC ***20*** *14:01:24.4±1.4,5˚.96S×151˚.58E,h0km,mb3.8/4, mb1 4.1/5,mb1mx3.7/29,mbtmp3.9/5,ML1.5/1,MS3.7/1, Ms1 3.7/1,ms1mx2.5/29,Error ellipse: s-maj=77.6km s-min=24.1km az=124.0*
ISCJB ***20*** *14:01:29.0±1.3,5˚.9S±0˚.3×151˚.3E±0˚.3,h41km,mb3.7/4, MS3.6/1,Error ellipse: s-maj=58.6km s-min=13.9km az=136.5*

ISC 20 14:01:30.7±1.4,5˚.9S±0˚.3×151˚.4E±0˚.4,h41km,n7,σ0§96/7, mb3.8/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.44**	**230**	Pn	**Pn**	**14 02 50.2**	**+0.9**
	1.0nm,0.3s,baz=45,slow=8.6,SNR=7.4						
PMG				Sn	**Sn**	**14 03 49.9**	**-0.6**
	5.6nm,0.3s,baz=151,slow=19,SNR=8.0						
WRA	**Warramunga Arr**	**21.65**	**228**	P	**P**	**14 06 16.9**	**-0.9**
	1.6nm,0.8s,baz=55,slow=10,SNR=10						
ASAR	**Alice Springs**	**24.38**	**222**	P	**P**	**14 06 44.8**	**-0.6**
	2.9nm,0.7s,baz=54,slow=9.0,SNR=31						
STKA	**Stephens Creek**	**27.41**	**198**	P	**P**	**14 07 12.7**	**+0.1**
	2.2nm,1.0s,baz=6.3,slow=9.2,SNR=3.3						
RAO	**Raoul Island**	**37.14**	**132**	LR	LR	14 20 36.8	
	comp=Z,96nm,18.6s,baz=107,slow=31						
ILAR	**Eielson Array**	**83.71**	**22**	P	**P**	**14 13 54.5**	**-0.5**
	0.7nm,0.8s,baz=242,slow=5.1,SNR=11						
TORD	**Torodi Ar. Bea**	**149.27**	**286**	PKPbc	**PKPbc**	**14 21 17.0**	**+1.0**
	1.0nm,0.9s,baz=81,slow=2.4,SNR=4.3						

IDC ***20*** *14:02:13.9±2.6,6˚.12S×150˚.74E,h0km,mb3.8/3, mb1 4.0/4,mb1mx3.6/30,mbtmp3.9/4,ML1.2/1,Error ellipse: s-maj=77.9km s-min=40.0km az=116.0*
NEIC ***20*** *14:02:19.2±1.6,6˚.26S×150˚.85E,h35km,mb4.2/1,Error ellipse: s-maj=45.9km s-min=25.5km az=140.0*

**ISC 20 14:02:18.2±

KDU	**Kakadu**	**19.06**	**249**	P		**P**	**14 13 28.4**	**-0.3**	
	baz=19,SNR=5.3								
RMQ	**Roma**	**20.15**	**185**	P		Pn	14 13 41.9	-0.6	
	baz=20,SNR=8.3								
MTN	**Manton Dam**	**20.36**	**250**	P		**P**	**14 13 43.2**	**+0.5**	
	baz=20,SNR=3.2								
GUMO	**Guam**	**20.60**	**344**	LR		LR	14 20 20.8		
	comp=Z,36nm,19.8s,baz=150,slow=33								
WRAB	**Tennant Creek**	**20.88**	**228**	*e*P		**P**	**14 13 47.9**	**-0.5**	
	12nm,0.8s								
WRA	**Warramunga Arr**	**20.89**	**228**	P		**P**	**14 13 48.1**	**-0.5**	
	6.1nm,0.5s,baz=53,slow=11,SNR=68								
WRA				PcP		**PcP**	**14 17 56.7**	**+0.5**	
	0.8nm,1.0s,baz=53,slow=2.3,SNR=3.2								
QLP	**Quilpie**	**21.09**	**196**	P		**P**	**14 13 51.0**	**+0.5**	
	baz=21,SNR=13								
DZM	**Mont Dzumac**	**21.83**	**137**	P		**P**	**14 13 58.8**	**+0.1**	
	4.0nm,0.7s,baz=279,slow=19,SNR=6.8								
KNRA	**Kununurra**	**23.44**	**245**	P		**P**	**14 14 15.9**	**+0.4**	
	baz=23,SNR=5.4								
AS31	**Alice Springs**	**23.64**	**221**	*e*P		**P**	**14 14 17.2**	**-0.2**	
ASAR	**Alice Springs**	**23.64**	**221**	P		**P**	**14 14 17.1**	**-0.3**	
	2.7nm,0.5s,baz=56,slow=9.0,SNR=127								
ASAR				PcP		**PcP**	**14 18 02.3**	**+0.6**	
	0.2nm,0.6s,baz=55,slow=4.1,SNR=2.9								
STKA	**Stephens Creek**	**26.83**	**197**	P		**P**	**14 14 45.2**	**-1.1**	
	4.4nm,0.8s,baz=2.9,slow=9.0,SNR=6.2								
STKA				LR		LR	14 25 13.7		
	comp=Z,91nm,18.6s,baz=24,slow=36								
STKA	**Stephens Creek**	**26.83**	**197**	P		**P**	**14 14 45.8**	**-0.5**	
	baz=27,SNR=5.9								
STKA	**Stephens Creek**	**26.83**	**197**	*e*P		**P**	**14 14 45.2**	**-1.1**	
	1.5nm,0.8s								
WRKA	**Warakurna**	**28.41**	**227**	P		**P**	**14 14 59.9**	**-0.8**	
	baz=28,SNR=10								
MEEK	**Meekatharra**	**36.64**	**233**	P		**P**	**14 16 12.2**	**-0.4**	
	baz=37,SNR=3.3								
KLBR	**Kellerberrin**	**39.76**	**227**	P		P	14 16 46.8	+8.0	
	baz=40,SNR=7.3								
KSRS	**Korea Array**	**48.45**	**336**	P		**P**	**14 17 47.5**	**-0.7**	
	1.6nm,0.8s,baz=148,slow=6.8,SNR=6.4								
KSRS				LR		LR	14 35 30.3		
	comp=Z,14nm,21.9s,baz=240,slow=33								
KSAR	**Wonju Array Be**	**48.46**	**336**	P		**P**	**14 17 47.5**	**-0.8**	
USRK	**Ussuriysk Ar.**	**53.04**	**343**	P		**P**	**14 18 23.1**	**+0.4**	
	1.5nm,0.7s,baz=124,slow=7.2,SNR=2.8								
PETK	**Petropavlovsk-**	**59.49**	**5**	P		P	14 19 12.7	+4.1	
	2.4nm,1.0s,baz=151,slow=6.6,SNR=4.2								
MKAR	**Makanchi Array**	**80.10**	**320**	P		**P**	**14 21 16.2**	**+0.6**	
	0.2nm,0.7s,baz=91,slow=5.5,SNR=2.9								
QSPA	**South Pole Qui**	**83.66**	**180**	*e*P		**P**	**14 21 34.2**	**+0.1**	
	5.8nm,1.1s								
ILAR	**Eielson Array**	**84.33**	**22**	P		**P**	**14 21 35.0**	**-2.3**	
	0.6nm,0.8s,baz=279,slow=5.5,SNR=4.1								
ILAR				LR		LR	14 56 19.4		
	comp=Z,22nm,20.1s,baz=173,slow=34								
NVAR	**Mina Array Bea**	**94.65**	**52**	P		**P**	**14 22 27.6**	**+0.5**	
	1.0nm,0.7s,baz=249,slow=6.2,SNR=8.0								
ELK	**Elko**	**97.14**	**50**	LR		LR	15 02 16.4		
	comp=Z,42nm,18.9s,baz=243,slow=33								
TORD	**Torodi Ar. Bea**	**148.74**	**285**	PKPbc		**PKPbc**	**14 28 53.3**	**-0.6**	
	2.6nm,0.8s,baz=60,slow=2.8,SNR=12								

IDC 20 14:15:15.4±2.5, 6°27S×150°39E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/24, mbtmp3.7/4, ML1.2/1, Error ellipse: s-maj=75.0km s-min=39.7km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
PMG	**Port Moresby**	**4.84**	**230**	Pn		Pn	14 16 31.7			+2.2
	0.7nm,0.3s,baz=45,slow=2.9,SNR=3.6									
PMG				Sn		Sn	14 17 22.7			-3.6
	1.1nm,0.3s,baz=158,slow=19,SNR=3.8									
WRA	**Warramunga Arr**	**21.06**	**228**	P		P	14 20 00.8			-0.5
	1.6nm,0.5s,baz=54,slow=11,SNR=18									
ASAR	**Alice Springs**	**23.80**	**222**	P		P	14 20 29.6			-0.5
	1.0nm,0.6s,baz=56,slow=9.0,SNR=24									
STKA	**Stephens Creek**	**26.92**	**198**	P		P	14 20 58.3			-0.1
	0.7nm,0.6s,baz=17,slow=14,SNR=3.0									
TORD	**Torodi Ar. Bea**	**148.90**	**285**	PKPbc		PKPbc	14 35 05.8			-0.5
	0.5nm,0.6s,baz=81,slow=2.5,SNR=3.8									

IDC 20 14:28:16.5±3.3, 6°11S×150°79E, h0km, mb3.0/2, mb1 3.4/3, mb1mx3.2/34, mbtmp3.2/3, ML1.2/1, Error ellipse: s-maj=130.0km s-min=41.5km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
PMG	**Port Moresby**	**4.86**	**227**	Pn		Pn	14 29 32.2			+1.3
	0.6nm,0.3s,baz=49,slow=19,SNR=3.6									
PMG				Sn		Sn	14 30 23.8			-4.2
	0.5nm,0.3s,baz=144,slow=19,SNR=2.9									
WRA	**Warramunga Arr**	**21.08**	**228**	P		P	14 33 01.8			-0.8
	0.6nm,0.8s,baz=54,slow=11,SNR=3.9									
ASAR	**Alice Springs**	**23.84**	**221**	P		P	14 33 31.3			-0.4
	0.2nm,0.5s,baz=53,slow=8.7,SNR=5.9									
TORD	**Torodi Ar. Bea**	**148.76**	**285**	PKPbc		PKPbc	14 48 06.8			-0.3
	0.2nm,0.3s,baz=96,slow=2.9,SNR=3.8									

MOS ***20*** *14:31:09.5±1.0, 9°.04S×119°.11E, h82km, mb4.7/23, Error ellipse: s-maj=11.4km s-min=6.5km az=118.3*
BJI ***20*** *14:31:10.5, 9°.30S×119°.00E, h90km, mb5.0/45, mB4.9/32, Ms4.5/17, Ms7 4.0/17*
KLM ***20*** *14:31:10.9, 9°.46S×119°.00E, h24km, mb4.7, ML5.2, MS5.8*
ISCJB ***20*** *14:31:11.0±0.2, 9°.28S±0°.03×119°.10E±0°.02, h102km, mb4.5/63, Error ellipse: s-maj=4.0km s-min=2.6km az=18.2*
IDC ***20*** *14:31:11.8±1.5, 9°.05S×119°.05E, h85km±13km, mb4.4/28, mb1 4.4/30, mb1mx4.3/40, mbtmp4.7/30, MS3.4/11, Ms1 3.4/11, ms1mx3.1/35, Error ellipse: s-maj=13.0km s-min=9.9km az=62.0*
DJA ***20*** *14:31:12.0±0.8, 9°.53±3°×11°9E±1°, h24km±9km, M5.2/36, mb5.5/3, mb5.3/36, mB5.5/2, mB5.5/22, MLv5.5/12, MLv5.5/26, Mw(mB)4.9/22, Mw(mB)5.0/2*
NEIC ***20*** *14:31:12.2±0.7, 9°.16S×119°.04E, h94km±6km, mb4.7/20, Error ellipse: s-maj=8.1km s-min=5.6km az=211.0*

ISC 20 14:31:12.9±0.3, 9°.25S±0°.04×119°.16E±0°.03, h102km, n236, σ1°.78/257, mb4.5/61, 14C-1D, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
WSI	**Waingapu**	**1.20**	**111**	P		**Sn**	**14 31 34.1**			**-1.6**
WSI				S		**Sn**	**14 31 50.7**			**-2.3**
MMRI	**Maumere**	**3.11**	**79**	P		**Pn**	**14 32 01.6**			**+1.5**
MMRI				S		**Sn**	**14 32 40.4**			**+3.8**
MMRI	**Maumere**	**3.11**	**79**	*e*Pn		**Pn**	**14 32 01.3**			**+1.1**
MMRI				*e*Sn		**Sn**	**14 32 37.4**			**+0.8**
BSSI	**Bau Bau, Buton**	**3.36**	**23**	P		**Pn**	**14 32 03.9**			**+0.4**
DNP	**Denpasar**	**3.94**	**278**	P		**Pn**	**14 32 09.9**			**-1.4**
DNP				S		**Sn**	**14 32 55.6**			**-1.0**
IGBI	**Denpasar**	**3.98**	**276**	P		**Pn**	**14 32 09.8**			**-2.1**
IGBI				S		**Sn**	**14 32 56.3**			**-1.4**
BKSI	**Bulukumba**	**4.01**	**14**	P		**Pn**	**14 32 13.2**			**+0.8**
SRBI	**Singaraja**	**4.07**	**286**	P		**Pn**	**14 32 11.3**			**-1.7**
KAPI	**Kappang**	**4.25**	**8**	P		**Pn**	**14 32 15.7**			**+0.2**
	79nm,0.3s,baz=200,slow=3.8,SNR=144									
KAPI				S		**Sn**	**14 33 02.7**			**-1.4**
	222nm,0.3s,baz=86,slow=23,SNR=41									
KAPI				LR		LR	14 34 23.3			
	comp=Z,405nm,18.3s,baz=204,slow=47									
KAPI	**Kappang**	**4.25**	**8**	*e*Pn		**Pn**	**14 32 16.0**			**+0.5**
KAPI				*e*Sn		**Sn**	**14 32 58.7**			**-5.4**
BATI	**Baumata**	**4.55**	**102**	P		**Pn**	**14 32 20.2**			**+0.6**
BATI	**Baumata**	**4.55**	**102**	P		**Pn**	**14 32 20.2**			**+0.6**
	361nm,0.3s,baz=301,slow=4.1,SNR=382									
BATI				S		**Sn**	**14 33 10.2**			**-1.1**
	110nm,0.3s,baz=146,slow=18,SNR=4.8									
JAGI	**Jajag, Banyuwa**	**5.00**	**278**	P		**Pn**	**14 32 22.6**			**-3.1**
JAGI	**Jajag, Banyuwa**	**5.00**	**278**	P		Pn	14 32 22.0			-3.8
	baz=4.9,SNR=67									
JAGI	**Jajag, Banyuwa**	**5.00**	**278**	*e*Pn		Pn	14 32 21.9			-3.8
JAGI				*e*Sn		**Sn**	**14 33 21.3**			**-1.1**
SOEI	**Soe**	**5.07**	**96**	P		**Pn**	**14 32 28.3**			**+1.6**
	524nm,0.6s,8μm4.5nm									
SOEI	**Soe**	**5.07**	**96**	P		**Pn**	**14 32 27.8**			**+1.0**
	baz=5.2,SNR=56									
SOEI	**Soe**	**5.07**	**96**	*e*Pn		**Pn**	**14 32 27.7**			**+1.0**
ABJI	**Asem Bagus**	**5.08**	**286**	P		**Pn**	**14 32 25.9**			**-0.8**
	400nm,0.7s,400nm,0.7s,3.9nm3.9nm									

SPSI	**Sidrap Palu**	**5.28**	**7**	P		**Pn**	**14 32 31.9**	**+2.4**	
	212nm,0.7s,3μm2.0nm								
KMMI	**Kalianget**	**5.58**	**293**	P		**Pn**	**14 32 33.8**	**+0.3**	
	166nm,0.9s,166nm,0.9s,2μm2μm1.1nm1.1nm								
BLJI	**Banyuglugur**	**5.70**	**285**	P		**Pn**	**14 32 33.3**	**-1.8**	
	361nm,0.6s,5μm2.1nm								
TTSI	**Tana Toraja**	**6.20**	**6**	P		Pn	14 32 44.8	+2.9	
	196nm,0.8s,2μm1.1nm								
KDI	**Kendari**	**6.28**	**33**	P		Pn	14 32 46.2	+3.1	
	284nm,0.8s,2μm0.9nm								
GRJI	**Gresik**	**7.00**	**289**	P		**Pn**	**14 32 52.4**	**-0.5**	
	132nm,0.9s,2μm0.6nm								
PWJI	**Pagerwojo**	**7.37**	**279**	P		**Pn**	**14 32 56.7**	**-1.2**	
	225nm,0.7s,2.2nm								
TBJI	**Tambak Boyo**	**7.63**	**288**	P		Pn	14 33 06.4	+5.0	
NGJI	**Ngawi**	**7.84**	**283**	P		Pn	14 33 13.6	+9.3	
PCI	**Palu**	**8.31**	**5**	P		Pn	14 33 13.9	+3.1	
	148nm,1.0s,2μm								
UGM	**Wanagama**	**8.64**	**278**	P		**Pn**	**14 33 14.4**	**-0.8**	
	238nm,2.1s								
UGM	**Wanagama**	**8.64**	**278**	P		**Pn**	**14 33 15.0**	**-0.2**	
	baz=8.5,SNR=15								
UGM	**Wanagama**	**8.64**	**278**	*e*Pn		**Pn**	**14 33 13.4**	**-1.7**	
UGM				*e*Sn		**Sn**	**14 34 55.3**	**+4.4**	
APSI	**Ampana**	**8.64**	**17**	P		Pn	14 33 18.3	+3.1	
	122nm,1.1s,1μm								
LUWI	**Luwuk**	**8.91**	**24**	P		Pn	14 33 22.2	+3.4	
	222nm,0.8s,2μm								
LUWI	**Luwuk**	**8.91**	**24**	P		Pn	14 33 23.8	+4.9	
	baz=9.1,SNR=4.3								
LUWI	**Luwuk**	**8.91**	**24**	*e*Pn		**Pn**	**14 33 20.6**	**+1.8**	
MPSI	**Mapaga**	**9.55**	**4**	P		Pn	14 33 30.8	+3.3	
	18nm,1.1s								
PBKI	**Pangkalan Bun**	**9.88**	**311**	P		**Pn**	**14 33 32.9**	**+0.9**	
	171nm,1.3s,2μm								
NLAI	**Namlea**	**9.90**	**53**	P		Pn	14 33 35.7	+3.4	
	146nm,0.6s,2μm								
MRSI	**Marisa**	**10.05**	**16**	P		Pn	14 33 37.5	+3.1	
	92nm,1.3s,1μm								
KPJI	**Karang Pucung**	**10.29**	**280**	P		**Pn**	**14 33 35.6**	**-2.1**	
KMSI	**Cibinong**	**10.88**	**26**	P		Pn	14 33 49.4	+3.8	
	176nm,0.9s								
CISI	**Cisompet, Garu**	**11.34**	**278**	P		Pn	14 33 48.2	-3.7	
	97nm,0.7s								
CISI	**Cisompet, Garu**	**11.34**	**278**	P		Pn	14 33 47.5	-4.5	
	baz=11,SNR=6.9								
CISI	**Cisompet, Garu**	**11.34**	**278**	*e*Pn		Pn	14 33 47.3	-4.7	
KNRA	**Kununurra**	**11.35**	**125**	P		**Pn**	**14 33 49.7**	**-2.2**	
	baz=11,SNR=94								
LEM	**Lembang**	**11.67**	**281**	P		**Pn**	**14 33 56.2**	**-0.3**	
	79nm,1.0s								
LEM	**Lembang**	**11.67**	**281**	P		**Pn**	**14 33 54.3**	**-2.2**	
	6.5nm,0.3s,baz=106,slow=16,SNR=6.7								
LEM				S		**Sn**	**14 36 04.2**	**-0.8**	
	2.6nm,0.3s,baz=323,slow=20,SNR=3.8								
LEM				LR		LR	14 38 44.6		
	comp=Z,169nm,20.3s,baz=192,slow=39								
MBWA	**Marble Bar**	**11.86**	**177**	*e*Pn		Pn	14 33 54.4	-4.3	
MBWA				*e*Sn		Sn	14 35 53.8	-15	
LBMI	**Labuha**	**11.92**	**45**	P		P	14 34 03.6	-4.6	
	112nm,0.8s,962nm								
STKI	**Sintang**	**12.00**	**320**	P		**Pn**	**14 34 02.8**	**+2.1**	
	44nm,0.8s,8μm								
MTN	**Manton Dam**	**12.29**	**108**	P		**Pn**	**14 34 01.6**	**-2.8**	
	baz=12,SNR=130								
CBJI	**Citeko**	**12.51**	**282**	P		**Pn**	**14 34 05.7**	**-1.7**	
	247nm,0.9s								
TPI	**Tanjungpandan**	**13.12**	**299**	P		**Pn**	**14 34 16.9**	**+1.4**	
	35nm,1.0s								
TSM	**Tawau**	**13.51**	**355**	⇑P		**P**	**14 34 25.0**	**-1.1**	
TSM	**Tawau**	**13.51**	**355**	⇑P		**P**	**14 34 25.0**	**-1.1**	
KDU	**Kakadu**	**13.51**	**106**	P		**Pn**	**14 34 18.8**	**-1.8**	
	baz=14,SNR=24								
SBUM	**Sibu**	**13.52**	**329**	⇑P		**P**	**14 34 23.4**	**-2.8**	
SBUM	**Sibu**	**13.52**	**329**	⇑P		**P**	**14 34 23.4**	**-2.8**	
BTM	**Bintulu**	**13.77**	**334**	⇑P		**P**	**14 34 27.9**	**-1.0**	
BTM	**Bintulu**	**13.77**	**334**	⇑P		**P**	**14 34 27.9**	**-1.0**	
KSM	**Kuching**	**13.82**	**320**	P		**P**	**14 34 31.1**	**+1.6**	
	baz=14,SNR=7.2								
KSM	**Kuching**	**13.82**	**320**	⇑P		**P**	**14 34 26.7**	**-2.9**	
KSM	**Kuching**	**13.82**	**320**	⇑P		**P**	**14 34 26.7**	**-2.9**	
KSM	**Kuching**	**13.82**	**320**	*e*P		**P**	**14 34 26.5**	**-3.0**	
GIRL	**Giralia**	**14.13**	**199**	P		Pn	14 34 25.1	-3.4	
	baz=14,SNR=36								
FAKI	**Fak Fak**	**14.45**	**65**	P		**Pn**	**14 34 31.9**	**-0.9**	
FAKI	**Fak Fak**	**14.45**	**65**	P		**Pn**	**14 34 31.8**	**-0.9**	
	baz=15,SNR=8.7								
FAKI	**Fak Fak**	**14.45**	**65**	*e*Pn		**Pn**	**14 34 31.1**	**-1.6**	
SWI	**Sorong**	**14.65**	**56**	P		**Pn**	**14 34 35.0**	**-0.1**	
	baz=15,SNR=4.0								
SIJI	**Sorong**	**14.65**	**56**	P		**Pn**	**14 34 34.2**	**-1.0**	
	2.5nm,0.3s,baz=296,slow=4.6,SNR=10								
SIJI				S		**S**	**14 37 24.2**	**-4.7**	
	0.6nm,0.3s,baz=233,slow=20,SNR=2.4								
SIJI				LR		LR	14 40 15.0		
	comp=Z,222nm,21.6s,baz=103,slow=37								
SDKM	**Sandakan**	**14.92**	**352**	⇑P		**P**	**14 34 43.8**	**+2.0**	
SDKM	**Sandakan**	**14.92**	**352**	⇑P		**P**	**14 34 43.8**	**+2.0**	
KASI	**Kota Agung**	**15.00**	**283**	P		**P**	**14 34 41.5**	**-1.1**	
	192nm,0.6s,3μm								
KKM	**Kota Kinabalu**	**15.47**	**349**	P		**Pn**	**14 34 45.1**	**-0.6**	
	baz=16,SNR=4.8								
LWLI	**Liwa**	**15.55**	**285**	P		**P**	**14 34 49.4**	**+0.5**	
	148nm,0.7s,5μm								
MDSI	**Maura Dua**	**15.60**	**287**	P		**P**	**14 34 49.4**	**+0.1**	
MNAI	**Manna**	**16.80**	**286**	P		**Pn**	**14 34 59.7**	**-2.4**	
	baz=17,SNR=12								
MEEK	**Meekatharra**	**17.31**	**182**	P		**P**	**14 35 07.2**	**-0.9**	
	baz=17,SNR=64								
WRKA	**Warakurna**	**17.95**	**152**	P		**Pn**	**14 35 16.6**	**+0.5**	
	baz=18,SNR=65								
WRA	**Warramunga Arr**	**18.12**	**128**	P		**P**	**14 35 15.9**	**-1.1**	
	1.0nm,0.3s,baz=303,slow=14,SNR=56								
WRA				S		S	14 38 26.7	-13	
	2.8nm,0.3s,baz=305,slow=23,SNR=6.2								
WRA				LR		LR	14 43 59.2		
	comp=Z,89nm,18.5s,baz=270,slow=42								
WRA	**Warramunga Arr**	**18.12**	**128**	P		**P**	**14 35 16.0**	**-1.1**	
WRAB	**Tennant Creek**	**18.12**	**128**	*e*P		**Pn**	**14 35 18.1**	**0.0**	
WRAB				pmax		pmax			
	comp=Z,23nm,0.6s								
WRAB	**Tennant Creek**	**18.12**	**128**	*e*P		**Pn**	**14 35 18.3**	**+0.2**	
	comp=Z,19nm,0.8s								
MORW	**Morawa**	**19.93**	**188**	P		**Pn**	**14 35 39.3**	**0.0**	
	baz=20,SNR=37								
AS31	**Alice Springs**	**20.11**	**137**	*e*P		**P**	**14 35 39.5**	**+0.7**	
AS31				*e*S		**S**	**14 39 13.4**	**-5.9**	
ASAR	**Alice Springs**	**20.11**	**137**	P		**P**	**14 35 39.8**	**+1.0**	
	comp=Z,10nm,0.6s,baz=310,slow=9.2,SNR=88								
ASAR				S		**S**	**14 39 13.7**	**-5.6**	
	comp=Z,4.4nm,0.6s,baz=304,slow=22,SNR=4.6								
ASAR				ScP		**ScP**	**14 43 19.7**	**+2.3**	
	comp=Z,2.9nm,0.7s,baz=347,slow=1.6,SNR=4.9								
BLDU	**Ballidu**	**21.38**	**186**	P		**P**	**14 35 54.4**	**+2.1**	
	baz=21,SNR=10								
KLBR	**Kellerberrin**	**22.27**	**183**	P		**P**	**14 36 02.9**	**+1.2**	
	baz=22,SNR=5.0								
JAY	**Jayapura**	**22.44**	**74**	P		**P**	**14 36 01.7**	**-2.0**	
	comp=Z,8.1nm,0.7s,baz=234,slow=19,SNR=2.4								
JAY				LR		LR	14 46 59.0		
	comp=Z,53nm,19.2s,baz=247,slow=42								
IPM	**Ipoh**	**22.64**	**306**	*e*P		**P**	**14 36 03.4**	**-2.3**	
	comp=Z,42nm,1.6s								
QIS	**Mount Isa**	**22.71**	**122**	P		**P**	**14 36 09.2**	**+2.9**	
	baz=23,SNR=14								
FORT	**Forrest**	**22.98**	**160**	*e*P		**P**	**14 36 09.3**	**+0.5**	
	comp=Z,31nm,0.9s								
TGY	**Tagaytay City**	**23.26**	**4**	P		**P**	**14 36 11.7**	**-0.1**	
	comp=Z,151nm,0.9s,baz=202,slow=4.1,SNR=6.2								
PSI	**Prapat**	**23.45**	**300**	P		**P**	**14 36 11.1**	**-2.5**	
	comp=Z,57nm,0.7s,baz=158,slow=9.4,SNR=39								
PSI				LR		LR	14 45 17.3		
	comp=Z,169nm,20.3s,baz=144,slow=36								
PSI	**Prapat**	**23.45**	**300**	P		**P**	**14 36 11.1**	**-2.5**	
PSI				pmax		pmax			
	comp=Z,57nm,0.7s								
PSI				MLR		MLR			
	comp=Z,169nm,20.3s								
PSI	**Prapat**	**23.45**	**300**	P		**P**	**14 36 11.4**	**-2.1**	
	baz=23,SNR=36								
PSI	**Prapat**	**23.45**	**300**	*e*P		**P**	**14 36 11.4**	**-2.1**	
	comp=Z,79nm,0.8s								
NWAO	**Narrogin (SRO)**	**23.63**	**184**	P		**P**	**14 36 16.8**	**+1.9**	
	comp=Z,18nm,1.1s,baz=324,slow=6.2,SNR=6.6								
NWAO				S		S	14 40 29.6	+7.6	
	comp=Z,36nm,0.5s,baz=150,slow=18,SNR=15								
GSI	**Gunungsitoli**	**23.92**	**295**	*e*P		**P**	**14 36 14.9**	**-2.7**	

	comp=Z,25nm,0.9s								
COEN	**Coen**	**23.98**	**104**	P		**P**	**14 36 19.9**	**+1.6**	
	baz=24,SNR=9.4								
COEN	**Coen**	**23.98**	**104**	*e*P		**P**	**14 36 19.6**	**+1.4**	
	comp=Z,30nm,0.6s								
MTSU	**Mount Surprise**	**25.97**	**113**	P		**P**	**14 36 40.3**	**+4.1**	
	baz=26,SNR=20								
PMG	**Port Moresby**	**27.63**	**93**	P		**P**	**14 36 53.7**	**+2.5**	
	comp=Z,10nm,0.9s,baz=302,slow=9.5,SNR=2.5								
PMG				LR		LR	14 50 40.5		
	comp=Z,55nm,18.1s,baz=243,slow=42								
UBPT	**Khong Chiam**	**27.89**	**331**	P		**P**	**14 36 55.2**	**+1.8**	
	comp=Z,8.1nm,1.2s								
BBOO	**Buckleboo**	**28.18**	**149**	*e*P		**P**	**14 36 56.7**	**+0.9**	
CTA	**Charters Tower**	**28.30**	**115**	P		P	14 37 00.4	+3.3	
	comp=Z,4.7nm,0.9s,baz=301,slow=13,SNR=3.4								
QLP	**Quilpie**	**29.34**	**129**	P		P	14 37 10.3	+4.1	
	baz=29,SNR=3.7								
SKNT	**Sakolnakorn**	**30.07**	**330**	P		**P**	**14 37 13.0**	**+0.3**	
	comp=Z,18nm,1.0s								
HTT	**Hallett**	**30.18**	**146**	P		**P**	**14 37 16.0**	**+2.3**	
	baz=30,SNR=13								
STKA	**Stephens Creek**	**30.67**	**140**	P		**P**	**14 37 19.7**	**+1.8**	
	comp=Z,5.0nm,0.6s,baz=308,slow=9.7,SNR=14								
STKA				LR		LR	14 49 36.9		
	comp=Z,100nm,20.1s,baz=20,slow=36								
STKA	**Stephens Creek**	**30.67**	**140**	P		**P**	**14 37 19.7**	**+1.8**	
STKA				pmax		pmax			
	comp=Z,5.0nm,0.6s								
STKA				MLR		MLR			
	comp=Z,100nm,20.1s								
STKA	**Stephens Creek**	**30.67**	**140**	P		**P**	**14 37 20.0**	**+2.1**	
	baz=31,SNR=8.0								
STKA	**Stephens Creek**	**30.67**	**140**	*e*P		**P**	**14 37 20.0**	**+2.1**	
	comp=Z,30nm,3.0s								
PBKT	**Sadao Pong**	**31.33**	**325**	P		**P**	**14 37 23.9**	**+0.1**	
	comp=Z,19nm,0.8s								
YULB	**Yu-li**	**32.51**	**4**	*e*P		**P**	**14 37 32.6**	**-1.5**	
	comp=Z,15nm,1.3s								
UTTA	**Uttaradit**	**32.51**	**326**	P		**P**	**14 37 35.0**	**+0.8**	
	comp=Z,6.4nm,0.8s,comp=Z,259nm								
LAMP	**Lampang**	**33.65**	**325**	P		**P**	**14 37 45.6**	**+1.5**	
	comp=Z,4.7nm,0.8s								
CM31	**Chiang Mai Arr**	**33.99**	**324**	*e*P		**P**	**14 37 47.0**	**-0.1**	
	comp=Z,4.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**33.99**	**324**	P		**P**	**14 37 47.2**	**+0.1**	
	comp=Z,4.2nm,0.6s,baz=153,slow=7.1,SNR=28								
CMAR				PcP		**PcP**	**14 40 24.2**	**+1.1**	
	comp=Z,1.4nm,0.8s,baz=185,slow=2.9,SNR=5.0								
CMAR				ScP		**ScP**	**14 44 01.1**	**+2.2**	
	comp=Z,1.0nm,0.8s,baz=161,slow=3.5,SNR=4.6								
CMAR				LR		LR	14 52 26.6		
	comp=Z,70nm,20.7s,baz=174,slow=38								
CHTO	**Chiang Mai**	**34.28**	**324**	P		**P**	**14 37 50.4**	**+0.9**	
	comp=Z,37nm,1.8s								
CHTO	**Chiang Mai**	**34.28**	**324**	*e*P		**P**	**14 37 49.1**	**-0.4**	
CHTO				pmax		pmax			
	comp=Z,26nm,1.8s								
CHTO	**Chiang Mai**	**34.28**	**324**	*e*P		**P**	**14 37 49.1**	**-0.4**	
	comp=Z,26nm,1.8s								
CMAI	**Chiengmai2**	**35.11**	**326**	P		**P**	**14 37 57.3**	**+0.4**	
	comp=Z,150nm,0.7s,comp=Z,10μm								
KMI	**Kunming**	**37.72**	**335**	P		**P**	**14 38 20.8**	**+1.7**	
KMI				pP		**pP**	**14 38 42.0**	**-0.4**	

comp=Z,100nm,14.5s
HHC LE
comp=Z,90nm,13.2s
HHC LZ
comp=Z,52nm,17.1s
KOLN Koldanda 50.38 318 *e*P **P 14 39 57.8 -2.4**
comp=Z,28nm,0.7s
DANN Dangsing 50.66 319 *e*P **P 14 40 00.4 -2.0**
comp=Z,7.1nm,0.4s
GTA Gaotai 51.63 341 ⇑P **P 14 40 10.0 +0.7**
GTA pP **pP 14 40 32.1 -1.7**
GTA sP **sP 14 40 43.5 -1.7**
GTA S **S 14 47 25.5 +2.7**
GTA sS **sS 14 48 06.3 +1.4**
GTA SS **SS 14 51 02.8 +2.1**
GTA PMZ
comp=Z,34nm,1.0s
GTA PMZ
comp=Z,140nm,5.5s
GTA LN
comp=Z,57nm,11.9s
GTA LE
comp=Z,62nm,13.8s
GTA LZ
comp=Z,130nm,16.3s
MDJ Mudanjiang 54.44 9 P **P 14 40 29.0 -0.6**
MDJ PMZ
comp=Z,13nm,0.8s
MDJ PMZ
comp=Z,31nm,5.5s
USRK Ussuriysk Ar. 54.45 11 P **P 14 40 29.5 -0.2**
comp=Z,6.7nm,0.7s,baz=190,slow=7.5,SNR=16
ASAJ Asahikawa 57.21 20 P **P 14 40 48.6 -0.8**
comp=Z,3.1nm,0.8s,baz=180,slow=20
ASAJ Asahikawa 57.21 20 P **P 14 40 48.6 -0.8**
ASAJ pmax pmax
comp=Z,3.0nm,0.8s
ULN Ulaanbaatar 57.86 350 *e*P **P 14 40 54.2 0.0**
ULN Ulaanbaatar 57.86 350 *e*P **P 14 40 54.2 0.0**
SONM Songino Array 57.95 350 P **P 14 40 54.8 +0.1**
comp=Z,15nm,0.6s,baz=167,slow=8.3,SNR=25
WMQ Urumqi 60.04 334 P **P 14 41 09.3 +0.1**
WMQ pP **pP 14 41 32.8 -1.5**
WMQ sP **sP 14 41 44.0 -1.5**
WMQ PMZ
comp=Z,14nm,0.7s
WMQ PMZ
comp=Z,98nm,6.0s
WMQ LN
comp=Z,36nm,20.0s
WMQ LE
comp=Z,29nm,18.3s
WMQ LZ
comp=Z,22nm,18.3s
ZAK Zakamensk 60.97 348 *e*P **P 14 41 15.0 -0.4**
ZAK pmax pmax
comp=Z,3.0nm,1.4s
TLY Talaya 62.14 349 *e*P **P 14 41 23.0 -0.1**
TLY pmax pmax
comp=Z,4.0nm,0.6s
TLY Talaya 62.14 349 *e*P **P 14 41 23.0 -0.1**
comp=Z,4.4nm,0.6s
KSH Kashi 62.89 324 P **P 14 41 27.5 -1.0**
KSH sP **sP 14 42 05.3 +0.3**
KSH PcP **PcP 14 42 07.1 +1.2**
KSH S S 14 49 44.3 -6.2
KSH sS **sS 14 50 33.1 -0.8**
KSH ScS **SKSac 14 51 10.1 -1.8**
KSH PMZ
comp=Z,35nm,0.8s
KSH PMZ
comp=Z,280nm,5.7s
KSH LN
comp=Z,120nm,5.3s
KSH LE
comp=Z,78nm,3.7s
KSH LZ
comp=Z,230nm,6.1s
PDGK Podgornoye 63.55 329 P **P 14 41 31.9 -0.7**
PDGK pmax pmax
comp=Z,8.0nm,0.8s
KBL Kabul 64.37 315 *e*P **P 14 41 36.4 -2.1**
KBL pmax pmax
comp=Z,39nm,0.7s
KBL Kabul 64.37 315 P **P 14 41 37.0 -1.5**
baz=64,SNR=5.8
KBL Kabul 64.37 315 *e*P **P 14 41 36.4 -2.1**
comp=Z,39nm,0.7s
MK31 Makanchi Array 64.74 333 P **P 14 41 39.5 -0.9**
MK31 pmax pmax
comp=Z,5.0nm,0.6s
MK31 Makanchi Array 64.74 333 *e*P **P 14 41 39.7 -0.7**
MKAR Makanchi Array 64.74 333 P **P 14 41 39.8 -0.7**
comp=Z,5.9nm,0.5s,baz=146,slow=7.3,SNR=110
TKM2 Tokmak 2 65.34 326 *i*P **P 14 41 43.3 -1.3**
TKM2 pmax pmax
comp=Z,5.0nm,0.8s
TKM2 Tokmak 2 65.34 326 *e*P **P 14 41 43.5 -1.1**
comp=Z,4.0nm,0.6s
EKS2 Erkin-Say 66.19 325 *e*P **P 14 41 49.2 -0.8**
EKS2 pmax pmax
comp=Z,9.0nm,0.8s
EKS2 Erkin-Say 66.19 325 *e*P **P 14 41 49.1 -0.8**
comp=Z,8.7nm,0.8s
DZET Dzherino 66.87 319 P **P 14 41 52.5 -1.9**
BOD Bodaibo 66.96 357 *e*P **P 14 41 54.0 -0.3**
BOD pmax pmax
comp=Z,5.0nm,0.7s
MAW Mawson 69.06 200 P **P 14 42 08.8 +1.5**
comp=Z,1.1nm,0.4s,baz=103,slow=12,SNR=3.6
MAW LR LR 15 07 22.4
comp=Z,24nm,21.6s,baz=267,slow=31
KURK Kurchatov 69.28 334 P **P 14 42 07.5 -1.5**
KURK pmax pmax
comp=Z,5.0nm,1.0s
KURK Kurchatov 69.28 334 *e*P **P 14 42 07.9 -1.1**
comp=Z,6.7nm,0.8s
ZAA0 Zalesovo Array 69.32 339 P **P 14 42 08.0 -1.2**
baz=70,SNR=5.7
ZAA0 Zalesovo Array 69.32 339 *e*P **P 14 42 07.6 -1.6**
ZALV Zalesovo Beam 69.32 339 P **P 14 42 07.8 -1.4**
comp=Z,12nm,0.6s,baz=146,slow=5.1,SNR=52
OPO Ambohidratompo 70.10 254 P **P 14 42 16.9 +2.0**
comp=Z,7.5nm,0.7s,baz=73,slow=4.7,SNR=7.1
PETK Petropavlovsk- 70.24 24 P **P 14 42 15.8 +0.9**
comp=Z,6.6nm,0.8s,baz=193,slow=4.6,SNR=9.9
NVS Novosibirsk 70.60 339 *e*P **P 14 42 15.0 -1.9**
NVS pmax pmax
comp=Z,13nm,1.6s
NVS pmax pmax
comp=N,7.0nm,1.3s
NVS pmax pmax
comp=E,6.0nm,0.8s
YAK Yakutsk 71.53 5 *e*P **P 14 42 21.2 -1.2**
YAK pmax pmax
comp=Z,10.0nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.0s
IMYA Miami 71.60 313 *e*P **P 14 42 22.8 -0.9**
VNDA Vanda 71.72 171 P **P 14 42 25.6 +2.1**
comp=N,0.4nm,0.6s,baz=306,slow=7.7,SNR=3.4
GEYT Alibeck 73.72 314 P **P 14 42 35.9 -0.2**
comp=N,8.0nm,0.9s,baz=151,slow=3.4,SNR=12
ISRV Sarvestan 74.22 304 *e*P **P 14 42 38.4 -1.1**
IPAR Pars 74.43 304 *e*P **P 14 42 40.5 -0.2**
BVAR Borovoye Array 74.58 332 P **P 14 42 39.5 -1.2**
comp=N,1.6nm,0.6s,baz=155,slow=7.5,SNR=4.6
BRVK Borovoye 74.66 332 P **P 14 42 41.0 -0.1**
BRVK pmax pmax
comp=Z,5.0nm,1.4s
IKAZ Kazeroun 75.40 304 *e*P P 14 42 39.5 -6.8
SEY Seymchan 76.36 15 P **P 14 42 50.5 0.0**
comp=Z,3.0nm,0.6s,baz=225,slow=4.2,SNR=15
SEY Seymchan 76.36 15 ⇓*i*P **P 14 42 51.3 +0.7**
IPIR Pirpir 77.14 307 *e*P **P 14 42 53.6 -2.4**
AB31 Akbulak array 77.85 325 *i*P **P 14 42 58.1 -1.1**
AB31 pmax pmax
comp=Z,8.0nm,0.6s
ABKAR Akbulak array 77.85 325 *e*P **P 14 42 58.0 -1.2**
comp=Z,8.7nm,0.6s
AKTO Aktyubinsk 79.51 325 P **P 14 43 07.3 -1.0**
comp=Z,11nm,0.6s,baz=108,slow=6.1,SNR=60
AKTO Aktyubinsk 79.51 325 P **P 14 43 07.3 -1.0**
AKTO pmax pmax
comp=Z,12nm,0.7s
SVE Sverdlovsk 81.37 332 *e*P **P 14 43 16.7 -1.4**
SVE pmax pmax
comp=Z,8.0nm,0.7s
KMBO Kilima Mbogo 81.83 270 P **P 14 43 23.0 +1.2**
comp=Z,4.0nm,0.7s,baz=56,slow=6.5,SNR=8.6
KMBO Kilima Mbogo 81.83 270 *e*P **P 14 43 22.9 +1.1**
KMBO pmax pmax
comp=Z,8.0nm,1.3s
KMBO Kilima Mbogo 81.83 270 *e*P **P 14 43 22.9 +1.1**
comp=Z,8.4nm,1.3s
ARU Arti 82.15 331 P **P 14 43 20.8 -1.4**
baz=135,slow=7.1
ARU Arti 82.15 331 *e*⇓P **P 14 43 20.7 -1.5**
ARU S **S 14 53 29.4 +0.7**
ARU SS **SS 14 58 56.2 +5.4**
ARU pmax pmax
comp=Z,6.0nm,1.0s
BILL Bilibino 83.99 16 *e*P **P 14 43 31.5 +0.1**
BILL pmax pmax
comp=Z,2.0nm,0.9s
DGRG David-gareji 84.15 313 P **P 14 43 34.3 +1.4**
TBLG Delisi 84.68 314 P **P 14 43 35.9 +0.3**
TBLG Delisi 84.68 314 P **P 14 43 35.9 +0.3**
KBZ Khabaz 86.56 315 P **P 14 43 43.5 -1.3**
comp=Z,2.7nm,0.7s,baz=137,slow=0.7,SNR=5.1
LSZ Lusaka 88.53 255 *e*P **P 14 43 56.9 +1.9**
LSZ pmax pmax
comp=Z,3.0nm,0.6s
LSZ Lusaka 88.53 255 *e*P **P 14 43 56.9 +1.9**
comp=Z,2.9nm,0.6s
BOSA Boshof 89.02 241 P **P 14 43 58.9 +1.7**
comp=Z,5.7nm,0.7s,baz=107,slow=4.5,SNR=13
SNAA Sanae 90.81 196 P **P 14 44 07.0 +2.5**
BRTR Keskin Array B 92.41 310 P **P 14 44 11.0 -1.6**
comp=Z,0.6nm,0.5s,baz=161,slow=4.8,SNR=4.8
BRTR LR LR 15 32 42.1
comp=Z,10nm,18.4s,baz=108,slow=40
OBN Obninsk 93.30 325 *e*P **P 14 44 14.6 -1.5**
OBN pmax pmax
comp=Z,4.0nm,0.9s
FINES FINESS Array B 99.52 331 P **Pdif 14 44 43.3 -0.8**
comp=Z,1.8nm,0.8s,baz=101,slow=7.5,SNR=4.1
FINES FINESS Array B 99.52 331 *i*P **Pdif 14 44 43.2 -1.0**
FINES pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 99.88 339 P **Pdif 14 44 45.2 -0.4**
comp=Z,1.9nm,0.8s,baz=69,slow=3.0,SNR=3.5
YKA Yellowknife Ar 114.35 24 PKP PKPdf 14 49 40.5 +0.1
comp=Z,0.5nm,0.4s,baz=290,slow=1.9,SNR=7.8
TORD Torodi Ar. Bea 118.65 280 PKP **PKPdf 14 49 50.6 +0.6**
comp=Z,2.2nm,0.5s,baz=49,slow=1.7,SNR=19
NVAR Mina Array Bea 121.06 51 PKP **PKPdf 14 49 56.1 +1.7**
comp=Z,0.3nm,0.5s,baz=22,slow=0.5,SNR=2.6
SCHQ Schefferville 134.28 5 PKP **PKPdf 14 50 17.1 -1.6**
comp=Z,1.5nm,0.7s,baz=338,slow=5.4,SNR=2.7
TXAR Lajitas Array 135.24 57 PKP **PKPdf 14 50 19.6 -1.8**
comp=Z,0.1nm,0.4s,baz=242,slow=1.9,SNR=2.8
TXAR SKPbc **SKPbc 14 53 44.9 +1.6**
comp=Z,0.2nm,0.5s,baz=242,slow=2.7,SNR=3.5
CPUP Villa Florida 144.47 185 PKP **PKPdf 14 50 37.6 -0.5**
comp=Z,2.8nm,0.8s,baz=169,slow=2.5,SNR=3.9
LRAL Lakeview Retre 146.20 42 *e*PKPbc **PKPbc 14 50 41.9 -0.1**
LPAZ La Paz 153.62 164 PKPbc **PKPbc 14 51 04.9 +3.3**
comp=Z,0.7nm,0.7s,baz=243,slow=6.8,SNR=3.0

*IDC **20** 14:41:31.0±1.3,52.°59N×169.°91W,h0km,mb3.6/3, mb1 3.8/5,mb1mx3.3/47,mbtmp3.4/5,ML3.1/2,MS3.5/1, Ms1 3.5/1,ms1mx2.5/39,Error ellipse: s-maj=46.3km s-min=25.1km az=162.0*
*NEIC **20** 14:41:34.1,52.°75N×169.°52W,h2km,ML2.6(AEIC),After AEIC.*
ISC 20 14:41:33.2±0.9,52.°9N±0.°1×169.°72W±0.°07,h10km,n18, σ1°27/20,mb3.4/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.54**	**78**	P		**Pb**	**14 41 44.1**	**-0.7**
NIKH				S		**Sb**	**14 41 52.5**	**-0.1**
OKSP	**Okmok Steeple**	**0.95**	**65**	P		**Pb**	**14 41 52.0**	**+0.2**
OKSP				S		**Sn**	**14 42 06.2**	**0.0**
OKWR	**Okmok West Rim**	**1.08**	**57**	P		**Pn**	**14 41 55.6**	**+1.1**
OKAK	**Okmok**	**1.09**	**48**	P		**Pb**	**14 41 53.0**	**-1.1**
OKCE	**Okmok Cone E**	**1.09**	**58**	P		**Pn**	**14 41 55.3**	**+0.7**
OKTU	**Okmok Mt. Tuli**	**1.14**	**62**	P		**Pg**	**14 41 55.3**	**+0.2**
OKRE	**Okmok R'deer P**	**1.14**	**54**	P		**Pn**	**14 41 56.1**	**+0.7**
OKRE				S		**Sn**	**14 42 13.4**	**+2.4**
MSOM	**Makushin Julie**	**1.92**	**59**	P		**Pn**	**14 42 07.2**	**+1.3**
MCIR	**Makushin Cirqu**	**2.01**	**56**	P		**Pb**	**14 42 09.2**	**-0.7**
MTBL	**Makushin Table**	**2.13**	**58**	P		**Pb**	**14 42 11.0**	**-0.9**
UNV	**Unalaska Valle**	**2.17**	**62**	P		**Pn**	**14 42 10.7**	**+1.4**
ATKA	**Atka Island**	**2.81**	**258**	P		**Pn**	**14 42 20.5**	**+2.3**
ILAR	**Eielson Array**	**16.67**	**35**	Pn		**Pn**	**14 45 27.4**	**+0.8**
	0.1nm,0.3s,baz=228,slow=11,SNR=4.4							
PETK	**Petropavlovsk-**	**19.53**	**284**	P		**P**	**14 45 58.3**	**-2.2**
	0.1nm,0.3s,baz=74,slow=16,SNR=3.2							
YBH	**Yreka Blue Hor**	**33.20**	**90**	LR		LR	14 59 08.0	
	comp=Z,75nm,18.7s,baz=266,slow=32							
PDAR	**Pinedale Array**	**40.52**	**79**	P		**P**	**14 49 12.5**	**0.0**
	0.4nm,0.7s,baz=305,slow=5.2,SNR=3.5							
TXAR	**Lajitas Array**	**52.95**	**89**	P		**P**	**14 50 49.7**	**-0.1**
	0.3nm,0.6s,baz=310,slow=4.4,SNR=4.2							
ASAR	**Alice Springs**	**90.55**	**230**	P		**P**	**14 54 34.0**	**-1.3**
	0.5nm,0.7s,baz=34,slow=4.3,SNR=7.7							

*ISCJB **20** 14:41:57.8±1.2,52.°60N±0.°08×169.°72W±0.°08,h9km±7km, mb3.9/14,Error ellipse: s-maj=15.5km s-min=5.5km az=153.3*
*IDC **20** 14:41:57.6±0.8,52.°51N×169.°82W,h0km,mb3.9/8, mb1 4.2/10,mb1mx3.7/47,mbtmp3.9/10,ML3.4/2,Error ellipse: s-maj=28.5km s-min=16.5km az=177.0*
*NEIC **20** 14:42:00.1,52.°72N×169.°60W,h5km,mb3.9/9, ML3.5(AEIC),After AEIC.*
ISC 20 14:41:59.5±1.7,52.°7N±0.°1×169.°67W±0.°07,h9km±10km, n41,σ1°00/39,mb3.9/14,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.57**	**61**	P		**Pg**	**14 42 10.2**	**-0.3**
NIKH				S		**Sg**	**14 42 18.7**	**+0.8**
OKSP	**Okmok Steeple**	**1.00**	**56**	P		**Pg**	**14 42 18.4**	**-0.4**
OKSP				S		**Sg**	**14 42 32.2**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**1.20**	**55**	P		**Pb**	**14 42 22.0**	**-0.4**
MSOM	**Makushin Julie**	**1.98**	**55**	P		**Pn**	**14 42 33.9**	**+0.7**
MSOM				S		**Sb**	**14 42 59.8**	**-0.7**
MCIR	**Makushin Cirqu**	**2.08**	**52**	P		**Pn**	**14 42 35.4**	**+0.8**
MSW	**Makushin Switc**	**2.12**	**54**	P		**Pn**	**14 42 36.1**	**+1.0**
MSW				S		**Sn**	**14 43 03.3**	**+1.8**
UNV	**Unalaska Valle**	**2.22**	**58**	P		**Pn**	**14 42 36.6**	**+0.1**
UNV				S		**Sn**	**14 43 04.9**	**+0.9**
AKGG	**Akutan Green G**	**2.66**	**54**	P		**Pn**	**14 42 43.3**	**+0.7**
AKUT	**Akutan**	**2.74**	**57**	*e*P		**Pn**	**14 42 44.1**	**+0.6**
ATKA	**Atka Island**	**2.81**	**262**	P		**Pn**	**14 42 46.0**	**+1.4**
GSTR	**Great Sitkin T**	**3.96**	**264**	*e*Pn		**Pn**	**14 43 01.4**	**+1.0**
BPAW	**Bear Paw Mtn.**	**14.97**	**33**	*e*P		**P**	**14 45 34.5**	**-2.1**
	1.7nm,0.7s							
ILAR	**Eielson Array**	**16.78**	**35**	Pn		**Pn**	**14 45 53.5**	**-1.0**
	0.1nm,0.3s,baz=228,slow=11,SNR=8.5							
EGAK	**Eagle**	**18.89**	**39**	*e*P		**Pn**	**14 46 21.1**	**+0.5**
	1.9nm,0.6s							
HYT	**Haines Junctio**	**19.24**	**52**	*e*P		**Pn**	**14 46 25.0**	**+0.1**
	6.6nm,0.7s							
PETK	**Petropavlovsk-**	**19.59**	**284**	P		**P**	**14 46 27.5**	**-0.2**
	0.2nm,0.3s,baz=88,slow=15,SNR=6.2							
SKAG	**Skagway**	**20.14**	**57**	*e*P		Pn	14 46 34.8	-0.7
	8.0nm,0.7s							
SEY	**Seymchan**	**22.30**	**312**	P		**P**	**14 46 57.2**	**+0.4**
	3.4nm,0.8s,baz=118,slow=8.6,SNR=7.2							
DLBC	**Dease Lake**	**22.88**	**60**	P		**P**	**14 47 05.0**	**+2.0**
	4.6nm,0.8s,baz=292,slow=6.0,SNR=9.9							
DLBC	**Dease Lake**	**22.88**	**60**	*e*P		**P**	**14 47 05.2**	**+2.1**
MCMT	**McKenzie Canyo**	**37.39**	**79**	*e*P		**P**	**14 49 12.7**	**0.0**
	0.8nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**37.60**	**218**	T		T	15 29 03.4	
	baz=24,slow=76,SNR=3.1							
H11N3	**WAKE ISLAND Hy**	**37.61**	**218**	T		T	15 28 53.9	
	baz=24,slow=76,SNR=5.3							
H11N1	**WAKE ISLAND Hy**	**37.62**	**218**	T		T	15 29 01.7	
	baz=24,slow=76,SNR=5.5							
NVAR	**Mina Array Bea**	**37.86**	**91**	P		**P**	**14 49 18.0**	**+1.3**
	1.0nm,0.7s,baz=297,slow=8.8,SNR=7.0							
H11S1	**WAKE ISLAND Hy**	**38.79**	**217**	T		T	15 30 31.4	
	baz=22,slow=76,SNR=72							
H11S2	**WAKE ISLAND Hy**	**38.81**	**217**	T		T	15 30 32.5	
	baz=22,slow=76,SNR=44							
H11S3	**WAKE ISLAND Hy**	**38.81**	**217**	T		T	15 30 35.9	
	baz=22,slow=76,SNR=58							
R11A	**Troy Canyon, C**	**39.56**	**89**	*e*P		**P**	**14 49 31.1**	**+0.2**
	1.1nm,0.8s							
BW06	**Boulder Array**	**40.52**	**79**	*e*P		**P**	**14 49 38.6**	**-0.3**
	2.3nm,0.9s							
PDAR	**Pinedale Array**	**40.52**	**79**	P		**P**	**14 49 38.8**	**-0.1**
	1.5nm,0.8s,baz=324,slow=4.5,SNR=8.9							
MVU	**Marysvale**	**41.51**	**86**	*e*P		**P**	**14 49 47.8**	**+0.6**
	2.5nm,1.0s							
PV01	**Paradox Valley**	**43.96**	**84**	*e*P		**P**	**14 50 06.9**	**-0.1**
SDCO	**Great Sand Dun**	**46.06**	**82**	*e*P		**P**	**14 50 24.1**	**+0.3**
	2.1nm,0.9s							
WMOK	**Wichita Mounta**	**52.11**	**80**	*e*P		**P**	**14 51 09.1**	**-0.7**
	2.0nm,0.8s							
TXAR	**Lajitas Array**	**52.93**	**89**	P		**P**	**14 51 15.7**	**-0.4**
	1.9nm,0.7s,baz=301,slow=5.9,SNR=15							
KURK	**Kurchatov**	**62.00**	**318**	P		**P**	**14 52 20.1**	**+0.6**
KURBB	**Kurchatov Arra**	**62.11**	**318**	P		**P**	**14 52 20.1**	**-0.2**
	0.1nm,0.2s,baz=44,slow=7.0,SNR=2.6							
WRA	**Warramunga Arr**	**87.07**	**231**	P		**P**	**14 54 43.3**	**-2.0**
	1.0nm,0.9s,baz=31,slow=6.2,SNR=4.5							
ASAR	**Alice Springs**	**90.47**	**230**	P		**P**	**14 55 00.1**	**-1.3**
	2.0nm,0.8s,baz=33,slow=4.8,SNR=18							
BOSA	**Boshof**	**153.51**	**329**	PKPbc		**PKPbc**	**15 01 58.3**	**+0.1**
	1.3nm,0.6s,baz=175,slow=4.9,SNR=3.8							

*IDC **20** 14:49:49.3±1.8,52.°45N×169.°70W,h0km,mb3.6/3, mb1 3.8/4,mb1mx3.3/46,mbtmp3.4/4,ML2.1/1,Error ellipse: s-maj=86.1km s-min=33.4km az=152.0*
*NEIC **20** 14:49:50.4,52.°68N×169.°56W,h3km,ML3.1(AEIC),After AEIC.*
ISC 20 14:49:50.7±1.8,52.°8N±0.°2×169.°72W±0.°09,h6km±11km, n20,σ1°11/22,mb3.6/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.56**	**69**	P		**Pg**	**14 50 01.6**	**0.0**
NIKH				S		**Sb**	**14 50 10.4**	**-0.8**
OKSP	**Okmok Steeple**	**0.99**	**61**	P		**Pg**	**14 50 09.8**	**+0.1**
OKSP				S		**Sg**	**14 50 23.4**	**+0.9**
OKWR	**Okmok West Rim**	**1.13**	**54**	P		**Pg**	**14 50 12.5**	**+0.2**
OKCE	**Okmok Cone E**	**1.14**	**55**	P		**Pg**	**14 50 12.5**	**-0.2**
OKAK	**Okmok**	**1.15**	**45**	P		**Pg**	**14 50 10.8**	**-2.0**
OKTU	**Okmok Mt. Tuli**	**1.18**	**58**	P		**Pg**	**14 50 13.1**	**-0.3**
MSOM	**Makushin Julie**	**1.96**	**57**	P		**Pn**	**14 50 25.1**	**+0.6**
MSOM				S		**Sn**	**14 50 51.3**	**+1.9**
MCIR	**Makushin Cirqu**	**2.06**	**54**	P		**Pn**	**14 50 25.7**	**-0.3**
MSW	**Makushin Switc**	**2.10**	**56**	P		**Pn**	**14 50 26.3**	**-0.1**
MSW				S		**Sn**	**14 50 55.3**	**+2.5**
MTBL	**Makushin Table**	**2.18**	**56**	P		**Pn**	**14 50 28.6**	**+1.1**
UNV	**Unalaska Valle**	**2.21**	**60**	P		**Pn**	**14 50 27.5**	**-0.4**
UNV				S		**Sn**	**14 50 55.9**	**+0.4**
AKUT	**Akutan**	**2.73**	**58**	*e*Pn		**Pn**	**14 50 35.6**	**+0.7**
ATKA	**Atka Island**	**2.79**	**260**	P		**Pn**	**14 50 37.3**	**+1.4**
ILAR	**Eielson Array**	**16.74**	**35**	P		**P**	**14 53 48.2**	**+0.4**
	0.0nm,0.3s,baz=238,slow=6.3,SNR=2.4							
H11S1	**WAKE ISLAND Hy**	**38.83**	**217**	T		T	15 38 24.0	
	baz=22,slow=76,SNR=8.1							
H11S2	**WAKE ISLAND Hy**	**38.85**	**217**	T		T	15 38 24.8	
	baz=22,slow=76,SNR=9.7							
H11S3	**WAKE ISLAND Hy**	**38.85**	**217**	T		T	15 38 24.8	
	baz=22,slow=76,SNR=5.9							
PDAR	**Pinedale Array**	**40.54**	**79**	P		**P**	**14 57 30.6**	**-0.1**
	0.4nm,0.7s,baz=317,slow=5.2,SNR=3.9							
TXAR	**Lajitas Array**	**52.95**	**89**	P		**P**	**14 59 07.2**	**-0.8**
	0.5nm,0.7s,baz=331,slow=7.2,SNR=4.2							
ASAR	**Alice Springs**	**90.49**	**230**	P		**P**	**15 02 51.8**	**-1.4**
	0.5nm,0.7s,baz=32,slow=4.9,SNR=8.0							

*IDC **20** 14:54:55.4±1.7,52.°70N×169.°44W,h0km,mb3.4/2, mb1 3.6/3,mb1mx3.2/49,mbtmp3.2/3,ML3.0/1,Error ellipse: s-maj=65.0km s-min=30.6km az=136.0*
*NEIC **20** 14:54:58.2,52.°77N×169.°50W,h4km,ML3.1(AEIC),After AEIC.*
ISC 20 14:54:55.4±2.5,52.°9N±0.°2×169.°8W±0.°1,h4km±15km,n20, σ0°83/20,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.55**	**78**	P		**Pb**	**14 55 07.3**	**-0.4**
NIKH				S		**Sb**	**14 55 15.3**	**-0.7**
OKSP	**Okmok Steeple**	**0.96**	**66**	P		**Pb**	**14 55 15.2**	**+0.6**
OKSP				S		**Sb**	**14 55 28.3**	**+0.6**
OKWR	**Okmok West Rim**	**1.09**	**58**	P		**Pn**	**14 55 18.8**	**+1.2**
OKAK	**Okmok**	**1.10**	**49**	P		**Pg**	**14 55 16.9**	**+0.3**
OKCE	**Okmok Cone E**	**1.11**	**59**	P		**Pn**	**14 55 17.8**	**+0.1**
OKCE				S		**Sn**	**14 55 34.6**	**+1.1**
OKTU	**Okmok Mt. Tuli**	**1.15**	**63**	P		**Pn**	**14 55 18.7**	**+0.4**
MSOM	**Makushin Julie**	**1.93**	**59**	P		**Pb**	**14 55 31.1**	**0.0**
MSOM				S		**Sb**	**14 55 55.0**	**-0.5**
MCIR	**Makushin Cirqu**	**2.03**	**56**	P		**Pb**	**14 55 32.5**	**-0.4**
MSW	**Makushin Switc**	**2.06**	**58**	P		**Pb**	**14 55 33.0**	**-0.4**
MSW				S		**Sb**	**14 55 59.1**	**-0.3**
MTBL	**Makushin Table**	**2.15**	**58**	P		**Pb**	**14 55 34.0**	**-0.8**
UNV	**Unalaska Valle**	**2.18**	**62**	P		**Pn**	**14 55 33.3**	**+0.9**
UNV				S		**Sn**	**14 56 00.3**	**+0.5**
ILAR	**Eielson Array**	**16.68**	**35**	Pn		**Pn**	**14 58 48.0**	**-1.7**
	0.0nm,0.3s,baz=246,slow=11,SNR=2.7							
H11N2	**WAKE ISLAND Hy**	**37.70**	**218**	T		T	15 42 00.8	
	baz=24,slow=76,SNR=10							
H11N3	**WAKE ISLAND Hy**	**37.71**	**218**	T		T	15 42 02.6	
	baz=24,slow=76,SNR=11							
H11N1	**WAKE ISLAND Hy**	**37.72**	**218**	T		T	15 42 01.7	
	baz=24,slow=76,SNR=10.0							
H11S1	**WAKE ISLAND Hy**	**38.89**	**217**	T		T	15 43 29.0	
	baz=19,slow=74							
H11S2	**WAKE ISLAND Hy**	**38.91**	**217**	T		T	15 43 31.1	
	baz=19							
H11S3	**WAKE ISLAND Hy**	**38.91**	**217**	T		T	15 43 30.6	
	baz=19,slow=74							
TXAR	**Lajitas Array**	**52.97**	**89**	P		**P**	**15 04 12.1**	**-1.0**
	0.2nm,0.6s,baz=316,slow=6.3,SNR=3.1							
ASAR	**Alice Springs**	**90.54**	**230**	P		**P**	**15 07 59.2**	**+0.8**
	0.3nm,0.9s,baz=25,slow=4.1,SNR=3.2							

*ISCJB **20** 15:00:53.0±0.5,8.°27N±0.°07×92.°65E±0.°07,h33km, mb4.1/18,MS3.2/3,Error ellipse: s-maj=11.0km s-min=8.4km az=141.6*
*NEIC **20** 15:00:55.9±0.5,8.°31N×92.°58E,mb4.2/5,Error ellipse: s-maj=10.6km s-min=8.2km az=52.0*
*IDC **20** 15:00:55.8±0.7,8.°40N×92.°67E,h37km±5km,mb3.9/13, mb1 4.1/15,mb1mx3.8/39,mbtmp4.1/15,ML4.0/2,MS3.3/6, Ms1 3.3/6,ms1mx2.9/49,Error ellipse: s-maj=28.1km s-min=12.5km az=49.0*
ISC 20 15:00:55.7±0.6,8.°35N±0.°09×92.°59E±0.°09,h33km,n45, σ1°09/47,mb4.1/18,MS3.2/3,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**5.32**	**125**	*e*P		**Pn**	**15 02 15.4**	**+2.5**
PSI	**Prapat**	**8.37**	**131**	LR		LR	15 06 58.4	
	comp=Z,247nm,19.0s,baz=268,slow=43							
CM31	**Chiang Mai Arr**	**11.79**	**31**	*e*P		**Pn**	**15 03 43.2**	**+1.5**
	3.5nm,0.6s							
CMAR	**Chiang Mai Arr**	**11.79**	**31**	Pn		**Pn**	**15 03 42.0**	**+0.4**
	0.5nm,0.3s,baz=232,slow=14,SNR=35							
CMAR				LR		LR	15 08 17.4	
	comp=Z,106nm,18.1s,baz=199,slow=38							
PALK	**Pallekele**	**11.83**	**266**	Pn		**Pn**	**15 03 43.5**	**+1.3**
	0.6nm,0.3s,baz=61,slow=19,SNR=8.9							
PALK				Sn		Sn	15 05 40.6	-13
	0.4nm,0.3s,baz=354,slow=19,SNR=6.0							
PALK				LR		LR	15 07 58.5	
	comp=Z,122nm,18.2s,baz=109,slow=36							
CHTO	**Chiang Mai**	**12.09**	**30**	P		**Pn**	**15 03 48.8**	**+3.0**
	2.9nm,1.0s							

	18nm,0.9s								
GKN	**Gorkha**	**20.94**	**340**	*e*P		**P**		**15 05 36.7**	**+0.7**
	24nm,0.6s								
KOLN	**Koldanda**	**21.10**	**337**	*e*P		**P**		**15 05 38.7**	**+0.9**
	26nm,0.6s								
LSA	**Lhasa**	**21.28**	**357**	*e*P		**P**		**15 05 39.3**	**-0.6**
	12nm,0.7s								
H08S3	**Diego Garcia H**	**25.57**	**232**	T		T		15 33 00.7	
	baz=52,slow=76,SNR=222								
H08S2	**Diego Garcia H**	**25.57**	**232**	T		T		15 33 01.5	
	baz=52,slow=76,SNR=255								
H08S1	**Diego Garcia H**	**25.59**	**232**	T		T		15 33 02.0	
	baz=52,slow=76,SNR=276								
EKS2	**Erkin-Say**	**37.97**	**337**	*e*P		**P**		**15 08 11.7**	**+1.1**
	3.0nm,0.8s								
MK31	**Makanchi Array**	**39.31**	**349**	*e*P		**P**		**15 08 20.4**	**-1.2**
MKAR	**Makanchi Array**	**39.31**	**349**	P		**P**		**15 08 20.7**	**-0.9**
	3.2nm,0.7s,baz=168,slow=8.1,SNR=38								
MKAR				PcP		**PcP**		**15 10 29.8**	**0.0**
	0.4nm,0.6s,baz=198,slow=4.1,SNR=4.1								
MKAR				LR		LR		15 28 13.1	
	comp=Z,31nm,19.0s,baz=138,slow=42								
KKAR	**Karatay Array**	**39.66**	**334**	*e*P		**P**		**15 08 25.6**	**+1.1**
	0.8nm,0.4s								
SONM	**Songino Array**	**41.06**	**14**	P		**P**		**15 08 35.3**	**-0.9**
	2.3nm,0.7s,baz=196,slow=8.8,SNR=6.3								
GEYT	**Alibeck**	**42.83**	**319**	P		**P**		**15 08 52.0**	**+1.2**
	2.5nm,0.3s,baz=132,slow=6.4,SNR=6.4								
KURK	**Kurchatov**	**43.79**	**347**	*e*P		**P**		**15 08 57.5**	**-0.7**
	8.1nm,1.2s								
ZAA0	**Zalesovo Array**	**45.90**	**354**	*e*P		**P**		**15 09 14.1**	**-0.8**
ZALV	**Zalesovo Beam**	**45.90**	**354**	P		**P**		**15 09 14.3**	**-0.7**
	3.3nm,0.7s,baz=184,slow=8.7,SNR=16								
ZALV				PcP		**PcP**		**15 10 50.5**	**-1.1**
	0.6nm,0.4s,baz=132,slow=2.1,SNR=3.7								
ABKAR	**Akbulak array**	**49.09**	**332**	*e*P		**P**		**15 09 40.4**	**+0.6**
	0.7nm,0.4s								
WRA	**Warramunga Arr**	**49.79**	**125**	P		**P**		**15 09 44.4**	**-1.2**
	1.3nm,0.8s,baz=305,slow=8.6,SNR=11								
WRA				pP		**pP**		**15 09 55.8**	**+0.3**
	2.5nm,0.5s,baz=302,slow=8.9,SNR=9.7								
WRAB	**Tennant Creek**	**49.79**	**125**	*e*P		**P**		**15 09 44.5**	**-1.1**
WRAB				*e*pP		**pP**		**15 09 56.0**	**+0.4**
AS31	**Alice Springs**	**51.40**	**129**	*e*P		**P**		**15 09 55.5**	**-2.2**
ASAR	**Alice Springs**	**51.40**	**129**	P		**P**		**15 09 56.6**	**-1.1**
	1.4nm,0.8s,baz=302,slow=8.0,SNR=18								
ASAR				pP		**pP**		**15 10 08.1**	**+0.3**
	2.5nm,0.6s,baz=305,slow=7.2,SNR=15								
ASAR				PcP		**PcP**		**15 11 12.5**	**+0.4**
	1.0nm,0.6s,baz=305,slow=3.5,SNR=9.3								
GUMO	**Guam**	**51.51**	**79**	LR		LR		15 31 41.2	
	comp=Z,20nm,18.3s,baz=216,slow=36								
KMBO	**Kilima Mbogo**	**55.95**	**263**	LR		LR		15 32 16.9	
	comp=Z,29nm,19.3s,baz=112,slow=34								
BRTR	**Keskin Array B**	**60.96**	**311**	P		**P**		**15 11 05.2**	**-0.8**
	2.2nm,0.8s,baz=123,slow=7.4,SNR=13								
STKA	**Stephens Creek**	**61.55**	**133**	P		**P**		**15 11 09.8**	**-0.1**
	0.9nm,0.6s,baz=312,slow=4.1,SNR=6.2								
FINES	**FINESS Array B**	**71.58**	**332**	P		**P**		**15 12 12.5**	**-0.9**
	2.0nm,0.6s,baz=116,slow=8.7,SNR=8.1								
ARCES	**ARCESS Array B**	**74.30**	**340**	P		**P**		**15 12 28.9**	**-0.6**
	1.6nm,0.8s,baz=101,slow=6.3,SNR=3.8								
GERES	**GERESS Array B**	**76.45**	**318**	P		**P**		**15 12 42.2**	**-0.1**
	1.6nm,0.7s,baz=89,slow=5.5,SNR=13								
GERES				pP		**PcP**		**15 12 53.3**	**-0.6**
	1.3nm,0.8s,baz=85,slow=4.4,SNR=4.1								
NB2	**NORSAR Subarra**	**78.57**	**331**	P		**P**		**15 12 52.2**	**-1.6**
	comp=Z,1.0nm,0.6s,baz=98,slow=5.1								
NOA	**NORSAR Array B**	**78.57**	**331**	P		**P**		**15 12 52.7**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=94,slow=5.6,SNR=5.6								
ILAR	**Eielson Array**	**94.88**	**22**	P		**P**		**15 14 12.4**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=296,slow=3.9,SNR=6.4								
PDAR	**Pinedale Array**	**125.26**	**20**	PKP		**PKPdf**		**15 19 53.1**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=16,slow=2.2,SNR=5.2								
NVAR	**Mina Array Bea**	**125.28**	**30**	PKP		**PKPdf**		**15 19 53.7**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=309,slow=2.9,SNR=5.2								
NVAR				pPKP		**pPKPdf**		**15 20 05.1**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=260,slow=4.0,SNR=4.0								

*NIED **20** 15:12:00,44.˚90N×149.˚10E,h165km,Mw4.2 Best double couple: M0 2.45000×10^15 NP1:φs7.00000°, δ22.00000°,λ-172.00000°. NP2:φs270.00000°, δ87.00000°,λ-68.00000°.*

*ISCJB **20** 15:12:12.5±0.5,45.˚29N±0.˚05×149.˚25E±0.˚07,h150km, mb3.7/13,Error ellipse: s-maj=9.1km s-min=3.9km az=41.2*

*MOS **20** 15:12:13.0±1.2,45.˚47N×149.˚23E,h155km,mb4.2/4,Error ellipse: s-maj=14.6km s-min=8.9km az=66.0*

*SKHL **20** 15:12:15.3±0.8,45.˚50N×149.˚07E,h148km±4km,mb4.9/6, msh5.6/4*

*IDC **20** 15:12:15.5±2.3,45.˚59N×149.˚10E,h155km±20km, mb3.4/12,mb1 3.5/16,mb1mx3.4/44,mbtmp3.9/16,MS3.5/1, Ms1 3.5/1,ms1mx2.4/31,Error ellipse: s-maj=20.8km s-min=14.6km az=114.0*

*JMA **20** 15:12:17.0±0.4,44.˚92N×149.˚08E,h156km,M4.1*

ISC 20 15:12:11.9±0.8,**45.˚15N**±0.˚08×**149.˚41E**±0.˚08,**h150**km,**n97,** σ1§**97**/107,**mb3.6**/13,**5C-6D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.09**	**275**	*d i* PN	**Pn**	**15 12 39.0**	**+1.6**
KUR				*i* S	**Sn**	**15 12 58.9**	**+2.0**
KUR				pmax	pmax		
	comp=E,3.0nm,0.4s						
KUR				pmax	pmax		
	comp=Z,77nm,0.4s						
KUR				pmax	pmax		
	comp=N,29nm,0.2s						
KUR				smax	smax		
	comp=N,87nm,0.2s						
KUR				smax	smax		
	comp=E,279nm,0.2s						
KUR	**Kuril'sk**	**1.09**	**275**	⇓ *i* P	**Pn**	**15 12 39.0**	**+1.6**
KUR				AMB	AMB	15 12 39.5	
	comp=E,210nm,0.3s						
KUR				*i* S	**Sn**	**15 12 57.4**	**+0.5**
KUR				A	A	15 13 01.0	
	comp=E,760nm,0.5s						
KUR				A	A	15 13 01.0	
	comp=E,230nm,0.5s						
SHO	**Shikotan**	**2.25**	**236**	*e*P	**Pn**	**15 12 52.1**	**+2.2**
SHO				AMB	AMB	15 12 52.8	
	comp=E,180nm,0.3s						
SHO				*e*S	**Sn**	**15 13 19.1**	**0.0**
SHO				A	A	15 13 22.2	
	comp=E,530nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.77**	**247**	*i* PN	**Pn**	**15 12 58.9**	**+2.6**
YUK	**Yuzh-Kuril'sk**	**2.77**	**247**	⇓ *i* P	**Pn**	**15 12 58.9**	**+2.6**
YUK				AMB	AMB	15 12 59.3	
	comp=E,50nm,0.5s						
YUK				AMB	AMB	15 12 59.3	
	comp=E,60nm,0.5s						
YUK				AMB	AMB	15 12 59.3	
	comp=E,510nm,0.5s						
YUK				*i* S	**Sn**	**15 13 31.1**	**+0.6**
YUK				A	A	15 13 33.9	
	comp=E,210nm,0.4s						
YUK				A	A	15 13 33.9	
	comp=E,410nm,0.4s						
NEM2	**Nemuro 2**	**3.18**	**237**	P	**Pn**	**15 13 03.1**	**+1.6**
NEM2				*e*S	**Sn**	**15 13 38.6**	**-1.3**
JRA	**Rausu**	**3.30**	**250**	P	**Pn**	**15 13 05.4**	**+2.4**
JRA				*e*S	**Sn**	**15 13 43.7**	**+1.2**
JNK	**Nakash**	**3.71**	**247**	P	**Pn**	**15 13 10.5**	**+2.2**
JAK	**Akkeshi**	**4.02**	**239**	P	**Pn**	**15 13 13.7**	**+1.3**
JAK				*e*S	**Sn**	**15 13 57.6**	**-1.7**
JTKR	**Abashiri--Toko**	**4.10**	**255**	P	**Pn**	**15 13 15.4**	**+2.0**
JTKR				*e*S	**Sn**	**15 14 01.0**	**-0.3**
JAR	**Ashorobuto**	**4.46**	**247**	P	**Pn**	**15 13 20.5**	**+2.4**
JMP	**Maruseppu**	**4.47**	**257**	P	**Pn**	**15 13 20.1**	**+1.8**
JOB	**Onbets**	**4.61**	**243**	P	**Pn**	**15 13 22.0**	**+2.0**
JOB				*e*S	**Sn**	**15 14 12.0**	**-1.1**
HRK	**Horoka**	**4.81**	**252**	*e*P	**Pn**	**15 13 25.2**	**+2.4**
JKK2	**Kamakawa 2**	**4.93**	**257**	P	**Pn**	**15 13 26.6**	**+2.2**
JKA	**Kamikawa-asahi**	**4.97**	**260**	*e*P	**Pn**	**15 13 27.1**	**+2.3**
YSS	**Yuzh-Sakhalins**	**4.97**	**294**	⇑ *e*PN	**Pn**	**15 13 24.0**	**-0.8**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS	**Yuzh-Sakhalins**	**4.97**	**294**	⇑ *e*P	**Pn**	**15 13 24.5**	**-0.3**
YSS				AMB	AMB	15 13 25.2	
	comp=Z,30nm,0.8s						
ASAJ	**Asahikawa**	**4.97**	**260**	P	**Pn**	**15 13 27.2**	**+2.4**
ASAJ	**Asahikawa**	**4.97**	**260**	P	**Pn**	**15 13 27.1**	**+2.2**
	baz=111,slow=8.6						
ASAJ				S	**Sn**	**15 14 21.1**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=66,slow=18,SNR=2.7						
ASAJ	**Asahikawa**	**4.97**	**260**	PN	**Pn**	**15 13 27.1**	**+2.2**
ASAJ				S	**Sn**	**15 14 21.1**	**-0.6**
ASAJ				smax	smax		
	comp=N,1.0nm,0.3s						
JCH	**Churui**	**5.05**	**242**	P	**Pn**	**15 13 27.2**	**+1.3**
JCH				*e*S	**Sn**	**15 14 21.3**	**-2.4**
MYR	**Moyori**	**5.28**	**239**	*e*P	**Pn**	**15 13 30.3**	**+1.4**
JFR	**Furan**	**5.29**	**250**	P	**Pn**	**15 13 31.4**	**+2.3**
JEM	**Erimo**	**5.52**	**238**	P	**Pn**	**15 13 34.4**	**+2.3**
ERM	**Erimo**	**5.52**	**238**	⇑ *e*PN	**Pn**	**15 13 34.5**	**+2.4**
ERM	**Erimo**	**5.52**	**238**	*e*P	**Pn**	**15 13 34.5**	**+2.4**
JBT2	**Biratori 2**	**5.61**	**247**	P	**Pn**	**15 13 34.7**	**+1.4**
JNBK	**Urakawa-nobuka**	**5.61**	**242**	P	**Pn**	**15 13 33.8**	**+0.4**
JNBK				*e*S	**Sn**	**15 14 33.5**	**-3.5**
JEW	**Eniwo**	**6.19**	**251**	P	**Pn**	**15 13 43.3**	**+2.3**
UGL	**Uglegorsk**	**6.36**	**311**	⇓ *i* P	**Pn**	**15 13 43.4**	**+0.1**
UGL				AMB	AMB	15 13 44.0	
	comp=N,50nm,0.5s						
JNB	**Noboribetsu**	**6.62**	**249**	P	**Pn**	**15 13 47.6**	**+0.8**
JNB				*e*S	**Sn**	**15 14 58.4**	**-2.8**
JKB	**Kayabe**	**6.91**	**245**	P	**Pn**	**15 13 50.7**	**+0.1**
JKB				*e*S	**Sn**	**15 15 03.2**	**-4.8**
SKR	**Severo-Kuril's**	**7.13**	**37**	*e*PN	**Pn**	**15 13 51.2**	**-2.3**
SKR				*e*S	**Sn**	**15 15 09.1**	**-4.2**
SKR				pmax	pmax		
	comp=N,30nm,0.3s						
SKR				pmax	pmax		
	comp=Z,50nm,0.3s						
SKR				smax	smax		
	comp=N,110nm,1.0s						
SKR				smax	smax		
	comp=E,110nm,1.0s						
SKR	**Severo-Kuril's**	**7.13**	**37**	⇑ *i* P	**Pn**	**15 13 51.5**	**-2.0**
SKR				AMB	AMB	15 13 55.7	
	comp=E,30nm,0.3s						
SKR				AMB	AMB	15 13 55.7	
	comp=E,50nm,0.3s						
SKR				*e*S	**Sn**	**15 15 07.7**	**-5.6**
SKR				A	A	15 15 15.1	
	comp=E,120nm,0.2s						
JSH	**Shimam**	**7.21**	**253**	P	**Pn**	**15 13 56.2**	**+1.5**
JYM2	**Yakumo 2**	**7.22**	**248**	P	**Pn**	**15 13 55.3**	**+0.5**
JYM2				*e*S	**Sn**	**15 15 11.8**	**-3.8**
TYV	**Tymovskoe**	**7.29**	**324**	⇑ *e*P	**Pn**	**15 13 57.0**	**+1.4**
JSR	**Shiriuchi**	**7.49**	**244**	P	**Pn**	**15 13 58.6**	**+0.3**
JSR				*e*S	**Sn**	**15 15 17.5**	**-4.4**
JTM	**Tenmabayashi**	**7.51**	**237**	P	**Pn**	**15 13 58.7**	**0.0**
JTM				*e*S	Sn	15 15 16.1	-6.5
JANG	**Nango**	**7.52**	**233**	P	**Pn**	**15 13 58.3**	**-0.5**
JANG				*e*S	Sn	15 15 16.4	-6.3
JTH	**Tanohata**	**7.62**	**230**	P	**Pn**	**15 13 59.9**	**-0.3**
JOSM	**Okushiri--Mats**	**7.83**	**250**	P	**Pn**	**15 14 03.6**	**+0.6**
OFUJ	**Ofunato**	**8.36**	**226**	P	**Pn**	**15 14 10.5**	**+0.5**
JRG	**Rokugo**	**8.68**	**232**	P	**Pn**	**15 14 14.8**	**+0.5**
JRG				*e*S	**Sn**	**15 15 47.5**	**-3.2**
JIO	**Ouri**	**9.00**	**225**	P	**Pn**	**15 14 18.6**	**+0.1**
JIO				*e*S	**Sn**	**15 15 53.4**	**-4.9**
PETK	**Petropavlovsk-**	**9.63**	**31**	P	**Pn**	**15 14 26.6**	**-0.3**
	comp=E,1.7nm,0.3s,baz=189,slow=12,SNR=43						
PETK				S	**Sn**	**15 16 17.9**	**+4.4**
	baz=172,slow=32,SNR=2.0						
JYA	**Atsumi**	**9.75**	**231**	P	**Pn**	**15 14 29.5**	**+0.9**
PET	**Petropavlovsk**	**9.93**	**34**	⇓ *e*PN	**Pn**	**15 14 30.9**	**+0.1**
PET	**Petropavlovsk**	**9.93**	**34**	*e*P	**Pn**	**15 14 30.9**	**+0.1**
MAJO	**Matsushiro**	**12.07**	**228**	⇓ *e*PN	**Pn**	**15 15 01.4**	**+2.4**
MAJO	**Matsushiro**	**12.07**	**228**	*e*P	**Pn**	**15 15 01.4**	**+2.4**
MJAR	**Matsushiro Arr**	**12.07**	**228**	P	**Pn**	**15 15 00.7**	**+1.7**
	comp=E,0.2nm,0.3s,baz=23,slow=12,SNR=4.4						
USRK	**Ussuriysk Ar.**	**12.44**	**272**	P	**Pn**	**15 15 03.8**	**+0.1**
	comp=E,0.2nm,0.3s,baz=92,slow=13,SNR=5.2						
EKMR	**Ekimchan**	**13.35**	**312**	*e*P	**Pn**	**15 15 13.0**	**-2.4**
YASR	**Yasnyy**	**16.15**	**308**	*e*P	Pn	15 15 43.6	-6.6
BMKR	**Bomnak**	**16.28**	**313**	*e*P	**Pn**	**15 15 50.2**	**-1.5**
KSRS	**Korea Array**	**17.85**	**252**	P	**Pn**	**15 16 12.7**	**+2.0**
	comp=E,0.1nm,0.3s,baz=49,slow=12,SNR=3.9						
SEY	**Seymchan**	**17.90**	**4**	P	**P**	**15 16 09.1**	**-0.5**
	comp=E,0.1nm,0.3s,baz=184,slow=12,SNR=6.3						
SEY	**Seymchan**	**17.90**	**4**	P	**Pn**	**15 16 11.0**	**-0.1**
SEY	**Seymchan**	**17.90**	**4**	*e*P	**Pn**	**15 16 11.0**	**-0.1**
YAK	**Yakutsk**	**20.42**	**333**	*e*P	**P**	**15 16 35.0**	**-1.9**
YAK	**Yakutsk**	**20.42**	**333**	*e*P	**P**	**15 16 35.0**	**-1.9**
H11N2	**WAKE ISLAND Hy**	**29.20**	**145**	T	T	15 49 15.4	
	baz=334,slow=76,SNR=96						
H11N1	**WAKE ISLAND Hy**	**29.22**	**145**	T	T	15 49 18.0	
	baz=334,slow=76,SNR=46						
H11N3	**WAKE ISLAND Hy**	**29.22**	**145**	T	T	15 49 18.0	
	baz=334,slow=76,SNR=69						
H11S1	**WAKE ISLAND Hy**	**30.23**	**146**	T	T	15 50 34.8	
	baz=336,slow=76,SNR=62						
H11S3	**WAKE ISLAND Hy**	**30.23**	**146**	T	T	15 50 37.7	
	baz=336,slow=76,SNR=62						
H11S2	**WAKE ISLAND Hy**	**30.24**	**146**	T	T	15 50 35.1	
	baz=336,slow=76,SNR=54						
ILAR	**Eielson Array**	**39.40**	**37**	P	**P**	**15 19 28.6**	**+2.1**
	comp=E,0.2nm,0.5s,baz=268,slow=7.0,SNR=5.3						
ILAR	**Eielson Array**	**39.40**	**37**	*e*P	P	15 19 30.9	+4.4
ILAR	**Eielson Array**	**39.40**	**37**	*e*P	P	15 19 30.9	+4.4
INK	**Inuvik**	**44.37**	**31**	LR	LR	15 40 27.4	
	comp=E,58nm,19.1s,baz=204,slow=38						
MKAR	**Makanchi Array**	**45.37**	**297**	P	**P**	**15 20 15.2**	**+0.2**
	comp=E,1.1nm,0.7s,baz=76,slow=8.3,SNR=12						
MKAR	**Makanchi Array**	**45.37**	**297**	*e*P	**P**	**15 20 16.0**	**+1.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**45.37**	**297**	*e*P	**P**	**15 20 16.0**	**+1.0**
BVAR	**Borovoye Array**	**49.87**	**309**	P	**P**	**15 20 48.9**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=98,slow=7.4,SNR=3.3						
ARCES	**ARCESS Array B**	**58.49**	**340**	P	**P**	**15 21 50.6**	**-1.0**
	comp=Z,2.7nm,0.9s,baz=34,slow=6.6,SNR=3.2						
ARCES	**ARCESS Array B**	**58.49**	**340**	P	**P**	**15 21 50.6**	**-1.0**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**64.35**	**334**	P	**P**	**15 22 30.1**	**-0.9**
	comp=Z,2.3nm,0.6s,baz=25,slow=7.9,SNR=13						
FINES	**FINESS Array B**	**64.35**	**334**	*i* P	**P**	**15 22 30.1**	**-0.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GEYT	**Alibeck**	**65.17**	**299**	P	**P**	**15 22 37.6**	**+0.8**
	comp=Z,2.3nm,0.6s,baz=90,slow=4.4,SNR=5.4						
WRA	**Warramunga Arr**	**66.22**	**196**	P	P	15 22 48.2	+4.7
	comp=Z,0.3nm,0.5s,baz=12,slow=6.5,SNR=4.3						
NB2	**NORSAR Subarra**	**68.86**	**340**	P	**P**	**15 22 59.3**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.86**	**340**	P	**P**	**15 22 59.2**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=29,slow=6.5,SNR=4.2						
NOA	**NORSAR Array B**	**68.86**	**340**	*e*P	**P**	**15 22 59.5**	**-0.2**
NOA	**NORSAR Array B**	**68.86**	**340**	*e*P	**P**	**15 22 59.5**	**-0.2**
ASAR	**Alice Springs**	**69.93**	**195**	P	P	15 23 12.3	+5.7
	comp=Z,0.2nm,0.7s,baz=14,slow=6.3,SNR=6.0						
KIV	**Kislovodsk**	**70.02**	**313**	*e*P	**P**	**15 23 09.7**	**+2.5**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KIV	**Kislovodsk**	**70.02**	**313**	*e*P	**P**	**15 23 09.7**	**+2.5**
KBZ	**Khabaz**	**70.06**	**312**	P	**P**	**15 23 07.7**	**+0.4**
	comp=Z,2.6nm,0.8s,baz=1.9,slow=4.3,SNR=3.9						
KBZ	**Khabaz**	**70.06**	**312**	P	**P**	**15 23 07.7**	**+0.4**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRTR	**Keskin Array B**	**77.73**	**315**	P	**P**	**15 23 53.8**	**+1.6**
	comp=Z,0.9nm,0.7s,baz=122,slow=4.0,SNR=5.2						
BRTR	**Keskin Array B**	**77.73**	**315**	*e*P	**P**	**15 23 54.1**	**+1.9**
GERES	**GERESS Array B**	**78.70**	**332**	P	**P**	**15 23 57.7**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=34,slow=5.0,SNR=5.7						
GERES	**GERESS Array B**	**78.70**	**332**	*e*P	**P**	**15 23 58.2**	**+0.9**
GERES	**GERESS Array B**	**78.70**	**332**	*e*P	**P**	**15 23 58.2**	**+0.9**

*IDC **20** 15:22:56.3±1.4,52.˚51N×169.˚91W,h0km,mb3.9/6, mb1 4.1/7,mb1mx3.6/51,mbtmp3.8/7,ML3.5/1,Error ellipse: s-maj=68.9km s-min=22.7km az=154.0*

*ISCJB **20** 15:22:57.0±0.6,52.˚6N±0.˚1×169.˚77W±0.˚09,h10km, mb3.8/6,Error ellipse: s-maj=15.9km s-min=4.3km az=153.9*

*NEIC **20** 15:22:57.3,52.˚64N×169.˚70W,h5km,ML3.5(AEIC),After AEIC.*

ISC 20 15:22:58.2±0.8,**52.˚7N**±0.˚1×**169.˚75W**±0.˚07,**h10**km,**n32,** σ1§**08**/30,**mb3.7**/6,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.60**	**64**	P	**Pg**	**15 23 09.4**	**-0.5**
NIKH				S	**Sb**	**15 23 18.2**	**-1.2**
OKSP	**Okmok Steeple**	**1.04**	**58**	P	**Pg**	**15 23 17.4**	**-0.7**
OKSP				S	**Sg**	**15 23 31.5**	**0.0**
OKWR	**Okmok West Rim**	**1.18**	**52**	P	**Pg**	**15 23 20.6**	**-0.2**
OKCE	**Okmok Cone E**	**1.20**	**53**	P	**Pn**	**15 23 20.2**	**-0.8**
OKAK	**Okmok**	**1.21**	**44**	P	**Pn**	**15 23 18.6**	**-2.5**
MSOM	**Makushin Julie**	**2.01**	**56**	P	**Pn**	**15 23 32.0**	**-0.2**
MSOM				S	**Sb**	**15 23 59.8**	**-0.1**
MCIR	**Makushin Cirqu**	**2.12**	**53**	P	**Pn**	**15 23 34.1**	**+0.4**
MSW	**Makushin Switc**	**2.15**	**55**	P	**Pn**	**15 23 34.4**	**+0.3**
MTBL	**Makushin Table**	**2.23**	**54**	P	**Pn**	**15 23 36.1**	**+0.8**
UNV	**Unalaska Valle**	**2.26**	**59**	P	**Pn**	**15 23 36.2**	**+0.7**
UNV				S	**Sn**	**15 24 04.4**	**+1.0**
AHB	**Akutan Harbor**	**2.74**	**58**	P	**Pn**	**15 23 43.2**	**+1.0**
ATKA	**Atka Island**	**2.77**	**261**	P	**Pn**	**15 23 42.3**	**-0.2**
AKUT	**Akutan**	**2.77**	**58**	*e*Pn	**Pn**	**15 23 44.6**	**+2.0**
GSTR	**Great Sitkin T**	**3.91**	**263**	*e*Pn	**Pn**	**15 23 58.5**	**+0.2**
GSMY	**Great Sitkin M**	**3.92**	**263**	P	**Pn**	**15 23 59.4**	**+1.0**
GSCK	**Great Sitkin C**	**3.99**	**262**	P	**Pn**	**15 23 59.8**	**+0.4**
FALS	**False Pass**	**4.33**	**58**	P	**Pn**	**15 24 04.8**	**+0.9**
SPIA	**Saint Paul Isl**	**4.48**	**357**	P	**Pn**	**15 24 07.2**	**+1.1**
RSO	**Redoubt South**	**12.14**	**44**	*e*Pn	**Pn**	**15 25 51.5**	**+0.4**
	42nm,0.3s						
ILAR	**Eielson Array**	**16.80**	**35**	P	**P**	**15 26 54.2**	**-1.2**
	0.1nm,0.3s,baz=222,slow=12,SNR=2.8						
DLBC	**Dease Lake**	**22.91**	**60**	P	**P**	**15 28 04.5**	**+2.5**
	2.2nm,0.8s,baz=256,slow=11,SNR=5.5						
H11N2	**WAKE ISLAND Hy**	**37.58**	**218**	T	T	16 09 57.0	
	baz=24,slow=76,SNR=8.4						
H11N3	**WAKE ISLAND Hy**	**37.59**	**218**	T	T	16 09 56.6	
	baz=24,slow=76,SNR=8.1						
H11N1	**WAKE ISLAND Hy**	**37.60**	**218**	T	T	16 09 57.0	
	baz=24,slow=76,SNR=6.9						
NVAR	**Mina Array Bea**	**37.90**	**91**	P	**P**	**15 30 15.7**	**+0.1**
	0.4nm,0.6s,baz=287,slow=9.3,SNR=3.7						
H11S1	**WAKE ISLAND Hy**	**38.77**	**217**	T	T	16 11 21.5	
	baz=22,slow=76,SNR=32						
H11S2	**WAKE ISLAND Hy**	**38.79**	**217**	T	T	16 11 24.0	
	baz=22,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	**38.79**	**217**	T	T	16 11 29.6	
	baz=22,slow=76,SNR=26						
PDAR	**Pinedale Array**	**40.57**	**79**	P	**P**	**15 30 38.1**	**+0.3**
	1.0nm,0.5s,baz=333,slow=3.5,SNR=10						
TXAR	**Lajitas Array**	**52.97**	**89**	P	**P**	**15 32 15.3**	**+0.4**
	1.9nm,0.7s,baz=302,slow=5.2,SNR=18						
WRA	**Warramunga Arr**	**87.04**	**231**	P	**P**	**15 35 42.0**	**-1.8**
	0.2nm,0.5s,baz=35,slow=6.0,SNR=4.6						
ASAR	**Alice Springs**	**90.44**	**230**	P	**P**	**15 35 58.9**	**-0.8**
	1.2nm,0.7s,baz=32,slow=4.6,SNR=12						

*IDC **20** 15:25:13.4±0.9,19.˚52S×176.˚56W,h0km,mb4.1/10, mb1 4.3/10,mb1mx4.0/33,mbtmp4.1/10,MS3.7/18, Ms1 3.7/18,ms1mx3.6/32,Error ellipse: s-maj=43.5km s-min=20.1km az=149.0*

*ISCJB **20** 15:25:16.4±0.9,19.˚8S±0.˚2×176.˚4W±0.˚1,h33km,mb4.1/11, MS3.7/15,Error ellipse: s-maj=31.7km s-min=14.1km az=159.3*

*NEIC **20** 15:25:23.7±3.5,19.˚45S×176.˚70W,h74km±25km,mb4.3/2, Error ellipse: s-maj=40.7km s-min=14.5km az=143.0*

ISC 20 15:25:18.5±0.8,**19.6S**±0.˚2×**176.˚4W**±0.˚1,**h35**km,**n35,** σ1§**01**/21,**mb4.0**/11,**MS3.6**/15,**Fiji Islands region**

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC |

OKWR	Okmok West Rim	1.20	54	P		Pg	15 25 55.5	+0.1
OKCE	Okmok Cone E	1.22	55	P		Pg	15 25 54.9	-0.8
OKCE				S		Sn	15 26 13.0	0.0
OKAK	Okmok	1.22	46	P		Pg	15 25 53.6	-2.1
OKTU	Okmok Mt. Tuli	1.25	58	P		Pg	15 25 55.9	-0.6
MSOM	Makushin Julie	2.04	57	P		Pn	15 26 07.7	+0.3
MSOM				S		Sn	15 26 34.3	+1.2
MCIR	Makushin Cirqu	2.14	54	P		Pn	15 26 09.3	+0.5
MSW	Makushin Switc	2.17	56	P		Pn	15 26 09.4	+0.1
MSW				S		Sb	15 26 38.8	-0.6
MTBL	Makushin Table	2.25	55	P		Pn	15 26 11.0	+0.6
UNV	Unalaska Valle	2.28	59	P		Pn	15 26 10.6	-0.2
UNV				S		Sn	15 26 38.4	-0.8
AKRB	Akutan Reef Bi	2.64	57	P		Pn	15 26 16.5	+0.8
AKRB				S		Sn	15 26 50.5	+2.3
ZRO	Akutan Zero	2.67	58	P		Pn	15 26 16.8	+0.7
AKGG	Akutan Green G	2.72	56	P		Pn	15 26 17.1	+0.4
AKGG				S		Sn	15 26 52.5	+2.5
ATKA	Atka Island	2.73	260	P		Pn	15 26 16.9	0.0
ATKA				S		Sn	15 26 51.2	+1.0
AKUT	Akutan	2.80	58	eP		Pn	15 26 19.1	+1.3
GSMY	Great Sitkin M	3.88	262	P		Pn	15 26 33.8	+1.0
GSCK	Great Sitkin C	3.96	262	P		Pn	15 26 34.9	+1.2
ADAG	Mount Adagdak	4.23	262	P		Pn	15 26 39.2	+1.8
FALS	False Pass	4.35	58	eP		Pn	15 26 39.3	+0.2
SPIA	Saint Paul Isl	4.46	357	P		Pn	15 26 42.0	+1.3
ILAR	Eielson Array	16.81	35	Pn		Pn	15 29 25.2	-3.0
	0.1nm,0.3s,baz=223,slow=12,SNR=3.0							
EGAK	Eagle	18.93	39	eP		Pn	15 29 55.3	+0.9
	2.3nm,0.6s							
HYT	Haines Junctio	19.29	52	eP		Pn	15 29 59.5	+0.5
	9.7nm,0.8s							
PETK	Petropavlovsk-	19.50	284	P		Pn	15 30 01.8	+0.4
	0.2nm,0.3s,baz=84,slow=15,SNR=3.6							
SEY	Seymchan	22.22	312	P		P	15 30 29.8	+0.3
	2.8nm,1.0s,baz=132,slow=12,SNR=4.2							
DLBC	Dease Lake	22.93	60	P		P	15 30 39.9	+2.7
	1.9nm,0.6s,baz=278,slow=8.3,SNR=4.1							
YKA	Yellowknife Ar	30.21	49	P		P	15 31 43.8	+0.4
	0.2nm,0.4s,baz=273,slow=7.9,SNR=3.5							
MCMT	McKenzie Canyo	37.47	79	eP		P	15 32 46.7	-0.3
	0.8nm,0.5s							
H11N2	WAKE ISLAND Hy	37.57	218	T		T	16 12 32.1	
	baz=24							
H11N3	WAKE ISLAND Hy	37.58	218	T		T	16 12 33.5	
	baz=24							
H11N1	WAKE ISLAND Hy	37.59	218	T		T	16 12 32.9	
	baz=24							
NVAR	Mina Array Bea	37.94	91	P		P	15 32 51.5	+0.5
	0.8nm,1.0s,baz=292,slow=7.8,SNR=5.2							
H11S1	WAKE ISLAND Hy	38.77	217	T		T	16 13 58.3	
	baz=21							
H11S2	WAKE ISLAND Hy	38.78	217	T		T	16 14 02.3	
	baz=21							
H11S3	WAKE ISLAND Hy	38.78	217	T		T	16 14 03.9	
	baz=21							
PDAR	Pinedale Array	40.60	79	P		P	15 33 13.4	+0.2
	1.6nm,0.6s,baz=333,slow=4.2,SNR=15							
WUAZ	Wupatki	44.05	89	eP		P	15 33 42.2	+1.0
	4.1nm,0.7s							
SDCO	Great Sand Dun	46.14	82	eP		P	15 33 58.5	+0.5
	1.1nm,0.7s							
WMOK	Wichita Mounta	52.19	80	eP		P	15 34 42.2	-1.8
	3.3nm,0.9s							
TXAR	Lajitas Array	53.02	89	P		P	15 34 50.2	-0.1
	3.2nm,0.7s,baz=292,slow=6.6,SNR=16							
CMAR	Chiang Mai Arr	76.27	282	P		P	15 37 20.9	-1.3
	0.6nm,0.7s,baz=36,slow=7.8,SNR=5.1							
WRA	Warramunga Arr	87.02	231	P		P	15 38 17.2	-1.6
	1.0nm,0.8s,baz=32,slow=6.1,SNR=4.8							
ASAR	Alice Springs	90.42	230	P		P	15 38 34.1	-0.6
	2.7nm,0.8s,baz=33,slow=4.4,SNR=24							

*ISCJB **20** 15:26:50.3±0.7,52.6°N±0.1°×169.5°W±0.1°,h10km,mb3.7/6, Error ellipse: s-maj=18.8km s-min=6.0km az=139.1*
*IDC **20** 15:26:50.2±1.0,52.50°N×169.45°W,h0km,mb3.8/6, mb1 4.0/8,mb1mx3.6/45,mbtmp3.7/8,ML3.0/2,Error ellipse: s-maj=37.6km s-min=19.6km az=159.0*
*NEIC **20** 15:26:54.9,52.87°N×169.43°W,h8km,mb3.8/1, ML3.6(AEIC),After AEIC.*

ISC 20 15:26:52.8±1.3,52.7°N±0.2°×169.4°W±0.1°,h10km,n26, σ1°13/19,mb3.8/6,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.44	55	P	Pb	15 27 03.3	+0.7
NIKH				S	Sb	15 27 08.6	-0.7
OKCE	Okmok Cone E	1.04	47	P	Pg	15 27 12.6	-0.4
OKCE				S	Sn	15 27 28.7	+0.5
OKAK	Okmok	1.08	37	P	Pg	15 27 11.1	-2.5
MSOM	Makushin Julie	1.85	53	P	Pn	15 27 25.1	+0.4
MSOM				S	Sn	15 27 48.6	+0.5
MSW	Makushin Switc	1.99	52	P	Pn	15 27 27.5	+0.9
MTBL	Makushin Table	2.07	52	P	Pn	15 27 28.2	+0.5
UNV	Unalaska Valle	2.09	56	P	Pn	15 27 28.6	+0.7
UNV				S	Sn	15 27 55.1	+1.2
BPAW	Bear Paw Mtn.	14.87	33	P	Pn	15 30 24.5	+1.6
	0.9nm,0.7s						
ILAR	Eielson Array	16.68	35	Pn	Pn	15 30 44.8	-1.6
	0.0nm,0.3s,baz=231,slow=9.4,SNR=2.7						
HYT	Haines Junctio	19.12	52	eP	P	15 31 16.7	+1.0
	4.2nm,0.6s						
PETK	Petropavlovsk-	19.73	284	P	P	15 31 23.0	+0.7
	0.1nm,0.3s,baz=96,slow=12,SNR=2.5						
H02N1	VAN INLET T-PH	22.07	74	T	T	15 54 26.6	
H02S1	DAWSON INLET T	22.12	74	T	T	15 54 36.0	
YKA	Yellowknife Ar	30.04	49	P	P	15 33 01.8	+0.2
	0.3nm,0.5s,baz=271,slow=7.9,SNR=4.1						
H11N2	WAKE ISLAND Hy	37.70	218	T	T	16 14 07.0	
	baz=24,slow=76,SNR=28						
H11N3	WAKE ISLAND Hy	37.71	218	T	T	16 14 06.1	
	baz=24,slow=76,SNR=43						
NVAR	Mina Array Bea	37.72	91	P	P	15 34 08.7	0.0
	0.5nm,0.6s,baz=310,slow=7.0,SNR=3.3						
H11N1	WAKE ISLAND Hy	37.72	218	T	T	16 14 07.3	
	baz=24,slow=76,SNR=38						
H11S1	WAKE ISLAND Hy	38.89	218	T	T	16 15 34.6	
	baz=22,slow=76,SNR=172						
H11S2	WAKE ISLAND Hy	38.91	218	T	T	16 15 36.3	
	baz=22,slow=76,SNR=363						
H11S3	WAKE ISLAND Hy	38.91	218	T	T	16 15 36.2	
	baz=22,slow=76,SNR=239						
PDAR	Pinedale Array	40.38	79	P	P	15 34 29.6	-1.4
	1.1nm,0.7s,baz=326,slow=5.0,SNR=6.3						
TXAR	Lajitas Array	52.79	89	P	P	15 36 07.0	-1.2
	1.2nm,0.6s,baz=303,slow=5.5,SNR=5.8						
H06E1	SOCORRO T-PHAS	56.29	104	T	T	16 37 16.9	
WRA	Warramunga Arr	87.19	232	P	P	15 39 36.2	-2.9
	0.5nm,0.7s,baz=32,slow=5.9,SNR=3.7						
ASAR	Alice Springs	90.59	230	P	P	15 39 53.9	-1.2
	0.7nm,0.7s,baz=35,slow=4.8,SNR=6.2						

*IDC **20** 15:35:57.9±1.0,52.44°N×169.42°W,h0km,mb3.7/6, mb1 3.9/8,mb1mx3.5/40,mbtmp3.6/8,ML3.3/2,MS3.1/1, Ms1 3.1/1,ms1mx2.4/40,Error ellipse: s-maj=38.2km s-min=19.8km az=159.0*
*NEIC **20** 15:35:58.2,52.59°N×169.42°W,h5km,ML3.5(AEIC),After AEIC.*

ISC 20 15:35:58.6±1.9,52.8°N±0.1°×169.54°W±0.07°,h4km±12km, n33,σ1°18/28,mb3.7/7,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.47	63	P	Pg	15 36 08.9	+1.3
NIKH				S	Sb	15 36 17.9	+1.1
OKWR	Okmok West Rim	1.05	50	P	Pb	15 36 20.2	+0.7
OKCE	Okmok Cone E	1.07	51	P	Pg	15 36 19.3	+0.2
OKCE				S	Sn	15 36 37.6	+1.9
OKAK	Okmok	1.09	41	P	Pg	15 36 18.5	-0.9
OKAK				S	Sg	15 36 32.7	-0.9
OKTU	Okmok Mt. Tuli	1.10	55	P	Pg	15 36 20.1	+0.4
MSOM	Makushin Julie	1.88	55	P	Pn	15 36 30.9	-0.7
MSOM				S	Sb	15 36 57.6	+0.2
MCIR	Makushin Cirqu	1.99	52	P	Pn	15 36 33.2	+0.1
MSW	Makushin Switc	2.02	54	P	Pn	15 36 33.5	0.0
MTBL	Makushin Table	2.10	54	P	Pn	15 36 34.3	-0.4
UNV	Unalaska Valle	2.12	58	P	Pn	15 36 34.1	-0.8
UNV				S	Sn	15 37 02.1	+0.3
AKUT	Akutan	2.64	57	eP	Pb	15 36 44.6	-1.9
ATKA	Atka Island	2.90	261	P	Pn	15 36 45.9	+0.4
GSTR	Great Sitkin T	4.04	263	ePn	Pn	15 37 01.6	+0.2
BPAW	Bear Paw Mtn.	14.88	33	eP	P	15 39 34.9	-0.6
	0.8nm,0.7s						
ILAR	Eielson Array	16.69	35	Pn	Pn	15 39 53.6	+0.5
	0.1nm,0.3s,baz=235,slow=10,SNR=4.5						
PETK	Petropavlovsk-	19.66	284	P	Pn	15 40 30.4	+0.7
	0.3nm,0.3s,baz=83,slow=12,SNR=5.7						
H02N1	VAN INLET T-PH	22.11	74	T	T	16 03 50.9	
H02S1	DAWSON INLET T	22.16	74	T	T	16 03 54.6	
DLBC	Dease Lake	22.78	60	P	P	15 41 05.3	+3.4
	4.2nm,0.8s,baz=300,slow=8.1,SNR=6.0						
YKA	Yellowknife Ar	30.07	49	P	P	15 42 09.4	+0.9
	0.1nm,0.4s,baz=274,slow=7.5,SNR=3.3						
H11N2	WAKE ISLAND Hy	37.70	218	T	T	16 23 01.9	
	baz=23,slow=76,SNR=65						
H11N3	WAKE ISLAND Hy	37.70	218	T	T	16 23 06.4	
	baz=23,slow=75						
H11N1	WAKE ISLAND Hy	37.71	218	T	T	16 23 07.0	
	baz=23,slow=76,SNR=52						
NVAR	Mina Array Bea	37.78	91	P	P	15 43 15.7	-0.2
	0.2nm,0.5s,baz=322,slow=6.9,SNR=2.6						
H11S1	WAKE ISLAND Hy	38.89	218	T	T	16 24 34.8	
	baz=22,slow=76,SNR=853						
H11S2	WAKE ISLAND Hy	38.90	217	T	T	16 24 36.2	
	baz=22,slow=76,SNR=863						
H11S3	WAKE ISLAND Hy	38.90	218	T	T	16 24 36.4	
	baz=22,slow=76,SNR=314						
PDAR	Pinedale Array	40.43	79	P	P	15 43 37.4	-0.8
	0.8nm,0.8s,baz=319,slow=4.9,SNR=5.9						
SPITS	Spitsbergen Ar	49.27	358	LR	LR	16 04 59.4	
	comp=Z,22nm,21.3s,baz=355,slow=35						
TXAR	Lajitas Array	52.85	89	P	P	15 45 14.7	-0.8
	1.8nm,0.7s,baz=316,slow=7.0,SNR=9.9						
H06E1	SOCORRO T-PHAS	56.36	104	T	T	16 46 34.1	
WRA	Warramunga Arr	87.17	231	P	P	15 48 45.8	0.0
	0.3nm,0.7s,baz=36,slow=5.8,SNR=3.5						
ASAR	Alice Springs	90.57	230	P	P	15 48 59.6	-2.3
	0.7nm,0.7s,baz=46,slow=2.8,SNR=5.3						
ASAR				LR	LR	16 24 21.9	
	comp=Z,339nm,21.3s,baz=314,slow=32						

*ISCJB **20** 15:38:21.8±0.5,26.37°S±0.03°×27.50°E±0.04°,h20km±4km, Error ellipse: s-maj=6.0km s-min=4.1km az=24.4*
*PRE **20** 15:38:22.5±1.6,26.37°S×27.41°E,h2km,ML3.7*

ISC 20 15:38:22.2±0.9,26.36S±0.03°×27.45E±0.04°,h11km±5km, n19,σ1°71/38,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDLM	Western Deep L	0.07	201	eS	Sg	15 38 24.6	-2.1
WDLM				eP	Pg	15 38 25.5	+0.7
WDLM				AML	AML	15 38 29.6	
	comp=Z,9μm,0.4s						
KLOF	Kloof	0.14	86	eP	Pg	15 38 25.5	-0.3
KLOF				eS	Sg	15 38 27.5	-0.7
KLOF				AML	AML	15 38 29.6	
	comp=Z,15μm,0.1s						
PRYS	Parys	0.57	188	eP	Pg	15 38 34.1	+0.7
PRYS				eS	Sg	15 38 40.5	-0.4
PRYS				AML	AML	15 38 47.8	
	comp=Z,791nm,0.5s						
KSR	Koster	0.71	315	eP	Pg	15 38 36.1	+0.1
KSR				eS	Sg	15 38 46.0	+0.6
KSR				AML	AML	15 38 56.5	
	comp=Z,302nm,0.2s						
BFSD	Buffelsfontein	0.78	230	eP	Pg	15 38 36.9	-0.4
BFSD				eS	Sg	15 38 47.4	-0.2
BFSD				AML	AML	15 38 52.0	
	comp=Z,858nm,0.4s						
MOAB	Moab Khotsong	0.85	223	eP	Pg	15 38 39.1	+0.3
MOAB				eS	Sg	15 38 50.0	+0.1
MOAB				AML	AML	15 39 01.9	
	comp=Z,975nm,0.7s						
TLEK	Tau Lekoa	0.92	229	eP	Pg	15 38 40.2	+0.2
TLEK				eS	Sg	15 38 51.4	-0.6
TLEK				AML	AML	15 38 58.5	
	comp=Z,1μm,0.3s						
SWZ	Schweizer	2.06	246	eP	Pb	15 38 59.4	-0.4
SWZ				eS	Sn	15 39 24.0	+1.3
SWZ				AML	AML	15 39 28.1	
	comp=Z,614nm,0.5s						
KSD	Kokstad	4.51	158	eP	Pn	15 39 32.6	+2.0
KSD				eS	Sn	15 40 23.8	+0.6
KSD				AML	AML	15 40 46.2	
	comp=Z,76nm,0.4s						
HVD	Gariep Dam	4.56	202	eP	Pn	15 39 32.6	+1.2
HVD				eS	Sn	15 40 25.0	+0.5
HVD				AML	AML	15 40 57.2	
	comp=Z,100nm,0.8s						
MSNA	Messina	4.63	31	eP	Pn	15 39 33.6	+1.3
MSNA				eS	Sn	15 40 25.3	-0.8
MSNA				AML	AML	15 40 49.9	
	comp=Z,111nm,0.8s						
UPI	Upington	5.86	249	eP	Pn	15 39 50.5	+1.4
UPI				eS	Sn	15 40 55.5	-0.9
UPI				AML	AML	15 41 32.9	
	comp=Z,90nm,0.7s						
BLWY	Bulawayo	6.28	10	iP	Pn	15 39 57.0	+2.1
BLWY				*i*		15 39 57.2	
	baz=199,slow=18						
BLWY				*i* S	Sn	15 41 05.1	-1.8
SOE	Somerset East	6.54	194	eP	Pn	15 39 59.3	+0.9
SOE				eS	Sn	15 41 11.6	-1.4
SOE				AML	AML	15 41 46.3	
	comp=Z,35nm,0.6s						
GRM	Grahamstown	6.98	187	eP	Pn	15 40 05.8	+1.4
GRM				eS	Sn	15 41 23.7	-0.1
GRM				AML	AML	15 42 10.7	
	comp=Z,52nm,0.5s						
BUFB	Buffelsbos	8.11	196	eP	Pn	15 40 21.0	+1.1
BUFB				eS	Sn	15 41 49.2	-2.4
BUFB				AML	AML	15 41 51.9	
	comp=Z,6.5nm,0.2s						
CVNA	Calvinia	8.45	231	eP	Pn	15 40 26.2	+1.5
CVNA				eS	Sn	15 41 56.9	-3.2
CVNA				AML	AML	15 42 48.5	
	comp=Z,102nm,0.6s						
KOMG	Komaggas	9.44	246	eP	Pn	15 40 39.9	+1.7
KOMG				eS	Sn	15 42 20.0	-4.5
KOMG				AML	AML	15 43 24.4	
	comp=Z,29nm,0.5s						
ELIM	Elim	10.56	217	eP	Pn	15 40 55.6	+2.1
ELIM				eS	Sn	15 42 47.2	-4.6
ELIM				eS		15 43 41.7	

*NIED **20** 15:40:00,32.40°N×140.70°E,h44km,Mw3.6 Best double couple: M0 2.72000×10^14 NP1:φs266.00000°,δ49.00000°, λ-33.00000°. NP2:φs19.00000°,δ66.00000°, λ-134.00000°.*
*ISCJB **20** 15:40:29.0±0.7,32.20°N±0.04°×140.7E±0.1°,h69km±10km, mb3.5/3,Error ellipse: s-maj=15.8km s-min=6.2km az=164.4*
*JMA **20** 15:40:31.8±0.1,32.38°N×140.70E,h37km,M4.0*
*IDC **20** 15:40:32.0±1.7,32.03°N×140.28E,h79km±22km,mb3.2/3, mb1 3.4/5,mb1mx3.1/37,mbtmp3.7/5,Error ellipse: s-maj=85.4km s-min=10.9km az=71.0*

ISC 20 15:40:30.0±1.3,32.21N±0.06°×140.70E±0.10,h62km±14km, n15,σ1°59/23,mb3.5/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	Hachijojimakas	1.15	319	P	Pn	15 40 50.0	-0.1
JHCJ				S	Sn	15 41 03.2	-1.9
JHJ2	Mitsune	1.17	320	P	Pn	15 40 50.4	0.0
JHJ2				S	Sn	15 41 03.8	-1.7
JKO	Kozu shima	2.37	327	P	Pn	15 41 07.7	+1.2
BSO1	Boso 1	2.45	5	P	Pn	15 41 08.0	+0.9
BSO1				S	Sn	15 41 35.1	-0.5
JNIO	Niijimaoohara	2.45	331	P	Pn	15 41 08.8	+1.1
BSO3	Boso 3	2.59	356	P	Pn	15 41 10.0	+0.7
BSO3				S	Sn	15 41 38.6	-0.9
JIM2	Oshima 3	2.72	337	P	Pn	15 41 12.1	+0.8
JIM2				S	Sn	15 41 42.4	-0.6
JIZS	Izushimoda	2.93	329	P	Pn	15 41 15.6	+1.4
JIZS				S	Sn	15 41 48.4	+0.2
TK02	Tokai 2	3.02	306	P	Pn	15 41 17.1	+1.9
MJAR	Matsushiro Arr	4.79	335	P	Pn	15 41 42.9	+3.2
	3.4nm,0.3s,baz=162,slow=15,SNR=23						
MJAR				S	Sn	15 42 36.4	+2.6
	0.9nm,0.3s,baz=181,slow=22,SNR=4.1						
MAT	Matsushiro	4.79	335	P	Pn	15 41 42.7	+3.1
MAT				S	Sn	15 42 37.1	+3.3
JCJ	Chichijima	5.26	165	P	Pn	15 41 46.6	+0.5
	5.7nm,0.3s,baz=353,slow=19,SNR=12						
JCJ				S	Sn	15 42 46.0	+0.6
	5.4nm,0.3s,baz=270,slow=20,SNR=3.4						
MKAR	Makanchi Array	46.33	306	P	P	15 48 48.5	-1.2
	0.2nm,0.5s,baz=101,slow=7.5,SNR=3.2						
WRA	Warramunga Arr	52.21	188	P	P	15 49 33.6	-1.1
	0.2nm,0.4s,baz=4.0,slow=7.7,SNR=8.1						
FINES	FINESS Array B	72.81	333	P	P	15 51 51.3	-0.3
	2.0nm,1.1s,baz=64,slow=6.5,SNR=2.6						

IDC 20 15:52:41.4±2.5,27.76S×177.98W,h186km±14km, mb3.2/4,mb1 3.4/4,mb1mx3.2/37,mbtmp3.7/4,MS3.8/1, Ms1 3.8/1,ms1mx2.7/9,Error ellipse: s-maj=44.2km s-min=25.2km az=35.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.48	178	P	Pn	15 53 14.2	+0.5
	64nm,0.3s,baz=53,slow=23,SNR=6.8						
RAO				S	Sn	15 53 38.9	0.0
	371nm,0.3s,baz=72,slow=23,SNR=16						
URZ	Urewera	11.25	200	P	Pn	15 55 13.8	-3.2
	baz=292,slow=5.2,SNR=1.6						
URZ				S	Sn	15 57 03.9	-18
	1.1nm,0.3s,baz=3.1,slow=17,SNR=7.9						
CTA	Charters Tower	33.49	275	LR	LR	16 12 55.5	
	comp=Z,141nm,18.6s,baz=246,slow=36						
STKA	Stephens Creek	35.17	253	P	P	15 59 17.9	+0.3
	0.4nm,0.3s,baz=112,slow=11,SNR=3.8						
ASAR	Alice Springs	43.33	264	P	P	16 00 24.9	-0.4
	0.3nm,0.5s,baz=96,slow=7.1,SNR=5.9						
WRA	Warramunga Arr	44.08	269	P	P	16 00 31.1	-0.2
	0.6nm,0.4s,baz=108,slow=7.9,SNR=14						
VNDA	Vanda	50.71	186	P	P	16 01 22.0	+0.4
	0.4nm,0.6s,baz=10,slow=4.7,SNR=5.5						
AKASG	Malin Array Be	149.18	325	PKPbc	PKPbc	16 12 07.1	-0.4
	1.9nm,0.4s,baz=52,slow=2.9,SNR=3.7						
TORD	Torodi Ar. Bea	165.45	179	PKPab	PKPab	16 13 22.1	-1.1
	0.3nm,0.7s,baz=177,slow=3.1,SNR=2.3						

*IDC **20** 15:57:17.9±1.6,52.60°N×169.62°W,h0km,mb3.6/6, mb1 3.9/7,mb1mx3.5/54,mbtmp3.5/7,ML3.6/1,MS3.2/2, Ms1 3.2/2,ms1mx2.5/48,Error ellipse: s-maj=43.2km s-min=27.1km az=133.0*
*NEIC **20** 15:57:19.7,52.67°N×169.43°W,h3km,mb3.7/1, ML3.5(AEIC),After AEIC.*
*ISCJB **20** 15:57:20.3±1.2,52.7°N±0.1°×169.5°W±0.1°,h19km±8km, mb3.6/6,MS3.2/2,Error ellipse: s-maj=19.8km s-min=7.1km az=153.9*

ISC 20 15:57:19.6±3.7,52.7N±0.1°×169.44W±0.07°,h7km±24km, n34,σ1°32/31,mb3.6/6,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.44	54	P	Pb	15 57 29.9	+0.2
NIKH				S	Sb	15 57 37.5	+0.9
OKWR	Okmok West Rim	1.04	45	P	Pn	15 57 41.2	+0.5
OKCE	Okmok Cone E	1.05	47	P	Pb	15 57 40.1	-0.1
OKTU	Okmok Mt. Tuli	1.08	51	P	Pn	15 57 40.8	-0.5
OKAK	Okmok	1.08	37	P	Pn	15 57 39.2	-2.0
OKAK				S	Sb	15 57 53.3	-1.8
MSOM	Makushin Julie	1.86	53	P	Pn	15 57 52.7	+0.8
MSOM				S	Sn	15 58 16.2	+0.6
MCIR	Makushin Cirqu	1.97	50	P	Pn	15 57 54.5	+1.1
MSW	Makushin Switc	2.00	52	P	Pn	15 57 55.3	+1.5
MTBL	Makushin Table	2.08	52	P	Pn	15 57 55.7	+0.6
UNV	Unalaska Valle	2.10	56	P	Pn	15 57 54.8	-0.4
UNV				S	Sb	15 58 23.2	-1.0
AKRB	Akutan Reef Bi	2.47	54	P	Pn	15 58 02.0	+1.7
AKRB				S	Sb	15 58 35.8	+0.9
ZRO	Akutan Zero	2.49	55	P	Pn	15 58 01.6	+1.0
AKUT	Akutan	2.62	56	eP	Pb	15 58 05.1	-1.7
AKSA	Akutan Strait	2.66	56	P	Pn	15 58 04.3	+1.5
ATKA	Atka Island	2.95	262	P	Pn	15 58 07.0	0.0
GSTR	Great Sitkin T	4.10	264	P	Pn	15 58 24.3	+1.6
FALS	False Pass	4.17	57	eP	Pn	15 58 26.6	+3.0
SPIA	Saint Paul Isl	4.50	354	P	Pn	15 58 30.4	+2.2
ILAR	Eielson Array	16.69	35	Pn	Pn	16 01 12.8	-1.0
	0.1nm,0.3s,baz=228,slow=8.5,SNR=4.2						
HYT	Haines Junctio	19.12	52	eP	Pn	16 01 43.6	-0.2
	3.2nm,0.7s						
H02S1	DAWSON INLET T	22.12	74	T	T	16 25 05.1	
INK	Inuvik	23.08	34	P	P	16 02 26.6	+1.2
	2.0nm,0.7s,baz=270,slow=3.0,SNR=3.1						
INK				LR	LR	16 10 57.0	
	comp=Z,44nm,20.5s,baz=154,slow=35						
YKA	Yellowknife Ar	30.05	49	P	P	16 03 28.8	-0.1
	0.3nm,0.4s,baz=275,slow=7.4,SNR=4.3						
H11N2	WAKE ISLAND Hy	37.70	218	T	T	16 44 32.9	
	baz=20						
H11N3	WAKE ISLAND Hy	37.70	218	T	T	16 44 37.9	
	baz=20						
NVAR	Mina Array Bea	37.71	91	P	P	16 04 37.2	+1.3
	0.4nm,0.7s,baz=292,slow=9.6,SNR=3.0						
H11N1	WAKE ISLAND Hy	37.72	218	T	T	16 44 36.2	
	baz=20						
H11S1	WAKE ISLAND Hy	38.89	218	T	T	16 46 02.2	
	baz=20						
H11S2	WAKE ISLAND Hy	38.90	218	T	T	16 46 03.3	
	baz=20						
H11S3	WAKE ISLAND Hy	38.90	218	T	T	16 46 03.5	
	baz=20						
PDAR	Pinedale Array	40.38	79	P	P	16 04 57.8	-0.5
	0.7nm,0.8s,baz=340,slow=3.9,SNR=6.6						
TXAR	Lajitas Array	52.78	89	P	P	16 06 35.1	-0.3
	1.1nm,0.6s,baz=299,slow=5.3,SNR=11						
OBN	Obninsk	70.40	344	LR	LR	16 41 31.

TORD	**Torodi Ar. Bea**	**148.20**	**285**	PKPbc	PKPbc	16 21 29.6	-0.6			
	0.4nm,0.3s,baz=65,slow=2.4,SNR=7.2									

*ISCJB **20** 16:01:60.0±1.0, 7.84S±0.09×127.60E±0.07, h150km, mb3.1/1, Error ellipse: s-maj=13.3km s-min=9.9km az=162.2*
*IDC **20** 16:02:00.8±2.0, 7.76S×127.46E, h174km±25km, mb3.0/1, mb1 3.4/5, mb1mx3.1/33, mbtmp3.9/5, Error ellipse: s-maj=26.6km s-min=21.0km az=135.0*

ISC 20 16:01:59.9±1.0, 7.82S±0.08×127.60E±0.09, h150km, n9, σ1°58/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
BATI	**Baumata**	**4.56**	**238**	P		**Pn**	**16 03 09.2**	**+1.6**
	4.0nm,0.3s,baz=123,slow=0.2,SNR=6.9							
BATI				S		**Sn**	**16 04 00.3**	**+0.1**
	12nm,0.3s,baz=180,slow=20,SNR=13							
MTN	**Manton Dam**	**6.08**	**145**	P		**Pn**	**16 03 29.2**	**+1.4**
	baz=8.7,SNR=84							
KDU	**Kakadu**	**6.81**	**136**	P		**Pn**	**16 03 38.5**	**+1.0**
	baz=9.5,SNR=129							
SIJI	**Sorong**	**7.81**	**28**	P		**Pn**	**16 03 51.8**	**+0.9**
	1.4nm,0.3s,baz=276,slow=23,SNR=4.1							
KNRA	**Kununurra**	**7.89**	**172**	P		**Sn**	**16 05 18.2**	**-1.8**
	baz=20,SNR=5.9							
KNRA	**Kununurra**	**7.89**	**172**	P		**Pn**	**16 03 52.3**	**+0.3**
	baz=10,SNR=49							
WRA	**Warramunga Arr**	**13.71**	**152**	P		**Pn**	**16 05 08.2**	**0.0**
	1.0nm,0.3s,baz=330,slow=13,SNR=53							
WRA				S		Sn	16 07 32.4	-7.8
	0.6nm,0.3s,baz=331,slow=23,SNR=6.4							
ASAR	**Alice Springs**	**16.88**	**160**	P		**Pn**	**16 05 48.6**	**+1.1**
	0.4nm,0.3s,baz=334,slow=11,SNR=14							
ASAR				S		S	16 08 45.3	-10
	baz=212,slow=16,SNR=1.5							
MKAR	**Makanchi Array**	**67.63**	**328**	P		**P**	**16 12 38.1**	**-2.5**
	0.2nm,0.5s,baz=123,slow=7.9,SNR=3.9							

*ISCJB **20** 16:23:49.0±0.9, 52.51N±0.07×169.1W±0.1, h10km, mb3.4/3, Error ellipse: s-maj=12.8km s-min=8.0km az=34.6*
*NEIC **20** 16:23:49.3, 52.63N×169.08W, h1km, ML3.5(AEIC), After AEIC.*
*IDC **20** 16:24:12.2±17.0, 53.86N×164.38W, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.4/29, mbtmp3.4/4, ML3.7/1, Error ellipse: s-maj=320.5km s-min=39.1km az=86.0*

ISC 20 16:23:50.1±1.1, 52.66N±0.10×169.04W±0.08, h10km, n26, σ1°03/20, mb3.5/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
NIKH	**Nikolski High**	**0.33**	**19**	P		**Pb**	**16 23 58.1**	**-0.1**
NIKH				S		**Sb**	**16 24 05.6**	**+2.0**
OKWR	**Okmok West Rim**	**0.92**	**32**	P		**Pn**	**16 24 09.4**	**+0.2**
OKCE	**Okmok Cone E**	**0.93**	**34**	P		**Pn**	**16 24 08.8**	**-0.5**
OKTU	**Okmok Mt. Tuli**	**0.94**	**39**	P		**Pn**	**16 24 09.3**	**-0.2**
OKWE	**Okmok W'ng Wal**	**0.94**	**30**	P		**Pn**	**16 24 09.6**	**+0.1**
OKAK	**Okmok**	**1.01**	**24**	P		**Pg**	**16 24 07.8**	**-1.7**
MSOM	**Makushin Julie**	**1.71**	**46**	P		**Pn**	**16 24 20.4**	**+0.5**
MSOM				S		**Sg**	**16 24 46.8**	**+1.8**
MCIR	**Makushin Cirqu**	**1.82**	**44**	P		**Pb**	**16 24 22.6**	**-1.1**
MSW	**Makushin Switc**	**1.85**	**46**	P		**Pb**	**16 24 23.2**	**-0.8**
MTBL	**Makushin Table**	**1.93**	**46**	P		**Pn**	**16 24 23.8**	**+0.8**
UNV	**Unalaska Valle**	**1.93**	**51**	P		**Pn**	**16 24 23.3**	**+0.3**
UNV				S		**Sb**	**16 24 49.0**	**-0.5**
ZRO	**Akutan Zero**	**2.33**	**51**	P		**Pn**	**16 24 30.0**	**+1.5**
AKUT	**Akutan**	**2.45**	**52**	ePn		**Pb**	**16 24 40.0**	**+1.0**
ATKA	**Atka Island**	**3.19**	**264**	P		**Pn**	**16 24 40.7**	**+0.4**
ILAR	**Eielson Array**	**16.60**	**34**	Pn		Pn	16 27 29.0	-14
	0.1nm,0.3s,baz=220,slow=14,SNR=4.9							
H02N1	**VAN INLET T-PH**	**21.85**	**74**	T		T	16 51 17.2	
H02S1	**DAWSON INLET T**	**21.90**	**74**	T		T	16 51 35.3	
YKA	**Yellowknife Ar**	**29.90**	**49**	P		**P**	**16 29 56.8**	**-0.8**
	0.1nm,0.4s,baz=271,slow=7.6,SNR=4.1							
H11N2	**WAKE ISLAND Hy**	**37.81**	**219**	T		T	17 11 02.6	
	baz=24,slow=76,SNR=37							
H11N3	**WAKE ISLAND Hy**	**37.81**	**219**	T		T	17 11 03.3	
	baz=24,slow=76,SNR=54							
H11N1	**WAKE ISLAND Hy**	**37.83**	**219**	T		T	17 11 04.1	
	baz=24,slow=76,SNR=56							
H11S1	**WAKE ISLAND Hy**	**39.00**	**218**	T		T	17 12 33.3	
	baz=23,slow=76,SNR=455							
H11S2	**WAKE ISLAND Hy**	**39.01**	**218**	T		T	17 12 34.2	
	baz=23,slow=76,SNR=509							
H11S3	**WAKE ISLAND Hy**	**39.01**	**218**	T		T	17 12 33.3	
	baz=23,slow=76,SNR=396							
PDAR	**Pinedale Array**	**40.15**	**80**	P		**P**	**16 31 26.7**	**+0.4**
	0.7nm,0.7s,baz=295,slow=4.8,SNR=5.7							
TXAR	**Lajitas Array**	**52.54**	**89**	P		**P**	**16 33 04.5**	**+0.9**
	0.7nm,0.7s,baz=295,slow=4.9,SNR=6.6							

*ISCJB **20** 16:24:00.1±0.9, 21.4N±0.1×142.7E±0.3, h311km, mb3.2/6, Error ellipse: s-maj=40.9km s-min=17.7km az=14.8*
*IDC **20** 16:24:02.8±11.0, 21.39N×142.78E, h325km±128km, mb2.7/5, mb1 3.0/5, mb1mx2.7/26, mbtmp3.4/5, Error ellipse: s-maj=41.3km s-min=16.7km az=101.0*

ISC 20 16:24:01.5±1.0, 21.4N±0.2×142.8E±0.3, h311km, n6, σ0°25/6, mb3.0/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PETK	**Petropavlovsk-**	**33.67**	**16**	P		**P**	**16 30 13.9**	**+0.2**
	1.2nm,0.7s,baz=206,slow=8.7,SNR=5.0							
BATI	**Baumata**	**36.59**	**213**	P		**P**	**16 30 39.0**	**+0.1**
	7.6nm,0.5s,baz=4.4,slow=13,SNR=3.0							
WRA	**Warramunga Arr**	**41.90**	**192**	P		**P**	**16 31 22.3**	**-0.1**
	0.2nm,0.3s,baz=13,slow=8.7,SNR=16							
ASAR	**Alice Springs**	**45.61**	**191**	P		**P**	**16 31 51.9**	**+0.1**
	0.2nm,0.7s,baz=16,slow=11,SNR=4.0							
MKAR	**Makanchi Array**	**54.63**	**313**	P		**P**	**16 32 58.6**	**-0.1**
	0.2nm,0.5s,baz=98,slow=9.0,SNR=3.7							
NVAR	**Mina Array Bea**	**83.62**	**51**	P		**P**	**16 35 55.8**	**-0.2**
	0.2nm,0.5s,baz=324,slow=5.6,SNR=2.4							

IDC 20 16:31:05.0±1.6, 6.08S×150.67E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.6/19, mbtmp3.8/5, ML1.5/1, Error ellipse: s-maj=68.7km s-min=27.8km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PMG	**Port Moresby**	**4.80**	**226**	Pn		Pn	16 32 20.5	+2.0
	1.3nm,0.3s,baz=36,slow=12,SNR=6.3							
PMG				Sn		Sn	16 33 11.9	-3.1
	3.6nm,0.3s,baz=214,slow=11,SNR=6.0							
WRA	**Warramunga Arr**	**21.02**	**228**	P		P	16 35 50.5	+0.1
	1.8nm,0.4s,baz=52,slow=10,SNR=22							
ASAR	**Alice Springs**	**23.79**	**221**	P		P	16 36 19.7	+0.1
	1.0nm,0.5s,baz=53,slow=9.0,SNR=27							
STKA	**Stephens Creek**	**27.03**	**197**	P		P	16 36 47.9	-1.2
	1.5nm,0.6s,baz=21,slow=12,SNR=7.3							
NVAR	**Mina Array Bea**	**94.54**	**52**	P		P	16 44 28.9	+0.8
	0.3nm,0.6s,baz=260,slow=5.3,SNR=3.0							
TORD	**Torodi Ar. Bea**	**148.64**	**285**	PKPbc	PKPbc		16 50 54.4	-0.9
	1.2nm,0.6s,baz=75,slow=2.3,SNR=11							

*ISCJB **20** 16:32:18.6±1.7, 35.61N±0.04×21.73E±0.05, h7km±13km, mb3.7/6, Error ellipse: s-maj=8.3km s-min=5.7km az=43.7*
*ATH **20** 16:32:18.8, 35.66N×21.80E, h8km±1km, MD3.4/21*
*IDC **20** 16:32:18.5±1.2, 35.95N×21.92E, h0km, mb3.7/7, mb1 3.7/9, mb1mx3.5/37, mbtmp3.6/9, ML2.8/2, MS2.9/2, Ms1 2.9/2, ms1mx2.2/47, Error ellipse: s-maj=24.1km s-min=18.7km az=6.0*
*CSEM **20** 16:32:21.2±0.6, 35.73N×21.95E, h2km, ML3.5, Error ellipse: s-maj=14.3km s-min=5.5km az=45.0*
*THE **20** 16:32:23.2, 35.81N×22.09E, h0km±2km, ML3.5/3, Error ellipse: s-maj=2.8km s-min=1.1km az=217.0*

ISC 20 16:32:19.9±1.7, 35.70N±0.05×21.85E±0.04, h13km±10km, n80, σ1°42/97, mb3.9/6, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KYTH	**Kithira**	**1.12**	**59**	ePN		**Pb**	**16 32 40.3**	**-0.8**
KYTH	**Kithira**	**1.12**	**59**	ePn		**Pb**	**16 32 40.3**	**-0.8**
KYTH	**Kithira**	**1.12**	**59**	P		**Pb**	**16 32 40.1**	**-1.0**
ANKY	**Antikythira Is**	**1.19**	**82**	ePB		**Pn**	**16 32 42.3**	**+0.1**
ANKY				eSB		**Sn**	**16 32 59.2**	**+0.9**
ANKY	**Antikythira Is**	**1.19**	**82**	P		**Pn**	**16 32 42.1**	**-0.1**
ANKY				eSb		**Sn**	**16 32 59.2**	**+0.9**
ANKY	**Antikythira Is**	**1.19**	**82**	P		**Pn**	**16 32 42.1**	**-0.1**
ANKY				S		**Sb**	**16 32 56.8**	**-0.8**
PYL	**PYLOS**	**1.19**	**356**	ePB		**Pn**	**16 32 42.1**	**-0.2**
PYL				eSB		**Sg**	**16 32 58.8**	**+0.4**
PYL	**PYLOS**	**1.19**	**356**	ePb		**Pn**	**16 32 42.1**	**-0.2**
PYL				eSb		**Sg**	**16 32 58.8**	**+0.4**
VLI	**Veliai**	**1.34**	**41**	ePN		**Pn**	**16 32 44.3**	**0.0**
VLI				eSB		**Sg**	**16 33 04.5**	**+1.4**
VLI	**Veliai**	**1.34**	**41**	ePn		**Pn**	**16 32 44.3**	**0.0**
VLI				eSb		**Sg**	**16 33 04.5**	**+1.4**
VLI	**Veliai**	**1.34**	**41**	P		**Pn**	**16 32 44.3**	**0.0**
VLI				S		**Sb**	**16 33 01.3**	**-0.7**
ITM	**Ithomi**	**1.48**	**2**	ePB		**Pb**	**16 32 47.5**	**+0.4**
ITM				eSB		**Sg**	**16 33 08.8**	**+1.4**
ITM	**Ithomi**	**1.48**	**2**	P		**Pb**	**16 32 47.6**	**+0.4**
ITM				eSb		**Sg**	**16 33 08.8**	**+1.4**
ITM	**Ithomi**	**1.48**	**2**	P		**Pb**	**16 32 47.6**	**+0.4**
ITM				S		**Sg**	**16 33 09.0**	**+1.6**
VLX	**Vlachokerasia**	**1.72**	**14**	ePG		**Pb**	**16 32 51.3**	**-0.1**
VLX				eSN		**Sg**	**16 33 15.6**	**+0.4**
VLX	**Vlachokerasia**	**1.72**	**14**	P		**Pb**	**16 32 51.3**	**-0.1**
VLX				S		**Sb**	**16 33 14.2**	**+1.3**
VLX				eSn		**Sg**	**16 33 15.6**	**+0.4**
VLX	**Vlachokerasia**	**1.72**	**14**	P		**Pb**	**16 32 51.3**	**-0.1**
VLX				S		**Sb**	**16 33 14.2**	**+1.3**
AMT	**Artemida-Makis**	**1.83**	**356**	P		**Pg**	**16 32 54.6**	**-0.4**
AMT	**Artemida-Makis**	**1.83**	**356**	P		**Pg**	**16 32 54.6**	**-0.4**
VAM	**Vamos**	**1.94**	**98**	ePN		**Pb**	**16 32 54.5**	**-0.6**
VAM	**Vamos**	**1.94**	**98**	ePn		**Pb**	**16 32 54.5**	**-0.6**
KRND	**KRANIDI**	**1.98**	**32**	ePN		**Pb**	**16 32 55.4**	**-0.3**
KRND	**KRANIDI**	**1.98**	**32**	ePn		**Pb**	**16 32 55.4**	**-0.3**
DIDY	**Didyma**	**2.08**	**31**	P		**Pn**	**16 32 55.8**	**+1.2**
DIDY	**Didyma**	**2.08**	**31**	P		**Pn**	**16 32 55.8**	**+1.2**
DID	**Didima**	**2.12**	**31**	ePN		**Pb**	**16 32 57.4**	**-0.7**
DID	**Didima**	**2.12**	**31**	ePn		**Pb**	**16 32 57.4**	**-0.7**
DID	**Didima**	**2.12**	**31**	P		**Pn**	**16 32 55.8**	**+0.8**
DRO	**Drossia**	**2.25**	**357**	ePN		**Pb**	**16 32 59.5**	**-0.9**
DRO	**Drossia**	**2.25**	**357**	P		**Pb**	**16 32 59.3**	**-1.1**
DRO	**Drossia**	**2.25**	**357**	P		**Pb**	**16 32 59.3**	**-1.1**
GUR	**Goura**	**2.26**	**10**	ePN		**Pb**	**16 33 00.2**	**-0.5**
GUR	**Goura**	**2.26**	**10**	ePn		**Pb**	**16 33 00.2**	**-0.5**
KLV	**Kalavryta, Ach**	**2.35**	**6**	ePN		**Pb**	**16 33 00.8**	**-1.3**
KLV	**Kalavryta, Ach**	**2.35**	**6**	ePn		**Pb**	**16 33 00.8**	**-1.3**
KLV	**Kalavryta, Ach**	**2.35**	**6**	P		**Pb**	**16 33 01.2**	**-0.9**
KLV	**Kalavryta, Ach**	**2.35**	**6**	P		**Pb**	**16 33 01.2**	**-0.9**
LTK	**Loutraki**	**2.48**	**21**	ePN		**Pb**	**16 33 02.5**	**-1.8**
LTK	**Loutraki**	**2.48**	**21**	ePn		**Pb**	**16 33 02.5**	**-1.8**
LTK	**Loutraki**	**2.48**	**21**	P		**Pb**	**16 33 02.6**	**-1.8**
IDI	**Anoyia**	**2.51**	**99**	Pn		**Pn**	**16 33 02.0**	**+1.5**
	2.1nm,0.3s,baz=302,slow=14,SNR=16							
IDI				Sn		**Sb**	**16 33 34.7**	**-1.1**
	10nm,0.3s,baz=109,slow=18,SNR=3.1							
IDI				LR		LR	16 34 11.7	
	comp=Z,156nm,18.2s,baz=266,slow=45							
IDI	**Anoyia**	**2.51**	**99**	P		**Pn**	**16 33 01.9**	**+1.4**
IDI				S		**Sn**	**16 33 33.4**	**+2.4**
IDI	**Anoyia**	**2.51**	**99**	P		**Pn**	**16 33 01.9**	**+1.4**
IDI				S		**Sn**	**16 33 33.4**	**+2.4**
SIVA	**Sivas**	**2.51**	**105**	ePN		**Pb**	**16 33 03.2**	**-1.7**
SIVA	**Sivas**	**2.51**	**105**	ePn		**Pb**	**16 33 03.2**	**-1.7**
LAKA	**Lakka**	**2.53**	**2**	P		**Pb**	**16 33 04.0**	**-1.3**
LAKA	**Lakka**	**2.53**	**2**	P		**Pb**	**16 33 04.0**	**-1.3**
VLS	**Valsamata**	**2.67**	**338**	ePB		**Pn**	**16 33 04.2**	**+1.6**
VLS	**Valsamata**	**2.67**	**338**	ePb		**Pn**	**16 33 04.2**	**+1.6**
KALE	**Kalithea**	**2.69**	**5**	P		**Pb**	**16 33 05.7**	**-2.3**
KALE	**Kalithea**	**2.69**	**5**	P		**Pb**	**16 33 05.7**	**-2.3**
EFP	**Efpalio**	**2.72**	**1**	ePN		**Pb**	**16 33 06.1**	**-2.3**
EFP	**Efpalio**	**2.72**	**1**	ePn		**Pb**	**16 33 06.1**	**-2.3**
EFP	**Efpalio**	**2.72**	**1**	P		**Pb**	**16 33 06.7**	**-1.7**
EFP	**Efpalio**	**2.72**	**1**	P		**Pb**	**16 33 06.7**	**-1.7**
DSF	**Desfina**	**2.76**	**11**	ePN		**Pb**	**16 33 06.7**	**-2.4**
DSF	**Desfina**	**2.76**	**11**	P		**Pn**	**16 33 05.5**	**+1.7**
DSF	**Desfina**	**2.76**	**11**	ePn		**Pb**	**16 33 06.7**	**-2.4**
DSF	**Desfina**	**2.76**	**11**	P		**Pn**	**16 33 05.5**	**+1.7**
EXG	**Exogi**	**2.92**	**341**	ePN		**Pn**	**16 33 07.8**	**+1.8**
EXG	**Exogi**	**2.92**	**341**	ePn		**Pn**	**16 33 07.8**	**+1.8**
PDO	**Prodromos**	**2.94**	**350**	ePB		**Pb**	**16 33 09.6**	**-2.5**
PDO	**Prodromos**	**2.94**	**350**	ePb		**Pb**	**16 33 09.6**	**-2.5**
LAST	**Lasithi**	**3.01**	**99**	ePN		**Pn**	**16 33 09.3**	**+1.9**
LAST	**Lasithi**	**3.01**	**99**	ePn		**Pn**	**16 33 09.3**	**+1.9**
LKR	**Lokris**	**3.08**	**17**	P		**Pn**	**16 33 09.9**	**+1.7**
LKR	**Lokris**	**3.08**	**17**	P		**Pn**	**16 33 09.9**	**+1.7**
DSL	**Palaion Diasel**	**3.48**	**350**	ePN		**Pn**	**16 33 16.3**	**+2.6**
DSL	**Palaion Diasel**	**3.48**	**350**	ePn		**Pn**	**16 33 16.3**	**+2.6**
STON	**Ston**	**7.85**	**337**	ePn		**Pn**	**16 34 11.7**	**-1.9**
STON				Sn		Sn	16 35 34.2	-8.1
BRTR	**Keskin Array B**	**10.16**	**63**	Pn		**Pn**	**16 34 44.8**	**-0.8**
	0.1nm,0.3s,baz=236,slow=10,SNR=3.7							
NVLJ	**Novalja**	**10.33**	**331**	*i* Pn		**Pn**	**16 34 48.0**	**+0.3**
NVLJ				Sn		Sn	16 36 32.1	-11
GERES	**GERESS Array B**	**14.44**	**338**	LR		LR	16 42 42.6	
	comp=Z,55nm,19.6s,baz=87,slow=44							
ESDC	**Sonseca Array**	**20.79**	**289**	P		**P**	**16 37 00.6**	**-0.2**
	0.1nm,0.3s,baz=90,slow=10,SNR=4.6							
HFS	**Hagfors**	**25.01**	**350**	P		**P**	**16 37 41.7**	**-1.5**
	1.1nm,0.6s,baz=152,slow=9.9,SNR=4.5							
FINES	**FINESS Array B**	**25.90**	**5**	P		**P**	**16 37 49.3**	**-2.0**
	1.2nm,0.8s,baz=165,slow=13,SNR=4.2							
EKA	**Eskdalemuir Ar**	**26.07**	**327**	P		**P**	**16 37 52.9**	**0.0**
	2.1nm,0.5s,baz=128,slow=7.7,SNR=19							
TORD	**Torodi Ar. Bea**	**28.88**	**224**	P		**P**	**16 38 20.6**	**+2.2**
	0.2nm,0.6s,baz=31,slow=9.8,SNR=2.5							
ARCES	**ARCESS Array B**	**33.95**	**2**	P		**P**	**16 39 01.2**	**-1.3**
	1.4nm,0.4s,baz=186,slow=10,SNR=19							
MKAR	**Makanchi Array**	**45.73**	**57**	P		**P**	**16 40 38.8**	**-1.9**
	1.3nm,0.5s,baz=269,slow=7.8,SNR=22							

*IDC **20** 16:52:28.8±3.6, 36.77N×71.66E, h55km±30km, mb3.4/9, mb1 3.6/15, mb1mx3.5/31, mbtmp3.7/15, ML3.5/6, Error ellipse: s-maj=26.1km s-min=19.0km az=174.0*
*ISCJB **20** 16:52:32.1±0.3, 36.91N±0.03×71.51E±0.05, h106km, mb3.5/9, Error ellipse: s-maj=6.0km s-min=3.5km az=150.3*
*NNC **20** 16:52:39.7±2.9, 37.48N×71.32E, h140km±24km, mb3.4, mpv4.1, Error ellipse: s-maj=30.5km s-min=10.8km az=164.0*

ISC 20 16:52:33.5±0.6, 36.90N±0.06×71.54E±0.06, h106km, n53, σ1°74/58, mb3.6/9, 11C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
DZET	**Dzherino**	**2.87**	**312**	⇑P		**Pn**	**16 53 18.1**	**+0.4**
	56nm,0.3s							
DZET				⇑S		**Sn**	**16 53 50.0**	**-1.7**
	199nm,0.4s							
SFK	**Sufi-Kurgan**	**3.47**	**26**	⇑P		**Pn**	**16 53 27.4**	**+1.6**
	4.6nm,0.1s							
SFK				⇑S		**Sn**	**16 54 05.6**	**-0.6**
	22nm,0.3s							
AML	**Almayashu**	**5.48**	**17**	P		**Pn**	**16 53 53.2**	**+0.2**
	SNR=46							
DLH	**Dalhousie**	**5.67**	**139**	eP		Pn	16 54 00.0	+4.4
DLH				eS		**Sn**	**16 55 02.0**	**+2.5**
KZA	**Kyzart**	**5.91**	**28**	P		**Pn**	**16 53 59.2**	**+0.4**
	SNR=13							
EKS2	**Erkin-Say**	**6.00**	**16**	P		**Pn**	**16 54 00.5**	**+0.6**
	SNR=23							
AAK	**Ala-Archa**	**6.16**	**21**	P		**Pn**	**16 54 03.1**	**+1.1**
	SNR=12							
AAK	**Ala-Archa**	**6.16**	**21**	⇓P		**Pn**	**16 54 02.3**	**+0.3**
	11nm,0.4s							
AAK				⇑S		**Sn**	**16 55 06.5**	**-4.7**
	10nm,0.5s							
KK31	**Karatay Array**	**6.24**	**353**	P		**Pn**	**16 54 03.0**	**0.0**
	32nm,0.5s,baz=178,slow=13,SNR=597							
KK31				⇓S		Sn	16 55 04.4	-8.6
	8.9nm,0.4s,baz=182,slow=22,SNR=6.8							
KBK	**Karagaybulak**	**6.32**	**23**	P		**Pn**	**16 54 05.3**	**+1.2**
	SNR=6.8							
CHMS	**Chumysh**	**6.57**	**21**	P		**Pn**	**16 54 08.0**	**+0.5**
	SNR=20							
USP	**Ospenovka**	**6.75**	**19**	P		**Pn**	**16 54 09.8**	**-0.1**
	SNR=13							
TKM2	**Tokmak 2**	**6.77**	**26**	P		**Pn**	**16 54 10.8**	**+0.4**
	SNR=18							
TKM2	**Tokmak 2**	**6.77**	**26**	⇑P		**Pn**	**16 54 10.4**	**0.0**
	12nm,0.7s							

SMLA	**Simla**	**7.41**	**139**	*i* P		Pn	16 54 22.8	+3.8
SMLA				*i* S		**Sn**	**16 55 40.2**	**-1.3**
SMLA				AML	AML	16 55 44.5		
	comp=N,891nm,0.3s							
SMLA				AML	AML	16 55 45.6		
	comp=E,942nm,0.3s							
KKR	**Kurukshetra**	**8.21**	**146**	eS		**Sn**	**16 55 59.3**	**-1.5**
PDGK	**Podgornoye**	**8.84**	**41**	⇑P		**Pn**	**16 54 37.6**	**-0.6**
	comp=E,2.3nm,0.5s							
KHET	**Khetri**	**9.51**	**157**	eP		**Pn**	**16 54 48.8**	**+1.4**
KHET				eS		Sn	16 56 26.9	-5.6
KHET				AML	AML	16 56 34.5		
	comp=E,114nm,0.1s							
KHET				AML	AML	16 56 34.6		
	comp=N,57nm,0.1s							
AYAN	**Aya Nagar**	**9.62**	**149**	eP		Pn	16 54 53.2	+4.2
AYAN				eS		**Sn**	**16 56 30.5**	**-4.7**
KUDL	**Kundal**	**9.68**	**153**	eP		**Pn**	**16 54 51.0**	**+1.3**
KUDL				eS		**Sn**	**16 56 32.0**	**-4.5**
GEYT	**Alibeck**	**10.73**	**280**	P		**Pn**	**16 55 01.8**	**-2.2**
	comp=N,1.0nm,0.3s,baz=98,slow=20,SNR=5.0							
GEYT				S		**Sn**	**16 56 59.1**	**-3.0**
	comp=N,2.8nm,0.3s,baz=106,slow=16,SNR=5.8							
OTUK	**Ortayu**	**11.35**	**3**	⇑P		**Pn**	**16 55 10.1**	**-2.1**
	comp=N,7.2nm,0.7s							
MK31	**Makanchi Array**	**12.71**	**36**	⇓P		**Pn**	**16 55 29.8**	**-0.4**
	comp=N,1.3nm,0.7s							
MKAR	**Makanchi Array**	**12.71**	**36**	P		**Pn**	**16 55 29.4**	**-0.8**
	comp=N,0.1nm,0.3s,baz=224,slow=14,SNR=13							
DANN	**Dangsing**	**13.36**	**126**	eP		**Pn**	**16 55 39.3**	**+0.2**
KOLN	**Koldanda**	**13.66**	**128**	eP		**Pn**	**16 55 42.9**	**0.0**
	comp=N,26nm,0.4s							
GKN	**Gorkha**	**14.16**	**125**	eP		**Pn**	**16 55 49.8**	**+0.4**
	comp=N,32nm,0.4s							
KURBB	**Kurchatov Arra**	**14.61**	**18**	⇓P		**Pn**	**16 55 55.4**	**+0.7**
	comp=N,1.5nm,0.6s							
KURBB	**Kurchatov Arra**	**14.61**	**18**	P		**Pn**	**16 55 52.0**	**-2.7**
	comp=N,0.0nm,0.3s,baz=215,slow=13,SNR=5.4							
KURK	**Kurchatov**	**14.71**	**18**	⇑P		**P**	**16 55 58.8**	**-0.5**
	comp=N,0.5nm,0.6s							
KKN	**Kakani**	**14.73**	**124**	eP		**Pn**	**16 55 55.7**	**-1.0**
	comp=N,21nm,0.5s							
DMN	**Daman**	**14.74**	**125**	eP		**Pn**	**16 55 57.0**	**+0.2**
	comp=N,17nm,0.4s							
PKIN	**Phulchoki**	**14.95**	**125**	eP		**Pn**	**16 55 58.7**	**-0.8**
	comp=N,19nm,0.5s							
AB31	**Akbulak array**	**14.95**	**329**	P		**Pn**	**16 55 57.1**	**-2.0**
	comp=N,2.2nm,0.3s,baz=137,slow=13,SNR=88							
PKI	**Pulchoki**	**14.96**	**124**	eP		**Pn**	**16 55 58.9**	**-0.8**
	comp=N,8.7nm,0.4s							
BVA0	**Borovoye Array**	**16.14**	**357**	⇑P		**Pn**	**16 56 12.6**	**-1.4**
	comp=N,1.0nm,0.5s,baz=159,slow=12,SNR=8.9							
BVAR	**Borovoye Array**	**16.14**	**357**	P		**Pn**	**16 56 12.0**	**-1.9**
	comp=N,0.5nm,0.3s,baz=166,slow=13,SNR=11							
RAMN	**Ramite**	**16.16**	**124**	eP		**Pn**	**16 56 12.2**	**-2.5**
	comp=N,31nm,0.6s							
BRVK	**Borovoye**	**16.18**	**357**	⇓P		**Pn**	**16 56 12.9**	**-1.5**
	comp=N,3.1nm,0.7s							
AKTO	**Aktyubinsk**	**16.66**	**329**	⇑P		**Pn**	**16 56 20.0**	**-0.3**
	comp=N,4.8nm,0.8s							
AKTO	**Aktyubinsk**	**16.66**	**329**	P		**Pn**	**16 56 20.3**	**0.0**
	comp=N,0.6nm,0.3s,baz=136,slow=9.0,SNR=8.6							
AKTO				S		Sn	16 59 13.6	-12
	comp=N,0.3nm,0.3s,baz=352,slow=22,SNR=6.4							
ODAN	**Odare**	**16.75**	**122**	eP		**Pn**	**16 56 19.7**	**-2.3**

MLv3.7/8

ISC 20 17:04:01.1±1.1,0°09S±0°10×125°80E±0°04,h44km,n12,
σ0877/12,mb3.7/4,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**1.79**	**108**	P	**Pn**	**17 04 29.9**	**+0.4**
LBMI				S	**Sn**	**17 04 52.0**	**+1.0**
TNTI	**Ternate**	**1.79**	**61**	P	**Pn**	**17 04 29.1**	**-0.4**
TNTI				S	**Sn**	**17 04 52.0**	**+1.0**
KMSI	**Cibinong**	**1.94**	**290**	P	**Pn**	**17 04 31.6**	**0.0**
KMSI				S	**Sn**	**17 04 55.1**	**+0.4**
LUWI	**Luwuk**	**3.17**	**253**	P	**Pn**	**17 04 48.4**	**-0.1**
MRSI	**Marisa**	**3.90**	**278**	P	**Pn**	**17 04 58.8**	**+0.2**
APSI	**Ampana**	**4.23**	**259**	P	**Pn**	**17 05 04.0**	**+0.9**
JAY	**Jayapura**	**15.09**	**99**	LR	LR	17 13 46.8	
	comp=Z,38nm,19.6s,baz=244,slow=40						
WRA	**Warramunga Arr**	**21.43**	**158**	P	**P**	**17 08 44.8**	**-0.8**
	1.4nm,0.6s,baz=336,slow=11,SNR=13						
PMG	**Port Moresby**	**23.19**	**114**	LR	LR	17 20 00.7	
	comp=Z,40nm,19.6s,baz=57,slow=42						
ASAR	**Alice Springs**	**24.72**	**162**	P	**P**	**17 09 18.9**	**+0.5**
	0.8nm,0.7s,baz=346,slow=8.0,SNR=20						
STKA	**Stephens Creek**	**34.97**	**156**	P	**P**	**17 10 48.2**	**-1.0**
	0.6nm,0.3s,baz=319,slow=8.7,SNR=3.1						
KSRS	**Korea Array**	**37.41**	**3**	P	P	17 11 07.0	-2.9
	0.9nm,0.6s,baz=175,slow=8.3,SNR=2.9						

ISCJB ***20*** *17:18:41.5±1.0,29°.1S±0°.2×13°.0W±0°.2,h11km,mb3.9/6, Error ellipse: s-maj=27.4km s-min=21.9km az=163.2*

IDC ***20*** *17:18:41.6±0.9,29°.08S×13°.05W,h0km,mb3.9/6, mb1 3.9/6,mb1mx3.7/28,mbtmp3.9/6,Error ellipse: s-maj=30.5km s-min=24.5km az=164.0*

ISC 20 17:18:43.3±0.9,29°.1S±0°.2×13°.1W±0°.2,h11km,n13,
σ1§29/9,mb3.8/6,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H09N1	**TRISTAN DA CUN**	**8.00**	**176**	T	T	17 28 30.2	
	SNR=9.2						
H10S2	**ASCENSION HYDR**	**20.06**	**355**	T	T	17 43 50.7	
	baz=175						
H10S3	**ASCENSION HYDR**	**20.07**	**355**	T	T	17 43 48.9	
	baz=175						
H10S1	**ASCENSION HYDR**	**20.08**	**355**	T	T	17 43 49.7	
	baz=175						
BDFB	**Brasilia**	**34.84**	**285**	P	**P**	**17 25 34.8**	**0.0**
	4.3nm,0.5s,baz=119,slow=2.4,SNR=5.9						
TORD	**Torodi Ar. Bea**	**44.33**	**21**	P	**P**	**17 26 52.3**	**-1.2**
	1.4nm,0.9s,baz=195,slow=9.5,SNR=6.9						
SIV	**San Ignacio**	**45.92**	**276**	P	**P**	**17 27 07.7**	**+1.2**
	0.8nm,0.7s,baz=130,slow=12,SNR=5.0						
CFAA	**Coronel Fontan**	**47.26**	**252**	P	**P**	**17 27 15.9**	**-0.9**
	0.2nm,0.5s,baz=90,slow=5.2,SNR=4.0						
MAW	**Mawson**	**58.13**	**154**	P	**P**	**17 28 36.6**	**0.0**
	1.8nm,0.8s,baz=315,slow=7.1,SNR=3.3						
BRTR	**Keskin Array B**	**81.07**	**35**	P	**P**	**17 31 00.5**	**+2.0**
	0.6nm,0.8s,baz=208,slow=11,SNR=2.7						
ILAR	**Eielson Array**	**134.15**	**334**	PKP	**PKPdf**	**17 37 58.8**	**-1.4**
	0.2nm,0.6s,baz=38,slow=1.6,SNR=3.3						
SEY	**Seymchan**	**144.83**	**12**	PKP	**PKPab**	**17 38 18.3**	**-0.4**
	2.1nm,0.8s,baz=264,slow=4.6,SNR=6.1						
KSRS	**Korea Array**	**146.51**	**65**	PKPbc	**PKPdf**	**17 38 23.4**	**+0.1**
	2.0nm,0.8s,baz=234,slow=3.0,SNR=6.0						

IDC ***20*** *17:19:48.8±0.4,29°.04S×13°.13W,h0km,mb5.1/26, mb1 5.1/26,mb1mx5.1/27,mbtmp5.0/26,MS5.3/24, Ms1 5.3/24,ms1mx5.2/25,Error ellipse: s-maj=13.7km s-min=11.2km az=158.0*

MOS ***20*** *17:19:49.2±1.0,28°.97S×13°.15W,h10km,mb5.8/60, MS5.3/68,Error ellipse: s-maj=10.8km s-min=5.6km az=71.6*

ISCJB ***20*** *17:19:50.4±0.2,29°.08S±0°.03×13°.12W±0°.03,h20km, mb5.6/202,MS5.4/212,Error ellipse: s-maj=4.6km s-min=4.2km az=174.4*

NEIC ***20*** *17:19:50.3±0.1,29°.03S×13°.10W,h10km,mb5.7/100, MS5.5/153,Error ellipse: s-maj=5.7km s-min=4.7km az=147.0*

GCMT ***20*** *17:19:50.3±0.1,29°.08S×12°.99W,h12km,MW5.8/131, Moment Tensor Solution. s107,c188; s131,c406; Duration: 1§8 Moment tensor: Scale 10^17^Nm; Mrr-5.05±.04; Mθθ-0.31±.04; Mϕϕ5.36±.04; Mrθ-0.90±.13; Mθϕ-0.79±.04; Mϕr0.97±.12; Best double couple: M≅5.42700×10^17^ NP1:ϕs164.00000°,δ51.00000°, λ-101.00000°. NP2:ϕs1.00000°,δ40.00000°,λ-76.00000°. Principal axes: T 5.5790, Plg6.0000°, Azm261.0000°; N -0.2990, Plg9.0000°, Azm171.0000°; P -5.2760, Plg80.0000°, Azm25.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

SZGRF ***20*** *17:19:54.9,29°.32S×10°.23W,h33km,mb5.7,MS5.2, Southern Mid-Atlantic Ridge*

ISC 20 17:19:51.9±0.5,29°.03S±0°.04×13°.16W±0°.04,h19km±1km,
h19km:pP-P,n930,σ1§65/1043,mb5.6/218,MS5.5/222,
48C-55D,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H09N1	**TRISTAN DA CUN**	**8.04**	**175**	T	T	17 29 57.9	
TRIS	**Tristan da Cun**	**8.04**	**175**	*e*Pn	**Pn**	**17 21 46.6**	**-1.1**
TRIS				*e*Sn	Sn	17 23 02.5	-16
H09W1	**TRISTAN DA CUN**	**8.07**	**175**	T	T	17 30 03.6	
	SNR=10						
SHEL	**Horse Pasture**	**14.70**	**29**	Pn	**Pn**	**17 23 21.2**	**+2.3**
	2μm,1.3s,SNR=5.0						
H10S2	**ASCENSION HYDR**	**20.02**	**356**	T	T	17 45 25.7	
	baz=176,slow=75,SNR=1788						
H10S3	**ASCENSION HYDR**	**20.03**	**356**	T	T	17 45 20.2	
	baz=176,slow=75,SNR=1803						
H10S1	**ASCENSION HYDR**	**20.04**	**356**	T	T	17 45 22.9	
	baz=176,slow=75,SNR=1952						
ASCN	**Ascension**	**21.02**	**357**	Pn	**P**	**17 24 38.6**	**+4.0**
	1μm,1.1s,SNR=9.5						
ASCN	**Ascension**	**21.02**	**357**	*e*P	**P**	**17 24 31.9**	**-2.7**
	3μm,2.1s						
ASCN				LR	LR		
	comp=Z,8μm,22.0s						
H10N1	**ASCENSION HYDR**	**21.11**	**356**	T	T	17 46 40.8	
	baz=173,slow=77,SNR=34						
H10N3	**ASCENSION HYDR**	**21.12**	**356**	T	T	17 46 39.0	
	baz=173,slow=77,SNR=173						
H10N2	**ASCENSION HYDR**	**21.13**	**356**	T	T	17 46 41.4	
	baz=173,slow=77,SNR=29						
KOMG	**Komaggas**	**26.67**	**99**	*e*P	**P**	**17 25 28.9**	**-0.9**
KOMG				IAmb	IAmb	17 25 34.3	
	comp=Z,53nm,1.0s						
WIN	**Windhoek**	**27.95**	**84**	*e*P	**P**	**17 25 40.5**	**-1.0**
WIN				IAmb	IAmb	17 25 42.2	
	comp=Z,62nm,1.0s						
WIN				IAMs_20	IAMs_20	17 33 53.1	
	comp=Z,13μm,21.1s						
CER	**Ceres**	**28.03**	**107**	*e*P	**P**	**17 25 42.1**	**+0.1**
CER				IAmb	IAmb	17 25 47.1	
	comp=Z,72nm,1.1s						
CER				IAMs_20	IAMs_20	17 32 57.6	
	comp=Z,18μm,29.4s						
CVNA	**Calvinia**	**28.49**	**103**	*e*P	**P**	**17 25 45.9**	**-0.3**
CVNA				IAmb	IAmb	17 25 47.9	
	comp=Z,124nm,1.4s						
CVNA				IAMs_20	IAMs_20	17 33 41.3	
	comp=Z,24μm,31.9s						
SUR	**Sutherland**	**29.33**	**105**	*e*P	**P**	**17 25 54.2**	**+0.5**
	comp=Z,177nm,1.4s						
SUR				LR	LR		
	comp=Z,64μm,20.0s						
TSUM	**Tsumeb**	**29.64**	**78**	P	**P**	**17 25 54.8**	**-1.7**
	comp=Z,37nm,0.8s,baz=243,slow=9.3,SNR=74						
TSUM				LR	LR	17 35 12.9	
	comp=Z,9μm,21.5s,baz=238,slow=31						
TSUM	**Tsumeb**	**29.64**	**78**	*e*P	**P**	**17 25 54.6**	**-1.9**
	comp=Z,460nm,2.0s						
UPI	**Upington**	**30.14**	**97**	*e*P	**P**	**17 25 59.8**	**-1.0**
HOPE	**Hope Point**	**30.39**	**207**	PFAKE		17 26 10.0	+7.5
HOPE				LR	LR		
	comp=Z,6μm,20.0s						
RCBR	**Riachuelo**	**31.55**	**313**	P	**P**	**17 26 13.9**	**+0.7**
	comp=Z,20nm,1.0s,baz=145,slow=9.2,SNR=5.1						
RCBR	**Riachuelo**	**31.55**	**313**	*e*P	**P**	**17 26 13.5**	**+0.3**
	comp=Z,215nm,1.8s						
RCBR				LR	LR		
	comp=Z,7μm,21.0s						
SOE	**Somerset East**	**33.32**	**106**	*e*P	**P**	**17 26 28.6**	**0.0**
SOE				IAmb	IAmb	17 26 35.0	
	comp=Z,164nm,1.1s						
SOE				IAMs_20	IAMs_20	17 36 41.1	
	comp=Z,14μm,21.3s						
HVD	**Gariep Dam**	**33.47**	**102**	*e*P	**P**	**17 26 29.1**	**-1.0**
HVD				IAmb	IAmb	17 26 31.7	
	comp=Z,87nm,1.2s						
BOSA	**Boshof**	**33.56**	**99**	*e*P	**P**	**17 26 29.9**	**-1.1**
BOSA				IAmb	IAmb	17 26 33.3	
	comp=Z,133nm,1.4s						
BOSA				IAMs_20	IAMs_20	17 37 17.8	
	comp=Z,14μm,20.7s						
BOSA	**Boshof**	**33.56**	**99**	P	**P**	**17 26 29.2**	**-1.7**
	comp=Z,32nm,1.0s,baz=256,slow=8.3,SNR=28						
BOSA				LR	LR	17 38 04.6	
	comp=Z,14μm,18.1s,baz=258,slow=33						
BOSA	**Boshof**	**33.56**	**99**	P	**P**	**17 26 29.3**	**-1.7**
BOSA				pmax	pmax		
	comp=Z,32nm,1.0s						
BOSA				MLR	MLR		
	comp=Z,14μm,18.1s						
BOSA	**Boshof**	**33.56**	**99**	*e*P	**P**	**17 26 29.1**	**-1.8**
	comp=Z,143nm,1.4s						
SWZ	**Schweizer**	**33.91**	**96**	*e*P	**P**	**17 26 31.8**	**-2.2**
SWZ				IAmb	IAmb	17 26 59.0	
	comp=Z,29nm,1.2s						
GRM	**Grahamstown**	**34.07**	**107**	*e*P	**P**	**17 26 34.6**	**-0.6**
GRM				IAmb	IAmb	17 26 41.2	
	comp=Z,225nm,1.7s						
LBTB	**Lobatse**	**34.66**	**93**	*e*P	**P**	**17 26 38.9**	**-1.6**
LBTB				IAMs_20	IAMs_20	17 37 32.1	
	comp=Z,10μm,21.6s						
LBTB	**Lobatse**	**34.66**	**93**	LR	LR	17 38 22.4	
	comp=Z,9μm,19.4s,baz=260,slow=32						
LBTB	**Lobatse**	**34.66**	**93**↑	*e*P	**P**	**17 26 38.6**	**-1.8**
LBTB				pmax	pmax		
	comp=Z,249nm,1.7s						
LBTB	**Lobatse**	**34.66**	**93**↑	*e*P	**P**	**17 26 38.6**	**-1.8**
	comp=Z,249nm,1.7s						
BDFB	**Brasilia**	**34.74**	**285**	P	**P**	**17 26 41.0**	**-0.3**
	comp=Z,24nm,0.7s,baz=104,slow=7.9,SNR=27						
BDFB				LR	LR	17 38 10.0	
	comp=Z,13μm,21.6s,baz=115,slow=32						
BDFB	**Brasilia**	**34.74**	**285**	P	**P**	**17 26 41.0**	**-0.3**
BDFB				pmax	pmax		
	comp=Z,25nm,0.7s						
BDFB				MLR	MLR		
	comp=Z,13μm,21.6s						
BDFB	**Brasilia**	**34.74**	**285**	*e*P	**P**	**17 26 41.6**	**+0.3**
KSR	**Koster**	**35.58**	**95**	*e*P	**P**	**17 26 47.2**	**-1.2**
KSR				IAmb	IAmb	17 26 49.1	
	comp=Z,102nm,1.0s						
SEK	**Senekal**	**35.67**	**99**	*e*P	**P**	**17 26 48.3**	**-0.9**
SEK				IAmb	IAmb	17 26 49.9	
	comp=Z,90nm,1.0s						
SEK				IAMs_20	IAMs_20	17 38 10.3	
	comp=Z,13μm,22.6s						
PRYS	**Parys**	**35.73**	**97**	*e*P	**P**	**17 26 48.0**	**-1.7**
PRYS				IAmb	IAmb	17 26 49.9	
	comp=Z,37nm,1.0s						
PRYS				IAMs_20	IAMs_20	17 39 56.8	
	comp=Z,5μm,17.2s						
WDLM	**Western Deep L**	**35.90**	**96**	*e*P	**P**	**17 26 50.9**	**-0.3**
WDLM				IAmb	IAmb	17 26 52.4	
	comp=Z,37nm,1.1s						
DBIC	**Dimbokro**	**36.39**	**14**	*e*P	**P**	**17 26 55.0**	**-0.2**
DBIC	**Dimbokro**	**36.39**	**14**	P	**P**	**17 26 54.9**	**-0.2**
	comp=Z,108nm,1.0s,baz=176,slow=9.7,SNR=46						
DBIC				LR	LR	17 38 19.3	
	comp=Z,2μm,18.8s,baz=172,slow=30						
DBIC	**Dimbokro**	**36.39**	**14**	P	**P**	**17 26 54.9**	**-0.2**
DBIC				pmax	pmax		
	comp=Z,108nm,1.0s						
DBIC				MLR	MLR		
	comp=Z,2μm,18.8s						
DBIC	**Dimbokro**	**36.39**	**14**	*e*P	**P**	**17 26 55.2**	**+0.1**
	comp=Z,284nm,1.1s						
SLR	**Silverton**	**36.81**	**95**	*e*P	**P**	**17 26 57.7**	**-1.3**
SLR				IAmb	IAmb	17 27 00.1	
	comp=Z,198nm,1.5s						
SLR				IAMs_20	IAMs_20	17 39 39.4	
	comp=Z,12μm,18.6s						
KSD	**Kokstad**	**36.83**	**103**	*e*P	**P**	**17 26 59.4**	**+0.3**
KSD				IAmb	IAmb	17 27 02.9	
	comp=Z,174nm,2.3s						
CPUP	**Villa Florida**	**39.04**	**263**	P	**P**	**17 27 18.5**	**+0.9**
	comp=Z,44nm,1.3s,baz=108,slow=6.1,SNR=9.6						
CPUP				PcP	**PcP**	**17 29 29.4**	**+1.9**
	comp=Z,9.2nm,1.1s,baz=67,slow=1.8,SNR=3.2						
CPUP				LR	LR	17 40 59.7	
	comp=Z,15μm,20.3s,baz=112,slow=32						
CPUP	**Villa Florida**	**39.04**	**263**	P	**P**	**17 27 18.5**	**+0.9**
CPUP						17 29 29.4	
CPUP				pmax	pmax		
	comp=Z,44nm,1.3s						
CPUP				MLR	MLR		
	comp=Z,15μm,20.3s						
CPUP	**Villa Florida**	**39.04**	**263**	*e*P	**P**	**17 27 18.8**	**+1.2**
CPUP				*e*PcP	**PcP**	**17 29 27.5**	**0.0**
MSNA	**Messina**	**39.32**	**90**	*e*P	**P**	**17 27 18.9**	**-1.2**
MSNA				IAmb	IAmb	17 27 22.6	
	comp=Z,42nm,1.2s						
MSNA				IAMs_20	IAMs_20	17 40 28.3	
	comp=Z,12μm,22.2s						
EFI	**East Falkland**	**40.18**	**223**	P	**P**	**17 27 26.0**	**-0.7**
EFI				pmax	pmax		
	comp=Z,534nm,2.1s						
EFI				MLR	MLR		
	comp=Z,6μm,17.0s						
EFI	**East Falkland**	**40.18**	**223**	P	**P**	**17 27 27.5**	**+0.8**
	comp=Z,148nm,1.3s						
EFI				LR	LR		
	comp=Z,6μm,20.0s						
LSZ	**Lusaka**	**40.46**	**79**	P	**P**	**17 27 29.4**	**-0.3**
	comp=Z,43nm,0.9s,baz=322,slow=7.5,SNR=58						
LSZ	**Lusaka**	**40.46**	**79**	*e*P	**P**	**17 27 30.1**	**+0.4**
LSZ				pmax	pmax		
	comp=Z,100nm,1.4s						
LSZ				MLR	MLR		
	comp=Z,23μm,19.0s						
LSZ	**Lusaka**	**40.46**	**79**	*e*P	**P**	**17 27 30.1**	**+0.4**
	comp=Z,100nm,1.4s						
LSZ				LR	LR		
	comp=Z,23μm,19.0s						
TRQA	**Tornquist**	**41.27**	**244**	*e*P	**P**	**17 27 36.0**	**0.0**
	comp=Z,227nm,1.5s						
TRQA				LR	LR		
	comp=Z,8μm,18.0s						
VNA1	**Neumayer--Stat**	**41.75**	**178**	P	**P**	**17 27 39.8**	**+0.4**
SNAA	**Sanae**	**43.06**	**175**	P	**P**	**17 27 49.7**	**-0.5**
SNAA	**Sanae**	**43.06**	**175**	P	**P**	**17 27 49.4**	**-0.9**
	comp=Z,11nm,1.2s,baz=348,slow=8.8,SNR=42						
SNAA				LR	LR	17 42 54.4	
	comp=Z,349nm,18.1s,baz=1.5,slow=32						
SNAA	**Sanae**	**43.06**	**175**	P	**P**	**17 27 49.4**	**-0.9**
SNAA				pmax	pmax		
	comp=Z,11nm,1.2s						
SNAA				MLR	MLR		
	comp=Z,349nm,18.1s						
SNAA	**Sanae**	**43.06**	**175**	*e*P	**P**	**17 27 49.3**	**-0.9**
	comp=Z,101nm,1.6s						
NVL	**N'lazarevskaya**	**44.06**	**168**	*e*P	**P**	**17 27 57.8**	**-0.4**
NVL				*e*S	**S**	**17 34 27.6**	**-1.7**
NVL				pmax	pmax		
	comp=Z,76nm,1.0s						
TOA0	**Torodi Ar. Sit**	**44.32**	**21**	*e*P	**P**	**17 28 00.6**	**-0.3**
TORD	**Torodi Ar. Bea**	**44.32**	**21**	P	**P**	**17 27 59.6**	**-1.2**
	comp=Z,58nm,1.0s,baz=195,slow=7.3,SNR=76						
TORD				PP	**PP**	**17 29 41.8**	**-2.7**
	comp=Z,6.4nm,1.1s,baz=199,slow=7.2,SNR=1.9						
TORD				LR	LR	17 42 59.2	
	comp=Z,7μm,20.0s,baz=190,slow=31						
SACV	**Santiago Islan**	**44.90**	**346**	*e*P	**P**	**17 28 05.9**	**+0.5**
	comp=Z,43nm,1.0s						
SACV				LR	LR		
	comp=Z,2μm,20.0s						
SIV	**San Ignacio**	**45.83**	**276**	P	**P**	**17 28 13.8**	**+0.8**
	comp=Z,19nm,1.0s,baz=122,slow=9.4,SNR=49						
USHA	**Ushuaia**	**46.96**	**221**	P	**P**	**17 28 22.3**	**+1.0**
	comp=Z,20nm,1.2s,baz=77,slow=12,SNR=4.4						
CFAA	**Coronel Fontan**	**47.19**	**252**	P	**P**	**17 28 22.3**	**-1.3**
	comp=Z,1.1nm,0.5s,baz=97,slow=8.8,SNR=16						
PMSA	**Palmer Station**	**47.70**	**207**	P	**P**	**17 28 26.9**	**0.0**
PMSA				LR	LR		
	comp=Z,4μm,19.0s						
U65B	**HualaæØ**	**49.47**	**247**	*e*P	**P**	**17 28 41.0**	**0.0**
	comp=Z,471nm,1.8s						
LCO	**Las Campanas**	**49.86**	**255**	*e*P	**P**	**17 28 44.5**	**+0.1**
	comp=Z,210nm,1.7s						
LCO				LR	LR		
	comp=Z,6μm,20.0s						
SYO	**Syowa Base**	**50.10**	**158**↑	*e*P	**P**	**17 28 43.6**	**-1.7**
SYO	**Syowa Base**	**50.10**	**158**↑	*i*pP	**P**	**17 28 45.2**	**-0.1**
LVC	**Limon Verde**	**50.21**	**264**	*e*P	**P**	**17 28 46.3**	**-0.8**
	comp=Z,72nm,1.5s						
LVC				LR	LR		
	comp=Z,7μm,19.0s						
MBAR	**Mbarara**	**50.51**	**64**	P	**P**	**17 28 51.3**	**+2.0**
	comp=Z,149nm,1.0s,SNR=12						
MBAR	**Mbarara**	**50.51**	**64**	*e*P	**P**	**17 28 50.0**	**+0.7**
MBAR				pmax	pmax		
	comp=Z,124nm,1.0s						
MBAR	**Mbarara**	**50.51**	**64**	*e*P	**P**	**17 28 50.0**	**+0.7**
	comp=Z,124nm,1.0s						
SAML	**Samuel**	**50.91**	**283**↓	*e*P	**P**	**17 28 53.2**	**+1.0**
	comp=Z,92nm,1.3s						
SAML				*e*PcP	**PcP**	**17 30 08.3**	**-0.3**
SAML				LR	LR		
	comp=Z,2μm,20.0s						
LPAZ	**La Paz**	**51.88**	**272**	P	**P**	**17 28 59.0**	**-1.2**
	comp=Z,12nm,1.1s,baz=100,slow=6.1,SNR=19						
LPAZ				LR	LR	17 49 01.0	
	comp=Z,6μm,22.0s,baz=120,slow=34						
LPAZ	**La Paz**	**51.88**	**272**	P	**P**	**17 28 59.0**	**-1.2**
LPAZ				pmax	pmax		
	comp=Z,12nm,1.1s						
LPAZ				MLR	MLR		
	comp=Z,6μm,22.0s						
LPAZ	**La Paz**	**51.88**	**272**↓	*e*P	**P**	**17 28 59.2**	**-0.9**
	comp=Z,65nm,1.5s						
PTGA	**Pitinga**	**52.74**	**294**	*e*P	**P**	**17 29 07.0**	**+1.2**
	comp=Z,67nm,1.3s						
TAM	**Tamanrasset**	**54.58**	**21**↓	*e*P	**P**	**17 29 20.1**	**+0.8**
TAM				*e*		17 31 18.4	
TAM				pmax	pmax		
	comp=Z,99nm,1.4s						
TAM				MLR	MLR		
	comp=Z,5μm,19.0s						
TAM	**Tamanrasset**	**54.58**	**21**↓	*e*P	**P**	**17 29 20.1**	**+0.8**
	comp=Z,99nm,1.4s						
TAM				*e*PP	**PP**	**17 31 18.4**	**-3.5**
TAM				LR	LR		
	comp=Z,5μm,19.0s						
KMBO	**Kilima Mbogo**	**55.43**	**69**	P	**P**	**17 29 27.4**	**+1.6**
	comp=Z,14nm,0.9s,baz=226,slow=6.8,SNR=26						
KMBO				LR	LR	17 51 09.1	
	comp=Z,9μm,20.4s,baz=239,slow=34						
KMBO	**Kilima Mbogo**	**55.43**	**69**	P	**P**	**17 29 27.4**	**+1.6**
KMBO				pmax	pmax		
	comp=Z,14nm,0.9s						
KMBO				MLR	MLR		
	comp=Z,9μm,20.4s						
KMBO	**Kilima Mbogo**	**55.43**	**69**↑	*e*P	**P**	**17 29 28.3**	**+2.5**
	comp=Z,102nm,1.5s						
ABPO	**Ambohimpanom**	**55.55**	**94**↑	*e*P	**P**	**17 29 28.5**	**+2.0**
ABPO				pmax	pmax		
	comp=Z,179nm,1.5s						
ABPO				MLR	MLR		
	comp=Z,6μm,19.0s						
ABPO	**Ambohimpanom**	**55.55**	**94**↑	*e*P	**P**	**17 29 28.5**	**+2.0**
	comp=Z,179nm,1.5s						
ABPO				LR	LR		
	comp=Z,6μm,19.0s						
MAW	**Mawson**	**58.20**	**154**	P	**P**	**17 29 44.5**	**+0.2**
	comp=Z,69nm,0.9s,baz=267,slow=7.5,SNR=75						
MAW				LR	LR	17 50 26.1	
	comp=Z,3μm,18.8s,baz=260,slow=32						
MAW	**Mawson**	**58.20**	**154**	*e*P	**P**	**17 29 44.5**	**+0.2**
MAW				pmax	pmax		
	comp=Z,44nm,1.2s						
MAW	**Mawson**	**58.20**	**154**	*e*P	**P**	**17 29 44.5**	**+0.2**
	comp=Z,44nm,1.2s						
QSPA	**South Pole Qui**	**61.20**	**180**↓	*e*P	**P**	**17 30 05.6**	**+0.4**
	comp=Z,179nm,1.0s						
PMOZ	**Porto Moniz, M**	**61.64**	**356**	*e*LR	LR	17 50 56.9	
	comp=Z,825nm,20.0s						
RER	**Riviere de l'E**	**62.13**	**100**	PFAKE		17 30 20.0	+7.8
RER				LR	LR		
	comp=Z,9μm,22.0s						
GRGR	**Grenville**	**62.18**	**304**	P	**P**	**17 30 14.3**	**+1.9**
	comp=Z,109nm,0.9s						
GRGR				LR	LR		
	comp=Z,1μm,21.0s						
FURI	**Furi**	**62.58**	**61**	*e*PN	P	17 30 18.7	+3.2
FURI	**Furi**	**62.58**	**61**	*e*pP	pP	17 30 21.2	-0.4
FDF	**Fort de France**	**63.57**	**307**	*e*P	**P**	**17 30 23.2**	**+1.6**
FDF				pmax	pmax		
	comp=Z,342nm,1.4s						
FDF				MLR	MLR		
	comp=Z,1μm,21.0s						
FDF	**Fort de France**	**63.57**	**307**	*e*P	**P**	**17 30 23.2**	**+1.6**
	comp=Z,342nm,1.4s						
FDF				LR	LR		
	comp=Z,1μm,21.0s						
PAF	**Port-aux-Franc**	**64.45**	**134**	P	P	17 30 16.0	-11
PAF				S	S	17 38 52.0	-13
PAF				L	L	17 45 00.0	
PAF				R		17 48 00.0	
PFVI	**Vila Bisbo**	**65.94**	**4**	*e*P	**P**	**17 30 37.7**	**+1.1**
	comp=Z,255nm,1.6s						
ANWB	**Willy Bob**	**66.03**	**308**	PFAKE		17 30 50.0	+12
ANWB				LR	LR		
	comp=Z,1μm,22.0s						
PBDV	**Barranco-do-Ve**	**66.11**	**5**	*e*P	**P**	**17 30 37.8**	**+0.1**
	comp=Z,218nm,1.3s						
MORF	**Marmelete**	**66.13**	**4**	*e*P	**P**	**17 30 37.8**	**-0.1**
MORF				AMb	AMB	17 30 41.3	
	comp=Z,184nm,2.0s						
MORF				*e*S	**S**	**17 39 26.9**	**+1.5**
MORF	**Marmelete**	**66.13**	**4**	*e*P	**P**	**17 30 40.2**	**+2.3**
	comp=Z,187nm,1.4s						
MORF	**Marmelete**	**66.13**	**4**	*e*P	**P**	**17 30 37.7**	**-0.1**
MORF				*e*S	**S**	**17 39 26.9**	**+1.5**
PVAQ	**Vaqueiros**	**66.29**	**5**	*e*P	**P**	**17 30 38.9**	**+0.1**
	comp=Z,179nm,1.6s						
PVAQ				*e*S	S	17 39 33.5	+6.3
PVAQ	**Vaqueiros**	**66.29**	**5**	*e*LR	LR	17 52 47.4	
	comp=Z,2μm,22.0s						
PTEO	**Sao Teotonio**	**66.36**	**4**	*e*P	**P**	**17 30 40.4**	**+1.1**
	comp=Z,216nm,1.4s						
PCVE	**Castro Verde**	**66.49**	**4**	*e*P	**P**	**17 30 40.2**	**+0.1**
	comp=Z,36nm,1.7s						
MESJ	**Mess

KEST **Kesra** 67.82 20 P **P** 17 30 49.1 +0.4
comp=Z,35nm,1.1s,baz=154,slow=3.4,SNR=35
KEST LR LR 17 59 04.1
comp=Z,2μm,18.0s,baz=148,slow=35
KEST **Kesra** 67.82 20⇓*iP* **P** 17 30 49.3 +0.5
KEST *e*PP **PP** 17 33 22.6 +3.8
CMAH **Djebel Manchou** 68.12 18 P **P** 17 30 50.7 +0.2
PMRV **Marv??o** 68.32 5 *e*P **P** 17 30 52.0 +0.3
comp=Z,222nm,1.5s
PMRV *e*S **S** 17 39 57.4 +5.7
PMRV **Marv??o** 68.32 5 *e*LR LR 17 50 34.4
comp=Z,2μm,22.0s
PTOM **Tomar** 68.44 4 *e*P **P** 17 30 53.1 +0.7
comp=Z,188nm,1.6s
OTAV **Otavalo** 68.65 283 *e*P **P** 17 30 55.5 +0.6
comp=Z,74nm,1.6s
OTAV LR LR
comp=Z,5μm,20.0s
PAB **San Pablo** 68.72 7⇓*e*P **P** 17 30 53.7 -0.6
PAB pmax pmax
comp=Z,55nm,1.5s
PAB MLR MLR
comp=Z,781nm,22.0s
PAB **San Pablo** 68.72 7⇓*e*P **P** 17 30 53.7 -0.6
comp=Z,55nm,1.5s
PAB LR LR
comp=Z,781nm,22.0s
PCBR **Castelo Branco** 68.73 5 *e*P **P** 17 30 54.8 +0.6
comp=Z,109nm,1.4s
PCAS **Casmilo, Conde** 68.87 4 *e*P **P** 17 30 55.2 +0.1
comp=Z,173nm,1.3s
ESDC **Sonseca Array** 68.89 8 P **P** 17 30 54.7 -0.6
comp=Z,7.3nm,0.8s,baz=182,slow=6.6,SNR=35
ESDC LR LR 17 59 06.9
comp=Z,1μm,19.1s,baz=180,slow=34
ESLA **Sonseca Array** 68.89 8 *e*P **P** 17 30 54.7 -0.6
comp=Z,21nm,1.3s
MSEY **Mahe Island** 69.09 84⇑*e*P **P** 17 30 59.2 +2.1
MSEY pmax pmax
comp=Z,295nm,1.4s
MSEY MLR MLR
comp=Z,6μm,20.0s
MSEY **Mahe Island** 69.09 84⇓*iP* **P** 17 30 59.6 +2.4
SNR=7.5
MSEY **Mahe Island** 69.09 84⇑*e*P **P** 17 30 59.2 +2.1
comp=Z,295nm,1.4s
MSEY LR LR
comp=Z,6μm,20.0s
MTE **Manteigas** 69.28 5 *e*P **P** 17 30 57.6 -0.1
comp=Z,122nm,1.5s
MTE **Manteigas** 69.28 5 *e*LR LR 17 53 28.1
comp=Z,2μm,22.0s
MTE **Manteigas** 69.28 5⇓*iP* **P** 17 30 57.2 -0.5
comp=Z,75nm,1.2s
MTE LR LR
comp=Z,2μm,21.0s
SJG **San Juan** 69.38 306 PFAKE 17 31 10.0 +11
SJG LR LR
comp=Z,3μm,20.0s
PVIS **Viseu** 69.57 4 *e*P **P** 17 30 59.9 +0.4
comp=Z,99nm,1.6s
WDD **Wield Dalam** 69.62 24 P **P** 17 31 00.7 +0.9
WDD LR LR
comp=Z,1μm,22.0s
OBIP **Obispado Ponce** 69.66 305 *e*P **P** 17 31 00.9 +0.5
comp=Z,133nm,1.5s
CELP **Cerrillos** 69.66 305 *e*P **P** 17 31 00.5 0.0
MIR **Mirnyy** 69.83 156⇑*e*P P 17 31 10.0 +9.2
MIR pmax pmax
comp=Z,340nm,2.0s
MVO **Moncorvo** 70.08 5 *e*P **P** 17 31 02.9 +0.3
comp=Z,156nm,1.3s
MVO **Moncorvo** 70.08 5 *e*LR LR 17 53 49.9
comp=Z,2μm,20.0s
PVRL **Vila Real** 70.14 4 *e*P **P** 17 31 03.5 +0.6
comp=Z,59nm,1.6s
POLO **Lamas de Olo** 70.23 4 *e*P **P** 17 31 04.0 +0.4
comp=Z,29nm,1.4s
DAMY **Dhamar** 70.48 60 *e*P **P** 17 31 07.4 +1.5
comp=Z,71nm,1.2s
PCAB **Cabril** 70.55 4 *e*P **P** 17 31 05.9 +0.5
comp=Z,185nm,1.6s
CLTB **Caltabellotta** 70.73 22 *e*P **P** 17 31 06.8 +0.1
CLTB LR LR
comp=Z,1μm,22.0s
PBRG **Braganca** 70.73 5 *e*P **P** 17 31 07.1 +0.5
comp=Z,114nm,1.3s
PGAV **Gavieira, Arco** 70.79 4 *e*P **P** 17 31 07.4 +0.4
comp=Z,168nm,1.6s
PGAV *e*S **S** 17 40 24.6 +3.8
PGAV **Gavieira, Arco** 70.79 4 *e*LR LR 17 53 33.3
comp=Z,1μm,20.0s
VSL **Villasalto** 71.34 18⇓*e*P **P** 17 31 09.8 -0.5
comp=Z,76nm,1.1s
VSL LR LR
comp=Z,2μm,19.0s
SIVA **Sivas** 73.09 32 *e*P **P** 17 31 22.6 +1.8
ANKY **Antikythira Is** 73.12 30 P **P** 17 31 19.1 -1.9
ANKY **Antikythira Is** 73.12 30 P **P** 17 31 19.1 -1.9
VAM **Vamos** 73.14 31 *e*P **P** 17 31 21.8 +0.7
PYL **PYLOS** 73.31 29 *e*P **P** 17 31 22.2 +0.1
SFD **Strofades** 73.32 28 *e*P **P** 17 31 24.0 +1.9
IDI **Anoyia** 73.35 32 *e*P **P** 17 31 23.3 +0.8
IDI **Anoyia** 73.35 32 *e*P **P** 17 31 22.5 +0.1
comp=Z,49nm,1.1s
IDI **Anoyia** 73.35 32 P **P** 17 31 22.6 +0.1
SBA **Scott Base** 73.36 180⇓*e*P **P** 17 31 22.3 +0.4
SBA pmax pmax
comp=Z,525nm,2.0s
SBA MLR MLR
comp=Z,774nm,21.0s
SBA **Scott Base** 73.36 180⇓*e*P **P** 17 31 22.3 +0.4
comp=Z,525nm,2.0s
SBA LR LR
comp=Z,774nm,21.0s
TIP **Timpagrande** 73.37 24⇓*e*P **P** 17 31 21.6 -0.9
comp=Z,50nm,1.2s
TIP *e*PP **PP** 17 34 05.0 -1.5
TIP LR LR
comp=Z,986nm,21.0s
TIP **Timpagrande** 73.37 24 P **P** 17 31 21.5 -1.0
LAST **Lasithi** 73.52 32 *e*P **P** 17 31 23.9 +0.4
ITM **Ithomi** 73.63 29 *e*P **P** 17 31 23.9 -0.1
ITM **Ithomi** 73.63 29 P **P** 17 31 23.6 -0.4
ITM **Ithomi** 73.63 29 P **P** 17 31 23.6 -0.4
VNDA **Vanda** 73.65 179 P **P** 17 31 24.1 +0.4
comp=Z,22nm,1.3s,baz=211,slow=5.7,SNR=41
VNDA LR LR 18 00 56.7
comp=Z,1μm,20.4s,baz=162,slow=34
VNDA **Vanda** 73.65 179 P **P** 17 31 24.1 +0.4
VNDA pmax pmax
comp=Z,22nm,1.3s
VNDA MLR MLR
comp=Z,1μm,20.4s
VNDA **Vanda** 73.65 179⇓*e*P **P** 17 31 23.6 0.0
comp=Z,216nm,1.8s
SDDR **Presa de Saban** 73.65 303 *e*P **P** 17 31 24.9 +0.3
comp=Z,199nm,2.0s
SDDR LR LR
comp=Z,3μm,22.0s
NPS **Neapolis** 73.67 32 *e*P **P** 17 31 26.2 +1.9
VLI **Veliai** 73.67 30 *e*P **P** 17 31 25.1 +0.9
VLI **Veliai** 73.67 30 P **P** 17 31 24.0 -0.2
VLI **Veliai** 73.67 30 P **P** 17 31 24.0 -0.2
CUC **Castrocucco** 73.77 23 *e*P **P** 17 31 22.4 -2.4
comp=Z,21nm,1.1s
CUC LR LR
comp=Z,752nm,20.0s
AMT **Artemida-Makis** 73.84 28 P **P** 17 31 26.6 +1.4
VLS **Valsamata** 73.94 27 P **P** 17 31 24.8 -1.0
VLS **Valsamata** 73.94 27 P **P** 17 31 24.8 -1.0
VLS **Valsamata** 73.94 27 P **P** 17 31 24.8 -1.0
VLX **Vlachokerasia** 73.99 29 *e*P **P** 17 31 26.5 +0.3
RLS **Riolos of Patr** 74.19 28 *e*P **P** 17 31 28.3 +1.1
RLS **Riolos of Patr** 74.19 28 P **P** 17 31 26.8 -0.4
RLS **Riolos of Patr** 74.19 28 P **P** 17 31 26.8 -0.4
DIDY **Didyma** 74.43 29 *e*P **P** 17 31 29.0 +0.2
GUR **Goura** 74.45 28 *e*P **P** 17 31 29.4 +0.5
KLV **Kalavryta, Ach** 74.46 28 *e*P **P** 17 31 29.4 +0.5
KLV **Kalavryta, Ach** 74.46 28 P **P** 17 31 28.3 -0.6
KLV **Kalavryta, Ach** 74.46 28 P **P** 17 31 28.3 -0.6
LAKA **Lakka** 74.56 28 *e*P **P** 17 31 30.8 +1.4
LAKA **Lakka** 74.56 28 P **P** 17 31 28.9 -0.5
LAKA **Lakka** 74.56 28 P **P** 17 31 28.9 -0.5
BCIP **Isla Barro Col** 74.58 290 *e*P **P** 17 31 28.4 -1.6
comp=Z,83nm,1.4s
BCIP LR LR
comp=Z,4μm,21.0s
THAL **Thalero** 74.67 29 *e*P **P** 17 31 32.0 +2.0
EFP **Efpalio** 74.69 28 P **P** 17 31 30.7 +0.6
TRIZ **Trizonia** 74.70 28 *e*P **P** 17 31 31.4 +1.2
TRIZ **Trizonia** 74.70 28 P **P** 17 31 29.9 -0.3
KALE **Kalithea** 74.75 28 *e*P **P** 17 31 31.4 +0.8
KALE **Kalithea** 74.75 28 P **P** 17 31 31.3 +0.7
KALE **Kalithea** 74.75 28 P **P** 17 31 31.3 +0.7
LTK **Loutraki** 74.79 29 *e*P **P** 17 31 30.5 -0.2
LTK **Loutraki** 74.79 29 P **P** 17 31 28.2 -2.5
LTK **Loutraki** 74.79 29 P **P** 17 31 28.2 -2.5
DSF **Desfina** 74.93 28 *e*P **P** 17 31 31.7 +0.1
DSF **Desfina** 74.93 28 P **P** 17 31 30.7 -0.9
DSF **Desfina** 74.93 28 P **P** 17 31 30.7 -0.9
DESF **Desfina** 74.93 28 *e*P **P** 17 31 31.6 0.0
DSL **Palaion Diasel** 74.97 27 *e*P **P** 17 31 33.3 +1.6
VILL **Villia** 75.05 29 P **P** 17 31 31.4 -0.9
EVR **Evrytania** 75.06 28 *e*P **P** 17 31 33.3 +0.9
EVR **Evrytania** 75.06 28 P **P** 17 31 32.3 -0.1
EVR **Evrytania** 75.06 28 P **P** 17 31 32.3 -0.1
VIL2 **Platees** 75.07 29 *e*P **P** 17 31 33.9 +1.5
AQU **L'Aquila** 75.14 20 *e*P **P** 17 31 32.5 -0.2
AQU pmax pmax
comp=Z,159nm,1.4s
AQU MLR MLR
comp=Z,5μm,20.0s
AQU **L'Aquila** 75.14 20 *e*P **P** 17 31 32.5 -0.2
comp=Z,159nm,1.4s
AQU LR LR
comp=Z,5μm,20.0s
GRTK **Grand Turk** 75.14 305 PFAKE 17 31 40.0 +6.9
GRTK LR LR
comp=Z,2μm,20.0s
AXAR **Agios Charalam** 75.28 28 *e*P **P** 17 31 33.7 +0.1
AXAR **Agios Charalam** 75.28 28 P **P** 17 31 34.0 +0.4
AXAR **Agios Charalam** 75.28 28 P **P** 17 31 34.0 +0.4
LKR **Lokris** 75.33 29 *e*P **P** 17 31 34.0 +0.2
AGG **Agios Georgios** 75.37 28 *e*P **P** 17 31 34.0 -0.1
AGG pmax pmax
comp=Z,42nm,1.2s
AGG **Agios Georgios** 75.37 28 *e*P **P** 17 31 34.7 +0.6
AGG **Agios Georgios** 75.37 28 *e*P **P** 17 31 34.0 -0.1
comp=Z,42nm,1.2s
ATAL **Atalanti** 75.37 29 P **P** 17 31 33.4 -0.7
ATAL **Atalanti** 75.37 29 P **P** 17 31 33.4 -0.7
EREA **Eretria** 75.53 29 *e*P **P** 17 31 34.9 -0.1
SMIA **Simia** 75.61 29 *e*P **P** 17 31 37.3 +1.9
MRKA **Markates** 75.62 29 *e*P **P** 17 31 37.5 +2.0
ARG **Arkhangelos** 75.64 33 P **P** 17 31 35.5 -0.1
ARG **Arkhangelos** 75.64 33 *e*P **P** 17 31 35.4 -0.1
ARG **Arkhangelos** 75.64 33 P **P** 17 31 35.5 -0.1
ARG **Arkhangelos** 75.64 33 P **P** 17 31 35.5 -0.1
SSB **Saint Sauveur** 75.70 13 *e*P **P** 17 31 35.8 0.0
SSB *e* 17 34 21.5
SSB pmax pmax
comp=Z,53nm,1.3s
SSB MLR MLR
comp=Z,993nm,20.0s
SSB **Saint Sauveur** 75.70 13 *e*P **P** 17 31 35.8 0.0
comp=Z,53nm,1.3s
SSB *e*PP **PP** 17 34 21.4 -4.6
SSB LR LR
comp=Z,993nm,20.0s
THL **Klokotos Trika** 75.70 27 *e*P **P** 17 31 36.0 +0.1
THL **Klokotos Trika** 75.70 27 P **P** 17 31 35.0 -0.9
CASY **Casey** 75.82 160 *e*P **P** 17 31 36.7 +0.4
comp=Z,82nm,1.3s
VLC **Villacollemand** 75.96 17 *e*P **P** 17 31 35.7 -1.6
comp=Z,72nm,1.3s
VLC LR LR
comp=Z,2μm,19.0s
NEO **Neokhori** 75.98 28 *e*P **P** 17 31 37.7 +0.2
NEO **Neokhori** 75.98 28 P **P** 17 31 37.7 +0.2
NEO **Neokhori** 75.98 28 P **P** 17 31 37.7 +0.2
XOR **Xorichti** 76.01 28 P **P** 17 31 36.8 -0.9
XOR **Xorichti** 76.01 28 P **P** 17 31 36.8 -0.9
NEST **Nestorio** 76.05 26 P **P** 17 31 37.5 -0.5
LIT **Litokhoron** 76.35 27 P **P** 17 31 38.0 -1.6
LIT **Litokhoron** 76.35 27 P **P** 17 31 38.0 -1.6
LIT **Litokhoron** 76.35 27 P **P** 17 31 38.0 -1.6
TIR **Tirane** 76.41 25 *e*P **P** 17 31 40.4 +0.5
TIR pmax pmax
comp=Z,222nm,1.3s
TIR MLR MLR
comp=Z,1μm,20.0s
TIR **Tirane** 76.41 25 *e*P **P** 17 31 40.4 +0.5
comp=Z,222nm,1.3s
TIR LR LR
comp=Z,1μm,20.0s
CHOS **Chios island** 76.43 31 *e*P **P** 17 31 41.7 +1.5
CHOS **Chios island** 76.43 31 P **P** 17 31 40.9 +0.7
CHOS **Chios island** 76.43 31 P **P** 17 31 40.9 +0.7
FNA **Florina** 76.49 26 P **P** 17 31 39.3 -1.2
FNA **Florina** 76.49 26 *e*P **P** 17 31 40.6 +0.1
FNA **Florina** 76.49 26 P **P** 17 31 39.3 -1.2
FNA **Florina** 76.49 26 P **P** 17 31 39.3 -1.2
PAIG **Paliouri** 76.69 28 P **P** 17 31 40.3 -1.2
PAIG **Paliouri** 76.69 28 P **P** 17 31 40.3 -1.2
PAIG **Paliouri** 76.69 28 P **P** 17 31 40.3 -1.2
PHP **Peshkopia** 76.91 25 P **P** 17 31 43.4 +0.6
PHP **Peshkopia** 76.91 25 P **P** 17 31 43.4 +0.6
PHP **Peshkopia** 76.91 25 P **P** 17 31 43.4 +0.6
RAYN **Ar Rayn** 76.92 54 P **P** 17 31 45.0 +1.7
comp=Z,349nm,1.2s,SNR=25
HORT **Hortiatis** 77.02 28 *e*P **P** 17 31 43.6 +0.1
GTBY **Guantanamo Bay** 77.06 302 *e*P **P** 17 31 45.0 +0.9
comp=Z,177nm,1.4s
GTBY LR LR
comp=Z,2μm,22.0s
SENIN **Lac Senin/Sane** 77.30 14 *e*P **P** 17 31 44.7 -0.4
CSS **Prodhromos** 77.31 38 *e*P **P** 17 31 45.8 +0.6
comp=Z,20nm,1.3s
CSS LR LR
comp=Z,303nm,19.0s
KNT **Kendrikon** 77.41 27 P **P** 17 31 44.1 -1.5
KNT **Kendrikon** 77.41 27 P **P** 17 31 44.1 -1.5
KNT **Kendrikon** 77.41 27 P **P** 17 31 44.1 -1.5
VAY **Valandovo** 77.42 27 P **P** 17 31 45.0 -0.6
VAY **Valandovo** 77.42 27 P **P** 17 31 45.0 -0.6
VAY **Valandovo** 77.42 27 P **P** 17 31 45.0 -0.6
SRS **Serrai** 77.65 28 P **P** 17 31 44.3 -2.6
SRS **Serrai** 77.65 28 P **P** 17 31 44.3 -2.6
SRS **Serrai** 77.65 28 P **P** 17 31 44.3 -2.6
KULA **Kula-Manisa** 77.73 32 P **P** 17 31 47.5 0.0
KULA **Kula-Manisa** 77.73 32 P **P** 17 31 47.5 0.0
TUE **Stuetta** 77.87 16 *e*P **P** 17 31 47.1 -1.2
comp=Z,98nm,1.5s
TUE LR LR
comp=Z,1μm,20.0s
MTDJ **Mount Denham** 77.88 299 P **P** 17 31 48.2 -0.7
MTDJ LR LR
comp=Z,2μm,20.0s
SMTH **Samothraki Isl** 77.92 29 *e*P **P** 17 31 48.0 -0.4
KAVA **Kavala** 77.93 28 *e*P **P** 17 31 48.4 0.0
KAVA **Kavala** 77.93 28 P **P** 17 31 48.2 -0.2
KAVA **Kavala** 77.93 28 P **P** 17 31 48.2 -0.2
NVR **Nevrokopi** 77.96 28 *e*P **P** 17 31 47.9 -0.8
NVR **Nevrokopi** 77.96 28 P **P** 17 31 47.9 -0.8
NVR **Nevrokopi** 77.96 28 P **P** 17 31 47.9 -0.8
ISP **Isparta** 78.07 34 *e*P **P** 17 31 49.4 -0.1
ISP pmax pmax
comp=Z,33nm,1.1s
ISP MLR MLR
comp=Z,791nm,19.0s
ISP **Isparta** 78.07 34⇑*iP* **P** 17 31 51.4 +1.9
ISP **Isparta** 78.07 34 *e*P **P** 17 31 49.4 -0.1
comp=Z,33nm,1.1s
ISP LR LR
comp=Z,791nm,19.0s
KKB **Koupnik** 78.08 27 *e*P **P** 17 31 49.3 0.0
MMB **Musomiste** 78.11 27 *e*P **P** 17 31 49.0 -0.5
FUORN **Ofenpass-Fuorn** 78.23 16 *e*P **P** 17 31 50.2 -0.1
comp=Z,157nm,1.6s
BBSR **BB Station** 78.25 317 *e*P **P** 17 31 50.0 -0.4
comp=Z,102nm,1.7s
BBSR LR LR
comp=Z,1μm,21.0s
PAYG **Puerto Ayora** 78.42 276 PFAKE 17 32 00.0 +8.1
PAYG LR LR
comp=Z,3μm,20.0s
RDO **Rodhopi** 78.48 29 *e*P **P** 17 31 51.7 +0.2
RDO **Rodhopi** 78.48 29 *e*P **P** 17 31 51.9 +0.4
comp=Z,152nm,1.2s
RDO **Rodhopi** 78.48 29 P **P** 17 31 49.0 -2.5
JSA **Saint Aubin** 78.48 7 *e*P **P** 17 31 51.3 +0.1
JSA AMB AMB 17 31 52.0
comp=Z,77nm,1.8s
JSA AMS AMS 18 01 12.3
comp=Z,1μm,25.9s
ALN **Alexandroupoli** 78.49 29 P **P** 17 31 51.1 -0.5
ALN **Alexandroupoli** 78.49 29 *e*P **P** 17 31 51.5 -0.1
ALN **Alexandroupoli** 78.49 29 P **P** 17 31 51.1 -0.5
ALN **Alexandroupoli** 78.49 29 P **P** 17 31 51.1 -0.5
JQE **Queens East** 78.51 7 *e*P **P** 17 31 50.2 -1.2
BOJS **Bojanci** 78.56 20 *e*P **P** 17 31 52.0 +0.2
BOJS *e*S **S** 17 41 48.1 +0.8
BOJS **Bojanci** 78.56 20 *e*P **P** 17 31 52.0 +0.2
BOJS *e*S **S** 17 41 48.1 +0.8
RZN **Rozhen** 78.59 28 *e*P **P** 17 31 51.8 -0.5
FETA **Feichten** 78.72 16 *iP* **P** 17 31 52.1 -0.8
comp=Z,73nm,1.5s,SNR=15
VTS **Vitosha** 78.75 27 P **P** 17 31 51.5 -1.6
VTS **Vitosha** 78.75 27⇑*iP* **P** 17 31 53.8 +0.7
VTS **Vitosha** 78.75 27 *e*P **P** 17 31 52.8 -0.3
VTS **Vitosha** 78.75 27 P **P** 17 31 51.5 -1.6
VTS **Vitosha** 78.75 27 P **P** 17 31 51.5 -1.6
DAVA **Damuels** 78.76 16⇓*iP* **P** 17 31 52.0 -1.1
comp=Z,106nm,1.4s,SNR=32
LJU **Ljubljana** 78.83 19 *e*P **P** 17 31 53.4 +0.1
LJU *e*S **S** 17 41 51.1 +0.9
LJU **Ljubljana** 78.83 19 *e*P **P** 17 31 53.4 +0.1
LJU **Ljubljana** 78.83 19 *e*S **S** 17 41 51.1 +0.9
DIVS **Divibare** 78.85 24⇑*iP* **P** 17 31 54.3 +0.7
DIVS **Divibare** 78.85 24 P **P** 17 31 53.5 -0.1
ABTA **Abfaltersbach** 78.92 18⇓*iP* **P** 17 31 54.0 +0.1
comp=Z,112nm,1.5s,SNR=43
PLD **Plovdiv** 78.94 28 *e*P **P** 17 31 53.9 -0.1
ECH **Echery** 79.03 14 *e*P **P** 17 31 53.8 -0.6
ECH pmax pmax
comp=Z,51nm,1.4s
ECH MLR MLR
comp=Z,1μm,19.0s
ECH **Echery** 79.03 14 *e*P **P** 17 31 53.8 -0.6
comp=Z,51nm,1.4s
ECH LR LR
comp=Z,1μm,19.0s
PGB **Panagyurishte** 79.09 27 *e*P **P** 17 31 54.7 -0.2
MOTA **Moosalm** 79.11 17⇑*iP* **P** 17 31 54.6 -0.4
comp=Z,57nm,1.5s,SNR=10
MYKA **Terra Mystica** 79.12 18⇑*iP* **P** 17 31 55.0 0.0
comp=Z,84nm,1.5s,SNR=17
RETA **Reutte** 79.16 16⇑*iP* **P** 17 31 52.9 -2.3
comp=Z,39nm,1.5s,SNR=9.1
WTTA **Wattenberg** 79.17 17⇓*iP* **P** 17 31 54.5 -0.9
comp=Z,134nm,1.4s,SNR=21
WATA **Walderalm** 79.22 17⇓*iP* **P** 17 31 55.5 -0.1
comp=Z,88nm,1.4s,SNR=6.8
OBKA **Obir** 79.26 19⇓*iP* **P** 17 31 55.8 0.0
comp=Z,42nm,1.5s,SNR=14
BFO **Black Forest** 79.39 14 *e*P **P** 17 31 55.6 -0.8
comp=Z,77nm,1.3s
BFO *e*S **S** 17 41 57.1 +1.0
BFO *e*SS **SS** 17 46 59.3 -5.0
BFO **Black Forest** 79.39 14 P **P** 17 31 55.7 -0.7
comp=Z,258nm,1.2s,SNR=12
BFO **Black Forest** 79.39 14 *e*P **P** 17 31 55.9 -0.4
BFO pmax pmax
comp=Z,66nm,1.2s
BFO MLR MLR
comp=Z,714nm,19.0s
BFO **Black Forest** 79.39 14 *e*P **P** 17 31 55.9 -0.4
comp=Z,66nm,1.2s
BFO LR LR
comp=Z,714nm,19.0s
JTS **JuntasAbangare** 79.42 288*d iP* **P** 17 31 57.4 +0.1
JTS MLR MLR
comp=Z,11μm,16.0s
JTS **JuntasAbangare** 79.42 288 *e*P **P** 17 31 57.6 +0.2
comp=Z,98nm,1.5s
JTS LR LR
comp=Z,7μm,20.0s
KBA **Koelnbreinsper** 79.45 18 *iP* **P** 17 31 56.5 -0.4
comp=Z,70nm,1.4s,SNR=16
DYA **Yadsworthy** 79.54 6 *e*P **P** 17 31 56.3 -0.8
DYA AMB AMB 17 32 00.2
comp=Z,88nm,1.3s
DYA AMS AMS 17 59 36.9
comp=Z,889nm,31.0s
DYA **Yadsworthy** 79.54 6 *e*P **P** 17 31 57.6 +0.6
comp=Z,158nm,1.4s
SOKA **Soboth** 79.56 19 *iP* **P** 17 31 57.6 +0.2
comp=Z,64nm,1.3s,SNR=44
MPEP **Malo Peshtene** 79.60 26 *e*P **P** 17 31 56.9 -0.7
KOGS **Kog** 79.71 20 *e*P **P** 17 31 58.6 +0.5
KOGS **Kog** 79.71 20 *e*P **P** 17 31 58.6 +0.5
BEHE **Becsehely** 79.89 21⇓*e*P **P** 17 31 59.7 +0.6
RJOB **Jochberg** 79.91 17 *e*P **P** 17 31 58.1 -1.1
comp=Z,68nm,1.8s
RJOB *e*S **S** 17 41 59.5 -2.2
RJOB *e*SS SS 17 47 03.7 -8.5
FUR **Furstenfeldbru** 79.92 16 *e*P **P** 17 31 58.8 -0.4
comp=Z,157nm,1.5s
FUR *e*S **S** 17 42 01.5 -0.2
FUR *e*SS **SS** 17 47 05.2 -7.0
STU **Stuttgart** 80.00 15 *e*P **P** 17 31 58.9 -0.7
comp=Z,112nm,1.4s
STU *e*S **S** 17 42 02.7 +0.3
STU *e*SS **SS** 17 47 08.3 -5.0
STU **Stuttgart** 80.00 15 *e*P **P** 17 31 59.1 -0.5
STU pmax pmax
comp=Z,59nm,1.0s
STU **Stuttgart** 80.00 15 *e*P **P** 17 31 59.1 -0.5
comp=Z,59nm,1.0s
JMB **Yambol** 80.01 29 *e*P **P** 17 32 00.3 +0.5
WLF **Walferdange** 80.21 13 P **P** 17 32 01.0 +0.2
comp=Z,71nm,1.8s
WLF **Walferdange** 80.21 13 *e*P **P** 17 32 00.8 +0.1
comp=Z,119nm,1.4s
WLF *e*PP **PP** 17 35 02.9 -0.9
WLF *e*S **S** 17 42 05.2 +0.6
WLF *e*SS **SS** 17 47 11.2 -5.3
WLF **Walferdange** 80.21 13 *e*P **P** 17 32 00.9 +0.2
WLF pmax pmax
comp=Z,84nm,1.2s
WLF MLR MLR
comp=Z,1μm,19.0s
WLF **Walferdange** 80.21 13 *e*P **P** 17 32 00.9 +0.2
comp=Z,84nm,1.2s
WLF LR LR
comp=Z,1μm,19.0s
ARSA **Arzberg** 80.22 19⇓*iP* **P** 17 32 01.0 +0.1
comp=Z,57nm,1.4s,SNR=24
PKSM **Moragy** 80.25 22⇑*iP* **P** 17 32 01.3 +0.3
PKSM **Moragy** 80.25 22⇓*eP* **P** 17 32 00.8 -0.2
DOU **Dourbes** 80.34 11 P **P** 17 32 02.0 +0.5
comp=Z,27nm,2.2s
SZH **Strazhica** 80.40 28 *e*P **P** 17 32 01.0 -0.9
MOA **Molln** 80.41 18 *iP* **P** 17 32 01.3 -0.6
comp=Z,59nm,1.5s,SNR=22
SNF **Seneffe** 80.69 11 P **P** 17 32 03.9 +0.6
BZS **Buzias** 80.74 24⇑*iP* **P** 17 32 04.0 +0.3
ANTO **Ankara** 80.78 34 *e*P **P** 17 32 05.5 +1.4
ANTO **Ankara** 80.78 34 *e*P **P** 17 32 05.5 +1.4
SWN1 **Swindon** 80.82 7 *e*P **P** 17 32 03.4 -0.6
SWN1 AMB AMB 17 32 05.8
comp=Z,117nm,1.8s
SWN1 AMS AMS 18 02 43.0
comp=Z,1μm,26.2s
SOP **Sopron** 80.91 20⇓*eP* **P** 17 32 04.8 +0.3
CONA **Conrad Observa** 80.93 19 *iP* **P** 17 32 04.7 -0.1
comp=Z,51nm,1.3s,SNR=32
MONM **Monmouth** 81.04 6 *e*P **P** 17 32 05.0 -0.1
MONM AMB AMB 17 32 08.1
comp=Z,77nm,1.3s
MONM AMS AMS 18 00 23.0
comp=Z,836nm,31.4s
HUMR **Humele** 81.07 27⇑*iP* **P** 17 32 06.2 +0.7
BR131 **Keskin Array S** 81.09 35 *e*P **P** 17 32 06.3 +0.4
comp=Z,101nm,1.6s
BRTR **Keskin Array B** 81.09 35 P **P** 17 32 06.0 +0.1
comp=Z,11nm,1.0s,baz=190,slow=6.6,SNR=34
BRTR LR LR 18 08 01.7
comp=Z,295nm,20.4s,baz=181,slow=36
MEM **Membach** 81.09 12 P **P** 17 32 06.3 +0.9
comp=Z,29nm,2.1s
MEM **Membach** 81.09 12 *e*P **P** 17 32 07.1 +1.7
MEM pmax pmax

comp=Z,86nm,1.5s
MEM Membach 81.09 12 *e*P **P 17 32 07.1 +1.7**
comp=Z,86nm,1.5s
GEC2 GERESS Array S 81.17 18 *e*P **P 17 32 05.5 -0.5**
comp=Z,51nm,1.7s
GEC2 *e*S **S 17 42 14.6 -0.3**
GEC2 *e*SS SS 17 47 23.6 -7.4
GEC2 GERESS Array S 81.17 18 *e*P **P 17 32 05.8 -0.2**
GEC2 *e* 17 35 10.4
GEC2 GERESS Array S 81.17 18 *e*P **P 17 32 05.8 -0.2**
GEC2 *e*PP **PP 17 35 10.4 -1.4**
GERES GERESS Array B 81.17 18 P **P 17 32 05.3 -0.7**
comp=Z,2.7nm,0.7s,baz=197,slow=2.8,SNR=26
GERES PP **PP 17 35 08.8 -3.1**
comp=Z,6.2nm,1.0s,baz=188,slow=8.1,SNR=8.3
GERES LR LR 18 05 22.4
comp=Z,2μm,21.8s,baz=201,slow=34
MCH1 Michaelchurch 81.17 6 *e*P **P 17 32 05.8 0.0**
MCH1 AMB AMB 17 32 07.3
comp=Z,68nm,1.6s
MCH1 AMS AMS 18 07 51.0
comp=Z,866nm,20.8s
TNS Taunus Mts 81.20 14 *e*P **P 17 32 06.1 0.0**
comp=Z,71nm,1.5s
TNS *e*S **S 17 42 14.1 -1.0**
TNS *e*SS **SS 17 47 25.7 -5.7**
BEBN Eben Emael 81.21 12 P **P 17 32 07.3 +1.3**
WET Wettzell 81.23 17 *e*P **P 17 32 05.7 -0.5**
comp=Z,150nm,1.9s
WET *e*S **S 17 42 14.4 -1.0**
WET *e*SS **SS 17 47 26.1 -5.7**
SIRR Siria 81.32 24⇑*i*P **P 17 32 07.3 +0.5**
GRFO Grafenberg 81.33 16 *e*P **P 17 32 06.5 -0.2**
GRFO pmax pmax
comp=Z,198nm,1.6s
GRFO Grafenberg 81.33 16 *e*P **P 17 32 06.5 -0.2**
comp=Z,198nm,1.6s
GRF Grafenberg Arr 81.33 16 *e*P **P 17 32 06.5 -0.2**
comp=Z,119nm,1.4s
GRF *e*PP **PP 17 35 11.2 -1.8**
GRF *e*S **S 17 42 15.2 -1.1**
GRF *e*SS **SS 17 47 28.5 -4.7**
GRF *e*L L 18 04 52.5
comp=Z,1μm,21.8s
LOT Lotru 81.38 25⇑*i*P P 17 31 55.2 -12
KHC Kasperske Hory 81.39 17 *e*P **P 17 32 06.0 -1.1**
KHC *e*PP **PP 17 35 12.0 -1.7**
KHC Kasperske Hory 81.39 17 *e*P **P 17 32 06.0 -1.1**
KHC *e* 17 35 12.0
BUD Budapest 81.50 21⇓*e*P **P 17 32 07.2 -0.4**
ROTZ Rotzenmuhle 81.63 16 *e*P **P 17 32 08.1 -0.2**
comp=Z,153nm,1.9s
ROTZ *e*PP **PP 17 35 13.9 -1.7**
ROTZ *e*S **S 17 42 19.3 -0.2**
ROTZ *e*SS **SS 17 47 32.6 -5.2**
ARR Arges 81.64 26⇑*i*P **P 17 32 08.9 +0.3**
PSN Preselentsi 81.68 29 *e*P **P 17 32 07.8 -0.9**
VOIR 81.86 26⇑*i*P **P 17 32 09.8 +0.1**
MSAB Monastry St. A 81.86 29⇑*i*P **P 17 32 10.2 +0.5**
SECR 81.92 27⇑*i*P **P 17 32 11.4 +1.4**
FOEL Foel Wylfa 82.04 6 *e*P **P 17 32 10.9 +0.5**
FOEL AMB AMB 17 32 12.2
comp=Z,66nm,1.7s
TREC Trest 82.06 18 *e*P **P 17 32 10.1 -0.5**
TREC *e*pP **pP 17 32 16.8 -0.1**
TREC *e*x x 17 32 25.1
TREC *e*PP **PP 17 35 16.9 -2.2**
TREC *e*S **S 17 42 21.9 -2.0**
TREC *e*PS **PnS 17 43 07.8 -6.5**
TREC *e*x x 17 47 35.9
TREC AMS AMS 18 06 10.0
comp=Z,2μm,21.0s
TREC Trest 82.06 18 *e*P **P 17 32 10.1 -0.5**
TREC *e* 17 32 16.8
TREC *e* 17 35 16.9
TREC *e*S **S 17 42 21.9 -2.0**
TREC *e* 17 43 07.8
TREC MLR MLR
comp=Z,2μm,21.0s
CWF Charnwood Fore 82.08 7 *e*P **P 17 32 10.8 +0.2**
CWF AMB AMB 17 32 12.3
comp=Z,82nm,1.8s
CWF AMS AMS 18 01 57.1
comp=Z,1μm,26.8s
UBBA Unterbreizbach 82.10 15 *e*P **P 17 32 10.9 +0.3**
comp=Z,91nm,1.8s
UBBA *e*PP **PP 17 35 17.7 -1.5**
UBBA *e*S **S 17 42 25.2 +1.2**
UBBA *e*SS **SS 17 47 39.5 -4.9**
BUG Bochum--Univer 82.12 13 *e*P **P 17 32 11.1 +0.3**
comp=Z,157nm,1.8s
BUG *e*S **S 17 42 26.1 +1.7**
BUG *e*SS **SS 17 47 42.2 -2.7**
NKC Novy Kostel 82.12 16 *e*P **P 17 32 10.4 -0.5**
NKC *e*pP **pP 17 32 17.3 +0.1**
NKC *e*x x 17 32 25.8
NKC *e*PP **PP 17 35 14.9 -4.7**
NKC *e*S **S 17 42 24.6 0.0**
NKC *e*PS **PnS 17 43 18.1 +3.0**
NKC *e*SS **SS 17 47 41.9 -3.2**
NKC AMS AMS 18 05 20.0
comp=Z,1μm,19.8s
NKC Novy Kostel 82.12 16 *e*P **P 17 32 10.4 -0.5**
NKC *e* 17 32 17.3
NKC *e* 17 35 14.9
NKC *e*S **S 17 42 24.6 0.0**
NKC *e* 17 43 18.1
NKC *e*SS **SS 17 47 41.9 -3.2**
NKC MLR MLR
comp=Z,1μm,19.8s
DRGR 82.14 24⇑*i*P **P 17 32 12.4 +1.2**
DSB Dublin 82.14 4 *e*P **P 17 32 11.3 +0.4**
comp=Z,60nm,1.3s
PSZ Piszkesteto 82.16 22 *e*P **P 17 32 10.7 -0.5**
PSZ *e* 17 35 21.0
PSZ pmax pmax
comp=Z,98nm,1.2s
PSZ MLR MLR
comp=Z,1μm,19.0s
PSZ Piszkesteto 82.16 22⇑*i*P **P 17 32 11.6 +0.4**
PSZ Piszkesteto 82.16 22 *e*P **P 17 32 10.7 -0.5**
comp=Z,98nm,1.2s
PSZ *e*PP **PP 17 35 21.0 +1.0**
PSZ LR LR
comp=Z,1μm,19.0s
PSZ Piszkesteto 82.16 22⇓*e*P **P 17 32 11.2 0.0**
ISR Istrita 82.18 27⇑*i*P **P 17 32 12.9 +1.5**
YLL Llanberis 82.20 5 *e*P **P 17 32 11.4 +0.2**
MLR Muntele Rosu 82.25 27⇑*i*P **P 17 32 12.2 +0.3**
TANN Tannenbergstha 82.30 16 *e*P **P 17 32 11.6 -0.3**
comp=Z,110nm,2.0s
TANN *e*PP **PP 17 35 19.4 -1.7**
TANN *e*S **S 17 42 26.6 +0.2**
TANN *e*SS **SS 17 47 42.3 -5.4**
MOX Moxa 82.31 16 *e*P **P 17 32 11.5 -0.4**
comp=Z,88nm,2.0s
MOX *e*PP **PP 17 35 19.6 -1.5**
MOX *e*S **S 17 42 28.0 +1.6**
MOX *e*SS **SS 17 47 42.2 -5.5**
MOX *e*L L 18 08 17.5
comp=Z,1μm,18.2s
VYHS Vyhne 82.33 21 *e*P **P 17 32 12.0 0.0**
VYHS pmax pmax
comp=Z,27nm,1.2s
VYHS Vyhne 82.33 21 *e*P **P 17 32 12.0 0.0**
VYHS *e*PP **PP 17 35 20.7 -0.6**
VYHS *e*S **S 17 42 26.6 -0.1**
WLF1 Llynfaes 82.33 5 *e*P **P 17 32 10.9 -1.0**
WLF1 AMB AMB 17 32 12.8
comp=Z,52nm,2.0s
WLF1 AMS AMS 18 07 38.1
comp=Z,913nm,18.9s
VRAC Vranov 82.38 19⇓*i*P **P 17 32 12.7 +0.4**
CJR Cluj-Napoca 82.39 25⇓*i*P **P 17 32 14.1 +1.6**
HARR Harsova 82.40 28⇑*i*P **P 17 32 14.5 +2.1**
TIRR Tirgusor 82.41 29 *e*P **P 17 32 13.4 +0.9**
TIRR pmax pmax
comp=Z,98nm,1.5s
TIRR Tirgusor 82.41 29⇓*i*P **P 17 32 14.2 +1.7**
TIRR Tirgusor 82.41 29 *e*P **P 17 32 13.4 +0.9**
comp=Z,98nm,1.5s
GOPC GO Pecny, Ondr 82.43 18 *e*P **P 17 32 12.3 -0.3**
GOPC *e*pP **pP 17 32 18.4 -0.4**
GOPC *e*x x 17 32 26.8
GOPC *e*PP **PP 17 35 23.1 +0.9**
GOPC *e*S **S 17 42 27.0 -0.7**
GOPC *e*x x 17 43 09.1
GOPC *e*SP **SPn 17 43 22.9 +6.8**
GOPC *e*SS **SS 17 47 46.3 -3.4**
GOPC AMS AMS 18 06 20.0
comp=Z,2μm,21.1s
DOPR Dopca 82.43 26⇑*i*P **P 17 32 13.1 +0.4**
PRU Pruhonice 82.43 18 *e*P **P 17 32 12.2 -0.3**
PRU *e*pP **pP 17 32 19.0 +0.2**
PRU *e*x x 17 32 27.7
PRU *e*PP **PP 17 35 20.6 -1.5**
PRU *e*S **S 17 42 29.4 +1.7**
PRU *e*PS **PnS 17 43 15.1 -3.8**
PRU *e*x x 17 43 23.7
PRU *e*SS **SS 17 47 45.0 -4.6**
PRU AMS AMS 18 05 30.0
comp=Z,2μm,21.5s
PRU Pruhonice 82.43 18 *e*P **P 17 32 12.2 -0.3**
PRU *e* 17 32 19.0
PRU *e* 17 35 20.6
PRU *e*S **S 17 42 29.4 +1.7**
PRU *e* 17 43 15.1
PRU *e* 17 43 23.7
PRU *e*SS **SS 17 47 45.0 -4.6**
PRU MLR MLR
comp=Z,2μm,21.5s
DRV Dumont d'Urvil 82.44 170 S S 17 42 17.0 -11
DRV R 17 59 00.0
WME Myndd Eilian 82.44 5 *e*P **P 17 32 11.9 -0.5**
PRA Prague 82.48 18 *e*P **P 17 32 12.9 +0.1**
PRA *e*pP **pP 17 32 19.5 +0.5**
PRA *e*PP **PP 17 35 22.9 +0.4**
PRA *e*S **S 17 42 30.2 +2.1**
PRA *e*SP **SPn 17 43 20.3 +3.6**
PRA *e*SS **SS 17 47 45.5 -4.8**
PRA AMS AMS 18 05 30.0
comp=Z,2μm,21.1s
PRA Prague 82.48 18 *e*P **P 17 32 12.9 +0.1**
PRA *e* 17 32 19.5
PRA *e* 17 35 22.9
PRA *e*S **S 17 42 30.2 +2.1**
PRA *e* 17 43 20.3
PRA *e*SS **SS 17 47 45.5 -4.8**
PRA MLR MLR
comp=Z,2μm,21.1s
MALT Malatya 82.54 38⇓*i*P **P 17 32 16.4 +2.9**
KBI1 Birley Grange 82.57 7 *e*P **P 17 32 13.4 +0.2**
DGAR Diego Garcia 82.63 94 PFAKE 17 32 30.0 +16
DGAR LR LR
comp=Z,7μm,20.0s
LHO Holmfirth 82.82 7 *e*P **P 17 32 14.5 +0.1**
PLOR Plostina 82.83 27⇑*i*P **P 17 32 16.2 +1.4**
KECS Kecovo 82.84 22 *e*P **P 17 32 15.0 +0.3**
KECS pmax pmax
comp=Z,20nm,1.2s
KECS Kecovo 82.84 22 *e*P **P 17 32 15.0 +0.3**
KECS *e*sP **sP 17 32 21.0 -2.2**
KECS *e*PP **PP 17 35 26.0 +0.4**
VRI Vrincioaia 82.87 27⇑*i*P **P 17 32 15.5 +0.6**
CFR Carcaliu 82.88 28⇑*i*P **P 17 32 15.3 +0.4**
PVCC Panska Ves 82.93 17 *e*P **P 17 32 14.9 -0.2**
PVCC *e*pP **pP 17 32 21.3 -0.1**
PVCC *e*x x 17 32 29.6
PVCC *e*PP **PP 17 35 25.8 -0.4**
PVCC *e*S **S 17 42 35.0 +2.2**
PVCC *e*PS **PnS 17 43 24.6 -0.4**
PVCC *e*x x 17 47 47.5
PVCC AMS AMS 18 06 00.0
comp=Z,1μm,21.0s
PVCC Panska Ves 82.93 17 *e*P **P 17 32 14.9 -0.2**
PVCC *e* 17 32 21.3
PVCC *e* 17 35 25.8
PVCC *e*S **S 17 42 35.0 +2.2**
PVCC *e* 17 43 24.6
PVCC MLR MLR
comp=Z,1μm,21.0s
ARCR ARCALIA 82.98 25⇑*i*P **P 17 32 15.8 +0.3**
IBBN Ibbenburen 83.04 13 *e*P **P 17 32 16.3 +0.7**
comp=Z,150nm,1.6s
IBBN *e*S **S 17 42 36.2 +2.5**
MORC Moravsky Berou 83.08 19⇓*e*P **P 17 32 15.6 -0.3**
MORC pmax pmax
comp=Z,447nm,1.7s
MORC Moravsky Berou 83.08 19⇑*i*P **P 17 32 16.3 +0.3**
MORC Moravsky Berou 83.08 19⇓*e*P **P 17 32 15.6 -0.3**
comp=Z,447nm,1.7s
MORC *e*PP PP 17 35 20.4 -7.1
BRG Berggiesshubel 83.09 17 *e*P **P 17 32 15.6 -0.3**
comp=Z,90nm,2.0s
BRG *e*PCP **pP 17 32 22.1 -0.1**
comp=Z,36nm,1.4s
BRG *e*PP **PP 17 35 25.8 -1.7**
comp=Z,70nm,1.6s
BRG S **S 17 42 36.0 +1.7**
BRG SS SS 17 47 39.0 -20
BRG *e*PKKP **PKKPbc 17 50 40.6 +0.8**
comp=Z,2.0nm,0.9s
comp=N,1μm,19.7s
comp=E,850nm,18.7s
comp=Z,1μm,19.2s
BRG Berggiesshubel 83.09 17 *e*P **P 17 32 15.8 -0.1**
comp=Z,91nm,2.0s
BRG *e*PP **PP 17 35 26.0 -1.5**
BRG *e*S **S 17 42 34.2 -0.1**
BRG *e*SS **SS 17 47 54.4 -4.9**
BRG Berggiesshubel 83.09 17 *e*P **P 17 32 15.6 -0.3**
BRG *e* 17 32 22.1
BRG *e* 17 35 25.8
BRG S **S 17 42 36.0 +1.7**
BRG pmax pmax
comp=Z,90nm,2.0s
BRG pmax pmax
comp=Z,70nm,1.6s
BRG MLR MLR
comp=N,1μm,19.7s
BRG MLR MLR
comp=E,850nm,18.7s
BRG MLR MLR
comp=Z,1μm,19.2s
KRLC Kraliky 83.13 19 *e*P **P 17 32 15.9 -0.3**
KRLC *e*pP **pP 17 32 23.1 +0.6**
KRLC *e*PP **PP 17 35 27.4 -0.5**
KRLC Kraliky 83.13 19 *e*P **P 17 32 15.9 -0.3**
KRLC *e* 17 32 23.1
KRLC *e* 17 35 27.4
CLZ Clausthal 83.14 14 *e*P **P 17 32 16.5 +0.3**
comp=Z,89nm,1.8s
CLZ *e*S **S 17 42 37.0 +2.1**
CLZ *e*SS **SS 17 47 56.0 -4.2**
GMM Mts of Mourne 83.16 4 *e*P **P 17 32 15.5 -0.7**
BMR Baia Mare 83.17 24⇓*i*P **P 17 32 17.6 +1.2**
DPC Dobruska-Polom 83.25 19 *e*P **P 17 32 16.4 -0.4**
DPC *e*pP **pP 17 32 23.3 +0.2**
DPC *e*x x 17 32 32.6
DPC *e*PP **PP 17 35 29.2 +0.3**
DPC *e*S **S 17 42 35.5 -0.6**
DPC *e*x x 17 43 21.2
DPC *e*PS **PnS 17 43 30.0 +1.0**
DPC *e*SS **SS 17 47 55.2 -6.6**
DPC AMS AMS 18 07 00.0
comp=Z,2μm,20.7s
DPC Dobruska-Polom 83.25 19 *e*P **P 17 32 16.4 -0.4**
DPC *e* 17 32 23.3
DPC *e* 17 35 29.2
DPC *e*S **S 17 42 35.5 -0.6**
DPC *e* 17 43 21.2
DPC *e* 17 43 30.0
DPC MLR MLR
comp=Z,2μm,20.7s
HPK Haverah Park 83.25 7 *e*P **P 17 32 16.7 +0.1**
HPK AMB AMB 17 32 18.6
comp=Z,89nm,1.9s
HPK AMS AMS 18 01 42.1
comp=Z,879nm,29.7s
CLL Collm 83.25 16 *e*P **P 17 32 16.6 -0.1**
comp=Z,109nm,1.9s
CLL *e*PP **PP 17 35 27.3 -1.6**
CLL *e*S **S 17 42 36.2 +0.2**
CLL *e*SS **SS 17 47 56.5 -5.2**
CLL Collm 83.25 16⇓*i*P **P 17 32 16.6 -0.1**
CLL *i* 17 32 22.3
CLL *e*S **SKKSac 17 42 40.0 -1.9**
CLL pmax pmax
comp=Z,108nm,1.9s
CLL Collm 83.25 16 *e*P **P 17 32 17.1 +0.3**
comp=Z,162nm,2.0s
CLL *e*PP **PP 17 35 27.5 -1.4**
CLL Collm 83.25 16⇓*i*P **P 17 32 16.6 -0.1**
comp=Z,108nm,1.9s
CLL *i* sP **sP 17 32 22.3 -3.0**
CLL *i* PP **PP 17 35 27.2 -1.6**
CLL *e*sPP 17 35 33.0
CLL *e*S **SKKSac 17 42 40.0 -1.9**
CLL *e*PS **PnS 17 43 36.0 +7.1**
CLL *e*SS **SS 17 48 05.0 +3.3**
CLL *e*SSS SSS 17 51 24.0
UPC Upice 83.30 18 *e*P **P 17 32 16.7 -0.3**
UPC *e*pP **pP 17 32 23.6 +0.3**
UPC *e*x x 17 32 31.5
UPC *e*PP **PP 17 35 28.5 -0.8**
UPC *e*S **S 17 42 35.4 -1.1**
UPC *e*PS **PnS 17 43 24.4 -5.2**
UPC *e*SS **SS 17 47 56.6 -5.9**
UPC AMS AMS 18 06 50.0
comp=Z,2μm,20.7s
UPC Upice 83.30 18 *e*P **P 17 32 16.7 -0.3**
UPC *e* 17 32 23.6
UPC *e* 17 35 28.5
UPC *e*S **S 17 42 35.4 -1.1**
UPC *e* 17 43 24.4
UPC *e*SS **SS 17 47 56.6 -5.9**
UPC MLR MLR
comp=Z,2μm,20.7s
OKC Ostrava-Krasne 83.31 20 *e*P **P 17 32 17.0 -0.1**
OKC *e*pP **pP 17 32 23.3 -0.1**
OKC *e*x x 17 32 32.0
OKC *e*PP **PP 17 35 27.6 -1.7**
OKC *e*S **S 17 42 38.1 +1.5**
OKC *e*PS **PnS 17 43 21.0 -8.7**
OKC *e*SS **SS 17 47 58.7 -3.9**
OKC AMS AMS 18 08 30.0
comp=Z,1μm,19.2s
OKC Ostrava-Krasne 83.31 20 *e*P **P 17 32 17.0 -0.1**
OKC *e* 17 32 23.3
OKC *e* 17 35 27.6
OKC *e*S **S 17 42 38.1 +1.5**
OKC *e* 17 43 21.0
OKC *e*SS **SS 17 47 58.7 -3.9**
OKC MLR MLR
comp=Z,1μm,19.2s
TESR Tescani 83.37 26⇑*i*P **P 17 32 18.6 +1.1**
UZH Uzhgorod 83.57 23 *i* P **P 17 32 18.0 -0.4**
UZH *e*S **S 17 42 37.0 -2.3**
UZH MLR MLR
comp=Z,1μm,19.0s
NIE Niedzica 83.61 21 *e*P **P 17 32 18.9 +0.2**
NIE *e*pP **pP 17 32 24.6 -0.4**
NIE *e*PP **PP 17 35 33.7 +1.9**
NIE *e*S **S 17 42 41.6 +1.9**
NIE LMZ LR 18 07 54.4
NIE Niedzica 83.61 21 *e*P **P 17 32 18.9 +0.2**
NIE *e**PP **pP 17 32 24.6 -0.4**
NIE *e* 17 35 33.8
NIE *e*S **S 17 42 41.7 +2.0**
NIE MLR MLR
comp=Z,2μm,21.0s
KSP Ksiaz 83.68 18 *e*P **P 17 32 19.2 +0.2**
KSP *e*PP **PP 17 35 33.2 +0.8**
KSP LMZ LR 18 06 32.6
KSP Ksiaz 83.68 18 *e*P **P 17 32 19.2 +0.2**
KSP *e* 17 35 33.2
KSP pmax pmax
comp=Z,100nm,2.1s
KSP MLR MLR
comp=Z,2μm,21.6s
BURAR Bucovina Array 83.75 25⇑*i*P **P 17 32 20.6 +1.1**
BUR08 Bucovina Ar. S 83.77 25⇓*e*P **P 17 32 19.6 0.0**
KOLS Kolonicke sedl 83.83 23 *e*P **P 17 32 20.0 +0.2**
KOLS pmax pmax
comp=Z,75nm,1.9s
KOLS Kolonicke sedl 83.83 23 *e*P **P 17 32 20.0 +0.2**
KOLS *e*PP **PP 17 35 33.9 +0.3**
KOLS *e*S **S 17 42 42.6 +0.7**
GAL1 Galloway 83.87 5 *e*P **P 17 32 19.5 -0.3**
GAL1 AMB AMB 17 32 22.0
comp=Z,77nm,1.7s
OJC Ojcow 84.15 21 *e*P **P 17 32 21.0 -0.3**
OJC *e*PP **PP 17 35 33.7 -2.5**
OJC LMZ LR 18 03 02.0
OJC Ojcow 84.15 21 *e*P **P 17 32 21.1 -0.3**
OJC *e* 17 35 33.8
OJC pmax pmax
comp=Z,200nm,2.0s
OJC Ojcow 84.15 21 *e*P **P 17 32 21.2 -0.2**
comp=Z,118nm,1.7s
OJC *e*PP **PP 17 35 38.1 +1.9**
ECK Cauldkaine Hil 84.31 6 *e*P **P 17 32 22.7 +0.6**
ESK Eskdalemuir 84.44 6 P **P 17 32 23.0 +0.3**
comp=Z,316nm,1.5s,SNR=14
ESK Eskdalemuir 84.44 6 *e*P **P 17 32 23.2 +0.4**
ESK AMB AMB 17 32 24.9
comp=Z,79nm,1.6s
ESK AMS AMS 18 09 25.8
comp=Z,1μm,17.4s
ESK Eskdalemuir 84.44 6⇓*e*P **P 17 32 22.7 0.0**
ESK pmax pmax
comp=Z,80nm,1.2s
ESK MLR MLR
comp=Z,1μm,19.0s
ESK Eskdalemuir 84.44 6⇓*e*P **P 17 32 22.7 0.0**
comp=Z,80nm,1.2s
ESK LR LR
comp=Z,1μm,19.0s
KWP Kalwaria Pacla 84.57 23 *e*P **P 17 32 23.5 0.0**
KWP *e*pP **pP 17 32 29.8 0.0**
KWP LMZ LR 18 02 19.7
KWP Kalwaria Pacla 84.57 23 *e*P **P 17 32 23.6 0.0**
KWP *e**PP **pP 17 32 29.8 0.0**
KWP pmax pmax
comp=Z,400nm,2.1s
KIS Kishinev 84.63 27 *e*P **P 17 32 23.0 -0.9**
comp=Z,200nm,2.0s
KIS Kishinev 84.63 27 *e*PP PP 17 35 46.0 +5.8
KIS *e*SKS **S 17 42 46.0 -4.0**
KIS *e*S **SKSac 17 42 48.0 +1.3**
KIS Kishinev 84.63 27 *e*P **P 17 32 23.0 -0.9**
KIS *e* 17 32 32.0
KIS *e* 17 35 46.0
KIS *e* 17 42 46.0
KIS *e*S **SKSac 17 42 48.0 +1.3**
KIS *e*PS **PnS 17 43 42.0 -3.9**
KIS *e*SS **SS 17 48 20.0 -2.3**
KIS pmax pmax
comp=Z,210nm,2.0s
KIS pmax pmax
comp=Z,500nm,4.0s
ASUD Al Ashush, Dub 84.71 58⇑*i*P **P 17 32 26.8 +1.9**
SNR=9.7
IVIS Veis 84.90 46 *e*P **P 17 32 26.3 +0.6**
FAQ Al Faqa, Dubai 84.98 58⇑*i*P **P 17 32 27.2 +1.0**
SNR=14
EDI Edinburgh 85.04 6 *e*P **P 17 32 26.8 +1.1**
EDI pmax pmax
comp=Z,45nm,1.5s
EDI Edinburgh 85.04 6 *e*P **P 17 32 26.8 +1.1**
comp=Z,45nm,1.5s
IKOM Komasi 85.09 47 *e*P **P 17 32 27.9 +1.2**
BSEG Bad Segeberg 85.09 14 *e*P **P 17 32 26.3 +0.3**
comp=Z,219nm,2.1s
BSEG *e*S **S 17 42 55.1 +0.9**
BSEG *e*SS **SS 17 48 22.6 -6.2**
NAZ Nazwa, Dubai 85.17 58 *i* P **P 17 32 28.1 +0.9**
SNR=13
LVV L'vov 85.18 23 *i* P **P 17 32 25.5 -1.1**
LVV *i* S **S 17 42 54.5 -0.9**
LVV *e*PS **PnS 17 43 56.7 +4.2**
LVV *e*SS **SS 17 48 27.9 -2.4**
IKAZ Kazeroun 85.23 52 *e*P **P 17 32 28.4 +0.6**
SIM Simferopol' 85.30 32*de*P **P 17 32 27.3 0.0**
SIM *e*S **S 17 43 00.0 +3.2**
SIM *e*PS **PnS 17 43 58.0 +3.9**
SIM *e*SS **SS 17 48 36.0 +3.7**
SIM pmax pmax
comp=Z,240nm,10.0s

HATD **Hatta, Dubai** 85.43 59 ⇓ *i* P P 17 32 29.4 +0.9
SNR=9.8
UOSS **Wadi Hilu** 85.55 58 P P 17 32 29.5 +0.4
comp=Z,375nm,1.7s,SNR=5.2
BEL **Belsk** 85.87 20 *e* P P 17 32 30.8 +0.9
BEL *e* pP pP 17 32 36.6 +0.4
BEL *e* PP PP 17 35 50.2 +0.1
BEL LMZ LR 18 03 47.5
BEL **Belsk** 85.87 20 *e* P P 17 32 30.8 +0.9
BEL *e** PP pP 17 32 36.6 +0.4
BEL *e* 17 35 50.3
BEL pmax pmax
comp=Z,200nm,1.7s
ISRV **Sarvestan** 85.88 53 *e* P P 17 32 32.1 +1.1
DRUM **Mains of Drumt** 86.08 6 AMS AMS 18 10 24.8
comp=Z,972nm,19.2s
IPAR **Pars** 86.11 53 *e* P P 17 32 33.5 +1.4
GKP **Gorka Klasztor** 86.12 18 *e* P P 17 32 31.5 +0.4
GKP *e* pP pP 17 32 37.6 +0.1
GKP *e* S S 17 43 12.9 +8.5
GKP LMZ LR 18 07 44.5
GKP **Gorka Klasztor** 86.12 18 *e* P P 17 32 31.6 +0.4
GKP *e** PP pP 17 32 37.6 +0.1
GKP *e* S S 17 43 12.9 +8.5
GKP pmax pmax
comp=Z,100nm,1.7s
GKP MLR MLR
comp=Z,1µm,20.9s
KSB **Sheil Bridge** 86.15 4 *e* P P 17 32 32.3 +1.1
KPL **Plockton** 86.27 4 *e* P P 17 32 32.5 +0.8
KPL AMB AMB 17 32 34.1
comp=Z,87nm,1.8s
KPL AMS AMS 18 09 50.6
comp=Z,1µm,15.8s
MME1 **Meikle Cairn** 86.44 6 *e* P P 17 32 32.9 +0.2
KAC **Achnashellach** 86.45 4 *e* P P 17 32 33.0 +0.3
DWPF **Disney** 86.56 305 P P 17 32 35.5 +1.6
comp=Z,138nm,1.6s
MCD **Coleburn Disti** 86.68 5 *e* P P 17 32 33.9 +0.1
ANN **Anapa** 86.75 33 ⇓ *e* P P 17 32 34.2 -0.2
ANN *e** PP pP 17 32 41.9 +1.1
ANN *e* 17 35 57.2
ANN *e* S SKSac 17 42 59.5 -0.6
ANN *e* SS SS 17 48 57.6 +4.1
ANN pmax pmax
comp=Z,43nm,1.5s
ANN smax smax
comp=N,849nm,5.5s
ANN smax smax
comp=E,445nm,5.6s
MVH1 **Achvaich** 86.95 5 *e* P P 17 32 35.5 +0.4
SOC **Sochi** 87.00 35 *c i* P P 17 32 35.7 0.0
SOC *e** SP sP 17 32 44.9 +0.6
SOC *e* 17 35 59.9
SOC *e* PPP PPP 17 37 55.3
SOC *e* S SKSac 17 43 01.5 -0.2
SOC *e** SS S 17 43 15.7 +2.3
SOC *e* SS SS 17 48 59.1 +1.9
SOC *e* SSS SSS 17 52 29.7
SOC pmax pmax
comp=Z,32nm,0.9s
COP **Copenhagen** 87.17 14 *i* P P 17 32 37.6 +1.4
comp=Z,420nm,17.0s
COP **Copenhagen** 87.17 14 *i* P P 17 32 37.6 +1.4
COP MLR MLR
comp=Z,420nm,17.0s
BSD **Bornholm Skovb** 87.21 16 *i* P P 17 32 35.3 -1.1
comp=Z,910nm,19.0s
BSD **Bornholm Skovb** 87.21 16 *i* P P 17 32 35.3 -1.1
BSD MLR MLR
comp=Z,910nm,19.0s
MUD **Monsted U'grnd** 87.24 12 *i* P P 17 32 37.2 +0.7
comp=Z,1µm,17.0s
MUD **Monsted U'grnd** 87.24 12 *i* P P 17 32 37.2 +0.7
MUD MLR MLR
comp=Z,1µm,17.0s
GNI **Garni** 87.33 41 *d i* P P 17 32 37.7 0.0
GNI pmax pmax
comp=Z,37nm,2.5s
GNI MLR MLR
comp=Z,2µm,20.0s
GNI **Garni** 87.33 41 PFAKE 17 32 50.0 +12
GNI LR LR
comp=Z,2µm,21.0s
DRLN **Deer Lake** 87.39 333 *e* P P 17 32 37.8 +0.3
comp=Z,54nm,1.1s
TEIG **Tepich** 87.40 295 *e* P P 17 32 36.3 -2.0
comp=Z,3.2nm,1.3s
IRAZ **Razeghan** 87.41 47 *e* P P 17 32 36.5 -1.7
AKH **Akhalkalaki** 87.48 39 P P 17 32 39.2 +0.9
AKH **Akhalkalaki** 87.48 39 ⇑ *i* P P 17 32 40.6 +2.2
AK02 **Malin Array Si** 87.74 25 *e* P P 17 32 37.8 -1.3
AK01 **Malin Array Si** 87.77 25 *e* P P 17 32 38.8 -0.4
KIEV **Kiev** 87.77 25 ⇓ *e* P P 17 32 38.2 -1.0
KIEV *e* 17 36 08.0
KIEV pmax pmax
comp=Z,52nm,1.4s
KIEV MLR MLR
comp=Z,757nm,21.0s
KIEV **Kiev** 87.77 25 ⇓ *e* P P 17 32 38.2 -1.0
comp=Z,52nm,1.4s
KIEV *e* PP PP 17 36 08.0 +2.5
KIEV LR LR
comp=Z,757nm,21.0s
AKASG **Malin Array Be** 87.78 25 P P 17 32 38.7 -0.6
comp=Z,18nm,1.0s,baz=221,slow=5.3,SNR=14
AKASG LR LR 18 11 25.2
comp=Z,674nm,21.1s,baz=210,slow=35
AKBB **Malin Array Si** 87.78 25 ⇓ *e* P P 17 32 38.3 -1.0
AKBB **Malin Array Si** 87.78 25 ⇓ *e* P P 17 32 38.2 -1.0
IR3 **Iran Long-Peri** 88.15 47 *e* P P 17 32 42.7 +1.1
IGZV **Ghazvin** 88.20 46 *e* P P 17 32 43.4 +1.4
ONI **Oni** 88.27 38 P P 17 32 48.8 +6.9
NEY **Neytrino** 88.33 37 *i* P P 17 32 43.3 +1.0
NEY MLR MLR
comp=Z,410nm,16.0s
CNNC **Cliffs of the** 88.36 312 *e* P P 17 32 43.8 +1.4
CNNC LR LR
comp=Z,1µm,20.0s
TBLG **Delisi** 88.39 39 P P 17 32 43.6 +1.1
TBLG **Delisi** 88.39 39 P P 17 32 43.5 +1.1
SUW **Suwalki** 88.48 20 *e* P P 17 32 42.5 0.0
SUW *e* pP pP 17 32 48.7 -0.1
SUW *e* PP PP 17 36 11.4 +0.3
SUW *e* S S 17 43 30.8 +3.7
SUW LMZ LR 18 05 35.7
SUW **Suwalki** 88.48 20 *e* P P 17 32 42.6 0.0
SUW *e** PP pP 17 32 48.8 -0.1
SUW *e* 17 36 11.4
SUW *e* S S 17 43 30.8 +3.7
SUW pmax pmax
comp=Z,100nm,1.3s
EMMW **East Machias** 88.52 325 *e* P P 17 32 44.0 +1.1
comp=Z,141nm,1.5s
DGRG **David-gareji** 88.56 40 P P 17 32 42.1 -1.2
NHSC **New Hope** 88.59 309 PFAKE 17 32 50.0 +6.4
NHSC LR LR
comp=Z,1µm,21.0s
KBZ **Khabaz** 88.75 37 P P 17 32 45.4 +1.4
comp=Z,2.1nm,0.7s,baz=232,slow=7.2,SNR=6.0
KBZ PP PP 17 36 17.4 +3.9
comp=Z,2.9nm,0.9s,baz=221,slow=7.8,SNR=3.5
KBZ LR LR 18 15 25.3
comp=Z,220nm,18.1s,baz=216,slow=38
KIV **Kislovodsk** 88.79 37 *d e* P P 17 32 43.7 -0.7
KIV *e* 17 36 12.1
KIV *e* S SKSac 17 43 10.5 -2.3
KIV *e* SS SS 17 49 25.1 +1.5
KIV pmax pmax
comp=Z,14nm,1.5s
KIV MLR MLR
comp=Z,463nm,16.0s
KIV **Kislovodsk** 88.79 37 PFAKE 17 33 00.0 +16
KIV LR LR
comp=Z,669nm,19.0s
IDMV **Damavand** 88.86 48 *e* P P 17 32 46.1 +0.9
NCK **Nalchik** 88.96 37 P P 17 32 48.0 +2.9
HRV **Adam Dziewonsk** 89.18 321 *e* P P 17 32 45.9 -0.2
HRV pmax pmax
comp=Z,114nm,1.4s
HRV **Adam Dziewonsk** 89.18 321 *e* P P 17 32 45.9 -0.2
comp=Z,114nm,1.4s
WAL1 **Walls** 89.47 6 *e* P P 17 32 47.9 +0.8
QUA2 **Belchertown** 89.47 320 *e* P P 17 32 49.6 +2.1
comp=Z,137nm,1.8s
PAL **Palisades** 89.53 319 *e* P P 17 32 49.0 +1.2
PAL pmax pmax
comp=Z,109nm,1.7s
PAL **Palisades** 89.53 319 *e* P P 17 32 49.0 +1.2
comp=Z,109nm,1.7s
WVL **Waterville** 89.55 323 *e* P P 17 32 45.4 -2.3
comp=Z,234nm,2.1s
URVA **University of** 89.55 314 *e* P P 17 32 48.8 +0.8
IALA **Alasht** 89.67 48 *e* P P 17 32 50.1 +1.1
BRNJ **Basking Ridge** 89.70 318 *e* P P 17 32 50.6 +2.0
comp=Z,20nm,1.2s
GOF **Gofitskoye** 89.74 36 *e* P P 17 32 49.1 +0.4
GOF pmax pmax
comp=Z,50nm,1.4s
YEL1 **Yell** 89.81 6 *e* P P 17 32 48.5 -0.1
PKME **Peaks-Kenny Pk** 89.84 324 *e* P P 17 32 50.1 +1.0
comp=Z,81nm,1.8s
PKME LR LR
comp=Z,726nm,19.0s
CBN **Corbin** 89.84 315 PFAKE 17 33 00.0 +11
CBN LR LR
comp=Z,1µm,20.0s
ODNJ **Ogdensburg** 89.98 318 *e* P P 17 32 51.7 +1.8
comp=Z,160nm,1.8s
JSC **Jenkinsville** 90.01 310 *e* P P 17 32 51.7 +1.5
JSC **Jenkinsville** 90.01 310 *e* P P 17 32 51.7 +1.5
LUPA **Lehigh Univers** 90.12 318 *e* P P 17 32 52.0 +1.4
comp=Z,30nm,1.9s
PQI **Presque Isle** 90.17 326 *e* P P 17 32 51.4 +0.7
comp=Z,174nm,1.4s
SDMD **Soldier's Deli** 90.26 316 *e* P P 17 32 52.6 +1.4
comp=Z,377nm,1.5s
MVL **Millersville** 90.33 317 *e* P P 17 32 52.7 +1.2
comp=Z,158nm,2.0s
KONO **Kongsberg** 90.34 11 *e* P P 17 32 51.3 +0.2
KONO pmax pmax
comp=Z,52nm,1.3s
KONO MLR MLR
comp=Z,599nm,20.0s
KONO **Kongsberg** 90.34 11 *e* P P 17 32 51.3 +0.2
comp=Z,52nm,1.3s
KONO LR LR
comp=Z,599nm,20.0s
NACGM **Naroch** 90.37 22 *e* P P 17 32 51.0 -0.4
MNK **Minsk** 90.38 22 *e* P P 17 32 51.0 -0.4
MNK *e* 17 36 32.0
MNK *e* 17 43 24.0
MNK *e* S S 17 43 46.0 +1.2
MNK pmax pmax
comp=Z,790nm,3.0s
MICGM **Minsk** 90.40 23 ⇑ *e* P P 17 32 51.0 -0.5
TRY **Troy** 90.50 320 *e* P P 17 32 51.8 -0.5
comp=Z,109nm,1.5s
IGLO **Ghaloghah** 90.58 48 *e* P P 17 32 53.7 +0.6
MAK **Makhachkala** 90.74 40 *e* P P 17 32 48.8 -4.6
MAK *e* 17 36 28.5
MAK *e* SSS SSS 17 53 29.6
MAK pmax pmax
comp=Z,218nm,1.6s
VWCC **Virginia Weste** 90.91 313 *e* P P 17 32 54.2 -0.2
KSPA **Keystone Colle** 90.96 318 *e* P P 17 32 55.4 +0.9
comp=Z,146nm,2.2s
GOGA **Godfrey** 91.02 308 *e* P P 17 32 54.8 -0.1
GOGA pmax pmax
comp=Z,64nm,1.7s
GOGA MLR MLR
comp=Z,1µm,19.0s
GOGA **Godfrey** 91.02 308 *e* P P 17 32 54.8 -0.1
comp=Z,64nm,1.7s
GOGA LR LR
comp=Z,1µm,19.0s
MDV **Middlebury** 91.06 321 *e* P P 17 32 56.0 +1.2
comp=Z,93µm,0.3s
BLA **Blacksburg** 91.17 313 *e* P P 17 32 55.8 +0.2
BLA pmax pmax
comp=Z,44nm,0.9s
BLA MLR MLR
comp=Z,1µm,19.0s
BLA **Blacksburg** 91.17 313 *e* P P 17 32 55.8 +0.2
comp=Z,44nm,0.9s
BLA LR LR
comp=Z,1µm,19.0s
NCB **Newcomb** 91.61 321 *e* P P 17 32 58.5 +1.0
comp=Z,29nm,1.4s
NCB LR LR
comp=Z,1µm,20.0s
NAO01 **NORSAR Array S** 91.68 12 *e* P P 17 32 57.1 -0.3
comp=Z,43nm,1.4s
NB2 **NORSAR Subarra** 91.92 12 P P 17 33 00.0 +1.5
comp=Z,0.6nm,0.8s,baz=196,slow=5.3
NOA **NOR Array B** 91.92 12 P P 17 33 00.1 +1.6
comp=Z,30nm,1.2s,baz=201,slow=4.8,SNR=19
NOA PP PP 17 36 29.7 -8.8
comp=Z,1.3nm,1.0s,baz=202,slow=7.5,SNR=2.6
NOA LR LR 18 13 57.2
comp=Z,792nm,19.1s,baz=190,slow=35
VSR **Storozhevoye** 92.22 30 *e* P P 17 33 00.5 +0.4
VSR pmax pmax
comp=N,10.0nm,0.7s
VSR pmax pmax
comp=E,8.0nm,0.7s
VSR pmax pmax
comp=Z,20nm,0.7s
VSR MLR MLR
comp=N,260nm,22.0s
VSR MLR MLR
comp=E,500nm,22.0s
VSR MLR MLR
comp=Z,720nm,22.0s
LONY **Lake Ozonia** 92.22 321 *e* P P 17 32 59.9 -0.4
comp=Z,88nm,2.0s
LONY LR LR
comp=Z,2µm,22.0s
BRAL **Brewton** 92.23 304 PFAKE 17 33 10.0 +9.4
BRAL LR LR
comp=Z,2µm,19.0s
MMNY **Mt. Morris Dam** 92.93 318 *e* P P 17 33 04.8 +1.2
comp=Z,121nm,1.6s
LPSR **Galich'ya Gora** 93.12 29 *e* P P 17 33 04.5 +0.3
LPSR pmax pmax
comp=Z,20nm,0.9s
LPSR pmax pmax
comp=N,3.0nm,0.7s
LPSR pmax pmax
comp=E,6.0nm,0.6s
LPSR MLR MLR
comp=N,320nm,23.0s
LPSR MLR MLR
comp=E,400nm,23.0s
LPSR MLR MLR
comp=Z,450nm,23.0s
VSU **Vasula** 93.30 20 *c i* P P 17 33 06.3 +1.4
VSU pmax pmax
comp=Z,76nm,1.5s
VSU MLR MLR
comp=Z,3µm,18.0s
BORG **Borgarnes** 93.69 356 *e* P P 17 33 04.6 -1.9
BORG MLR MLR
comp=Z,698nm,20.0s
BORG **Borgarnes** 93.69 356 *e* P P 17 33 04.6 -1.9
BORG LR LR
comp=Z,698nm,20.0s
SWET **Sewanee** 93.72 308 *e* P P 17 33 06.9 -0.6
OBN **Obninsk** 94.01 26 *d i* P P 17 33 08.3 +0.1
OBN *e* 17 36 58.9
OBN *e* S SKSac 17 43 40.3 -1.3
OBN *e* SS SS 17 50 37.0 -1.2
OBN pmax pmax
comp=Z,30nm,1.5s
OBN MLR MLR
comp=Z,628nm,15.0s
OBN **Obninsk** 94.01 26 *e* P P 17 33 08.3 +0.1
comp=Z,39nm,1.3s
OBN LR LR
comp=Z,735nm,20.0s
GEYT **Alibeck** 94.20 49 P P 17 33 09.9 +0.3
comp=Z,8.5nm,1.1s,baz=267,slow=2.9,SNR=8.3
GEYT PP PP 17 36 46.0 -11
comp=Z,11nm,1.2s,baz=270,slow=9.8,SNR=6.8
GEYT LR LR 18 16 11.7
comp=Z,1µm,18.4s,baz=225,slow=36
ACSO **Alum Creek Sta** 94.55 314 *e* P P 17 33 11.3 +0.2
ACSO LR LR
comp=Z,1µm,20.0s
SADO **Sadowa** 94.87 319 LR LR 18 10 11.0
comp=Z,790nm,18.7s,baz=154,slow=32
SCHQ **Schefferville** 95.38 332 P P 17 33 15.3 +0.7
comp=Z,5.2nm,1.0s,baz=110,slow=9.5,SNR=5.5
SCHQ LR LR 18 11 28.4
comp=Z,750nm,18.3s,baz=148,slow=32
SCHQ **Schefferville** 95.38 332 *e* P P 17 33 15.1 +0.5
comp=Z,77nm,1.8s
WVT **Waverly** 95.51 308 *e* P P 17 33 14.7 -0.9
WVT pmax pmax
comp=Z,21nm,1.6s
WVT **Waverly** 95.51 308 *e* P P 17 33 14.7 -0.9
comp=Z,21nm,1.6s
FINES **FINESS Array B** 95.60 18 P P 17 33 16.2 +0.9
comp=Z,4.8nm,1.0s,baz=155,slow=15,SNR=5.1
FINES PP PP 17 37 08.4 +1.3
comp=Z,5.6nm,1.1s,baz=273,slow=3.4,SNR=4.8
FINES LR LR 18 14 25.1
comp=Z,2µm,22.0s,baz=214,slow=34
FIA1 **FINESS Array S** 95.60 18 P P 17 33 13.3 -2.0
AAM **Ann Arbor** 96.13 315 PFAKE 17 33 30.0 +12
AAM LR LR
comp=Z,1µm,21.0s
USIN **University of** 96.36 310 *e* P P 17 33 19.0 -0.4
comp=Z,29nm,0.4s
USIN *e* PP PP 17 37 15.5 +1.9
GLMI **Grayling** 98.11 317 PFAKE 17 33 40.0 +13
GLMI LR LR
comp=Z,1µm,19.0s
MIAR **Mount Ida** 98.75 305 P P 17 33 28.5 -1.8
MIAR MLR MLR
comp=Z,2µm,21.0s
MIAR **Mount Ida** 98.75 305 P P 17 33 28.5 -1.8
MIAR LR LR
comp=Z,2µm,21.0s
HDIL **Hopedale** 98.79 312 PFAKE 17 33 40.0 +10
HDIL LR LR
comp=Z,1µm,22.0s
PTCN **Pitcairn Islan** 98.99 235 PFAKE 17 33 40.0 +8.2
PTCN LR LR
comp=Z,3µm,19.0s
SFJD **Kangerlussuaq** 99.83 346 *i* P Pdif 17 33 45.6 +11
SFJD **Kangerlussuaq** 99.83 346 PFAKE 17 33 50.0 +16
SFJD LR LR
comp=Z,793nm,22.0s
JFWS **Jewell Farm** 100.59 313 PFAKE 17 33 50.0 +12
JFWS LR LR
comp=Z,2µm,21.0s
ABKAR **Akbulak array** 101.42 40 *e* Pdif **Pdif** 17 33 41.2 -0.6
ABKAR *e* 17 33 49.5
ABKAR *e* PP PP 17 37 53.4 +1.4
JCT **Junction City** 101.50 298 PFAKE 17 33 50.0 +7.3
JCT LR LR
comp=Z,926nm,20.0s
SCIA **State Center** 102.03 311 PFAKE 17 34 00.0 +15
SCIA LR LR
comp=Z,1µm,19.0s
ARCES **ARCESS Array B** 102.21 13 PP PP 17 37 49.4 -8.1
comp=Z,4.8nm,1.1s,baz=302,slow=9.9,SNR=3.8
NWAO **Narrogin (SRO)** 102.48 139 PFAKE 17 34 00.0 +13
NWAO LR LR
comp=Z,1.0nm,22.0s
WMOK **Wichita Mounta** 102.64 303 PFAKE 17 34 00.0 +12
WMOK LR LR
comp=Z,1µm,20.0s
KEV **Kevo** 102.69 13 PFAKE 17 34 00.0 +13
KEV LR LR
comp=Z,877nm,20.0s
LVZ **Lovozero** 102.97 17 PFAKE 17 34 00.0 +12
LVZ LR LR
comp=Z,1µm,20.0s
NDI **New Delhi** 103.63 65 *e* P PP 17 38 10.0 +1.0
RKT **Rikitea** 103.68 234 *e* SP SP 17 47 20.2 +3.3
comp=Z,420nm,33.0s
RKT **Rikitea** 103.68 234 *e* LR LR 18 08 05.3
comp=Z,3µm,33.0s,baz=136
EYMN **Ely** 103.79 317 PFAKE 17 34 00.0 +7.6
EYMN LR LR
comp=Z,830nm,20.0s
TXAR **Lajitas Array** 104.01 296 PP PP 17 38 01.9 -10
comp=Z,0.5nm,1.1s,baz=115,slow=11,SNR=3.6
TXAR PKKP **PKKPdf** 17 49 51.0 -1.8
comp=Z,0.5nm,0.9s,baz=290,slow=3.7,SNR=4.0
ARU **Arti** 104.41 33 PFAKE 17 34 10.0 +15
ARU LR LR
comp=Z,1µm,20.0s
ECSD **EROS Data Cent** 105.08 312 PFAKE 17 38 20.0
ECSD LR LR
comp=Z,2µm,21.0s
CBKS **Cedar Bluff** 105.10 306 PFAKE 17 38 20.0
CBKS LR LR
comp=Z,868nm,21.0s
TAU **Tasmania Unive** 106.19 165 PFAKE 17 38 30.0
TAU LR LR
comp=Z,2µm,20.0s
AGMN **Agassiz Nation** 106.56 316 PFAKE 17 38 30.0
AGMN LR LR
comp=Z,1µm,21.0s
EKS2 **Erkin-Say** 106.95 50 PFAKE 17 38 30.0
EKS2 LR LR
comp=Z,3µm,19.0s
AAK **Ala-Archa** 107.42 51 PFAKE 17 38 30.0
AAK LR LR
comp=Z,3µm,22.0s
OGNE **Ogallala** 107.58 307 PFAKE 17 38 30.0
OGNE LR LR
comp=Z,1µm,22.0s
T25A **Trinidad** 107.79 303 *e* Pdif **Pdif** 17 34 13.4 +2.6
BNM **Barren Site** 108.28 299 *e* PP PP 17 38 45.5 +1.8
TKM2 **Tokmak 2** 108.28 51 *e* P **Pdif** 17 34 09.0 -3.8
TKM2 MLR MLR
comp=Z,3µm,22.0s
TKM2 **Tokmak 2** 108.28 51 *e* Pdif **Pdif** 17 34 09.0 -3.8
TKM2 *e* PKKPab **PKKPab** 17 49 43.1 +1.5
TKM2 LR LR
comp=Z,3µm,22.0s
ANMO **Albuquerque** 108.46 300 *e* P **Pdif** 17 34 09.9 -3.9
ANMO MLR MLR
comp=Z,2µm,22.0s
ANMO **Albuquerque** 108.46 300 *e* Pdif **Pdif** 17 34 09.9 -3.9
ANMO LR LR
comp=Z,2µm,22.0s
KBS **Kingsbay** 108.69 5 PFAKE 17 38 30.0
KBS LR LR
comp=Z,674nm,21.0s
SDCO **Great Sand Dun** 108.82 303 PFAKE 17 38 30.0
SDCO LR LR
comp=Z,1µm,22.0s
BRVK **Borovoye** 108.94 39 *e* P **Pdif** 17 34 11.0 -4.2
BRVK MLR MLR
comp=Z,2µm,19.0s
BRVK **Borovoye** 108.94 39 *e* Pdif **Pdif** 17 34 11.0 -4.2
BRVK LR LR
comp=Z,2µm,19.0s
SNZO **South Karori** 109.63 186 PFAKE 17 38 30.0
SNZO LR LR
comp=Z,1µm,20.0s
ISCO **Idaho Springs** 109.67 305 PFAKE 17 38 30.0
ISCO LR LR
comp=Z,1µm,21.0s
S22A **4UR Ranch, Cre** 109.80 303 *e* Pdif **Pdif** 17 34 15.3 -4.4
FCC **Fort Churchill** 109.88 327 *e* PP PP 17 38 48.9 -5.4
TUC **Tucson** 110.81 296 PFAKE 17 38 40.0
TUC LR LR
comp=Z,1µm,19.0s
MVCO **Mesa Verde** 110.84 302 PFAKE 17 38 40.0
MVCO LR LR
comp=Z,1µm,20.0s
PV01 **Paradox Valley** 111.22 303 *e* PKPdf **PKiKP** 17 38 25.0 +0.2
WUAZ **Wupatki** 112.41 299 PFAKE 17 38 40.0
WUAZ LR LR
comp=Z,1µm,20.0s
LAO **LASA Array** 112.48 312 PFAKE 17 38 40.0
LAO LR LR
comp=Z,1µm,22.0s
FFC **Flin Flon** 112.51 321 PFAKE 17 38 40.0
FFC LR LR
comp=Z,1µm,22.0s
MBWA **Marble Bar** 112.52 132 PFAKE 17 38 40.0
MBWA LR LR
comp=Z,1µm,20.0s
KURK **Kurchatov** 112.96 44 *e* PKIKP **PKiKP** 17 38 26.5 -0.8
KURK MLR MLR
comp=Z,1µm,20.0s
KURK **Kurchatov** 112.96 44 *e* PKPdf **PKiKP** 17 38 26.5 -0.8
KURK *e* PKKPbc **PKKPbc** 17 49 14.4 -0.9
KURK *e* PKKPab **PKKPab** 17 49 20.9 +0.6

KURK LR LR
comp=Z,1µm,20.0s
TBI Tubuai 113.05 224 *e*SP SP 17 48 53.5 +3.4
comp=Z,585nm,30.0s
TBI *e*SS **SS** **17 55 04.7 +5.1**
comp=Z,1µm,29.2s
TBI Tubuai 113.05 224 *e*LR LR 18 12 15.6
comp=Z,3µm,31.8s,baz=145
G20A Bridger 113.33 310 P **PKiKP** **17 38 28.1 -0.3**
baz=114
KULM Kulim 113.35 97 PFAKE 17 38 40.0
KULM LR LR
comp=Z,2µm,21.0s
BW06 Boulder Array 113.48 307 PFAKE 17 38 40.0
BW06 LR LR
comp=Z,1µm,20.0s
PDAR Pinedale Array 113.48 307 PKiKP **PKiKP** **17 38 28.5 -0.4**
comp=Z,0.3nm,0.6s,baz=76,slow=4.1,SNR=5.3
PDAR PP **PP** **17 39 16.3 -4.6**
comp=Z,0.9nm,1.1s,baz=156,slow=4.6,SNR=3.1
I19A Meeteetse 113.49 309 P **PKiKP** **17 38 28.7 -0.1**
baz=114
CAN Canberra 113.81 164 PFAKE 17 38 40.0
CAN LR LR
comp=Z,657nm,19.0s
C20A Veseth Ranch, 113.95 313 P **PKiKP** **17 38 30.0 +0.6**
baz=114
RLMT Red Lodge 114.01 310 P PKPdf 17 38 29.4 -0.4
baz=114
RLMT Red Lodge 114.01 310 PFAKE 17 38 40.0 +10
RLMT LR LR
comp=Z,1µm,20.0s
MSU Marysvale 114.02 302 *e*PKIKP PKPdf 17 38 27.5 -2.6
MSU Marysvale 114.02 302 *e*PKPdf PKPdf 17 38 27.5 -2.5
MK31 Makanchi Array 114.08 49 *e*PKIKP PKPdf 17 38 28.6 -1.0
MK31 Makanchi Array 114.08 49 *e*PKPdf PKPdf 17 38 28.6 -1.0
MKAR Makanchi Array 114.08 49 PKP PKPdf 17 38 29.7 +0.1
comp=Z,0.9nm,1.0s,baz=275,slow=4.5,SNR=6.2
MKAR PKKPab **PKKPab** **17 49 16.9 +1.3**
comp=Z,0.8nm,0.8s,baz=55,slow=4.6,SNR=8.0
MKAR Makanchi Array 114.08 49 *e*PKiKP PKPdf 17 38 28.4 -1.3
MKAR *e*PKKPbc **PKKPab** **17 49 18.2 +2.6**
TCUT Toone Canyon 114.28 305 *e*PKPdf PKPdf 17 38 31.6 +1.1
HWUT Hardware Ranch 114.54 305 *e*PKPdf PKPdf 17 38 29.6 -1.3
HWUT LR LR
comp=Z,1µm,22.0s
AHID Auburn Hatcher 114.56 307 PFAKE 17 38 40.0 +9.1
AHID LR LR
comp=Z,1µm,22.0s
CCUT Cedar City 114.60 301 *e*PP **PP** **17 39 28.7 -0.2**
LKWY Lake 114.61 309 PFAKE 17 38 40.0 +8.9
LKWY LR LR
comp=Z,3µm,21.0s
TPAW Teton Pass 114.68 307 *e*PKPdf PKPdf 17 38 30.5 -0.7
FXWY Fox Creek 114.77 308 *e*PiKiKP PKPdf 17 38 29.8 -1.6
FXWY *e*PP **PP** **17 39 27.4 -2.6**
STKA Stephens Creek 114.84 156 PP **PP** **17 39 28.9 0.0**
comp=Z,19nm,1.4s,baz=170,slow=6.0,SNR=5.8
STKA PKKPbc **PKKPbc** **17 49 09.5 +1.0**
comp=Z,1.8nm,1.0s,baz=342,slow=6.4,SNR=2.9
STKA Stephens Creek 114.84 156 *e*PP **PP** **17 39 29.4 +0.6**
STKA PKKPbc **PKKPbc** **17 49 09.5 +1.0**
IRM Iron Mountain 114.88 297 P PKPdf 17 38 32.4 +0.8
baz=115
BC3 Big Chuckawall 114.95 296 P PKPdf 17 38 31.7 -0.2
baz=115
DUG Dugway 115.01 304 *e*PKIKP **PKPdf** **17 38 30.4 -1.4**
DUG *e* 17 39 32.6
DUG MLR MLR
comp=Z,1µm,19.0s
DUG Dugway 115.01 304 *e*PKPdf **PKPdf** **17 38 30.4 -1.4**
DUG *e*PP **PP** **17 39 32.6 +0.9**
DUG LR LR
comp=Z,1µm,19.0s
EGMT Eagleton 115.17 313 P **PKPdf** **17 38 31.8 +0.1**
baz=115
EGMT Eagleton 115.17 313 *e*PKiKP **PKiKP** **17 38 32.3 +0.5**
EGMT *e*SP SP 17 49 23.1 +14
EGMT LR LR
comp=Z,1µm,20.0s
LSA Lhasa 115.24 69 PFAKE 17 38 40.0 +7.0
LSA LR LR
comp=Z,2µm,20.0s
GMRC Granite Mounta 115.48 297 P **PKPdf** **17 38 33.1 +0.2**
baz=116
SHPR Sheep Range 115.64 299 *e*PKPdf **PKPdf** **17 38 34.0 +0.8**
SHPR *e*SP SP 17 49 14.5 +0.2
PFO Pinyon Flat Ob 115.72 296 PFAKE 17 38 50.0 +17
PFO LR LR
comp=Z,1µm,19.0s
BOZ Bozeman (W) 115.76 310 PFAKE 17 38 40.0 +6.9
BOZ LR LR
comp=Z,1µm,21.0s
R11A Troy Canyon, C 116.52 301 P **PKPdf** **17 38 35.7 +0.9**
baz=117
R11A Troy Canyon, C 116.52 301 *e*PKPdf **PKPdf** **17 38 33.4 -1.4**
R11A *e*PP **PP** **17 39 39.1 -3.2**
TPNV Topopah Spring 116.61 299 *e*PKIKP **PKPdf** **17 38 36.5 +1.5**
TPNV *e* 17 39 43.2
TPNV Topopah Spring 116.61 299 P **PKPdf** **17 38 36.0 +0.9**
baz=117
TPNV Topopah Spring 116.61 299 *e*PKPdf **PKPdf** **17 38 36.5 +1.5**
TPNV *e*PP **PP** **17 39 43.1 +0.2**
MHMT Maesarieng 116.70 83 PKP PKPdf 17 38 44.0 +8.5
NVS Novosibirsk 116.76 40 *e*PKIKP **PKPdf** **17 38 29.8 -4.7**
NVS *e* 17 39 44.6
NVS pmax pmax
comp=Z,16nm,1.4s
NVS pmax pmax
comp=E,5.0nm,1.3s
WMQ Urumqi 116.91 53 PKP **PKPdf** **17 38 35.8 +0.6**
WMQ PP PP 17 39 50.3 +5.5
WMQ SKKS 17 46 39.3
WMQ SS **SS** **17 55 52.3 +0.5**
WMQ PPMZ
comp=E,280nm,7.0s
WMQ LN
comp=E,2µm,20.0s
WMQ LE
comp=E,1µm,20.0s
WMQ LZ
comp=E,2µm,24.0s
ELK Elko 116.94 304 *e*PKIKP **PKPdf** **17 38 36.4 +0.8**
ELK Elko 116.94 304 *e*PKPdf **PKPdf** **17 38 36.4 +0.8**
HLID Hailey 117.11 307 *e*PKPdf **PKPdf** **17 38 35.9 +0.1**
HLID LR LR
comp=Z,1µm,19.0s
CHMT Chamberlain Mo 117.17 311 *e*PKKPbc PKKPbc 17 49 02.1 +1.3
EDW2 Edwards Air Fo 117.33 297 P **PKPdf** **17 38 37.0 +0.7**
baz=118
PPT2 Papeete2 117.39 228 *e*PP PP 17 39 44.1 -3.4
comp=Z,83nm,24.8s
PPT2 *e*SP SP 17 49 32.7 +2.7
comp=Z,968nm,27.8s
PPT2 *e*SS **SS** **17 56 03.6 +6.6**
comp=Z,1µm,29.8s
PPT2 Papeete2 117.39 228 *e*LR LR 18 14 14.8
comp=Z,1µm,21.8s,baz=130
ZAA0 Zalesovo Array 117.47 41 PKPdf **PKPdf** **17 38 35.5 -0.4**
ZALV Zalesovo Beam 117.47 41 PKP **PKPdf** **17 38 35.3 -0.6**
comp=Z,0.8nm,0.7s,baz=232,slow=1.6,SNR=3.5
ZALV PP PP 17 39 41.8 -6.5
comp=Z,1.1nm,0.8s,baz=241,slow=5.9,SNR=2.9
ZALV PKKPbc **PKKPbc** **17 48 59.5 -0.1**
comp=Z,0.3nm,0.4s,baz=106,slow=3.2,SNR=4.5
CM31 Chiang Mai Arr 117.69 83 *e*PKPdf **PKPdf** **17 38 38.0 +0.7**
CMAR Chiang Mai Arr 117.69 83 PKP **PKPdf** **17 38 37.2 -0.2**
comp=Z,4.5nm,1.1s,baz=245,slow=3.6,SNR=13
CMAR PP PP 17 39 42.2 -8.4
comp=Z,2.2nm,1.1s,baz=258,slow=4.5,SNR=3.2
CMAR PKKPab **PKKPab** **17 49 04.4 +2.8**
comp=Z,0.8nm,1.0s,baz=64,slow=3.3,SNR=6.3
CHTO Chiang Mai 117.84 83 PKP **PKPdf** **17 38 38.8 +1.1**
CHTO Chiang Mai 117.84 83 *e*PKIKP **PKPdf** **17 38 37.0 -0.7**
CHTO MLR MLR
comp=Z,1µm,22.0s
CHTO Chiang Mai 117.84 83 *e*PKPdf **PKPdf** **17 38 37.0 -0.7**
CHTO LR LR
comp=Z,1µm,22.0s
ISA Isabella 117.94 297 *e*PKIKP PKPpre 17 38 33.4
ISA *e* 17 38 34.6
ISA Isabella 117.94 297 P **PKPdf** **17 38 38.7 +1.2**
baz=118
ISA Isabella 117.94 297 *e*PKPdf PKPpre 17 38 33.4
ISA *e*PKPdf **PKPdf** **17 38 34.6 -2.9**

MFID Camas Ranch 118.07 306 *e*PKPdf **PKPdf** **17 38 37.7 +0.2**
MFID *e*PKKPbc **PKKPab** **17 49 00.0 +1.5**
WALA Waterton Lakes 118.11 313 *e*PKPdf **PKPdf** **17 38 36.9 -0.5**
CMAI Chiengmai2 118.36 82 PKP PKPdf 17 38 45.1 +6.2
NVAR Mina Array Bea 118.59 300 PKKPab PKKPab 17 49 01.3 +4.6
comp=Z,1.3nm,1.0s,baz=258,slow=4.4,SNR=5.5
EDM Edmonton 118.62 318 *e*PKIKP **PKPdf** **17 38 37.4 -0.8**
EDM Edmonton 118.62 318 *e*PKPdf **PKPdf** **17 38 37.4 -0.8**
ASAR Alice Springs 118.76 145 PKP **PKPdf** **17 38 38.6 -0.9**
comp=Z,2.4nm,0.7s,baz=194,slow=1.6,SNR=37
ASAR PP **PP** **17 39 53.2 -3.4**
comp=Z,2.7nm,1.1s,baz=211,slow=5.7,SNR=5.0
ASAR PKKPab **PKKPbc** **17 48 55.3 +0.7**
comp=Z,0.8nm,1.0s,baz=23,slow=5.0,SNR=4.1
AS31 Alice Springs 118.76 145 *e*PKPdf **PKPdf** **17 38 37.6 -1.9**
AS31 *e*PP **PP** **17 39 52.4 -4.2**
PKM Peak Mountain 118.77 296 P **PKPdf** **17 38 39.9 +0.6**
baz=119
CARC Carrizo Plain 118.91 296 *e*PKPdf **PKPdf** **17 38 40.0 +0.6**
CRAI Chiangrai 119.63 82 PKP **PKPdf** **17 38 41.1 0.0**
KSM Kuching 119.68 106 PFAKE 17 38 50.0 +8.6
KSM LR LR
comp=Z,1µm,20.0s
WVOR Wild Horse Val 119.84 305 *e*PKIKP **PKPdf** **17 38 40.1 -0.9**
WVOR MLR MLR
comp=Z,1µm,21.0s
WVOR Wild Horse Val 119.84 305 *e*PKPdf **PKPdf** **17 38 40.1 -0.9**
WVOR LR LR
comp=Z,1µm,21.0s
NEW Newport 120.03 312 PFAKE 17 38 50.0 +8.9
NEW LR LR
comp=Z,1µm,22.0s
CMB Columbia Colle 120.07 299 *e*PKIKP **PKPdf** **17 38 39.5 -2.0**
CMB Columbia Colle 120.07 299 *e*PKPdf **PKPdf** **17 38 39.5 -2.0**
RAO Raoul Island 120.24 195 PFAKE 17 38 50.0 +7.9
RAO LR LR
comp=Z,831nm,19.0s
YKA Yellowknife Ar 120.55 328 PKP **PKPdf** **17 38 40.6 -0.9**
comp=Z,2.2nm,0.8s,baz=91,slow=2.0,SNR=12
YKA PP **PP** **17 40 08.4 -0.8**
comp=Z,0.4nm,0.8s,baz=101,slow=6.3,SNR=3.2
YKA PKKPbc **PKKPbc** **17 48 48.5 -0.1**
comp=Z,0.7nm,1.0s,baz=269,slow=3.3,SNR=5.7
YKW3 Yellowknife Ar 120.56 328 *e*PKPdf **PKPdf** **17 38 40.0 -1.6**
YKW3 *e*PP **PP** **17 40 06.0 -3.3**
RAR Rarotonga 120.57 217 PFAKE 17 38 50.0 +7.1
RAR LR LR
comp=Z,2.0nm,22.0s
G08A Pilot Rock 120.68 308 *e*PKPdf **PKPdf** **17 38 42.1 -0.4**
NONG Nongkai 121.20 86 PKP **PKPdf** **17 38 45.7 +1.6**
OHCM Honcut 121.22 301 *e*PKPdf **PKPdf** **17 38 45.9 +2.4**
HAWA Hanford 121.29 309 PFAKE 17 39 00.0 +17
HAWA LR LR
comp=Z,1µm,20.0s
SKNT Sakolnakorn 121.50 87 PKP **PKPdf** **17 38 46.3 +1.6**
SBUM Sibu 121.81 107 *e*PKPdf **PKPdf** **17 38 45.9 +0.4**
PNT Penticton 121.83 312 *e*PKIKP **PKPdf** **17 38 45.3 +0.8**
PNT Penticton 121.83 312 *e*PKPdf **PKPdf** **17 38 45.3 +0.8**
J05D Fort Rock, OR 121.89 305 P **PKPdf** **17 38 45.7 +0.8**
baz=122
WRA Warramunga Arr 122.08 143 PKP **PKPdf** **17 38 44.5 -1.4**
comp=Z,4.0nm,1.1s,baz=240,slow=2.1,SNR=14
WRA PP **PP** **17 40 18.6 -0.8**
comp=Z,2.6nm,1.1s,baz=209,slow=5.4,SNR=4.2
WRAB Tennant Creek 122.09 143 *e*PKIKP **PKPdf** **17 38 46.0 0.0**
WRAB MLR MLR
comp=Z,1µm,20.0s
WRAB Tennant Creek 122.09 143 *e*PKPdf **PKPdf** **17 38 46.0 0.0**
WRAB LR LR
comp=Z,1µm,20.0s
KRAR Krasnoyarsk 122.37 40 ⇑ *i*PKIKP **PKPdf** **17 38 45.2 0.0**
KRAR MLR MLR
comp=Z,1µm,24.0s
N02D Trinity Center 122.49 302 P **PKPdf** **17 38 44.6 -1.5**
baz=123
H04A Detroit Lake 122.82 307 *e*PKPdf **PKPdf** **17 38 46.9 +0.3**
I04A Tendick Farm, 122.82 306 P **PKPdf** **17 38 46.4 -0.2**
baz=123
LON Longmire 122.90 309 *e*PKIKP **PKPdf** **17 38 45.1 -1.5**
LON Longmire 122.90 309 *e*PKPdf **PKPdf** **17 38 45.1 -1.5**
HUMO Hull Mountain 123.00 304 *e*PKPdf **PKPdf** **17 38 47.0 +0.1**
D05A Enumclaw 123.08 310 *e*PKPdf **PKPdf** **17 38 47.8 +0.9**
D05A *e*pPKPdf **pPKPdf** **17 38 54.2 +0.9**
KMI Kunming 123.41 78 PKP **PKPdf** **17 38 48.3 -0.2**
KMI sPKP 17 38 57.0
KMI PP **PP** **17 40 33.8 +3.8**
KMI PKS **PKSdf** **17 42 23.6 -1.9**
KMI SKS **SKSdf** **17 45 56.8 -3.1**
KMI SKKS **SKKSac** **17 47 23.6 -4.5**
KMI SS **SS** **17 57 16.3 -0.2**
KMI PPMZ
comp=Z,130nm,6.7s
KMI LN
comp=Z,1µm,20.2s
KMI LE
comp=Z,2µm,20.2s
KMI LZ
comp=Z,3µm,19.8s
KAPI Kappang 123.51 119 PFAKE 17 39 00.0 +11
KAPI LR LR
comp=Z,945nm,19.0s
EIDS Eidsvold 123.83 163 *e*PKPdf **PKPdf** **17 38 49.1 0.0**
EIDS *e*PP **PP** **17 40 29.4 -1.3**
NLWA Neilton Lookou 124.38 310 PFAKE 17 39 00.0 +11
NLWA LR LR
comp=Z,930nm,22.0s
GTA Gaotai 124.76 60 ⇑ PKP **PKPdf** **17 38 50.5 -0.1**
GTA sPKP 17 39 00.4
GTA PP **PP** **17 40 43.5 +4.8**
GTA SKS **SKSdf** **17 45 57.9 -3.7**
GTA SKKS **SKKSac** **17 47 30.5 -5.4**
GTA SS **SS** **17 57 34.5 +1.7**
GTA PPMZ
comp=Z,210nm,5.3s
GTA LN
comp=Z,2µm,21.8s
GTA LE
comp=Z,2µm,21.9s
GTA LZ
comp=Z,2µm,24.7s
CD2 Chengdu 125.98 71 PKP **PKPdf** **17 38 52.8 -0.3**
CD2 sPKP 17 39 01.9
CD2 PP **PP** **17 40 46.8 -0.2**
CD2 SKS **SKSdf** **17 46 03.3 -0.8**
CD2 SKKS **SKKSac** **17 47 42.3 -1.6**
CD2 SS **SS** **17 57 49.8 +1.4**
CD2 PPMZ
comp=Z,160nm,8.4s
CD2 LN
comp=Z,2µm,21.9s
CD2 LZ
comp=Z,2µm,23.6s
MOY Mondy 126.94 45 *e*PKIKP **PKPdf** **17 38 54.7 +0.4**
MOY pmax pmax
comp=Z,74nm,2.1s
KKM Kota Kinabalu 127.09 105 PFAKE 17 39 10.0 +14
KKM LR LR
comp=Z,1µm,20.0s
GYA Guiyang 127.19 77 Pdif **Pdif** **17 35 36.8 -0.3**
GYA PKP **PKPdf** **17 38 55.0 -0.6**
GYA PP **PP** **17 40 58.8 +3.7**
GYA SKKS 17 47 48.0
GYA SS **SS** **17 58 04.3 +0.6**
GYA PPMZ
comp=Z,140nm,7.8s
GYA LN
comp=Z,190nm,21.9s
GYA LE
comp=Z,160nm,22.0s
LZH Lanzhou 127.25 65 *e*PKP **PKPdf** **17 38 56.0 +0.5**
LZH sPKP 17 39 02.3
LZH PP **PP** **17 41 00.1 +4.8**
LZH PKS **PKSdf** **17 42 29.8 -2.4**
LZH SKS **SKSdf** **17 46 03.1 -3.4**
LZH SKKS **SKKSac** **17 47 53.1 +1.2**
LZH SS **SS** **17 58 05.6 +1.4**
LZH PPMZ
comp=Z,140nm,5.1s
LZH LN
comp=Z,670nm,18.2s
LZH LE
comp=Z,2µm,19.0s
LZH LZ
comp=Z,3µm,19.3s

CTA Charters Tower 127.28 155 PKP **PKPdf** **17 38 57.2 +1.4**
comp=Z,4.3nm,0.9s,baz=128,slow=3.1,SNR=3.3
CTAO Charters Tower 127.28 155 *e*PKIKP **PKPdf** **17 38 53.9 -2.0**
CTAO MLR MLR
comp=Z,1µm,20.0s
CTAO Charters Tower 127.28 155 *e*PKPdf **PKPdf** **17 38 53.9 -2.0**
CTAO LR LR
comp=Z,1µm,20.0s
QIZ Qiongzhong 127.43 87 PFAKE 17 39 10.0 +14
QIZ LR LR
comp=Z,1µm,20.0s
INK Inuvik 127.79 336 *e*PKIKP **PKPdf** **17 38 55.6 +0.4**
INK Inuvik 127.79 336 *e*PKPdf **PKPdf** **17 38 55.6 +0.4**
DLBC Dease Lake 128.23 323 *e*PKPdf **PKPdf** **17 38 56.9 +0.4**
ZAK Zakamensk 128.36 47 ⇓ *i*PKIKP **PKPdf** **17 38 55.5 -1.5**
ZAK pmax pmax
comp=Z,14nm,1.6s
MYLDM Lahad Datu 128.54 108 *e*PKPdf **PKPdf** **17 38 59.2 +0.8**
TLY Talaya 128.59 45 *i*PKIKP **PKPdf** **17 38 58.0 +0.7**
TLY *e* 17 41 04.6
TLY pmax pmax
comp=Z,22nm,1.3s
TLY Talaya 128.59 45 *e*PKPdf **PKPdf** **17 38 57.0 -0.4**
TLY LR LR
comp=Z,1µm,20.0s
IRK Irkutsk 128.97 45 *e*PKIKP **PKPdf** **17 38 57.8 -0.2**
IRK pmax pmax
comp=Z,61nm,1.7s
WRAK Wrangell Islan 129.70 321 *e*PKPdf **PKPdf** **17 38 58.6 -0.6**
WRAK LR LR
comp=Z,926nm,20.0s
SONM Songino Array 130.38 50 PKP **PKPdf** **17 39 00.7 -0.3**
comp=Z,1nm,1.2s,baz=214,slow=1.4,SNR=22
SONM PP PP 17 41 05.4 -10
comp=Z,0.6nm,0.4s,baz=284,slow=7.3,SNR=3.2
ENH Enshi 130.61 74 PFAKE 17 39 10.0 +8.1
ENH LR LR
comp=Z,909nm,20.0s
BESE Bessie Mountai 130.71 324 *e*PKPdf **PKPdf** **17 38 58.5 -2.7**
ULN Ulaanbaatar 130.82 50 *e*PKPpre PKPpre 17 38 57.1
ULN *e*PKPdf **PKPdf** **17 39 01.8 -0.1**
ULN LR LR
comp=Z,1µm,20.0s
DAWY Dawson 131.39 332 *e*PKPpre PKPpre 17 38 56.3
DAWY *e*PKPdf **PKPdf** **17 39 02.7 +0.4**
HYT Haines Junctio 131.53 327 *e*PKPdf **PKPdf** **17 39 03.4 +0.6**
EGAK Eagle 131.86 333 *e*PKPdf **PKPdf** **17 39 02.0 -1.1**
EGAK *e*SKP 17 42 30.0
EGAK LR LR
comp=Z,1µm,19.0s
MSVF Nonsavu 132.26 195 *e*PKIKP **PKPdf** **17 39 04.6 -0.9**
MSVF MLR MLR
comp=Z,903nm,20.0s
MSVF Nonsavu 132.26 195 *e*PKPdf **PKPdf** **17 39 04.6 -0.9**
MSVF LR LR
comp=Z,903nm,20.0s
BOD Bodaibo 133.71 36 *e*PKIKP **PKPdf** **17 39 06.2 -0.6**
BOD pmax pmax
comp=Z,24nm,1.6s
HHC Hu-ho-hao-te 133.87 60 *e*PKP **PKPdf** **17 39 06.3 -1.5**
HHC PP **PP** **17 41 39.6 +1.5**
HHC SKS **SKSdf** **17 46 13.3 -4.8**
HHC SS **SS** **17 59 24.3 -0.8**
HHC PPMZ
comp=Z,230nm,6.1s
HHC LN
comp=Z,900nm,14.7s
HHC LE
comp=Z,770nm,20.2s
HHC LZ
comp=Z,2µm,17.4s
COLD Coldfoot 133.97 338 *e*PKPdf **PKPdf** **17 39 07.8 +0.8**
ILAR Eielson Array 134.08 334 PKP **PKPdf** **17 39 07.3 0.0**
comp=Z,6.1nm,1.1s,baz=5.8,slow=1.6,SNR=30
HDA Harding Lake 134.28 334 *e*PKPdf **PKPdf** **17 39 08.3 +0.6**
TIY Taiyuan 134.30 64 *e*PKP **PKPdf** **17 39 09.8 +1.2**
TIY PP **PP** **17 41 44.1 +3.2**
TIY PPMZ
comp=Z,200nm,9.5s
TIY LN
comp=Z,990nm,18.8s
TIY LE
comp=Z,1µm,17.4s
TIY LZ
comp=Z,2µm,19.8s
COLA College 134.39 335 *e*PKIKP **PKPdf** **17 39 08.1 +0.3**
COLA MLR MLR
comp=Z,1µm,21.0s
COLA College 134.39 335 *e*PKPdf **PKPdf** **17 39 08.1 +0.3**
COLA LR LR
comp=Z,1µm,21.0s
CCB Clear Creek Bu 134.49 335 *e*PKPdf **PKPdf** **17 39 07.8 -0.2**
MDM Murphy Dome 134.49 335 *e*PKPdf **PKPdf** **17 39 08.3 +0.2**
CIT Chita 134.68 44 *e*PKIKP **PKPdf** **17 39 09.4 +0.5**
CIT pmax pmax
comp=Z,91nm,2.0s
WRH Wood River Hil 134.68 334 *e*PKPdf **PKPdf** **17 39 08.5 +0.1**
WHN Wuhan 134.76 75 PKP **PKPdf** **17 39 10.8 +1.2**
WHN PP **PP** **17 41 44.9 +1.0**
WHN LN
comp=Z,2µm,21.2s
WHN LE
comp=Z,2µm,16.9s
WHN LZ
comp=Z,4µm,25.3s
BMRM Bremner River 134.77 329 *e*PKPdf **PKPdf** **17 39 08.5 -0.2**
RAGM Ragged Mountai 135.02 328 *e*PKPpre PKPpre 17 38 56.1
RAGM *e*PKPdf **PKiKP** **17 39 11.1 +0.4**
KLU Klutina 135.14 330 *e*PKPdf **PKPdf** **17 39 09.5 0.0**
DIV Divide 135.22 330 *e*PKPdf **PKPdf** **17 39 10.4 +0.8**
MLY Manley 135.36 336 *e*PKPdf **PKPdf** **17 39 09.8 +0.1**
MCK McKinley 135.37 334 *e*PKIKP **PKPdf** **17 39 10.3 +0.5**
MCK McKinley 135.37 334 *e*PKPdf **PKPdf** **17 39 10.3 +0.5**
DAV Davao City (W) 135.43 111 PFAKE 17 39 20.0 +8.6
DAV LR LR
comp=Z,716nm,22.0s
RND Reindeer 135.50 333 *e*PKIKP **PKPdf** **17 39 08.9 -1.2**
RND Reindeer 135.50 333 *e*PKPdf **PKPdf** **17 39 08.9 -1.2**
SCM Sheep Creek Mo 135.60 331 *e*PKIKP **PKPdf** **17 39 09.0 -1.3**
SCM Sheep Creek Mo 135.60 331 *e*PKPdf **PKPdf** **17 39 09.0 -1.3**
IM04 Indian Mountai 135.86 338 *e*PKPpre PKPpre 17 38 56.1
IM04 *e*PKPdf **PKPdf** **17 39 07.7 -2.9**
BPAW Bear Paw Mtn. 135.95 335 *e*PKPpre PKPpre 17 39 03.7
BPAW *e*PKPdf **PKPdf** **17 39 11.0 +0.2**
TRF Thorofare Moun 136.03 334 *e*PKPdf **PKPdf** **17 39 11.6 +0.4**
SML Sawmill 136.04 331 *e*PKIKP **PKPdf** **17 39 11.5 +0.4**
SML Sawmill 136.04 331 *e*PKPdf **PKPdf** **17 39 11.5 +0.4**
PMR Palmer 136.48 331 *e*PKIKP **PKPdf** **17 39 12.0 +0.2**
PMR Palmer 136.48 331 *e*PKPdf **PKPdf** **17 39 12.0 +0.2**
XMAS Kiritimati 136.69 238 PFAKE 17 39 30.0 +16
XMAS LR LR
comp=Z,1µm,20.0s
CAST Castle Rocks 136.73 334 *e*PKPpre PKPpre 17 39 01.1
CAST *e*PKPdf **PKPdf** **17 39 11.7 -0.7**
RC01 Rabbit Creek A 136.97 331 *e*PKPdf **PKPdf** **17 39 14.3 +1.5**
PPLA Purkeypile 137.06 334 *e*PKPpre PKPpre 17 39 06.3
PPLA *e*PKPdf **PKPdf** **17 39 10.7 -2.4**
PPLA *e*PP PP 17 41 48.5 -8.7
PPLA *e*SKP 17 42 43.3
SEW Seward 137.30 329 *e*PKPpre PKPpre 17 38 59.6
SEW *e*PKPdf **PKPdf** **17 39 14.0 +0.7**
PMG Port Moresby 137.33 151 PFAKE 17 39 30.0 +15
PMG LR LR
comp=Z,1µm,22.0s
BJT Baijiatuau 137.35 61 PFAKE 17 39 30.0 +16
BJT LR LR
comp=Z,2µm,22.0s
BJI Beijing 137.35 61 PKP **PKPdf** **17 39 17.6 +3.5**
BJI PP PP 17 42 06.8 +6.9
BJI PPMZ
comp=Z,370nm,9.0s
BJI LN
comp=Z,1µm,17.5s
BJI LE
comp=Z,2µm,21.5s
BJI LZ
comp=Z,2µm,24.7s
BRLK Bradley Lake 138.10 329 *e*PKPdf **PKPdf** **17 39 14.9 0.0**
RSO Redoubt South 138.57 331 *e*PKPdf **PKPdf** **17 39 14.7 -1.4**
NJ2 Nanjing 138.83 73 *e*PKP **PKPdf** **17 39 18.6 +1.5**
NJ2 sPKP 17 39 23.4
NJ2 PP **PP** **17 42 10.5 +1.2**
NJ2 SS SS 18 00 28.0 +3.5
NJ2 PPMZ

comp=Z,1μm,9.0s
NJ2 LN
comp=Z,2μm,20.4s
NJ2 LE
comp=Z,3μm,21.5s
NJ2 LZ
comp=Z,5μm,19.4s
YAK Yakutsk 139.01 26 *d* iPKIKP **PKPdf 17 39 15.7 -0.8**
YAK *e* 17 42 07.5
YAK pmax pmax
comp=Z,26nm,1.4s
YAK pmax pmax
comp=N,4.0nm,1.5s
YAK pmax pmax
comp=Z,107nm,2.7s
YAK pmax pmax
comp=E,35nm,2.5s
YAK pmax pmax
comp=N,24nm,2.5s
YAK Yakutsk 139.01 26 *e*PKPdf **PKPdf 17 39 16.0 -0.5**
YAK LR LR
comp=Z,757nm,20.0s
HIA Hailar 139.06 47 PFAKE 17 39 30.0 +13
HIA LR LR
comp=Z,2μm,19.0s
YHNB Yeheng 139.40 85 PFAKE 17 39 30.0 +12
YHNB LR LR
comp=Z,1μm,20.0s
TATO Taipei 139.58 85 PFAKE 17 39 30.0 +11
TATO LR LR
comp=Z,1μm,21.0s
KDAK Kodiak Island 139.82 327 PFAKE 17 39 30.0 +12
KDAK LR LR
comp=Z,1μm,21.0s
OHAK Old Harbor 140.42 327 *e*PKPdf **PKPdf 17 39 18.1 -1.1**
SSE Sheshan 140.65 75 PKP **PKPdf 17 39 18.1 -2.3**
SSE PP **PP 17 42 22.4 +1.8**
SSE SS SS 18 00 42.3 -3.6
SSE PPMZ
comp=Z,54nm,12.0s
SSE LN
comp=Z,1μm,21.8s
SSE LE
comp=Z,730nm,21.8s
SSE LZ
comp=Z,2μm,20.5s
BILL Bilibino 140.96 0 PFAKE 17 39 30.0 +10
BILL LR LR
comp=Z,387nm,20.0s
HNR Honiara 141.19 169 PFAKE 17 39 30.0 +8.0
HNR LR LR
comp=Z,873nm,20.0s
CN2 Changchun 143.97 54 *e*PKP PKPab 17 39 23.3 0.0
CN2 *ep*PKP pPKPdf 17 39 37.6 +5.1
CN2 PP **PP 17 42 41.3 +1.1**
CN2 *e*SS SS 18 01 20.3 -3.3
CN2 PPMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,1μm,22.0s
CN2 LE
comp=Z,500nm,22.0s
CN2 LZ
comp=Z,200nm,24.0s
POHA Pohakuloa 144.63 263 PFAKE 17 39 40.0 +12
POHA LR LR
comp=Z,2μm,20.0s
SEY Seymchan 144.81 11 PKP PKPbc 17 39 26.0 +0.1
comp=Z,48nm,0.8s,baz=336,slow=2.6,SNR=69
SEY Seymchan 144.81 11 *d* iPKIKP **PKPab 17 39 25.5 -0.3**
SDPT Sand Point 144.81 328 *e*PKPdf **PKPdf 17 39 26.8 -0.2**
KSGAH Ganghwa 145.39 65 P **PKPbc 17 39 28.3 -0.3**
SNR=14
KSGAH Ganghwa 145.39 65 P **PKPbc 17 39 28.3 -0.3**
SNR=14
INCN Inchon 145.55 65 *e*PKPdf **PKPdf 17 39 28.8 -0.2**
INCN LR LR
comp=Z,2μm,19.0s
KSMUS Musan 145.63 64 P **PKPbc 17 39 29.2 -0.1**
SNR=14
KSMUS Musan 145.63 64 P **PKPbc 17 39 29.2 -0.1**
SNR=14
YNCB YEONCHEON 145.76 64 P **PKPbc 17 39 29.5 -0.2**
SNR=12
YNCB YEONCHEON 145.76 64 P **PKPbc 17 39 29.5 -0.2**
SNR=12
KSSEO Seoul 145.78 65 P **PKPbc 17 39 29.7 -0.1**
SNR=13
KSSEO Seoul 145.78 65 P **PKPbc 17 39 29.7 -0.1**
SNR=13
KSSWO Suwon 145.82 66 P **PKPdf 17 39 29.5 +0.1**
SNR=18
KSSWO Suwon 145.82 66 P **PKPdf 17 39 29.5 +0.1**
SNR=18
JOW Kunigami 145.96 84 *e*PKPdf **PKPdf 17 39 29.0 -0.9**
TJN Taejon 146.17 67 *d* iPKIKP **PKPdf 17 39 28.8 -1.2**
FALS False Pass 146.47 329 *e*PKPdf **PKPbc 17 39 30.9 -0.3**
KSAR Wonju Array Be 146.55 65 PKP2 **PKPdf 17 39 30.5 -0.1**
KSAR Wonju Array Be 146.55 65 PKP **PKPdf 17 39 30.5 -0.1**
KLR Kul'dur 146.55 43 *e*PKHKP PKPpre 17 39 26.7
KLR *e* 17 46 13.0
KLR pmax pmax
comp=Z,280nm,1.8s
KLR pmax pmax
comp=Z,3μm,11.0s
KSRS Korea Array 146.58 65 PKP **PKPdf 17 39 30.5 -0.1**
comp=Z,23nm,0.9s,baz=267,slow=2.5,SNR=44
KSRS Korea Array 146.58 65 PKP2 **PKPdf 17 39 30.5 -0.1**
KSRS pmax pmax
comp=Z,23nm,0.9s
MDJ Mudanjiang 146.70 52 PKPbc **PKPbc 17 39 32.1 -0.2**
MDJ PKS **PKSdf 17 43 07.5 +1.7**
MDJ LN
comp=Z,1μm,22.3s
MDJ LE
comp=Z,680nm,24.6s
MDJ LZ
comp=Z,1μm,22.3s
MDJ Mudanjiang 146.70 52 PFAKE 17 39 40.0 +6.5
MDJ LR LR
comp=Z,1μm,21.0s
KIP Kipapa 147.40 265 PFAKE 17 39 40.0 +3.1
KIP LR LR
comp=Z,2μm,21.0s
MA2 Magadan 147.55 15⇑ *e*PKIKP **PKPdf 17 39 30.5 -1.1**
MA2 Magadan 147.55 15 PFAKE 17 39 40.0 +3.6
MA2 LR LR
comp=Z,1.0nm,19.0s
MSHR Mys Shultsa 148.31 55 *e*PKIKP **PKPdf 17 39 32.0 -1.4**
USRK Ussuriysk Ar. 148.47 52 PKP **PKPdf 17 39 33.4 -0.2**
comp=Z,6.4nm,0.9s,baz=288,slow=1.8,SNR=17
UNV Unalaska Valle 148.50 329 *e*PKPdf **PKPdf 17 39 31.4 -1.9**
VLA Vladivostok 148.69 54 *ce*PKIKP **PKPdf 17 39 33.7 -0.3**
HABR Khabarovsk 148.84 43 *de*PKHKP PKPpre 17 39 32.0
HABR *e* 17 39 38.9
HABR *e* 17 43 07.7
HABR *e*PPP PPP 17 46 26.9
HABR *e* 17 46 39.1
HABR *e*SS SS 18 02 19.1 +1.0
HABR *e*SSS SSS 18 07 55.7
HABR pmax pmax
comp=N,25nm,1.5s
HABR pmax pmax
comp=Z,118nm,1.5s
HABR pmax pmax
comp=E,43nm,1.4s
JNU Nakatsue 149.03 73 *e*PKPdf **PKPdf 17 39 34.6 -0.3**
NKL Nikolayevsk 149.19 31 *e*PKHKP PKPpre 17 39 33.0
NKL *e* 17 43 14.0
NKL pmax pmax
comp=E,28nm,1.1s
NKL pmax pmax
comp=Z,130nm,1.1s
NKL pmax pmax
comp=Z,1μm,4.0s
TARA Tarawa 151.87 193 PFAKE 17 39 50.0 +3.7
TARA LR LR
comp=Z,1μm,21.0s
YSS Yuzh-Sakhalins 154.08 40 *i* PKIKP **PKPdf 17 39 42.0 0.0**
YSS *e* 17 39 50.5
YSS *e* 17 43 44.0
YSS *e*SS SS 18 03 10.0 -5.8
MAJO Matsushiro 154.86 65 *e*PKIKP **PKPdf 17 39 43.2 -0.3**
MAJO *e* 17 43 42.2
MAJO MLR MLR
comp=Z,894nm,20.0s
MAJO Matsushiro 154.86 65 *e*PKPdf **PKPdf 17 39 43.2 -0.3**
MAJO *e*PP **PP 17 43 42.2 -1.4**
MAJO LR LR
comp=Z,894nm,20.0s
MAT Matsushiro 154.86 65 PKP **PKPdf 17 39 43.3 -0.2**
MJAR Matsushiro Arr 154.86 65 PKP **PKPdf 17 39 42.5 -1.0**
comp=Z,10nm,1.3s,baz=260,slow=2.7,SNR=10
MJAR PKPbc **PKPbc 17 39 50.7 -1.5**
comp=Z,5.1nm,1.0s,baz=257,slow=2.8,SNR=10.0
MJAR PKPab **PKPab 17 40 09.6 +2.1**
comp=Z,9.0nm,0.9s,baz=264,slow=4.0,SNR=6.0
MJAR PP **PP 17 43 42.0 -1.6**
comp=Z,1.4nm,0.7s,baz=278,slow=6.3,SNR=4.9
PETK Petropavlovsk- 155.02 13 PKP **PKPdf 17 39 43.2 0.0**
comp=Z,4.7nm,1.1s,baz=86,slow=9.1,SNR=4.6
PET Petropavlovsk 155.28 12 *i* PKIKP **PKPdf 17 39 43.4 -0.1**
PET *e* 17 40 07.4
PET *e* 17 43 53.9
PET *e*PPP PPP 17 47 19.9
PET *e*SS SS 18 03 33.6 +6.1
PET pmax pmax
comp=Z,41nm,1.4s
PET pmax pmax
comp=Z,59nm,1.2s
PET Petropavlovsk 155.28 12 *e*PKPdf PKPpre 17 39 38.7
PET *e*PKPab **PKPab 17 40 08.9 +0.4**
PET LR LR
comp=Z,2μm,20.0s
ASAJ Asahikawa 155.51 46 *e*PKPdf **PKPdf 17 39 42.6 -1.5**
ASAJ *e*PKPab **PKPab 17 40 08.1 -1.9**
ERM Erimo 156.87 50 PFAKE 17 40 00.0 +14
ERM LR LR
comp=Z,1μm,20.0s
SKR Severo-Kuril's 156.91 18 *e*PKIKP **PKPdf 17 39 43.0 -2.7**
YUK Yuzh-Kuril'sk 157.55 43 *i* PKIKP **PKPdf 17 39 45.3 -1.4**
YUK *i* 17 44 01.2
YUK *i* SS SS 18 03 51.7 -1.6
KUR Kuril'sk 157.95 38 *i* PKIKP **PKPdf 17 39 45.8 -1.4**
KUR *i* 17 40 19.3
KUR *i* 17 43 59.9
KUR SS SS 18 03 58.9 +1.6
MIDW Midway 166.10 270 PFAKE 17 40 10.0 +14
MIDW LR LR
comp=Z,4μm,21.0s
WAKE Wake Island 170.29 179 PFAKE 17 40 10.0 +11
WAKE LR LR
comp=Z,6μm,21.0s

CSEM ***20*** *17:37:29.4, 46.06N×14.72E, h0km, ML0.6*
LJU 20 17:37:29.4, 46.06N×14.72E, h6km, ML0.6, 1C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDS	**Vrh nad Dolski**	**0.04**	**340**⇑	*i* Pg	Pg	17 37 30.8	0.0
VNDS				*i* Sg	Sg	17 37 31.8	0.0
	comp=Z,25nm,0.1s						
LJU	**Ljubljana**	**0.14**	**264**	*i* Pg	Pg	17 37 32.4	+0.2
LJU				*i* Sg	Sg	17 37 34.6	+0.4
LJU	**Ljubljana**	**0.14**	**264**	*i* Pg	Pg	17 37 32.4	+0.1
LJU				*i* Sg	Sg	17 37 34.6	+0.4
PDKS	**Podkum**	**0.19**	**89**	*i* Pg	Pg	17 37 33.3	0.0
PDKS				*i* Sg	Sg	17 37 36.1	+0.2
	comp=Z,6.0nm,0.1s						
PDKS	**Podkum**	**0.19**	**89**	*i* Pg	Pg	17 37 33.3	0.0
PDKS				*i* Sg	Sg	17 37 36.1	+0.2
	comp=Z,6.0nm,0.1s						
VISS	**Visnje**	**0.27**	**162**⇓	*i* Pg	Pg	17 37 34.8	+0.1
VISS				*i* Sg	Sg	17 37 38.8	+0.6
	comp=Z,3.0nm,0.1s						
VISS	**Visnje**	**0.27**	**162**⇓	*i* Pg	Pg	17 37 34.8	+0.1
VISS				*i* Sg	Sg	17 37 38.8	+0.5
	comp=Z,2.0nm,0.1s						
MOZS	**Mozjanca**	**0.31**	**320**	*i* Pg	Pg	17 37 35.7	+0.2
MOZS				*i* Sg	Sg	17 37 39.9	+0.3
	comp=Z,2.0nm,0.1s						
MOZS	**Mozjanca**	**0.31**	**320**	*i* Pg	Pg	17 37 35.7	+0.2
MOZS				*i* Sg	Sg	17 37 39.9	+0.3
	comp=Z,2.0nm,0.1s						
CRNS	**Crni Vrh**	**0.32**	**274**	*i* Pg	Pg	17 37 35.9	+0.1
CRNS				*i* Sg	Sg	17 37 40.4	+0.3
	comp=Z,4.0nm,0.1s						

IDC ***20*** *17:53:04.0±1.8, 9.56N×123.15E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/47, mbtmp3.9/5, ML4.8/1, Error ellipse: s-maj=151.1km s-min=21.2km az=67.0*
ISCJB ***20*** *17:53:07.5±0.8, 9.34N±0.06×122.47E±0.06, h29km, mb3.7/4, Error ellipse: s-maj=8.4km s-min=8.2km az=155.9*
MAN ***20*** *17:53:09, 9.29N×122.56E, h32km, mb4.8, ML3.7, MS3.7*
ISC 20 17:53:09.1±1.1, 9.30N±0.07×122.53E±0.08, h29km, n10, σ0s88/14, mb3.8/4, 2C-2D, Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCPH	**Dipolog City**	**1.08**	**131**⇓	*e*P	**Pn**	**17 53 27.5**	**-0.8**
DCPH				*e*S	**Sn**	**17 53 41.7**	**-0.6**
TBP	**Tagbilaran**	**1.37**	**73**	*e*P	**Pn**	**17 53 33.0**	**+0.7**
TBP				*e*S	**Sn**	**17 53 49.1**	**-0.4**
IPIL	**Ipil**	**1.50**	**178**⇑	*i*P	**Pn**	**17 53 34.8**	**+0.7**
IPIL				*i* S	**Sn**	**17 53 52.9**	**+0.2**
CGP	**Cagayan de Oro**	**2.30**	**111**⇑	*e*P	**Pn**	**17 53 45.4**	**+0.3**
CGP				*e*S	**Sn**	**17 54 13.8**	**+1.4**
CTBH	**Cotabato--PC H**	**2.67**	**140**⇓	*e*P	**Pn**	**17 53 51.7**	**+1.4**
BATI	**Baumata**	**19.41**	**177**	P	**Pn**	**17 57 35.1**	**+0.7**
	2.7nm,0.3s,baz=337,slow=8.6,SNR=5.1						
ASAR	**Alice Springs**	**34.60**	**161**	P	**P**	**17 59 54.5**	**-1.3**
	0.9nm,0.6s,baz=340,slow=6.8,SNR=8.1						
STKA	**Stephens Creek**	**44.82**	**157**	P	**P**	**18 01 20.4**	**-0.3**
	1.7nm,0.8s,baz=0.0,slow=6.1,SNR=3.8						
MKAR	**Makanchi Array**	**50.63**	**325**	P	**P**	**18 02 05.6**	**0.0**
	0.3nm,0.6s,baz=112,slow=7.0,SNR=3.6						
KURBB	**Kurchatov Arra**	**54.83**	**327**	P	**P**	**18 02 36.8**	**+0.2**
	0.6nm,0.7s,baz=129,slow=6.0,SNR=7.6						

IDC 20 17:54:34.6±3.4, 6.33S×150.24E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.3/19, mbtmp3.4/3, ML1.5/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/13, Error ellipse: s-maj=125.8km s-min=41.2km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.32**	**225**	Pn	Pn	17 55 43.0	+1.4
	2.0nm,0.3s,baz=60,slow=6.4,SNR=13						
PMG				Sn	Sn	17 56 28.7	-4.0
	4.1nm,0.3s,baz=129,slow=20,SNR=2.4						
GUMO	**Guam**	**20.50**	**345**	LR	LR	18 06 08.4	
	comp=Z,85nm,19.9s,baz=132,slow=34						
WRA	**Warramunga Arr**	**20.53**	**227**	P	P	17 59 14.3	-0.5
	1.1nm,0.5s,baz=52,slow=11,SNR=18						
ASAR	**Alice Springs**	**23.32**	**221**	P	P	17 59 43.5	-1.1
	0.2nm,0.4s,baz=56,slow=8.9,SNR=8.7						
TORD	**Torodi Ar. Bea**	**148.29**	**285**	PKPbc	PKPbc	18 14 23.9	-0.1
	0.2nm,0.4s,baz=66,slow=2.4,SNR=3.4						

IDC ***20*** *17:54:36.8±2.1, 1.98N×96.48E, h0km, mb3.9/4, mb1 3.9/6, mb1mx3.5/47, mbtmp3.7/6, ML3.3/2, MS4.7/1, Ms1 4.7/1, ms1mx3.3/37, Error ellipse: s-maj=56.0km s-min=24.2km az=46.0*
ISCJB ***20*** *17:54:38.9±1.6, 2.0N±0.2×96.5E±0.2, h28km, mb3.9/4, MS4.7/1, Error ellipse: s-maj=30.2km s-min=17.9km az=39.2*
ISC 20 17:54:41.5±2.0, 2.1N±0.2×96.6E±0.2, h28km, n12, σ0s53/6, mb3.9/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.41**	**73**	Pn	**Pn**	**17 55 19.4**	**+0.2**
	1.2nm,0.3s,baz=270,slow=15,SNR=2.5						
CMAR	**Chiang Mai Arr**	**16.40**	**8**	Pn	**P**	**17 58 32.0**	**-0.4**
	0.1nm,0.3s,baz=197,slow=12,SNR=13						
H08S2	**Diego Garcia H**	**25.94**	**248**	T	T	18 26 56.0	
	baz=69,slow=76,SNR=135						
H08S3	**Diego Garcia H**	**25.94**	**248**	T	T	18 26 59.2	
	baz=69,slow=76,SNR=89						
H08S1	**Diego Garcia H**	**25.96**	**248**	T	T	18 26 57.5	
	baz=69,slow=76,SNR=110						
H01W3	**Cape Leeuwin H**	**40.31**	**157**	T	T	18 45 02.6	
	baz=333,slow=76,SNR=5.2						
H01W2	**Cape Leeuwin H**	**40.32**	**158**	T	T	18 45 03.5	
	baz=333,slow=76,SNR=5.7						
H01W1	**Cape Leeuwin H**	**40.32**	**157**	T	T	18 45 03.6	
	baz=333,slow=76,SNR=5.1						
WRA	**Warramunga Arr**	**43.02**	**122**	P	**P**	**18 02 38.8**	**-0.1**
	0.5nm,0.8s,baz=302,slow=9.3,SNR=4.4						
WRA				LR	LR	18 21 56.4	
	comp=Z,929nm,21.4s,baz=220,slow=38						
MKAR	**Makanchi Array**	**46.22**	**346**	P	**P**	**18 03 04.5**	**+0.4**
	1.5nm,0.7s,baz=166,slow=8.7,SNR=10						
KURBB	**Kurchatov Arra**	**50.70**	**345**	P	**P**	**18 03 39.0**	**+0.5**
	0.7nm,0.6s,baz=164,slow=7.0,SNR=8.4						
ZALV	**Zalesovo Beam**	**52.57**	**351**	P	**P**	**18 03 52.0**	**-0.4**
	2.0nm,0.5s,baz=181,slow=7.4,SNR=10.0						

IDC ***20*** *17:58:02.9±1.2, 6.27S×150.65E, h0km, mb4.0/5, mb1 4.3/6, mb1mx3.8/19, mbtmp4.0/6, ML1.7/1, Error ellipse: s-maj=78.6km s-min=22.0km az=127.0*
ISCJB ***20*** *17:58:06.7±1.0, 6.45S±0.3×150.66E±0.3, h33km, mb3.8/4, Error ellipse: s-maj=59.1km s-min=11.6km az=136.3*
ISC 20 17:58:08.0±1.1, 6.33S±0.3×150.66E±0.4, h33km, n7, σ0s62/8, mb3.8/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.62**	**228**	Pn	**Pn**	**17 59 16.0**	**+0.6**
	2.3nm,0.3s,baz=55,slow=9.7,SNR=8.3						
PMG				Sn	**Sn**	**18 00 08.2**	**+0.1**
	4.3nm,0.3s,baz=236,slow=22,SNR=5.6						
WRA	**Warramunga Arr**	**20.84**	**228**	P	**P**	**18 02 46.5**	**-0.6**
	13nm,1.1s,baz=54,slow=11,SNR=22						
ASAR	**Alice Springs**	**23.60**	**221**	P	**P**	**18 03 15.8**	**-0.3**
	3.0nm,0.8s,baz=55,slow=8.8,SNR=21						
STKA	**Stephens Creek**	**26.82**	**197**	P	**P**	**18 03 44.8**	**-0.5**
	1.7nm,0.8s,baz=31,slow=10,SNR=4.0						
ILAR	**Eielson Array**	**84.35**	**22**	P	**P**	**18 10 36.1**	**-0.4**
	0.6nm,0.9s,baz=260,slow=5.1,SNR=6.4						
NVAR	**Mina Array Bea**	**94.71**	**52**	P	**P**	**18 11 27.3**	**+0.8**
	0.7nm,0.7s,baz=259,slow=7.5,SNR=5.0						
TORD	**Torodi Ar. Bea**	**148.65**	**285**	PKPbc	**PKPbc**	**18 17 52.5**	**-0.3**
	1.1nm,0.7s,baz=72,slow=2.4,SNR=8.4						

IDC 20 18:10:52.9±3.4, 5.92S×150.70E, h0km, mb3.1/2, mb1 3.6/3, mb1mx3.3/29, mbtmp3.5/3, ML2.2/1, Error ellipse: s-maj=133.6km s-min=42.7km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.93**	**225**	Pn	Pn	18 12 10.0	+1.7
	6.9nm,0.3s,baz=15,slow=12,SNR=32						
PMG				Sn	Sn	18 13 01.8	-4.3
	2.1nm,0.3s,baz=316,slow=18,SNR=2.2						
WRA	**Warramunga Arr**	**21.15**	**227**	P	P	18 15 39.5	-0.3
	0.5nm,0.4s,baz=51,slow=10.0,SNR=9.3						
ASAR	**Alice Springs**	**23.93**	**221**	P	P	18 16 08.3	-0.6
	0.2nm,0.3s,baz=58,slow=9.6,SNR=5.2						
TORD	**Torodi Ar. Bea**	**148.62**	**286**	PKPbc	PKPbc	18 30 42.6	-0.5
	0.4nm,0.3s,baz=88,slow=2.5,SNR=6.6						

IDC ***20*** *18:14:31.9±1.4, 4.81S×145.85E, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.6/27, mbtmp3.8/5, ML4.0/1, Error ellipse: s-maj=53.2km s-min=21.5km az=102.0*
ISC 20 18:14:35.7±1.1, 4.95S±0.09×146.1E±0.2, h27km, n7, σ2s02/8, mb3.8/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.55**	**167**	Pn	**Pn**	**18 15 45.7**	**+2.8**
	4.3nm,0.3s,baz=304,slow=11,SNR=18						
PMG				Sn	**Sn**	**18 16 31.5**	**-3.4**
	5.4nm,0.3s,baz=308,slow=23,SNR=12						
CTA	**Charters Tower**	**15.05**	**179**	Pn	**P**	**18 18 11.9**	**+0.1**
	0.4nm,0.3s,baz=352,slow=15,SNR=4.6						
GUMO	**Guam**	**18.46**	**356**	P	**Pn**	**18 18 48.9**	**-0.9**
	22nm,0.3s,baz=250,slow=1.0,SNR=16						
WRA	**Warramunga Arr**	**18.80**	**217**	P	**Pn**	**18 18 53.6**	**-0.3**
	0.5nm,0.3s,baz=35,slow=11,SNR=10						
ASAR	**Alice Springs**	**22.02**	**211**	P	**P**	**18 19 28.1**	**-0.1**
	1.5nm,0.7s,baz=48,slow=8.1,SNR=29						
STKA	**Stephens Creek**	**27.12**	**188**	P	**P**	**18 20 16.6**	**0.0**
	0.8nm,0.3s,baz=15,slow=11,SNR=9.1						
ILAR	**Eielson Array**	**84.87**	**23**	P	**P**	**18 27 07.6**	**-0.2**
	0.3nm,0.6s,baz=257,slow=5.2,SNR=4.7						

ISCJB ***20*** *18:32:28.4±1.3, 52.6N±0.1×169.7W±0.2, h8km±7km, mb3.6/3, Error ellipse: s-maj=28.6km s-min=7.3km az=144.4*
IDC ***20*** *18:32:28.2±1.6, 52.44N×169.63W, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.4/33, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=61.2km s-min=29.1km az=142.0*
NEIC ***20*** *18:32:30.0, 52.83N×169.67W, h2km, ML3.3(AEIC), After AEIC.*
ISC 20 18:32:29.3±1.8, 52.8N±0.1×169.80W±0.08, h6km±11km, n26, σ1s01/25, mb3.3/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.60**	**72**	P	**Pg**	**18 32 40.7**	**-0.1**
NIKH				S	**Sg**	**18 32 49.4**	**+0.7**
OKWR	**Okmok West Rim**	**1.16**	**56**	P	**Pg**	**18 32 51.5**	**+0.1**
OKAK	**Okmok**	**1.17**	**47**	P	**Pg**	**18 32 49.7**	**-2.0**
OKCE	**Okmok Cone E**	**1.18**	**57**	P	**Pg**	**18 32 51.0**	**-0.7**
OKTU	**Okmok Mt. Tuli**	**1.22**	**60**	P	**Pg**	**18 32 51.9**	**-0.7**
OKRE	**Okmok R'deer P**	**1.23**	**53**	P	**Pg**	**18 32 52.5**	**-0.3**
OKRE				S	**Sg**	**18 33 09.4**	**+0.7**
MSOM	**Makushin Julie**	**2.00**	**58**	P	**Pn**	**18 33 03.8**	**+0.3**
MSOM				S	**Sn**	**18 33 30.4**	**+1.6**
MCIR	**Makushin Cirqu**	**2.10**	**55**	P	**Pn**	**18 33 05.4**	**+0.4**
MSW	**Makushin Switc**	**2.13**	**57**	P	**Pn**	**18 33 06.5**	**+1.1**
MSW				S	**Sn**	**18 33 33.5**	**+1.4**
MTBL	**Makushin Table**	**2.21**	**57**	P	**Pn**	**18 33 07.8**	**+1.2**
UNV	**Unalaska Valle**	**2.24**	**61**	P	**Pn**	**18 33 07.2**	**+0.3**
UNV				S	**Sn**	**18 33 34.6**	**-0.3**
AKRB	**Akutan Reef Bi**	**2.60**	**58**	P	**Pn**	**18 33 12.9**	**+1.0**
ZRO	**Akutan Zero**	**2.63**	**59**	P	**Pn**	**18 33 13.4**	**+1.1**
AKGG	**Akutan Green G**	**2.68**	**57**	P	**Pn**	**18 33 13.7**	**+0.8**
ATKA	**Atka Island**	**2.75**	**259**	P	**Pn**	**18 33 15.3**	**+1.5**
AKUT	**Akutan**	**2.76**	**59**	*e*Pn	**Pn**	**18 33 14.7**	**+0.7**
ILAR	**Eielson Array**	**16.75**	**35**	Pn	**Pn**	**18 36 24.5**	**+0.3**
	0.1nm,0.3s,baz=226,slow=11,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**37.62**	**218**	T	T	19 20 50.0	
	baz=23,slow=76,SNR=9.7						
H11N3	**WAKE ISLAND Hy**	**37.63**	**218**	T	T	19 20 44.8	
	baz=23,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**37.64**	**218**	T	T	19 20 51.2	
	baz=23,slow=76,SNR=9.0						
H11S1	**WAKE ISLAND Hy**	**38.82**	**217**	T	T	19 22 22.7	
	baz=23,slow=76,SNR=224						
H11S2	**WAKE ISLAND Hy**	**38.83**	**217**	T	T	19 22 23.8	
	baz=23,slow=76,SNR=110						
H11S3	**WAKE ISLAND Hy**	**38.83**	**217**	T	T	19 22 19.6	
	baz=23,slow=76,SNR=127						
PDAR	**Pinedale Array**	**40.58**	**79**	P	**P**	**18 40 09.3**	**-0.4**
	0.5nm,0.7s,baz=312,slow=3.1,SNR=4.0						
TXAR	**Lajitas Array**	**53.00**	**89**	P	**P**	**18 41 45.7**	**-1.1**
	0.2nm,0.5s,baz=284,slow=4.4,SNR=5.5						
ASAR	**Alice Springs**	**90.47**	**230**	P	**P**	**18 45 30.9**	**-0.8**
	0.8nm,0.7s,baz=34,slow=5.1,SNR=13						

ISCJB ***20*** *18:33:24.4±1.1, 52.8N±0.1×169.6W±0.2, h10km, mb3.5/3, Error ellipse: s-maj=21.9km s-min=8.3km az=145.7*
IDC ***20*** *18:33:24.7±1.7, 52.52N×169.37W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.3/34, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=59.7km s-min=29.6km az=141.0*
NEIC ***20*** *18:33:26.3, 52.74N×169.20W, h1km, ML3.2(AEIC), After AEIC.*
ISC 20 18:33:26.0±1.3, 52.8N±0.1×169.4W±0.1, h10km, n10, σ0s73/14, mb3.4/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.36**	**69**	P	**Pb**	**18 33 34.0**	**-0.6**
NIKH				S	**Sb**	**18 33 41.0**	**+0.7**
OKAK	**Okmok**	**0.97**	**40**	P	**Pg**	**18 33 44.2**	**-0.5**
OKAK				S	**Sg**	**18 33 57.7**	**+0.3**
OKRE	**Okmok R'deer P**	**1.01**	**47**	P	**Pn**	**18 33 47.2**	**+0.9**
MSOM	**Makushin Julie**	**1.77**	**56**	P	**Pb**	**18 33 57.9**	**-0.7**

MSOM				S	**Sg**	**18 34 22.5**	**-0.4**
MTBL	**Makushin Table**	**1.99**	**54**	P	**Pb**	**18 34 01.1**	**-1.2**
UNV	**Unalaska Valle**	**2.02**	**59**	P	**Pn**	**18 34 00.5**	**+0.5**
UNV				S	**Sb**	**18 34 27.5**	**-0.3**
ILAR	**Eielson Array**	**16.58**	**35**	Pn	**Pn**	**18 37 19.3**	**+1.0**
	0.1nm,0.3s,baz=233,slow=8.9,SNR=2.7						
PDAR	**Pinedale Array**	**40.34**	**80**	P	**P**	**18 41 04.0**	**+0.2**
	0.3nm,0.5s,baz=340,slow=9.6,SNR=2.2						
TXAR	**Lajitas Array**	**52.77**	**89**	P	**P**	**18 42 41.4**	**+0.2**
	0.4nm,0.7s,baz=303,slow=6.2,SNR=3.9						
ASAR	**Alice Springs**	**90.68**	**230**	P	**P**	**18 46 28.2**	**-0.5**
	0.4nm,0.8s,baz=32,slow=4.9,SNR=3.2						

*ISCJB **20** 19:04:54.5±1.4,38˙.20S±0˙.09×74˚.1W±0˚.2,h18km,mb3.9/4, Error ellipse: s-maj=21.6km s-min=12.1km az=15.5*
*GUC **20** 19:05:01.9±0.4,38˙.07S×73˚.64W,h15km±5km,ML4.2*
*NEIC **20** 19:05:01.0,38˙.07S×73˚.64W,h15km,mb4.0/2, ML4.2(GUC),After GUC.*
NEIC Felt [II] at Curacautin and Temuco.
ISC 20 19:04:57.3±1.3,38˙.08S±0˙.06×74˚.1W±0˚.1,h18km,n17, σ1s80/22,mb4.1/4,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSCH	**Puerto Saavedr**	**0.90**	**143**	*e*P	**Pn**	**19 05 15.8**	**+0.8**
PSCH				*i* S	**Sb**	**19 05 25.7**	**-0.2**
CCSP	**San Pedro de C**	**1.46**	**32**	*e*P	**Pb**	**19 05 24.3**	**+0.5**
CCSP				*i* S	**Sn**	**19 05 40.9**	**-0.3**
CCSP				AML	AML	19 05 47.9	
	comp=N,4μm,0.4s						
U14B	**Concepcin**	**1.46**	**33**	*e*P	**Pb**	**19 05 23.9**	**+0.1**
U14B				*i* S	**Sn**	**19 05 40.7**	**-0.6**
U14B				AML	AML	19 05 48.4	
	comp=N,17μm,0.5s						
U14B	**Concepcin**	**1.46**	**33**	*e*Pn	**Pb**	**19 05 24.0**	**+0.2**
U14B				*e*Sn	**Sn**	**19 05 40.7**	**-0.6**
U65B	**HualaæØ**	**3.62**	**31**	*e*Pn	**Pn**	**19 05 53.4**	**+1.1**
U65B				*e*Sn	**Sn**	**19 06 37.9**	**+3.3**
U73B	**San Pedro**	**4.68**	**28**	*e*Pn	**Pn**	**19 06 07.1**	**+0.1**
LCO	**Las Campanas**	**9.47**	**18**	*e*Pn	**Pn**	**19 07 13.5**	**+0.4**
	comp=N,7.7nm,0.6s						
TRQA	**Tornquist**	**9.54**	**94**	*e*Pn	**Pn**	**19 07 13.8**	**0.0**
CPUP	**Villa Florida**	**18.36**	**55**	Pn	**P**	**19 09 06.7**	**-4.2**
LPAZ	**La Paz**	**22.33**	**15**	P	**P**	**19 09 56.8**	**+2.1**
	comp=N,0.1nm,0.3s,baz=169,slow=9.4,SNR=3.4						
LPAZ	**La Paz**	**22.33**	**15**	*e*P	**P**	**19 09 55.9**	**+1.1**
	comp=N,4.1nm,1.0s						
OTAV	**Otavalo**	**38.34**	**353**	P	**P**	**19 12 15.0**	**-2.7**
	comp=N,3.7nm,0.7s						
DBIC	**Dimbokro**	**78.04**	**72**	P	**P**	**19 16 53.7**	**-1.3**
	comp=N,2.2nm,0.6s,baz=225,slow=5.7,SNR=3.9						
DBIC	**Dimbokro**	**78.04**	**72**	P	**P**	**19 16 53.7**	**-1.3**
TORD	**Torodi Ar. Bea**	**87.13**	**71**	P	**P**	**19 17 44.2**	**+1.8**
	comp=N,0.7nm,0.7s,baz=215,slow=5.2,SNR=6.1						
TORD	**Torodi Ar. Bea**	**87.13**	**71**	P	**P**	**19 17 44.2**	**+1.8**
ABKAR	**Akbulak array**	**145.42**	**56**	*e*PKPdf	**PKPab**	**19 24 36.4**	**+2.6**

*ISK **20** 19:11:56.0,37˙.97N×27˙.10E,h9km,MD2.7*
*CSEM **20** 19:11:56.6±0.2,37˙.94N×27˙.09E,h2km,MD2.7,Error ellipse: s-maj=5.1km s-min=3.7km az=63.0*
*DDA **20** 19:11:56.2,37˙.94N×27˙.04E,h8km,MD2.7*
ISC 20 19:11:56.4±1.0,37˚.95N±0˚.02×27˚.08E±0˚.02,h9km±10km, n31,σ0s47/50,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.43**	**356**	*e*PG	**Pg**	**19 12 04.6**	**-0.3**
BLCB				*e*SG	**Sg**	**19 12 10.6**	**0.0**
BLCB	**Balcova**	**0.43**	**356**	*e*Pg	**Pg**	**19 12 04.6**	**-0.3**
BLCB				*e*Sg	**Sg**	**19 12 10.6**	**0.0**
IZM	**Izmir**	**0.47**	**18**	*e*PG	**Pg**	**19 12 05.6**	**+0.1**
IZM	**Izmir**	**0.47**	**18**	*e*Pg	**Pg**	**19 12 05.6**	**+0.1**
ZEY	**¨zmir**	**0.54**	**302**	*i* P	**Pg**	**19 12 06.7**	**-0.2**
ZEY				*i* S	**Sg**	**19 12 14.0**	**+0.1**
URLA	**Izmir**	**0.56**	**317**	*i* P	**Pg**	**19 12 06.9**	**-0.3**
URLA				*i* S	**Sg**	**19 12 14.8**	**+0.2**
URLA	**Izmir**	**0.56**	**317**	*i* P	**Pg**	**19 12 06.9**	**-0.3**
URLA				*i* S	**Sg**	**19 12 14.8**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**0.64**	**90**	*e*PG	**Pg**	**19 12 09.1**	**+0.4**
AYDB				*e*SG	**Sg**	**19 12 17.7**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**0.64**	**90**	*e*Pg	**Pg**	**19 12 09.1**	**+0.4**
AYDB				*e*Sg	**Sg**	**19 12 17.7**	**+0.6**
AYDN	**Tasoluk**	**0.69**	**114**	*i* P	**Pb**	**19 12 10.2**	**-0.5**
AYDN				*i* S	**Sg**	**19 12 19.0**	**+0.2**
AYDN	**Tasoluk**	**0.69**	**114**	*i* P	**Pb**	**19 12 10.2**	**-0.5**
AYDN				*i* S	**Sg**	**19 12 19.0**	**+0.2**
BODT	**Bodrum**	**0.91**	**168**	*e*PG	**Pg**	**19 12 13.8**	**0.0**
BODT	**Bodrum**	**0.91**	**168**	*e*Pg	**Pg**	**19 12 13.8**	**0.0**
CHOS	**Chios island**	**0.92**	**299**	*e*PG	**Pb**	**19 12 15.0**	**+0.5**
CHOS	**Chios island**	**0.92**	**299**	*e*Pg	**Pb**	**19 12 15.0**	**+0.5**
BDRM	**Kayabasi**	**0.93**	**162**	*i* P	**Pb**	**19 12 14.3**	**-0.4**
BDRM				*i* S	**Sb**	**19 12 27.5**	**+0.3**
BDRM	**Kayabasi**	**0.93**	**162**	*i* P	**Pb**	**19 12 14.3**	**-0.4**
BDRM				*i* S	**Sb**	**19 12 27.5**	**+0.3**
AKHS	**Akhisar**	**1.09**	**32**	*i* P	**Pg**	**19 12 16.9**	**-0.4**
AKHS				*i* S	**Sn**	**19 12 33.7**	**+0.6**
AKHS	**Akhisar**	**1.09**	**32**	*i* P	**Pg**	**19 12 16.9**	**-0.4**
AKHS				*i* S	**Sn**	**19 12 33.7**	**+0.6**
AKS	**Akhisar**	**1.09**	**32**	*e*PG	**Pb**	**19 12 17.6**	**+0.2**
AKS	**Akhisar**	**1.09**	**32**	*e*Pg	**Pb**	**19 12 17.6**	**+0.2**
YER	**Yerkesik**	**1.25**	**130**	*e*PN	**Pn**	**19 12 19.9**	**-0.2**
YER	**Yerkesik**	**1.25**	**130**	*e*Pn	**Pn**	**19 12 19.9**	**-0.2**
MANT	**Manisa**	**1.28**	**65**	*i* P	**Pg**	**19 12 21.2**	**+0.2**
MANT				*i* S	**Sb**	**19 12 35.8**	**-1.7**
MANT	**Manisa**	**1.28**	**65**	*i* P	**Pg**	**19 12 21.2**	**+0.2**
MANT				*i* S	**Sb**	**19 12 35.8**	**-1.7**
KULA	**Kula-Manisa**	**1.36**	**65**	*e*PN	**Pn**	**19 12 21.7**	**0.0**
KULA	**Kula-Manisa**	**1.36**	**65**	*e*Pn	**Pn**	**19 12 21.7**	**0.0**
DEMI	**Demirci**	**1.68**	**49**	*i* P	**Pg**	**19 12 28.8**	**+0.1**
DEMI				*i* S	**Sb**	**19 12 49.1**	**+0.2**
DEMI	**Demirci**	**1.68**	**49**	*i* P	**Pg**	**19 12 28.8**	**+0.1**
DEMI				*i* S	**Sb**	**19 12 49.1**	**+0.2**
DURS	**Dursunbey**	**1.98**	**33**	*i* P	**Pb**	**19 12 32.6**	**0.0**
DURS				*i* S	**Sg**	**19 13 00.1**	**+0.3**
DURS	**Dursunbey**	**1.98**	**33**	*i* P	**Pb**	**19 12 32.6**	**0.0**
DURS				*i* S	**Sg**	**19 13 00.1**	**+0.3**

*BJI **20** 19:18:13.7,6˙.49S×151˚.37E,h24km,mb5.3/78,mB6.2/51, Ms6.3/90,Ms7 6.2/83*
*IDC **20** 19:18:17.0±0.3,5˙.93S×150˚.76E,h0km,mb5.1/34, mb1 5.1/36,mb1mx5.1/37,mbtmp5.1/36,ML2.7/1,MS6.1/34, Ms1 6.1/34,ms1mx6.0/42,Error ellipse: s-maj=11.2km s-min=9.2km az=87.0*
*ISCJB **20** 19:18:20.8±1.0,5˙.96S±0˙.02×150˚.70E±0˚.02,h31km±7km, mb5.5/218,MS6.2/192,Error ellipse: s-maj=3.7km s-min=3.3km az=168.4*
*NEIC **20** 19:18:20.4±0.1,5˙.90S×150˚.71E,h24km,mb5.6/152, ME5.4,MS6.3/135,MW6.3,Error ellipse: s-maj=4.8km s-min=4.2km az=148.0,Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
*MOS **20** 19:18:21.8±1.3,5˙.92S×150˚.69E,h41km,mb5.7/54, MS6.3/61,Error ellipse: s-maj=6.8km s-min=5.1km az=94.5*
*GCMT **20** 19:18:22.0±0.1,6˙.33S×150˚.76E,h35km,MW6.3/132, Moment Tensor Solution. s128,c310; s132,c513; Duration: 3s6 Moment tensor: Scale 10^18Nm; Mrr3.24±.02; Mθθ-3.62±.02; Mφφ0.38±.02; Mrθ2.04±.03; Mθφ-0.47±.01; Mφr0.02±.03; Best double couple: M=4.01500×10^18 NP1:φs87.00000°,δ60.00000°, λ94.00000°. NP2:φs259.00000°,δ30.00000°,λ84.00000°. Principal axes: T 3.8040, Plg74.0000°, Azm7.0000°; N 0.4260, Plg3.0000°, Azm265.0000°; P -4.2260, Plg15.0000°, Azm174.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **20** 19:18:23.0±0.0,5˙.92S×150˚.68E,h36km,Moment Tensor Solution. s32 Moment tensor: Scale 10^18Nm; Mrr2.76; Mθθ-3.24; Mφφ0.48; Mrθ2.57; Mθφ-0.32; Mφr1.21; Best double couple: M=4.20000×10^18 NP1:φs70.00000°, δ67.00000°,λ76.00000°. NP2:φs282.00000°,δ26.00000°, λ118.00000°. Principal axes: T 4.0100, Plg65.0000°, Azm317.0000°; N 0.3000, Plg12.0000°, Azm75.0000°; P*

-4.3000, Plg21.0000°, Azm170.0000°;
*DJA **20** 19:18:31.2±0.6,6˚S±2˚×15˚1E±˚,h81km±5km,M6.2/43, mb5.7/43,mB6.4/42,MLv7.2/1,Mw(mB)6.2/42,Mwp6.0/10*
ISC 20 19:18:22.8±0.2,5˚.98S±0˚.03×150˚.75E±0˚.03,h41km±2km, h41km:pP-P,n1535,σ1s90/1557,mb5.5/216,MS6.3/193, 71C-44D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.92**	**226**	Pn	**Pn**	**19 19 34.7**	**+0.4**
	21nm,0.3s,baz=50,slow=7.2,SNR=97						
PMG				Sn	**Sn**	**19 20 30.5**	**+0.5**
	132nm,0.3s,baz=37,slow=5.9,SNR=4.3						
PMG				LR	LR	19 20 57.6	
	comp=Z,79μm,19.3s,baz=8.0,slow=32						
PMG	**Port Moresby**	**4.92**	**226**	*d*P	**Pn**	**19 19 35.9**	**+1.6**
PMG	**Port Moresby**	**4.92**	**226**	↑P	**Pn**	**19 19 36.2**	**+1.9**
	baz=4.8,SNR=203						
PMG				↑P	**Pn**	**19 19 36.2**	**+1.9**
	baz=4.8,SNR=203						
PMG				↑P	**Pn**	**19 19 36.2**	**+1.9**
	baz=4.8,SNR=203						
PMG	**Port Moresby**	**4.92**	**226**	Pn	**Pn**	**19 19 34.7**	**+0.4**
PMG				*e*Sn	Sn	19 20 22.9	-7.2
MANU	**Manus Island**	**5.17**	**319**	↓P	Pn	19 19 42.5	+4.8
	baz=5.2,SNR=75						
HNR	**Honiara**	**9.74**	**111**	LR	LR	19 23 52.3	
	comp=Z,104μm,21.2s,baz=283,slow=34						
HNR	**Honiara**	**9.74**	**111**	*e*P	**Pn**	**19 20 42.1**	**+1.7**
HNR				pmax	pmax		
	comp=Z,1μm,0.9s						
HNR	**Honiara**	**9.74**	**111**	*e*P	Pn	19 20 52.0	+12
HNR	**Honiara**	**9.74**	**111**	*e*Pn	**Pn**	**19 20 42.1**	**+1.7**
	comp=Z,1μm,0.9s						
HNR				*e*Sn	Sn	19 22 12.0	-17
JAY	**Jayapura**	**10.59**	**289**	P	Pn	19 20 58.4	+6.3
	comp=Z,410nm,2.6s,comp=Z,18μm						
JAY				S	Sn	19 22 56.8	+7.2
	comp=Z,410nm,2.6s,comp=Z,18μm						
JAY	**Jayapura**	**10.59**	**289**	Pn	Pn	19 20 58.0	+5.8
	comp=Z,1.3nm,0.3s,baz=121,slow=8.8,SNR=5.8						
JAY				Sn	Sn	19 22 57.5	+8.0
	comp=Z,1.1nm,0.3s,baz=108,slow=19,SNR=1.4						
JAY				Lg	Lg	19 23 49.4	
	comp=Z,1.0nm,0.3s,baz=342,slow=20,SNR=2.4						
JAY				LR	LR	19 25 28.5	
	comp=Z,87μm,21.2s,baz=99,slow=41						
COEN	**Coen**	**10.88**	**223**	↑P	**Pn**	**19 20 57.3**	**+1.3**
	baz=11,SNR=12						
COEN	**Coen**	**10.88**	**223**	*e*Pn	**Pn**	**19 20 56.6**	**+0.6**
	comp=Z,543nm,1.5s						
GENI	**Genyem**	**11.07**	**287**	P	Pn	19 21 04.7	+6.0
GENI				S	Sn	19 23 08.2	+6.9
SMPI	**Sarmi**	**12.65**	**288**	P	P	19 21 26.5	-4.2
SMPI				S	Sn	19 23 46.3	+6.5
MTSU	**Mount Surprise**	**13.61**	**207**	P	**Pn**	**19 21 34.8**	**+1.3**
	baz=14,SNR=40						
CTA	**Charters Tower**	**14.69**	**197**	Pn	**Pn**	**19 21 46.6**	**-1.3**
	comp=Z,2.4nm,0.3s,baz=18,slow=14,SNR=29						
CTA				Sn	Sn	19 24 36.8	+7.2
	baz=50,slow=18,SNR=1.8						
CTA				LR	LR	19 26 55.6	
	comp=Z,91μm,21.9s,baz=18,slow=35						
CTAO	**Charters Tower**	**14.69**	**197**	↓*e*P	**Pn**	**19 21 47.2**	**-0.8**
CTAO				*e*		19 24 30.2	
CTAO				pmax	pmax		
	comp=Z,3μm,1.8s						
CTAO	**Charters Tower**	**14.69**	**197**	↓*e*Pn	**Pn**	**19 21 47.2**	**-0.8**
	comp=Z,3μm,1.8s						
CTAO				*e*Sn	**Sn**	**19 24 30.2**	**+0.6**
QIS	**Mount Isa**	**18.08**	**216**	P	**P**	**19 22 31.4**	**+0.3**
	baz=18,SNR=41						
FAKI	**Fak Fak**	**18.69**	**279**	*e*Pn	**Pn**	**19 22 38.9**	**+0.4**
	comp=Z,564nm,1.5s						
KDU	**Kakadu**	**19.22**	**248**	P	**Pn**	**19 22 44.0**	**-0.7**
	baz=19,SNR=37						
EIDS	**Eidsvold**	**19.28**	**179**	P	**Pn**	**19 22 45.2**	**-0.3**
	baz=19,SNR=29						
EIDS	**Eidsvold**	**19.28**	**179**	↓*e*P	**Pn**	**19 22 44.9**	**-0.6**
	comp=Z,1μm,1.9s						
SIJI	**Sorong**	**20.09**	**284**	P	Pn	19 22 56.8	+1.5
	comp=Z,11nm,0.5s,baz=88,slow=11,SNR=6.9						
SIJI				S	Sn	19 26 41.5	+0.9
	comp=Z,16nm,1.0s,baz=108,slow=20,SNR=1.7						
SWI	**Sorong**	**20.10**	**284**	P	Pn	19 22 57.6	+2.3
SWI				S	Sn	19 26 39.5	-1.3
GUMO	**Guam**	**20.30**	**343**	P	Pn	19 22 57.9	+0.3
	comp=Z,551nm,1.1s,baz=160,slow=8.4,SNR=13						
GUMO				S	Sn	19 26 47.4	+1.9
	comp=Z,27nm,0.6s,baz=53,slow=20,SNR=1.7						
GUMO				LR	LR	19 30 00.4	
	comp=Z,33μm,21.4s,baz=130,slow=35						
RMQ	**Roma**	**20.48**	**185**	P	Pn	19 22 58.9	-0.7
	baz=20,SNR=171						
MTN	**Manton Dam**	**20.51**	**249**	P	**P**	**19 22 58.3**	**+0.6**
	baz=20,SNR=26						
PALU	**Palau**	**20.95**	**309**	P	Pn	19 23 03.9	-1.3
	baz=21,SNR=10						
WRAB	**Tennant Creek**	**21.13**	**227**	P	**P**	**19 23 05.0**	**+0.7**
	comp=Z,4μm,1.1s						
WRAB	**Tennant Creek**	**21.13**	**227**	*e*P	**P**	**19 23 05.0**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,2μm,2.5s						
WRAB	**Tennant Creek**	**21.13**	**227**	*e*P	**P**	**19 23 04.8**	**+0.5**
	comp=Z,3μm,1.6s						
WRAB				*e*S	**S**	**19 26 53.5**	**-3.8**
WRAB				LR	LR		
	comp=Z,58μm,20.0s						
WRA	**Warramunga Arr**	**21.14**	**227**	P	**P**	**19 23 05.1**	**+0.6**
	comp=Z,142nm,0.8s,baz=49,slow=10,SNR=136						
WRA				S	**S**	**19 26 57.3**	**-0.3**
	comp=Z,95nm,1.3s,baz=48,slow=17,SNR=17						
WRA				ScP	**ScP**	**19 30 48.3**	**+5.0**
	comp=Z,5.7nm,0.7s,baz=51,slow=2.8,SNR=6.4						
WRA				LR	LR	19 31 38.2	
	comp=Z,58μm,19.7s,baz=50,slow=38						
QLP	**Quilpie**	**21.41**	**196**	P	**P**	**19 23 08.3**	**+1.1**
	baz=21,SNR=224						
NOUC	**Port Laguerre**	**21.97**	**138**	*e*P	**P**	**19 23 14.5**	**+1.2**
DZM	**Mont Dzumac**	**22.05**	**138**	P	**P**	**19 23 14.0**	**-0.2**
	comp=Z,11nm,0.5s,baz=90,slow=24,SNR=42						
DZM				S	**S**	**19 27 16.7**	**+1.4**
	comp=Z,17nm,1.1s,baz=90,slow=20,SNR=2.0						
DZM				LR	LR	19 28 43.4	
	comp=Z,17μm,20.3s,baz=2.0,slow=28						
DZM	**Mont Dzumac**	**22.05**	**138**	*e*P	**P**	**19 23 14.4**	**+0.2**
DZM	**Mont Dzumac**	**22.05**	**138**	P	**P**	**19 23 14.0**	**-0.2**
DZM				*e*S	**S**	**19 27 13.9**	**-1.4**
DZM				S	Sn	19 27 16.7	-11
KWAJ	**Kwajalein Atol**	**22.32**	**49**	*e*P	**P**	**19 23 17.8**	**+0.7**
KWAJ	**Kwajalein Atol**	**22.32**	**49**	*e*P	**P**	**19 23 17.8**	**+0.7**
TARA	**Tarawa**	**23.31**	**72**	*e*P	**P**	**19 23 27.5**	**+0.1**
	comp=Z,2μm,1.6s						
TARA				LR	LR		
	comp=Z,52μm,22.0s						
KNRA	**Kununurra**	**23.62**	**244**	P	**P**	**19 23 30.3**	**0.0**
	baz=24,SNR=129						
LBMI	**Labuha**	**23.80**	**282**	P	**P**	**19 23 35.5**	**+3.4**
AS31	**Alice Springs**	**23.91**	**221**	*e*P	**P**	**19 23 34.0**	**+0.9**
AS31				*e*S	**S**	**19 27 45.8**	**-1.1**
ASAR	**Alice Springs**	**23.92**	**221**	P	**P**	**19 23 33.8**	**+0.7**
	comp=Z,30nm,0.8s,baz=58,slow=8.0,SNR=119						
ASAR				S	**S**	**19 27 49.4**	**+2.4**
	comp=Z,5.5nm,0.5s,baz=18,slow=8.8,SNR=6.4						
ASAR				ScP	**ScP**	**19 30 53.4**	**+2.9**
	comp=Z,5.6nm,0.7s,baz=43,slow=2.7,SNR=5.3						
ASAR				LR	LR	19 33 11.7	
	comp=Z,55μm,18.6s,baz=75,slow=37						
TNTI	**Ternate**	**24.29**	**285**	*e*P	**P**	**19 23 34.2**	**-2.4**
	comp=Z,371nm,1.4s						
ARMA	**Armidale**	**24.32**	**178**	P	**P**	**19 23 39.0**	**+2.2**
	baz=24,SNR=24						
ARMA	**Armidale**	**24.32**	**178**	↓*i*P	**P**	**19 23 38.6**	**+1.7**
	comp=Z,937nm,1.7s						
ARMA				*e*S	**S**	**19 28 00.2**	**+6.8**
CMSA	**Cobar Meteorol**	**25.86**	**190**	P	**P**	**19 23 52.0**	**+1.3**
	baz=26,SNR=56						
SOEI	**Soe**	**26.49**	**260**	↑P	**P**	**19 23 57.8**	**+1.1**
	baz=26,SNR=14						
SOEI	**Soe**	**26.49**	**260**	*e*P	**P**	**19 23 57.3**	**+0.6**
	comp=Z,414nm,0.9s						
SOEI				*e*S	**S**	**19 28 34.1**	**+5.8**
BATI	**Baumata**	**27.14**	**259**	P	**P**	**19 24 04.9**	**+2.5**
BATI	**Baumata**	**27.14**	**259**	P	**P**	**19 24 03.7**	**+1.3**
	comp=Z,132nm,0.7s,baz=164,slow=1.9,SNR=14						
BATI				S	**S**	**19 28 41.1**	**+2.8**
	comp=Z,39nm,0.9s,baz=90,slow=6.1,SNR=2.6						

STKA	**Stephens Creek**	**27.15**	**197**	P	**P**	**19 24 01.8**	**-0.5**
	comp=Z,21nm,0.8s,baz=0.6,slow=9.4,SNR=37						
STKA				ScP	**ScP**	**19 31 04.1**	**+4.6**
	comp=Z,13nm,1.0s,baz=333,slow=2.3,SNR=2.7						
STKA				LR	LR	19 34 36.2	
	comp=Z,69μm,21.5s,baz=24,slow=36						
STKA	**Stephens Creek**	**27.15**	**197**	↓P	**P**	**19 24 02.1**	**-0.2**
	baz=27,SNR=46						
STKA	**Stephens Creek**	**27.15**	**197**	P	**P**	**19 24 01.8**	**-0.5**
STKA				*e*ScP	**ScP**	**19 31 00.5**	**+0.9**
FITZ	**Fitzroy Crossi**	**27.31**	**242**	↓P	**P**	**19 24 04.2**	**+0.4**
	baz=27						
DAV	**Davao City (W)**	**28.26**	**297**	PFAKE		19 24 20.0	+7.5
DAV				LR	LR		
	comp=Z,18μm,21.0s						
MMRI	**Maumere**	**28.40**	**263**	P	**P**	**19 24 13.0**	**-0.7**
MMRI	**Maumere**	**28.40**	**263**	*e*P	**P**	**19 24 12.2**	**-1.5**
	comp=Z,558nm,1.0s						
MMRI				*e*S	S	19 29 14.8	+17
WRKA	**Warakurna**	**28.67**	**226**	P	**P**	**19 24 16.1**	**+0.1**
	baz=28,SNR=104						
MSVF	**Nonsavu**	**29.11**	**116**	*e*P	**P**	**19 24 20.1**	**+0.1**
MSVF				*e*		19 24 31.2	
MSVF				pmax	pmax		
	comp=Z,90nm,1.2s						
MSVF				MLR	MLR		
	comp=Z,28μm,22.0s						
MSVF	**Nonsavu**	**29.11**	**116**	*e*P	**P**	**19 24 20.1**	**+0.1**
	comp=Z,90nm,1.2s						
MSVF				*e*		19 24 31.2	
MSVF				LR	LR		
	comp=Z,28μm,22.0s						
CAN	**Canberra**	**29.24**	**183**	*e*P	**P**	**19 24 22.3**	**+1.3**
CAN				pmax	pmax		
	comp=Z,83nm,1.2s						
CAN				MLR	MLR		
	comp=Z,98μm,20.0s						
CAN	**Canberra**	**29.24**	**183**	↓P	P	19 24 24.6	+3.6
	baz=29						
CAN	**Canberra**	**29.24**	**183**	*e*P	**P**	**19 24 22.2**	**+1.3**
	comp=Z,83nm,1.2s						
CAN				LR	LR		
	comp=Z,98μm,20.0s						
HTT	**Hallett**	**29.44**	**200**	P	**P**	**19 24 23.9**	**+1.1**
	baz=29,SNR=13						
MRSI	**Marisa**	**29.47**	**282**	P	P	19 24 26.5	+3.3
APSI	**Ampana**	**29.47**	**279**	P	**P**	**19 24 25.6**	**+2.4**
WAKE	**Wake Island**	**29.59**	**32**	PFAKE		19 24 30.0	+5.9
WAKE				LR	LR		
	comp=Z,35μm,20.0s						
BBOO	**Buckleboo**	**30.00**	**205**	P	**P**	**19 24 28.0**	**+0.4**
	baz=30,SNR=8.2						
BBOO	**Buckleboo**	**30.00**	**205**	*e*P	**P**	**19 24 27.5**	**-0.2**
	comp=Z,173nm,1.2s						
BSSI	**Bau Bau, Buton**	**30.09**	**268**	P	**P**	**19 24 30.1**	**+1.4**
WSI	**Waingapu**	**30.38**	**261**	P	**P**	**19 24 32.8**	**+1.5**
	comp=Z,2μm,1.6s,comp=Z,33μm						
BKSI	**Bulukumba**	**30.48**	**270**	P	**P**	**19 24 34.9**	**+2.7**
KAPI	**Kappang**	**30.87**	**270**	P	**P**	**19 24 35.8**	**+0.2**
	comp=Z,17nm,0.7s,baz=94,slow=4.6,SNR=5.0						
KAPI				LR	LR	19 39 54.8	
	comp=Z,15μm,21.8s,baz=99,slow=42						
KAPI	**Kappang**	**30.87**	**270**	P	**P**	**19 24 35.8**	**+0.2**
KAPI				*e*PcP	**PcP**	**19 27 27.8**	**-4.1**
SPSI	**Sidrap Palu**	**30.93**	**272**	P	**P**	**19 24 39.0**	**+2.9**
TTSI	**Tana Toraja**	**30.97**	**274**	P	**P**	**19 24 38.9**	**+2.5**
PCI	**Palu**	**31.26**	**278**	P	**P**	**19 24 41.7**	**+2.7**
	comp=Z,122nm,1.2s,comp=Z,3μm						
ARPS	**Mount Arapiles**	**31.71**	**194**	P	P	19 24 46.4	+3.7
	baz=32,SNR=9.1						
TOO	**Toolangi**	**31.81**	**188**	P	**P**	**19 24 46.2**	**+2.6**
	baz=32,SNR=7.4						
FORT	**Forrest**	**32.60**	**218**	P	**P**	**19 24 52.7**	**+2.2**
	baz=32,SNR=17						
FORT	**Forrest**	**32.60**	**218**	*e*P	**P**	**19 24 52.8**	**+2.2**
	comp=Z,427nm,1.1s						
MBWA	**Marble Bar**	**33.62**	**240**	*e*P	**P**	**19 24 59.4**	**-0.2**
	comp=Z,283nm,1.3s						
MBWA				LR	LR		
	comp=Z,51μm,19.0s						
CBIJ	**Chichi jima**	**33.91**	**346**	P	**P**	**19 25 01.1**	**-0.9**
JCJ	**Chichijima**	**33.91**	**346**	P	**P**	**19 25 01.1**	**-0.9**
	comp=Z,46nm,0.8s,baz=170,slow=14,SNR=7.4						
MYLDM	**Lahad Datu**	**34.05**	**288**	↑P	P	19 25 08.4	+5.0
MYLDM	**Lahad Datu**	**34.05**	**288**	↑P	P	19 25 08.4	+5.0
TSM	**Tawau**	**34.38**	**287**	↓P	**P**	**19 25 05.4**	**-0.9**
TSM	**Tawau**	**34.38**	**287**	↓P	**P**	**19 25 05.4**	**-0.9**
SRBI	**Singaraja**	**35.32**	**264**	P	P	19 25 26.0	+12
DNP	**Denpasar**	**35.34**	**263**	P

YOJ pmax pmax
comp=Z,147nm,1.3s
YOJ Yonaguni jima 40.57 319 *e*P P 19 25 54.4 -4.1
comp=Z,147nm,1.3s
TWG Pinlang 40.77 316 *e*P **P** **19 26 01.1 +0.9**
comp=Z,56nm,0.8s
YULB Yu-li 40.98 316 *e*P **P** **19 26 00.0 -2.0**
comp=Z,197nm,1.5s
KSM Kuching 41.05 279 ⇓P **P** **19 26 03.4 +0.7**
KSM Kuching 41.05 279 ⇓P **P** **19 26 03.4 +0.7**
KSM Kuching 41.05 279 *e*P **P** **19 26 01.1 -1.7**
comp=Z,27nm,0.9s
KSM LR LR
comp=Z,12µm,21.0s
NWAO Narrogin (SRO) 41.11 225 P **P** **19 26 02.8 -0.2**
comp=Z,15nm,0.8s,baz=12,slow=0.1,SNR=4.4
NWAO LR LR 19 43 59.0
comp=Z,241nm,19.2s,baz=152,slow=38
SNZO South Karori 41.16 152 *e*P P 19 26 06.8 +3.6
comp=Z,238nm,1.5s
SNZO LR LR
comp=Z,59µm,20.0s
NACB Ninganchiao 41.31 318 *e*P **P** **19 26 05.6 +1.0**
TPUB Ta-pu 41.38 316 *e*P **P** **19 26 04.3 -1.0**
comp=Z,26nm,0.6s
SSLB Suanglung 41.48 317 *e*P **P** **19 26 06.6 +0.5**
comp=Z,38nm,0.8s
KHZ Kahutara 41.53 154 *e*P **P** **19 26 06.8 +0.6**
comp=Z,312nm,1.7s
KPJI Karang Pucung 41.55 266 P **P** **19 26 08.7 +1.9**
comp=Z,360nm,1.4s,comp=Z,8µm
RPZ Rata Peaks 41.61 158 P **P** **19 26 07.7 +0.8**
comp=Z,15nm,0.6s,baz=359,slow=0.5,SNR=11
RPZ Rata Peaks 41.61 158 *e*P **P** **19 26 07.1 +0.2**
comp=Z,432nm,1.8s
YHNB Yeheng 41.79 318⇑ *e*P **P** **19 26 09.5 +0.8**
comp=Z,372nm,1.3s
YHNB *e*S S 19 32 17.1 -6.4
YHNB LR LR
comp=Z,52µm,20.0s
TATO Taipei 41.92 318 *e*P **P** **19 26 10.6 +0.9**
comp=Z,605nm,1.5s
TATO LR LR
comp=Z,70µm,20.0s
CMJI Cimerak 42.02 265 P **P** **19 26 10.6 -0.1**
comp=Z,684nm,0.9s,comp=Z,8µm
JCJI Jatiwangi 42.22 267 P **P** **19 26 13.5 +1.2**
comp=Z,898nm,1.7s,comp=Z,17µm
RKGY Rocky Gully 42.23 223 ⇓P **P** **19 26 13.1 +1.0**
baz=42,SNR=10
CISI Cisompet, Garu 42.65 265 P **P** **19 26 15.7 -0.2**
comp=Z,914nm,1.8s,comp=Z,12µm
CISI Cisompet, Garu 42.65 265 P **P** **19 26 15.5 -0.3**
baz=42,SNR=15
CISI Cisompet, Garu 42.65 265 *e*P **P** **19 26 15.4 -0.5**
comp=Z,363nm,0.6s
LEM Lembang 42.86 266 P **P** **19 26 18.6 +0.9**
comp=Z,496nm,1.3s,comp=Z,10µm
LEM Lembang 42.86 266 P **P** **19 26 18.6 +0.9**
comp=Z,222nm,0.9s,baz=48,slow=7.5,SNR=24
LEM Lembang 42.86 266 P **P** **19 26 18.5 +0.9**
baz=43,SNR=12
TPI Tanjungpandan 43.08 272 P **P** **19 26 21.5 +2.2**
comp=Z,84nm,0.9s,comp=Z,3µm
JNU Nakatsue 43.22 335 P **P** **19 26 21.5 +1.4**
comp=Z,166nm,0.9s,baz=132,slow=4.3,SNR=73
JNU LR LR 19 41 21.1
comp=Z,5µm,20.4s,baz=144,slow=32
JNU Nakatsue 43.22 335 *e*P **P** **19 26 21.3 +1.2**
comp=Z,312nm,1.5s
JNU *e*ScP **ScP** **19 31 57.5 +0.3**
CNJI Cibinong 43.34 266 P **P** **19 26 21.6 +0.3**
comp=Z,1µm,1.1s,comp=Z,14µm
CBJI Citeko 43.63 267 P **P** **19 26 25.1 +1.4**
comp=Z,476nm,1.1s,comp=Z,7µm
QZH Quanzhou 43.86 316⇑ *i*P **P** **19 26 27.5 +2.1**
QZH PP **PP** **19 28 09.3 +1.2**
QZH S **S** **19 32 56.8 +2.9**
QZH PMZ
comp=Z,240nm,1.0s
QZH PMZ
comp=Z,4µm,7.2s
QZH LN
comp=Z,23µm,16.5s
QZH LE
comp=Z,30µm,17.3s
QZH LZ
comp=Z,55µm,18.6s
MJAR Matsushiro Arr 43.90 345 P **P** **19 26 25.9 +0.4**
comp=Z,12nm,0.9s,baz=176,slow=8.0,SNR=25
MJAR ScP **ScP** **19 32 01.6 +1.8**
comp=Z,11nm,1.0s,baz=180,slow=5.1,SNR=9.1
MJAR LR LR 19 44 20.5
comp=Z,21µm,19.1s,baz=160,slow=36
MAJO Matsushiro 43.90 345*c i*P **P** **19 26 25.2 -0.3**
MAJO pmax pmax
comp=Z,110nm,0.8s
MAJO Matsushiro 43.90 345 *e*P **P** **19 26 23.9 -1.7**
comp=Z,23nm,0.7s
MAJO LR LR
comp=Z,24µm,19.0s
MAT Matsushiro 43.90 345 P **P** **19 26 25.3 -0.2**
MAT S S 19 33 02.4 +8.2
SKJI Sukabumi 43.91 266 P **P** **19 26 27.8 +1.8**
comp=Z,616nm,1.5s,comp=Z,11µm
H01W1 Cape Leeuwin H 44.33 225 P P 19 26 32.0 +3.2
baz=72,slow=8.8,SNR=1.3
H01W3 Cape Leeuwin H 44.33 225 P P 19 26 32.6 +3.8
baz=72,slow=8.8,SNR=3.5
H01W2 Cape Leeuwin H 44.34 225 P P 19 26 34.3 +5.5
baz=72,slow=8.8,SNR=3.6
PPBI Pangkal Pinang 44.65 273 P **P** **19 26 34.8 +2.9**
comp=Z,111nm,1.4s,comp=Z,2µm
CGJI Cibinong 44.78 267 P **P** **19 26 32.7 -0.2**
comp=Z,396nm,1.4s,comp=Z,5µm
XMIS Christmas Isla 44.83 261 P **P** **19 26 34.7 +1.4**
baz=45,SNR=4.9
XMIS Christmas Isla 44.83 261 *e*P **P** **19 26 32.8 -0.5**
comp=Z,1µm,1.5s
HKC Hong Kong Obse 45.52 309⇑ *i*P P 19 26 46.0 +7.4
DLV T Lat 45.65 293 *e*P **P** **19 26 38.8 -1.2**
comp=Z,91nm,1.4s
KSBUS Busan 45.79 335 P **P** **19 26 42.6 +2.0**
SNR=17
KSBUS Busan 45.79 335 P **P** **19 26 42.6 +2.0**
SNR=17
KLSI 45.83 269 P **P** **19 26 42.4 +1.2**
comp=Z,164nm,1.6s,comp=Z,5µm
MIDW Midway 45.84 41 PFAKE 19 26 50.0 +9.0
MIDW LR LR
comp=Z,15µm,19.0s
KSNAH Namhae 45.94 334 P **P** **19 26 43.4 +1.7**
SNR=6.2
KSNAH Namhae 45.94 334 P **P** **19 26 43.4 +1.7**
SNR=6.2
KSDAG Daegu 46.33 335 P **P** **19 26 47.0 +2.2**
SNR=13
KSDAG Daegu 46.33 335 P **P** **19 26 47.0 +2.2**
SNR=13
KSJDO Jindo 46.38 332 P **P** **19 26 46.5 +1.2**
SNR=8.0
KSJDO Jindo 46.38 332 P **P** **19 26 46.5 +1.2**
SNR=8.0
MDSI Maura Dua 46.39 269 P **P** **19 26 45.3 -0.4**
comp=Z,149nm,1.7s,comp=Z,3µm
SSE Sheshan 46.45 324 P **P** **19 26 47.8 +2.0**
SSE S **S** **19 33 34.0 +2.9**
SSE sS **sS** **19 33 53.8 +3.3**
SSE PMZ
comp=Z,85nm,1.0s
SSE LN
comp=Z,16µm,19.5s
SSE LE
comp=Z,16µm,19.5s
SSE LZ
comp=Z,26µm,20.0s
LWLI Liwa 46.48 269 P **P** **19 26 47.2 +0.7**
GZH Guangzhou 46.59 310 P **P** **19 26 49.5 +2.5**
GZH PcP **PcP** **19 28 19.4 -1.3**
GZH PP **PP** **19 28 40.3 +3.1**
GZH S S 19 33 41.1 +7.7
GZH ScS **ScS** **19 36 37.6 -1.4**
GZH SS **SS** **19 37 03.9 +3.9**
GZH PMZ
comp=Z,8µm,10.5s
GZH LN
comp=Z,26µm,19.2s
GZH LE
comp=Z,40µm,19.4s
GZH LZ
comp=Z,62µm,20.6s
KSKWJ Gwangju 46.64 333 P **P** **19 26 48.7 +1.5**
SNR=6.0
KSKWJ Gwangju 46.64 333 P **P** **19 26 48.9 +1.6**
SNR=6.1
KSULJ Uljin 46.92 336 P **P** **19 26 51.3 +1.9**
SNR=13
KSULJ Uljin 46.92 336 P **P** **19 26 51.2 +1.7**
SNR=14
KSJEU Jeongeup 46.95 333 P **P** **19 26 51.1 +1.4**
SNR=14
KSJEU Jeongeup 46.95 333 P **P** **19 26 51.1 +1.4**
SNR=14
KSULL Ulleungdo 47.03 338 P **P** **19 26 53.2 +3.0**
SNR=21
KSCPR CHUPUNGNYEONG 47.10 335 P **P** **19 26 52.6 +1.8**
SNR=23
KSCPR CHUPUNGNYEONG 47.10 335 P **P** **19 26 52.6 +1.8**
SNR=23
KSSAJ Sangju 47.19 335 P **P** **19 26 53.6 +2.1**
SNR=9.5
KSSAJ Sangju 47.19 335 P **P** **19 26 53.6 +2.1**
SNR=9.5
QIZ Qiongzhong 47.34 303 P **P** **19 26 54.9 +1.9**
QIZ pP **pP** **19 27 04.0 -0.7**
QIZ sP **sP** **19 27 08.0 -1.5**
QIZ S S 19 33 50.8 +6.5
QIZ sS **sS** **19 34 01.8 -1.9**
QIZ PMZ
comp=Z,24nm,1.3s
QIZ LZ
comp=Z,20µm,24.4s
QIZ Qiongzhong 47.34 303 *e*P **P** **19 26 54.3 +1.3**
comp=Z,51nm,1.1s
KSBON Boeun 47.41 335 P **P** **19 26 55.6 +2.3**
SNR=28
KSBON Boeun 47.41 335 P **P** **19 26 55.6 +2.3**
SNR=28
MYKOM Kota Tinggi 47.46 278 ⇓P **P** **19 26 54.4 +0.4**
MYKOM Kota Tinggi 47.46 278 ⇓P **P** **19 26 54.4 +0.4**
KSTBA Taebaek 47.47 336 P **P** **19 26 56.0 +2.2**
SNR=7.6
KSTBA Taebaek 47.47 336 P **P** **19 26 56.0 +2.2**
SNR=7.6
KSTEJ Daejeon 47.49 334 P P 19 26 57.2 +3.4
SNR=9.6
TJN Taejon 47.50 334*c i*P **P** **19 26 56.0 +2.1**
KSCHJ Chungju 47.66 335 P **P** **19 26 57.6 +2.5**
SNR=14
KSCHJ Chungju 47.66 335 P **P** **19 26 57.6 +2.5**
SNR=14
KSJES JEONGSEON 47.85 336 P **P** **19 26 58.3 +1.7**
SNR=10
KSCEA Cheonan 47.92 334 P **P** **19 26 59.0 +1.9**
SNR=21
KGM Kluang 48.02 278 ⇑P **P** **19 26 58.5 +0.1**
KGM Kluang 48.02 278 ⇑P **P** **19 26 58.5 +0.1**
KSDGY Daegwallycong 48.07 336 P **P** **19 27 00.6 +2.2**
SNR=21
KSDGY Daegwallycong 48.07 336 P **P** **19 27 00.6 +2.2**
SNR=21
KSWJU Wonju 48.08 336 P **P** **19 27 00.5 +2.1**
SNR=7.2
KSRS Korea Array 48.17 336 P **P** **19 27 00.5 +1.4**
comp=Z,32nm,0.9s,baz=153,slow=8.4,SNR=84
KSRS ScP **ScP** **19 32 20.8 +3.3**
comp=Z,3.2nm,0.9s,baz=140,slow=4.8,SNR=3.9
KSRS LR LR 19 45 29.5
comp=Z,25µm,21.7s,baz=159,slow=34
KSAR Wonju Array Be 48.18 335 P **P** **19 27 00.5 +1.4**
KSAR Wonju Array Be 48.18 335 P **P** **19 27 00.5 +1.4**
KSAR ScP **ScP** **19 32 20.8 +3.2**
KSJMJ Jumunjin 48.21 337 P **P** **19 27 01.7 +2.4**
SNR=29
KSSES Seosan 48.24 334 P **P** **19 27 02.3 +2.6**
SNR=10
KSICN Icheon 48.25 335 P **P** **19 27 02.1 +2.4**
SNR=6.5
ERM Erimo 48.27 352*d i*P **P** **19 27 00.1 +0.4**
ERM Erimo 48.27 352 PFAKE 19 27 10.0 +10
ERM LR LR
comp=Z,25µm,22.0s
KSSWO Suwon 48.42 335 P **P** **19 27 03.1 +2.1**
SNR=15
KSCHC Chuncheon 48.49 336 P **P** **19 27 03.5 +1.9**
SNR=11
NJ2 Nanjing 48.52 323 *e*P **P** **19 27 03.4 +1.6**
NJ2 pP **pP** **19 27 11.9 -1.7**
NJ2 sP **sP** **19 27 16.1 -2.3**
NJ2 S **S** **19 34 02.8 +2.3**
NJ2 sS **sS** **19 34 17.8 -2.1**
NJ2 PMZ
comp=Z,20nm,0.7s
NJ2 PMZ
comp=Z,220nm,5.6s
NJ2 LN
comp=Z,3µm,19.7s
NJ2 LE
comp=Z,4µm,18.0s
NJ2 LZ
comp=Z,3µm,17.8s
KSIJA INJE 48.55 336 P **P** **19 27 04.4 +2.3**
SNR=19
KSSEO Seoul 48.62 335 P **P** **19 27 05.1 +2.5**
SNR=7.2
KSSKC Sokcho 48.65 337 P **P** **19 27 05.3 +2.6**
SNR=9.3
SEHB SEOHWA 48.74 336 P **P** **19 27 05.9 +2.4**
SNR=11
INCN Inchon 48.74 334 *e*P **P** **19 27 04.9 +1.4**
comp=Z,976nm,1.5s
INCN LR LR
comp=Z,16µm,19.0s
KTGM Kuala Trenggan 48.85 282 ⇓P **P** **19 27 05.1 +0.4**
KTGM Kuala Trenggan 48.85 282 ⇓P **P** **19 27 05.1 +0.4**
KSCWO Cheorwon 48.88 336 P **P** **19 27 06.6 +2.1**
SNR=21
KSDDC Dongducheon 48.91 335 P **P** **19 27 07.2 +2.4**
SNR=6.8
KSGAH Ganghwa 49.01 334 P **P** **19 27 07.8 +2.3**
SNR=17
KSMUS Musan 49.03 335 P **P** **19 27 07.8 +2.2**
SNR=9.7
YNCB YEONCHEON 49.09 335 P **P** **19 27 08.3 +2.2**
SNR=7.5
YUK Yuzh-Kuril'sk 49.98 355⇑ *i*P **P** **19 27 12.5 -0.3**
YUK *i* 19 29 02.9
YUK *i* PPP PPP 19 29 58.2
YUK *i* S S 19 34 32.7 +12
YUK pmax pmax
comp=Z,107nm,1.4s
YUK pmax pmax
comp=N,65nm,1.5s
YUK pmax pmax
comp=E,59nm,0.7s
YUK pmax pmax
comp=Z,2µm,17.0s
YUK MLR MLR
comp=N,12µm,21.0s
YUK MLR MLR
comp=E,2µm,21.0s
YUK MLR MLR
comp=Z,14µm,21.0s
WHN Wuhan 50.33 318⇑ P **P** **19 27 16.9 +1.2**
WHN S S 19 34 35.5 +10
WHN PMZ
comp=Z,5µm,10.1s
WHN LN
comp=Z,44µm,19.0s
WHN LE
comp=Z,60µm,18.1s
WHN LZ
comp=Z,105µm,20.7s
ASAJ Asahikawa 50.41 352 *e*P **P** **19 27 14.4 -1.6**
comp=Z,38nm,1.3s
PPI Padang Panjang 50.55 274 P **P** **19 27 18.1 +0.4**
baz=50,SNR=5.1
IPM Ipoh 50.73 281 ⇓P **P** **19 27 18.9 -0.1**
IPM Ipoh 50.73 281 ⇓P **P** **19 27 18.9 -0.1**
IPM Ipoh 50.73 281 *e*P **P** **19 27 17.1 -1.9**
comp=Z,97nm,1.5s
KUR Kuril'sk 51.05 357⇑ *i*P **P** **19 27 21.5 +0.7**
KUR *i* 19 28 34.2
KUR *i* 19 29 13.7
KUR *i* S S 19 34 47.4 +12
KUR pmax pmax
comp=N,17nm,1.6s
KUR pmax pmax
comp=E,33nm,1.6s
KUR pmax pmax
comp=Z,78nm,1.6s
KUR pmax pmax
comp=Z,928nm,18.3s
KUR MLR MLR
comp=N,4µm,19.0s
KUR MLR MLR
comp=E,7µm,19.0s
KUR MLR MLR
comp=Z,5µm,19.0s
KULM Kulim 51.26 282 ⇑P **P** **19 27 22.6 -0.4**
KULM Kulim 51.26 282 ⇑P **P** **19 27 22.6 -0.4**
KULM Kulim 51.26 282 *e*P **P** **19 27 22.1 -0.9**
comp=Z,19nm,0.8s
KULM LR LR
comp=Z,12µm,22.0s
MSHR Mys Shultsa 51.52 342 *i*P **P** **19 27 26.6 +2.2**
SKNT Sakolnakorn 51.54 297 P **P** **19 27 26.1 +1.0**
comp=Z,69nm,0.8s,comp=Z,2µm
VLA Vladivostok 51.78 342*ce*P **P** **19 27 28.0 +1.6**
VLA pmax pmax
comp=Z,29nm,0.8s
XMAS Kiritimati 52.34 83 *e*P **P** **19 27 33.1 +2.0**
comp=Z,199nm,1.1s
XMAS LR LR
comp=Z,17µm,20.0s
TIA Tai'an 52.49 326 ⇓P **P** **19 27 32.6 +0.8**
TIA pP **pP** **19 27 41.8 -1.8**
TIA sP **sP** **19 27 46.0 -2.4**
TIA PP **PP** **19 29 33.6 +2.5**
TIA sS **sS** **19 35 11.6 -3.6**
TIA SS **SS** **19 38 34.9 +0.6**
TIA PMZ
comp=Z,50nm,1.1s
TIA PMZ
comp=Z,3µm,6.5s
TIA LN
comp=Z,18µm,18.4s
TIA LE
comp=Z,7µm,17.3s
TIA LZ
comp=Z,15µm,14.9s
USRK Ussuriysk Ar. 52.74 343 P **P** **19 27 34.1 +0.6**
comp=Z,13nm,0.8s,baz=168,slow=8.5,SNR=25
USRK ScP **ScP** **19 32 40.0 +3.0**
comp=Z,2.9nm,0.8s,baz=204,slow=3.2,SNR=3.7
USRK LR LR 19 49 41.4
comp=Z,10µm,19.1s,baz=149,slow=36
TRTT Trang 52.74 284 P P 19 27 37.7 +3.6
comp=Z,92nm,0.9s,comp=Z,1µm
YSS Yuzh-Sakhalins 53.18 353⇑ *i*P **P** **19 27 36.0 -0.7**
YSS *e* 19 28 43.0
YSS *e* 19 29 40.0
YSS *e*PPP PPP 19 30 42.0
YSS *e*S **S** **19 35 02.0 -2.5**
YSS *e*PS **PnS** **19 35 18.0 -0.4**
YSS *e*SS SS 19 38 36.0 -8.8
YSS pmax pmax
comp=Z,2µm,8.0s
YSS MLR MLR
comp=Z,11µm,18.0s
YSS MLR MLR
comp=N,9µm,16.0s
YSS MLR MLR
comp=E,9µm,18.0s
SLVN Son La 53.36 302 *e*P **P** **19 27 37.4 -1.2**
comp=E,58nm,1.5s
ENH Enshi 53.49 315 *e*P **P** **19 27 40.5 +1.1**
comp=E,21nm,0.8s
GYA Guiyang 53.52 309⇑ *i*P **P** **19 27 41.1 +1.4**
GYA pP **pP** **19 27 52.8 +1.2**
GYA PcP **PcP** **19 28 49.0 +2.7**
GYA PP **PP** **19 29 44.5 +3.8**
GYA ScP **ScP** **19 32 42.8 +1.8**
GYA S **S** **19 35 11.5 +1.4**
GYA sS **sS** **19 35 29.0 -0.8**
GYA SS **SS** **19 38 51.4 +0.3**
GYA PMZ
comp=E,50nm,1.0s
GYA LN
comp=E,8µm,21.4s
GYA LE
comp=E,15µm,19.6s
GYA LZ
comp=E,18µm,22.0s
COCO West Island 53.52 259 P **P** **19 27 40.7 +0.9**
COCO pmax pmax
comp=Z,128nm,0.6s
COCO MLR MLR
comp=Z,8µm,21.0s
COCO West Island 53.52 259 P **P** **19 27 40.7 +0.9**
comp=Z,128nm,0.6s
COCO LR LR
comp=Z,8µm,21.0s
GSI Gunungsitoli 53.58 276 *e*P **P** **19 27 38.2 -2.0**
comp=Z,417nm,1.7s
SNY Shenyang 53.66 335⇑ P **P** **19 27 42.1 +1.8**
SNY S S 19 35 25.3 +14
SNY LN
comp=Z,12µm,19.4s
SNY LE
comp=Z,6µm,17.6s
SNY LZ
comp=Z,18µm,20.6s
MDJ Mudanjiang 53.84 341 P **P** **19 27 42.9 +1.3**
MDJ PP PP 19 29 48.9 +5.7
MDJ S S 19 35 23.5 +10
MDJ PMZ
comp=Z,22nm,0.8s
MDJ PMZ
comp=Z,3µm,7.4s
MDJ LN
comp=Z,12µm,25.9s
MDJ LE
comp=Z,6µm,31.4s
MDJ LZ
comp=Z,17µm,24.1s
MDJ Mudanjiang 53.84 341 *e*P **P** **19 27 41.1 -0.5**
comp=Z,379nm,2.1s
PKDT Phuket 54.06 284 P P 19 27 47.5 +3.7
comp=Z,71nm,0.7s,comp=Z,2µm
PBKT Sadao Pong 54.09 295 P **P** **19 27 45.9 +2.1**
comp=Z,26nm,2.0s,comp=Z,2µm
CN2 Changchun 54.57 338 *e*P **P** **19 27 48.8 +1.9**
CN2 *es*P **sP** **19 28 02.8 -0.8**
CN2 *e*S **S** **19 35 24.5 +1.0**
CN2 SS **SS** **19 39 06.9 0.0**
CN2 PMZ
comp=Z,20nm,0.9s
CN2 PMZ
comp=Z,200nm,6.0s
CN2 LN
comp=Z,6µm,18.0s
CN2 LE
comp=Z,6µm,18.0s
CN2 LZ
comp=Z,2µm,19.0s
UTTA Uttaradit 54.87 296 P **P** **19 27 50.8 +1.3**
comp=Z,6.5nm,1.0s,comp=Z,91nm
SRDT SRDT 55.05 292 P P 19 27 59.6 +8.7
KHLT Khaolaem Dam 55.67 292 P sP 19 28 09.9 -2.2
BJT Baijiatuau 55.77 328⇑ *e*P **P** **19 27 56.0 +0.4**
BJT pmax pmax
comp=Z,558nm,1.8s
BJT MLR MLR
comp=Z,15µm,19.0s
BJT Baijiatuau 55.77 328⇑ *e*P **P** **19 27 56.0 +0.4**
comp=Z,558nm,1.8s
BJT LR LR
comp=Z,15µm,19.0s
BJI Beijing 55.78 328 P **P** **19 27 57.5 +1.8**
BJI PP **PP** **19 30 04.1 +3.5**
BJI S **S** **19 35 44.3 +4.5**
BJI sS **sS** **19 36 01.5 +2.0**
BJI PMZ
comp=Z,82nm,1.9s
BJI LN
comp=Z,16µm,23.9s
BJI LE
comp=Z,11µm,23.9s
BJI LZ

comp=Z,15µm,23.2s
CRAI Chiangrai 55.94 299 P P 19 27 56.9 -0.4
comp=Z,112nm,0.7s
HABR Khabarovsk 55.95 347 *c i*P **P 19 27 55.9 -0.8**
HABR *e**SP **sP 19 28 08.8 -4.6**
HABR *e* 19 28 52.7
HABR *e* 19 29 59.5
HABR *e*PPP PPP 19 31 13.4
HABR *e*S **S 19 35 41.9 +0.2**
HABR *e* 19 35 52.7
HABR *e**SS **sS 19 35 57.5 -4.0**
HABR *e* 19 37 41.7
HABR *e*SS **SS 19 39 28.4 0.0**
HABR pmax pmax
comp=Z,85nm,2.3s
HABR pmax pmax
comp=N,32nm,2.3s
HABR pmax pmax
comp=E,18nm,1.1s
HABR MLR MLR
comp=Z,7µm,18.0s
LAMP Lampang 55.96 297 P P 19 27 59.7 +2.3
comp=Z,8.6nm,0.8s,comp=Z,81nm
KMI Kunming 55.98 306 P P 19 28 01.1 +3.4
KMI pP pP 19 28 08.0 -1.6
KMI sP sP 19 28 14.3 -0.1
KMI PP **PP 19 30 07.5 +4.5**
KMI S **S 19 35 43.3 -0.2**
KMI sS sS 19 36 00.8 -2.5
KMI ScS **ScS 19 37 40.8 -3.5**
KMI SS **SS 19 39 32.5 +2.3**
KMI PMZ
comp=Z,10.0nm,1.3s
KMI PMZ
comp=Z,2µm,14.8s
KMI LN
comp=Z,8µm,22.7s
KMI LE
comp=Z,10µm,19.9s
KMI LZ
comp=Z,14µm,22.3s
XAN Xi'an 56.10 318 P P 19 27 57.6 -0.6
XAN pP pP 19 28 05.1 -5.0
XAN sP **sP 19 28 10.3 -4.6**
XAN S **S 19 35 47.8 +3.4**
XAN sS **sS 19 36 07.5 +3.3**
XAN PMZ
comp=Z,11nm,1.7s
XAN LN
comp=Z,12µm,21.1s
XAN LE
comp=Z,3µm,21.7s
XAN LZ
comp=Z,9µm,19.1s
TIY Taiyuan 56.23 324 *e*P **P 19 28 00.8 +1.7**
TIY PP PP 19 30 13.3 +8.5
TIY S **S 19 35 47.9 +1.8**
TIY LN
comp=Z,17µm,18.4s
TIY LE
comp=Z,6µm,19.2s
TIY LZ
comp=Z,26µm,22.1s
CM31 Chiang Mai Arr 56.55 297 *e*P **P 19 28 01.7 +0.1**
comp=Z,7.6nm,0.7s
CMAR Chiang Mai Arr 56.55 297 P **P 19 28 02.8 +1.1**
comp=Z,7.1nm,0.9s,baz=118,slow=5.5,SNR=40
CMAR ScP **ScP 19 32 55.4 +1.1**
comp=Z,2.6nm,0.9s,baz=126,slow=3.2,SNR=4.1
CMAR LR LR 19 54 41.7
comp=Z,4µm,18.0s,baz=118,slow=39
SKR Severo-Kuril's 56.63 4 *e*P P 19 27 58.0 -3.5
SKR *e* 19 28 18.4
SKR *e*PPP PPP 19 31 22.0
SKR *e*S S 19 35 58.0 +7.4
SKR *e*SS **SS 19 39 36.0 -3.0**
SKR pmax pmax
comp=Z,80nm,0.9s
SKR pmax pmax
comp=N,2µm,16.0s
SKR pmax pmax
comp=E,2µm,16.0s
SKR pmax pmax
comp=Z,3µm,16.0s
SKR smax smax
comp=N,18µm,22.0s
SKR smax smax
comp=E,5µm,20.0s
SKR MLR MLR
comp=N,11µm,18.0s
SKR MLR MLR
comp=E,14µm,18.0s
SKR MLR MLR
comp=Z,21µm,18.0s
CMMT Chiang Mai 56.67 297 P **P 19 28 03.9 +1.4**
comp=Z,142nm,1.6s,comp=Z,2µm
CHTO Chiang Mai 56.68 297 P **P 19 28 04.0 +1.5**
comp=Z,324nm,0.8s,comp=Z,6µm
CHTO Chiang Mai 56.68 297 *e*P **P 19 28 02.5 0.0**
CHTO pmax pmax
comp=Z,55nm,1.5s
CHTO MLR MLR
comp=Z,7µm,20.0s
CHTO Chiang Mai 56.68 297 *e*P **P 19 28 02.5 0.0**
comp=Z,55nm,1.5s
CHTO LR LR
comp=Z,7µm,20.0s
CMAI Chiengmai2 56.99 298 P P 19 28 12.4 +7.5
TYV Tymovskoe 57.05 354 *e*P P 19 28 14.0 +10
KIP Kipapa 57.14 60‖ *e*P **P 19 28 07.7 +2.0**
KIP pmax pmax
comp=Z,195nm,1.0s
KIP Kipapa 57.14 60 *e*P **P 19 28 06.2 +0.5**
comp=Z,325nm,1.3s
KIP LR LR
comp=Z,18µm,22.0s
KLR Kul'dur 57.43 345 *e*P P 19 28 03.4 -3.9
KLR *e*S S 19 36 12.0 +11
KLR pmax pmax
comp=Z,110nm,1.8s
KLR pmax pmax
comp=Z,6µm,9.5s
KLR MLR MLR
comp=E,7µm,21.0s
CD2 Chengdu 57.98 312 P **P 19 28 13.3 +1.7**
CD2 pP **pP 19 28 23.9 +0.4**
CD2 sP **sP 19 28 28.4 +0.1**
CD2 PP **PP 19 30 22.0 +1.5**
CD2 PcS **PcS 19 33 06.3 +1.4**
CD2 S **S 19 36 07.9 -1.5**
CD2 sS **sS 19 36 30.1 +0.9**
CD2 SS **SS 19 40 04.8 +3.6**
CD2 PMZ
comp=E,70nm,0.7s
CD2 PMZ
comp=E,4µm,11.8s
CD2 LN
comp=E,18µm,20.2s
CD2 LZ
comp=E,32µm,21.1s
CMBY CAMPBELL BAY 58.15 282 *e*P **P 19 28 11.0 -2.0**
CMBY AMB AMB 19 29 50.1
comp=Z,113nm,2.6s
POHA Pohakuloa 58.70 63 *e*P **P 19 28 18.4 +1.4**
comp=Z,426nm,0.9s
POHA LR LR
comp=Z,23µm,22.0s
HHC Hu-ho-hao-te 58.84 326 *e*P **P 19 28 19.0 +1.5**
HHC pP **pP 19 28 29.3 -0.2**
HHC sP **sP 19 28 35.3 +1.1**
HHC PP PP 19 30 34.4 +6.4
HHC S **S 19 36 24.8 +4.4**
HHC sS **sS 19 36 37.4 -2.8**
HHC ScS **ScS 19 38 03.5 -0.8**
HHC PMZ
comp=Z,17nm,0.6s
HHC PMZ
comp=Z,2µm,5.9s
HHC LN
comp=Z,14µm,17.9s
HHC LE
comp=Z,10µm,17.3s
HHC LZ
comp=Z,13µm,18.4s
PEA0B Petropavlovsk- 59.16 5 *e*P **P 19 28 19.0 -0.3**
PETK Petropavlovsk- 59.16 5 P **P 19 28 18.7 -0.6**
comp=Z,25nm,0.8s,baz=166,slow=6.9,SNR=19
PETK LR LR 19 50 14.9
comp=Z,17µm,21.3s,baz=191,slow=32
PET Petropavlovsk 59.16 6 *c i*P **P 19 28 18.2 -1.0**
PET *e* 19 30 36.3
PET *e*S **S 19 36 22.4 -1.3**
PET *e*SS **SS 19 40 21.8 +3.0**
PET *e*SSS SSS 19 42 48.7
PET pmax pmax
comp=Z,2µm,15.6s
PET pmax pmax
comp=Z,39nm,1.1s
PET pmax pmax
comp=Z,2µm,12.6s
PET MLR MLR
comp=Z,15µm,19.0s
PET MLR MLR
comp=Z,12µm,19.0s
PET Petropavlovsk 59.16 6 PFAKE 19 28 30.0 +11
PET LR LR
comp=Z,17µm,21.0s
PPT2 Papeete2 59.33 107 *e*P P 19 28 26.7 +5.5
comp=Z,135nm,1.4s
PPT2 *e*S **S 19 36 31.8 +4.4**
comp=Z,15µm,26.0s
PPT2 *e*LQ LQ 19 43 23.3
comp=Z,49µm,32.2s
PPT2 *e*LR LR 19 45 48.2
comp=Z,9µm,26.0s
PAE Paea 59.33 107 *e*P P 19 28 27.4 +6.3
comp=Z,31nm,1.4s
NKL Nikolayevsk 59.52 353 *i* P **P 19 28 20.0 -1.7**
NKL *e* 19 30 35.0
NKL *e* 19 36 24.0
NKL *e* 19 36 52.0
NKL pmax pmax
comp=Z,43nm,1.0s
NKL pmax pmax
comp=N,1µm,18.0s
NKL pmax pmax
comp=Z,4µm,18.0s
TIAR Tiarei 59.55 107 *e*P P 19 28 27.9 +5.2
comp=Z,60nm,1.3s
BTO Baotou 59.55 325 *e*P **P 19 28 24.3 +1.9**
TVO Taravao 59.65 107 *e*P P 19 28 28.8 +5.4
comp=Z,82nm,1.5s
TBI Tubuai 59.95 113 *e*S **S 19 36 38.1 +3.0**
comp=Z,14µm,27.8s
TBI *e*SS **SS 19 40 37.6 +5.5**
comp=Z,7µm,25.2s
TBI *e*LQ LQ 19 43 40.1
comp=Z,47µm,34.0s
TBI *e*LR LR 19 46 18.9
comp=Z,12µm,30.2s,baz=278
PBA Port Blair 60.30 287 *e*P P 19 28 26.8 -1.0
PBA AMB AMB 19 29 04.2
comp=Z,97nm,6.1s
DGPR DIGLIPUR 60.49 289 *e*P **P 19 28 30.3 +1.2**
DGPR AMB AMB 19 29 27.6
comp=Z,90nm,0.4s
LZH Lanzhou 60.68 317 *e*P **P 19 28 32.0 +1.7**
LZH *e*S **S 19 36 42.4 -1.9**
LZH sS **sS 19 37 06.1 +1.9**
LZH PMZ
comp=Z,51nm,1.2s
LZH PMZ
comp=Z,200nm,4.2s
LZH LN
comp=Z,9µm,16.2s
LZH LE
comp=Z,4µm,16.0s
LZH LZ
comp=Z,8µm,18.7s
MEH Mehetia 60.78 107 *e*P P 19 28 36.1 +5.0
comp=Z,56nm,1.4s
PMOR Pomariorio Ree 60.83 104 *e*P P 19 28 36.8 +5.3
comp=Z,643nm,1.4s
DRV Dumont d'Urvil 61.04 185 P P 19 28 16.0 -16
DRV S S 19 36 40.0 -7.5
DRV SS SS 19 41 02.0 +14
DRV L L 19 43 00.0
DRV R 19 47 00.0
VAH Vaihoa 61.10 104 *e*P P 19 28 38.4 +5.1
comp=Z,188nm,1.3s
HIA Hailar 61.30 337 *e*P **P 19 28 34.5 +0.4**
HIA pmax pmax
comp=Z,62nm,0.7s
HIA Hailar 61.30 337 *e*P **P 19 28 34.5 +0.4**
comp=Z,62nm,0.7s
GTA Gaotai 65.16 318 ⇑P **P 19 29 00.3 +0.3**
GTA PcP **PcP 19 29 35.0 +2.7**
GTA PP **PP 19 31 26.3 +2.5**
GTA ScP 19 33 30.4
GTA PcS 19 33 33.8
GTA S **S 19 37 39.6 -0.6**
GTA SS **SS 19 41 55.8 +2.3**
GTA PMZ
comp=Z,5.0nm,1.1s
GTA PMZ
comp=Z,2µm,9.0s
GTA LN
comp=Z,7µm,20.4s
GTA LE
comp=Z,7µm,18.5s
GTA LZ
comp=Z,15µm,20.0s
SHL Shillong 65.16 302 *e*P **P 19 28 58.0 -2.3**
SHL *ex* x 19 37 56.0
MA2 Magadan 65.35 0 *e*P **P 19 29 00.5 -0.1**
CIT Chita 65.91 336 *e*P P 19 28 59.0 -5.4
CIT pmax pmax
comp=Z,205nm,3.5s
ULN Ulaanbaatar 65.94 329 *e*P **P 19 29 05.0 +0.1**
ULN pmax pmax
comp=Z,39nm,1.1s
ULN MLR MLR
comp=Z,22µm,21.0s
ULN Ulaanbaatar 65.94 329 *e*P **P 19 29 05.0 +0.1**
comp=Z,39nm,1.1s
ULN LR LR
comp=Z,22µm,21.0s
SONM Songino Array 66.25 329 P **P 19 29 07.6 +0.7**
comp=Z,12nm,0.9s,baz=138,slow=6.2,SNR=41
SONM LR LR 20 00 11.2
comp=Z,10µm,18.0s,baz=125,slow=38
CASY Casey 66.30 197 *e*P **P 19 29 07.0 +0.4**
comp=Z,100nm,1.3s
CASY LR LR
comp=Z,24µm,21.0s
LSA Lhasa 67.24 306 P **P 19 29 14.0 +0.1**
LSA LN
comp=Z,3µm,23.2s
LSA LE
comp=Z,6µm,22.7s
LSA LZ
comp=Z,8µm,19.9s
LSA Lhasa 67.24 306 *e*P **P 19 29 12.3 -1.6**
LSA pmax pmax
comp=Z,84nm,1.5s
LSA Lhasa 67.24 306 *e*P **P 19 29 12.3 -1.6**
comp=Z,84nm,1.5s
SEY Seymchan 68.73 1 P **P 19 29 21.6 -0.4**
comp=Z,7.4nm,1.0s,baz=169,slow=5.4,SNR=8.4
SEY LR LR 19 58 41.2
comp=Z,10µm,19.5s,baz=194,slow=35
TAPN Taplejung 69.28 302 *e*P **P 19 29 25.9 -0.7**
ODAN Odare 69.40 301 *e*P **P 19 29 26.7 -0.5**
comp=Z,67nm,0.9s
ZAK Zakamensk 69.46 330⇑ *i*P **P 19 29 27.2 +0.3**
ZAK pmax pmax
comp=Z,38nm,1.6s
UNV Unalaska Valle 69.55 25 P P 19 29 23.7 -3.5
comp=Z,16nm,0.6s
YAK Yakutsk 69.74 350 P **P 19 29 27.7 -0.6**
comp=Z,0.5nm,0.3s,baz=340,slow=23,SNR=9.2
YAK Yakutsk 69.74 350 *c i*P **P 19 29 28.6 +0.4**
YAK *e**PP **pP 19 29 38.7 -1.7**
YAK *e* 19 29 49.6
YAK *e* 19 31 59.8
YAK *e*PPP PPP 19 33 46.5
YAK *e*S **S 19 38 37.2 +3.2**
YAK *e* 19 39 27.9
YAK pmax pmax
comp=Z,50nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK pmax pmax
comp=N,21nm,1.1s
YAK pmax pmax
comp=Z,503nm,4.7s
YAK pmax pmax
comp=N,105nm,2.4s
YAK pmax pmax
comp=E,107nm,4.0s
YAK smax smax
comp=E,215nm,3.5s
YAK smax smax
comp=N,725nm,4.4s
YAK MLR MLR
comp=Z,8µm,19.0s
YAK Yakutsk 69.74 350 *e*P **P 19 29 27.5 -0.7**
comp=Z,107nm,1.3s
YAK LR LR
comp=Z,8µm,20.0s
BOK Bokaro 69.79 298 *e*P **P 19 29 28.2 -1.2**
CHLP Challavanipeta 70.08 292 *e*P **P 19 29 31.9 +0.7**
CHLP IAmb IAmb 19 29 37.3
comp=Z,62nm,1.3s
CHLP *e*S **S 19 38 39.1 -0.5**
CHLP IVMs_BB IVMs_BB 19 56 32.3
comp=Z,2µm,23.0s
TLY Talaya 70.09 331 P **P 19 29 31.2 +0.4**
comp=Z,3.3nm,0.7s,baz=166,slow=8.8,SNR=9.0
TLY LR LR 19 59 22.3
comp=Z,12µm,21.7s,baz=128,slow=35
TLY Talaya 70.09 331 *c i*P **P 19 29 30.6 -0.1**
TLY *e*PPP PPP 19 33 50.6
TLY *e*S **S 19 38 42.1 +3.4**
TLY *e* 19 39 23.4
TLY pmax pmax
comp=Z,73nm,2.0s
TLY MLR MLR
comp=Z,8µm,19.0s
TLY Talaya 70.09 331 P **P 19 29 31.1 +0.4**
comp=Z,96nm,1.8s,SNR=7.7
TLY Talaya 70.09 331 *e*P **P 19 29 30.9 +0.2**
comp=Z,99nm,1.7s
RAMN Ramite 70.09 301 *e*P **P 19 29 31.6 +0.1**
comp=Z,181nm,1.6s
IRK Irkutsk 70.15 332 *e*P **P 19 29 30.7 -0.3**
IRK *e* 19 32 15.5
IRK *e* 19 38 43.5
IRK pmax pmax
comp=Z,92nm,2.2s
BOD Bodaibo 70.18 340 *e*P **P 19 29 29.6 -1.4**
BOD pmax pmax
comp=Z,24nm,2.1s
VIS Vishakhapatnam 70.57 291 *e*P **P 19 29 32.9 -1.3**
GUN Gumba 71.00 302 *e*P **P 19 29 36.8 -0.3**
comp=Z,83nm,0.8s
PALK Pallekele 71.11 280 LR LR 20 03 19.2
comp=Z,3µm,21.5s,baz=124,slow=38
PALK Pallekele 71.11 280 *e*P **P 19 29 37.2 -0.5**
PALK pmax pmax
comp=Z,17nm,0.7s
PALK Pallekele 71.11 280 *e*P **P 19 29 37.2 -0.5**
comp=Z,16nm,0.7s
PKI Pulchoki 71.29 302 *e*P **P 19 29 38.9 0.0**
comp=Z,236nm,1.7s
PKIN Phulchoki 71.31 302 *e*P **P 19 29 38.9 0.0**
MOY Mondy 71.39 330 *e*P **P 19 29 39.4 +0.7**
MOY pmax pmax
comp=Z,133nm,2.5s
KKN Kakani 71.47 302 *e*P **P 19 29 39.2 -0.6**
comp=Z,48nm,1.0s
DMN Daman 71.56 302 *e*P **P 19 29 39.7 -0.7**
comp=Z,91nm,0.9s
VNDA Vanda 71.74 177 P **P 19 29 41.4 +1.1**
comp=Z,10nm,0.8s,baz=324,slow=6.4,SNR=36
VNDA LR LR 19 59 28.3
comp=Z,9µm,18.6s,baz=28,slow=34
VNDA Vanda 71.74 177 P **P 19 29 41.4 +1.1**
VNDA pmax pmax
comp=Z,11nm,0.8s
VNDA MLR MLR
comp=Z,9µm,18.6s
VNDA Vanda 71.74 177 *e*P **P 19 29 40.7 +0.4**
comp=Z,85nm,1.2s
PVM Polavaram 72.05 290 *e*P **P 19 29 42.2 -1.0**
PVM IAmb IAmb 19 29 48.4
comp=Z,27nm,1.0s
PVM *e*S **S 19 39 00.1 -2.5**
PVM IVMs_BB IVMs_BB 20 04 28.1
comp=Z,2µm,20.2s
GKN Gorkha 72.07 302 *e*P **P 19 29 42.9 -0.5**
comp=Z,42nm,0.8s
MIR Mirnyy 72.10 201⇑ *e*P P 19 29 52.0 +9.4
MIR pmax pmax
comp=Z,300nm,2.0s
SBA Scott Base 72.32 176 *e*P **P 19 29 45.6 +1.9**
SBA pmax pmax
comp=Z,319nm,1.8s
SBA MLR MLR
comp=Z,7µm,19.0s
SBA Scott Base 72.32 176 *e*P **P 19 29 45.6 +1.9**
comp=Z,319nm,1.8s
SBA LR LR
comp=Z,7µm,19.0s
KOLN Koldanda 72.89 301 *e*P **P 19 29 47.3 -1.0**
comp=Z,25nm,0.6s
AIS Amsterdam Isla 73.07 232 P P 19 29 33.0 -16
AIS S S 19 38 50.0 -24
AIS SS **SS 19 43 58.0 +2.8**
AIS L L 19 47 00.0
AIS R 19 53 00.0
SKHT Srikalahasti 73.17 286 *e*P **P 19 29 49.1 -0.8**
SKHT IAmb IAmb 19 30 01.5
comp=Z,30nm,1.2s
SKHT *e*S **S 19 39 11.8 -3.5**
SKHT IVMs_BB IVMs_BB 19 58 27.5
comp=Z,2µm,15.2s
RKT Rikitea 73.23 112 *e*P P 19 29 54.8 +4.6
comp=Z,164nm,1.3s
RKT *e*S **SKiKP 19 39 19.2 +0.2**
comp=Z,5µm,27.8s
RKT *e*SS **SS 19 43 58.3 +0.1**
comp=Z,4µm,32.2s
RKT *e*LQ LQ 19 49 20.8
comp=Z,17µm,38.8s
RKT *e*LR LR 19 52 25.7
comp=Z,9µm,33.5s
ADKI Addanki 73.32 288 *e*P **P 19 29 50.1 -0.6**
ADKI IAmb IAmb 19 29 56.0
comp=Z,24nm,0.8s
ADKI *e*S **S 19 39 16.7 -0.3**
ADKI IVMs_BB IVMs_BB 20 05 21.5
comp=Z,2µm,17.5s
NJS Nagarjunasagar 74.08 289 *e*P **P 19 29 52.5 -2.7**
NJS IAmb IAmb 19 29 58.9
comp=Z,215nm,2.2s
NJS *e*S **S 19 39 24.9 -0.7**
NJS IVMs_BB IVMs_BB 19 58 03.8
comp=Z,1µm,7.9s
RCLA Racherla 74.20 288 *e*P **P 19 29 54.2 -1.8**
RCLA IAmb IAmb 19 30 02.3
comp=Z,24nm,1.1s
RCLA *e*S **S 19 39 26.8 -0.3**
RCLA IVMs_BB IVMs_BB 19 56 05.5
comp=Z,2µm,5.0s
SRLM Srisailam 74.38 288 *e*P **P 19 29 56.2 -0.9**
SRLM IAmb IAmb 19 30 00.4
comp=Z,26nm,0.6s
SRLM *e*S **SKiKP 19 39 20.4 -0.6**
SRLM IVMs_BB IVMs_BB 20 02 24.4
comp=Z,2µm,33.4s
RPR Rampur 74.56 291 *e*P **P 19 29 57.0 -1.0**
RPR IAmb IAmb 19 30 03.0
comp=Z,38nm,1.1s
RPR *e*S **S 19 39 31.4 +0.5**
RPR IVMs_BB IVMs_BB 20 04 17.7
comp=Z,2µm,28.3s
BILL Bilibino 74.66 6 PFAKE 19 30 10.0 +12
BILL LR LR
comp=Z,3µm,19.0s
CHGN Chignik 74.68 27 P **P 19 29 57.0 -0.9**
HVS Khovu-Aksy 74.90 327‖ *e*P **P 19 30 02.2 +2.8**
HVS pmax pmax
comp=Z,54nm,1.4s
HYB Hyderabad 74.96 290 *i*P **P 19 29 59.0 -1.4**
HYB *e*S **S 19 39 32.0 -3.5**
HYB Hyderabad 74.96 290 *e*P **P 19 29 58.6 -1.8**

HYB AMB AMB 19 30 35.8
comp=Z,47nm,1.6s
HYBB Hyderabad (bro 74.96 290 *e*P **P 19 29 59.5 -0.9**
HYBB IAmb IAmb 19 30 04.9
comp=Z,24nm,0.8s
HYBB *e*S **S 19 39 31.7 -3.9**
HYBB IVMs_BB IVMs_BB 20 04 28.0
comp=Z,2µm,25.0s
WMQ Urumqi 75.24 318 P **P 19 30 03.3 +1.8**
WMQ pP **pP 19 30 13.3 -0.5**
WMQ PP PP 19 32 56.9 +6.4
WMQ S **S 19 39 38.0 +0.2**
WMQ PMZ
comp=Z,56nm,1.4s
WMQ PMZ
comp=Z,3µm,12.0s
WMQ LN
comp=Z,10µm,22.1s
WMQ LE
comp=Z,11µm,17.0s
WMQ LZ
comp=Z,11µm,21.2s
NGP Nagpur 75.26 294 *e*P **P 19 30 01.9 -0.1**
NGP *e*x x 19 39 34.6
SRSP Sriramsagar 75.45 291 *e*P **P 19 30 02.2 -0.9**
SRSP IAmb IAmb 19 30 10.9
comp=Z,40nm,1.1s
SRSP *e*S **S 19 39 39.0 -1.9**
SRSP IVMs_BB IVMs_BB 19 55 06.0
comp=Z,2µm,10.4s
URV Uravakonda 75.72 287 *e*P **P 19 30 03.7 -1.1**
URV IAmb IAmb 19 30 08.2
comp=Z,17nm,0.8s
URV *e*S **S 19 39 45.5 +1.5**
URV IVMs_BB IVMs_BB 20 03 23.6
comp=Z,2µm,6.6s
KLRI Killari 76.91 290 *e*P **P 19 30 10.7 -0.8**
KLRI IAmb IAmb 19 30 13.8
comp=Z,50nm,1.2s
KLRI *e*S **S 19 39 59.6 +2.5**
KLRI IVMs_BB IVMs_BB 20 04 00.8
comp=Z,2µm,19.0s
BHPL Bhopal 77.18 295 *e*P **P 19 30 12.5 -0.5**
OHAK Old Harbor 77.53 27 *e*P **P 19 30 14.3 +0.2**
comp=Z,55nm,1.2s
H08S2 Diego Garcia H 77.62 264 P **P 19 30 14.1 -1.1**
baz=44,slow=4.2,SNR=4.2
H08S3 Diego Garcia H 77.63 264 P **P 19 30 13.0 -2.3**
baz=44,slow=4.2,SNR=4.1
H08S1 Diego Garcia H 77.64 263 P **P 19 30 13.9 -1.5**
baz=44,slow=4.2,SNR=4.5
DGAR Diego Garcia 77.68 264 *e*P **P 19 30 15.4 -0.5**
DGAR MLR MLR
comp=Z,8µm,21.0s
DGAR Diego Garcia 77.68 264 *e*P **P 19 30 15.4 -0.5**
DGAR LR LR
comp=Z,8µm,21.0s
PTCN Pitcairn Islan 77.68 114 PFAKE 19 30 30.0 +14
PTCN LR LR
comp=Z,6µm,21.0s
KRAR Krasnoyarsk 77.80 331 *c e*P **P 19 30 16.0 +0.4**
KRAR pmax pmax
comp=Z,43nm,2.3s
KDAK Kodiak Island 78.15 27 *e*P **P 19 30 15.8 -1.7**
KDAK pmax pmax
comp=Z,51nm,1.3s
KDAK MLR MLR
comp=Z,12µm,20.0s
KDAK Kodiak Island 78.15 27 *e*P **P 19 30 15.8 -1.7**
comp=Z,51nm,1.3s
KDAK LR LR
comp=Z,12µm,20.0s
DDI Dehra Dun 78.24 303 *e*P **P 19 30 17.2 -1.5**
NDI New Delhi 78.56 301 *e*P **P 19 30 19.0 -1.5**
GOA Goa 79.08 287 *e*P **P 19 30 22.7 -0.8**
SMLA Simla 79.17 303 *e*P **P 19 30 23.2 -0.5**
SMLA AMB AMB 19 30 28.7
comp=Z,45nm,0.7s
PAF Port-aux-Franc 79.32 221 P P 19 30 06.0 -18
PAF PP **PP 19 33 22.0 -2.4**
PAF S S 19 40 00.0 -22
PAF SS **SS 19 45 26.0 -3.2**
PAF L L 19 51 00.0
PAF R 19 56 00.0
PAF Port-aux-Franc 79.32 221 PFAKE 19 30 30.0 +5.8
PAF LR LR
comp=Z,9µm,19.0s
RSO Redoubt South 79.51 25 *e*P **P 19 30 24.9 -0.3**
comp=Z,31nm,0.7s
MK31 Makanchi Array 79.88 320 P **P 19 30 26.2 -1.1**
MK31 pmax pmax
comp=Z,51nm,1.2s
MK31 Makanchi Array 79.88 320 *e*P **P 19 30 26.4 -1.0**
MKAR Makanchi Array 79.88 320 P **P 19 30 26.9 -0.4**
comp=Z,4.5nm,0.8s,baz=109,slow=5.0,SNR=29
MKAR LR LR 20 06 42.5
comp=Z,11µm,18.1s,baz=88,slow=36
MKAR Makanchi Array 79.88 320 *c e*P **P 19 30 27.2 -0.1**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
DHRM DHARAMSHALA 80.16 304 *e*P **P 19 30 28.2 -1.2**
DHRM AMB AMB 19 30 33.5
comp=Z,61nm,0.6s
PDGK Podgornoye 80.66 316 P **P 19 30 29.4 -2.1**
PDGK pmax pmax
comp=Z,25nm,1.1s
SEW Seward 80.73 26 *e*P P 19 30 27.9 -3.6
comp=Z,75nm,1.1s
ZAA0 Zalesovo Array 81.01 327 *e*P **P 19 30 31.3 -1.9**
ZAA0 *e*PP PP 19 33 45.1 +6.7
ZALV Zalesovo Beam 81.01 327 P **P 19 30 31.8 -1.4**
comp=Z,14nm,0.6s,baz=113,slow=5.6,SNR=22
ZALV LR LR 20 06 36.8
comp=Z,13µm,19.6s,baz=114,slow=36
PPLA Purkeypile 81.04 23 *e*P **P 19 30 32.3 -1.0**
comp=Z,50nm,1.3s
RC01 Rabbit Creek A 81.10 25 *e*P P 19 30 29.1 -4.4
comp=Z,97nm,1.4s
PMR Palmer 81.60 25 *e*P **P 19 30 35.3 -0.8**
PMR pmax pmax
comp=Z,56nm,1.4s
PMR Palmer 81.60 25 *e*P **P 19 30 35.3 -0.8**
comp=Z,56nm,1.4s
SML Sawmill 82.04 25 *e*P **P 19 30 37.7 -0.8**
SML pmax pmax
comp=Z,21nm,1.2s
SML Sawmill 82.04 25 *e*P **P 19 30 37.7 -0.8**
comp=Z,21nm,1.2s
TRF Thorofare Moun 82.07 23 *e*P **P 19 30 37.0 -1.8**
comp=Z,20nm,0.9s
BPAW Bear Paw Mtn. 82.14 22 *e*P **P 19 30 37.0 -1.9**
comp=Z,5.2nm,1.1s
KSH Kashi 82.16 311 P **P 19 30 40.6 +0.8**
KSH pP **pP 19 30 54.3 +2.1**
KSH PP PP 19 33 55.1 +6.6
KSH S **S 19 40 49.8 -2.3**
KSH sS **sS 19 41 14.3 +1.5**
KSH SS SS 19 46 21.1 +8.5
KSH PMZ
comp=Z,27nm,0.9s
KSH PMZ
comp=Z,3µm,9.1s
KSH LN
comp=Z,6µm,15.4s
KSH LE
comp=Z,3µm,13.2s
KSH LZ
comp=Z,7µm,18.2s
IM04 Indian Mountai 82.16 20 *e*P **P 19 30 38.1 -1.0**
NVS Novosibirsk 82.21 327 ⇑ *i*P **P 19 30 38.2 -1.2**
NVS *e* 19 33 48.4
NVS *e*S **S 19 40 47.6 -4.0**
NVS pmax pmax
comp=E,71nm,1.9s
NVS pmax pmax
comp=Z,111nm,1.9s
NVS pmax pmax
comp=N,51nm,2.0s
NVS pmax pmax
comp=Z,138nm,2.5s
NVS pmax pmax
comp=N,37nm,2.3s
NVS pmax pmax
comp=E,33nm,1.9s
NVS smax smax
comp=E,181nm,2.7s

AAA Alma-Ata 82.42 315 *i*P **P 19 30 42.3 +1.4**
AAA pmax pmax
comp=Z,3µm,13.2s
AAA MLR MLR
comp=Z,9µm,21.0s
MCK McKinley 82.73 23 *e*P **P 19 30 40.5 -1.6**
MCK pmax pmax
comp=Z,122nm,1.1s
MCK McKinley 82.73 23 *e*P **P 19 30 40.5 -1.6**
comp=Z,122nm,1.1s
DIV Divide 82.82 26 *e*P **P 19 30 42.1 -0.5**
comp=Z,47nm,1.1s
BMRM Bremner River 83.26 26 *e*P **P 19 30 43.9 -1.0**
comp=Z,101nm,1.2s
TKM2 Tokmak 2 83.28 314 P **P 19 30 47.6 +2.0**
SNR=17
TKM2 Tokmak 2 83.28 314 *i*P **P 19 30 45.9 +0.3**
TKM2 pmax pmax
comp=Z,72nm,2.3s
TKM2 Tokmak 2 83.28 314 *e*P P 19 30 42.8 -2.8
comp=Z,16nm,0.7s
TKM2 LR LR
comp=Z,15µm,20.0s
KZA Kyzart 83.32 313 P **P 19 30 46.3 +0.2**
SNR=8.5
KURK Kurchatov 83.45 322 P **P 19 30 45.3 -0.7**
comp=Z,250nm,1.5s,SNR=13
KURK Kurchatov 83.45 322 P **P 19 30 44.3 -1.7**
KURK pmax pmax
comp=Z,51nm,1.5s
KURK Kurchatov 83.45 322 *e*P **P 19 30 44.7 -1.3**
comp=Z,5.7nm,1.0s
KURK LR LR
comp=Z,26µm,19.0s
MAW Mawson 83.70 203 P **P 19 30 47.7 +0.7**
comp=Z,7.4nm,0.8s,baz=72,slow=4.9,SNR=19
MAW LR LR 20 05 06.6
comp=Z,18µm,21.8s,baz=79,slow=34
MAW Mawson 83.70 203 P **P 19 30 47.7 +0.7**
MAW pmax pmax
comp=Z,7.0nm,0.8s
MAW MLR MLR
comp=Z,18µm,21.8s
MAW Mawson 83.70 203 *e*P **P 19 30 46.7 -0.3**
comp=Z,76nm,1.9s
COLA College 83.70 22 *c i*P **P 19 30 45.3 -1.7**
COLA pmax pmax
comp=Z,83nm,0.9s
COLA College 83.70 22 *e*P **P 19 30 45.2 -1.7**
comp=Z,39nm,0.8s
COLA LR LR
comp=Z,9µm,22.0s
CHMS Chumysh 83.90 314 P **P 19 30 49.5 +0.9**
SNR=9.9
FRU Bishkek 83.96 314 *e*P **P 19 30 48.0 -0.9**
FRU *e* 19 30 58.0
FRU *e* 19 41 08.0
FRU pmax pmax
comp=Z,200nm,2.0s
QSPA South Pole Qui 83.99 180 P **P 19 30 49.5 +0.8**
comp=Z,61nm,1.0s,baz=345,slow=1.6,SNR=88
QSPA South Pole Qui 83.99 180 *e*P **P 19 30 49.1 +0.4**
comp=Z,155nm,1.2s
AAK Ala-Archa 84.00 314 PFAKE 19 31 00.0 +11
AAK LR LR
comp=Z,21µm,21.0s
ILAR Eielson Array 84.02 22 P **P 19 30 46.6 -2.0**
comp=Z,24nm,0.8s,baz=253,slow=5.2,SNR=126
ILAR LR LR 20 04 12.4
comp=Z,13µm,21.2s,baz=266,slow=33
COLD Coldfoot 84.04 20 *e*P **P 19 30 49.1 +0.4**
comp=Z,31nm,1.2s
USP Ospenovka 84.15 314 P **P 19 30 50.9 +1.0**
SNR=18
AML Almayashu 84.46 313 P **P 19 30 53.9 +2.0**
SNR=12
EKS2 Erkin-Say 84.52 314 P **P 19 30 53.7 +1.8**
SNR=17
EKS2 Erkin-Say 84.52 314 *e*P **P 19 30 51.7 -0.2**
EKS2 pmax pmax
comp=Z,89nm,1.4s
EKS2 MLR MLR
comp=Z,19µm,20.0s
EKS2 Erkin-Say 84.52 314 *e*P **P 19 30 51.6 -0.2**
comp=Z,90nm,1.4s
EKS2 LR LR
comp=Z,19µm,20.0s
EGAK Eagle 86.25 23 *e*P **P 19 30 59.4 -0.4**
comp=Z,55nm,1.1s
HYT Haines Junctio 86.42 28 *e*P **P 19 31 01.4 +0.4**
comp=Z,35nm,0.7s
KBL Kabul 86.56 305 *e*P P 19 30 59.3 -3.0
KBL pmax pmax
comp=Z,7.0nm,0.7s
KBL Kabul 86.56 305 *e*P P 19 30 59.3 -3.0
comp=Z,7.5nm,0.7s
DAWY Dawson 86.70 24 *e*P **P 19 31 01.9 -0.2**
comp=Z,150nm,1.4s
KKAR Karatay Array 86.96 314 *e*P **P 19 31 02.5 -1.3**
KKAR pmax pmax
comp=Z,41nm,1.3s
KKAR Karatay Array 86.96 314 *e*P **P 19 31 02.5 -1.3**
comp=Z,41nm,1.3s
SKAG Skagway 87.04 29 *e*P **P 19 31 04.1 +0.4**
comp=Z,23nm,1.0s
WRAK Wrangell Islan 87.75 33 *e*P **P 19 31 07.1 -0.1**
comp=Z,63nm,1.3s
BVA0 Borovoye Array 88.96 323 *i*P **P 19 31 10.8 -2.3**
BVAR Borovoye Array 88.96 323 P **P 19 31 11.1 -2.0**
comp=Z,5.7nm,0.7s,baz=93,slow=5.8,SNR=13
BRVK Borovoye 89.03 323 *c i*P **P 19 31 12.3 -1.1**
BRVK pmax pmax
comp=Z,45nm,2.5s
BRVK Borovoye 89.03 323 *e*P **P 19 31 11.1 -2.3**
comp=Z,43nm,1.4s
BRVK LR LR
comp=Z,10µm,19.0s
BBB Bella Bella 89.27 37 P **P 19 31 14.7 +0.2**
comp=Z,5.5nm,1.0s,baz=74,slow=1.7,SNR=4.2
BBB LR LR 20 03 44.7
comp=Z,11µm,21.8s,baz=265,slow=31
DLBC Dease Lake 89.44 31 P **P 19 31 15.1 -0.2**
comp=Z,2.7nm,0.8s,baz=258,slow=4.7,SNR=11
DLBC LR LR 20 04 31.7
comp=Z,24µm,21.9s,baz=256,slow=31
DLBC Dease Lake 89.44 31 *e*P **P 19 31 14.9 -0.4**
comp=Z,58nm,1.5s
INK Inuvik 90.28 21 P **P 19 31 18.1 -0.7**
comp=Z,11nm,1.1s,baz=259,slow=6.2,SNR=8.8
INK PKiKP **PKiKP 19 36 13.8 -0.1**
comp=Z,2.7nm,0.9s,baz=151,slow=2.4,SNR=3.3
INK LR LR 20 11 16.6
comp=Z,11µm,19.0s,baz=251,slow=35
INK Inuvik 90.28 21 *e*P **P 19 31 17.4 -1.5**
comp=Z,70nm,1.3s
INK PKiKP **PKiKP 19 36 13.8 -0.1**
KCPM Cahto Peak 90.45 50 *e*P **P 19 31 21.0 +0.5**
comp=Z,22nm,0.9s
KHMM Horse Mountain 90.49 49 P **P 19 31 20.9 +0.2**
comp=Z,44nm,1.1s
L02D Cave Junction, 90.75 48 P **P 19 31 23.6 +1.8**
baz=91
I03D Drain, OR 91.13 46 P **P 19 31 24.6 +1.2**
baz=91
M02C Callahan 91.21 49 P **P 19 31 25.1 +1.1**
baz=91,SNR=9.8
NLWA Neilton Lookou 91.23 43 *e*P **P 19 31 24.1 +0.2**
comp=Z,20nm,1.1s
N02D Trinity Center 91.27 49 P **P 19 31 25.5 +1.2**
baz=91
HUMO Hull Mountain 91.28 47 *e*P **P 19 31 25.2 +1.0**
comp=Z,47nm,1.0s
WDC Whiskeytown Da 91.35 50 *e*P **P 19 31 25.4 +0.9**
WDC pmax pmax
comp=Z,192nm,2.0s
WDC Whiskeytown Da 91.35 50 *e*P **P 19 31 25.4 +0.9**
comp=Z,192nm,2.0s
YBH Yreka Blue Hor 91.36 48 P **P 19 31 25.3 +0.6**
comp=Z,14nm,0.9s,baz=359,slow=0.8,SNR=18
YBH LR LR 20 08 31.9
comp=Z,25µm,18.8s,baz=288,slow=33
YBH Yreka Blue Hor 91.36 48 P **P 19 31 25.3 +0.6**
YBH pmax pmax
comp=Z,18nm,0.9s
YBH MLR MLR
comp=Z,25µm,18.8s
YBH Yreka Blue Hor 91.36 48 *e*P **P 19 31 24.1 -0.5**
comp=Z,61nm,1.4s
G03D McMinnville, O 91.38 45 P **P 19 31 26.7 +2.2**
baz=91
BUOR Burton Butte 91.77 48 P **P 19 31 27.9 +1.2**
CRZF Crozet Islands 91.81 223 P P 19 31 07.0 -20
CRZF Crozet Islands 91.81 223 S S 19 41 44.0 -41
CRZF SS SS 19 48 24.0 -8.7
CRZF L L 19 54 00.0
CRZF R 20 02 00.0
I04A Tendick Farm, 91.81 46 P **P 19 31 27.1 +0.4**
baz=92
SYO Syowa Base 91.88 200 ‖ *e*P **P 19 31 25.0 -1.4**
HBO Huckleberry Mo 91.89 46 P **P 19 31 28.0 +0.8**
J04D Umpqua Nationa 91.97 47 P **P 19 31 28.9 +1.3**
baz=92
M04C Macdoel 92.01 48 P **P 19 31 28.8 +1.0**
baz=92,SNR=12
FL2 Flat Top 2 92.13 44 P **P 19 31 29.6 +1.4**
K04D Chiloquin, OR 92.17 48 P **P 19 31 29.5 +1.0**
baz=92
TDL Tradedollar La 92.24 44 P **P 19 31 29.7 +1.0**
LBCM Butte Creek Ri 92.28 49 P **P 19 31 30.1 +1.1**
RER Riviere de l'E 92.51 249 PFAKE 19 31 40.0 +10
RER LR LR
comp=Z,10µm,20.0s
LON Longmire 92.56 43 P **P 19 31 27.8 -2.3**
LON pmax pmax
comp=Z,10.0nm,1.1s
LON Longmire 92.56 43 P **P 19 31 27.8 -2.3**
comp=Z,10nm,1.1s
J05D Fort Rock, OR 92.61 47 P **P 19 31 31.6 +1.1**
baz=93,SNR=29
I05D Terrebonne, OR 92.64 46 P **P 19 31 31.6 +1.1**
baz=93
G05D Wamic, OR 92.75 45 P **P 19 31 32.0 +1.1**
baz=93
CMB Columbia Colle 92.75 52 *e*P **P 19 31 31.8 +0.7**
CMB pmax pmax
comp=Z,77nm,1.5s
CMB Columbia Colle 92.75 52 *e*P **P 19 31 31.8 +0.7**
comp=Z,77nm,1.5s
SMMC Simmler 92.80 55 P **P 19 31 32.8 +1.4**
baz=93
PKM Peak Mountain 92.91 55 P **P 19 31 33.4 +1.3**
baz=93
BSC Santa Cruz Isl 92.99 56 P **P 19 31 34.0 +1.7**
baz=93
MOD Modoc 93.17 48 *e*P **P 19 31 33.8 +0.7**
comp=Z,66nm,1.3s
RCTC Rector, Farmer 93.51 54 P **P 19 31 36.5 +1.9**
baz=94
WAKR Walker 93.53 52 *e*P **P 19 31 35.0 +0.1**
comp=Z,25nm,0.9s
ARVC Arvin 93.74 55 P **P 19 31 37.1 +1.4**
baz=94
OSI Osito Adit 93.79 56 P **P 19 31 37.9 +1.9**
baz=94
SCI San Clemente I 93.80 57 P **P 19 31 37.4 +1.3**
baz=94
MLAC Mammoth Lakes 93.94 53 P **P 19 31 37.6 +0.7**
baz=94
CIS Catalina Islan 93.96 57 P **P 19 31 38.4 +1.6**
baz=94,SNR=12
FMP Fort Macarthur 94.07 57 P **P 19 31 39.0 +1.7**
baz=94
ISA Isabella 94.07 55 *e*P **P 19 31 38.0 +0.7**
ISA pmax pmax
comp=Z,137nm,1.8s
ISA Isabella 94.07 55 P **P 19 31 38.4 +1.0**
baz=94,SNR=12
ISA Isabella 94.07 55 *e*P **P 19 31 38.0 +0.7**
comp=Z,137nm,1.8s
DECC Green Verdugo 94.08 56 P **P 19 31 38.5 +1.2**
baz=94
HAWA Hanford 94.09 44 *e*P **P 19 31 35.0 -2.0**
PASC Pasadena Art C 94.20 56 *e*P **P 19 31 39.4 +1.6**
comp=Z,104nm,1.1s
MWC Mount Wilson 94.31 56 *e*P **P 19 31 39.7 +1.1**
MWC pmax pmax
comp=Z,225nm,1.4s
MWC Mount Wilson 94.31 56 *e*P **P 19 31 39.7 +1.1**
comp=Z,225nm,1.4s
TIN Tinemaha 94.38 53 P **P 19 31 40.0 +1.2**
baz=94
EDW2 Edwards Air Fo 94.41 56 P **P 19 31 40.5 +1.6**
baz=94,SNR=28
NVAR Mina Array Bea 94.42 52 P **P 19 31 40.1 +1.1**
comp=Z,23nm,0.8s,baz=248,slow=7.4,SNR=32
WVOR Wild Horse Val 94.44 48 P **P 19 31 40.1 +1.2**
WVOR pmax pmax
comp=Z,12nm,0.3s
WVOR Wild Horse Val 94.44 48 P **P 19 31 40.1 +1.2**
comp=Z,12nm,0.3s
CWC Cottonwood Cre 94.45 54 P **P 19 31 40.4 +1.3**
baz=94
BFSC Mount Baldy Ra 94.64 56 P **P 19 31 41.1 +1.0**
baz=95,SNR=14
LRMC Laurel Mountai 94.70 55 P **P 19 31 41.6 +1.3**
baz=95,SNR=17
MSEY Mahe Island 94.74 265 PFAKE 19 31 50.0 +9.2
MSEY LR LR
comp=Z,5µm,20.0s
DAC Darwin (Calif) 94.83 54 *e*P **P 19 31 42.0 +1.1**
DAC pmax pmax
comp=Z,137nm,1.4s
DAC Darwin (Calif) 94.83 54 *e*P **P 19 31 42.0 +1.1**
comp=Z,137nm,1.4s
MPMC Manual Prospec 94.90 54 P **P 19 31 42.4 +1.1**
baz=95,SNR=44
MURC Murrieta 94.97 57 P **P 19 31 42.7 +1.3**
baz=95
109C Camp Elliot, M 95.01 58 P **P 19 31 42.7 +1.2**
baz=95
ABKAR Akbulak array 95.01 319 *e*P **P 19 31 38.8 -2.4**
comp=Z,3.8nm,0.8s
SVE Sverdlovsk 95.02 327 *e*P **P 19 31 40.3 -0.7**
SVE *e* 19 35 35.0
SVE *e*PPP PPP 19 37 34.9
SVE *e*S **SKSac 19 42 11.1 -2.3**
SVE pmax pmax
comp=Z,19nm,1.8s
SVE MLR MLR
comp=Z,26µm,20.0s
SVE MLR MLR
comp=E,22µm,22.0s
GRAC Grapevine Rang 95.06 53 P **P 19 31 43.1 +1.3**
baz=95
RRX Edison Barstow 95.22 56 P **P 19 31 43.8 +1.3**
baz=95
TPH Tonopah 95.24 52 *e*P **P 19 31 43.4 +0.6**
TPH pmax pmax
comp=Z,34nm,1.0s
TPH Tonopah 95.24 52 *e*P **P 19 31 43.4 +0.6**
comp=Z,34nm,1.0s
BBRC Big Bear Solar 95.25 56 P **P 19 31 43.8 +0.9**
baz=95
BAR Barrett 95.36 58 *e*P **P 19 31 44.7 +1.5**
comp=Z,103nm,1.6s
GSC Goldstone 95.41 55 *e*P **P 19 31 44.2 +0.7**
GSC pmax pmax
comp=Z,166nm,1.8s
GSC Goldstone 95.41 55 P **P 19 31 44.9 +1.4**
baz=95,SNR=19
GSC Goldstone 95.41 55 *e*P **P 19 31 44.2 +0.7**
comp=Z,166nm,1.8s
FURC Furnace Creek, 95.43 54 P **P 19 31 44.9 +1.5**
baz=96,SNR=14
MONP Monument Peak 95.58 58 P **P 19 31 46.4 +2.0**
baz=96,SNR=25
PFO Pinyon Flat Ob 95.60 57 P **P 19 31 46.2 +1.8**
comp=Z,221nm,1.0s,SNR=12
PFO Pinyon Flat Ob 95.60 57 LR LR 20 07 52.8
comp=Z,21µm,20.5s,baz=274,slow=31
PFO Pinyon Flat Ob 95.60 57 *e*P **P 19 31 45.7 +1.3**
PFO pmax pmax
comp=Z,51nm,1.1s
PFO Pinyon Flat Ob 95.60 57 P **P 19 31 46.0 +1.6**
baz=96,SNR=22
PFO Pinyon Flat Ob 95.60 57 *e*P **P 19 31 45.7 +1.3**
comp=Z,51nm,1.1s
GEYT Alibeck 95.71 307 P **P 19 31 43.3 -1.4**
comp=Z,1.6nm,0.8s,baz=90,slow=4.3,SNR=3.8
GEYT LR LR 20 17 29.8
comp=Z,11µm,19.5s,baz=85,slow=37
HEC Hector,Ludlow 95.77 56 P **P 19 31 46.3 +1.2**
baz=96
NEW Newport 95.84 42 P P **19 31 45.1 +0.1**

comp=Z,2.7nm,0.8s,baz=233,slow=5.2,SNR=6.0
NEW LR LR 20 11 35.9
comp=Z,15µm,18.7s,baz=268,slow=33
NEW Newport 95.84 42 P **P 19 31 45.1 +0.1**
NEW pmax pmax
comp=Z,3.0nm,0.8s
NEW MLR MLR
comp=Z,15µm,18.7s
NEW Newport 95.84 42 P **P 19 31 46.0 +1.0**
baz=96
NEW SKSac **SKSac 19 42 22.8 +4.6**
baz=96
NEW Newport 95.84 42 *e*P **P 19 31 43.8 -1.3**
comp=Z,54nm,1.8s
IBP Imperial Bould 95.84 58 P **P 19 31 46.4 +0.9**
baz=96
SHOC Shoshone 95.87 55 P **P 19 31 46.4 +0.9**
baz=96,SNR=14
TPNV Topopah Spring 95.95 54 P **P 19 31 47.1 +1.1**
baz=96,SNR=42
BELC Belle Mtn. Jos 96.00 57 P **P 19 31 47.6 +1.3**
baz=96,SNR=28
SWSC Sam W. Stewart 96.11 58 P **P 19 31 48.3 +1.8**
baz=96,SNR=9.5
TUQ Turquoise Moun 96.14 55 P **P 19 31 47.7 +0.9**
baz=96
ARU Arti 96.15 326 LR LR 20 14 46.8
comp=Z,24µm,21.6s,baz=112,slow=35
ARU Arti 96.15 326*d i*P **P 19 31 43.7 -2.5**
ARU 19 35 36.4
ARU S **SKSac 19 42 17.3 -2.1**
ARU SP **SP 19 44 26.2 +5.0**
ARU SS **SS 19 49 41.1 +6.6**
ARU pmax pmax
comp=Z,18nm,2.5s
ARU pmax pmax
comp=Z,630nm,16.1s
ARU MLR MLR
comp=Z,24µm,22.0s
ARU Arti 96.15 326 P P 19 31 43.2 -3.0
comp=Z,11nm,1.2s
AKTO Aktyubinsk 96.31 320 LR LR 20 15 15.3
comp=Z,17µm,20.8s,baz=108,slow=36
GMRC Granite Mounta 96.32 56 P **P 19 31 49.0 +1.3**
baz=96,SNR=29
BC3 Big Chuckawall 96.43 57 P **P 19 31 49.9 +1.7**
baz=96,SNR=29
R11A Troy Canyon, C 96.54 52 P **P 19 31 49.8 +1.1**
baz=97
R11A Troy Canyon, C 96.54 52 P **P 19 31 48.2 -0.5**
comp=Z,7.5nm,0.5s
IRM Iron Mountain 96.71 56 P **P 19 31 51.0 +1.7**
baz=97,SNR=50
SHPR Sheep Range 96.80 54 *e*P **P 19 31 51.1 +1.2**
comp=Z,142nm,1.7s
SHPR *e*PP **PP 19 35 46.9 +1.5**
ELK Elko 96.90 50 PKiKP **PKiKP 19 36 28.1 +1.5**
comp=Z,3.0nm,0.9s,baz=257,slow=5.3,SNR=3.2
GLA Glamis 96.93 58 *e*P **P 19 31 51.0 +0.6**
GLA pmax pmax
comp=Z,194nm,1.9s
GLA Glamis 96.93 58 P **P 19 31 51.5 +1.2**
baz=97
GLA Glamis 96.93 58 *e*P **P 19 31 51.0 +0.6**
comp=Z,194nm,1.9s
NEE2 Needles Airpor 97.17 56 P Pdif 19 31 52.6 +1.1
baz=97
Y12C Blythe 97.21 57 P Pdif 19 31 52.9 +1.3
baz=97
BSMT Bassoo Peak 97.39 43 *e*P Pdif 19 31 52.8 +0.4
comp=Z,7.6nm,1.0s
BSMT *e*PP PP 19 35 41.5 -8.1
YKW3 Yellowknife Ar 97.41 28 *e*P **P 19 31 51.0 -0.8**
comp=Z,0.1nm,0.6s
YKA Yellowknife Ar 97.42 28 P **P 19 31 51.5 -0.3**
comp=Z,3.5nm,0.7s,baz=271,slow=4.7,SNR=13
YKA PKiKP **PKiKP 19 36 26.2 -0.3**
comp=Z,1.2nm,0.7s,baz=288,slow=2.3,SNR=4.8
YKA PKKPbc **PKKPbc 19 48 28.9 -3.2**
comp=Z,1.2nm,0.8s,baz=95,slow=2.7,SNR=6.0
PDMCI Parker Dam,Lak 97.55 56 P Pdif 19 31 55.0 +1.9
baz=98,SNR=11
HLID Hailey 97.59 47 P Pdif 19 31 54.6 +1.3
baz=98
MSO Missoula 97.96 44 P Pdif 19 31 56.0 +1.2
baz=98
WALA Waterton Lakes 97.98 41 *e*P Pdif 19 31 55.5 +0.6
comp=Z,12nm,0.9s
CCUT Cedar City 98.27 53 *e*P Pdif 19 31 57.9 +1.3
comp=Z,14nm,1.0s
CCUT *e*PP **PP 19 35 56.5 -0.3**
EDM Edmonton 98.29 37 *e*P **P 19 31 55.7 -0.3**
EDM pmax pmax
comp=Z,133nm,1.8s
EDM Edmonton 98.29 37 *e*P **P 19 31 55.7 -0.3**
comp=Z,133nm,1.8s
CHMT Chamberlain Mo 98.43 44 *e*P **P 19 31 56.4 -0.6**
comp=Z,9.9nm,1.5s
BGU Big Grassy Mou 98.58 50 *e*P **P 19 31 57.3 -0.4**
comp=Z,9.9nm,1.0s
214A Organ Pipe Nat 98.59 59 Pdiff Pdif 19 32 00.2 +2.3
baz=99
214A Organ Pipe Nat 98.59 59 *e*P Pdif 19 32 00.0 +2.2
comp=Z,88nm,1.9s
214A *e*PP **PP 19 35 58.1 -0.9**
NVL N'lazarevskaya 98.67 193 *e*P Pdif 19 32 00.9 +3.6
NVL *e**PP pP 19 32 12.0 +2.0
NVL *e*S **SKSac 19 42 26.1 -5.8**
NVL *e*PS **PS 19 44 52.0 -1.5**
NVL pmax pmax
comp=Z,3.0nm,0.3s
NVL MLR MLR
comp=Z,17µm,19.0s
MCMT McKenzie Canyo 98.72 46 *e*Pdif Pdif 19 31 59.4 +1.0
comp=Z,3.5nm,1.0s
DUG Dugway 98.74 50 Pdiff Pdif 19 32 00.3 +1.8
baz=99
HVU Hansel Valley 98.78 49 *e*P Pdif 19 31 59.4 +0.7
HVU *e* 19 35 58.6
HVU pmax pmax
comp=Z,15nm,0.9s
HVU Hansel Valley 98.78 49 *e*Pdif Pdif 19 31 59.4 +0.7
comp=Z,15nm,0.9s
HVU *e*PP **PP 19 35 58.5 -1.8**
DLMT Dillon 98.90 45 *e*Pdif Pdif 19 31 60.0 +0.9
comp=Z,4.6nm,0.7s
LRM Limekiln Ridge 98.99 45 *e*Pdif **Pdif 19 31 56.5 -3.1**
comp=Z,37nm,0.9s
MVU Marysvale 99.19 52 *e*Pdif **Pdif 19 32 02.0 +1.3**
comp=Z,8.1nm,1.1s
MSU Marysvale 99.22 52 *e*P **Pdif 19 32 02.6 +1.8**
MSU pmax pmax
comp=Z,14nm,1.2s
MSU Marysvale 99.22 52 *e*Pdif **Pdif 19 32 02.6 +1.8**
comp=Z,14nm,1.2s
NLU North Lily Min 99.31 51 *e*Pdif **Pdif 19 31 59.6 -1.5**
comp=Z,3.3nm,0.4s
BOZ Bozeman (W) 99.57 45 *e*P **Pdif 19 32 01.7 -0.4**
BOZ pmax pmax
comp=Z,5.0nm,0.8s
BOZ MLR MLR
comp=Z,12µm,20.0s
BOZ Bozeman (W) 99.57 45 Pdiff **Pdif 19 32 03.5 +1.5**
baz=100
BOZ Bozeman (W) 99.57 45 *e*Pdif **Pdif 19 32 01.7 -0.4**
comp=Z,5.5nm,0.8s
BOZ LR LR
comp=Z,12µm,20.0s
MPU Maple Canyon 99.64 51 *e*Pdif **Pdif 19 32 03.6 +1.0**
comp=Z,34nm,1.1s
HWUT Hardware Ranch 99.68 49 *e*Pdif **Pdif 19 32 02.4 -0.3**
comp=Z,3.9nm,0.5s
HWUT LR LR
comp=Z,13µm,21.0s
QLMT Earthquake Lak 99.73 46 *e*Pdif **Pdif 19 32 03.5 +0.6**
comp=Z,0.5nm,0.6s
JLU Jordanelle 99.78 50 *e*Pdif **Pdif 19 32 03.4 +0.1**
comp=Z,24nm,1.3s
WUAZ Wupatki 99.85 55 Pdiff **Pdif 19 32 05.3 +1.8**
baz=100
WUAZ Wupatki 99.85 55 *e*Pdif **Pdif 19 32 02.2 -1.3**
comp=Z,25nm,1.0s
TMUT Trail Mountain 99.98 51 *e*Pdif **Pdif 19 32 04.9 +0.7**
comp=Z,18nm,0.8s
AHID Auburn Hatcher 100.01 48 PFAKE 19 32 10.0 +5.8
AHID LR LR
comp=Z,20µm,22.0s
IMW Indian Meadow 100.11 47 *e*Pdif **Pdif 19 32 04.7 +0.1**
comp=Z,9.6nm,1.1s
TPAW Teton Pass 100.11 47 *e*Pdif **Pdif 19 32 03.5 -1.2**
comp=Z,6.0nm,0.9s
REDW Red Top Meadow 100.18 47 *e*Pdif **Pdif 19 32 03.1 -1.9**
comp=Z,9.9nm,1.0s
MOOW Moose Ponds 100.25 47 *e*Pdif **Pdif 19 32 04.9 -0.4**
comp=Z,7.5nm,1.2s
FLWY Flagg Ranch 100.27 46 *e*Pdif **Pdif 19 32 05.2 -0.2**
comp=Z,8.7nm,1.1s
TUC Tucson 100.31 58 *e*P **Pdif 19 32 06.4 +0.8**
TUC pmax pmax
comp=Z,8.0nm,1.1s
TUC MLR MLR
comp=Z,12µm,22.0s
TUC Tucson 100.31 58 *e*Pdif **Pdif 19 32 06.4 +0.8**
comp=Z,7.5nm,1.1s
TUC LR LR
comp=Z,12µm,22.0s
LKWY Lake 100.47 46 PFAKE 19 32 20.0 +14
LKWY LR LR
comp=Z,20µm,22.0s
SRU San Rafael 100.51 51 *e*P **Pdif 19 32 07.1 +0.6**
SRU pmax pmax
comp=Z,6.0nm,0.9s
SRU San Rafael 100.51 51 *e*Pdif **Pdif 19 32 07.0 +0.6**
comp=Z,6.0nm,0.9s
SNAA Sanae 100.58 188 P **Pdif 19 32 06.3 +0.3**
SNAA Sanae 100.58 188 *e*P **Pdif 19 32 05.4 -0.5**
SNAA pmax pmax
comp=Z,27nm,1.8s
SNAA Sanae 100.58 188 *e*Pdif **Pdif 19 32 05.4 -0.5**
comp=Z,27nm,1.8s
ABPO Ambohimpanom 100.75 249 PFAKE 19 32 20.0 +12
ABPO LR LR
comp=Z,7µm,19.0s
EGMT Eagleton 100.77 42 Pdiff **Pdif 19 32 08.3 +1.1**
baz=101
EGMT Eagleton 100.77 42 *e*Pdif **Pdif 19 32 05.3 -2.0**
comp=Z,14nm,1.1s
BW06 Boulder Array 101.15 48 *e*Pdif **Pdif 19 32 08.0 -1.3**
comp=Z,5.1nm,0.8s
BW06 LR LR
comp=Z,19µm,22.0s
PDAR Pinedale Array 101.15 48 P **Pdif 19 32 08.9 -0.3**
comp=Z,5.6nm,0.9s,baz=318,slow=2.0,SNR=32
PDAR PKiKP **PKiKP 19 36 35.0 +0.9**
comp=Z,2.3nm,0.9s,baz=118,slow=0.5,SNR=5.3
W18A Petrified Fore 101.19 56 Pdiff **Pdif 19 32 08.9 -0.6**
baz=101
RLMT Red Lodge 101.25 45 Pdiff **Pdif 19 32 10.6 +1.0**
baz=101
RLMT Red Lodge 101.25 45 *e*Pdif **Pdif 19 32 09.9 +0.2**
comp=Z,5.8nm,1.1s
RLMT LR LR
comp=Z,13µm,20.0s
H19A Powell 101.48 46 Pdiff **Pdif 19 32 11.6 +1.0**
baz=102
J19A Crowheart 101.50 47 Pdiff **Pdif 19 32 11.8 +1.1**
baz=102
I19A Meeteetse 101.50 46 Pdiff **Pdif 19 32 11.7 +0.9**
baz=102
A20A Cobblestone Ra 101.93 41 Pdiff **Pdif 19 32 13.8 +1.4**
baz=102
C20A Veseth Ranch, 101.97 43 Pdiff **Pdif 19 32 13.9 +1.3**
baz=102
G20A Bridger 101.99 45 Pdiff **Pdif 19 32 14.0 +1.2**
baz=102
F20A Billings 102.00 45 Pdiff **Pdif 19 32 14.0 +1.2**
baz=102
PV01 Paradox Valley 102.06 52 *e*Pdif **Pdif 19 32 08.8 -4.7**
comp=Z,999nm,1.1s
I20A Worland 102.13 46 Pdiff **Pdif 19 32 14.4 +0.9**
baz=102
MVCO Mesa Verde 102.15 53 Pdiff **Pdif 19 32 15.1 +1.3**
baz=102
MVCO Mesa Verde 102.15 53 *e*Pdif **Pdif 19 32 14.5 +0.6**
comp=Z,51nm,1.8s
MVCO LR LR
comp=Z,16µm,21.0s
H20A Greybull 102.19 46 Pdiff **Pdif 19 32 14.9 +1.2**
baz=102
J20A Shoshoni 102.20 47 Pdiff **Pdif 19 32 14.7 +0.9**
baz=102
VNA1 Neumayer--Stat 102.24 187 P **Pdif 19 32 13.5 +0.3**
O20A White River Ci 102.24 50 Pdiff **Pdif 19 32 14.7 +0.5**
baz=102
C21A Desert Coulee 102.57 42 Pdiff **Pdif 19 32 16.0 +0.8**
baz=103
J21A Lysite 102.66 47 Pdiff **Pdif 19 32 17.0 +1.0**
baz=103
E21A Keefer Ranch, 102.69 44 Pdiff **Pdif 19 32 17.0 +1.2**
baz=103
G21A Lodge Grass 102.70 45 Pdiff **Pdif 19 32 17.0 +1.1**
baz=103
F21A Absaloka Mine, 102.72 44 Pdiff **Pdif 19 32 16.9 +1.0**
baz=103
I21A Big Trails, Te 102.74 47 Pdiff **Pdif 19 32 16.7 +0.5**
baz=103
121A Cookes Peak, D 102.85 58 Pdiff **Pdif 19 32 17.7 +0.7**
baz=103
121A Cookes Peak, D 102.85 58 *e*Pdif **Pdif 19 32 19.0 +2.0**
comp=Z,8.4nm,0.8s
H21A Big Horn, Sher 102.86 46 Pdiff **Pdif 19 32 17.9 +1.1**
baz=103
LAO LASA Array 103.26 44 Pdiff **Pdif 19 32 18.9 +0.5**
baz=103
LAO LASA Array 103.26 44 PFAKE 19 32 30.0 +12
LAO LR LR
comp=Z,11µm,19.0s
SMCO Snowmass 103.27 51 *e*Pdif **Pdif 19 32 20.1 +1.1**
comp=Z,9.3nm,0.9s
I22A 9 Mile Ranch, 103.32 46 Pdiff **Pdif 19 32 19.4 +0.6**
baz=103
F22A Rosebud 103.32 44 Pdiff **Pdif 19 32 19.4 +0.7**
baz=103
LAZ Ladron 103.34 56 *e*Pdif **Pdif 19 32 17.4 -1.7**
comp=Z,1.3nm,0.6s
G22A Birney 103.35 45 Pdiff **Pdif 19 32 19.8 +0.9**
baz=103
H22A Clearmont 103.36 46 Pdiff **Pdif 19 32 19.4 +0.5**
baz=103
J22A Midwest 103.36 47 Pdiff **Pdif 19 32 20.0 +1.0**
baz=103
K22A Casper 103.39 48 Pdiff **Pdif 19 32 20.1 +0.9**
baz=103
K22A Casper 103.39 48 *e*Pdif **Pdif 19 32 19.1 0.0**
comp=Z,38nm,1.6s
S22A 4UR Ranch, Cre 103.45 53 Pdiff **Pdif 19 32 20.7 +0.9**
baz=104
E22A Miles City 103.47 44 Pdiff **Pdif 19 32 20.3 +1.0**
baz=104
Y22D IRIS PASSCAL I 103.53 57 Pdiff **Pdif 19 32 22.0 +2.1**
baz=104
HOPEN Hopen 103.71 349 *e*PP PP 19 36 34.8 -1.5
HOPEN *e*SKSac **SKSac 19 42 58.2 +2.4**
HOPEN Hopen 103.71 349 *e* **Pdif 19 32 18.4 -1.2**
HOPEN *i* **PP 19 36 37.4 +1.2**
MAK Makhachkala 103.74 313 *e*P **Pdif 19 32 13.6 -6.8**
MAK *i* 19 36 40.0
MAK *e*PPP PPP 19 38 48.2
MAK *e*SS SS 19 51 42.6 +22
MAK *e*SSS SSS 19 55 22.2
MAK pmax pmax
comp=Z,174nm,2.1s
MAK MLR MLR
comp=Z,8µm,18.0s
ANMO Albuquerque 103.88 56 Pdiff **Pdif 19 32 22.9 +1.4**
comp=Z,4.6nm,0.9s,baz=282,slow=3.2,SNR=7.2
ANMO Albuquerque 103.88 56 *e*P **Pdif 19 32 23.0 +1.4**
ANMO *e* 19 36 38.1
ANMO pmax pmax
comp=Z,7.0nm,1.0s
ANMO MLR MLR
comp=Z,8µm,20.0s
ANMO Albuquerque 103.88 56 *e*Pdif **Pdif 19 32 22.9 +1.4**
comp=Z,7.4nm,1.0s
ANMO *e*PP **PKiKP 19 36 38.1 -1.2**
ANMO LR LR
comp=Z,8µm,20.0s
E23A Ismay 103.91 44 Pdiff **Pdif 19 32 22.0 +0.8**
baz=104
F23A Volborg 103.92 44 Pdiff **Pdif 19 32 21.9 +0.6**
baz=104
N23A Red Feather La 103.95 49 Pdiff **Pdif 19 32 23.1 +1.3**
baz=104
G23A Biddle 103.98 45 Pdiff **Pdif 19 32 22.3 +0.7**
baz=104
J23A Dilts Ranch, B 104.04 47 Pdiff **Pdif 19 32 22.3 +0.3**
baz=104
H23A Clabaugh Cattl 104.04 46 Pdiff **Pdif 19 32 22.1 +0.2**
baz=104
K23A Bowen Ranch, D 104.04 48 Pdiff **Pdif 19 32 22.1 +0.1**
baz=104
I23A Meade Ranch, G 104.05 46 Pdiff **Pdif 19 32 23.4 +1.3**
baz=104
SPA0 Spitsbergen Ar 104.17 351 *e*PP PP 19 36 38.6 -1.0
KBS Kingsbay 104.26 352 *e* **Pdif 19 32 17.4 -4.6**
KBS *e*PP **PP 19 36 40.0 -0.2**
KBS Kingsbay 104.26 352 PFAKE 19 32 30.0 +8.0
KBS LR LR
comp=Z,7µm,22.0s
ISCO Idaho Springs 104.28 51 Pdiff **Pdif 19 32 24.4 +1.1**
baz=104
C24A Savage 104.39 43 Pdiff **Pdif 19 32 24.1 +0.8**
baz=104
SDCO Great Sand Dun 104.51 53 Pdiff **Pdif 19 32 24.7 +0.3**
baz=104
SDCO Great Sand Dun 104.51 53 PFAKE 19 32 30.0 +5.6
SDCO LR LR
comp=Z,27µm,22.0s
D24A Glendive 104.51 43 Pdiff **Pdif 19 32 24.7 +0.9**
baz=104
F24A Ekalaka 104.58 44 Pdiff **Pdif 19 32 25.3 +1.1**
baz=105
E24A Baker 104.59 44 Pdiff **Pdif 19 32 25.4 +1.1**
baz=105
H24A Dirks Ranch, A 104.62 45 Pdiff **Pdif 19 32 25.8 +1.3**
baz=105
K24A Anderson Ranch 104.64 48 Pdiff **Pdif 19 32 25.4 +0.7**
baz=105
I24A Kuemmerle Ranc 104.66 46 Pdiff **Pdif 19 32 25.1 +0.4**
baz=105
J24A Dixon Ranch, L 104.69 47 Pdiff **Pdif 19 32 27.0 +2.1**
baz=105
Q24A Divide 104.70 51 Pdiff **Pdif 19 32 26.7 +1.4**
baz=105
FFC Flin Flon 104.81 35 PFAKE 19 32 30.0 +5.1
FFC LR LR
comp=Z,16µm,20.0s
PMSA Palmer Station 104.86 165 PFAKE 19 32 40.0 +15
PMSA LR LR
comp=Z,7µm,20.0s
RSSD Black Hills 105.06 46 *e*P **Pdif 19 32 22.5 -4.1**
RSSD pmax pmax
comp=Z,13nm,1.4s
RSSD Black Hills 105.06 46 *e*Pdif **Pdif 19 32 22.5 -4.1**
comp=Z,13nm,1.4s
A25A Svangstu Ranch 105.08 41 Pdiff **Pdif 19 32 28.1 +1.7**
baz=105
HSPB Hornsund (broa 105.11 350 *e*PP PP 19 36 47.3 +0.8
B25A Knox Farm, Ray 105.14 42 Pdiff **Pdif 19 32 27.4 +0.8**
baz=105
TMCR Tamitsa 105.15 335 *e*P **Pdif 19 32 24.3 -1.9**
TMCR *e* 19 36 46.1
TMCR pmax pmax
comp=Z,12nm,1.2s
LVZ Lovozero 105.15 339 PFAKE 19 36 50.0
LVZ LR LR
comp=Z,9µm,22.0s
C25A Freed Ranch, W 105.15 42 Pdiff **Pdif 19 32 28.6 +1.9**
baz=105
D25A Fairfield 105.19 43 Pdiff **Pdif 19 32 28.3 +1.4**
baz=105
E25A Miller Ranch, 105.22 44 Pdiff **Pdif 19 32 28.7 +1.6**
baz=105
F25A Bowman 105.25 44 Pdiff **Pdif 19 32 28.0 +0.8**
baz=105
J25A Sunshine Ranch 105.31 47 Pdiff **Pdif 19 32 29.2 +1.7**
baz=105
H25A Fruitdale 105.31 45 Pdiff **Pdif 19 32 29.3 +1.7**
baz=105
L25A Engebretsen Ra 105.32 48 Pdiff **Pdif 19 32 29.3 +1.6**
baz=105
M25A Palm-Egli Farm 105.32 49 Pdiff **Pdif 19 32 27.8 0.0**
baz=105
K25A Mack Ranch, Ha 105.34 48 Pdiff **Pdif 19 32 30.1 +2.3**
baz=105
G25A Newell 105.37 45 Pdiff **Pdif 19 32 29.4 +1.6**
baz=105
T25A Trinidad 105.41 53 Pdiff **Pdif 19 32 30.2 +1.9**
baz=105
DGRG David-gareji 105.46 311 P **PKiKP 19 36 41.5 -0.2**
APA Apatity 105.72 339↓ *i*P **Pdif 19 32 22.0 -6.7**
APA *i* 19 36 50.0
APA *i* 19 43 02.0
APA pmax pmax
comp=Z,37nm,1.4s
B26A Jensen Ranch, 105.74 41 Pdiff **Pdif 19 32 30.8 +1.5**
baz=106
A26A Wade Farm, Ken 105.78 41 Pdiff **Pdif 19 32 31.2 +1.8**
baz=106
D26A Manning 105.80 43 Pdiff **Pdif 19 32 32.7 +3.1**
baz=106
F26A Lodgepole 105.81 44 Pdiff **Pdif 19 32 31.3 +1.6**
baz=106
K26A Motz Farm, Whi 105.84 47 Pdiff **Pdif 19 32 31.7 +1.8**
baz=106
J26A Sides Ranch, S 105.84 47 Pdiff **Pdif 19 32 31.4 +1.4**
baz=106
E26A Carlson Angus 105.86 43 Pdiff **Pdif 19 32 31.4 +1.5**
baz=106
H26A Fairpoint 105.90 45 Pdiff **Pdif 19 32 32.2 +2.1**
baz=106
TBLG Delisi 105.90 312 P **PP 19 36 55.9 +2.3**
I26A New Underwood 105.91 46 Pdiff **Pdif 19 32 30.7 +0.5**
baz=106
C26A Wahner Farm, P 105.91 42 Pdiff **Pdif 19 32 32.2 +2.1**
baz=106
G26A Maurine 105.93 45 Pdiff **Pdif 19 32 30.8 +0.5**
baz=106
Q26A Hugo 105.97 51 Pdiff **Pdif 19 32 32.0 +1.3**
baz=106
L26A Underwood Farm 105.99 48 Pdiff **Pdif 19 32 32.4 +1.7**
baz=106
O26A Horse Wrangler 106.00 50 Pdiff **Pdif 19 32 31.7 +0.9**
baz=106
M26A McRoberts Ranc 106.00 49 Pdiff **Pdif 19 32 31.7 +0.9**
baz=106
N26A Koester Ranch, 106.01 49 Pdiff **Pdif 19 32 32.8 +2.0**
baz=106
P26A Davis Ranch, A 106.04 51 Pdiff **Pdif 19 32 31.0 0.0**
baz=106
T26A Comanche Natio 106.06 53 Pdiff **Pdif 19 32 32.5 +1.3**
baz=106
GNI Garni 106.06 310 PFAKE 19 36 50.0
GNI LR LR
comp=Z,6µm,20.0s
R26A Arlington 106.08 52 Pdiff **Pdif 19 32 32.6 +1.4**
baz=106
BJO Bjornoya 106.09 348 *e* **PKiKP 19 36 46.5 +4.6**
S26A Kim 106.12 53 Pdiff **Pdif 19 32 32.3 +0.9**
baz=106
F27A Lemmon 106.25 44 Pdiff **Pdif 19 32 33.6 +1.9**
baz=106
A27A Ledoux Ranch, 106.29 41 Pdiff **Pdif 19 32 32.9 +1.2**
baz=106
C27A Sayler Ranch, 106.33 42 Pdiff **Pdif 19 32 32.6 +0.7**
baz=106
B27A Peters Farms, 106.37 41 Pdiff **Pdif 19 32 34.2 +2.1**
baz=106
G27A Dupree 106.39 45 Pdiff **Pdif 19 32 34.6 +2.3**
baz=106
H27A Howes 106.39 45 Pdiff **Pdif 19 32 33.8 +1.6**
baz=106
D27A Center 106.41 43 Pdiff **Pdif 19 32 33.5 +1.2**
baz=106
I27A Quinn 106.48 46 Pdiff **Pdif 19 32 34.8 +2.0**
baz=106
E27A Carson 106.48 43 Pdiff **Pdif 19 32 34.8 +2.1**
baz=106
TXAR Lajitas Array 106.48 61 Pdiff **Pdif 19 32 37.1 +3.9**
comp=Z,1.0nm,0.8s,baz=297,slow=3.8,SNR=5.8
TXAR PKiKP **PKiKP 19 36 44.3 +0.2**
comp=Z,1.4nm,0.7s,baz=204,slow=2.7,SNR=6.2
TXAR PKKPab **PKKPab 19 48 21.8 +2.1**
comp=Z,1.5nm,0.8s,baz=96,slow=4.6,SNR=3.4
K27A Flueckinger Fa 106.53 47 Pdiff **Pdif 19 32 34.1 +1.1**
baz=106
N27A Anderson Farm, 106.53 49 Pdiff **Pdif 19 32 34.5 +1.4**
baz=106
L27A T5 Ranch, Ells 106.55 48 Pdiff **Pdif 19 32 34.9 +1.8**
baz=106
M27A Reverse DX Ran 106.56 49 Pdiff **Pdif 19 32 34.9 +1.7**

	baz=107							
S27A	Las Animas	106.57	53	Pdiff	Pdif	19 32 36.8	+3.4	
	baz=107							
R27A	Eads	106.59	52	Pdiff	Pdif	19 32 35.7	+2.3	
	baz=107							
J27A	Elkhorn Farm,	106.62	47	Pdiff	Pdif	19 32 34.7	+1.2	
	baz=107							
P27A	Ficken Ranch,	106.63	51	Pdiff	Pdif	19 32 35.8	+2.2	
	baz=107							
O27A	Beecher Island	106.64	50	Pdiff	Pdif	19 32 34.7	+1.1	
	baz=107							
KSCO	Kaye Shedlock'	106.65	51	Pdiff	Pdif	19 32 35.8	+2.1	
	baz=107							
U27A	Thompson Grove	106.74	54	Pdiff	Pdif	19 32 36.0	+1.9	
	baz=107							
ONI	Oni	106.75	313	P	PP	19 37 00.0	+0.2	
T27A	Campo	106.77	53	Pdiff	Pdif	19 32 35.7	+1.4	
	baz=107							
V27A	Dan Oppiter Fa	106.79	55	Pdiff	Pdif	19 32 36.5	+2.1	
	baz=107							
KEV	Kevo	106.82	342	PFAKE		19 36 50.0		
KEV				LR	LR			
	comp=Z,7µm,20.0s							
AKH	Akhalkalaki	106.87	311	P	PP	19 36 51.0	-10	
OGNE	Ogallala	106.89	49	Pdiff	Pdif	19 32 36.3	+1.6	
	baz=107							
A28A	Rude Farm, Bot	106.93	41	Pdiff	Pdif	19 32 37.4	+2.8	
	baz=107							
B28A	Dugan Ranch, T	106.95	41	Pdiff	Pdif	19 32 36.0	+1.3	
	baz=107							
D28A	Regan	107.04	43	Pdiff	Pdif	19 32 36.5	+1.4	
	baz=107							
E28A	Huff	107.06	43	Pdiff	Pdif	19 32 36.9	+1.8	
	baz=107							
C28A	Hausauer Farms	107.07	42	Pdiff	Pdif	19 32 37.7	+2.5	
	baz=107							
F28A	McLaughlin	107.10	44	Pdiff	Pdif	19 32 37.0	+1.6	
	baz=107							
KIV	Kislovodsk	107.12	314	PFAKE		19 36 50.0		
KIV				LR	LR			
	comp=Z,8µm,20.0s							
I28A	Midland	107.12	46	Pdiff	Pdif	19 32 37.1	+1.5	
	baz=107							
H28A	Mission Ridge	107.13	45	Pdiff	Pdif	19 32 37.1	+1.5	
	baz=107							
G28A	Parade	107.14	45	Pdiff	Pdif	19 32 36.7	+1.1	
	baz=107							
L28A	Connealy Angus	107.14	48	Pdiff	Pdif	19 32 36.7	+1.0	
	baz=107							
J28A	Allard Ranch,	107.16	46	Pdiff	Pdif	19 32 36.8	+1.0	
	baz=107							
K28A	Ten Mile Ranch	107.16	47	Pdiff	Pdif	19 32 37.1	+1.3	
	baz=107							
O28A	Krutsinger Ran	107.19	50	Pdiff	Pdif	19 32 37.2	+1.2	
	baz=107							
U28A	Mallet	107.23	54	Pdiff	Pdif	19 32 37.7	+1.4	
	baz=107							
T28A	Walsh	107.25	53	Pdiff	Pdif	19 32 37.7	+1.4	
	baz=107							
228A	UT Block 9, Go	107.26	58	Pdiff	Pdif	19 32 38.1	+1.6	
	baz=107							
Q28A	Sharon Springs	107.26	51	Pdiff	Pdif	19 32 39.6	+3.2	
	baz=107							
P28A	Saint Francis	107.27	51	Pdiff	Pdif	19 32 38.8	+2.5	
	baz=107							
V28A	Channing	107.28	55	Pdiff	Pdif	19 32 38.9	+2.3	
	baz=107							
N28A	Pribbeno Ranch	107.30	49	Pdiff	Pdif	19 32 38.1	+1.7	
	baz=107							
128A	Castleberry Fa	107.32	58	Pdiff	Pdif	19 32 39.0	+2.2	
	baz=107							
M28A	Bar X Bar Ranc	107.33	49	Pdiff	Pdif	19 32 37.8	+1.2	
	baz=107							
W28A	Vega	107.34	55	Pdiff	Pdif	19 32 40.1	+3.3	
	baz=107							
Z28A	Tucker Farm, M	107.35	57	Pdiff	Pdif	19 32 39.0	+2.1	
	baz=107							
R28A	Tribune	107.36	52	Pdiff	Pdif	19 32 39.0	+2.2	
	baz=107							
S28A	Manter	107.37	53	Pdiff	Pdif	19 32 39.4	+2.5	
	baz=107							
ARCES	ARCESS Array B	107.38	342	PKiKP	PKiKP	19 36 44.3	-0.2	
	comp=Z,8.8nm,0.8s,baz=56,slow=1.6,SNR=4.4							
ARE0	ARCESS Array S	107.38	342	*e*	Pdif	19 32 41.3	+5.2	
ARE0				*e*PP	PP	19 37 02.0	-1.5	
ARE0				*e*SKSac	SKSac	19 43 13.7	+1.1	
X28A	Dimmitt	107.41	56	Pdiff	Pdif	19 32 39.1	+2.0	
	baz=107							
Y28A	McKinney Farm,	107.42	56	Pdiff	Pdif	19 32 39.2	+2.0	
	baz=107							
MDND	Maddock	107.56	42	Pdiff	Pdif	19 32 38.2	+0.8	
	baz=108							
MDND	Maddock	107.56	42	*e*PKPdf	PKiKP	19 36 43.5	-2.0	
A29A	Manning Farm,	107.60	41	Pdiff	Pdif	19 32 39.4	+1.9	
	baz=108							
B29A	Wagenman Farm,	107.61	41	Pdiff	Pdif	19 32 38.7	+1.1	
	baz=108							
529A	Stev Forest Ra	107.70	60	Pdiff	Pdif	19 32 38.6	+0.1	
	baz=108							
H29A	Onida	107.71	45	Pdiff	Pdif	19 32 38.1	0.0	
	baz=108							
D29A	Pettibone, Tap	107.71	43	Pdiff	Pdif	19 32 37.8	-0.3	
	baz=108							
I29A	Vivian Onida	107.74	46	Pdiff	Pdif	19 32 39.3	+1.0	
	baz=108							
E29A	Napoleon	107.77	43	Pdiff	Pdif	19 32 38.3	-0.1	
	baz=108							
F29A	Eureka	107.77	44	Pdiff	Pdif	19 32 37.9	-0.5	
	baz=108							
G29A	Hoven	107.82	44	Pdiff	Pdif	19 32 38.7	+0.1	
	baz=108							
J29A	Okreek	107.82	46	Pdiff	Pdif	19 32 39.5	+0.8	
	baz=108							
329A	Wagon Wheel Ra	107.82	59	Pdiff	Pdif	19 32 40.3	+1.3	
	baz=108							
X29A	Tulia	107.83	56	Pdiff	Pdif	19 32 39.2	+0.2	
	baz=108							
M29A	Burnside Ranch	107.83	48	Pdiff	Pdif	19 32 39.9	+1.1	
	baz=108							
129A	Stewart Farms,	107.84	58	Pdiff	Pdif	19 32 40.3	+1.3	
	baz=108							
V29A	Stinnett	107.84	54	Pdiff	Pdif	19 32 39.9	+0.9	
	baz=108							
R29A	Marienthal	107.87	52	Pdiff	Pdif	19 32 40.4	+1.3	
	baz=108							
T29A	Hugoton	107.89	53	Pdiff	Pdif	19 32 41.1	+1.9	
	baz=108							
P29A	Atwood	107.89	50	Pdiff	Pdif	19 32 39.3	+0.1	
	baz=108							
Y29A	Porterfield Fa	107.90	56	Pdiff	Pdif	19 32 41.5	+2.2	
	baz=108							
L29A	Maesberg Ranch	107.90	48	Pdiff	Pdif	19 32 39.3	+0.2	
	baz=108							
K29A	Lazy Trails An	107.92	47	Pdiff	Pdif	19 32 40.4	+1.3	
	baz=108							
Z29A	Hungry Hill Ra	107.92	57	Pdiff	Pdif	19 32 41.6	+2.2	
	baz=108							
O29A	4D Ranch, Culb	107.93	50	Pdiff	Pdif	19 32 41.6	+2.3	
	baz=108							
229A	Bryant Ranch,	107.93	58	Pdiff	Pdif	19 32 42.0	+2.5	
	baz=108							
Q29A	Oakley	107.94	51	Pdiff	Pdif	19 32 41.6	+2.2	
	baz=108							
429A	Davenport Ranc	107.95	60	Pdiff	Pdif	19 32 41.3	+1.7	
	baz=108							
N29A	Votaw Ranch, W	107.97	49	Pdiff	Pdif	19 32 41.6	+2.2	
	baz=108							
S29A	Ulysses	107.98	53	Pdiff	Pdif	19 32 41.7	+2.1	
	baz=108							
FCC	Fort Churchill	107.98	30	*e*PKPdf	PKiKP	19 36 43.9	-1.9	
U29A	Oasis Ranch, S	107.98	54	Pdiff	Pdif	19 32 40.6	+0.9	
	baz=108							
A30A	Hoffart Farm,	108.20	40	Pdiff	Pdif	19 32 40.5	+0.3	
	baz=108							
D30A	Buchanan	108.27	42	Pdiff	Pdif	19 32 40.3	-0.2	
	baz=108							
E30A	Jud	108.28	43	Pdiff	Pdif	19 32 42.2	+1.6	
	baz=108							
B30A	Myrvik Farm, E	108.28	41	Pdiff	Pdif	19 32 41.4	+0.9	
	baz=108							
F30A	Leola	108.33	44	Pdiff	Pdif	19 32 42.6	+1.8	
	baz=108							
C30A	Mose, Pekin	108.34	42	Pdiff	Pdif	19 32 41.9	+1.1	
	baz=108							
N30A	Hueftle Ranch,	108.37	49	Pdiff	Pdif	19 32 41.6	+0.4	
	baz=108							
G30A	Faulkton	108.37	44	Pdiff	Pdif	19 32 40.9	-0.2	
	baz=108							
I30A	Oacoma	108.38	46	Pdiff	Pdif	19 32 40.9	-0.2	
	baz=108							
Z30A	Sanderson Ranc	108.40	57	Pdiff	Pdif	19 32 44.0	+2.5	
	baz=108							
P30A	Selden	108.42	50	PKiKP	PKiKP	19 36 48.5	+1.2	
	baz=108							
M30A	Dale-Ortello V	108.43	48	Pdiff	Pdif	19 32 42.1	+0.7	
	baz=108							
J30A	Dallas	108.43	46	Pdiff	Pdif	19 32 42.5	+1.1	
	baz=108							
K30A	Basset	108.45	47	PKiKP	PKiKP	19 36 50.4	+3.1	
	baz=108							
530A	J-C Ranch, Com	108.46	60	PKiKP	PKiKP	19 36 49.8	+2.1	
	baz=108							
U30A	WK&E Inc. Balk	108.47	54	PKiKP	PKiKP	19 36 49.4	+1.8	
	baz=108							
L30A	Spencer Herefo	108.48	48	PKiKP	PKiKP	19 36 49.7	+2.3	
	baz=108							
O30A	MW Ranch, Wils	108.48	50	PKiKP	PKiKP	19 36 49.4	+1.9	
	baz=108							
S30A	Montezuma	108.50	52	PKiKP	PKiKP	19 36 50.5	+3.0	
	baz=108							
430A	Baggett Ranch,	108.51	60	PKiKP	PKiKP	19 36 50.6	+2.8	
	baz=108							
X30A	Coker Ranch, T	108.51	56	PKiKP	PKiKP	19 36 49.8	+2.2	
	baz=108							
T30A	Plains	108.51	53	PKiKP	PKiKP	19 36 50.6	+3.0	
	baz=108							
330A	Mertzon	108.51	59	PKiKP	PKiKP	19 36 48.7	+1.0	
	baz=108							
Q30A	Quinter	108.52	51	PKiKP	PKiKP	19 36 50.2	+2.6	
	baz=108							
V30A	Spur Ranch, Mi	108.53	54	PKiKP	PKiKP	19 36 48.4	+0.7	
	baz=108							
230A	Sterling City	108.53	58	PKiKP	PKiKP	19 36 48.0	+0.2	
	baz=108							
Y30A	Stafford Cattl	108.54	56	PKiKP	PKiKP	19 36 49.1	+1.4	
	baz=108							
R30A	Dighton	108.56	52	PKiKP	PKiKP	19 36 48.4	+0.8	
	baz=109							
OBN	Obninsk	108.59	326	PFAKE		19 37 00.0		
OBN				LR	LR			
	comp=Z,13µm,21.0s							
130A	Snyder	108.60	58	PKiKP	PKiKP	19 36 47.8	-0.1	
	baz=109							
W30A	Crocket Farms	108.68	55	PKiKP	PKiKP	19 36 50.1	+2.2	
	baz=109							
CBKS	Cedar Bluff	108.92	51	PKiKP	PKiKP	19 36 49.4	+1.2	
	baz=109							
CBKS	Cedar Bluff	108.92	51	PFAKE		19 37 00.0		
CBKS				LR	LR			
	comp=Z,30µm,22.0s							
O31A	Woolen Ranch,	109.04	50	PKiKP	PKiKP	19 36 50.0	+1.6	
	baz=109							
431A	Sonora	109.05	60	PKiKP	PKiKP	19 36 50.1	+1.3	
	baz=109							
Y31A	Rekieta Farm,	109.06	56	PKiKP	PKiKP	19 36 50.5	+1.8	
	baz=109							
131A	Roby	109.08	58	PKiKP	PKiKP	19 36 50.9	+2.1	
	baz=109							
L31A	Butterfield Fa	109.09	47	PKiKP	PKiKP	19 36 50.1	+1.6	
	baz=109							
P31A	Stockton	109.09	50	PKiKP	PKiKP	19 36 51.3	+2.7	
	baz=109							
M31A	Lambtecht Ranc	109.12	48	PKiKP	PKiKP	19 36 51.7	+3.1	
	baz=109							
U31A	Nine Bar Ranch	109.13	54	Pdiff	Pdif	19 32 47.6	+2.9	
	baz=109							
531A	Rocksprings	109.15	60	Pdiff	Pdif	19 32 47.6	+2.7	
	baz=109							
R31A	Burdett	109.15	52	Pdiff	Pdif	19 32 47.6	+2.9	
	baz=109							
Q31A	Ellis	109.15	51	Pdiff	Pdif	19 32 47.2	+2.5	
	baz=109							
331A	San Angelo	109.16	59	Pdiff	Pdif	19 32 46.5	+1.6	
	baz=109							
631A	Perdido Creek	109.17	61	Pdiff	Pdif	19 32 48.4	+3.4	
	baz=109							
W31A	Holland Ranch,	109.19	55	Pdiff	Pdif	19 32 46.6	+1.6	
	baz=109							
231A	Bronte	109.20	58	Pdiff	Pdif	19 32 47.0	+1.9	
	baz=109							
V31A	Spring Creek L	109.21	54	Pdiff	Pdif	19 32 47.3	+2.3	
	baz=109							
TRO	Tromso	109.22	344	*e*PP	PP	19 37 05.7	-11	
TRO				*e*		19 43 11.6		
Z31A	Sharp Cattle R	109.22	57	Pdiff	Pdif	19 32 46.6	+1.5	
	baz=109							
N31A	Bailey Ranch,	109.22	49	Pdiff	Pdif	19 32 46.6	+1.6	
	baz=109							
X31A	McDonald Ranch	109.22	56	Pdiff	Pdif	19 32 47.4	+2.3	
	baz=109							
S31A	Mullinville	109.27	52	Pdiff	Pdif	19 32 46.7	+1.4	
	baz=109							
SOC	Sochi	109.30	314	*e*P	Pdif	19 32 42.1	-3.1	
SOC				*e*		19 37 16.6		
SOC				MLR	MLR			
	comp=Z,12µm,22.0s							
ULM	Lac du Bonnet	109.43	39	PKiKP	PKiKP	19 36 48.5	-0.3	
	comp=Z,10nm,0.7s,baz=306,slow=1.7,SNR=12							
ULM	Lac du Bonnet	109.43	39	*e*PKPdf	PKiKP	19 36 48.1	-0.7	
P32A	Huiting Farm,	109.67	50	Pdiff	Pdif	19 32 48.2	+1.2	
	baz=110							
S32A	Newby Ranch, P	109.69	52	Pdiff	Pdif	19 32 47.8	+0.7	
	baz=110							
532A	Rocksprings	109.70	60	Pdiff	Pdif	19 32 49.0	+1.7	
	baz=110							
ABTX	Abilene, Hawle	109.71	58	Pdiff	Pdif	19 32 49.4	+2.1	
	baz=110							
N32A	Stulken Farm,	109.72	49	Pdiff	Pdif	19 32 48.3	+1.1	
	baz=110							
BGNE	Belgrade	109.73	48	Pdiff	Pdif	19 32 48.3	+1.1	
	baz=110							
Y32A	R-V Farms, Ver	109.73	56	Pdiff	Pdif	19 32 49.4	+2.1	
	baz=110							
332A	Millersview	109.74	59	Pdiff	Pdif	19 32 49.8	+2.4	
	baz=110							
432A	Menard	109.74	59	Pdiff	Pdif	19 32 49.5	+2.0	
	baz=110							
732A	Laxson Ranch,	109.75	62	Pdiff	Pdif	19 32 49.5	+2.0	
	baz=110							
JCT	Junction City	109.76	60	Pdiff	Pdif	19 32 49.9	+2.3	
	baz=110							
JCT	Junction City	109.76	60	*e*PKPdf	PKiKP	19 36 49.1	-1.0	
R32A	Long Quarter,	109.77	51	Pdiff	Pdif	19 32 49.5	+2.0	
	baz=110							
W32A	Sentinel	109.77	55	Pdiff	Pdif	19 32 49.5	+2.0	
	baz=110							
T32A	Huddler Ranch,	109.77	53	Pdiff	Pdif	19 32 50.2	+2.8	
	baz=110							
232A	Coleman	109.77	58	Pdiff	Pdif	19 32 49.9	+2.3	
	baz=110							
Z32A	Haskell	109.78	57	Pdiff	Pdif	19 32 50.3	+2.7	
	baz=110							
832A	Faith Ranch, C	109.78	62	Pdiff	Pdif	19 32 52.2	+4.5	
	baz=110							
Q32A	Meitler Ranch,	109.80	51	Pdiff	Pdif	19 32 49.2	+1.6	
	baz=110							
U32A	Winter Ranch,	109.81	54	Pdiff	Pdif	19 32 50.7	+3.0	
	baz=110							
X32A	Elmer	109.81	56	Pdiff	Pdif	19 32 49.2	+1.5	
	baz=110							
O32A	Brockman Farm,	109.82	49	Pdiff	Pdif	19 32 50.3	+2.7	
	baz=110							
632A	Uvalde	109.85	61	Pdiff	Pdif	19 32 52.3	+4.3	
	baz=110							
V32A	Arapaho	109.86	54	Pdiff	Pdif	19 32 50.4	+2.5	
	baz=110							
AGMN	Agassiz Nation	109.92	41	Pdiff	Pdif	19 32 49.7	+1.9	
	baz=110							
AGMN	Agassiz Nation	109.92	41	*e*PKPdf	PKiKP	19 36 48.2	-1.6	
AGMN				LR	LR			
	comp=Z,14µm,20.0s							
WMOK	Wichita Mounta	110.19	55	*e*PKIKP	PKiKP	19 36 51.0	+0.2	
WMOK	Wichita Mounta	110.19	55	*e*PKPdf	PKiKP	19 36 51.0	+0.2	
L33A	Hoskins	110.24	47	Pdiff	Pdif	19 32 53.0	+3.5	
	baz=110							
833A	Chaparral WMA,	110.28	62	Pdiff	Pdif	19 32 55.0	+5.1	
	baz=110							
133A	Hamilton Ranch	110.32	58	Pdiff	Pdif	19 32 52.8	+2.8	
	baz=110							
T33A	Patterson Ranc	110.32	53	Pdiff	Pdif	19 32 52.0	+2.1	
	baz=110							
733A	Divot King Ran	110.34	62	Pdiff	Pdif	19 32 53.2	+3.1	
	baz=110							
R33A	Olander Ranch,	110.35	51	Pdiff	Pdif	19 32 52.4	+2.4	
	baz=110							
433A	Art	110.35	60	Pdiff	Pdif	19 32 54.0	+3.8	
	baz=110							
Q33A	Connelly Farm,	110.36	51	Pdiff	Pdif	19 32 52.4	+2.4	
	baz=110							
N33A	J Bar K, Exete	110.36	49	Pdiff	Pdif	19 32 51.7	+1.7	
	baz=110							
Z33A	Whitaker Ranch	110.37	57	Pdiff	Pdif	19 32 53.2	+3.0	
	baz=110							
O33A	Hebron	110.37	50	Pdiff	Pdif	19 32 53.2	+3.1	
	baz=110							
333A	Richland Sprin	110.39	59	Pdiff	Pdif	19 32 54.0	+3.7	
	baz=110							
633A	Saathoff Ranch	110.39	61	Pdiff	Pdif	19 32 54.0	+3.7	
	baz=110							
233A	Rising Star	110.39	58	Pdiff	Pdif	19 32 54.4	+4.0	
	baz=110							
P33A	Williams Farm,	110.39	50	Pdiff	Pdif	19 32 52.1	+2.0	
	baz=110							
W33A	Caddo, Fort Co	110.40	55	Pdiff	Pdif	19 32 54.4	+4.1	
	baz=110							
M33A	Taylor Creek F	110.41	48	Pdiff	Pdif	19 32 52.9	+2.7	
	baz=110							
Y33A	Hilltop Ranch,	110.41	56	Pdiff	Pdif	19 32 53.7	+3.3	
	baz=110							
ECSD	EROS Data Cent	110.41	46	Pdiff	Pdif	19 32 52.9	+2.7	
	baz=110							
ECSD	EROS Data Cent	110.41	46	*e*PKPdf	PKiKP	19 36 50.6	-0.3	
ECSD				LR	LR			
	comp=Z,12µm,20.0s							
S33A	Kaszmaul Farm,	110.44	52	Pdiff	Pdif	19 32 53.7	+3.3	
	baz=110							
933A	Laredo	110.44	63	Pdiff	Pdif	19 32 54.9	+4.3	
	baz=110							
X33A	Lawton	110.44	55	Pdiff	Pdif	19 32 53.8	+3.2	
	baz=110							
V33A	Lossen Ranch,	110.46	54	Pdiff	Pdif	19 32 54.1	+3.6	
	baz=110							
533A	Kerrville	110.46	60	Pdiff	Pdif	19 32 54.2	+3.5	
	baz=110							
U33A	Lingo Farm, Me	110.52	53	Pdiff	Pdif	19 32 55.0	+4.2	
	baz=110							
ANN	Anapa	110.67	316	*i* PKIKP	PKiKP	19 36 48.9	-2.4	
ANN				*i*		19 37 26.1		
ANN				pmax	pmax			
	comp=Z,22nm,1.5s							
M34A	Aspy Farms, Fr	110.87	48	Pdiff	Pdif	19 32 54.5	+2.3	
	baz=111							
R34A	Isabella, Hill	110.92	51	Pdiff	Pdif	19 32 56.9	+4.3	
	baz=111							
L34A	Svendsen Farm,	110.93	47	Pdiff	Pdif	19 32 55.4	+2.9	
	baz=111							
534A	Blanco	110.95	60	Pdiff	Pdif	19 32 56.6	+3.7	
	baz=111							
W34A	Bridge Creek,	110.95	55	Pdiff	Pdif	19 32 55.4	+2.7	
	baz=111							
U34A	Anderson Ranch	110.98	53	Pdiff	Pdif	19 32 54.7	+1.9	
	baz=111							
734A	La Parita Cree	110.98	62	Pdiff	Pdif	19 32 55.9	+2.9	
	baz=111							
X34A	Smith Ranch, M	110.98	55	Pdiff	Pdif	19 32 56.3	+3.4	
	baz=111							
034A	Hebbronville	111.00	63	Pdiff	Pdif	19 32 54.5	+1.3	
	baz=111							
334A	Lometa	111.02	59	Pdiff	Pdif	19 32 56.3	+3.2	
	baz=111							
134A	White-Moore Ra	111.02	58	Pdiff	Pdif	19 32 57.1	+4.0	
	baz=111							
O34A	Beatrice	111.03	49	Pdiff	Pdif	19 32 56.3	+3.3	
	baz=111							
234A	Clairette	111.04	58	Pdiff	Pdif	19 32 56.4	+3.2	
	baz=111							
P34A	Walnut Farm, R	111.04	50	Pdiff	Pdif	19 32 54.5	+1.4	
	baz=111							
834A	Tilden	111.04	62	Pdiff	Pdif	19 32 53.8	+0.5	
	baz=111							
434A	Burnet	111.05	59	Pdiff	Pdif	19 32 55.7	+2.4	
	baz=111							
N34A	Lincoln	111.05	49	Pdiff	Pdif	19 32 55.6	+2.5	
	baz=111							
Q34A	Chapman	111.06	51	Pdiff	Pdif	19 32 54.9	+1.8	
	baz=111							
Z34A	Collier Ranch,	111.07	57	Pdiff	Pdif	19 32 56.8	+3.5	
	baz=111							
V34A	Guthrie	111.08	54	Pdiff	Pdif	19 32 56.4	+3.1	
	baz=111							
634A	China Grove, S	111.11	61	Pdiff	Pdif	19 32 57.3	+3.7	
	baz=111							
S34A	Willow Spring	111.12	52	Pdiff	Pdif	19 32 57.2	+3.8	
	baz=111							
Y34A	Reagan Ranch,	111.13	56	Pdiff	Pdif	19 32 56.5	+3.0	
	baz=111							
T34A	McClaskey Farm	111.17	53	Pdiff	Pdif	19 32 56.6	+2.9	
	baz=111							
FINES	FINESS Array B	111.26	335	Pdiff	Pdif	19 32 51.3	-2.2	
	comp=Z,1.9nm,0.9s,baz=140,slow=30,SNR=4.1							
FINES				PKiKP	PKiKP	19 36 52.1	+0.2	
	comp=Z,3.5nm,0.8s,baz=90,slow=1.9,SNR=7.2							
L35A	Bielow Farm, R	111.51	47	Pdiff	Pdif	19 32 59.4	+4.4	
	baz=112							
035A	Encino	111.53	64	Pdiff	Pdif	19 32 59.2	+3.7	
	baz=112							
M35A	Neola	111.53	48	Pdiff	Pdif	19 32 58.7	+3.6	
	baz=112							
135A	Vickery Place,	111.59	57	Pdiff	Pdif	19 32 59.6	+4.0	
	baz=112							
035Z	Hargill	111.59	64	Pdiff	Pdif	19 33 01.2	+5.4	
	baz=112							
O35A	Humboldt	111.60	49	Pdiff	Pdif	19 32 58.9	+3.4	
	baz=112							
635A	Leesville	111.61	61	Pdiff	Pdif	19 32 59.7	+3.9	
	baz=112							
WHTX	Lake Whitney	111.61	58	Pdiff	Pdif	19 32 59.7	+4.0	
	baz=112							
Z35A	Perchaven, San	111.62	57	Pdiff	Pdif	19 32 59.7	+4.0	
	baz=112							
U35A	Pawnee	111.63	53	Pdiff	Pdif	19 32 59.7	+4.0	
	baz=112							
735A	Kenedy	111.63	61	Pdiff	Pdif	19 32 59.4	+3.5	
	baz=112							
V35A	Meyer Ranch, C	111.63	54	Pdiff	Pdif	19 32 59.7	+4.0	
	baz=112							
435B	Jarrell	111.64	59	Pdiff	Pdif	19 32 59.4	+3.5	
	baz=112							
P35A	Duane Minner,	111.66	50	Pdiff	Pdif	19 32 59.7	+3.9	
	baz=112							
835A	Beeville	111.66	62	Pdiff	Pdif	19 32 59.1	+3.1	
	baz=112							
N35A	Tabor	111.69	48	Pdiff	Pdif

Z36A	**Blue Ridge**	**112.31**	**57**	Pdiff	**Pdif**	19 33 01.8	+3.0			
	baz=112									
436A	**Wall Ranch, Ga**	**112.31**	**59**	Pdiff	**Pdif**	19 33 01.8	+2.9			
	baz=112									
O36A	**Bolckow**	**112.34**	**49**	Pdiff	**Pdif**	19 33 01.4	+2.6			
	baz=112									
V36A	**Jenks**	**112.35**	**54**	Pdiff	**Pdif**	19 33 02.2	+3.3			
	baz=112									
Y36A	**Durant**	**112.35**	**56**	Pdiff	**Pdif**	19 33 02.2	+3.2			
	baz=112									
U36A	**Oologah**	**112.42**	**53**	Pdiff	**Pdif**	19 33 02.3	+3.1			
	baz=112									
TUL1	**Tulsa**	**112.45**	**54**	Pdiff	**Pdif**	19 33 03.5	+4.1			
	baz=113									
SPMN	**St. Paul**	**112.72**	**43**	Pdiff	**Pdif**	19 33 02.8	+2.5			
	baz=113									
R37A	**Teagarden Farm**	**112.79**	**51**	Pdiff	**Pdif**	19 33 03.4	+2.5			
	baz=113									
537A	**Green Hill Far**	**112.80**	**60**	Pdiff	**Pdif**	19 33 04.9	+3.9			
	baz=113									
EYMN	**Ely**	**112.83**	**40**	Pdiff	**Pdif**	19 33 04.9	+4.1			
	baz=113									
EYMN	**Ely**	**112.83**	**40**	*e*PKPdf	**PKiKP**	**19 36 55.1**	**-0.2**			
637A	**Eagle Lake**	**112.86**	**61**	Pdiff	**Pdif**	19 33 06.2	+4.9			
	baz=113									
W37A	**Quinton**	**112.87**	**54**	Pdiff	**Pdif**	19 33 05.4	+4.2			
	baz=113									
437A	**Phantom Ranch,**	**112.87**	**59**	Pdiff	**Pdif**	19 33 05.1	+3.7			
	baz=113									
Y37A	**Hugo**	**112.88**	**56**	Pdiff	**Pdif**	19 33 04.3	+3.0			
	baz=113									
S37A	**Fort Scott**	**112.90**	**52**	Pdiff	**Pdif**	19 33 05.1	+3.8			
	baz=113									
U37A	**Salina**	**112.91**	**53**	Pdiff	**Pdif**	19 33 04.7	+3.3			
	baz=113									
SIM	**Simferopol'**	**112.92**	**316**	*e*P	**Pdif**	19 33 02.4	+1.1			
SIM				pmax	pmax					
	comp=Z,500nm,12.1s									
T37A	**Cheneyville 18**	**112.94**	**52**	Pdiff	**Pdif**	19 33 04.4	+2.9			
	baz=113									
137A	**Heron Place, G**	**112.97**	**57**	Pdiff	**Pdif**	19 33 04.9	+3.1			
	baz=113									
Q37A	**Longview Farm,**	**112.97**	**50**	Pdiff	**Pdif**	19 33 05.2	+3.6			
	baz=113									
V37A	**Hulbert**	**112.97**	**54**	Pdiff	**Pdif**	19 33 04.9	+3.2			
	baz=113									
Z37A	**Pogue Cattle C**	**113.00**	**57**	Pdiff	**Pdif**	19 33 04.9	+3.1			
	baz=113									
X37A	**Clayton**	**113.00**	**55**	Pdiff	**Pdif**	19 33 04.9	+3.1			
	baz=113									
237A	**Washetta, Mont**	**113.00**	**58**	Pdiff	**Pdif**	19 33 05.3	+3.4			
	baz=113									
KMBO	**Kilima Mbogo**	**113.23**	**266**	PKIKP	**PKiKP**	**19 36 56.4**	**-1.0**			
KMBO				MLR	MLR					
	comp=Z,4µm,22.0s									
KMBO	**Kilima Mbogo**	**113.23**	**266**	PKPdf	**PKiKP**	**19 36 56.4**	**-1.0**			
KMBO				LR	LR					
	comp=Z,4µm,22.0s									
SCIA	**State Center**	**113.25**	**47**	*e*PKPdf	**PKiKP**	**19 36 56.5**	**+0.1**			
X38A	**Whitesboro**	**113.42**	**55**	Pdiff	**Pdif**	19 33 06.5	+2.7			
	baz=113									
438A	**Sam Houston St**	**113.45**	**59**	Pdiff	**Pdif**	19 33 07.7	+3.8			
	baz=114									
U38A	**Gravette**	**113.48**	**53**	Pdiff	**Pdif**	19 33 07.7	+3.7			
	baz=114									
538A	**Harpers Horsep**	**113.50**	**60**	Pdiff	**Pdif**	19 33 08.1	+4.0			
	baz=114									
338A	**Crockett**	**113.51**	**59**	Pdiff	**Pdif**	19 33 07.0	+2.9			
	baz=114									
MICGM	**Minsk**	**113.51**	**328**	*e*PKP	**PKiKP**	**19 37 00.0**	**+3.6**			
138A	**Matatall Enter**	**113.52**	**57**	Pdiff	**Pdif**	19 33 08.2	+4.0			
	baz=114									
Z38A	**Mt. Pleasant**	**113.52**	**56**	Pdiff	**Pdif**	19 33 07.8	+3.6			
	baz=114									
MNK	**Minsk**	**113.54**	**328**	*e*PKIKP	**PKiKP**	**19 37 00.0**	**+3.6**			
MNK				*e*		19 37 54.0				
MNK				*e*SS	SS	19 53 30.0	-2.1			
MNK				MLR	MLR					
	comp=Z,20µm,20.0s									
MNK				MLR	MLR					
	comp=E,15µm,20.0s									
V38A	**Canehill**	**113.57**	**54**	Pdiff	**Pdif**	19 33 09.3	+5.0			
	baz=114									
238A	**Jacksonville**	**113.58**	**58**	Pdiff	**Pdif**	19 33 08.3	+3.8			
	baz=114									
Y38A	**Idabel**	**113.62**	**56**	Pdiff	**Pdif**	19 33 08.3	+3.7			
	baz=114									
NACGM	**Naroch**	**113.92**	**328**	*e*PKP	PKiKP	19 37 06.0	+8.8			
439A	**Center Grove,**	**114.05**	**59**	Pdiff	**Pdif**	**19 33 10.3**	**+3.7**			
	baz=114									
139A	**Bunkhouse Ranc**	**114.09**	**57**	Pdiff	**Pdif**	19 33 11.5	+4.8			
	baz=114									
239A	**Gary**	**114.13**	**58**	Pdiff	**Pdif**	19 33 11.6	+4.7			
	baz=114									
Y39A	**Lockesburg**	**114.14**	**56**	Pdiff	**Pdif**	19 33 12.3	+5.4			
	baz=114									
339A	**Huntington**	**114.15**	**58**	Pdiff	**Pdif**	19 33 12.7	+5.7			
	baz=114									
539A	**Cross D Ranch,**	**114.17**	**60**	Pdiff	**Pdif**	19 33 12.0	+4.9			
	baz=114									
Z39A	**Irene McRaven,**	**114.18**	**56**	Pdiff	**Pdif**	19 33 11.7	+4.5			
	baz=114									
AKASG	**Malin Array Be**	**114.24**	**324**	PKP	PKPdf	19 36 57.9	-0.1			
	comp=E,4.9nm,0.7s,baz=64,slow=1.3,SNR=9.3									
AK01	**Malin Array Si**	**114.25**	**324**	*e*PKPdf	PKPdf	19 36 54.8	-3.2			
KIEV	**Kiev**	**114.25**	**324**	⇑*i*PKIKP	PKPdf	19 36 58.0	+0.1			
KIEV	**Kiev**	**114.25**	**324**	PFAKE		19 37 10.0	+12			
KIEV				LR	LR					
	comp=Z,9µm,20.0s									
AK02	**Malin Array Si**	**114.27**	**323**	PKPdf	PKPdf	19 36 57.1	-0.8			
MIAR	**Mount Ida**	**114.47**	**55**	*e*PKIKP	PKPdf	19 36 59.5	+0.6			
MIAR				MLR	MLR					
	comp=Z,17µm,19.0s									
MIAR	**Mount Ida**	**114.47**	**55**	Pdiff	**Pdif**	**19 33 11.4**	**+3.1**			
	baz=114									
MIAR	**Mount Ida**	**114.47**	**55**	*e*PKPdf	PKPdf	19 36 59.5	+0.6			
MIAR				LR	LR					
	comp=Z,17µm,19.0s									
BR131	**Keskin Array S**	**114.55**	**311**	*e*PKPdf	PKPdf	19 36 57.0	-2.1			
BRTR	**Keskin Array B**	**114.55**	**311**	PKP	PKPdf	19 36 58.7	-0.4			
	comp=Z,2.9nm,0.8s,baz=107,slow=1.6,SNR=17									
NSS	**Namsos**	**114.64**	**342**	*e*PP	**PP**	**19 37 52.8**	**-2.8**			
NSS				*e*SKSac	**SKSac**	**19 43 40.8**	**-1.6**			
340A	**Bronson**	**114.70**	**58**	Pdiff	**Pdif**	**19 33 13.0**	**+3.6**			
	baz=115									
440A	**Kirbyville**	**114.74**	**59**	Pdiff	**Pdif**	19 33 12.4	+2.7			
	baz=115									
JFWS	**Jewell Farm**	**115.12**	**45**	*e*PKIKP	**PKPdf**	**19 36 58.2**	**-1.7**			
JFWS				MLR	MLR					
	comp=Z,11µm,19.0s									
JFWS	**Jewell Farm**	**115.12**	**45**	*e*PKPdf	**PKPdf**	**19 36 58.2**	**-1.7**			
JFWS				LR	LR					
	comp=Z,11µm,19.0s									
ANTO	**Ankara**	**115.15**	**311**	PFAKE		19 37 10.0	+10			
ANTO				LR	LR					
	comp=Z,3µm,21.0s									
EIL	**Elat**	**115.32**	**300**	PKP	**PKPdf**	**19 37 00.9**	**+0.3**			
	comp=Z,10nm,0.7s,baz=90,slow=2.0,SNR=4.7									
UALR	**University of**	**115.42**	**54**	*e*PKPdf	**PKPdf**	**19 37 00.5**	**-0.2**			
FRB	**Frobisher Bay**	**115.79**	**18**	PKP	**PKPdf**	**19 37 01.3**	**+0.8**			
	comp=Z,15nm,0.9s,baz=55,slow=1.6,SNR=5.3									
CSS	**Prodhromos**	**115.80**	**306**	PFAKE		19 37 10.0	+8.5			
CSS				LR	LR					
	comp=Z,1µm,22.0s									
KIS	**Kishinev**	**115.82**	**320**	*e*P	**Pdif**	**19 33 14.0**	**-0.1**			
KIS	**Kishinev**	**115.82**	**320**	*e*PKP	**PKPdf**	**19 37 01.0**	**-0.1**			
KIS	**Kishinev**	**115.82**	**320**	*e*PP	PP	19 38 06.0	+1.4			
KIS	**Kishinev**	**115.82**	**320**	*e*PS	PS	19 47 52.0	+5.6			
KIS	**Kishinev**	**115.82**	**320**	*e*PPS	PPS	19 48 48.0				
KIS				*e*SS	SS	19 54 16.0	+13			
KIS				*e*L	L	20 16 16.0				
KIS				LRM	MLR	20 28 52.0				
	comp=Z,11µm,20.0s									
KIS	**Kishinev**	**115.82**	**320**	*e*P	**Pdif**	**19 33 14.0**	**-0.1**			
KIS				*e*		19 37 01.0				
KIS				*e*		19 38 06.0				
KIS				*e*		19 40 30.0				
KIS				*e*PS	**PS**	**19 47 52.0**	**+5.6**			
KIS				*e*SS	SS	19 54 16.0	+13			
SUW	**Suwalki**	**116.20**	**329**	*e*PKiKP	**PKiKP**	**19 37 02.3**	**+0.7**			
SUW				*e*PP	**PP**	**19 38 10.9**	**+4.0**			
SUW				*e*SKSac	**SKSac**	**19 43 50.9**	**+2.2**			
SUW	**Suwalki**	**116.20**	**329**	*i* PKIKP	**PKiKP**	**19 37 02.3**	**+0.7**			
SUW				*e*		19 38 11.0				
SUW				*e*		19 43 51.0				
HDIL	**Hopedale**	**116.45**	**48**	Pdiff	**Pdif**	**19 33 21.9**	**+4.8**			
	baz=116									
HDIL	**Hopedale**	**116.45**	**48**	*e*PKPdf	**PKPdf**	**19 37 02.4**	**-0.1**			
HDIL				LR	LR					
	comp=Z,13µm,21.0s									
CFR	**Carcaliu**	**116.89**	**318**	⇓PKIKP	**PKPdf**	**19 37 03.4**	**+0.2**			
CFR	**Carcaliu**	**116.89**	**318**	⇓*i*P	**PKPdf**	**19 37 03.4**	**+0.2**			
SIUC	**Southern Illin**	**117.25**	**51**	*e*PKPdf	**PKPdf**	**19 37 03.8**	**-0.3**			
BOSA	**Boshof**	**117.29**	**234**	PKP	**PKPdf**	**19 37 04.5**	**-0.2**			
	comp=Z,4.5nm,0.8s,baz=90,slow=3.9,SNR=10									
BOSA				PKKPbc	**PKKPbc**	**19 47 29.6**	**+0.7**			
	comp=Z,8.2nm,0.8s,baz=273,slow=2.0,SNR=7.5									
NB2	**NORSAR Subarra**	**117.30**	**339**	PKPdf	**PKPdf**	**19 37 03.2**	**-0.4**			
	baz=44,slow=1.9									
NOA	**NORSAR Array B**	**117.30**	**339**	PKP	**PKPdf**	**19 37 03.1**	**-0.4**			
	comp=Z,2.7nm,0.8s,baz=46,slow=2.0,SNR=12									
SFJD	**Kangerlussuaq**	**117.34**	**9**	PFAKE		19 37 10.0	+6.6			
SFJD				LR	LR					
	comp=Z,6µm,20.0s									
ISP	**Isparta**	**117.37**	**310**	PFAKE		19 37 10.0	+5.5			
ISP				LR	LR					
	comp=Z,5µm,21.0s									
TESR	**Tescani**	**117.39**	**320**	⇓*i*P	**PKPdf**	**19 37 08.9**	**+4.8**			
NC602	**NORSAR Array S**	**117.40**	**339**	*e*PP	PP	19 38 13.4	-1.6			
NC602				*e*SKSac	**SKSac**	**19 43 52.1**	**-0.8**			
EFI	**East Falkland**	**117.50**	**160**	PFAKE		19 37 10.0	+5.8			
EFI				LR	LR					
	comp=Z,5µm,21.0s									
VRI	**Vrincioaia**	**117.57**	**319**	⇑PKIKP	**PKPdf**	**19 37 04.8**	**+0.3**			
VRI	**Vrincioaia**	**117.57**	**319**	⇑*i*P	**PKPdf**	**19 37 04.8**	**+0.3**			
LVV	**L'vov**	**117.65**	**324**	*e*P	**Pdif**	**19 33 21.5**	**-0.7**			
LVV				*e*		19 38 18.3				
LVV				*e*		19 44 07.9				
LVV				*e*PS	**PS**	**19 48 01.5**	**-1.4**			
OLIL	**Olney**	**117.83**	**49**	*e*PKPdf	**PKPdf**	**19 37 05.3**	**+0.1**			
BUR08	**Bucovina Ar. S**	**117.86**	**322**	*e*PKPdf	**PKPdf**	**19 37 05.8**	**+0.7**			
BURAR	**Bucovina Array**	**117.86**	**321**	⇑PKIKP	**PKPdf**	**19 37 04.2**	**-0.9**			
BURAR	**Bucovina Array**	**117.86**	**321**	⇑*i*P	**PKPdf**	**19 37 04.2**	**-0.9**			
SFIN	**Scholer Farm**	**118.11**	**47**	Pdiff	**Pdif**	**19 33 28.0**	**+3.6**			
	baz=118									
SFIN	**Scholer Farm**	**118.11**	**47**	*e*PKPdf	**PKPdf**	**19 37 05.8**	**+0.1**			
MLR	**Muntele Rosu**	**118.22**	**319**	⇑PKIKP	**PKPdf**	**19 37 09.2**	**+3.2**			
MLR	**Muntele Rosu**	**118.22**	**319**	⇑*i*P	**PKPdf**	**19 37 09.2**	**+3.2**			
GLMI	**Grayling**	**118.36**	**42**	*e*PKPdf	**PKPdf**	**19 37 06.4**	**+0.3**			
GLMI				LR	LR					
	comp=Z,16µm,21.0s									
USIN	**University of**	**118.37**	**50**	*e*PKPdf	**PKPdf**	**19 37 06.0**	**-0.3**			
DOPR	**Dopca**	**118.40**	**320**	⇑*i*P	**PKPdf**	**19 37 07.0**	**+0.9**			
LBTB	**Lobatse**	**118.43**	**238**	*e*PKIKP	**PKPdf**	**19 37 07.0**	**+0.1**			
LBTB	**Lobatse**	**118.43**	**238**	*e*PKPdf	**PKPdf**	**19 37 07.0**	**+0.1**			
KWP	**Kalwaria Pacla**	**118.50**	**324**	*e*PKiKP	**PKiKP**	**19 37 09.0**	**+2.8**			
KWP				*e*PP	PP	19 38 29.2	+6.0			
KWP				*e*SKSdf	**SKSdf**	**19 44 15.9**	**+0.8**			
KWP	**Kalwaria Pacla**	**118.50**	**324**	*i* PKIKP	**PKiKP**	**19 37 09.1**	**+2.8**			
KWP				*e*		19 38 29.2				
KWP				*e*		19 44 15.9				
PAYG	**Puerto Ayora**	**118.71**	**94**	PFAKE		19 37 20.0	+12			
PAYG				LR	LR					
	comp=Z,3µm,19.0s									
WVT	**Waverly**	**118.72**	**52**	*e*PKIKP	**PKPdf**	**19 37 06.0**	**-1.0**			
WVT	**Waverly**	**118.72**	**52**	*e*PKPdf	**PKPdf**	**19 37 06.0**	**-1.0**			
VOIR		**118.83**	**319**	⇑PKIKP	**PKPdf**	**19 37 08.5**	**+1.4**			
VOIR		**118.83**	**319**	⇑*i*P	**PKPdf**	**19 37 08.4**	**+1.4**			
KONO	**Kongsberg**	**118.85**	**339**	PFAKE		19 37 20.0	+13			
KONO				LR	LR					
	comp=Z,11µm,20.0s									
BLO	**Bloomington**	**118.89**	**48**	*e*PKIKP	**PKPdf**	**19 37 07.3**	**+0.1**			
BLO	**Bloomington**	**118.89**	**48**	*e*PKPdf	**PKPdf**	**19 37 07.3**	**+0.1**			
SUR	**Sutherland**	**119.02**	**228**	*e*PKPdf	**PKPdf**	**19 37 09.7**	**+1.7**			
SUR				LR	LR					
	comp=Z,16µm,20.0s									
KOLS	**Kolonicke sedl**	**119.07**	**324**	*e*PKIKP	**PKPdf**	**19 37 08.5**	**+1.2**			
KOLS	**Kolonicke sedl**	**119.07**	**324**	*e*PKP	**PKPdf**	**19 37 08.5**	**+1.2**			
ARR	**Arges**	**119.12**	**319**	⇑*i*P	**PKPdf**	**19 37 08.4**	**+0.8**			
UZH	**Uzhgorod**	**119.20**	**323**	*e*PKIKP	**PKPdf**	**19 37 10.8**	**+3.3**			
UZH				*i*		19 37 27.4				
LSZ	**Lusaka**	**119.31**	**249**	*e*PKIKP	**PKPdf**	**19 37 09.1**	**+0.2**			
LSZ				MLR	MLR					
	comp=Z,7µm,20.0s									
LSZ	**Lusaka**	**119.31**	**249**	*e*PKPdf	**PKPdf**	**19 37 09.1**	**+0.2**			
LSZ				LR	LR					
	comp=Z,7µm,20.0s									
GKP	**Gorka Klasztor**	**119.61**	**330**	*e*PKiKP	**PKiKP**	**19 37 09.2**	**+1.0**			
GKP				*e*PP	**PP**	**19 38 33.8**	**+3.3**			
GKP				*e*SKSac	**SKSac**	**19 44 03.8**	**+2.7**			
GKP				*e*SKSdf	**SKSdf**	**19 44 21.5**	**+4.6**			
GKP	**Gorka Klasztor**	**119.61**	**330**	*i* PKIKP	**PKiKP**	**19 37 09.3**	**+1.0**			
GKP				*e*		19 38 33.8				
GKP				*e*		19 44 03.8				
LOT	**Lotru**	**119.65**	**320**	⇑*i*P	**PKPdf**	**19 37 05.7**	**-3.0**			
HOPE	**Hope Point**	**119.65**	**175**	PFAKE		19 37 20.0	+12			
HOPE				LR	LR					
	comp=Z,11µm,19.0s									
DIM	**Dimitrovgrad**	**119.75**	**316**	*e*P	**PKPdf**	**19 37 08.8**	**0.0**			
DRGR		**119.76**	**321**	⇓PKIKP	**PKPdf**	**19 37 08.7**	**-0.1**			
DRGR		**119.76**	**321**	⇓*i*P	**PKPdf**	**19 37 08.7**	**-0.1**			
MBAR	**Mbarara**	**119.76**	**266**	PFAKE		19 37 20.0	+10			
MBAR				LR	LR					
	comp=Z,549nm,19.0s									
OJC	**Ojcow**	**119.87**	**326**	*e*PKiKP	**PKiKP**	**19 37 09.5**	**+0.7**			
OJC				*e*PP	**PP**	**19 38 35.4**	**+2.9**			
OJC	**Ojcow**	**119.87**	**326**	*i* PKIKP	**PKiKP**	**19 37 09.6**	**+0.7**			
OJC				*e*		19 38 35.5				
AAM	**Ann Arbor**	**119.93**	**44**	*e*PKIKP	**PKPdf**	**19 37 09.2**	**+0.1**			
AAM				MLR	MLR					
	comp=Z,10µm,20.0s									
AAM	**Ann Arbor**	**119.93**	**44**	*e*PKPdf	**PKPdf**	**19 37 09.2**	**+0.1**			
AAM				LR	LR					
	comp=Z,10µm,20.0s									
NIE	**Niedzica**	**119.98**	**325**	*e*PKiKP	**PKiKP**	**19 37 10.1**	**+0.9**			
NIE				*e*PP	**PP**	**19 38 37.1**	**+3.8**			
NIE				*e*SKSdf	**SKSdf**	**19 44 19.7**	**+1.7**			
NIE	**Niedzica**	**119.98**	**325**	*i* PKIKP	**PKiKP**	**19 37 10.1**	**+0.9**			
NIE				*e*		19 38 37.1				
NIE				*e*		19 44 19.8				
BLS5	**Blasjo**	**120.12**	**340**	*e*PP	PP	19 38 29.6	-4.2			
HOMB	**Homborsund**	**120.23**	**338**	*e*PP	PP	19 38 33.2	-1.4			
KECS	**Kecovo**	**120.33**	**324**	*e*PKIKP	**PKPdf**	**19 37 10.6**	**+0.9**			
KECS	**Kecovo**	**120.33**	**324**	*e*PKP	**PKPdf**	**19 37 10.6**	**+0.9**			
SWET	**Sewanee**	**120.45**	**53**	*e*PKPdf	**PKPdf**	**19 37 07.6**	**-2.9**			
MPEP	**Malo Peshtene**	**120.50**	**317**	*e*P	**PKPdf**	**19 37 10.3**	**+0.1**			
BRAL	**Brewton**	**120.53**	**58**	PFAKE		19 37 20.0	+9.4			
BRAL				LR	LR					
	comp=Z,13µm,22.0s									
SIRR	**Siria**	**120.64**	**321**	⇑*i*P	**PKPdf**	**19 37 09.4**	**-1.0**			
PSZ	**Piszkesteto**	**120.95**	**324**	*e*PKIKP	**PKPdf**	**19 37 11.8**	**+0.7**			
PSZ				MLR	MLR					
	comp=Z,7µm,21.0s									
PSZ	**Piszkesteto**	**120.95**	**324**	⇑*i*P	PKPdf	19 37 16.9	+5.9			
PSZ	**Piszkesteto**	**120.95**	**324**	*e*PKPdf	**PKPdf**	**19 37 11.8**	**+0.7**			
PSZ				LR	LR					
	comp=Z,7µm,21.0s									
PSZ	**Piszkesteto**	**120.95**	**324**	⇑*e*PKPdf	**PKPdf**	**19 37 12.1**	**+1.1**			
BZS	**Buzias**	**120.95**	**321**	⇓PKIKP	**PKPdf**	**19 37 10.9**	**-0.1**			
BZS	**Buzias**	**120.95**	**321**	⇓*i*P	**PKPdf**	**19 37 10.9**	**-0.1**			
OKC	**Ostrava-Krasne**	**120.98**	**326**	*e*PDIFF	**Pdif**	**19 33 38.4**	**+1.4**			
OKC				*e*PKPdf	**PKiKP**	**19 37 11.7**	**+0.6**			
OKC				*e*x	x	19 37 15.4				
OKC				*e*pPKP	**pPKPdf**	**19 37 23.0**	**-0.9**			
OKC				*e*sPKP		19 37 29.7				
OKC				*e*PP	**PP**	**19 38 42.0**	**+1.9**			
OKC				*e*x	x	19 39 59.3				
OKC				*e*x	x	19 41 12.0				
OKC				*e*SKS	**SKSdf**	**19 44 24.1**	**+4.3**			
OKC				*e*SP	**SP**	**19 48 22.3**	**-4.5**			
OKC				*e*x	x	19 49 41.6				
OKC				AMS	AMS	20 34 50.0				
	comp=Z,6µm,18.4s									
OKC	**Ostrava-Krasne**	**120.98**	**326**	*e*P	**Pdif**	**19 33 38.4**	**+1.4**			
OKC				*e*		19 37 11.7				
OKC				*e*		19 37 23.0				
OKC				*e*		19 37 29.7				
OKC				*e*		19 38 42.0				
OKC				*e*		19 41 12.0				
OKC				*e*SP	SP	19 48 22.3	-4.5			
OKC				MLR	MLR					
	comp=Z,6µm,18.4s									
BORG	**Borgarnes**	**121.07**	**356**	PFAKE		19 37 20.0	+9.4			
BORG				LR	LR					
	comp=Z,5µm,22.0s									
ACSO	**Alum Creek Sta**	**121.13**	**46**	*e*PKPdf	**PKPdf**	**19 37 11.4**	**-0.1**			
ACSO				LR	LR					
	comp=Z,15µm,19.0s									
VTS	**Vitosha**	**121.15**	**317**	PKIKP	**PKPdf**	**19 37 10.8**	**-0.9**			
VTS	**Vitosha**	**121.15**	**317**	⇑*i*P	**PKPdf**	**19 37 11.7**	**0.0**			
VTS	**Vitosha**	**121.15**	**317**	*e*P	**PKPdf**	**19 37 13.4**	**+1.7**			
VTS	**Vitosha**	**121.15**	**317**	P	**PKPdf**	**19 37 10.8**	**-0.9**			
VTS	**Vitosha**	**121.15**	**317**	P	**PKPdf**	**19 37 10.8**	**-0.9**			
NVR	**Nevrokopi**	**121.17**	**315**	P	**PKPdf**	**19 37 11.0**	**-0.6**			
NVR	**Nevrokopi**	**121.17**	**315**	P	**PKPdf**	**19 37 11.0**	**-0.6**			
MMB	**Musomiste**	**121.18**	**316**	*e*P	**PKPdf**	**19 37 11.4**	**-0.2**			
VYHS	**Vyhne**	**121.28**	**325**	*e*PKIKP	**PKPdf**	**19 37 12.1**	**+0.5**			
VYHS	**Vyhne**	**121.28**	**325**	*e*PKP	**PKPdf**	**19 37 12.1**	**+0.5**			
MORC	**Moravsky Berou**	**121.35**	**326**	⇑PKIKP	**PKPdf**	**19 37 11.3**	**-0.4**			
MORC	**Moravsky Berou**	**121.35**	**326**	⇑*i*P	**PKPdf**	**19 37 11.3**	**-0.4**			
MORC	**Moravsky Berou**	**121.35**	**326**	*e*PKPdf	**PKPdf**	**19 37 12.1**	**+0.4**			
KKB	**Krupnik**	**121.52**	**316**	*e*P	**PKPdf**	**19 37 13.4**	**+1.1**			
KRLC	**Kraliky**	**121.61**	**327**	*e*PKPdf	**PKPdf**	**19 37 13.0**	**+0.8**			
KRLC				*e*x	x	19 37 16.7				
KRLC				*e*pPKP	**pPKPdf**	**19 37 23.4**	**-1.8**			
KRLC				*e*sPKP		19 37 30.8				
KRLC	**Kraliky**	**121.61**	**327**	*e*PKIKP	**PKPdf**	**19 37 13.0**	**+0.8**			
KRLC				*e*		19 37 23.4				
KRLC				*e*		19 37 30.8				
DPC	**Dobruska-Polom**	**121.70**	**327**	*e*PDIFF	**Pdif**	**19 33 38.9**	**-1.4**			
DPC				*e*PKPdf	**PKiKP**	**19 37 13.2**	**+0.7**			
DPC				*e*pPKP	**pPKPdf**	**19 37 22.8**	**-2.6**			
DPC				*e*PP	**PP**	**19 38 46.8**	**+1.8**			
DPC				*e*x	x	19 39 54.6				
DPC				*e*SKP		19 40 52.2				
DPC				*e*x	x	19 41 02.0				
DPC				*e*SKS	**SKSdf**	**19 44 22.3**	**+1.1**			
DPC				*e*SP	**SP**	**19 48 30.0**	**-3.2**			
DPC				*e*x	x	19 49 48.3				
DPC				AMS	AMS	20 31 00.0				
	comp=Z,13µm,20.6s									
DPC	**Dobruska-Polom**	**121.70**	**327**	*e*P	**Pdif**	**19 33 38.9**	**-1.4**			
DPC				*e*		19 37 13.2				
DPC				*e*		19 37 22.8				
DPC				*e*		19 38 46.8				
DPC				*e*		19 44 22.3				
DPC				*e*SP	SP	19 48 30.0	-3.2			
DPC				MLR	MLR					
	comp=Z,13µm,20.6s									
UPC	**Upice**	**121.78**	**328**	*e*PDIFF	**

PRU ex x 19 40 02.0
PRU ex x 19 41 08.9
PRU eSKS **SKSdf** **19 44 25.9 +2.6**
PRU eSP **SP** **19 48 40.9 -2.4**
PRU ex x 19 50 00.9
PRU AMS AMS 20 32 00.0
comp=Z,14µm,20.5s
PRU Pruhonice 122.85 328 eP **Pdif** **19 33 44.9 -0.4**
PRU e 19 37 14.9
PRU e 19 37 26.3
PRU e 19 38 51.1
PRU e 19 44 25.9
PRU eSP SP 19 48 40.9 -2.4
PRU MLR MLR
comp=Z,14µm,20.5s
PRA Prague 122.86 328 ePDIFF **Pdif** **19 33 44.8 -0.5**
PRA ePKPdf **PKiKP** **19 37 15.6 +0.9**
PRA ex x 19 37 19.7
PRA ePP **PP** **19 38 52.7 -0.1**
PRA ex x 19 40 02.5
PRA ex x 19 41 15.2
PRA eSKS **SKSdf** **19 44 27.3 +4.0**
PRA eSP **SP** **19 48 41.4 -2.0**
PRA ex x 19 49 57.4
PRA AMS AMS 20 32 10.0
comp=Z,12µm,20.1s
PRA Prague 122.86 328 eP **Pdif** **19 33 44.8 -0.5**
PRA e 19 37 15.6
PRA e 19 38 52.7
PRA eSP SP 19 48 41.4 -2.0
PRA MLR MLR
comp=Z,12µm,20.1s
CLL Collm 122.87 330 ePKPdf **PKPdf** **19 37 14.6 +0.1**
CLL Collm 122.87 330 ePKIKP **PKPdf** **19 37 15.0 +0.5**
CLL e 19 39 02.0
CLL pmax pmax
comp=Z,14nm,1.0s
CLL MLR MLR
comp=Z,6µm,21.7s
CLL Collm 122.87 330 ePKPdf **PKPdf** **19 37 15.0 +0.5**
comp=Z,14nm,1.0s
CLL i 19 37 19.3
comp=Z,27nm,1.0s
CLL ePP PP 19 39 02.0 +9.2
CLL ePPP PPP 19 41 29.0
CLL epPKKPbc 19 47 19.0
CLL ePS **PS** **19 48 48.0 -1.3**
CLL ePPS PPS 19 50 11.0
CLL e 19 51 23.0
CLL eSS SS 19 55 54.0 +21
CLL eSSS SSS 19 59 42.0
CLL e 20 04 00.0
CLL e 20 06 00.0
CLL LV 20 34 00.0
comp=Z,6µm,21.7s
GOGA Godfrey 122.90 54 ePKIKP **PKPdf** **19 37 15.1 0.0**
GOGA MLR MLR
comp=Z,12µm,20.0s
GOGA Godfrey 122.90 54 ePKPdf **PKPdf** **19 37 15.1 0.0**
GOGA LR LR
comp=Z,12µm,20.0s
VAM Vamos 122.93 309 eP **PKPdf** **19 37 15.9 +0.8**
SOP Sopron 123.01 325⇑ ePKPdf **PKPdf** **19 37 15.9 +1.0**
AGG Agios Georgios 123.12 313 PKIKP **PKPdf** **19 37 14.0 -1.4**
AGG Agios Georgios 123.12 313 eP **PKPdf** **19 37 14.9 -0.5**
AGG Agios Georgios 123.12 313 P **PKPdf** **19 37 14.0 -1.4**
AGG Agios Georgios 123.12 313 P **PKPdf** **19 37 14.0 -1.4**
FNA Florina 123.12 316 PKIKP **PKPdf** **19 37 14.2 -1.2**
FNA Florina 123.12 316 P **PKPdf** **19 37 14.2 -1.2**
FNA Florina 123.12 316 P **PKPdf** **19 37 14.2 -1.2**
THL Klokotos Trika 123.14 314 eP **PKPdf** **19 37 16.0 +0.6**
THL Klokotos Trika 123.14 314 P **PKPdf** **19 37 14.7 -0.7**
GVD Gavdhos 123.19 308 eP **PKPdf** **19 37 15.7 +0.1**
DESF Desfina 123.19 312 eP **PKPdf** **19 37 14.9 -0.7**
DSF Desfina 123.19 312 eP **PKPdf** **19 37 14.8 -0.8**
MAKR Makrakomi, Fth 123.27 313 eP **PKPdf** **19 37 15.6 -0.1**
MAKR Makrakomi, Fth 123.27 313 P **PKPdf** **19 37 14.9 -0.8**
MAKR Makrakomi, Fth 123.27 313 P **PKPdf** **19 37 14.9 -0.8**
CONA Conrad Observa 123.28 325 i PKiKP **PKiKP** **19 37 16.0 +0.3**
comp=Z,31nm,1.3s,SNR=18
TIGA Tifton 123.32 56 ePKPdf **PKPdf** **19 37 16.4 +0.4**
PHP Peshkopia 123.40 317 PKIKP **PKPdf** **19 37 15.5 -0.4**
PHP Peshkopia 123.40 317 P **PKPdf** **19 37 15.5 -0.4**
PHP Peshkopia 123.40 317 P **PKPdf** **19 37 15.5 -0.4**
ANKY Antikythira Is 123.48 309 eP **PKPdf** **19 37 16.7 +0.5**
ANKY Antikythira Is 123.48 309 P **PKPdf** **19 37 15.9 -0.3**
ANKY Antikythira Is 123.48 309 P **PKPdf** **19 37 15.9 -0.3**
KALE Kalithea 123.49 313 eP **PKPdf** **19 37 15.3 -0.9**
NEST Nestorio 123.50 315 eP **PKPdf** **19 37 16.6 +0.4**
NEST Nestorio 123.50 315 P **PKPdf** **19 37 16.3 +0.1**
GUR Goura 123.50 312 eP **PKPdf** **19 37 16.0 -0.3**
GUR Goura 123.50 312 P **PKPdf** **19 37 15.1 -1.2**
GUR Goura 123.50 312 P **PKPdf** **19 37 15.1 -1.2**
BEHE Becsehely 123.51 323⇑ ePKPdf **PKPdf** **19 37 19.8 +3.9**
EVR Evrytania 123.53 313 P **PKPdf** **19 37 16.0 -0.3**
EVR Evrytania 123.53 313 P **PKPdf** **19 37 16.0 -0.3**
KYTH Kithira 123.55 310 eP **PKPdf** **19 37 15.7 -0.6**
KLV Kalavryta, Ach 123.60 312 eP **PKPdf** **19 37 16.4 0.0**
KLV Kalavryta, Ach 123.60 312 P **PKPdf** **19 37 14.9 -1.5**
KLV Kalavryta, Ach 123.60 312 P **PKPdf** **19 37 14.9 -1.5**
LAKA Lakka 123.66 312 eP **PKPdf** **19 37 16.4 -0.1**
LAKA Lakka 123.66 312 P **PKPdf** **19 37 17.1 +0.6**
LAKA Lakka 123.66 312 P **PKPdf** **19 37 17.1 +0.6**
TANN Tannenbergstha 123.68 329 ePKPdf **PKPdf** **19 37 16.4 +0.2**
NKC Novy Kostel 123.80 329 ePDIFF **Pdif** **19 33 53.8 +4.2**
NKC ePKPdf **PKiKP** **19 37 17.0 +0.4**
NKC ex x 19 37 21.3
NKC epPKP **pPKPdf** **19 37 27.5 -1.9**
NKC esPKP 19 37 34.5
NKC ePP **PP** **19 38 56.4 -2.7**
NKC ex x 19 40 08.5
NKC eSP SP 19 48 52.3 +0.6
NKC ex x 19 50 09.4
NKC AMS AMS 20 30 40.0
comp=Z,11µm,22.1s
NKC Novy Kostel 123.80 329 eP **Pdif** **19 33 53.8 +4.2**
NKC e 19 37 17.0
NKC e 19 37 27.5
NKC e 19 37 34.5
NKC e 19 38 56.4
NKC eSP SP 19 48 52.3 +0.6
NKC MLR MLR
comp=Z,11µm,22.1s
CLZ Clausthal 123.81 332 ePKPdf **PKPdf** **19 37 17.0 +0.6**
ARSA Arzberg 123.83 325⇑ i PKPdf **PKPdf** **19 37 15.6 -1.0**
comp=Z,14nm,1.3s
KHC Kasperske Hory 123.86 327 ePKPdf **PKPdf** **19 37 17.0 +0.4**
KHC Kasperske Hory 123.86 327 ePKIKP **PKPdf** **19 37 17.0 +0.4**
TIR Tirane 123.94 317 PFAKE 19 37 30.0 +13
TIR LR LR
comp=Z,7µm,22.0s
GEC2 GERESS Array S 123.96 327 ePKPdf **PKPdf** **19 37 16.9 +0.1**
GERES GERESS Array B 123.96 327 PKP **PKPdf** **19 37 16.6 -0.2**
comp=Z,6.1nm,1.5s,baz=50,slow=2.1,SNR=37
DRO Drossia 123.96 312 eP **PKPdf** **19 37 17.1 0.0**
DSL Palaion Diasel 123.97 314 P **PKPdf** **19 37 17.6 +0.5**
DSL Palaion Diasel 123.97 314 P **PKPdf** **19 37 17.6 +0.5**
MOX Moxa 123.97 330 ePKPdf **PKPdf** **19 37 17.0 +0.3**
BLA Blacksburg 124.07 49 PFAKE 19 37 30.0 +13
BLA LR LR
comp=Z,25µm,20.0s
ITM Ithomi 124.08 311 P **PKPdf** **19 37 17.5 +0.2**
ITM Ithomi 124.08 311 P **PKPdf** **19 37 17.5 +0.2**
RLS Riolos of Patr 124.10 312 eP PKPdf 19 37 11.2 -6.1
PDO Prodromos 124.11 313 eP **PKPdf** **19 37 17.9 +0.6**
PDO Prodromos 124.11 313 P **PKPdf** **19 37 17.0 -0.3**
AMT Artemida-Makis 124.11 312 P **PKPdf** **19 37 17.5 +0.1**
ROTZ Rotzenmuhle 124.20 329 ePKPdf **PKPdf** **19 37 17.6 +0.4**
MOA Molln 124.22 326⇑ i PKiKP **PKiKP** **19 37 17.7 +0.1**
comp=Z,16nm,1.2s,SNR=5.6
WET Wettzell 124.23 328 ePKPdf **PKPdf** **19 37 17.6 +0.4**
PYL PYLOS 124.31 311 eP **PKPdf** **19 37 17.1 -0.6**
PYL PYLOS 124.31 311 P **PKPdf** **19 37 16.4 -1.3**
PYL PYLOS 124.31 311 P **PKPdf** **19 37 16.4 -1.3**
SGD Sagiada 124.39 315 P **PKPdf** **19 37 17.2 -0.6**
PERS Pernice 124.40 324 ePKPdf **PKPdf** **19 37 17.0 -0.7**
SOKA Soboth 124.43 324 i PKiKP **PKiKP** **19 37 18.0 -0.1**
comp=Z,34nm,1.2s,SNR=25
EXG Exogi 124.56 313 eP **PKPdf** **19 37 18.1 -0.1**
SSPA Standing Stone 124.56 44 ePKPdf **PKPdf** **19 37 18.0 -0.1**
UBBA Unterbreizbach 124.65 331 ePKPdf **PKPdf** **19 37 18.3 +0.5**

STON Ston 124.70 319 P **PKPdf** **19 37 16.4 -1.8**
IBBN Ibbenburen 124.71 333 ePKPdf **PKPdf** **19 37 18.5 +0.5**
ZKS Zakynthos 124.74 312 P **PKPdf** **19 37 17.8 -0.7**
JTS JuntasAbangare 124.75 82 ePKIKP **PKPdf** **19 37 19.3 +0.1**
JTS MLR MLR
comp=Z,4µm,19.0s
JTS JuntasAbangare 124.75 82 ePKPdf **PKPdf** **19 37 19.3 +0.1**
JTS LR LR
comp=Z,4µm,19.0s
GRF Grafenberg Arr 124.76 329 ePKPdf **PKPdf** **19 37 18.5 +0.3**
GRF e 19 37 22.6
GRFO Grafenberg 124.76 329 ePKIKP **PKPdf** **19 37 18.2 0.0**
GRFO Grafenberg 124.76 329 ePKPdf **PKPdf** **19 37 18.2 0.0**
OBKA Obir 124.80 324⇑ i PKiKP **PKiKP** **19 37 18.7 -0.1**
comp=Z,17nm,1.2s,SNR=5.7
LONY Lake Ozonia 124.88 38 ePKPdf **PKPdf** **19 37 18.5 -0.1**
LONY LR LR
comp=Z,15µm,21.0s
BOJS Bojanci 124.92 323 ePKPdf **PKPdf** **19 37 19.1 +0.4**
LJU Ljubljana 125.06 324 ePKPdf **PKPdf** **19 37 19.1 +0.1**
LJU e 19 38 59.9
LJU e 19 39 10.9
LJU e 19 44 35.6
RJOB Jochberg 125.09 326 ePKPdf **PKPdf** **19 37 18.7 -0.3**
UDBI Udbina 125.12 322 P **PKPdf** **19 37 18.8 -0.3**
KBA Koelnbreinsper 125.17 326 i PKiKP **PKiKP** **19 37 19.4 -0.2**
comp=Z,22nm,1.2s,SNR=5.5
NCB Newcomb 125.43 39 ePKPdf **PKPdf** **19 37 20.2 +0.5**
NCB LR LR
comp=Z,17µm,20.0s
BUG Bochum--Univer 125.52 333 ePKPdf **PKPdf** **19 37 19.9 +0.3**
NHSC New Hope 125.62 53 PFAKE 19 37 30.0 +10
NHSC LR LR
comp=Z,8µm,20.0s
NVLJ Novalja 125.65 322 P **PKPdf** **19 37 19.7 -0.3**
FUR Furstenfeldbru 125.66 328 ePKPdf **PKPdf** **19 37 20.1 +0.1**
JSRW J. Sargeant Re 125.77 47 ePKPdf **PKPdf** **19 37 20.6 +0.1**
TNS Taunus Mts 125.79 331 ePKPdf **PKPdf** **19 37 20.7 +0.5**
SDMD Soldier's Deli 125.81 45 ePKPdf **PKPdf** **19 37 20.8 +0.3**
ABTA Abfaltersbach 125.83 326 i PKiKP **PKPdf** **19 37 20.3 -0.2**
comp=Z,33nm,1.2s,SNR=19
CBN Corbin 125.93 46 PFAKE 19 37 30.0 +9.2
CBN LR LR
comp=Z,15µm,22.0s
WATA Walderalm 126.00 327⇑ i PKiKP **PKiKP** **19 37 21.3 0.0**
comp=Z,38nm,1.2s
WTTA Wattenberg 126.01 327 i PKiKP **PKiKP** **19 37 21.8 +0.5**
comp=Z,82nm,1.4s,SNR=30
MDV Middlebury 126.06 38 ePKPdf **PKPdf** **19 37 20.9 +0.1**
ACCN Adirondack Com 126.07 39 ePKPdf **PKPdf** **19 37 20.6 -0.4**
MOTA Moosalm 126.25 327⇓ i PKiKP **PKPdf** **19 37 21.5 +0.1**
comp=Z,29nm,1.0s,SNR=17
RETA Reutte 126.35 327 i PKiKP **PKiKP** **19 37 22.2 +0.3**
comp=Z,23nm,1.4s,SNR=14
STU Stuttgart 126.37 329 ePKPdf **PKPdf** **19 37 21.5 +0.2**
TRY Troy 126.40 40 ePKPdf **PKPdf** **19 37 22.3 +0.8**
ESK Eskdalemuir 126.57 342 ePKIKP **PKPdf** **19 37 22.0 +0.5**
ESK MLR MLR
comp=Z,7µm,20.0s
ESK Eskdalemuir 126.57 342 ePKPdf **PKPdf** **19 37 22.0 +0.5**
ESK LR LR
comp=Z,7µm,20.0s
HGN Heimansgroeve 126.60 333 ePKP **PKPdf** **19 37 22.9 +1.3**
comp=Z,110nm,1.9s
HGN ePP PP 19 39 04.2 -13
HGN ePPP PPP 19 42 04.7
HGN eSKSP 19 49 04.4
HGN eSS SS 19 56 01.0 -19
FETA Feichten 126.65 327 i PKiKP **PKiKP** **19 37 23.2 +0.6**
comp=Z,34nm,1.3s,SNR=22
TRQA Tornquist 126.65 148 PFAKE 19 37 30.0 +7.7
TRQA LR LR
comp=Z,6µm,21.0s
MEM Membach 126.67 333 PKP **PKPdf** **19 37 23.0 +1.2**
CNNC Cliffs of the 126.69 50 PFAKE 19 37 30.0 +7.7
CNNC LR LR
comp=Z,16µm,22.0s
BEBN Eben Emael 126.69 333 PKP **PKPdf** **19 37 23.2 +1.4**
HNH Hanover 126.76 38 ePKPdf **PKPdf** **19 37 23.2 +1.0**
DAVA Damuels 126.95 327 i PKiKP **PKiKP** **19 37 23.3 +0.1**
comp=Z,29nm,1.0s,SNR=12
TIP Timpagrande 127.02 316 P **PKPdf** **19 37 18.9 -4.0**
TIP ePKPdf **PKiKP** **19 37 23.3 -0.1**
TIP LR LR
comp=Z,4µm,22.0s
TIP Timpagrande 127.02 316 P **PKPdf** **19 37 18.9 -4.0**
LCO Las Campanas 127.09 133 PFAKE 19 37 30.0 +6.3
LCO LR LR
comp=Z,5µm,22.0s
BFO Black Forest 127.09 329 ePKPdf **PKPdf** **19 37 22.7 -0.1**
BFO Black Forest 127.09 329 ePKIKP **PKPdf** **19 37 22.4 -0.4**
BFO MLR MLR
comp=Z,11µm,21.0s
BFO Black Forest 127.09 329 ePKPdf **PKPdf** **19 37 22.4 -0.4**
BFO LR LR
comp=Z,11µm,21.0s
BCLA Clavier 127.13 333 PKP **PKPdf** **19 37 21.5 -1.2**
CPNY Central Park 127.16 42 ePKPdf **PKPdf** **19 37 23.2 +0.2**
WLF Walferdange 127.26 332 PKP **PKPdf** **19 37 24.9 +1.9**
WLF Walferdange 127.26 332 ePKPdf **PKPdf** **19 37 24.1 +1.1**
WLF Walferdange 127.26 332 ePKIKP **PKPdf** **19 37 23.4 +0.4**
WLF MLR MLR
comp=Z,13µm,20.0s
WLF Walferdange 127.26 332 ePKPdf **PKPdf** **19 37 23.4 +0.4**
WLF LR LR
comp=Z,13µm,20.0s
FFD Franklin Falls 127.28 38 ePKPdf **PKPdf** **19 37 24.4 +1.2**
CUC Castrocucco 127.30 317 ePKPdf **PKPdf** **19 37 20.8 -2.6**
CUC LR LR
comp=Z,4µm,21.0s
QUA2 Belchertown 127.47 40 ePKPdf **PKPdf** **19 37 24.0 +0.4**
SNF Seneffe 127.52 334 PKP **PKPdf** **19 37 24.8 +1.4**
PQI Presque Isle 127.52 33 ePKPdf **PKPdf** **19 37 23.3 -0.2**
TSUM Tsumeb 127.53 240 ePKPdf **PKPdf** **19 37 25.4 +0.8**
TSUM LR LR
comp=Z,6µm,20.0s
YLE Yale 127.58 41 ePKPdf **PKPdf** **19 37 21.8 -2.0**
PKME Peaks-Kenny Pk 127.67 35 ePKPdf **PKPdf** **19 37 24.4 +0.6**
PKME LR LR
comp=Z,7µm,20.0s
DOU Dourbes 127.68 333 PKP **PKPdf** **19 37 25.3 +1.6**
AQU L'Aquila 127.71 321 ePKIKP **PKPdf** **19 37 24.3 +0.2**
AQU MLR MLR
comp=Z,7µm,21.0s
AQU L'Aquila 127.71 321 ePKPdf **PKPdf** **19 37 24.3 +0.2**
AQU LR LR
comp=Z,7µm,21.0s
TUE Stuetta 127.74 327 ePKPpre PKPpre 19 37 09.4
TUE ePKPdf **PKPdf** **19 37 24.4 +0.1**
TUE LR LR
comp=Z,12µm,22.0s
ECH Echery 127.76 330 ePKIKP **PKPdf** **19 37 23.8 -0.2**
ECH MLR MLR
comp=Z,9µm,20.0s
ECH Echery 127.76 330 ePKPdf **PKPdf** **19 37 23.8 -0.2**
ECH LR LR
comp=Z,9µm,20.0s
HRV Adam Dziewonsk 127.85 39 ePKIKP **PKPdf** **19 37 24.8 +0.5**
HRV Adam Dziewonsk 127.85 39 ePKPdf **PKPdf** **19 37 24.8 +0.5**
WVL Waterville 127.86 36 ePKPdf **PKPdf** **19 37 24.6 +0.4**
BRYW Bryant College 128.17 40 ePKPdf **PKPdf** **19 37 25.5 +0.5**
VLC Villacollemand 128.55 324 PFAKE 19 37 40.0 +14
VLC LR LR
comp=Z,11µm,22.0s
EMMW East Machias 129.04 35 ePKPdf **PKPdf** **19 37 27.3 +0.8**
BCIP Isla Barro Col 129.79 83 ePKPdf **PKPdf** **19 37 28.2 -0.6**
BCIP LR LR
comp=Z,5µm,20.0s
WDD Wield Dalam 130.07 313 PFAKE 19 37 40.0 +11
WDD LR LR
comp=Z,5µm,22.0s
CLTB Caltabellotta 130.22 315 ePKPdf **PKPdf** **19 37 29.6 +0.4**
CLTB LR LR
comp=Z,3µm,20.0s
OTAV Otavalo 130.57 95 ePKPdf **PKPdf** **19 37 30.8 -0.2**
OTAV LR LR
comp=Z,4µm,19.0s
SSB Saint Sauveur 131.06 329 ePKHKP PKPpre 19 37 19.7
SSB e 19 37 31.1
SSB MLR MLR
comp=Z,9µm,22.0s
SSB Saint Sauveur 131.06 329 ePKPpre PKPpre 19 37 19.7
SSB ePKPdf **PKiKP** **19 37 31.1 -0.3**
SSB LR LR

comp=Z,9µm,22.0s
MTDJ Mount Denham 131.40 71 PFAKE 19 37 40.0 +8.1
MTDJ LR LR
comp=Z,4µm,20.0s
VSL Villasalto 131.82 320 ePKPdf **PKPdf** **19 37 32.5 +0.5**
VSL LR LR
comp=Z,4µm,20.0s
LVC Limon Verde 131.91 128 ePKPdf **PKPdf** **19 37 33.3 +0.3**
LVC LR LR
comp=Z,6µm,20.0s
GTBY Guantanamo Bay 133.38 68 PFAKE 19 37 50.0 +15
GTBY LR LR
comp=Z,4µm,20.0s
KEST Kesra 133.84 315 PKP **PKPdf** **19 37 36.4 +0.4**
comp=Z,2.6nm,0.9s,baz=322,slow=6.6,SNR=9.0
KEST SKPbc **SKPbc** **19 41 02.1 +0.2**
comp=Z,6.1nm,0.9s,baz=44,slow=2.2,SNR=5.1
KEST Kesra 133.84 315 PKP **PKPdf** **19 37 36.4 +0.4**
KEST ePKPdf **PKiKP** **19 37 36.7 -0.6**
KEST eSKP 19 41 00.6
KEST SKPbc **SKPbc** **19 41 02.1 +0.2**
TRIS Tristan da Cun 134.34 199 PFAKE 19 37 50.0 +13
TRIS LR LR
comp=Z,8µm,19.0s
CMAH Djebel Manchou 134.69 317 P **PKPdf** **19 37 35.1 -2.5**
ABSA Djebel Ababsia 134.84 317 P **PKPdf** **19 37 36.9 -1.0**
ROSC El Rosal 135.12 89 PKP **PKPdf** **19 37 38.4 -1.0**
comp=Z,14nm,0.5s,baz=131,slow=7.6,SNR=6.9
ROSC El Rosal 135.12 89 PKP **PKPdf** **19 37 38.4 -1.0**
ROSC ePKPdf **PKiKP** **19 37 39.8 -1.1**
CKFL Kef-Lekhel 135.28 318 P **PKPdf** **19 37 40.0 +1.3**
CASM Ain Smara 135.52 318 P **PKPdf** **19 37 39.8 +0.7**
LPAZ La Paz 135.62 120 PKhKP PKPpre 19 37 31.7
comp=Z,2.6nm,0.8s,baz=207,slow=2.4,SNR=7.4
LPAZ PKP **PKiKP** **19 37 42.1 +0.1**
comp=Z,5.9nm,0.6s,baz=215,slow=3.5,SNR=11
LPAZ La Paz 135.62 120 i PKHKP PKPpre 19 37 31.7
LPAZ 19 37 42.2
LPAZ pmax pmax
comp=Z,3.0nm,0.8s
LPAZ pmax pmax
comp=Z,6.0nm,0.6s
LPAZ La Paz 135.62 120 ePKPpre PKPpre 19 37 29.6
LPAZ PKPpre PKPpre 19 37 31.7
LPAZ PKP **PKiKP** **19 37 42.1 +0.1**
LPAZ ePKPdf **PKPdf** **19 37 42.6 +2.1**
CTEI Djebel Teioual 135.68 317 P **PKPdf** **19 37 42.6 +3.1**
DFRA Djebel Bou Aff 135.76 318 P **PKPdf** **19 37 42.5 +2.9**
GRTK Grand Turk 136.66 65 PFAKE 19 37 50.0 +8.5
GRTK LR LR
comp=Z,6µm,20.0s
SDDR Presa de Saban 137.10 69 ePKPdf **PKPdf** **19 37 41.3 -1.2**
SDDR LR LR
comp=Z,7µm,20.0s
BBSR BB Station 137.80 47 PFAKE 19 37 50.0 +6.7
BBSR LR LR
comp=Z,13µm,22.0s
CPUP Villa Florida 137.89 141 PKP **PKPdf** **19 37 43.2 -0.5**
comp=Z,6.5nm,0.8s,baz=192,slow=1.4,SNR=8.9
SDV Santo Domingo 138.88 83 ePKPpre PKPpre 19 37 37.7
SDV ePKPdf **PKPdf** **19 37 46.9 +0.9**
SDV eSKP 19 41 17.4
SDV LR LR
comp=Z,5µm,21.0s
PBRG Braganca 139.09 334 ePKPdf **PKPdf** **19 37 45.4 -0.1**
PBRG Braganca 139.09 334 ePP PP 19 40 40.7 +3.1
ESDC Sonseca Array 139.46 330 PKhKP PKPpre 19 37 42.8
comp=Z,0.3nm,0.4s,baz=32,slow=3.8,SNR=5.8
ESDC SKPbc **SKiKP** **19 41 21.1 -0.6**
comp=Z,2.4nm,0.9s,baz=43,slow=2.8,SNR=5.4
ESLA Sonseca Array 139.46 330 ePKPdf **PKPdf** **19 37 44.5 -1.8**
PGAV Gavieira, Arco 139.60 336 ePKPdf **PKPdf** **19 37 45.2 -1.3**
PGAV Gavieira, Arco 139.60 336 ePP PP 19 40 42.5 +1.8
PGAV Gavieira, Arco 139.60 336 eLR LR 20 33 55.4
comp=Z,7µm,20.0s
MVO Moncorvo 139.73 334 ePKPdf **PKPdf** **19 37 47.3 +0.6**
MVO Moncorvo 139.73 334 ePP PP 19 40 45.7 +4.1
MVO Moncorvo 139.73 334 eLR LR 20 30 07.5
comp=Z,5µm,18.0s
PAB San Pablo 139.75 330 ePKIKP **PKPdf** **19 37 46.4 -0.4**
PAB MLR MLR
comp=Z,7µm,21.0s
PAB San Pablo 139.75 330 ePKPdf **PKPdf** **19 37 46.4 -0.4**
PAB LR LR
comp=Z,7µm,21.0s
POLO Lamas de Olo 139.89 335 ePKPdf **PKPdf** **19 37 46.7 -0.4**
POLO Lamas de Olo 139.89 335 ePP PP 19 40 45.6 +3.0
PVRL Vila Real 139.94 335 ePKPdf **PKPdf** **19 37 49.1 +2.0**
MTE Manteigas 140.58 334 ePKPdf **PKPdf** **19 37 46.3 -2.0**
MTE Manteigas 140.58 334 ePP PP 19 40 46.7 -0.1
MTE Manteigas 140.58 334 eLR LR 20 30 52.1
comp=Z,6µm,22.0s
MTE Manteigas 140.58 334 ePKPdf **PKPdf** **19 37 46.1 -2.2**
MTE LR LR
comp=Z,8µm,22.0s
PCBR Castelo Branco 141.01 333 ePKPdf **PKPdf** **19 37 48.3 -0.7**
LSP Las Mesas 141.16 68 ePKPdf **PKPdf** **19 37 47.9 -2.0**
CRPR Cabo Rojo, PR 141.18 69 ePKPpre PKPpre 19 37 45.4
PMRV Marv??o 141.30 333 ePKPdf PKPpre 19 37 44.6
PMRV Marv??o 141.30 333 ePP PP 19 40 53.1 +1.9
PMRV Marv??o 141.30 333 eLR LR 20 31 01.9
comp=Z,6µm,20.0s
PTOM Tomar 141.60 334 ePKPdf **PKPdf** **19 37 52.3 +2.2**
OBIP Obispado Ponce 141.64 68 ePKPdf **PKPdf** **19 37 51.1 +0.4**
CELP Cerrillos 141.65 68 ePKPdf **PKPdf** **19 37 48.1 -2.6**
ICMP Isla Caja de M 141.75 69 ePKPdf **PKPdf** **19 37 51.0 +0.1**
PESTR Estremoz 141.84 332 ePKPdf **PKPdf** **19 37 47.0 -3.6**
PESTR Estremoz 141.84 332 ePP PP 19 40 55.9 +1.4
SJG San Juan 142.04 68 ePKIKP **PKPdf** **19 37 48.9 -2.5**
SJG MLR MLR
comp=Z,6µm,20.0s
SJG San Juan 142.04 68 ePKPpre **PKPdf** **19 37 48.9 -2.5**
SJG LR LR
comp=Z,6µm,20.0s
PBAR Barrancos 142.13 331 ePKPdf **PKPdf** **19 37 48.0 -3.1**
PBAR Barrancos 142.13 331 ePP PP 19 40 50.0 -6.2
EVO Evora 142.31 332 ePKPdf **PKPdf** **19 37 48.9 -2.5**
PACT Alcochete 142.49 333 ePKPdf **PKPdf** **19 37 52.1 +0.5**
PMAFR Mafra 142.53 334 ePKPdf **PKPdf** **19 37 50.7 -1.1**
TAM Tamanrasset 142.54 300 ePKIKP **PKPdf** **19 37 53.0 +0.6**
TAM MLR MLR
comp=Z,4µm,19.0s
TAM Tamanrasset 142.54 300 ePKPdf **PKPdf** **19 37 53.0 +0.6**
TAM LR LR
comp=Z,4µm,19.0s
PMST Lisbon--Monsan 142.67 334 ePKPdf **PKPdf** **19 37 50.7 -1.3**
LIS Lisbon 142.67 334 eP **PKPdf** **19 37 49.5 -2.5**
LIS AMS AMS 20 43 52.8
comp=Z,6µm,21.7s
LIS Lisbon 142.67 334 ePKIKP **PKPdf** **19 37 49.4 -2.5**
PNCL Nicolau / Gran 142.89 332 ePKPdf **PKPdf** **19 37 48.2 -4.2**
PNCL Nicolau / Gran 142.89 332 ePP PP 19 41 01.9 +1.2
MESJ Messejana 142.96 332 eP **PKPdf** **19 37 49.7 -2.8**
MESJ eP **PP** **19 41 00.7 -0.5**
MESJ AMS AMS 20 45 30.8
comp=Z,7µm,24.6s
MESJ Messejana 142.96 332 ePKPdf **PKPdf** **19 37 51.9 -0.6**
MESJ Messejana 142.96 332 ePP PP 19 41 01.9 +0.7
MESJ Messejana 142.96 332 ePKIKP **PKPdf** **19 37 49.7 -2.8**
MESJ e 19 41 00.7
PCVE Castro Verde 143.04 331 ePKPdf PKPab 19 37 47.6 -0.4
PCVE Castro Verde 143.04 331 ePP PP 19 41 03.8 +2.1
SAML Samuel 143.07 113 ePKPpre PKPbc 19 37 50.5 +0.2
SAML LR LR
comp=Z,6µm,20.0s
PVAQ Vaqueiros 143.07 331 ePKPdf PKPbc 19 37 48.8 -0.8
PVAQ Vaqueiros 143.07 331 ePP PP 19 41 02.8 +0.9
PVAQ Vaqueiros 143.07 331 eLR LR 20 34 25.9
comp=Z,7µm,20.0s
STVI Saint Thomas 143.08 67 ePKPpre PKPbc 19 37 49.7 -0.4
PBDV Barranco-do-Ve 143.30 331 ePKPdf PKPbc 19 37 51.0 +0.7
PBDV Barranco-do-Ve 143.30 331 ePP PP 19 41 04.4 +1.1
PTEO Sao Teotonio 143.44 332 ePKPdf **PKPdf** **19 37 54.5 +1.1**
MORF Marmelete 143.59 332 eP PKPbc 19 37 51.9 +0.8
MORF eP **PP** **19 41 04.8 -0.3**
MORF AMS AMS 20 43 55.7
comp=Z,6µm,20.3s
MORF Marmelete 143.59 332 ePKPdf **PKPdf** **19 37 53.2 -0.5**
MORF Marmelete 143.59 332 ePP PP 19 41 05.9 +0.8
MORF Marmelete 143.59 332 ePKIKP PKPbc 19 37 51.9 +0.8
MORF e 19 41 04.8
PFVI Vila Bisbo 143.82 332 ePKPdf **PKPdf** **19 37 54.9 +0.8**
ANWB Willy Bob 146.17 67 ePKPdf **PKPdf** **19 37 57.9 -0.8**

ANWB					LR		LR		
	comp=Z,5µm,21.0s								
H07N1	**FLORES T-PHASE**	**46.40**		**3**	*e*PKPdf		**PKPab**	**19 38 01.2**	**+0.6**
MLG	**Mont-d'or**	**146.65**		**70**	*e*P		**PKPab**	**19 38 02.0**	**-0.4**
LKG	**Breislack**	**146.71**		**70**	*e*P		**PKPbc**	**19 38 01.8**	**+0.3**
TBG	**Guadaloupe-3**	**146.76**		**70**	*e*		PKPdf	19 37 53.8	-5.9
MGG	**Marie-Galante**	**147.05**		**70**	*e*		**PKPdf**	**19 37 57.0**	**-3.2**
PGRA	**Graciosa**	**147.08**	**358**		*e*PKPdf		**PKPbc**	**19 38 00.6**	**-1.1**
PGRA	**Graciosa**	**147.08**	**358**		*e*PKPdf		**PKPab**	**19 38 03.2**	**0.0**
ROSA	**Rosais**	**147.40**	**359**		*e*PKPdf		**PKPdf**	**19 38 00.6**	**+0.4**
ADH	**Angra Heroismo**	**147.42**	**357**		*e*PKPdf		**PKPab**	**19 38 04.3**	**-0.3**
GRGR	**Grenville**	**147.44**		**77**	*e*		**PKPdf**	**19 37 60.0**	**-0.9**
GRGR	**Grenville**	**147.44**		**77**	*e*P		**PKPdf**	**19 38 00.6**	**-0.3**
GRGR	**Grenville**	**147.44**		**77**	*e*PKPdf		**PKPdf**	**19 38 00.7**	**-0.2**
GRGR					LR		LR		
	comp=Z,3µm,20.0s								
FDF	**Fort de France**	**147.47**		**72**	*e*PKP2		**PKPab**	**19 38 04.6**	**-1.0**
FDF					MLR		MLR		
	comp=Z,4µm,20.0s								
FDF	**Fort de France**	**147.47**		**72**	*e*PKPbc		**PKPab**	**19 38 04.6**	**-1.0**
FDF					LR		LR		
	comp=Z,4µm,20.0s								
PMAN	**Manadas**	**147.48**	**358**		*e*PKPdf		**PKPdf**	**19 38 00.0**	**-0.3**
PPNO	**Prainha do Nor**	**147.64**	**359**		*e*PKPdf		**PKPbc**	**19 38 02.7**	**-0.7**
SVB	**Belmont**	**147.66**		**75**	*e*		**PKPbc**	**19 38 03.4**	**-0.6**
FCV	**Fort Charlotte**	**147.68**		**75**	*e*		**PKPbc**	**19 38 04.4**	**+0.3**
SVV	**Soufriere Volc**	**147.68**		**75**	*e*		**PKPbc**	**19 38 04.8**	**+0.8**
TPP	**Pointe-a-Pierr**	**147.85**		**80**	*e*		**PKPab**	**19 38 07.0**	**0.0**
TRN	**Trinidad (W)**	**147.86**		**80**	*e*		**PKPbc**	**19 38 05.5**	**+0.9**
MCLT	**Moule a Chique**	**147.88**		**74**	*e*		**PKPdf**	**19 38 02.3**	**+0.7**
BART	**Pico Bartolome**	**148.13**	**354**		*e*PKPdf		**PKPdf**	**19 38 02.0**	**+0.5**
PSET	**Sete Cidades**	**148.14**	**355**		*e*PKPdf		**PKPbc**	**19 38 05.5**	**+0.8**
PSET	**Sete Cidades**	**148.14**	**355**		*e*PKPdf		**PKPbc**	**19 38 05.9**	**+1.2**
TBH	**Brigand Hill**	**148.21**		**80**	*e*		**PKPab**	**19 38 08.3**	**-0.2**
PTGA	**Pitinga**	**148.62**	**101**		PFAKE			19 38 10.0	-0.2
PTGA					LR		LR		
	comp=Z,4µm,22.0s								
TOSP	**Speyside**	**148.64**		**78**	*e*		**PKPbc**	**19 38 05.3**	**-1.3**
TOSP	**Speyside**	**148.64**		**78**	*e*P		**PKPbc**	**19 38 06.2**	**-0.4**
TOA0	**Torodi Ar. Sit**	**148.69**	**285**		*e*PKPdf		**PKPdf**	**19 38 01.8**	**-1.1**
TOA0					*e*PKPbc		**PKPbc**	**19 38 06.8**	**+0.1**
TORD	**Torodi Ar. Bea**	**148.69**	**285**		PKPbc		**PKPbc**	**19 38 06.8**	**+0.1**
	comp=Z,113nm,0.8s,baz=17,slow=0.7,SNR=229								
TOB4	**Torodi Ar. Sit**	**148.70**	**285**		*e*PKIKP		**PKPdf**	**19 38 01.2**	**-1.7**
PSMN	**Pico do Norte,**	**148.89**	**354**		*e*PKPdf		**PKPdf**	**19 38 03.1**	**+0.4**
PSMN	**Pico do Norte,**	**148.89**	**354**		*e*PKPdf		**PKPbc**	**19 38 08.4**	**+1.8**
PSMA	**Santa Maria**	**148.90**	**354**		*e*PKPdf		**PKPbc**	**19 38 04.9**	**-1.7**
BBGH	**Gun Hill**	**149.30**		**74**	PFAKE			19 38 10.0	+1.8
BBGH					LR		LR		
	comp=Z,8µm,21.0s								
PMPST	**Porto Santo, M**	**150.48**	**338**		*e*PKPdf		**PKPdf**	**19 38 05.4**	**+0.1**
PMPS	**Porto Santo**	**150.50**	**338**		*e*PKPdf		**PKPdf**	**19 38 07.5**	**+2.2**
PMAR	**Madeira**	**151.01**	**338**		*e*PKPdf		**PKPdf**	**19 38 05.9**	**-0.5**
PMOZ	**Porto Moniz, M**	**151.03**	**339**		*e*PKPdf		**PKPdf**	**19 38 05.6**	**-0.7**
PMOZ	**Porto Moniz, M**	**151.03**	**339**		*e*LR		LR	20 36 53.1	
	comp=Z,7µm,20.0s								
BDFB	**Brasilia**	**151.59**	**139**		PKPbc		**PKPbc**	**19 38 14.2**	**+0.3**
	comp=Z,42nm,0.8s,baz=250,slow=1.0,SNR=13								
BDFB					PKPab		**PKPab**	**19 38 24.3**	**+1.9**
	comp=Z,19nm,0.5s,baz=242,slow=1.8,SNR=7.0								
KIC	**Kosan Boka**	**155.63**	**272**		*e*PKIKP		**PKPdf**	**19 38 14.1**	**+0.8**
DBIC	**Dimbokro**	**155.75**	**273**		PKP		**PKPdf**	**19 38 14.2**	**+0.8**
	comp=Z,9.3nm,0.8s,baz=123,slow=2.7,SNR=5.6								
DBIC					PKPbc		PKPbc	19 38 22.0	
	comp=Z,20nm,0.9s,baz=68,slow=2.1,SNR=8.8								
DBIC	**Dimbokro**	**155.75**	**273**		PKIKP		**PKPdf**	**19 38 14.2**	**+0.8**
DBIC								19 38 22.0	
DBIC					pmax		pmax		
	comp=Z,9.0nm,0.8s								
DBIC					pmax		pmax		
	comp=Z,20nm,0.9s								
DBIC	**Dimbokro**	**155.75**	**273**		*e*PKPdf		**PKPdf**	**19 38 13.6**	**+0.2**
DBIC					PKP		**PKPdf**	**19 38 14.2**	**+0.8**
DBIC					PKPbc		PKPbc	19 38 22.0	
TIC	**Toumodi**	**155.91**	**273**		*e*PKIKP		**PKPdf**	**19 38 14.4**	**+0.7**
LIC	**Lamto**	**155.91**	**272**		*e*PKIKP		**PKPdf**	**19 38 15.6**	**+1.9**
ASCN	**Ascension**	**159.71**	**227**		PFAKE			19 38 30.0	+12
ASCN					LR		LR		
	comp=Z,6µm,19.0s								
RCBR	**Riachuelo**	**166.52**	**150**		PFAKE			19 38 40.0	+15
RCBR					LR		LR		
	comp=Z,12µm,21.0s								
SACV	**Santiago Islan**	**169.49**	**329**		PFAKE			19 38 40.0	+13
SACV					LR		LR		
	comp=Z,4µm,20.0s								

*ISCJB **20** 19:35:46.0±0.9,50°.03N±0°.03×2°.33W±0°.05, h0km±5km, Error ellipse: s-maj=6.6km s-min=4.7km az=44.6*
*LDG **20** 19:35:46.7±0.3,50°.16N×2°.53W, h5km, MI2.1/9, Error ellipse: s-maj=6.9km s-min=2.8km az=144.0*
*CSEM **20** 19:35:47.9±0.3,50°.01N×2°.36W, h10km, ML2.1/8, Error ellipse: s-maj=6.2km s-min=5.4km az=26.0*
*BGS **20** 19:35:48.1±1.3,50°.10N×2°.23W, h5km, ML1.4*
ISC 20 19:35:47.8±1.2,50°.07N±0°.03×2°.36W±0°.03,h11km±10km, n46,σ1§13/68,United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JLP	**Les Platons**	**0.84**	**169**	*e*P	**Pg**	**19 36 03.5**	**-0.5**
JLP	**Les Platons**	**0.84**	**169**	*e*P	**Pg**	**19 36 03.5**	**-0.5**
JSA	**Saint Aubin**	**0.89**	**172**	*e*P	**Pg**	**19 36 04.4**	**-0.5**
JSA				*e*S	**Sg**	**19 36 17.4**	**+1.1**
JSA				AML	AML	19 36 18.6	
	comp=N,7.7nm,0.2s						
JSA				AML	AML	19 36 19.0	
	comp=E,5.7nm,0.2s						
JSA	**Saint Aubin**	**0.89**	**172**	*e*P	**Pg**	**19 36 04.4**	**-0.5**
JQE	**Queens East**	**0.89**	**166**	*e*P	**Pg**	**19 36 04.4**	**-0.5**
JQE	**Queens East**	**0.89**	**166**	*e*P	**Pg**	**19 36 04.4**	**-0.5**
JRS	**Jersey**	**0.89**	**169**	*e*P	**Pg**	**19 36 04.3**	**-0.6**
JRS				*e*S	**Sg**	**19 36 17.4**	**+0.9**
JRS	**Jersey**	**0.89**	**169**	*e*P	**Pg**	**19 36 04.3**	**-0.6**
DYA	**Yadsworthy**	**1.08**	**291**	*e*P	**Pb**	**19 36 08.9**	**+0.4**
DYA				*e*S	**Sb**	**19 36 23.8**	**+1.2**
	comp=E,3.4nm,0.2s						
HTL	**Hartland**	**1.65**	**305**	*e*P	**Pg**	**19 36 19.2**	**-0.2**
HTL				*e*S	**Sn**	**19 36 38.4**	**+0.5**
HTL				AML	AML	19 36 44.6	
	comp=E,3.0nm,0.3s						
HTL				AML	AML	19 36 49.3	
	comp=N,6.7nm,0.8s						
HTL	**Hartland**	**1.65**	**305**	*e*P	**Pg**	**19 36 19.2**	**-0.2**
HTL				*e*S	**Sn**	**19 36 38.4**	**+0.5**
	comp=N,6.7nm,0.8s						
FLN	**La Foliniere**	**1.79**	**136**	*e*Pn	**Pn**	**19 36 18.3**	**-0.3**
	baz=318						
FLN	**La Foliniere**	**1.79**	**136**	*e*P	**Pn**	**19 36 19.8**	**+1.2**
	baz=318						
FLN				*e*Sn	**Sn**	**19 36 42.1**	**+0.8**
	comp=N,4.3nm,0.3s,baz=298						
FLN	**La Foliniere**	**1.79**	**136**	*e*Pn	**Pn**	**19 36 18.3**	**-0.3**
FLN	**La Foliniere**	**1.79**	**136**	*e*P	**Pn**	**19 36 19.8**	**+1.2**
FLN				*e*Sn	**Sn**	**19 36 42.1**	**+0.8**
	comp=N,2.2nm,0.3s						
SGMF	**Saint Gilles**	**1.82**	**184**	*e*Pn	**Pn**	**19 36 18.2**	**-0.8**
SGMF	**Saint Gilles**	**1.82**	**184**	*e*Pg	**Pb**	**19 36 21.5**	**+0.4**
SGMF				*e*Sn	**Sn**	**19 36 41.4**	**-0.7**
	comp=N,1.2nm,0.2s						
SGMF	**Saint Gilles**	**1.82**	**184**	*e*Pn	**Pn**	**19 36 18.2**	**-0.8**
SGMF	**Saint Gilles**	**1.82**	**184**	*e*Pg	**Pb**	**19 36 21.5**	**+0.4**
SGMF				*e*Sn	**Sn**	**19 36 41.4**	**-0.7**
	comp=N,0.6nm,0.2s						
ROSF	**Rostrenen**	**1.83**	**200**	*e*Pn	**Pn**	**19 36 17.6**	**-1.6**
ROSF	**Rostrenen**	**1.83**	**200**	*e*Pg	**Pn**	**19 36 21.0**	**+1.8**
ROSF				*e*Sn	**Sn**	**19 36 40.8**	**-1.6**
	comp=N,2.3nm,0.2s						
ROSF				*e*Sg	**Sb**	**19 36 45.7**	**+1.4**
	comp=N,3.6nm,0.3s						
ROSF	**Rostrenen**	**1.83**	**200**	*e*Pn	**Pn**	**19 36 17.6**	**-1.6**
ROSF	**Rostrenen**	**1.83**	**200**	*e*Pg	**Pn**	**19 36 21.0**	**+1.8**
ROSF				*e*Sn	**Sn**	**19 36 40.8**	**-1.6**
	comp=N,1.1nm,0.2s						
ROSF				*e*Sg	**Sb**	**19 36 45.7**	**+1.4**
	comp=N,1.8nm,0.3s						
GRR	**Gorron**	**1.94**	**149**	*e*Pn	**Pn**	**19 36 21.0**	**+0.2**
GRR				*e*Sn	**Sn**	**19 36 45.6**	**+0.4**
	comp=N,2.6nm,0.2s						
GRR	**Gorron**	**1.94**	**149**	*e*Pn	**Pn**	**19 36 21.0**	**+0.2**
GRR				*e*Sn	**Sn**	**19 36 45.6**	**+0.4**
	comp=N,1.3nm,0.2s						
LDF	**La Druitiere**	**2.07**	**134**	*e*Pn	**Pn**	**19 36 22.2**	**-0.4**
LDF	**La Druitiere**	**2.07**	**134**	*e*P	**Pn**	**19 36 24.8**	**+2.2**
LDF	**La Druitiere**	**2.07**	**134**	*e*Pg	**Pg**	**19 36 27.8**	**+0.3**
LDF				*e*Sn	**Sn**	**19 36 49.1**	**+0.7**
	comp=N,0.8nm,0.2s						
LDF	**La Druitiere**	**2.07**	**134**	*e*Pn	**Pn**	**19 36 22.2**	**-0.4**
LDF	**La Druitiere**	**2.07**	**134**	*e*P	**Pn**	**19 36 24.8**	**+2.2**
LDF	**La Druitiere**	**2.07**	**134**	*e*Pg	**Pg**	**19 36 27.8**	**+0.3**
LDF				*e*Sn	**Sn**	**19 36 49.1**	**+0.7**
	comp=N,0.4nm,0.2s						
QUIF	**Quistinic**	**2.21**	**194**	*e*Pn	**Pn**	**19 36 23.3**	**-1.2**
QUIF	**Quistinic**	**2.21**	**194**	*e*Pg	**Pb**	**19 36 28.3**	**+0.4**
QUIF				*e*Sn	**Sn**	**19 36 48.9**	**-3.0**
	comp=N,0.9nm,0.2s						
QUIF	**Quistinic**	**2.21**	**194**	*e*Pn	**Pn**	**19 36 23.3**	**-1.2**
QUIF	**Quistinic**	**2.21**	**194**	*e*Pg	**Pb**	**19 36 28.3**	**+0.4**
QUIF				*e*Sn	**Sn**	**19 36 48.9**	**-3.0**
	comp=N,0.4nm,0.2s						
BAIF	**Baives**	**4.23**	**88**	*e*Pn	**Pn**	**19 36 51.0**	**-1.2**
BAIF				*e*Sg	**Sg**	**19 38 02.0**	**-1.5**
	comp=N,0.9nm,0.2s						
BAIF	**Baives**	**4.23**	**88**	*e*Pn	**Pn**	**19 36 51.0**	**-1.2**
BAIF				*e*Sg	**Sg**	**19 38 02.0**	**-1.5**
	comp=N,0.4nm,0.2s						
GIVF	**Givet**	**4.62**	**87**	*e*Pn	**Pn**	**19 36 56.3**	**-1.3**
GIVF	**Givet**	**4.62**	**87**	*e*Pn	**Pn**	**19 36 56.3**	**-1.3**
TCF	**Toulx Ste Croi**	**4.86**	**139**	*e*Pn	**Pn**	**19 37 00.1**	**-0.8**
TCF	**Toulx Ste Croi**	**4.86**	**139**	*e*Pn	**Pn**	**19 37 00.1**	**-0.8**
SSF	**Saint Saulge**	**4.92**	**125**	*e*Pn	**Pn**	**19 37 01.1**	**-0.5**
SSF	**Saint Saulge**	**4.92**	**125**	*e*Pn	**Pn**	**19 37 01.1**	**-0.5**
LOR	**Lormes**	**4.98**	**122**	*e*Pn	**Pn**	**19 37 02.0**	**-0.5**
	baz=302						
LOR	**Lormes**	**4.98**	**122**	*e*Pn	**Pn**	**19 37 02.0**	**-0.5**

*BJI **20** 19:38:02.3,26°.94N×53°.07E, h10km, mb5.2/65, mB5.8/28, Ms5.8/40, Ms7 5.5/37*
*ISN **20** 19:38:04.9±1.4,26°.75N×54°.08E, h0km±633km, ML4.5*
*ISCJB **20** 19:38:08.6±0.1,27°.09N±0°.02×53°.86E±0°.01, h11km, mb5.6/298, MS5.4/71, Error ellipse: s-maj=2.4km s-min=1.4km az=22.7*
*IDC **20** 19:38:08.3±0.3,27°.09N×53°.99E, h0km, mb5.4/51, mb1 5.4/55, mb1mx5.4/55, mbtmp5.3/55, ML4.4/3, MS5.4/30, Ms1 5.4/30, ms1mx5.2/59, Error ellipse: s-maj=10.3km s-min=8.2km az=24.0*
*NEIC **20** 19:38:09.5±0.2,27°.02N×53°.86E, h10km, mb5.6/91, ML5.7(THR), MN5.8(TEH), Error ellipse: s-maj=4.2km s-min=2.8km az=195.0*
NEIC At least one person killed and 32 injured in Fars. At least 50 percent of the buildings damaged at Lamerd. Felt at Qeshm. Felt [II] at Manama, Bahrain. Also felt at Al Muharraq. Felt [II] at Dubai, United Arab Emirates. Also felt at Abu Dhabi and Ash Shariqah. Felt [II] at Doha, Qatar.
*GCMT **20** 19:38:09.5±0.2,26°.89N×53°.65E, h12km, MW5.8/106, Moment Tensor Solution. s46,c61; s106,c250; Duration: 1§9 Moment tensor: Scale 10^17^Nm; Mrr4.84±.08; Mθθ-4.36±.07; Mφφ-0.48±.08; Mrθ 1.86±.29; Mθφ 1.04±.07; Mrφ-2.76±.39; Best double couple: Ms5.73600×10^17^ NP1:φs124.00000°, δ62.00000°, λ109.00000°. NP2:φs269.00000°, δ33.00000°, λ59.00000°. Principal axes: T 6.1800, Plg67.0000°, Azm71.0000°; N -0.8900, Plg16.0000°, Azm295.0000°; P -5.2910, Plg15.0000°, Azm201.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*THR **20** 19:38:10.5±0.7,26°.97N×53°.83E, h34km±8km, ML5.5*
*OMAN **20** 19:38:10.2±0.9,27°.35N×53°.79E, h100km±486km, Error ellipse: s-maj=51.7km s-min=20.1km az=341.0*
*DSN **20** 19:38:10.1±1.6,27°.25N×53°.75E, h16km±11km, mb5.0/9, ML6.7/7, Ms5.4/1, Error ellipse: s-maj=9.2km s-min=6.4km az=40.0*
*CSEM **20** 19:38:11.6±0.1,27°.12N×53°.87E, h20km, mb5.7/99, Ms5.4, Mw5.8, Error ellipse: s-maj=3.3km s-min=2.1km az=27.0*
*TEH **20** 19:38:12.0,27°.04N×53°.90E, h10km, ML5.8*
*MOS **20** 19:38:15.7±0.9,27°.12N×53°.87E, h35km, mb5.8/72, MS5.5/34, Error ellipse: s-maj=5.7km s-min=3.1km az=119.5*
*SZGRF **20** 19:38:24.7,27°.59N×51°.94E, h33km, mb5.5, Persian Gulf*
ISC 20 19:38:10.5±0.3,27°.04N±0°.02×53°.90E±0°.02,h14km±1km, h14km:pP-P,n1771,σ1§34/1876,mb5.7/329,MS5.5/77, 235C-59D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**1.48**	**327**	*e*Pg	**Pb**	**19 38 38.0**	**+0.1**
GHIR				AML	AML	19 39 09.9	
	comp=E,80µm,0.8s						
GHIR				AML	AML	19 39 14.8	
	comp=N,72µm,0.6s						
GHIR	**Ghir-Karzin**	**1.48**	**327**	*e*Pg	**Pb**	**19 38 38.0**	**+0.1**
	comp=N,72µm,0.6s						
GHIR	**Ghir-Karzin**	**1.48**	**327**	*e*Pg	**Pb**	**19 38 38.0**	**+0.1**
BNDS	**Bandar-Abbas**	**2.06**	**79**	*e*Pn	**Pn**	**19 38 45.9**	**+1.1**
BNDS				AML	AML	19 39 31.0	
	comp=N,19µm,0.7s						
BNDS	**Bandar-Abbas**	**2.06**	**79**	*e*Pn	**Pn**	**19 38 45.0**	**+0.2**
BNDS	**Bandar-Abbas**	**2.06**	**79**	*e*Pn	**Pn**	**19 38 45.0**	**+0.2**
IBND	**Bandar-abas**	**2.39**	**79**	*e*Pn	**Pb**	**19 38 51.8**	**-1.4**
IBND				*e*Sg	**Sg**	**19 39 26.2**	**-1.1**
IBND				*e*		19 40 13.2	
	comp=Z,81µm,0.4s						
IBND	**Bandar-abas**	**2.39**	**79**	*e*Pn	**Pb**	**19 38 51.8**	**-1.4**
BANOM	**Banah**	**2.42**	**117**	P	**Pn**	**19 38 51.0**	**+1.3**
	SNR=51						
BANOM				⇓S	**Sb**	**19 39 23.4**	**-0.1**
BANOM	**Banah**	**2.42**	**117**	P	**Pn**	**19 38 51.0**	**+1.3**
	SNR=51						
BANOM				S	**Sb**	**19 39 23.4**	**-0.1**
ISRV	**Sarvestan**	**2.44**	**344**	*e*Pn	**Pb**	**19 38 52.8**	**-1.6**
ISRV				*e*		19 40 09.1	
	comp=Z,1064µm,0.7s						
ISRV	**Sarvestan**	**2.44**	**344**	Pn	**Pb**	**19 38 52.7**	**-1.6**
ISRV	**Sarvestan**	**2.44**	**344**	Pn	**Pb**	**19 38 52.7**	**-1.6**
NAZ	**Nazwa, Dubai**	**2.58**	**142**	P	**Pb**	**19 38 55.3**	**-1.3**
	SNR=132						
NAZ	**Nazwa, Dubai**	**2.58**	**142**	⇑*e*P	**Pb**	**19 38 55.3**	**-1.3**
	SNR=132						
ASUD	**Al Ashush, Dub**	**2.73**	**151**	P	**Pb**	**19 38 57.1**	**-1.9**
	SNR=164						
ASUD	**Al Ashush, Dub**	**2.73**	**151**	⇑*e*P	**Pb**	**19 38 57.1**	**-1.9**
	SNR=164						
FAQ	**Al Faqa, Dubai**	**2.75**	**146**	P	**Pb**	**19 38 57.2**	**-2.2**
	SNR=104						
FAQ	**Al Faqa, Dubai**	**2.75**	**146**	⇓*i*P	**Pb**	**19 38 57.2**	**-2.2**
	SNR=104						
SHI	**Shiraz**	**2.87**	**335**	*e*Pn	**Pn**	**19 38 57.1**	**+1.1**
SHI				*e*		19 40 14.7	
	comp=Z,56µm,0.7s						
SHI	**Shiraz**	**2.87**	**335**	*e*Pn	**Pn**	**19 38 57.1**	**+1.1**
IPAR	**Pars**	**2.89**	**345**	*e*Pn	**Pn**	**19 38 58.9**	**+2.5**
IPAR				*e*		19 39 58.3	
	comp=Z,24µm,0.5s						
IPAR	**Pars**	**2.89**	**345**	*e*Pn	**Pn**	**19 38 58.9**	**+2.5**
IPAR	**Pars**	**2.89**	**345**	Pn	**Pn**	**19 38 58.9**	**+2.5**
AHBU	**AHRAM**	**2.94**	**309**	*e*Pn	**Pn**	**19 38 57.0**	**+0.3**
UOSS	**Wadi Hilu**	**2.94**	**135**	Pn	**Pn**	**19 38 58.6**	**+1.8**
	comp=Z,7µm,0.6s						
HATD	**Hatta, Dubai**	**2.98**	**137**	P	**Pn**	**19 38 59.5**	**+2.1**
	SNR=177						
HATD	**Hatta, Dubai**	**2.98**	**137**	⇑*i*P	**Pn**	**19 38 59.5**	**+2.1**
	SNR=177						
ASHO	**Ashiyiah**	**3.04**	**140**	P	**Pn**	**19 39 00.7**	**+2.4**
	SNR=410						
ASHO	**Ashiyiah**	**3.04**	**140**	P	**Pn**	**19 39 00.7**	**+2.4**
	SNR=410						
IKAZ	**Kazeroun**	**3.28**	**327**	*e*Pn	**Pn**	**19 39 02.2**	**+0.4**
IKAZ				*e*Sg	**Sg**	**19 39 54.5**	**-1.4**
IKAZ				*e*		19 40 33.0	
	comp=Z,1511µm,1.0s						
IKAZ	**Kazeroun**	**3.28**	**327**	*e*Pn	**Pn**	**19 39 02.2**	**+0.4**
IKAZ				Sg	**Sg**	**19 39 54.5**	**-1.4**
IKAZ	**Kazeroun**	**3.28**	**327**	Pn	**Pn**	**19 39 02.2**	**+0.4**
IKAZ				Sg	**Sg**	**19 39 54.5**	**-1.4**

SLWS		**3.68**	**233**		P		**Pn**	**19 39 09.0**	**+2.0**
SLWS		**3.68**	**233**		P		**Pn**	**19 39 09.2**	**+2.2**
KRBR	**Kerman**	**3.87**		**40**	*e*Pn		**Pn**	**19 39 11.8**	**+2.0**
KRBR	**Kerman**	**3.87**		**40**	*e*Pn		**Pn**	**19 39 11.0**	**+1.2**
KRBR	**Kerman**	**3.87**		**40**	*e*Pn		**Pn**	**19 39 11.0**	**+1.2**
BTHS		**4.06**	**223**		P		**Pn**	**19 39 14.0**	**+1.9**
BTHS					S		**Sn**	**19 40 02.0**	**+2.6**
BTHS		**4.06**	**223**		P		**Pn**	**19 39 14.0**	**+1.9**
BOQSS		**4.22**	**255**		P		**Pn**	**19 39 16.0**	**+1.7**
BOQSS		**4.22**	**255**		P		**Pn**	**19 39 16.5**	**+2.1**
IMEH	**Mehriz**	**4.38**		**8**	*e*Pn		**Pn**	**19 39 18.4**	**+1.6**
IMEH					*e*			19 40 44.6	
	comp=Z,43µm,0.5s								
IMEH	**Mehriz**	**4.38**		**8**	*e*Pn		**Pn**	**19 39 18.4**	**+1.6**
IMEH	**Mehriz**	**4.38**		**8**	Pn		**Pn**	**19 39 18.4**	**+1.6**
ARQ	**Araqi**	**4.38**	**147**		P		**Pn**	**19 39 19.2**	**+2.6**
	SNR=210								
ARQ	**Araqi**	**4.38**	**147**		P		**Pn**	**19 39 19.2**	**+2.6**
	SNR=210								
HOQ	**Hoqain**	**4.62**	**137**		P		**Pn**	**19 39 20.4**	**+0.6**
	SNR=89								
HOQ	**Hoqain**	**4.62**	**137**		P		**Pn**	**19 39 20.5**	**+0.6**
	SNR=89								
IBAF	**Bafgh**	**4.77**		**17**	*e*Pn		**Pn**	**19 39 22.5**	**+0.5**
IBAF					*e*			19 41 18.6	
	comp=Z,41µm,0.5s								
IBAF	**Bafgh**	**4.77**		**17**	*e*Pn		**Pn**	**19 39 22.5**	**+0.5**
IBAF	**Bafgh**	**4.77**		**17**	Pn		**Pn**	**19 39 22.5**	**+0.5**
ISAD	**Sadrabad**	**4.86**	**358**		*e*Pn		**Pn**	**19 39 25.5**	**+2.0**
ISAD					*e*			19 41 00.9	
	comp=Z,45µm,0.5s								
ISAD	**Sadrabad**	**4.86**	**358**		Pn		**Pn**	**19 39 25.7**	**+2.2**
ISAD	**Sadrabad**	**4.86**	**358**		Pn		**Pn**	**19 39 25.7**	**+2.2**
ICHK	**Chekchek**	**5.21**		**5**	*e*Pn		**Pn**	**19 39 29.4**	**+1.1**
ICHK					*e*			19 41 24.4	
	comp=Z,37µm,0.5s								
ICHK	**Chekchek**	**5.21**		**5**	Pn		**Pn**	**19 39 29.3**	**+1.1**
ICHK	**Chekchek**	**5.21**		**5**	Pn		**Pn**	**19 39 29.3**	**+1.1**
BSY	**Bisya**	**5.22**	**144**		P		**Pn**	**19 39 30.7**	**+2.6**
	SNR=382								
BSYO	**Bisya**	**5.25**	**144**		P		**Pn**	**19 39 30.7**	**+2.1**
	SNR=382								
KFJS		**5.41**	**284**		P		**Pn**	**19 39 32.0**	**+1.3**
KFJS		**5.41**	**284**		P		**Pn**	**19 39 32.2**	**+1.5**
SMDO	**Samad**	**5.46**	**136**		P		**Pn**	**19 39 33.5**	**+1.9**
	SNR=579								
SMDO	**Samad**	**5.46**	**136**		P		**Pn**	**19 39 33.5**	**+1.9**
	SNR=579								
JMDO	**Jabal Madar**	**6.02**	**140**		⇓P		**Pn**	**19 39 41.2**	**+2.1**
	SNR=61								
JMDO	**Jabal Madar**	**6.02**	**140**		P		**Pn**	**19 39 41.2**	**+2.1**
	SNR=61								
CHBR	**Chabahar**	**6.08**	**102**		*e*Pn		**Pn**	**19 39 40.8**	**+0.8**
CHBR							**Sn**	**19 40 46.9**	**-2.4**
CHBR	**Chabahar**	**6.08**	**102**		*e*Pn		**Pn**	**19 39 40.8**	**+0.8**
IPIR	**Pirpir**	**6.20**	**336**		*e*Pn		**Pn**	**19 39 40.4**	**-1.5**
IPIR					*e*			19 41 59.5	
	comp=Z,49µm,0.7s								
IPIR	**Pirpir**	**6.20**	**336**		*e*Pn		**Pn**	**19 39 40.4**	**-1.5**
IPIR	**Pirpir**	**6.20**	**336**		Pn		**Pn**	**19 39 40.3**	**-1.6**
WBK	**Wadi Bani Khal**	**6.38**	**133**		P		**Pn**	**19 39 45.6**	**+1.5**
	SNR=176								
WBK	**Wadi Bani Khal**	**6.38**	**133**		P		**Pn**	**19 39 45.6**	**+1.5**
	SNR=176								
IKLH	**Kolahrood**	**6.58**	**343**		*e*Pn		**Pn**	**19 39 47.3**	**+0.3**
IKLH					*e*			19 42 37.4	
	comp=Z,27µm,0.8s								
IKLH	**Kolahrood**	**6.58**	**343**		*e*Pn		**Pn**	**19 39 47.3**	**+0.3**
IKLH

GNI Sn Sn 19 44 39.4 +8.1
GNI Garni 15.13 332 *e*Pn **Pn 19 41 44.3 +0.4**
comp=Z,836nm,0.8s
GNI Sn Sn 19 44 39.4 +8.1
BDHA Al Bayda' 15.15 213 *e*P **Pn 19 41 40.6 -3.8**
BDHA AMb AMB 19 41 41.8
comp=Z,44nm,0.9s
BDHA *i* S **Sn 19 44 28.7 -3.5**
DAMY Dhamar 15.25 217 *e*Pn Pn 19 41 40.6 -5.1
comp=Z,273nm,0.7s
DAMY *e*Sn Sn 19 44 21.7 -13
DAMY Dhamar 15.25 217 *e*Pn Pn 19 41 40.6 -5.1
comp=Z,273nm,0.7s
DAMY *e*Sn Sn 19 44 21.7 -13
DHBB Dhamar BB 15.25 217 *e*P **Pn 19 41 41.6 -4.2**
DHBB AMb AMB 19 41 43.4
comp=Z,1μm,2.0s
DHBB *i* S **Sn 19 44 31.0 -3.6**
BTMT Batman 15.25 320 *e*P **Pn 19 41 44.0 -1.4**
MNKR ALMNKUR 15.30 309 *e*P **Pn 19 41 42.1 -4.0**
MNKR ALMNKUR 15.30 309 *e*P **Pn 19 41 41.5 -4.5**
SVAN Silvan-Diyarba 15.39 319 *e*P **Pn 19 41 48.2 +1.0**
MAZI Mazidag 15.39 316 *e*P **P 19 41 51.8 -0.2**
MAZI Mazidag 15.39 316 *e*P **P 19 41 51.8 -0.2**
KSRV Kasrt alli 15.45 308 *e*P **Pn 19 41 45.0 -2.9**
KSRV Kasrt alli 15.45 308 *e*P **Pn 19 41 43.6 -4.4**
AGRB Hanur-Agry 15.46 327 *e*P **P 19 41 54.8 +2.0**
AGRB Hanur-Agry 15.46 327 *e*P **P 19 41 54.8 +2.0**
ZALF Zalf 15.50 296 *e*P **Pn 19 41 45.1 -3.6**
ZALF Zalf 15.50 296 *e*P **Pn 19 41 44.8 -3.9**
ASF Jabal al Asfar 15.64 293 Pn **Pn 19 41 47.2 -3.4**
comp=Z,3.4nm,0.3s,baz=49,slow=13,SNR=19
ASF LR LR 19 49 20.3
comp=Z,6μm,19.9s,baz=69,slow=43
EKAR Karacoban 15.69 324 *i* P **P 19 41 53.8 -1.5**
EKAR Karacoban 15.69 324 *i* P **P 19 41 53.8 -1.5**
DYBB Diyarbakir 15.89 317 *e*P **Pn 19 41 53.0 -0.8**
SALA Sala 15.92 295 *e*P **Pn 19 41 51.7 -2.6**
DIGO Kars 15.94 329 *i* P **P 19 41 56.6 -1.5**
DIGO Kars 15.94 329 *i* P **P 19 41 56.6 -1.5**
VRTB Varto-Mus 15.95 322 *e*P **P 19 41 58.3 +0.2**
VRTB Varto-Mus 15.95 322 *e*P **P 19 41 58.3 +0.2**
ROOS tl_alroos 15.96 300 *e*P **Pn 19 41 50.1 -4.6**
ROOS tl_alroos 15.96 300 *e*P **Pn 19 41 50.1 -4.6**
BNGL BINGOL 15.97 321 *i* P **Pn 19 41 55.7 +0.8**
EAK Akyaka 16.06 331 *i* P **P 19 42 00.4 +1.0**
EAK Akyaka 16.06 331 *i* P **P 19 42 00.4 +1.0**
RABH Abou Rabah 16.12 301 *e*P **Pn 19 41 53.5 -3.3**
RABH Abou Rabah 16.12 301 *e*P **Pn 19 41 53.8 -3.0**
KARS Kars 16.25 329 *e*P **Pn 19 41 59.5 +1.1**
KARS Kars 16.25 329 *e*P **Pn 19 41 59.5 +1.1**
BNGB Bing˜¶l 16.26 320 *e*P **P 19 42 01.9 +0.4**
BINT Bingol 16.29 320 *e*P **P 19 42 01.9 0.0**
TOTH TOTAH 16.36 297 *e*P **Pn 19 41 57.3 -1.9**
TOTH TOTAH 16.36 297 *i* S Sn 19 44 43.7 -17
URFA Urfa 16.42 313 *e*P **Pn 19 41 57.1 -3.4**
TBLG Delisi 16.48 335 *e*P **Pn 19 42 00.8 -0.4**
TBLG Delisi 16.48 335 P **Pn 19 42 02.2 +0.9**
TBLG Delisi 16.48 335 P **Pn 19 42 02.1 +0.9**
TBLG Delisi 16.48 335 *e*P **Pn 19 42 00.8 -0.4**
TCHB Talchebab 16.53 294 *e*P **Pn 19 42 01.0 -1.0**
QASN Qassioun 16.53 297 *e*P **Pn 19 42 03.2 +1.2**
QASN Qassioun 16.53 297 *e*P **Pn 19 42 03.2 +1.2**
EZM Erzurum 16.53 324 *e*P **Pn 19 42 02.9 +0.7**
AKH Akhalkalaki 16.70 332 *e*P **Pn 19 42 05.2 +1.1**
AKH Akhalkalaki 16.70 332 P **P 19 42 06.5 0.0**
AKH Akhalkalaki 16.70 332 *e*P **Pn 19 42 05.3 +1.1**
MAK Makhachkala 16.72 343 *e*P **P 19 42 05.7 -0.8**
MAK *e*S **Sn 19 45 12.6 +3.0**
MAK pmax pmax
comp=Z,1μm,1.2s
MAK MLR MLR
comp=Z,9μm,14.0s
MAK Makhachkala 16.72 343 *e*P **P 19 42 05.7 -0.8**
comp=Z,1μm,1.2s
BRBR Barbar 16.75 297 *e*P **Pn 19 42 05.0 0.0**
BRBR Barbar 16.75 297 *e*P **Pn 19 42 04.2 -0.8**
DUS Dusheti 16.80 336 P **P 19 42 08.2 +0.7**
DUS Dusheti 16.80 336 P **P 19 42 08.2 +0.7**
RCY Rachaya 16.87 297 *e*P **Pn 19 42 07.1 +0.7**
RCY Rachaya 16.87 297 *e*P **Pn 19 42 07.1 +0.7**
EIL Elat 16.89 283 Pn **P 19 42 07.5 -0.9**
comp=Z,1.8nm,0.3s,baz=84,slow=4.6,SNR=26
EIL LR LR 19 50 16.5
comp=Z,5μm,21.6s,baz=94,slow=43
CEP Cherat 16.93 62 P **Pn 19 42 06.8 -0.3**
ELZG Elazig 16.94 316 *i* P **P 19 42 09.8 +0.6**
ELZG Elazig 16.94 316 *i* P **P 19 42 09.8 +0.6**
HWQ Hawqa 17.04 299 *e*P **Pn 19 42 08.0 -0.4**
HWQ Hawqa 17.04 299 *e*P **Pn 19 42 08.0 -0.4**
SARP Sargodha 17.05 69 P **Pn 19 42 06.5 -2.0**
KOPT Kop Dagi 17.07 323 *i* P **Pn 19 42 09.8 +0.8**
KOPT Kop Dagi 17.07 323 *i* P **Pn 19 42 09.8 +0.8**
MMAI Mount Meron Ar 17.08 295 P **Pn 19 42 08.4 -0.5**
comp=Z,6.6nm,0.3s,baz=101,slow=17,SNR=36
MMAI LR LR 19 50 16.7
comp=Z,6μm,18.9s,baz=80,slow=42
BHL Bhannes 17.14 298 *e*P **Pn 19 42 09.1 -0.6**
BHL Bhannes 17.14 298 *e*P **Pn 19 42 09.1 -0.6**
DAGI Agillar 17.14 328 *i* P **P 19 42 11.7 +0.3**
DZET Dzherino 17.14 43 P **P 19 42 10.6 -0.7**
DZET pmax pmax
comp=Z,190nm,0.6s
DZET Dzherino 17.14 43 P **P 19 42 10.6 -0.7**
comp=Z,190nm,0.6s
DQRL Deir Qamar 17.15 297 *e*P **Pn 19 42 10.1 +0.3**
DQRL Deir Qamar 17.15 297 *e*P **Pn 19 42 10.1 +0.3**
MALT Malatya 17.18 315 *e*P **P 19 42 11.8 +0.1**
MALT Malatya 17.18 315 *e*P **P 19 42 11.9 +0.1**
DBAD Bademkaya 17.20 327 *i* P **P 19 42 11.7 -0.3**
DBAD Bademkaya 17.20 327 *i* P **P 19 42 11.7 -0.3**
ERZN Erzincan 17.21 320 *e*P **P 19 42 11.4 -0.7**
ARTV Artvin 17.22 328 *i* P **P 19 42 12.6 +0.3**
ARTV Artvin 17.22 328 *i* P **P 19 42 12.6 +0.3**
KUZU Kuzuini 17.25 308 *i* P **Pn 19 42 07.0 -4.0**
BEYL Beirut 17.26 298 *e*P **Pn 19 42 10.6 -0.4**
BEYL Beirut 17.26 298 *e*P **Pn 19 42 10.6 -0.4**
AKCD Akcadag 17.49 314 *i* P **P 19 42 18.2 +3.0**
BCA Borcka 17.57 328 *e*P **P 19 42 17.4 +1.5**
BCA Borcka 17.57 328 *e*P **P 19 42 17.4 +1.5**
YAYL Yayladag 17.60 305 *i* P **Pn 19 42 12.6 -2.8**
TAHT Tahtakopru-Hat 17.69 306 *e*P **P 19 42 17.8 +0.5**
TAHT Tahtakopru-Hat 17.69 306 *e*P **P 19 42 17.8 +0.5**
ONI Oni 17.71 334 P **P 19 42 20.6 +3.2**
KEMA Kemaliye 17.72 317 *i* P **P 19 42 18.2 +0.5**
KEMA Kemaliye 17.72 317 *i* P **P 19 42 18.2 +0.5**
KMRS Kahramanmaras 17.74 310 *e*P **Pn 19 42 17.4 +0.3**
KMRS Kahramanmaras 17.74 310 *e*P **Pn 19 42 17.4 +0.3**
KELT Kelkit 17.85 321 *i* P **Pn 19 42 17.3 -1.3**
KELT Kelkit 17.85 321 *i* P **Pn 19 42 17.3 -1.3**
DARE Darende-Malaty 17.93 314 *e*P **Pn 19 42 19.1 -0.4**
DARE Darende-Malaty 17.93 314 *e*P **Pn 19 42 19.1 -0.4**
GUMT Gumushane 17.94 322 *e*P **Pn 19 42 19.1 -0.5**
GUMT Gumushane 17.94 322 *e*P **Pn 19 42 19.1 -0.5**
CHCP Chirah Chowk 17.96 64 P **Pn 19 42 19.9 +0.1**
MACK Trabzon 18.12 324 *i* P **P 19 42 22.0 -0.1**
MACK Trabzon 18.12 324 *i* P **P 19 42 22.0 -0.1**
ANDN Andirin 18.16 310 *i* P **P 19 42 22.9 +0.4**
ANDN Andirin 18.16 310 *i* P **P 19 42 22.9 +0.4**
KTUT Trabzon 18.16 324 *e*P **P 19 42 22.7 +0.3**
KTUT Trabzon 18.16 324 *e*P **P 19 42 22.7 +0.3**
YURE YUREGIR 18.29 307 *i* P **Pn 19 42 23.9 0.0**
YURE YUREGIR 18.29 307 *i* P **Pn 19 42 23.9 0.0**
CEYT Ceyhan 18.30 307 *e*P **Pn 19 42 22.7 -1.1**
CEYT Ceyhan 18.30 307 *e*P **Pn 19 42 22.7 -1.1**
KRTS Karatas 18.37 306 *e*P **Pn 19 42 28.1 +3.4**
CHVG Ch'k'valeri 18.37 331 *e*P **Pn 19 42 25.1 +0.3**
CHVG Ch'k'valeri 18.37 331 P **Pn 19 42 26.3 +1.5**
CHVG Ch'k'valeri 18.37 331 *e*P **Pn 19 42 25.1 +0.3**
CUKAN kangal_SIVAS 18.38 316 *i* P **P 19 42 22.9 -2.1**
NCK Nalchik 18.43 336⇑ *e*P **Pn 19 42 26.2 +0.8**
NCK Nalchik 18.43 336 *e*P **Pn 19 42 26.2 +0.8**
KOZT Kozan 18.46 309 *e*P **P 19 42 24.5 -1.3**
KOZT Kozan 18.46 309 *e*P **P 19 42 24.5 -1.3**
SUSE Susehri 18.50 319 *i* P Pn 19 42 34.2 +7.8
NEY Neytrino 18.55 334*ce*P **Pn 19 42 29.4 +2.3**
NEY pmax pmax
comp=Z,45nm,1.1s
PHNC Paralimni 18.77 300 P **Pn 19 42 30.8 +1.2**
EREN Erenkoy 18.84 302 *e*P **Pn 19 42 30.4 -0.1**
EREN Erenkoy 18.84 302 *e*P **Pn 19 42 30.4 -0.1**

KBZ Khabaz 18.89 335 P **Pn 19 42 30.8 -0.2**
comp=Z,1.5nm,0.3s,baz=132,slow=11,SNR=67
KARA Karaisali 18.90 307 *e*P **P 19 42 29.2 -1.4**
KARA Karaisali 18.90 307 *e*P **P 19 42 29.2 -1.4**
SCER sogukcermik 18.92 317 *i* P **Pn 19 42 34.2 +2.7**
SVSK Karacayir 19.03 317 *e*P **P 19 42 31.6 -0.4**
SVSK Karacayir 19.03 317 *e*P **P 19 42 31.6 -0.4**
TAS Tashkent 19.07 38 *e*P **Pn 19 42 33.1 -0.2**
RSDY Resadiye-TOKAT 19.13 318 *e*P **P 19 42 32.8 -0.3**
RSDY Resadiye-TOKAT 19.13 318 *e*P **P 19 42 32.8 -0.3**
KIV Kislovodsk 19.16 335 *e*P **Pn 19 42 34.6 +0.3**
KIV Kislovodsk 19.16 335⇑ *e*P **Pn 19 42 34.7 +0.3**
KIV pmax pmax
comp=Z,460nm,1.0s
KIV MLR MLR
comp=Z,10μm,23.0s
KIV Kislovodsk 19.16 335 Pn **Pn 19 42 35.4 +1.0**
comp=Z,3μm,0.8s,SNR=51
KIV Kislovodsk 19.16 335 *e*P **Pn 19 42 34.2 -0.2**
comp=Z,339nm,0.8s
KIV Kislovodsk 19.16 335 *e*P **Pn 19 42 34.2 -0.2**
comp=Z,339nm,0.8s
CSS Prodhromos 19.30 299 P **Pn 19 42 36.0 -0.1**
CSS Prodhromos 19.30 299 P **P 19 42 35.0 0.0**
CSS Prodhromos 19.30 299 *e*P **P 19 42 33.6 -1.4**
comp=Z,140nm,1.0s
CSS Prodhromos 19.30 299 P **P 19 42 35.0 0.0**
MAMC Mammari 19.45 300 P **Pn 19 42 38.1 +0.2**
TOKT Tokat 19.55 317 *e*P **Pn 19 42 41.1 +2.0**
SZAC Souni-Zanaja 19.59 298 P **Pn 19 42 39.2 -0.3**
NIG Nigde 19.61 309 *e*P **Pn 19 42 40.5 +0.5**
NIG Nigde 19.61 309 *e*P **Pn 19 42 40.5 +0.5**
AVNT Avonos 19.77 311 *i* P **Pn 19 42 41.8 -0.1**
AVNT Avonos 19.77 311 *i* P **Pn 19 42 41.8 -0.1**
PONG Pong 19.80 70 *e*P **P 19 42 41.0 +0.5**
PONG *ex* x 19 43 08.0
DLH Dalhousie 19.91 69 *e*P **Pn 19 42 43.0 -0.6**
ALFC Alevga 19.93 299 P **Pn 19 42 43.2 -0.4**
GOF Gofitskoye 19.98 337 *e*P **Pn 19 42 43.5 -0.5**
GOF pmax pmax
comp=Z,410nm,0.9s
GOF Gofitskoye 19.98 337 *e*P **Pn 19 42 43.5 -0.5**
comp=Z,410nm,0.9s
GULA Gulagac 19.98 309 *e*P **Pn 19 42 43.7 -0.6**
GULA Gulagac 19.98 309 *e*P **Pn 19 42 43.7 -0.6**
PPCY Paphos 20.05 298 P Pn 19 42 45.3 +0.4
AKMC Akamas 20.10 299 P Pn 19 42 44.8 -0.8
SOC Sochi 20.11 329*c i*P **P 19 42 43.3 -0.5**
SOC *e*S **S 19 46 30.1 +0.8**
SOC pmax pmax
comp=Z,692nm,1.1s
SOC MLR MLR
comp=Z,20μm,19.0s
SOC Sochi 20.11 329 *i* P **P 19 42 43.3 -0.5**
comp=Z,692nm,1.1s
BHK Bhakra 20.12 72 *ex* P 19 42 50.5 +6.5
DHRM DHARAMSHALA 20.14 70 *e*P **P 19 42 45.3 +0.9**
DHRM AMB AMB 19 42 56.3
comp=Z,336nm,0.2s
ERMK Ermenek 20.20 303 *i* P Pn 19 42 46.5 -0.6
ERMK Ermenek 20.20 303 *i* P Pn 19 42 46.5 -0.6
POO Poona 20.23 111 *e*P **P 19 42 45.5 +0.2**
KVT Kavak 20.32 318 *e*P **P 19 42 46.5 +0.4**
KVT Kavak 20.32 318 *e*P **P 19 42 46.5 +0.4**
GAZI Gazipasa 20.50 302 *i* P **P 19 42 47.4 -0.7**
GAZI Gazipasa 20.50 302 *i* P **P 19 42 47.4 -0.7**
CDAG Cicekdag 20.53 313 *i* P Pn 19 42 51.2 +0.4
SDNR Sundarnagar 20.60 72 *e*P Pn 19 42 51.0 -0.6
NDI New Delhi 20.68 80 *e*P Pn 19 42 51.5 -0.9
NDI *ex* x 19 46 33.0
SMLA Simla 20.73 73 *i* P Pn 19 42 51.9 -1.0
SMLA AMB AMB 19 42 56.2
comp=Z,344nm,0.9s
SMLA *i* x x 19 46 09.4
SFK Sufi-Kurgan 20.79 47 P **P 19 42 51.4 -0.1**
SFK pmax pmax
comp=Z,877nm,2.0s
SFK Sufi-Kurgan 20.79 47 P **P 19 42 51.4 -0.1**
comp=Z,877nm,2.0s
KK31 Karatay Array 20.96 36 P **P 19 42 52.3 -0.7**
KK31 pmax pmax
comp=Z,287nm,1.0s
KK31 Karatay Array 20.96 36 P **P 19 42 52.3 -0.7**
comp=Z,287nm,1.0s
KKAR Karatay Array 20.96 36⇑ *e*P **P 19 42 52.3 -0.7**
KKAR pmax pmax
comp=Z,136nm,0.7s
KKAR Karatay Array 20.96 36 *e*P **P 19 42 52.3 -0.7**
comp=Z,136nm,0.7s
KKAR Karatay Array 20.96 36⇑ *e*P **P 19 42 52.3 -0.7**
comp=Z,136nm,0.7s
BR131 Keskin Array S 21.07 312⇑ *e*P **P 19 42 54.5 +0.1**
comp=Z,1.3nm,0.6s
BR131 Keskin Array S 21.07 312⇑ *e*P **P 19 42 54.5 +0.1**
comp=Z,1.3nm,0.6s
BRTR Keskin Array B 21.07 312 P **P 19 42 54.6 +0.3**
comp=Z,61nm,0.7s,baz=131,slow=12,SNR=99
BRTR PcP **PcP 19 47 03.0 +2.2**
comp=Z,8.8nm,0.7s,baz=148,slow=3.1,SNR=4.5
BRTR ScP **ScP 19 50 40.2 +3.0**
comp=Z,5.8nm,0.7s,baz=148,slow=4.6,SNR=7.9
BRTR LR LR 19 53 55.3
comp=Z,7μm,19.2s,baz=116,slow=45
BRTR P3KPbc 20 16 45.1
comp=Z,2.1nm,0.9s,baz=8.5,slow=2.9,SNR=9.7
BRTR Keskin Array B 21.07 312 PcP **PcP 19 47 03.0 +2.2**
DIKM Dikmen 21.13 318 *e*P **P 19 42 53.6 -1.3**
DIKM Dikmen 21.13 318 *e*P **P 19 42 53.6 -1.3**
BYBT Boyabat 21.32 317 *e*P **P 19 42 55.4 -1.4**
BYBT Boyabat 21.32 317 *e*P **P 19 42 55.4 -1.4**
BBAL Bala 21.32 311 *i* P **P 19 42 59.6 +2.5**
DDI Dehra Dun 21.44 76 *e*P **P 19 42 59.2 +0.9**
DDI AMB AMB 19 43 06.8
comp=Z,349nm,1.1s
KDHN Kadinhani 21.54 308 *i* P **P 19 43 00.6 +1.1**
KDHN Kadinhani 21.54 308 *i* P **P 19 43 00.6 +1.1**
ELDT Eldivan 21.61 314 *i* P **P 19 43 01.5 +1.3**
ELDT Eldivan 21.61 314 *i* P **P 19 43 01.5 +1.3**
BHPL Bhopal 21.62 95 *e*P **P 19 43 01.6 +1.3**
BHPL AMB AMB 19 43 09.6
comp=Z,218nm,6.6s
ILGA Ilgaz 21.73 315 *i* P **P 19 43 02.4 +0.9**
ILGA Ilgaz 21.73 315 *i* P **P 19 43 02.4 +0.9**
GOA Goa 21.80 118 *ex* P **P 19 43 06.8 +4.6**
GOA AMB AMB 19 43 12.4
comp=Z,167nm,0.8s
AKL Akola 22.04 102 *e*P **P 19 43 06.2 +1.3**
AKL AMB AMB 19 43 13.7
comp=Z,131nm,1.4s
ANN Anapa 22.11 328*c i*P **P 19 43 05.2 -0.1**
ANN *i* SS SS 19 47 40.1
ANN pmax pmax
comp=Z,450nm,1.0s
ANN pmax pmax
comp=N,141nm,1.0s
ANN pmax pmax
comp=E,78nm,1.0s
ANN MLR MLR
comp=Z,9μm,15.0s
ANN MLR MLR
comp=N,7μm,15.0s
ANN MLR MLR
comp=E,4μm,15.0s
ANN Anapa 22.11 328 *i* P **P 19 43 05.2 -0.1**
comp=E,450nm,1.0s
AML Almayashu 22.11 42 P **P 19 43 06.0 +0.1**
SNR=16
AML Almayashu 22.11 42 P **P 19 43 05.1 -0.7**
SNR=137
KSH Kashi 22.19 50 P P 19 43 00.0 -6.4
KSH sP sP 19 43 09.1 -3.3
KSH PP **PnPn 19 43 28.3 -0.5**
KSH S S 19 46 53.1 -18
KSH PMZ
comp=E,310nm,0.8s
KSH PMZ
comp=E,2μm,4.3s
KSH LN
comp=E,18μm,11.0s
KSH LE
comp=E,12μm,12.2s
KSH LZ
comp=E,35μm,20.7s
KORT Korkueli 22.25 302 *i* P **P 19 43 08.1 +1.0**

KORT Korkueli 22.25 302 *i* P **P 19 43 08.1 +1.0**
BAGO Egridir - ISPA 22.28 305 *i* P **P 19 43 09.0 +1.7**
AUSIV SIVRIHISAR 22.35 309 *i* P **P 19 43 10.0 +1.8**
ISP Isparta 22.41 305⇑ *e*P **P 19 43 09.9 +1.1**
ISP *e*S **S 19 47 12.9 -1.8**
ISP pmax pmax
comp=Z,322nm,1.0s
ISP Isparta 22.41 305 P **P 19 43 07.2 -1.6**
ISP *e*S **S 19 47 12.9 -1.8**
ISP Isparta 22.41 305⇑ *e*P **P 19 43 09.9 +1.1**
comp=Z,322nm,1.0s
ISP *e*S **S 19 47 12.9 -1.8**
ISP Isparta 22.41 305 P **P 19 43 07.2 -1.6**
EKS2 Erkin-Say 22.48 41 P **P 19 43 11.0 +1.5**
SNR=94
EKS2 Erkin-Say 22.48 41⇑ *e*P **P 19 43 09.5 0.0**
EKS2 pmax pmax
comp=Z,243nm,0.9s
EKS2 Erkin-Say 22.48 41 *e*P **P 19 43 09.5 0.0**
comp=Z,243nm,0.9s
EKS2 *e*S **S 19 47 20.1 +4.2**
EKS2 Erkin-Say 22.48 41⇑ *e*P **P 19 43 09.5 0.0**
comp=Z,243nm,0.9s
EKS2 *e*S **S 19 47 20.1 +4.2**
KSL Kastellorizon 22.57 300 *e*P **P 19 43 12.0 +1.7**
AKAS Kas 22.58 300 *i* P **P 19 43 10.9 +0.3**
AKAS Kas 22.58 300 *i* P **P 19 43 10.9 +0.3**
AUMIH MIHALICIK 22.59 310 *i* P **P 19 43 12.8 +2.1**
BCAM Yenicaga 22.66 313 *i* P **P 19 43 10.9 -0.5**
BCAM Yenicaga 22.66 313 *i* P **P 19 43 10.9 -0.5**
ABKAR Akbulak array 22.67 10⇑ *i*P **P 19 43 10.8 -0.5**
comp=Z,0.7nm,0.8s
ABKAR *e*S **S 19 47 14.5 -4.4**
ABKAR Akbulak array 22.67 10⇑ *i*P **P 19 43 10.8 -0.5**
comp=Z,0.7nm,0.8s
ABKAR *e*S **S 19 47 14.5 -4.4**
KLRI Killari 22.75 108 *e*P **P 19 43 13.6 +1.1**
KLRI IAmb IAmb 19 43 19.4
comp=Z,250nm,1.2s
KLRI *e*S **S 19 47 24.0 +3.0**
KLRI IVMsBB 19 59 19.1
comp=Z,2μm,6.0s
AAK Ala-Archa 22.89 42 P **P 19 43 15.2 +1.4**
SNR=40
AAK Ala-Archa 22.89 42 *i* P **P 19 43 16.0 +2.2**
AAK pmax pmax
comp=Z,927nm,1.6s
GOLH Golhisar 22.92 302 *i* P **P 19 43 14.7 +0.5**
GOLH Golhisar 22.92 302 *i* P **P 19 43 14.7 +0.5**
AUKIR K¨¨rka- Seyitg 22.99 308 *i* P **P 19 43 14.7 -0.1**
KZA Kyzart 23.03 44 P **P 19 43 17.1 +1.5**
SNR=9.7
KBK Karagaybulak 23.17 42 P **P 19 43 17.8 +1.0**
SNR=62
CHMS Chumysh 23.26 41 P **P 19 43 17.7 +0.2**
SNR=25
USP Ospenovka 23.27 41 P **P 19 43 18.9 +1.3**
SNR=34
BORA Eskisehir 23.30 309 *i* P **P 19 43 19.4 +1.4**
BORA Eskisehir 23.30 309 *i* P **P 19 43 19.4 +1.4**
LGTI Lohaghat 23.32 78 *ex* P **P 19 43 20.4 +2.2**
AKTO Aktyubinsk 23.58 7 P **P 19 43 20.3 -0.2**
comp=Z,50nm,0.9s,baz=194,slow=10,SNR=98
AKTO LR LR 19 54 37.0
comp=Z,17μm,20.6s,baz=184,slow=42
AKTO Aktyubinsk 23.58 7 P **P 19 43 19.9 -0.6**
AKTO pmax pmax
comp=Z,2μm,2.5s
TKM2 Tokmak 2 23.71 42 P **P 19 43 22.7 +0.5**
SNR=40
TKM2 Tokmak 2 23.71 42 *i* P **P 19 43 22.0 -0.2**
TKM2 pmax pmax
comp=Z,153nm,1.2s
TKM2 Tokmak 2 23.71 42⇑ *i*P **P 19 43 22.5 +0.3**
comp=Z,81nm,0.7s
TKM2 Tokmak 2 23.71 42⇑ *i*P **P 19 43 22.4 +0.3**
comp=Z,81nm,0.7s
ARG Arkhangelos 23.72 299 P **P 19 43 22.1 0.0**
ARG Arkhangelos 23.72 299 *e*P **P 19 43 23.0 +0.9**
ARG Arkhangelos 23.72 299 P **P 19 43 22.1 0.0**
ARG Arkhangelos 23.72 299 P **P 19 43 22.1 0.0**
ARG Arkhangelos 23.72 299 P **P 19 43 22.1 0.0**
ULHL Ulahol 23.73 45 P **P 19 43 23.4 +1.0**
SNR=49
SRSP Sriramsagar 23.88 105 *e*P **P 19 43 24.2 +0.5**
SRSP IAmb IAmb 19 43 29.9
comp=Z,116nm,1.2s
SIM Simferopol' 23.89 324*c i*P **P 19 43 23.4 -0.2**
SIM MLR MLR
comp=Z,3μm,12.0s
SIM Simferopol' 23.89 324 *i* P **P 19 43 23.4 -0.2**
comp=Z,3μm,12.0s
KULA Kula-Manisa 24.03 305 P **P 19 43 23.9 -1.2**
KULA Kula-Manisa 24.03 305 P **P 19 43 23.9 -1.2**
KULA Kula-Manisa 24.03 305 P **P 19 43 23.9 -1.2**
KARP Karpathos 24.32 297 *e*P **P 19 43 28.5 +0.8**
AYDN Tasoluk 24.33 302 *i* P **P 19 43 28.8 +1.0**
AYDN Tasoluk 24.33 302 *i* P **P 19 43 28.8 +1.0**
HYBB Hyderabad (bro 24.71 108 *e*P **P 19 43 32.6 +1.2**
HYBB IAmb IAmb 19 43 38.1
comp=Z,104nm,1.4s
HYBB *e*S **S 19 47 57.0 +4.0**
HYBB IVMs_BB IVMs_BB 19 59 10.7
comp=Z,1μm,4.9s
HYB Hyderabad 24.71 108 *i* P **P 19 43 32.0 +0.6**
HYB *e*PP **PnPn 19 44 09.0 +5.7**
HYB Hyderabad 24.71 108 *e*P **P 19 43 32.5 +1.1**
RPR Rampur 24.73 104 *e*P **P 19 43 32.8 +1.3**
RPR IAmb IAmb 19 43 38.5
comp=Z,81nm,1.4s
AAA Alma-Ata 24.73 43 *i* P **P 19 43 35.5 +4.1**
AAA pmax pmax
comp=Z,5μm,5.1s
AAA MLR MLR
comp=Z,9μm,14.0s
ISK Istanbul-Kandi 24.78 311 P **P 19 43 31.3 -0.5**
ISK Istanbul-Kandi 24.78 311 P **P 19 43 31.3 -0.5**
ISK Istanbul-Kandi 24.78 311 P **P 19 43 31.3 -0.5**
ISK Istanbul-Kandi 24.78 311 P **P 19 43 31.3 -0.5**
URV Uravakonda 24.86 114 *e*P **P 19 43 32.9 +0.2**
URV IAmb IAmb 19 43 40.2
comp=Z,26nm,0.7s
URV *e*S **S 19 47 57.1 +1.7**
URV IVMsBB 19 59 12.7
comp=Z,2μm,25.1s
SMG Samos 25.13 302 *e*P **P 19 43 35.6 +0.6**
SMG Samos 25.13 302 P **P 19 43 34.6 -0.4**
SMG Samos 25.13 302 P **P 19 43 34.6 -0.4**
SMG Samos 25.13 302 P **P 19 43 34.6 -0.4**
NPS Neapolis 25.50 296 P **P 19 43 38.6 +0.2**
NPS Neapolis 25.50 296 *e*P **P 19 43 39.8 +1.4**
NPS Neapolis 25.50 296 P **P 19 43 38.6 +0.2**
NPS Neapolis 25.50 296 P **P 19 43 38.6 +0.2**
NPS Neapolis 25.50 296 P **P 19 43 38.6 +0.2**
LAST Lasithi 25.58 295 *e*P **P 19 43 39.9 +0.6**
LAST Lasithi 25.58 295 P **P 19 43 39.5 +0.2**
LAST Lasithi 25.58 295 P **P 19 43 39.5 +0.2**
LAST Lasithi 25.58 295 P **P 19 43 39.5 +0.2**
OTUK Ortayu 25.59 29 P **P 19 43 39.5 +0.4**
OTUK pmax pmax
comp=Z,278nm,0.9s
OTUK Ortayu 25.59 29 P **P 19 43 39.5 +0.4**
comp=Z,278nm,0.9s
SRLM Srisailam 25.61 110 *e*P **P 19 43 40.9 +1.3**
SRLM IAmb IAmb 19 43 51.2
comp=Z,93nm,0.9s
SRLM *e*S **S 19 48 09.6 +2.1**
SRLM IVMsBB 19 58 26.0
comp=Z,2μm,7.7s
NJS Nagarjunasagar 25.75 109 *e*P **P 19 43 42.4 +1.7**
NJS IAmb IAmb 19 43 48.5
comp=Z,139nm,1.3s
NJS *e*S **S 19 48 11.7 +2.3**
NJS IVMs_BB IVMs_BB 19 58 05.6
comp=Z,1μm,7.9s
AYVA Ayvalik 25.75 305 *i* P **P 19 43 41.9 +1.3**
AYVA Ayvalik 25.75 305 *i* P **P 19 43 41.9 +1.3**
SANT Santorini 25.85 298 *e*P **P 19 43 41.6 0.0**
THR2 Thira island, 25.88 298 P P 19 43 49.1 +7.2
THR2 Thira island, 25.88 298 P P 19 43 49.1 +7.2
THR2 Thira island, 25.88 298 P P 19 43 49.1 +7.2
THR6 Thira Island, 25.89 298 P **P 19 43 39.6 -2.3**
THR6 Thira Island, 25.89 298 P **P 19 43 39.6 -2.3**
THR6 Thira Island, 25.89 298 P **P 19 43 39.6 -2.3**

THR3	Thira Island,	25.90	298	P	P	19 43 41.7	-0.3	
THR3	Thira Island,	25.90	298	P	P	19 43 41.7	-0.3	
THR3	Thira Island,	25.90	298	P	P	19 43 41.7	-0.3	
CHOS	Chios island	25.92	303	eP	P	19 43 43.4	+1.1	
IACM	Heraklion	25.94	296	eP	P	19 43 43.8	+1.4	
THR5	Thira Island,	25.95	298	P	P	19 43 42.2	-0.2	
THR5	Thira Island,	25.95	298	P	P	19 43 42.2	-0.2	
APE	Apeiranthos	25.96	300⇓	eP	P	19 43 43.0	+0.4	
APE				pmax	pmax			
	comp=Z,135nm,0.9s							
APE	Apeiranthos	25.96	300⇑	iP	P	19 43 43.0	+0.4	
APE	Apeiranthos	25.96	300	eP	P	19 43 42.6	0.0	
APE	Apeiranthos	25.96	300	eP	P	19 43 43.0	+0.4	
	comp=Z,135nm,0.9s							
RCLA	Racherla	25.99	111	eP	P	19 43 43.9	+0.9	
RCLA				lAmb	lAmb	19 43 49.0		
	comp=Z,100nm,1.0s							
RCLA				ePcP	PcP	19 47 11.1	-0.2	
PRK	Paraskevi	26.03	305	P	P	19 43 43.6	+0.4	
PRK	Paraskevi	26.03	305	eP	P	19 43 44.1	+0.9	
PRK	Paraskevi	26.03	305	P	P	19 43 43.6	+0.4	
PRK	Paraskevi	26.03	305	P	P	19 43 43.6	+0.4	
PRK	Paraskevi	26.03	305	P	P	19 43 43.6	+0.4	
IDI	Anoyia	26.08	296	P	P	19 43 44.8	+1.0	
	comp=Z,167nm,0.7s,baz=86,slow=9.9,SNR=60							
IDI				LR	LR	19 56 43.1		
	comp=Z,3µm,20.4s,baz=98,slow=43							
IDI	Anoyia	26.08	296	eP	P	19 43 44.6	+0.8	
IDI	Anoyia	26.08	296	P	P	19 43 43.5	-0.3	
IDI	Anoyia	26.08	296⇑	iP	P	19 43 44.7	+0.9	
	comp=Z,178nm,0.8s							
IDI	Anoyia	26.08	296	P	P	19 43 43.5	-0.3	
SIVA	Sivas	26.10	295	eP	P	19 43 44.8	+1.0	
SIVA	Sivas	26.10	295	P	P	19 43 44.6	+0.8	
SIVA	Sivas	26.10	295	P	P	19 43 44.6	+0.8	
SIVA	Sivas	26.10	295	P	P	19 43 44.6	+0.8	
SIGR	SIGRI	26.33	305	eP	P	19 43 48.1	+2.3	
PDGK	Podgornoye	26.34	45	P	P	19 43 48.1	+2.2	
PDGK				pmax	pmax			
	comp=Z,268nm,1.2s							
KOLN	Koldanda	26.35	82	eP	P	19 43 47.7	+1.2	
	comp=Z,218nm,0.9s							
MANR	Mangalia	26.41	316⇓	iP	P	19 43 48.5	+2.0	
MANR	Mangalia	26.41	316⇓	iP	P	19 43 48.5	+2.0	
DANN	Dangsing	26.45	80	eP	P	19 43 49.3	+1.9	
EFOR	EFORIE	26.52	316⇑	iP	P	19 43 49.0	+1.5	
EFOR	EFORIE	26.52	316⇑	iP	P	19 43 49.0	+1.5	
ADKI	Addanki	26.64	109	eP	P	19 43 50.2	+1.3	
ADKI				lAmb	lAmb	19 43 54.5		
	comp=Z,75nm,1.0s							
ADKI				eS	S	19 48 23.3	-0.3	
ADKI				IVMsBB		20 00 42.6		
	comp=Z,2µm,14.8s							
GVD	Gavdhos	26.66	294	eP	P	19 43 49.5	+0.6	
GVD	Gavdhos	26.66	294	eP	P	19 43 48.9	0.0	
	comp=Z,748nm,1.1s							
GVD	Gavdhos	26.66	294	eP	P	19 43 48.9	0.0	
	comp=Z,748nm,1.1s							
VAM	Vamos	26.66	296	eP	P	19 43 50.1	+1.2	
EDRB	Edirne	26.69	311	P	P	19 43 48.3	-0.8	
EDRB	Edirne	26.69	311	P	P	19 43 48.3	-0.8	
EDRB	Edirne	26.69	311	P	P	19 43 48.3	-0.8	
ALN	Alexandroupoli	26.79	308	P	P	19 43 48.6	-1.4	
ALN	Alexandroupoli	26.79	308	eP	P	19 43 50.2	+0.2	
ALN	Alexandroupoli	26.79	308	P	P	19 43 48.6	-1.4	
ALN	Alexandroupoli	26.79	308	P	P	19 43 48.6	-1.4	
ALN	Alexandroupoli	26.79	308	P	P	19 43 48.6	-1.4	
TIRR	Tirgusor	26.85	317⇑	eP	P	19 43 49.4	-1.1	
TIRR				pmax	pmax			
	comp=Z,230nm,1.2s							
TIRR	Tirgusor	26.85	317⇓	iP	P	19 43 50.1	-0.4	
TIRR	Tirgusor	26.85	317	eP	P	19 43 49.4	-1.1	
	comp=Z,230nm,1.2s							
TIRR	Tirgusor	26.85	317⇑	eP	P	19 43 49.4	-1.1	
	comp=Z,230nm,1.2s							
SMTH	Samothraki Isl	26.99	307	eP	P	19 43 49.9	-2.0	
TLCR		27.01	319⇑	iP	P	19 43 51.9	0.0	
TLCR		27.01	319⇑	iP	P	19 43 51.9	0.0	
TLCR		27.01	319	P	P	19 43 51.9	0.0	
MSAB	Monastry St. A	27.02	316⇑	iP	P	19 43 52.4	+0.3	
MSAB	Monastry St. A	27.02	316⇑	iP	P	19 43 52.4	+0.3	
LIA	Limnos Island	27.05	306	eP	P	19 43 53.1	+0.8	
LIA	Limnos Island	27.05	306	P	P	19 43 52.8	+0.5	
LIA	Limnos Island	27.05	306	P	P	19 43 52.8	+0.5	
LIA	Limnos Island	27.05	306	P	P	19 43 52.8	+0.5	
VOR	Voronezh	27.05	340	eP	P	19 43 53.0	+0.8	
VOR				eS	S	19 48 28.0	-1.4	
VOR				pmax	pmax			
	comp=Z,350nm,1.4s							
VOR	Voronezh	27.05	340	eP	P	19 43 53.0	+0.8	
	comp=Z,350nm,1.4s							
RDO	Rodhopi	27.24	308	eP	P	19 43 54.5	+0.5	
RDO	Rodhopi	27.24	308	P	P	19 43 53.9	-0.1	
RDO	Rodhopi	27.24	308	P	P	19 43 53.9	-0.1	
RDO	Rodhopi	27.24	308	P	P	19 43 53.9	-0.1	
GKN	Gorkha	27.25	81	eP	P	19 43 55.3	+0.9	
	comp=Z,363nm,1.1s							
HARR	Harsova	27.27	317	⇓P	P	19 43 54.6	+0.3	
HARR	Harsova	27.27	317⇓	iP	P	19 43 54.6	+0.3	
HARR	Harsova	27.27	317	P	P	19 43 54.6	+0.3	
CFR	Carcaliu	27.40	318	⇓P	P	19 43 54.8	-0.7	
CFR	Carcaliu	27.40	318	⇓iP	P	19 43 54.8	-0.7	
CFR	Carcaliu	27.40	318	P	P	19 43 54.8	-0.7	
PVM	Polavaram	27.41	105	eP	P	19 43 56.1	+0.3	
PVM				lAmb	lAmb	19 44 05.5		
	comp=Z,42nm,1.0s							
PVM				IVMsBB		19 57 50.1		
	comp=Z,2µm,18.6s							
ANKY	Antikythira Is	27.46	296	eP	P	19 43 56.8	+0.7	
ANKY	Antikythira Is	27.46	296	P	P	19 43 58.0	+1.9	
ANKY	Antikythira Is	27.46	296	P	P	19 43 58.0	+1.9	
ANKY	Antikythira Is	27.46	296	P	P	19 43 58.0	+1.9	
PTL	Penteli	27.48	301	eP	P	19 43 57.0	+0.7	
SKHT	Srikalahasti	27.50	114	eP	P	19 43 58.0	+1.4	
SKHT				lAmb	lAmb	19 44 01.6		
	comp=Z,66nm,1.3s							
SKHT				IVMsBB		19 57 52.7		
	comp=Z,2µm,6.0s							
GIUM	Giurgiulesti	27.53	319⇑	iP	P	19 43 57.3	+0.7	
GIUM	Giurgiulesti	27.53	319⇑	iP	P	19 43 57.3	+0.7	
EREA	Eretria	27.53	302	eP	P	19 43 57.5	+0.8	
EREA	Eretria	27.53	302	P	P	19 43 57.2	+0.5	
EREA	Eretria	27.53	302	P	P	19 43 57.2	+0.5	
AMRR	Amara	27.59	316	⇑P	P	19 43 59.5	+2.4	
AMRR	Amara	27.59	316⇑	iP	P	19 43 59.5	+2.4	
DMN	Daman	27.70	82	eP	P	19 43 59.6	+1.0	
	comp=Z,236nm,1.0s							
KYTH	Kithira	27.74	297	eP	P	19 43 58.6	-0.1	
KYTH	Kithira	27.74	297	P	P	19 43 58.5	-0.1	
KYTH	Kithira	27.74	297	P	P	19 43 58.5	-0.1	
KYTH	Kithira	27.74	297	P	P	19 43 58.5	-0.1	
AOS	Alonnisos	27.78	303	eP	P	19 43 59.3	+0.4	
AOS	Alonnisos	27.78	303	P	P	19 43 58.4	-0.5	
AOS	Alonnisos	27.78	303	P	P	19 43 58.4	-0.5	
AOS	Alonnisos	27.78	303	P	P	19 43 58.4	-0.5	
KKN	Kakani	27.83	81	eP	P	19 44 00.8	+1.0	
	comp=Z,132nm,0.7s							
DIDY	Didyma	27.85	300	eP	P	19 43 59.0	-0.7	
DIDY	Didyma	27.85	300	P	P	19 43 57.5	-2.2	
DIDY	Didyma	27.85	300	P	P	19 43 57.5	-2.2	
MRKA	Markates	27.87	302	eP	P	19 44 00.0	+0.3	
KRND	KRANIDI	27.88	299	eP	P	19 43 59.3	-0.5	
KRND	KRANIDI	27.88	299	P	P	19 43 59.1	-0.7	
KRND	KRANIDI	27.88	299	P	P	19 43 59.1	-0.7	
VLI	Veliai	27.91	298	eP	P	19 43 58.6	-1.5	
VLI	Veliai	27.91	298	P	P	19 43 56.4	-3.7	
VLI	Veliai	27.91	298	P	P	19 43 56.4	-3.7	
VLI	Veliai	27.91	298	P	P	19 43 56.4	-3.7	
VILL	Villia	27.93	301	P	P	19 43 59.4	-1.0	
VILL	Villia	27.93	301	P	P	19 43 59.4	-1.0	
PKIN	Phulchoki	27.96	82	eP	P	19 44 01.8	+0.8	
	comp=Z,95nm,0.8s							
PGOR	Pogoanele	27.96	317⇓	iP	P	19 44 02.0	+1.6	
PGOR	Pogoanele	27.96	317⇓	iP	P	19 44 02.0	+1.6	
PKI	Pulchoki	27.97	82	eP	P	19 44 02.0	+0.9	
	comp=Z,402nm,1.2s							
VIL2	Platees	27.98	301	eP	P	19 43 59.3	-1.5	
KIS	Kishinev	28.05	322	eP	P	19 44 00.0	-1.2	
	comp=Z,300nm,1.5s							
KIS	Kishinev	28.05	322	ePPP	PPP	19 45 06.0		
KIS				eS	S	19 48 41.0	-4.2	
KIS				eSS	SnSn	19 50 06.0	+5.7	
KIS				eLi		19 52 08.0		
KIS				eLg1		19 52 38.0		
KIS				eLg2		19 53 54.0		
KIS				eRg	Rg	19 54 26.0		
KIS				LRM	MLR	19 58 30.0		
	comp=Z,6µm,17.0s							
KIS	Kishinev	28.05	322	eP	P	19 44 00.0	-1.2	
KIS				ePPP	PPP	19 45 06.0		
KIS				eS	S	19 48 41.0	-4.2	
KIS				eSS	SnSn	19 50 06.0	+5.7	
KIS				pmax	pmax			
	comp=Z,320nm,1.5s							
KIS				pmax	pmax			
	comp=Z,2µm,10.0s							
KIS				MLR	MLR			
	comp=Z,4µm,16.0s							
KIS				MLR	MLR			
	comp=N,6µm,17.0s							
KIS				MLR	MLR			
	comp=E,2µm,17.0s							
KIS				MLR	MLR			
	comp=Z,5µm,18.0s							
KIS	Kishinev	28.05	322	eP	P	19 44 00.0	-1.2	
	comp=Z,2µm,10.0s							
KIS				eS	S	19 48 41.0	-4.2	
OUR	Ouranopolis	28.06	306	P	P	19 44 01.9	+0.5	
OUR	Ouranopolis	28.06	306	eP	P	19 44 02.4	+1.0	
OUR	Ouranopolis	28.06	306	P	P	19 44 01.9	+0.5	
OUR	Ouranopolis	28.06	306	P	P	19 44 01.9	+0.5	
OUR	Ouranopolis	28.06	306	P	P	19 44 01.9	+0.5	
PAIG	Paliouri	28.15	305	P	P	19 44 02.6	+0.4	
PAIG	Paliouri	28.15	305	eP	P	19 44 03.4	+1.2	
PAIG	Paliouri	28.15	305	P	P	19 44 02.6	+0.4	
PAIG	Paliouri	28.15	305	P	P	19 44 02.6	+0.4	
PAIG	Paliouri	28.15	305	P	P	19 44 02.6	+0.4	
LOUT	Loutraki	28.15	301	eP	P	19 44 01.2	-1.1	
LTK	Loutraki	28.16	301	eP	P	19 44 01.6	-0.8	
LTK	Loutraki	28.16	301	P	P	19 44 03.0	+0.6	
LTK	Loutraki	28.16	301	P	P	19 44 03.0	+0.6	
LTK	Loutraki	28.16	301	P	P	19 44 03.0	+0.6	
SMIA	Simia	28.20	303	eP	P	19 44 04.7	+2.0	
SMIA	Simia	28.20	303	P	P	19 44 03.5	+0.8	
SMIA	Simia	28.20	303	P	P	19 44 03.5	+0.8	
GRER		28.21	318⇑	iP	P	19 44 06.3	+3.6	
ACOR	Acrocorinthos	28.21	300	P	P	19 44 01.1	-1.7	
PETR	Petresti	28.23	318⇓	iP	P	19 44 04.2	+1.3	
PETR	Petresti	28.23	318⇓	iP	P	19 44 04.2	+1.3	
ATAL	Atalanti	28.29	302	P	P	19 44 03.0	-0.5	
ATAL	Atalanti	28.29	302	P	P	19 44 03.0	-0.5	
ATAL	Atalanti	28.29	302	P	P	19 44 03.0	-0.5	
SULR		28.29	316⇑	iP	P	19 44 05.1	+1.7	
SULR		28.29	316⇑	iP	P	19 44 05.1	+1.7	
LKR	Lokris	28.30	302	eP	P	19 44 04.0	+0.5	
NEO	Neokhori	28.30	303	eP	P	19 44 04.9	+1.3	
NEO	Neokhori	28.30	303	P	P	19 44 03.7	+0.1	
NEO	Neokhori	28.30	303	P	P	19 44 03.7	+0.1	
NEO	Neokhori	28.30	303	P	P	19 44 03.7	+0.1	
MDRS	Chennai	28.30	114	eP	P	19 44 03.9	+0.1	
MDRS				AMB	AMB	19 44 09.3		
	comp=Z,56nm,0.5s							
ISR	Istrita	28.34	317	⇓P	P	19 44 05.4	+1.5	
ISR	Istrita	28.34	317⇓	iP	P	19 44 05.4	+1.5	
ISR	Istrita	28.34	317	P	P	19 44 05.4	+1.5	
XOR	Xorichti	28.34	304	eP	P	19 44 03.3	-0.7	
XOR	Xorichti	28.34	304	P	P	19 44 03.7	-0.3	
XOR	Xorichti	28.34	304	P	P	19 44 03.7	-0.3	
XOR	Xorichti	28.34	304	P	P	19 44 03.7	-0.3	
GUN	Gumba	28.35	81	eP	P	19 44 05.6	+1.1	
	comp=Z,387nm,0.9s							
THAL	Thalero	28.40	301	eP	P	19 44 05.9	+1.4	
PLG	Polygyros	28.46	306	P	P	19 44 04.1	-0.9	
PLG	Polygyros	28.46	306	eP	P	19 44 05.5	+0.5	
PLG	Polygyros	28.46	306	P	P	19 44 04.1	-0.9	
PLG	Polygyros	28.46	306	P	P	19 44 04.1	-0.9	
PLG	Polygyros	28.46	306	P	P	19 44 04.1	-0.9	
VLX	Vlachokerasia	28.47	299	eP	P	19 44 05.1	-0.2	
VLX	Vlachokerasia	28.47	299	P	P	19 44 02.6	-2.7	
VLX	Vlachokerasia	28.47	299	P	P	19 44 02.6	-2.7	
VLX	Vlachokerasia	28.47	299	P	P	19 44 02.6	-2.7	
NVR	Nevrokopi	28.49	308	eP	P	19 44 05.6	+0.3	
NVR	Nevrokopi	28.49	308	P	P	19 44 05.4	+0.1	
NVR	Nevrokopi	28.49	308	P	P	19 44 05.4	+0.1	
NVR	Nevrokopi	28.49	308	P	P	19 44 05.4	+0.1	
TRD	Trivandrum	28.57	126	eP	P	19 44 06.0	-0.2	
TRD				AMB	AMB	19 44 13.5		
	comp=Z,119nm,3.9s							
AXAR	Agios Charalam	28.58	302	eP	P	19 44 06.1	0.0	
SECR		28.59	316⇓	iP	P	19 44 07.6	+1.5	
SECR		28.59	316⇓	iP	P	19 44 07.6	+1.5	
DESF	Desfina	28.59	301	eP	P	19 44 05.4	-0.8	
DSF	Desfina	28.59	301	eP	P	19 44 05.2	-1.1	
DSF	Desfina	28.59	301	P	P	19 44 04.4	-1.9	
DSF	Desfina	28.59	301	P	P	19 44 04.4	-1.9	
DSF	Desfina	28.59	301	P	P	19 44 04.4	-1.9	
SRS	Serrai	28.60	307	P	P	19 44 06.4	+0.2	
SRS	Serrai	28.60	307	eP	P	19 44 07.0	+0.8	
SRS	Serrai	28.60	307	P	P	19 44 06.4	+0.2	
SRS	Serrai	28.60	307	P	P	19 44 06.4	+0.2	
SRS	Serrai	28.60	307	⇓P	P	19 44 06.4	+0.2	
VRI	Vrincioaia	28.61	318	⇓P	P	19 44 07.2	+0.9	
VRI	Vrincioaia	28.61	318	⇓iP	P	19 44 07.2	+0.9	
VRI	Vrincioaia	28.61	318	P	P	19 44 07.2	+0.9	
GUR	Goura	28.62	300	eP	P	19 44 06.8	+0.2	
GUR	Goura	28.62	300	P	P	19 44 06.0	-0.6	
GUR	Goura	28.62	300	P	P	19 44 06.0	-0.6	
GUR	Goura	28.62	300	P	P	19 44 06.0	-0.6	
PLOR	Plostina	28.65	318	⇑P	P	19 44 07.6	+1.0	
PLOR	Plostina	28.65	318	⇑iP	P	19 44 07.6	+1.0	
PLOR	Plostina	28.65	318	P	P	19 44 07.6	+1.0	
SOH	Sokhos	28.67	306	eP	P	19 44 07.8	+0.9	
VIS	Vishakhapatnam	28.69	103	eP	P	19 44 10.2	+2.9	
VIS				AMB	AMB	19 44 13.7		
	comp=Z,69nm,0.9s							
BRVK	Borovoye	28.72	21	P	P	19 44 07.6	+0.5	
	comp=Z,456nm,1.2s,SNR=34							
BRVK	Borovoye	28.72	21	P	P	19 44 07.1	0.0	
BRVK				pmax	pmax			
	comp=Z,178nm,1.2s							
BRVK	Borovoye	28.72	21	⇑iP	P	19 44 07.2	0.0	
	comp=Z,297nm,1.3s							
BRVK	Borovoye	28.72	21	⇑iP	P	19 44 07.2	0.0	
	comp=Z,297nm,1.3s							
BVA0	Borovoye Array	28.72	21	iP	P	19 44 06.9	-0.3	
BVA0				pmax	pmax			
	comp=Z,211nm,1.2s							
BVAR	Borovoye Array	28.72	21	P	P	19 44 07.4	+0.2	
	comp=Z,56nm,0.7s,baz=214,slow=7.8,SNR=131							
BVAR				PcP	PcP	19 47 16.8	-0.5	
	comp=Z,11nm,0.5s,baz=216,slow=2.7,SNR=14							
BVAR				ScP	ScP	19 51 00.2	+2.0	
	comp=Z,12nm,0.7s,baz=206,slow=1.8,SNR=8.7							
BVAR				LR	LR	19 57 20.4		
	comp=Z,23µm,18.4s,baz=224,slow=40							
BVAR				P3KPbc		20 16 23.8		
	comp=Z,0.5nm,0.5s,baz=51,slow=5.7,SNR=4.6							
HORT	Hortiatis	28.78	306	eP	P	19 44 08.3	+0.4	
HORT	Hortiatis	28.78	306	P	P	19 44 06.7	-1.2	
HORT	Hortiatis	28.78	306	P	P	19 44 06.7	-1.2	
HORT	Hortiatis	28.78	306	P	P	19 44 06.7	-1.2	
ITM	Ithomi	28.79	299	eP	P	19 44 07.6	-0.4	
ITM	Ithomi	28.79	299	P	P	19 44 07.3	-0.7	
ITM	Ithomi	28.79	299	P	P	19 44 07.3	-0.7	
ITM	Ithomi	28.79	299	P	P	19 44 07.3	-0.7	
KLV	Kalavryta, Ach	28.80	300	eP	P	19 44 07.9	-0.2	
KLV	Kalavryta, Ach	28.80	300	P	P	19 44 06.6	-1.5	
KLV	Kalavryta, Ach	28.80	300	P	P	19 44 06.6	-1.5	
KLV	Kalavryta, Ach	28.80	300	P	P	19 44 06.6	-1.5	
IAS	Iasi	28.86	321	⇓P	P	19 44 10.5	+2.1	
IAS	Iasi	28.86	321	⇓iP	P	19 44 10.5	+2.1	
PYL	PYLOS	28.88	298	eP	P	19 44 08.0	-0.8	
PYL	PYLOS	28.88	298	P	P	19 44 07.3	-1.5	
PYL	PYLOS	28.88	298	P	P	19 44 07.3	-1.5	
PYL	PYLOS	28.88	298	P	P	19 44 07.3	-1.5	
KALE	Kalithea	28.89	301	eP	P	19 44 08.4	-0.4	
KALE	Kalithea	28.89	301	P	P	19 44 08.5	-0.4	
KALE	Kalithea	28.89	301	P	P	19 44 08.5	-0.4	
KALE	Kalithea	28.89	301	P	P	19 44 08.5	-0.4	
MLR	Muntele Rosu	28.89	317	P	P	19 44 09.8	+1.0	
	comp=Z,18nm,0.7s,baz=350,slow=6.5,SNR=54							
MLR				LR	LR	19 57 56.6		
	comp=Z,3µm,21.0s,baz=106,slow=41							
MLR	Muntele Rosu	28.89	317⇓	iP	P	19 44 10.0	+1.1	
THE	Thessaloniki	28.89	306	eP	P	19 44 10.8	+2.0	
AGG	Agios Georgios	28.90	302	P	P	19 44 07.3	-1.6	
AGG	Agios Georgios	28.90	302	eP	P	19 44 08.4	-0.5	
AGG	Agios Georgios	28.90	302	P	P	19 44 07.3	-1.6	
AGG	Agios Georgios	28.90	302	P	P	19 44 07.3	-1.6	
AGG	Agios Georgios	28.90	302	P	P	19 44 07.3	-1.6	
TRIZ	Trizonia	28.93	301	eP	P	19 44 08.7	-0.5	
LAKA	Lakka	28.97	301	eP	P	19 44 09.6	0.0	
LAKA	Lakka	28.97	301	P	P	19 44 08.1	-1.5	
LAKA	Lakka	28.97	301	P	P	19 44 08.1	-1.5	
LAKA	Lakka	28.97	301	P	P	19 44 08.1	-1.5	
TESR	Tescani	29.00	319⇑	iP	P	19 44 09.7	0.0	
TESR	Tescani	29.00	319⇑	iP	P	19 44 09.7	0.0	
CHLP	Challavanipeta	29.02	101	eP	P	19 44 10.4	+0.3	
CHLP				lAmb	lAmb	19 44 15.4		
	comp=Z,42nm,1.1s							
CHLP				IVMs_BB	IVMs_BB	19 56 33.1		
	comp=Z,2µm,23.0s							
HUMR	Humele	29.02	315⇑	iP	P	19 44 12.6	+2.6	
AMT	Artemida-Makis	29.03	299	P	P	19 44 08.7	-1.4	
AMT	Artemida-Makis	29.03	299	P	P	19 44 08.7	-1.4	
BOK	Bokaro	29.03	89	eP	P	19 44 10.2	-0.1	
BOK				AMB	AMB	19 44 14.5		
	comp=Z,76nm,2.0s							
MAKR	Makrakomi, Fth	29.04	302	eP	P	19 44 09.9	-0.3	
EFP	Efpalio	29.07	301	eP	P	19 44 10.0	-0.4	
EFP	Efpalio	29.07	301	P	P	19 44 10.1	-0.4	
EFP	Efpalio	29.07	301	P	P	19 44 10.1	-0.4	
LIT	Litokhoron	29.07	305	P	P	19 44 07.7	-2.8	
LIT	Litokhoron	29.07	305	eP	P	19 44 10.1	-0.4	
LIT	Litokhoron	29.07	305	P	P	19 44 07.7	-2.8	
LIT	Litokhoron	29.07	305	P	P	19 44 07.7	-2.8	
LIT	Litokhoron	29.07	305	P	P	19 44 07.7	-2.8	
RAMN	Ramite	29.10	83	eP	P	19 44 11.4	+0.3	
	comp=Z,142nm,0.7s							
KNT	Kendrikon	29.11	307	P	P	19 44 10.0	-0.7	
KNT	Kendrikon	29.11	307	eP	P	19 44 10.3	-0.4	
KNT	Kendrikon	29.11	307	P	P	19 44 10.0	-0.7	
KNT	Kendrikon	29.11	307	P	P	19 44 10.0	-0.7	
KNT	Kendrikon	29.11	307	P	P	19 44 10.0	-0.7	
DRO	Drossia	29.12	300	eP	P	19 44 11.3	+0.4	
DRO	Drossia	29.12	300	P	P	19 44 10.6	-0.3	
DRO	Drossia	29.12	300	P	P	19 44 10.6	-0.3	
EVR	Evrytania	29.26	302	eP	P	19 44 11.7	-0.6	
EVR	Evrytania	29.26	302	P	P	19 44 09.9	-2.4	
EVR	Evrytania	29.26	302	P	P	19 44 09.9	-2.4	
EVR	Evrytania	29.26	302	P	P	19 44 09.9	-2.4	
THL	Klokotos Trika	29.27	303	eP	P	19 44 12.6	+0.4	
MTUR	Matau	29.30	316	⇓P	P	19 44 12.9	+0.4	
MTUR	Matau	29.30	316	⇓iP	P	19 44 12.9	+0.4	
MTUR	Matau	29.30	316	P	P	19 44 12.9	+0.4	
RLS	Riolos of Patr	29.33	300	eP	P	19 44 11.1	-1.6	
RLS	Riolos of Patr	29.33	300	P	P	19 44 11.6	-1.1	
RLS	Riolos of Patr	29.33	300	P	P	19 44 11.6	-1.1	
RLS	Riolos of Patr	29.33	300	P	P	19 44 11.6	-1.1	
VTS	Vitosha	29.39	310	P	P	19 44 10.4	-3.0	
VTS	Vitosha	29.39	310	⇑iP	P	19 44 13.8	+0.4	
VTS	Vitosha	29.39	310	P	P	19 44 10.4	-3.0	
VTS	Vitosha	29.39	310	P	P	19 44 10.4	-3.0	
VTS	Vitosha	29.39	310	P	P	19 44 10.4	-3.0	
VAY	Valandovo	29.39	307	eP	P	19 44 13.9	+0.7	
VOIR		29.41	316	⇓P	P	19 44 14.3	+0.8	
VOIR		29.41	316	⇓iP	P	19 44 14.3	+0.8	
VOIR		29.41	316	P	P	19 44 14.3	+0.8	
DOPR	Dopca	29.46	317⇑	iP	P	19 44 14.3	+0.4	
DOPR	Dopca	29.46	317⇑	iP	P	19 44 14.3	+0.4	
ARU	Arti	29.56	5	LR	LR	19 58 40.0		
	comp=Z,14µm,21.9s,baz=226,slow=42							
ARU	Arti	29.56	5	ciP	P	19 44 14.6	0.0	
ARU						19 47 17.5		
ARU				S	S	19 49 02.6	-6.3	
ARU				pmax	pmax			
	comp=Z,66

LOT Lotru 30.21 315⇑ iP P 19 44 20.1 -0.5
LOT Lotru 30.21 315⇑ iP P 19 44 20.1 -0.5
NEST Nestorio 30.22 305 eP P 19 44 20.7 0.0
NEST Nestorio 30.22 305 P P 19 44 19.7 -1.0
NEST Nestorio 30.22 305 P P 19 44 19.7 -1.0
KURK Kurchatov 30.22 32 P P 19 44 21.4 +0.9
comp=Z,458nm,0.7s,SNR=32
KURK Kurchatov 30.22 32 P P 19 44 19.0 -1.5
KURK pmax pmax
comp=Z,51nm,1.4s
KURK Kurchatov 30.22 32 P P 19 44 20.0 -0.5
KURK ScP ScP 19 51 06.6 +3.6
KURK Kurchatov 30.22 32 P P 19 44 20.0 -0.5
KURK ScP ScP 19 51 06.6 +3.6
KURK e 20 16 18.0
BURAR Bucovina Array 30.42 320⇑⇑ iP P 19 44 22.7 +0.3
BURAR Bucovina Array 30.42 320⇑ iP P 19 44 22.7 +0.3
BURAR Bucovina Array 30.42 320⇑ iP P 19 44 22.7 +0.3
BARS Barje 30.43 309 eP P 19 44 22.7 +0.3
BUR08 Bucovina Ar. S 30.44 320 eP P 19 44 22.6 0.0
BUR08 Bucovina Ar. S 30.44 320 eP P 19 44 22.6 0.0
IGT Igoumenitsa 30.52 303 P P 19 44 20.9 -2.4
IGT Igoumenitsa 30.52 303 eP P 19 44 22.4 -0.9
IGT Igoumenitsa 30.52 303 P P 19 44 20.9 -2.4
IGT Igoumenitsa 30.52 303 P P 19 44 20.9 -2.4
IGT Igoumenitsa 30.52 303 P P 19 44 20.9 -2.4
SGD Sagiada 30.62 303 eP P 19 44 23.5 -0.6
SGD Sagiada 30.62 303 P P 19 44 21.9 -2.2
SGD Sagiada 30.62 303 P P 19 44 21.9 -2.2
ARCR ARCALIA 30.64 319⇓ iP P 19 44 24.9 +0.6
ARCR ARCALIA 30.64 319⇓ iP P 19 44 24.9 +0.6
BOLS Boljevac 30.71 311 eP P 19 44 23.7 -1.2
OBN Obninsk 30.77 340 P P 19 44 24.3 -0.9
comp=Z,84nm,0.8s,baz=162,slow=4.3,SNR=13
OBN LR LR 19 59 58.0
comp=Z,6µm,21.0s,baz=160,slow=43
OBN Obninsk 30.77 340 deP P 19 44 25.3 +0.1
OBN e 19 45 24.3
OBN e 19 47 20.0
OBN i SS SS 19 51 12.9 -26
OBN pmax pmax
comp=Z,206nm,1.2s
OBN MLR MLR
comp=Z,6µm,19.0s
OBN Obninsk 30.77 340 P P 19 44 26.6 +1.4
comp=Z,838nm,1.1s,SNR=6.0
OBN Obninsk 30.77 340 eP P 19 44 25.3 +0.1
comp=Z,206nm,1.2s
OBN Obninsk 30.77 340 ePcP PcP 19 47 20.0 -2.4
comp=Z,6µm,19.0s
OBN Obninsk 30.77 340 eP P 19 44 24.3 -0.9
comp=Z,200nm,1.1s
CJR Cluj-Napoca 30.91 317⇑ iP P 19 44 27.5 +0.8
CJR Cluj-Napoca 30.91 317⇑ iP P 19 44 27.5 +0.8
CJR Cluj-Napoca 30.91 317 P P 19 44 27.5 +0.8
MOS Moscow 31.01 342x iP P 19 44 29.9 +2.6
MOS e 19 45 33.0
MOS eSS SS 19 51 17.4 -27
MOS pmax pmax
comp=Z,199nm,1.3s
MOS pmax pmax
comp=N,159nm,1.0s
MOS MLR MLR
comp=N,4µm,18.0s
MOS MLR MLR
comp=Z,6µm,18.0s
PHP Peshkopia 31.02 307 P P 19 44 26.2 -1.6
PHP Peshkopia 31.02 307 P P 19 44 26.2 -1.6
PHP Peshkopia 31.02 307 P P 19 44 26.2 -1.6
PHP Peshkopia 31.02 307 P P 19 44 26.2 -1.6
SELS Selova 31.05 310 eP P 19 44 27.0 -0.9
KUBS Kucevo 31.12 312 eP P 19 44 26.3 -2.2
TIR Tirane 31.34 306⇑ eP P 19 44 30.9 +0.4
TIR pmax pmax
comp=Z,73nm,0.8s
TIR Tirane 31.34 306 eP P 19 44 30.9 +0.4
comp=Z,73nm,0.8s
TIR Tirane 31.34 306⇑ eP P 19 44 30.9 +0.4
comp=Z,73nm,0.8s
BMR Baia Mare 31.44 319⇑⇑ P P 19 44 31.4 +0.1
BMR Baia Mare 31.44 319⇑ iP P 19 44 31.4 +0.1
BMR Baia Mare 31.44 319 P P 19 44 31.4 +0.1
DRGR 31.48 317⇑⇑ P P 19 44 32.4 +0.6
DRGR 31.48 317⇑ iP P 19 44 32.3 +0.5
DRGR 31.48 317⇑ iP P 19 44 32.3 +0.5
GRUS Gruza 31.56 311 eP P 19 44 31.3 -1.1
BZS Buzias 31.64 314⇑⇑ P P 19 44 33.0 -0.1
BZS Buzias 31.64 314⇑ iP P 19 44 33.0 -0.1
BZS Buzias 31.64 314 P P 19 44 33.0 -0.1
IVAS Ivanjica 31.83 310 eP P 19 44 34.5 -0.4
BANR Banloc 31.86 314⇑⇑ iP P 19 44 36.5 +1.6
BANR Banloc 31.86 314⇑ iP P 19 44 36.5 +1.6
TRUS Trudelj 31.89 311 eP P 19 44 34.0 -1.3
SIRR Siria 31.89 316⇑ iP P 19 44 36.6 +1.3
SIRR Siria 31.89 316⇑ iP P 19 44 36.6 +1.3
WMQ Urumqi 31.95 50 P P 19 44 37.3 +1.4
WMQ pP pP 19 44 44.5 +4.1
WMQ sP sP 19 44 49.3 +7.1
WMQ S S 19 49 47.0 +0.2
WMQ ScS ScS 19 55 04.3 -3.2
WMQ PMZ
comp=Z,44nm,1.4s
WMQ PMZ
comp=Z,1µm,4.1s
WMQ LN
comp=Z,20µm,25.0s
WMQ LE
comp=Z,11µm,17.0s
WMQ LZ
comp=Z,14µm,28.5s
DIVS Divibare 32.12 311⇑ iP P 19 44 37.3 -0.1
DIVS Divibare 32.12 311 P P 19 44 35.4 -2.0
DIVS Divibare 32.12 311 P P 19 44 35.4 -2.0
PALK Pallekele 32.15 123 eP P 19 44 38.0 +0.1
PALK pmax pmax
comp=Z,32nm,0.9s
PALK Pallekele 32.15 123 eP P 19 44 38.0 +0.1
comp=Z,32nm,0.9s
PALK Pallekele 32.15 123 ⇓P P 19 44 39.0 +1.1
PALK Pallekele 32.15 123 eP P 19 44 38.0 +0.1
comp=Z,32nm,0.9s
KMBO Kilima Mbogo 32.27 212 P P 19 44 40.9 +1.8
comp=Z,11nm,0.7s,baz=22,slow=12,SNR=16
KMBO LR LR 19 59 07.9
comp=Z,13µm,18.2s,baz=41,slow=39
KMBO Kilima Mbogo 32.27 212 P P 19 44 40.9 +1.8
KMBO pmax pmax
comp=Z,11nm,0.7s
KMBO MLR MLR
comp=Z,13µm,18.2s
KMBO Kilima Mbogo 32.27 212 eP P 19 44 38.8 -0.3
comp=Z,42nm,1.1s
KMBO Kilima Mbogo 32.27 212 eP P 19 44 38.8 -0.3
comp=Z,42nm,1.1s
LVV L'vov 32.28 323 eP P 19 44 37.0 -1.6
LVV eS S 19 49 45.0 -6.6
LVV MLR MLR
comp=Z,2µm,16.0s
LVV L'vov 32.28 323 eP P 19 44 37.0 -1.6
comp=Z,2µm,16.0s
TEKS Tekeris 32.59 311 eP P 19 44 41.3 -0.2
UZH Uzhgorod 32.62 320 eP P 19 44 39.4 -2.2
UZH e 19 45 49.0
UZH i S S 19 49 52.0 -4.9
UZH MLR MLR
comp=N,4µm,18.0s
UZH MLR MLR
comp=E,4µm,18.0s
UZH Uzhgorod 32.62 320 eP P 19 44 39.4 -2.2
UZH i S S 19 49 52.0 -4.9
FGSL Fruska Gora 32.63 313 eP P 19 44 41.5 -0.3
KOLS Kolonicke sedl 32.78 320 eP P 19 44 44.1 +1.0
KOLS pmax pmax
comp=Z,386nm,1.1s
KOLS Kolonicke sedl 32.78 320 eP P 19 44 44.1 +1.0
comp=Z,386nm,1.1s
KOLS eS S 19 49 56.1 -3.4
KOLS Kolonicke sedl 32.78 320 eP P 19 44 44.1 +1.0
KOLS eS S 19 49 56.1 -3.4
LSA Lhasa 32.80 76 P P 19 44 45.1 +1.2
LSA Lhasa 32.80 76⇑ eP P 19 44 44.7 +0.8
LSA pmax pmax
comp=Z,23nm,0.8s
LSA Lhasa 32.80 76 eP P 19 44 44.7 +0.8
comp=Z,23nm,0.8s
LSA Lhasa 32.80 76⇑ eP P 19 44 44.7 +0.8
comp=Z,23nm,0.8s
KWP Kalwaria Pacla 32.90 322 eP P 19 44 44.0 0.0
KWP eS S 19 50 05.6 +4.3
KWP Kalwaria Pacla 32.90 322 eP P 19 44 44.1 0.0
KWP Kalwaria Pacla 32.90 322 eP P 19 44 44.1 0.0
TIP Timpagrande 33.16 301 P P 19 44 46.0 -0.6
TIP Timpagrande 33.16 301 eP P 19 44 46.9 +0.3
comp=Z,12nm,1.5s
TIP Timpagrande 33.16 301 P P 19 44 46.0 -0.6
MICGM Minsk 33.41 332 eP P 19 44 48.0 -0.4
MNK Minsk 33.42 332 eP P 19 44 48.0 -0.6
MNK eS S 19 50 08.0 -1.3
MNK Minsk 33.42 332 eP P 19 44 48.0 -0.6
KECS Kecovo 33.60 319 eP P 19 44 50.6 +0.4
KECS pmax pmax
comp=Z,73nm,0.8s
KECS Kecovo 33.60 319 eP P 19 44 50.6 +0.4
comp=Z,73nm,0.8s
KECS Kecovo 33.60 319 ePP PP 19 46 04.7 -1.5
KECS eS S 19 50 09.0 -3.2
KECS Kecovo 33.60 319 eP P 19 44 50.6 +0.4
KECS ePP PP 19 46 04.7 -1.5
KECS eS S 19 50 09.0 -3.2
PSZ Piszkesteto 33.70 317⇑ eP P 19 44 50.8 -0.4
PSZ pmax pmax
comp=Z,69nm,0.8s
PSZ Piszkesteto 33.70 317⇑ iP P 19 44 51.0 -0.2
PSZ Piszkesteto 33.70 317 eP P 19 44 50.8 -0.4
comp=Z,69nm,0.8s
PSZ Piszkesteto 33.70 317⇑ eP P 19 44 50.8 -0.4
comp=Z,69nm,0.8s
PKSM Moragy 33.79 314⇑⇑ P P 19 44 51.7 -0.1
PKSM Moragy 33.79 314⇑ iP P 19 44 51.7 -0.1
PKSM Moragy 33.79 314 P P 19 44 51.7 -0.1
SHL Shillong 34.00 84 eP P 19 44 54.0 -0.1
CUC Castrocucco 34.02 302⇑ eP P 19 44 54.1 0.0
comp=Z,46nm,0.8s
CUC Castrocucco 34.02 302⇑ eP P 19 44 54.1 0.0
comp=Z,46nm,0.8s
NIE Niedzica 34.14 320 eP P 19 44 55.0 +0.1
NIE eS S 19 50 22.6 +2.0
NIE Niedzica 34.14 320 eP P 19 44 55.1 +0.1
NIE eS S 19 50 22.6 +2.0
NIE Niedzica 34.14 320 eP P 19 44 55.1 +0.1
NACGM Naroch 34.15 332 eP P 19 44 52.0 -2.8
NACGM Naroch 34.15 332 eP P 19 44 52.0 -2.8
BLY Banja Luka 34.24 311 eP P 19 44 54.3 -1.5
IDID Didziasalis 34.45 333 eP P 19 44 56.9 -0.5
IDID lAmb lAmb 19 45 00.8
comp=Z,71nm,1.1s
IDID Didziasalis 34.45 333 eP P 19 44 56.9 -0.5
SNR=27
VYHS Vyhne 34.59 318 eP P 19 44 58.7 -0.1
VYHS pmax pmax
comp=Z,72nm,1.5s
VYHS Vyhne 34.59 318 eP P 19 44 58.7 -0.1
comp=Z,72nm,1.5s
VYHS Vyhne 34.59 318 eP P 19 44 58.7 -0.1
IIGN Ignalina 34.69 332 eP P 19 44 59.0 -0.5
IIGN lAmb lAmb 19 45 04.0
comp=Z,87nm,0.8s
IIGN Ignalina 34.69 332 eP P 19 44 59.0 -0.5
SNR=27
OJC Ojcow 34.82 321 eP P 19 45 00.5 -0.2
OJC eS S 19 50 31.0 +0.1
OJC Ojcow 34.82 321 eP P 19 45 00.6 -0.2
OJC eS S 19 50 31.1 +0.1
OJC Ojcow 34.82 321 eP P 19 45 00.6 -0.2
ISAL Salakas 34.88 332 eP P 19 45 00.8 -0.4
ISAL lAmb lAmb 19 45 04.7
comp=Z,114nm,1.1s
ISAL Salakas 34.88 332 eP P 19 45 00.8 -0.4
SNR=27
IZAR Zarasai 34.95 333 eP P 19 45 01.3 -0.5
IZAR lAmb lAmb 19 45 05.4
comp=Z,144nm,1.3s
IZAR Zarasai 34.95 333 eP P 19 45 01.3 -0.5
SNR=27
PRGR Permogore 35.04 353⇓ iP P 19 45 01.9 -0.5
PRGR e 19 46 22.3
PRGR 19 47 29.3
PRGR pmax pmax
comp=Z,57nm,1.0s
NVS Novosibirsk 35.06 30 eP P 19 45 01.6 -1.1
NVS e 19 46 23.6
NVS eS S 19 50 34.3 -0.1
NVS pmax pmax
comp=N,106nm,1.4s
NVS pmax pmax
comp=Z,132nm,1.4s
NVS pmax pmax
comp=E,49nm,1.3s
NVS pmax pmax
comp=Z,321nm,2.9s
NVS pmax pmax
comp=N,82nm,2.2s
NVS pmax pmax
comp=E,66nm,1.9s
NVS smax smax
comp=N,117nm,1.6s
NVS smax smax
comp=E,132nm,2.0s
BEL Belsk 35.10 324 eP P 19 45 03.0 0.0
BEL eS S 19 50 39.5 +4.3
BEL Belsk 35.10 324 eP P 19 45 03.1 0.0
BEL Belsk 35.10 324 eP P 19 45 03.1 0.0
SUW Suwalki 35.16 328 eP P 19 45 02.5 -1.0
SUW eS S 19 50 37.0 +1.0
SUW Suwalki 35.16 328 eP P 19 45 02.6 -1.0
SUW eS S 19 50 37.0 +1.0
SUW Suwalki 35.16 328 eP P 19 45 02.6 -1.0
ZAA0 Zalesovo Array 35.22 32⇑⇑ iP P 19 45 03.5 -0.6
ZAA0 Zalesovo Array 35.22 32⇑ iP P 19 45 03.5 -0.6
ZALV Zalesovo Beam 35.22 32 P P 19 45 03.9 -0.2
comp=E,121nm,0.7s,baz=239,slow=9.2,SNR=202
MBAR Mbarari 35.38 223 P P 19 45 07.0 +0.9
comp=E,127nm,0.6s,SNR=7.8
KOGS Kog 35.42 313 eP P 19 45 06.0 +0.1
KOGS Kog 35.42 313 eP P 19 45 06.0 +0.1
OKC Ostrava-Krasne 35.58 319 eP P 19 45 07.0 -0.3
OKC epP pP 19 45 08.8 -3.0
OKC esP sP 19 45 13.9 +0.3
OKC AMS AMS 20 02 10.0
comp=E,3µm,15.5s
OKC Ostrava-Krasne 35.58 319 eP P 19 45 07.0 -0.3
OKC MLR MLR
comp=Z,3µm,15.5s
OKC Ostrava-Krasne 35.58 319 eP P 19 45 07.0 -0.3
comp=Z,3µm,15.5s
CLTB Caltabellotta 35.71 297 eP P 19 45 09.6 +0.9
comp=Z,322nm,1.1s
CLTB Caltabellotta 35.71 297 eP P 19 45 09.6 +0.9
comp=Z,322nm,1.1s
BOJS Bojanci 35.77 311 eP P 19 45 09.3 +0.3
BOJS e 19 50 36.7
BOJS Bojanci 35.77 311 eP P 19 45 09.3 +0.3
MORC Moravsky Berou 35.91 319⇑ iP P 19 45 09.6 -0.6
MORC Moravsky Berou 35.91 319⇓ iP P 19 45 09.6 -0.6
MORC Moravsky Berou 35.91 319 iP P 19 45 09.6 -0.6
MORC Moravsky Berou 35.91 319⇑ iP P 19 45 09.6 -0.6
ARSA Arzberg 36.16 314 P P 19 45 12.4 0.0
comp=Z,84nm,1.3s,SNR=37
ARSA Arzberg 36.16 314 iP P 19 45 12.4 0.0
comp=Z,84nm,1.3s,SNR=37
CONA Conrad Observa 36.19 315 P P 19 45 12.5 -0.2
comp=Z,118nm,1.3s,SNR=54
CONA Conrad Observa 36.19 315 iP P 19 45 12.5 -0.2
comp=Z,118nm,1.3s,SNR=54
AQU L'Aquila 36.27 306⇑ eP P 19 45 14.0 +0.6
AQU pmax pmax
comp=Z,605nm,1.3s
AQU L'Aquila 36.27 306⇑ eP P 19 45 13.9 +0.6
comp=Z,605nm,1.3s
AQU L'Aquila 36.27 306⇑ eP P 19 45 13.9 +0.6
comp=Z,605nm,1.3s
VRAC Vranov 36.27 318 P P 19 45 13.3 +0.1
comp=Z,65nm,0.9s,baz=108,slow=8.8,SNR=39
VRAC Vranov 36.27 318⇓ iP P 19 45 13.4 +0.1
VRAC Vranov 36.27 318⇑ iP P 19 45 13.2 -0.1
VRAC eS S 19 50 48.7 -4.7
SOKA Soboth 36.29 313 P P 19 45 13.5 0.0
comp=Z,68nm,1.3s,SNR=30
SOKA Soboth 36.29 313 iP P 19 45 13.5 0.0
comp=Z,68nm,1.3s,SNR=30
LJU Ljubljana 36.42 312 eP P 19 45 15.1 +0.5
LJU Ljubljana 36.42 312 eP P 19 45 15.1 +0.5
KRLC Kraliky 36.48 319 eP P 19 45 14.3 -0.8
KRLC epP pP 19 45 16.3 -3.2
KRLC Kraliky 36.48 319 eP P 19 45 14.3 -0.8
KRLC Kraliky 36.48 319 eP P 19 45 14.3 -0.8
PUL Pulkovo 36.52 340⇓ eP P 19 45 17.5 +2.3
PUL pmax pmax
comp=Z,86nm,0.5s
OBKA Obir 36.55 313 P P 19 45 16.2 +0.4
comp=Z,139nm,1.5s,SNR=38
OBKA Obir 36.55 313 iP P 19 45 16.2 +0.4
comp=Z,139nm,1.5s,SNR=38
VSU Vasula 36.70 336 ceP P 19 45 15.9 -0.8
VSU pmax pmax
comp=Z,547nm,1.1s
VSU Vasula 36.70 336 eP P 19 45 15.9 -0.8
comp=Z,547nm,1.1s
TRI Trieste 36.83 311 eP P 19 45 17.0 -1.0
TRI pmax pmax
comp=Z,70nm,0.9s
TRI Trieste 36.83 311 eP P 19 45 17.0 -1.0
comp=Z,70nm,0.9s
TRI Trieste 36.83 311 eP P 19 45 17.0 -1.0
comp=Z,70nm,0.9s
DPC Dobruska-Polom 36.87 319 eP P 19 45 17.5 -0.9
DPC epP pP 19 45 19.8 -3.0
DPC ex x 19 45 25.5
DPC AMS AMS 20 04 50.0
comp=Z,5µm,17.1s
DPC Dobruska-Polom 36.87 319 eP P 19 45 17.5 -0.9
DPC MLR MLR
comp=Z,5µm,17.1s
DPC Dobruska-Polom 36.87 319 eP P 19 45 17.5 -0.9
comp=Z,5µm,17.1s
TREC Trest 36.93 317 eP P 19 45 17.2 -1.7
TREC epP pP 19 45 19.3 -4.1
TREC AMS AMS 20 02 30.0
comp=Z,4µm,18.7s
TREC Trest 36.93 317 eP P 19 45 17.2 -1.7
TREC MLR MLR
comp=Z,4µm,18.7s
TREC Trest 36.93 317 eP P 19 45 17.2 -1.7
comp=Z,4µm,18.7s
CADS Cadrg 37.00 312 iP P 19 45 19.2 -0.4
CADS e 19 46 49.8
CADS Cadrg 37.00 312 iP P 19 45 19.2 -0.4
KSP Ksiaz 37.09 320 eP P 19 45 19.8 -0.4
KSP eS S 19 51 07.2 +1.4
KSP Ksiaz 37.09 320 eP P 19 45 19.8 -0.4
KSP eS S 19 51 07.2 +1.4
KSP Ksiaz 37.09 320 eP P 19 45 19.8 -0.4
UPC Upice 37.11 319 eP P 19 45 19.8 -0.6
UPC AMS AMS 20 03 00.0
comp=Z,6µm,16.8s
UPC Upice 37.11 319 eP P 19 45 19.8 -0.6
UPC MLR MLR
comp=Z,6µm,16.8s
UPC Upice 37.11 319 eP P 19 45 19.8 -0.6
comp=Z,6µm,16.8s
MOA Molln 37.17 315 P P 19 45 20.9 0.0
comp=Z,123nm,1.1s,SNR=46
MOA Molln 37.17 315 iP P 19 45 20.9 0.0
comp=Z,123nm,1.1s,SNR=46
MYKA Terra Mystica 37.18 313 P P 19 45 21.3 +0.2
comp=Z,94nm,1.1s,SNR=43
MYKA Terra Mystica 37.18 313⇑ iP P 19 45 21.3 +0.2
comp=Z,94nm,1.1s,SNR=43
KBA Koelnbreinsper 37.51 313 P P 19 45 24.0 0.0
comp=Z,219nm,1.1s,SNR=109
KBA Koelnbreinsper 37.51 313 iP P 19 45 24.0 0.0
comp=Z,219nm,1.1s,SNR=109
GOPC GO Pecny, Ondr 37.59 318 eP P 19 45 23.8 -0.7
GOPC epP pP 19 45 25.8 -3.2
GOPC esP sP 19 45 29.4 -1.4
GOPC eS S 19 51 15.5 +2.0
GOPC AMS AMS 20 05 20.0
comp=Z,4µm,16.9s
GOPC GO Pecny, Ondr 37.59 318 P P 19 45 23.8 -0.7
GKP Gorka Klasztor 37.70 324 eP P 19 45 24.7 -0.5
GKP eS S 19 51 18.1 +3.3
GKP Gorka Klasztor 37.70 324 eP P 19 45 24.8 -0.5
GKP eS S 19 51 18.1 +3.3
GKP Gorka Klasztor 37.70 324 eP P 19 45 24.8 -0.5
PRU Pruhonice 37.77 318 eP P 19 45 25.0 -0.9
PRU epP pP 19 45 26.7 -3.7
PRU esP sP 19 45 30.8 -1.4
PRU eS S 19 51 16.6 +0.6
PRU AMS AMS 20 04 10.0
comp=Z,4µm,18.9s
PRU Pruhonice 37.77 318 eP P 19 45 25.0 -0.9
PRU eS S 19 51 16.6 +0.6
PRU MLR MLR
comp=Z,4µm,18.9s
PRU Pruhonice 37.77 318 eP P 19 45 25.0 -0.9
GEC2 GERESS Array S 37.86 316 eP P 19 45 26.5 -0.4
comp=Z,181nm,2.0s
GEC2 GERESS Array S 37.86 316 eP P 19 45 26.5 -0.4
comp=Z,181nm,2.0s
GERES GERESS Array B 37.86 316 P P 19 45 26.1 -0.8
comp=Z,6.0nm,0.5s,baz=120,slow=8.0,SNR=45
GERES ScP ScP 19 51 33.3 +3.1
comp=Z,4.0nm,0.9s,baz=116,slow=3.1,SNR=4.7
PRA Prague 37.86 318 eP P 19 45 26.2 -0.5
PRA epP pP 19 45 27.8 -3.4
PRA ex x 19 45 31.3
PRA AMS AMS 20 04 10.0
comp=Z,4µm,16.5s
PRA Prague 37.86 318 eP P 19 45 26.2 -0.5
PRA MLR MLR
comp=Z,4µm,16.5s
PRA Prague 37.86 318 eP P 19 45 26.2 -0.5
comp=Z,4µm,16.5s
ABTA Abfaltersbach 37.96 312 P P 19 45 27.5 -0.2
comp=Z,155nm,1.0s,SNR=82
ABTA Abfaltersbach 37.96 312 iP P 19 45 27.5 -0.2
comp=Z,155nm,1.0s,SNR=82
PVCC Panska Ves 37.96 319 eP P 19 45 27.0 -0.6
PVCC epP pP 19 45 28.8 -3.2
PVCC eS S 19 51 17.9 -1.1
PVCC AMS AMS 20 05 40.0
comp=Z,5µm,15.6s
PVCC Panska Ves 37.96 319 eP P 19 45 27.0 -0.6
PVCC eS S 19 51 17.9 -1.1
PVCC MLR MLR
comp=Z,5µm,15.6s
PVCC Panska Ves 37.96 319 eP P 19 45 27.0 -0.6
PVCC eS S 19 51 17.9 -1.1
comp=Z,5µm,15.6s
KHC Kasperske Hory 38.04 316 eP P 19 45 28.0 -0.3
KHC Kasperske Hory 38.04 316 eP P 19 45 28.0 -0.3
KHC Kasperske Hory 38.04 316 eP P 19 45 28.0 -0.3
RJOB Jochberg 38.07 314 eP P 19 45 28.0 -0.6
comp=Z,78nm,0.8s
RJOB Jochberg 38.07 314 eP P 19 45 28.0 -0.6
comp=Z,78nm,0.8s
BRG Berggiesshubel 38.46 319 iP P 19 45 31.2 -0.6
comp=Z,38nm,0.9s
BRG Berggiesshubel 38.46 319 eP P 19 45 31.2 -0.6
comp=Z,95nm,1.3s
BRG Berggiesshubel 38.46 319 iP P 19 45 31.2 -0.6
BRG pmax pmax
comp=Z,38nm,0.9s
BRG Berggiesshubel 38.46 319 eP P 19 45 31.2 -0.6
comp=Z,95nm,1.3s
WET Wettzell 38.47 316 eP P 19 45 30.9 -1.0
comp=Z,80nm,1.2s
WET Wettzell 38.47 316 eP P 19 45 30.9 -1.0
comp=Z,80nm,1.2s
HVS Khovu-Aksy 38.48 40⇑ eP P 19 45 35.0 +3.0
HVS pmax pmax
comp=Z,118nm,0.6s
TMCR Tamitsa 38.52 349 eP P 19 45 31.3 -0.8
TMCR e 19 46 58.9
TMCR pmax pmax
comp=Z,178nm,1.2s
TMCR Tamitsa 38.52 349 eP P 19 45 31.3 -0.8
comp=Z,178nm,1.2s
WTTA Wattenberg 38.68 313 P P 19 45 33.4 -0.5
comp=Z,278nm,0.8s,SNR=75
WTTA Wattenberg 38.68 313 iP P 19 45 33.4 -0.5
comp=Z,278nm,0.8s,SNR=75

KEST **Kesra** 38.74 294 P **P** 19 45 35.5 +1.0
comp=Z,22nm,0.9s,baz=175,slow=1.0,SNR=48
KEST ScP **ScP** 19 51 38.6 +4.8
comp=Z,9,6nm,1.1s,baz=102,slow=2.3,SNR=5.9
WATA **Walderalm** 38.74 313 P **P** 19 45 33.5 -0.8
comp=Z,220nm,0.7s,SNR=100
WATA **Walderalm** 38.74 313⇑ *iP* **P** 19 45 33.5 -0.8
comp=Z,220nm,0.7s,SNR=100
VSL **Villasalto** 38.88 300 *e*P **P** 19 45 35.7 +0.3
comp=Z,156nm,0.9s
VSL **Villasalto** 38.88 300 *e*P **P** 19 45 35.7 +0.3
comp=Z,156nm,0.9s
DGPR **DIGLIPUR** 38.99 103 *e*P P 19 45 40.0 +3.4
DGPR AMB AMB 19 46 05.9
comp=Z,107nm,2.2s
MOTA **Moosalm** 39.05 313 P **P** 19 45 35.9 -1.1
comp=Z,199nm,0.9s,SNR=89
MOTA **Moosalm** 39.05 313⇑ *iP* **P** 19 45 35.9 -1.1
comp=Z,199nm,0.9s,SNR=89
ROTZ **Rotzenmuhle** 39.10 317 *e*P **P** 19 45 37.0 -0.1
comp=Z,208nm,1.5s
ROTZ **Rotzenmuhle** 39.10 317 *e*P **P** 19 45 37.0 -0.1
comp=Z,208nm,1.5s
NKC **Novy Kostel** 39.11 318 *e*P **P** 19 45 36.6 -0.7
NKC *e*pP **pP** 19 45 38.5 -3.3
NKC *e*sP **sP** 19 45 43.4 -0.2
NKC AMS AMS 20 03 50.0
comp=Z,4µm,18.0s
NKC **Novy Kostel** 39.11 318 *e*P **P** 19 45 36.6 -0.7
NKC MLR MLR
comp=Z,4µm,18.0s
NKC **Novy Kostel** 39.11 318 *e*P **P** 19 45 36.6 -0.7
comp=Z,4µm,18.0s
FIA1 **FINESS Array S** 39.14 339⇑ *e*P **P** 19 45 36.0 -1.3
FIA1 **FINESS Array S** 39.14 339⇑ *e*P **P** 19 45 36.0 -1.3
FINES **FINESS Array B** 39.14 339 P **P** 19 45 36.5 -0.8
comp=Z,57nm,0.8s,baz=148,slow=10,SNR=149
FINES LR LR 20 05 41.1
comp=Z,4µm,19.6s,baz=144,slow=42
TANN **Tannenbergstha** 39.17 318 *e*P **P** 19 45 37.4 -0.4
comp=Z,29nm,1.3s
TANN **Tannenbergstha** 39.17 318 *e*P **P** 19 45 37.4 -0.4
comp=Z,29nm,1.3s
FUR **Furstenfeldbru** 39.17 314 *e*P **P** 19 45 37.1 -0.7
comp=Z,319nm,1.1s
FUR **Furstenfeldbru** 39.17 314 *e*P **P** 19 45 37.1 -0.7
comp=Z,319nm,1.1s
CLL **Collm** 39.18 319 *e*P **P** 19 45 37.4 -0.4
comp=Z,142nm,1.2s
CLL **Collm** 39.18 319 *e*P **P** 19 45 38.0 +0.2
CLL MLR MLR
comp=Z,4µm,21.3s
CLL **Collm** 39.18 319 *e*P **P** 19 45 37.4 -0.4
comp=Z,142nm,1.2s
CLL **Collm** 39.18 319 *e*P **P** 19 45 38.0 +0.2
CLL *i* Pmax 19 45 39.1
comp=Z,143nm,1.2s
CLL Lm MLR 20 05 00.0
comp=Z,4µm,21.3s
RUE **Ruedersdorf** 39.21 321 *e*P **P** 19 45 37.3 -0.6
comp=Z,295nm,1.2s
RUE **Ruedersdorf** 39.21 321 *e*P **P** 19 45 37.3 -0.6
comp=Z,295nm,1.2s
FETA **Feichten** 39.21 312 P **P** 19 45 38.0 -0.3
comp=Z,329nm,1.0s,SNR=172
FETA **Feichten** 39.21 312 *i* P **P** 19 45 38.0 -0.3
comp=Z,329nm,1.0s,SNR=172
RETA **Reutte** 39.31 313 P **P** 19 45 38.0 -1.1
comp=Z,123nm,1.3s,SNR=55
RETA **Reutte** 39.31 313 *i* P **P** 19 45 38.0 -1.1
comp=Z,123nm,1.3s,SNR=55
GRA1 **Grafenberg Arr** 39.67 316 *e*P **P** 19 45 41.6 -0.4
comp=Z,177nm,1.0s
GRF **Grafenberg Arr** 39.67 316 *e*P **P** 19 45 41.6 -0.4
comp=Z,177nm,1.0s
GRFO **Grafenberg** 39.68 316⇑ *iP* **P** 19 45 41.4 -0.6
GRFO pmax pmax
comp=Z,124nm,0.9s
GRFO **Grafenberg** 39.68 316 *i* P **P** 19 45 41.4 -0.6
comp=Z,124nm,0.9s
GRFO **Grafenberg** 39.68 316⇑ *iP* **P** 19 45 41.4 -0.6
comp=Z,124nm,0.9s
DAVOX **Davos/Dischmat** 39.71 312 P **P** 19 45 42.0 -0.5
comp=Z,39nm,0.5s,baz=118,slow=10,SNR=60
DAVOX **Davos/Dischmat** 39.71 312 P **P** 19 45 42.0 -0.5
DAVOX pmax pmax
comp=Z,39nm,0.5s
MOX **Moxa** 39.75 318 *e*P **P** 19 45 42.1 -0.5
comp=Z,53nm,1.0s
MOX **Moxa** 39.75 318 *e*P **P** 19 45 42.1 -0.5
comp=Z,53nm,1.0s
BSD **Bornholm Skovb** 39.79 326⇑ *iP* **P** 19 45 41.2 -1.6
comp=Z,214nm,0.9s
BSD *i* 19 47 14.8
BSD **Bornholm Skovb** 39.79 326⇑ *iP* **P** 19 45 41.2 -1.6
BSD *i* 19 47 14.8
BSD pmax pmax
comp=Z,210nm,0.9s
BSD MLR MLR
comp=Z,10µm,22.0s
BSD **Bornholm Skovb** 39.79 326 *i* P **P** 19 45 41.2 -1.6
comp=Z,210nm,0.9s
DAVA **Damuels** 39.84 312 P **P** 19 45 42.9 -0.7
comp=Z,401nm,0.7s,SNR=248
DAVA **Damuels** 39.84 312 *i* P **P** 19 45 42.9 -0.7
comp=Z,401nm,0.7s,SNR=248
GTA **Gaotai** 39.95 60 ⇑P **P** 19 45 45.6 +1.1
GTA pP **pP** 19 45 50.1 +1.1
GTA sP **sP** 19 45 52.6 +1.8
GTA PcP **PcP** 19 47 51.1 +1.3
GTA PcS **PcS** 19 51 40.8 +0.7
GTA S **S** 19 51 50.9 +1.4
GTA PMZ
comp=Z,51nm,1.1s
GTA PMZ
comp=Z,3µm,7.1s
GTA LN
comp=Z,7µm,18.1s
GTA LE
comp=Z,6µm,18.1s
GTA LZ
comp=Z,8µm,18.5s
TUE **Stuetta** 40.00 311 *e*P **P** 19 45 44.0 -0.9
comp=Z,756nm,1.3s
TUE **Stuetta** 40.00 311 *e*P **P** 19 45 44.0 -0.9
comp=Z,756nm,1.3s
KRAR **Krasnoyarsk** 40.22 33 *c iP* **P** 19 45 47.3 +0.9
KRAR pmax pmax
comp=Z,284nm,1.2s
KRAR **Krasnoyarsk** 40.22 33 *i* P **P** 19 45 47.3 +0.9
comp=Z,284nm,1.2s
ABSA **Djebel Ababsia** 40.25 295 P P 19 45 51.1 +4.0
CMAH **Djebel Manchou** 40.30 296 P **P** 19 45 49.0 +1.6
CMAH **Djebel Manchou** 40.30 296 P **P** 19 45 49.0 +1.6
RGN **Rugen** 40.34 324 *e*P **P** 19 45 47.5 +0.1
comp=Z,671nm,1.1s
RGN **Rugen** 40.34 324 *e*P **P** 19 45 47.5 +0.1
comp=Z,671nm,1.1s
STU **Stuttgart** 40.67 314 *e*P **P** 19 45 48.7 -1.5
comp=Z,102nm,1.5s
STU **Stuttgart** 40.67 314 *e*P **P** 19 45 48.5 -1.7
STU pmax pmax
comp=Z,52nm,1.0s
STU **Stuttgart** 40.67 314 *e*P **P** 19 45 48.5 -1.7
comp=Z,52nm,1.0s
STU **Stuttgart** 40.67 314 *e*P **P** 19 45 48.5 -1.7
comp=Z,52nm,1.0s
SPAK **Spaichingen-Ko** 40.76 313⇑ *e*P **P** 19 45 49.7 -1.4
SAOF **Saorge** 40.77 307⇑ *e*P **P** 19 45 50.5 -0.6
UBBA **Unterbreizbach** 40.78 318 *e*P **P** 19 45 51.2 +0.2
comp=Z,134nm,1.7s
UBBA **Unterbreizbach** 40.78 318 *e*P **P** 19 45 51.2 +0.2
comp=Z,134nm,1.7s
AUTN **L'Aution** 40.86 307⇑ *e*P **P** 19 45 51.5 -0.6
CKFL **Kef-Lekhel** 40.86 295 P **P** 19 45 54.9 +2.8
REVF **Revere** 40.86 306⇑ *e*P **P** 19 45 51.0 -1.0
CLZ **Clausthal** 40.90 319 *e*P **P** 19 45 52.3 +0.2
comp=Z,172nm,0.9s
CLZ **Clausthal** 40.90 319 *e*P **P** 19 45 52.3 +0.2
comp=Z,172nm,0.9s
TOUF **Mont Tournerai** 40.99 307⇑ *e*P **P** 19 45 52.8 -0.4
MVIF **Mont Vial** 41.04 307⇑ *e*P **P** 19 45 52.6 -0.9
CASM **Ain Smara** 41.05 295 P **P** 19 45 56.5 +2.9
BFO **Black Forest** 41.11 314 *e*P **P** 19 45 52.9 -1.0
comp=Z,27nm,0.9s
BFO **Black Forest** 41.11 314 P **P** 19 45 53.8 -0.1
comp=Z,276nm,0.8s,SNR=17
BFO **Black Forest** 41.11 314 *i* P **P** 19 45 54.1 +0.2
BFO **Black Forest** 41.11 314 *e*P **P** 19 45 52.9 -1.0
comp=Z,27nm,0.9s
CTEI **Djebel Teioual** 41.12 295 P **P** 19 45 57.0 +2.7
TOD **Tromm** 41.15 316⇑ *e*P **P** 19 45 53.0 -1.2
CALN **Calern** 41.21 306⇑ *e*P **P** 19 45 54.5 -0.4
FELD **Feldberg im Sc** 41.22 313⇑ *e*P **P** 19 45 53.0 -1.9
COP **Copenhagen** 41.31 325⇑ *iP* **P** 19 45 55.7 +0.4
comp=Z,148nm,0.9s
COP **Copenhagen** 41.31 325⇑ *iP* **P** 19 45 55.7 +0.4
COP pmax pmax
comp=Z,150nm,0.9s
COP MLR MLR
comp=Z,6µm,22.0s
COP **Copenhagen** 41.31 325 *i* P **P** 19 45 55.7 +0.4
comp=Z,6µm,22.0s
OG22 **Abries** 41.33 308⇑ *e*P **P** 19 45 54.8 -1.1
SURF **Saint Ours** 41.37 308 *e*P **P** 19 45 56.6 +0.3
MHMT **Maesarieng** 41.42 93 P **P** 19 45 58.4 +1.6
comp=Z,74nm,1.0s,comp=Z,897nm
BBS **Basel-Blauen** 41.45 312⇑ *e*P **P** 19 45 55.6 -1.1
KTD **Kalmit** 41.52 315⇑ *e*P **P** 19 45 56.3 -1.0
DFRA **Djebel Bou Aff** 41.54 295 P **P** 19 45 59.5 +1.8
DFRA **Djebel Bou Aff** 41.54 295 P **P** 19 45 59.5 +1.8
LIBD **Limburg** 41.54 313⇑ *e*P **P** 19 45 56.5 -0.9
TNS **Taunus Mts** 41.54 316 *e*P **P** 19 45 57.0 -0.5
comp=Z,153nm,1.1s
TNS **Taunus Mts** 41.54 316 *e*P **P** 19 45 57.0 -0.5
comp=Z,153nm,1.1s
LANF **Langenberg** 41.61 314⇑ *e*P **P** 19 45 56.0 -2.0
BSEG **Bad Segeberg** 41.70 322 *e*P **P** 19 45 58.9 +0.4
comp=Z,221nm,1.2s
BSEG **Bad Segeberg** 41.70 322 *e*P **P** 19 45 58.9 +0.4
comp=Z,221nm,1.2s
MOF **Molkenrain** 41.78 313⇑ *e*P **P** 19 45 57.9 -1.6
CMAI **Chiengmai2** 41.83 90 P **P** 19 46 01.0 +0.7
comp=Z,172nm,1.4s
ECH **Echery** 41.84 313⇑ *iP* **P** 19 45 58.7 -1.2
ECH pmax pmax
comp=Z,156nm,1.0s
ECH **Echery** 41.84 313 *i* P **P** 19 45 58.7 -1.2
comp=Z,156nm,1.0s
ECH **Echery** 41.84 313⇑ *iP* **P** 19 45 58.7 -1.2
comp=Z,156nm,1.0s
CKHR **Kef el Ahmar** 41.85 295 P **P** 19 46 02.1 +1.9
CKHR **Kef el Ahmar** 41.85 295 P **P** 19 46 02.1 +1.9
LOMF **Lomont** 41.88 312⇑ *e*P **P** 19 45 59.3 -1.0
OG25 **Le Caire** 41.88 307⇑ *e*P **P** 19 45 58.4 -1.9
SET **Setif** 41.93 295 P **P** 19 46 02.0 +1.1
SET **Setif** 41.93 295 P **P** 19 46 02.0 +1.1
GDM **Grand'Maison** 41.97 308⇑ *e*P **P** 19 45 59.1 -2.1
ABH **Alteburg** 42.01 316⇑ *e*P **P** 19 45 59.6 -1.6
LEPF **PUYLOUBIER** 42.03 306⇑ *e*P **P** 19 46 00.2 -1.3
CHTO **Chiang Mai** 42.11 91 P **P** 19 46 03.2 +0.8
comp=Z,358nm,1.1s
CHTO **Chiang Mai** 42.11 91⇑ *e*P **P** 19 46 03.1 +0.7
CHTO **Chiang Mai** 42.11 91 *e*P **P** 19 46 03.1 +0.7
CHTO **Chiang Mai** 42.11 91⇑ *e*P **P** 19 46 03.0 +0.7
CMMT **Chiang Mai** 42.11 91 P **P** 19 46 03.2 +0.7
comp=Z,102nm,1.1s
CMAR **Chiang Mai Arr** 42.23 92 P **P** 19 46 04.2 +0.9
comp=Z,27nm,0.7s,baz=284,slow=8.8,SNR=74
CMAR LR LR 20 07 04.9
comp=Z,2µm,19.1s,baz=155,slow=41
RUP **Ruppelstein** 42.27 315⇑ *e*P **P** 19 46 02.2 -1.2
APA **Apatity** 42.43 349⇓ *iP* **P** 19 46 04.2 -0.1
APA *i* 19 47 41.5
APA *i* PPP PPP 19 48 00.0
APA *e*S **S** 19 52 24.0 -1.2
APA pmax pmax
comp=Z,216nm,1.2s
APA **Apatity** 42.43 349 *i* P **P** 19 46 04.2 -0.1
comp=Z,216nm,1.2s
LVZ **Lovozero** 42.51 349 *d iP* **P** 19 46 04.9 -0.2
LVZ pmax pmax
comp=Z,96nm,1.2s
LVZ **Lovozero** 42.51 349 P **P** 19 46 04.4 -0.7
comp=Z,300nm,1.0s,SNR=7.5
LVZ **Lovozero** 42.51 349 *i* P **P** 19 46 04.9 -0.2
comp=Z,96nm,1.2s
LVZ **Lovozero** 42.51 349 *e*P **P** 19 46 04.0 -1.1
comp=Z,220nm,0.8s
IBBN **Ibbenburen** 42.58 319 *e*P **P** 19 46 06.5 +0.7
comp=Z,223nm,1.1s
IBBN **Ibbenburen** 42.58 319 *e*P **P** 19 46 06.5 +0.7
comp=Z,223nm,1.1s
BUG **Bochum--Univer** 42.61 318 *e*P **P** 19 46 06.4 +0.4
comp=Z,195nm,1.1s
BUG **Bochum--Univer** 42.61 318 *e*P **P** 19 46 06.4 +0.4
comp=Z,195nm,1.1s
THEF **They Montfort** 42.61 313⇑ *e*P **P** 19 46 04.8 -1.4
LAMP **Lampang** 42.82 92 P **P** 19 46 10.4 +2.2
comp=Z,20nm,0.9s,comp=Z,152nm
WLF **Walferdange** 42.83 315 P **P** 19 46 07.2 -0.6
comp=Z,98nm,1.4s
WLF **Walferdange** 42.83 315 *e*P **P** 19 46 07.2 -0.6
comp=Z,142nm,1.0s
WLF **Walferdange** 42.83 315 *e*P **P** 19 46 06.9 -1.0
WLF pmax pmax
comp=Z,380nm,1.1s
WLF **Walferdange** 42.83 315 *e*P **P** 19 46 06.9 -1.0
comp=Z,380nm,1.1s
WLF **Walferdange** 42.83 315 *e*P **P** 19 46 06.9 -1.0
comp=Z,380nm,1.1s
HFS **Hagfors** 42.91 332 P **P** 19 46 07.4 -1.0
comp=Z,26nm,0.5s,baz=126,slow=7.5,SNR=65
HFS LR LR 20 07 23.5
comp=Z,4µm,20.5s,baz=122,slow=41
CRAI **Chiangrai** 42.92 89 P **P** 19 46 08.3 -0.8
comp=Z,61nm,0.9s,comp=Z,10µm
MOY **Mondy** 42.95 42 *e*P **P** 19 46 10.3 +1.3
MOY pmax pmax
comp=Z,201nm,2.5s
MOY **Mondy** 42.95 42 *e*P **P** 19 46 10.3 +1.3
comp=Z,201nm,2.5s
WTSB **Winterswijk** 43.04 318 *e*PKP 19 37 20.6
WTSB *e*P **P** 19 46 10.1 +0.6
comp=Z,388nm,1.4s
WTSB **Winterswijk** 43.04 318 *e*P **P** 19 46 10.1 +0.6
comp=Z,388nm,1.4s
SSB **Saint Sauveur** 43.08 308 *e*P **P** 19 46 08.4 -1.7
SSB **Saint Sauveur** 43.08 308 *e*P **P** 19 46 08.4 -1.7
SSB **Saint Sauveur** 43.08 308 *e*P **P** 19 46 08.4 -1.7
LZH **Lanzhou** 43.11 65 *e*P **P** 19 46 10.8 +0.3
LZH pP **pP** 19 46 14.6 -0.5
LZH sP **sP** 19 46 16.3 -0.5
LZH PcP **PcP** 19 48 01.1 +0.8
LZH *e*S **S** 19 52 34.0 -2.5
LZH SS **SS** 19 55 44.3 -4.6
LZH PMZ
comp=Z,140nm,1.0s
LZH PMZ
comp=Z,1µm,5.3s
LZH LN
comp=Z,7µm,16.8s
LZH LE
comp=Z,2µm,15.8s
LZH LZ
comp=Z,6µm,18.7s
MEM **Membach** 43.15 316 P **P** 19 46 10.6 +0.1
comp=Z,56nm,1.3s
MEM **Membach** 43.15 316 P **P** 19 46 10.5 +0.1
comp=Z,56nm,1.3s
HGN **Heimansgroeve** 43.24 316 *e*P **P** 19 46 11.5 +0.4
comp=Z,335nm,1.4s
HGN **Heimansgroeve** 43.24 316 *e*P **P** 19 46 11.5 +0.4
comp=Z,335nm,1.4s
KHLT **Khaolaem Dam** 43.27 97 P P 19 46 15.8 +3.9
comp=Z,27nm,1.3s
MUD **Monsted U'grnd** 43.29 325 *i* P **P** 19 46 11.8 +0.3
comp=Z,176nm,1.0s
MUD **Monsted U'grnd** 43.29 325 *i* P **P** 19 46 11.8 +0.3
MUD pmax pmax
comp=Z,180nm,1.0s
MUD MLR MLR
comp=Z,16µm,21.0s
MUD **Monsted U'grnd** 43.29 325 *i* P **P** 19 46 11.8 +0.3
comp=Z,16µm,21.0s
BEBN **Eben Emael** 43.40 316 P **P** 19 46 13.0 +0.5
comp=Z,54nm,1.6s
BEBN **Eben Emael** 43.40 316 P **P** 19 46 13.0 +0.5
comp=Z,54nm,1.6s
CD2 **Chengdu** 43.50 73 P **P** 19 46 13.1 -0.6
CD2 pP **pP** 19 46 18.4 +0.2
CD2 sP **sP** 19 46 21.9 +1.9
CD2 S **S** 19 52 37.5 -4.7
CD2 SS **SS** 19 55 53.5 -3.1
CD2 PMZ
comp=Z,40nm,0.9s
CD2 PMZ
comp=Z,1µm,10.8s
CD2 LN
comp=Z,10µm,19.4s
CD2 LZ
comp=Z,6µm,16.9s
KMI **Kunming** 43.69 81 P **P** 19 46 16.3 +0.8
KMI pP **pP** 19 46 18.8 -1.2
KMI sP **sP** 19 46 19.9 -1.9
KMI PP **PP** 19 47 58.8 +1.7
KMI S **S** 19 52 46.3 +0.9
KMI PMZ
comp=Z,28nm,1.3s
KMI PMZ
comp=Z,2µm,4.8s
KMI LN
comp=Z,4µm,23.4s
KMI LE
comp=Z,4µm,19.9s
KMI LZ
comp=Z,4µm,18.2s
TAM **Tamanrasset** 43.87 275 *e*P **P** 19 46 17.6 +0.8
TAM pmax pmax
comp=Z,67nm,0.9s
TAM **Tamanrasset** 43.87 275 *e*P **P** 19 46 17.6 +0.8
comp=Z,67nm,0.9s
TAM **Tamanrasset** 43.87 275 *e*P **P** 19 46 17.6 +0.8
comp=Z,67nm,0.9s
DOU **Dourbes** 43.91 315 P **P** 19 46 16.7 +0.1
comp=Z,134nm,1.5s
DOU **Dourbes** 43.91 315 P **P** 19 46 16.7 +0.1
comp=Z,134nm,1.5s
EMHD **Djebel Mahouad** 43.91 295 P **P** 19 46 17.8 +0.8
EMHD **Djebel Mahouad** 43.91 295 P **P** 19 46 17.8 +0.8
UTTA **Uttaradit** 43.91 92 P **P** 19 46 18.3 +1.3
comp=Z,34nm,1.0s,comp=Z,254nm
SRDT **SRDT** 43.92 97 P **P** 19 46 19.9 +2.8
comp=Z,276nm,1.5s,comp=Z,19µm
SJAF **Saint Jean de** 44.00 304⇑ *e*P **P** 19 46 16.8 -0.7
ZAK **Zakamensk** 44.02 44⇑ *iP* **P** 19 46 18.0 +0.4
ZAK *e* 19 48 03.4
ZAK pmax pmax
comp=Z,23nm,1.7s
ZAK **Zakamensk** 44.02 44 *i* P **P** 19 46 18.0 +0.4
comp=Z,23nm,1.7s
OSL **Oslo** 44.10 330 *e*P **P** 19 46 17.2 -0.7
OSL IAmb IAmb 19 46 20.2
comp=Z,232nm,1.4s
OSL **Oslo** 44.10 330 *e*P **P** 19 46 17.2 -0.7
SNR=25
NC602 **NORSAR Array S** 44.14 332 *e*P **P** 19 46 17.2 -1.1
NC602 **NORSAR Array S** 44.14 332 *e*P **P** 19 46 17.2 -1.1
SNR=25
SNF **Seneffe** 44.20 316 P **P** 19 46 19.1 +0.3
SNF **Seneffe** 44.20 316 P **P** 19 46 19.1 +0.3
FILF **Fillols** 44.24 304⇑ *e*P **P** 19 46 19.7 +0.2
HOMB **Homborsund** 44.37 327 *e*P **P** 19 46 19.5 -0.6
HOMB IAmb IAmb 19 46 22.7
comp=Z,153nm,1.2s
HOMB **Homborsund** 44.37 327 *e*P **P** 19 46 19.5 -0.6
SNR=25
NB2 **NORSAR Subarra** 44.43 332 P **P** 19 46 19.2 -1.5
comp=Z,41nm,0.7s,baz=121,slow=7.9
NB2 **NORSAR Subarra** 44.43 332 P **P** 19 46 19.2 -1.5
baz=121,slow=7.9
NB2 **NORSAR Subarra** 44.43 332 P **P** 19 46 19.2 -1.5
SNR=25
NOA **NORSAR Array B** 44.43 332 P **P** 19 46 19.1 -1.5
comp=Z,25nm,0.8s,baz=120,slow=8.1,SNR=65
NOA LR LR 20 06 47.9
comp=Z,3µm,19.9s,baz=85,slow=39
KONO **Kongsberg** 44.47 330 *e*P **P** 19 46 19.8 -1.1
KONO IAmb IAmb 19 46 24.1
comp=Z,58nm,1.0s
KONO **Kongsberg** 44.47 330 *e*P **P** 19 46 19.4 -1.5
KONO *e* 19 48 05.6
KONO pmax pmax
comp=Z,67nm,1.0s
KONO **Kongsberg** 44.47 330 *e*P **P** 19 46 19.4 -1.5
comp=Z,67nm,1.0s
KONO **Kongsberg** 44.47 330 *e*PP PP 19 48 05.6 +1.1
KONO **Kongsberg** 44.47 330 *e*P **P** 19 46 19.4 -1.5
comp=Z,67nm,1.0s
KONO *e*PP **PP** 19 48 05.6 +1.0
NAO01 **NORSAR Array S** 44.47 332 *e*P **P** 19 46 19.5 -1.5
comp=Z,29nm,0.8s
NAO01 **NORSAR Array S** 44.47 332 *e*P **P** 19 46 19.5 -1.5
comp=Z,29nm,0.8s
FRNF **Fournols** 44.48 308⇑ *e*P **P** 19 46 22.3 +1.0
TLY **Talaya** 44.55 43 *e*P **P** 19 46 22.7 +1.0
TLY *e* 19 46 43.7
TLY pmax pmax
comp=Z,50nm,1.5s
TLY MLR MLR
comp=Z,9µm,13.0s
TLY **Talaya** 44.55 43 P **P** 19 46 22.6 +0.9
comp=Z,154nm,1.7s,SNR=12
TLY **Talaya** 44.55 43 *e*P **P** 19 46 22.4 +0.7
comp=Z,66nm,1.4s
TLY **Talaya** 44.55 43 *e*P **P** 19 46 22.4 +0.7
comp=Z,66nm,1.4s
CARF **Carcanieres** 44.59 304⇑ *e*P **P** 19 46 21.9 -0.4
EBNR **Beni Rached** 45.05 295 P **P** 19 46 26.2 +0.2
EBNR **Beni Rached** 45.05 295 P **P** 19 46 26.2 +0.2
IRK **Irkutsk** 45.06 42 *e*P **P** 19 46 25.8 0.0
IRK *e* 19 48 07.0
IRK pmax pmax
comp=Z,157nm,2.4s
IRK **Irkutsk** 45.06 42 *e*P **P** 19 46 25.8 0.0
comp=Z,157nm,2.4s
IRK **Irkutsk** 45.06 42 *e*PcP **PcP** 19 48 07.0 +0.6
ECHA **Ech Chlef** 45.20 295 P **P** 19 46 26.7 -0.3
ECHA **Ech Chlef** 45.20 295 P **P** 19 46 26.7 -0.3
SALF **Salau** 45.26 304⇑ *e*P **P** 19 46 26.2 -1.4
ETRT **Tiaret** 45.30 294 P **P** 19 46 28.2 +0.1
ETRT **Tiaret** 45.30 294 P **P** 19 46 28.2 +0.1
MLS **Moulis** 45.34 305⇑ *e*P **P** 19 46 28.0 -0.2
EANR **'Ain N'Sour** 45.42 295 P **P** 19 46 29.7 +0.7
EANR **'Ain N'Sour** 45.42 295 P **P** 19 46 29.7 +0.7
KEV **Kevo** 45.51 347 *e*P **P** 19 46 28.6 -0.5
KEV pmax pmax
comp=Z,130nm,1.2s
KEV **Kevo** 45.51 347 *e*P **P** 19 46 28.6 -0.5
comp=Z,130nm,1.2s
KEV **Kevo** 45.51 347 *e*P **P** 19 46 28.6 -0.5
comp=Z,130nm,1.2s
MENF **Mencas** 45.53 315⇑ *e*P **P** 19 46 27.8 -1.7
SONM **Songino Array** 45.58 48 P **P** 19 46 30.6 +0.5
comp=Z,52nm,1.0s,baz=258,slow=9.1,SNR=48
SONM PcP **PcP** 19 48 10.8 +2.4
comp=Z,20nm,1.1s,baz=259,slow=5.4,SNR=3.5
ARCES **ARCESS Array B** 45.64 346 P **P** 19 46 29.7 -0.4
comp=Z,69nm,1.2s,baz=147,slow=6.9,SNR=42
ARE0 **ARCESS Array S** 45.64 346 *e*P **P** 19 46 29.8 -0.3
ARE0 IAmb IAmb 19 46 33.3
comp=Z,89nm,1.2s
ARE0 **ARCESS Array S** 45.64 346 *e*P **P** 19 46 29.8 -0.3
SNR=25
ARE0 **ARCESS Array S** 45.64 346 *e*P **P** 19 46 29.4 -0.7
KTK1 **Kautokeino** 45.72 345 *e*P **P** 19 46 30.1 -0.6
KTK1 IAmb IAmb 19 46 36.0
comp=Z,66nm,0.9s
KTK1 **Kautokeino** 45.72 345 *e*P **P** 19 46 30.1 -0.6
SNR=25
BLS5 **Blasjo** 45.81 328 *e*P **P** 19 46 31.8 +0.1
BLS5 IAmb IAmb 19 46 34.9
comp=Z,54nm,1.0s
BLS5 **Blasjo** 45.81 328 *e*P **P** 19 46 31.8 +0.1
SNR=25
ODD1 **Odda** 45.93 329 *e*P **P** 19 46 35.1 +2.5
NSS **Namsos** 46.00 336 *e*P **P** 19 46 32.1 -0.9
NSS **Namsos** 46.00 336 *e*P **P** 19 46 32.1 -0.9
SNR=25
ULN **Ulaanbaatar** 46.02 48 *e*P **P** 19 46 33.2 -0.4
ULN pmax pmax
comp=Z,31nm,0.8s
ULN **Ulaanbaatar** 46.02 48 *e*P **P** 19 46 33.2 -0.4
comp=Z,31nm,0.8s
ULN **Ulaanbaatar** 46.02 48 *e*P **P** 19 46 33.2 -0.4
comp=Z,31nm,0.8s
LABF **Labassere** 46.09 305⇑ *e*P **P** 19 46 34.5 +0.3

VIEF Viey 46.13 305⇑ eP P 19 46 34.4 -0.1
MOR8 Moi Rana 46.14 339 eP P 19 46 33.0 -1.1
MOR8 IAmb IAmb 19 46 40.2
comp=Z,31nm,0.8s
MOR8 Moi Rana 46.14 339 eP P 19 46 33.0 -1.1
SNR=25
ABPO Ambohimpanom 46.23 189 P P 19 46 39.0 +3.5
comp=Z,286nm,0.8s,SNR=7.3
ELSH Elham, Standar 46.28 316 eP P 19 46 34.7 -0.7
ELSH AMB AMB 19 46 38.9
comp=Z,300nm,1.3s
ELSH Elham, Standar 46.28 316 eP P 19 46 34.7 -0.7
KMY Karmoy 46.30 328 eP P 19 46 35.7 +0.3
KMY Karmoy 46.30 328 eP P 19 46 35.7 +0.3
SNR=25
ODJA Bouhanifia 46.49 294 P P 19 46 38.0 +0.6
ODJA Bouhanifia 46.49 294 P P 19 46 38.0 +0.6
FLOS Flostrand 46.58 339 eP P 19 46 35.1 -2.4
FLOS Flostrand 46.58 339 eP P 19 46 35.1 -2.4
SNR=25
HYA Hoyanger 46.66 330 eP P 19 46 39.4 +1.2
HYA IAmb IAmb 19 46 41.1
comp=Z,129nm,1.5s
HYA Hoyanger 46.66 330 eP P 19 46 39.4 +1.2
SNR=25
RUND Rundenannen 46.71 329 eP P 19 46 40.1 +1.4
RUND Rundenannen 46.71 329 eP P 19 46 40.1 +1.4
SNR=25
BER Bergen 46.72 329 eP P 19 46 39.8 +1.1
BER Bergen 46.72 329 eP P 19 46 39.8 +1.1
SNR=25
HMNX Herstmonceux 46.73 316 eP P 19 46 38.7 -0.2
HMNX AMB AMB 19 46 42.2
comp=Z,158nm,1.3s
HMNX AMS AMS 20 36 24.9
comp=Z,7μm,20.8s
HMNX Herstmonceux 46.73 316 eP P 19 46 38.7 -0.2
KRAB Krabi 46.74 105 P P 19 46 42.6 +3.1
comp=Z,24nm,0.6s
AKN Aaknes 46.75 332 eP P 19 46 39.4 +0.5
AKN Aaknes 46.75 332 eP P 19 46 39.4 +0.5
SNR=25
KONS Konsvik 46.76 339 eP P 19 46 38.2 -0.7
KONS Konsvik 46.76 339 eP P 19 46 38.2 -0.7
SNR=25
GYA Guiyang 46.83 78 P P 19 46 40.3 +0.1
GYA PcP **PcP 19 48 13.4 +0.2**
GYA PP **PP 19 48 30.0 -0.4**
GYA ScP **ScP 19 52 06.8 +0.2**
GYA S **S 19 53 30.3 -0.2**
GYA PMZ
comp=Z,30nm,0.8s
GYA PMZ
comp=Z,190nm,5.2s
GYA LN
comp=Z,7μm,17.4s
GYA LE
comp=Z,5μm,18.6s
GYA LZ
comp=Z,6μm,17.0s
ORDF Ordiarp 46.84 305⇑ eP P 19 46 39.6 -0.3
HAMF Hammerfest 46.90 347 eP P 19 46 39.8 -0.2
HAMF Hammerfest 46.90 347 eP P 19 46 39.8 -0.2
SNR=25
STEI Steigen 47.01 341 eP P 19 46 39.4 -1.5
STEI Steigen 47.01 341 eP P 19 46 39.4 -1.5
SNR=25
OSSF Osses 47.08 305⇑ eP P 19 46 40.7 -1.1
TRO Tromso 47.20 344 eP P 19 46 39.8 -2.5
TRO IAmb IAmb 19 46 43.0
comp=Z,245nm,1.4s
TRO Tromso 47.20 344 eP P 19 46 39.8 -2.5
SNR=25
SKNT Sakolnakorn 47.24 91 P P 19 46 43.8 +0.4
comp=Z,98nm,0.8s
FOO Floro 47.34 331 eP P 19 46 46.6 +3.2
OLHC Oulhaca 47.53 294 P P 19 46 36.0 -10
LOF Lofoten 47.63 341 eP P 19 46 43.1 -2.6
LOF Lofoten 47.63 341 eP P 19 46 43.1 -2.6
SNR=25
WOL Wolverton 47.77 316⇑ eP P 19 46 46.8 -0.2
WOL AMB AMB 19 46 50.4
comp=Z,377nm,1.1s
WOL AMS AMS 20 35 47.9
comp=Z,10μm,22.4s
WOL Wolverton 47.77 316⇑ eP P 19 46 46.8 -0.2
JQE Queens East 48.01 313⇑ eP P 19 46 47.9 -1.0
JQE ⇑ eP P 19 46 47.9 -1.0
JQE Queens East 48.01 313⇑ eP P 19 46 47.9 -1.0
JRS Jersey 48.05 313 eP P 19 46 48.0 -1.2
JRS Jersey 48.05 313 eP P 19 46 48.0 -1.2
CWF Charnwood Fore 48.05 318⇑ eP P 19 46 48.4 -0.8
CWF AMB AMB 19 46 52.6
comp=Z,128nm,1.2s
CWF AMS AMS 20 36 13.4
comp=Z,7μm,20.4s
CWF Charnwood Fore 48.05 318⇑ eP P 19 46 48.4 -0.8
JSA Saint Aubin 48.10 313 eP P 19 46 48.7 -0.9
JSA AMB AMB 19 46 52.3
comp=Z,146nm,1.1s
JSA AMS AMS 20 38 06.8
comp=Z,8μm,19.9s
JSA Saint Aubin 48.10 313 eP P 19 46 48.7 -0.9
SWN1 Swindon 48.16 316⇑ eP P 19 46 49.1 -0.9
SWN1 AMB AMB 19 46 53.5
comp=Z,431nm,1.2s
SWN1 AMS AMS 20 36 35.1
comp=Z,10μm,20.2s
SWN1 Swindon 48.16 316⇑ eP P 19 46 49.1 -0.9
KBI1 Birley Grange 48.28 318⇑ eP P 19 46 49.8 -1.2
KBI1 Birley Grange 48.28 318⇑ eP P 19 46 49.8 -1.2
STRD Stroud 48.42 316 eP P 19 46 51.4 -0.7
STRD AMB AMB 19 46 55.0
comp=Z,216nm,1.1s
STRD AMS AMS 20 37 04.3
comp=Z,9μm,20.4s
STRD Stroud 48.42 316 eP P 19 46 51.3 -0.7
HPK Haverah Park 48.46 319⇑ eP P 19 46 51.5 -0.8
HPK AMB AMB 19 46 55.5
comp=Z,174nm,1.5s
HPK AMS AMS 20 35 03.7
comp=Z,7μm,22.4s
HPK Haverah Park 48.46 319⇑ eP P 19 46 51.5 -0.8
ENH Enshi 48.48 72 eP P 19 46 53.2 +0.3
comp=Z,37nm,1.0s
ENH Enshi 48.48 72 eP P 19 46 53.2 +0.3
comp=Z,37nm,1.0s
LHO Holmfirth 48.52 319⇑ eP P 19 46 51.9 -0.9
LHO Holmfirth 48.52 319⇑ eP P 19 46 51.9 -0.9
LCP Cassop 48.53 320⇑ eP P 19 46 51.7 -1.1
LCP Cassop 48.53 320⇑ eP P 19 46 51.7 -1.1
OLDB Oldbury-Upon-S 48.64 316 eP P 19 46 52.9 -0.8
OLDB AMB AMB 19 46 56.6
comp=Z,215nm,1.1s
OLDB AMS AMS 20 37 23.3
comp=Z,8μm,20.2s
OLDB Oldbury-Upon-S 48.64 316 eP P 19 46 52.9 -0.8
ZAI Zaio 48.64 294 i P P 19 46 55.0 +0.9
STNC Stoke 48.65 318 eP P 19 46 54.0 +0.2
STNC AMB AMB 19 46 57.2
comp=Z,141nm,1.4s
STNC AMS AMS 20 35 28.8
comp=Z,7μm,20.6s
STNC Stoke 48.65 318 eP P 19 46 54.0 +0.2
MONM Monmouth 48.82 316⇑ eP P 19 46 54.2 -1.0
MONM AMB AMB 19 46 57.8
comp=Z,191nm,1.1s
MONM AMS AMS 20 37 13.5
comp=Z,8μm,20.4s
MONM Monmouth 48.82 316⇑ eP P 19 46 54.2 -1.0
LSZ Lusaka 48.91 214 eP P 19 46 56.8 +0.5
LSZ pmax pmax
comp=Z,23nm,0.9s
LSZ Lusaka 48.91 214 eP P 19 46 56.8 +0.5
comp=Z,23nm,0.9s
LSZ Lusaka 48.91 214 eP P 19 46 56.8 +0.5
comp=Z,23nm,0.9s
MCH1 Michaelchurch 48.96 317⇑ eP P 19 46 55.4 -0.8
MCH1 AMB AMB 19 46 59.0
comp=Z,231nm,1.0s
MCH1 AMS AMS 20 36 01.4
comp=Z,8μm,21.5s
MCH1 Michaelchurch 48.96 317⇑ eP P 19 46 55.4 -0.8
HLM1 Long Mynd 48.97 317⇑ eP P 19 46 55.6 -0.7
HLM1 AMB AMB 19 46 59.2
comp=Z,161nm,1.2s
HLM1 Long Mynd 48.97 317⇑ eP P 19 46 55.6 -0.7
HHC Hu-ho-hao-te 48.97 58 eP P 19 46 57.1 +0.5
HHC pP **pP 19 47 01.6 +0.4**
HHC sP **sP 19 47 04.1 +1.2**
HHC PP **PP 19 48 51.5 +1.5**
HHC S **S 19 54 00.6 +0.1**
HHC sS **sS 19 54 09.8 +1.8**
HHC PMZ
comp=Z,10.0nm,0.6s
HHC PMZ
comp=Z,3μm,6.8s
HHC LN
comp=Z,3μm,20.2s
HHC LE
comp=Z,2μm,17.1s
HHC LZ
comp=Z,3μm,17.7s
GSI Gunungsitoli 49.07 114 P P 19 47 01.9 +4.4
comp=Z,159nm,0.9s
ESDC Sonseca Array 49.18 300 P P 19 46 58.1 -0.1
comp=Z,40nm,0.7s,baz=75,slow=7.3,SNR=112
ESDC ScP **ScP 19 52 19.8 +3.6**
comp=Z,4.6nm,0.9s,baz=64,slow=4.1,SNR=5.2
ESLA Sonseca Array 49.18 300 eP P 19 46 58.0 -0.2
comp=Z,22nm,1.0s
ESLA Sonseca Array 49.18 300 eP P 19 46 58.0 -0.2
comp=Z,22nm,1.0s
UBPT Khong Chiam 49.20 93 P P 19 46 58.8 +0.3
comp=Z,74nm,1.0s
FOEL Foel Wylfa 49.21 318⇑ eP P 19 46 57.9 -0.3
FOEL AMB AMB 19 47 01.6
comp=Z,214nm,1.0s
FOEL Foel Wylfa 49.21 318⇑ eP P 19 46 57.9 -0.3
PSI Prapat 49.34 111 P P 19 46 59.5 -0.2
comp=Z,21nm,0.7s,baz=307,slow=6.4,SNR=13
HEX Exmoor 49.35 315⇑ eP P 19 46 58.2 -1.0
HEX Exmoor 49.35 315⇑ eP P 19 46 58.2 -1.0
DYA Yadsworthy 49.36 314⇑ eP P 19 46 58.5 -0.8
DYA AMB AMB 19 47 02.2
comp=Z,150nm,1.4s
DYA AMS AMS 20 37 59.0
comp=Z,8μm,19.7s
DYA Yadsworthy 49.36 314⇑ eP P 19 46 58.5 -0.8
ESY Stoneypath 49.40 322⇑ eP P 19 46 59.0 -0.5
ESY Stoneypath 49.40 322⇑ eP P 19 46 59.0 -0.5
KESW Keswick, Cumbr 49.43 320⇑ eP P 19 46 59.4 -0.4
KESW AMB AMB 19 47 06.6
comp=Z,189nm,0.9s
KESW Keswick, Cumbr 49.43 320⇑ eP P 19 46 59.4 -0.4
KULM Kulim 49.46 107 eP P 19 47 00.6 0.0
comp=Z,43nm,1.2s
KULM Kulim 49.46 107 eP P 19 47 00.6 0.0
comp=Z,43nm,1.2s
PAB San Pablo 49.48 300 eP P 19 47 00.1 -0.4
PAB pmax pmax
comp=Z,134nm,0.9s
PAB San Pablo 49.48 300 eP P 19 47 00.1 -0.4
comp=Z,134nm,0.9s
PAB San Pablo 49.48 300 eP P 19 47 00.1 -0.4
comp=Z,134nm,0.9s
DRUM Mains of Drumt 49.54 323⇑ eP P 19 46 59.7 -0.9
DRUM AMB AMB 19 47 04.1
comp=Z,191nm,1.1s
DRUM AMS AMS 20 36 45.5
comp=Z,6μm,18.6s
DRUM Mains of Drumt 49.54 323⇑ eP P 19 46 59.7 -0.9
ECK Cauldkaine Hil 49.55 321⇑ eP P 19 46 59.7 -1.0
ECK Cauldkaine Hil 49.55 321⇑ eP P 19 46 59.7 -1.0
EKA Eskdalemuir Ar 49.59 321 P P 19 47 00.1 -0.9
comp=Z,16nm,0.5s,baz=106,slow=8.3,SNR=61
EKA LR LR 20 12 07.6
comp=Z,3μm,20.3s,baz=55,slow=41
EBL Broad Law 49.61 322⇑ eP P 19 47 00.7 -0.5
EBL Broad Law 49.61 322⇑ eP P 19 47 00.7 -0.5
ESK Eskdalemuir 49.62 321 P P 19 47 00.9 -0.3
comp=Z,447nm,1.3s,SNR=24
ESK Eskdalemuir 49.62 321⇑ eP P 19 47 00.2 -1.0
ESK AMB AMB 19 47 03.9
comp=Z,74nm,1.2s
ESK AMS AMS 20 32 05.6
comp=Z,5μm,22.6s
ESK Eskdalemuir 49.62 321 eP P 19 46 59.9 -1.3
ESK pmax pmax
comp=Z,35nm,0.6s
ESK Eskdalemuir 49.62 321 eP P 19 46 59.9 -1.3
comp=Z,35nm,0.6s
ESK Eskdalemuir 49.62 321 eP P 19 46 59.9 -1.3
comp=Z,35nm,0.6s
WPM1 Penmaenmawr 49.69 318⇑ eP P 19 47 01.0 -0.8
WPM1 Penmaenmawr 49.69 318⇑ eP P 19 47 01.0 -0.8
EDI Edinburgh 49.72 322 eP P 19 47 01.6 -0.3
EDI AMB AMB 19 47 04.8
comp=Z,104nm,1.0s
EDI AMS AMS 20 37 25.2
comp=Z,5μm,19.2s
EDI Edinburgh 49.72 322 eP P 19 47 01.6 -0.3
EDU Dundee 49.75 323⇑ eP P 19 47 01.1 -1.1
EDU Dundee 49.75 323⇑ eP P 19 47 01.1 -1.1
HTL Hartland 49.77 315⇑ eP P 19 47 01.6 -0.8
HTL AMB AMB 19 47 06.1
comp=Z,114nm,1.1s
HTL AMS AMS 20 38 14.5
comp=Z,8μm,20.5s
HTL Hartland 49.77 315⇑ eP P 19 47 01.6 -0.8
YLL Llanberis 49.83 318 eP P 19 47 02.8 0.0
YLL Llanberis 49.83 318 eP P 19 47 02.8 0.0
MME1 Meikle Cairn 49.88 324⇑ eP P 19 47 02.4 -0.8
MME1 Meikle Cairn 49.88 324⇑ eP P 19 47 02.4 -0.8
TZK Tazeka 49.94 293 i P P 19 47 05.0 +0.7
WME Myndd Eilian 49.94 318⇑ eP P 19 47 03.2 -0.5
WME Myndd Eilian 49.94 318⇑ eP P 19 47 03.2 -0.5
GCD Castle Douglas 49.95 320⇑ eP P 19 47 02.9 -0.8
GCD Castle Douglas 49.95 320⇑ eP P 19 47 02.9 -0.8
YRE Yr Eifl 49.96 318⇑ eP P 19 47 03.2 -0.6
YRE Yr Eifl 49.96 318⇑ eP P 19 47 03.2 -0.6
WLF1 Llynfaes 49.98 318⇑ eP P 19 47 03.4 -0.6
WLF1 AMB AMB 19 47 07.7
comp=Z,115nm,1.4s
WLF1 AMS AMS 20 29 47.7
comp=Z,7μm,26.0s
WLF1 Llynfaes 49.98 318⇑ eP P 19 47 03.4 -0.6
YRC Rhoscolyn 50.08 318⇑ eP P 19 47 04.3 -0.4
YRC Rhoscolyn 50.08 318⇑ eP P 19 47 04.3 -0.4
MCD Coleburn Disti 50.09 324⇑ eP P 19 47 04.1 -0.7
MCD Coleburn Disti 50.09 324⇑ eP P 19 47 04.1 -0.7
MLA1 Latheron 50.31 325⇑ eP P 19 47 05.4 -1.0
MLA1 Latheron 50.31 325⇑ eP P 19 47 05.4 -1.0
GAL1 Galloway 50.39 320⇑ eP P 19 47 06.5 -0.6
GAL1 AMB AMB 19 47 10.2
comp=Z,118nm,1.2s
GAL1 Galloway 50.39 320⇑ eP P 19 47 06.5 -0.6
ZFT Errachidia 50.41 290 i P P 19 47 08.0 +0.2
PGBU Glenifferbraes 50.42 321 eP P 19 47 06.8 -0.5
PGBU AMB AMB 19 47 10.5
comp=Z,193nm,1.4s
PGBU AMS AMS 20 32 09.1
comp=Z,4μm,25.7s
PGBU Glenifferbraes 50.42 321 eP P 19 47 06.8 -0.5
TOB2 Torodi Ar. Sit 50.59 265 eP P 19 47 07.8 -1.3
TOA0 Torodi Ar. Sit 50.60 265 eP P 19 47 08.1 -1.1
TOA0 Torodi Ar. Sit 50.60 265 eP P 19 47 08.1 -1.1
TORD Torodi Ar. Bea 50.60 265 P P 19 47 08.8 -0.4
comp=Z,62nm,0.9s,baz=58,slow=5.9,SNR=119
TORD LR LR 20 10 52.5
comp=Z,5μm,19.3s,baz=70,slow=39
MVH1 Achvaich 50.65 324 eP P 19 47 08.1 -0.9
MVH1 Achvaich 50.65 324 eP P 19 47 08.1 -0.9
TGT Taghat 50.66 293 i P P 19 47 11.0 +1.5
CIT Chita 50.66 44 eP P 19 47 08.2 -1.0
CIT e 19 47 27.4
CIT e 19 48 23.4
CIT pmax pmax
comp=Z,207nm,2.2s
CIT Chita 50.66 44 eP P 19 47 08.2 -1.0
comp=Z,207nm,2.2s
DKH Dar Kharkhour 50.70 295 i P P 19 47 11.0 +1.1
BJO Bjornoya 50.76 349 eP P 19 47 09.4 -0.1
BJO Bjornoya 50.76 349 eP P 19 47 09.4 -0.1
SNR=24
MIF Mishlifen 50.90 292 i P P 19 47 13.0 +1.4
MNSI Mandailing Nat 51.00 113 P P 19 47 14.0 +1.8
comp=Z,34nm,1.0s
GMM Mts of Mourne 51.02 319⇑ eP P 19 47 10.8 -0.9
GMM Mts of Mourne 51.02 319⇑ eP P 19 47 10.9 -0.9
PBRG Braganca 51.15 303 eP P 19 47 13.3 +0.2
comp=Z,125nm,1.6s
KAC Achnashellach 51.16 323⇑ eP P 19 47 12.0 -0.8
KAC Achnashellach 51.16 323⇑ eP P 19 47 12.0 -0.8
KSB Sheil Bridge 51.17 323 eP P 19 47 11.8 -1.1
KSB Sheil Bridge 51.17 323 eP P 19 47 11.8 -1.1
KPL Plockton 51.32 323⇑ eP P 19 47 13.9 -0.1
KPL AMB AMB 19 47 17.1
comp=Z,96nm,1.3s
KPL AMS AMS 20 30 12.6
comp=Z,5μm,20.9s
KPL Plockton 51.32 323⇑ eP P 19 47 13.9 -0.1
MVO Moncorvo 51.41 302 eP P 19 47 15.3 +0.2
comp=Z,196nm,1.0s
BOD Bodaibo 51.70 36⇓ iP P 19 47 16.1 -0.7
BOD eS **S 19 54 36.7 -1.0**
BOD pmax pmax
comp=Z,123nm,1.3s
BOD Bodaibo 51.70 36 i P P 19 47 16.1 -0.7
comp=Z,123nm,1.3s
PBAR Barrancos 51.70 299 eP P 19 47 16.9 -0.3
comp=Z,394nm,1.5s
KIB El Ksiba 51.72 291 i P P 19 47 16.0 -1.5
QIZ Qiongzhong 51.75 86 P P 19 47 16.5 -1.3
QIZ S **S 19 54 38.9 -0.6**
QIZ LZ
comp=Z,5μm,16.4s
QIZ Qiongzhong 51.75 86 eP P 19 47 17.5 -0.3
comp=Z,120nm,1.0s
QIZ Qiongzhong 51.75 86 eP P 19 47 17.5 -0.3
comp=Z,120nm,1.0s
PMRV Marv??o 51.84 300 eP P 19 47 18.0 -0.2
comp=Z,128nm,1.0s
MTE Manteigas 51.87 301 eP P 19 47 20.1 +1.6
comp=Z,190nm,1.5s
POLO Lamas de Olo 51.97 303 eP P 19 47 19.6 +0.3
comp=Z,117nm,1.2s
PESTR Estremoz 52.05 300 eP P 19 47 19.7 -0.1
comp=Z,99nm,0.9s
TZC Tazercounte 52.17 291 i P P 19 47 21.0 0.0
PGAV Gavieira, Arco 52.28 304 eP P 19 47 22.2 +0.6
comp=Z,198nm,1.1s
PVAQ Vaqueiros 52.33 298 eP P 19 47 22.1 +0.2
comp=Z,119nm,1.1s
PPI Padang Panjang 52.38 114 P P 19 47 25.0 +2.5
comp=Z,46nm,1.8s
EVO Evora 52.42 299 eP P 19 47 22.6 +0.1
comp=Z,140nm,0.8s
BKNI Bangkinang 52.47 112 P P 19 47 25.2 +2.0
comp=Z,245nm,1.3s
PBDV Barranco-do-Ve 52.52 298 eP P 19 47 24.3 +1.0
comp=Z,100nm,1.3s
BJT Baijiatuau 52.53 59 eP P 19 47 23.5 +0.2
BJT Baijiatuau 52.53 59 eP P 19 47 23.5 +0.2
BJT Baijiatuau 52.53 59 eP P 19 47 23.5 +0.2
BJI Beijing 52.53 59 P P 19 47 23.6 +0.3
BJI PcP **PcP 19 48 32.3 -1.3**
BJI ScP **ScP 19 52 29.6 -0.9**
BJI ScS **ScS 19 57 13.6 +0.7**
BJI PMZ
comp=Z,63nm,1.1s
BJI LN
comp=Z,9μm,20.6s
BJI LE
comp=Z,5μm,21.1s
BJI LZ
comp=Z,3μm,18.8s
WHN Wuhan 52.55 71 P P 19 47 24.0 +0.4
PCVE Castro Verde 52.55 298 eP P 19 47 23.4 -0.1
comp=Z,26nm,1.8s
PCAS Casmilo, Conde 52.62 301 eP P 19 47 24.5 +0.4
comp=Z,135nm,1.1s
MESJ Messejana 52.67 298 eP P 19 47 24.0 -0.4
MESJ AMb AMB 19 47 26.9
comp=Z,63nm,1.2s
MESJ Messejana 52.67 298 eP P 19 47 25.3 +0.9
comp=Z,75nm,1.2s
MESJ Messejana 52.67 298 eP P 19 47 24.0 -0.4
MESJ Messejana 52.67 298 eP P 19 47 24.0 -0.4
PNCL Nicolau / Gran 52.87 299 eP P 19 47 25.9 0.0
comp=Z,125nm,1.3s
PACT Alcochete 53.03 300 eP P 19 47 27.7 +0.7
comp=Z,444nm,1.6s
MORF Marmelete 53.08 298 eP P 19 47 27.1 -0.5
MORF AMb AMB 19 47 29.4
comp=Z,67nm,0.7s
MORF Marmelete 53.08 298 eP P 19 47 27.5 0.0
comp=Z,98nm,1.5s
MORF Marmelete 53.08 298 eP P 19 47 27.0 -0.5
MORF Marmelete 53.08 298 eP P 19 47 27.0 -0.5
PFVI Vila Bisbo 53.24 298 eP P 19 47 28.7 +0.1
comp=Z,333nm,0.9s
LIS Lisbon 53.28 300 eP P 19 47 28.6 -0.3
LIS AMb AMB 19 47 32.1
comp=Z,167nm,0.9s
LIS Lisbon 53.28 300 eP P 19 47 28.5 -0.3
PMST Lisbon--Monsan 53.30 300 eP P 19 47 30.8 +1.7
comp=Z,223nm,1.2s
PMAFR Mafra 53.35 300 eP P 19 47 29.8 +0.3
comp=Z,269nm,1.3s
VAL Valentia 53.42 316 eP P 19 47 28.8 -0.9
KGM Kluang 53.44 109 ⇓P P 19 47 31.1 +0.7
KGM Kluang 53.44 109 ⇓P P 19 47 31.1 +0.7
GZH Guangzhou 53.57 80 P P 19 47 33.1 +1.9
GZH ScP **ScP 19 52 30.4 -4.9**
GZH PcS **PcS 19 52 33.5 -3.6**
GZH S **S 19 55 08.5 +4.3**
GZH ScS **ScS 19 57 16.5 -4.2**
GZH LN
comp=Z,9μm,17.7s
GZH LE
comp=Z,4μm,17.1s
TIA Tai'an 53.78 64 ⇑P P 19 47 32.8 +0.2
TIA PMZ
comp=Z,59nm,0.7s
SPA0 Spitsbergen Ar 53.97 351 eP P 19 47 33.7 +0.4
SPA0 Spitsbergen Ar 53.97 351 eP P 19 47 33.7 +0.4
SNR=23
SPITS Spitsbergen Ar 53.97 351 P P 19 47 33.3 -0.1
comp=Z,43nm,0.9s,baz=133,slow=9.7,SNR=16
MYKOM Kota Tinggi 54.01 109 ⇓P P 19 47 34.2 -0.3
MYKOM Kota Tinggi 54.01 109 ⇓P P 19 47 34.2 -0.3
MSNA Messina 54.25 207 eP P 19 47 35.5 -0.6
MSNA IAmb IAmb 19 47 41.3
comp=Z,3μm,4.4s
HIA Hailar 54.50 47 eP P 19 47 37.5 -0.2
HIA Hailar 54.50 47 eP P 19 47 37.5 -0.2
HIA Hailar 54.50 47 eP P 19 47 37.5 -0.2
TPRI Tanjung Pinang 55.05 109 P P 19 47 44.4 +2.3
comp=Z,81nm,0.9s,comp=Z,5μm
KBS Kingsbay 55.12 351 eP P 19 47 41.2 -0.5
KBS Kingsbay 55.12 351 eP P 19 47 41.4 -0.3
KBS pmax pmax
comp=Z,48nm,0.8s
KBS Kingsbay 55.12 351 eP P 19 47 41.4 -0.3
comp=Z,48nm,0.8s
KBS Kingsbay 55.12 351 eP P 19 47 41.4 -0.3
comp=Z,48nm,0.8s
JMIC Jan Mayen 55.77 339 LR LR 20 14 43.4
comp=Z,1μm,20.9s,baz=94,slow=39
NJ2 Nanjing 55.98 68 eP P 19 47 48.4 -0.2
NJ2 pP **pP 19 47 51.6 -1.6**
NJ2 S **S 19 55 37.4 +0.9**
NJ2 PMZ
comp=Z,30nm,0.8s
NJ2 PMZ
comp=Z,440nm,8.6s
NJ2 LN
comp=Z,1μm,20.6s
NJ2 LE
comp=Z,2μm,22.4s
NJ2 LZ
comp=Z,2μm,21.2s
KSI Kapahiang 56.02 115 P P 19 47 49.6 +0.5
comp=Z,445nm,0.8s
LHSI Lahat 56.87 115 P P 19 47 56.3 +1.2
comp=Z,389nm,1.6s
DL2 Dalian 56.87 60 P P 19 47 56.9 +2.1
DL2 PMZ
comp=Z,120nm,1.1s
MDSI Maura Dua 57.78 115 P P 19 48 00.3 -1.2
SNY Shenyang 57.87 56 ⇓P P 19 48 03.8 +2.0
SNY PMZ
comp=Z,36nm,3.3s

TSUM **Tsumeb** 57.90 221 *e*P P 19 48 03.1 +0.7
TSUM **Tsumeb** 57.90 221 *e*P P 19 48 03.1 +0.7
SLR **Silverton** 57.98 207 *e*P P 19 48 04.1 +1.2
SLR IAmb IAmb 19 48 21.9
comp=Z,209nm,2.2s
SLR IAMs_20 IAMs_20 20 15 33.2
comp=Z,10µm,17.2s
LWLI **Liwa** 58.00 116 P P 19 48 04.0 +0.8
comp=Z,161nm,0.8s
PPBI **Pangkal Pinang** 58.07 111 P P 19 48 06.7 +3.1
comp=Z,28nm,1.7s
KLSI 58.35 115 P P 19 48 06.1 +0.6
comp=Z,538nm,0.7s
LBTB **Lobatse** 58.51 210 *e*P P 19 48 07.6 +1.1
LBTB IAmb IAmb 19 48 13.8
comp=Z,122nm,1.4s
LBTB IAMs_20 IAMs_20 20 15 00.3
comp=Z,10µm,23.2s
LBTB **Lobatse** 58.51 210 *e*P P 19 48 07.4 +0.9
LBTB pmax pmax
comp=Z,72nm,1.0s
LBTB **Lobatse** 58.51 210 *e*P P 19 48 07.4 +0.9
comp=Z,72nm,1.0s
LBTB **Lobatse** 58.51 210 *e*P P 19 48 07.4 +0.9
comp=Z,72nm,1.0s
KASI **Kota Agung** 58.65 116 P P 19 48 09.4 +1.8
comp=Z,119nm,0.9s,comp=Z,4µm
CN2 **Changchun** 58.92 53 *e*P P 19 48 08.8 -0.3
CN2 *es*P **sP** 19 48 15.8 +0.3
CN2 *e*S **S** 19 56 11.8 -3.0
CN2 PMZ
comp=Z,20nm,1.0s
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,6µm,16.0s
CN2 LE
comp=Z,2µm,16.0s
CN2 LZ
comp=Z,300nm,15.0s
DBIC **Dimbokro** 59.22 261 *e*P P 19 48 11.5 -0.1
DBIC **Dimbokro** 59.22 261 P P 19 48 11.7 0.0
comp=Z,127nm,0.8s,baz=44,slow=8.3,SNR=85
DBIC LR LR 20 14 45.3
comp=Z,2µm,18.2s,baz=60,slow=37
DBIC **Dimbokro** 59.22 261 P P 19 48 11.7 0.0
DBIC pmax pmax
comp=Z,127nm,0.8s
DBIC MLR MLR
comp=Z,2µm,18.2s
DBIC **Dimbokro** 59.22 261 *e*P P 19 48 11.2 -0.4
comp=Z,121nm,0.8s
DBIC **Dimbokro** 59.22 261 *e*P P 19 48 11.2 -0.4
comp=Z,121nm,0.8s
KIC **Kosan Boka** 59.26 261 *e*P P 19 48 11.8 -0.1
comp=Z,344nm,1.1s
TIC **Toumodi** 59.38 261 *e*P P 19 48 12.6 -0.2
PRYS **Parys** 59.42 208 *e*P P 19 48 13.9 +1.1
PRYS IAmb IAmb 19 48 22.2
comp=Z,50nm,1.6s
LIC **Lamto** 59.58 261 *e*P P 19 48 15.3 +1.2
comp=Z,286nm,0.8s
BORG **Borgarnes** 59.60 331 P P 19 48 15.1 +1.6
comp=Z,27nm,0.9s,baz=87,slow=5.7,SNR=6.6
BORG LR LR 20 14 42.2
comp=Z,2µm,21.4s,baz=92,slow=37
BORG **Borgarnes** 59.60 331 P P 19 48 15.1 +1.6
BORG pmax pmax
comp=Z,36nm,1.1s
BORG MLR MLR
comp=Z,2µm,21.4s
BORG **Borgarnes** 59.60 331 *e*P P 19 48 14.7 +1.2
comp=Z,101nm,1.4s
BORG **Borgarnes** 59.60 331 *e*P P 19 48 14.7 +1.2
comp=Z,101nm,1.4s
KSM **Kuching** 59.68 105 ⇑P P 19 48 15.7 +0.9
KSM **Kuching** 59.68 105 ⇑P P 19 48 15.7 +0.9
YAK **Yakutsk** 59.87 32 *e*P P 19 48 14.1 -1.2
YAK *e* 19 49 01.5
YAK *e* 19 50 26.9
YAK *e*S **S** **19 56 22.2 -4.2**
YAK *e*'SS sS 19 56 41.7 +7.7
YAK *e*SS **SS** **20 00 16.9 -5.3**
YAK *e*SSS SSS 20 02 57.6
YAK pmax pmax
comp=Z,79nm,1.2s
YAK pmax pmax
comp=E,42nm,1.1s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=Z,90nm,2.2s
YAK pmax pmax
comp=E,84nm,2.3s
YAK pmax pmax
comp=N,71nm,2.2s
YAK smax smax
comp=N,549nm,4.0s
YAK smax smax
comp=E,552nm,4.3s
YAK MLR MLR
comp=N,502nm,13.0s
YAK MLR MLR
comp=Z,9µm,17.0s
YAK MLR MLR
comp=E,6µm,15.0s
YAK **Yakutsk** 59.87 32 *e*P P 19 48 14.1 -1.2
comp=E,5.0nm,0.9s
YAK **Yakutsk** 59.87 32 *e*PcP **PcP** 19 49 01.5 -0.2
YAK **Yakutsk** 59.87 32 *e*P P 19 48 13.8 -1.6
comp=E,44nm,0.6s
TPUB **Ta-pu** 59.88 78 *e*P P 19 48 14.8 -1.4
comp=E,47nm,1.1s
TPUB **Ta-pu** 59.88 78 *e*P P 19 48 14.8 -1.4
comp=E,47nm,1.1s
DAG **Danmarks Havn** 59.90 345 *i*P P 19 48 15.0 -0.3
comp=E,91nm,1.3s
DAG **Danmarks Havn** 59.90 345 *i*P P 19 48 15.0 -0.3
DAG pmax pmax
comp=Z,180nm,1.3s
DAG MLR MLR
comp=Z,8µm,22.0s
SSLB **Suanglung** 60.01 77 *e*P P 19 48 17.9 +0.9
comp=Z,27nm,0.8s
SSLB **Suanglung** 60.01 77 *e*P P 19 48 17.9 +0.9
comp=Z,27nm,0.8s
PMPST **Porto Santo, M** 60.07 294 *e*P P 19 48 18.8 +1.5
comp=Z,304nm,1.4s
YHNB **Yeheng** 60.10 76 *e*P P 19 48 19.0 +1.3
comp=Z,139nm,1.0s
YHNB **Yeheng** 60.10 76 *e*P P 19 48 19.0 +1.3
comp=Z,139nm,1.0s
TATO **Taipei** 60.10 75 *e*P P 19 48 18.2 +0.6
comp=Z,70nm,0.9s
TATO **Taipei** 60.10 75 *e*P P 19 48 18.2 +0.6
comp=Z,70nm,0.9s
CGJI **Cibinong** 60.24 116 P P 19 48 19.9 +1.3
TWG **Pinlang** 60.42 78 *e*P P 19 48 21.2 +1.4
comp=Z,188nm,0.9s
TWG **Pinlang** 60.42 78 *e*P P 19 48 21.2 +1.4
comp=Z,188nm,0.9s
YULB **Yu-li** 60.43 77 *e*P P 19 48 19.6 -0.3
YULB **Yu-li** 60.43 77 *e*P P 19 48 19.6 -0.3
NACB **Ninganchiao** 60.44 76 *e*P P 19 48 19.3 -0.7
NACB **Ninganchiao** 60.44 76 *e*P P 19 48 19.3 -0.7
SWZ **Schweizer** 60.50 209 *e*P P 19 48 20.1 -0.2
SWZ IAmb IAmb 19 48 50.1
comp=Z,12nm,0.9s
SEK **Senekal** 60.55 207 *e*P P 19 48 21.9 +1.3
SEK IAmb IAmb 19 48 28.2
comp=Z,40nm,0.9s
SEK IAMs_20 IAMs_20 20 21 54.9
comp=Z,18µm,18.9s
WIN **Windhoek** 60.81 219 *e*P P 19 48 24.6 +2.0
WIN IAmb IAmb 19 48 40.8
comp=Z,250nm,3.1s
KSGAH **Ganghwa** 60.82 60 P P 19 48 23.9 +1.6
SNR=5.9
KSGAH **Ganghwa** 60.82 60 P P 19 48 23.9 +1.6
SNR=5.9
PMOZ **Porto Moniz, M** 60.84 294 *e*P P 19 48 24.1 +1.4
comp=Z,342nm,1.0s
SBUM **Sibu** 60.84 103 ⇑P P 19 48 23.6 +0.8
SBUM **Sibu** 60.84 103 ⇑P P 19 48 23.6 +0.8
INCN **Inchon** 61.02 60 *e*P P 19 48 23.3 -0.4
comp=Z,101nm,1.1s
INCN **Inchon** 61.02 60 *e*P P 19 48 23.3 -0.4
comp=Z,101nm,1.1s
YNCB **YEONCHEON** 61.12 60 P P 19 48 26.0 +1.6
SNR=8.1
YNCB **YEONCHEON** 61.12 60 P P 19 48 26.0 +1.6
SNR=8.1
KSSEO **Seoul** 61.24 60 P P 19 48 26.7 +1.6
SNR=13
KSSEO **Seoul** 61.24 60 P P 19 48 26.7 +1.6
SNR=13
KSSWO **Suwon** 61.33 60 P P 19 48 27.3 +1.5
SNR=6.5
KSSWO **Suwon** 61.33 60 P P 19 48 27.3 +1.5
SNR=6.5
KSCWO **Cheorwon** 61.56 59 P P 19 48 27.5 +0.1
SNR=22
KSCWO **Cheorwon** 61.56 59 P P 19 48 27.5 +0.1
SNR=22
MDJ **Mudanjiang** 61.71 52 P P 19 48 28.4 +0.1
MDJ PMZ
comp=Z,19nm,1.1s
MDJ PMZ
comp=Z,3µm,8.7s
MDJ **Mudanjiang** 61.71 52 *e*P P 19 48 27.8 -0.4
MDJ **Mudanjiang** 61.71 52 *e*P P 19 48 27.8 -0.4
KSJEU **Jeongeup** 61.72 62 P P 19 48 27.5 -1.0
SNR=7.5
KSJEU **Jeongeup** 61.72 62 P P 19 48 27.5 -1.0
SNR=7.5
BOSA **Boshof** 61.78 209 *e*P P 19 48 29.2 +0.3
BOSA IAmb IAmb 19 48 36.4
comp=Z,419nm,2.9s
BOSA IAMs_20 IAMs_20 20 20 48.9
comp=Z,12µm,22.6s
BOSA Boshof 61.78 209 P P 19 48 29.1 +0.2
comp=Z,15nm,0.6s,baz=11,slow=6.2,SNR=16
BOSA **Boshof** 61.78 209 *e*P P 19 48 28.3 -0.6
BOSA pmax pmax
comp=Z,16nm,0.6s
BOSA **Boshof** 61.78 209 *e*P P 19 48 28.3 -0.6
comp=Z,16nm,0.6s
BOSA **Boshof** 61.78 209 *e*P P 19 48 28.3 -0.6
comp=Z,16nm,0.6s
TJN **Taejon** 61.84 61 ⇑*i*P P 19 48 27.8 -1.5
TJN **Taejon** 61.84 61 *i*P P 19 48 27.8 -1.5
KSCHC **Chuncheon** 61.86 60 P P 19 48 29.0 -0.4
SNR=15
KSCHC **Chuncheon** 61.86 60 P P 19 48 29.0 -0.4
SNR=15
KSAR **Wonju Array Be** 61.99 60 P P 19 48 29.5 -0.8
KSAR **Wonju Array Be** 61.99 60 P P 19 48 29.5 -0.8
KSAR **Wonju Array Be** 61.99 60 P P 19 48 29.5 -0.8
KSRS **Korea Array** 62.02 60 P P 19 48 29.5 -0.9
comp=Z,23nm,0.7s,baz=278,slow=6.8,SNR=43
KSRS LR LR 20 17 51.3
comp=Z,2µm,19.8s,baz=230,slow=38
KSRS **Korea Array** 62.02 60 P P 19 48 29.5 -0.9
KSRS pmax pmax
comp=Z,23nm,0.7s
KSRS MLR MLR
comp=Z,2µm,19.8s
KSIJA **INJE** 62.04 59 P P 19 48 30.5 -0.1
SNR=16
KSIJA **INJE** 62.04 59 P P 19 48 30.5 -0.1
SNR=16
SEHB **SEOHWA** 62.08 59 P P 19 48 31.0 +0.1
SNR=6.4
SEHB **SEOHWA** 62.08 59 P P 19 48 31.0 +0.1
SNR=6.4
KSBON **Boeun** 62.16 61 P P 19 48 30.6 -0.8
SNR=13
KSBON **Boeun** 62.16 61 P P 19 48 30.6 -0.8
SNR=13
KSSKC **Sokcho** 62.28 59 P P 19 48 32.3 +0.1
SNR=8.3
KSSKC **Sokcho** 62.28 59 P P 19 48 32.3 +0.1
SNR=8.3
KLR **Kul'dur** 62.32 46 *e*P P 19 48 27.6 -4.7
KLR pmax pmax
comp=Z,160nm,1.6s
KSJMJ **Jumunjin** 62.56 59 P P 19 48 33.6 -0.4
SNR=9.1
KKM **Kota Kinabalu** 62.65 97 ⇓P P 19 48 36.0 +0.9
KKM **Kota Kinabalu** 62.65 97 ⇓P P 19 48 36.0 +0.9
KSEUS **ULSEONG** 62.89 61 P P 19 48 35.3 -1.0
SNR=5.7
KSEUS **ULSEONG** 62.89 61 P P 19 48 35.3 -1.0
SNR=5.7
UPI **Upington** 63.37 212 *e*P P 19 48 41.2 +1.7
HVD **Gariep Dam** 63.42 207 *e*P P 19 48 40.6 +0.7
HVD IAmb IAmb 19 49 12.5
comp=Z,36nm,1.0s
HVD IAMs_20 IAMs_20 20 21 41.4
comp=Z,26µm,20.1s
TGY **Tagaytay City** 63.44 87 LR LR 20 17 30.0
comp=Z,65nm,18.0s,slow=37
USRK **Ussuriysk Ar.** 63.48 52 P P 19 48 38.6 -1.4
comp=Z,28nm,1.0s,baz=273,slow=7.2,SNR=24
USRK LR LR 20 19 18.6
comp=Z,4µm,18.5s,baz=262,slow=39
VLA **Vladivostok** 63.65 53 *ce*P P 19 48 41.5 +0.3
VLA pmax pmax
comp=Z,91nm,1.0s
VLA **Vladivostok** 63.65 53 *e*P P 19 48 41.5 +0.3
comp=Z,91nm,1.0s
HABR **Khabarovsk** 64.61 47 *e*P P 19 48 44.9 -2.5
HABR *e* 19 49 18.1
HABR *e* 19 51 07.1
HABR *e*S **S** **19 57 24.2 -2.4**
HABR *e*'SS **sS** **19 57 37.2 +2.9**
HABR *e* 19 58 37.4
HABR pmax pmax
comp=N,11nm,0.8s
HABR pmax pmax
comp=Z,91nm,2.0s
HABR pmax pmax
comp=E,21nm,1.0s
HABR MLR MLR
comp=Z,7µm,18.0s
HABR Khabarovsk 64.61 47 *e*P P 19 48 44.9 -2.5
comp=Z,91nm,2.0s
SUMG **Summit** 65.16 341 ⇑*i*P P 19 48 51.6 +0.5
comp=Z,244nm,1.2s
SUMG **Summit** 65.16 341 ⇑*i*P P 19 48 51.6 +0.5
SUMG pmax pmax
comp=Z,240nm,1.2s
SUMG MLR MLR
comp=Z,7µm,21.0s
SUMG **Summit** 65.16 341 *i*P P 19 48 51.6 +0.5
comp=Z,7µm,21.0s
SOE **Somerset East** 65.25 206 *e*P P 19 48 53.0 +1.3
SOE IAmb IAmb 19 48 59.8
comp=Z,28nm,1.0s
GRM **Grahamstown** 65.42 205 *e*P P 19 48 54.0 +1.3
GRM IAmb IAmb 19 49 11.6
comp=Z,354nm,2.3s
GRM **Grahamstown** 65.42 205 *i*P P 19 48 54.2 +1.4
JNU **Nakatsue** 65.51 64 P P 19 48 52.5 -1.1
comp=Z,19nm,1.1s,baz=322,slow=13,SNR=10
JNU LR LR 20 18 43.0
comp=Z,3µm,18.8s,baz=294,slow=37
BART **Pico Bartolome** 65.80 301 *e*P P 19 48 55.7 +0.2
comp=Z,330nm,1.1s
BART **Pico Bartolome** 65.80 301 *e*P P 19 48 55.7 +0.2
comp=Z,330nm,1.1s
PSMN **Pico do Norte,** 65.94 301 *e*P P 19 48 56.0 -0.3
comp=Z,85nm,1.4s
PSMN **Pico do Norte,** 65.94 301 *e*P P 19 48 56.0 -0.3
comp=Z,85nm,1.4s
PSMA **Santa Maria** 65.99 301 *e*P P 19 48 56.0 -0.6
comp=Z,179nm,0.9s
PSET **Sete Cidades** 66.21 302 *e*P P 19 48 59.4 +1.4
comp=Z,288nm,1.3s
PSET **Sete Cidades** 66.21 302 *e*P P 19 48 59.4 +1.4
comp=Z,288nm,1.3s
ALE **Alert** 66.65 353 P P 19 49 00.6 +0.6
comp=Z,517nm,1.0s,SNR=15
SUR **Sutherland** 66.96 210 P P 19 49 05.2 +2.3
comp=Z,200nm,1.5s,SNR=7.7
SUR **Sutherland** 66.96 210 *e*P P 19 49 04.0 +1.1
comp=Z,21nm,0.6s
SUR **Sutherland** 66.96 210 *e*P P 19 49 04.0 +1.1
comp=Z,21nm,0.6s
ADH **Angra Heroismo** 67.11 303 *e*P P 19 49 02.9 -0.8
comp=Z,70nm,0.7s
ADH **Angra Heroismo** 67.11 303 *e*P P 19 49 02.9 -0.8
comp=Z,70nm,0.7s
PGRA **Graciosa** 67.56 303 *e*P P 19 49 08.5 +1.9
comp=Z,88nm,0.6s
PMAN **Manadas** 67.76 303 *e*P P 19 49 07.8 0.0
comp=Z,308nm,1.0s
PMAN **Manadas** 67.76 303 *e*P P 19 49 07.8 0.0
comp=Z,308nm,1.0s
ROSA **Rosais** 67.85 303 *e*P P 19 49 07.8 -0.6
comp=Z,96nm,0.9s
ROSA **Rosais** 67.85 303 *e*P P 19 49 07.8 -0.6
comp=Z,96nm,0.9s
PPNO **Prainha do Nor** 67.94 303 *e*P P 19 49 10.0 +1.0
comp=Z,160nm,0.8s
PPNO **Prainha do Nor** 67.94 303 *e*P P 19 49 10.0 +1.0
comp=Z,160nm,0.8s
PCAN **Candelaria** 68.11 303 *e*P P 19 49 11.3 +1.3
comp=Z,165nm,0.7s
PCAN **Candelaria** 68.11 303 *e*P P 19 49 11.3 +1.3
comp=Z,165nm,0.7s
PCED **Cedros** 68.22 303 *e*P P 19 49 11.6 +0.9
comp=Z,204nm,1.0s
PCED **Cedros** 68.22 303 *e*P P 19 49 11.6 +0.9
comp=Z,204nm,1.0s
CER **Ceres** 68.47 211 *e*P P 19 49 14.3 +2.1
CER IAmb IAmb 19 49 23.6
comp=Z,378nm,2.4s
CER IAMs_20 IAMs_20 20 22 32.8
comp=Z,16µm,21.1s
CTBH **Cotabato--PC H** 69.26 92 ⇓*i*P P 19 49 17.2 -0.3
KULLO **Kullorsuaq** 69.53 345 *i*P P 19 49 19.1 +0.9
comp=Z,202nm,1.3s
SEY **Seymchan** 70.01 29 P P 19 49 21.1 -0.3
comp=Z,32nm,0.8s,baz=301,slow=6.5,SNR=28
SEY LR LR 20 24 00.3
comp=Z,16µm,18.6s,baz=286,slow=39
SEY **Seymchan** 70.01 29 *ce*P P 19 49 21.8 +0.4
YSS **Yuzh-Sakhalins** 70.03 47 ⇑*i*P P 19 49 20.5 -1.2
YSS *e* 19 49 44.0
YSS pmax pmax
comp=Z,80nm,1.0s
YSS **Yuzh-Sakhalins** 70.03 47 *i*P P 19 49 20.5 -1.2
comp=Z,80nm,1.0s
YSS **Yuzh-Sakhalins** 70.03 47 *e*PcP **PcP** 19 49 44.0 +0.1
ILULI **Ilulissat** 70.13 338 *i*P P 19 49 22.1 +0.1
MAJO **Matsushiro** 70.17 58 ⇓*e*P P 19 49 21.9 -1.0
MAJO pmax pmax
comp=Z,312nm,1.2s
MAJO **Matsushiro** 70.17 58 *e*P P 19 49 21.9 -1.0
comp=Z,312nm,1.2s
MAJO **Matsushiro** 70.17 58 *e*P P 19 49 21.5 -1.3
comp=Z,73nm,1.3s
MAT **Matsushiro** 70.17 58 P P 19 49 21.4 -1.5
MJAR **Matsushiro Arr** 70.17 58 P P 19 49 21.7 -1.2
comp=Z,19nm,1.0s,baz=280,slow=9.2,SNR=40
MJAR PKPPKP **P'P'df** **20 17 27.3 -2.8**
comp=Z,0.8nm,0.8s,baz=101,slow=1.2,SNR=4.3
MJAR LR LR 20 24 17.2
comp=Z,2µm,18.6s,baz=70,slow=40
ASAJ **Asahikawa** 70.84 50 P P 19 49 25.3 -1.5
comp=Z,180nm,0.9s,baz=265,slow=7.2
ASAJ **Asahikawa** 70.84 50 P P 19 49 25.3 -1.5
ASAJ pmax pmax
comp=Z,18nm,0.9s
ASAJ **Asahikawa** 70.84 50 *e*P P 19 49 25.3 -1.5
comp=Z,14nm,0.8s
ASAJ **Asahikawa** 70.84 50 *e*P P 19 49 25.3 -1.5
comp=Z,14nm,0.8s
JKA **Kamikawa-asahi** 70.84 50 P P 19 49 25.3 -1.5
comp=Z,18nm,0.9s
SFJD **Kangerlussuaq** 70.86 336 *i*P P 19 49 26.1 -0.4
comp=Z,95nm,1.2s
SFJD **Kangerlussuaq** 70.86 336 *e*P P 19 49 25.9 -0.6
SFJD pmax pmax
comp=Z,85nm,1.1s
SFJD **Kangerlussuaq** 70.86 336 *e*P P 19 49 25.9 -0.6
comp=Z,85nm,1.1s
SFJD **Kangerlussuaq** 70.86 336 *e*P P 19 49 25.9 -0.6
comp=Z,85nm,1.1s
KAPI **Kappang** 71.08 106 P P 19 49 29.1 +0.4
comp=Z,468nm,1.3s,SNR=5.4
KAPI **Kappang** 71.08 106 P P 19 49 27.9 -0.7
comp=Z,90nm,1.2s,baz=300,slow=9.6,SNR=8.9
KAPI **Kappang** 71.08 106 P P 19 49 27.9 -0.7
comp=Z,24nm,1.3s
KAPI **Kappang** 71.08 106 P P 19 49 27.9 -0.7
comp=Z,24nm,1.3s
ERM **Erimo** 71.94 52 P P 19 49 34.7 +1.3
comp=Z,175nm,0.8s,SNR=7.7
ERM **Erimo** 71.94 52 *e*P P 19 49 33.4 0.0
ERM pmax pmax
comp=Z,34nm,0.9s
ERM **Erimo** 71.94 52 *e*P P 19 49 33.4 0.0
comp=Z,34nm,0.9s
ERM **Erimo** 71.94 52 *e*P P 19 49 33.4 0.0
comp=Z,34nm,0.9s
BILL **Bilibino** 73.07 21 *ce*P P 19 49 40.4 +0.7
BILL pmax pmax
comp=Z,111nm,1.2s
BILL **Bilibino** 73.07 21 *e*P P 19 49 40.4 +0.7
comp=Z,111nm,1.2s
YUK **Yuzh-Kuril'sk** 73.07 49 ⇓*i*P P 19 49 42.3 +2.1
YUK pmax pmax
comp=N,72nm,1.9s
YUK pmax pmax
comp=E,82nm,1.9s
YUK pmax pmax
comp=Z,186nm,1.9s
KUR **Kuril'sk** 73.96 47 *d*iP P 19 49 53.3 +7.9
KUR pmax pmax
comp=Z,106nm,2.0s
KUR pmax pmax
comp=N,39nm,1.0s
KUR pmax pmax
comp=E,7.0nm,1.0s
PETK **Petropavlovsk-** 76.56 37 P P 19 49 58.7 -1.5
comp=E,38nm,1.0s,baz=243,slow=1.7,SNR=19
PETK LR LR 20 26 19.2
comp=E,3µm,19.7s,baz=290,slow=38
SKR **Severo-Kuril's** 76.78 40 ⇓*e*P P 19 49 59.8 -1.6
SKR **Severo-Kuril's** 76.78 40 *e*P P 19 49 59.8 -1.6
BATI **Baumata** 77.05 109 P P 19 50 03.6 0.0
comp=E,81nm,0.7s,baz=227,slow=3.3,SNR=16
PET **Petropavlovsk** 77.11 37 *e*P P 19 50 04.5 +1.2
PET pmax pmax
comp=Z,33nm,1.2s
PET **Petropavlovsk** 77.11 37 *e*P P 19 50 04.5 +1.2
comp=Z,33nm,1.2s
SIJI **Sorong** 79.15 97 P P 19 50 14.8 -0.6
comp=Z,38nm,1.1s,baz=303,slow=12,SNR=6.2
MBWA **Marble Bar** 79.71 120 *e*P P 19 50 16.8 -1.3
comp=Z,40nm,1.0s
MBWA **Marble Bar** 79.71 120 *e*P P 19 50 16.8 -1.3
comp=Z,40nm,1.0s
SCHQ **Schefferville** 83.97 330 P P 19 50 39.4 -0.7
comp=Z,64nm,0.8s,baz=50,slow=4.5,SNR=32
SCHQ **Schefferville** 83.97 330 *e*P P 19 50 39.5 -0.7
comp=Z,153nm,1.2s
SCHQ **Schefferville** 83.97 330 *e*P P 19 50 39.5 -0.7
comp=Z,153nm,1.2s
COLD **Coldfoot** 84.29 9 *e*P P 19 50 41.4 -0.1
comp=Z,74nm,1.3s
COLD **Coldfoot** 84.29 9 *e*P P 19 50 41.4 -0.1
comp=Z,74nm,1.3s
NWAO **Narrogin (SRO)** 84.72 131 P P 19 50 42.9 -1.2
comp=Z,48nm,1.0s,baz=328,slow=5.0,SNR=14
INK **Inuvik** 84.78 3 P P 19 50 43.8 -0.1
comp=Z,26nm,0.8s,baz=349,slow=8.3,SNR=14
INK **Inuvik** 84.78 3 *e*P P 19 50 43.1 -0.8
INK pmax pmax
comp=Z,47nm,1.0s
INK **Inuvik** 84.78 3 *e*P P 19 50 43.1 -0.8
comp=Z,47nm,1.0s
INK **Inuvik** 84.78 3 *e*P P 19 50 43.1 -0.8
comp=Z,47nm,1.0s
IM04 **Indian Mountai** 84.89 11 *e*P P 19 50 44.0 -0.6
IM04 **Indian Mountai** 84.89 11 *e*PP PP 19 54 01.1 +0.8
IM04 **Indian Mountai** 84.89 11 *e*P P 19 50 44.0 -0.6
IM04 *e*PP **PP** **19 54 01.1 +0.8**
COLA **College** 86.84 9 P P 19 50 53.9 -0.3
COLA pmax pmax
comp=Z,70nm,0.9s
COLA **College** 86.84 9 *e*P P 19 50 53.8 -0.4
comp=Z,24nm,0.9s
COLA **College** 86.84 9 *e*P P 19 50 53.8 -0.4
comp=Z,24nm,0.9s
ILAR **Eielson Array** 87.07 9 P P 19 50 54.5 -0.9
comp=Z,9.2nm,0.7s,baz=328,slow=4.2,SNR=46
ILAR PP PP 19 54 24.9 +7.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,4.4nm,1.0s,baz=338,slow=8.0,SNR=4.1						
ILAR				PKKPbc	PKKPbc	20 08 47.6	-1.0
	comp=Z,1.4nm,0.6s,baz=184,slow=2.3,SNR=10.0						
ILAR				PKPPKP	P'P'df	20 16 49.5	-11
	comp=Z,0.3nm,0.9s,baz=150,slow=2.8,SNR=4.3						
BPAW	Bear Paw Mtn.	87.09	11	eP	P	19 50 54.9	-0.6
	comp=Z,48nm,1.3s						
BPAW	Bear Paw Mtn.	87.09	11	eP	P	19 50 54.9	-0.6
	comp=Z,48nm,1.3s						
EGAK	Eagle	87.74	6	eP	P	19 50 58.2	-0.3
	comp=Z,117nm,1.2s						
EGAK	Eagle	87.74	6	eP	P	19 50 58.2	-0.3
	comp=Z,117nm,1.2s						
MCK	McKinley	87.76	10	eP	P	19 50 57.9	-0.8
MCK				pmax	pmax		
	comp=Z,142nm,1.3s						
MCK	McKinley	87.76	10	eP	P	19 50 57.9	-0.8
	comp=Z,142nm,1.3s						
MCK	McKinley	87.76	10	eP	P	19 50 57.9	-0.8
	comp=Z,142nm,1.3s						
TRF	Thorofare Moun	87.81	11	eP	P	19 50 57.1	-2.0
	comp=Z,28nm,1.0s						
TRF	Thorofare Moun	87.81	11	eP	P	19 50 57.1	-2.0
	comp=Z,28nm,1.0s						
PPLA	Purkeypile	87.99	12	eP	P	19 50 59.1	-0.9
	comp=Z,46nm,1.2s						
PPLA	Purkeypile	87.99	12	eP	P	19 50 59.1	-0.9
	comp=Z,46nm,1.2s						
JAY	Jayapura	88.28	94	P	P	19 51 02.3	+0.1
	comp=Z,18nm,0.9s,baz=78,slow=15,SNR=4.0						
DAWY	Dawson	88.60	6	eP	P	19 51 02.4	-0.4
DAWY	Dawson	88.60	6	eP	P	19 51 02.4	-0.4
RC01	Rabbit Creek A	90.11	11	eP	P	19 51 09.8	0.0
	comp=Z,32nm,0.9s						
RC01	Rabbit Creek A	90.11	11	eP	P	19 51 09.8	0.0
	comp=Z,32nm,0.9s						
RSO	Redoubt South	90.13	13	P	P	19 51 10.2	0.0
	comp=Z,36nm,1.2s						
RSO	Redoubt South	90.13	13	P	P	19 51 10.2	0.0
	comp=Z,36nm,1.2s						
YKW3	Yellowknife Ar	90.24	355	eP	P	19 51 10.2	-0.2
	comp=Z,1.2nm,1.1s						
YKW3	Yellowknife Ar	90.24	355	eP	P	19 51 10.2	-0.2
	comp=Z,1.2nm,1.1s						
YKA	Yellowknife Ar	90.31	355	P	P	19 51 10.7	+0.1
	comp=Z,25nm,0.9s,baz=6.9,slow=4.9,SNR=42						
YKA				PKKPbc	PKKPbc	20 08 42.0	+1.4
	comp=Z,0.5nm,0.7s,baz=190,slow=2.5,SNR=4.9						
FCC	Fort Churchill	90.47	344	eP	P	19 51 11.5	0.0
FCC				pmax	pmax		
	comp=Z,64nm,1.3s						
FCC	Fort Churchill	90.47	344	eP	P	19 51 11.5	0.0
	comp=Z,64nm,1.3s						
FCC	Fort Churchill	90.47	344	eP	P	19 51 11.5	0.0
	comp=Z,64nm,1.3s						
DIV	Divide	90.70	9	P	P	19 51 12.9	+0.2
	comp=Z,27nm,1.2s						
DIV	Divide	90.70	9	P	P	19 51 12.9	+0.2
	comp=Z,27nm,1.2s						
WRA	Warramunga Arr	90.80	112	P	P	19 51 13.1	-0.6
	comp=Z,6.6nm,0.6s,baz=314,slow=4.1,SNR=30						
WRAB	Tennant Creek	90.80	112	P	P	19 51 12.2	-1.5
	comp=Z,110nm,0.5s,SNR=14						
WRAB	Tennant Creek	90.80	112	P	P	19 51 14.0	+0.3
WRAB				pmax	pmax		
	comp=Z,171nm,3.3s						
WRAB	Tennant Creek	90.80	112	P	P	19 51 14.0	+0.3
	comp=Z,171nm,3.3s						
WRAB	Tennant Creek	90.80	112	eP	P	19 51 12.2	-1.5
	comp=Z,12nm,0.8s						
BMRM	Bremner River	91.03	9	eP	P	19 51 13.6	-0.5
	comp=Z,62nm,1.2s						
BMRM	Bremner River	91.03	9	eP	P	19 51 13.6	-0.5
	comp=Z,62nm,1.2s						
SEW	Seward	91.08	11	eP	P	19 51 13.4	-0.9
	comp=Z,34nm,1.1s						
SEW	Seward	91.08	11	eP	P	19 51 13.3	-0.9
	comp=Z,34nm,1.1s						
FORT	Forrest	91.19	124	eP	P	19 51 15.2	0.0
	comp=Z,109nm,0.9s						
FORT	Forrest	91.19	124	eP	P	19 51 15.2	0.0
	comp=Z,109nm,0.9s						
HYT	Haines Junctio	91.96	6	eP	P	19 51 18.8	+0.2
	comp=Z,47nm,1.0s						
HYT	Haines Junctio	91.96	6	eP	P	19 51 18.8	+0.2
	comp=Z,47nm,1.0s						
AS31	Alice Springs	92.21	115	eP	P	19 51 19.4	-0.8
AS31	Alice Springs	92.21	115	eP	P	19 51 19.4	-0.8
ASAR	Alice Springs	92.21	115	P	P	19 51 19.6	-0.6
	comp=Z,20nm,1.0s,baz=303,slow=4.7,SNR=47						
RCBR	Riachuelo	92.44	265	P	P	19 51 23.4	+1.9
	comp=Z,44nm,1.1s						
RCBR	Riachuelo	92.44	265	P	P	19 51 23.4	+1.9
	comp=Z,44nm,1.1s						
KDAK	Kodiak Island	92.63	14	eP	P	19 51 21.9	+0.4
KDAK				pmax	pmax		
	comp=Z,68nm,1.3s						
KDAK	Kodiak Island	92.63	14	eP	P	19 51 21.9	+0.4
	comp=Z,68nm,1.3s						
KDAK	Kodiak Island	92.63	14	eP	P	19 51 21.9	+0.4
	comp=Z,68nm,1.3s						
OHAK	Old Harbor	92.99	14	P	P	19 51 22.7	-0.5
	comp=Z,59nm,1.3s						
OHAK	Old Harbor	92.99	14	P	P	19 51 22.7	-0.5
	comp=Z,59nm,1.3s						
LONY	Lake Ozonia	94.58	326	eP	P	19 51 29.8	-1.1
	comp=Z,18nm,1.1s						
LONY	Lake Ozonia	94.58	326	eP	P	19 51 29.8	-1.1
	comp=Z,18nm,1.1s						
MAW	Mawson	94.59	177	P	P	19 51 31.6	+1.6
	comp=Z,3.9nm,0.7s,baz=341,slow=6.4,SNR=10						
MAW				LR	LR	20 26 42.6	
	comp=Z,4μm,21.8s,baz=16,slow=31						
MAW	Mawson	94.59	177	P	P	19 51 31.6	+1.6
MAW				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MAW				MLR	MLR		
	comp=Z,4μm,21.8s						
MAW	Mawson	94.59	177	eP	P	19 51 30.8	+0.8
	comp=Z,1.9nm,0.9s						
DLBC	Dease Lake	94.79	2	P	P	19 51 32.3	+0.7
	comp=Z,14nm,0.9s,baz=352,slow=6.7,SNR=13						
DLBC	Dease Lake	94.79	2	eP	P	19 51 31.9	+0.3
	comp=Z,44nm,1.3s						
DLBC	Dease Lake	94.79	2	eP	P	19 51 31.9	+0.3
	comp=Z,44nm,1.3s						
FFC	Flin Flon	95.97	346	eP	P	19 51 36.0	-0.9
FFC				pmax	pmax		
	comp=Z,34nm,1.4s						
FFC	Flin Flon	95.97	346	eP	P	19 51 36.0	-0.9
	comp=Z,34nm,1.4s						
FFC	Flin Flon	95.97	346	eP	P	19 51 36.0	-0.9
	comp=Z,34nm,1.4s						
SYO	Syowa Base	96.33	185⇑	eX	P	19 51 35.0	-2.9
SADO	Sadowa	96.68	328	P	P	19 51 41.5	+1.1
	comp=Z,14nm,1.1s,baz=54,slow=5.2,SNR=4.7						
ULM	Lac du Bonnet	98.52	341	P	Pdif	19 51 50.0	+1.5
	comp=Z,5.9nm,0.9s,baz=85,slow=6.1,SNR=4.8						
EDM	Edmonton	99.31	352	eP	Pdif	19 51 51.0	-1.1
EDM				pmax	pmax		
	comp=Z,44nm,1.1s						
EDM	Edmonton	99.31	352	eP	Pdif	19 51 51.0	-1.1
	comp=Z,44nm,1.1s						
EDM	Edmonton	99.31	352	ePdif	Pdif	19 51 51.0	-1.1
	comp=Z,44nm,1.1s						
STKA	Stephens Creek	101.95	120	P	Pdif	19 52 04.5	+0.5
	comp=Z,2.0nm,0.8s,baz=320,slow=5.3,SNR=4.8						
STKA	Stephens Creek	101.95	120	eP	Pdif	19 52 04.5	+0.5
STKA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
STKA	Stephens Creek	101.95	120	ePdif	Pdif	19 52 04.5	+0.5
	comp=Z,1.0nm,1.1s						
NEW	Newport	104.61	354	Pdiff	Pdif	19 52 15.2	-0.6
	comp=Z,5.2nm,0.9s,baz=349,slow=3.5,SNR=6.2						
PDAR	Pinedale Array	108.89	347	PKKPbc	PKKPbc	20 07 53.8	+5.5
	comp=Z,0.3nm,0.6s,baz=151,slow=3.4,SNR=3.9						
NVAR	Mina Array Bea	114.47	353	PKP	PKPdf	19 56 50.9	+0.4
	comp=Z,3.8nm,0.7s,baz=312,slow=0.9,SNR=13						
NVAR				PKKPab	PKKPab	20 07 35.9	-2.8
	comp=Z,0.8nm,0.8s,baz=199,slow=6.1,SNR=5.0						
433A	Art	117.00	334	P	PKPdf	19 56 55.3	-0.1
	baz=117						
533A	Kerrville	117.59	334	P	PKPdf	19 56 55.6	-1.0
	baz=117						
431A	Sonora	117.65	335	P	PKPdf	19 56 56.4	-0.3
	baz=117						
429A	Davenport Ranc	118.17	336	P	PKPdf	19 56 56.9	-0.8
	baz=118						
121A	Cookes Peak, D	118.25	342	P	PKPdf	19 56 57.0	-0.9
	baz=118						
530A	J-C Ranch, Com	118.40	336	P	PKPdf	19 56 58.2	+0.1
	baz=118						
BELC	Belle Mtn. Jos	118.55	350	P	PKPdf	19 56 57.9	-0.5
	baz=118						
529A	Stev Forest Ra	118.74	336	P	PKPdf	19 56 58.4	-0.4
	baz=118						
BC3	Big Chuckawall	118.80	350	P	PKPdf	19 56 58.8	-0.1
	baz=118						
SIV	San Ignacio	119.07	266	PKP	PKPdf	19 57 00.9	+1.3
	comp=Z,2.5nm,0.9s,baz=116,slow=3.7,SNR=5.4						
833A	Chaparral WMA,	119.28	333	P	PKPdf	19 56 59.9	+0.1
	baz=119						
CPUP	Villa Florida	119.29	254	PKP	PKPdf	19 57 00.6	+0.9
	comp=Z,3.4nm,0.8s,baz=81,slow=1.9,SNR=5.4						
MONP	Monument Peak	119.70	351	P	PKPdf	19 57 01.3	+0.6
	baz=119						
TXAR	Lajitas Array	119.97	337	PKP	PKPdf	19 57 01.1	-0.1
	comp=Z,2.2nm,0.7s,baz=118,slow=1.3,SNR=11						
214A	Organ Pipe Nat	119.98	347	P	PKPdf	19 57 01.1	0.0
	baz=120						
VNDA	Vanda	120.07	166	PKP	PKPdf	19 57 00.5	+0.8
	comp=Z,1.7nm,0.9s,baz=288,slow=8.3,SNR=5.1						
ROSC	El Rosal	120.80	294	PKP	PKPdf	19 57 04.2	+0.7
	comp=Z,5.8nm,0.5s,baz=94,slow=19,SNR=4.2						
LPAZ	La Paz	125.47	269	PKP	PKPdf	19 57 12.7	+0.1
	comp=Z,4.7nm,0.7s,baz=150,slow=0.9,SNR=13						
LPAZ	La Paz	125.47	269	PKIKP	PKPdf	19 57 12.7	+0.1
LPAZ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
LPAZ	La Paz	125.47	269	ePKIKP	PKPdf	19 57 12.1	-0.5
LPAZ	La Paz	125.47	269	ePKPdf	PKPdf	19 57 12.1	-0.5
LPAZ				PKP	PKPdf	19 57 12.7	+0.1
TRQA	Tornquist	125.79	241	ePKIKP	PKPdf	19 57 11.8	-0.1
TRQA	Tornquist	125.79	241	ePKPdf	PKPdf	19 57 11.8	-0.1
CMIG	Matias Romero	126.69	322	PKP	PKPdf	19 57 13.6	-0.6
	comp=Z,6.9nm,0.7s,baz=36,slow=2.1,SNR=11						
OTAV	Otavalo	126.80	293	ePKIKP	PKPdf	19 57 15.7	+0.6
OTAV	Otavalo	126.80	293	ePKPdf	PKPdf	19 57 15.7	+0.6
LVC	Limon Verde	128.28	262	PKP	PKPdf	19 57 18.1	+0.7
	comp=Z,44nm,1.0s,baz=214,slow=2.1,SNR=8.6						
LVC	Limon Verde	128.28	262	ePKIKP	PKPdf	19 57 17.6	+0.2
LVC	Limon Verde	128.28	262	ePKPdf	PKPdf	19 57 17.6	+0.2
LVC				PKP	PKPdf	19 57 18.1	+0.7
CFAA	Coronel Fontan	129.84	250	PKP	PKPdf	19 57 20.0	+0.2
	comp=Z,2.2nm,0.9s,baz=37,slow=1.2,SNR=16						
ATAH	Atahualpa	130.65	285	PKP	PKPdf	19 57 23.5	+1.2
	comp=Z,9.7nm,0.8s,baz=253,slow=0.9,SNR=4.0						
ATAH				SKPbc	SKPab	20 00 47.6	+1.8
	comp=Z,47nm,0.9s,baz=33,slow=2.8,SNR=18						
LCO	Las Campanas	131.44	254	ePKIKP	PKPdf	19 57 23.3	+0.1
LCO	Las Campanas	131.44	254	ePKPdf	PKPdf	19 57 23.3	+0.1
URZ	Urewera	131.56	118	PKP	PKPdf	19 57 22.2	-0.6
	comp=Z,6.5nm,0.8s,baz=0.0,slow=0.0,SNR=4.4						
URZ				SKPbc	SKPbc	20 00 47.3	-0.4
	comp=Z,17nm,0.9s,baz=308,slow=1.6,SNR=7.0						

IDC 20 19:45:15.4±3.4, 5°.60S×150°.77E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/45, mbtmp3.6/3, ML1.7/1, Error ellipse: s-maj=127.4km s-min=43.9km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.21	223	Pn	Pn	19 46 36.4	+1.8
	1.8nm,0.3s,baz=50,slow=11,SNR=7.4						
PMG				Sn	Sn	19 47 29.6	-5.8
	3.0nm,0.3s,baz=102,slow=17,SNR=5.6						
WRA	Warramunga Arr	21.41	227	P	P	19 50 03.8	-1.3
	1.7nm,0.7s,baz=50,slow=10,SNR=11						
ASAR	Alice Springs	24.21	220	P	P	19 50 33.2	-0.9
	1.3nm,0.7s,baz=60,slow=8.1,SNR=17						
TORD	Torodi Ar. Bea	148.60	286	PKPbc	PKPbc	20 05 06.2	+0.7
	0.4nm,0.7s,baz=74,slow=2.0,SNR=4.3						

IDC 20 19:48:45.9±3.7, 5°.32S×150°.15E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/45, mbtmp3.7/3, ML1.4/1, Error ellipse: s-maj=143.9km s-min=42.1km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.03	216	Pn	Pn	19 50 04.2	+1.5
	1.1nm,0.3s,baz=24,slow=12,SNR=3.7						
PMG				Sn	Sn	19 50 57.3	-4.3
	2.3nm,0.3s,baz=100,slow=17,SNR=4.7						
WRA	Warramunga Arr	21.16	225	P	P	19 53 32.3	-0.7
	1.3nm,0.4s,baz=50,slow=10,SNR=4.6						
ASAR	Alice Springs	24.04	219	P	P	19 54 02.0	-1.0
	1.0nm,0.6s,baz=57,slow=7.2,SNR=4.2						
TORD	Torodi Ar. Bea	147.94	286	PKPbc	PKPbc	20 08 34.2	-0.2
	0.4nm,0.5s,baz=74,slow=2.9,SNR=8.0						

*THR **20** 19:50:06.9±1.4, 26°.63N×53°.88E, h16km±10km, ML5.2*
*BJI **20** 19:50:08.0, 27°.00N×53°.80E, h10km, mb4.9/46, mB6.0/18, Ms5.3/26, Ms7 5.1/24*
*OMAN **20** 19:50:08.1±99.0, 27°.61N×53°.66E, h102km±24km, Error ellipse: s-maj=187.0km s-min=25.3km az=332.0*
*IDC **20** 19:50:09.5±0.4, 27°.13N×53°.88E, h0km, mb4.8/46, mb1 4.9/49, mb1mx4.8/62, mbtmp4.8/49, ML4.2/3, MS5.0/1, Ms1 5.0/1, ms1mx4.1/54, Error ellipse: s-maj=10.6km s-min=9.2km az=13.0*
*NEIC **20** 19:50:10.9±0.2, 27°.06N×53°.81E, h10km, mb5.1/79, ML5.1(THR), MN5.2(TEH), Error ellipse: s-maj=4.9km s-min=3.6km az=189.0*
NEIC Felt at Bandar-e Lengeh. Felt [II] at Doha, Qatar. Also felt at Ar Rayyan. Felt [II] at Dubai, United Arab Emirates. Felt at Manama, Bahrain.
*ISCJB **20** 19:50:10.3±0.1, 27°.05N±0°.02×53°.78E±0°.02, h15km, mb5.0/199, MS5.1/4, Error ellipse: s-maj=2.9km s-min=1.8km az=21.4*
*CSEM **20** 19:50:13.0±0.1, 27°.13N×53°.83E, h20km, mb5.1/99, Error ellipse: s-maj=4.0km s-min=2.9km az=36.0*
*MOS **20** 19:50:15.0±1.0, 27°.10N×53°.81E, h33km, mb5.2/65, MS5.1/4, Error ellipse: s-maj=6.2km s-min=3.5km az=114.6*
*DSN **20** 19:50:15.5±0.6, 26°.94N×53°.71E, h20km, mb4.6/9, ML5.8/7, Error ellipse: s-maj=15.8km s-min=5.9km az=56.0*
*TEH **20** 19:50:16.3, 27°.05N×53°.81E, h34km, ML5.2*
*SZGRF **20** 19:50:32.0, 28°.22N×51°.38E, h33km, mb4.9, Southern Iran*

ISC 20 19:50:11.7±0.3, 27°.02N±0°.02×53°.89E±0°.02, h15km±1km, h15km:pP-P, n892, σ1s.31/959, mb5.0/213, MS5.2/4, 64C-38D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	1.50	328	ePg	Pb	19 50 39.6	+0.3
GHIR				AML	AML	19 51 05.3	
	comp=N,31μm,0.7s						
GHIR				AML	AML	19 51 06.0	
	comp=E,30μm,0.6s						
GHIR	Ghir-Karzin	1.50	328	ePg	Pb	19 50 39.6	+0.3
	comp=E,30μm,0.6s						
GHIR	Ghir-Karzin	1.50	328	ePg	Pb	19 50 39.0	-0.4
BNDS	Bandar-Abbas	2.06	79	ePg	Pn	19 50 46.9	+0.9
BNDS	Bandar-Abbas	2.06	79	ePn	Pn	19 50 46.0	0.0
BNDS	Bandar-Abbas	2.06	79	ePg	Pn	19 50 46.9	+0.9
BNDS	Bandar-Abbas	2.06	79	ePn	Pn	19 50 46.0	0.0
IBND	Bandar-abas	2.40	79	ePn	Pb	19 50 53.4	-1.2
IBND				e		19 52 10.6	
	comp=Z,91μm,0.6s						
IBND	Bandar-abas	2.40	79	ePn	Pb	19 50 53.4	-1.2
IBND	Bandar-abas	2.40	79	Pn	Pb	19 50 53.3	-1.2
BANOM	Banah	2.42	116	⇓P	Pb	19 50 53.5	-1.4
	SNR=34						
BANOM	Banah	2.42	116	P	Pb	19 50 53.5	-1.4
	SNR=34						
ISRV	Sarvestan	2.46	344	ePn	Pn	19 50 53.7	+2.2
ISRV				eSg	Sg	19 51 32.1	+1.3
ISRV				e		19 51 58.4	
	comp=Z,81μm,0.6s						
ISRV	Sarvestan	2.46	344	ePn	Pn	19 50 53.7	+2.2
ISRV				Sg	Sg	19 51 32.1	+1.3
ISRV	Sarvestan	2.46	344	Pn	Pn	19 50 53.6	+2.1
ISRV				Sg	Sg	19 51 32.1	+1.3
NAZ	Nazwa, Dubai	2.57	141	P	Pb	19 50 56.6	-0.9
	SNR=20						
NAZ	Nazwa, Dubai	2.57	141⇓	eP	Pb	19 50 56.6	-0.9
	SNR=20						
ASUD	Al Ashush, Dub	2.71	151	P	Pb	19 50 58.3	-1.5
	SNR=41						
ASUD	Al Ashush, Dub	2.71	151⇑	eP	Pb	19 50 58.4	-1.5
	SNR=41						
FAQ	Al Faqa, Dubai	2.73	146	P	Pb	19 50 58.8	-1.4
	SNR=7.9						
FAQ	Al Faqa, Dubai	2.73	146	eP	Pb	19 50 58.8	-1.4
	SNR=7.9						
SHI	Shiraz	2.89	335	ePn	Pb	19 51 02.1	-0.9
SHI				e		19 52 08.2	
	comp=Z,44μm,0.4s						
SHI	Shiraz	2.89	335	ePn	Pb	19 51 02.1	-0.9
IPAR	Pars	2.91	345	ePn	Pn	19 50 59.0	+1.2
IPAR				e		19 52 09.6	
	comp=Z,51μm,0.5s						
IPAR	Pars	2.91	345	ePn	Pn	19 50 59.0	+1.2
IPAR	Pars	2.91	345	Pn	Pn	19 50 59.4	+1.6
UOSS	Wadi Hilu	2.93	134	Pn	Pn	19 51 00.5	+2.8
	comp=Z,2μm,0.7s,SNR=34						
AHBU	AHRAM	2.95	309	ePn	Pn	19 50 58.5	+0.5
AHBU				eSg	Sg	19 51 47.0	+0.6
HATD	Hatta, Dubai	2.97	137	P	Pb	19 51 02.5	-1.8
	SNR=10						
HATD	Hatta, Dubai	2.97	137⇑	iP	Pb	19 51 02.5	-1.8
	SNR=10						
ASHO	Ashiyiah	3.03	139	P	Pn	19 51 02.2	+3.0
	SNR=16						
ASHO	Ashiyiah	3.03	139	P	Pn	19 51 02.2	+3.0
	SNR=16						
IKAZ	Kazeroun	3.30	327	ePn	Pn	19 51 04.0	+0.9
IKAZ				eSg	Sg	19 51 57.6	-0.1
IKAZ	Kazeroun	3.30	327	ePn	Pn	19 51 04.0	+0.9
IKAZ				eSg	Sg	19 51 57.6	-0.1
IKAZ	Kazeroun	3.30	327	Pn	Pn	19 51 03.6	+0.5
SLWS		3.67	234	P	Pn	19 51 11.0	+3.1
SLWS				S	Sg	19 52 13.0	+3.5
SLWS		3.67	234	P	Pn	19 51 10.5	+2.6
KRBR	Kerman	3.89	40	ePn	Pn	19 51 12.9	+1.7
KRBR				Sn	Sn	19 52 00.6	+3.8
KRBR				AML	AML	19 52 21.9	
	comp=N,2μm,0.6s						
KRBR				AML	AML	19 52 32.0	
	comp=E,2μm,0.7s						
KRBR	Kerman	3.89	40	ePn	Pn	19 51 12.9	+1.7
	comp=E,2μm,0.7s						
KRBR	Kerman	3.89	40	ePn	Pn	19 51 12.0	+0.8
BTHS		4.04	224	P	Pn	19 51 15.0	+2.0
BTHS		4.04	224	P	Pn	19 51 14.6	+1.5
BOQSS		4.21	255	P	Pn	19 51 17.0	+1.7
BOQSS		4.21	255	P	Pn	19 51 17.0	+1.7
ARQ	Araqi	4.37	146	P	Pn	19 51 20.7	+3.1
	SNR=7.5						
ARQ	Araqi	4.37	146	P	Pn	19 51 20.7	+3.1
	SNR=7.5						
IMEH	Mehriz	4.41	8	ePn	Pn	19 51 19.5	+1.3
IMEH				e		19 52 53.4	
	comp=Z,21μm,0.6s						
IMEH	Mehriz	4.41	8	ePn	Pn	19 51 19.5	+1.3
IMEH	Mehriz	4.41	8	Pn	Pn	19 51 19.6	+1.3
HOQ	Hoqain	4.61	137	⇑P	Pn	19 51 23.3	+2.4
HOQ	Hoqain	4.61	137	P	Pn	19 51 23.3	+2.4
IBAF	Bafgh	4.79	17	ePn	Pn	19 51 24.5	+1.0
IBAF				e		19 52 59.5	
	comp=Z,12μm,0.6s						
IBAF	Bafgh	4.79	17	ePn	Pn	19 51 24.5	+1.0
ISAD	Sadrabad	4.88	358	ePn	Pn	19 51 26.7	+1.8
ISAD				e		19 53 09.3	
	comp=Z,17μm,0.6s						
ISAD	Sadrabad	4.88	358	ePn	Pn	19 51 26.7	+1.8
BSY	Bisya	5.20	144	P	Pn	19 51 32.0	+2.9
	SNR=21						
ICHK	Chekchek	5.23	5	ePn	Pn	19 51 30.5	+0.9
ICHK				e		19 52 29.7	
	comp=Z,9μm,0.4s						
ICHK	Chekchek	5.23	5	ePn	Pn	19 51 30.5	+0.9
ICHK	Chekchek	5.23	5	Pn	Pn	19 51 30.7	+1.1
BSYO	Bisya	5.24	144	P	Pn	19 51 32.0	+2.5
	SNR=21						
KFJS		5.41	284	P	Pn	19 51 33.0	+1.2
SMDO	Samad	5.45	135	P	Pn	19 51 35.4	+2.9
	SNR=32						
SMDO	Samad	5.45	135	P	Pn	19 51 35.4	+2.9
	SNR=32						
JMDO	Jabal Madar	6.00	139	⇑P	Pn	19 51 42.7	+2.7
JMDO	Jabal Madar	6.00	139	P	Pn	19 51 42.7	+2.7
IPIR	Pirpir	6.22	336	ePn	Pn	19 51 43.0	-0.3
IPIR	Pirpir	6.22	336	ePn	Pn	19 51 43.0	-0.3
WBK	Wadi Bani Khal	6.36	132	P	Pn	19 51 47.0	+2.0
	SNR=17						
WBK	Wadi Bani Khal	6.36	132	P	Pn	19 51 47.0	+2.0
	SNR=17						
IKLH	Kolahrood	6.59	343	ePn	Pn	19 51 49.0	+0.6
IKLH				e		19 53 20.0	
	comp=Z,6μm,0.7s						
IKLH	Kolahrood	6.59	343	ePn	Pn	19 51 49.0	+0.6
RAYN	Ar Rayn	8.35	247	Pn	Pn	19 52 13.2	+0.9
	comp=Z,626nm,0.5s,SNR=9.8						
RAYN	Ar Rayn	8.35	247	ePn	Pn	19 52 11.0	-1.3
	comp=Z,288nm,0.9s						
RAYN	Ar Rayn	8.35	247	ePn	Pn	19 52 11.0	-1.3
	comp=Z,288nm,0.9s						
RBK	Rabkut	9.47	178	⇓P	Pn	19 52 29.6	+1.9
	SNR=10						
RBK	Rabkut	9.47	178	P	Pn	19 52 29.6	+1.9
	SNR=10						
ABTO	Aybut	9.63	183	⇓P	Pn	19 52 32.6	+2.7
	SNR=7.8						
ABTO	Aybut	9.63	183	P	Pn	19 52 32.6	+2.7
	SNR=7.8						
GEYT	Alibeck	11.45	17	Pn	Pn	19 52 55.4	+0.7
	comp=Z,0.5nm,0.3s,baz=195,slow=10,SNR=4.6						
GEYT				LR	LR	19 58 12.0	
	comp=Z,7μm,19.6s,baz=220,slow=42						
HAJJ	Hajjah	14.78	222	eP	Pn	19 53 36.2	-4.3
HAJJ				⇑iS	Sn	19 56 21.3	-2.8
KBL	Kabul	15.02	56⇓	eP	Pn	19 53 46.3	+2.7
KBL	Kabul	15.02	56⇓	ePn	Pn	19 53 46.3	+2.7
KBL	Kabul	15.02	56⇓	ePn	Pn	19 53 46.3	+2.7
BDHA	Al Bayda'	15.13	213	eP	Pn	19 53 40.9	-4.3
BDHA				AMb	AMB	19 53 43.4	
	comp=Z,198nm,1.3s						
BDHA				iS	Sn	19 56 30.2	-2.5
GNI	Garni	15.14	332	Pn	P	19 53 51.7	+1.4
	comp=Z,18nm,0.3s,baz=304,slow=0.8,SNR=91						
GNI	Garni	15.14	332	eP	P	19 53 48.0	-2.3
GNI	Garni	15.14	332	ePn	P	19 53 48.0	-2.3
GNI	Garni	15.14	332	ePn	P	19 53 48.0	-2.3
JASL	Jaisalmer	15.17	86	eP	Pn	19 53 46.7	+1.2
JASL				AMB	AMB	19 53 50.3	
	comp=Z,48nm,0.8s						
DHBB	Dhamar BB	15.23	217	iS	Sn	19 56 32.6	-2.7
ASF	Jabal al Asfar	15.65	293	Pn	Pn	19 53 49.0	-2.9
	comp=Z,0.9nm,0.3s,baz=56,slow=11,SNR=4.7						
ASF				Sn	Sn	19 56 35.3	-10
	comp=Z,0.8nm,0.3s,baz=65,slow=17,SNR=2.8						
DIGO	Kars	15.96	330	iP	Pn	19 53 57.0	+1.1
DGRG	David-gareji	16.02	336	P	Pn	19 53 57.6	+1.1
EAK	Akyaka	16.07	331	iP	P	19 54 01.7	+1.0
TBLG	Delisi	16.50	335	P	P	19 54 04.4	-0.7
TBLG	Delisi	16.50	335	P	P	19 54 04.4	-0.7
TBLG	Delisi	16.50	335	P	P	19 54 04.4	-0.7
SEAG	Tbilisi Sea	16.50	335	P	Pn	19 54 02.5	-0.1
ERZM	Erzurum	16.55	324	iP	P	19 54 06.4	+0.4
AKH	Akhalkalaki	16.72	332	P	P	19 54 08.8	+1.0
DUS	Dusheti	16.82	336	P	P	19 54 08.1	-0.7
EIL	Elat	16.89	283	Pn	Pn	19 54 05.5	-2.0
	comp=Z,0.4nm,0.3s,baz=101,slow=18,SNR=3.1						
EIL				Sn	Sn	19 57 09.3	-5.6
	comp=Z,0.3nm,0.3s,baz=79,slow=16,SNR=2.2						
CEP	Cherat	16.95	62	P	Pn	19 54 07.7	-0.7
MMAI	Mount Meron Ar	17.09	295	P	Pn	19 54 08.0	-2.1
	comp=Z,2.9nm,0.3s,baz=96,slow=17,SNR=17						
MMAI				S	Sn	19 57 12.3	-7.6
	comp=Z,1.6nm,0.3s,baz=108,slow=37,SNR=5.4						
DAGI	Agillar	17.16	328	iP	P	19 54 13.0	+0.4
DBAD	Bademkaya	17.22	327	iP	P	19 54 13.0	-0.3
ARTV	Artvin	17.24	328	iP	P	19 54 14.9	+1.3
DBOC	Borcka	17.48	328	iP	Pn	19 54 13.0	-2.0
ONI	Oni	17.72	334	P	P	19 54 18.6	-0.2
KEMA	Kemaliye	17.74	317	iP	P	19 54 20.5	+1.5
KELT	Kelkit	17.86	321	iP	P	19 54 21.4	+0.9
CHCP	Chirah Chowk	17.97	64	⇑P	Pn	19 54 20.8	-0.3

ANDN **Andirin** 18.17 310 *i* P P 19 54 26.1 +2.4
CHVG **Ch'k'valeri** 18.39 331 P Pn 19 54 27.2 +1.1
CUKAN **kangal_SIVAS** 18.39 316 *i* P Pn 19 54 29.0 +2.6
NCK **Nalchik** 18.44 336⇓ *e*P Pn 19 54 27.3 +0.5
NCK **Nalchik** 18.44 336 *e*P Pn 19 54 27.3 +0.5
NEY **Neytrino** 18.57 334 P Pn 19 54 30.0 +1.6
NEY pmax pmax
comp=Z,7.0nm,0.7s
NEY **Neytrino** 18.57 334 P Pn 19 54 30.0 +1.6
comp=Z,7.0nm,0.7s
GRSN **GIRESUNGRSN** 18.94 321 *i* P P 19 54 31.8 -0.4
KIV **Kislovodsk** 19.18 335 *d i*P Pn 19 54 36.4 +0.7
KIV pmax pmax
comp=Z,119nm,0.7s
KIV MLR MLR
comp=Z,2µm,18.0s
KIV **Kislovodsk** 19.18 335 Pn Pn 19 54 37.9 +2.2
comp=Z,1µm,0.8s,SNR=9.2
KIV **Kislovodsk** 19.18 335 *i* P Pn 19 54 36.4 +0.7
comp=Z,2µm,18.0s
KIV **Kislovodsk** 19.18 335⇑ *i*P Pn 19 54 38.2 +2.4
SNR=14
KIV **Kislovodsk** 19.18 335 *e*P Pn 19 54 35.6 -0.1
comp=Z,172nm,0.9s
CSS **Prodhromos** 19.31 299 *e*P P 19 54 35.0 -1.2
comp=Z,24nm,0.9s
CSS **Prodhromos** 19.31 299 *e*P P 19 54 35.0 -1.2
comp=Z,24nm,0.9s
KHET **Khetri** 19.46 82 *e*P Pn 19 54 38.6 -0.5
KHET AMB AMB 19 54 42.4
comp=Z,25nm,0.7s
AVNT **Avonos** 19.79 311 *i* P P 19 54 40.3 -1.3
GOF **Gofitskoye** 20.00 337 *e*P Pn 19 54 48.5 +3.1
GOF pmax pmax
comp=Z,80nm,0.9s
GOF **Gofitskoye** 20.00 337 *e*P Pn 19 54 48.5 +3.1
comp=Z,80nm,0.9s
KUDL **Kundal** 20.06 82 *e*P Pn 19 54 46.8 +0.5
KUDL AMB AMB 19 54 49.4
comp=Z,57nm,1.5s
SOC **Sochi** 20.13 329 *e*P P 19 54 43.8 -1.3
SOC *e*S Sn 19 58 32.2 -1.0
SOC pmax pmax
comp=Z,183nm,1.2s
SOC MLR MLR
comp=Z,3µm,13.0s
SOC **Sochi** 20.13 329 *e*P P 19 54 43.8 -1.3
comp=Z,183nm,1.2s
SOC *e*S Sn 19 58 32.2 -1.0
comp=Z,3µm,13.0s
ERMK **Ermenek** 20.21 304 *i* P P 19 54 46.8 +0.6
KKR **Kurukshetra** 20.36 76 *e*P Pn 19 54 49.4 -0.4
KKR AMB AMB 19 54 55.5
comp=Z,44nm,0.4s
GAZI **Gazipasa** 20.51 302 *i* P P 19 54 48.7 -0.6
CDAG **Cicekdag** 20.55 313 *i* P Pn 19 54 51.5 -0.5
SDNR **Sundarnagar** 20.61 72 *e*P Pn 19 54 52.0 -0.8
SMLA **Simla** 20.74 73 *i* P P 19 54 52.9 +1.0
SMLA AMB AMB 19 54 55.3
comp=Z,418nm,0.6s
SMLA *i* x x 19 58 39.4
CTKT **Corum** 20.82 316 *i* P P 19 54 53.4 +0.5
BISR **Bishrakh** 20.88 80 *e*P P 19 54 51.4 -2.0
BISR AMB AMB 19 55 06.8
comp=Z,59nm,0.8s
KKAR **Karatay Array** 20.98 36 *e*P P 19 54 53.3 -1.0
KKAR pmax pmax
comp=Z,29nm,0.6s
KKAR **Karatay Array** 20.98 36 *e*P P 19 54 53.3 -1.0
comp=Z,29nm,0.6s
KKAR **Karatay Array** 20.98 36 *e*P P 19 54 53.3 -1.0
comp=Z,29nm,0.6s
BR131 **Keskin Array S** 21.08 312 *e*P P 19 54 54.6 -1.0
comp=Z,35nm,0.8s
BR131 **Keskin Array S** 21.08 312 *e*P P 19 54 54.6 -1.0
comp=Z,35nm,0.8s
BRTR **Keskin Array B** 21.08 312 P P 19 54 55.4 -0.2
comp=Z,21nm,0.7s,baz=132,slow=12,SNR=47
BRTR PcP PcP 19 59 02.5 +0.7
comp=Z,1.5nm,0.6s,baz=156,slow=4.1,SNR=3.1
BRTR ScP ScP 20 02 40.5 +2.3
comp=Z,1.3nm,0.6s,baz=142,slow=5.2,SNR=5.0
ASOR **Ausora** 21.17 80 *ex* P 19 54 51.7 -4.8
ASOR AMB AMB 19 54 55.6
comp=Z,87nm,1.5s
AGRA **Agra** 21.40 84 *e*P P 19 55 00.4 +1.4
AGRA AMB AMB 19 55 02.7
comp=Z,64nm,1.5s
KDHN **Kadinhani** 21.55 308 *i* P P 19 55 01.9 +1.2
ANTO **Ankara** 21.71 312 *e*P P 19 55 01.8 -0.5
ANTO pmax pmax
comp=Z,107nm,1.2s
ANTO **Ankara** 21.71 312 *e*P P 19 55 01.8 -0.5
comp=Z,107nm,1.2s
ANTO **Ankara** 21.71 312 *e*P P 19 55 01.8 -0.5
comp=Z,107nm,1.2s
ANN **Anapa** 22.12 328 *e*P P 19 55 07.2 +0.6
ANN pmax pmax
comp=Z,130nm,0.9s
ANN **Anapa** 22.12 328 *e*P P 19 55 07.2 +0.6
comp=Z,130nm,0.9s
AML **Almayashu** 22.13 42 P P 19 55 07.1 0.0
SNR=40
KSH **Kashi** 22.21 50 P P 19 55 01.8 -5.9
KSH pP pP 19 55 05.8 -6.2
KSH S S 19 58 54.4 -18
KSH PcP **PcP** 19 59 03.0 -1.1
KSH sS sS 19 59 05.1 -14
KSH SS **SnSn** 19 59 35.3 -3.7
KSH PMZ
comp=Z,79nm,1.0s
KSH PMZ
comp=Z,4µm,7.6s
KSH LN
comp=Z,4µm,14.7s
KSH LE
comp=Z,4µm,13.2s
KSH LZ
comp=Z,4µm,15.0s
KORT **Korkueli** 22.26 302 *i* P P 19 55 09.4 +1.1
BAGO **Egridir - ISPA** 22.29 305 *i* P P 19 55 09.4 +0.8
AUSIV **SIVRIHISAR** 22.36 309 *i* P P 19 55 08.5 -0.9
ISP **Isparta** 22.42 305 *e*P P 19 55 08.5 -1.5
ISP pmax pmax
comp=Z,30nm,0.8s
ISP **Isparta** 22.42 305 *e*P P 19 55 08.5 -1.5
comp=Z,30nm,0.8s
ISP **Isparta** 22.42 305 *e*P P 19 55 08.5 -1.5
comp=Z,30nm,0.8s
BOLV **Bolvadin** 22.46 307 *i* P P 19 55 09.4 -1.1
EKS2 **Erkin-Say** 22.50 41 P P 19 55 12.0 +1.2
SNR=24
EKS2 **Erkin-Say** 22.50 41 *e*P P 19 55 12.0 +1.2
EKS2 pmax pmax
comp=Z,402nm,1.8s
EKS2 **Erkin-Say** 22.50 41 *e*P P 19 55 12.0 +1.2
comp=Z,402nm,1.8s
EKS2 **Erkin-Say** 22.50 41 *e*P P 19 55 12.0 +1.2
comp=Z,402nm,1.8s
AKAS **Kas** 22.58 300 *i* P P 19 55 11.3 -0.5
BCAM **Yenicaga** 22.67 313 *i* P P 19 55 12.2 -0.4
ABKAR **Akbulak array** 22.69 10 *e*P P 19 55 11.6 -1.1
ABKAR **Akbulak array** 22.69 10 *e*P P 19 55 11.6 -1.1
KLRI **Killari** 22.75 108 *e*P P 19 55 14.5 +1.0
KLRI IAmb IAmb 19 55 23.4
comp=Z,62nm,1.0s
JOSI **Joshimath** 22.75 75 *e*P P 19 55 13.8 +0.1
AAK **Ala-Archa** 22.91 42 P P 19 55 16.3 +1.2
SNR=13
AAK **Ala-Archa** 22.91 42 *e*P P 19 55 16.3 +1.2
AAK pmax pmax
comp=Z,72nm,0.8s
AAK **Ala-Archa** 22.91 42 *e*P P 19 55 16.3 +1.2
comp=Z,72nm,0.8s
AAK **Ala-Archa** 22.91 42 *e*P P 19 55 16.3 +1.2
comp=Z,72nm,0.8s
GOLH **Golhisar** 22.93 302 *i* P P 19 55 15.0 -0.3
KZA **Kyzart** 23.05 44 P P 19 55 18.1 +1.3
SNR=45
KBK **Karagaybulak** 23.19 42 P P 19 55 19.3 +1.2
SNR=16
CHMS **Chumysh** 23.27 41 P P 19 55 20.0 +1.2
SNR=14
USP **Ospenovka** 23.29 41 P P 19 55 18.7 -0.2
SNR=14
LGTI **Lohaghat** 23.33 78 *ex* P 19 55 23.2 +3.8

AKTK **Aktyubinsk** 23.60 7 P P 19 55 22.0 +0.2
AKTO **Aktyubinsk** 23.60 7 P P 19 55 21.9 +0.1
comp=Z,40nm,0.7s,baz=168,slow=10,SNR=71
AKTO **Aktyubinsk** 23.60 7 P P 19 55 22.0 +0.1
AKTO **Aktyubinsk** 23.60 7 P P 19 55 22.0 +0.1
TKM2 **Tokmak 2** 23.73 42 P P 19 55 24.1 +0.6
SNR=11
TKM2 **Tokmak 2** 23.73 42 *e*P P 19 55 23.6 +0.1
TKM2 pmax pmax
comp=Z,99nm,1.5s
TKM2 **Tokmak 2** 23.73 42 *e*P P 19 55 23.5 +0.1
comp=Z,99nm,1.5s
TKM2 **Tokmak 2** 23.73 42 *e*P P 19 55 23.6 +0.1
comp=Z,99nm,1.5s
ULHL **Ulahol** 23.75 44 P P 19 55 25.0 +1.3
SNR=12
SRSP **Sriramsagar** 23.88 105 *e*P P 19 55 25.6 +0.8
SRSP IAmb IAmb 19 55 28.2
comp=Z,16nm,1.0s
SIM **Simferopol'** 23.90 324 *e*P P 19 55 24.8 0.0
SIM *e*S S 19 59 42.0 +1.5
SIM pmax pmax
comp=Z,111nm,1.2s
SIM **Simferopol'** 23.90 324 *e*P P 19 55 24.8 0.0
comp=Z,111nm,1.2s
SIM *e*S S 19 59 42.0 +1.5
HYBB **Hyderabad (bro** 24.70 108 *e*P P 19 55 33.4 +1.0
HYB **Hyderabad** 24.71 108 *i* P P 19 55 33.5 +1.0
RPR **Rampur** 24.73 104 *e*P P 19 55 33.3 +0.7
RPR IAmb IAmb 19 55 37.1
comp=Z,184nm,2.6s
URV **Uravakonda** 24.85 114 *e*P P 19 55 35.1 +1.3
NPS **Neapolis** 25.50 296 *e*P P 19 55 40.3 +0.8
LAST **Lasithi** 25.59 295 *e*P P 19 55 41.3 +0.9
SRLM **Srisailam** 25.61 110 *e*P P 19 55 42.1 +1.4
SRLM IAmb IAmb 19 55 46.0
comp=Z,86nm,1.6s
NJS **Nagarjunasagar** 25.74 109 *e*P P 19 55 44.9 +3.0
NJS IAmb IAmb 19 55 53.7
comp=Z,112nm,1.5s
APE **Apeiranthos** 25.96 300⇓ *e*P P 19 55 44.0 +0.2
APE pmax pmax
comp=Z,32nm,0.7s
APE **Apeiranthos** 25.96 300 *e*P P 19 55 44.0 +0.2
comp=Z,32nm,0.7s
RCLA **Racherla** 25.98 111 *e*P P 19 55 45.4 +1.4
RCLA IAmb IAmb 19 55 52.0
comp=Z,19nm,0.8s
IDI **Anoyia** 26.09 296 P P 19 55 45.4 +0.5
comp=Z,39nm,0.5s,baz=93,slow=11,SNR=39
IDI **Anoyia** 26.09 296 *e*P P 19 55 45.1 +0.2
IDI **Anoyia** 26.09 296 *e*P P 19 55 45.2 +0.3
comp=Z,132nm,1.3s
IDI **Anoyia** 26.09 296 *e*P P 19 55 45.2 +0.3
comp=Z,132nm,1.3s
SIVA **Sivas** 26.10 295 *e*P P 19 55 44.0 -1.0
KOLN **Koldanda** 26.36 81 *e*P P 19 55 49.0 +1.4
comp=Z,84nm,1.1s
DANN **Dangsing** 26.45 80 *e*P P 19 55 50.5 +1.9
comp=Z,32nm,0.8s
VSR **Storozhevoye** 26.63 339 *e*P P 19 55 50.2 +0.7
VSR *e* 19 56 30.7
VSR *e*S S 20 00 25.8 +1.9
VSR pmax pmax
comp=N,20nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,30nm,0.9s
VSR pmax pmax
comp=N,90nm,1.3s
VSR pmax pmax
comp=Z,50nm,1.3s
VSR pmax pmax
comp=E,20nm,0.8s
VSR smax smax
comp=E,390nm,2.5s
VSR smax smax
comp=Z,180nm,2.5s
VSR smax smax
comp=N,190nm,2.3s
VSR **Storozhevoye** 26.63 339 *e*P P 19 55 50.2 +0.7
ADKI **Addanki** 26.64 109 *e*P P 19 55 51.2 +1.2
ADKI IAmb IAmb 19 55 56.5
comp=Z,103nm,1.7s
GVD **Gavdhos** 26.66 294 *e*P P 19 55 49.2 -0.8
comp=Z,143nm,0.9s
GVD **Gavdhos** 26.66 294 *e*P P 19 55 49.2 -0.8
comp=Z,143nm,0.9s
VAM **Vamos** 26.66 296 *e*P P 19 55 50.6 +0.6
TIRR **Tirgusor** 26.87 317 *e*P P 19 55 50.7 -1.0
TIRR pmax pmax
comp=Z,24nm,0.8s
TIRR **Tirgusor** 26.87 317⇑ *i*P P 19 55 51.1 -0.6
TIRR **Tirgusor** 26.87 317 *e*P P 19 55 50.7 -1.0
comp=Z,24nm,0.8s
TIRR **Tirgusor** 26.87 317 *e*P P 19 55 50.7 -1.0
comp=Z,24nm,0.8s
RDO **Rodhopi** 27.25 308 *e*P P 19 55 55.4 +0.2
RDO **Rodhopi** 27.25 308 *e*P P 19 55 55.1 -0.1
comp=Z,90nm,1.3s
RDO **Rodhopi** 27.25 308 *e*P P 19 55 55.1 -0.1
comp=Z,90nm,1.3s
GKN **Gorkha** 27.25 81 *e*P P 19 55 56.4 +0.8
comp=Z,76nm,0.9s
HARR **Harsova** 27.28 317 ⇓P P 19 55 55.6 +0.1
HARR **Harsova** 27.28 317⇓ *i*P P 19 55 55.6 +0.1
HARR **Harsova** 27.28 317 P P 19 55 55.6 +0.1
PVM **Polavaram** 27.41 105 *e*P P 19 55 59.5 +2.7
PVM IAmb IAmb 19 56 01.1
comp=Z,25nm,1.5s
CFR **Carcaliu** 27.42 318⇑P P 19 55 56.2 -0.5
CFR **Carcaliu** 27.42 318⇑ *i*P P 19 55 56.2 -0.5
CFR **Carcaliu** 27.42 318 P P 19 55 56.2 -0.5
ANKY **Antikythira Is** 27.46 296 *e*P P 19 55 58.2 +1.0
SKHT **Srikalahasti** 27.50 114 *e*P P 19 55 59.0 +1.3
SKHT IAmb IAmb 19 56 04.3
comp=Z,61nm,1.8s
DMN **Daman** 27.70 82 *e*P P 19 56 00.8 +1.0
comp=Z,215nm,1.6s
KKN **Kakani** 27.84 81 *e*P P 19 56 01.8 +0.9
comp=Z,51nm,0.8s
DID **Didima** 27.84 300 *e*P P 19 55 59.5 -1.2
DIDY **Didyma** 27.86 300 *e*P P 19 55 59.9 -1.0
LPSR **Galich'ya Gora** 27.91 340 *e*P P 19 56 00.5 -0.5
LPSR pmax pmax
comp=N,5.0nm,1.0s
LPSR pmax pmax
comp=Z,20nm,1.0s
LPSR pmax pmax
comp=E,8.0nm,0.9s
LPSR **Galich'ya Gora** 27.91 340 *e*P P 19 56 00.5 -0.5
VLI **Veliai** 27.91 298 *e*P P 19 55 59.8 -1.4
PKIN **Phulchoki** 27.96 82 *e*P P 19 56 03.1 +1.0
comp=E,31nm,0.8s
PKI **Pulchoki** 27.98 82 *e*P P 19 56 03.1 +0.8
comp=E,90nm,1.0s
VIL2 **Platees** 27.99 301 *e*P P 19 56 00.1 -1.8
KIS **Kishinev** 28.06 322 *e*P P 19 56 02.0 -0.4
KIS **Kishinev** 28.06 322 *e*P P 19 56 02.0 -0.4
KIS *i* 19 56 19.0
KIS *i* 19 56 50.0
KIS **Kishinev** 28.06 322 *e*P P 19 56 02.0 -0.4
ISR **Istrita** 28.35 317 ⇓P P 19 56 06.6 +1.5
ISR **Istrita** 28.35 317⇓ *i*P P 19 56 06.6 +1.5
ISR **Istrita** 28.35 317 P P 19 56 06.6 +1.5
GUN **Gumba** 28.36 81 *e*P P 19 56 06.7 +1.0
comp=E,156nm,1.0s
THAL **Thalero** 28.41 301 *e*P P 19 56 04.5 -1.1
VLX **Vlachokerasia** 28.48 299 *e*P P 19 56 05.5 -0.9
NVR **Nevrokopi** 28.50 308 *e*P P 19 56 06.6 +0.1
AXAR **Agios Charalam** 28.59 302 *e*P P 19 56 07.3 0.0
SECR 28.60 316⇓ *i*P P 19 56 08.0 +0.7
DESF **Desfina** 28.60 301 *e*P P 19 56 06.2 -1.2
DSF **Desfina** 28.60 301 *e*P P 19 56 05.7 -1.7
VRI **Vrincioaia** 28.62 318 ⇓P P 19 56 08.0 +0.5
VRI **Vrincioaia** 28.62 318⇓ *i*P P 19 56 08.0 +0.5
VRI **Vrincioaia** 28.62 318 P P 19 56 08.0 +0.5
GUR **Goura** 28.63 300 *e*P P 19 56 07.5 -0.3
PLOR **Plostina** 28.66 318 ⇑P P 19 56 08.3 +0.4
PLOR **Plostina** 28.66 318⇑ *i*P P 19 56 08.3 +0.4
PLOR **Plostina** 28.66 318 P P 19 56 08.3 +0.4
BRVK **Borovoye** 28.74 21 P P 19 56 08.8 +0.3
comp=E,211nm,0.5s,SNR=16
BRVK **Borovoye** 28.74 21⇓ *i*P P 19 56 08.7 +0.3

BRVK pmax pmax
comp=Z,32nm,1.2s
BRVK **Borovoye** 28.74 21 *e*P P 19 56 08.1 -0.3
comp=Z,20nm,0.6s
BRVK **Borovoye** 28.74 21 *e*P P 19 56 08.1 -0.3
comp=Z,20nm,0.6s
BVAR **Borovoye Array** 28.75 21 P P 19 56 08.4 0.0
comp=Z,17nm,0.6s,baz=215,slow=7.0,SNR=61
BVAR PcP PcP 19 59 18.5 +0.1
comp=Z,6.3nm,0.7s,baz=212,slow=2.6,SNR=5.3
BVAR ScP ScP 20 02 59.8 +0.5
comp=Z,2.4nm,0.8s,baz=211,slow=2.8,SNR=7.7
ITM **Ithomi** 28.80 299 *e*P P 19 56 08.7 -0.4
KLV **Kalavryta, Ach** 28.80 300 *e*P P 19 56 08.2 -1.1
PYL **PYLOS** 28.89 298 *e*P P 19 56 08.2 -1.7
KALE **Kalithea** 28.89 301 *e*P P 19 56 07.0 -3.0
MLR **Muntele Rosu** 28.90 317 P P 19 56 10.9 +0.8
comp=Z,6.6nm,0.6s,baz=357,slow=12,SNR=19
MLR **Muntele Rosu** 28.90 317⇑P P 19 56 11.7 +1.6
MLR **Muntele Rosu** 28.90 317⇑ *i*P P 19 56 11.6 +1.5
TRIZ **Trizonia** 28.94 301 *e*P P 19 56 09.5 -0.8
LAKA **Lakka** 28.98 301 *e*P P 19 56 10.5 -0.3
TESR **Tescani** 29.01 319⇑ *i*P P 19 56 10.5 -0.4
CHLP **Challavanipeta** 29.02 101 *e*P P 19 56 12.4 +1.1
CHLP IAmb IAmb 19 56 13.6
comp=Z,33nm,1.5s
HUMR **Humele** 29.04 315⇑ *i*P P 19 56 09.6 -1.6
EFP **Efpalio** 29.08 301 *e*P P 19 56 10.4 -1.2
RAMN **Ramite** 29.10 83 *e*P P 19 56 12.7 +0.5
comp=Z,41nm,0.6s
DRO **Drossia** 29.12 300 *e*P P 19 56 12.1 +0.1
EVR **Evrytania** 29.27 302 *e*P P 19 56 12.0 -1.4
THL **Klokotos Trika** 29.28 303 *e*P P 19 56 12.0 -1.4
RLS **Riolos of Patr** 29.33 300 *e*P P 19 56 12.9 -1.0
VTS **Vitosha** 29.40 310⇑P P 19 56 14.7 +0.1
VTS **Vitosha** 29.40 310⇑ *i*P P 19 56 14.6 0.0
VTS **Vitosha** 29.40 310 P P 19 56 14.7 +0.1
VOIR 29.42 316⇑P P 19 56 14.9 +0.2
VOIR 29.42 316⇑ *i*P P 19 56 14.9 +0.2
VOIR 29.42 316 P P 19 56 14.9 +0.2
DOPR **Dopca** 29.48 317⇑ *i*P P 19 56 15.3 +0.2
ARU **Arti** 29.58 5 *c i*P P 19 56 17.8 +1.9
ARU 19 57 13.0
ARU S S 20 01 14.2 +3.9
ARU SS SnSn 20 02 40.6 +2.0
ARU pmax pmax
comp=Z,39nm,2.5s
ARU **Arti** 29.58 5 *e*P P 19 56 16.4 +0.5
comp=Z,27nm,1.1s
ARU **Arti** 29.58 5 *e*P P 19 56 16.4 +0.5
comp=Z,27nm,1.1s
ARR **Arges** 29.65 316⇑ *i*P P 19 56 17.2 +0.6
PDO **Prodromos** 29.67 301 *e*P P 19 56 15.5 -1.4
PRAR **RASCA** 29.72 320⇑ *i*P P 19 56 16.5 -0.7
ODAN **Odare** 29.81 83 *e*P P 19 56 19.1 +0.6
comp=Z,47nm,0.8s
MK31 **Makanchi Array** 29.83 41 *e*P P 19 56 18.1 -0.2
MK31 **Makanchi Array** 29.83 41 *e*P P 19 56 18.1 -0.2
MK31 **Makanchi Array** 29.83 41 *e*P P 19 56 18.1 -0.2
MKAR **Makanchi Array** 29.83 41 P P 19 56 18.4 +0.1
comp=Z,7.8nm,0.6s,baz=230,slow=7.9,SNR=57
MKAR PcP PcP 19 59 21.1 -0.3
comp=Z,1.6nm,0.6s,baz=234,slow=4.2,SNR=4.3
MKAR ScP ScP 20 03 05.1 +2.2
comp=Z,1.2nm,0.8s,baz=255,slow=5.5,SNR=4.4
MKAR **Makanchi Array** 29.83 41 *e*P P 19 56 18.0 -0.2
MKAR **Makanchi Array** 29.83 41 *e*P P 19 56 18.1 -0.2
MKAR PcP PcP 19 59 21.1 -0.3
MKAR ScP ScP 20 03 05.1 +2.2
DSL **Palaion Diasel** 29.86 302 *e*P P 19 56 17.9 -0.7
VLS **Valsamata** 30.04 300 *e*P P 19 56 19.2 -0.9
EXG **Exogi** 30.06 301 *e*P P 19 56 18.4 -1.9
KURBB **Kurchatov Arra** 30.14 32 P P 19 56 21.1 +0.2
comp=Z,11nm,0.6s,baz=231,slow=8.8,SNR=65
KURBB PcP PcP 19 59 22.1 +0.1
comp=Z,2.2nm,0.8s,baz=233,slow=3.3,SNR=4.1
KURBB ScP ScP 20 03 05.9 +2.1
comp=Z,0.3nm,0.4s,baz=236,slow=3.3,SNR=3.9
MDB **Medias** 30.17 317⇑P P 19 56 23.0 +1.8
MDB **Medias** 30.17 317⇑ *i*P P 19 56 23.0 +1.8
MDB **Medias** 30.17 317 P P 19 56 23.0 +1.8
SVE **Sverdlovsk** 30.18 7 *e*P P 19 56 21.9 +0.8
SVE **Sverdlovsk** 30.18 7 *e*P P 19 56 21.9 +0.8
AK02 **Malin Array Si** 30.19 328 *e*P P 19 56 18.9 -2.4
AK02 **Malin Array Si** 30.19 328 *e*P P 19 56 18.9 -2.4
AK01 **Malin Array Si** 30.21 328 *e*P P 19 56 19.4 -2.0
AK01 **Malin Array Si** 30.21 328 *e*P P 19 56 19.4 -2.0
AKASG **Malin Array Be** 30.21 328 P P 19 56 19.9 -1.5
comp=Z,9.0nm,0.5s,baz=136,slow=8.1,SNR=40
AKBB **Malin Array Si** 30.21 328 *e*P P 19 56 20.0 -1.4
AKBB **Malin Array Si** 30.21 328 *e*P P 19 56 20.0 -1.4
AKBB **Malin Array Si** 30.21 328 *e*P P 19 56 20.0 -1.4
KIEV **Kiev** 30.21 328 *e*P P 19 56 19.6 -1.8
KIEV pmax pmax
comp=Z,51nm,1.2s
KIEV **Kiev** 30.21 328 *e*P P 19 56 19.6 -1.8
comp=Z,51nm,1.2s
KIEV **Kiev** 30.21 328 *e*P P 19 56 19.6 -1.8
comp=Z,51nm,1.2s
LOT **Lotru** 30.22 315⇑ *i*P P 19 56 21.2 -0.6
KURK **Kurchatov** 30.24 32 P P 19 56 21.4 -0.4
comp=Z,122nm,0.6s,SNR=8.4
KURK **Kurchatov** 30.24 32 P P 19 56 21.1 -0.7
KURK 19 59 22.1
KURK pmax pmax
comp=Z,11nm,0.6s
KURK **Kurchatov** 30.24 32 *e*P P 19 56 21.6 -0.2
comp=Z,6.9nm,0.7s
KURK **Kurchatov** 30.24 32 PcP PcP 19 59 22.0 -0.2
KURK **Kurchatov** 30.24 32 *e*P P 19 56 21.6 -0.2
comp=Z,6.9nm,0.7s
KURK PcP PcP 19 59 22.1 -0.2
KURK ScP ScP 20 03 05.9 +1.8
BURAR **Bucovina Array** 30.43 320 ⇓P P 19 56 23.5 -0.1
BURAR **Bucovina Array** 30.43 320⇓ *i*P P 19 56 23.5 -0.1
BUR08 **Bucovina Ar. S** 30.46 320 *e*P P 19 56 23.5 -0.3
BUR08 **Bucovina Ar. S** 30.46 320 *e*P P 19 56 23.5 -0.3
SGD **Sagiada** 30.63 303 *e*P P 19 56 24.2 -1.1
ARCR **ARCALIA** 30.66 319⇑ *i*P P 19 56 26.1 +0.6
OBN **Obninsk** 30.79 340 P P 19 56 25.6 -0.9
comp=Z,23nm,0.5s,baz=80,slow=12,SNR=5.6
OBN **Obninsk** 30.79 340 P P 19 56 28.6 +2.1
OBN pmax pmax
comp=Z,38nm,1.2s
OBN **Obninsk** 30.79 340 P P 19 56 28.6 +2.1
comp=Z,38nm,1.2s
OBN **Obninsk** 30.79 340 *e*P P 19 56 23.5 -2.9
comp=Z,24nm,0.6s
CJR **Cluj-Napoca** 30.92 318 ⇓P P 19 56 28.2 +0.3
CJR **Cluj-Napoca** 30.92 318⇓ *i*P P 19 56 28.2 +0.3
CJR **Cluj-Napoca** 30.92 318 P P 19 56 28.2 +0.3
BMR **Baia Mare** 31.46 319 ⇑P P 19 56 31.2 -1.3
BMR **Baia Mare** 31.46 319⇑ *i*P P 19 56 31.2 -1.3
BMR **Baia Mare** 31.46 319 P P 19 56 31.2 -1.3
DRGR 31.50 317 ⇑P P 19 56 32.9 -0.1
DRGR 31.50 317⇑ *i*P P 19 56 32.9 -0.1
DRGR 31.50 317 P P 19 56 32.9 -0.1
BZS **Buzias** 31.66 314 ⇓P P 19 56 33.7 -0.6
BZS **Buzias** 31.66 314⇓ *i*P P 19 56 33.7 -0.6
BZS **Buzias** 31.66 314 P P 19 56 33.7 -0.6
SIRR **Siria** 31.91 316⇑ *i*P P 19 56 37.4 +0.9
WMQ **Urumqi** 31.97 50 P P 19 56 38.0 +0.8
WMQ pP pP 19 56 42.0 +0.2
WMQ sP sP 19 56 45.0 +1.3
WMQ PMZ
comp=Z,19nm,0.6s
WMQ LN
comp=Z,3µm,16.7s
WMQ LE
comp=Z,3µm,16.6s
WMQ LZ
comp=Z,3µm,19.0s
DIVS **Divibare** 32.14 311⇑ *i*P P 19 56 37.9 -0.8
KMBO **Kilima Mbogo** 32.25 212 P P 19 56 42.1 +2.1
comp=Z,7.5nm,1.0s,baz=41,slow=9.9,SNR=7.4
KMBO **Kilima Mbogo** 32.25 212 *e*P P 19 56 41.6 +1.6
KMBO pmax pmax
comp=Z,17nm,1.3s
KMBO **Kilima Mbogo** 32.25 212 *e*P P 19 56 41.6 +1.6
comp=Z,17nm,1.3s
KMBO **Kilima Mbogo** 32.25 212 *e*P P 19 56 41.6 +1.6
comp=Z,17nm,1.3s
LVV **L'vov** 32.29 323 *e*P P 19 56 40.9 +1.1

LVV **L'vov** 32.29 323 *e*P P 19 56 40.9 +1.1
UZH **Uzhgorod** 32.63 320 *e*P P 19 56 43.0 +0.2
UZH *i* 19 56 53.4
UZH Uzhgorod 32.63 320 *e*P P 19 56 43.0 +0.2
KOLS Kolonicke sedl 32.80 320 *e*P P 19 56 44.9 +0.6
KOLS pmax pmax
comp=Z,22nm,0.9s
KOLS Kolonicke sedl 32.80 320 *e*P P 19 56 44.9 +0.6
comp=Z,22nm,0.9s
KOLS Kolonicke sedl 32.80 320 *e*P P 19 56 44.9 +0.6
LSA Lhasa 32.80 76 *e*P P 19 56 45.7 +0.6
LSA pmax pmax
comp=Z,7.0nm,0.8s
LSA Lhasa 32.80 76 *e*P P 19 56 45.7 +0.6
comp=Z,7.2nm,0.8s
LSA Lhasa 32.80 76 *e*P P 19 56 45.7 +0.6
comp=Z,7.2nm,0.8s
KWP Kalwaria Pacla 32.91 322 *e*P P 19 56 44.8 -0.5
KWP Kalwaria Pacla 32.91 322 *e*P P 19 56 44.9 -0.4
KWP Kalwaria Pacla 32.91 322 *e*P P 19 56 44.9 -0.4
TIP Timpagrande 33.17 301 *e*P P 19 56 47.7 -0.1
comp=Z,7.7nm,0.9s
TIP Timpagrande 33.17 301 *e*P P 19 56 47.6 -0.1
comp=Z,7.7nm,0.9s
KECS Kecovo 33.62 319 *e*P P 19 56 51.7 +0.3
KECS pmax pmax
comp=Z,18nm,0.7s
KECS Kecovo 33.62 319 *e*P P 19 56 51.7 +0.3
comp=Z,18nm,0.7s
KECS Kecovo 33.62 319 *e*P P 19 56 51.7 +0.3
PSZ Piszkesteto 33.71 317 *e*P P 19 56 52.4 0.0
PSZ pmax pmax
comp=Z,13nm,0.8s
PSZ Piszkesteto 33.71 317⇑ *i*P P 19 56 53.3 +0.9
PSZ Piszkesteto 33.71 317 *e*P P 19 56 52.4 0.0
comp=Z,13nm,0.8s
PSZ Piszkesteto 33.71 317 *e*P P 19 56 52.4 0.0
comp=Z,13nm,0.8s
PSZ Piszkesteto 33.71 317⇓ *e*P P 19 56 53.1 +0.7
PKSM Moragy 33.80 314 ⇑P P 19 56 52.9 -0.1
PKSM Moragy 33.80 314⇑ *i*P P 19 56 52.9 -0.1
PKSM Moragy 33.80 314 P P 19 56 52.9 -0.1
PKSM Moragy 33.80 314⇓ *e*P P 19 56 53.0 -0.1
CUC Castrocucco 34.03 302 *e*P P 19 56 56.5 +1.3
comp=Z,15nm,1.1s
CUC Castrocucco 34.03 302 *e*P P 19 56 56.5 +1.3
comp=Z,15nm,1.1s
NIE Niedzica 34.16 320 *e*P P 19 56 56.2 +0.1
NIE Niedzica 34.16 320 *e*P P 19 56 56.3 +0.1
NIE Niedzica 34.16 320 *e*P P 19 56 56.3 +0.1
NACGM **Naroch** 34.16 332 *e* P 19 56 54.0 -2.1
PKSG 34.42 316 *e*P P 19 56 58.4 0.0
IDID Didziasalis 34.47 333 *e*P P 19 56 57.7 -1.0
IDID IAmb IAmb 19 57 03.2
comp=Z,16nm,0.8s
IDID Didziasalis 34.47 333 *e*P P 19 56 57.7 -1.0
SNR=27
CSKK Cs‡ákako 34.49 316 *e*P P 19 56 58.0 -1.0
PKST T˜'s 34.59 315 *e*P P 19 56 59.8 -0.1
VYHS Vyhne 34.60 318 *e*P P 19 56 59.7 -0.3
VYHS pmax pmax
comp=Z,30nm,2.2s
VYHS Vyhne 34.60 318 *e*P P 19 56 59.7 -0.3
comp=Z,30nm,2.2s
VYHS Vyhne 34.60 318 *e*P P 19 56 59.7 -0.3
IIGN Ignalina 34.70 332 *e*P P 19 57 00.0 -0.7
IIGN IAmb IAmb 19 57 06.4
comp=Z,28nm,0.8s
IIGN Ignalina 34.70 332 *e*P P 19 57 00.0 -0.7
SNR=27
OJC Ojcow 34.83 321 *e*P P 19 57 01.4 -0.6
OJC Ojcow 34.83 321 *e*P P 19 57 01.2 -0.8
OJC pmax pmax
comp=Z,62nm,1.0s
OJC Ojcow 34.83 321 *e*P P 19 57 01.2 -0.8
comp=Z,62nm,1.0s
OJC Ojcow 34.83 321 *e*P P 19 57 01.2 -0.8
comp=Z,62nm,1.0s
ISAL Salakas 34.90 332 *e*P P 19 57 01.3 -1.1
ISAL IAmb IAmb 19 57 07.1
comp=Z,15nm,0.9s
ISAL Salakas 34.90 332 *e*P P 19 57 01.3 -1.1
SNR=27
IZAR Zarasai 34.97 333 *e*P P 19 57 02.3 -0.7
IZAR IAmb IAmb 19 57 09.4
comp=Z,12nm,0.6s
IZAR Zarasai 34.97 333 *e*P P 19 57 02.3 -0.7
SNR=27
PRGR Permogore 35.06 353 P P 19 57 00.4 -3.3
PRGR pmax pmax
comp=Z,8.0nm,0.8s
NVS Novosibirsk 35.08 30⇑ *i*P P 19 57 03.4 -0.6
NVS *e* 20 02 34.4
NVS pmax pmax
comp=Z,31nm,1.3s
NVS Novosibirsk 35.08 30 *i* P P 19 57 03.4 -0.6
comp=Z,31nm,1.3s
SUW Suwalki 35.18 328 *e*P P 19 57 03.0 -1.8
SUW Suwalki 35.18 328 *e*P P 19 57 03.0 -1.8
SUW Suwalki 35.18 328 *e*P P 19 57 03.0 -1.8
ZAA0 Zalesovo Array 35.23 32 *e*P P 19 57 04.4 -1.0
ZAA0 Zalesovo Array 35.23 32 *e*P P 19 57 04.4 -1.0
ZALV Zalesovo Beam 35.23 32 P P 19 57 04.9 -0.4
comp=Z,47nm,0.6s,baz=239,slow=9.1,SNR=98
OKC Ostrava-Krasne 35.60 319 *e*P P 19 57 07.6 -1.0
OKC *ep*P **pP** 19 57 11.9 -1.3
OKC *es*P **sP** 19 57 15.0 -0.1
OKC Ostrava-Krasne 35.60 319 *e*P P 19 57 07.6 -1.0
OKC Ostrava-Krasne 35.60 319 *e*P P 19 57 07.6 -1.0
CLTB Caltabellotta 35.72 297 *e*P P 19 57 09.7 -0.2
comp=Z,50nm,1.9s
CLTB Caltabellotta 35.72 297 *e*P P 19 57 09.7 -0.2
comp=Z,50nm,1.9s
BOJS Bojanci 35.78 311 *i* P P 19 57 10.1 -0.1
MORC Moravsky Berou 35.92 319 *e*P P 19 57 10.4 -1.0
MORC pmax pmax
comp=Z,286nm,1.5s
MORC Moravsky Berou 35.92 319⇓ *i*P P 19 57 09.2 -2.2
MORC Moravsky Berou 35.92 319 *e*P P 19 57 10.4 -1.0
comp=Z,286nm,1.5s
MORC Moravsky Berou 35.92 319 *e*P P 19 57 10.4 -1.0
comp=Z,286nm,1.5s
ARSA Arzberg 36.17 314 *i* P P 19 57 13.4 -0.1
comp=Z,14nm,0.9s,SNR=9.8
CONA Conrad Observa 36.20 315⇑ *i*P P 19 57 13.0 -0.8
comp=Z,18nm,0.9s,SNR=8.3
AQU L'Aquila 36.28 306 *e*P P 19 57 15.5 +1.0
AQU pmax pmax
comp=Z,14nm,0.7s
AQU L'Aquila 36.28 306 *e*P P 19 57 15.5 +1.0
comp=Z,14nm,0.7s
AQU L'Aquila 36.28 306 *e*P P 19 57 15.5 +1.0
comp=Z,14nm,0.7s
VRAC Vranov 36.29 318 P P 19 57 14.2 -0.3
comp=Z,14nm,0.8s,baz=116,slow=9.3,SNR=11
VRAC Vranov 36.29 318 ⇓P P 19 57 14.4 -0.1
VRAC Vranov 36.29 318⇓ *i*P P 19 57 14.4 -0.1
SOKA Soboth 36.30 313 *i* P P 19 57 14.3 -0.4
comp=Z,8.2nm,1.0s,SNR=6.6
LJU Ljubljana 36.43 312 *e*P P 19 57 15.8 0.0
KRLC Kraliky 36.50 319 *e*P P 19 57 14.8 -1.5
KRLC *ep*P **pP** 19 57 19.3 -1.7
KRLC *es*P **sP** 19 57 22.7 -0.2
KRLC Kraliky 36.50 319 *e*P P 19 57 14.8 -1.5
KRLC Kraliky 36.50 319 *e*P P 19 57 14.8 -1.5
OBKA Obir 36.56 313⇓ *i*P P 19 57 16.5 -0.5
comp=Z,15nm,0.9s
VSU Vasula 36.72 336⇓ *e*P P 19 57 17.8 -0.2
VSU pmax pmax
comp=Z,25nm,0.5s
VSU Vasula 36.72 336 *e*P P 19 57 17.8 -0.2
comp=Z,25nm,0.5s
DPC Dobruska-Polom 36.88 319 *e*P P 19 57 18.8 -0.8
DPC *ep*P **pP** 19 57 22.2 -2.0
DPC *ex* x 19 57 26.9
DPC Dobruska-Polom 36.88 319 *e*P P 19 57 18.8 -0.8
DPC Dobruska-Polom 36.88 319 *e*P P 19 57 18.8 -0.8
TREC Trest 36.95 317 *e*P P 19 57 19.3 -0.8
TREC *ep*P **pP** 19 57 23.0 -1.8
TREC *es*P **sP** 19 57 27.2 +0.5
TREC Trest 36.95 317 *e*P P 19 57 19.3 -0.8
TREC Trest 36.95 317 *e*P P 19 57 19.3 -0.8
KSP Ksiaz 37.11 320 *e*P P 19 57 20.7 -0.7
KSP Ksiaz 37.11 320 *e*P P 19 57 20.8 -0.7
KSP Ksiaz 37.11 320 *e*P P 19 57 20.8 -0.7
UPC Upice 37.13 319 *e*P P 19 57 21.0 -0.6
UPC *ep*P **pP** 19 57 25.5 -0.8
UPC Upice 37.13 319 *e*P P 19 57 21.0 -0.6
UPC Upice 37.13 319 *e*P P 19 57 21.0 -0.6
MOA Molln 37.18 315⇓ *i*P P 19 57 21.6 -0.5
comp=Z,20nm,0.8s,SNR=11
MYKA Terra Mystica 37.19 313⇑ *i*P P 19 57 22.1 -0.2
comp=Z,17nm,1.0s
KBA Koelnbreinsper 37.52 313 *i* P P 19 57 24.9 -0.4
comp=Z,25nm,0.8s,SNR=15
GOPC GO Pecny, Ondr 37.61 318 *e*P P 19 57 25.3 -0.4
GOPC *ep*P **pP** 19 57 29.1 -1.3
GKP Gorka Klasztor 37.71 324 *e*P P 19 57 26.1 -0.4
GKP Gorka Klasztor 37.71 324 *e*P P 19 57 26.1 -0.4
GKP Gorka Klasztor 37.71 324 *e*P P 19 57 26.1 -0.4
PRU Pruhonice 37.78 318 *e*P P 19 57 26.2 -1.0
PRU *ep*P **pP** 19 57 32.4 +0.6
PRU Pruhonice 37.78 318 *e*P P 19 57 26.2 -1.0
PRU Pruhonice 37.78 318 *e*P P 19 57 26.2 -1.0
GEC2 GERESS Array S 37.87 316 *e*P P 19 57 26.9 -1.2
comp=Z,19nm,1.4s
GEC2 GERESS Array S 37.87 316 *e*P P 19 57 27.3 -0.8
GEC2 GERESS Array S 37.87 316 *e*P P 19 57 27.3 -0.8
GEC2 GERESS Array S 37.87 316 *e*P P 19 57 27.3 -0.8
GERES GERESS Array B 37.87 316 P P 19 57 26.4 -1.7
comp=Z,3.5nm,0.7s,baz=105,slow=7.9,SNR=18
GERES ScP **ScP** 20 03 33.6 +2.4
comp=Z,1.1nm,0.8s,baz=129,slow=3.6,SNR=4.1
PRA Prague 37.88 318 *e*P P 19 57 26.8 -1.2
PRA *ep*P **pP** 19 57 28.5 -4.1
PRA *ex* x 19 57 34.6
PRA Prague 37.88 318 *e*P P 19 57 26.8 -1.2
PRA Prague 37.88 318 *e*P P 19 57 26.8 -1.2
ABTA Abfaltersbach 37.97 312⇑ *i*P P 19 57 28.4 -0.5
comp=Z,28nm,1.0s,SNR=12
PVCC Panska Ves 37.98 319 *e*P P 19 57 27.9 -0.9
PVCC *ep*P **pP** 19 57 31.8 -1.7
PVCC *es*P **sP** 19 57 34.9 -0.5
PVCC Panska Ves 37.98 319 *e*P P 19 57 27.9 -0.9
PVCC Panska Ves 37.98 319 *e*P P 19 57 27.9 -0.9
KHC Kasperske Hory 38.05 316 *e*P P 19 57 28.5 -1.0
KHC *ep*P **pP** 19 57 34.5 +0.3
KHC Kasperske Hory 38.05 316 *e*P P 19 57 28.5 -1.0
KHC Kasperske Hory 38.05 316 *e*P P 19 57 28.5 -1.0
RJOB Jochberg 38.08 314 *e*P P 19 57 28.6 -1.2
comp=Z,27nm,0.7s
RJOB Jochberg 38.08 314 *e*P P 19 57 28.6 -1.2
comp=Z,27nm,0.7s
BRG Berggiesshubel 38.48 319 *e*P P 19 57 32.0 -1.0
comp=Z,12nm,0.8s
BRG Berggiesshubel 38.48 319 *e*P P 19 57 32.0 -1.0
comp=Z,11nm,0.8s
BRG Berggiesshubel 38.48 319 *e*P P 19 57 32.0 -1.0
BRG pmax pmax
comp=Z,12nm,0.8s
BRG Berggiesshubel 38.48 319 *e*P P 19 57 32.0 -1.0
comp=Z,12nm,0.8s
WET Wettzell 38.49 316 *e*P P 19 57 31.8 -1.4
comp=Z,21nm,1.4s
WET Wettzell 38.49 316 *e*P P 19 57 31.8 -1.4
comp=Z,21nm,1.4s
HVS Khovu-Aksy 38.50 40⇓ *e*P P 19 57 33.4 +0.1
HVS pmax pmax
comp=Z,14nm,0.6s
HVS Khovu-Aksy 38.50 40 *e*P P 19 57 33.4 +0.1
comp=Z,14nm,0.6s
TMCR Tamitsa 38.54 349 *e*P P 19 57 32.7 -0.6
TMCR *e* 19 59 02.5
TMCR pmax pmax
comp=Z,12nm,0.6s
TMCR Tamitsa 38.54 349 *e*P P 19 57 32.7 -0.6
comp=Z,12nm,0.6s
WTTA Wattenberg 38.69 313 *i* P P 19 57 34.2 -0.9
comp=Z,63nm,0.8s,SNR=15
KEST Kesra 38.74 294 P P 19 57 36.0 +0.4
comp=Z,3.9nm,0.8s,baz=149,slow=1.6,SNR=14
KEST ScP **ScP** 20 03 37.8 +3.0
comp=Z,2.0nm,1.0s,baz=97,slow=4.6,SNR=3.8
KEST Kesra 38.74 294 *e*P P 19 57 36.5 +1.0
KEST ScP **ScP** 20 03 37.8 +3.0
KEST Kesra 38.74 294 *e*P P 19 57 36.5 +1.0
KEST ScP **ScP** 20 03 37.8 +3.0
WATA Walderalm 38.75 313⇓ *i*P P 19 57 34.4 -1.1
comp=Z,67nm,0.8s,SNR=32
VLC Villacollemand 38.80 308 *e*P P 19 57 33.9 -1.9
comp=Z,23nm,1.1s
VLC Villacollemand 38.80 308 *e*P P 19 57 33.9 -1.9
comp=Z,23nm,1.1s
VSL Villasalto 38.88 300 *e*P P 19 57 37.0 +0.4
comp=Z,23nm,0.8s
VSL Villasalto 38.88 300 *e*P P 19 57 37.0 +0.4
comp=Z,23nm,0.8s
MOTA Moosalm 39.06 313⇑ *i*P P 19 57 36.6 -1.5
comp=Z,42nm,0.9s,SNR=20
ROTZ Rotzenmuhle 39.11 317 *e*P P 19 57 37.8 -0.6
comp=Z,16nm,0.8s
ROTZ Rotzenmuhle 39.11 317 *e*P P 19 57 37.8 -0.6
comp=Z,16nm,0.8s
NKC Novy Kostel 39.12 318 *e*P P 19 57 35.3 -3.2
NKC *ep*P **pP** 19 57 38.1 -5.1
NKC *ex* x 19 57 41.9
NKC *ex* x 19 57 45.4
NKC Novy Kostel 39.12 318 *e*P P 19 57 35.3 -3.2
NKC *e* 19 57 45.4
NKC Novy Kostel 39.12 318 *e*P P 19 57 35.3 -3.2
FIA1 FINESS Array S 39.16 339 *e*P P 19 57 37.2 -1.4
FIA1 FINESS Array S 39.16 339 *e*P P 19 57 37.2 -1.4
FINES FINESS Array B 39.16 339 P P 19 57 37.4 -1.2
comp=Z,12nm,0.5s,baz=144,slow=10,SNR=45
FUR Furstenfeldbru 39.18 314 *e*P P 19 57 37.8 -1.2
comp=Z,45nm,0.8s
FUR Furstenfeldbru 39.18 314 *e*P P 19 57 37.8 -1.2
comp=Z,45nm,0.8s
CLL Collm 39.19 319 *e*P P 19 57 38.3 -0.7
comp=Z,22nm,1.0s
CLL Collm 39.19 319 *e*P P 19 57 38.0 -1.0
CLL pmax pmax
comp=Z,10.0nm,1.1s
CLL Collm 39.19 319 *e*P P 19 57 38.0 -1.0
comp=Z,10.0nm,1.1s
CLL Collm 39.19 319 *e*P P 19 57 38.1 -0.9
comp=Z,20nm,0.9s
CLL Collm 39.19 319 *e*P P 19 57 38.0 -1.0
CLL comp=Z,10.0nm,1.1s *i* pP **pP** 19 57 42.6 -1.1
comp=Z,22nm,1.0s
FETA Feichten 39.22 312 *i* P P 19 57 38.8 -0.8
comp=Z,44nm,0.8s,SNR=22
RETA Reutte 39.33 313 *i* P P 19 57 38.9 -1.3
comp=Z,31nm,0.7s,SNR=16
FUORN Ofenpass-Fuorn 39.43 312 *e*P P 19 57 41.3 -0.1
comp=Z,60nm,1.6s
FUORN Ofenpass-Fuorn 39.43 312 *e*P P 19 57 41.3 -0.1
comp=Z,60nm,1.6s
GRA1 Grafenberg Arr 39.69 316 *e*P P 19 57 42.4 -0.8
comp=Z,36nm,0.8s
GRF Grafenberg Arr 39.69 316 *e*P P 19 57 42.4 -0.8
comp=Z,36nm,0.8s
GRFO Grafenberg 39.69 316 *e*P P 19 57 42.0 -1.2
GRFO pmax pmax
comp=Z,33nm,0.9s
GRFO Grafenberg 39.69 316 *e*P P 19 57 42.0 -1.2
comp=Z,33nm,0.9s
GRFO Grafenberg 39.69 316 *e*P P 19 57 42.0 -1.2
comp=Z,33nm,0.9s
DAVOX Davos/Dischmat 39.73 312 P P 19 57 42.9 -0.8
comp=Z,20nm,0.8s,baz=119,slow=13,SNR=20
DAVOX Davos/Dischmat 39.73 312 P P 19 57 42.9 -0.8
DAVOX pmax pmax
comp=Z,20nm,0.8s
BSD Bornholm Skovb 39.80 326⇑ *i*P P 19 57 42.0 -2.0
comp=Z,41nm,0.7s
BSD Bornholm Skovb 39.80 326⇑ *i*P P 19 57 42.0 -2.0
BSD pmax pmax
comp=Z,41nm,0.7s
BSD Bornholm Skovb 39.80 326 *i* P P 19 57 42.0 -2.0
comp=Z,41nm,0.7s
DAVA Damuels 39.85 312 *i* P P 19 57 43.7 -1.1
comp=Z,100nm,0.6s,SNR=48
GTA Gaotai 39.96 60 ⇑P P 19 57 46.5 +0.7
GTA pP **pP** 19 57 51.3 +0.8
GTA sP **sP** 19 57 53.6 +1.3
GTA PcP **PcP** 19 59 55.1 +4.1
GTA PcS **PcS** 20 03 40.9 -0.4
TUE Stuetta 40.01 311 *e*P P 19 57 46.3 +0.1
comp=Z,9.1nm,0.7s
TUE Stuetta 40.01 311 *e*P P 19 57 46.3 +0.1
comp=Z,9.1nm,0.7s
KRAR Krasnoyarsk 40.24 33⇓ *e*P P 19 57 48.7 +1.0
KRAR pmax pmax
comp=Z,81nm,1.2s
KRAR Krasnoyarsk 40.24 33 *e*P P 19 57 48.7 +1.0
comp=Z,81nm,1.2s
ABSA Djebel Ababsia 40.26 295 P P 19 57 49.6 +1.4
ABSA Djebel Ababsia 40.26 295 P P 19 57 49.6 +1.4
CMAH Djebel Manchou 40.30 296 P P 19 57 49.3 +0.7
CMAH Djebel Manchou 40.30 296 P P 19 57 49.3 +0.7
RGN Rugen 40.36 324 *e*P P 19 57 48.5 -0.1
comp=Z,209nm,1.2s
RGN Rugen 40.36 324 *e*P P 19 57 48.5 -0.1
comp=Z,209nm,1.2s
SPAK Spaichingen-Ko 40.77 313 *e*P P 19 57 52.3 0.0
SAOF Saorge 40.78 307⇑ *e*P P 19 57 51.7 -0.6
UBBA Unterbreizbach 40.79 318 *e*P P 19 57 51.5 -0.7
comp=Z,13nm,1.1s
UBBA Unterbreizbach 40.79 318 *e*P P 19 57 51.5 -0.7
comp=Z,13nm,1.1s
AUTN L'Aution 40.87 307⇑ *e*P P 19 57 53.8 +0.5
CKFL Kef-Lekhel 40.87 295 P P 19 57 54.2 +0.9
CKFL Kef-Lekhel 40.87 295 P P 19 57 54.2 +0.9
REVF Revere 40.87 307⇑ *e*P P 19 57 52.2 -0.9
CLZ Clausthal 40.92 319 *e*P P 19 57 53.2 -0.2
comp=Z,36nm,0.7s
CLZ Clausthal 40.92 319 *e*P P 19 57 53.2 -0.2
comp=Z,36nm,0.7s
TOUF Mont Tournerai 41.00 307⇑ *e*P P 19 57 53.8 -0.6
MVIF Mont Vial 41.05 307⇑ *e*P P 19 57 53.9 -0.8
CASM Ain Smara 41.06 295 P P 19 57 55.5 +0.7
CASM Ain Smara 41.06 295 P P 19 57 55.5 +0.7
BFO Black Forest 41.12 314 *e*P P 19 57 54.1 -1.0
comp=Z,11nm,0.7s
BFO Black Forest 41.12 314 P P 19 57 54.7 -0.4
comp=Z,85nm,0.6s,SNR=5.9
BFO Black Forest 41.12 314 *e*P P 19 57 53.6 -1.5
BFO pmax pmax
comp=Z,10.0nm,0.7s
BFO Black Forest 41.12 314 *e*P P 19 57 54.1 -1.0
comp=Z,11nm,0.7s
BFO Black Forest 41.12 314 *e*P P 19 57 53.6 -1.5
comp=Z,9.8nm,0.7s
CTEI Djebel Teioual 41.13 295 P P 19 57 56.5 +1.1
CTEI Djebel Teioual 41.13 295 P P 19 57 56.5 +1.1
TOD Tromm 41.16 316⇑ *e*P P 19 57 53.9 -1.5
CALN Calern 41.22 306⇑ *e*P P 19 57 56.1 0.0
FELD Feldberg im Sc 41.23 313⇑ *e*P P 19 57 54.6 -1.5
COP Copenhagen 41.32 325 *i* P P 19 57 57.1 +0.5
comp=Z,44nm,0.8s
COP Copenhagen 41.32 325 *i* P P 19 57 57.1 +0.5
COP pmax pmax
comp=Z,44nm,0.8s
COP Copenhagen 41.32 325 *i* P P 19 57 57.1 +0.5
comp=Z,44nm,0.8s
SENIN Lac Senin/Sane 41.37 310 *e*P P 19 57 55.6 -1.8
SENIN Lac Senin/Sane 41.37 310 *e*P P 19 57 55.6 -1.8
MHMT Maesarieng 41.43 93 P P 19 57 59.8 +1.9
comp=Z,23nm,1.3s
BBS Basel-Blauen 41.46 312 *e*P P 19 57 58.0 +0.1
DFRA Djebel Bou Aff 41.55 296 P P 19 57 59.7 +0.8
DFRA Djebel Bou Aff 41.55 296 P P 19 57 59.7 +0.8
TNS Taunus Mts 41.56 316 *e*P P 19 57 58.0 -0.7
comp=Z,25nm,1.1s
TNS Taunus Mts 41.56 316 *e*P P 19 57 58.0 -0.7
comp=Z,25nm,1.1s
LANF Langenberg 41.62 314⇑ *e*P P 19 57 57.0 -2.2
MOF Molkenrain 41.79 313⇑ *e*P P 19 57 59.3 -1.4
CMAI Chiengmai2 41.84 90 P P 19 58 02.6 +1.1
comp=Z,158nm,0.9s,comp=Z,10µm
ECH Echery 41.86 313 *e*P P 19 57 59.3 -1.8
ECH pmax pmax
comp=Z,24nm,0.8s
ECH Echery 41.86 313⇑ *e*P P 19 57 59.6 -1.5
ECH Echery 41.86 313 *e*P P 19 57 59.3 -1.8
comp=Z,24nm,0.8s
LOMF Lomont 41.89 312⇑ *e*P P 19 57 59.8 -1.6
CHTO Chiang Mai 42.11 91 P P 19 58 04.9 +1.4
comp=Z,462nm,0.9s
CHTO Chiang Mai 42.11 91 *e*P P 19 58 04.3 +0.8
CHTO pmax pmax
comp=Z,73nm,1.7s
CHTO Chiang Mai 42.11 91 *e*P P 19 58 04.3 +0.8
comp=Z,73nm,1.7s
CHTO Chiang Mai 42.11 91 *e*P P 19 58 04.3 +0.8
comp=Z,73nm,1.7s
CMMT Chiang Mai 42.12 91 P P 19 58 04.9 +1.3
comp=Z,99nm,0.8s
CM31 Chiang Mai Arr 42.23 92 *e*P P 19 58 05.1 +0.6
comp=Z,5.0nm,0.6s
CM31 Chiang Mai Arr 42.23 92 *e*P P 19 58 05.1 +0.6
comp=Z,5.0nm,0.6s
CMAR Chiang Mai Arr 42.23 92 P P 19 58 06.0 +1.5
comp=Z,0.5nm,0.3s,baz=90,slow=6.0,SNR=4.5
CMAR PcP **PcP** 19 59 58.3 -0.2
comp=Z,2.2nm,0.9s,baz=282,slow=4.5,SNR=2.6
CMAR Chiang Mai Arr 42.23 92 *ce*P P 19 58 02.4 -2.1
RUP Ruppelstein 42.28 315⇑ *e*P P 19 58 03.2 -1.4
APA Apatity 42.45 349⇓ *i*P P 19 58 06.0 +0.4
APA *i* 19 59 40.5
APA *eS* **S** 20 04 26.0 -0.6
APA pmax pmax
comp=Z,20nm,0.8s
APA MLR MLR
comp=Z,6µm,26.0s
APA Apatity 42.45 349 *i* P P 19 58 06.0 +0.4
comp=Z,20nm,0.8s
IBBN Ibbenburen 42.59 319 *e*P P 19 58 07.2 +0.2
comp=Z,61nm,1.1s
IBBN Ibbenburen 42.59 319 *e*P P 19 58 07.2 +0.2
comp=Z,61nm,1.1s
BUG Bochum--Univer 42.62 318 *e*P P 19 58 07.2 0.0
comp=Z,60nm,1.4s
BUG Bochum--Univer 42.62 318 *e*P P 19 58 07.2 0.0
comp=Z,60nm,1.4s
WLF Walferdange 42.84 315 P P 19 58 08.4 -0.7
comp=Z,14nm,1.0s
WLF Walferdange 42.84 315 *e*P P 19 58 08.2 -0.9
comp=Z,25nm,0.8s
WLF Walferdange 42.84 315 *e*P P 19 58 07.7 -1.4
WLF pmax pmax
comp=Z,23nm,0.7s
WLF Walferdange 42.84 315 *e*P P 19 58 08.2 -0.9
comp=Z,25nm,0.8s
WLF Walferdange 42.84 315 *e*P P 19 58 07.7 -1.4
comp=Z,23nm,0.7s
CRAI Chiangrai 42.93 89 P P 19 58 09.8 -0.4
comp=Z,19nm,1.1s
HFS Hagfors 42.93 332 P P 19 58 08.4 -1.3
comp=Z,17nm,0.7s,baz=124,slow=8.0,SNR=44
MOY Mondy 42.97 42 *e*P P 19 58 11.5 +1.2
MOY Mondy 42.97 42 *e*P P 19 58 11.5 +1.2
WTSB Winterswijk 43.05 318 *e*P P 19 58 10.8 +0.1
LZH Lanzhou 43.12 65 *e*P P 19 58 07.0 -4.7
LZH PMZ
comp=Z,21nm,1.0s
LZH PMZ
comp=Z,1µm,4.9s
MEM Membach 43.16 316 P P 19 58 12.7 +1.0
comp=Z,10nm,1.0s
MEM Membach 43.16 316 *e*P P 19 58 12.7 +1.0
MEM pmax pmax
comp=Z,19nm,1.0s
MEM Membach 43.16 316 *e*P P 19 58 12.7 +1.0
comp=Z,19nm,1.0s
MEM Membach 43.16 316 *e*P P 19 58 12.7 +1.0
comp=Z,19nm,1.0s
HGN Heimansgroeve 43.25 316 *e*P P 19 58 12.2 -0.1
MUD Monsted U'grnd 43.31 325⇑ *i*P P 19 58 12.7 0.0
comp=Z,36nm,1.0s
MUD Monsted U'grnd 43.31 325⇑ *i*P P 19 58 12.7 0.0
MUD pmax pmax
comp=Z,36nm,1.0s
MUD Monsted U'grnd 43.31 325 *i* P P 19 58 12.7 0.0
comp=Z,36nm,1.0s
CD2 Chengdu 43.51 73 P P 19 58 14.0 -0.9
CD2 pP **pP** 19 58 17.3 -2.3
CD2 sP **sP** 19 58 18.5 -3.0
CD2 PP **PP** 19 59 55.3 -0.8
CD2 S **S** 20 04 43.3 0.0
CD2 PMZ
comp=Z,20nm,0.7s

CD2 PMZ
comp=Z,2µm,5.5s
CD2 LN
comp=Z,2µm,16.8s
CD2 LZ
comp=Z,2µm,15.2s
KMI Kunming 43.70 81 P **P** **19 58 18.0 +1.4**
KMI pP **pP** **19 58 21.0 -0.4**
KMI sP **sP** **19 58 22.3 -0.9**
KMI PP **PcP** **20 00 01.8 -1.9**
KMI S **S** **20 04 47.8 +1.3**
KMI sS **sS** **20 04 52.8 -1.5**
KMI SS **SS** **20 07 55.8 -6.1**
KMI LN
comp=Z,4µm,22.3s
KMI LE
comp=Z,4µm,19.6s
KMI LZ
comp=Z,3µm,16.4s
TAM Tamanrasset 43.87 276 *e*P **P** **19 58 18.4 +0.5**
TAM pmax pmax
comp=Z,11nm,0.8s
TAM Tamanrasset 43.87 276 *e*P **P** **19 58 18.4 +0.5**
comp=Z,11nm,0.8s
TAM Tamanrasset 43.87 276 *e*P **P** **19 58 18.4 +0.5**
comp=Z,11nm,0.8s
UTTA Uttaradit 43.91 92 P **P** **19 58 19.6 +1.5**
comp=Z,7.3nm,0.9s,comp=Z,66nm
DOU Dourbes 43.92 315 P **P** **19 58 17.6 -0.2**
comp=Z,12nm,0.9s
ZAK Zakamensk 44.04 44↑ *i* P **P** **19 58 19.2 +0.3**
ZAK pmax pmax
comp=Z,8.0nm,1.9s
ZAK Zakamensk 44.04 44 *i* P **P** **19 58 19.2 +0.3**
comp=Z,8.0nm,1.9s
OSL Oslo 44.12 330 *e*P **P** **19 58 19.7 +0.5**
OSL Oslo 44.12 330 *e*P **P** **19 58 19.7 +0.5**
SNR=41
NC602 NORSAR Array S 44.16 332 *e*P **P** **19 58 18.9 -0.6**
NC602 NORSAR Array S 44.16 332 *e*P **P** **19 58 18.9 -0.6**
SNR=41
SNF Seneffe 44.21 316 P **P** **19 58 20.0 0.0**
HOMB Homborsund 44.38 327 *e*P **P** **19 58 21.9 +0.6**
HOMB Homborsund 44.38 327 *e*P **P** **19 58 21.9 +0.6**
SNR=41
NB2 NORSAR Subarra 44.45 332 P **P** **19 58 20.0 -1.9**
comp=Z,10nm,0.7s,baz=120,slow=7.9
NB2 NORSAR Subarra 44.45 332 P **P** **19 58 20.0 -1.9**
baz=120,slow=7.9
NB2 NORSAR Subarra 44.45 332 P **P** **19 58 20.0 -1.9**
SNR=41
NOA NORSAR Array B 44.45 332 P **P** **19 58 19.7 -2.2**
comp=Z,9.2nm,0.7s,baz=120,slow=8.1,SNR=43
NOA PP **PcP** **20 00 03.7 -1.6**
comp=Z,2.2nm,0.7s,baz=130,slow=11,SNR=3.9
KONO Kongsberg 44.48 330 *e*P **P** **19 58 23.2 +1.1**
KONO Kongsberg 44.48 330 *e*P **P** **19 58 23.2 +1.1**
SNR=41
NAO01 NORSAR Array S 44.49 332 *e*P **P** **19 58 19.5 -2.7**
comp=Z,8.1nm,0.8s
NAO01 NORSAR Array S 44.49 332 *e*P **P** **19 58 19.5 -2.7**
comp=Z,8.1nm,0.8s
TLY Talaya 44.57 43 *e*P **P** **19 58 25.3 +2.3**
TLY pmax pmax
comp=Z,10.0nm,1.1s
TLY Talaya 44.57 43 P **P** **19 58 24.3 +1.3**
TLY Talaya 44.57 43 P **P** **19 58 24.3 +1.3**
MLS Moulis 45.35 305↑ *e*P **P** **19 58 28.5 -0.8**
KEV Kevo 45.53 347 *e*P **P** **19 58 29.3 -1.0**
KEV pmax pmax
comp=Z,203nm,2.1s
KEV Kevo 45.53 347 *e*P **P** **19 58 29.3 -1.0**
comp=Z,203nm,2.1s
KEV Kevo 45.53 347 *e*P **P** **19 58 29.3 -1.0**
comp=Z,203nm,2.1s
MENF Mencas 45.55 315 *e*P **P** **19 58 28.1 -2.6**
SONM Songino Array 45.59 48 P **P** **19 58 32.1 +0.8**
comp=Z,10.0nm,0.9s,baz=266,slow=9.2,SNR=9.2
SONM PcP **PcP** **20 00 09.8 +0.1**
comp=Z,2.5nm,0.9s,baz=279,slow=4.4,SNR=2.0
ARCES ARCESS Array B 45.66 346 P **P** **19 58 30.7 -0.6**
comp=Z,3.6nm,0.4s,baz=149,slow=8.5,SNR=32
ARE0 ARCESS Array S 45.66 346 *e*P **P** **19 58 31.3 0.0**
ARE0 ARCESS Array S 45.66 346 *e*P **P** **19 58 31.3 0.0**
SNR=41
ARE0 ARCESS Array S 45.66 346 P **P** **19 58 30.4 -1.0**
KTK1 Kautokeino 45.74 345 *e*P **P** **19 58 32.0 0.0**
KTK1 Kautokeino 45.74 345 *e*P **P** **19 58 32.0 0.0**
SNR=41
OPO Ambohidratompo 45.78 189 P **P** **19 58 34.9 +1.9**
comp=Z,13nm,0.8s,baz=1.0,slow=7.9,SNR=12
NAYO Nakonayok 45.89 96 P **P** **19 58 35.0 +1.1**
comp=Z,58nm,1.0s
NSS Namsos 46.02 336 *e*P **P** **19 58 33.7 -0.5**
NSS Namsos 46.02 336 *e*P **P** **19 58 33.7 -0.5**
SNR=41
ULN Ulaanbaatar 46.04 48 *e*P **P** **19 58 34.8 0.0**
ULN Ulaanbaatar 46.04 48 *e*P **P** **19 58 34.8 0.0**
ULN Ulaanbaatar 46.04 48 *e*P **P** **19 58 34.8 0.0**
NONG Nongkai 46.12 90 P **P** **19 58 36.4 +0.8**
comp=Z,66nm,1.0s
ABPO Ambohimpanom 46.21 189 *e*P **P** **19 58 38.5 +2.0**
ABPO pmax pmax
comp=Z,17nm,0.8s
ABPO Ambohimpanom 46.21 189 *e*P **P** **19 58 38.5 +2.0**
comp=Z,17nm,0.8s
ABPO Ambohimpanom 46.21 189 *e*P **P** **19 58 38.5 +2.0**
comp=Z,17nm,0.8s
HYA Hoyanger 46.67 330 *e*P **P** **19 58 41.3 +1.9**
HYA Hoyanger 46.67 330 *e*P **P** **19 58 41.3 +1.9**
SNR=40
STOK Stokkvaagen 46.71 339 *e*P **P** **19 58 40.0 +0.4**
STOK Stokkvaagen 46.71 339 *e*P **P** **19 58 40.0 +0.4**
SNR=40
RUND Rundenannen 46.73 329 *e*P **P** **19 58 38.5 -1.4**
RUND Rundenannen 46.73 329 *e*P **P** **19 58 38.5 -1.4**
SNR=40
BER Bergen 46.73 329 *e*P **P** **19 58 40.8 +0.9**
BER Bergen 46.73 329 *e*P **P** **19 58 40.8 +0.9**
SNR=40
AKN Aaknes 46.77 332 *e*P **P** **19 58 40.8 +0.6**
AKN Aaknes 46.77 332 *e*P **P** **19 58 40.8 +0.6**
SNR=40
KONS Konsvik 46.78 339 *e*P **P** **19 58 40.4 +0.2**
KONS Konsvik 46.78 339 *e*P **P** **19 58 40.4 +0.2**
SNR=40
GYA Guiyang 46.84 78 P **P** **19 58 41.3 -0.1**
GYA PP **PP** **20 00 32.3 +0.7**
GYA ScP **ScP** **20 04 07.8 +0.2**
GYA S **S** **20 05 32.3 +0.6**
GYA SS **SS** **20 08 51.4 -6.8**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,5.0s
GYA LN
comp=Z,680nm,17.8s
GYA LE
comp=Z,560nm,18.0s
GYA LZ
comp=Z,650nm,17.5s
STEI Steigen 47.03 341 *e*P **P** **19 58 41.9 -0.2**
STEI Steigen 47.03 341 *e*P **P** **19 58 41.9 -0.2**
SNR=40
TRO Tromso 47.22 344 *e*P **P** **19 58 41.8 -1.8**
TRO Tromso 47.22 344 *e*P **P** **19 58 41.8 -1.8**
SNR=40
SKNT Sakolnakorn 47.24 91 P **P** **19 58 45.4 +0.9**
comp=Z,46nm,1.1s
LOF Lofoten 47.65 341 *e*P **P** **19 58 46.4 -0.6**
LOF Lofoten 47.65 341 *e*P **P** **19 58 46.4 -0.6**
SNR=40
LSZ Lusaka 48.89 214 P **P** **19 58 58.4 +1.1**
comp=Z,1.2nm,0.3s,baz=50,slow=20,SNR=7.4
LSZ Lusaka 48.89 214 *e*P **P** **19 58 56.7 -0.6**
LSZ pmax pmax
comp=Z,77nm,2.5s
LSZ Lusaka 48.89 214 *e*P **P** **19 58 56.7 -0.6**
comp=Z,77nm,2.5s
LSZ Lusaka 48.89 214 *e*P **P** **19 58 56.6 -0.6**
comp=Z,77nm,2.5s
HHC Hu-ho-hao-te 48.98 58 *e*P **P** **19 58 59.5 +1.7**
HHC pP pP 19 59 09.6 +7.0
HHC PP **PP** **20 00 48.8 -2.4**
HHC S **S** **20 05 58.9 -2.8**
HHC sS **sS** **20 06 13.9 +4.3**
HHC ScS **ScS** **20 08 47.9 -2.0**
HHC PMZ
comp=Z,17nm,0.6s
HHC PMZ
comp=Z,3µm,6.2s
HHC LN
comp=Z,2µm,18.1s
HHC LE
comp=Z,2µm,15.7s
HHC LZ
comp=Z,2µm,17.7s
ESDC Sonseca Array 49.19 300 P **P** **19 58 58.9 -0.5**
comp=Z,11nm,0.7s,baz=70,slow=7.6,SNR=64
ESLA Sonseca Array 49.19 300 *e*P **P** **19 58 58.8 -0.5**
comp=Z,3.6nm,0.9s
ESLA Sonseca Array 49.19 300 *e*P **P** **19 58 58.8 -0.5**
comp=Z,3.6nm,0.9s
UBPT Khong Chiam 49.20 93 P **P** **19 59 00.2 +0.6**
comp=Z,16nm,1.3s
PSI Prapat 49.33 111 P **P** **19 59 02.5 +1.7**
comp=Z,8.7nm,0.4s,baz=310,slow=3.6,SNR=3.8
PAB San Pablo 49.49 300 *e*P **P** **19 59 01.3 -0.4**
PAB pmax pmax
comp=Z,20nm,0.7s
PAB San Pablo 49.49 300 *e*P **P** **19 59 01.3 -0.4**
comp=Z,20nm,0.7s
PAB San Pablo 49.49 300 *e*P **P** **19 59 01.3 -0.4**
comp=Z,20nm,0.7s
EKA Eskdalemuir Ar 49.61 321 P **P** **19 59 00.9 -1.3**
comp=Z,2.4nm,0.4s,baz=110,slow=8.5,SNR=33
ESK Eskdalemuir 49.63 321 P **P** **19 59 01.2 -1.2**
comp=Z,99nm,0.6s,SNR=5.9
ESK Eskdalemuir 49.63 321 *i* P **P** **19 59 03.5 +1.1**
ESK Eskdalemuir 49.63 321 *e*P **P** **19 59 02.0 -0.4**
comp=Z,13nm,0.8s
ESK Eskdalemuir 49.63 321 *e*P **P** **19 59 02.0 -0.4**
comp=Z,13nm,0.8s
EDI Edinburgh 49.73 322 *e*P **P** **19 59 02.9 -0.3**
EDI pmax pmax
comp=Z,13nm,0.6s
EDI Edinburgh 49.73 322 *e*P **P** **19 59 02.9 -0.3**
comp=Z,13nm,0.6s
EDI Edinburgh 49.73 322 *e*P **P** **19 59 02.9 -0.3**
comp=Z,13nm,0.6s
TOA0 Torodi Ar. Sit 50.60 265 *e*P **P** **19 59 09.4 -0.9**
TOA0 Torodi Ar. Sit 50.60 265 *e*P **P** **19 59 09.4 -0.9**
TORD Torodi Ar. Bea 50.60 265 P **P** **19 59 09.7 -0.6**
comp=Z,8.3nm,0.5s,baz=66,slow=8.2,SNR=82
TOB4 Torodi Ar. Sit 50.61 265 *e*P **P** **19 59 08.5 -1.9**
PBRG Braganca 51.16 303 *e*P **P** **19 59 13.9 -0.4**
comp=Z,40nm,1.9s
DSB Dublin 51.17 318 *e*P **P** **19 59 13.6 -0.5**
comp=Z,78nm,1.7s
DSB Dublin 51.17 318 *e*P **P** **19 59 13.6 -0.5**
comp=Z,78nm,1.7s
MVO Moncorvo 51.42 302 *e*P **P** **19 59 16.2 -0.1**
comp=Z,64nm,2.0s
MVO Moncorvo 51.42 302 *e*LR LR 20 28 54.1
comp=Z,5µm,18.0s
PBAR Barrancos 51.71 299 *e*P **P** **19 59 17.8 -0.5**
comp=Z,117nm,2.0s
BOD Bodaibo 51.72 36 *e*P **P** **19 59 17.2 -0.9**
BOD pmax pmax
comp=Z,30nm,1.4s
BOD Bodaibo 51.72 36 *e*P **P** **19 59 17.2 -0.9**
comp=Z,30nm,1.4s
PMRV Marv??o 51.85 300 *e*P **P** **19 59 18.9 -0.5**
comp=Z,33nm,1.1s
PMRV Marv??o 51.85 300 *e*LR LR 20 31 01.1
comp=Z,6µm,20.0s
MTE Manteigas 51.87 301 *e*P **P** **19 59 20.4 +0.8**
comp=Z,56nm,2.0s
MTE Manteigas 51.87 301 *e*LR LR 20 33 04.4
comp=Z,6µm,22.0s
MTE Manteigas 51.87 301 *e*P **P** **19 59 18.7 -1.0**
comp=Z,131nm,1.9s
MTE Manteigas 51.87 301 *e*P **P** **19 59 18.7 -1.0**
comp=Z,131nm,1.9s
POLO Lamas de Olo 51.98 303 *e*P **P** **19 59 20.5 0.0**
comp=Z,21nm,1.4s
PESTR Estremoz 52.06 300 *e*P **P** **19 59 20.3 -0.7**
comp=Z,31nm,2.1s
PGAV Gavieira, Arco 52.29 304 *e*P **P** **19 59 22.9 +0.1**
comp=Z,55nm,1.3s
PGAV Gavieira, Arco 52.29 304 *e*LR LR 20 34 00.9
comp=Z,7µm,20.0s
PVAQ Vaqueiros 52.34 298 *e*P **P** **19 59 22.6 -0.4**
comp=Z,29nm,1.2s
PVAQ Vaqueiros 52.34 298 *e*LR LR 20 34 24.6
comp=Z,7µm,20.0s
EVO Evora 52.43 299 *e*P **P** **19 59 23.4 -0.3**
comp=Z,36nm,1.9s
BJI Beijing 52.55 59 P **P** **19 59 25.0 +0.4**
BJI PMZ
comp=Z,16nm,1.2s
WHN Wuhan 52.56 71 P **P** **19 59 24.4 -0.4**
PCVE Castro Verde 52.56 298 *e*P **P** **19 59 24.0 -0.7**
comp=Z,10nm,2.0s
PCAS Casmilo, Conde 52.63 301 *e*P **P** **19 59 25.3 +0.1**
comp=Z,38nm,1.8s
MESJ Messejana 52.67 298 *e*P **P** **19 59 25.2 -0.3**
comp=Z,23nm,2.2s
PNCL Nicolau / Gran 52.88 299 *e*P **P** **19 59 26.9 -0.2**
comp=Z,51nm,2.0s
PFVI Vila Bisbo 53.25 298 *e*P **P** **19 59 29.3 -0.5**
comp=Z,117nm,2.2s
SPA0 Spitsbergen Ar 53.99 351 *e*P **P** **19 59 36.3 +1.7**
SPA0 Spitsbergen Ar 53.99 351 *e*P **P** **19 59 36.3 +1.7**
SNR=37
SPITS Spitsbergen Ar 53.99 351 P **P** **19 59 35.5 +0.9**
comp=Z,10.0nm,0.7s,baz=126,slow=11,SNR=5.2
HIA Hailar 54.52 47 *e*P **P** **19 59 38.6 -0.3**
HIA Hailar 54.52 47 *e*P **P** **19 59 38.6 -0.3**
HIA Hailar 54.52 47 *e*P **P** **19 59 38.6 -0.3**
NJ2 Nanjing 56.00 68 *e*P **P** **19 59 50.1 +0.3**
NJ2 pP **pP** **19 59 54.6 0.0**
NJ2 S **S** **20 07 40.4 +2.7**
NJ2 sS **sS** **20 07 45.0 -0.6**
NJ2 PMZ
comp=Z,10.0nm,0.6s
NJ2 PMZ
comp=Z,660nm,8.4s
NJ2 LN
comp=Z,1µm,18.0s
NJ2 LE
comp=Z,4µm,19.6s
NJ2 LZ
comp=Z,2µm,20.8s
MDSI Maura Dua 57.78 115 P **P** **20 00 05.5 +2.9**
comp=Z,13nm,2.5s
TSUM Tsumeb 57.88 221 *e*P P 20 00 06.7 +3.3
comp=Z,9.5nm,1.2s
LWLI Liwa 57.99 116 P **P** **20 00 07.2 +2.9**
comp=Z,31nm,0.7s
LBTB Lobatse 58.49 210 *e*P **P** **20 00 08.3 +0.8**
LBTB pmax pmax
comp=Z,14nm,1.0s
LBTB Lobatse 58.49 210 *e*P **P** **20 00 08.3 +0.8**
comp=Z,14nm,1.0s
LBTB Lobatse 58.49 210 *e*P **P** **20 00 08.3 +0.8**
comp=Z,14nm,1.0s
CN2 Changchun 58.94 53 *e*P **P** **20 00 09.6 -0.8**
CN2 PMZ
comp=Z,20nm,1.3s
DBIC Dimbokro 59.21 261 P **P** **20 00 12.5 -0.3**
comp=Z,26nm,0.7s,baz=42,slow=7.4,SNR=33
DBIC Dimbokro 59.21 261 *e*P **P** **20 00 12.4 -0.3**
DBIC *e* 20 02 21.7
DBIC pmax pmax
comp=Z,46nm,0.9s
DBIC Dimbokro 59.21 261 *e*P **P** **20 00 12.4 -0.3**
comp=Z,46nm,0.9s
DBIC Dimbokro 59.21 261 *e*PP PP 20 02 21.7 -1.9
DBIC Dimbokro 59.21 261 *e*P **P** **20 00 12.4 -0.3**
comp=Z,46nm,0.9s
DBIC *e*PP **PP** **20 02 21.7 -1.9**
KIC Kosan Boka 59.25 261 *e*P **P** **20 00 12.7 -0.3**
comp=Z,72nm,0.9s
TIC Toumodi 59.37 261 *e*P **P** **20 00 13.6 -0.2**
LIC Lamto 59.57 261 *e*P **P** **20 00 14.8 -0.4**
comp=Z,81nm,0.8s
KSM Kuching 59.68 105 *e*P **P** **20 00 13.9 -2.0**
comp=Z,2.8nm,0.7s
KSM Kuching 59.68 105 *e*P **P** **20 00 13.9 -2.0**
comp=Z,2.8nm,0.7s
YAK Yakutsk 59.89 32 *e*P **P** **20 00 13.9 -2.7**
YAK *e**PP **pP** **20 00 24.4 +2.9**
YAK *e* 20 01 02.0
YAK *e*S **S** **20 08 23.1 -4.6**
YAK pmax pmax
comp=Z,24nm,1.7s
YAK pmax pmax
comp=E,9.0nm,1.5s
YAK pmax pmax
comp=N,4.0nm,1.3s
YAK smax smax
comp=E,260nm,9.4s
YAK MLR MLR
comp=Z,1µm,13.0s
YAK MLR MLR
comp=N,440nm,13.0s
YAK MLR MLR
comp=E,601nm,15.0s
YAK Yakutsk 59.89 32 *e*PcP **PcP** **20 01 02.0 -0.9**
DAG Danmarks Havn 59.92 345 *i* P **P** **20 00 15.7 -0.9**
comp=E,5.8nm,0.7s
DAG **Danmarks Havn 59.92 345** *i* P **P** **20 00 15.7 -0.9**
DAG pmax pmax
comp=Z,4.0nm,0.7s
YHNB Yeheng 60.11 76 *e*P **P** **20 00 20.0 +1.2**
comp=Z,32nm,1.1s
YHNB Yeheng 60.11 76 *e*P **P** **20 00 20.0 +1.2**
comp=Z,32nm,1.1s
SBUM Sibu 60.84 103 *e*P **P** **20 00 25.4 +1.5**
comp=Z,11nm,1.0s
SBUM Sibu 60.84 103 *e*P **P** **20 00 25.4 +1.5**
comp=Z,11nm,1.0s
PMOZ Porto Moniz, M 60.85 294 *e*LR LR 20 36 43.8
comp=Z,7µm,20.0s
STKI Sintang 61.40 106 P P 20 00 30.9 +3.3
comp=Z,25nm,1.2s
BOSA Boshof 61.76 209 P **P** **20 00 30.5 +0.6**
comp=Z,3.3nm,0.5s,baz=33,slow=7.6,SNR=11
BOSA Boshof 61.76 209 *e*P **P** **20 00 30.1 +0.2**
BOSA pmax pmax
comp=Z,8.0nm,0.9s
BOSA Boshof 61.76 209 *e*P **P** **20 00 30.1 +0.2**
comp=Z,7.8nm,0.9s
BOSA Boshof 61.76 209 *e*P **P** **20 00 30.1 +0.2**
comp=Z,7.8nm,0.9s
KSAR Wonju Array Be 62.01 60 P **P** **20 00 30.6 -0.8**
KSAR Wonju Array Be 62.01 60 P **P** **20 00 30.6 -0.8**
KSAR Wonju Array Be 62.01 60 P **P** **20 00 30.6 -0.8**
KSRS Korea Array 62.03 60 P **P** **20 00 30.6 -1.0**
comp=Z,5.6nm,0.6s,baz=281,slow=6.5,SNR=28
KSRS Korea Array 62.03 60 P **P** **20 00 30.6 -1.0**
KSRS pmax pmax
comp=Z,6.0nm,0.6s
KLR Kul'dur 62.34 46 *e*P P 20 00 28.6 -4.9
KLR pmax pmax
comp=Z,45nm,1.6s
MSHR Mys Shultsa 63.27 54 *e*P **P** **20 00 41.0 +1.3**
MSHR Mys Shultsa 63.27 54 *e*P **P** **20 00 41.0 +1.3**
USRK Ussuriysk Ar. 63.50 52 P **P** **20 00 40.5 -0.8**
comp=Z,1.7nm,0.7s,baz=331,slow=11,SNR=5.4
HABR Khabarovsk 64.63 47 *e*P **P** **20 00 46.5 -2.1**
HABR *e*S **S** **20 09 26.5 -1.4**
HABR *e* 20 10 40.3
HABR *e*SS **SS** **20 13 38.4 +0.2**
HABR pmax pmax
comp=N,18nm,1.9s
HABR pmax pmax
comp=Z,35nm,1.3s
HABR pmax pmax
comp=E,18nm,1.3s
HABR MLR MLR
comp=Z,1µm,18.0s
HABR Khabarovsk 64.63 47 *e*P **P** **20 00 46.5 -2.1**
comp=Z,35nm,1.3s
HABR *e*S **S** **20 09 26.5 -1.4**
HABR *e*ScS **SKSac** **20 10 40.3 -2.2**
comp=Z,1µm,18.0s
MYLDM Lahad Datu 65.07 97 *e*P **P** **20 00 53.6 +1.6**
comp=Z,87nm,1.6s
MYLDM Lahad Datu 65.07 97 *e*P **P** **20 00 53.6 +1.6**
comp=Z,87nm,1.6s
SUMG Summit 65.18 341 *i* P **P** **20 00 52.5 +0.2**
comp=Z,40nm,1.0s
SUMG Summit 65.18 341 *e*P **P** **20 00 52.3 0.0**
SUMG pmax pmax
comp=Z,48nm,1.1s
SUMG Summit 65.18 341 *e*P **P** **20 00 52.3 0.0**
comp=Z,48nm,1.1s
SUMG Summit 65.18 341 *e*P **P** **20 00 52.3 0.0**
comp=Z,48nm,1.1s
JNU Nakatsue 65.52 64 P **P** **20 00 54.9 +0.1**
comp=Z,4nm,0.9s,baz=295,slow=1.4,SNR=4.6
SUR Sutherland 66.94 210 *e*P **P** **20 01 05.2 +1.4**
SUR Sutherland 66.94 210 *e*P **P** **20 01 05.2 +1.4**
SEY Seymchan 70.03 29 P **P** **20 01 22.7 +0.1**
comp=Z,9.0nm,0.6s,baz=280,slow=6.1,SNR=33
YSS Yuzh-Sakhalins 70.04 47 *e*P **P** **20 01 22.0 -0.9**
YSS *e* 20 01 45.0
YSS Yuzh-Sakhalins 70.04 47 *e*P **P** **20 01 22.0 -0.9**
YSS Yuzh-Sakhalins 70.04 47 *e*PcP **PcP** **20 01 45.0 -0.1**
TTSI Tana Toraja 70.15 104 P P 20 01 29.9 +5.8
comp=Z,31nm,1.1s
MAJO Matsushiro 70.18 58↓ *e*P **P** **20 01 23.0 -1.0**
MAJO pmax pmax
comp=Z,65nm,1.2s
MAJO Matsushiro 70.18 58 *e*P **P** **20 01 23.0 -1.0**
comp=Z,65nm,1.2s
MAJO Matsushiro 70.18 58 *e*P **P** **20 01 22.0 -2.0**
MAT Matsushiro 70.18 58 P **P** **20 01 24.1 +0.1**
MJAR Matsushiro Arr 70.18 58 P **P** **20 01 23.4 -0.6**
comp=Z,2.8nm,0.8s,baz=279,slow=9.0,SNR=9.3
MRSI Marisa 70.29 100 P **P** **20 01 25.8 +0.8**
comp=Z,42nm,1.1s
BILL Bilibino 73.09 21↓ *e*P **P** **20 01 41.8 +0.8**
BILL pmax pmax
comp=Z,22nm,1.2s
BILL Bilibino 73.09 21 *e*P **P** **20 01 41.8 +0.8**
comp=Z,22nm,1.2s
TNTI Ternate 74.94 97 P **P** **20 01 53.7 +1.0**
TNTI Ternate 74.94 97 *e*P **P** **20 01 52.8 +0.1**
comp=Z,98nm,0.9s
TNTI Ternate 74.94 97 *e*P **P** **20 01 52.8 +0.1**
comp=Z,98nm,0.9s
PETK Petropavlovsk- 76.58 37 P **P** **20 01 59.4 -2.0**
comp=Z,9.7nm,1.0s,baz=215,slow=1.8,SNR=6.5
BATI Baumata 77.05 109 P **P** **20 02 04.5 -0.1**
comp=Z,22nm,0.7s,baz=171,slow=0.2,SNR=4.9
SIJI Sorong 79.15 97 P **P** **20 02 16.4 0.0**
comp=Z,13nm,0.8s,baz=34,slow=3.6,SNR=3.4
SCHQ Schefferville 83.99 330 P **P** **20 02 40.8 -0.5**
comp=Z,20nm,0.9s,baz=39,slow=3.9,SNR=17
SCHQ Schefferville 83.99 330 *e*P **P** **20 02 40.6 -0.7**
comp=Z,19nm,0.8s
SCHQ Schefferville 83.99 330 *e*P **P** **20 02 40.6 -0.7**
comp=Z,19nm,0.8s
COLD Coldfoot 84.31 9 *e*P **P** **20 02 43.1 +0.4**
comp=Z,9.4nm,0.9s
COLD Coldfoot 84.31 9 *e*P **P** **20 02 43.1 +0.4**
comp=Z,9.4nm,0.9s
INK Inuvik 84.81 3 P **P** **20 02 44.6 -0.4**
comp=Z,4.9nm,0.6s,baz=16,slow=7.3,SNR=8.3
INK Inuvik 84.81 3 *e*P **P** **20 02 44.8 -0.4**
INK pmax pmax
comp=Z,33nm,1.4s
INK Inuvik 84.81 3 *e*P **P** **20 02 44.8 -0.4**
comp=Z,33nm,1.4s
INK Inuvik 84.81 3 *e*P **P** **20 02 44.8 -0.4**
comp=Z,33nm,1.4s
IM04 Indian Mountai 84.91 11 *e*P **P** **20 02 44.8 -1.0**
IM04 Indian Mountai 84.91 11 *e*P **P** **20 02 44.8 -1.0**
MLY Manley 86.28 10 *e*P **P** **20 02 52.8 +0.1**
comp=Z,12nm,0.8s
MLY Manley 86.28 10 *e*P **P** **20 02 52.8 +0.1**
comp=Z,12nm,0.8s
MDM Murphy Dome 86.73 9 *e*P **P** **20 02 54.7 -0.1**
comp=Z,19nm,0.9s
MDM Murphy Dome 86.73 9 *e*P **P** **20 02 54.7 -0.1**
comp=Z,19nm,0.9s
COLA College 86.86 9↓ *e*P **P** **20 02 55.3 -0.1**
COLA pmax pmax
comp=Z,66nm,2.1s
COLA College 86.86 9 *e*P **P** **20 02 55.3 -0.1**
comp=Z,66nm,2.1s
COLA College 86.86 9 P **P** **20 02 53.6 -1.8**
CCB Clear Creek Bu 87.08 9 *e*P **P** **20 02 55.8 -0.7**
comp=Z,6.3nm,1.1s
CCB Clear Creek Bu 87.08 9 *e*P **P** **20 02 55.8 -0.7**
comp=Z,6.3nm,1.1s

ILAR	**Eielson Array**	**87.09**	**9**	P		**P**	**20 02 55.7**	**-0.9**
	comp=Z,3.8nm,0.7s,baz=321,slow=3.6,SNR=32							
ILAR				PKKPbc		**PKKPbc**	**20 20 49.6**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=180,slow=3.3,SNR=4.7							
BPAW	**Bear Paw Mtn.**	**87.11**	**11**	*eP*		**P**	**20 02 56.1**	**-0.6**
	comp=Z,6.3nm,1.0s							
BPAW	**Bear Paw Mtn.**	**87.11**	**11**	*eP*		**P**	**20 02 56.1**	**-0.6**
	comp=Z,6.3nm,1.0s							
WRH	**Wood River Hil**	**87.21**	**9**	*eP*		**P**	**20 02 56.4**	**-0.7**
	comp=Z,29nm,1.9s							
WRH	**Wood River Hil**	**87.21**	**9**	*eP*		**P**	**20 02 56.4**	**-0.7**
	comp=Z,29nm,1.9s							
HDA	**Harding Lake**	**87.43**	**9**	*eP*		**P**	**20 02 57.2**	**-1.0**
	comp=Z,7.2nm,0.8s							
HDA	**Harding Lake**	**87.43**	**9**	*eP*		**P**	**20 02 57.2**	**-1.0**
	comp=Z,7.2nm,0.8s							
CAST	**Castle Rocks**	**87.55**	**11**	*eP*		**P**	**20 02 58.9**	**0.0**
	comp=Z,16nm,0.9s							
CAST	**Castle Rocks**	**87.55**	**11**	*eP*		**P**	**20 02 58.9**	**0.0**
	comp=Z,16nm,0.9s							
EGAK	**Eagle**	**87.76**	**6**	P		**P**	**20 02 59.1**	**-0.7**
	comp=Z,15nm,0.9s							
EGAK	**Eagle**	**87.76**	**6**	P		**P**	**20 02 59.1**	**-0.7**
	comp=Z,15nm,0.9s							
MCK	**McKinley**	**87.78**	**10**	*eP*		**P**	**20 02 59.7**	**-0.2**
MCK				pmax		pmax		
	comp=Z,61nm,1.7s							
MCK	**McKinley**	**87.78**	**10**	*eP*		**P**	**20 02 59.7**	**-0.2**
	comp=Z,61nm,1.7s							
MCK	**McKinley**	**87.78**	**10**	*eP*		**P**	**20 02 59.7**	**-0.2**
	comp=Z,61nm,1.7s							
TRF	**Thorofare Moun**	**87.83**	**11**	*eP*		**P**	**20 02 59.0**	**-1.4**
	comp=Z,5.9nm,0.8s							
TRF	**Thorofare Moun**	**87.83**	**11**	*eP*		**P**	**20 02 59.0**	**-1.4**
	comp=Z,5.9nm,0.8s							
RND	**Reindeer**	**88.10**	**10**	*eP*		**P**	**20 03 01.4**	**-0.1**
RND				pmax		pmax		
	comp=Z,10.0nm,1.1s							
RND	**Reindeer**	**88.10**	**10**	*eP*		**P**	**20 03 01.4**	**-0.1**
	comp=Z,10.0nm,1.1s							
RND	**Reindeer**	**88.10**	**10**	*eP*		**P**	**20 03 01.4**	**-0.1**
	comp=Z,10nm,1.1s							
DAWY	**Dawson**	**88.62**	**6**	*eP*		**P**	**20 03 03.5**	**-0.5**
	comp=Z,7.9nm,0.8s							
DAWY	**Dawson**	**88.62**	**6**	*eP*		**P**	**20 03 03.5**	**-0.5**
	comp=Z,7.9nm,0.8s							
RC01	**Rabbit Creek A**	**90.13**	**11**	P		**P**	**20 03 10.8**	**-0.2**
RC01	**Rabbit Creek A**	**90.13**	**11**	P		**P**	**20 03 10.8**	**-0.2**
YKA	**Yellowknife Ar**	**90.33**	**355**	P		**P**	**20 03 11.8**	**0.0**
	comp=Z,4.2nm,0.6s,baz=6.0,slow=5.1,SNR=30							
YKA	**Yellowknife Ar**	**90.33**	**355**	P		**P**	**20 03 11.8**	**0.0**
YKA				pmax		pmax		
	comp=Z,4.0nm,0.6s							
KLU	**Klutina**	**90.36**	**9**	*eP*		P	20 03 16.3	+4.2
	comp=Z,9.9nm,1.0s							
FCC	**Fort Churchill**	**90.49**	**344**	*eP*		**P**	**20 03 12.5**	**-0.2**
FCC				pmax		pmax		
	comp=Z,9.0nm,1.2s							
FCC	**Fort Churchill**	**90.49**	**344**	*eP*		**P**	**20 03 12.4**	**-0.2**
	comp=Z,8.9nm,1.2s							
FCC	**Fort Churchill**	**90.49**	**344**	*eP*		**P**	**20 03 12.4**	**-0.2**
	comp=Z,8.9nm,1.2s							
WRA	**Warramunga Arr**	**90.80**	**112**	P		**P**	**20 03 14.6**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=315,slow=4.0,SNR=20							
HYT	**Haines Junctio**	**91.99**	**6**	*eP*		**P**	**20 03 19.6**	**-0.2**
	comp=Z,11nm,0.9s							
HYT	**Haines Junctio**	**91.99**	**6**	*eP*		**P**	**20 03 19.6**	**-0.2**
	comp=Z,11nm,0.9s							
ASAR	**Alice Springs**	**92.20**	**115**	P		**P**	**20 03 20.9**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=305,slow=4.7,SNR=28							
MAW	**Mawson**	**94.57**	**177**	P		**P**	**20 03 32.4**	**+1.4**
	comp=Z,2.4nm,0.9s,baz=283,slow=11,SNR=4.8							
DLBC	**Dease Lake**	**94.81**	**2**	P		**P**	**20 03 33.5**	**+0.7**
	comp=Z,2.6nm,0.8s,baz=305,slow=6.4,SNR=4.5							
DLBC	**Dease Lake**	**94.81**	**2**	*eP*		**P**	**20 03 33.7**	**+0.9**
DLBC	**Dease Lake**	**94.81**	**2**	*eP*		**P**	**20 03 33.7**	**+0.9**
FFC	**Flin Flon**	**95.99**	**346**	P		**P**	**20 03 38.1**	**0.0**
FFC	**Flin Flon**	**95.99**	**346**	P		**P**	**20 03 38.1**	**0.0**
FFC	**Flin Flon**	**95.99**	**346**	P		**P**	**20 03 38.1**	**0.0**
NVAR	**Mina Array Bea**	**114.49**	**353**	PKP		PKPdf	20 08 51.6	-0.1
	comp=Z,0.8nm,0.7s,baz=1.7,slow=1.4,SNR=4.9							
TXAR	**Lajitas Array**	**119.99**	**337**	PKP		**PKPdf**	**20 09 01.8**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=127,slow=3.3,SNR=3.5							

IDC ***20*** *19:56:30.2±15.0, 52.48N×169.67W, h0km, mb3.6/4, mb1 4.0/5, mb1mx3.5/30, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=278.3km s-min=47.1km az=88.0*

ISCJB ***20*** *19:56:32.4±0.9, 52.8N±0.1×169.6W±0.1, h10km, mb3.6/4, Error ellipse: s-maj=17.7km s-min=7.2km az=162.5*

NEIC ***20*** *19:56:33.1, 52.73N×169.40W, h5km, ML3.5(AEIC), After AEIC.*

ISC 20 19:56:33.6±1.1, 52.8N±0.1×169.47W±0.07, h10km, n27, σ1§04/24, mb3.6/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.40**	**70**	P	**Pb**	**19 56 42.0**	**-0.8**
NIKH				S	**Sb**	**19 56 49.7**	**+0.9**
OKWR	**Okmok West Rim**	**0.97**	**51**	P	**Pn**	**19 56 53.2**	**-0.1**
OKCE	**Okmok Cone E**	**0.98**	**52**	P	**Pg**	**19 56 52.4**	**-0.1**
OKAK	**Okmok**	**1.00**	**41**	P	**Pg**	**19 56 51.7**	**-1.1**
OKTU	**Okmok Mt. Tuli**	**1.02**	**57**	P	**Pg**	**19 56 53.2**	**0.0**
MSOM	**Makushin Julie**	**1.80**	**56**	P	**Pn**	**19 57 05.1**	**+0.4**
MSOM				S	**Sb**	**19 57 30.8**	**+1.5**
MCIR	**Makushin Cirqu**	**1.90**	**53**	P	**Pn**	**19 57 07.3**	**+1.2**
MSW	**Makushin Switc**	**1.94**	**55**	P	**Pn**	**19 57 06.1**	**-0.5**
MTBL	**Makushin Table**	**2.02**	**55**	P	**Pn**	**19 57 07.8**	**+0.1**
UNV	**Unalaska Valle**	**2.04**	**59**	P	**Pn**	**19 57 07.2**	**-0.8**
UNV				S	**Sn**	**19 57 34.0**	**+0.4**
ZRO	**Akutan Zero**	**2.44**	**58**	P	**Pn**	**19 57 14.7**	**+1.2**
AKGG	**Akutan Green G**	**2.48**	**55**	P	**Pn**	**19 57 15.1**	**+1.0**
AKUT	**Akutan**	**2.56**	**58**	P	**Pn**	**19 57 16.2**	**+1.1**
ATKA	**Atka Island**	**2.96**	**259**	P	**Pn**	**19 57 21.6**	**+1.0**
FALS	**False Pass**	**4.12**	**58**	*e*Pn	**Pn**	**19 57 37.6**	**+1.1**
SPIA	**Saint Paul Isl**	**4.37**	**354**	P	**Pn**	**19 57 40.1**	**+0.1**
ILAR	**Eielson Array**	**16.60**	**35**	Pn	**Pn**	**20 00 25.9**	**-0.2**
	0.1nm,0.3s,baz=230,slow=10.0,SNR=5.8						
DLBC	**Dease Lake**	**22.70**	**60**	P	**P**	**20 01 37.1**	**+1.9**
	0.7nm,0.4s,baz=278,slow=6.7,SNR=3.6						
NVAR	**Mina Array Bea**	**37.73**	**92**	P	**P**	**20 03 47.3**	**-2.3**
	0.4nm,0.8s,baz=304,slow=6.4,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**37.78**	**218**	T	T	20 43 48.3	
	baz=24,slow=76,SNR=17						
H11N3	**WAKE ISLAND Hy**	**37.79**	**218**	T	T	20 43 47.0	
	baz=24,slow=76,SNR=22						
H11N1	**WAKE ISLAND Hy**	**37.80**	**218**	T	T	20 43 50.6	
	baz=24,slow=76,SNR=19						
H11S1	**WAKE ISLAND Hy**	**38.98**	**218**	T	T	20 45 15.7	
	baz=23,slow=76,SNR=218						
H11S2	**WAKE ISLAND Hy**	**38.99**	**218**	T	T	20 45 20.2	
	baz=23,slow=76,SNR=136						
H11S3	**WAKE ISLAND Hy**	**38.99**	**218**	T	T	20 45 19.8	
	baz=23,slow=76,SNR=95						
PDAR	**Pinedale Array**	**40.38**	**80**	P	**P**	**20 04 11.5**	**-0.2**
	1.0nm,0.6s,baz=319,slow=4.5,SNR=5.1						
TXAR	**Lajitas Array**	**52.80**	**89**	P	**P**	**20 05 48.7**	**-0.4**
	1.1nm,0.7s,baz=308,slow=6.2,SNR=5.5						

IDC 20 19:58:48.5±2.6, 6.06S×150.38E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.4/45, mbtmp3.7/4, ML1.7/1, Error ellipse: s-maj=82.4km s-min=39.1km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.61**	**224**	Pn	Pn	20 00 00.8	+1.4
	2.3nm,0.3s,baz=26,slow=7.6,SNR=7.3						
PMG				Sn	Sn	20 00 50.6	-3.1
	7.5nm,0.3s,baz=112,slow=16,SNR=10						
WRA	**Warramunga Arr**	**20.82**	**227**	P	P	20 03 31.6	-0.2
	1.9nm,0.6s,baz=53,slow=11,SNR=9.6						
ASAR	**Alice Springs**	**23.61**	**220**	P	P	20 04 00.5	-0.9
	0.3nm,0.4s,baz=56,slow=9.2,SNR=6.8						
STKA	**Stephens Creek**	**26.96**	**197**	P	P	20 04 32.1	+0.2
	1.7nm,1.0s,baz=13,slow=10,SNR=3.6						
TORD	**Torodi Ar. Bea**	**148.36**	**285**	PKPbc	PKPbc	20 18 37.5	-0.5
	0.4nm,0.4s,baz=78,slow=2.3,SNR=13						

IDC ***20*** *20:00:11.8±0.7, 6.07S×150.82E, h0km, mb4.4/13, mb1 4.5/13, mb1mx4.3/20, mbtmp4.4/13, Error ellipse: s-maj=26.9km s-min=14.4km az=105.0*

ISCJB ***20*** *20:00:16.4±0.5, 6.02S±0.06×150.7E±0.1, h43km, mb4.4/21, Error ellipse: s-maj=15.2km s-min=7.4km az=16.8*

NEIC ***20*** *20:00:16.9±0.5, 6.01S×150.79E, h35km, mb4.6/9, Error ellipse: s-maj=15.8km s-min=7.8km az=100.0*

ISC 20 20:00:18.0±0.6, 6.03S±0.08×150.7E±0.1, h43km, n40, σ1§53/44, mb4.4/21, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.88**	**226**	Pn	**Pn**	**20 01 30.6**	**+1.8**
	11nm,0.3s,baz=2.9,slow=2.3,SNR=6.9						
PMG				Sn	**Sn**	**20 02 25.6**	**+1.5**
	33nm,0.3s,baz=102,slow=20,SNR=13						
PMG	**Port Moresby**	**4.88**	**226**	*e*Pn	**Pn**	**20 01 29.9**	**+1.1**
PMG				*e*Sn	**Sn**	**20 02 19.4**	**-4.7**
PMG				Sn	Sn	20 02 25.6	+1.5
CTA	**Charters Tower**	**14.64**	**197**	Pn	**Pn**	**20 03 42.8**	**+0.4**
	0.3nm,0.3s,baz=60,slow=14,SNR=2.5						
CTAO	**Charters Tower**	**14.64**	**197**	*e*Pn	**Pn**	**20 03 43.1**	**+0.7**
	29nm,1.3s						
WRAB	**Tennant Creek**	**21.08**	**228**	*e*P	**P**	**20 04 59.0**	**+0.1**
	25nm,0.7s						
WRA	**Warramunga Arr**	**21.10**	**228**	P	**P**	**20 04 59.2**	**+0.2**
	42nm,1.1s,baz=51,slow=10.0,SNR=42						
WRA				S	**S**	**20 08 50.8**	**-0.8**
	3.0nm,1.0s,baz=57,slow=20,SNR=3.9						
WRA				PcP	**PcP**	**20 09 05.2**	**+0.8**
	2.0nm,0.7s,baz=51,slow=2.3,SNR=5.2						
AS31	**Alice Springs**	**23.87**	**221**	*e*P	**P**	**20 05 28.1**	**+0.4**
ASAR	**Alice Springs**	**23.87**	**221**	P	**P**	**20 05 28.1**	**+0.5**
	16nm,0.7s,baz=56,slow=8.6,SNR=84						
ASAR				S	**S**	**20 09 46.0**	**+5.0**
	1.6nm,0.9s,baz=38,slow=19,SNR=4.7						
STKA	**Stephens Creek**	**27.10**	**197**	P	**P**	**20 05 56.3**	**-0.6**
	7.0nm,0.8s,baz=6.0,slow=8.6,SNR=8.1						
STKA	**Stephens Creek**	**27.10**	**197**	*e*P	**P**	**20 05 55.7**	**-1.1**
	2.5nm,0.8s						
BATI	**Baumata**	**27.11**	**259**	P	**P**	**20 05 57.9**	**+0.7**
	22nm,0.8s,baz=76,slow=12,SNR=4.1						
MBWA	**Male Bar**	**33.58**	**240**	*e*P	**P**	**20 06 52.7**	**-1.6**
KKM	**Kota Kinabalu**	**36.48**	**289**	P	P	20 07 15.9	-3.6
	42nm,1.3s						
YULB	**Yu-li**	**41.00**	**317**	*e*P	**P**	**20 07 56.2**	**-0.9**
YHNB	**Yeheng**	**41.81**	**318**	*e*P	**P**	**20 08 03.5**	**-0.3**
	28nm,1.2s						
JNU	**Nakatsue**	**43.26**	**335**	P	**P**	**20 08 16.6**	**+1.2**
	13nm,0.9s,baz=168,slow=2.6,SNR=6.1						
KSRS	**Korea Array**	**48.21**	**336**	P	**P**	**20 08 55.8**	**+1.5**
	2.2nm,0.9s,baz=151,slow=9.4,SNR=5.9						
KSAR	**Wonju Array Be**	**48.22**	**336**	P	**P**	**20 08 55.8**	**+1.4**
CASY	**Casey**	**66.25**	**197**	*e*P	**P**	**20 11 01.1**	**-0.2**
	3.9nm,0.9s						
SONM	**Songino Array**	**66.28**	**329**	P	**P**	**20 11 02.6**	**+0.5**
	1.3nm,0.5s,baz=150,slow=6.2,SNR=3.5						
LSA	**Lhasa**	**67.25**	**306**	P	**P**	**20 11 08.9**	**-0.1**
VNDA	**Vanda**	**71.69**	**177**	P	**P**	**20 11 35.7**	**+0.8**
	3.2nm,0.8s,baz=345,slow=6.4,SNR=9.8						
VNDA	**Vanda**	**71.69**	**177**	*e*P	**P**	**20 11 35.4**	**+0.4**
	5.5nm,0.9s						
SBA	**Scott Base**	**72.28**	**176**	*e*P	**P**	**20 11 39.9**	**+1.4**
	6.5nm,1.3s						
MKAR	**Makanchi Array**	**79.90**	**320**	P	**P**	**20 12 22.0**	**-0.4**
	0.6nm,0.7s,baz=99,slow=7.6,SNR=3.7						
ZAA0	**Zalesovo Array**	**81.03**	**327**	*e*P	**P**	**20 12 30.3**	**+2.1**
ZALV	**Zalesovo Beam**	**81.03**	**327**	P	**P**	**20 12 29.8**	**+1.5**
	1.2nm,0.6s,baz=118,slow=5.2,SNR=4.4						
KURK	**Kurchatov**	**83.47**	**322**	P	**P**	**20 12 40.1**	**-1.0**
KURBB	**Kurchatov Arra**	**83.50**	**322**	P	**P**	**20 12 40.1**	**-1.1**
	0.8nm,1.0s,baz=107,slow=4.2,SNR=4.1						
MAW	**Mawson**	**83.65**	**203**	P	**P**	**20 12 40.0**	**-1.7**
	2.0nm,0.7s,baz=60,slow=4.2,SNR=4.8						
MAW	**Mawson**	**83.65**	**203**	*e*P	**P**	**20 12 39.8**	**-1.9**
	0.6nm,0.8s						
QSPA	**South Pole Qui**	**83.94**	**180**	*e*P	**P**	**20 12 43.3**	**-0.1**
	11nm,1.0s						
ILAR	**Eielson Array**	**84.07**	**22**	P	**P**	**20 12 41.6**	**-2.2**
	0.8nm,0.7s,baz=246,slow=5.7,SNR=8.3						
BVAR	**Borovoye Array**	**88.99**	**323**	P	**P**	**20 13 06.3**	**-1.9**
	0.2nm,0.4s,baz=117,slow=5.0,SNR=3.6						
NVAR	**Mina Array Bea**	**94.46**	**52**	P	**P**	**20 13 35.1**	**+0.9**
	1.5nm,0.7s,baz=251,slow=6.1,SNR=9.0						
GERES	**GERESS Array B**	**123.99**	**327**	PKP	**PKPdf**	**20 19 11.9**	**+0.1**
	0.9nm,0.9s,baz=318,slow=1.8,SNR=4.8						
EKA	**Eskdalemuir Ar**	**126.57**	**342**	PKP	**PKPdf**	**20 19 16.4**	**0.0**
	0.2nm,0.3s,baz=4.9,slow=2.9,SNR=4.6						
TOA0	**Torodi Ar. Sit**	**148.68**	**285**	*e*PKPbc	**PKPbc**	**20 20 01.3**	**-0.3**
TORD	**Torodi Ar. Bea**	**148.68**	**285**	PKPbc	**PKPbc**	**20 20 01.3**	**-0.3**
	12nm,0.7s,baz=50,slow=2.6,SNR=89						
BDFB	**Brasília**	**151.57**	**139**	PKPbc	**PKPbc**	**20 20 08.4**	**-0.4**
	4.8nm,0.5s,baz=192,slow=5.8,SNR=6.9						

IDC ***20*** *20:01:23.6±1.4, 26.88N×53.84E, h0km, mb3.7/15, mb1 3.8/18, mb1mx3.7/59, mbtmp3.8/18, ML3.4/2, Error ellipse: s-maj=29.3km s-min=17.7km az=0.0*

THR ***20*** *20:01:26.7±0.4, 27.08N×53.91E, h14km±6km, ML3.7*

ISCJB ***20*** *20:01:27.3±0.5, 27.08N±0.05×53.76E±0.06, h19km, mb3.8/17, MS4.5/1, Error ellipse: s-maj=8.7km s-min=5.7km az=40.8*

CSEM ***20*** *20:01:30.6±0.3, 27.20N×54.01E, h15km, ML3.7, Error ellipse: s-maj=11.7km s-min=6.3km az=57.0*

NEIC ***20*** *20:01:33.0, 27.17N×53.98E, h34km, mb3.9/5, ML3.9(THR), MN4.1(TEH), After TEH.*

TEH ***20*** *20:01:33.6, 27.17N×53.98E, h34km, ML4.1*

DSN ***20*** *20:01:35.4±1.8, 26.67N×53.91E, h10km, mb3.3/4, ML4.8/1, Error ellipse: s-maj=20.3km s-min=6.6km az=159.0*

ISC 20 20:01:28.7±0.6, 27.11N±0.05×53.88E±0.04, h19km, n76, σ1§69/82, mb3.7/18, 3C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**1.42**	**326**	*e*Pg	**Pn**	**20 01 53.5**	**-0.1**
GHIR				*e*Sg	**Sb**	**20 02 12.9**	**+0.5**
GHIR	**Ghir-Karzin**	**1.42**	**326**	*e*Pg	**Pn**	**20 01 53.5**	**-0.1**
GHIR				*e*Sg	**Sn**	**20 02 12.0**	**+0.2**
GHIR	**Ghir-Karzin**	**1.42**	**326**	*e*Pg	**Pn**	**20 01 53.0**	**-0.6**
GHIR				*e*Sg	**Sn**	**20 02 12.0**	**+0.2**
BNDS	**Bandar-Abbas**	**2.06**	**81**	*e*Pg	**Pn**	**20 02 03.9**	**+1.4**
BNDS				AML	AML	20 02 47.7	
	comp=E,631nm,0.6s						
BNDS				AML	AML	20 02 58.1	
	comp=N,644nm,0.6s						
BNDS	**Bandar-Abbas**	**2.06**	**81**	*e*Pn	**Pn**	**20 02 03.0**	**+0.5**
BNDS	**Bandar-Abbas**	**2.06**	**81**	*e*Pg	**Pn**	**20 02 03.9**	**+1.4**
BNDS				*e*Sg	**Sg**	**20 02 35.0**	**-0.1**
BNDS	**Bandar-Abbas**	**2.06**	**81**	*e*Pn	**Pn**	**20 02 03.0**	**+0.5**
BNDS				*e*Sg	**Sg**	**20 02 35.0**	**-0.1**
ISRV	**Sarvestan**	**2.37**	**343**	*e*		20 02 53.8	
	comp=Z,19µm,0.6s						
ISRV				*e*Pn	**Pn**	**20 02 08.9**	**+2.0**
IBND	**Bandar-abas**	**2.39**	**81**	*e*Pn	**Pn**	**20 02 08.5**	**+1.7**
IBND				*e*		20 03 11.0	
	comp=Z,13µm,0.3s						
IBND	**Bandar-abas**	**2.39**	**81**	Pn	**Pn**	**20 02 08.5**	**+1.7**
IBND	**Bandar-abas**	**2.39**	**81**	Pn	**Pn**	**20 02 08.5**	**+1.7**
NAZ	**Nazwa, Dubai**	**2.65**	**142**	P	**Pn**	**20 02 12.9**	**+2.5**
NAZ	**Nazwa, Dubai**	**2.65**	**142**	⇑P	**Pn**	**20 02 12.9**	**+2.5**
ASUD	**Al Ashush, Dub**	**2.79**	**152**	P	**Pn**	**20 02 15.5**	**+3.0**
ASUD	**Al Ashush, Dub**	**2.79**	**152**	⇑P	**Pn**	**20 02 15.5**	**+3.0**
FAQ	**Al Faqa, Dubai**	**2.81**	**146**	P	**Pn**	**20 02 14.7**	**+2.0**
FAQ	**Al Faqa, Dubai**	**2.81**	**146**	⇓P	**Pn**	**20 02 14.7**	**+2.0**
IPAR	**Pars**	**2.82**	**345**	*e*Pn	**Pn**	**20 02 14.8**	**+1.7**
IPAR				*e*		20 03 12.4	
	comp=Z,7µm,0.4s						
IPAR	**Pars**	**2.82**	**345**	Pn	**Pn**	**20 02 14.8**	**+1.7**
IPAR	**Pars**	**2.82**	**345**	Pn	**Pn**	**20 02 14.8**	**+1.7**
HATD	**Hatta, Dubai**	**3.04**	**138**	P	Pn	20 02 19.7	+3.8
HATD	**Hatta, Dubai**	**3.04**	**138**	⇑P	Pn	20 02 19.7	+3.8
IKAZ	**Kazeroun**	**3.21**	**326**	*e*Pn	**Pn**	**20 02 21.6**	**+3.1**
IKAZ				*e*Sg	**Sg**	**20 03 14.2**	**+2.2**
IKAZ				*e*		20 03 44.1	
	comp=Z,16µm,0.5s						
IKAZ	**Kazeroun**	**3.21**	**326**	Pn	**Pn**	**20 02 21.6**	**+3.1**
IKAZ				Sg	**Sg**	**20 03 14.2**	**+2.2**
IKAZ	**Kazeroun**	**3.21**	**326**	Pn	**Pn**	**20 02 21.6**	**+3.1**
IKAZ				Sg	**Sg**	**20 03 14.2**	**+2.2**
KRBR	**Kerman**	**3.82**	**41**	*e*Pn	**Pn**	**20 02 27.7**	**+0.9**
KRBR				AML	AML	20 03 48.8	
	comp=E,111nm,0.6s						
KRBR				AML	AML	20 03 51.6	
	comp=N,91nm,0.6s						
KRBR	**Kerman**	**3.82**	**41**	*e*Pn	**Pn**	**20 02 27.7**	**+0.9**
KRBR	**Kerman**	**3.82**	**41**	*e*Pn	**Pn**	**20 02 27.0**	**+0.1**
IMEH	**Mehriz**	**4.31**	**8**	*e*Pn	**Pn**	**20 02 35.5**	**+1.9**
IMEH				*e*		20 03 60.0	
	comp=Z,1µm,0.6s						
IMEH	**Mehriz**	**4.31**	**8**	*e*Pn	**Pn**	**20 02 35.5**	**+1.9**
IMEH	**Mehriz**	**4.31**	**8**	Pn	**Pn**	**20 02 35.4**	**+1.9**
IBAF	**Bafgh**	**4.70**	**18**	*e*Pn	**Pn**	**20 02 40.1**	**+1.2**
IBAF				*e*		20 04 14.8	
	comp=Z,743nm,0.5s						
IBAF	**Bafgh**	**4.70**	**18**	*e*Pn	**Pn**	**20 02 40.1**	**+1.2**
IBAF	**Bafgh**	**4.70**	**18**	Pn	**Pn**	**20 02 40.0**	**+1.2**
ISAD	**Sadrabad**	**4.79**	**358**	*e*Pn	**Pn**	**20 02 42.2**	**+2.0**
ISAD				*e*		20 04 13.0	
	comp=Z,856nm,0.3s						
ISAD	**Sadrabad**	**4.79**	**358**	*e*Pn	**Pn**	**20 02 42.2**	**+2.0**
ISAD	**Sadrabad**	**4.79**	**358**	Pn	**Pn**	**20 02 42.1**	**+2.0**
GEYT	**Alibeck**	**11.36**	**17**	Pn	Pn	20 04 13.8	+3.7
	baz=209,slow=15,SNR=2.4						
KBL	**Kabul**	**14.97**	**57**	Pn	**Pn**	**20 05 00.2**	**+0.6**
KBL	**Kabul**	**14.97**	**57**	Pn	**Pn**	**20 05 00.2**	**+0.6**
GNI	**Garni**	**15.06**	**332**	Pn	**P**	**20 05 03.9**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=18,slow=3.2,SNR=2.0						
GNI	**Garni**	**15.06**	**332**	*e*Pn	**Pn**	**20 05 02.4**	**+1.8**
GNI	**Garni**	**15.06**	**332**	*e*Pn	**Pn**	**20 05 02.4**	**+1.8**
MMAI	**Mount Meron Ar**	**17.04**	**295**	P	**Pn**	**20 05 25.5**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=94,slow=22,SNR=3.5						
KBZ	**Khabaz**	**18.82**	**335**	P	**Pn**	**20 05 48.2**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=162,slow=7.7,SNR=3.4						
KIV	**Kislovodsk**	**19.09**	**335**	P	**P**	**20 05 46.3**	**-4.0**
	comp=Z,15nm,1.0s						
KIV	**Kislovodsk**	**19.09**	**335**	P	**P**	**20 05 46.3**	**-4.0**
	comp=Z,15nm,1.0s						
KKAR	**Karatay Array**	**20.91**	**36**	*e*P	**P**	**20 06 10.6**	**+0.6**
	comp=Z,6.6nm,0.7s						
KKAR	**Karatay Array**	**20.91**	**36**	*e*P	**P**	**20 06 10.6**	**+0.6**
	comp=Z,2.6nm,0.7s						
BR131	**Keskin Array S**	**21.01**	**312**	*e*P	**P**	**20 06 10.1**	**-1.2**
	comp=Z,1.6nm,0.7s						
BR131	**Keskin Array S**	**21.01**	**312**	*e*P	**P**	**20 06 10.1**	**-1.2**
	comp=Z,1.6nm,0.7s						
BRTR	**Keskin Array B**	**21.01**	**312**	P	**P**	**20 06 10.3**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=121,slow=12,SNR=7.0						
EKS2	**Erkin-Say**	**22.43**	**41**	*e*P	**P**	**20 06 27.0**	**+0.4**
	comp=Z,6.2nm,1.2s						
EKS2	**Erkin-Say**	**22.43**	**41**	*e*P	**P**	**20 06 27.0**	**+0.4**
	comp=Z,6.2nm,1.2s						
AKTO	**Aktyubinsk**	**23.51**	**7**	P	**P**	**20 06 37.6**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=159,slow=12,SNR=4.2						
BRVK	**Borovoye**	**28.66**	**21**	P	**P**	**20 07 24.2**	**+0.1**
	comp=Z,7.7nm,1.0s						
BRVK	**Borovoye**	**28.66**	**21**	P	**P**	**20 07 24.2**	**+0.1**
	comp=Z,7.7nm,1.0s						
BVAR	**Borovoye Array**	**28.66**	**21**	P	**P**	**20 07 23.8**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=211,slow=8.3,SNR=4.8						
MK31	**Makanchi Array**	**29.77**	**41**	*e*P	**P**	**20 07 32.8**	**-1.3**
MK31	**Makanchi Array**	**29.77**	**41**	*e*P	**P**	**20 07 32

IBAF	**Bafgh**	**4.83**	**17**	*e*Pn	**Pn**	**20 05 58.4**	**+0.1**
IBAF				*e*		20 07 13.9	
	comp=Z,392nm,0.4s						
IBAF	**Bafgh**	**4.83**	**17**	*e*Pn	**Pn**	**20 05 58.4**	**+0.1**
ISAD	**Sadrabad**	**4.93**	**358**	*e*Pn	**Pn**	**20 06 00.1**	**+0.4**
ISAD				*e*		20 07 09.4	
	comp=Z,778nm,0.3s						
ISAD	**Sadrabad**	**4.93**	**358**	*e*Pn	**Pn**	**20 06 00.1**	**+0.4**
GNI	**Garni**	**15.18**	**332**	Pn	**P**	**20 08 23.7**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=179,slow=6.3,SNR=6.0						
MMAI	**Mount Meron Ar**	**17.09**	**295**	P	**Pn**	**20 08 45.2**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=97,slow=12,SNR=3.7						
KBZ	**Khabaz**	**18.94**	**335**	P	**P**	**20 09 06.9**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=140,slow=12,SNR=4.3						
BRTR	**Keskin Array B**	**21.10**	**312**	P	**P**	**20 09 30.4**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=127,slow=13,SNR=6.7						
AKTO	**Aktyubinsk**	**23.64**	**7**	P	**P**	**20 09 57.2**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=186,slow=14,SNR=5.3						
BVAR	**Borovoye Array**	**28.79**	**21**	P	**P**	**20 10 42.5**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=213,slow=10,SNR=3.9						
MLR	**Muntele Rosu**	**28.92**	**317**	P	**P**	**20 10 44.9**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=167,slow=18,SNR=2.1						
MKAR	**Makanchi Array**	**29.87**	**41**	P	**P**	**20 10 53.4**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=230,slow=8.9,SNR=6.6						
KURBB	**Kurchatov Arra**	**30.18**	**32**	P	**P**	**20 10 55.9**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=231,slow=8.7,SNR=5.2						
AKASG	**Malin Array Be**	**30.24**	**328**	P	**P**	**20 10 54.7**	**-1.1**
	comp=Z,1.0nm,0.4s,baz=148,slow=5.5,SNR=3.8						
ZALV	**Zalesovo Beam**	**35.28**	**32**	P	**P**	**20 11 39.3**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=243,slow=9.6,SNR=5.4						
GERES	**GERESS Array B**	**37.90**	**316**	P	**P**	**20 12 00.7**	**-1.7**
	comp=Z,0.2nm,0.6s,baz=141,slow=3.3,SNR=3.0						
FINES	**FINESS Array B**	**39.20**	**339**	P	**P**	**20 12 12.5**	**-0.4**
	comp=Z,1.1nm,0.4s,baz=151,slow=10,SNR=8.6						
HFS	**Hagfors**	**42.96**	**332**	P	**P**	**20 12 43.3**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=159,slow=4.5,SNR=4.1						
NB2	**NORSAR Subarra**	**44.48**	**332**	P	**P**	**20 12 54.4**	**-1.9**
	comp=Z,0.6nm,0.6s,baz=321,slow=8.6						
NOA	**NORSAR Array B**	**44.48**	**332**	P	**P**	**20 12 54.8**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=120,slow=8.2,SNR=3.9						
ESDC	**Sonseca Array**	**49.20**	**300**	P	**P**	**20 13 33.9**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=72,slow=4.2,SNR=3.6						
EKA	**Eskdalemuir Ar**	**49.63**	**321**	P	**P**	**20 13 36.4**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=106,slow=8.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**50.58**	**265**	P	**P**	**20 13 44.1**	**-0.2**
	comp=Z,1.8nm,1.0s,baz=64,slow=7.9,SNR=5.2						
DBIC	**Dimbokro**	**59.20**	**261**	P	**P**	**20 14 46.5**	**-0.1**
	comp=Z,3.3nm,0.7s,baz=86,slow=5.9,SNR=4.1						
ILAR	**Eielson Array**	**87.14**	**9**	P	**P**	**20 17 31.2**	**+0.3**
	comp=Z,0.5nm,1.0s,baz=324,slow=4.5,SNR=2.6						
MAW	**Mawson**	**94.53**	**177**	P	**P**	**20 18 03.3**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=352,slow=7.1,SNR=4.0						

IDC 20 20:06:17.8±2.7, 6°25S×150°58E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/35, mbtmp3.7/4, ML1.9/1, MS4.2/1, Ms1 4.2/1, ms1mx3.6/32, Error ellipse: s-maj=79.5km s-min=41.4km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.61**	**227**	Pn	Pn	20 07 30.4	+1.5
	3.7nm,0.3s,baz=38,slow=11,SNR=6.4						
PMG				Sn	Sn	20 08 20.1	-3.2
	4.7nm,0.3s,baz=87,slow=17,SNR=4.8						
PMG				LR	LR	20 09 19.2	
	comp=Z,3µm,21.8s,baz=230,slow=39						
WRA	**Warramunga Ar**	**20.83**	**228**	P	P	20 11 01.0	-0.3
	2.9nm,0.7s,baz=52,slow=11,SNR=10						
ASAR	**Alice Springs**	**23.60**	**221**	P	P	20 11 30.6	-0.1
	0.7nm,0.9s,baz=58,slow=8.5,SNR=3.5						
STKA	**Stephens Creek**	**26.84**	**197**	P	P	20 11 59.3	-0.9
	1.1nm,0.8s,baz=3.2,slow=11,SNR=3.0						
TORD	**Torodi Ar. Bea**	**148.60**	**285**	PKPbc	PKPbc	20 26 07.7	-0.3
	0.4nm,0.5s,baz=69,slow=4.1,SNR=6.2						

MEX 20 20:07:55.0±0.3, 16°12N×98°14W, h4km±7km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.27**	**3**	*i* P	Pg	20 09 00.1	-0.2
PNIG				*e*S	Sg	20 09 04.2	+0.2
VHO	**Vista Hermosa**	**1.65**	**55**	*i* P	Pn	20 09 21.8	-3.3
VHO				*e*S	Sn	20 09 41.7	-5.3
CMIG	**Matias Romero**	**3.27**	**72**	*i* P	Pb	20 09 52.5	-1.2
CMIG				*e*S	Sb	20 09 31.3	-2.6

*IDC **20** 20:11:06.2±1.3, 6°42S×150°54E, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.7/36, mbtmp3.9/5, ML1.9/1, Error ellipse: s-maj=80.3km s-min=22.8km az=121.0*
*ISCJB **20** 20:11:10.5±0.9, 6°1S±0°2×149°9E±0°2, h43km, mb4.0/6, Error ellipse: s-maj=35.7km s-min=11.5km az=35.5*
*NEIC **20** 20:11:11.6±0.7, 6°40S×150°33E, h35km, mb4.2/5, Error ellipse: s-maj=36.8km s-min=11.8km az=124.0*

ISC 20 20:11:12.6±0.9, 6°1S±0°2×149°9E±0°2, h43km, n15, σ1§34/16, mb4.0/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.27**	**219**	Pn	**Pn**	**20 12 16.3**	**+1.2**
	4.4nm,0.3s,baz=42,slow=4.8,SNR=14						
PMG				Sn	**Sn**	20 13 03.8	**0.0**
	16nm,0.3s,baz=60,slow=20,SNR=10						
PMG	**Port Moresby**	**4.27**	**219**	*e*Pn	**Pn**	**20 12 15.3**	**+0.2**
PMG				*e*Sn	**Sn**	**20 13 03.4**	**-0.3**
PMG				Sn	Sn	20 13 03.8	0.0
WRAB	**Tennant Creek**	**20.44**	**226**	*e*P	**P**	**20 15 46.6**	**0.0**
	4.5nm,0.6s						
WRA	**Warramunga Arr**	**20.45**	**226**	P	**P**	**20 15 47.3**	**+0.6**
	5.2nm,0.6s,baz=52,slow=11,SNR=26						
ASAR	**Alice Springs**	**23.29**	**220**	P	**P**	**20 16 17.6**	**+0.8**
	0.6nm,0.4s,baz=54,slow=9.6,SNR=18						
STKA	**Stephens Creek**	**26.80**	**196**	P	**P**	**20 16 47.0**	**-1.8**
	3.7nm,0.8s,baz=33,slow=12,SNR=8.6						
STKA	**Stephens Creek**	**26.80**	**196**	*e*P	**P**	**20 16 46.7**	**-2.1**
	1.2nm,1.0s						
ULN	**Ulaanbaatar**	**65.61**	**330**	P	P	20 21 59.4	+7.0
	2.2nm,0.7s						
CASY	**Casey**	**65.95**	**196**	*e*P	**P**	**20 21 53.1**	**-1.0**
	6.3nm,1.0s						
VNDA	**Vanda**	**71.66**	**177**	P	**P**	**20 22 30.5**	**+1.1**
	2.7nm,0.8s						
MK31	**Makanchi Array**	**79.42**	**320**	P	**P**	**20 23 12.6**	**-1.9**
ILAR	**Eielson Array**	**84.44**	**23**	P	**P**	**20 23 40.5**	**+0.1**
	0.3nm,0.6s,baz=261,slow=5.4,SNR=3.9						
GERES	**GERESS Array B**	**123.60**	**327**	PKP	**PKPdf**	**20 30 07.8**	**+2.0**
	0.4nm,0.5s,baz=48,slow=2.0,SNR=7.5						
TOA0	**Torodi Ar. Sit**	**147.91**	**285**	*e*PKPbc	**PKPbc**	**20 30 55.4**	**+1.2**
TORD	**Torodi Ar. Bea**	**147.91**	**285**	PKPbc	**PKPbc**	**20 30 55.5**	**+1.2**
	1.7nm,0.6s,baz=91,slow=2.4,SNR=30						

*IDC **20** 20:12:50.6±1.0, 6°42S×150°36E, h0km, mb4.3/7, mb1 4.5/8, mb1mx3.9/37, mbtmp4.3/8, ML2.4/1, Error ellipse: s-maj=28.3km s-min=21.2km az=130.0*
*ISCJB **20** 20:12:53.6±0.9, 6°5S±0°1×150°3E±0°1, h33km, mb4.1/6, Error ellipse: s-maj=22.4km s-min=11.1km az=148.6*
*NEIC **20** 20:12:55.8±0.7, 6°53S×150°33E, h35km, mb4.3/2, Error ellipse: s-maj=16.7km s-min=12.2km az=145.0*

ISC 20 20:12:55.5±0.9, 6°5S±0°1×150°3E±0°1, h33km, n18, σ0§97/21, mb4.1/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.28**	**227**	Pn	**Pn**	**20 13 59.2**	**+0.9**
	16nm,0.3s,baz=56,slow=4.0,SNR=11						
PMG				Sn	**Sn**	**20 14 47.4**	**+0.3**
	29nm,0.3s,baz=48,slow=17,SNR=3.6						
PMG	**Port Moresby**	**4.28**	**227**	*e*Pn	**Pn**	**20 13 58.9**	**+0.5**
PMG				*e*Sn	**Sn**	**20 14 46.3**	**-0.9**
PMG				Sn	**Sn**	**20 14 47.4**	**+0.3**
WRAB	**Tennant Creek**	**20.49**	**228**	*e*P	**P**	**20 17 30.1**	**-0.7**
	14nm,0.5s						
WRA	**Warramunga Arr**	**20.50**	**228**	P	**P**	**20 17 30.5**	**-0.5**
	15nm,0.6s,baz=52,slow=11,SNR=30						
DZM	**Mont Dzumac**	**21.95**	**137**	P	**P**	**20 17 47.1**	**+0.6**
	4.4nm,0.5s,baz=240,slow=0.9,SNR=7.2						
AS31	**Alice Springs**	**23.27**	**221**	*e*P	**P**	**20 17 58.8**	**-1.6**
ASAR	**Alice Springs**	**23.27**	**221**	P	**P**	**20 17 59.7**	**-0.7**
	3.7nm,0.6s,baz=57,slow=9.4,SNR=13						
STKA	**Stephens Creek**	**26.55**	**197**	P	**P**	**20 18 30.2**	**-0.2**
	4.4nm,0.6s,baz=19,slow=11,SNR=16						

BATI	**Baumata**	**26.65**	**260**	P	**P**	**20 18 32.9**	**+1.4**
	22nm,0.7s,baz=124,slow=3.6,SNR=3.1							
MBWA	**Marble Bar**	**33.01**	**241**	*e*P	**P**	**20 19 27.0**	**-0.9**
CASY	**Casey**	**65.70**	**197**	P	**P**	**20 23 36.2**	**-0.2**
VNDA	**Vanda**	**71.25**	**177**	P	**P**	**20 24 12.4**	**+1.5**
	1.3nm,0.7s,baz=343,slow=6.4,SNR=5.1							
VNDA	**Vanda**	**71.25**	**177**	*e*P	**P**	**20 24 12.1**	**+1.1**
	1.2nm,0.6s							
SBA	**Scott Base**	**71.84**	**176**	P	**P**	**20 24 12.8**	**-1.7**
ILAR	**Eielson Array**	**84.64**	**23**	P	**P**	**20 25 24.8**	**-0.7**
	0.3nm,0.8s,baz=246,slow=1.6,SNR=3.2							
GERES	**GERESS Array B**	**124.16**	**327**	PKP	**PKPdf**	**20 31 51.2**	**+0.2**
	0.2nm,0.5s,baz=5.7,slow=1.0,SNR=4.2							
TOA0	**Torodi Ar. Sit**	**148.43**	**285**	*e*PKPdf	**PKPdf**	**20 32 37.4**	**+1.2**
TORD	**Torodi Ar. Bea**	**148.43**	**285**	PKPbc	**PKPbc**	**20 32 39.5**	**-0.2**
	1.3nm,0.8s,baz=86,slow=2.4,SNR=14							

IDC 20 20:16:01.6±2.1, 5°47S×149°92E, h0km, mb3.3/3, mb1 3.7/3, mb1mx3.3/32, mbtmp3.4/3, Error ellipse: s-maj=151.6km s-min=28.9km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.90**	**225**	P	P	20 20 46.0	+0.3
	1.3nm,0.9s,baz=51,slow=10,SNR=4.0						
ASAR	**Alice Springs**	**23.78**	**219**	P	P	20 21 16.1	-0.1
	0.8nm,0.7s,baz=54,slow=9.5,SNR=4.9						
ILAR	**Eielson Array**	**83.86**	**23**	P	P	20 28 33.2	+0.2
	0.2nm,0.6s,baz=264,slow=6.3,SNR=3.1						
TORD	**Torodi Ar. Bea**	**147.76**	**286**	PKPbc	PKPbc	20 35 48.4	-1.1
	0.5nm,0.5s,baz=76,slow=2.0,SNR=5.8						

*IDC **20** 20:17:02.1±2.7, 26°92N×53°86E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.4/39, mbtmp3.6/7, Error ellipse: s-maj=63.1km s-min=25.0km az=157.0*
*ISCJB **20** 20:17:05.1±0.6, 27°00N±0°06×53°70E±0°09, h19km, mb3.6/6, Error ellipse: s-maj=12.9km s-min=6.8km az=149.4*
*CSEM **20** 20:17:05.8±0.3, 27°01N×53°81E, h5km, ML3.5, Error ellipse: s-maj=16.2km s-min=5.1km az=65.0*
*TEH **20** 20:17:08.1, 27°02N×53°88E, h16km, ML3.5*
*DSN **20** 20:17:10.2±7.8, 26°87N×53°91E, h20km, mb3.0/6, ML4.5/1, Error ellipse: s-maj=6.3km s-min=2.8km az=331.0*

ISC 20 20:17:05.9±0.8, 27°02N±0°05×53°78E±0°08, h19km, n27, σ1§34/30, mb3.6/7, 2C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ISRV	**Sarvestan**	**2.43**	**346**	*e*Pn	**Pb**	**20 17 47.7**	**-1.5**
ISRV				*e*Sg	**Sg**	**20 18 24.7**	**+0.5**
ISRV				*e*		20 18 48.9	
	comp=Z,3µm,0.6s						
ISRV	**Sarvestan**	**2.43**	**346**	*e*Pn	**Pb**	**20 17 47.7**	**-1.5**
ISRV				*e*Sg	**Sg**	**20 18 24.7**	**+0.5**
IBND	**Bandar-abas**	**2.49**	**79**	*e*Pn	**Pn**	**20 17 46.5**	**+1.0**
IBND				*e*Pn	**Pn**	**20 17 46.7**	**+1.2**
IBND	**Bandar-abas**	**2.49**	**79**	*e*Pn	**Pn**	**20 17 46.7**	**+1.2**
NAZ	**Nazwa, Dubai**	**2.63**	**140**	P	**Pn**	**20 17 47.7**	**+0.3**
	SNR=7.1						
NAZ	**Nazwa, Dubai**	**2.63**	**140**	*e*P	**Pn**	**20 17 47.7**	**+0.3**
	SNR=7.1						
ASUD	**Al Ashush, Dub**	**2.76**	**149**	P	**Pn**	**20 17 51.2**	**+2.1**
	SNR=11						
ASUD	**Al Ashush, Dub**	**2.76**	**149**	*e*P	**Pn**	**20 17 51.2**	**+2.1**
	SNR=11						
FAQ	**Al Faqa, Dubai**	**2.79**	**144**	P	**Pn**	**20 17 50.8**	**+1.3**
FAQ	**Al Faqa, Dubai**	**2.79**	**144**	*e*P	**Pn**	**20 17 50.8**	**+1.3**
IPAR	**Pars**	**2.89**	**347**	*e*Pn	**Pn**	**20 17 53.2**	**+2.0**
IPAR	**Pars**	**2.89**	**347**	*e*Pn	**Pn**	**20 17 53.2**	**+2.0**
HATD	**Hatta, Dubai**	**3.04**	**135**	P	**Pn**	**20 17 54.5**	**+1.5**
HATD	**Hatta, Dubai**	**3.04**	**135**	*e*P	**Pn**	**20 17 54.5**	**+1.5**
IKAZ	**Kazeroun**	**3.24**	**329**	*e*Pn	**Pn**	**20 17 57.1**	**+1.1**
IKAZ				*e*		20 19 31.8	
	comp=Z,2µm,0.6s						
IKAZ	**Kazeroun**	**3.24**	**329**	*e*Pn	**Pn**	**20 17 57.2**	**+1.1**
IMEH	**Mehriz**	**4.42**	**9**	*e*Pn	**Pn**	**20 18 14.3**	**+2.1**
IMEH				*e*		20 19 07.5	
	comp=Z,610nm,0.4s						
IMEH	**Mehriz**	**4.42**	**9**	*e*Pn	**Pn**	**20 18 14.3**	**+2.1**
IBAF	**Bafgh**	**4.82**	**18**	*e*Pn	**Pn**	**20 18 18.7**	**+1.1**
IBAF				*e*		20 19 35.8	
	comp=Z,215nm,0.3s						
IBAF	**Bafgh**	**4.82**	**18**	*e*Pn	**Pn**	**20 18 18.7**	**+1.1**
BRTR	**Keskin Array B**	**21.01**	**312**	P	**P**	**20 21 48.9**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=138,slow=13,SNR=5.0						
BVAR	**Borovoye Array**	**28.78**	**21**	P	**P**	**20 23 01.8**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=214,slow=7.0,SNR=4.2						
MKAR	**Makanchi Array**	**29.90**	**41**	P	**P**	**20 23 11.8**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=229,slow=8.3,SNR=4.0						
ZALV	**Zalesovo Beam**	**35.29**	**32**	P	**P**	**20 23 59.0**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=236,slow=9.8,SNR=4.6						
FINES	**FINESS Array B**	**39.13**	**339**	P	**P**	**20 24 32.0**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=130,slow=13,SNR=3.1						
ESDC	**Sonseca Array**	**49.10**	**300**	P	**P**	**20 25 51.8**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=65,slow=6.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**50.50**	**265**	P	**P**	**20 26 02.9**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=66,slow=7.6,SNR=5.2						

IDC 20 20:19:52.0±2.4, 6°35S×150°21E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.5/27, mbtmp4.0/4, ML2.0/1, Error ellipse: s-maj=69.6km s-min=35.1km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.29**	**225**	Pn	Pn	20 21 00.3	+1.7
	6.5nm,0.3s,baz=66,slow=4.6,SNR=11						
PMG				Sn	Sn	20 21 47.8	-1.5
	15nm,0.3s,baz=81,slow=21,SNR=5.8						
WRA	**Warramunga Arr**	**20.50**	**227**	P	P	20 24 32.0	+0.1
	4.6nm,0.6s,baz=52,slow=11,SNR=30						
ASAR	**Alice Springs**	**23.29**	**221**	P	P	20 25 01.5	-0.2
	1.0nm,0.6s,baz=56,slow=9.5,SNR=16						
STKA	**Stephens Creek**	**26.64**	**197**	P	P	20 25 32.0	-0.5
	1.3nm,0.6s,baz=23,slow=12,SNR=6.3						
TORD	**Torodi Ar. Bea**	**148.27**	**285**	PKPbc	PKPbc	20 39 40.8	-0.5
	0.5nm,0.6s,baz=72,slow=2.5,SNR=9.6						

*IDC **20** 20:24:51.1±1.2, 26°96N×53°89E, h0km, mb3.8/13, mb1 3.9/16, mb1mx3.7/33, mbtmp3.8/16, ML3.4/2, Error ellipse: s-maj=28.3km s-min=16.7km az=164.0*
*ISCJB **20** 20:24:53.5±0.6, 27°02N±0°06×53°86E±0°06, h19km, mb3.7/13, Error ellipse: s-maj=9.7km s-min=7.2km az=34.0*
*THR **20** 20:24:53.0±0.4, 26°96N×54°03E, h14km±6km, ML3.6*
*TEH **20** 20:24:55.8, 27°00N×53°98E, h16km, ML3.9*
*CSEM **20** 20:24:55.2±0.4, 27°16N×54°11E, h2km, ML3.6, Error ellipse: s-maj=13.1km s-min=6.1km az=56.0*
*DSN **20** 20:25:06.6±7.8, 26°47N×54°31E, h20km, mb3.1/6, ML3.9/3, Error ellipse: s-maj=6.4km s-min=2.2km az=322.0*

ISC 20 20:24:53.8±0.6, 26°91N±0°06×53°91E±0°07, h19km, n42, σ1§29/46, mb3.8/13, 3C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**1.59**	**329**	*e*Pg	**Pb**	**20 25 22.6**	**-0.1**
GHIR				*e*Sg	**Sb**	**20 25 44.2**	**+1.6**
GHIR				AML	AML	20 25 47.4	
	comp=E,1µm,0.5s						
GHIR				AML	AML	20 25 51.3	
	comp=N,1µm,0.4s						
GHIR	**Ghir-Karzin**	**1.59**	**329**	*e*Pg	**Pb**	**20 25 22.6**	**-0.1**
GHIR				*e*Sg	**Sb**	**20 25 44.2**	**+1.6**
	comp=N,1µm,0.4s						
BNDS	**Bandar-Abbas**	**2.07**	**76**	*e*Pg	**Pn**	**20 25 28.7**	**+0.9**
BNDS				AML	AML	20 26 10.1	
	comp=E,269nm,0.5s						
BNDS				AML	AML	20 26 14.5	
	comp=N,414nm,0.5s						
BNDS	**Bandar-Abbas**	**2.07**	**76**	*e*Pg	**Pn**	**20 25 28.7**	**+0.9**
	comp=N,414nm,0.5s						
IBND	**Bandar-abas**	**2.40**	**77**	*e*Pn	**Pn**	**20 25 33.2**	**+1.1**
IBND				*e*		20 26 49.7	
	comp=Z,9µm,0.4s						
IBND	**Bandar-abas**	**2.40**	**77**	*e*Pn	**Pn**	**20 25 33.2**	**+1.1**
NAZ	**Nazwa, Dubai**	**2.48**	**140**	P	**Pb**	**20 25 37.8**	**0.0**
	SNR=6.7						
NAZ	**Nazwa, Dubai**	**2.48**	**140**	*e*P	**Pb**	**20 25 37.8**	**0.0**
	SNR=6.7						
ISRV	**Sarvestan**	**2.56**	**344**	*e*Pn	**Pn**	**20 25 36.1**	**+1.5**
ISRV				*e*Sg	**Sb**	**20 26 13.8**	**+3.3**
ISRV				*e*		20 26 23.4	
	comp=Z,9µm,0.5s						
ISRV	**Sarvestan**	**2.56**	**344**	*e*Pn	**Pn**	**20 25 36.1**	**+1.5**
ISRV				*e*Sg	**Sb**	**20 26 13.8**	**+3.3**
ASUD	**Al Ashush, Dub**	**2.61**	**150**	P	**Pb**	**20 25 40.2**	**+0.2**
	SNR=8.9						
ASUD	**Al Ashush, Dub**	**2.61**	**150**	*e*P	**Pb**	**20 25 40.2**	**+0.2**
	SNR=8.9						
FAQ	**Al Faqa, Dubai**	**2.64**	**145**	P	**Pb**	**20 25 41.1**	**+0.6**
FAQ	**Al Faqa, Dubai**	**2.64**	**145**	⇑P	**Pb**	**20 25 41.1**	**+0.6**
HATD	**Hatta, Dubai**	**2.89**	**136**	P	**Pb**	**20 25 42.7**	**-2.0**
HATD	**Hatta, Dubai**	**2.89**	**136**	⇑P	**Pb**	**20 25 42.7**	**-2.0**
IKAZ	**Kazeroun**	**3.39**	**328**	*e*Sg	**Sg**	**20 26 40.0**	**-2.8**
IKAZ	**Kazeroun**	**3.39**	**328**	*e*Sg	**Sg**	**20 26 40.0**	**-2.8**
KRBR	**Kerman**	**3.96**	**39**	*e*Pn	**Pn**	**20 25 54.3**	**+0.5**
KRBR				AML	AML	20 26 58.2	
	comp=N,87nm,0.5s						
KRBR				AML	AML	20 27 07.8	
	comp=E,101nm,0.6s						
KRBR	**Kerman**	**3.96**	**39**	*e*Pn	**Pn**	**20 25 54.3**	**+0.5**
	comp=E,101nm,0.6s						
IMEH	**Mehriz**	**4.50**	**8**	*e*Pn	**Pn**	**20 26 02.1**	**+0.8**
IMEH				*e*		20 26 59.3	
	comp=Z,1µm,0.5s						
IMEH	**Mehriz**	**4.50**	**8**	*e*Pn	**Pn**	**20 26 02.1**	**+0.8**
IBAF	**Bafgh**	**4.88**	**17**	*e*Pn	**Pn**	**20 26 06.0**	**-0.5**
IBAF				*e*		20 27 34.5	
	comp=Z,515nm,0.4s						
IBAF	**Bafgh**	**4.88**	**17**	*e*Pn	**Pn**	**20 26 05.9**	**-0.5**
ISAD	**Sadrabad**	**4.99**	**358**	*e*Pn	**Pn**	**20 26 08.2**	**+0.3**
ISAD				*e*		20 27 09.3	
	comp=Z,619nm,0.1s						
ISAD	**Sadrabad**	**4.99**	**358**	*e*Pn	**Pn**	**20 26 08.2**	**+0.3**
GNI	**Garni**	**15.24**	**332**	Pn	**P**	**20 28 31.1**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=127,slow=10,SNR=9.2						
EIL	**Elat**	**16.92**	**284**	Pn	**Pn**	**20 28 50.3**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=41,slow=16,SNR=1.9						
KBZ	**Khabaz**	**19.00**	**335**	P	**P**	**20 29 14.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=138,slow=8.8,SNR=3.6						
BRTR	**Keskin Array B**	**21.16**	**312**	P	**P**	**20 29 38.4**	**+0.3**
	comp=Z,2.6nm,0.9s,baz=138,slow=13,SNR=11						
AKTO	**Aktyubinsk**	**23.70**	**7**	P	**P**	**20 30 04.6**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=180,slow=11,SNR=6.0						
BVAR	**Borovoye Array**	**28.84**	**21**	P	**P**	**20 30 50.6**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=207,slow=8.2,SNR=9.1						
MKAR	**Makanchi Array**	**29.90**	**41**	P	**P**	**20 31 00.3**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=236,slow=5.7,SNR=6.7						
KURBB	**Kurchatov Arra**	**30.22**	**32**	P	**P**	**20 31 02.9**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=231,slow=8.7,SNR=5.5						
ZALV	**Zalesovo Beam**	**35.31**	**32**	P	**P**	**20 31 46.9**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=245,slow=9.2,SNR=8.8						
FINES	**FINESS Array B**	**39.26**	**339**	P	**P**	**20 32 19.9**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=147,slow=11,SNR=6.3						
CMAR	**Chiang Mai Arr**	**42.21**	**92**	P	**P**	**20 32 47.3**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=283,slow=8.2,SNR=3.3						
SONM	**Songino Array**	**45.65**	**48**	P	**P**	**20 33 12.9**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=288,slow=5.9,SNR=4.3						
ARCES	**ARCESS Array B**	**45.76**	**346**	P	**P**	**20 33 12.5**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=146,slow=8.8,SNR=5.3						
ESDC	**Sonseca Array**	**49.25**	**300**	P	**P**	**20 33 41.2**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=65,slow=7.7,SNR=7.0						
TORD	**Torodi Ar. Bea**	**50.60**	**265**	P	**P**	**20 33 52.1**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=68,slow=7.6,SNR=12						
DBIC	**Dimbokro

baz=19,SNR=16
EIDS Eidsvold 19.20 179 ⇓*i* P **P** **20 35 30.8 +0.4**
comp=N,101nm,0.9s
SIJI Sorong 20.11 284 P Pn 20 35 41.9 -0.7
comp=N,14nm,0.7s,baz=135,slow=12,SNR=3.8
SWI Sorong 20.12 284 P Pn 20 35 44.7 +2.1
comp=N,130nm,1.4s,comp=N,2µm
GUMO Guam 20.38 343 P **P** **20 35 44.1 +0.8**
comp=N,898nm,1.1s,baz=163,slow=12,SNR=16
GUMO LR LR 20 41 51.4
comp=N,4µm,21.9s,baz=149,slow=32
RMQ Roma 20.40 185 P Pn 20 35 44.8 -1.1
baz=20,SNR=346
MTN Manton Dam 20.48 249 P **P** **20 35 44.4 0.0**
baz=20,SNR=29
PALU Palau 21.00 309 P **P** **20 35 50.8 +0.7**
baz=21,SNR=6.8
WRAB Tennant Creek 21.07 228 P **P** **20 35 51.0 +0.2**
comp=N,1µm,1.4s
WRAB Tennant Creek 21.07 228*c i* P **P** **20 35 50.7 -0.2**
WRAB pmax pmax
comp=Z,476nm,1.2s
WRAB Tennant Creek 21.07 228⇑ *i* P **P** **20 35 50.6 -0.2**
comp=Z,202nm,0.8s
WRAB *e*S **S** **20 39 39.2 -4.1**
WRAB LR LR
comp=Z,3µm,19.0s
WRA Warramunga Arr 21.09 228 P **P** **20 35 51.1 +0.1**
comp=Z,87nm,0.5s,baz=52,slow=10,SNR=149
WRA S **S** **20 39 42.0 -1.6**
comp=Z,31nm,1.1s,baz=54,slow=20,SNR=11
WRA PcP **PcP** **20 39 57.6 +1.1**
comp=Z,23nm,1.0s,baz=45,slow=1.7,SNR=7.2
WRA ScP **ScP** **20 43 32.8 +2.7**
comp=Z,10.0nm,0.9s,baz=37,slow=2.3,SNR=8.2
WRA LR LR 20 44 39.8
comp=Z,4µm,18.7s,baz=50,slow=39
WRA Warramunga Arr 21.09 228 *i* P **P** **20 35 49.7 -1.3**
WRA pmax pmax
comp=Z,87nm,0.5s
QLP Quilpie 21.33 196 P **P** **20 35 54.1 +0.6**
baz=21,SNR=165
DZM Mont Dzumac 21.99 138 P **P** **20 36 00.9 +0.2**
comp=Z,185nm,0.8s,baz=326,slow=11,SNR=51
DZM LR LR 20 43 39.1
comp=Z,9µm,19.1s,baz=0.0,slow=34
TARA Tarawa 23.33 72 PFAKE 20 36 30.0 +15
TARA LR LR
comp=Z,1µm,19.0s
KNRA Kununurra 23.59 244 P **P** **20 36 16.7 -0.4**
baz=24,SNR=110
LBMI Labuha 23.82 282 P **P** **20 36 19.2 -0.1**
comp=Z,184nm,1.1s,comp=Z,2µm
AS31 Alice Springs 23.85 221 *e*P **P** **20 36 19.3 -0.3**
AS31 *e*S **S** **20 40 37.8 +4.9**
ASAR Alice Springs 23.86 221 P **P** **20 36 19.8 +0.1**
comp=Z,56nm,0.6s,baz=56,slow=8.6,SNR=391
ASAR PcP **PcP** **20 40 03.0 +1.0**
comp=Z,10nm,1.0s,baz=64,slow=2.4,SNR=4.4
ASAR S **S** **20 40 36.0 +3.1**
comp=Z,21nm,0.9s,baz=39,slow=18,SNR=7.1
ASAR ScP **ScP** **20 43 39.9 +2.7**
comp=Z,5.7nm,0.9s,baz=50,slow=3.6,SNR=6.2
ASAR LR LR 20 45 45.6
comp=Z,3µm,19.5s,baz=73,slow=37
ARMA Armidale 24.25 178 P **P** **20 36 23.3 +0.1**
baz=24,SNR=7.7
ARMA Armidale 24.25 178 *e*P **P** **20 36 22.5 -0.7**
comp=Z,1µm,2.7s
TNTI Ternate 24.31 285 *e*P **P** **20 36 23.1 -0.8**
comp=Z,670nm,2.0s
CMSA Cobar Meteorol 25.79 190 P **P** **20 36 36.9 -0.1**
baz=26,SNR=41
SOEI Soe 26.48 260 P **P** **20 36 44.3 +0.6**
baz=26,SNR=11
SOEI Soe 26.48 260 *e*P **P** **20 36 43.5 -0.2**
comp=Z,365nm,1.1s
SOEI *e*S **S** **20 41 17.5 +2.4**
STKA Stephens Creek 27.07 197 P **P** **20 36 48.5 -0.2**
comp=Z,89nm,0.8s,baz=5.6,slow=9.2,SNR=67
STKA LR LR 20 48 19.7
comp=Z,4µm,18.9s,baz=15,slow=38
STKA Stephens Creek 27.07 197 P **P** **20 36 48.5 -0.2**
STKA pmax pmax
comp=Z,89nm,0.8s
STKA MLR MLR
comp=Z,4µm,18.9s
STKA Stephens Creek 27.07 197 P **P** **20 36 48.4 -0.3**
baz=27,SNR=81
STKA Stephens Creek 27.07 197 *e*P **P** **20 36 47.9 -0.8**
comp=Z,39nm,1.1s
BATI Baumata 27.12 259 P **P** **20 36 50.1 +0.7**
comp=Z,150nm,1.0s,comp=Z,2µm
BATI Baumata 27.12 259 P **P** **20 36 50.0 +0.7**
comp=Z,158nm,0.9s,baz=121,slow=3.5,SNR=16
FITZ Fitzroy Crossi 27.27 242⇑P **P** **20 36 50.4 -0.2**
baz=27
YNG Young 28.18 184 ⇓P **P** **20 36 59.1 +0.5**
baz=28,SNR=11
DAV Davao City (W) 28.30 297 PFAKE 20 37 10.0 +10
DAV LR LR
comp=Z,2µm,19.0s
LUWI Luwuk 28.36 279 P P 20 37 10.6 +10
MMRI Maumere 28.39 263 P **P** **20 36 59.2 -1.5**
comp=Z,516nm,1.0s,comp=Z,5µm
MMRI Maumere 28.39 263 *e*P **P** **20 36 58.8 -1.8**
comp=Z,426nm,0.9s
WRKA Warakurna 28.61 226 P **P** **20 37 02.1 -0.5**
baz=28,SNR=28
MSVF Nonsavu 29.07 116 PFAKE 20 37 20.0 +13
MSVF LR LR
comp=Z,3µm,20.0s
CAN Canberra 29.16 183 *e*P **P** **20 37 05.3 -2.0**
CAN pmax pmax
comp=Z,31nm,1.1s
CAN MLR MLR
comp=Z,7µm,20.0s
CAN Canberra 29.16 183 *e*P **P** **20 37 05.3 -2.0**
comp=Z,32nm,1.1s
CAN LR LR
comp=Z,7µm,20.0s
HTT Hallett 29.37 200 P **P** **20 37 09.3 +0.1**
baz=29,SNR=15
WAKE Wake Island 29.66 32 PFAKE 20 37 20.0 +8.2
WAKE LR LR
comp=Z,2µm,20.0s
BBOO Buckleboo 29.93 205 P **P** **20 37 13.6 -0.5**
baz=30,SNR=9.1
BBOO Buckleboo 29.93 205 *e*P **P** **20 37 12.7 -1.4**
comp=Z,127nm,1.4s
BSSI Bau Bau, Buton 30.09 268 P **P** **20 37 17.0 +1.3**
comp=Z,226nm,1.4s,comp=Z,3µm
WSI Waingapu 30.37 261 P **P** **20 37 18.0 -0.2**
comp=Z,538nm,0.8s,comp=Z,8µm
BKSI Bulukumba 30.48 270 P **P** **20 37 20.2 +1.0**
comp=Z,32nm,1.1s
KAPI Kappang 30.87 270 P **P** **20 37 23.2 +0.6**
comp=Z,316nm,1.2s,SNR=5.6
KAPI Kappang 30.87 270 P **P** **20 37 22.6 -0.1**
comp=Z,56nm,1.1s,baz=119,slow=5.5,SNR=9.2
KAPI Kappang 30.87 270 *e*P **P** **20 37 21.4 -1.3**
comp=Z,72nm,1.1s
KAPI LR LR
comp=Z,1µm,19.0s
SPSI Sidrap Palu 30.93 272 P **P** **20 37 23.9 +0.7**
comp=Z,27nm,1.0s
TTSI Tana Toraja 30.97 274 P **P** **20 37 26.5 +2.9**
comp=Z,42nm,1.0s
PCI Palu 31.27 278 P P 20 37 29.6 +3.4
comp=Z,55nm,1.0s
ARPS Mount Arapiles 31.64 194 P **P** **20 37 29.3 +0.2**
baz=32,SNR=14
FORT Forrest 32.53 218 P **P** **20 37 37.0 -0.1**
baz=32,SNR=25
FORT Forrest 32.53 218 *e*P **P** **20 37 36.5 -0.5**
comp=Z,169nm,0.9s
MBWA Marble Bar 33.58 240⇑ *i* P **P** **20 37 45.7 -0.6**
comp=Z,62nm,0.8s
MBWA LR LR
comp=Z,4µm,19.0s
MYLDM Lahad Datu 34.08 288⇑P **P** **20 37 51.7 +1.0**
MYLDM Lahad Datu 34.08 288⇑P **P** **20 37 51.7 +1.0**
MYLDM Lahad Datu 34.08 288 *e*P **P** **20 37 50.3 -0.4**
comp=Z,59nm,1.3s
TSM Tawau 34.40 287⇑P **P** **20 37 53.3 -0.3**
TSM Tawau 34.40 287⇑P **P** **20 37 53.3 -0.3**
SRBI Singaraja 35.32 265 P P 20 38 10.6 +9.1

IGBI Denpasar 35.40 263 P **P** **20 38 03.7 +1.5**
comp=Z,281nm,0.5s,comp=Z,5µm
SDKM Sandakan 35.46 289⇓P **P** **20 38 03.2 +0.4**
SDKM Sandakan 35.46 289⇓P **P** **20 38 03.2 +0.4**
OUZ Omahuta 35.85 147 *e*P **P** **20 38 05.6 -0.1**
comp=Z,65nm,0.9s
MOO Moorlands 36.37 184 P **P** **20 38 11.2 +1.1**
baz=36,SNR=4.3
KKM Kota Kinabalu 36.51 289 PFAKE 20 38 20.0 +8.2
KKM LR LR
comp=Z,1µm,19.0s
KMMI Kalianget 36.55 266 P **P** **20 38 13.6 +1.6**
comp=Z,105nm,1.2s
MEEK Meekatharra 36.82 233 P **P** **20 38 14.1 -0.1**
baz=37,SNR=50
TAU Tasmania Unive 36.82 184 *e*P **P** **20 38 13.7 -0.2**
TAU pmax pmax
comp=Z,92nm,1.2s
TAU MLR MLR
comp=Z,6µm,19.0s
TAU Tasmania Unive 36.82 184 *e*P **P** **20 38 13.7 -0.2**
comp=Z,92nm,1.2s
TAU LR LR
comp=Z,6µm,19.0s
BLJI Banyuglugur 36.92 265 P **P** **20 38 14.3 -0.8**
comp=Z,103nm,0.9s
KMBL Kambalda 36.94 223 P **P** **20 38 15.2 +0.1**
baz=37,SNR=9.1
RAO Raoul Island 37.51 132 PFAKE 20 38 30.0 +10
RAO LR LR
comp=Z,2µm,20.0s
AFI Afiamalu 37.68 105 P **P** **20 38 21.9 +0.2**
comp=Z,17nm,0.3s,baz=281,slow=16,SNR=3.1
AFI LR LR 20 51 22.2
comp=Z,2µm,19.5s,baz=300,slow=32
GRJI Gresik 38.03 267 P **P** **20 38 25.2 +0.6**
comp=Z,144nm,1.0s
PWJI Pagerwojo 38.69 265 P **P** **20 38 29.2 -0.9**
comp=Z,209nm,1.1s
GIRL Giralia 38.87 241 P **P** **20 38 32.4 +0.9**
baz=39,SNR=5.4
NGJI Ngawi 39.03 266 P P 20 38 41.4 +8.4
PBKI Pangkalan Bun 39.10 273 P P 20 38 37.4 +3.8
comp=Z,166nm,1.0s,comp=Z,2µm
JOW Kunigami 39.28 327⇑ *i* P **P** **20 38 35.4 +0.5**
comp=Z,195nm,1.2s
SBUM Sibu 39.39 281⇓P **P** **20 38 36.2 +0.2**
SBUM Sibu 39.39 281⇓P **P** **20 38 36.2 +0.2**
SBUM Sibu 39.39 281 *e*P **P** **20 38 35.5 -0.5**
comp=Z,26nm,1.4s
STKI Sintang 39.67 277 P **P** **20 38 40.2 +1.9**
comp=Z,34nm,1.0s,comp=Z,11µm
UGM Wanagama 39.96 265 P **P** **20 38 41.8 +1.0**
comp=Z,416nm,0.9s
UGM Wanagama 39.96 265 P **P** **20 38 40.8 0.0**
baz=40,SNR=5.9
UGM Wanagama 39.96 265 *e*P **P** **20 38 40.5 -0.3**
comp=Z,562nm,1.2s
KLBR Kelleberrin 39.96 226 P **P** **20 38 40.0 -0.5**
baz=40,SNR=24
MORW Morawa 39.97 231⇑P **P** **20 38 40.6 0.0**
baz=40,SNR=12
URZ Urewera 39.99 147 P **P** **20 38 40.7 +0.1**
comp=Z,24nm,0.7s,baz=305,slow=3.7,SNR=22
URZ LR LR 20 52 48.7
comp=Z,3µm,21.6s,baz=332,slow=33
URZ Urewera 39.99 147 *e*P **P** **20 38 40.7 +0.1**
comp=Z,35nm,0.9s
SMRI Semarang 40.05 266 P **P** **20 38 42.0 +0.5**
comp=Z,196nm,1.5s
SMRI Semarang 40.05 266 *e*P **P** **20 38 41.1 -0.4**
comp=Z,210nm,1.1s
BLDU Ballidu 40.22 228 P **P** **20 38 42.4 -0.2**
baz=40,SNR=10
BKZ Black Stump Fm 40.33 149 *e*P **P** **20 38 43.3 -0.3**
comp=Z,26nm,1.0s
YULB Yu-li 41.04 317 *e*P **P** **20 38 50.3 +0.8**
comp=Z,40nm,1.2s
NWAO Narrogin (SRO) 41.06 225 P **P** **20 38 49.0 -0.5**
comp=Z,18nm,1.1s,baz=148,slow=2.6,SNR=4.9
KSM Kuching 41.07 279 P P 20 38 43.8 -6.1
comp=Z,17nm,1.0s
KSM LR LR
comp=Z,734nm,20.0s
SNZO South Karori 41.09 152 PFAKE 20 39 00.0 +10
SNZO LR LR
comp=Z,4µm,19.0s
BFZ Birch Farm 41.34 150 *e*P **P** **20 38 51.0 -0.8**
comp=Z,36nm,0.7s
NACB Ninganchiao 41.37 318⇑ *i* P **P** **20 38 51.8 -0.4**
comp=Z,112nm,1.3s
KHZ Kahutara 41.46 154 *e*P **P** **20 38 51.6 -1.1**
comp=Z,53nm,1.0s
RPZ Rata Peaks 41.54 158 P **P** **20 38 53.6 +0.2**
comp=Z,20nm,0.7s,baz=228,slow=2.7,SNR=9.4
RPZ LR LR 20 54 30.8
comp=Z,4µm,19.7s,baz=284,slow=34
RPZ Rata Peaks 41.54 158 *e*P **P** **20 38 53.4 0.0**
comp=Z,152nm,1.6s
SSLB Suanglung 41.54 317 *e*P **P** **20 38 52.5 -1.1**
comp=Z,20nm,0.9s
KPJI Karang Pucung 41.54 266 P **P** **20 38 54.1 +0.3**
comp=Z,412nm,1.0s,comp=Z,3µm
DCZ Deep Cove 41.78 163 *e*P **P** **20 38 55.4 +0.2**
comp=Z,132nm,1.8s
YHNB Yeheng 41.85 318 *e*P **P** **20 38 56.6 +0.4**
comp=Z,121nm,1.1s
YHNB LR LR
comp=Z,4µm,20.0s
TATO Taipei 41.98 318 *e*P **P** **20 38 56.7 -0.5**
comp=Z,163nm,1.3s
TATO LR LR
comp=Z,4µm,20.0s
CMJI Cimerak 42.02 265 P **P** **20 38 57.0 -0.7**
comp=Z,898nm,1.0s,comp=Z,7µm
RKGY Rocky Gully 42.17 223 P **P** **20 38 59.8 +1.1**
baz=42,SNR=5.3
JCJI Jatiwangi 42.22 267 P **P** **20 38 59.8 +0.5**
comp=Z,536nm,1.1s,comp=Z,7µm
CISI Cisompet, Garu 42.65 265 P **P** **20 39 02.2 -0.7**
comp=Z,841nm,1.1s,comp=Z,9µm
CISI Cisompet, Garu 42.65 265 P **P** **20 39 02.1 -0.7**
baz=43,SNR=15
CISI Cisompet, Garu 42.65 265⇑ *e*P **P** **20 39 01.4 -1.5**
comp=Z,1µm,1.3s
LEM Lembang 42.86 267 P **P** **20 39 05.0 +0.3**
comp=Z,312nm,0.9s,comp=Z,3µm
LEM Lembang 42.86 267 P **P** **20 39 05.2 +0.5**
comp=Z,228nm,0.9s,baz=49,slow=7.2,SNR=42
LEM Lembang 42.86 267 P **P** **20 39 05.0 +0.3**
baz=43,SNR=25
TPI Tanjungpandan 43.08 272 P **P** **20 39 07.6 +1.2**
comp=Z,90nm,1.0s
JNU Nakatsue 43.30 335 *e*P **P** **20 39 07.7 -0.1**
comp=Z,190nm,1.0s
CNJI Cibinong 43.33 266 P **P** **20 39 07.8 -0.5**
comp=Z,1µm,1.1s,comp=Z,10µm
CBJI Citeko 43.63 267 P **P** **20 39 09.9 -0.9**
comp=Z,413nm,0.9s
SKJI Sukabumi 43.91 266 P **P** **20 39 13.7 +0.7**
comp=Z,446nm,0.9s,comp=Z,6µm
QZH Quanzhou 43.92 316 P **P** **20 39 13.9 +1.0**
QZH S **S** **20 45 44.1 +2.4**
QZH LN
comp=Z,5µm,21.5s
QZH LE
comp=Z,2µm,14.4s
QZH LZ
comp=Z,5µm,21.6s
MJAR Matsushiro Arr 43.98 345 P **P** **20 39 11.1 -2.1**
comp=Z,3.3nm,0.9s,baz=177,slow=7.7,SNR=11
MJAR ScP **ScP** **20 44 49.1 +2.0**
comp=Z,30nm,1.1s,baz=184,slow=5.5,SNR=41
MJAR LR LR 20 57 05.2
comp=Z,1µm,18.9s,baz=170,slow=36
MAJO Matsushiro 43.98 345 ⇓ *i* P **P** **20 39 11.9 -1.3**
MAJO pmax pmax
comp=Z,117nm,1.4s
MAJO Matsushiro 43.98 345 *e*P **P** **20 39 10.9 -2.3**
comp=Z,15nm,0.9s
MAJO LR LR
comp=Z,2µm,20.0s
MAT Matsushiro 43.98 345 P **P** **20 39 11.1 -2.1**
SBJI Serang 44.36 267 P sP 20 39 31.5 -1.9
PPBI Pangkal Pinang 44.65 273 P **P** **20 39 20.1 +1.1**
comp=Z,34nm,1.0s
CGJI Cibinong 44.77 267 P **P** **20 39 18.9 -1.0**
comp=Z,331nm,1.0s,comp=Z,3µm

XMI Christmas Isla 44.78 261⇑P **P** **20 39 21.5 +1.5**
baz=45,SNR=3.6
XMIS Christmas Isla 44.81 261 P **P** **20 39 21.2 +1.0**
baz=45,SNR=7.0
XMIS Christmas Isla 44.81 261 *e*P **P** **20 39 19.8 -0.5**
comp=Z,500nm,1.1s
DLV T Lat 45.68 293 *e*P **P** **20 39 26.5 -0.8**
KLSI 45.83 269 P **P** **20 39 27.6 -0.7**
comp=Z,50nm,1.5s
KSBUS Busan 45.87 335 P **P** **20 39 29.4 +1.2**
SNR=8.0
KSBUS Busan 45.87 335 P **P** **20 39 29.4 +1.2**
SNR=8.0
MIDW Midway 45.90 40 PFAKE 20 39 40.0 +11
MIDW LR LR
comp=Z,1µm,19.0s
KASI Kota Agung 46.01 268 P **P** **20 39 28.0 -1.7**
KSJIN Jinju 46.25 334 P **P** **20 39 32.3 +1.0**
SNR=6.2
KSJIN Jinju 46.25 334 P **P** **20 39 32.3 +1.0**
SNR=6.2
KSDAG Daegu 46.40 335 P **P** **20 39 33.5 +1.1**
SNR=10
KSDAG Daegu 46.40 335 P **P** **20 39 33.5 +1.1**
SNR=10
GZH Guangzhou 46.64 310 P **P** **20 39 36.6 +2.1**
GZH ScS ScS 20 49 21.9 -4.4
GZH LN
comp=Z,2µm,17.8s
GZH LE
comp=Z,3µm,18.5s
KSULJ Uljin 47.00 336 P **P** **20 39 38.0 +0.9**
SNR=26
KSULJ Uljin 47.00 336 P **P** **20 39 38.5 +1.4**
SNR=6.9
KSJEU Jeongeup 47.02 333 P **P** **20 39 37.7 +0.4**
SNR=11
KSJEU Jeongeup 47.02 333 P **P** **20 39 37.7 +0.4**
SNR=11
KSULL Ulleungdo 47.10 338 P **P** **20 39 39.5 +1.7**
SNR=5.3
KSCPR CHUPUNGNYEONG 47.17 335 P **P** **20 39 39.5 +1.0**
SNR=6.5
KSCPR CHUPUNGNYEONG 47.17 335 P **P** **20 39 39.5 +1.0**
SNR=6.5
KSSAJ Sangju 47.26 335 P **P** **20 39 40.2 +1.1**
SNR=8.8
KSSAJ Sangju 47.26 335 P **P** **20 39 40.2 +1.1**
SNR=8.8
QIZ Qiongzhong 47.39 303 P **P** **20 39 39.8 -0.6**
QIZ pP **pP** **20 39 51.3 -1.0**
QIZ sP **sP** **20 39 56.4 -0.9**
QIZ S **S** **20 46 28.4 -3.5**
QIZ LZ
comp=Z,2µm,21.9s
QIZ Qiongzhong 47.39 303 PFAKE 20 39 50.0 +10
QIZ LR LR
comp=Z,2µm,21.0s
MYKOM Kota Tinggi 47.47 278⇓P **P** **20 39 41.3 +0.1**
MYKOM Kota Tinggi 47.47 278⇓P **P** **20 39 41.3 +0.1**
KSBON Boeun 47.48 335 P **P** **20 39 42.3 +1.4**
SNR=23
KSBON Boeun 47.48 335 P **P** **20 39 42.3 +1.4**
SNR=23
TJN Taejon 47.57 334*c i* P **P** **20 39 41.9 +0.4**
KSCHJ Chungju 47.73 335 P **P** **20 39 43.9 +1.2**
SNR=9.5
KSCHJ Chungju 47.73 335 P **P** **20 39 43.9 +1.2**
SNR=9.5
KSCEA Cheonan 47.99 335 P **P** **20 39 46.4 +1.7**
SNR=6.7
KSCEA Cheonan 47.99 335 P **P** **20 39 45.4 +0.6**
SNR=20
KGM Kluang 48.03 278⇑P **P** **20 39 46.0 +0.4**
KGM Kluang 48.03 278⇑P **P** **20 39 46.0 +0.4**
KSDGY Daegwallycong 48.15 336 P **P** **20 39 47.3 +1.2**
SNR=15
KSDGY Daegwallycong 48.15 336 P **P** **20 39 47.3 +1.2**
SNR=15
KSRS Korea Array 48.25 336 P **P** **20 39 45.6 -1.1**
comp=Z,33nm,1.0s,baz=150,slow=8.8,SNR=88
KSRS ScP **ScP** **20 45 06.8 +2.0**
comp=Z,4.8nm,1.1s,baz=154,slow=5.7,SNR=7.8
KSRS LR LR 20 58 15.2
comp=Z,1µm,21.7s,baz=205,slow=34
KSAR Wonju Array Be 48.25 336 P **P** **20 39 45.6 -1.2**
KSAR Wonju Array Be 48.25 336 P **P** **20 39 45.6 -1.2**
KSAR ScP **ScP** **20 45 06.8 +2.0**
KSJMJ Jumunjin 48.28 337 P **P** **20 39 48.7 +1.7**
SNR=16
KSSES Seosan 48.31 334 P **P** **20 39 48.4 +1.2**
SNR=7.8
KSSES Seosan 48.31 334 P **P** **20 39 48.4 +1.2**
SNR=7.8
KSICN Icheon 48.32 335 P **P** **20 39 48.9 +1.6**
SNR=7.9
ERM Erimo 48.34 352 PFAKE 20 40 00.0 +13
ERM LR LR
comp=Z,2µm,19.0s
KSSWO Suwon 48.49 335 P **P** **20 39 50.3 +1.7**
SNR=7.7
KSCHC Chuncheon 48.57 336 P **P** **20 39 50.5 +1.2**
SNR=7.5
NJ2 Nanjing 48.58 323 *e*P **P** **20 39 49.1 -0.3**
NJ2 pP **pP** **20 40 00.6 -0.7**
NJ2 sP **sP** **20 40 05.3 -1.0**
NJ2 S **S** **20 46 48.4 +0.1**
NJ2 sS **sS** **20 47 07.0 -1.2**
NJ2 PMZ
comp=Z,40nm,0.9s
NJ2 PMZ
comp=Z,860nm,8.0s
NJ2 LN
comp=Z,4µm,22.8s
NJ2 LE
comp=Z,1µm,23.2s
NJ2 LZ
comp=Z,3µm,21.4s
KSIJA INJE 48.63 336 P **P** **20 39 51.4 +1.8**
SNR=26
KSSEO Seoul 48.70 335 P **P** **20 39 51.7 +1.5**
SNR=18
KSSKC Sokcho 48.72 337 P **P** **20 39 52.1 +1.7**
SNR=6.3
SEHB SEOHWA 48.81 336 P **P** **20 39 52.4 +1.3**
SNR=8.8
INCN Inchon 48.81 334 *e*P **P** **20 39 51.9 +0.8**
comp=Z,324nm,1.4s
INCN LR LR
comp=Z,1µm,21.0s
KSCWO Cheorwon 48.95 336 P **P** **20 39 54.0 +1.8**
SNR=9.4
KSGAH Ganghwa 49.08 334 P **P** **20 39 54.5 +1.4**
SNR=15
YNCB YEONCHEON 49.16 335 P **P** **20 39 55.2 +1.4**
SNR=22
WHN Wuhan 50.39 318 ⇓P **P** **20 40 03.9 +0.7**
WHN S **S** **20 47 19.3 +5.6**
WHN LN
comp=Z,5µm,21.4s
WHN LE
comp=Z,9µm,24.0s
WHN LZ
comp=Z,8µm,20.4s
ASAJ Asahikawa 50.48 352 P **P** **20 40 03.3 -0.4**
comp=Z,12nm,1.0s,baz=242,slow=17
ASAJ Asahikawa 50.48 352 P **P** **20 40 03.3 -0.4**
ASAJ pmax pmax
comp=Z,12nm,1.0s
ASAJ Asahikawa 50.48 352 *e*P **P** **20 40 02.1 -1.6**
comp=Z,34nm,1.2s
PPI Padang Panjang 50.55 274 P **P** **20 40 03.6 -1.2**
baz=50,SNR=4.9
KULM Kulim 51.27 282 PFAKE 20 40 20.0 +10
KULM LR LR
comp=Z,840nm,20.0s
SKNT Sakolnakorn 51.58 297 P **P** **20 40 12.6 +0.2**
comp=Z,37nm,0.9s
MSHR Mys Shultsa 51.59 342 *e*P **P** **20 40 12.6 +0.6**
DL2 Dalian 52.25 331 P **P** **20 40 16.6 -0.4**
DL2 PMZ
comp=Z,77nm,1.2s
XMAS Kiritimati 52.35 83 PFAKE 20 40 30.0 +12
XMAS LR LR
comp=Z,3µm,19.0s
PSI Prapat 52.49 278 P **P** **20 40 17.9 -1.6**
comp=Z,9.8nm,0.8s,baz=148,slow=8.3,SNR=5.3

PSI LR LR 21 07 46.4
comp=Z,965nm,18.3s,baz=104,slow=42
PSI Prapat 52.49 278 P **P** **20 40 17.9 -1.6**
PSI pmax pmax
comp=Z,10.0nm,0.8s
PSI MLR MLR
comp=Z,965nm,18.3s
PSI Prapat 52.49 278 P **P** **20 40 18.3 -1.2**
baz=52,SNR=4.0
PSI Prapat 52.49 278 *e*P **P** **20 40 17.4 -2.1**
comp=Z,26nm,1.0s
TIA Tai'an 52.55 326 ⇑P **P** **20 40 18.9 -0.5**
TIA PMZ
comp=Z,40nm,1.1s
NONG Nongkai 52.73 298 P **P** **20 40 21.2 +0.2**
comp=Z,42nm,1.1s,comp=Z,4μm
TRTT Trang 52.76 285 P **P** **20 40 23.1 +1.8**
comp=Z,21nm,1.1s
USRK Ussuriysk Ar. 52.81 343 P **P** **20 40 21.1 0.0**
comp=Z,13nm,0.9s,baz=163,slow=7.0,SNR=28
USRK ScP **ScP** **20 45 25.8 +1.5**
comp=Z,8.3nm,1.0s,baz=180,slow=4.8,SNR=12
USRK LR LR 20 59 34.2
comp=Z,1μm,22.0s,baz=149,slow=32
NAYO Nakonayok 53.04 293 P **P** **20 40 25.6 +2.3**
comp=Z,31nm,1.1s,comp=Z,5μm
SURA Surathani 53.15 286 P **P** **20 40 25.6 +1.5**
comp=Z,47nm,0.9s,comp=Z,17μm
ENH Enshi 53.55 315 *e*P **P** **20 40 26.6 -0.3**
comp=Z,10nm,0.8s
ENH LR LR
comp=Z,1μm,22.0s
GYA Guiyang 53.57 309 P **P** **20 40 29.4 +2.2**
GYA pP **pP** **20 40 40.3 +1.1**
GYA PcP **PcP** **20 41 35.5 +2.0**
GYA PP **PP** **20 42 31.0 +2.8**
GYA ScP **ScP** **20 45 27.8 -0.3**
GYA S **S** **20 47 58.4 +0.6**
GYA sS **sS** **20 48 17.3 -0.6**
GYA SS **SS** **20 51 38.0 -0.9**
GYA PMZ
comp=Z,30nm,0.8s
GYA PMZ
comp=Z,190nm,5.8s
GYA LN
comp=Z,7μm,17.8s
GYA LE
comp=Z,5μm,18.2s
GYA LZ
comp=Z,7μm,17.6s
GSI Gunungsitoli 53.59 276 *e*P **P** **20 40 24.6 -2.8**
comp=Z,69nm,1.2s
MDJ Mudanjiang 53.92 341 P **P** **20 40 29.3 +0.1**
MDJ PMZ
comp=Z,10.0nm,0.8s
MDJ PMZ
comp=Z,570nm,9.9s
MDJ Mudanjiang 53.92 341 *e*P **P** **20 40 28.6 -0.6**
comp=Z,36nm,1.2s
MDJ LR LR
comp=Z,1μm,20.0s
PBKT Sadao Pong 54.12 295 P **P** **20 40 32.3 +1.1**
comp=Z,19nm,0.9s
CN2 Changchun 54.64 338 *e*P **P** **20 40 34.0 -0.5**
CN2 *es*P **sP** **20 40 51.9 +0.4**
CN2 *e*S **S** **20 48 09.9 -1.6**
CN2 PMZ
comp=Z,10.0nm,1.4s
CN2 PMZ
comp=Z,200nm,5.0s
UTTA Uttaradit 54.90 297 P **P** **20 40 37.6 +0.8**
comp=Z,3.7nm,1.0s,comp=Z,46nm
BJT Baijiatuau 55.83 328 PFAKE 20 40 50.0 +6.8
BJT LR LR
comp=Z,1μm,19.0s
BJI Beijing 55.84 328 P **P** **20 40 42.6 -0.6**
BJI PMZ
comp=Z,32nm,1.9s
BJI LN
comp=Z,780nm,20.8s
BJI LE
comp=Z,670nm,22.7s
BJI LZ
comp=Z,1μm,22.2s
CRAI Chiangrai 55.98 299 P **P** **20 40 43.5 -1.1**
comp=Z,18nm,1.3s,comp=Z,3μm
LAMP Lampang 56.00 297 P **P** **20 40 46.8 +2.0**
comp=Z,4.5nm,1.0s,comp=Z,51nm
KMI Kunming 56.03 306 P **P** **20 40 47.3 +2.2**
KMI pP **pP** **20 40 58.8 +1.5**
KMI sP **sP** **20 41 03.3 +1.1**
KMI PP **PP** **20 42 54.1 +3.6**
KMI S **S** **20 48 30.4 -0.7**
KMI sS **sS** **20 48 50.5 -0.8**
KMI SS **SS** **20 52 17.9 0.0**
KMI PMZ
comp=Z,3.0nm,1.1s
KMI PMZ
comp=Z,280nm,8.4s
KMI LN
comp=Z,660nm,19.8s
KMI LE
comp=Z,830nm,20.6s
KMI LZ
comp=Z,1μm,18.8s
XAN Xi'an 56.16 318 P **P** **20 40 44.9 -0.8**
XAN pP **pP** **20 40 54.5 -3.3**
XAN sP **sP** **20 40 58.0 -4.7**
XAN PMZ
comp=Z,10.0nm,1.5s
CM31 Chiang Mai Arr 56.59 297 *e*P **P** **20 40 49.0 0.0**
comp=Z,12nm,1.0s
CMAR Chiang Mai Arr 56.59 297 P **P** **20 40 49.5 +0.6**
comp=Z,8.9nm,1.0s,baz=114,slow=5.7,SNR=37
CMAR ScP **ScP** **20 45 43.3 +1.8**
comp=Z,2.1nm,1.0s,baz=124,slow=3.6,SNR=4.3
CMAR PKP2bc 21 11 01.2
comp=Z,1.7nm,0.7s,baz=290,slow=3.5,SNR=7.5
CMMT Chiang Mai 56.71 297 P **P** **20 40 50.2 +0.4**
comp=Z,47nm,1.2s
CHTO Chiang Mai 56.71 297 P **P** **20 40 50.5 +0.7**
comp=Z,49nm,1.2s
CHTO Chiang Mai 56.71 297 *e*P **P** **20 40 49.6 -0.2**
CHTO pmax pmax
comp=Z,16nm,1.2s
CHTO MLR MLR
comp=Z,612nm,20.0s
CHTO Chiang Mai 56.71 297 *e*P **P** **20 40 49.6 -0.2**
comp=Z,16nm,1.2s
CHTO LR LR
comp=Z,612nm,20.0s
KIP Kipapa 57.18 60 *d* *i*P **P** **20 40 54.6 +1.5**
KIP pmax pmax
comp=Z,200nm,1.2s
KIP Kipapa 57.18 60 PFAKE 20 41 10.0 +17
KIP LR LR
comp=Z,2μm,19.0s
OPA Opana 57.28 60 *e*P **P** **20 40 55.0 +1.2**
OPA Opana 57.28 60 *e*P **P** **20 40 55.0 +1.2**
KLR Kul'dur 57.51 345 *e*P P 20 40 50.3 -4.6
CD2 Chengdu 58.03 312 P **P** **20 40 59.5 +0.5**
CD2 pP **pP** **20 41 15.0 +3.8**
CD2 sP sP 20 41 21.8 +5.7
CD2 PP **PP** **20 48 08.8 +0.8**
CD2 S **S** **20 48 56.9 -0.1**
CD2 sS sS 20 49 23.6 +6.3
CD2 SS **SS** **20 52 50.3 +1.3**
CD2 PMZ
comp=Z,30nm,0.7s
CD2 PMZ
comp=Z,950nm,11.5s
CD2 LN
comp=Z,2μm,19.0s
CD2 LZ
comp=Z,3μm,18.9s
HLK Haleakala 58.46 61 *e*P **P** **20 41 00.6 -1.8**
POHA Pohakuloa 58.73 63 *e*P **P** **20 41 04.9 +0.6**
comp=Z,227nm,1.0s
POHA LR LR
comp=Z,2μm,19.0s
HHC Hu-ho-hao-te 58.91 326 *e*P **P** **20 41 06.3 +1.3**
HHC pP pP 20 41 22.8 +5.6
HHC PP PP 20 43 22.0 +6.3
HHC S **S** **20 49 06.6 -1.6**
HHC sS **sS** **20 49 32.4 +3.9**
HHC ScS **ScS** **20 50 47.8 -3.9**

HHC PMZ
comp=Z,8.0nm,0.7s
HHC PMZ
comp=Z,560nm,6.2s
HHC LN
comp=Z,980nm,17.5s
HHC LE
comp=Z,1μm,15.3s
HHC LZ
comp=Z,1μm,16.5s
PETK Petropavlovsk- 59.24 5 P **P** **20 41 05.5 -1.4**
comp=Z,13nm,0.9s,baz=165,slow=6.2,SNR=9.6
PETK LR LR 21 03 00.5
comp=Z,874nm,21.2s,baz=182,slow=32
PET Petropavlovsk 59.24 6 PFAKE 20 41 20.0 +13
PET LR LR
comp=Z,1μm,19.0s
LZH Lanzhou 60.73 317 *e*P **P** **20 41 18.3 +0.6**
LZH pP **pP** **20 41 29.1 -0.9**
LZH sP **sP** **20 41 34.8 -0.1**
LZH PcP **PcP** **20 42 02.1 +0.7**
LZH PMZ
comp=Z,69nm,1.3s
LZH PMZ
comp=Z,250nm,4.3s
LZH LN
comp=Z,1μm,17.4s
LZH LE
comp=Z,1μm,16.0s
LZH LZ
comp=Z,1μm,17.8s
HIA Hailar 61.37 337 PFAKE 20 41 30.0 +8.4
HIA LR LR
comp=Z,2μm,20.0s
GTA Gaotai 65.22 319 *e*P **P** **20 41 46.9 -0.5**
GTA pP **pP** **20 42 00.8 +1.0**
GTA sP **sP** **20 42 05.8 +1.2**
GTA ScP 20 46 15.5
GTA S **S** **20 50 28.0 +0.1**
GTA PMZ
comp=Z,5.0nm,1.0s
GTA PMZ
comp=Z,470nm,6.1s
GTA LN
comp=Z,680nm,19.5s
GTA LE
comp=Z,850nm,18.0s
GTA LZ
comp=Z,1μm,17.1s
ULN Ulaanbaatar 66.01 329 *e*P **P** **20 41 52.4 +0.1**
ULN pmax pmax
comp=Z,21nm,1.1s
ULN MLR MLR
comp=Z,1μm,20.0s
ULN Ulaanbaatar 66.01 329 *e*P **P** **20 41 52.4 +0.1**
comp=Z,21nm,1.1s
ULN LR LR
comp=Z,1μm,20.0s
CASY Casey 66.22 197 *e*P **P** **20 41 53.0 -0.2**
comp=Z,46nm,1.4s
CASY LR LR
comp=Z,2μm,22.0s
SONM Songino Array 66.32 329 P **P** **20 41 54.3 -0.1**
comp=Z,20nm,1.1s,baz=140,slow=6.5,SNR=56
SONM LR LR 21 09 40.5
comp=Z,1μm,21.6s,baz=61,slow=35
SONM PKP2bc 21 10 32.0
comp=Z,2.4nm,1.0s,baz=323,slow=4.4,SNR=8.9
LSA Lhasa 67.28 306 P **P** **20 41 58.5 -2.8**
LSA Lhasa 67.28 306 PFAKE 20 42 10.0 +8.7
LSA LR LR
comp=Z,1μm,19.0s
SEY Seymchan 68.81 1 P **P** **20 42 07.3 -2.2**
comp=Z,7.9nm,1.1s,baz=160,slow=7.3,SNR=6.8
SEY Seymchan 68.81 1⇓*e*P **P** **20 42 08.2 -1.3**
ZAK Zakamensk 69.52 330⇑*i*P **P** **20 42 14.1 -0.3**
ZAK pmax pmax
comp=Z,26nm,1.2s
YAK Yakutsk 69.82 350 P **P** **20 42 14.4 -1.4**
comp=Z,1.0nm,0.3s,baz=143,slow=10,SNR=10
YAK Yakutsk 69.82 350 *i* P **P** **20 42 14.4 -1.4**
YAK pmax pmax
comp=Z,43nm,1.0s
YAK Yakutsk 69.82 350 *e*P **P** **20 42 13.8 -2.0**
comp=Z,37nm,1.0s
YAK LR LR
comp=Z,813nm,19.0s
CHLP Challavanipeta 70.10 292 *e*P **P** **20 42 18.0 -0.4**
CHLP IAmb IAmb 20 42 19.6
comp=Z,44nm,1.1s
TLY Talaya 70.16 331 P **P** **20 42 17.2 -1.0**
comp=Z,6.2nm,1.0s,baz=171,slow=4.5,SNR=16
TLY Talaya 70.16 331 *e*P **P** **20 42 17.2 -1.0**
TLY pmax pmax
comp=Z,20nm,1.4s
TLY Talaya 70.16 331 P **P** **20 42 17.9 -0.3**
comp=Z,61nm,1.3s,SNR=5.2
TLY Talaya 70.16 331 *e*P **P** **20 42 16.5 -1.7**
comp=Z,21nm,1.3s
TLY LR LR
comp=Z,1μm,19.0s
IRK Irkutsk 70.22 332 *e*P **P** **20 42 17.4 -1.1**
IRK pmax pmax
comp=Z,38nm,1.4s
BOD Bodaibo 70.25 340 *e*P **P** **20 42 15.8 -2.7**
BOD pmax pmax
comp=Z,9.0nm,1.6s
PALK Pallekele 71.13 280 *e*P **P** **20 42 24.3 -0.6**
PALK pmax pmax
comp=Z,65nm,1.4s
PALK Pallekele 71.13 280 *e*P **P** **20 42 24.3 -0.6**
comp=Z,65nm,1.4s
MOY Mondy 71.45 330 *e*P **P** **20 42 26.0 -0.2**
MOY pmax pmax
comp=Z,61nm,1.5s
VNDA Vanda 71.66 177 P **P** **20 42 27.6 +0.7**
comp=Z,8.1nm,0.7s,baz=332,slow=6.7,SNR=53
VNDA Vanda 71.66 177 *e*P **P** **20 42 27.5 +0.7**
VNDA pmax pmax
comp=Z,55nm,1.3s
VNDA Vanda 71.66 177 *e*P **P** **20 42 27.4 +0.7**
comp=Z,55nm,1.3s
MIR Mirnyy 72.03 201⇑*e*P P 20 42 38.0 +8.8
MIR pmax pmax
comp=Z,80nm,1.5s
PVM Polavaram 72.08 290 *e*P **P** **20 42 29.0 -1.4**
PVM IAmb IAmb 20 42 32.3
comp=Z,14nm,1.1s
SBA Scott Base 72.24 176 *e*P **P** **20 42 31.3 +1.0**
SBA pmax pmax
comp=Z,63nm,1.3s
SBA MLR MLR
comp=Z,1μm,21.0s
SBA Scott Base 72.24 176 *e*P **P** **20 42 31.3 +1.0**
comp=Z,63nm,1.3s
SBA LR LR
comp=Z,1μm,21.0s
SKHT Srikalahasti 73.19 286 *e*P **P** **20 42 36.0 -1.1**
SKHT IAmb IAmb 20 42 37.3
comp=Z,12nm,0.8s
ADKI Addanki 73.34 288 *e*P **P** **20 42 36.7 -1.2**
ADKI IAmb IAmb 20 42 39.6
comp=Z,66nm,1.4s
NJS Nagarjunasagar 74.11 289 *e*P **P** **20 42 41.0 -1.5**
NJS IAmb IAmb 20 42 43.8
comp=Z,36nm,1.4s
SRLM Srisailam 74.41 288 *e*P **P** **20 42 41.8 -2.4**
SRLM IAmb IAmb 20 42 46.4
comp=Z,48nm,1.1s
RPR Rampur 74.58 291 *e*P **P** **20 42 44.1 -1.1**
RPR IAmb IAmb 20 42 47.4
comp=Z,29nm,1.1s
BILL Bilibino 74.74 6⇓*e*P **P** **20 42 44.6 -0.5**
BILL *e* 20 42 57.3
BILL *e* 20 45 35.0
BILL pmax pmax
comp=Z,8.0nm,1.0s
BILL MLR MLR
comp=Z,586nm,18.0s
BILL Bilibino 74.74 6 *e*P **P** **20 42 43.6 -1.4**
comp=Z,12nm,0.8s
BILL LR LR
comp=Z,886nm,21.0s
HVS Khovu-Aksy 74.97 327 *d* *i*P **P** **20 42 46.0 -0.9**
HVS pmax pmax
comp=Z,53nm,0.5s

HYB Hyderabad 74.98 290 *i*P **P** **20 42 46.0 -1.6**
HYBB Hyderabad (bro 74.98 290 *e*P **P** **20 42 46.7 -0.9**
HYBB IAmb IAmb 20 42 49.2
comp=Z,20nm,1.0s
WMQ Urumqi 75.30 318 P **P** **20 42 48.8 -0.1**
WMQ PcP **PcP** **20 43 02.3 +0.2**
WMQ pP **pP** **20 43 05.8 +4.3**
WMQ PMZ
comp=Z,15nm,1.4s
WMQ LN
comp=Z,900nm,20.0s
WMQ LE
comp=Z,870nm,19.3s
WMQ LZ
comp=Z,570nm,18.7s
SRSP Sriramsagar 75.48 291 *e*P **P** **20 42 48.5 -1.8**
SRSP IAmb IAmb 20 42 52.7
comp=Z,34nm,1.0s
URV Uravakonda 75.74 287 *e*P **P** **20 42 50.9 -1.0**
URV IAmb IAmb 20 42 53.1
comp=Z,53nm,1.3s
KLRI Killari 76.94 290 *e*P **P** **20 42 57.3 -1.5**
KLRI IAmb IAmb 20 42 59.1
comp=Z,92nm,1.8s
PTCN Pitcairn Islan 77.65 114 PFAKE 20 43 10.0 +7.4
PTCN LR LR
comp=Z,2μm,21.0s
KRAR Krasnoyarsk 77.87 331 P **P** **20 43 02.0 -1.0**
KDAK Kodiak Island 78.22 27 *i*P **P** **20 43 03.7 -1.2**
KDAK Kodiak Island 78.22 27 PFAKE 20 43 20.0 +15
KDAK LR LR
comp=Z,2μm,19.0s
SVW2 Sparrevohn 78.78 24 *e*P **P** **20 43 08.6 +0.5**
comp=Z,16nm,1.0s
MK31 Makanchi Array 79.94 320 *e*P **P** **20 43 13.5 -1.2**
MK31 Makanchi Array 79.94 320 *e*P **P** **20 43 13.5 -1.2**
MKAR Makanchi Array 79.94 320 P **P** **20 43 13.9 -0.8**
comp=Z,6.7nm,1.0s,baz=101,slow=6.5,SNR=32
MKAR PKiKP **PKiKP** **20 48 44.1 -0.9**
comp=Z,1.4nm,0.9s,baz=101,slow=2.6,SNR=3.5
MKAR Makanchi Array 79.94 320 P **P** **20 43 13.9 -0.8**
MKAR pmax pmax
comp=Z,7.0nm,1.0s
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR Makanchi Array 79.94 320 *e*P **P** **20 43 13.5 -1.2**
MKAR PKiKP **PKiKP** **20 48 44.1 -0.9**
BRLK Bradley Lake 80.01 26 *e*P **P** **20 43 13.4 -1.4**
BRLK *e*pP **pP** **20 43 30.7 +3.2**
SEW Seward 80.80 26 *e*P **P** **20 43 18.0 -1.0**
ZAA0 Zalesovo Array 81.07 327 *e*P **P** **20 43 18.1 -2.5**
ZALV Zalesovo Beam 81.07 327 P **P** **20 43 18.9 -1.7**
comp=Z,8.9nm,1.0s,baz=104,slow=6.3,SNR=26
ZALV LR LR 21 19 30.3
comp=Z,693nm,18.8s,baz=54,slow=36
CAST Castle Rocks 81.44 22 *e*P **P** **20 43 20.6 -1.8**
PMR Palmer 81.67 25 *e*P **P** **20 43 22.2 -1.4**
PMR Palmer 81.67 25 *e*P **P** **20 43 22.2 -1.4**
SML Sawmill 82.11 25 *e*P **P** **20 43 24.3 -1.6**
SML Sawmill 82.11 25 *e*P **P** **20 43 24.3 -1.6**
TRF Thorofare Moun 82.14 23 *e*P **P** **20 43 23.6 -2.6**
KSH Kashi 82.21 311 P **P** **20 43 27.3 +0.2**
KSH pP **pP** **20 43 42.1 +2.3**
KSH PP **PP** **20 46 40.1 +4.1**
KSH S **S** **20 53 36.9 -2.7**
KSH sS **sS** **20 54 03.1 +2.3**
KSH SS **SS** **20 59 05.1 +4.8**
KSH PMZ
comp=Z,15nm,1.1s
KSH PMZ
comp=Z,740nm,7.7s
KSH LN
comp=Z,540nm,7.2s
KSH LE
comp=Z,300nm,7.0s
KSH LZ
comp=Z,1μm,16.4s
BPAW Bear Paw Mtn. 82.21 22 *e*P **P** **20 43 24.8 -1.6**
IM04 Indian Mountai 82.23 20 *e*P **P** **20 43 24.9 -1.6**
NVS Novosibirsk 82.27 327⇑*i*P **P** **20 43 24.9 -1.9**
NVS *e*S **S** **20 53 44.8 +5.6**
NVS pmax pmax
comp=N,12nm,1.6s
NVS pmax pmax
comp=E,20nm,1.6s
NVS pmax pmax
comp=Z,39nm,1.6s
NVS smax smax
comp=E,65nm,3.2s
SCM Sheep Creek Mo 82.54 25 *e*P **P** **20 43 28.1 -0.1**
SCM Sheep Creek Mo 82.54 25 *e*P **P** **20 43 28.1 -0.1**
MLY Manley 82.79 21 *e*P **P** **20 43 28.0 -1.4**
MCK McKinley 82.81 23 *e*P **P** **20 43 27.3 -2.2**
MCK McKinley 82.81 23 *e*P **P** **20 43 27.3 -2.2**
DIV Divide 82.89 26 *e*P **P** **20 43 30.3 +0.3**
KLU Klutina 82.98 26 *e*P **P** **20 43 30.2 -0.4**
RAGM Ragged Mountai 83.05 27 *e*P **P** **20 43 31.8 +1.0**
BMRM Bremner River 83.33 26 *e*P **P** **20 43 31.3 -1.0**
comp=E,46nm,1.3s
TKM2 Tokmak 2 83.34 314 *e*P **P** **20 43 32.4 -0.6**
TKM2 MLR MLR
comp=Z,1μm,20.0s
TKM2 Tokmak 2 83.34 314 *e*P **P** **20 43 32.4 -0.6**
TKM2 LR LR
comp=Z,1μm,20.0s
WRH Wood River Hil 83.49 22 *e*P **P** **20 43 31.2 -1.7**
KURK Kurchatov 83.51 322 P **P** **20 43 31.5 -1.9**
comp=Z,195nm,1.2s,SNR=26
KURK Kurchatov 83.51 322 P **P** **20 43 31.9 -1.5**
KURK pmax pmax
comp=Z,15nm,1.1s
KURK pmax pmax
comp=Z,1.0nm,0.9s
KURK Kurchatov 83.51 322 *e*P **P** **20 43 31.4 -2.0**
KURK PKiKP **PKiKP** **20 48 49.7 -0.7**
KURK LR LR
comp=Z,1μm,20.0s
KURBB Kurchatov Arra 83.53 322 P **P** **20 43 31.9 -1.6**
comp=Z,16nm,1.1s,baz=103,slow=4.0,SNR=62
KURBB PKiKP **PKiKP** **20 48 49.7 -0.8**
comp=Z,0.8nm,0.9s,baz=108,slow=1.5,SNR=4.5
MAW Mawson 83.63 203 P **P** **20 43 33.5 -0.1**
comp=Z,16nm,1.1s,baz=78,slow=6.6,SNR=18
MAW Mawson 83.63 203 P **P** **20 43 33.5 -0.1**
MAW pmax pmax
comp=Z,16nm,1.1s
MAW Mawson 83.63 203 ⇑P **P** **20 43 34.0 +0.3**
baz=83
MAW Mawson 83.63 203 *e*P **P** **20 43 34.0 +0.3**
MDM Murphy Dome 83.67 22 *e*P **P** **20 43 32.0 -1.9**
CCB Clear Creek Bu 83.68 22 *e*P **P** **20 43 32.0 -2.0**
COLA College 83.78 22⇑*e*P **P** **20 43 32.3 -2.1**
COLA pmax pmax
comp=Z,58nm,1.0s
COLA College 83.78 22 *e*P **P** **20 43 32.1 -2.3**
comp=Z,10nm,0.8s
COLA LR LR
comp=Z,1μm,21.0s
HDA Harding Lake 83.89 23 *e*P **P** **20 43 33.3 -1.7**
QSPA South Pole Qui 83.91 180 *e*P **P** **20 43 35.4 +0.1**
comp=Z,75nm,1.1s
AAK Ala-Archa 84.05 314 PFAKE 20 43 50.0 +13
AAK LR LR
comp=Z,2μm,21.0s
ILAR Eielson Array 84.09 22 P **P** **20 43 33.8 -2.3**
comp=Z,8.3nm,0.9s,baz=256,slow=5.0,SNR=61
COLD Coldfoot 84.12 20 *e*P **P** **20 43 37.2 +1.1**
EKS2 Erkin-Say 84.58 314 *e*P **P** **20 43 37.6 -1.6**
EKS2 MLR MLR
comp=Z,1μm,22.0s
EKS2 Erkin-Say 84.58 314 *e*P **P** **20 43 37.6 -1.6**
EKS2 LR LR
comp=Z,1μm,22.0s
EGAK Eagle 86.32 23 *e*P **P** **20 43 46.1 -1.1**
EGAK LR LR
comp=Z,1μm,20.0s
HYT Haines Junctio 86.49 28 *e*P **P** **20 43 47.6 -0.6**
DAWY Dawson 86.77 24 *e*P **P** **20 43 48.4 -1.1**
KKAR Karatay Array 87.01 314 *e*P **P** **20 43 49.3 -1.8**
KKAR pmax pmax
comp=Z,22nm,1.0s
KKAR Karatay Array 87.01 314 *e*P **P** **20 43 49.3 -1.8**
comp=Z,22nm,1.0s
BESE Bessie Mountai 87.09 30 *e*P **P** **20 43 53.2 +2.0**
WRAK Wrangell Islan 87.82 33 PFAKE 20 44 10.0 +15

WRAK LR LR
comp=Z,2µm,20.0s
BVAR Borovoye Array 89.03 323 P **P** **20 43 58.5 -2.0**
comp=Z,3.6nm,0.9s,baz=108,slow=4.8,SNR=23
BRVK Borovoye 89.09 323 P **P** **20 43 58.7 -2.0**
comp=Z,44nm,1.3s,SNR=5.1
BRVK Borovoye 89.09 323 *e*P **P** **20 43 58.0 -2.8**
BRVK MLR MLR
comp=Z,1µm,22.0s
BRVK Borovoye 89.09 323 *e*P **P** **20 43 58.0 -2.8**
BRVK LR LR
comp=Z,1µm,22.0s
DLBC Dease Lake 89.51 31 P **P** **20 44 02.0 -0.6**
comp=Z,2.2nm,0.3s,baz=265,slow=3.4,SNR=7.0
DLBC Dease Lake 89.51 31 *e*P **P** **20 44 03.4 +0.7**
INK Inuvik 90.36 21 P **P** **20 44 05.0 -1.3**
comp=Z,11nm,1.0s,baz=230,slow=5.2,SNR=11
INK PKiKP **PKiKP** **20 49 01.5 +0.3**
comp=Z,3.5nm,0.9s,baz=201,slow=4.6,SNR=4.9
INK Inuvik 90.36 21 P **P** **20 44 05.0 -1.3**
INK pmax pmax
comp=Z,11nm,1.0s
INK pmax pmax
comp=Z,4.0nm,0.9s
L02D Cave Junction, 90.80 48 P **P** **20 44 09.7 +0.6**
baz=91
I03D Drain, OR 91.18 46 P **P** **20 44 11.8 +1.1**
baz=91
M02C Callahan 91.26 49 P **P** **20 44 12.6 +1.3**
baz=91
NLWA Neilton Lookou 91.29 43 PFAKE 20 44 20.0 +8.8
NLWA LR LR
comp=Z,2µm,22.0s
N02D Trinity Center 91.33 49 P **P** **20 44 12.5 +1.0**
baz=91
HUMO Hull Mountain 91.33 47 *e*P **P** **20 44 11.9 +0.5**
E03A Lebam 91.39 44 *e*P **P** **20 44 12.7 +1.1**
WDC Whiskeytown Da 91.40 50 *e*P **P** **20 44 12.9 +1.1**
WDC Whiskeytown Da 91.40 50 *e*P **P** **20 44 12.9 +1.1**
YBH Yreka Blue Hor 91.41 48 *e*P **P** **20 44 12.2 +0.3**
YBH Yreka Blue Hor 91.41 48 *e*P **P** **20 44 12.2 +0.3**
SYO Syowa Base 91.81 200 *e*P **P** **20 44 11.4 -1.7**
I04A Tendick Farm, 91.87 46 P **P** **20 44 14.3 +0.3**
baz=92,SNR=6.2
J04D Umpqua Nationa 92.03 47 P **P** **20 44 15.2 +0.3**
baz=92,SNR=5.7
M04C Macdoel 92.06 48 P **P** **20 44 15.6 +0.6**
baz=92,SNR=8.2
K04D Chiloquin, OR 92.22 48 P **P** **20 44 17.2 +1.5**
baz=92
J05D Fort Rock, OR 92.67 47 P **P** **20 44 18.5 +0.7**
baz=93,SNR=14
I05D Terrebonne, OR 92.70 46 P **P** **20 44 18.7 +0.9**
baz=93
CMB Columbia Colle 92.80 52 *e*P **P** **20 44 19.2 +0.8**
CMB Columbia Colle 92.80 52 *e*P **P** **20 44 19.2 +0.8**
G05D Wamic, OR 92.80 45 P **P** **20 44 20.6 +2.3**
baz=93
K05A Summer Lake 92.86 48 *e*P **P** **20 44 19.7 +0.9**
PKM Peak Mountain 92.96 55 P **P** **20 44 21.1 +1.7**
baz=93
BSC Santa Cruz Isl 93.03 56 P **P** **20 44 20.4 +0.9**
baz=93
MOD Modoc 93.22 48 *e*P **P** **20 44 20.7 +0.3**
comp=Z,13nm,0.9s
BLG Laguna Peak 93.51 56 P **P** **20 44 23.3 +1.5**
baz=94
WAKR Walker 93.58 52 *e*P **P** **20 44 22.4 +0.2**
ARVC Arvin 93.79 55 P **P** **20 44 24.5 +1.6**
baz=94
SCI San Clemente I 93.85 57 P **P** **20 44 24.6 +1.3**
baz=94
TJR Tejon Ranch 93.85 55 *e*P **P** **20 44 20.9 -2.4**
CIS Catalina Islan 94.00 57 P **P** **20 44 24.6 +0.6**
baz=94,SNR=5.7
ISA Isabella 94.12 55 *e*P **P** **20 44 24.9 +0.3**
ISA pmax pmax
comp=Z,20nm,1.1s
ISA Isabella 94.12 55 P **P** **20 44 25.2 +0.6**
baz=94,SNR=8.1
ISA Isabella 94.12 55 *e*P **P** **20 44 24.9 +0.3**
comp=Z,20nm,1.1s
DECC Green Verdugo 94.13 56 P **P** **20 44 25.7 +1.1**
baz=94
HAWA Hanford 94.15 44 *e*P P 20 44 27.6 +3.2
HAWA LR LR
comp=Z,1µm,21.0s
MTUM Tungsten Hills 94.18 53 *e*P **P** **20 44 26.1 +1.2**
PASC Pasadena Art C 94.24 56 *e*P **P** **20 44 26.1 +1.0**
MWC Mount Wilson 94.35 56 *e*P **P** **20 44 26.8 +1.0**
MWC Mount Wilson 94.35 56 *e*P **P** **20 44 26.8 +1.0**
TIN Tinemaha 94.42 53 P **P** **20 44 27.0 +1.0**
baz=94
EDW2 Edwards Air Fo 94.46 56 P **P** **20 44 26.8 +0.7**
baz=94,SNR=17
NVAR Mina Array Bea 94.46 52 P **P** **20 44 26.8 +0.6**
comp=Z,19nm,0.9s,baz=256,slow=6.2,SNR=78
G08A Pilot Rock 94.47 45 *e*P **P** **20 44 26.2 +0.2**
WVOR Wild Horse Val 94.50 48 *e*P **P** **20 44 26.4 +0.2**
WVOR MLR MLR
comp=Z,2µm,19.0s
WVOR Wild Horse Val 94.50 48 *e*P **P** **20 44 26.4 +0.2**
WVOR LR LR
comp=Z,2µm,19.0s
CWC Cottonwood Cre 94.50 54 P **P** **20 44 27.3 +0.9**
baz=94
BFSC Mount Baldy Ra 94.68 56 P **P** **20 44 27.8 +0.5**
baz=95,SNR=8.0
MSEY Mahe Island 94.74 265 PFAKE 20 44 40.0 +12
MSEY LR LR
comp=Z,2µm,21.0s
LRMC Laurel Mountai 94.75 55 P **P** **20 44 28.4 +0.9**
baz=95,SNR=6.5
DAC Darwin (Calif) 94.88 54 *e*P **P** **20 44 28.4 +0.2**
DAC pmax pmax
comp=Z,35nm,1.1s
DAC Darwin (Calif) 94.88 54 *e*P **P** **20 44 28.4 +0.2**
comp=Z,35nm,1.1s
MPMC Manual Prospec 94.95 54 P **P** **20 44 29.3 +0.8**
baz=95,SNR=15
109C Camp Elliot, M 95.05 58 P **P** **20 44 30.2 +1.5**
baz=95
ABKAR Akbulak array 95.07 319 *e*P P 20 44 23.5 -5.0
GRAC Grapevine Rang 95.11 53 P **P** **20 44 29.9 +0.9**
baz=95
E09A Wood Farm, Sta 95.11 44 *e*P **P** **20 44 29.1 +0.4**
TPH Tonopah 95.29 52 *e*P **P** **20 44 30.5 +0.4**
TPH Tonopah 95.29 52 *e*P **P** **20 44 30.5 +0.4**
BBRC Big Bear Solar 95.29 56 P **P** **20 44 30.1 -0.1**
baz=95
BAR Barrett 95.40 58 *e*P **P** **20 44 32.3 +1.9**
GSC Goldstone 95.45 55 *e*P **P** **20 44 31.2 +0.5**
GSC Goldstone 95.45 55 P **P** **20 44 31.7 +0.9**
baz=96,SNR=9.3
GSC Goldstone 95.45 55 *e*P **P** **20 44 31.2 +0.5**
FURC Furnace Creek, 95.48 54 P **P** **20 44 31.7 +1.1**
baz=96,SNR=12
MONP Monument Peak 95.62 58 P **P** **20 44 32.7 +1.0**
baz=96,SNR=7.9
PFO Pinyon Flat Ob 95.64 57 P **P** **20 44 32.8 +1.1**
comp=Z,113nm,1.1s,SNR=8.8
PFO Pinyon Flat Ob 95.64 57 *e*P **P** **20 44 32.3 +0.7**
PFO pmax pmax
comp=Z,27nm,1.1s
PFO MLR MLR
comp=Z,1µm,19.0s
PFO Pinyon Flat Ob 95.64 57 P **P** **20 44 32.4 +0.7**
baz=96,SNR=11
PFO Pinyon Flat Ob 95.64 57 *e*P **P** **20 44 32.3 +0.7**
comp=Z,27nm,1.1s
PFO LR LR
comp=Z,1µm,19.0s
F10A Beach Ranch, E 95.72 44 *e*P **P** **20 44 31.8 +0.1**
GEYT Alibeck 95.76 307 P **P** **20 44 30.3 -1.7**
comp=Z,3.1nm,0.9s,baz=121,slow=5.6,SNR=4.3
HEC Hector,Ludlow 95.81 56 P **P** **20 44 33.1 +0.7**
baz=96,SNR=12
IBP Imperial Bould 95.89 58 P **P** **20 44 33.5 +0.8**
baz=96
NEW Newport 95.89 42 P **P** **20 44 31.8 -0.6**
comp=Z,4.5nm,0.9s,baz=233,slow=4.0,SNR=8.5
NEW Newport 95.89 42 P **P** **20 44 31.8 -0.6**
NEW pmax pmax
comp=Z,5.0nm,1.0s
NEW Newport 95.89 42 P **P** **20 44 32.7 +0.3**
baz=96
NEW Newport 95.89 42 *e*P **P** **20 44 32.5 +0.2**
NEW LR LR
comp=Z,2µm,21.0s
SHOC Shoshone 95.92 55 P **P** **20 44 33.4 +0.7**
baz=96,SNR=5.3
TPNV Topopah Spring 96.00 54 *e*P **P** **20 44 34.3 +1.0**
TPNV Topopah Spring 96.00 54 P **P** **20 44 33.9 +0.7**
baz=96,SNR=14
TPNV Topopah Spring 96.00 54 *e*P **P** **20 44 34.3 +1.0**
BELC Belle Mtn. Jos 96.04 57 P **P** **20 44 34.4 +0.9**
baz=96,SNR=18
SWSC Sam W. Stewart 96.15 58 P **P** **20 44 34.6 +0.8**
baz=96
TUQ Turquoise Moun 96.18 55 P **P** **20 44 34.7 +0.7**
baz=96
ARU Arti 96.22 326 P **P** **20 44 30.7 -2.9**
baz=89,slow=13
ARU Arti 96.22 326 *c i*P **P** **20 44 30.4 -3.1**
ARU 20 48 23.5
ARU S **SKSac** **20 55 04.0 -2.6**
ARU SS **SS** **21 02 20.3 -2.1**
ARU pmax pmax
comp=Z,8.0nm,1.2s
ARU MLR MLR
comp=Z,2µm,22.0s
ARU Arti 96.22 326 P **P** **20 44 30.7 -2.9**
ARU LR LR
comp=Z,2µm,22.0s
GMRC Granite Mounta 96.36 56 P **P** **20 44 36.0 +1.1**
baz=96,SNR=15
BC3 Big Chuckawall 96.48 57 P **P** **20 44 36.5 +1.1**
baz=96,SNR=12
R11A Troy Canyon, C 96.59 52 P **P** **20 44 36.7 +0.8**
baz=97,SNR=11
R11A Troy Canyon, C 96.59 52 *e*P **P** **20 44 36.8 +0.9**
MFID Camas Ranch 96.61 47 *e*P **P** **20 44 37.0 +1.1**
IRM Iron Mountain 96.75 56 P **P** **20 44 37.7 +1.1**
baz=97,SNR=19
LDFC Landfair 96.83 55 *e*P **P** **20 44 38.0 +0.9**
SHPR Sheep Range 96.85 54 *e*P **P** **20 44 37.8 +0.7**
ELK Elko 96.95 50 *e*P **P** **20 44 38.2 +0.6**
ELK Elko 96.95 50 *e*P **P** **20 44 38.2 +0.6**
GLA Glamis 96.97 58 P **P** **20 44 38.2 +0.6**
baz=97
NEE2 Needles Airpor 97.22 56 P Pdif 20 44 40.2 +1.5
baz=97
Y12C Blythe 97.25 57 P Pdif 20 44 39.7 +0.8
baz=97
BSMT Bassoo Peak 97.45 43 *e*P **P** **20 44 39.6 0.0**
YKA Yellowknife Ar 97.49 28 P **P** **20 44 38.6 -0.5**
comp=Z,2.7nm,0.9s,baz=272,slow=4.5,SNR=12
YKA PKiKP **PKiKP** **20 49 14.8 +1.2**
comp=Z,1.5nm,0.7s,baz=292,slow=1.4,SNR=5.8
YKA PKKPbc **PKKPbc** **21 01 15.5 -3.4**
comp=Z,1.1nm,0.9s,baz=97,slow=3.0,SNR=4.6
PDMCI Parker Dam,Lak 97.59 56 P Pdif 20 44 41.4 +1.0
baz=98
HLID Hailey 97.64 47 P Pdif 20 44 41.2 +0.6
baz=98
HLID Hailey 97.64 47 *e*P Pdif 20 44 41.2 +0.6
HLID LR LR
comp=Z,2µm,20.0s
MSO Missoula 98.02 44 P Pdif 20 44 43.3 +1.2
baz=98
WALA Waterton Lakes 98.04 41 *e*P **P** **20 44 41.9 -0.3**
CCUT Cedar City 98.32 53 *e*P Pdif 20 44 45.3 +1.5
EDM Edmonton 98.35 37 *e*P Pdif 20 44 43.9 +0.5
EDM Edmonton 98.35 37 *e*P Pdif 20 44 43.9 +0.6
NVL N'lazarevskaya 98.59 193 *e*P **P** **20 44 43.6 -0.4**
NVL pmax pmax
comp=Z,12nm,1.3s
NVL MLR MLR
comp=Z,1µm,16.0s
214A Organ Pipe Nat 98.63 59 Pdiff Pdif 20 44 45.9 +0.8
baz=99
MCMT McKenzie Canyo 98.78 46 *e*P Pdif 20 44 46.0 +0.3
comp=Z,1.3nm,0.9s
DUG Dugway 98.79 50 Pdiff Pdif 20 44 46.6 +0.8
baz=99
DUG Dugway 98.79 50 PFAKE 20 45 00.0 +14
DUG LR LR
comp=Z,2µm,20.0s
HVU Hansel Valley 98.83 49 *e*P Pdif 20 44 46.5 +0.6
HVU Hansel Valley 98.83 49 *e*P Pdif 20 44 46.5 +0.6
MSU Marysvale 99.27 52 *e*P **Pdif** **20 44 51.1 +3.0**
MSU pmax pmax
comp=Z,2.0nm,0.9s
MSU Marysvale 99.27 52 *e*P **Pdif** **20 44 51.0 +3.0**
comp=Z,2.0nm,0.9s
BOZ Bozeman (W) 99.63 45 Pdiff **Pdif** **20 44 50.1 +0.7**
baz=100
BOZ Bozeman (W) 99.63 45 PFAKE 20 45 00.0 +11
BOZ LR LR
comp=Z,2µm,19.0s
HWUT Hardware Ranch 99.74 49 PFAKE 20 45 00.0 +10
HWUT LR LR
comp=Z,2µm,20.0s
WUAZ Wupatki 99.89 55 Pdiff **Pdif** **20 44 51.6 +0.8**
baz=100
WUAZ Wupatki 99.89 55 PFAKE 20 45 00.0 +9.2
WUAZ LR LR
comp=Z,2µm,21.0s
AHID Auburn Hatcher 100.07 48 *e*P **Pdif** **20 44 51.8 +0.3**
comp=Z,5.6nm,0.9s
AHID LR LR
comp=Z,2µm,19.0s
FXWY Fox Creek 100.10 47 *e*Pdif **Pdif** **20 44 52.1 +0.4**
MOOW Moose Ponds 100.30 47 *e*Pdif **Pdif** **20 44 53.4 +0.9**
TUC Tucson 100.36 58 *e*P **Pdif** **20 44 54.2 +1.3**
TUC pmax pmax
comp=Z,5.0nm,1.3s
TUC MLR MLR
comp=Z,2µm,20.0s
TUC Tucson 100.36 58 *e*Pdif **Pdif** **20 44 54.1 +1.3**
comp=Z,5.5nm,1.3s
TUC LR LR
comp=Z,2µm,20.0s
SNAA Sanae 100.50 188 P **Pdif** **20 44 53.1 +0.5**
SNAA Sanae 100.50 188 P **Pdif** **20 44 52.2 -0.4**
comp=Z,1.8nm,1.1s,baz=136,slow=4.7,SNR=6.0
LKWY Lake 100.53 46 PFAKE 20 45 00.0 +6.4
LKWY LR LR
comp=Z,4µm,19.0s
ABPO Ambohimpanom 100.72 249 PFAKE 20 45 10.0 +15
ABPO LR LR
comp=Z,2µm,20.0s
EGMT Eagleton 100.83 42 Pdiff **Pdif** **20 44 55.4 +0.8**
baz=101
EGMT Eagleton 100.83 42 PFAKE 20 45 10.0 +15
EGMT LR LR
comp=Z,3µm,22.0s
BW06 Boulder Array 101.20 48 PFAKE 20 45 10.0 +13
BW06 LR LR
comp=Z,2µm,19.0s
PDAR Pinedale Array 101.20 48 P **Pdif** **20 44 55.7 -0.9**
comp=Z,6.1nm,0.9s,baz=294,slow=1.5,SNR=32
PDAR PKiKP **PKiKP** **20 49 22.9 +1.7**
comp=Z,0.6nm,0.5s,baz=228,slow=5.8,SNR=3.8
W18A Petrified Fore 101.23 56 Pdiff **Pdif** **20 44 57.7 +0.9**
baz=101
RLMT Red Lodge 101.31 45 Pdiff **Pdif** **20 44 57.8 +0.9**
baz=101
RLMT Red Lodge 101.31 45 PFAKE 20 45 10.0 +13
RLMT LR LR
comp=Z,2µm,19.0s
J19A Crowheart 101.55 47 Pdiff **Pdif** **20 44 59.2 +1.2**
baz=102
I19A Meeteetse 101.56 46 Pdiff **Pdif** **20 44 58.6 +0.5**
baz=102
PV04 Paradox Valley 101.84 52 *e*Pdif **Pdif** **20 45 01.0 +1.6**
G20A Bridger 102.05 45 Pdiff **Pdif** **20 45 00.9 +0.8**
baz=102
PV01 Paradox Valley 102.11 52 *e*Pdif **Pdif** **20 45 00.3 -0.4**
comp=Z,602nm,1.1s
MVCO Mesa Verde 102.20 53 Pdiff **Pdif** **20 45 01.8 +0.7**
baz=102
MVCO Mesa Verde 102.20 53 PFAKE 20 45 10.0 +8.9
MVCO LR LR
comp=Z,2µm,21.0s
J21A Lysite 102.72 47 Pdiff **Pdif** **20 45 04.4 +1.1**
baz=103
I21A Big Trails, Te 102.80 47 Pdiff **Pdif** **20 45 04.6 +1.0**
baz=103
LAO LASA Array 103.32 44 PFAKE 20 45 20.0 +14
LAO LR LR
comp=Z,3µm,22.0s
I22A 9 Mile Ranch, 103.38 46 Pdiff **Pdif** **20 45 07.1 +1.1**
baz=103
G22A Birney 103.40 45 Pdiff **Pdif** **20 45 07.1 +1.0**
baz=103
J22A Midwest 103.42 47 Pdiff **Pdif** **20 45 07.5 +1.2**
baz=103
ANMO Albuquerque 103.93 56 PFAKE 20 45 20.0 +11
ANMO LR LR
comp=Z,2µm,20.0s
N23A Red Feather La 104.00 49 Pdiff **Pdif** **20 45 09.8 +0.8**
baz=104
N23A Red Feather La 104.00 49 *e*Pdif **Pdif** **20 45 10.6 +1.5**
K23A Bowen Ranch, D 104.09 48 Pdiff **Pdif** **20 45 09.9 +0.6**
baz=104
ISCO Idaho Springs 104.33 51 Pdiff **Pdif** **20 45 11.0 +0.3**
baz=104
ISCO Idaho Springs 104.33 51 PFAKE 20 45 20.0 +9.4
ISCO LR LR
comp=Z,2µm,20.0s
KBS Kingsbay 104.33 352 PFAKE 20 45 20.0 +11
KBS LR LR
comp=Z,1µm,21.0s
SDCO Great Sand Dun 104.56 53 PFAKE 20 45 20.0 +8.3
SDCO LR LR
comp=Z,3µm,22.0s
I24A Kuemmerle Ranc 104.72 46 Pdiff **Pdif** **20 45 12.7 +0.7**
baz=105
FFC Flin Flon 104.88 35 PFAKE 20 45 20.0 +7.7
FFC LR LR
comp=Z,3µm,22.0s
LVZ Lovozero 105.23 339 PFAKE 20 49 40.0
LVZ LR LR
comp=Z,1µm,19.0s
J25A Sunshine Ranch 105.36 47 PKiKP **PKiKP** **20 49 29.6 +1.0**
baz=105
K26A Motz Farm, Whi 105.89 47 PKiKP **PKiKP** **20 49 30.4 +0.8**
baz=106
J26A Sides Ranch, S 105.90 47 PKiKP **PKiKP** **20 49 30.4 +0.8**
baz=106
E26A Carlson Angus 105.92 43 PKiKP **PKiKP** **20 49 29.8 +0.3**
baz=106
H26A Fairpoint 105.95 45 PKiKP **PKiKP** **20 49 30.2 +0.6**
baz=106
GNI Garni 106.11 310 PFAKE 20 49 40.0
GNI LR LR
comp=Z,1µm,20.0s
R26A Arlington 106.13 52 PKiKP **PKiKP** **20 49 31.0 +0.8**
baz=106
S26A Kim 106.17 53 PKiKP **PKiKP** **20 49 31.6 +1.2**
baz=106
RAYN Ar Rayn 106.36 293 PFAKE 20 49 40.0
RAYN LR LR
comp=Z,1µm,21.0s
D27A Center 106.46 43 PKiKP **PKiKP** **20 49 31.3 +0.9**
baz=106
TXAR Lajitas Array 106.52 61 Pdiff **Pdif** **20 45 22.7 +2.3**
comp=Z,0.3nm,0.8s,baz=265,slow=6.2,SNR=2.5
TXAR PKiKP **PKiKP** **20 49 32.2 +1.0**
comp=Z,1.1nm,0.9s,baz=264,slow=2.5,SNR=8.3
T27A Campo 106.81 53 PKiKP **PKiKP** **20 49 32.3 +0.7**
baz=107
KEV Kevo 106.89 342 PFAKE 20 49 40.0
KEV LR LR
comp=Z,1µm,20.0s
OGNE Ogallala 106.94 49 PFAKE 20 49 40.0
OGNE LR LR
comp=Z,3µm,22.0s
E28A Huff 107.11 43 PKiKP **PKiKP** **20 49 32.4 +0.7**
baz=107
KIV Kislovodsk 107.17 314 PFAKE 20 49 40.0
KIV LR LR
comp=Z,1µm,19.0s
I28A Midland 107.18 46 PKiKP **PKiKP** **20 49 32.5 +0.6**
baz=107
H28A Mission Ridge 107.19 45 PKiKP **PKiKP** **20 49 32.8 +0.9**
baz=107
J28A Allard Ranch, 107.21 46 PKiKP **PKiKP** **20 49 32.5 +0.5**
baz=107
T28A Walsh 107.29 53 PKiKP **PKiKP** **20 49 33.2 +0.7**
baz=107
ARCES ARCESS Array B 107.46 342 PKiKP **PKiKP** **20 49 32.0 +0.4**
comp=Z,3.3nm,0.8s,baz=338,slow=1.3,SNR=6.5
A29A Manning Farm, 107.66 41 PKiKP **PKiKP** **20 49 33.9 +1.3**
baz=108
529A Stev Forest Ra 107.74 60 PKiKP **PKiKP** **20 49 33.8 +0.4**
baz=108
429A Davenport Ranc 107.99 60 PKiKP **PKiKP** **20 49 34.3 +0.4**
baz=108
D30A Buchanan 108.33 42 PKiKP **PKiKP** **20 49 34.5 +0.6**
baz=108
B30A Myrvik Farm, E 108.34 41 PKiKP **PKiKP** **20 49 34.5 +0.6**
baz=108
G30A Faulkton 108.43 44 PKiKP **PKiKP** **20 49 35.1 +1.0**
baz=108
J30A Dallas 108.48 46 PKiKP **PKiKP** **20 49 34.9 +0.6**
baz=108
530A J-C Ranch, Com 108.50 60 PKiKP **PKiKP** **20 49 35.2 +0.4**
baz=108
OBN Obninsk 108.66 326 PFAKE 20 49 50.0
OBN LR LR
comp=Z,1µm,19.0s
CBKS Cedar Bluff 108.96 51 PFAKE 20 49 50.0
CBKS LR LR
comp=Z,2µm,19.0s
ULM Lac du Bonnet 109.50 39 PKiKP **PKiKP** **20 49 35.2 -0.7**
comp=Z,10nm,0.9s,baz=312,slow=3.2,SNR=7.4
532A Rocksprings 109.74 60 PKiKP **PKiKP** **20 49 37.9 +0.7**
baz=110
332A Millersview 109.78 59 PKiKP **PKiKP** **20 49 37.8 +0.6**
baz=110
JCT Junction City 109.80 60 PFAKE 20 49 50.0
JCT LR LR
comp=Z,2µm,20.0s
Z32A Haskell 109.82 57 PKiKP **PKiKP** **20 49 38.4 +1.2**
baz=110
AGMN Agassiz Nation 109.98 41 PKiKP **PKiKP** **20 49 37.2 +0.3**
baz=110
AGMN Agassiz Nation 109.98 41 PFAKE 20 49 50.0
AGMN LR LR
comp=Z,2µm,20.0s
WMOK Wichita Mounta 110.24 55 PFAKE 20 49 50.0
WMOK LR LR
comp=Z,2µm,22.0s
433A Art 110.39 60 PKiKP **PKiKP** **20 49 38.8 +0.5**
baz=110
O33A Hebron 110.42 50 PKiKP **PKiKP** **20 49 38.7 +0.6**
baz=110
333A Richland Sprin 110.43 59 PKiKP **PKiKP** **20 49 39.3 +1.0**
baz=110
M33A Taylor Creek F 110.46 48 PKiKP **PKiKP** **20 49 39.1 +1.0**
baz=110
ECSD EROS Data Cent 110.47 46 PKiKP **PKiKP** **20 49 38.3 +0.3**
baz=110
ECSD EROS Data Cent 110.47 46 PFAKE 20 49 50.0
ECSD LR LR
comp=Z,3µm,21.0s
R34A Isabella, Hill 110.97 51 PKiKP **PKiKP** **20 49 40.4 +1.2**
baz=111
O34A Beatrice 111.08 49 PKiKP **PKiKP** **20 49 39.9 +0.6**
baz=111
434A Burnet 111.09 59 PKiKP **PKiKP** **20 49 39.8 +0.1**
baz=111
P34A Walnut Farm, R 111.09 50 PKiKP **PKiKP** **20 49 39.6 +0.3**
baz=111
FINES FINESS Array B 111.33 335 PKiKP **PKiKP** **20 49 39.0 -0.1**
comp=Z,4.1nm,1.0s,baz=89,slow=9.7,SNR=6.3
FINES FINESS Array B 111.33 335 PKiKP **PKiKP** **20 49 39.0 -0.1**
P35A Duane Minner, 111.71 50 PKiKP **PKiKP** **20 49 41.6 +1.1**
baz=112
W35A Tecumseh 111.74 55 PKiKP **PKiKP** **20 49 41.3 +0.6**
baz=112
T35A Sooner Cattle 111.77 53 PKiKP **PKiKP** **20 49 41.9 +1.2**
baz=112
S35A Otter Creek Ra 111.79 52 PKiKP **PKiKP** **20 49 41.4 +0.7**
baz=112
Q36A Arnold C. Orve 112.24 50 PKiKP **PKiKP** **20 49 42.6 +1.1**
baz=112
T36A Boggs Farm, Ca 112.24 52 PKiKP **PKiKP** **20 49 42.6 +1.0**
baz=112
X36A Centrahoma 112.24 55 PKiKP **PKiKP** **20 49 42.1 +0.5**
baz=112
W36A Wetumka 112.26 55 PKiKP **PKiKP** **20 49 42.5 +0.8**
baz=112
R36A Gordon, Harris 112.32 51 PKiKP **PKiKP** **20 49 42.4 +0.7**
baz=112
S36A Lake Cedric, C 112.36 52 PKiKP **PKiKP** **20 49 42.5 +0.7**
baz=112

Y36A	**Durant**	**112.39**	**56**	PKiKP	**PKiKP**	**20 49 42.7**	**+0.8**		
	baz=112								
V36A	**Jenks**	**112.39**	**54**	PKiKP	**PKiKP**	**20 49 42.6**	**+0.7**		
	baz=112								
TUL1	**Tulsa**	**112.50**	**54**	PKiKP	**PKiKP**	**20 49 43.3**	**+1.2**		
	baz=112								
R37A	**Teagarden Farm**	**112.84**	**51**	PKiKP	**PKiKP**	**20 49 43.9**	**+1.2**		
	baz=113								
EYMN	**Ely**	**112.89**	**40**	PKiKP	**PKiKP**	**20 49 43.1**	**+0.6**		
	baz=113								
EYMN	**Ely**	**112.89**	**40**	PFAKE		20 49 50.0			
EYMN				LR	LR				
	comp=Z,2µm,20.0s								
W37A	**Quinton**	**112.91**	**54**	PKiKP	**PKiKP**	**20 49 43.7**	**+0.8**		
	baz=113								
Y37A	**Hugo**	**112.93**	**56**	PKiKP	**PKiKP**	**20 49 43.8**	**+0.8**		
	baz=113								
S37A	**Fort Scott**	**112.94**	**52**	PKiKP	**PKiKP**	**20 49 43.6**	**+0.7**		
	baz=113								
U37A	**Salina**	**112.95**	**53**	PKiKP	**PKiKP**	**20 49 43.6**	**+0.7**		
	baz=113								
T37A	**Cheneyville 18**	**112.99**	**52**	PKiKP	**PKiKP**	**20 49 43.7**	**+0.7**		
	baz=113								
V37A	**Hulbert**	**113.02**	**54**	PKiKP	**PKiKP**	**20 49 43.9**	**+0.8**		
	baz=113								
X37A	**Clayton**	**113.04**	**55**	PKiKP	**PKiKP**	**20 49 44.3**	**+1.1**		
	baz=113								
KMBO	**Kilima Mbogo**	**113.23**	**266**	PFAKE		20 50 00.0			
KMBO				LR	LR				
	comp=Z,2µm,20.0s								
SCIA	**State Center**	**113.31**	**47**	PFAKE		20 49 50.0			
SCIA				LR	LR				
	comp=Z,3µm,21.0s								
X38A	**Whitesboro**	**113.47**	**55**	PKiKP	**PKiKP**	**20 49 45.1**	**+1.1**		
	baz=114								
U38A	**Gravette**	**113.53**	**53**	PKiKP	**PKiKP**	**20 49 44.4**	**+0.3**		
	baz=114								
V38A	**Canehill**	**113.61**	**54**	PKiKP	**PKiKP**	**20 49 44.9**	**+0.6**		
	baz=114								
W38A	**Poteau**	**113.66**	**54**	PKiKP	**PKiKP**	**20 49 45.1**	**+0.8**		
	baz=114								
AKASG	**Malin Array Be**	**114.31**	**324**	PKP	PKPdf	20 49 44.3	-0.8		
	comp=Z,2.0nm,0.6s,baz=64,slow=2.0,SNR=16								
KIEV	**Kiev**	**114.32**	**324**	⇑*i*PKIKP	PKPdf	20 49 44.6	-0.5		
KIEV	**Kiev**	**114.32**	**324**	PFAKE		20 50 00.0	+15		
KIEV				LR	LR				
	comp=Z,1µm,20.0s								
MMAI	**Mount Meron Ar**	**114.49**	**303**	PKP	PKPdf	20 49 46.6	+0.5		
	comp=Z,0.8nm,0.4s,baz=360,slow=11,SNR=4.1								
MIAR	**Mount Ida**	**114.51**	**55**	PKiKP	**PKiKP**	**20 49 47.1**	**+1.1**		
	baz=114								
MIAR	**Mount Ida**	**114.51**	**55**	PFAKE		20 50 00.0	+14		
MIAR				LR	LR				
	comp=Z,2µm,20.0s								
BR131	**Keskin Array S**	**114.60**	**311**	*e*PKPdf	PKPdf	20 49 45.3	-0.9		
BRTR	**Keskin Array B**	**114.60**	**311**	PKP	PKPdf	20 49 45.8	-0.5		
	comp=Z,5.1nm,0.9s,baz=126,slow=2.1,SNR=20								
JFWS	**Jewell Farm**	**115.17**	**45**	*e*PKIKP	**PKPdf**	**20 49 46.1**	**-0.9**		
JFWS				MLR	MLR				
	comp=Z,2µm,20.0s								
JFWS	**Jewell Farm**	**115.17**	**45**	*e*PKPdf	**PKPdf**	**20 49 46.1**	**-0.9**		
JFWS				LR	LR				
	comp=Z,2µm,20.0s								
ANTO	**Ankara**	**115.20**	**311**	PFAKE		20 50 00.0	+13		
ANTO				LR	LR				
	comp=Z,769nm,21.0s								
EIL	**Elat**	**115.36**	**300**	PKP	**PKPdf**	**20 49 47.1**	**-0.7**		
	comp=Z,10nm,1.0s,baz=165,slow=3.6,SNR=5.3								
CSS	**Prodhromos**	**115.85**	**306**	PFAKE		20 50 00.0	+11		
CSS				LR	LR				
	comp=Z,240nm,20.0s								
SUW	**Suwalki**	**116.27**	**329**	*e*PKP	**PKPdf**	**20 49 48.8**	**+0.1**		
SUW	**Suwalki**	**116.27**	**329**	*e*PKIKP	**PKPdf**	**20 49 48.9**	**+0.2**		
HDIL	**Hopedale**	**116.51**	**48**	PKiKP	**PKiKP**	**20 49 50.4**	**+0.8**		
	baz=116								
HDIL	**Hopedale**	**116.51**	**48**	PFAKE		20 50 00.0	+10		
HDIL				LR	LR				
	comp=Z,3µm,22.0s								
HFS	**Hagfors**	**117.07**	**337**	PKP	**PKPdf**	**20 49 49.5**	**-0.7**		
	comp=Z,1.7nm,0.8s,baz=67,slow=5.0,SNR=4.8								
BOSA	**Boshof**	**117.24**	**234**	PKP	**PKPdf**	**20 49 52.1**	**+0.5**		
	comp=Z,4.0nm,1.0s,baz=97,slow=4.8,SNR=4.5								
BOSA				PKKPbc	**PKKPbc**	**21 00 16.9**	**+0.8**		
	comp=Z,6.1nm,1.0s,baz=37,slow=3.1,SNR=6.2								
NB2	**NORSAR Subarra**	**117.38**	**339**	PKPdf	**PKPdf**	**20 49 49.7**	**-1.1**		
	comp=Z,2.5nm,1.0s,baz=44,slow=1.9								
NOA	**NORSAR Array B**	**117.38**	**339**	PKP	**PKPdf**	**20 49 50.6**	**-0.2**		
	comp=Z,5.0nm,0.9s,baz=45,slow=2.2,SNR=16								
SFJD	**Kangerlussuaq**	**117.41**	**9**	PFAKE		20 50 00.0	+9.4		
SFJD				LR	LR				
	comp=Z,2µm,20.0s								
EFI	**East Falkland**	**117.42**	**160**	PFAKE		20 50 00.0	+8.9		
EFI				LR	LR				
	comp=Z,3µm,20.0s								
ISP	**Isparta**	**117.42**	**310**	PFAKE		20 50 00.0	+8.4		
ISP				LR	LR				
	comp=Z,855nm,20.0s								
TESR	**Tescani**	**117.45**	**320**	⇑*i*P	**PKPdf**	**20 49 50.7**	**-0.6**		
MATP	**Matopo**	**117.47**	**243**	PKP	**PKPdf**	**20 49 52.0**	**-0.2**		
	comp=Z,8.9nm,0.9s,baz=114,slow=1.6,SNR=11								
VRI	**Vrincioaia**	**117.63**	**319**	⇑PKIKP	**PKPdf**	**20 49 50.4**	**-1.3**		
VRI	**Vrincioaia**	**117.63**	**319**	⇑*i*P	**PKPdf**	**20 49 50.4**	**-1.3**		
PLOR	**Plostina**	**117.69**	**319**	⇓PKIKP	**PKPdf**	**20 49 52.0**	**+0.2**		
PLOR	**Plostina**	**117.69**	**319**	⇓*i*P	**PKPdf**	**20 49 52.0**	**+0.2**		
BUR08	**Bucovina Ar. S**	**117.92**	**321**	*e*PKPdf	**PKPdf**	**20 49 52.8**	**+0.5**		
BURAR	**Bucovina Array**	**117.92**	**321**	⇓PKIKP	**PKPdf**	**20 49 53.5**	**+1.2**		
BURAR	**Bucovina Array**	**117.92**	**321**	⇓*i*P	**PKPdf**	**20 49 53.5**	**+1.2**		
SFIN	**Scholer Farm**	**118.16**	**47**	PKiKP	**PKiKP**	**20 49 53.4**	**+0.6**		
	baz=118								
MLR	**Muntele Rosu**	**118.28**	**319**	PKP	**PKPdf**	**20 49 52.7**	**-0.4**		
	comp=Z,3.3nm,1.0s,baz=14,slow=2.0,SNR=10								
MLR	**Muntele Rosu**	**118.28**	**319**	⇑*i*P	**PKPdf**	**20 49 53.1**	**0.0**		
SECR		**118.37**	**318**	⇓*i*P	**PKPdf**	**20 49 51.8**	**-1.3**		
LBTB	**Lobatse**	**118.39**	**237**	PKP	**PKPdf**	**20 49 54.0**	**+0.1**		
	comp=Z,7.6nm,1.1s,baz=110,slow=3.7,SNR=4.7								
GLMI	**Grayling**	**118.42**	**42**	PFAKE		20 50 00.0	+6.8		
GLMI				LR	LR				
	comp=Z,3µm,20.0s								
DOPR	**Dopca**	**118.46**	**320**	⇑*i*P	**PKPdf**	**20 49 53.9**	**+0.6**		
KWP	**Kalwaria Pacla**	**118.57**	**324**	*e*PKP	**PKPdf**	**20 49 53.4**	**+0.1**		
KWP	**Kalwaria Pacla**	**118.57**	**324**	*e*PKIKP	**PKPdf**	**20 49 53.5**	**+0.1**		
PAYG	**Puerto Ayora**	**118.71**	**94**	PFAKE		20 50 10.0	+15		
PAYG				LR	LR				
	comp=Z,2µm,19.0s								
VOIR		**118.89**	**319**	⇑PKIKP	**PKPdf**	**20 49 55.7**	**+1.5**		
VOIR		**118.89**	**319**	⇑*i*P	**PKPdf**	**20 49 55.7**	**+1.5**		
KONO	**Kongsberg**	**118.92**	**339**	PFAKE		20 50 00.0	+6.3		
KONO				LR	LR				
	comp=Z,2µm,21.0s								
SUR	**Sutherland**	**118.97**	**228**	PFAKE		20 50 10.0	+15		
SUR				LR	LR				
	comp=Z,5µm,20.0s								
KOLS	**Kolonicke sedl**	**119.14**	**324**	*e*PKIKP	**PKPdf**	**20 49 55.0**	**+0.5**		
KOLS	**Kolonicke sedl**	**119.14**	**324**	*e*PKP	**PKPdf**	**20 49 55.0**	**+0.5**		
ARR	**Arges**	**119.18**	**319**	⇑*i*P	**PKPdf**	**20 49 55.8**	**+1.0**		
HUMR	**Humele**	**119.28**	**318**	⇑*i*P	**PKPdf**	**20 49 54.6**	**-0.3**		
LSZ	**Lusaka**	**119.28**	**249**	PKP	**PKPdf**	**20 49 56.2**	**+0.3**		
	comp=Z,8.3nm,1.0s,baz=27,slow=6.9,SNR=16								
LSZ	**Lusaka**	**119.28**	**249**	*e*PKIKP	**PKPdf**	**20 49 55.6**	**-0.3**		
LSZ				MLR	MLR				
	comp=Z,3µm,21.0s								
LSZ	**Lusaka**	**119.28**	**249**	*e*PKPdf	**PKPdf**	**20 49 55.5**	**-0.3**		
LSZ				LR	LR				
	comp=Z,3µm,21.0s								
TNR	**Turnu Rosu**	**119.30**	**320**	⇓PKIKP	PKPpre	20 49 41.6			
TNR	**Turnu Rosu**	**119.30**	**320**	⇓*i*P	PKPpre	20 49 41.6			
HOPE	**Hope Point**	**119.57**	**175**	PFAKE		20 50 10.0	+15		
HOPE				LR	LR				
	comp=Z,3µm,21.0s								
MBAR	**Mbarara**	**119.75**	**266**	PFAKE		20 50 10.0	+13		
MBAR				LR	LR				
	comp=Z,733nm,20.0s								
DRGR		**119.82**	**321**	⇓PKIKP	**PKPdf**	**20 49 56.0**	**+0.1**		
DRGR		**119.82**	**321**	⇓*i*P	**PKPdf**	**20 49 56.0**	**+0.1**		
OJC	**Ojcow**	**119.94**	**326**	*e*PKP	**PKPdf**	**20 49 55.1**	**-0.9**		
OJC	**Ojcow**	**119.94**	**326**	*e*PKIKP	**PKPdf**	**20 49 55.2**	**-0.8**		
AAM	**Ann Arbor**	**119.98**	**44**	PFAKE		20 50 10.0	+14		
AAM				LR	LR				
	comp=Z,2µm,19.0s								
NIE	**Niedzica**	**120.04**	**325**	*e*PKP	**PKPdf**	**20 49 56.3**	**+0.1**		
NIE	**Niedzica**	**120.04**	**325**	*e*PKIKP	**PKPdf**	**20 49 56.3**	**+0.1**		
RDO	**Rodhopi**	**120.12**	**314**	*e*P	**PKPdf**	**20 49 55.7**	**-0.9**		
LRAL	**Lakeview Retre**	**120.18**	**55**	*e*PKPdf	**PKPdf**	**20 49 56.6**	**-0.3**		
KECS	**Kecovo**	**120.39**	**324**	*e*PKIKP	**PKPdf**	**20 49 57.0**	**+0.1**		
KECS	**Kecovo**	**120.39**	**324**	*e*PKP	**PKPdf**	**20 49 57.0**	**+0.1**		
KECS				*e*		21 26 09.8			
BRAL	**Brewton**	**120.58**	**58**	PFAKE		20 50 10.0	+12		
BRAL				LR	LR				
	comp=Z,2µm,20.0s								
SIRR	**Siria**	**120.70**	**321**	⇑*i*P	**PKPdf**	**20 49 57.9**	**+0.3**		
KAVA	**Kavala**	**120.90**	**315**	*e*P	**PKPdf**	**20 49 57.5**	**-0.6**		
PSZ	**Piszkesteto**	**121.01**	**324**	*e*PKIKP	**PKPdf**	**20 49 57.1**	**-1.1**		
PSZ				MLR	MLR				
	comp=Z,1µm,19.0s								
PSZ	**Piszkesteto**	**121.01**	**324**	⇑*i*P	**PKPdf**	**20 49 58.5**	**+0.3**		
PSZ	**Piszkesteto**	**121.01**	**324**	*e*PKPdf	**PKPdf**	**20 49 57.1**	**-1.1**		
PSZ				LR	LR				
	comp=Z,1µm,19.0s								
PSZ	**Piszkesteto**	**121.01**	**324**	⇓*e*PKPdf	**PKPdf**	**20 49 58.0**	**-0.2**		
OKC	**Ostrava-Krasne**	**121.05**	**326**	*e*PKPdf	**PKPdf**	**20 49 58.2**	**+0.1**		
OKC				*ep*PKP	**pPKPdf**	**20 50 10.7**	**-0.7**		
OKC	**Ostrava-Krasne**	**121.05**	**326**	*e*PKIKP	**PKPdf**	**20 49 58.2**	**+0.1**		
OKC				*e*		20 50 10.7			
TEIG	**Tepich**	**121.11**	**70**	PFAKE		20 50 10.0	+11		
TEIG				LR	LR				
	comp=Z,34nm,19.0s								
BORG	**Borgarnes**	**121.15**	**356**	PFAKE		20 50 10.0	+12		
BORG				LR	LR				
	comp=Z,2µm,20.0s								
ACSO	**Alum Creek Sta**	**121.19**	**46**	*e*PKPdf	**PKPdf**	**20 49 58.4**	**-0.3**		
ACSO				LR	LR				
	comp=Z,2µm,19.0s								
VTS	**Vitosha**	**121.21**	**317**	⇑PKIKP	**PKPdf**	**20 49 58.9**	**0.0**		
VTS	**Vitosha**	**121.21**	**317**	⇑*i*P	**PKPdf**	**20 49 58.9**	**0.0**		
NVR	**Nevrokopi**	**121.23**	**315**	*e*P	**PKPdf**	**20 49 57.8**	**-1.0**		
VYHS	**Vyhne**	**121.35**	**325**	*e*PKIKP	**PKPdf**	**20 49 58.4**	**-0.3**		
VYHS	**Vyhne**	**121.35**	**325**	*e*PKP	**PKPdf**	**20 49 58.4**	**-0.3**		
MORC	**Moravsky Berou**	**121.42**	**326**	*e*PKIKP	**PKPdf**	**20 49 58.7**	**-0.2**		
MORC	**Moravsky Berou**	**121.42**	**326**	⇓*i*P	**PKPdf**	**20 49 59.6**	**+0.7**		
MORC	**Moravsky Berou**	**121.42**	**326**	*e*PKPdf	**PKPdf**	**20 49 58.7**	**-0.2**		
SRS	**Serrai**	**121.50**	**315**	*e*P	**PKPdf**	**20 49 57.5**	**-1.8**		
KSP	**Ksiaz**	**121.51**	**328**	*e*PKP	**PKPdf**	**20 49 59.4**	**+0.5**		
KSP	**Ksiaz**	**121.51**	**328**	*e*PKIKP	**PKPdf**	**20 49 59.5**	**+0.5**		
KRLC	**Kraliky**	**121.67**	**327**	*e*PKPdf	**PKPdf**	**20 49 59.5**	**+0.1**		
KRLC				*ex*	x	20 50 12.6			
KRLC	**Kraliky**	**121.67**	**327**	*e*PKIKP	**PKPdf**	**20 49 59.5**	**+0.1**		
KRLC				*e*		20 50 12.6			
DPC	**Dobruska-Polom**	**121.77**	**327**	*e*PKPdf	**PKPdf**	**20 49 59.8**	**+0.2**		
DPC				*ep*PKP	**pPKPdf**	**20 50 08.3**	**-4.5**		
DPC				*es*PKP		20 50 14.2			
DPC	**Dobruska-Polom**	**121.77**	**327**	*e*PKIKP	**PKPdf**	**20 49 59.8**	**+0.2**		
DPC				*e*		20 50 08.3			
DPC				*e*		20 50 14.2			
UPC	**Upice**	**121.85**	**328**	*e*PKPdf	**PKPdf**	**20 49 59.8**	**+0.2**		
UPC				*ex*	x	20 50 05.5			
UPC	**Upice**	**121.85**	**328**	*e*PKIKP	**PKPdf**	**20 49 59.8**	**+0.2**		
UPC				*e*		20 50 05.5			
PAIG	**Paliouri**	**121.87**	**314**	*e*P	**PKPdf**	**20 49 58.5**	**-1.5**		
KNT	**Kendrikon**	**121.97**	**315**	*e*P	**PKPdf**	**20 49 58.9**	**-1.3**		
HORT	**Hortiatis**	**122.04**	**315**	*e*P	**PKPdf**	**20 49 58.8**	**-1.6**		
PKSG		**122.16**	**324**	⇓*e*PKPdf	**PKPdf**	**20 50 00.0**	**-0.3**		
VRAC	**Vranov**	**122.19**	**326**	PKP	**PKPdf**	**20 50 01.1**	**+0.8**		
	comp=Z,6.1nm,0.9s,baz=72,slow=1.9,SNR=12								
VRAC	**Vranov**	**122.19**	**326**	⇓PKIKP	**PKPdf**	**20 50 01.0**	**+0.7**		
VRAC	**Vranov**	**122.19**	**326**	⇓*i*P	**PKPdf**	**20 50 01.0**	**+0.7**		
XOR	**Xorichti**	**122.42**	**313**	*e*P	**PKPdf**	**20 49 59.9**	**-1.2**		
PKST	**T˜˜s**	**122.43**	**324**	⇓*e*PKPdf	**PKPdf**	**20 50 00.4**	**-0.5**		
IDI	**Anoyia**	**122.47**	**308**	*e*PKPdf	**PKPdf**	**20 50 01.0**	**-0.4**		
BSEG	**Bad Segeberg**	**122.54**	**333**	*e*PKPdf	**PKPdf**	**20 50 00.8**	**0.0**		
PKSM	**Moragy**	**122.58**	**322**	⇑PKIKP	**PKPdf**	**20 50 01.5**	**+0.4**		
PKSM	**Moragy**	**122.58**	**322**	⇑*i*P	**PKPdf**	**20 50 01.5**	**+0.4**		
PKSM	**Moragy**	**122.58**	**322**	⇓*e*PKPdf	**PKPdf**	**20 50 00.6**	**-0.5**		
PVCC	**Panska Ves**	**122.60**	**328**	*e*PKPdf	**PKPdf**	**20 50 01.1**	**0.0**		
PVCC				*ep*PKP	**pPKPdf**	**20 50 08.3**	**-6.0**		
PVCC				*es*PKP		20 50 15.6			
PVCC	**Panska Ves**	**122.60**	**328**	*e*PKIKP	**PKPdf**	**20 50 01.1**	**0.0**		
PVCC				*e*		20 50 08.3			
PVCC				*e*		20 50 15.6			
LIT	**Litokhoron**	**122.66**	**314**	*e*P	**PKPdf**	**20 50 00.6**	**-0.9**		
BRG	**Berggiesshubel**	**122.72**	**329**	*i* PKP	**PKPdf**	**20 50 01.1**	**-0.2**		
	comp=Z,23nm,1.1s								
BRG	**Berggiesshubel**	**122.72**	**329**	*e*PKPdf	**PKPdf**	**20 50 00.9**	**-0.4**		
BRG	**Berggiesshubel**	**122.72**	**329**	*i* PKIKP	**PKPdf**	**20 50 01.1**	**-0.2**		
BRG				*pmax*	pmax				
	comp=Z,23nm,1.1s								
DIVS	**Divibare**	**122.72**	**320**	⇓*i*P	**PKPdf**	**20 50 01.5**	**-0.1**		
SCHQ	**Schefferville**	**122.79**	**25**	PKP	**PKPdf**	**20 50 01.5**	**+0.2**		
	comp=Z,15nm,1.0s,baz=357,slow=3.5,SNR=16								
TREC	**Trest**	**122.80**	**327**	*e*PKPdf	**PKPdf**	**20 50 01.6**	**+0.1**		
TREC				*ex*	x	20 50 08.2			
TREC				*es*PKP		20 50 15.9			
TREC	**Trest**	**122.80**	**327**	*e*PKIKP	**PKPdf**	**20 50 01.6**	**+0.1**		
TREC				*e*		20 50 08.2			
TREC				*e*		20 50 15.9			
LKR	**Lokris**	**122.82**	**313**	*e*P	**PKPdf**	**20 50 00.9**	**-0.9**		
GOPC	**GO Pecny, Ondr**	**122.83**	**328**	*e*PKPdf	**PKPdf**	**20 50 01.5**	**-0.1**		
GOPC				*ex*	x	20 50 08.1			
PRU	**Pruhonice**	**122.92**	**328**	*e*PKPdf	**PKPdf**	**20 50 01.5**	**-0.2**		
PRU				*ep*PKP	**pPKPdf**	**20 50 08.6**	**-6.4**		
PRU				*es*PKP		20 50 15.0			
PRU	**Pruhonice**	**122.92**	**328**	*e*PKIKP	**PKPdf**	**20 50 01.5**	**-0.2**		
PRU				*e*		20 50 08.6			
PRU				*e*		20 50 15.0			
PRA	**Prague**	**122.93**	**328**	*e*PKPdf	**PKPdf**	**20 50 01.8**	**+0.1**		
PRA	**Prague**	**122.93**	**328**	*e*PKIKP	**PKPdf**	**20 50 01.8**	**+0.1**		
CLL	**Collm**	**122.94**	**330**	*e*PKPdf	**PKPdf**	**20 50 01.4**	**-0.3**		
CLL	**Collm**	**122.94**	**330**	⇓*i*PKIKP	**PKPdf**	**20 50 01.8**	**+0.1**		
CLL				*e*		20 50 09.0			
CLL				*pmax*	pmax				
	comp=Z,22nm,1.1s								
CLL	**Collm**	**122.94**	**330**	⇓*i*PKPdf	**PKPdf**	**20 50 01.8**	**+0.1**		
	comp=Z,22nm,1.1s								
CLL				*e*		20 50 09.0			
CLL				*e*PP	**PP**	**20 51 39.0**	**-1.3**		
GOGA	**Godfrey**	**122.95**	**54**	PFAKE		20 50 10.0	+7.8		
GOGA				LR	LR				
	comp=Z,2µm,19.0s								
VAM	**Vamos**	**122.98**	**309**	*e*P	**PKPdf**	**20 50 02.7**	**+0.4**		
AXAR	**Agios Charalam**	**123.03**	**313**	*e*P	**PKPdf**	**20 50 01.7**	**-0.6**		
LTK	**Loutraki**	**123.06**	**312**	*e*P	**PKPdf**	**20 50 02.0**	**-0.4**		
DIDY	**Didyma**	**123.06**	**311**	*e*P	**PKPdf**	**20 50 00.9**	**-1.6**		
AGG	**Agios Georgios**	**123.17**	**313**	*e*P	**PKPdf**	**20 50 01.7**	**-0.9**		
FNA	**Florina**	**123.18**	**315**	*e*P	**PKPdf**	**20 50 02.0**	**-0.6**		
THL	**Klokotos Trika**	**123.20**	**314**	*e*P	**PKPdf**	**20 50 01.6**	**-0.9**		
DSF	**Desfina**	**123.25**	**312**	*e*P	**PKPdf**	**20 50 01.5**	**-1.3**		
MAKR	**Makrakomi, Fth**	**123.32**	**313**	*e*P	**PKPdf**	**20 50 02.6**	**-0.3**		
CONA	**Conrad Observa**	**123.34**	**325**	⇑*i*PKiKP	**PKPdf**	**20 50 02.0**	**-0.7**		
	comp=Z,16nm,1.2s,SNR=10								
ANKY	**Antikythira Is**	**123.53**	**309**	*e*P	**PKPdf**	**20 50 03.5**	**+0.2**		
KALE	**Kalithea**	**123.54**	**313**	*e*P	**PKPdf**	**20 50 02.9**	**-0.4**		
GUR	**Goura**	**123.55**	**312**	*e*P	**PKPdf**	**20 50 03.0**	**-0.4**		
KLV	**Kalavryta, Ach**	**123.66**	**312**	*e*P	**PKPdf**	**20 50 03.0**	**-0.6**		
EFP	**Efpalio**	**123.70**	**313**	*e*P	**PKPdf**	**20 50 04.9**	**+1.4**		
LAKA	**Lakka**	**123.71**	**312**	*e*P	**PKPdf**	**20 50 03.7**	**+0.1**		
VLX	**Vlachokerasia**	**123.72**	**311**	*e*P	**PKPdf**	**20 50 04.0**	**+0.2**		
TANN	**Tannenbergstha**	**123.75**	**329**	*e*PKPdf	**PKPdf**	**20 50 02.9**	**-0.5**		
NKC	**Novy Kostel**	**123.87**	**329**	*e*PKPdf	**PKPdf**	**20 50 03.7**	**+0.2**		
NKC				*ep*PKP	**pPKPdf**	**20 50 10.8**	**-6.0**		
NKC				*es*PKP		20 50 17.3			
NKC	**Novy Kostel**	**123.87**	**329**	*e*PKIKP	**PKPdf**	**20 50 03.7**	**+0.2**		
NKC				*e*		20 50 10.8			
NKC				*e*		20 50 17.3			
CLZ	**Clausthal**	**123.88**	**332**	*e*PKPdf	**PKPdf**	**20 50 03.5**	**0.0**		
ARSA	**Arzberg**	**123.90**	**325**	*i* PKPdf	**PKPdf**	**20 50 02.6**	**-1.1**		
	comp=Z,3.8nm,1.1s,SNR=5.2								
KOGS	**Kog**	**123.90**	**324**	*e*PKPdf	**PKPdf**	**20 50 03.5**	**-0.1**		
KHC	**Kasperske Hory**	**123.93**	**327**	*e*PKPdf	**PKPdf**	**20 50 03.5**	**-0.2**		
KHC	**Kasperske Hory**	**123.93**	**327**	*e*PKIKP	**PKPdf**	**20 50 03.5**	**-0.2**		
TIR	**Tirane**	**123.99**	**317**	PFAKE		20 50 20.0	+16		
TIR				LR	LR				
	comp=Z,1µm,19.0s								
DSL	**Palaion Diasel**	**124.02**	**314**	*e*P	**PKPdf**	**20 50 02.9**	**-1.3**		
GEC2	**GERESS Array S**	**124.03**	**327**	*e*PKPdf	**PKPdf**	**20 50 03.4**	**-0.6**		
GERES	**GERESS Array B**	**124.03**	**327**	PKP	**PKPdf**	**20 50 03.9**	**-0.1**		
	comp=Z,8.0nm,0.9s,baz=52,slow=2.2,SNR=59								
GERES				PKKPab	**PKKPab**	**20 59 49.4**	**0.0**		
	comp=Z,0.3nm,0.5s,baz=235,slow=4.7,SNR=3.4								
MOX	**Moxa**	**124.03**	**330**	*e*PKPdf	**PKPdf**	**20 50 03.4**	**-0.4**		
BLA	**Blacksburg**	**124.12**	**49**	*e*PKIKP	**PKPdf**	**20 50 03.7**	**-0.8**		
BLA				MLR	MLR				
	comp=Z,3µm,20.0s								
BLA	**Blacksburg**	**124.12**	**49**	*e*PKPdf	**PKPdf**	**20 50 03.7**	**-0.8**		
BLA				LR	LR				
	comp=Z,3µm,20.0s								
RLS	**Riolos of Patr**	**124.16**	**312**	*e*P	**PKPdf**	**20 50 04.9**	**+0.5**		
PDO	**Prodromos**	**124.16**	**313**	*e*P	**PKPdf**	**20 50 04.2**	**-0.2**		
ROTZ	**Rotzenmuhle**	**124.27**	**329**	*e*PKPdf	**PKPdf**	**20 50 04.1**	**-0.2**		
WET	**Wettzell**	**124.29**	**328**	*e*PKPdf	**PKPdf**	**20 50 04.1**	**-0.3**		
PYL	**PYLOS**	**124.37**	**311**	*e*P	**PKPdf**	**20 50 03.9**	**-1.0**		
IGT	**Igoumenitsa**	**124.41**	**314**	*e*P	**PKPdf**	**20 50 04.8**	**-0.1**		
SOKA	**Soboth**	**124.49**	**324**	⇑*i*PKiKP	**PKPdf**	**20 50 04.0**	**-0.9**		
	comp=Z,21nm,1.1s,SNR=17								
SSPA	**Standing Stone**	**124.62**	**44**	*e*PKPdf	**PKPdf**	**20 50 05.3**	**0.0**		
UBBA	**Unterbreizbach**	**124.72**	**331**	*e*PKPdf	**PKPdf**	**20 50 04.9**	**-0.1**		
JTS	**JuntasAbangare**	**124.76**	**82**	PFAKE		20 50 20.0	+14		
JTS				LR	LR				
	comp=Z,1µm,21.0s								
IBBN	**Ibbenburen**	**124.78**	**333**	*e*PKPdf	**PKPdf**	**20 50 05.1**	**-0.1**		
GRF	**Grafenberg Arr**	**124.82**	**329**	*e*PKPdf	**PKPdf**	**20 50 05.4**	**0.0**		
GRFO	**Grafenberg**	**124.83**	**329**	*e*PKIKP	**PKPdf**	**20 50 03.3**	**-2.1**		
GRFO	**Grafenberg**	**124.83**	**329**	*e*PKPdf	**PKPdf**	**20 50 03.3**	**-2.1**		
LONY	**Lake Ozonia**	**124.94**	**38**	*e*PKPdf	**PKPdf**	**20 50 05.1**	**-0.7**		
LONY				LR	LR				
	comp=Z,1µm,20.0s								
BOJS	**Bojanci**	**124

KEST	**Kesra**	**133.90**	**315**	PKP	**PKPdf**	**20 50 23.1**	**0.0**		
	comp=Z,6.1nm,0.9s,baz=307,slow=2.8,SNR=16								
KEST				SKPbc	**SKPbc**	**20 53 49.2**	**+0.2**		
	comp=Z,4.4nm,1.1s,baz=254,slow=5.2,SNR=6.6								
CMAH	**Djebel Manchou**	**134.75**	**317**	P	**PKPdf**	**20 50 25.2**	**+0.5**		
ABSA	**Djebel Ababsia**	**134.90**	**317**	P	**PKPdf**	**20 50 28.7**	**+3.7**		
CKFL	**Kef-Lekhel**	**135.34**	**318**	P	**PKPdf**	**20 50 29.8**	**+3.9**		
CASM	**Ain Smara**	**135.57**	**318**	P	**PKPdf**	**20 50 30.8**	**+4.6**		
LPAZ	**La Paz**	**135.58**	**121**	PKP	**PKPdf**	**20 50 27.3**	**-0.2**		
	comp=Z,5.2nm,0.8s,baz=358,slow=2.3,SNR=9.2								
LPAZ	**La Paz**	**135.58**	**121**	PKIKP	**PKPdf**	**20 50 27.3**	**-0.2**		
LPAZ				pmax	pmax				
	comp=Z,5.0nm,0.8s								
LPAZ	**La Paz**	**135.58**	**121**	*e*PKPdf	**PKPdf**	**20 50 26.4**	**-1.1**		
CTEI	**Djebel Teioual**	**135.74**	**317**	P	**PKPdf**	**20 50 31.8**	**+5.1**		
DFRA	**Djebel Bou Aff**	**135.82**	**318**	P	PKPdf	20 50 37.8	+11		
GRTK	**Grand Turk**	**136.69**	**65**	PFAKE		20 50 40.0	+11		
GRTK				LR	LR				
	comp=Z,1μm,20.0s								
SDDR	**Presa de Saban**	**137.13**	**69**	PFAKE		20 50 40.0	+10		
SDDR				LR	LR				
	comp=Z,700nm,19.0s								
CPUP	**Villa Florida**	**137.83**	**141**	PKP	**PKPdf**	**20 50 30.4**	**-0.3**		
	comp=Z,4.2nm,0.9s,baz=214,slow=1.5,SNR=6.0								
BBSR	**BB Station**	**137.86**	**47**	*e*PKPdf	**PKPdf**	**20 50 31.3**	**+0.8**		
BBSR				LR	LR				
	comp=Z,1μm,19.0s								
SDV	**Santo Domingo**	**138.89**	**83**	*e*PKPpre	PKPpre	20 50 25.5			
SDV				*e*PKPdf	**PKPdf**	**20 50 33.7**	**+0.6**		
SDV				LR	LR				
	comp=Z,1μm,19.0s								
ESDC	**Sonseca Array**	**139.52**	**329**	PKP	**PKPdf**	**20 50 31.9**	**-1.5**		
	comp=Z,1.6nm,0.9s,baz=29,slow=3.2,SNR=7.9								
ESDC				SKPbc	**SKPbc**	**20 54 06.1**	**+0.3**		
	comp=Z,0.7nm,0.7s,baz=53,slow=2.9,SNR=5.8								
ESDC				SKKPbc	**SKKPbc**	**21 02 46.5**	**+4.0**		
	comp=Z,0.5nm,0.7s,baz=251,slow=3.9,SNR=6.7								
PGAV	**Gavieira, Arco**	**139.67**	**336**	*e*PKPdf	**PKPdf**	**20 50 35.0**	**+1.3**		
MVO	**Moncorvo**	**139.81**	**334**	*e*PKPdf	**PKPdf**	**20 50 32.7**	**-1.2**		
PAB	**San Pablo**	**139.81**	**330**	PFAKE		20 50 50.0	+16		
PAB				LR	LR				
	comp=Z,668nm,19.0s								
POLO	**Lamas de Olo**	**139.97**	**335**	*e*PKPdf	**PKPdf**	**20 50 31.7**	**-2.5**		
MTE	**Manteigas**	**140.65**	**334**	*e*PKPdf	**PKPdf**	**20 50 36.5**	**+1.0**		
MTE	**Manteigas**	**140.65**	**334**	PFAKE		20 50 50.0	+15		
MTE				LR	LR				
	comp=Z,787nm,19.0s								
CELP	**Cerrillos**	**141.68**	**68**	*e*PKPdf	**PKPdf**	**20 50 34.8**	**-3.0**		
SJG	**San Juan**	**142.07**	**68**	PFAKE		20 50 50.0	+12		
SJG				LR	LR				
	comp=Z,676nm,21.0s								
PBAR	**Barrancos**	**142.20**	**331**	*e*PKPdf	**PKPdf**	**20 50 38.0**	**-0.2**		
TAM	**Tamanrasset**	**142.58**	**300**	*e*PKIKP	**PKPdf**	**20 50 38.5**	**-1.0**		
TAM				MLR	MLR				
	comp=Z,559nm,19.0s								
TAM	**Tamanrasset**	**142.58**	**300**	*e*PKPdf	**PKPdf**	**20 50 38.5**	**-1.0**		
TAM				*e*SKP	LR	20 54 15.4			
TAM				LR	LR				
	comp=Z,559nm,19.0s								
SAML	**Samuel**	**143.03**	**113**	*e*PKPdf	PKPbc	20 50 36.6	-0.6		
SAML				LR	LR				
	comp=Z,664nm,19.0s								
PVAQ	**Vaqueiros**	**143.14**	**331**	*e*PKPdf	PKPbc	20 50 37.2	+0.4		
MDT	**Midelt**	**144.86**	**322**	PKP	**PKPdf**	**20 50 43.6**	**+0.3**		
	comp=Z,5.5nm,0.8s,baz=330,slow=2.7,SNR=5.6								
ANWB	**Willy Bob**	**146.20**	**67**	PFAKE		20 51 00.0	+13		
ANWB				LR	LR				
	comp=Z,484nm,20.0s								
GRGR	**Grenville**	**147.46**	**77**	*e*PKPdf	**PKPdf**	**20 50 47.6**	**-0.3**		
GRGR				LR	LR				
	comp=Z,603nm,20.0s								
FDF	**Fort de France**	**147.50**	**72**	*e*PKP2	**PKPbc**	**20 50 51.3**	**+0.7**		
FDF				MLR	MLR				
	comp=Z,439nm,20.0s								
FDF	**Fort de France**	**147.50**	**72**	*e*PKPbc	**PKPbc**	**20 50 51.3**	**+0.7**		
FDF				LR	LR				
	comp=Z,439nm,20.0s								
PTGA	**Pitinga**	**148.60**	**101**	PFAKE		20 51 00.0	+2.8		
PTGA				LR	LR				
	comp=Z,3μm,19.0s								
TOB2	**Torodi Ar. Sit**	**148.70**	**285**	*e*PKIKP	**PKPdf**	**20 50 51.6**	**+1.6**		
TOA0	**Torodi Ar. Sit**	**148.71**	**285**	*e*PKPbc	**PKPbc**	**20 50 52.7**	**-1.1**		
TORD	**Torodi Ar. Bea**	**148.71**	**285**	PKPbc	**PKPbc**	**20 50 53.0**	**-0.8**		
	comp=Z,131nm,0.9s,baz=80,slow=0.8,SNR=349								
TORD				SKPbc	**SKiKP**	**20 54 33.0**	**+4.7**		
	comp=Z,1.7nm,0.8s,baz=99,slow=2.5,SNR=5.2								
BBGH	**Gun Hill**	**149.32**	**74**	PFAKE		20 51 00.0	0.0		
BBGH				LR	LR				
	comp=Z,809nm,21.0s								
BDFB	**Brasilia**	**151.53**	**139**	PKPbc	**PKPbc**	**20 51 01.1**	**+0.4**		
	comp=Z,38nm,1.0s,baz=237,slow=1.2,SNR=24								
KIC	**Kosan Boka**	**155.63**	**272**	*e*PKIKP	**PKPdf**	**20 51 00.9**	**+0.6**		
DBIC	**Dimbokro**	**155.75**	**273**	PKPbc	PKPdf	20 51 10.4	+10		
	comp=Z,10nm,0.9s,baz=349,slow=2.2,SNR=4.7								
DBIC				PKPab	**PKPab**	**20 51 26.8**	**-0.2**		
	comp=Z,34nm,1.1s,baz=82,slow=4.6,SNR=7.6								
DBIC	**Dimbokro**	**155.75**	**273**	*e*PKIKP	**PKPdf**	**20 50 59.1**	**-1.4**		
DBIC						20 51 10.4			
DBIC				*e*		20 51 26.9			
DBIC	**Dimbokro**	**155.75**	**273**	*e*PKPdf	**PKPdf**	**20 50 59.1**	**-1.4**		
DBIC				PKPbc	PKPbc	20 51 10.4			
DBIC				*e*PKPab	**PKPab**	**20 51 26.9**	**-0.2**		
TIC	**Toumodi**	**155.91**	**273**	*e*PKIKP	**PKPdf**	**20 51 01.2**	**+0.5**		
LIC	**Lamto**	**155.92**	**272**	*e*PKIKP	**PKPdf**	**20 51 02.3**	**+1.6**		
ASCN	**Ascension**	**159.66**	**227**	PFAKE		20 51 20.0	+15		
ASCN				LR	LR				
	comp=Z,940nm,19.0s								
RCBR	**Riachuelo**	**166.45**	**151**	PFAKE		20 51 20.0	+8.1		
RCBR				LR	LR				
	comp=Z,758nm,21.0s								
SACV	**Santiago Islan**	**169.55**	**328**	PFAKE		20 51 20.0	+6.1		
SACV				LR	LR				
	comp=Z,564nm,21.0s								

IDC ***20*** *20:42:46.3±0.9,6.°08S×151.°02E,h0km,mb4.1/9, mb1 4.3/11,mb1mx4.0/21,mbtmp4.1/11,ML3.0/2,Error ellipse: s-maj=35.5km s-min=16.7km az=108.0*
NEIC ***20*** *20:42:51.8±0.6,6.°05S×150.°79E,h35km,mb4.2/4,Error ellipse: s-maj=20.3km s-min=9.4km az=112.0*
ISCJB ***20*** *20:42:52.2±0.5,6.°07S±0.°07×150.°6E±0.°1,h48km, mb4.0/11,Error ellipse: s-maj=16.6km s-min=7.0km az=27.3*

ISC 20 20:42:53.6±0.6,6.°1S±0.°1×150.°7E±0.°1,h48km,n26, σ1§35/30,mb4.0/12,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.37**	**38**	P	**Pn**	**20 43 31.4**	**+1.3**
	baz=2.5,SNR=18						
PMG	**Port Moresby**	**4.83**	**227**	Pn	**Pn**	**20 44 03.3**	**-0.5**
	11nm,0.3s,baz=82,slow=9.5,SNR=16						
PMG				Sn	**Sn**	**20 44 59.2**	**+0.8**
	18nm,0.3s,baz=92,slow=20,SNR=10						
PMG	**Port Moresby**	**4.83**	**227**	P	**Pn**	**20 44 06.3**	**+2.5**
	baz=4.7,SNR=9.9						
PMG				P	**Pn**	**20 44 06.3**	**+2.5**
	baz=4.7,SNR=9.9						
PMG				P	**Pn**	**20 44 06.3**	**+2.5**
	baz=4.7,SNR=9.9						
PMG	**Port Moresby**	**4.83**	**227**	*e*Pn	**Pn**	**20 44 01.0**	**-2.8**
PMG				*e*Sn	**Sn**	**20 44 56.7**	**-1.8**
PMG				Sn	Sn	20 44 59.2	+0.8
MANU	**Manus Island**	**5.22**	**320**	P	Pn	20 44 15.9	+6.7
	baz=5.3,SNR=3.7						
CTA	**Charters Tower**	**14.58**	**197**	Pn	**Pn**	**20 46 16.5**	**-0.7**
	0.2nm,0.3s,baz=13,slow=18,SNR=2.6						
RMQ	**Roma**	**20.37**	**185**	P	Pn	20 47 27.7	-1.1
	baz=20,SNR=22						
WRAB	**Tennant Creek**	**21.03**	**228**	*e*P	**P**	**20 47 34.0**	**+0.5**
	13nm,0.6s						
WRA	**Warramunga Arr**	**21.05**	**228**	P	**P**	**20 47 33.9**	**+0.1**
	4.5nm,0.5s,baz=51,slow=10,SNR=22						
WRA				PcP	**PcP**	**20 51 40.3**	**+0.9**
	0.8nm,0.7s,baz=42,slow=2.0,SNR=4.4						
QLP	**Quilpie**	**21.30**	**196**	P	**P**	**20 47 37.3**	**+0.9**
	baz=21,SNR=6.0						
AS31	**Alice Springs**	**23.81**	**221**	*e*P	**P**	**20 48 03.3**	**+0.9**
ASAR	**Alice Springs**	**23.81**	**221**	P	**P**	**20 48 03.4**	**+1.1**
	3.1nm,0.7s,baz=57,slow=8.4,SNR=30						
STKA	**Stephens Creek**	**27.04**	**197**	P	**P**	**20 48 30.6**	**-0.9**
	4.5nm,0.8s,baz=20,slow=13,SNR=10						
STKA	**Stephens Creek**	**27.04**	**197**	*e*P	**P**	**20 48 30.4**	**-1.1**
	2.8nm,1.1s						

MBWA	**Marble Bar**	**33.53**	**240**	P	**P**	**20 49 29.0**	**-0.1**		
	11nm,1.0s								
JNU	**Nakatsue**	**43.30**	**335**	P	**P**	**20 50 51.1**	**+0.2**		
	5.7nm,0.9s,baz=147,slow=14,SNR=2.5								
JNU				PcP	**PcP**	**20 52 40.2**	**+1.0**		
	3.3nm,0.8s,baz=180,slow=4.0,SNR=2.9								
KSRS	**Korea Array**	**48.25**	**336**	P	**P**	**20 51 29.9**	**0.0**		
	1.4nm,0.7s,baz=158,slow=9.7,SNR=4.6								
KSAR	**Wonju Array Be**	**48.26**	**336**	P	**P**	**20 51 29.9**	**0.0**		
USRK	**Ussuriysk Ar.**	**52.83**	**343**	P	**P**	**20 52 05.2**	**+1.0**		
	0.6nm,0.7s,baz=148,slow=11,SNR=4.1								
SONM	**Songino Array**	**66.32**	**329**	P	**P**	**20 53 37.5**	**+0.1**		
	0.4nm,0.5s,baz=126,slow=7.3,SNR=3.1								
VNDA	**Vanda**	**71.64**	**177**	P	**P**	**20 54 10.9**	**+1.1**		
	1.4nm,1.0s								
ILAR	**Eielson Array**	**84.13**	**22**	P	**P**	**20 55 16.6**	**-2.6**		
	0.8nm,0.8s,baz=252,slow=5.2,SNR=8.7								
NVAR	**Mina Array Bea**	**94.51**	**52**	P	**P**	**20 56 08.8**	**-0.7**		
	1.1nm,0.7s,baz=256,slow=6.5,SNR=8.5								
TOA0	**Torodi Ar. Sit**	**148.68**	**285**	*e*PKPbc	**PKPbc**	**21 02 36.2**	**-0.5**		
TORD	**Torodi Ar. Bea**	**148.68**	**285**	PKPbc	**PKPbc**	**21 02 36.5**	**-0.2**		
	8.7nm,0.7s,baz=40,slow=2.9,SNR=62								
BDFB	**Brasilia**	**151.54**	**140**	PKPbc	**PKPbc**	**21 02 43.5**	**-0.1**		
	2.8nm,0.5s,baz=222,slow=9.6,SNR=3.7								

IDC ***20*** *20:46:37.7±1.3,34.°63N×25.°73E,h0km,mb3.7/7, mb1 3.7/8,mb1mx3.5/49,mbtmp3.7/8,ML4.0/1,MS4.7/1, Ms1 4.7/1,ms1mx3.6/52,Error ellipse: s-maj=25.3km s-min=16.5km az=23.0*
ISCJB ***20*** *20:46:41.1±0.9,34.°55N±0.°05×25.°49E±0.°03,h25km±5km, mb3.6/7,MS4.7/1,Error ellipse: s-maj=7.7km s-min=3.8km az=178.0*
CSEM ***20*** *20:46:42.3±0.3,34.°61N×25.°46E,h15km,MD3.6, Error ellipse: s-maj=7.3km s-min=3.2km az=178.0*
THE ***20*** *20:46:43.0,34.°65N×25.°40E,h4km±1km,ML3.0/4,Error ellipse: s-maj=2.3km s-min=1.1km az=339.0*
ATH ***20*** *20:46:43.2,34.°68N×25.°41E,h31km±1km,MD3.6/9*
DDA ***20*** *20:46:49.6,34.°80N×26.°14E,h16km,MD3.3*

ISC 20 20:46:40.1±1.2,34.°54N±0.°05×25.°51E±0.°02,h16km±8km, n129,σ1§36/163,mb3.6/7,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**0.62**	**357**	*e*PB	**Pb**	**20 46 53.5**	**+0.9**
LAST				*e*SB	**Sb**	**20 47 01.8**	**+0.8**
LAST	**Lasithi**	**0.62**	**357**	P	**Pb**	**20 46 53.2**	**+0.6**
LAST	**Lasithi**	**0.62**	**357**	*e*Pb	**Pb**	**20 46 53.5**	**+0.9**
LAST				S	**Sb**	**20 47 01.8**	**+0.8**
LAST	**Lasithi**	**0.62**	**357**	P	**Pb**	**20 46 53.2**	**+0.6**
LAST				S	**Sb**	**20 47 01.8**	**+0.8**
NPS	**Neapolis**	**0.72**	**7**	*e*PN	**Pn**	**20 46 55.3**	**-0.4**
NPS				*e*SN	**Sb**	**20 47 03.8**	**-0.2**
NPS	**Neapolis**	**0.72**	**7**	P	**Pb**	**20 46 55.0**	**+0.7**
NPS	**Neapolis**	**0.72**	**7**	*e*Pn	**Pn**	**20 46 55.3**	**-0.4**
NPS				S	**Sb**	**20 47 04.0**	**0.0**
NPS	**Neapolis**	**0.72**	**7**	P	**Pb**	**20 46 55.0**	**+0.7**
NPS				S	**Sb**	**20 47 04.0**	**0.0**
SIVA	**Sivas**	**0.75**	**310**	*e*PN	**Pn**	**20 46 55.9**	**-0.1**
SIVA				*e*SN	**Sg**	**20 47 04.0**	**-0.6**
SIVA	**Sivas**	**0.75**	**310**	P	**Pg**	**20 46 55.5**	**+0.8**
SIVA	**Sivas**	**0.75**	**310**	*e*Pn	**Pn**	**20 46 55.9**	**-0.1**
SIVA				S	**Sg**	**20 47 03.7**	**-0.9**
SIVA				*e*Sn	**Sg**	**20 47 04.0**	**-0.6**
SIVA	**Sivas**	**0.75**	**310**	P	**Pg**	**20 46 55.5**	**+0.8**
SIVA				S	**Sg**	**20 47 03.7**	**-0.9**
IACM	**Heraklion**	**0.84**	**335**	*e*PN	**Pn**	**20 46 57.4**	**+0.1**
IACM	**Heraklion**	**0.84**	**335**	*e*Pn	**Pn**	**20 46 57.4**	**+0.1**
IDI	**Anoyia**	**0.90**	**326**	Pn	Pb	20 46 51.0	-6.5
	1.5nm,0.3s,baz=144,slow=19,SNR=6.6						
IDI				Pg	**Pg**	**20 46 57.9**	**+0.2**
	44nm,0.3s,baz=146,slow=17,SNR=101						
IDI				Sn	**Sn**	**20 47 11.3**	**+0.4**
	202nm,0.3s,baz=196,slow=19,SNR=25						
IDI	**Anoyia**	**0.90**	**326**	P	**Pg**	**20 46 57.7**	**+0.1**
IDI				S	**Sb**	**20 47 08.7**	**-0.5**
IDI	**Anoyia**	**0.90**	**326**	P	**Pg**	**20 46 57.7**	**+0.1**
IDI				S	**Sb**	**20 47 08.7**	**-0.5**
GVD	**Gavdhos**	**1.21**	**285**	*e*PN	**Pg**	**20 47 03.9**	**+0.4**
GVD				*e*SN	**Sg**	**20 47 19.5**	**+0.2**
GVD	**Gavdhos**	**1.21**	**285**	P	**Pn**	**20 47 02.8**	**+0.4**
GVD	**Gavdhos**	**1.21**	**285**	*e*Pn	**Pg**	**20 47 03.9**	**+0.4**
GVD				S	**Sn**	**20 47 18.9**	**+0.5**
GVD				*e*Sn	**Sg**	**20 47 19.5**	**+0.2**
GVD	**Gavdhos**	**1.21**	**285**	P	**Pn**	**20 47 02.8**	**+0.4**
GVD				S	**Sn**	**20 47 18.9**	**+0.5**
VAM	**Vamos**	**1.38**	**309**	*e*PN	**Pg**	**20 47 06.8**	**+0.1**
VAM				*e*SN	**Sb**	**20 47 23.4**	**+0.5**
VAM	**Vamos**	**1.38**	**309**	*e*Pn	**Pg**	**20 47 06.8**	**+0.1**
VAM				*e*Sn	**Sb**	**20 47 23.4**	**+0.5**
KARP	**Karpathos**	**1.68**	**53**	*e*PN	**Pg**	**20 47 12.5**	**0.0**
KARP	**Karpathos**	**1.68**	**53**	P	**Pn**	**20 47 11.7**	**+1.0**
KARP	**Karpathos**	**1.68**	**53**	*e*Pn	**Pg**	**20 47 12.5**	**0.0**
KARP				S	**Sg**	**20 47 34.5**	**+0.1**
KARP	**Karpathos**	**1.68**	**53**	P	**Pb**	**20 47 11.7**	**+1.0**
KARP				S	**Sg**	**20 47 34.5**	**+0.1**
THR6	**Thira Island,**	**1.81**	**357**	P	**Pb**	**20 47 12.1**	**-0.8**
THR6	**Thira Island,**	**1.81**	**357**	P	**Pb**	**20 47 12.1**	**-0.8**
SANT	**Santorini**	**1.82**	**359**	*e*PN	**Pb**	**20 47 13.6**	**+0.5**
SANT	**Santorini**	**1.82**	**359**	P	**Pb**	**20 47 13.1**	**0.0**
SANT	**Santorini**	**1.82**	**359**	*e*Pn	**Pb**	**20 47 13.6**	**+0.5**
SANT				S	**Sb**	**20 47 35.5**	**-0.2**
SANT	**Santorini**	**1.82**	**359**	P	**Pb**	**20 47 13.1**	**0.0**
SANT				S	**Sb**	**20 47 35.5**	**-0.2**
THR3	**Thira Island,**	**1.86**	**357**	P	**Pn**	**20 47 12.4**	**+1.1**
THR3	**Thira Island,**	**1.86**	**357**	P	**Pn**	**20 47 12.4**	**+1.1**
THR5	**Thira Island,**	**1.87**	**356**	*e*PN	**Pb**	**20 47 13.7**	**-0.3**
THR5	**Thira Island,**	**1.87**	**356**	P	**Pn**	**20 47 12.7**	**+1.2**
THR5	**Thira Island,**	**1.87**	**356**	*e*Pn	**Pb**	**20 47 13.7**	**-0.3**
THR5	**Thira Island,**	**1.87**	**356**	P	**Pn**	**20 47 12.7**	**+1.2**
ANKY	**Antikythira Is**	**2.24**	**307**	*e*PB	**Pb**	**20 47 19.3**	**-0.9**
ANKY	**Antikythira Is**	**2.24**	**307**	P	**Pb**	**20 47 18.8**	**-1.4**
ANKY				S	**Sb**	**20 47 46.8**	**-0.9**
ANKY	**Antikythira Is**	**2.24**	**307**	P	**Pb**	**20 47 18.8**	**-1.4**
ANKY				S	**Sb**	**20 47 46.8**	**-0.9**
NIS1	**Nisyros Isl.**	**2.46**	**33**	*e*PN	**Pn**	**20 47 21.1**	**+1.5**
NIS1	**Nisyros Isl.**	**2.46**	**33**	*e*Pn	**Pn**	**20 47 21.1**	**+1.5**
APE	**Apeiranthos**	**2.52**	**0**	*e*PN	**Pn**	**20 47 21.3**	**+0.9**
APE	**Apeiranthos**	**2.52**	**0**	*e*PN	**Pn**	**20 47 21.4**	**+0.9**
APE	**Apeiranthos**	**2.52**	**0**	*e*Pn	**Pn**	**20 47 21.4**	**+0.9**
KYTH	**Kithira**	**2.66**	**311**	*e*PN	**Pn**	**20 47 23.6**	**+1.2**
KYTH	**Kithira**	**2.66**	**311**	P	**Pn**	**20 47 23.4**	**+1.0**
KYTH	**Kithira**	**2.66**	**311**	P	**Pn**	**20 47 23.4**	**+1.0**
ARG	**Arkhangelos**	**2.71**	**51**	*e*PN	**Pb**	**20 47 26.5**	**-1.7**
ARG	**Arkhangelos**	**2.71**	**51**	*e*Pn	**Pb**	**20 47 26.5**	**-1.7**
BODT	**Bodrum**	**2.91**	**30**	*e*PN	**Pn**	**20 47 27.3**	**+1.6**
BODT	**Bodrum**	**2.91**	**30**	*e*Pn	**Pn**	**20 47 27.3**	**+1.6**
BDRM	**Kayabasi**	**2.97**	**31**	*i* P	**Pn**	**20 47 28.4**	**+1.9**
BDRM				*i* S	**Sg**	**20 48 13.2**	**-2.3**
BDRM	**Kayabasi**	**2.97**	**31**	*i* P	**Pn**	**20 47 28.4**	**+1.9**
VLI	**Veliai**	**3.02**	**317**	*e*PN	**Pn**	**20 47 28.1**	**+0.9**
VLI	**Veliai**	**3.02**	**317**	P	**Pn**	**20 47 27.6**	**+0.4**
VLI	**Veliai**	**3.02**	**317**	*e*Pn	**Pn**	**20 47 28.1**	**+0.9**
VLI				S	**Sn**	**20 48 03.2**	**+0.2**
VLI	**Veliai**	**3.02**	**317**	P	**Pn**	**20 47 27.6**	**+0.4**
VLI				S	**Sn**	**20 48 03.2**	**+0.2**
DALY	**Dalyan (Mu˘la**	**3.42**	**48**	*e*PN	**Pb**	**20 47 37.8**	**-2.5**
DALY	**Dalyan (Mu˘la**	**3.42**	**48**	*e*Pn	**Pb**	**20 47 37.8**	**-2.5**
KRND	**KRANIDI**	**3.42**	**327**	*e*PN	**Pn**	**20 47 33.2**	**+0.5**
KRND	**KRANIDI**	**3.42**	**327**	*e*Pn	**Pn**	**20 47 33.2**	**+0.5**
YER	**Yerkesik**	**3.43**	**40**	*e*PN	**Pn**	**20 47 35.8**	**+2.9**
YER	**Yerkesik**	**3.43**	**40**	*e*Pn	**Pn**	**20 47 35.8**	**+2.9**
DIDY	**Didyma**	**3.47**	**328**	*e*PN	**Pn**	**20 47 34.4**	**+0.9**
DIDY	**Didyma**	**3.47**	**328**	*e*Pn	**Pn**	**20 47 34.4**	**+0.9**
DID	**Didima**	**3.48**	**329**	*e*PN	**Pn**	**20 47 34.0**	**+0.3**
DID	**Didima**	**3.48**	**329**	P	**Pn**	**20 47 34.0**	**+0.3**
DID	**Didima**	**3.48**	**329**	P	**Pn**	**20 47 34.0**	**+0.3**
AKAS	**Kas**	**3.75**	**62**	*i* P	**Pn**	**20 47 39.0**	**+1.7**
AKAS				*i* S	**Sn**	**20 48 23.6**	**+2.4**
AKAS	**Kas**	**3.75**	**62**	*i* P	**Pn**	**20 47 39.0**	**+1.7**
AKAS				*i* S	**Sn**	**20 48 23.6**	**+2.4**
VLX	**Vlachokerasia**	**3.80**	**319**	*e*PN	**Pn**	**20 47 38.6**	**+0.6**
VLX	**Vlachokerasia**	**3.80**	**319**	*e*Pn	**Pn**	**20 47 38.6**	**+0.6**
CHOS	**Chios island**	**3.86**	**6**	*e*PN	**Pn**	**20 47 39.2**	**+0.3**
CHOS	**Chios island**	**3.86**	**6**	*e*Pn	**Pn**	**20 47 39.2**	**+0.3**
PYL	**PYLOS**	**3.86**	**309**	*e*PN	**Pn**	**20 47 39.0**	**+0.2**
PYL	**PYLOS**	**3.86**	**309**	*e*Pn	**Pn**	**20 47 39.0**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**3.90**	**29**	*e*P	**Pn**	**20 47 40.6**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**3.90**	**29**	*e*P	**Pn**	**20 47 40.6**	**+1.1**
ITM	**Ithomi**	**3.92**	**313**	*e*PN	**Pn**	**20 47 40.6**	**+0.9**
ITM	**Ithomi**	**3.92**	**313**	*e*Pn	**Pn**	**20 47 40.6**	**+0.9**
VILL	**Villia**	**4.03**	**334**	*e*Pn	**Pn**	**20 47 42.3**	**+1.2**
LTK	**Loutraki**	**4.04**	**330**	*e*PN	**Pn**	**20 47 42.2**	**+1.0**
LTK	**Loutraki**	**4.04**	**330**	*e*Pn	**Pn**	**20 47 42.2**	**+1.0**
VIL2	**Platees**	**4.08**	**334**	*e*PN	**Pn**	**20 47 42.3**	**+0.4**
GOLH	**Golhisar**	**4.25**	**50**	*i* P	**Pn**	**20 47 47.4**	**+3.2**
GOLH				*i* S	**Sn**	**20 48 34.7**	**+1.2**
GOLH	**Golhisar**	**4.25**	**50**	*i* P	**Pn**	**20 47 47.4**	**+3.2**
GOLH				*i* S	**Sn**	**20 48 34.7**	**+1.2**
GUR	**Goura**	**4.25**	**324**	*e*PN	**Pn**	**20 47 45.0**	**+0.8**
GUR	**Goura**	**4.25**	**324**	*e*Pn	**Pn**	**20 47 45.0**	**+0.8**
KLV	**Kalavryta, Ach**	**4.42**	**323**	*e*PN	**Pn**	**20 47 48.0**	**+1.4**
KLV	**Kalavryta, Ach**	**4.42**	**323**	*e*Pn	**Pn**	**20 47 48.0**	**+1.4**
DESF	**Desfina**	**4.55**	**329**	*e*PN	**Pn**	**20 47 49.8**	**+1.5**
DESF	**Desfina**	**4.55**	**329**	*e*Pn	**Pn**	**20 47 49.8**	**+1.5**
DSF	**Desfina**	**4.55**	**329**	*e*PN	**Pn**	**20 47 50.0**	**+1.7**
DSF	**Desfina**	**4.55**	**329**	*e*Pn	**Pn**	**20 47 50.0**	**+1.7**
LKR	**Lokris**	**4.57**	**334**	*e*PN	**Pn**	**20 47 49.8**	**+1.3**
LKR	**Lokris**	**4.57**	**334**	*e*Pn	**Pn**	**20 47 49.8**	**+1.3**
DRO	**Drossia**	**4.58**	**319**	*e*PN	**Pn**	**20 47 51.7**	**+2.9**
DRO	**Drossia**	**4.58**	**319**	*e*Pn	**Pn**	**20 47 51.7**	**+2.9**
LAKA	**Lakka**	**4.66**	**323**	*e*PN	**Pn**	**20 47 50.8**	**+1.0**
LAKA	**Lakka**	**4.66**	**323**	*e*Pn	**Pn**	**20 47 50.8**	**+1.0**
TRIZ	**Trizonia**	**4.71**	**325**	*e*PN	**Pn**	**20 47 52.3**	**+1.8**
TRIZ	**Trizonia**	**4.71**	**325**	*e*Pn	**Pn**	**20 47 52.3**	**+1.8**
AXAR	**Agios Charalam**	**4.80**	**332**	*e*PN	**Pn**	**20 47 53.2**	**+1.5**
AXAR	**Agios Charalam**	**4.80**	**332**	*e*Pn	**Pn**	**20 47 53.2**	**+1.5**
KHAL	**Karahalli**	**4.99**	**39**	*i* P	**Pn**	**20 47 56.6**	**+2.2**
KHAL	**Karahalli**	**4.99**	**39**	*i* P	**Pn**	**20 47 56.6**	**+2.2**
AGG	**Agios Georgios**	**5.15**	**331**	*e*PN	**Pn**	**20 47 59.1**	**+2.6**
AGG	**Agios Georgios**	**5.15**	**331**	*e*Pn	**Pn**	**20 47 59.1**	**+2.6**
PDO	**Prodromos**	**5.34**

YBH	**Yreka Blue Hor**	**91.67**	**48**	LR	LR	21 45 25.5	
	comp=Z,1μm,20.6s,baz=102,slow=31						
NVAR	**Mina Array Bea**	**94.76**	**52**	P	**P**	**21 11 00.5**	**+0.3**
	0.8nm,0.7s,baz=250,slow=6.3,SNR=5.2						
GERES	**GERESS Array B**	**123.45**	**327**	PKP	**PKPdf**	**21 16 36.3**	**+0.8**
	0.7nm,0.6s,baz=48,slow=2.0,SNR=7.8						
TORD	**Torodi Ar. Bea**	**148.05**	**286**	PKPbc	**PKPbc**	**21 17 25.5**	**+0.8**
	1.8nm,0.6s,baz=61,slow=2.4,SNR=21						

*ISCJB **20** 21:00:36.5±0.2,5.26N±0.03×125.90E±0.04,h100km, mb4.4/41, Error ellipse: s-maj=6.1km s-min=3.4km az=161.7*
*MAN **20** 21:00:40,4.82N×125.06E,h85km,mb4.8,ML3.7,MS3.7*
*IDC **20** 21:00:40.8±2.1,5.14N×125.75E,h132km±20km,mb4.0/19, mb1 4.1/22,mb1mx3.9/43,mbtmp4.4/22, Error ellipse: s-maj=18.5km s-min=9.4km az=79.0*
*DJA **20** 21:00:41.7±1.2,5.1°N±11.1×12.6°E±.7°,h109km±10km,M4.9/8, mb4.8/8,mB5.2/6,MLv5.1/1,Mw(mB)4.6/6*
*NEIC **20** 21:00:41.2±0.7,5.18N×125.86E,h136km±7km,mb4.6/21, Error ellipse: s-maj=8.2km s-min=5.9km az=72.0*

ISC 20 21:00:37.9±0.4,5.22N±0.05×125.87E±0.07,h100km,n109, σ1§65/107,mb4.5/41,2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.25**	**313**	*i* P	**Pn**	**21 01 04.0**	**+2.6**
GSPH				*i* S	**Sn**	**21 01 22.1**	**+3.1**
SGSI	**Sangihe**	**1.56**	**192**	P	**Pn**	**21 01 07.3**	**+2.3**
SGSI				S	**Sn**	**21 01 28.3**	**+2.8**
DAV	**Davao City (W)**	**1.86**	**351**	*e*Pn	Pn	21 01 13.8	+5.1
DAV				*e*Sn	Sn	21 01 42.9	+11
CTBH	**Cotabato--PC H**	**2.56**	**321**	*i* P	**Pn**	**21 01 20.8**	**+3.0**
CGP	**Cagayan de Oro**	**3.42**	**340**	*e*P	Pn	21 01 33.6	+4.3
CGP				*e*S	Sn	21 02 17.7	+8.7
TNTI	**Ternate**	**4.67**	**161**	P	**Pn**	**21 01 48.0**	**+1.8**
TNTI				S	**Sn**	**21 02 39.9**	**+0.7**
TNTI	**Ternate**	**4.67**	**161**	*e*Pn	**Pn**	**21 01 48.5**	**+2.3**
TNTI				*e*Sn	**Sn**	**21 02 39.1**	**-0.1**
TBP	**Tagbilaran**	**4.87**	**336**	*e*P	Pn	21 01 52.5	+3.6
LBMI	**Labuha**	**6.04**	**164**	P	**Pn**	**21 02 05.3**	**+0.4**
	103nm,0.8s,2μm						
MRSI	**Marisa**	**6.13**	**220**	P	**Pn**	**21 02 07.6**	**+1.6**
	111nm,0.7s,3μm						
TOLI	**Toli-Toli**	**6.50**	**231**	*e*Pn	**Pn**	**21 02 13.9**	**+2.9**
LUWI	**Luwuk**	**6.95**	**206**	*e*Pn	**Pn**	**21 02 17.6**	**+0.5**
SANI	**Sanana**	**7.22**	**179**	P	**Pn**	**21 02 20.3**	**-0.6**
	97nm,0.8s,4μm						
MYLDM	**Lahad Datu**	**7.33**	**270**	*e*Pn	Pn	21 02 26.8	+4.3
APSI	**Ampana**	**7.41**	**215**	P	Pn	21 02 28.8	+5.4
	79nm,1.1s,993nm						
SWI	**Sorong**	**8.10**	**138**	P	Pn	21 02 35.9	+3.1
	baz=7.9,SNR=6.6						
SIJI	**Sorong**	**8.11**	**138**	P	**Pn**	**21 02 35.2**	**+2.3**
	9.2nm,0.3s,baz=206,slow=23,SNR=21						
SIJI				S	**Sn**	**21 04 03.8**	**+0.8**
	3.2nm,0.3s,baz=20,slow=23,SNR=6.6						
NLAI	**Namlea**	**8.49**	**172**	P	**Pn**	**21 02 37.5**	**-0.7**
	58nm,0.6s,3μm						
PALU	**Palau**	**8.81**	**76**	P	Pn	21 02 34.3	-8.3
	baz=8.2,SNR=19						
KKM	**Kota Kinabalu**	**9.64**	**275**	*e*Pn	Pn	21 02 58.0	+4.1
FAKI	**Fak Fak**	**10.30**	**142**	P	Pn	21 03 06.0	+3.2
	baz=10,SNR=5.6						
FAKI	**Fak Fak**	**10.30**	**142**	*e*Pn	**Pn**	**21 03 04.8**	**+2.0**
BATI	**Baumata**	**15.48**	**188**	P	**Pn**	**21 04 10.8**	**-0.1**
	1.1nm,0.3s,baz=295,slow=23,SNR=3.3						
KSM	**Kuching**	**15.97**	**257**	P	**P**	**21 04 21.6**	**+3.1**
	baz=17,SNR=3.7						
KSM	**Kuching**	**15.97**	**257**	*e*Pn	**P**	**21 04 20.9**	**+2.4**
	11nm,0.9s						
JAY	**Jayapura**	**16.70**	**117**	P	**P**	**21 04 27.1**	**+0.4**
	1.7nm,0.3s,baz=264,slow=12,SNR=10						
JAY	**Jayapura**	**16.70**	**117**	P	**P**	**21 04 29.9**	**+3.2**
	baz=16,SNR=3.3						
TWG	**Pinlang**	**18.10**	**346**	*e*P	**P**	**21 04 39.7**	**-2.3**
	223nm,1.9s						
YULB	**Yu-li**	**18.60**	**347**	*e*P	**P**	**21 04 45.2**	**-2.2**
	31nm,1.8s						
TPUB	**Ta-pu**	**18.67**	**345**	*e*P	**P**	**21 04 46.8**	**-1.5**
KDU	**Kakadu**	**18.96**	**160**	P	**Pn**	**21 04 52.2**	**-1.0**
	baz=19,SNR=3.8						
SSLB	**Suanglung**	**19.06**	**346**	*e*P	**P**	**21 04 52.8**	**+0.3**
	6.6nm,0.9s						
KNRA	**Kununurra**	**20.96**	**172**	P	**P**	**21 05 13.2**	**+0.1**
	baz=21,SNR=18						
MYKOM	**Kota Tinggi**	**22.23**	**262**	*e*P	**P**	**21 05 27.8**	**+1.1**
	15nm,0.7s						
UBPT	**Khong Chiam**	**22.40**	**298**	P	**P**	**21 05 28.5**	**+0.1**
	21nm,1.6s						
FITZ	**Fitzroy Crossi**	**23.18**	**181**	*e*P	**P**	**21 05 35.8**	**-0.2**
	142nm,2.6s						
SKNT	**Sakolnakorn**	**24.41**	**300**	P	**P**	**21 05 49.1**	**+1.8**
	20nm,0.9s						
IPM	**Ipoh**	**24.76**	**269**	*e*P	**P**	**21 05 52.0**	**+1.4**
	38nm,1.5s						
KULM	**Kulim**	**25.11**	**271**	*e*P	**P**	**21 05 55.1**	**+1.4**
	52nm,1.7s						
NONG	**Nongkai**	**25.61**	**302**	P	**P**	**21 06 01.1**	**+2.9**
	62nm,0.7s						
COEN	**Coen**	**25.65**	**138**	*e*P	**P**	**21 06 00.3**	**+1.7**
	204nm,2.5s						
NAYO	**Nakonayok**	**25.80**	**292**	P	**P**	**21 06 04.3**	**+4.4**
	75nm,0.7s						
WRAB	**Tennant Creek**	**26.35**	**162**	*e*P	**P**	**21 06 04.6**	**-0.3**
	22nm,0.8s						
WRA	**Warramunga Arr**	**26.36**	**162**	P	**P**	**21 06 04.2**	**-0.7**
	2.9nm,0.4s,baz=339,slow=10,SNR=33						
CBI	**Chichi jima**	**26.74**	**34**	*e*P	**P**	**21 06 09.5**	**+1.2**
CBIJ	**Chichi jima**	**26.75**	**34**	P	**P**	**21 06 09.5**	**+1.2**
JCJ	**Chichijima**	**26.75**	**34**	P	**P**	**21 06 09.5**	**+1.2**
	41nm,0.8s,baz=269,slow=23,SNR=6.3						
PBKT	**Sadao Pong**	**26.88**	**297**	P	**P**	**21 06 10.9**	**+1.3**
	25nm,0.7s						
JNU	**Nakatsue**	**28.15**	**9**	P	**P**	**21 06 23.3**	**+2.5**
	3.2nm,0.6s,baz=11,slow=2.8,SNR=4.8						
CM31	**Chiang Mai Arr**	**29.39**	**299**	*e*P	**P**	**21 06 32.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**29.39**	**299**	P	**P**	**21 06 32.4**	**+0.3**
	4.4nm,0.7s,baz=115,slow=7.4,SNR=27						
CMMT	**Chiang Mai**	**29.53**	**300**	P	**P**	**21 06 34.4**	**+1.2**
	12nm,0.8s						
CHTO	**Chiang Mai**	**29.53**	**300**	P	**P**	**21 06 34.5**	**+1.2**
	62nm,1.0s						
CHTO	**Chiang Mai**	**29.53**	**300**	*e*P	**P**	**21 06 34.2**	**+1.0**
	6.1nm,0.6s						
AS12	**Alice Springs**	**29.76**	**165**	*e*P	**P**	**21 06 35.1**	**-0.1**
ASAR	**Alice Springs**	**29.76**	**165**	P	**P**	**21 06 35.1**	**-0.1**
	2.0nm,0.5s,baz=342,slow=7.1,SNR=39						
ASAR				ScP	**ScP**	**21 13 06.2**	**-3.8**
	0.9nm,0.6s,baz=346,slow=3.0,SNR=6.6						
WRKA	**Warakurna**	**30.17**	**176**	P	**P**	**21 06 38.3**	**-0.5**
	baz=30,SNR=5.4						
MHMT	**Maesarieng**	**30.17**	**298**	P	**P**	**21 06 40.6**	**+1.7**
KS15	**Wonju Array Si**	**32.12**	**3**	*e*P	**P**	**21 06 56.7**	**+0.9**
KSAR	**Wonju Array Be**	**32.12**	**3**	P	**P**	**21 06 56.7**	**+0.9**
KSRS	**Korea Array**	**32.14**	**3**	P	**P**	**21 06 56.7**	**+0.8**
	3.6nm,0.8s,baz=182,slow=11,SNR=11						
MEEK	**Meekatharra**	**32.44**	**192**	P	**P**	**21 06 57.8**	**-0.9**
	baz=33,SNR=6.7						
MJAR	**Matsushiro Arr**	**33.17**	**18**	P	**P**	**21 07 05.0**	**0.0**
	2.6nm,0.7s,baz=197,slow=9.8,SNR=11						
MAJO	**Matsushiro**	**33.17**	**18**	*e*P	**P**	**21 07 05.0**	**0.0**
	19nm,1.8s						
FORT	**Forrest**	**35.86**	**177**	P	**P**	**21 07 28.4**	**+0.2**
	baz=36,SNR=8.0						
FORT	**Forrest**	**35.86**	**177**	*e*P	**P**	**21 07 28.1**	**-0.1**
	33nm,1.3s						
KMBL	**Kambalda**	**36.58**	**186**	P	**P**	**21 07 33.8**	**-0.6**
	baz=37,SNR=5.5						
KLBR	**Kellerberrin**	**37.41**	**191**	P	**P**	**21 07 40.7**	**-0.7**
	baz=38,SNR=8.4						
NWAO	**Narrogin (SRO)**	**38.81**	**192**	P	**P**	**21 07 52.7**	**-0.5**
	2.6nm,0.4s,baz=335,slow=5.1,SNR=7.9						
BBOO	**Buckleboo**	**39.04**	**166**	P	**P**	**21 07 55.5**	**+0.4**
	baz=39,SNR=24						
BBOO	**Buckleboo**	**39.04**	**166**	*e*P	**P**	**21 07 55.5**	**+0.4**
	24nm,1.1s						
USRK	**Ussuriysk Ar.**	**39.19**	**7**	P	**P**	**21 07 57.5**	**+1.3**
	4.8nm,0.8s,baz=191,slow=7.6,SNR=18						
STKA	**Stephens Creek**	**39.82**	**159**	P	**P**	**21 08 01.7**	**+0.2**
	7.8nm,0.7s,baz=338,slow=7.7,SNR=10						
STKA	**Stephens Creek**	**39.82**	**159**	*e*P	**P**	**21 08 01.7**	**+0.2**
	1.5nm,0.8s						
LSA	**Lhasa**	**40.82**	**311**	*e*P	**P**	**21 08 12.3**	**+1.9**
	4.6nm,0.6s						
ASAJ	**Asahikawa**	**41.44**	**18**	*e*P	**P**	**21 08 16.4**	**+1.7**
	46nm,1.8s						
ODAN	**Odare**	**42.51**	**305**	*e*P	**P**	**21 08 22.7**	**-1.3**
	21nm,0.7s						
GUN	**Gumba**	**44.16**	**305**	*e*P	**P**	**21 08 36.6**	**-0.8**
	41nm,0.6s						
PKI	**Pulchoki**	**44.41**	**305**	*e*P	**P**	**21 08 38.5**	**-0.9**
	7.7nm,0.6s						
PKIN	**Phulchoki**	**44.43**	**305**	*e*P	**P**	**21 08 38.7**	**-0.7**
	4.8nm,0.5s						
KKN	**Kakani**	**44.60**	**305**	*e*P	**P**	**21 08 39.6**	**-1.2**
	9.7nm,0.6s						
DMN	**Daman**	**44.68**	**305**	*e*P	**P**	**21 08 40.4**	**-1.0**
	22nm,1.0s						
GKN	**Gorkha**	**45.21**	**305**	*e*P	**P**	**21 08 44.1**	**-1.4**
	5.2nm,0.4s						
SONA0	**Songino Array**	**45.62**	**342**	*e*P	**P**	**21 08 49.1**	**+0.7**
SONM	**Songino Array**	**45.62**	**342**	P	**P**	**21 08 49.1**	**+0.7**
	0.5nm,0.3s,baz=155,slow=11,SNR=5.4						
KOLN	**Koldanda**	**45.98**	**304**	*e*P	**P**	**21 08 50.7**	**-0.9**
	34nm,0.5s						
PETK	**Petropavlovsk-**	**54.39**	**23**	P	**P**	**21 09 54.6**	**+0.1**
	2.4nm,0.5s,baz=215,slow=1.8,SNR=5.2						
PEA2	**Petropavlovsk-**	**54.40**	**23**	*e*P	**P**	**21 09 54.6**	**+0.1**
MK32	**Makanchi Array**	**55.85**	**325**	*e*P	**P**	**21 10 04.1**	**-1.0**
MKAR	**Makanchi Array**	**55.85**	**325**	P	**P**	**21 10 04.1**	**-1.0**
	1.8nm,0.4s,baz=116,slow=7.2,SNR=32						
MKAR				PcP	**PcP**	**21 11 00.4**	**-2.4**
	1.0nm,0.5s,baz=107,slow=7.2,SNR=5.3						
ZALV	**Zalesovo Beam**	**58.88**	**333**	P	**P**	**21 10 25.4**	**-0.8**
	1.4nm,0.4s,baz=130,slow=7.1,SNR=6.9						
ZAA1	**Zalesovo Array**	**58.88**	**333**	*e*P	**P**	**21 10 25.4**	**-0.9**
KURK	**Kurchatov**	**60.03**	**327**	*e*P	**P**	**21 10 32.5**	**-1.7**
	1.8nm,0.6s						
ABKAR	**Akbulak array**	**70.46**	**321**	*e*P	**P**	**21 11 40.2**	**-1.4**
BPAW	**Bear Paw Mtn.**	**82.34**	**26**	*e*P	**P**	**21 12 48.8**	**+0.3**
	1.9nm,1.2s						
MLY	**Manley**	**82.50**	**25**	*e*P	**P**	**21 12 51.1**	**+1.8**
	4.5nm,0.7s						
RND	**Reindeer**	**83.25**	**27**	*e*P	**P**	**21 12 52.9**	**-0.3**
	6.9nm,1.0s						
ILAR	**Eielson Array**	**84.14**	**25**	P	**P**	**21 12 57.2**	**-0.5**
	0.9nm,0.4s,baz=236,slow=6.0,SNR=13						
ILB	**Eielson Array**	**84.14**	**25**	*e*P	**P**	**21 12 57.2**	**-0.5**
BR101	**Keskin Array S**	**88.41**	**310**	*e*P	**P**	**21 13 16.9**	**-2.4**
BRTR	**Keskin Array B**	**88.41**	**310**	P	**P**	**21 13 16.9**	**-2.4**
	0.4nm,0.6s,baz=134,slow=7.6,SNR=4.0						
ARA0	**ARCESS Array S**	**88.76**	**340**	*e*P	**P**	**21 13 17.8**	**-2.3**
ARCES	**ARCESS Array B**	**88.76**	**340**	P	**P**	**21 13 17.8**	**-2.3**
	1.3nm,0.7s,baz=84,slow=5.9,SNR=7.6						
FIA0	**FINESS Array S**	**90.12**	**332**	*e*P	**P**	**21 13 23.7**	**-2.9**
FINES	**FINESS Array B**	**90.12**	**332**	P	**P**	**21 13 23.7**	**-2.9**
	0.6nm,0.4s,baz=85,slow=3.6,SNR=12						
NB200	**NORSAR Array S**	**97.08**	**334**	*e*P	**P**	**21 13 55.7**	**-3.0**
NOA	**NORSAR Array B**	**97.08**	**334**	P	**P**	**21 13 55.7**	**-3.0**
	0.4nm,0.7s,baz=62,slow=4.6,SNR=3.7						
TXAR	**Lajitas Array**	**121.36**	**51**	PKP	**PKPdf**	**21 19 20.3**	**0.0**
	0.3nm,0.7s,baz=343,slow=1.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**121.63**	**289**	PKP	**PKPdf**	**21 19 19.1**	**-2.0**
	0.7nm,0.6s,baz=47,slow=1.8,SNR=5.2						

*IDC **20** 21:01:30.9±0.6,6.02S×151.20E,h0km,mb4.3/13, mb1 4.5/15,mb1mx4.2/36,mbtmp4.3/15,ML3.0/2,Error ellipse: s-maj=22.8km s-min=12.6km az=110.0*
*ISCJB **20** 21:01:35.1±0.5,6.11S±0.07×151.15E±0.09,h43km, mb4.2/16,Error ellipse: s-maj=14.0km s-min=7.6km az=28.9*
*NEIC **20** 21:01:36.5±2.0,6.10S×151.18E,h41km±18km,mb4.2/7, Error ellipse: s-maj=15.3km s-min=11.2km az=71.0*

ISC 20 21:01:37.1±0.6,6.10S±0.08×151.2E±0.1,h43km,n29, σ1§70/31,mb4.2/15,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.19**	**230**	Pn	**Pn**	**21 02 51.9**	**-0.4**
	7.4nm,0.3s,baz=37,slow=8.3,SNR=5.2						
PMG				Sn	**Sn**	**21 03 50.6**	**-0.3**
	31nm,0.3s,baz=145,slow=12,SNR=8.8						
PMG	**Port Moresby**	**5.19**	**230**	*e*Pn	**Pn**	**21 02 52.0**	**-0.2**
	124nm,0.6s						
PMG				*e*Sn	**Sn**	**21 03 50.4**	**-0.6**
CTA	**Charters Tower**	**14.72**	**199**	Pn	**Pn**	**21 05 01.6**	**-1.1**
	0.2nm,0.3s,baz=5.2,slow=11,SNR=2.7						
EIDS	**Eidsvold**	**19.16**	**180**	*e*P	**P**	**21 05 57.0**	**0.0**
	9.6nm,0.6s						
WRA	**Warramunga Arr**	**21.41**	**228**	P	**P**	**21 06 20.1**	**-1.3**
	17nm,0.7s,baz=54,slow=11,SNR=49						
DZM	**Mont Dzumac**	**21.65**	**139**	P	**P**	**21 06 24.2**	**+0.1**
	9.4nm,0.8s,baz=274,slow=24,SNR=5.8						
DZM	**Mont Dzumac**	**21.65**	**139**	*e*P	**P**	**21 06 23.0**	**-1.2**
	10nm,1.0s						
ASAR	**Alice Springs**	**24.13**	**222**	P	**P**	**21 06 48.8**	**-0.5**
	18nm,0.7s,baz=56,slow=9.3,SNR=72						
ASAR				S	**S**	**21 11 10.7**	**+6.3**
	1.9nm,0.9s,baz=36,slow=22,SNR=7.7						
STKA	**Stephens Creek**	**27.18**	**198**	P	**P**	**21 07 16.2**	**-0.5**
	21nm,0.8s,baz=8.5,slow=8.6,SNR=19						
STKA	**Stephens Creek**	**27.18**	**198**	*e*P	**P**	**21 07 16.3**	**-0.4**
	5.0nm,0.9s						
JNU	**Nakatsue**	**43.52**	**335**	P	**P**	**21 09 36.0**	**-0.7**
	9.2nm,0.9s,baz=144,slow=4.2,SNR=5.0						
MJAR	**Matsushiro Arr**	**44.13**	**345**	ScP	**ScP**	**21 15 19.1**	**+4.5**
	0.8nm,0.8s,baz=171,slow=6.6,SNR=4.6						
USRK	**Ussuriysk Ar.**	**52.98**	**343**	P	**P**	**21 10 48.8**	**-0.6**
	1.5nm,0.8s,baz=166,slow=7.1,SNR=3.4						
SONM	**Songino Array**	**66.59**	**329**	P	**P**	**21 12 24.6**	**+1.4**
	0.7nm,0.6s,baz=152,slow=6.5,SNR=3.4						
VNDA	**Vanda**	**71.60**	**178**	P	**P**	**21 12 54.2**	**+0.7**
	1.8nm,0.8s,baz=329,slow=7.1,SNR=7.7						
VNDA	**Vanda**	**71.60**	**178**	*e*P	**P**	**21 12 53.5**	**-0.1**
	2.3nm,0.9s						
MKAR	**Makanchi Array**	**80.27**	**319**	P	**P**	**21 13 42.7**	**-0.8**
	1.3nm,0.9s,baz=107,slow=6.5,SNR=5.6						
ZALV	**Zalesovo Beam**	**81.36**	**327**	P	**P**	**21 13 47.5**	**-1.7**
	0.5nm,0.5s,baz=87,slow=7.6,SNR=3.9						
SML	**Sawmill**	**81.95**	**25**	*e*P	**P**	**21 13 51.3**	**-0.9**
	0.9nm,0.8s						
KURK	**Kurchatov**	**83.82**	**322**	*e*P	**P**	**21 14 00.4**	**-1.6**
	4.4nm,1.0s						
ILAR	**Eielson Array**	**83.95**	**22**	P	**P**	**21 14 01.6**	**-0.8**
	2.1nm,0.7s,baz=254,slow=5.0,SNR=11						
EGAK	**Eagle**	**86.17**	**23**	*e*P	**P**	**21 14 13.7**	**+0.1**
	6.4nm,1.0s						
NVAR	**Mina Array Bea**	**94.12**	**52**	P	**P**	**21 14 53.2**	**+1.4**
	0.7nm,0.7s,baz=267,slow=5.5,SNR=4.3						
YKA	**Yellowknife Ar**	**97.30**	**28**	P	Pdif	21 15 05.3	-0.2
	0.6nm,0.6s,baz=263,slow=4.4,SNR=4.3						
NB2	**NORSAR Subarra**	**117.58**	**339**	PKPdf	**PKPdf**	**21 20 19.7**	**+1.5**
	comp=Z,4.5nm,1.7s,baz=44,slow=1.9						
NOA	**NORSAR Array B**	**117.58**	**339**	PKP	**PKPdf**	**21 20 17.5**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=49,slow=1.8,SNR=4.4						
GERES	**GERESS Array B**	**124.31**	**327**	PKP	**PKPdf**	**21 20 31.2**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=45,slow=2.1,SNR=7.7						
TORD	**Torodi Ar. Bea**	**149.17**	**285**	PKPbc	**PKPbc**	**21 21 21.8**	**-0.2**
	comp=Z,4.5nm,0.6s,baz=34,slow=2.9,SNR=39						
BDFB	**Brasilia**	**151.21**	**139**	PKPbc	**PKPbc**	**21 21 27.8**	**+0.8**
	comp=Z,1.6nm,0.4s,baz=46,slow=2.8,SNR=3.1						

*IDC **20** 21:06:31.8±0.7,22.815×171.92E,h0km,mb4.3/18, mb1 4.5/20,mb1mx4.3/39,mbtmp4.4/20,ML4.2/2,MS4.6/8, Ms1 4.6/8,ms1mx4.1/42,Error ellipse: s-maj=18.5km s-min=16.8km az=158.0*
*ISCJB **20** 21:06:37.2±1.1,22.83S±0.05×171.78E±0.05,h43km±9km, mb4.8/40,MS4.7/5,Error ellipse: s-maj=8.4km s-min=7.0km az=8.8*
*BJI **20** 21:06:37.2,22.90S×171.80E,h45km,mb4.9/26,mB5.3/15, Ms5.3/15,Ms7 5.0/14*
*GCMT **20** 21:06:38.6±0.6,23.04S×171.98E,h31km±1km,MW5.5/64, Moment Tensor Solution. s34,c48; s64,c79; Duration: 1s3 Moment tensor: Scale 10^17Nm; Mrr 1.64±.17; Mθθ -1.56±.11; Mφφ -0.08±.10; Mrθ 0.79±.12; Mφθ -0.33±.06; Mφr 0.56±.13; Best double couple: M0 1.89700×10^17 NP1:φs67.00000°,δ60.00000°,λ79.00000°. NP2: φs269.00000°,δ32.00000°,λ109.00000°. Principal axes: T 1.9360, Plg72.0000°, Azm310.0000°; N -0.0790, Plg10.0000°, Azm72.0000°; P -1.8580, Plg15.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **20** 21:06:38.6±1.1,22.78S×171.76E,h42km±10km,mb5.0/31 Error ellipse: s-maj=8.4km s-min=7.3km az=148.0*

ISC 20 21:06:39.2±0.4,22.93S±0.07×171.81E±0.06,h49km±2km, h47km:pP-P,n131,σ1§53/149,mb4.8/40,MS4.6/5,5C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**4.76**	**296**	*e*P	**Pn**	**21 07 49.2**	**+0.9**
LIFNC				*e*S	**Sn**	**21 08 40.9**	**-1.3**
DZM	**Mont Dzumac**	**5.04**	**279**	Pn	**Pn**	**21 07 50.7**	**-1.6**
	5.9nm,0.3s,baz=90,slow=24,SNR=71						
DZM				Sn	**Sn**	**21 08 49.9**	**+0.6**
	4.7nm,0.3s,baz=67,slow=14,SNR=3.3						
NOUC	**Port Laguerre**	**5.16**	**278**	*e*P	**Pn**	**21 07 50.9**	**-3.0**
NOUC				*e*S	**Sn**	**21 08 51.6**	**-0.5**
MSVF	**Nonsavu**	**7.81**	**50**	Pn	**Pn**	**21 08 32.0**	**+1.7**
	565nm,1.1s,SNR=7.7						
MSVF	**Nonsavu**	**7.81**	**50**	*e*Pn	**Pn**	**21 08 29.5**	**-0.8**
RAO	**Raoul Island**	**11.17**	**126**	LR	LR	21 11 52.4	
	comp=Z,831nm,19.3s,baz=296,slow=29						
URZ	**Urewera**	**15.94**	**165**	Pn	**Pn**	**21 10 19.9**	**-0.2**
	1.1nm,0.3s,baz=334,slow=7.2,SNR=19						
URZ				LR	LR	21 15 02.5	
	comp=Z,2μm,20.9s,baz=22,slow=32						
URZ	**Urewera**	**15.94**	**165**	*e*Pn	**P**	**21 10 21.9**	**-1.0**
	205nm,1.6s						
BKZ	**Black Stump Fm**	**16.67**	**167**	*e*Pn	**P**	**21 10 31.5**	**+0.4**
	140nm,1.3s						
HNR	**Honiara**	**17.59**	**318**	LR	LR	21 16 02.4	
	comp=Z,1μm,19.0s,baz=144,slow=32						
BFZ	**Birch Farm**	**18.09**	**169**	*e*P	Pn	21 10 56.1	+9.3
	118nm,1.5s						
EIDS	**Eidsvold**	**19.07**	**259**	*e*P	Pn	21 11 04.3	+5.5
	61nm,1.4s						
KHZ	**Kahutara**	**19.49**	**176**	*e*P	**P**	**21 10 59.9**	**-2.1**
	421nm,2.6s						
ARMA	**Armidale**	**19.50**	**243**	*e*P	**Pn**	**21 11 04.6**	**+0.6**
	30nm,1.1s						
RPZ	**Rata Peaks**	**20.74**	**182**	P	**P**	**21 11 14.3**	**-1.4**
	25nm,0.9s,baz=259,slow=5.6,SNR=7.7						
RPZ				LR	LR	21 18 15.7	
	comp=Z,1μm,22.0s,baz=334,slow=34						
RPZ	**Rata Peaks**	**20.74**	**182**	*e*P	**P**	**21 11 16.1**	**+0.4**
	186nm,1.7s						
RMQ	**Roma**	**21.23**	**256**	P	P	21 11 28.7	+7.6
	baz=21,SNR=11						
DCZ	**Deep Cove**	**22.81**	**188**	*e*P	**P**	**21 11 39.9**	**+2.2**
	35nm,1.1s						
CNB	**Canberra Magne**	**23.11**	**233**	P	**P**	**21 11 43.6**	**+2.6**
	baz=23,SNR=14						
WHZ	**Wether Hill Ro**	**23.12**	**187**	*e*P	**P**	**21 11 41.0**	**0.0**
	96nm,1.5s						
CTA	**Charters Tower**	**23.94**	**272**	P	**P**	**21 11 49.9**	**+0.9**
	5.9nm,1.0s,baz=43,slow=8.5,SNR=3.5						
CTAO	**Charters Tower**	**23.94**	**272**	*e*P	**P**	**21 11 47.6**	**-1.3**
	129nm,2.0s						
CMSA	**Cobar Meteorol**	**24.71**	**244**	P	**P**	**21 11 58.0**	**+2.1**
	baz=25,SNR=8.0						
QLP	**Quilpie**	**25.29**	**256**	P	**P**	**21 12 04.2**	**+3.1**
	baz=25,SNR=5.4						
MTSU	**Mount Surprise**	**26.17**	**275**	P	**P**	**21 12 10.9**	**+1.7**
	baz=26,SNR=6.3						
STKA	**Stephens Creek**	**28.19**	**245**	P	**P**	**21 12 27.6**	**+0.4**
	3.1nm,0.7s,baz=97,slow=8.7,SNR=6.4						
STKA				LR	LR	21 22 15.6	
	comp=Z,1μm,19.5s,baz=77,slow=33						
STKA	**Stephens Creek**	**28.19**	**245**	P	**P**	**21 12 29.2**	**+2.0**
	baz=28,SNR=5.6						
STKA	**Stephens Creek**	**28.19**	**245**	*e*P	**P**	**21 12 26.4**	**-0.9**
	14nm,2.1s						
COEN	**Coen**	**28.55**	**283**	*e*P	P	21 12 27.1	-3.5
	76nm,1.6s						
HTT	**Hallett**	**30.70**	**243**	P	P	21 12 55.6	+6.0
	baz=31,SNR=5.2					

	11nm,1.8s							
VNA1	**Neumayer--Stat**	**86.68**	**180**		P	**P**	**21 19 14.5**	**-2.8**
SEY	**Seymchan**	**86.95**	**351**		P	**P**	**21 19 17.0**	**-1.4**
	1.4nm,0.3s,baz=174,slow=23,SNR=4.4							
LZH	**Lanzhou**	**86.97**	**311**	*eP*		P	21 19 23.0	+3.6
LZH					pP	pP	21 19 34.4	+0.7
LZH					sP	sP	21 19 39.3	+0.2
LZH				*eS*		**ScS**	**21 30 00.4**	**-1.7**
LZH					PMZ			
	28nm,1.3s							
LZH					PMZ			
	92nm,4.7s							
LZH					LN			
	560nm,18.2s							
LZH					LE			
	570nm,17.9s							
LZH					LZ			
	890nm,19.3s							
BBRC	**Big Bear Solar**	**88.39**	**52**	*eP*		**P**	**21 19 27.6**	**+1.3**
PFO	**Pinyon Flat Ob**	**88.41**	**52**	LR		LR	21 52 51.4	
	comp=Z,459nm,19.3s,baz=32,slow=32							
WAKR	**Walker**	**88.74**	**47**	*eP*		**P**	**21 19 28.4**	**+0.5**
BELC	**Belle Mtn. Jos**	**88.93**	**52**	P		**P**	**21 19 28.5**	**-0.3**
	baz=89							
HEC	**Hector,Ludlow**	**89.09**	**51**	P		**P**	**21 19 29.2**	**-0.3**
	baz=89							
GLA	**Glamis**	**89.35**	**54**	P		**P**	**21 19 30.6**	**0.0**
	baz=90							
NVAR	**Mina Array Bea**	**89.47**	**48**	P		**P**	**21 19 31.4**	**0.0**
	1.3nm,0.7s,baz=231,slow=8.3,SNR=10							
IRM	**Iron Mountain**	**89.63**	**52**	P		**P**	**21 19 31.4**	**-0.5**
	baz=90							
J05D	**Fort Rock, OR**	**90.06**	**42**	P		**P**	**21 19 32.5**	**-1.4**
	baz=90							
SCM	**Sheep Creek Mo**	**90.58**	**18**	*eP*		**P**	**21 19 38.8**	**+3.0**
	68nm,1.3s							
SHPR	**Sheep Range**	**90.72**	**50**	*eP*		**P**	**21 19 37.0**	**-0.1**
BMN	**Battle Mountai**	**91.19**	**46**	*eP*		**P**	**21 19 38.8**	**-0.4**
	15nm,1.5s							
ULN	**Ulaanbaatar**	**91.24**	**322**	*eP*		**P**	**21 19 39.6**	**+0.4**
	4.0nm,1.1s							
R11A	**Troy Canyon, C**	**91.30**	**49**	P		**P**	**21 19 39.2**	**-0.6**
	baz=91							
GTA	**Gaotai**	**91.39**	**313**	*eP*		**P**	**21 19 40.8**	**+0.7**
GTA					pP	**pP**	**21 19 53.9**	**-0.6**
GTA					sP	**sP**	**21 19 59.3**	**-0.6**
GTA					PMZ			
	4.0nm,1.6s							
RND	**Reindeer**	**91.43**	**17**	*eP*		**P**	**21 19 38.6**	**-1.0**
	119nm,2.2s							
BPAW	**Bear Paw Mtn.**	**91.46**	**15**	*eP*		**P**	**21 19 39.7**	**0.0**
	15nm,1.5s							
SONM	**Songino Array**	**91.60**	**322**	P		**P**	**21 19 39.9**	**-1.0**
	0.8nm,0.8s,baz=147,slow=3.0,SNR=7.0							
SONM					LR	LR	21 58 13.9	
	comp=Z,1μm,21.8s,baz=332,slow=34							
TUC	**Tucson**	**92.05**	**56**	*eP*		**P**	**21 19 43.8**	**+0.5**
	4.3nm,1.0s							
MLY	**Manley**	**92.30**	**15**	*eP*		P	21 19 47.5	+3.9
	176nm,1.9s							
CCUT	**Cedar City**	**92.48**	**50**	*eP*		**P**	**21 19 45.9**	**+0.5**
	3.3nm,1.0s							
WRH	**Wood River Hil**	**92.50**	**16**	*eP*		**P**	**21 19 44.8**	**+0.4**
	16nm,1.1s							
KNB	**Kanab**	**92.63**	**51**	*eP*		**P**	**21 19 46.3**	**+0.3**
	8.1nm,1.2s							
ELK	**Elko**	**92.66**	**47**	P		**P**	**21 19 45.3**	**-0.8**
	1.3nm,1.0s,baz=197,slow=8.4,SNR=1.8							
CCB	**Clear Creek Bu**	**92.71**	**16**	*eP*		**P**	**21 19 44.7**	**-0.8**
	9.7nm,1.1s							
MDM	**Murphy Dome**	**92.86**	**16**	*eP*		**P**	**21 19 43.9**	**-2.2**
	129nm,2.2s							
ILAR	**Eielson Array**	**93.05**	**16**	P		**P**	**21 19 44.2**	**-2.8**
	1.1nm,1.0s,baz=234,slow=5.4,SNR=6.8							
TXAR	**Lajitas Array**	**96.43**	**61**	P		**P**	**21 20 03.3**	**-0.2**
	0.7nm,1.0s,baz=224,slow=3.5,SNR=4.7							
WMQ	**Urumqi**	**101.47**	**313**	P		**Pdif**	**21 20 27.5**	**+1.8**
WMQ					PMZ			
	11nm,0.8s							
WMQ					LN			
	570nm,17.5s							
WMQ					LE			
	470nm,18.0s							
WMQ					LZ			
	470nm,18.2s							
URVA	**University of**	**119.58**	**59**	*e*PKPdf		**PKPdf**	**21 25 27.1**	**+3.4**
KOLS	**Kolonicke sedl**	**144.61**	**325**	*e*PKP		**PKPdf**	**21 26 14.3**	**+4.1**
OKC	**Ostrava-Krasne**	**146.12**	**329**	*e*PKP		**PKPab**	**21 26 15.0**	**+0.6**
OKC				*ex*		x	21 26 37.8	
OKC				*ex*		x	21 26 47.0	
RDO	**Rodhopi**	**146.41**	**311**	*eP*		**PKPdf**	**21 26 14.0**	**+0.6**
RDO	**Rodhopi**	**146.41**	**311**	*e*PKPdf		**PKPdf**	**21 26 14.1**	**+0.6**
DPC	**Dobruska-Polom**	**146.60**	**331**	*e*PKP		**PKPbc**	**21 26 15.0**	**-0.2**
DPC				*ep*PKP		**pPKPdf**	**21 26 30.6**	**+2.1**
DPC				*ex*		x	21 26 40.9	
DPC				*ex*		x	21 26 55.3	
UPC	**Upice**	**146.62**	**332**	*e*PKP		**PKPbc**	**21 26 15.1**	**-0.1**
UPC				*ep*PKP		**pPKPdf**	**21 26 24.1**	**-4.4**
UPC				*es*PKP			21 26 35.2	
VYHS	**Vyhne**	**146.67**	**327**	*e*PKP		**PKPab**	**21 26 16.6**	**0.0**
VYHS				*e*			21 26 21.6	
CHOS	**Chios island**	**146.98**	**306**	*eP*		**PKPab**	**21 26 20.4**	**+2.1**
BRG	**Berggiesshubel**	**147.22**	**334**	*e*PKP		**PKPbc**	**21 26 16.6**	**-0.2**
	5.8nm,1.3s							
PVCC	**Panska Ves**	**147.23**	**333**	*e*PKP		**PKPbc**	**21 26 16.3**	**-0.6**
PVCC				*ep*PKP		**pPKPdf**	**21 26 34.0**	**+4.5**
PVCC				*ex*		x	21 26 41.3	
CLL	**Collm**	**147.26**	**335**	*e*PKPbc		**PKPbc**	**21 26 17.0**	**0.0**
NVR	**Nevrokopi**	**147.49**	**312**	*eP*		**PKPbc**	**21 26 18.5**	**+0.5**
PRU	**Pruhonice**	**147.65**	**332**	*e*PKP		**PKPdf**	**21 26 15.3**	**0.0**
PRU				*ep*PKP		**pPKPdf**	**21 26 34.8**	**+4.6**
SRS	**Serrai**	**147.77**	**312**	*eP*		**PKPdf**	**21 26 14.9**	**-0.9**
OUR	**Ouranopolis**	**147.81**	**310**	*eP*		**PKPbc**	**21 26 20.0**	**+1.2**
KNT	**Kendrikon**	**148.23**	**312**	*eP*		**PKPab**	**21 26 22.5**	**-0.5**
NKC	**Novy Kostel**	**148.32**	**334**	*e*PKP		**PKPdf**	**21 26 18.0**	**+1.5**
CONA	**Conrad Observa**	**148.53**	**328**	⇑*i*PKPab		**PKPab**	**21 26 23.5**	**-0.6**
	2.1nm,0.7s							
CONA				⇑*is*PKPbc		**sPKPbc**	**21 26 37.5**	**-3.2**
	3.6nm,0.9s							
IDI	**Anoyia**	**148.73**	**301**	PKPbc		**PKPbc**	**21 26 21.9**	**+0.4**
	13nm,1.1s,baz=143,slow=1.9,SNR=3.5							
XOR	**Xorichti**	**148.74**	**309**	*eP*		**PKPbc**	**21 26 19.7**	**-1.7**
GERES	**GERESS Array B**	**148.86**	**332**	PKPbc		**PKPbc**	**21 26 19.8**	**-1.6**
	0.7nm,0.8s,baz=58,slow=3.3,SNR=6.7							
VAM	**Vamos**	**149.25**	**301**	*eP*		**PKPab**	**21 26 27.5**	**+0.1**
LTK	**Loutraki**	**149.40**	**307**	*eP*		**PKPbc**	**21 26 22.4**	**-0.6**
DIDY	**Didyma**	**149.40**	**305**	*eP*		**PKPbc**	**21 26 21.7**	**-1.5**
AGG	**Agios Georgios**	**149.50**	**309**	*eP*		**PKPab**	**21 26 26.9**	**-1.4**
AGG	**Agios Georgios**	**149.50**	**309**	*e*PKPbc		**PKPbc**	**21 26 24.1**	**+0.8**
DESF	**Desfina**	**149.58**	**308**	*eP*		**PKPbc**	**21 26 22.5**	**-1.0**
DSF	**Desfina**	**149.58**	**308**	*eP*		**PKPbc**	**21 26 22.3**	**-1.2**
MAKR	**Makrakomi, Fth**	**149.64**	**309**	*eP*		**PKPbc**	**21 26 23.1**	**-0.5**
SOKA	**Soboth**	**149.80**	**327**	⇑*i*PKPbc		**PKPbc**	**21 26 22.4**	**-1.5**
	2.7nm,1.2s							
SOKA				⇑*ip*PKiKP		**pPKiKP**	**21 26 38.7**	**-1.0**
	9.3nm,1.4s							
GUR	**Goura**	**149.89**	**307**	*eP*		**PKPbc**	**21 26 23.5**	**-0.9**
KLV	**Kalavryta, Ach**	**149.99**	**307**	*eP*		**PKPbc**	**21 26 23.8**	**-0.7**
LAKA	**Lakka**	**150.05**	**308**	*eP*		**PKPbc**	**21 26 24.4**	**-0.2**
DSL	**Palaion Diasel**	**150.33**	**310**	*eP*		**PKPbc**	**21 26 24.4**	**-0.9**
ITM	**Ithomi**	**150.47**	**306**	*eP*		**PKPab**	**21 26 31.1**	**-1.2**
IGT	**Igoumenitsa**	**150.70**	**311**	*eP*		**PKPab**	**21 26 29.9**	**-3.3**
FETA	**Feichten**	**151.55**	**332**	⇑*i*PKPdf		**PKPdf**	**21 26 20.8**	**-1.1**
	4.1nm,0.9s							
TORD	**Torodi Ar. Bea**	**166.48**	**226**	PKP		**PKPdf**	**21 26 39.2**	**-0.7**
	2.1nm,1.0s,baz=215,slow=1.3,SNR=6.4							
TORD					PKPab	**PKPab**	**21 27 41.2**	**-0.6**
	0.8nm,0.8s,baz=135,slow=4.8,SNR=4.9							

IDC **20** *21:13:46.8±0.9,5.°89S×150.°87E,h0km,mb4.1/7, mb1 4.3/7,mb1mx4.1/19,mbtmp4.1/7,Error ellipse: s-maj=45.5km s-min=22.2km az=118.0*

ISCJB **20** *21:13:52.5±0.6,5.°93S×150.°07E±0.°1,h43km,mb4.0/7, Error ellipse: s-maj=18.8km s-min=8.0km az=38.7*

ISC 20 21:13:53.7±0.7,5.°9S±0.°1×150.°7E±0.°1,h43km,n24, σ1§07/24,mb3.9/7,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.21**	**41**	P		**Pn**	**21 14 29.9**	**+1.9**
	baz=2.5,SNR=36							
PMG	**Port Moresby**	**4.97**	**225**	Pn		**Pn**	**21 15 07.3**	**+1.5**
	14nm,0.3s,baz=39,slow=12,SNR=12							
PMG				Sn		**Sn**	**21 16 02.3**	**+0.2**
	24nm,0.3s,baz=108,slow=23,SNR=8.8							
PMG	**Port Moresby**	**4.97**	**225**	P		Pn	21 15 00.2	-5.7
	baz=4.7,SNR=8.4							
PMG				P		Pn	21 15 00.2	-5.7
	baz=4.7,SNR=8.4							
PMG				P		Pn	21 15 00.2	-5.7
	baz=4.7,SNR=8.4							
MTSU	**Mount Surprise**	**13.69**	**207**	P		**Pn**	**21 17 05.6**	**+0.3**
	baz=14,SNR=5.0							
QIS	**Mount Isa**	**18.14**	**215**	P		**Pn**	**21 18 04.8**	**+2.2**
	baz=18,SNR=3.1							
KDU	**Kakadu**	**19.23**	**248**	P		**P**	**21 18 14.3**	**-0.1**
	baz=19,SNR=7.8							
RMQ	**Roma**	**20.57**	**185**	P		**P**	**21 18 29.2**	**+0.2**
	baz=20,SNR=9.5							
WRA	**Warramunga Arr**	**21.19**	**227**	P		**P**	**21 18 35.5**	**-0.3**
	4.3nm,0.6s,baz=54,slow=11,SNR=21							
WRA					PcP	**PcP**	**21 22 40.4**	**+0.1**
	1.2nm,0.5s,baz=41,slow=2.0,SNR=7.6							
QLP	**Quilpie**	**21.49**	**196**	P		**P**	**21 18 38.1**	**-0.8**
	baz=21,SNR=9.8							
KNRA	**Kununurra**	**23.64**	**244**	P		**P**	**21 19 02.1**	**+0.8**
	baz=23,SNR=3.5							
ASAR	**Alice Springs**	**23.97**	**221**	P		**P**	**21 19 04.1**	**-0.2**
	2.7nm,0.6s,baz=56,slow=8.4,SNR=34							
STKA	**Stephens Creek**	**27.23**	**197**	P		**P**	**21 19 32.6**	**-1.1**
	2.5nm,0.7s,baz=3.9,slow=8.2,SNR=9.5							
STKA	**Stephens Creek**	**27.23**	**197**	P		**P**	**21 19 35.2**	**+1.4**
	baz=27,SNR=5.9							
WRKA	**Warakurna**	**28.71**	**226**	P		**P**	**21 19 46.3**	**-0.8**
	baz=28,SNR=5.5							
HTT	**Hallett**	**29.52**	**200**	P		P	21 19 59.1	+4.9
	baz=29,SNR=3.3							
MEEK	**Meekatharra**	**36.91**	**232**	P		**P**	**21 20 58.2**	**-0.4**
	baz=37,SNR=6.4							
CISI	**Cisompet, Garu**	**42.63**	**265**	P		**P**	**21 21 46.3**	**-0.1**
	baz=42,SNR=4.1							
HMDM	**Hanimaadhoo**	**78.39**	**278**	P		**P**	**21 25 50.0**	**-0.5**
	baz=78,SNR=3.2							
MKAR	**Makanchi Array**	**79.79**	**320**	P		**P**	**21 25 58.1**	**+0.5**
	0.2nm,0.4s,baz=118,slow=4.1,SNR=3.1							
ILAR	**Eielson Array**	**93.94**	**22**	P		**P**	**21 26 16.7**	**-2.2**
	0.8nm,0.7s,baz=252,slow=4.9,SNR=5.4							
QSPA	**South Pole Qui**	**84.08**	**180**	P		**P**	**21 26 19.2**	**-0.7**
	1.6nm,0.8s,baz=9.8,slow=1.4							
NVAR	**Mina Array Bea**	**94.38**	**52**	P		**P**	**21 27 10.2**	**+0.7**
	1.4nm,0.7s,baz=253,slow=6.6,SNR=6.6							
TORD	**Torodi Ar. Bea**	**148.64**	**286**	PKPbc		**PKPbc**	**21 33 36.6**	**-0.6**
	11nm,0.7s,baz=35,slow=2.9,SNR=86							
BDFB	**Brasilia**	**151.68**	**139**	PKPbc		**PKPbc**	**21 33 44.0**	**-0.7**
	1.5nm,0.3s,baz=187,slow=4.8,SNR=3.0							

ISCJB **20** *21:16:01.3±0.8,52.°41N±0.°08×169.°3W±0.°1,h10km, mb3.6/4,Error ellipse: s-maj=14.9km s-min=6.8km az=139.5*

NEIC **20** *21:16:01.4,52.°32N×169.°16W,h8km,ML3.6(AEIC),After AEIC.*

IDC **20** *21:16:01.8±1.7,52.°44N×169.°44W,h0km,mb3.7/4, mb1 4.0/6,mb1mx3.6/31,mbtmp3.7/6,ML3.2/2,Error ellipse: s-maj=47.2km s-min=26.5km az=174.0*

ISC 20 21:16:02.8±1.4,52.°4N±0.°1×169.°19W±0.°10,h10km,n23, σ1§02/17,mb3.7/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.59**	**20**	P		**Pg**	**21 16 14.9**	**+0.6**
NIKH				S		**Sb**	**21 16 24.4**	**+0.7**
OKWR	**Okmok West Rim**	**1.18**	**30**	P		**Pn**	**21 16 24.8**	**-0.7**
OKTU	**Okmok Mt. Tuli**	**1.19**	**35**	P		**Pn**	**21 16 24.8**	**-0.8**
OKAK	**Okmok**	**1.27**	**23**	P		Pn	21 16 22.9	-3.6
MSOM	**Makushin Julie**	**1.95**	**43**	P		**Pn**	**21 16 35.4**	**-0.5**
MSOM				S		**Sb**	**21 17 01.8**	**-0.8**
MCIR	**Makushin Cirqu**	**2.07**	**41**	P		**Pn**	**21 16 36.9**	**-0.7**
MSW	**Makushin Switc**	**2.09**	**43**	P		**Pn**	**21 16 36.6**	**-1.2**
UNV	**Unalaska Valle**	**2.16**	**47**	P		**Pn**	**21 16 38.6**	**-0.2**
UNV				S		**Sn**	**21 17 06.0**	**+0.3**
MTBL	**Makushin Table**	**2.17**	**43**	P		**Pn**	**21 16 38.0**	**-1.0**
ATKA	**Atka Island**	**3.08**	**268**	P		**Pn**	**21 16 51.0**	**-0.4**
ILAR	**Eielson Array**	**16.85**	**34**	Pn		**Pn**	**21 19 57.4**	**-1.1**
	0.1nm,0.3s,baz=238,slow=6.3,SNR=5.7							
PETK	**Petropavlovsk-**	**19.95**	**285**	P		**P**	**21 20 34.3**	**-0.4**
	0.1nm,0.3s,baz=92,slow=13,SNR=3.7							
DLBC	**Dease Lake**	**22.77**	**59**	P		**P**	**21 21 07.5**	**+2.5**
	4.8nm,0.9s,baz=280,slow=6.2,SNR=7.0							
YKA	**Yellowknife Ar**	**30.13**	**49**	P		**P**	**21 22 13.1**	**+0.8**
	0.3nm,0.5s,baz=272,slow=11,SNR=3.0							
H11N2	**WAKE ISLAND Hy**	**37.56**	**219**	T		T	22 03 22.8	
	baz=15,slow=76							
H11N3	**WAKE ISLAND Hy**	**37.56**	**219**	T		T	22 03 15.7	
	baz=15							
H11N1	**WAKE ISLAND Hy**	**37.58**	**219**	T		T	22 03 23.3	
	baz=15,slow=76							
H11S1	**WAKE ISLAND Hy**	**38.75**	**218**	T		T	22 04 44.6	
	baz=23,slow=76,SNR=573							
H11S2	**WAKE ISLAND Hy**	**38.76**	**218**	T		T	22 04 45.7	
	baz=23,slow=76,SNR=392							
H11S3	**WAKE ISLAND Hy**	**38.76**	**218**	T		T	22 04 48.1	
	baz=23,slow=76,SNR=225							
PDAR	**Pinedale Array**	**40.29**	**79**	P		P	21 23 42.0	+1.8
	0.5nm,0.5s,baz=332,slow=5.0,SNR=4.1							
TXAR	**Lajitas Array**	**52.64**	**89**	P		P	21 25 18.9	+1.9
	1.0nm,0.6s,baz=300,slow=5.4,SNR=12							
LBTB	**Lobatse**	**150.42**	**332**	PKPbc		**PKPbc**	**21 35 53.8**	**-0.6**
	2.2nm,0.7s,baz=359,slow=6.2,SNR=4.9							

NIED **20** *21:19:00,34.°20N×135.°70E,h65km,Mw4.9 Best double couple: M0 2.74000×10^16 NP1:φs315.00000°,δ37.00000°, λ-35.00000°. NP2:φs74.00000°,δ70.00000°, λ-122.00000°.*

MOS **20** *21:19:17.5±0.9,34.°27N×135.°57E,h58km,mb5.4/45,Error ellipse: s-maj=6.6km s-min=4.2km az=103.3*

BJI **20** *21:19:17.1,34.°10N×135.°91E,h79km,mb5.1/65,mB5.1/37, Ms4.4/38,Ms7 4.2/37*

ISCJB **20** *21:19:18.0±0.2,34.°24N±0.°02×135.°61E±0.°01,h59km±1km, mb5.0/148,MS4.5/6,Error ellipse: s-maj=3.3km s-min=1.9km az=169.8*

JMA **20** *21:19:18.5±0.1,34.°21N×135.°69E,h58km±1km,M5.1 Broadband fault plane solution: P waves. NP1: φs80.00000°,δ68.00000°,λ-129.00000°. NP2: φs325.00000°,δ44.00000°,λ-33.00000°. Principal axes: T Plg14.0000°, Azm198.0000°; N Plg36.0000°, Azm98.0000°; P Plg51.0000°, Azm305.0000°;*

JMA Felt IV J1.

IDC **20** *21:19:19.4±0.5,34.°25N×135.°60E,h63km±4km,mb4.6/45, mb1 4.7/51,mb1mx4.6/67,mbtmp4.9/51,MS4.3/5, Ms1 4.3/5,ms1mx3.7/54 Error ellipse: s-maj=9.9km s-min=8.9km az=6.0*

SZGRF **20** *21:19:20.1,34.°94N×137.°38E,h76km,mb5.2,Near south coast of eastern Honshu, Japan*

NEIC **20** *21:19:20.3±0.3,34.°28N×135.°53E,h66km±2km,mb5.1/30, MW4.9(NIED),Error ellipse: s-maj=5.0km s-min=3.0km az=159.0*

NEIC Felt [III] at Nagoya, Nara and Osaka; [II] at Kobe and Kyoto. Felt widely in the Kobe-Kofu-Kanazawa area. Recorded [4 JMA] in Nara; [3 JMA] in Aichi, Fukui, Gifu, Kyoto, Mie, Osaka, Shiga and Wakayama; [2 JMA] in Hyogo, Ishikawa, Nagano, Okayama, Shizuoka and Yamanashi; [1 JMA] in Chiba, Hiroshima and Tottori. Also recorded [3 JMA] in Kagawa and Tokushima and [1 JMA] in Kochi, Shikoku.

ISC 20 21:19:20.2±0.3,34.°24N±0.°03×135.°71E±0.°02,h72km±2km,

h72km:pP-P,n782,σ1§41/875,mb5.1/164,73C-55D,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JWY	**Kouya**	**0.10**	**257**	⇓P		Pn	21 19 27.4	-3.4
JWY				S		**Sn**	**21 19 33.5**	**-5.1**
JHE	**Heguri**	**0.41**	**357**	⇑P		**Pn**	**21 19 29.5**	**-3.0**
JHE				S		**Sn**	**21 19 37.4**	**-4.1**
JKN2	**Miekihoku**	**0.47**	**90**	⇓P		**Pn**	**21 19 30.0**	**-2.9**
JKN2				S		**Sn**	**21 19 38.5**	**-3.7**
JWM	**Minabe**	**0.49**	**217**	⇑P		Pn	21 19 29.5	-3.6
JWM				S		**Sn**	**21 19 37.3**	**-5.3**
JAJ2	**Tsuna**	**0.71**	**285**	⇓P		**Pn**	**21 19 32.7**	**-2.6**
JAJ2				S		**Sn**	**21 19 43.0**	**-3.5**
JWZ	**Kozaga**	**0.71**	**180**	⇓P		**Pn**	**21 19 32.3**	**-3.1**
TSUJ	**Tsu 2**	**0.75**	**51**	⇑P		**Pn**	**21 19 33.4**	**-2.4**
TSUJ				S		**Sn**	**21 19 44.1**	**-3.2**
JMIK	**Miki**	**0.78**	**316**	⇑P		**Pn**	**21 19 33.8**	**-2.4**
JIE	**Ise**	**0.84**	**79**	P		**Pn**	**21 19 34.9**	**-1.9**
JIE				S		**Sn**	**21 19 46.8**	**-2.4**
JKS	**Kasai**	**1.03**	**316**	P		**Pn**	**21 19 37.0**	**-2.2**
JKS				S		**Sn**	**21 19 50.3**	**-3.0**
JEG	**Eigenji**	**1.05**	**32**	⇑P		**Pn**	**21 19 37.8**	**-1.7**
JWT	**Wachi**	**1.07**	**346**	⇑P		**Pn**	**21 19 37.6**	**-2.1**
JWT				S		**Sn**	**21 19 51.5**	**-2.7**
TTO1	**TONANKAI O.B.S**	**1.08**	**124**	⇓P		**Pn**	**21 19 37.8**	**-1.8**
JAI	**Aioi**	**1.14**	**247**	⇑P		**Pn**	**21 19 38.0**	**-2.5**
JAI				S		**Sn**	**21 19 52.4**	**-3.3**
TTO2	**TONANKAI O.B.S**	**1.20**	**114**	⇓P		**Pn**	**21 19 39.5**	**-1.6**
JAA	**Atsumi**	**1.25**	**71**	⇑P		**Pn**	**21 19 41.5**	**-0.4**
JAA				S		**Sn**	**21 19 58.0**	**-0.2**
JFM	**Mihama**	**1.30**	**10**	⇑P		**Pn**	**21 19 41.1**	**-1.6**
JAD	**Aida**	**1.45**	**299**	⇓P		**Pn**	**21 19 42.2**	**-2.4**
JKY	**Yasaka**	**1.47**	**340**	⇑P		**Pn**	**21 19 43.2**	**-1.7**
JJS	**Sakaide**	**1.48**	**276**	⇓P		**Pn**	**21 19 42.5**	**-2.5**
MRT2	**Murotomisaki 2**	**1.56**	**237**	⇑P		**Pn**	**21 19 42.9**	**-3.1**
JKSM	**Kusumi**	**1.60**	**328**	⇑P		**Pn**	**21 19 44.9**	**-1.6**
JAO	**Obara**	**1.64**	**51**	⇑P		**Pn**	**21 19 45.3**	**-1.8**
JGM	**Miyama**	**1.67**	**29**	⇑P		**Pn**	**21 19 46.5**	**-1.1**
JGM				S		**Sn**	**21 20 09.1**	**+0.8**
JGF	**Kuroka**	**1.92**	**44**	⇑P		**Pn**	**21 19 48.9**	**-1.9**
JGF				S		**Sn**	**21 20 16.5**	**+2.4**
JNY	**Yasuok**	**2.09**	**57**	P		**Pn**	**21 19 51.3**	**-1.9**
JKG	**Kaga**	**2.09**	**14**	⇑P		**Pn**	**21 19 52.4**	**-0.7**
JJG	**Jouge**	**2.15**	**281**	⇓P		**Pn**	**21 19 52.1**	**-1.8**
JGN	**Niukaw**	**2.38**	**33**	⇑P		**Pn**	**21 19 55.8**	**-1.2**
JGN				S		**Sn**	**21 20 24.2**	**-1.0**
JKU	**Kubokawa**	**2.39**	**248**	⇑P		**Pn**	**21 19 54.7**	**-2.5**
JNM	**Ikuma**	**2.54**	**300**	⇓P		**Pn**	**21 19 58.1**	**-1.0**
JNT	**Takato**	**2.57**	**50**	⇑P		**Pn**	**21 19 58.2**	**-1.5**
JTT	**Ttatey**	**2.71**	**29**	⇑P		**Pn**	**21 20 00.3**	**-1.1**
JNG	**Nsakai**	**2.91**	**41**	⇑P		**Pn**	**21 20 03.5**	**-0.8**
JOD2	**Odawara 2**	**2.96**	**69**	P		**Pn**	**21 20 03.7**	**-1.2**
MAJO	**Matsushiro**	**3.07**	**41**	*ic*P		**Pn**	**21 20 05.4**	**-1.0**
MAJO	**Matsushiro**	**3.07**	**41**	*e*Pn		**Pn**	**21 20 05.6**	**-0.9**
MAJO				*e*Sn		**Sn**	**21 20 36.3**	**-5.7**
MAT	**Matsushiro**	**3.07**	**41**	P		**Pn**	**21 20 05.4**	**-1.0**
MAT				*e*S		**Sn**	**21 20 41.1**	**-0.9**
MAT	**Matsushiro**	**3.07**	**41**	P		**Pn**	**21 20 05.4**	**-1.0**
MJAR	**Matsushiro Arr**	**3.07**	**41**	P		**Pn**	**21 20 05.8**	**-0.6**
	201nm,0.3s,baz=257,slow=12,SNR=628							
JSZ	**Suzu**	**3.47**	**22**	P		**Pn**	**21 20 10.3**	**-1.5**
JJN	**Nakama**	**3.48**	**34**	⇑P		**Pn**	**21 20 11.8**	**-0.2**
JHJ2	**Mitsune**	**3.60**	**107**	S		**Sn**	**21 20 52.1**	**-2.9**
JHJ2	**Mitsune**	**3.60**	**107**	*e*Pn		**Pn**	**21 20 11.6**	**-2.0**
JHJ2				*e*Sn		Sn	21 20 48.9	-6.1
JHG	**Hegura jima**	**3.73**	**15**	⇑P		**Pn**	**21 20 14.7**	**-0.7**
JAG	**Ashikaga**	**3.76**	**53**	⇑P		**Pn**	**21 20 15.2**	**-0.5**
JKT	**Katashina**	**3.83**	**48**	⇑P		**Pn**	**21 20 15.9**	**-0.9**
JNU	**Nakatsue**	**4.18**	**256**	P		**Pn**	**21 20 20.2**	**-1.3**
	48nm,0.3s,baz=14,slow=8.5,SNR=287							
JNU	**Nakatsue**	**4.18**	**256**	*e*Pn		**Pn**	**21 20 20.4**	**-1.1**
JTA	**Tamana**	**4.50**	**255**	P		**Pn**	**21 20 24.8**	**-1.1**
JNAR	**Kushima--Naru**	**4.61**	**235**	P		**Pn**	**21 20 26.5**	**-0.9**
JHO	**Hitachi**	**4.62**	**58**	P		**Pn**	**21 20 25.8**	**-1.7**
JZO	**Okuchi**	**4.77**	**245**	P		**Pn**	**21 20 28.6**	**-1.0**
KSULL	**Ulleungdo**	**5.07**	**311**	P		**Pn**	**21 20 31.9**	**-1.7**
	SNR=11							
KSULL				⇑S		**Sn**	**21 21 28.6**	**-2.1**
JAW	**Awa shima**	**5.08**	**33**	P		**Pn**	**21 20 33

KSICN Icheon 7.40 297 P **Pn** **21 21 05.4 0.0**
SNR=40
KSWAN Wando 7.46 274 P **Pn** **21 21 05.1 -1.2**
SNR=5.9
KSCWO Cheorwon 7.66 302 P **Pn** **21 21 09.1 +0.1**
SNR=14
KSSWO Suwon 7.72 296 P **Pn** **21 21 09.8 -0.1**
SNR=14
KSJDO Jindo 7.77 274 P **Pn** **21 21 09.8 -0.8**
SNR=7.0
KSSEO Seoul 7.84 297 P **Pn** **21 21 11.6 +0.2**
SNR=14
KSDDC Dongducheon 7.90 300 P **Pn** **21 21 12.4 +0.1**
SNR=9.1
KSSES Seosan 7.96 291 P **Pn** **21 21 12.7 -0.5**
SNR=5.3
INCN Inchon 8.05 296 *e*Pn **Pn** **21 21 14.5 +0.2**
YNCB YEONCHEON 8.05 301 P **Pn** **21 21 14.5 +0.1**
SNR=44
KSMUS Musan 8.11 299 P **Pn** **21 21 15.6 +0.4**
SNR=22
KSGAH Ganghwa 8.27 297 P **Pn** **21 21 17.6 +0.3**
SNR=18
CBIJ Chichi jima 9.04 140 *e*Pn Pn 21 21 23.9 -4.0
JCJ Chichijima 9.04 140 P **Pn** **21 21 27.4 -0.6**
comp=N,4.5nm,0.3s,baz=300,slow=19,SNR=12
JCJ LR LR 21 24 28.6
comp=N,1μm,21.9s,baz=327,slow=34
MSHR Mys Shultsa 9.06 338 *e*P **Pn** **21 21 28.1 0.0**
VLA Vladivostok 9.36 343 *d i*P **Pn** **21 21 32.6 +0.5**
VLA pmax pmax
comp=Z,53nm,0.6s
ERM Erimo 9.72 35 Pn **Pn** **21 21 36.5 -0.7**
comp=Z,671nm,0.9s,SNR=13
ERM Erimo 9.72 35 ⇓*e*P **Pn** **21 21 36.3 -0.9**
ERM pmax pmax
comp=Z,94nm,0.8s
ERM Erimo 9.72 35 *e*Pn **Pn** **21 21 36.6 -0.6**
JOW Kunigami 9.78 223 *e*Pn **Pn** **21 21 35.3 -2.7**
USRK Ussuriysk Ar. 10.36 345 P **Pn** **21 21 45.3 -0.5**
comp=Z,2.1nm,0.3s,baz=156,slow=11,SNR=59
USRK S **Sn** **21 23 40.6 +0.6**
comp=Z,4.8nm,0.3s,baz=172,slow=25,SNR=12
ASAJ Asahikawa 11.21 26 P **Pn** **21 21 56.9 -0.5**
comp=Z,3.4nm,0.3s,baz=222,slow=6.7,SNR=22
ASAJ LR LR 21 26 26.6
comp=Z,889nm,19.2s,baz=276,slow=38
ASAJ Asahikawa 11.21 26 P **Pn** **21 21 56.9 -0.5**
ASAJ pmax pmax
comp=Z,3.0nm,0.3s
ASAJ MLR MLR
comp=Z,889nm,19.2s
ASAJ Asahikawa 11.21 26 *e*Pn **Pn** **21 21 56.7 -0.8**
MDJ Mudanjiang 11.39 337 P Pn 21 22 02.9 +3.1
MDJ PMZ
comp=Z,34nm,0.6s
MDJ PMZ
comp=Z,150nm,5.6s
SNY Shenyang 12.19 312 ⇓P **Pn** **21 22 12.8 +2.0**
SNY S Sn 21 24 35.8 +11
SNY PMZ
comp=Z,26nm,1.6s
SNY LN
comp=Z,920nm,25.3s
SNY LE
comp=Z,630nm,21.6s
SNY LZ
comp=Z,670nm,33.3s
DL2 Dalian 12.24 296 P **Pn** **21 22 12.9 +1.4**
DL2 S **Sn** **21 24 27.4 +1.4**
DL2 PMZ
comp=Z,140nm,1.2s
DL2 PMZ
comp=Z,220nm,5.7s
DL2 LN
comp=Z,430nm,15.0s
DL2 LZ
comp=Z,410nm,20.8s
CN2 Changchun 12.43 323 *e*P **Pn** **21 22 16.0 +1.9**
CN2 *e*pP P 21 22 26.5 +3.2
CN2 *e*S **Sn** **21 24 32.9 +2.2**
CN2 PMZ
comp=Z,30nm,1.3s
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,300nm,12.0s
CN2 LE
comp=Z,300nm,12.0s
CN2 LZ
comp=Z,200nm,11.0s
YUK Yuzh-Kuril'sk 12.55 36 P **Pn** **21 22 17.0 +1.3**
YSS Yuzh-Sakhalins 13.77 21 *e*P **Pn** **21 22 30.0 -2.0**
YSS pmax pmax
comp=Z,70nm,1.1s
HABR Khabarovsk 14.23 358 *ce*P **Pn** **21 22 38.6 +0.6**
HABR *e*S **Sn** **21 25 14.0 -0.3**
HABR pmax pmax
comp=N,24nm,1.5s
HABR pmax pmax
comp=E,12nm,1.0s
HABR pmax pmax
comp=Z,39nm,1.0s
HABR MLR MLR
comp=Z,388nm,16.0s
NJ2 Nanjing 14.29 266 *e*P **P** **21 22 42.1 -1.9**
NJ2 S **Sn** **21 25 20.0 +3.9**
NJ2 PMZ
comp=Z,40nm,0.6s
NJ2 LN
comp=Z,420nm,18.6s
NJ2 LE
comp=Z,320nm,16.9s
NJ2 LZ
comp=Z,490nm,17.2s
KLR Kul'dur 15.26 350 *e*P **Pn** **21 22 48.2 -3.1**
KLR *e*S **S** **21 25 47.0 -4.9**
KLR pmax pmax
comp=E,38nm,1.4s
KLR pmax pmax
comp=Z,90nm,1.4s
TIA Tai'an 15.32 283 ⇓P **Pn** **21 22 52.8 +0.6**
TIA PP **pP** **21 23 08.8 -1.2**
TIA PMZ
comp=Z,40nm,1.2s
TIA PMZ
comp=Z,470nm,3.3s
TIA LN
comp=Z,260nm,9.5s
TIA LE
comp=Z,980nm,14.3s
TIA LZ
comp=Z,230nm,12.5s
BJI Beijing 16.61 296 P **Pn** **21 23 08.6 +0.3**
BJI PMZ
comp=Z,46nm,1.4s
TPUB Ta-pu 17.11 234 *e*Pn P 21 23 24.8 +9.4
TYV Tymovskoe 17.37 15 *e*P P 21 23 24.0 +6.0
TYV *e*S Sn 21 26 22.0 -8.2
TYV smax smax
comp=N,500nm,6.0s
TYV smax smax
comp=E,1μm,6.0s
TYV MLR MLR
comp=N,500nm,16.0s
TYV MLR MLR
comp=E,500nm,16.0s
WHN Wuhan 18.41 264 P **Pn** **21 23 31.0 +0.6**
HHC Hu-ho-hao-te 20.22 296 *e*P **P** **21 23 49.8 +0.4**
HHC pP **pP** **21 24 04.3 +0.1**
HHC PP **PnPn** **21 24 11.0 +2.0**
HHC sP **sP** **21 24 14.9 +1.6**
HHC S **S** **21 27 28.8 -3.5**
HHC sS **sS** **21 27 59.5 +2.9**
HHC PMZ
comp=E,39nm,0.6s
HHC PMZ
comp=E,270nm,6.2s
HHC LN
comp=E,400nm,13.4s
HHC LE
comp=E,400nm,13.1s
HHC LZ
comp=E,300nm,16.2s
XAN Xi'an 22.16 277 P **P** **21 24 09.8 -0.4**
XAN PMZ
comp=E,30nm,1.4s
XAN PMZ
comp=E,68nm,7.3s
SKR Severo-Kuril's 22.17 36 *e*P **P** **21 24 09.0 -1.0**
SKR *e* 21 24 22.3
SKR pmax pmax
comp=N,80nm,1.0s
SKR pmax pmax
comp=E,100nm,1.0s
SKR pmax pmax
comp=Z,110nm,1.0s
CIT Chita 23.87 325 *e*P **P** **21 24 25.4 -1.5**
CIT *e* 21 24 46.1
CIT pmax pmax
comp=Z,157nm,1.7s
PETK Petropavlovsk- 24.50 33 P **P** **21 24 33.2 +0.7**
comp=Z,7.4nm,0.8s,baz=204,slow=3.3,SNR=9.6
PETK pP **pP** **21 24 49.9 +0.5**
comp=Z,15nm,0.8s,baz=211,slow=7.6,SNR=7.3
PET Petropavlovsk 24.88 34 *e*P P 21 24 29.0 -6.9
PET Petropavlovsk 24.88 34 *e*P P 21 24 29.0 -6.9
PET *e*pP pP 21 24 56.0 +3.2
ULN Ulaanbaatar 25.37 311 *e*P **P** **21 24 39.6 -1.1**
ULN pmax pmax
comp=Z,84nm,0.9s
ULN Ulaanbaatar 25.37 311 *e*P **P** **21 24 39.6 -1.1**
comp=Z,84nm,0.9s
SONM Songino Array 25.77 311 P **P** **21 24 43.9 -0.4**
comp=Z,111nm,0.8s,baz=119,slow=8.7,SNR=134
SONM PcP **PcP** **21 28 12.7 +0.5**
comp=Z,3.9nm,0.7s,baz=135,slow=2.3,SNR=6.4
SONM LR LR 21 34 30.0
comp=Z,769nm,19.9s,baz=350,slow=35
LZH Lanzhou 26.06 283 *e*P **P** **21 24 47.1 +0.1**
LZH pP **pP** **21 25 04.1 +0.1**
LZH sP **sP** **21 25 14.1 +1.6**
LZH *e*S **S** **21 29 15.3 +2.2**
LZH sS **sS** **21 29 45.5 +3.1**
LZH SS **SnSn** **21 30 20.6 +3.0**
LZH PMZ
comp=Z,45nm,1.0s
LZH PMZ
comp=Z,290nm,5.3s
LZH LN
comp=Z,1μm,13.8s
LZH LE
comp=Z,1μm,13.3s
LZH LZ
comp=Z,2μm,14.5s
GYA Guiyang 26.18 261 ⇑*i*P **P** **21 24 47.6 -0.5**
GYA pP **pP** **21 25 08.8 +3.8**
GYA sP sP 21 25 19.0 +5.5
GYA PP **PnPn** **21 25 36.3 +5.8**
GYA PcP **PcP** **21 28 14.0 +0.4**
GYA S **S** **21 29 15.5 +0.5**
GYA sS **sS** **21 29 47.8 +3.5**
GYA SS **SnSn** **21 30 27.4 +6.8**
GYA PMZ
comp=Z,30nm,1.0s
GYA PMZ
comp=Z,120nm,4.8s
GYA LN
comp=Z,580nm,16.4s
GYA LE
comp=Z,560nm,17.0s
GYA LZ
comp=Z,620nm,16.6s
CD2 Chengdu 27.07 272 ⇓P **P** **21 24 55.5 -0.6**
CD2 pP **pP** **21 25 13.8 +0.8**
CD2 sP **sP** **21 25 23.4 +1.9**
CD2 S **S** **21 29 28.4 -0.5**
CD2 sS **sS** **21 30 00.8 +2.6**
CD2 PMZ
comp=Z,130nm,0.8s
CD2 PMZ
comp=Z,280nm,8.0s
CD2 LN
comp=Z,590nm,15.2s
CD2 LZ
comp=Z,790nm,15.6s
BOD Bodaibo 27.74 335 ⇑*i*P **P** **21 24 58.6 -3.1**
BOD pmax pmax
comp=Z,8.0nm,0.8s
YAK Yakutsk 28.07 354 P **P** **21 25 03.5 -1.0**
comp=Z,1.9nm,0.3s,baz=352,slow=24,SNR=5.2
YAK Yakutsk 28.07 354 *e*P **P** **21 25 01.8 -2.8**
YAK *e**PP pP 21 25 11.5 -10
YAK *e*PPP PPP 21 25 58.8
YAK *e* 21 28 16.5
YAK *e*S **S** **21 29 39.2 -4.7**
YAK *e*SS **SnSn** **21 31 03.1 -2.9**
YAK *e* 21 35 47.4
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=N,7.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK smax smax
comp=E,25nm,2.1s
YAK Yakutsk 28.07 354 *e*P **P** **21 25 04.0 -0.6**
comp=E,25nm,0.8s
ZAK Zakamensk 28.61 314 ⇓*i*P P 21 25 13.7 +4.1
ZAK *e* 21 28 18.9
ZAK pmax pmax
comp=Z,27nm,1.1s
IRK Irkutsk 28.80 318 *e*P **P** **21 25 10.6 -0.6**
IRK *e* 21 25 32.4
IRK pmax pmax
comp=Z,46nm,0.9s
TLY Talaya 28.91 317 P **P** **21 25 11.2 -1.0**
comp=Z,5.8nm,0.7s,baz=154,slow=3.2,SNR=5.7
TLY LR LR 21 37 15.7
comp=Z,690nm,20.5s,baz=65,slow=37
TLY Talaya 28.91 317 *e*P **P** **21 25 12.2 0.0**
TLY pmax pmax
comp=Z,13nm,0.9s
TLY Talaya 28.91 317 *e*P **P** **21 25 11.8 -0.4**
comp=Z,9.4nm,0.7s
GTA Gaotai 29.07 291 ⇓P **P** **21 25 13.6 -0.3**
GTA pP **pP** **21 25 32.4 +1.5**
GTA sP **sP** **21 25 42.3 +2.9**
GTA PcP **PcP** **21 28 21.3 +0.9**
GTA S **S** **21 29 57.6 -2.7**
GTA sS **sS** **21 30 28.5 -1.2**
GTA SS **SnSn** **21 31 31.8 +1.1**
GTA ScP **ScP** **21 31 56.8 +1.3**
GTA PcS **PcS** **21 32 03.0 -0.3**
GTA PMZ
comp=Z,71nm,1.0s
GTA PMZ
comp=Z,320nm,7.6s
GTA LN
comp=Z,570nm,19.0s
GTA LE
comp=Z,340nm,19.0s
GTA LZ
comp=Z,810nm,20.0s
KMI Kunming 29.95 261 P P 21 25 25.8 +3.9
KMI pP pP 21 25 44.3 +5.3
KMI sP sP 21 25 53.9 +6.5
KMI PP **PP** **21 26 25.9 -4.6**
KMI S **S** **21 30 15.8 +1.3**
KMI sS sS 21 30 48.8 +4.9
KMI SS **ScP** **21 31 57.5 -1.2**
KMI PMZ
comp=Z,6.0nm,1.0s
KMI PMZ
comp=Z,170nm,7.2s
KMI LN
comp=Z,370nm,17.5s
KMI LE
comp=Z,320nm,18.3s
KMI LZ
comp=Z,470nm,17.9s
SEY Seymchan 30.56 15 P **P** **21 25 26.6 0.0**
comp=Z,3.6nm,0.6s,baz=233,slow=10,SNR=2.7
H11N2 WAKE ISLAND Hy 31.18 110 T T 21 58 02.7
baz=303,slow=75,SNR=53
H11N1 WAKE ISLAND Hy 31.18 110 T T 21 58 12.4
baz=303,slow=75,SNR=46
H11N3 WAKE ISLAND Hy 31.19 110 T T 21 58 03.9
baz=303,slow=75,SNR=64
H11S3 WAKE ISLAND Hy 31.72 112 T T 21 58 46.4
baz=305,slow=75,SNR=126
H11S1 WAKE ISLAND Hy 31.72 112 T T 21 58 46.7
baz=305,slow=75,SNR=102
H11S2 WAKE ISLAND Hy 31.73 112 T T 21 58 47.7
baz=305,slow=75,SNR=94
MYLDM Lahad Datu 33.03 213 *e*pP pP 21 26 05.6 -0.3
UBPT Khong Chiam 33.13 243 P **P** **21 25 50.4 +0.7**
comp=Z,38nm,1.0s,comp=Z,868nm
NONG Nongkai 33.19 249 P **P** **21 25 50.7 +0.5**
comp=Z,192nm,0.8s,comp=Z,6μm
SKNT Sakolnakorn 33.19 247 P **P** **21 25 50.7 +0.5**
comp=Z,26nm,1.1s
DLV T Lat 33.27 235 *e*P **P** **21 25 52.0 +0.9**
CRAI Chiangrai 34.19 255 P **P** **21 25 57.5 -1.4**
comp=Z,103nm,1.0s,comp=Z,9μm
UTTA Uttaradit 35.40 251 P **P** **21 26 09.4 +0.2**
comp=Z,6.8nm,0.8s,comp=Z,56nm
CMAI Chiengmai2 35.41 256 P **P** **21 26 11.0 +1.4**
comp=Z,289nm,0.9s
LAMP Lampang 35.69 253 P **P** **21 26 13.3 +1.5**
comp=Z,6.8nm,1.1s,comp=Z,61nm
PBKT Sadao Pong 35.75 249 P **P** **21 26 12.5 +0.3**
comp=Z,17nm,1.2s
CMMT Chiang Mai 36.08 254 P **P** **21 26 15.2 +0.1**
comp=Z,32nm,0.9s
CHTO Chiang Mai 36.08 254 P **P** **21 26 15.2 +0.1**
comp=Z,110nm,1.0s
CHTO Chiang Mai 36.08 254 *e*P **P** **21 26 15.3 +0.1**
CHTO pmax pmax
comp=Z,16nm,0.8s
CHTO Chiang Mai 36.08 254 *e*P **P** **21 26 15.3 +0.1**
comp=Z,16nm,0.8s
CMAR Chiang Mai Arr 36.28 254 P **P** **21 26 17.0 +0.2**
comp=Z,5.1nm,0.7s,baz=46,slow=7.8,SNR=33
CMAR PcP **PcP** **21 28 41.1 +0.7**
comp=Z,3.9nm,0.8s,baz=10.0,slow=1.0,SNR=12
KRAR Krasnoyarsk 36.43 320 ⇓*e*P **P** **21 26 16.8 -0.8**
KRAR pmax pmax
comp=Z,20nm,1.0s
NAYO Nakonayok 36.84 246 P **P** **21 26 22.5 +0.9**
comp=Z,61nm,0.7s
MHMT Maesarieng 37.23 254 P **P** **21 26 26.6 +1.7**
comp=Z,13nm,0.8s
LSA Lhasa 37.85 276 P **P** **21 26 31.0 +0.5**
WMQ Urumqi 38.04 299 P **P** **21 26 31.9 +0.3**
WMQ pP **pP** **21 26 50.3 +1.3**
WMQ sP **sP** **21 26 59.1 +1.7**
WMQ PMZ
comp=Z,83nm,0.8s
WMQ LN
comp=Z,600nm,16.8s
WMQ LE
comp=Z,400nm,22.7s
WMQ LZ
comp=Z,820nm,22.7s
KSM Kuching 40.32 222 *e*pP pP 21 27 07.7 -0.7
ZALV Zalesovo Beam 40.48 315 P **P** **21 26 50.5 -1.1**
comp=Z,4.8nm,0.7s,baz=102,slow=7.4,SNR=18
ZALV PcP **PcP** **21 28 52.6 -0.4**
comp=Z,27nm,0.7s,baz=101,slow=2.9,SNR=46
TAPN Taplejung 41.49 274 *e*P **P** **21 27 00.8 +0.1**
NVS Novosibirsk 41.52 316 *e*P **P** **21 26 59.0 -1.1**
NVS *e* 21 28 40.1
NVS pmax pmax
comp=Z,46nm,2.5s
NVS pmax pmax
comp=E,9.0nm,1.0s
MKAR Makanchi Array 41.74 304 P **P** **21 27 02.1 0.0**
comp=E,33nm,0.7s,baz=91,slow=10,SNR=265
MKAR pP **pP** **21 27 18.1 -1.8**
comp=E,6.5nm,0.8s,baz=104,slow=10,SNR=3.6
MKAR PcP **PcP** **21 28 57.3 0.0**
comp=E,6.2nm,0.8s,baz=87,slow=5.2,SNR=4.8
MKAR Makanchi Array 41.74 304 *ce*P **P** **21 27 02.0 -0.1**
MKAR pmax pmax
comp=Z,33nm,0.6s
ODAN Odare 41.94 273 *e*P **P** **21 27 04.2 -0.1**
SURT Suratani 42.18 242 P **P** **21 27 07.7 +1.7**
comp=Z,16nm,1.3s
KRAB Krabi 42.38 241 P **P** **21 27 08.3 +0.7**
comp=Z,82nm,0.6s
RAMN Ramite 42.56 274 *e*P **P** **21 27 09.2 -0.1**
comp=Z,129nm,1.0s
GUN Gumba 42.80 276 *e*P **P** **21 27 11.5 +0.1**
comp=Z,88nm,0.9s
PKI Pulchoki 43.31 275 *e*P **P** **21 27 15.3 -0.2**
comp=Z,38nm,0.8s
PKIN Phulchoki 43.32 275 *e*P **P** **21 27 15.1 -0.4**
comp=Z,21nm,0.7s
KKN Kakani 43.34 276 *e*P **P** **21 27 15.4 -0.2**
comp=Z,47nm,0.8s
DMN Daman 43.55 276 *e*P **P** **21 27 17.2 -0.1**
comp=Z,80nm,1.4s
GKN Gorkha 43.79 276 *e*P **P** **21 27 19.0 -0.1**
comp=Z,143nm,1.3s
KURK Kurchatov 44.07 310 P **P** **21 27 20.4 -0.4**
comp=Z,264nm,0.8s,SNR=30
KURK Kurchatov 44.07 310 P **P** **21 27 20.5 -0.4**
KURK 21 29 04.7
KURK pmax pmax
comp=Z,19nm,0.9s
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 44.07 310 *e*P **P** **21 27 19.4 -1.4**
comp=Z,28nm,1.1s
KURK PcP **PP** **21 29 04.7 +0.1**
KURBB Kurchatov Arra 44.13 310 P **P** **21 27 20.5 -0.8**
comp=Z,19nm,0.9s,baz=94,slow=8.3,SNR=131
KURBB PcP **PP** **21 29 04.7 -0.5**
comp=Z,7.3nm,0.8s,baz=100,slow=3.6,SNR=9.1
DANN Dangsing 44.39 277 *e*P **P** **21 27 24.5 +0.4**
KOLN Koldanda 44.73 276 *e*P **P** **21 27 26.7 0.0**
comp=Z,56nm,0.9s
TKM2 Tokmak 2 46.90 299 P **P** **21 27 44.5 +0.8**
SNR=33
TKM2 Tokmak 2 46.90 299 *e*P **P** **21 27 44.4 +0.8**
TKM2 pmax pmax
comp=Z,77nm,1.3s
TKM2 Tokmak 2 46.90 299 *e*P **P** **21 27 44.4 +0.8**
comp=Z,77nm,1.3s
KZA Kyzart 47.31 298 P **P** **21 27 48.5 +1.4**
SNR=11
KSH Kashi 47.32 295 ⇓*i*P P 21 27 50.4 +3.6
KSH pP pP 21 28 12.1 +7.3
KSH PcP PcP 21 29 22.1 +5.4
KSH PP PP 21 29 45.0 +6.6
KSH S **S** **21 34 36.0 +0.8**
KSH sS sS 21 35 14.3 +8.5
KSH SS **SS** **21 38 05.3 +2.1**
KSH PMZ
comp=Z,25nm,1.0s
KSH PMZ
comp=Z,570nm,6.9s
KSH LN
comp=Z,430nm,5.6s
KSH LE
comp=Z,300nm,8.8s
KSH LZ
comp=Z,500nm,9.3s
KBK Karagaybulak 47.42 299 P **P** **21 27 48.3 +0.7**
SNR=13
CHMS Chumysh 47.50 300 P **P** **21 27 48.5 +0.5**
SNR=13
USP Ospenovka 47.63 300 P **P** **21 27 49.3 +0.3**
SNR=20
AAK Ala-Archa 47.75 299 P **P** **21 27 50.3 +0.2**
SNR=8.7
AAK Ala-Archa 47.75 299 *e*P **P** **21 27 50.5 +0.3**
AAK pmax pmax
comp=Z,16nm,0.6s
AAK Ala-Archa 47.75 299 *e*P **P** **21 27 50.5 +0.3**
comp=Z,16nm,0.6s
EKS2 Erkin-Say 48.27 299 P **P** **21 27 54.3 +0.2**
SNR=11
EKS2 Erkin-Say 48.27 299 *e*P **P** **21 27 54.3 +0.2**
EKS2 pmax pmax
comp=Z,8.0nm,0.8s
EKS2 Erkin-Say 48.27 299 *e*P **P** **21 27 54.3 +0.2**
comp=Z,7.7nm,0.8s
CHLP Challavanipeta 48.36 265 *e*P **P** **21 27 54.2 -0.6**
CHLP IAmb IAmb 21 27 56.2
comp=Z,30nm,1.0s
AML Almayashu 48.44 299 P **P** **21 27 56.6 +1.0**
SNR=8.8
BVAR Borovoye Array 49.06 313 P **P** **21 27 59.2 -0.6**
comp=Z,32nm,0.8s,baz=99,slow=9.2,SNR=100
BVAR PcP **PcP** **21 29 22.5 0.0**
comp=Z,13nm,0.7s,baz=98,slow=3.0,SNR=12

BRVK **Borovoye** 49.12 313 P **P** 21 28 00.7 +0.4
comp=Z,280nm,0.8s,SNR=12
BRVK **Borovoye** 49.12 313 *d* iP **P** 21 27 59.5 -0.8
BRVK pmax pmax
comp=Z,60nm,1.2s
BRVK **Borovoye** 49.12 313 *e*P **P** 21 27 59.9 -0.4
comp=Z,36nm,0.8s
NDI **New Delhi** 49.62 280 *e*P **P** 21 28 03.5 -1.0
comp=Z,1.0nm,14.0s
PVM **Polavaram** 50.99 265 *e*P **P** 21 28 14.4 -0.5
PVM IAmb IAmb 21 28 16.0
comp=Z,24nm,1.0s
IM04 **Indian Mountai** 51.38 30 *e*P **P** 21 28 18.1 +0.9
IM04 *e*pP **pP** 21 28 38.8 +3.4
RSO **Redoubt South** 51.94 37 *e*P **P** 21 28 23.8 +2.1
CAST **Castle Rocks** 52.11 33 *e*P **P** 21 28 24.7 +2.0
comp=Z,234nm,2.9s
RPR **Rampur** 52.13 268 *e*P **P** 21 28 22.5 -0.9
RPR IAmb IAmb 21 28 23.7
comp=Z,28nm,0.7s
KDAK **Kodiak Island** 52.25 40 *i* P **P** 21 28 24.5 +0.8
BPAW **Bear Paw Mtn.** 52.58 32 *e*pP pP 21 28 45.1 +0.7
MLY **Manley** 52.65 31 *e*P P 21 28 23.4 -3.3
comp=Z,22nm,1.0s
COLD **Coldfoot** 52.82 28 *e*pP pP 21 28 51.7 +5.5
SRSP **Sriramsagar** 52.88 269 *e*P **P** 21 28 28.0 -1.0
SRSP IAmb IAmb 21 28 29.6
comp=Z,45nm,0.8s
BRLK **Bradley Lake** 52.93 37 *e*pP pP 21 28 52.0 +4.9
ADKI **Addanki** 53.07 264 *e*P **P** 21 28 28.2 -2.2
ADKI IAmb IAmb 21 28 38.0
comp=Z,104nm,2.0s
NJS **Nagarjunasagar** 53.26 266 *e*P **P** 21 28 31.3 -0.5
NJS IAmb IAmb 21 28 32.2
comp=Z,29nm,0.8s
HYB **Hyderabad** 53.45 267 *i* P **P** 21 28 32.5 -0.7
HYBB **Hyderabad (bro** 53.45 267 *e*P **P** 21 28 32.4 -0.8
HYBB IAmb IAmb 21 28 33.7
comp=Z,38nm,0.9s
MCK **McKinley** 53.50 32 *e*P **P** 21 28 34.0 +1.1
MCK pmax pmax
comp=Z,267nm,2.7s
MCK **McKinley** 53.50 32 *e*P **P** 21 28 34.0 +1.1
comp=Z,267nm,2.7s
RND **Reindeer** 53.56 33 *e*P **P** 21 28 34.3 +0.9
RND *e**PP **pP** 21 28 51.3 -0.5
RND pmax pmax
comp=Z,20nm,0.8s
RND **Reindeer** 53.56 33 *e*P **P** 21 28 34.3 +0.9
comp=Z,20nm,0.8s
RND *e*pP **pP** 21 28 51.3 -0.5
MDM **Murphy Dome** 53.72 31 *e*P **P** 21 28 35.8 +1.4
comp=Z,42nm,0.9s
WRH **Wood River Hil** 53.81 31 *e*P **P** 21 28 36.5 +1.4
comp=Z,13nm,0.8s
SRLM **Srisailam** 53.83 265 *e*P **P** 21 28 35.5 -0.5
SRLM IAmb IAmb 21 28 36.7
comp=Z,26nm,1.1s
COLA **College** 53.88 31 P **P** 21 28 38.0 +2.4
COLA pmax pmax
comp=Z,53nm,1.0s
WRAB **Tennant Creek** 53.89 182 P **P** 21 28 35.2 -0.9
comp=Z,77nm,0.9s,SNR=8.7
WRAB **Tennant Creek** 53.89 182 *c* iP **P** 21 28 35.5 -0.6
WRAB pmax pmax
comp=Z,40nm,1.2s
WRA **Warramunga Arr** 53.90 182 P **P** 21 28 35.6 -0.6
comp=Z,12nm,0.8s,baz=357,slow=7.7,SNR=67
CCB **Clear Creek Bu** 53.92 31 *e*P **P** 21 28 36.8 +0.9
comp=Z,9.2nm,1.0s
SML **Sawmill** 53.96 35 *e*P **P** 21 28 37.5 +1.2
SML pmax pmax
comp=Z,4.0nm,0.8s
SML **Sawmill** 53.96 35 *e*P **P** 21 28 37.5 +1.2
comp=Z,4.2nm,0.8s
KBL **Kabul** 54.06 291 *e*P **P** 21 28 37.5 -0.2
KBL pmax pmax
comp=Z,44nm,1.3s
KBL **Kabul** 54.06 291 *e*P **P** 21 28 37.5 -0.2
comp=Z,44nm,1.3s
RCLA **Racherla** 54.11 265 *e*P **P** 21 28 37.8 -0.1
RCLA IAmb IAmb 21 28 38.8
comp=Z,12nm,0.8s
SVE **Sverdlovsk** 54.19 319 *c* iP **P** 21 28 37.7 -0.3
SVE pmax pmax
comp=Z,43nm,0.9s
ILAR **Eielson Array** 54.30 31 P **P** 21 28 38.9 +0.2
comp=Z,4.9nm,0.6s,baz=270,slow=6.1,SNR=40
HDA **Harding Lake** 54.31 31 *e*P **P** 21 28 39.1 +0.3
comp=Z,22nm,1.0s
SKHT **Srikalahasti** 54.38 262 *e*P **P** 21 28 40.7 +0.7
SKHT IAmb IAmb 21 28 41.1
comp=Z,27nm,1.0s
SCM **Sheep Creek Mo** 54.43 35 *e*P **P** 21 28 41.1 +1.3
SCM pmax pmax
comp=Z,19nm,0.7s
SCM **Sheep Creek Mo** 54.43 35 *e*P **P** 21 28 41.1 +1.3
comp=Z,18nm,0.7s
KLRI **Killari** 54.74 269 *e*P **P** 21 28 41.7 -0.9
KLRI IAmb IAmb 21 28 42.9
comp=Z,77nm,0.7s
KLU **Klutina** 55.14 35 *e*P **P** 21 28 46.2 +1.3
comp=Z,13nm,1.1s
DIV **Divide** 55.27 35 *e*P **P** 21 28 47.4 +1.6
comp=Z,11nm,0.8s
ARU **Arti** 55.38 319 *e*P **P** 21 28 45.8 -0.9
ARU *e*S **S** 21 36 24.7 -0.8
ARU *e*SS **SS** 21 40 04.7 -5.7
ARU pmax pmax
comp=Z,47nm,1.2s
ARU **Arti** 55.38 319 P **P** 21 28 45.7 -0.9
comp=Z,188nm,0.7s,SNR=18
ARU **Arti** 55.38 319 *e*P **P** 21 28 45.8 -0.9
comp=Z,51nm,1.2s
URV **Uravakonda** 55.77 265 *e*P **P** 21 28 49.5 -0.5
URV IAmb IAmb 21 28 51.5
comp=Z,50nm,1.5s
BMRM **Bremner River** 55.86 35 *e*P **P** 21 28 51.6 +1.5
comp=Z,14nm,0.8s
ABKAR **Akbulak array** 56.18 310 *e*P **P** 21 28 51.8 -0.7
EGAK **Eagle** 56.73 31 *e*P **P** 21 28 57.0 +0.8
comp=Z,48nm,1.9s
PALK **Pallekele** 57.20 255 *e*P **P** 21 29 01.1 +0.9
PALK *e**PP **pP** 21 29 23.7 +5.0
PALK **Pallekele** 57.20 255 *e*P **P** 21 29 01.1 +0.9
PALK *e*pP **pP** 21 29 23.7 +5.0
ASAR **Alice Springs** 57.61 182 P P 21 29 03.1 +0.3
comp=Z,1.7nm,0.7s,baz=11,slow=14,SNR=22
DAWY **Dawson** 57.63 31 *e*P **P** 21 29 03.9 +1.3
comp=Z,5.2nm,1.0s
INK **Inuvik** 58.95 26 P **P** 21 29 12.5 +0.9
comp=Z,11nm,0.6s,baz=304,slow=6.6,SNR=24
INK **Inuvik** 58.95 26 *e*P **P** 21 29 12.5 +0.9
INK pmax pmax
comp=Z,12nm,0.8s
INK **Inuvik** 58.95 26 *e*P **P** 21 29 12.5 +0.9
comp=Z,12nm,0.8s
HYT **Haines Junctio** 59.27 35 *e*P **P** 21 29 16.3 +2.2
IMYA **Miami** 60.22 296 *e*P **P** 21 29 20.0 -1.0
PRGR **Permogore** 60.56 327 ⇓ *i*P **P** 21 29 21.5 -1.2
PRGR pmax pmax
comp=Z,27nm,0.9s
IMOG **Moghan** 60.88 296 *e*P **P** 21 29 25.9 +0.2
ABKT **Ailbek** 61.08 298 P **P** 21 29 27.5 +0.8
comp=Z,113nm,0.9s,SNR=6.9
GEYT **Alibeck** 61.08 298 P **P** 21 29 26.7 0.0
comp=Z,13nm,0.9s,baz=37,slow=3.7,SNR=24
IKRD **Kardeh** 61.23 297 *e*P P 21 29 22.8 -5.3
SPITS **Spitsbergen Ar** 62.33 348 P **P** 21 29 34.3 -0.1
comp=Z,6.3nm,0.6s,baz=94,slow=11,SNR=7.3
LVZ **Lovozero** 62.72 335 *ce*P **P** 21 29 37.0 -0.2
LVZ pmax pmax
comp=Z,42nm,2.5s
TMCR **Tamitsa** 62.94 331 *e*P **P** 21 29 38.2 -0.4
TMCR pmax pmax
comp=Z,62nm,1.2s
APA **Apatity** 63.29 335 ⇑ *i*P **P** 21 29 40.0 -0.9
APA *i* 21 30 03.5
APA pmax pmax
comp=Z,31nm,1.0s
APA MLR MLR
comp=Z,600nm,18.0s
DLBC **Dease Lake** 63.64 36 P **P** 21 29 43.9 +0.4
comp=Z,5.0nm,0.5s,baz=286,slow=7.9,SNR=12
DLBC **Dease Lake** 63.64 36 *e*P **P** 21 29 45.5 +1.9
comp=Z,6.9nm,0.9s

KEV **Kevo** 64.37 339 *e*P **P** 21 29 47.9 0.0
KEV pmax pmax
comp=Z,33nm,0.9s
KEV **Kevo** 64.37 339 *e*P **P** 21 29 47.9 0.0
comp=Z,33nm,0.9s
ARCES **ARCESS Array B** 64.93 339 P **P** 21 29 51.5 -0.1
comp=Z,23nm,0.7s,baz=64,slow=9.2,SNR=106
IBAF **Bafgh** 65.61 293 *e*P **P** 21 29 56.0 -0.8
STKA **Stephens Creek** 66.00 175 P **P** 21 29 59.0 +0.1
comp=Z,1.6nm,0.5s,baz=345,slow=4.9,SNR=6.8
IMEH **Mehriz** 66.43 293 *e*P **P** 21 30 01.1 -1.1
MOS **Moscow** 66.67 322 *e*P **P** 21 30 00.3 -2.7
MOS *e* 21 30 29.1
ISAD **Sadrabad** 66.90 294 *e*P **P** 21 30 04.6 -0.7
LPSR **Galich'ya Gora** 67.41 319 *e*P **P** 21 30 06.4 -1.4
LPSR pmax pmax
comp=Z,20nm,1.0s
LPSR pmax pmax
comp=N,6.0nm,0.8s
LPSR pmax pmax
comp=E,10.0nm,0.9s
IZEF **Zefreh** 67.48 295 *e*P **P** 21 30 07.5 -1.4
OBN **Obninsk** 67.49 322 P **P** 21 30 07.4 -0.8
comp=E,10.0nm,0.7s,baz=50,slow=9.1,SNR=6.1
OBN **Obninsk** 67.49 322 *ce*P **P** 21 30 07.8 -0.4
OBN *e* 21 30 36.0
OBN pmax pmax
comp=Z,34nm,1.7s
VSR **Storozhevoye** 67.91 318 *e*P **P** 21 30 09.9 -1.1
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,30nm,0.9s
DAG **Danmarks Havn** 68.10 354 *i* P **P** 21 30 11.2 -0.5
comp=Z,17nm,1.0s
DAG **Danmarks Havn** 68.10 354 *i* P **P** 21 30 11.2 -0.5
DAG pmax pmax
comp=Z,17nm,1.0s
PUL **Pulkovo** 68.17 328 ⇑ *e*P **P** 21 30 12.7 +0.3
PUL pmax pmax
comp=Z,57nm,0.6s
HATD **Hatta, Dubai** 68.28 286 ⇓ *i*P **P** 21 30 14.4 +0.7
SNR=6.8
GOF **Gofitskoye** 68.42 310 *e*P **P** 21 30 13.7 -0.6
GOF pmax pmax
comp=Z,40nm,0.8s
ISRV **Sarvestan** 68.50 292 *e*P **P** 21 30 14.6 -0.8
YKA **Yellowknife Ar** 68.50 28 P **P** 21 30 14.4 0.0
comp=Z,2.8nm,0.6s,baz=297,slow=6.4,SNR=14
YKA PcP **PcP** 21 30 36.6 -2.6
comp=Z,5.7nm,1.0s,baz=300,slow=6.2,SNR=7.7
DGRG **David-gareji** 68.55 306 P **P** 21 30 15.0 -0.2
IPIR **Pirpir** 68.65 296 *e*P **P** 21 30 14.8 -1.6
TBLG **Delisi** 68.84 307 P **P** 21 30 15.7 -1.3
TBLG **Delisi** 68.84 307 P **P** 21 30 15.7 -1.3
FINES **FINESS Array B** 69.06 331 P **P** 21 30 17.5 -0.4
comp=Z,40nm,0.8s,baz=59,slow=6.5,SNR=19
KBZ **Khabaz** 69.13 309 P **P** 21 30 18.9 +0.3
comp=Z,25nm,0.9s,baz=73,slow=3.3,SNR=45
KIV **Kislovodsk** 69.16 309 *d* iP **P** 21 30 18.8 -0.2
KIV *e* 21 30 37.9
KIV *e* 21 32 51.8
KIV pmax pmax
comp=Z,71nm,1.2s
KIV MLR MLR
comp=Z,282nm,18.0s
KIV **Kislovodsk** 69.16 309 P **P** 21 30 19.8 +0.8
comp=Z,317nm,0.8s,SNR=15
KIV **Kislovodsk** 69.16 309 ⇓ *i*P **P** 21 30 19.0 0.0
SNR=24
KIV **Kislovodsk** 69.16 309 *e*P **P** 21 30 19.1 0.0
IKAZ **Kazeroun** 69.29 292 *e*P **P** 21 30 19.6 -0.7
ONI **Oni** 69.30 308 P **P** 21 30 20.0 +0.2
NEY **Neytrino** 69.46 309 ⇓ *e*P **P** 21 30 21.6 +0.6
NEY pmax pmax
comp=Z,5.0nm,1.0s
GNI **Garni** 69.58 305 P **P** 21 30 21.3 -0.4
comp=Z,12nm,0.7s,baz=16,slow=23,SNR=6.2
GNI **Garni** 69.58 305 *d* iP **P** 21 30 22.2 +0.5
GNI pmax pmax
comp=Z,39nm,1.2s
GNI **Garni** 69.58 305 *e*P **P** 21 30 21.8 0.0
comp=Z,32nm,1.1s
AKH **Akhalkalaki** 69.82 307 ⇓ *i*P **P** 21 30 23.7 +0.4
CHVG **Ch'k'valeri** 70.13 309 P **P** 21 30 24.5 -0.3
CHVG **Ch'k'valeri** 70.13 309 ⇑ *i*P **P** 21 30 24.7 -0.2
VSU **Vasula** 70.44 328 *d* iP **P** 21 30 26.1 -0.3
IKOM **Komasi** 70.44 298 *e*P **P** 21 30 26.0 -1.2
IDHR **Dehrash** 71.01 299 *e*P **P** 21 30 29.5 -1.1
SOC **Sochi** 71.22 310 *e*P **P** 21 30 31.2 -0.3
SOC *e*S **S** 21 39 45.5 +2.4
SOC pmax pmax
comp=Z,21nm,0.6s
ANN **Anapa** 72.04 312 *e*P P 21 30 31.3 -5.0
ANN *e**PP **PcP** 21 30 52.0 -2.5
ANN *e*S S 21 39 44.0 -8.3
ANN pmax pmax
comp=Z,48nm,0.9s
ANN MLR MLR
comp=N,201nm,20.0s
ANN MLR MLR
comp=E,202nm,20.0s
ANN MLR MLR
comp=Z,380nm,20.0s
IZAR **Zarasai** 72.19 326 *e*P **P** 21 30 37.2 +0.2
IZAR IAmb IAmb 21 30 38.1
comp=Z,14nm,0.8s
IDID **Didziasalis** 72.21 325 *e*P **P** 21 30 37.4 +0.3
IDID IAmb IAmb 21 30 38.2
comp=Z,14nm,0.9s
ISAL **Salakas** 72.35 326 *e*P **P** 21 30 38.2 +0.2
ISAL IAmb IAmb 21 30 39.2
comp=Z,19nm,0.7s
NACGM **Naroch** 72.42 325 *e* **P** 21 30 36.0 -2.5
IIGN **Ignalina** 72.43 326 *e*P **P** 21 30 38.8 +0.2
IIGN IAmb IAmb 21 30 39.5
comp=Z,11nm,0.7s
SUMG **Summit** 73.39 358 ⇓ *i*P **P** 21 30 45.4 +0.9
comp=Z,24nm,1.1s
SUMG **Summit** 73.39 358 ⇓ *i*P **P** 21 30 45.4 +0.9
SUMG pmax pmax
comp=Z,24nm,1.1s
SUMG **Summit** 73.39 358 *e*P **P** 21 30 45.3 +0.9
AKASG **Malin Array Be** 73.58 321 P **P** 21 30 44.2 -1.2
comp=Z,10nm,0.6s,baz=50,slow=6.2,SNR=13
KIEV **Kiev** 73.59 321 *e*P **P** 21 30 44.4 -1.0
KIEV **Kiev** 73.59 321 *e*P **P** 21 30 44.4 -1.0
SIM **Simferopol'** 73.97 314 *e*P **P** 21 30 47.2 -0.6
SIM *e**PP **pP** 21 31 10.0 +2.9
SIM pmax pmax
comp=Z,23nm,0.8s
I03D **Drain, OR** 74.25 48 P **P** 21 30 50.9 +1.5
baz=74
EDM **Edmonton** 74.37 36 *e*P **P** 21 30 51.3 +1.3
EDM **Edmonton** 74.37 36 *e*P **P** 21 30 51.3 +1.3
HFS **Hagfors** 74.63 334 P **P** 21 30 50.6 -0.7
comp=Z,18nm,0.6s,baz=71,slow=6.2,SNR=24
G05D **Wamic, OR** 74.63 46 P **P** 21 30 53.3 +1.7
baz=74
SUW **Suwalki** 74.65 326 *e*P **P** 21 30 51.0 -0.5
SUW **Suwalki** 74.65 326 *e*P **P** 21 30 51.0 -0.5
MALT **Malatya** 74.74 306 ⇑ *i*P **P** 21 30 53.5 +1.0
I04A **Tendick Farm,** 74.77 47 P **P** 21 30 54.0 +1.5
baz=75
NB2 **NORSAR Subarra** 74.88 335 P **P** 21 30 51.9 -0.9
comp=Z,19nm,0.8s,baz=46,slow=5.9
NB2 **NORSAR Subarra** 74.88 335 P **P** 21 30 51.9 -0.9
baz=46,slow=5.9
NOA **NORSAR Array B** 74.88 335 P **P** 21 30 52.2 -0.6
comp=Z,16nm,0.7s,baz=45,slow=5.8,SNR=97
C09A **Chrisman Ranch** 74.96 42 *e*P **P** 21 30 54.8 +1.3
D08A **Wollman Farm,** 75.01 43 *e*P **P** 21 30 55.4 +1.5
G06A **Carlson Farm,** 75.04 45 *e*P **P** 21 30 55.5 +1.5
I05D **Terrebonne, OR** 75.11 46 P **P** 21 30 55.9 +1.4
baz=75
J04D **Umpqua Nationa** 75.25 48 P **P** 21 30 57.0 +1.4
baz=75
NEW **Newport** 75.33 41 P **P** 21 30 56.4 +0.8
comp=Z,12nm,1.1s,baz=300,slow=4.6,SNR=9.0
NEW **Newport** 75.33 41 P **P** 21 30 56.4 +0.8
NEW pmax pmax
comp=Z,11nm,1.1s
NEW **Newport** 75.33 41 P **P** 21 30 56.9 +1.3
baz=75
NEW **Newport** 75.33 41 *e*P **P** 21 30 57.2 +1.6
SORM **Soroca** 75.51 319 ⇑ *i*P **P** 21 30 55.8 -0.8
YBH **Yreka Blue Hor** 75.70 49 P **P** 21 30 58.7 +0.7
comp=Z,11nm,0.9s,baz=356,slow=4.7,SNR=11
YBH **Yreka Blue Hor** 75.70 49 P **P** 21 30 58.7 +0.7
YBH pmax pmax
comp=Z,11nm,0.9s
YBH **Yreka Blue Hor** 75.70 49 *e*P **P** 21 30 59.9 +1.9
E09A **Wood Farm, Sta** 75.76 43 *e*P **P** 21 30 59.9 +1.8
J05D **Fort Rock, OR** 75.76 47 P **P** 21 30 59.9 +1.5
baz=76
M02C **Callahan** 75.80 50 P **P** 21 31 00.3 +1.7
baz=76
N02D **Trinity Center** 76.12 50 P **P** 21 31 01.6 +1.2
baz=76
M04C **Macdoel** 76.22 49 P **P** 21 31 02.3 +1.3
baz=76
K05A **Summer Lake** 76.28 48 *e*P **P** 21 31 03.2 +1.8
F10A **Beach Ranch, E** 76.59 43 *e*P **P** 21 31 04.7 +1.7
BSMT **Bassoo Peak** 76.84 41 *e*P **P** 21 31 06.1 +1.6
TLCR 76.95 316 ⇑ *i*P **P** 21 31 04.8 0.0
BLMT **Blacktail Moun** 76.97 40 *e*P **P** 21 31 07.1 +1.9
BRTR **Keskin Array B** 77.12 309 P **P** 21 31 05.8 -0.3
comp=Z,18nm,0.8s,baz=105,slow=4.8,SNR=87
BEL **Belsk** 77.14 325 *e*P **P** 21 31 06.1 +0.4
BEL **Belsk** 77.14 325 *e*P **P** 21 31 06.2 +0.5
JTMT **Jette** 77.17 41 *e*P **P** 21 31 07.8 +1.6
JTMT *e*pP **pP** 21 31 29.6 +4.0
YBMT **Yellow Bay** 77.25 40 *e*P **P** 21 31 08.4 +1.8
RAYN **Ar Rayn** 77.32 290 P **P** 21 31 07.0 -0.4
comp=Z,195nm,0.8s,SNR=9.7
CFR **Carcaliu** 77.35 316 ⇓ *i*P **P** 21 31 06.6 -0.4
TESR **Tescani** 77.40 318 ⇓ *i*P **P** 21 31 06.9 -0.4
SWMT **Swartz Lake** 77.47 41 *e*P **P** 21 31 09.2 +1.3
SWMT *e*pP **pP** 21 31 29.9 +2.6
BURAR **Bucovina Array** 77.52 320 ⇑ *i*P **P** 21 31 07.9 -0.2
ANTO **Ankara** 77.58 310 *e*P **P** 21 31 08.6 0.0
ANTO **Ankara** 77.58 310 *e*P **P** 21 31 08.6 0.0
KWP **Kalwaria Pacla** 77.58 322 *e*P **P** 21 31 08.6 +0.3
KWP **Kalwaria Pacla** 77.58 322 *e*P **P** 21 31 08.6 +0.3
BSD **Bornholm Skovb** 77.60 330 ⇑ *i*P **P** 21 31 07.2 -1.1
comp=Z,34nm,0.9s
BSD **Bornholm Skovb** 77.60 330 ⇑ *i*P **P** 21 31 07.2 -1.1
BSD pmax pmax
comp=Z,34nm,0.9s
TIRR **Tirgusor** 77.61 316 ⇓ *i*P **P** 21 31 08.8 +0.3
VRI **Vrincioaia** 77.74 317 ⇑ *i*P **P** 21 31 10.1 +0.8
PLOR **Plostina** 77.79 317 ⇑ *i*P **P** 21 31 10.2 +0.6
WVOR **Wild Horse Val** 77.82 47 *e*P **P** 21 31 11.4 +1.5
WVOR **Wild Horse Val** 77.82 47 *e*P **P** 21 31 11.4 +1.5
GKP **Gorka Klasztor** 77.84 327 *e*P **P** 21 31 09.7 0.0
GKP **Gorka Klasztor** 77.84 327 *e*P **P** 21 31 09.7 0.0
SLMT **Seeley Lake** 77.90 41 *e*P **P** 21 31 11.4 +1.1
MSO **Missoula** 77.91 41 P **P** 21 31 11.5 +1.2
baz=78
MSO **Missoula** 77.91 41 *e*P **P** 21 31 11.5 +1.2
MSO *e*pP **pP** 21 31 33.2 +3.4
MSAB **Monastry St. A** 78.17 316 ⇑ *i*P **P** 21 31 12.6 +1.0
CHMT **Chamberlain Mo** 78.23 41 *e*P **P** 21 31 13.2 +0.9
KOLS **Kolonicke sedl** 78.24 322 *e*P **P** 21 31 11.8 -0.2
KOLS pmax pmax
comp=Z,6.0nm,1.1s
KOLS **Kolonicke sedl** 78.24 322 *e*P **P** 21 31 11.8 -0.2
KOLS *e* 21 31 27.8
KOLS *e*sP **sP** 21 31 37.4 -1.9
ISR **Istrita** 78.29 317 ⇓ *i*P **P** 21 31 11.9 -0.5
MLR **Muntele Rosu** 78.40 317 P **P** 21 31 13.2 +0.1
comp=Z,0.3nm,0.4s,baz=345,slow=12,SNR=6.3
MLR **Muntele Rosu** 78.40 317 ⇑ *i*P **P** 21 31 13.7 +0.6
DOPR **Dopca** 78.42 318 ⇓ *i*P **P** 21 31 13.9 +0.8
FFC **Flin Flon** 78.50 30 P **P** 21 31 13.0 -0.3
comp=Z,108nm,0.7s,SNR=6.7
FFC **Flin Flon** 78.50 30 *e*P **P** 21 31 13.8 +0.5
FFC **Flin Flon** 78.50 30 *e*P **P** 21 31 13.8 +0.5
SECR 78.61 317 ⇑ *i*P **P** 21 31 15.2 +1.1
OJC **Ojcow** 78.66 324 *e*P **P** 21 31 15.2 +1.0
OJC **Ojcow** 78.66 324 *e*P **P** 21 31 15.2 +1.0
OJC **Ojcow** 78.66 324 *e*P **P** 21 31 14.4 +0.1
MFID **Camas Ranch** 78.91 45 *e*P **P** 21 31 17.3 +1.4
NIE **Niedzica** 78.92 323 *e*P **P** 21 31 16.8 +1.0
NIE **Niedzica** 78.92 323 *e*P **P** 21 31 16.8 +1.0
MUD **Monsted U'grnd** 78.93 333 *i* P **P** 21 31 15.5 -0.1
comp=Z,13nm,0.8s
MUD **Monsted U'grnd** 78.93 333 *i* P **P** 21 31 15.5 -0.1
MUD pmax pmax
comp=Z,13nm,0.8s
ASF **Jabal al Asfar** 79.10 301 P **P** 21 31 17.2 +0.1
comp=Z,7.0nm,0.9s,baz=260,slow=4.3,SNR=8.6
HRY **Holter Researc** 79.13 40 *e*P **P** 21 31 18.5 +1.5
CMB **Columbia Colle** 79.25 51 *e*P **P** 21 31 19.0 +1.2
CMB **Columbia Colle** 79.25 51 *e*P **P** 21 31 19.0 +1.2
LRM **Limekiln Ridge** 79.35 41 *e*P **P** 21 31 19.7 +1.2
DRGR 79.37 320 ⇓ *i*P **P** 21 31 18.3 0.0
EGMT **Eagleton** 79.39 38 P **P** 21 31 19.5 +1.1
baz=79
EGMT **Eagleton** 79.39 38 *e*P **P** 21 31 19.5 +1.1
EGMT *e*pP **pP** 21 31 39.8 +2.0
KECS **Kecovo** 79.44 322 *e*P **P** 21 31 19.1 +0.5
KECS pmax pmax
comp=Z,3.0nm,1.0s
KECS **Kecovo** 79.44 322 *e*P **P** 21 31 19.1 +0.5
KECS *e* 21 34 12.8
DLMT **Dillon** 79.55 42 *e*P **P** 21 31 20.8 +1.4
WAKR **Walker** 79.59 50 *e*P **P** 21 31 21.3 +1.5
LOT **Lotru** 79.64 318 ⇓ *i*P **P** 21 31 20.5 +0.7
HLID **Hailey** 79.64 44 P **P** 21 31 20.9 +0.9
baz=80
HLID **Hailey** 79.64 44 *e*P **P** 21 31 21.7 +1.8
MMAI **Mount Meron Ar** 79.68 303 P **P** 21 31 20.1 -0.2
comp=Z,9.9nm,0.9s,baz=75,slow=9.8,SNR=9.5
OKC **Ostrava-Krasne** 79.71 324 *e*P **P** 21 31 20.0 0.0
OKC *ex* x 21 31 34.0
OKC *ex* x 21 31 41.6
OKC **Ostrava-Krasne** 79.71 324 *e*P **P** 21 31 20.0 0.0
OKC *e* 21 31 34.0
OKC *e* 21 31 41.6
MCMT **McKenzie Canyo** 79.75 42 *e*P **P** 21 31 21.8 +1.2
A20A **Cobblestone Ra** 79.76 37 P **P** 21 31 21.3 +0.9
baz=80
SZH **Strazhica** 79.76 316 *e*P **P** 21 31 19.5 -0.9
BMN **Battle Mountai** 79.85 48 *e*P **P** 21 31 22.9 +1.7
BMN *e**PP pP 21 31 46.4 +5.8
BMN **Battle Mountai** 79.85 48 *e*P **P** 21 31 22.9 +1.7
BMN *e*pP pP 21 31 46.4 +5.8
BOZ **Bozeman (W)** 79.91 41 P **P** 21 31 22.4 +1.1
baz=80
KSP **Ksiaz** 79.91 326 *e*P **P** 21 31 21.5 +0.4
KSP **Ksiaz** 79.91 326 *e*P **P** 21 31 21.5 +0.4
CSS **Prodhromos** 80.00 305 *e*P **P** 21 31 20.9 -0.9
MORC **Moravsky Berou** 80.04 325 *e*P **P** 21 31 21.9 +0.1
MORC **Moravsky Berou** 80.04 325 ⇓ *i*P **P** 21 31 22.0 +0.1
MORC **Moravsky Berou** 80.04 325 *e*P **P** 21 31 21.9 +0.1
PSZ **Piszkesteto** 80.11 322 *e*P **P** 21 31 23.2 +0.9
PSZ **Piszkesteto** 80.11 322 ⇑ *i*P **P** 21 31 23.4 +1.1
PSZ **Piszkesteto** 80.11 322 *e*P **P** 21 31 23.2 +0.9
PSZ **Piszkesteto** 80.11 322 *e*PcP **P** 21 31 23.1 +0.8
KRLC **Kraliky** 80.20 325 *e*P **P** 21 31 22.7 0.0
KRLC *e*PCP **PcP** 21 31 32.1 +2.3
KRLC *e*pP **pP** 21 31 43.7 +1.5
KRLC **Kraliky** 80.20 325 *e*P **P** 21 31 22.7 0.0
KRLC *e* 21 31 43.7
DPC **Dobruska-Polom** 80.23 326 *e*P **P** 21 31 23.4 +0.5
DPC *e*PCP **PcP** 21 31 32.7 +2.8
DPC *e*pP **pP** 21 31 42.3 -0.1
DPC *e*sP **sP** 21 31 46.5 -3.7
DPC **Dobruska-Polom** 80.23 326 *e*P **P** 21 31 23.4 +0.5
DPC *e* 21 31 42.3
DPC *e* 21 31 46.5
VYHS **Vyhne** 80.27 323 *e*P **P** 21 31 23.5 +0.5
VYHS pmax pmax
comp=Z,10.0nm,1.1s
VYHS **Vyhne** 80.27 323 *e*P **P** 21 31 23.5 +0.5
VYHS *e*pP **pP** 21 31 40.8 -1.7
VYHS *e*sP **sP** 21 31 48.9 -1.5
UPC **Upice** 80.27 326 *e*P **P** 21 31 23.1 +0.1
UPC *e*PCP **PcP** 21 31 29.9 -0.1
UPC *ex* x 21 31 45.3
UPC **Upice** 80.27 326 *e*P **P** 21 31 23.1 +0.1
UPC *e* 21 31 45.3
BSEG **Bad Segeberg** 80.33 331 *e*P **P** 21 31 23.0 -0.2
comp=Z,21nm,1.5s

NVAR Mina Array Bea 80.36 50 P P 21 31 25.4 +1.4
comp=Z,10nm,0.8s,baz=287,slow=5.1,SNR=69
C20A Veseth Ranch, 80.48 38 P P 21 31 25.5 +1.2
baz=80,SNR=9.3
QLMT Earthquake Lak 80.53 42 eP P 21 31 26.6 +1.9
BZS Buzias 80.70 320⇑ iP P 21 31 25.1 -0.3
VRAC Vranov 80.82 325 P P 21 31 26.5 +0.5
comp=Z,18nm,0.9s,baz=57,slow=5.2,SNR=25
VRAC Vranov 80.82 325⇓ iP P 21 31 26.5 +0.5
C21A Desert Coulee 80.87 37 P P 21 31 27.6 +1.3
baz=81,SNR=7.0
ELK Elko 80.87 47 eP P 21 31 28.4 +1.7
ELK Elko 80.87 47 eP P 21 31 28.4 +1.7
GCMT Greycliff 80.87 40 eP P 21 31 27.9 +1.3
GCMT ePP pP 21 31 49.3 +3.3
PVCC Panska Ves 80.92 326 eP P 21 31 27.0 +0.5
PVCC ePCP PcP 21 31 34.6 +1.8
PVCC epP pP 21 31 43.4 -2.6
PVCC ex x 21 31 47.7
PVCC Panska Ves 80.92 326 eP P 21 31 27.0 +0.5
PVCC e 21 31 43.4
PVCC e 21 31 47.7
MPEP Malo Peshtene 80.96 317 eP P 21 31 27.1 +0.2
BRG Berggiesshubel 80.97 327 eP P 21 31 26.6 -0.2
comp=Z,15nm,1.1s
BRG Berggiesshubel 80.97 327 eP P 21 31 26.7 0.0
comp=Z,15nm,1.1s
BRG Berggiesshubel 80.97 327 eP P 21 31 26.5 -0.2
BRG pmax pmax
comp=Z,15nm,1.1s
KDZ Kurdzhali 81.06 315 eP P 21 31 27.2 -0.2
CLL Collm 81.08 328 eP P 21 31 26.9 -0.3
comp=Z,37nm,1.1s
CLL Collm 81.08 328⇓ iP P 21 31 27.0 -0.3
CLL e 21 31 43.0
CLL e 21 31 47.0
CLL pmax pmax
comp=Z,37nm,1.1s
CLL Collm 81.08 328⇓ iP P 21 31 27.0 -0.3
comp=Z,37nm,1.1s
CLL epP pP 21 31 43.0 -3.8
CLL e 21 31 47.0
CLL ePP PP 21 34 32.0 -0.4
GOPC GO Pecny, Ondr 81.25 326 eP P 21 31 28.4 +0.1
GOPC epP pP 21 31 44.7 -3.1
TPH Tonopah 81.25 50 eP P 21 31 30.3 +1.6
TPH e*PP pP 21 31 47.1 -1.2
TPH Tonopah 81.25 50 eP P 21 31 30.3 +1.6
TPH epP pP 21 31 47.1 -1.2
RDO Rodhopi 81.29 314 eP P 21 29.0 +0.4
PRA Prague 81.31 326 eP P 21 31 28.6 +0.1
PRA epP pP 21 31 45.9 -2.1
PRA Prague 81.31 326 eP P 21 31 28.6 +0.1
PRA e 21 31 45.9
PRU Pruhonice 81.31 326 eP P 21 31 28.6 0.0
PRU ex x 21 31 39.4
PRU epP pP 21 31 46.0 -2.1
PRU esP sP 21 31 51.2 -4.8
PRU Pruhonice 81.31 326 eP P 21 31 28.6 0.0
PRU e 21 31 46.0
PRU e 21 31 51.2
TREC Trest 81.35 325 eP P 21 31 29.0 +0.2
TREC Trest 81.35 325 eP P 21 31 29.0 +0.2
IMW Indian Meadow 81.39 42 eP P 21 31 32.0 +2.4
PKM Peak Mountain 81.44 54 P P 21 31 30.5 +0.7
baz=81
RZN Rozhen 81.44 315 eP P 21 31 29.4 -0.3
PKST T"s 81.49 322 esP P 21 31 29.6 0.0
FXWY Fox Creek 81.51 42 eP P 21 31 31.8 +1.7
RLMT Red Lodge 81.52 40 P P 21 31 31.3 +1.2
baz=81,SNR=7.4
MOOW Moose Ponds 81.60 42 eP P 21 31 30.2 -0.3
TPAW Teton Pass 81.65 42 eP P 21 31 33.0 +2.1
HVU Hansel Valley 81.69 45 eP P 21 31 32.6 +1.7
HVU Hansel Valley 81.69 45 eP P 21 31 32.6 +1.7
E21A Keefer Ranch, 81.74 38 P P 21 31 32.0 +1.0
baz=82
VTS Vitosha 81.75 316⇓ iP P 21 31 31.6 +0.4
VTS Vitosha 81.75 316 eP P 21 31 31.4 +0.2
REDW Red Top Meadow 81.79 43 eP P 21 31 33.5 +2.0
GRAC Grapevine Rang 81.80 51 P P 21 31 32.3 +0.8
baz=82
CLZ Clausthal 81.84 329 eP P 21 31 31.4 0.0
comp=Z,37nm,1.7s
EIL Elat 81.88 300 P P 21 31 31.5 -0.4
comp=Z,11nm,1.0s,baz=325,slow=1.3,SNR=7.1
ISA Isabella 81.88 52 P P 21 31 31.9 0.0
baz=82
PKSM Moragy 81.88 321⇑ iP P 21 31 31.6 0.0
PKSM Moragy 81.88 321 e P 21 31 31.6 0.0
TANN Tannenbergstha 81.96 327 eP P 21 31 32.0 0.0
comp=Z,9.0nm,1.3s
H19A Powell 81.97 41 P P 21 31 33.4 +1.1
baz=82
G20A Bridger 82.02 40 P P 21 31 33.0 +0.5
baz=82,SNR=6.3
A25A Svangstu Ranch 82.05 35 P P 21 31 33.3 +0.8
baz=82
LAO LASA Array 82.07 38 P P 21 31 33.6 +0.9
baz=82,SNR=5.7
BGU Big Grassy Mou 82.08 45 eP P 21 31 34.5 +1.6
MMB Musomiste 82.08 315 eP P 21 31 33.0 +0.2
NKC Novy Kostel 82.10 327 eP P 21 31 32.7 0.0
NKC epP pP 21 31 48.5 -3.8
NKC esP sP 21 31 55.7 -4.4
NKC Novy Kostel 82.10 327 eP P 21 31 32.7 0.0
NKC e 21 31 48.5
NKC e 21 31 55.7
CONA Conrad Observa 82.11 324⇓ iP P 21 31 33.7 +0.8
comp=Z,32nm,1.3s,SNR=18
R11A Troy Canyon, C 82.11 49 P P 21 31 34.5 +1.2
baz=82,SNR=29
R11A Troy Canyon, C 82.11 49 eP P 21 31 34.6 +1.4
MOX Moxa 82.17 328 eP P 21 31 33.1 0.0
KKB Krupnik 82.28 316 eP P 21 31 34.0 +0.2
MPMC Manual Prospec 82.29 52 P P 21 31 34.9 +0.7
baz=82,SNR=10
I19A Meeteetse 82.38 41 P P 21 31 35.9 +1.4
baz=82
E22A Miles City 82.38 38 P P 21 31 35.0 +0.7
baz=82
FURC Furnace Creek, 82.45 51 P P 21 31 36.1 +1.4
baz=82,SNR=11
B25A Knox Farm, Ray 82.49 35 P P 21 31 36.4 +1.6
baz=82
HWUT Hardware Ranch 82.50 44 eP P 21 31 36.8 +1.5
GEC2 GERESS Array S 82.51 326 eP P 21 31 34.7 -0.3
comp=Z,19nm,1.1s
GERES GERESS Array B 82.51 326 P P 21 31 34.8 -0.3
comp=Z,8.3nm,0.9s,baz=40,slow=5.2,SNR=60
GERES LR LR 22 09 49.1
comp=Z,357nm,20.4s,baz=34,slow=37
ROTZ Rotzenmuhle 82.54 327 eP P 21 31 35.6 +0.6
comp=Z,34nm,1.3s
TPNV Topopah Spring 82.55 50 eP P 21 31 36.9 +1.4
TPNV Topopah Spring 82.55 50 P P 21 31 36.5 +1.0
baz=82,SNR=16
TPNV Topopah Spring 82.55 50 eP P 21 31 36.9 +1.4
DIVS Divibare 82.57 319⇑ iP P 21 31 35.2 -0.2
IBBN Ibbenburen 82.58 331 eP P 21 31 34.4 -0.7
comp=Z,15nm,0.9s
H20A Greybull 82.62 40 P P 21 31 36.4 +0.7
baz=82
DUG Dugway 82.66 46 eP P 21 31 37.7 +1.6
DUG Dugway 82.66 46 P P 21 31 37.6 +1.6
baz=82,SNR=24
DUG Dugway 82.66 46 eP P 21 31 37.7 +1.6
EDW2 Edwards Air Fo 82.66 53 P P 21 31 37.2 +1.1
baz=82,SNR=6.1
E23A Ismay 82.67 38 P P 21 31 36.9 +1.1
baz=82,SNR=7.8
F22A Rosebud 82.67 39 P P 21 31 36.8 +0.9
baz=82
WET Wettzell 82.68 326 eP P 21 31 36.0 +0.2
comp=Z,21nm,1.3s
D24A Glendive 82.73 37 P P 21 31 37.2 +1.0
baz=82,SNR=7.7
UBBA Unterbreizbach 82.75 329 eP P 21 31 35.9 0.0
comp=Z,36nm,1.9s
ARSA Arzberg 82.75 324 i P P 21 31 36.5 +0.3
comp=Z,20nm,1.1s,SNR=12
J19A Crowheart 82.85 42 P P 21 31 38.1 +1.1
baz=83,SNR=10
BW06 Boulder Array 82.89 42 eP P 21 31 38.0 +0.6
BW06 epP pP 21 32 00.1 +3.3
PDAR Pinedale Array 82.89 42 P P 21 31 37.9 +0.6
comp=Z,8.1nm,0.9s,baz=336,slow=3.3,SNR=45
I20A Worland 82.90 41 P P 21 31 37.9 +0.7
baz=83
A27A Ledoux Ranch, 82.91 34 P P 21 31 37.8 +0.8
baz=83
MOA Molln 82.94 325⇑ iP P 21 31 37.3 +0.1
comp=Z,27nm,1.2s,SNR=13
CTU Camp Tracy 82.97 45 eP P 21 31 39.4 +1.7
G22A Birney 83.03 39 P P 21 31 38.4 +0.6
baz=83
H21A Big Horn, Sher 83.03 40 P P 21 31 38.8 +0.9
baz=83
GRF Grafenberg Arr 83.03 327 eP P 21 31 38.1 +0.5
comp=Z,60nm,1.3s
GRF epP pP 21 31 58.6 +1.4
GRFO Grafenberg 83.04 327 eP P 21 31 38.1 +0.5
GRFO Grafenberg 83.04 327 eP P 21 31 38.0 +0.5
E24A Baker 83.12 37 P P 21 31 39.0 +0.8
baz=83
F23A Volborg 83.15 38 P P 21 31 39.2 +0.9
baz=83
SHOC Shoshone 83.17 51 P P 21 31 39.4 +0.8
baz=83
GSC Goldstone 83.19 52 eP P 21 31 39.2 +0.4
GSC Goldstone 83.19 52 P P 21 31 39.6 +0.8
baz=83,SNR=9.5
GSC Goldstone 83.19 52 eP P 21 31 39.2 +0.4
WTSB Winterswijk 83.22 331 eP P 21 31 37.6 -0.8
NLU North Lily Min 83.25 46 eP P 21 31 41.1 +1.9
BFSC Mount Baldy Ra 83.27 53 P P 21 31 40.2 +0.9
baz=83
CIS Catalina Islan 83.27 54 P P 21 31 40.3 +1.2
baz=83
J20A Shoshoni 83.32 41 P P 21 31 40.3 +0.9
baz=83
PERS Pernice 83.38 323 i P P 21 31 39.5 0.0
SOKA Soboth 83.39 323⇑ iP P 21 31 39.6 0.0
comp=Z,42nm,0.8s,SNR=40
A28A Rule Farm, Bot 83.39 33 P P 21 31 40.4 +0.9
baz=83,SNR=5.0
PLE Pljevlja 83.40 319⇑ iP P 21 31 40.7 +1.0
SCI San Clemente I 83.42 55 P P 21 31 42.6 +2.7
baz=83
BUG Bochum--Univer 83.43 330 eP P 21 31 38.8 -0.7
comp=Z,11nm,0.9s
IVA Berane 83.43 318⇑ iP P 21 31 40.8 +0.9
I21A Big Trails, Te 83.45 40 P P 21 31 40.9 +0.9
baz=83
G23A Biddle 83.51 39 P P 21 31 40.6 +0.4
baz=83
SHPR Sheep Range 83.51 50 eP P 21 31 41.9 +1.4
F24A Ekalaka 83.55 38 P P 21 31 41.0 +0.6
baz=83,SNR=5.5
PVY Plav 83.58 318⇑ iP P 21 31 40.8 +0.1
E25A Miller Ranch, 83.61 37 P P 21 31 41.9 +1.1
baz=83
J21A Lysite 83.67 41 P P 21 31 41.7 +0.5
baz=84,SNR=8.8
C27A Sayler Ranch, 83.68 35 P P 21 31 42.3 +1.3
baz=83
TUQ Turquoise Moun 83.68 51 P P 21 31 42.7 +1.4
baz=84
B28A Dugan Ranch, T 83.68 34 P P 21 31 41.9 +1.0
baz=83
D26A Manning 83.72 36 P P 21 31 42.2 +1.0
baz=84
RJOB Jochberg 83.72 325 eP P 21 31 41.5 +0.3
comp=Z,37nm,1.1s
OBKA Obir 83.75 324⇑ iP P 21 31 40.9 -0.5
comp=Z,9.6nm,0.8s,SNR=5.9
UPM Unac-Piva 83.75 319 eP P 21 31 40.4 -1.2
HEC Hector,Ludlow 83.78 52 P P 21 31 42.9 +1.1
baz=84,SNR=9.8
I22A 9 Mile Ranch, 83.83 40 P P 21 31 42.2 +0.3
baz=84
A29A Manning Farm, 83.85 33 P P 21 31 42.5 +0.7
baz=84,SNR=9.4
TNS Taunus Mts 83.86 329 eP P 21 31 41.7 -0.1
comp=Z,10.0nm,1.2s
NKY Niksic 83.96 319⇑ iP P 21 31 42.3 -0.3
CCUT Cedar City 83.99 48 eP P 21 31 44.5 +1.4
F25A Bowman 83.99 37 P P 21 31 43.7 +1.0
baz=84
TTG Podgorica 84.07 318⇑ iP P 21 31 43.0 0.0
EKA Eskdalemuir Ar 84.08 338 P P 21 31 42.3 -0.5
comp=Z,1.8nm,0.5s,baz=34,slow=4.9,SNR=18
EKA PP PP 21 35 00.7 +3.8
comp=Z,1.9nm,0.9s,baz=36,slow=6.5,SNR=4.3
LJU Ljubljana 84.08 323 eP P 21 31 42.6 -0.4
MVU Marysvale 84.09 47 eP P 21 31 45.5 +1.9
E26A Carlson Angus 84.10 36 P P 21 31 43.8 +0.7
baz=84
D27A Center 84.10 35 P P 21 31 44.3 +1.2
baz=84
MYKA Terra Mystica 84.10 324⇓ iP P 21 31 42.5 -0.7
comp=Z,7.8nm,0.7s,SNR=7.3
MSU Marysvale 84.11 47 eP P 21 31 45.6 +2.0
MSU Marysvale 84.11 47 eP P 21 31 45.5 +2.0
ESK Eskdalemuir 84.11 338 i P P 21 31 43.4 +0.4
FUR Fursteldbru 84.12 326 eP P 21 31 43.4 +0.2
comp=Z,102nm,1.6s
BRY Bratogost 84.15 319⇑ iP P 21 31 43.0 -0.6
J22A Midwest 84.15 40 P P 21 31 44.2 +0.5
baz=84,SNR=8.2
TMUT Trail Mountain 84.19 46 eP P 21 31 45.9 +1.8
C28A Hausauer Farms 84.20 34 P P 21 31 44.3 +0.7
baz=84
GMRC Granite Mounta 84.25 52 P P 21 31 45.0 +0.8
baz=84,SNR=9.8
H24A Dirks Ranch, A 84.25 38 P P 21 31 44.6 +0.6
baz=84
A30A Hoffart Farm, 84.25 32 P P 21 31 44.4 +0.6
baz=84,SNR=7.4
ULM Lac du Bonnet 84.32 30 P P 21 31 44.2 +0.1
comp=Z,21nm,0.8s,baz=320,slow=6.6,SNR=16
DNR Dunn Ranch,Anz 84.35 53 eP P 21 31 48.2 +3.4
BUM Brajici-Budva 84.36 318⇑ iP P 21 31 44.7 +0.1
ULC Ulcinj 84.39 318⇑ iP P 21 31 44.9 +0.2
F26A Lodgepole 84.43 37 P P 21 31 45.7 +0.8
baz=84
PFO Pinyon Flat Ob 84.44 53 P P 21 31 46.6 +1.3
comp=Z,110nm,1.0s,SNR=6.9
PFO Pinyon Flat Ob 84.44 53 P P 21 31 46.0 +0.7
comp=Z,13nm,0.8s,baz=317,slow=5.8,SNR=18
PFO Pinyon Flat Ob 84.44 53 P P 21 31 45.9 +0.7
baz=84,SNR=11
HCY Herceg Novi 84.48 319⇑ iP P 21 31 44.9 -0.2
HGN Heimansgroeve 84.49 331 eP P 21 31 44.2 -0.7
comp=Z,16nm,1.0s
BELC Belle Mtn. Jos 84.50 52 P P 21 31 46.0 +0.4
baz=84,SNR=9.8
ABTA Abfaltersbach 84.56 325⇓ iP P 21 31 44.4 -1.2
comp=Z,20nm,1.0s,SNR=9.4
E27A Carson 84.56 36 P P 21 31 46.5 +1.0
baz=84
MEM Membach 84.58 331 P P 21 31 45.1 -0.4
comp=Z,9.0nm,1.1s
MEM Membach 84.58 331 eP P 21 31 45.3 -0.1
MEM Membach 84.58 331 eP P 21 31 45.3 -0.1
B30A Myrvik Farm, E 84.60 33 P P 21 31 46.3 +0.7
baz=84,SNR=7.2
WTTA Wattenberg 84.61 325⇓ iP P 21 31 45.4 -0.5
comp=Z,6.9nm,0.7s,SNR=6.4
STU Stuttgart 84.61 328 eP P 21 31 45.5 -0.1
comp=Z,22nm,0.8s
K22A Casper 84.64 41 P P 21 31 47.2 +1.0
baz=84
KNB Kanab 84.66 48 eP P 21 31 48.2 +1.8
KNB Kanab 84.66 48 eP P 21 31 48.2 +1.8
SRU San Rafael 84.71 46 eP P 21 31 48.0 +1.4
SRU San Rafael 84.71 46 eP P 21 31 48.0 +1.4
F27A Lemmon 84.74 36 P P 21 31 47.1 +0.7
baz=84
MOTA Moosalm 84.80 326⇑ iP P 21 31 46.2 -0.6
comp=Z,6.8nm,0.8s,SNR=5.6
RETA Reutte 84.85 326⇓ iP P 21 31 46.8 -0.2
comp=Z,28nm,1.2s,SNR=12
G26A Maurine 84.86 37 P P 21 31 47.9 +0.9
baz=85,SNR=6.2
BAR Barrett 84.86 54 eP P 21 31 48.3 +1.0
MONP Monument Peak 84.90 54 P P 21 31 48.2 +0.6
baz=85,SNR=6.0
IRM Iron Mountain 84.96 52 P P 21 31 48.5 +0.8
baz=85,SNR=5.5
BC3 Big Chuckawall 85.08 52 P P 21 31 49.0 +0.6
baz=85,SNR=7.4
G27A Dupree 85.13 37 P P 21 31 49.0 +0.6
baz=85
FETA Feichten 85.21 326⇑ iP P 21 31 48.3 -0.6
comp=Z,18nm,1.1s,SNR=6.9
WLF Walferdange 85.25 330 P P 21 31 49.1 +0.3
WLF Walferdange 85.25 330 eP P 21 31 48.6 -0.2
comp=Z,17nm,1.2s
H26A Fairpoint 85.25 38 P P 21 31 49.5 +0.5
baz=85,SNR=5.6
IBP Imperial Bould 85.26 54 P P 21 31 50.1 +0.7
baz=85
SWSC Sam W. Stewart 85.29 53 P P 21 31 50.2 +0.9
baz=85
BFO Black Forest 85.33 328 eP P 21 31 48.7 -0.6
comp=Z,17nm,1.3s
BFO Black Forest 85.33 328 P P 21 31 48.6 -0.7
comp=Z,63nm,1.2s,SNR=5.5
BFO Black Forest 85.33 328 i P P 21 31 49.0 -0.3
F28A McLaughlin 85.35 36 P P 21 31 50.2 +0.8
baz=85
SNF Seneffe 85.35 331 P P 21 31 48.7 -0.6
O20A White River Ci 85.37 44 P P 21 31 50.6 +0.7
baz=85
E29A Napoleon 85.38 35 P P 21 31 50.4 +0.8
baz=85
D30A Buchanan 85.40 34 P P 21 31 50.1 +0.4
baz=85,SNR=6.1
DAVA Damuels 85.41 326⇓ iP P 21 31 49.5 -0.3
comp=Z,25nm,1.0s,SNR=11
PDMCI Parker Dam,Lak 85.53 51 P P 21 31 51.8 +1.3
baz=85
DOU Dourbes 85.55 331 P P 21 31 49.4 -0.9
H27A Howes 85.59 37 P P 21 31 51.3 +0.7
baz=85,SNR=5.1
Y12C Blythe 85.62 52 P P 21 31 51.7 +0.7
baz=86
FUORN Ofenpass-Fuorn 85.72 326 eP P 21 31 51.5 -0.1
DAVOX Davos/Dischmat 85.78 326 P P 21 31 51.7 0.0
comp=Z,9.5nm,0.6s,baz=161,slow=2.1,SNR=18
DAVOX Davos/Dischmat 85.78 326 P P 21 31 51.7 0.0
DAVOX pmax pmax
comp=Z,10.0nm,0.6s
AGMN Agassiz Nation 85.81 32 P P 21 31 52.3 +0.7
baz=86
AGMN Agassiz Nation 85.81 32 eP P 21 31 51.8 +0.2
F29A Eureka 85.83 35 P P 21 31 53.0 +1.2
baz=86
GLA Glamis 85.86 53 eP P 21 31 53.3 +1.1
GLA Glamis 85.86 53 P P 21 31 53.1 +0.9
baz=86,SNR=6.9
GLA Glamis 85.86 53 eP P 21 31 53.3 +1.1
PV09 Paradox Valley 85.94 45 eP P 21 31 54.5 +1.7
I27A Quinn 86.01 38 P P 21 31 53.6 +0.9
baz=86
J26A Sides Ranch, S 86.02 39 P P 21 31 53.8 +1.0
baz=86
PV10 Paradox Valley 86.07 45 eP P 21 31 55.5 +2.0
H28A Mission Ridge 86.09 37 P P 21 31 54.4 +1.3
baz=86,SNR=6.1
PV04 Paradox Valley 86.14 45 eP P 21 31 55.5 +1.8
N23A Red Feather La 86.15 42 P P 21 31 54.2 +0.4
baz=86
F30A Leola 86.21 35 P P 21 31 54.1 +0.4
baz=86
PV05 Paradox Valley 86.23 46 eP P 21 31 55.7 +1.5
I28A Midland 86.50 37 P P 21 31 56.0 +0.8
baz=86
PV01 Paradox Valley 86.51 45 eP P 21 31 57.2 +1.6
WUAZ Wupatki 86.52 49 P P 21 31 57.0 +1.4
baz=86,SNR=5.5
WUAZ Wupatki 86.52 49 eP P 21 31 57.2 +1.7
G30A Faulkton 86.67 35 P P 21 31 56.1 +0.2
baz=86
J28A Allard Ranch, 86.88 38 P P 21 31 57.8 +0.7
baz=87
I29A Vivian Onida 86.92 37 P P 21 31 58.0 +0.8
baz=87
ISCO Idaho Springs 87.09 43 P P 21 31 59.4 +1.0
baz=87
MVCO Mesa Verde 87.16 46 P P 21 31 60.0 +1.2
baz=87
MVCO Mesa Verde 87.16 46 eP P 21 32 00.3 +1.5
J29A Okreek 87.35 37 P P 21 31 60.0 +0.7
baz=87
I30A Oacoma 87.43 36 P P 21 32 00.3 +0.7
baz=87
S22A 4UR Ranch, Cre 87.79 45 P P 21 32 03.7 +1.9
baz=88,SNR=7.1
K29A Lazy Trails An 87.82 38 P P 21 32 02.5 +0.9
baz=88
J30A Dallas 87.83 37 P P 21 32 02.7 +1.2
baz=88
214A Organ Pipe Nat 87.87 52 P P 21 32 03.3 +1.3
baz=88
EYMN Ely 87.92 30 P P 21 32 03.1 +1.2
baz=88
EYMN Ely 87.92 30 eP P 21 32 02.7 +0.8
O26A Horse Wrangler 88.05 41 P P 21 32 03.6 +0.8
baz=88
K30A Basset 88.24 37 P P 21 32 04.5 +0.9
baz=88
SDCO Great Sand Dun 88.56 44 P P 21 32 06.5 +1.0
baz=88
ECSD EROS Data Cent 88.92 35 P P 21 32 07.5 +0.8
baz=89
L31A Butterfield Fa 89.00 37 P P 21 32 08.3 +1.1
baz=89
SCHQ Schefferville 89.19 13 P P 21 32 08.2 +0.4
comp=Z,3.6nm,0.9s,baz=329,slow=3.7,SNR=4.7
SCHQ sP sP 21 32 33.9 -1.5
comp=Z,4.5nm,0.8s,baz=32,slow=4.6,SNR=3.9
R26A Arlington 89.34 42 P P 21 32 09.5 +0.5
baz=89
SPMN St. Paul 89.52 32 P P 21 32 10.1 +0.7
baz=89
T25A Trinidad 89.60 44 P P 21 32 11.5 +1.2
baz=89
ANMO Albuquerque 89.91 47 P P 21 32 13.2 +1.4
comp=Z,5.1nm,0.9s,baz=316,slow=3.4,SNR=11
ANMO pP pP 21 32 29.7 -1.9
comp=Z,1.7nm,0.8s,baz=302,slow=3.2,SNR=2.7
ANMO Albuquerque 89.91 47⇓ eP P 21 32 12.8 +1.1
T26A Comanche Natio 90.05 43 P P 21 32 12.9 +0.6
baz=90
M33A Taylor Creek F 90.27 37 P P 21 32 13.8 +0.8
baz=90
121A Cookes Peak, D 90.72 49 P P 21 32 16.6 +1.0
baz=91
P32A Huiting Farm, 91.00 39 P P 21 32 17.4 +0.9
baz=91
U27A Thompson Grove 91.01 43 P P 21 32 17.4 +0.6
baz=91
N35A Tabor 91.57 36 P P 21 32 19.9 +0.8
baz=91
P35A Duane Minner, 92.39 37 P P 21 32 24.1 +1.1
baz=92
O36A Bolckow 92.46 36 P P 21 32 24.2 +1.0
baz=92
P36A Good Intent, A 92.73 37 P P 21 32 25.4 +0.9
baz=92
Q35A Mercer Eighty, 92.89 38 P P 21 32 26.0 +0.7
baz=93
X29A Tulia 93.06 44 P P 21 32 27.1 +0.9
baz=93
R36A Gordon, Harris 93.57 38 P P 21 32 28.9 +0.5
baz=93
S35A Otter Creek Ra 93.64 39 P P 21 32 29.3 +0.6
baz=93
128A Castleberry Fa 93.90 46 P P 21 32 30.6 +0.5
baz=94
Z29A Hungry Hill Ra 93.90 45 P P 21 32 31.2 +1.0
baz=94
X31A McDonald Ranch 93.91 43 P P 21 32 30.8 +0.7
baz=94
R37A Teagarden Farm 93.92 38 P P 21 32 30.2 +0.2
baz=94
T35A Sooner Cattle 94.11 39 P P 21 32 31.6 +0.7
baz=94
Z30A Sanderson Ranc 94.22 45 P P 21 32 32.2 +0.7
baz=94
T36A Boggs Farm, Ca 94.34 39 P P 21 32 32.6 +0.7
baz=94
S37A Fort Scott 94.35 38 P P 21 32 32.4 +0.5
baz=94
Z31A Sharp Cattle R 94.77 44 P P 21 32 34.7 +0.7

baz=95
T37A Cheneyville 18 94.79 38 P **P** **21 32 35.0 +1.1**
baz=95
131A Roby 95.09 45 P **P** **21 32 36.8 +1.3**
baz=95
Z32A Haskell 95.16 44 P **P** **21 32 36.6 +0.8**
baz=95
U37A Salina 95.23 39 P **P** **21 32 36.0 -0.1**
baz=95
TXAR Lajitas Array 95.48 49 P **P** **21 32 38.6 +1.2**
comp=Z,3.3nm,0.7s,baz=291,slow=2.6,SNR=41
TXAR pP **pP** **21 32 55.0 -2.3**
comp=Z,4.0nm,0.8s,baz=292,slow=3.6,SNR=11
TXAR sP **sP** **21 33 01.7 -3.3**
comp=Z,4.4nm,0.8s,baz=293,slow=2.9,SNR=8.7
U38A Gravette 95.58 38 P **P** **21 32 37.7 0.0**
baz=95
V37A Hulbert 95.62 39 P **P** **21 32 38.7 +0.9**
baz=95
529A Stev Forest Ra 95.82 48 P **P** **21 32 39.8 +0.9**
baz=96
V38A Canehill 96.02 39 P **P** **21 32 40.1 +0.5**
baz=96
530A J-C Ranch, Com 96.34 47 P **P** **21 32 41.7 +0.4**
baz=96
332A Millersview 96.41 45 P **P** **21 32 42.2 +0.7**
baz=96
532A Rocksprings 97.22 46 P **P** **21 32 45.1 -0.1**
baz=97
334A Lometa 97.32 44 P Pdif 21 32 46.7 +1.1
baz=97
ESDC Sonseca Array 97.55 330 P **P** **21 32 44.8 -1.7**
comp=Z,0.3nm,0.6s,baz=13,slow=4.1,SNR=4.3
TORD Torodi Ar. Bea 115.73 309 PKP **PKPdf** **21 37 54.0 -0.9**
comp=Z,1.6nm,0.5s,baz=38,slow=0.8,SNR=20
LBTB Lobatse 119.60 258 PKP **PKPdf** **21 38 02.3 +0.1**
comp=Z,7.6nm,0.8s,baz=127,slow=1.9,SNR=13
LBTB pPKP **pPKPdf** **21 38 19.1 -3.7**
comp=Z,2.3nm,0.7s,baz=338,slow=2.3,SNR=3.4
BOSA Boshof 121.42 255 PKP **PKPdf** **21 38 05.3 -0.2**
comp=Z,3.2nm,0.7s,baz=61,slow=2.8,SNR=7.6
QSPA South Pole Qui 123.99 180 PKP **PKPdf** **21 38 08.6 -0.6**
comp=Z,4.4nm,0.8s,baz=306,slow=2.1,SNR=9.5
QSPA PP **PP** **21 39 53.3 -1.2**
comp=Z,0.4nm,0.3s,baz=251,slow=6.9,SNR=3.3
DBIC Dimbokro 124.82 310 PKP **PKPdf** **21 38 11.8 -0.6**
comp=Z,13nm,0.9s,baz=11,slow=2.7,SNR=8.9
TIC Toumodi 124.94 310 *eP* **PKPdf** **21 38 12.2 -0.5**
KIC Kosan Boka 124.98 309 *eP* **PKPdf** **21 38 12.4 -0.3**
comp=Z,37nm,1.0s
LIC Lamto 125.27 310 *eP* **PKPdf** **21 38 13.7 +0.4**
comp=Z,59nm,1.4s
SNAA Sanae 136.70 198 PKPdf **PKPdf** **21 38 33.0 -0.2**
SNAA Sanae 136.70 198 PKP **PKPdf** **21 38 32.8 -0.4**
comp=Z,0.9nm,0.9s,baz=159,slow=2.9,SNR=3.7
VNA1 Neumayer--Stat 138.71 197 PKPdf **PKPdf** **21 38 36.5 -0.3**
LPAZ La Paz 152.11 56 PKP **PKPdf** **21 39 03.1 +1.2**
comp=Z,1.2nm,0.9s,baz=322,slow=5.5,SNR=3.8

*IDC **20** 21:19:20.8±0.7, 52°56′N×169°68′W, h0km, mb4.2/12, mb1 4.4/14, mb1mx3.9/67, mbtmp4.2/14, ML3.8/2, Error ellipse: s-maj=25.7km s-min=14.3km az=161.0*
*ISCJB **20** 21:19:21.2±0.5, 52°56′N±0°08′×169°60′W±0°08, h10km, mb4.3/13, Error ellipse: s-maj=12.4km s-min=4.0km az=151.1*
*NEIC **20** 21:19:22.2, 52°69′N×169°56′W, h3km, ML4.2(AEIC), After AEIC.*

ISC 20 21:19:22.5±0.6, 52°70′N±0°10′×169°58′W±0°06, h10km, n44, σ1§14/43, mb4.2/13, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.52**	**58**	P		**Pb**	**21 19 32.9**	**-0.8**
NIKH				S		**Sb**	**21 19 41.6**	**+0.3**
OKCE	**Okmok Cone E**	**1.12**	**49**	P		**Pn**	**21 19 44.0**	**-0.3**
OKCE				S		**Sn**	**21 20 01.1**	**+1.2**
OKAK	**Okmok**	**1.15**	**39**	P		**Pb**	**21 19 42.2**	**-2.3**
MSOM	**Makushin Julie**	**1.94**	**54**	P		**Pn**	**21 19 55.6**	**+0.1**
MSOM				S		**Sb**	**21 20 22.2**	**+0.1**
MCIR	**Makushin Cirqu**	**2.04**	**51**	P		**Pn**	**21 19 57.9**	**+0.9**
MSW	**Makushin Switc**	**2.07**	**53**	P		**Pb**	**21 19 58.5**	**-1.7**
MTBL	**Makushin Table**	**2.16**	**53**	P		**Pb**	**21 19 59.8**	**-1.8**
UNV	**Unalaska Valle**	**2.18**	**57**	P		**Pn**	**21 19 59.4**	**+0.7**
UNV				S		**Sb**	**21 20 28.3**	**-0.7**
AKRB	**Akutan Reef Bi**	**2.54**	**54**	P		**Pn**	**21 20 05.4**	**+1.6**
ZRO	**Akutan Zero**	**2.57**	**56**	P		**Pn**	**21 20 05.5**	**+1.3**
AKGG	**Akutan Green G**	**2.62**	**54**	P		**Pn**	**21 20 05.8**	**+0.9**
AKUT	**Akutan**	**2.70**	**56**	P		**Pn**	**21 20 07.2**	**+1.4**
ATKA	**Atka Island**	**2.87**	**262**	P		**Pn**	**21 20 08.8**	**+0.6**
WESP	**Westdahl Peak**	**3.41**	**56**	P		**Pn**	**21 20 17.2**	**+1.5**
WESN	**West Dahl Nort**	**3.52**	**56**	P		**Pn**	**21 20 19.1**	**+1.9**
GSMY	**Great Sitkin M**	**4.02**	**263**	P		**Pn**	**21 20 25.0**	**+0.9**
GSCK	**Great Sitkin C**	**4.09**	**263**	P		**Pn**	**21 20 26.1**	**+0.9**
ADAG	**Mount Adagdak**	**4.37**	**263**	P		**Pn**	**21 20 30.8**	**+2.0**
SPIA	**Saint Paul Isl**	**4.51**	**355**	P		**Pn**	**21 20 32.1**	**+1.3**
ILAR	**Eielson Array**	**16.75**	**35**	Pn		**Pn**	**21 23 16.8**	**-0.2**
	0.3nm,0.3s,baz=233,slow=11,SNR=16							
PETK	**Petropavlovsk-**	**19.65**	**284**	P		**P**	**21 23 51.6**	**+0.4**
	0.5nm,0.3s,baz=93,slow=13,SNR=9.3							
SEY	**Seymchan**	**22.35**	**312**	P		**P**	**21 24 20.9**	**+0.7**
	2.6nm,0.7s,baz=116,slow=12,SNR=4.8							
DLBC	**Dease Lake**	**22.83**	**61**	P		**P**	**21 24 26.4**	**+1.0**
	7.0nm,0.8s,baz=273,slow=9.4,SNR=18							
INK	**Inuvik**	**23.14**	**34**	P		**P**	**21 24 28.1**	**-0.4**
	1.5nm,0.4s,baz=237,slow=5.8,SNR=5.9							
YKA	**Yellowknife Ar**	**30.12**	**49**	P		**P**	**21 25 32.2**	**+0.2**
	1.1nm,0.4s,baz=275,slow=7.1,SNR=12							
NEW	**Newport**	**33.05**	**76**	P		**P**	**21 25 58.4**	**+0.4**
	3.6nm,0.7s,baz=306,slow=7.3,SNR=6.2							
H11N2	**WAKE ISLAND Hy**	**37.63**	**218**	T		T	22 06 24.8	
	baz=24,slow=75,SNR=18							
H11N3	**WAKE ISLAND Hy**	**37.64**	**218**	T		T	22 06 25.4	
	baz=24,slow=75,SNR=63							
H11N1	**WAKE ISLAND Hy**	**37.65**	**218**	T		T	22 06 26.2	
	baz=24,slow=75,SNR=16							
NVAR	**Mina Array Bea**	**37.80**	**91**	P		**P**	**21 26 40.4**	**+1.4**
	1.7nm,0.8s,baz=282,slow=7.7,SNR=7.6							
H11S1	**WAKE ISLAND Hy**	**38.82**	**218**	T		T	22 07 56.0	
	baz=23,slow=76,SNR=521							
H11S2	**WAKE ISLAND Hy**	**38.84**	**217**	T		T	22 07 56.5	
	baz=23,slow=76,SNR=440							
H11S3	**WAKE ISLAND Hy**	**38.84**	**218**	T		T	22 07 55.4	
	baz=23,slow=76,SNR=194							
PDAR	**Pinedale Array**	**40.47**	**79**	P		**P**	**21 27 00.9**	**-0.5**
	3.9nm,0.8s,baz=328,slow=6.4,SNR=8.6							
ULM	**Lac du Bonnet**	**44.11**	**62**	P		**P**	**21 27 30.3**	**-0.3**
	3.7nm,0.7s,baz=268,slow=4.0,SNR=3.5							
ANMO	**Albuquerque**	**47.27**	**86**	PcP		**PcP**	**21 29 28.1**	**+1.1**
	1.1nm,0.6s,baz=351,slow=4.9,SNR=3.9							
TXAR	**Lajitas Array**	**52.87**	**89**	P		**P**	**21 28 38.8**	**+0.3**
	3.3nm,0.6s,baz=298,slow=5.2,SNR=41							
TXAR				PcP		**PcP**	**21 29 47.9**	**+0.3**
	0.6nm,0.7s,baz=318,slow=1.2,SNR=3.7							
SADO	**Sadowa**	**56.38**	**59**	P		**P**	**21 29 05.2**	**+1.6**
	6.0nm,0.6s,baz=310,slow=8.4,SNR=3.8							
BATI	**Baumata**	**84.45**	**245**	P		**P**	**21 31 54.0**	**-1.4**
	16nm,0.6s,baz=314,slow=0.8,SNR=4.3							
WRA	**Warramunga Arr**	**87.11**	**231**	P		**P**	**21 32 06.4**	**-2.0**
	1.0nm,0.6s,baz=37,slow=6.2,SNR=4.7							
ASAR	**Alice Springs**	**90.51**	**230**	P		**P**	**21 32 23.8**	**-0.6**
	1.6nm,0.7s,baz=32,slow=4.8,SNR=9.3							
LBTB	**Lobatse**	**150.06**	**332**	PKPbc		**PKPbc**	**21 39 13.3**	**0.0**
	2.8nm,0.6s,baz=39,slow=2.5,SNR=7.8							
MAW	**Mawson**	**151.05**	**219**	PKPbc		**PKPbc**	**21 39 13.3**	**-0.7**
	1.9nm,0.7s,baz=95,slow=8.3,SNR=6.6							
BOSA	**Boshof**	**153.54**	**330**	PKPbc		**PKPbc**	**21 39 20.6**	**-0.6**
	1.3nm,0.6s,baz=323,slow=1.8,SNR=4.6							

IDC 20 21:22:52.9±3.8, 6°20S×150°69E, h0km, mb3.1/2, mb1 3.5/2, mb1mx3.2/34, mbtmp3.2/2, Error ellipse: s-maj=160.1km s-min=47.9km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.95**	**228**	P		P	21 27 37.5	-0.2
	0.4nm,0.4s,baz=54,slow=11,SNR=6.0							
ASAR	**Alice Springs**	**23.71**	**221**	P		P	21 28 06.8	-0.1
	0.3nm,0.8s,baz=56,slow=9.0,SNR=5.2							
TORD	**Torodi Ar. Bea**	**148.69**	**285**	PKPbc		PKPbc	21 42 42.7	-0.5
	0.3nm,1.0s,baz=78,slow=2.7,SNR=3.4							

*IDC **20** 21:30:23.1±0.9, 36°93′N×27°69′E, h0km, mb4.0/5, mb1 3.9/11, mb1mx3.7/46, mbtmp3.8/11, ML3.6/6, MS3.9/1, Ms1 3.9/1, ms1mx3.1/51, Error ellipse: s-maj=19.4km s-min=15.4km az=166.0*
*THE **20** 21:30:24.9, 37°00′N×27°56′E, h8km±1km, ML3.8/6, Error ellipse: s-maj=1.6km s-min=0.6km az=185.0*
*ATH **20** 21:30:24.1, 37°06′N×27°54′E, h20km±1km, MD3.9/21, ML3.6*
*ISK **20** 21:30:24.0, 37°07′N×27°63′E, h11km, ML3.6*
*CSEM **20** 21:30:24.7±0.1, 37°03′N×27°63′E, h10km, ML3.8, Error ellipse: s-maj=2.5km s-min=2.3km az=152.0*
*ISCJB **20** 21:30:24.5±0.3, 37°03′N±0°02′×27°60′E±0°02, h18km±3km, mb3.8/5, Error ellipse: s-maj=2.6km s-min=2.4km az=11.1*
*DDA **20** 21:30:24.1, 37°08′N×27°62′E, h7km, ML3.8*
*NIC **20** 21:30:26.9, 36°37′N×27°49′E, h10km, mb4.3, ML3.8*

ISC 20 21:30:24.8±0.8, 37°02′N±0°02′×27°60′E±0°02, h13km±5km, n246, σ1§04/290, mb3.9/5, 11C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.14**	**289**	*i* P		**Pg**	**21 30 28.2**	**-0.1**
BDRM				*i* S		**Sg**	**21 30 30.6**	**-0.1**
BDRM	**Kayabasi**	**0.14**	**289**	*i* P		**Pg**	**21 30 28.2**	**-0.1**
BDRM				*i* S		**Sg**	**21 30 30.6**	**-0.1**
BODT	**Bodrum**	**0.24**	**280**	PG		**Pg**	**21 30 29.8**	**-0.1**
BODT				*e*SG		**Sg**	**21 30 34.2**	**+0.8**
BODT	**Bodrum**	**0.24**	**280**	*i* Pg		**Pg**	**21 30 29.8**	**-0.1**
BODT				*e*Sg		**Sg**	**21 30 34.2**	**+0.8**
NIS1	**Nisyros Isl.**	**0.54**	**219**	*e*PG		**Pg**	**21 30 35.6**	**+0.2**
NIS1	**Nisyros Isl.**	**0.54**	**219**	*e*PN		**Pg**	**21 30 35.2**	**-0.2**
NIS1				*e*SN		**Sg**	**21 30 42.8**	**+0.3**
NIS1	**Nisyros Isl.**	**0.54**	**219**	P		**Pg**	**21 30 35.2**	**-0.2**
NIS1	**Nisyros Isl.**	**0.54**	**219**	*e*Pg		**Pg**	**21 30 35.6**	**+0.2**
NIS1				S		**Sg**	**21 30 42.9**	**+0.4**
NIS1	**Nisyros Isl.**	**0.54**	**219**	P		**Pg**	**21 30 35.2**	**-0.2**
NIS1				S		**Sg**	**21 30 42.9**	**+0.4**
YER	**Yerkesik**	**0.56**	**78**	*e*PG		**Pg**	**21 30 35.1**	**-0.6**
YER	**Yerkesik**	**0.56**	**78**	*e*Pg		**Pg**	**21 30 35.1**	**-0.6**
NISR	**Nisiros**	**0.56**	**223**	*e*PN		**Pg**	**21 30 35.7**	**0.0**
NISR	**Nisiros**	**0.56**	**223**	P		**Pg**	**21 30 35.4**	**-0.3**
NISR	**Nisiros**	**0.56**	**223**	*e*Pn		**Pg**	**21 30 35.7**	**0.0**
NISR				S		**Sg**	**21 30 42.5**	**-0.6**
NISR	**Nisiros**	**0.56**	**223**	P		**Pg**	**21 30 35.4**	**-0.3**
NISR				S		**Sg**	**21 30 42.5**	**-0.6**
AYDN	**Tasoluk**	**0.68**	**19**	*i* P		**Pg**	**21 30 37.3**	**-0.7**
AYDN				*i* S		**Sg**	**21 30 45.9**	**-1.0**
AYDN	**Tasoluk**	**0.68**	**19**	*i* P		**Pg**	**21 30 37.3**	**-0.7**
AYDN				*i* S		**Sg**	**21 30 45.9**	**-1.0**
TURN	**Turunc**	**0.81**	**100**	*i* P		Pg	21 30 35.2	-5.3
TURN				*i* S		Sg	21 30 44.0	-7.1
DALY	**Dalyan (Mu¨la**	**0.86**	**103**	*e*PG		**Pg**	**21 30 40.8**	**-0.7**
DALY	**Dalyan (Mu¨la**	**0.86**	**103**	*e*Pg		**Pg**	**21 30 40.8**	**-0.7**
ARG	**Arkhangelos**	**0.91**	**152**	*e*PN		**Pg**	**21 30 41.1**	**-1.3**
ARG				*e*SN		**Sn**	**21 30 55.8**	**-0.4**
ARG	**Arkhangelos**	**0.91**	**152**	P		**Pg**	**21 30 41.0**	**-1.3**
ARG	**Arkhangelos**	**0.91**	**152**	P		**Pg**	**21 30 41.0**	**-1.3**
ARG				S		**Sn**	**21 30 55.7**	**-0.4**
SMG	**Samos**	**0.92**	**319**	*e*PN		**Pg**	**21 30 41.4**	**-1.2**
SMG	**Samos**	**0.92**	**319**	P		**Pg**	**21 30 41.2**	**-1.4**
SMG				S		**Sg**	**21 30 54.5**	**-0.1**
SMG	**Samos**	**0.92**	**319**	P		**Pg**	**21 30 41.2**	**-1.4**
SMG				S		**Sg**	**21 30 54.5**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.95**	**14**	*e*PG		**Pb**	**21 30 41.9**	**-1.3**
AYDB	**Zeytinkoy-Aydi**	**0.95**	**14**	*e*Pg		**Pb**	**21 30 41.9**	**-1.3**
DENT	**Denizli**	**1.35**	**57**	*e*PN		**Pn**	**21 30 49.0**	**-0.4**
DENT	**Denizli**	**1.35**	**57**	*e*Pn		**Pn**	**21 30 49.0**	**-0.4**
IZM	**Izmir**	**1.40**	**349**	*e*PN		**Pn**	**21 30 49.2**	**-0.9**
IZM	**Izmir**	**1.40**	**349**	*e*Pn		**Pn**	**21 30 49.2**	**-0.9**
BLCB	**Balcova**	**1.43**	**342**	*e*PN		**Pn**	**21 30 49.3**	**-1.2**
BLCB	**Balcova**	**1.43**	**342**	*e*Pn		**Pn**	**21 30 49.3**	**-1.2**
ZEY	**¨zmir**	**1.50**	**325**	*i* P		**Pn**	**21 30 50.6**	**-0.7**
ZEY				*i* S		**Sg**	**21 31 14.6**	**+1.6**
KARP	**Karpathos**	**1.51**	**194**	*e*PB		**Pn**	**21 30 51.2**	**-0.4**
KARP	**Karpathos**	**1.51**	**194**	P		**Pn**	**21 30 50.9**	**-0.7**
KARP	**Karpathos**	**1.51**	**194**	*e*Pb		**Pn**	**21 30 51.2**	**-0.4**
KARP				S		**Sn**	**21 31 09.6**	**-1.6**
KARP	**Karpathos**	**1.51**	**194**	P		**Pn**	**21 30 50.9**	**-0.7**
KARP				S		**Sn**	**21 31 09.6**	**-1.6**
URLA	**Izmir**	**1.56**	**329**	*i* P		**Pn**	**21 30 51.9**	**-0.3**
URLA				*i* S		**Sg**	**21 31 19.1**	**+4.1**
URLA	**Izmir**	**1.56**	**329**	*i* P		**Pn**	**21 30 51.9**	**-0.3**
APE	**Apeiranthos**	**1.66**	**272**	*e*PN		**Pn**	**21 30 54.5**	**+0.9**
APE	**Apeiranthos**	**1.66**	**272**	*i*P		**Pn**	**21 30 53.3**	**+0.3**
APE	**Apeiranthos**	**1.66**	**272**	*e*PN		**Pn**	**21 30 53.4**	**-0.2**
APE				*e*SN		**Sn**	**21 31 15.1**	**+0.3**
APE	**Apeiranthos**	**1.66**	**272**	P		**Pn**	**21 30 52.8**	**-0.8**
APE	**Apeiranthos**	**1.66**	**272**	*e*Pn		**Pn**	**21 30 54.5**	**+0.9**
APE				S		**Sn**	**21 31 13.5**	**-1.3**
APE				*e*Sn		**Sn**	**21 31 15.1**	**+0.3**
APE	**Apeiranthos**	**1.66**	**272**	P		**Pn**	**21 30 52.8**	**-0.8**
APE				S		**Sn**	**21 31 13.5**	**-1.3**
KULA	**Kula-Manisa**	**1.71**	**29**	*e*PN		**Pn**	**21 30 53.8**	**-0.5**
KULA	**Kula-Manisa**	**1.71**	**29**	P		**Pn**	**21 30 53.5**	**-0.9**
KULA	**Kula-Manisa**	**1.71**	**29**	*e*Pn		**Pn**	**21 30 53.8**	**-0.5**
KULA				S		**Sn**	**21 31 16.3**	**+0.2**
KULA	**Kula-Manisa**	**1.71**	**29**	P		**Pn**	**21 30 53.5**	**-0.9**
KULA				S		**Sn**	**21 31 16.3**	**+0.2**
AKAS	**Kas**	**1.79**	**115**	*i* P		**Pb**	**21 30 57.4**	**-0.1**
AKAS				*i* S		**Sg**	**21 31 24.7**	**+2.3**
AKAS	**Kas**	**1.79**	**115**	*i* P		**Pn**	**21 30 57.4**	**-0.1**
KSL	**Kastellorizon**	**1.81**	**118**	*e*PN		**Pb**	**21 30 57.5**	**-0.3**
CHOS	**Chios island**	**1.84**	**318**	*e*PN		**Pn**	**21 30 56.1**	**0.0**
CHOS	**Chios island**	**1.84**	**318**	*e*PN		**Pn**	**21 30 55.8**	**-0.3**
CHOS	**Chios island**	**1.84**	**318**	P		**Pn**	**21 30 55.7**	**-0.3**
CHOS	**Chios island**	**1.84**	**318**	*e*Pn		**Pn**	**21 30 56.1**	**0.0**
CHOS				S		**Sn**	**21 31 19.1**	**-0.1**
CHOS	**Chios island**	**1.84**	**318**	P		**Pn**	**21 30 55.7**	**-0.3**
CHOS				S		**Sn**	**21 31 19.1**	**-0.1**
SANT	**Santorini**	**1.84**	**250**	*e*PN		**Pb**	**21 30 58.4**	**+0.1**
SANT	**Santorini**	**1.84**	**250**	*e*Pn		**Pb**	**21 30 58.4**	**+0.1**
THR1	**Thera Island**	**1.84**	**250**	*e*PN		**Pn**	**21 30 56.9**	**+0.8**
THR1	**Thera Island**	**1.84**	**250**	*e*Pn		**Pn**	**21 30 56.9**	**+0.8**
AKHS	**Akhisar**	**1.86**	**5**	*i* P		**Pn**	**21 30 55.4**	**-1.0**
AKHS				*i* S		**Sn**	**21 31 18.5**	**-1.3**
AKHS	**Akhisar**	**1.86**	**5**	*i* P		**Pn**	**21 30 55.4**	**-1.0**
AKHS				*i* S		**Sn**	**21 31 18.5**	**-1.3**
AKS	**Akhisar**	**1.86**	**5**	*e*PN		**Pn**	**21 30 55.5**	**-0.9**
AKS	**Akhisar**	**1.86**	**5**	*e*Pn		**Pn**	**21 30 55.5**	**-0.9**
ELL	**Elmali**	**1.87**	**98**	*e*PN		**Pn**	**21 30 56.8**	**+0.2**
ELL	**Elmali**	**1.87**	**98**	*e*Pn		**Pn**	**21 30 56.8**	**+0.2**
THR3	**Thira Island,**	**1.87**	**252**	P		**Pn**	**21 30 56.0**	**-0.5**
THR3	**Thira Island,**	**1.87**	**252**	P		**Pn**	**21 30 56.0**	**-0.5**
THR6	**Thira Island,**	**1.89**	**250**	P		**Pn**	**21 30 56.0**	**-0.8**
THR6	**Thira Island,**	**1.89**	**250**	P		**Pn**	**21 30 56.0**	**-0.8**
THR5	**Thira Island,**	**1.91**	**252**	*e*PN		**Pn**	**21 30 57.6**	**+0.7**
THR5	**Thira Island,**	**1.91**	**252**	*e*Pn		**Pn**	**21 30 57.7**	**+0.7**
KHL	**Karahalli**	**2.00**	**49**	*e*PN		**Pn**	**21 30 58.1**	**-0.3**
KHL	**Karahalli**	**2.00**	**49**	*e*Pn		**Pn**	**21 30 58.1**	**-0.3**
NPS	**Neapolis**	**2.38**	**223**	*e*PN		**Pn**	**21 31 03.3**	**-0.2**
NPS	**Neapolis**	**2.38**	**223**	P		**Pn**	**21 31 02.6**	**-0.9**
NPS	**Neapolis**	**2.38**	**223**	*e*Pn		**Pn**	**21 31 03.3**	**-0.2**
NPS				S		**Sn**	**21 31 31.9**	**-0.7**
NPS	**Neapolis**	**2.38**	**223**	P		**Pn**	**21 31 02.6**	**-0.9**
NPS				S		**Sn**	**21 31 31.9**	**-0.7**
BCK	**Bucak**	**2.42**	**79**	*e*PN		**Pn**	**21 31 04.5**	**+0.4**
BCK	**Bucak**	**2.42**	**79**	*e*Pn		**Pn**	**21 31 04.5**	**+0.4**
ANTB	**Antalya**	**2.45**	**92**	*e*PN		**Pn**	**21 31 05.3**	**+1.0**
ANTB	**Antalya**	**2.45**	**92**	*e*Pn		**Pn**	**21 31 05.3**	**+1.0**
ISP	**Isparta**	**2.46**	**70**	*e*PN		**Pn**	**21 31 05.2**	**+0.5**
ISP	**Isparta**	**2.46**	**70**	*i*P		**Pn**	**21 31 05.9**	**+1.3**
ISP	**Isparta**	**2.46**	**70**	P		**Pn**	**21 31 04.4**	**-0.2**
ISP	**Isparta**	**2.46**	**70**	*e*Pn		**Pn**	**21 31 05.2**	**+0.5**
ISP				S		**Sn**	**21 31 35.7**	**+1.1**
ISP	**Isparta**	**2.46**	**70**	P		**Pn**	**21 31 04.4**	**-0.2**
ISP				S		**Sn**	**21 31 35.7**	**+1.1**
PRK	**Paraskevi**	**2.46**	**335**	*e*PN		**Pn**	**21 31 04.3**	**-0.3**
PRK	**Paraskevi**	**2.46**	**335**	*e*Pn		**Pn**	**21 31 04.3**	**-0.3**
PRK				S		**Sn**	**21 31 34.6**	**+0.2**
PRK	**Paraskevi**	**2.46**	**335**	P		**Pn**	**21 31 04.2**	**-0.3**
PRK				S		**Sn**	**21 31 34.6**	**+0.2**
LAST	**Lasithi**	**2.53**	**223**	*e*PN		**Pn**	**21 31 06.6**	**+1.0**
LAST	**Lasithi**	**2.53**	**223**	*e*Pn		**Pn**	**21 31 06.6**	**+1.0**
SIGR	**SIGRI**	**2.59**	**328**	*e*PN		**Pn**	**21 31 06.3**	**0.0**
SIGR	**SIGRI**	**2.59**	**328**	*e*PN		**Pn**	**21 31 06.1**	**-0.2**
SIGR	**SIGRI**	**2.59**	**328**	P		**Pn**	**21 31 05.8**	**-0.5**
SIGR	**SIGRI**	**2.59**	**328**	*e*Pn		**Pn**	**21 31 06.3**	**0.0**
SIGR	**SIGRI**	**2.59**	**328**	P		**Pn**	**21 31 05.8**	**-0.5**
DST	**Dursunbey**	**2.70**	**17**	*e*PN		**Pn**	**21 31 07.9**	**0.0**
DST	**Dursunbey**	**2.70**	**17**	*e*Pn		**Pn**	**21 31 07.9**	**0.0**
IDI	**Anoyia**	**2.79**	**233**	Pn		**Pn**	**21 31 09.8**	**+0.6**
	3.8nm,0.3s,baz=42,slow=11,SNR=31							
IDI						Sn		**Sn**	**21 31 44.9**	**+2.0**
	8.4nm,0.3s,baz=67,slow=23,SNR=6.4							
IDI	**Anoyia**	**2.79**	**233**	P		**Pn**	**21 31 08.6**	**-0.7**
IDI				S		**Sn**	**21 31 42.5**	**-0.4**
IDI	**Anoyia**	**2.79**	**233**	P		**Pn**	**21 31 08.6**	**-0.7**
IDI				S		**Sn**	**21 31 42.5**	**-0.4**
TVSB	**Tavsanli**	**2.83**	**31**	*e*PN		**Pn**	**21 31 10.2**	**+0.4**
TVSB	**Tavsanli**	**2.83**	**31**	*e*Pn		**Pn**	**21 31 10.2**	**+0.4**
EZN	**Ezine**	**2.98**	**341**	*e*PN		**Pn**	**21 31 12.3**	**+0.7**
EZN	**Ezine**	**2.98**	**341**	*e*Pn		**Pn**	**21 31 12.4**	**+0.7**
SIVA	**Sivas**	**3.02**	**229**	*e*PN		**Pn**	**21 31 13.9**	**+1.6**
SIVA	**Sivas**	**3.02**	**229**	*e*Pn		**Pn**	**21 31 13.9**	**+1.6**
VAM	**Vamos**	**3.19**	**241**	*e*PN		**Pn**	**21 31 15.3**	**+0.7**
VAM	**Vamos**	**3.19**	**241**	*e*Pn		**Pn**	**21 31 15.3**	**+0.7**
EREA	**Eretria**	**3.23**	**297**	*e*PN		**Pn**	**21 31 16.0**	**+0.8**
EREA	**Eretria**	**3.23**	**297**	*e*Pn		**Pn**	**21 31 16.0**	**+0.8**
ATH	**Athens Observa**	**3.23**	**288**	*e*PN		**Pn**	**21 31 16.1**	**+0.9**
ATH	**Athens Observa**	**3.23**	**288**	*e*Pn		**Pn**	**21 31 16.1**	**+0.9**
EDC	**Edincik**	**3.33**	**3**	*e*PN		**Pn**	**21 31 15.6**	**-0.9**
EDC	**Edincik**	**3.33**	**3**	*e*Pn		**Pn**	**21 31 15.6**	**-0.9**
LIA	**Limnos Island**	**3.44**	**327**	*e*PN		**Pn**	**21 31 18.5**	**+0.4**
LIA	**Limnos Island**	**3.44**	**327**	*e*Pn		**Pn**	**21 31 18.5**	**+0.4**
GELI	**Tayfur-Gelibol**	**3.49**	**346**	*e*PN		**Pn**	**21 31 19.1**	**+0.4**
GELI	**Tayfur-Gelibol**	**3.49**	**346**	*e*Pn		**Pn**	**21 31 19.1**	**+0.4**
MDNY	**Mudanya-Bursa**	**3.49**	**16**	*e*PN		**Pn**	**21 31 18.0**	**-0.7**
MDNY	**Mudanya-Bursa**	**3.49**	**16**	*e*Pn		**Pn**	**21 31 18.0**	**-0.7**
DID	**Didima**	**3.52**	**279**	*e*PN		**Pn**	**21 31 19.4**	**+0.2**
DID	**Didima**	**3.52**	**279**	*e*Pn		**Pn**	**21 31 19.4**	**+0.2**
DIDY	**Didyma**	**3.53**	**279**	*e*PN		**Pn**	**21 31 19.8**	**+0.4**
DIDY	**Didyma**	**3.53**	**279**	*e*Pn		**Pn**	**21 31 19.8**	**+0.4**
MRMT	**Marmara Adasi**	**3.58**	**360**	*e*PN		**Pn**	**21 31 20.4**	**+0.4**
MRMT	**Marmara Adasi**	**3.58**	**360**	*e*Pn		**Pn**	**21 31 20.4**	**+0.4**
VILL	**Villia**	**3.59**	**290**	*e*Pn		**Pn**	**21 31 21.3**	**+1.1**
MRKA	**Markates**	**3.60**	**299**	*e*PN		**Pn**	**21 31 21.0**	**+0.8**
MRKA	**Markates**	**3.60**	**299**	*e*Pn		**Pn**	**21 31 21.0**	**+0.8**
IZI	**Iznik**	**3.62**	**23**	*e*PN		**Pn**	**21 31 20.8**	**+0.2**
IZI	**Iznik**	**3.62**	**23**	*e*Pn		**Pn**	**21 31 20.8**	**+0.2**
**

EIL				Sn		Sn	21 34 28.3	-1.1	
	0.9nm,0.3s,baz=75,slow=19,SNR=4.5								
BZS	**Buzias**		**9.69**	**334**	⇑*i*P	**Pn**	**21 32 44.5**	**+0.6**	
BZS	**Buzias**		**9.69**	**334**	⇑*i*P	**Pn**	**21 32 44.5**	**+0.6**	
TEKS	**Tekeris**		**9.69**	**323**	*e*Pn	**Pn**	**21 32 43.8**	**-0.1**	
GERES	**GERESS Array B**		**15.57**	**324**	Pn	**P**	**21 34 08.0**	**-0.2**	
	0.1nm,0.3s,baz=156,slow=8.0,SNR=3.3								
FINES	**FINESS Array B**		**24.46**	**358**	P	**P**	**21 35 44.0**	**+0.8**	
	3.0nm,0.9s,baz=157,slow=10,SNR=7.1								
ESDC	**Sonseca Array**		**24.83**	**286**	P	**P**	**21 35 47.4**	**+0.6**	
	2.1nm,0.5s,baz=79,slow=9.4,SNR=21								
TOB2	**Torodi Ar. Sit**		**33.19**	**231**	*e*P	**P**	**21 37 00.9**	**-0.4**	
TORD	**Torodi Ar. Bea**		**33.20**	**231**	P	**P**	**21 37 01.4**	**0.0**	
	3.7nm,0.4s,baz=34,slow=8.7,SNR=87								
MKAR	**Makanchi Array**		**41.11**	**59**	P	**P**	**21 38 08.7**	**+0.4**	
	0.5nm,0.7s,baz=284,slow=6.1,SNR=4.4								
ZALV	**Zalesovo Beam**		**42.29**	**48**	P	**P**	**21 38 17.9**	**+0.1**	
	1.0nm,0.5s,baz=271,slow=8.4,SNR=4.5								

IDC ***20*** *21:36:04.7±2.5,26°.90N×53°.80E, h0km, mb3.5/5, mb1 3.5/5, mb1mx3.3/45, mbtmp3.5/5, Error ellipse: s-maj=64.0km s-min=25.3km az=151.0*

THR ***20*** *21:36:06.0±0.8, 27°.02N×54°.01E, h14km±11km, ML3.5*

CSEM ***20*** *21:36:07.4±0.4, 27°.14N×54°.07E, h2km, ML3.5, Error ellipse: s-maj=14.0km s-min=6.7km az=56.0*

TEH ***20*** *21:36:07.8, 27°.04N×53°.98E, h8km, ML3.5*

ISCJB ***20*** *21:36:08.4±0.6, 27°.11N±0°.06×54°.02E±0°.08, h19km, mb3.4/5, Error ellipse: s-maj=11.8km s-min=5.6km az=145.7*

DSN ***20*** *21:36:12.0±7.1, 27°.06N×54°.53E, h10km, mb2.8/6, ML3.9/1, Error ellipse: s-maj=78.1km s-min=14.5km az=143.0*

ISC 20 21:36:07.9±0.8, 27°.03N±0°.05×53°.96E±0°.06, h19km, n31, σ1§25/34, mb3.5/5, 1C-3D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.52**	**326**	*e*Pg		**Pn**	**21 36 34.7**	**+0.5**
GHIR				*e*Sg		**Sb**	**21 36 55.3**	**+0.8**
GHIR				AML		AML	21 36 59.4	
	comp=N,834nm,0.5s							
GHIR				AML		AML	21 36 60.0	
	comp=E,1μm,0.4s							
GHIR	**Ghir-Karzin**	**1.52**	**326**	*e*Pg		**Pn**	**21 36 34.7**	**+0.5**
GHIR				*e*Sg		**Sb**	**21 36 55.3**	**+0.8**
	comp=E,1μm,0.4s							
BNDS	**Bandar-Abbas**	**2.01**	**79**	*e*Pg		**Pn**	**21 36 41.6**	**+0.7**
BNDS	**Bandar-Abbas**	**2.01**	**79**	*e*Pg		**Pn**	**21 36 41.6**	**+0.7**
IBND	**Bandar-abas**	**2.34**	**79**	*e*Pn		**Pn**	**21 36 46.0**	**+0.7**
IBND				*e*			21 37 53.6	
	comp=Z,3μm,0.2s							
IBND	**Bandar-abas**	**2.34**	**79**	*e*Pn		**Pn**	**21 36 46.0**	**+0.7**
ISRV	**Sarvestan**	**2.46**	**343**	*e*Pn		**Pn**	**21 36 48.6**	**+1.3**
ISRV				*e*Sg		**Sb**	**21 37 24.4**	**+2.6**
ISRV				*e*			21 37 45.0	
	comp=Z,3μm,0.4s							
ISRV	**Sarvestan**	**2.46**	**343**	*e*Pn		**Pn**	**21 36 48.6**	**+1.3**
ISRV				*e*Sg		**Sb**	**21 37 24.4**	**+2.6**
NAZ	**Nazwa, Dubai**	**2.54**	**143**	P		**Pn**	**21 36 49.7**	**+1.5**
NAZ	**Nazwa, Dubai**	**2.54**	**143**	⇓P		**Pn**	**21 36 49.7**	**+1.5**
ASUD	**Al Ashush, Dub**	**2.69**	**152**	P		**Pb**	**21 36 54.0**	**-1.4**
ASUD	**Al Ashush, Dub**	**2.69**	**152**	⇓P		**Pb**	**21 36 54.0**	**-1.4**
FAQ	**Al Faqa, Dubai**	**2.71**	**147**	P		**Pn**	**21 36 52.6**	**+2.2**
FAQ	**Al Faqa, Dubai**	**2.71**	**147**	⇑P		**Pn**	**21 36 52.6**	**+2.2**
HATD	**Hatta, Dubai**	**2.94**	**138**	P		**Pn**	**21 36 54.7**	**+1.1**
HATD	**Hatta, Dubai**	**2.94**	**138**	⇓P		**Pn**	**21 36 54.7**	**+1.1**
IKAZ	**Kazeroun**	**3.32**	**326**	*e*Pn		**Pn**	**21 36 59.6**	**+0.5**
IKAZ				*e*			21 38 15.2	
	comp=Z,2μm,0.4s							
IKAZ	**Kazeroun**	**3.32**	**326**	*e*Pn		**Pn**	**21 36 59.6**	**+0.5**
KRBR	**Kerman**	**3.84**	**39**	*e*Pn		**Pn**	**21 37 07.0**	**+0.7**
KRBR				AML		AML	21 38 02.0	
	comp=E,30nm,0.6s							
KRBR				AML		AML	21 38 22.7	
	comp=N,37nm,0.6s							
KRBR	**Kerman**	**3.84**	**39**	*e*Pn		**Pn**	**21 37 07.0**	**+0.7**
	comp=N,37nm,0.6s							
IMEH	**Mehriz**	**4.39**	**7**	*e*Pn		**Pn**	**21 37 13.3**	**-0.4**
IMEH				*e*			21 38 12.4	
	comp=Z,320nm,0.4s							
IMEH	**Mehriz**	**4.39**	**7**	*e*Pn		**Pn**	**21 37 13.3**	**-0.4**
IBAF	**Bafgh**	**4.76**	**17**	*e*Pn		**Pn**	**21 37 19.4**	**+0.6**
IBAF				*e*			21 38 11.6	
	comp=Z,135nm,0.2s							
IBAF	**Bafgh**	**4.76**	**17**	*e*Pn		**Pn**	**21 37 19.4**	**+0.6**
ISAD	**Sadrabad**	**4.88**	**357**	*e*Pn		**Pn**	**21 37 21.1**	**+0.6**
ISAD	**Sadrabad**	**4.88**	**357**	*e*Pn		**Pn**	**21 37 21.1**	**+0.6**
BRTR	**Keskin Array B**	**21.11**	**312**	P		**P**	**21 40 52.0**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=131,slow=11,SNR=5.5							
AKTO	**Aktyubinsk**	**23.58**	**7**	P		**P**	**21 41 17.7**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=131,slow=9.7,SNR=4.9							
MKAR	**Makanchi Array**	**29.79**	**41**	P		P	21 42 16.6	+3.2
	comp=Z,0.1nm,0.3s,baz=249,slow=11,SNR=2.8							
ZALV	**Zalesovo Beam**	**35.20**	**32**	P		**P**	**21 42 59.8**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=233,slow=8.3,SNR=4.1							
TORD	**Torodi Ar. Bea**	**50.65**	**265**	P		**P**	**21 45 04.7**	**-1.6**
	comp=Z,0.5nm,0.4s,baz=65,slow=7.8,SNR=20							

ISCJB ***20*** *21:47:59.5±0.2, 34°.74N±0°.02×26°.36E±0°.02, h67km±4km, mb3.9/16, Error ellipse: s-maj=3.6km s-min=2.5km az=15.6*

NEIC ***20*** *21:47:59.7±0.6, 34°.81N×26°.36E, h35km, ML4.2(NIC), Error ellipse: s-maj=11.5km s-min=8.1km az=16.0*

IDC ***20*** *21:47:59.8±1.8, 34°.86N×26°.28E, h35km±15km, mb3.9/15, mb1 4.0/23, mb1mx3.8/57, mbtmp4.1/23, ML3.9/5, Error ellipse: s-maj=16.0km s-min=11.7km az=167.0*

CSEM ***20*** *21:48:01.2±0.1, 34°.75N×26°.31E, h60km, ML3.5, Error ellipse: s-maj=3.7km s-min=2.4km az=14.0*

ISK ***20*** *21:48:01.2, 34°.92N×26°.36E, h25km, ML3.7*

HLW ***20*** *21:48:01.1, 34°.68N×26°.52E, h33km±15km, Ml4.0*

ATH ***20*** *21:48:01.8, 34°.98N×26°.21E, h86km±1km, ML3.5*

THE ***20*** *21:48:03.5, 34°.91N×26°.24E, h69km±3km, ML3.7/4, Error ellipse: s-maj=3.8km s-min=1.1km az=182.0*

NSSC ***20*** *21:48:04.2±2.7, 35°.84N×27°.42E, h0km±999km, ML3.1*

NIC ***20*** *21:48:05.3, 35°.02N×26°.74E, h25km, mb4.6, ML4.2*

DDA ***20*** *21:48:07.1, 35°.19N×26°.70E, h21km, MD3.5*

ISC 20 21:48:01.5±0.8, 34°.78N±0°.04×26°.35E±0°.03, h59km±8km, n290, σ1§18/327, mb3.9/16, 7C-8D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.78**	**309**	*e*P		**Pn**	**21 48 16.9**	**+0.3**
NPS				*e*S		**Sn**	**21 48 27.9**	**+0.2**
NPS	**Neapolis**	**0.78**	**309**	P		**Pn**	**21 48 16.7**	**+0.1**
NPS				S		**Sn**	**21 48 27.4**	**-0.3**
NPS	**Neapolis**	**0.78**	**309**	P		**Pn**	**21 48 16.7**	**+0.1**
NPS				S		**Sn**	**21 48 27.4**	**-0.3**
LAST	**Lasithi**	**0.81**	**298**	*e*P		**Pn**	**21 48 17.2**	**+0.1**
LAST				*e*S		**Sn**	**21 48 29.0**	**+0.4**
LAST	**Lasithi**	**0.81**	**298**	P		**Pn**	**21 48 16.8**	**-0.3**
LAST				S		**Sn**	**21 48 28.8**	**+0.2**
LAST	**Lasithi**	**0.81**	**298**	P		**Pn**	**21 48 16.8**	**-0.3**
LAST				S		**Sn**	**21 48 28.8**	**+0.2**
KARP	**Karpathos**	**1.02**	**41**	*e*P		**Pn**	**21 48 21.2**	**+1.5**
KARP				*e*S		**Sn**	**21 48 36.6**	**+3.4**
KARP	**Karpathos**	**1.02**	**41**	P		**Pn**	**21 48 20.8**	**+1.1**
KARP				S		**Sn**	**21 48 33.9**	**+0.7**
KARP	**Karpathos**	**1.02**	**41**	P		**Pn**	**21 48 20.8**	**+1.1**
KARP				S		**Sn**	**21 48 33.9**	**+0.7**
IACM	**Heraklion**	**1.17**	**297**	*e*P		**Pn**	**21 48 22.6**	**+0.8**
IACM	**Heraklion**	**1.17**	**297**	*e*P		**Pn**	**21 48 22.6**	**+0.8**
SIVA	**Sivas**	**1.29**	**281**	*e*P		**Pn**	**21 48 24.2**	**+0.9**
SIVA				*e*S		**Sn**	**21 48 40.6**	**+1.0**
SIVA	**Sivas**	**1.29**	**281**	P		**Pn**	**21 48 23.6**	**+0.3**
SIVA				*e*S		**Sn**	**21 48 40.6**	**+1.0**
SIVA	**Sivas**	**1.29**	**281**	P		**Pn**	**21 48 23.6**	**+0.3**
IDI	**Anoyia**	**1.30**	**293**	Pg		**Pn**	**21 48 24.2**	**+0.6**
	50nm,0.3s,baz=122,slow=7.3,SNR=134							
IDI	**Anoyia**	**1.30**	**293**	P		**Pn**	**21 48 23.9**	**+0.3**
IDI				S		**Sn**	**21 48 38.4**	**-1.6**
IDI	**Anoyia**	**1.30**	**293**	P		**Pn**	**21 48 23.9**	**+0.3**
IDI				S		**Sn**	**21 48 38.4**	**-1.6**
SANT	**Santorini**	**1.75**	**336**	*e*P		**Pn**	**21 48 28.8**	**-0.8**
SANT	**Santorini**	**1.75**	**336**	*e*P		**Pn**	**21 48 28.8**	**-0.8**
THR6	**Thira Island,**	**1.76**	**334**	P		**Pn**	**21 48 28.9**	**-0.7**
THR6	**Thira Island,**	**1.76**	**334**	P		**Pn**	**21 48 28.9**	**-0.7**
THR3	**Thira Island,**	**1.80**	**335**	P		**Pn**	**21 48 29.5**	**-0.7**
THR3	**Thira Island,**	**1.80**	**335**	P		**Pn**	**21 48 29.5**	**-0.7**
THR7	**Fira-Santorini**	**1.81**	**336**	P		**Pn**	**21 48 30.7**	**+0.4**
THR7	**Fira-Santorini**	**1.81**	**336**	P		**Pn**	**21 48 30.7**	**+0.4**
THR5	**Thira Island,**	**1.83**	**334**	*e*PN		**Pn**	**21 48 30.9**	**+0.4**
THR5				*e*SN		**Sn**	**21 48 50.5**	**-2.2**
THR5	**Thira Island,**	**1.83**	**334**	P		**Pn**	**21 48 29.9**	**-0.7**
THR5	**Thira Island,**	**1.83**	**334**	*e*Pn		**Pn**	**21 48 31.0**	**+0.4**
THR5				*e*Sn		**Sn**	**21 48 50.5**	**-2.2**
THR5	**Thira Island,**	**1.83**	**334**	P		**Pn**	**21 48 29.9**	**-0.7**
GVD	**Gavdhos**	**1.86**	**273**	*e*P		**Pn**	**21 48 31.8**	**+0.7**
GVD	**Gavdhos**	**1.86**	**273**	P		**Pn**	**21 48 31.0**	**-0.1**
GVD	**Gavdhos**	**1.86**	**273**	P		**Pn**	**21 48 31.0**	**-0.1**
VAM	**Vamos**	**1.87**	**290**	*e*P		**Pn**	**21 48 32.3**	**+1.1**
VAM	**Vamos**	**1.87**	**290**	*e*P		**Pn**	**21 48 32.3**	**+1.1**
NIS1	**Nisyros Isl.**	**1.94**	**20**	*e*PN		**Pn**	**21 48 32.8**	**+0.7**
NIS1	**Nisyros Isl.**	**1.94**	**20**	*e*P		**Pn**	**21 48 32.2**	**0.0**
NIS1	**Nisyros Isl.**	**1.94**	**20**	*e*P		**Pn**	**21 48 32.2**	**0.0**
NIS1	**Nisyros Isl.**	**1.94**	**20**	*e*Pn		**Pn**	**21 48 32.8**	**+0.7**
NIS1	**Nisyros Isl.**	**1.94**	**20**	P		**Pn**	**21 48 33.0**	**+0.8**
ARG	**Arkhangelos**	**2.04**	**45**	*e*P		**Pn**	**21 48 34.9**	**+1.4**
ARG	**Arkhangelos**	**2.04**	**45**	*e*P		**Pn**	**21 48 34.9**	**+1.4**
ARG	**Arkhangelos**	**2.04**	**45**	P		**Pn**	**21 48 35.1**	**+1.6**
APE	**Apeiranthos**	**2.38**	**344**	*e*PN		**Pn**	**21 48 37.4**	**-0.8**
APE				*e*SN		**Sn**	**21 49 04.2**	**-2.0**
APE	**Apeiranthos**	**2.38**	**344**	*e*P		**Pn**	**21 48 37.4**	**-0.8**
APE	**Apeiranthos**	**2.38**	**344**	P		**Pn**	**21 48 37.6**	**-0.6**
APE				S		**Sn**	**21 49 04.2**	**-2.0**
APE	**Apeiranthos**	**2.38**	**344**	P		**Pn**	**21 48 37.6**	**-0.6**
APE				S		**Sn**	**21 49 04.2**	**-2.0**
BODT	**Bodrum**	**2.41**	**19**	*e*PN		**Pn**	**21 48 38.7**	**+0.2**
BODT	**Bodrum**	**2.41**	**19**	*e*Pn		**Pn**	**21 48 38.7**	**+0.2**
ANKY	**Antikythira Is**	**2.72**	**294**	*e*P		**Pn**	**21 48 42.7**	**0.0**
ANKY	**Antikythira Is**	**2.72**	**294**	P		**Pn**	**21 48 42.4**	**-0.3**
ANKY				S		**Sn**	**21 49 13.4**	**-1.0**
ANKY	**Antikythira Is**	**2.72**	**294**	P		**Pn**	**21 48 42.4**	**-0.3**
ANKY				S		**Sn**	**21 49 13.4**	**-1.0**
DALY	**Dalyan (Mu¨la**	**2.77**	**42**	*e*PN		**Pn**	**21 48 43.9**	**+0.5**
DALY	**Dalyan (Mu¨la**	**2.77**	**42**	*e*Pn		**Pn**	**21 48 43.9**	**+0.5**
YER	**Yerkesik**	**2.83**	**33**	*e*PN		**Pn**	**21 48 44.7**	**+0.4**
YER	**Yerkesik**	**2.83**	**33**	*e*Pn		**Pn**	**21 48 44.7**	**+0.4**
SMG	**Samos**	**2.95**	**8**	*e*P		**Pn**	**21 48 45.5**	**-0.4**
SMG	**Samos**	**2.95**	**8**	*e*P		**Pn**	**21 48 45.5**	**-0.4**
AKAS	**Kas**	**3.03**	**60**	*i* P		**Pn**	**21 48 47.6**	**+0.5**
AKAS				*i* S		**Sn**	**21 49 20.3**	**-1.9**
AKAS	**Kas**	**3.03**	**60**	*i* P		**Pn**	**21 48 47.6**	**+0.5**
AKAS				*i* S		**Sn**	**21 49 20.3**	**-1.9**
KYTH	**Kithira**	**3.09**	**300**	*e*P		**Pn**	**21 48 47.0**	**-0.8**
KYTH	**Kithira**	**3.09**	**300**	*e*P		**Pn**	**21 48 47.0**	**-0.8**
AYDN	**Tasoluk**	**3.13**	**23**	*i* P		**Pn**	**21 48 49.4**	**+1.0**
AYDN				*i* S		**Sn**	**21 49 23.4**	**-1.2**
AYDN	**Tasoluk**	**3.13**	**23**	*i* P		**Pn**	**21 48 49.4**	**+1.0**
AYDN				*i* S		**Sn**	**21 49 23.4**	**-1.2**
VLI	**Veliai**	**3.38**	**306**	*e*P		**Pn**	**21 48 50.8**	**-1.0**
VLI	**Veliai**	**3.38**	**306**	*e*P		**Pn**	**21 48 50.8**	**-1.0**
VLI				S		**Sn**	**21 49 27.3**	**-3.5**
VLI	**Veliai**	**3.38**	**306**	P		**Pn**	**21 48 50.8**	**-1.0**
VLI				S		**Sn**	**21 49 27.3**	**-3.5**
AYDB	**Zeytinkoy-Aydi**	**3.40**	**21**	*e*PN		**Pn**	**21 48 52.5**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**3.40**	**21**	*e*Pn		**Pn**	**21 48 52.5**	**+0.3**
SLUM		**3.41**	**197**	P		**Pn**	**21 48 51.9**	**-0.3**
	baz=200							
SLUM				AMP			21 49 00.0	
	comp=N,440μm,0.8s,logA/T=5.8,baz=200							
SLUM				S		**Sn**	**21 49 28.9**	**-2.6**
	baz=200							
SLUM		**3.41**	**197**	P		**Pn**	**21 48 51.9**	**-0.3**
SLUM				S		**Sn**	**21 49 28.9**	**-2.6**
ELL	**Elmali**	**3.50**	**55**	*e*PN		**Pn**	**21 48 54.7**	**+1.2**
ELL	**Elmali**	**3.50**	**55**	*e*Pn		**Pn**	**21 48 54.7**	**+1.2**
MATC	**Matruh**	**3.50**	**168**	P		**Pn**	**21 48 52.3**	**-1.2**
	baz=169							
GOLH	**Golhisar**	**3.58**	**46**	*i* P		**Pn**	**21 48 55.8**	**+1.2**
GOLH				*i* S		**Sn**	**21 49 34.5**	**-1.2**
GOLH	**Golhisar**	**3.58**	**46**	*i* P		**Pn**	**21 48 55.8**	**+1.2**
GOLH				*i* S		**Sn**	**21 49 34.5**	**-1.2**
CHOS	**Chios island**	**3.61**	**356**	*e*PN		**Pn**	**21 48 54.5**	**-0.5**
CHOS	**Chios island**	**3.61**	**356**	*e*P		**Pn**	**21 48 54.3**	**-0.7**
CHOS	**Chios island**	**3.61**	**356**	*e*Pn		**Pn**	**21 48 54.5**	**-0.5**
BLCB	**Balcova**	**3.64**	**9**	*e*PN		**Pn**	**21 48 55.6**	**+0.3**
BLCB	**Balcova**	**3.64**	**9**	*e*Pn		**Pn**	**21 48 55.7**	**+0.3**
KRND	**KRANIDI**	**3.67**	**316**	*e*P		**Pn**	**21 48 55.6**	**-0.2**
KRND	**KRANIDI**	**3.67**	**316**	P		**Pn**	**21 48 55.5**	**-0.2**
KRND	**KRANIDI**	**3.67**	**316**	P		**Pn**	**21 48 55.5**	**-0.2**
DENT	**Denizli**	**3.68**	**35**	*e*PN		**Pn**	**21 48 57.4**	**+1.5**
DENT	**Denizli**	**3.68**	**35**	*e*Pn		**Pn**	**21 48 57.4**	**+1.5**
IZM	**Izmir**	**3.69**	**11**	*e*PN		**Pn**	**21 48 55.5**	**-0.5**
IZM	**Izmir**	**3.69**	**11**	*e*Pn		**Pn**	**21 48 55.5**	**-0.5**
DIDY	**Didyma**	**3.70**	**318**	*e*P		**Pn**	**21 48 55.7**	**-0.6**
DIDY	**Didyma**	**3.70**	**318**	*e*P		**Pn**	**21 48 55.7**	**-0.6**
DID	**Didima**	**3.71**	**318**	*e*P		**Pn**	**21 48 55.6**	**-0.7**
DID	**Didima**	**3.71**	**318**	*e*P		**Pn**	**21 48 55.6**	**-0.7**
HMAT	**Matruh**	**3.73**	**170**	P		Pn	21 48 52.3	-4.3
ATH	**Athens Observa**	**3.83**	**327**	*e*P		**Pn**	**21 48 58.4**	**+0.5**
ATH	**Athens Observa**	**3.83**	**327**	*e*P		**Pn**	**21 48 58.4**	**+0.5**
KORT	**Korkueli**	**3.93**	**55**	*i* P		Pn	21 49 04.5	+5.0
KORT				*i* S		**Sn**	**21 49 45.5**	**+1.1**
KORT	**Korkueli**	**3.93**	**55**	*i* P		Pn	21 49 04.5	+5.0
KORT				*i* S		**Sn**	**21 49 45.5**	**+1.1**
ANTB	**Antalya**	**4.09**	**58**	*e*PN		**Pn**	**21 49 03.5**	**+2.0**
ANTB	**Antalya**	**4.09**	**58**	*e*Pn		**Pn**	**21 49 03.5**	**+2.0**
EREA	**Eretria**	**4.12**	**333**	*e*P		**Pn**	**21 49 02.3**	**+0.3**
EREA	**Eretria**	**4.12**	**333**	*e*P		**Pn**	**21 49 02.3**	**+0.3**
VLX	**Vlachokerasia**	**4.13**	**310**	*e*P		**Pn**	**21 49 01.5**	**-0.6**
VLX	**Vlachokerasia**	**4.13**	**310**	*e*P		**Pn**	**21 49 01.5**	**-0.6**
KULA	**Kula-Manisa**	**4.17**	**26**	*e*PN		**Pn**	**21 49 03.0**	**+0.4**
KULA	**Kula-Manisa**	**4.17**	**26**	P		**Pn**	**21 49 03.0**	**+0.4**
KULA	**Kula-Manisa**	**4.17**	**26**	P		**Pn**	**21 49 03.0**	**+0.4**
VILL	**Villia**	**4.17**	**325**	*e*P		**Pn**	**21 49 02.5**	**-0.2**
LOUT	**Loutraki**	**4.21**	**321**	*e*P		**Pn**	**21 49 02.5**	**-0.6**
LOUT	**Loutraki**	**4.21**	**321**	*e*P		**Pn**	**21 49 02.5**	**-0.6**
VIL2	**Platees**	**4.23**	**325**	*e*P		**Pn**	**21 49 02.5**	**-1.0**
LTK	**Loutraki**	**4.24**	**321**	*e*P		**Pn**	**21 49 03.2**	**-0.3**
LTK	**Loutraki**	**4.24**	**321**	*e*P		**Pn**	**21 49 03.2**	**-0.3**
AKHS	**Akhisar**	**4.26**	**16**	*i* P		**Pn**	**21 49 04.1**	**+0.3**
AKHS	**Akhisar**	**4.26**	**16**	*i* P		**Pn**	**21 49 04.1**	**+0.3**
AKH	**Akhisar**	**4.26**	**16**	*e*PN		**Pn**	**21 49 04.6**	**+0.8**
AKS	**Akhisar**	**4.26**	**16**	*e*Pn		**Pn**	**21 49 04.6**	**+0.8**
ITM	**Ithomi**	**4.31**	**305**	*e*P		**Pn**	**21 49 04.1**	**-0.5**
ITM	**Ithomi**	**4.31**	**305**	*e*P		**Pn**	**21 49 04.1**	**-0.5**
BCK	**Bucak**	**4.35**	**51**	*e*PN		**Pn**	**21 49 06.6**	**+1.4**
BCK	**Bucak**	**4.35**	**51**	*e*Pn		**Pn**	**21 49 06.6**	**+1.4**
KHL	**Karahalli**	**4.36**	**35**	*e*PN		**Pn**	**21 49 07.0**	**+1.7**
KHL	**Karahalli**	**4.36**	**35**	*e*Pn		**Pn**	**21 49 07.0**	**+1.7**
KHAL	**Karahalli**	**4.39**	**34**	*i* P		**Pn**	**21 49 05.9**	**+0.2**
KHAL				*i* S		**Sn**	**21 49 52.5**	**-3.1**
KHAL	**Karahalli**	**4.39**	**34**	*i* P		**Pn**	**21 49 05.9**	**+0.2**
KHAL				*i* S		**Sn**	**21 49 52.5**	**-3.1**
THAL	**Thalero**	**4.41**	**319**	*e*P		**Pn**	**21 49 05.8**	**0.0**
THAL	**Thalero**	**4.41**	**319**	*e*P		**Pn**	**21 49 05.8**	**0.0**
SIGR	**SIGRI**	**4.44**	**355**	*e*PN		**Pn**	**21 49 05.6**	**-0.7**
SIGR	**SIGRI**	**4.44**	**355**	*e*P		**Pn**	**21 49 05.8**	**-0.5**
SIGR	**SIGRI**	**4.44**	**355**	*e*P		**Pn**	**21 49 05.8**	**-0.5**
PRK	**Paraskevi**	**4.46**	**359**	*e*P		**Pn**	**21 49 05.7**	**-0.9**
PRK	**Paraskevi**	**4.46**	**359**	*e*P		**Pn**	**21 49 05.7**	**-0.9**
MRKA	**Markates**	**4.50**	**331**	*e*P		**Pn**	**21 49 07.4**	**+0.2**
MRKA	**Markates**	**4.50**	**331**	*e*P		**Pn**	**21 49 07.4**	**+0.2**
GUR	**Goura**	**4.52**	**315**	*e*P		**Pn**	**21 49 06.5**	**-0.9**
GUR	**Goura**	**4.52**	**315**	*e*P		**Pn**	**21 49 06.5**	**-0.9**
DEMI	**Demirci**	**4.66**	**23**	*i* P		**Pn**	**21 49 10.0**	**+0.6**
DEMI				*i* S		**Sn**	**21 49 59.5**	**-2.7**
DEMI	**Demirci**	**4.66**	**23**	*i* P		**Pn**	**21 49 10.0**	**+0.6**
DEMI				*i* S		**Sn**	**21 49 59.5**	**-2.7**
KLV	**Kalavryta, Ach**	**4.70**	**315**	*e*P		**Pn**	**21 49 09.1**	**-0.8**
KLV	**Kalavryta, Ach**	**4.70**	**315**	*e*P		**Pn**	**21 49 09.1**	**-0.8**
LKR	**Lokris**	**4.71**	**326**	*e*P		**Pn**	**21 49 10.4**	**+0.4**
LKR	**Lokris**	**4.71**	**326**	*e*P		**Pn**	**21 49 10.4**	**+0.4**
DESF	**Desfina**	**4.75**	**321**	*e*P		**Pn**	**21 49 09.8**	**-0.8**
DESF	**Desfina**	**4.75**	**321**	*e*P		**Pn**	**21 49 09.8**	**-0.8**
DSF	**Desfina**	**4.75**	**321**	*e*P		**Pn**	**21 49 09.9**	**-0.8**
DSF	**Desfina**	**4.75**	**321**	*e*P		**Pn**	**21 49 09.9**	**-0.8**
SMIA	**Simia**	**4.81**	**329**	*e*P		**Pn**	**21 49 09.8**	**-1.5**
SMIA	**Simia**	**4.81**	**329**	*e*P		**Pn**	**21 49 09.8**	**-1.5**
AOS	**Alonnisos**	**4.81**	**336**	*e*PN		**Pn**	**21 49 12.3**	**+1.0**
AOS	**Alonnisos**	**4.81**	**336**	*e*P		**Pn**	**21 49 10.8**	**-0.5**
AOS	**Alonnisos**	**4.81**	**336**	*e*P		**Pn**	**21 49 10.8**	**-0.5**
AOS	**Alonnisos**	**4.81**	**336**	*e*Pn		**Pn**	**21 49 12.3**	**+1.0**
DRO	**Drossia**	**4.90**	**312**	*e*P		**Pn**	**21 49 12.3**	**-0.4**
DRO	**Drossia**	**4.90**	**312**	*e*P		**Pn**	**21 49 12.3**	**-0.4**
AKMC	**Akamas**	**4.92**	**85**	⇓P		**Pn**	**21 49 12.0**	**-0.9**
	baz=271							
AKMC	**Akamas**	**4.92**	**85**	⇓P		**Pn**	**21 49 12.0**	**-0.9**
PPCY	**Paphos**	**4.93**	**87**	P		**Pn**	**21 49 12.9**	**-0.1**
	baz=273							
PPCY	**Paphos**	**4.93**	**87**	P		**Pn**	**21 49 12.9**	**-0.1**
LAKA	**Lakka**	**4.93**	**316**	*e*P		**Pn**	**21 49 11.7**	**-1.4**
LAKA	**Lakka**	**4.93**	**316**	*e*P		**Pn**	**21 49 11.7**	**-1.4**
KALE	**Kalithea**	**4.95**	**318**	*e*P		**Pn**	**21 49 12.2**	**-1.1**
KALE	**Kalithea**	**4.95**	**318**	*e*P		**Pn**	**21 49 12.2**	**-1.1**
AXAR	**Agios Charalam**	**4.96**	**324**	*e*P		**Pn**	**21 49 14.0**	**+0.5**
AXAR	**Agios Charalam**	**4.96**	**324**	*e*P		**Pn**	**21 49 14.0**	**+0.5**
TRIZ	**Trizonia**	**4.97**	**317**	*e*P		**Pn**	**21 49 13.3**	**-0.2**
TRIZ	**Trizonia**	**4.97**	**317**	*e*P		**Pn**	**21 49 13.3**	**-0.2**
GAZI	**Gazipasa**	**5.08**	**72**	*i* P		**Pn**	**21 49 14.0**	**-1.1**
GAZI				*i* S		Sn	21 50 06.8	-5.7
GAZI	**Gazipasa**	**5.08**	**72**	*i* P		**Pn**	**21 49 14.0**	**-1.1**
EFP	**Efpalio**	**5.10**	**317**	*e*P		**Pn**	**21 49 14.1**	**-1.3**
EFP	**Efpalio**	**5.10**	**317**	*e*P		**Pn**	**21 49 14.

DPC	**Dobruska-Polom**	**17.20**	**338**	*e*P	**Pn**	**21 51 56.1**	**-1.6**
DPC				*ex*	x	21 52 02.4	
DPC				*es*P	sP	21 52 10.5	-8.1
DPC	**Dobruska-Polom**	**17.20**	**338**	P	**Pn**	**21 51 56.1**	**-1.6**
GOPC	**GO Pecny, Ondr**	**17.34**	**334**	*e*P	**Pn**	**21 51 59.1**	**-0.3**
GOPC	**GO Pecny, Ondr**	**17.34**	**334**	P	**Pn**	**21 51 59.1**	**-0.3**
UPC	**Upice**	**17.43**	**338**	*e*P	**Pn**	**21 52 00.3**	**-0.2**
UPC				*ex*	x	21 52 05.6	
UPC	**Upice**	**17.43**	**338**	P	**Pn**	**21 52 00.3**	**-0.2**
PRU	**Pruhonice**	**17.49**	**334**	*e*P	**Pn**	**21 52 00.8**	**-0.4**
PRU	**Pruhonice**	**17.49**	**334**	P	**Pn**	**21 52 00.8**	**-0.4**
PVCC	**Panska Ves**	**17.93**	**335**	*e*P	**Pn**	**21 52 06.4**	**-0.2**
PVCC				*ex*	x	21 52 09.4	
PVCC	**Panska Ves**	**17.93**	**335**	P	**Pn**	**21 52 06.4**	**-0.2**
BRG	**Berggiesshubel**	**18.44**	**335**	*e*P	**P**	**21 52 09.9**	**-2.1**
	comp=E,3.3nm,0.9s						
CLL	**Collm**	**19.13**	**334**	*i* P	**P**	**21 52 19.6**	**-0.1**
OBN	**Obninsk**	**21.54**	**16**	P	**P**	**21 52 46.0**	**+0.4**
	comp=E,9.7nm,0.4s,baz=357,slow=21,SNR=4.3						
OBN	**Obninsk**	**21.54**	**16**	P	**P**	**21 52 46.0**	**+0.4**
ESDC	**Sonseca Array**	**24.56**	**290**	P	**P**	**21 53 15.9**	**+0.1**
	comp=E,0.9nm,0.7s,baz=78,slow=9.6,SNR=6.8						
GEYT	**Alibeck**	**25.71**	**74**	P	**P**	**21 53 29.7**	**+3.4**
	comp=E,1.1nm,0.4s,baz=289,slow=9.0,SNR=4.7						
HFS	**Hagfors**	**26.68**	**346**	P	**P**	**21 53 32.5**	**-2.2**
	comp=E,0.7nm,0.3s,baz=120,slow=10,SNR=12						
FINES	**FINESS Array B**	**26.68**	**360**	P	**P**	**21 53 33.4**	**-1.3**
	comp=E,1.7nm,0.4s,baz=163,slow=11,SNR=23						
AKTO	**Aktyubinsk**	**27.80**	**46**	P	**P**	**21 53 45.9**	**+1.0**
	comp=E,0.9nm,0.3s,baz=260,slow=12,SNR=3.8						
NB2	**NORSAR Subarra**	**28.02**	**344**	P	**P**	**21 53 45.2**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=156,slow=9.3						
NB2	**NORSAR Subarra**	**28.02**	**344**	P	**P**	**21 53 45.2**	**-1.6**
	comp=Z,0.2nm,0.4s,SNR=3.3						
NOA	**NORSAR Array B**	**28.02**	**344**	P	**P**	**21 53 44.9**	**-1.9**
	comp=Z,1.7nm,1.2s,baz=145,slow=8.7,SNR=3.3						
EKA	**Eskdalemuir Ar**	**28.92**	**324**	P	**P**	**21 53 53.8**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=124,slow=9.6,SNR=6.2						
TORD	**Torodi Ar. Bea**	**31.01**	**232**	P	**P**	**21 54 14.7**	**+1.1**
	comp=Z,2.5nm,0.6s,baz=33,slow=8.6,SNR=45						
ARCES	**ARCESS Array B**	**34.81**	**359**	P	**P**	**21 54 45.2**	**-1.0**
	comp=Z,4.3nm,0.7s,baz=190,slow=6.2,SNR=14						
DBIC	**Dimbokro**	**40.10**	**233**	P	**P**	**21 55 31.9**	**+0.3**
	comp=Z,6.3nm,1.0s,baz=31,slow=18,SNR=3.0						
MKAR	**Makanchi Array**	**43.17**	**56**	P	**P**	**21 55 58.3**	**+1.9**
	comp=Z,0.7nm,0.4s,baz=268,slow=8.0,SNR=11						
ZALV	**Zalesovo Beam**	**44.56**	**46**	P	**P**	**21 56 08.5**	**+1.1**
	comp=Z,4.7nm,0.5s,baz=267,slow=9.1,SNR=22						
SCHQ	**Schefferville**	**64.11**	**320**	P	**P**	**21 58 29.8**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=59,slow=4.6,SNR=6.2						
USRK	**Ussuriysk Ar.**	**76.42**	**45**	P	**P**	**21 59 45.7**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=306,slow=6.8,SNR=4.3						
ILAR	**Eielson Array**	**80.64**	**357**	P	**P**	**22 00 08.2**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=9.5,slow=3.3,SNR=4.1						

*IDC **20** 21:48:28.9±0.7,39.95N×119.70W,h0km,mb3.4/2, mb1 3.7/5,mb1mx3.4/59,mbtmp3.2/5,ML3.5/3,Error ellipse: s-maj=9.7km s-min=5.4km az=42.0*

*NEIC **20** 21:48:29.9,40.08N×119.62W,h12km,ML4.2(REN),After REN.*

NEIC Felt [IV] at Reno. Also felt at Empire, Fernley and Nixon. Felt at Sierra City, California.

*ISCJB **20** 21:48:31.4±0.2,40.09N±0.02×119.57W±0.03,h10km, mb3.1/2,Error ellipse: s-maj=3.9km s-min=2.7km az=143.2*

ISC 20 21:48:30.5±0.6,40.01N±0.02×119.70W±0.03,h10km,n95, σ2s04/96,Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAKR	**Walker**	**1.52**	**172**	*e*Pn	**Pn**	**21 48 57.7**	**-0.2**
OHCM	**Honcut**	**1.53**	**245**	*e*Pn	**Pb**	**21 48 57.9**	**-1.1**
NVAR	**Mina Array Bea**	**1.91**	**145**	Pg	**Pb**	**21 49 04.8**	**-0.8**
	68nm,0.3s,baz=337,slow=14,SNR=372						
NVAR				Lg	Lg	21 49 27.9	
	60nm,0.3s,baz=233,slow=9.5,SNR=4.3						
CMB	**Columbia Colle**	**2.04**	**195**	*e*Pn	**Pb**	**21 49 06.1**	**-1.6**
CMB				*e*Sn	**Sg**	**21 49 35.6**	**-0.6**
WDC	**Whiskeytown Da**	**2.25**	**286**	*e*Pn	**Pn**	**21 49 07.5**	**-0.3**
GASB	**Alder Springs**	**2.35**	**262**	*e*Pn	**Pn**	**21 49 10.4**	**+1.1**
M04C	**Macdoel**	**2.40**	**318**	P	**Pb**	**21 49 12.0**	**-2.0**
	baz=2.4,SNR=109						
M04C				Sb	**Sg**	**21 49 46.9**	**-0.8**
	baz=2.4						
MLAC	**Mammoth Lakes**	**2.47**	**164**	Pb	**Pg**	**21 49 16.6**	**-1.3**
	baz=2.5						
N02D	**Trinity Center**	**2.49**	**294**	P	**Pb**	**21 49 14.4**	**-1.0**
	baz=2.5,SNR=61						
N02D				Sb	**Sg**	**21 49 50.6**	**+0.1**
	baz=2.5						
WVOR	**Wild Horse Val**	**2.55**	**18**	*e*Pn	Pn	21 49 07.5	-4.6
NSHM	**Saint Helena R**	**2.70**	**238**	*e*Pn	**Pb**	**21 49 16.8**	**-2.2**
TPH	**Tonopah**	**2.73**	**134**	*e*Pn	**Pn**	**21 49 15.2**	**+0.6**
M02C	**Callahan**	**2.77**	**301**	P	**Pn**	**21 49 17.1**	**+2.1**
	baz=2.8,SNR=11						
M02C				Sb	**Sg**	**21 49 57.6**	**-1.9**
	baz=2.8						
MTUM	**Tungsten Hills**	**2.80**	**161**	*e*Pn	**Pn**	**21 49 17.5**	**+1.9**
K05A	**Summer Lake**	**2.86**	**342**	*e*Pn	**Pn**	**21 49 17.7**	**+1.3**
YBH	**Yreka Blue Hor**	**2.86**	**308**	Pg	**Pb**	**21 49 20.1**	**-1.6**
	5.8nm,0.3s,baz=122,slow=8.6,SNR=59						
YBH				Lg	Lg	21 50 00.1	
	6.4nm,0.3s,baz=234,slow=19,SNR=7.2						
KIPM	**Iron Peak**	**2.92**	**267**	*e*Pn	**Pn**	**21 49 18.4**	**+1.3**
KIPM				*e*Pg	**Pb**	**21 49 23.6**	**+0.9**
KCPM	**Cahto Peak**	**3.01**	**265**	*e*Pn	**Pg**	**21 49 26.3**	**-1.8**
K04D	**Chiloquin, OR**	**3.04**	**330**	Pb	**Pb**	**21 49 23.7**	**-1.0**
	baz=3.0,SNR=36						
K04D				Sb	**Sg**	**21 50 05.2**	**-2.9**
	baz=3.0						
KMRM	**Mail Ridge**	**3.08**	**275**	*e*Pn	**Pb**	**21 49 26.0**	**+0.5**
MCCM	**Marconi Confer**	**3.10**	**234**	*e*Pn	**Pb**	**21 49 24.1**	**-1.6**
TIN	**Tinemaha**	**3.17**	**158**	Pb	**Pg**	**21 49 29.4**	**-1.8**
	baz=3.2						
TIN				Sb	**Sg**	**21 50 12.5**	**+0.2**
	baz=3.2						
KHMM	**Horse Mountain**	**3.20**	**287**	*e*Pn	**Pb**	**21 49 28.9**	**+1.4**
SAC	**San Andreas**	**3.22**	**222**	*e*Pn	**Pb**	**21 49 28.7**	**+0.8**
J05D	**Fort Rock, OR**	**3.47**	**341**	P	**Pn**	**21 49 25.4**	**+0.6**
	baz=3.4						
ELK	**Elko**	**3.48**	**76**	Pg	**Pb**	**21 49 32.7**	**+0.2**
	36nm,0.3s,baz=265,slow=18,SNR=100						
ELK				Lg	Lg	21 50 17.2	
	104nm,0.3s,baz=151,slow=16,SNR=27						
ELK	**Elko**	**3.48**	**76**	*e*Pn	**Pn**	**21 49 23.2**	**-1.8**
ELK				Pg	**Pb**	**21 49 32.7**	**+0.2**
ELK				Lg	Lg	21 50 17.2	
GRAC	**Grapevine Rang**	**3.52**	**148**	P	**Pn**	**21 49 27.3**	**+2.0**
	baz=3.5						
GRAC				Sb	**Sg**	**21 50 23.2**	**-0.2**
	baz=3.5						
HUMO	**Hull Mountain**	**3.57**	**318**	*e*Pn	**Pb**	**21 49 31.9**	**-1.9**
R11A	**Troy Canyon, C**	**3.60**	**116**	P	**Pn**	**21 49 26.6**	**0.0**
	baz=3.6						
R11A				Sb	**Sb**	**21 50 21.3**	**+3.0**
	baz=3.6						
R11A	**Troy Canyon, C**	**3.60**	**116**	*e*Pn	**Pn**	**21 49 26.5**	**0.0**
L02D	**Cave Junction,**	**3.65**	**307**	Pb	**Pb**	**21 49 35.9**	**+0.8**
	baz=3.6						
J04D	**Umpqua Nationa**	**3.70**	**332**	Pb	**Pb**	**21 49 35.3**	**-0.8**
	baz=3.7						
RCTC	**Rector, Farmer**	**3.71**	**174**	P	**Pb**	**21 49 33.0**	**-3.2**
	baz=3.8						
RCTC				Sb	**Sg**	**21 50 28.6**	**-1.1**
	baz=3.8						
LRV	**Little Rabbit**	**3.73**	**197**	*e*Pg	**Pg**	**21 49 41.4**	**-0.5**
CWC	**Cottonwood Cre**	**3.78**	**160**	Pb	**Pg**	**21 49 40.2**	**-2.8**
	baz=3.8						
TPNV	**Topopah Spring**	**4.08**	**137**	P	**Pn**	**21 49 34.4**	**+1.3**
	baz=4.1						
TPNV				Sb	**Sg**	**21 50 38.1**	**-3.5**
	baz=4.1						
TPNV	**Topopah Spring**	**4.08**	**137**	*e*Pn	**Pn**	**21 49 34.5**	**+1.3**
FURC	**Furnace Creek,**	**4.18**	**147**	P	**Pn**	**21 49 36.4**	**+2.0**
	baz=4.2						
FURC				Sb	**Sg**	**21 50 42.7**	**-2.0**
	baz=4.2						
I04A	**Tendick Farm,**	**4.29**	**333**	P	**Pn**	**21 49 37.5**	**+1.6**
	baz=4.3						
MPMC	**Manual Prospec**	**4.31**	**155**	Pb	**Pb**	**21 49 49.5**	**+3.0**
	baz=4.4						
MPMC				Sb	**Sg**	**21 50 46.9**	**-2.0**
	baz=4.4						
ISA	**Isabella**	**4.45**	**167**	Pb	**Pb**	**21 49 51.6**	**+2.9**
	baz=4.5						
ISA				Sb	**Sg**	**21 50 50.8**	**-2.5**
	baz=4.5						
ISA	**Isabella**	**4.45**	**167**	*e*Pn	**Pb**	**21 49 46.5**	**-2.3**
MFID	**Camas Ranch**	**4.47**	**39**	*e*Pn	**Pn**	**21 49 37.9**	**-0.6**
I05D	**Terrebonne, OR**	**4.50**	**345**	Pb	**Pb**	**21 49 47.3**	**-2.3**
	baz=4.4						
WOFM	**Oak Flat**	**4.53**	**170**	*e*Pn	**Pn**	**21 49 42.2**	**+2.9**
I03D	**Drain, OR**	**4.58**	**325**	Sb	**Sb**	**21 50 49.9**	**+3.7**
	baz=4.6						
SHOC	**Shoshone**	**4.91**	**146**	Sb	**Sg**	**21 51 04.7**	**-3.5**
	baz=4.9						
ARVC	**Arvin**	**4.92**	**172**	Sb	**Sg**	**21 51 06.8**	**-1.8**
	baz=5.0						
SHPR	**Sheep Range**	**5.00**	**133**	*e*Pn	**Pn**	**21 49 47.1**	**+1.3**
H04A	**Detroit Lake**	**5.02**	**339**	*e*Pg	**Pg**	**21 50 04.0**	**-2.7**
TJR	**Tejon Ranch**	**5.03**	**171**	*e*Pg	**Pb**	**21 49 59.9**	**+1.2**
BGU	**Big Grassy Mou**	**5.17**	**78**	*e*Pn	**Pn**	**21 49 49.2**	**+1.1**
GSC	**Goldstone**	**5.23**	**153**	*e*Pn	Pb	21 49 56.9	-5.2
G06A	**Carlson Farm,**	**5.27**	**353**	*e*Pn	**Pn**	**21 49 52.1**	**+2.8**
DUG	**Dugway**	**5.28**	**86**	*e*Pn	**Pn**	**21 49 49.8**	**+0.1**
G08A	**Pilot Rock**	**5.31**	**6**	*e*Pn	**Pn**	**21 49 52.8**	**+2.8**
HLID	**Hailey**	**5.31**	**46**	*e*Pn	Pn	21 49 56.0	+5.9
CCUT	**Cedar City**	**5.53**	**114**	*e*Pn	**Pn**	**21 49 54.0**	**+1.0**
HVU	**Hansel Valley**	**5.54**	**69**	*e*Pn	**Pn**	**21 49 55.6**	**+2.5**
NLU	**North Lily Min**	**5.86**	**88**	*e*Pn	Pn	21 50 04.4	+6.8
NLU				*e*Sg	Sg	21 51 33.2	-5.3
MWC	**Mount Wilson**	**5.92**	**167**	*e*Pg	**Pg**	**21 50 22.6**	**-1.4**
MWC				*e*Lg	Lg	21 51 40.5	
MVU	**Marysvale**	**6.00**	**102**	*e*Pn	**Pn**	**21 50 00.5**	**+0.9**
MSU	**Marysvale**	**6.03**	**102**	*e*Pn	**Pn**	**21 50 00.8**	**+0.9**
CTU	**Camp Tracy**	**6.11**	**81**	*e*Pg	**Pg**	**21 50 26.5**	**-1.0**
BBRC	**Big Bear Solar**	**6.15**	**158**	*e*Pg	Pb	21 50 21.7	+3.8
KNB	**Kanab**	**6.17**	**117**	*e*Pn	**Pn**	**21 50 03.1**	**+1.3**
F10A	**Beach Ranch, E**	**6.23**	**16**	*e*Pn	**Pn**	**21 50 05.6**	**+3.0**
F04A	**Amboy**	**6.25**	**342**	*e*Pg	**Pg**	**21 50 28.1**	**-2.0**
RVR	**Riverside**	**6.29**	**162**	*e*Pn	Pn	21 50 06.9	+3.6
RPV	**Rancho Palos V**	**6.34**	**170**	*e*Pg	**Pg**	**21 50 31.7**	**-0.2**
HWUT	**Hardware Ranch**	**6.38**	**73**	*e*Pn	Pn	21 50 11.2	+6.5
HAWA	**Hanford**	**6.38**	**1**	*e*Pg	**Pg**	**21 50 32.2**	**-0.5**
RSW	**Rattlesnake Hi**	**6.38**	**1**	*e*Pn	**Pn**	**21 50 02.2**	**-2.5**
RSW				*e*Pg	Pg	21 50 28.5	-4.3
TMUT	**Trail Mountain**	**6.59**	**93**	*e*Pn	Pn	21 50 11.4	+3.6
E09A	**Wood Farm, Sta**	**6.60**	**9**	*e*Pg	Pg	21 50 33.9	-3.0
DNR	**Dunn Ranch,Anz**	**6.88**	**158**	*e*Pg	**Pg**	**21 50 40.9**	**-1.4**
DNR				*e*ScP	**ScP**	**22 00 40.5**	**+6.1**
PFO	**Pinyon Flat Ob**	**6.90**	**157**	Pg	Pb	21 50 25.8	-4.8
	0.2nm,0.3s,baz=315,slow=19,SNR=2.5						
PFO				Lg	Lg	21 52 05.4	
	0.2nm,0.3s,baz=27,slow=7.1,SNR=2.3						
PFO	**Pinyon Flat Ob**	**6.90**	**157**	*e*Pn	Pn	21 50 16.8	+5.0
PFO				Pg	Pb	21 50 25.8	-4.8
PFO				*e*Pg	Pg	21 50 50.3	+7.7
PFO				Lg	Lg	21 52 05.4	
PFO				*e*Lg	Lg	21 52 17.5	
LON	**Longmire**	**6.91**	**348**	*e*Pg	**Pg**	**21 50 41.8**	**-1.0**
SRU	**San Rafael**	**7.15**	**94**	*e*Pn	**Pn**	**21 50 18.4**	**+3.1**
LTY	**Liberty**	**7.28**	**355**	*e*Pg	Pg	21 50 45.1	-4.7
HWB	**Hans Werner Br**	**7.31**	**162**	*e*Pg	Pg	21 50 58.5	+8.0
HWB				*e*Sn	**Sn**	**21 51 35.9**	**-4.5**
HWB				*e*Sg	Sg	21 52 16.4	-8.7
MSO	**Missoula**	**8.00**	**30**	*e*Pn	**Pn**	**21 50 27.8**	**+0.9**
MSO				*e*Sg	**Sg**	**21 52 42.9**	**-4.3**
PDAR	**Pinedale Array**	**8.11**	**67**	Pn	**Pn**	**21 50 30.6**	**+2.1**
	0.1nm,0.3s,baz=234,slow=7.7,SNR=2.8						
PDAR				Lg	Lg	21 52 44.4	
	0.4nm,0.3s,baz=238,slow=26,SNR=4.1						
PV09	**Paradox Valley**	**8.34**	**97**	*e*Pn	Pn	21 50 35.3	+3.6
PV10	**Paradox Valley**	**8.44**	**98**	*e*Pn	**Pn**	**21 50 36.2**	**+3.1**
NEW	**Newport**	**8.46**	**12**	Pn	Pn	21 50 36.4	+3.3
	0.2nm,0.3s,baz=196,slow=12,SNR=5.1						
NEW	**Newport**	**8.46**	**12**	*e*Pn	**Pn**	**21 50 35.9**	**+2.8**
PV04	**Paradox Valley**	**8.54**	**97**	*e*Pn	Pn	21 50 38.1	+3.7
MVCO	**Mesa Verde**	**9.20**	**104**	*e*Pn	Pn	21 50 49.9	+6.4
WALA	**Waterton Lakes**	**9.94**	**23**	*e*Pn	**Pn**	**21 50 56.7**	**+3.2**
TXAR	**Lajitas Array**	**16.92**	**124**	Pn	**Pn**	**21 52 27.0**	**-0.6**
	0.0nm,0.3s,baz=330,slow=6.6,SNR=3.0						
YKA	**Yellowknife Ar**	**22.73**	**6**	P	**P**	**21 53 32.2**	**-0.1**
	0.5nm,0.7s,baz=187,slow=9.8,SNR=3.4						
ILAR	**Eielson Array**	**29.38**	**336**	P	**P**	**21 54 35.1**	**+1.6**
	0.3nm,0.8s,baz=168,slow=8.0,SNR=4.6						

*MOS **20** 21:50:27.2±0.9,11.81N×125.37E,h33km,mb5.3/36,Error ellipse: s-maj=9.4km s-min=5.1km az=117.0*

*BJI **20** 21:50:28.7,11.47N×125.62E,h76km,mb4.7/45,mB5.0/29, Ms4.6/27,Ms7 4.4/26*

*NEIC **20** 21:50:30.1±0.2,11.74N×125.40E,mb5.0/46,Error ellipse: s-maj=6.0km s-min=4.9km az=82.0*

NEIC Felt [IV PIVS] at Borongan and Sulat; [III PIVS] at Can-Avid, Catbalogan, Llorente and Taft; [II PIVS] at Calbayog, General MacArthur and Mercedes. Also felt [II PIVS] at Tacloban, Leyte.

*IDC **20** 21:50:30.1±0.7,11.76N×125.34E,h47km±6km,mb4.4/35, mb1 4.5/36,mb1mx4.4/47,mbtmp4.7/36,MS4.0/6, Ms1 4.0/6,ms1mx3.7/43,Error ellipse: s-maj=13.4km s-min=9.0km az=79.0*

*KLM **20** 21:50:31.3,12.27N×125.48E,h64km,mb4.9,MS6.0*

*ISCJB **20** 21:50:31.9±0.4,11.80N±0.02×125.42E±0.03,h75km±3km, mb4.7/112,Error ellipse: s-maj=5.1km s-min=4.0km az=171.4*

*MAN **20** 21:50:33,11.69N×125.25E,h23km,MS4.9*

MAN INTENSITY IV - BORONGAN; SULAT EASTERN SAMAR; INTENSITY III - TAFT CATBALOGAN CITY CAN-AVID EASTERN SAMAR; INTENSITY II - TACLOBAN CITY CALBAYOG CITY GENERAL MACARTHUR EASTERN SAMAR.

*DJA **20** 21:50:38.1±1.4,12°N±6°×12°E±1°,h90km±11km, M4.7/27,mb4.7/27,mB5.3/8,Mw(mB)4.7/8*

ISC 20 21:50:30.7±0.5,11.77N±0.04×125.43E±0.05,h53km±4km, h53km:pP-P,n378,σ1s17/370,mb4.9/128,MS4.3/6, 48C-31D,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.75**	**216**	⇓*e*P	**Pn**	**21 50 46.1**	**+0.9**
PLP				*i* S	**Sn**	**21 50 56.9**	**+1.1**
MMPH	**Masbate**	**1.86**	**288**	*e*P	Pn	21 51 01.7	+1.4
MMPH				*i* S	**Sn**	**21 51 25.1**	**+2.4**
PVCP	**Virac**	**2.20**	**326**	⇓*i*P	**Pn**	**21 51 04.9**	**+0.1**
PVCP				*i* S	Sn	21 51 39.2	+8.3
TBP	**Tagbilaran**	**2.58**	**217**	⇓*e*P	Pn	21 51 12.6	+2.5
TBP				*e*S	Sn	21 51 45.5	+5.2
KALP	**Kalibo**	**3.03**	**269**	⇑*e*P	Pn	21 51 20.8	+4.6
CGP	**Cagayan de Oro**	**3.38**	**192**	⇑*e*P	Pn	21 51 23.2	+2.2
GQP	**Guinayangan**	**3.60**	**306**	⇓*e*P	**Pn**	**21 51 24.8**	**+0.7**
BIPH	**Bislig**	**3.68**	**166**	⇓*i*P	Pn	21 51 30.8	+5.6
BIPH				*i* S	**Sn**	**21 52 11.3**	**+4.0**
DCPH	**Dipolog City**	**3.77**	**213**	⇓*e*P	Pn	21 51 28.7	+2.2
DCPH				*e*S	Sn	21 51 55.7	-14
LQP	**Lukban**	**4.45**	**302**	*e*P	Pn	21 51 40.8	+4.9
CTBH	**Cotabato--PC H**	**4.67**	**195**	⇑*i*P	Pn	21 51 43.1	+4.3
DAV	**Davao City (W)**	**4.68**	**178**	*e*Pn	Pn	21 51 42.2	+3.3
IPIL	**Ipil**	**4.86**	**216**	⇑*e*P	Pn	21 51 44.4	+3.0
TGY	**Tagaytay City**	**4.96**	**298**	P	**Pn**	**21 51 41.4**	**-1.3**
	42nm,0.3s,baz=3.5,slow=16,SNR=1.6						
BCPH	**Baguio City Da**	**6.57**	**315**	⇑*i*P	Pn	21 52 07.0	+2.1
CVP	**Callao Caves**	**6.85**	**330**	*e*P	**Pn**	**21 52 09.5**	**+0.8**
SZP	**Santa**	**7.49**	**321**	*e*Pn	Pn	21 52 19.9	+2.4
MYLDM	**Lahad Datu**	**9.48**	**227**	⇑P	Pn	21 52 50.2	+5.5
MYLDM	**Lahad Datu**	**9.48**	**227**	⇑P	Pn	21 52 50.2	+5.5
MYLDM	**Lahad Datu**	**9.48**	**227**	*e*Pn	Pn	21 52 50.0	+5.2
KDM	**Kudat**	**9.76**	**241**	⇑P	Pn	21 52 52.6	+4.1
KDM	**Kudat**	**9.76**	**241**	⇑P	Pn	21 52 52.6	+4.1
SDKM	**Sandakan**	**10.17**	**234**	⇑P	Pn	21 52 59.9	+5.7
SDKM	**Sandakan**	**10.17**	**234**	⇑P	Pn	21 52 59.9	+5.7
TSM	**Tawau**	**10.54**	**226**	⇑P	Pn	21 53 04.9	+5.6
TSM	**Tawau**	**10.54**	**226**	⇑P	Pn	21 53 04.9	+5.6
KKM	**Kota Kinabalu**	**10.74**	**239**	⇓P	Pn	21 53 05.7	+3.6
KKM	**Kota Kinabalu**	**10.74**	**239**	⇓P	Pn	21 53 05.7	+3.6
YUL	**Yu-li**	**12.21**	**342**	*e*Pn	**Pn**	**21 53 20.8**	**-1.2**
TPUB	**Ta-pu**	**12.34**	**339**	*e*Pn	Pn	21 53 27.3	+3.5
SSLB	**Suanglung**	**12.68**	**341**	*e*Pn	Pn	21 53 24.7	-3.8
LUWI	**Luwuk**	**13.00**	**192**	P	Pn	21 53 35.3	+2.4
	83nm,1.1s,2μm						
YHNB	**Yeheng**	**13.39**	**344**	*e*Pn	**Pn**	**21 53 39.9**	**+1.6**
SIJI	**Sorong**	**13.83**	**155**	LR	LR	21 58 22.7	
	comp=Z,226nm,21.8s,baz=182,slow=34						
JOW	**Kunigami**	**15.22**	**10**	*e*Pn	**Pn**	**21 54 04.2**	**+1.9**
	120nm,1.6s						
JOW				*e*Sn	**Sn**	**21 56 46.5**	**-3.4**
TTSI	**Tana Toraja**	**15.74**	**201**	P	P	21 54 20.2	+7.9
	69nm,1.1s,736nm						
SBUM	**Sibu**	**16.04**	**236**	⇓P	**P**	**21 54 17.5**	**+1.9**
SBUM	**Sibu**	**16.04**	**236**	⇓P	**P**	**21 54 17.5**	**+1.9**
SBUM	**Sibu**	**16.04**	**236**	*e*Pn	**P**	**21 54 17.2**	**+1.6**
	79nm,1.3s						
SPSI	**Sidrap Palu**	**16.62**	**200**	P	P	21 54 27.7	+5.7
	39nm,1.2s,743nm						
STKI	**Sintang**	**18.09**	**231**	P	pP	21 54 50.6	+0.5
	3μm17nm,1.0s						
KSM	**Kuching**	**18.16**	**237**	⇑P	Pn	21 54 42.9	+3.6
KSM	**Kuching**	**18.16**	**237**	⇑P	Pn	21 54 42.9	+3.6
KSM	**Kuching**	**18.16**	**237**	*e*P	**Pn**	**21 54 40.5**	**+1.1**
	18nm,0.9s						
GUMO	**Guam**	**19.05**	**82**	LR	LR	22 00 33.3	
	comp=Z,210nm,19.7s,baz=336,slow=32						
UBPT	**Khong Chiam**	**19.72**	**282**	P	**Pn**	**21 54 56.9**	**-1.0**
	52nm,1.6s						
GENI	**Genyem**	**20.45**	**133**	P	sP	21 55 24.9	+2.3
JAY	**Jayapura**	**20.79**	**132**	P	Pn	21 55 09.8	-0.8
	14nm,0.8s,baz=251,slow=4.1,SNR=4.9						
NJ2	**Nanjing**	**21.07**	**344**	*e*P	**P**	**21 55 13.1**	**+2.5**
NJ2				pP	pP	21 55 27.8	+5.2
NJ2				sP	sP	21 55 36.8	+7.6
NJ2				S	**S**	**21 59 04.5**	**+2.2**
NJ2				sS	sS	21 59 29.5	+7.7
NJ2				PMZ			
	330nm,0.9s						
NJ2				PMZ			
	2μm,6.1s						
NJ2				LN			
	2μm,20.2s						
NJ2				LE			
	3μm,22.1s						
NJ2				LZ			
	9μm,21.8s						
WHN	**Wuhan**	**21.32**	**333**	P	**P**	**21 55 15.3**	**+2.0**
SKNT	**Sakolnakorn**	**21.41**	**286**	P	P	21 55 18.4	+4.0
	24nm,1.6s						
JNU	**Nakatsue**	**21.83**	**12**	P	**P**	**21 55 19.6**	**+0.9**
	13nm,1.0s,baz=232,slow=4.3,SNR=4.8						
JNU	**Nakatsue**	**21.83**	**12**	*e*P	**P**	**21 55 19.6**	**+0.9**
	68nm,1.7s						
BATI	**Baumata**	**21.91**	**185**	P	**P**	**21 55 20.8**	**+1.0**
	62nm,0.7s,baz=323,slow=0.8,SNR=10						
CBIJ	**Chichi jima**	**21.91**	**44**	P	**P**	**21 55 20.4**	**+0.7**
JCJ	**Chichijima**	**21.91**	**44**	P	**P**	**21 55 20.4**	**+0.7**
	43nm,0.8s,baz=259,slow=12,SNR=6.8						
NONG	**Nongkai**	**22.41**	**289**	P	**P**	**21 55 24.9**	**-0.3**
	28nm,1.0s,4μm						
SLVN	**Son La**	**22.69**	**298**	*e*P	**P**	**21 55 28.3**	**+0.1**
	9.8nm,0.8s						
TPI	**Tanjungpandan**	**22.82**	**232**	P	**P**	**21 55 29.7**	**+0.2**
	38nm,1.1s						
GYA	**Guiyang**	**22.93**	**312**	P	**P**	**21 55 32.0**	**+1.4**
GYA				pP	pP	21 55 48.8	+6.0
GYA				sP	sP	21 55 58.3	+9.0
GYA				PP	Pn

CD2	**Chengdu**	**27.65**	**317**	P	**P**	**21**	**56**	**13.6**	**-0.2**
CD2				pP	pP	21	56	31.3	+4.2
CD2				sP	sP	21	56	40.5	+7.1
CD2				S	**S**	**22**	**00**	**51.0**	**-1.2**
CD2				sS	sS	22	01	22.3	+7.5
CD2				PMZ					
	comp=Z,10.0nm,0.5s								
CD2				PMZ					
	comp=Z,270nm,7.4s								
CD2				LN					
	comp=Z,770nm,17.7s								
CD2				LZ					
	comp=Z,800nm,22.7s								
PSI	**Prapat**	**27.74**	**253**	P	**P**	**21**	**56**	**14.0**	**-0.8**
	comp=Z,6.8nm,0.9s,baz=38,slow=8.4,SNR=4.5								
PSI				PcP	**PcP**	**21**	**59**	**30.1**	**-0.6**
	comp=Z,2.8nm,0.4s,baz=291,slow=1.3,SNR=4.3								
SNY	**Shenyang**	**29.98**	**357**	⇓P	**P**	**21**	**56**	**35.3**	**+1.1**
SNY				PMZ					
	comp=Z,17nm,1.9s								
LZH	**Lanzhou**	**31.08**	**325**	*e*P	**P**	**21**	**56**	**45.9**	**+1.7**
LZH				pP	pP	21	57	01.8	+4.1
LZH				sP	sP	21	57	09.5	+5.6
LZH				*e*S	**S**	**22**	**01**	**45.6**	**-0.6**
LZH				sS	sS	22	02	13.1	+4.2
LZH				SS	**SnSn**	**22**	**03**	**34.3**	**+2.8**
LZH				PMZ					
	comp=Z,18nm,1.0s								
LZH				PMZ					
	comp=Z,130nm,4.6s								
LZH				LN					
	comp=Z,2µm,15.4s								
LZH				LE					
	comp=Z,1µm,12.1s								
LZH				LZ					
	comp=Z,2µm,16.8s								
HHC	**Hu-ho-hao-te**	**31.43**	**340**	*e*P	**P**	**21**	**56**	**49.8**	**+2.6**
HHC				pP	pP	21	57	07.6	+7.0
HHC				sP	sP	21	57	15.9	+9.1
HHC				PP	**PP**	**21**	**57**	**56.3**	**-2.6**
HHC				S	**S**	**22**	**01**	**54.8**	**+3.5**
HHC				sS	sS	22	02	22.1	+8.0
HHC				ScS	**ScS**	**22**	**07**	**11.8**	**-4.4**
HHC				PMZ					
	comp=Z,14nm,0.6s								
HHC				PMZ					
	comp=Z,310nm,6.4s								
HHC				LN					
	comp=Z,550nm,16.3s								
HHC				LE					
	comp=Z,580nm,16.9s								
HHC				LZ					
	comp=Z,720nm,17.3s								
WRAB	**Tennant Creek**	**32.71**	**164**	P	**P**	**21**	**56**	**57.0**	**-1.4**
WRA	**Warramunga Arr**	**32.71**	**164**	P	**P**	**21**	**56**	**56.9**	**-1.6**
	comp=Z,1.6nm,0.6s,baz=343,slow=9.4,SNR=17								
WRA				PcP	**PcP**	**21**	**59**	**42.6**	**-0.7**
	comp=Z,4.1nm,0.8s,baz=341,slow=3.2,SNR=10								
USRK	**Ussuriysk Ar.**	**32.80**	**9**	P	**P**	**21**	**56**	**59.2**	**+0.2**
	comp=Z,3.6nm,0.7s,baz=188,slow=8.0,SNR=11								
MDJ	**Mudanjiang**	**32.92**	**5**	P	**P**	**21**	**57**	**01.4**	**+1.3**
MDJ				PMZ					
	comp=Z,8.0nm,1.0s								
MDJ				PMZ					
	comp=Z,280nm,9.5s								
SHL	**Shillong**	**34.50**	**298**	*e*P	**P**	**21**	**57**	**15.0**	**+0.7**
GTA	**Gaotai**	**35.69**	**325**	P	**P**	**21**	**57**	**24.9**	**+0.7**
GTA				pP	pP	21	57	45.8	+8.0
GTA				sP	sP	21	57	55.8	+12
GTA				PcP	**PcP**	**21**	**59**	**51.8**	**+0.1**
GTA				PMZ					
	comp=Z,8.0nm,1.6s								
ASAR	**Alice Springs**	**36.18**	**167**	P	**P**	**21**	**57**	**28.1**	**-0.5**
	comp=Z,4.7nm,0.5s,baz=349,slow=7.3,SNR=69								
ASAR				PcP	**PcP**	**21**	**59**	**52.7**	**-0.6**
	comp=Z,3.2nm,0.6s,baz=351,slow=2.6,SNR=8.5								
LSA	**Lhasa**	**36.49**	**305**	P	**P**	**21**	**57**	**32.3**	**+0.6**
LSA	**Lhasa**	**36.49**	**305**	*e*P	**P**	**21**	**57**	**32.8**	**+1.1**
LSA	**Lhasa**	**36.49**	**305**	*e*P	**P**	**21**	**57**	**32.8**	**+1.1**
KLR	**Kul'dur**	**37.71**	**7**	*e*P	P	21	57	37.7	-3.4
KLR				pmax	pmax				
	comp=Z,40nm,1.6s								
TAPN	**Taplejung**	**38.59**	**299**	*e*P	**P**	**21**	**57**	**49.7**	**+0.4**
	comp=Z,31nm,0.6s								
ODAN	**Odare**	**38.73**	**298**	*e*P	**P**	**21**	**57**	**50.4**	**0.0**
	comp=Z,98nm,0.7s								
ULN	**Ulaanbaatar**	**39.14**	**340**	*e*P	**P**	**21**	**57**	**54.2**	**+0.8**
ULN				pmax	pmax				
	comp=Z,11nm,1.2s								
ULN	**Ulaanbaatar**	**39.14**	**340**	*e*P	**P**	**21**	**57**	**54.2**	**+0.8**
	comp=Z,11nm,1.2s								
SONM	**Songino Array**	**39.33**	**340**	P	**P**	**21**	**57**	**55.5**	**+0.5**
	comp=Z,1.9nm,0.4s,baz=161,slow=9.4,SNR=18								
SONM				PcP	**PcP**	**22**	**00**	**02.6**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=151,slow=3.4,SNR=3.6								
RAMN	**Ramite**	**39.44**	**298**	*e*P	**P**	**21**	**57**	**56.6**	**+0.3**
	comp=Z,72nm,0.8s								
GUN	**Gumba**	**40.31**	**299**	*e*P	**P**	**21**	**58**	**03.9**	**+0.3**
	comp=Z,106nm,0.8s								
H11S3	**WAKE ISLAND Hy**	**40.31**	**75**	T	T	22	41	29.3	
	baz=282,slow=76,SNR=39								
H11S1	**WAKE ISLAND Hy**	**40.32**	**75**	T	T	22	41	30.9	
	baz=282,slow=76,SNR=21								
H11S2	**WAKE ISLAND Hy**	**40.33**	**75**	T	T	22	41	35.8	
	baz=282,slow=76,SNR=33								
CHLP	**Challavanipeta**	**40.43**	**285**	*e*P	**P**	**21**	**58**	**04.2**	**0.0**
CHLP				IAmb	IAmb	21	58	05.7	
	comp=Z,12nm,0.8s								
H11N1	**WAKE ISLAND Hy**	**40.59**	**73**	T	T	22	41	36.4	
	baz=265,slow=74,SNR=112								
H11N2	**WAKE ISLAND Hy**	**40.60**	**73**	T	T	22	41	35.1	
	baz=265,slow=74,SNR=99								
H11N3	**WAKE ISLAND Hy**	**40.61**	**73**	T	T	22	41	37.8	
	baz=265,slow=74,SNR=104								
PKI	**Pulchoki**	**40.62**	**299**	*e*P	**P**	**21**	**58**	**05.7**	**-0.5**
	comp=Z,46nm,0.8s								
PKIN	**Phulchoki**	**40.63**	**299**	*e*P	**P**	**21**	**58**	**06.2**	**0.0**
	comp=Z,18nm,0.6s								
KKN	**Kakani**	**40.79**	**299**	*e*P	**P**	**21**	**58**	**07.0**	**-0.4**
	comp=Z,59nm,1.0s								
DMN	**Daman**	**40.89**	**299**	*e*P	**P**	**21**	**58**	**07.9**	**-0.5**
	comp=Z,61nm,1.0s								
GKN	**Gorkha**	**41.39**	**299**	*e*P	**P**	**21**	**58**	**11.8**	**-0.5**
	comp=Z,43nm,0.8s								
KOLN	**Koldanda**	**42.23**	**298**	*e*P	**P**	**21**	**58**	**19.0**	**-0.2**
	comp=Z,43nm,0.8s								
DANN	**Dangsing**	**42.23**	**299**	*e*P	**P**	**21**	**58**	**19.0**	**-0.3**
FORT	**Forrest**	**42.38**	**177**	*e*P	**P**	**21**	**58**	**19.7**	**-0.4**
	comp=Z,31nm,0.6s								
ZAK	**Zakamensk**	**42.58**	**339**	*e*P	**P**	**21**	**58**	**21.6**	**0.0**
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.4s								
PVM	**Polavaram**	**42.69**	**283**	*e*P	**P**	**21**	**58**	**22.1**	**-0.7**
PVM				IAmb	IAmb	21	58	23.8	
	comp=Z,10nm,0.7s								
PVM				*e*pP	**pP**	**21**	**58**	**34.5**	**-2.1**
TLY	**Talaya**	**43.55**	**340**	*e*P	**P**	**21**	**58**	**30.7**	**+1.4**
TLY				pmax	pmax				
	comp=Z,16nm,1.2s								
IRK	**Irkutsk**	**43.83**	**341**	*e*P	**P**	**21**	**58**	**30.5**	**-1.1**
IRK				*e*		22	00	17.3	
IRK				pmax	pmax				
	comp=Z,28nm,1.5s								
ADKI	**Addanki**	**44.27**	**281**	*e*P	**P**	**21**	**58**	**34.9**	**-0.7**
ADKI				IAmb	IAmb	21	58	36.6	
	comp=Z,18nm,0.8s								
MOY	**Mondy**	**44.45**	**338**	*e*P	**P**	**21**	**58**	**37.8**	**+1.1**
MOY				pmax	pmax				
	comp=Z,27nm,1.6s								
SKHT	**Srikalahasti**	**44.59**	**278**	*e*P	**P**	**21**	**58**	**38.1**	**-0.1**
SKHT				IAmb	IAmb	21	58	39.0	
	comp=Z,16nm,0.7s								
SKHT				*e*pP	**pP**	**21**	**58**	**50.8**	**-1.2**
NJS	**Nagarjunasagar**	**44.90**	**282**	*e*P	**P**	**21**	**58**	**39.8**	**-0.8**
NJS				IAmb	IAmb	21	58	41.2	
	comp=Z,20nm,0.7s								
NJS				*e*pP	**pP**	**21**	**58**	**51.5**	**-3.0**
RPR	**Rampur**	**44.95**	**285**	*e*P	**P**	**21**	**58**	**40.7**	**-0.3**
RPR				IAmb	IAmb	21	58	41.7	
	comp=Z,28nm,0.9s								
CLNS	**Chul'man**	**44.97**	**360**	*e*P	**P**	**21**	**58**	**41.4**	**+0.8**
CLNS				pmax	pmax				
	comp=Z,20nm,1.1s								
CLNS				pmax	pmax				
	comp=N,14nm,1.2s								
CLNS				pmax	pmax				
	comp=E,7.0nm,1.1s								
RCLA	**Racherla**	**45.26**	**280**	*e*P	**P**	**21**	**58**	**42.4**	**-1.1**
RCLA				IAmb	IAmb	21	58	44.2	
	comp=Z,15nm,0.8s								
RCLA				*e*pP	**pP**	**21**	**58**	**54.9**	**-2.5**
SRLM	**Srisailam**	**45.30**	**281**	*e*P	**P**	**21**	**58**	**42.2**	**-1.7**
SRLM				IAmb	IAmb	21	58	44.2	
	comp=Z,16nm,0.9s								
BBOO	**Buckleboo**	**45.48**	**167**	*e*P	**P**	**21**	**58**	**45.0**	**+0.1**
	comp=Z,37nm,0.5s								
WMQ	**Urumqi**	**45.54**	**322**	P	**P**	**21**	**58**	**46.6**	**+1.2**
WMQ				pP	pP	21	59	03.5	+4.2
WMQ				sP	sP	21	59	14.6	+9.2
WMQ				PMZ					
	comp=Z,14nm,1.0s								
WMQ				LN					
	comp=Z,330nm,20.0s								
WMQ				LE					
	comp=Z,310nm,20.0s								
WMQ				LZ					
	comp=Z,340nm,23.0s								
HYB	**Hyderabad**	**45.62**	**283**	*i* P	**P**	**21**	**58**	**45.5**	**-0.9**
HYBB	**Hyderabad (bro**	**45.63**	**283**	*e*P	**P**	**21**	**58**	**45.8**	**-0.7**
HYBB				IAmb	IAmb	21	58	46.4	
	comp=Z,19nm,1.0s								
SRSP	**Sriramsagar**	**45.85**	**285**	*e*P	**P**	**21**	**58**	**47.5**	**-0.7**
SRSP				IAmb	IAmb	21	58	51.9	
	comp=Z,58nm,1.7s								
SRSP				*e*pP	**pP**	**21**	**58**	**59.2**	**-2.9**
STKA	**Stephens Creek**	**46.08**	**161**	P	**P**	**21**	**58**	**50.0**	**+0.3**
	comp=Z,13nm,0.8s,baz=337,slow=7.8,SNR=48								
STKA				PcP	**PcP**	**22**	**00**	**25.5**	**+0.2**
	comp=Z,5.3nm,0.8s,baz=330,slow=7.9,SNR=2.9								
STKA	**Stephens Creek**	**46.08**	**161**	P	**P**	**21**	**58**	**50.0**	**+0.3**
STKA						22	00	25.5	
STKA				pmax	pmax				
	comp=Z,13nm,0.8s								
STKA	**Stephens Creek**	**46.08**	**161**	*e*P	**P**	**21**	**58**	**49.8**	**+0.2**
	comp=Z,3.1nm,0.8s								
STKA				PcP	**PcP**	**22**	**00**	**25.5**	**+0.2**
BOD	**Bodaibo**	**46.77**	**352**	*e*P	**P**	**21**	**58**	**55.2**	**+0.5**
BOD				pmax	pmax				
	comp=Z,16nm,1.3s								
URV	**Uravakonda**	**46.91**	**279**	*e*P	**P**	**21**	**58**	**55.5**	**-1.0**
URV				IAmb	IAmb	21	58	55.8	
	comp=Z,82nm,1.7s								
KLRI	**Killari**	**47.49**	**284**	*e*P	**P**	**21**	**58**	**59.8**	**-1.2**
KLRI				IAmb	IAmb	21	59	01.3	
	comp=Z,31nm,0.8s								
KLRI				*e*pP	**pP**	**21**	**59**	**12.8**	**-2.2**
PETK	**Petropavlovsk-**	**48.63**	**25**	P	**P**	**21**	**59**	**10.7**	**+1.5**
	comp=Z,7.4nm,0.7s,baz=197,slow=4.5,SNR=10								
PET	**Petropavlovsk**	**48.97**	**26**	*e*P	**P**	**21**	**59**	**12.9**	**+1.1**
PET				pmax	pmax				
	comp=Z,32nm,0.9s								
YAK	**Yakutsk**	**50.27**	**3**	*e*P	**P**	**21**	**59**	**20.4**	**-1.1**
YAK				pmax	pmax				
	comp=Z,46nm,1.2s								
YAK				pmax	pmax				
	comp=N,27nm,1.4s								
YAK				pmax	pmax				
	comp=E,7.0nm,1.4s								
MKAR	**Makanchi Array**	**50.34**	**322**	P	**P**	**21**	**59**	**23.1**	**+0.7**
	comp=E,16nm,0.8s,baz=120,slow=8.3,SNR=114								
MKAR	**Makanchi Array**	**50.34**	**322**	P	**P**	**21**	**59**	**23.1**	**+0.7**
MKAR				pmax	pmax				
	comp=Z,16nm,0.8s								
KSH	**Kashi**	**51.62**	**311**	P	**P**	**21**	**59**	**34.5**	**+2.2**
KSH				pP	pP	21	59	54.9	+8.4
KSH				PcP	**PcP**	**22**	**00**	**47.0**	**+1.5**
KSH				PP	PP	22	01	36.0	+5.8
KSH				S	**S**	**22**	**06**	**46.5**	**-3.3**
KSH				sS	sS	22	07	24.1	+10
KSH				SS	**SS**	**22**	**10**	**27.3**	**+0.7**
KSH				PMZ					
	comp=Z,500nm,8.2s								
KSH				LN					
	comp=Z,140nm,6.5s								
KSH				LE					
	comp=Z,200nm,6.4s								
KSH				LZ					
	comp=Z,610nm,9.8s								
ZALV	**Zalesovo Beam**	**52.92**	**331**	P	**P**	**21**	**59**	**41.3**	**-0.2**
	comp=Z,2.9nm,0.5s,baz=120,slow=5.8,SNR=25								
ZALV				PcP	**PcP**	**22**	**00**	**49.1**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=158,slow=4.8,SNR=3.6								
TKM2	**Tokmak 2**	**53.02**	**315**	*e*P	**P**	**21**	**59**	**43.8**	**+1.0**
TKM2				pmax	pmax				
	comp=Z,6.0nm,1.1s								
TKM2	**Tokmak 2**	**53.02**	**315**	*e*P	**P**	**21**	**59**	**43.8**	**+1.0**
	comp=Z,6.1nm,1.1s								
EKS2	**Erkin-Say**	**54.20**	**314**	*e*P	**P**	**21**	**59**	**52.0**	**+0.8**
EKS2				pmax	pmax				
	comp=Z,10.0nm,1.0s								
EKS2	**Erkin-Say**	**54.20**	**314**	*e*P	**P**	**21**	**59**	**52.0**	**+0.8**
	comp=Z,10nm,1.0s								
NVS	**Novosibirsk**	**54.20**	**331**	⇑*i*P	**P**	**21**	**59**	**50.1**	**-0.7**
NVS				pmax	pmax				
	comp=Z,28nm,1.2s								
NVS				pmax	pmax				
	comp=N,12nm,1.3s								
NVS				pmax	pmax				
	comp=E,15nm,1.3s								
KURK	**Kurchatov**	**54.37**	**325**	*e*P	**P**	**21**	**59**	**52.7**	**+0.5**
KURK				pmax	pmax				
	comp=Z,50nm,1.0s								
KURK	**Kurchatov**	**54.37**	**325**	*e*P	**P**	**21**	**59**	**52.7**	**+0.5**
	comp=Z,50nm,1.0s								
SEY	**Seymchan**	**54.58**	**15**	P	**P**	**21**	**59**	**54.0**	**+0.5**
	comp=Z,3.6nm,0.6s,baz=220,slow=8.2,SNR=8.0								
SEY	**Seymchan**	**54.58**	**15**	⇓*e*P	**P**	**21**	**59**	**54.8**	**+1.4**
KBL	**Kabul**	**55.81**	**304**	*e*P	**P**	**22**	**00**	**03.2**	**0.0**
KBL				pmax	pmax				
	comp=Z,12nm,1.0s								
KBL	**Kabul**	**55.81**	**304**	*e*P	**P**	**22**	**00**	**03.2**	**0.0**
	comp=Z,12nm,1.0s								
KKAR	**Karatay Array**	**56.62**	**314**	*e*P	**P**	**22**	**00**	**08.6**	**+0.1**
KKAR	**Karatay Array**	**56.62**	**314**	*e*P	**P**	**22**	**00**	**08.6**	**+0.1**
BVAR	**Borovoye Array**	**59.97**	**325**	LR	LR	22	29	36.0	
	comp=Z,217nm,19.8s,baz=30,slow=39								
BRVK	**Borovoye**	**60.04**	**325**	*ce*P	**P**	**22**	**00**	**32.4**	**+0.3**
BRVK				pmax	pmax				
	comp=Z,46nm,1.0s								
BRVK	**Borovoye**	**60.04**	**325**	*e*P	**P**	**22**	**00**	**32.5**	**+0.3**
	comp=Z,42nm,1.0s								
BILL	**Bilibino**	**62.19**	**16**	*ce*P	**P**	**22**	**00**	**47.0**	**+0.5**
BILL				*e*		22	03	02.7	
BILL				pmax	pmax				
	comp=Z,9.0nm,1.7s								
BILL				MLR	MLR				
	comp=Z,184nm,18.0s								
GEYT	**Alibeck**	**64.99**	**306**	P	**P**	**22**	**01**	**05.4**	**-0.1**
	comp=Z,4.3nm,0.9s,baz=177,slow=3.0,SNR=6.1								
ABKAR	**Akbulak array**	**65.21**	**319**	*e*P	**P**	**22**	**01**	**06.5**	**-0.2**
SVE	**Sverdlovsk**	**66.51**	**327**	*e*P	**P**	**22**	**01**	**15.1**	**+0.2**
SVE				pmax	pmax				
	comp=Z,43nm,1.0s								
AKTO	**Aktyubinsk**	**66.65**	**320**	P	**P**	**22**	**01**	**15.8**	**-0.2**
	comp=Z,5.2nm,0.8s,baz=88,slow=7.9,SNR=21								
ARU	**Arti**	**67.53**	**326**	*ce*⇑*i*P	**P**	**22**	**01**	**20.7**	**-0.6**
ARU				*PP	**pP**	**22**	**01**	**34.1**	**-1.9**
ARU				S	SKiKP	22	11	08.1	-7.0
ARU				pmax	pmax				
	comp=Z,27nm,1.2s								
ARU	**Arti**	**67.53**	**326**	*e*P	**P**	**22**	**01**	**19.6**	**-1.8**
	comp=Z,21nm,1.0s								
RAO	**Raoul Island**	**68.17**	**128**	LR	LR	22	26	20.4	
	comp=Z,469nm,21.6s,baz=147,slow=32								
RPZ	**Rata Peaks**	**69.08**	**146**	P	**P**	**22**	**01**	**31.2**	**-0.1**
	comp=Z,12nm,0.5s,baz=352,slow=9.3,SNR=7.9								
BKZ	**Black Stump Fm**	**69.46**	**140**	*e*P	**P**	**22**	**01**	**34.7**	**+1.0**
	comp=Z,32nm,1.1s								
PRGR	**Permogore**	**74.88**	**331**	*e*P	**P**	**22**	**02**	**03.5**	**-2.2**
PRGR				*e*PP	**PcP**	**22**	**02**	**19.9**	**+0.5**
PRGR				pmax	pmax				
	comp=Z,21nm,0.9s								
DGRG	**David-gareji**	**74.88**	**310**	P	**P**	**22**	**02**	**06.7**	**+0.5**
TBLG	**Delisi**	**75.35**	**310**	P	**P**	**22**	**02**	**08.6**	**-0.2**
TBLG	**Delisi**	**75.35**	**310**	P	**P**	**22**	**02**	**08.6**	**-0.2**
GNI	**Garni**	**75.43**	**309**	P	**P**	**22**	**02**	**10.0**	**+0.5**
GNI				pmax	pmax				
	comp=Z,26nm,1.6s								
IM04	**Indian Mountai**	**75.57**	**25**	*e*P	**P**	**22**	**02**	**10.4**	**+0.8**
KDAK	**Kodiak Island**	**75.86**	**33**	*i* P	**P**	**22**	**02**	**12.0**	**+0.7**
NCK	**Nalchik**	**76.10**	**312**	⇓*e*P	**P**	**22**	**02**	**13.1**	**0.0**
CAST	**Castle Rocks**	**76.19**	**27**	*e*P	**P**	**22**	**02**	**14.3**	**+1.0**
	comp=Z,12nm,1.1s								
ONI	**Oni**	**76.26**	**311**	P	P	**22**	**02**	**14.3**	**+0.2**
GOF	**Gofitskoye**	**76.41**	**314**	*e*P	P	22	02	23.0	+8.2
KBZ	**Khabaz**	**76.59**	**312**	P	**P**	**22**	**02**	**15.5**	**-0.3**
	comp=Z,10nm,1.0s,baz=78,slow=1.9,SNR=13								
BPAW	**Bear Paw Mtn.**	**76.69**	**27**	*e*P	**P**	**22**	**02**	**16.8**	**+0.8**
	comp=Z,5.5nm,1.1s								
KIV	**Kislovodsk**	**76.73**	**313**	*d i*P	**P**	**22**	**02**	**17.0**	**+0.2**
KIV				*e*		22	02	29.1	
KIV				*e*		22	05	13.7	
KIV				pmax	pmax				
	comp=Z,26nm,1.0s								
KIV	**Kislovodsk**	**76.73**	**313**	*e*P	**P**	**22**	**02**	**15.7**	**-1.1**
	comp=Z,20nm,0.8s								
NEY	**Neytrino**	**76.75**	**312**	⇑*e*P	**P**	**22**	**02**	**18.3**	**+1.3**
NEY				pmax	pmax				
	comp=Z,3.0nm,1.2s								
MLY	**Manley**	**76.81**	**26**	*e*P	**P**	**22**	**02**	**17.5**	**+0.8**
	comp=Z,8.7nm,0.8s								
TRF	**Thorofare Moun**	**77.00**	**27**	*e*P	**P**	**22**	**02**	**18.5**	**+0.5**
	comp=Z,15nm,1.2s								
COLD	**Coldfoot**	**77.05**	**23**	*e*P	**P**	**22**	**02**	**19.7**	**+1.8**
	comp=Z,11nm,0.9s								
CHVG	**Ch'k'valeri**	**77.25**	**311**	P	**P**	**22**	**02**	**20.0**	**+0.4**
CHVG	**Ch'k'valeri**	**77.25**	**311**	⇓*i*P	**P**	**22**	**02**	**20.2**	**+0.6**
MCK	**McKinley**	**77.60**	**27**	*e*P	**P**	**22**	**02**	**21.2**	**0.0**
MCK				pmax	pmax				
	comp=Z,26nm,1.0s								
MCK	**McKinley**	**77.60**	**27**	*e*P	**P**	**22**	**02**	**21.1**	**0.0**
	comp=Z,26nm,1.0s								
RND	**Reindeer**	**77.64**	**27**	*e*P	**P**	**22**	**02**	**21.5**	**0.0**
RND				pmax	pmax				
	comp=Z,23nm,1.2s								
RND	**Reindeer**	**77.64**	**27**	*e*P	**P**	**22**	**02**	**21.5**	**0.0**
	comp=Z,23nm,1.2s								
MDM	**Murphy Dome**	**77.87**	**26**	*e*P	**P**	**22**	**02**	**23.3**	**+0.6**
	comp=Z,7.7nm,1.0s								
SML	**Sawmill**	**77.94**	**29**	*e*P	**P**	**22**	**02**	**23.6**	**+0.5**
SML				pmax	pmax				
	comp=Z,6.0nm,1.2s								
SML	**Sawmill**	**77.94**	**29**	*e*P	**P**	**22**	**02**	**23.6**	**+0.5**
	comp=Z,5.5nm,1.2s								
WRH	**Wood River Hil**	**77.95**	**26**	*e*P	**P**	**22**	**02**	**23.2**	**+0.2**
	comp=Z,17nm,1.4s								
COLA	**College**	**78.04**	**26**	*ce*P	**P**	**22**	**02**	**23.3**	**-0.2**
COLA				pmax	pmax				
	comp=Z,23nm,0.8s								
CCB	**Clear Creek Bu**	**78.06**	**26**	*e*P	**P**	**22**	**02**	**23.6**	**0.0**
	comp=Z,14nm,1.5s								
TMCR	**Tamitsa**	**78.36**	**333**	*e*P	**P**	**22**	**02**	**25.0**	**-0.3**
TMCR				pmax	pmax				
	comp=Z,35nm,1.0s								
SCM	**Sheep Creek Mo**	**78.41**	**29**	*e*P	**P**	**22**	**02**	**26.5**	**+0.7**
SCM				pmax	pmax				
	comp=Z,29nm,1.1s								
SCM	**Sheep Creek Mo**	**78.41**	**29**	*e*P	**P**	**22**	**02**	**26.5**	**+0.7**
	comp=Z,29nm,1.1s								
HDA	**Harding Lake**	**78.44**	**26**	*e*P	**P**	**22**	**02**	**25.5**	**-0.3**
	comp=Z,25nm,1.7s								
ILAR	**Eielson Array**	**78.45**	**26**	P	**P**	**22**	**02**	**25.9**	**0.0**
	comp=Z,1.5nm,0.8s,baz=244,slow=6.2,SNR=16								
VSR	**Storozhevoye**	**78.60**	**320**	*e*P	**P**	**22**	**02**	**25.5**	**-1.4**
VSR				pmax	pmax				
	comp=N,9.0nm,1.1s								
VSR				pmax	pmax				
	comp=E,20nm,1.1s								
VSR				pmax	pmax				
	comp=Z,20nm,1.1s								
CASY	**Casey**	**78.61**	**186**	*e*P	**P**	**22**	**02**	**26.1**	**-0.3**
	comp=Z,55nm,2.0s								
LPSR	**Galich'ya Gora**	**78.63**	**322**	*e*P	**P**	**22**	**02**	**26.1**	**-0.9**
LPSR				pmax	pmax				
	comp=E,6.0nm,1.0s								
LPSR				pmax	pmax				
	comp=Z,20nm,1.0s								
LPSR				pmax	pmax				
	comp=N,2.0nm,0.8s								
MOS	**Moscow**	**79.14**	**325**	*e*P	**P**	**22**	**02**	**27.9**	**-1.8**
DIV	**Divide**	**79.21**	**30**	*e*P	**P**	**22**	**02**	**31.3**	**+1.2**
	comp=N,22nm,1.1s								
LVZ	**Lovozero**	**79.48**	**337**	*e*P	**P**	**22**	**02**	**31.6**	**+0.2**
LVZ				pmax	pmax				
	comp=Z,40nm,1.1s								
LVZ	**Lovozero**	**79.48**	**337**	*e*P	**P**	**22**	**02**	**31.6**	**+0.2**
	comp=Z,40nm,1.1s								
OBN	**Obninsk**	**79.80**	**324**	⇑*e*P	**P**	**22**	**02**	**32.5**	**-0.8**
OBN				*e*		22	05	34.9	
OBN				pmax	pmax				
	comp=Z,35nm,1.7s								
OBN				MLR	MLR				
	comp=Z,222nm,18.0s								
OBN	**

UZH	Uzhgorod	89.77	320	⇑*iP*		P	22 03 23.4	-0.2
UZH				*i*			22 03 34.8	
UZH				*e*			22 03 37.2	
DRGR		90.05	318	⇓P		P	22 03 24.8	-0.3
DRGR		90.05	318	⇓*iP*		P	22 03 24.8	-0.3
HFS	Hagfors	90.34	332	P		P	22 03 24.1	-1.9
	comp=Z,9.7nm,1.0s,baz=72,slow=4.7,SNR=13							
NIE	Niedzica	90.76	321	*eP*		P	22 03 28.1	-0.2
NIE	Niedzica	90.76	321	*eP*		P	22 03 28.2	-0.1
OJC	Ojcow	90.81	322	*eP*		P	22 03 28.0	-0.5
OJC	Ojcow	90.81	322	*eP*		P	22 03 28.3	-0.2
OJC				pmax	pmax			
	comp=Z,8.0nm,1.0s							
OJC	Ojcow	90.81	322	*eP*		P	22 03 28.3	-0.2
	comp=Z,7.9nm,1.0s							
MAW	Mawson	90.82	200	P		P	22 03 25.9	-2.0
	comp=Z,0.9nm,0.5s,baz=101,slow=1.5,SNR=3.7							
SIRR	Siria	90.90	318	⇑*iP*		P	22 03 28.6	-0.4
NB2	NORSAR Subarra	91.05	334	P		P	22 03 27.8	-1.6
	comp=Z,5.5nm,0.9s,baz=64,slow=4.6							
NB2	NORSAR Subarra	91.05	334	P		P	22 03 27.8	-1.6
	baz=64,slow=4.6							
NOA	NORSAR Array B	91.05	334	P		P	22 03 28.1	-1.4
	comp=Z,2.9nm,0.8s,baz=64,slow=4.7,SNR=14							
NOA				LR	LR		22 46 54.4	
	comp=Z,122nm,21.0s,baz=35,slow=37							
VNDA	Vanda	91.52	173	P		P	22 03 31.2	+0.2
	comp=Z,7.9nm,0.9s,baz=310,slow=5.6,SNR=27							
VNDA	Vanda	91.52	173	*eP*		P	22 03 31.3	+0.2
VNDA				pmax	pmax			
	comp=Z,17nm,1.3s							
VNDA	Vanda	91.52	173	*eP*		P	22 03 31.3	+0.2
	comp=Z,17nm,1.3s							
OKC	Ostrava-Krasne	91.94	322	*eP*		P	22 03 33.6	-0.1
OKC	Ostrava-Krasne	91.94	322	*eP*		P	22 03 33.6	-0.1
KRLC	Kraliky	92.68	322	*eP*		P	22 03 36.4	-0.8
KRLC	Kraliky	92.68	322	*eP*		P	22 03 36.4	-0.8
KSP	Ksiaz	92.68	323	*eP*		P	22 03 37.5	+0.4
KSP	Ksiaz	92.68	323	*eP*		P	22 03 37.6	+0.4
DIVS	Divibare	92.71	316	⇓*iP*		P	22 03 36.7	-0.8
YKA	Yellowknife Ar	92.72	24	P		P	22 03 37.1	+0.1
	comp=Z,2.3nm,1.0s,baz=300,slow=4.5,SNR=9.3							
DPC	Dobruska-Polom	92.85	323	*eP*		P	22 03 37.9	-0.1
DPC				*ePP*		*pP*	22 03 51.8	-1.4
DPC	Dobruska-Polom	92.85	323	*eP*		P	22 03 37.9	-0.1
DPC				*e*			22 03 51.8	
PKSM	Moragy	92.90	318	⇓P		P	22 03 37.7	-0.5
PKSM	Moragy	92.90	318	⇓*iP*		P	22 03 37.7	-0.5
UPC	Upice	92.97	323	*eP*		P	22 03 37.9	-0.6
UPC	Upice	92.97	323	*eP*		P	22 03 37.9	-0.6
TREC	Trest	93.75	322	*eP*		P	22 03 42.1	0.0
TREC	Trest	93.75	322	*eP*		P	22 03 42.1	0.0
PVCC	Panska Ves	93.81	323	*eP*		P	22 03 42.4	+0.1
PVCC	Panska Ves	93.81	323	*eP*		P	22 03 42.4	+0.1
GOPC	GO Pecny, Ondr	93.93	323	*eP*		P	22 03 43.6	+0.7
BRG	Berggiesshubel	94.04	324	*eP*		P	22 03 43.2	-0.1
	comp=Z,2.3nm,0.9s							
BRG	Berggiesshubel	94.04	324	*eP*		P	22 03 43.2	-0.1
BRG				pmax	pmax			
	comp=Z,2.0nm,0.9s							
PRU	Pruhonice	94.05	323	*eP*		P	22 03 43.2	-0.2
PRU	Pruhonice	94.05	323	*eP*		P	22 03 43.2	-0.2
PRA	Prague	94.08	323	*eP*		P	22 03 43.0	-0.5
PRA	Prague	94.08	323	*eP*		P	22 03 43.0	-0.5
CLL	Collm	94.40	324	*eP*		P	22 03 44.1	-0.9
	comp=Z,4.0nm,1.0s							
CLL	Collm	94.40	324	⇑*iP*		P	22 03 44.1	-0.9
CLL				pmax	pmax			
	comp=Z,5.0nm,1.0s							
CLL	Collm	94.40	324	⇑*iP*		P	22 03 44.1	-0.9
	comp=Z,5.0nm,1.0s							
BSEG	Bad Segeberg	94.72	328	*eP*		P	22 03 46.5	+0.1
	comp=Z,10.0nm,1.4s							
GEC2	GERESS Array S	95.01	322	*eP*		P	22 03 47.4	-0.6
	comp=Z,5.0nm,1.3s							
GERES	GERESS Array B	95.01	322	P		P	22 03 47.8	-0.2
	comp=Z,0.9nm,0.6s,baz=52,slow=5.2,SNR=15							
PERS	Pernice	95.01	320	*eP*		P	22 03 47.0	-1.0
SOKA	Soboth	95.05	320	⇑*iPcP*		P	22 03 47.6	-0.6
	comp=Z,6.2nm,1.1s							
MOA	Molln	95.07	321	⇑*iPcP*		P	22 03 48.0	-0.2
	comp=Z,9.2nm,0.9s							
TANN	Tannenbergstha	95.09	324	*eP*		P	22 03 47.8	-0.5
	comp=Z,6.0nm,1.4s							
MOX	Moxa	95.48	324	*eP*		P	22 03 49.5	-0.5
	comp=Z,6.0nm,1.5s							
ROTZ	Rotzenmuhle	95.51	323	*eP*		P	22 03 50.0	-0.1
	comp=Z,6.0nm,1.6s							
CLZ	Clausthal	95.64	326	*eP*		P	22 03 50.6	-0.1
	comp=Z,8.0nm,1.2s							
CRNS	Crni Vrh	95.77	319	*eP*		P	22 03 50.4	-1.1
KBA	Koelnbreinsper	95.95	320	⇓*iPcP*		P	22 03 51.7	-0.7
	comp=Z,4.9nm,1.0s							
RJOB	Jochberg	96.02	321	*eP*		P	22 03 51.8	-0.8
	comp=Z,6.0nm,1.0s							
WTTA	Wattenberg	96.93	321	⇓*iPcP*		P	22 03 55.9	-1.0
	comp=Z,9.6nm,0.9s							
FETA	Feichten	97.59	321	⇓*iPcP*		P	22 03 58.8	-1.1
	comp=Z,5.5nm,1.0s							
FUORN	Ofenpass-Fuorn	98.06	321	*eP*		Pdif	22 04 02.0	-0.1
	comp=Z,5.8nm,0.9s							
EKA	Eskdalemuir Ar	100.52	333	P		Pdif	22 04 11.8	-0.7
	comp=Z,6.1nm,1.2s,baz=46,slow=3.6,SNR=6.3							
X31A	McDonald Ranch	116.88	41	P		PKPdf	22 09 09.8	-0.3
	baz=117							
TXAR	Lajitas Array	117.45	48	PKP		PKPdf	22 09 11.8	+0.4
	comp=Z,1.1nm,0.8s,baz=262,slow=0.5,SNR=12							
TXAR				pPKP		pPKPdf	22 09 25.8	-1.4
	comp=Z,1.3nm,0.7s,baz=219,slow=0.9,SNR=9.7							
S36A	Lake Cedric, C	117.53	36	P		PKPdf	22 09 11.2	-0.1
	baz=117							
429A	Davenport Ranc	118.00	46	P		PKPdf	22 09 12.4	0.0
	baz=118							
Z32A	Haskell	118.03	42	P		PKPdf	22 09 12.4	+0.1
	baz=118							
430A	Baggett Ranch,	118.36	45	P		PKPdf	22 09 12.8	-0.3
	baz=118							
W35A	Tecumseh	118.50	39	P		PKPdf	22 09 13.3	+0.1
	baz=118							
331A	San Angelo	118.61	44	P		PKPdf	22 09 13.3	-0.2
	baz=118							
530A	J-C Ranch, Com	118.66	46	P		PKPdf	22 09 14.2	+0.6
	baz=119							
431A	Sonora	118.86	45	P		PKPdf	22 09 13.1	-0.9
	baz=119							
X35A	Drake	118.94	40	P		PKPdf	22 09 13.5	-0.5
	baz=119							
TORD	Torodi Ar. Bea	118.94	292	PKP		PKPdf	22 09 12.7	-1.8
	comp=Z,0.8nm,1.0s,baz=95,slow=1.8,SNR=5.4							
332A	Millersview	119.03	44	P		PKPdf	22 09 14.4	+0.1
	baz=119							
V37A	Hulbert	119.06	37	P		PKPdf	22 09 13.3	-0.9
	baz=119							
U38A	Gravette	119.12	36	P		PKPdf	22 09 14.3	0.0
	baz=119							
SADO	Sadowa	119.47	20	PKP		PKPdf	22 09 13.7	-1.1
	comp=Z,2.5nm,0.7s,baz=225,slow=18,SNR=3.5							
JCT	Junction City	119.54	45	*e*PKIKP		PKPdf	22 09 15.8	+0.5
JCT	Junction City	119.54	45	P		PKPdf	22 09 15.1	-0.2
	baz=119							
JCT	Junction City	119.54	45	*e*PKPdf		PKPdf	22 09 15.8	+0.5
333A	Richland Sprin	119.58	44	P		PKPdf	22 09 15.2	-0.1
	baz=120							
631A	Perdido Creek	119.63	46	P		PKPdf	22 09 15.7	+0.2
	baz=120							
X37A	Clayton	119.80	38	P		PKPdf	22 09 15.7	+0.1
	baz=120							
SFIN	Scholer Farm	119.99	28	P		PKPdf	22 09 14.3	-1.6
	baz=120							
334A	Lometa	120.08	43	P		PKPdf	22 09 16.1	-0.3
	baz=120							
633A	Saathoff Ranch	120.58	45	P		PKPdf	22 09 17.6	+0.3
	baz=120							
335A	Moody	120.65	43	P		PKPdf	22 09 17.4	0.0
	baz=120							
832A	Faith Ranch, C	120.71	47	P		PKPdf	22 09 18.4	+0.8
	baz=121							
534A	Blanco	120.72	44	P		PKPdf	22 09 17.6	0.0
	baz=121							
MIAR	Mount Ida	120.91	37	*e*PKIKP		PKPdf	22 09 18.2	+0.4
MIAR	Mount Ida	120.91	37	P		PKPdf	22 09 17.6	-0.3
	baz=121							
MIAR	Mount Ida	120.91	37	*e*PKPdf		PKPdf	22 09 18.2	+0.4
833A	Chaparral WMA,	121.11	47	P		PKPdf	22 09 18.5	+0.2
	baz=121							
WVT	Waverly	122.95	32	*e*PKIKP		PKPdf	22 09 18.6	-0.1
WVT	Waverly	122.95	32	*e*PKPdf		PKPdf	22 09 21.6	-0.1
TKL	Tuckaleechee C	125.34	29	PKP		PKPdf	22 09 25.7	-0.6
	comp=Z,4.6nm,0.8s,baz=136,slow=3.7,SNR=5.9							
BCIP	Isla Barro Col	147.38	51	*e*PKPdf		PKPdf	22 10 07.8	+0.5
LPAZ	La Paz	166.10	110	PKP		PKPdf	22 10 32.4	+0.7
	comp=Z,1.8nm,0.9s,baz=33,slow=3.0,SNR=5.8							
LPAZ				PKPab		PKPab	22 11 34.3	+1.9
	comp=Z,4.0nm,1.0s,baz=308,slow=1.5,SNR=7.9							
PTGA	Pitinga	167.79	26	PKPab		PKPab	22 11 38.1	-0.8
	comp=Z,2.1nm,0.8s,baz=7.5,slow=3.7,SNR=4.1							

IDC ***20*** *22:15:24.3±0.9, 2°.17N×84°.59W, h0km, mb3.9/11, mb1 4.1/14, mb1mx3.9/43, mbtmp3.9/14, ML3.3/3, MS4.2/7, Ms1 4.2/7, ms1mx3.7/34, Error ellipse: s-maj=32.8km s-min=14.0km az=46.0*

NEIC ***20*** *21:55:25.8±0.7, 2°.21N×84°.46W, h10km, mb4.3/4, Error ellipse: s-maj=15.9km s-min=8.6km az=218.0*

ISCJB ***20*** *21:55:27.7±0.6, 2°.32N±0°.08×84°.39W±0°.08, h33km, mb4.0/15, MS4.2/4, Error ellipse: s-maj=14.0km s-min=7.5km az=135.0*

ISC 20 21:55:29.6±0.8, 2°.3N±0°.1×84°.5W±0°.1, h35km, n27, σ1ş55/25, mb3.9/15, MS4.2/4, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OTAV	Otavalo	6.35	109	*e*Pn		Pn	21 56 58.7	-2.5
JTS	JuntasAbangare	7.96	357	Pn		Pn	21 57 21.6	-1.3
	3.5nm,0.3s,baz=126,slow=16,SNR=6.7							
JTS				LR		LR	21 59 53.0	
	comp=Z,871nm,20.8s,baz=144,slow=33							
BCIP	Isla Barro Col	8.23	34	*e*P		Pn	21 57 26.7	0.0
ROSC	El Rosal	10.43	76	Pn		Pn	21 57 59.8	+2.7
	0.6nm,0.3s,baz=100,slow=19,SNR=4.5							
ROSC	El Rosal	10.43	76	Pn		Pn	21 57 55.6	-1.6
ATAH	Atahualpa	11.15	147	Pn		Pn	21 58 07.8	+0.7
	0.7nm,0.3s,baz=324,slow=18,SNR=4.5							
ATAH				LR		LR	22 01 58.5	
	comp=Z,938nm,18.3s,baz=335,slow=35							
SDV	Santo Domingo	15.24	64	*e*P		Pn	21 59 01.2	-1.3
	17nm,1.3s							
CMIG	Matias Romero	17.92	326	P		P	21 59 37.2	+0.7
	0.2nm,0.3s,baz=134,slow=13,SNR=3.3							
CMIG				LR		LR	22 05 09.0	
	comp=Z,539nm,20.8s,baz=149,slow=33							
PCRV	Puerto La Cruz	21.20	67	P		P	22 00 14.3	+1.8
	9.0nm,0.9s,baz=299,slow=3.4,SNR=5.2							
SAML	Samuel	23.97	118	*e*P		P	22 00 39.5	-1.5
	18nm,1.4s							
LPAZ	La Paz	24.52	139	P		P	22 00 48.2	+1.4
	8.9nm,1.1s,baz=338,slow=11,SNR=14							
LPAZ	La Paz	24.52	139	*e*P		P	22 00 47.5	+0.8
	12nm,1.1s							
PTGA	Pitinga	24.68	97	P		P	22 00 46.6	-1.0
	0.8nm,0.4s,baz=339,slow=5.2,SNR=2.7							
LVC	Limon Verde	29.04	149	P		P	22 01 25.0	-1.9
	53nm,0.8s,baz=12,slow=14,SNR=9.4							
LVC				LR		LR	22 13 50.3	
	comp=Z,1μm,18.9s,baz=289,slow=38							
SIV	San Ignacio	29.41	129	LR		LR	22 13 50.0	
	comp=Z,739nm,18.6s,baz=347,slow=38							
TXAR	Lajitas Array	32.51	328	P		P	22 01 57.0	-0.3
	0.6nm,0.9s,baz=153,slow=11,SNR=3.6							
TXAR				LR		LR	22 15 19.3	
	comp=Z,227nm,18.2s,baz=0.0,slow=37							
WMOK	Wichita Mounta	34.93	339	*e*P		P	22 02 20.3	+2.1
	1.0nm,0.6s							
ANMO	Albuquerque	38.39	330	P		P	22 02 49.5	+1.6
	1.5nm,0.9s,baz=144,slow=14,SNR=3.3							
CPUP	Villa Florida	38.70	139	LR		LR	22 21 38.6	
	comp=Z,315nm,19.6s,baz=2.5,slow=41							
PDAR	Pinedale Array	46.11	334	P		P	22 03 50.9	+0.1
	0.3nm,0.5s,baz=102,slow=8.4,SNR=3.9							
ELK	Elko	47.30	328	P		P	22 03 60.0	-0.2
	0.6nm,0.6s,baz=101,slow=5.2,SNR=2.3							
NVAR	Mina Array Bea	47.43	324	P		P	22 04 01.4	+0.2
	1.7nm,0.9s,baz=139,slow=8.4,SNR=8.7							
ULM	Lac du Bonnet	48.76	350	P		P	22 04 10.7	-0.3
	2.8nm,0.6s,baz=191,slow=6.5,SNR=3.2							
YKA	Yellowknife Ar	64.13	345	P		P	22 05 58.1	-2.0
	0.4nm,0.6s,baz=140,slow=4.9,SNR=3.4							
ILAR	Eielson Array	76.46	337	P		P	22 07 14.9	-0.6
	1.1nm,0.9s,baz=135,slow=3.3,SNR=10							
TORD	Torodi Ar. Bea	85.75	77	P		P	22 08 08.0	+2.0
	0.7nm,1.0s,baz=210,slow=3.7,SNR=4.8							
TORD	Torodi Ar. Bea	85.75	77	P		P	22 08 08.0	+2.0

IDC ***20*** *22:16:34.2±8.1, 25°.91N×53°.87E, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.5/41, mbtmp3.7/8, ML2.7/2, Error ellipse: s-maj=145.0km s-min=32.1km az=6.0*

CSEM ***20*** *22:16:45.9±0.1, 27°.11N×53°.99E, h2km, ML3.5, Error ellipse: s-maj=6.0km s-min=2.1km az=64.0*

TEH ***20*** *22:16:46.6, 27°.00N×53°.95E, h14km, ML3.5*

DSN ***20*** *22:16:54.6±3.6, 26°.60N×54°.30E, h10km, mb3.0/6, ML3.8/1, Error ellipse: s-maj=40.5km s-min=7.7km az=131.0*

ISC 20 22:16:45.1±0.9, 26°.95N±0°.09×53°.92E±0°.09, h19km, n28, σ1ş42/30, mb3.5/6, 2C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IBND	Bandar-abas	2.38	77	*e*Pn		Pn	22 17 24.6	+1.4
IBND				*e*			22 18 20.6	
	comp=Z,2μm,0.2s							
IBND	Bandar-abas	2.38	77	*e*Pn		Pn	22 17 24.6	+1.4
NAZ	Nazwa, Dubai	2.50	141	P		Pb	22 17 29.2	-0.3
NAZ	Nazwa, Dubai	2.50	141	⇓P		Pb	22 17 29.2	-0.3
ISRV	Sarvestan	2.52	344	*e*Pn		Pn	22 17 26.9	+1.5
ISRV				*e*			22 18 23.1	
	comp=Z,4μm,0.5s							
ISRV	Sarvestan	2.52	344	*e*Pn		Pn	22 17 26.9	+1.5
ASUD	Al Ashush, Dub	2.64	151	P		Pb	22 17 31.2	-0.6
ASUD	Al Ashush, Dub	2.64	151	⇑P		Pb	22 17 31.2	-0.6
FAQ	Al Faqa, Dubai	2.66	145	P		Pb	22 17 31.2	-1.0
FAQ	Al Faqa, Dubai	2.66	145	⇑P		Pb	22 17 31.2	-1.0
HATD	Hatta, Dubai	2.91	136	P		Pb	22 17 33.9	-2.5
HATD	Hatta, Dubai	2.91	136	⇓P		Pb	22 17 33.9	-2.5
IKAZ	Kazeroun	3.36	327	*e*Pn		Pn	22 17 38.2	+1.3
IKAZ				*e*Sg		Sg	22 18 30.9	-2.3
IKAZ				*e*			22 18 44.9	
	comp=Z,2μm,0.3s							
IKAZ	Kazeroun	3.36	327	*e*Pn		Pn	22 17 38.2	+1.3
IKAZ				*e*Sg		Sg	22 18 30.9	-2.3
IMEH	Mehriz	4.46	8	*e*Pn		Pn	22 17 52.8	+0.8
IMEH				*e*			22 18 46.5	
	comp=Z,281nm,0.2s							
IMEH	Mehriz	4.46	8	*e*Pn		Pn	22 17 52.8	+0.8
IBAF	Bafgh	4.84	17	*e*Pn		Pn	22 17 57.7	+0.6
IBAF				*e*			22 18 59.4	
	comp=Z,198nm,0.3s							
IBAF	Bafgh	4.84	17	*e*Pn		Pn	22 17 57.7	+0.6
ISAD	Sadrabad	4.95	358	*e*Pn		Pn	22 17 59.7	+1.0
ISAD				*e*			22 18 57.1	
	comp=Z,304nm,0.1s							
ISAD	Sadrabad	4.95	358	*e*Pn		Pn	22 17 59.7	+1.0
GNI	Garni	15.21	332	Pn		P	22 20 25.0	+1.1
	comp=Z,1.0nm,0.3s,baz=313,slow=0.7,SNR=7.6							
KBZ	Khabaz	18.97	335	P		Pn	22 21 08.5	+2.5
	comp=Z,0.1nm,0.3s,baz=150,slow=13,SNR=4.2							
BRTR	Keskin Array B	21.14	312	P		P	22 21 29.0	-0.1
	comp=Z,0.6nm,0.7s,baz=128,slow=9.3,SNR=4.9							
AKTO	Aktyubinsk	23.66	7	P		P	22 21 56.8	+1.5
	comp=Z,0.5nm,0.3s,baz=171,slow=11,SNR=3.3							
BVAR	Borovoye Array	28.80	21	P		P	22 22 41.7	0.0
	comp=Z,0.6nm,0.6s,baz=213,slow=12,SNR=4.1							
MKAR	Makanchi Array	29.87	41	P		P	22 22 51.7	+0.4
	comp=Z,0.2nm,0.6s,baz=230,slow=11,SNR=2.6							
ZALV	Zalesovo Beam	35.28	32	P		P	22 23 38.0	-0.5
	comp=Z,1.0nm,0.6s,baz=240,slow=7.9,SNR=5.1							
FINES	FINESS Array B	39.23	339	P		P	22 24 10.5	-1.5
	comp=Z,0.7nm,0.5s,baz=140,slow=10.0,SNR=5.3							

WEL 20 22:23:42.3±0.5, 38°.00S×175°.76E, h169km±5km, ML3.5/4, 5C-6D, Error ellipse: s-maj=5.5km s-min=5.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	Urewera	1.10	104	PN		Pn	22 24 09.8	+0.1
URZ				SN		Sn	22 24 31.5	+0.7
URZ				AML		AML	22 24 32.9	
BKZ	Black Stump Fm	1.30	154	⇑PN		Pn	22 24 11.5	-0.1
BKZ				SN		Sn	22 24 34.2	-0.1
BKZ				AML		AML	22 24 38.0	
WNVZ	Wahianoa	1.33	185	PN		Pn	22 24 12.3	+0.3
NMHZ	Naumai	1.37	144	⇓PN		Pn	22 24 13.0	+0.8
RAGZ	Rawiri	1.40	111	⇓PN		Pn	22 24 12.7	+0.2
RAGZ				SN		Sn	22 24 36.1	+0.3
MTVZ	Mangateitei	1.41	189	PN		Pn	22 24 13.1	+0.6
MOVZ	Moawhango	1.41	180	⇑PN		Pn	22 24 12.3	-0.3
MWZ	Matawai	1.44	104	⇓PN		Pn	22 24 12.9	+0.1
MWZ				SN		Sn	22 24 36.0	-0.4
MWZ				AML		AML	22 24 37.9	
SNGZ	Shannon Statio	1.47	123	PN		Pn	22 24 13.3	+0.2
BHHZ	Black Hill Sta	1.51	171	PN		Pn	22 24 13.1	-0.4
BHHZ				SN		Sn	22 24 36.6	-1.2
KWHZ	Kaweka Forest	1.52	160	PN		Pn	22 24 13.7	+0.1
ARHZ	Aropaoanui	1.59	143	PN		Pn	22 24 14.5	+0.2
HAZ	Te Kaha	1.62	82	PN		Pn	22 24 14.0	-0.6
HAZ				SN		Sn	22 24 38.6	-0.9
MCHZ	McNeill Hill	1.62	153	PN		Pn	22 24 15.1	+0.5
KRHZ	Kereru	1.71	164	PN		Pn	22 24 15.1	-0.5
RIGZ	Rimuhau	1.73	115	PN		Pn	22 24 15.5	-0.3
TWGZ	Tauwhareparae	1.76	97	⇓PN		Pn	22 24 16.3	+0.2
KNZ	Kokohu	1.82	125	PN		Pn	22 24 16.2	-0.4
PNHZ	Pukenui	1.95	170	PN		Pn	22 24 17.1	-1.0
CKHZ	Cape Kidnapper	1.95	149	⇑PN		Pn	22 24 17.6	-0.5
PUZ	Puketiti	1.98	93	⇑PN		Pn	22 24 17.6	-0.8
CNGZ	Carnagh Statio	1.99	105	PN		Pn	22 24 18.7	+0.2
KAHZ	Kahuranaki	2.00	154	⇓PN		Pn	22 24 18.1	-0.6
TSZ	Takapari Road	2.07	176	⇑PN		Pn	22 24 18.0	-1.4
WPHZ	Waipukurau	2.13	166	⇓PN		Pn	22 24 18.9	-1.3
PXZ	Pawanui	2.21	157	PN		Pn	22 24 19.5	-1.4
DVHZ	Dannevirke	2.32	172	PN		Pn	22 24 20.3	-2.0
PRHZ	Porangahau	2.37	164	PN		Pn	22 24 20.9	-1.9
ANWZ	Angora Road	2.52	167	PN		Pn	22 24 22.6	-2.0
PRWZ	Pori Road	2.56	176	PN		Pn	22 24 22.8	-2.3
PRWZ				SN		Sn	22 24 54.3	-4.1
MRZ	Mangatainoka R	2.67	183	SN		Sn	22 24 55.9	-4.8
MRZ				AML		AML	22 24 58.9	
BFZ	Birch Farm	2.71	172	PN		Pn	22 24 24.3	-2.5
OGWZ	Otaki Gorge	2.85	189	PN		Pn	22 24 26.2	-2.4
HOWZ	Holdsworth Sta	2.90	184	PN		Pn	22 24 26.1	-3.2
KIW	Kapiti Island	2.94	193	PN		Pn	22 24 26.9	-2.8
TCW	Tory Channel	3.41	199	PN		Pn	22 24 32.4	-3.1
MSWZ	Moikau Station	3.44	186	PN		Pn	22 24 31.8	-4.1
MSWZ				SN		Sn	22 25 10.8	-6.9
PLWZ	Palliser	3.59	186	PN		Pn	22 24 33.6	-4.3
KHZ	Kahutara	4.73	200	PN		Pn	22 24 48.1	-4.4
LTZ	Lake Taylor	5.47	208	PN		Pn	22 24 57.5	-4.8
MQZ	McQueen's Vall	6.17	201	SN		Sn	22 26 10.2	-11

ISCJB ***20*** *22:30:20.0±0.9, 17°.9S±0°.3×178°.6W±0°.2, h579km, mb3.6/6, Error ellipse: s-maj=44.9km s-min=19.1km az=154.1*

IDC ***20*** *22:30:21.6±5.9, 17°.98S×178°.59W, h584km±72km, mb3.1/6, mb1 3.4/7, mb1mx3.0/33, mbtmp4.1/7, Error ellipse: s-maj=35.2km s-min=27.4km az=139.0*

ISC 20 22:30:21.1±1.0, 18°.0S±0°.3×178°.5W±0°.2, h579km, n8, σ0ş76/8, mb3.6/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	Mont Dzumac	14.71	251	P		P	22 33 28.3	+1.1
	0.4nm,0.3s,baz=277,slow=0.6,SNR=6.0							
STKA	Stephens Creek	38.51	241	P		P	22 36 54.9	-0.1
	1.9nm,0.6s,baz=86,slow=9.3,SNR=7.7							
WRA	Warramunga Arr	44.51	260	P		P	22 37 41.3	-1.1
	1.4nm,0.5s,baz=94,slow=7.0,SNR=18							
ASAR	Alice Springs	44.67	254	P		P	22 37 43.0	-0.6
	11nm,0.5s,baz=89,slow=8.3,SNR=107							
QSPA	South Pole Qui	72.10	180	P		P	22 40 47.2	-0.1
	0.9nm,0.6s,baz=289,slow=1.0,

Ms7 5.1/4

*ISCJB **20** 22:49:06.1±0.6,37°39S±0'.03×73°.10W±0'.06,h45km±4km, mb4.8/80,MS4.2/7,Error ellipse: s-maj=8.5km s-min=5.2km az=176.6*

*IDC **20** 22:49:07.8±2.9,37°.40S×73°.11W,h47km±25km,mb4.3/16, mb1 4.4/20,mb1mx4.3/30,mbtmp4.5/20,ML4.2/3,MS4.2/7, Ms1 4.1/7,ms1mx3.9/16,Error ellipse: s-maj=19.8km s-min=13.1km az=80.0*

*NEIC **20** 22:49:07.7±0.8,37°.36S×73°.07W,h44km±7km,mb4.9/70, Error ellipse: s-maj=9.8km s-min=5.5km az=69.0*

NEIC Felt [IV] at Angol, Canete, Curanilahue, Los Sauces, Renaico and Tirua; [III] at Concepcion, Curacautin, Puren, Talcahuano and Temuco; [II] at Ercilla, La Laja and San Rosendo. Also felt at Chillan and Santiago.

ISC 20 22:49:06.1±0.4,37°.42S±0'.04×73°.40W±0'.09,h36km±3km, n412,σ1$18/417,mb4.9/80,MS4.2/7,4C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U14B	**Concepcin**	**0.62**	**25**	*i* P	**Pn**	**22 49 17.8**	**-0.6**
U14B				*i* S	**Sn**	**22 49 27.8**	**+0.7**
CCSP	**San Pedro de C**	**0.62**	**22**	*e*P	**Pn**	**22 49 17.2**	**-1.2**
CCSP				AML	AML	22 49 29.6	
	comp=E,242μm,0.4s						
PSCH	**Puerto Saavedr**	**1.37**	**180⇑**	*i*P	**Pn**	**22 49 26.7**	**-2.0**
PSCH				*i* S	**Sn**	**22 49 46.5**	**+0.8**
LNCH	**Linares**	**2.14**	**43**	*e*P	**Pn**	**22 49 39.2**	**-0.1**
LNCH				*i* S	**Sn**	**22 50 07.8**	**+3.3**
TALC	**Talca**	**2.47**	**36**	*e*P	**Pn**	**22 49 43.1**	**-0.7**
TALC				*e*S	**Sn**	**22 50 14.9**	**+2.2**
U65B	**HualaæØ**	**2.78**	**28**	*i* P	**Pn**	**22 49 48.4**	**+0.4**
NICH	**Los Niches**	**2.99**	**37⇑**	*i*P	**Pn**	**22 49 50.2**	**-0.7**
NICH				*i* S	**Sn**	**22 50 27.3**	**+1.9**
U73B	**San Pedro**	**3.85**	**25**	*i* P	**Pn**	**22 50 01.8**	**-1.0**
PLCA	**Paso Flores**	**3.98**	**147**	*e*P	**Pn**	**22 50 05.1**	**+0.5**
PLCA				*i* S	Sn	22 51 04.8	+15
PLCA				AML	AML	22 51 21.2	
	comp=Z,108nm,0.4s						
AAGR	**Agrelo**	**5.72**	**42**	*e*P	**Pn**	**22 50 29.2**	**+0.6**
ARCO	**CERRO ARCO**	**5.86**	**40**	*e*P	**Pn**	**22 50 30.9**	**+0.4**
ARCO				AML	AML	22 52 15.8	
	comp=Z,131nm,0.7s						
ASAL	**Salagasta**	**6.11**	**39**	*e*P	**Pn**	**22 50 34.3**	**+0.5**
ASAL				*i* S	Sn	22 51 56.3	+14
AUSP	**Uspallata**	**6.15**	**34**	*e*P	**Pn**	**22 50 35.0**	**+0.4**
AUSP				*i* S	Sn	22 51 56.3	+12
RTLS	**Leoncito**	**6.55**	**32**	*e*P	**Pn**	**22 50 40.5**	**+0.4**
RTCV	**Cerro Valdivia**	**6.84**	**37**	*e*P	**Pn**	**22 50 43.0**	**-1.0**
CFAA	**Coronel Fontan**	**7.20**	**38**	P	**Pn**	**22 50 47.4**	**-1.5**
	comp=Z,3.9nm,0.3s,baz=207,slow=16,SNR=71						
CFAA	**Coronel Fontan**	**7.20**	**38**	*e*P	**Pn**	**22 50 47.4**	**-1.5**
ACAN	**Cantantal**	**7.24**	**47**	*e*P	**Pn**	**22 50 49.2**	**-0.2**
RTLL	**Cerro Villicun**	**7.32**	**35**	*e*P	**Pn**	**22 50 49.2**	**-1.3**
AMOG	**MOGNA**	**7.64**	**34**	*e*P	**Pn**	**22 50 53.8**	**-1.1**
LCO	**Las Campanas**	**8.69**	**16**	*e*Pn	**Pn**	**22 51 07.1**	**-2.4**
LCO				*e*Sn	**Sn**	**22 52 43.5**	**-2.8**
TRQA	**Tornquist**	**9.07**	**97**	*e*Pn	**Pn**	**22 51 16.1**	**+1.6**
TCA	**Tanti**	**9.47**	**53**	*e*P	**Pn**	**22 51 18.7**	**-1.4**
LVC	**Limon Verde**	**15.26**	**16**	P	**Pn**	**22 52 38.3**	**-0.8**
	comp=Z,20nm,0.3s,baz=205,slow=6.4,SNR=5.7						
LVC	**Limon Verde**	**15.26**	**16**	*e*Pn	Pn	22 52 34.0	-5.1
CPUP	**Villa Florida**	**17.54**	**56**	P	**Pn**	**22 53 06.5**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=220,slow=13,SNR=3.9						
CPUP				LR	LR	23 00 32.8	
	comp=Z,610nm,19.1s,baz=234,slow=40						
CPUP	**Villa Florida**	**17.54**	**56**	*e*Pn	**Pn**	**22 53 03.4**	**-4.4**
USHA	**Ushuaia**	**17.74**	**171**	P	**P**	**22 53 11.7**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=319,slow=9.7,SNR=5.8						
EFI	**East Falkland**	**17.91**	**148**	Pn	**P**	**22 53 12.8**	**+0.4**
	comp=Z,288nm,0.6s,SNR=5.6						
EFI	**East Falkland**	**17.91**	**148**	*e*P	**Pn**	**22 53 11.6**	**-0.4**
EFI				pmax	pmax		
	comp=Z,32nm,0.6s						
EFI	**East Falkland**	**17.91**	**148**	*e*Pn	**Pn**	**22 53 11.6**	**-0.4**
	comp=Z,32nm,0.6s						
LPAZ	**La Paz**	**21.56**	**14**	P	**P**	**22 53 53.9**	**+0.7**
	comp=Z,7.8nm,0.8s,baz=181,slow=8.1,SNR=26						
LPAZ	**La Paz**	**21.56**	**14**	*e*P	**P**	**22 53 54.4**	**+1.3**
LPAZ				pmax	pmax		
	comp=Z,12nm,0.7s						
LPAZ	**La Paz**	**21.56**	**14**	*e*P	**P**	**22 53 54.4**	**+1.3**
	comp=Z,12nm,0.7s						
SIV	**San Ignacio**	**23.98**	**30**	P	**P**	**22 54 16.2**	**-1.1**
	comp=Z,8.6nm,0.8s,baz=223,slow=12,SNR=35						
BB16B	**Bebedouro**	**27.00**	**60**	*e*P	P	22 54 39.7	-5.1
BB16B				*i*		22 54 43.6	
BB16B				*i*		22 54 52.0	
BB16B				*i*		22 54 55.5	
BB16B				*i*		22 54 57.2	
BB16B				*i*		22 55 03.3	
BB16B				*i*		22 55 10.4	
SAML	**Samuel**	**29.82**	**21**	*e*P	**P**	**22 55 09.3**	**-0.5**
	comp=Z,4.6nm,0.8s						
BDFB	**Brasilia**	**31.23**	**53**	P	**P**	**22 55 21.0**	**-1.4**
	comp=Z,2.0nm,0.7s,baz=242,slow=17,SNR=3.2						
BDFB				LR	LR	23 07 23.9	
	comp=Z,234nm,18.8s,baz=216,slow=35						
BDFB	**Brasilia**	**31.23**	**53**	P	**P**	**22 55 21.0**	**-1.4**
RPN	**Rapa Nui**	**31.90**	**278**	LR	LR	23 04 42.9	
	comp=Z,312nm,19.3s,baz=72,slow=9						
PTGA	**Pitinga**	**38.56**	**22**	*e*P	**P**	**22 56 24.2**	**-1.2**
	comp=Z,4.4nm,0.7s						
ROSC	**El Rosal**	**42.07**	**359**	P	**P**	**22 56 56.6**	**+1.7**
	comp=Z,7.7nm,0.5s,baz=188,slow=3.8,SNR=8.0						
ROSC	**El Rosal**	**42.07**	**359**	*e*P	**P**	**22 56 58.0**	**+3.0**
SDV	**Santo Domingo**	**46.14**	**4**	*e*P	**P**	**22 57 27.0**	**-0.3**
	comp=Z,11nm,0.8s						
RCBR	**Riachuelo**	**46.42**	**57**	LR	LR	23 18 24.3	
	comp=Z,584nm,18.6s,baz=208,slow=38						
VNA1	**Neumayer--Stat**	**46.99**	**156**	P	**P**	**22 57 33.6**	**+0.5**
SNAA	**Sanae**	**48.86**	**157**	P	**P**	**22 57 47.9**	**+0.1**
SNAA	**Sanae**	**48.86**	**157**	P	**P**	**22 57 47.8**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=288,slow=6.9,SNR=28						
SNAA	**Sanae**	**48.86**	**157**	*de*P	**P**	**22 57 47.7**	**-0.1**
SNAA				pmax	pmax		
	comp=Z,10.0nm,1.7s						
SNAA	**Sanae**	**48.86**	**157**	*e*P	**P**	**22 57 47.4**	**-0.3**
	comp=Z,7.5nm,1.0s						
VNDA	**Vanda**	**60.53**	**192**	P	**P**	**22 59 13.4**	**+1.3**
	comp=Z,1.9nm,0.9s,baz=130,slow=4.8,SNR=7.5						
SYO	**Syowa Base**	**63.12**	**158**	*e*X	**P**	**22 59 27.6**	**-1.8**
834A	**Tilden**	**69.34**	**336**	P	**P**	**23 00 12.4**	**+2.6**
	baz=69						
832A	**Faith Ranch, C**	**69.96**	**335**	P	**P**	**23 00 15.6**	**+1.9**
	baz=70						
MAW	**Mawson**	**70.22**	**164**	P	**P**	**23 00 14.8**	**0.0**
	comp=Z,6.3nm,0.7s,baz=209,slow=6.7,SNR=15						
MAW				LR	LR	23 30 21.7	
	comp=Z,188nm,20.1s,baz=239,slow=35						
MAW	**Mawson**	**70.22**	**164**	P	**P**	**23 00 14.8**	**0.0**
MAW				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MAW				MLR	MLR		
	comp=Z,188nm,20.1s						
MAW	**Mawson**	**70.22**	**164**	*e*P	**P**	**23 00 15.2**	**+0.4**
	comp=Z,1.9nm,0.8s						
732A	**Laxson Ranch,**	**70.37**	**335**	P	**P**	**23 00 17.2**	**+1.1**
	baz=70,SNR=7.4						
633A	**Saathoff Ranch**	**70.78**	**336**	P	**P**	**23 00 20.4**	**+1.7**
	baz=71						
632A	**Uvalde**	**71.02**	**336**	P	**P**	**23 00 21.2**	**+1.1**
	baz=71,SNR=5.1						
GOGA	**Godfrey**	**71.09**	**351**	*e*P	**P**	**23 00 20.2**	**-0.3**
GOGA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
GOGA	**Godfrey**	**71.09**	**351**	*e*P	**P**	**23 00 20.1**	**-0.3**
	comp=Z,8.8nm,0.6s						
340A	**Bronson**	**71.11**	**342**	P	**P**	**23 00 21.6**	**+1.0**
	baz=71						
631A	**Perdido Creek**	**71.20**	**335**	P	**P**	**23 00 22.7**	**+1.4**
	baz=71						
339A	**Huntington**	**71.20**	**341**	P	**P**	**23 00 22.8**	**+1.6**
	baz=71						
LRAL	**Lakeview Retre**	**71.23**	**348**	*e*P	**P**	**23 00 21.6**	**+0.3**
	comp=Z,12nm,0.9s						
533A	**Kerrville**	**71.31**	**337**	P	**P**	**23 00 23.3**	**+1.4**
	baz=71						
532A	**Rocksprings**	**71.64**	**336**	P	**P**	**23 00 24.6**	**+0.6**
	baz=72,SNR=11						
434A	**Burnet**	**71.76**	**338**	P	**P**	**23 00 25.3**	**+0.7**
	baz=72						
239A	**Gary**	**71.83**	**341**	P	**P**	**23 00 25.2**	**+0.3**
	baz=72						
336A	**Riesel**	**71.88**	**339**	P	**P**	**23 00 26.1**	**+0.9**
	baz=72						
531A	**Rocksprings**	**71.88**	**335**	P	**P**	**23 00 26.4**	**+1.0**
	baz=72,SNR=6.4						
JCT	**Junction City**	**71.93**	**336**	*e*P	**P**	**23 00 26.6**	**+1.0**
JCT				pmax	pmax		
	comp=Z,17nm,1.1s						
JCT	**Junction City**	**71.93**	**336**	P	**P**	**23 00 26.2**	**+0.5**
	baz=72,SNR=6.5						
JCT	**Junction City**	**71.93**	**336**	*e*P	**P**	**23 00 26.6**	**+1.0**
	comp=Z,17nm,1.1s						
433A	**Art**	**71.96**	**337**	P	**P**	**23 00 26.0**	**+0.2**
	baz=72,SNR=7.7						
530A	**J-C Ranch, Com**	**72.13**	**335**	P	**P**	**23 00 28.1**	**+1.3**
	baz=72,SNR=7.6						
TXAR	**Lajitas Array**	**72.21**	**332**	P	**P**	**23 00 28.2**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=152,slow=8.6,SNR=24						
TXAR				LR	LR	23 27 07.8	
	comp=Z,205nm,19.3s,baz=0.0,slow=32						
334A	**Lometa**	**72.23**	**338**	P	**P**	**23 00 28.0**	**+0.6**
	baz=72						
432A	**Menard**	**72.29**	**336**	P	**P**	**23 00 29.0**	**+1.2**
	baz=72						
431A	**Sonora**	**72.38**	**336**	P	**P**	**23 00 28.7**	**+0.4**
	baz=72,SNR=5.2						
529A	**Stev Forest Ra**	**72.41**	**334**	P	**P**	**23 00 29.7**	**+1.1**
	baz=72						
333A	**Richland Sprin**	**72.45**	**337**	P	**P**	**23 00 28.6**	**-0.2**
	baz=72						
WHTX	**Lake Whitney**	**72.62**	**339**	P	**P**	**23 00 30.8**	**+1.1**
	baz=73						
430A	**Baggett Ranch,**	**72.68**	**335**	P	**P**	**23 00 30.8**	**+0.6**
	baz=73,SNR=8.0						
137A	**Heron Place, G**	**72.72**	**340**	P	**P**	**23 00 31.1**	**+0.9**
	baz=73						
332A	**Millersview**	**72.75**	**337**	P	**P**	**23 00 30.9**	**+0.4**
	baz=73,SNR=6.0						
429A	**Davenport Ranc**	**72.76**	**334**	P	**P**	**23 00 31.2**	**+0.6**
	baz=73,SNR=7.2						
234A	**Clairette**	**72.83**	**338**	P	**P**	**23 00 31.7**	**+0.7**
	baz=73						
331A	**San Angelo**	**72.89**	**336**	P	**P**	**23 00 31.8**	**+0.4**
	baz=73,SNR=5.9						
233A	**Rising Star**	**73.07**	**338**	P	**P**	**23 00 33.4**	**+0.9**
	baz=73						
232A	**Coleman**	**73.18**	**337**	P	**P**	**23 00 33.5**	**+0.4**
	baz=73,SNR=5.7						
SWET	**Sewanee**	**73.20**	**349**	*e*P	**P**	**23 00 33.5**	**+0.4**
330A	**Mertzon**	**73.23**	**335**	P	**P**	**23 00 33.8**	**+0.4**
	baz=73						
CPCT	**Cooper Cave**	**73.24**	**351**	*e*P	**P**	**23 00 33.1**	**-0.2**
TKL	**Tuckaleechee C**	**73.35**	**351**	*e*P	**P**	**23 00 33.7**	**-0.2**
TKL	**Tuckaleechee C**	**73.35**	**351**	*e*P	**P**	**23 00 33.7**	**-0.2**
231A	**Bronte**	**73.44**	**336**	P	**P**	**23 00 35.0**	**+0.4**
	baz=74						
Z36A	**Blue Ridge**	**73.54**	**340**	P	**P**	**23 00 35.8**	**+0.8**
	baz=74						
329A	**Wagon Wheel Ra**	**73.57**	**335**	P	**P**	**23 00 36.4**	**+1.0**
	baz=74						
133A	**Hamilton Ranch**	**73.63**	**338**	P	**P**	**23 00 36.7**	**+1.1**
	baz=74						
Z35A	**Perchaven, San**	**73.82**	**339**	P	**P**	**23 00 37.1**	**+0.4**
	baz=74						
ABTX	**Abilene, Hawle**	**73.86**	**337**	P	**P**	**23 00 37.6**	**+0.6**
	baz=74						
Y37A	**Hugo**	**73.99**	**341**	P	**P**	**23 00 38.4**	**+0.7**
	baz=74						
MIAR	**Mount Ida**	**74.02**	**343**	P	**P**	**23 00 37.7**	**-0.2**
MIAR				pmax	pmax		
	comp=Z,70nm,2.8s						
MIAR	**Mount Ida**	**74.02**	**343**	P	**P**	**23 00 38.5**	**+0.7**
	baz=74						
MIAR	**Mount Ida**	**74.02**	**343**	P	**P**	**23 00 37.7**	**-0.2**
	comp=Z,70nm,2.8s						
Z34A	**Collier Ranch,**	**74.05**	**339**	P	**P**	**23 00 39.1**	**+1.0**
	baz=74						
131A	**Roby**	**74.14**	**337**	P	**P**	**23 00 39.5**	**+0.8**
	baz=74						
TZTN	**Tazewell**	**74.19**	**352**	*e*P	**P**	**23 00 38.7**	**-0.2**
	comp=Z,8.8nm,0.8s						
Z33A	**Whitaker Ranch**	**74.21**	**338**	P	**P**	**23 00 39.9**	**+0.9**
	baz=74						
WVT	**Waverly**	**74.40**	**348**	*e*P	**P**	**23 00 39.6**	**-0.4**
WVT				pmax	pmax		
	comp=Z,27nm,1.2s						
WVT	**Waverly**	**74.40**	**348**	*e*P	**P**	**23 00 39.6**	**-0.4**
	comp=Z,28nm,1.2s						
X38A	**Whitesboro**	**74.44**	**342**	P	**P**	**23 00 40.6**	**+0.3**
	baz=75						
Z32A	**Haskell**	**74.45**	**338**	P	**P**	**23 00 40.9**	**+0.5**
	baz=74						
Y34A	**Reagan Ranch,**	**74.55**	**339**	P	**P**	**23 00 41.6**	**+0.6**
	baz=75						
Z31A	**Sharp Cattle R**	**74.66**	**337**	P	**P**	**23 00 42.0**	**+0.3**
	baz=75						
X36A	**Centrahoma**	**74.74**	**341**	P	**P**	**23 00 42.5**	**+0.4**
	baz=75						
X35A	**Drake**	**74.75**	**340**	P	**P**	**23 00 43.0**	**+0.9**
	baz=75						
W38A	**Poteau**	**74.75**	**342**	P	**P**	**23 00 42.9**	**+0.8**
	baz=75						
128A	**Casberry Fa**	**74.78**	**335**	P	**P**	**23 00 43.2**	**+0.7**
	baz=75						
Y33A	**Hilltop Ranch,**	**74.85**	**338**	P	**P**	**23 00 43.3**	**+0.6**
	baz=75						
Z30A	**Sanderson Ranc**	**74.94**	**336**	P	**P**	**23 00 43.8**	**+0.4**
	baz=75,SNR=5.6						
W37A	**Quinton**	**75.04**	**341**	P	**P**	**23 00 44.2**	**+0.4**
	baz=75						
Z29A	**Hungry Hill Ra**	**75.11**	**336**	P	**P**	**23 00 44.5**	**+0.1**
	baz=75,SNR=6.6						
X34A	**Smith Ranch, M**	**75.17**	**339**	P	**P**	**23 00 45.1**	**+0.5**
	baz=75						
W36A	**Wetumka**	**75.25**	**341**	P	**P**	**23 00 44.9**	**-0.1**
	baz=75						
Y31A	**Rekieta Farm,**	**75.30**	**337**	P	**P**	**23 00 46.4**	**+1.1**
	baz=75						
X32A	**Elmer**	**75.43**	**338**	P	**P**	**23 00 45.8**	**-0.3**
	baz=76						
W35A	**Temseh**	**75.43**	**340**	P	**P**	**23 00 46.1**	**0.0**
	baz=76						
V38A	**Canehill**	**75.48**	**342**	P	**P**	**23 00 46.2**	**-0.1**
	baz=76						
PBMO	**Poplar Bluff**	**75.50**	**346**	*e*P	**P**	**23 00 46.0**	**-0.3**
	comp=Z,11nm,0.8s						
WMOK	**Wichita Mounta**	**75.57**	**339**	*e*P	**P**	**23 00 46.6**	**-0.3**
WMOK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
WMOK	**Wichita Mounta**	**75.57**	**339**	*e*P	**P**	**23 00 46.6**	**-0.3**
	comp=Z,5.3nm,1.0s						
V37A	**Hulbert**	**75.67**	**342**	P	**P**	**23 00 47.6**	**+0.2**
	baz=76						
V36A	**Jenks**	**75.78**	**341**	P	**P**	**23 00 48.3**	**+0.3**
	baz=76						
X31A	**McDonald Ranch**	**75.83**	**338**	P	**P**	**23 00 48.7**	**+0.4**
	baz=76						
TUL1	**Tulsa**	**75.86**	**341**	P	**P**	**23 00 48.7**	**+0.2**
	baz=76						
V35A	**Meyer Ranch, C**	**76.00**	**341**	P	**P**	**23 00 49.0**	**-0.2**
	baz=76						
U38A	**Gravette**	**76.02**	**343**	P	**P**	**23 00 49.5**	**+0.1**
	baz=76						
W32A	**Sentinel**	**76.07**	**338**	P	**P**	**23 00 50.5**	**+0.7**
	baz=76						
U37A	**Salina**	**76.17**	**342**	P	**P**	**23 00 50.6**	**+0.4**
	baz=76						
X29A	**Tulia**	**76.19**	**336**	P	**P**	**23 00 51.1**	**+0.5**
	baz=76						
V34A	**Guthrie**	**76.25**	**340**	P	**P**	**23 00 51.1**	**+0.4**
	baz=76						
W31A	**Holland Ranch,**	**76.33**	**338**	P	**P**	**23 00 52.2**	**+1.0**
	baz=76						
V33A	**Lossen Ranch,**	**76.44**	**339**	P	**P**	**23 00 52.3**	**+0.5**
	baz=77						
U35A	**Pawnee**	**76.54**	**341**	P	**P**	**23 00 52.7**	**+0.4**
	baz=77						
V32A	**Arapaho**	**76.57**	**339**	P	**P**	**23 00 53.5**	**+1.0**
	baz=77						
CASY	**Casey**	**76.58**	**182**	*e*P	**P**	**23 00 53.1**	**+0.8**
	comp=Z,23nm,0.5s						
T37A	**Cheneyville 18**	**76.80**	**342**	P	**P**	**23 00 53.9**	**+0.2**
	baz=77						
W29A	**Amarillo**	**76.80**	**337**	P	**P**	**23 00 54.8**	**+0.9**
	baz=77						
U34A	**Anderson Ranch**	**76.82**	**340**	P	**P**	**23 00 54.8**	**+0.9**
	baz=77						
V31A	**Spring Creek L**	**76.85**	**338**	P	**P**	**23 00 55.6**	**+1.5**
	baz=77						
T36A	**Boggs Farm, Ca**	**76.98**	**342**	P	**P**	**23 00 55.4**	**+0.7**
	baz=77						
T35A	**Sooner Cattle**	**77.00**	**341**	P	**P**	**23 00 55.9**	**+1.0**
	baz=77						
U32A	**Winter Ranch,**	**77.17**	**339**	P	**P**	**23 00 56.5**	**+0.6**
	baz=77						
TIC	**Toumodi**	**77.19**	**71**	*e*P	**P**	**23 00 56.3**	**-0.2**
KIC	**Kosan Boka**	**77.21**	**72**	*e*P	**P**	**23 00 56.6**	**-0.1**
T34A	**McClaskey Farm**	**77.28**	**341**	P	**P**	**23 00 57.2**	**+0.8**
	baz=77						
DBIC	**Dimbokro**	**77.33**	**71**	P	**P**	**23 00 56.5**	**-0.7**
	comp=Z,15nm,0.6s,baz=195,slow=4.8,SNR=29						
DBIC	**Dimbokro**	**77.33**	**71**	*e*P	**P**	**23 00 57.2**	**-0.1**
DBIC				pmax	pmax		
	comp=Z,18nm,0.7s						
DBIC	**Dimbokro**	**77.33**	**71**	*e*P	**P**	**23 00 57.2**	**-0.1**
	comp=Z,18nm,0.7s						
S37A	**Fort Scott**	**77.39**	**343**	P	**P**	**23 00 57.1**	**0.0**
	baz=78						
S36A	**Lake Cedric, C**	**77.53**	**342**	P	**P**	**23 00 58.7**	**+0.8**
	baz=78						
V28A	**Channing**	**77.56**	**336**	P	**P**	**23 00 59.1**	**+0.9**
	baz=78						
T33A	**Patterson Ranc**	**77.62**	**340**	P	**P**	**23 00 59.5**	**+1.1**
	baz=78						
BNM	**Barren Site**	**77.63**	**332**	*e*P	**P**	**23 01 00.7**	**+1.9**
S35A	**Otter Creek Ra**	**77.67**	**342**	P	**P**	**23 00 59.1**	**+0.4**
	baz=78						
ACSO	**Alum Creek Sta**	**77.78**	**353**	*e*P	**P**	**23 00 59.1**	**-0.1**
	comp=Z,20nm,0.8s						
T32A	**Huddler Ranch,**	**77.90**	**339**	P	**P**	**23 01 00.1**	**+0.1**
	baz=78						
LAZ	**Ladron**	**78.05**	**332**	*e*P	**P**	**23 01 03.1**	**+2.1**
214A	**Organ Pipe Nat**	**78.22**	**327**	P	**P**	**23 01 03.7**	**+1.8**
	baz=78						
ANMO	**Albuquerque**	**78.28**	**333⇓**	*e*P	**P**	**23 01 03.5**	**+1.1**
ANMO				pmax	pmax		
	comp=Z,47nm,1.1s						
ANMO	**Albuquerque**	**78.28**	**333**	*e*P	**P**	**23 01 03.7**	**+1.4**
	comp=Z,12nm,1.1s						
U27A	**Thompson Grove**	**78.37**	**336**	P	**P**	**23 01 03.6**	**+0.8**
	baz=78						
R34A	**Isabella, Hill**	**78.50**	**341**	P	**P**	**23 01 03.7**	**+0.5**
	baz=79						
R33A	**Olander Ranch,**	**78.70**	**341**	P	**P**	**23 01 05.8**	**+1.5**
	baz=79						
T28A	**Walsh**	**78.78**	**337**	P	**P**	**23 01 05.5**	**+0.5**
	baz=79,SNR=5.5						
HDIL	**Hopedale**	**78.96**	**348**	P	**P**	**23 01 05.1**	**-0.6**
	baz=79,SNR=5.9						
HDIL	**Hopedale**	**78.96**	**348**	*e*P	**P**	**23 01 05.4**	**-0.3**
	comp=Z,1.9nm,0.6s						
Q34A	**Chapman**	**79.00**	**341**	P	**P**	**23 01 07.0**	**+1.0**
	baz=79						
S28A	**Manter**	**79.15**	**337**	P	**P**	**23 01 08.1**	**+1.1**
	baz=79						
P36A	**Good Intent, A**	**79.25**	**343**	P	**P**	**23 01 07.1**	**-0.2**
	baz=79						
T26A	**Comanche Natio**	**79.31**	**336**	P	**P**	**23 01 09.1**	**+1.1**
	baz=79						
TSUM	**Tsumeb**	**79.34**	**106**	*e*P	**P**	**23 01 09.0**	**+0.3**
	comp=Z,7.4nm,1.0s						
BOSA	**Boshof**	**79.46**	**118**	P	**P**	**23 01 08.5**	**-0.7**
	comp=Z,5.4nm,0.8s,baz=193,slow=6.2,SNR=9.0						
BOSA				LR	LR	23 32 49.0	
	comp=Z,104nm,19.6s,baz=152,slow=33						
BOSA	**Boshof**	**79.46**	**118**	P	**P**	**23 01 08.5**	**-0.7**
BOSA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BOSA				MLR	MLR		
	comp=Z,104nm,19.6s						
BOSA	**Boshof**	**79.46**	**118**	*e*P	**P**	**23 01 08.8**	**-0.4**
Q32A	**Meitler Ranch,**	**79.49**	**340**	P	**P**	**23 01 09.8**	**+1.1**
	baz=80						
T25A	**Trinidad**	**79.54**	**335**	P	**P**	**23 01 10.7**	**+1.5**
	baz=80,SNR=12						
T25A	**Trinidad**	**79.54**	**335**	*e*P	**P**	**23 01 10.8**	**+1.6**
	comp=Z,22nm,1.0s						
CBKS	**Cedar Bluff**	**79.65**	**339**	P	**P**	**23 01 10.4**	**+0.8**
	baz=80						
S26A	**Kim**	**79.67**	**336**	P	**P**	**23 01 11.0**	**+1.2**
	baz=80,SNR=12						
W18A	**Petrified Fore**	**79.67**	**330**	P	**P**	**23 01 12.3**	**+2.3**
	baz=80						
O36A	**Bolckow**	**79.68**	**343**	P	**P**	**23 01 09.5**	**-0.1**
	baz=80						
Q31A	**Ellis**	**79.73**	**340**	P	**P**	**23 01 11.3**	**+1.3**
	baz=80						
TRY	**Troy**	**79.78**	**360**	*e*P	**P**	**23 01 11.7**	**+1.6**
	comp=Z,22nm,1.0s						
Q30A	**Quinter**	**79.94**	**339**	P	**P**	**23 01 12.2**	**+1.1**
	baz=80						
R27A	**Eads**	**80.07**	**337**	P	**P**	**23 01 12.4**	**+0.5**
	baz=80,SNR=9.9						
Q29A	**Oakley**	**80.08**	**338**	P	**P**	**23 01 12.8**	**+0.9**
	baz=80						
O34A	**Beatrice**	**80.14**	**342**	P	**P**	**23 01 12.8**	**+0.6**
	baz=80						
P31A	**Stockton**	**80.21**	**340**	P	**P**	**23 01 13.0**	**+0.5**
	baz=80						
O33A	**Hebron**	**80.26**	**341**	P	**P**	**23 01 13.4**	**+0.6**
	baz=80						
R26A	**Arlington**	**80.29**	**336**	P	**P**	**23 01 14.0**	**+0.8**
	baz=80,SNR=7.1						
SDCO	**Great Sand Dun**	**80.46**	**335**	P	**P**	**23 01 15.9**	**+1.6**
	baz=80						
SDCO	**Great Sand Dun**	**80.46**	**335**	*e*P	**P**	**23 01 15.6**	**+1.3**

ISCO pmax pmax
comp=Z,5.0nm,1.1s
ISCO Idaho Springs 82.35 336 P **P** **23 01 26.2 +1.9**
baz=82
ISCO Idaho Springs 82.35 336 *eP* **P** **23 01 25.6 +1.3**
comp=Z,5.4nm,1.1s
PV09 Paradox Valley 82.42 332 *eP* **P** **23 01 26.3 +1.7**
KNB Kanab 82.56 329 *eP* **P** **23 01 27.5 +2.2**
KNB pmax pmax
comp=Z,17nm,1.1s
KNB Kanab 82.56 329 *eP* **P** **23 01 27.4 +2.2**
comp=Z,17nm,1.1s
GSC Goldstone 82.82 325 P **P** **23 01 28.3 +1.7**
baz=83
EDW2 Edwards Air Fo 83.01 324 P **P** **23 01 29.4 +1.9**
baz=83
SHPR Sheep Range 83.10 327 *eP* **P** **23 01 30.3 +2.2**
K30A Basset 83.22 341 P **P** **23 01 29.9 +1.5**
baz=83
CCUT Cedar City 83.24 329 *eP* **P** **23 01 31.3 +2.5**
comp=Z,12nm,1.1s
N23A Red Feather La 83.44 336 P **P** **23 01 30.7 +0.8**
baz=84
N23A Red Feather La 83.44 336 *eP* **P** **23 01 31.3 +1.4**
comp=Z,10nm,1.0s
SRU San Rafael 83.47 332 *eP* **P** **23 01 31.2 +1.2**
SRU pmax pmax
comp=Z,9.0nm,0.9s
SRU San Rafael 83.47 332 *eP* **P** **23 01 31.2 +1.2**
comp=Z,9.3nm,0.9s
ECSD EROS Data Cent 83.48 343 P **P** **23 01 29.9 +0.2**
baz=84,SNR=17
ECSD EROS Data Cent 83.48 343 *eP* **P** **23 01 29.8 +0.2**
comp=Z,23nm,1.0s
O20A White River Ci 83.54 334 P **P** **23 01 31.6 +1.3**
baz=84
O20A White River Ci 83.54 334 *eP* **P** **23 01 31.8 +1.5**
comp=Z,14nm,1.3s
MSU Marysvale 83.59 330 *eP* **P** **23 01 32.6 +2.0**
MSU Marysvale 83.59 330 *eP* **P** **23 01 32.6 +2.0**
MVU Marysvale 83.59 330 *eP* **P** **23 01 32.7 +2.0**
comp=Z,7.1nm,1.0s
MPMC Manual Prospec 83.76 325 P **P** **23 01 33.4 +1.9**
baz=84
FURC Furnace Creek, 83.82 326 P **P** **23 01 33.7 +2.2**
baz=84
ISA Isabella 83.88 325 *eP* **P** **23 01 34.0 +2.0**
ISA pmax pmax
comp=Z,8.0nm,0.9s
ISA Isabella 83.88 325 P **P** **23 01 34.1 +2.0**
baz=84
ISA Isabella 83.88 325 *eP* **P** **23 01 34.0 +2.0**
comp=Z,8.2nm,0.9s
PKM Peak Mountain 83.88 323 P **P** **23 01 34.1 +2.0**
baz=84
TMUT Trail Mountain 83.89 331 *eP* **P** **23 01 34.1 +1.8**
comp=Z,8.7nm,1.0s
TPNV Topopah Spring 83.95 327 *eP* **P** **23 01 34.7 +2.3**
TPNV pmax pmax
comp=Z,7.0nm,0.9s
TPNV Topopah Spring 83.95 327 P **P** **23 01 34.4 +2.0**
baz=84,SNR=5.7
TPNV Topopah Spring 83.95 327 *eP* **P** **23 01 34.7 +2.3**
comp=Z,6.6nm,0.9s
J29A Okreek 84.09 341 P **P** **23 01 33.7 +0.9**
baz=84
J28A Allard Ranch, 84.35 340 P **P** **23 01 35.3 +1.1**
baz=84
J27A Elkhorn Farm, 84.40 339 P **P** **23 01 36.4 +2.0**
baz=84
J26A Sides Ranch, S 84.76 339 P **P** **23 01 37.4 +1.1**
baz=85,SNR=7.7
NLU North Lily Min 84.80 331 *eP* **P** **23 01 38.6 +1.9**
comp=Z,14nm,1.3s
R11A Troy Canyon, C 84.84 328 P **P** **23 01 38.6 +1.7**
baz=85,SNR=17
R11A Troy Canyon, C 84.84 328 *eP* **P** **23 01 38.8 +1.8**
comp=Z,8.4nm,0.9s
I28A Midland 84.86 340 P **P** **23 01 37.3 +0.5**
baz=85,SNR=5.3
K23A Bowen Ranch, D 85.02 337 P **P** **23 01 39.0 +1.3**
baz=85
J25A Sunshine Ranch 85.05 338 P **P** **23 01 38.3 +0.5**
baz=85,SNR=8.1
I27A Quinn 85.17 340 P **P** **23 01 39.4 +1.1**
baz=85
K22A Casper 85.21 336 P **P** **23 01 39.5 +0.8**
baz=85,SNR=6.6
K22A Casper 85.21 336 *eP* **P** **23 01 39.5 +0.8**
comp=Z,15nm,0.9s
J24A Dixon Ranch, L 85.25 338 P **P** **23 01 40.7 +1.9**
baz=85
DUG Dugway 85.29 331 *eP* **P** **23 01 40.7 +1.6**
DUG pmax pmax
comp=Z,15nm,1.3s
DUG Dugway 85.29 331 P **P** **23 01 40.1 +1.0**
baz=85,SNR=12
DUG Dugway 85.29 331 *eP* **P** **23 01 40.7 +1.6**
comp=Z,16nm,1.3s
TPH Tonopah 85.31 327 *eP* **P** **23 01 41.3 +2.0**
TPH pmax pmax
comp=Z,15nm,0.9s
TPH Tonopah 85.31 327 *eP* **P** **23 01 41.3 +2.0**
comp=Z,15nm,0.9s
H28A Mission Ridge 85.45 341 P **P** **23 01 40.4 +0.8**
baz=86
H27A Howes 85.70 340 P **P** **23 01 40.9 0.0**
baz=86,SNR=5.8
I24A Kuemmerle Ranc 85.72 338 P **P** **23 01 41.5 +0.4**
baz=86
RSSD Black Hills 85.78 338 *eP* **P** **23 01 42.1 +0.6**
RSSD pmax pmax
comp=Z,14nm,0.9s
RSSD Black Hills 85.78 338 *eP* **P** **23 01 42.1 +0.6**
comp=Z,14nm,0.9s
J22A Midwest 85.89 337 P **P** **23 01 42.4 +0.5**
baz=86
BGU Big Grassy Mou 86.00 331 *eP* **P** **23 01 43.9 +1.2**
comp=Z,6.5nm,1.4s
HWUT Hardware Ranch 86.04 332 *eP* **P** **23 01 43.6 +0.8**
comp=Z,20nm,1.0s
NVAR Mina Array Bea 86.08 326 P **P** **23 01 45.0 +1.8**
comp=Z,4.2nm,0.8s,baz=160,slow=6.2,SNR=31
SPUT South Promonto 86.11 332 *eP* **P** **23 01 44.8 +1.7**
comp=Z,17nm,1.2s
H25A Fruitdale 86.11 339 P **P** **23 01 44.2 +1.2**
baz=86
J21A Lysite 86.14 336 P **P** **23 01 44.3 +1.0**
baz=86
F29A Eureka 86.23 342 P **P** **23 01 44.0 +0.5**
baz=86
I22A 9 Mile Ranch, 86.32 337 P **P** **23 01 43.8 -0.3**
baz=86,SNR=6.0
BW06 Boulder Array 86.33 334 *eP* **P** **23 01 44.9 +0.6**
comp=Z,8.0nm,1.0s
PDAR Pinedale Array 86.33 334 P **P** **23 01 44.8 +0.5**
comp=Z,5.1nm,1.0s,baz=132,slow=4.4,SNR=29
G27A Dupree 86.35 340 P **P** **23 01 44.8 +0.7**
baz=86
J20A Shoshoni 86.35 335 P **P** **23 01 45.1 +0.8**
baz=86
TOB4 Torodi Ar. Sit 86.39 71 *eP* **P** **23 01 43.6 -1.4**
TORD Torodi Ar. Bea 86.41 71 P **P** **23 01 44.2 -0.8**
comp=Z,2.3nm,0.7s,baz=223,slow=5.5,SNR=24
G26A Maurine 86.45 340 P **P** **23 01 44.4 -0.1**
baz=87,SNR=9.5
F28A McLaughlin 86.49 341 P **P** **23 01 45.1 +0.4**
baz=87
I21A Big Trails, Te 86.50 336 P **P** **23 01 44.7 -0.3**
baz=87,SNR=6.2
H24A Dirks Ranch, A 86.50 338 P **P** **23 01 44.5 -0.5**
baz=87
EYMN Ely 86.51 348 P **P** **23 01 44.4 -0.3**
baz=87
EYMN Ely 86.51 348 *eP* **P** **23 01 44.2 -0.6**
comp=Z,8.7nm,1.1s
G25A Newell 86.59 339 P **P** **23 01 45.6 +0.3**
baz=87,SNR=9.3
J19A Crowheart 86.60 335 P **P** **23 01 45.8 +0.3**
baz=87,SNR=15
HVU Hansel Valley 86.64 332 *eP* **P** **23 01 46.7 +0.9**
HVU pmax pmax
comp=Z,9.0nm,1.0s
HVU Hansel Valley 86.64 332 *eP* **P** **23 01 46.7 +0.9**
comp=Z,9.3nm,1.0s
ELK Elko 86.72 329 *eP* **P** **23 01 47.3 +1.0**
ELK pmax pmax
comp=Z,11nm,0.4s
ELK Elko 86.72 329 *eP* **P** **23 01 47.2 +1.0**
comp=Z,11nm,0.4s
F27A Lemmon 86.83 340 P **P** **23 01 46.5 +0.1**
baz=87,SNR=6.1
I20A Worland 86.90 336 P **P** **23 01 46.8 -0.1**
baz=87,SNR=5.8
H22A Clearmont 86.91 337 P **P** **23 01 47.3 +0.4**
baz=87
F26A Lodgepole 86.98 340 P **P** **23 01 48.1 +1.0**
baz=87
G24A Alzada 86.99 339 P **P** **23 01 48.1 +0.8**
baz=87
E28A Huff 87.14 342 P **P** **23 01 48.6 +0.8**
baz=87
H21A Big Horn, Sher 87.16 337 P **P** **23 01 48.2 +0.1**
baz=87
D30A Buchanan 87.16 343 P **P** **23 01 48.6 +0.6**
baz=87
G23A Biddle 87.17 338 P **P** **23 01 48.5 +0.4**
baz=87
I19A Meeteetse 87.26 335 P **P** **23 01 49.9 +1.1**
baz=87
REDW Red Top Meadow 87.31 334 *eP* **P** **23 01 49.9 +0.8**
comp=Z,6.1nm,0.9s
D29A Pettibone, Tap 87.32 342 P **P** **23 01 50.1 +1.4**
baz=88
LOHW Long Hollow 87.44 334 *eP* **P** **23 01 50.2 +0.6**
comp=Z,5.1nm,0.9s
TPAW Teton Pass 87.45 334 *eP* **P** **23 01 50.7 +0.9**
comp=Z,10.0nm,0.9s
F24A Ekalaka 87.47 339 P **P** **23 01 50.0 +0.4**
baz=88
E26A Carlson Angus 87.50 340 P **P** **23 01 50.2 +0.6**
baz=88
MOOW Moose Ponds 87.61 334 *eP* **P** **23 01 51.2 +0.7**
comp=Z,3.9nm,0.8s
FXWY Fox Creek 87.61 334 *eP* **P** **23 01 51.0 +0.5**
comp=Z,3.7nm,0.9s
F23A Volborg 87.64 338 P **P** **23 01 50.5 +0.2**
baz=88
AGMN Agassiz Nation 87.66 345 P **P** **23 01 50.6 +0.3**
baz=88
AGMN Agassiz Nation 87.66 345 *eP* **P** **23 01 50.5 +0.2**
comp=Z,46nm,1.6s
C30A Mose, Pekin 87.66 343 P **P** **23 01 51.3 +1.0**
baz=88
D28A Regan 87.68 342 P **P** **23 01 51.6 +1.1**
baz=88
E25A Miller Ranch, 87.78 340 P **P** **23 01 51.7 +0.7**
baz=88
IMW Indian Meadow 87.81 334 *eP* **P** **23 01 52.3 +0.8**
comp=Z,9.4nm,0.9s
D27A Center 87.84 341 P **P** **23 01 52.0 +0.7**
baz=88
FLWY Flagg Ranch 87.89 334 *eP* **P** **23 01 51.3 -0.5**
comp=Z,12nm,0.8s
D26A Manning 88.01 341 P **P** **23 01 53.2 +1.2**
baz=88
G20A Bridger 88.06 336 P **P** **23 01 52.5 0.0**
baz=88
E24A Baker 88.09 339 P **P** **23 01 53.6 +1.1**
baz=88
C28A Hausauer Farms 88.12 342 P **P** **23 01 53.0 +0.5**
baz=88
RLMT Red Lodge 88.31 335 P **P** **23 01 54.6 +0.8**
baz=88
B30A Myrvik Farm, E 88.33 344 P **P** **23 01 53.9 +0.4**
baz=88,SNR=12
C27A Sayler Ranch, 88.40 341 P **P** **23 01 54.7 +0.8**
baz=88
B29A Wagenman Farm, 88.58 343 P **P** **23 01 54.8 +0.1**
baz=89,SNR=6.5
LAO LASA Array 88.76 338 P **P** **23 01 56.2 +0.5**
baz=89
A30A Hoffart Farm, 88.79 344 P **P** **23 01 56.3 +0.6**
baz=89
HLID Hailey 88.79 332 P **P** **23 01 57.9 +1.9**
baz=89
HLID Hailey 88.79 332 *eP* **P** **23 01 57.8 +1.8**
comp=Z,12nm,1.3s
B28A Dugan Ranch, T 88.80 342 P **P** **23 01 56.1 +0.4**
baz=89
A29A Manning Farm, 88.98 343 P **P** **23 01 56.5 0.0**
baz=89
MFID Camas Ranch 89.21 331 *eP* **P** **23 01 59.3 +1.4**
comp=Z,6.4nm,1.0s
MCMT McKenzie Canyo 89.29 333 *eP* **P** **23 02 00.1 +1.7**
ULM Lac du Bonnet 89.52 346 P **P** **23 01 58.8 -0.3**
comp=Z,5.5nm,0.8s,baz=180,slow=2.5,SNR=6.5
ULM Lac du Bonnet 89.52 346 *eP* **P** **23 01 59.1 +0.1**
ULM pmax pmax
comp=Z,10.0nm,1.0s
ULM Lac du Bonnet 89.52 346 *eP* **P** **23 01 59.1 +0.1**
comp=Z,9.5nm,1.0s
BOZ Bozeman (W) 89.57 334 P **P** **23 01 60.0 +0.4**
baz=90
DLMT Dillon 89.67 334 *eP* **P** **23 02 02.0 +2.0**
comp=Z,16nm,1.6s
LSZ Lusaka 89.77 109 *eP* **P** **23 02 03.0 +1.7**
LSZ pmax pmax
comp=Z,30nm,2.1s
LSZ Lusaka 89.77 109 *eP* **P** **23 02 03.0 +1.7**
comp=Z,30nm,2.1s
YBH Yreka Blue Hor 90.73 325 P **P** **23 02 05.3 +0.2**
comp=Z,2.4nm,0.8s,baz=357,slow=7.2,SNR=3.2
F10A Beach Ranch, E 91.90 331 *eP* **P** **23 02 11.1 +0.7**
comp=Z,4.3nm,0.9s
G08A Pilot Rock 92.01 330 *eP* **P** **23 02 12.4 +1.5**
comp=Z,2.7nm,0.9s
HAWA Hanford 93.15 330 *eP* P 23 02 19.8 +3.8
comp=Z,3.9nm,0.6s
WALA Waterton Lakes 93.30 335 *eP* **P** **23 02 18.0 +1.2**
comp=Z,9.2nm,0.9s
ASAR Alice Springs 114.02 207 PKiKP **PKiKP** **23 07 41.4 -0.4**
comp=Z,0.3nm,0.5s,baz=313,slow=38,SNR=4.0
GERES GERESS Array B 115.32 47 PKP **PKPdf** **23 07 42.8 -0.6**
comp=Z,0.7nm,0.7s,baz=205,slow=2.5,SNR=9.5
KDAK Kodiak Island 115.53 324 *i* PKIKP **PKPdf** **23 07 40.5 -2.8**
ILAR Eielson Array 116.73 333 PKP **PKPdf** **23 07 45.2 -0.3**
comp=Z,0.5nm,0.7s,baz=156,slow=2.7,SNR=6.6
DPC Dobruska-Polom 117.53 46 *e*PKP **PKPdf** **23 07 47.9 +0.4**
DPC *ex* x 23 07 56.1
DPC *ep*PKP **pPKPdf** **23 08 02.7 +3.6**
DPC Dobruska-Polom 117.53 46 *e*PKIKP **PKPdf** **23 07 47.9 +0.4**
DPC *e* 23 07 56.1
DPC *e* 23 08 02.7
BRTR Keskin Array B 124.41 63 PKP **PKPdf** **23 08 01.1 -0.2**
comp=Z,2.1nm,0.7s,baz=193,slow=2.3,SNR=17
KIEV Kiev 125.28 49 *e*PKIKP **PKPdf** **23 08 01.2 -1.1**
AKASG Malin Array Be 125.29 49 *i* PKIKP **PKPdf** **23 08 02.5 +0.2**
ARCES ARCESS Array B 127.58 26 PKP **PKPdf** **23 08 05.8 -0.4**
comp=Z,4.2nm,1.1s,baz=249,slow=3.4,SNR=5.6
OBN Obninsk 130.66 45 *e*PKIKP **PKPdf** **23 08 11.1 -1.3**
OBN pmax pmax
comp=Z,4.0nm,1.1s
NEY Neytrino 132.01 62 PKIKP **PKPdf** **23 08 15.0 -0.7**
KIV Kislovodsk 132.18 61 PKIKP **PKPdf** **23 08 16.1 +0.3**
KIV pmax pmax
comp=Z,4.0nm,1.2s
KIV MLR MLR
comp=Z,45nm,18.0s
GOF Gofitskoye 132.70 60 *e*PKIKP **PKPdf** **23 08 17.7 +1.0**
PRGR Permogore 135.74 37 PKIKP **PKPdf** **23 08 18.7 -3.1**
PRGR pmax pmax
comp=Z,9.0nm,1.3s
GEYT Alibeck 141.97 74 PKP **PKPdf** **23 08 33.5 -0.6**
comp=Z,1.5nm,0.6s,baz=251,slow=4.4,SNR=4.0
SEY Seymchan 142.38 328 PKP **PKPdf** **23 08 33.5 -0.3**
comp=Z,4.3nm,0.8s,baz=71,slow=6.4,SNR=4.8
SEY Seymchan 142.38 328 *i* PKIKP **PKPdf** **23 08 35.0 +1.1**
ARU Arti 143.02 43 PKHKP PKPpre 23 08 25.6
BRVK Borovoye 150.42 46 *d i* PKIKP **PKPbc** **23 08 53.4 +0.3**
BVAR Borovoye Array 150.49 46 PKPbc **PKPbc** **23 08 53.8 +0.6**
comp=Z,4.7nm,0.8s,baz=100,slow=5.0,SNR=10.0
YAK Yakutsk 151.51 337 *e*PKIKP **PKPbc** **23 08 54.6 -0.7**
YAK *e* 23 09 03.4
YAK pmax pmax
comp=Z,65nm,1.0s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.9s
MJAR Matsushiro Arr 154.79 278 PKPab **PKPab** **23 09 18.8 +0.2**
comp=N,2.9nm,0.7s,baz=144,slow=3.4,SNR=9.2
NVS Novosibirsk 156.40 35 *e*PKP2 **PKPab** **23 09 25.1 +0.2**
ZALV Zalesovo Beam 157.68 35 PKP **PKPdf** **23 08 56.9 -1.0**
comp=N,3.0nm,0.8s,baz=277,slow=2.5,SNR=12
ZALV PKPab **PKPab** **23 09 30.6 +0.1**
comp=N,4.7nm,0.6s,baz=300,slow=5.0,SNR=8.8
BOD Bodaibo 159.02 349 *e*PKP2 **PKPab** **23 09 35.0 -1.0**
BOD pmax pmax
comp=Z,9.0nm,0.9s
MKAR Makanchi Array 159.75 55 PKP **PKPdf** **23 09 00.5 -0.2**
comp=Z,1.3nm,0.8s,baz=308,slow=4.0,SNR=9.4
MKAR PKPab **PKPab** **23 09 38.9 -0.9**
comp=Z,1.6nm,0.7s,baz=279,slow=2.3,SNR=8.4
KSRS Korea Array 163.06 277 PKPab **PKPab** **23 09 56.2 +1.8**
comp=Z,0.5nm,0.3s,baz=108,slow=4.1,SNR=4.6
KSRS Korea Array 163.06 277 PKP2 **PKPab** **23 09 56.3 +1.8**
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KSAR Wonju Array Be 163.09 277 PKP2 **PKPab** **23 09 56.3 +1.6**
KSAR Wonju Array Be 163.09 277 PKPab **PKPab** **23 09 56.2 +1.6**
WMQ Urumqi 164.30 60 *e*PKP **PKPdf** **23 09 04.5 -1.0**
WMQ LN
comp=Z,170nm,18.3s
WMQ LE
comp=Z,89nm,18.0s
WMQ LZ
comp=Z,91nm,19.4s
KMI Kunming 167.31 164 PKP **PKPdf** **23 09 08.6 -0.1**
GYA Guiyang 169.07 180 *e*PKP **PKPdf** **23 09 09.3 -0.4**
GYA PKS **PKSdf** **23 12 40.8 -1.6**
GYA PPMZ
comp=Z,120nm,7.9s
SONM Songino Array 169.59 1 PKP **PKPdf** **23 09 08.5 -0.9**
comp=Z,0.7nm,0.9s,baz=186,slow=3.0,SNR=3.9
SONM PKPab **PKPab** **23 10 23.1 +0.1**
comp=Z,1.5nm,0.8s,baz=342,slow=4.4,SNR=5.9
BJI Beijing 172.07 292 PKP **PKPdf** **23 09 10.8 +0.1**
CD2 Chengdu 173.09 159 PKP **PKPdf** **23 09 11.4 -0.2**
CD2 PPMZ
comp=Z,220nm,7.6s
CD2 LN
comp=Z,260nm,5.5s
CD2 LZ
comp=Z,240nm,6.7s
HHC Hu-ho-hao-te 174.84 313 *e*PKP **PKPdf** **23 09 11.1 -0.8**
HHC PPMZ
comp=Z,18nm,6.1s
HHC LN
comp=Z,200nm,16.9s
HHC LE
comp=Z,100nm,18.0s
HHC LZ
comp=Z,140nm,17.3s

*HYB **20** 23:08:31.7±1.3, 17.52N×80.67E, h6km±9km, ML3.0*
ISC 20 23:08:29.4±1.7, **17.52N**±0.04×**80.68E**±0.04, **h0**km±15km,
n21, σ1**s37**/32, **Southern India**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PVM	**Polavaram**	**0.94**	**107**	*e*Pg		**Pg**		**23 08 47.6**	**+0.2**
PVM				*e*Sg		**Sg**		**23 08 59.2**	**-0.4**
PVM				IAML				23 09 33.2	
comp=Z,134nm,0.8s									
NJS	**Nagarjunasagar**	**1.63**	**234**	*e*Pg		**Pn**		**23 08 59.9**	**+0.5**
NJS				*e*Sg		**Sn**		**23 09 20.0**	**-1.1**
NJS				IAML				23 09 35.1	
comp=Z,560nm,0.8s									
ADKI	**Addanki**	**1.80**	**202**	*e*Pg		**Pn**		**23 09 02.5**	**+0.7**
ADKI				*e*Sg		**Sn**		**23 09 25.1**	**-0.3**
ADKI				IAML				23 09 40.4	
comp=Z,241nm,0.9s									
RPR	**Rampur**	**1.88**	**315**	*e*Pg		**Pb**		**23 09 04.6**	**0.0**
RPR				*e*Sg		**Sn**		**23 09 26.3**	**-0.9**
RPR				IAML				23 09 31.8	
comp=Z,182nm,0.7s									
HYBB	**Hyderabad (bro**	**2.04**	**267**	*e*Pg		**Pb**		**23 09 06.8**	**-0.6**
HYBB				*e*Sg		**Sn**		**23 09 31.4**	**+0.1**
HYBB				IAML				23 09 47.6	
comp=Z,310nm,0.9s									
SRLM	**Srisailam**	**2.22**	**231**	*e*Pg		**Pn**		**23 09 09.1**	**+1.5**
SRLM				*e*Sg		**Sn**		**23 09 36.5**	**+0.7**
SRLM				IAML				23 09 56.0	
comp=Z,275nm,0.8s									
SRSP	**Sriramsagar**	**2.63**	**303**	*e*Pg		**Pb**		**23 09 17.9**	**+0.5**
SRSP				*e*Sg		**Sb**		**23 09 48.8**	**-1.5**
SRSP				IAML				23 09 57.8	
comp=Z,67nm,0.7s									
RCLA	**Racherla**	**2.64**	**219**	*e*Pg		**Pb**		**23 09 17.8**	**+0.2**
RCLA				*e*Sg		**Sb**		**23 09 49.0**	**-1.6**
CHLP	**Challavanipeta**	**3.36**	**73**	*e*Pg		**Pb**		**23 09 30.1**	**+0.3**
CHLP				*e*Sg		**Sb**		**23 10 09.2**	**-2.0**
CHLP				IAML				23 10 23.4	
comp=Z,32nm,0.5s									
SKHT	**Srikalahasti**	**3.87**	**194**	*e*Pg		**Pb**		**23 09 39.8**	**+1.1**
SKHT				*e*Sg		**Sb**		**23 10 24.3**	**-1.8**
KLRI	**Killari**	**3.93**	**279**	*e*Pg		**Pb**		**23 09 40.2**	**+0.5**
KLRI				*e*Sg		**Sb**		**23 10 25.6**	**-2.3**
URV	**Uravakonda**	**4.17**	**233**	*e*Sg		**Sb**		**23 10 32.2**	**-2.4**
POO	**Poona**	**6.58**	**280**	*e*P		**Sn**		**23 11 27.5**	**+4.1**
KOLN	**Koldanda**	**10.55**	**14**	*e*P		**Pn**		**23 11 02.9**	**+0.7**
comp=Z,15nm,0.6s									
DMN	**Daman**	**10.84**	**21**	*e*P		**Pn**		**23 11 06.3**	**+0.1**
PKI	**Pulchoki**	**10.91**	**23**	*e*P		**Pn**		**23 11 06.4**	**-0.8**
comp=Z,24nm,0.8s									
PKIN	**Phulchoki**	**10.91**	**23**	*e*P		**Pn**		**23 11 06.4**	**-0.8**
comp=Z,10nm,0.8s									
GKN	**Gorkha**	**11.05**	**19**	*e*P		**Pn**		**23 11 09.1**	**+0.1**
comp=Z,35nm,0.6s									
KKN	**Kakani**	**11.06**	**22**	*e*P		**Pn**		**23 11 09.5**	**+0.3**
comp=Z,12nm,0.7s									
ODAN	**Odare**	**11.18**	**33**	*e*P		**Pn**		**23 11 11.7**	**+0.9**
comp=Z,12nm,0.5s									
GUN	**Gumba**	**11.39**	**24**	*e*P		**Pn**		**23 11 12.6**	**-1.3**
comp=Z,33nm,0.6s									

*IDC **20** 23:10:33.0±2.1, 52.62N×171.95W, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.6/46, mbtmp3.7/7, ML3.6/1, Error ellipse: s-maj=62.3km s-min=33.8km az=137.0*
*NEIC **20** 23:10:49.4, 52.58N×168.77W, h9km, ML3.7(AEIC), After AEIC.*
ISC 20 23:10:49.6±1.8, **52.65N**±0.09×**168.9W**±0.1, **h10**km, **n23**,
σ1**s29**/21, **mb3.4**/4, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.32**	**1**	P		**Pb**		**23 10 58.2**	**+0.8**
NIKH				S		**Sb**		**23 11 04.1**	**+1.4**
OKWR	**Okmok West Rim**	**0.88**	**27**	P		**Pb**		**23 11 07.1**	**+0.1**
OKCE	**Okmok Cone E**	**0.88**	**28**	P		**Pg**		**23 11 06.8**	**+0.2**
OKTU	**Okmok Mt. Tuli**	**0.89**	**34**	P		**Pg**		**23 11 06.8**	**+0.2**
OKAK	**Okmok**	**0.98**	**18**	P		**Pg**		**23 11 06.5**	**-1.9**
OKAK				S		**Sg**		**23 11 20.2**	**-0.9**
MSOM	**Makushin Julie**	**1.64**	**44**	P		**Pn**		**23 11 18.2**	**-0.2**
MCIR	**Makushin Cirqu**	**1.76**	**42**	P		**Pn**		**23 11 19.2**	**-0.9**
MSW	**Makushin Switc**	**1.78**	**44**	P		**Pn**		**23 11 20.3**	**-0.1**
MSW				S		**Sb**		**23 11 45.4**	**+0.8**
UNV	**Unalaska Valle**	**1.86**	**49**	P		**Pn**		**23 11 21.2**	**-0.2**
UNV				S		**Sb**		**23 11 46.5**	**-0.3**
MTBL	**Makushin Table**	**1.86**	**44**	P		**Pn**		**23 11 21.5**	**-0.1**
AKUT	**Akutan**	**2.37**	**50**	*e*Pn		**Pn**		**23 11 28.4**	**-0.1**
BPAW	**Bear Paw Mtn.** 0.6nm,0.7s	**14.75**	**32**	*e*P		**Pn**		**23 14 20.6**	**+2.6**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=225,slow=9.1,SNR=4.3	**16.54**	**34**	P		**Pn**		**23 14 38.3**	**-3.1**
DLBC	**Dease Lake** 3.2nm,0.9s,baz=276,slow=14,SNR=5.5	**22.48**	**60**	P		**P**		**23 15 50.0**	**+1.3**
YKA	**Yellowknife Ar** 0.2nm,0.4s,baz=275,slow=7.4,SNR=3.4	**29.82**	**49**	P		**P**		**23 16 55.3**	**-1.0**
NVAR	**Mina Array Bea** 0.5nm,0.9s,baz=293,slow=7.7,SNR=3.0	**37.36**	**92**	P		**P**		**23 18 03.4**	**+1.0**
H11N2	**WAKE ISLAND Hy 37.87 219** baz=23,slow=76,SNR=17			T		T		23 57 48.4	
H11N3	**WAKE ISLAND Hy 37.88 219** baz=23,slow=76,SNR=21			T		T		23 57 50.0	
H11N1	**WAKE ISLAND Hy 37.89 219** baz=23,slow=76,SNR=14			T		T		23 57 57.4	
H11S1	**WAKE ISLAND Hy 39.05 219** baz=22,slow=76,SNR=382			T		T		23 59 22.6	
H11S2	**WAKE ISLAND Hy 39.07 219** baz=22,slow=76,SNR=256			T		T		23 59 29.7	
H11S3	**WAKE ISLAND Hy 39.07 219** baz=22,slow=76,SNR=144			T		T		23 59 15.3	
PDAR	**Pinedale Array** 0.8nm,0.6s,baz=313,slow=5.5,SNR=4.7	**40.05**	**80**	P		**P**		**23 18 23.9**	**-1.0**

NNC 20 23:20:47.8±3.4, 37°82'N×71°72'E, h0km, mb3.6, mpv3.2, 6C-1D, Error ellipse: s-maj=32.8km s-min=10.0km az=160.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZET	**Dzherino** 1.5nm,0.2s	**2.48**	**294**	⇑Pn	Op	Pn	23 21 28.7	-0.9
DZET	7.4nm,0.2s			⇓Sn		Sn	23 22 02.4	+1.8
SFK	**Sufi-Kurgan** 4.5nm,0.2s	**2.60**	**32**	⇑Pn		Pn	23 21 31.6	+0.1
SFK	11nm,0.2s			⇑Sn		Sn	23 22 05.9	+2.0
AAK	**Ala-Archa** 2.3nm,0.5s	**5.26**	**23**	⇑Pn		Pn	23 22 06.4	-1.5
AAK	1.9nm,0.5s			⇑Sn		Sn	23 23 08.2	-1.2
KK31	**Karatay Array** 0.7nm,0.3s,baz=165,slow=12,SNR=18	**5.36**	**351**	⇑Pn		Pn	23 22 09.1	+0.1
KK31	5.4nm,0.6s,baz=173,slow=23,SNR=22			Sn		Sn	23 23 11.0	-0.5

KRSC 20 23:23:44.8±2.7, 50°05N×157°15E, h81km±27km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.92**	**314**	*e*P		Pn	23 24 03.7	+0.8
SKR				*e*S		Sn	23 24 16.6	+0.1
PAU	**Pauzhetka**	**1.44**	**351**	*e*P		Pn	23 24 11.2	+1.9
PAU				*e*S		Sn	23 24 29.7	+1.9
MIPR	**Malaya Ipel'ka**	**2.24**	**354**	*e*P		Pn	23 24 20.4	+0.4
ASAK	**Asacha**	**2.38**	**11**	*e*P		Pn	23 24 24.6	+2.7
MTVR	**Mutnovka**	**2.52**	**14**	*e*S		Sn	23 24 57.1	+3.3
RUS	**Russkaya**	**2.54**	**19**	*e*P		Pn	23 24 26.1	+2.3
RUS				*e*S		Sn	23 24 56.1	+2.3
UGLR	**Uglovaya**	**3.33**	**18**	*e*P		Pn	23 24 37.1	+2.3
AVH	**Avacha**	**3.37**	**16**	*e*P		Pn	23 24 38.6	+3.4
KOK	**Koryaka**	**3.38**	**15**	*e*P		Pn	23 24 38.6	+3.2
KRER	**Koryakskii**	**3.41**	**16**	*e*P		Pn	23 24 38.9	+3.0
SDLR	**Sedlovina**	**3.41**	**18**	*e*P		Pn	23 24 38.2	+2.4
KRX	**Arik**	**3.44**	**15**	*e*P		Pn	23 24 39.1	+2.8
SPN	**Mys Shipunski**	**3.54**	**29**	*e*S		Sn	23 25 22.0	+3.9
GNL	**Ganaly**	**3.68**	**7**	*e*P		Pn	23 24 41.0	+1.4
MKZ	**Mys Kozlova**	**5.32**	**30**	*e*P		Pn	23 25 04.5	+3.0
KZV	**Kizimen**	**5.42**	**19**	*e*P		Pn	23 25 07.7	+4.5
TUMR	**Tumrok**	**5.55**	**18**	*e*P		Pn	23 25 08.9	+4.0
KBTR	**Krutoberegovo**	**7.05**	**27**	*e*P		Pn	23 25 27.4	+2.3
BKI	**Bering**	**7.44**	**43**	*e*S		Sn	23 26 51.5	-1.8

FUNV 20 23:41:13.6, 6°87N×73°05W, h168km, MW3.7, 2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.23**	**36**	⇓*i*P		Pn	23 41 41.3	-1.1
CAPV				*e*S		Sn	23 42 02.2	-2.3
VIGV	**El Vigia**	**2.57**	**40**	⇓*i*P		Pn	23 41 55.7	-0.9
VIGV				*e*S		Sn	23 42 26.7	-3.3
SOCV	**Socops**	**2.59**	**57**	*e*P		Pn	23 41 56.1	-0.7
ELOV	**Elorza**	**3.55**	**88**	*e*P		Pn	23 42 07.3	-1.3
VIRV	**Villa del Rosa**	**3.67**	**10**	*e*P		Pn	23 42 08.0	-2.1
VIRV				*e*S		Sn	23 42 49.9	-4.3
QARV	**Quebrada Arrib**	**4.15**	**37**	*e*P		Pn	23 42 15.6	-0.8
QARV				*e*S		Sn	23 42 59.9	-5.6
SANV	**Sanarito**	**4.35**	**53**	*e*P		Pn	23 42 17.4	-1.7
CURV	**Curarigua**	**4.37**	**44**	*e*P		Pn	23 42 17.9	-1.4
CURV				*e*S		Sn	23 43 05.5	-5.1
DABV	**Dabajuro**	**4.68**	**30**	*e*P		Pn	23 42 22.2	-1.0
SIQV	**Siquisique**	**4.94**	**40**	*e*P		Pn	23 42 25.0	-1.6
SIQV				*e*S		Sn	23 43 17.4	-6.4
CUPV	**Cœpira**	**7.85**	**66**	*e*P		Pn	23 43 02.2	-2.9

IDC 20 23:47:23.2±3.6, 5°55S×150°44E, h0km, mb3.4/2, mb1 3.8/2, mb1mx3.4/30, mbtmp3.5/2, Error ellipse: s-maj=152.0km s-min=45.7km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.2nm,0.5s,baz=50,slow=10.0,SNR=4.3	**21.21**	**226**	P		P	23 52 10.7	-0.1
ASAR	**Alice Springs** 0.6nm,0.6s,baz=58,slow=8.1,SNR=7.7	**24.04**	**220**	P		P	23 52 39.5	-0.8
TORD	**Torodi Ar. Bea** 1.1nm,0.6s,baz=59,slow=2.4,SNR=12	**148.28**	**286**	PKPbc		PKPbc	00 07 12.4	-0.1

IDC ***20*** *23:54:27.7±0.4, 2°76S×141°18E, h0km, mb4.8/27, mb1 5.0/30, mb1mx4.9/38, mbtmp4.9/30, ML4.9/3, MS4.3/12, Ms1 4.3/12, ms1mx4.0/29, Error ellipse: s-maj=12.3km s-min=9.5km az=61.0*

DJA ***20*** *23:54:28.1±0.3, 3°S±3°×14°1E±°, h10km, M5.2/69, mb5.3/69, mB5.7/34, MLv5.2/6, Mw(mB)5.2/34, Mwp6.2/1*

ISCJB ***20*** *23:54:29.9±0.8, 2°81S±0°02×141°13E±0°03, h25km±5km, mb5.1/132, MS4.4/24, Error ellipse: s-maj=4.5km s-min=3.8km az=163.1*

BJI ***20*** *23:54:31.0, 2°94S×141°51E, h46km, mb5.2/57, mB5.1/43, Ms4.7/40, Ms7 4.4/39*

MOS ***20*** *23:54:32.1±1.2, 2°78S×141°05E, h38km, mb5.4/39, Error ellipse: s-maj=10.3km s-min=5.7km az=105.7*

NEIC ***20*** *23:54:33.4±0.8, 2°77S×141°18E, h38km±7km, mb5.2/67, Error ellipse: s-maj=5.4km s-min=4.3km az=68.0*

GCMT ***20*** *23:54:33.4±0.2, 2°65S×141°33E, h21km, MW5.3/92, Moment Tensor Solution. s70,c97; s92,c147; Duration: 1ş0 Moment tensor: Scale 10^17 Nm; Mrr 0.64±.02; Mθθ-0.46±.01; Mϕϕ-0.18±.02; Mrθ-0.50±.03; Mθϕ 0.29±.01; Mϕr 0.56±.04; Best double couple: M0 0.98600×10^17 NP1: ϕs 314.00000°, δ70.00000°, λ98.00000°. NP2: ϕs 111.00000°, δ22.00000°, λ69.00000°. Principal axes: T 0.9980, Plg64.0000°, Azm237.0000°; N -0.0240, Plg8.0000°, Azm131.0000°; P -0.9740, Plg24.0000°, Azm38.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 20 23:54:34.6±0.3, 2°86S±0°03×141°11E±0°04, h48km±2km, h48km:pP-P, n453, σ1ş36/506, mb5.1/141, MS4.5/26, 50C-15D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.53**	**310**	P		Pn	23 54 41.2	-4.9
JAY	**Jayapura** 1μm,0.3s,baz=134,slow=7.4,SNR=2635	**0.53**	**310**	Pn		Pn	23 54 41.8	-4.3
JAY	2μm,0.3s,baz=276,slow=15,SNR=21			Sn		**Sn**	**23 54 53.5**	**-0.9**
JAY	**Jayapura** baz=0.6,SNR=1000	**0.53**	**310**	P		Pn	23 54 41.3	-4.9
GENI	**Genyem**	**0.98**	**285**	P		**Pn**	**23 54 49.0**	**-3.0**
GENI				S		**Sn**	**23 55 06.1**	**+1.3**
SMPI	**Sarmi**	**2.55**	**290**	P		**Pn**	**23 55 10.9**	**-2.5**
WAMI	**Wamena**	**2.61**	**247**	P		**Pn**	**23 55 14.4**	**+0.2**
WAMI				S		Sn	23 55 52.1	+7.4
SRPI	**Serui, Papua** 747nm,0.8s,3.5nm	**4.97**	**281**	P		**Pn**	**23 55 44.8**	**-1.9**
BAKI	**Biak** 309nm,0.9s,1.2nm	**5.27**	**288**	P		**Pn**	**23 55 47.8**	**-3.0**
MANU	**Manus Island** baz=6.3,SNR=4.1	**6.30**	**83**	⇑P		**Pn**	**23 56 02.2**	**-2.8**
RKPI	**Ransiki, Papua**	**7.06**	**281**	P		Pn	23 56 26.9	+12
FAKI	**Fak Fak**	**8.85**	**269**	*e*Pn		**Pn**	**23 56 41.5**	**+1.5**
PMG	**Port Moresby** 2.0nm,0.3s,baz=312,slow=10,SNR=7.5	**8.86**	**138**	*e*P		**Pn**	**23 56 41.9**	**+1.8**
PMG	**Port Moresby** comp=Z,362nm,0.8s	**8.86**	**138**	*e*P		**Pn**	**23 56 42.1**	**+2.1**
PMG					pmax	pmax		
SIJI	**Sorong** comp=Z,5.3nm,0.3s,baz=78,slow=9.4,SNR=14	**10.04**	**281**	Pn		Pn	23 57 00.5	+4.2
SWI	**Sorong** comp=Z,144nm,0.9s,comp=Z,1μm	**10.04**	**281**	P		Pn	23 56 50.3	-6.0
COEN	**Coen** baz=11,SNR=10	**11.22**	**170**	⇑P		**Pn**	**23 57 12.1**	**-0.3**
COEN	**Coen**	**11.22**	**170**	*e*Pn		**Pn**	**23 57 13.3**	**+0.9**
KDU	**Kakadu** baz=13,SNR=136	**12.98**	**221**	P		**Pn**	**23 57 34.5**	**-1.9**
LBMI	**Labuha** comp=Z,164nm,1.0s,comp=Z,2μm	**13.78**	**279**	P		**Pn**	**23 57 46.5**	**-0.9**
NLAI	**Namlea** comp=Z,148nm,1.0s,comp=Z,2μm	**14.00**	**268**	P		Pn	23 57 45.3	-5.1
MTN	**Manton Dam** baz=14,SNR=56	**14.00**	**224**	P		**Pn**	**23 57 47.9**	**-2.4**
TNTI	**Ternate** comp=Z,213nm,1.1s,comp=Z,3μm	**14.21**	**284**	P		Pn	23 57 47.6	-5.5
TNTI	**Ternate**	**14.21**	**284**	*e*Pn		**Pn**	**23 57 55.2**	**+2.1**
MTSU	**Mount Surprise** baz=16,SNR=15	**15.51**	**169**	⇑P		**Pn**	**23 58 11.0**	**+0.8**
GUMO	**Guam** comp=Z,1μm,18.1s,baz=198,slow=39	**16.76**	**13**	LR		LR	00 05 14.1	
KMSI	**Cibinong** comp=Z,388nm,1.0s,comp=Z,4μm	**17.46**	**281**	P		Pn	23 58 29.7	-5.1
KNRA	**Kununurra** baz=18,SNR=15	**17.61**	**223**	P		**Pn**	**23 58 35.9**	**-0.8**
QIS	**Mount Isa** baz=18,SNR=17	**17.66**	**185**	⇑P		**Pn**	**23 58 36.1**	**-1.2**
CTA	**Charters Tower** comp=Z,0.6nm,0.3s,baz=340,slow=12,SNR=7.6	**17.85**	**164**	P		**Pn**	**23 58 38.9**	**-0.6**
CTAO	**Charters Tower**	**17.85**	**164**	*e*P		**P**	**23 58 39.8**	**0.0**
CTAO	comp=Z,52nm,1.2s				pmax	pmax		
CTAO	**Charters Tower** comp=Z,52nm,1.2s	**17.85**	**164**	*e*Pn		**P**	**23 58 39.8**	**0.0**
SOEI	**Soe** baz=18,SNR=14	**18.08**	**247**	⇓P		**P**	**23 58 42.4**	**-0.2**
SOEI	**Soe** comp=Z,277nm,0.8s	**18.08**	**247**	*e*P		**Pn**	**23 58 44.0**	**+1.4**
WRAB	**Tennant Creek** comp=Z,1μm,0.7s,SNR=46	**18.21**	**201**	P		**P**	**23 58 43.0**	**-0.8**
WRAB	**Tennant Creek**	**18.21**	**201**	⇑*e*P		**P**	**23 58 42.6**	**-1.2**
WRAB	comp=Z,379nm,0.8s				pmax	pmax		
WRAB	**Tennant Creek** comp=Z,138nm,0.8s	**18.21**	**201**	*e*P		**P**	**23 58 42.3**	**-1.5**
WB2	**Warramunga Arr** baz=18	**18.22**	**201**	⇓P		**P**	**23 58 42.8**	**-1.0**
WRA	**Warramunga Arr** comp=Z,5.5nm,0.3s,baz=24,slow=12,SNR=81	**18.23**	**201**	P		**P**	**23 58 43.6**	**-0.3**
WRA	baz=17,slow=23,SNR=5.1				S	**Sn**	**00 02 03.5**	**-3.5**
WRA	comp=Z,2μm,20.3s,baz=25,slow=38				LR	LR	00 06 09.0	
WRA	**Warramunga Arr**	**18.23**	**201**	*i*P		**P**	**23 58 42.2**	**-1.7**
WRA	comp=Z,117nm,0.9s				pmax	pmax		
LUWI	**Luwuk** comp=Z,210nm,1.3s,comp=Z,4μm	**18.42**	**275**	P		**P**	**23 58 46.1**	**0.0**
LUWI	**Luwuk** comp=Z,266nm,1.2s	**18.42**	**275**	*e*P		**Pn**	**23 58 47.0**	**+0.5**
LUWI					*e*Sn	Sn	00 02 03.4	-8.2
BBSI	**Bau Bau** comp=Z,219nm,1.3s,comp=Z,3μm	**18.68**	**261**	P		**P**	**23 58 47.1**	**-1.8**
BATI	**Baumata** comp=Z,173nm,0.9s,comp=Z,1μm	**18.80**	**246**	P		**P**	**23 58 48.3**	**-2.0**
BATI	**Baumata** comp=Z,14nm,0.3s,baz=108,slow=4.1,SNR=13	**18.80**	**246**	P		**Pn**	**23 58 50.8**	**-0.4**
MRSI	**Marisa** comp=Z,98nm,0.8s,comp=Z,1μm	**19.45**	**280**	P		**P**	**23 58 54.9**	**-2.5**
APSI	**Ampana** comp=Z,304nm,1.1s,comp=Z,3μm	**19.55**	**275**	P		**P**	**23 58 56.4**	**-2.1**
MMRI	**Maumere** comp=Z,62nm,0.9s	**19.63**	**252**	*e*P		**P**	**23 58 57.0**	**-2.4**
PATS	**Pohnpei** baz=20,SNR=5.4	**19.68**	**61**	⇓P		**P**	**23 58 58.8**	**-1.2**
TOLI	**Toli-Toli** comp=Z,131nm,0.8s	**20.69**	**281**	*e*P		**P**	**23 59 06.4**	**-4.5**
BSSI	**Bau Bau, Buton** comp=Z,392nm,1.0s,comp=Z,4μm	**20.82**	**260**	P		**P**	**23 59 12.5**	**+0.3**
BKSI	**Bulukumba** comp=Z,67nm,1.3s,comp=Z,842nmcomp=Z,55μm	**21.08**	**263**	P		**P**	**23 59 14.4**	**-0.7**
TTSI	**Tana Toraja** comp=Z,150nm,1.5s,comp=Z,2μm	**21.27**	**269**	P		**P**	**23 59 18.4**	**+1.3**
SPSI	**Sidrap Palu** comp=Z,84nm,1.1s,comp=Z,1μm	**21.34**	**266**	P		**P**	**23 59 18.2**	**+0.4**
PCI	**Palu** comp=Z,305nm,0.9s,comp=Z,3μm	**21.35**	**275**	P		**P**	**23 59 19.6**	**+1.6**
KAPI	**Kappang** comp=Z,21nm,0.9s,baz=125,slow=7.7,SNR=6.1	**21.42**	**264**	P		**P**	**23 59 19.2**	**+0.5**
KAPI	comp=Z,469nm,21.5s,baz=98,slow=38				LR	LR	00 08 05.3	
MPSI	**Mapaga** comp=Z,72nm,1.0s	**21.44**	**278**	P		**P**	**23 59 18.6**	**-0.4**
AS12	**Alice Springs**	**21.83**	**198**	*e*P		**P**	**23 59 22.6**	**-0.5**
ASAR	**Alice Springs** comp=Z,32nm,0.9s,baz=29,slow=9.7,SNR=102	**21.83**	**198**	P		**P**	**23 59 22.6**	**-0.5**
ASAR	comp=Z,1μm,18.9s,baz=19,slow=38				LR	LR	00 08 22.2	
ASPA	**Alice Springs** baz=22	**21.84**	**198**	⇓P		**P**	**23 59 22.6**	**-0.5**
QLP	**Quilpie** baz=24,SNR=24	**23.78**	**173**	P		**P**	**23 59 42.4**	**-0.5**
MYLDM	**Lahad Datu**	**23.96**	**289**	⇑P		**P**	**23 59 43.0**	**-1.7**
MYLDM	**Lahad Datu**	**23.96**	**289**	⇑P		**P**	**23 59 43.0**	**-1.7**
MYLDM	**Lahad Datu** comp=Z,126nm,1.0s	**23.96**	**289**	*e*P		**P**	**23 59 47.1**	**+2.4**
TSM	**Tawau**	**24.29**	**287**	⇑P		**P**	**23 59 45.4**	**-2.3**
TSM	**Tawau**	**24.29**	**287**	⇑P		**P**	**23 59 45.4**	**-2.3**
EIDS	**Eidsvold** baz=24,SNR=16	**24.36**	**158**	⇑P		**P**	**23 59 49.1**	**+0.9**
EIDS	**Eidsvold** comp=Z,95nm,0.9s	**24.36**	**158**	*e*P		**P**	**23 59 49.3**	**+1.1**
RMQ	**Roma** baz=25,SNR=34	**24.61**	**163**	⇑P		**P**	**23 59 51.9**	**+1.4**
WRKA	**Warakurna** baz=25,SNR=72	**25.28**	**208**	P		**P**	**23 59 56.0**	**-0.7**
SDKM	**Sandakan**	**25.34**	**289**	⇑P		**P**	**23 59 56.2**	**-1.1**
SDKM	**Sandakan**	**25.34**	**289**	⇑P		**P**	**23 59 56.2**	**-1.1**
TGY	**Tagaytay City** comp=Z,122nm,0.4s,baz=137,slow=20,SNR=5.5	**26.15**	**311**	P		**P**	**00 00 04.6**	**-0.1**
KKM	**Kota Kinabalu** baz=26,SNR=9.1	**26.39**	**290**	P		**P**	**00 00 06.9**	**0.0**
KKM	**Kota Kinabalu**	**26.39**	**290**	⇑P		**P**	**00 00 05.4**	**-1.5**
KKM	**Kota Kinabalu**	**26.39**	**290**	⇑P		**P**	**00 00 05.4**	**-1.5**
KKM	**Kota Kinabalu** comp=Z,97nm,0.9s	**26.39**	**290**	*e*P		**P**	**00 00 06.8**	**0.0**
KMMI	**Kalianget** comp=Z,84nm,1.4s	**27.36**	**260**	P		**P**	**00 00 19.3**	**+3.8**
MBWA	**Marble Bar** comp=Z,50nm,1.1s	**27.64**	**227**	*e*P		**P**	**00 00 18.1**	**+0.1**
BTM	**Bintulu**	**28.66**	**282**	⇑P		**P**	**00 00 26.6**	**-0.5**
BTM	**Bintulu**	**28.66**	**282**	⇑P		**P**	**00 00 26.6**	**-0.5**
CMSA	**Cobar Meteorol** baz=29,SNR=36	**28.86**	**172**	P		**P**	**00 00 29.5**	**+0.8**
STKA	**Stephens Creek** comp=Z,14nm,0.7s,baz=354,slow=8.5,SNR=32	**28.87**	**179**	P		**P**	**00 00 27.9**	**-0.9**
STKA	**Stephens Creek**	**28.87**	**179**	*e*P		**P**	**00 00 28.3**	**-0.5**
STKA	**Stephens Creek** baz=29,SNR=22	**28.87**	**179**	P		**P**	**00 00 28.3**	**-0.5**
STKA	**Stephens Creek** comp=Z,2.6nm,0.8s	**28.87**	**179**	*e*P		**P**	**00 00 28.3**	**-0.5**
ARMA	**Armidale** baz=29,SNR=6.8	**29.17**	**161**	⇓P		**P**	**00 00 32.5**	**+0.9**
ARMA	**Armidale** comp=Z,25nm,0.9s	**29.17**	**161**	*e*P		**P**	**00 00 32.4**	**+0.9**
SBUM	**Sibu**	**29.36**	**280**	⇑P		**P**	**00 00 32.2**	**-1.2**
SBUM	**Sibu**	**29.36**	**280**	⇑P		**P**	**00 00 32.2**	**-1.2**
SBUM	**Sibu** comp=Z,34nm,1.2s	**29.36**	**280**	*e*P		**P**	**00 00 34.2**	**+0.8**
STKI	**Sintang** comp=Z,10μmcomp=Z,40nm,0.3s	**29.77**	**275**	P		**P**	**00 00 36.3**	**-0.7**
BBOO	**Buckleboo** baz=30,SNR=26	**30.17**	**188**	P		**P**	**00 00 40.3**	**-0.1**
BBOO	**Buckleboo** comp=Z,23nm,0.7s	**30.17**	**188**	*e*P		**P**	**00 00 40.6**	**+0.3**
FORT	**Forrest** baz=30,SNR=24	**30.39**	**203**	P		**P**	**00 00 43.0**	**+0.7**
FORT	**Forrest** comp=Z,135nm,0.8s	**30.39**	**203**	*e*P		**P**	**00 00 43.0**	**+0.7**
HTT	**Hallett** baz=31,SNR=11	**30.49**	**184**	P		**P**	**00 00 43.1**	**-0.1**
KSM	**Kuching** baz=31,SNR=6.6	**31.09**	**278**	P		**P**	**00 00 49.1**	**+0.4**
KSM	**Kuching**	**31.09**	**278**	⇑P		**P**	**00 00 47.2**	**-1.5**
KSM	**Kuching**	**31.09**	**278**	⇑P		**P**	**00 00 47.2**	**-1.5**
KSM	**Kuching** comp=Z,57nm,1.2s	**31.09**	**278**	*e*P		**P**	**00 00 49.1**	**+0.4**
DZM	**Mont Dzumac** comp=Z,10nm,0.7s,baz=90,slow=23,SNR=11	**31.14**	**130**	P		**P**	**00 00 48.1**	**-1.0**
MEEK	**Meekatharra** baz=32,SNR=21	**32.01**	**220**	P		**P**	**00 00 56.3**	**-0.3**
YNG	**Young** baz=32,SNR=28	**32.01**	**169**	P		**P**	**00 00 57.6**	**+1.1**
KPJI	**Karang Pucung** comp=Z,45nm,1.9s	**32.35**	**261**	P		**P**	**00 00 59.5**	**-0.2**
GIRL	**Giralia** baz=33,SNR=5.0	**32.65**	**231**	P		**P**	**00 01 03.7**	**+1.4**
H11S3	**WAKE ISLAND Hy** baz=232,slow=75,SNR=6894	**32.93**	**49**	T		T	00 35 26.3	
H11S2	**WAKE ISLAND Hy** baz=232,slow=75,SNR=4893	**32.94**	**49**	T		T	00 35 30.3	
H11S1	**WAKE ISLAND Hy** baz=232,slow=75,SNR=3598	**32.94**	**49**	T		T	00 35 31.7	
CNB	**Canberra Magne** baz=33,SNR=18	**33.19**	**168**	P		**P**	**00 01 07.9**	**+1.0**
YHNB	**Yeheng** comp=Z,23nm,1.1s	**33.41**	**326**	*e*P		P	00 01 14.4	+5.5
TPI	**Tanjungpandan** comp=Z,702nmcomp=Z,55nm,1.2s	**33.42**	**269**	P		**P**	**00 01 09.5**	**+0.4**
CISI	**Cisompet, Garu** comp=Z,84nm,0.9s	**33.48**	**261**	*e*P		**P**	**00 01 07.5**	**-2.1**
LEM	**Lembang** comp=Z,57nm,1.3s	**33.60**	**262**	P		**P**	**00 01 11.0**	**+0.1**
LEM	**Lembang** comp=Z,24nm,0.6s,baz=344,slow=5.7,SNR=4.8	**33.60**	**262**	P		**P**	**00 01 10.1**	**-0.8**
KMBL	**Kambalda** baz=34,SNR=7.1	**33.66**	**211**	P		**P**	**00 01 11.0**	**0.0**
ARPS	**Mount Arapiles** baz=34,SNR=29	**33.76**	**179**	⇑P		**P**	**00 01 12.5**	**+0.8**
H11N1	**WAKE ISLAND Hy** baz=235	**33.83**	**47**	T		T	00 36 40.0	
H11N2	**WAKE ISLAND Hy** baz=235	**33.84**	**47**	T		T	00 36 36.3	
H11N3	**WAKE ISLAND Hy** baz=235	**33.84**	**47**	T		T	00 36 36.5	
TOO	**Toolangi** baz=35,SNR=9.0	**34.78**	**174**	⇓P		**P**	**00 01 21.8**	**+1.1**
PPBI	**Pangkal Pinang** comp=Z,3μmcomp=Z,57nm,1.2s	**34.95**	**270**	P		**P**	**00 01 22.9**	**+0.5**
MORW	**Morawa** baz=35,SNR=7.5	**35.33**	**220**	P		**P**	**00 01 25.3**	**-0.1**
CGJI	**Cibinong** comp=Z,69nm,1.3s	**35.49**	**263**	P		**P**	**00 01 24.9**	**-2.1**
BLDU	**Ballidu** baz=36,SNR=11	**35.98**	**217**	P		**P**	**00 01 30.9**	**-0.2**
KLBR	**Kellerberrin** baz=36,SNR=16	**36.07**	**215**	P		**P**	**00 01 31.6**	**-0.2**
KLSI	comp=Z,48nm,1.6s	**36.35**	**266**	P		**P**	**00 01 34.4**	**0.0**
KASI	**Kota Agung** comp=Z,116nm,1.0s	**36.61**	**265**	P		**P**	**00 01 34.9**	**-1.7**
MDSI	**Maura Dua** comp=Z,982nmcomp=Z,63nm,1.5s	**36.89**	**266**	P		**P**	**00 01 38.3**	**-0.7**
JNU	**Nakatsue** comp=Z,12nm,0.8s,baz=155,slow=4.5,SNR=8.2	**37.07**	**346**	P		**P**	**00 01 38.4**	**-1.9**
JNU	comp=Z,239nm,18.1s,baz=136,slow=35				LR	LR	00 16 08.3	
JNU	**Nakatsue** comp=Z,15nm,0.9s	**37.07**	**346**	*e*P		**P**	**00 01 39.8**	**-0.4**
NWAO	**Narrogin (SRO)** comp=Z,32nm,1.0s,baz=326,slow=2.3,SNR=10	**37.36**	**214**	P		**P**	**00 01 43.1**	**+0.4**
MYKOM	**Kota Tinggi**	**37.54**	**277**	⇑P		**P**	**00 01 42.3**	**-2.1**
MYKOM	**Kota Tinggi**	**37.54**	**277**	⇑P		**P**	**00 01 42.3**	**-2.1**
LHSI	**Lahat** comp=Z,79nm,1.3s	**37.54**	**267**	P		**P**	**00 01 45.2**	**+0.7**
BTDF	**Bukit Timah Da** baz=38,SNR=5.7	**37.56**	**276**	P		**P**	**00 01 42.8**	**-1.9**
BTDF	baz=38,SNR=5.7			P		**P**	**00 01 42.8**	**-1.9**
RKGY	**Rocky Gully** baz=39,SNR=4.9	**38.76**	**213**	⇑P		**P**	**00 01 55.1**	**+0.6**
MJAR	**Matsushiro Arr** comp=Z,4.6nm,0.9s,baz=175,slow=8.8,SNR=9.4	**39.29**	**356**	P		**P**	**00 01 55.8**	**-3.0**
MJAR	comp=Z,223nm,18.2s,baz=150,slow=35				LR	LR	00 17 17.2	
MAJO	**Matsushiro**	**39.29**	**356**	⇓*i*P		**P**	**00 01 58.9**	**0.0**
MAJO	comp=Z,82nm,1.2s				pmax	pmax		
MAJO	comp=Z,2μm,18.0s				MLR	MLR		
MAJO	**Matsushiro** comp=Z,9.4nm,1.0s	**39.29**	**356**	*e*P		**P**	**00 01 55.8**	**-3.1**
SDSI	**Sungai Dareh** comp=Z,46μmcomp=Z,63nm,1.4s	**39.71**	**272**	P		**P**	**00 02 04.4**	**+1.7**
MOO	**Moorlands** baz=40,SNR=4.0	**39.79**	**173**	⇓P		**P**	**00 02 04.5**	**+1.5**
BKNI	**Bangkinang** comp=Z,5μmcomp=Z,132nm,1.2s	**40.18**	**274**	P		**P**	**00 02 07.6**	**+0.9**
NJ2	**Nanjing**	**40.64**	**330**	*e*P		**P**	**00 02 12.1**	**+2.0**
NJ2				pP		**pP**	**00 02 23.1**	**+0.2**
NJ2				sP		**sP**	**00 02 28.3**	**-0.3**
NJ2				S		**S**	**00 08 19.0**	**+2.2**
NJ2				sS		**sS**	**00 08 37.5**	**-0.8**
NJ2	**Nanjing**	**40.64**	**330**	*e*P		**P**	**00 02 12.1**	**+2.0**
NJ2				pP		**pP**	**00 02 23.1**	**+0.2**
NJ2				sP		**sP**	**00 02 28.3**	**-0.3**
NJ2				S		**S**	**00 08 19.0**	**+2.2**
NJ2				sS		**sS**	**00 08 37.5**	**-0.8**
NJ2	comp=Z,30nm,0.8s				PMZ			
NJ2	comp=Z,310nm,6.4s				PMZ			
NJ2	comp=Z,490nm,20.2s				LN			
NJ2	comp=Z,1μm,20.6s				LE			
NJ2	comp=Z,950nm,20.4s				LZ			
PPI	**Padang Panjang** comp=Z,76nm,1.3s	**40.77**	**273**	P		**P**	**00 02 10.7**	**-0.8**
PPI	**Padang Panjang** baz=41,SNR=4.3	**40.77**	**273**	P		**P**	**00 02 11.2**	**-0.2**
SKNT	**Sakolnakorn**	**41.61**	**300**	P		P	00 02 25.2	+6.8
SKLT	**Songkhla** comp=Z,654nmcomp=Z,36nm,1.5s	**41.62**	**284**	P		**P**	**00 02 21.3**	**+2.8**
MNSI	**Mandailing Nat** comp=Z,22nm,0.9s	**41.68**	**274**	P		**P**	**00 02 20.0**	**+1.0**
WHN	**Wuhan**	**41.90**	**324**	⇑P		**P**	**00 02 21.5**	**+1.1**
WHN				S		**S**	**00 08 38.3**	**+2.9**
WHN	**Wuhan**	**41.90**	**324**	⇑P		**P**	**00 02 21.5**	**+1.1**
WHN				S		**S**	**00 08 38.3**	**+2.9**
WHN	comp=Z,780nm,14.6s				LZ			
KS15	**Wonju Array Si**	**41.93**	**344**	*e*P		**P**	**00 02 19.7**	**-0.9**
KS15				*e*PcP		**PcP**	**00 04 16.8**	**+1.3**
KSAR	**Wonju Array Be**	**41.93**	**344**	P		**P**	**00 02 19.7**	**-0.9**
KSAR	**Wonju Array Be**	**41.93**	**344**	P		**P**	**00 02 19.7**	**-0.9**
KSRS	**Korea Array** comp=Z,6.6nm,0.8s,baz=171,slow=9.8,SN

KMI pP **pP** **00 03 11.0 +0.6**
KMI sP **sP** **00 03 17.3 +1.3**
KMI PP **PP** **00 04 45.9 -1.3**
KMI S **S** **00 09 41.4 -1.1**
KMI sS **sS** **00 10 01.1 -3.2**
KMI SS SS 00 13 01.3 -7.6
KMI PMZ
comp=Z,18nm,1.1s
KMI PMZ
comp=Z,85nm,3.6s
KMI LN
comp=Z,290nm,21.8s
KMI LE
comp=Z,250nm,19.8s
KMI LZ
comp=Z,330nm,21.3s
CM31 Chiang Mai Arr 46.60 299 *e*P **P** **00 02 58.5 +0.1**
CMAR Chiang Mai Arr 46.60 299 P **P** **00 02 58.5 +0.1**
comp=Z,3.9nm,0.7s,baz=117,slow=5.7,SNR=15
CMMT Chiang Mai 46.73 299 P **P** **00 02 59.2 -0.2**
comp=Z,15nm,1.5s
CHTO Chiang Mai 46.74 299 P **P** **00 02 59.8 +0.4**
comp=Z,38nm,1.6s
CHTO Chiang Mai 46.74 299 *e*P **P** **00 02 59.1 -0.3**
CHTO pmax pmax
comp=Z,28nm,1.7s
CHTO Chiang Mai 46.74 299 *e*P **P** **00 02 59.1 -0.3**
comp=Z,28nm,1.7s
ASAJ Asahikawa 46.78 1 *e*P **P** **00 02 58.6 -0.7**
comp=Z,23nm,0.9s
YUK Yuzh-Kuril'sk 46.87 5 *e*P **P** **00 02 56.8 -3.2**
YUK *i* 00 04 29.3
YUK *i* 00 04 47.2
YUK *i*S **S** **00 09 46.5 -0.8**
YUK MLR MLR
comp=Z,91nm,17.0s
CMAI Chiengmai2 47.09 301 P **P** **00 03 03.9 +1.5**
comp=Z,17µmcomp=Z,280nm,1.6s
USRK Ussuriysk Ar. 47.55 351 P **P** **00 03 05.0 -0.3**
comp=Z,9.3nm,0.8s,baz=173,slow=7.4,SNR=16
USRK LR LR 00 19 47.4
comp=Z,414nm,21.1s,baz=161,slow=32
XAN Xi'an 47.60 323 P **P** **00 03 05.6 -0.3**
XAN pP **pP** **00 03 18.5 -0.5**
XAN Xi'an 47.60 323 P **P** **00 03 05.6 -0.3**
XAN pP **pP** **00 03 18.5 -0.5**
XAN PMZ
comp=Z,14nm,1.3s
XAN PMZ
comp=Z,24nm,4.7s
MDJ Mudanjiang 48.37 349 P **P** **00 03 11.3 -0.3**
MDJ Mudanjiang 48.37 349 P **P** **00 03 11.3 -0.3**
MDJ PMZ
comp=Z,15nm,0.9s
MDJ PMZ
comp=Z,36nm,6.1s
MDJ Mudanjiang 48.37 349 *e*P **P** **00 03 11.3 -0.3**
comp=Z,14nm,0.9s
BKZ Black Stump Fm 48.38 143 *e*P **P** **00 03 12.4 +0.5**
comp=Z,25nm,1.0s
BJI Beijing 48.43 334 P **P** **00 03 11.8 -0.3**
BJI pP **pP** **00 03 27.0 +1.8**
BJI sP **sP** **00 03 32.0 +1.2**
BJI S **S** **00 10 07.6 -1.9**
BJI sS **sS** **00 10 34.5 +3.1**
BJI Beijing 48.43 334 SS SS 00 14 03.0 +23
BJI Beijing 48.43 334 P **P** **00 03 11.8 -0.3**
BJI pP **pP** **00 03 27.0 +1.8**
BJI sP **sP** **00 03 32.0 +1.2**
BJI S **S** **00 10 07.6 -1.9**
BJI sS **sS** **00 10 34.5 +3.1**
BJI PMZ
comp=Z,14nm,1.1s
BJI PMZ
comp=Z,99nm,4.7s
BJI LN
comp=Z,380nm,19.9s
BJI LE
comp=Z,290nm,21.0s
BJI LZ
comp=Z,380nm,22.1s
CN2 Changchun 48.53 345 *e*P **P** **00 03 11.8 -1.1**
CN2 *es*P **sP** **00 03 29.5 -2.0**
CN2 *e*S **S** **00 10 10.5 -0.4**
CN2 ScS **ScS** **00 12 57.3 -4.2**
CN2 Changchun 48.53 345 *e*P **P** **00 03 11.8 -1.1**
CN2 *es*P **sP** **00 03 29.5 -2.0**
CN2 *e*S **S** **00 10 10.5 -0.4**
CN2 ScS **ScS** **00 12 57.3 -4.2**
CN2 PMZ
comp=Z,10.0nm,1.1s
CN2 PMZ
comp=Z,200nm,4.0s
CN2 LN
comp=Z,300nm,19.0s
CN2 LE
comp=Z,100nm,19.0s
CN2 LZ
comp=Z,200nm,22.0s
RPZ Rata Peaks 48.58 151 *e*P **P** **00 03 14.5 +1.2**
comp=Z,52nm,1.0s
CD2 Chengdu 48.92 316 P **P** **00 03 16.8 +0.6**
CD2 pP **pP** **00 03 29.8 +0.5**
CD2 sP **sP** **00 03 35.6 +0.7**
CD2 PP **PP** **00 05 10.8 +0.8**
CD2 S **S** **00 10 18.4 +1.4**
CD2 sS **sS** **00 10 40.8 +1.9**
CD2 Chengdu 48.92 316 SS SS 00 13 51.3 +2.8
CD2 Chengdu 48.92 316 P **P** **00 03 16.8 +0.6**
CD2 pP **pP** **00 03 29.8 +0.5**
CD2 sP **sP** **00 03 35.6 +0.7**
CD2 PP **PP** **00 05 10.8 +0.8**
CD2 S **S** **00 10 18.4 +1.4**
CD2 sS **sS** **00 10 40.8 +1.9**
CD2 PMZ
comp=Z,50nm,1.1s
CD2 PMZ
comp=Z,180nm,7.2s
CD2 LN
comp=Z,290nm,10.1s
CD2 LZ
comp=Z,400nm,15.6s
YSS Yuzh-Sakhalins 49.62 1⇑ *i*P **P** **00 03 19.8 -1.3**
YSS *e**PP **pP** **00 03 33.3 -0.9**
YSS *e*S S 00 10 20.0 -6.0
YSS pmax pmax
comp=Z,30nm,1.0s
HHC Hu-ho-hao-te 51.18 331 *e*P **P** **00 03 35.4 +2.2**
HHC pP **pP** **00 03 44.8 -1.6**
HHC sP **sP** **00 03 49.3 -2.6**
HHC PP **PP** **00 05 34.4 +4.0**
HHC S **S** **00 10 49.3 +1.1**
HHC sS **sS** **00 11 09.4 -0.9**
HHC ScS **ScS** **00 13 20.6 +0.7**
HHC Hu-ho-hao-te 51.18 331 *e*P **P** **00 03 35.4 +2.2**
HHC pP **pP** **00 03 44.8 -1.6**
HHC sP **sP** **00 03 49.3 -2.6**
HHC PP **PP** **00 05 34.4 +4.0**
HHC S **S** **00 10 49.3 +1.1**
HHC sS **sS** **00 11 09.4 -0.9**
HHC ScS **ScS** **00 13 20.6 +0.7**
HHC PMZ
comp=Z,35nm,0.6s
HHC PMZ
comp=Z,99nm,6.2s
HHC LN
comp=Z,270nm,20.6s
HHC LE
comp=Z,220nm,15.7s
HHC LZ
comp=Z,270nm,16.3s
HABR Khabarovsk 51.39 355 *e*P **P** **00 03 31.4 -3.0**
HABR *e**PP pP 00 03 41.3 -6.3
HABR *e**SP sP 00 03 45.4 -7.8
HABR *e* 00 04 45.5
HABR *e* 00 05 28.7
HABR *e*PPP PPP 00 06 28.7
HABR *e*S **S** **00 10 49.2 -1.4**
HABR *e**SS sS 00 11 05.7 -6.9
HABR *e* 00 13 19.0
HABR *e*SS **SS** **00 14 26.2 -0.8**
HABR *e*SSS SSS 00 16 03.7
HABR pmax pmax
comp=Z,58nm,1.0s
HABR MLR MLR
comp=Z,178nm,19.0s
LZH Lanzhou 52.06 322 *e*P **P** **00 03 40.6 +0.6**
LZH pP pP 00 03 58.5 +5.3
LZH sP sP 00 04 07.5 +8.8
LZH PP **PP** **00 05 38.5 -0.1**
LZH *e*S **S** **00 11 06.3 +5.6**
LZH sS sS 00 11 41.3 +19
LZH Lanzhou 52.06 322 SS SKiKP 00 14 43.4 -18
LZH Lanzhou 52.06 322 *e*P **P** **00 03 40.6 +0.6**
LZH pP pP 00 03 58.5 +5.3
LZH PP **PP** **00 05 38.5 -0.1**
LZH *e*S **S** **00 11 06.3 +5.6**
LZH PMZ
comp=Z,31nm,1.0s
LZH PMZ
comp=Z,140nm,5.0s
LZH LN
comp=Z,1µm,12.2s
LZH LE
comp=Z,1µm,14.0s
LZH LZ
comp=Z,1µm,16.8s
KLR Kul'dur 52.51 352 *e*P P 00 03 37.8 -5.0
KLR pmax pmax
comp=Z,40nm,1.6s
SKR Severo-Kuril's 54.86 12 P **P** **00 03 59.4 -0.5**
GTA Gaotai 56.63 322⇑ P **P** **00 04 14.1 +1.0**
GTA pP **pP** **00 04 27.3 +0.9**
GTA sP **sP** **00 04 32.0 +0.1**
GTA PcP **PcP** **00 05 10.6 +1.6**
GTA S **S** **00 12 04.0 +2.0**
GTA sS **sS** **00 12 25.4 +1.0**
GTA SS **SS** **00 15 54.1 +3.7**
GTA PMZ
comp=Z,53nm,0.9s
GTA PMZ
comp=Z,120nm,4.6s
GTA LN
comp=Z,150nm,17.6s
GTA LE
comp=Z,180nm,19.5s
GTA LZ
comp=Z,230nm,17.6s
PETK Petropavlovsk- 57.48 12 P **P** **00 04 17.6 -1.1**
comp=Z,12nm,1.0s,baz=181,slow=7.4,SNR=8.0
PETK LR LR 00 25 47.9
comp=Z,222nm,21.8s,baz=205,slow=33
PEA2 Petropavlovsk- 57.48 12 *e*P **P** **00 04 17.6 -1.1**
PEA2 *e*PKKPdf **PKKPdf** **00 25 47.9 -0.6**
PET Petropavlovsk 57.60 12 *e*P P 00 04 25.7 +6.3
PET *e*S **S** **00 12 17.0 +3.1**
PET *e*SS **SS** **00 16 07.5 +2.7**
LSA Lhasa 57.68 308 P **P** **00 04 21.5 +0.4**
LSA Lhasa 57.68 308 P **P** **00 04 21.5 +0.4**
LSA Lhasa 57.68 308 *e*P **P** **00 04 22.7 +1.6**
LSA pmax pmax
comp=Z,19nm,1.0s
LSA Lhasa 57.68 308 *e*P **P** **00 04 22.7 +1.6**
comp=Z,19nm,1.0s
ULN Ulaanbaatar 58.63 334 *e*P **P** **00 04 27.6 +0.6**
ULN pmax pmax
comp=Z,10.0nm,1.1s
ULN Ulaanbaatar 58.63 334 *e*P **P** **00 04 27.6 +0.6**
comp=Z,10nm,1.1s
SONA0 Songino Array 58.90 333 *e*P **P** **00 04 29.1 +0.3**
SONM Songino Array 58.90 333 P **P** **00 04 29.1 +0.3**
comp=Z,1.9nm,0.8s,baz=152,slow=8.4,SNR=10
CHLP Challavanipeta 60.01 293 *e*P **P** **00 04 37.0 +0.1**
CHLP IAmb IAmb 00 04 38.6
comp=Z,22nm,0.9s
PALK Pallekele 61.12 280 P **P** **00 04 44.8 +0.2**
comp=Z,12nm,0.9s,baz=148,slow=8.4,SNR=3.8
PALK Pallekele 61.12 280 *e*P **P** **00 04 44.8 +0.2**
PALK pmax pmax
comp=Z,474nm,3.0s
PALK Pallekele 61.12 280 *e*P **P** **00 04 44.8 +0.2**
comp=Z,474nm,3.0s
PVM Polavaram 61.97 291 *e*P **P** **00 04 49.3 -0.9**
PVM IAmb IAmb 00 04 51.4
comp=Z,13nm,0.9s
MA2 Magadan 62.71 6⇓ *i*P **P** **00 04 54.3 0.0**
TLY Talaya 62.95 335 P **P** **00 04 56.6 +0.4**
comp=Z,9.2nm,0.9s,baz=164,slow=5.4,SNR=18
TLY Talaya 62.95 335 *e*P **P** **00 04 56.5 +0.4**
TLY *e*S **S** **00 13 17.0 -5.6**
TLY *e* 00 14 49.4
TLY pmax pmax
comp=Z,20nm,1.1s
TLY MLR MLR
comp=Z,280nm,19.0s
SKHT Srikalahasti 63.07 287 *e*P **P** **00 04 56.9 -0.7**
SKHT IAmb IAmb 00 04 59.0
comp=Z,18nm,0.9s
ADKI Addanki 63.22 289 *e*P **P** **00 04 57.2 -1.4**
ADKI IAmb IAmb 00 05 05.8
comp=Z,55nm,1.7s
NJS Nagarjunasagar 63.99 290 *e*P **P** **00 05 03.1 -0.6**
NJS IAmb IAmb 00 05 04.7
comp=Z,21nm,1.1s
MOY Mondy 64.09 334 *e*P **P** **00 05 04.6 +0.8**
MOY pmax pmax
comp=Z,39nm,1.8s
BOD Bodaibo 64.28 344 *e*P **P** **00 05 03.9 -0.8**
BOD pmax pmax
comp=Z,8.0nm,0.9s
SRLM Srisailam 64.29 289 *e*P **P** **00 05 05.0 -0.7**
SRLM IAmb IAmb 00 05 08.2
comp=Z,24nm,1.1s
RPR Rampur 64.48 292 *e*P **P** **00 05 06.0 -0.9**
RPR IAmb IAmb 00 05 07.2
comp=Z,24nm,1.1s
HYBB Hyderabad (bro 64.87 291 *e*P **P** **00 05 07.6 -1.9**
HYBB IAmb IAmb 00 05 09.2
comp=Z,63nm,1.6s
YAK Yakutsk 65.30 354 *e*P **P** **00 05 09.3 -1.9**
YAK *e* 00 05 41.1
YAK *e* 00 07 34.1
YAK *e*PPP PPP 00 09 06.7
YAK *e*S S 00 13 44.9 -6.3
YAK *e*SS **SS** **00 18 03.6 -1.4**
YAK pmax pmax
comp=Z,18nm,1.0s
YAK pmax pmax
comp=N,13nm,1.4s
YAK pmax pmax
comp=Z,6.0nm,0.5s
YAK smax smax
comp=E,100nm,17.6s
YAK smax smax
comp=N,163nm,19.9s
SRSP Sriramsagar 65.38 292 *e*P **P** **00 05 11.7 -0.9**
SRSP IAmb IAmb 00 05 13.1
comp=Z,25nm,1.0s
SEY Seymchan 66.17 6 P **P** **00 05 16.4 -0.4**
comp=Z,9.4nm,0.9s,baz=177,slow=4.5,SNR=16
WMQ Urumqi 66.63 321 P **P** **00 05 21.5 +1.2**
WMQ pP **pP** **00 05 34.5 +0.6**
WMQ sP **sP** **00 05 38.9 -0.5**
WMQ PcP **PcP** **00 05 50.5 +1.2**
WMQ S **S** **00 14 07.8 -0.6**
WMQ Urumqi 66.63 321 SS SS 00 18 27.3 +0.6
WMQ Urumqi 66.63 321 P **P** **00 05 21.5 +1.2**
WMQ pP **pP** **00 05 34.5 +0.6**
WMQ sP **sP** **00 05 38.9 -0.5**
WMQ PcP **PcP** **00 05 50.5 +1.2**
WMQ S **S** **00 14 07.8 -0.6**
WMQ SS **SS** **00 18 27.3 +0.7**
WMQ PMZ
comp=Z,49nm,0.9s
WMQ PMZ
comp=Z,190nm,3.8s
WMQ LN
comp=Z,170nm,21.4s
WMQ LE
comp=Z,120nm,18.2s
WMQ LZ
comp=Z,92nm,20.6s
KLRI Killari 66.82 291 *e*P **P** **00 05 20.9 -1.1**
KLRI IAmb IAmb 00 05 23.1
comp=Z,309nm,2.5s
CASY Casey 66.85 193 *e*P **P** **00 05 21.8 +0.6**
comp=Z,35nm,1.1s
HVS Khovu-Aksy 67.21 330⇓ *e*P **P** **00 05 26.4 +2.5**
HVS pmax pmax
comp=Z,117nm,1.1s
NDI New Delhi 68.75 302 *e*P **P** **00 05 32.0 -1.9**
PPT Papeete 69.42 108 LR LR 00 31 55.3
comp=Z,109nm,20.3s,baz=338,slow=32
PPT2 Papeete2 69.42 108 *e*S **S** **00 14 42.2 -0.4**
comp=Z,132nm,23.2s
PPT2 Papeete2 69.42 108 *e*LR LR 00 26 43.6
comp=Z,288nm,27.2s
TBI Tubuai 70.00 114 *e*S **S** **00 14 49.0 0.0**
comp=Z,269nm,31.8s
KRAR Krasnoyarsk 70.57 334 P **P** **00 05 45.2 +0.7**
KRAR pmax pmax
comp=Z,29nm,0.4s
MK31 Makanchi Array 71.38 322 *i* P **P** **00 05 49.8 +0.1**
MK31 pmax pmax
comp=Z,51nm,1.1s
MK32 Makanchi Array 71.38 322 *e*P **P** **00 05 50.2 +0.5**
MKAR Makanchi Array 71.38 322 P **P** **00 05 50.2 +0.5**
comp=Z,24nm,0.9s,baz=108,slow=7.9,SNR=141
MKAR LR LR 00 36 36.1
comp=Z,92nm,21.1s,baz=98,slow=35
MKAR Makanchi Array 71.38 322*c**e*P **P** **00 05 50.2 +0.5**
MKAR pmax pmax
comp=Z,26nm,0.9s
MKAR Makanchi Array 71.38 322 *e*P **P** **00 05 50.5 +0.7**
KSH Kashi 72.94 313 P **P** **00 06 01.4 +2.1**
KSH pP **PcP** **00 06 17.1 +1.0**
KSH PP PP 00 08 49.3 +7.1
KSH S **S** **00 15 21.3 -1.4**
KSH sS **sS** **00 15 49.3 +3.5**
KSH Kashi 72.94 313 ScS **ScS** **00 16 05.3 +1.7**
KSH Kashi 72.94 313 P **P** **00 06 01.4 +2.1**
KSH pP **PcP** **00 06 17.1 +1.0**
KSH PP PP 00 08 49.3 +7.1
KSH S **S** **00 15 21.3 -1.4**
KSH sS **sS** **00 15 49.3 +3.5**
KSH ScS **ScS** **00 16 05.3 +1.7**
KSH PMZ
comp=Z,65nm,1.1s
KSH PMZ
comp=Z,170nm,3.0s
KSH LN
comp=Z,170nm,5.2s
KSH LE
comp=Z,190nm,6.1s
KSH LZ
comp=Z,210nm,6.2s
ZALV Zalesovo Beam 73.28 329 P **P** **00 06 00.3 -0.5**
comp=Z,21nm,0.8s,baz=110,slow=5.5,SNR=87
ZAA1 Zalesovo Array 73.28 329 *e*P **P** **00 06 00.3 -0.5**
KZA Kyzart 74.28 315 P **P** **00 06 09.2 +1.7**
SNR=19
TKM2 Tokmak 2 74.31 316 P **P** **00 06 08.5 +1.1**
SNR=12
NVS Novosibirsk 74.52 329⇑ *i*P **P** **00 06 07.5 -0.6**
NVS *e*S **S** **00 15 41.2 +1.5**
NVS pmax pmax
comp=Z,56nm,1.4s
NVS pmax pmax
comp=N,25nm,1.5s
NVS pmax pmax
comp=E,25nm,1.3s
NVS smax smax
comp=E,45nm,2.4s
NVS smax smax
comp=N,20nm,2.2s
KBK Karagaybulak 74.67 316 P P 00 06 13.0 +3.5
SNR=7.5
CHMS Chumysh 74.92 316 P **P** **00 06 11.0 +0.3**
SNR=10
AAK Ala-Archa 74.98 315 *e*P **P** **00 06 12.5 +1.2**
AAK pmax pmax
comp=Z,21nm,1.2s
AAK Ala-Archa 74.98 315 *e*P **P** **00 06 12.5 +1.2**
comp=Z,21nm,1.2s
KURK Kurchatov 75.22 324 P **P** **00 06 12.9 +0.7**
comp=Z,211nm,0.9s,SNR=8.0
KURK Kurchatov 75.22 324 P **P** **00 06 11.5 -0.7**
KURK pmax pmax
comp=Z,28nm,1.2s
KURK Kurchatov 75.22 324 *e*P **P** **00 06 12.5 +0.3**
comp=Z,25nm,1.1s
AML Almayashu 75.39 315 P **P** **00 06 15.1 +1.2**
SNR=19
VNDA Vanda 75.44 175 P **P** **00 06 13.4 +0.4**
comp=Z,9.1nm,0.8s,baz=321,slow=6.0,SNR=38
VNDA LR LR 00 38 40.1
comp=Z,327nm,18.4s,baz=346,slow=35
VNDA Vanda 75.44 175 *e*P **P** **00 06 13.5 +0.5**
VNDA pmax pmax
comp=Z,9.0nm,0.8s
VNDA Vanda 75.44 175 *e*P **P** **00 06 13.5 +0.5**
comp=Z,9.1nm,0.8s
EKS2 Erkin-Say 75.50 315 P **P** **00 06 15.3 +1.1**
SNR=20
SBA Scott Base 76.17 175 *e*P **P** **00 06 18.7 +1.6**
SBA pmax pmax
comp=Z,112nm,2.3s
SBA Scott Base 76.17 175 *e*P **P** **00 06 18.7 +1.6**
comp=Z,112nm,2.3s
KBL Kabul 76.94 306 *e*P **P** **00 06 22.4 -0.3**
KBL pmax pmax
comp=Z,14nm,0.9s
KBL Kabul 76.94 306 *e*P **P** **00 06 22.4 -0.3**
comp=Z,14nm,0.9s
KKAR Karatay Array 77.92 315 *e*P **P** **00 06 28.3 +0.6**
KKAR Karatay Array 77.92 315 *e*P **P** **00 06 28.3 +0.6**
OHAK Old Harbor 79.46 30 *e*P **P** **00 06 35.9 +0.1**
SVW2 Sparrevohn 79.94 26 *e*P **P** **00 06 38.7 +0.4**
comp=Z,44nm,1.6s
KDAK Kodiak Island 80.02 30 *e*P **P** **00 06 39.3 +0.5**
KDAK pmax pmax
comp=Z,30nm,0.9s
KDAK Kodiak Island 80.02 30 *e*P **P** **00 06 39.2 +0.5**
comp=Z,30nm,0.9s
BVA0 Borovoye Array 80.81 325 *i* P **P** **00 06 42.2 -1.0**
BVA0 pmax pmax
comp=Z,61nm,1.1s
BRVK Borovoye 80.88 325 P **P** **00 06 44.0 +0.5**
comp=Z,210nm,0.9s,SNR=8.2
BRVK Borovoye 80.88 325*c* *i*P **P** **00 06 43.9 +0.5**
BRVK pmax pmax
comp=Z,72nm,1.7s
BRVK MLR MLR
comp=Z,124nm,16.0s
BRVK Borovoye 80.88 325 *e*P **P** **00 06 44.1 +0.5**
comp=Z,34nm,0.9s
RSO Redoubt South 80.95 27 *e*P **P** **00 06 43.8 -0.2**
SPU Mount Spurr 81.54 27 *e*PP PP 00 09 57.5 +3.7
PPLA Purkeypile 82.13 25 *e*P **P** **00 06 49.6 -0.5**
comp=Z,34nm,1.4s
SUA Susitna One 82.23 27 *e*P **P** **00 06 49.7 -0.9**
comp=Z,11nm,0.7s
CAST Castle Rocks 82.37 25 *e*P **P** **00 06 50.7 -0.5**
comp=Z,13nm,0.8s
RC01 Rabbit Creek A 82.56 27 *e*P **P** **00 06 51.5 -0.8**
comp=Z,27nm,0.9s
IM04 Indian Mountai 82.70 22 *e*P **P** **00 06 51.5 -1.4**
MAW Mawson 82.89 202 P **P** **00 06 54.8 +1.0**
comp=Z,36nm,1.0s,baz=81,slow=6.3,SNR=51
MAW LR LR 00 42 12.9
comp=Z,294nm,18.9s,baz=62,slow=34
MAW Mawson 82.89 202 *e*P **P** **00 06 54.8 +1.0**
MAW pmax pmax
comp=Z,11nm,1.0s
MAW Mawson 82.89 202⇓ P **P** **00 06 54.8 +1.0**
baz=83
MAW Mawson 82.89 202 *e*P **P** **00 06 54.8 +1.0**
comp=Z,10nm,1.0s
PMR Palmer 83.00 27 *e*P **P** **00 06 53.6 -0.9**
PMR pmax pmax
comp=Z,19nm,1.0s
PMR Palmer 83.00 27 *e*P **P** **00 06 53.5 -0.9**
comp=Z,19nm,1.0s
BPAW Bear Paw Mtn. 83.08 24 *e*P **P** **00 06 54.5 -0.3**
comp=Z,1.8nm,0.9s
TRF Thorofare Moun 83.13 25 *e*P **P** **00 06 54.1 -1.2**
comp=Z,10nm,0.8s
SML Sawmill 83.43 27 *e*P **P** **00 06 56.1 -0.7**
SML pmax pmax
comp=Z,9.0nm,1.0s
SML Sawmill 83.43 27 *e*P **P** **00 06 56.0 -0.7**
comp=Z,8.7nm,1.0s
MLY Manley 83.51 23 *e*P **P** **00 06 56.9 -0.2**
comp=Z,15nm,1.0s
RND Reindeer 83.72 25 *e*P **P** **00 06 57.1 -1.2**

RND pmax pmax
comp=Z,35nm,0.8s
RND Reindeer 83.72 25 *e*P **P 00 06 57.1 -1.2**
comp=Z,35nm,0.8s
MCK McKinley 83.80 25 *e*P **P 00 06 57.6 -1.0**
MCK pmax pmax
comp=Z,42nm,1.2s
MCK McKinley 83.80 25 *e*P **P 00 06 57.5 -1.0**
comp=Z,42nm,1.2s
SCM Sheep Creek Mo 83.89 27 *e*P **P 00 06 58.7 -0.5**
SCM pmax pmax
comp=Z,27nm,1.0s
SCM Sheep Creek Mo 83.89 27 *e*P **P 00 06 58.7 -0.5**
comp=Z,27nm,1.0s
WRH Wood River Hil 84.39 24 *e*P **P 00 07 00.3 -1.2**
comp=Z,22nm,1.0s
DIV Divide 84.40 28 *e*P **P 00 07 02.0 +0.3**
comp=Z,21nm,0.9s
KLU Klutina 84.44 27 *e*P **P 00 07 01.9 -0.1**
comp=Z,15nm,1.0s
IMYA Miami 84.44 307 *e*P **P 00 07 03.1 +0.4**
MDM Murphy Dome 84.49 24 *e*P **P 00 07 01.0 -1.1**
comp=Z,4.9nm,0.9s
COLD Coldfoot 84.50 21 *e*P **P 00 07 02.7 +0.6**
comp=Z,10nm,1.0s
CCB Clear Creek Bu 84.56 24 *e*P **P 00 07 01.0 -1.4**
comp=Z,24nm,0.9s
COLA College 84.61 24*c i*P **P 00 07 01.3 -1.3**
COLA pmax pmax
comp=Z,106nm,1.8s
COLA College 84.61 24 *e*P **P 00 07 02.2 -0.4**
comp=Z,14nm,0.9s
HDA Harding Lake 84.84 24 *e*P **P 00 07 02.7 -1.1**
comp=Z,8.6nm,0.9s
BMRM Bremner River 84.91 28 *e*P **P 00 07 04.4 +0.1**
comp=Z,15nm,1.0s
ISRO Mashad 84.95 307 *e*P **P 00 07 04.0 -1.1**
ILAR Eielson Array 84.98 24 P **P 00 07 02.6 -1.9**
comp=Z,10nm,0.8s,baz=256,slow=5.1,SNR=105
ILB Eielson Array 84.98 24 *e*P **P 00 07 02.6 -1.9**
PAX Paxson 85.05 26 *e*P **P 00 07 04.4 -0.6**
PAX pmax pmax
comp=Z,7.0nm,0.9s
PAX Paxson 85.05 26 *e*P **P 00 07 04.4 -0.6**
comp=Z,6.7nm,0.9s
IAKL Akhelmad 85.55 307 *e*P **P 00 07 08.0 -0.4**
FYU Fort Yukon 86.15 23 *e*P **P 00 07 07.5 -2.8**
comp=Z,38nm,0.6s
ABKT Ailbek 86.21 308 P **P 00 07 12.1 +0.8**
comp=Z,161nm,0.9s,SNR=12
GEYT Alibeck 86.22 308 P **P 00 07 12.1 +0.8**
comp=Z,19nm,0.9s,baz=316,slow=4.1,SNR=32
ABKAR Akbulak array 86.38 320 *e*P **P 00 07 11.4 -0.5**
SVE Sverdlovsk 87.16 327⇑*i*P **P 00 07 15.1 -0.3**
SVE pmax pmax
comp=Z,10.0nm,1.0s
SVE MLR MLR
comp=Z,233nm,21.0s
EGAK Eagle 87.35 25 *e*P **P 00 07 16.0 -0.2**
comp=Z,15nm,1.1s
AKTO Aktyubinsk 87.78 321 P **P 00 07 17.5 -1.1**
AKTO pmax pmax
comp=Z,10.0nm,1.2s
DAWY Dawson 87.96 26 *e*P **P 00 07 19.5 +0.3**
comp=Z,20nm,0.9s
ARU Arti 88.24 327*c i*P **P 00 07 19.0 -1.6**
ARU 00 10 42.8
ARU PPP PPP 00 12 48.3
ARU S **SKSac 00 17 44.6 -0.7**
ARU pmax pmax
comp=Z,20nm,1.2s
ARU Arti 88.24 327 P **P 00 07 19.4 -1.2**
comp=Z,72nm,0.9s,SNR=6.0
ARU Arti 88.24 327 *e*P **P 00 07 19.3 -1.3**
comp=Z,12nm,0.9s
HYT Haines Junctio 88.27 29 *e*P **P 00 07 21.1 +0.2**
IKAZ Kazeroun 90.77 300 *e*P **P 00 07 32.8 -0.7**
INK Inuvik 90.91 22 P **P 00 07 31.6 -1.3**
comp=Z,0.8nm,0.4s,baz=268,slow=15,SNR=4.0
INK Inuvik 90.91 22 *e*P **P 00 07 32.9 +0.1**
INK pmax pmax
comp=Z,10.0nm,1.1s
INK Inuvik 90.91 22 *e*P **P 00 07 32.9 +0.1**
comp=Z,10nm,1.1s
SYO Syowa Base 91.47 201⇑*e*P **P 00 07 35.0 -0.5**
DLBC Dease Lake 91.81 32 P **P 00 07 37.1 -0.2**
comp=Z,1.1nm,0.4s,baz=229,slow=5.0,SNR=3.2
DLBC Dease Lake 91.81 32 *e*P **P 00 07 37.1 -0.2**
comp=Z,24nm,2.0s
RAYN Ar Rayn 96.27 293 *e*P **P 00 07 57.9 -0.7**
comp=Z,41nm,2.3s
NCK Nalchik 97.41 313 P **P 00 08 02.2 -1.1**
NEY Neytrino 98.06 313 P Pdif 00 08 06.7 +0.2
NEY pmax pmax
comp=Z,3.0nm,1.6s
YKA Yellowknife Ar 99.10 27 P **Pdif 00 08 09.3 -1.1**
comp=Z,0.8nm,0.8s,baz=273,slow=4.1,SNR=4.6
YKB5 Yellowknife Ar 99.10 27 *e*P **Pdif 00 08 09.3 -1.1**
LPSR Galich'ya Gora 99.66 323 *e*P **Pdif 00 08 11.5 -1.6**
LPSR pmax pmax
comp=N,4.0nm,1.0s
LPSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR pmax pmax
comp=E,1.0nm,0.6s
VSR Storozhevoye 99.70 321 *e*P **Pdif 00 08 11.5 -1.8**
VSR pmax pmax
comp=E,3.0nm,0.9s
VSR pmax pmax
comp=Z,9.0nm,0.9s
VSR pmax pmax
comp=N,4.0nm,0.7s
NV01 Mina Array Sit 100.06 52 *e*Pdif **Pdif 00 08 14.8 -0.8**
NVAR Mina Array Bea 100.06 52 P **Pdif 00 08 14.8 -0.8**
comp=N,1.0nm,0.8s,baz=245,slow=5.9,SNR=3.4
OBN Obninsk 100.64 326⇑*i*P **Pdif 00 08 16.6 -0.7**
OBN *e* 00 12 24.6
OBN pmax pmax
comp=Z,7.0nm,0.9s
SNAA Sanae 102.04 191 P **Pdif 00 08 24.0 +0.6**
SNAA Sanae 102.04 191⇓*e*P **Pdif 00 08 23.5 +0.1**
VNA1 Neumayer--Stat 103.88 190 P **Pdif 00 08 32.2 +0.8**
FFC Flin Flon 107.61 33 *e*PKKPdf PKKPdf 00 24 25.3 -0.6
PHWY Pilot Hill 109.37 47 *e*PP PP 00 13 27.2 -3.2
MLR Muntele Rosu 109.51 318⇑*i*P **PKiKP 00 12 59.9 -0.4**
DOPR Dopca 109.74 318⇑*i*P **PKiKP 00 12 59.1 -1.4**
ANMO Albuquerque 109.95 54 *e*PKKPab PKKPab 00 24 17.0 +1.4
SDCO Great Sand Dun 110.15 51 *e*PKKPab PKKPab 00 24 16.1 +1.3
SIRR Siria 112.11 319⇑*i*P **PKiKP 00 13 06.7 +1.7**
VTS Vitosha 112.24 315 ⇓PKiKP **PKiKP 00 13 03.3 -2.3**
VTS Vitosha 112.24 315⇓*i*P **PKiKP 00 13 03.3 -2.3**
OKC Ostrava-Krasne 112.93 324 AMS AMS 01 12 20.0
comp=Z,100nm,14.4s
LTX Lajitas 113.31 59 *e*PKiKP **PKiKP 00 13 09.0 +1.1**
LTX Lajitas 113.31 59 *e*PKiKP **PKiKP 00 13 09.0 +1.1**
TXAR Lajitas Array 113.31 59 PKiKP **PKiKP 00 13 09.0 +1.1**
comp=Z,0.3nm,0.8s,baz=285,slow=4.8,SNR=3.6
TXAR Lajitas Array 113.31 59 PKiKP **PKiKP 00 13 09.0 +1.1**
KRLC Kraliky 113.63 324 *e*PKP **PKiKP 00 13 07.9 +0.1**
KRLC *ex* x 00 13 15.9
KRLC Kraliky 113.63 324 *e*PKiKP **PKiKP 00 13 07.9 +0.1**
KRLC *e* 00 13 15.9
DPC Dobruska-Polom 113.77 325 *e*PKP **PKiKP 00 13 09.3 +1.2**
DPC Dobruska-Polom 113.77 325 *e*PKiKP **PKiKP 00 13 09.3 +1.2**
UPC Upice 113.88 325 *e*PKP **PKiKP 00 13 08.4 +0.2**
UPC AMS AMS 01 10 40.0
comp=Z,100nm,19.3s
UPC Upice 113.88 325 *e*PKiKP **PKiKP 00 13 08.4 +0.2**
UPC MLR MLR
comp=Z,100nm,19.3s
DIVS Divibare 113.97 318⇑*i*P **PKiKP 00 13 09.2 +0.5**
PKSM Moragy 114.08 320⇑PKiKP PKPdf 00 13 08.1 -0.6
PKSM Moragy 114.08 320⇑*i*P PKPdf 00 13 08.1 -0.6
PVCC Panska Ves 114.69 326 AMS AMS 01 08 40.0
comp=Z,200nm,14.2s
TREC Trest 114.73 324 *e*PKP PKPdf 00 13 09.9 0.0
TREC AMS AMS 01 06 50.0
comp=Z,200nm,17.3s
TREC Trest 114.73 324 *e*PKiKP PKPdf 00 13 09.9 0.0
TREC MLR MLR
comp=Z,200nm,17.3s
GOPC GO Pecny, Ondr 114.85 325 AMS AMS 01 08 30.0
comp=Z,100nm,18.0s
BRG Berggiesshubel 114.87 326 *e*PKP PKPdf 00 13 10.6 +0.5
comp=Z,3.3nm,1.0s
BRG Berggiesshubel 114.87 326 *e*PKPdf PKPdf 00 13 10.3 +0.2
BRG Berggiesshubel 114.87 326 *e*PKIKP PKPdf 00 13 10.6 +0.5
BRG pmax pmax
comp=Z,3.0nm,1.0s
BRG MLR MLR
comp=N,128nm,18.8s
BRG MLR MLR
comp=E,112nm,17.5s
BRG MLR MLR
comp=Z,249nm,18.4s
PRU Pruhonice 114.95 325 *e*PKP PKPdf 00 13 10.4 +0.1
PRU AMS AMS 01 05 40.0
comp=Z,100nm,15.9s
PRU Pruhonice 114.95 325 *e*PKIKP PKPdf 00 13 10.4 +0.1
PRU MLR MLR
comp=Z,100nm,15.9s
CLL Collm 115.18 327 *e*PKPdf **PKPdf 00 13 10.8 +0.1**
CLL Collm 115.18 327 *i* PKIKP **PKPdf 00 13 10.5 -0.2**
CLL pmax pmax
comp=Z,6.0nm,1.1s
CLL Collm 115.18 327 *i* PKiKP **PKPdf 00 13 10.5 -0.2**
comp=Z,6.0nm,1.1s
NEUB Neuenburg 115.89 327 *e*PKPdf **PKPdf 00 13 12.2 +0.1**
GEC2 GERESS Array S 115.98 324 *e*PKPdf **PKPdf 00 13 12.2 -0.2**
GEC2 GERESS Array S 115.98 324 *e*PKIKP **PKPdf 00 13 11.7 -0.7**
GEC2 GERESS Array S 115.98 324 *e*PKPdf **PKPdf 00 13 11.7 -0.7**
GERES GERESS Array B 115.98 324 PKP **PKPdf 00 13 11.7 -0.7**
comp=Z,1.2nm,0.7s,baz=79,slow=0.7,SNR=12
WERD Werda 115.99 326 *e*PKPdf **PKPdf 00 13 12.6 +0.3**
NKC Novy Kostel 116.02 326 *e*PKP **PKPdf 00 13 11.5 -0.9**
NKC AMS AMS 01 10 30.0
comp=Z,300nm,17.6s
NKC Novy Kostel 116.02 326 *e*PKIKP **PKPdf 00 13 11.5 -0.9**
NKC MLR MLR
comp=Z,300nm,17.6s
ROHR Rohrbach 116.09 326 *e*PKPdf **PKPdf 00 13 12.8 +0.3**
SOKA Soboth 116.16 322⇑*i*PKiKP **PKPdf 00 13 12.6 -0.3**
comp=Z,2.5nm,0.9s
MOX Moxa 116.27 327 *e*L L 01 09 53.5
comp=Z,218nm,18.0s
JCT Junction City 116.37 57 *e*PKKPab PKKPab 00 23 48.6 +1.5
GRF Grafenberg Arr 116.98 326 *e*L L 01 10 11.0
comp=Z,165nm,19.0s
ABTA Abfaltersbach 117.67 323⇑*i*PKPdf **PKPdf 00 13 13.9 -1.9**
comp=Z,3.8nm,0.9s
FUR Furstenfeldbru 117.72 325 *e*PKPdf **PKPdf 00 13 16.2 +0.5**
WTTA Wattenberg 117.95 323⇑*i*PKiKP **PKPdf 00 13 16.3 -0.1**
comp=Z,6.1nm,0.9s
TNS Taunus Mts 118.21 328 *e*PKPdf **PKPdf 00 13 17.0 +0.3**
STU Stuttgart 118.59 326 *e*PKPdf **PKPdf 00 13 17.9 +0.6**
FETA Feichten 118.61 324⇑*i*PKiKP **PKPdf 00 13 17.6 -0.1**
comp=Z,4.1nm,0.8s
DAVA Damuels 118.97 324⇑*i*PKiKP **PKPdf 00 13 18.2 -0.1**
comp=Z,5.8nm,0.8s
FUORN Ofenpass-Fuorn 119.09 323 *e*PKPdf **PKPdf 00 13 19.3 +0.6**
MEM Membach 119.27 329 PKP **PKPdf 00 13 19.5 +0.9**
BFO Black Forest 119.31 326 *i* PKIKP **PKPdf 00 13 19.3 +0.5**
TUE Stuetta 119.71 324 *e*PKPdf **PKPdf 00 13 19.1 -0.7**
WLF Walferdange 119.75 328 *e*PKPdf **PKPdf 00 13 20.4 +0.9**
DOU Dourbes 120.30 329 PKP **PKPdf 00 13 21.8 +1.2**
VSL Villasalto 123.08 316 *e*PKPdf **PKPdf 00 13 26.7 +0.4**
SCHQ Schefferville 123.42 19 PKP **PKPdf 00 13 26.2 -0.3**
comp=Z,1.9nm,0.7s,baz=264,slow=3.2,SNR=3.6
KEST Kesra 124.75 312 PKP **PKPdf 00 13 30.6 +0.9**
comp=Z,1.7nm,0.9s,baz=258,slow=5.5,SNR=7.0
KEST Kesra 124.75 312 *e*PKPdf **PKPdf 00 13 31.0 +1.3**
LCO Las Campanas 136.01 138 *e*PKPdf **PKPdf 00 13 51.9 +0.4**
TOC1 Torodi Ar. Sit 138.59 287 *e*PKP1 **PKPdf 00 13 55.4 -0.8**
TOA0 Torodi Ar. Sit 138.60 287 *e*PKPpre PKPpre 00 13 48.7
TOA0 *e*PKPdf **PKiKP 00 13 57.5 -0.8**
TORD Torodi Ar. Bea 138.60 287 PKhKP PKPpre 00 13 48.7
TORD PKP **PKiKP 00 13 57.5 -0.9**
comp=Z,3.6nm,0.9s,baz=59,slow=1.7,SNR=13
ROSC El Rosal 144.58 86 PKP PKPbc 00 14 06.8 +0.5
comp=Z,15nm,0.8s,baz=112,slow=5.8,SNR=14
LPAZ La Paz 145.40 124 PKPbc **PKPab 00 14 09.6 +0.4**
comp=Z,9.4nm,0.8s,baz=273,slow=1.5,SNR=32
LPAZ La Paz 145.40 124 *e*PKIKP **PKPab 00 14 09.7 +0.5**
LPAZ La Paz 145.40 124 *e*PKPdf **PKPab 00 14 09.7 +0.5**
KIC Kosan Boka 145.79 277 *e*PKP1 **PKPbc 00 14 09.6 0.0**
comp=Z,81nm,1.1s
DBIC Dimbokro 145.88 278 PKPbc **PKPbc 00 14 09.8 -0.1**
comp=Z,15nm,0.8s,baz=71,slow=3.7,SNR=12
DBIC Dimbokro 145.88 278 *e*PKP2 **PKPbc 00 14 10.1 +0.2**
DBIC Dimbokro 145.88 278 *e*PKPdf **PKPbc 00 14 10.1 +0.2**
CPUP Villa Florida 145.94 150 PKPbc **PKPab 00 14 10.5 +0.3**
comp=Z,40nm,1.0s,baz=228,slow=3.5,SNR=51
TIC Tomondi 146.05 278 *e*PKP1 **PKPbc 00 14 10.2 -0.2**
LIC Lamto 146.09 277 *e*PKP1 **PKPdf 00 14 09.6 0.0**
comp=Z,88nm,1.5s
SDV Santo Domingo 147.87 78 *e*PKPdf **PKPdf 00 14 12.4 -0.4**
CRPR Cabo Rojo, PR 148.50 59 *e*PKPbc **PKPbc 00 14 15.9 -1.2**
CELP Cerrillos 148.93 59 *e*PKPbc **PKPbc 00 14 17.8 -0.4**
STVI Saint Thomas 150.18 57 *e*PKPbc **PKPbc 00 14 20.4 -0.8**
SAML Samuel 153.09 116 *e*PKPdf **PKPdf 00 14 21.0 +0.3**
PTGA Pitinga 158.63 99 *e*PKPab **PKPab 00 15 03.4 -0.1**
BDFB Brasilia 159.52 154 PKP **PKPdf 00 14 28.9 -0.3**
comp=Z,2.4nm,0.7s,baz=192,slow=3.4,SNR=3.9
BDFB PKPab **PKPab 00 15 07.3 +0.3**
comp=Z,8.4nm,0.7s,baz=206,slow=2.4,SNR=10
BDFB Brasilia 159.52 154 *e*PKIKP **PKPdf 00 14 28.9 -0.3**
BDFB *e* 00 15 07.9
BDFB Brasilia 159.52 154 *e*PKPdf **PKPdf 00 14 28.9 -0.3**
BDFB *e*PKPab **PKPab 00 15 07.9 +0.8**

*CSEM **21** 00:01:04.8±0.2,36°.79N×2°.41W, h10km, ML3.5/23, Error ellipse: s-maj=4.1km s-min=3.1km az=168.0*
*CRAAG **21** 00:01:04.2,36°.79N×2°.39W, Ml3.3*
*INMG **21** 00:01:05.8±1.2,36°.81N×2°.38W, h5km±3km, ML3.0, Error ellipse: s-maj=3.3km s-min=2.1km az=139.0*
*SFS **21** 00:01:05.0,36°.80N×2°.38W, h0km, ML3.3*
*IGIL **21** 00:01:05.5,36°.84N×2°.38W, h0km, ML2.1*
*MDD **21** 00:01:06.0±0.2,36°.83N×2°.37W, h2km±2km, mbLg3.1/25, Error ellipse: s-maj=1.9km s-min=1.5km az=28.0, PRXIMO*
MDD EMS: IV INTENSIDAD MAXIMA.
*LDG **21** 00:01:06.1±0.2,36°.78N×2°.40W, h2km, Ml3.3/3, Error ellipse: s-maj=4.7km s-min=2.9km az=157.0*

ISC 21 00:01:04.3±0.7,36°.78N±0°.02×2°.34W±0°.02,h15km±4km, n147,σt1§49/225,5C-4D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EXAM	**Almeria**	**0.12**	**308**	Pg	**Pg**	**Pg**	**00 01 07.8**	**0.0**
EXAM	SNR=7.9			Lg	Lg	Lg	00 01 09.2	
EXAM	**Almeria**	**0.12**	**308**	Pg	**Pg**	**Pg**	**00 01 07.8**	**0.0**
EXAM	SNR=7.9			Lg	Lg	Lg	00 01 09.2	
ENIJ	**Nijar**	**0.22**	**29**	⇑Pg	**Pb**	**Pb**	**00 01 09.4**	**-0.7**
ENIJ	3μm,0.3s,SNR=18			Lg	Lg	Lg	00 01 11.9	
ENIJ	**Nijar**	**0.22**	**29**	Pg	**Pb**	**Pb**	**00 01 09.4**	**-0.7**
ENIJ	3μm,0.3s,SNR=18			Lg	Lg	Lg	00 01 11.9	
EBER	**Berja**	**0.46**	**285**	⇑Pg	**Pg**	**Pg**	**00 01 13.6**	**+0.1**
EBER	186nm,0.1s,SNR=18			Lg	Lg	Lg	00 01 19.0	
EBER	**Berja**	**0.46**	**285**	Pg	**Pg**	**Pg**	**00 01 13.6**	**+0.1**
EBER	186nm,0.1s,SNR=18			Lg	Lg	Lg	00 01 19.0	
GORA	**Gorafe**	**0.90**	**322**	⇓Pg	**Pb**	**Pb**	**00 01 21.4**	**-0.2**
GORA	64nm,0.2s,SNR=18			Lg	Lg	Lg	00 01 33.8	
GORA	**Gorafe**	**0.90**	**322**	Pg	**Pb**	**Pb**	**00 01 21.4**	**-0.2**
EQUE	64nm,0.2s,SNR=18			Lg	Lg	Lg	00 01 33.8	
EQUE	**Quentar**	**0.98**	**296**	⇓Pg	**Pb**	**Pb**	**00 01 23.0**	**0.0**
EQUE	25nm,0.3s,SNR=18			Lg	Lg	Lg	00 01 33.8	
EQUE	**Quentar**	**0.98**	**296**	Pg	**Pb**	**Pb**	**00 01 23.0**	**0.0**
EQUE	25nm,0.3s,SNR=18			Lg	Lg	Lg	00 01 33.8	
EALB	**Alboran**	**1.01**	**214**	⇑Pg	**Pb**	**Pb**	**00 01 23.4**	**0.0**
EALB	25nm,0.3s,SNR=18			Lg	Lg	Lg	00 01 38.0	
EQES	**Quesada**	**1.18**	**331**	⇓Pg	**Pb**	**Pb**	**00 01 26.8**	**+0.4**
EQES	22nm,0.3s,SNR=18			Lg	Lg	Lg	00 01 43.0	
EQES	**Quesada**	**1.18**	**331**	Pg	**Pb**	**Pb**	**00 01 26.8**	**+0.4**
EQES	22nm,0.3s,SNR=18			Lg	Lg	Lg	00 01 43.0	
SELV	**Sierra Elvira**	**1.20**	**293**	⇓Pg	**Pb**	**Pb**	**00 01 27.3**	**+0.5**
SELV	12nm,0.3s,SNR=18			Lg	Lg	Lg	00 01 42.8	
SELV	**Sierra Elvira**	**1.20**	**293**	Pg	**Pb**	**Pb**	**00 01 27.3**	**+0.5**
SELV	12nm,0.3s,SNR=18			Lg	Lg	Lg	00 01 42.8	
CART	**Cartagena**	**1.34**	**53**	*e*P	**Pn**	**Pn**	**00 01 27.8**	**-0.6**
CART				*e*S	**Sn**	**Sn**	**00 01 44.7**	**-1.3**
SESP	**Santiago Espad**	**1.35**	**353**	⇑Pg	**Pb**	**Pb**	**00 01 29.9**	**+0.5**
SESP	27nm,0.3s,SNR=18			Lg	Lg	Lg	00 01 49.0	
SESP	**Santiago Espad**	**1.35**	**353**	Pg	**Pb**	**Pb**	**00 01 29.9**	**+0.5**
SESP	27nm,0.3s,SNR=18			Lg	Lg	Lg	00 01 49.0	
EMUR	**La Murta**	**1.38**	**39**	⇑Pg	**Pn**	**Pn**	**00 01 29.3**	**+0.3**
EMUR	24nm,0.2s,SNR=18			Lg	Lg	Lg	00 01 49.3	
EMUR	**La Murta**	**1.38**	**39**	Pg	**Pn**	**Pn**	**00 01 29.3**	**+0.3**
EMUR	24nm,0.2s,SNR=18			Lg	Lg	Lg	00 01 49.3	
EMLI	**Melilla**	**1.55**	**199**	Pn	**Pn**	**Pn**	**00 01 32.0**	**+0.7**
EMLI	55nm,0.1s,SNR=5.6			Sn	**Sn**	**Sn**	**00 01 50.8**	**-0.4**
EMEL	**Melilla**	**1.56**	**199**	Pn	**Pn**	**Pn**	**00 01 32.0**	**+0.7**
EMEL	55nm,0.1s,SNR=5.6			Sn	**Sn**	**Sn**	**00 01 50.9**	**-0.4**
EMAL	**Malaga-Limoner**	**1.68**	**270**	*e*P	**Pn**	**Pn**	**00 01 33.7**	**+0.7**
EMAL				*e*S	**Sn**	**Sn**	**00 01 52.9**	**-1.3**
OLHC	**Oulhaca**	**1.70**	**154**	P	**Pn**	**Pn**	**00 01 34.3**	**+0.9**
OLHC	**Oulhaca**	**1.70**	**154**	Pn	**Pn**	**Pn**	**00 01 34.3**	**+0.9**
OLHC	**Oulhaca**	**1.70**	**154**	P	**Pn**	**Pn**	**00 01 34.3**	**+0.9**
OTSS	**Djebel Tessala**	**1.95**	**140**	P	**Pn**	**Pn**	**00 01 38.6**	**+1.7**
OTSS	**Djebel Tessala**	**1.95**	**140**	Pn	**Pn**	**Pn**	**00 01 38.6**	**+1.7**
OTSS	**Djebel Tessala**	**1.95**	**140**	P	**Pn**	**Pn**	**00 01 38.6**	**+1.7**
EMIJ	**Mijas**	**1.97**	**265**	Pn	**Pn**	**Pn**	**00 01 35.9**	**-1.2**
EMIJ	8.3nm,0.3s,SNR=35			Sn	**Sn**	**Sn**	**00 01 59.0**	**-2.5**
EMIJ	**Mijas**	**1.97**	**265**	Pn	**Pn**	**Pn**	**00 01 35.9**	**-1.2**
EMIJ	8.3nm,0.3s,SNR=35			Sn	**Sn**	**Sn**	**00 01 59.0**	**-2.5**
ETOB	**Tobarra**	**1.97**	**18**	Pn	**Pn**	**Pn**	**00 01 38.7**	**+1.5**
ETOB	6.2nm,0.1s,SNR=132			Pg	**Pg**	**Pg**	**00 01 42.5**	**+0.4**
ETOB	42nm,0.2s,SNR=7.9			Sn	**Sn**	**Sb**	**00 02 03.6**	**-0.6**
ETOB	48nm,0.3s,SNR=5.0			Sn	**Sn**	**Sn**	**00 02 03.6**	**-0.6**
ETOB	**Tobarra**	**1.97**	**18**	Pn	**Pn**	**Pn**	**00 01 38.7**	**+1.5**
ETOB	6.2nm,0.1s,SNR=132			Pg	**Pg**	**Pg**	**00 01 42.5**	**+0.4**
ETOB	42nm,0.2s,SNR=7.9			Sn	**Sn**	**Sb**	**00 02 03.6**	**-0.6**
ETOB	48nm,0.3s,SNR=5.0			Sn	**Sn**	**Sn**	**00 02 03.6**	**-0.6**
EADA	**Adamuz**	**2.26**	**309**	Pn	**Pn**	**Pn**	**00 01 41.6**	**+0.5**
EADA	0.2nm,0.2s,SNR=7.9			Pg	**Pb**	**Pb**	**00 01 45.8**	**+1.1**
EADA	11nm,0.2s,SNR=7.9			Lg	Lg	Lg	00 02 15.3	
EADA	71nm,0.3s,SNR=7.9			Sn	**Sn**	**Sn**	**00 02 15.0**	**-1.0**
EADA	**Adamuz**	**2.26**	**309**	Pn	**Pn**	**Pn**	**00 01 41.6**	**+0.5**
	0.2nm,0.2s,SNR=7.9							
OKGL	**Djebel Kef Gue**	**2.52**	**106**	P	**Pn**	**Pn**	**00 01 47.4**	**+2.7**
OKGL	**Djebel Kef Gue**	**2.52**	**106**	Pn	**Pn**	**Pn**	**00 01 44.9**	**+0.2**
OKGL	8.6nm,0.3s,SNR=7.9			Sn	**Sn**	**Sn**	**00 02 14.6**	**-0.5**
OKGL	58nm,0.3s,SNR=7.9			Sn	**Sn**	**Sn**	**00 02 14.6**	**-0.5**
OKGL	**Djebel Kef Gue**	**2.52**	**106**	Pn	**Pn**	**Pn**	**00 01 44.9**	**+0.2**
	8.6nm,0.3s,SNR=7.9							
OKGL	**Djebel Kef Gue**	**2.52**	**106**	P	**Pn**	**Pn**	**00 01 47.4**	**+2.7**
OKGL					Sn	**Sn**	**00 02 14.6**	**-0.5**
EBEN	**Beniarda**	**2.55**	**40**	Pn	**Pn**	**Pn**	**00 01 45.1**	**0.0**
EBEN	1.2nm,0.2s,SNR=11			Sn	**Sn**	**Sn**	**00 02 15.0**	**-1.0**
EBEN	**Beniarda**	**2.55**	**40**	Pn	**Pn**	**Pn**	**00 01 45.1**	**0.0**
EBEN	1.2nm,0.2s,SNR=11			Sn	**Sn**	**Sn**	**00 02 15.0**	**-1.0**
ECAB	**El Cabril**	**2.77**	**299**	Pn	**Pn**	**Pn**	**00 01 48.9**	**+0.7**
ECAB	6.0nm,0.3s,SNR=55			Pg	**Pg**	**Pg**	**00 01 56.3**	**-1.0**
ECAB	8.8nm,0.2s,SNR=7.9			Sn	**Sn**	**Sn**	**00 02 20.9**	**-0.4**
ECAB	7.3nm,0.2s,SNR=5.0			Lg	Lg	Lg	00 02 30.8	
ECAB	**El Cabril**	**2.77**	**299**	Pn	**Pn**	**Pn**	**00 01 48.9**	**+0.7**
	6.0nm,0.3s,SNR=55							
ESPR	**Espera**	**2.82**	**273**	Pg	**Pb**	**Pb**	**00 01 56.6**	**+2.3**
	1.8nm,0.2s,SNR=7.9							
ESPR	**Espera**	**2.82**	**273**	Pg	**Pb**	**Pb**	**00 01 56.6**	**+2.3**
	1.8nm,0.2s,SNR=7.9							
TZK	**Tazeka**	**3.08**	**210**	Pn	Pn	Pn	00 01 50.0	-2.5
TZK					Sn	**Sn**	**00 02 27.0**	**-2.1**
TZK	**Tazeka**	**3.08**	**210**	*e*P	Pn	**Pn**	00 01 50.0	-2.5
TZK				*i* S		**Sn**	**00 02 27.0**	**-2.1**
ESDC	**Sonseca Array**	**3.16**	**337**	Pn	**Pn**	**Pn**	**00 01 55.6**	**+2.0**
ESDC	1.5nm,0.2s,baz=156,slow=12,SNR=15			Pg	**Pg**	**Pg**	**00 02 02.6**	**+2.4**
ESDC	35nm,0.3s,baz=158,slow=16,SNR=7.9			Sn	**Sn**	**Sn**	**00 02 32.5**	**+1.5**
ESDC	8.3nm,0.2s,baz=154,slow=22,SNR=7.9			Lg	Lg	Lg	00 02 43.5	
ESDC	**Sonseca Array**	**3.16**	**337**	Pn	**Pn**	**Pn**	**00 01 55.6**	**+2.0**
	1.5nm,0.2s,SNR=15							
ESDC	**Sonseca Array**	**3.16**	**337**	Pg	**Pb**	**Pb**	**00 02 02.6**	**+2.4**
	35nm,0.3s,SNR=7.9							
ESDC	8.3nm,0.2s,SNR=7.9			Sn	**Sn**	**Sn**	**00 02 32.5**	**+1.5**
ESDC	27nm,0.3s,SNR=7.9			Lg	Lg	Lg	00 02 43.5	
PAB	**San Pablo**	**3.19**	**331**	Pn	**Pn**	**Pn**	**00 01 56.1**	**+2.2**
	2.6nm,0.2s,SNR=7.9							
PAB	16nm,0.2s,SNR=7.9			Pg	**Pg**	**Pg**	**00 02 03.7**	**-1.6**
PAB	48nm,0.4s,SNR=7.9			Lg	Lg	Lg	00 02 45.2	
PAB	**San Pablo**	**3.19**	**331**	Pn	**Pn**	**Pn**	**00 01 56.1**	**+2.2**
	2.6nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.59**	**287**	Pn	**Pn**	**Pn**	**00 02 00.2**	**+0.8**
	1.0nm,0.2s,SNR=15							
EMIN	2.6nm,0.2s,SNR=5.0			Sn	**Sn**	**Sn**	**00 02 41.2**	**-0.4**
EMIN	**Mina Concepcio**	**3.59**	**287**	Pn	**Pn**	**Pn**	**00 02 00.2**	**+0.8**
	1.0nm,0.2s,SNR=15							
EMIN	2.6nm,0.2s,SNR=5.0			Sn	**Sn**	**Sn**	**00 02 41.2**	**-0.4**
EIBI	**Ibiza**	**3.68**	**51**	Pn	**Pn**	**Pn**	**00 02 01.3**	**+0.7**
	14nm,0.2s,SNR=38							
EIBI	11nm,0.3s,SNR=5.0			Sn	**Sn**	**Sn**	**00 02 41.9**	**-1.8**
EIBI	**Ibiza**	**3.68**	**51**	Pn	**Pn**	**Pn**	**00 02 01.3**	**+0.7**
	14nm,0.2s,SNR=38							
EIBI	11nm,0.3s,SNR=5.0			Sn	**Sn**	**Sn**	**00 02 41.9**	**-1.8**
EMOS	**Mosqueruela**	**3.87**	**22**	Pn	**Pn**	**Pn**	**00 02 05.6**	**+2.2**
	1.0nm,0.3s,SNR=7.9							
EMOS	2.5nm,0.5s,SNR=7.9			Pg	Pb	Pb	00 02 15.6	+3.3
EMOS	3.8nm,0.3s,SNR=7.9			Lg	Lg	Lg	00 03 08.3	
EMOS	**Mosqueruela**	**3.87**	**22**	Pn	**Pn**	**Pn**	**00 02 05.6**	**+2.2**
	1.0nm,0.3s,SNR=7.9							
PBAR	**Barrancos**	**3.99**	**292**	*e*Pn

PBAR				*e*Sn		**Sn**	**00 02 50.7**	**-0.6**
PBAR				A		A	00 03 20.2	
	32nm,0.5s							
PBAR	**Barrancos**	**3.99**	**292**	Pn		**Pn**	**00 02 05.9**	**+1.1**
PBAR				Sn		**Sn**	**00 02 50.7**	**-0.6**
	32nm,0.5s							
PBAR	**Barrancos**	**3.99**	**292**	Pn		**Pn**	**00 02 05.9**	**+1.1**
PBAR				Sn		**Sn**	**00 02 50.7**	**-0.6**
	32nm,0.5s							
ETOR	**Torete**	**4.04**	**3**	Pn		**Pn**	**00 02 07.4**	**+1.7**
	6.1nm,0.2s,SNR=8.0							
ETOR				Pg		**Pg**	**00 02 21.0**	**-0.7**
	44nm,0.3s,SNR=7.9							
ETOR				Sn		**Sn**	**00 02 53.0**	**+0.2**
	32nm,0.3s,SNR=7.9							
ETOR				Lg		Lg	00 03 12.8	
	92nm,0.4s,SNR=5.0							
ETOR	**Torete**	**4.04**	**3**	Pn		**Pn**	**00 02 07.4**	**+1.7**
	6.1nm,0.2s,SNR=8.0							
ETOR	**Torete**	**4.04**	**3**	Pg		**Pg**	**00 02 21.0**	**-0.7**
	44nm,0.3s,SNR=7.9							
ETOR				Sn		**Sn**	**00 02 53.0**	**+0.2**
	32nm,0.3s,SNR=7.9							
ETOR				Lg		Lg	00 03 12.8	
	92nm,0.4s,SNR=5.0							
GUD	**Guadarrama**	**4.11**	**340**	Pn		**Pn**	**00 02 08.7**	**+2.0**
	1.0nm,0.2s,SNR=7.9							
GUD				Pg		**Pg**	**00 02 21.0**	**-2.0**
	6.2nm,0.4s,SNR=7.9							
GUD				Sn		**Sn**	**00 02 55.2**	**+0.6**
	5.6nm,0.2s,SNR=7.9							
GUD				Lg		Lg	00 03 12.6	
	12nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**4.11**	**340**	Pn		**Pn**	**00 02 08.7**	**+2.0**
	1.0nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**4.18**	**282**	Pn		**Pn**	**00 02 08.5**	**+1.1**
	1.9nm,0.3s,SNR=7.9							
EGRO				Sn		**Sn**	**00 02 54.7**	**-1.2**
	9.2nm,0.3s,SNR=7.9							
EGRO	**El Granado**	**4.18**	**282**	Pn		**Pn**	**00 02 08.5**	**+1.1**
	1.9nm,0.3s,SNR=7.9							
EGRO				Sn		**Sn**	**00 02 54.7**	**-1.2**
	9.2nm,0.3s,SNR=7.9							
EBAD	**Badajoz**	**4.20**	**299**	Pn		**Pn**	**00 02 08.3**	**+0.6**
	1.6nm,0.2s,SNR=17							
EBAD				Pg		Pb	00 02 21.1	+3.3
	5.6nm,0.2s,SNR=7.9							
EBAD				Sn		**Sn**	**00 02 55.2**	**-1.2**
	13nm,0.2s,SNR=7.9							
EBAD				Lg		Lg	00 03 14.5	
	21nm,0.2s,SNR=5.0							
EBAD	**Badajoz**	**4.20**	**299**	Pn		**Pn**	**00 02 08.3**	**+0.6**
	1.6nm,0.2s,SNR=17							
PVAQ	**Vaqueiros**	**4.34**	**280**	*e*Pn		**Pn**	**00 02 10.5**	**+0.8**
PVAQ				*e*Sn		**Sn**	**00 02 58.0**	**-2.1**
PVAQ				A		A	00 03 32.1	
	9.8nm,0.4s							
PVAQ	**Vaqueiros**	**4.34**	**280**	Pn		**Pn**	**00 02 10.5**	**+0.8**
PVAQ				Sn		**Sn**	**00 02 58.0**	**-2.1**
	9.8nm,0.4s							
PVAQ	**Vaqueiros**	**4.34**	**280**	Pn		**Pn**	**00 02 10.5**	**+0.8**
PVAQ				Sn		**Sn**	**00 02 58.0**	**-2.1**
	9.8nm,0.4s							
EPLA	**Plasencia**	**4.40**	**319**	Pn		**Pn**	**00 02 12.3**	**+1.7**
	0.9nm,0.2s,SNR=6.0							
EPLA				Pg		Pg	00 02 25.8	-2.9
	5.5nm,0.2s,SNR=7.9							
EPLA				Sn		**Sn**	**00 03 00.9**	**-0.7**
	2.8nm,0.2s,SNR=5.0							
EPLA				Lg		Lg	00 03 22.2	
	20nm,0.5s,SNR=7.9							
EPLA	**Plasencia**	**4.40**	**319**	Pn		**Pn**	**00 02 12.3**	**+1.7**
	0.9nm,0.2s,SNR=6.0							
PCVE	**Castro Verde**	**4.63**	**282**	*e*Pn		**Pn**	**00 02 15.2**	**+1.6**
PCVE				*e*Sn		**Sn**	**00 03 06.4**	**-0.7**
PCVE				A		A	00 03 45.9	
	11nm,0.5s							
PCVE	**Castro Verde**	**4.63**	**282**	Pn		**Pn**	**00 02 15.2**	**+1.6**
PCVE				Sn		**Sn**	**00 03 06.4**	**-0.7**
	11nm,0.5s							
PCVE	**Castro Verde**	**4.63**	**282**	Pn		**Pn**	**00 02 15.2**	**+1.6**
PCVE				Sn		**Sn**	**00 03 06.4**	**-0.7**
	11nm,0.5s							
PESTR	**Estremoz**	**4.65**	**298**	*e*Pn		**Pn**	**00 02 15.4**	**+1.4**
PESTR				*e*Sn		**Sn**	**00 03 07.1**	**-0.6**
PESTR				A		A	00 03 45.5	
	20nm,0.5s							
ERTA	**Horta de San J**	**4.67**	**26**	Pn		**Pn**	**00 02 16.4**	**+2.2**
	1.8nm,0.4s,SNR=7.9							
ERTA				Sn		**Sn**	**00 03 08.1**	**0.0**
	3.0nm,0.4s,SNR=7.9							
ERTA	**Horta de San J**	**4.67**	**26**	Pn		**Pn**	**00 02 16.4**	**+2.2**
	1.8nm,0.4s,SNR=7.9							
ERTA				Sn		**Sn**	**00 03 08.1**	**0.0**
	3.0nm,0.4s,SNR=7.9							
PMRV	**Marv??o**	**4.78**	**305**	*e*Pn		**Pn**	**00 02 17.0**	**+1.2**
PMRV				*e*Sn		**Sn**	**00 03 09.8**	**-1.1**
PMRV				A		A	00 03 43.6	
	23nm,0.6s							
PMRV	**Marv??o**	**4.78**	**305**	Pn		**Pn**	**00 02 17.0**	**+1.2**
PMRV				Sn		**Sn**	**00 03 09.8**	**-1.1**
	23nm,0.6s							
PMRV	**Marv??o**	**4.78**	**305**	Pn		**Pn**	**00 02 17.0**	**+1.2**
PMRV				Sn		**Sn**	**00 03 09.8**	**-1.1**
	23nm,0.6s							
MESJ	**Messejana**	**4.80**	**285**	*e*P		**Pn**	**00 02 16.5**	**+0.4**
MESJ				*e*S		**Sn**	**00 03 08.0**	**-3.5**
MESJ				AML		AML	00 03 10.5	
	comp=E,3.5nm,0.5s							
MESJ	**Messejana**	**4.80**	**285**	*e*Pn		**Pn**	**00 02 17.1**	**+1.0**
MESJ				*e*Sn		**Sn**	**00 03 09.9**	**-1.5**
MESJ				A		A	00 03 42.2	
	comp=E,7.1nm,0.5s							
MESJ	**Messejana**	**4.80**	**285**	Pn		**Pn**	**00 02 17.1**	**+1.0**
MESJ				Sn		**Sn**	**00 03 09.9**	**-1.5**
	comp=E,7.1nm,0.5s							
MESJ	**Messejana**	**4.80**	**285**	Pn		**Pn**	**00 02 17.1**	**+1.0**
MESJ				Sn		**Sn**	**00 03 09.9**	**-1.5**
	comp=E,7.1nm,0.5s							
EVO	**Evora**	**4.83**	**293**	*e*Pn		**Pn**	**00 02 17.7**	**+1.3**
EVO				*e*Sn		**Sn**	**00 03 11.9**	**-0.1**
EVO				*e*Sg		**Sg**	**00 03 38.3**	**-1.0**
	comp=E,37nm,0.5s							
EVO	**Evora**	**4.83**	**293**	*e*Pn		**Pn**	**00 02 17.7**	**+1.3**
EVO	**Evora**	**4.83**	**293**	Pn		**Pn**	**00 02 17.7**	**+1.3**
EVOP	**Sao Brissos**	**4.91**	**293**	*e*Pn		**Pn**	**00 02 17.7**	**+0.2**
EVOP				*e*Sn		**Sn**	**00 03 11.9**	**-2.1**
EVOP				*e*Sg		**Sg**	**00 03 38.3**	**-3.6**
	comp=E,18nm,0.5s							
ETOS	**Mallorca**	**5.04**	**52**	Pn		**Pn**	**00 02 20.4**	**+1.1**
	comp=E,5.9nm,0.4s,SNR=20							
ETOS				Sn		**Sn**	**00 03 16.6**	**-0.6**
	comp=E,1.3nm,0.3s,SNR=5.0							
ETOS	**Mallorca**	**5.04**	**52**	Pn		**Pn**	**00 02 20.4**	**+1.1**
	comp=E,5.9nm,0.4s,SNR=20							
ETOS				Sn		**Sn**	**00 03 16.6**	**-0.6**
	comp=E,1.3nm,0.3s,SNR=5.0							
PNCL	**Nicolau / Gran**	**5.10**	**287**	*e*Pn		**Pn**	**00 02 21.4**	**+1.3**
PNCL				*e*Sn		**Sn**	**00 03 18.3**	**-0.4**
PNCL				A		A	00 03 57.8	
	comp=E,11nm,0.5s							
ESAC	**San Caprasio**	**5.15**	**16**	Pn		Pn	00 02 23.8	+3.0
	comp=E,5.1nm,0.3s,SNR=7.9							
ESAC				Pg		Pb	00 02 39.1	+5.1
	comp=E,3.5nm,0.2s,SNR=7.9							
ESAC				Lg		Lg	00 03 46.0	
	comp=E,36nm,0.4s,SNR=7.9							
ESAC	**San Caprasio**	**5.15**	**16**	Pn		Pn	00 02 23.8	+3.0
	comp=E,5.1nm,0.3s,SNR=7.9							
ESAC	**San Caprasio**	**5.15**	**16**	Pg		Pb	00 02 39.1	+5.1
	comp=E,3.5nm,0.2s,SNR=7.9							
ESAC				Lg		Lg	00 03 46.0	
	comp=E,36nm,0.4s,SNR=7.9							
EPOB	**Poblet**	**5.29**	**29**	Pn		**Pn**	**00 02 24.6**	**+1.8**
	comp=E,1.4nm,0.3s,SNR=7.9							
EPOB	**Poblet**	**5.29**	**29**	Pn		**Pn**	**00 02 24.6**	**+1.8**
	comp=E,1.4nm,0.3s,SNR=7.9							
MTE	**Manteigas**	**5.45**	**313**	*e*Pn		**Pn**	**00 02 26.7**	**+1.7**
MTE				*e*Sn		**Sn**	**00 03 26.5**	**-0.9**
MTE				A		A	00 04 04.3	
	comp=E,23nm,0.5s							
MTE	**Manteigas**	**5.45**	**313**	Pn		**Pn**	**00 02 26.7**	**+1.7**
MTE				Sn		**Sn**	**00 03 26.5**	**-0.9**
	comp=E,11nm,0.5s							
MTE	**Manteigas**	**5.45**	**313**	Pn		**Pn**	**00 02 26.7**	**+1.7**
MTE				Sn		**Sn**	**00 03 26.5**	**-0.9**
	comp=E,11nm,0.5s							
MVO	**Moncorvo**	**5.70**	**322**	*e*Pn		**Pn**	**00 02 30.4**	**+1.9**
MVO				*e*Sg		**Sg**	**00 04 06.5**	**-0.8**
MVO				A		A	00 04 13.1	
	comp=E,19nm,0.5s							
MVO	**Moncorvo**	**5.70**	**322**	Pn		**Pn**	**00 02 30.4**	**+1.9**
	comp=E,2.8nm,0.2s,SNR=14							
MVO				Sn		**Sn**	**00 03 31.8**	**-1.9**
	comp=E,3.6nm,0.3s,SNR=7.9							
MVO				Lg		Lg	00 04 04.0	
	comp=E,8.5nm,0.3s,SNR=7.9							
MVO	**Moncorvo**	**5.70**	**322**	Pn		**Pn**	**00 02 30.4**	**+1.9**
	comp=E,2.8nm,0.2s,SNR=14							
MVO				Sn		**Sn**	**00 03 31.8**	**-1.9**
	comp=E,3.6nm,0.3s,SNR=7.9							
MVO				Lg		Lg	00 04 04.0	
	comp=E,8.5nm,0.3s,SNR=7.9							
PCAS	**Casmilo, Conde**	**5.84**	**306**	*e*Pn		**Pn**	**00 02 31.9**	**+1.7**
PCAS				*e*Sg		**Sg**	**00 04 11.7**	**+0.1**
PCAS				A		A	00 04 22.4	
	comp=E,18nm,0.7s							
PMAFR	**Mafra**	**5.91**	**294**	Pn		**Pn**	**00 02 32.4**	**+1.2**
	comp=E,3.1nm,0.2s,SNR=7.9							
PMAFR				Sn		**Sn**	**00 03 36.5**	**-2.1**
	comp=E,6.0nm,0.3s,SNR=7.9							
PMAFR	**Mafra**	**5.91**	**294**	Pn		**Pn**	**00 02 32.4**	**+1.2**
	comp=E,3.1nm,0.2s,SNR=7.9							
PMAFR				Sn		**Sn**	**00 03 36.5**	**-2.1**
	comp=E,6.0nm,0.3s,SNR=7.9							
IEPA	**Eparoz**	**6.05**	**8**	Pn		Pn	00 02 36.7	+3.5
	SNR=7.9							
IEPA				Lg		Lg	00 04 18.7	
	SNR=7.9							
IEPA	**Eparoz**	**6.05**	**8**	Pn		Pn	00 02 36.7	+3.5
	SNR=7.9							
IEPA				Lg		Lg	00 04 18.7	
	SNR=7.9							
PBRG	**Braganca**	**6.07**	**327**	*e*Pn		**Pn**	**00 02 35.6**	**+2.1**
PBRG				*e*Sg		**Sg**	**00 04 17.9**	**-1.1**
PBRG				A		A	00 04 23.6	
	comp=E,12nm,0.7s							
PBRG	**Braganca**	**6.07**	**327**	Pn		**Pn**	**00 02 35.6**	**+2.1**
PBRG				Lg		Lg	00 04 17.9	
	comp=E,5.8nm,0.7s							
PBRG	**Braganca**	**6.07**	**327**	Pn		**Pn**	**00 02 35.6**	**+2.1**
PBRG				Lg		Lg	00 04 17.9	
	comp=E,5.8nm,0.7s							
IELO	**Elcoad**	**6.12**	**8**	Pn		**Pn**	**00 02 36.7**	**+2.6**
	comp=E,0.4nm,0.2s,SNR=7.9							
IELO				Lg		Lg	00 04 20.9	
	comp=E,2.8nm,0.3s,SNR=7.9							
IELO	**Elcoad**	**6.12**	**8**	Pn		**Pn**	**00 02 36.7**	**+2.6**
	comp=E,0.4nm,0.2s,SNR=7.9							
IELO				Lg		Lg	00 04 20.9	
	comp=E,2.8nm,0.3s,SNR=7.9							
ECAL	**Calabor**	**6.18**	**328**	Pn		**Pn**	**00 02 36.8**	**+1.8**
	comp=E,2.2nm,0.3s,SNR=7.9							
ECAL				Lg		Lg	00 04 20.4	
	comp=E,17nm,0.5s,SNR=7.9							
ECAL	**Calabor**	**6.18**	**328**	Pn		**Pn**	**00 02 36.8**	**+1.8**
	comp=E,2.2nm,0.3s,SNR=7.9							
ECAL				Lg		Lg	00 04 20.4	
	comp=E,17nm,0.5s,SNR=7.9							
CSOR	**Sort**	**6.20**	**25**	Pn		**Pn**	**00 02 36.9**	**+1.6**
	comp=E,1.0nm,0.3s,SNR=5.9							
CSOR	**Sort**	**6.20**	**25**	Pn		**Pn**	**00 02 36.9**	**+1.6**
	comp=E,1.0nm,0.3s,SNR=5.9							
CFON	**Fontmartina**	**6.21**	**35**	Pn		**Pn**	**00 02 37.3**	**+1.9**
	comp=E,0.2nm,0.3s,SNR=7.9							
CFON	**Fontmartina**	**6.21**	**35**	Pn		**Pn**	**00 02 37.3**	**+1.9**
	comp=E,0.2nm,0.3s,SNR=7.9							
POLO	**Lamas de Olo**	**6.25**	**319**	*e*Pn		**Pn**	**00 02 37.6**	**+1.6**
POLO				*e*Sn		**Sn**	**00 03 46.2**	**-1.0**
POLO				A		A	00 04 29.6	
	comp=E,6.4nm,0.5s							
SJPF	**Ste Jean**	**6.39**	**7**	*e*Pn		**Pn**	**00 02 39.1**	**+1.3**
SJPF				*e*Sn		**Sn**	**00 03 48.4**	**-2.0**
	comp=E,2.4nm,0.4s							
SJPF	**Ste Jean**	**6.39**	**7**	Pn		**Pn**	**00 02 39.1**	**+1.3**
SJPF				Sn		**Sn**	**00 03 48.4**	**-2.0**
	comp=E,1.2nm,0.4s							
SJPF	**Ste Jean**	**6.39**	**7**	*e*Pn		**Pn**	**00 02 39.1**	**+1.3**
SJPF				*e*Sn		**Sn**	**00 03 48.4**	**-2.0**
	comp=E,1.2nm,0.4s							
ATE	**Arette**	**6.43**	**11**	Pn		**Pn**	**00 02 41.1**	**+2.8**
	comp=E,0.4nm,0.2s,SNR=7.9							
ATE	**Arette**	**6.43**	**11**	Pn		**Pn**	**00 02 41.1**	**+2.8**
	comp=E,0.4nm,0.2s,SNR=7.9							
EALK	**Alkurruntz**	**6.47**	**5**	Pn		Pn	00 02 42.1	+3.2
	comp=E,0.7nm,0.3s,SNR=7.9							
EALK				Sn		**Sn**	**00 03 51.1**	**-1.2**
	comp=E,5.1nm,0.4s,SNR=7.9							
EALK				Lg		Lg	00 04 29.9	
	comp=E,11nm,0.6s,SNR=7.9							
EALK	**Alkurruntz**	**6.47**	**5**	Pn		Pn	00 02 42.1	+3.2
	comp=E,0.7nm,0.3s,SNR=7.9							
EALK				Sn		**Sn**	**00 03 51.1**	**-1.2**
	comp=E,5.1nm,0.4s,SNR=7.9							
EALK				Lg		Lg	00 04 29.9	
	comp=E,11nm,0.6s,SNR=7.9							
ELAN	**Lanestosa**	**6.50**	**353**	Pn		**Pn**	**00 02 40.6**	**+1.3**
	comp=E,0.3nm,0.2s,SNR=7.9							
ELAN				Sn		**Sn**	**00 03 54.3**	**+1.2**
	comp=E,2.3nm,0.4s,SNR=7.9							
ELAN				Lg		Lg	00 04 30.3	
	comp=E,5.9nm,0.5s,SNR=7.9							
ELAN	**Lanestosa**	**6.50**	**353**	Pn		**Pn**	**00 02 40.6**	**+1.3**
	comp=E,0.3nm,0.2s,SNR=7.9							
ELAN				Sn		**Sn**	**00 03 54.3**	**+1.2**
	comp=E,2.3nm,0.4s,SNR=7.9							
ELAN				Lg		Lg	00 04 30.3	
	comp=E,5.9nm,0.5s,SNR=7.9							
EPF	**Esparros**	**6.58**	**17**	*e*Pn		**Pn**	**00 02 41.8**	**+1.4**
EPF				*e*Sn		**Sn**	**00 03 53.1**	**-2.1**
	comp=E,4.4nm,0.3s							
EPF	**Esparros**	**6.58**	**17**	Pn		**Pn**	**00 02 41.8**	**+1.4**
EPF				Sn		**Sn**	**00 03 53.1**	**-2.1**
	comp=E,2.2nm,0.3s							
EPF	**Esparros**	**6.58**	**17**	*e*Pn		**Pn**	**00 02 41.8**	**+1.4**
EPF				*e*Sn		**Sn**	**00 03 53.1**	**-2.1**
	comp=E,2.2nm,0.3s							
CLLI	**Llivia**	**6.60**	**29**	Pn		**Pn**	**00 02 42.3**	**+1.5**
	comp=E,0.1nm,0.2s,SNR=4.0							
CLLI	**Llivia**	**6.60**	**29**	Pn		**Pn**	**00 02 42.3**	**+1.5**
	comp=E,0.1nm,0.2s,SNR=4.0							
ELOB	**Lobios**	**6.74**	**321**	Pn		**Pn**	**00 02 44.3**	**+1.5**
	comp=E,1.5nm,0.2s,SNR=29							
ELOB				Sn		**Sn**	**00 03 57.4**	**-1.9**
	comp=E,2.5nm,0.2s,SNR=7.9							
ELOB				Lg		Lg	00 04 38.4	
	comp=E,4.6nm,0.4s,SNR=7.9							
ELOB	**Lobios**	**6.74**	**321**	Pn		**Pn**	**00 02 44.3**	**+1.5**
	comp=E,1.5nm,0.2s,SNR=29							
ELOB				Sn		**Sn**	**00 03 57.4**	**-1.9**
	comp=E,2.5nm,0.2s,SNR=7.9							
ELOB				Lg		Lg	00 04 38.4	
	comp=E,4.6nm,0.4s,SNR=7.9							
EARI	**Arriondas**	**6.88**	**342**	Pn		**Pn**	**00 02 46.9**	**+2.3**
	comp=E,1.7nm,0.5s,SNR=7.9							
EARI				Sn		**Sn**	**00 03 59.1**	**-3.4**
	comp=E,1.9nm,0.6s,SNR=7.9							
EARI				Lg		Lg	00 04 39.7	
	comp=E,1.8nm,0.4s,SNR=7.9							
EARI	**Arriondas**	**6.88**	**342**	Pn		**Pn**	**00 02 46.9**	**+2.3**
	comp=E,1.7nm,0.5s,SNR=7.9							
EARI				Sn		**Sn**	**00 03 59.2**	**-3.4**
	comp=E,1.9nm,0.6s,SNR=7.9							
EARI				Lg		Lg	00 04 39.7	
	comp=E,1.8nm,0.4s,SNR=7.9							
PGAV	**Gavieira, Arco**	**6.92**	**320**	*e*Pn		**Pn**	**00 02 47.0**	**+1.8**
PGAV				*e*Sn		**Sn**	**00 04 03.1**	**-0.6**
PGAV				A		A	00 04 48.3	
	comp=E,9.3nm,0.5s							
MTLF	**Montolieu**	**7.43**	**27**	*e*Pn		**Pn**	**00 02 53.4**	**+1.3**
MTLF	**Montolieu**	**7.43**	**27**	Pn		**Pn**	**00 02 53.4**	**+1.3**
MTLF	**Montolieu**	**7.43**	**27**	*e*Pn		**Pn**	**00 02 53.4**	**+1.3**

*JMA **21** 00:10:01.4±0.5,34°.01N×141°.86E,h27^{km},$_{3}$^{km},M3.2*
*IDC **21** 00:10:02.1±1.1,34°.04N×141°.34E,h0^{km},mb3.7/9,*
mb1 3.8/11,mb1mx3.7/31,mbtmp3.7/11,ML3.8/2,MS4.0/10,
Ms1 4.0/10,ms1mx3.5/38,Error ellipse: s-maj=32.2km
s-min=18.0km az=75.0
*ISCJB **21** 00:10:03.1±0.7,33°.93N±0°.06×141°.5E±0°.1,h24^{km},*
mb3.6/9,MS4.0/10,Error ellipse: s-maj=16.4km
s-min=5.3km az=153.4

ISC 21 00:10:04.8±0.8,34°.00N±0°.07×141°.5E±0°.1,h24^{km},n23,
σ1§14/21,mb3.6/9,MS4.0/10,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**0.80**	**325**	P		**Pb**	**00 10 19.0**	**-0.7**
BSO3	**Boso 3**	**1.16**	**314**	P		**Pb**	**00 10 25.2**	**-0.9**
BSO4	**Boso 4**	**1.39**	**315**	P		**Pb**	**00 10 29.0**	**-1.1**
BSO4				S		**Sb**	**00 10 48.5**	**+1.1**
CHOJ	**Chosi**	**1.79**	**342**	P		**Pn**	**00 10 32.5**	**-1.7**
JIM2	**Oshima 2**	**1.88**	**293**	P		**Pn**	**00 10 35.2**	**-0.2**
MJAR	**Matsushiro Arr**	**3.71**	**314**	Pn		**Pn**	**00 11 00.1**	**-0.6**
	2.9nm,0.3s,baz=123,slow=8.2,SNR=21							
MJAR				Sn		**Sn**	**00 11 44.9**	**+1.2**
	3.0nm,0.3s,baz=206,slow=21,SNR=8.0							
MAT	**Matsushiro**	**3.72**	**314**	P		**Pn**	**00 11 01.5**	**+0.8**
MAT				S		**Sn**	**00 11 44.2**	**+0.4**
JCJ	**Chichijima**	**6.91**	**175**	Pn		**Pn**	**00 11 45.9**	**+1.3**
	4.1nm,0.3s,baz=324,slow=22,SNR=10.0							
JCJ				Sn		**Sn**	**00 13 00.8**	**-1.6**
	5.4nm,0.3s,baz=270,slow=20,SNR=4.2							
SONM	**Songino Array**	**29.65**	**308**	P		**P**	**00 16 08.4**	**-0.1**
	1.1nm,0.6s,baz=102,slow=8.6,SNR=5.6							
SONM				LR		LR	00 28 18.4	
	comp=Z,333nm,20.1s,baz=119,slow=37							
CMAR	**Chiang Mai Arr**	**40.91**	**259**	P		**P**	**00 17 44.0**	**-1.4**
	0.5nm,0.3s,baz=52,slow=7.3,SNR=3.7							
ZALV	**Zalesovo Beam**	**44.07**	**315**	P		**P**	**00 18 09.9**	**-0.7**
	0.5nm,0.5s,baz=101,slow=8.0,SNR=4.2							
ZALV				LR		LR	00 39 17.1	
	comp=Z,224nm,18.7s,baz=70,slow=40							
MKAR	**Makanchi Array**	**45.86**	**305**	P		**P**	**00 18 25.0**	**-0.1**
	0.5nm,0.5s,baz=90,slow=8.7,SNR=6.6							
ILAR	**Eielson Array**	**52.02**	**31**	P		**P**	**00 19 13.4**	**+1.5**
	0.5nm,0.8s,baz=282,slow=8.7,SNR=5.2							
ILAR				LR		LR	00 39 26.1	
	comp=Z,168nm,21.9s,baz=246,slow=34							
WRA	**Warramunga Arr**	**54.08**	**188**	P		**P**	**00 19 28.7**	**+1.1**
	0.6nm,0.3s,baz=4.9,slow=7.5,SNR=3.1							
INK	**Inuvik**	**57.05**	**26**	LR		LR	00 43 58.9	
	comp=Z,141nm,21.7s,baz=257,slow=36							
ASAR	**Alice Springs**	**57.80**	**188**	P		**P**	**00 19 55.6**	**+1.4**
	0.3nm,0.5s,baz=360,slow=6.4,SNR=3.3							
ARU	**Arti**	**58.71**	**320**	LR		LR	00 49 31.2	
	comp=Z,104nm,18.0s,baz=82,slow=40							
ARCES	**ARCESS Array B**	**66.87**	**340**	LR		LR	00 54 16.8	
	comp=Z,53nm,21.2s,baz=62,slow=40							
NOA	**NORSAR Array B**	**77.02**	**338**	P		**P**	**00 21 54.3**	**-1.1**
	0.5nm,0.7s,baz=39,slow=5.7,SNR=3.4							
NOA				LR		LR	01 00 40.0	
	comp=Z,75nm,20.1s,baz=60,slow=40							
BRTR	**Keskin Array B**	**80.94**	**312**	P		**P**	**00 22 18.6**	**+1.1**
	0.3nm,0.5s,baz=83,slow=3.2,SNR=2.7							
GERES	**GERESS Array B**	**85.34**	**328**	LR		LR	01 04 01.4	
	comp=Z,103nm,18.6s,baz=46,slow=38							
SCHQ	**Schefferville**	**88.22**	**16**	LR		LR	01 03 47.7	
	comp=Z,131nm,21.1s,baz=350,slow=37							
ESDC	**Sonseca Array**	**100.05**	**334**	LR		LR	01 12 10.9	
	comp=Z,61nm,21.9s,baz=125,slow=37							

IDC 21 00:24:50.4±3.8,6°.25S×150°.72E,h0^{km},mb3.3/2,
mb1 3.6/2,mb1mx3.2/27,mbtmp3.4/2,MS4.0/1,Ms1 4.0/1,
ms1mx3.1/9,Error ellipse: s-maj=152.4km
s-min=48.6km az=119.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.94**	**228**	P		P	00 29 35.2	+0.1
	0.6nm,0.4s,baz=54,slow=11,SNR=3.1							
ASAR	**Alice Springs**	**23.70**	**221**	P		P	00 30 04.0	-0.2
	0.5nm,0.5s,baz=55,slow=9.1,SNR=5.5							
ASAR				LR		LR	00 38 05.0	
	comp=Z,389nm,20.1s,baz=314,slow=34							
TORD	**Torodi Ar. Bea**	**148.74**	**285**	PKPbc		PKPbc	00 44 40.4	-0.5
	0.2nm,0.4s,baz=67,slow=2.8,SNR=6.0							

*PDG **21** 00:28:47.6±0.3,43°.23N×18°.76E,h5^{km},MD3.0/6,*
ML3.0/12,Error ellipse: s-maj=0.3km s-min=0.5km az=0.0
*CSEM **21** 00:28:47.0±0.1,43°.25N×18°.74E,h2^{km},ML3.0,Error*
*ellipse: s

DIVS				S	Sn	00 29 26.9	-0.8
PEJK	**Peje**	**1.30**	**118**	P	Pg	00 29 11.3	-0.4
PEJK				S	Sg	00 29 28.5	-0.1
ULC	**Ulcinj**	**1.36**	**163**	⇑*i*	Pg	Pb	00 29 11.9	-0.5
ULC				*e*	Sg	Sg	00 29 33.1	+2.8
ULC	**Ulcinj**	**1.36**	**163**	⇑*i*	Pg	Pb	00 29 11.9	-0.5
ULC	**Ulcinj**	**1.36**	**163**	P	Pg	Pg	00 29 12.3	-0.4
ULC				*e*	Sg	Sg	00 29 33.1	+2.8
TEKS	**Tekeris**	**1.41**	**24**	*e*	Pg	Pg	00 29 13.8	0.0
TEKS	**Tekeris**	**1.41**	**24**	*e*	Pg	Pg	00 29 13.8	0.0
PUK	**Puka**	**1.50**	**144**	*i*	PG	Pb	00 29 14.7	-0.2
TRUS	**Trudelj**	**1.55**	**51**	*e*	Pn	Pn	00 29 14.3	-0.5
TRUS	**Trudelj**	**1.55**	**51**	*e*	Pn	Pn	00 29 14.3	-0.5
GRUS	**Gruza**	**1.58**	**66**	*e*	Pg	Pb	00 29 15.8	-0.4
GRUS	**Gruza**	**1.58**	**66**	*e*	Pg	Pb	00 29 15.8	-0.4
ZATK	**Zatriq**	**1.62**	**120**	P	Pb	Pb	00 29 16.8	-0.2
SMRK	**Smrekonice**	**1.67**	**103**	P	Pg	Pg	00 29 18.2	-0.6
SMRK				S	Sb	Sb	00 29 39.0	-0.1
BLY	**Banja Luka**	**1.85**	**324**	*e*	Pn	Pb	00 29 20.6	-0.3
BLY	**Banja Luka**	**1.85**	**324**	*e*	Pn	Pb	00 29 20.6	-0.3
PHP	**Peshkopia**	**2.03**	**141**	*i*	PG	Pg	00 29 25.6	0.0
PHP				*i*	SG	Sg	00 29 52.2	+0.3
PHP	**Peshkopia**	**2.03**	**141**	P		Pg	00 29 25.6	0.0
PHP				*i*	Sg	Sg	00 29 52.2	+0.3
PHP	**Peshkopia**	**2.03**	**141**	P		Pg	00 29 25.6	0.0
PHP				S		Sg	00 29 53.5	+1.6
FGSL	**Fruska Gora**	**2.05**	**22**	*e*	Pn	Pn	00 29 21.5	-0.1
FRGS	**Fruska Gora**	**2.05**	**22**	*e*	Pn	Pn	00 29 21.5	-0.1
TIR	**Tirane**	**2.10**	**156**	*i*	PG	Pg	00 29 25.9	-1.0
TIR				*i*	SG	Sb	00 29 51.1	0.0
TIR	**Tirane**	**2.10**	**156**	*e*	P	Pg	00 29 26.0	-0.9
TIR	**Tirane**	**2.10**	**156**	*i*	Pg	Pg	00 29 26.0	-1.0
TIR	**Tirane**	**2.10**	**156**	P		Pg	00 29 26.5	-0.4
TIR				*i*	Sg	Sb	00 29 51.2	0.0
TIR	**Tirane**	**2.10**	**156**	P		Pg	00 29 26.5	-0.4
TIR				S		Sg	00 29 56.6	+2.6
GJIK	**Gjilan**	**2.15**	**111**	P		Pb	00 29 24.7	-1.3
BARS	**Barje**	**2.31**	**100**	*e*	Pn	Pn	00 29 26.1	+0.9
BARS	**Barje**	**2.31**	**100**	*e*	Pn	Pn	00 29 26.1	+0.9
BOLS	**Boljevac**	**2.42**	**75**	*e*	Pn	Pn	00 29 27.1	+0.4
BOLS	**Boljevac**	**2.42**	**75**	*e*	Pn	Pn	00 29 27.1	+0.4
KUBS	**Kucevo**	**2.43**	**61**	*e*	Pn	Pn	00 29 26.9	+0.1
KUBS	**Kucevo**	**2.43**	**61**	*e*	Pn	Pn	00 29 26.9	+0.1
UDBI	**Udbina**	**2.48**	**302**	*e*	Pn	Pb	00 29 32.0	+0.3
UDBI					Sn	Sg	00 30 05.0	-1.4
UDBI	**Udbina**	**2.48**	**302**	*e*	Pn	Pb	00 29 31.9	+0.3
BANR	**Banloc**	**2.74**	**38**	⇑*i*	P	Pg	00 29 38.6	-0.6
PKSM	**Moragy**	**2.95**	**359**	⇑*i*	P	Pn	00 29 34.8	+0.9
PKSM	**Moragy**	**2.95**	**359**	⇑*i*	P	Pn	00 29 34.8	+0.9
KBN	**Korca**	**3.06**	**149**	*i*	PG	Pb	00 29 40.0	-1.5
KBN				*i*	SG	Sn	00 30 09.5	-2.8
KBN	**Korca**	**3.06**	**149**	P		Pb	00 29 39.9	-1.5
KBN	**Korca**	**3.06**	**149**	P		Pb	00 29 39.9	-1.5
KBN				S		Sb	00 30 19.1	+0.1
NVLJ	**Novalja**	**3.07**	**296**	*e*	Pn	Pb	00 29 40.0	-1.7
NVLJ					Sn	Sb	00 30 16.6	-2.6
NVLJ	**Novalja**	**3.07**	**296**	*e*	Pn	Pb	00 29 39.9	-1.7
NVLJ					Sn	Sb	00 30 16.6	-2.6
BZS	**Buzias**	**3.14**	**40**	⇑*i*	P	Pn	00 29 36.8	+0.3
BZS	**Buzias**	**3.14**	**40**	⇑*i*	P	Pn	00 29 36.8	+0.3
FNA	**Florina**	**3.17**	**140**	*e*	P	Pb	00 29 41.0	-2.4
FNA	**Florina**	**3.17**	**140**	P		Pb	00 29 41.6	-1.8
FNA	**Florina**	**3.17**	**140**	P		Pb	00 29 41.6	-1.8
FNA				S		Sb	00 30 22.3	0.0
NEST	**Nestorio**	**3.34**	**148**	*e*	P	Pb	00 29 43.1	-3.2
VTS	**Vitosha**	**3.37**	**100**	⇓*i*	P	Pn	00 29 41.3	+1.4
VTS	**Vitosha**	**3.37**	**100**	*i*	P	Pn	00 29 41.2	+1.4
VTS	**Vitosha**	**3.37**	**100**	*i*	P	Pn	00 29 41.2	+1.4
CRES	**Cresnjev**	**3.46**	**319**	*i*	Pn	Pn	00 29 43.8	+2.8
CRES	**Cresnjev**	**3.46**	**319**	*i*	Pn	Pn	00 29 43.8	+2.8
SIRR	**Siria**	**3.66**	**34**	⇑*i*	P	Pg	00 29 56.1	-0.8
MPEP	**Malo Peshtene**	**3.67**	**87**	*i*	P	Pg	00 29 55.7	-1.2
DOBS	**Dobrina**	**3.70**	**322**	*i*	Pn	Pn	00 29 46.8	+2.5
DOBS	**Dobrina**	**3.70**	**322**	*i*	Pn	Pn	00 29 46.8	+2.5
KZN	**Kozani**	**3.73**	**141**	*e*	P	Pn	00 29 47.3	+2.5
IGT	**Igoumenitsa**	**3.92**	**161**	*e*	P	Pn	00 29 49.4	+2.1
MMB	**Musomiste**	**4.07**	**113**	*e*	P	Pn	00 29 52.1	+2.7
MMB	**Musomiste**	**4.07**	**113**	*e*	P	Pn	00 29 52.1	+2.7
SRS	**Serrai**	**4.21**	**119**	*e*	P	Pn	00 29 53.9	+2.6
LIT	**Litokhoron**	**4.24**	**137**	*e*	P	Pn	00 29 55.0	+3.3
SOKA	**Soboth**	**4.30**	**324**	Pn		Pn	00 29 55.0	+2.4
SOKA					Sn	Sn	00 30 47.8	+4.8
SOKA	**Soboth**	**4.30**	**324**	⇓*i*	Pn	Pn	00 29 55.0	+2.4
SOKA				⇑*i*	Sn	Sn	00 30 47.8	+4.8
OBKA	**Obir**	**4.39**	**319**	Pn		Pn	00 29 57.0	+3.1
OBKA	**Obir**	**4.39**	**319**	⇓*i*	Pn	Pn	00 29 57.0	+3.1
THL	**Klokotos Trika**	**4.45**	**145**	*e*	P	Pn	00 29 57.5	+2.9
DRGR		**4.52**	**37**	⇓*i*	P	Pg	00 30 10.6	-2.7
PLG	**Polygyros**	**4.56**	**128**	*e*	P	Pn	00 29 59.6	+3.4
ARSA	**Arzberg**	**4.58**	**332**	Pn		Pn	00 29 58.9	+2.5
ARSA					Sn	Sn	00 30 54.1	+4.2
ARSA	**Arzberg**	**4.58**	**332**	⇑*i*	Pn	Pn	00 29 58.9	+2.5
ARSA				⇓*i*	Sn	Sn	00 30 54.1	+4.2
RZN	**Rozhen**	**4.71**	**108**	*e*	P	Pb	00 30 04.4	-5.2
VOIR		**5.03**	**62**	⇑*i*	P	Pb	00 30 14.4	-0.7
AGG	**Agios Georgios**	**5.04**	**146**	*e*	P	Pn	00 30 05.3	+2.6
XOR	**Xorichti**	**5.15**	**138**	*e*	P	Pn	00 30 06.2	+2.0
ABTA	**Abfaltersbach**	**5.61**	**311**	Pn		Pn	00 30 13.5	+2.9
ABTA	**Abfaltersbach**	**5.61**	**311**	⇑*i*	Pn	Pn	00 30 13.5	+2.9
ABTA				⇓*i*	Sn	Sn	00 31 20.1	+4.7
MLR	**Muntele Rosu**	**5.64**	**64**	⇑*i*	P	Pb	00 30 21.6	-3.9
KLV	**Kalavryta, Ach**	**5.83**	**152**	*e*	P	Pn	00 30 16.2	+2.6
ALN	**Alexandroupoli**	**5.94**	**111**	*e*	P	Pn	00 29 58.8	+1.5
PGF	**Pioggiola**	**7.17**	**268**	*e*	Pn	Pn	00 30 32.8	+0.7
PGF	**Pioggiola**	**7.17**	**268**	*e*	Pn	Pn	00 30 32.8	+0.7
VLI	**Veliai**	**7.29**	**152**	*e*	P	Pn	00 30 34.5	+0.8
SBF	**Sospel**	**8.22**	**278**	*e*	Pn	Pn	00 30 47.0	+0.6
SBF	**Sospel**	**8.22**	**278**	*e*	Pn	Pn	00 30 47.0	+0.6
MBDF	**Montbardon**	**8.74**	**284**	*e*	Pn	Pn	00 30 54.4	+0.8
MBDF	**Montbardon**	**8.74**	**284**	*e*	Pn	Pn	00 30 54.4	+0.8
FRF	**La Foret Royal**	**8.79**	**276**	*e*	Pn	Pn	00 30 54.7	+0.5
FRF				*e*	Sn	Sn	00 32 29.6	-3.9
	2.9nm,0.6s							
FRF	**La Foret Royal**	**8.79**	**276**	*e*	Pn	Pn	00 30 54.7	+0.5
LPG	**La Plagne**	**8.86**	**289**	*e*	Pn	Pn	00 30 55.9	+0.6
LPG	**La Plagne**	**8.86**	**289**	*e*	Pn	Pn	00 30 55.9	+0.6
LPL	**La Plagne**	**8.88**	**289**	*e*	Pn	Pn	00 30 56.0	+0.5
LPL				*e*	Sn	Sn	00 32 31.8	-4.0
	2.7nm,0.6s							
LPL	**La Plagne**	**8.88**	**289**	*e*	Pn	Pn	00 30 56.0	+0.5
LMR	**La Mourre**	**8.91**	**275**	*e*	Pn	Pn	00 30 56.2	+0.5
LMR	**La Mourre**	**8.91**	**275**	*e*	Pn	Pn	00 30 56.2	+0.5
ORIF	**Oris-en-Rattie**	**9.39**	**285**	*e*	Pn	Pn	00 31 02.8	+0.4
ORIF	**Oris-en-Rattie**	**9.39**	**285**	*e*	Pn	Pn	00 31 02.8	+0.4
CDF	**Champ du Feu**	**9.50**	**307**	*e*	Pn	Pn	00 31 04.2	+0.3
CDF	**Champ du Feu**	**9.50**	**307**	*e*	Pn	Pn	00 31 04.2	+0.3
VIVF	**Saint-Julien-l**	**10.24**	**284**	*e*	Pn	Pn	00 31 14.4	+0.4
VIVF	**Saint-Julien-l**	**10.24**	**284**	*e*	Pn	Pn	00 31 14.4	+0.4

*ISCJB **21** 00:29:07.6±0.4,52.°77N±0.°08×169.°77W±0.°06,h10km, mb4.1/16,MS3.2/2,Error ellipse: s-maj=12.3km s-min=3.3km az=160.3*

*IDC **21** 00:29:07.4±0.7,52.°93N×169.°80W,h0km,mb4.0/14, mb1 4.2/16,mb1mx4.0/44,mbtmp4.0/16,ML3.6/2,MS3.3/2, Ms1 3.3/2,ms1mx2.8/42,Error ellipse: s-maj=22.2km s-min=14.4km az=171.0*

*NEIC **21** 00:29:08.2,52.°72N×169.°67W,h5km,mb4.0/5, ML4.0(AEIC),After AEIC.*

ISC 21 00:29:08.7±0.6,52.°82N±0.°10×169.°72W±0.°05,h10km,n56, σ1s05/53,mb4.1/16,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.55**	**73**	P	**Pg**	**00 29 19.2**	**-0.2**
NIKH				S	**Sb**	**00 29 27.1**	**-1.2**
OKWR	**Okmok West Rim**	**1.10**	**55**	P	**Pb**	**00 29 29.9**	**-0.1**
OKCE	**Okmok Cone E**	**1.12**	**56**	P	**Pb**	**00 29 29.7**	**-0.5**
OKTU	**Okmok Mt. Tuli**	**1.16**	**60**	P	**Pb**	**00 29 30.4**	**-0.6**
MCIR	**Makushin Cirqu**	**2.04**	**55**	P	**Pn**	**00 29 43.9**	**+0.7**
MSW	**Makushin Switc**	**2.08**	**57**	P	**Pn**	**00 29 43.9**	**+0.2**
MSW				S	**Sb**	**00 30 12.4**	**+0.1**
MTBL	**Makushin Table**	**2.16**	**56**	P	**Pn**	**00 29 45.9**	**+1.1**
UNV	**Unalaska Valle**	**2.19**	**61**	P	**Pn**	**00 29 45.5**	**+0.4**
UNV				S	**Sn**	**00 30 12.6**	**+0.3**
AKRB	**Akutan Reef Bi**	**2.55**	**58**	P	**Pn**	**00 29 51.1**	**+1.0**
ZRO	**Akutan Zero**	**2.58**	**59**	P	**Pn**	**00 29 51.9**	**+1.4**
AKGG	**Akutan Green G**	**2.62**	**57**	P	**Pn**	**00 29 51.4**	**+0.2**
AKUT	**Akutan**	**2.71**	**59**	P	**Pn**	**00 29 53.5**	**+1.2**
ATKA	**Atka Island**	**2.80**	**259**	P	**Pn**	**00 29 53.2**	**-0.4**
ATKA				S	**Sn**	**00 30 27.8**	**+0.4**
WESP	**Westdahl Peak**	**3.42**	**59**	P	**Pn**	**00 30 03.4**	**+1.3**
GSMY	**Great Sitkin M**	**3.95**	**261**	P	**Pn**	**00 30 09.6**	**+0.1**
GSCK	**Great Sitkin C**	**4.03**	**261**	P	**Pn**	**00 30 10.4**	**0.0**
ADAG	**Mount Adagdak**	**4.30**	**261**	P	**Pn**	**00 30 14.8**	**+0.7**
SPIA	**Saint Paul Isl**	**4.38**	**356**	P	**Pn**	**00 30 15.8**	**+0.5**
KIKV	**Kanaga Island**	**4.66**	**261**	P	**Pn**	**00 30 19.7**	**+0.6**
AMKA	**Amchitka**	**6.92**	**262**	P	**Pn**	**00 30 51.2**	**+1.2**
TRF	**Thorofare Moun**	**14.72**	**36**	*e*P	**Pn**	**00 32 39.7**	**+2.8**
	4.2nm,0.8s						
BPAW	**Bear Paw Mtn.**	**14.89**	**33**	*e*P	**P**	**00 32 42.4**	**-2.4**
IM04	**Indian Mountai**	**15.41**	**25**	*e*P	**Pn**	**00 32 47.4**	**+1.4**
ILAR	**Eielson Array**	**16.70**	**35**	Pn	**Pn**	**00 33 00.8**	**-1.8**
	0.1nm,0.3s,baz=227,slow=10.0,SNR=11						
COLD	**Coldfoot**	**17.30**	**26**	*e*P	**P**	**00 33 12.0**	**+0.5**
	5.2nm,0.9s						
EGAK	**Eagle**	**18.82**	**39**	*e*P	**Pn**	**00 33 28.6**	**-0.1**
	3.0nm,0.6s						
HYT	**Haines Junctio**	**19.19**	**53**	*e*P	**Pn**	**00 33 33.6**	**+0.2**
	5.1nm,0.5s						
PETK	**Petropavlovsk-**	**19.54**	**284**	P	**P**	**00 33 36.8**	**+0.6**
	0.6nm,0.3s,baz=243,slow=29,SNR=7.5						
SEY	**Seymchan**	**22.21**	**312**	P	**P**	**00 34 05.0**	**+0.1**
	8.2nm,1.0s,baz=100,slow=8.6,SNR=12						
DLBC	**Dease Lake**	**22.84**	**60**	P	**P**	**00 34 11.8**	**0.0**
	6.1nm,0.8s,baz=268,slow=12,SNR=13						
INK	**Inuvik**	**23.09**	**34**	P	**P**	**00 34 13.5**	**-0.7**
	7.5nm,1.1s,baz=258,slow=7.8,SNR=5.6						
YKA	**Yellowknife Ar**	**30.11**	**49**	P	**P**	**00 35 18.5**	**+0.4**
	0.3nm,0.6s,baz=274,slow=8.1,SNR=2.8						
NEW	**Newport**	**33.11**	**76**	*e*P	**P**	**00 35 45.0**	**+0.3**
	4.5nm,0.8s						
BSMT	**Bassoo Peak**	**34.69**	**76**	*e*P	**P**	**00 35 57.4**	**-1.2**
	2.3nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**37.67**	**218**	T	T	01 16 18.1	
	baz=22,slow=74,SNR=4.7						
H11N3	**WAKE ISLAND Hy**	**37.68**	**218**	T	T	01 16 14.4	
	baz=252,slow=74,SNR=6.2						
NVAR	**Mina Array Bea**	**37.89**	**91**	P	**P**	**00 36 26.2**	**+0.2**
	1.9nm,0.9s,baz=287,slow=7.8,SNR=8.0						
H11S1	**WAKE ISLAND Hy**	**38.87**	**217**	T	T	01 17 44.8	
	baz=22,slow=76,SNR=32						
H11S2	**WAKE ISLAND Hy**	**38.88**	**217**	T	T	01 17 45.6	
	baz=22,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**38.88**	**217**	T	T	01 17 44.7	
	baz=22,slow=76,SNR=22						
MJAR	**Matsushiro Arr**	**39.50**	**267**	LR	LR	00 51 03.7	
	comp=Z,48nm,21.1s,baz=60,slow=33						
PDAR	**Pinedale Array**	**40.53**	**79**	P	**P**	**00 36 48.1**	**0.0**
	2.4nm,0.7s,baz=324,slow=4.2,SNR=18						
KSRS	**Korea Array**	**45.14**	**276**	LR	LR	00 56 11.2	
	comp=Z,26nm,19.3s,baz=145,slow=36						
SONM	**Songino Array**	**50.88**	**300**	PcP	**PcP**	**00 39 24.8**	**-1.4**
	0.7nm,0.7s,baz=46,slow=4.2,SNR=3.9						
TXAR	**Lajitas Array**	**52.95**	**89**	P	**P**	**00 38 25.4**	**0.0**
	5.9nm,0.8s,baz=299,slow=5.4,SNR=25						
ZALV	**Zalesovo Beam**	**56.95**	**317**	PcP	**PcP**	**00 39 50.7**	**+1.8**
	0.4nm,0.4s,baz=29,slow=3.3,SNR=3.8						
KURK	**Kurchatov**	**61.89**	**318**	P	**P**	**00 39 26.6**	**-1.3**
KURBB	**Kurchatov Arra**	**62.00**	**318**	P	**P**	**00 39 26.6**	**-2.0**
	0.3nm,0.4s,baz=46,slow=7.6,SNR=4.1						
BVAR	**Borovoye Array**	**63.21**	**324**	P	**P**	**00 39 34.7**	**-2.0**
	0.8nm,0.6s,baz=62,slow=9.9,SNR=5.8						
NOA	**NORSAR Array B**	**66.49**	**360**	P	**P**	**00 39 57.4**	**-0.6**
	0.4nm,0.7s,baz=331,slow=5.2,SNR=3.0						
ESDC	**Sonseca Array**	**87.06**	**11**	P	**P**	**00 41 53.6**	**-0.7**
	0.8nm,0.9s,baz=338,slow=5.8,SNR=3.6						
WRA	**Warrumunga Arr**	**87.12**	**231**	P	**P**	**00 41 55.2**	**+0.6**
	0.5nm,0.3s,baz=38,slow=6.5,SNR=4.9						
PSI	**Prapat**	**88.61**	**273**	P	**P**	**00 42 03.3**	**+1.1**
	4.1nm,0.5s,baz=68,slow=6.0,SNR=4.2						
ASAR	**Alice Springs**	**90.52**	**230**	P	**P**	**00 42 11.1**	**+0.4**
	3.3nm,0.7s,baz=32,slow=4.7,SNR=27						
MAW	**Mawson**	**151.09**	**219**	PKPbc	**PKPbc**	**00 49 01.5**	**+1.1**
	1.5nm,0.6s,baz=358,slow=1.7,SNR=7.0						
BOSA	**Boshof**	**153.40**	**330**	PKPbc	**PKPbc**	**00 49 08.2**	**+1.1**
	2.3nm,0.6s,baz=58,slow=1.9,SNR=9.0						

*IDC **21** 00:38:34.7±2.5,35.°90N×71.°21E,h0km,mb3.8/5, mb1 3.8/10,mb1mx3.5/45,mbtmp3.7/10,ML3.3/5,Error ellipse: s-maj=52.5km s-min=22.9km az=142.0*

*ISCJB **21** 00:38:39.7±0.6,35.°95N±0.°04×70.°84E±0.°06,h35km, mb3.7/4,Error ellipse: s-maj=7.9km s-min=4.6km az=147.9*

*NNC **21** 00:38:49.5±4.8,36.°45N×70.°59E,h143km±46km,mb3.2, mpv4.0,Error ellipse: s-maj=44.4km s-min=22.3km az=169.0*

ISC 21 00:38:40.8±0.8,35.°90N±0.°06×70.°81E±0.°06,h35km,n31, σ2s23/33,mb3.8/4,8C-7D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**3.30**	**332**	⇑P	**Pn**	**00 39 33.0**	**+2.9**
	8.3nm,0.4s						
DZET				⇑S	**Sn**	**00 40 07.7**	**-0.5**
	51nm,0.2s						
SFK	**Sufi-Kurgan**	**4.62**	**27**	⇓P	Pn	00 39 52.9	+4.5
	5.2nm,0.2s						
SFK				⇓S	**Sn**	**00 40 44.0**	**+3.1**
	15nm,0.3s						
DLH	**Dalhousie**	**5.43**	**127**	*e*P	Pn	00 40 05.0	+5.5
DLH				*e*S	**Sn**	**00 41 04.0**	**+3.1**
AML	**Almayashu**	**6.61**	**19**	P	**Pn**	**00 40 18.0**	**+2.2**
	SNR=21						
SDNR	**Sundarnagar**	**6.76**	**129**	*e*x	x	00 40 59.0	
SDNR				*e*S	**Sn**	**00 41 35.0**	**+1.8**
SMLA	**Simla**	**7.13**	**130**	⇑*i*P	Pn	00 40 28.6	+6.0
SMLA				*i* S	**Sn**	**00 41 44.0**	**+1.6**
EKS2	**Erkin-Say**	**7.13**	**18**	P	**Pn**	**00 40 25.3**	**+2.6**
	SNR=12						
KK31	**Karatay Array**	**7.20**	**358**	⇓P	**Pn**	**00 40 25.2**	**+1.7**
	7.4nm,0.3s,baz=175,slow=12						
KK31				⇓S	Sn	00 41 37.5	-6.5
	6.5nm,0.5s,baz=168,slow=23						
AAK	**Ala-Archa**	**7.30**	**22**	P	**Pn**	**00 40 27.9**	**+2.7**
	SNR=8.1						
AAK	**Ala-Archa**	**7.30**	**22**	⇑P	**Pn**	**00 40 26.9**	**+1.8**
	9.3nm,0.5s						
AAK				⇓S	**Sn**	**00 41 46.0**	**-0.9**
	7.4nm,0.6s						
CHMS	**Chumysh**	**7.71**	**22**	P	**Pn**	**00 40 33.1**	**+2.5**
	SNR=14						
USP	**Ospenovka**	**7.89**	**20**	P	**Pn**	**00 40 35.4**	**+2.4**
	SNR=5.8						
TKM2	**Tokmak 2**	**7.93**	**26**	⇑P	**Pn**	**00 40 35.1**	**+1.4**
	8.3nm,1.1s						
TKM2				⇑S	**Sn**	**00 42 01.8**	**-0.5**
	2.4nm,0.8s						
KHET	**Khetri**	**8.88**	**150**	*e*P	Pn	00 40 51.1	+4.4
KHET				*e*S	**Sn**	**00 42 23.9**	**-1.7**
KHET				AML	AML	00 42 25.7	
	comp=N,112nm,0.2s						
KHET				AML	AML	00 42 26.0	
	comp=E,161nm,0.2s						
JOSI	**Joshimath**	**9.06**	**124**	*e*S	**Sn**	**00 42 28.6**	**-1.6**
JOSI				AML	AML	00 42 36.6	
	comp=E,70nm,0.9s						
JOSI				AML	AML	00 42 37.2	
	comp=N,91nm,0.6s						
KUDL	**Kundal**	**9.11**	**146**	*e*S	**Sn**	**00 42 29.1**	**-2.1**
GEYT	**Alibeck**	**10.36**	**285**	Pn	**Pn**	**00 41 09.4**	**+2.5**
	comp=N,0.4nm,0.3s,baz=84,slow=14,SNR=6.3						
GEYT				Sn	**Sn**	**00 42 59.5**	**-2.2**
	comp=N,3.3nm,0.3s,baz=125,slow=18,SNR=16						
AGRA	**Agra**	**10.57**	**143**	AML	AML	00 42 59.6	
	comp=E,68nm,0.2s						
AGRA				*e*S	Sn	00 43 00.9	-5.9
AGRA				AML	AML	00 43 02.2	
	comp=N,67nm,0.2s						
MKAR	**Makanchi Array**	**13.87**	**35**	Pn	Pn	00 41 51.7	-3.1
	comp=N,0.0nm,0.3s,baz=209,slow=12,SNR=2.8						
AB31	**Akbulak array**	**15.54**	**333**	⇑P	**Pn**	**00 42 15.4**	**-1.7**
	comp=N,4.8nm,0.6s,baz=157,slow=12,SNR=44						
AB31				⇑S	Sn	00 44 55.7	-12
	comp=N,0.6nm,0.5s,baz=155,slow=23,SNR=3.0						
KURBB	**Kurchatov Arra**	**15.74**	**18**	Pn	**Pn**	**00 42 15.6**	**-4.1**
	comp=N,0.0nm,0.3s,baz=207,slow=11,SNR=2.9						
BVA0	**Borovoye Array**	**17.12**	**359**	⇓P	**Pn**	**00 42 33.4**	**-3.8**
	comp=N,1.3nm,0.7s,baz=158,slow=14,SNR=5.6						
BVAR	**Borovoye Array**	**17.12**	**359**	P	**Pn**	**00 42 36.3**	**-0.9**
	comp=N,0.2nm,0.3s,baz=158,slow=14,SNR=6.2						
BRVK	**Borovoye**	**17.16**	**359**	⇓P	**Pn**	**00 42 36.3**	**-1.3**
	comp=N,4.0nm,0.9s						
AKTO	**Aktyubinsk**	**17.23**	**331**	P	**Pn**	**00 42 38.5**	**0.0**
	comp=N,0.5nm,0.3s,baz=147,slow=14,SNR=9.9						
ZALV	**Zalesovo Beam**	**20.52**	**24**	P	**P**	**00 43 12.9**	**-2.9**
	comp=N,1.7nm,0.3s,baz=219,slow=11,SNR=13						
FINES	**FINESS Array B**	**37.89**	**327**	P	**P**	**00 45 54.5**	**+0.3**
	comp=N,1.2nm,0.6s,baz=122,slow=9.0,SNR=6.1						
NB2	**NORSAR Subarra**	**44.76**	**323**	P	**P**	**00 46 50.9**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.76**	**323**	P	**P**	**00 46 50.1**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=96,slow=7.8,SNR=6.5						
TORD	**Torodi Ar. Bea**	**65.55**	**269**	P	**P**	**00 49 23.5**	**+2.4**
	comp=Z,0.5nm,0.5s,baz=49,slow=5.4,SNR=8.5						
YKA	**Yellowknife Ar**	**81.85**	**3**	P	**P**	**00 50 53.9**	**-2.0**
	comp=Z,0.4nm,0.5s,baz=352,slow=5.4,SNR=3.8						

*IDC **21** 00:48:50.0±17.0,52.°41N×170.°69W,h0km,mb3.5/4, mb1 3.8/5,mb1mx3.3/41,mbtmp3.4/5,ML3.3/1,Error ellipse: s-maj=321.1km s-min=47.3km az=87.0*

*ISCJB **21** 00:48:57.4±0.9,52.°49N±0.°08×169.°2W±0.°1,h10km, mb3.3/4,Error ellipse: s-maj=15.2km s-min=7.1km az=37.6*

*NEIC **21** 00:48:58.5,52.°73N×169.°34W,h2km,ML3.4(AEIC),After AEIC.*

ISC 21 00:48:58.9±1.1,52.°7N±0.°1×169.°2W±0.°1,h10km,n13, σ1s35/17,mb3.4/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.37**	**35**	P	**Pb**	**00 49 07.0**	**-0.5**
NIKH				S	**Sb**	**00 49 15.3**	**+2.0**
OKCE	**Okmok Cone E**	**0.98**	**39**	P	**Pn**	**00 49 18.8**	**+0.1**
OKCE				S	**Sn**	**00 49 35.4**	**+2.7**
OKWE	**Okmok W'ng Wal**	**0.99**	**36**	P	**Pn**	**00 49 18.4**	**-0.4**
OKAK	**Okmok**	**1.04**	**29**	P	**Pg**	**00 49 16.8**	**-2.0**
MSOM	**Makushin Julie**	**1.77**	**49**	P	**Pb**	**00 49 31.1**	**-0.4**
MSOM				S	**Sg**	**00 49 55.2**	**-0.6**
MTBL	**Makushin Table**	**2.00**	**48**	P	**Pb**	**00 49 34.2**	**-1.1**
UNV	**Unalaska Valle**	**2.00**	**53**	P	**Pb**	**00 49 34.5**	**-0.8**
UNV				S	**Sb**	**00 49 59.9**	**-0.4**
ATKA	**Atka Island**	**3.09**	**263**	P	**Pn**	**00 49 47.6**	**0.0**
ILAR	**Eielson Array**	**16.64**	**35**	Pn	**Pn**	**00 52 51.8**

QZH Sn Sn 01 17 12.8 -12
QZH LZ
comp=Z,2μm,23.4s
GZH Guangzhou 8.33 299 ⇓*i*P Pn 01 16 40.1 -2.7
GZH S **Sn 01 18 12.1 -3.7**
GZH LN
comp=Z,1μm,12.9s
GZH LE
comp=Z,1μm,13.8s
JOW Kunigami 10.02 39 *e*Pn Pn 01 17 06.8 +0.8
QIZ Qiongzhong 10.77 271 *e*Pn Pn 01 17 14.2 -2.0
WHN Wuhan 12.93 333 P **Pn 01 17 43.0 -2.8**
WHN LN
comp=Z,1μm,15.8s
WHN LZ
comp=Z,1μm,21.4s
NJ2 Nanjing 13.02 351 *e*P Pn 01 17 46.4 -0.5
NJ2 S **Sn 01 20 10.0 -0.5**
NJ2 PMZ
comp=Z,10.0nm,0.6s
NJ2 LN
comp=Z,670nm,22.5s
NJ2 LE
comp=Z,870nm,21.1s
NJ2 LZ
comp=Z,1μm,23.1s
GYA Guiyang 15.26 301 *e*P Pn 01 18 18.0 +0.5
GYA pP **P 01 18 25.3 +3.2**
GYA PP **pP 01 18 32.6 +1.8**
GYA S **Sn 01 21 07.0 +1.4**
GYA PMZ
comp=Z,10.0nm,0.6s
GYA LN
comp=Z,320nm,10.9s
GYA LE
comp=Z,280nm,13.2s
GYA LZ
comp=Z,360nm,10.2s
JNU Nakatsue 16.37 30 Pn **Pn 01 18 30.9 -0.8**
comp=Z,0.4nm,0.3s,baz=204,slow=8.7,SNR=8.6
JNU LR LR 01 24 32.3
comp=Z,174nm,21.0s,baz=196,slow=36
JNU Nakatsue 16.37 30 *e*Pn Pn 01 18 32.5 +0.9
comp=Z,10nm,0.9s
KMI Kunming 18.12 292 P **P 01 18 54.8 +0.9**
KMI pP **pP 01 19 02.3 -0.3**
KMI sP **sP 01 19 06.8 -0.1**
KMI PP **PnPn 01 19 10.4 +5.2**
KMI S **Sn 01 22 12.9 -2.2**
KMI sS **S 01 22 25.0 +5.0**
KMI PMZ
comp=Z,3.0nm,0.7s
KMI PMZ
comp=Z,100nm,3.9s
KMI LN
comp=Z,340nm,14.4s
KMI LE
comp=Z,410nm,14.7s
KMI LZ
comp=Z,580nm,15.5s
XAN Xi'an 18.43 326 P **Pn 01 18 57.9 +0.6**
XAN pP **pP 01 19 08.5 +2.7**
XAN PMZ
comp=Z,5.0nm,1.2s
XAN PMZ
comp=Z,53nm,6.3s
KSAR Wonju Array Be 19.12 16 P **P 01 19 04.2 -0.3**
KSAR Wonju Array Be 19.12 16 P **P 01 19 04.2 -0.3**
KSRS Korea Array 19.15 16 P **P 01 19 04.2 -0.6**
comp=Z,1.6nm,0.3s,baz=196,slow=11,SNR=19
KSRS LR LR 01 26 56.7
comp=Z,198nm,21.4s,baz=197,slow=38
KSRS Korea Array 19.15 16 P **P 01 19 04.2 -0.6**
KSRS pmax pmax
comp=Z,2.0nm,0.3s
KSRS MLR MLR
comp=Z,198nm,21.5s
CD2 Chengdu 19.65 310 ⇓*i*P P 01 19 11.3 +0.8
CD2 pP **pP 01 19 19.6 +0.3**
CD2 sP **sP 01 19 23.9 +0.4**
CD2 PMZ
comp=Z,40nm,0.8s
CD2 PMZ
comp=Z,210nm,5.4s
CD2 LN
comp=Z,380nm,12.6s
CD2 LZ
comp=Z,480nm,16.0s
CBIJ Chichi jima 20.81 64 P **P 01 19 21.7 -1.3**
JCJ Chichijima 20.81 64 P **P 01 19 21.7 -1.3**
comp=Z,31nm,0.7s,baz=240,slow=23,SNR=4.4
JCJ LR LR 01 26 09.2
comp=Z,90nm,18.4s,baz=182,slow=33
CHTO Chiang Mai 21.07 273 *e*P P 01 19 26.3 +0.3
CHTO pmax pmax
comp=Z,10.0nm,1.0s
CHTO Chiang Mai 21.07 273 *e*P P 01 19 26.3 +0.3
comp=Z,10nm,1.0s
CMAR Chiang Mai Arr 21.11 272 P **P 01 19 26.4 +0.2**
comp=Z,1.4nm,0.4s,baz=78,slow=9.1,SNR=9.7
CMAR PcP **PcP 01 23 31.8 -0.2**
comp=Z,1.4nm,0.3s,baz=59,slow=0.9,SNR=5.3
CMAR LR LR 01 27 28.5
comp=Z,135nm,18.2s,baz=96,slow=36
BJT Baijiatuau 21.24 349 *e*P P 01 19 28.2 +0.7
BJT pmax pmax
comp=Z,60nm,0.6s
BJT Baijiatuau 21.24 349 *e*P P 01 19 28.2 +0.7
comp=Z,60nm,0.6s
SIJI Sorong 22.21 153 LR LR 01 28 24.5
comp=Z,104nm,20.7s,baz=194,slow=37
LZH Lanzhou 22.77 321 *e*P P 01 19 45.0 +0.8
LZH pP **pP 01 19 53.9 +0.8**
LZH sP **sP 01 19 57.8 +0.5**
LZH *e*S **S 01 23 46.0 -5.1**
LZH sS sS 01 24 01.0 -5.5
LZH PMZ
comp=Z,41nm,1.0s
LZH PMZ
comp=Z,200nm,4.4s
LZH LN
comp=Z,1μm,11.8s
LZH LE
comp=Z,1μm,13.4s
LZH LZ
comp=Z,1μm,14.0s
MAJO Matsushiro 22.86 37 *e*P P 01 19 44.3 -0.6
MAJO pmax pmax
comp=Z,9.0nm,0.8s
MAJO Matsushiro 22.86 37 *e*P P 01 19 44.3 -0.6
comp=Z,8.5nm,0.8s
MJAR Matsushiro Arr 22.86 37 P **P 01 19 45.6 +0.7**
comp=Z,2.4nm,0.6s,baz=221,slow=8.8,SNR=9.0
HHC Hu-ho-hao-te 23.15 341 *e*P P 01 19 47.8 -0.1
HHC PP **PnPn 01 20 18.8 +4.9**
HHC S **S 01 23 56.0 -1.2**
HHC sS **sS 01 24 08.5 -4.5**
HHC PMZ
comp=Z,21nm,0.9s
HHC PMZ
comp=Z,150nm,8.6s
HHC LN
comp=Z,440nm,17.7s
HHC LE
comp=Z,220nm,17.5s
HHC LZ
comp=Z,400nm,18.5s
GUMO Guam 23.34 100 LR LR 01 27 15.5
comp=Z,184nm,18.7s,baz=254,slow=33
KAPI Kappang 24.07 184 LR LR 01 29 40.4
comp=Z,157nm,21.2s,baz=4.8,slow=38
IPM Ipoh 24.53 236 *e*P P 01 20 01.1 0.0
comp=Z,16nm,0.8s
CN2 Changchun 24.82 7 *e*P P 01 20 05.3 +1.9
MDJ Mudanjiang 26.33 14 P **P 01 20 17.9 +0.8**
MDJ PMZ
comp=Z,5.0nm,0.8s
USRK Ussuriysk Ar. 26.54 17 P **P 01 20 19.3 +0.3**
comp=Z,2.7nm,0.7s,baz=210,slow=13,SNR=6.3
USRK LR LR 01 30 49.4
comp=Z,148nm,21.4s,baz=181,slow=36
PSI Prapat 27.20 236 LR LR 01 30 10.0
comp=Z,124nm,20.4s,baz=138,slow=34
GTA Gaotai 27.37 322 *e*P P 01 20 27.5 +0.8
GTA pP **pP 01 20 37.5 +1.2**
GTA sP **sP 01 20 41.4 +1.0**
GTA S **S 01 25 05.8 +1.1**
GTA PMZ
comp=Z,5.0nm,1.2s
GTA PMZ
comp=Z,90nm,5.3s
GTA LN
comp=Z,140nm,16.6s
GTA LE
comp=Z,190nm,15.7s
GTA LZ
comp=Z,200nm,15.7s
JAY Jayapura 28.82 136 LR LR 01 29 53.2
comp=Z,188nm,21.8s,baz=334,slow=32
BATI Baumata 29.28 175 LR LR 01 32 53.5
comp=Z,190nm,21.2s,baz=121,slow=38
SONM Songino Array 31.05 340 P **P 01 20 59.8 +0.5**
comp=Z,3.4nm,0.9s,baz=160,slow=10,SNR=14
SONM LR LR 01 34 52.7
comp=Z,315nm,18.1s,baz=130,slow=39
KLR Kul'dur 31.17 13 *e*P P 01 20 59.7 -0.4
WMQ Urumqi 37.30 319 P **P 01 21 53.8 +0.4**
WMQ pP **pP 01 22 03.9 +0.7**
WMQ sP **sP 01 22 09.0 +1.8**
WMQ S **S 01 27 38.8 0.0**
WMQ ScS **ScS 01 32 02.8 -2.3**
WMQ PMZ
comp=Z,9.0nm,0.8s
WMQ PMZ
comp=Z,120nm,6.0s
WMQ LN
comp=Z,250nm,16.0s
WMQ LE
comp=Z,220nm,16.0s
WMQ LZ
comp=Z,130nm,17.6s
BOD Bodaibo 38.97 354 *e*P P 01 22 07.0 -0.2
MBWA Marble Bar 40.10 182 *e*P P 01 22 15.3 -1.6
comp=Z,7.0nm,0.7s
WRAB Tennant Creek 40.93 161 *e*P P 01 22 22.7 -1.1
WRAB pmax pmax
comp=Z,7.0nm,0.6s
WRAB Tennant Creek 40.93 161 *e*P P 01 22 22.7 -1.1
comp=Z,7.3nm,0.6s
WRA Warramunga Arr 40.93 161 P **P 01 22 21.3 -2.5**
comp=Z,4.8nm,0.3s,baz=343,slow=9.1,SNR=16
MK31 Makanchi Array 42.08 320 *e*P P 01 22 33.7 +0.6
MK31 Makanchi Array 42.08 320 *e*P P 01 22 33.6 +0.6
MKAR Makanchi Array 42.08 320 P **P 01 22 34.0 +0.9**
comp=Z,4.6nm,0.6s,baz=114,slow=9.8,SNR=46
MKAR LR LR 01 42 13.8
comp=Z,132nm,18.1s,baz=128,slow=39
MKAR Makanchi Array 42.08 320 P **P 01 22 34.0 +0.9**
MKAR pmax pmax
comp=Z,5.0nm,0.6s
MKAR MLR MLR
comp=Z,132nm,18.2s
H11S3 WAKE ISLAND Hy 42.94 83 T T 02 08 28.6
baz=275,slow=76,SNR=27
H11S1 WAKE ISLAND Hy 42.95 83 T T 02 08 21.1
baz=275,slow=76,SNR=20
H11S2 WAKE ISLAND Hy 42.96 83 T T 02 08 23.1
baz=275,slow=76,SNR=24
H11N1 WAKE ISLAND Hy 42.96 81 T T 02 08 23.1
baz=277,slow=75,SNR=163
H11N2 WAKE ISLAND Hy 42.97 81 T T 02 08 23.4
baz=277,slow=75,SNR=67
H11N3 WAKE ISLAND Hy 42.98 81 T T 02 08 24.6
baz=277,slow=75,SNR=81
KSH Kashi 43.82 307 P P 01 22 50.8 +3.4
KSH pP pP 01 23 00.1 +2.8
KSH PcP **PcP 01 24 35.3 +1.7**
KSH PcS **PcS 01 28 28.1 +1.5**
KSH S **S 01 29 19.8 +3.5**
KSH sS sS 01 29 35.3 +2.7
KSH SS **SS 01 32 28.1 -4.8**
KSH PMZ
comp=Z,17nm,0.8s
KSH PMZ
comp=Z,89nm,4.7s
KSH LN
comp=Z,130nm,4.7s
KSH LE
comp=Z,190nm,4.5s
PETK Petropavlovsk- 44.06 31 LR LR 01 41 32.0
comp=Z,42nm,20.6s,baz=225,slow=37
AS31 Alice Springs 44.33 163 *e*P P 01 22 50.8 -0.7
ASAR Alice Springs 44.33 163 P **P 01 22 49.8 -1.6**
comp=Z,6.2nm,0.3s,baz=344,slow=6.8,SNR=78
ZALV Zalesovo Beam 44.53 330 P **P 01 22 52.7 0.0**
comp=Z,4.5nm,0.7s,baz=117,slow=8.0,SNR=19
ZALV LR LR 01 42 33.7
comp=Z,151nm,19.8s,baz=70,slow=38
NVS Novosibirsk 45.81 330 *e*P P 01 22 57.1 -5.7
KURK Kurchatov 46.04 323 *e*P P 01 23 05.4 +0.7
KURK pmax pmax
comp=Z,14nm,1.1s
KURK Kurchatov 46.04 323 *e*P P 01 23 05.4 +0.7
comp=Z,14nm,1.1s
HNR Honiara 47.58 123 LR LR 01 41 00.7
comp=Z,85nm,19.3s,baz=12,slow=33
KBL Kabul 48.50 299 *e*P P 01 23 24.6 +0.1
KBL pmax pmax
comp=Z,6.0nm,0.8s
KBL Kabul 48.50 299 *e*P P 01 23 24.6 +0.1
comp=Z,5.9nm,0.8s
KKAR Karatay Array 48.66 311 *e*P P 01 23 26.5 +1.2
KKAR pmax pmax
comp=Z,5.0nm,0.9s
KKAR Karatay Array 48.66 311 *e*P P 01 23 26.5 +1.2
comp=Z,5.1nm,0.9s
BRVK Borovoye 51.71 323 *e*P P 01 23 49.0 +0.8
BRVK pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 51.71 323 *e*P P 01 23 49.0 +0.8
comp=Z,7.6nm,1.0s
BBOO Buckleboo 53.59 164 *e*P P 01 24 01.3 -0.9
STKA Stephens Creek 54.37 159 P **P 01 24 07.1 -0.9**
comp=Z,4.7nm,0.6s,baz=330,slow=6.2,SNR=21
STKA Stephens Creek 54.37 159 *e*P P 01 24 06.6 -1.4
STKA pmax pmax
comp=Z,7.0nm,2.0s
STKA Stephens Creek 54.37 159 *e*P P 01 24 06.5 -1.4
comp=Z,7.0nm,2.0s
BILL Bilibino 56.39 19 *de*P P 01 24 22.9 +0.8
BILL pmax pmax
comp=Z,3.0nm,0.5s
ABKAR Akbulak array 57.04 317 *e*P P 01 24 27.5 +0.5
GEYT Alibeck 57.47 303 P **P 01 24 31.5 +1.2**
comp=Z,0.6nm,0.4s,baz=58,slow=14,SNR=2.4
GEYT LR LR 01 52 35.3
comp=Z,170nm,18.8s,baz=120,slow=40
SVE Sverdlovsk 58.15 326 ⇑*e*P P 01 24 35.2 +0.5
SVE pmax pmax
comp=Z,11nm,0.9s
ARU Arti 59.18 325 *d*iP P 01 24 41.7 -0.1
ARU 01 26 53.0
ARU S **S 01 32 49.4 +2.3**
ARU pmax pmax
comp=Z,3.0nm,0.5s
ARU Arti 59.18 325 *e*P P 01 24 41.8 0.0
comp=Z,6.4nm,0.5s
PRGR Permogore 66.49 330 P **P 01 25 28.6 -1.8**
PRGR pmax pmax
comp=Z,8.0nm,1.1s
KBZ Khabaz 68.69 310 LR LR 01 59 49.1
comp=Z,92nm,18.3s,baz=56,slow=39
KIV Kislovodsk 68.82 311 ⇑*e*P P 01 25 45.1 -0.5
KIV *i* 01 26 10.8
KIV *i* 01 28 23.4
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,65nm,16.0s
KIV Kislovodsk 68.82 311 *e*P P 01 25 44.8 -0.8
comp=Z,7.8nm,0.8s
OBN Obninsk 71.48 323 *ce*P P 01 26 01.9 +0.4
OBN *i* 01 26 20.2
OBN *i* 01 28 38.4
OBN *e*S **S 01 35 17.8 0.0**
OBN pmax pmax
comp=Z,9.0nm,0.5s
OBN MLR MLR
comp=Z,53nm,16.0s
CAST Castle Rocks 71.58 28 *e*P P 01 26 02.6 +0.5
comp=Z,5.4nm,0.8s
PPLA Purkeypile 71.59 29 *e*P P 01 26 01.9 -0.4
comp=Z,7.4nm,1.1s
KDAK Kodiak Island 71.99 34 *i*P P 01 26 04.1 -0.4
BPAW Bear Paw Mtn. 71.99 27 *e*P P 01 26 04.3 -0.2
comp=Z,8.3nm,1.3s
MCK McKinley 72.94 28 *e*P P 01 26 10.2 0.0
MCK pmax pmax
comp=Z,5.0nm,0.7s
MCK McKinley 72.94 28 *e*P P 01 26 10.2 0.0
comp=Z,5.4nm,0.7s
ILAR Eielson Array 73.66 27 P **P 01 26 12.8 -1.6**
comp=Z,0.4nm,0.5s,baz=265,slow=4.4,SNR=9.9
ARCES ARCESS Array B 74.20 339 P **P 01 26 16.9 -0.6**
comp=Z,3.1nm,0.9s,baz=46,slow=7.0,SNR=5.6
ARCES LR LR 02 02 42.3
comp=Z,59nm,20.0s,baz=83,slow=39
MID Middleton Isla 74.94 32 *e*P P 01 26 24.4 +2.6
MID Middleton Isla 74.94 32 *e*P P 01 26 24.4 +2.6
FINES FINESS Array B 75.80 330 P **P 01 26 27.8 +1.0**
comp=Z,1.7nm,0.8s,baz=90,slow=5.7,SNR=9.5
FINES LR LR 02 04 56.9
comp=Z,72nm,18.8s,baz=88,slow=40
EGAK Eagle 76.05 26 *e*P P 01 26 28.2 +0.1
comp=Z,2.8nm,0.8s
BRTR Keskin Array B 76.21 307 P **P 01 26 31.1 +1.3**
comp=Z,0.2nm,0.5s,baz=142,slow=4.2,SNR=3.0
BRTR LR LR 02 04 28.4
comp=Z,26nm,21.2s,baz=56,slow=39
INK Inuvik 77.86 22 *e*P P 01 26 37.3 -0.9
INK pmax pmax
comp=Z,3.0nm,1.0s
INK Inuvik 77.86 22 *e*P P 01 26 37.3 -0.9
comp=Z,3.4nm,1.0s
TESR Tescani 79.41 316 ⇑*i*P P 01 26 51.6 +4.4
VRI Vrincioaia 79.54 315 ⇑P P 01 26 54.2 +6.2
VRI Vrincioaia 79.54 315 ⇑*i*P P 01 26 54.2 +6.2
BURAR Bucovina Array 80.02 317 ⇑P P 01 26 54.6 +3.9
BURAR Bucovina Array 80.02 317 ⇑*i*P P 01 26 54.6 +3.9
BUR08 Bucovina Ar. S 80.03 317 *e*P P 01 26 48.5 -2.2
MLR Muntele Rosu 80.17 315 ⇓P P 01 26 57.8 +6.2
MLR Muntele Rosu 80.17 315 ⇓*i*P P 01 26 57.8 +6.2
DRGR 81.90 317 ⇓P P 01 27 06.3 +5.6
DRGR 81.90 317 ⇓*i*P P 01 27 06.3 +5.6
NB2 NORSAR Subarra 82.67 333 P **P 01 27 03.4 -1.0**
comp=Z,1.7nm,0.8s,baz=63,slow=4.8
NOA NORSAR Array B 82.67 333 P **P 01 27 04.0 -0.4**
comp=Z,0.6nm,0.7s,baz=72,slow=4.3,SNR=4.4
NOA LR LR 02 06 55.5
comp=Z,136nm,19.3s,baz=75,slow=38
NOA NORSAR Array B 82.67 333 P **P 01 27 04.0 -0.4**
VTS Vitosha 82.96 313 ⇑P P 01 27 12.6 +6.2
VTS Vitosha 82.96 313 ⇑*i*P P 01 27 12.6 +6.2
KRLC Kraliky 84.40 321 *e*P P 01 27 13.2 -0.3
KRLC Kraliky 84.40 321 *e*P P 01 27 13.2 -0.3
DPC Dobruska-Polom 84.56 322 *e*P P 01 27 12.9 -1.4
DPC *e*PCP **PcP 01 27 19.4 +1.6**
DPC *e*pP **pP 01 27 21.6 -3.3**
DPC Dobruska-Polom 84.56 322 *e*P P 01 27 12.9 -1.4
DPC *e* 01 27 19.4
DPC *e* 01 27 21.6
PKSM Moragy 84.74 317 ⇓P P 01 27 22.0 +6.8
PKSM Moragy 84.74 317 ⇓*i*P P 01 27 22.0 +6.8
VRAC Vranov 84.82 321 ⇓P P 01 27 23.7 +8.1
VRAC Vranov 84.82 321 ⇓*i*P P 01 27 23.7 +8.1
PRU Pruhonice 85.76 322 AMS AMS 02 11 20.0
comp=Z,100nm,12.9s
GERES GERESS Array B 86.74 321 P **P 01 27 24.7 -0.5**
comp=Z,0.3nm,0.6s,baz=10,slow=6.5,SNR=4.0
GERES LR LR 02 10 26.9
comp=Z,47nm,18.6s,baz=22,slow=38
YKW3 Yellowknife Ar 87.52 23 *e*P P 01 27 28.4 -0.2
comp=Z,0.1nm,0.9s
YKA Yellowknife Ar 87.57 23 P **P 01 27 28.4 -0.3**
comp=Z,2.2nm,0.6s,baz=309,slow=4.7,SNR=13
VNDA Vanda 99.34 172 P **Pdif 01 28 21.4 -1.1**
comp=Z,1.8nm,0.9s,baz=312,slow=4.7,SNR=7.3
TXAR Lajitas Array 115.20 43 PKP **PKPdf 01 33 23.1 +0.1**
comp=Z,0.8nm,0.5s,baz=220,slow=0.5,SNR=12
BCIP Isla Barro Col 145.02 38 *e*PKPdf PKPbc 01 34 17.7 -0.8
SDV Santo Domingo 149.78 24 *e*PKPdf PKPdf 01 34 26.9 -0.5
SDV *e*PKPbc **PKPbc 01 34 31.6 -0.5**
ROSC El Rosal 151.64 34 PKPbc **PKPbc 01 34 36.7 -0.1**
comp=Z,7.5nm,0.6s,baz=96,slow=13,SNR=7.7
ROSC El Rosal 151.64 34 *e*PKPbc PKPbc 01 34 37.1 +0.3
ROSC *e*PKPab **PKPab 01 34 45.4 +0.1**
OTAV Otavalo 152.71 47 *e*PKPdf PKPdf 01 34 32.5 +0.3
OTAV *e*PKPbc **PKPbc 01 34 39.1 -0.2**
TRQA Tornquist 160.96 172 *e*PKPab PKPab 01 35 24.1 0.0
LCO Las Campanas 165.35 134 *e*PKPab PKPab 01 35 44.4 +0.3
SAML Samuel 168.99 23 *e*PKPab PKPab 01 35 58.0 -2.0
LVC Limon Verde 169.92 112 *e*PKPab PKPab 01 36 03.8 -0.8

IDC ***21*** *01:28:20.3±2.4, 26.°76N×54.°13E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.5/32, mbtmp3.5/7, ML3.3/1, MS2.9/5, Ms1 2.9/5, ms1mx2.6/34, Error ellipse: s-maj=51.7km s-min=25.6km az=158.0*
DSN ***21*** *01:28:33.3±0.9, 26.°93N×54.°04E, h10km, mb3.0/3, ML4.1/2, Error ellipse: s-maj=12.3km s-min=7.6km az=23.0*
ISC 21 01:28:24.6±0.8, 27.0N±0.1×54.0E±0.1, h19km, n14,
σ1§01/10, mb3.5/6, 3C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NAZ	**Nazwa, Dubai**	**2.46**	**143**	⇑P		**Pg**	**01 29 13.1**	**+1.2**
ASUD	**Al Ashush, Dub**	**2.62**	**153**	⇑P		**Pg**	**01 29 15.2**	**+0.3**
HATD	**Hatta, Dubai**	**2.86**	**138**	⇑P		**Pg**	**01 29 18.9**	**-0.6**
GNI	**Garni**	**15.24**	**332**	LR	LR		01 38 30.0	
comp=Z,35nm,20.9s,baz=110,slow=39								
MMAI	**Mount Meron Ar**	**17.21**	**295**	LR	LR		01 39 49.2	
comp=Z,28nm,20.6s,baz=135,slow=40								
KBZ	**Khabaz**	**18.99**	**335**	P		**Pn**	**01 32 47.1**	**+1.4**
0.1nm,0.3s,baz=119,slow=10,SNR=2.7								
KBZ				LR	LR		01 41 25.9	
comp=Z,29nm,20.7s,baz=324,slow=41								
BRTR	**Keskin Array B**	**21.20**	**312**	P		**P**	**01 33 10.1**	**+0.9**
1.2nm,0.8s,baz=136,slow=12,SNR=9.9								
AKTO	**Aktyubinsk**	**23.62**	**6**	LR	LR		01 44 25.6	
comp=Z,30nm,18.3s,baz=172,slow=40								
MKAR	**Makanchi Array**	**29.78**	**41**	P		**P**	**01 34 29.3**	**-0.8**
0.2nm,0.5s,baz=231,slow=7.6,SNR=2.1								
ZALV	**Zalesovo Beam**	**35.20**	**32**	P		**P**	**01 35 17.6**	**+0.2**
0.8nm,0.6s,baz=251,slow=9.2,SNR=3.6								
FINES	**FINESS Array B**	**39.24**	**339**	P		**P**	**01 35 51.6**	**+0.1**
2.4nm,1.0s,baz=143,slow=12,SNR=3.0								
ESDC	**Sonseca Array**	**49.31**	**300**	P		**P**	**01 37 11.3**	**-1.3**
0.2nm,0.5s,baz=84,slow=7.8,SNR=5.2								
TORD	**Torodi Ar. Bea**	**50.72**	**265**	P		**P**	**01 37 23.2**	**-0.3**
0.5nm,0.8s,baz=69,slow=7.4,SNR=4.5								
GUMO	**Guam**	**84.68**	**78**	LR	LR		02 22 33.9	
comp=Z,22nm,22.0s,baz=106,slow=38								

NEIC ***21*** *02:17:32.8, 52.°96N×169.°80W, h4km, ML3.3(AEIC), After AEIC.*
IDC ***21*** *02:17:35.1±26.0, 52.°45N×168.°52W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.3/57, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=490.9km s-min=50.7km az=86.0*
ISC 21 02:17:31.2±1.8, 52.9N±0.1×169.9W±0.1, h10km, n16,
σ1§13/21, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.63**	**81**	P		**Pb**	**02 17 45.3**	**+0.9**
NIKH				S		**Sb**	**02 17 52.4**	**-0.9**
OKAK	**Okmok**	**1.16**	**52**	P		**Pg**	**02 17 52.0**	**-1.4**
OKAK				S		**Sb**	**02 18 07.5**	**-0.8**
OKWR	**Okmok West Rim**	**1.16**	**61**	P		**Pb**	**02 17 53.7**	**+0.4**
OKCE	**Okmok Cone E**	**1.17**	**62**	P		**Pb**	**02 17 53.5**	**0.0**
OKCE				S		**Sn**	**02 18 11.2**	**+1.5**
OKTU	**Okmok Mt. Tuli**	**1.22**	**65**	P		**Pb**	**02 17 54.5**	**+0.2**
MSOM	**Makushin Julie**	**2.00**	**61**	P		**Pn**	**02 18 05.7**	**+0.7**
MSOM				S		**Sb**	**02 18 32.8**	**+0.4**
MCIR	**Makushin Cirqu**	**2.09**	**58**	P		**Pn**	**02 18 07.3**	**+1.0**
MSW	**Makushin Switc**	**2.13**	**60**	P		**Pn**	**02 18 08.4**	**+1.6**
MTBL	**Makushin Table**	**2.21**	**59**	P		**Pn**	**02 18 09.4**	**+1.4**
UNV	**Unalaska Valle**	**2.25**	**63**	P		**Pn**	**02 18 08.9**	**+0.5**
UNV				S		**Sb**	**02 18 38.1**	**-1.6**
ZRO	**Akutan Zero**	**2.63**	**61**	P		**Pn**	**02 18 15.3**	**+1.5**
AKUT	**Akutan**	**2.76**	**61**	*e*Pn		**Pn**	**02 18 17.3**	**+1.9**
BPAW	**Bear Paw Mtn.** 0.4nm,0.7s	**14.89**	**34**	*e*Pn		**Pn**	**02 21 02.0**	**+0.5**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=228,slow=13,SNR=4.4	**16.71**	**36**	Pn		**P**	**02 21 27.3**	**-0.1**

PDAR	**Pinedale Array**	**40.62**	**79**	P		**P**	**02 25 10.6**	**-0.7**
	0.4nm,0.5s,baz=319,slow=4.8,SNR=4.1							
TXAR	**Lajitas Array**	**53.05**	**89**	P		**P**	**02 26 47.7**	**-0.8**
	1.0nm,0.9s,baz=290,slow=5.3,SNR=8.2							

*ISCJB **21** 02:20:05.4±0.8,52.°7N±0.°1×169.°6W±0.°2,h10km,mb3.8/5, Error ellipse: s-maj=21.4km s-min=6.3km az=145.7*
*NEIC **21** 02:20:06.5,52.°80N×169.°57W,h3km, ML3.5(AEIC), After AEIC.*
*IDC **21** 02:20:06.5±1.3,51.°41N×169.°30W,h0km, mb3.8/5, mb1 1.4/6,mb1mx3.5/58,mbtmp3.7/6, Error ellipse: s-maj=49.9km s-min=23.9km az=147.0*
ISC 21 02:20:07.2±1.0,**52.°8N**±0.°1×**169.°62W**±0.°08,**h10**km,**n24,** σ1§**08**/23,**mb3.7**/5,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.49**	**69**	P		**Pg**	**02 20 16.1**	**-0.7**
NIKH				S		**Sg**	**02 20 24.2**	**+0.9**
OKWR	**Okmok West Rim**	**1.06**	**53**	P		**Pg**	**02 20 27.1**	**-0.5**
OKCE	**Okmok Cone E**	**1.08**	**54**	P		**Pg**	**02 20 27.2**	**-0.7**
OKCE				S		**Sg**	**02 20 44.0**	**+2.2**
OKAK	**Okmok**	**1.09**	**44**	P		Pb	02 20 25.3	-2.7
OKAK				S		**Sg**	**02 20 39.4**	**-2.7**
OKTU	**Okmok Mt. Tuli**	**1.12**	**58**	P		**Pb**	**02 20 27.9**	**-0.7**
MSOM	**Makushin Julie**	**1.90**	**56**	P		**Pn**	**02 20 39.6**	**+0.1**
MSOM				S		**Sn**	**02 21 05.2**	**+1.7**
MCIR	**Makushin Cirqu**	**2.00**	**54**	P		**Pn**	**02 20 41.4**	**+0.4**
MSW	**Makushin Switc**	**2.03**	**56**	P		**Pn**	**02 20 41.3**	**-0.1**
MTBL	**Makushin Table**	**2.11**	**55**	P		**Pn**	**02 20 43.4**	**+0.7**
UNV	**Unalaska Valle**	**2.14**	**59**	P		**Pn**	**02 20 42.2**	**-0.7**
UNV				S		**Sn**	**02 21 10.0**	**+0.5**
ZRO	**Akutan Zero**	**2.53**	**58**	P		**Pn**	**02 20 48.5**	**+0.2**
AKUT	**Akutan**	**2.66**	**58**	*e*Pn		**Pn**	**02 20 49.4**	**-0.6**
AKUT				*e*Sg		**Sb**	**02 21 27.7**	**+0.3**
ATKA	**Atka Island**	**2.86**	**260**	P		**Pn**	**02 20 53.2**	**+0.5**
BPAW	**Bear Paw Mtn.**	**14.87**	**33**	*e*Pn		**Pn**	**02 23 38.2**	**+1.0**
	0.9nm,0.7s							
ILAR	**Eielson Array**	**16.68**	**35**	Pn		P	02 24 14.4	+11
	baz=215,slow=11,SNR=3.3							
DLBC	**Dease Lake**	**22.80**	**60**	P		P	02 25 16.3	+6.6
	2.0nm,0.7s,baz=241,slow=8.8,SNR=4.0							
NVAR	**Mina Array Bea**	**37.82**	**91**	P		**P**	**02 27 23.5**	**-0.3**
	0.4nm,0.8s,baz=290,slow=6.4,SNR=2.9							
H11S1	**WAKE ISLAND Hy**	**38.89**	**217**	T		T	03 07 48.1	
	baz=23,slow=76,SNR=11							
H11S2	**WAKE ISLAND Hy**	**38.91**	**217**	T		T	03 07 48.8	
	baz=23,slow=76,SNR=13							
H11S3	**WAKE ISLAND Hy**	**38.91**	**217**	T		T	03 07 49.4	
	baz=23,slow=76,SNR=14							
PDAR	**Pinedale Array**	**40.47**	**79**	P		**P**	**02 27 47.0**	**+1.0**
	1.2nm,0.8s,baz=314,slow=4.3,SNR=8.4							
TXAR	**Lajitas Array**	**52.89**	**89**	P		**P**	**02 29 22.4**	**-0.8**
	1.0nm,0.7s,baz=290,slow=5.2,SNR=11							
ASAR	**Alice Springs**	**90.56**	**230**	P		P	02 33 06.0	-3.3
	0.9nm,0.7s,baz=38,slow=3.9,SNR=7.0							
MAW	**Mawson**	**151.12**	**219**	PKPbc		**PKPbc**	**02 39 58.2**	**-0.7**
	1.9nm,0.6s,baz=94,slow=6.7,SNR=7.9							

*ISCJB **21** 02:21:18.0±1.0,6.°30S±0.°10×145.°9E±0.°2,h122km, mb3.7/4,Error ellipse: s-maj=24.0km s-min=10.8km az=156.7*
*IDC **21** 02:21:19.9±3.1,6.°30S×146.°05E,h128km±33km,mb3.5/5, mb1 3.6/7,mb1mx3.4/36,mbtmp3.9/7,Error ellipse: s-maj=34.2km s-min=25.9km az=107.0*
ISC 21 02:21:19.3±1.1,**6.°3S**±0.°1×**146.°0E**±0.°2,**h122**km,**n8,** σ0§**91**/8,**mb3.7**/4,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.30**	**160**	P		**Pn**	**02 22 08.7**	**-0.9**
	6.7nm,0.3s,baz=40,slow=6.4,SNR=8.1							
PMG				S		**Sn**	**02 22 49.8**	**+1.4**
	17nm,0.3s,baz=154,slow=20,SNR=19							
WRA	**Warramunga Arr**	**17.70**	**219**	P		**P**	**02 25 16.6**	**-0.8**
	0.2nm,0.3s,baz=42,slow=12,SNR=12							
ASAR	**Alice Springs**	**20.85**	**213**	P		**P**	**02 25 51.3**	**-0.3**
	2.4nm,0.9s,baz=39,slow=8.9,SNR=11							
STKA	**Stephens Creek**	**25.80**	**189**	P		**P**	**02 26 39.2**	**+0.2**
	1.1nm,0.4s,baz=33,slow=16,SNR=7.0							
CMAR	**Chiang Mai Arr**	**52.54**	**299**	P		**P**	**02 30 21.4**	**+0.9**
	1.2nm,0.4s,baz=124,slow=6.0,SNR=8.4							
MKAR	**Makanchi Array**	**77.11**	**321**	P		**P**	**02 32 59.2**	**-0.1**
	0.4nm,0.4s,baz=114,slow=3.6,SNR=4.4							
ILAR	**Eielson Array**	**86.12**	**23**	P		**P**	**02 33 46.1**	**-0.2**
	0.3nm,0.7s,baz=243,slow=4.0,SNR=3.5							
TORD	**Torodi Ar. Bea**	**144.22**	**284**	PKP		PKPbc	02 40 40.7	+0.3
	0.5nm,0.7s,baz=87,slow=3.0,SNR=11							

*IDC **21** 02:22:29.5±1.0,52.°67N×169.°88W,h0km,mb4.0/8, mb1 4.2/10,mb1mx3.7/58,mbtmp3.9/10,ML3.5/2,Error ellipse: s-maj=32.8km s-min=18.2km az=176.0*
*ISCJB **21** 02:22:30.2±1.2,52.°77N±0.°07×169.°82W±0.°08,h9km±7km, mb3.9/20,Error ellipse: s-maj=13.4km s-min=6.2km az=151.9*
*NEIC **21** 02:22:31.5,52.°79N×169.°57W,h1km,mb3.9/13, ML3.6(AEIC),After AEIC.*
ISC 21 02:22:30.8±1.7,**52.°9N**±0.°1×**169.°84W**±0.°06,**h3**km±10km, **n51,** σ0§**80**/52,**mb3.9**/20,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.60**	**86**	P		**Pg**	**02 22 41.9**	**-0.4**
NIKH				S		**Sg**	**02 22 50.5**	**+0.4**
OKAK	**Okmok**	**1.10**	**54**	P		**Pg**	**02 22 50.1**	**-1.8**
OKAK				S		**Sg**	**02 23 06.0**	**-0.2**
OKWR	**Okmok West Rim**	**1.10**	**63**	P		**Pb**	**02 22 52.9**	**+0.3**
OKCE	**Okmok Cone E**	**1.12**	**63**	P		**Pg**	**02 22 52.3**	**0.0**
OKCE				S		**Sn**	**02 23 10.0**	**+0.6**
OKTU	**Okmok Mt. Tuli**	**1.17**	**67**	P		**Pg**	**02 22 53.3**	**0.0**
MSOM	**Makushin Julie**	**1.94**	**62**	P		**Pn**	**02 23 05.2**	**+0.5**
MSOM				S		**Sn**	**02 23 30.0**	**+0.3**
MCIR	**Makushin Cirqu**	**2.04**	**59**	P		**Pn**	**02 23 07.2**	**+1.1**
MSW	**Makushin Switc**	**2.08**	**61**	P		**Pn**	**02 23 07.2**	**+0.6**
MTBL	**Makushin Table**	**2.16**	**60**	P		**Pn**	**02 23 08.8**	**+1.1**
UNV	**Unalaska Valle**	**2.20**	**64**	P		**Pn**	**02 23 08.3**	**+0.1**
UNV				S		**Sn**	**02 23 36.4**	**+0.5**
AKRB	**Akutan Reef Bi**	**2.55**	**61**	P		**Pn**	**02 23 14.3**	**+1.2**
ZRO	**Akutan Zero**	**2.58**	**62**	P		**Pn**	**02 23 14.6**	**+1.1**
AKGG	**Akutan Green G**	**2.62**	**60**	P		**Pn**	**02 23 14.5**	**+0.5**
AKUT	**Akutan**	**2.71**	**62**	P		**Pn**	**02 23 15.6**	**+0.4**
ATKA	**Atka Island**	**2.76**	**256**	P		**Pn**	**02 23 17.1**	**+1.3**
CAST	**Castle Rocks**	**14.01**	**35**	*e*Pn		Pn	02 25 53.9	+3.8
BPAW	**Bear Paw Mtn.**	**14.83**	**34**	*e*Pn		**P**	**02 26 06.4**	**-0.8**
IM04	**Indian Mountai**	**15.34**	**25**	*e*Pn		**P**	**02 26 14.2**	**+1.4**
KLU	**Klutina**	**15.45**	**47**	*e*Pn		**Pn**	**02 26 09.5**	**0.0**
COLA	**College**	**16.37**	**35**	*e*Pn		**P**	**02 26 24.4**	**+0.2**
ILAR	**Eielson Array**	**16.65**	**36**	Pn		**Pn**	**02 26 26.1**	**+1.2**
	0.2nm,0.3s,baz=228,slow=10,SNR=6.4							
EGAK	**Eagle**	**18.78**	**40**	*e*Pn		**Pn**	**02 26 52.8**	**+1.5**
	2.7nm,1.0s							
HYT	**Haines Junctio**	**19.18**	**53**	*e*Pn		**Pn**	**02 26 57.4**	**+1.1**
PETK	**Petropavlovsk-**	**19.44**	**284**	P		**P**	**02 26 57.9**	**-0.3**
	0.3nm,0.3s,baz=98,slow=12,SNR=4.6							
SEY	**Seymchan**	**22.07**	**312**	P		**P**	**02 27 27.4**	**+0.9**
	0.9nm,0.2s,baz=152,slow=11,SNR=4.0							
DLBC	**Dease Lake**	**22.85**	**60**	P		**P**	**02 27 35.3**	**+0.4**
	2.6nm,0.6s,baz=279,slow=11,SNR=7.8							
YKA	**Yellowknife Ar**	**30.09**	**50**	P		**P**	**02 28 40.7**	**-0.3**
	0.4nm,0.7s,baz=272,slow=7.3,SNR=4.4							
NEW	**Newport**	**33.15**	**76**	P		**P**	**02 29 07.1**	**-1.1**
	0.7nm,0.3s,baz=313,slow=9.8,SNR=5.1							
WVOR	**Wild Horse Val**	**35.33**	**86**	*e*P		**P**	**02 29 27.9**	**+0.7**
	1.8nm,0.7s							
CHMT	**Chamberlain Mo**	**36.10**	**76**	*e*P		**P**	**02 29 33.1**	**-0.8**
HLID	**Hailey**	**37.22**	**82**	*e*P		**P**	**02 29 43.4**	**0.0**
	0.8nm,0.8s							
MCMT	**McKenzie Canyo**	**37.45**	**79**	*e*P		**P**	**02 29 45.6**	**+0.2**
BOZ	**Bozeman (W)**	**37.72**	**77**	*e*P		**P**	**02 29 47.7**	**0.0**
	1.2nm,0.6s							
NVAR	**Mina Array Bea**	**37.96**	**91**	P		**P**	**02 29 49.2**	**-0.6**
	0.8nm,0.8s,baz=297,slow=6.5,SNR=7.2							
ELK	**Elko**	**38.38**	**86**	*e*P		**P**	**02 29 53.5**	**+0.2**
	1.9nm,0.8s							
H11S1	**WAKE ISLAND Hy**	**38.92**	**217**	T		T	03 12 11.6	
	baz=22,slow=76,SNR=6.2							
H11S2	**WAKE ISLAND Hy**	**38.93**	**217**	T		T	03 12 11.8	
	baz=22,slow=76,SNR=8.7							
H11S3	**WAKE ISLAND Hy**	**38.94**	**217**	T		T	03 12 11.3	
	baz=22,slow=76,SNR=8.2							

TPAW	**Teton Pass**	**39.33**	**79**	*e*P		**P**	**02 30 00.7**	**-0.6**
	1.1nm,0.7s							
RLMT	**Red Lodge**	**39.40**	**76**	*e*P		**P**	**02 30 02.8**	**+0.9**
	5.8nm,1.1s							
DUG	**Dugway**	**40.18**	**85**	*e*P		**P**	**02 30 08.5**	**+0.2**
	2.0nm,0.8s							
BW06	**Boulder Array**	**40.58**	**79**	*e*P		**P**	**02 30 11.3**	**-0.4**
	2.2nm,0.7s							
PDAR	**Pinedale Array**	**40.58**	**79**	P		**P**	**02 30 11.5**	**-0.2**
	1.7nm,0.5s,baz=336,slow=3.5,SNR=16							
PV01	**Paradox Valley**	**44.03**	**84**	*e*P		**P**	**02 30 39.4**	**-0.4**
SDCO	**Great Sand Dun**	**46.13**	**82**	*e*P		**P**	**02 30 56.3**	**-0.3**
	1.0nm,0.8s							
TUC	**Tucson**	**46.61**	**92**	*e*P		**P**	**02 31 00.2**	**0.0**
	1.8nm,0.9s							
ANMO	**Albuquerque**	**47.42**	**86**	*e*P		**P**	**02 31 07.5**	**+0.9**
	0.7nm,0.7s							
WMOK	**Wichita Mounta**	**52.17**	**80**	*e*P		**P**	**02 31 41.9**	**-0.7**
	3.2nm,0.8s							
TXAR	**Lajitas Array**	**53.03**	**89**	P		**P**	**02 31 48.7**	**-0.3**
	3.5nm,0.7s,baz=298,slow=5.4,SNR=34							
ASAR	**Alice Springs**	**90.54**	**230**	P		**P**	**02 35 33.2**	**-0.8**
	1.3nm,0.8s,baz=34,slow=3.8,SNR=7.9							
BOSA	**Boshof**	**153.26**	**329**	PKPbc		**PKPbc**	**02 42 28.1**	**-2.0**
	1.3nm,0.4s,baz=13,slow=2.4,SNR=6.6							

GUC 21 02:31:44.1±0.4,**37.°46S**×**73.°46W,h30**km±2km,**ML4.2,1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
U14B	**Concepcin**	**0.67**	**27**	*i*P		Pb	02 31 57.2	-0.1
U14B				*e*S		Sn	02 32 07.1	+0.1
U14B				AML		AML	02 32 11.8	
	comp=N,36µm,0.4s							
CCSP	**San Pedro de C**	**0.67**	**24**	*e*P		Pn	02 31 57.5	0.0
CCSP				*e*S		Sn	02 32 07.6	+0.5
CCSP				AML		AML	02 32 09.9	
	comp=E,18µm,0.4s							
LNCH	**Linares**	**2.19**	**43**	*e*P		Pb	02 32 21.3	-1.8
LNCH				*e*S		Sb	02 32 49.3	-0.6
U65B	**HualaæØ**	**2.83**	**29**	*e*P		Pn	02 32 28.4	+1.1
U65B				*e*S		Sn	02 33 03.2	+2.9
U65B				AML		AML	02 33 17.1	
	comp=E,648nm,0.4s							
U69B	**Peumo**	**3.59**	**32**	*e*P		Pn	02 32 38.8	+1.1
U73B	**San Pedro**	**3.90**	**26**	*e*P		Pn	02 32 42.2	+0.2
CLCH	**Cerro Calan**	**4.70**	**31**	*e*P		Pn	02 32 52.8	-0.3

*IDC **21** 02:49:27.5±3.6,35.°40S×179.°28W,h0km,mb4.3/2, mb1 4.6/2,mb1mx3.9/19,mbtmp4.3/2, Error ellipse: s-maj=219.5km s-min=47.7km az=171.0*
*ISCJB **21** 02:49:29.5±1.0,35.°52S±0.°07×179.°0W±0.°1,h47km, mb4.3/5, Error ellipse: s-maj=15.8km s-min=8.0km az=26.2*
*NEIC **21** 02:49:33.4±0.9,35.°40S×179.°47W,h35km,mb4.4/3,Error ellipse: s-maj=16.2km s-min=15.2km az=64.0*
ISC 21 02:49:30.6±1.3,**35.°57S**±0.°08×**179.°0W**±0.°1,**h47**km,**n29,** σ1§**90**/31,**mb4.3**/5,**East of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**3.09**	**222**	*e*PN		**Pn**	**02 50 16.3**	**-0.5**
WMGZ				SN		**Sn**	**02 50 55.2**	**+2.7**
PUZ	**Puketiti**	**3.36**	**221**	PN		**Pn**	**02 50 20.9**	**+0.4**
PUZ				SN		**Sn**	**02 51 00.3**	**+1.1**
HAZ	**Te Kaha**	**3.42**	**229**	PN		**Pn**	**02 50 21.6**	**+0.3**
HAZ				*e*SN		**Sn**	**02 51 02.6**	**+2.1**
CNGZ	**Carnagh Statio**	**3.69**	**217**	*e*PN		**Pn**	**02 50 22.6**	**+1.0**
MWZ	**Matawai**	**3.95**	**225**	PN		**Pn**	**02 50 28.8**	**+0.1**
MWZ				SN		**Sn**	**02 51 15.1**	**+1.4**
RIGZ	**Rimuhau**	**4.09**	**219**	PN		**Pn**	**02 50 30.8**	**+0.2**
RAGZ	**Rawiri**	**4.12**	**224**	PN		**Pn**	**02 50 31.2**	**+0.2**
URZ	**Urewera**	**4.14**	**228**	PN		**Pn**	**02 50 31.2**	**-0.1**
URZ				SN		**Sn**	**02 51 18.6**	**+0.1**
URZ	**Urewera**	**4.14**	**228**	*e*Pn		**Pn**	**02 50 31.2**	**-0.1**
KNZ	**Kokohu**	**4.37**	**217**	PN		**Pn**	**02 50 34.5**	**+0.1**
NMHZ	**Naumai**	**4.88**	**223**	*e*PN		**Pn**	**02 50 42.3**	**+0.7**
BKZ	**Black Stump Fm**	**5.11**	**224**	*e*PN		**Pn**	**02 50 44.6**	**0.0**
PXZ	**Pawanui**	**5.55**	**215**	SN		**Sn**	**02 51 52.1**	**-1.1**
OUZ	**Omahuta**	**6.10**	**271**	*e*Pn		**Pn**	**02 50 55.1**	**-3.0**
BFZ	**Birch Farm**	**6.36**	**215**	SN		**Sn**	**02 52 09.7**	**-3.2**
MRZ	**Mangatainoka R**	**6.67**	**219**	SN		**Sn**	**02 52 17.0**	**-3.6**
CTZ	**Chatham Island**	**8.35**	**168**	*e*PN		Pn	02 51 32.3	+3.3
CTZ				SN		**Sn**	**02 52 58.7**	**-3.2**
THZ	**Tophouse**	**8.88**	**223**	SN		**Sn**	**02 53 10.4**	**-4.5**
TBI	**Tubuai**	**28.31**	**73**	*e*T		T	02 54 36.8	
	9.1nm,0.3s							
CTAO	**Charters Tower**	**34.21**	**287**	*e*P		**P**	**02 56 11.5**	**-0.3**
	12nm,1.0s							
VAH	**Vaihoa**	**34.56**	**62**	*e*T		T	02 56 12.4	
	6.1nm,0.3s							
AS31	**Alice Springs**	**42.30**	**273**	*e*P		**P**	**02 57 20.6**	**+0.7**
ASAR	**Alice Springs**	**42.30**	**273**	P		**P**	**02 57 20.9**	**+1.1**
	2.4nm,0.5s,baz=115,slow=7.8,SNR=44							
VNDA	**Vanda**	**42.89**	**186**	*e*P		P	02 57 29.2	+5.3
	1.7nm,0.9s							
WRAB	**Tennant Creek**	**43.75**	**278**	*e*P		**P**	**02 57 31.7**	**+0.1**
	4.4nm,0.5s							
WRA	**Warramunga Arr**	**43.76**	**278**	P		**P**	**02 57 32.4**	**+0.8**
	2.9nm,0.5s,baz=121,slow=7.4,SNR=12							
KURK	**Kurchatov**	**123.95**	**312**	PKP		**PKPdf**	**03 08 25.8**	**+2.9**
KURBB	**Kurchatov Arra**	**123.98**	**311**	PKP		**PKPdf**	**03 08 25.8**	**+2.8**
	0.4nm,0.4s,baz=111,slow=2.2,SNR=3.3							
FINES	**FINESS Array B**	**149.63**	**336**	PKPbc		**PKPab**	**03 09 17.7**	**-1.7**
	0.9nm,0.5s,baz=52,slow=5.4,SNR=5.3							

*PRU **21** 02:50:14.2,50.°24N×18.°77E,h0km*
*VIE **21** 02:50:18.5±0.6,50.°11N×18.°52E,h0km,mb1.7/2,ml2.1/3, Error ellipse: s-maj=6.9km s-min=3.3km az=42.0, Suspected Mining induced.*
CSEM 21 02:50:13.4±0.2,**50.°26N**×**18.°76E,h1**km,**ML2.6**/8,**2D, Error ellipse: s-maj=6.3km s-min=2.9km az=14.0, Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.15**	**77**	*e*Pg		Pg	02 50 17.0	+0.7
CHZP				*e*Sg		Sg	02 50 18.6	+0.3
OKC	**Ostrava-Krasne**	**0.58**	**224**	*e*PG		Pg	02 50 24.9	+0.4
OKC				*e*SG		Sg	02 50 32.7	+0.7
	comp=Z,12nm,0.3s							
OKC	**Ostrava-Krasne**	**0.58**	**224**	Pg		Pg	02 50 24.9	+0.4
OKC				Sg		Sg	02 50 32.7	+0.7
	12nm,0.3s							
OJC	**Ojcow**	**0.67**	**93**	*e*Pg		Pg	02 50 26.3	+0.1
OJC				*e*Sg		Sg	02 50 34.9	0.0
OJC	**Ojcow**	**0.67**	**93**	*e*Pg		Pg	02 50 26.3	+0.1
OJC				*e*Sg		Sg	02 50 34.9	0.0
MORC	**Moravsky Berou**	**0.92**	**239**	*e*Pg		Pb	02 50 32.3	0.0
MORC				*e*Sg		Sb	02 50 44.8	-0.3
LANS	**Liptovska Anna**	**1.20**	**157**	*e*Sg		Sb	02 50 53.5	+0.5
LANS	**Liptovska Anna**	**1.20**	**157**	*e*SG		Sb	02 50 53.5	+0.5
KRLC	**Kraliky**	**1.29**	**263**	*e*PG		Pg	02 50 38.0	-0.2
KRLC				*e*SG		Sb	02 50 55.6	0.0
KRLC	**Kraliky**	**1.29**	**263**	Pg		Pg	02 50 38.0	-0.2
KRLC				Sg		Sb	02 50 55.6	0.0
NIE	**Niedzica**	**1.31**	**129**	*i* Pg		Pg	02 50 38.6	0.0
NIE				*e*Sg		Sn	02 50 56.6	-0.4
NIE	**Niedzica**	**1.31**	**129**	‖Pg		Pg	02 50 38.6	0.0
NIE				*e*Sg		Sn	02 50 56.6	-0.4
DPC	**Dobruska-Polom**	**1.57**	**274**	*e*PG		Pb	02 50 43.1	-0.2
DPC				*e*SG		Sg	02 51 04.8	+0.9
	comp=Z,6.7nm,0.3s							
DPC	**Dobruska-Polom**	**1.57**	**274**	Pg		Pb	02 50 43.1	-0.2
DPC				Sg		Sg	02 51 04.8	+0.9
	6.7nm,0.3s							
KSP	**Ksiaz**	**1.68**	**291**	*e*Pg		Pg	02 50 46.8	+1.1
KSP				*e*Sg		Sg	02 51 09.5	+2.0
KSP	**Ksiaz**	**1.68**	**291**	*e*Pg		Pg	02 50 46.8	+1.1
KSP				*e*Sg		Sg	02 51 09.5	+2.0
VRAC	**Vranov**	**1.70**	**237**	*e*Pn		Pb	02 50 45.5	+0.1
VRAC				*e*Sg		Sg	02 51 08.4	+0.4
VYHS	**Vyhne**	**1.77**	**178**	*e*Sn		Sn	02 51 07.1	-1.1
VYHS	**Vyhne**	**1.77**	**178**	*e*PN		Pn	02 50 44.8	-0.3
VYHS				*e*SN		Sn	02 51 07.1	-1.1
UPC	**Upice**	**1.78**	**279**	*e*PG		Pb	02 50 46.9	+0.1
UPC				*e*SG		Sg	02 51 11.8	+1.2
	comp=Z,3.3nm,0.3s							
UPC	**Upice**	**1.78**	**279**	Pg		Pb	02 50 46.9	+0.1
UPC				Sg		Sg	02 51 11.8	+1.2
	3.3nm,0.3s							
KECS	**Kecovo**	**2.10**	**147**	*e*Pn		Pn	02 50 49.5	-0.2
KECS				*e*Sn		Sn	02 51 14.7	-1.8
KECS	**Kecovo**	**2.10**	**147**	*e*PN		Pn	02 50 49.5	-0.2
KECS				*e*SN		Sn	02 51 14.7	-1.8
TREC	**Trest**	**2.33**	**247**	*e*PG		Pb	02 50 56.2	-0.1
TREC				*e*SG		Sg	02 51 27.7	-0.7
	comp=Z,3.4nm,0.2s							
TREC	**Trest**	**2.33**	**247**	Pg		Pb	02 50 56.2	-0.1
TREC				Sg		Sg	02 51 27.7	-0.7
	3.4nm,0.2s							
GOPC	**GO Pecny, Ondr**	**2.58**	**264**	*e*PN		Pn	02 50 56.6	+0.2
GOPC				*e*PG		Pg	02 51 02.6	-0.4
GOPC				*e*SG		Sg	02 51 35.5	-1.0
	comp=Z,2.6nm,0.3s							
GOPC	**GO Pecny, Ondr**	**2.58**	**264**	Pn		Pn	02 50 56.6	+0.2
PVCC	**Panska Ves**	**2.70**	**277**	*e*PG		Pg	02 51 04.9	-0.2
PVCC				*e*SG		Sg	02 51 40.5	+0.4
	comp=Z,6.3nm,0.3s							
PVCC	**Panska Ves**	**2.70**	**277**	Pg		Pg	02 51 04.9	-0.2
PVCC				Sg		Sg	02 51 40.5	+0.4
	6.3nm,0.3s							
PRU	**Pruhonice**	**2.73**	**266**	*e*PN		Pn	02 50 58.6	+0.2
PRU				*e*PG		Pg	02 51 05.2	-0.5
PRU				*e*SG		Sg	02 51 40.0	-1.1
	comp=Z,2.2nm,0.2s							
PRU	**Pruhonice**	**2.73**	**266**	Pn		Pn	02 50 58.6	+0.2
PRU	**Pruhonice**	**2.73**	**266**	Pg		Pg	02 51 05.2	-0.5
PRU				Sg		Sg	02 51 40.0	-1.1
	2.2nm,0.2s							
BRG	**Berggiesshubel**	**3.13**	**283**	SG		Sg	02 51 54.9	+0.8
	2.6nm,0.5s							
KHC	**Kasperske Hory**	**3.55**	**253**	*e*PG		Pg	02 51 20.5	-1.0
KHC				*e*SG		Sg	02 52 07.0	-0.6
MOA	**Molln**	**3.81**	**233**	*i*Sg		Sg	02 52 17.7	+1.7
	1.3nm,0.3s							
NKC	**Novy Kostel**	**4.05**	**272**	*e*SG		Sg	02 52 23.4	-0.3
	comp=Z,2.3nm,0.4s							
NKC	**Novy Kostel**	**4.05**	**272**	Sg		Sg	02 52 23.4	-0.3
	2.3nm,0.4s							

*IDC **21** 02:51:21.3±19.0,52.°72N×171.°18W,h0km,mb3.6/3, mb1 3.8/4,mb1mx3.4/42,mbtmp3.4/4,ML3.4/1,Error ellipse: s-maj=359.3km s-min=53.4km az=91.0*
*NEIC **21** 02:51:29.9,52.°72N×169.°49W,h4km,ML3.4(AEIC),After AEIC.*
ISC 21 02:51:28.8±2.7,**52.°9N**±0.°1×**169.°8W**±0.°1,**h4**km±12km,**n20,** σ0§**86**/25,**mb3.5**/3,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.59**	**87**	P		**Pg**	**02 51 39.7**	**-0.4**
NIKH				S		**Sg**	**02 51 48.5**	**+0.8**
OKAK	**Okmok**	**1.09**	**54**	P		**Pg**	**02 51 48.9**	**-0.7**
OKAK				S		**Sb**	**02 52 03.9**	**-0.8**
OKWR	**Okmok West Rim**	**1.09**	**63**	P		**Pb**	**02 51 50.8**	**+0.5**
OKCE	**Okmok Cone E**	**1.11**	**64**	P		**Pg**	**02 51 50.2**	**+0.1**
OKTU	**Okmok Mt. Tuli**	**1.16**	**67**	P		**Pg**	**02 51 51.0**	**-0.1**
OKFG	**Magazine Ridge**	**1.25**	**67**	P		**Pb**	**02 51 51.7**	**-1.1**
OKFG				S		**Sn**	**02 52 10.1**	**0.0**
MSOM	**Makushin Julie**	**1.93**	**62**	P		**Pn**	**02 52 02.3**	**0.0**
MSOM				S		**Sb**	**02 52 28.2**	**-0.8**
MCIR	**Makushin Cirqu**	**2.03**	**59**	P		**Pn**	**02 52 04.4**	**+0.7**
MSW	**Makushin Switc

KMI Kunming 10.59 99 P Pn 02 59 56.9 +5.5
KMI S **Sn** **03 01 55.1 +5.7**
KMI PMZ
comp=N,6.0nm,0.5s
KMI PMZ
comp=N,35nm,3.1s
KMI LN
comp=N,220nm,10.6s
KMI LE
comp=N,190nm,10.9s
KMI LZ
comp=N,160nm,14.1s
CMAR Chiang Mai Arr 11.31 139 Pn **Pn** **03 00 00.8 -0.3**
comp=N,0.6nm,0.3s,baz=310,slow=13,SNR=11
CMAR LR LR 03 05 18.1
comp=N,50nm,20.8s,baz=345,slow=43
CD2 Chengdu 11.58 69 P **Pn** **03 00 05.8 +1.1**
CD2 PP **PnPn** **03 00 18.8 +6.4**
CD2 S **Sn** **03 02 13.8 +0.6**
CD2 PcP **PcP** **03 05 53.3 -1.8**
CD2 PcS **PcS** **03 09 27.3 -1.9**
CD2 PMZ
comp=N,20nm,0.8s
CD2 PMZ
comp=N,80nm,3.7s
CD2 LN
comp=N,390nm,7.6s
CD2 LZ
comp=N,360nm,8.4s
NDI New Delhi 12.43 280 *ex* P 03 00 24.0 -4.0
NDI *e*S Sn 03 02 23.0 -11
SMLA Simla 12.84 291 *e*P Pn 03 00 18.9 -2.9
SMLA *e*S Sn 03 02 29.2 -15
BHPL Bhopal 13.08 255 *e*P **Pn** **03 00 23.5 -1.8**
BHPL *e*S Sn 03 02 39.8 -10
PVM Polavaram 13.33 224 *e*P **Pn** **03 00 29.0 +0.4**
GYA Guiyang 13.84 90 *e*P **Pn** **03 00 37.8 +2.1**
GYA S **Sn** **03 03 11.3 +2.6**
GYA PMZ
comp=N,10.0nm,0.8s
GYA LN
comp=N,320nm,10.4s
GYA LE
comp=N,250nm,11.9s
GYA LZ
comp=N,260nm,10.0s
LZH Lanzhou 13.89 48 *e*P Pn 03 00 39.8 +3.4
LZH pP P 03 00 47.9 +3.5
LZH *e*S **Sn** **03 03 11.6 +1.6**
LZH sS S 03 03 26.0 -5.5
LZH SS **SnSn** **03 03 30.4 +7.9**
LZH PMZ
comp=N,35nm,1.2s
LZH PMZ
comp=N,140nm,4.8s
LZH LN
comp=N,230nm,7.4s
LZH LE
comp=N,180nm,6.1s
LZH LZ
comp=N,320nm,7.4s
GTA Gaotai 14.08 29 *e*P **Pn** **03 00 39.5 +0.6**
GTA pP pP 03 00 48.3
GTA PMZ
comp=N,4.0nm,1.0s
SRSP Sriramsagar 14.44 238 *e*Pn **Pn** **03 00 44.4 +0.7**
HYBB Hyderabad (bro 15.24 233 *e*Pn **Pn** **03 00 54.1 -0.5**
HYB Hyderabad 15.25 233 *i* P **Pn** **03 00 54.0 -0.7**
SRLM Srisailam 15.93 228 *e*Pn **Pn** **03 01 03.5 0.0**
ENH Enshi 16.32 75 *e*Pn **Pn** **03 01 10.4 +1.9**
RCLA Racherla 16.36 227 *e*Pn **Pn** **03 01 09.6 +0.6**
XAN Xi'an 16.67 62 P **Pn** **03 01 12.8 -0.2**
XAN pP **pP** **03 01 20.8 -1.2**
XAN PMZ
comp=N,3.0nm,1.0s
XAN PMZ
comp=N,22nm,6.6s
WMQ Urumqi 16.75 351 P **Pn** **03 01 14.1 +0.2**
WMQ pP **pP** **03 01 26.8 +4.0**
WMQ PP PP 03 01 28.9
WMQ S **Sn** **03 04 15.6 -3.6**
WMQ SS **SnSn** **03 04 37.4 +4.7**
WMQ PMZ
comp=N,11nm,0.7s
WMQ PMZ
comp=N,75nm,5.6s
WMQ LN
comp=N,220nm,8.3s
WMQ LE
comp=N,100nm,7.4s
WMQ LZ
comp=N,60nm,15.2s
KSH Kashi 17.59 318 P **P** **03 01 26.4 +1.0**
KSH PP PnPn 03 01 44.4 +9.4
KSH S **Sn** **03 04 36.5 -3.2**
KSH sS **sS** **03 04 56.5 -1.2**
KSH SS **SnSn** **03 05 03.3 +10**
KSH PMZ
comp=N,33nm,1.0s
KSH PMZ
comp=N,250nm,5.1s
KSH LN
comp=N,260nm,5.9s
KSH LE
comp=N,300nm,5.9s
KSH LZ
comp=N,230nm,5.9s
TKM2 Tokmak 2 20.11 325 *e*P **P** **03 01 54.1 +1.0**
TKM2 pmax pmax
comp=Z,22nm,0.8s
TKM2 Tokmak 2 20.11 325 *e*P **P** **03 01 54.1 +1.0**
comp=Z,22nm,0.8s
KBL Kabul 20.31 296 *e*P **P** **03 01 56.2 +0.9**
KBL pmax pmax
comp=Z,15nm,0.7s
KBL Kabul 20.31 296 *e*P **P** **03 01 56.2 +0.9**
comp=Z,15nm,0.7s
WHN Wuhan 20.53 75 P **P** **03 01 56.6 -0.9**
MK31 Makanchi Array 20.71 343 *e*P **P** **03 01 58.2 -1.2**
MK31 Makanchi Array 20.71 343 *e*P **P** **03 01 58.2 -1.2**
MKAR Makanchi Array 20.71 343 P **P** **03 01 57.5 -1.9**
comp=Z,12nm,0.7s,baz=151,slow=12,SNR=70
MKAR PcP **PcP** **03 06 07.8 -0.7**
comp=Z,0.7nm,0.7s,baz=222,slow=1.8,SNR=3.8
MKAR Makanchi Array 20.71 343 P **P** **03 01 57.5 -1.9**
MKAR 03 06 07.8
MKAR pmax pmax
comp=Z,12nm,0.7s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 20.71 343 *e*P **P** **03 01 58.5 -0.9**
MKAR PcP **PcP** **03 06 07.8 -0.7**
EKS2 Erkin-Say 20.89 322 *e*P **P** **03 02 02.3 +0.8**
EKS2 pmax pmax
comp=Z,11nm,0.8s
EKS2 Erkin-Say 20.89 322 *e*P **P** **03 02 02.3 +0.8**
comp=Z,11nm,0.8s
HHC Hu-ho-hao-te 21.57 46 *e*P **P** **03 02 09.5 +0.7**
HHC PP **PnPn** **03 02 35.9 +6.3**
HHC S S 03 05 59.4 -7.3
HHC PMZ
comp=Z,14nm,1.1s
HHC PMZ
comp=Z,68nm,9.9s
HHC LN
comp=Z,140nm,13.6s
HHC LE
comp=Z,170nm,13.6s
HHC LZ
comp=Z,120nm,14.8s
PALK Pallekele 22.24 208 LR LR 03 12 09.5
comp=Z,85nm,20.8s,baz=40,slow=40
KKAR Karatay Array 23.04 319 *e*P **P** **03 02 24.8 +0.6**
KKAR Karatay Array 23.04 319 *e*P **P** **03 02 24.8 +0.6**
SONM Songino Array 23.72 26 P **P** **03 02 29.2 -1.8**
comp=Z,2.6nm,0.7s,baz=212,slow=9.7,SNR=9.6
HVS Khovu-Aksy 23.91 4 P **P** **03 02 32.6 -0.1**
HVS pmax pmax
comp=Z,17nm,0.8s
ULN Ulaanbaatar 24.01 27 *e*P **P** **03 02 33.5 -0.3**
ULN pmax pmax
comp=Z,5.0nm,0.6s
ULN Ulaanbaatar 24.01 27 *e*P **P** **03 02 33.5 -0.3**
comp=Z,4.7nm,0.6s
BJI Beijing 24.30 52 P **P** **03 02 36.3 0.0**
BJI S **S** **03 06 52.3 -1.5**
BJI PMZ
comp=Z,12nm,0.4s
BJI PMZ
comp=Z,120nm,4.5s
BJI LN
comp=Z,230nm,9.3s
BJI LE
comp=Z,400nm,10.8s
BJI LZ
comp=Z,90nm,12.7s
NJ2 Nanjing 24.48 72 *e*P **P** **03 02 38.1 0.0**
NJ2 PMZ
comp=Z,50nm,0.9s
ZAK Zakamensk 24.86 19 *e*P **P** **03 02 40.0 -1.5**
ZAK pmax pmax
comp=Z,7.0nm,1.4s
KURBB Kurchatov Arra 25.24 341 P **P** **03 02 44.0 -0.8**
comp=Z,7.9nm,0.8s,baz=156,slow=9.4,SNR=41
KURK Kurchatov 25.29 341 P **P** **03 02 44.0 -1.3**
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURK Kurchatov 25.29 341 *e*P **P** **03 02 44.5 -0.7**
comp=Z,9.5nm,0.8s
TLY Talaya 26.13 18 *e*P **P** **03 02 52.8 -0.1**
TLY pmax pmax
comp=Z,3.0nm,0.8s
TLY MLR MLR
comp=Z,106nm,12.0s
ZAA0 Zalesovo Array 27.06 352 *e*P **P** **03 02 59.8 -1.4**
ZALV Zalesovo Beam 27.06 352 P **P** **03 03 00.2 -0.9**
comp=Z,7.7nm,0.7s,baz=176,slow=8.2,SNR=26
NVS Novosibirsk 28.15 350 *e*P **P** **03 03 09.3 -1.6**
NVS pmax pmax
comp=Z,8.0nm,1.0s
NVS pmax pmax
comp=N,6.0nm,1.0s
KRAR Krasnoyarsk 28.74 2 P **P** **03 03 15.9 -0.3**
KRAR pmax pmax
comp=Z,9.0nm,0.7s
GEYT Alibeck 29.68 299 P **P** **03 03 24.1 -0.7**
comp=Z,1.3nm,0.3s,baz=130,slow=6.2,SNR=2.9
BVAR Borovoye Array 30.02 335 P **P** **03 03 27.0 -0.5**
comp=Z,2.8nm,0.4s,baz=134,slow=9.3,SNR=15
BRVK Borovoye 30.09 335 *ce*P **P** **03 03 27.3 -0.9**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BRVK Borovoye 30.09 335 *e*P **P** **03 03 27.8 -0.4**
comp=Z,5.7nm,0.9s
CN2 Changchun 32.11 50 *e*P **P** **03 03 47.8 +1.7**
ABKAR Akbulak array 32.55 321 *e*P **P** **03 03 50.0 +0.1**
AKTO Aktyubinsk 34.22 322 P **P** **03 04 03.3 -1.2**
comp=Z,1.7nm,0.5s,baz=126,slow=8.3,SNR=11
BOD Bodaibo 34.50 21 *e*P **P** **03 04 06.1 -0.7**
MDJ Mudanjiang 35.20 50 P **P** **03 04 12.8 -0.2**
MDJ PMZ
comp=Z,25nm,2.4s
SVE Sverdlovsk 36.66 332 *e*P **P** **03 04 25.6 +0.2**
SVE pmax pmax
comp=Z,24nm,0.8s
ARU Arti 37.30 330 P **P** **03 04 29.4 -1.4**
baz=126,slow=17
ARU Arti 37.30 330 *c i*P **P** **03 04 30.4 -0.4**
ARU 03 05 53.2
ARU S **S** **03 10 17.6 +0.9**
ARU SS **SnSn** **03 12 54.3 +0.9**
ARU pmax pmax
comp=Z,17nm,2.5s
ARU Arti 37.30 330 *e*P **P** **03 04 30.2 -0.6**
comp=Z,6.2nm,0.7s
MAJO Matsushiro 40.63 65 *e*P **P** **03 04 57.4 -1.6**
MAJO pmax pmax
comp=Z,6.0nm,0.7s
MAJO Matsushiro 40.63 65 *e*P **P** **03 04 57.4 -1.6**
comp=Z,6.0nm,0.7s
MAT Matsushiro 40.63 65 P **P** **03 04 57.3 -1.7**
MJAR Matsushiro Arr 40.64 65 P **P** **03 04 57.1 -2.0**
comp=Z,5.1nm,0.8s,baz=269,slow=10,SNR=17
NEY Neytrino 42.06 305 P **P** **03 05 09.0 -1.8**
KIV Kislovodsk 42.16 306⇑ *e*P **P** **03 05 11.0 -0.6**
KIV *i* 03 06 47.6
KIV pmax pmax
comp=Z,4.0nm,0.6s
KIV MLR MLR
comp=Z,17nm,16.0s
KIV Kislovodsk 42.16 306 *e*P **P** **03 05 11.6 0.0**
comp=Z,6.0nm,0.5s
ERM Erimo 44.55 57 P P 03 05 27.8 -2.9
YSS Yuzh-Sakhalins 44.68 50 *e*P **P** **03 05 32.0 +0.4**
YSS pmax pmax
comp=Z,28nm,1.7s
VSR Storozhevoye 45.66 316 *e*P **P** **03 05 39.1 -0.3**
VSR pmax pmax
comp=Z,5.0nm,0.9s
VSR pmax pmax
comp=N,5.0nm,0.7s
VSR pmax pmax
comp=E,4.0nm,0.9s
PRGR Permogore 45.73 332 P **P** **03 05 38.1 -1.6**
PRGR pmax pmax
comp=Z,8.0nm,0.8s
LPSR Galich'ya Gora 46.09 318 *e*P P 03 05 47.6 +4.8
LPSR pmax pmax
comp=N,3.0nm,0.6s
LPSR pmax pmax
comp=E,3.0nm,0.6s
LPSR pmax pmax
comp=Z,6.0nm,0.6s
OBN Obninsk 48.00 321⇑ *e*P **P** **03 05 55.6 -2.0**
OBN *i* 03 07 23.1
OBN *i* 03 07 44.1
OBN *e*S **S** **03 12 59.8 +5.9**
OBN pmax pmax
comp=Z,7.0nm,0.5s
OBN MLR MLR
comp=Z,20nm,15.0s
BRTR Keskin Array B 48.81 300 P **P** **03 06 03.6 -0.8**
comp=Z,0.8nm,0.7s,baz=108,slow=6.8,SNR=5.3
BRTR Keskin Array B 48.81 300 *ce*P **P** **03 06 03.5 -0.8**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 51.84 314 P **P** **03 06 25.7 -1.2**
comp=Z,1.9nm,0.4s,baz=80,slow=6.7,SNR=5.9
KIEV Kiev 51.85 314 *e*P **P** **03 06 25.4 -1.5**
KIEV pmax pmax
comp=Z,4.0nm,0.8s
KIEV Kiev 51.85 314 *e*P **P** **03 06 25.4 -1.5**
comp=Z,4.0nm,0.8s
SEY Seymchan 53.02 30 P **P** **03 06 34.2 -1.2**
comp=Z,0.8nm,0.3s,baz=190,slow=10,SNR=6.6
VRI Vrincioaia 53.54 308⇑ *i*P **P** **03 06 39.9 +0.3**
VRI Vrincioaia 53.54 308 *i*P **P** **03 06 39.8 +0.2**
IDID Didziasalis 53.60 320 *e*P **P** **03 06 39.5 -0.3**
PLOR Plostina 53.60 308⇓ *i*P **P** **03 06 40.3 +0.3**
PLOR Plostina 53.60 308⇓ *i*P **P** **03 06 40.3 +0.3**
VSU Vasula 53.88 324 *c i*P **P** **03 06 40.9 -0.9**
VSU pmax pmax
comp=Z,30nm,1.0s
IIGN Ignalina 53.90 320 *e*P **P** **03 06 41.6 -0.3**
IZAR Zarasai 53.91 321 *e*P **P** **03 06 41.7 -0.4**
ISAL Salakas 53.96 320 *e*P **P** **03 06 42.1 -0.3**
MLR Muntele Rosu 54.11 308⇓ *i*P **P** **03 06 44.5 +0.6**
MLR Muntele Rosu 54.11 308⇓ *i*P **P** **03 06 44.5 +0.6**
DOPR Dopca 54.47 309⇑ *i*P **P** **03 06 47.1 +0.7**
FINES FINESS Array B 54.57 328 P **P** **03 06 46.0 -0.7**
comp=Z,9.1nm,0.5s,baz=110,slow=8.8,SNR=61
PETK Petropavlovsk- 54.72 43 LR LR 03 32 30.7
comp=Z,21nm,18.9s,baz=127,slow=39
PET Petropavlovsk 55.30 43 P **P** **03 06 52.3 +0.1**
PET pmax pmax
comp=Z,45nm,1.2s
ARCES ARCESS Array B 56.25 337 P **P** **03 06 57.5 -1.2**
comp=Z,1.3nm,0.5s,baz=106,slow=7.2,SNR=16
DRGR 56.25 310⇓ *i*P **P** **03 06 58.9 -0.3**
DRGR 56.25 310⇓ *i*P **P** **03 06 58.9 -0.3**
VTS Vitosha 56.37 305⇓ *i*P **P** **03 06 59.4 -0.9**
VTS Vitosha 56.37 305⇓ *i*P **P** **03 06 59.4 -0.9**
DIVS Divibare 58.48 307⇑ *i*P **P** **03 07 15.1 +0.1**
KMBO Kilima Mbogo 59.00 251 *e*P **P** **03 07 20.0 +0.7**
KMBO pmax pmax
comp=Z,5.0nm,1.1s
KMBO Kilima Mbogo 59.00 251 *e*P **P** **03 07 19.9 +0.7**
comp=Z,5.2nm,1.1s
PKSM Moragy 59.11 309⇑ P **P** **03 07 18.3 -0.9**
PKSM Moragy 59.11 309⇑ *i*P **P** **03 07 18.3 -0.9**
MORC Moravsky Berou 59.37 314 *e*P **P** **03 07 20.5 -0.6**
MORC pmax pmax
comp=Z,16nm,0.8s
MORC Moravsky Berou 59.37 314⇑ *i*P **P** **03 07 20.4 -0.6**
MORC Moravsky Berou 59.37 314 *e*P **P** **03 07 20.5 -0.6**
comp=Z,16nm,0.8s
BILL Bilibino 59.44 25⇑ *e*P **P** **03 07 20.3 -0.8**
BILL *i* 03 08 08.6
BILL *i* 03 09 34.4
BILL *e*S S 03 15 16.0 -13
BILL pmax pmax
comp=Z,14nm,1.7s
BILL MLR MLR
comp=Z,37nm,17.0s
BILL Bilibino 59.44 25 *e*P **P** **03 07 21.0 -0.1**
comp=Z,6.8nm,0.7s
VRAC Vranov 60.04 313⇑ *i*P **P** **03 07 25.8 +0.1**
VRAC Vranov 60.04 313⇑ *i*P **P** **03 07 25.8 +0.1**
DPC Dobruska-Polom 60.08 314 *e*P **P** **03 07 25.6 -0.3**
DPC Dobruska-Polom 60.08 314 *e*P **P** **03 07 25.6 -0.3**
UPC Upice 60.25 315 *e*P **P** **03 07 27.8 +0.7**
UPC Upice 60.25 315 *e*P **P** **03 07 27.8 +0.7**
CONA Conrad Observa 60.73 312⇑ *i*P **P** **03 07 29.9 -0.6**
comp=Z,4.5nm,0.8s
GROS Grobnik 61.22 310 *e*P **P** **03 07 32.8 -1.0**
PRU Pruhonice 61.26 314 *e*P **P** **03 07 33.9 0.0**
PRU Pruhonice 61.26 314 *e*P **P** **03 07 33.9 0.0**
CRES Cresnjev 61.36 309 *e*P **P** **03 07 34.0 -0.7**
SOKA Soboth 61.50 310⇑ *i*P **P** **03 07 35.2 -0.5**
comp=Z,3.5nm,1.0s
BRG Berggiesshubel 61.50 315 *i* P **P** **03 07 35.2 -0.3**
comp=Z,4.5nm,0.6s
BRG Berggiesshubel 61.50 315 *e*P **P** **03 07 35.0 -0.5**
comp=Z,4.0nm,0.6s
BRG Berggiesshubel 61.50 315 *i* P **P** **03 07 35.2 -0.3**
BRG pmax pmax
comp=Z,5.0nm,0.6s
NB2 NORSAR Subarra 61.73 327 P **P** **03 07 35.3 -1.7**
comp=Z,6.1nm,0.7s,baz=84,slow=6.5
NOA NORSAR Array B 61.73 327 P **P** **03 07 35.6 -1.4**
comp=Z,6.7nm,0.8s,baz=84,slow=6.7,SNR=35
MOA Molln 61.80 312⇓ *i*P **P** **03 07 37.0 -0.7**
comp=Z,3.3nm,0.7s
NAO01 NORSAR Array S 61.91 327 *e*P **P** **03 07 36.4 -1.7**
comp=Z,4.4nm,0.5s
GEC2 GERESS Array S 61.99 313 *e*P **P** **03 07 38.5 -0.5**
comp=Z,8.0nm,0.8s
GERES GERESS Array B 61.99 313 P **P** **03 07 38.7 -0.3**
comp=Z,5.0nm,0.5s,baz=74,slow=6.3,SNR=64
CLL Collm 62.02 316 *e*P **P** **03 07 38.2 -0.8**
comp=Z,4.0nm,0.7s
CLL Collm 62.02 316⇓ *i*P **P** **03 07 38.5 -0.5**
CLL pmax pmax
comp=Z,10.0nm,1.3s
CLL Collm 62.02 316⇓ *i*P **P** **03 07 38.5 -0.5**
comp=Z,10.0nm,1.3s
CEY Cerknica 62.09 310 *e*P **P** **03 07 39.1 -0.5**
WET Wettzell 62.47 314 *e*P **P** **03 07 41.8 -0.3**
comp=Z,3.0nm,0.7s
TANN Tannenbergstha 62.51 315 *e*P **P** **03 07 41.7 -0.7**
comp=Z,4.0nm,0.8s
ROTZ Rotzenmuhle 62.79 314 *e*P **P** **03 07 44.5 +0.3**
comp=Z,7.0nm,0.7s
RJOB Jochberg 62.79 312 *e*P **P** **03 07 44.4 0.0**
comp=Z,3.0nm,0.8s
WRA Warramunga Arr 62.85 134 P **P** **03 07 44.0 -1.0**
comp=Z,0.8nm,0.5s,baz=326,slow=6.8,SNR=4.4
WRA Warramunga Arr 62.85 134 P **P** **03 07 44.0 -1.0**
MOX Moxa 63.00 315 *e*P **P** **03 07 45.5 -0.1**
comp=Z,6.0nm,1.4s
BSEG Bad Segeberg 63.19 319 *e*P **P** **03 07 46.6 -0.1**
comp=Z,11nm,0.9s
GRF Grafenberg Arr 63.43 314 *e*P **P** **03 07 48.8 +0.3**
comp=Z,8.0nm,1.2s
CLZ Clausthal 63.54 317 *e*P **P** **03 07 48.9 -0.3**
comp=Z,14nm,0.6s
FUR Furstenfeldbru 63.71 313 *e*P **P** **03 07 50.9 +0.6**
comp=Z,11nm,0.5s
MOTA Moosalm 64.00 312⇓ *i*P **P** **03 07 51.0 -1.5**
comp=Z,6.0nm,0.9s
RETA Reutte 64.19 312⇑ *i*P **P** **03 07 52.6 -1.0**
comp=Z,4.6nm,0.6s
FETA Feichten 64.32 312⇑ *i*P **P** **03 07 53.2 -1.4**
comp=Z,2.6nm,0.6s
DAVA Damuels 64.82 312⇑ *i*P **P** **03 07 56.6 -1.2**
comp=Z,5.9nm,0.6s
TNS Taunus Mts 65.06 315 *e*P **P** **03 07 58.8 -0.4**
comp=Z,7.0nm,0.8s
ASAR Alice Springs 65.31 137 P **P** **03 08 00.9 -0.1**
comp=Z,1.1nm,0.8s,baz=320,slow=6.4,SNR=8.1
ASAR Alice Springs 65.31 137 P **P** **03 08 01.0 -0.1**
ECH Echery 66.37 313 *e*P **P** **03 08 06.6 -1.1**
ECH pmax pmax
comp=Z,4.0nm,0.8s
ECH Echery 66.37 313 *e*P **P** **03 08 06.6 -1.1**
comp=Z,4.3nm,0.8s
MEM Membach 66.49 316 P **P** **03 08 08.4 +0.1**
comp=Z,2.8nm,1.0s
WLF Walferdange 66.64 315 P **P** **03 08 09.8 +0.6**
comp=Z,9.6nm,1.1s
WLF Walferdange 66.64 315 *e*P **P** **03 08 09.6 +0.3**
comp=Z,16nm,1.1s
WLF Walferdange 66.64 315 *e*P **P** **03 08 09.9 +0.6**
WLF pmax pmax
comp=Z,14nm,1.0s
WLF Walferdange 66.64 315 *e*P **P** **03 08 09.9 +0.6**
comp=Z,14nm,1.0s
SENIN Lac Senin/Sane 66.77 311 *e*P **P** **03 08 10.1 -0.4**
comp=Z,4.8nm,0.9s
KEST Kesra 68.42 300 P **P** **03 08 20.9 0.0**
comp=Z,1.5nm,0.9s,baz=44,slow=4.5,SNR=5.7
KEST Kesra 68.42 300 *e*P **P** **03 08 20.7 -0.2**
ESK Eskdalemuir 70.43 323 *e*P **P** **03 08 32.3 -0.6**
ESK pmax pmax
comp=Z,22nm,1.4s
ESK Eskdalemuir 70.43 323 *e*P **P** **03 08 32.3 -0.6**
comp=Z,22nm,1.4s
LSZ Lusaka 74.30 243 *e*P **P** **03 08 56.7 0.0**
LSZ pmax pmax
comp=Z,2.0nm,0.4s
LSZ Lusaka 74.30 243 *e*P **P** **03 08 56.6 0.0**
comp=Z,2.0nm,0.4s
STKA Stephens Creek 75.93 137 P **P** **03 09 04.8 -0.8**
comp=Z,0.9nm,0.6s,baz=305,slow=8.1,SNR=3.0
TAM Tamanrasset 76.25 289 *e*P **P** **03 09 08.1 +0.1**
TAM pmax pmax
comp=Z,1.0nm,0.7s
TAM Tamanrasset 76.25 289 *e*P **P** **03 09 08.1 +0.1**
comp=Z,0.9nm,0.7s
ESDC Sonseca Array 76.81 308 P **P** **03 09 09.6 -1.2**
comp=Z,2.6nm,0.8s,baz=54,slow=6.2,SNR=18
BPAW Bear Paw Mtn. 76.88 24 *e*P **P** **03 09 10.1 -0.6**
comp=Z,7.3nm,1.2s
CAST Castle Rocks 76.88 24 *e*P **P** **03 09 11.2 +0.6**
COLA College 77.49 22⇑ *e*P **P** **03 09 13.2 -0.7**
COLA pmax pmax
comp=Z,34nm,1.2s
COLA College 77.49 22 *e*P **P** **03 09 14.0 0.0**
MCK McKinley 77.83 23 *e*P **P** **03 09 15.4 -0.5**
MCK pmax pmax
comp=Z,4.0nm,0.7s
MCK McKinley 77.83 23 *e*P **P** **03 09 15.4 -0.5**
comp=Z,3.9nm,0.7s
ILAR Eielson Array 77.87 22 P **P** **03 09 14.6 -1.6**
comp=Z,2.7nm,1.0s,baz=296,slow=5.0,SNR=22
ILAR PP **PP** **03 12 11.6 +0.2**
comp=Z,0.4nm,0.8s,baz=305,slow=8.1,SNR=6.0
INK Inuvik 79.17 15 P **P** **03 09 21.1 -2.1**
comp=Z,3.5nm,0.9s,baz=348,slow=8.2,SNR=5.3
INK Inuvik 79.17 15 P **P** **03 09 21.1 -2.1**
INK pmax pmax
comp=Z,4.0nm,0.9s
INK Inuvik 79.17 15 *e*P **P** **03 09 22.4 -0.8**
comp=Z,2.6nm,0.9s
SML Sawmill 79.24 25 *e*P **P** **03 09 23.0 -0.8**
SML pmax pmax
comp=Z,1.0nm,0.7s
SML Sawmill 79.24 25 *e*P **P** **03 09 23.0 -0.8**
comp=Z,1.2nm,0.7s
KDAK Kodiak Island 79.97 29 *i* P **P** **03 09 27.1 -0.6**
KLU Klutina 80.33 24 *e*P **P** **03 09 30.3 +0.6**
comp=Z,4.7nm,0.7s
BMRM Bremner River 81.15 24 *e*P **P** **03 09 34.5 +0.4**
comp=Z,9.2nm,0.8s
TORD Torodi Ar. Bea 83.64 281 P **P** **03 09 47.2 -0.7**
comp=Z,1.4nm,0.8s,baz=68,slow=4.8,SNR=12

HYT	**Haines Junctio**	**83.72**	**22**	*e*P		**P**	**03 09 48.0**	**+0.4**
YKW3	**Yellowknife Ar**	**88.12**	**12**	*e*P		**P**	**03 10 07.4**	**-1.8**
	comp=Z,0.1nm,1.0s							
YKA	**Yellowknife Ar**	**88.19**	**12**	P		**P**	**03 10 08.2**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=334,slow=4.9,SNR=7.2							
TXAR	**Lajitas Array**	**121.94**	**15**	PKP		**PKPdf**	**03 16 12.9**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=95,slow=0.6,SNR=8.7							
ROSC	**El Rosal**	**145.13**	**334**	PKPbc		**PKPbc**	**03 16 57.6**	**+0.6**
	comp=Z,24nm,0.7s,baz=110,slow=6.7,SNR=28							
ROSC	**El Rosal**	**145.13**	**334**	*e*PKPbc		**PKPbc**	**03 16 57.4**	**+0.4**
SAML	**Samuel**	**149.69**	**302**	*e*PKPbc		**PKPbc**	**03 17 09.1**	**-0.2**
OTAV	**Otavalo**	**150.89**	**338**	*e*PKPdf		**PKPdf**	**03 17 06.7**	**-0.4**
OTAV				*e*PKPbc		**PKPbc**	**03 17 12.7**	**-0.1**
CPUP	**Villa Florida**	**151.92**	**265**	PKPbc		**PKPbc**	**03 17 12.9**	**-1.2**
	comp=Z,1.9nm,0.5s,baz=123,slow=2.2,SNR=8.5							
CPUP	**Villa Florida**	**151.92**	**265**	PKIKP		**PKPbc**	**03 17 12.9**	**-1.2**
CPUP				pmax	pmax			
	comp=Z,2.0nm,0.5s							
CPUP	**Villa Florida**	**151.92**	**265**	*e*PKPbc		**PKPbc**	**03 17 13.2**	**-1.0**
LPAZ	**La Paz**	**157.94**	**295**	*e*PKP2		**PKPab**	**03 17 47.6**	**-2.5**
LPAZ	**La Paz**	**157.94**	**295**	*e*PKPab		**PKPab**	**03 17 47.6**	**-2.5**

DDA 21 03:03:54.2,37.05N×27.62E,h7km,MD2.4,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.14**	**276**	*i* P		Pg	03 03 57.4	+0.2
BDRM				*i* S		Sg	03 04 00.3	+1.1
AYDN	**Tasoluk**	**0.64**	**19**	*i* P		Pg	03 04 06.7	-0.1
AYDN				*i* S		Sg	03 04 15.8	+0.5
TURN	**Turunc**	**0.81**	**102**	*i* P		Pg	03 04 06.1	-3.7
TURN				*i* S		Sg	03 04 13.6	-6.8

*SJA **21** 03:10:27.0±1.1,34.87S×72.89W,h40km,ML3.6,MW3.3*
*ISCJB **21** 03:10:36.7±1.3,34.75S±0.04×71.9W±0.1,h30km±7km,*
Error ellipse: s-maj=15.8km s-min=5.3km az=10.3
*GUC **21** 03:10:36.9±0.6,34.76S×71.79W,h41km±1km,ML3.6*
ISC 21 03:10:35.5±1.9,34.73S±0.04×72.0W±0.1,h17km±10km,
n22,σ1s10/32,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.66**	**115**	*e*P	**Pg**	**03 10 48.3**	**-0.2**
NICH				*e*S	**Sg**	**03 10 56.6**	**-0.6**
NICH				AML	AML	03 10 57.3	
	comp=E,7μm,0.7s						
TALC	**Talca**	**0.72**	**159**	*e*P	**Pb**	**03 10 50.2**	**+0.5**
TALC				*e*S	**Sb**	**03 10 59.6**	**+0.3**
LNV	**Longovilo**	**0.89**	**31**	*e*P	**Pg**	**03 10 52.7**	**-0.1**
LNV				*e*S	**Sg**	**03 11 05.0**	**+0.4**
LNCH	**Linares**	**1.16**	**166**	*e*P	**Pb**	**03 10 56.8**	**-0.3**
LNCH				*e*S	**Sb**	**03 11 11.0**	**-0.8**
LNCH				AML	AML	03 11 12.4	
	comp=E,2μm,0.2s						
CHCH	**Chadas Ángostu**	**1.34**	**54**	*e*P	**Pn**	**03 10 58.8**	**-0.7**
TACH	**Talagante**	**1.36**	**39**	*e*P	**Pn**	**03 10 59.6**	**-0.2**
TACH				*e*S	**Sb**	**03 11 17.5**	**-0.2**
PCH	**Pirque**	**1.62**	**48**	*e*P	**Pn**	**03 11 03.3**	**-0.2**
PCH				*e*S	**Sn**	**03 11 23.2**	**-0.9**
SAN	**Santiago**	**1.66**	**41**	*e*P	**Pn**	**03 11 03.9**	**-0.1**
SAN				*e*S	**Sn**	**03 11 24.4**	**-0.5**
SAN				AML	AML	03 11 28.1	
	comp=E,1μm,0.5s						
CLCH	**Cerro Calan**	**1.77**	**42**	*e*P	**Pn**	**03 11 05.4**	**-0.2**
CLCH				*e*S	**Sn**	**03 11 27.3**	**-0.4**
CLCH				AML	AML	03 11 33.5	
	comp=N,950nm,0.4s						
PEL	**Peldehue**	**1.90**	**34**	*e*P	**Pn**	**03 11 07.6**	**+0.4**
PEL				*e*S	**Sn**	**03 11 30.5**	**-0.3**
PEL				AML	AML	03 11 35.7	
	comp=N,1μm,0.5s						
AAGR	**Agrelo**	**3.07**	**59**	*e*P	**Pn**	**03 11 26.1**	**+2.7**
ARCO	**CERRO ARCO**	**3.14**	**54**	*e*P	Pn	03 11 28.4	+3.9
ARCO				IAML		03 11 43.4	
	comp=Z,52nm,0.3s						
AUSP	**Uspallata**	**3.29**	**41**	*e*P	**Pn**	**03 11 28.6**	**+1.9**
AUSP				*i* S	**Sb**	**03 12 14.6**	**+1.0**
ASAL	**Salagasta**	**3.36**	**52**	*e*P	**Pn**	**03 11 30.3**	**+2.9**
ASAL				*i* S	**Sb**	**03 12 15.5**	**+0.1**
RTLS	**Leoncito**	**3.67**	**38**	*e*P	**Pn**	**03 11 33.5**	**+1.7**
RTLS				*i* S	**Sb**	**03 12 22.4**	**-2.1**
RTCV	**Cerro Valdivia**	**4.04**	**46**	*i* P	**Pn**	**03 11 37.1**	**+0.4**
CFAA	**Coronel Fontan**	**4.40**	**46**	*e*P	**Pn**	**03 11 42.3**	**+0.6**
RTLL	**Cerro Villicun**	**4.47**	**42**	*i* P	**Pn**	**03 11 42.9**	**+0.2**
ACAN	**Cantantal**	**4.67**	**60**	*e*P	**Pn**	**03 11 46.0**	**+0.6**
AMOG	**MOGNA**	**4.77**	**39**	*i* P	**Pn**	**03 11 46.8**	**+0.1**
VCA	**Vinchina**	**6.77**	**29**	IAML		03 13 55.7	
	comp=Z,12nm,0.4s						
TCA	**Tanti**	**7.04**	**63**	*e*P	**Pn**	**03 12 18.7**	**+0.7**
TCA				IAML		03 12 20.2	
	comp=Z,6.4nm,0.4s						

*ISCJB **21** 03:20:29.3±0.4,22.06S±0.08×171.66E±0.04,h105km,*
mb4.2/20,Error ellipse: s-maj=11.7km s-min=5.7km
az=3.8
*NOU **21** 03:20:34.1±1.4,18.63S×169.88E,h30km,MD3.4,ML3.9*
*IDC **21** 03:20:37.3±2.7,22.05S×171.37E,h158km±22km,*
mb3.9/14,mb1 4.1/16,mb1mx4.0/33,mbtmp4.3/16,Error
ellipse: s-maj=20.0km s-min=17.0km az=94.0
*NEIC **21** 03:20:38.2±1.4,22.04S×171.33E,h168km±12km,mb4.4/6,*
Error ellipse: s-maj=11.8km s-min=8.9km az=67.0
ISC 21 03:20:30.9±0.5,21.97S±0.10×171.64E±0.07,h105km,n57,
σ1s17/61,mb4.2/20,7C-2D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**4.27**	**285**	*i* P	**Pn**	**03 21 36.0**	**+2.2**
LIFNC				*e*S	**Sn**	**03 22 21.9**	**-0.8**
BAYA	**Yate Dam**	**4.42**	**267**	*e*P	Pn	03 21 40.6	+4.8
BAYA				*e*S	**Sn**	**03 22 28.4**	**+2.2**
LASL	**Noumea**	**4.74**	**266**	*e*P	Pn	03 21 44.2	+4.1
LASL				*e*S	**Sn**	**03 22 36.1**	**+2.1**
DZM	**Mont Dzumac**	**4.83**	**268**	P	Pn	03 21 45.5	+4.1
	28nm,0.3s,baz=270,slow=24,SNR=181						
DZM				S	**Sn**	**03 22 38.5**	**+2.3**
	28nm,0.3s,baz=75,slow=18,SNR=11						
DZM	**Mont Dzumac**	**4.83**	**268**	*e*P	**Pn**	**03 21 43.8**	**+2.4**
DZM				AMP		03 22 39.8	
	comp=Z,2μm,4.4s						
DZM	**Mont Dzumac**	**4.83**	**268**	*e*Pn	Pn	03 21 45.5	+4.1
DZM				*e*S	**Sn**	**03 22 35.8**	**-0.5**
NOUC	**Port Laguerre**	**4.96**	**268**	*e*P	**Pn**	**03 21 44.2**	**+1.1**
NOUC				*e*S	**Sn**	**03 22 38.3**	**-0.9**
NOUC				AMP		03 22 43.3	
	comp=Z,90nm,3.0s						
NFK	**Norfolk Island**	**7.79**	**205**	P	Pn	03 22 30.7	+9.1
	baz=7.8,SNR=3.6						
URZ	**Urewera**	**16.90**	**165**	P	**P**	**03 24 24.9**	**+3.6**
	comp=Z,0.3nm,0.3s,baz=101,slow=5.2,SNR=2.5						
CMSA	**Cobar Meteorol**	**25.00**	**242**	P	**P**	**03 25 45.5**	**+0.4**
	baz=25,SNR=6.9						
STKA	**Stephens Creek**	**28.47**	**243**	P	**P**	**03 26 15.2**	**-0.9**
	comp=Z,3.6nm,0.7s,baz=94,slow=9.4,SNR=8.8						
STKA				PcP	**PcP**	**03 29 25.3**	**-0.4**
	comp=Z,1.8nm,0.6s,baz=44,slow=2.4,SNR=6.7						
STKA	**Stephens Creek**	**28.47**	**243**	P	**P**	**03 26 16.5**	**+0.3**
	baz=28,SNR=5.5						
BBOO	**Buckleboo**	**33.24**	**243**	P	**P**	**03 26 58.5**	**+0.3**
	baz=33,SNR=5.2						
ASAR	**Alice Springs**	**34.76**	**260**	P	**P**	**03 27 11.0**	**-0.5**
	comp=Z,7.3nm,0.7s,baz=85,slow=9.0,SNR=68						
ASAR				PcP	**PcP**	**03 29 42.5**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=112,slow=3.2,SNR=6.4						
WRAB	**Tennant Creek**	**34.83**	**266**	*e*P	**P**	**03 27 10.2**	**-1.9**
	comp=Z,1.1nm,0.5s						
WRA	**Warramunga Arr**	**34.84**	**266**	P	**P**	**03 27 10.6**	**-1.5**
	comp=Z,1.4nm,0.4s,baz=96,slow=8.3,SNR=6.7						
WRA				PcP	**PcP**	**03 29 42.7**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=92,slow=3.2,SNR=3.1						
MTN	**Manton Dam**	**39.61**	**276**	P	**P**	**03 27 52.2**	**-0.2**
	baz=40,SNR=4.0						
WRKA	**Warakurna**	**39.75**	**257**	P	**P**	**03 27 53.0**	**-0.6**
	baz=40,SNR=31						
MBWA	**Marble Bar**	**48.09**	**261**	*e*P	**P**	**03 28 59.6**	**-0.7**
	comp=Z,6.4nm,0.4s						
MEEK	**Meekatharra**	**48.28**	**253**	P	**P**	**03 29 00.8**	**-0.9**
	baz=48,SNR=8.5						
KLBR	**Kellerberrin**	**48.64**	**247**	P	**P**	**03 29 03.6**	**-0.8**
	baz=49,SNR=9.2						
BLDU	**Ballidu**	**49.59**	**248**	P	**P**	**03 29 10.6**	**-1.0**
	baz=50,SNR=7.7						
VNDA	**Vanda**	**55.80**	**183**	P	**P**	**03 29 56.7**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=340,slow=8.4,SNR=6.6						
SBA	**Scott Base**	**55.98**	**181**	*e*P	**P**	**03 29 58.9**	**+1.0**
	comp=Z,11nm,1.0s						
CASY	**Casey**	**58.56**	**205**	*e*P	**P**	**03 30 15.5**	**-0.6**
	comp=Z,2.3nm,0.5s						
MJAR	**Matsushiro Arr**	**66.22**	**331**	P	**P**	**03 31 07.2**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=169,slow=8.7,SNR=6.5						
QSPA	**South Pole Qui**	**68.09**	**180**	*e*P	**P**	**03 31 18.7**	**-0.6**
	comp=Z,15nm,1.1s						
KSRS	**Korea Array**	**72.03**	**325**	P	**P**	**03 31 43.9**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=148,slow=5.5,SNR=5.3						
KSAR	**Wonju Array Be**	**72.04**	**325**	P	**P**	**03 31 43.9**	**+0.5**
MAW	**Mawson**	**76.75**	**202**	P	**P**	**03 32 09.1**	**-1.3**
	comp=Z,2.1nm,0.7s,baz=122,slow=7.8,SNR=5.8						
CMAR	**Chiang Mai Arr**	**81.67**	**294**	P	**P**	**03 32 37.3**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=136,slow=3.3,SNR=4.3						
SNAA	**Sanae**	**86.53**	**182**	P	**P**	**03 33 00.6**	**-1.3**
SNAA	**Sanae**	**86.53**	**182**	*e*P	**P**	**03 33 00.7**	**-1.1**
	comp=Z,3.2nm,1.2s						
VNA1	**Neumayer--Stat**	**87.63**	**180**	P	**P**	**03 33 06.8**	**-0.3**
NVAR	**Mina Array Bea**	**88.94**	**48**	P	**P**	**03 33 15.5**	**+1.5**
	comp=Z,2.5nm,0.7s,baz=225,slow=8.4,SNR=16						
SONM	**Songino Array**	**90.75**	**322**	P	**P**	**03 33 22.1**	**0.0**
	comp=Z,1.3nm,0.7s,baz=134,slow=3.8,SNR=8.0						
ILAR	**Eielson Array**	**92.18**	**16**	P	**P**	**03 33 28.4**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=225,slow=5.1,SNR=10.0						
TLY	**Talaya**	**94.28**	**325**	P	**P**	**03 33 37.5**	**-0.7**
	comp=Z,2.0nm,0.5s,baz=68,slow=12,SNR=3.3						
TXAR	**Lajitas Array**	**96.10**	**61**	P	**P**	**03 33 49.1**	**+2.0**
	comp=Z,0.4nm,0.9s,baz=323,slow=1.9,SNR=3.4						
PDAR	**Pinedale Array**	**96.83**	**47**	P	**P**	**03 33 50.8**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=254,slow=0.7,SNR=2.3						
AKTO	**Aktyubinsk**	**121.60**	**317**	PKP	**PKPdf**	**03 39 09.7**	**-2.4**
	comp=Z,1.0nm,0.6s,baz=138,slow=7.7,SNR=5.1						
MLR	**Muntele Rosu**	**143.50**	**318**	*i* P	PKPbc	03 39 51.6	+0.7
VOIR		**144.07**	**319**	*i* P	PKPbc	03 39 53.1	+0.5
CJR	**Cluj-Napoca**	**144.28**	**321**	*i* P	**PKPdf**	**03 39 54.5**	**-0.1**
DRGR		**144.75**	**322**	*i* P	**PKPdf**	**03 39 55.5**	**+0.1**
PSZ	**Piszkesteto**	**145.62**	**326**	*i* P	**PKPab**	**03 39 58.2**	**+0.4**
SIRR	**Siria**	**145.64**	**322**	*i* P	**PKPab**	**03 39 58.3**	**+0.5**
DPC	**Dobruska-Polom**	**145.69**	**332**	*e*PKP	**PKPab**	**03 39 58.3**	**+0.4**
BRG	**Berggiesshubel**	**146.30**	**334**	*i* P	**PKPbc**	**03 39 59.6**	**+0.5**
	comp=Z,3.5nm,0.8s						
CLL	**Collm**	**146.33**	**336**	*i* PKPbc	**PKPbc**	**03 39 58.9**	**-0.3**
	comp=Z,3.0nm,0.7s						
CLL				*i* (PKPab)	**PKPab**	**03 40 01.3**	**+1.1**
	comp=Z,3.0nm,0.6s						
VTS	**Vitosha**	**146.60**	**315**	*i* P	**PKPbc**	**03 40 01.1**	**+0.5**
PKSM	**Moragy**	**147.35**	**324**	*i* P	**PKPbc**	**03 40 02.7**	**+0.4**
DIVS	**Divibare**	**147.84**	**320**	*i* P	**PKPbc**	**03 40 04.2**	**+0.4**
GERES	**GERESS Array B**	**147.95**	**332**	PKPbc	**PKPbc**	**03 40 04.3**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=29,slow=3.0,SNR=14						
VISS	**Visnje**	**149.62**	**327**	*i* PKP	**PKPbc**	**03 40 08.2**	**0.0**
VOJS	**Vojsko**	**149.93**	**328**	*i* PKP	**PKPbc**	**03 40 08.5**	**-0.6**
TORD	**Torodi Ar. Bea**	**167.01**	**229**	PKP	**PKPdf**	**03 40 24.1**	**-1.0**
	comp=Z,1.3nm,1.1s,baz=138,slow=0.5,SNR=7.2						
TORD				PKPab	**PKPab**	**03 41 27.6**	**-1.7**
	comp=Z,1.6nm,1.0s,baz=107,slow=4.0,SNR=5.9						

*ISCJB **21** 03:28:35.9±1.1,42.73N±0.09×88.24E±0.09,h10km,*
mb3.4/2,MS3.4/1,Error ellipse: s-maj=12.9km
s-min=8.8km az=16.0
*IDC **21** 03:28:37.0±1.5,42.76N×88.60E,h0km,mb3.5/2,*
mb1 3.6/6,mb1mx3.4/45,mbtmp3.5/6,ML2.8/3,MS3.0/2,
Ms1 3.0/2,ms1mx2.4/35,Error ellipse: s-maj=49.6km
s-min=16.4km az=45.0
*BJI **21** 03:28:40.4,42.56N×88.12E,h7km,ML3.4/11*
*NNC **21** 03:28:47.4±3.3,42.98N×87.61E,h0km,mb3.8,mpv3.4,*
Error ellipse: s-maj=24.5km s-min=17.2km az=117.0
ISC 21 03:28:38.0±1.3,42.63N±0.08×88.34E±0.09,h10km,n13,
σ2s35/17,11C-4D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**1.28**	**339**	Pg	**Pg**	**03 29 04.5**	**+1.9**
WMQ				Sg	**Sg**	**03 29 22.3**	**+3.0**
WMQ				SMN			
	870nm,0.4s						
WMQ				SME			
	620nm,0.3s						
MK31	**Makanchi Array**	**5.99**	**316**	Pn	**Pn**	**03 30 08.9**	**+2.2**
	0.4nm,0.3s,baz=127,slow=14,SNR=31						
MK31				⇑Pg	**Pb**	**03 30 22.5**	**0.0**
	0.8nm,0.2s,baz=129,slow=14,SNR=8.3						
MK31				⇓Sn	**Sn**	**03 31 12.8**	**-2.6**
	3.4nm,0.5s,baz=125,slow=26,SNR=3.7						
MK31				⇓Lg	Lg	03 31 42.1	
	6.6nm,0.4s,baz=137,slow=29,SNR=6.7						
MKAR	**Makanchi Array**	**5.99**	**316**	Pn	**Pn**	**03 30 08.5**	**+1.8**
	1.1nm,0.3s,baz=130,slow=14,SNR=21						
MKAR				Sn	**Sn**	**03 31 14.1**	**-1.3**
	2.8nm,0.3s,baz=126,slow=26,SNR=6.5						
MKAR				Lg	Lg	03 31 45.4	
	4.0nm,0.3s,baz=123,slow=29,SNR=6.1						
PDGK	**Podgornoye**	**6.53**	**279**	⇓Pn	**Pn**	**03 30 14.6**	**+0.6**
	14nm,1.0s						
PDGK				⇓Sn	**Sn**	**03 31 26.5**	**-2.1**
	9.5nm,0.5s						
PDGK				⇑Lg	Lg	03 31 57.7	
	32nm,0.9s						
TKM2	**Tokmak 2**	**9.38**	**276**	⇑Pn	Pn	03 30 58.0	+4.6
	1.3nm,0.5s						
TKM2				⇑Sn	**Sn**	**03 32 38.6**	**-0.2**
	2.6nm,0.7s						
TKM2				⇑Lg	Lg	03 33 29.9	
	3.7nm,0.6s						
KURBB	**Kurchatov Arra**	**10.46**	**323**	⇑Pn	Pn	03 31 13.2	+5.4
	1.3nm,0.5s						
KURBB				⇑Sn	**Sn**	**03 33 00.9**	**-4.0**
	3.4nm,0.7s						
KURBB				⇑Lg	Lg	03 34 03.9	
	14nm,0.7s						
KURBB	**Kurchatov Arra**	**10.46**	**323**	Pn	**Pn**	**03 31 06.5**	**-1.3**
	0.1nm,0.3s,baz=135,slow=13,SNR=11						
KURBB				Lg	Lg	03 34 07.9	
	0.1nm,0.3s,baz=123,slow=19,SNR=4.4						
KURK	**Kurchatov**	**10.48**	**324**	⇑Pn	Pn	03 31 12.0	+3.8
	2.3nm,0.8s						
KURK				⇑Sn	**Sn**	**03 33 01.5**	**-4.1**
	2.3nm,0.6s						
KURK				⇑Lg	Lg	03 34 03.9	
	8.3nm,0.7s						
ZALV	**Zalesovo Beam**	**11.57**	**350**	Pn	**Pn**	**03 31 21.7**	**-1.3**
	0.1nm,0.3s,baz=170,slow=16,SNR=3.5						
ZALV				LR	LR	03 36 23.8	
	comp=Z,26nm,18.2s,baz=158,slow=41						
BVAR	**Borovoye Array**	**15.88**	**317**	Pn	**Pn**	**03 32 18.7**	**-2.7**
	baz=129,slow=12,SNR=2.5						
PETK	**Petropavlovsk-**	**45.96**	**52**	LR	LR	03 56 04.7	
	comp=Z,45nm,20.3s,baz=94,slow=36						
ILAR	**Eielson Array**	**64.58**	**23**	P	**P**	**03 39 15.1**	**+0.1**
	0.2nm,0.7s,baz=304,slow=7.4,SNR=5.4						
WRA	**Warramunga Arr**	**75.31**	**136**	P	**P**	**03 40 21.0**	**-0.4**
	0.5nm,0.8s,baz=337,slow=6.2,SNR=3.3						

*ISCJB **21** 03:34:03.9±0.3,17.6S±0.1×178.64W±0.08,h547km,*
mb4.1/33,Error ellipse: s-maj=15.4km s-min=5.8km
az=148.2
*NEIC **21** 03:34:09.1±0.7,17.91S×178.60W,h608km±8km,mb4.0/18,*
Error ellipse: s-maj=20.3km s-min=7.5km az=151.0
*IDC **21** 03:34:11.9±2.2,17.72S×178.68W,h635km±29km,*
mb3.7/17,mb1 3.9/18,mb1mx3.6/36,mbtmp4.6/18,Error
ellipse: s-maj=17.0km s-min=11.6km az=154.0
ISC 21 03:34:05.2±0.7,17.6S±0.1×178.5W±0.1,h547km,n69,
σ1s01/59,mb4.1/33,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.26**	**267**	*e*P	P	03 35 30.0	+8.3
DZM	**Mont Dzumac**	**14.82**	**250**	P	**P**	**03 37 14.3**	**+1.4**
	0.6nm,0.3s,baz=90,slow=24,SNR=23						
URZ	**Urewera**	**20.92**	**190**	P	**P**	**03 38 11.5**	**+2.0**
	4.7nm,0.6s,baz=321,slow=2.8,SNR=4.1						
ARMA	**Armidale**	**29.99**	**239**	P	**P**	**03 39 29.7**	**-0.1**
	baz=30,SNR=4.7						
CTAO	**Charters Tower**	**33.38**	**260**	*e*P	**P**	**03 39 58.5**	**-0.3**
CNB	**Canberra Magne**	**33.52**	**232**	P	**P**	**03 39 59.0**	**-0.8**
	baz=34,SNR=12						
PMG	**Port Moresby**	**34.30**	**279**	P	**P**	**03 40 08.4**	**+1.9**
	50nm,0.8s,baz=69,slow=6.1,SNR=9.9						
PMG	**Port Moresby**	**34.30**	**279**	P	**P**	**03 40 08.6**	**+2.1**
	baz=35,SNR=5.5						
PMG				P	**P**	**03 40 08.6**	**+2.1**
	baz=35,SNR=5.5						
PMG				P	**P**	**03 40 08.6**	**+2.1**
	baz=35,SNR=5.5						
PMG	**Port Moresby**	**34.30**	**279**	*e*P	**P**	**03 40 07.5**	**+1.0**
CMSA	**Cobar Meteorol**	**35.20**	**240**	P	**P**	**03 40 13.0**	**-0.8**
	baz=36,SNR=7.9						
MTSU	**Mount Suprise**	**35.33**	**263**	P	**P**	**03 40 14.8**	**-0.3**
	baz=36,SNR=11						
QLP	**Quilpie**	**35.53**	**249**	P	**P**	**03 40 15.8**	**-0.9**
	baz=36,SNR=15						
COEN	**Coen**	**36.99**	**270**	P	**P**	**03 40 29.8**	**+1.0**
	baz=38,SNR=28						
TOO	**Toolangi**	**37.27**	**230**	P	**P**	**03 40 29.8**	**-1.1**
	baz=38,SNR=5.0						
STKA	**Stephens Creek**	**38.67**	**241**	P	**P**	**03 40 41.3**	**-1.0**
	11nm,0.6s,baz=71,slow=5.5,SNR=26						
STKA	**Stephens Creek**	**38.67**	**241**	P	**P**	**03 40 41.6**	**-0.7**
	baz=39,SNR=15						
STKA	**Stephens Creek**	**38.67**	**241**	*e*P	**P**	**03 40 41.1**	**-1.2**
	4.2nm,1.0s						
QIS	**Mount Isa**	**39.60**	**259**	P	**P**	**03 40 49.0**	**-1.0**
	baz=40,SNR=4.7						
JAY	**Jayapura**	**42.72**	**286**	P	**P**	**03 41 16.2**	**+1.4**
	30nm,0.7s,baz=155,slow=9.8,SNR=11						
JAY	**Jayapura**	**42.72**	**286**	P	**P**	**03 41 16.4**	**+1.6**
	baz=43,SNR=6.9						
BBOO	**Buckleboo**	**43.45**	**241**	P	**P**	**03 41 18.7**	**-1.5**
	baz=44,SNR=24						
WRAB	**Tennant Creek**	**44.56**	**259**	*e*P	**P**	**03 41 27.6**	**-1.5**
	11nm,0.6s						
WRA	**Warramunga Arr**	**44.57**	**259**	P	**P**	**03 41 28.0**	**-1.1**
	9.1nm,0.5s,baz=94,slow=7.5,SNR=49						
AS31	**Alice Springs**	**44.76**	**254**	*e*P	**P**	**03 41 29.4**	**-1.1**
ASAR	**Alice Springs**	**44.76**	**254**	P	**P**	**03 41 29.5**	**-1.0**
	53nm,0.6s,baz=87,slow=8.5,SNR=484						
ASAR				PcP	PcP	03 42 57.1	-3.8
	2.0nm,0.6s,baz=99,slow=4.0,SNR=4.2						
ASAR				S	S	03 47 22.5	-5.6
	0.5nm,0.6s,baz=88,slow=16,SNR=3.6						
MTN	**Manton Dam**	**48.69**	**268**	P	**P**	**03 41 59.4**	**-0.9**
	baz=49,SNR=4.5						
WRKA	**Warakurna**	**49.83**	**252**	P	**P**	**03 42 07.2**	**-1.3**
	baz=50,SNR=166						
KNRA	**Kununurra**	**50.41**	**264**	P	**P**	**03 42 11.9**	**-0.9**
	baz=51,SNR=4.4						
PALU	**Palau**	**52.63**	**294**	P	P	03 42 25.1	-3.8
	baz=53,SNR=4.7						
MBWA	**Marble Bar**	**58.03**	**256**	*e*P	P	03 43 04.5	-1.9
	12nm,0.8s						
MEEK	**Meekatharra**	**58.43**	**249**	P	P	03 43 06.6	-2.5
	baz=59,SNR=4.4						
KLBR	**Kellerberrin**	**58.86**	**243**	P	P	03 43 09.2	-2.6
	baz=59,SNR=6.0						
VNDA	**Vanda**	**60.73**	**185**	P	**P**	**03 43 24.1**	**+0.7**
	0.5nm,0.4s,baz=50,slow=3.6,SNR=8.1						
GIRL	**Giralia**	**62.87**	**253**	P	**P**	**03 43 37.8**	**-0.5**
	baz=63,SNR=4.3						
MJAR	**Matsushiro Arr**	**67.60**	**323**	P	**P**	**03 44 08.1**	**+0.4**
	1.3nm,0.6s,baz=167,slow=4.9,SNR=5.0						
UGM	**Wanagama**	**69.54**	**268**	P	**P**	**03 44 18.8**	**-1.2**
	baz=70,SNR=7.0						
QSPA	**South Pole Qui**	**72.44**	**180**	*e*P	P	03 44 32.9	-3.2
	2.3nm,0.9s						
KSM	**Kuching**	**72.53**	**277**	*e*P	**P**	**03 44 36.3**	**-1.2**
	20nm,1.0s						
LEM	**Lembang**	**72.61**	**268**	P	**P**	**03 44 37.5**	**-0.6**
	7.7nm,0.3s,baz=317,slow=18,SNR=4.4						
PETK	**Petropavlovsk-**	**73.37**	**345**	P	**P**	**03 44 41.4**	**0.0**
	1.5nm,0.7s,baz=179,slow=8.6,SNR=2.7						
OHAK	**Old Harbor**	**77.48**	**14**	*e*P	**P**	**03 45 03.9**	**-0.1**
ISA	**Isabella**	**77.70**	**46**	*e*P	**P**	**03 45 06.3**	**+0.4**
	6.1nm,0.9s						
CMB	**Columbia Colle**	**77.70**	**43**	*e*P	P	03 45 04.8

GSMY Great Sitkin M 4.11 264 P Pn 03 45 13.9 +1.2
GSTD Great Sitkin T 4.16 264 P Pn 03 45 14.7 +1.3
GSCK Great Sitkin C 4.18 264 P Pn 03 45 14.8 +1.2
FALS False Pass 4.20 56 Pn Pn 03 45 15.0 +1.2
FALS eS Sn 03 46 05.7 +3.3
SPIA Saint Paul Isl 4.55 354 P Pn 03 45 19.5 +0.8
SDPT Sand Point 5.93 59 Pn Pn 03 45 40.3 +2.7
SDPT eS Sn 03 46 50.4 +5.3
AMKA Amchitka 7.07 264 ePn Pn 03 45 55.5 +2.2
AMKA eS Sn 03 47 08.7 -4.5
CHGN Chignik 7.38 56 ePn Pn 03 45 58.4 +0.9
CHGN eS Sn 03 47 18.8 -2.1
OHAK Old Harbor 10.34 57 ePn Pn 03 46 35.9 -2.2
OHAK eS Sn 03 48 34.5 +0.9
KDAK Kodiak Island 10.89 55 / P Pn 03 46 44.9 -0.7
RSO Redoubt South 12.04 43 ePn Pn 03 47 03.6 +2.1
53nm,0.9s
CNPM China Poot 12.24 49 ePn Pn 03 47 05.0 +0.9
BRLK Bradley Lake 12.51 48 ePn P 03 47 14.5 -4.9
SEW Seward 13.30 48 ePn Pn 03 47 18.3 -0.2
15nm,0.7s
PPLA Purkeypile 13.72 35 ePn Pn 03 47 27.4 +3.0
CAST Castle Rocks 14.11 33 ePn Pn 03 47 32.1 +2.6
PMR Palmer 14.14 43 eP Pn 03 47 30.0 +0.2
PMR pmax pmax
comp=Z,8.0nm,0.9s
PMR Palmer 14.14 43 ePn Pn 03 47 30.0 +0.2
comp=Z,8.3nm,0.9s
SML Sawmill 14.57 43 eP Pn 03 47 36.3 +0.4
SML pmax pmax
comp=Z,2.0nm,0.6s
SML Sawmill 14.57 43 ePn Pn 03 47 36.3 +0.4
comp=Z,2.4nm,0.6s
TRF Thorofare Moun 14.74 35 ePn Pn 03 47 40.0 +1.6
BPAW Bear Paw Mtn. 14.92 33 ePn Pn 03 47 41.6 +0.9
DIV Divide 15.38 47 ePn Pn 03 47 43.7 -3.1
comp=Z,10nm,0.8s
MCK McKinley 15.39 36 eP Pn 03 47 48.4 +1.5
MCK pmax pmax
comp=Z,8.0nm,0.6s
MCK McKinley 15.39 36 ePn Pn 03 47 48.4 +1.5
comp=Z,7.9nm,0.6s
KLU Klutina 15.46 46 ePn Pn 03 47 45.7 -2.1
comp=Z,17nm,0.7s
IM04 Indian Mountai 15.48 24 ePn Pn 03 47 49.3 +1.3
DHY Denali Highway 15.61 39 ePn Pn 03 47 52.2 +2.4
comp=Z,5.3nm,0.9s
BMRM Bremner River 15.85 49 ePn Pn 03 47 51.1 -1.7
comp=Z,11nm,0.6s
HARP HAARP 16.18 43 ePn P 03 47 59.0 -1.1
comp=Z,20nm,0.8s
PAX Paxson 16.31 41 eP Pn 03 47 58.7 0.0
PAX pmax pmax
comp=Z,5.0nm,0.6s
PAX Paxson 16.31 41 ePn Pn 03 47 58.7 0.0
comp=Z,5.1nm,0.6s
CCB Clear Creek Bu 16.34 34 ePn Pn 03 47 58.9 -0.1
comp=Z,9.8nm,0.6s
COLA College 16.46 34 ceP Pn 03 48 00.6 +0.1
COLA pmax pmax
comp=Z,34nm,1.0s
COLA MLR MLR
comp=Z,747nm,17.0s
COLA College 16.46 34 ePn Pn 03 48 00.4 -0.1
comp=Z,11nm,0.9s
HDA Harding Lake 16.50 36 ePn Pn 03 48 02.3 +1.3
comp=Z,41nm,1.8s
ILAR Eielson Array 16.73 35 Pn Pn 03 48 01.9 -2.1
comp=Z,0.6nm,0.3s,baz=228,slow=11,SNR=34
ILAR LR LR 03 54 37.5
comp=Z,144nm,21.3s,baz=212,slow=38
COLD Coldfoot 17.37 25 ePn P 03 48 13.5 +0.3
comp=Z,16nm,0.9s
EGAK Eagle 18.84 39 eP P 03 48 27.6 -1.8
comp=Z,6.4nm,0.6s
HYT Haines Junctio 19.15 52 ePn Pn 03 48 34.5 +0.6
DAWY Dawson 19.24 42 eP P 03 48 32.0 -1.9
comp=Z,4.2nm,0.5s
BILL Bilibino 19.32 332 eP Pn 03 48 37.2 +1.4
BILL pmax pmax
comp=Z,32nm,2.7s
PETK Petropavlovsk- 19.75 284 P P 03 48 39.7 +0.3
comp=Z,0.3nm,0.3s,baz=94,slow=13,SNR=6.1
SKAG Skagway 20.04 57 eP Pn 03 48 44.0 -0.4
comp=Z,46nm,0.6s
BESE Bessie Mountai 20.24 59 eP P 03 48 45.8 +1.0
comp=Z,27nm,1.6s
SEY Seymchan 22.44 312 P P 03 49 07.9 -0.5
comp=Z,0.7nm,0.3s,baz=110,slow=8.4,SNR=4.3
SEY Seymchan 22.44 312 P P 03 49 13.2 +4.8
DLBC Dease Lake 22.77 60 P P 03 49 12.0 -0.1
comp=Z,17nm,1.1s,baz=271,slow=9.9,SNR=17
DLBC LR LR 03 56 44.0
comp=Z,72nm,21.8s,baz=264,slow=33
DLBC Dease Lake 22.77 60 eP P 03 49 14.3 +2.3
comp=Z,32nm,1.2s
INK Inuvik 23.12 34 P P 03 49 13.3 -2.1
comp=Z,8.9nm,0.8s,baz=247,slow=5.0,SNR=10
INK LR LR 03 58 48.7
comp=Z,133nm,19.9s,baz=258,slow=38
INK Inuvik 23.12 34 eP P 03 49 13.4 -2.1
INK pmax pmax
comp=Z,12nm,0.8s
INK Inuvik 23.12 34 eP P 03 49 13.4 -2.1
comp=Z,12nm,0.8s
YKA Yellowknife Ar 30.08 49 P P 03 50 17.8 -0.9
comp=Z,1.7nm,0.6s,baz=273,slow=7.9,SNR=12
B08A Colville Reser 31.62 77 eP P 03 50 33.6 +1.0
comp=Z,3.6nm,0.6s
G05D Wamic, OR 31.94 84 P P 03 50 37.0 +1.7
baz=32
I04A Tendick Farm, 32.05 87 P P 03 50 37.9 +1.6
baz=32
I05D Terrebonne, OR 32.40 85 P P 03 50 40.9 +1.4
baz=32
NEW Newport 32.98 76 P P 03 50 45.2 +0.8
comp=Z,3.3nm,0.5s,baz=293,slow=8.0,SNR=8.9
NEW Newport 32.98 76 P P 03 50 45.2 +0.8
NEW pmax pmax
comp=Z,3.0nm,0.5s
NEW Newport 32.98 76 P P 03 50 45.2 +0.8
baz=33,SNR=5.6
NEW Newport 32.98 76 eP P 03 50 45.1 +0.7
comp=Z,3.6nm,0.6s
J05D Fort Rock, OR 33.04 87 P P 03 50 46.4 +1.3
baz=33
EDM Edmonton 33.06 66 eP P 03 50 45.3 +0.2
EDM pmax pmax
comp=Z,5.0nm,0.6s
EDM Edmonton 33.06 66 eP P 03 50 45.3 +0.2
comp=Z,5.0nm,0.6s
M04C Macdoel 33.52 90 P P 03 50 50.9 +1.5
baz=33
K05A Summer Lake 33.56 87 eP P 03 50 52.7 +3.0
comp=Z,8.4nm,0.9s
MOD Modoc 34.39 88 eP P 03 50 57.5 +0.6
comp=Z,14nm,1.5s
BSMT Bassoo Peak 34.55 76 ePn P 03 50 59.0 +0.7
comp=Z,3.3nm,0.6s
BLMT Blacktail Moun 34.73 75 eP P 03 51 00.7 +0.8
WVOR Wild Horse Val 35.10 86 eP P 03 51 03.5 +0.5
WVOR pmax pmax
comp=Z,3.0nm,0.7s
WVOR Wild Horse Val 35.10 86 eP P 03 51 03.5 +0.5
comp=Z,3.4nm,0.7s
MSO Missoula 35.56 77 P P 03 51 07.0 +0.1
baz=35
MSO Missoula 35.56 77 eP P 03 51 07.1 +0.2
comp=Z,20nm,1.8s
CHMT Chamberlain Mo 35.92 76 eP P 03 51 10.1 0.0
comp=Z,2.5nm,0.5s
MFID Camas Ranch 36.25 83 eP P 03 51 13.3 +0.5
comp=Z,4.0nm,1.0s
HLID Hailey 37.02 82 P P 03 51 20.1 +0.6
baz=37
HLID Hailey 37.02 82 eP P 03 51 20.3 +0.8
comp=Z,5.9nm,1.4s
EGMT Eagleton 37.42 73 P P 03 51 23.0 +0.4
baz=37,SNR=6.1
BOZ Bozeman (W) 37.54 77 eP P 03 51 24.0 +0.1
BOZ pmax pmax
comp=Z,5.0nm,0.6s
BOZ Bozeman (W) 37.54 77 P P 03 51 24.4 +0.5
baz=37,SNR=12
BOZ Bozeman (W) 37.54 77 eP P 03 51 24.0 +0.1
comp=Z,4.7nm,0.6s

H11N2 WAKE ISLAND Hy 37.66 218 T T 04 31 27.3
baz=24,slow=76,SNR=47
H11N3 WAKE ISLAND Hy 37.66 218 T T 04 31 26.2
baz=24,slow=76,SNR=59
H11N1 WAKE ISLAND Hy 37.68 218 T T 04 31 27.0
baz=24,slow=76,SNR=45
NVAR Mina Array Bea 37.71 91 P P 03 51 27.4 +2.0
comp=Z,3.4nm,0.7s,baz=299,slow=9.0,SNR=16
ELK Elko 38.15 86 eP P 03 51 30.2 +1.0
ELK pmax pmax
comp=Z,3.0nm,0.8s
ELK Elko 38.15 86 eP P 03 51 30.2 +1.0
comp=Z,3.3nm,0.8s
C20A Veseth Ranch, 38.59 72 P P 03 51 33.3 +0.8
baz=38,SNR=9.9
FFC Flin Flon 38.60 59 eP P 03 51 32.7 +0.2
FFC pmax pmax
comp=Z,3.0nm,0.8s
FFC Flin Flon 38.60 59 eP P 03 51 32.7 +0.2
comp=Z,2.6nm,0.8s
GCMT Greycliff 38.63 76 eP P 03 51 33.7 +0.7
comp=Z,3.1nm,0.8s
H11S1 WAKE ISLAND Hy 38.85 218 T T 04 32 55.0
baz=23,slow=76,SNR=922
H11S2 WAKE ISLAND Hy 38.86 218 T T 04 32 56.1
baz=23,slow=76,SNR=956
H11S3 WAKE ISLAND Hy 38.87 218 T T 04 32 56.2
baz=23,slow=76,SNR=530
IMW Indian Meadow 38.91 79 eP P 03 51 36.8 +1.2
comp=Z,1.9nm,0.7s
FXWY Fox Creek 39.01 79 eP P 03 51 37.5 +1.2
HVU Hansel Valley 39.03 83 eP P 03 51 37.8 +1.4
HVU Hansel Valley 39.03 83 eP P 03 51 37.8 +1.4
comp=Z,40µm,0.8s
C21A Desert Coulee 39.05 71 P P 03 51 36.9 +0.5
baz=39
TPAW Teton Pass 39.14 79 eP P 03 51 38.7 +1.3
comp=Z,2.0nm,0.6s
RLMT Red Lodge 39.23 76 P P 03 51 38.9 +0.8
baz=39,SNR=5.8
RLMT Red Lodge 39.23 76 eP P 03 51 38.8 +0.7
comp=Z,5.5nm,0.9s
R11A Troy Canyon, C 39.42 89 P P 03 51 40.7 +1.0
baz=39,SNR=11
R11A Troy Canyon, C 39.42 89 eP P 03 51 40.1 +0.4
H19A Powell 39.65 77 P P 03 51 42.3 +0.8
baz=40
MJAR Matsushiro Arr 39.67 267 LR LR 04 06 11.6
comp=Z,44nm,21.1s,baz=65,slow=33
MAJO Matsushiro 39.67 267 P P 03 51 49.0 +7.4
MAJO pmax pmax
comp=Z,44nm,1.7s
MPMC Manual Prospec 39.73 94 P P 03 51 43.2 +0.8
baz=40
G20A Bridger 39.80 75 P P 03 51 42.9 +0.2
baz=40
TPNV Topah Spring 39.91 91 P P 03 51 45.1 +1.3
baz=40,SNR=6.4
DUG Dugway 39.96 85 eP P 03 51 45.0 +0.9
DUG pmax pmax
comp=Z,9.0nm,1.3s
DUG Dugway 39.96 85 P P 03 51 45.2 +1.0
baz=40,SNR=7.1
DUG Dugway 39.96 85 eP P 03 51 45.0 +0.9
comp=Z,9.2nm,1.3s
I19A Meeteetse 40.00 77 P P 03 51 44.7 +0.2
baz=40
H20A Greybull 40.33 76 P P 03 51 47.6 +0.4
baz=40
G21A Lodge Grass 40.39 75 P P 03 51 47.5 -0.1
baz=40
BW06 Boulder Array 40.39 79 eP P 03 51 47.9 +0.1
comp=Z,3.4nm,0.6s
PDAR Pinedale Array 40.39 79 P P 03 51 48.2 +0.4
comp=Z,3.4nm,0.6s,baz=318,slow=4.7,SNR=42
PDAR LR LR 04 06 58.7
comp=Z,31nm,18.0s,baz=260,slow=34
E22A Miles City 40.45 72 P P 03 51 47.6 -0.5
baz=40
I20A Worland 40.56 77 P P 03 51 49.0 -0.1
baz=40
GSC Goldstone 40.65 94 eP P 03 51 51.5 +1.6
GSC pmax pmax
comp=Z,4.0nm,0.8s
GSC Goldstone 40.65 94 P P 03 51 50.9 +1.0
baz=40
GSC Goldstone 40.65 94 eP P 03 51 51.5 +1.6
comp=Z,4.0nm,0.8s
C24A Savage 40.75 70 P P 03 51 51.1 +0.6
baz=40
A25A Svangstu Ranch 40.75 68 P P 03 51 51.1 +0.6
baz=40
E23A Ismay 40.80 72 P P 03 51 51.5 +0.6
baz=41
H21A Big Horn, Sher 40.82 75 P P 03 51 51.8 +0.6
baz=41
FMP Fort Macarthur 40.83 97 P P 03 51 52.5 +1.3
baz=41
BFSC Mount Baldy Ra 40.85 96 P P 03 51 52.7 +1.1
baz=41
G22A Birney 40.93 74 P P 03 51 52.0 -0.1
baz=41
J20A Shoshoni 40.93 78 P P 03 51 52.2 +0.1
baz=41
D24A Glendive 41.03 71 P P 03 51 53.6 +0.8
baz=41,SNR=7.1
B25A Knox Farm, Ray 41.07 69 P P 03 51 53.3 +0.1
baz=41
I21A Big Trails, Te 41.13 77 P P 03 51 53.6 -0.3
baz=41
HEC Hector,Ludlow 41.26 94 P P 03 51 55.7 +0.8
baz=41
CCUT Cedar City 41.28 88 eP P 03 51 56.4 +1.2
comp=Z,2.3nm,0.7s
E24A Baker 41.34 71 P P 03 51 55.8 +0.4
baz=41
A26A Wade Farm, Ken 41.38 67 P P 03 51 55.4 -0.3
baz=41
G23A Biddle 41.46 74 P P 03 51 56.0 -0.5
baz=41
I22A 9 Mile Ranch, 41.57 76 P P 03 51 57.5 +0.2
baz=41
F24A Ekalaka 41.66 72 P P 03 51 58.4 +0.4
baz=42
GMRC Granite Mounta 41.70 93 P P 03 51 60.0 +1.4
baz=42
J22A Midwest 41.85 77 P P 03 51 60.0 +0.3
baz=42,SNR=6.8
E25A Miller Ranch, 41.90 71 P P 03 52 00.6 +0.7
baz=42
C26A Wahner Farm, P 41.92 69 P P 03 51 60.0 -0.1
baz=42
G24A Alzada 41.96 73 P P 03 52 00.3 -0.2
baz=42
PFO Pinyon Flat Ob 42.01 95 P P 03 52 01.8 +0.6
comp=Z,2.0nm,0.6s,baz=297,slow=6.8,SNR=3.1
PFO Pinyon Flat Ob 42.01 95 P P 03 52 01.5 +0.4
baz=42
SRU San Rafael 42.02 85 eP P 03 52 02.0 +0.8
SRU pmax pmax
comp=Z,4.0nm,0.8s
SRU San Rafael 42.02 85 eP P 03 52 02.0 +0.8
comp=Z,4.1nm,0.8s
H24A Dirks Ranch, A 42.21 74 P P 03 52 02.2 -0.4
baz=42
K22A Casper 42.27 78 P P 03 52 02.9 -0.3
baz=42
A28A Rude Farm, Bot 42.36 66 P P 03 52 04.1 +0.4
baz=42
IRM Iron Mountain 42.43 94 P P 03 52 05.3 +0.9
baz=42
E26A Carlson Angus 42.45 70 P P 03 52 05.0 +0.5
baz=42
B28A Dugan Ranch, T 42.56 67 P P 03 52 05.5 +0.2
baz=42
F26A Lodgepole 42.68 71 P P 03 52 06.0 -0.3
baz=42
K23A Bowen Ranch, D 42.74 77 P P 03 52 06.5 -0.5
baz=43
O20A White River Ci 42.76 82 P P 03 52 07.5 +0.3
baz=43,SNR=15
O20A White River Ci 42.76 82 eP P 03 52 07.7 +0.5
comp=Z,9.2nm,0.6s
H25A Fruitdale 42.84 73 P P 03 52 08.0 +0.3
baz=43
RSSD Black Hills 42.88 74 eP P 03 52 07.8 -0.4
RSSD pmax pmax
comp=Z,3.0nm,0.7s

RSSD Black Hills 42.88 74 eP P 03 52 07.8 -0.4
comp=Z,2.9nm,0.7s
CN2 Changchun 42.90 285 eP P 03 52 09.3 +1.3
A29A Manning Farm, 42.93 66 P P 03 52 08.3 0.0
baz=43
PDMCI Parker Dam,Lak 42.95 93 P P 03 52 09.4 +0.9
baz=43
E27A Carson 42.99 70 P P 03 52 09.3 +0.5
baz=43
G26A Maurine 43.04 72 P P 03 52 09.4 +0.2
baz=43
Y12C Blythe 43.09 94 P P 03 52 10.3 +0.6
baz=43
B29A Wagenman Farm, 43.11 66 P P 03 52 10.0 +0.2
baz=43
MDND Maddock 43.31 67 P P 03 52 11.7 +0.3
baz=43
MDND Maddock 43.31 67 eP P 03 52 11.9 +0.5
H26A Fairpoint 43.33 73 P P 03 52 11.6 0.0
baz=43
G27A Dupree 43.37 71 P P 03 52 12.4 +0.4
baz=43
GLA Glamis 43.38 95 P P 03 52 12.8 +0.7
baz=43
E28A Huff 43.41 69 P P 03 52 12.6 +0.4
baz=43
N23A Red Feather La 43.67 79 P P 03 52 14.7 0.0
baz=44
B30A Myrvik Farm, E 43.69 66 P P 03 52 14.4 0.0
baz=44
F28A McLaughlin 43.76 70 P P 03 52 15.3 +0.3
baz=44
WUAZ Wupatki 43.82 89 P P 03 52 17.0 +1.2
baz=44,SNR=6.7
WUAZ Wupatki 43.82 89 eP P 03 52 17.2 +1.4
comp=Z,8.2nm,0.9s
J26A Sides Ranch, S 43.91 75 P P 03 52 16.6 +0.2
baz=44
E29A Napoleon 44.01 69 P P 03 52 17.5 +0.5
baz=44
C30A Mose, Pekin 44.02 67 P P 03 52 17.4 +0.3
baz=44
I27A Quinn 44.06 73 P P 03 52 17.8 +0.3
baz=44
L25A Engebretsen Ra 44.08 76 P P 03 52 17.9 +0.2
baz=44
G28A Parade 44.13 71 P P 03 52 18.2 +0.1
baz=44
D30A Buchanan 44.20 68 P P 03 52 18.8 +0.3
baz=44
F29A Eureka 44.32 70 P P 03 52 19.0 -0.5
baz=44
MVCO Mesa Verde 44.45 85 P P 03 52 21.1 +0.2
baz=44
M25A Palm-Egli Farm 44.47 77 P P 03 52 21.2 +0.3
baz=44
I28A Midland 44.62 73 P P 03 52 22.5 +0.5
baz=44
G29A Hoven 44.64 71 P P 03 52 22.5 +0.4
baz=44
H29A Onida 44.80 71 P P 03 52 23.7 +0.3
baz=45
J28A Allard Ranch, 44.92 73 P P 03 52 24.8 +0.4
baz=45
I29A Vivian Onida 45.11 72 P P 03 52 25.7 -0.2
baz=45
S22A 4UR Ranch, Cre 45.12 83 P P 03 52 26.8 +0.5
baz=45
AGMN Agassiz Nation 45.14 65 P P 03 52 25.0 -0.9
baz=45,SNR=6.2
AGMN Agassiz Nation 45.14 65 eP P 03 52 24.9 -1.0
comp=Z,10nm,1.0s
K28A Ten Mile Ranch 45.27 74 P P 03 52 27.7 +0.5
baz=45
KSRS Korea Array 45.33 276 LR LR 04 11 01.0
comp=Z,31nm,18.3s,baz=92,slow=36
214A Organ Pipe Nat 45.37 94 P P 03 52 28.8 +0.8
baz=45
214A Organ Pipe Nat 45.37 94 eP P 03 52 28.6 +0.6
comp=Z,4.7nm,0.8s
J29A Okreek 45.47 73 P P 03 52 28.3 -0.4
baz=45,SNR=7.3
SDCO Great Sand Dun 45.92 82 P P 03 52 33.2 +0.5
baz=46,SNR=7.2
SDCO Great Sand Dun 45.92 82 eP P 03 52 33.1 +0.5
comp=Z,2.4nm,0.8s
J30A Dallas 46.00 72 P P 03 52 33.1 +0.2
baz=46
P26A Davis Ranch, A 46.06 79 P P 03 52 34.2 +0.7
baz=46,SNR=7.3
TUC Tucson 46.35 92 eP P 03 52 36.6 +0.7
TUC pmax pmax
comp=Z,3.0nm,0.8s
TUC Tucson 46.35 92 eP P 03 52 36.6 +0.7
comp=Z,3.0nm,0.8s
JNU Nakatsue 46.42 270 LR LR 04 10 08.7
comp=Z,47nm,21.4s,baz=108,slow=34
O28A Krutsinger Ran 46.64 77 P P 03 52 38.7 +0.7
baz=46
R26A Arlington 46.80 80 P P 03 52 39.9 +0.5
baz=47
T25A Trinidad 46.98 82 P P 03 52 41.6 +0.8
baz=47,SNR=7.2
ANMO Albuquerque 47.19 86 eP P 03 52 43.5 +1.0
ANMO pmax pmax
comp=Z,10.0nm,1.0s
ANMO Albuquerque 47.19 86 eP P 03 52 44.3 +1.7
R27A Eads 47.20 80 P P 03 52 42.7 +0.2
baz=47
O29A 4D Ranch, Culb 47.22 77 P P 03 52 42.9 +0.4
baz=47
ECSD EROS Data Cent 47.41 70 P P 03 52 42.8 -1.1
baz=47,SNR=6.2
ECSD EROS Data Cent 47.41 70 eP P 03 52 42.5 -1.4
comp=Z,6.0nm,1.1s
T26A Comanche Natio 47.45 82 P P 03 52 44.6 +0.1
baz=47
P29A Atwood 47.47 77 P P 03 52 44.8 +0.3
baz=47
O30A MW Ranch, Wils 47.62 76 P P 03 52 46.2 +0.6
baz=47
EYMN Ely 47.73 63 P P 03 52 45.4 -0.9
baz=48,SNR=7.9
EYMN Ely 47.73 63 eP P 03 52 45.6 -0.7
comp=Z,10nm,1.0s
P30A Selden 47.91 77 P P 03 52 48.5 +0.6
baz=48
121A Cookes Peak, D 48.03 89 P P 03 52 49.5 +0.5
baz=48
121A Cookes Peak, D 48.03 89 eP P 03 52 50.0 +0.9
comp=Z,2.8nm,0.6s
S28A Manter 48.19 80 P P 03 52 49.7 -0.4
baz=48
Q30A Quinter 48.29 77 P P 03 52 50.2 -0.6
baz=48
T28A Walsh 48.37 81 P P 03 52 51.8 +0.3
baz=48
U27A Thompson Grove 48.41 82 P P 03 52 52.1 +0.3
baz=48
P31A Stockton 48.44 76 P P 03 52 52.4 +0.4
baz=48
L34A Svendsen Farm, 48.64 72 P P 03 52 53.5 +0.1
baz=48
SPMN St. Paul 48.65 66 P P 03 52 53.4 -0.1
baz=48
CBKS Cedar Bluff 48.69 77 P P 03 52 54.2 +0.3
baz=48
R30A Dighton 48.71 78 P P 03 52 54.4 +0.3
baz=48
U28A Mallet 48.80 81 P P 03 52 54.7 -0.1
baz=49
P32A Huiting Farm, 48.84 76 P P 03 52 54.9 -0.1
baz=49
T29A Hugoton 48.84 80 P P 03 52 55.0 -0.1
baz=49
V27A Dan Oppiter Fa 48.84 83 P P 03 52 55.1 -0.1
baz=49
O33A Hebron 49.14 75 P P 03 52 56.9 -0.4
baz=49
R31A Burdett 49.15 78 P P 03 52 57.3 -0.2
baz=49
V28A Channing 49.21 82 P P 03 52 58.2 +0.2
baz=49
Q32A Meitler Ranch, 49.27 76 P P 03 52 58.0 -0.3
baz=49
M35A Neola 49.36 72 P P 03 52 58.8 -0.1
baz=49
R32A Long Quarter, 49.55 77 P P 03 53 00.3 -0.2

baz=49
O34A Beatrice 49.60 74 P **P 03 53 00.6 -0.2**
baz=49
S31A Mullinville 49.62 78 P **P 03 53 01.1 +0.1**
baz=49
U30A WK&E Inc. Balk 49.64 80 P **P 03 53 01.3 0.0**
baz=50
Q33A Connelly Farm, 49.69 76 P **P 03 53 01.5 -0.1**
baz=50
N35A Tabor 49.77 73 P **P 03 53 02.3 +0.2**
baz=50
T31A Randall Ranch, 49.85 79 P **P 03 53 02.8 0.0**
baz=50
TLY Talaya 50.13 306 *e*P **P 03 53 06.6 +1.9**
TLY pmax pmax
comp=Z,2.0nm,0.9s
TLY MLR MLR
comp=Z,43nm,15.0s
R34A Isabella, Hill 50.50 76 P **P 03 53 07.7 0.0**
baz=50
U32A Winter Ranch, 50.73 79 P **P 03 53 09.5 +0.1**
baz=50
Z28A Tucker Farm, M 50.79 85 P **P 03 53 10.0 0.0**
baz=51
Y29A Porterfield Fa 50.83 83 P **P 03 53 10.9 +0.6**
baz=51
P36A Good Intent, A 50.83 73 P **P 03 53 09.8 -0.3**
baz=51
X30A Coker Ranch, T 50.91 82 P **P 03 53 11.5 +0.6**
baz=51
W31A Holland Ranch, 50.97 81 P **P 03 53 11.9 +0.6**
baz=51
S34A Willow Spring 50.97 77 P **P 03 53 11.1 -0.1**
baz=51
R35A Emporia Munici 51.10 75 P **P 03 53 11.8 -0.4**
baz=51
SONM Songino Array 51.12 301 PcP **PcP 03 54 27.3 -0.5**
comp=Z,1.4nm,0.8s,baz=57,slow=5.3,SNR=4.6
128A Castleberry Fa 51.19 85 P **P 03 53 13.5 +0.5**
baz=51
Z29A Hungry Hill Ra 51.22 84 P **P 03 53 13.6 +0.4**
baz=51
Y30A Stafford Cattl 51.28 83 P **P 03 53 14.1 +0.4**
baz=51
T34A McClaskey Farm 51.38 77 P **P 03 53 13.9 -0.4**
baz=51
S35A Otter Creek Ra 51.46 76 P **P 03 53 14.5 -0.3**
baz=51
228A UT Block 9, Go 51.47 86 P **P 03 53 14.7 -0.5**
baz=51
R36A Gordon, Harris 51.51 75 P **P 03 53 14.7 -0.6**
baz=51
Z30A Sanderson Ranc 51.55 84 P **P 03 53 15.4 -0.3**
baz=51
129A Stewart Farms, 51.56 85 P **P 03 53 15.5 -0.3**
baz=51
U34A Anderson Ranch 51.57 78 P **P 03 53 15.2 -0.5**
baz=51
T35A Sooner Cattle 51.85 77 P **P 03 53 17.0 -0.8**
baz=52
W33A Caddo, Fort Co 51.88 80 P **P 03 53 18.3 +0.2**
baz=52
R37A Teagarden Farm 51.91 74 P **P 03 53 17.3 -1.0**
baz=52
WMOK Wichita Mounta 51.97 81 *e*P **P 03 53 18.5 -0.3**
WMOK pmax pmax
comp=Z,6.0nm,0.9s
WMOK Wichita Mounta 51.97 81 *e*P **P 03 53 18.5 -0.3**
comp=Z,6.0nm,0.9s
V34A Guthrie 51.98 79 P **P 03 53 18.6 -0.2**
baz=52
Z31A Sharp Cattle R 52.12 83 P **P 03 53 20.3 +0.4**
baz=52
S37A Fort Scott 52.28 75 P **P 03 53 19.6 -1.4**
baz=52,SNR=8.9
131A Roby 52.42 84 P **P 03 53 22.4 +0.3**
baz=52
230A Sterling City 52.53 85 P **P 03 53 23.3 +0.3**
baz=52
Z32A Haskell 52.53 82 P **P 03 53 22.7 -0.2**
baz=52,SNR=8.6
T37A Cheneyville 18 52.66 76 P **P 03 53 23.1 -0.7**
baz=52
HHC Hu-ho-hao-te 52.78 291 *e*P **P 03 53 25.4 +0.6**
HHC PP **PP 03 55 25.8 +2.0**
HHC S **S 04 00 50.6 -1.7**
HHC sS **sS 04 00 58.3 -2.1**
HHC SS **SS 04 04 27.5 -3.0**
HHC PMZ
comp=Z,14nm,1.0s
HHC PMZ
comp=Z,87nm,8.6s
HHC LN
comp=Z,63nm,16.0s
HHC LE
comp=Z,140nm,18.5s
HHC LZ
comp=Z,55nm,16.0s
TXAR Lajitas Array 52.78 89 P **P 03 53 25.5 +0.6**
comp=Z,4.4nm,0.7s,baz=298,slow=5.3,SNR=55
ABTX Abilene, Hawle 52.91 83 P **P 03 53 25.8 +0.1**
baz=53
429A Davenport Ranc 52.95 87 P **P 03 53 26.5 +0.4**
baz=53
V36A Jenks 52.95 78 P **P 03 53 25.7 -0.3**
baz=53
Z33A Whitaker Ranch 52.98 82 P **P 03 53 26.3 +0.1**
baz=53
U37A Salina 53.02 76 P **P 03 53 25.7 -0.8**
baz=53
529A Stev Forest Ra 53.10 87 P **P 03 53 27.5 +0.2**
baz=53
Y34A Reagan Ranch, 53.12 81 P **P 03 53 27.3 +0.1**
baz=53
430A Baggett Ranch, 53.23 86 P **P 03 53 28.0 -0.1**
baz=53,SNR=5.3
331A San Angelo 53.35 85 P **P 03 53 28.9 -0.2**
baz=53
133A Hamilton Ranch 53.36 83 P **P 03 53 29.1 +0.1**
baz=53
V37A Hulbert 53.37 77 P **P 03 53 28.3 -0.7**
baz=53
232A Coleman 53.42 84 P **P 03 53 29.1 -0.4**
baz=53
Z34A Collier Ranch, 53.43 81 P **P 03 53 29.4 -0.1**
baz=53
X36A Centrahoma 53.54 79 P **P 03 53 30.3 -0.1**
baz=53
Y35A Marietta 53.59 80 P **P 03 53 30.7 0.0**
baz=53
530A J-C Ranch, Com 53.62 87 P **P 03 53 31.2 +0.1**
baz=54,SNR=10.0
HDIL Hopedale 53.62 69 P **P 03 53 30.0 -0.8**
baz=53
431A Sonora 53.69 86 P **P 03 53 31.3 -0.2**
baz=54,SNR=8.8
W37A Quinton 53.70 78 P **P 03 53 31.1 -0.4**
baz=54
332A Millersview 53.72 84 P **P 03 53 31.6 -0.1**
baz=54
233A Rising Star 53.78 83 P **P 03 53 32.1 0.0**
baz=54
V38A Canehill 53.81 76 P **P 03 53 31.3 -1.0**
baz=54,SNR=6.9
134A White-Moore Ra 53.89 82 P **P 03 53 33.1 +0.1**
baz=54,SNR=5.6
432A Menard 54.04 85 P **P 03 53 34.2 +0.1**
baz=54
Y36A Durant 54.05 80 P **P 03 53 34.1 +0.1**
baz=54
531A Rocksprings 54.09 86 P **P 03 53 34.5 0.0**
baz=54
X37A Clayton 54.12 78 P **P 03 53 34.3 -0.2**
baz=54,SNR=6.1
333A Richland Sprin 54.22 84 P **P 03 53 35.8 +0.4**
baz=54
W38A Poteau 54.29 77 P **P 03 53 35.3 -0.5**
baz=54
JCT Junction City 54.32 85 *e*P **P 03 53 36.2 +0.1**
JCT pmax pmax
comp=Z,6.0nm,0.6s
JCT Junction City 54.32 85 P **P 03 53 35.8 -0.3**
baz=54
JCT Junction City 54.32 85 *e*P **P 03 53 36.1 +0.1**
comp=Z,6.1nm,0.6s
X38A Whitesboro 54.38 78 P **P 03 53 36.3 -0.2**
baz=54
Z36A Blue Ridge 54.39 80 P **P 03 53 36.5 0.0**
baz=54
532A Rocksprings 54.51 85 P **P 03 53 37.2 -0.3**
baz=54
631A Perdido Creek 54.61 87 P **P 03 53 37.6 -0.6**
baz=54
334A Lometa 54.66 83 P **P 03 53 38.7 +0.1**
baz=54,SNR=8.1
WHTX Lake Whitney 54.67 82 P **P 03 53 38.9 +0.3**
baz=54
SFIN Scholer Farm 54.98 68 P **P 03 53 40.3 -0.4**
baz=55
SFIN Scholer Farm 54.98 68 *e*P **P 03 53 39.8 -0.9**
434A Burnet 55.01 84 P **P 03 53 41.0 -0.1**
baz=55,SNR=6.7
632A Uvalde 55.02 86 P **P 03 53 41.3 +0.1**
baz=55
MIAR Mount Ida 55.22 77 *e*P **P 03 53 42.3 -0.2**
MIAR pmax pmax
comp=Z,8.0nm,1.1s
MIAR Mount Ida 55.22 77 P **P 03 53 42.3 -0.2**
baz=55
MIAR Mount Ida 55.22 77 *e*P **P 03 53 42.3 -0.2**
comp=Z,8.1nm,1.1s
SCHQ Schefferville 55.25 43 P **P 03 53 40.8 -1.7**
comp=Z,1.6nm,0.7s,baz=323,slow=10.0,SNR=3.7
732A Laxson Ranch, 55.47 87 P **P 03 53 44.3 0.0**
baz=55
336A Riesel 55.47 82 P **P 03 53 44.5 +0.2**
baz=55
832A Faith Ranch, C 55.78 87 P **P 03 53 47.0 +0.4**
baz=56
833A Chaparral WMA, 56.11 87 P **P 03 53 49.2 +0.2**
baz=56
USIN University of 56.30 70 *e*P **P 03 53 49.3 -1.0**
635A Leesville 56.33 85 P **P 03 53 51.1 +0.5**
baz=56
OXF Oxford 57.70 74 *e*P **P 03 53 59.4 -0.8**
OXF pmax pmax
comp=Z,22nm,0.8s
OXF Oxford 57.70 74 *e*P **P 03 53 59.4 -0.8**
comp=Z,22nm,0.8s
SSPA Standing Stone 59.87 62 *e*P **P 03 54 14.0 -1.2**
comp=Z,4.5nm,0.6s
GTA Gaotai 60.31 297 *e*P P 03 54 21.8 +3.4
GTA pP pP 03 54 26.8 +3.4
GTA sP sP 03 54 29.0 +3.7
GTA PMZ
comp=Z,4.0nm,1.2s
KSPA Keystone Colle 60.34 60 *e*P **P 03 54 18.6 +0.2**
BLA Blacksburg 60.92 66 *e*P **P 03 54 22.1 -0.4**
BLA Blacksburg 60.92 66 *e*P **P 03 54 22.1 -0.4**
LUPA Lehigh Univers 61.23 60 *e*P **P 03 54 24.9 +0.4**
WMQ Urumqi 63.32 308 *e*P **P 03 54 41.3 +2.8**
WMQ pP **pP 03 54 45.8 +2.3**
WMQ sP **sP 03 54 48.3 +2.9**
WMQ PMZ
comp=Z,13nm,0.9s
WMQ PMZ
comp=Z,100nm,5.2s
WMQ LN
comp=Z,43nm,20.5s
WMQ LZ
comp=Z,35nm,21.3s
CD2 Chengdu 64.24 288 P **P 03 54 44.3 -0.5**
CD2 pP **pP 03 54 47.5 -2.3**
CD2 PP **PP 03 57 05.3 -0.5**
CD2 S **S 04 03 21.9 +0.2**
CD2 SS **SS 04 07 32.1 +1.4**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,90nm,5.9s
CD2 LZ
comp=Z,200nm,5.5s
BRTR Keskin Array B 85.83 342 LR LR 04 40 42.2
comp=Z,10nm,18.2s,baz=340,slow=40
PSI Prapat 88.79 273 P **P 03 57 03.2 -0.7**
comp=Z,9.8nm,0.9s,baz=20,slow=3.6,SNR=5.0
ASAR Alice Springs 90.55 230 P **P 03 57 11.9 +0.2**
comp=Z,2.0nm,0.8s,baz=34,slow=4.5,SNR=11
LBTB Lobatse 150.14 332 *e*PKIKP **PKPbc 04 04 00.7 +0.2**
LBTB Lobatse 150.14 332 *e*PKPbc **PKPbc 04 04 00.7 +0.2**
BOSA Boshof 153.62 330 PKPbc **PKPbc 04 04 06.7 -1.6**
comp=Z,1.1nm,0.7s,baz=286,slow=2.4,SNR=3.1

IDC 21 03:46:29.6±5.2, 0.°90S×131.°05E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/30, mbtmp3.3/3, ML2.9/1, Error ellipse: s-maj=361.8km s-min=30.2km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.20**	**171**	P	P	03 50 55.4	+0.2
	0.0nm,0.3s,baz=352,slow=11,SNR=1.5						
ASAR	**Alice Springs**	**22.80**	**173**	P	P	03 51 34.0	-0.2
	0.5nm,0.7s,baz=350,slow=10,SNR=3.4						
MKAR	**Makanchi Array**	**63.80**	**325**	P	P	03 57 03.8	0.0
	0.2nm,0.5s,baz=119,slow=8.3,SNR=2.4						

*ISCJB **21** 03:54:41.0±1.1, 52.°57N±0.°07×169.°35W±0.°07, h7km±6km, mb3.9/11, MS3.0/5, Error ellipse: s-maj=12.4km s-min=4.4km az=150.7*
*IDC **21** 03:54:41.0±1.2, 52.°49N×169.°30W, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.6/50, mbtmp3.7/8, ML3.5/2, MS3.1/7, Ms1 3.1/7, ms1mx2.8/39, Error ellipse: s-maj=34.5km s-min=22.2km az=162.0*
*NEIC **21** 03:54:43.3, 52.°71N×169.°33W, h5km, mb4.0/8, ML3.8(AEIC), After AEIC.*
ISC 21 03:54:42.9±1.6, 52.°7N±0.°1×169.°32W±0.°06, h11km±9km, n52, σ1°±44/53, mb3.9/11, MS3.0/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.40**	**46**	P	**Pg**	**03 54 51.1**	**+0.3**
NIKH				S	**Sg**	**03 54 57.5**	**+1.5**
OKCE	**Okmok Cone E**	**1.01**	**43**	P	**Pn**	**03 55 03.4**	**+0.4**
OKCE				S	**Sn**	**03 55 18.8**	**+1.6**
OKTU	**Okmok Mt. Tuli**	**1.03**	**48**	P	**Pn**	**03 55 03.3**	**-0.1**
OKAK	**Okmok**	**1.05**	**33**	P	**Pb**	**03 55 00.7**	**-2.4**
OKFG	**Magazine Ridge**	**1.11**	**50**	P	**Pb**	**03 55 03.3**	**-0.8**
OKFG				S	**Sb**	**03 55 18.7**	**+0.2**
MSOM	**Makushin Julie**	**1.81**	**51**	P	**Pn**	**03 55 14.0**	**0.0**
MSOM				S	**Sn**	**03 55 37.5**	**+0.6**
MCIR	**Makushin Cirqu**	**1.92**	**48**	P	**Pn**	**03 55 16.4**	**+0.8**
MSW	**Makushin Switc**	**1.95**	**50**	P	**Pb**	**03 55 17.0**	**-1.4**
MSW				S	**Sn**	**03 55 41.2**	**+0.9**
MTBL	**Makushin Table**	**2.03**	**50**	P	**Pb**	**03 55 18.5**	**-1.3**
UNV	**Unalaska Valle**	**2.05**	**55**	P	**Pn**	**03 55 17.8**	**+0.6**
UNV				S	**Sn**	**03 55 44.4**	**+1.7**
AKRB	**Akutan Reef Bi**	**2.42**	**52**	P	**Pn**	**03 55 23.3**	**+1.0**
ZRO	**Akutan Zero**	**2.44**	**54**	P	**Pn**	**03 55 23.8**	**+1.2**
AKGG	**Akutan Green G**	**2.49**	**52**	P	**Pn**	**03 55 24.7**	**+1.4**
AKUT	**Akutan**	**2.56**	**55**	*e*Pn	**Pn**	**03 55 25.7**	**+1.4**
AKUT				*e*Pg	**Pg**	**03 55 30.9**	**-1.2**
AKUT				*e*S	**Sb**	**03 55 59.9**	**-0.4**
ATKA	**Atka Island**	**3.02**	**262**	P	**Pn**	**03 55 31.4**	**+0.9**
WECS	**Westdahl Cape**	**3.27**	**54**	P	**Pn**	**03 55 36.0**	**+1.9**
FALS	**False Pass**	**4.12**	**56**	*e*Pn	**Pn**	**03 55 47.7**	**+2.1**
FALS				*e*S	**Sb**	**03 56 39.8**	**-5.1**
GSTR	**Great Sitkin T**	**4.17**	**264**	Pn	**Pn**	**03 55 47.0**	**+0.6**
GSTR				*e*S	**Sn**	**03 56 35.4**	**+0.3**
SPIA	**Saint Paul Isl**	**4.52**	**354**	P	**Pn**	**03 55 51.9**	**+0.7**
SDPT	**Sand Point**	**5.85**	**60**	*e*Pn	**Pn**	**03 56 11.9**	**+2.5**
SDPT				*e*S	Sb	03 57 27.3	-7.5
AMKA	**Amchitka**	**7.14**	**264**	*e*Pn	**Pn**	**03 56 28.5**	**+1.3**
TRF	**Thorofare Moun**	**14.67**	**35**	*e*Pn	**P**	**03 58 14.2**	**-2.4**
BPAW	**Bear Paw Mtn.**	**14.85**	**33**	*e*Pn	**Pn**	**03 58 15.1**	**+2.5**
KLU	**Klutina**	**15.38**	**46**	*e*Pn	**Pn**	**03 58 20.6**	**+0.9**
	4.8nm,0.6s						
BMRM	**Bremner River**	**15.77**	**49**	*e*Pn	**Pn**	**03 58 23.3**	**-1.4**
CCB	**Clear Creek Bu**	**16.27**	**34**	*e*Pn	**Pn**	**03 58 31.2**	**+0.2**
	51nm,3.0s						
ILAR	**Eielson Array**	**16.66**	**35**	Pn	**Pn**	**03 58 35.5**	**-0.5**
	0.1nm,0.3s,baz=228,slow=11,SNR=11						
ILAR				LR	LR	04 05 48.0	
	comp=Z,98nm,19.1s,baz=226,slow=40						
EGAK	**Eagle**	**18.76**	**39**	*e*Pn	**Pn**	**03 59 01.9**	**-0.1**
	2.7nm,0.9s						
HYT	**Haines Junctio**	**19.07**	**52**	*e*P	**Pn**	**03 59 06.5**	**+0.6**
PETK	**Petropavlovsk-**	**19.80**	**284**	P	**Pn**	**03 59 13.9**	**-0.6**
	0.3nm,0.3s,baz=102,slow=13,SNR=3.4						
PETK				LR	LR	04 06 47.1	
	comp=Z,17nm,20.2s,baz=95,slow=36						
DLBC	**Dease Lake**	**22.69**	**60**	P	**P**	**03 59 45.2**	**+1.0**
	3.5nm,1.0s,baz=280,slow=9.7,SNR=5.0						
DLBC				LR	LR	04 06 49.6	
	comp=Z,101nm,21.4s,baz=259,slow=32						
DLBC	**Dease Lake**	**22.69**	**60**	*e*P	**P**	**03 59 47.0**	**+2.7**
INK	**Inuvik**	**23.05**	**34**	P	**P**	**03 59 48.9**	**+1.1**
	1.2nm,0.5s,baz=221,slow=8.6,SNR=3.5						
INK				LR	LR	04 09 11.2	
	comp=Z,53nm,19.1s,baz=244,slow=38						
BBB	**Bella Bella**	**24.89**	**75**	LR	LR	04 07 34.5	
	comp=Z,40nm,18.6s,baz=299,slow=31						
BOZ	**Bozeman (W)**	**37.47**	**77**	*e*P	**P**	**04 01 56.6**	**+0.3**
	1.4nm,0.7s						
NVAR	**Mina Array Bea**	**37.64**	**91**	P	**P**	**04 01 57.0**	**-0.9**
	0.3nm,0.6s,baz=309,slow=10.0,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**37.73**	**218**	T	T	04 41 59.2	
	baz=24,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**37.74**	**218**	T	T	04 42 00.2	
	baz=24,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy**	**37.75**	**218**	T	T	04 42 01.0	
	baz=24,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy**	**38.92**	**218**	T	T	04 43 29.0	
	baz=23,slow=76,SNR=134						
H11S2	**WAKE ISLAND Hy**	**38.94**	**218**	T	T	04 43 30.9	
	baz=23,slow=76,SNR=150						
H11S3	**WAKE ISLAND Hy**	**38.94**	**218**	T	T	04 43 30.6	
	baz=23,slow=76,SNR=126						
MJAR	**Matsushiro Arr**	**39.74**	**267**	LR	LR	04 16 32.1	
	comp=Z,20nm,21.7s,baz=345,slow=33						
BW06	**Boulder Array**	**40.31**	**80**	*e*P	**P**	**04 02 20.2**	**-0.1**
	1.0nm,0.7s						
PDAR	**Pinedale Array**	**40.31**	**80**	P	**P**	**04 02 20.3**	**0.0**
	0.7nm,0.7s,baz=334,slow=4.3,SNR=6.8						
WUAZ	**Wupatki**	**43.75**	**89**	P	**P**	**04 02 49.9**	**+1.7**
	3.5nm,0.9s						
JCJ	**Chichijima**	**44.02**	**254**	LR	LR	04 17 15.4	
	comp=Z,14nm,21.3s,baz=101,slow=31						
AGMN	**Agassiz Nation**	**45.06**	**65**	P	**P**	**04 02 58.2**	**-0.2**
	4.7nm,1.1s						
KSCO	**Kaye Shedlock'**	**46.76**	**79**	*e*P	**P**	**04 03 11.8**	**-0.4**
EYMN	**Ely**	**47.65**	**63**	*e*P	**P**	**04 03 18.6**	**-0.2**
	4.6nm,1.0s						
TXAR	**Lajitas Array**	**52.71**	**89**	P	**P**	**04 03 57.8**	**+0.3**
	1.4nm,0.8s,baz=300,slow=6.0,SNR=13						
ASAR	**Alice Springs**	**90.63**	**230**	P	**P**	**04 07 44.1**	**-1.0**
	1.2nm,0.7s,baz=24,slow=3.8,SNR=5.1						

*IDC **21** 03:57:38.6±0.7, 14.°20N×93.°03E, h0km, mb3.9/14, mb1 4.1/15, mb1mx3.8/50, mbtmp3.9/15, ML4.0/1, MS3.0/2, Ms1 3.1/2, ms1mx2.6/46, Error ellipse: s-maj=27.0km s-min=16.3km az=57.0*
*ISCJB **21** 03:57:42.0±0.6, 14.°35N±0.°09×93.°1E±0.°1, h35km, mb3.9/14, MS3.3/1, Error ellipse: s-maj=16.9km s-min=9.1km az=144.5*
ISC 21 03:57:44.0±0.7, 14.°3N±0.°1×93.°1E±0.°1, h35km, n27, σ1°±30/24, mb3.9/14, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.01**	**53**	Pn	**Pn**	**03 59 24.4**	**+0.3**
	0.7nm,0.3s,baz=270,slow=8.1,SNR=2.7						
CMAR				Lg	Lg	04 01 14.7	
	baz=236,slow=34,SNR=4.4						
CMAR				LR	LR	04 03 03.7	
	comp=Z,57nm,18.0s,baz=213,slow=46						
ODAN	**Odare**	**13.56**	**338**	*e*P	**Pn**	**04 00 52.6**	**-1.6**
	18nm,0.6s						
RAMN	**Ramite**	**13.95**	**335**	*e*P	**Pn**	**04 00 59.1**	**-0.3**
	12nm,0.4s						
PKI	**Pulchoki**	**15.00**	**333**	*e*P	**Pn**	**04 01 12.9**	**-0.8**
	11nm,0.3s						
PKIN	**Phulchoki**	**15.01**	**333**	*e*P	**Pn**	**04 01 12.6**	**-1.2**
	14nm,0.5s						
GUN	**Gumba**	**15.09**	**335**	*e*P	**Pn**	**04 01 11.7**	**-3.3**
	6.4nm,0.2s						
DMN	**Daman**	**15.17**	**332**	*e*P	**Pn**	**04 01 14.8**	**-1.1**
	25nm,0.8s						
GKN	**Gorkha**	**15.72**	**331**	*e*P	**Pn**	**04 01 20.1**	**-2.9**
	24nm,0.3s						
KOLN	**Koldanda**	**16.03**	**328**	*e*P	**Pn**	**04 01 26.3**	**-0.7**
	15nm,0.7s						
H08S3	**Diego Garcia H**	**29.85**	**224**	T	T	04 34 49.6	
	baz=42,slow=75,SNR=5.0						
H08S2	**Diego Garcia H**	**29.86**	**224**	T	T	04 34 58.2	
	baz=42,slow=75,SNR=7.6						
H08S1	**Diego Garcia H**	**29.87**	**224**	T	T	04 34 58.8	
	baz=42,slow=75,SNR=5.0						
MKAR	**Makanchi Array**	**33.62**	**347**	P	**P**	**04 04 22.6**	**+1.5**
	0.7nm,0.7s,baz=164,slow=9.7,SNR=7.2						
KURBB	**Kurchatov Arra**	**38.09**	**345**	P	**P**	**04 05 00.0**	**+0.7**
	0.6nm,0.6s,baz=166,slow=8.3,SNR=7.3						
ZALV	**Zalesovo Beam**	**40.08**	**352**	P	**P**	**04 05 17.3**	**+1.4**
	0.7nm,0.4s,baz=190,slow=6.6,SNR=3.4						
WRA	**Warramunga Arr**	**52.99**	**129**	P	**P**	**04 06 57.5**	**-0.1**
	1.1nm,0.7s,baz=311,slow=7.5,SNR=5.0						
ASAR	**Alice Springs**	**54.95**	**133**	P	**P**	**04 07 10.6**	**-1.3**
	0.8nm,0.8s,baz=316,slow=7.1,SNR=7.8						
BRTR	**Keskin Array B**	**57.54**	**308**	P	**P**	**04 07 30.4**	**+0.2**
	0.6nm,0.7s,baz=130,slow=8.8,SNR=4.2						
STKA	**Stephens Creek**	**65.36**	**135**	P	**P**	**04 08 22.4**	**-0.6**
	1.0nm,0.6s,baz=316,slow=10,SNR=4.4						
FINES	**FINESS Array B**	**66.58**	**331**	P	**P**	**04 08 29.2**	**-1.2**
	2.3nm,0.9s,baz=107,slow=6.4,SNR=5.7						
FINES				LR	LR	04 43 01.7	
	comp=Z,18nm,18.4s,baz=97,slow=41						
ARCES	**ARCESS Array B**	**68.90**	**340**	P	**P**	**04 08 45.0**	**+0.1**
	2.3nm,0.8s,baz=70,slow=5.3,SNR=5.5						
GERES	**GERESS Array B**	**72.38**	**317**	P	**P**	**04 09 07.4**	**+0.8**
	1.0nm,0.7s,baz=81,slow=8.2,SNR=8.6						
NB2	**NORSAR Subarra**	**73.65**	**330**	P	**P**	**04 09 13.4**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=88,slow=5.9						
NOA	**NORSAR Array B**	**73.65**	**330**	P	**P**	**04 09 13.7**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=88,slow=6.0,SNR=5.2						
BOSA	**Boshof**	**78.16**	**236**	P	**P**	**04 09 40.9**	**+0.7**
	comp=Z,2.8nm,0.6s,baz=56,slow=2.5,SNR=8.4						
TORD	**Toroidi Ar. Bea**	**86.10**	**283**	P	**P**	**04 10 31.8**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=77,slow=4.7,SNR=7.8						
ILAR	**Eielson Array**	**89.22**	**22**	P	**P**	**04 10 36.6**	**+0.6**
	comp=Z,0.4nm,0.9s,baz=282,slow=4.3,SNR=4.4						

*ISCJB **21** 04:04:36.8±0.9, 1.°57S±0.°07×99.°56E±0.°05, h30km, mb3.5/4, Error ellipse: s-maj=10.8km s-min=7.4km az=4.1*
*DJA **21** 04:04:37.0±0.3, 2.°S±3.°×10.°0E±.°, h10km, M4.3/7, mb6.2/1, mB6.9/1, MLv3.4/7, Mw(mB)6.7/1, Mwp6.7/1*
*IDC **21** 04:04:45.1±6.4, 0.°23N×102.°14E, h78km±98km, mb3.2/4, mb1 3.3/5, mb1mx3.1/49, mbtmp3.4/5, ML2.9/1, Error ellipse: s-maj=234.8km s-min=19.3km az=53.0*
ISC 21 04:04:36.6±1.0, 1.°47S±0.°05×99.°51E±0.°06, h30km, n13, σ2°±01/12, mb3.5/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SISI	**Saibi**	**0.45**	**289**	P	**Pb**	**04 04 45.8**	**-0.3**
SISI				S	**Sn**	**04 04 56.4**	**+2.4**
PDSI	**Padang**	**1.10**	**60**	P	**Pn**	**04 04 53.8**	**-2.2**
PDSI				S	**Sb**	**04 05 12.6**	**+1.5**
PPI	**Padang Panjang**	**1.34**	**41**	P	**Pn**	**04 04 58.7**	**-0.6**
PPI				S	**Sb**	**04 05 20.4**	**+2.5**
PPSI	**Pulau Pagai**	**1.38**	**159**	P	**Pn**	**04 04 59.7**	**0.0**
PPSI				S	**Sb**	**04 05 19.5**	**+0.6**
SDSI	**Sungai Dareh**	**1.99**	**74**	P	**Pn**	**04 05 07.5**	**-0.7**
MNSI	**Mandailing Nat**	**2.25**	**2**	P	**Pb**	**04 05 15.8**	**-0.8**
PSI	**Prapat**	**4.29**	**352**	P	Pn	04 05 44.6	+4.7
	0.8nm,0.3s,baz=144,slow=8.7,SNR=4.0						
DSRI	**Dabo**	**5.16**	**79**	P	**Pn**	**04 05 54.1**	**+2.3**
WRA	**Warramunga Arr**	**38.68**	**121**	P	P	04 11 50.7	-7.3
	0.3nm,0.3s,baz=303,slow=9.3,SNR=3.1						
ASAR	**Alice Springs**	**39.95**	**126**	P	P	04 12 03.5	-5.2
	0.1nm,0.3s,baz=306,slow=7.9,SNR=2.6						
MKAR	**Makanchi Array**	**50.39**	**345**	P	P	04 13 28.7	-2.4
	0.3nm,0.5s,baz=142,slow=8.4,SNR=4.4						
ZALV	**Zalesovo Beam**	**56.56**	**350**	P	P	04 14 10.8	-5.4
	0.6nm,0.4s,baz=165,slow=7.4,SNR=4.2						
TXAR	**Lajitas Array**	**144.57**	**36**	PKP	**PKPab**	**04 24 06.4**	**-3.2**
	0.4nm,0.7s,baz=245,slow=0.6,SNR=4.1						

*IDC **21** 04:10:13.7±2.0, 6.°55S×147.°67E, h0km, mb4.0/6, mb1 4.1/8, mb1mx3.8/37, mbtmp4.0/8, ML4.0/1, MS3.5/4, Ms1 3.5/4, ms1mx2.8/35, Error ellipse: s-maj=69.5km s-min=19.0km az=91.0*

ISC 21 04:10:20.3±1.3, 6°47S±0.09×147°4E±0.3, h35km, n14, σ1°41/14, mb4.0/6, MS3.7/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.92**	**184**	P	**Pn**	**04 11 03.2**	**-1.1**
	22nm,0.3s,baz=98,slow=5.7,SNR=21						
PMG				Sn	**Sn**	**04 11 40.4**	**+2.2**
	40nm,0.3s,baz=196,slow=22,SNR=7.2						
PMG				LR	LR	04 12 18.2	
	comp=Z,203nm,19.0s,baz=294,slow=43						
PMG	**Port Moresby**	**2.92**	**184**	P	**Pn**	**04 11 04.1**	**-0.2**
	baz=4.2,SNR=15						
PMG				P	**Pn**	**04 11 04.1**	**-0.2**
	baz=4.2,SNR=15						
PMG				P	**Pn**	**04 11 04.1**	**-0.2**
	baz=4.2,SNR=15						
COEN	**Coen**	**8.51**	**209**	P	**Pn**	**04 12 21.1**	**0.0**
	baz=9.7,SNR=9.4						
MTSU	**Mount Surprise**	**11.97**	**194**	P	**Pn**	**04 13 09.3**	**+0.8**
	baz=13,SNR=4.9						
WRA	**Warramunga Arr**	**18.43**	**222**	P	**P**	**04 14 31.1**	**-1.8**
	0.5nm,0.3s,baz=48,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**21.45**	**216**	P	**P**	**04 15 04.0**	**-1.7**
	2.3nm,0.7s,baz=49,slow=8.7,SNR=28						
STKA	**Stephens Creek**	**25.85**	**191**	P	**P**	**04 15 46.4**	**-2.1**
	3.0nm,0.8s,baz=352,slow=11,SNR=8.1						
MEEK	**Meekatharra**	**33.94**	**230**	P	P	04 16 59.3	-1.1
	baz=35,SNR=7.5						
KSRS	**Korea Array**	**47.33**	**339**	P	**P**	**04 18 50.5**	**-0.1**
	2.0nm,0.7s,baz=155,slow=10.0,SNR=6.1						
CMAR	**Chiang Mai Arr**	**53.80**	**298**	P	**P**	**04 19 41.9**	**+2.0**
	1.3nm,0.4s,baz=115,slow=5.9,SNR=5.7						
SONM	**Songino Array**	**65.00**	**331**	LR	LR	04 51 31.3	
	comp=Z,91nm,18.0s,baz=242,slow=38						
MKAR	**Makanchi Array**	**78.10**	**320**	P	**P**	**04 22 15.4**	**-0.4**
	0.2nm,0.4s,baz=99,slow=8.9,SNR=3.0						
MKAR				LR	LR	04 56 35.8	
	comp=Z,30nm,20.2s,baz=104,slow=36						
ZALV	**Zalesovo Beam**	**79.61**	**328**	P	P	04 22 23.2	-0.6
	1.2nm,0.5s,baz=121,slow=5.9,SNR=4.5						
ZALV				LR	LR	04 57 13.7	
	comp=Z,41nm,21.0s,baz=72,slow=35						
TORD	**Torodi Ar. Bea**	**145.57**	**284**	PKPbc	**PKPdf**	**04 29 56.3**	**+0.4**
	1.6nm,0.4s,baz=70,slow=3.8,SNR=56						

*ISCJB **21** 04:10:32.0±0.5, 0°45S±0°05×99°76E±0°05, h81km, mb3.9/4, Error ellipse: s-maj=6.8km s-min=6.5km az=143.1*
*DJA **21** 04:10:33.5±0.6, 1°S±3°×10°0E±°, h63km±7km, M3.9/8, MLv3.9/8*
*IDC **21** 04:10:34.3±3.7, 0°03S×100°59E, h86km±38km, mb3.5/4, mb1 3.6/5, mb1mx3.3/45, mbtmp3.8/5, Error ellipse: s-maj=206.5km s-min=20.4km az=55.0*

ISC 21 04:10:32.0±0.9, 0°48S±0°05×99°76E±0°05, h81km, n14, σ1°23/17, mb4.0/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPI	**Padang Panjang**	**0.64**	**88**	P	**Pn**	**04 10 48.0**	**+0.8**
PPI				S	**Sn**	**04 10 59.6**	**+1.2**
PDSI	**Padang**	**0.82**	**121**	P	**Pn**	**04 10 50.0**	**+0.9**
PDSI				S	**Sn**	**04 11 02.7**	**+0.8**
SISI	**Saibi**	**1.07**	**219**	P	**Pn**	**04 10 53.1**	**+1.1**
SISI				S	**Sn**	**04 11 08.9**	**+1.9**
MNSI	**Mandailing Nat**	**1.28**	**352**	P	**Pn**	**04 10 55.5**	**+0.8**
BKNI	**Bangkinang**	**1.51**	**58**	P	**Pn**	**04 10 58.7**	**+1.1**
PBSI	**Pulau Batu**	**1.54**	**286**	S	**Sn**	**04 11 18.8**	**+1.4**
PPSI	**Pulau Pagai**	**2.28**	**174**	P	**Pn**	**04 11 07.7**	**0.0**
PPSI				S	**Sn**	**04 11 35.7**	**+0.7**
RGRI	**Rengat**	**2.58**	**87**	P	**Pn**	**04 11 13.4**	**+1.7**
PSI	**Prapat**	**3.37**	**346**	P	**Pn**	**04 11 22.2**	**-0.3**
	5.4nm,0.3s,baz=166,slow=8.3,SNR=14						
WRA	**Warramunga Arr**	**38.98**	**122**	P	**P**	**04 17 48.6**	**-2.2**
	0.5nm,0.5s,baz=303,slow=9.2,SNR=3.4						
MKAR	**Makanchi Array**	**49.51**	**344**	P	**P**	**04 19 14.4**	**-0.1**
	0.6nm,0.4s,baz=158,slow=9.1,SNR=11						
STKA	**Stephens Creek**	**50.34**	**133**	P	**P**	**04 19 20.4**	**-0.6**
	0.6nm,0.4s,baz=307,slow=5.1,SNR=3.4						
ZALV	**Zalesovo Beam**	**55.64**	**349**	P	**P**	**04 19 59.7**	**+0.2**
	1.7nm,0.6s,baz=179,slow=7.2,SNR=5.4						
TXAR	**Lajitas Array**	**143.64**	**36**	PKP	PKPbc	04 29 55.8	-0.3
	0.2nm,0.5s,baz=267,slow=1.9,SNR=4.8						

IDC 21 04:31:18.4±3.5, 6°13S×149°91E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.5/33, mbtmp3.6/3, ML1.4/1, MS2.5/2, Ms1 2.5/2, ms1mx2.4/22, Error ellipse: s-maj=141.5km s-min=37.1km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.25**	**220**	Pn	Pn	04 32 26.4	+2.0
	1.4nm,0.3s,baz=37,slow=9.7,SNR=4.0						
PMG				Sn	Sn	04 33 15.3	+0.5
	2.9nm,0.3s,baz=211,slow=18,SNR=4.2						
PMG				LR	LR	04 33 47.5	
	comp=Z,36nm,18.2s,baz=167,slow=35						
GUMO	**Guam**	**20.21**	**346**	LR	LR	04 44 00.3	
	comp=Z,22nm,18.5s,baz=98,slow=38						
WRA	**Warramunga Arr**	**20.43**	**226**	P	P	04 35 57.4	-0.1
	2.6nm,0.7s,baz=52,slow=11,SNR=12						
ASAR	**Alice Springs**	**23.26**	**220**	P	P	04 36 27.1	-0.8
	0.6nm,0.8s,baz=55,slow=11,SNR=4.1						
TORD	**Torodi Ar. Bea**	**147.92**	**285**	PKPbc	PKPbc	04 51 06.2	-0.6
	0.7nm,0.9s,baz=102,slow=2.6,SNR=6.5						

*IDC **21** 04:35:29.6±1.8, 52°52N×169°78W, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/49, mbtmp3.6/5, ML3.4/1, MS3.8/4, Ms1 3.8/4, ms1mx2.8/45, Error ellipse: s-maj=60.3km s-min=29.9km az=139.0*
*ISCJB **21** 04:35:32.2±1.3, 52°6N±0°1×169°4W±0°1, h17km±8km, mb3.7/4, MS3.8/4, Error ellipse: s-maj=22.4km s-min=7.4km az=151.4*
*NEIC **21** 04:35:33.2, 52°67N×169°23W, h5km, ML3.4(AEIC), After AEIC.*

ISC 21 04:35:30.7±1.9, 52°6N±0°1×169°53W±0°07, h3km±11km, n32, σ1°31/30, mb3.7/4, MS4.0/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.55**	**48**	P	**Pg**	**04 35 41.6**	**+0.5**
NIKH				S	**Sg**	**04 35 49.4**	**+1.2**
OKWR	**Okmok West Rim**	**1.15**	**44**	P	**Pg**	**04 35 52.8**	**+0.2**
OKCE	**Okmok Cone E**	**1.16**	**45**	P	**Pg**	**04 35 51.9**	**-0.9**
OKAK	**Okmok**	**1.20**	**36**	P	**Pg**	**04 35 51.1**	**-2.5**
OKFG	**Magazine Ridge**	**1.26**	**50**	P	**Pg**	**04 35 53.4**	**-1.4**
OKFG				S	**Sg**	**04 36 10.2**	**-1.0**
MSOM	**Makushin Julie**	**1.96**	**51**	P	**Pn**	**04 36 04.5**	**-0.2**
MSOM				S	**Sn**	**04 36 27.8**	**-2.0**
MCIR	**Makushin Cirqu**	**2.07**	**49**	P	**Pn**	**04 36 06.2**	**-0.2**
MSW	**Makushin Switc**	**2.10**	**51**	P	**Pn**	**04 36 05.8**	**-0.8**
MSW				S	**Sn**	**04 36 31.3**	**-2.0**
MTBL	**Makushin Table**	**2.18**	**50**	P	**Pn**	**04 36 07.6**	**-0.3**
UNV	**Unalaska Valle**	**2.20**	**55**	*e*Pn	**Pn**	**04 36 06.8**	**-1.2**
UNV				*e*S	**Sn**	**04 36 34.6**	**-1.0**
AKRB	**Akutan Reef Bi**	**2.57**	**52**	P	**Pn**	**04 36 13.6**	**+0.5**
ZRO	**Akutan Zero**	**2.59**	**54**	P	**Pn**	**04 36 14.1**	**+0.7**
AKGG	**Akutan Green G**	**2.65**	**52**	P	**Pn**	**04 36 14.7**	**+0.5**
AKUT	**Akutan**	**2.72**	**54**	*e*Pn	**Pn**	**04 36 15.8**	**+0.7**
AKUT				*e*S	**Sb**	**04 36 54.1**	**+0.6**
AKSA	**Akutan Strait**	**2.75**	**55**	P	**Pn**	**04 36 17.0**	**+1.4**
ATKA	**Atka Island**	**2.89**	**264**	P	**Pb**	**04 36 22.4**	**-0.3**
FALS	**False Pass**	**4.27**	**56**	*e*Pn	**Pn**	**04 36 37.5**	**+1.1**
SPIA	**Saint Paul Isl**	**4.59**	**355**	P	**Pn**	**04 36 42.1**	**+1.2**
AMKA	**Amchitka**	**7.01**	**264**	*e*Pn	Pn	04 37 18.2	+4.1
BPAW	**Bear Paw Mtn.**	**14.99**	**33**	*e*Pn	**Pn**	**04 39 05.3**	**+2.1**
	0.5nm,0.7s						
ILAR	**Eielson Array**	**16.80**	**35**	Pn	**Pn**	**04 39 25.1**	**-1.5**
	0.1nm,0.3s,baz=225,slow=11,SNR=6.1						
DLBC	**Dease Lake**	**22.84**	**60**	P	**P**	**04 40 37.2**	**+2.6**
	1.8nm,0.8s,baz=234,slow=11,SNR=5.1						
INK	**Inuvik**	**23.20**	**34**	LR	LR	04 50 33.2	
	comp=Z,30nm,19.4s,baz=252,slow=39						
H11S1	**WAKE ISLAND Hy**	**38.78**	**218**	T	T	05 24 16.8	
	baz=23,slow=76,SNR=378						
H11S2	**WAKE ISLAND Hy**	**38.79**	**218**	T	T	05 24 17.8	
	baz=23,slow=76,SNR=210						
H11S3	**WAKE ISLAND Hy**	**38.79**	**218**	T	T	05 24 18.7	
	baz=23,slow=76,SNR=188						
PDAR	**Pinedale Array**	**40.45**	**79**	P	**P**	**04 43 10.3**	**0.0**
	0.6nm,0.6s,baz=326,slow=6.0,SNR=6.2						
TXAR	**Lajitas Array**	**52.84**	**89**	P	**P**	**04 44 48.0**	**+0.5**
	0.7nm,0.7s,baz=296,slow=5.0,SNR=8.4						
FINES	**FINESS Array B**	**65.61**	**352**	LR	LR	05 17 53.2	
	comp=Z,69nm,18.1s,baz=83,slow=39						
KAPI	**Kappang**	**82.43**	**252**	LR	LR	05 20 45.0	
	comp=Z,242nm,19.6s,baz=329,slow=33						
ASAR	**Alice Springs**	**90.48**	**230**	P	**P**	**04 48 32.2**	**-1.3**
	0.4nm,0.6s,baz=20,slow=4.1,SNR=4.3						
LEM	**Lembang**	**91.05**	**260**	LR	LR	05 23 45.1	
	comp=Z,63nm,21.0s,baz=168,slow=32						

IDC 21 04:46:37.0±3.9, 5°77S×150°69E, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.5/36, mbtmp3.9/2, Error ellipse: s-maj=178.5km s-min=44.1km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.03**	**224**	Sn	Sn	04 48 48.9	-3.8
	4.2nm,0.3s,baz=112,slow=19,SNR=6.0						
WRA	**Warramunga Arr**	**21.24**	**227**	P	P	04 51 24.8	-0.1
	2.1nm,0.4s,baz=50,slow=9.4,SNR=10						
ASAR	**Alice Springs**	**24.03**	**221**	P	P	04 51 53.8	-0.3
	2.0nm,0.7s,baz=56,slow=8.8,SNR=21						
TORD	**Torodi Ar. Bea**	**148.57**	**286**	PKPbc	PKPbc	05 06 26.7	-0.4
	1.4nm,0.7s,baz=57,slow=3.1,SNR=20						

*IDC **21** 04:55:46.1±1.5, 5°79S×151°03E, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.7/35, mbtmp3.7/6, ML2.2/1, MS2.8/2, Ms1 2.8/2, ms1mx2.5/23, Error ellipse: s-maj=67.6km s-min=23.7km az=115.0*
*ISCJB **21** 04:55:51.3±1.2, 5°9S±0°2×150°8E±0°3, h43km, mb3.5/5, MS2.6/1, Error ellipse: s-maj=46.1km s-min=12.3km az=36.9*

ISC 21 04:55:52.7±1.4, 5°8S±0°2×150°8E±0°3, h43km, n8, σ1°04/8, mb3.6/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.08**	**225**	Pn	**Pn**	**04 57 07.7**	**+1.3**
	5.9nm,0.3s,baz=64,slow=6.3,SNR=9.6						
PMG				Sn	**Sn**	**04 58 02.5**	**-1.4**
	3.9nm,0.3s,baz=229,slow=19,SNR=4.1						
PMG				LR	LR	04 58 55.0	
	comp=Z,99nm,20.6s,baz=358,slow=36						
GUMO	**Guam**	**20.17**	**343**	LR	LR	05 06 40.3	
	comp=Z,25nm,20.3s,baz=105,slow=32						
WRA	**Warramunga Arr**	**21.30**	**227**	P	**P**	**05 00 35.1**	**-0.9**
	0.6nm,0.4s,baz=50,slow=10.0,SNR=4.6						
ASAR	**Alice Springs**	**24.08**	**221**	P	**P**	**05 01 04.8**	**+0.4**
	0.3nm,0.4s,baz=62,slow=9.0,SNR=5.7						
STKA	**Stephens Creek**	**27.32**	**197**	P	**P**	**05 01 33.7**	**+0.1**
	0.6nm,0.3s,baz=69,slow=17,SNR=2.0						
MKAR	**Makanchi Array**	**79.81**	**319**	P	**P**	**05 07 57.1**	**+0.5**
	1.0nm,0.9s,baz=88,slow=6.7,SNR=3.6						
ILAR	**Eielson Array**	**83.85**	**22**	P	**P**	**05 08 16.6**	**-0.9**
	0.4nm,0.8s,baz=244,slow=5.9,SNR=5.1						
TORD	**Torodi Ar. Bea**	**148.72**	**286**	PKPbc	**PKPbc**	**05 15 36.6**	**+0.1**
	2.3nm,0.6s,baz=43,slow=2.7,SNR=26						

*IDC **21** 04:59:28.9±2.4, 35°83N×71°39E, h0km, mb4.0/6, mb1 4.0/11, mb1mx3.7/46, mbtmp3.9/11, ML3.7/4, MS2.6/1, Ms1 2.6/1, ms1mx2.3/29, Error ellipse: s-maj=50.3km s-min=22.8km az=140.0*
*ISCJB **21** 04:59:35.3±0.4, 36°09N±0°03×70°85E±0°05, h35km, mb3.8/5, MS2.4/1, Error ellipse: s-maj=6.6km s-min=3.3km az=149.1*
*NNC **21** 04:59:48.4±2.8, 36°86N×70°88E, h147km±22km, mb3.5, mpv4.3, Error ellipse: s-maj=25.9km s-min=12.2km az=169.0*

ISC 21 04:59:37.6±0.5, 36°26N±0°02×70°97E±0°05, h35km, n41, σ2°09/37, mb4.0/5, 10C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**3.06**	**327**	⇑P	Pn	05 00 29.0	+5.4
	26nm,0.3s						
DZET				⇓S	**Sn**	**05 01 02.6**	**+3.5**
	256nm,0.5s						
SFK	**Sufi-Kurgan**	**4.25**	**27**	⇑P	Pn	05 00 45.8	+5.8
	16nm,0.5s						
SFK				⇑S	**Sn**	**05 01 32.0**	**+3.5**
	60nm,0.6s						
DLH	**Dalhousie**	**5.55**	**130**	*e*P	**Pn**	**05 01 00.0**	**+2.1**
DLH				*e*S	**Sn**	**05 02 04.0**	**+3.5**
PONG	**Pong**	**5.96**	**135**	*e*S	**Sn**	**05 02 12.0**	**+1.8**
AML	**Almayashu**	**6.24**	**19**	P	Pn	05 01 11.2	+3.8
	SNR=32						
KZA	**Kyzart**	**6.70**	**28**	P	Pn	05 01 17.1	+3.3
	SNR=6.8						
EKS2	**Erkin-Say**	**6.75**	**18**	P	Pn	05 01 18.2	+3.9
	SNR=42						
KK31	**Karatay Array**	**6.85**	**357**	P	Pn	05 01 19.1	+3.5
	31nm,0.4s,baz=180,slow=12,SNR=247						
KK31				⇑S	**Sn**	**05 02 31.2**	**-1.0**
	34nm,0.5s,baz=182,slow=23,SNR=12						
SDNR	**Sundarnagar**	**6.88**	**132**	*e*S	**Sn**	**05 02 34.0**	**+0.8**
AAK	**Ala-Archa**	**6.93**	**22**	P	Pn	05 01 20.7	+4.0
	SNR=29						
AAK	**Ala-Archa**	**6.93**	**22**	⇑P	Pn	05 01 20.5	+3.7
	22nm,0.3s						
AAK				⇓S	**Sn**	**05 02 29.9**	**-4.5**
	18nm,0.9s						
ULHL	**Ulahol**	**7.24**	**33**	P	Pn	05 01 24.6	+3.5
	SNR=7.1						
SMLA	**Simla**	**7.26**	**133**	*i* P	Pn	05 01 26.6	+5.4
SMLA				*i* S	**Sn**	**05 02 43.8**	**+1.3**
SMLA				*i* S	**Sn**	**05 02 44.2**	**+1.8**
CHMS	**Chumysh**	**7.34**	**22**	P	Pn	05 01 25.9	+3.6
	SNR=9.6						
USP	**Ospenovka**	**7.51**	**20**	P	Pn	05 01 27.8	+3.2
	SNR=6.4						
TKM2	**Tokmak 2**	**7.55**	**27**	P	Pn	05 01 28.8	+3.4
	SNR=29						
TKM2	**Tokmak 2**	**7.55**	**27**	⇓P	**Pn**	**05 01 28.4**	**+3.0**
	9.0nm,0.4s						
TKM2				⇓S	**Sn**	**05 02 46.7**	**-3.0**
	4.0nm,0.6s						
KHET	**Khetri**	**9.13**	**152**	*e*S	**Sn**	**05 03 25.9**	**-2.4**
KHET				AML	AML	05 03 30.4	
	comp=E,193nm,0.1s						
KHET				AML	AML	05 03 30.6	
	comp=N,225nm,0.2s						
JOSI	**Joshimath**	**9.15**	**126**	*e*S	**Sn**	**05 03 27.1**	**-2.2**
JOSI				AML	AML	05 03 34.4	
	comp=E,123nm,0.8s						
JOSI				AML	AML	05 03 39.3	
	comp=N,130nm,0.1s						
NDI	**New Delhi**	**9.21**	**143**	*e*S	**Sn**	**05 03 30.5**	**+0.2**
KUDL	**Kundal**	**9.34**	**148**	*e*P	Pn	05 01 55.1	+5.4
KUDL				*e*S	**Sn**	**05 03 32.4**	**-1.1**
KUDL				AML	AML	05 03 35.0	
	comp=E,21nm,0.8s						
KUDL				AML	AML	05 03 37.6	
	comp=N,19nm,0.3s						
SONA	**Sohna**	**9.51**	**145**	*e*S	**Sn**	**05 03 35.9**	**-1.7**
SONA				AML	AML	05 03 40.6	
	comp=N,14nm,0.2s						
SONA				AML	AML	05 03 43.3	
	comp=E,43nm,1.4s						
GEYT	**Alibeck**	**10.40**	**283**	Pn	**Pn**	**05 02 07.0**	**+2.7**
	baz=164,slow=7.5,SNR=2.0						
GEYT				Sn	**Sn**	**05 03 59.6**	**-0.1**
	comp=E,3.0nm,0.3s,baz=111,slow=20,SNR=5.4						
AGRA	**Agra**	**10.78**	**145**	*e*S	**Sn**	**05 04 05.7**	**-3.0**
AGRA				AML	AML	05 04 08.2	
	comp=E,58nm,0.7s						
AGRA				AML	AML	05 04 09.3	
	comp=N,60nm,0.0s						
MK31	**Makanchi Array**	**13.50**	**35**	⇑P	**Pn**	**05 02 46.9**	**+0.3**
	comp=N,2.2nm,0.7s,baz=218,slow=13,SNR=4.8						
MKAR	**Makanchi Array**	**13.50**	**35**	Pn	**Pn**	**05 02 46.9**	**+0.3**
	comp=N,0.1nm,0.3s,baz=218,slow=14,SNR=4.8						
AB31	**Akbulak array**	**15.29**	**332**	⇑P	**Pn**	**05 03 10.1**	**-0.5**
	comp=N,1.8nm,0.3s						
AB31				⇓S	Sn	05 05 49.2	-9.5
	comp=N,1.8nm,0.5s						
KURBB	**Kurchatov Arra**	**15.36**	**18**	⇑P	**Pn**	**05 03 14.2**	**+2.6**
	comp=N,3.1nm,0.5s						
KURBB	**Kurchatov Arra**	**15.36**	**18**	Pn	**Pn**	**05 03 08.4**	**-3.2**
	comp=N,0.1nm,0.3s,baz=210,slow=12,SNR=5.1						
BVA0	**Borovoye Array**	**16.77**	**359**	⇑P	**Pn**	**05 03 29.2**	**-0.4**
	comp=N,3.1nm,0.9s,baz=161,slow=12,SNR=8.7						
BVAR	**Borovoye Array**	**16.77**	**359**	P	**Pn**	**05 03 29.6**	**0.0**
	comp=N,0.9nm,0.3s,baz=163,slow=11,SNR=9.6						
BRVK	**Borovoye**	**16.81**	**359**	⇑P	**Pn**	**05 03 29.6**	**-0.4**
	comp=N,4.9nm,0.6s						
AKTO	**Aktyubinsk**	**16.98**	**331**	⇓P	**Pn**	**05 03 32.5**	**+0.2**
	comp=N,5.9nm,0.8s						
AKTO				⇓S	Sn	05 06 29.7	-10
	comp=N,4.1nm,1.1s						
AKTO	**Aktyubinsk**	**16.98**	**331**	P	**Pn**	**05 03 33.1**	**+0.9**
	comp=N,1.1nm,0.3s,baz=141,slow=12,SNR=15						
AKTO				S	Sn	05 06 31.1	-8.7
	comp=N,0.2nm,0.3s,baz=3.6,slow=15,SNR=4.8						
ZALV	**Zalesovo Beam**	**20.14**	**24**	P	**P**	**05 04 06.7**	**-1.9**
	comp=N,4.7nm,0.5s,baz=221,slow=12,SNR=16						
ZALV				LR	LR	05 10 59.6	
	comp=N,18nm,19.5s,baz=72,slow=34						
FINES	**FINESS Array B**	**37.67**	**326**	P	**P**	**05 06 50.2**	**+1.1**
	comp=N,1.0nm,0.4s,baz=127,slow=8.8,SNR=13						
ARCES	**ARCESS Array B**	**41.36**	**338**	P	**P**	**05 07 20.4**	**+0.6**
	comp=N,1.2nm,0.6s,baz=116,slow=8.5,SNR=10						
NB2	**NORSAR Subarra**	**44.56**	**323**	P	**P**	**05 07 46.1**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.56**	**323**	P	**P**	**05 07 46.4**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=96,slow=7.7,SNR=12						
TORD	**Torodi Ar. Bea**	**65.59**	**269**	P	**P**	**05 10 17.6**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=51,slow=5.9,SNR=23						
YKA	**Yellowknife Ar**	**81.49**	**3**	P	**P**	**05 11 49.3**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=351,slow=5.2,SNR=4.7						

SJA 21 05:20:51.1±0.9, 26°93S×65°16W, h31km±2km, ML3.3, MW4.1, Tucuman Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHML	**Horco Molle**	**0.21**	**311**	*e*P	Pb	05 20 57.9	+0.2
AHML				*e*S	Sn	05 21 03.0	+0.4
AHML				AML	AML	05 21 03.6	
	comp=Z,5μm,0.2s						
FSA	**Cafayete**	**1.13**	**317**	*e*P	Pb	05 21 13.1	+0.7
FSA				*e*S	Sb	05 21 27.9	+1.0
FSA				AML	AML	05 21 29.4	
	comp=Z,651nm,0.3s						
CYA	**Choya**	**1.61**	**201**	*e*P	Pb	05 21 19.1	-1.3
CYA				AML	AML	05 21 42.0	
	comp=Z,247nm,0.3s						
AZAP	**Zapla**	**2.69**	**2**	*e*P	Pn	05 21 35.2	+2.6
VCA	**Vinchina**	**3.25**	**236**	*e*P	Pn	05 21 43.3	+3.2
HJA	**Humahuaca**	**3.71**	**356**	*e*P	Pn	05 21 50.4	+3.6

JMA 21 05:21:35.1±0.1, 25°87N×130°19E, h41km, M3.7, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMZ	**Minamidaito 2**	**0.93**	**93**	P	Pn	05 21 52.1	+0.4
JMZ				*e*S	Sn	05 22 03.6	-0.3
JOW	**Kunigami**	**1.97**	**300**	P	Pn	05 22 07.1	+1.1
JOW				*e*S	Sn	05 22 29.2	-0.3
JNTH	**Nagotoyohara**	**2.05**	**289**	P	Pn	05 22 07.8	+0.7
JNTH				*e*S	Sn	05 22 31.7	+0.2
JOKE	**Okinoerabujima**	**2.08**	**316**	P	Pn	05 22 09.1	+1.6
JOKE				*e*S	Sn	05 22 33.4	+1.3
JTK	**Tokunoshima**	**2.21**	**330**	P	Pn	05 22 10.9	+1.6
JTK				*e*S	Sn	05 22 36.2	+0.9
JJT2	**Tamagusuku 2**	**2.21**	**277**	P	Pn	05 22 10.8	+1.5
JJT2				*e*S	Sn	05 22 36.6	+1.1
JIH	**Iheya**	**2.31**	**301**	P	Pn	05 22 11.9	+1.3
JIH				*e*S	Sn	05 22 37.6	-0.1
JAMN	**Amaminishikomi**	**2.53**	**339**	P	Pn	05 22 14.8	+1.1
JAMN				*e*S	Sn	05 22 43.9	+0.6
JAM	**Amami Oshima**	**2.58**	**348**	*e*S	Sn	05 22 45.6	+1.0
JAGN	**Aguni-jima**	**2.74**	**286**	P	Pn	05 22 18.0	+1.4
JAGN				*e*S	Sn	05 22 48.7	+0.2
JKE	**Kume jima 2**	**3.09**	**279**	P	Pn	05 22 21.8	+0.4
JKE				*e*S	Sn	05 22 56.1	-1.1
JTAJ	**Takarajima**	**3.39**	**345**	*e*S	Sn	05 23 04.5	+0.1

*ISCJB **21** 05:24:08.3±0.3, 5°12S±0°03×129°87E±0°05, h200km, mb3.8/9, Error ellipse: s-maj=7.3km s-min=4.7km az=174.2*
*IDC **21** 05:24:08.4±1.2, 5°14S×129°97E, h188km±12km, mb3.6/9, mb1 3.9/13, mb1mx3.7/29, mbtmp4.3/13, Error ellipse: s-maj=17.1km s-min=8.1km az=86.0*
*DJA **21** 05:24:10.6±0.4, 5°S±5°×13°0E±°, h199km±5km, M4.8/13, mb5.1/4, mB5.6/3, MLv4.6/13, Mw(mB)5.0/3*

ISC 21 05:24:09.7±0.6, 5°16S±0°06×129°83E±0°07, h200km, n42, σ0°96/43, mb3.8/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**0.64**	**7**	P	**Pn**	**05 24 38.7**	**+1.2**
BNDI				S	**Sn**	**05 25 01.4**	**+2.4**
MSAI	**Masohi**	**2.02**	**334**	P	**Pn**	**05 24 48.1**	**-0.4**
AAI	**Ambon**	**2.19**	**312**	P	**Pn**	**05 24 51.0**	**+0.7**
AAI	**Ambon**	**2.19**	**312**	P	**Pn**	**05 24 50.8**	**+0.5**
	baz=

0.7nm,0.4s,baz=146,slow=6.6,SNR=2.5
SEY Seymchan 70.05 11 P **P** **05 34 59.2 -0.3**
1.2nm,0.7s,baz=218,slow=6.2,SNR=3.9
VNDA Vanda 74.28 173 P **P** **05 35 24.1 -0.4**
1.1nm,0.8s,baz=293,slow=7.6,SNR=5.3
TORD Torodi Ar. Bea 128.27 283 PKP **PKPdf** **05 42 52.6 -0.8**
0.3nm,0.5s,baz=98,slow=2.2,SNR=3.8
LVC Limon Verde 146.86 147 PKPbc **PKPbc** **05 43 30.2 +0.6**
22nm,0.3s,baz=233,slow=2.2,SNR=16
CPUP Villa Florida 147.93 168 PKPbc **PKPbc** **05 43 32.4 +0.3**
1.7nm,0.4s,baz=204,slow=2.1,SNR=15
LPAZ La Paz 152.25 141 PKPbc **PKPbc** **05 43 44.3 +0.8**
1.3nm,0.4s,baz=16,slow=4.5,SNR=10.0

MEX 21 05:33:59.2±0.7, 19°.11N×102°.89W, h10km, MD3.7, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.92**	**208**	*i* P	Pg	05 34 14.3	-2.7
MMIG				*i* S	Sg	05 34 26.1	-2.9
ZIIG	**Zihuatanejo**	**2.01**	**138**	*i* P	Pn	05 34 29.0	-4.2
ZIIG				*i* S	Sn	05 34 54.1	-4.4
ARIG	**Puente Sto Nin**	**2.54**	**108**	*e*P	Pn	05 34 38.1	-2.5
ARIG				*i* S	Sn	05 35 07.5	-4.2

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*BJI **21** 05:51:44.5, 52°.70N×169°.80W, h10km, mb4.7/19, mB5.0/15, Ms4.9/15, Ms7 4.6/16*
*IDC **21** 05:51:45.7±0.5, 52°.74N×169°.82W, h0km, mb4.3/21, mb1 4.5/23, mb1mx4.4/36, mbtmp4.3/23, ML4.1/2, MS4.3/30, Ms1 4.3/30, ms1mx4.2/42, Error ellipse: s-maj=19.2km s-min=11.1km az=175.0*
*NEIC **21** 05:51:46.3, 52°.68N×169°.71W, h5km, mb4.8/143, ML4.8(AEIC), After AEIC.*
*GCMT **21** 05:51:46.3±0.2, 52°.71N×169°.70W, h12km, MW5.1/101, Moment Tensor Solution. s44,c60; s101,c166; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.23±.12; $M_{\theta\theta}$0.77±.13; $M_{\phi\phi}$1.47±.11; $M_{r\theta}$2.53±.33; $M_{r\phi}$-4.45±.09; $M_{\theta\phi}$0.43±.32; Best double couple: $M_0$5.46100×10^{16} NP1:γ_{ϕ}280.00000°, δ72.00000°, λ-143.00000°. NP2: ϕ_{ε}176.00000°, δ55.00000°, λ-22.00000°. Principal axes: T 5.8420, Plg10.0000°, Azm45.0000°; N -0.7530, Plg49.0000°, Azm302.0000°; P -5.0800, Plg39.0000°, Azm143.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **21** 05:51:47.8±1.3, 52°.82N×169°.78W, h21km, mb5.0/42, MS4.1/7 Error ellipse: s-maj=8.9km s-min=6.4km az=47.0*
*ISCJB **21** 05:51:48.2±0.8, 52°.70N±0°.03×169°.74W±0°.03, h28km±5km, mb4.7/149, MS4.3/32, Error ellipse: s-maj=5.3km s-min=2.6km az=170.6*
ISC 21 05:51:48.5±0.5, 52°.79N±0°.06×169°.72W±0°.03, h14km±2km, **n729,** σ1§**19**/744, **mb4.8**/151, **MS4.4**/32, **8C-2D, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.56**	**70**	*e*Pn	**Pg**	**05 51 58.0**	**-1.4**
OKWR	**Okmok West Rim**	**1.12**	**54**	P	**Pb**	**05 52 08.7**	**-1.0**
OKCE	**Okmok Cone E**	**1.14**	**55**	P	**Pb**	**05 52 08.2**	**-1.8**
OKCE				S	**Sn**	**05 52 26.9**	**+1.4**
OKAK	**Okmok**	**1.14**	**45**	P	**Pb**	**05 52 07.1**	**-2.9**
OKTU	**Okmok Mt. Tuli**	**1.18**	**59**	P	**Pn**	**05 52 09.2**	**-1.4**
OKFG	**Magazine Ridge**	**1.26**	**60**	P	**Pn**	**05 52 09.8**	**-1.9**
OKFG				S	**Sn**	**05 52 28.5**	**+0.1**
MCIR	**Makushin Cirqu**	**2.06**	**54**	P	**Pn**	**05 52 22.8**	**+0.1**
MSW	**Makushin Switc**	**2.09**	**56**	P	**Pn**	**05 52 22.8**	**-0.4**
MTBL	**Makushin Table**	**2.17**	**56**	P	**Pn**	**05 52 24.3**	**0.0**
UNV	**Unalaska Valle**	**2.20**	**60**	*e*Pn	**Pn**	**05 52 23.8**	**-0.9**
UNV				S	**Sn**	**05 52 52.5**	**+0.8**
AKRB	**Akutan Reef Bi**	**2.56**	**57**	P	**Pn**	**05 52 29.9**	**+0.2**
AKRB				S	**Sb**	**05 53 04.3**	**-1.3**
ZRO	**Akutan Zero**	**2.59**	**58**	P	**Pn**	**05 52 30.2**	**+0.2**
AKGG	**Akutan Green G**	**2.64**	**56**	P	**Pn**	**05 52 31.3**	**+0.7**
AKGG				S	**Sb**	**05 53 05.6**	**-2.2**
AKUT	**Akutan**	**2.72**	**59**	*e*Pn	**Pn**	**05 52 32.5**	**+0.7**
ATKA	**Atka Island**	**2.80**	**260**	*e*Pn	**Pn**	**05 52 31.4**	**-1.4**
WESP	**Westdahl Peak**	**3.43**	**58**	P	**Pn**	**05 52 42.2**	**+0.6**
WESN	**West Dahl Nort**	**3.54**	**58**	P	**Pn**	**05 52 43.9**	**+0.8**
SSBA	**Shishaldin**	**3.87**	**57**	P	**Pn**	**05 52 48.2**	**+0.6**
SSLW	**Shishaldin Wes**	**3.87**	**57**	P	**Pn**	**05 52 48.4**	**+0.8**
GSTR	**Great Sitkin T**	**3.94**	**262**	*e*Pn	**Pn**	**05 52 48.7**	**+0.2**
GSMY	**Great Sitkin M**	**3.95**	**262**	P	**Pn**	**05 52 47.9**	**-0.8**
GSTD	**Great Sitkin T**	**4.00**	**262**	P	**Pn**	**05 52 48.7**	**-0.7**
GSCK	**Great Sitkin C**	**4.02**	**261**	P	**Pn**	**05 52 48.8**	**-0.9**
ISNN	**Isanotski Nort**	**4.08**	**57**	P	**Pn**	**05 52 51.0**	**+0.6**
FALS	**False Pass**	**4.27**	**58**	*e*Pn	**Pn**	**05 52 54.4**	**+1.3**
ADAG	**Mount Adagdak**	**4.29**	**262**	P	**Pn**	**05 52 54.0**	**+0.6**
SPIA	**Saint Paul Isl**	**4.41**	**356**	*e*Pn	**Pn**	**05 52 55.4**	**+0.4**
DT1	**Dutton Round H**	**4.97**	**59**	P	**Pn**	**05 53 04.0**	**+1.3**
DTNA	**Dutton South F**	**5.00**	**59**	P	**Pn**	**05 53 04.2**	**+1.1**
SDPT	**Sand Point**	**6.02**	**61**	*e*Pn	**Pn**	**05 53 19.3**	**+2.3**
AMKA	**Amchitka**	**6.91**	**263**	*e*Pn	**Pn**	**05 53 29.4**	**+0.1**
LSPA	**Little Sitkin**	**7.22**	**268**	P	**Pn**	**05 53 34.8**	**+1.3**
LSNW	**Little Sitkin**	**7.25**	**268**	P	**Pn**	**05 53 34.5**	**+0.5**
LSSA	**Little Sitkin**	**7.25**	**268**	P	**Pn**	**05 53 34.5**	**+0.5**
CHGN	**Chignik**	**7.46**	**57**	*e*Pn	**Pn**	**05 53 39.7**	**+2.9**
SMY	**Shemya**	**9.81**	**276**	*e*P	**Pn**	**05 54 08.7**	**-0.3**
SMY	**Shemya**	**9.81**	**276**	*e*Pn	**Pn**	**05 54 08.7**	**-0.3**
OHAK	**Old Harbor**	**10.43**	**58**	*e*Pn	**Pn**	**05 54 19.7**	**+2.3**
KDAK	**Kodiak Island**	**10.97**	**56**	*e*P	Pn	05 54 28.2	+3.4
KDAK	**Kodiak Island**	**10.97**	**56**	*e*Pn	Pn	05 54 28.2	+3.4
SVW2	**Sparrevohn**	**11.33**	**37**	*e*Pn	Pn	05 54 33.5	+3.7
RSO	**Redoubt South** 193nm,0.9s	**12.07**	**44**	*e*P	Pn	05 54 44.7	+4.6
BRLK	**Bradley Lake**	**12.55**	**49**	*e*Pn	Pn	05 54 50.1	+3.5
SEW	**Seward**	**13.35**	**49**	*e*Pn	**Pn**	**05 54 54.8**	**-2.6**
SUA	**Susitna One**	**13.43**	**42**	*e*P	Pn	05 55 02.3	+3.7
RC01	**Rabbit Creek A**	**13.67**	**45**	*e*Pn	**Pn**	**05 55 01.4**	**-0.3**
PPLA	**Purkeypile**	**13.72**	**36**	*e*Pn	**Pn**	**05 55 05.6**	**+3.0**
CAST	**Castle Rocks**	**14.10**	**34**	*e*Pn	**Pn**	**05 55 09.6**	**+2.0**
PMR	**Palmer**	**14.16**	**43**	*e*P	**Pn**	**05 55 09.4**	**+0.9**
PMR	**Palmer**	**14.16**	**43**	*e*Pn	**Pn**	**05 55 09.4**	**+0.9**
SML	**Sawmill**	**14.60**	**43**	*e*P	Pn	**05 55 14.8**	**+0.2**
SML	**Sawmill**	**14.60**	**43**	*e*Pn	Pn	**05 55 14.8**	**+0.2**
SML				*e*S	**S**	**05 58 10.9**	**-4.3**
TRF	**Thorofare Moun**	**14.74**	**36**	*e*Pn	**Pn**	**05 55 18.9**	**+2.4**
BPAW	**Bear Paw Mtn.**	**14.91**	**33**	*e*Pn	**Pn**	**05 55 20.1**	**+1.4**
SCM	**Sheep Creek Mo**	**15.04**	**44**	*e*P	**Pn**	**05 55 18.8**	**-1.6**
SCM	**Sheep Creek Mo**	**15.04**	**44**	*e*Pn	**Pn**	**05 55 18.8**	**-1.6**
RND	**Reindeer**	**15.24**	**38**	*e*P	**Pn**	**05 55 24.5**	**+1.4**
RND	comp=Z,95nm,1.4s			pmax	pmax		
RND	**Reindeer** comp=Z,95nm,1.4s	**15.24**	**38**	*e*Pn	**Pn**	**05 55 24.5**	**+1.4**
MCK	**McKinley**	**15.40**	**36**	*e*P	**Pn**	**05 55 26.9**	**+1.8**
MCK	comp=Z,52nm,1.0s			pmax	pmax		
MCK	**McKinley** comp=Z,52nm,1.0s	**15.40**	**36**	*e*Pn	**Pn**	**05 55 26.9**	**+1.8**
DIV	**Divide** comp=Z,40nm,1.2s	**15.43**	**48**	*e*Pn	**Pn**	**05 55 25.9**	**+0.4**
DIV				*e*Sn	**Sn**	**05 58 16.2**	**+0.2**
IM04	**Indian Mountai**	**15.44**	**25**	*e*Pn	**Pn**	**05 55 25.7**	**0.0**
KLU	**Klutina** comp=Z,30nm,0.8s	**15.50**	**46**	*e*Pn	**Pn**	**05 55 23.9**	**-2.6**
KLU				*e*Sn	**Sn**	**05 58 18.7**	**+0.8**
MLY	**Manley** comp=Z,66nm,1.1s	**15.62**	**31**	*e*Pn	**Pn**	**05 55 29.6**	**+1.6**
RAGM	**Ragged Mountai** comp=Z,46nm,0.9s	**15.68**	**51**	*e*Pn	**Pn**	**05 55 28.3**	**-0.5**
BMRM	**Bremner River** comp=Z,53nm,1.0s	**15.90**	**49**	*e*Pn	**Pn**	**05 55 29.5**	**-2.2**
WRH	**Wood River Hil** comp=Z,93nm,1.1s	**16.13**	**35**	*e*Pn	**Pn**	**05 55 34.9**	**+0.3**
PAX	**Paxson**	**16.33**	**42**	*e*P	**Pn**	**05 55 38.3**	**+1.1**
PAX	comp=Z,37nm,1.2s			pmax	pmax		
PAX	**Paxson** comp=Z,37nm,1.2s	**16.33**	**42**	*e*Pn	**Pn**	**05 55 38.3**	**+1.1**
CCB	**Clear Creek Bu** comp=Z,81nm,1.1s	**16.34**	**35**	*e*Pn	**Pn**	**05 55 36.6**	**-0.5**
MDM	**Murphy Dome** comp=Z,93nm,1.3s	**16.38**	**34**	*e*Pn	**Pn**	**05 55 39.1**	**+1.4**
COLA	**College**	**16.46**	**34**	*e*P	**Pn**	**05 55 39.6**	**+0.9**
COLA	comp=Z,67nm,1.0s			pmax	pmax		
COLA	**College** comp=Z,67nm,1.0s	**16.46**	**34**	*e*Pn	**Pn**	**05 55 39.6**	**+0.9**
HDA	**Harding Lake** comp=Z,28nm,1.1s	**16.50**	**36**	*e*Pn	**Pn**	**05 55 39.0**	**-0.3**
ILAR	**Eielson Array** comp=Z,0.6nm,0.3s,baz=235,slow=10,SNR=42	**16.73**	**35**	Pn	**Pn**	**05 55 41.0**	**-1.2**
ILAR	comp=Z,1μm,21.6s,baz=238,slow=39			LR	LR	06 02 35.1	
ILAR	comp=Z,0.0nm,0.3s,baz=286,slow=4.0,SNR=4.9			ScP	**ScP**	**06 04 03.3**	**-1.0**
MENT	**Mentasta**	**17.03**	**43**	*e*Pn	**Pn**	**05 55 46.3**	**+0.2**
COLD	**Coldfoot** comp=Z,137nm,1.7s	**17.33**	**26**	*e*Pn	**P**	**05 55 53.0**	**+2.0**
FYU	**Fort Yukon** comp=Z,132nm,1.3s	**18.34**	**32**	*e*P	**P**	**05 56 03.9**	**+1.7**
EGAK	**Eagle** comp=Z,25nm,0.9s	**18.85**	**39**	*e*P	**P**	**05 56 07.0**	**-0.8**
PET	**Petropavlovsk**	**19.00**	**283**	*c i*P	**Pn**	**05 56 10.5**	**+0.3**
PET				*e*S	**Sn**	**05 59 40.1**	**-2.5**
PET	comp=Z,500nm,6.0s			pmax	pmax		
PET	comp=Z,300nm,7.5s			pmax	pmax		
PET	comp=Z,900nm,19.0s			MLR	MLR		
PET	comp=Z,800nm,19.0s			MLR	MLR		
HYT	**Haines Junctio**	**19.21**	**53**	*e*P	**P**	**05 56 12.4**	**+0.5**
DAWY	**Dawson** comp=Z,22nm,1.1s	**19.26**	**42**	*e*P	**P**	**05 56 11.7**	**-0.7**
PETK	**Petropavlovsk-** comp=Z,1.1nm,0.3s,baz=91,slow=15,SNR=7.0	**19.55**	**284**	P	**P**	**05 56 15.6**	**0.0**
PETK				LR	LR	06 04 40.3	
SKAG	**Skagway** comp=Z,191nm,0.9s	**20.12**	**57**	*e*P	Pn	05 56 22.8	-0.7
SKAG				*e*S	Sn	06 00 09.7	+0.2
BESE	**Bessie Mountai** comp=Z,37nm,1.1s	**20.32**	**60**	*e*P	Pn	05 56 25.3	-0.7
BESE				*e*S	Sn	06 00 14.0	-0.5
WRAK	**Wrangell Islan** comp=Z,39nm,1.1s	**21.77**	**65**	*e*P	**P**	**05 56 43.2**	**+3.8**
SEY	**Seymchan** comp=Z,6.9nm,0.8s,baz=80,slow=16,SNR=8.0	**22.23**	**312**	P	**P**	**05 56 44.1**	**-0.2**
SEY				PcP	**PcP**	**06 00 39.7**	**-0.3**
SEY	comp=Z,1.3nm,0.5s,baz=24,slow=1.4,SNR=4.1			ScP	**ScP**	**06 04 16.1**	**-0.7**
SEY	**Seymchan**	**22.23**	**312**	*i*P	**P**	**05 56 46.1**	**+1.7**
MA2	**Magadan**	**22.73**	**303**	*e*P	**P**	**05 56 53.8**	**+4.0**
DLBC	**Dease Lake** comp=Z,18nm,0.9s,baz=269,slow=9.4,SNR=20	**22.86**	**60**	P	**P**	**05 56 52.2**	**+1.0**
DLBC				LR	LR	06 05 57.6	
DLBC	**Dease Lake** comp=Z,92nm,1.1s	**22.86**	**60**	*e*P	**P**	**05 56 53.4**	**+2.2**
INK	**Inuvik** comp=Z,17nm,1.1s,baz=225,slow=5.3,SNR=16	**23.12**	**34**	P	**P**	**05 56 52.1**	**-1.5**
INK	comp=Z,2.0nm,0.6s,baz=315,slow=7.5,SNR=4.0			PcP	**PcP**	**06 00 42.5**	**+0.7**
INK	comp=Z,2.7nm,1.0s,baz=116,slow=8.2,SNR=3.8			ScP	**ScP**	**06 04 18.8**	**-0.2**
INK	comp=Z,1μm,19.0s,baz=249,slow=38			LR	LR	06 06 19.8	
INK	**Inuvik**	**23.12**	**34**	*e*P	**P**	**05 56 51.1**	**-2.6**
INK						06 00 42.5	
INK				*e*S	**S**	**06 01 02.0**	**-2.2**
INK	comp=Z,28nm,1.0s			pmax	pmax		
INK	**Inuvik** comp=Z,28nm,1.0s	**23.12**	**34**	*e*P	**P**	**05 56 51.1**	**-2.6**
INK				PcP	**PcP**	**06 00 42.5**	**+0.7**
INK				*e*S	**S**	**06 01 02.0**	**-2.2**
INK				ScP	**ScP**	**06 04 18.8**	**-0.2**
KUR	**Kuril'sk**	**28.48**	**272**	P	P	05 57 51.3	+8.4
KUR				*i*		05 58 31.9	
KUR				*i*		06 01 00.6	
KUR				*i* SS	**SnSn**	**06 03 52.3**	**+4.0**
KUR				*i* SSS	SSS	06 04 17.8	
KUR	comp=N,494nm,18.0s			MLR	MLR		
KUR	comp=E,203nm,18.0s			MLR	MLR		
KUR	comp=Z,177nm,18.0s			MLR	MLR		
NLWA	**Neilton Lookou** comp=Z,22nm,1.5s	**29.50**	**82**	*e*P	**P**	**05 57 54.3**	**+2.2**
E03A	**Lebam** comp=Z,25nm,1.3s	**30.09**	**83**	*e*P	**P**	**05 58 00.1**	**+2.8**
YKA	**Yellowknife Ar** comp=Z,1.5nm,0.5s,baz=274,slow=8.8,SNR=8.2	**30.13**	**49**	P	**P**	**05 57 56.2**	**-1.2**
YKA	comp=Z,1.0nm,0.8s,baz=285,slow=2.4,SNR=4.0			PcP	**PcP**	**06 00 59.4**	**+1.1**
YKA	comp=Z,0.5nm,0.8s,baz=286,slow=2.4,SNR=4.2			ScP	**ScP**	**06 04 42.1**	**+2.3**
YUK	**Yuzh-Kuril'sk**	**30.32**	**271**	*e*P	**P**	**05 57 59.3**	**0.0**
YUK				*i*		05 58 55.8	
YUK				*i* S	**S**	**06 03 03.1**	**+4.3**
YUK				*i* SS	**SnSn**	**06 04 32.5**	**-0.8**
YUK	comp=N,180nm,15.0s			MLR	MLR		
YUK	comp=E,488nm,15.0s			MLR	MLR		
YUK	comp=Z,292nm,15.0s			MLR	MLR		
D05A	**Enumclaw** comp=Z,44nm,1.5s	**30.73**	**81**	*e*P	**P**	**05 58 05.4**	**+2.5**
LON	**Longmire**	**31.05**	**82**	*e*P	**P**	**05 58 08.3**	**+2.5**
LON	comp=Z,16nm,1.5s			pmax	pmax		
LON	**Longmire** comp=Z,16nm,1.5s	**31.05**	**82**	*e*P	**P**	**05 58 08.3**	**+2.5**
B08A	**Colville Reser** comp=Z,11nm,0.8s	**31.77**	**77**	*e*P	**P**	**05 58 12.5**	**+0.4**
H04A	**Detroit Lake** comp=Z,21nm,0.9s	**31.87**	**85**	*e*P	**P**	**05 58 14.8**	**+1.8**
G05D	**Wamic, OR** baz=32	**32.10**	**84**	P	**P**	**05 58 16.3**	**+1.3**
I04A	**Tendick Farm,** baz=32	**32.21**	**87**	P	**P**	**05 58 17.3**	**+1.2**
I05D	**Terrebonne, OR** baz=32,SNR=6.5	**32.57**	**85**	P	**P**	**05 58 18.9**	**-0.3**
HAWA	**Hanford** comp=Z,8.3nm,0.7s	**32.59**	**81**	*e*P	**P**	**05 58 21.0**	**+1.7**
D08A	**Wollman Farm,** comp=Z,9.2nm,1.0s	**32.63**	**79**	*e*P	**P**	**05 58 20.9**	**+1.3**
C09A	**Chrisman Ranch** comp=Z,9.5nm,0.8s	**32.66**	**78**	*e*P	**P**	**05 58 21.1**	**+1.3**
J04D	**Umpqua Nationa** baz=33	**32.70**	**88**	P	**P**	**05 58 20.2**	**-0.3**
NEW	**Newport** comp=Z,9.9nm,0.7s,baz=299,slow=7.8,SNR=27	**33.12**	**76**	P	**P**	**05 58 23.4**	**-0.5**
NEW	comp=Z,377nm,18.8s,baz=296,slow=35			LR	LR	06 11 08.4	
NEW	**Newport**	**33.12**	**76**	P	**P**	**05 58 23.4**	**-0.5**
NEW	comp=Z,10.0nm,0.7s			pmax	pmax		
NEW	comp=Z,377nm,18.8s			MLR	MLR		
NEW	**Newport** baz=33,SNR=22	**33.12**	**76**	P	**P**	**05 58 23.7**	**-0.3**
NEW	**Newport** comp=Z,18nm,0.8s	**33.12**	**76**	*e*P	**P**	**05 58 23.9**	**0.0**
EDM	**Edmonton**	**33.17**	**66**	*e*P	**P**	**05 58 25.1**	**+0.8**
EDM	comp=Z,17nm,0.8s			pmax	pmax		
EDM	**Edmonton** comp=Z,17nm,0.8s	**33.17**	**66**	*e*P	**P**	**05 58 25.1**	**+0.8**
YBH	**Yreka Blue Hor** comp=Z,3.7nm,1.1s,baz=270,slow=6.1,SNR=2.8	**33.20**	**90**	P	**P**	**05 58 25.7**	**+1.0**
YBH	comp=Z,206nm,18.0s,baz=300,slow=32			LR	LR	06 09 19.2	
J05D	**Fort Rock, OR** baz=33,SNR=7.8	**33.21**	**87**	P	**P**	**05 58 26.1**	**+1.2**
E09A	**Wood Farm, Sta** comp=Z,11nm,1.0s	**33.36**	**80**	*e*P	**P**	**05 58 27.1**	**+1.2**
G08A	**Pilot Rock** comp=Z,6.3nm,1.1s	**33.50**	**82**	*e*P	**P**	**05 58 27.6**	**+0.2**
N02D	**Trinity Center** baz=34	**33.65**	**91**	P	**P**	**05 58 29.9**	**+1.3**
M04C	**Macdoel** baz=34	**33.70**	**90**	P	**P**	**05 58 29.1**	**0.0**
K05A	**Summer Lake** comp=Z,17nm,0.8s	**33.73**	**87**	*e*P	**P**	**05 58 31.3**	**+1.8**
F10A	**Beach Ranch, E** comp=Z,22nm,1.6s	**34.18**	**80**	*e*P	**P**	**05 58 34.4**	**+1.1**
MOD	**Modoc** comp=Z,20nm,1.1s	**34.56**	**88**	*e*P	**P**	**05 58 37.5**	**+0.8**
WALA	**Waterton Lakes**	**34.63**	**73**	*e*P	**P**	**05 58 37.4**	**+0.2**
BSMT	**Bassoo Peak** comp=Z,22nm,1.1s	**34.69**	**76**	*e*P	**P**	**05 58 38.3**	**+0.5**
BLMT	**Blacktail Moun**	**34.86**	**75**	*e*P	**P**	**05 58 40.5**	**+1.2**
WVOR	**Wild Horse Val**	**35.26**	**86**	*e*P	**P**	**05 58 43.1**	**+0.4**
WVOR	comp=Z,151nm,2.3s			pmax	pmax		
WVOR	**Wild Horse Val** comp=Z,151nm,2.3s	**35.26**	**86**	*e*P	**P**	**05 58 43.1**	**+0.4**
SWMT	**Swartz Lake**	**35.32**	**76**	*e*P	**P**	**05 58 44.3**	**+1.1**
MSO	**Missoula** baz=36,SNR=9.6	**35.70**	**77**	P	**P**	**05 58 46.3**	**-0.1**
MSO	**Missoula** comp=Z,36nm,1.8s	**35.70**	**77**	*e*P	**P**	**05 58 46.8**	**+0.4**
SLMT	**Seeley Lake**	**35.76**	**76**	*e*P	**P**	**05 58 47.5**	**+0.6**
CHMT	**Chamberlain Mo**	**36.06**	**76**	*e*P	**P**	**05 58 49.8**	**+0.2**
RES	**Resolute Bay** comp=Z,4.8nm,0.9s,baz=347,slow=1.8,SNR=4.0	**36.09**	**26**	PcP	**PcP**	**06 01 16.8**	**+2.0**
MFID	**Camas Ranch** comp=Z,57nm,2.1s	**36.40**	**83**	*e*P	**P**	**05 58 52.8**	**+0.3**
MFID				*e*ScP	**ScP**	**06 05 03.6**	**+1.3**
CMB	**Columbia Colle**	**36.88**	**93**	*e*P	**P**	**05 58 57.5**	**+1.1**
CMB	comp=Z,23nm,1.8s			pmax	pmax		
CMB	**Columbia Colle** comp=Z,22nm,1.8s	**36.88**	**93**	*e*P	**P**	**05 58 57.5**	**+1.1**
HRY	**Holter Researc**	**37.01**	**76**	*e*P	**P**	**05 58 58.4**	**+0.9**
LRM	**Limekiln Ridge**	**37.11**	**77**	*e*P	**P**	**05 58 59.2**	**+0.6**
WAKR	**Walker**	**37.15**	**92**	*e*P	**P**	**05 59 00.5**	**+1.5**
HLID	**Hailey** baz=37,SNR=7.0	**37.17**	**82**	P	**P**	**05 58 58.8**	**-0.2**
HLID	**Hailey** comp=Z,5.8nm,1.1s	**37.17**	**82**	*e*P	**P**	**05 58 58.5**	**-0.6**
HLID				*e*PcP	**PcP**	**06 01 19.9**	**+1.0**
HLID				*e*ScP	**ScP**	**06 05 06.7**	**+1.5**
DLMT	**Dillon** comp=Z,5.4nm,0.8s	**37.27**	**78**	*e*P	**P**	**05 59 00.4**	**+0.6**
BMN	**Battle Mountai**	**37.30**	**88**	*e*P	**P**	**05 59 01.1**	**+0.9**
BMN	comp=Z,8.0nm,0.7s			pmax	pmax		
BMN	**Battle Mountai** comp=Z,7.8nm,0.7s	**37.30**	**88**	*e*P	**P**	**05 59 01.1**	**+0.9**
MCMT	**McKenzie Canyo**	**37.41**	**79**	*e*P	**P**	**05 59 00.8**	**-0.4**
EGMT	**Eagleton** baz=37,SNR=20	**37.55**	**72**	P	**P**	**05 59 01.7**	**-0.3**
EGMT	**Eagleton** comp=Z,26nm,0.9s	**37.55**	**72**	*e*P	**P**	**05 59 02.2**	**+0.2**
H11N2	**WAKE ISLAND Hy** baz=24,slow=76,SNR=21	**37.65**	**218**	T	T	06 38 47.8	
H11N3	**WAKE ISLAND Hy** baz=24,slow=76,SNR=18	**37.66**	**218**	T	T	06 38 51.4	
H11N1	**WAKE ISLAND Hy** baz=24,slow=76,SNR=21	**37.67**	**218**	T	T	06 38 55.9	
BOZ	**Bozeman (W)**	**37.69**	**77**	*e*P	**P**	**05 59 03.0**	**-0.3**
BOZ	comp=Z,9.0nm,0.6s			pmax	pmax		
BOZ	**Bozeman (W)** baz=38,SNR=26	**37.69**	**77**	P	**P**	**05 59 02.7**	**-0.7**
BOZ	**Bozeman (W)** comp=Z,9.0nm,0.6s	**37.69**	**77**	*e*P	**P**	**05 59 03.0**	**-0.3**
NVAR	**Mina Array Bea** comp=Z,3.8nm,0.7s,baz=293,slow=8.4,SNR=20	**37.89**	**91**	P	**P**	**05 59 05.1**	**-0.1**
NVAR	comp=Z,1.5nm,0.6s,baz=280,slow=2.5,SNR=3.8			PcP	**PcP**	**06 01 21.9**	**+0.7**
NVAR	comp=Z,1.4nm,1.0s,baz=289,slow=3.1,SNR=5.7			ScP	**ScP**	**06 05 08.6**	**+0.5**
BZMT	**Bozeman Pass**	**38.18**	**76**	*e*P	**P**	**05 59 05.5**	**-2.0**
QLMT	**Earthquake Lak**	**38.25**	**78**	*e*P	**P**	**05 59 09.0**	**+0.8**
ELK	**Elko** comp=Z,8.4nm,0.8s,baz=302,slow=9.4,SNR=52	**38.32**	**86**	P	**P**	**05 59 08.9**	**+0.1**
ELK	**Elko** comp=Z,8.0nm,0.8s	**38.32**	**86**	P	**P**	**05 59 08.9**	**+0.1**
ELK				pmax	pmax		
ELK	**Elko** comp=Z,8.2nm,0.8s	**38.32**	**86**	*e*P	**P**	**05 59 09.5**	**+0.7**
MTUM	**Tungsten Hills**	**38.42**	**93**	*e*P	**P**	**05 59 11.2**	**+1.6**
YHB	**Horse Butte**	**38.43**	**78**	*e*P	**P**	**05 59 10.3**	**+0.6**
DPD	**Davis Peak**	**38.48**	**97**	*e*PcP	**PcP**	**06 01 21.0**	**-1.8**
USRK	**Ussuriysk Ar.** comp=Z,3.1nm,0.8s,baz=62,slow=4.5,SNR=5.2	**38.60**	**281**	PcP	**PcP**	**06 01 24.9**	**+1.9**
USRK	comp=Z,496nm,21.0s,baz=56,slow=36			LR	LR	06 14 43.8	
YMR	**Madison River** comp=Z,1.9nm,0.8s	**38.61**	**78**	*e*P	**P**	**05 59 12.5**	**+1.3**
FFC	**Flin Flon**	**38.69**	**59**	*e*P	**P**	**05 59 11.2**	**-0.3**
FFC	comp=Z,7.0nm,0.8s			pmax	pmax		
FFC	**Flin Flon** comp=Z,6.8nm,0.8s	**38.69**	**59**	*e*P	**P**	**05 59 11.2**	**-0.3**
C20A	**Veseth Ranch,** baz=39,SNR=32	**38.72**	**72**	P	**P**	**05 59 11.7**	**-0.2**
YNR	**Norris Junctio** comp=Z,1.9nm,0.8s	**38.76**	**78**	*e*P	**P**	**05 59 15.1**	**+2.6**
GCMT	**Greycliff**	**38.77**	**76**	*e*P	**P**	**05 59 13.3**	**+0.8**
GCMT				*e*PcP	**PcP**	**06 01 24.8**	**+1.2**
TPH	**Tonopah**	**38.77**	**91**	*e*P	**P**	**05 59 14.0**	**+1.4**
TPH				*e*S	**S**	**06 05 12.2**	**+2.7**
TPH	comp=Z,14nm,1.1s			pmax	pmax		
TPH	**Tonopah** comp=Z,14nm,1.1s	**38.77**	**91**	*e*P	**P**	**05 59 14.0**	**+1.4**
TPH				*e*S	**S**	**06 05 12.2**	**+2.7**
YFT	**Old Faithful** comp=Z,12nm,0.9s	**38.81**	**78**	*e*P	**P**	**05 59 15.1**	**+2.1**
H11S1	**WAKE ISLAND Hy** baz=23,slow=76,SNR=344	**38.84**	**217**	T	T	06 40 20.7	
H11S2	**WAKE ISLAND Hy** baz=23,slow=76,SNR=297	**38.86**	**217**	T	T	06 40 21.8	
H11S3	**WAKE ISLAND Hy** baz=23,slow=76,SNR=289	**38.86**	**217**	T	T	06 40 22.0	
LKWY	**Lake**	**39.01**	**78**	*e*P	**P**	**05 59 16.6**	**+2.0**
LKWY	comp=Z,17nm,0.8s			pmax	pmax		
LKWY	**Lake** comp=Z,17nm,0.8s	**39.01**	**78**	*e*P	**P**	**05 59 16.6**	**+2.0**
IMW	**Indian Meadow** comp=Z,7.3nm,0.8s	**39.06**	**79**	*e*P

DAC pmax pmax
comp=Z,7.0nm,1.0s
DAC Darwin (Calif) 39.71 93 *e*P **P 05 59 20.5 0.0**
comp=Z,7.2nm,1.0s
H19A Powell 39.79 77 P **P 05 59 20.5 -0.5**
baz=40,SNR=19
MDJ Mudanjiang 39.79 283 P **P 05 59 19.3 -1.5**
MDJ pP **pP 05 59 21.9 -3.1**
MDJ sP **sP 05 59 23.5 -3.2**
MDJ ScP **ScP 06 05 15.3 +0.4**
MDJ PcS **PcS 06 05 16.4 -0.3**
MDJ S **S 06 05 22.9 -1.4**
MDJ PMZ
comp=Z,6.0nm,1.5s
MDJ PMZ
comp=Z,34nm,3.3s
MDJ LN
comp=Z,630nm,32.6s
MDJ LE
comp=Z,330nm,31.9s
MDJ LZ
comp=Z,750nm,19.0s
MPMC Manual Prospec 39.92 93 P **P 05 59 22.2 +0.1**
baz=40,SNR=8.6
G20A Bridger 39.93 75 P **P 05 59 21.6 -0.6**
baz=40,SNR=20
HWUT Hardware Ranch 40.02 82 *e*P **P 05 59 24.0 +1.0**
comp=Z,12nm,1.4s
FURC Furnace Creek, 40.03 92 P **P 05 59 23.1 +0.3**
baz=40,SNR=12
TPNV Topopah Spring 40.09 91 *e*P **P 05 59 24.3 +0.7**
TPNV pmax pmax
comp=Z,19nm,0.8s
TPNV Topopah Spring 40.09 91 P **P 05 59 23.5 -0.1**
baz=40,SNR=10
TPNV Topopah Spring 40.09 91 *e*P **P 05 59 24.2 +0.7**
comp=Z,19nm,0.8s
DUG Dugway 40.12 85 *e*P **P 05 59 23.9 +0.1**
DUG pmax pmax
comp=Z,18nm,1.1s
DUG Dugway 40.12 85 P **P 05 59 23.7 -0.1**
baz=40,SNR=20
DUG Dugway 40.12 85 *e*P **P 05 59 23.9 +0.1**
comp=Z,18nm,1.1s
I19A Meeteetse 40.14 77 P **P 05 59 23.8 -0.2**
baz=40
BLG Laguna Peak 40.28 97 P **P 05 59 24.9 -0.1**
baz=40
LAO LASA Array 40.29 72 P **P 05 59 24.5 -0.5**
baz=40
LAO LASA Array 40.29 72 *e*P **P 05 59 24.8 -0.2**
comp=Z,12nm,0.8s
EDW2 Edwards Air Fo 40.40 95 P **P 05 59 25.1 -0.9**
baz=40
H20A Greybull 40.47 76 P **P 05 59 25.9 -0.7**
baz=40
G21A Lodge Grass 40.52 75 P **P 05 59 26.2 -0.8**
baz=40
BW06 Boulder Array 40.54 79 *e*P **P 05 59 26.8 -0.5**
comp=Z,10nm,0.9s
PDAR Pinedale Array 40.54 79 P **P 05 59 26.8 -0.6**
comp=Z,9.6nm,0.8s,baz=325,slow=4.1,SNR=75
PDAR ScP **ScP 06 05 18.1 -0.2**
comp=Z,0.9nm,1.0s,baz=340,slow=2.2,SNR=4.8
PDAR LR LR 06 15 40.7
comp=Z,197nm,18.2s,baz=323,slow=35
J19A Crowheart 40.55 78 P **P 05 59 27.6 +0.2**
baz=40,SNR=8.9
E22A Miles City 40.58 72 P **P 05 59 27.0 -0.5**
baz=40,SNR=19
JLU Jordanelle 40.69 83 *e*P **P 05 59 28.8 +0.1**
comp=Z,37nm,1.9s
I20A Worland 40.70 77 P **P 05 59 28.4 -0.1**
baz=41,SNR=17
NLU North Lily Min 40.71 85 *e*P **P 05 59 28.5 -0.3**
comp=Z,36nm,1.6s
SHOC Shoshone 40.76 93 P **P 05 59 28.7 -0.2**
baz=41,SNR=5.0
MWC Mount Wilson 40.81 96 *e*P **P 05 59 30.8 +1.2**
MWC pmax pmax
comp=Z,33nm,1.5s
MWC Mount Wilson 40.81 96 *e*P **P 05 59 30.8 +1.2**
comp=Z,33nm,1.5s
GSC Goldstone 40.84 94 *e*P **P 05 59 30.3 +0.6**
GSC pmax pmax
comp=Z,16nm,0.9s
GSC Goldstone 40.84 94 P **P 05 59 29.7 0.0**
baz=41,SNR=12
GSC Goldstone 40.84 94 *e*P **P 05 59 30.3 +0.6**
comp=Z,16nm,0.9s
FCC Fort Churchill 40.84 51 *e*P P 05 59 34.9 +5.6
FCC pmax pmax
comp=Z,7.0nm,0.8s
FCC Fort Churchill 40.84 51 *e*P P 05 59 34.9 +5.6
comp=Z,7.2nm,0.8s
JHJ Hachijo jima 2 40.86 262 LR LR 06 14 31.6
comp=Z,267nm,20.8s,baz=81,slow=34
A25A Svangstu Ranch 40.87 68 P **P 05 59 29.5 -0.2**
baz=41
C24A Savage 40.87 70 P **P 05 59 30.3 +0.5**
baz=41,SNR=6.2
E23A Ismay 40.92 72 P **P 05 59 30.1 -0.1**
baz=41,SNR=18
H21A Big Horn, Sher 40.95 75 P **P 05 59 30.1 -0.5**
baz=41
SHPR Sheep Range 41.04 91 *e*P **P 05 59 31.8 +0.4**
BFSC Mount Baldy Ra 41.04 96 P **P 05 59 31.0 -0.4**
baz=41,SNR=6.5
G22A Birney 41.06 74 P **P 05 59 30.6 -0.8**
baz=41
J20A Shoshoni 41.07 78 P **P 05 59 30.6 -1.0**
baz=41
D24A Glendive 41.15 71 P **P 05 59 32.1 0.0**
baz=41,SNR=18
B25A Knox Farm, Ray 41.19 69 P **P 05 59 31.8 -0.6**
baz=41
I21A Big Trails, Te 41.27 77 P **P 05 59 32.4 -0.9**
baz=41,SNR=14
TUQ Turquoise Moun 41.28 93 P **P 05 59 32.9 -0.5**
baz=41
F23A Volborg 41.30 73 P **P 05 59 32.7 -0.7**
baz=41,SNR=20
H22A Clearmont 41.38 75 P **P 05 59 32.9 -1.2**
baz=41
CCUT Cedar City 41.45 88 *e*P **P 05 59 35.2 +0.3**
comp=Z,11nm,0.9s
J21A Lysite 41.45 77 P **P 05 59 33.8 -1.1**
baz=41,SNR=11
E24A Baker 41.47 71 P **P 05 59 34.3 -0.4**
baz=41
BBRC Big Bear Solar 41.47 95 P **P 05 59 34.2 -0.9**
baz=41
A26A Wade Farm, Ken 41.49 67 P **P 05 59 34.1 -0.7**
baz=41
MVU Marysvale 41.54 86 *e*P **P 05 59 36.3 +0.7**
comp=Z,7.4nm,0.9s
MSU Marysvale 41.55 86 *e*P **P 05 59 36.5 +0.8**
MSU Marysvale 41.55 86 *e*P **P 05 59 36.5 +0.8**
MSU *e*ScP **ScP 06 05 23.2 +0.9**
BOD Bodaibo 41.56 308 *e*P **P 05 59 35.0 -0.3**
BOD pmax pmax
comp=Z,6.0nm,1.0s
G23A Biddle 41.60 74 P **P 05 59 35.2 -0.7**
baz=42
TMUT Trail Mountain 41.65 85 *e*P **P 05 59 36.6 0.0**
comp=Z,14nm,0.9s
B26A Jensen Ranch, 41.66 68 P **P 05 59 36.1 -0.1**
baz=42
I22A 9 Mile Ranch, 41.70 76 P **P 05 59 36.3 -0.5**
baz=42,SNR=9.6
MURC Murrieta 41.75 96 P **P 05 59 36.8 -0.4**
baz=42
F24A Ekalaka 41.78 72 P **P 05 59 36.2 -1.2**
baz=42,SNR=6.3
GMRC Granite Mounta 41.88 93 P **P 05 59 38.2 -0.2**
baz=42,SNR=17
A27A Ledoux Ranch, 41.91 67 P **P 05 59 37.9 -0.3**
baz=42
J22A Midwest 41.99 77 P **P 05 59 38.2 -0.9**
baz=42,SNR=26
E25A Miller Ranch, 42.02 71 P **P 05 59 38.3 -0.9**
baz=42
C26A Wahner Farm, P 42.03 69 P **P 05 59 38.6 -0.7**
baz=42
G24A Alzada 42.09 73 P **P 05 59 39.3 -0.6**
baz=42
KNB Kanab 42.12 89 *e*P **P 05 59 40.8 +0.5**
KNB pmax pmax
comp=Z,15nm,1.0s
KNB Kanab 42.12 89 *e*P **P 05 59 40.8 +0.5**
comp=Z,15nm,1.0s
KNB *e*ScP **ScP 06 05 26.5 +1.9**
SRU San Rafael 42.18 84 *e*P **P 05 59 40.9 +0.1**
SRU pmax pmax
comp=Z,14nm,1.0s
SRU San Rafael 42.18 84 *e*P **P 05 59 40.9 +0.1**
comp=Z,14nm,1.0s
B27A Peters Farms, 42.19 67 P **P 05 59 40.1 -0.5**
baz=42
PFO Pinyon Flat Ob 42.20 95 *e*P **P 05 59 41.0 +0.1**
PFO pmax pmax
comp=Z,11nm,1.1s
PFO Pinyon Flat Ob 42.20 95 P **P 05 59 40.5 -0.4**
baz=42,SNR=6.8
PFO Pinyon Flat Ob 42.20 95 *e*P **P 05 59 41.0 +0.1**
comp=Z,11nm,1.1s
BELC Belle Mtn. Jos 42.21 94 P **P 05 59 40.5 -0.5**
baz=42,SNR=6.5
D26A Manning 42.28 70 P **P 05 59 41.2 -0.1**
baz=42
EKU East Kanab 42.28 88 *e*P **P 05 59 42.3 +0.6**
109C Camp Elliot, M 42.30 97 P **P 05 59 41.5 -0.1**
baz=42
F25A Bowman 42.31 72 P **P 05 59 41.6 0.0**
baz=42
K22A Casper 42.41 78 P **P 05 59 41.6 -1.0**
baz=42,SNR=7.8
K22A Casper 42.41 78 *e*P **P 05 59 41.9 -0.7**
comp=Z,12nm,0.9s
A28A Rude Farm, Bot 42.47 66 P **P 05 59 42.7 -0.1**
baz=42
NEE2 Needles Airpor 42.52 92 P **P 05 59 43.4 0.0**
baz=42
E26A Carlson Angus 42.57 70 P **P 05 59 43.0 -0.8**
baz=42
IRM Iron Mountain 42.61 94 P **P 05 59 44.3 +0.1**
baz=42,SNR=9.2
B28A Dugan Ranch, T 42.67 67 P **P 05 59 44.2 -0.2**
baz=42,SNR=8.5
CN2 Changchun 42.69 285 *e*P **P 05 59 43.8 -0.9**
BAR Barrett 42.71 96 *e*P **P 05 59 45.1 +0.1**
comp=Z,24nm,1.3s
MONP Monument Peak 42.72 96 P **P 05 59 45.4 +0.1**
baz=43,SNR=7.8
G25A Newell 42.75 73 P **P 05 59 44.9 -0.3**
baz=43
BC3 Big Chuckawall 42.77 94 P **P 05 59 44.7 -0.9**
baz=43
F26A Lodgepole 42.80 71 P **P 05 59 44.8 -0.8**
baz=43
I24A Kuemmerle Ranc 42.82 75 P **P 05 59 45.1 -0.7**
baz=43
K23A Bowen Ranch, D 42.88 77 P **P 05 59 45.9 -0.5**
baz=43
O20A White River Ci 42.91 82 P **P 05 59 46.3 -0.4**
baz=43,SNR=38
O20A White River Ci 42.91 82 *e*P **P 05 59 46.2 -0.6**
comp=Z,28nm,0.8s
H25A Fruitdale 42.97 73 P **P 05 59 46.6 -0.4**
baz=43
RSSD Black Hills 43.01 74 *e*P **P 05 59 47.8 +0.3**
RSSD pmax pmax
comp=Z,8.0nm,0.9s
RSSD Black Hills 43.01 74 *e*P **P 05 59 47.8 +0.3**
comp=Z,8.2nm,0.9s
A29A Manning Farm, 43.04 66 P **P 05 59 47.1 -0.4**
baz=43
C28A Hausauer Farms 43.06 68 P **P 05 59 47.0 -0.6**
baz=43
SWSC Sam W. Stewart 43.06 95 P **P 05 59 47.5 -0.2**
baz=43
J24A Dixon Ranch, L 43.11 76 P **P 05 59 47.2 -1.0**
baz=43
E27A Carson 43.11 70 P **P 05 59 47.3 -0.8**
baz=43
PDMCI Parker Dam,Lak 43.13 93 P **P 05 59 48.2 -0.1**
baz=43,SNR=6.6
G26A Maurine 43.16 72 P **P 05 59 48.4 -0.2**
baz=43,SNR=15
F27A Lemmon 43.17 71 P **P 05 59 47.9 -0.7**
baz=43
B29A Wagenman Farm, 43.22 66 P **P 05 59 48.7 -0.2**
baz=43
D28A Regan 43.25 68 P **P 05 59 49.1 0.0**
baz=43
Y12C Blythe 43.27 94 P **P 05 59 49.5 0.0**
baz=43,SNR=9.8
K24A Anderson Ranch 43.38 76 P **P 05 59 50.0 -0.4**
baz=43
PV09 Paradox Valley 43.41 84 *e*P **P 05 59 50.7 -0.2**
MDND Maddock 43.42 67 P **P 05 59 50.2 -0.4**
baz=43
MDND Maddock 43.42 67 *e*P P 05 59 54.8 +4.3
comp=Z,47nm,0.9s
H26A Fairpoint 43.45 73 P **P 05 59 49.9 -1.1**
baz=43
G27A Dupree 43.50 71 P **P 05 59 50.0 -1.3**
baz=43,SNR=12
E28A Huff 43.52 69 P **P 05 59 50.5 -0.9**
baz=43
PV10 Paradox Valley 43.54 84 *e*P **P 05 59 52.9 +1.0**
A30A Hoffart Farm, 43.54 65 P **P 05 59 50.6 -0.9**
baz=43
GLA Glamis 43.57 94 *e*P **P 05 59 53.1 +1.2**
GLA pmax pmax
comp=Z,18nm,0.9s
GLA Glamis 43.57 94 P **P 05 59 51.3 -0.6**
baz=43
GLA Glamis 43.57 94 *e*P **P 05 59 53.1 +1.2**
comp=Z,18nm,0.9s
J25A Sunshine Ranch 43.58 75 P **P 05 59 51.0 -1.0**
baz=43
PV04 Paradox Valley 43.61 84 *e*P **P 05 59 52.1 -0.2**
PV05 Paradox Valley 43.69 85 *e*P **P 05 59 54.0 +0.9**
B30A Myrvik Farm, E 43.80 66 P **P 05 59 52.9 -0.6**
baz=44,SNR=20
N23A Red Feather La 43.82 79 P **P 05 59 53.8 -0.3**
baz=44,SNR=9.4
N23A Red Feather La 43.82 79 *e*P **P 05 59 54.9 +0.7**
comp=Z,7.6nm,0.8s
H27A Howes 43.85 72 P **P 05 59 54.0 0.0**
baz=44
D29A Pettibone, Tap 43.87 68 P **P 05 59 53.9 -0.3**
baz=44
F28A McLaughlin 43.88 70 P **P 05 59 53.5 -0.8**
baz=44
PV01 Paradox Valley 43.98 84 *e*P **P 05 59 54.8 -0.6**
WUAZ Wupatki 43.99 89 P **P 05 59 55.3 -0.1**
baz=44,SNR=24
WUAZ Wupatki 43.99 89 *e*P **P 05 59 55.6 +0.2**
comp=Z,23nm,0.8s
K25A Mack Ranch, Ha 44.00 76 P **P 05 59 54.5 -0.9**
baz=44
J26A Sides Ranch, S 44.05 75 P **P 05 59 55.8 0.0**
baz=44
E29A Napoleon 44.12 69 P **P 05 59 55.6 -0.7**
baz=44
C30A Mose, Pekin 44.13 67 P **P 05 59 55.9 -0.4**
baz=44
I27A Quinn 44.20 73 P **P 05 59 57.1 +0.2**
baz=44
L25A Engebretsen Ra 44.22 76 P **P 05 59 56.7 -0.5**
baz=44
G28A Parade 44.26 71 P **P 05 59 57.2 -0.2**
baz=44
D30A Buchanan 44.31 68 P **P 05 59 57.3 -0.4**
baz=44,SNR=27
F29A Eureka 44.44 70 P **P 05 59 58.5 -0.3**
baz=44
E30A Jud 44.58 68 P **P 05 59 59.8 0.0**
baz=44
M25A Palm-Egli Farm 44.61 77 P **P 06 00 00.0 -0.3**
baz=44,SNR=9.6
MVCO Mesa Verde 44.62 85 P **P 05 59 59.9 -0.6**
baz=44,SNR=7.3
MVCO Mesa Verde 44.62 85 *e*P **P 05 59 59.9 -0.6**
comp=Z,54nm,2.0s
ISCO Idaho Springs 44.70 80 *e*P **P 06 00 02.0 +0.8**
ISCO pmax pmax
comp=Z,17nm,1.6s
ISCO Idaho Springs 44.70 80 P **P 06 00 00.5 -0.7**
baz=45,SNR=7.0
ISCO Idaho Springs 44.70 80 *e*P **P 06 00 02.0 +0.8**
comp=Z,17nm,1.6s
J27A Elkhorn Farm, 44.71 74 P **P 06 00 01.0 0.0**
baz=45
I28A Midland 44.75 73 P **P 06 00 00.2 -1.0**
baz=45,SNR=16
G29A Hoven 44.76 70 P **P 06 00 00.9 -0.4**
baz=45
F30A Leola 44.90 69 P **P 06 00 02.1 -0.3**
baz=45
K27A Fluecklinger Fa 44.91 75 P **P 06 00 02.0 -0.6**
baz=45
H29A Onida 44.93 71 P **P 06 00 02.4 -0.3**
baz=45
J28A Allard Ranch, 45.05 73 P **P 06 00 02.9 -0.8**
baz=45,SNR=14
KSRS Korea Array 45.14 276 P **P 06 00 05.0 +0.6**
comp=Z,2.3nm,0.7s,baz=60,slow=7.6,SNR=5.3
KSRS LR LR 06 19 02.7
comp=Z,344nm,19.1s,baz=56,slow=36
KSRS Korea Array 45.14 276 P **P 06 00 05.0 +0.6**
KSRS pmax pmax
comp=Z,2.0nm,0.7s
KSRS MLR MLR
comp=Z,344nm,19.1s
KSAR Wonju Array Be 45.17 276 P **P 06 00 05.0 +0.4**
KSAR Wonju Array Be 45.17 276 P **P 06 00 05.0 +0.4**
I29A Vivian Onida 45.24 72 P **P 06 00 04.5 -0.7**
baz=45
L27A T5 Ranch, Ells 45.24 75 P **P 06 00 04.1 -1.1**
baz=45
AGMN Agassiz Nation 45.24 65 P **P 06 00 04.1 -1.0**
baz=45,SNR=22
AGMN Agassiz Nation 45.24 65 *e*P **P 06 00 04.5 -0.6**
comp=Z,23nm,0.8s
G30A Faulkton 45.24 70 P **P 06 00 04.5 -0.6**
baz=45
S22A 4UR Ranch, Cre 45.28 83 P **P 06 00 04.9 -0.9**
baz=45,SNR=13
S22A 4UR Ranch, Cre 45.28 83 *e*P **P 06 00 06.2 +0.3**
comp=Z,13nm,1.3s
K28A Ten Mile Ranch 45.41 74 P **P 06 00 06.4 -0.2**
baz=45
214A Organ Pipe Nat 45.55 94 P **P 06 00 07.4 -0.4**
baz=45,SNR=14
214A Organ Pipe Nat 45.55 94 *e*P **P 06 00 07.6 -0.1**
comp=Z,12nm,0.8s
J29A Okreek 45.59 73 P **P 06 00 06.9 -1.0**
baz=45,SNR=31
O26A Horse Wrangler 45.79 78 P **P 06 00 09.2 -0.5**
baz=46
I30A Oacoma 45.81 72 P **P 06 00 09.4 -0.3**
baz=46
N27A Anderson Farm, 45.90 77 P **P 06 00 10.3 -0.2**
baz=46,SNR=6.4
K29A Lazy Trails An 45.99 73 P **P 06 00 11.2 0.0**
baz=46
SDCO Great Sand Dun 46.08 82 P **P 06 00 12.0 -0.2**
baz=46,SNR=18
SDCO Great Sand Dun 46.08 82 *e*P **P 06 00 12.2 +0.1**
comp=Z,7.3nm,0.9s
OGNE Ogallala 46.11 77 P **P 06 00 11.5 -0.6**
baz=46,SNR=7.3
OGNE Ogallala 46.11 77 *e*P **P 06 00 12.5 +0.3**
comp=Z,21nm,0.8s
J30A Dallas 46.13 72 P **P 06 00 11.9 -0.3**
baz=46
P26A Davis Ranch, A 46.20 79 P **P 06 00 12.8 -0.2**
baz=46,SNR=16
M28A Bar X Bar Ranc 46.22 76 P **P 06 00 12.6 -0.4**
baz=46
O27A Beecher Island 46.32 78 P **P 06 00 13.5 -0.4**
baz=46
K30A Basset 46.45 73 P **P 06 00 14.5 -0.3**
baz=46
Q26A Hugo 46.51 80 P **P 06 00 15.3 0.0**
baz=46
TUC Tucson 46.53 92 *e*P **P 06 00 15.5 -0.1**
TUC pmax pmax
comp=Z,19nm,1.1s
TUC Tucson 46.53 92 *e*P **P 06 00 15.5 -0.1**
comp=Z,19nm,1.1s
M29A Burnside Ranch 46.59 75 P **P 06 00 15.7 -0.2**
baz=46
P27A Ficken Ranch, 46.66 78 P **P 06 00 16.3 -0.3**
baz=46
O28A Krutsinger Ran 46.78 77 P **P 06 00 17.1 -0.3**
baz=47
L30A Spencer Herefo 46.84 74 P **P 06 00 17.5 -0.3**
baz=47
R26A Arlington 46.95 80 P **P 06 00 18.3 -0.5**
baz=47,SNR=14
KSCO Kaye Shedlock' 46.98 79 P **P 06 00 18.7 -0.4**
baz=47
KSCO Kaye Shedlock' 46.98 79 *e*P **P 06 00 20.1 +1.1**
comp=Z,21nm,0.8s
M30A Dale-Ortello V 47.01 74 P **P 06 00 18.8 -0.3**
baz=47
T25A Trinidad 47.13 82 P **P 06 00 19.6 -0.7**
baz=47,SNR=24
T25A Trinidad 47.13 82 *e*P **P 06 00 20.4 0.0**
comp=Z,24nm,0.9s
P28A Saint Francis 47.14 78 P **P 06 00 20.0 -0.2**
baz=47
L31A Butterfield Fa 47.21 73 P **P 06 00 20.7 -0.1**
baz=47
LAZ Ladron 47.31 87 *e*P **P 06 00 21.8 +0.1**
R27A Eads 47.35 80 P **P 06 00 21.3 -0.6**
baz=47,SNR=9.0
ANMO Albuquerque 47.35 86 *i*P **P 06 00 22.4 +0.3**
ANMO pmax pmax
comp=Z,52nm,2.5s
ANMO Albuquerque 47.35 86 *e*P **P 06 00 22.1 +0.1**
ANMO *e*PcP **PcP 06 01 53.8 +1.0**
Q28A Sharon Springs 47.42 78 P **P 06 00 21.7 -0.7**
baz=47,SNR=5.6
ECSD EROS Data Cent 47.53 70 P **P 06 00 22.3 -0.8**
baz=47
ECSD EROS Data Cent 47.53 70 *e*P **P 06 00 22.0 -1.1**
comp=Z,13nm,1.0s
LENM Lemitar 47.57 87 *e*P **P 06 00 23.9 +0.1**
T26A Comanche Natio 47.60 82 P **P 06 00 23.0 -0.9**
baz=48,SNR=9.9
P29A Atwood 47.61 77 P **P 06 00 23.2 -0.7**
baz=48,SNR=15
M31A Lambtecht Ranc 47.66 74 P **P 06 00 23.6 -0.6**
baz=48
LPM Los Pinos Moun 47.68 87 *e*P **P 06 00 25.2 +0.6**
BNM Barren Site 47.79 87 *e*P **P 06 00 25.8 +0.3**
EYMN Ely 47.82 63 P **P 06 00 24.2 -1.2**
baz=48,SNR=6.5
EYMN Ely 47.82 63 *e*P **P 06 00 24.4 -0.9**
comp=Z,22nm,1.0s
R28A Tribune 47.90 79 P **P 06 00 25.8 -0.4**
baz=48,SNR=5.9
Q29A Oakley 48.04 78 P **P 06 00 26.8 -0.4**
baz=48
P30A Selden 48.05 77 P **P 06 00 26.7 -0.6**
baz=48
BGNE Belgrade 48.10 74 P **P 06 00 27.4 -0.2**
baz=48
BGNE Belgrade 48.10 74 *e*P **P 06 00 27.8 +0.3**
comp=Z,95nm,1.1s
L33A Hoskins 48.13 72 P **P 06 00 27.5 -0.3**
baz=48
T27A Campo 48.20 81 P **P 06 00 27.9 -0.6**
baz=48
121A Cookes Peak, D 48.20 89 P **P 06 00 28.7 0.0**
baz=48,SNR=22
121A Cookes Peak, D 48.20 89 *e*P **P 06 00 28.5 -0.1**
comp=Z,21nm,0.9s
O31A Woolen Ranch, 48.21 76 P **P 06 00 28.3 -0.2**
baz=48
R29A Marienthal 48.25 79 P **P 06 00 29.0 +0.2**
baz=48
S28A Manter 48.34 80 P **P 06 00 29.4 -0.2**
baz=48,SNR=7.5
Q30A Quinter 48.44 77 P **P 06 00 29.9 -0.3**
baz=48
T28A Walsh 48.52 81 P **P 06 00 30.8 -0.2**
baz=48,SNR=6.2
M33A Taylor Creek F 48.55 73 P **P 06 00 30.9 -0.2**
baz=48
U27A Thompson Grove 48.56 82 P **P 06 00 30.8 -0.5**
baz=48,SNR=9.1
P31A Stockton 48.58 76 P **P 06 00 31.3 -0.1**
baz=48
O32A Brockman Farm, 48.75 75 P **P 06 00 32.5 -0.2**
baz=49
SPMN St. Paul 48.76 66 P **P 06 00 32.4 -0.2**
baz=49

SPMN **St. Paul** 48.76 66 *e*P P 06 00 34.4 +1.8
comp=Z,14nm,1.0s
L34A **Svendsen Farm,** 48.77 72 P P 06 00 32.7 0.0
baz=49
S29A **Ulysses** 48.79 79 P P 06 00 32.9 -0.1
baz=49
CBKS **Cedar Bluff** 48.83 77 *e*P P 06 00 33.1 -0.2
CBKS pmax pmax
comp=Z,33nm,0.8s
CBKS **Cedar Bluff** 48.83 77 P P 06 00 33.0 -0.3
baz=49
CBKS **Cedar Bluff** 48.83 77 *e*P P 06 00 33.1 -0.2
comp=Z,33nm,0.8s
R30A **Dighton** 48.85 78 P P 06 00 32.8 -0.7
baz=49,SNR=7.9
P32A **Huiting Farm,** 48.98 76 P P 06 00 33.8 -0.5
baz=49
T29A **Hugoton** 48.99 80 P P 06 00 34.1 -0.4
baz=49
S30A **Montezuma** 49.17 79 P P 06 00 35.6 -0.3
baz=49,SNR=5.5
O33A **Hebron** 49.28 75 P P 06 00 36.4 -0.3
baz=49
R31A **Burdett** 49.30 78 P P 06 00 36.2 -0.7
baz=49,SNR=9.4
V28A **Channing** 49.37 82 P P 06 00 36.8 -0.7
baz=49
Q32A **Meitler Ranch,** 49.41 76 P P 06 00 36.6 -1.0
baz=49,SNR=8.3
N34A **Lincoln** 49.42 73 P P 06 00 37.2 -0.5
baz=49
U29A **Oasis Ranch, S** 49.47 81 P P 06 00 37.7 -0.6
baz=49
M35A **Neola** 49.48 72 P P 06 00 37.8 -0.4
baz=49
R32A **Long Quarter,** 49.69 77 P P 06 00 39.7 -0.2
baz=50
O34A **Beatrice** 49.73 74 P P 06 00 39.8 -0.3
baz=50
S31A **Mullinville** 49.76 78 P P 06 00 39.9 -0.5
baz=50
U30A **WK&E Inc. Balk** 49.79 80 P P 06 00 39.6 -1.1
baz=50,SNR=7.3
Q33A **Connelly Farm,** 49.83 76 P P 06 00 40.2 -0.6
baz=50
N35A **Tabor** 49.90 72 P P 06 00 40.5 -0.9
baz=50
TLY **Talaya** 49.92 306 *e*P P 06 00 42.9 +1.5
TLY *e*S S 06 08 01.1 +10
TLY pmax pmax
comp=Z,5.0nm,1.0s
TLY MLR MLR
comp=Z,483nm,20.0s
T31A **Randall Ranch,** 49.99 79 P P 06 00 41.8 -0.4
baz=50
R33A **Olander Ranch,** 50.20 77 P P 06 00 43.4 -0.3
baz=50
X28A **Dimmitt** 50.22 83 P P 06 00 43.7 -0.3
baz=50
U31A **Nine Bar Ranch** 50.38 80 P P 06 00 44.9 -0.2
baz=50
T32A **Huddler Ranch,** 50.39 78 P P 06 00 44.6 -0.5
baz=50
Q34A **Chapman** 50.41 75 P P 06 00 44.5 -0.8
baz=50
SUMG **Summit** 50.44 17 *e*P P 06 00 46.6 +1.1
SUMG pmax pmax
comp=Z,10.0nm,1.1s
SUMG **Summit** 50.44 17 *e*P P 06 00 46.6 +1.1
comp=Z,10.0nm,1.1s
P35A **Duane Minner,** 50.55 74 P P 06 00 45.5 -0.8
baz=50
Y28A **McKinney Farm,** 50.61 84 P P 06 00 46.1 -0.8
baz=50,SNR=7.5
SCIA **State Center** 50.62 70 *e*P P 06 00 51.5 +4.7
comp=Z,18nm,0.8s
R34A **Isabella, Hill** 50.64 76 P P 06 00 46.5 -0.5
baz=50
S33A **Kaszmaul Farm,** 50.66 77 P P 06 00 46.9 -0.3
baz=50
O36A **Bolckow** 50.77 73 P P 06 00 47.3 -0.6
baz=51
V31A **Spring Creek L** 50.78 80 P P 06 00 47.0 -1.1
baz=51
T33A **Patterson Ranc** 50.86 78 P P 06 00 48.0 -0.6
baz=51
U32A **Winter Ranch,** 50.88 79 P P 06 00 48.0 -0.9
baz=51
SONM **Songino Array** 50.90 300 PcP PcP 06 02 03.7 -1.6
comp=Z,2.1nm,0.6s,baz=68,slow=2.8,SNR=4.9
SONM ScP ScP 06 05 59.4 -1.5
comp=Z,1.1nm,0.8s,baz=106,slow=3.2,SNR=5.4
SONM LR LR 06 25 04.2
comp=Z,418nm,18.2s,baz=62,slow=39
Z28A **Tucker Farm, M** 50.95 84 P P 06 00 48.5 -1.0
baz=51,SNR=7.3
P36A **Good Intent, A** 50.96 73 P P 06 00 47.9 -1.5
baz=51
Y29A **Porterfield Fa** 50.99 83 P P 06 00 49.1 -0.7
baz=51,SNR=6.1
X30A **Coker Ranch, T** 51.07 82 P P 06 00 49.8 -0.5
baz=51
S34A **Willow Spring** 51.12 77 P P 06 00 49.7 -0.9
baz=51
W31A **Holland Ranch,** 51.12 81 P P 06 00 50.4 -0.3
baz=51
R35A **Emporia Munici** 51.24 75 P P 06 00 51.2 -0.3
baz=51
Q36A **Arnold C. Orve** 51.25 74 P P 06 00 51.4 -0.1
baz=51
128A **Castleberry Fa** 51.35 85 P P 06 00 51.3 -1.3
baz=51,SNR=13
U33A **Lingo Farm, Me** 51.37 78 P P 06 00 51.3 -1.2
baz=51,SNR=5.6
Z29A **Hungry Hill Ra** 51.38 84 P P 06 00 52.4 -0.3
baz=51
Y30A **Stafford Cattl** 51.44 83 P P 06 00 52.8 -0.4
baz=51
X31A **McDonald Ranch** 51.48 81 P P 06 00 53.0 -0.4
baz=51
T34A **McClaskey Farm** 51.52 77 P P 06 00 52.2 -1.5
baz=51,SNR=11
W32A **Sentinel** 51.58 80 P P 06 00 53.2 -1.0
baz=51,SNR=6.5
S35A **Otter Creek Ra** 51.59 76 P P 06 00 52.8 -1.4
baz=51,SNR=8.6
228A **UT Block 9, Go** 51.64 86 P P 06 00 52.8 -1.9
baz=52
R36A **Gordon, Harris** 51.65 75 P P 06 00 53.3 -1.3
baz=52,SNR=9.9
JFWS **Jewell Farm** 51.65 67 *e*P P 06 00 57.3 +2.8
JFWS pmax pmax
comp=Z,18nm,1.0s
JFWS **Jewell Farm** 51.65 67 *e*P P 06 00 57.2 +2.8
comp=Z,18nm,1.0s
V33A **Lossen Ranch,** 51.68 79 P P 06 00 53.9 -1.0
baz=52
Z30A **Sanderson Ranc** 51.71 83 P P 06 00 53.9 -1.2
baz=52,SNR=9.0
U34A **Anderson Ranch** 51.71 78 P P 06 00 54.0 -1.1
baz=52,SNR=8.5
U34A **Anderson Ranch** 51.71 78 *e*P P 06 00 54.7 -0.4
comp=Z,27nm,0.9s
129A **Stewart Farms,** 51.72 85 P P 06 00 54.6 -0.6
baz=52
Y31A **Rekieta Farm,** 51.77 82 P P 06 00 54.8 -0.7
baz=52
S36A **Lake Cedric, C** 51.99 75 P P 06 00 56.5 -0.6
baz=52
T35A **Sooner Cattle** 51.99 77 P P 06 00 56.2 -1.0
baz=52
W33A **Caddo, Fort Co** 52.03 80 P P 06 00 57.2 -0.2
baz=52
X32A **Elmer** 52.04 81 P P 06 00 56.3 -1.2
baz=52,SNR=6.8
R37A **Teagarden Farm** 52.05 74 P P 06 00 56.5 -1.0
baz=52
WMOK **Wichita Mounta** 52.12 80 *e*P P 06 00 57.5 -0.7
WMOK pmax pmax
comp=Z,14nm,0.8s
WMOK **Wichita Mounta** 52.12 80 *e*P P 06 00 57.5 -0.7
comp=Z,14nm,0.8s
V34A **Guthrie** 52.13 79 P P 06 00 57.8 -0.3
baz=52
Y32A **R-V Farms, Ver** 52.23 82 P P 06 00 57.8 -1.2
baz=52,SNR=7.0
Z31A **Sharp Cattle R** 52.28 83 P P 06 00 58.5 -0.8
baz=52,SNR=6.7
130A **Snyder** 52.29 84 P P 06 00 59.0 -0.5
baz=52
W34A **Bridge Creek,** 52.39 79 P P 06 00 59.6 -0.5
baz=52
W34A **Bridge Creek,** 52.39 79 *e*P P 06 01 00.4 +0.3
comp=Z,13nm,0.7s
S37A **Fort Scott** 52.42 75 P P 06 00 59.4 -0.9
baz=52
X33A **Lawton** 52.43 80 P P 06 00 60.0 -0.5
baz=52
329A **Wagon Wheel Ra** 52.45 86 P P 06 00 59.5 -1.2
baz=52,SNR=9.1
HHC **Hu-ho-hao-te** 52.57 290 *e*P P 06 01 03.3 +1.8
HHC PP PP 06 03 03.0 +2.8
HHC S S 06 08 25.3 -2.7
HHC sS sS 06 08 42.0 +6.9
HHC SS SS 06 12 01.8 -3.8
HHC PMZ
comp=Z,17nm,0.7s
HHC PMZ
comp=Z,56nm,8.6s
HHC LN
comp=Z,520nm,19.7s
HHC LE
comp=Z,370nm,22.2s
HHC LZ
comp=Z,300nm,23.4s
131A **Roby** 52.58 84 P P 06 01 01.2 -0.5
baz=52
V35A **Meyer Ranch, C** 52.58 78 P P 06 01 00.7 -0.8
baz=52
Z32A **Haskell** 52.69 82 P P 06 01 01.1 -1.3
baz=52,SNR=12
230A **Sterling City** 52.69 85 P P 06 01 01.4 -1.1
baz=53,SNR=7.4
Y33A **Hilltop Ranch,** 52.72 81 P P 06 01 01.5 -1.1
baz=53,SNR=5.7
X34A **Smith Ranch, M** 52.78 80 P P 06 01 03.1 0.0
baz=53
T37A **Cheneyville 18** 52.80 76 P P 06 01 02.5 -0.6
baz=53
TXAR **Lajitas Array** 52.95 89 P P 06 01 03.9 -0.6
comp=Z,18nm,0.8s,baz=299,slow=4.9,SNR=118
W35A **Tecumseh** 52.98 79 P P 06 01 03.3 -1.2
baz=53,SNR=7.5
330A **Mertzon** 52.99 85 P P 06 01 03.5 -1.2
baz=53,SNR=6.6
ABTX **Abilene, Hawle** 53.07 83 P P 06 01 04.6 -0.6
baz=53
ABTX **Abilene, Hawle** 53.07 83 *e*P P 06 01 05.6 +0.4
comp=Z,26nm,1.1s
V36A **Jenks** 53.10 77 P P 06 01 04.8 -0.6
baz=53
TUL1 **Tulsa** 53.10 77 P P 06 01 04.5 -0.8
baz=53
TUL1 **Tulsa** 53.10 77 *e*P P 06 01 05.1 -0.3
comp=Z,7.7nm,0.8s
429A **Davenport Ranc** 53.11 86 P P 06 01 04.5 -1.1
baz=53,SNR=15
Z33A **Whitaker Ranch** 53.13 82 P P 06 01 04.3 -1.3
baz=53,SNR=7.4
U37A **Salina** 53.16 76 P P 06 01 04.0 -1.8
baz=53,SNR=8.4
529A **Stev Forest Ra** 53.27 87 P P 06 01 05.7 -1.1
baz=53,SNR=7.3
Y34A **Reagan Ranch,** 53.27 80 P P 06 01 05.5 -1.2
baz=53,SNR=7.6
W36A **Wetumka** 53.37 78 P P 06 01 06.3 -1.1
baz=53
430A **Baggett Ranch,** 53.40 86 P P 06 01 06.5 -1.2
baz=53,SNR=20
X35A **Drake** 53.44 79 P P 06 01 06.8 -1.1
baz=53
V37A **Hulbert** 53.51 77 P P 06 01 07.1 -1.2
baz=53
133A **Hamilton Ranch** 53.52 82 P P 06 01 07.4 -1.1
baz=53,SNR=13
331A **San Angelo** 53.52 85 P P 06 01 07.1 -1.4
baz=53,SNR=10
U38A **Gravette** 53.57 76 P P 06 01 07.6 -1.2
baz=53
232A **Coleman** 53.58 84 P P 06 01 07.7 -1.3
baz=53,SNR=7.2
Z34A **Collier Ranch,** 53.59 81 P P 06 01 07.4 -1.6
baz=53
X36A **Centrahoma** 53.69 79 P P 06 01 09.0 -0.7
baz=54
HDIL **Hopedale** 53.74 69 P P 06 01 09.2 -0.8
baz=54
HDIL **Hopedale** 53.74 69 *e*P P 06 01 08.9 -1.0
comp=Z,2.5nm,0.8s
Y35A **Marietta** 53.74 80 P P 06 01 09.4 -0.7
baz=54,SNR=6.3
530A **J-C Ranch, Com** 53.79 86 P P 06 01 09.7 -0.8
baz=54,SNR=38
W37A **Quinton** 53.85 78 P P 06 01 09.7 -1.2
baz=54,SNR=8.5
431A **Sonora** 53.85 85 P P 06 01 09.3 -1.7
baz=54,SNR=26
332A **Millersview** 53.88 84 P P 06 01 09.5 -1.7
baz=54,SNR=14
233A **Rising Star** 53.94 83 P P 06 01 10.2 -1.4
baz=54,SNR=15
V38A **Canehill** 53.95 76 P P 06 01 09.8 -1.9
baz=54,SNR=8.6
Z35A **Perchaven, San** 54.01 81 P P 06 01 11.0 -1.0
baz=54
134A **White-Moore Ra** 54.04 82 P P 06 01 11.4 -0.9
baz=54,SNR=8.0
Y36A **Durant** 54.19 79 P P 06 01 12.0 -1.4
baz=54,SNR=5.2
432A **Menard** 54.20 85 P P 06 01 12.4 -1.2
baz=54,SNR=8.3
531A **Rocksprings** 54.26 86 P P 06 01 12.3 -1.7
baz=54,SNR=12
X37A **Clayton** 54.26 78 P P 06 01 12.8 -1.1
baz=54,SNR=12
NJ2 **Nanjing** 54.28 277 *e*P P 06 01 16.4 +2.4
NJ2 PMZ
comp=Z,20nm,0.5s
333A **Richland Sprin** 54.38 84 P P 06 01 13.4 -1.4
baz=54,SNR=11
234A **Clairette** 54.41 82 P P 06 01 14.0 -1.0
baz=54,SNR=8.9
W38A **Poteau** 54.43 77 P P 06 01 14.0 -1.1
baz=54,SNR=8.3
JCT **Junction City** 54.48 85 *e*P P 06 01 14.6 -1.0
JCT pmax pmax
comp=Z,18nm,0.9s
JCT **Junction City** 54.48 85 P P 06 01 14.2 -1.4
baz=54,SNR=10.0
JCT **Junction City** 54.48 85 *e*P P 06 01 14.6 -1.0
comp=Z,18nm,0.9s
X38A **Whitesboro** 54.53 78 P P 06 01 14.9 -0.9
baz=54,SNR=6.1
Z36A **Blue Ridge** 54.54 80 P P 06 01 15.1 -0.8
baz=54
532A **Rocksprings** 54.67 85 P P 06 01 15.2 -1.8
baz=54,SNR=5.1
433A **Art** 54.72 84 P P 06 01 15.9 -1.4
baz=55,SNR=5.9
631A **Perdido Creek** 54.77 86 P P 06 01 15.7 -2.0
baz=55,SNR=10
334A **Lometa** 54.82 83 P P 06 01 16.6 -1.4
baz=55,SNR=20
WHTX **Lake Whitney** 54.83 82 P P 06 01 17.1 -0.9
baz=55,SNR=5.8
WHTX **Lake Whitney** 54.83 82 *e*P P 06 01 18.6 +0.5
comp=Z,35nm,0.9s
136A **Ennis** 55.04 81 P P 06 01 18.4 -1.1
baz=55
Z37A **Pogue Cattle C** 55.08 80 P P 06 01 18.9 -0.9
baz=55
SFIN **Scholer Farm** 55.10 67 P P 06 01 19.4 -0.4
comp=Z,11nm,0.4s
434A **Burnet** 55.17 84 P P 06 01 19.5 -1.0
baz=55,SNR=17
632A **Uvalde** 55.19 86 P P 06 01 19.2 -1.5
baz=55,SNR=9.1
533A **Kerrville** 55.24 85 P P 06 01 19.6 -1.4
baz=55,SNR=8.0
SCHQ **Schefferville** 55.28 43 P P 06 01 22.0 +1.0
comp=Z,4.4nm,1.0s,baz=252,slow=0.9,SNR=3.7
SCHQ LR LR 06 28 07.5
comp=Z,429nm,20.5s,baz=322,slow=39
335A **Moody** 55.35 83 P P 06 01 21.0 -0.8
baz=55
MIAR **Mount Ida** 55.36 77 *e*P P 06 01 20.8 -1.0
MIAR pmax pmax
comp=Z,15nm,1.0s
MIAR **Mount Ida** 55.36 77 P P 06 01 20.0 -1.8
baz=55,SNR=12
MIAR **Mount Ida** 55.36 77 *e*P P 06 01 20.8 -1.0
comp=Z,15nm,1.0s
236A **Katherine and** 55.38 81 P P 06 01 20.8 -1.1
baz=55
Y39A **Lockesburg** 55.47 78 P P 06 01 21.8 -0.8
baz=55
633A **Saathoff Ranch** 55.59 85 P P 06 01 22.8 -0.7
baz=56
435B **Jarrell** 55.60 83 P P 06 01 23.0 -0.6
baz=56
534A **Blanco** 55.60 84 P P 06 01 22.2 -1.5
baz=56,SNR=7.5
336A **Riesel** 55.62 82 P P 06 01 23.1 -0.6
baz=56
732A **Laxson Ranch,** 55.63 87 P P 06 01 22.4 -1.4
baz=56,SNR=7.7
OLIL **Olney** 55.65 70 *e*P P 06 01 23.2 -0.7
comp=Z,21nm,0.8s
PBMO **Poplar Bluff** 55.65 73 *e*P P 06 01 23.1 -0.8
comp=Z,12nm,1.3s
SIUC **Southern Illin** 55.71 71 *e*P P 06 01 27.7 +3.4
comp=Z,12nm,0.8s
138A **Matatall Enter** 55.77 80 P P 06 01 23.7 -1.2
baz=56
832A **Faith Ranch, C** 55.95 87 P P 06 01 25.1 -1.1
baz=56,SNR=17
733A **Divot King Ran** 56.05 86 P P 06 01 25.9 -0.9
baz=56,SNR=5.3
535A **Dale** 56.15 84 P P 06 01 26.8 -0.7
baz=56
238A **Jacksonville** 56.22 80 P P 06 01 27.8 -0.3
baz=56
BLO **Bloomington** 56.24 68 *e*P P 06 01 32.1 +4.0
BLO pmax pmax
comp=Z,14nm,0.7s
BLO **Bloomington** 56.24 68 *e*P P 06 01 32.1 +4.0
comp=Z,14nm,0.7s
833A **Chaparral WMA,** 56.27 86 P P 06 01 27.7 -0.8
baz=56,SNR=16
734A **La Parita Cree** 56.40 85 P P 06 01 29.3 -0.1
baz=56
USIN **University of** 56.43 70 *e*P P 06 01 32.3 +2.9
comp=Z,39nm,0.8s
635A **Leesville** 56.49 84 P P 06 01 29.9 -0.1
baz=56
NATX **Nacogdoches** 56.67 80 P P 06 01 30.8 -0.4
baz=56
735A **Kenedy** 56.85 85 P P 06 01 32.6 +0.1
baz=57
636A **Smothers Creek** 56.85 84 P P 06 01 32.5 -0.1
baz=57
933A **Laredo** 56.86 87 P P 06 01 32.1 -0.6
baz=57,SNR=5.7
537A **Green Hill Far** 56.87 83 P P 06 01 32.7 0.0
baz=57
834A **Tilden** 56.93 86 P P 06 01 33.4 +0.3
baz=57
ZALV **Zalesovo Beam** 56.97 317 P P 06 01 32.9 -0.1
comp=Z,0.2nm,0.3s,baz=124,slow=3.8,SNR=2.1
ZALV LR LR 06 27 38.2
comp=Z,317nm,18.9s,baz=68,slow=38
736A **Circle Diamond** 57.23 84 P P 06 01 35.4 +0.2
baz=57
HKT **Hockley** 57.26 82 *e*P P 06 01 34.6 -0.7
HKT pmax pmax
comp=Z,18nm,1.2s
HKT **Hockley** 57.26 82 *e*P P 06 01 34.6 -0.7
comp=Z,18nm,1.2s
934A **Benavides** 57.33 86 P P 06 01 36.5 +0.6
baz=57
340A **Bronson** 57.37 80 P P 06 01 36.8 +0.6
baz=57
ARCES **ARCESS Array B** 57.48 354 LR LR 06 28 24.7
comp=Z,442nm,18.6s,baz=356,slow=38
WVT **Waverly** 57.61 72 *e*P P 06 01 36.7 -1.1
WVT pmax pmax
comp=Z,19nm,1.6s
WVT **Waverly** 57.61 72 *e*P P 06 01 36.7 -1.1
comp=Z,20nm,1.6s
034A **Hebbronville** 57.62 87 P P 06 01 38.1 +0.1
baz=58
OXF **Oxford** 57.83 74 *e*P P 06 01 38.0 -1.4
OXF pmax pmax
comp=Z,44nm,1.0s
OXF **Oxford** 57.83 74 *e*P P 06 01 38.0 -1.4
comp=Z,44nm,1.0s
WHN **Wuhan** 58.05 280 P P 06 01 43.1 +2.1
WHN S S 06 09 36.8 -4.5
WHN LZ
comp=Z,960nm,23.0s
035A **Encino** 58.07 87 P P 06 01 41.1 0.0
baz=58
035Z **Hargill** 58.43 87 P P 06 01 43.3 -0.4
baz=58
LONY **Lake Ozonia** 58.85 56 *e*P P 06 01 48.3 +1.8
comp=Z,12nm,0.9s
SSLB **Suanglung** 59.00 269 *e*P P 06 01 49.3 +1.6
comp=Z,33nm,1.1s
SWET **Sewanee** 59.35 71 *e*P P 06 01 49.2 -0.8
NCB **Newcomb** 59.49 57 *e*P P 06 01 51.5 +0.6
comp=Z,9.6nm,0.8s
ACCN **Adirondack Com** 60.20 57 *e*P P 06 01 57.5 +1.8
comp=Z,8.9nm,1.0s
LZH **Lanzhou** 60.23 291 *e*P P 06 01 57.6 +1.3
LZH pP pP 06 02 02.6 +1.9
LZH sP sP 06 02 06.1 +3.8
LZH *e*S S 06 10 03.1 -6.7
LZH sS sS 06 10 14.1 -2.9
LZH SS SS 06 14 06.0 -0.4
LZH PMZ
comp=Z,17nm,1.1s
LZH PMZ
comp=Z,120nm,5.9s
LZH LN
comp=Z,600nm,15.9s
LZH LE
comp=Z,880nm,16.4s
LZH LZ
comp=Z,700nm,17.9s
TKL **Tuckaleechee C** 60.26 69 *e*P P 06 02 00.2 +3.9
TKL **Tuckaleechee C** 60.26 69 *e*P P 06 02 00.1 +3.9
LRAL **Lakeview Retre** 60.29 74 *e*P P 06 01 55.1 -1.3
comp=Z,7.9nm,0.9s
BLA **Blacksburg** 61.03 66 *e*P P 06 02 02.0 +0.5
BLA pmax pmax
comp=Z,19nm,0.8s
BLA **Blacksburg** 61.03 66 *e*P P 06 02 02.0 +0.5
comp=Z,19nm,0.8s
LUPA **Lehigh Univers** 61.32 60 *e*P P 06 02 06.3 +2.9
comp=Z,1.9nm,0.7s
GOGA **Godfrey** 62.06 71 *e*P P 06 02 07.1 -1.4
GOGA pmax pmax
comp=Z,121nm,2.8s
GOGA **Godfrey** 62.06 71 *e*P P 06 02 07.1 -1.4
comp=Z,121nm,2.8s
JSRW **J. Sargeant Re** 62.08 64 *e*P P 06 02 07.4 -1.1
EMMW **East Machias** 62.29 52 *e*P P 06 02 11.3 +1.5
comp=Z,16nm,1.0s
PRGR **Permogore** 62.52 342 *e*P P 06 02 10.6 -0.5
PRGR pmax pmax
comp=Z,7.0nm,0.5s
JSC **Jenkinsville** 62.68 69 *e*P P 06 02 12.4 -0.2
JSC **Jenkinsville** 62.68 69 *e*P P 06 02 12.4 -0.2
WMQ **Urumqi** 63.10 308 P P 06 02 17.3 +1.9
WMQ pP pP 06 02 21.8 +2.0
WMQ sP sP 06 02 25.1 +3.6
WMQ S S 06 10 46.0 +0.3
WMQ SS SS 06 14 52.8 +2.0
WMQ PMZ
comp=Z,8.0nm,0.8s
WMQ PMZ
comp=Z,55nm,5.4s
WMQ LN
comp=Z,420nm,18.5s
WMQ LE
comp=Z,200nm,22.6s
WMQ LZ
comp=Z,380nm,20.6s
BRVK **Borovoye** 63.25 324 *e*P P 06 02 16.8 +0.7
BRVK pmax pmax
comp=Z,2.0nm,1.1s
MKAR **Makanchi Array** 63.36 313 LR LR 06 30 33.1
comp=Z,388nm,19.8s,baz=36,slow=37

CD2	**Chengdu**	**64.04**	**287**	P	**P**	**06 02 20.5**	**-1.2**
CD2				pP	**pP**	**06 02 23.8**	**-2.4**
CD2				PP	**PP**	**06 04 40.9**	**-1.3**
CD2				S	**S**	**06 10 56.6**	**-1.1**
CD2				sS	**sS**	**06 11 02.1**	**-2.9**
CD2				SS	**SS**	**06 15 05.9**	**0.0**
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,150nm,5.5s						
CD2				LN			
	comp=Z,550nm,12.2s						
CD2				LZ			
	comp=Z,420nm,19.4s						
ARU	**Arti**	**64.15**	**333**	P	**P**	**06 02 19.6**	**-2.4**
FINES	**FINESS Array B**	**65.42**	**352**	P	**P**	**06 02 29.1**	**-1.1**
	comp=Z,2.8nm,0.8s,baz=0.0,slow=15,SNR=3.8						
FINES				LR	LR	06 33 15.3	
	comp=Z,350nm,19.1s,baz=5.5,slow=38						
GYA	**Guiyang**	**65.63**	**282**	*eP*	**P**	**06 02 32.8**	**+0.6**
GYA				PP	**PP**	**06 04 58.4**	**+2.0**
GYA				ScP		06 07 05.6	
GYA				S	**S**	**06 11 16.0**	**-1.5**
GYA				SKS	**SKSac**	**06 12 23.3**	**-4.2**
GYA				SS	**SS**	**06 15 31.3**	**+0.3**
GYA				PMZ			
	comp=Z,10.0nm,1.0s						
GYA				PMZ			
	comp=Z,90nm,5.2s						
GYA				LN			
	comp=Z,480nm,20.4s						
GYA				LE			
	comp=Z,390nm,21.9s						
GYA				LZ			
	comp=Z,470nm,20.8s						
TAOE	**Nuku Hiva Isla**	**66.39**	**148**	*eT*	T	07 14 40.6	
	comp=Z,216nm,0.2s						
AFI	**Afiamalu**	**66.44**	**182**	LR	LR	06 30 23.8	
	comp=Z,48nm,19.4s,baz=46,slow=35						
NB2	**NORSAR Subarra**	**66.52**	**360**	P	**P**	**06 02 36.6**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=0.8,slow=6.2						
NOA	**NORSAR Array B**	**66.52**	**360**	P	**P**	**06 02 35.8**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=0.4,slow=6.3,SNR=5.3						
HNR	**Honiara**	**67.18**	**213**	LR	LR	06 25 57.5	
	comp=Z,235nm,20.5s,baz=24,slow=31						
KMI	**Kunming**	**68.96**	**284**	P	**P**	**06 02 52.8**	**-0.7**
KMI				PMZ			
	comp=Z,8.0nm,2.0s						
JAY	**Jayapura**	**68.97**	**235**	LR	LR	06 29 17.9	
	comp=Z,241nm,19.6s,slow=33						
ABKAR	**Akbulak array**	**69.97**	**328**	*eP*	**P**	**06 02 57.2**	**-1.9**
	comp=Z,1.0nm,0.6s						
PMOR	**Pomariorio Ree**	**70.09**	**158**	*eT*	T	07 19 15.6	
	comp=Z,12nm,0.2s						
PMG	**Port Moresby**	**72.03**	**225**	*ceP*	**P**	**06 03 13.3**	**+1.4**
PMG				pmax	pmax		
	comp=Z,145nm,1.2s						
PPT	**Papeete**	**72.21**	**160**	LR	LR	06 26 26.2	
	comp=Z,108nm,20.9s,baz=342,slow=29						
PPT2	**Papeete2**	**72.23**	**160**	*e*LQ	LQ	06 21 54.8	
	comp=Z,290nm,25.0s						
PPT2				*e*LR	LR	06 25 01.8	
	comp=Z,210nm,24.8s						
PPT2	**Papeete2**	**72.23**	**160**	*eT*	T	07 21 54.6	
	comp=Z,7.8nm,0.3s						
TIAR	**Tiarei**	**72.24**	**160**	*eT*	T	07 21 55.8	
	comp=Z,6.2nm,0.2s						
PAE	**Paea**	**72.30**	**160**	*eT*	T	07 21 56.9	
	comp=Z,1.7nm,0.3s						
SIJI	**Sorong**	**72.50**	**244**	LR	LR	06 31 11.5	
	comp=Z,135nm,19.9s,baz=178,slow=33						
AKASG	**Malin Array Be**	**75.65**	**348**	P	**P**	**06 03 31.1**	**-1.6**
	comp=Z,1.8nm,0.6s,baz=15,slow=5.7,SNR=6.2						
AKASG				LR	LR	06 40 54.6	
	comp=Z,193nm,19.5s,baz=10.0,slow=39						
KIEV	**Kiev**	**75.66**	**348**	⇑*eP*	**P**	**06 03 34.0**	**+1.2**
CLL	**Collm**	**76.25**	**358**	*eP*	P	06 03 42.0	+5.8
CLL				*eS*	**S**	**06 13 21.0**	**+1.2**
CLL				MLR	MLR		
	comp=Z,200nm,20.3s						
CLL	**Collm**	**76.25**	**358**	*eS*	**S**	**06 13 21.0**	**+1.2**
CLL				*e*SS	SS	06 18 42.0	+30
CLL				*e*		06 22 42.0	
CLL				Lm	MLR	06 39 00.0	
	comp=Z,200nm,20.3s						
CMAR	**Chiang Mai Arr**	**76.32**	**282**	P	**P**	**06 03 35.5**	**-1.6**
	comp=Z,1.2nm,0.4s,baz=23,slow=5.9,SNR=6.6						
CMAR				LR	LR	06 40 33.4	
	comp=Z,280nm,19.0s,baz=57,slow=38						
CMAR	**Chiang Mai Arr**	**76.32**	**282**	*i* P	**P**	**06 03 38.7**	**+1.7**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
DPC	**Dobruska-Polom**	**77.11**	**356**	*eP*	**P**	**06 03 41.1**	**0.0**
DPC	**Dobruska-Polom**	**77.11**	**356**	*eP*	**P**	**06 03 41.1**	**0.0**
DOU	**Dourbes**	**77.38**	**4**	P	**P**	**06 03 45.5**	**+2.9**
OKC	**Ostrava-Krasne**	**77.53**	**355**	*eP*	**P**	**06 03 45.4**	**+2.0**
OKC	**Ostrava-Krasne**	**77.53**	**355**	*eP*	**P**	**06 03 45.4**	**+2.0**
TBI	**Tubuai**	**77.84**	**161**	*e*LQ	LQ	06 24 00.1	
	comp=Z,169nm,26.5s						
TBI				*e*LR	LR	06 27 43.2	
	comp=Z,117nm,31.0s						
TBI	**Tubuai**	**77.84**	**161**	*eT*	T	07 28 54.7	
	comp=Z,37nm,0.3s						
GOF	**Gofitskoye**	**78.55**	**337**	*eP*	**P**	**06 03 51.5**	**+2.3**
GERES	**GERESS Array B**	**78.70**	**358**	P	**P**	**06 03 50.0**	**0.0**
	comp=Z,0.6nm,0.5s,baz=20,slow=4.3,SNR=5.5						
MAK	**Makhachkala**	**79.37**	**333**	*eP*	P	06 03 50.3	-3.4
MAK				*e*		06 06 50.9	
MAK				S	**S**	**06 13 50.9**	**-2.8**
MAK				pmax	pmax		
	comp=Z,46nm,0.4s						
KBZ	**Khabaz**	**79.84**	**337**	LR	LR	06 44 57.3	
	comp=Z,237nm,18.4s,baz=12,slow=40						
KBA	**Koelnbreinsper**	**80.48**	**358**	⇑*i* sP	**P**	**06 04 01.9**	**+2.1**
	comp=Z,18nm,1.3s						
GEYT	**Alibeck**	**80.56**	**324**	LR	LR	06 46 18.5	
	comp=Z,388nm,18.4s,baz=40,slow=41						
FETA	**Feichten**	**80.57**	**360**	⇑*i* sP	**P**	**06 04 00.8**	**+0.5**
	comp=Z,6.7nm,1.6s						
FUORN	**Ofenpass-Fuorn**	**80.97**	**0**	*eP*	P	06 04 07.3	+4.7
	comp=Z,5.8nm,1.1s						
RKT	**Rikitea**	**81.42**	**148**	*e*LR	LR	06 29 19.5	
	comp=Z,302nm,24.5s						
RKT	**Rikitea**	**81.42**	**148**	*eT*	T	07 33 28.3	
	comp=Z,6.5nm,0.3s						
BRTR	**Keskin Array B**	**85.66**	**342**	LR	LR	06 46 30.0	
	comp=Z,101nm,21.1s,baz=352,slow=38						
ESDC	**Sonseca Array**	**87.09**	**11**	P	**P**	**06 04 33.0**	**-0.7**
	comp=Z,0.2nm,0.2s,baz=352,slow=7.8,SNR=3.9						
ESDC				LR	LR	06 46 08.9	
	comp=Z,39nm,19.3s,baz=315,slow=37						
WRA	**Warramunga Arr**	**87.10**	**231**	P	**P**	**06 04 31.2**	**-2.5**
	comp=Z,3.1nm,1.0s,baz=32,slow=5.7,SNR=9.6						
WRA				LR	LR	06 39 30.3	
	comp=Z,271nm,21.8s,baz=40,slow=33						
WRA	**Warramunga Arr**	**87.10**	**231**	*i* P	**P**	**06 04 33.0**	**-0.7**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SDV	**Santo Domingo**	**88.45**	**77**	*eP*	**P**	**06 04 39.0**	**-1.7**
	comp=Z,5.3nm,0.8s						
PSI	**Prapat**	**88.61**	**273**	*eP*	**P**	**06 04 39.7**	**-1.6**
PSI	**Prapat**	**88.61**	**273**	*eP*	**P**	**06 04 39.7**	**-1.6**
AS31	**Alice Springs**	**90.50**	**230**	*eP*	**P**	**06 04 48.0**	**-1.7**
ASAR	**Alice Springs**	**90.50**	**230**	P	**P**	**06 04 48.2**	**-1.5**
	comp=Z,6.9nm,0.7s,baz=33,slow=4.5,SNR=33						
OTAV	**Otavalo**	**90.58**	**89**	*eP*	**P**	**06 04 51.8**	**+0.9**
	comp=Z,5.2nm,0.9s						
STKA	**Stephens Creek**	**94.38**	**220**	LR	LR	06 41 13.7	
	comp=Z,371nm,21.7s,baz=24,slow=32						
TSUM	**Tsumeb**	**146.00**	**348**	*e*PKPdf	**PKPdf**	**06 11 26.2**	**-0.9**
LBTB	**Lobatse**	**149.94**	**331**	*e*PKP2	**PKPbc**	**06 11 37.0**	**-1.3**
LBTB	**Lobatse**	**149.94**	**331**	*e*PKPbc	**PKPbc**	**06 11 37.0**	**-1.3**
MAW	**Mawson**	**151.06**	**219**	PKPbc	**PKPbc**	**06 11 38.7**	**-0.8**
	comp=Z,5.0nm,0.8s,baz=76,slow=2.7,SNR=10						
BOSA	**Boshof**	**153.42**	**329**	PKPbc	**PKPbc**	**06 11 44.5**	**-1.7**
	comp=Z,4.6nm,0.5s,baz=20,slow=1.6,SNR=11						
BOSA	**Boshof**	**153.42**	**329**	PKIKP	**PKPbc**	**06 11 44.5**	**-1.7**
BOSA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
SYO	**Syowa Base**	**158.73**	**209**	⇑*eP*	**PKPab**	**06 12 19.8**	**-0.1**
VNA2	**Neumayer--Watz**	**160.14**	**163**	PKPab	**PKPab**	**06 12 23.5**	**-2.6**
	baz=274,slow=1.3						
VNA2	**Neumayer--Watz**	**160.14**	**163**	PKPdf	**PKPdf**	**06 11 46.2**	**+0.5**
	baz=282,slow=1.0						
SNAA	**Sanae**	**160.18**	**168**	PKPab	**PKPab**	**06 12 22.8**	**-3.4**
VNA1	**Neumayer--Stat**	**160.21**	**162**	PKPab	**PKPab**	**06 12 22.4**	**-3.9**

*IDC **21** 06:11:42.2±1.8, 52.°63N×169.°69W, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.5/30, mbtmp3.5/6, ML3.4/2, Error ellipse: s-maj=45.5km s-min=23.6km az=2.0*
*ISCJB **21** 06:11:43.6±0.8, 52.°57N±0.°09×169.°4W±0.°1, h10km, mb3.4/5, Error ellipse: s-maj=16.0km s-min=6.8km az=144.2*
*NEIC **21** 06:11:45.1, 52.°63N×169.°32W, h7km, ML3.5(AEIC), After AEIC.*

ISC 21 06:11:44.6±1.0, 52.°7N±0.°1×169.°37W±0.°07, h10km, n30, σ1=18°/27°, mb3.4/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.45**	**45**	P	P	**Pb**	**06 11 54.8**	**+0.2**
NIKH				S		**Sb**	**06 12 02.5**	**+1.2**
OKWR	**Okmok West Rim**	**1.05**	**42**	P	P	**Pg**	**06 12 05.6**	**+0.8**
OKCE	**Okmok Cone E**	**1.06**	**43**	P	P	**Pg**	**06 12 04.9**	**-0.1**
OKTU	**Okmok Mt. Tuli**	**1.08**	**47**	P	P	**Pg**	**06 12 05.7**	**+0.2**
OKAK	**Okmok**	**1.11**	**33**	P	P	**Pb**	**06 12 04.2**	**-1.7**
OKFG	**Magazine Ridge**	**1.16**	**49**	P	P	**Pb**	**06 12 06.2**	**-0.5**
OKFG				S		**Sb**	**06 12 22.4**	**+0.6**
MSOM	**Makushin Julie**	**1.86**	**50**	P	P	**Pn**	**06 12 16.6**	**+0.1**
MSOM				S		**Sb**	**06 12 42.9**	**+0.9**
MCIR	**Makushin Cirqu**	**1.97**	**48**	P	P	**Pn**	**06 12 19.6**	**+1.4**
MSW	**Makushin Switc**	**2.00**	**50**	P	P	**Pn**	**06 12 18.7**	**+0.2**
MTBL	**Makushin Table**	**2.08**	**50**	P	P	**Pn**	**06 12 20.0**	**+0.3**
UNV	**Unalaska Valle**	**2.10**	**54**	P	P	**Pn**	**06 12 19.4**	**-0.3**
UNV				S		**Sn**	**06 12 45.8**	**-0.1**
AKRB	**Akutan Reef Bi**	**2.47**	**52**	P	P	**Pn**	**06 12 26.0**	**+1.1**
ZRO	**Akutan Zero**	**2.49**	**53**	P	P	**Pn**	**06 12 26.3**	**+1.1**
AKGG	**Akutan Green G**	**2.54**	**51**	P	P	**Pn**	**06 12 26.8**	**+0.9**
AKUT	**Akutan**	**2.62**	**54**	*e*Pn	P	**Pn**	**06 12 28.6**	**+1.7**
ATKA	**Atka Island**	**2.99**	**263**	P	P	**Pn**	**06 12 33.9**	**+1.9**
SPIA	**Saint Paul Isl**	**4.56**	**354**	P	P	**Pn**	**06 12 55.8**	**+2.2**
ILAR	**Eielson Array**	**16.71**	**35**	Pn	Pn	**Pn**	**06 15 37.4**	**-1.2**
PETK	**Petropavlovsk-**	**19.79**	**284**	P	P	**Pn**	**06 16 13.4**	**-1.4**
	0.3nm,0.3s,baz=71,slow=15,SNR=3.2							
INK	**Inuvik**	**23.11**	**34**	P	P	**Pn**	**06 16 50.3**	**+0.1**
	1.1nm,0.8s,baz=240,slow=9.9,SNR=4.8							
NVAR	**Mina Array Bea**	**37.67**	**91**	P	P	P	06 19 04.1	+4.1
	0.2nm,0.5s,baz=316,slow=5.0,SNR=3.7							
H11N2	**WAKE ISLAND Hy**	**37.68**	**218**	T	T	T	06 58 53.5	
	baz=24,slow=76,SNR=15							
H11N3	**WAKE ISLAND Hy**	**37.69**	**218**	T	T	T	06 58 54.7	
	baz=24,slow=76,SNR=11							
H11N1	**WAKE ISLAND Hy**	**37.70**	**218**	T	T	T	06 58 52.4	
	baz=24,slow=76,SNR=7.2							
H11S1	**WAKE ISLAND Hy**	**38.87**	**218**	T	T	T	07 00 26.8	
	baz=23,slow=76,SNR=91							
H11S2	**WAKE ISLAND Hy**	**38.88**	**218**	T	T	T	07 00 26.8	
	baz=23,slow=76,SNR=61							
H11S3	**WAKE ISLAND Hy**	**38.89**	**218**	T	T	T	07 00 27.4	
	baz=23,slow=76,SNR=49							
PDAR	**Pinedale Array**	**40.35**	**79**	P	P	**P**	**06 19 23.4**	**+0.9**
	0.4nm,0.6s,baz=302,slow=5.2,SNR=3.9							
TXAR	**Lajitas Array**	**52.74**	**89**	P	P	**P**	**06 21 00.1**	**+0.4**
	0.9nm,0.7s,baz=303,slow=5.6,SNR=6.1							
KURBB	**Kurchatov Arra**	**62.27**	**318**	P	P	**P**	**06 22 04.0**	**-2.3**
	0.1nm,0.2s,baz=51,slow=7.3,SNR=3.0							

*IDC **21** 06:18:51.0±0.7, 6.°18S×151.°11E, h0km, mb4.3/11, mb1 4.5/12, mb1mx4.3/20, mbtmp4.3/12, ML2.0/1, MS3.6/5, Ms1 3.6/5, ms1mx3.3/23, Error ellipse: s-maj=31.2km s-min=15.5km az=102.0*
*ISCJB **21** 06:18:56.7±0.5, 6.°16S±0.°06×150.°75E±0.°09, h43km, mb4.3/13, MS3.5/5, Error ellipse: s-maj=13.9km s-min=6.7km az=31.3*
*NEIC **21** 06:18:56.7±0.4, 6.°15S×150.°94E, h35km, mb4.5/1, Error ellipse: s-maj=14.0km s-min=7.4km az=114.0*

ISC 21 06:18:58.3±0.6, 6.°17S±0.°09×150.°8E±0.°1, h43km, n37, σ1=54°/35°, mb4.4/13, MS3.5/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.39**	**35**	P	P	**Pn**	**06 19 36.6**	**+1.6**
	baz=2.5,SNR=8.1							
PMG	**Port Moresby**	**4.83**	**228**	Pn	Pn	**Pn**	**06 20 08.2**	**-0.4**
	4.2nm,0.3s,baz=31,slow=8.0,SNR=6.0							
PMG				Sn	Sn	**Sn**	**06 21 02.7**	**-0.6**
	17nm,0.3s,baz=107,slow=20,SNR=9.0							
PMG	**Port Moresby**	**4.83**	**228**	P	Pn		06 20 15.3	+6.7
	baz=4.9,SNR=3.2							
PMG				P	Pn		06 20 15.3	+6.7
	baz=4.9,SNR=3.2							
PMG				P	Pn		06 20 15.3	+6.7
	baz=4.9,SNR=3.2							
PMG	**Port Moresby**	**4.83**	**228**	Pn	**Pn**	**Pn**	**06 20 08.2**	**-0.4**
PMG				*e*Pn	Pn		06 20 09.5	+1.0
PMG				Sn	**Sn**		**06 21 02.7**	**-0.6**
PMG				*e*Sn	Sn		06 21 03.4	+0.1
MANU	**Manus Island**	**5.34**	**320**	P	Pn		06 20 20.9	+5.4
	baz=5.7,SNR=4.5							
COEN	**Coen**	**10.78**	**224**	*e*Pn	**Pn**		**06 21 30.3**	**+0.2**
KDU	**Kakadu**	**19.19**	**249**	P	**Pn**		**06 23 20.4**	**+0.5**
	baz=19,SNR=6.4							
RMQ	**Roma**	**20.30**	**185**	P	Pn		06 23 32.9	0.0
	baz=20,SNR=25							
MTN	**Manton Dam**	**20.49**	**250**	P	**P**		**06 23 33.2**	**+0.4**
	baz=21,SNR=8.3							
WRAB	**Tennant Creek**	**21.04**	**228**	*e*P	**P**		**06 23 38.6**	**-0.1**
	17nm,0.7s							
WRA	**Warramunga Arr**	**21.05**	**228**	P	**P**		**06 23 38.6**	**-0.3**
	13nm,0.6s,baz=51,slow=10.0,SNR=39							
WRA				ScP	**ScP**		**06 31 21.5**	**+3.3**
	1.1nm,0.8s,baz=53,slow=2.4,SNR=4.7							
QLP	**Quilpie**	**21.24**	**196**	P	**P**		**06 23 42.5**	**+1.7**
	baz=21,SNR=10							
AS31	**Alice Springs**	**23.80**	**221**	*e*P	**P**		**06 24 07.8**	**+0.4**
ASAR	**Alice Springs**	**23.81**	**221**	P	**P**		**06 24 07.8**	**+0.4**
	9.3nm,0.7s,baz=54,slow=9.2,SNR=73							
ASAR				S	**S**		**06 28 25.4**	**+5.0**
	0.5nm,0.8s,baz=41,slow=18,SNR=4.2							
ASAR				ScP	**ScP**		**06 31 29.3**	**+4.0**
	0.6nm,0.7s,baz=47,slow=3.0,SNR=5.9							
STKA	**Stephens Creek**	**26.99**	**197**	P	**P**		**06 24 35.5**	**-0.6**
	9.6nm,0.7s,baz=16,slow=12,SNR=18							
STKA	**Stephens Creek**	**26.99**	**197**	P	**P**		**06 24 36.5**	**+0.3**
	baz=27,SNR=14							
STKA	**Stephens Creek**	**26.99**	**197**	*eP*	**P**		**06 24 35.8**	**-0.4**
BATI	**Baumata**	**27.15**	**260**	LR	LR		06 36 25.9	
	comp=Z,267nm,20.8s,baz=103,slow=38							
WRKA	**Warakurna**	**28.57**	**227**	P	**P**		**06 24 50.0**	**-0.6**
	baz=29,SNR=11							
HTT	**Hallett**	**29.28**	**201**	P	P		06 25 01.9	+5.1
	baz=29,SNR=5.1							
MEEK	**Meekatharra**	**36.79**	**233**	P	**P**		**06 26 01.9**	**-0.4**
	baz=37,SNR=7.5							
URZ	**Urewera**	**39.88**	**147**	P	**P**		**06 26 28.2**	**+0.2**
	4.4nm,0.5s,baz=240,slow=6.1,SNR=6.7							
JNU	**Nakatsue**	**43.41**	**335**	P	**P**		**06 26 57.7**	**+0.7**
	8.3nm,0.6s,baz=163,slow=11,SNR=10							
MJAR	**Matsushiro Arr**	**44.09**	**345**	LR	LR		06 42 26.4	
	comp=Z,47nm,20.9s,baz=115,slow=32							
KSRS	**Korea Array**	**48.36**	**336**	P	**P**		**06 27 35.9**	**0.0**
	1.5nm,0.6s,baz=149,slow=7.1,SNR=4.5							
KSRS				LR	LR		06 47 39.2	
	comp=Z,44nm,18.4s,baz=104,slow=36							
KSAR	**Wonju Array Be**	**48.37**	**336**	P	**P**		**06 27 35.9**	**-0.1**
CM31	**Chiang Mai Arr**	**56.68**	**297**	P	P		06 28 47.6	+10
	baz=57,SNR=4.5							
PETK	**Petropavlovsk-**	**59.34**	**5**	P	**P**		**06 28 54.3**	**-1.5**
	2.2nm,0.6s,baz=183,slow=8.7,SNR=4.2							
PETK				LR	LR		06 51 14.0	
	comp=Z,26nm,19.4s,baz=175,slow=33							
SONM	**Songino Array**	**66.44**	**329**	P	**P**		**06 29 43.7**	**+0.4**
	1.7nm,0.5s,baz=134,slow=6.2,SNR=5.2							
VNDA	**Vanda**	**71.55**	**177**	P	**P**		**06 30 13.9**	**-0.6**
	2.4nm,0.7s,baz=329,slow=6.8,SNR=14							
VNDA				LR	LR		07 00 11.6	
	comp=Z,44nm,18.8s,baz=0.5,slow=35							
ZALV	**Zalesovo Beam**	**81.19**	**327**	P	**P**		**06 31 09.4**	**0.0**
	1.1nm,0.6s,baz=100,slow=5.3,SNR=2.0							
TKM2	**Tokmak 2**	**83.44**	**314**	P	**P**		**06 31 22.6**	**+0.8**
ILAR	**Eielson Array**	**84.17**	**22**	P	**P**		**06 31 23.2**	**-1.5**
	1.1nm,0.7s,baz=254,slow=5.3,SNR=13							
NVAR	**Mina Array Bea**	**94.49**	**52**	P	**P**		**06 32 12.1**	**-2.5**
	0.2nm,0.5s,baz=276,slow=4.4,SNR=2.5							
GERES	**GERESS Array B**	**124.14**	**327**	PKP		**PKPdf**	**06 37 50.7**	**-1.7**
	0.5nm,0.2s,baz=34,slow=3.7,SNR=6.1							
TORD	**Torodi Ar. Bea**	**148.78**	**285**	PKPbc		**PKPbc**	**06 38 41.3**	**-0.9**
	2.7nm,0.7s,baz=50,slow=2.6,SNR=28							
BDFB	**Brasilia**	**151.42**	**140**	PKPbc		**PKPbc**	**06 38 48.1**	**-0.6**
	2.7nm,0.5s,baz=234,slow=4.4,SNR=5.7							

*IDC **21** 06:20:22.6±0.7, 52.°68N×169.°72W, h0km, mb3.9/9, mb1 4.1/11, mb1mx3.9/30, mbtmp3.8/11, ML3.5/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/29, Error ellipse: s-maj=28.7km s-min=16.4km az=157.0*
*ISCJB **21** 06:20:23.8±0.4, 52.°54N±0.°05×169.°28W±0.°07, h10km, mb4.0/19, MS3.2/1, Error ellipse: s-maj=9.2km s-min=4.2km az=141.9*
*NEIC **21** 06:20:25.5, 52.°65N×169.°20W, h4km, mb4.1/12, ML4.0(AEIC), After AEIC.*

ISC 21 06:20:24.8±0.6, 52.°66N±0.°09×169.°31W±0.°06, h10km, n54, σ1=20°/52°, mb4.1/19, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.42**	**41**	P	P	**Pb**	**06 20 34.3**	**0.0**
NIKH				S		**Sb**	**06 20 42.0**	**+1.4**
OKWR	**Okmok West Rim**	**1.02**	**40**	P	P	**Pn**	**06 20 45.4**	**+0.1**
OKCE	**Okmok Cone E**	**1.03**	**41**	P	P	**Pg**	**06 20 44.4**	**-0.2**
OKTU	**Okmok Mt. Tuli**	**1.05**	**46**	P	P	**Pg**	**06 20 45.2**	**+0.2**
OKAK	**Okmok**	**1.08**	**31**	P	P	**Pg**	**06 20 43.9**	**-1.7**
OKFG	**Magazine Ridge**	**1.13**	**48**	P	P	**Pb**	**06 20 45.8**	**-0.6**
OKFG				S		**Sn**	**06 21 02.1**	**-0.1**
MSOM	**Makushin Julie**	**1.83**	**50**	P	P	**Pn**	**06 20 56.6**	**+0.3**
MSOM				S		**Sb**	**06 21 20.4**	**-0.8**
MCIR	**Makushin Cirqu**	**1.94**	**47**	P	P	**Pn**	**06 20 59.0**	**+1.1**
MSW	**Makushin Switc**	**1.97**	**49**	P	P	**Pn**	**06 20 58.9**	**+0.7**
MTBL	**Makushin Table**	**2.05**	**49**	P	P	**Pn**	**06 21 00.1**	**+0.7**
UNV	**Unalaska Valle**	**2.06**	**54**	P	P	**Pn**	**06 20 59.1**	**-0.3**
UNV				S		**Sn**	**06 21 25.4**	**+0.2**
AKRB	**Akutan Reef Bi**	**2.43**	**51**	P	P	**Pn**	**06 21 05.8**	**+1.1**
ZRO	**Akutan Zero**	**2.46**	**53**	P	P	**Pn**	**06 21 06.1**	**+1.2**
AKGG	**Akutan Green G**	**2.51**	**51**	P	P	**Pn**	**06 21 07.1**	**+1.4**
AKUT	**Akutan**	**2.58**	**54**	P	P	**Pn**	**06 21 08.4**	**+1.9**
ATKA	**Atka Island**	**3.03**	**263**	P	P	**Pn**	**06 21 13.3**	**+0.5**
GSTR	**Great Sitkin T**	**4.18**	**265**	P	P	**Pn**	**06 21 30.0**	**+1.4**
GSMY	**Great Sitkin M**	**4.18**	**264**	P	P	**Pn**	**06 21 30.6**	**+1.9**
SPIA	**Saint Paul Isl**	**4.56**	**354**	P	P	**Pn**	**06 21 35.9**	**+2.1**
AMKA	**Amchitka**	**7.15**	**264**	P	P	**Pn**	**06 22 11.2**	**+1.9**
BPAW	**Bear Paw Mtn.**	**14.88**	**33**	*e*Pn	P	**Pn**	**06 23 59.6**	**-1.2**
	2.7nm,1.1s							
ILAR	**Eielson Array**	**16.69**	**35**	Pn	Pn	**Pn**	**06 24 18.1**	**-0.4**
	0.1nm,0.3s,baz=227,slow=10,SNR=5.8							
EGAK	**Eagle**	**18.79**	**39**	*eP*	**Pn**	**Pn**	**06 24 45.5**	**+1.1**
	4.0nm,0.8s							
DAWY	**Dawson**	**19.19**	**42**	*eP*	**Pn**	**Pn**	**06 24 49.9**	**+0.6**
	2.5nm,0.8s							
PETK	**Petropavlovsk-**	**19.82**	**285**	P	P	P	06 24 50.8	-4.6
	0.5nm,0.3s,baz=54,slow=6.1,SNR=4.0							
SKAG	**Skagway**	**19.98**	**57**	*eP*	**P**	**P**	**06 24 57.8**	**+0.8**
	17nm,0.7s							
DLBC	**Dease Lake**	**22.70**	**60**	P	**P**	**P**	**06 25 28.9**	**+2.5**
	0.6nm,0.4s,baz=271,slow=12,SNR=1.7							
INK	**Inuvik**	**23.08**	**34**	P	**P**	**P**	**06 25 31.1**	**+0.9**
	1.8nm,0.7s,baz=240,slow=10,SNR=4.5							
INK				LR	LR		06 34 17.0	
	comp=Z,90nm,20.3s,baz=263,slow=36							
YKA	**Yellowknife Ar**	**30.02**	**49**	P	**P**	**P**	**06 26 34.0**	**+0.7**
	0.5nm,0.4s,baz=276,slow=7.0,SNR=7.7							
NEW	**Newport**	**32.90**	**76**	*eP*	**P**	**P**	**06 26 59.7**	**+0.8**
	3.1nm,0.9s							
WVOR	**Wild Horse Val**	**35.02**	**86**	*eP*	**P**	**P**	**06 27 18.4**	**+0.9**
	2.9nm,1.1s							
MCMT	**McKenzie Canyo**	**37.18**	**79**	*eP*	**P**	**P**	**06 27 36.6**	**+0.5**
	1.3nm,0.6s							
EGMT	**Eagleton**	**37.34**	**73**	*eP*	**P**	**P**	**06 27 38.6**

CEP S S 06 25 00.0 -0.7
CHCP Chirah Chowk 3.63 166 ⇓P Pn 06 24 21.5 +2.0
AML Almayashu 5.06 13 P Pn 06 24 36.6 -0.3
SNR=56
SARP Sargodha 5.28 176 P Pn 06 24 39.3 -0.1
KZA Kyzart 5.41 25 P Pn 06 24 40.9 -0.4
SNR=14
DLH Dalhousie 5.58 145 *eP* **Pn 06 24 43.0 -0.4**
DLH *eS* S 06 25 47.0 -2.1
EKS2 Erkin-Say 5.59 12 P Pn 06 24 43.2 -0.1
SNR=35
AAK Ala-Archa 5.70 17 P Pn 06 24 45.2 +0.4
SNR=18
AAK Ala-Archa 5.70 17 ⇓P Pn 06 24 44.8 0.0
30nm,0.7s
AAK ⇓S S 06 25 49.6 -2.1
288nm,0.9s
AAK Ala-Archa 5.70 17 PN Pn 06 24 44.5 -0.3
AAK 06 25 50.0
AAK pmax pmax
comp=Z,24nm,0.5s
AAK smax smax
comp=N,288nm,1.0s
KBK Karagaybulak 5.84 20 P Pn 06 24 47.6 +1.1
SNR=13
ULHL Ulahol 5.92 30 P Pn 06 24 47.3 -0.2
SNR=38
FRU Bishkek 5.92 17 *i* PN **Pn 06 24 47.0 -0.4**
FRU *i* S S 06 25 54.0 -2.5
FRU pmax pmax
comp=E,60nm,1.0s
FRU smax smax
comp=N,1μm,2.1s
DHRM DHARAMSHALA 5.97 145 *eP* **Pn 06 24 49.5 +1.1**
DHRM *eS* S 06 25 55.6 -2.6
DHRM AML AML 06 25 59.4
comp=E,323nm,0.5s
DHRM AML AML 06 26 01.6
comp=N,285nm,0.8s
KK31 Karatay Array 6.04 348 ⇓P Pn 06 24 48.1 -0.8
comp=N,42nm,0.4s,baz=163,slow=13,SNR=504
KK31 ⇑S S 06 25 52.5 -6.7
comp=N,105nm,0.4s,baz=174,slow=24
KK31 Karatay Array 6.04 348 *e*PN **Pn 06 24 47.6 -1.3**
KK31 pmax pmax
comp=Z,37nm,0.2s
PONG Pong 6.07 148 *eP* **Pn 06 24 49.0 -0.3**
PONG *eS* S 06 25 56.0 -4.0
CHMS Chumysh 6.11 18 P Pn 06 24 50.2 +0.5
SNR=10
TKM2 Tokmak 2 6.28 23 P Pn 06 24 52.3 +0.2
SNR=13
TKM2 Tokmak 2 6.28 23 ⇓P Pn 06 24 52.0 0.0
comp=Z,53nm,0.8s
TKM2 Tokmak 2 6.28 23 PN Pn 06 24 51.0 -1.0
TKM2 pmax pmax
comp=Z,25nm,0.4s
USP Ospenovka 6.31 15 P Pn 06 24 53.4 +1.1
SNR=9.9
BHK Bhakra 6.73 148 *ex* **S 06 26 19.1 +3.7**
SMLA Simla 7.31 144 *i* P **Pn 06 25 05.6 +0.5**
SMLA *eS* S 06 26 24.9 -3.9
SMLA AML AML 06 26 31.3
comp=E,166nm,0.6s
SMLA AML AML 06 26 31.4
comp=N,199nm,0.3s
PDGK Podgornoye 8.27 40 ⇓P Pn 06 25 16.1 -1.0
comp=N,18nm,0.9s
JOSI Joshimath 9.01 135 *eP* **Pn 06 25 25.9 -1.0**
JOSI *eS* S 06 27 00.4 -8.4
JOSI AML AML 06 27 09.2
comp=E,151nm,0.9s
JOSI AML AML 06 27 14.6
comp=N,192nm,1.0s
NDI New Delhi 9.47 152 *eP* **Pn 06 25 32.0 -0.7**
NDI *ex* S 06 27 18.5 -0.9
KHET Khetri 9.59 161 *eS* S 06 27 11.9 -10
KHET AML AML 06 27 29.2
comp=N,206nm,0.0s
KHET AML AML 06 27 29.5
comp=E,309nm,0.5s
SONA Sohna 9.82 154 *eP* **Pn 06 25 35.7 -1.4**
SONA *eS* S 06 27 17.6 -10
AGRA Agra 11.06 152 *eS* S 06 27 48.4 -7.1
AGRA AML AML 06 27 52.5
comp=E,60nm,0.3s
AGRA AML AML 06 27 55.8
comp=N,51nm,0.3s
GEYT Alibeck 11.21 278 P Pn 06 25 53.7 -1.1
comp=N,3.3nm,0.3s,baz=108,slow=9.8,SNR=20
GEYT S S 06 27 56.8 -2.3
comp=N,4.9nm,0.3s,baz=105,slow=21,SNR=7.2
MK31 Makanchi Array 12.16 35 ⇑P Pn 06 26 06.0 -0.4
comp=N,14nm,0.6s,baz=220,slow=12,SNR=86
MK31 Makanchi Array 12.16 35 P Pn 06 26 06.0 -0.4
MK31 pmax pmax
comp=Z,11nm,0.4s
MKAR Makanchi Array 12.16 35 P Pn 06 26 05.4 -1.1
comp=Z,3.0nm,0.3s,baz=220,slow=14,SNR=77
MKAR Makanchi Array 12.16 35 *eP* **Pn 06 26 05.1 -1.3**
MKAR pmax pmax
comp=Z,3.0nm,0.3s
DANN Dangsing 13.11 129 *eP* **Pn 06 26 19.1 +0.4**
KOLN Koldanda 13.43 131 *eP* **P 06 26 24.0 -0.3**
comp=Z,35nm,0.7s
GKN Gorkha 13.91 128 *eP* **Pn 06 26 28.6 +0.3**
comp=Z,30nm,0.3s
KURBB Kurchatov Arra 14.16 17 ⇓P Pn 06 26 29.4 -1.7
comp=Z,10nm,0.4s
KURBB Kurchatov Arra 14.16 17 P Pn 06 26 29.8 -1.2
comp=Z,1.0nm,0.3s,baz=205,slow=11,SNR=49
KURK Kurchatov 14.27 17 ⇑P Pn 06 26 31.1 -1.2
comp=Z,24nm,1.1s
KURK Kurchatov 14.27 17 P Pn 06 26 29.8 -2.5
KURK pmax pmax
comp=Z,1.0nm,0.3s
KKN Kakani 14.46 127 *eP* **Pn 06 26 35.1 -0.1**
comp=Z,33nm,0.5s
DMN Daman 14.48 128 *eP* **Pn 06 26 35.5 +0.1**
comp=Z,22nm,0.5s
PKIN Phulchoki 14.68 127 *eP* **P 06 26 38.1 -0.1**
comp=Z,36nm,0.6s
PKI Pulchoki 14.70 127 *eP* **Pn 06 26 37.9 -0.2**
comp=Z,42nm,0.7s
GUN Gumba 14.77 125 *eP* **P 06 26 39.2 0.0**
comp=Z,45nm,0.4s
AB31 Akbulak array 14.98 327 ⇑P P 06 26 40.0 -1.0
comp=Z,1.9nm,0.5s,baz=136,slow=11,SNR=43
AB31 ⇑S S 06 29 18.0 -8.4
comp=Z,5.8nm,0.6s,baz=155,slow=24,SNR=7.2
AB31 Akbulak array 14.98 327 *eP* **Pn 06 26 41.9 +0.9**
AB31 06 29 18.5
AB31 pmax pmax
comp=Z,2.0nm,0.3s
AB31 smax smax
comp=N,4.0nm,0.4s
BVA0 Borovoye Array 15.88 356 P Pn 06 26 52.0 +0.3
comp=N,2.6nm,0.3s,baz=161,slow=11,SNR=36
BVA0 S S 06 29 42.9 -2.6
comp=N,0.2nm,0.5s,baz=167,slow=24,SNR=3.6
BVA0 Borovoye Array 15.88 356 *eP* **Pn 06 26 52.0 +0.3**
BVA0 pmax pmax
comp=Z,3.0nm,0.3s
BVAR Borovoye Array 15.88 356 P Pn 06 26 51.4 -0.3
comp=Z,4.0nm,0.3s,baz=166,slow=11,SNR=43
BVAR S S 06 29 46.5 +1.0
comp=Z,0.4nm,0.3s,baz=170,slow=20,SNR=5.1
BVAR Borovoye Array 15.88 356 P Pn 06 26 51.4 -0.3
BVAR S S 06 29 46.5 +1.0
BVAR pmax pmax
comp=Z,4.0nm,0.3s
BRVK Borovoye 15.92 356 ⇑P Pn 06 26 52.0 -0.2
comp=Z,3.1nm,0.4s
BRVK Borovoye 15.92 356 *d* **iP Pn 06 26 52.3 +0.1**
TAPN Taplejung 16.36 122 *eP* **Pn 06 26 59.2 +1.2**
comp=Z,32nm,0.5s
AKTO Aktyubinsk 16.69 327 ⇑P P 06 26 59.7 -0.1
comp=Z,3.0nm,0.4s
AKTO ⇑S S 06 29 59.4 -2.6
comp=Z,7.7nm,0.8s
AKTO Aktyubinsk 16.69 327 P P 06 26 59.7 -0.1
comp=Z,1.4nm,0.3s,baz=138,slow=10,SNR=14
AKTO S S 06 29 59.3 -2.7
comp=Z,0.2nm,0.3s,baz=133,slow=19,SNR=2.7
AKTO Aktyubinsk 16.69 327 P P 06 26 59.7 -0.1
AKTO S S 06 29 59.3 -2.7
AKTO pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 18.88 23 P P 06 27 23.7 +0.3
comp=Z,23nm,0.3s,baz=222,slow=11,SNR=280
ZALV S S 06 30 41.1 -4.1
comp=Z,0.7nm,0.3s,baz=212,slow=22,SNR=6.9
ZALV Zalesovo Beam 18.88 23 P P 06 27 23.7 +0.3
ZALV S S 06 30 41.1 -4.1
ZALV pmax pmax
comp=Z,23nm,0.3s
ZALV smax smax
comp=N,1.0nm,0.3s
NVS Novosibirsk 19.19 20 ⇑ *i*P **P 06 27 27.3 +0.6**
NVS *e* 06 30 47.3
NVS pmax pmax
comp=Z,25nm,0.7s
NVS pmax pmax
comp=N,19nm,0.5s
NVS smax smax
comp=N,9.0nm,0.8s
DGRG David-gareji 21.16 290 P P 06 27 56.2 +8.4
ARU Arti 21.31 339 P P 06 27 51.3 +2.2
NEY Neytrino 23.24 294 *eP* **P 06 28 07.8 +0.5**
NEY pmax pmax
comp=Z,1.0nm,1.2s
KIV Kislovodsk 23.34 296 ⇑ *eP* **P 06 28 12.1 +4.0**
KIV pmax pmax
comp=Z,6.0nm,0.6s
SONM Songino Array 27.14 56 P P 06 28 43.3 +1.1
comp=Z,3.7nm,0.6s,baz=267,slow=9.3,SNR=12
SONM pP **pP 06 29 29.2 +0.8**
comp=Z,1.2nm,0.7s,baz=261,slow=9.1,SNR=2.9
SONM Songino Array 27.14 56 P P 06 28 43.3 +1.1
SONM *PP **pP 06 29 29.2 +0.8**
SONM pmax pmax
comp=Z,4.0nm,0.6s
SONM pmax pmax
comp=Z,1.0nm,0.7s
OBN Obninsk 30.06 318 ⇓ *eP* **P 06 29 08.0 +0.3**
OBN *i* *PP **pP 06 29 53.3 -1.1**
OBN *i* 06 30 18.2
OBN pmax pmax
comp=Z,4.0nm,0.7s
BRTR Keskin Array B 30.16 287 P P 06 29 08.7 -0.3
comp=Z,1.1nm,0.7s,baz=102,slow=8.6,SNR=6.4
BRTR Keskin Array B 30.16 287 *eP* **P 06 29 10.1 +1.1**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 33.28 308 P P 06 29 36.3 +0.4
comp=Z,0.9nm,0.4s,baz=106,slow=9.4,SNR=7.5
AKASG Malin Array Be 33.28 308 P P 06 29 36.3 +0.4
AKASG pmax pmax
comp=Z,1.0nm,0.4s
KIEV Kiev 33.29 308 *eP* **P 06 29 35.8 -0.2**
FINES FINESS Array B 37.46 325 P P 06 30 11.9 +0.6
comp=Z,1.1nm,0.4s,baz=122,slow=11,SNR=12
FINES FINESS Array B 37.46 325 *eP* **P 06 30 12.1 +0.8**
FINES pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 40.88 337 P P 06 30 40.2 +0.7
comp=Z,2.5nm,0.5s,baz=113,slow=8.6,SNR=21
ARCES pP **pP 06 31 29.7 +1.5**
comp=Z,4.9nm,1.0s,baz=96,slow=8.3,SNR=2.4
ARCES PcP **PcP 06 32 35.6 +0.5**
comp=Z,1.5nm,0.9s,baz=111,slow=4.0,SNR=3.0
ARCES ARCESS Array B 40.88 337 P P 06 30 40.2 +0.7
ARCES *PP **pP 06 31 29.7 +1.5**
ARCES 06 32 35.6
ARCES pmax pmax
comp=Z,3.0nm,0.5s
ARCES pmax pmax
comp=Z,5.0nm,1.0s
ARCES pmax pmax
comp=Z,2.0nm,0.9s
PSI Prapat 42.13 138 P P 06 30 50.1 -0.1
comp=Z,6.9nm,0.8s,baz=307,slow=6.9,SNR=6.9
PSI Prapat 42.13 138 P P 06 30 50.2 -0.1
PSI pmax pmax
comp=Z,7.0nm,0.8s
NB2 NORSAR Subarra 44.41 323 P P 06 31 08.0 +0.1
comp=Z,2.3nm,0.6s,baz=93,slow=7.9
NOA NORSAR Array B 44.41 323 P P 06 31 08.1 +0.2
comp=Z,2.0nm,0.6s,baz=94,slow=7.6,SNR=11
NOA NORSAR Array B 44.41 323 *eP* **P 06 31 08.3 +0.4**
NOA pmax pmax
comp=Z,2.0nm,0.6s
SPITS Spitsbergen Ar 47.04 347 P P 06 31 29.5 +1.3
comp=Z,1.9nm,0.5s,baz=116,slow=11,SNR=5.0
SPITS Spitsbergen Ar 47.04 347 P P 06 31 29.5 +1.3
SPITS pmax pmax
comp=Z,2.0nm,0.5s
ESDC Sonseca Array 57.99 298 P P 06 32 49.1 +0.2
comp=Z,1.6nm,0.5s,baz=56,slow=7.2,SNR=11
TORD Torodi Ar. Bea 66.70 269 P P 06 33 45.9 -0.9
comp=Z,1.8nm,0.5s,baz=50,slow=5.8,SNR=58
INK Inuvik 73.06 10 P P 06 34 24.9 +0.4
comp=Z,2.0nm,0.5s,baz=338,slow=5.4,SNR=10
INK Inuvik 73.06 10 P P 06 34 24.9 +0.4
INK pmax pmax
comp=Z,2.0nm,0.5s
ILAR Eielson Array 73.84 16 P P 06 34 29.2 +0.1
comp=Z,0.8nm,0.8s,baz=324,slow=3.9,SNR=11
ILAR pP **pP 06 35 26.1 +2.1**
comp=Z,0.6nm,0.7s,baz=319,slow=5.0,SNR=4.1
ILAR Eielson Array 73.84 16 P P 06 34 29.3 +0.1
ILAR *PP **pP 06 35 26.1 +2.1**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 80.50 3 P P 06 35 06.8 +0.7
comp=Z,2.1nm,0.5s,baz=350,slow=5.5,SNR=20
YKA pP **pP 06 36 02.4 +0.5**
comp=Z,0.5nm,0.5s,baz=353,slow=5.6,SNR=2.1
YKA Yellowknife Ar 80.50 3 P P 06 35 06.8 +0.7
YKA *PP **pP 06 36 02.4 +0.5**
YKA pmax pmax
comp=Z,2.0nm,0.5s
YKA pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 81.54 123 P P 06 35 11.7 -0.6
comp=Z,0.2nm,0.4s,baz=326,slow=4.7,SNR=4.6
DLBC Dease Lake 82.92 12 P P 06 35 20.0 +1.0
comp=Z,1.1nm,0.6s,baz=260,slow=1.3,SNR=4.3
FFC Flin Flon 88.31 357 *i* P **P 06 35 46.7 +1.3**

*IDC **21** 06:48:42.1±2.6,26.57N×53.74E,h0km,mb3.6/9, mb1 3.8/9,mb1mx3.6/27,mbtmp3.7/9,Error ellipse: s-maj=54.7km s-min=28.3km az=161.0*
*ISCJB **21** 06:48:46.5±0.7,26.98N×0.07×53.3E±0.1,h10km,mb3.6/8, Error ellipse: s-maj=15.5km s-min=6.9km az=148.9*
*CSEM **21** 06:48:49.7±0.5,27.04N×53.47E,h15km,ML3.5,Error ellipse: s-maj=27.5km s-min=8.5km az=62.0*
*TEH **21** 06:48:49.0,27.20N×53.66E,h15km,ML3.5*
*DSN **21** 06:48:50.4±1.7,26.81N×53.28E,h15km,mb3.0/4,ML4.3/1, Error ellipse: s-maj=21.9km s-min=8.3km az=166.0*

ISC 21 06:48:46.8±0.8,27.05N±0.06×53.42E±0.10,h10km,n30,
σ1§87/29,mb3.7/8,2C-2D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IPAR	**Pars**		**2.80**	**353**	*e*Pn		**Pb**	**06 49 35.5**	**-1.7**
IPAR					*e*			06 50 38.3	
	comp=Z,1μm,0.5s								
IPAR	**Pars**		**2.80**	**353**	*e*Pn		**Pb**	**06 49 35.5**	**-1.7**
IBND	**Bandar-abas**		**2.81**	**81**	*e*Pn		**Pn**	**06 49 32.9**	**+1.2**
IBND					*e*			06 50 21.4	
	comp=N,8μm,0.3s								
IBND	**Bandar-abas**		**2.81**	**81**	*e*Pn		**Pn**	**06 49 32.9**	**+1.2**
NAZ	**Nazwa, Dubai**		**2.88**	**135**	P		**Pn**	**06 49 34.1**	**+1.4**
NAZ	**Nazwa, Dubai**		**2.88**	**135**	⇓P		**Pn**	**06 49 34.1**	**+1.4**
ASUD	**Al Ashush, Dub**		**2.96**	**144**	P		**Pn**	**06 49 35.8**	**+1.9**
ASUD	**Al Ashush, Dub**		**2.96**	**144**	⇑P		**Pn**	**06 49 35.8**	**+1.9**
FAQ	**Al Faqa, Dubai**		**3.02**	**139**	P		**Pn**	**06 49 37.2**	**+2.6**
FAQ	**Al Faqa, Dubai**		**3.02**	**139**	⇑P		**Pn**	**06 49 37.2**	**+2.6**
IKAZ	**Kazeroun**		**3.06**	**333**	*e*Pn		**Pb**	**06 49 39.6**	**-1.9**
IKAZ					*e*			06 51 07.3	
	comp=N,3μm,0.3s								
IKAZ	**Kazeroun**		**3.06**	**333**	*e*Pn		**Pb**	**06 49 39.6**	**-1.9**
HATD	**Hatta, Dubai**		**3.30**	**132**	P		**Pn**	**06 49 40.6**	**+2.1**
HATD	**Hatta, Dubai**		**3.30**	**132**	⇓P		**Pn**	**06 49 40.6**	**+2.1**
IMEH	**Mehriz**		**4.45**	**13**	*e*Pn		**Pn**	**06 49 56.9**	**+2.3**
IMEH					*e*			06 50 50.0	
	comp=N,600nm,0.2s								
IMEH	**Mehriz**		**4.45**	**13**	*e*Pn		**Pn**	**06 49 56.9**	**+2.3**
ISAD	**Sadrabad**		**4.86**	**3**	*e*			06 50 23.6	
	comp=E,276nm,0.3s								
ISAD					*e*Pn		**Pn**	**06 50 03.1**	**+2.9**
IZEF	**Zefreh**		**5.91**	**351**	*e*Pn		**Pn**	**06 50 17.0**	**+2.4**
IZEF					*e*			06 50 19.2	
	comp=Z,260nm,0.2s								
IZEF	**Zefreh**		**5.91**	**351**	*e*Pn		**Pn**	**06 50 17.0**	**+2.4**
BRTR	**Keskin Array B**		**20.74**	**313**	P		Pn	06 53 31.4	+1.2
	comp=Z,0.6nm,0.6s,baz=128,slow=9.8,SNR=4.8								
AKTO	**Aktyubinsk**		**23.62**	**7**	P		**P**	**06 53 59.4**	**+1.5**
	comp=Z,1.6nm,0.7s,baz=178,slow=12,SNR=6.0								
MKAR	**Makanchi Array**		**30.09**	**41**	P		**P**	**06 54 54.5**	**-1.9**
	comp=Z,0.5nm,0.4s,baz=239,slow=12,SNR=5.0								
ZALV	**Zalesovo Beam**		**35.43**	**32**	P		**P**	**06 55 41.9**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=237,slow=9.7,SNR=5.2								
FINES	**FINESS Array B**		**38.98**	**339**	P		**P**	**06 56 13.6**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=154,slow=8.8,SNR=13								
NB2	**NORSAR Subarra**		**44.22**	**332**	P		**P**	**06 56 56.3**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=119,slow=7.9								
NB2	**NORSAR Subarra**		**44.22**	**332**	P		**P**	**06 56 56.3**	**+0.3**
	comp=Z,0.5nm,0.5s,SNR=4.0								
NOA	**NORSAR Array B**		**44.22**	**332**	P		**P**	**06 56 56.4**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=120,slow=8.1,SNR=4.3								
ARCES	**ARCESS Array B**		**45.53**	**347**	P		**P**	**06 57 07.2**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=148,slow=10.0,SNR=4.9								
TORD	**Torodi Ar. Bea**		**50.18**	**265**	P		**P**	**06 57 41.6**	**-1.4**
	comp=Z,0.1nm,0.6s,baz=61,slow=8.4,SNR=2.3								
ILAR	**Eielson Array**		**87.12**	**9**	P		**P**	**07 01 32.2**	**-0.5**
	comp=Z,0.1nm,0.4s,baz=326,slow=4.6,SNR=4.2								

*IDC **21** 07:14:40.4±1.1,36.30S×100.83W,h0km,mb4.0/9, mb1 4.2/9,mb1mx4.0/28,mbtmp4.0/9,MS3.7/19, Ms1 3.7/19,ms1mx3.6/31,Error ellipse: s-maj=27.9km s-min=24.8km az=52.0*
*ISCJB **21** 07:14:42.3±0.8,36.1S±0.1×100.7W±0.2,h14km,mb4.0/9, MS3.8/18,Error ellipse: s-maj=22.3km s-min=15.7km az=177.5*

ISC 21 07:14:43.3±1.0,36.2S±0.2×100.8W±0.2,h14km,n33,
σ1§06/12,mb4.2/9,MS3.8/18,Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**		**11.62**	**319**	LR		LR	07 20 34.3	
	comp=Z,598nm,20.0s,baz=164,slow=30								
CFAA	**Coronel Fontan**		**27.29**	**90**	P		**P**	**07 20 27.2**	**-0.3**
	0.2nm,0.6s,baz=258,slow=9.5,SNR=4.9								
LVC	**Limon Verde**		**30.70**	**73**	P		**P**	**07 20 58.7**	**+0.6**
	5.1nm,0.5s,baz=244,slow=8.4,SNR=3.4								
LPAZ	**La Paz**		**35.09**	**64**	P		**P**	**07 21 37.1**	**+0.2**
	5.2nm,1.1s,baz=229,slow=8.3,SNR=7.4								
LPAZ					LR		LR	07 33 09.8	
	comp=Z,29nm,21.2s,baz=251,slow=32								
CPUP	**Villa Florida**		**38.12**	**88**	LR		LR	07 35 35.5	
	comp=Z,78nm,21.6s,baz=255,slow=33								
PPT	**Papeete**		**46.81**	**280**	LR		LR	07 38 22.6	
	comp=Z,53nm,18.6s,baz=142,slow=30								
ROSC	**El Rosal**		**47.74**	**37**	P		**P**	**07 23 20.6**	**+0.2**
	1.6nm,0.6s,baz=278,slow=14,SNR=3.9								
ROSC					LR		LR	07 39 31.8	
	comp=Z,114nm,21.4s,baz=198,slow=31								
BDFB	**Brasilia**		**50.99**	**81**	P		**P**	**07 23 44.1**	**-1.0**
	3.3nm,0.6s,baz=244,slow=8.5,SNR=5.0								
BDFB					LR		LR	07 43 16.3	
	comp=Z,89nm,21.7s,baz=227,slow=34								
PTGA	**Pitinga**		**51.68**	**56**	LR		LR	07 43 13.1	
	comp=Z,97nm,19.6s,baz=226,slow=33								
QSPA	**South Pole Qui**		**54.03**	**180**	P		**P**	**07 24 05.7**	**-1.3**
	2.6nm,1.1s,baz=75,slow=7.3,SNR=3.2								
VNDA	**Vanda**		**56.56**	**195**	LR		LR	07 43 57.7	
	comp=Z,69nm,19.2s,baz=136,slow=31								
VNA1	**Neumayer--Stat**		**57.15**	**157**	P		P	07 24 32.2	+3.2
PCRV	**Puerto La Cruz**		**57.30**	**44**	LR		LR	07 47 24.7	
	comp=Z,242nm,18.3s,baz=173,slow=34								
VNA2	**Neumayer--Watz**		**57.35**	**157**	P		P	07 24 33.7	+3.2
	baz=257,slow=5.2								
SNAA	**Sanae**		**58.51**	**158**	P		**P**	**07 24 40.7**	**+1.9**
SNAA	**Sanae**		**58.51**	**158**	LR		LR	07 45 29.3	
	comp=Z,42nm,18.4s,baz=208,slow=32								
URZ	**Urewera**		**63.29**	**241**	LR		LR	07 47 50.6	
	comp=Z,71nm,18.9s,baz=74,slow=32								
RPZ	**Rata Peaks**		**64.96**	**233**	LR		LR	07 49 53.2	
	comp=Z,77nm,18.0s,baz=66,slow=33								
TXAR	**Lajitas Array**		**65.23**	**357**	P		**P**	**07 25 25.4**	**+1.0**
	0.3nm,0.8s,baz=183,slow=7.8,SNR=2.8								
AFI	**Afiamalu**		**66.69**	**270**	LR		LR	07 47 18.4	
	comp=Z,54nm,18.7s,baz=128,slow=29								
TKL	**Tuckaleechee C**		**73.20**	**14**	LR		LR	07 54 58.0	
	comp=Z,30nm,20.4s,baz=106,slow=33								
NVAR	**Mina Array Bea**		**76.00**	**346**	P		**P**	**07 26 29.1**	**-0.9**
	1.0nm,0.8s,baz=173,slow=8.2,SNR=6.2								
PDAR	**Pinedale Array**		**78.99**	**353**	P		**P**	**07 26 46.6**	**-0.1**
	2.3nm,1.1s,baz=152,slow=8.2,SNR=7.0								
YBH	**Yreka Blue Hor**		**80.11**	**343**	LR		LR	07 54 10.5	
	comp=Z,77nm,21.2s,baz=212,slow=30								
STKA	**Stephens Creek**		**90.61**	**229**	LR		LR	08 03 31.4	
	comp=Z,55nm,18.0s,baz=199,slow=32								
SCHQ	**Schefferville**		**95.22**	**19**	LR		LR	08 07 03.5	
	comp=Z,62nm,19.1s,baz=32,slow=33								
BOSA	**Boshof**		**97.94**	**134**	LR		LR	08 05 49.5	
	comp=Z,27nm,20.1s,baz=196,slow=31								
DBIC	**Dimbokro**		**98.64**	**88**	LR		LR	08 08 56.9	
	comp=Z,40nm,20.6s,baz=178,slow=33								
H01W1	**Cape Leeuwin H**		**102.16**	**209**	T		T	09 23 37.3	
	baz=150,slow=76,SNR=15								
H01W2	**Cape Leeuwin H**		**102.17**	**209**	T		T	09 23 37.7	
	baz=150,slow=76,SNR=15								
H01W3	**Cape Leeuwin H**		**102.18**	**209**	T		T	09 23 38.4	
	baz=150,slow=76,SNR=19								
BRTR	**Keskin Array B**		**144.15**	**70**	PKP		**PKPab**	**07 34 15.3**	**-1.1**
	1.0nm,0.9s,baz=220,slow=1.1,SNR=4.2								
KBZ	**Khabaz**		**151.31**	**64**	PKPbc		**PKPbc**	**07 34 36.5**	**+0.4**
	4.2nm,0.9s,baz=270,slow=1.0,SNR=5.4								

IDC 21 07:19:44.1±2.5,5.88S×150.83E,h0km,mb3.8/3, mb1 3.9/4,mb1mx3.6/19,mbtmp3.8/4,ML1.4/1,MS2.7/1, Ms1 2.7/1,ms1mx2.4/32,Error ellipse: s-maj=73.5km s-min=37.3km az=122.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**		**5.05**	**226**	Pn		Pn	07 21 02.9	+1.8
	1.0nm,0.3s,baz=54,slow=14,SNR=2.3								
PMG					Sn		Sn	07 21 60.0	-0.2
	4.5nm,0.3s,baz=90,slow=19,SNR=4.6								
PMG					LR		LR	07 23 10.8	
	comp=Z,68nm,18.5s,baz=355,slow=41								
WRA	**Warramunga Arr**		**21.27**	**227**	P		P	07 24 31.9	-0.4
	1.5nm,0.5s,baz=52,slow=10,SNR=12								
ASAR	**Alice Springs**		**24.04**	**221**	P		P	07 25 00.7	-0.4
	2.0nm,0.6s,baz=57,slow=8.8,SNR=25								
STKA	**Stephens Creek**		**27.27**	**197**	P		P	07 25 30.1	-0.2
	1.5nm,0.7s,baz=3.6,slow=11,SNR=3.5								
TORD	**Torodi Ar. Bea**		**148.74**	**286**	PKPbc		PKPbc	07 39 34.4	-0.2
	0.5nm,0.8s,baz=91,slow=2.0,SNR=4.5								

FUNV 21 07:33:28.0,6.79N×73.11W,h163km,MW3.5,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**		**1.33**	**37**	*e*P		Pn	07 33 56.5	-0.6
CAPV					*e*S		Sn	07 34 17.4	-2.2
VIGV	**El Vigia**		**2.67**	**40**	*e*P		Pn	07 34 10.9	-1.0
VIGV					*e*S		Sn	07 34 41.7	-4.3
SOCV	**Socops**		**2.69**	**56**	*e*P		Pn	07 34 11.3	-0.8
SOCV					*e*S		Sn	07 34 42.9	-3.3
ELOV	**Elorza**		**3.61**	**86**	*e*P		Pn	07 34 22.6	-1.0
VIRV	**Villa del Rosa**		**3.75**	**11**	*e*P		Pn	07 34 23.6	-1.9
VIRV					*e*S		Sn	07 35 06.3	-4.0
QARV	**Quebrada Arrib**		**4.25**	**37**	*e*P		Pn	07 34 30.7	-1.3
QARV					*e*S		Sn	07 35 17.0	-4.9
SANV	**Sanarito**		**4.45**	**53**	*e*P		Pn	07 34 32.9	-1.7
CURV	**Curarigua**		**4.47**	**44**	*e*P		Pn	07 34 33.2	-1.6
CURV					*e*S		Sn	07 35 21.1	-5.9
DABV	**Dabajuro**		**4.78**	**31**	*e*P		Pn	07 34 37.6	-1.2
SIQV	**Siquisique**		**5.04**	**40**	*e*P		Pn	07 34 40.4	-1.8
BAUV	**El Baul**		**5.46**	**67**	*e*P		Pn	07 34 45.2	-2.6
BAUV					*e*S		Sn	07 35 44.1	-6.0
MONV	**Montecano**		**5.99**	**31**	*e*P		Pn	07 34 52.6	-2.2

*NEIC **21** 07:37:04.0±0.5,24°00S×66°68W,h184km±5km,mb4.3/25, Error ellipse: s-maj=7.7km s-min=5.8km az=66.0*
*ISCJB **21** 07:37:04.3±0.2,23°93S±0°03×66°89W±0°04,h197km±2km, mb4.2/35,Error ellipse: s-maj=6.7km s-min=4.1km az=43.0*
*SJA **21** 07:37:04.6±0.8,23°96S×66°86W,h201km±9km,ML3.7*
*IDC **21** 07:37:05.1±1.3,23°87S×66°66W,h193km±11km,mb3.8/12, mb1 4.0/16,mb1mx3.8/22,mbtmp4.3/16,Error ellipse: s-maj=15.9km s-min=11.1km az=39.0*
*GUC **21** 07:37:06.9±0.4,23°71S×67°42W,h240km±15km,ML5.0*
ISC 21 07:37:04.6±0.7,23°94S±0°05×66°87W±0°05,h194km±6km, n369,σ1§33/378,mb4.2/35,4C,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
SLA	**San Lorenzo**	**1.47**	**122**	*i* P		**Pn**	**07 37 39.5**	**+1.7**
SLA				*i* S		**Sn**	**07 38 04.1**	**+0.6**
SLA				AML		AML	07 38 09.3	
	comp=Z,239nm,0.6s							
HJA	**Humahuaca**	**1.53**	**62**	*i* P		**Pn**	**07 37 40.2**	**+1.7**
HJA				*i* S		**Sn**	**07 38 06.1**	**+1.5**
AZAP	**Zapla**	**1.68**	**100**	*i* P		**Pn**	**07 37 41.0**	**+1.3**
AZAP				AML		AML	07 38 10.0	
	comp=Z,155nm,0.6s							
YJA	**Yavi**	**2.15**	**36**	*i* P		**Pn**	**07 37 46.5**	**+1.7**
ASTB	**Santa Barbara**	**2.19**	**91**	*i* P		**Pn**	**07 37 46.2**	**+1.4**
FSA	**Cafayete**	**2.28**	**160**	*i* P		**Pn**	**07 37 46.7**	**+0.7**
FSA				AML		AML	07 38 20.6	
	comp=Z,266nm,0.7s							
LVC	**Limon Verde**	**2.29**	**305**	P		**Pn**	**07 37 47.8**	**+1.7**
	comp=Z,9μm,0.3s,baz=120,slow=6.4,SNR=1882							
LVC				S		**Sn**	**07 38 19.3**	**+1.0**
	comp=Z,4μm,0.3s,baz=256,slow=21,SNR=15							
LVC	**Limon Verde**	**2.29**	**305**	*i* P		**Pn**	**07 37 47.6**	**+1.4**
PB06	**IPOC Station P**	**2.77**	**296**	*e*P		**Pn**	**07 37 52.7**	**+1.3**
PB06				*e*S		**Sn**	**07 38 27.0**	**-0.8**
PB06				AML		AML	07 38 32.2	
	comp=N,2μm,0.3s							
PB04	**IPOC Station P**	**2.92**	**304**	*e*P		Pn	07 37 59.6	+6.6
PB04				*e*S		Sn	07 38 40.0	+9.2
PB04				AML		AML	07 38 45.9	
	comp=N,2μm,0.4s							
AHML	**Horco Molle**	**3.16**	**154**	*i* P		**Pn**	**07 37 56.3**	**+0.4**
AHML				*i* S		**Sn**	**07 38 35.0**	**-1.1**
PB10	**IPOC Station P**	**3.40**	**276**	*e*P		**Pn**	**07 37 59.4**	**+0.6**
PB10				*e*S		**Sn**	**07 38 39.1**	**-2.0**
PB10				AML		AML	07 38 42.1	
	comp=N,2μm,0.3s							
PB07	**IPOC Station P**	**3.54**	**308**	*e*P		**Pn**	**07 38 01.2**	**+0.5**
PB07				*e*S		**Sn**	**07 38 42.5**	**-2.1**
PB07				AML		AML	07 38 44.4	
	comp=E,2μm,0.6s							
PB01	**IPOC Station P**	**3.76**	**319**	*e*P		**Pn**	**07 38 03.8**	**+0.4**
PB01				*e*S		**Sn**	**07 38 47.8**	**-1.5**
PB01				AML		AML	07 38 48.8	
	comp=N,1μm,0.3s							
CYA	**Choya**	**4.59**	**168**	*i* P		**Pn**	**07 38 14.5**	**+0.8**
CYA				AML		AML	07 39 09.9	
	comp=Z,22nm,0.7s							
LCO	**Las Campanas**	**6.11**	**213**	*e*Pn		**Pn**	**07 38 31.7**	**-1.7**
LCO				*e*			07 39 31.9	
LPAZ	**La Paz**	**7.70**	**351**	P		**Pn**	**07 38 54.6**	**0.0**
	comp=Z,1.5nm,0.3s,baz=164,slow=10,SNR=40							
LPAZ				S		**Sn**	**07 40 20.1**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=270,slow=20,SNR=3.6							
LPAZ	**La Paz**	**7.70**	**351**	*e*Pn		**Pn**	**07 38 55.5**	**+0.9**
LPAZ				S		**Sn**	**07 40 20.1**	**-1.8**
CFAA	**Coronel Fontan**	**7.73**	**189**	P		**Pn**	**07 38 52.5**	**-1.9**
	comp=Z,0.8nm,0.3s,baz=202,slow=20,SNR=114							
CFAA				S		Sn	07 40 14.1	-7.6
	comp=Z,3.1nm,0.3s,baz=288,slow=20,SNR=22							
ARE	**Arequipa**	**8.61**	**329**	*e*P		**Pn**	**07 39 06.0**	**-0.2**
ARE				*e*S		**Sn**	**07 40 38.0**	**-5.0**
CPUP	**Villa Florida**	**8.97**	**107**	P		**Pn**	**07 39 08.8**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=292,slow=11,SNR=25							
CPUP	**Villa Florida**	**8.97**	**107**	*e*Pn		**Pn**	**07 39 09.5**	**-1.1**
ARCO	**CERRO ARCO**	**9.05**	**191**	AML		AML	07 40 50.7	
	comp=Z,26nm,0.3s							
SIV	**San Ignacio**	**9.60**	**36**	P		**Pn**	**07 39 17.3**	**-1.6**
	comp=Z,2.0nm,0.3s,baz=230,slow=10,SNR=36							
TRQA	**Tornquist**	**14.68**	**165**	*e*Pn		**Pn**	**07 40 21.8**	**-1.4**
SAML	**Samuel**	**15.32**	**14**	*e*Pn		**Pn**	**07 40 30.6**	**-0.5**
	comp=Z,8.9nm,0.7s							
BB16B	**Bebedouro**	**17.15**	**84**	*e*P		**P**	**07 40 48.9**	**-2.8**
BB16B				*i*			07 40 51.6	
BB16B				*i*			07 40 56.8	
BB16B				*i*			07 41 03.2	
BDFB	**Brasilia**	**19.56**	**69**	P		**P**	**07 41 16.9**	**-1.1**
	comp=Z,5.1nm,0.3s,baz=240,slow=11,SNR=101							
BDFB	**Brasilia**	**19.56**	**69**	*e*P		**P**	**07 41 17.8**	**-0.2**
ATAH	**Atahualpa**	**20.03**	**325**	P		Pn	07 41 27.8	0.0
	comp=Z,4.7nm,0.5s,baz=121,slow=12,SNR=4.1							
PTGA	**Pitinga**	**24.02**	**17**	P		**P**	**07 42 01.1**	**-0.9**
	comp=Z,2.5nm,0.3s,baz=131,slow=2.1,SNR=13							
PTGA	**Pitinga**	**24.02**	**17**	*e*P		**P**	**07 42 01.6**	**-0.4**
	comp=Z,6.6nm,1.1s							
SDV	**Santo Domingo**	**32.83**	**353**	*e*P		**P**	**07 43 19.6**	**-0.7**
	comp=Z,6.0nm,0.9s							
RCBR	**Riachuelo**	**34.79**	**64**	P		**P**	**07 43 35.9**	**-1.2**
	comp=Z,4.5nm,0.5s,baz=240,slow=8.2,SNR=4.8							
BCIP	**Isla Barro Col**	**35.26**	**337**	*e*P		**P**	**07 43 43.6**	**+2.7**
	comp=Z,17nm,0.8s							
TEIG	**Tepich**	**48.60**	**333**	P		**P**	**07 45 29.2**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=180,slow=20,SNR=9.5							
VNA1	**Neumayer--Stat**	**57.37**	**160**	P		**P**	**07 46 35.1**	**+2.9**
VNA2	**Neumayer--Watz**	**57.74**	**160**	P		**P**	**07 46 35.6**	**+0.7**
	baz=284,slow=8.2							
SNAA	**Sanae**	**59.37**	**161**	P		**P**	**07 46 47.0**	**+0.8**
SNAA	**Sanae**	**59.37**	**161**	P		**P**	**07 46 46.6**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=276,slow=7.2,SNR=11							
934A	**Benavides**	**59.65**	**327**	P		**P**	**07 46 49.7**	**+1.2**
	baz=60							
LRAL	**Lakeview Retre**	**59.82**	**340**	*e*P		**P**	**07 46 49.5**	**-0.1**
	comp=Z,12nm,1.3s							
933A	**Laredo**	**60.03**	**327**	P		**P**	**07 46 52.5**	**+1.3**
	baz=60							
736A	**Circle Diamond**	**60.08**	**329**	P		**P**	**07 46 53.5**	**+2.1**
	baz=60							
834A	**Tilden**	**60.09**	**328**	P		**P**	**07 46 53.1**	**+1.6**
	baz=60							
735A	**Kenedy**	**60.34**	**329**	P		**P**	**07 46 54.6**	**+1.3**
	baz=61							
636A	**Smothers Creek**	**60.52**	**330**	P		**P**	**07 46 56.2**	**+1.8**
	baz=61							
439A	**Center Grove,**	**60.63**	**332**	P		**P**	**07 46 57.2**	**+2.0**
	baz=61							
833A	**Chaparral WMA,**	**60.67**	**327**	P		**P**	**07 46 56.8**	**+1.3**
	baz=61,SNR=6.1							
734A	**La Parita Cree**	**60.70**	**328**	P		**P**	**07 46 57.0**	**+1.4**
	baz=61							
340A	**Bronson**	**60.81**	**334**	P		**P**	**07 46 57.7**	**+1.4**
	baz=61							
438A	**Sam Houston St**	**60.90**	**332**	P		**P**	**07 46 58.3**	**+1.4**
	baz=61							
832A	**Faith Ranch, C**	**60.93**	**327**	P		**P**	**07 46 58.2**	**+1.0**
	baz=61,SNR=8.3							
733A	**Divot King Ran**	**60.95**	**327**	P		**P**	**07 46 58.5**	**+1.1**
	baz=61							
339A	**Huntington**	**61.02**	**333**	P		**P**	**07 46 59.5**	**+1.8**
	baz=61							
732A	**Laxson Ranch,**	**61.30**	**327**	P		**P**	**07 47 00.5**	**+0.9**
	baz=62,SNR=6.1							
338A	**Crockett**	**61.35**	**332**	P		**P**	**07 47 01.6**	**+1.6**
	baz=62							
NATX	**Nacogdoches**	**61.43**	**333**	P		**P**	**07 47 01.9**	**+1.4**
	baz=62							
633A	**Saathoff Ranch**	**61.51**	**328**	P		**P**	**07 47 01.9**	**+0.8**
	baz=62,SNR=7.1							
SWET	**Sewanee**	**61.54**	**342**	*e*P		**P**	**07 47 01.6**	**+0.3**
534A	**Blanco**	**61.64**	**329**	P		**P**	**07 47 02.1**	**+0.1**
	baz=62							
632A	**Uvalde**	**61.84**	**328**	P		**P**	**07 47 04.2**	**+0.9**
	baz=62							
OXF	**Oxford**	**61.94**	**339**	*e*P		**P**	**07 47 03.7**	**-0.1**
	comp=Z,14nm,0.6s							
533A	**Kerrville**	**61.95**	**328**	P		**P**	**07 47 04.8**	**+0.8**
	baz=62							
336A	**Riesel**	**62.04**	**331**	P		**P**	**07 47 05.8**	**+1.2**
	baz=62							
237A	**Washetta, Mont**	**62.12**	**332**	P		**P**	**07 47 06.6**	**+1.5**
	baz=62							
631A	**Perdido Creek**	**62.16**	**327**	P		**P**	**07 47 06.2**	**+0.7**
	baz=63							
434A	**Burnet**	**62.20**	**330**	P		**P**	**07 47 06.3**	**+0.6**
	baz=63							
335A	**Moody**	**62.22**	**331**	P		**P**	**07 47 06.5**	**+0.8**
	baz=63							
138A	**Matatall Enter**	**62.39**	**333**	P		**P**	**07 47 08.4**	**+1.6**
	baz=63							
532A	**Rocksprings**	**62.41**	**328**	P		**P**	**07 47 08.2**	**+1.0**
	baz=63,SNR=7.8							
236A	**Katherine and**	**62.43**	**332**	P		**P**	**07 47 08.4**	**+1.3**
	baz=63							
137A	**Heron Place, G**	**62.61**	**333**	P		**P**	**07 47 09.7**	**+1.3**
	baz=63							
334A	**Lometa**	**62.63**	**330**	P		**P**	**07 47 08.9**	**+0.4**
	baz=63							
JCT	**Junction City**	**62.65**	**328**	P		**P**	**07 47 09.4**	**+0.7**
	baz=63,SNR=8.6							
JCT	**Junction City**	**62.65**	**328**	*e*P		**P**	**07 47 09.6**	**+0.9**
	comp=Z,12nm,0.6s							
531A	**Rocksprings**	**62.76**	**327**	P		**P**	**07 47 10.4**	**+1.0**
	baz=63,SNR=8.8							
WHTX	**Lake Whitney**	**62.83**	**331**	P		**P**	**07 47 10.2**	**+0.4**
	baz=63							
WVT	**Waverly**	**62.94**	**341**	*e*P		**P**	**07 47 10.1**	**-0.3**
	comp=Z,17nm,0.7s							
333A	**Richland Sprin**	**62.97**	**329**	P		**P**	**07 47 11.2**	**+0.5**
	baz=63,SNR=12							
432A	**Menard**	**62.98**	**328**	P		**P**	**07 47 11.5**	**+0.6**
	baz=63,SNR=18							
Y39A	**Lockesburg**	**63.11**	**335**	P		**P**	**07 47 12.3**	**+0.7**
	baz=64							
530A	**J-C Ranch, Com**	**63.14**	**327**	P		**P**	**07 47 13.0**	**+1.0**
	baz=64,SNR=6.0							
234A	**Clairette**	**63.15**	**330**	P		**P**	**07 47 12.7**	**+0.8**
	baz=64,SNR=16							
431A	**Sonora**	**63.21**	**328**	P		**P**	**07 47 13.0**	**+0.6**
	baz=64,SNR=5.5							
135A	**Vickery Place,**	**63.29**	**331**	P		**P**	**07 47 13.2**	**+0.4**
	baz=64							
332A	**Millersview**	**63.37**	**329**	P		**P**	**07 47 14.0**	**+0.6**
	baz=64,SNR=16							
MIAR	**Mount Ida**	**63.45**	**336**	P		**P**	**07 47 14.3**	**+0.5**
	baz=64,SNR=6.7							
MIAR	**Mount Ida**	**63.45**	**336**	*e*P		**P**	**07 47 14.5**	**+0.7**
	comp=Z,5.7nm,0.9s							
Z36A	**Blue Ridge**	**63.48**	**332**	P		**P**	**07 47 15.0**	**+1.0**
	baz=64							
233A	**Rising Star**	**63.51**	**330**	P		**P**	**07 47 15.0**	**+0.7**
	baz=64,SNR=6.1							
529A	**Stev Forest Ra**	**63.57**	**326**	P		**P**	**07 47 16.1**	**+1.3**
	baz=64,SNR=17							
134A	**White-Moore Ra**	**63.60**	**331**	P		**P**	**07 47 15.1**	**+0.2**
	baz=64							
430A	**Baggett Ranch,**	**63.61**	**327**	P		**P**	**07 47 15.7**	**+0.7**
	baz=64,SNR=9.7							
331A	**San Angelo**	**63.64**	**328**	P		**P**	**07 47 15.7**	**+0.5**
	baz=64,SNR=9.5							
TXAR	**Lajitas Array**	**63.69**	**324**	P		**P**	**07 47 16.7**	**+1.0**
	comp=Z,1.8nm,0.8s,baz=153,slow=8.2,SNR=20							
232A	**Coleman**	**63.74**	**329**	P		**P**	**07 47 16.6**	**+0.7**
	baz=64,SNR=9.6							
Y37A	**Hugo**	**63.76**	**334**	P		**P**	**07 47 17.2**	**+1.4**
	baz=64							
429A	**Davenport Ranc**	**63.80**	**327**	P		**P**	**07 47 17.4**	**+1.1**
	baz=64,SNR=7.7							
Z35A	**Perchaven, San**	**63.88**	**332**	P		**P**	**07 47 17.5**	**+0.8**
	baz=64							
133A	**Hamilton Ranch**	**64.01**	**330**	P		**P**	**07 47 18.5**	**+1.0**
	baz=64							
X38A	**Whitesboro**	**64.04**	**335**	P		**P**	**07 47 18.8**	**+1.1**
	baz=64,SNR=5.1							
330A	**Mertzon**	**64.08**	**328**	P		**P**	**07 47 18.4**	**+0.3**
	baz=64							
231A	**Bronte**	**64.10**	**329**	P		**P**	**07 47 18.9**	**+0.7**
	baz=64							
X37A	**Clayton**	**64.19**	**334**	P		**P**	**07 47 19.9**	**+1.2**
	baz=65							
Z34A	**Collier Ranch,**	**64.20**	**331**	P		**P**	**07 47 20.1**	**+1.3**
	baz=65							
W38A	**Poteau**	**64.27**	**335**	P		**P**	**07 47 20.1**	**+1.0**
	baz=65,SNR=7.6							
Y35A	**Marietta**	**64.28**	**332**	P		**P**	**07 47 20.6**	**+1.3**
	baz=65							
ABTX	**Abilene, Hawle**	**64.36**	**330**	P		**P**	**07 47 21.0**	**+1.2**
	baz=65							
230A	**Sterling City**	**64.44**	**328**	P		**P**	**07 47 21.5**	**+1.1**
	baz=65							
Z33A	**Whitaker Ranch**	**64.51**	**331**	P		**P**	**07 47 21.6**	**+0.8**
	baz=65,SNR=7.0							
329A	**Wagon Wheel Ra**	**64.55**	**327**	P		**P**	**07 47 21.9**	**+0.7**
	baz=65,SNR=8.2							
X36A	**Centrahoma**	**64.57**	**333**	P		**P**	**07 47 21.2**	**+0.1**
	baz=65							
Y34A	**Reagan Ranch,**	**64.64**	**332**	P		**P**	**07 47 22.4**	**+0.8**
	baz=65							
X35A	**Drake**	**64.68**	**333**	P		**P**	**07 47 22.6**	**+0.7**
	baz=65							
W37A	**Quinton**	**64.69**	**334**	P		**P**	**07 47 22.9**	**+1.0**
	baz=65							
131A	**Roby**	**64.75**	**329**	P		**P**	**07 47 23.2**	**+0.8**
	baz=65							
Z32A	**Haskell**	**64.85**	**330**	P		**P**	**07 47 23.9**	**+0.9**
	baz=65							
229A	**Bryant Ranch,**	**64.85**	**327**	P		**P**	**07 47 23.9**	**+0.8**
	baz=65							
V38A	**Canehill**	**64.93**	**336**	P		**P**	**07 47 23.8**	**+0.3**
	baz=65,SNR=8.8							
130A	**Snyder**	**64.95**	**329**	P		**P**	**07 47 24.4**	**+0.6**
	baz=65							
W36A	**Wetumka**	**65.01**	**334**	P		**P**	**07 47 24.3**	**+0.3**
	baz=65							
Y33A	**Hilltop Ranch,**	**65.06**	**331**	P		**P**	**07 47 25.1**	**+0.8**
	baz=66							
Z31A	**Sharp Cattle R**	**65.17**	**330**	P		**P**	**07 47 25.7**	**+0.6**
	baz=66,SNR=8.0							
X34A	**Smith Ranch, M**	**65.22**	**332**	P		**P**	**07 47 25.9**	**+0.6**
	baz=66							
V37A	**Hulbert**	**65.23**	**335**	P		**P**	**07 47 26.0**	**+0.7**
	baz=66							
228A	**UT Block 9, Go**	**65.36**	**327**	P		**P**	**07 47 26.9**	**+0.5**
	baz=66							
Y32A	**R-V Farms, Ver**	**65.42**	**331**	P		**P**	**07 47 26.9**	**+0.3**
	baz=66							
129A	**Stewart Farms,**	**65.42**	**328**	P		**P**	**07 47 27.3**	**+0.6**
	baz=66							
U38A	**Gravette**	**65.43**	**336**	P		**P**	**07 47 27.0**	**+0.4**
	baz=66							
X33A	**Lawton**	**65.45**	**332**	P		**P**	**07 47 27.0**	**+0.1**
	baz=66							
V36A	**Jenks**	**65.46**	**334**	P		**P**	**07 47 27.6**	**+0.8**
	baz=66							
TUL1	**Tulsa**	**65.51**	**334**	P		**P**	**07 47 27.9**	**+0.8**
	baz=66							
Z30A	**Sanderson Ranc**	**65.60**	**329**	P		**P**	**07 47 28.4**	**+0.5**
	baz=66							
U37A	**Salina**	**65.68**	**335**	P		**P**	**07 47 28.9**	**+0.7**
	baz=66							
128A	**Castleberry Fa**	**65.71**	**327**	P		**P**	**07 47 29.2**	**+0.6**
	baz=66,SNR=6.0							
Y31A	**Rekieta Farm,**	**65.75**	**330**	P		**P**	**07 47 29.6**	**+0.8**
	baz=66,SNR=5.4							
V35A	**Meyer Ranch, C**	**65.80**	**334**	P		**P**	**07 47 29.5**	**+0.5**
	baz=66							
Z29A	**Hungry Hill Ra**	**65.85**	**328**	P		**P**	**07 47 30.1**	**+0.6**
	baz=66							
W33A	**Caddo, Fort Co**	**65.96**	**332**	P		**P**	**07 47 31.1**	**+1.1**
	baz=66,SNR=5.3							
V34A	**Guthrie**	**66.14**	**333**	P		**P**	**07 47 31.7**	**+0.5**
	baz=67							
X31A	**McDonald Ranch**	**66.18**	**331**	P		**P**	**07 47 32.2**	**+0.6**
	baz=67,SNR=9.4							
Z28A	**Tucker Farm, M**	**66.21**	**328**	P		**P**	**07 47 32.0**	**+0.2**
	baz=67							
T37A	**Cheneyville 18**	**66.23**	**336**	P		**P**	**07 47 32.3**	**+0.6**
	baz=67,SNR=12							
W32A	**Sentinel**	**66.27**	**331**	P		**P**	**07 47 32.7**	**+0.7**
	baz=67,SNR=5.5							
U35A	**Pawnee**	**66.28**	**334**	P		**P**	**07 47 32.7**	**+0.7**
	baz=67,SNR=6.6							
Y29A	**Porterfield Fa**	**66.33**	**329**	P		**P**	**07 47 33.1**	**+0.6**
	baz=67							
X30A	**Coker Ranch, T**	**66.44**	**330**	P		**P**	**07 47 33.7**	**+0.6**
	baz=67							
V33A	**Lossen Ranch,**	**66.45**	**332**	P		**P**	**07 47 33.8**	**+0.6**
	baz=67							
T36A	**Boggs Farm, Ca**	**66.54**	**335**	P		**P**	**07 47 34.6**	**+0.9**
	baz=67							
Y28A	**McKinney Farm,**	**66.64**	**328**	P		**P**	**07 47 34.8**	**+0.2**
	baz=67							
T35A	**Sooner Cattle**	**66.67**	**334**	P		**P**	**07 47 35.5**	**+1.0**
	baz=67							
SFIN	**Scholer Farm**	**66.70**	**343**	P		**P**	**07 47 33.8**	**-0.8**
	baz=67							
S37A	**Fort Scott**	**66.76**	**336**	P		**P**	**07 47 35.5**	**+0.4**
	baz=67,SNR=8.7							
X29A	**Tulia**	**66.82**	**329**	P		**P**	**07 47 36.1**	**+0.4**
	baz=67,SNR=5.4							
U33A	**Lingo Farm, Me**	**66.90**	**333**	P		**P**	**07 47 36.2**	**+0.2**
	baz=67							
S36A	**Lake Cedric, C**	**67.02**	**336**	P		**P**	**07 47 37.3**	**+0.6**
	baz=67							
V31A	**Spring Creek L**	**67.08**	**331**	P		**P**	**07 47 38.4**	**+1.2**
	baz=68							
X28A	**Dimmitt**	**67.12**	**329**	P		**P**	**07 47 38.6**	**+1.0**
	baz=68							
R37A	**Teagarden Farm**	**67.25**	**336**	P		**P**	**07 47 38.8**	**+0.6**
	baz=68							
S35A	**Otter Creek Ra**	**67.26**	**335**	P		**P**	**07 47 38.7**	**+0.5**
	baz=68							
W29A	**Amarillo**	**67.35**	**330**	P		**P**	**07 47 39.3**	**+0.3**
	baz=68							
HDIL	**Hopedale**	**67.47**	**342**	P		**P**	**07 47 38.9**	**-0.6**
	baz=68							
T33A	**Patterson Ranc**	**67.51**	**333**	P		**P**	**07 47 40.7**	**+0.8**
	baz=68							
R36A	**Gordon, Harris**	**67.51**	**336**	P		**P**	**07 47 40.8**	**+1.0**
	baz=68							
S34A	**Willow Spring**	**67.58**	**334**	P		**P**	**07 47 41.4**	**+1.1**
	baz=68							
Q37A	**Longview Farm,**	**67.61**	**337**	P		**P**	**07 47 41.3**	**+0.9**
	baz=68							
DBIC	**Dimbokro**	**67.67**	**71**	P		**P**	**07 47 40.3**	**-1.1**
	comp=Z,2.5nm,0.5s,baz=204,slow=6.8,SNR=5.2							
W28A	**Vega**	**67.72**	**329**	P		**P**	**07 47 42.4**	**+1.0**
	baz=68							
T32A	**Huddler Ranch,**	**67.87**	**333**	P		**P**	**07 47 43.6**	**+1.5**
	baz=68							
V28A	**Channing**	**68.14**	**330**	P		**P**	**07 47 44.8**	**+0.9**
	baz=69							
121A	**Cookes Peak, D**	**68.40**	**323**	P		**P**	**07 47 47.9**	**+2.2**
	baz=69,SNR=8.5							
121A	**Cookes Peak, D**	**68.40**	**323**	*e*P		**P**	**07 47 47.5**	**+1.8**
	comp=Z,7.0nm,0.9s							
P36A	**Good Intent, A**	**68.54**	**337**	P		**P**	**07 47 46.3**	**+0.2**
	baz=69							
U27A	**Thompson Grove**	**68.96**	**330**	P		**P**	**07 47 49.6**	**+0.5**
	baz=69							
P34A	**Walnut Farm, R**	**69.08**	**336**	P		**P**	**07 47 50.8**	**+1.3**
	baz=70							
S29A	**Ulysses**	**69.18**	**331**	P		**P**	**07 47 51.9**	**+1.6**
	baz=70							
T28A	**Walsh**	**69.21**	**330**	P		**P**	**07 47 51.7**	**+1.2**
	baz=70							
T27A	**Campo**	**69.44**	**330**	P		**P**	**07 47 52.9**	**+1.0**
	baz=70,SNR=5.3							
S28A	**Manter**	**69.50**	**331**	P		**P**	**07 47 53.3**	**+1.0**
	baz=70,SNR=5.1							
ANMO	**Albuquerque**	**69.56**	**326**	*e*P		**P**	**07 47 54.6**	**+1.8**
	comp=Z,4.6nm,0.9s							
CBKS	**Cedar Bluff**	**69.60**	**333**	P		**P**	**07 47 54.1**	**+1.3**
	baz=70							
O33A	**Hebron**	**69.82**	**335**	P		**P**	**07 47 55.1**	**+1.0**
	baz=70							
SCIA	**State Center**	**69.90**	**339**	*e*P		**P**	**07 47 55.0**	**+0.5**
	comp=Z,14nm,1.1s							
TUC	**Tucson**	**69.91**	**321**	*e*P		**P**	**07 47 55.2**	**+0.3**
	comp=Z,5.7nm,1.3s							
JFWS	**Jewell Farm**	**69.92**	**342**	*e*P		**P**	**07 47 54.8**	**+0.3**
	comp=Z,17nm,0.6s							
T26A	**Comanche Natio**	**69.94**	**329**	P		**P**	**07 47 56.4**	**+1.3**
	baz=70,SNR=6.9							
P31A	**Stockton**	**70.05**	**334**	P		**P**	**07 47 56.8**	**+1.2**
	baz=70							
N34A	**Lincoln**	**70.08**	**336**	P		**P**	**07 47 55.7**	**+0.1**
	baz=70,SNR=7.5							
R28A	**Tribune**	**70.09**	**331**	P		**P**	**07 47 57.5**	**+1.7**
	baz=70							
Q29A	**Oakley**	**70.19**	**332**	P		**P**	**07 47 57.5**	**+1.2**
	baz=71							
O32A	**Brockman Farm,**	**70.25**	**335**	P		**P**	**07 47 57.9**	**+1.2**
	baz=71							
T25A	**Trinidad**	**70.29**	**329**	P		**P**	**07 47 58.9**	**+1.7**
	baz=71,SNR=6.5							
T25A	**Trinidad**	**70.29**	**329**	*e*P		**P**	**07 47 59.1**	**+1.9**
	comp=Z,5.3nm,0.6s							
R26A	**Arlington**	**70.78**	**330**	P		**P**	**07 48 01.5**	**+1.4**
	baz=71,SNR=6.2							
214A	**Organ Pipe Nat**	**70.83**	**320**	P		**P**	**07 48 02.3**	**+1.9**
	baz=71							
L35A	**Bielow Farm, R**	**70.86**	**338**	P		**P**	**07 48 00.9**	**+0.6**
	baz=71							
N31A	**Bailey Ranch,**	**71.00**	**335**	P		**P**	**07 48 02.5**	**+1.3**
	baz=71							
L34A	**Svendsen Farm,**	**71.03**	**337**	P		**P**	**07 48 01.4**	**+0.1**
	baz=72,SNR=5.6							
BGNE	**Belgrade**	**71.19**	**336**	P		**P**	**07 48 03.1**	**+0.8**
	baz=72,SNR=5.4							
BGNE	**Belgrade**	**71.19**	**336**	*e*P		**P**	**07 48 03.5**	**+1.2**
SDCO	**Great Sand Dun**	**71.29**	**329**	P		**P**	**07 48 05.0**	**+1.7**
	baz=72,SNR=14							
SDCO	**Great Sand Dun**

baz=75
MURC Murrieta 74.61 318 P **P** 07 48 23.9 +1.3
baz=75
H29A Onida 74.73 336 P **P** 07 48 24.3 +1.3
baz=75
J26A Sides Ranch, S 74.74 333 P **P** 07 48 25.1 +1.9
baz=75
SRU San Rafael 74.83 326 *eP* **P** 07 48 25.4 +1.4
comp=Z,4.4nm,0.9s
EYMN Ely 74.90 343 P **P** 07 48 24.3 +0.4
baz=75
HEC Hector,Ludlow 74.94 320 P **P** 07 48 27.2 +2.6
baz=75
I27A Quinn 74.96 335 P **P** 07 48 25.8 +1.4
baz=75
H28A Mission Ridge 75.07 336 P **P** 07 48 26.3 +1.3
baz=76
CCUT Cedar City 75.18 323 *eP* **P** 07 48 29.1 +3.1
MSU Marysvale 75.24 325 *eP* **P** 07 48 28.9 +2.5
F30A Leola 75.34 337 P **P** 07 48 27.3 +0.8
baz=76
K23A Bowen Ranch, D 75.36 332 P **P** 07 48 28.7 +1.8
baz=76
G28A Parade 75.37 336 P **P** 07 48 28.4 +1.7
baz=76
J24A Dixon Ranch, L 75.42 332 P **P** 07 48 29.4 +2.3
baz=76
H27A Howes 75.44 335 P **P** 07 48 28.1 +1.0
baz=76,SNR=6.5
F29A Eureka 75.62 337 P **P** 07 48 29.2 +1.2
baz=76
K22A Casper 75.68 331 P **P** 07 48 30.7 +2.0
baz=76
H26A Fairpoint 75.70 334 P **P** 07 48 30.1 +1.5
baz=76
RSSD Black Hills 75.80 333 *eP* **P** 07 48 31.1 +1.7
E30A Jud 75.87 338 P **P** 07 48 30.6 +1.1
baz=76
F28A McLaughlin 75.99 336 P **P** 07 48 31.4 +1.2
baz=76
G27A Dupree 76.01 335 P **P** 07 48 31.3 +1.0
baz=76
H25A Fruitdale 76.04 334 P **P** 07 48 31.4 +0.9
baz=76
BLG Laguna Peak 76.10 318 P **P** 07 48 30.7 -0.3
baz=76
E29A Napoleon 76.19 337 P **P** 07 48 32.2 +0.9
baz=77
G26A Maurine 76.20 335 P **P** 07 48 32.1 +0.7
baz=77,SNR=6.7
J22A Midwest 76.26 331 P **P** 07 48 33.1 +1.1
baz=77,SNR=5.7
D30A Buchanan 76.35 338 P **P** 07 48 33.0 +0.9
baz=77,SNR=17
TPNV Topopah Spring 76.36 321 P **P** 07 48 35.0 +2.3
baz=77
TPNV Topopah Spring 76.36 321 *eP* **P** 07 48 35.4 +2.8
FURC Furnace Creek, 76.38 321 P **P** 07 48 34.6 +2.1
baz=77
G25A Newell 76.44 334 P **P** 07 48 34.1 +1.4
baz=77
TORD Torodi Ar. Bea 76.44 69 P **P** 07 48 32.5 -0.8
comp=Z,3.7nm,0.7s,baz=259,slow=5.9,SNR=24
AGMN Agassiz Nation 76.46 341 P **P** 07 48 33.1 +0.3
baz=77,SNR=6.1
AGMN Agassiz Nation 76.46 341 *eP* **P** 07 48 33.3 +0.6
F27A Lemmon 76.46 336 P **P** 07 48 34.0 +1.1
baz=77,SNR=5.6
MPMC Manual Prospec 76.47 320 P **P** 07 48 34.8 +1.4
baz=77
E28A Huff 76.57 337 P **P** 07 48 34.4 +1.0
baz=77,SNR=7.3
D29A Pettibone, Tap 76.59 338 P **P** 07 48 34.6 +1.0
baz=77
J21A Lysite 76.64 331 P **P** 07 48 35.7 +1.6
baz=77
I22A 9 Mile Ranch, 76.65 332 P **P** 07 48 35.4 +1.4
baz=77,SNR=6.0
F26A Lodgepole 76.69 335 P **P** 07 48 35.2 +1.0
baz=77,SNR=11
E27A Carson 76.76 336 P **P** 07 48 35.8 +1.3
baz=77
C30A Mose, Pekin 76.77 339 P **P** 07 48 35.5 +1.0
baz=77,SNR=5.0
ISA Isabella 76.78 319 P **P** 07 48 37.2 +2.2
baz=77
DUG Dugway 76.82 326 P **P** 07 48 37.1 +2.0
baz=77
I21A Big Trails, Te 76.94 331 P **P** 07 48 36.9 +1.1
baz=77,SNR=9.7
G24A Alzada 76.95 334 P **P** 07 48 37.3 +1.6
baz=77
R11A Troy Canyon, C 76.97 323 P **P** 07 48 38.3 +2.3
baz=77,SNR=6.1
R11A Troy Canyon, C 76.97 323 *eP* **P** 07 48 38.4 +2.3
D28A Regan 77.05 337 P **P** 07 48 37.6 +1.5
baz=78
F25A Bowman 77.06 335 P **P** 07 48 37.6 +1.3
baz=78
PKM Peak Mountain 77.09 318 P **P** 07 48 38.1 +1.3
baz=78
E26A Carlson Angus 77.13 336 P **P** 07 48 37.7 +1.0
baz=78
PDAR Pinedale Array 77.15 329 P **P** 07 48 38.0 +1.0
comp=Z,1.2nm,0.6s,baz=117,slow=7.5,SNR=16
H22A Clearmont 77.16 332 P **P** 07 48 38.1 +1.2
baz=78
HWUT Hardware Ranch 77.24 327 *eP* **P** 07 48 39.0 +1.5
G23A Biddle 77.24 333 P **P** 07 48 38.7 +1.4
baz=78
MDND Maddock 77.28 338 P **P** 07 48 38.8 +1.5
baz=78
MDND Maddock 77.28 338 *eP* **P** 07 48 38.9 +1.5
J19A Crowheart 77.30 330 P **P** 07 48 39.1 +1.3
baz=78,SNR=5.3
B30A Myrvik Farm, E 77.37 339 P **P** 07 48 38.3 +0.5
baz=78,SNR=5.5
F24A Ekalaka 77.38 334 P **P** 07 48 39.4 +1.3
baz=78
I20A Worland 77.42 331 P **P** 07 48 39.5 +1.1
baz=78
C28A Hausauer Farms 77.43 338 P **P** 07 48 39.8 +1.6
baz=78
H21A Big Horn, Sher 77.48 332 P **P** 07 48 39.4 +0.7
baz=78,SNR=5.1
E25A Miller Ranch, 77.52 335 P **P** 07 48 40.3 +1.6
baz=78
D26A Manning 77.59 336 P **P** 07 48 40.5 +1.4
baz=78
G22A Birney 77.63 333 P **P** 07 48 40.8 +1.3
baz=78
TPH Tonopah 77.70 322 *eP* **P** 07 48 42.1 +1.9
B29A Wagennan Farm, 77.72 339 P **P** 07 48 40.7 +0.9
baz=78,SNR=5.2
H20A Greybull 77.78 331 P **P** 07 48 41.3 +1.0
baz=78,SNR=5.1
A30A Hoffart Farm, 77.79 339 P **P** 07 48 41.2 +1.1
baz=78
I19A Meeteetse 77.88 330 P **P** 07 48 42.5 +1.5
baz=78,SNR=5.2
E24A Baker 77.92 335 P **P** 07 48 43.0 +2.0
baz=78
D25A Fairfield 78.02 336 P **P** 07 48 43.1 +1.6
baz=78,SNR=5.3
G21A Lodge Grass 78.03 332 P **P** 07 48 42.8 +1.2
baz=78
B28A Dugan Ranch, T 78.05 338 P **P** 07 48 42.7 +1.1
baz=78,SNR=6.2
F22A Rosebud 78.07 333 P **P** 07 48 42.8 +1.0
baz=78,SNR=5.8
A29A Manning Farm, 78.08 339 P **P** 07 48 42.8 +1.0
baz=78
C26A Wahner Farm, P 78.14 337 P **P** 07 48 43.7 +1.6
baz=79
E23A Ismay 78.26 334 P **P** 07 48 44.0 +1.2
baz=79
LOHW Long Hollow 78.29 329 *eP* **P** 07 48 44.5 +1.2
comp=Z,2.2nm,0.6s
TPAW Teton Pass 78.36 329 *eP* **P** 07 48 45.8 +2.0
H19A Powell 78.37 331 P **P** 07 48 45.1 +1.5
baz=79
D24A Glendive 78.38 335 P **P** 07 48 45.2 +1.7
baz=79
A28A Rude Farm, Bot 78.41 338 P **P** 07 48 44.8 +1.2
baz=79
SCHQ Schefferville 78.44 0 P **P** 07 48 43.6 0.0
comp=Z,2.2nm,0.6s,baz=180,slow=5.1,SNR=6.5
G20A Bridger 78.46 332 P **P** 07 48 44.9 +0.9
baz=79,SNR=9.4
MOOW Moose Ponds 78.46 329 *eP* **P** 07 48 45.8 +1.6
C25A Freed Ranch, W 78.47 336 P **P** 07 48 45.8 +1.8
baz=79
E22A Miles City 78.47 334 P **P** 07 48 45.3 +1.3
baz=79
FXWY Fox Creek 78.51 329 *eP* **P** 07 48 46.4 +1.9
NVAR Mina Array Bea 78.56 321 P **P** 07 48 46.6 +1.7
comp=Z,0.7nm,0.5s,baz=146,slow=5.6,SNR=8.1
IMW Indian Meadow 78.67 329 *eP* **P** 07 48 47.0 +1.6
comp=Z,4.1nm,1.0s
C24A Savage 78.76 335 P **P** 07 48 47.1 +1.5
baz=79,SNR=7.0
A27A Ledoux Ranch, 78.79 338 P **P** 07 48 47.5 +1.9
baz=79
LAO LASA Array 78.79 334 P **P** 07 48 46.9 +1.2
baz=79,SNR=5.3
LAO LASA Array 78.79 334 *eP* **P** 07 48 46.8 +1.1
comp=Z,7.7nm,1.1s
RLMT Red Lodge 78.84 331 P **P** 07 48 47.8 +1.5
baz=79,SNR=6.4
RLMT Red Lodge 78.84 331 *eP* **P** 07 48 47.6 +1.3
comp=Z,2.6nm,0.5s
F20A Billings 78.89 332 P **P** 07 48 47.7 +1.4
baz=79
A26A Wade Farm, Ken 79.02 337 P **P** 07 48 48.5 +1.6
baz=79
E21A Keefer Ranch, 79.02 333 P **P** 07 48 48.5 +1.5
baz=79
A25A Svangstu Ranch 79.44 337 P **P** 07 48 50.8 +1.6
baz=80
GCMT Greyclift 79.54 331 *eP* **P** 07 48 51.6 +1.7
C21A Desert Coulee 80.06 334 P **P** 07 48 53.5 +1.0
baz=80,SNR=5.7
HLID Hailey 80.10 327 P **P** 07 48 55.1 +2.1
baz=80,SNR=13
HLID Hailey 80.10 327 *eP* **P** 07 48 55.3 +2.2
MCMT McKenzie Canyo 80.27 329 *eP* **P** 07 48 56.5 +2.5
BOZ Bozeman (W) 80.31 330 P **P** 07 48 55.8 +1.7
baz=81
C20A Veseth Ranch, 80.34 333 P **P** 07 48 54.8 +0.7
baz=81,SNR=5.3
BOSA Boshof 80.66 117 P **P** 07 48 56.1 -0.4
comp=Z,1.6nm,0.5s,baz=249,slow=6.3,SNR=7.0
EGMT Eagleton 81.31 332 P **P** 07 49 00.3 +1.0
baz=82
MSO Missoula 82.26 330 P **P** 07 49 05.9 +1.6
baz=83
F10A Beach Ranch, E 83.22 327 *eP* **P** 07 49 10.7 +1.4
J05D Fort Rock, OR 83.47 323 P **P** 07 49 12.0 +1.3
baz=84
J04D Umpqua Nationa 83.92 323 P **P** 07 49 14.7 +1.7
baz=84
I05D Terrebonne, OR 84.23 324 P **P** 07 49 15.9 +1.6
baz=85
C09A Chisman Ranch 85.02 328 *eP* **P** 07 49 19.7 +1.6
EDM Edmonton 86.76 334 *eP* **P** 07 49 26.5 -0.1
YKA Yellowknife Ar 94.11 340 P **P** 07 50 00.8 +0.3
comp=Z,2.2nm,0.5s,baz=135,slow=4.6,SNR=43
ASAR Alice Springs 128.56 205 PKP **PKPdf** 07 55 49.5 +0.2
comp=Z,1.2nm,0.7s,baz=136,slow=1.9,SNR=15
WRA Warramunga Arr 131.74 207 PKP **PKPdf** 07 55 55.7 +0.3
comp=Z,0.9nm,0.4s,baz=153,slow=2.0,SNR=12
WRA SKPbc **SKPbc** 07 59 02.5 -0.5
comp=Z,2.0nm,0.7s,baz=159,slow=3.7,SNR=12
ZALV Zalesovo Beam 143.28 28 PKP PKPbc 07 56 13.8 +0.7
comp=Z,1.7nm,0.4s,baz=298,slow=3.9,SNR=8.1
MKAR Makanchi Array 146.40 40 PKPbc **PKPbc** 07 56 22.0 -0.7
comp=Z,3.8nm,0.6s,baz=317,slow=2.6,SNR=40
MJAR Matsushiro Arr 155.03 306 PKPab **PKPab** 07 57 00.6 +0.6
comp=Z,0.4nm,0.2s,baz=58,slow=1.4,SNR=4.1
SONM Songino Array 155.56 11 PKPab **PKPab** 07 57 01.6 -0.3
comp=Z,1.1nm,0.7s,baz=325,slow=2.9,SNR=4.9
HHC Hu-ho-hao-te 163.08 4 *ePKP* **PKPdf** 07 56 40.0 -4.0
HHC PP **PP** 08 01 20.3 +1.0
HHC SKS SKSdf 08 03 20.8 -10
CD2 Chengdu 169.16 48 PKP **PKPdf** 07 56 48.3 -0.7

*IDC **21** 07:37:10.4±3.1, 19°.75S×175°.76W, h135km±34km, mb3.8/6, mb1 3.9/8, mb1mx3.6/21, mbtmp4.3/8, Error ellipse: s-maj=35.1km s-min=19.7km az=121.0*
ISC 21 07:37:11.4±1.1, 19°.8S±0°.2×175°.6W±0°.2, h150km, n8, σ1°06/9, mb4.1/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.92**	**33**	P		P	**Pn**	07 38 50.0	-0.5
	2.9nm,0.3s,baz=254,slow=17,SNR=5.6								
AFI				S			Sn	07 40 01.6	-6.5
	5.5nm,0.3s,baz=92,slow=21,SNR=8.5								
URZ	**Urewera**	**19.45**	**197**	P		P		07 41 25.1	-1.3
	1.7nm,0.3s,baz=271,slow=4.3,SNR=18								
URZ				S			S	07 44 49.0	-9.1
	0.1nm,0.3s,baz=233,slow=20,SNR=3.8								
RPZ	**Rata Peaks**	**26.33**	**202**	P		P		07 42 34.9	+1.7
	7.2nm,0.4s,baz=243,slow=1.9,SNR=5.2								
CTA	**Charters Tower**	**35.77**	**263**	P		P		07 43 56.8	+0.5
	4.3nm,0.3s,baz=91,slow=9.9,SNR=7.5								
STKA	**Stephens Creek**	**40.09**	**244**	P		P		07 44 32.4	+0.1
	0.4nm,0.4s,baz=83,slow=8.1,SNR=3.9								
ASAR	**Alice Springs**	**46.84**	**256**	P		P		07 45 26.2	-0.3
	3.9nm,0.6s,baz=91,slow=8.2,SNR=49								
WRA	**Warramunga Arr**	**46.90**	**261**	P		P		07 45 25.9	-1.1
	0.9nm,0.3s,baz=96,slow=7.4,SNR=14								
WRA				PcP			**PcP**	07 46 57.3	-0.1
	0.2nm,0.5s,baz=99,slow=5.2,SNR=3.9								
ILAR	**Eielson Array**	**87.15**	**12**	P		P		07 49 40.7	+0.8
	0.1nm,0.4s,baz=226,slow=4.4,SNR=4.3								

IDC 21 07:41:31.8±3.3, 5°.99S×150°.78E, h0km, mb3.5/2, mb1 3.9/2, mb1mx3.4/41, mbtmp3.7/2, Error ellipse: s-maj=130.4km s-min=44.7km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.16**	**228**	P		P		07 46 18.3	-0.4
	1.9nm,0.7s,baz=53,slow=10,SNR=8.3								
ASAR	**Alice Springs**	**23.93**	**221**	P		P		07 46 47.7	-0.1
	1.0nm,0.5s,baz=58,slow=9.0,SNR=18								
TORD	**Torodi Ar. Bea**	**148.72**	**285**	PKPbc		PKPbc		08 01 21.9	-0.4
	0.3nm,0.6s,baz=103,slow=1.7,SNR=3.1								

*IDC **21** 07:48:35.9±7.0, 13°.81N×92°.54W, h0km, mb3.4/3, mb1 3.7/6, mb1mx3.5/24, mbtmp3.4/6, ML3.4/3, Error ellipse: s-maj=113.9km s-min=49.4km az=172.0*
*MEX **21** 07:48:42.0±0.7, 14°.06N×92°.60W, h16km±999km, MD3.9*
ISC 21 07:48:41.0±2.1, 14°.3N±0°.2×92°.66W±0°.08, h10km, n9, σ1°56/15, mb3.5/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**1.54**	**340**	*eP*		**Pn**		07 49 07.7	-0.8
PCIG				*i* S			**Sn**	07 49 28.9	+0.3
CCIG	**Comitan**	**2.08**	**14**	*eP*		**Pn**		07 49 16.3	+0.2
CCIG				*i* P		**Pn**		07 49 16.6	+0.5
CCIG				*eS*		**Sn**		07 49 42.8	+0.7
TGIG		**2.55**	**350**	*i* P		**Pn**		07 49 23.1	+0.6
TGIG				*i* S		**Sn**		07 49 54.5	+0.8
CMIG	**Matias Romero**	**3.54**	**323**	Pn		**Pn**		07 49 35.9	-0.2
	2.4nm,0.3s,baz=146,slow=11,SNR=24								
CMIG				Sn			**Sn**	07 50 16.1	-2.0
	11nm,0.3s,baz=87,slow=19,SNR=6.0								
TEIG	**Tepich**	**7.27**	**35**	Pn		**Pn**		07 50 28.2	+0.9
	0.2nm,0.3s,baz=180,slow=20,SNR=8.3								
TEIG				Sn			**Sn**	07 51 46.2	-3.7
	0.1nm,0.3s,baz=180,slow=20,SNR=2.2								
TXAR	**Lajitas Array**	**18.14**	**328**	P		P		07 52 55.8	+2.3
	0.1nm,0.3s,baz=149,slow=12,SNR=8.2								
ANMO	**Albuquerque**	**24.07**	**331**	P		P		07 53 58.2	+1.4
	0.5nm,0.6s,baz=159,slow=11,SNR=3.1								
NVAR	**Mina Array Bea**	**33.08**	**321**	P		P		07 55 17.1	-0.1
	0.4nm,0.7s,baz=144,slow=10.0,SNR=3.7								
YKA	**Yellowknife Ar**	**50.64**	**347**	P		P		07 57 38.9	-1.1
	0.4nm,0.6s,baz=136,slow=8.6,SNR=4.9								

*ISCJB **21** 07:50:26.6±1.2, 52°.7N±0°.1×169°.75W±0°.10, h5km±7km, mb3.6/5, Error ellipse: s-maj=20.8km s-min=5.5km az=155.3*
*NEIC **21** 07:50:26.9, 52°.66N×169°.64W, h4km, ML3.5(AEIC), After AEIC.*
*IDC **21** 07:50:26.4±1.6, 52°.71N×169°.85W, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.6/29, mbtmp3.5/6, ML3.2/1, Error ellipse: s-maj=55.4km s-min=27.0km az=145.0*
ISC 21 07:50:27.3±1.7, 52°.8N±0°.1×169°.79W±0°.06, h3km±11km, n23, σ1°11/28, mb3.5/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.59**	**74**	P		P	**Pg**	07 50 39.0	+0.5
NIKH				S		S	**Sg**	07 50 47.2	+1.0
OKWR	**Okmok West Rim**	**1.14**	**56**	P		P	**Pg**	07 50 49.3	+0.2
OKAK	**Okmok**	**1.15**	**48**	P		P	**Pg**	07 50 47.9	-1.4
OKCE	**Okmok Cone E**	**1.16**	**57**	P		P	**Pg**	07 50 49.5	0.0
OKTU	**Okmok Mt. Tuli**	**1.20**	**61**	P		P	**Pg**	07 50 49.3	-0.9
OKFG	**Magazine Ridge**	**1.28**	**61**	P		P	**Pg**	07 50 50.5	-1.3
OKFG				S		S	**Sg**	07 51 08.7	+0.3
MSOM	**Makushin Julie**	**1.98**	**58**	P		P	**Pn**	07 51 01.9	+0.3
MSOM				S		S	**Sb**	07 51 28.8	-0.1
MCIR	**Makushin Cirqu**	**2.08**	**56**	P		P	**Pn**	07 51 03.8	+0.7
MSW	**Makushin Switc**	**2.11**	**57**	P		P	**Pn**	07 51 03.8	+0.3
MTBL	**Makushin Table**	**2.19**	**57**	P		P	**Pn**	07 51 05.5	+0.8
UNV	**Unalaska Valle**	**2.23**	**61**	P		P	**Pn**	07 51 05.1	0.0
UNV				S		S	**Sn**	07 51 33.1	0.0
ZRO	**Akutan Zero**	**2.61**	**59**	P		P	**Pn**	07 51 11.1	+0.6
AKUT	**Akutan**	**2.74**	**60**	*ePn*		P	**Pn**	07 51 13.8	+1.6
AKUT				*eSn*		S	**Sn**	07 51 48.0	+2.2
ATKA	**Atka Island**	**2.76**	**259**	P		P	**Pn**	07 51 12.9	+0.5
GSCK	**Great Sitkin C**	**3.98**	**261**	P		P	**Pn**	07 51 30.2	+0.9
ADAG	**Mount Adagdak**	**4.26**	**261**	P		P	**Pn**	07 51 34.5	+1.5
SPIA	**Saint Paul Isl**	**4.38**	**357**	P		P	**Pn**	07 51 36.2	+1.5
ILAR	**Eielson Array**	**16.73**	**35**	Pn		Pn	**Pn**	07 54 20.3	-2.2
	0.0nm,0.3s,baz=228,slow=10,SNR=3.9								
DLBC	**Dease Lake**	**22.88**	**60**	P		P		07 55 33.3	+1.5
	1.6nm,0.9s,baz=285,slow=5.5,SNR=4.4								
NVAR	**Mina Array Bea**	**37.93**	**91**	P		P		07 57 46.4	+0.3
	0.5nm,0.7s,baz=294,slow=8.8,SNR=2.3								
PDAR	**Pinedale Array**	**40.57**	**79**	P		P		07 58 07.1	-1.0
	0.4nm,0.5s,baz=316,slow=5.0,SNR=4.6								
TXAR	**Lajitas Array**	**52.99**	**89**	P		P		07 59 44.9	-0.5
	0.5nm,0.7s,baz=305,slow=6.4,SNR=6.2								
ASAR	**Alice Springs**	**90.49**	**230**	P		P		08 03 29.5	-0.8
	1.1nm,0.7s,baz=32,slow=4.7,SNR=12								

*ISCJB **21** 08:15:46.7±0.7, 52°.6N±0°.1×169°.6W±0°.1, h10km, mb3.3/5, MS2.7/2, Error ellipse: s-maj=17.7km s-min=6.0km az=148.0*
*IDC **21** 08:15:46.4±1.8, 52°.58N×169°.47W, h0km, mb3.4/5, mb1 3.8/6, mb1mx3.5/28, mbtmp3.4/6, ML2.4/1, MS2.8/2, Ms1 2.8/2, ms1mx2.4/35, Error ellipse: s-maj=53.7km s-min=31.5km az=139.0*
*NEIC **21** 08:15:48.2, 52°.78N×169°.63W, h5km, ML3.6(AEIC), After AEIC.*
ISC 21 08:15:47.8±0.9, 52°.8N±0°.1×169°.62W±0°.07, h10km, n30, σ0°93/26, mb3.3/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.52**	**63**	P		P	**Pg**	08 15 58.5	+0.7
NIKH				S		S	**Sb**	08 16 06.2	-0.3
OKWR	**Okmok West Rim**	**1.09**	**50**	P		P	**Pg**	08 16 09.4	+0.5
OKCE	**Okmok Cone E**	**1.11**	**51**	P		P	**Pb**	08 16 08.6	-0.5
OKTU	**Okmok Mt. Tuli**	**1.15**	**55**	P		P	**Pb**	08 16 09.5	-0.2
OKFG	**Magazine Ridge**	**1.23**	**56**	P		P	**Pn**	08 16 10.1	-0.9
OKFG				S		S	**Sb**	08 16 27.1	+0.2
MSOM	**Makushin Julie**	**1.93**	**55**	P		P	**Pn**	08 16 21.6	+1.0
MSOM				S		S	**Sb**	08 16 46.7	-0.4
MCIR	**Makushin Cirqu**	**2.03**	**52**	P		P	**Pn**	08 16 23.5	+1.4
MSW	**Makushin Switc**	**2.06**	**54**	P		P	**Pn**	08 16 23.3	+0.8
MTBL	**Makushin Table**	**2.15**	**54**	P		P	**Pn**	08 16 24.6	+0.9
UNV	**Unalaska Valle**	**2.17**	**58**	P		P	**Pn**	08 16 25.3	+1.4
UNV				S		S	**Sn**	08 16 51.3	+0.5
AKRB	**Akutan Reef Bi**	**2.54**	**55**	P		P	**Pn**	08 16 30.8	+1.8
ZRO	**Akutan Zero**	**2.56**	**57**	P		P	**Pn**	08 16 30.3	+1.0
AKGG	**Akutan Green G**	**2.61**	**55**	P		P	**Pn**	08 16 30.9	+0.9
AKUT	**Akutan**	**2.69**	**57**	*ePn*		P	**Pn**	08 16 32.8	+1.8
ATKA	**Atka Island**	**2.85**	**261**	P		P	**Pn**	08 16 34.3	+1.0
SPIA	**Saint Paul Isl**	**4.46**	**356**	P		P	**Pn**	08 16 55.9	+0.6
ILAR	**Eielson Array**	**16.73**	**35**	Pn		Pn	**Pn**	08 19 41.1	-0.8
	0.0nm,0.3s,baz=229,slow=11,SNR=2.6								
INK	**Inuvik**	**23.12**	**34**	LR		LR		08 29 43.9	
	comp=Z,46nm,20.4s,baz=178,slow=36								
YKA	**Yellowknife Ar**	**30.11**	**49**	P		P	**P**	08 21 56.9	-0.2
	0.3nm,0.6s,baz=276,slow=7.0,SNR=5.1								
H11N2	**WAKE ISLAND Hy**	**37.66**	**218**	T		T		09 02 59.0	
	baz=23,slow=76,SNR=8.8								
H11N3	**WAKE ISLAND Hy**	**37.66**	**218**	T		T		09 03 00.4	
	baz=23,slow=76,SNR=9.4								
H11N1	**WAKE ISLAND Hy**	**37.67**	**218**	T		T		09 02 58.4	
	baz=23,slow=76,SNR=11								
NVAR	**Mina Array Bea**	**37.82**	**91**	P		P		08 23 04.3	-0.2
	0.2nm,0.5s,baz=316,slow=6.3,SNR=2.2								
H11S1	**WAKE ISLAND Hy**	**38.85**	**217**	T		T		09 04 29.1	
	baz=23,slow=76,SNR=120								
H11S2	**WAKE ISLAND Hy**	**38.86**	**217**	T		T		09 04 30.5	
	baz=23,slow=76,SNR=80								
H11S3	**WAKE ISLAND Hy**	**38.87**	**217**	T		T		09 04 30.3	
	baz=23,slow=76,SNR=81								
MJAR	**Matsushiro Arr**	**39.56**	**267**	LR		LR		08 38 41.6	
	comp=Z,8.5nm,21.7s,baz=165,slow=35								
PDAR	**Pinedale Array**	**40.48**	**79**	P		P		08 23 26.1	-0.6
	0.3nm,0.7s,baz=336,slow=3.3,SNR=5.0								
TXAR	**Lajitas Array**	**52.89**	**89**	P		P		08 25 03.2	-0.7
	0.3nm,0.6s,baz=307,slow=5.8,SNR=4.8								
ASAR	**Alice Springs**	**90.52**	**230**	P		P		08 28 49.8	+0.1
	0.5nm,0.9s,baz=23,slow=4.8,SNR=3.8								

IDC 21 08:30:15.0±5.6, 56°.13N×86°.11E, h0km, mb1 2.8/3, mb1mx2.8/31, mbtmp2.8/3, ML2.2/3, Error ellipse: s-maj=56.6km s-min=31.4km az=15.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.31**	**199**	*i*				08 44 41.3	
	baz=19,slow=319,SNR=0.9								
ZALV	**Zalesovo Beam**	**2.31**	**199**	Pn		Pn		08 30 53.5	-0.8
	1.8nm,0.3s,baz=22,slow=15,SNR=38								
ZALV				Sn		Sb		08 31 25.5	-1.1
	2.5nm,0.3s,baz=20,slow=26,SNR=12								
KURBB	**Kurchatov Arra**	**7.14**	**223**	Pn		Pn		08 31 60.0	-0.6
	0.0nm,0.3s,baz=42,slow=14,SNR=6.5								
KURBB				Lg		Lg		08 34 00.6	
	0.0nm,0.3s,baz=34,slow=30,SNR=3.2								
MKAR	**Makanchi Array**	**9.65**	**196**	Pn		Pn		08 32 35.6	+0.6
	0.0nm,0.3s,baz=15,slow=12,SNR=2.6								

IDC 21 08:41:18.0±3.6, 17°.17S×167°.77E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/20, mbtmp3.7/5, ML3.7/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/33, Error ellipse: s-maj=79.7km s-min=37.8km az=99.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.04**	**194**	Pn		Pn		08 42 32.9	-2.1
	3.1nm,0.3s,baz=90,slow=20,SNR=32								
DZM				Sn		Sn		08 43 24.8	-9.3
	3.8nm,0.3s,baz=270,slow=24,SNR=9.2								
DZM	**Mont Dzumac**	**5.04**	**194**	*eP*		Pn		08 42 30.5	-4.5
DZM				*eS*		Sn		08 43 22.7	-11
PMG	**Port Moresby**	**21.48**	**288**	LR		LR		08 52 06.0	
	comp=Z,60nm,21.8s,baz=32,slow=30								
STKA	**Stephens Creek**	**27.86**	**233**	P		P		08 47 10.9	+1.4
	1.0nm,0.7s,baz=61,slow=10,SNR=4.5								
WRA	**Warramunga Arr**	**31.78**	**260**	P		P		08 47 43.5	-1.0
	0.4nm,0.8s,baz=84,slow=8.1,SNR=2.7								
ASAR	**Alice Springs**	**32.34**	**253**	P		P		08 47 49.1	-0.2
	0.6nm,0.8s,baz=80,slow=8.8,SNR=5.4								
SONM	**Songino Array**	**84.73**	**324**	P		P		08 53 54.4	+0.3
	0.9nm,0.9s,baz=132,slow=2.1,SNR=4.0								

IDC 21 08:48:42.3±3.3, 5°.59S×151°.52E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.4/19, mbtmp3.6/3, ML2.1/1, Error ellipse: s-maj=136.5km s-min=42.8km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.75**	**229**	Pn		Pn		08 50 11.1	+2.1
	3.1nm,0.3s,baz=59,slow=12,SNR=7.8								
PMG				Sn		Sn		08 51 09.2	-6.5

2.2nm,0.3s,baz=159,slow=17,SNR=4.2
WRA Warramunga Arr 21.97 228 P P 08 53 37.0 -1.1
1.0nm,0.6s,baz=54,slow=11,SNR=14
ASAR Alice Springs 24.71 222 P P 08 54 05.4 -0.2
0.5nm,0.6s,baz=54,slow=10,SNR=12
TORD Torodi Ar. Bea 149.33 286 PKPbc PKPbc 09 08 34.1 -0.2
0.5nm,0.6s,baz=58,slow=3.1,SNR=3.8

ISCJB ***21*** *08:49:39.6±0.6, 15°.5S±0°.2×177°.8W±0°.1, h400km, mb3.5/11, Error ellipse: s-maj=25.8km s-min=9.9km az=158.9*

IDC ***21*** *08:49:40.8±1.7, 15°.51S×177°.68W, h398km±19km, mb3.2/10, mb1 3.5/11, mb1mx3.3/19, mbtmp4.0/11, Error ellipse: s-maj=30.6km s-min=12.1km az=147.0*

ISC 21 08:49:40.3±0.6, 15°.6S±0°.2×177.7W±0°.1, h400km, n15, σ1§06/16, mb3.6/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.94**	**74**	P		**Pn**	**08 51 12.1**	**-0.3**
	4.2nm,0.3s,baz=223,slow=19,SNR=6.0							
AFI				S		**S**	**08 52 28.3**	**+0.8**
	1.3nm,0.3s,baz=246,slow=20,SNR=2.7							
URZ	**Urewera**	**23.01**	**191**	P		**P**	**08 54 09.4**	**-2.6**
	7.2nm,0.7s,baz=87,slow=19,SNR=5.6							
STKA	**Stephens Creek**	**40.38**	**239**	P		**P**	**08 56 42.6**	**+1.1**
	1.0nm,0.5s,baz=78,slow=8.9,SNR=4.7							
WRA	**Warramunga Ar**	**45.79**	**257**	P		**P**	**08 57 24.9**	**+0.4**
	0.2nm,0.3s,baz=94,slow=6.7,SNR=16							
ASAR	**Alice Springs**	**46.13**	**252**	P		**P**	**08 57 28.0**	**+0.9**
	3.9nm,0.4s,baz=85,slow=7.6,SNR=84							
VNDA	**Vanda**	**62.77**	**185**	P		**P**	**08 59 25.1**	**+0.9**
	0.4nm,0.5s,baz=358,slow=5.3,SNR=5.5							
NVAR	**Mina Array Bea**	**77.29**	**44**	P		**P**	**09 00 53.0**	**+0.7**
	1.2nm,0.7s,baz=229,slow=8.2,SNR=12							
SEY	**Seymchan**	**81.73**	**347**	P		**P**	**09 01 14.4**	**-0.6**
	1.3nm,0.6s,baz=143,slow=19,SNR=4.8							
ILAR	**Eielson Array**	**83.52**	**13**	P		**P**	**09 01 23.4**	**-0.7**
	0.9nm,0.7s,baz=222,slow=6.4,SNR=14							
TXAR	**Lajitas Array**	**84.17**	**58**	P		**P**	**09 01 29.4**	**+1.1**
	1.2nm,0.9s,baz=213,slow=6.8,SNR=10							
PDAR	**Pinedale Array**	**85.21**	**43**	P		**P**	**09 01 32.9**	**-0.4**
	0.2nm,0.4s,baz=242,slow=3.9,SNR=3.3							
YKA	**Yellowknife Ar**	**91.97**	**24**	P		**P**	**09 02 04.1**	**-0.2**
	0.1nm,0.4s,baz=229,slow=4.7,SNR=3.9							
ARCES	**ARCESS Array B**	**124.20**	**350**	PKP		**PKPdf**	**09 07 51.4**	**-0.2**
	2.0nm,0.8s,baz=340,slow=2.4,SNR=2.9							
BRTR	**Keskin Array B**	**143.64**	**317**	PKP		**PKPdf**	**09 08 27.9**	**-1.0**
	2.1nm,0.8s,baz=46,slow=3.6,SNR=9.7							
GERES	**GERESS Array B**	**145.59**	**347**	PKPbc		**PKPab**	**09 08 33.4**	**-0.4**
	0.3nm,0.3s,baz=352,slow=5.0,SNR=3.9							

IDC ***21*** *08:59:44.4±0.9, 23°.71S×176°.26W, h52km±7km, mb3.5/5, mb1 3.9/6, mb1mx3.6/19, mbtmp3.8/6, MS2.9/1, Ms1 2.9/1, ms1mx2.6/26, Error ellipse: s-maj=40.3km s-min=20.1km az=143.0*

ISC 21 08:59:43.6±0.9, 23°.8S±0°.1×175°.8W±0°.2, h35km, n20, σ2§54/11, mb3.6/5, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.77**	**199**	P		**Pn**	**09 01 07.2**	**+0.5**
	28nm,0.3s,baz=55,slow=18,SNR=5.1							
RAO				S		**Sn**	**09 02 13.4**	**+1.7**
	31nm,0.3s,baz=72,slow=20,SNR=2.7							
AFI	**Afiamalu**	**10.53**	**22**	P		Pn	09 02 06.9	-5.3
	2.3nm,0.3s,baz=211,slow=6.9,SNR=5.8							
AFI				S		Sn	09 03 55.4	-14
	1.8nm,0.3s,baz=165,slow=20,SNR=3.6							
RAR	**Rarotonga**	**15.02**	**83**	P		**Pn**	**09 03 11.7**	**-1.6**
	2.6nm,0.3s,baz=270,slow=13,SNR=14							
RAR				S		Sn	09 05 43.3	-15
	0.4nm,0.3s,baz=103,slow=19,SNR=3.1							
URZ	**Urewera**	**15.65**	**201**	P		**Pn**	**09 03 19.0**	**-2.5**
	0.5nm,0.3s,baz=5.4,slow=3.5,SNR=4.4							
URZ				S		Sn	09 06 03.0	-11
	0.4nm,0.3s,baz=330,slow=20,SNR=2.7							
TBI	**Tubuai**	**24.12**	**94**	eLR	LR	LR	09 10 37.5	
	110nm,29.5s							
PAE	**Paea**	**25.23**	**81**	*e*T		T	09 30 51.7	
	4.3nm,0.3s							
PPT2	**Papeete2**	**25.26**	**81**	*e*LR		LR	09 11 06.8	
	100nm,27.5s							
PPT2	**Papeete2**	**25.26**	**81**	*e*T		T	09 30 54.7	
	5.9nm,0.3s							
PPT	**Papeete**	**25.26**	**81**	LR		LR	09 14 32.9	
	comp=Z,25nm,20.0s,baz=304,slow=35							
TIAR	**Tiarei**	**25.48**	**81**	*e*T		T	09 31 09.9	
	1.6nm,0.3s							
TVO	**Taravao**	**25.49**	**81**	*e*T		T	09 31 11.2	
	0.9nm,0.3s							
MEH	**Mehetia**	**26.54**	**82**	*e*T		T	09 32 29.2	
	22nm,0.2s							
VAH	**Vaihoa**	**27.82**	**77**	*e*T		T	09 34 06.8	
	3.1nm,0.2s							
RKT	**Rikitea**	**37.35**	**97**	*e*T		T	09 45 58.3	
	2.8nm,0.3s							
ASAR	**Alice Springs**	**45.86**	**259**	P		P	09 07 58.5	-4.3
	0.6nm,0.8s,baz=92,slow=6.4,SNR=11							
ASAR				PcP		**PcP**	**09 09 37.8**	**-1.9**
	0.2nm,0.6s,baz=116,slow=3.8,SNR=2.9							
WRA	**Warramunga Arr**	**46.27**	**265**	P		P	09 08 00.7	-5.3
	0.9nm,0.3s,baz=93,slow=8.3,SNR=25							
NVAR	**Mina Array Bea**	**82.04**	**42**	P		**P**	**09 12 00.5**	**0.0**
	0.6nm,0.9s,baz=225,slow=8.9,SNR=3.9							
NVAR				pP		**pP**	**09 12 15.7**	**+4.2**
	1.3nm,0.9s,baz=222,slow=8.0,SNR=6.7							
TXAR	**Lajitas Array**	**87.12**	**56**	P		**P**	**09 12 26.4**	**+0.1**
	0.6nm,0.8s,baz=224,slow=7.0,SNR=6.1							
TXAR				pP		**pP**	**09 12 41.3**	**+3.9**
	0.9nm,0.8s,baz=211,slow=6.1,SNR=6.9							
ILAR	**Eielson Array**	**91.07**	**12**	P		**P**	**09 12 42.3**	**-1.6**
	0.2nm,0.7s,baz=212,slow=3.2,SNR=3.7							
AKASG	**Malin Array Be**	**146.87**	**331**	PKPbc		**PKPdf**	**09 19 19.3**	**-0.8**
	0.5nm,0.4s,baz=38,slow=3.8,SNR=4.3							
AKASG				pPKPbc		pPKPbc	09 19 34.9	+1.5
	1.5nm,0.5s,baz=41,slow=4.2,SNR=3.8							

IDC ***21*** *09:13:10.6±9.9, 52°.62N×170°.56W, h0km, mb3.5/6, mb1 3.8/7, mb1mx3.5/30, mbtmp3.5/7, ML3.7/1, Error ellipse: s-maj=180.9km s-min=40.1km az=82.0*

NEIC ***21*** *09:13:18.6, 52°.69N×169°.35W, h13km, mb3.8/2, ML3.5(AEIC), After AEIC.*

ISC 21 09:13:18.1±1.0, 52°.7N±0°.2×169°.4W±0°.1, h10km, n28, σ0§94/24, mb3.5/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.41**	**56**	P		**Pg**	**09 13 27.4**	**+1.2**
NIKH				S		**Sb**	**09 13 35.0**	**+1.2**
OKWR	**Okmok West Rim**	**1.01**	**46**	P		**Pg**	**09 13 37.8**	**+0.4**
OKCE	**Okmok Cone E**	**1.02**	**47**	P		**Pg**	**09 13 37.6**	**0.0**
OKFG	**Magazine Ridge**	**1.13**	**53**	P		**Pb**	**09 13 38.8**	**-0.8**
OKFG				S		**Sb**	**09 13 54.5**	**+0.2**
MSOM	**Makushin Julie**	**1.83**	**53**	P		**Pn**	**09 13 49.5**	**0.0**
MCIR	**Makushin Cirqu**	**1.94**	**50**	P		**Pn**	**09 13 52.0**	**+0.9**
MTBL	**Makushin Table**	**2.05**	**52**	P		**Pn**	**09 13 52.7**	**0.0**
UNV	**Unalaska Valle**	**2.07**	**57**	P		**Pn**	**09 13 52.7**	**-0.1**
UNV				S		**Sn**	**09 14 19.3**	**+0.7**
ZRO	**Akutan Zero**	**2.46**	**55**	P		**Pn**	**09 13 58.5**	**+0.3**
AKUT	**Akutan**	**2.59**	**56**	*e*Pn		**Pn**	**09 14 00.1**	**+0.2**
ATKA	**Atka Island**	**2.97**	**261**	P		**Pn**	**09 14 06.1**	**+0.9**
RSO	**Redoubt South**	**11.97**	**43**	*e*Pn		**Pn**	**09 16 10.6**	**+1.8**
	40nm,0.4s							
ILAR	**Eielson Array**	**16.66**	**35**	Pn		**Pn**	**09 17 09.6**	**-1.7**
	0.1nm,0.3s,baz=232,slow=11,SNR=5.6							
HYT	**Haines Junctio**	**19.09**	**52**	*e*P		**P**	**09 17 41.4**	**+0.7**
	3.7nm,0.5s							
H02S1	**DAWSON INLET T**	**22.10**	**74**	T		T	09 41 07.0	
DLBC	**Dease Lake**	**22.72**	**60**	P		**P**	**09 18 20.3**	**+0.5**
	0.9nm,0.8s,baz=332,slow=14,SNR=2.4							
INK	**Inuvik**	**23.05**	**34**	P		**P**	**09 18 22.2**	**-0.9**
	1.1nm,0.5s,baz=238,slow=6.7,SNR=4.1							
YKA	**Yellowknife Ar**	**30.02**	**49**	P		**P**	**09 19 25.3**	**-1.2**
	0.2nm,0.4s,baz=273,slow=7.7,SNR=4.6							
MCMT	**McKenzie Canyo**	**37.23**	**79**	*e*P		**P**	**09 20 29.1**	**-0.6**
	0.8nm,0.6s							
NVAR	**Mina Array Bea**	**37.70**	**91**	P		**P**	**09 20 34.9**	**+1.2**
	0.3nm,0.6s,baz=301,slow=7.3,SNR=2.6							
H11N2	**WAKE ISLAND Hy**	**37.73**	**218**	T		T	09 59 19.7	
	baz=23							
H11N3	**WAKE ISLAND Hy**	**37.74**	**218**	T		T	09 59 31.7	
	baz=23							
H11N1	**WAKE ISLAND Hy**	**37.75**	**218**	T		T	09 59 32.2	
	baz=23							
H11S1	**WAKE ISLAND Hy**	**38.92**	**218**	T		T	10 00 58.4	
	baz=23							
H11S2	**WAKE ISLAND Hy**	**38.93**	**218**	T		T	10 00 58.2	
	baz=23							
H11S3	**WAKE ISLAND Hy**	**38.94**	**218**	T		T	10 00 59.8	
	baz=23							
PDAR	**Pinedale Array**	**40.36**	**80**	P		**P**	**09 20 55.5**	**-0.6**
	0.7nm,0.6s,baz=322,slow=5.5,SNR=6.2							
TXAR	**Lajitas Array**	**52.77**	**89**	P		**P**	**09 22 32.2**	**-1.1**
	1.1nm,0.7s,baz=297,slow=5.2,SNR=11							

BJI ***21*** *09:15:58.5,2.°55N×128.°64E, h102km, mb6.1/89, mB6.5/77*

GCMT ***21*** *09:16:04.4±0.1, 3.°08N×128.°09E, h122km, MW6.1/132, Moment Tensor Solution. s132,c290; s131,c461; Duration: 28 Moment tensor: Scale 10¹⁸Nm; Mrr0.51±.01; Mθθ1.18±.01; Mϕϕ-1.68±.01; Mrθ0.78±.01; Mθϕ0.50±.01; Mϕr0.48±.01; Best double couple: M₀1.82200×10¹⁸ NP1:ϕ₁31.00000°, δ74.00000°, λ149.00000°. NP2:ϕ₂130.00000°, δ60.00000°, λ19.00000°. Principal axes: T 1.8250, Plg33.0000°, Azm347.0000°; N 0.0010, Plg55.0000°, Azm186.0000°; P -1.8200, Plg9.0000°, Azm83.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***21*** *09:16:04.4±0.1, 3.°04N×128.°22E, h100km, mb6.0/102, ME5.9, MW6.0, MW6.0, MW6.1 Error ellipse: s-maj=3.5km s-min=2.8km az=78.0, Moment Tensor Solution. s44 Moment tensor: Scale 10¹⁸Nm; Mrr0.67; Mθθ0.62; Mϕϕ-1.29; Mrθ0.63; Mθϕ0.12; Mϕr0.47; Best double couple: M₀1.40000×10¹⁸ NP1:ϕ₁141.00000°, δ47.00000°, λ29.00000°. NP2:ϕ₂31.00000°, δ69.00000°, λ134.00000°. Principal axes: T 1.3500, Plg47.0000°, Azm346.0000°; N 0.0500, Plg40.0000°, Azm191.0000°; P -1.4000, Plg12.0000°, Azm90.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [IV] on Morotai and at Tobelo. Felt [III] at Manado and [II] at Tondano, Sulawesi. Also felt [III] on Pulau Ternate.

NEIC ***21*** *09:16:04.0±0.0, 3.°04N×128.°21E, h102km, Moment Tensor Solution. s23 Moment tensor: Scale 10¹⁸Nm; Mrr0.28; Mθθ0.86; Mϕϕ-1.14; Mrθ0.73; Mθϕ0.23; Mϕr0.54; Best double couple: M₀1.40000×10¹⁸ NP1:ϕ₁35.00000°, δ79.00000°, λ139.00000°. NP2:ϕ₂133.00000°, δ50.00000°, λ13.00000°. Principal axes: T 1.4500, Plg35.0000°, Azm346.0000°; N -0.1300, Plg48.0000°, Azm203.0000°; P -1.3200, Plg18.0000°, Azm90.0000°;*

ISCJB ***21*** *09:16:04.8±0.3, 2.°99N±0.°01×128.°24E±0.°02, h120km±2km, mb5.8/219 Error ellipse: s-maj=2.8km s-min=2.2km az=166.3*

IDC ***21*** *09:16:05.3±0.6, 3.°01N×128.°22E, h111km±4km, mb5.3/44, mb1 5.3/50, mb1mx5.3/50, mbtmp5.6/50, MS5.1/34, Ms1 5.1/34, ms1mx5.0/44, Error ellipse: s-maj=9.3km s-min=6.2km az=74.0*

MOS ***21*** *09:16:06.6±1.2, 3.°06N×128.°14E, h132km, mb5.8/67, MS5.3/24, Error ellipse: s-maj=7.4km s-min=4.2km az=112.0*

DJA ***21*** *09:16:08.7±0.2, 3.°N±2.°×12.°8E±.°, h117km±2km, M6.1/111, mb6.0/111, mB6.4/109, MLv6.8/20, Mw(mB)6.1/109, Mwp6.0/34*

KLM ***21*** *09:16:09.3, 2.°87N×128.°02E, h120km, mb6.1, ML6.0, MS7.1*

NEIC ***21*** *09:16:15.0±0.0, 3.°10N×128.°33E, h92km, Moment Tensor Solution. s119 Moment tensor: Scale 10¹⁸Nm; Mrr0.47; Mθθ1.11; Mϕϕ-1.58; Mrθ0.78; Mθϕ0.45; Mϕr0.29; Best double couple: M₀1.70000×10¹⁸ NP1:ϕ₁131.00000°, δ63.00000°, λ22.00000°. NP2:ϕ₂31.00000°, δ71.00000°, λ152.00000°. Principal axes: T 1.7200, Plg33.0000°, Azm349.0000°; N -0.0500, Plg56.0000°, Azm179.0000°; P -1.6700, Plg4.0000°, Azm82.0000°;*

ISC 21 09:16:05.0±0.2, 3.°00N±0.°02×128.°18E±0.°03, h112km±1km, h112km:pP-P,n1398, σ1§64/1820, mb5.9/227, 78C-38D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.36**	**200**	P		**Pn**	**09 16 44.0**	**+1.3**
TNTI	**Ternate**	**2.36**	**200**	*e*Pn		**Pn**	**09 16 44.0**	**+1.3**
TNTI				*e*Sn		**Sn**	**09 17 09.2**	**-2.4**
SGSI	**Sangihe**	**2.73**	**284**	P		**Pn**	**09 16 48.9**	**+1.3**
SGSI				S		**Sn**	**09 17 21.1**	**+0.8**
LBMI	**Labuha**	**3.68**	**191**	P		**Pn**	**09 17 01.6**	**+1.4**
GSPH	**General Santos**	**4.44**	**314**	*e*P		**Pn**	**09 17 10.8**	**+0.3**
GSPH				*e*S		**Sn**	**09 17 19.4**	**0.0**
DAV	**Davao City (W)**	**4.80**	**327**	*e*Pn		**Pn**	**09 17 17.4**	**+2.2**
KMSI	**Cibinong**	**4.84**	**240**	P		**Pn**	**09 17 17.4**	**+1.7**
KMSI				S		**Sn**	**09 18 14.8**	**+4.1**
DMPH	**Davao City--Mi**	**4.85**	**327**	*e*P		**Pn**	**09 17 18.5**	**+2.6**
DMPH				*e*S		**Sn**	**09 18 16.0**	**+5.1**
SWI	**Sorong**	**4.92**	**141**	P		**Pn**	**09 17 18.5**	**+1.6**
SWI	**Sorong**	**4.92**	**141**	P		**Pn**	**09 17 18.4**	**+1.6**
	baz=4.8,SNR=203							
SIJI	**Sorong**	**4.93**	**141**	P		**Pn**	**09 17 18.6**	**+1.7**
	495nm,0.3s,baz=334,slow=12,SNR=360							
SIJI				S		**Sn**	**09 18 11.2**	**-1.8**
	995nm,0.3s,baz=114,slow=20,SNR=32							
BIPH	**Bislig**	**5.46**	**341**	↓P		Pn	09 17 30.3	+6.2
BIPH				*i* S		**Sn**	**09 18 26.6**	**+1.0**
SANI	**Sanana**	**5.48**	**204**	P		**Pn**	**09 17 24.8**	**+0.5**
	2um,1.1s,116um109um28nm							
CTBH	**Cotabato--PC H**	**5.74**	**317**	↑*e*P		**Pn**	**09 17 28.2**	**+0.3**
NLAI	**Namlea**	**6.29**	**190**	P		**Pn**	**09 17 37.2**	**+1.8**
	4um,1.0s,36um46um19nm							
MSAI	**Masohi**	**6.35**	**173**	P		Pn	09 17 40.6	+4.4
	2um,1.9s,28um33um5.9nm							
CGP	**Cagayan de Oro**	**6.43**	**328**	↑*e*P		**Pn**	**09 17 39.2**	**+1.9**
CGP				*e*S		**Sn**	**09 18 53.5**	**+4.2**
MRSI	**Marisa**	**6.72**	**248**	P		Pn	09 17 38.0	-3.2
	28um,1.3s,348um386um90nm							
LUWI	**Luwuk**	**6.74**	**233**	P		**Pn**	**09 17 43.1**	**+1.7**
	9um,1.1s,84um203um111nm							
FAKI	**Fak Fak**	**7.15**	**145**	P		**Pn**	**09 17 49.3**	**+2.2**
	3um,0.9s,34um84um11nm							
FAKI	**Fak Fak**	**7.15**	**145**	P		**Pn**	**09 17 48.6**	**+1.5**
	baz=7.1,SNR=808							
FAKI	**Fak Fak**	**7.15**	**145**	*e*Pn		**Pn**	**09 17 47.5**	**+0.4**
FAKI				*e*Sn		**Sn**	**09 19 06.6**	**-0.2**
RKPI	**Ransiki, Papua**	**7.49**	**127**	P		Pn	09 17 57.2	+5.6
	6um,1.1s,52um32nm							
APSI	**Ampana**	**7.60**	**239**	P		**Pn**	**09 17 54.6**	**+1.5**
	9um,0.9s,83um99um52nm							
TOLI	**Toli-Toli**	**7.61**	**256**	*e*Pn		**Pn**	**09 17 54.0**	**+0.7**
TOLI				*e*Sn		**Sn**	**09 19 16.8**	**-1.2**
BNDI	**Bandanaira**	**7.67**	**167**	P		**Pn**	**09 17 56.0**	**+1.9**
	8um,1.4s,131um107um34nm							
TBP	**Tagbilaran**	**7.91**	**327**	*e*P		**Pn**	**09 17 58.6**	**+1.3**
MPSI	**Mapaga**	**8.69**	**252**	P		**Pn**	**09 18 09.2**	**+1.3**
	2um,1.5s,35um							
PLP	**Palo**	**8.71**	**339**	↑*e*P		**Pn**	**09 18 06.5**	**-1.6**
KDI	**Kendari**	**8.87**	**219**	P		**Pn**	**09 18 10.7**	**+0.3**
	4um,0.8s,36um							
BAKI	**Biak**	**8.95**	**118**	P		Pn	09 18 16.6	+5.1
	7um,1.3s,134um							
PCI	**Palu**	**9.20**	**245**	P		**Pn**	**09 18 16.2**	**+1.4**
	3um,1.1s,36um							
SRPI	**Serui, Papua**	**9.40**	**121**	P		Pn	09 18 23.9	+6.3
	4um,0.9s,33um							
MYLDM	**Lahad Datu**	**9.89**	**283**	↓P		Pn	09 18 28.2	+3.9
MYLDM	**Lahad Datu**	**9.89**	**283**	↓P		Pn	09 18 28.2	+3.9
MYLDM	**Lahad Datu**	**9.89**	**283**	*e*Pn		**Pn**	**09 18 26.7**	**+2.5**
BBSI	**Bau Bau**	**10.12**	**214**	P		**Pn**	**09 18 29.8**	**+2.4**
	2um,1.1s,22um27um							
TTSI	**Tana Toraja**	**10.29**	**234**	P		**Pn**	**09 18 29.0**	**-0.6**
	3um,1.7s,31um							
TSM	**Tawau**	**10.37**	**277**	↓P		**Pn**	**09 18 31.9**	**+1.2**
TSM	**Tawau**	**10.37**	**277**	↓P		**Pn**	**09 18 31.9**	**+1.2**
SPSI	**Sidrap Palu**	**10.89**	**231**	P		**Pn**	**09 18 37.3**	**-0.4**
	2um,1.0s,22um28um							
SDKM	**Sandakan**	**11.26**	**284**	↓P		**Pn**	**09 18 43.2**	**+0.4**
SDKM	**Sandakan**	**11.26**	**284**	↓P		**Pn**	**09 18 43.2**	**+0.4**
SAUI	**Saumlaki**	**11.35**	**164**	P		**Pn**	**09 18 44.6**	**+0.7**
	3um,1.0s,31um							
BKSI	**Bulukumba**	**11.54**	**224**	P		**Pn**	**09 18 46.4**	**0.0**
	1um,0.7s,18um							
KAPI	**Kappang**	**11.59**	**227**	P		**Pn**	**09 18 46.2**	**-0.8**
	25nm,0.3s,baz=58,slow=8.9,SNR=86							
KAPI				S		**Sn**	**09 20 49.9**	**-4.8**
	104nm,0.3s,baz=107,slow=22,SNR=14							
KAPI	**Kappang**	**11.59**	**227**	*e*Pn		**Pn**	**09 18 46.5**	**-0.6**
KAPI				S		**Sn**	**09 20 49.9**	**-4.8**
KAPI				*e*Sn		**Sn**	**09 20 54.6**	**0.0**
SMPI	**Sarmi**	**11.64**	**115**	P		Pn	09 18 51.0	+3.3
	1um,1.9s,30um							
BSSI	**Bau Bau, Buton**	**11.89**	**220**	P		**Pn**	**09 18 51.4**	**+0.3**
	2um,1.0s,20um							
KDM	**Kudat**	**11.95**	**289**	↓P		P	09 18 56.2	-3.7
KDM	**Kudat**	**11.95**	**289**	↓P		P	09 18 56.2	-3.7
BKB	**Balikpapan**	**12.05**	**250**	P		**Pn**	**09 18 54.1**	**+0.9**
	4um,1.4s,43um115um							
GQP	**Guinayangan**	**12.22**	**333**	↓*e*P		**Pn**	**09 18 58.0**	**+2.6**
KKM	**Kota Kinabalu**	**12.30**	**285**	P		**Pn**	**09 18 57.9**	**+1.3**
	baz=12,SNR=14							
KKM	**Kota Kinabalu**	**12.30**	**285**	↑P		**Pn**	**09 18 58.5**	**+1.9**
KKM	**Kota Kinabalu**	**12.30**	**285**	↑P		**Pn**	**09 18 58.5**	**+1.9**
KKM	**Kota Kinabalu**	**12.30**	**285**	*e*Pn		**Pn**	**09 18 56.8**	**+0.2**
	3um,1.5s							
KKM				*e*Sn		**Sn**	**09 21 14.2**	**+2.1**
LQP	**Lukban**	**12.84**	**330**	↓*e*P		**Pn**	**09 19 06.5**	**+2.8**
MMRI	**Maumere**	**12.99**	**207**	P		**P**	**09 19 08.8**	**-2.9**
	936nm,1.2s,13um							
MMRI	**Maumere**	**12.99**	**207**	*e*Pn		**Pn**	**09 19 07.0**	**+1.5**
TGY	**Tagaytay City**	**13.14**	**327**	P		**Pn**	**09 19 09.3**	**+1.8**
	46nm,0.3s,baz=185,slow=2.7,SNR=60							
TGY				LR		LR	09 24 04.3	
	comp=Z,378nm,18.7s,baz=58,slow=36							
GENI	**Genyem**	**13.21**	**115**	P		**P**	**09 19 11.9**	**-2.2**
	3um,1.8s,53um49um							
SOEI	**Soe**	**13.26**	**197**	*e*Pn		**P**	**09 19 12.2**	**-2.6**
JAY	**Jayapura**	**13.67**	**114**	P		**P**	**09 19 21.8**	**+2.5**
	495nm,0.9s,12um							
JAY	**Jayapura**	**13.67**	**114**	P		**Pn**	**09 19 15.8**	**+1.5**
	1.2nm,0.3s,baz=213,slow=18,SNR=8.0							
JAY				S		**Sn**	**09 21 50.5**	**+5.4**
	0.9nm,0.3s,baz=221,slow=20,SNR=1.6							
BATI	**Baumata**	**13.87**	**199**	P		**P**	**09 19 19.5**	**-2.0**
	445nm,0.9s,8um							
BATI	**Baumata**	**13.87**	**199**	P		**Pn**	**09 19 18.5**	**+1.5**
	29nm,0.3s,baz=61,slow=1.7,SNR=21							
BATI				S		**S**	**09 22 00.3**	**-3.8**
	23nm,0.3s,baz=329,slow=22,SNR=6.6							
BASI	**Baing, Sumba**	**15.16**	**210**	P		**P**	**09 19 36.0**	**+0.2**
	2um,1.4s,21um							
SBUM	**Sibu**	**15.95**	**268**	*e*Pn		**P**	**09 19 44.7**	**+0.1**
	2um,1.5s							
MTN	**Manton Dam**	**16.01**	**170**	P		Pn	09 19 43.5	-0.4
	baz=16,SNR=42							
MTN	**Manton Dam**	**16.01**	**170**	*e*Pn		Pn	09 19 43.5	-0.4
	3um,1.8s							
KDU	**Kakadu**	**16.16**	**165**	P		Pn	09 19 44.9	-0.9
	baz=16,SNR=85							
SZP	**Santa**	**16.32**	**333**	*e*P		**P**	**09 19 49.4**	**+0.8**
	1um,1.0s							
STKI	**Sintang**	**16.95**	**260**	P		**P**	**09 19 57.6**	**+2.0**
	837nm,2.2s,28um36um							
SRBI	**Singaraja**	**16.99**	**230**	P		**P**	**09 19 58.1**	**+2.1**
	661nm,1.4s,26um39um							
KMMI	**Kalianget**	**17.35**	**235**	P		Pn	09 20 03.1	+2.8
	2um,1.9s,39um							
DNP	**Denpasar**	**17.37**	**228**	P		Pn	09 20 04.3	+3.7
	4um,1.1s,87um							
PBKI	**Pangkalan Bun**	**17.45**	**251**	P		Pn	09 20 02.0	+0.4
	2um,1.3s,19um							
IGBI	**Denpasar**	**17.51**	**228**	P		Pn	09 20 05.0	+2.7
	1um,2.5s,39um							
ABJI	**Asem Bagus**	**17.57**	**232**	P		Pn	09 20 04.6	+1.6
	825nm,2.0s,40um							
BWJI	**Bawean**	**17.82**	**240**	P		pP	09 20 23.8	-1.9
KSM	**Kuching**	**17.92**	**266**	P		Pn	09 20 08.0	+0.7
	baz=18,SNR=206							
KSM	**Kuching**	**17.92**	**266**	*e*P		Pn	09 20 07.7	+0.4
	3um,1.5s							
KSM				*e*S		**Sn**	**09 23 27.4**	**-0.2**
JAGI	**Jajag, Banyuwa**	**18.04**	**231**	P		Pn	09 20 10.4	+1.7
	2um,1.4s,41um							
JAGI	**Jajag, Banyuwa**	**18.04**	**231**	*e*P		Pn	09 20 09.8	+1.0
	7um,1.6s							
JAGI				*e*S		**S**	**09 23 26.7**	**-2.4**
BLJI	**Banyuglugur**	**18.05**	**234**	P		Pn	09 20 10.1	+1.3
	1um,1.5s,31um							
GRJI	**Gres

LEM Lembang 22.73 245 P P 09 20 58.4 +0.3
comp=N,312nm,0.9s,baz=59,slow=9.1,SNR=12
LEM S S 09 25 00.1 +1.5
comp=N,33nm,0.6s,baz=127,slow=20,SNR=1.9
TATO Taipei 22.78 344 eP P 09 20 57.8 -0.4
comp=N,340nm,0.8s
CISI Cisompet, Garu 22.87 243 P P 09 20 59.4 +0.1
comp=N,469nm,1.5s,comp=N,9µmcomp=N,33µm
CISI Cisompet, Garu 22.87 243 ⇓P P 09 20 59.4 +0.1
baz=23,SNR=5.8
CISI Cisompet, Garu 22.87 243 eP P 09 20 59.6 +0.4
comp=N,237nm,0.6s
CISI eS S 09 25 00.3 -0.2
CNJI Cibinong 23.37 244 P P 09 21 04.9 +1.0
comp=N,923nm,1.3s,comp=N,11µm
HKC Hong Kong Obse 23.51 326 ⇑iP P 09 21 06.0 +0.9
WRAB Tennant Creek 23.59 165 diP P 09 21 06.0 +0.2
WRAB pmax pmax
comp=Z,678nm,0.9s
WRAB Tennant Creek 23.59 165 eP P 09 21 04.8 -1.0
comp=Z,348nm,0.7s
WRA Warramunga Arr 23.59 165 P P 09 21 06.2 +0.3
comp=Z,227nm,0.6s,baz=347,slow=10,SNR=496
WRA pP pP 09 21 29.1 +0.3
comp=Z,222nm,0.7s,baz=344,slow=11,SNR=4.8
WRA S S 09 25 05.3 -6.7
comp=Z,14nm,0.8s,baz=338,slow=17,SNR=2.5
WRA ScP ScP 09 28 14.8 -1.3
comp=Z,19nm,0.7s,baz=340,slow=3.2,SNR=7.6
WRA ScS ScS 09 31 59.7 -3.3
comp=Z,4.5nm,0.9s,baz=336,slow=1.0,SNR=5.4
WRA LR LR 09 32 07.0
comp=Z,4µm,19.7s,baz=350,slow=41
QZH Quanzhou 23.69 338 ⇑iP P 09 21 07.6 +1.0
QZH pP pP 09 21 30.6 +0.9
QZH S S 09 25 11.5 -1.9
QZH PMZ
comp=Z,2µm,1.2s
QZH PMZ
comp=Z,28µm,5.0s
JOW Kunigami 23.70 0 eP P 09 21 07.5 +0.9
comp=Z,2µm,1.8s
QIZ Qiongzhong 23.99 313 P P 09 21 10.8 +1.4
QIZ pP pP 09 21 32.3 -0.6
QIZ S S 09 25 21.6 +3.2
QIZ sS sS 09 26 04.0 +3.4
QIZ PMZ
comp=Z,950nm,1.9s
QIZ PMZ
comp=Z,9µm,7.2s
QIZ LZ
comp=Z,10µm,33.9s
QIZ Qiongzhong 23.99 313 eP P 09 21 10.6 +1.2
comp=Z,3µm,1.6s
MYKOM Kota Tinggi 24.34 268 eP P 09 21 15.2 +2.5
comp=Z,1µm,1.3s
CGJI Cibinong 24.40 247 P P 09 21 14.6 +1.4
comp=Z,901nm,1.2s,comp=Z,11µm
BTDF Bukit Timah Da 24.44 267 ⇓P P 09 21 15.2 +1.6
baz=24,SNR=18
BTDF ⇓P P 09 21 15.2 +1.6
baz=24,SNR=18
GZH Guangzhou 24.60 326 ⇑iP P 09 21 19.0 +4.1
GZH PP PnPn 09 21 55.6 +1.9
GZH S S 09 25 34.3 +6.3
GZH LN
comp=Z,12µm,15.5s
GZH LE
comp=Z,5µm,12.9s
MDSI Maura Dua 25.11 253 P P 09 21 22.1 +2.4
comp=Z,656nm,1.4s,comp=Z,7µm
KASI Kota Agung 25.13 250 P P 09 21 22.2 +2.4
comp=Z,614nm,1.2s,comp=Z,8µm
LWLI Liwa 25.38 252 P P 09 21 24.5 +2.2
comp=Z,406nm,1.0s,comp=Z,30µm
MBWA Marble Bar 25.40 199 eP P 09 21 22.6 +0.4
comp=Z,439nm,1.5s
UBPT Khong Chiam 25.48 300 P P 09 21 24.2 +1.1
comp=Z,1µm,0.8s,comp=Z,16µm
LHSI Lahat 25.56 255 P P 09 21 25.9 +2.2
comp=Z,525nm,1.2s,comp=Z,9µm
QIS Mount Isa 25.96 155 P P 09 21 26.8 -0.5
baz=26,SNR=213
XMI Christmas Isla 26.07 239 ⇑P P 09 21 29.6 +1.2
baz=26,SNR=8.4
XMIS Christmas Isla 26.12 239 P P 09 21 29.7 +0.9
baz=26,SNR=12
XMIS Christmas Isla 26.12 239 eP P 09 21 29.3 +0.4
comp=Z,2µm,1.4s
MNAI Manna 26.24 254 P P 09 21 32.3 +2.3
comp=Z,606nm,1.4s
MNAI Manna 26.24 254 ⇑P P 09 21 31.3 +1.3
baz=26,SNR=5.8
MNAI Manna 26.24 254 eP P 09 21 30.7 +0.7
comp=Z,563nm,1.1s
MNAI epP pP 09 21 53.8 -0.5
MTSU Mount Surprise 26.34 143 P P 09 21 31.0 +0.2
baz=26,SNR=21
KSI Kapahiang 26.41 256 P P 09 21 34.5 +3.0
comp=Z,364nm,1.6s,comp=Z,10µm
AS31 Alice Springs 27.09 168 eP P 09 21 38.4 +0.9
AS31 epP pP 09 22 02.7 +0.8
ASAR Alice Springs 27.09 168 P P 09 21 37.8 +0.3
comp=Z,46nm,0.6s,baz=352,slow=7.8,SNR=532
ASAR pP pP 09 22 01.6 -0.2
comp=Z,57nm,0.6s,baz=344,slow=8.8,SNR=6.4
ASAR PcP PcP 09 24 56.9 +1.1
comp=Z,20nm,0.6s,baz=357,slow=2.5,SNR=4.3
ASAR S S 09 26 03.0 -4.5
comp=Z,22nm,0.8s,baz=350,slow=18,SNR=5.4
ASAR ScP ScP 09 28 25.1 -1.0
comp=Z,33nm,0.8s,baz=345,slow=2.1,SNR=14
ASAR ScS ScS 09 32 13.7 -3.9
comp=Z,6.0nm,0.8s,baz=341,slow=6.0,SNR=9.2
ASAR LR LR 09 34 23.6
comp=Z,7µm,19.6s,baz=2.5,slow=41
IPM Ipoh 27.13 274 eP P 09 21 39.2 +1.2
comp=Z,112nm,0.8s
BKNI Bangkinang 27.26 265 eP P 09 21 41.1 +2.1
comp=Z,660nm,1.4s
JCJ Chichijima 27.45 28 P P 09 21 39.0 -1.7
comp=Z,251nm,0.4s,baz=216,slow=6.0,SNR=90
JCJ S S 09 26 07.2 -5.9
comp=Z,47nm,0.8s,baz=308,slow=19,SNR=4.7
JCJ LR LR 09 31 44.9
comp=Z,2µm,20.9s,baz=214,slow=34
JCJ ScS ScS 09 32 15.3 -3.7
comp=Z,34nm,0.9s,baz=270,slow=20,SNR=3.6
CBIJ Chichi jima 27.45 28 eP P 09 21 39.5 -1.1
CBIJ S S 09 26 07.2 -5.9
CBIJ ScS ScS 09 32 15.3 -3.7
SKNT Sakolnakorn 27.52 302 P P 09 21 42.6 +1.2
comp=Z,782nm,1.2s,comp=Z,10µm
KULM Kulim 27.55 276 eP P 09 21 42.1 +0.4
comp=Z,493nm,1.8s
SKLT Songkhla 27.75 280 P P 09 21 46.0 +2.5
comp=Z,133nm,1.2s,comp=Z,2µm
WRKA Warakurna 27.87 180 P P 09 21 44.1 -0.3
baz=28,SNR=196
SRAK Srakaew 28.03 295 P P 09 21 42.0 -3.9
comp=Z,372nm,0.8s,comp=Z,4µm
SSE Sheshan 28.71 347 ⇑P P 09 21 52.8 +1.1
SSE sP sP 09 22 30.0 +0.7
SSE S S 09 26 33.5 +0.7
SSE sS sS 09 27 16.5 +0.8
SSE PMZ
comp=Z,79nm,0.8s
SSE PMZ
comp=Z,3µm,8.0s
SSE LN
comp=Z,1µm,16.8s
SSE LE
comp=Z,3µm,16.8s
SSE LZ
comp=Z,2µm,20.6s
NONG Nongkai 28.74 303 P P 09 21 53.1 +0.9
comp=Z,257nm,1.2s,comp=Z,5µm
PATY Pattaya 28.75 292 P P 09 21 54.6 +2.3
comp=Z,15nm,1.0s
TRTT Trang 28.75 281 P P 09 21 54.3 +1.9
comp=Z,86nm,1.5s,comp=Z,2µm
CHAI Chaiyaphum 28.79 298 P P 09 21 53.6 +1.0
comp=Z,141nm,0.9s,comp=Z,1µm
NAYO Nakonayok 28.79 295 P P 09 21 54.1 +1.4
comp=Z,134nm,1.0s,comp=Z,2µm
GIRL Giralia 28.90 207 P P 09 21 55.2 +1.7
baz=29,SNR=8.0

CTA Charters Tower 29.01 143 P P 09 21 54.6 0.0
comp=Z,30nm,0.7s,baz=321,slow=12,SNR=31
CTA S S 09 26 35.6 -2.2
comp=Z,10nm,0.9s,baz=252,slow=19,SNR=1.8
CTA ScP ScP 09 28 32.4 +0.3
comp=Z,55nm,1.2s,baz=32,slow=13,SNR=3.4
CTA LR LR 09 34 35.8
comp=Z,5µm,19.0s,baz=326,slow=38
CTAO Charters Tower 29.01 143 eP P 09 21 54.5 0.0
CTAO e*PP pP 09 22 19.3 +0.1
CTAO pmax pmax
comp=Z,721nm,2.0s
CTAO Charters Tower 29.01 143 eP P 09 21 54.5 -0.1
comp=Z,721nm,2.0s
CTAO epP pP 09 22 19.3 +0.1
CTAO eScP ScP 09 28 32.3 +0.2
SURA Surathani 29.03 283 P P 09 21 56.9 +2.1
comp=Z,72nm,1.7s,comp=Z,16µm
PSI Prapat 29.22 270 P P 09 21 56.8 +0.1
comp=Z,14nm,0.7s,baz=95,slow=4.7,SNR=25
PSI PcP PcP 09 25 01.8 +0.4
comp=Z,21nm,0.8s,baz=160,slow=3.7,SNR=3.8
PSI S S 09 26 39.4 -2.1
comp=Z,2.5nm,0.4s,baz=135,slow=20,SNR=15
PSI ScP ScP 09 28 31.6 -1.4
comp=Z,42nm,1.0s,baz=178,slow=4.0,SNR=13
PSI ScS ScS 09 32 25.4 -2.4
comp=Z,1.5nm,0.3s,baz=163,slow=19,SNR=6.2
PSI Prapat 29.22 270 P P 09 21 56.8 +0.1
PSI 09 25 01.8
PSI S S 09 26 39.4 -2.1
PSI 09 32 25.5
PSI pmax pmax
comp=Z,14nm,0.7s
PSI pmax pmax
comp=Z,21nm,0.8s
PSI smax smax
comp=N,3.0nm,0.4s
PSI pmax pmax
comp=N,42nm,1.0s
PSI pmax pmax
comp=N,2.0nm,0.4s
PSI Prapat 29.22 270 eP P 09 21 57.8 +1.2
PSI PcP PcP 09 25 01.8 +0.4
PSI S S 09 26 39.4 -2.1
PSI ScP ScP 09 28 31.6 -1.4
PSI ScS ScS 09 32 25.4 -2.4
KRAB Krabi 29.30 281 P P 09 21 59.2 +2.0
comp=N,89nm,0.8s,comp=N,1µm
SURT Suratani 29.80 283 P P 09 22 03.4 +1.8
comp=N,46nm,1.4s,comp=N,1µm
SLVN Son La 29.83 310 eP P 09 22 04.0 +2.2
comp=N,643nm,1.8s
PHET Kaeng Krachan 29.90 291 P P 09 22 04.4 +1.9
comp=N,36nm,1.2s,comp=N,346nm
PBKT Sadao Pong 29.95 299 P P 09 22 04.3 +1.4
comp=N,349nm,1.2s,comp=N,11µm
PBSI Pulau Batu 30.04 265 P P 09 22 05.5 +1.7
comp=N,201nm,1.5s,comp=N,12µm
JNU Nakatsue 30.07 5 P P 09 22 03.4 -0.5
comp=N,83nm,0.4s,baz=264,slow=2.2,SNR=125
JNU ScP ScP 09 28 34.6 -0.7
comp=N,18nm,0.8s,baz=154,slow=3.4,SNR=7.0
JNU LR LR 09 33 38.1
comp=N,3µm,20.6s,baz=182,slow=35
JNU Nakatsue 30.07 5 eP P 09 22 04.0 +0.2
JNU ScP ScP 09 28 34.6 -0.7
LOEI Loei 30.08 300 P P 09 22 02.6 -1.5
comp=N,628nm,1.0s,comp=N,7µm
PKDT Phuket 30.09 281 P P 09 22 06.7 +2.5
comp=N,241nm,0.8s
NJ2 Nanjing 30.20 344 eP P 09 22 07.5 +2.6
NJ2 pP pP 09 22 28.9 -0.7
NJ2 sP sP 09 22 40.0 -2.5
NJ2 S S 09 26 59.0 +2.9
NJ2 sS sS 09 27 39.0 -0.1
NJ2 PMZ
comp=N,330nm,0.8s
NJ2 PMZ
comp=N,2µm,10.8s
NJ2 LN
comp=N,9µm,21.6s
NJ2 LE
comp=N,6µm,24.8s
NJ2 LZ
comp=N,8µm,22.3s
KSJJU Jeju 30.31 357 P P 09 22 08.5 +2.5
SNR=6.1
KSJJU Jeju 30.31 357 P P 09 22 08.5 +2.5
SNR=6.1
WHN Wuhan 30.36 336 ⇑P P 09 22 08.8 +2.5
WHN pP pP 09 22 32.8 +1.8
WHN PP PP 09 23 16.6 -0.4
WHN S S 09 26 58.6 0.0
WHN PMZ
comp=N,490nm,1.2s
WHN PMZ
comp=N,10µm,8.3s
WHN LN
comp=N,4µm,9.7s
WHN LE
comp=N,9µm,8.9s
WHN LZ
comp=N,16µm,20.2s
GSI Gunungsitoli 30.63 268 P P 09 22 10.2 +1.2
comp=N,192nm,1.5s,comp=N,5µm
GSI Gunungsitoli 30.63 268 eP P 09 22 08.9 -0.1
comp=N,278nm,1.2s
UTTA Uttaradit 30.80 300 P P 09 22 11.9 +1.5
comp=N,72nm,1.2s,comp=N,660nm
SRDT SRDT 30.81 293 P P 09 22 12.6 +2.1
comp=N,560nm,1.1s,comp=N,14µm
MEEK Meekatharra 30.88 197 P P 09 22 10.9 -0.1
baz=31,SNR=50
UTHA Uthaitani 30.92 296 P P 09 22 13.1 +1.6
comp=N,82nm,0.8s,comp=N,647nm
GYA Guiyang 31.14 321 ⇑iP P 09 22 15.4 +2.0
GYA pP pP 09 22 40.8 +2.6
GYA sP sP 09 22 52.0 +0.9
GYA PP PnPn 09 23 22.4 +2.5
GYA PcP PcP 09 25 09.6 +3.4
GYA S S 09 27 14.9 +3.6
GYA ScP ScP 09 28 38.9 -0.2
GYA ScS ScS 09 32 36.0 -0.7
GYA PMZ
comp=N,170nm,0.6s
GYA PMZ
comp=N,3µm,11.4s
GYA LN
comp=N,7µm,16.4s
GYA LE
comp=N,6µm,17.9s
GYA LZ
comp=N,7µm,16.0s
KSWAN Wando 31.26 358 P P 09 22 17.0 +2.9
SNR=5.4
KSWAN Wando 31.26 358 P P 09 22 17.0 +2.9
SNR=5.4
KSJDO Jindo 31.36 357 P P 09 22 17.0 +1.9
SNR=8.3
KSJDO Jindo 31.36 357 P P 09 22 17.0 +1.9
SNR=8.3
KSKOH Goheung 31.46 359 P P 09 22 18.2 +2.3
SNR=12
KSKOH Goheung 31.46 359 P P 09 22 18.2 +2.3
SNR=12
KSHUK Heuksando 31.62 356 P P 09 22 19.1 +1.7
SNR=15
KSHUK Heuksando 31.62 356 P P 09 22 20.3 +2.9
SNR=8.5
KSNAH Namhae 31.65 360 P P 09 22 19.7 +2.1
SNR=16
KSNAH Namhae 31.65 360 P P 09 22 19.7 +2.1
SNR=16
JHJ Hachijo jima 2 31.87 19 P P 09 22 18.0 -1.6
comp=N,73nm,0.3s,baz=115,slow=6.6,SNR=23
JHJ LR LR 09 35 11.8
comp=N,3µm,19.8s,baz=215,slow=36
JHJ2 Mitsune 31.88 19 eP P 09 22 19.2 -0.4
comp=N,479nm,2.1s
LAMP Lampang 31.92 301 P P 09 22 22.4 +2.1
comp=N,102nm,1.0s,comp=N,686nm
KSJIN Jinju 32.00 360 P P 09 22 22.3 +1.7
SNR=12
KSJIN Jinju 32.00 360 P P 09 22 22.3 +1.7
SNR=12
KSKWJ Gwangju 32.02 358 P P 09 22 22.0 +1.2
SNR=13
KSKWJ Gwangju 32.02 358 P P 09 22 22.4 +1.6
SNR=13
CRAI Chiangrai 32.07 304 P P 09 22 20.1 -1.5
comp=N,239nm,1.2s,comp=N,11µm
KSBUS Busan 32.10 1 P P 09 22 22.5 +0.9
SNR=9.4
KSBUS Busan 32.10 1 P P 09 22 22.5 +0.9
SNR=9.4
KSJEU Jeongeup 32.35 358 P P 09 22 24.2 +0.4
SNR=58
KSJEU Jeongeup 32.35 358 P P 09 22 26.8 +3.0
SNR=13
ENH Enshi 32.38 329 eP P 09 22 26.1 +1.8
comp=N,157nm,0.8s
CM31 Chiang Mai Arr 32.48 300 ⇑P P 09 22 28.1 +2.9
baz=33,SNR=6.4
CMAR Chiang Mai Arr 32.48 300 P P 09 22 27.4 +2.2
comp=N,119nm,0.9s,baz=119,slow=7.0,SNR=144
CMAR pP pP 09 22 49.4 -0.6
comp=N,29nm,0.9s,baz=107,slow=8.5,SNR=2.8
CMAR PcP PcP 09 25 08.7 -1.1
comp=N,6.2nm,0.7s,baz=103,slow=4.8,SNR=2.5
CMAR S S 09 27 34.9 +2.6
comp=N,0.9nm,0.4s,baz=111,slow=5.1,SNR=2.2
CMAR ScP ScP 09 28 44.5 +0.8
comp=N,12nm,0.8s,baz=135,slow=2.3,SNR=9.6
CMAR LR LR 09 35 25.2
comp=N,3µm,21.5s,baz=125,slow=36
KSDAG Daegu 32.61 1 P P 09 22 26.5 +0.5
SNR=12
KSDAG Daegu 32.61 1 P P 09 22 26.5 +0.5
SNR=12
CMMT Chiang Mai 32.63 301 P P 09 22 28.0 +1.5
comp=N,446nm,1.2s,comp=N,8µm
CHTO Chiang Mai 32.63 301 P P 09 22 28.1 +1.6
comp=N,2µm,1.2s,comp=N,29µm
CHTO Chiang Mai 32.63 301 eP P 09 22 28.2 +1.7
CHTO e 09 25 12.5
CHTO pmax pmax
comp=Z,800nm,1.4s
CHTO Chiang Mai 32.63 301 eP P 09 22 28.2 +1.7
comp=Z,800nm,1.4s
CHTO ePcP PcP 09 25 12.5 +2.2
KSJEO Jeonju 32.78 359 P P 09 22 29.6 +2.0
SNR=30
KSYOC YEONGCHEON 32.81 1 P P 09 22 29.0 +1.2
SNR=6.0
KSGUS GUNSAN 32.90 358 P P 09 22 30.4 +1.9
SNR=7.3
KMI Kunming 32.92 314 P P 09 22 31.9 +2.7
KMI pP pP 09 22 55.8 +1.8
KMI sP sP 09 23 08.1 +1.2
KMI PP PP 09 23 44.8 -0.9
KMI S S 09 27 41.4 +2.2
KMI sS sS 09 28 22.8 +0.4
KMI ScP ScP 09 28 46.3 +1.0
KMI SS SS 09 29 58.8 -6.9
KMI PMZ
comp=Z,300nm,1.7s
KMI PMZ
comp=Z,5µm,4.6s
KMI LN
comp=Z,9µm,21.9s
KMI LE
comp=Z,7µm,19.6s
KMI LZ
comp=Z,5µm,28.3s
CMAI Chiengmai2 33.04 303 P P 09 22 31.8 +1.6
comp=Z,239nm,1.2s,comp=Z,5µm
KSCPR CHUPUNGNYEONG 33.05 360 P P 09 22 31.0 +1.1
SNR=6.8
KSEUS ULSEONG 33.19 1 P P 09 22 31.7 +0.6
SNR=6.3
KSTEJ Daejeon 33.21 359 P P 09 22 32.6 +1.4
SNR=8.2
TJN Taejon 33.22 359 ciP P 09 22 31.7 +0.4
KSSAJ Sangju 33.24 360 P P 09 22 32.6 +1.1
SNR=5.6
MHMT Maesarieng 33.25 299 P P 09 22 33.7 +1.8
comp=Z,233nm,1.2s,comp=Z,3µm
QLP Quilpie 33.26 153 P P 09 22 31.0 -0.8
baz=33,SNR=136
KSKOJ Gongju 33.32 358 P P 09 22 33.4 +1.3
SNR=8.2
KSBON Boeun 33.34 359 P P 09 22 33.6 +1.3
SNR=68
KSULJ Ulijn 33.55 2 P P 09 22 35.1 +0.9
SNR=15
FORT Forrest 33.59 180 P P 09 22 34.7 +0.1
baz=34,SNR=37
FORT Forrest 33.59 180 eP P 09 22 33.8 -0.8
comp=Z,196nm,0.6s
KSSES Seosan 33.66 358 P P 09 22 37.8 +2.6
SNR=9.6
KSCEA Cheonan 33.67 359 P P 09 22 36.1 +0.9
SNR=17
KSCHJ Chungju 33.71 360 P P 09 22 36.9 +1.4
SNR=7.5
MORW Morawa 33.95 199 P P 09 22 37.9 +0.1
baz=34,SNR=27
KSTBA Taebaek 33.96 1 P P 09 22 38.9 +1.1
SNR=33
HNR Honiara 33.98 112 LR LR 09 34 34.3
comp=Z,3µm,20.8s,baz=271,slow=33
KSSWO Suwon 34.12 358 P P 09 22 40.3 +1.2
SNR=28
KSICN Icheon 34.13 359 P P 09 22 40.5 +1.3
SNR=11
KSWJU Wonju 34.23 360 P P 09 22 41.8 +1.6
SNR=6.8
KSJES JEONGSEON 34.27 1 P P 09 22 42.0 +1.6
SNR=7.2
KSAR Wonju Array Be 34.27 360 P P 09 22 41.2 +0.7
KSAR 09 25 15.7
KSAR S S 09 27 58.9 -0.4
KSAR 09 28 49.8
KSAR Wonju Array Be 34.27 360 P P 09 22 41.2 +0.7
KSAR PcP PcP 09 25 15.7 +1.2
KSAR S S 09 27 58.9 -0.4
KSAR ScP ScP 09 28 49.8 +0.3
KSRS Korea Array 34.29 360 P P 09 22 41.2 +0.7
comp=Z,130nm,0.6s,baz=175,slow=9.3,SNR=176
KSRS PcP PcP 09 25 15.7 +1.2
comp=Z,8.6nm,0.7s,baz=188,slow=2.2,SNR=5.4
KSRS S S 09 27 58.9 -0.6
comp=Z,1.2nm,0.8s,baz=168,slow=6.2,SNR=2.2
KSRS ScP ScP 09 28 49.8 +0.3
comp=Z,8.1nm,0.8s,baz=182,slow=3.6,SNR=9.2
KSRS LR LR 09 35 55.7
comp=Z,3µm,21.6s,baz=190,slow=35
KSRS Korea Array 34.29 360 P P 09 22 41.2 +0.7
KSRS 09 25 15.7
KSRS S S 09 27 58.9 -0.6
KSRS 09 28 49.8
KSRS pmax pmax
comp=Z,130nm,0.6s
KSRS pmax pmax
comp=Z,9.0nm,0.7s
KSRS smax smax
comp=N,1.0nm,0.8s
KSRS pmax pmax
comp=N,8.0nm,0.9s
KSRS MLR MLR
comp=Z,3µm,21.6s
KSSEO Seoul 34.34 358 P P 09 22 42.1 +1.1
SNR=15
INCN Inchon 34.34 358 eP P 09 22 42.1 +1.0
comp=Z,131nm,0.8s
KSULL Ulleungdo 34.40 4 P P 09 22 43.6 +2.1
SNR=14
KSDGY Daegwallycong 34.52 1 P P 09 22 43.8 +1.1
SNR=29
KSGAH Ganghwa 34.58 358 P P 09 22 44.2 +1.2
SNR=6.5
TIA Tai'an 34.59 344 ⇑P P 09 22 43.8 +0.6
TIA PP PP 09 24 05.0 +1.2
TIA PcP PcP 09 25 14.4 -1.0
TIA S S 09 28 03.8 -0.5
TIA PMZ
comp=Z,260nm,0.7s
TIA LN
comp=Z,1µm,17.0s
TIA LE
comp=Z,3µm,17.8s
TIA LZ
comp=Z,2µm,19.3s

KSCHC **Chuncheon** 34.61 359 P **P** 09 22 44.6 +1.2
SNR=86
COCO West Island 34.61 244 *i* P P 09 22 47.0 +3.3
MJAR Matsushiro Arr 34.63 14 P **P** 09 22 42.6 -1.1
comp=Z,63nm,0.6s,baz=188,slow=10,SNR=198
MJAR PcP **PcP** 09 25 15.4 -0.2
comp=Z,12nm,0.7s,baz=187,slow=4.0,SNR=5.0
MJAR S **S** 09 27 59.8 -5.2
comp=Z,1.5nm,0.7s,baz=161,slow=8.6,SNR=2.6
MJAR ScP **ScP** 09 28 51.0 +0.2
comp=Z,11nm,0.9s,baz=197,slow=4.6,SNR=7.8
MJAR LR LR 09 35 56.0
comp=Z,4μm,19.6s,baz=185,slow=34
MAJO Matsushiro 34.63 14 *e*P **P** 09 22 42.4 -1.2
MAJO *e* 09 25 17.4
MAJO pmax pmax
comp=Z,800nm,1.5s
MAJO Matsushiro 34.63 14 *e*P **P** 09 22 42.4 -1.2
comp=Z,800nm,1.5s
MAJO *e*PcP **PcP** 09 25 17.4 +1.8
MAJO *e*ScP **ScP** 09 28 50.3 -0.5
MAT Matsushiro 34.63 14 P **P** 09 22 42.6 -1.0
MAT S **S** 09 27 59.9 -5.1
KMBL Kambalda 34.70 189 P **P** 09 22 44.3 +0.1
baz=35,SNR=33
KSJMJ Jumunjin 34.72 1 P **P** 09 22 45.6 +1.4
SNR=9.3
KSMUS **Musan** 34.74 358 P **P** 09 22 46.4 +1.9
SNR=12
KSDDC **Dongducheon** 34.75 358 P **P** 09 22 46.7 +2.2
SNR=12
KSIJA INJE 34.82 360 P **P** 09 22 46.3 +1.2
SNR=84
YNCB YEONCHEON 34.89 358 P **P** 09 22 46.6 +0.9
SNR=26
KSCWO **Cheorwon** 34.92 359 P **P** 09 22 47.6 +1.6
SNR=36
SEHB SEOHWA 35.10 0 P **P** 09 22 49.2 +1.7
SNR=22
KSSKC **Sokcho** 35.12 0 P **P** 09 22 48.4 +0.7
SNR=7.5
BLDU Ballidu 35.18 197 P **P** 09 22 48.2 -0.1
baz=35,SNR=47
RMQ Roma 35.43 147 P **P** 09 22 50.4 -0.2
baz=35,SNR=52
XAN Xi'an 35.72 332 P **P** 09 22 54.3 +1.3
XAN pP **pP** 09 23 19.8 +1.7
XAN sP **sP** 09 23 28.8 -2.2
XAN PMZ
comp=Z,290nm,1.0s
XAN PMZ
comp=Z,1μm,8.5s
XAN LN
comp=Z,4μm,31.5s
XAN LE
comp=Z,2μm,32.8s
XAN LZ
comp=Z,1μm,38.2s
KLBR Kellerberrin 35.80 195 P **P** 09 22 53.6 0.0
baz=36,SNR=60
EIDS Eidsvold 35.90 143 P **P** 09 22 54.1 -0.5
baz=36,SNR=42
EIDS Eidsvold 35.90 143 *e*P **P** 09 22 53.9 -0.7
comp=Z,511nm,1.4s
EIDS *e*pP **pP** 09 23 19.5 -0.2
CD2 Chengdu 36.09 323 ⇑P **P** 09 22 57.0 +0.8
CD2 pP **pP** 09 23 20.0 -1.3
CD2 sP **sP** 09 23 34.8 +0.7
CD2 PP **PnPn** 09 24 21.4 +0.3
CD2 S **S** 09 28 24.6 -2.9
CD2 sS **sS** 09 29 10.3 -0.7
CD2 SS **SS** 09 31 10.6 +1.2
CD2 PMZ
comp=Z,900nm,0.9s
CD2 PMZ
comp=Z,5μm,6.3s
CD2 LN
comp=Z,9μm,21.1s
CD2 LZ
comp=Z,7μm,16.0s
PBA Port Blair 36.14 286 *e*P P 09 22 56.6 -0.3
PBA AMB AMB 09 23 12.2
comp=Z,146nm,0.2s
DL2 Dalian 36.23 351 ⇑ *i*P **P** 09 22 58.3 +1.1
DL2 sP **sP** 09 23 36.3 +1.1
DL2 PcP **PcP** 09 25 21.5 +1.3
DL2 S **S** 09 28 30.0 +0.7
DL2 ScP **ScP** 09 28 56.4 -0.1
DL2 sS **sS** 09 29 15.5 +2.6
DL2 SS **SnSn** 09 31 01.4 -6.8
DL2 ScS **ScS** 09 33 04.4 +1.8
DL2 PMZ
comp=Z,420nm,0.8s
DL2 PMZ
comp=Z,3μm,7.7s
DGPR DIGLIPUR 36.28 288 *e*P **P** 09 22 58.1 +0.1
DGPR AMB AMB 09 23 14.1
comp=Z,76nm,1.2s
BBOO Buckleboo 36.39 169 P **P** 09 22 58.5 -0.1
baz=36,SNR=607
BBOO Buckleboo 36.39 169 *e*P **P** 09 22 58.9 +0.2
comp=Z,166nm,0.6s
BBOO *e*pP **pP** 09 23 22.2 -1.6
STKA Stephens Creek 36.96 161 P **P** 09 23 03.3 -0.2
comp=Z,194nm,0.6s,baz=336,slow=8.1,SNR=509
STKA S **S** 09 28 36.8 -3.7
comp=Z,33nm,0.9s,baz=222,slow=22,SNR=4.0
STKA ScP **ScP** 09 28 58.2 -1.1
comp=Z,20nm,0.7s,baz=309,slow=7.5,SNR=3.7
STKA ScS **ScS** 09 33 03.1 -3.8
comp=Z,6.7nm,0.9s,baz=52,slow=19,SNR=3.1
STKA LR LR 09 41 24.6
comp=Z,4μm,18.6s,baz=332,slow=41
STKA Stephens Creek 36.96 161 P **P** 09 23 03.3 -0.2
STKA S **S** 09 28 36.8 -3.7
STKA 09 33 03.2
STKA pmax pmax
comp=Z,194nm,0.6s
STKA smax smax
comp=N,33nm,0.9s
STKA pmax pmax
comp=N,20nm,0.7s
STKA pmax pmax
comp=N,7.0nm,1.0s
STKA MLR MLR
comp=Z,4μm,18.6s
STKA Stephens Creek 36.96 161 P **P** 09 23 03.2 -0.2
baz=37,SNR=840
STKA Stephens Creek 36.96 161 *e*P **P** 09 23 03.7 +0.2
STKA *e*pP **pP** 09 23 27.8 -0.9
STKA S **S** 09 28 36.8 -3.7
STKA ScP **ScP** 09 28 58.2 -1.1
STKA ScS **ScS** 09 33 03.1 -3.8
NWAO Narrogin (SRO) 37.21 195 P **P** 09 23 05.7 +0.1
comp=Z,23nm,0.5s,baz=328,slow=5.5,SNR=44
NWAO S **S** 09 28 42.5 -1.8
comp=Z,10.0nm,0.8s,baz=330,slow=20,SNR=2.6
NWAO ScP **ScP** 09 28 59.0 -1.3
comp=Z,43nm,1.0s,baz=329,slow=5.9,SNR=6.2
TIY Taiyuan 37.44 339 *e*P **P** 09 23 09.1 +1.5
TIY sP **sP** 09 23 48.8 +3.1
TIY PP **PnPn** 09 24 41.9 +4.5
TIY S **S** 09 28 50.0 +2.1
TIY sS **sS** 09 29 34.6 +2.9
TIY PMZ
comp=Z,190nm,0.6s
TIY PMZ
comp=Z,3μm,6.2s
TIY LN
comp=Z,2μm,15.1s
TIY LE
comp=Z,2μm,12.1s
TIY LZ
comp=Z,2μm,16.3s
HTT Hallett 37.63 165 P **P** 09 23 10.2 +0.9
baz=38,SNR=77
CMSA Cobar Meteorol 38.18 155 P **P** 09 23 14.0 +0.2
baz=38,SNR=82
BJI Beijing 38.44 345 P **P** 09 23 16.8 +1.0
BJI PP **PnPn** 09 24 48.1 -1.1
BJI S S 09 29 10.1 +7.4
BJI SS **SS** 09 31 57.4 +0.8
BJI LN
comp=Z,6μm,29.1s
BJI LE
comp=Z,2μm,21.3s

RKGY **Rocky Gully** 38.87 195 P **P** 09 23 21.0 +1.5
baz=39,SNR=29
SNY Shenyang 38.87 355 ⇑P **P** 09 23 19.9 +0.5
SNY S **S** 09 29 07.6 -1.6
SNY PMZ
comp=Z,170nm,1.7s
SNY PMZ
comp=Z,4μm,4.7s
SNY LN
comp=Z,2μm,17.0s
SNY LE
comp=Z,3μm,16.2s
SNY LZ
comp=Z,3μm,17.2s
MSHR Mys Shultsa 39.49 3 *i* P **P** 09 23 25.9 +1.3
LZH Lanzhou 39.87 329 *e*P **P** 09 23 30.9 +2.9
LZH pP **pP** 09 23 53.1 -0.4
LZH sP **sP** 09 24 04.3 -1.9
LZH PP **PnPn** 09 25 07.0 +0.8
LZH PcP **PcP** 09 25 33.1 +1.3
LZH ScP **ScP** 09 29 11.3 +0.7
LZH PcS **PcS** 09 29 23.9 +1.6
LZH ScS **ScS** 09 33 24.5 +0.5
LZH PMZ
comp=Z,1μm,1.1s
LZH PMZ
comp=Z,4μm,4.0s
LZH LN
comp=Z,7μm,12.9s
LZH LE
comp=Z,8μm,14.4s
LZH LZ
comp=Z,8μm,15.6s
ARMA Armidale 40.08 148 P **P** 09 23 30.2 +0.4
baz=40,SNR=89
ARMA Armidale 40.08 148 *e*P **P** 09 23 30.1 +0.3
comp=Z,202nm,0.6s
ARMA *e*pP **pP** 09 23 57.1 +1.8
VLA Vladivostok 40.08 4 *c i*P **P** 09 23 30.2 +0.8
VLA pmax pmax
comp=Z,107nm,1.0s
HHC Hu-ho-hao-te 40.55 341 *e*P **P** 09 23 34.8 +1.3
HHC S **S** 09 29 39.9 +5.3
HHC sS **sS** 09 30 22.3 +3.6
HHC SS **SS** 09 32 37.6 -1.2
HHC PMZ
comp=Z,140nm,0.9s
HHC PMZ
comp=Z,890nm,6.2s
HHC LN
comp=Z,2μm,19.6s
HHC LE
comp=Z,2μm,13.7s
HHC LZ
comp=Z,3μm,18.4s
CN2 Changchun 40.70 357 ⇑ *i*P **P** 09 23 34.3 -0.2
CN2 *e*sP **sP** 09 24 08.0 -4.8
CN2 PcP **PcP** 09 25 34.5 +0.4
CN2 ScP **ScP** 09 29 13.8 +0.3
CN2 *e*S **S** 09 29 32.3 -4.1
CN2 *e*ScS **ScS** 09 33 28.1 -0.2
CN2 PMZ
comp=Z,70nm,1.2s
CN2 PMZ
comp=Z,1μm,5.0s
CN2 LN
comp=Z,1μm,18.0s
CN2 LE
comp=Z,3μm,18.0s
CN2 LZ
comp=Z,3μm,18.0s
H11S3 WAKE ISLAND Hy 40.71 65 T T 10 07 21.4
baz=252,slow=75,SNR=11
H11S2 WAKE ISLAND Hy 40.73 65 T T 10 07 24.3
baz=252,slow=75,SNR=9.3
H11S1 WAKE ISLAND Hy 40.73 65 T T 10 07 21.1
baz=252,slow=75,SNR=10
BTO Baotou 40.87 339 *e*P **P** 09 23 36.6 +0.5
ERM Erimo 41.10 17 *e*P **P** 09 23 39.4 +1.6
ERM pmax pmax
comp=Z,81nm,0.8s
ERM Erimo 41.10 17 *e*P **P** 09 23 39.4 +1.6
comp=Z,81nm,0.8s
USRK Ussuriysk Ar. 41.16 4 P **P** 09 23 39.2 +0.9
comp=Z,166nm,0.7s,baz=184,slow=7.6,SNR=148
USRK ScP **ScP** 09 29 15.2 -0.1
comp=Z,2.4nm,0.8s,baz=224,slow=6.0,SNR=3.7
USRK S **S** 09 29 42.9 -0.4
comp=Z,1.3nm,0.7s,baz=188,slow=8.7,SNR=2.2
USRK LR LR 09 39 05.3
comp=Z,2μm,21.1s,baz=176,slow=34
H11N1 WAKE ISLAND Hy 41.27 63 T T 10 08 01.6
baz=250,slow=75,SNR=32
H11N2 WAKE ISLAND Hy 41.28 63 T T 10 08 00.6
baz=250,slow=75,SNR=19
H11N3 WAKE ISLAND Hy 41.29 63 T T 10 07 58.3
baz=250,slow=75,SNR=21
MDJ Mudanjiang 41.46 2 P **P** 09 23 41.8 +1.0
MDJ pP **pP** 09 24 04.8 -1.6
MDJ sP **sP** 09 24 15.8 -3.3
MDJ ScP **ScP** 09 29 18.4 +1.9
MDJ PcS **PcS** 09 29 29.1 +1.3
MDJ S **S** 09 29 47.8 +0.1
MDJ sS **sS** 09 30 31.0 -1.0
MDJ PMZ
comp=Z,130nm,1.1s
MDJ PMZ
comp=Z,3μm,5.2s
MDJ LN
comp=Z,2μm,28.0s
MDJ LE
comp=Z,3μm,19.2s
MDJ LZ
comp=Z,4μm,31.8s
MDJ Mudanjiang 41.46 2 *e*P **P** 09 23 41.7 +0.9
comp=Z,146nm,1.0s
SHL Shillong 41.47 306 *i* P **P** 09 23 43.0 +1.6
SHL AMB AMB 09 23 44.8
comp=Z,838nm,1.0s
ARPS Mount Arapiles 41.57 163 P **P** 09 23 43.2 +1.5
baz=42,SNR=128
YNG Young 41.70 155 P **P** 09 23 43.9 +1.0
baz=42,SNR=26
CAN Canberra 42.83 155 *e*P **P** 09 23 52.2 +0.1
CAN *e**PP **pP** 09 24 19.4 +1.6
CAN pmax pmax
comp=Z,91nm,0.9s
CAN Canberra 42.83 155 *e*P **P** 09 23 52.2 +0.1
comp=Z,91nm,0.9s
CAN *e*pP **pP** 09 24 19.4 +1.6
CAN *e*sP **sP** 09 24 30.3 -0.2
ASAJ Asahikawa 42.88 15 *e*P **P** 09 23 52.4 +0.1
comp=Z,512nm,2.0s
ASAJ *e*pP **pP** 09 24 17.2 -0.9
ASAJ *e*sP **sP** 09 24 31.0 +0.3
CNB Canberra Magne 42.98 154 P **P** 09 23 54.6 +1.3
baz=43,SNR=20
TOO Toolangi 43.45 160 P **P** 09 23 58.8 +1.7
baz=44,SNR=69
YUK Yuzh-Kuril'sk 43.76 18 *c i*P **P** 09 24 00.2 +0.9
YUK *i* PPP PPP 09 26 25.3
YUK *i* S **S** 09 30 23.0 +1.7
YUK *i* SS **ScS** 09 33 49.5 +2.4
YUK *i* SSS SSS 09 34 26.1
YUK pmax pmax
comp=N,179nm,2.0s
YUK pmax pmax
comp=E,66nm,2.0s
YUK pmax pmax
comp=Z,300nm,2.0s
YUK pmax pmax
comp=Z,1μm,6.2s
YUK MLR MLR
comp=N,1μm,19.0s
YUK MLR MLR
comp=E,583nm,19.0s
YUK MLR MLR
comp=Z,2μm,19.0s
LSA Lhasa 44.00 311 P **P** 09 24 04.9 +2.8
LSA sP **sP** 09 24 38.3 -2.3
LSA S **S** 09 30 26.3 -0.1
LSA PMZ
comp=Z,4μm,5.4s
LSA Lhasa 44.00 311 *e*P **P** 09 24 04.7 +2.5
LSA pmax pmax
comp=Z,407nm,0.6s

LSA Lhasa 44.00 311 *e*P **P** 09 24 04.7 +2.5
comp=Z,407nm,0.6s
MILA Mila 44.38 156 ⇓P **P** 09 24 05.8 +1.4
baz=44,SNR=6.2
GTA Gaotai 44.47 328 ⇓P **P** 09 24 06.9 +1.6
GTA pP **pP** 09 24 28.0 -3.2
GTA sP **sP** 09 24 39.4 -4.4
GTA PcP **PP** 09 25 49.4 -1.8
GTA ScP **ScP** 09 29 30.6 +1.6
GTA PcS **PcS** 09 29 39.4 -1.1
GTA S **S** 09 30 35.6 +3.5
GTA sS **sS** 09 31 15.0 -1.8
GTA SS **ScS** 09 33 49.0 -3.2
GTA ScS **SS** 09 33 51.8 -3.3
GTA PMZ
comp=Z,370nm,1.2s
GTA PMZ
comp=Z,5μm,4.7s
GTA LN
comp=Z,6μm,18.1s
GTA LE
comp=Z,7μm,18.1s
GTA LZ
comp=Z,6μm,17.6s
BWNR Bhubaneshwar 44.73 296 *ex* P 09 24 02.0 -5.5
DZM Mont Dzumac 44.94 126 P **P** 09 24 08.5 -0.7
comp=Z,25nm,0.8s,baz=271,slow=23,SNR=22
DZM Mont Dzumac 44.94 126 *e*P **P** 09 24 08.4 -0.7
comp=Z,19nm,0.6s
KUR Kuril'sk 45.48 20 *i* P P 09 24 05.9 -7.0
KUR *i* S **S** 09 30 41.3 -4.9
KUR pmax pmax
comp=N,185nm,1.6s
KUR pmax pmax
comp=E,76nm,1.6s
KUR pmax pmax
comp=Z,414nm,1.6s
KUR pmax pmax
comp=E,1μm,5.1s
KUR pmax pmax
comp=Z,4μm,5.1s
KUR pmax pmax
comp=N,1μm,2.6s
KUR MLR MLR
comp=N,1μm,19.0s
KUR MLR MLR
comp=Z,860nm,19.0s
YSS Yuzh-Sakhalins 45.57 14 α *i*P **P** 09 24 14.0 +0.3
YSS *e**SP **sP** 09 24 48.0 -4.3
YSS *e* 09 25 50.0
YSS *i* 09 26 02.0
YSS *e*PPP PPP 09 26 42.0
YSS *i* S **S** 09 30 46.0 -1.5
YSS *i* 09 33 56.0
YSS *e*SS **ScS** 09 34 05.0 +6.4
YSS *e*SSS SSS 09 35 19.0
YSS pmax pmax
comp=N,90nm,1.2s
YSS pmax pmax
comp=E,90nm,1.2s
YSS pmax pmax
comp=Z,160nm,1.2s
YSS pmax pmax
comp=Z,2μm,4.0s
YSS pmax pmax
comp=N,1μm,4.0s
YSS pmax pmax
comp=E,600nm,4.0s
YSS pmax pmax
comp=Z,2μm,4.0s
YSS smax smax
comp=N,600nm,12.0s
YSS smax smax
comp=E,2μm,12.0s
YSS MLR MLR
comp=N,2μm,19.0s
YSS MLR MLR
comp=Z,2μm,19.0s
YSS Yuzh-Sakhalins 45.57 14 *e*P **P** 09 24 13.9 +0.3
comp=Z,94nm,0.6s
TAPN Taplejung 45.61 306 *e*P **P** 09 24 16.0 +1.3
comp=Z,988nm,0.8s
ODAN Odare 45.67 305 *e*P **P** 09 24 16.6 +1.5
comp=Z,1μm,0.7s
HABR Khabarovsk 45.68 6 *c i*P **P** 09 24 15.4 +0.9
HABR *e**SP sP 09 24 47.4 -5.8
HABR *e* 09 25 51.9
HABR *e* 09 26 04.0
HABR PPP PPP 09 26 46.7
HABR *e*S **S** 09 30 50.4 +1.4
HABR *e* 09 34 00.8
HABR *e*SSS SSS 09 35 15.8
HABR pmax pmax
comp=Z,207nm,1.5s
HABR pmax pmax
comp=N,76nm,1.5s
HABR pmax pmax
comp=E,57nm,1.7s
HABR MLR MLR
comp=Z,2μm,18.0s
BOK Bokaro 45.77 301 *e*P **P** 09 24 16.3 +0.6
BOK AMB AMB 09 24 18.9
comp=Z,415nm,1.6s
CHLP Challavanipeta 45.84 293 *e*P **P** 09 24 18.5 +2.2
CHLP IAmb IAmb 09 24 20.1
comp=Z,1μm,2.0s
CHLP *e*pP **pP** 09 24 41.5 -0.8
CHLP *e*PP **PP** 09 26 07.8 +1.9
CHLP *e*ScP **ScP** 09 29 35.2 +0.3
CHLP *e*S **S** 09 30 53.4 +1.2
CHLP *e*SS **SS** 09 34 21.9 +3.6
KLR Kul'dur 46.16 3 ⇓ *e*P P 09 24 14.3 -4.0
KLR *e* 09 26 07.0
KLR *e*S S 09 30 47.5 -8.4
KLR *e* 09 31 36.0
KLR *e* 09 33 56.5
KLR pmax pmax
comp=N,92nm,1.8s
KLR pmax pmax
comp=Z,400nm,1.8s
KLR pmax pmax
comp=Z,5μm,8.0s
KLR MLR MLR
comp=Z,6μm,12.5s
VIS Vishakhapatnam 46.33 292 *e*P **P** 09 24 20.7 +0.6
VIS AMB AMB 09 24 23.4
comp=Z,322nm,1.4s
RAMN Ramite 46.35 305 *e*P **P** 09 24 22.6 +2.1
comp=Z,2μm,0.8s
HIA Hailar 46.65 352 *e*P **P** 09 24 22.9 +0.7
HIA *e* 09 25 55.9
HIA pmax pmax
comp=Z,572nm,1.7s
HIA Hailar 46.65 352 *e*P **P** 09 24 22.9 +0.7
comp=Z,572nm,1.7s
HIA *e*PcP **PcP** 09 25 55.9 +1.6
GUN Gumba 47.32 306 *e*P **P** 09 24 30.2 +2.1
comp=Z,1μm,0.7s
PALK Pallekele 47.46 277 P **P** 09 24 30.1 +1.1
comp=Z,89nm,1.2s,baz=90,slow=7.8,SNR=17
PALK ScP **ScP** 09 29 40.9 -0.9
comp=Z,12nm,0.8s,baz=83,slow=4.7,SNR=5.7
PALK S **S** 09 31 11.8 -3.7
comp=Z,5.5nm,1.0s,baz=330,slow=20,SNR=2.0
PALK Pallekele 47.46 277 P **P** 09 24 30.1 +1.1
PALK S **S** 09 31 11.8 -3.7
PALK pmax pmax
comp=Z,89nm,1.2s
PALK pmax pmax
comp=N,12nm,0.8s
PALK smax smax
comp=N,6.0nm,1.0s
PALK Pallekele 47.46 277 ⇓P **P** 09 24 30.4 +1.4
PKI Pulchoki 47.57 305 *e*P **P** 09 24 31.5 +1.5
comp=N,928nm,0.8s
PKIN Phulchoki 47.58 305 *e*P **P** 09 24 31.4 +1.3
comp=N,708nm,0.8s
KKN Kakani 47.76 305 *e*P **P** 09 24 33.1 +1.7
comp=N,1μm,0.9s
PVM Polavaram 47.81 291 *e*P **P** 09 24 33.6 +1.9
PVM IAmb IAmb 09 24 35.3
comp=Z,986nm,1.6s
PVM *e*sP **sP** 09 25 07.3 -3.1
PVM *e*PP **PP** 09 26 25.2 +0.7
PVM *e*ScP **ScP** 09 29 43.0 -0.2

PVM eS S 09 31 21.6 +1.2
PVM eSS SS 09 34 53.4 +3.0
DMN Daman 47.83 305 eP P 09 24 33.7 +1.7
comp=Z,1μm,0.8s
ULN Ulaanbaatar 48.26 341 eP P 09 24 35.4 +0.6
ULN pmax pmax
comp=Z,311nm,0.8s
ULN Ulaanbaatar 48.26 341 eP P 09 24 35.4 +0.6
comp=Z,311nm,0.8s
GKN Gorkha 48.37 305 eP P 09 24 37.7 +1.7
comp=Z,774nm,0.7s
MOO Moorlands 48.40 161 P P 09 24 37.7 +1.9
baz=48,SNR=11
SONM Songino Array 48.45 340 P P 09 24 37.0 +0.7
comp=Z,134nm,0.6s,baz=153,slow=7.7,SNR=278
SONM PcP PcP 09 26 02.4 +1.6
comp=Z,37nm,0.6s,baz=162,slow=4.5,SNR=7.3
SONM ScP ScP 09 29 44.7 -0.7
comp=Z,5.6nm,0.9s,baz=150,slow=4.7,SNR=4.6
SONM ScS ScS 09 34 15.8 -2.0
comp=Z,0.8nm,0.6s,baz=157,slow=9.4,SNR=2.6
SONM LR LR 09 45 43.8
comp=Z,3μm,21.5s,baz=155,slow=37
SONM PKP2ab 09 56 34.4
comp=Z,0.8nm,0.7s,baz=276,slow=2.8,SNR=4.0
TAU Tasmania Unive 48.87 161 eP P 09 24 40.8 +1.5
TAU pmax pmax
comp=Z,24nm,0.8s
TAU Tasmania Unive 48.87 161 eP P 09 24 40.8 +1.5
comp=Z,24nm,0.8s
TAU epP pP 09 25 06.1 +0.6
SKHT Srikalahasti 49.03 286 eP P 09 24 42.5 +1.5
SKHT IAML 09 24 45.0
comp=Z,40nm,0.6s
SKHT esP sP 09 25 15.9 -3.9
SKHT ePP PP 09 26 40.4 +4.8
SKHT eScP ScP 09 29 48.1 -0.3
SKHT eS S 09 31 39.3 +1.8
SKHT eSS SS 09 35 12.8 +2.7
ADKI Addanki 49.11 288 eP P 09 24 44.0 +2.4
ADKI IAmb IAmb 09 24 45.3
comp=Z,542nm,1.2s
ADKI epP pP 09 25 06.0 -1.9
ADKI ePcP PcP 09 26 05.0 +1.4
ADKI ePP PP 09 26 38.9 +2.5
ADKI eS S 09 31 39.3 +0.7
ADKI eSS SS 09 35 14.6 +3.3
KOLN Koldanda 49.12 305 eP P 09 24 44.1 +2.2
comp=Z,2μm,0.7s
DANN Dangsing 49.21 305 eP P 09 24 44.6 +2.0
comp=Z,442nm,0.6s
TYV Tymovskoe 49.23 12 eP P 09 24 45.0 +3.0
TYV eS S 09 31 33.0 -6.3
TYV pmax pmax
comp=E,2μm,3.0s
TYV pmax pmax
comp=N,2μm,4.0s
TYV smax smax
comp=N,4μm,8.0s
TYV smax smax
comp=N,2μm,11.0s
NJS Nagarjunasagar 49.86 289 eP P 09 24 48.1 +0.8
NJS IAmb IAmb 09 24 50.5
comp=Z,367nm,0.9s
NJS esP sP 09 25 22.1 -4.2
NJS eScP ScP 09 29 52.9 +0.9
NJS eS S 09 31 50.2 +1.1
NJS eSS SS 09 35 27.0 +3.6
RCLA Racherla 50.01 288 eP P 09 24 49.0 +0.5
RCLA IAmb IAmb 09 24 51.5
comp=Z,452nm,1.0s
RCLA esP sP 09 25 25.5 -1.9
RCLA ePP PP 09 26 45.0 +0.4
RCLA eScP ScP 09 29 57.1 +4.5
RCLA eS S 09 31 51.6 +0.4
RCLA eSS SS 09 35 28.7 +3.0
SRLM Srisailam 50.17 288 eP P 09 24 50.3 +0.6
SRLM IAmb IAmb 09 24 52.8
comp=Z,602nm,1.0s
SRLM eS S 09 31 55.0 +1.4
SRLM eSS SS 09 35 29.7 +1.3
RPR Rampur 50.31 292 eP P 09 24 52.3 +1.6
RPR IAmb IAmb 09 24 54.1
comp=Z,372nm,0.7s
RPR epP pP 09 25 14.4 -2.8
RPR eScP ScP 09 29 54.2 +0.4
RPR eS S 09 31 57.0 +1.6
RPR eSS SS 09 35 33.7 +3.2
CIT Chita 50.36 348 eP P 09 24 52.2 +1.6
CIT e 09 25 33.7
CIT e 09 26 06.1
CIT e 09 26 49.6
CIT pmax pmax
comp=Z,873nm,2.5s
HYB Hyderabad 50.72 290 *i* P P 09 24 54.0 +0.1
comp=Z,286nm,0.8s
HYB epP pP 09 25 18.5 -1.8
HYB esP sP 09 25 35.0 +2.2
HYB eS S 09 32 02.0 +0.9
HYB eScS ScS 09 34 32.0 -2.2
HYB e 09 35 40.0
HYB Hyderabad 50.72 290 eP P 09 24 55.5 +1.6
HYB AMB AMB 09 24 56.1
comp=Z,772nm,1.9s
HYBB Hyderabad (bro 50.72 290 eP P 09 24 54.7 +0.8
HYBB IAmb IAmb 09 24 57.4
comp=Z,849nm,1.2s
HYBB epP pP 09 25 18.0 -2.3
HYBB esP sP 09 25 29.4 -3.5
HYBB ePP PP 09 26 49.9 -1.2
HYBB eS S 09 32 01.6 +0.4
HYBB eSS SS 09 35 40.4 +3.2
SRSP Sriramsagar 51.21 292 eP P 09 24 58.1 +0.7
SRSP IAmb IAmb 09 25 00.4
comp=Z,727nm,1.3s
SRSP epP pP 09 25 21.0 -3.0
SRSP ePP PP 09 26 58.3 +2.9
SRSP eScP ScP 09 29 52.7 -5.0
SRSP eS S 09 32 08.1 +0.3
SRSP eSS SS 09 35 49.4 +4.6
TRD Trivandrum 51.22 278 eP P 09 24 58.8 +1.2
TRD AMB AMB 09 25 00.1
comp=Z,373nm,0.7s
URV Uravakonda 51.55 287 eP P 09 25 01.0 +0.9
URV IAmb IAmb 09 25 02.6
comp=Z,253nm,0.9s
URV epP pP 09 25 23.8 -2.9
URV esP sP 09 25 37.1 -2.0
URV ePP PP 09 26 54.3 -4.2
URV eS S 09 32 12.0 -0.6
URV eSS SS 09 35 52.6 +2.4
ZAK Zakamensk 51.69 340⇓ *i* P P 09 25 00.8 +0.1
ZAK e 09 26 14.0
ZAK pmax pmax
comp=Z,72nm,1.6s
LGTI Lohaghat 52.48 305 eP P 09 25 05.8 -0.9
KLRI Killari 52.67 290 eP P 09 25 08.5 +0.1
KLRI IAmb IAmb 09 25 11.0
comp=Z,669nm,0.9s
KLRI epP pP 09 25 32.2 -2.9
KLRI esP sP 09 25 42.6 -4.9
KLRI ePP PP 09 27 08.1 -0.6
KLRI eS S 09 32 27.7 -0.2
KLRI eSS SS 09 36 06.6 -1.4
TLY Talaya 52.67 341 P P 09 25 09.0 +1.2
comp=Z,29nm,0.6s,baz=177,slow=5.2,SNR=60
TLY Talaya 52.67 341*c* *i* P P 09 25 08.8 +1.0
TLY e 09 27 11.3
TLY eS S 09 32 25.3 -1.5
TLY e 09 34 46.2
TLY pmax pmax
comp=Z,163nm,1.3s
TLY MLR MLR
comp=Z,1μm,19.0s
TLY Talaya 52.67 341 P P 09 25 08.5 +0.7
comp=Z,486nm,0.9s,SNR=53
TLY Talaya 52.67 341 eP P 09 25 08.4 +0.6
comp=Z,486nm,1.9s
AKL Akola 52.80 294 eP P 09 25 11.0 +1.7
AKL AMB AMB 09 25 12.9
comp=Z,984nm,0.4s
IRK Irkutsk 52.96 342 eP P 09 25 10.4 +0.5
IRK e 09 27 15.1
IRK e 09 34 48.6
IRK pmax pmax
comp=Z,534nm,2.0s
BHPL Bhopal 53.02 297 eP P 09 25 12.3 +1.4
BHPL AMB AMB 09 25 12.7
comp=Z,669nm,1.5s
SKR Severo-Kuril's 53.03 22⇑ *i* P P 09 25 08.0 -2.3
SKR e 09 26 16.0
SKR e 09 27 20.0
SKR *i* S S 09 32 28.0 -3.6
SKR e 09 34 42.0
SKR pmax pmax
comp=N,1μm,4.0s
SKR pmax pmax
comp=E,2μm,4.0s
SKR pmax pmax
comp=Z,3μm,4.0s
SKR pmax pmax
comp=Z,2μm,2.5s
SKR smax smax
comp=E,3μm,10.0s
SKR smax smax
comp=N,1μm,7.0s
SKR MLR MLR
comp=N,1μm,18.0s
SKR MLR MLR
comp=E,1μm,18.0s
SKR MLR MLR
comp=Z,2μm,18.0s
MSVF Nonsavu 53.30 115 eP P 09 25 15.7 +2.7
MSVF Nonsavu 53.30 115 eP P 09 25 15.7 +2.7
MOY Mondy 53.56 339 eP P 09 25 16.0 +1.6
MOY pmax pmax
comp=Z,852nm,2.1s
CLNS Chul'man 53.74 358 eP P 09 25 15.2 -0.3
CLNS e 09 26 21.8
CLNS e 09 27 14.2
CLNS eS S 09 32 41.8 +0.6
CLNS eSS ScS 09 34 47.9 -5.9
CLNS pmax pmax
comp=Z,91nm,0.7s
CLNS pmax pmax
comp=N,62nm,0.7s
CLNS pmax pmax
comp=E,17nm,0.6s
CLNS pmax pmax
comp=E,10.0nm,0.8s
CLNS pmax pmax
comp=N,22nm,0.9s
CLNS pmax pmax
comp=Z,18nm,0.9s
CLNS smax smax
comp=E,608nm,9.3s
CLNS smax smax
comp=N,670nm,14.1s
CLNS MLR MLR
comp=N,1μm,16.0s
CLNS MLR MLR
comp=Z,2μm,18.0s
CLNS MLR MLR
comp=E,1μm,19.0s
WMQ Urumqi 54.15 325 P P 09 25 20.6 +1.8
WMQ pP pP 09 25 47.6 +2.0
WMQ sP sP 09 25 59.8 +1.8
WMQ PcP PcP 09 26 22.0 -0.1
WMQ PP PP 09 27 21.3 -0.3
WMQ ScP ScP 09 30 10.1 0.0
WMQ S S 09 32 46.8 -0.4
WMQ sS sS 09 33 32.9 -0.3
WMQ ScS ScS 09 34 55.3 -2.0
WMQ SS SS 09 36 29.3 -1.2
WMQ PMZ
comp=E,530nm,0.8s
WMQ PMZ
comp=E,5μm,5.2s
WMQ LN
comp=E,4μm,22.8s
WMQ LE
comp=E,3μm,21.3s
WMQ LZ
comp=E,4μm,28.3s
DDI Dehra Dun 54.57 305 eP P 09 25 22.0 -0.1
DDI eP P 09 25 24.3 +2.2
DDI AMB AMB 09 25 26.2
comp=Z,2μm,0.9s
NDI New Delhi 54.73 303 eP P 09 25 23.0 -0.2
NDI ex x 09 32 55.0
GOA Goa 54.91 287 eP P 09 25 24.8 +0.2
GOA AMB AMB 09 25 26.5
comp=Z,336nm,1.0s
POO Poona 55.32 290⇓ *i* P P 09 25 27.0 -0.7
comp=Z,500nm,1.0s
POO eP P 09 25 27.6 0.0
POO AMB AMB 09 25 29.2
comp=Z,409nm,1.6s
SMLA Simla 55.56 306 eP P 09 25 31.1 +2.1
comp=Z,919nm,2.1s
SMLA AMB AMB 09 25 31.6
comp=Z,919nm,2.1s
SMLA *i* S S 09 33 06.9 +0.7
PEA0B Petropavlovsk- 55.57 21 eP P 09 25 29.8 +1.0
PETK Petropavlovsk- 55.57 21 P P 09 25 29.6 +0.9
comp=Z,85nm,0.8s,baz=191,slow=6.0,SNR=95
PETK ScP ScP 09 30 16.6 +0.6
comp=Z,8.2nm,0.9s,baz=178,slow=5.2,SNR=4.1
BOD Bodaibo 55.80 351⇓ *i* P P 09 25 30.5 +0.2
BOD pmax pmax
comp=Z,215nm,1.5s
SDNR Sundarnagar 55.84 306 eP P 09 25 33.0 +1.8
PET Petropavlovsk 55.85 22α *i* P P 09 25 31.0 +0.3
PET e*PP pP 09 25 57.6 0.0
PET e 09 26 28.9
PET e 09 27 36.4
PET *i* S S 09 33 04.6 -4.7
PET e 09 35 05.1
PET pmax pmax
comp=Z,255nm,2.1s
PET pmax pmax
comp=Z,2μm,5.7s
PET pmax pmax
comp=Z,1μm,17.5s
PET Petropavlovsk 55.85 22 eP P 09 25 31.1 +0.3
comp=Z,1μm,2.1s
HVS Khovu-Aksy 56.01 335*c* *i* P P 09 25 35.9 +3.9
BHK Bhakra 56.26 306 eP P 09 25 35.3 +1.2
H08S2 Diego Garcia H 56.55 259 P P 09 25 34.7 -1.4
H08S3 Diego Garcia H 56.56 259 P P 09 25 32.8 -3.5
H08S1 Diego Garcia H 56.57 259 P P 09 25 35.4 -0.9
DHRM DHARAMSHALA 56.63 307 eP P 09 25 38.5 +1.4
DHRM AMB AMB 09 25 40.6
comp=Z,1μm,1.3s
DLH Dalhousie 57.00 307 *ex* P 09 25 35.0 -4.6
DLH *ex* x 09 25 40.0
BHV Bhavnagar 57.46 294 eP P 09 25 43.0 +0.3
H08N1 Diego Carcia H 57.83 261 P P 09 25 45.3 +0.2
baz=114,slow=3.6,SNR=5.5
H08N2 Diego Garcia H 57.84 261 P P 09 25 45.0 -0.1
baz=114,slow=3.6,SNR=5.6
H08N3 Diego Garcia H 57.85 261 P P 09 25 45.4 +0.2
baz=114,slow=3.6,SNR=3.1
YAK Yakutsk 58.90 1 P P 09 25 52.5 +0.6
comp=Z,68nm,0.6s,baz=189,slow=19,SNR=45
YAK ScP ScP 09 30 29.8 -0.6
comp=Z,2.0nm,0.3s,baz=231,slow=4.1,SNR=2.3
YAK S S 09 33 47.3 -1.6
comp=Z,2.5nm,0.2s,baz=343,slow=20,SNR=8.7
YAK ScS ScS 09 35 27.8 -3.0
comp=Z,5.2nm,0.5s,baz=215,slow=23,SNR=7.3
YAK LR LR 09 50 07.8
comp=Z,1μm,20.7s,baz=178,slow=35
YAK Yakutsk 58.90 1*c* *i* P P 09 25 52.5 +0.6
YAK e 09 26 39.1
YAK e 09 28 03.4
YAK eS S 09 33 47.5 -1.5
YAK e*SS pS 09 34 13.0 -6.0
YAK e 09 35 27.8
YAK eSS SS 09 37 39.6 -4.8
YAK pmax pmax
comp=Z,393nm,0.8s
YAK pmax pmax
comp=E,30nm,0.8s
YAK pmax pmax
comp=N,101nm,0.9s
YAK pmax pmax
comp=Z,32nm,0.9s
YAK pmax pmax
comp=N,55nm,1.0s
YAK pmax pmax
comp=E,36nm,1.2s
YAK smax smax
comp=N,355nm,1.9s
YAK smax smax
comp=E,236nm,1.9s
YAK Yakutsk 58.90 1 P P 09 25 52.5 +0.6
comp=E,75nm,0.7s
YAK ScP ScP 09 30 29.8 -0.6
YAK S S 09 33 47.3 -1.6
YAK ScS ScS 09 35 27.8 -3.0
MK31 Makanchi Array 58.98 325 eP P 09 25 54.3 +1.4
MK31 e 09 26 42.2
MK31 e 09 28 04.6
MK31 Makanchi Array 58.98 325 eP P 09 25 54.3 +1.4
MK31 ePcP PcP 09 26 42.2 +1.4
MK31 ePP PP 09 28 04.6 +0.1
MKAR Makanchi Array 58.98 325 P P 09 25 54.4 +1.5
comp=E,269nm,0.6s,baz=117,slow=8.0,SNR=1087
MKAR PP PP 09 28 04.5 0.0
comp=E,14nm,0.7s,baz=118,slow=9.7,SNR=2.8
MKAR ScP ScP 09 30 30.2 -1.1
comp=E,11nm,0.9s,baz=129,slow=5.4,SNR=4.9
MKAR S S 09 33 51.7 +1.0
comp=E,1.3nm,0.7s,baz=116,slow=20,SNR=3.7
MKAR LR LR 09 52 29.5
comp=E,4μm,19.9s,baz=116,slow=37
MKAR PKPPKP P'P'df 09 55 19.6 -6.8
comp=E,1.0nm,0.9s,baz=267,slow=4.9,SNR=5.1
MKAR PKP2bc 09 55 35.4
comp=E,0.9nm,0.8s,baz=274,slow=1.8,SNR=4.0
MKAR PKP2ab 09 55 48.8
comp=E,1.4nm,0.8s,baz=292,slow=4.6,SNR=5.8
MKAR Makanchi Array 58.98 325 eP P 09 25 53.6 +0.7
MKAR PP PP 09 28 04.5 0.0
MKAR ScP ScP 09 30 30.2 -1.1
MKAR S S 09 33 51.7 +1.0
MKAR P'P' 09 55 19.6
MKAR ⇑*e* 09 55 35.4
MKAR P'P'ab P'P'ab 09 55 48.8 -1.9
MA2 Magadan 59.07 13 *i* P P 09 25 54.4 +1.2
DCZ Deep Cove 59.39 149 eP P 09 25 57.2 +1.6
comp=E,109nm,1.3s
KSH Kashi 59.58 315⇑ *i* P P 09 26 00.1 +2.8
KSH pP pP 09 26 24.5 0.0
KSH PcP PcP 09 26 46.4 +2.9
KSH PP PP 09 28 16.3 +6.2
KSH S S 09 33 59.4 +0.5
KSH sS sS 09 34 44.4 -1.2
KSH ScS ScS 09 35 39.0 +1.8
KSH PMZ
comp=E,330nm,0.9s
KSH LN
comp=E,5μm,15.1s
KSH LE
comp=E,1μm,10.0s
KSH LZ
comp=E,8μm,22.1s
KRAR Krasnoyarsk 59.95 338⇑ *i* P P 09 25 57.5 -1.8
KRAR pmax pmax
comp=Z,90nm,0.8s
BHJ Bhuj 60.00 295 eP P 09 26 02.1 +1.8
BHJ AMB AMB 09 26 02.6
comp=Z,517nm,2.1s
WHZ Wether Hill Ro 60.08 149 eP P 09 26 02.0 +1.6
comp=Z,584nm,2.5s
RPZ Rata Peaks 60.34 145 P P 09 26 02.4 +0.1
comp=Z,15nm,0.5s,baz=216,slow=2.3,SNR=7.8
RPZ LR LR 09 51 07.0
comp=Z,3μm,21.4s,baz=308,slow=35
ULHL Ulahol 60.53 318 P P 09 26 05.4 +1.6
SNR=48
KHZ Kahutara 61.01 143 eP P 09 26 08.7 +1.9
comp=Z,146nm,1.5s
URZ Urewera 61.03 137 P P 09 26 06.3 -0.6
comp=Z,22nm,0.8s,baz=357,slow=9.2,SNR=6.1
URZ S S 09 34 15.6 -1.5
comp=Z,5.5nm,0.9s,baz=225,slow=19,SNR=2.6
URZ LR LR 09 52 13.4
comp=Z,2μm,19.8s,baz=320,slow=36
URZ Urewera 61.03 137 eP P 09 26 07.3 +0.3
URZ S S 09 34 15.6 -1.5
BKZ Black Stump Fm 61.08 138 eP P 09 26 07.3 -0.1
comp=Z,377nm,2.1s
KZA Kyzart 61.12 317 P P 09 26 09.9 +1.8
SNR=60
TKM2 Tokmak 2 61.25 318 P P 09 26 09.5 +0.8
SNR=101
TKM2 Tokmak 2 61.25 318 eP P 09 26 10.2 +1.5
TKM2 pmax pmax
comp=Z,157nm,0.8s
TKM2 Tokmak 2 61.25 318 eP P 09 26 10.2 +1.5
comp=Z,157nm,0.8s
KBK Karagaybulak 61.57 318 P P 09 26 12.7 +1.9
SNR=14
CHMS Chumysh 61.84 318 P P 09 26 13.7 +1.2
SNR=40
AFI Afiamalu 61.85 107 LR LR 09 49 09.0
comp=Z,1μm,21.2s,baz=276,slow=32
AAK Ala-Archa 61.86 318 P P 09 26 14.5 +1.7
SNR=26
AAK Ala-Archa 61.86 318 P P 09 26 13.9 +1.1
AAK pmax pmax
comp=Z,204nm,1.5s
FRU Bishkek 61.86 318⇑ *i* P P 09 26 14.0 +1.4
FRU *i* S S 09 34 29.0 +1.3
FRU pmax pmax
comp=Z,600nm,2.2s
FRU MLR MLR
comp=E,3μm,22.0s
FRU MLR MLR
comp=Z,2μm,20.0s
ZAA0 Zalesovo Array 61.89 333 eP P 09 26 12.5 0.0
ZAA0 eS S 09 34 25.4 -2.1
ZALV Zalesovo Beam 61.89 333 P P 09 26 12.3 -0.2
comp=Z,59nm,0.5s,baz=125,slow=6.4,SNR=193
ZALV PP PP 09 28 30.7 +0.7
comp=Z,13nm,0.7s,baz=135,slow=10,SNR=3.2
ZALV S S 09 34 25.4 -2.1
comp=Z,2.9nm,0.8s,baz=105,slow=11,SNR=4.1
ZALV PKP2bc 09 55 29.5
comp=Z,1.9nm,0.7s,baz=298,slow=3.2,SNR=7.4
ZALV PKP2ab 09 55 34.6
comp=Z,4.0nm,0.8s,baz=306,slow=3.6,SNR=9.5
ZALV LR LR 09 56 28.4
comp=Z,1μm,18.2s,baz=100,slow=39
USP Ospenovka 62.12 318 P P 09 26 15.8 +1.4
SNR=113
AML Almayashu 62.20 317 P P 09 26 17.7 +2.3
SNR=8.9
EKS2 Erkin-Say 62.36 317 P P 09 26 17.9 +1.8
SNR=142
EKS2 Erkin-Say 62.36 317 eP P 09 26 17.4 +1.4
EKS2 *e* 09 28 36.9
EKS2 pmax pmax
comp=Z,249nm,1.1s
EKS2 Erkin-Say 62.36 317 eP P 09 26 17.4 +1.4
comp=Z,249nm,1.1s
EKS2 ePP PP 09 28 36.9 +2.3
SMY Shemya 62.37 30 eP P 09 26 17.1 +1.4
SMY pmax pmax
comp=Z,427nm,1.1s
SMY Shemya 62.37 30 eP P 09 26 17.1 +1.4
comp=Z,427nm,1.1s
SEY Seymchan 62.42 12 P P 09 26 17.6 +1.7
comp=Z,28nm,0.4s,baz=211,slow=5.5,SNR=85
SEY LR LR 09 52 21.6
comp=Z,763nm,21.1s,baz=166,slow=35
SEY PKP2ab 09 55 35.2
comp=Z,2.7nm,0.9s,baz=47,slow=7.2,SNR=4.1
KBL Kabul 63.11 307 eP P 09 26 22.1 +0.8
KBL pmax pmax
comp=Z,111nm,0.8s
KBL Kabul 63.11 307 P P 09 26 22.1 +0.8
baz=63,SNR=15
KBL Kabul 63.11 307 eP P 09 26 22.1 +0.8
comp=Z,111nm,0.8s
KURBB Kurchatov Arra 63.13 327 S S 09 34 37.6 -5.5
comp=Z,1.2nm,0.9s,baz=113,slow=14,SNR=4.8
KURK Kurchatov 63.13 327 eP P 09 26 21.6 +0.8
KURK S S 09 34 37.6 -5.5
KURK pmax pmax
comp=Z,461nm,0.6s
KURK Kurchatov 63.13 327 eP P 09 26 21.6 +0.8
comp=Z,461nm,0.6s

KURK S **S** **09 34 37.6 -5.5**
NVS Novosibirsk 63.17 333 *i*P **P** **09 26 20.8 -0.2**
NVS *e**PP **PcP** **09 26 54.3 -3.2**
NVS *e* 09 28 40.9
NVS *e*S S 09 34 36.7 -6.8
NVS *e* 09 35 57.9
NVS pmax pmax
comp=Z,998nm,1.9s
NVS pmax pmax
comp=N,284nm,1.5s
NVS pmax pmax
comp=E,362nm,1.5s
NVS pmax pmax
comp=Z,158nm,1.6s
NVS smax smax
comp=E,172nm,2.8s
AMKA Amchitka 64.32 33 *e*P **P** **09 26 29.0 +0.4**
comp=E,254nm,0.7s
DZET Dzherino 64.52 312 P **P** **09 26 31.2 +0.9**
DZET pmax pmax
comp=Z,193nm,0.7s
KK31 Karatay Array 64.75 317 *i* P **P** **09 26 31.8 +0.2**
KK31 pmax pmax
comp=Z,71nm,0.7s
KKAR Karatay Array 64.75 317 *e*P **P** **09 26 32.1 +0.5**
KKAR Karatay Array 64.75 317 *e*P **P** **09 26 32.1 +0.5**
GSTR Great Sitkin T 67.19 34 *e*P **P** **09 26 48.4 +1.3**
comp=Z,230nm,0.7s
ATKA Atka Island 68.28 34 *e*P **P** **09 26 54.7 +0.8**
BVA0 Borovoye Array 68.72 327 *i* P **P** **09 26 56.5 -0.1**
BVA0 pmax pmax
comp=Z,325nm,1.2s
BVAR Borovoye Array 68.72 327 P **P** **09 26 57.0 +0.4**
comp=Z,96nm,0.6s,baz=126,slow=8.3,SNR=348
BVAR PP **PP** **09 29 27.7 -2.0**
comp=Z,10nm,0.8s,baz=117,slow=8.3,SNR=2.0
BVAR S **S** **09 35 49.8 -1.1**
comp=Z,0.8nm,0.5s,baz=121,slow=11,SNR=3.0
BRVK Borovoye 68.79 327*c i*P **P** **09 26 57.6 +0.6**
BRVK pmax pmax
comp=Z,398nm,1.3s
BRVK Borovoye 68.79 327 *e*P **P** **09 26 57.3 +0.3**
WBK Wadi Bani Khal 69.67 293 P **P** **09 27 04.6 +1.5**
SNR=11
BILL Bilibino 69.89 14*c i*P **P** **09 27 03.8 +0.3**
BILL *e* 09 27 25.7
BILL *i* 09 29 43.2
BILL pmax pmax
comp=Z,83nm,2.0s
DRV Dumont d'Urvil 70.02 175 P P 09 27 16.0 +12
DRV S **S** **09 36 06.0 +0.4**
DRV SS SS 09 41 26.0 +49
DRV L L 09 43 00.0
DRV R 09 49 00.0
CASY Casey 70.28 187 *e*P **P** **09 27 07.2 +1.3**
JMDO Jabal Madar 70.45 293 P **P** **09 27 08.9 +1.1**
SNR=14
SMDO Samad 70.56 293 P **P** **09 27 09.7 +1.0**
SNR=7.0
IMYA Miami 70.63 307 *e*P **P** **09 27 10.1 +1.2**
ISRO Mashad 71.12 307 *e*P **P** **09 27 13.0 +1.2**
IMOG Moghan 71.19 307 *e*P **P** **09 27 13.2 +0.7**
HOQ Hoqain 71.28 294 P **P** **09 27 14.2 +1.3**
SNR=12
BSY Bisya 71.31 293 P **P** **09 27 14.3 +1.3**
SNR=9.9
IPAY Payeh 71.52 307 *e*P **P** **09 27 15.7 +1.3**
IAKL Akhelmad 71.74 308 *e*P **P** **09 27 16.5 +0.7**
IKRD Kardeh 71.96 308 *e*P **P** **09 27 13.8 -3.2**
IEMG Emamgholi 71.97 308 *e*P **P** **09 27 16.2 -0.9**
ARQ Araqi 71.98 293 P **P** **09 27 18.0 +0.9**
SNR=13
PAF Port-aux-Franc 72.12 216 P P 09 27 00.0 -17
PAF S S 09 36 08.0 -22
PAF SS **SS** **09 41 11.0 +0.9**
PAF L L 09 44 00.0
PAF R 09 49 00.0
UOSS Wadi Hilu 72.40 295 P **P** **09 27 19.4 -0.2**
comp=Z,277nm,0.6s,SNR=11
UOSS Wadi Hilu 72.40 295 *e*P **P** **09 27 20.2 +0.6**
comp=Z,399nm,2.1s
ISFR Sfrayin 72.42 308 *e*P **P** **09 27 21.2 +1.4**
HATD Hatta, Dubai 72.46 295 ⇑P **P** **09 27 20.6 +0.7**
ABKT Ailbek 72.47 309 P **P** **09 27 21.5 +1.7**
comp=Z,717nm,1.4s,SNR=46
GEYT Alibeck 72.47 309 P **P** **09 27 21.2 +1.4**
comp=Z,46nm,0.7s,baz=151,slow=3.4,SNR=67
GEYT PP PP 09 29 55.9 -6.5
comp=Z,11nm,0.9s,baz=105,slow=11,SNR=2.1
GEYT LR LR 10 03 25.2
comp=Z,2µm,20.5s,baz=50,slow=39
ASHO Ashiyiah 72.51 295 P **P** **09 27 21.5 +1.3**
SNR=6.1
NAZ Nazwa, Dubai 72.90 295 ⇓P **P** **09 27 22.9 +0.5**
FAQ Al Faqa, Dubai 72.94 295 ⇑P **P** **09 27 23.3 +0.5**
ASUD Al Ashush, Dub 73.17 295 ⇓P **P** **09 27 25.2 +1.1**
UNV Unalaska Valle 73.20 34 *e*P **P** **09 27 25.0 +1.4**
AB31 Akbulak array 73.62 321 *i* P **P** **09 27 26.1 -0.1**
AB31 pmax pmax
comp=Z,126nm,0.9s
ABKAR Akbulak array 73.62 321 *e*P **P** **09 27 26.4 +0.2**
IBAF Bafgh 73.63 302 *e*P **P** **09 27 27.5 +0.6**
AKUT Akutan 73.70 34 *e*P **P** **09 27 26.9 +0.3**
MIR Mirnyy 73.80 194⇑ *e*P P 09 27 36.0 +9.2
MIR pmax pmax
comp=Z,160nm,2.0s
IMEH Mehriz 74.42 302 *e*P **P** **09 27 31.5 -0.1**
ICHK Chekchek 74.69 302 *e*P **P** **09 27 33.2 +0.2**
AKTO Aktyubinsk 75.12 322 P **P** **09 27 35.3 +0.3**
comp=Z,71nm,0.8s,baz=101,slow=7.0,SNR=138
AKTO S **S** **09 37 01.6 -2.7**
comp=Z,1.3nm,0.8s,baz=285,slow=22,SNR=6.6
AKTO LR LR 10 04 16.6
comp=Z,1µm,19.4s,baz=110,slow=38
FALS False Pass 75.23 34 *e*P **P** **09 27 36.1 +0.7**
ISAD Sadrabad 75.26 302 *e*P **P** **09 27 36.7 +0.2**
SVE Sverdlovsk 75.33 328*d i*P **P** **09 27 36.3 +0.3**
SVE *e* 09 30 23.8
SVE *e*S **S** **09 37 01.4 -5.0**
SVE *e* 09 37 54.8
SVE *e*SS **SS** **09 41 53.7 -5.0**
SVE pmax pmax
comp=Z,337nm,1.6s
SVE MLR MLR
comp=Z,1µm,22.0s
IANJ Anjilo 75.46 306 *e*P **P** **09 27 38.0 +0.5**
IPAR Pars 75.62 300 *e*P **P** **09 27 39.4 +0.9**
IGLO Ghaloghah 75.65 307 *e*P **P** **09 27 39.3 +0.8**
IKIA Kiasar 75.73 306 *e*P **P** **09 27 39.8 +0.8**
ISHM Shahmirzad 76.00 306 *e*P **P** **09 27 41.2 +0.6**
ILAS Lasjerd 76.22 306 *e*P **P** **09 27 42.2 +0.4**
ARU Arti 76.32 328 P **P** **09 27 41.3 -0.3**
baz=103,slow=3.8
ARU PP PP 09 30 28.1 -6.3
baz=117,slow=6.8
ARU LR LR 10 03 35.7
comp=Z,1µm,20.9s,baz=106,slow=37
ARU Arti 76.32 328*c i*P **P** **09 27 41.1 -0.5**
ARU *SP sP 09 28 16.4 -5.6
ARU S **S** **09 37 17.8 +0.5**
ARU *SS sS 09 37 57.8 -8.2
ARU pmax pmax
comp=Z,350nm,1.7s
ARU Arti 76.32 328 P **P** **09 27 41.3 -0.3**
comp=Z,1µm,0.6s,SNR=36
IFIR Firoozkooh 76.42 306 *e*P **P** **09 27 43.6 +0.7**
IALA Alasht 76.42 306 *e*P **P** **09 27 43.4 +0.4**
IZEF Zefreh 76.50 303 *e*P **P** **09 27 43.2 -0.2**
IKAZ Kazeroun 76.66 300 *e*P **P** **09 27 45.0 +0.5**
TNA Tin City 76.70 23 *e*P **P** **09 27 44.3 +0.8**
comp=Z,211nm,1.7s
IPRN Peran 76.81 306 *e*P **P** **09 27 45.3 +0.3**
SDPT Sand Point 76.99 34 *e*P **P** **09 27 46.3 +1.0**
IDMV Damavand 76.99 306 *e*P **P** **09 27 46.6 +0.4**
IKLH Kolahrood 77.16 303 *e*P **P** **09 27 48.4 +1.3**
IPIR Pirpir 77.69 303 *e*P **P** **09 27 48.9 -1.2**
IR3 Iran Long-Peri 77.80 305 *e*P **P** **09 27 51.4 +0.9**
CHGN Chignik 78.34 33 *e*P **P** **09 27 53.5 +0.7**
IGZV Ghazvin 78.53 306 *e*P P 09 27 50.4 -4.2
SVW2 Sparrevohn 80.74 29 *e*P **P** **09 28 07.7 +1.9**
MAK Makhachkala 81.13 313 *e*P **P** **09 28 08.2 0.0**
MAK *e**SP **sP** **09 28 46.3 -2.6**
MAK *e* 09 31 14.8
MAK *e*S **S** **09 38 11.7 +2.7**
MAK *e**SS **sS** **09 38 59.4 +1.1**
MAK *e*SS **SS** **09 43 29.0 +2.6**
MAK pmax pmax
comp=Z,340nm,1.6s
MAK MLR MLR
comp=Z,2µm,23.0s
OHAK Old Harbor 81.28 33 *e*P **P** **09 28 09.7 +1.0**
KDAK Kodiak Island 81.73 32 *e*P **P** **09 28 12.3 +1.3**
KDAK Kodiak Island 81.73 32 *e*P **P** **09 28 12.3 +1.3**
RSO Redoubt South 82.01 29 *e*P **P** **09 28 13.4 +0.7**
comp=Z,126nm,0.7s
RAYN Ar Rayn 82.10 293 *e*P **P** **09 28 14.0 +0.2**
comp=Z,86nm,1.0s
IM04 Indian Mountai 82.40 24 *e*P **P** **09 28 16.1 +1.6**
OPO Ambohidratompo 82.42 251 P **P** **09 28 16.2 +0.5**
comp=Z,32nm,0.9s,baz=84,slow=3.9,SNR=15
ABPO Ambohimpanom 82.43 250 *e*P **P** **09 28 16.6 +0.9**
ABPO pmax pmax
comp=Z,42nm,0.8s
ABPO Ambohimpanom 82.43 250 *e*P **P** **09 28 16.6 +0.9**
comp=Z,42nm,0.8s
ABPO *e*pP **pP** **09 28 40.8 -3.7**
VNDA Vanda 82.53 173 P **P** **09 28 15.7 +0.9**
comp=Z,34nm,0.7s,baz=317,slow=6.5,SNR=162
VNDA PKKPbc **PKKPbc** **09 46 41.7 -2.2**
comp=Z,0.7nm,0.8s,baz=267,slow=4.2,SNR=4.6
VNDA PKPPKP **P'P'df** **09 54 45.7 +1.6**
comp=Z,1.5nm,1.1s,baz=260,slow=3.6,SNR=4.1
VNDA LR LR 10 03 13.7
comp=Z,2µm,20.2s,baz=338,slow=34
VNDA Vanda 82.53 173 *e*P **P** **09 28 15.7 +0.9**
comp=Z,34nm,0.6s
VNDA *e*pP **pP** **09 28 44.1 +0.5**
VNDA PKKPbc **PKKPbc** **09 46 41.7 -2.2**
VNDA P'P' 09 54 45.7
PPLA Purkeypile 82.61 27 *e*P **P** **09 28 16.7 +1.0**
comp=Z,112nm,0.7s
DGRG David-gareji 82.63 311 P **P** **09 28 17.9 +1.7**
CRZF Crozet Islands 82.77 223 P P 09 27 51.0 -26
CRZF S S 09 37 43.0 -43
CRZF L L 09 49 00.0
CRZF R 09 55 00.0
GNI Garni 83.06 310 LR LR 10 11 11.5
comp=Z,498nm,21.5s,baz=82,slow=40
GNI Garni 83.06 310 *e*P **P** **09 28 19.8 +1.2**
GNI *e* 09 31 32.5
GNI pmax pmax
comp=Z,93nm,1.0s
GNI Garni 83.06 310 *e*P **P** **09 28 19.8 +1.2**
comp=Z,93nm,1.0s
GNI *e*PP **PP** **09 31 32.5 +1.5**
SEAG Tbilisi Sea 83.07 312 P **P** **09 28 19.6 +1.1**
TBLG Delisi 83.11 311 *e*P **P** **09 28 19.5 +0.8**
TBLG Delisi 83.11 311 P **P** **09 28 19.7 +1.0**
TBLG Delisi 83.11 311 P **P** **09 28 19.7 +1.0**
DAMY Dhamar 83.24 284 *e*P **P** **09 28 22.0 +1.8**
comp=Z,422nm,1.8s
BPAW Bear Paw Mtn. 83.30 26 *e*P **P** **09 28 20.2 +1.1**
comp=Z,242nm,1.9s
SBA Scott Base 83.42 172 *e*P **P** **09 28 20.9 +1.5**
SBA pmax pmax
comp=Z,25nm,0.9s
SBA Scott Base 83.42 172 *e*P **P** **09 28 20.9 +1.5**
comp=Z,26nm,0.9s
PPT Papeete 83.52 108 P P 09 28 24.5 +3.4
comp=Z,26nm,1.0s,baz=325,slow=1.3,SNR=3.7
PPT LR LR 10 01 22.3
comp=Z,350nm,19.1s,baz=271,slow=32
PPT2 Papeete2 83.52 108 *e*S **S** **09 38 35.2 +0.8**
comp=Z,4µm,29.2s
PPT2 *e*SS **SS** **09 44 08.0 +4.9**
comp=Z,3µm,30.8s
PPT2 *e*LQ LQ 09 51 17.4
comp=Z,6µm,32.0s
PPT2 *e*LR LR 09 54 55.5
comp=Z,4µm,34.0s
TRF Thorofare Moun 83.54 27 *e*P **P** **09 28 21.0 +0.4**
comp=Z,898nm,1.8s
RC01 Rabbit Creek A 83.55 29 *e*P **P** **09 28 21.0 +0.5**
comp=Z,111nm,0.7s
MAW Mawson 83.58 201 P **P** **09 28 21.4 +1.0**
comp=Z,26nm,0.6s,baz=74,slow=5.0,SNR=51
MAW S **S** **09 38 30.1 -2.8**
comp=Z,1.0nm,0.3s,baz=247,slow=23,SNR=3.7
MAW PKKP **PKKPdf** **09 46 35.4 +3.6**
comp=Z,1.8nm,0.8s,baz=91,slow=4.9,SNR=4.1
MAW Mawson 83.58 201 P **P** **09 28 21.7 +1.4**
baz=84,SNR=44
SEW Seward 83.60 30 *e*P **P** **09 28 21.5 +0.8**
comp=Z,749nm,1.6s
CLDR Caldiran 83.66 309 *e*P P 09 28 25.1 +3.3
ZEI Tsey 83.77 313 *e*P **P** **09 28 19.7 -2.5**
ZEI pmax pmax
comp=Z,586nm,1.6s
PRGR Permogore 83.83 332*c i*P **P** **09 28 21.7 -0.1**
PRGR 09 31 37.1
PRGR pmax pmax
comp=Z,147nm,0.7s
CUKT Cukurca 83.87 307 *e*P **P** **09 28 23.6 +0.8**
PMR Palmer 83.89 28 *e*P **P** **09 28 22.8 +0.7**
PMR pmax pmax
comp=Z,160nm,0.8s
PMR Palmer 83.89 28 *e*P **P** **09 28 22.8 +0.7**
comp=Z,160nm,0.8s
COLD Coldfoot 84.00 23 *e*P **P** **09 28 24.6 +2.0**
comp=Z,160nm,0.6s
NCK Nalchik 84.01 313 *e*P **P** **09 28 24.1 +0.9**
AKH Akhalkalaki 84.04 311 P **P** **09 28 25.3 +1.7**
AKH Akhalkalaki 84.04 311⇑ *i*P **P** **09 28 25.4 +1.8**
ONI Oni 84.10 312 P **P** **09 28 25.1 +1.4**
MCK McKinley 84.17 26 *e*P **P** **09 28 24.0 +0.4**
MCK pmax pmax
comp=Z,1µm,1.8s
MCK McKinley 84.17 26 *e*P **P** **09 28 24.0 +0.4**
comp=Z,1µm,1.8s
TBI Tubuai 84.17 114 *e*T T 09 29 27.1
comp=Z,9.8nm,0.3s
TBI Tubuai 84.17 114 *e*S **S** **09 38 41.0 +0.4**
comp=Z,3µm,30.0s
TBI *e*SS **SS** **09 44 15.7 +3.3**
comp=Z,1µm,26.8s
TBI *e*LQ LQ 09 51 36.7
comp=Z,3µm,30.8s
TBI *e*LR LR 09 55 12.0
comp=Z,4µm,35.8s
SML Sawmill 84.28 28 *e*P **P** **09 28 25.2 +0.9**
SML pmax pmax
comp=Z,62nm,0.8s
SML Sawmill 84.28 28 *e*P **P** **09 28 25.1 +0.9**
comp=Z,62nm,0.8s
KARS Kars 84.34 310 *e*P **P** **09 28 26.8 +1.7**
AGRB Hanur-Agry 84.39 309 *e*P **P** **09 28 27.3 +1.9**
GOF Gofitskoye 84.45 315⇑ *i*P **P** **09 28 25.0 -0.4**
GOF *e*S **S** **09 38 37.7 -4.9**
GOF pmax pmax
comp=Z,90nm,1.3s
KBZ Khabaz 84.53 313 P **P** **09 28 26.1 +0.3**
comp=Z,76nm,1.3s,baz=100,slow=3.9,SNR=81
KBZ LR LR 10 10 07.8
comp=Z,989nm,21.1s,baz=74,slow=38
KIV Kislovodsk 84.68 314 *e*P **P** **09 28 26.8 +0.2**
KIV Kislovodsk 84.68 314*c i*P **P** **09 28 26.9 +0.2**
KIV *e* 09 31 47.2
KIV *i*S **SKSac** **09 38 36.8 -4.0**
KIV pmax pmax
comp=Z,75nm,1.4s
KIV MLR MLR
comp=Z,2µm,22.0s
KIV Kislovodsk 84.68 314 P **P** **09 28 27.2 +0.5**
comp=Z,424nm,1.7s,SNR=26
KIV Kislovodsk 84.68 314 *i* P **P** **09 28 27.9 +1.2**
SNR=6.4
KIV Kislovodsk 84.68 314 *e*P **P** **09 28 26.4 -0.3**
comp=Z,580nm,1.9s
KIV *e*PP **PP** **09 31 49.2 +5.2**
COLA College 84.73 25 *e*P **P** **09 28 26.2 -0.1**
COLA *e* 09 31 41.4
COLA pmax pmax
comp=Z,336nm,1.9s
COLA College 84.73 25 *e*P **P** **09 28 26.2 -0.1**
comp=Z,336nm,1.9s
COLA *e*PP **PP** **09 31 41.4 -2.2**
SIRT Sirnak 84.81 307 *e*P **P** **09 28 28.7 +1.3**
CHVG Ch'k'valeri 85.11 312 *e*P **P** **09 28 29.4 +0.7**
CHVG Ch'k'valeri 85.11 312 P **P** **09 28 29.6 +0.9**
CHVG Ch'k'valeri 85.11 312⇑ *i*P **P** **09 28 29.6 +0.9**
MID Middleton Isla 85.13 31 *e*P **P** **09 28 29.6 +1.2**
MID pmax pmax
comp=Z,638nm,1.6s
MID Middleton Isla 85.13 31 *e*P **P** **09 28 29.6 +1.2**
comp=Z,638nm,1.6s
ILAR Eielson Array 85.14 25 P **P** **09 28 27.4 -1.0**
comp=Z,9.0nm,0.4s,baz=245,slow=4.4,SNR=146
ILAR PP **PP** **09 31 44.2 -2.8**
comp=Z,1.9nm,0.9s,baz=269,slow=6.3,SNR=3.1
ILAR S S 09 38 39.9 -8.8
comp=Z,0.7nm,1.0s,baz=255,slow=3.5,SNR=2.8
ILAR PKKPbc **PKKPbc** **09 46 36.0 -1.2**
comp=Z,0.4nm,0.8s,baz=122,slow=3.6,SNR=5.0
ILAR PKPPKP **P'P'df** **09 54 42.2 +1.8**
comp=Z,1.6nm,1.2s,baz=130,slow=1.3,SNR=6.0
ILAR LR LR 10 03 26.0
comp=Z,454nm,20.9s,baz=275,slow=33
BCA Borcka 85.45 311 *e*P **P** **09 28 31.4 +1.0**
DIV Divide 85.47 29 *e*P **P** **09 28 31.2 +1.0**
comp=Z,274nm,0.9s
VRTB Varto-Mus 85.58 309 *e*P **P** **09 28 33.8 +2.4**
EZM Erzurum 85.65 310 *e*P **P** **09 28 34.0 +2.2**
PAX Paxson 85.68 27 *e*P **P** **09 28 32.0 +0.8**
PAX *e* 09 31 49.6
PAX pmax pmax
comp=Z,490nm,1.7s
PAX Paxson 85.68 27 *e*P **P** **09 28 32.0 +0.8**
comp=Z,490nm,1.7s
PAX *e*PP **PP** **09 31 49.6 -1.9**
SVAN Silvan-Diyarba 85.79 308 *e*P **P** **09 28 31.0 -1.3**
BMRM Bremner River 86.04 29 *e*P **P** **09 28 33.7 +0.7**
comp=Z,930nm,1.8s
BMRM *e*PP **PP** **09 31 53.1 -1.3**
BNGB Bing¶ll 86.18 309 P **P** **09 28 36.0 +1.7**
MAZI Mazidag 86.39 307 *e*P **P** **09 28 36.3 +1.0**
MENT Mentasta 86.48 27 *e*P **P** **09 28 36.1 +1.0**
DYBB Diyarbakir 86.62 308 *e*P **P** **09 28 37.9 +1.5**
SOC Sochi 86.83 313*c i*P **P** **09 28 36.6 -0.6**
SOC *i*S **SKSac** **09 38 50.1 -4.0**
SOC pmax pmax
comp=Z,41nm,0.8s
KTUT Trabzon 86.85 311 *e*P **P** **09 28 36.2 -1.1**
VSR Storozhevoye 87.06 321 *e*P **P** **09 28 37.4 -0.7**
VSR *e* 09 31 58.5
VSR *e* 09 38 52.2
VSR *e*S **S** **09 39 02.4 -5.5**
VSR pmax pmax
comp=N,9.0nm,0.9s
VSR pmax pmax
comp=E,30nm,0.9s
VSR pmax pmax
comp=Z,70nm,0.9s
VSR pmax pmax
comp=Z,280nm,2.2s
VSR pmax pmax
comp=N,120nm,2.0s
VSR pmax pmax
comp=E,170nm,2.2s
VSR smax smax
comp=N,290nm,2.7s
VSR smax smax
comp=E,320nm,2.7s
VSR smax smax
comp=Z,110nm,2.7s
GUMT Gumushane 87.08 310 *e*P **P** **09 28 40.9 +2.3**
LPSR Galich'ya Gora 87.18 322 *e*P **P** **09 28 38.3 -0.3**
LPSR *e* 09 32 07.5
LPSR *e* 09 38 52.8
LPSR *e*S **S** **09 39 04.3 -4.7**
LPSR pmax pmax
comp=N,10.0nm,0.9s
LPSR pmax pmax
comp=E,20nm,0.9s
LPSR pmax pmax
comp=Z,70nm,0.9s
LPSR pmax pmax
comp=N,70nm,2.5s
LPSR pmax pmax
comp=E,240nm,2.5s
LPSR pmax pmax
comp=Z,240nm,2.5s
LPSR smax smax
comp=N,340nm,2.8s
LPSR smax smax
comp=Z,80nm,2.8s
LPSR smax smax
comp=E,180nm,2.5s
LPSR MLR MLR
comp=N,430nm,22.0s
LPSR MLR MLR
comp=E,900nm,22.0s
LPSR MLR MLR
comp=Z,560nm,22.0s
TMCR Tamitsa 87.38 334 *e*P **P** **09 28 38.1 -1.2**
TMCR *e* 09 32 02.6
TMCR pmax pmax
comp=Z,118nm,1.4s
EGAK Eagle 87.59 25 *e*P **P** **09 28 41.0 +0.6**
comp=Z,25nm,0.7s
EGAK *e*S **S** **09 39 13.6 +1.1**
URFA Urfa 87.68 307 *e*P **P** **09 28 40.6 -0.9**
MOS Moscow 87.85 326 *e*P **P** **09 28 39.2 -2.6**
MOS *e*S **SKSac** **09 38 55.7 -4.0**
MOS *e* 09 40 12.4
MOS pmax pmax
comp=E,69nm,0.9s
MOS pmax pmax
comp=Z,157nm,0.9s
MOS pmax pmax
comp=Z,400nm,1.5s
MOS smax smax
comp=E,2µm,4.5s
MOS MLR MLR
comp=Z,2µm,21.0s
MOS MLR MLR
comp=E,3µm,20.0s
MALT Malatya 87.96 308 P **P** **09 28 44.6 +1.7**
MALT Malatya 87.96 308⇑ *i*P **P** **09 28 43.8 +0.9**
DAWY Dawson 88.39 26 *e*P **P** **09 28 45.1 +0.8**
comp=E,34nm,0.7s
DAWY *e*PP **PP** **09 32 10.8 -2.4**
DAWY *e*S **S** **09 39 19.7 -0.5**
ANN Anapa 88.44 315*c i*P **P** **09 28 43.2 -1.6**
ANN *i* 09 32 18.1
ANN *i* PPP PPP 09 34 09.7
ANN *i* S **SKSac** **09 38 59.2 -4.4**
ANN *i* 09 39 15.2
ANN *e*SS **SS** **09 45 10.2 -3.5**
ANN pmax pmax
comp=Z,59nm,0.7s
OBN Obninsk 88.48 325 LR LR 10 10 21.5
comp=Z,2µm,21.6s,baz=106,slow=37
OBN Obninsk 88.48 325*c i*P **P** **09 28 44.3 -0.4**
OBN *i* 09 32 17.1
OBN *e*SS SS 09 45 18.2 +4.4
OBN pmax pmax
comp=Z,317nm,1.4s
OBN MLR MLR
comp=Z,2µm,21.0s
OBN Obninsk 88.48 325 P **P** **09 28 44.5 -0.2**
comp=Z,952nm,1.0s,SNR=11
OBN Obninsk 88.48 325 *e*P **P** **09 28 44.0 -0.8**
comp=Z,308nm,1.3s
LVZ Lovozero 88.57 338*c i*P **P** **09 28 43.9 -1.1**
LVZ pmax pmax
comp=Z,131nm,1.7s
LVZ Lovozero 88.57 338 P **P** **09 28 44.2 -0.8**
comp=Z,311nm,1.2s,SNR=5.9
LVZ Lovozero 88.57 338 *e*P **P** **09 28 43.9 -1.1**
comp=Z,188nm,1.6s
DARE Darende-Malaty 88.69 308 *e*P **P** **09 28 45.0 -1.3**
RSDY Resadiye-TOKAT 88.72 310 *e*P P 09 28 41.3 -5.0
SVSK Karacayir 89.00 310 *e*P **P** **09 28 48.7 +1.2**
APA Apatity 89.07 338⇓ *i*P **P** **09 28 44.5 -2.8**
APA *i* 09 32 22.0
APA *i* PPP PPP 09 34 14.0
APA *i* 09 39 05.0
APA *i*S **S** **09 39 22.0 -4.3**
APA *i* PS **SP** **09 40 30.0 -0.6**
APA pmax pmax
comp=Z,113nm,1.4s
APA MLR MLR
comp=Z,2µm,25.0s
KMRS Kahramanmaras 89.21 307 *e*P **P** **09 28 49.7 +1.1**

ASF Jabal al Asfar 89.51 302 S **SKSac 09 39 06.3 -4.5**
comp=Z,0.8nm,0.3s,baz=255,slow=19,SNR=1.7
HYT Haines Junctio 89.51 29 *e*P **P 09 28 51.0 +1.3**
comp=Z,12nm,0.6s
KVT Kavak 89.66 311 *e*P **P 09 28 51.6 +0.9**
KOZT Kozan 90.06 307 *e*P **P 09 28 53.1 +0.5**
CEYT Ceyhan 90.16 307 *e*P P 09 28 44.3 -8.8
HOPEN Hopen 90.16 347 *e*PP PP 09 32 26.9 -0.1
HOPEN *e*SKSac **SKSac 09 39 12.5 -0.1**
DIKM Dikmen 90.21 312 *e*P **P 09 28 53.1 -0.1**
INK Inuvik 90.30 22 P **P 09 28 53.1 +0.2**
comp=Z,23nm,0.9s,baz=286,slow=5.6,SNR=62
INK S **SKSac 09 39 12.3 -1.3**
comp=Z,1.5nm,0.8s,baz=90,slow=20,SNR=21
INK PKKPbc **PKKPbc 09 46 26.6 +2.1**
comp=Z,2.4nm,0.8s,baz=91,slow=8.3,SNR=4.0
INK LR LR 10 14 07.5
comp=Z,374nm,19.0s,baz=248,slow=39
INK Inuvik 90.30 22 P **P 09 28 53.2 +0.2**
INK S **SKSac 09 39 12.4 -1.3**
INK pmax pmax
comp=Z,4.0nm,0.9s
INK Inuvik 90.30 22 P **P 09 28 53.1 +0.2**
comp=Z,4.3nm,0.9s
INK S **SKSac 09 39 12.3 -1.3**
INK PKKPbc **PKKPbc 09 46 26.6 +2.1**
KARA Karaisali 90.69 307 *e*P **P 09 28 53.8 -1.8**
SKAG Skagway 90.74 30 *e*P **P 09 28 56.7 +1.4**
comp=Z,141nm,1.7s
SIM Simferopol' 90.78 315*d i*P **P 09 28 55.8 0.0**
SIM *e* 09 32 39.0
SIM *i* 09 39 17.0
SIM *e*S **S 09 39 41.0 -2.0**
SIM *e*SS SS 09 45 58.0 +10
SIM pmax pmax
comp=Z,24nm,0.9s
SIM pmax pmax
comp=Z,1.0nm,11.0s
NIG Nigde 90.98 308 *e*P **P 09 28 56.0 -1.2**
KMBO Kilima Mbogo 90.98 269 P **P 09 28 58.2 +0.6**
comp=Z,12nm,1.1s,baz=69,slow=5.0,SNR=14
KMBO Kilima Mbogo 90.98 269 P **P 09 28 58.3 +0.6**
KMBO pmax pmax
comp=Z,13nm,1.1s
KMBO Kilima Mbogo 90.98 269 ⇓P **P 09 28 58.5 +0.8**
baz=91,SNR=5.1
KMBO Kilima Mbogo 90.98 269 *e*P **P 09 28 58.4 +0.8**
KEV Kevo 91.06 340 *e*P **P 09 28 56.3 -0.2**
KEV pmax pmax
comp=Z,19nm,0.8s
KEV Kevo 91.06 340 *e*P **P 09 28 56.3 -0.2**
comp=Z,19nm,0.8s
BZK Bozkurt 91.12 312 *e*P **P 09 28 54.5 -2.9**
EIL Elat 91.34 300 ⇓P **P 09 28 59.6 +0.9**
baz=91,SNR=6.6
SPA0 Spitsbergen Ar 91.47 349 *e*P **P 09 28 57.4 -0.9**
CANT Cankiri 91.53 311 *e*P P 09 28 54.5 -4.9
BRTR Keskin Array B 91.59 310 P **P 09 28 58.7 -1.1**
comp=Z,3.7nm,0.9s,baz=123,slow=4.6,SNR=19
BRTR PP **PP 09 32 36.3 -3.2**
comp=Z,6.2nm,1.1s,baz=103,slow=9.5,SNR=3.5
BRTR S **SKSac 09 39 19.4 -3.2**
comp=Z,0.2nm,0.5s,baz=309,slow=27,SNR=2.4
ARCES ARCESS Array B 91.62 340 P **P 09 28 58.4 -0.7**
comp=Z,24nm,0.6s,baz=84,slow=6.0,SNR=119
ARCES PP **PP 09 32 35.4 -3.2**
comp=Z,5.0nm,0.8s,baz=84,slow=9.3,SNR=4.1
ARCES PKKP **PKKPdf 09 46 19.1 +1.6**
comp=Z,1.9nm,0.9s,baz=256,slow=3.6,SNR=2.7
ARCES LR LR 10 16 01.3
comp=Z,1μm,18.4s,baz=86,slow=39
ARE0 ARCESS Array S 91.62 340 *e*P **P 09 28 58.4 -0.8**
ARE0 *e*PP **PP 09 32 40.2 +1.5**
ARE0 *e*SKSac **SKSac 09 39 20.2 -1.1**
ARE0 ARCESS Array S 91.62 340 *e*P **P 09 28 58.7 -0.4**
YESY Yesilyurt 91.69 308 *e*P P 09 28 55.9 -4.4
SULT Sultanhani-AKS 91.83 308 *e*P P 09 28 53.8 -7.1
HAMF Hammerfest 91.97 341 *e*P **P 09 28 59.8 -0.9**
HAMF *e*PP **PP 09 32 39.7 -1.6**
HAMF *e*SKSac **SKSac 09 39 21.6 -1.4**
KBS Kingsbay 91.97 350 *e*P **P 09 29 01.1 +0.5**
KBS *e*PP **PP 09 32 41.3 +0.1**
KBS *e*SKSac **SKSac 09 39 23.6 +0.8**
AFSR Af˙ar-Bala (A 92.06 309 *e*P **P 09 29 02.3 +0.3**
LFK Lefkose 92.08 305 *e*P **P 09 29 02.7 +0.6**
HSPB Hornsund (broa 92.08 348 *e*P **P 09 29 00.1 -1.0**
HSPB *e*PP **PP 09 32 41.5 -0.6**
HSPB *e*SKSac **SKSac 09 39 23.0 -0.5**
ANTO Ankara 92.23 310 *e*P **P 09 29 02.0 -0.7**
ANTO pmax pmax
comp=Z,56nm,1.6s
ANTO Ankara 92.23 310 *e*P **P 09 29 02.0 -0.7**
comp=Z,56nm,1.6s
CSS Prodhromos 92.27 305 *e*P **P 09 29 03.0 +0.1**
CSS Prodhromos 92.27 305 *e*P **P 09 29 02.6 -0.4**
comp=Z,5.6nm,0.8s
CSS *e*PP **PP 09 32 42.7 -2.1**
SYO Syowa Base 92.27 201 ⇓*i*P **P 09 29 01.9 -0.2**
LEF Lefka 92.62 305 *e*P **P 09 29 04.6 +0.2**
WRAK Wrangell Islan 92.76 33 *e*P **P 09 29 05.9 +1.3**
comp=Z,59nm,0.9s
HDMB Hadim 92.76 307 *e*P **P 09 29 05.2 -0.2**
KONT Konya--Tatoy 92.76 308 *e*P P 09 29 01.9 -3.3
QSPA South Pole Qui 92.91 180 P **P 09 29 04.9 -0.4**
comp=Z,16nm,0.4s,baz=276,slow=0.9,SNR=57
QSPA S SKSac 09 39 21.4 -7.3
comp=Z,1.8nm,0.8s,baz=286,slow=2.9,SNR=3.0
QSPA PKKPbc **PKKPdf 09 46 15.7 -0.5**
comp=Z,2.6nm,0.7s,baz=51,slow=0.6,SNR=7.2
QSPA South Pole Qui 92.91 180 *e*P **P 09 29 05.4 +0.1**
QSPA S SKSac 09 39 21.4 -7.3
QSPA PKKPbc **PKKPdf 09 46 15.7 -0.5**
KIZT Kizilcal 93.04 309 P **P 09 29 06.2 -0.3**
KDZE Karadeniz Ereo 93.10 311 *e*P P 09 29 02.6 -4.0
FIA1 FINESS Array S 93.15 332 *e*P **P 09 29 05.3 -1.0**
FINES FINESS Array B 93.15 332 P **P 09 29 05.1 -1.3**
comp=Z,6.0nm,0.6s,baz=79,slow=4.7,SNR=39
FINES PP **PP 09 32 49.5 -1.4**
comp=Z,5.0nm,0.8s,baz=87,slow=8.2,SNR=5.4
FINES S **SKSac 09 39 28.0 -2.0**
comp=Z,1.6nm,0.9s,baz=57,slow=15,SNR=2.1
FINES LR LR 10 14 02.6
comp=Z,2μm,21.0s,baz=86,slow=37
H02N1 VAN INLET T-PH 93.16 36 P **P 09 29 06.8 +0.1**
H02N1 T T 11 13 27.8
SNR=7.5
H02S1 DAWSON INLET T 93.21 36 P **P 09 29 07.9 +1.1**
H02S1 T T 11 13 44.6
SNR=29
SVRH Sivrihisar-ESK 93.25 310 *e*P **P 09 29 04.8 -2.6**
AKASG Malin Array Be 93.36 321 P **P 09 29 06.2 -1.4**
comp=Z,9.0nm,0.7s,baz=66,slow=4.2,SNR=67
AKASG PP **PP 09 32 52.4 -0.5**
comp=Z,4.6nm,0.7s,baz=66,slow=7.4,SNR=4.7
AKASG S **SKSac 09 39 29.2 -2.4**
comp=Z,0.2nm,0.3s,baz=192,slow=9.4,SNR=3.3
AKASG PKKP **PKKPdf 09 46 14.1 0.0**
comp=Z,0.2nm,0.3s,baz=262,slow=3.8,SNR=3.7
AKASG LR LR 10 15 51.3
comp=Z,1μm,18.4s,baz=70,slow=38
AKBB Malin Array Si 93.36 321 *e*P **P 09 29 06.3 -1.3**
AKBB Malin Array Si 93.36 321 *e*P **P 09 29 06.3 -1.3**
AKBB *e*pP **pP 09 29 33.5 -3.3**
AK01 Malin Array Si 93.37 321 *e*P **P 09 29 06.4 -1.2**
AK01 *e*pP **pP 09 29 32.6 -4.1**
KIEV Kiev 93.38 321 *e*P **P 09 29 06.3 -1.3**
KIEV pmax pmax
comp=Z,98nm,1.6s
KIEV Kiev 93.38 321 *e*P **P 09 29 06.3 -1.3**
comp=Z,98nm,1.6s
MDUB Mudurnu 93.38 311 *e*P **P 09 29 05.5 -2.5**
AK02 Malin Array Si 93.38 321 *e*P **P 09 29 06.7 -1.0**
AK02 *e*pP **pP 09 29 32.6 -4.3**
AK02 *e*PP **PP 09 32 52.4 -0.6**
VSU Vasula 93.43 329*c i*P **P 09 29 06.7 -1.0**
VSU pmax pmax
comp=Z,69nm,1.2s
MICGM Minsk 93.55 325⇑*e*P **P 09 29 07.0 -1.3**
MNK Minsk 93.57 325⇑*e*P **P 09 29 07.0 -1.4**
MNK *e**SP **sP 09 29 53.0 +3.5**
MNK *e* 09 32 53.0
MNK *e*PPP PPP 09 34 53.0
MNK *e* 09 39 32.0
MNK *e*S **S 09 40 07.0 -0.5**
MNK *e*PS **SP 09 41 16.0 -5.0**
MNK *e*PPS PPS 09 41 44.0
MNK *e*SS **SS 09 46 32.0 +4.9**
MNK pmax pmax
comp=Z,120nm,2.0s
MNK pmax pmax
comp=E,190nm,2.0s
MNK pmax pmax
comp=Z,3μm,6.0s
MNK MLR MLR
comp=Z,6μm,14.0s
DLBC Dease Lake 93.62 31 P **P 09 29 09.8 +1.2**
comp=Z,11nm,0.7s,baz=280,slow=3.8,SNR=30
DLBC Dease Lake 93.62 31 *e*P **P 09 29 09.9 +1.2**
comp=Z,181nm,1.9s
TRO Tromso 93.81 341 *e*P **P 09 29 06.2 -3.0**
TRO IAmb IAmb 09 29 07.2
comp=Z,103nm,1.4s
TRO *e*PP **PP 09 32 54.0 -1.8**
TRO *e*SKSac **SKSac 09 39 29.9 -3.3**
GULT Gulveren 93.90 311 *e*P P 09 29 06.3 -4.1
KIS Kishinev 94.20 317 *i* P **P 09 29 10.0 -1.5**
KIS *e*pP **pP 09 29 36.0 -4.7**
KIS Kishinev 94.20 317 *e*PP PP 09 33 00.0 +0.5
comp=Z,1μm,5.0s
KIS Kishinev 94.20 317 *e*PS **SP 09 41 28.0 -0.3**
KIS *e*SS **SS 09 46 33.0 -3.4**
KIS *e*L L 10 01 48.0
KIS LRM MLR 10 12 40.0
comp=Z,2μm,21.0s
KIS Kishinev 94.20 317 *e*P **P 09 29 10.0 -1.5**
KIS *e* 09 29 45.0
KIS *e* 09 33 00.0
KIS *e*PPP PPP 09 35 00.0
KIS *e* 09 39 33.0
KIS *e*S S 09 40 06.0 -7.3
KIS *e*PS **SP 09 41 28.0 -0.3**
KIS *e*SS **SS 09 46 33.0 -3.4**
KIS MLR MLR
comp=E,1μm,20.0s
KIS MLR MLR
comp=Z,1μm,20.0s
KIS MLR MLR
comp=Z,2μm,21.0s
ISP Isparta 94.22 308 *e*P **P 09 29 10.8 -1.2**
CAVI Cavuskoy 94.44 311 P **P 09 29 12.5 -0.3**
ADVT Abdulvahap 94.49 311 P **P 09 29 11.4 -1.6**
TVSB Tavsanli 94.83 310 *e*P **P 09 29 14.5 -0.2**
ELL Elmali 94.84 307 *e*P P 09 29 11.4 -3.5
TIRR Tirgusor 94.88 315 *e*P P 09 29 10.7 -4.0
TIRR Tirgusor 94.88 315⇑*i*P **P 09 29 13.9 -0.7**
ISK Istanbul-Kandi 94.91 311 *e*P P 09 29 11.4 -3.5
CFR Carcaliu 94.96 316⇑*i*P **P 09 29 14.4 -0.6**
ARMT Armutlu 95.13 311 *e*P **P 09 29 12.9 -3.1**
KCTX Karacabey (Bur 95.56 311 *e*P **P 09 29 17.3 -0.6**
KULA Kula-Manisa 95.58 309 *e*P P 09 29 14.3 -3.8
PLOR Plostina 95.87 316⇑*i*P **P 09 29 19.2 0.0**
PHSR Pinarhisar 95.97 312 *e*P **P 09 29 16.5 -3.2**
TKR Tekirdag 96.06 312 P **P 09 29 19.5 -0.7**
YER Yerkesik 96.08 308 *e*P P 09 29 16.5 -3.9
MRMT Marmara Adasi 96.08 311 *e*P **P 09 29 18.7 -1.6**
AYDB Zeytinkoy-Aydi 96.27 309 *e*P **P 09 29 21.5 +0.2**
KRBG Karabiga-Canak 96.34 311 *e*P P 09 29 18.0 -3.4
SUW Suwalki 96.34 325 *e*P **P 09 29 20.2 -0.9**
SUW *e*PP **PP 09 33 18.7 +2.9**
SUW *e*SKSac **SKSac 09 39 47.4 0.0**
SUW Suwalki 96.34 325 *e*P **P 09 29 20.2 -0.9**
SUW *e* 09 33 18.8
SUW *e* 09 39 47.4
MLR Muntele Rosu 96.42 316⇑*i*P **P 09 29 20.7 -1.2**
BURAR Bucovina Array 96.50 318⇑*i*P **P 09 29 21.7 -0.4**
BUR08 Bucovina Ar. S 96.51 318 *e*P **P 09 29 22.0 -0.2**
BUR08 *e*pP **pP 09 29 48.5 -2.9**
JMB Yambol 96.52 313 *i* P **P 09 29 21.6 -0.6**
IZM Izmir 96.69 309 *e*P P 09 29 18.7 -4.4
DOPR Dopca 96.71 317⇑*i*P **P 09 29 23.9 +0.9**
LVV L'vov 96.80 321*d i*P **P 09 29 22.1 -1.2**
LVV *e* 09 33 24.9
LVV *e* 09 39 50.9
LVV *e*S **S 09 40 33.3 -2.5**
LVV *e*PS **SP 09 41 57.7 +1.1**
SZH Strazhica 96.84 314 *i* P **P 09 29 23.2 -0.5**
GELI Tayfur-Gelibol 96.96 311 *e*P **P 09 29 23.7 -0.5**
VOIR 97.05 316⇑*i*P **P 09 29 22.9 -1.7**
ALN Alexandroupoli 97.19 312 *e*P **P 09 29 24.6 -0.6**
GADA Gvkgeada 97.43 311 *e*P Pdif 09 29 26.8 +0.4
RKT Rikitea 97.47 113 *e*PP PP 09 33 25.2 -0.3
comp=Z,165nm,26.0s
RKT *e*SKSac **SKSac 09 39 56.0 +1.6**
comp=Z,2μm,29.5s
RKT *e*SP **SP 09 42 11.9 +6.6**
comp=Z,1μm,30.8s
RKT *e*SS **SS 09 47 26.7 +2.6**
comp=Z,666nm,26.8s
RKT *e*LQ LQ 09 57 14.0
comp=Z,2μm,38.2s
RKT *e*LR LR 10 01 15.6
comp=Z,3μm,37.0s
SIGR SIGRI 97.63 310 *e*P P 09 29 20.5 -6.8
KWP Kalwaria Pacla 97.68 321 *e*P **P 09 29 27.3 0.0**
KWP *e*PP **PP 09 33 30.2 +3.9**
KWP *e*SKSac **SKSac 09 39 54.2 -0.4**
KWP Kalwaria Pacla 97.68 321 *e*P Pdif 09 29 27.4 +0.1
KWP *e* 09 33 30.2
KWP *e* 09 39 54.2
PLD Plovdiv 97.96 313 *i* P **P 09 29 26.5 -2.2**
RZN Rozhen 98.03 313 *i* P **P 09 29 28.1 -1.2**
KOLS Kolonicke sedl 98.13 320 *e*P **P 09 29 28.9 -0.4**
KOLS *e* 09 33 28.9
KOLS Kolonicke sedl 98.13 320 PDIF **P 09 29 28.9 -0.4**
KOLS *e*PP **PP 09 33 28.9 -0.8**
DAG Danmarks Havn 98.16 353⇑*i*P **P 09 29 28.2 -0.6**
comp=Z,50nm,0.7s
DAG Danmarks Havn 98.16 353⇑*i*P **P 09 29 28.2 -0.6**
DAG pmax pmax
comp=Z,35nm,0.7s
DAG MLR MLR
comp=Z,1μm,19.0s
UZH Uzhgorod 98.19 320 *e*P **P 09 29 29.0 -0.5**
UZH *e* 09 39 51.0
UZH *e*S **S 09 40 43.0 -4.6**
PGB Panagyurishte 98.26 314 *i* P **P 09 29 29.1 -1.0**
RES Resolute Bay 98.26 11 P Pdif 09 29 29.8 +0.5
comp=Z,32nm,0.6s,baz=307,slow=5.2,SNR=111
RES PP **PP 09 33 29.6 -0.3**
comp=Z,3.5nm,0.8s,baz=309,slow=9.6,SNR=4.2
RES LR LR 10 16 20.5
comp=Z,246nm,19.5s,baz=312,slow=37
BEL Belsk 98.30 323 *e*P Pdif 09 29 30.0 0.0
BEL *e*SKSac **SKSac 09 39 59.0 +1.5**
BEL Belsk 98.30 323 *e*P Pdif 09 29 30.0 0.0
BEL *e* 09 39 59.0
MPEP Malo Peshtene 98.40 314 *i* P **P 09 29 29.5 -1.1**
MMB Musomiste 98.77 313 *i* P **P 09 29 30.4 -2.0**
VTS Vitosha 98.94 314⇑*i*P **P 09 29 33.0 -0.3**
VTS Vitosha 98.94 314 *i* P **P 09 29 31.8 -1.5**
PAIG Paliouri 99.15 311 P **PP 09 33 41.9 +4.2**
SIRR Siria 99.18 318⇑*i*P **Pdif 09 29 34.0 -0.1**
KKB Krupnik 99.19 313 *i* P **Pdif 09 29 33.2 -1.0**
NIE Niedzica 99.25 321 *e*P **Pdif 09 29 34.9 +0.6**
NIE *e*PP **PP 09 33 41.7 +3.5**
NIE *e*SKSac **SKSac 09 40 04.7 +2.2**
NIE Niedzica 99.25 321 *e*P **Pdif 09 29 34.9 +0.6**
NIE *e* 09 33 41.8
NIE *e* 09 40 04.8
OJC Ojcow 99.35 322 *e*P **Pdif 09 29 34.5 -0.2**
OJC *e*PP **PP 09 33 37.3 -1.6**
OJC *e*SKSac **SKSac 09 40 04.3 +1.4**
OJC Ojcow 99.35 322 *e*P **Pdif 09 29 34.5 -0.2**
OJC *e* 09 33 37.3
OJC *e* 09 40 04.3
KECS Kecovo 99.39 320 PDIF **Pdif 09 29 34.9 0.0**
KECS *e*PP **PP 09 33 37.9 -1.4**
MRKA Markates 99.47 310 P **PP 09 33 42.2 +2.0**
YKW3 Yellowknife Ar 99.52 25 *e*Pdif **Pdif 09 29 35.8 +0.7**
comp=Z,0.3nm,0.8s
YKA Yellowknife Ar 99.55 25 P **Pdif 09 29 36.0 +0.7**
comp=Z,8.2nm,0.4s,baz=297,slow=4.5,SNR=114
YKA PP **PP 09 33 39.0 -1.0**
comp=Z,1.4nm,0.9s,baz=316,slow=6.4,SNR=2.8
YKA PKiKP **PKiKP 09 34 03.9 0.0**
comp=Z,0.4nm,0.3s,baz=289,slow=1.5,SNR=13
YKA S **SKSac 09 40 04.1 +0.8**
comp=Z,0.7nm,0.9s,baz=294,slow=4.6,SNR=4.2
YKA PKKPbc **PKKPbc 09 45 57.7 -2.1**
comp=Z,1.3nm,0.7s,baz=123,slow=2.7,SNR=10.0
XOR Xorichti 99.63 311 P **PP 09 33 42.6 +1.1**
NLWA Neilton Lookou 99.84 41 *e*Pdif **Pdif 09 29 38.6 +1.5**
comp=Z,4.5nm,0.6s
GKP Gorka Klasztor 99.95 325 *e*P **Pdif 09 29 37.2 0.0**
GKP *e*PP **PP 09 33 46.7 +3.4**
GKP *e*SKSac **SKSac 09 40 07.2 +1.6**
GKP Gorka Klasztor 99.95 325 *e*P **Pdif 09 29 37.3 0.0**
GKP *e* 09 33 46.8
GKP *e* 09 40 07.3
NC602 NORSAR Array S 100.06 334 *e*PP PP 09 33 42.6 -1.3
NC602 *e*SKSac **SKSac 09 40 05.2 -0.7**
NB2 NORSAR Subarra 100.08 334 P **Pdif 09 29 36.3 -1.5**
comp=Z,27nm,1.1s,baz=67,slow=4.6
NB2 NORSAR Subarra 100.08 334 P **Pdif 09 29 36.3 -1.5**
baz=67,slow=4.6
NOA NORSAR Array B 100.08 334 P **Pdif 09 29 36.4 -1.4**
comp=Z,5.3nm,0.7s,baz=65,slow=4.5,SNR=30
NOA PP **PP 09 33 43.4 -0.7**
comp=Z,3.6nm,0.7s,baz=66,slow=7.7,SNR=5.4
NOA PKKPbc **PKKPbc 09 45 57.0 -1.3**
comp=Z,0.4nm,0.8s,baz=246,slow=2.8,SNR=3.6
NAO01 NORSAR Array S 100.30 334 *e*Pdif **Pdif 09 29 37.8 -1.0**
AGG Agios Georgios 100.36 310 P **PP 09 33 47.5 +0.5**
VLI Veliai 100.37 308 P PP 09 33 41.0 -6.1
LSZ Lusaka 100.42 255 P **Pdif 09 29 40.5 +0.2**
comp=Z,2.9nm,0.6s,baz=42,slow=13,SNR=7.8
LSZ Lusaka 100.42 255 P **Pdif 09 29 40.5 +0.2**
LSZ pmax pmax
comp=Z,3.0nm,0.6s
LSZ Lusaka 100.42 255 *e*Pdif **Pdif 09 29 40.7 +0.3**
VYHS Vyhne 100.44 320 *e*P **Pdif 09 29 39.0 -0.6**
VYHS *e* 09 33 46.9
VYHS Vyhne 100.44 320 PDIF **Pdif 09 29 39.0 -0.6**
VYHS *e*PP **PP 09 33 46.9 -0.3**
OKC Ostrava-Krasne 100.48 322 *e*PDIFF **Pdif 09 29 40.6 +0.9**
OKC *e*SKS 09 40 09.3
OKC Ostrava-Krasne 100.48 322 *e*P **Pdif 09 29 40.6 +0.9**
OKC *e* 09 40 09.3
THL Klokotos Trika 100.48 311 P **PP 09 33 48.7 +0.9**
BSD Bornholm Skovb 100.60 328⇑*i*P **Pdif 09 29 39.3 -0.8**
comp=Z,35nm,1.0s
BSD Bornholm Skovb 100.60 328⇑*i*P **Pdif 09 29 39.3 -0.8**
BSD pmax pmax
comp=Z,35nm,1.0s
BSD MLR MLR
comp=Z,1μm,22.0s
LAKA Lakka 100.80 310 P **PP 09 33 50.9 +0.6**
DIVS Divibare 100.86 316⇓*i*P **Pdif 09 29 41.2 -0.5**
DIVS Divibare 100.86 316 P **PP 09 33 50.0 -0.7**
MORC Moravsky Berou 100.87 322 *e*P **Pdif 09 29 42.0 +0.4**
MORC pmax pmax
comp=Z,115nm,1.6s
MORC Moravsky Berou 100.87 322 *e*Pdif **Pdif 09 29 42.0 +0.4**
comp=Z,115nm,1.6s
MOL Molde 100.92 336 *e*PP PP 09 33 51.2 +0.9
KRLC Kraliky 101.24 322 *e*PP PP 09 33 55.7 +2.4
PYL PYLOS 101.27 308 P **PP 09 33 50.8 -3.1**
KSP Ksiaz 101.29 323 *e*P **Pdif 09 29 43.7 +0.4**
KSP *e*PP **PP 09 33 53.6 +0.1**
KSP *e*SKSac **SKSac 09 40 13.0 +0.7**
KSP Ksiaz 101.29 323 *e*P **Pdif 09 29 43.7 +0.4**
KSP *e* 09 33 53.7
KSP *e* 09 40 13.0
AKN Aaknes 101.34 336 *e*PP PP 09 33 53.7 +0.2
AKN *e*SKSac **SKSac 09 40 12.2 +0.1**
KONO Kongsberg 101.41 333 *e*P **Pdif 09 29 42.9 -0.8**
KONO *e*PP **PP 09 33 58.3 +4.3**
KONO *e*SKSac **SKSac 09 40 12.0 -0.4**
DPC Dobruska-Polom 101.43 323 *e*PDIFF **Pdif 09 29 44.5 +0.4**
DPC *e*pP pP 09 30 10.3 -3.2
DPC *e*PP **PP 09 33 56.2 +1.5**
DPC *e*SKS 09 40 09.5
DPC Dobruska-Polom 101.43 323 *e*P **Pdif 09 29 44.5 +0.4**
DPC *e* 09 33 56.2
DPC *e* 09 40 09.5
UPC Upice 101.57 323 *e*PDIFF **Pdif 09 29 45.2 +0.6**
UPC *e*PP **PP 09 33 57.6 +1.9**
UPC *e*SKS 09 40 10.3
UPC *ex* x 09 42 39.5
UPC Upice 101.57 323 *e*P **Pdif 09 29 45.2 +0.6**
UPC *e* 09 33 57.6
UPC *e* 09 40 10.3
UPC *e* 09 42 39.5
VRAC Vranov 101.60 322⇑*i*P **Pdif 09 29 45.1 +0.3**
COP Copenhagen 101.70 329 *i* P **Pdif 09 29 45.3 +0.3**
COP Copenhagen 101.70 329 *e*P **Pdif 09 29 45.3 +0.3**
COP MLR MLR
comp=Z,560nm,22.0s
HYA Hoyanger 102.18 335 *e*PP PP 09 33 60.0 +0.2
HYA *e*SKSac **SKSac 09 40 16.8 +0.7**
I05D Terrebonne, OR 102.39 43 P **Pdif 09 29 49.1 +0.7**
baz=102
PVCC Panska Ves 102.43 323 *e*PP PP 09 34 05.4 +3.3
FOO Floro 102.43 336 *e*PP PP 09 34 02.5 +0.8
KULLO Kullorsuaq 102.47 1 *i* P **Pdif 09 29 47.1 -1.0**
CONA Conrad Observa 102.50 320⇑*i*Pdiff **Pdif 09 29 49.0 0.0**
comp=Z,126nm,4.7s
CONA ⇓*i*PKiKP **PKiKP 09 34 06.9 -2.9**
comp=Z,1μm,4.9s
GOPC GO Pecny, Ondr 102.51 323 *e*PDIFF **Pdif 09 29 49.5 +0.7**
GOPC *e*PP **PKiKP 09 34 06.6 -3.0**
GOPC *e*SKS 09 40 19.2
GOPC *ex* x 09 42 48.2
HOMB Homborsund 102.54 332 *e*PP PP 09 33 59.4 -3.1
HOMB *e*SKSac **SKSac 09 40 17.6 -0.3**
PRU Pruhonice 102.63 323 *e*PDIFF **Pdif 09 29 50.1 +0.8**
PRU *e*pP 09 30 16.6
PRU *e*PP **PKiKP 09 34 07.1 -2.7**
PRU *e*SKS 09 40 19.0
PRU *ex* x 09 42 52.3
PRU Pruhonice 102.63 323 *e*P **Pdif 09 29 50.1 +0.8**
PRU *e* 09 34 07.1
PRU *e* 09 40 19.0
PRU *e* 09 42 52.3
PRA Prague 102.67 323 *e*PP PP 09 34 07.9 +4.0
BRG Berggiesshubel 102.68 324 *e*PDIF **Pdif 09 29 49.7 +0.2**
comp=Z,71nm,2.0s
BRG *e*pP 09 30 15.9
comp=Z,25nm,1.6s
BRG *e*sP 09 30 32.5
comp=Z,10nm,1.2s
BRG *e*PP PP 09 33 54.6 -9.4
comp=Z,228nm,2.3s
BRG SKS **SKSac 09 40 14.0 -4.9**
BRG SDIFF **SKKSac 09 41 00.0 +1.1**
BRG SS SS 09 48 01.0 -34
BRG Berggiesshubel 102.68 324 *e*Pdiff **Pdif 09 29 49.3 -0.2**
BRG *e*PP **PP 09 34 03.9 0.0**
BRG *e*PPP PPP 09 36 15.8
BRG *e*SKSac **SKSac 09 40 16.8 -2.1**
BRG Berggiesshubel 102.68 324 *e*P **Pdif 09 29 49.7 +0.2**
BRG 09 40 14.0
BRG S **SKKSac 09 41 00.0 +1.1**
BRG pmax pmax
comp=Z,71nm,2.0s
BRG pmax pmax
comp=Z,25nm,1.6s
BRG pmax pmax
comp=N,10.0nm,1.2s
BRG pmax pmax
comp=Z,228nm,2.3s
BRG MLR MLR
comp=N,802nm,19.1s
BRG MLR MLR
comp=E,853nm,19.5s
BRG MLR MLR
comp=Z,2μm,19.9s
M04C Macdoel 102.75 46 P **Pdif 09 29 51.7 +1.5**
baz=103
J05D Fort Rock, OR 102.76 45 P **Pdif 09 29 51.9 +1.6**
baz=103
BOSA Boshof 102.78 241 P **Pdif 09 29 54.4 +3.7**
comp=Z,2.0nm,0.7s,baz=76,slow=5.2,SNR=5.3
BOSA PKKPbc **PKKPbc 09 45 50.1 +0.7**
comp=Z,1.6nm,0.8s,baz=230,slow=4.6,SNR=4.2
SUE Sulen 102.83 335 *e*PP PP 09 34 06.5 +1.8
SUE *e*SKSac **SKSac 09 40 21.1 +2.0**
BLS5 Blasjo 102.93 334 *e*PP PP 09 34 04.9 -0.6
BER Bergen 102.94 335 *e*PP PP 09 34 06.3 +0.8

BER eSKSac **SKSac** 09 40 20.1 +0.5
ARSA Arzberg 102.94 320⇑ *i* Pdiff **Pdif** 09 29 50.4 -0.4
comp=Z,106nm,3.6s
ARSA ⇑ *i* PP **PP** 09 34 07.3 +1.2
comp=Z,422nm,3.8s
HAWA Hanford 102.98 41 *e* Pdif **Pdif** 09 29 52.3 +1.3
MUD Monsted U'grnd 103.04 330 *i* P **Pdif** 09 29 50.9 0.0
MUD Monsted U'grnd 103.04 330 *e* P **Pdif** 09 29 50.9 0.0
MUD MLR MLR
comp=Z,1μm,18.0s
CLL Collm 103.07 324 *e* Pdiff **Pdif** 09 29 50.7 -0.5
CLL *e* PP **PP** 09 34 06.3 -0.5
CLL eSKSac **SKSac** 09 40 18.1 -2.6
CLL Collm 103.07 324 *i* P **Pdif** 09 29 50.9 -0.3
CLL *e* 09 34 09.0
CLL *e* 09 40 21.0
CLL pmax pmax
comp=Z,41nm,1.8s
CLL pmax pmax
comp=Z,176nm,2.4s
CLL pmax pmax
comp=Z,96nm,1.8s
CLL Collm 103.07 324 *i* Pdif **Pdif** 09 29 50.9 -0.3
comp=Z,41nm,1.8s
CLL *e* 09 29 57.0
CLL *e* PDif **PDif** 09 30 16.0 -4.5
CLL *es* Pdif sPdif 09 30 25.0 -7.3
CLL *e* PP **PKiKP** 09 34 09.0 -1.5
comp=Z,176nm,2.4s
CLL *i* PKiKP PP 09 34 12.3 +5.5
comp=Z,96nm,1.8s
CLL *es* PP 09 34 43.0
CLL *e* PPP PPP 09 36 18.0
CLL eSKSac **SKSac** 09 40 21.0 +0.3
CLL *e* SP **SP** 09 43 00.0 -3.6
CLL *e* PPS PPS 09 44 05.0
CLL *e* 09 45 28.0
CLL *e* SS **SS** 09 48 42.0 +1.9
CLL *e* SSS SSS 09 52 36.0
CLL LmV 10 22 00.0
comp=Z,1μm,20.0s
PERS Pernice 103.41 319 *e* Pdiff **Pdif** 09 29 52.4 -0.6
PERS *e* PP **PP** 09 34 07.2 -2.4
PERS eSKSac **SKSac** 09 40 20.4 -2.2
CRES Cresnjev 103.45 318 *e* Pdiff **Pdif** 09 29 53.0 0.0
SOKA Soboth 103.45 319⇓ *i* Pdiff **Pdif** 09 29 53.1 -0.1
comp=Z,112nm,3.7s
SOKA ⇑ *i* PP **PP** 09 34 07.5 -2.4
comp=Z,575nm,5.6s
BSEG Bad Segeberg 103.53 327 *e* Pdiff **Pdif** 09 29 53.0 -0.2
BSEG *e* PP **PP** 09 34 09.5 -0.6
BSEG *e* PPP PPP 09 36 21.8
BSEG eSKSac **SKSac** 09 40 22.3 -0.4
MOA Molln 103.54 321⇑ *i* Pdiff **Pdif** 09 29 54.1 +0.6
comp=Z,294nm,4.4s
GERES GERESS Array B 103.55 322 Pdiff **Pdif** 09 29 53.9 +0.3
comp=Z,1.0nm,0.6s,baz=57,slow=3.6,SNR=12
GERES PKiKP **PP** 09 34 10.9 +0.3
comp=Z,4.6nm,0.9s,baz=70,slow=2.3,SNR=6.1
KMY Karmoy 103.57 334 *e* PP PP 09 34 10.3 +0.1
KMY eSKSac **SKSac** 09 40 23.4 +0.8
BOJS Bojanci 103.69 318 *e* Pdiff **Pdif** 09 29 54.1 0.0
TANN Tannenbergstha 103.72 324 *e* Pdiff **Pdif** 09 29 54.0 -0.3
TANN *e* PP **PP** 09 34 11.8 0.0
TANN *e* PPP PPP 09 36 22.8
TANN eSKSac **SKSac** 09 40 22.2 -1.7
NKC Novy Kostel 103.80 323 *e* PP PP 09 34 16.0 +3.6
VISS Visnje 103.86 319 *e* Pdiff **Pdif** 09 29 54.7 -0.2
NEW Newport 103.89 39 *e* P **Pdif** 09 29 55.8 +0.7
NEW pmax pmax
comp=Z,6.0nm,1.1s
NEW Newport 103.89 39 P **Pdif** 09 29 55.8 +0.7
baz=104
NEW Newport 103.89 39 *e* Pdif **Pdif** 09 29 55.8 +0.7
comp=Z,5.7nm,1.1s
WET Wettzell 103.95 322 *e* Pdiff **Pdif** 09 29 55.2 0.0
WET *e* PP **PP** 09 34 13.6 +0.1
WET eSKSac **SKSac** 09 40 23.4 -1.5
LJU Ljubljana 103.99 319 *e* Pdiff **Pdif** 09 29 55.0 -0.5
LJU *e* PP **PP** 09 34 14.5 +0.6
SCO Scoresbysund 104.01 350 *i* P **Pdif** 09 29 57.3 +2.3
SCO Scoresbysund 104.01 350 *e* P **Pdif** 09 29 57.3 +2.3
SCO MLR MLR
comp=Z,990nm,21.0s
SUMG Summit 104.07 356 *i* P **Pdif** 09 29 56.9 +1.1
SUMG Summit 104.07 356 *i* P **Pdif** 09 29 56.9 +1.1
ROTZ Rotzenmuhle 104.12 323 *e* Pdiff **Pdif** 09 29 56.3 +0.3
ROTZ *e* PP **PP** 09 34 15.1 +0.4
ROTZ eSKSac **SKSac** 09 40 25.1 -0.6
MOX Moxa 104.14 324 *e* Pdiff **Pdif** 09 29 55.8 -0.2
MOX *e* PP **PP** 09 34 14.7 -0.1
MOX *e* PPP PPP 09 36 26.0
MOX eSKSac **SKSac** 09 40 23.7 -2.0
EDM Edmonton 104.16 33 *e* P **Pdif** 09 29 55.0 -1.1
EDM pmax pmax
comp=Z,6.0nm,0.8s
EDM Edmonton 104.16 33 *e* Pdif **Pdif** 09 29 55.0 -1.1
comp=Z,6.1nm,0.8s
CLZ Clausthal 104.37 325 *e* Pdiff **Pdif** 09 29 57.1 0.0
CLZ *e* PP **PP** 09 34 16.8 +0.3
CLZ eSKSac **SKSac** 09 40 25.6 -1.2
CADS Cadrg 104.44 319 *e* Pdiff **Pdif** 09 29 56.5 -1.0
CADS *e* PP **PKiKP** 09 34 13.1 -0.2
CADS *e* 09 34 20.3
CADS *e* 09 36 28.1
CADS eSKSac **SKSac** 09 40 25.2 -2.2
RJOB Jochberg 104.51 321 *e* Pdiff **Pdif** 09 29 57.3 -0.5
RJOB *e* PP **PP** 09 34 19.3 +1.5
RJOB eSKSac **SKSac** 09 40 23.5 -4.2
TIP Timpagrande 104.52 312 *e* Pdif **Pdif** 09 29 58.2 +0.1
comp=Z,14nm,1.6s
GRF Grafenberg Arr 104.74 323 *e* Pdiff **Pdif** 09 29 58.9 +0.2
GRF *e* 09 30 26.1
GRF *e* PP **PP** 09 34 19.8 +0.5
GRF *e* PPP PPP 09 36 31.7
GRF eSKSac **SKSac** 09 40 27.0 -1.5
WVOR Wild Horse Val 104.84 45 *e* P **Pdif** 09 30 00.5 +1.0
WVOR pmax pmax
comp=Z,3.0nm,0.8s
WVOR Wild Horse Val 104.84 45 *e* Pdif **Pdif** 09 30 00.5 +1.0
comp=Z,3.4nm,0.8s
SNAA Sanae 104.88 194 P **Pdif** 09 30 03.3 +4.4
SNAA Sanae 104.88 194 P **PKKPbc** 09 45 41.8 -2.8
SNAA Sanae 104.88 194 Pdiff **Pdif** 09 30 00.3 +1.4
comp=Z,1.0nm,0.6s,baz=179,slow=6.5,SNR=18
SNAA PKKPbc **PKKPbc** 09 45 42.4 -2.3
comp=Z,2.0nm,0.7s,baz=260,slow=2.6,SNR=37
SNAA PKKPab **PKKPab** 09 45 59.6 -1.0
comp=Z,1.5nm,0.8s,baz=324,slow=4.5,SNR=6.2
UBBA Unterbreizbach 105.00 325 *e* Pdiff **Pdif** 09 29 59.7 0.0
UBBA *e* PP **PP** 09 34 20.9 -0.2
UBBA eSKSac **SKSac** 09 40 28.0 -1.4
ABTA Abfaltersbach 105.05 320⇑ *i* Pdiff **Pdif** 09 29 59.1 -1.1
comp=Z,88nm,4.3s
FUR Furstenfeldbru 105.30 322 *e* Pdiff **Pdif** 09 30 01.2 -0.1
FUR *e* PP **PP** 09 34 23.7 +0.2
FUR eSKSac **SKSac** 09 40 28.0 -3.1
BSMT Bassoo Peak 105.50 39 *e* Pdif **Pdif** 09 30 03.5 +1.0
comp=Z,9.4nm,1.3s
IBBN Ibbenburen 105.63 327 *e* Pdiff **Pdif** 09 30 02.4 -0.2
IBBN *e* PP **PP** 09 34 25.0 -0.7
IBBN eSKSac **SKSac** 09 40 31.0 -1.3
FETA Feichten 106.08 321⇑ *i* Pdiff **Pdif** 09 30 04.8 -0.1
comp=Z,85nm,4.0s
TNS Taunus Mts 106.16 324 *e* Pdiff **Pdif** 09 30 05.2 +0.1
TNS *e* PP **PP** 09 34 28.8 -1.0
TNS eSKSac **SKSac** 09 40 34.3 -0.6
BUG Bochum--Univer 106.29 326 *e* Pdiff **Pdif** 09 30 05.3 -0.2
BUG *e* PP **PP** 09 34 30.0 -0.6
BUG *e* PPP PPP 09 36 43.2
BUG eSKSac **SKSac** 09 40 34.2 -1.0
NVAR Mina Array Bea 106.31 49 Pdiff **Pdif** 09 30 07.4 +1.2
comp=Z,1.6nm,0.7s,baz=258,slow=5.1,SNR=12
NVAR PKiKP **PKiKP** 09 34 19.3 +2.1
comp=Z,1.1nm,0.7s,baz=270,slow=1.8,SNR=5.1
NVAR PKKPbc **PKKPbc** 09 45 37.1 -2.2
comp=Z,0.3nm,0.7s,baz=216,slow=4.5,SNR=2.4
NVAR PKKPab **PKKPab** 09 45 54.8 -0.5
comp=Z,0.7nm,0.8s,baz=131,slow=2.7,SNR=4.0
STU Stuttgart 106.33 323 *e* Pdiff **Pdif** 09 30 05.7 -0.1
STU *e* PP **PP** 09 34 30.0 -1.0
STU eSKSac **SKSac** 09 40 32.6 -3.0
MFID Camas Ranch 106.46 43 *e* Pdif **Pdif** 09 30 08.0 +1.3
comp=Z,2.6nm,0.8s
VNA2 Neumayer--Watz 106.48 194 P **PKiKP** 09 34 18.0 +1.7
baz=97,slow=1.1
VNA2 Neumayer--Watz 106.48 194 P **PKKPbc** 09 45 37.1 -2.5
baz=319,slow=6.9
VNA1 Neumayer--Stat 106.88 194 P **PKKPbc** 09 45 36.7 -1.6
BFO Black Forest 107.03 323 *e* Pdiff **Pdif** 09 30 08.6 -0.4
BFO *e* PP **PP** 09 34 36.5 +0.3
BFO eSKSac **SKSac** 09 40 36.1 -2.7
HLID Hailey 107.36 43 P **PKiKP** 09 34 21.0 +2.0
baz=107
WLF Walferdange 107.73 325 *e* Pdiff **Pdif** 09 30 12.6 +0.6
WLF *e* PP **PP** 09 34 40.5 -0.7
WLF *e* PPP PPP 09 36 56.3
WLF eSKSac **SKSac** 09 40 41.2 -0.5
ILULI Ilulissat 107.93 360 *i* P **Pdif** 09 30 13.4 +1.0
R11A Troy Canyon, C 108.36 48 P **PKiKP** 09 34 23.2 +2.2
baz=108
BOZ Bozeman (W) 108.37 40 P **PKiKP** 09 34 21.7 +1.0
baz=108
BOZ Bozeman (W) 108.37 40 *e* PKPdf **PKiKP** 09 34 23.0 +2.3
EGMT Eagleton 108.50 37 P **PKiKP** 09 34 21.7 +0.8
baz=108
EGMT Eagleton 108.50 37 *e* PKPdf **PKiKP** 09 34 21.6 +0.8
FFC Flin Flon 109.19 28 *e* P **Pdif** 09 30 18.0 -0.4
FFC Flin Flon 109.19 28 *e* Pdif **Pdif** 09 30 18.0 -0.4
C20A Veseth Ranch, 109.69 37 P **PKiKP** 09 34 23.3 +0.3
baz=110
TPAW Teton Pass 109.71 42 *e* PKPdf **PKiKP** 09 34 25.9 +2.4
DUG Dugway 109.72 45 P **PKiKP** 09 34 24.9 +1.5
baz=110
REDW Red Top Meadow 109.83 42 *e* PKPdf **PKiKP** 09 34 25.1 +1.4
SNOW Snow King Moun 109.85 42 *e* PKPdf **PKiKP** 09 34 25.3 +1.6
LOHW Long Hollow 109.89 41 *e* PKPdf **PKiKP** 09 34 24.8 +1.0
SFJD Kangerlussuaq 110.16 359 *i* P **Pdif** 09 30 24.3 +1.9
SFJD Kangerlussuaq 110.16 359 *e* P **Pdif** 09 30 24.3 +1.9
C21A Desert Coulee 110.17 36 P **PKiKP** 09 34 24.7 +0.8
baz=110
G20A Bridger 110.72 39 P **PKiKP** 09 34 26.4 +1.2
baz=111
PDMCI Parker Dam,Lak 110.78 52 P **PKiKP** 09 34 26.9 +1.5
baz=111
MSU Marysvale 110.81 47 *e* PKIKP **PKiKP** 09 34 26.7 +1.1
MSU Marysvale 110.81 47 *e* PKPdf **PKiKP** 09 34 26.7 +1.1
PDAR Pinedale Array 110.94 42 Pdiff **Pdif** 09 30 27.7 +1.0
comp=Z,0.2nm,0.6s,baz=212,slow=3.2,SNR=2.2
PDAR PKiKP **PKiKP** 09 34 26.9 +1.1
comp=Z,0.5nm,0.6s,baz=330,slow=2.4,SNR=5.7
PDAR PP **PP** 09 35 03.1 -1.8
comp=Z,1.3nm,0.7s,baz=313,slow=2.5,SNR=5.0
PDAR PKKPbc **PKKPbc** 09 45 21.8 -3.1
comp=Z,1.9nm,0.8s,baz=138,slow=5.9,SNR=5.1
H20A Greybull 111.19 40 P **PKiKP** 09 34 26.9 +0.9
baz=111
KEST Kesra 111.20 310 PP PP 09 35 03.6 -3.3
comp=Z,4.4nm,0.9s,baz=227,slow=3.4,SNR=8.1
KEST Kesra 111.20 310 *e* PKPdf **PKiKP** 09 34 27.5 +1.2
KEST PP **PP** 09 35 03.6 -3.3
LAO LASA Array 111.25 37 P **PKiKP** 09 34 27.5 +1.5
baz=111
LAO LASA Array 111.25 37 *e* PKPdf **PKiKP** 09 34 27.3 +1.3
I20A Worland 111.36 40 P **PKiKP** 09 34 27.1 +0.7
baz=111
E22A Miles City 111.54 37 P **PKiKP** 09 34 27.7 +1.2
baz=111
J20A Shoshoni 111.65 41 P **PKiKP** 09 34 28.0 +1.1
baz=112
F22A Rosebud 111.67 38 P **PKiKP** 09 34 27.7 +0.9
baz=112
SRU San Rafael 111.77 46 *e* PKIKP **PKiKP** 09 34 28.5 +1.1
SRU San Rafael 111.77 46 *e* PKPdf **PKiKP** 09 34 28.5 +1.1
A25A Svangstu Ranch 111.88 34 P **PKiKP** 09 34 28.4 +1.3
baz=112
E23A Ismay 111.89 37 P **PKiKP** 09 34 28.5 +1.3
baz=112
I21A Big Trails, Te 111.95 40 P **PKiKP** 09 34 27.8 +0.2
baz=112
J21A Lysite 112.07 41 P **PKiKP** 09 34 28.8 +0.9
baz=112
D24A Glendive 112.16 36 P **PKiKP** 09 34 29.0 +1.3
baz=112
F23A Volborg 112.22 38 P **PKiKP** 09 34 28.7 +0.8
baz=112
I22A 9 Mile Ranch, 112.44 40 P **PKiKP** 09 34 29.3 +0.8
baz=112
G23A Biddle 112.49 38 P **PKiKP** 09 34 29.0 +0.6
baz=112
A26A Wade Farm, Ken 112.50 33 P **PKiKP** 09 34 29.4 +1.2
baz=112
WUAZ Wupatki 112.50 50 P **PKiKP** 09 34 30.2 +1.3
baz=112
WUAZ Wupatki 112.50 50 *e* PKPdf **PKiKP** 09 34 30.9 +2.0
J22A Midwest 112.66 40 P **PKiKP** 09 34 29.1 +0.2
baz=113
F24A Ekalaka 112.74 37 P **PKiKP** 09 34 28.7 -0.2
baz=113
A27A Ledoux Ranch, 112.90 33 P **PKiKP** 09 34 30.1 +1.1
baz=113
O20A White River Ci 112.96 44 P **PKiKP** 09 34 31.0 +1.4
baz=113
O20A White River Ci 112.96 44 *e* PKPdf **PKiKP** 09 34 30.7 +1.0
K22A Casper 112.99 41 P **PKiKP** 09 34 29.9 +0.3
baz=113
E25A Miller Ranch, 113.02 36 P **PKiKP** 09 34 30.5 +1.1
baz=113
PV04 Paradox Valley 113.22 46 *e* PKPdf **PKiKP** 09 34 31.7 +1.5
H24A Dirks Ranch, A 113.23 38 P **PKiKP** 09 34 30.1 +0.2
baz=113
D26A Manning 113.30 35 P **PKiKP** 09 34 31.1 +1.3
baz=113
A28A Rude Farm, Bot 113.45 33 P **PKiKP** 09 34 31.0 +0.9
baz=113
C27A Sayler Ranch, 113.45 34 P **PKiKP** 09 34 30.9 +0.8
baz=113
PV01 Paradox Valley 113.56 46 *e* PKPdf **PKiKP** 09 34 32.8 +1.8
E26A Carlson Angus 113.58 36 P **PKiKP** 09 34 31.4 +1.0
baz=113
B28A Dugan Ranch, T 113.66 33 P **PKiKP** 09 34 31.4 +0.9
baz=114
G25A Newell 113.69 37 P **PKiKP** 09 34 31.1 +0.4
baz=114
F26A Lodgepole 113.80 36 P **PKiKP** 09 34 31.7 +0.8
baz=114
RSSD Black Hills 113.86 38 *e* PKIKP **PKiKP** 09 34 31.5 +0.2
RSSD Black Hills 113.86 38 *e* PKPdf **PKiKP** 09 34 31.5 +0.2
H25A Fruitdale 113.88 38 P **PKiKP** 09 34 31.7 +0.6
baz=114
A29A Manning Farm, 113.99 32 P **PKiKP** 09 34 31.6 +0.5
baz=114
MVCO Mesa Verde 114.00 47 P **PKiKP** 09 34 33.4 +1.7
baz=114
MVCO Mesa Verde 114.00 47 *e* PKPdf **PKiKP** 09 34 33.0 +1.3
C28A Hausauer Farms 114.07 34 P PKPdf 09 34 32.5 +1.1
baz=114
E27A Carson 114.13 35 P PKPdf 09 34 32.5 +1.0
baz=114
G26A Maurine 114.13 37 P PKPdf 09 34 32.3 +0.7
baz=114
F27A Lemmon 114.17 36 P PKPdf 09 34 32.1 +0.5
baz=114
B29A Wagenman Farm, 114.20 33 P PKPdf 09 34 32.1 +0.6
baz=114
SMCO Snowmass 114.25 44 *e* PKPdf PKPdf 09 34 34.5 +2.1
D28A Regan 114.27 34 P PKPdf 09 34 32.7 +1.0
baz=114
J25A Sunshine Ranch 114.38 39 P PKPdf 09 34 32.5 +0.3
baz=114
H26A Fairpoint 114.39 38 P PKPdf 09 34 32.7 +0.6
baz=114
MDND Maddock 114.43 33 P PKPdf 09 34 32.5 +0.5
baz=114
MDND Maddock 114.43 33 *e* PKPdf PKPdf 09 34 32.7 +0.7
A30A Hoffart Farm, 114.47 32 P PKPdf 09 34 32.3 +0.3
baz=114
G27A Dupree 114.49 36 P PKPdf 09 34 32.8 +0.6
baz=114
E28A Huff 114.55 35 P PKPdf 09 34 32.6 +0.4
baz=114
I26A New Underwood 114.64 38 P PKPdf 09 34 33.1 +0.6
baz=114
K25A Mack Ranch, Ha 114.72 40 P PKPdf 09 34 33.2 +0.4
baz=115
B30A Myrvik Farm, E 114.76 32 P PKPdf 09 34 32.7 +0.1
baz=115
H27A Howes 114.80 37 P PKPdf 09 34 33.3 +0.5
baz=115
J26A Sides Ranch, S 114.88 39 P PKPdf 09 34 33.7 +0.6
baz=115
F28A McLaughlin 114.89 36 P PKPdf 09 34 33.7 +0.7
baz=115
ISCO Idaho Springs 114.92 43 *e* PKIKP PKPdf 09 34 34.4 +0.8
ISCO Idaho Springs 114.92 43 P PKPdf 09 34 34.7 +1.1
baz=115
ISCO Idaho Springs 114.92 43 *e* PKPdf PKPdf 09 34 34.4 +0.8
S22A 4UR Ranch, Cre 114.98 46 P PKPdf 09 34 35.8 +2.1
baz=115
I27A Quinn 115.11 38 P **PKPdf** 09 34 33.8 +0.3
baz=115
K26A Motz Farm, Whi 115.12 39 P **PKPdf** 09 34 33.8 +0.3
baz=115
C30A Mose, Pekin 115.12 33 P **PKPdf** 09 34 33.7 +0.4
baz=115
G28A Parade 115.25 36 P **PKPdf** 09 34 34.2 +0.5
baz=115
D30A Buchanan 115.33 34 P **PKPdf** 09 34 34.0 +0.2
baz=115
H28A Mission Ridge 115.41 37 P **PKPdf** 09 34 34.5 +0.5
baz=115
F29A Eureka 115.46 35 P **PKPdf** 09 34 34.4 +0.3
baz=115
J27A Elkhorn Farm, 115.57 38 P **PKPdf** 09 34 35.4 +1.0
baz=115
E30A Jud 115.60 34 P **PKPdf** 09 34 34.7 +0.4
baz=115
I28A Midland 115.69 37 P **PKPdf** 09 34 35.2 +0.6
baz=116
K27A Flueckinger Fa 115.72 39 P **PKPdf** 09 34 34.9 +0.2
baz=116
G29A Hoven 115.77 36 P **PKPdf** 09 34 34.7 0.0
baz=116
H29A Onida 115.92 36 P **PKPdf** 09 34 35.2 +0.2
baz=116
F30A Leola 115.92 35 P **PKPdf** 09 34 35.3 +0.3
baz=116
SDCO Great Sand Dun 115.92 45 P **PKPdf** 09 34 36.9 +1.3
baz=116
SDCO Great Sand Dun 115.92 45 *e* PKPdf **PKPdf** 09 34 36.1 +0.6
J28A Allard Ranch, 115.96 38 P **PKPdf** 09 34 35.7 +0.5
baz=116
LAZ Ladron 116.14 49 *e* PKPdf **PKPdf** 09 34 35.1 -0.9
I29A Vivian Onida 116.20 37 P **PKPdf** 09 34 35.7 +0.2
baz=116
M27A Reverse DX Ran 116.22 40 P **PKPdf** 09 34 36.2 +0.4
baz=116
K28A Ten Mile Ranch 116.26 39 P **PKPdf** 09 34 36.2 +0.4
baz=116
G30A Faulkton 116.26 35 P **PKPdf** 09 34 35.5 -0.1
baz=116
121A Cookes Peak, D 116.38 51 P **PKPdf** 09 34 37.8 +1.4
baz=116
ANMO Albuquerque 116.43 48 *e* PKIKP **PKPdf** 09 34 37.5 +1.0
ANMO Albuquerque 116.43 48 *e* PKPdf **PKPdf** 09 34 37.5 +1.0
J29A Okreek 116.53 38 P **PKPdf** 09 34 36.3 +0.2
baz=116
P26A Davis Ranch, A 116.57 43 P **PKPdf** 09 34 37.4 +0.8
baz=116
Q26A Hugo 116.76 43 P **PKPdf** 09 34 38.1 +1.2
baz=117
I30A Oacoma 116.78 37 P **PKPdf** 09 34 36.9 +0.3
baz=117
K29A Lazy Trails An 116.88 38 P **PKPdf** 09 34 37.4 +0.4
baz=117
T25A Trinidad 116.97 45 P **PKPdf** 09 34 38.9 +1.4
baz=117
J30A Dallas 117.08 37 P **PKPdf** 09 34 37.5 +0.2
baz=117
P27A Ficken Ranch, 117.09 42 P **PKPdf** 09 34 38.3 +0.8
baz=117
R26A Arlington 117.11 44 P **PKPdf** 09 34 38.5 +1.0
baz=117
N28A Pribbeno Ranch 117.20 41 P **PKPdf** 09 34 38.1 +0.4
baz=117
KSCO Kaye Shedlock' 117.33 43 *e* PKPdf **PKPdf** 09 34 39.0 +1.0
O28A Krutsinger Ran 117.34 41 P **PKPdf** 09 34 37.9 0.0
baz=117
M29A Burnside Ranch 117.36 40 P **PKPdf** 09 34 37.9 0.0
baz=117
K30A Basset 117.36 38 P **PKPdf** 09 34 38.4 +0.5
baz=117
T26A Comanche Natio 117.53 45 P **PKPdf** 09 34 39.5 +0.9
baz=117
R27A Eads 117.56 44 P **PKPdf** 09 34 39.5 +1.1
baz=117
P28A Saint Francis 117.63 42 P **PKPdf** 09 34 39.1 +0.6
baz=118
Q28A Sharon Springs 117.84 42 P **PKPdf** 09 34 39.9 +0.9
baz=118
O29A 4D Ranch, Culb 117.98 41 P **PKPdf** 09 34 39.4 +0.3
baz=118
N30A Hueftle Ranch, 118.08 40 P **PKPdf** 09 34 39.9 +0.6
baz=118
L31A Butterfield Fa 118.12 38 P **PKPdf** 09 34 39.2 -0.1
baz=118
T27A Campo 118.20 45 P **PKPdf** 09 34 40.9 +1.2
baz=118
R28A Tribune 118.21 43 P **PKPdf** 09 34 40.7 +1.1
baz=118
U27A Thompson Grove 118.43 45 P **PKPdf** 09 34 41.0 +0.8
baz=118
O30A MW Ranch, Wils 118.44 41 P **PKPdf** 09 34 40.1 +0.1
baz=118
M31A Lambtecht Ranc 118.49 39 P **PKPdf** 09 34 40.0 -0.1
baz=118
Q29A Oakley 118.50 42 P **PKPdf** 09 34 40.9 +0.7
baz=118
TAM Tamanrasset 118.50 298 *e* PKIKP **PKPdf** 09 34 41.8 +1.1
TAM Tamanrasset 118.50 298 *e* PKPdf **PKPdf** 09 34 41.8 +1.1
S28A Manter 118.52 44 P **PKPdf** 09 34 41.1 +0.8
baz=118
ECSD EROS Data Cent 118.55 36 P **PKPdf** 09 34 40.4 +0.3
baz=118
ECSD EROS Data Cent 118.55 36 *e* PKPdf **PKPdf** 09 34 40.3 +0.3
EYMN Ely 118.57 29 P **PKPdf** 09 34 40.4 +0.4
baz=118
EYMN Ely 118.57 29 *e* PKPdf **PKPdf** 09 34 39.6 -0.4
T28A Walsh 118.60 44 P **PKPdf** 09 34 41.2 +0.7
baz=118
R29A Marienthal 118.63 43 P **PKPdf** 09 34 41.2 +0.8
baz=118
P30A Selden 118.65 41 P **PKPdf** 09 34 40.9 +0.5
baz=118
O31A Woolen Ranch, 118.92 40 P **PKPdf** 09 34 40.9 0.0
baz=119
ESDC Sonseca Array 118.95 319 PKP **PKPdf** 09 34 41.7 +0.7
comp=Z,1.5nm,0.6s,baz=22,slow=1.5,SNR=10
ESDC PP **PP** 09 36 01.8 +0.7
comp=Z,2.8nm,0.7s,baz=60,slow=6.0,SNR=8.8
ESDC PKKPab **PKKPab** 09 45 00.4 +1.3
comp=Z,0.7nm,0.6s,baz=254,slow=3.1,SNR=4.7
Q30A Quinter 118.96 42 P **PKPdf** 09 34 41.6 +0.6
baz=119
BGNE Belgrade 118.97 38 P **PKPdf** 09 34 41.0 0.0
baz=119
BGNE Belgrade 118.97 38 *e* PKPdf **PKPdf** 09 34 41.3 +0.4
S29A Ulysses 119.05 44 P **PKPdf** 09 34 42.3 +1.1
baz=119
L33A Hoskins 119.08 37 P **PKPdf** 09 34 40.9 -0.2
baz=119
T29A Hugoton 119.15 44 P **PKPdf** 09 34 42.2 +0.7
baz=119
V28A Channing 119.17 46 P **PKPdf** 09 34 42.8 +1.1
baz=119
P31A Stockton 119.23 41 P **PKPdf** 09 34 41.9 +0.4
baz=119
N32A Stulken Farm, 119.25 39 P **PKPdf** 09 34 41.5 0.0
baz=119
PAB San Pablo 119.27 319 *e* PKIKP **PKPdf** 09 34 42.6 +1.0
PAB San Pablo 119.27 319 *e* PKPdf **PKPdf** 09 34 42.6 +1.0
R30A Dighton 119.28 42 P **PKPdf** 09 34 42.5 +0.8
baz=119
CBKS Cedar Bluff 119.37 42 *e* PKIKP **PKPdf** 09 34 42.3 +0.5
CBKS *e* P 09 36 02.1
CBKS Cedar Bluff 119.37 42 P **PKPdf** 09 34 42.3 +0.5
baz=119
CBKS Cedar Bluff 119.37 42 *e* PKPdf **PKPdf** 09 34 42.3 +0.5
CBKS *e* PP **PP** 09 36 02.1 -1.8
W28A Vega 119.42 46 P **PKPdf** 09 34 42.9 +0.8
baz=119
M33A Taylor Creek F 119.47 38 P **PKPdf** 09 34 41.6 -0.3
baz=119
S30A Montezuma 119.48 43 P **PKPdf** 09 34 43.1 +1.0
baz=119
Q31A Ellis 119.49 41 P **PKPdf** 09 34 42.7 +0.6

	baz=119								
PBRG	Braganca	119.52	323	*e*PP		PP		09 36 06.5	+1.7
O32A	Brockman Farm,	119.54	40	P		PKPdf		09 34 42.0	0.0
	baz=119								
V29A	Stinnett	119.62	45	P		PKPdf		09 34 43.5	+1.1
	baz=120								
P32A	Huiting Farm,	119.68	40	P		PKPdf		09 34 42.6	+0.3
	baz=120								
SPMN	St. Paul	119.73	32	P		PKPdf		09 34 42.5	+0.3
	baz=120								
SPMN	St. Paul	119.73	32	*e*PKPdf		PKPdf		09 34 42.7	+0.5
SPMN				*e*PP		PP		09 36 05.2	-0.8
T30A	Plains	119.74	44	P		PKPdf		09 34 43.3	+0.7
	baz=120								
L34A	Svendsen Farm,	119.74	37	P		PKPdf		09 34 42.2	-0.1
	baz=120								
X28A	Dimmitt	119.77	47	P		PKPdf		09 34 43.6	+0.8
	baz=120								
R31A	Burdett	119.78	42	P		PKPdf		09 34 43.2	+0.6
	baz=120								
N33A	J Bar K, Exete	119.79	39	P		PKPdf		09 34 42.3	-0.2
	baz=120								
W29A	Amraillo	119.89	46	P		PKPdf		09 34 43.9	+0.9
	baz=120								
U30A	WK&E Inc. Balk	119.91	44	P		PKPdf		09 34 44.2	+1.2
	baz=120								
Y28A	McKinney Farm,	120.01	48	P		PKPdf		09 34 44.3	+1.0
	baz=120								
Q32A	Meitler Ranch,	120.05	41	P		PKPdf		09 34 43.7	+0.7
	baz=120								
MVO	Moncorvo	120.06	322	*e*PKPdf		PKPdf		09 34 44.7	+1.6
MVO	Moncorvo	120.06	322	*e*PP		PP		09 36 10.3	+1.7
O33A	Hebron	120.08	39	P		PKPdf		09 34 43.1	0.0
	baz=120								
L35A	Bielow Farm, R	120.15	36	P		PKPdf		09 34 43.4	+0.3
	baz=120								
S31A	Mullinville	120.16	43	P		PKPdf		09 34 44.1	+0.8
	baz=120								
X29A	Tulia	120.17	47	P		PKPdf		09 34 44.7	+1.1
	baz=120								
Z28A	Tucker Farm, M	120.19	48	P		PKPdf		09 34 44.1	+0.4
	baz=120								
R32A	Long Quarter,	120.26	42	P		PKPdf		09 34 44.2	+0.7
	baz=120								
V30A	Spur Ranch, Mi	120.26	45	P		PKPdf		09 34 44.8	+1.2
	baz=120								
T31A	Randall Ranch,	120.30	43	P		PKPdf		09 34 44.3	+0.7
	baz=120								
PGAV	Gavieira, Arco	120.34	323	*e*PKPdf		PKPdf		09 34 44.8	+1.2
PGAV	Gavieira, Arco	120.34	323	*e*PP		PP		09 36 12.4	+1.9
PCAB	Cabril	120.35	323	*e*PKPdf		PKPdf		09 34 44.9	+1.3
PCAB	Cabril	120.35	323	*e*PP		PP		09 36 12.0	+1.5
P33A	Williams Farm,	120.37	40	P		PKPdf		09 34 44.0	+0.3
	baz=120								
POLO	Lamas de Olo	120.41	323	*e*PKPdf		PKPdf		09 34 45.2	+1.4
POLO	Lamas de Olo	120.41	323	*e*PP		PP		09 36 12.4	+1.4
128A	Castleberry Fa	120.42	49	P		PKPdf		09 34 44.8	+0.8
	baz=120								
PVRL	Vila Real	120.42	323	*e*PKPdf		PKPdf		09 34 45.5	+1.8
PVRL	Vila Real	120.42	323	*e*PP		PP		09 36 13.6	+2.6
M35A	Neola	120.44	37	P		PKPdf		09 34 43.8	+0.1
	baz=120								
Y29A	Porterfield Fa	120.46	48	P		PKPdf		09 34 45.1	+1.0
	baz=120								
S32A	Newby Ranch, P	120.49	42	P		PKPdf		09 34 44.6	+0.6
	baz=120								
Q33A	Connelly Farm,	120.52	41	P		PKPdf		09 34 44.3	+0.3
	baz=120								
U31A	Nine Bar Ranch	120.55	44	P		PKPdf		09 34 45.4	+1.2
	baz=120								
228A	UT Block 9, Go	120.56	50	P		PKPdf		09 34 45.1	+0.8
	baz=120								
Z29A	Hungry Hill Ra	120.71	48	P		PKPdf		09 34 45.4	+0.8
	baz=121								
X30A	Coker Ranch, T	120.77	47	P		PKPdf		09 34 45.5	+0.8
	baz=121								
T32A	Huddler Ranch,	120.77	43	P		PKPdf		09 34 45.4	+0.8
	baz=121								
R33A	Olander Ranch,	120.80	41	P		PKPdf		09 34 45.1	+0.6
	baz=121								
MTE	Manteigas	120.83	322	*e*PKPdf		PKPdf		09 34 45.9	+1.3
MTE	Manteigas	120.83	322	*e*PP		PP		09 36 15.8	+1.9
MTE	Manteigas	120.83	322	*e*PKPdf		PKPdf		09 34 45.7	+1.1
N35A	Tabor	120.84	38	P		PKPdf		09 34 44.6	+0.1
	baz=121								
V31A	Spring Creek L	120.86	45	P		PKPdf		09 34 46.3	+1.5
	baz=121								
PVIS	Viseu	120.86	322	*e*PKPdf		PKPdf		09 34 46.2	+1.6
PVIS	Viseu	120.86	322	*e*PP		PP		09 36 15.9	+1.9
P34A	Walnut Farm, R	120.86	40	P		PKPdf		09 34 45.0	+0.3
	baz=121								
129A	Stewart Farms,	120.88	49	P		PKPdf		09 34 45.3	+0.4
	baz=121								
TXAR	Lajitas Array	120.89	53	PKP		PKPdf		09 34 45.2	+0.2
	comp=Z,1.9nm,0.6s,baz=300,slow=0.7,SNR=24								
TXAR				PKKPab		PKKPab		09 44 51.8	+1.0
	comp=Z,2.1nm,0.8s,baz=111,slow=5.9,SNR=13								
TXAR				PKKP		PKKPdf		09 45 22.1	-0.9
	comp=Z,1.9nm,1.0s,baz=93,slow=6.3,SNR=2.8								
Y30A	Stafford Cattl	121.02	47	P		PKPdf		09 34 46.1	+1.0
	baz=121								
SCHQ	Schefferville	121.04	10	PKP		PKPdf		09 34 44.7	+0.2
	comp=Z,3.0nm,0.4s,baz=290,slow=1.9,SNR=24								
SCHQ				PP		PP		09 36 14.2	-0.2
	comp=Z,6.0nm,0.8s,baz=334,slow=4.6,SNR=4.6								
SCHQ				PKKPbc		PKKPbc		09 44 48.6	-1.2
	comp=Z,3.5nm,0.8s,baz=161,slow=2.2,SNR=5.6								
W31A	Holland Ranch,	121.08	45	P		PKPdf		09 34 46.5	+1.3
	baz=121								
PCBR	Castelo Branco	121.11	321	*e*PKPdf		PKPdf		09 34 46.5	+1.5
PCBR	Castelo Branco	121.11	321	*e*PP		PP		09 36 19.1	+3.4
Z30A	Sanderson Ranc	121.13	48	P		PKPdf		09 34 45.8	+0.5
	baz=121								
U32A	Winter Ranch,	121.13	44	P		PKPdf		09 34 46.2	+0.9
	baz=121								
Q34A	Chapman	121.14	40	P		PKPdf		09 34 45.7	+0.5
	baz=121								
229A	Bryant Ranch,	121.22	50	P		PKPdf		09 34 46.6	+1.0
	baz=121								
T33A	Patterson Ranc	121.28	43	P		PKPdf		09 34 46.4	+0.9
	baz=121								
R34A	Isabella, Hill	121.29	41	P		PKPdf		09 34 45.9	+0.4
	baz=121								
PMRV	Marv??o	121.29	321	*e*PKPdf		PKPdf		09 34 46.3	+0.9
PMRV	Marv??o	121.29	321	*e*PP		PP		09 36 19.1	+2.1
329A	Wagon Wheel Ra	121.30	50	P		PKPdf		09 34 46.6	+0.8
	baz=121								
X31A	McDonald Ranch	121.33	46	P		PKPdf		09 34 46.5	+0.9
	baz=121								
P35A	Duane Minner,	121.38	39	P		PKPdf		09 34 45.6	0.0
	baz=121								
V32A	Arapaho	121.44	44	P		PKPdf		09 34 47.2	+1.4
	baz=121								
Y31A	Rekieta Farm,	121.45	47	P		PKPdf		09 34 46.6	+0.7
	baz=121								
130A	Snyder	121.57	49	P		PKPdf		09 34 46.9	+0.7
	baz=121								
W32A	Sentinel	121.60	45	P		PKPdf		09 34 46.7	+0.5
	baz=121								
PCAS	Casmilo, Conde	121.62	322	*e*PKPdf		PKPdf		09 34 47.1	+1.1
PCAS	Casmilo, Conde	121.62	322	*e*PP		PP		09 36 21.4	+2.2
SCIA	State Center	121.64	35	*e*PKPdf		PKPdf		09 34 46.9	+0.8
O36A	Bolckow	121.69	38	P		PKPdf		09 34 46.2	0.0
	baz=122								
529A	Stev Forest Ra	121.70	52	P		PKPdf		09 34 47.5	+0.9
	baz=122								
S34A	Willow Spring	121.71	41	P		PKPdf		09 34 46.4	+0.1
	baz=122								
U33A	Lingo Farm, Me	121.72	43	P		PKPdf		09 34 46.9	+0.6
	baz=122								
PESTR	Estremoz	121.74	320	*e*PP		PP		09 36 21.9	+1.8
429A	Davenport Ranc	121.74	51	P		PKPdf		09 34 47.3	+0.6
	baz=122								
Q35A	Mercer Eighty,	121.76	40	P		PKPdf		09 34 46.6	+0.2
	baz=122								
PBAR	Barrancos	121.78	319	*e*PKPdf		PKPdf		09 34 47.8	+1.4
PBAR	Barrancos	121.78	319	*e*PP		PP		09 36 22.1	+1.8
230A	Sterling City	121.78	49	P		PKPdf		09 34 47.2	+0.5
	baz=122								
P36A	Good Intent, A	121.84	39	P		PKPdf		09 34 46.1	-0.4
	baz=122								
Z31A	Sharp Cattle R	121.84	47	P		PKPdf		09 34 47.6	+0.9
	baz=122								
V33A	Lossen Ranch,	121.92	44	P		PKPdf		09 34 47.4	+0.7
	baz=122								
X32A	Elmer	121.93	46	P		PKPdf		09 34 47.4	+0.6
	baz=122								
330A	Mertzon	121.95	50	P		PKPdf		09 34 47.4	+0.3
	baz=122								
131A	Roby	121.96	48	P		PKPdf		09 34 47.8	+0.8
	baz=122								
Y32A	R-V Farms, Ver	122.02	46	P		PKPdf		09 34 47.9	+0.9
	baz=122								
T34A	McClaskey Farm	122.03	42	P		PKPdf		09 34 47.4	+0.4
	baz=122								
PMTG	Montargil	122.03	321	*e*PKPdf		PKPdf		09 34 47.9	+1.1
PMTG	Montargil	122.03	321	*e*PP		PP		09 36 24.1	+2.1
Q36A	Arnold C. Orve	122.06	39	P		PKPdf		09 34 46.7	-0.2
	baz=122								
U34A	Anderson Ranch	122.11	43	P		PKPdf		09 34 48.1	+1.0
	baz=122								
WMOK	Wichita Mounta	122.13	45	*e*PKIKP		PKPdf		09 34 47.7	+0.5
WMOK				*e*				09 36 22.4	
WMOK	Wichita Mounta	122.13	45	*e*PKPdf		PKPdf		09 34 47.7	+0.5
WMOK				*e*PP		PP		09 36 22.4	-0.6
W33A	Caddo, Fort Co	122.14	45	P		PKPdf		09 34 48.4	+1.2
	baz=122								
430A	Baggett Ranch,	122.18	51	P		PKPdf		09 34 48.5	+1.1
	baz=122								
S35A	Otter Creek Ra	122.24	41	P		PKPdf		09 34 48.2	+0.9
	baz=122								
Z32A	Haskell	122.33	47	P		PKPdf		09 34 48.5	+0.9
	baz=122								
231A	Bronte	122.36	49	P		PKPdf		09 34 48.2	+0.5
	baz=122								
530A	J-C Ranch, Com	122.38	51	P		PKPdf		09 34 49.2	+1.3
	baz=122								
R36A	Gordon, Harris	122.41	40	P		PKPdf		09 34 47.8	+0.2
	baz=122								
X33A	Lawton	122.43	45	P		PKPdf		09 34 48.5	+0.7
	baz=122								
V34A	Guthrie	122.44	44	P		PKPdf		09 34 48.6	+0.9
	baz=122								
V34A	Guthrie	122.44	44	*e*PKPdf		PKPdf		09 34 48.6	+0.9
T35A	Sooner Cattle	122.54	42	P		PKPdf		09 34 48.6	+0.7
	baz=122								
ABTX	Abilene, Hawle	122.54	48	P		PKPdf		09 34 49.0	+0.9
	baz=122								
ABTX	Abilene, Hawle	122.54	48	*e*PKPdf		PKPdf		09 34 49.0	+0.9
331A	San Angelo	122.57	50	P		PKPdf		09 34 48.8	+0.6
	baz=122								
W34A	Bridge Creek,	122.58	44	P		PKPdf		09 34 49.2	+1.1
	baz=122								
W34A	Bridge Creek,	122.58	44	*e*PKPdf		PKPdf		09 34 49.1	+1.1
W34A				*e*PP		PP		09 36 25.5	-0.5
Y33A	Hilltop Ranch,	122.61	46	P		PKPdf		09 34 48.6	+0.5
	baz=122								
JFWS	Jewell Farm	122.64	33	*e*PKIKP		PKPdf		09 34 47.9	0.0
JFWS	Jewell Farm	122.64	33	*e*PKPdf		PKPdf		09 34 47.9	0.0
PVAQ	Vaqueiros	122.66	319	*e*PP		PP		09 36 25.4	-0.9
U35A	Pawnee	122.69	43	P		PKPdf		09 34 49.2	+1.0
	baz=122								
S36A	Lake Cedric, C	122.69	41	P		PKPdf		09 34 48.4	+0.2
	baz=122								
431A	Sonora	122.71	50	P		PKPdf		09 34 49.2	+0.7
	baz=123								
MESJ	Messejana	122.74	320	*e*P		PKPdf		09 34 49.0	+0.7
MESJ				*e*PP		PP		09 36 27.6	+0.8
MESJ				*e*SS		SS		09 53 03.3	+2.9
MESJ				AMS		AMS		10 22 14.4	
	comp=N,753nm,23.8s								
MESJ	Messejana	122.74	320	*e*PKPdf		PKPdf		09 34 49.2	+1.0
MESJ	Messejana	122.74	320	*e*PP		PP		09 36 26.5	-0.3
MESJ	Messejana	122.74	320	*e*PKIKP		PKPdf		09 34 48.9	+0.7
MESJ				*e*				09 36 27.5	
PCVE	Castro Verde	122.74	319	*e*PKPdf		PKPdf		09 34 48.9	+0.7
PCVE	Castro Verde	122.74	319	*e*PP		PP		09 36 24.0	-2.8
PNCL	Nicolau / Gran	122.78	320	*e*PKPdf		PKPdf		09 34 49.7	+1.4
PNCL	Nicolau / Gran	122.78	320	*e*PP		PP		09 36 29.0	+2.0
LIS	Lisbon	122.82	321	*e*PP		PP		09 36 28.0	+0.7
LIS				AMS		AMS		10 22 46.4	
	comp=N,842nm,17.5s								
PMST	Lisbon--Monsan	122.83	321	*e*PP		PP		09 36 28.5	+1.1
R37A	Teagarden Farm	122.84	40	P		PKPdf		09 34 48.4	0.0
	baz=123								
Z33A	Whitaker Ranch	122.86	47	P		PKPdf		09 34 49.6	+1.0
	baz=123								
X34A	Smith Ranch, M	122.87	45	P		PKPdf		09 34 50.0	+1.3
	baz=123								
T36A	Boggs Farm, Ca	122.88	41	P		PKPdf		09 34 49.1	+0.5
	baz=123								
PBDV	Barranco-do-Ve	122.89	319	*e*PKPdf		PKPdf		09 34 50.6	+2.0
232A	Coleman	122.89	49	P		PKPdf		09 34 49.7	+0.9
	baz=123								
V35A	Meyer Ranch, C	122.95	43	P		PKPdf		09 34 49.4	+0.7
	baz=123								
531A	Rocksprings	122.99	51	P		PKPdf		09 34 49.9	+0.9
	baz=123								
332A	Millersview	123.05	49	P		PKPdf		09 34 49.9	+0.8
	baz=123								
133A	Hamilton Ranch	123.09	48	P		PKPdf		09 34 49.9	+0.8
	baz=123								
S37A	Fort Scott	123.17	40	P		PKPdf		09 34 49.4	+0.4
	baz=123								
PTEO	Sao Teotonio	123.23	320	*e*PKPdf		PKPdf		09 34 51.2	+2.0
432A	Menard	123.25	50	P		PKPdf		09 34 50.1	+0.6
	baz=123								
W35A	Tecumseh	123.25	44	P		PKPdf		09 34 50.1	+0.8
	baz=123								
Y34A	Reagan Ranch,	123.25	46	P		PKPdf		09 34 50.1	+0.8
	baz=123								
631A	Perdido Creek	123.30	52	P		PKPdf		09 34 50.4	+0.8
	baz=123								
MORF	Marmelete	123.32	319	*e*P		PKPdf		09 34 50.6	+1.1
MORF				*e*PP		PP		09 36 31.6	+0.8
MORF				AMS		AMS		10 30 58.9	
	comp=E,779nm,16.9s								
MORF	Marmelete	123.32	319	*e*PKPdf		PKPdf		09 34 50.9	+1.4
MORF	Marmelete	123.32	319	*e*PKIKP		PKPdf		09 34 50.5	+1.1
MORF				*e*				09 36 31.6	
233A	Rising Star	123.38	48	P		PKPdf		09 34 50.7	+1.0
	baz=123								
JCT	Junction City	123.42	50	*e*PKIKP		PKPdf		09 34 50.7	+0.9
JCT	Junction City	123.42	50	P		PKPdf		09 34 50.8	+1.0
	baz=123								
JCT	Junction City	123.42	50	*e*PKPdf		PKPdf		09 34 50.7	+0.9
Z34A	Collier Ranch,	123.44	46	P		PKPdf		09 34 50.6	+0.8
	baz=123								
T37A	Cheneyville 18	123.47	41	P		PKPdf		09 34 50.2	+0.5
	baz=123								
532A	Rocksprings	123.50	51	P		PKPdf		09 34 50.4	+0.4
	baz=123								
PFVI	Vila Bisbo	123.54	319	*e*PKPdf		PKPdf		09 34 51.2	+1.4
PFVI	Vila Bisbo	123.54	319	*e*PP		PP		09 36 34.5	+2.3
V36A	Jenks	123.54	43	P		PKPdf		09 34 50.5	+0.7
	baz=123								
TUL1	Tulsa	123.58	43	P		PKPdf		09 34 50.6	+0.6
	baz=123								
TUL1	Tulsa	123.58	43	*e*PKPdf		PKPdf		09 34 50.5	+0.6
X35A	Drake	123.58	45	P		PKPdf		09 34 50.3	+0.4
	baz=123								
333A	Richland Sprin	123.65	49	P		PKPdf		09 34 50.9	+0.7
	baz=124								
W36A	Wetumka	123.70	44	P		PKPdf		09 34 50.8	+0.6
	baz=124								
134A	White-Moore Ra	123.72	47	P		PKPdf		09 34 51.4	+1.1
	baz=124								
U37A	Salina	123.75	42	P		PKPdf		09 34 50.9	+0.7
	baz=124								
Y35A	Marietta	123.79	45	P		PKPdf		09 34 51.0	+0.6
	baz=124								
433A	Art	123.84	50	P		PKPdf		09 34 51.2	+0.6
	baz=124								
632A	Uvalde	123.88	51	P		PKPdf		09 34 52.2	+1.5
	baz=124								
X36A	Centrahoma	123.92	44	P		PKPdf		09 34 51.4	+0.8
	baz=124								
Z35A	Perchaven, San	123.94	46	P		PKPdf		09 34 51.4	+0.8
	baz=124								
234A	Clairette	123.96	48	P		PKPdf		09 34 51.7	+0.9
	baz=124								
V37A	Hulbert	124.03	42	P		PKPdf		09 34 51.3	+0.5
	baz=124								
732A	Laxson Ranch,	124.08	52	P		PKPdf		09 34 52.2	+1.2
	baz=124								
GLMI	Grayling	124.11	28	*e*PKPdf		PKPdf		09 34 51.3	+0.6
533A	Kerrville	124.20	50	P		PKPdf		09 34 52.0	+0.6
	baz=124								
334A	Lometa	124.21	49	P		PKPdf		09 34 52.1	+0.8
	baz=124								
135A	Vickery Place,	124.22	47	P		PKPdf		09 34 52.4	+1.1
	baz=124								
U38A	Gravette	124.22	41	P		PKPdf		09 34 51.4	+0.3
	baz=124								
W37A	Quinton	124.25	43	P		PKPdf		09 34 52.0	+0.8
	baz=124								
832A	Faith Ranch, C	124.27	53	P		PKPdf		09 34 52.8	+1.3
	baz=124								
Y36A	Durant	124.33	45	P		PKPdf		09 34 52.4	+1.0
	baz=124								
633A	Saathoff Ranch	124.37	51	P		PKPdf		09 34 52.9	+1.3
	baz=124								
434A	Burnet	124.43	49	P		PKPdf		09 34 52.2	+0.5
	baz=124								
WHTX	Lake Whitney	124.47	47	P		PKPdf		09 34 52.9	+1.1
	baz=124								
WHTX	Lake Whitney	124.47	47	*e*PKPdf		PKPdf		09 34 52.7	+1.0
TORD	Torodi Ar. Bea	124.52	288	PKP		PKPdf		09 34 52.4	+0.2
	comp=E,12nm,0.7s,baz=74,slow=1.6,SNR=66								
TORD				pPKP		pPKPdf		09 35 21.7	-1.0
	comp=E,12nm,0.8s,baz=63,slow=1.8,SNR=5.2								
TORD				PP		PP		09 36 39.5	-0.4
	comp=E,5.2nm,0.8s,baz=56,slow=3.1,SNR=3.2								
TORD				PKKPab		PKKPab		09 44 36.9	+1.8
	comp=E,0.5nm,0.6s,baz=272,slow=2.9,SNR=4.4								
TOA3	Torodi Ar. Sit	124.52	288	*e*PKP1		PKPdf		09 34 51.9	-0.3
V38A	Canehill	124.53	42	P		PKPdf		09 34 51.8	0.0
	baz=124								
Z36A	Blue Ridge	124.55	46	P		PKPdf		09 34 52.8	+1.0
	baz=124								
X37A	Clayton	124.59	44	P		PKPdf		09 34 52.7	+0.9
	baz=124								
733A	Divot King Ran	124.61	52	P		PKPdf		09 34 53.5	+1.4
	baz=124								
534A	Blanco	124.65	50	P		PKPdf		09 34 53.1	+0.9
	baz=124								
833A	Chaparral WMA,	124.71	52	P		PKPdf		09 34 53.8	+1.5
	baz=125								
Y37A	Hugo	124.75	44	P		PKPdf		09 34 53.1	+0.9
	baz=125								
HDIL	Hopedale	124.76	34	P		PKPdf		09 34 52.4	+0.3
	baz=125								
HDIL	Hopedale	124.76	34	*e*PKPdf		PKPdf		09 34 52.3	+0.3
335A	Moody	124.84	48	P		PKPdf		09 34 53.3	+0.9
	baz=125								
136A	Ennis	124.90	46	P		PKPdf		09 34 53.4	+0.9
	baz=125								
W38A	Poteau	124.91	43	P		PKPdf		09 34 53.3	+0.9
	baz=125								
X38A	Whitesboro	124.92	43	P		PKPdf		09 34 53.5	+1.0
	baz=125								
435B	Jarrell	124.96	49	P		PKPdf		09 34 53.7	+1.0
	baz=125								
634A	China Grove, S	125.05	51	P		PKPdf		09 34 53.8	+0.9
	baz=125								
933A	Laredo	125.11	53	P		PKPdf		09 34 55.1	+2.0
	baz=125								
734A	La Parita Cree	125.13	51	P		PKPdf		09 34 54.8	+1.7
	baz=125								
236A	Katherine and	125.14	47	P		PKPdf		09 34 54.3	+1.3
	baz=125								
Z37A	Pogue Cattle C	125.17	45	P		PKPdf		09 34 54.3	+1.2
	baz=125								
336A	Riesel	125.22	48	P		PKPdf		09 34 54.1	+1.0
	baz=125								
535A	Dale	125.34	50	P		PKPdf		09 34 54.9	+1.5
	baz=125								
137A	Heron Place, G	125.39	46	P		PKPdf		09 34 55.2	+1.8
	baz=125								
834A	Tilden	125.46	52	P		PKPdf		09 34 55.6	+1.9
	baz=125								
635A	Leesville	125.49	50	P		PKPdf		09 34 55.5	+1.7
	baz=125								
436A	Wall Ranch, Ga	125.56	48	P		PKPdf		09 34 55.1	+1.3
	baz=125								
Z38A	Mt. Pleasant	125.59	45	P		PKPdf		09 34 55.0	+1.2
	baz=125								
237A	Washetta, Mont	125.66	47	P		PKPdf		09 34 55.5	+1.5
	baz=126								
536A	Bastrop	125.70	49	P		PKPdf		09 34 55.5	+1.4
	baz=126								
735A	Kenedy	125.71	51	P		PKPdf		09 34 56.0	+1.8
	baz=126								
934A	Benavides	125.72	53	P		PKPdf		09 34 56.4	+2.2
	baz=126								
034A	Hebbronville	125.83	53	P		PKPdf		09 34 56.8	+2.3
	baz=126								
Y39A	Lockesburg	125.83	44	P		PKPdf		09 34 54.8	+0.5
	baz=126								
138A	Matatall Enter	125.83	45	P		PKPdf		09 34 56.0	+1.7
	baz=126								
MIAR	Mount Ida	125.84	43	*e*PKIKP		PKPdf		09 34 55.5	+1.2
MIAR	Mount Ida	125.84	43	P		PKPdf		09 34 55.3	+1.0
	baz=126								
MIAR	Mount Ida	125.84	43	*e*PKPdf		PKPdf		09 34 55.5	+1.2
835A	Beeville	125.96	52	P		PKPdf		09 34 57.3	+2.7
	baz=126								
636A	Smothers Creek	125.99	50	P		PKPdf		09 34 57.1	+2.5
	baz=126								
SFIN	Scholer Farm	126.10	33	*e*PKPdf		PKPdf		09 34 55.6

comp=E,24nm,0.9s,baz=75,slow=6.0,SNR=6.5

DBIC	**Dimbokro**	**132.14**	**282**	PKIKP	**PKPdf**	09 35 08.3	**+1.5**
DBIC						09 37 30.8	
DBIC				pmax	pmax		
	comp=Z,12nm,0.7s						
DBIC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
DBIC				pmax	pmax		
	comp=N,24nm,0.9s						
DBIC	**Dimbokro**	**132.14**	**282**	*e*PKPdf	**PKPdf**	09 35 07.0	**+0.2**
DBIC				PKP	**PKPdf**	09 35 08.2	**+1.5**
DBIC				PP	**PP**	09 37 30.8	**+0.7**
DBIC				SKPbc	**SKPbc**	09 38 23.0	**-0.3**
TIC	**Toumodi**	**132.31**	**282**	*e*PKP1	**PKPdf**	09 35 08.3	**+1.1**
CBN	**Corbin**	**132.67**	**28**	*e*PKPdf	**PKPdf**	09 35 08.5	**+1.4**
CBN				*e*PP	**PP**	09 37 34.9	**+3.3**
CBN				*e*SKPbc	**SKPbc**	09 38 24.0	**-0.3**
JSRW	**J. Sargeant Re**	**132.84**	**28**	*e*PKPdf	**PKPdf**	09 35 08.1	**+0.6**
GOGA	**Godfrey**	**133.04**	**37**	*e*PKIKP	**PKPdf**	09 35 09.1	**+1.1**
GOGA	**Godfrey**	**133.04**	**37**	*e*PKPdf	**PKPdf**	09 35 09.1	**+1.1**
TIGA	**Tifton**	**134.32**	**39**	P	**PKPdf**	09 35 11.5	**+1.0**
	baz=134						
U65B	**Hualaaø**	**143.19**	**152**	*e*PKPdf	PKPbc	09 35 24.0	+0.3
TRQA	**Tornquist**	**143.89**	**166**	*e*PKPdf	**PKPdf**	09 35 27.9	**+0.1**
U73B	**San Pedro**	**144.22**	**152**	*e*PKPdf	**PKPdf**	09 35 27.7	**-0.7**
JTS	**JuntasAbangare**	**144.47**	**68**	*e*PKIKP	**PKPdf**	09 35 29.1	**-0.3**
JTS	**JuntasAbangare**	**144.47**	**68**	*e*PKPdf	**PKPdf**	09 35 29.1	**-0.3**
SACV	**Santiago Islan**	**146.84**	**303**	*e*PKPbc	**PKPbc**	09 35 35.9	**+0.6**
CVJ	**Coleyville**	**147.03**	**49**	*i* P	**PKPbc**	09 35 35.7	**-0.2**
MTDJ	**Mount Denham**	**147.03**	**49**	*e*PKPbc	**PKPbc**	09 35 36.5	**+0.6**
MCJ	**Malvern**	**147.10**	**50**	*i* P	**PKPab**	09 35 37.1	**-0.7**
BBJ	**Bamboo Saint A**	**147.14**	**49**	*i* P	**PKPab**	09 35 37.7	**-0.3**
STH	**Stony Hill**	**147.67**	**49**	*i* P	**PKPab**	09 35 38.9	**-1.1**
GTBY	**Guantanamo Bay**	**147.71**	**44**	*e*PKPbc	**PKPbc**	09 35 38.6	**+1.0**
GWJ	**Greenwich**	**147.73**	**49**	*i* P	**PKPab**	09 35 39.4	**-1.0**
YHJ	**Yallahs**	**148.02**	**49**	*i* P	**PKPab**	09 35 40.3	**-1.1**
LCO	**Las Campanas**	**148.51**	**147**	*e*PKPdf	**PKPdf**	09 35 37.0	**+0.9**
GRTK	**Grand Turk**	**149.16**	**37**	*e*PKPbc	**PKPbc**	09 35 42.6	**+1.3**
GRTK				*e*PKPab	**PKPab**	09 35 47.3	**+1.4**
BCIP	**Isla Barro Col**	**149.57**	**66**	*e*PKPdf	**PKPdf**	09 35 37.9	**0.0**
BCIP				*e*PKPbc	**PKiKP**	09 35 43.1	**-0.4**
BCIP				*e*PKPab	**PKPab**	09 35 48.8	**+1.0**
SDDR	**Presa de Saban**	**150.95**	**40**	*e*PKPbc	**PKPbc**	09 35 46.6	**+0.8**
SDDR				*e*PKPab	**PKPab**	09 35 54.0	**+0.7**
OTAV	**Otavalo**	**153.19**	**84**	*e*PKPdf	**PKPdf**	09 35 44.8	**+0.9**
LSP	**Las Mesas**	**154.13**	**35**	*e*PKPab	**PKPab**	09 36 06.0	**-0.7**
CRPR	**Cabo Rojo, PR**	**154.25**	**35**	*e*PKPdf	**PKPdf**	09 35 45.5	**+0.7**
CRPR				*e*PKPab	**PKPab**	09 36 07.5	**+0.3**
LVC	**Limon Verde**	**154.41**	**141**	*e*PKPdf	**PKPdf**	09 35 46.9	**+1.7**
LVC				*e*PKPbc	**PKiKP**	09 35 55.9	**+2.2**
CELP	**Cerrillos**	**154.50**	**34**	*e*PKPdf	**PKPdf**	09 35 46.2	**+1.1**
CELP				*e*PKPab	**PKPab**	09 36 09.3	**+1.1**
OBIP	**Obispado Ponce**	**154.51**	**34**	*e*PKPdf	**PKPdf**	09 35 46.3	**+1.2**
OBIP				*e*PKPab	**PKPab**	09 36 10.0	**+1.7**
SJG	**San Juan**	**154.71**	**33**	*e*PKP2	**PKPab**	09 36 09.2	**+0.1**
SJG	**San Juan**	**154.71**	**33**	*e*PKPab	**PKPab**	09 36 09.2	**+0.1**
STVI	**Saint Thomas**	**155.15**	**31**	*e*PKPdf	**PKPdf**	09 35 46.1	**+0.2**
STVI				*e*PKPab	**PKPab**	09 36 11.6	**+0.7**
CDVI	**St. Croix**	**155.75**	**31**	*e*PKPab	**PKPab**	09 36 14.2	**+0.7**
ROSC	**El Rosal**	**156.19**	**71**	PKP	**PKPdf**	09 35 48.3	**+0.2**
	comp=N,2.6nm,0.4s,baz=58,slow=4.9,SNR=7.0						
ROSC				PKPab	**PKPab**	09 36 17.1	**+0.8**
	comp=N,18nm,0.8s,baz=46,slow=1.1,SNR=11						
CPUP	**Villa Florida**	**156.21**	**168**	PKP	**PKPdf**	09 35 47.9	**+0.7**
	comp=N,7.8nm,1.2s,baz=22,slow=3.7,SNR=6.7						
CPUP				PKPab	**PKPab**	09 36 17.0	**+1.7**
	comp=N,19nm,0.8s,baz=179,slow=3.6,SNR=13						
CPUP	**Villa Florida**	**156.21**	**168**	*e*PKPdf	**PKPdf**	09 35 47.9	**+0.7**
CPUP				PKPab	**PKPab**	09 36 17.0	**+1.7**
CPUP				*e*PKPab		09 36 18.6	+3.4
SDV	**Santo Domingo**	**157.84**	**58**	*e*PKPdf	**PKPdf**	09 35 50.4	**+0.5**
SDV				*e*PKPab	**PKPab**	09 36 24.4	**+1.3**
LPAZ	**La Paz**	**159.22**	**131**	PKP	**PKPdf**	09 35 53.2	**+1.3**
	comp=N,18nm,1.2s,baz=215,slow=0.4,SNR=20						
LPAZ				PKPab	**PKPab**	09 36 29.4	**0.0**
	comp=N,4.2nm,0.7s,baz=112,slow=2.0,SNR=4.6						
LPAZ	**La Paz**	**159.22**	**131**	*e*PKIKP	**PKPdf**	09 35 53.2	**+1.3**
LPAZ						09 36 29.4	
LPAZ				*e*		09 36 33.5	
LPAZ	**La Paz**	**159.22**	**131**	*e*PKPdf	**PKPdf**	09 35 53.2	**+1.3**
LPAZ				PKPab	**PKPab**	09 36 29.4	**0.0**
LPAZ				*e*PKPab	**PKPab**	09 36 33.5	**+4.0**
BB16B	**Bebedouro**	**161.80**	**190**	*e*P	**PKPdf**	09 35 53.9	**0.0**
BB16B				*i*		09 35 56.3	
BB16B				*i*		09 36 03.5	
BB16B				*i*		09 36 08.3	
BB16B				*i*		09 36 12.9	
BB16B				*i*		09 55 44.4	
BB16B				*i*		09 55 48.9	
BDFB	**Brasilia**	**166.89**	**196**	PKP	**PKPdf**	09 35 58.7	**0.0**
	comp=N,3.7nm,0.7s,baz=241,slow=1.6,SNR=4.9						
BDFB				PKPab	**PKPab**	09 37 01.8	**-0.4**
	comp=N,8.8nm,0.9s,baz=160,slow=6.3,SNR=4.3						
SAML	**Samuel**	**167.25**	**118**	*e*PKPdf	**PKPdf**	09 35 59.6	**+0.7**
SAML				*e*SKPdf	**SKPdf**	09 39 19.8	**-0.5**

IDC 21 09:39:35.4±1.9, 4°30N×126°76E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/24, mbtmp3.4/4, Error ellipse: s-maj=161.2km s-min=24.6km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.21**	**163**	P	P	09 45 01.8	**-1.3**
	0.2nm,0.4s,baz=343,slow=10,SNR=9.3						
ASAR	**Alice Springs**	**28.66**	**166**	P	P	09 45 35.5	+1.4
	0.2nm,0.5s,baz=341,slow=7.8,SNR=1.8						
STKA	**Stephens Creek**	**38.65**	**160**	P	P	09 47 01.1	+0.3
	0.7nm,0.6s,baz=326,slow=7.3,SNR=1.2						
MKAR	**Makanchi Array**	**57.11**	**325**	P	P	09 49 23.7	-0.1
	0.2nm,0.5s,baz=136,slow=8.8,SNR=2.6						

CASC 21 09:42:53.4±2.7, 13°42N×90°93W, h36km±999km, MD3.5, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.02**	**5**	*e*P	Pn	09 43 11.1	-0.4
JAT	**Jato**	**1.12**	**322**	*e*P	Pn	09 43 11.9	-0.7
NBG	**Las Nubes**	**1.29**	**26**	*e*P	Pn	09 43 16.3	+1.1
RTR	**El Retiro**	**1.33**	**69**	*e*P	Pn	09 43 15.5	-0.2
SBLS	**San Blas**	**1.34**	**72**	*e*P	Pn	09 43 15.5	-0.4
SNJE	**San Jose**	**1.36**	**71**	*e*P	Pn	09 43 16.6	+0.5
RBDL	**Robledal**	**1.39**	**60**	*e*P	Pn	09 43 16.4	-0.1
LFU	**La Fuente**	**1.80**	**79**	*e*P	Pn	09 43 23.2	+1.2
LFRS	**El Faro**	**1.83**	**83**	*e*P	Pn	09 43 23.3	+0.9
LFRS				*e*S	Sn	09 43 44.8	+0.3
LBRS	**Las Brisas**	**1.86**	**80**	*e*P	Pn	09 43 24.1	+1.2
MRL	**Marmol**	**2.03**	**36**	*e*P	Pn	09 43 26.9	+1.6

*ISCJB **21** 09:46:50.8±0.5, 24°47S±0°07×179°9E±0°1, h517km, mb3.7/11, Error ellipse: s-maj=13.0km s-min=8.2km az=25.1*
*IDC **21** 09:46:51.1±2.1, 24°42S×179°82E, h504km±22km, mb3.4/12, mb1 3.6/14, mb1mx3.5/20, mbtmp4.2/14, Error ellipse: s-maj=18.1km s-min=15.7km az=2.0*
ISC 21 09:46:51.4±0.6, 24°53S±0°08×180°0E±0°1, h517km, n24, σ1°66/23, mb3.8/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.07**	**159**	P	**P**	09 48 20.9	**+1.1**
	25nm,0.3s,baz=37,slow=20,SNR=3.7						
RAO				S	**S**	09 49 28.5	**-3.7**
	23nm,0.3s,baz=75,slow=20,SNR=3.7						
DZM	**Mont Dzumac**	**12.67**	**278**	P	**P**	09 49 35.3	**-1.9**
	0.4nm,0.3s,baz=90,slow=24,SNR=43						
AFI	**Afiamalu**	**13.12**	**38**	S	**S**	09 51 58.8	**-3.6**
	1.9nm,0.3s,baz=254,slow=20,SNR=2.7						
URZ	**Urewera**	**13.91**	**189**	P	P	09 49 46.1	-3.7
	1.6nm,0.3s,baz=18,slow=3.2,SNR=12						
URZ				S	**S**	09 52 14.3	**-2.5**
	0.7nm,0.3s,baz=45,slow=22,SNR=6.9						
RPZ	**Rata Peaks**	**20.49**	**199**	P	**P**	09 50 53.5	**0.0**
	4.3nm,0.4s,baz=292,slow=5.4,SNR=3.7						
STKA	**Stephens Creek**	**34.47**	**249**	P	**P**	09 52 56.0	**+0.1**
	2.1nm,0.4s,baz=95,slow=10.0,SNR=23						
ASAR	**Alice Springs**	**41.91**	**261**	P	**P**	09 53 55.8	**-0.8**
	1.2nm,0.5s,baz=90,slow=7.0,SNR=46						
WRA	**Warramunga Arr**	**42.34**	**267**	P	**P**	09 53 59.1	**-1.0**
	3.7nm,0.4s,baz=98,slow=8.3,SNR=114						

VNDA	**Vanda**	**53.76**	**185**	P	**P**	09 55 25.9	**+1.5**
	0.6nm,0.8s,baz=330,slow=6.5,SNR=3.5						
QSPA	**South Pole Qui**	**65.56**	**180**	P	**P**	09 56 44.8	**+1.3**
	3.3nm,0.7s,baz=306,slow=0.9,SNR=13						
NVAR	**Mina Array Bea**	**85.22**	**44**	P	**P**	09 58 33.2	**-0.2**
	0.9nm,0.8s,baz=220,slow=8.2,SNR=7.1						
CMAR	**Chiang Mai Arr**	**89.72**	**290**	P	**P**	09 58 56.7	**+1.9**
	0.6nm,0.8s,baz=142,slow=4.6,SNR=3.1						
TXAR	**Lajitas Array**	**90.78**	**58**	P	**P**	09 59 01.5	**+2.0**
	1.2nm,0.8s,baz=212,slow=7.0,SNR=18						
ILAR	**Eielson Array**	**92.64**	**14**	P	**P**	09 59 06.6	**-0.6**
	0.2nm,0.6s,baz=227,slow=6.2,SNR=3.5						
PDAR	**Pinedale Array**	**93.16**	**44**	P	**P**	09 59 11.2	**+0.9**
	0.4nm,0.8s,baz=328,slow=3.2,SNR=4.1						
SONM	**Songino Array**	**97.56**	**319**	P	Pdif	09 59 28.4	-1.5
	0.6nm,0.6s,baz=95,slow=3.3,SNR=3.3						
ARCES	**ARCESS Array B**	**132.49**	**348**	PKP	**PKPdf**	10 05 06.8	**+0.7**
	2.3nm,0.8s,baz=70,slow=1.4,SNR=5.8						
FINES	**FINESS Array B**	**139.03**	**341**	PKhKP	PKPpre	10 05 09.8	
	1.3nm,0.8s,baz=64,slow=3.2,SNR=3.7						
FINES				PKP	**PKiKP**	10 05 19.8	**-1.1**
	1.2nm,0.8s,baz=70,slow=1.6,SNR=3.7						
HFS	**Hagfors**	**143.15**	**349**	PKhKP	PKPpre	10 05 23.9	
	5.1nm,0.4s,baz=64,slow=3.4,SNR=52						
AKASG	**Malin Array Be**	**145.48**	**327**	PKPbc	**PKPbc**	10 05 31.0	**-0.4**
	1.1nm,0.4s,baz=42,slow=4.0,SNR=11						
BRTR	**Keskin Array B**	**147.93**	**306**	PKPbc	**PKPbc**	10 05 38.4	**-0.3**
	0.4nm,0.4s,baz=142,slow=4.2,SNR=4.2						
MMAI	**Mount Meron Ar**	**147.93**	**293**	PKPbc	**PKPbc**	10 05 39.8	**+1.1**
	1.7nm,0.4s,baz=69,slow=8.2,SNR=3.0						
EKA	**Eskdalemuir Ar**	**149.14**	**3**	PKPbc	**PKPbc**	10 05 41.1	**+0.2**
	0.5nm,0.4s,baz=352,slow=3.3,SNR=6.7						
TORD	**Torodi Ar. Bea**	**168.57**	**188**	PKPab	**PKPab**	10 07 13.3	**+0.8**
	baz=208,slow=3.1						

MEX 21 09:59:57.7±0.6, 18°40N×100°20W, h53km±6km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.18**	**231**	*i* P	Pn	10 00 04.6	-1.7
ARIG				*e*S	Sn	10 00 10.7	-1.7
PLIG	**Platanillo**	**0.66**	**90**	*i* P	Pn	10 00 09.4	-1.9
PLIG				*e*S	Sn	10 00 18.4	-2.6
MEIG	**Mezcala**	**0.72**	**130**	*i* P	Pn	10 00 10.5	-1.4
MEIG				*e*S	Sn	10 00 19.9	-2.5
YAIG	**Yautepec**	**1.17**	**66**	*i* P	Pn	10 00 16.5	-1.5
YAIG				*e*S	Sn	10 00 30.5	-2.6
CAIG	**El Cayaco**	**1.34**	**183**	*i* P	Pn	10 00 18.4	-1.8
CAIG				*e*S	Sn	10 00 34.1	-2.8
ZIIG	**Zihuatanejo**	**1.44**	**237**	*i* P	Pn	10 00 19.5	-1.9
ZIIG				*e*S	Sn	10 00 37.6	-1.6
TLIG	**Tlapa**	**1.76**	**118**	*i* P	Pn	10 00 23.9	-2.1
TLIG				*i* S	Sn	10 00 46.0	-1.4

MAN 21 10:05:05.7°39N×123°01E, h9km, mb4.4, ML3.2, MS3.0, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**1.24**	**97**	*i* P	Pn	10 05 27.8	-0.7
CTBH				*i* S	Sn	10 05 45.7	+0.4
DCPH	**Dipolog City**	**1.24**	**161**	*e*P	Pg	10 05 28.8	0.0
DCPH				*e*S	Sn	10 05 46.0	+0.7
CGP	**Cagayan de Oro**	**1.98**	**57**	*e*P	Pb	10 05 40.7	-0.5
CGP				*e*S	Sb	10 06 06.0	0.0
TBP	**Tagbilaran**	**2.44**	**20**	*e*P	Pn	10 05 44.8	-0.2
TBP				*e*S	Sn	10 06 16.9	+1.8

*IDC **21** 10:05:29.3±0.9, 6°44S×146°80E, h0km, mb4.0/9, mb1 4.3/12, mb1mx4.2/20, mbtmp4.1/12, ML4.1/3, MS3.7/1, Ms1 3.7/1, ms1mx3.0/25, Error ellipse: s-maj=32.3km s-min=17.3km az=91.0*
*ISCJB **21** 10:05:34.0±0.6, 6°41S±0°05×146°43E±0°09, h35km, mb3.9/8, Error ellipse: s-maj=12.4km s-min=6.3km az=170.3*
*NEIC **21** 10:05:35.3±0.7, 6°37S×146°57E, h35km, mb4.4/1, Error ellipse: s-maj=19.3km s-min=9.3km az=88.0*
NEIC Felt at Kainantu.
ISC 21 10:05:35.6±0.8, 6°40S±0°07×146°5E±0°1, h35km, n37, σ1°34/37, mb3.9/9, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.06**	**168**	Pn	**Pn**	10 06 22.8	**+1.4**
	29nm,0.3s,baz=33,slow=5.4,SNR=64						
PMG				Sn	**Sn**	10 06 57.1	**+0.3**
	296nm,0.3s,baz=94,slow=22,SNR=83						
PMG	**Port Moresby**	**3.06**	**168**	P	**Pn**	10 06 22.9	**+1.5**
	baz=2.3,SNR=21						
PMG				P	**Pn**	10 06 22.9	**+1.5**
	baz=2.3,SNR=21						
PMG				P	**Pn**	10 06 22.9	**+1.5**
	baz=2.3,SNR=21						
JAY	**Jayapura**	**6.95**	**303**	Pn	**Pn**	10 07 17.4	**+2.4**
	1.5nm,0.3s,baz=192,slow=7.9,SNR=5.4						
COEN	**Coen**	**8.19**	**203**	P	**Pn**	10 07 32.5	**+0.6**
	baz=6.6,SNR=38						
COEN	**Coen**	**8.19**	**203**	*e*Pn	**Pn**	10 07 32.6	**+0.6**
	19nm,0.5s						
MTSU	**Mount Surprise**	**11.86**	**190**	P	**Pn**	10 08 23.0	**+0.7**
	baz=10,SNR=7.1						
CTA	**Charters Tower**	**13.61**	**181**	Pn	**Pn**	10 08 48.9	**+2.7**
	0.9nm,0.3s,baz=355,slow=14,SNR=6.2						
FAKI	**Fak Fak**	**14.62**	**283**	P	**P**	10 09 07.1	**+1.2**
	baz=14,SNR=4.9						
KDU	**Kakadu**	**15.17**	**245**	P	**Pn**	10 09 06.5	**-0.9**
	baz=14,SNR=16						
QIS	**Mount Isa**	**15.58**	**205**	P	**Pn**	10 09 13.4	**+0.7**
	baz=14,SNR=3.9						
SIJI	**Sorong**	**16.16**	**289**	Pn	**P**	10 09 22.4	**-0.7**
	0.7nm,0.3s,baz=120,slow=6.1,SNR=3.7						
MTN	**Manton Dam**	**16.44**	**246**	P	**Pn**	10 09 23.6	**-0.1**
	baz=15,SNR=3.9						
WRAB	**Tennant Creek**	**17.89**	**220**	*e*P	**Pn**	10 09 41.3	**-0.6**
	27nm,0.9s						
WRA	**Warramunga Arr**	**17.91**	**220**	P	**Pn**	10 09 41.3	**-0.7**
	1.0nm,0.5s,baz=42,slow=12,SNR=54						
KNRA	**Kununurra**	**19.68**	**241**	P	**P**	10 10 00.2	**-1.7**
	baz=18,SNR=14						
GUMO	**Guam**	**19.93**	**355**	LR	LR	10 17 09.1	
	comp=Z,202nm,18.0s,baz=122,slow=35						
QLP	**Quilpie**	**20.19**	**186**	P	**P**	10 10 08.4	**+1.1**
	baz=19,SNR=6.3						
AS31	**Alice Springs**	**21.01**	**214**	*e*P	**P**	10 10 16.4	**+0.1**
ASAR	**Alice Springs**	**21.01**	**214**	P	**P**	10 10 15.5	**-0.8**
	2.7nm,0.6s,baz=55,slow=9.6,SNR=22						
WRKA	**Warakurna**	**25.44**	**221**	P	**P**	10 10 58.0	**-2.3**
	baz=24,SNR=15						
STKA	**Stephens Creek**	**25.76**	**190**	P	**P**	10 11 03.0	**-0.1**
	1.6nm,0.5s,baz=5.2,slow=9.0,SNR=6.8						
STKA	**Stephens Creek**	**25.76**	**190**	P	**P**	10 11 03.2	**+0.1**
	baz=24,SNR=5.3						
HTT	**Hallett**	**27.80**	**194**	P	**P**	10 11 24.4	**+2.9**
	baz=26,SNR=4.4						
MEEK	**Meekatharra**	**33.32**	**230**	P	**P**	10 12 08.8	**-1.5**
	baz=32,SNR=7.1						
KLBR	**Kellerberrin**	**36.74**	**223**	P	**P**	10 12 37.6	**-2.1**
	baz=35,SNR=5.4						
PMBI	**Palembang**	**41.72**	**273**	P	P	10 13 12.7	-8.9
	baz=41,SNR=4.0						
MJAR	**Matsushiro Arr**	**43.42**	**350**	P	**P**	10 13 34.1	**-0.9**
	1.0nm,0.8s,baz=184,slow=11,SNR=5.6						
KSRS	**Korea Array**	**46.95**	**340**	P	**P**	10 14 04.0	**+1.0**
	2.0nm,0.8s,baz=156,slow=8.9,SNR=5.9						
KSAR	**Wonju Array Be**	**46.95**	**340**	P	**P**	10 14 04.0	**+1.0**
USRK	**Ussuriysk Ar.**	**52.04**	**347**	P	**P**	10 14 41.6	**-0.1**
	1.1nm,0.5s,baz=202,slow=6.2,SNR=3.9						
CMAR	**Chiang Mai Arr**	**53.00**	**299**	P	**P**	10 14 49.9	**+0.6**
	1.7nm,0.4s,baz=122,slow=5.2,SNR=7.0						
VNDA	**Vanda**	**71.55**	**177**	P	**P**	10 16 51.7	**-0.8**
	0.9nm,1.0s,baz=331,slow=9.0,SNR=4.5						
MKAR	**Makanchi Array**	**77.49**	**321**	P	**P**	10 17 27.8	**+0.2**
	0.3nm,0.3s,baz=98,slow=10,SNR=5.0						
ILAR	**Eielson Array**	**86.04**	**29**	P	**P**	10 18 11.2	**-1.0**
	1.0nm,0.8s,baz=254,slow=5.2,SNR=12						
GERES	**GERESS Array B**	**121.95**	**325**	PKP	**PKPdf**	10 24 24.5	**-2.0**
	0.4nm,0.5s,baz=75,slow=1.1,SNR=4.8						
TORD	**Torodi Ar. Bea**	**144.70**	**284**	PKPbc	PKPbc	10 25 08.8	+0.1
	1.1nm,0.3s,baz=69,slow=3.6,SNR=38						
DBIC	**Dimbokro**	**151.54**	**272**	PKPbc	**PKPbc**	10 25 26.4	**-0.8**
	3.0nm,0.5s,baz=120,slow=2.2,SNR=5.0						

MEX 21 10:15:05.3±0.6, 18°05N×100°54W, h51km±8km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.30**	**38**	*i* P	Pn	10 15 12.6	-2.0
ARIG				*i* S	Sn	10 15 19.4	-1.8
MEIG	**Mezcala**	**0.88**	**98**	*i* P	Pn	10 15 20.2	-1.4
MEIG				*e*S	Sn	10 15 31.7	-1.9
ZIIG	**Zihuatanejo**	**0.98**	**244**	*i* P	Pn	10 15 20.8	-2.1
ZIIG				*i* S	Sn	10 15 34.1	-1.7
CAIG	**El Cayaco**	**1.03**	**165**	*i* P	Pn	10 15 22.0	-1.4
CAIG				*e*S	Sn	10 15 34.5	-2.3
PLIG	**Platanillo**	**1.04**	**71**	*i* P	Pn	10 15 22.5	-1.3
PLIG				*e*S	Sn	10 15 34.7	-2.8
TLIG	**Tlapa**	**1.94**	**104**	*i* P	Pn	10 15 34.8	-1.3
TLIG				*e*S	Sn	10 15 56.6	-2.8

IDC 21 10:16:47.1±2.5, 13°82N×144°66E, h176km±6km, mb3.2/3, mb1 3.4/3, mb1mx2.9/25, mbtmp3.7/3, Error ellipse: s-maj=76.9km s-min=26.7km az=132.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.31**	**138**	P	Pn	10 17 11.3	+0.6
	22nm,0.3s,baz=303,slow=4.4,SNR=18						
GUMO				S	Sn	10 17 30.0	+1.1
	81nm,0.3s,baz=322,slow=19,SNR=22						
WRA	**Warramunga Arr**	**35.05**	**197**	P	P	10 23 23.0	-0.4
	1.0nm,0.7s,baz=18,slow=9.5,SNR=13						
ASAR	**Alice Springs**	**38.71**	**196**	P	P	10 23 54.2	0.0
	0.4nm,0.8s,baz=16,slow=8.5,SNR=7.7						
STKA	**Stephens Creek**	**45.53**	**184**	P	P	10 24 49.3	0.0
	0.5nm,0.4s,baz=12,slow=7.0,SNR=6.6						

IDC 21 10:48:09.3±4.8, 5°84S×150°90E, h0km, mb2.8/2, mb1 3.2/2, mb1mx3.1/22, mbtmp2.9/2, Error ellipse: s-maj=210.4km s-min=56.8km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.35**	**227**	P	P	10 52 58.7	+0.4
	0.2nm,0.5s,baz=54,slow=10,SNR=1.8						
ASAR	**Alice Springs**	**24.12**	**221**	P	P	10 53 26.8	-0.3
	0.2nm,0.6s,baz=51,slow=8.9,SNR=2.4						
TORD	**Torodi Ar. Bea**	**148.80**	**286**	PKPbc	PKPbc	11 07 59.3	-0.6
	0.2nm,0.6s,baz=30,slow=3.3,SNR=1.9						

NNC 21 11:02:50.3±2.3, 54°08N×86°21E, h0km, mb3.9, mpv3.6, 9C-2D, Error ellipse: s-maj=18.2km s-min=15.4km az=88.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.74**	**237**	⇑P	Pn	11 04 15.8	-0.8
	4.3nm,0.9s						
KURK				⇓S	Sn	11 05 25.4	+2.2
	1.6nm,0.7s						
KURK				⇑Lg	Lg	11 05 53.4	
	7.1nm,0.8s						
KURBB	**Kurchatov Arra**	**5.84**	**237**	⇓P	Pn	11 04 18.8	+0.7
	2.2nm,0.4s,baz=52,slow=13						
KURBB				⇑S	Sn	11 05 25.5	-0.2
	2.0nm,0.5s						
KURBB				⇑Lg	Lg	11 05 54.1	
	10nm,0.7s,baz=50,slow=31						
MK31	**Makanchi Array**	**7.71**	**200**	⇑P	Pn	11 04 43.1	-0.8
	3.8nm,0.8s,baz=11,slow=16,SNR=26						
MK31				⇑S	Sn	11 06 13.6	+1.8
	0.7nm,0.6s,baz=26,slow=26,SNR=4.3						
MK31				⇑Lg	Lg	11 06 58.5	
	1.7nm,0.7s						
**BVA

TVSB	**Tavsanli**	**1.18**	**133**	*e*Pn	**Pg**	**11 17 40.6**	**-0.3**
DEMI	**Demirci**	**1.25**	**167**	*i* P	**Pg**	**11 17 43.6**	**+1.4**
DEMI				*i* S	**Sn**	**11 18 00.9**	**+0.7**
DEMI	**Demirci**	**1.25**	**167**	*i* P	**Pg**	**11 17 43.6**	**+1.4**
DEMI				*i* S	**Sn**	**11 18 00.9**	**+0.7**

*ISCJB **21** 11:18:10.4±1.4,36°.32N±0°.06×21°.83E±0°.09,h5km±8km, Error ellipse: s-maj=14.0km s-min=5.6km az=144.0*
*THE **21** 11:18:10.4,36°.32N×21°.81E,h4km±2km,ML2.2/3,Error ellipse: s-maj=2.6km s-min=0.7km az=20.0*
*CSEM **21** 11:18:12.9±0.8,36°.35N×22°.00E,h15km,ML2.2, Error ellipse: s-maj=17.6km s-min=7.5km az=44.0*
*ATH **21** 11:18:13.1,36°.35N×22°.00E,h27km±1km,MD3.1/9*

ISC 21 11:18:13.4±1.5,36°39N±0°.06×22°03E±0°.07,h12km±10km, n32,σ0°91/44,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.56**	**336**		*e*PN		**Pb**	**11 18 25.3**	**+0.2**
PYL					*e*SN		**Sb**	**11 18 32.9**	**-0.1**
PYL	**PYLOS**	**0.56**	**336**		*e*Pn		**Pb**	**11 18 25.3**	**+0.2**
PYL					S		**Sg**	**11 18 30.0**	**-1.7**
PYL					*e*Sn		**Sb**	**11 18 32.9**	**-0.1**
PYL	**PYLOS**	**0.56**	**336**		P		Pg	11 18 20.9	-3.4
PYL					S		**Sg**	**11 18 30.0**	**-1.7**
ITM	**Ithomi**	**0.79**	**354**		P		Pb	11 18 20.6	-8.6
ITM					S		Sg	11 18 22.3	-17
VLI	**Veliai**	**0.80**	**66**		*e*PN		**Pn**	**11 18 30.2**	**-0.3**
VLI					*e*SN		**Sn**	**11 18 41.4**	**-1.0**
VLI	**Veliai**	**0.80**	**66**		P		**Pg**	**11 18 29.3**	**+0.3**
VLI	**Veliai**	**0.80**	**66**		*e*Pn		**Pn**	**11 18 30.2**	**-0.3**
VLI					*e*Sn		**Sn**	**11 18 41.4**	**-1.0**
VLI					S		**Sn**	**11 18 43.4**	**+1.0**
VLI	**Veliai**	**0.80**	**66**		P		**Pg**	**11 18 29.3**	**+0.3**
VLI					S		**Sn**	**11 18 43.4**	**+1.0**
KYTH	**Kithira**	**0.82**	**97**		*e*PN		**Pg**	**11 18 29.5**	**+0.1**
KYTH	**Kithira**	**0.82**	**97**		P		**Pg**	**11 18 29.4**	**+0.1**
KYTH	**Kithira**	**0.82**	**97**		P		**Pg**	**11 18 29.4**	**+0.1**
VLX	**Vlachokerasia**	**1.02**	**16**		*e*PN		**Pg**	**11 18 34.1**	**+1.0**
VLX					*e*SN		**Sn**	**11 18 48.5**	**+0.6**
VLX	**Vlachokerasia**	**1.02**	**16**		P		**Pb**	**11 18 31.5**	**-1.6**
VLX					*e*Sn		**Sn**	**11 18 48.5**	**+0.6**
VLX	**Vlachokerasia**	**1.02**	**16**		*e*Pn		**Pg**	**11 18 34.1**	**+1.0**
VLX	**Vlachokerasia**	**1.02**	**16**		P		**Pb**	**11 18 31.5**	**-1.6**
VLX					S		**Sn**	**11 18 48.9**	**+1.0**
ANKY	**Antikythira Is**	**1.16**	**116**		*e*PB		**Pn**	**11 18 34.3**	**-1.1**
ANKY					*e*SN		**Sg**	**11 18 51.7**	**+1.0**
ANKY	**Antikythira Is**	**1.16**	**116**		*e*Pb		**Pn**	**11 18 34.3**	**-1.1**
ANKY					*e*Sn		**Sg**	**11 18 51.7**	**+1.0**
ANKY	**Antikythira Is**	**1.16**	**116**		P		**Pn**	**11 18 34.4**	**-1.0**
ANKY					S		**Sg**	**11 18 52.9**	**+2.2**
DIDY	**Didyma**	**1.44**	**41**		*e*PB		**Pn**	**11 18 39.4**	**0.0**
DIDY	**Didyma**	**1.44**	**41**		*e*Pb		**Pn**	**11 18 39.4**	**0.0**
DID	**Didima**	**1.48**	**41**		*e*PB		**Pn**	**11 18 39.6**	**-0.2**
DID	**Didima**	**1.48**	**41**		*e*Pb		**Pn**	**11 18 39.6**	**-0.2**
GUR	**Goura**	**1.56**	**9**		*e*PN		**Pb**	**11 18 42.2**	**-0.2**
GUR	**Goura**	**1.56**	**9**		*e*Pn		**Pb**	**11 18 42.2**	**-0.2**
DRO	**Drossia**	**1.58**	**351**		*e*PN		**Pb**	**11 18 41.9**	**-0.7**
DRO	**Drossia**	**1.58**	**351**		*e*Pn		**Pb**	**11 18 41.9**	**-0.7**
KLV	**Kalavryta, Ach**	**1.66**	**3**		*e*PB		**Pn**	**11 18 42.3**	**0.0**
KLV	**Kalavryta, Ach**	**1.66**	**3**		*e*Pb		**Pn**	**11 18 42.3**	**0.0**
LTK	**Loutraki**	**1.79**	**24**		*e*PN		**Pb**	**11 18 45.2**	**-1.0**
LAKA	**Lakka**	**1.85**	**359**		*e*PN		**Pn**	**11 18 45.8**	**+0.8**
KALE	**Kalithea**	**2.00**	**3**		*e*PB		**Pn**	**11 18 47.9**	**+0.8**
KALE	**Kalithea**	**2.00**	**3**		*e*Pb		**Pn**	**11 18 47.9**	**+0.8**

IDC 21 11:28:45.2±4.8,7°51S×129°88E,h218km±67km,mb3.2/1, mb1 3.1/4,mb1mx2.9/21,mbtmp3.7/4,Error ellipse: s-maj=134.7km s-min=22.4km az=80.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**5.14**	**27**		P		Pn	11 30 01.0	-0.9
	baz=5.6,SNR=4.3								
MTN	**Manton Dam**	**5.44**	**167**		P		Pn	11 30 04.3	-1.3
	baz=5.7,SNR=32								
KDU	**Kakadu**	**5.74**	**154**		P		Pn	11 30 10.4	+0.9
	baz=6.2,SNR=48								
SIJI	**Sorong**	**6.75**	**12**		P		Pn	11 30 22.6	+0.2
	0.5nm,0.3s,baz=131,slow=19,SNR=5.5								
SIJI					S		S	11 31 35.1	-4.6
	0.4nm,0.3s,baz=240,slow=20,SNR=4.4								
KNRA	**Kununurra**	**8.19**	**188**		P		Pn	11 30 35.0	-5.9
	baz=8.2,SNR=11								
WRA	**Warramunga Arr**	**13.09**	**161**		P		Pn	11 31 41.7	-1.6
	0.5nm,0.3s,baz=344,slow=12,SNR=24								
WRA					S		S	11 34 06.5	-1.8
	0.5nm,0.3s,baz=336,slow=22,SNR=6.6								
ASAR	**Alice Springs**	**16.52**	**167**		P		Pn	11 32 25.1	+0.1
	0.3nm,0.3s,baz=342,slow=9.9,SNR=19								
ASAR					S		S	11 35 23.9	-1.7
	0.1nm,0.3s,baz=348,slow=24,SNR=2.6								
MKAR	**Makanchi Array**	**68.59**	**327**		P		P	11 39 24.4	-0.1
	0.4nm,0.4s,baz=124,slow=7.3,SNR=5.2								

*IDC **21** 11:29:41.6±0.9,35°.85S×104°.39W,h0km,mb4.2/14, mb1 4.3/14,mb1mx4.2/20,mbtmp4.2/14,MS4.4/12, Ms1 4.4/12,ms1mx4.3/17,Error ellipse: s-maj=27.7km s-min=21.2km az=22.0*
*ISCJB **21** 11:29:44.1±0.5,35°.56S±0°.08×104°.0W±0°.1,h10km, mb4.4/36,MS4.4/12,Error ellipse: s-maj=14.7km s-min=10.6km az=147.7*
*NEIC **21** 11:29:45.5±0.6,35°.58S×104°.01W,h10km,mb4.6/21, Error ellipse: s-maj=16.5km s-min=12.3km az=224.0*
*GCMT **21** 11:29:45.5±0.2,35°.71S×104°.03W,h23km±1km, MW5.3/109,Moment Tensor Solution. s62,c90; s109,c180; Duration: 1ꢀ1 Moment tensor: Scale 10^17 Nm; Mrr-0.20±.03; Mθθ-0.16±.02; Mϕϕ0.36±.03; Mrθ0.13±.04; Mθϕ-0.96±.02; Mϕr-0.24±.04; Best double couple: M₀1.02200×10^17 NP1:ϕ₁188.00000°,δ85.00000°, λ10.00000°. NP2:ϕ₂97.00000°,δ80.00000°,λ174.00000°. Principal axes: T 1.1490, Plg11.0000°, Azm53.0000°; N -0.2540, Plg78.0000°, Azm215.0000°; P -0.8960, Plg3.0000°, Azm322.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 21 11:29:45.2±0.6,35°.5S±0°.1×104°2W±0°.1,h10km,n61, σ1ꢀ56/45,mb4.5/36,MS4.4/12,1C,Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**29.42**	**286**		*e*LQ		LQ	11 42 09.1	
	2μm,32.2s								
RKT					*e*LR		LR	11 43 23.2	
	309nm,26.8s								
RKT	**Rikitea**	**29.42**	**286**		*e*T		T	12 06 24.5	
	1.1nm,0.3s								
CFAA	**Coronel Fontan**	**30.11**	**93**		P		**P**	**11 35 55.0**	**-0.1**
	0.8nm,0.9s,baz=263,slow=10,SNR=4.4								
CFAA						LR	LR	11 45 04.9	
	comp=Z,130nm,20.3s,baz=256,slow=30								
LVC	**Limon Verde**	**33.24**	**77**		LR		LR	11 46 22.1	
	comp=Z,3μm,19.1s,baz=243,slow=30								
LVC	**Limon Verde**	**33.24**	**77**		*e*P		**P**	**11 36 23.1**	**+0.2**
	7.3nm,0.9s								
ATAH	**Atahualpa**	**36.85**	**46**		P		**P**	**11 36 56.1**	**+1.8**
	5.9nm,0.9s,baz=221,slow=9.3,SNR=2.7								
LPAZ	**La Paz**	**37.39**	**69**		P		**P**	**11 36 58.8**	**-0.4**
	7.2nm,1.1s,baz=185,slow=1.8,SNR=7.7								
LPAZ						LR	LR	11 49 15.8	
	comp=Z,481nm,18.2s,baz=278,slow=31								
CPUP	**Villa Florida**	**40.92**	**90**		P		**P**	**11 37 26.2**	**-1.6**
	2.1nm,0.8s,baz=250,slow=6.8,SNR=3.8								
CPUP						LR	LR	11 52 22.7	
	comp=Z,382nm,19.4s,baz=254,slow=33								
TBI	**Tubuai**	**40.92**	**275**		*e*LQ		LQ	11 46 47.7	
	2μm,34.0s								
TBI					*e*LR		LR	11 48 30.1	
	704nm,25.0s								
MEH	**Mehetia**	**42.56**	**283**		*e*T		T	12 22 43.5	
	9.4nm,0.3s								
SIV	**San Ignacio**	**43.03**	**74**		P		**P**	**11 37 44.3**	**-0.9**
	4.8nm,1.0s,baz=252,slow=8.6,SNR=10.0								
TVO	**Taravao**	**43.56**	**282**		*e*T		T	12 23 52.3	
	0.5nm,0.3s								
TIAR	**Tiarei**	**43.76**	**282**		*e*T		T	12 24 07.5	
	2.1nm,0.3s								
PPT2	**Papeete2**	**43.92**	**282**		*e*S		**S**	**11 44 21.4**	**-2.8**
	531nm,24.8s								
PPT2					*e*LQ		LQ	11 47 55.0	
	2μm,35.2s								
PPT2					*e*LR		LR	11 50 00.0	
	370nm,23.8s								
PPT	**Papeete**	**43.94**	**282**		LR		LR	11 51 18.7	
	comp=Z,427nm,18.9s,baz=121,slow=30								
SAML	**Samuel**	**45.77**	**65**		*e*P		**P**	**11 38 05.3**	**-1.8**
	5.1nm,1.0s								
ROSC	**El Rosal**	**48.99**	**41**		P		**P**	**11 38 34.0**	**+1.5**
	6.0nm,0.4s,baz=264,slow=13,SNR=5.5								
ROSC						LR	LR	11 55 33.4	
	comp=Z,728nm,21.0s,baz=201,slow=32								
BDFB	**Brasilia**	**53.67**	**83**		P		**P**	**11 39 06.5**	**-0.9**
	1.9nm,0.4s,baz=238,slow=12,SNR=3.2								
BDFB						LR	LR	12 00 40.6	
	comp=Z,530nm,18.6s,baz=228,slow=34								
PTGA	**Pitinga**	**53.72**	**60**		P		**P**	**11 39 06.7**	**-0.9**
	0.8nm,0.3s,baz=228,slow=5.5,SNR=2.9								
SDV	**Santo Domingo**	**54.34**	**42**		*e*P		**P**	**11 39 09.4**	**-3.0**
	8.4nm,0.9s								
QSPA	**South Pole Qui**	**54.69**	**180**		P		**P**	**11 39 13.1**	**-1.1**
	3.8nm,0.9s,baz=143,slow=4.3,SNR=8.9								
VNDA	**Vanda**	**56.47**	**195**		LR		LR	11 59 27.8	
	comp=Z,334nm,18.1s,baz=98,slow=32								
VNA1	**Neumayer--Stat**	**58.85**	**157**		P		**P**	**11 39 45.9**	**+2.4**
SNAA	**Sanae**	**60.14**	**159**		P		**P**	**11 39 54.2**	**+1.7**
SNAA	**Sanae**	**60.14**	**159**		*e*P		**P**	**11 39 54.2**	**+1.7**
	5.6nm,1.5s								
TXAR	**Lajitas Array**	**64.51**	**1**		P		**P**	**11 40 23.4**	**+1.2**
	2.5nm,0.8s,baz=186,slow=9.2,SNR=13								
TXAR						LR	LR	12 03 05.7	
	comp=Z,188nm,19.2s,baz=0.0,slow=31								
SYO	**Syowa Base**	**72.40**	**167**		*i* P		**P**	**11 41 12.6**	**+1.6**
MVCO	**Mesa Verde**	**72.47**	**356**		*e*P		**P**	**11 41 13.7**	**+1.6**
	13nm,1.1s								
CCUT	**Cedar City**	**73.20**	**352**		*e*P		**P**	**11 41 18.3**	**+2.0**
	4.8nm,1.0s								
TPH	**Tonopah**	**74.22**	**349**		*e*P		**P**	**11 41 24.8**	**+2.6**
	5.9nm,1.1s								
NVAR	**Mina Array Bea**	**74.73**	**349**		P		**P**	**11 41 24.0**	**-1.3**
	1.4nm,0.9s,baz=180,slow=4.3,SNR=7.1								
NVAR	**Mina Array Bea**	**74.73**	**349**		P		**P**	**11 41 24.0**	**-1.3**
DUG	**Dugway**	**75.76**	**353**		*e*P		**P**	**11 41 33.4**	**+2.3**
	5.5nm,1.2s								
BMN	**Battle Mountai**	**76.53**	**350**		*e*P		**P**	**11 41 35.7**	**+0.3**
	11nm,1.4s								
ELK	**Elko**	**76.57**	**351**		P		**P**	**11 41 35.3**	**-0.5**
	0.4nm,0.4s,baz=194,slow=12,SNR=3.1								
MAW	**Mawson**	**76.73**	**175**		P		**P**	**11 41 33.0**	**-3.2**
	1.4nm,0.8s,baz=263,slow=2.9,SNR=2.1								
MAW						LR	LR	12 11 14.6	
	comp=Z,142nm,21.8s,baz=226,slow=33								
MAW	**Mawson**	**76.73**	**175**		*e*P		**P**	**11 41 35.7**	**-0.5**
BW06	**Boulder Array**	**78.07**	**356**		*e*P		**P**	**11 41 43.0**	**-1.1**
	6.0nm,1.1s								
PDAR	**Pinedale Array**	**78.07**	**356**		P		**P**	**11 41 42.4**	**-1.7**
	1.3nm,0.9s,baz=145,slow=5.4,SNR=7.4								
WVOR	**Wild Horse Val**	**78.70**	**349**		*e*P		**P**	**11 41 48.6**	**+1.2**
	20nm,1.6s								
REDW	**Red Top Meadow**	**78.74**	**355**		*e*P		**P**	**11 41 48.8**	**+1.0**
	7.3nm,1.3s								
TPAW	**Teton Pass**	**78.88**	**355**		*e*P		**P**	**11 41 49.0**	**+0.4**
	9.8nm,1.1s								
LOHW	**Long Hollow**	**78.98**	**355**		*e*P		**P**	**11 41 49.7**	**+0.6**
	3.7nm,1.1s								
HLID	**Hailey**	**79.26**	**352**		*e*P		**P**	**11 41 51.2**	**+0.7**
	7.1nm,0.9s								
IMW	**Indian Meadow**	**79.28**	**355**		*e*P		**P**	**11 41 52.0**	**+1.2**
	6.0nm,1.0s								
SSPA	**Standing Stone**	**79.56**	**20**		*e*P		**P**	**11 41 51.8**	**-0.2**
	11nm,1.3s								
MCMT	**McKenzie Canyo**	**80.36**	**354**		*e*P		**P**	**11 41 58.4**	**+1.8**
	2.0nm,1.0s								
BOZ	**Bozeman (W)**	**81.07**	**355**		*e*P		P	11 42 03.6	+3.3
	3.3nm,1.1s								
LONY	**Lake Ozonia**	**84.17**	**21**		*e*P		**P**	**11 42 15.6**	**-0.7**
	8.5nm,1.0s								
NEW	**Newport**	**84.21**	**351**		*e*P		**P**	**11 42 17.5**	**+1.1**
	5.6nm,1.0s								
ULM	**Lac du Bonnet**	**85.72**	**5**		P		**P**	**11 42 23.6**	**-0.2**
	1.2nm,0.5s,baz=206,slow=4.2,SNR=2.5								
STKA	**Stephens Creek**	**88.89**	**231**		LR		LR	12 14 18.7	
	comp=Z,428nm,21.3s,baz=171,slow=30								
SCHQ	**Schefferville**	**95.55**	**21**		LR		LR	12 20 58.8	
	comp=Z,174nm,21.9s,baz=252,slow=32								
H01W1	**Cape Leeuwin H**	**101.33**	**211**		T		T	13 37 48.1	
	baz=147								
H01W2	**Cape Leeuwin H**	**101.33**	**211**		T		T	13 37 48.3	
	baz=147								
H01W3	**Cape Leeuwin H**	**101.35**	**211**		T		T	13 37 49.3	
	baz=147								
AKASG	**Madi Array Be**	**143.41**	**51**		PKP		PKPbc	11 49 16.7	+0.1
	0.3nm,0.4s,baz=270,slow=4.2,SNR=4.4								
BRTR	**Keskin Array B**	**146.57**	**70**		PKPbc		**PKPdf**	**11 49 25.8**	**+0.4**
	5.7nm,1.1s,baz=231,slow=3.8,SNR=16								
CMAR	**Chiang Mai Arr**	**153.38**	**236**		PKPbc		**PKPdf**	**11 49 39.6**	**+3.1**
	0.5nm,0.4s,baz=132,slow=3.9,SNR=3.3								
SONM	**Songino Array**	**154.23**	**308**		PKPbc		**PKPbc**	**11 49 45.6**	**+0.3**
	1.4nm,1.0s,baz=90,slow=1.4,SNR=5.0								
BVAR	**Borovoye Array**	**162.09**	**11**		PKPab		**PKPab**	**11 50 32.7**	**0.0**
	0.3nm,0.4s,baz=348,slow=3.5,SNR=2.6								

*IDC **21** 11:33:11.6±1.0,16°.73N×94°.09W,h106km±6km,mb3.7/7, mb1 3.9/8,mb1mx3.5/25,mbtmp4.0/8,Error ellipse: s-maj=21.2km s-min=15.4km az=8.0*
*ISCJB **21** 11:33:12.6±0.4,16°.56N±0°.04×94°.35W±0°.03,h126km±3km, mb4.0/12,Error ellipse: s-maj=6.6km s-min=4.5km az=2.0*
*NEIC **21** 11:33:15.2,16°.76N×94°.30W,h117km,mb4.2/13, MD4.3(MEX),After MEX.*
*MEX **21** 11:33:15.0±0.5,16°.76N×94°.32W,h119km±4km,MD4.3*

ISC 21 11:33:13.5±0.6,16°67N±0°.04×94°36W±0°.03,h122km±5km, n152,σ1ꢀ38/161,mb3.9/12,Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.65**	**310**		*e*P		**Pn**	**11 33 32.5**	**-0.2**
CMIG					*e*S		**Sn**	**11 33 46.2**	**-0.8**
CMIG	**Matias Romero**	**0.65**	**310**		P		**Pn**	**11 33 32.4**	**-0.2**
	578nm,0.3s,baz=116,slow=5.4,SNR=6968								
CMIG					S		**Sn**	**11 33 46.1**	**-1.0**
	432nm,0.3s,baz=253,slow=19,SNR=153								
CMIG						LR	LR	11 34 05.6	
	comp=Z,197nm,20.6s,baz=215,slow=64								
TGIG		**1.19**	**85**		*e*P		**Pn**	**11 33 37.0**	**-0.6**
TGIG					*e*S		**Sn**	**11 33 54.8**	**-1.2**
TGIG		**1.19**	**85**		*e*P		**Pn**	**11 33 37.0**	**-0.6**
TGIG					*e*S		**Sn**	**11 33 54.8**	**-1.2**
TUIG	**Tuzandepetl**	**1.35**	**358**		*e*P		**Pn**	**11 33 38.2**	**-1.1**
TUIG					*e*S		**Sn**	**11 33 57.4**	**-1.7**
TUIG	**Tuzandepetl**	**1.35**	**358**		*e*P		**Pn**	**11 33 38.2**	**-1.1**
TUIG					*e*S		**Sn**	**11 33 57.4**	**-1.7**
PCIG		**1.46**	**131**		*e*P		**Pn**	**11 33 40.9**	**+0.4**
PCIG					*e*S		**Sn**	**11 34 01.3**	**+0.2**
PCIG		**1.46**	**131**		*e*P		**Pn**	**11 33 40.9**	**+0.4**
PCIG					*e*S		**Sn**	**11 34 01.3**	**+0.2**
HUIG	**Huatulco**	**1.91**	**242**		*e*P		**Pn**	**11 33 45.1**	**-0.8**
HUIG					*i* S		**Sn**	**11 34 11.7**	**+1.2**
HUIG	**Huatulco**	**1.91**	**242**		*e*P		**Pn**	**11 33 44.8**	**-1.0**
HUIG					*e*S		**Sn**	**11 34 10.8**	**+0.2**
CCIG	**Comitan**	**2.17**	**100**		*e*P		**Pn**	**11 33 49.3**	**0.0**
CCIG					*e*S		**Sn**	**11 34 16.1**	**-0.6**
CCIG	**Comitan**	**2.17**	**100**		*e*P		**Pn**	**11 33 49.3**	**0.0**
CCIG					*e*S		**Sn**	**11 34 16.1**	**-0.6**
PANG	**Puerto Angel**	**2.26**	**244**		*e*P		**Pn**	**11 33 49.2**	**-1.1**
PANG					*i* S		**Sn**	**11 34 17.5**	**-1.0**
OXBJ	**Oaxaca**	**2.30**	**280**		*e*P		**Pn**	**11 33 51.6**	**+0.7**
OXBJ					*e*S		**Sn**	**11 34 19.4**	**-0.2**
VHO	**Vista Hermosa**	**2.31**	**280**		*e*P		**Pn**	**11 33 52.1**	**+1.1**
VHO					*e*S		**Sn**	**11 34 20.2**	**+0.3**
VHO	**Vista Hermosa**	**2.31**	**280**		*e*P		**Pn**	**11 33 52.1**	**+1.1**
VHO					*e*S		**Sn**	**11 34 20.2**	**+0.3**
PNIG	**Pinotepa**	**3.62**	**266**		*e*P		**Pn**	**11 34 07.7**	**-0.4**
PNIG					*i* S		**Sn**	**11 34 51.6**	**+1.3**
PNIG	**Pinotepa**	**3.62**	**266**		*e*P		**Pn**	**11 34 07.6**	**-0.5**
PNIG					*e*S		**Sn**	**11 34 47.8**	**-2.5**
TEIG	**Tepich**	**6.77**	**58**		P		Pn	11 34 46.8	-3.5
	0.4nm,0.3s,baz=0.0,slow=20,SNR=7.5								
TEIG					S		Sn	11 35 57.8	-8.2
	0.7nm,0.3s,baz=358,slow=24,SNR=9.5								
TEIG	**Tepich**	**6.77**	**58**		*e*Pn		Pn	11 34 46.9	-3.5
TEIG					*e*Sn		**Sn**	**11 36 06.0**	**0.0**
936A	**North Padre Is**	**11.04**	**346**		P		Pn	11 35 51.3	+3.4
	baz=11								
034A	**Hebbronville**	**11.09**	**340**		P		Pn	11 35 51.4	+2.9
	baz=11								
934A	**Benavides**	**11.54**	**341**		P		Pn	11 35 57.4	+2.9
	baz=12								
933A	**Laredo**	**11.80**	**338**		P		**Pn**	**11 36 00.4**	**+2.4**
	baz=12,SNR=6.0								
835A	**Beeville**	**11.99**	**345**		P		Pn	11 36 03.3	+2.8
	baz=12,SNR=9.9								
834A	**Tilden**	**12.04**	**342**		P		**Pn**	**11 36 03.1**	**+2.0**
	baz=12,SNR=7.7								
737A	**Port Lavaca**	**12.19**	**351**		P		**Pn**	**11 36 05.2**	**+2.2**
	baz=12								
736A	**Circle Diamond**	**12.48**	**349**		P		**Pn**	**11 36 09.4**	**+2.6**
	baz=12								
833A	**Chaparral WMA,**	**12.49**	**339**		P		**Pn**	**11 36 08.9**	**+1.9**
	baz=12,SNR=33								
735A	**Kenedy**	**12.53**	**346**		P		**Pn**	**11 36 09.7**	**+2.2**
	baz=12								
832A	**Faith Ranch, C**	**12.66**	**337**		P		**Pn**	**11 36 10.8**	**+1.5**
	baz=13,SNR=6.7								
734A	**La Parita Cree**	**12.72**	**343**		P		**Pn**	**11 36 11.7**	**+1.7**
	baz=13								
733A	**Divot King Ran**	**12.82**	**340**		P		**Pn**	**11 36 13.9**	**+2.6**
	baz=13,SNR=9.1								
637A	**Eagle Lake**	**12.84**	**352**		P		**P**	**11 36 15.1**	**-2.5**
	baz=13								
636A	**Smothers Creek**	**12.99**	**349**		P		**Pn**	**11 36 15.5**	**+2.0**
	baz=13								
635A	**Leesville**	**13.04**	**347**		P		**Pn**	**11 36 15.9**	**+1.7**
	baz=13								
732A	**Laxson Ranch,**	**13.06**	**338**		P		**Pn**	**11 36 16.5**	**+2.0**
	baz=13,SNR=6.0								
634A	**China Grove, S**	**13.17**	**345**		P		**Pn**	**11 36 17.3**	**+1.5**
	baz=13								
633A	**Saathoff Ranch**	**13.47**	**342**		P		**Pn**	**11 36 22.0**	**+2.3**
	baz=14,SNR=25								
536A	**Bastrop**	**13.57**	**350**		P		**Pn**	**11 36 22.0**	**+1.0**
	baz=14								
535A	**Dale**	**13.62**	**348**		P		**Pn**	**11 36 23.0**	**+1.4**
	baz=14								
632A	**Uvalde**	**13.71**	**340**		P		**Pn**	**11 36 24.8**	**+1.9**
	baz=14,SNR=16								
534A	**Blanco**	**13.82**	**345**		P		**P**	**11 36 26.4**	**-2.1**
	baz=14,SNR=71								
631A	**Perdido Creek**	**13.90**	**337**		P		**Pn**	**11 36 26.2**	**+0.9**
	baz=14								
533A	**Kerrville**	**14.01**	**343**		P		**P**	**11 36 28.6**	**-2.1**
	baz=14,SNR=13								
438A	**Sam Houston St**	**14.05**	**356**		P		**Pn**	**11 36 28.8**	**+1.6**
	baz=14								
532A	**Rocksprings**	**14.32**	**340**		P		**P**	**11 36 33.3**	**-0.9**
	baz=14,SNR=49								
435B	**Jarrell**	**14.35**	**349**		P		**P**	**11 36 33.3**	**-1.1**
	baz=14,SNR=8.4								
434A	**Burnet**	**14.52**	**346**		P		**P**	**11 36 35.2**	**-1.2**
	baz=14,SNR=9.3								
531A	**Rocksprings**	**14.57**	**338**		P		**P**	**11 36 35.8**	**-1.2**
	baz=15,SNR=11								
JCT	**Junction City**	**14.62**	**341**		P		**P**	**11 36 36.1**	**-1.3**
	baz=15								
JCT	**Junction City**	**14.62**	**341**		*e*Pn		**P**	**11 36 37.4**	**-0.1**
	11nm,0.8s								
JCT					*e*Sn		**Sn**	**11 39 13.1**	**-2.9**
338A	**Crockett**	**14.64**	**357**		P		**P**	**11 36 36.2**	**-1.5**
	baz=15								
335A	**Moody**	**14.81**	**350**		P		**P**	**11 36 38.5**	**-1.0**
	baz=15,SNR=7.3								
336A	**Riesel**	**14.82**	**352**		P		**P**	**11 36 38.4**	**-1.3**
	baz=15								
530A	**J-C Ranch, Com**	**14.86**	**336**		P		**Pn**	**11 36 38.6**	**+1.2**
	baz=15								
432A	**Menard**	**14.98**	**342**		P		**P**	**11 36 40.2**	**-1.4**
	baz=15,SNR=7.0								
334A	**

baz=18,SNR=6.2
X38A Whitesboro 17.93 359 P **Pn** **11 37 15.1 +0.1**
baz=18,SNR=8.3
Y31A Rekieta Farm, 18.02 344 P **P** **11 37 15.2 +0.3**
baz=18,SNR=13
Z28A Tucker Farm, M 18.06 338 P **P** **11 37 15.1 -0.4**
baz=18,SNR=8.7
X34A Smith Ranch, M 18.12 351 P **Pn** **11 37 20.0 +2.6**
baz=18,SNR=22
X33A Lawton 18.18 349 P **Pn** **11 37 21.1 +3.0**
baz=18,SNR=16
X32A Elmer 18.22 347 P **P** **11 37 17.6 +0.4**
baz=18
W38A Poteau 18.32 360 P **Pn** **11 37 23.5 +3.8**
baz=18,SNR=7.7
Y29A Porterfield Fa 18.34 340 P **P** **11 37 18.9 +0.3**
baz=18
WMOK Wichita Mounta 18.42 348 *e*P **Pn** **11 37 24.7 +3.8**
7.4nm,0.7s
W36A Wetumka 18.47 355 P **Pn** **11 37 22.6 +1.1**
baz=18
W35A Tecumseh 18.54 354 P **Pn** **11 37 23.2 +0.9**
baz=18
Y28A McKinney Farm, 18.57 339 P **P** **11 37 20.9 -0.2**
baz=19,SNR=5.8
X31A McDonald Ranch 18.58 345 P **Pn** **11 37 22.1 -0.7**
baz=19
X30A Coker Ranch, T 18.64 343 P **P** **11 37 22.4 +0.6**
baz=19
W34A Bridge Creek, 18.74 351 *e*P **Pn** **11 37 27.8 +3.2**
19nm,0.8s
X29A Tulia 18.88 341 P **P** **11 37 25.0 +0.5**
baz=19
TUL1 Tulsa 19.20 356 P **Pn** **11 37 29.5 -0.6**
baz=19
U34A Anderson Ranch 19.89 352 *e*P **Pn** **11 37 41.0 +3.0**
34nm,1.4s
121A Cookes Peak, D 19.93 325 P **Pn** **11 37 37.3 -1.4**
baz=20,SNR=10
121A Cookes Peak, D 19.93 325 *e*P **Pn** **11 37 38.2 -0.5**
11nm,0.9s
T37A Cheneyville 18 20.38 359 P Pn 11 37 43.7 0.0
baz=20
T34A McClaskey Farm 20.42 354 P Pn 11 37 43.4 -0.9
baz=20
BNM Barren Site 20.60 330 *e*P Pn 11 37 45.2 -1.5
LPM Los Pinos Moun 20.73 330 *e*P Pn 11 37 46.5 -1.7
LAZ Ladron 21.05 329 *e*P **P** **11 37 50.3 +2.3**
U27A Thompson Grove 21.06 341 P **P** **11 37 47.9 -0.1**
baz=21
ANMO Albuquerque 21.17 332 P **P** **11 37 50.0 +0.7**
2.1nm,0.9s,baz=158,slow=11,SNR=8.6
ANMO Albuquerque 21.17 332 *e*P **P** **11 37 50.3 +1.0**
2.5nm,0.9s
TUC Tucson 21.54 319 *e*P **P** **11 37 54.4 +1.3**
4.9nm,1.1s
S29A Ulysses 21.70 345 P **P** **11 37 55.7 +0.8**
baz=22
T26A Comanche Natio 21.99 340 P **P** **11 37 58.4 +0.4**
baz=22
R31A Burdett 22.01 349 P **P** **11 37 58.6 +0.7**
baz=22
T25A Trinidad 22.24 338 *e*P **P** **11 38 01.9 +1.3**
21nm,1.8s
SDCO Great Sand Dun 23.17 337 P **P** **11 38 08.8 -0.9**
baz=23
SDCO Great Sand Dun 23.17 337 *e*P **P** **11 38 11.2 +1.5**
21nm,2.6s
WUAZ Wupatki 24.13 324 P **P** **11 38 20.0 +1.7**
baz=24
WUAZ Wupatki 24.13 324 *e*P **P** **11 38 18.9 +0.6**
4.8nm,1.0s
PV01 Paradox Valley 24.76 332 *e*P **P** **11 38 27.0 +3.0**
173nm,0.9s
NVAR Mina Array Bea 30.17 321 P **P** **11 39 14.6 +2.1**
1.0nm,0.9s,baz=138,slow=7.3,SNR=6.8
SIV San Ignacio 46.17 133 P **P** **11 41 24.7 -1.6**
1.8nm,0.4s,baz=310,slow=7.0,SNR=11
YKA Yellowknife Ar 47.93 348 P **P** **11 41 38.1 -1.2**
0.4nm,0.5s,baz=154,slow=7.4,SNR=5.1
YKA pP **pP** **11 42 05.1 -2.3**
0.7nm,0.8s,baz=150,slow=7.9,SNR=4.5
INK Inuvik 57.25 344 P **P** **11 42 47.5 -0.3**
0.7nm,0.4s,baz=111,slow=3.1,SNR=4.4
NB2 NORSAR Subarra 82.89 28 P **P** **11 45 23.4 -1.0**
comp=Z,1.4nm,0.8s,baz=287,slow=5.1
NOA NORSAR Array B 82.89 28 P **P** **11 45 22.9 -1.6**
comp=Z,1.1nm,0.8s,baz=290,slow=5.1,SNR=5.0
ARCES ARCESS Array B 84.31 18 P **P** **11 45 29.8 -1.7**
comp=Z,11nm,1.2s,baz=302,slow=4.1,SNR=7.9
WRA Warramunga Arr 133.77 258 PKP **PKPdf** **11 52 17.2 +0.4**
comp=Z,4.4nm,1.0s,baz=90,slow=3.3,SNR=5.8
ASAR Alice Springs 134.33 253 PKP **PKPdf** **11 52 16.5 -1.3**
comp=Z,0.2nm,0.8s,baz=70,slow=3.0,SNR=3.6

IDC 21 11:45:25.9±3.5, 53°20N×90°96E, h0km, mb1 2.8/3, mb1mx2.8/32, mbtmp2.8/3, ML2.5/3, Error ellipse: s-maj=33.4km s-min=24.3km az=38.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.74**	**284**	*i*		Pn	12 08 00.0	
	baz=99,slow=319,SNR=4.3							
ZALV	**Zalesovo Beam**	**3.74**	**284**			Pn	11 46 24.9	+0.2
	0.7nm,0.3s,baz=103,slow=14,SNR=4.8							
ZALV				Lg		Lg	11 47 26.4	
	1.5nm,0.3s,baz=96,slow=26,SNR=8.8							
KURBB	**Kurchatov Arra**	**8.11**	**256**	Pn		Pn	11 47 24.1	-0.7
	0.1nm,0.3s,baz=68,slow=14,SNR=7.5							
KURBB				Sn		Sn	11 48 55.0	-2.0
	0.1nm,0.3s,baz=68,slow=26,SNR=4.1							
KURBB				Lg		Lg	11 49 42.8	
	baz=71,slow=32,SNR=5.5							
MKAR	**Makanchi Array**	**8.50**	**224**	Pn		Pn	11 47 31.4	+1.2
	0.1nm,0.3s,baz=42,slow=12,SNR=2.8							
MKAR				Lg		Lg	11 49 56.3	
	0.2nm,0.3s,baz=40,slow=34,SNR=4.3							

KRNET ***21*** *11:48:04.9±0.1, 41°.23N×79°.01E, h28km, mb2.8*
NNC ***21*** *11:48:08.4±3.6, 41°.55N×79°.32E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=33.5km s-min=17.1km az=129.0*
ISC 21 11:48:02.8±2.3, 41°.2N±0°.1×79°.19E±0°.07, h13km, n10, σ1.9 32/17, 11C-3D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KDJ	**Kajisay**	**1.76**	**302**	*e*P		**Pn**	**11 48 33.8**	**+0.6**
	baz=304							
KDJ				*e*S		**Sn**	**11 48 53.0**	**-2.6**
	baz=304							
ANVS	**Anan'yevo**	**1.94**	**325**	⇓*i*P		**Pg**	**11 48 39.5**	**-0.5**
	baz=328							
PDGK	**Podgornoye**	**2.12**	**6**	⇑P		**Pb**	**11 48 40.4**	**-0.7**
	26nm,0.6s							
PDGK				⇑S		**Sn**	**11 49 04.8**	**+0.7**
	104nm,0.5s							
NRN	**Naryn**	**2.41**	**276**	*e*P		**Pb**	**11 48 47.0**	**+0.7**
	baz=276							
NRN				*e*S		**Sb**	**11 49 15.4**	**-0.7**
	baz=276							
ULHL	**Ulahol**	**2.44**	**296**	⇑*i*P		**Pg**	**11 48 50.6**	**+1.1**
	baz=297							
ULHL				⇑*i*S		**Sg**	**11 49 22.1**	**+1.0**
	baz=297							
KZA	**Kyzart**	**3.08**	**288**	⇑*i*P		**Pg**	**11 49 00.9**	**-0.9**
	baz=288							
TKM2	**Tokmak 2**	**3.17**	**304**	⇑Pn		**Pb**	**11 48 59.5**	**+0.3**
	7.2nm,0.9s							
TKM2				⇑Lg		Lg	11 49 42.3	
	20nm,0.4s							
TKM2	**Tokmak 2**	**3.17**	**304**	⇑*i*P		**Pb**	**11 48 59.5**	**+0.3**
	baz=305							
TKM2				⇑*i*S		**Sb**	**11 49 40.1**	**+2.2**
	baz=305							
ARLS	**Aral**	**3.71**	**282**	⇓*i*P		**Pg**	**11 49 14.0**	**+0.1**
	baz=282							
ARLS				⇓*e*S		**Sg**	**11 50 00.0**	**-2.0**
	baz=282							
MK31	**Makanchi Array**	**6.01**	**21**	⇑Pn		**Pn**	**11 49 32.2**	**+0.8**
	2.4nm,0.9s,baz=205,slow=14,SNR=6.5							
MK31				Sn		**Sn**	**11 50 38.6**	**-1.5**
	0.3nm,0.2s,baz=210,slow=27,SNR=5.0							
MK31				⇑Lg		Lg	11 51 06.1	
	1.3nm,0.5s							

IDC ***21*** *11:55:52.9±0.6, 14°.37N×144°.18E, h0km, mb4.0/16, mb1 4.1/16, mb1mx4.1/28, mbtmp4.0/16, MS3.7/13, Ms1 3.7/13, ms1mx3.5/32, Error ellipse: s-maj=24.9km s-min=12.5km az=71.0*
NEIC ***21*** *11:55:54.2±0.3, 14°.38N×144°.25E, h10km, mb4.6/5, Error ellipse: s-maj=13.1km s-min=6.3km az=73.0*
ISCJB ***21*** *11:55:55.9±0.4, 14°.35N±0°.06×144°.18E±0°.10, h33km, mb4.1/22, MS3.7/11, Error ellipse: s-maj=15.4km s-min=6.4km az=151.7*
ISC 21 11:55:57.6±0.5, 14°.35N±0°.08×144°.3E±0°.1, h35km, n41, σ0.9 95/29, mb4.2/22, MS3.7/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**0.94**	**143**	Pn		**Pn**	**11 56 14.1**	**-0.3**
	467nm,0.3s,baz=277,slow=2.6,SNR=329							
GUMO				Sn		**Sn**	**11 56 26.8**	**+0.2**
	425nm,0.3s,baz=174,slow=9.2,SNR=23							
JHJ	**Hachijo jima 2**	**19.13**	**348**	LR		LR	12 07 03.6	
	comp=Z,231nm,18.6s,baz=57,slow=35							
SIJI	**Sorong**	**19.87**	**222**	LR		LR	12 06 35.9	
	comp=Z,134nm,20.8s,baz=62,slow=32							
H11S3	**WAKE ISLAND Hy 21.87**		**76**	T		T	12 23 48.0	
	baz=262,slow=75,SNR=23							
H11S1	**WAKE ISLAND Hy 21.89**		**76**	T		T	12 23 49.8	
	baz=262,slow=75,SNR=25							
H11S2	**WAKE ISLAND Hy 21.89**		**76**	T		T	12 23 45.3	
	baz=262,slow=75,SNR=12							
JNU	**Nakatsue 22.32 329**			P		**P**	**12 00 51.2**	**-1.0**
	16nm,1.3s,baz=128,slow=18,SNR=2.1							
MJAR	**Matsushiro Arr 22.76 347**			P		**P**	**12 00 56.9**	**0.0**
	7.7nm,1.0s,baz=174,slow=9.7,SNR=21							
MJAR				LR		LR	12 09 19.2	
	comp=Z,196nm,18.0s,baz=175,slow=36							
MAJO	**Matsushiro 22.76 347**			*e*P		**P**	**12 00 57.1**	**+0.2**
	42nm,1.3s							
MAT	**Matsushiro 22.76 347**			P		**P**	**12 00 57.6**	**+0.7**
MAT				S		**S**	**12 05 06.4**	**+2.9**
PMG	**Port Moresby 23.77 173**			LR		LR	12 09 30.3	
	comp=Z,41nm,21.8s,baz=159,slow=34							
KSRS	**Korea Array 27.23 331**			P		**P**	**12 01 37.6**	**-0.7**
	1.7nm,0.9s,baz=144,slow=9.6,SNR=4.7							
KSRS				LR		LR	12 12 13.8	
	comp=Z,93nm,18.6s,baz=62,slow=36							
KSAR	**Wonju Array Be 27.24 331**			P		**P**	**12 01 37.6**	**-0.8**
USRK	**Ussuriysk Ar. 31.55 343**			LR		LR	12 14 35.8	
	comp=Z,151nm,18.1s,baz=348,slow=36							
WRAB	**Tennant Creek 35.44 196**			*e*P		**P**	**12 02 51.2**	**+0.5**
	7.4nm,0.9s							
WRA	**Warramunga Arr 35.46 196**			P		**P**	**12 02 50.9**	**0.0**
	5.6nm,0.9s,baz=18,slow=9.6,SNR=24							
ASAR	**Alice Springs 39.12 195**			P		**P**	**12 03 21.8**	**-0.2**
	0.3nm,0.4s,baz=19,slow=12,SNR=11							
CMAR	**Chiang Mai Arr 43.61 282**			P		**P**	**12 03 57.9**	**-0.9**
	1.4nm,0.9s,baz=85,slow=6.4,SNR=10							
CMAR				LR		LR	12 23 23.1	
	comp=Z,57nm,18.2s,baz=90,slow=38							
ULN	**Ulaanbaatar 45.44 325**			*e*P		**P**	**12 04 13.6**	**+0.3**
	6.7nm,1.4s							
SONM	**Songino Array 45.79 325**			P		**P**	**12 04 16.6**	**+0.5**
	0.4nm,0.3s,baz=150,slow=12,SNR=4.0							
SONM				LR		LR	12 23 27.0	
	comp=Z,134nm,19.4s,baz=255,slow=36							
STKA	**Stephens Creek 46.04 183**			P		**P**	**12 04 18.1**	**+0.2**
	1.1nm,0.3s,baz=313,slow=11,SNR=4.5							
SEY	**Seymchan 48.85 5**			P		**P**	**12 04 39.6**	**+0.1**
	2.8nm,0.9s,baz=189,slow=17,SNR=4.0							
TLY	**Talaya 49.41 328**			P		**P**	**12 04 44.0**	**+0.1**
	1.0nm,0.4s,baz=141,slow=8.5,SNR=3.6							
MKAR	**Makanchi Array 60.55 316**			P		**P**	**12 06 04.9**	**+0.3**
	0.6nm,0.7s,baz=96,slow=8.8,SNR=5.4							
ZALV	**Zalesovo Beam 60.68 324**			P		**P**	**12 06 05.1**	**-0.2**
	0.4nm,0.4s,baz=20,slow=26,SNR=2.2							
KURK	**Kurchatov 63.64 320**			*e*P		**P**	**12 06 25.4**	**+0.2**
	13nm,1.2s							
ILAR	**Eielson Array 68.13 26**			P		**P**	**12 06 52.2**	**-1.6**
	5.6nm,0.3s,baz=238,slow=5.0,SNR=3.9							
BVAR	**Borovoye Array 68.98 322**			LR		LR	12 37 10.2	
	comp=Z,100nm,21.4s,baz=100,slow=36							
PPT	**Papeete 72.53 114**			LR		LR	12 34 52.3	
	comp=Z,58nm,19.1s,baz=324,slow=32							
PPT2	**Papeete2 72.54 114**			*e*LR		LR	12 29 11.7	
	150nm,25.5s							
TBI	**Tubuai 74.83 119**			*e*LR		LR	12 30 08.3	
	117nm,30.2s							
ABKAR	**Akbulak array 75.60 318**			P		**P**	**12 07 38.6**	**-0.4**
	0.2nm,0.3s							
YKA	**Yellowknife Ar 82.45 27**			P		**P**	**12 08 16.8**	**+0.7**
	0.4nm,0.7s,baz=289,slow=5.1,SNR=3.2							
ARCES	**ARCESS Array B 86.19 342**			LR		LR	12 47 59.3	
	comp=Z,63nm,20.9s,baz=284,slow=36							
NVAR	**Mina Array Bea 86.89 51**			P		**P**	**12 08 39.1**	**-0.3**
	0.3nm,0.8s,baz=248,slow=9.6,SNR=2.5							
RKT	**Rikitea 87.28 115**			*e*LR		LR	12 35 49.0	
	116nm,28.2s							
KBZ	**Khabaz 88.23 315**			LR		LR	12 52 11.4	
	comp=Z,55nm,20.8s,baz=334,slow=38							
FINES	**FINESS Array B 90.24 335**			P		**P**	**12 08 53.8**	**-0.6**
	2.0nm,0.8s,baz=57,slow=13,SNR=4.5							
VNDA	**Vanda 92.26 176**			P		**P**	**12 09 05.2**	**+1.9**
	1.2nm,0.7s,baz=327,slow=8.3,SNR=11							
VNDA				LR		LR	12 48 50.4	
	comp=Z,21nm,19.1s,baz=340,slow=34							
LCO	**Las Campanas 144.52 120**			*e*PKPdf		**PKPdf**	**12 15 32.4**	**+1.0**
LPAZ	**La Paz 148.69 98**			PKPbc		**PKPab**	**12 15 45.1**	**-1.5**
	2.5nm,0.8s,baz=289,slow=0.7,SNR=8.6							

CSEM ***21*** *12:44:41.2, 38°.75N×28°.99W, h6km, ML3.6*
PDA 21 12:44:41.2±0.9, 38°.75N×28°.99W, h6km±3km, MD3.4, ML3.6, Error ellipse: s-maj=6.1km s-min=3.6km az=69.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCED	**Cedros**	**0.26**	**119**	*i* P		Pg	12 44 45.8	-0.4
PCED				*e*S		Sg	12 44 49.5	-0.1
PCED				A		A	12 44 50.2	
	9μm,0.2s							
CALA	**Caldeira**	**0.28**	**127**	*e*P		Pg	12 44 46.7	-0.1
CALA				*e*S		Sg	12 44 50.3	-0.4
CALA	**Caldeira**	**0.28**	**127**	*e*P		Pg	12 44 46.7	-0.1
CALA				*e*S		Sg	12 44 50.3	-0.4
HOR	**Horta**	**0.36**	**129**	*e*P		Pg	12 44 47.8	-0.4
HOR				*e*S		Sg	12 44 52.5	-0.4
HOR	**Horta**	**0.36**	**129**	*e*P		Pg	12 44 47.8	-0.4
HOR				*e*S		Sg	12 44 52.5	-0.4
PCAN	**Candelaria**	**0.49**	**126**	*e*P		Pg	12 44 49.1	-1.6
PCAN				*e*S		Sg	12 44 55.5	-1.6
PCAN				A		A	12 44 57.7	
	1μm,0.2s							
PCAN	**Candelaria**	**0.49**	**126**	*e*P		Pg	12 44 49.1	-1.6
PCAN				*e*S		Sg	12 44 55.5	-1.6
ROSA	**Rosais**	**0.58**	**93**	*e*P		Pg	12 44 51.0	-1.5
ROSA				*e*S		Sg	12 44 58.0	-2.1
ROSA				A		A	12 45 00.0	
	2μm,0.3s							
ROSA	**Rosais**	**0.58**	**93**	*e*P		Pg	12 44 51.0	-1.5
ROSA				*e*S		Sg	12 44 58.0	-2.1
PPNO	**Prainha do Nor**	**0.63**	**116**	*e*P		Pg	12 44 52.0	-1.5
PPNO				*e*S		Sg	12 45 00.1	-1.7
PPNO				A		A	12 45 03.5	
	2μm,0.2s							
PPNO	**Prainha do Nor**	**0.63**	**116**	*e*P		Pg	12 44 52.0	-1.5
PPNO				*e*S		Sg	12 45 00.1	-1.7
PMAN	**Manadas**	**0.71**	**99**	*e*P		Pg	12 44 52.7	-2.2
PMAN				*e*S		Sg	12 45 01.8	-2.4
PMAN				A		A	12 45 03.4	
	457nm,0.2s							
PMAN	**Manadas**	**0.71**	**99**	*e*P		Pg	12 44 52.7	-2.2
PMAN				*e*S		Sg	12 45 01.8	-2.4
PGRA	**Graciosa**	**0.83**	**70**	*e*P		Pg	12 44 54.4	-2.8
PGRA				*e*S		Sg	12 45 04.9	-3.1
PGRA				A		A	12 45 11.6	
	263nm,0.3s							
PGRA	**Graciosa**	**0.83**	**70**	*e*P		Pg	12 44 54.4	-2.8
PGRA				*e*S		Sg	12 45 04.9	-3.1
ADH	**Angra Heroismo**	**1.37**	**94**	*e*S		Sb	12 45 17.7	-7.4
ADH				A		A	12 45 19.5	
	129nm,0.2s							
ADH	**Angra Heroismo**	**1.37**	**94**	*e*S		Sb	12 45 17.7	-7.4
BART	**Pico Bartolome**	**3.16**	**107**	*e*P		Pn	12 45 26.9	-4.7
BART	**Pico Bartolome**	**3.16**	**107**	*e*P		Pn	12 45 26.9	-4.7
PSMA	**Santa Maria**	**3.52**	**119**	*e*P		Pn	12 45 31.9	-4.5

IDC 21 12:46:41.4±3.6, 5°90S×151°06E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/31, mbtmp3.6/3, ML1.1/1, Error ellipse: s-maj=130.2km s-min=47.4km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**5.20**	**228**	Pn		Pn	12 48 02.6	+2.1
	0.5nm,0.3s,baz=78,slow=20,SNR=1.9							
PMG				Sn		Sn	12 48 58.2	-3.1
	2.5nm,0.3s,baz=188,slow=5.4,SNR=5.8							
WRA	**Warramunga Arr**	**21.42**	**228**	P		P	12 51 30.4	-0.8
	1.4nm,0.7s,baz=53,slow=10,SNR=10.0							
ASAR	**Alice Springs**	**24.18**	**221**	P		P	12 51 59.3	-0.4
	0.7nm,0.5s,baz=58,slow=9.0,SNR=6.6							
TORD	**Torodi Ar. Bea**	**148.96**	**286**	PKPbc		PKPbc	13 06 32.3	-0.2
	0.3nm,0.5s,baz=67,slow=3.6,SNR=2.4							

ATH 21 12:56:26.3, 38°.37N×22°.06E, h3km±2km, MD1.9/3, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TRIZ	**Trizonia**	**0.01**	**114**	*e*PG		Pg	12 56 26.7	-0.2
TRIZ				*e*SG		Sg	12 56 27.5	+0.2
KALE	**Kalithea**	**0.07**	**71**	*e*PG		Pg	12 56 27.5	-0.3
KALE				*e*SG		Sg	12 56 29.2	+0.4
LAKA	**Lakka**	**0.14**	**206**	*e*PG		Pg	12 56 29.6	+0.4
LAKA				*e*SG		Sg	12 56 31.3	+0.1

ISK ***21*** *12:57:42.3, 37°.39N×28°.32E, h5km, MD2.6*
CSEM ***21*** *12:57:44.1±0.5, 37°.35N×28°.33E, h1km, MD2.6, Error ellipse: s-maj=12.6km s-min=9.1km az=48.0, Mining explosion.*
ISCJB ***21*** *12:57:45.5±0.6, 37°.25N±0°.03×28°.21E±0°.05, h0km, Error ellipse: s-maj=6.0km s-min=3.9km az=143.1*
DDA ***21*** *12:57:45.3, 37°.20N×28°.19E, h7km, MD2.7*
ISC 21 12:57:44.6±0.9, 37°.35N±0°.03×28°.30E±0°.03, h0km, n16, σ1.9 17/25, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YER	**Yerkesik**	**0.22**	**184**	*e*PG		**Pg**	**12 57 48.4**	**-0.3**
AYDN	**Tasoluk**	**0.45**	**313**	*i* P		**Pb**	**12 57 55.7**	**+0.2**
AYDN				*i* S		**Sb**	**12 58 02.4**	**-0.5**
AYDN	**Tasoluk**	**0.45**	**313**	*i* P		**Pb**	**12 57 55.7**	**+0.2**
AYDN				*i* S		**Sb**	**12 58 02.4**	**-0.5**
TURN	**Turunc**	**0.54**	**153**	*i* P		**Pg**	**12 57 53.9**	**-1.0**
TURN				*i* S		**Sg**	**12 58 01.7**	**-0.1**
TURN	**Turunc**	**0.54**	**153**	*i* P		**Pg**	**12 57 53.9**	**-1.0**
TURN				*i* S		**Sg**	**12 58 01.7**	**-0.1**
DALY	**Dalyan (Mu¨la**	**0.60**	**152**	*e*PG		**Pg**	**12 57 56.0**	**-0.2**
DALY				*e*SG		**Sb**	**12 58 05.6**	**-1.5**
DALY	**Dalyan (Mu¨la**	**0.60**	**152**	*e*Pg		**Pg**	**12 57 56.0**	**-0.2**
DALY				*e*Sg		**Sb**	**12 58 05.6**	**-1.5**
AYDB	**Zeytinkoy-Aydi**	**0.68**	**331**	*e*PG		**Pg**	**12 57 56.5**	**-1.1**
AYDB	**Zeytinkoy-Aydi**	**0.68**	**331**	*e*Pg		**Pg**	**12 57 56.5**	**-1.0**
DENT	**Denizli**	**0.71**	**55**	*e*PG		**Pg**	**12 57 56.3**	**-1.8**
DENT	**Denizli**	**0.71**	**55**	*e*Pg		**Pg**	**12 57 56.3**	**-1.8**
BDRM	**Kayabasi**	**0.74**	**247**	*i* P		**Pg**	**12 57 57.4**	**-1.3**
BDRM				*i* S		**Sg**	**12 58 07.3**	**-1.1**
BDRM	**Kayabasi**	**0.74**	**247**	*i* P		**Pg**	**12 57 57.4**	**-1.3**
BDRM				*i* S		**Sg**	**12 58 07.3**	**-1.1**
BODT	**Bodrum**	**0.84**	**250**	*e*PG		**Pg**	**12 58 00.1**	**-0.7**
BODT	**Bodrum**	**0.84**	**250**	*e*Pg		**Pg**	**12 58 00.0**	**-0.7**
MANT	**Manisa**	**1.15**	**10**	*i* P		**Pn**	**12 58 10.5**	**+2.3**
MANT				*i* S		**Sn**	**12 58 26.3**	**+1.4**

INMG ***21*** *13:02:51.5±0.4, 32°.23N×7°.61W, h31km, ML2.3, Error ellipse: s-maj=7.1km s-min=3.9km az=92.0*
MDD 21 13:02:50.6±3.5, 32°.35N×7°.58W, h0km, mb3.7/4, Error ellipse: s-maj=48.7km s-min=30.5km az=100.0, PRXIMO, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MORF	**Marmelete**	**5.02**	**350**	*e*Pn		Pn	13 04 05.9	-1.3
MORF	**Marmelete**	**5.02**	**350**	P		Pn	13 04 05.9	-1.3
PVAQ	**Vaqueiros**	**5.04**	**359**	*e*Pn		Pn	13 04 06.1	-1.4
PVAQ				*e*Sn		Sn	13 05 01.9	-4.5
PVAQ				A		A	13 05 03.7	
	1.8nm,0.3s							
PVAQ	**Vaqueiros**	**5.04**	**359**	P		Pn	13 04 06.1	-1.4
PVAQ				S		Sn	13 05 01.9	-4.5
	1.8nm,0.3s							
EGRO	**El Granado**	**5.17**	**1**	P		Pn	13 04 08.2	-1.0
	0.7nm,0.2s,SNR=7.9							
EGRO				S		Sn	13 05 04.4	-5.3
	0.7nm,0.3s,SNR=7.9							
PCVE	**Castro Verde**	**5.28**	**356**	*e*Pn		Pn	13 04 09.5	-1.3
PCVE				*e*Sn		Sn	13 05 08.1	-4.3
PCVE				A		A	13 05 10.4	
	2.0nm,0.5s							
PCVE	**Castro Verde**	**5.28**	**356**	P		Pn	13 04 09.5	-1.3
PCVE				S		Sn	13 05 08.1	-4.3
	2.0nm,0.5s							
EMIN	**Mina Concepcio**	**5.46**	**8**	P		Pn	13 04 11.6	-1.6
	0.6nm,0.2s,SNR=7.9							
EMIN				S		Sn	13 05 11.0	-5.7
	0.2nm,0.1s,SNR=7.9							
PBAR	**Barrancos**	**5.83**	**4**	*e*Pn		Pn	13 04 17.2	-1.1
PBAR				*e*Sn		Sn	13 05 21.7	-4.1
PBAR				A		A	13 05 24.6	
	3.0nm,0.4s							
PBAR	**Barrancos**	**5.83**	**4**	P		Pn	13 04 17.2	-1.1
PBAR				S		Sn	13 05 21.7	-4.1
	3.0nm,0.4s							
ECAB	**El Cabril**	**5.98**	**17**	P		Pn	13 04 19.1	-1.3
	0.4nm,0.2s,SNR=7.9							
ECAB				S		Sn	13 05 24.2	-5.4
	0.4nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**6.30**	**22**	P		Pn	13 04 24.0	-0.9
	0.6nm,0.1s,SNR=7.9							
EADA				S		Sn	13 05 31.5	-6.0
	0.5nm,0.2s,SNR=7.9							

IDC 21 13:07:24.7±3.4, 6°10S×150°56E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.4/19, mbtmp3.7/3, ML1.8/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/19, Error ellipse: s-maj=117.8km s-min=43.9km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**

PMG				P		**Pn**	**13 31 02.2**	**+0.7**
	baz=4.7,SNR=19							
PMG				P		**Pn**	**13 31 02.2**	**+0.7**
	baz=4.7,SNR=19							
KDU	**Kakadu**	**18.98**	**249**	P		**Pn**	**13 34 11.8**	**-0.4**
	baz=19,SNR=4.2							
RMQ	**Roma**	**20.27**	**185**	P		**P**	**13 34 25.2**	**-0.1**
	baz=20,SNR=11							
WRAB	**Tennant Creek**	**20.86**	**228**	*eP*		**P**	**13 34 31.4**	**-0.3**
	6.8nm,0.7s							
WRA	**Warramunga Arr**	**20.88**	**228**	P		**P**	**13 34 31.5**	**-0.4**
	6.1nm,0.5s,baz=53,slow=11,SNR=104							
QLP	**Quilpie**	**21.18**	**196**	P		**P**	**13 34 37.3**	**+2.3**
	baz=21,SNR=9.6							
KNRA	**Kununurra**	**23.37**	**244**	P		**P**	**13 34 59.1**	**+0.9**
	baz=24,SNR=5.3							
AS31	**Alice Springs**	**23.65**	**221**	*eP*		**P**	**13 35 01.1**	**+0.3**
ASAR	**Alice Springs**	**23.65**	**221**	P		**P**	**13 35 00.7**	**-0.1**
	2.8nm,0.5s,baz=56,slow=9.0,SNR=137							
ASAR				LR		LR	13 43 52.0	
	comp=Z,126nm,21.5s,baz=314,slow=36							
STKA	**Stephens Creek**	**26.91**	**197**	P		**P**	**13 35 29.0**	**-1.3**
	2.9nm,0.6s,baz=9.0,slow=8.8,SNR=12							
STKA	**Stephens Creek**	**26.91**	**197**	P		**P**	**13 35 29.1**	**-1.3**
	baz=27,SNR=8.3							
WRKA	**Warakurna**	**28.40**	**226**	P		**P**	**13 35 43.4**	**-0.4**
	baz=28,SNR=9.7							
MEEK	**Meekatharra**	**36.61**	**233**	P		**P**	**13 36 55.7**	**+0.2**
	baz=37,SNR=5.1							
VNDA	**Vanda**	**71.56**	**177**	*eP*		**P**	**13 41 09.0**	**-0.2**
	0.4nm,0.5s							
QSPA	**South Pole Qui**	**83.80**	**180**	P		**P**	**13 42 17.6**	**-0.2**
	1.4nm,0.7s,baz=95,slow=0.3,SNR=6.6							
QSPA	**South Pole Qui**	**83.80**	**180**	*eP*		**P**	**13 42 17.1**	**-0.6**
	1.3nm,0.6s							
ILAR	**Eielson Array**	**84.27**	**22**	P		**P**	**13 42 19.0**	**-0.9**
	0.2nm,0.5s,baz=239,slow=5.5,SNR=4.1							
NVAR	**Mina Array Bea**	**94.68**	**52**	P		**P**	**13 43 11.1**	**+0.8**
	0.3nm,0.7s,baz=251,slow=5.6,SNR=2.1							
TORD	**Torodi Ar. Bea**	**148.56**	**285**	PKPbc		**PKPbc**	**13 49 36.6**	**+0.3**
	0.8nm,0.3s,baz=87,slow=2.7,SNR=17							

*IDC **21** 13:36:00.7±9.6,23°.61S×179°.77W,h480km±121km, mb3.5/6,mb1 3.6/7,mb1mx3.2/29,mbtmp4.4/7,Error ellipse: s-maj=75.5km s-min=29.0km az=10.0*
*ISCJB **21** 13:36:03.7±1.3,23°.9S±0°.2×179°.9W±0°.2,h532km,mb4.0/6, Error ellipse: s-maj=27.2km s-min=24.5km az=8.4*

ISC 21 13:36:04.5±1.4,24°.0S±0°.2×179°.8W±0°.2,h532km,n7, σ0§71/7,mb4.1/6,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
URZ	**Urewera**	**14.51**	**190**	P		**P**	**13 39 08.6**	**-0.3**
	0.7nm,0.3s,baz=298,slow=2.3,SNR=7.8							
CTA	**Charters Tower**	**31.66**	**270**	P		**P**	**13 41 44.9**	**+0.5**
	7.7nm,0.5s,baz=92,slow=11,SNR=20							
STKA	**Stephens Creek**	**34.88**	**248**	P		**P**	**13 42 12.2**	**+0.8**
	0.8nm,0.5s,baz=75,slow=11,SNR=4.1							
ASAR	**Alice Springs**	**42.21**	**261**	P		**P**	**13 43 11.1**	**+0.1**
	3.6nm,0.8s,baz=101,slow=6.7,SNR=40							
WRA	**Warramunga Arr**	**42.59**	**266**	P		**P**	**13 43 13.3**	**-0.7**
	4.0nm,0.5s,baz=96,slow=8.4,SNR=167							
SIJI	**Sorong**	**52.63**	**288**	P		**P**	**13 44 28.6**	**-0.7**
	10.0nm,0.7s,baz=64,slow=6.6,SNR=7.9							
TXAR	**Lajitas Array**	**90.30**	**58**	P		**P**	**13 48 09.2**	**+0.3**
	0.4nm,0.7s,baz=230,slow=5.6,SNR=5.0							

IDC 21 14:01:14.2±2.7,6°.73S×154°.09E,h0km,mb3.7/4, mb1 3.8/4,mb1mx3.6/19,mbtmp3.7/4,MS2.8/1,Ms1 2.8/1, ms1mx2.3/22,Error ellipse: s-maj=85.2km s-min=34.1km az=108.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
HNR	**Honiara**	**6.39**	**115**	LR	LR		14 05 19.7	
	comp=Z,90nm,20.6s,baz=226,slow=38							
WRA	**Warramunga Arr**	**23.23**	**234**	P		P	14 06 23.6	+0.3
	2.2nm,0.9s,baz=55,slow=9.4,SNR=12							
ASAR	**Alice Springs**	**25.68**	**227**	P		P	14 06 45.7	-0.5
	0.9nm,0.8s,baz=58,slow=9.3,SNR=11							
STKA	**Stephens Creek**	**27.60**	**203**	P		P	14 07 03.0	-0.4
	0.6nm,0.5s,baz=32,slow=12,SNR=3.5							
MKAR	**Makanchi Array**	**82.61**	**319**	P		P	14 13 40.6	+1.1
	0.5nm,0.8s,baz=102,slow=5.3,SNR=3.7							
TORD	**Torodi Ar. Bea**	**152.09**	**285**	PKPbc		PKPbc	14 21 11.9	-0.8
	0.4nm,0.8s,baz=74,slow=1.8,SNR=2.0							

*IDC **21** 14:02:19.5±1.2,22°.87N×144°.68E,h0km,mb3.5/5, mb1 3.7/6,mb1mx3.5/27,mbtmp3.6/6,ML3.9/1,MS2.8/1, Ms1 2.8/1,ms1mx2.3/22,Error ellipse: s-maj=49.3km s-min=21.9km az=91.0*
*ISCJB **21** 14:02:21.9±1.0,23°.0N±0°.1×144°.4E±0°.3,h33km,mb3.6/5, Error ellipse: s-maj=44.1km s-min=14.3km az=171.8*

ISC 21 14:02:24.3±1.2,23°.0N±0°.1×144°.2E±0°.3,h35km,n7, σ1§15/6,mb3.5/5,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
JCJ	**Chichijima**	**4.47**	**337**	Pn		**Pn**	**14 03 30.8**	**+1.2**
	4.9nm,0.3s,baz=333,slow=22,SNR=15							
JCJ				Sn		**Sn**	**14 04 18.9**	**-1.4**
	11nm,0.3s,baz=306,slow=24,SNR=8.9							
GUMO	**Guam**	**9.38**	**176**	LR		LR	14 07 43.6	
	comp=Z,54nm,19.1s,baz=20,slow=35							
WRA	**Warramunga Arr**	**43.74**	**193**	P		**P**	**14 10 26.8**	**+0.4**
	0.5nm,0.6s,baz=16,slow=8.8,SNR=3.6							
ASAR	**Alice Springs**	**47.44**	**193**	P		**P**	**14 10 55.5**	**-0.2**
	0.3nm,0.7s,baz=19,slow=8.9,SNR=4.1							
MKAR	**Makanchi Array**	**54.51**	**312**	P		P	14 11 53.2	+4.5
	0.3nm,0.6s,baz=98,slow=8.5,SNR=3.1							
STKA	**Stephens Creek**	**54.61**	**183**	P		**P**	**14 11 49.0**	**-0.4**
	0.5nm,0.4s,baz=31,slow=8.3,SNR=3.1							
ILAR	**Eielson Array**	**60.47**	**27**	P		**P**	**14 12 30.2**	**-0.1**
	0.5nm,0.7s,baz=261,slow=5.4,SNR=8.2							

MAN 21 14:04:03,18°.78N×121°.16E,h1km,mb5.1,ML4.0,MS4.2, Luzon

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
CVP	**Callao Caves**	**1.25**	**149**	*eP*		Pg	14 04 26.9	0.0
CVP				*eS*		Sn	14 04 45.3	+0.4

*ISCJB **21** 14:17:57.4±0.8,47°.60N±0°.04×92°.04W±0°.07,h0km,Error ellipse: s-maj=7.0km s-min=5.7km az=39.4*
*NEIC **21** 14:17:59.6±1.0,47°.63N×91°.91W,h0km,MN2.5,Error ellipse: s-maj=15.7km s-min=11.1km az=129.0,Suspected Mining explosion.*
NEIC 30 km [20 miles] S of Ely.
*IDC **21** 14:18:02.7±4.0,47°.68N×92°.10W,h0km,mb1 2.3/1, mb1mx2.3/40,mbtmp2.3/1,ML0.5/1,Error ellipse: s-maj=84.3km s-min=27.1km az=48.0*

ISC 21 14:17:59.1±1.1,47°.63N±0°.05×91°.99W±0°.06,h0km,n7, σ1§37/9,Minnesota

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
EYMN	**Ely**	**0.46**	**46**	*eP*	g	**Pg**	**14 18 07.7**	**-0.3**
EYMN				*eS*	g	**Sg**	**14 18 13.0**	**-1.0**
SPMN	**St. Paul**	**2.47**	**193**	Pn		**Pn**	**14 18 41.2**	**+0.6**
SPMN				*eS*	g	**Sb**	**14 19 16.7**	**+1.5**
AGMN	**Agassiz Nation**	**2.69**	**286**	Pn		**Pn**	**14 18 44.3**	**+0.7**
AGMN					Sg	**Sg**	**14 19 24.8**	**-0.6**
ULM	**Lac du Bonnet**	**3.67**	**317**	Pn		**Pn**	**14 18 58.3**	**+1.2**
	0.1nm,0.3s,baz=203,slow=7.7,SNR=1.7							
ULM					Sn	**Sn**	**14 19 40.2**	**-0.7**
	0.5nm,0.3s,baz=323,slow=20,SNR=3.9							
ULM					Lg	Lg	14 19 53.1	
	0.8nm,0.3s,baz=44,slow=21,SNR=12							
I10CA	**LAC DU BONNET**	**3.70**	**316**	*i*			14 39 50.0	
	baz=133,slow=316,SNR=14							
ECSD	**EROS Data Cent**	**5.06**	**221**	*e*Sg		**Sg**	**14 20 39.5**	**-2.2**
I56US	**NEWPORT INFRAS**	**6.83**	**282**	*i*			16 00 40.0	
	baz=82,slow=305,SNR=2.5							

*ISCJB **21** 14:31:39.7±1.3,46°.0N±0°.2×153°.5E±0°.2,h35km,Error ellipse: s-maj=26.8km s-min=9.6km az=144.9*

*SKHL **21** 14:31:41.2±0.0,46°.14N×153°.27E,h33km±5km,mb4.6/3*
*JMA **21** 14:31:43.2±0.7,46°.79N×152°.83E,h30km,M4.1*

ISC 21 14:31:40.5±2.6,46°.1N±0°.2×153°.4E±0°.2,h35km,n20, σ2§75/23,1C-1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
KUR	**Kuril'sk**	**3.95**	**259**	⇓*iP*		**Pn**	**14 32 40.4**	**+1.9**
KUR					AMB	AMB	14 32 43.4	
	10.0nm,0.3s							
KUR					AMB	AMB	14 32 43.4	
	20nm,0.3s							
KUR				*i*	S	**Sn**	**14 33 24.8**	**+1.3**
KUR					A	A	14 33 41.0	
	100nm,0.6s							
KUR					A	A	14 33 41.0	
	160nm,0.6s							
SKR	**Severo-Kuril's**	**4.91**	**21**	*eP*		**Pn**	**14 32 54.0**	**+2.3**
SKR				*eS*		**Sn**	**14 33 44.0**	**-3.3**
SKR					A	A	14 33 48.5	
	40nm,0.5s							
SHO	**Shikotan**	**5.15**	**246**	*eP*		**Pn**	**14 32 54.6**	**-0.4**
SHO					AMB	AMB	14 32 57.4	
	160nm,1.0s							
SHO				*eS*		**Sn**	**14 33 51.4**	**-1.7**
SHO					A	A	14 33 54.9	
	100nm,1.1s							
YUK	**Yuzh-Kuril'sk**	**5.70**	**251**	⇑*iP*		Pn	14 33 06.3	+3.7
YUK					AMB	AMB	14 33 06.9	
	10.0nm,0.2s							
YUK					AMB	AMB	14 33 06.9	
	20nm,0.2s							
YUK				*eS*		**Sn**	**14 34 10.2**	**+3.4**
YUK					A	A	14 34 20.6	
	40nm,0.5s							
YUK					A	A	14 34 20.6	
	50nm,0.5s							
YUK					A	A	14 34 20.7	
	40nm,0.5s							
NEM2	**Nemuro 2**	**6.08**	**246**	P		**Pn**	**14 33 09.6**	**+1.8**
NEM2				*eS*		**Sn**	**14 34 14.5**	**-1.6**
JRA	**Rausu**	**6.23**	**252**	P		Pn	14 33 14.2	+4.4
JNK	**Nakash**	**6.64**	**251**	P		Pn	14 33 18.7	+3.2
JAK	**Akkeshi**	**6.93**	**246**	P		**Pn**	**14 33 21.6**	**+2.2**
JAK				*eS*		**Sn**	**14 34 34.5**	**-2.5**
JTKR	**Abashiri--Toko**	**7.03**	**255**	P		Pn	14 33 24.3	+3.5
JMP	**Maruseppu**	**7.39**	**257**	P		Pn	14 33 29.5	+3.7
JAR	**Ashorobuto**	**7.39**	**251**	P		Pn	14 33 29.1	+3.3
JOB	**Onbets**	**7.53**	**248**	P		**Pn**	**14 33 30.6**	**+3.0**
JOB				*eS*		**Sn**	**14 34 49.3**	**-2.4**
JKK2	**Kamakawa 2**	**7.85**	**257**	P		Pn	14 33 35.8	+3.7
JCH	**Churui**	**7.97**	**247**	P		**Pn**	**14 33 36.0**	**+2.2**
JCH				*eS*		**Sn**	**14 34 59.3**	**-3.4**
MYR	**Moyori**	**8.19**	**246**	*eP*		**Pn**	**14 33 39.3**	**+2.6**
MYR				*eS*		**Sn**	**14 35 04.1**	**-3.8**
JNBK	**Urakawa-nobuka**	**8.53**	**247**	P		**Pn**	**14 33 43.2**	**+1.8**
JNB	**Noboribetsu**	**9.56**	**252**	P		**Pn**	**14 33 58.3**	**+2.8**
JKB	**Kayabe**	**9.84**	**249**	P		**Pn**	**14 34 00.5**	**+1.2**
JKB				*eS*		**Sn**	**14 35 42.9**	**-5.5**
JANG	**Nango**	**10.37**	**241**	P		**Pn**	**14 34 07.6**	**+1.0**
JRG	**Rokugo**	**11.51**	**239**	P		**Pn**	**14 34 23.8**	**+1.6**

*ISCJB **21** 14:33:59.7±1.0,6°.8N±0°.2×127°.6E±0°.3,h10km,mb3.5/5, Error ellipse: s-maj=44.3km s-min=10.0km az=147.2*
*IDC **21** 14:33:59.2±1.0,6°.83N×127°.24E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.6/35,mbtmp3.7/5,Error ellipse: s-maj=71.8km s-min=21.8km az=74.0*
*MAN **21** 14:34:14.9°.88N×125°.02E,h46km,mb4.3,ML3.1,MS2.9*

ISC 21 14:34:00.9±1.0,6°.8N±0°.2×127°.4E±0°.3,h10km,n7,σ0§58/8, mb3.8/5,1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
BIPH	**Bislig**	**1.68**	**323**	⇑*eP*		Pg	14 34 37.1	+4.0
BIPH				*eS*		**Sg**	**14 34 55.4**	**+0.5**
WRA	**Warramunga Arr**	**27.47**	**166**	P		**P**	**14 39 47.4**	**-0.1**
	1.3nm,0.7s,baz=349,slow=9.7,SNR=9.2							
ASAR	**Alice Springs**	**30.97**	**168**	P		**P**	**14 40 18.8**	**+0.2**
	0.2nm,0.3s,baz=343,slow=7.0,SNR=7.1							
ASAR				PcP		**PcP**	**14 43 14.7**	**-0.2**
	0.2nm,0.4s,baz=351,slow=2.2,SNR=4.3							
STKA	**Stephens Creek**	**40.81**	**161**	P		**P**	**14 41 43.3**	**+0.5**
	1.3nm,0.6s,baz=351,slow=8.5,SNR=4.4							
MKAR	**Makanchi Array**	**55.42**	**324**	P		**P**	**14 43 35.2**	**-0.4**
	0.7nm,0.6s,baz=116,slow=8.2,SNR=5.6							
ILAR	**Eielson Array**	**82.05**	**26**	P		**P**	**14 46 21.5**	**+0.2**
	0.2nm,0.6s,baz=231,slow=6.3,SNR=6.3							
TORD	**Torodi Ar. Bea**	**122.51**	**290**	PKP		**PKPdf**	**14 52 56.8**	**-0.9**
	0.3nm,0.7s,baz=85,slow=3.2,SNR=2.5							

IDC 21 14:43:16.0±1.9,5°.76S×150°.95E,h0km,mb3.7/3, mb1 4.0/4,mb1mx3.6/19,mbtmp3.8/4,ML1.1/1,Error ellipse: s-maj=120.8km s-min=24.1km az=127.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
PMG	**Port Moresby**	**5.22**	**226**	Pn		Pn	14 44 36.0	+0.6
	0.5nm,0.3s,baz=45,slow=11,SNR=2.3							
PMG					Sn	Sn	14 45 35.6	-0.7
	1.7nm,0.3s,baz=194,slow=23,SNR=3.4							
WRA	**Warramunga Arr**	**21.44**	**227**	P		P	14 48 06.3	+0.3
	1.8nm,0.5s,baz=54,slow=11,SNR=24							
ASAR	**Alice Springs**	**24.21**	**221**	P		P	14 48 34.5	-0.2
	1.9nm,0.8s,baz=55,slow=9.0,SNR=23							
ILAR	**Eielson Array**	**83.74**	**22**	P		P	14 55 46.5	-0.2
	0.4nm,0.7s,baz=243,slow=5.9,SNR=6.5							
TORD	**Torodi Ar. Bea**	**148.82**	**286**	PKPbc		PKPbc	15 03 06.5	-0.3
	0.5nm,0.5s,baz=61,slow=3.0,SNR=3.0							

*ISCJB **21** 14:56:06.5±0.3,23°.74S±0°.03×69°.32W±0°.03,h85km±2km, mb4.4/43,Error ellipse: s-maj=5.5km s-min=4.3km az=144.3*
*NEIC **21** 14:56:07.2±0.2,23°.82S×69°.15W,mb4.5/34,Error ellipse: s-maj=6.8km s-min=4.7km az=69.0*
NEIC Felt [II] at Antofagasta, Calama, Copiapo, Sierra Gorda and Taltal.
*SJA **21** 14:56:07.2±1.1,23°.74S×69°.27W,h60km±37km,ML3.8*
*GUC **21** 14:56:07.9±0.3,23°.60S×69°.47W,h92km±3km,ML5.3*
*IDC **21** 14:56:07.4±0.5,23°.76S×69°.19W,h82km±4km,mb4.2/10, mb1 4.3/13,mb1mx4.2/19,mbtmp4.5/13,MS3.2/5, Ms1 3.2/5,ms1mx3.0/19,Error ellipse: s-maj=17.0km s-min=7.3km az=96.0*
*BJI **21** 14:56:08.8,23°.80S×69°.20W,h82km,mB4.5/1,Ms4.3/1, Ms7 4.1/2*

ISC 21 14:56:07.1±0.4,23°.75S±0°.04×69°.31W±0°.04,h86km±3km, h85km:pP-P,n304,σ1§53/335,mb4.5/43,4C-3D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
CEN1	**Los Morros**	**0.89**	**293**	⇓*iP*		**Pn**	**14 56 25.8**	**+0.4**
CEN1				*eS*		**Sn**	**14 56 39.2**	**+0.2**
ANCH	**Antofagasta**	**1.01**	**273**	⇑*iP*		**Pn**	**14 56 26.2**	**-0.4**
ANCH				*eS*		**Sn**	**14 56 40.4**	**-0.9**
PB06	**IPOC Station P**	**1.07**	**347**	⇓*iP*		**Pn**	**14 56 27.1**	**-0.4**
PB06				*eS*		**Sn**	**14 56 41.7**	**-0.9**
PB10	**IPOC Station P**	**1.17**	**281**	⇑*iP*		**Pn**	**14 56 28.0**	**-0.5**
PB10				*i*	S	**Sn**	**14 56 43.1**	**-1.5**
PB10					AML	AML	14 56 47.8	
	comp=E,104μm,0.4s							
LVC	**Limon Verde**	**1.19**	**18**	P		**Pn**	**14 56 28.9**	**0.0**
	comp=E,34μm,0.3s,baz=157,slow=6.9,SNR=1930							
LVC					S	**Sn**	**14 56 45.2**	**-0.1**
	comp=E,242μm,0.3s,baz=16,slow=18,SNR=126							
LVC	**Limon Verde**	**1.19**	**18**	*e*Pn		**Pn**	**14 56 29.0**	**0.0**
LVC					S	**Sn**	**14 56 45.2**	**-0.1**
LVC				*e*Sn		Sn	14 56 45.4	-0.2
LVC	**Limon Verde**	**1.19**	**18**	*i* P		**Pn**	**14 56 29.1**	**+0.1**
LVC				*i*	S	**Sn**	**14 56 45.3**	**-0.1**
PB04	**IPOC Station P**	**1.61**	**331**	⇓*iP*		**Pn**	**14 56 33.5**	**-0.7**
PB04				*i*	S	**Sn**	**14 56 52.7**	**-2.0**
PB09	**IPOC Station P**	**1.94**	**2**	*e*P		**Pn**	**14 56 39.6**	**+1.0**
PB09				*e*S		**Sn**	**14 57 03.0**	**+0.4**
PB09					AML	AML	14 57 08.5	
	comp=N,45μm,0.7s							
PB01	**IPOC Station P**	**2.70**	**356**	⇑*iP*		**Pn**	**14 56 48.4**	**-0.2**
PB01				*i*	S	**Sn**	**14 57 19.2**	**-1.2**
PB01					AML	AML	14 57 27.8	
	comp=E,8μm,0.3s							
SLA	**San Lorenzo**	**3.60**	**106**	*i* P		**Pn**	**14 57 03.7**	**+2.9**
SLA					AML	AML	14 57 36.3	
	comp=Z,173nm,0.6s							
SLA				*i*	S	**Sn**	**14 57 44.0**	**+1.5**
HJA	**Humahuaca**	**3.62**	**82**	*i* P		Pn	14 57 04.6	+3.4
HJA				*i* P		Pn	14 57 04.6	+3.4
AZAP	**Zapla**	**3.91**	**98**	*i* P		**Pn**	**14 57 06.9**	**+1.9**
ASTB	**Santa Barbara**	**4.42**	**94**	*i* P		**Pn**	**14 57 14.0**	**+2.1**
VCA	**Vinchina**	**5.07**	**169**	*i* P		**Pn**	**14 57 22.6**	**+1.9**
LCO	**Las Campanas**	**5.39**	**193**	*e*Pn		**Pn**	**14 57 22.3**	**-2.9**
	comp=Z,308nm,0.5s							
LCO					S	**Sn**	**14 58 26.9**	**+0.8**
LPAZ	**La Paz**	**7.50**	**9**	P		**Pn**	**14 57 55.3**	**+0.9**
	comp=Z,3.4nm,0.3s,baz=209,slow=6.5,SNR=53							
LPAZ	**La Paz**	**7.50**	**9**	*e*Pn		**Pn**	**14 57 54.7**	**+0.2**
	comp=Z,40nm,0.5s							
CFAA	**Coronel Fontan**	**7.88**	**173**	P		**Pn**	**14 57 58.0**	**-1.0**
	comp=Z,1.5nm,0.3s,baz=349,slow=12,SNR=52							
CFAA					S	**Sn**	**14 59 22.1**	**-4.6**
	comp=Z,0.9nm,0.3s,baz=163,slow=20,SNR=2.4							
U73B	**San Pedro**	**10.30**	**190**	*eP*		Pn	14 58 26.4	-5.5
	comp=Z,40nm,0.6s							
SIV	**San Ignacio**	**10.93**	**47**	P		**Pn**	**14 58 39.0**	**-1.7**
	comp=Z,86nm,0.3s,baz=244,slow=12,SNR=390							
SIV					S	**Sn**	**15 00 35.8**	**-5.4**
	comp=Z,1.6nm,0.3s,baz=306,slow=19,SNR=4.5							
SIV					LR	LR	15 02 23.7	
	comp=Z,71nm,19.4s,baz=284,slow=35							
CPUP	**Villa Florida**	**11.16**	**106**	P		**Pn**	**14 58 42.4**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=286,slow=15,SNR=12							
CPUP					LR	LR	15 03 30.1	
	comp=Z,129nm,21.9s,baz=276,slow=40							
U65B	**HualaæØ**	**11.38**	**190**	*eP*		Pn	14 58 40.8	-5.8
	comp=Z,45nm,0.8s							
TRQA	**Tornquist**	**15.58**	**158**	*eP*		**Pn**	**14 59 40.5**	**-1.3**
	comp=Z,15nm,0.7s							
SAML	**Samuel**	**15.84**	**23**	*eP*		**Pn**	**14 59 41.0**	**-4.1**
	comp=Z,9.3nm,0.6s							
BDFB	**Brasilia**	**21.59**	**72**	P		**P**	**15 00 49.3**	**-0.9**
	comp=Z,22nm,0.8s,baz=245,slow=11,SNR=22							
BDFB					LR	LR	15 10 36.5	
	comp=Z,62nm,18.2s,baz=226,slow=40							
PTGA	**Pitinga**	**24.61**	**23**	P		**P**	**15 01 19.6**	**+0.1**
	comp=Z,8.6nm,0.3s,baz=205,slow=13,SNR=26							
034A	**Hebbronville**	**57.94**	**329**	P		**P**	**15 05 51.9**	**+1.3**
	baz=58							
VNA1	**Neumayer--Stat**	**58.30**	**160**	P		**P**	**15 05 54.1**	**+1.5**
835A	**Beeville**	**58.58**	**330**	P		**P**	**15 05 56.5**	**+1.5**
	baz=59							
933A	**Laredo**	**58.68**	**329**	P		**P**	**15 05 57.2**	**+1.4**
	baz=59							
832A	**Faith Ranch, C**	**59.58**	**329**	P		**P**	**15 06 02.8**	**+0.9**
	baz=60,SNR=5.3							
733A	**Divot King Ran**	**59.62**	**329**	P		**P**	**15 06 03.4**	**+1.1**
	baz=60							
732A	**Laxson Ranch,**	**59.95**	**329**	P		**P**	**15 06 06.1**	**+1.6**
	baz=60							
SNAA	**Sanae**	**60.29**	**160**	P		**P**	**15 06 07.4**	**+1.0**
SNAA	**Sanae**	**60.29**	**160**	*eP*		**P**	**15 06 07.1**	**+0.8**
	comp=Z,2.2nm,0.6s							
534A	**Blanco**	**60.36**	**331**	P		**P**	**15 06 08.0**	**+0.7**
	baz=61							
632A	**Uvalde**	**60.52**	**329**	P		**P**	**15 06 09.5**	**+1.1**
	baz=61							
238A	**Jacksonville**	**60.68**	**335**	P		**P**	**15 06 10.5**	**+1.1**
	baz=61							
631A	**Perdido Creek**	**60.81**	**329**	P		**P**	**15 06 11.7**	**+1.4**
	baz=61							
434A	**Burnet**	**60.95**	**332**	P		**P**	**15 06 12.3**	**+1.0**
	baz=61							
335A	**Moody**	**60.99**	**333**	P		**P**	**15 06 12.5**	**+1.0**
	baz=61							
532A	**Rocksprings**	**61.10**	**330**	P		**P**	**15 06 13.6**	**+1.3**
	baz=62							
433A	**Art**	**61.26**	**331**	P		**P**	**15 06 14.0**	**+0.6**
	baz=62,SNR=6.1							
JCT	**Junction City**	**61.35**	**330**	P		**P**	**15 06 14.4**	**+0.4**
	baz=62,SNR=5.1							
JCT	**Junction City**	**61.35**	**330**	*eP*		**P**	**15 06 14.7**	**+0.7**
	comp=Z,11nm,0.7s							
334A	**Lometa**	**61.38**	**332**	P		**P**	**15 06 14.9**	**+0.8**
	baz=62							
531A	**Rocksprings**	**61.43**	**329**	P		**P**	**15 06 15.8**	**+1.3**
	baz=62,SNR=7.0							
137A	**Heron Place, G**	**61.46**	**335**	P		**P**	**15 06 15.8**	**+1.2**
	baz=62							
WHTX	**Lake Whitney**	**61.62**	**333**	P		**P**	**15 06 16.7**	**+1.0**
	baz=62							
432A	**Menard**	**61.68**	**330**	P		**P**	**15 06 16.8**	**+0.6**
	baz=62,SNR=5.6							
333A	**Richland Sprin**	**61.70**	**331**	P		**P**	**15 06 17.0**	**+0.7**
	baz=62							
530A	**J-C Ranch, Com**	**61.79**	**329**	P		**P**	**15 06 18.0**	**+1.0**
	baz=62,SNR=7.6							
431A	**Sonora**	**61.89**	**330**	P		**P**	**15 06 18.5**	**+0.9**
	baz=62							
234A	**Clairette**	**61.91**	**332**	P		**P**	**15 06 18.5**	**+0.8**
	baz=62							
332A	**Millersview**	**62.08**	**331**	P		**P**	**15 06 19.3**	**+0.4**
	baz=62,SNR=5.8							
529A	**Stev Forest Ra**	**62.19**	**328

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=64						
W35A	Tecumseh	64.15	335	P	P	15 06 32.5	+0.1
	baz=65						
V37A	Hulbert	64.15	337	P	P	15 06 32.8	+0.4
	baz=65						
Z30A	Sanderson Ranc	64.31	331	P	P	15 06 34.3	+0.6
	baz=65,SNR=5.2						
V36A	Jenks	64.35	336	P	P	15 06 34.0	+0.2
	baz=65						
U38A	Gravette	64.38	338	P	P	15 06 34.3	+0.3
	baz=65						
TUL1	Tulsa	64.41	336	P	P	15 06 34.6	+0.4
	baz=65						
Y31A	Rekieta Farm,	64.50	332	P	P	15 06 36.0	+1.2
	baz=65						
Z29A	Hungry Hill Ra	64.55	330	P	P	15 06 36.3	+1.0
	baz=65						
U37A	Salina	64.61	337	P	P	15 06 36.1	+0.6
	baz=65						
V35A	Meyer Ranch, C	64.67	335	P	P	15 06 36.5	+0.6
	baz=65						
Y30A	Stafford Cattl	64.71	331	P	P	15 06 37.2	+0.9
	baz=65						
W33A	Caddo, Fort Co	64.78	334	P	P	15 06 37.6	+1.0
	baz=65						
X31A	McDonald Ranch	64.95	332	P	P	15 06 38.0	+0.3
	baz=65,SNR=5.1						
Y29A	Porterfield Fa	65.04	331	P	P	15 06 39.8	+1.4
	baz=65						
W32A	Sentinel	65.07	333	P	P	15 06 39.4	+0.9
	baz=66						
U35A	Pawnee	65.17	336	P	P	15 06 39.8	+0.8
	baz=66						
T37A	Cheneyville 18	65.18	338	P	P	15 06 39.8	+0.6
	baz=66						
T36A	Boggs Farm, Ca	65.46	337	P	P	15 06 41.4	+0.5
	baz=66						
X29A	Tulia	65.55	331	P	P	15 06 42.9	+1.2
	baz=66						
T35A	Sooner Cattle	65.57	336	P	P	15 06 42.6	+1.0
	baz=66						
S37A	Fort Scott	65.72	338	P	P	15 06 43.4	+0.8
	baz=66						
V31A	Spring Creek L	65.88	333	P	P	15 06 44.9	+1.2
	baz=66						
T34A	McClaskey Farm	65.91	336	P	P	15 06 44.6	+0.8
	baz=66						
S36A	Lake Cedric, C	65.95	337	P	P	15 06 44.7	+0.6
	baz=66						
W29A	Amraillo	66.09	331	P	P	15 06 46.5	+1.3
	baz=66						
S35A	Otter Creek Ra	66.18	337	P	P	15 06 46.4	+0.9
	baz=67						
T33A	Patterson Ranc	66.37	335	P	P	15 06 48.0	+1.2
	baz=67						
W28A	Vega	66.45	331	P	P	15 06 48.7	+1.2
	baz=67						
R36A	Gordon, Harris	66.46	338	P	P	15 06 48.1	+0.8
	baz=67						
121A	Cookes Peak, D	66.94	325	P	P	15 06 52.8	+2.1
	baz=67						
T31A	Randall Ranch,	66.95	334	P	P	15 06 51.9	+1.5
	baz=67						
U29A	Oasis Ranch, S	67.05	332	P	P	15 06 52.1	+0.9
	baz=68						
R34A	Isabella, Hill	67.06	336	P	P	15 06 52.3	+1.2
	baz=68						
Q35A	Mercer Eighty,	67.12	338	P	P	15 06 52.1	+0.6
	baz=68						
U27A	Thompson Grove	67.70	331	P	P	15 06 56.0	+0.6
	baz=68						
P35A	Duane Minner,	67.72	338	P	P	15 06 55.9	+0.6
	baz=68						
R32A	Long Quarter,	67.72	335	P	P	15 06 56.6	+1.3
	baz=68						
S30A	Montezuma	67.73	334	P	P	15 06 56.4	+0.9
	baz=68						
Q33A	Connelly Farm,	67.89	336	P	P	15 06 57.1	+0.7
	baz=68						
T28A	Walsh	67.98	332	P	P	15 06 57.5	+0.4
	baz=68						
S29A	Ulysses	67.98	333	P	P	15 06 58.3	+1.3
	baz=68						
Q32A	Meitler Ranch,	68.16	336	P	P	15 06 58.9	+0.9
	baz=69						
ANMO	Albuquerque	68.18	328	eP	P	15 07 00.3	+1.8
	comp=Z,5.5nm,0.8s						
T27A	Campo	68.19	332	P	P	15 06 59.7	+1.2
	baz=69						
R30A	Dighton	68.21	334	P	P	15 06 59.4	+1.0
	baz=69						
S28A	Manter	68.28	333	P	P	15 07 00.0	+1.1
	baz=69						
TUC	Tucson	68.39	323	eP	P	15 07 01.8	+2.1
	comp=Z,5.2nm,1.1s						
T26A	Comanche Natio	68.67	331	P	P	15 07 02.7	+1.2
	baz=69,SNR=5.7						
R29A	Marienthal	68.68	334	P	P	15 07 02.5	+1.1
	baz=69						
O33A	Hebron	68.75	337	P	P	15 07 02.6	+0.8
	baz=69						
Q30A	Quinter	68.78	335	P	P	15 07 03.8	+1.8
	baz=69						
P31A	Stockton	68.93	335	P	P	15 07 04.2	+1.3
	baz=69						
T25A	Trinidad	69.00	331	P	P	15 07 05.2	+1.6
	baz=69						
Q29A	Oakley	69.01	334	P	P	15 07 04.3	+0.9
	baz=69						
N34A	Lincoln	69.05	338	P	P	15 07 04.4	+0.8
	baz=70						
R27A	Eads	69.25	332	P	P	15 07 06.0	+1.0
	baz=70						
214A	Organ Pipe Nat	69.27	321	P	P	15 07 07.5	+2.3
	baz=70						
Q28A	Sharon Springs	69.50	333	P	P	15 07 07.3	+0.8
	baz=70						
R26A	Arlington	69.54	332	P	P	15 07 07.8	+1.0
	baz=70,SNR=6.0						
DBIC	Dimbokro	69.73	73	P	P	15 07 08.6	+0.2
	comp=Z,7.0nm,1.1s,baz=221,slow=8.7,SNR=2.8						
DBIC				pP	pP	15 07 29.7	-0.8
	comp=Z,5.7nm,0.8s,baz=238,slow=7.4,SNR=2.7						
DBIC				LR	LR	15 36 26.6	
	comp=Z,18nm,19.3s,baz=118,slow=35						
KSCO	Kaye Shedlock'	69.79	333	eP	P	15 07 09.8	+1.5
	comp=Z,5.5nm,0.4s						
W18A	Petrified Fore	69.97	326	P	P	15 07 12.2	+2.6
	baz=70						
SDCO	Great Sand Dun	70.00	330	P	P	15 07 11.6	+1.7
	baz=70,SNR=12						
SDCO	Great Sand Dun	70.00	330	eP	P	15 07 11.5	+1.7
	comp=Z,8.1nm,1.0s						
Q26A	Hugo	70.09	332	P	P	15 07 11.9	+1.7
	baz=70						
P26A	Davis Ranch, A	70.55	333	P	P	15 07 14.7	+1.7
	baz=71						
S22A	4UR Ranch, Cre	70.61	329	P	P	15 07 15.2	+1.6
	baz=71						
N28A	Pribbeno Ranch	70.77	335	P	P	15 07 15.6	+1.4
	baz=71						
Q24A	Divide	70.83	331	P	P	15 07 16.3	+1.4
	baz=71,SNR=5.6						
MVCO	Mesa Verde	70.98	328	P	P	15 07 17.5	+1.7
	baz=71						
MVCO	Mesa Verde	70.98	328	eP	P	15 07 17.4	+1.6
	comp=Z,5.5nm,0.6s						
WUAZ	Wupatki	71.14	325	P	P	15 07 18.8	+2.2
	baz=72,SNR=8.6						
WUAZ	Wupatki	71.14	325	eP	P	15 07 19.2	+2.6
	comp=Z,11nm,0.9s						
L30A	Spencer Herefo	71.17	336	P	P	15 07 17.9	+1.3
	baz=72						
Y12C	Blythe	71.56	321	P	P	15 07 21.8	+2.8
	baz=72						
ECSD	EROS Data Cent	71.68	339	P	P	15 07 20.0	+0.5
	baz=72						
ISCO	Idaho Springs	71.73	331	P	P	15 07 22.0	+1.7
	baz=72						
PV01	Paradox Valley	71.75	328	eP	P	15 07 22.4	+2.1
	comp=Z,180nm,0.6s						
PV01				epP	pP	15 07 45.0	+2.5
SPMN	St. Paul	71.91	343	P	P	15 07 21.9	+1.0
	baz=72						
BC3	Big Chuckawall	72.02	321	P	P	15 07 24.5	+2.5
	baz=72						
K29A	Lazy Trails An	72.09	336	P	P	15 07 23.7	+1.6
	baz=72						
IRM	Iron Mountain	72.21	321	P	P	15 07 25.4	+2.4
	baz=73						
J30A	Dallas	72.29	337	P	P	15 07 24.7	+1.5
	baz=73						
BELC	Belle Mtn. Jos	72.59	321	P	P	15 07 27.7	+2.4
	baz=73						
J29A	Okreek	72.66	337	P	P	15 07 26.6	+1.2
	baz=73						
N23A	Red Feather La	72.77	332	P	P	15 07 28.2	+1.8
	baz=73						
GMRC	Granite Mounta	72.95	321	P	P	15 07 29.5	+2.1
	baz=73,SNR=7.4						
J28A	Allard Ranch,	73.00	336	P	P	15 07 28.6	+1.1
	baz=73,SNR=5.6						
J27A	Elkhorn Farm,	73.14	336	P	P	15 07 30.1	+1.7
	baz=74						
O20A	White River Ci	73.18	330	P	P	15 07 30.5	+1.7
	baz=74						
I29A	Vivian Onida	73.18	337	P	P	15 07 29.9	+1.4
	baz=74						
HEC	Hector,Ludlow	73.37	321	P	P	15 07 32.7	+2.8
	baz=74						
SCI	San Clemente I	73.39	318	P	P	15 07 32.0	+2.1
	baz=74						
SRU	San Rafael	73.46	328	eP	P	15 07 32.2	+1.8
	comp=Z,11nm,0.9s						
I28A	Midland	73.47	337	P	P	15 07 32.0	+1.7
	baz=74						
TUQ	Turquoise Moun	73.57	322	P	P	15 07 33.6	+2.5
	baz=74						
J26A	Sides Ranch, S	73.60	335	P	P	15 07 32.7	+1.7
	baz=74						
H29A	Onida	73.68	338	P	P	15 07 32.7	+1.3
	baz=74						
CCUT	Cedar City	73.72	325	eP	P	15 07 34.9	+2.8
	comp=Z,8.8nm,0.8s						
CCUT				epP	pP	15 07 55.8	+1.4
BFSC	Mount Baldy Ra	73.73	320	P	P	15 07 34.3	+2.3
	baz=74						
MSU	Marysvale	73.83	326	eP	P	15 07 34.6	+2.0
	comp=Z,6.9nm,0.9s						
MVU	Marysvale	73.84	326	eP	P	15 07 34.8	+2.1
	comp=Z,5.8nm,0.8s						
MVU				epP	pP	15 07 55.9	+0.8
I27A	Quinn	73.86	336	P	P	15 07 33.8	+1.3
	baz=74						
J25A	Sunshine Ranch	73.95	335	P	P	15 07 34.9	+1.8
	baz=74						
GSC	Goldstone	73.98	321	P	P	15 07 36.1	+2.7
	baz=74						
H28A	Mission Ridge	74.00	337	P	P	15 07 34.7	+1.4
	baz=74						
EYMN	Ely	74.10	345	P	P	15 07 34.1	+0.3
	baz=74						
K23A	Bowen Ranch, D	74.16	333	P	P	15 07 35.9	+1.5
	baz=75						
J24A	Dixon Ranch, L	74.25	334	P	P	15 07 36.3	+1.5
	baz=75						
F30A	Leola	74.33	339	P	P	15 07 36.2	+1.0
	baz=75						
H27A	Howes	74.35	336	P	P	15 07 36.5	+1.2
	baz=75						
EDW2	Edwards Air Fo	74.37	320	P	P	15 07 38.2	+2.5
	baz=75						
PPT	Papeete	74.46	257	LR	LR	15 33 57.5	
	comp=Z,26nm,20.1s,baz=109,slow=30						
SYO	Syowa Base	74.54	159⇑	eP	P	15 07 35.8	-0.3
VNDA	Vanda	74.58	190	P	P	15 07 37.3	+1.1
	comp=Z,1.5nm,0.8s,baz=117,slow=3.2,SNR=6.8						
F29A	Eureka	74.60	338	P	P	15 07 37.6	+0.8
	baz=75						
RSSD	Black Hills	74.66	335	eP	P	15 07 38.6	+1.2
	comp=Z,4.2nm,0.7s						
FURC	Furnace Creek,	74.84	322	P	P	15 07 41.0	+2.8
	baz=75						
TPNV	Topopah Spring	74.84	323	P	P	15 07 40.8	+2.3
	baz=75,SNR=8.8						
MPMC	Manual Prospec	74.91	321	P	P	15 07 40.6	+1.7
	baz=75						
G27A	Dupree	74.94	337	P	P	15 07 40.0	+1.3
	baz=75						
J22A	Midwest	75.06	333	P	P	15 07 40.5	+0.9
	baz=76						
G26A	Maurine	75.11	336	P	P	15 07 40.7	+1.0
	baz=76						
DAC	Darwin (Calif)	75.12	321	eP	P	15 07 42.4	+2.2
	comp=Z,5.0nm,0.9s						
ISA	Isabella	75.20	320	P	P	15 07 43.1	+2.6
	baz=76						
ISA	Isabella	75.20	320	eP	P	15 07 42.8	+2.3
	comp=Z,5.0nm,0.8s						
D30A	Buchanan	75.37	340	P	P	15 07 42.0	+0.9
	baz=76						
H24A	Dirks Ranch, A	75.39	335	P	P	15 07 42.3	+0.9
	baz=76,SNR=5.3						
F27A	Lemmon	75.40	337	P	P	15 07 42.1	+0.8
	baz=76						
J21A	Lysite	75.41	332	P	P	15 07 43.4	+1.7
	baz=76						
DUG	Dugway	75.42	327	P	P	15 07 44.0	+2.2
	baz=76						
DUG	Dugway	75.42	327	eP	P	15 07 43.9	+2.2
	comp=Z,3.2nm,1.0s						
I22A	9 Mile Ranch,	75.45	333	P	P	15 07 43.2	+1.3
	baz=76						
PKM	Peak Mountain	75.47	319	P	P	15 07 45.0	+2.8
	baz=76						
R11A	Troy Canyon, C	75.49	324	P	P	15 07 44.6	+2.4
	baz=76,SNR=10.0						
GRAC	Grapevine Rang	75.50	322	P	P	15 07 44.6	+2.4
	baz=76						
CWC	Cottonwood Cre	75.51	321	P	P	15 07 44.9	+2.5
	baz=76						
E28A	Huff	75.54	338	P	P	15 07 43.1	+1.0
	baz=76						
AGMN	Agassiz Nation	75.57	342	P	P	15 07 43.3	+1.2
	baz=76						
AGMN	Agassiz Nation	75.57	342	eP	P	15 07 42.6	+0.4
	comp=Z,2.5nm,0.5s						
F26A	Lodgepole	75.61	337	P	P	15 07 44.2	+1.6
	baz=76						
J20A	Shoshoni	75.69	332	P	P	15 07 45.0	+1.8
	baz=76						
I21A	Big Trails, Te	75.72	333	P	P	15 07 44.3	+0.9
	baz=76,SNR=9.5						
G24A	Alzada	75.82	335	P	P	15 07 45.1	+1.3
	baz=76						
SMMC	Simmler	75.86	319	P	P	15 07 47.4	+3.2
	baz=76						
PDAR	Pinedale Array	75.87	331	P	P	15 07 45.1	+0.7
	comp=Z,0.8nm,0.4s,baz=119,slow=7.3,SNR=12						
HWUT	Hardware Ranch	75.90	329	eP	P	15 07 45.9	+1.4
	comp=Z,6.3nm,0.6s						
TIN	Tinemaha	76.03	322	P	P	15 07 47.9	+2.7
	baz=76						
J19A	Crowheart	76.04	331	P	P	15 07 46.9	+1.6
	baz=76,SNR=5.7						
G23A	Biddle	76.09	335	P	P	15 07 46.8	+1.5
	baz=76						
TPH	Tonopah	76.19	323	eP	P	15 07 48.0	+1.8
	comp=Z,4.8nm,0.9s						
MDND	Maddock	76.29	340	P	P	15 07 47.9	+1.5
	baz=77						
B30A	Myrvik Farm, E	76.43	341	P	P	15 07 47.7	+0.6
	baz=77,SNR=6.0						
F23A	Volborg	76.53	335	P	P	15 07 49.6	+1.7
	baz=77						
D26A	Manning	76.54	337	P	P	15 07 49.4	+1.6
	baz=77						
H20A	Greybull	76.57	333	P	P	15 07 49.7	+1.6
	baz=77						
HVU	Hansel Valley	76.61	328	eP	P	15 07 49.7	+1.3
	comp=Z,5.0nm,0.8s						
I19A	Meeteetse	76.63	332	P	P	15 07 50.0	+1.4
	baz=77,SNR=7.3						
B29A	Wagenman Farm,	76.76	340	P	P	15 07 50.4	+1.4
	baz=77						
C27A	Sayler Ranch,	76.80	338	P	P	15 07 50.7	+1.5
	baz=77						
E24A	Baker	76.82	336	P	P	15 07 50.8	+1.4
	baz=77,SNR=5.3						
A30A	Hoffart Farm,	76.86	341	P	P	15 07 50.4	+0.9
	baz=77						
F22A	Rosebud	76.91	334	P	P	15 07 50.8	+0.8
	baz=77,SNR=5.8						
NVAR	Mina Array Bea	77.04	323	P	P	15 07 52.8	+1.8
	comp=Z,2.5nm,0.9s,baz=160,slow=6.2,SNR=13						
ELK	Elko	77.06	326	eP	P	15 07 52.2	+1.0
	comp=Z,1.7nm,0.8s						
B28A	Dugan Ranch, T	77.07	339	P	P	15 07 52.2	+1.5
	baz=78						
TPAW	Teton Pass	77.07	330	eP	P	15 07 52.4	+1.2
	comp=Z,3.4nm,0.8s						
C26A	Wahner Farm, P	77.10	338	P	P	15 07 52.3	+1.4
	baz=78						
A29A	Manning Farm,	77.13	340	P	P	15 07 51.6	+0.6
	baz=78,SNR=7.1						
H19A	Powell	77.14	332	P	P	15 07 52.8	+1.5
	baz=78						
E23A	Ismay	77.14	335	P	P	15 07 52.6	+1.4
	baz=78						
MOOW	Moose Ponds	77.18	331	eP	P	15 07 53.1	+1.4
	comp=Z,3.0nm,0.9s						
G20A	Bridger	77.25	333	P	P	15 07 52.7	+0.7
	baz=78,SNR=7.0						
D24A	Glendive	77.29	336	P	P	15 07 53.9	+1.9
	baz=78						
F21A	Absaloka Mine,	77.30	334	P	P	15 07 54.0	+1.8
	baz=78						
IMW	Indian Meadow	77.38	331	eP	P	15 07 54.5	+1.6
	comp=Z,2.3nm,0.6s						
FLWY	Flagg Ranch	77.42	331	eP	P	15 07 54.9	+1.9
	comp=Z,9.4nm,0.8s						
RLMT	Red Lodge	77.62	332	P	P	15 07 55.7	+1.6
	baz=78,SNR=6.1						
RLMT	Red Lodge	77.62	332	eP	P	15 07 55.4	+1.3
	comp=Z,4.2nm,0.8s						
LAO	LASA Array	77.65	335	P	P	15 07 55.4	+1.3
	baz=78						
C24A	Savage	77.68	336	P	P	15 07 55.4	+1.3
	baz=78						
E21A	Keefer Ranch,	77.86	334	P	P	15 07 57.1	+1.9
	baz=78						
A25A	Svangstu Ranch	78.41	338	P	P	15 07 60.0	+1.9
	baz=79						
TOA0	Torodi Ar. Sit	78.46	70	eP	P	15 07 59.5	+0.3
TORD	Torodi Ar. Bea	78.46	70	P	P	15 07 59.6	+0.5
	comp=Z,7.2nm,0.4s,baz=255,slow=5.3,SNR=112						
TORD				pP	pP	15 08 20.5	-1.2
	comp=Z,17nm,0.5s,baz=256,slow=5.2,SNR=21						
HLID	Hailey	78.75	328	P	P	15 08 02.5	+2.1
	baz=79						
HLID	Hailey	78.75	328	eP	P	15 08 02.8	+2.4
	comp=Z,9.1nm,0.8s						
C21A	Desert Coulee	78.93	335	P	P	15 08 02.6	+1.5
	baz=79						
MCMT	McKenzie Canyo	78.97	330	eP	P	15 08 03.7	+2.1
	comp=Z,4.5nm,1.0s						
BOZ	Bozeman (W)	79.06	331	P	P	15 08 03.4	+1.4
	baz=80						
C20A	Veseth Ranch,	79.19	335	P	P	15 08 03.7	+1.2
	baz=80						
TSUM	Tsumeb	79.75	106	eP	P	15 08 07.0	+0.6
	comp=Z,5.2nm,0.6s						
TSUM				epP	pP	15 08 28.8	-0.2
J05D	Fort Rock, OR	82.01	325	P	P	15 08 19.9	+2.1
	baz=82						
MAW	Mawson	82.29	163	P	P	15 08 19.7	+0.9
	comp=Z,4.3nm,0.4s,baz=199,slow=6.3,SNR=14						
MAW				pP	pP	15 08 41.7	+0.2
	comp=Z,3.2nm,0.4s,baz=242,slow=9.9,SNR=5.3						
MAW	Mawson	82.29	163	eP	P	15 08 19.6	+0.9
	comp=Z,1.9nm,1.1s						
MAW				epP	pP	15 08 41.6	+0.1
J04D	Umpqua Nationa	82.44	324	P	P	15 08 22.0	+1.8
	baz=83						
WALA	Waterton Lakes	82.67	332	eP	P	15 08 21.7	+0.6
	comp=Z,8.1nm,0.9s						
I05D	Terrebonne, OR	82.78	325	P	P	15 08 23.7	+2.0
	baz=83						
LBTB	Lobatse	84.41	115	eP	P	15 08 31.0	+0.3
	comp=Z,72nm,1.0s						
YKA	Yellowknife Ar	93.18	341	P	P	15 09 11.8	+0.6
	comp=Z,2.6nm,0.6s,baz=138,slow=4.3,SNR=33						
YKA				pP	pP	15 09 34.1	-0.1
	comp=Z,1.3nm,0.7s,baz=140,slow=4.2,SNR=5.3						
ASAR	Alice Springs	127.76	207	PKP	PKPdf	15 15 03.7	+0.3
	comp=Z,1.6nm,0.8s,baz=139,slow=2.4,SNR=14						
ASAR				pPKP	pPKPdf	15 15 27.0	-0.3
	comp=Z,0.8nm,0.7s,baz=137,slow=1.7,SNR=4.0						
WRA	Warramunga Arr	130.84	210	PKP	PKPdf	15 15 09.9	+0.7
	comp=Z,1.0nm,0.5s,baz=158,slow=1.8,SNR=8.6						
WRA				pPKP	pPKPdf	15 15 33.0	-0.2
	comp=Z,0.9nm,0.6s,baz=147,slow=1.6,SNR=2.9						
SEY	Seymchan	132.00	336	PKP	PKPdf	15 15 11.2	+1.2
	comp=Z,2.1nm,0.9s,baz=359,slow=4.2,SNR=4.7						
SEY				pPKP	pPKPdf	15 15 34.2	+0.2
	comp=Z,1.1nm,0.7s,baz=148,slow=3.1,SNR=1.6						
ZAA0	Zalesovo Array	144.13	26	ePKPdf	PKPdf	15 15 32.5	0.0
ZALV	Zalesovo Beam	144.13	26	PKP	PKPdf	15 15 31.9	-0.6
	comp=Z,3.0nm,0.6s,baz=311,slow=1.0,SNR=18						
ZALV				pPKP	pPKPdf	15 15 55.4	-1.2
	comp=Z,5.1nm,0.8s,baz=306,slow=3.9,SNR=4.6						
TKM2	Tokmak 2	145.33	48	ePKP	PKPab	15 15 36.1	+0.7
KSH	Kashi	146.76	53	PKPbc	PKPbc	15 15 40.1	+0.5
KSH				pPKP	pPKPdf	15 16 02.3	+0.6
KSH				PKS	PKSdf	15 19 09.3	-3.8
KSH				SKS	SKSdf	15 22 33.3	-5.7
KSH				SKKS	SKKSac	15 25 44.0	-4.2
MK31	Makanchi Array	147.65	38	ePKPdf	PKPdf	15 15 40.0	+1.2
MKAR	Makanchi Array	147.65	38	PKPbc	PKPbc	15 15 42.5	+0.9
	comp=Z,3.5nm,0.7s,baz=336,slow=3.2,SNR=24						
MKAR				pPKPbc	pPKPbc	15 16 04.3	-1.1
	comp=Z,6.8nm,0.8s,baz=306,slow=2.5,SNR=14						
WMQ	Urumqi	152.48	38	PKPbc	PKPdf	15 15 46.4	-0.1
WMQ				LN			
	comp=Z,26nm,18.7s						
WMQ				LZ			
	comp=Z,23nm,20.6s						
MJAR	Matsushiro Arr	153.11	305	PKPbc	PKPbc	15 15 54.8	-0.3
	comp=Z,0.4nm,0.6s,baz=270,slow=0.1,SNR=4.6						
MJAR				PKPab	PKPab	15 16 08.1	+1.2
	comp=Z,1.7nm,0.8s,baz=115,slow=2.6,SNR=6.7						
USRK	Ussuriysk Ar.	153.16	325	PKPbc	PKPbc	15 15 55.2	+0.3
	comp=Z,1.8nm,0.7s,baz=64,slow=4.4,SNR=6.5						
HHC	Hu-ho-hao-te	162.93	358	ePKP	PKPdf	15 15 57.3	-2.3
HHC				PP	PP	15 20 35.0	+1.9
HHC				SKS	SKSdf	15 22 50.6	-6.1
HHC				SS	SS	15 40 49.0	-0.7
HHC				PPMZ			
	comp=Z,51nm,11.1s						
HHC				LZ			
	comp=Z,27nm,18.5s						
CD2	Chengdu	170.57	39	PKP	PKPdf	15 16 04.9	-0.7

*ISK **21** 15:22:26.8, 39°.90N×29°.20E, h8 km, MD2.5*
*ISCJB **21** 15:22:27.1±0.5, 39°.91N±0°.03×29°.20E±0°.05, h10 km, Error ellipse: s-maj=5.5km s-min=4.1km az=163.4*
*CSEM **21** 15:22:27.3±0.1, 39°.90N×29°.20E, h10 km, MD2.5, Error ellipse: s-maj=2.3km s-min=2.2km az=124.0*
*DDA **21** 15:22:28.1, 39°.94N×29°.13E, h7 km, MD2.6*
ISC 21 15:22:27.5±0.9**, 39°.90N**±0°.02**×29°.20E**±0°.03**, h10 km, n40, σ0.s27**/46**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULDT	Uludag	0.24	349	iP	Pg	15 22 32.4	-0.2
ULDT				iS	Sg	15 22 36.3	+0.3
ULDT	Uludag	0.24	349	iP	Pg	15 22 32.4	-0.2
ULDT				iS	Sg	15 22 36.3	+0.3
ORLT	Orhaneli	0.27	302	ePG	Pg	15 22 32.8	-0.2
ORLT	Orhaneli	0.27	302	ePg	Pg	15 22 32.8	-0.2
IZI	Iznik	0.48	26	ePG	Pg	15 22 36.8	-0.1
IZI	Iznik	0.48	26	ePg	Pg	15 22 36.8	-0.1
TVSB	Tavsanli	0.50	156	ePG	Pg	15 22 36.8	-0.4
TVSB				eSG	Sg	15 22 44.1	+0.4
TVSB	Tavsanli	0.50	156	ePg	Pg	15 22 36.8	-0.4
TVSB				eSg	Sg	15 22 44.1	+0.4
MDNY	Mudanya-Bursa	0.52	333	ePG	Pg	15 22 37.6	0.0
MDNY	Mudanya-Bursa	0.52	333	ePg	Pg	15 22 37.6	0.0
DST	Dursunbey	0.54	236	ePG	Pg	15 22 37.5	-0.4
DST	Dursunbey	0.54	236	ePg	Pg	15 22 37.5	-0.4
CAVI	Cavuskoy	0.58	59	ePG	Pg	15 22 38.5	-0.2
CAVI	Cavuskoy	0.58	59	ePg	Pg	15 22 38.5	-0.2
ADVT	Abdulvahap	0.67	38	ePG	Pg	15 22 40.3	-0.2
ADVT	Abdulvahap	0.67	38	ePg	Pg	15 22 40.3	-0.2
ARMT	Armutlu	0.71	339	ePG	Pg	15 22 41.0	-0.1
ARMT	Armutlu	0.71	339	ePg	Pg	15 22 41.1	-0.1
KCTX	Karacabey (Bur	0.74	299	ePG	Pg	15 22 41.8	+0.1
KCTX	Karacabey (Bur	0.74	299	ePg	Pg	15 22 41.8	+0.1
GDZ	Gediz	0.84	165	iP	Pb	15 22 44.5	+0.2
GDZ				iS	Sn	15 22 58.3	+0.2

GDZ	**Gediz**	**0.84**	**165**	*i* P		**Pb**	**15 22 44.5**	**+0.2**
GDZ				*i* S		**Sn**	**15 22 58.3**	**+0.2**
GPA	**Golpazari**	**0.94**	**65**	*e*PG		**Pg**	**15 22 45.4**	**-0.1**
GPA	**Golpazari**	**0.94**	**65**	*e*Pg		**Pg**	**15 22 45.4**	**-0.1**
HRT	**Hereke**	**0.98**	**21**	*e*PG		**Pb**	**15 22 46.5**	**-0.2**
HRT	**Hereke**	**0.98**	**21**	*e*Pg		**Pb**	**15 22 46.5**	**-0.2**
BALB	**Balikesir**	**1.05**	**256**	*e*PG		**Pg**	**15 22 47.5**	**-0.1**
BALB	**Balikesir**	**1.05**	**256**	*e*Pg		**Pg**	**15 22 47.5**	**-0.1**
EDC	**Edincik**	**1.11**	**294**	*e*PN		**Pb**	**15 22 48.4**	**-0.4**
EDC	**Edincik**	**1.11**	**294**	*e*Pn		**Pb**	**15 22 48.4**	**-0.4**
GULT	**Gulveren**	**1.14**	**62**	*e*PN		**Pb**	**15 22 48.7**	**-0.6**
GULT	**Gulveren**	**1.14**	**62**	*e*Pn		**Pb**	**15 22 48.7**	**-0.6**
ISK	**Istanbul-Kandi**	**1.17**	**355**	*e*PN		**Pg**	**15 22 49.8**	**-0.1**
ISK	**Istanbul-Kandi**	**1.17**	**355**	*e*Pn		**Pg**	**15 22 49.8**	**-0.1**
KLYT	**Kilyos**	**1.35**	**355**	*e*PN		**Pb**	**15 22 52.7**	**-0.2**
KLYT	**Kilyos**	**1.35**	**355**	*e*Pn		**Pb**	**15 22 52.7**	**-0.2**
MRMT	**Marmara Adasi**	**1.41**	**300**	*e*PN		**Pn**	**15 22 53.4**	**+0.1**
MRMT	**Marmara Adasi**	**1.41**	**300**	*e*Pn		**Pn**	**15 22 53.4**	**+0.1**
CTKS	**Kestanelik-??a**	**1.43**	**339**	*e*PN		**Pb**	**15 22 54.0**	**-0.2**
CTKS	**Kestanelik-??a**	**1.43**	**339**	*e*Pn		**Pb**	**15 22 54.0**	**-0.2**

IDC 21 15:35:27.6±3.6, 5°95S×150°56E, $h0^{km}$, mb3.2/2, mb1 3.5/3, mb1mx3.3/19, mbtmp3.3/3, ML1.4/1, Error ellipse: s-maj=133.7km s-min=45.0km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.81**	**224**	Pn	Pn	15 36 42.4	+1.1
	1.1nm,0.3s,baz=40,slow=7.9,SNR=4.9						
PMG				Sn	Sn	15 37 33.2	-4.6
	0.6nm,0.3s,baz=264,slow=19,SNR=3.0						
WRA	**Warramunga Arr**	**21.02**	**227**	P	P	15 40 12.4	-0.7
	0.7nm,0.5s,baz=52,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**23.82**	**221**	P	P	15 40 42.2	-0.2
	0.5nm,0.7s,baz=58,slow=8.8,SNR=5.2						
TORD	**Torodi Ar. Bea**	**148.50**	**285**	PKPbc	PKPbc	15 55 17.1	-0.3
	0.2nm,0.4s,baz=52,slow=1.4,SNR=3.5						

*THR **21** 16:01:21.4±0.8, 26°.76N×53°.90E, $h14^{km}$±10^{km}, ML3.9*
*IDC **21** 16:01:23.1±2.2, 27°.06N×53°.89E, $h0^{km}$, mb3.9/10, mb1 4.0/10, mb1mx3.7/48, mbtmp3.9/10, MS3.1/6, Ms1 3.1/6, ms1mx2.7/42, Error ellipse: s-maj=50.9km s-min=22.0km az=160.0*
*ISCJB **21** 16:01:25.4±0.5, 27°.11N±0°.05×53°.76E±0°.06, $h19^{km}$, mb3.9/9, MS3.0/4, Error ellipse: s-maj=8.7km s-min=6.0km az=139.8*
*CSEM **21** 16:01:27.9±0.3, 27°.10N×53°.87E, $h20^{km}$, ML3.9, Ms3.9, Error ellipse: s-maj=12.9km s-min=6.2km az=65.0*
*DSN **21** 16:01:28.5±0.7, 27°.18N×54°.14E, $h20^{km}$, mb3.6/7, ML4.4/6, Ms3.9/1, Error ellipse: s-maj=7.5km s-min=6.9km az=46.0*
*TEH **21** 16:01:36.2, 27°.76N×54°.70E, $h27^{km}$, ML3.7*

ISC 21 16:01:26.7±0.7, 27°.13N±0°.05×53°.94E±0°.05, h19km, n41, σ1§95/44, mb3.8/10, MS3.0/4, 1C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.43**	**324**	*e*Pg	**Pn**	**16 01 52.7**	**+1.0**
GHIR				*e*Sg	**Sg**	**16 02 16.3**	**+3.3**
GHIR				AML	AML	16 02 23.2	
	comp=E,1μm,1.5s						
GHIR				AML	AML	16 02 25.4	
	comp=N,791nm,0.7s						
GHIR	**Ghir-Karzin**	**1.43**	**324**	*e*Pg	**Pn**	**16 01 52.7**	**+1.0**
GHIR				*e*Sg	**Sg**	**16 02 16.3**	**+3.3**
BNDS	**Bandar-Abbas**	**2.00**	**82**	*e*Pg	**Pn**	**16 02 00.2**	**+0.6**
BNDS				*e*Sg	**Sb**	**16 02 28.2**	**+1.0**
BNDS				AML	AML	16 02 42.4	
	comp=E,630nm,0.1s						
BNDS				AML	AML	16 02 43.5	
	comp=N,902nm,0.7s						
BNDS	**Bandar-Abbas**	**2.00**	**82**	*e*Pg	**Pn**	**16 02 00.2**	**+0.6**
BNDS				*e*Sg	**Sb**	**16 02 28.2**	**+1.0**
IBND	**Bandar-abas**	**2.33**	**82**	*e*Pn	**Pn**	**16 02 06.2**	**+2.2**
IBND				*e*		16 03 02.8	
	comp=Z,17μm,0.4s						
IBND	**Bandar-abas**	**2.33**	**82**	*e*Pn	**Pn**	**16 02 06.2**	**+2.2**
NAZ	**Nazwa, Dubai**	**2.64**	**144**	P	**Pn**	**16 02 09.5**	**+1.3**
	SNR=14						
NAZ	**Nazwa, Dubai**	**2.64**	**144**	⇓*e*P	**Pn**	**16 02 09.5**	**+1.3**
	SNR=14						
ASUD	**Al Ashush, Dub**	**2.79**	**153**	P	**Pn**	**16 02 12.3**	**+2.0**
	SNR=8.2						
ASUD	**Al Ashush, Dub**	**2.79**	**153**	*e*P	**Pn**	**16 02 12.3**	**+2.0**
	SNR=8.2						
FAQ	**Al Faqa, Dubai**	**2.80**	**148**	P	**Pn**	**16 02 11.8**	**+1.3**
FAQ	**Al Faqa, Dubai**	**2.80**	**148**	⇑P	**Pn**	**16 02 11.8**	**+1.3**
HATD	**Hatta, Dubai**	**3.03**	**139**	P	**Pn**	**16 02 14.3**	**+0.7**
HATD	**Hatta, Dubai**	**3.03**	**139**	⇓P	**Pn**	**16 02 14.3**	**+0.7**
IKAZ	**Kazeroun**	**3.22**	**325**	*e*Pn	**Pg**	**16 02 28.4**	**-0.1**
IKAZ				*e*		16 03 33.2	
	comp=Z,4μm,0.4s						
IKAZ	**Kazeroun**	**3.22**	**325**	*e*Pn	**Pg**	**16 02 28.4**	**-0.1**
KRBR	**Kerman**	**3.77**	**40**	*e*Pn	**Pn**	**16 02 26.0**	**+1.9**
KRBR				AML	AML	16 03 30.9	
	comp=N,239nm,0.1s						
KRBR				AML	AML	16 03 39.8	
	comp=E,273nm,1.0s						
KRBR	**Kerman**	**3.77**	**40**	*e*Pn	**Pn**	**16 02 26.0**	**+1.9**
IMEH	**Mehriz**	**4.28**	**8**	*e*Pn	**Pn**	**16 02 33.0**	**+1.9**
IMEH				*e*Sn	**Sn**	**16 03 15.5**	**-5.2**
IMEH				*e*		16 03 49.6	
	comp=Z,865nm,0.5s						
IMEH	**Mehriz**	**4.28**	**8**	*e*Pn	**Pn**	**16 02 33.0**	**+1.9**
IMEH				*e*Sn	**Sn**	**16 03 15.5**	**-5.2**
IBAF	**Bafgh**	**4.66**	**17**	*e*Pn	**Pn**	**16 02 37.8**	**+1.5**
IBAF				*e*		16 04 10.8	
	comp=Z,647nm,0.4s						
IBAF	**Bafgh**	**4.66**	**17**	*e*Pn	**Pn**	**16 02 37.8**	**+1.5**
ISAD	**Sadrabad**	**4.77**	**357**	*e*Pn	**Pn**	**16 02 39.8**	**+2.0**
ISAD				*e*		16 02 42.7	
	comp=E,748nm,0.2s						
ISAD	**Sadrabad**	**4.77**	**357**	*e*Pn	**Pn**	**16 02 39.8**	**+2.0**
ICHK	**Chekchek**	**5.11**	**4**	*e*Pn	**Pn**	**16 02 45.4**	**+2.9**
ICHK				*e*		16 03 40.3	
	comp=Z,501nm,0.2s						
ICHK	**Chekchek**	**5.11**	**4**	*e*Pn	**Pn**	**16 02 45.4**	**+2.9**
IPIR	**Pirpir**	**6.13**	**335**	*e*Pn	**Pn**	**16 02 56.4**	**-0.2**
IPIR				*e*		16 04 21.5	
	comp=Z,323nm,0.3s						
IPIR	**Pirpir**	**6.13**	**335**	*e*Pn	**Pn**	**16 02 56.4**	**-0.2**
GEYT	**Alibeck**	**11.33**	**17**	LR	LR	16 09 24.1	
	comp=Z,160nm,19.6s,baz=80,slow=42						
GNI	**Garni**	**15.06**	**332**	LR	LR	16 12 16.1	
	comp=Z,38nm,21.5s,baz=98,slow=43						
BRTR	**Keskin Array B**	**21.03**	**312**	P	**P**	**16 06 10.2**	**+0.7**
	comp=Z,1.7nm,1.0s,baz=130,slow=12,SNR=4.8						
AKTO	**Aktyubinsk**	**23.48**	**7**	P	**P**	**16 06 35.1**	**+0.1**
	comp=Z,3.2nm,0.6s,baz=170,slow=11,SNR=12						
AKTO				LR	LR	16 17 47.2	
	comp=Z,48nm,18.9s,baz=162,slow=42						
BVAR	**Borovoye Array**	**28.62**	**21**	P	**P**	**16 07 21.6**	**-0.1**
	comp=Z,2.7nm,0.9s,baz=216,slow=9.0,SNR=16						
ARU	**Arti**	**29.46**	**5**	LR	LR	16 21 30.0	
	comp=Z,41nm,18.7s,baz=164,slow=41						
MKAR	**Makanchi Array**	**29.72**	**41**	P	**P**	**16 07 31.5**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=238,slow=8.8,SNR=6.2						
MKAR				LR	LR	16 21 37.4	
	comp=Z,25nm,20.2s,baz=194,slow=41						
ZALV	**Zalesovo Beam**	**35.11**	**32**	P	**P**	**16 08 18.2**	**-0.5**
	comp=Z,2.8nm,0.6s,baz=243,slow=9.1,SNR=14						
ZALV				LR	LR	16 24 42.3	
	comp=Z,39nm,18.4s,baz=250,slow=40						
FINES	**FINESS Array B**	**39.07**	**339**	P	**P**	**16 08 51.0**	**-1.2**
	comp=Z,1.6nm,0.7s,baz=142,slow=12,SNR=3.2						
SONM	**Songino Array**	**45.48**	**49**	P	**P**	**16 09 46.2**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=267,slow=8.4,SNR=3.8						
ESDC	**Sonseca Array**	**49.16**	**300**	P	**P**	**16 10 13.5**	**0.0**
	comp=Z,0.2nm,0.2s,baz=77,slow=6.3,SNR=5.5						
TORD	**Torodi Ar. Bea**	**50.65**	**265**	P	**P**	**16 10 23.5**	**-1.6**
	comp=Z,1.1nm,1.1s,baz=53,slow=6.1,SNR=4.1						
YKA	**Yellowknife Ar**	**90.22**	**355**	P	**P**	**16 14 24.8**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=1.9,slow=5.0,SNR=6.1						

*ISCJB **21** 16:03:32.8±0.7, 47°.52N±0°.05×93°.01W±0°.07, h0km, Error ellipse: s-maj=7.2km s-min=6.7km az=32.6*
*NEIC **21** 16:03:34.0±0.9, 47°.50N×92°.91W, h0km, MN2.0, Error ellipse: s-maj=13.2km s-min=11.6km az=140.0, Suspected Mining explosion.*

NEIC 10 km [5 miles] N of Hibbing.
*IDC **21** 16:03:38.4±3.9, 47°.51N×93°.34W, h0km, mb1 2.3/1, mb1mx2.3/47, mbtmp2.3/1, ML0.9/1, Error ellipse: s-maj=72.8km s-min=26.2km az=60.0*

ISC 21 16:03:33.7±1.1, 47°.52N±0°.05×92°.96W±0°.06, h0km, n7, σ1§00/10, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	**Ely**	**1.08**	**66**	*e*Pg	**Pg**	**16 03 54.0**	**-0.4**
EYMN				*e*Sg	**Sb**	**16 04 10.2**	**+0.3**
AGMN	**Agassiz Nation**	**2.10**	**293**	*e*Pn	**Pn**	**16 04 09.4**	**-0.8**
AGMN				*e*Sn	**Sn**	**16 04 36.0**	**-1.0**
SPMN	**St. Paul**	**2.30**	**177**	*e*Pn	**Pn**	**16 04 12.7**	**-0.2**
SPMN				*e*Sn	**Sn**	**16 04 41.4**	**-0.4**
ULM	**Lac du Bonnet**	**3.34**	**326**	Pn	**Pn**	**16 04 28.9**	**+1.7**
	0.2nm,0.3s,baz=176,slow=13,SNR=3.0						
ULM				Sn	**Sn**	**16 05 06.8**	**-0.8**
	0.6nm,0.3s,baz=128,slow=19,SNR=4.5						
ULM				Lg	Lg	16 05 17.6	
	3.1nm,0.3s,baz=62,slow=19,SNR=8.9						
I10CA	**LAC DU BONNET**	**3.36**	**324**	*i*		16 23 40.0	
	baz=146,slow=314,SNR=1.8						
ECSD	**EROS Data Cent**	**4.57**	**215**	*e*Pn	**Pn**	**16 04 44.8**	**+0.7**
ECSD				*e*S	**Sb**	**16 05 51.3**	**+0.9**
I56US	**NEWPORT INFRASI**	**6.21**	**282**	*i*		17 46 40.0	
	baz=83,slow=313,SNR=0.8						

*IDC **21** 16:05:31.5±0.7, 1°.95N×96°.63E, $h0^{km}$, mb4.3/19, mb1 4.4/21, mb1mx4.2/32, mbtmp4.3/21, ML4.0/2, MS3.5/9, Ms1 3.5/9, ms1mx3.1/47, Error ellipse: s-maj=21.5km s-min=12.6km az=46.0*
*BJI **21** 16:05:31.7, 1°.78N×96°.57E, $h20^{km}$, mb4.9/17, mB4.8/11, Ms4.2/2*
*ISCJB **21** 16:05:34.1±0.3, 1°.92N±0°.04×96°.61E±0°.03, $h28^{km}$, mb4.3/29, MS3.6/5, Error ellipse: s-maj=6.2km s-min=3.9km az=38.0*
*NEIC **21** 16:05:35.9±2.4, 1°.95N×96°.67E, $h29^{km}$±16^{km}, mb4.4/11, Error ellipse: s-maj=11.4km s-min=4.4km az=60.0*
*DJA **21** 16:05:36.0±1.5, 2°N±4°×9°.7E±1°.1, $h29^{km}$, 14^{km}, M4.5/11, mb4.8/5, mB4.8/3, MLv4.5/10, MLv4.5/11, Mw(mB)4.1/3*
*KLM **21** 16:05:37.8, 1°.90N×96°.67E, $h40^{km}$, mb4.3, ML4.1, MS5.2*

ISC 21 16:05:35.9±0.5, 1°.91N±0°.05×96°.62E±0°.06, h28km, n111, σ0§88/106, mb4.4/29, MS3.7/5, 2C-6D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.13**	**122**	P	**Pn**	**16 05 55.7**	**-0.2**
GSI	**Gunungsitoli**	**1.13**	**122**	*e*Pn	**Pn**	**16 05 55.7**	**-0.2**
PSI	**Prapat**	**2.46**	**69**	Pn	**Pn**	**16 06 13.7**	**-0.7**
	6.1nm,0.3s,baz=255,slow=7.6,SNR=26						
PSI				Sn	**Sn**	**16 06 43.3**	**-0.3**
	14nm,0.3s,baz=232,slow=13,SNR=4.7						
PSI				LR	LR	16 06 53.1	
	comp=Z,458nm,20.8s,baz=286,slow=34						
TSI	**Tuntungan**	**2.50**	**51**	P	**Pn**	**16 06 15.2**	**+0.5**
PBSI	**Pulau Batu**	**2.56**	**140**	P	**Pn**	**16 06 16.4**	**+0.8**
MNSI	**Mandailing Nat**	**3.16**	**111**	P	**Pn**	**16 06 24.1**	**+0.3**
LHMI	**Lhok Sumawe**	**3.31**	**6**	P	**Pn**	**16 06 26.2**	**+0.3**
LHMI	**Lhok Sumawe**	**3.31**	**6**	P	**Pn**	**16 06 26.2**	**+0.3**
	baz=3.3,SNR=11						
LHMI	**Lhok Sumawe**	**3.31**	**6**	*e*Pn	**Pn**	**16 06 25.9**	**0.0**
SISI	**Saibi**	**4.05**	**143**	P	**Pn**	**16 06 36.4**	**+0.3**
PPI	**Padang Panjang**	**4.45**	**122**	P	**Pn**	**16 06 40.5**	**-1.1**
PPI	**Padang Panjang**	**4.45**	**122**	P	**Pn**	**16 06 43.1**	**+1.5**
	baz=4.6,SNR=4.6						
IPM	**Ipoh**	**5.08**	**60**	⇓P	**Pn**	**16 06 50.6**	**+0.3**
IPM	**Ipoh**	**5.08**	**60**	*e*Pn	**Pn**	**16 06 50.3**	**0.0**
	62nm,0.6s						
FRIM	**Kepong**	**5.17**	**75**	⇑P	**Pn**	**16 06 52.1**	**+0.6**
KULM	**Kulim**	**5.24**	**50**	⇑P	**Pn**	**16 06 52.1**	**-0.3**
KULM	**Kulim**	**5.24**	**50**	*e*Pn	**Pn**	**16 06 51.8**	**-0.6**
	80nm,0.6s						
TRTT	**Trang**	**6.63**	**27**	P	**Pn**	**16 07 10.5**	**-1.1**
	38nm,0.6s,0.2nm						
KGM	**Kluang**	**6.69**	**89**	⇓P	**Pn**	**16 07 12.8**	**+0.4**
KRAB	**Krabi**	**6.77**	**22**	P	**Pn**	**16 07 12.9**	**-0.6**
	119nm,0.7s,1μm0.4nm						
MYKOM	**Kota Tinggi**	**7.22**	**91**	⇓P	**Pn**	**16 07 20.3**	**+0.5**
KTGM	**Kuala Trenggan**	**7.33**	**62**	⇓P	**Pn**	**16 07 21.4**	**+0.2**
MNAI	**Manna**	**8.88**	**135**	P	**Pn**	**16 07 41.7**	**-0.8**
MNAI	**Manna**	**8.88**	**135**	P	**Pn**	**16 07 42.6**	**+0.1**
	baz=9.1,SNR=4.4						
MNAI	**Manna**	**8.88**	**135**	*e*Pn	**Pn**	**16 07 41.8**	**-0.8**
LEM	**Lembang**	**13.99**	**128**	LR	LR	16 14 19.8	
	comp=Z,157nm,21.0s,baz=262,slow=38						
PBKT	**Sadao Pong**	**15.18**	**16**	P	**Pn**	**16 09 10.4**	**+1.9**
	21nm,0.7s						
SBUM	**Sibu**	**15.60**	**88**	⇓P	**Pn**	**16 09 14.5**	**+0.5**
LOEI	**Loei**	**16.16**	**16**	P	**P**	**16 09 25.0**	**+0.8**
	132nm,1.4s,4μm						
UTTA	**Uttaradit**	**16.20**	**14**	P	**P**	**16 09 24.4**	**-0.2**
	6.0nm,0.8s						
CM31	**Chiang Mai Arr**	**16.60**	**8**	*e*P	**Pn**	**16 09 25.5**	**-1.3**
	21nm,0.7s						
CMAR	**Chiang Mai Arr**	**16.60**	**8**	Pn	**Pn**	**16 09 25.4**	**-1.4**
	0.6nm,0.3s,baz=198,slow=11,SNR=55						
CMAR				LR	LR	16 15 52.0	
	comp=Z,116nm,20.2s,baz=185,slow=38						
PALK	**Pallekele**	**16.73**	**289**	LR	LR	16 14 55.3	
	comp=Z,158nm,20.7s,baz=114,slow=34						
LAMP	**Lampang**	**16.77**	**10**	P	**P**	**16 09 31.0**	**+0.1**
	4.8nm,1.0s						
CMMT	**Chiang Mai**	**16.95**	**8**	P	**Pn**	**16 09 31.5**	**+0.3**
	20nm,0.8s						
CHTO	**Chiang Mai**	**16.95**	**8**	P	**Pn**	**16 09 31.6**	**+0.4**
	60nm,0.8s						
CHTO	**Chiang Mai**	**16.95**	**8**	*e*P	**Pn**	**16 09 29.7**	**-1.5**
	7.0nm,0.8s						
CMAI	**Chiengmai2**	**18.07**	**7**	P	**P**	**16 09 47.3**	**+1.9**
	82nm,1.3s						
MDRS	**Chennai**	**19.64**	**305**	*e*P	**P**	**16 10 02.4**	**-0.1**
KKM	**Kota Kinabalu**	**19.97**	**78**	P	**Pn**	**16 10 09.2**	**+1.0**
	baz=20,SNR=3.3						
KKM	**Kota Kinabalu**	**19.97**	**78**	*e*P	**P**	**16 10 05.8**	**-0.5**
	19nm,0.7s						
VIS	**Vishakhapatnam**	**20.43**	**321**	*e*P	**P**	**16 10 10.5**	**-0.7**
VIS				AMB	AMB	16 10 17.2	
	comp=Z,20nm,0.8s						
TRD	**Trivandrum**	**20.64**	**289**	*e*P	Pn	16 10 16.3	+0.4
TRD				AMB	AMB	16 10 35.9	
	comp=Z,77nm,2.6s						
SHL	**Shillong**	**23.96**	**349**	*e*P	**P**	**16 10 46.3**	**-1.9**
BOK	**Bokaro**	**24.11**	**335**	*e*P	**P**	**16 10 49.6**	**+0.1**
KAPI	**Kappang**	**24.11**	**107**	P	**P**	**16 10 48.8**	**-0.8**
	comp=Z,9.0nm,0.7s,baz=298,slow=12,SNR=4.6						
H08S2	**Diego Garcia H**	**25.88**	**248**	T	T	16 37 52.4	
	baz=69,slow=75,SNR=152						
H08S3	**Diego Garcia H**	**25.88**	**248**	T	T	16 37 56.5	
	baz=69,slow=75,SNR=109						
H08S1	**Diego Garcia H**	**25.89**	**248**	T	T	16 37 55.5	
	baz=69,slow=75,SNR=111						
GOA	**Goa**	**26.22**	**302**	*e*P	**P**	**16 11 08.2**	**-0.5**
ODAN	**Odare**	**26.34**	**341**	*e*P	**P**	**16 11 10.7**	**+0.8**
	comp=Z,33nm,0.9s						
RAMN	**Ramite**	**26.69**	**340**	*e*P	**P**	**16 11 14.5**	**+1.4**
	comp=Z,22nm,0.6s						
TAPN	**Taplejung**	**26.70**	**342**	*e*P	**P**	**16 11 13.5**	**+0.3**
	comp=Z,9.1nm,0.4s						
PKI	**Pulchoki**	**27.68**	**338**	*e*P	**P**	**16 11 22.7**	**+0.6**
	comp=Z,7.0nm,0.5s						
PKIN	**Phulchoki**	**27.69**	**338**	*e*P	**P**	**16 11 22.8**	**+0.7**
	comp=Z,6.3nm,0.5s						
POO	**Poona**	**27.77**	**308**	*e*P	**P**	**16 11 21.2**	**-1.5**
GUN	**Gumba**	**27.82**	**339**	*e*P	**P**	**16 11 23.3**	**-0.1**
	comp=Z,38nm,0.6s						
DMN	**Daman**	**27.83**	**338**	*e*P	**P**	**16 11 23.7**	**+0.4**
	comp=Z,16nm,0.7s						
KKN	**Kakani**	**27.93**	**338**	*e*P	**P**	**16 11 24.9**	**+0.7**
	comp=Z,14nm,0.7s						
LSA	**Lhasa**	**28.12**	**350**	P	**P**	**16 11 26.1**	**-0.1**
LSA	**Lhasa**	**28.12**	**350**	*e*P	**P**	**16 11 26.6**	**+0.4**
	comp=Z,6.3nm,0.6s						
GKN	**Gorkha**	**28.36**	**337**	*e*P	**P**	**16 11 28.5**	**+0.5**
	comp=Z,22nm,0.8s						
KOLN	**Koldanda**	**28.57**	**335**	*e*P	**P**	**16 11 31.1**	**+1.2**
	comp=Z,26nm,0.7s						
BATI	**Baumata**	**29.49**	**115**	LR	LR	16 25 11.6	
	comp=Z,210nm,19.8s,baz=256,slow=40						
SMLA	**Simla**	**34.39**	**330**	*e*P	**P**	**16 12 21.1**	**+0.3**
SMLA				AMB	AMB	16 12 26.6	
	comp=Z,8.7nm,0.8s						
DHRM	**DHARAMSHALA**	**35.73**	**330**	*e*P	**P**	**16 12 31.2**	**-1.4**
DHRM				AMB	AMB	16 12 46.8	
	comp=Z,10nm,2.0s						
GTA	**Gaotai**	**37.44**	**4**	⇓P	**P**	**16 12 46.9**	**-0.1**
GTA				pP	**pP**	**16 12 55.3**	**0.0**
GTA				sP	**sP**	**16 12 59.3**	**+0.6**
GTA				PMZ			
	comp=Z,19nm,1.1s						
H01W3	**Cape Leeuwin H**	**40.12**	**157**	T	T	16 55 38.8	
	baz=333,slow=76,SNR=18						
H01W2	**Cape Leeuwin H**	**40.13**	**157**	T	T	16 55 45.8	
	baz=333,slow=76,SNR=22						
H01W1	**Cape Leeuwin H**	**40.14**	**157**	T	T	16 55 40.1	
	baz=333,slow=76,SNR=19						
WRKA	**Warakurna**	**40.74**	**133**	P	P	16 13 24.1	+9.4
	baz=41,SNR=5.2						
HHC	**Hu-ho-hao-te**	**41.05**	**17**	*e*P	P	16 13 20.5	+3.4
HHC				PP	**PnPn**	**16 14 59.0**	**+2.4**
HHC				S	**S**	**16 19 31.8**	**+3.7**
HHC				SS	**SS**	**16 22 30.1**	**-0.9**
HHC				PMZ			
	comp=Z,21nm,1.2s						
HHC				PMZ			
	comp=Z,49nm,5.4s						
HHC				LN			
	comp=Z,120nm,12.8s						
HHC				LE			
	comp=Z,130nm,13.7s						
WRA	**Warramunga Arr**	**42.90**	**122**	P	**P**	**16 13 32.0**	**-0.4**
	comp=Z,3.6nm,0.7s,baz=301,slow=9.2,SNR=31						
WRA				PcP	**PcP**	**16 15 23.0**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=310,slow=2.9,SNR=2.7						
WRAB	**Tennant Creek**	**42.91**	**122**	*e*P	**P**	**16 13 32.4**	**-0.1**
ASAR	**Alice Springs**	**44.28**	**127**	P	**P**	**16 13 43.6**	**0.0**
	comp=Z,2.2nm,0.8s,baz=300,slow=8.1,SNR=23						
ASAR				PcP	**PcP**	**16 15 28.0**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=305,slow=3.3,SNR=4.4						
AS31	**Alice Springs**	**44.28**	**127**	P	**P**	**16 13 41.5**	**-2.1**
TKM2	**Tokmak 2**	**44.95**	**338**	*e*P	**P**	**16 13 49.7**	**+0.9**
	comp=Z,5.0nm,0.8s						
KSAR	**Wonju Array Be**	**45.57**	**35**	P	**P**	**16 13 53.0**	**-0.5**
KSRS	**Korea Array**	**45.60**	**35**	P	**P**	**16 13 53.0**	**-0.7**
	comp=Z,4.4nm,0.8s,baz=222,slow=8.6,SNR=14						
KSRS				LR	LR	16 33 31.5	
	comp=Z,63nm,18.3s,baz=207,slow=37						
MK31	**Makanchi Array**	**46.42**	**346**	*e*P	**P**	**16 14 00.3**	**+0.2**
MKAR	**Makanchi Array**	**46.42**	**346**	P	**P**	**16 14 00.4**	**+0.3**
	comp=Z,5.5nm,0.6s,baz=162,slow=7.5,SNR=50						
SONM	**Songino Array**	**46.52**	**9**	P	**P**	**16 14 00.6**	**-0.4**
	comp=Z,3.7nm,0.6s,baz=190,slow=9.5,SNR=16						
ULN	**Ulaanbaatar**	**46.66**	**10**	*e*P	**P**	**16 14 02.2**	**+0.1**
	comp=Z,2.6nm,0.8s						
KKAR	**Karatay Array**	**47.17**	**334**	*e*P	**P**	**16 14 06.3**	**+0.3**
	comp=Z,1.7nm,0.5s						
CN2	**Changchun**	**48.94**	**28**	*e*P	P	16 14 23.6	+3.9
GEYT	**Alibeck**	**50.30**	**320**	P	**P**	**16 14 30.5**	**+0.3**
	comp=Z,2.4nm,0.5s,baz=149,slow=6.7,SNR=5.4						
KURK	**Kurchatov**	**50.96**	**345**	*e*P	**P**	**16 14 33.9**	**-1.0**
	comp=Z,5.5nm,0.8s						
MAT	**Matsushiro**	**51.56**	**43**	P	P	**16 14 39.5**	**-0.2**
MJAR	**Matsushiro Arr**	**51.56**	**43**	P	P	**16 14 38.3**	**-1.4**
	comp=Z,2.2nm,0.7s,baz=213,slow=7.4,SNR=15						
PMG	**Port Moresby**	**51.58**	**104**	P	**P**	**16 14 40.2**	**0.0**
	baz=52,SNR=4.2						
PMG				P	**P**	**16 14 40.2**	**0.0**
	baz=52,SNR=4.2						
PMG				P	**P**	**16 14 40.2**	**0.0**
	baz=52,SNR=4.2						
ZAAO	**Zalesovo Array**	**52.77**	**351**	*e*P	**P**	**16 14 47.8**	**-0.6**
ZALV	**Zalesovo Beam**	**52.77**	**351**	P	**P**	**16 14 48.6**	**+0.3**
	comp=Z,14nm,0.6s,baz=182,slow=6.7,SNR=81						
HTT	**Hallett**	**53.13**	**135**	P	**P**	**16 14 52.6**	**+1.2**
	baz=53,SNR=3.9						
**

2.3nm,1.0s
ZALV **Zalesovo Beam** **76.91** **360** P **P** **16 20 16.6** **-0.8**
1.4nm,0.6s,baz=194,slow=4.3,SNR=7.4
BVAR **Borovoye Array** **77.09** **351** P **P** **16 20 18.1** **-0.3**
0.9nm,0.6s,baz=165,slow=7.5,SNR=6.2
AKASG **Malin Array Be** **88.70** **328** P **P** **16 21 19.1** **+0.5**
0.1nm,0.3s,baz=128,slow=3.8,SNR=5.8

WEL 21 16:20:05.9±0.1, 41°.75S×174°.33E, h31km±1km, ML2.9/12, 2C-5D, Error ellipse: s-maj=0.9km s-min=0.8km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.09**	**272**	P*	Pb	16 20 11.8	+0.4
CMWZ				S*	Sb	16 20 16.6	+1.5
CMWZ				AML	AML	16 20 20.4	
BSWZ	**Blackbirch Sta**	**0.34**	**276**	⇓P*	Pb	16 20 14.0	0.0
BSWZ				S*	Sb	16 20 19.7	+0.1
BSWZ				AML	AML	16 20 20.2	
TUWZ	**Tuamarina**	**0.43**	**318**	P*	Pb	16 20 14.9	-0.5
TUWZ				AML	AML	16 20 23.1	
TUWZ				AML	AML	16 20 23.3	
BHW	**Baring Head**	**0.53**	**50**	P*	Pn	16 20 17.3	-0.1
BHW				S*	Sn	16 20 25.1	-0.1
BHW				AML	AML	16 20 26.7	
TCW	**Tory Channel**	**0.54**	**356**	P*	Pb	16 20 16.7	-0.4
TCW				S*	Sb	16 20 23.9	-0.7
TCW				AML	AML	16 20 25.1	
WEL	**Wellington**	**0.57**	**35**	⇓P*	Pn	16 20 17.8	-0.1
PLWZ	**Palliser**	**0.71**	**76**	P*	Pn	16 20 19.7	-0.3
PLWZ				S*	Sn	16 20 30.4	+0.4
MSWZ	**Moikau Station**	**0.77**	**64**	P*	Pn	16 20 20.5	-0.1
MSWZ				S*	Sn	16 20 31.4	+0.2
MSWZ				AML	AML	16 20 33.7	
CAW	**Cannon Point**	**0.85**	**41**	⇓P*	Pn	16 20 21.8	0.0
CAW				AML	AML	16 20 35.1	
CAW				AML	AML	16 20 37.8	
KHZ	**Kahutara**	**0.89**	**221**	⇓P*	Pn	16 20 22.1	-0.2
KHZ				S*	Sn	16 20 33.9	-0.2
NNZ	**Nelson**	**0.89**	**306**	PN	Pn	16 20 21.8	-0.6
NNZ				SN	Sn	16 20 34.0	-0.2
PAWZ	**Paruwai Farm**	**0.90**	**66**	P*	Pn	16 20 22.0	-0.5
KIW	**Kapiti Island**	**0.99**	**26**	P*	Pn	16 20 23.9	+0.2
KIW				AML	AML	16 20 38.6	
KIW				AML	AML	16 20 38.8	
DUWZ	**D'Urville Isla**	**1.00**	**342**	P*	Pn	16 20 23.7	-0.1
DUWZ				AML	AML	16 20 37.1	
DUWZ				AML	AML	16 20 39.1	
MTW	**Mount Morrison**	**1.06**	**56**	⇑P*	Pn	16 20 24.2	-0.5
THZ	**Tophouse**	**1.07**	**269**	P*	Pn	16 20 24.6	-0.3
THZ				AML	AML	16 20 40.9	
THZ				AML	AML	16 20 42.4	
TRWZ	**Traveller**	**1.08**	**71**	P*	Pn	16 20 24.3	-0.7
OGWZ	**Otaki Gorge**	**1.13**	**34**	P*	Pn	16 20 25.5	-0.1
HOWZ	**Holdsworth Sta**	**1.23**	**47**	P*	Pn	16 20 26.4	-0.7
HOWZ				S*	Sn	16 20 42.5	-0.2
TMWZ	**Te Maipa**	**1.34**	**62**	PN	Pn	16 20 27.7	-0.8
MRZ	**Mangatainoka R**	**1.44**	**41**	⇓PN	Pn	16 20 29.5	-0.4
MRZ				S*	Sn	16 20 47.8	0.0
TIWZ	**Tintock**	**1.52**	**51**	PN	Pn	16 20 30.3	-0.8
QRZ	**Quartz Range**	**1.64**	**304**	PN	Pn	16 20 33.4	+0.7
QRZ				SN	Sn	16 20 53.8	+1.1
PRWZ	**Pori Road**	**1.72**	**47**	PN	Pn	16 20 32.9	-0.8
BFZ	**Birch Farm**	**1.80**	**54**	PN	Pn	16 20 33.4	-1.5
LTZ	**Lake Taylor**	**1.84**	**235**	PN	Pn	16 20 34.9	-0.6
LTZ				AML	AML	16 21 08.8	
MQZ	**McQueen's Vall**	**2.31**	**212**	⇑PN	Pn	16 20 39.8	-2.0
MQZ				SN	Sn	16 21 05.3	-4.0

WEL 21 16:20:13.1±0.1, 39°.31S×175°.07E, h30km, ML2.7/15, 3C-2D, Error ellipse: s-maj=0.7km s-min=0.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	**Pokaka**	**0.22**	**84**	P*	Pb	16 20 19.3	-0.2
PKVZ				S*	Sb	16 20 24.3	+0.4
PKVZ				AML	AML	16 20 24.9	
VRZ	**Vera Road**	**0.30**	**308**	⇑P*	Pb	16 20 20.2	-0.4
VRZ				S*	Sb	16 20 26.3	+0.7
VRZ				AML	AML	16 20 26.5	
MTVZ	**Mangateitei**	**0.32**	**103**	P*	Pb	16 20 20.6	-0.3
MTVZ				S*	Sb	16 20 26.0	-0.2
MTVZ				AML	AML	16 20 27.2	
TRVZ	**Turoa**	**0.37**	**88**	P*	Pb	16 20 21.4	-0.4
TRVZ				S*	Sb	16 20 27.1	-0.7
TRVZ				AML	AML	16 20 27.7	
FWVZ	**Far West T-bar**	**0.38**	**82**	⇓P*	Pb	16 20 21.6	-0.3
FWVZ				AML	AML	16 20 28.0	
FWVZ				AML	AML	16 20 28.3	
COVZ	**Chateau Observ**	**0.39**	**73**	P*	Pb	16 20 21.5	-0.3
WPVZ	**Whakapapa**	**0.39**	**74**	⇓P*	Pb	16 20 21.7	-0.3
WPVZ				AML	AML	16 20 28.3	
WPVZ				AML	AML	16 20 28.5	
DRZ	**Dome Shelter**	**0.39**	**85**	P*	Pb	16 20 21.4	-0.3
DRZ				S*	Sb	16 20 28.4	+0.1
DRZ				AML	AML	16 20 29.2	
WHVZ	**Whangaehu Hut**	**0.41**	**86**	P*	Pb	16 20 21.8	-0.5
WNVZ	**Wahianoa**	**0.41**	**92**	P*	Pb	16 20 22.0	-0.3
WNVZ				S*	Sb	16 20 28.2	-0.5
NGZ	**Ngauruhoe**	**0.44**	**72**	P*	Pb	16 20 22.2	-0.5
WAZ	**Wanganui**	**0.45**	**188**	⇑P*	Pb	16 20 22.2	-0.5
WAZ				AML	AML	16 20 30.2	
WAZ				AML	AML	16 20 30.6	
WTVZ	**West Tongariro**	**0.45**	**64**	P*	Pb	16 20 22.5	-0.4
WTVZ				AML	AML	16 20 30.0	
WTVZ				AML	AML	16 20 30.5	
TUVZ	**Tukino**	**0.46**	**85**	P*	Pb	16 20 22.7	-0.3
TUVZ				AML	AML	16 20 31.0	
OTVZ	**Oturere**	**0.49**	**72**	P*	Pb	16 20 23.1	-0.4
OTVZ				S*	Sb	16 20 30.6	0.0
OTVZ				AML	AML	16 20 30.9	
KRVZ	**Karewarewa**	**0.50**	**64**	P*	Pb	16 20 23.1	-0.5
KRVZ				S*	Sb	16 20 30.7	-0.1
KRVZ				AML	AML	16 20 30.7	
LREZ	**Lake Rotokare**	**0.54**	**254**	P*	Pb	16 20 23.6	-0.4
LREZ				S*	Sn	16 20 32.4	-0.4
MOVZ	**Moawhango**	**0.54**	**100**	⇑P*	Pb	16 20 23.7	-0.6
MOVZ				S*	Sb	16 20 30.9	-1.0
MOVZ				AML	AML	16 20 31.3	
KATZ	**Kakaramea**	**0.59**	**56**	P*	Pb	16 20 24.6	-0.6
KATZ				S*	Sb	16 20 32.8	-0.7
KATZ				AML	AML	16 20 33.8	
MHEZ	**Mangahewa**	**0.62**	**292**	P*	Pb	16 20 25.4	-0.2
DREZ	**Durham Road**	**0.68**	**280**	PN	Pb	16 20 26.1	-0.4
PREZ	**Palmer Road**	**0.70**	**267**	SN	Sn	16 20 37.9	+0.9
NEZ	**North Egmont**	**0.75**	**273**	PN	Pb	16 20 27.8	0.0
NEZ				SN	Sn	16 20 38.5	+0.1
BHHZ	**Black Hill Sta**	**0.79**	**103**	PN	Pn	16 20 27.3	-1.0
WATZ	**Wairara**	**0.80**	**41**	PN	Pn	16 20 27.3	-0.7
WATZ				SN	Sb	16 20 38.6	-0.3
HIZ	**Hauiti**	**0.81**	**348**	PN	Pn	16 20 27.9	-0.6
HIZ				SN	Sb	16 20 39.5	+0.1
HIZ				AML	AML	16 21 46.0	
HATZ	**Hinemaiaia**	**0.90**	**63**	PN	Pn	16 20 28.9	-0.9
TSZ	**Takapari Road**	**1.02**	**138**	PN	Pn	16 20 30.6	-0.8
TLZ	**Tolley Road**	**1.05**	**21**	PN	Pn	16 20 31.0	-0.9
TLZ				SN	Sn	16 20 44.0	-1.6
KWHZ	**Kaweka Forest**	**1.06**	**96**	*e*PN	Pn	16 20 32.0	0.0
KRHZ	**Kereru**	**1.06**	**109**	PN	Pb	16 20 32.7	-0.2
PNHZ	**Pukenui**	**1.06**	**125**	PN	Pn	16 20 32.4	+0.3
POWZ	**Post Office Ro**	**1.21**	**154**	PN	Pn	16 20 33.4	-0.5
POWZ	**Post Office Ro**	**1.21**	**154**	PN	Pn	16 20 33.9	-0.1
DVHZ	**Dannevirke**	**1.30**	**140**	PN	Pb	16 20 36.4	-0.5
DVHZ	**Dannevirke**	**1.30**	**140**	PN	Pb	16 20 36.4	-0.5

*IDC **21** 16:31:15.1±7.2, 49°.54N×147°.72E, h0km, mb3.7/2, mb1 4.0/4, mb1mx3.5/27, mbtmp3.9/4, ML4.1/2, Error ellipse: s-maj=204.1km s-min=34.1km az=112.0*
*ISCJB **21** 16:31:39.8±0.7, 47°.69N±0°.05×149°.0E±0°.1, h350km, mb3.4/2, Error ellipse: s-maj=12.6km s-min=6.2km az=11.0*
*SKHL **21** 16:31:40.2±0.2, 47°.76N×148°.88E, h357km±28km, mb4.2/5, msh4.9/3*
ISC 21 16:31:40.7±1.0, 47°.72N±0°.07×148°.80E±0°.10, h350km, n36, σ2s14/34, 1D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.57**	**195**	⇓*i*P	Pn	**16 32 39.0**	**+2.6**
KUR				AMB	AMB	16 32 39.5	
	10.0nm,0.2s						
KUR				*i* S	S	**16 33 25.0**	**+3.9**
KUR				A	A	16 33 37.0	
	10.0nm,0.6s						
KUR				A	A	16 33 37.0	
	30nm,0.6s						
SHO	**Shikotan**	**4.09**	**200**	*e*P	Pn	**16 32 50.8**	**+0.1**
SHO				AMB	AMB	16 32 57.4	
	110nm,1.0s						
SHO				*e*S	S	**16 33 45.7**	**-1.4**
SHO				A	A	16 33 46.6	
	110nm,0.6s						
YSS	**Yuzh-Sakhalins**	**4.18**	**262**	*e*P	Pn	**16 32 52.6**	**+1.1**
YUK	**Yuzh-Kuril'sk**	**4.22**	**210**	*e*P	Pn	**16 32 50.2**	**-1.8**
YUK				AMB	AMB	16 32 55.4	
	30nm,0.3s						
YUK				AMB	AMB	16 32 55.4	
	20nm,0.3s						
YUK				*e*S	S	**16 33 47.6**	**-1.9**
YUK				A	A	16 33 57.9	
	30nm,0.3s						
YUK				A	A	16 33 57.9	
	50nm,0.3s						
UGL	**Uglegorsk**	**4.69**	**289**	*e*P	Pn	**16 32 57.0**	**+0.2**
NEM2	**Nemuro 2**	**4.86**	**207**	P	Pn	**16 32 58.1**	**-0.7**
NEM2				*e*S	S	**16 33 56.9**	**-4.9**
JNK	**Nakash**	**5.03**	**216**	P	Pn	**16 33 01.8**	**+1.1**
JTKR	**Abashiri--Toko**	**5.07**	**224**	P	Pn	16 33 04.2	+3.1
JMP	**Maruseppu**	**5.31**	**228**	P	Pn	16 33 07.1	+3.3
JAK	**Akkeshi**	**5.54**	**213**	P	Pn	**16 33 06.0**	**-0.3**
JAK				*e*S	S	**16 34 11.8**	**-3.8**
ASAJ	**Asahikawa**	**5.63**	**233**	P	Pn	16 33 11.2	+3.9
SKR	**Severo-Kuril's**	**5.64**	**56**	*i* P	Pn	**16 33 06.0**	**-1.2**
SKR				AMB	AMB	16 33 06.9	
	40nm,0.6s						
JAR	**Ashorobuto**	**5.66**	**220**	P	Pn	**16 33 09.1**	**+1.4**
JKK2	**Kamakawa 2**	**5.72**	**230**	P	Pn	16 33 11.8	+3.4
HRK	**Horoka**	**5.83**	**225**	*e*P	Pn	16 33 12.8	+3.2
JOB	**Onbets**	**5.95**	**218**	P	Pn	**16 33 11.2**	**+0.2**
JOB				*e*S	S	**16 34 20.9**	**-3.3**
JAB	**Ashibetsu**	**6.25**	**230**	P	Pn	16 33 18.0	+3.6
JFR	**Furan**	**6.31**	**226**	P	Pn	**16 33 17.1**	**+2.0**
JCH	**Churui**	**6.39**	**219**	P	Pn	**16 33 15.6**	**-0.4**
JCH				*e*S	S	**16 34 28.5**	**-4.8**
MYR	**Moyori**	**6.69**	**218**	*e*P	Pn	**16 33 18.3**	**-1.2**
NKL	**Nikolayevsk**	**7.51**	**319**	*e*P	Pn	**16 33 28.2**	**-0.6**
JSH	**Shimam**	**8.00**	**234**	P	P	**16 33 37.4**	**+2.6**
JKB	**Kayabe**	**8.03**	**226**	P	Pn	**16 33 34.9**	**-0.3**
JKB				*e*S	S	16 35 02.0	-6.5
JYM2	**Yakumo 2**	**8.19**	**230**	P	Pn	**16 33 37.9**	**+0.8**
GRNR	**Gornyy**	**8.66**	**295**	*e*P	P	**16 33 44.0**	**-1.1**
GRNR				AMB	AMB	16 33 44.7	
	4.0nm,0.4s						
TEY	**Ternei**	**8.85**	**257**	*e*P	P	**16 33 47.0**	**-0.3**
JTM	**Tenmabayashi**	**8.88**	**221**	*e*S	S	16 35 18.4	-8.6
JANG	**Nango**	**9.02**	**218**	P	Pn	**16 33 46.0**	**-1.0**
EKMR	**Ekimchan**	**11.44**	**304**	*e*P	P	**16 34 17.8**	**+1.9**
EKMR				AMB	AMB	16 34 18.2	
	3.0nm,0.4s						
MAT	**Matsushiro**	**13.64**	**219**	P	Pn	16 34 44.7	+2.9
MJAR	**Matsushiro Arr**	**13.64**	**219**	Pn	Pn	16 34 44.9	+3.1
	1.2nm,0.3s,baz=18,slow=11,SNR=20						
BMKR	**Bomnak**	**14.30**	**307**	*e*P	Pn	**16 34 51.2**	**+2.0**
BMKR				AMB	AMB	16 34 51.9	
	10.0nm,0.7s						
YASR	**Yasnyy**	**14.35**	**301**	*e*P	P	**16 34 47.0**	**-1.0**
KSRS	**Korea Array**	**18.43**	**244**	P	P	**16 35 35.0**	**+2.9**
	0.4nm,0.3s,baz=47,slow=11,SNR=8.3						
FINES	**FINESS Array B**	**61.87**	**333**	P	P	**16 41 22.9**	**-0.5**
	0.7nm,0.6s,baz=35,slow=5.1,SNR=5.4						
NOA	**NORSAR Array B**	**66.31**	**339**	P	P	**16 41 51.6**	**-0.5**
	0.4nm,0.5s,baz=30,slow=6.4,SNR=2.8						

*BJI **21** 16:40:56.3, 39°.67N×69°.94E, h19km, mb4.6/2, ML4.0/4*
*IDC **21** 16:40:58.5±1.0, 39°.83N×70°.50E, h0km, mb3.9/7, mb1 4.0/13, mb1mx3.7/52, mbtmp3.9/13, ML3.4/6, MS3.2/9, Ms1 3.2/9, ms1mx2.8/39, Error ellipse: s-maj=16.9km s-min=15.1km az=166.0*
*ISCJB **21** 16:40:59.9±0.5, 39°.97N±0°.06×70°.26E±0°.04, h16km, mb3.8/10, MS3.1/7, Error ellipse: s-maj=8.0km s-min=4.4km az=175.6*
*NNC **21** 16:41:00.6±0.8, 40°.00N×70°.48E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=11.5km s-min=6.3km az=142.0*
*MOS **21** 16:41:02.9±1.6, 40°.07N×70°.32E, h33km, mb4.1/8, Error ellipse: s-maj=12.6km s-min=7.9km az=85.2*
ISC 21 16:41:02.0±0.6, 40°.03N±0°.07×70°.31E±0°.04, h16km, n57, σ2s03/61, mb3.9/10, MS3.2/7, 8C-11D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**1.68**	**223**	⇓Pn	Pn	**16 41 32.4**	**+1.5**
	194nm,0.5s						
DZET				⇑Lg	Lg	16 41 56.6	
	932nm,0.6s						
DZET	**Dzherino**	**1.68**	**223**	PN	Pn	**16 41 32.3**	**+1.5**
DZET						16 41 59.2	
DZET				pmax	pmax		
	comp=Z,220nm,0.4s						
DZET				pmax	pmax		
	comp=Z,932nm,0.6s						
SFK	**Sufi-Kurgan**	**2.46**	**89**	⇓Pn	Pn	**16 41 39.9**	**-1.8**
	comp=Z,36nm,0.9s						
SFK				⇑Lg	Lg	16 42 12.5	
	comp=Z,308nm,0.6s						
SFK	**Sufi-Kurgan**	**2.46**	**89**	PN	Pn	**16 41 39.8**	**-1.8**
SFK						16 42 12.5	
SFK				pmax	pmax		
	comp=Z,18nm,0.4s						
SFK				pmax	pmax		
	comp=Z,308nm,0.6s						
KK31	**Karatay Array**	**3.07**	**3**	Pn	Pb	16 41 52.3	-4.0
	comp=Z,24nm,0.6s,baz=187,slow=14,SNR=191						
KK31				⇑Lg	Lg	16 42 40.0	
	comp=Z,128nm,0.6s,baz=181,slow=29,SNR=9.1						
KK31	**Karatay Array**	**3.07**	**3**	*e*PN	Pb	16 41 52.2	-4.0
KK31						16 42 40.5	
KK31				pmax	pmax		
	comp=Z,14nm,0.2s						
KK31				pmax	pmax		
	comp=Z,40nm,0.3s						
AML	**Almayashu**	**3.31**	**50**	P	Pn	**16 41 54.5**	**+1.0**
	SNR=11						
EKS2	**Erkin-Say**	**3.71**	**44**	P	Pn	**16 42 00.1**	**+1.4**
	SNR=17						
AAK	**Ala-Archa**	**4.09**	**49**	P	Pn	**16 42 06.7**	**+2.7**
	SNR=10						
AAK	**Ala-Archa**	**4.09**	**49**	⇑Pn	Pn	**16 42 05.4**	**+1.4**
	comp=Z,41nm,1.1s						
AAK				⇓Lg	Lg	16 43 08.8	
	comp=Z,171nm,1.1s						
AAK	**Ala-Archa**	**4.09**	**49**	PN	Pn	**16 42 05.3**	**+1.4**
AAK						16 43 09.6	
AAK				pmax	pmax		
	comp=Z,27nm,0.7s						
AAK				pmax	pmax		
	comp=Z,171nm,1.2s						
KZA	**Kyzart**	**4.26**	**60**	P	Pn	**16 42 07.5**	**+1.0**
	SNR=8.3						
KBK	**Karagaybulak**	**4.37**	**52**	P	Pn	**16 42 09.3**	**+1.5**
	SNR=15						
KSH	**Kashi**	**4.40**	**95**	Pn	Pn	16 42 04.9	-3.3
KSH				Sn	Sn	**16 42 55.1**	**-4.1**
KSH				SMN			
	comp=Z,220nm,1.3s						
KSH				SME			
	comp=Z,290nm,1.3s						
CHMS	**Chumysh**	**4.46**	**47**	P	Pn	**16 42 10.1**	**+1.1**
	SNR=23						
USP	**Ospenovka**	**4.51**	**43**	P	Pn	**16 42 11.0**	**+1.4**
	SNR=11						
TKM2	**Tokmak 2**	**4.91**	**52**	P	Pn	**16 42 16.0**	**+0.6**
	SNR=9.4						
TKM2	**Tokmak 2**	**4.91**	**52**	⇑Pn	Pn	**16 42 15.2**	**-0.1**
	comp=Z,28nm,0.7s						
TKM2				⇑Sn	Sn	**16 43 11.7**	**-0.2**
	comp=Z,30nm,0.8s						
TKM2				⇓Lg	Lg	16 43 35.4	

	comp=Z,69nm,0.8s						
PDGK	**Podgornoye**	**7.62**	**61**	⇓Pn	Pn	**16 42 52.7**	**+0.4**
	comp=Z,3.4nm,0.9s						
PDGK				⇓Lg	Lg	16 44 55.5	
	comp=Z,50nm,1.2s						
GEYT	**Alibeck**	**9.72**	**261**	Pn	Pn	**16 43 21.5**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=74,slow=11,SNR=4.0						
GEYT				Sn	Sn	**16 45 10.8**	**+0.8**
	comp=Z,1.4nm,0.3s,baz=121,slow=17,SNR=4.6						
MKAR	**Makanchi Array**	**11.02**	**48**	Pn	Pn	**16 43 38.9**	**0.0**
	comp=Z,0.2nm,0.3s,baz=233,slow=14,SNR=10						
MKAR				Lg	Lg	16 46 46.4	
	comp=Z,0.1nm,0.3s,baz=242,slow=24,SNR=3.3						
MKAR				LR	LR	16 48 05.1	
	comp=Z,56nm,18.2s,baz=226,slow=39						
AB31	**Akbulak array**	**11.80**	**325**	⇓Pn	Pn	**16 43 49.3**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=141,slow=12,SNR=54						
AB31				⇓Sn	Sn	**16 46 01.8**	**+1.1**
	comp=Z,8.2nm,0.7s,baz=133,slow=23,SNR=8.2						
AB31	**Akbulak array**	**11.80**	**325**	*e*P	Pn	**16 43 49.5**	**0.0**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KURBB	**Kurchatov Arra**	**12.06**	**26**	Pn	Pn	**16 43 49.9**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=216,slow=13,SNR=7.9						
KURBB				Lg	Lg	16 47 21.1	
	comp=Z,0.1nm,0.3s,baz=216,slow=30,SNR=6.4						
KURK	**Kurchatov**	**12.17**	**26**	P	Pn	16 43 49.9	-4.6
BVAR	**Borovoye Array**	**12.99**	**0**	Pn	Pn	**16 44 05.2**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=161,slow=14,SNR=9.4						
BVAR				Lg	Lg	16 47 57.5	
	comp=Z,0.3nm,0.3s,baz=239,slow=34,SNR=2.8						
BVAR				LR	LR	16 49 22.8	
	comp=Z,94nm,18.2s,baz=86,slow=38						
AKTO	**Aktyubinsk**	**13.51**	**324**	⇓Pn	Pn	**16 44 10.5**	**-2.4**
	comp=Z,4.0nm,1.1s						
AKTO				⇑Sn	Sn	**16 46 44.5**	**+1.8**
	comp=Z,5.5nm,0.7s						
AKTO	**Aktyubinsk**	**13.51**	**324**	Pn	Pn	**16 44 13.2**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=140,slow=14,SNR=5.5						
AKTO				Sn	Sn	**16 46 39.7**	**-3.0**
	comp=Z,0.4nm,0.3s,baz=78,slow=18,SNR=4.5						
AKTO				Lg	Lg	16 48 17.3	
	comp=Z,0.1nm,0.3s,baz=0.0,slow=20,SNR=2.0						
AKTO				LR	LR	16 48 51.9	
	comp=Z,25nm,20.0s,baz=143,slow=34						
ZALV	**Zalesovo Beam**	**17.03**	**30**	Pn	Pn	**16 44 57.8**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=222,slow=13,SNR=8.7						
ZALV				Sn	S	**16 48 15.6**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=200,slow=25,SNR=2.2						
ZALV				Lg	Lg	16 50 07.9	
	comp=Z,0.1nm,0.3s,baz=200,slow=23,SNR=2.7						
NVS	**Novosibirsk**	**17.16**	**26**	*e*P	P	**16 45 01.6**	**-0.8**
NVS				pmax	pmax		
	comp=N,3.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,2.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ARU	**Arti**	**18.13**	**339**	LR	LR	16 52 37.2	
	comp=Z,65nm,20.6s,baz=134,slow=38						
ARU	**Arti**	**18.13**	**339**	*d* iP	P	**16 45 13.7**	**+0.5**
ARU				S	Sn	**16 48 33.3**	**-1.4**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GNI	**Garni**	**19.54**	**279**	*e*P	P	**16 45 28.8**	**-0.2**
GNI				pmax	pmax		
	comp=Z,20nm,1.2s						
NCK	**Nalchik**	**20.19**	**289**	*e*P	P	**16 45 33.0**	**-2.9**
KIV	**Kislovodsk**	**20.86**	**290**	⇓*e*P	P	16 45 38.0	-5.2
KIV				*e*S	S	**16 49 31.3**	**-3.9**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KIV				MLR	MLR		
	comp=Z,22nm,18.0s						
ZAK	**Zakamensk**	**25.24**	**55**	*e*P	P	**16 46 28.2**	**+1.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s						
OBN	**Obninsk**	**26.97**	**315**	⇑*e*P	P	**16 46 40.9**	**-1.7**
OBN				*e*S	S	**16 51 12.8**	**-6.2**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,32nm,17.0s						
HHC	**Hu-ho-hao-te**	**31.21**	**75**	*e*P	P	**16 47 21.8**	**+1.2**
HHC				PP	PnPn	**16 48 24.8**	**+2.4**
HHC				S	S	**16 52 28.5**	**+2.3**
HHC				SS	SnSn	**16 54 13.9**	**+5.4**
HHC				PMZ			
	comp=Z,18nm,1.1s						
CMAR	**Chiang Mai Arr**	**32.73**	**123**	LR	LR	17 03 36.0	
	comp=Z,19nm,20.6s,baz=250,slow=42						
BOD	**Bodaibo**	**33.04**	**43**	*e*P	P	**16 47 35.2**	**-1.1**
FINES	**FINESS Array B**	**34.28**	**323**	P	P	**16 47 48.8**	**+1.7**
	comp=Z,1.3nm,0.7s,baz=117,slow=11,SNR=6.4						
FINES				LR	LR	17 02 44.3	
	comp=Z,46nm,18.3s,baz=138,slow=38						
FINES	**FINESS Array B**	**34.28**	**323**	P	P	**16 47 48.8**	**+1.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,46nm,18.3s						
ARCES	**ARCESS Array B**	**37.69**	**336**	P	P	**16 48 17.8**	**+1.6**
	comp=Z,2.7nm,0.7s,baz=108,slow=10,SNR=10						
ARCES				LR	LR	17 04 47.8	
	comp=Z,93nm,18.6s,baz=95,slow=38						
ARCES	**ARCESS Array B**	**37.69**	**336**	P	P	**16 48 17.8**	**+1.6**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,93nm,18.6s						
HFS	**Hagfors**	**39.99**	**319**	LR	LR	17 05 54.3	
	comp=Z,60nm,18.8s,baz=74,slow=37						
BRG	**Berggiesshubel**	**40.08**	**305**	*e*P	P	**16 48 38.9**	**+2.5**
	comp=Z,3.0nm,1.0s						
BRG	**Berggiesshubel**	**40.08**	**305**	*e*P	P	**16 48 38.9**	**+2.5**
BRG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CN2	**Changchun**	**40.57**	**66**	*e*P	P	16 48 36.1	-4.4
NB2	**NORSAR Subarra**	**41.27**	**321**	P	P	**16 48 47

SKR				pmax	pmax		
	comp=E,90nm,0.2s						
SKR				smax	smax		
	comp=N,970nm,0.4s						
SKR				smax	smax		
	comp=N,2µm,2.0s						
SKR				smax	smax		
	comp=E,2µm,2.0s						
PAU	**Pauzhetka**	**0.78**	**19**	*e*P	**Pn**	**16 53 23.8**	**+0.4**
PAU				*e*S	**Sn**	**16 53 39.8**	**+0.7**
MIPR	**Malaya Ipel'ka**	**1.57**	**8**	*e*P	**Pn**	**16 53 31.3**	**-0.1**
ASAK	**Asacha**	**1.90**	**29**	*e*P	**Pn**	**16 53 35.3**	**-0.1**
MTVR	**Mutnovka**	**2.08**	**31**	*e*P	**Pn**	**16 53 38.1**	**+0.5**
MTVR				*e*S	**Sn**	**16 54 05.2**	**+0.9**
RUS	**Russkaya**	**2.15**	**37**	*e*P	**Pn**	**16 53 39.1**	**+0.7**
RUS				*e*S	**Sn**	**16 54 05.1**	**-0.6**
APC	**Apacha**	**2.25**	**12**	*e*P	**Pn**	**16 53 39.1**	**-0.5**
APC				*e*S	**Sn**	**16 54 08.8**	**+0.9**
PETK	**Petropavlovsk-**	**2.51**	**18**	P	**Pn**	**16 53 43.6**	**+0.6**
	comp=E,6.5nm,0.3s,baz=178,slow=13,SNR=180						
PETK				S	**Sn**	**16 54 14.0**	**+0.1**
	comp=E,1.3nm,0.3s,baz=184,slow=17,SNR=5.6						
PETK	**Petropavlovsk-**	**2.51**	**18**	PN	**Pn**	**16 53 43.6**	**+0.6**
PETK				S	**Sn**	**16 54 14.0**	**+0.1**
PETK				pmax	pmax		
	comp=Z,7.0nm,0.3s						
PETK				smax	smax		
	comp=N,1.0nm,0.3s						
PET	**Petropavlovsk**	**2.69**	**30**	*e*PN	**Pn**	**16 53 45.8**	**+0.7**
PET				*e*S	**Sn**	**16 54 19.3**	**+1.5**
PET				smax	smax		
	comp=N,72nm,0.6s						
PET				smax	smax		
	comp=E,49nm,0.5s						
UGLR	**Uglovaya**	**2.90**	**30**	*i* P	**Pn**	**16 53 49.6**	**+1.6**
KOK	**Koryaka**	**2.91**	**27**	*e*P	**Pn**	**16 53 49.8**	**+1.6**
KOK				*e*S	**Sn**	**16 54 22.4**	**-0.8**
AVH	**Avacha**	**2.92**	**29**	*e*P	**Pn**	**16 53 49.8**	**+1.6**
AVH				*e*S	**Sn**	**16 54 22.6**	**-0.7**
SMAR	**Somma**	**2.94**	**29**	*e*P	**Pn**	**16 53 49.9**	**+1.3**
SMAR				*e*S	**Sn**	**16 54 23.3**	**-0.6**
KRER	**Koryakskii**	**2.96**	**28**	*e*P	**Pn**	**16 53 50.0**	**+1.2**
KRX	**Arik**	**2.98**	**27**	*e*P	**Pn**	**16 53 50.4**	**+1.4**
KRX				*e*S	**Sn**	**16 54 25.8**	**+1.1**
SDLR	**Sedlovina**	**2.98**	**30**	*e*P	**Pn**	**16 53 50.2**	**+1.2**
SDLR				*e*S	**Sn**	**16 54 23.9**	**-0.8**
NLC	**Nalytchevo**	**3.05**	**35**	*e*P	**Pn**	**16 53 49.4**	**-0.4**
NLC				*e*S	**Sn**	**16 54 23.0**	**-3.1**
GNL	**Ganaly**	**3.12**	**17**	*e*P	**Pn**	**16 53 51.1**	**+0.3**
SPN	**Mys Shipunski**	**3.26**	**42**	*e*P	**Pn**	**16 53 52.8**	**+0.2**
SPN				*e*S	**Sn**	**16 54 28.4**	**-2.7**
MKZ	**Mys Kozlova**	**5.02**	**38**	*e*P	**Pn**	**16 54 14.9**	**-1.0**
MKZ				*e*S	**Sn**	**16 55 09.1**	**-3.7**
TUMR	**Tumrok**	**5.09**	**25**	*e*P	**Pn**	**16 54 18.5**	**+1.5**
SRKR	**Sorokina**	**6.57**	**24**	*e*P	**Pn**	**16 54 38.3**	**+1.4**
KBTR	**Krutoberegovo**	**6.69**	**32**	*e*P	**Pn**	**16 54 37.6**	**-0.7**
BKI	**Bering**	**7.31**	**48**	*e*P	**Pn**	**16 54 45.4**	**-1.3**
BKI				*e*S	Sn	16 55 58.9	-9.1
YAK	**Yakutsk**	**18.47**	**318**	P	**P**	**16 57 05.7**	**-2.7**
	comp=E,0.0nm,0.3s,baz=108,slow=19,SNR=4.7						
MJAR	**Matsushiro Arr**	**19.28**	**230**	P	**Pn**	**16 57 20.0**	**+0.2**
	comp=E,0.2nm,0.3s,baz=24,slow=9.9,SNR=3.8						
ILAR	**Eielson Array**	**32.10**	**42**	P	**P**	**16 59 17.5**	**+0.1**
	comp=E,0.4nm,0.6s,baz=261,slow=6.4,SNR=5.4						
YKA	**Yellowknife Ar**	**46.45**	**40**	P	**P**	**17 01 16.5**	**+0.3**
	comp=E,0.3nm,0.5s,baz=297,slow=6.9,SNR=2.8						
MKAR	**Makanchi Array**	**47.12**	**296**	P	**P**	**17 01 19.5**	**-2.3**
	comp=E,0.3nm,0.4s,baz=63,slow=6.2,SNR=8.9						
NVAR	**Mina Array Bea**	**58.74**	**66**	P	**P**	**17 02 49.0**	**+1.7**
	comp=E,0.4nm,0.5s,baz=287,slow=6.5,SNR=5.0						
PDAR	**Pinedale Array**	**60.70**	**57**	P	**P**	**17 03 01.9**	**+1.3**
	comp=E,0.8nm,0.7s,baz=354,slow=3.0,SNR=6.3						
WRA	**Warramunga Arr**	**73.00**	**202**	P	**P**	**17 04 18.8**	**+0.4**
	comp=E,0.4nm,0.8s,baz=18,slow=6.2,SNR=3.0						
TXAR	**Lajitas Array**	**73.70**	**64**	P	**P**	**17 04 23.8**	**+1.1**
	comp=E,0.9nm,0.5s,baz=288,slow=4.7,SNR=13						
ASAR	**Alice Springs**	**76.69**	**201**	P	**P**	**17 04 40.9**	**+1.3**
	comp=E,0.3nm,0.4s,baz=11,slow=5.2,SNR=7.2						

IDC 21 16:56:39.1±3.6, 6°52'S×150°94'E, h0km, mb2.9/2, mb1 3.3/3, mb1mx3.2/19, mbtmp3.2/3, ML1.2/1, Error ellipse: s-maj=140.5km s-min=46.8km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.72**	**232**	Pn	Pn	16 57 52.4	+0.8
	0.8nm,0.3s,baz=58,slow=15,SNR=4.6						
PMG				Sn	Sn	16 58 43.7	-3.3
	0.6nm,0.3s,baz=230,slow=9.5,SNR=3.0						
WRA	**Warramunga Arr**	**20.93**	**229**	P	P	17 01 21.6	-2.0
	0.3nm,0.4s,baz=54,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**23.64**	**222**	P	P	17 01 53.2	+1.0
	0.3nm,0.6s,baz=58,slow=9.1,SNR=4.6						
TORD	**Torodi Ar. Bea**	**149.02**	**285**	PKPbc	PKPbc	17 16 29.9	-0.4
	0.1nm,0.4s,baz=104,slow=3.2,SNR=3.4						

IDC 21 16:59:20.1±28.0, 20°79S×172°12W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.7/32, mbtmp4.1/4, Error ellipse: s-maj=523.4km s-min=162.9km az=76.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**38.93**	**263**	P	P	17 06 47.9	-0.2
	2.8nm,0.5s,baz=89,slow=12,SNR=5.6						
STKA	**Stephens Creek**	**42.64**	**245**	P	P	17 07 18.5	0.0
	1.0nm,0.4s,baz=85,slow=10,SNR=7.3						
ASAR	**Alice Springs**	**49.80**	**256**	P	P	17 08 14.9	-0.1
	1.5nm,0.7s,baz=99,slow=6.8,SNR=16						
WRA	**Warramunga Arr**	**50.00**	**261**	P	P	17 08 16.4	-0.2
	1.5nm,0.6s,baz=100,slow=8.2,SNR=42						

DJA 21 17:20:52.8±1.7, 5°N±9°×96°E±1°, h10km, M3.9/6, MLv3.9/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**0.84**	**58**	P	Pg	17 21 07.3	-1.8
LHMI				S	Sg	17 21 20.4	+0.3
TSI	**Tuntungan**	**2.65**	**119**	P	Pn	17 21 34.8	-0.9
GSI	**Gunungsitoli**	**3.71**	**159**	P	Pn	17 21 50.1	-0.1

*IDC **21** 17:34:32.8±0.8, 52°.45N×169°.38W, h0km, mb3.7/8, mb1 4.0/10, mb1mx3.7/47, mbtmp3.7/10, ML3.3/2, MS3.0/4, Ms1 3.1/4, ms1mx2.7/38, Error ellipse: s-maj=30.1km s-min=16.0km az=171.0*

*ISCJB **21** 17:34:33.0±0.5, 52°.58N±0°.07×169°.33W±0°.09, h10km, mb3.8/11, MS2.9/3, Error ellipse: s-maj=12.4km s-min=4.4km az=146.2*

*NEIC **21** 17:34:35.4, 52°.70N×169°.31W, h15km, ML3.7(AEIC), After AEIC.*

ISC 21 17:34:34.8±0.7, 52°.7N±0°.1×169°.32W±0°.06, h10km, n42, σ1s22/33, mb3.7/11, MS2.9/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.39**	**46**	P	**Pg**	**17 34 43.3**	**+0.8**
NIKH				S	**Sb**	**17 34 50.7**	**+0.8**
OKWR	**Okmok West Rim**	**0.99**	**42**	P	**Pg**	**17 34 54.4**	**+0.4**
OKCE	**Okmok Cone E**	**1.01**	**43**	P	**Pg**	**17 34 53.9**	**-0.3**
OKTU	**Okmok Mt. Tuli**	**1.03**	**48**	P	**Pg**	**17 34 54.6**	**0.0**
OKAK	**Okmok**	**1.05**	**33**	P	**Pg**	**17 34 52.8**	**-2.2**
OKFG	**Magazine Ridge**	**1.11**	**50**	P	**Pb**	**17 34 55.0**	**-1.0**
OKFG				S	**Sb**	**17 35 11.1**	**+0.6**
MSOM	**Makushin Julie**	**1.81**	**51**	P	**Pn**	**17 35 05.5**	**-0.4**
MCIR	**Makushin Cirqu**	**1.92**	**48**	P	**Pn**	**17 35 08.0**	**+0.4**
MSW	**Makushin Switc**	**1.95**	**50**	P	**Pn**	**17 35 07.9**	**0.0**
MTBL	**Makushin Table**	**2.03**	**50**	P	**Pn**	**17 35 09.0**	**-0.1**
UNV	**Unalaska Valle**	**2.04**	**55**	P	**Pn**	**17 35 08.4**	**-0.8**
UNV				S	**Sn**	**17 35 34.6**	**-0.1**
AKRB	**Akutan Reef Bi**	**2.42**	**52**	P	**Pn**	**17 35 14.8**	**+0.5**
AKUT	**Akutan**	**2.56**	**55**	P	**Pn**	**17 35 16.6**	**+0.3**
ATKA	**Atka Island**	**3.02**	**262**	P	**Pn**	**17 35 23.2**	**+0.6**
SPIA	**Saint Paul Isl**	**4.52**	**354**	P	**Pn**	**17 35 43.8**	**+0.7**
AMKA	**Amchitka**	**7.14**	**264**	*e*P	**Pn**	**17 36 19.3**	**+0.1**
	38nm,0.7s						
ILAR	**Eielson Array**	**16.66**	**35**	Pn	**Pn**	**17 38 27.4**	**-0.6**
	0.1nm,0.3s,baz=228,slow=12,SNR=6.4						
ILAR				LR	LR	17 44 52.4	
	comp=Z,75nm,21.2s,baz=171,slow=37						
PETK	**Petropavlovsk-**	**19.80**	**284**	P	**Pn**	**17 39 06.8**	**+0.1**
	0.2nm,0.3s,baz=71,slow=15,SNR=3.6						
H02S1	**DAWSON INLET T**	**22.05**	**74**	T	T	18 02 29.1	
	SNR=14						
SEY	**Seymchan**	**22.46**	**312**	P	**P**	**17 39 33.5**	**-0.3**
	2.2nm,1.0s,baz=117,slow=11,SNR=5.2						
DLBC	**Dease Lake**	**22.69**	**60**	P	**P**	**17 39 40.0**	**+3.7**
	2.4nm,0.8s,baz=284,slow=12,SNR=3.5						
INK	**Inuvik**	**23.05**	**34**	LR	LR	17 49 36.8	
	comp=Z,51nm,18.5s,baz=254,slow=39						
YKA	**Yellowknife Ar**	**30.00**	**49**	P	**P**	**17 40 44.3**	**+1.2**
	0.4nm,0.5s,baz=272,slow=7.6,SNR=7.2						
NVAR	**Mina Array Bea**	**37.64**	**91**	P	**P**	**17 41 50.5**	**+0.5**
	0.7nm,0.8s,baz=283,slow=9.6,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**37.73**	**218**	T	T	18 21 52.9	
	baz=24,slow=76,SNR=102						
H11N3	**WAKE ISLAND Hy**	**37.74**	**218**	T	T	18 21 53.4	
	baz=24,slow=76,SNR=149						
H11N1	**WAKE ISLAND Hy**	**37.75**	**218**	T	T	18 21 50.4	
	baz=24,slow=76,SNR=103						
USRK	**Ussuriysk Ar.**	**38.85**	**282**	LR	LR	17 59 47.5	
	comp=Z,17nm,18.1s,baz=68,slow=39						
H11S1	**WAKE ISLAND Hy**	**38.92**	**218**	T	T	18 23 22.2	
	baz=23,slow=76,SNR=3085						
H11S2	**WAKE ISLAND Hy**	**38.94**	**218**	T	T	18 23 23.4	
	baz=23,slow=76,SNR=1624						
H11S3	**WAKE ISLAND Hy**	**38.94**	**218**	T	T	18 23 19.5	
	baz=23,slow=76,SNR=1043						
MJAR	**Matsushiro Arr**	**39.74**	**267**	P	**P**	**17 42 09.1**	**+1.7**
	0.4nm,0.5s,baz=50,slow=9.7,SNR=2.8						
PDAR	**Pinedale Array**	**40.31**	**80**	P	**P**	**17 42 12.3**	**0.0**
	1.1nm,0.6s,baz=333,slow=4.9,SNR=12						
JCJ	**Chichijima**	**44.03**	**254**	LR	LR	17 56 58.7	
	comp=Z,15nm,20.9s,baz=261,slow=31						
SONM	**Songino Array**	**51.15**	**301**	PcP	**PcP**	**17 44 51.4**	**-1.7**
	0.9nm,0.8s,baz=29,slow=3.3,SNR=5.0						
TXAR	**Lajitas Array**	**52.71**	**89**	P	**P**	**17 43 49.6**	**0.0**
	2.4nm,0.8s,baz=300,slow=5.3,SNR=21						
H06N1	**SOCORRO T-PHAS**	**56.12**	**104**	T	T	18 44 59.8	
	SNR=7.9						
H06E1	**SOCORRO T-PHAS**	**56.22**	**104**	T	T	18 45 06.2	
	SNR=7.3						
CMAR	**Chiang Mai Arr**	**76.57**	**283**	P	**P**	**17 46 26.9**	**+1.5**
	0.3nm,0.7s,baz=46,slow=6.4,SNR=2.7						
WRA	**Warramunga Arr**	**87.23**	**232**	P	**P**	**17 47 18.7**	**-2.5**
	0.4nm,0.8s,baz=34,slow=5.9,SNR=3.0						
PSI	**Prapat**	**88.86**	**273**	P	**P**	**17 47 28.0**	**-1.4**
	3.2nm,0.4s,baz=0.0,slow=7.1,SNR=4.3						
ASAR	**Alice Springs**	**90.63**	**230**	P	**P**	**17 47 35.6**	**-1.6**
	1.0nm,0.8s,baz=35,slow=4.9,SNR=6.9						

*IDC **21** 17:39:23.1±8.7, 1°.72N×125°.23E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/38, mbtmp3.4/3, Error ellipse: s-maj=182.2km s-min=135.5km az=69.0*

*DJA **21** 17:39:30.4±0.8, 1°N±11°×12°6E±°, h10km, M3.6/6, MLv3.6/6*

ISC 21 17:39:33.9±2.5, 1°.3N±0°.3×125°.68E±0°.05, h35km, n8, σ0s87/10, mb3.3/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.75**	**106**	P	**Pn**	**17 40 02.1**	**+0.3**
TNTI				S	**Sn**	**17 40 24.0**	**+1.1**
KMSI	**Cibinong**	**1.83**	**249**	P	**Pn**	**17 40 02.0**	**-0.9**
KMSI				S	**Sn**	**17 40 25.7**	**+0.9**
LBMI	**Labuha**	**2.61**	**136**	P	**Pn**	**17 40 13.1**	**-0.6**
LUWI	**Luwuk**	**3.69**	**232**	P	**Pn**	**17 40 29.7**	**+1.1**
APSI	**Ampana**	**4.57**	**242**	P	**Pn**	**17 40 40.7**	**+0.1**
WRA	**Warramunga Arr**	**22.71**	**158**	P	**P**	**17 44 32.1**	**-0.7**
	0.2nm,0.3s,baz=336,slow=10,SNR=8.5						
ASAR	**Alice Springs**	**26.02**	**163**	P	**P**	**17 45 03.6**	**-0.4**
	0.3nm,0.3s,baz=342,slow=11,SNR=12						
STKA	**Stephens Creek**	**36.23**	**157**	P	**P**	**17 46 33.5**	**-0.3**
	1.3nm,0.8s,baz=329,slow=10,SNR=3.6						

*ISCJB **21** 17:44:06.2±0.3, 52°.55N±0°.03×169°.38W±0°.06, h10km, mb4.1/26, MS3.1/5, Error ellipse: s-maj=5.8km s-min=3.7km az=44.0*

*IDC **21** 17:44:06.2±0.6, 52°.60N×169°.50W, h0km, mb3.9/12, mb1 4.2/14, mb1mx3.9/40, mbtmp3.9/14, ML3.5/2, MS3.1/7, Ms1 3.1/7, ms1mx2.8/35, Error ellipse: s-maj=23.8km s-min=14.1km az=172.0*

*NEIC **21** 17:44:08.3, 52°.60N×169°.23W, h7km, mb4.2/15, ML4.0(AEIC), After AEIC.*

ISC 21 17:44:08.1±0.5, 52°.67N±0°.08×169°.33W±0°.05, h10km, n192, σ0s91/184, mb4.1/26, MS3.2/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.42**	**43**	P	**Pg**	**17 44 17.3**	**+0.9**
NIKH				S	**Sb**	**17 44 24.4**	**+0.4**
OKWR	**Okmok West Rim**	**1.02**	**41**	P	**Pb**	**17 44 28.5**	**+0.5**
OKCE	**Okmok Cone E**	**1.04**	**42**	P	**Pg**	**17 44 27.7**	**-0.4**
OKCE				S	**Sn**	**17 44 43.6**	**+0.3**
OKTU	**Okmok Mt. Tuli**	**1.06**	**47**	P	**Pg**	**17 44 28.5**	**+0.1**
OKAK	**Okmok**	**1.08**	**32**	P	**Pb**	**17 44 27.1**	**-1.8**
OKFG	**Magazine Ridge**	**1.13**	**48**	P	**Pb**	**17 44 29.1**	**-0.7**
OKFG				S	**Sg**	**17 44 45.4**	**+0.8**
MSOM	**Makushin Julie**	**1.84**	**50**	P	**Pn**	**17 44 39.1**	**-0.5**
MCIR	**Makushin Cirqu**	**1.95**	**48**	P	**Pn**	**17 44 41.5**	**+0.2**
MSW	**Makushin Switc**	**1.97**	**50**	P	**Pn**	**17 44 41.8**	**+0.2**
MTBL	**Makushin Table**	**2.06**	**50**	P	**Pn**	**17 44 42.9**	**+0.1**
UNV	**Unalaska Valle**	**2.07**	**54**	P	**Pn**	**17 44 42.3**	**-0.5**
UNV				S	**Sn**	**17 45 08.1**	**-0.5**
AKRB	**Akutan Reef Bi**	**2.44**	**52**	P	**Pn**	**17 44 48.9**	**+0.9**
ZRO	**Akutan Zero**	**2.46**	**53**	P	**Pn**	**17 44 49.3**	**+1.0**
AKGG	**Akutan Green G**	**2.52**	**51**	P	**Pn**	**17 44 49.7**	**+0.6**
AKUT	**Akutan**	**2.59**	**54**	*e*P	**Pn**	**17 44 51.2**	**+1.3**
ATKA	**Atka Island**	**3.02**	**263**	P	**Pn**	**17 44 57.4**	**+1.5**
WESP	**Westdahl Peak**	**3.30**	**55**	P	**Pn**	**17 45 00.7**	**+0.8**
WEBT	**Westdahl Beart**	**3.34**	**53**	P	**Pn**	**17 45 01.2**	**+0.9**
WESN	**West Dahl Nort**	**3.41**	**54**	P	**Pn**	**17 45 02.5**	**+1.2**
SSBA	**Shishaldin**	**3.74**	**54**	P	**Pn**	**17 45 07.1**	**+1.1**
SSLW	**Shishaldin Wes**	**3.74**	**54**	P	**Pn**	**17 45 06.9**	**+1.0**
FALS	**False Pass**	**4.14**	**56**	*e*P	**Pn**	**17 45 13.7**	**+2.4**
GSTR	**Great Sitkin T**	**4.16**	**265**	*e*P	**Pn**	**17 45 13.2**	**+1.5**
SPIA	**Saint Paul Isl**	**4.55**	**354**	P	**Pn**	**17 45 18.6**	**+1.7**
SDPT	**Sand Point**	**5.87**	**59**	*e*P	**Pn**	**17 45 37.5**	**+2.4**
	77nm,0.7s						
AMKA	**Amchitka**	**7.13**	**264**	*e*P	**Pn**	**17 45 53.9**	**+1.5**
	45nm,0.6s						
BPAW	**Bear Paw Mtn.**	**14.88**	**33**	*e*P	**P**	**17 47 42.0**	**-2.1**
	3.2nm,0.7s						
IM04	**Indian Mountai**	**15.45**	**24**	*e*P	**Pn**	**17 47 47.6**	**+1.8**
PAX	**Paxson**	**16.26**	**41**	*e*P	**Pn**	**17 47 57.9**	**+1.5**
	6.1nm,1.1s						
ILAR	**Eielson Array**	**16.69**	**35**	Pn	**Pn**	**17 48 01.2**	**-0.5**
	0.2nm,0.3s,baz=231,slow=9.5,SNR=13						
ILAR				LR	LR	17 54 36.3	
	comp=Z,116nm,20.1s,baz=214,slow=38						
COLD	**Coldfoot**	**17.33**	**25**	*e*P	**P**	**17 48 12.1**	**+0.9**
	9.4nm,1.0s						
EGAK	**Eagle**	**18.79**	**39**	*e*P	**P**	**17 48 25.9**	**-1.4**
	5.9nm,0.9s						
HYT	**Haines Junctio**	**19.10**	**52**	*e*P	**Pn**	**17 48 32.7**	**+1.1**
	17nm,0.7s						
PETK	**Petropavlovsk-**	**19.81**	**284**	P	**P**	**17 48 38.9**	**+0.4**
	0.2nm,0.3s,baz=102,slow=12,SNR=4.8						
PETK				LR	LR	17 56 12.6	
	comp=Z,29nm,21.8s,baz=97,slow=37						
SKAG	**Skagway**	**19.99**	**57**	*e*P	**Pn**	**17 48 41.9**	**-0.2**
	14nm,0.7s						
H02N1	**VAN INLET T-PH**	**22.02**	**74**	T	T	18 11 52.7	
H02S1	**DAWSON INLET T**	**22.07**	**74**	T	T	18 11 48.8	
	SNR=15						
SEY	**Seymchan**	**22.49**	**312**	P	**P**	**17 49 08.1**	**+0.8**
	2.5nm,0.9s,baz=83,slow=6.9,SNR=5.5						
DLBC	**Dease Lake**	**22.71**	**60**	P	**P**	**17 49 13.5**	**+3.7**
	3.9nm,0.9s,baz=265,slow=9.6,SNR=6.1						
INK	**Inuvik**	**23.09**	**34**	P	**P**	**17 49 11.7**	**-1.8**
	1.4nm,0.4s,baz=228,slow=11,SNR=4.3						
YKA	**Yellowknife Ar**	**30.03**	**49**	P	**P**	**17 50 17.4**	**+0.7**
	0.6nm,0.5s,baz=272,slow=7.9,SNR=10						
I04A	**Tendick Farm,**	**31.98**	**87**	P	**P**	**17 50 36.6**	**+2.4**
	baz=32						
NEW	**Newport**	**32.91**	**76**	P	**P**	**17 50 43.2**	**+0.9**
	baz=33						
J05D	**Fort Rock, OR**	**32.97**	**87**	P	**P**	**17 50 45.0**	**+2.0**
	baz=33						
M04C	**Macdoel**	**33.46**	**90**	P	**P**	**17 50 48.9**	**+1.7**
	baz=33						
MSO	**Missoula**	**35.49**	**77**	P	**P**	**17 51 05.6**	**+0.8**
	baz=35						
CHMT	**Chamberlain Mo**	**35.86**	**76**	*e*P	**P**	**17 51 08.3**	**+0.2**
	1.6nm,0.6s						
MCMT	**McKenzie Canyo**	**37.19**	**79**	*e*P	**P**	**17 51 20.1**	**+0.6**
	1.7nm,0.5s						
EGMT	**Eagleton**	**37.35**	**73**	P	**P**	**17 51 21.2**	**+0.6**
	baz=37,SNR=5.0						
EGMT	**Eagleton**	**37.35**	**73**	*e*P	**P**	**17 51 21.0**	**+0.4**
	2.7nm,0.6s						
BOZ	**Bozeman (W)**	**37.48**	**77**	P	**P**	**17 51 22.6**	**+0.8**
	baz=37,SNR=6.1						
BOZ	**Bozeman (W)**	**37.48**	**77**	*e*P	**P**	**17 51 22.6**	**+0.8**
	2.0nm,0.6s						
NVAR	**Mina Array Bea**	**37.65**	**91**	P	**P**	**17 51 24.9**	**+1.5**
	1.2nm,0.8s,baz=292,slow=7.9,SNR=7.4						
NVAR				PcP	**PcP**	**17 53 41.3**	**+0.6**
	0.2nm,0.3s,baz=292,slow=2.7,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**37.70**	**218**	T	T	18 31 21.6	
	baz=24,slow=76,SNR=172						
H11N3	**WAKE ISLAND Hy**	**37.71**	**218**	T	T	18 31 22.1	
	baz=24,slow=76,SNR=148						
H11N1	**WAKE ISLAND Hy**	**37.72**	**218**	T	T	18 31 23.0	
	baz=24,slow=76,SNR=145						
C20A	**Veseth Ranch,**	**38.52**	**72**	P	**P**	**17 51 31.1**	**+0.7**
	baz=38						
H11S1	**WAKE ISLAND Hy**	**38.89**	**218**	T	T	18 32 51.0	
	baz=23,slow=76,SNR=1257						
H11S2	**WAKE ISLAND Hy**	**38.91**	**218**	T	T	18 32 52.0	
	baz=23,slow=76,SNR=1016						
H11S3	**WAKE ISLAND Hy**	**38.91**	**218**	T	T	18 32 52.4	
	baz=23,slow=76,SNR=740						
RLMT	**Red Lodge**	**39.16**	**76**	P	**P**	**17 51 36.8**	**+0.8**
	baz=39						
RLMT	**Red Lodge**	**39.16**	**76**	*e*P	**P**	**17 51 37.0**	**+1.0**
	7.8nm,1.0s						
R11A	**Troy Canyon, C**	**39.35**	**89**	P	**P**	**17 51 39.0**	**+1.4**
	baz=39,SNR=5.7						
H19A	**Powell**	**39.58**	**77**	P	**P**	**17 51 40.0**	**+0.6**
	baz=39						
MPMC	**Manual Prospec**	**39.67**	**94**	P	**P**	**17 51 41.3**	**+1.0**
	baz=40						
G20A	**Bridger**	**39.73**	**75**	P	**P**	**17 51 41.2**	**+0.5**
	baz=40,SNR=5.3						
MJAR	**Matsushiro Arr**	**39.73**	**267**	P	**P**	**17 51 40.5**	**-0.2**
	0.9nm,0.8s,baz=63,slow=5.2,SNR=3.6						
MJAR				LR	LR	18 06 10.9	
	comp=Z,16nm,21.0s,baz=190,slow=33						
DUG	**Dugway**	**39.89**	**85**	P	**P**	**17 51 43.1**	**+1.0**
	baz=40,SNR=5.3						
I19A	**Meeteetse**	**39.93**	**78**	P	**P**	**17 51 43.1**	**+0.7**
	baz=40						
G21A	**Lodge Grass**	**40.32**	**75**	P	**P**	**17 51 46.2**	**+0.7**
	baz=40						
PDAR	**Pinedale Array**	**40.32**	**79**	P	**P**	**17 51 46.3**	**+0.6**
	2.9nm,0.7s,baz=323,slow=5.6,SNR=30						
PDAR				LR	LR	18 06 54.4	
	comp=Z,30nm,19.3s,baz=339,slow=34						
I20A	**Worland**	**40.49**	**77**	P	**P**	**17 51 47.7**	**+0.7**
	baz=40						
F22A	**Rosebud**	**40.57**	**74**	P	**P**	**17 51 48.0**	**+0.5**
	baz=40						
E23A	**Ismay**	**40.73**	**72**	P	**P**	**17 51 49.3**	**+0.5**
	baz=40						
BFSC	**Mount Baldy Ra**	**40.79**	**96**	P	**P**	**17 51 51.3**	**+1.7**
	baz=41						
G22A	**Birney**	**40.86**	**74**	P	**P**	**17 51 50.9**	**+0.9**
	baz=41						
J20A	**Shoshoni**	**40.86**	**78**	P	**P**	**17 51 51.1**	**+1.0**
	baz=41						
I21A	**Big Trails, Te**	**41.07**	**77**	P	**P**	**17 51 52.0**	**+0.2**
	baz=41						
F23A	**Volborg**	**41.10**	**73**	P	**P**	**17 51 52.5**	**+0.6**
	baz=41						
HEC	**Hector,Ludlow**	**41.19**	**94**	P	**P**	**17 51 54.3**	**+1.5**
	baz=41						
J21A	**Lysite**	**41.25**	**77**	P	**P**	**17 51 53.7**	**+0.4**
	baz=41						
MVU	**Marysvale**	**41.31**	**87**	*e*P	**P**	**17 51 55.3**	**+1.4**
	3.0nm,0.9s						
TMUT	**Trail Mountain**	**41.42**	**85**	*e*P	**P**	**17 51 56.3**

SONM	**Songino Array**	**51.17**	**301**	PcP		**PcP**	**17 54 26.1**	**-0.5**
	2.5nm,0.9s,baz=73,slow=2.5,SNR=12							
T34A	**McClaskey Farm**	**51.32**	**77**	P		**P**	**17 53 11.0**	**-1.3**
	baz=51							
W32A	**Sentinel**	**51.37**	**81**	P		**P**	**17 53 12.4**	**-0.3**
	baz=51							
S35A	**Otter Creek Ra**	**51.39**	**76**	P		**P**	**17 53 12.1**	**-0.7**
	baz=51							
R36A	**Gordon, Harris**	**51.45**	**75**	P		**P**	**17 53 12.5**	**-0.7**
	baz=51							
Z30A	**Sanderson Ranc**	**51.49**	**84**	P		**P**	**17 53 13.2**	**-0.5**
	baz=51							
U34A	**Anderson Ranch**	**51.50**	**78**	P		**P**	**17 53 13.5**	**-0.2**
	baz=51							
T35A	**Sooner Cattle**	**51.79**	**77**	P		**P**	**17 53 15.5**	**-0.3**
	baz=52							
WMOK	**White Mounta**	**51.91**	**81**	*e*P		**P**	**17 53 16.8**	**0.0**
	4.0nm,0.9s							
Z31A	**Sharp Cattle R**	**52.06**	**83**	P		**P**	**17 53 17.9**	**-0.1**
	baz=52							
S37A	**Fort Scott**	**52.22**	**75**	P		**P**	**17 53 17.9**	**-1.1**
	baz=52							
230A	**Sterling City**	**52.47**	**85**	P		**P**	**17 53 21.1**	**+0.1**
	baz=52							
Z32A	**Haskell**	**52.47**	**82**	P		**P**	**17 53 20.4**	**-0.5**
	baz=52							
T37A	**Cheneyville 18**	**52.59**	**76**	P		**P**	**17 53 20.8**	**-1.0**
	baz=52							
TXAR	**Lajitas Array**	**52.72**	**89**	P		**P**	**17 53 23.6**	**+0.6**
	4.0nm,0.7s,baz=300,slow=5.4,SNR=60							
W35A	**Tecumseh**	**52.77**	**79**	P		**P**	**17 53 23.1**	**0.0**
	baz=53							
ABTX	**Abilene, Hawle**	**52.84**	**83**	P		**P**	**17 53 24.1**	**+0.4**
	baz=53							
429A	**Davenport Ranc**	**52.88**	**87**	P		**P**	**17 53 24.2**	**+0.1**
	baz=53							
Z33A	**Whitaker Ranch**	**52.91**	**82**	P		**P**	**17 53 24.3**	**+0.1**
	baz=53							
U37A	**Salina**	**52.96**	**77**	P		**P**	**17 53 23.8**	**-0.7**
	baz=53							
529A	**Stev Forest Ra**	**53.03**	**87**	P		**P**	**17 53 25.9**	**+0.6**
	baz=53							
Y34A	**Reagan Ranch,**	**53.06**	**81**	P		**P**	**17 53 25.1**	**-0.1**
	baz=53							
430A	**Baggett Ranch,**	**53.16**	**86**	P		**P**	**17 53 26.3**	**+0.1**
	baz=53							
X35A	**Drake**	**53.22**	**80**	P		**P**	**17 53 26.5**	**0.0**
	baz=53							
331A	**San Angelo**	**53.29**	**85**	P		**P**	**17 53 26.7**	**-0.4**
	baz=53							
133A	**Hamilton Ranch**	**53.29**	**83**	P		**P**	**17 53 27.4**	**+0.3**
	baz=53							
U38A	**Gravette**	**53.37**	**76**	P		**P**	**17 53 26.4**	**-1.2**
	baz=53							
Y35A	**Marietta**	**53.52**	**80**	P		**P**	**17 53 28.5**	**-0.2**
	baz=53							
530A	**J-C Ranch, Com**	**53.55**	**87**	P		**P**	**17 53 29.1**	**+0.1**
	baz=53,SNR=10							
HDIL	**Hopedale**	**53.56**	**69**	P		**P**	**17 53 27.5**	**-1.4**
	baz=53							
431A	**Sonora**	**53.62**	**86**	P		**P**	**17 53 29.2**	**-0.3**
	baz=53,SNR=6.4							
W37A	**Quinton**	**53.64**	**78**	P		**P**	**17 53 29.3**	**-0.3**
	baz=53							
332A	**Millersview**	**53.65**	**84**	P		**P**	**17 53 29.7**	**0.0**
	baz=54							
233A	**Rising Star**	**53.72**	**83**	P		**P**	**17 53 30.5**	**+0.3**
	baz=54							
V38A	**Canehill**	**53.75**	**77**	P		**P**	**17 53 30.1**	**-0.3**
	baz=54							
134A	**White-Moore Ra**	**53.82**	**82**	P		**P**	**17 53 31.1**	**+0.1**
	baz=54							
Y36A	**Durant**	**53.98**	**80**	P		**P**	**17 53 32.0**	**0.0**
	baz=54							
531A	**Rocksprings**	**54.02**	**86**	P		**P**	**17 53 32.5**	**0.0**
	baz=54							
333A	**Richland Sprin**	**54.15**	**84**	P		**P**	**17 53 33.3**	**0.0**
	baz=54							
234A	**Clairette**	**54.19**	**83**	P		**P**	**17 53 33.6**	**0.0**
	baz=54							
Z36A	**Blue Ridge**	**54.33**	**80**	P		**P**	**17 53 34.2**	**-0.4**
	baz=54							
532A	**Rocksprings**	**54.44**	**86**	P		**P**	**17 53 35.5**	**0.0**
	baz=54							
433A	**Art**	**54.49**	**84**	P		**P**	**17 53 36.2**	**+0.4**
	baz=54							
631A	**Perdido Creek**	**54.54**	**87**	P		**P**	**17 53 35.6**	**-0.6**
	baz=54							
334A	**Lometa**	**54.60**	**83**	P		**P**	**17 53 36.6**	**0.0**
	baz=54							
WHTX	**Lake Whitney**	**54.61**	**82**	P		**P**	**17 53 36.7**	**+0.1**
	baz=54							
SFIN	**Scholer Farm**	**54.92**	**68**	P		**P**	**17 53 37.5**	**-1.2**
	baz=55							
434A	**Burnet**	**54.95**	**84**	P		**P**	**17 53 39.2**	**0.0**
	baz=55							
632A	**Uvalde**	**54.95**	**86**	P		**P**	**17 53 39.5**	**+0.3**
	baz=55							
MIAR	**Mount Ida**	**55.15**	**77**	P		**P**	**17 53 40.1**	**-0.5**
	baz=55							
534A	**Blanco**	**55.38**	**85**	P		**P**	**17 53 42.2**	**-0.1**
	baz=55							
832A	**Faith Ranch, C**	**55.72**	**87**	P		**P**	**17 53 45.1**	**+0.4**
	baz=56							
535A	**Dale**	**55.93**	**84**	P		**P**	**17 53 46.3**	**+0.1**
	baz=56							
833A	**Chaparral WMA,**	**56.04**	**87**	P		**P**	**17 53 47.2**	**+0.2**
	baz=56							
H06N1	**SOCORRO T-PHAS**	**56.11**	**104**	T		T	18 54 33.5	
	SNR=19							
H06E1	**SOCORRO T-PHAS**	**56.21**	**104**	T		T	18 54 35.4	
	SNR=19							
BVAR	**Borovoye Array**	**63.48**	**324**	P		**P**	**17 54 37.1**	**-0.8**
	0.9nm,0.6s,baz=36,slow=6.3,SNR=8.0							
AKASG	**Malin Array Be**	**75.82**	**348**	P		**P**	**17 55 52.4**	**-1.6**
	0.2nm,0.3s,baz=19,slow=6.2,SNR=2.2							
CMAR	**Chiang Mai Arr**	**76.58**	**283**	P		**P**	**17 55 58.5**	**-0.3**
	0.6nm,0.7s,baz=26,slow=5.9,SNR=5.3							
CMAR					LR	LR	18 32 29.1	
	comp=Z,12nm,18.6s,baz=335,slow=38							
ESDC	**Sonseca Array**	**87.16**	**11**	P		**P**	**17 56 53.2**	**-1.0**
	0.1nm,0.3s,baz=359,slow=3.7,SNR=3.2							
WRA	**Warramunga Arr**	**87.21**	**232**	P		**P**	**17 56 52.5**	**-2.0**
	0.9nm,0.7s,baz=34,slow=5.9,SNR=6.4							
PSI	**Prapat**	**88.86**	**273**	P		**P**	**17 57 02.1**	**-0.6**
	16nm,0.8s,baz=359,slow=4.6,SNR=11							
ASAR	**Alice Springs**	**90.61**	**230**	P		**P**	**17 57 09.7**	**-0.8**
	1.9nm,0.8s,baz=31,slow=4.4,SNR=21							
TORD	**Torodi Ar. Bea**	**114.00**	**10**	PKKPab		PKKPab	18 13 33.6	-4.5
	0.5nm,0.8s,baz=175,slow=4.1,SNR=5.3							
LBTB	**Lobatse**	**150.16**	**332**	*e*PKPbc		**PKPbc**	**18 03 59.0**	**-0.1**
MAW	**Mawson**	**151.12**	**219**	PKPbc		**PKPbc**	**18 03 58.5**	**-1.4**
	2.7nm,0.6s,baz=84,slow=18,SNR=7.1							

MEX 21 17:56:54.9±0.7, 15°24'N×93°50'W, h76km±9km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.54**	**30**	*e*P	Pn	17 57 07.1	-1.6
PCIG				*e*S	Sn	17 57 17.5	-1.4
TGIG		**1.58**	**13**	*i* P	Pn	17 57 19.9	-1.3
TGIG				*i* S	Sn	17 57 38.5	-2.6
CMIG	**Matias Romero**	**2.27**	**324**	*i* P	Pn	17 57 29.7	-0.7
CMIG				*i* S	Sn	17 57 56.2	-1.4
HUIG	**Huatulco**	**2.57**	**282**	*i* P	Pn	17 57 32.6	-1.8
HUIG				*i* S	Sn	17 58 02.8	-1.8

IDC 21 18:14:32.9±13.0, 5°75'N×126°66'E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.3/37, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=253.6km s-min=104.0km az=20.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**8.02**	**145**	Pn	Pn	18 16 31.1	+0.2
	1.2nm,0.3s,baz=331,slow=19,SNR=7.4						
WRA	**Warramunga Arr**	**26.63**	**164**	P	P	18 20 12.3	-1.1
	1.3nm,0.8s,baz=345,slow=9.4,SNR=7.5						
ASAR	**Alice Springs**	**30.08**	**167**	P	P	18 20 44.0	-0.3
	0.3nm,0.9s,baz=341,slow=10.0,SNR=7.8						
STKA	**Stephens Creek**	**40.04**	**160**	P	P	18 22 10.9	+1.0
	0.4nm,0.5s,baz=346,slow=9.3,SNR=3.5						

*THR **21** 18:18:38.3±0.3, 26°.80N×53°.66E, h18km±6km, ML3.6*
*ISCJB **21** 18:18:40.9±0.5, 27°.20N±0°.05×53°.75E±0°.04, h10km, mb3.5/9, Error ellipse: s-maj=7.8km s-min=4.9km az=29.0*
*CSEM **21** 18:18:41.8±0.3, 27°.13N×53°.71E, h5km, ML3.6, Error ellipse: s-maj=10.1km s-min=5.3km az=52.0*
*IDC **21** 18:18:43.0±2.4, 27°.68N×53°.77E, h0km, mb3.6/9, mb1 3.7/9, mb1mx3.5/41, mbtmp3.6/9, Error ellipse: s-maj=53.0km s-min=23.3km az=159.0*
*TEH **21** 18:18:42.6, 27°.06N×53°.62E, h15km, ML3.6*
*DSN **21** 18:18:53.3±1.3, 26°.28N×53°.96E, h10km, mb2.9/6, ML3.8/2, Error ellipse: s-maj=14.7km s-min=4.9km az=148.0*

ISC 21 18:18:41.2±0.9, 27°11'N±0°.05×53°66'E±0°.05, h10km, n37, σ1§20/40, mb3.6/9, 2C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.32**	**333**	*e*Pg	**Pg**	**18 19 07.6**	**+1.0**
GHIR				AML	AML	18 19 33.7	
	comp=E,437nm,0.7s						
GHIR				AML	AML	18 19 40.1	
	comp=N,438nm,0.8s						
GHIR	**Ghir-Karzin**	**1.32**	**333**	*e*Pg	**Pg**	**18 19 07.6**	**+1.0**
	comp=N,438nm,0.8s						
BNDS	**Bandar-Abbas**	**2.25**	**82**	*e*Pn	**Pn**	**18 19 17.8**	**-0.9**
BNDS				*e*Sg	**Sb**	**18 19 51.1**	**+1.0**
BNDS				AML	AML	18 20 02.9	
	comp=N,366nm,0.0s						
BNDS				AML	AML	18 20 12.6	
	comp=E,437nm,1.0s						
BNDS	**Bandar-Abbas**	**2.25**	**82**	*e*Pn	**Pn**	**18 19 17.8**	**-0.9**
BNDS				*e*Sg	**Sb**	**18 19 51.2**	**+1.0**
	comp=E,437nm,1.0s						
IBND	**Bandar-abas**	**2.58**	**82**	*e*Pn	**Pn**	**18 19 24.4**	**+1.3**
IBND				*e*Sg	**Sg**	**18 20 04.6**	**+0.3**
IBND				*e*		18 20 19.2	
	comp=Z,7μm,0.3s						
IBND	**Bandar-abas**	**2.58**	**82**	*e*Pn	**Pn**	**18 19 24.4**	**+1.3**
IBND				*e*Sg	**Sg**	**18 20 04.6**	**+0.3**
NAZ	**Nazwa, Dubai**	**2.77**	**139**	P	**Pn**	**18 19 26.9**	**+1.2**
NAZ	**Nazwa, Dubai**	**2.77**	**139**	⇓P	**Pn**	**18 19 26.9**	**+1.2**
IPAR	**Pars**	**2.78**	**349**	*e*Pn	**Pn**	**18 19 28.0**	**+1.9**
IPAR				*e*		18 20 34.7	
	comp=Z,1μm,0.4s						
IPAR	**Pars**	**2.78**	**349**	*e*Pn	**Pn**	**18 19 28.0**	**+1.9**
ASUD	**Al Ashush, Dub**	**2.89**	**148**	P	**Pn**	**18 19 28.6**	**+1.2**
ASUD	**Al Ashush, Dub**	**2.89**	**148**	⇑P	**Pn**	**18 19 28.6**	**+1.2**
FAQ	**Al Faqa, Dubai**	**2.92**	**143**	P	**Pn**	**18 19 28.9**	**+1.1**
FAQ	**Al Faqa, Dubai**	**2.92**	**143**	⇑P	**Pn**	**18 19 28.9**	**+1.1**
IKAZ	**Kazeroun**	**3.11**	**329**	*e*Pn	**Pn**	**18 19 31.7**	**+1.0**
IKAZ				*e*		18 21 05.7	
	comp=Z,1μm,0.2s						
IKAZ	**Kazeroun**	**3.11**	**329**	*e*Pn	**Pn**	**18 19 31.7**	**+1.0**
HATD	**Hatta, Dubai**	**3.18**	**135**	P	**Pn**	**18 19 32.8**	**+1.5**
HATD	**Hatta, Dubai**	**3.18**	**135**	⇓P	**Pn**	**18 19 32.8**	**+1.5**
KRBR	**Kerman**	**3.95**	**43**	*e*Pn	**Pn**	**18 19 43.7**	**+1.4**
KRBR				AML	AML	18 20 49.2	
	comp=N,67nm,1.0s						
KRBR				AML	AML	18 20 58.2	
	comp=E,90nm,0.2s						
KRBR	**Kerman**	**3.95**	**43**	*e*Pn	**Pn**	**18 19 43.7**	**+1.4**
	comp=E,90nm,0.3s						
IMEH	**Mehriz**	**4.35**	**11**	*e*Pn	**Pn**	**18 19 49.2**	**+1.6**
IMEH				*e*		18 20 55.8	
	comp=Z,634nm,0.5s						
IMEH	**Mehriz**	**4.35**	**11**	*e*Pn	**Pn**	**18 19 49.2**	**+1.6**
IBAF	**Bafgh**	**4.77**	**20**	*e*Pn	**Pn**	**18 19 53.8**	**+0.5**
IBAF				*e*		18 21 18.6	
	comp=Z,254nm,0.4s						
IBAF	**Bafgh**	**4.77**	**20**	*e*Pn	**Pn**	**18 19 53.8**	**+0.5**
IZEF	**Zefreh**	**5.88**	**349**	*e*		18 20 11.8	
	comp=Z,172nm,0.1s						
IZEF				*e*Pn	**Pn**	**18 20 08.9**	**+0.2**
IPIR	**Pirpir**	**6.05**	**337**	*e*Pn	**Pn**	**18 20 11.1**	**-0.1**
IPIR				*e*		18 21 35.4	
	comp=Z,107nm,0.3s						
IPIR	**Pirpir**	**6.05**	**337**	*e*Pn	**Pn**	**18 20 11.1**	**-0.1**
BRTR	**Keskin Array B**	**20.86**	**312**	P	**P**	**18 23 23.8**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=130,slow=13,SNR=4.4						
AKTO	**Aktyubinsk**	**23.53**		7 P	**P**	**18 23 52.4**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=186,slow=13,SNR=3.8						
BVAR	**Borovoye Array**	**28.73**	**21**	P	**P**	**18 24 37.3**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=219,slow=6.7,SNR=3.3						
MKAR	**Makanchi Array**	**29.90**	**41**	P	**P**	**18 24 47.8**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=216,slow=7.4,SNR=4.3						
AKASG	**Malin Array Be**	**30.02**	**328**	P	**P**	**18 24 49.0**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=153,slow=7.7,SNR=2.9						
KURBB	**Kurchatov Arra**	**30.17**	**32**	P	**P**	**18 24 49.7**	**-1.7**
	comp=Z,0.5nm,0.8s,baz=234,slow=8.8,SNR=4.7						
ZALV	**Zalesovo Beam**	**35.27**	**32**	P	**P**	**18 25 34.9**	**-1.1**
	comp=Z,1.8nm,0.7s,baz=239,slow=9.6,SNR=8.2						
FINES	**FINESS Array B**	**39.00**	**339**	P	**P**	**18 26 06.8**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=134,slow=11,SNR=3.4						
ARCES	**ARCESS Array B**	**45.52**	**347**	P	**P**	**18 26 59.5**	**-1.1**
	comp=Z,2.0nm,0.8s,baz=158,slow=7.4,SNR=3.0						
TORD	**Torodi Ar. Bea**	**50.40**	**265**	P	P	18 27 43.5	+4.4
	comp=Z,0.4nm,0.8s,baz=87,slow=7.7,SNR=2.3						

*IDC **21** 18:28:36.6±0.7, 52°.60N×169°.73W, h0km, mb3.7/9, mb1 4.0/11, mb1mx3.7/38, mbtmp3.7/11, ML3.5/2, MS2.9/6, Ms1 2.9/6, ms1mx2.6/41, Error ellipse: s-maj=26.3km s-min=16.4km az=168.0*
*ISCJB **21** 18:28:39.5±1.0, 52°.68N±0°.09×169°.53W±0°.07, h27km±7km, mb3.8/9, MS2.9/4, Error ellipse: s-maj=15.9km s-min=4.4km az=156.8*
*NEIC **21** 18:28:39.2, 52°.62N×169°.44W, h15km, mb3.8/2, ML3.9(AEIC), After AEIC.*

ISC 21 18:28:40.0±1.0, 52°7'N±0°.1×169°46'W±0°.06, h20km±7km, n66, σ1§02/57, mb3.7/9, MS3.0/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.48**	**49**	P	**Pb**	**18 28 49.2**	**-0.6**
NIKH				S	**Sb**	**18 28 56.6**	**+0.1**
OKWR	**Okmok West Rim**	**1.08**	**44**	P	**Pn**	**18 28 59.8**	**-0.3**
OKCE	**Okmok Cone E**	**1.10**	**45**	P	**Pn**	**18 28 59.2**	**-1.1**
OKCE				S	**Sn**	**18 29 14.8**	**0.0**
OKTU	**Okmok Mt. Tuli**	**1.12**	**49**	P	**Pn**	**18 28 59.9**	**-0.7**
OKAK	**Okmok**	**1.14**	**35**	P	**Pn**	**18 28 58.4**	**-2.3**
OKFG	**Magazine Ridge**	**1.20**	**51**	P	**Pn**	**18 29 00.5**	**-1.1**
OKFG				S	**Sb**	**18 29 16.2**	**-0.8**
MSOM	**Makushin Julie**	**1.90**	**51**	P	**Pn**	**18 29 10.9**	**-0.3**
MCIR	**Makushin Cirqu**	**2.01**	**49**	P	**Pn**	**18 29 13.0**	**+0.1**
MSW	**Makushin Switc**	**2.04**	**51**	P	**Pn**	**18 29 13.0**	**-0.2**
MSW				S	**Sn**	**18 29 39.7**	**+1.7**
MTBL	**Makushin Table**	**2.12**	**51**	P	**Pn**	**18 29 14.3**	**-0.1**
UNV	**Unalaska Valle**	**2.14**	**55**	P	**Pn**	**18 29 13.7**	**-0.8**
UNV				S	**Sn**	**18 29 40.5**	**+0.1**
AKRB	**Akutan Reef Bi**	**2.51**	**53**	P	**Pn**	**18 29 19.9**	**+0.3**
ZRO	**Akutan Zero**	**2.53**	**54**	P	**Pn**	**18 29 20.4**	**+0.5**
AKGG	**Akutan Green G**	**2.58**	**52**	P	**Pn**	**18 29 21.1**	**+0.5**
AKUT	**Akutan**	**2.66**	**55**	P	**Pn**	**18 29 21.5**	**-0.1**
ATKA	**Atka Island**	**2.94**	**263**	P	**Pn**	**18 29 25.2**	**-0.3**
WESP	**Westdahl Peak**	**3.37**	**55**	P	**Pn**	**18 29 31.8**	**+0.3**
WEBT	**Westdahl Beart**	**3.41**	**54**	P	**Pn**	**18 29 33.0**	**+1.1**
WESN	**West Dahl Nort**	**3.48**	**55**	P	**Pn**	**18 29 33.8**	**+0.8**
SSBA	**Shishaldin**	**3.81**	**54**	P	**Pn**	**18 29 38.4**	**+0.9**
GSTR	**Great Sitkin T**	**4.08**	**265**	*e*P	**Pn**	**18 29 41.5**	**+0.2**
GSMY	**Great Sitkin M**	**4.09**	**264**	P	**Pn**	**18 29 41.9**	**+0.5**
GSCK	**Great Sitkin C**	**4.16**	**264**	P	**Pn**	**18 29 43.0**	**+0.6**
FALS	**False Pass**	**4.21**	**56**	P	**Pn**	**18 29 41.8**	**-1.1**
ADAG	**Mount Adagdak**	**4.43**	**264**	P	**Pn**	**18 29 47.6**	**+1.5**
SPIA	**Saint Paul Isl**	**4.55**	**355**	P	**Pn**	**18 29 48.6**	**+1.0**
DT1	**Dutton Round H**	**4.90**	**57**	P	**Pn**	**18 29 54.0**	**+1.5**
DTNA	**Dutton South F**	**4.94**	**57**	P	**Pn**	**18 29 53.9**	**+1.0**
SDPT	**Sand Point**	**5.94**	**59**	P	**Pn**	**18 30 08.0**	**+1.3**
AMKA	**Amchitka**	**7.06**	**264**	P	**Pn**	**18 30 23.2**	**+1.1**
CHGN	**Chignik**	**7.39**	**56**	*e*P	Pn	18 30 30.0	+3.4
PPLA	**Purkeypile**	**13.73**	**35**	*e*P	**Pn**	**18 31 53.8**	**+0.4**
	11nm,1.4s						
BPAW	**Bear Paw Mtn.**	**14.93**	**33**	*e*P	**Pn**	**18 32 11.8**	**+2.1**
	1.8nm,0.8s						
IM04	**Indian Mountai**	**15.49**	**24**	*e*P	**Pn**	**18 32 18.8**	**+1.7**
BMRM	**Bremner River**	**15.86**	**49**	*e*P	**Pn**	**18 32 22.6**	**+0.7**
PAX	**Paxson**	**16.32**	**41**	*e*P	P	**18 32 29.7**	**-0.8**
ILAR	**Eielson Array**	**16.74**	**35**	Pn	**Pn**	**18 32 32.5**	**-0.6**
	0.1nm,0.3s,baz=229,slow=12,SNR=6.3						
ILAR					LR	LR	18 39 16.2	
	comp=Z,39nm,19.9s,baz=292,slow=38						
EGAK	**Eagle**	**18.85**	**39**	*e*P	**P**	**18 32 58.2**	**-0.1**
	3.0nm,0.8s						
HYT	**Haines Junctio**	**19.16**	**52**	*e*P	**Pn**	**18 33 03.7**	**+0.7**
	5.9nm,0.5s						
PETK	**Petropavlovsk-**	**19.73**	**284**	P	**P**	**18 33 07.6**	**-0.6**
	0.4nm,0.3s,baz=96,slow=13,SNR=5.7						
PETK					LR	LR	18 40 59.4	
	comp=Z,19nm,19.2s,baz=102,slow=38						
H02N1	**VAN INLET T-PH**	**22.09**	**74**	T	T	18 56 18.2	
H02S1	**DAWSON INLET T**	**22.14**	**74**	T	T	18 56 21.9	
SEY	**Seymchan**	**22.43**	**312**	P	**P**	**18 33 36.7**	**-0.5**
	2.1nm,1.0s,baz=108,slow=16,SNR=2.7						
SEY					PcP	**PcP**	**18 37 30.6**	**-0.2**
	1.5nm,0.8s,baz=148,slow=4.5,SNR=6.3						
DLBC	**Dease Lake**	**22.78**	**60**	P	**P**	**18 33 43.2**	**+2.2**
	4.3nm,0.8s,baz=259,slow=12,SNR=3.2						
INK	**Inuvik**	**23.14**	**34**	LR	LR	18 43 48.6	
	comp=Z,44nm,19.1s,baz=72,slow=39						
YKA	**Yellowknife Ar**	**30.09**	**49**	P	**P**	**18 34 47.8**	**+0.2**
	0.6nm,0.5s,baz=272,slow=7.3,SNR=4.7						
NEW	**Newport**	**32.99**	**76**	LR	LR	18 47 53.1	
	comp=Z,32nm,19.1s,baz=304,slow=35						
H11N2	**WAKE ISLAND Hy**	**37.65**	**218**	T	T	19 16 13.4	
	baz=24,slow=76,SNR=84						
H11N3	**WAKE ISLAND Hy**	**37.66**	**218**	T	T	19 16 12.4	
	baz=24,slow=76,SNR=94						
H11N1	**WAKE ISLAND Hy**	**37.67**	**218**	T	T	19 16 14.3	
	baz=24,slow=76,SNR=83						
NVAR	**Mina Array Bea**	**37.72**	**91**	P	**P**	**18 35 56.8**	**+2.4**
	0.4nm,0.6s,baz=311,slow=9.0,SNR=5.0						
H11S1	**WAKE ISLAND Hy**	**38.84**	**218**	T	T	19 17 34.6	
	baz=23,slow=76,SNR=818						
H11S2	**WAKE ISLAND Hy**	**38.85**	**218**	T	T	19 17 35.6	
	baz=23,slow=76,SNR=551						
H11S3	**WAKE ISLAND Hy**	**38.85**	**218**	T	T	19 17 34.2	
	baz=23,slow=76,SNR=607						
PDAR	**Pinedale Array**	**40.40**	**79**	P	**P**	**18 36 17.3**	**+0.6**
	1.1nm,0.8s,baz=329,slow=4.7,SNR=8.5						
JCJ	**Chichijima**	**43.93**	**254**	LR	LR	18 51 38.6	
	comp=Z,7.9nm,21.5s,baz=0.5,slow=32						
SONM	**Songino Array**	**51.10**	**301**	PcP	**PcP**	**18 38 55.9**	**-0.6**
	1.1nm,0.6s,baz=63,slow=2.3,SNR=5.3						
TXAR	**Lajitas Array**	**52.80**	**89**	P	**P**	**18 37 54.5**	**+0.7**
	1.3nm,0.6s,baz=301,slow=5.6,SNR=19						
H06N1	**SOCORRO T-PHAS**	**56.19**	**104**	T	T	19 38 56.0	
	SNR=7.4						
H06E1	**SOCORRO T-PHAS**	**56.29**	**104**	T	T	19 39 05.5	
	SNR=12						
MKAR	**Makanchi Array**	**63.57**	**313**	LR	LR	19 06 51.3	
	comp=Z,13nm,20.3s,baz=69,slow=36						
AKASG	**Malin Array Be**	**75.81**	**348**	P	**P**	**18 40 22.9**	**-1.2**
	0.2nm,0.4s,baz=15,slow=5.3,SNR=3.1						
WRA	**Warramunga Arr**	**87.14**	**232**	P	**P**	**18 41 22.9**	**-1.5**
	0.6nm,0.6s,baz=37,slow=5.7,SNR=11						
ASAR	**Alice Springs**	**90.54**	**230**	P	**P**	**18 41 39.7**	**-0.7**
	1.2nm,0.6s,baz=32,slow=4.5,SNR=30						
MAW	**Mawson**	**151.07**	**219**	PKPbc	**PKPbc**	**18 48 29.7**	**-0.2**
	1.3nm,0.4s,baz=346,slow=6.5,SNR=7.2						
BOSA	**Boshof**	**153.62**	**330**	PKPbc	**PKPbc**	**18 48 36.2**	**-0.9**
	1.2nm,0.5s,baz=315,slow=1.4,SNR=4.2						

*IDC **21** 18:43:05.3±1.8, 53°.55N×164°.14W, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.6/54, mbtmp3.8/7, ML3.4/1, Error ellipse: s-maj=39.2km s-min=26.4km az=37.0*
*ISCJB **21** 18:43:06.7±1.4, 53°.23N×163°.98W±0°.05, h26km±12km, mb4.0/7, Error ellipse: s-maj=7.6km s-min=4.5km az=169.8*
*NEIC **21** 18:43:08.7, 53°.21N×163°.99W, h34km, ML3.4(AEIC), After AEIC.*

ISC 21 18:43:07.1±2.3, 53°36'N±0°.10×164°07'W±0°.04, h15km±13km, n46, σ0§56/48, mb3.9/7, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.16**	**345**	P	**Pg**	**18 43 29.9**	**+0.5**
WESP	**Westdahl Peak**	**1.20**	**341**	P	**Pg**	**18 43 30.4**	**+0.1**
AKSA	**Akutan Strait**	**1.24**	**309**	P	**Pb**	**18 43 30.3**	**0.0**
AKSA				S	**Sg**	**18 43 47.6**	**+0.4**
WESN	**West Dahl Nort**	**1.25**	**346**	P	**Pg**	**18 43 31.2**	**0.0**
AKUT	**Akutan**	**1.28**	**308**	P	**Pb**	**18 43 30.8**	**0.0**
AKUT				S	**Sg**	**18 43 49.0**	**+0.6**
WEBT	**Westdahl Beart**	**1.30**	**342**	P	**Pg**	**18 43 32.0**	**-0.1**
ZRO	**Akutan Zero**	**1.35**	**304**	P	**Pb**	**18

QZX	**Qazax, Azerbai**	**0.34**	**193**	P		**Pb**	**18 45 15.1**	**-0.1**
	SNR=1000								
SEAG	**Tbilisi Sea**	**0.63**	**307**	P		**Pg**	**18 45 18.1**	**-0.8**
SEAG				S		**Sg**	**18 45 27.7**	**+0.6**
SEAG	**Tbilisi Sea**	**0.63**	**307**	P		**Pg**	**18 45 18.1**	**-0.8**
SEAG				S		**Sg**	**18 45 27.7**	**+0.6**
TBLG	**Delisi**	**0.65**	**302**	P		**Pb**	**18 45 20.1**	**-0.5**
TBLG				S		**Sb**	**18 45 29.7**	**-0.3**
TBLG	**Delisi**	**0.65**	**302**	*e*Pg		**Pb**	**18 45 20.1**	**-0.5**
TBLG	**Delisi**	**0.65**	**302**	P		**Pb**	**18 45 20.1**	**-0.5**
TBLG				S		**Sb**	**18 45 29.7**	**-0.3**
KZR	**Kazreti**	**0.80**	**270**	P		**Pg**	**18 45 22.1**	**0.0**
KZR				S		**Sg**	**18 45 33.0**	**+0.5**
KZR	**Kazreti**	**0.80**	**270**	P		**Pg**	**18 45 22.1**	**0.0**
STEZ	**Stepenevan**	**0.90**	**245**	⇑*i*P		**Pg**	**18 45 23.0**	**-1.0**
STEZ				⇑*i*S		**Sg**	**18 45 34.8**	**-0.9**
ZKTA	**Zakatala**	**0.90**	**73**	⇑P		**Pg**	**18 45 24.0**	**0.0**
	SNR=94								
ZKTA				⇑S		**Sb**	**18 45 37.1**	**0.0**
DUS	**Dusheti**	**0.91**	**321**	P		**Pn**	**18 45 25.7**	**-0.6**
DUS				S		**Sn**	**18 45 39.4**	**-0.4**
DUS	**Dusheti**	**0.91**	**321**	P		**Pn**	**18 45 25.7**	**-0.6**
DUS				S		**Sn**	**18 45 39.4**	**-0.4**
STE	**Stepanavan**	**0.92**	**246**	⇑P		**Pg**	**18 45 23.0**	**-1.4**
GANJ	**Ganja**	**0.98**	**139**	⇑P		**Pg**	**18 45 24.6**	**-0.9**
	SNR=17								
GANJ	**Ganja**	**0.98**	**139**	P		**Pg**	**18 45 24.6**	**-0.9**
	SNR=17								
KAPZ	**Kaputan**	**1.21**	**209**	⇑*i*P		**Pg**	**18 45 31.0**	**+0.9**
KAPZ				⇑*i*S		**Sn**	**18 45 47.1**	**-0.3**
KAPZ	**Kaputan**	**1.21**	**209**	⇑P		**Pg**	**18 45 31.0**	**+0.9**
KAPZ				S		**Sn**	**18 45 47.1**	**-0.3**
SEKA	**Sheki**	**1.31**	**97**	⇑P		**Pn**	**18 45 30.3**	**-1.5**
	SNR=100								
SEKA				⇓S		**Sn**	**18 45 48.8**	**-0.9**
SEKA	**Sheki**	**1.31**	**97**	P		**Pn**	**18 45 30.3**	**-1.5**
	SNR=100								
SEKA				S		**Sn**	**18 45 48.8**	**-0.9**
GNI	**Garni**	**1.35**	**205**	*d*iPG		**Pn**	**18 45 32.1**	**-0.3**
GNI				*i* S		**Sg**	**18 45 51.3**	**+1.0**
GNI				pmax	pmax				
	comp=Z,36nm,0.3s								
GNI				smax	smax				
	comp=Z,90nm,0.7s								
GNI	**Garni**	**1.35**	**205**	⇓*i*P		**Pn**	**18 45 32.3**	**-0.2**
GNI				⇓*i*S		**Sg**	**18 45 51.0**	**+0.7**
GNI	**Garni**	**1.35**	**205**	⇓P		**Pn**	**18 45 32.3**	**-0.2**
GNI				S		**Sg**	**18 45 51.0**	**+0.7**
GNI				*i* Sg		**Sg**	**18 45 51.3**	**+1.0**
	comp=Z,90nm,0.7s								
AMBZ	**Amberd**	**1.36**	**223**	⇑*i*P		**Pg**	**18 45 33.8**	**+1.0**
AMBZ				⇑*i*S		**Sg**	**18 45 52.3**	**+1.9**
AMBZ	**Amberd**	**1.36**	**223**	⇑P		**Pg**	**18 45 33.8**	**+1.0**
AMBZ				S		**Sg**	**18 45 52.3**	**+1.9**
MNGR	**Mingechevir, A**	**1.36**	**116**	⇓Pn		**Pn**	**18 45 31.9**	**-0.5**
	SNR=30								
MNGR				⇓Sn		**Sg**	**18 45 51.1**	**+0.5**
MNGR	**Mingechevir, A**	**1.36**	**116**	Pn		**Pn**	**18 45 31.9**	**-0.5**
	SNR=30								
MNGR				Sn		**Sg**	**18 45 51.1**	**+0.5**
KMKR	**Kumukh**	**1.43**	**58**	*e*PG		**Pb**	**18 45 33.5**	**-0.5**
KMKR				*e*S		**Sb**	**18 45 52.5**	**0.0**
KMKR				pmax	pmax				
	comp=Z,49nm,0.2s								
KMKR	**Kumukh**	**1.43**	**58**	*e*Pg		**Pb**	**18 45 33.5**	**-0.5**
	comp=Z,49nm,0.2s								
KMKR				*e*Sg		**Sb**	**18 45 52.5**	**0.0**
XNZR	**Khunzakh**	**1.48**	**38**	*e*PG		**Pb**	**18 45 34.8**	**0.0**
XNZR				*e*S		**Sg**	**18 45 55.0**	**+0.7**
XNZR	**Khunzakh**	**1.48**	**38**	*e*Pg		**Pb**	**18 45 34.8**	**0.0**
XNZR				*e*Sg		**Sg**	**18 45 55.0**	**+0.7**
PAAR	**P'arak'ar**	**1.49**	**214**	⇑*i*P		**Pb**	**18 45 35.1**	**+0.2**
PAAR				⇓*i*S		**Sg**	**18 45 54.9**	**+0.3**
PAAR	**P'arak'ar**	**1.49**	**214**	⇑P		**Pb**	**18 45 35.1**	**+0.2**
PAAR				S		**Sg**	**18 45 54.9**	**+0.3**
AKH	**Akhalkalaki**	**1.49**	**272**	P		**Pn**	**18 45 33.8**	**-0.5**
AKH				S		**Sn**	**18 45 53.7**	**-0.6**
AKH	**Akhalkalaki**	**1.49**	**272**	P		**Pn**	**18 45 33.8**	**-0.5**
AKH				S		**Sn**	**18 45 53.7**	**-0.6**
ARUZ	**Aruch**	**1.52**	**224**	⇑*i*P		**Pg**	**18 45 36.5**	**+0.6**
ARUZ				⇑*i*S		**Sg**	**18 45 56.5**	**+0.9**
ARUZ	**Aruch**	**1.52**	**224**	⇑P		**Pg**	**18 45 36.5**	**+0.6**
ARUZ				S		**Sg**	**18 45 56.5**	**+0.9**
UNCR	**Uncukul**	**1.65**	**36**	*e*PN		**Pb**	**18 45 37.5**	**-0.2**
UNCR				*e*S		**Sg**	**18 46 02.0**	**+2.1**
UNCR				pmax	pmax				
	comp=Z,34nm,0.2s								
UNCR	**Uncukul**	**1.65**	**36**	*e*Pn		**Pb**	**18 45 37.5**	**-0.2**
	comp=Z,34nm,0.2s								
UNCR				*e*Sg		**Sg**	**18 46 02.0**	**+2.1**
LACR	**Lac**	**1.69**	**329**	*i*PN		**Pb**	**18 45 38.3**	**-0.1**
LACR	**Lac**	**1.69**	**329**	*i* Pn		**Pb**	**18 45 38.3**	**-0.1**
AKT	**Akhty**	**1.70**	**86**	*i* PN		**Pn**	**18 45 36.5**	**-0.7**
AKT				*i* S		**Sb**	**18 45 59.5**	**-0.7**
AKT				pmax	pmax				
	comp=Z,49nm,0.2s								
AKT	**Akhty**	**1.70**	**86**	*i* Pn		**Pn**	**18 45 36.5**	**-0.7**
	comp=Z,49nm,0.2s								
AKT				*i* Sg		**Sb**	**18 45 59.5**	**-0.7**
BRDA	**Brd**	**1.71**	**130**	⇑Pn		**Pb**	**18 45 38.0**	**-0.7**
	SNR=4.3								
BRDA				⇓Sn		**Sg**	**18 46 01.0**	**-0.8**
BRDA	**Brd**	**1.71**	**130**	Pn		**Pb**	**18 45 38.0**	**-0.7**
	SNR=4.3								
BRDA				Sn		**Sg**	**18 46 01.0**	**-0.8**
VLKR	**Vladikavkaz**	**1.76**	**341**	*e*PN		**Pb**	**18 45 40.1**	**+0.5**
VLKR				*e*S		**Sg**	**18 46 04.3**	**+0.8**
VLKR	**Vladikavkaz**	**1.76**	**341**	*e*Pn		**Pb**	**18 45 40.1**	**+0.5**
VLKR				*e*Sg		**Sg**	**18 46 04.3**	**+0.8**
URKR	**Urkarakh**	**1.79**	**63**	*e*PN		**Pb**	**18 45 40.0**	**-0.2**
URKR	**Urkarakh**	**1.79**	**63**	*e*Pn		**Pb**	**18 45 40.0**	**-0.2**
DLMR	**Dylym**	**1.89**	**27**	*e*PN		**Pb**	**18 45 40.5**	**-1.3**
DLMR				*e*S		**Sg**	**18 46 10.5**	**+3.0**
DLMR				pmax	pmax				
	comp=Z,49nm,0.3s								
DLMR	**Dylym**	**1.89**	**27**	*e*Pn		**Pb**	**18 45 40.5**	**-1.3**
	comp=Z,49nm,0.3s								
DLMR				*e*Sg		**Sg**	**18 46 10.5**	**+3.0**
DBC	**Dubki**	**1.92**	**31**	⇓*i*PN		**Pb**	**18 45 42.0**	**-0.3**
DBC	**Dubki**	**1.92**	**31**	*i* Pn		**Pb**	**18 45 42.0**	**-0.3**
ONI	**Oni**	**1.93**	**309**	P		**Pb**	**18 45 42.1**	**-0.4**
ONI				S		**Sg**	**18 46 08.1**	**-0.7**
ONI	**Oni**	**1.93**	**309**	P		**Pb**	**18 45 42.1**	**-0.4**
ONI				S		**Sg**	**18 46 08.1**	**-0.7**
GRO	**Groznyy**	**1.94**	**6**	⇑*i*PN		**Pb**	**18 45 42.1**	**-0.6**
GRO	**Groznyy**	**1.94**	**6**	*i* Pn		**Pb**	**18 45 42.1**	**-0.6**
KORR	**Kora**	**2.00**	**329**	*e*PN		**Pb**	**18 45 43.3**	**-0.3**
KORR				*e*S		**Sb**	**18 46 09.8**	**+1.1**
KORR	**Kora**	**2.00**	**329**	*e*Pn		**Pb**	**18 45 43.3**	**-0.3**
ARNR	**Ardon**	**2.00**	**334**	*e*PN		**Pb**	**18 45 44.0**	**+0.4**
ARNR				*e*S		**Sg**	**18 46 10.6**	**-0.5**
KSMR	**Kasumkent**	**2.00**	**83**	*e*PN		**Pb**	**18 45 42.5**	**-1.2**
KSMR				*i* S		**Sg**	**18 46 10.0**	**-1.2**
KSMR				pmax	pmax				
	comp=Z,40nm,0.1s								
KSMR	**Kasumkent**	**2.00**	**83**	*e*Pn		**Pb**	**18 45 42.5**	**-1.2**
	comp=Z,40nm,0.1s								
KSMR				*i* Sg		**Sg**	**18 46 10.0**	**-1.2**
DIGR	**Digorskoe uzhe**	**2.07**	**318**	*e*PN		**Pb**	**18 45 44.7**	**-0.2**
DIGR				*e*S		**Sb**	**18 46 11.6**	**+0.6**
DIGR	**Digorskoe uzhe**	**2.07**	**318**	*e*Pn		**Pb**	**18 45 44.7**	**-0.2**
IML	**Ismayilli**	**2.13**	**105**	⇑Pn		**Pn**	**18 45 43.2**	**+0.2**
	SNR=8.4								
IML				⇑Sn		**Sb**	**18 46 11.3**	**-1.3**
IML	**Ismayilli**	**2.13**	**105**	Pn		**Pn**	**18 45 43.2**	**+0.2**
	SNR=8.4								
IML				Sn		**Sb**	**18 46 11.3**	**-1.3**
NAX	**Nakhchivan**	**2.21**	**180**	⇑Pn		**Pb**	**18 45 46.1**	**-1.1**
	SNR=5.7								
NAX				⇑Sn		**Sg**	**18 46 16.9**	**-0.8**
NAX	**Nakhchivan**	**2.21**	**180**	Pn		**Pb**	**18 45 46.1**	**-1.1**
	SNR=5.7								
NAX				Sn		**Sg**	**18 46 16.9**	**-0.8**
STDR	**Stavd-Durt**	**2.24**	**333**	*e*PN		**Pg**	**18 45 50.6**	**+0.8**
STDR				*e*S		**Sg**	**18 46 19.8**	**+1.0**
LSNR	**Lesken**	**2.25**	**328**	*de*PN		**Pb**	**18 45 47.9**	**-0.1**
LSNR				*i* S		**Sg**	**18 46 18.3**	**-0.9**
LSNR				pmax	pmax				
	comp=Z,29nm,0.2s								
LSNR	**Lesken**	**2.25**	**328**	*e*Pn		**Pb**	**18 45 47.9**	**-0.1**
	comp=Z,29nm,0.2s								
QUBA	**Quba, Azerbaij**	**2.27**	**90**	⇑Pn		**Pn**	**18 45 46.0**	**+1.0**
QUBA				⇑Sn		**Sb**	**18 46 14.9**	**-1.7**
QUBA	**Quba, Azerbaij**	**2.27**	**90**	Pn		**Pn**	**18 45 46.0**	**+1.0**
QUBA				Sn		**Sb**	**18 46 14.9**	**-1.7**
TRKR	**Terskaya**	**2.40**	**347**	*e*PN		**Pb**	**18 45 49.1**	**-1.3**
TRKR	**Terskaya**	**2.40**	**347**	*e*Pn		**Pb**	**18 45 49.1**	**-1.3**
PQL	**Pirkuli**	**2.43**	**103**	⇑Pn		**Pn**	**18 45 48.2**	**+0.9**
	SNR=9.1								
PQL				⇑Sn		**Sb**	**18 46 19.8**	**-1.6**
PQL	**Pirkuli**	**2.43**	**103**	Pn		**Pn**	**18 45 48.2**	**+0.9**
	SNR=9.1								
PQL				Sn		**Sb**	**18 46 19.8**	**-1.6**
SIZA	**Siyzn**	**2.60**	**96**	⇑Pn		**Pn**	**18 45 51.0**	**+1.5**
	SNR=4.4								
SIZA				⇑Sn		**Sb**	**18 46 24.2**	**-2.0**
SIZA	**Siyzn**	**2.60**	**96**	Pn		**Pn**	**18 45 51.0**	**+1.5**
	SNR=4.4								
SIZA				Sn		**Sb**	**18 46 24.2**	**-2.0**
ATGJ	**Altiaghaj**	**2.67**	**100**	⇑Pn		**Pn**	**18 45 51.8**	**+1.3**
ATGJ				⇓Sn		**Sb**	**18 46 26.9**	**-1.2**
ATGJ	**Altiaghaj**	**2.67**	**100**	Pn		**Pn**	**18 45 51.8**	**+1.3**
ATGJ				Sn		**Sb**	**18 46 26.9**	**-1.2**
GLBA	**Clilabad**	**3.09**	**133**	⇑Pn		**Pn**	**18 45 57.3**	**+1.1**
GLBA				⇑Sn		**Sn**	**18 46 35.3**	**+1.8**
GLBA	**Clilabad**	**3.09**	**133**	Pn		**Pn**	**18 45 57.3**	**+1.1**
GLBA				Sn		**Sn**	**18 46 35.3**	**+1.8**
KIV	**Kislovodsk**	**3.29**	**322**	⇑*e*PN		**Pn**	**18 45 59.3**	**+0.3**
KIV				*i*			18 46 08.6		
KIV				*e*S		**Sb**	**18 46 42.1**	**-3.9**
KIV				pmax	pmax				
	comp=Z,3.0nm,0.6s								
KIV				MLR	MLR				
	comp=Z,10.0nm,13.0s								
KIV	**Kislovodsk**	**3.29**	**322**	*e*Pn		**Pn**	**18 45 59.3**	**+0.3**
	comp=Z,3.0nm,0.6s								
KIV				*e*Sn		**Sb**	**18 46 42.1**	**-3.9**
LRK	**Lerik**	**3.51**	**140**	⇓Pn		**Pn**	**18 46 03.0**	**+0.9**
	SNR=5.1								
LRK				⇑Sn		**Sn**	**18 46 47.6**	**+3.5**
LRK	**Lerik**	**3.51**	**140**	Pn		**Pn**	**18 46 03.0**	**+0.9**
	SNR=5.1								
LRK				Sn		**Sn**	**18 46 47.6**	**+3.5**
LKRN	**Lenkeran, Azer**	**3.68**	**135**	⇑Pn		**Pn**	**18 46 04.4**	**+0.1**
LKRN				⇑Sn		**Sn**	**18 46 51.2**	**+3.1**
LKRN	**Lenkeran, Azer**	**3.68**	**135**	Pn		**Pn**	**18 46 04.4**	**+0.1**
LKRN				Sn		**Sn**	**18 46 51.2**	**+3.1**
ANN	**Anapa**	**6.80**	**303**	*e*P		**Pn**	**18 46 45.4**	**-1.8**
ANN				*e*S		**Sn**	**18 48 03.0**	**-1.9**
ANN				pmax	pmax				
	comp=Z,56nm,1.6s								
TIRR	**Tirgusor**	**12.88**	**289**	*e*P		**Pn**	**18 48 12.1**	**+1.8**
APE	**Apeiranthos**	**16.04**	**261**	*e*P		**Pn**	**18 48 52.5**	**-0.5**
APE				pmax	pmax				
	comp=Z,19nm,1.1s								

IDC 21 18:51:14.2±5.2, 6°44S×155°69E, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.6/30, mbtmp3.7/4, ML2.1/1, Error ellipse: s-maj=106.5km s-min=45.5km az=99.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.95**	**250**	Pn	Pn	18 53 25.2	+0.3
	1.0nm,0.3s,baz=27,slow=2.3,SNR=4.6						
PMG				Sn	Sn	18 54 57.5	-9.0
	0.4nm,0.3s,baz=230,slow=18,SNR=2.3						
WRA	**Warramunga Arr**	**24.70**	**235**	P	P	18 56 37.5	+0.1
	0.9nm,0.7s,baz=61,slow=9.3,SNR=6.4						
ASAR	**Alice Springs**	**27.06**	**228**	P	P	18 56 58.5	-0.2
	0.3nm,0.7s,baz=58,slow=8.6,SNR=8.8						
CMAR	**Chiang Mai Arr**	**61.17**	**295**	P	P	19 01 31.1	-0.1
	1.1nm,0.8s,baz=123,slow=5.2,SNR=6.9						

*NEIC **21** 18:56:43.8, 52°.59N×169°.28W, h3km, ML3.2(AEIC), After AEIC.*
*IDC **21** 18:56:50.6±26.0, 52°.74N×167°.55W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.3/37, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=482.6km s-min=47.4km az=86.0*

ISC 21 18:56:44.4±2.1, 52°.6N±0°.1×169°.28W±0°.10, h11km±13km, n22, σ1°13/21, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.42**	**38**	P	**Pg**	**18 56 53.8**	**+0.1**
NIKH				S	**Sb**	**18 57 01.5**	**+1.4**
OKWR	**Okmok West Rim**	**1.02**	**39**	P	**Pn**	**18 57 05.2**	**+0.5**
OKCE	**Okmok Cone E**	**1.03**	**40**	P	**Pn**	**18 57 05.3**	**+0.6**
OKTU	**Okmok Mt. Tuli**	**1.05**	**45**	P	**Pg**	**18 57 05.0**	**+0.4**
OKAK	**Okmok**	**1.09**	**30**	P	**Pb**	**18 57 03.4**	**-1.8**
OKFG	**Magazine Ridge**	**1.13**	**46**	P	**Pb**	**18 57 05.7**	**-0.1**
OKFG				S	**Sn**	**18 57 22.3**	**+0.8**
MSOM	**Makushin Julie**	**1.83**	**49**	P	**Pb**	**18 57 17.1**	**-0.6**
MSOM				S	**Sg**	**18 57 42.7**	**-0.3**
MCIR	**Makushin Cirqu**	**1.94**	**47**	P	**Pb**	**18 57 19.1**	**-0.6**
MSW	**Makushin Switc**	**1.97**	**49**	P	**Pn**	**18 57 18.5**	**+1.0**
MSW				S	**Sb**	**18 57 46.6**	**+2.0**
MTBL	**Makushin Table**	**2.05**	**49**	P	**Pn**	**18 57 18.9**	**+0.1**
UNV	**Unalaska Valle**	**2.06**	**53**	P	**Pn**	**18 57 19.6**	**+0.8**
UNV				S	**Sb**	**18 57 47.0**	**-0.2**
AKRB	**Akutan Reef Bi**	**2.43**	**51**	P	**Pn**	**18 57 25.3**	**+1.4**
ATKA	**Atka Island**	**3.04**	**264**	P	**Pn**	**18 57 33.5**	**+1.2**
ILAR	**Eielson Array**	**16.69**	**35**	Pn	**Pn**	**19 00 36.0**	**-1.9**
	0.0nm,0.3s,baz=232,slow=12,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**37.70**	**218**	T	T	19 43 50.4	
	baz=24,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**37.71**	**218**	T	T	19 43 50.4	
	baz=24,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**37.72**	**218**	T	T	19 43 46.6	
	baz=24,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy**	**38.89**	**218**	T	T	19 45 22.1	
	baz=23,slow=76,SNR=116						
H11S2	**WAKE ISLAND Hy**	**38.91**	**218**	T	T	19 45 23.5	
	baz=23,slow=76,SNR=79						
H11S3	**WAKE ISLAND Hy**	**38.91**	**218**	T	T	19 45 23.4	
	baz=23,slow=76,SNR=47						
PDAR	**Pinedale Array**	**40.30**	**80**	P	**P**	**19 04 20.3**	**-1.3**
	0.2nm,0.3s,baz=305,slow=3.2,SNR=3.9						
TXAR	**Lajitas Array**	**52.69**	**89**	P	**P**	**19 05 59.1**	**+0.4**
	0.6nm,0.7s,baz=307,slow=5.2,SNR=4.1						

IDC 21 19:16:44.4±3.8, 5°36S×150°74E, h0km, mb2.9/2, mb1 3.3/2, mb1mx3.1/26, mbtmp3.0/2, Error ellipse: s-maj=155.5km s-min=49.1km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.36**	**221**	Sn	Sn	19 19 05.1	-3.2
	0.4nm,0.3s,baz=247,slow=16,SNR=2.8						
WRA	**Warramunga Arr**	**21.56**	**226**	P	P	19 21 34.9	-0.8
	0.4nm,0.9s,baz=52,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**24.38**	**220**	P	P	19 22 05.1	+0.5
	0.3nm,0.7s,baz=58,slow=8.5,SNR=7.3						
TORD	**Torodi Ar. Bea**	**148.52**	**286**	PKPbc	PKPbc	19 36 33.7	-0.7
	0.7nm,1.0s,baz=51,slow=2.6,SNR=2.8						

IDC 21 19:28:33.4±2.6, 27°.04N×53°.82E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/41, mbtmp3.6/5, Error ellipse: s-maj=61.4km s-min=27.0km az=157.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**21.02**	**312**	P	P	19 33 19.9	+1.1
	0.4nm,0.6s,baz=120,slow=11,SNR=3.4						
MKAR	**Makanchi Array**	**29.86**	**41**	P	P	19 34 43.0	+0.5
	0.5nm,0.6s,baz=241,slow=10,SNR=4.3						
ZALV	**Zalesovo Beam**	**35.24**	**32**	P	P	19 35 29.3	-0.2
	0.7nm,0.5s,baz=249,slow=7.6,SNR=2.8						
FINES	**FINESS Array B**	**39.12**	**339**	P	P	19 36 01.3	-1.0
	2.2nm,1.0s,baz=150,slow=11,SNR=6.6						
TORD	**Torodi Ar. Bea**	**50.54**	**265**	P	P	19 37 33.7	-0.2
	0.2nm,0.6s,baz=66,slow=6.9,SNR=3.7						

IDC 21 19:33:34.2±9.5, 3°55N×127°17E, h117km±72km, mb3.3/3, mb1 3.4/4, mb1mx3.0/35, mbtmp3.6/4, Error ellipse: s-maj=173.0km s-min=71.3km az=44.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.01**	**137**	P	Pn	19 35 00.4	-0.4
	0.7nm,0.3s,baz=324,slow=19,SNR=6.3						
SIJI				S	Sn	19 36 09.4	+1.0
	0.2nm,0.3s,baz=36,slow=19,SNR=2.3						
WRA	**Warramunga Arr**	**24.39**	**163**	P	P	19 38 40.8	-0.9
	0.6nm,0.4s,baz=345,slow=9.5,SNR=14						
ASAR	**Alice Springs**	**27.84**	**167**	P	P	19 39 12.8	0.0
	0.3nm,0.6s,baz=338,slow=9.9,SNR=6.3						
STKA	**Stephens Creek**	**37.81**	**160**	P	P	19 40 40.2	+0.8
	1.4nm,1.0s,baz=331,slow=10,SNR=4.8						

*ISCJB **21** 19:39:47.5±1.1, 52°.54N±0°.06×169°.53W±0°.06, h5km±6km, mb4.3/40, MS3.6/15, Error ellipse: s-maj=10.5km s-min=3.9km az=152.6*
*IDC **21** 19:39:47.9±0.6, 52°.47N×169°.63W, h0km, mb4.2/21, mb1 4.3/23, mb1mx4.1/48, mbtmp4.1/23, ML3.7/2, MS3.6/16, Ms1 3.6/16, ms1mx3.3/47, Error ellipse: s-maj=20.0km s-min=11.4km az=169.0*
*NEIC **21** 19:39:49.4, 52°.74N×169°.58W, h5km, mb4.3/23, ML4.2(AEIC), After AEIC.*

ISC 21 19:39:49.0±1.9, 52°.69N±0°.10×169°.54W±0°.05, h7km±11km, n105, σ1°21/91, mb4.2/40, MS3.6/15, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.51**	**55**	P	**Pg**	**19 39 59.3**	**+0.5**
NIKH				S	**Sb**	**19 40 07.1**	**-0.7**
OKWR	**Okmok West Rim**	**1.10**	**47**	P	**Pg**	**19 40 10.4**	**+0.3**
OKCE	**Okmok Cone E**	**1.11**	**48**	P	**Pb**	**19 40 09.8**	**-0.8**
OKTU	**Okmok Mt. Tuli**	**1.14**	**52**	P	**Pb**	**19 40 10.5**	**-0.6**
OKFG	**Magazine Ridge**	**1.22**	**53**	P	**Pn**	**19 40 11.3**	**-1.2**
OKFG				S	**Sb**	**19 40 27.9**	**-0.5**
MSOM	**Makushin Julie**	**1.93**	**53**	P	**Pn**	**19 40 22.2**	**0.0**
MCIR	**Makushin Cirqu**	**2.03**	**50**	P	**Pn**	**19 40 24.6**	**+0.9**
MSW	**Makushin Switc**	**2.06**	**52**	P	**Pn**	**19 40 24.6**	**+0.5**
MSW				S	**Sb**	**19 40 51.4**	**-1.2**
MTBL	**Makushin Table**	**2.14**	**52**	P	**Pn**	**19 40 25.7**	**+0.4**
UNV	**Unalaska Valle**	**2.16**	**56**	P	**Pn**	**19 40 25.2**	**-0.2**
UNV				S	**Sb**	**19 40 54.5**	**-1.0**
AKRB	**Akutan Reef Bi**	**2.53**	**54**	P	**Pn**	**19 40 31.9**	**+1.4**
AKRB				S	**Sb**	**19 41 05.3**	**-0.7**
ZRO	**Akutan Zero**	**2.56**	**55**	P	**Pn**	**19 40 32.2**	**+1.3**
AKGG	**Akutan Green G**	**2.61**	**53**	P	**Pn**	**19 40 32.3**	**+0.8**
AKUT	**Akutan**	**2.68**	**56**	P	**Pn**	**19 40 33.2**	**+0.6**
AKUT				S	**Sb**	**19 41 07.9**	**-2.5**
ATKA	**Atka Island**	**2.89**	**262**	P	**Pn**	**19 40 35.3**	**-0.1**
WESP	**Westdahl Peak**	**3.40**	**56**	P	**Pn**	**19 40 44.1**	**+1.6**
WEBT	**Westdahl Beart**	**3.43**	**54**	P	**Pn**	**19 40 43.9**	**+1.1**
WESN	**West Dahl Nort**	**3.50**	**55**	P	**Pn**	**19 40 45.8**	**+1.9**
SSBA	**Shishaldin**	**3.84**	**55**	P	**Pn**	**19 40 48.8**	**+0.3**
SSLW	**Shishaldin Wes**	**3.84**	**55**	P	**Pn**	**19 40 50.4**	**+1.9**
GSTR	**Great Sitkin T**	**4.04**	**264**	*e*P	**Pn**	**19 40 51.9**	**+0.6**
GSMY	**Great Sitkin M**	**4.05**	**263**	P	**Pn**	**19 40 51.9**	**+0.6**
GSCK	**Great Sitkin C**	**4.12**	**263**	P	**Pn**	**19 40 53.1**	**+0.8**
FALS	**False Pass**	**4.24**	**57**	*e*P	Pn	19 40 58.6	+4.7
ADAG	**Mount Adagdak**	**4.39**	**264**	P	**Pn**	**19 40 57.6**	**+1.6**
SPIA	**Saint Paul Isl**	**4.52**	**355**	P	**Pn**	**19 40 58.5**	**+0.8**
RC01	**Rabbit Creek A**	**13.66**	**44**	*e*P	Pn	19 43 06.6	+3.6
PPLA	**Purkeypile**	**13.74**	**35**	*e*P	**P**	**19 43 09.9**	**-3.0**
	40nm,1.2s						
TRF	**Thorofare Moun**	**14.76**	**36**	*e*P	**P**	**19 43 21.1**	**-3.2**
	36nm,1.5s						
BPAW	**Bear Paw Mtn.**	**14.94**	**33**	*e*P	**P**	**19 43 23.4**	**-2.7**
	2.8nm,0.6s						
IM04	**Indian Mountai**	**15.49**	**25**	*e*P	**P**	**19

JNU	**Nakatsue**	**46.36**	**270**	LR	LR	20 05 54.6			
	comp=Z,76nm,21.9s,baz=114,slow=34								
KSCO	**Kaye Shedlock'**	**46.89**	**79**	*eP*	**P**	**19 48 20.8**	**+0.9**		
	14nm,0.9s								
121A	**Cookes Peak, D**	**48.09**	**89**	*eP*	**P**	**19 48 30.5**	**+1.1**		
	6.0nm,0.9s								
SONM	**Songino Array**	**51.05**	**300**	PcP	**PcP**	**19 50 06.7**	**-0.8**		
	0.7nm,0.7s,baz=46,slow=4.2,SNR=3.7								
WMOK	**Wichita Mounta**	**52.03**	**81**	*eP*	**P**	**19 48 59.0**	**0.0**		
	7.3nm,0.8s								
TXAR	**Lajitas Array**	**52.85**	**89**	P	**P**	**19 49 05.8**	**+0.5**		
	4.5nm,0.7s,baz=298,slow=5.3,SNR=53								
SCHQ	**Schefferville**	**55.28**	**43**	LR	LR	20 15 38.8			
	comp=Z,90nm,19.9s,baz=308,slow=39								
H06N1	**SOCORRO T-PHAS**	**56.24**	**104**	T	T	20 50 23.5			
	SNR=16								
H06E1	**SOCORRO T-PHAS**	**56.34**	**104**	T	T	20 50 24.2			
	SNR=24								
ZALV	**Zalesovo Beam**	**57.12**	**317**	LR	LR	20 16 38.4			
	comp=Z,25nm,18.3s,baz=248,slow=39								
ACSO	**Alum Creek Sta**	**57.43**	**65**	*eP*	**P**	**19 49 38.9**	**+0.8**		
	107nm,0.9s								
SSPA	**Standing Stone**	**59.91**	**62**	*eP*	**P**	**19 49 54.8**	**-0.6**		
	12nm,0.9s								
BVAR	**Borovoye Array**	**63.38**	**324**	P	**P**	**19 50 20.1**	**+1.4**		
	0.4nm,0.4s,baz=58,slow=5.4,SNR=2.6								
FINES	**FINESS Array B**	**65.54**	**352**	P	P	19 50 35.5	+3.0		
	1.0nm,0.7s,baz=32,slow=13,SNR=3.3								
CMIG	**Matias Romero**	**67.31**	**91**	P	**P**	**19 50 43.9**	**-0.6**		
	2.7nm,0.7s,baz=27,slow=4.5,SNR=3.8								
AKASG	**Malin Array Be**	**75.77**	**348**	P	**P**	**19 51 36.0**	**+1.0**		
	0.3nm,0.3s,baz=15,slow=5.4,SNR=3.6								
CLL	**Collm**	**76.36**	**358**	*eP*	**P**	**19 51 40.0**	**+1.6**		
CMAR	**Chiang Mai Arr**	**76.45**	**283**	P	**P**	**19 51 40.0**	**+0.6**		
	0.9nm,0.9s,baz=24,slow=6.6,SNR=4.4								
CMAR				LR	LR	20 28 40.0			
	comp=Z,26nm,18.6s,baz=350,slow=38								
VRAC	**Vranov**	**78.25**	**356**	LR	LR	20 26 04.3			
	comp=Z,157nm,18.2s,baz=148,slow=35								
GERES	**GERESS Array B**	**78.81**	**358**	P	**P**	**19 51 53.9**	**+1.6**		
	0.5nm,0.7s,baz=353,slow=4.9,SNR=4.4								
WRA	**Warramunga Arr**	**87.12**	**231**	P	**P**	**19 52 33.9**	**-1.6**		
	1.6nm,0.9s,baz=33,slow=5.8,SNR=6.8								
ESDC	**Sonseca Array**	**87.17**	**11**	P	**P**	**19 52 37.3**	**+1.6**		
	0.3nm,0.5s,baz=344,slow=4.5,SNR=3.1								
ESDC				LR	LR	20 32 43.2			
	comp=Z,28nm,20.5s,baz=275,slow=36								
PSI	**Prapat**	**88.73**	**273**	P	**P**	**19 52 42.8**	**-0.7**		
	8.1nm,0.7s,baz=0.8,slow=4.2,SNR=6.5								
ASAR	**Alice Springs**	**90.52**	**230**	P	**P**	**19 52 51.0**	**-0.5**		
	3.6nm,0.9s,baz=31,slow=4.6,SNR=25								
STKA	**Stephens Creek**	**94.37**	**220**	LR	LR	20 29 19.2			
	comp=Z,82nm,20.1s,baz=24,slow=32								
TORD	**Torodi Ar. Bea**	**114.00**	**9**	PKKPab	PKKPab	20 09 13.8	-5.6		
	1.1nm,0.8s,baz=187,slow=3.9,SNR=6.0								
TSUM	**Tsumeb**	**146.12**	**348**	*e*PKPdf	**PKPbc**	**19 59 29.4**	**-0.6**		
LBTB	**Lobatse**	**150.09**	**332**	*e*PKPbc	**PKPbc**	**19 59 39.9**	**-0.5**		
MAW	**Mawson**	**151.06**	**219**	PKPbc	**PKPbc**	**19 59 40.6**	**-0.5**		
	3.5nm,0.8s,baz=35,slow=4.6,SNR=7.9								
BOSA	**Boshof**	**153.57**	**330**	PKPbc	**PKPbc**	**19 59 47.3**	**-0.9**		
	2.7nm,0.9s,baz=39,slow=6.5,SNR=3.7								

IDC 21 19:53:02.0±24.0, 15.78S×174.43W, h0km, mb4.4/4, mb1 4.6/4, mb1mx 4.6/34, mbtmp 4.4/4, Error ellipse: s-maj=448.9km s-min=142.2km az=71.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.59**	**257**	P	P	20 00 19.4	+0.8
	4.0nm,0.9s,baz=95,slow=12,SNR=3.0						
STKA	**Stephens Creek**	**42.99**	**240**	P	P	20 01 03.1	-0.2
	3.5nm,0.8s,baz=94,slow=11,SNR=19						
WRA	**Warramunga Arr**	**48.80**	**257**	P	P	20 01 48.9	-0.5
	1.6nm,0.4s,baz=92,slow=7.4,SNR=74						
ASAR	**Alice Springs**	**49.05**	**252**	P	P	20 01 50.9	-0.4
	10nm,0.6s,baz=87,slow=8.6,SNR=196						

*MOS **21** 20:01:07.7±2.0, 49.15N×156.67E, h7km, mb4.3/1, Error ellipse: s-maj=67.5km s-min=10.6km az=82.4*

KRSC 21 20:01:07.8±1.9, 49.15N×156.67E, h7km±34km, ML4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.57**	**347**	*eP*	Pn	20 01 35.5	-0.6
SKR				*eS*	Sn	20 01 56.0	-0.7
SKR	**Severo-Kuril's**	**1.57**	**347**	*e*PN	Pn	20 01 34.5	-1.6
SKR				*eS*	Sn	20 01 53.2	-3.5
SKR				smax	smax		
	comp=E,320nm,0.3s						
PAU	**Pauzhetka**	**2.32**	**2**	*eP*	Pb	20 01 48.3	-1.6
PAU				*eS*	Sb	20 02 18.1	-0.7
PAU	**Pauzhetka**	**2.32**	**2**	PN	Pb	20 01 48.3	-1.6
PAU				S	Sb	20 02 18.1	-0.7
MIPR	**Malaya Ipel'ka**	**3.13**	**1**	*eP*	Pn	20 02 00.0	+2.5
ASAK	**Asacha**	**3.33**	**13**	*eP*	Pn	20 02 03.4	+3.1
RUS	**Russkaya**	**3.49**	**19**	*eP*	Pn	20 02 04.9	+2.5
RUS				*eS*	Sn	20 02 47.1	+3.2
RUS	**Russkaya**	**3.49**	**19**	PN	Pn	20 02 04.9	+2.5
RUS				S	Sn	20 02 47.1	+3.2
UGLR	**Uglovaya**	**4.28**	**18**	*eP*	Pn	20 02 18.0	+4.5
AVH	**Avacha**	**4.32**	**17**	*eP*	Pn	20 02 18.7	+4.8
AVH	**Avacha**	**4.32**	**17**	PN	Pn	20 02 18.7	+4.8
KOK	**Koryaka**	**4.33**	**16**	*eP*	Pn	20 02 18.9	+4.8
KOK	**Koryaka**	**4.33**	**16**	PN	Pn	20 02 18.9	+4.8
KRER	**Koryakskii**	**4.36**	**17**	*eP*	Pn	20 02 19.2	+4.6
KRX	**Arik**	**4.39**	**16**	*eP*	Pn	20 02 18.5	+3.5
SPN	**Mys Shipunski**	**4.48**	**27**	*eP*	Pn	20 02 19.8	+3.8
SPN	**Mys Shipunski**	**4.48**	**27**	PN	Pn	20 02 19.8	+3.8
GNL	**Ganaly**	**4.62**	**9**	*eP*	Pn	20 02 21.2	+3.1
GNL	**Ganaly**	**4.62**	**9**	PN	Pn	20 02 21.2	+3.1
KBTR	**Krutoberegovo**	**7.99**	**25**	*eP*	Pn	20 03 08.2	+4.0
KBTR	**Krutoberegovo**	**7.99**	**25**	PN	Pn	20 03 08.2	+4.0

*NIED **21** 20:10:00, 44.40N×147.60E, h95km, Mw4.2 Best double couple: M0 2.23000×10^15 NP1: φ=214.00000°, δ=33.00000°, λ=58.00000°. NP2: φ=71.00000°, δ=63.00000°, λ=109.00000°.*

*ISCJB **21** 20:10:42.8±0.5, 44.55N±0.04×147.70E±0.06, h119km±3km, mb3.9/17, Error ellipse: s-maj=9.0km s-min=4.8km az=43.1*

*MOS **21** 20:10:42.4±1.5, 44.65N×147.62E, h117km, mb4.1/10, Error ellipse: s-maj=13.4km s-min=8.0km az=64.9*

*IDC **21** 20:10:44.9±1.0, 44.90N×147.51E, h112km±7km, mb3.7/17, mb1 3.9/21, mb1mx3.7/48, mbtmp4.1/21, MS2.9/3, Ms1 2.9/3, ms1mx2.5/33, Error ellipse: s-maj=26.7km s-min=11.7km az=164.0*

*SKHL **21** 20:10:44.5±0.7, 44.71N×147.59E, h115km±5km, mb4.9/8, msh4.9/1*

*JMA **21** 20:10:45.7±0.3, 44.37N×147.63E, h111km, M4.2*

ISC 21 20:10:43.7±0.6, 44.60N±0.06×147.69E±0.05, h113km±5km, n105, σ1°22/113, mb4.0/17, 10C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.64**	**11**	*c iP*	**Pn**	**20 11 02.2**	**+0.3**
KUR				*i* S	**Sn**	**20 11 15.8**	**+0.2**
KUR				pmax	pmax		
	comp=N,216nm,0.3s						
KUR				pmax	pmax		
	comp=E,405nm,0.3s						
KUR				pmax	pmax		
	comp=Z,766nm,0.3s						
KUR				smax	smax		
	comp=N,2μm,0.4s						
KUR				smax	smax		
	comp=E,3μm,0.4s						
KUR	**Kuril'sk**	**0.64**	**11**	*↑iP*	**Pn**	**20 11 02.2**	**+0.3**
KUR				AMB	AMB	20 11 03.0	
	comp=E,630nm,0.3s						
KUR				AMB	AMB	20 11 03.0	
	comp=E,810nm,0.3s						
KUR				AMB	AMB	20 11 03.0	
	comp=E,2μm,0.3s						
KUR				*i* S	**Sn**	**20 11 16.0**	**+0.4**
KUR				A	A	20 11 16.3	
	comp=E,4μm,0.5s						
KUR				A	A	20 11 16.5	
	comp=E,4μm,0.4s						
KUR				A	A	20 11 16.5	
	comp=E,7μm,0.4s						
SHO	**Shikotan**	**0.96**	**220**	*eP*	**Pn**	**20 11 04.8**	**+0.1**
SHO				AMB	AMB	20 11 05.2	
	comp=E,300nm,0.3s						
SHO				*eS*	**Sn**	**20 11 20.3**	**-0.2**
SHO				A	A	20 11 21.0	
	comp=E,260nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.43**	**247**	*c iP*N	**Pn**	**20 11 10.5**	**+0.7**
YUK				*i* S	**Sn**	**20 11 29.9**	**+0.3**
YUK				pmax	pmax		
	comp=N,101nm,0.4s						
YUK				pmax	pmax		
	comp=E,380nm,0.4s						
YUK				pmax	pmax		
	comp=Z,1μm,0.4s						
YUK				smax	smax		
	comp=E,1μm,0.3s						
YUK				smax	smax		
	comp=N,2μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**1.43**	**247**	*↑iP*	**Pn**	**20 11 10.5**	**+0.7**
YUK				AMB	AMB	20 11 11.0	
	comp=N,100nm,0.4s						
YUK				AMB	AMB	20 11 11.0	
	comp=N,380nm,0.4s						
YUK				AMB	AMB	20 11 11.0	
	comp=N,1μm,0.4s						
YUK				*i* S	**Sn**	**20 11 29.9**	**+0.3**
YUK				A	A	20 11 31.4	
	comp=N,2μm,0.4s						
YUK				A	A	20 11 31.4	
	comp=N,1μm,0.4s						
YUK				A	A	20 11 31.5	
	comp=N,2μm,0.6s						
NEM2	**Nemuro 2**	**1.87**	**229**	P	**Pn**	**20 11 15.1**	**0.0**
NEM2				*e*S	**Sn**	**20 11 37.1**	**-2.0**
JRA	**Rausu**	**1.96**	**251**	P	**Pn**	**20 11 17.2**	**+1.0**
JRA				*e*S	**Sn**	**20 11 42.1**	**+1.0**
JNK	**Nakash**	**2.37**	**246**	P	**Pn**	**20 11 22.4**	**+0.9**
JAK	**Akkeshi**	**2.69**	**234**	P	**Pn**	**20 11 25.8**	**+0.1**
JAK				*e*S	**Sn**	**20 11 56.6**	**-1.4**
JTKR	**Abashiri--Toko**	**2.79**	**258**	P	**Pn**	**20 11 27.9**	**+1.0**
JTKR				*e*S	**Sn**	**20 12 00.2**	**+0.1**
JAR	**Ashorobuto**	**3.11**	**247**	P	**Pn**	**20 11 32.6**	**+1.4**
JKK2	**Kamakawa 2**	**3.62**	**260**	P	**Pn**	**20 11 39.5**	**+1.5**
JSE	**Soyaes**	**3.65**	**277**	P	**Pn**	**20 11 39.5**	**+1.2**
JCH	**Churui**	**3.71**	**239**	P	**Pn**	**20 11 39.6**	**+0.4**
JCH				*e*S	**Sn**	**20 12 20.8**	**-1.4**
JFR	**Furan**	**3.95**	**250**	P	**Pn**	**20 11 44.1**	**+1.7**
JWK2	**Keihoku**	**4.17**	**282**	P	**Pn**	**20 11 47.7**	**+2.4**
YSS	**Yuzh-Sakhalins**	**4.17**	**306**	*↑c iP*N	**Pn**	**20 11 45.6**	**+0.3**
YSS				*e*S	**Sn**	**20 12 31.8**	**-1.4**
YSS				pmax	pmax		
	comp=Z,40nm,0.8s						
YSS				smax	smax		
	comp=E,50nm,1.0s						
YSS	**Yuzh-Sakhalins**	**4.17**	**306**	*↓iP*	**Pn**	**20 11 46.0**	**+0.7**
YSS				AMB	AMB	20 11 46.4	
	comp=E,40nm,0.8s						
YSS				*e*S	**Sn**	**20 12 32.2**	**-1.0**
YSS				A	A	20 12 33.5	
	comp=E,70nm,0.8s						
ERM	**Erimo**	**4.20**	**234**	*↑c iP*N	**Pn**	**20 11 46.5**	**+0.8**
ERM				*e*S	**Sn**	**20 12 32.0**	**-1.7**
ERM				pmax	pmax		
	comp=Z,114nm,0.7s						
ERM	**Erimo**	**4.20**	**234**	*e*P	**Pn**	**20 11 46.5**	**+0.8**
JNBK	**Urakawa-nobuka**	**4.28**	**239**	P	**Pn**	**20 11 46.4**	**-0.3**
JHR	**Hokuryu**	**4.37**	**261**	P	**Pn**	**20 11 50.4**	**+2.4**
JEW	**Eniwo**	**4.85**	**251**	P	**Pn**	**20 11 56.2**	**+1.7**
JKB	**Kayabe**	**5.56**	**243**	P	**Pn**	**20 12 03.7**	**-0.4**
JKB				*e*S	**Sn**	**20 12 30.5**	**-4.3**
JOT	**Ohata**	**5.83**	**239**	P	**Pn**	**20 12 06.5**	**-1.4**
UGL	**Uglegorsk**	**5.91**	**321**	*e*P	**Pn**	**20 12 09.0**	**+0.3**
UGL				AMB	AMB	20 12 09.4	
	comp=Z,50nm,0.5s						
TEY	**Ternei**	**7.89**	**277**	*e*P	**Pn**	**20 12 36.3**	**+0.7**
TEY				AMB	AMB	20 12 38.0	
	comp=Z,20nm,0.5s						
SKR	**Severo-Kuril's**	**8.33**	**40**	PN	**Pn**	**20 12 38.5**	**-2.9**
SKR	**Severo-Kuril's**	**8.33**	**40**	*e*P	**Pn**	**20 12 39.2**	**-2.2**
SKR				AMB	AMB	20 12 41.0	
	comp=Z,30nm,0.5s						
SKR				*e*S	**Sn**	**20 14 10.7**	**-3.0**
SKR				A	A	20 14 24.0	
	comp=Z,80nm,0.5s						
GRNR	**Gornyy**	**9.78**	**313**	*e*P	**Pn**	**20 13 03.0**	**+1.9**
GRNR				AMB	AMB	20 13 04.0	
	comp=Z,10.0nm,0.6s						
PETK	**Petropavlovsk-**	**10.76**	**34**	P	**Pn**	**20 13 13.8**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=180,slow=16,SNR=5.0						
PETK	**Petropavlovsk-**	**10.76**	**34**	PN	**Pn**	**20 13 13.9**	**-0.5**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJA0	**Matsu Arr-Jizo**	**10.78**	**225**	*e*PN	**Pn**	**20 13 13.3**	**-1.5**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**10.80**	**225**	*↓e*PN	**Pn**	**20 13 13.6**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,19nm,0.6s						
MAJO	**Matsushiro**	**10.80**	**225**	*e*P	**Pn**	**20 13 13.3**	**-1.7**
MJAR	**Matsushiro Arr**	**10.80**	**225**	P	**Pn**	**20 13 13.4**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=30,slow=12,SNR=9.5						
MJAR				S	**Sn**	**20 15 10.7**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=19,slow=24,SNR=4.4						
MJAR				LR	LR	20 18 02.0	
	comp=Z,22nm,19.7s,baz=220,slow=40						
USRK	**Ussuriysk Ar.**	**11.24**	**273**	P	**Pn**	**20 13 20.9**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=90,slow=12,SNR=27						
KLR	**Kul'dur**	**11.84**	**299**	*e*PN	Pn	20 13 24.8	-3.9
KLR	**Kul'dur**	**11.84**	**299**	*e*P	Pn	20 13 24.8	-3.9
EKMR	**Ekimchan**	**12.86**	**316**	*e*P	**Pn**	**20 13 42.0**	**-0.2**
BMKR	**Bomnak**	**15.80**	**316**	*e*P	**P**	**20 14 21.0**	**-0.1**
KSRS	**Korea Array**	**16.51**	**251**	P	**Pn**	**20 14 27.0**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=67,slow=11,SNR=11						
KSRS				LR	LR	20 20 58.5	
	comp=Z,19nm,18.1s,baz=134,slow=37						
KSRS	**Korea Array**	**16.51**	**251**	*e*P	**P**	**20 14 30.4**	**+1.3**
KSRS	**Korea Array**	**16.51**	**251**	*e*P	**P**	**20 14 30.4**	**+1.3**
JNU	**Nakatsue**	**17.36**	**234**	P	**Pn**	**20 14 40.2**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=14,slow=2.6,SNR=9.9						
SEY	**Seymchan**	**18.57**	**7**	P	**P**	**20 14 51.0**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=181,slow=8.9,SNR=13						
SEY	**Seymchan**	**18.57**	**7**	*c*e*P*	**Pn**	**20 14 53.7**	**+0.7**
SEY	**Seymchan**	**18.57**	**7**	*↑eP*	**Pn**	**20 14 53.7**	**+0.7**
YAK	**Yakutsk**	**20.38**	**335**	*e*P	Pn	20 15 13.0	-1.1
YAK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
YAK	**Yakutsk**	**20.38**	**335**	*e*P	Pn	20 15 13.0	-1.1
SONM	**Songino Array**	**28.51**	**291**	P	**P**	**20 16 27.9**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=85,slow=9.1,SNR=5.2						
SONM	**Songino Array**	**28.51**	**291**	P	**P**	**20 16 27.9**	**-0.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**29.51**	**141**	T	T	20 47 50.3	
	baz=333,slow=76,SNR=104						
H11N1	**WAKE ISLAND Hy**	**29.52**	**141**	T	T	20 47 48.9	
	baz=333,slow=76,SNR=100						
H11N3	**WAKE ISLAND Hy**	**29.52**	**141**	T	T	20 47 43.4	
	baz=333,slow=76,SNR=108						
H11S1	**WAKE ISLAND Hy**	**30.50**	**142**	T	T	20 48 58.4	
	baz=334,slow=76,SNR=108						
H11S3	**WAKE ISLAND Hy**	**30.50**	**142**	T	T	20 48 54.3	
	baz=334,slow=76,SNR=42						
H11S2	**WAKE ISLAND Hy**	**30.51**	**142**	T	T	20 48 58.4	
	baz=334,slow=76,SNR=93						
KDAK	**Kodiak Island**	**38.39**	**48**	*c*e*P*	**P**	**20 17 53.7**	**+0.2**
KDAK	**Kodiak Island**	**38.39**	**48**	*e*P	**P**	**20 17 53.7**	**+0.2**
COLA	**College**	**40.16**	**37**	*↓e*P	**P**	**20 18 09.2**	**+1.1**
COLA	**College**	**40.16**	**37**	*↓e*P	**P**	**20 18 09.2**	**+1.1**
ILAR	**Eielson Array**	**40.57**	**37**	P	**P**	**20 18 11.8**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=282,slow=7.3,SNR=14						
ILAR	**Eielson Array**	**40.57**	**37**	P	**P**	**20 18 11.9**	**+0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**44.54**	**297**	P	**P**	**20 18 43.5**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=78,slow=8.9,SNR=9.4						
MKAR	**Makanchi Array**	**44.54**	**297**	*e*P	**P**	**20 18 43.8**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**44.54**	**297**	*e*P	**P**	**20 18 43.8**	**-0.1**
INK	**Inuvik**	**45.47**	**31**	P	**P**	**20 18 50.9**	**0.0**
	comp=Z,3.1nm,0.5s,baz=284,slow=8.3,SNR=5.6						
INK	**Inuvik**	**45.47**	**31**	P	**P**	**20 18 50.9**	**0.0**
INK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**48.14**	**253**	P	**P**	**20 19 13.6**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=36,slow=6.7,SNR=9.5						
CMAR	**Chiang Mai Arr**	**48.14**	**253**	P	**P**	**20 19 13.6**	**+1.3**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DLBC	**Dease Lake**	**49.79**	**43**	LR	LR	20 43 33.1	
	comp=Z,71nm,19.0s,baz=232,slow=40						
ODAN	**Odare**	**50.90**	**271**	*eP*	**P**	**20 19 34.4**	**+0.9**
	comp=Z,7.2nm,0.6s						
GUN	**Gumba**	**51.35**	**273**	*eP*	**P**	**20 19 37.7**	**+0.7**
	comp=Z,25nm,0.7s						
RAMN	**Ramite**	**51.41**	**271**	*eP*	**P**	**20 19 37.8**	**+0.5**
	comp=Z,33nm,0.5s						
KKN	**Kakani**	**51.85**	**273**	*eP*	**P**	**20 19 41.5**	**+0.9**
	comp=Z,6.4nm,0.4s						
PKI	**Pulchoki**	**51.89**	**273**	*eP*	**P**	**20 19 41.4**	**+0.4**
	comp=Z,6.6nm,0.5s						
PKIN	**Phulchoki**	**51.89**	**273**	*eP*	**P**	**20 19 41.3**	**+0.4**
	comp=Z,4.2nm,0.5s						
DMN	**Daman**	**52.08**	**273**	*eP*	**P**	**20 19 43.0**	**+0.7**
GKN	**Gorkha**	**52.18**	**274**	*eP*	**P**	**20 19 43.5**	**+0.6**
	comp=Z,7.6nm,0.4s						
DANN	**Dangsing**	**52.60**	**275**	*eP*	**P**	**20 19 47.4**	**+1.2**
KOLN	**Koldanda**	**53.06**	**274**	*eP*	**P**	**20 19 50.3**	**+0.8**
	comp=Z,9.6nm,0.6s						
YKA	**Yellowknife Ar**	**54.88**	**34**	P	**P**	**20 20 02.1**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=303,slow=7.2,SNR=14						
YKA				PcP	**PcP**	**20 21 02.3**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=301,slow=3.8,SNR=4.6						
YKA	**Yellowknife Ar**	**54.88**	**34**	P	**P**	**20 20 02.1**	**+0.2**
YKA						20 21 02.3	
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**64.29**	**333**	P	**P**	**20 21 04.2**	**-2.2**
	comp=Z,1.7nm,0.8s,baz=49,slow=6.4,SNR=5.1						
FINES	**FINESS Array B**	**64.29**	**333**	P	**P**	**20 21 04.3**	**-2.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GEYT	**Alibeck**	**64.37**	**299**	P	**P**	**20 21 07.6**	**+0.2**
	comp=Z,2.2nm,0.5s,baz=32,slow=3.9,SNR=5.3						
FFC	**Fiin Flon**	**64.79**	**37**	*eP*	**P**	**20 21 10.7**	**+0.9**
NVAR	**Mina Array Bea**	**66.80**	**58**	P	**P**	**20 21 24.7**	**+1.4**
	comp=Z,2.6nm,0.7s,baz=290,slow=6.6,SNR=18						
NVAR				pP	**PcP**	**20 21 51.8**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=280,slow=5.5,SNR=4.9						
NOA	**NORSAR Array B**	**68.95**	**339**	P	**P**	**20 21 35.1**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=45,slow=6.8,SNR=3.0						
HFS	**Hagfors**	**69.05**	**337**	P	**P**	**20 21 34.8**	**-1.9**
	comp=Z,2.4nm,1.0s,baz=59,slow=5.6,SNR=5.4						
HFS	**Hagfors**	**69.05**	**337**	P	**P**	**20 21 34.8**	**-1.9**
HFS				pmax	pmax		
	comp=Z,2.0nm,1.0s						
PDAR	**Pinedale Array**	**69.07**	**50**	P	**P**	**20 21 38.4**	**+1.0**
	comp=Z,3.1nm,0.7s,baz=343,slow=1.7,SNR=32						
PDAR				pP	**pP**	**20 22 06.0**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=355,slow=3.1,SNR=3.0						
ULM	**Lac du Bonnet**	**70.59**	**38**	P	**P**	**20 21 45.5**	**-0.8**
	comp=Z,2.4nm,0.5s,baz=316,slow=7.2,SNR=4.9						
ULM	**Lac du Bonnet**	**70.59**	**38**	*eP*	**P**	**20 21 46.0**	**-0.3**
ULM				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ULM	**Lac du Bonnet**	**70.59**	**38**	*eP*	**P**	**20 21 46.0**	**-0.3**
AKASG	**Malin Array Be**	**71.12**	**324**	P	**P**	**20 21 48.8**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=37,slow=6.1,SNR=4.4						
AKASG	**Malin Array Be**	**71.12**	**324**	*ce*P	P	20 21 53.7	+4.2
BRTR	**Keskin Array B**	**77.23**	**314**	P	**P**	**20 22 26.2**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=58,slow=4.6,SNR=3.1						
GERES	**GERESS Array B**	**78.60**	**331**	P	**P**	**20 22 32.2**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=35,slow=5.6,SNR=4.7						
GERES	**GERESS Array B**	**78.60**	**331**	*eP*	**P**	**20 22 31.7**	**-1.0**
GERES	**GERESS Array B**	**78.60**	**331**	*eP*	**P**	**20 22 31.7**	**-1.0**
TXAR	**Lajitas Array**	**81.86**	**57**	P	**P**	**20 22 51.8**	**+1.3**
	comp=Z,3.2nm,0.6s,baz=300,slow=4.2,SNR=52						
TXAR				pP	**pP**	**20 23 19.9**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=300,slow=4.2,SNR=5.5						
TXAR	**Lajitas Array**	**81.86**	**57**	P	**P**	**20 22 51.8**	**+1.3**
TXAR				*PP	**pP**	**20 23 20.0**	**+0.5**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**114.75**	**323**	PKP	PKPdf	20 29 10.4	-0.7
	comp=Z,0.1nm,0.3s,baz=11,slow=2.4,SNR=4.5						

*BJI **21** 20:12:13.9, 34.64N×29.97

MAMC **Mammari** 2.66 80 ⇑P Pn 20 12 59.5 +0.4
baz=264
MAMC **Mammari** 2.66 80 ⇑P Pn 20 12 59.5 +0.4
CSS **Prodhromos** 2.73 84 P Pn 20 13 00.3 +0.2
baz=268
CSS S Sn 20 13 32.7 +0.4
CSS **Prodhromos** 2.73 84 *e*P Pn 20 13 00.1 0.0
CSS **Prodhromos** 2.73 84 *e*Pn Pn 20 12 59.7 -0.4
CSS **Prodhromos** 2.73 84 P Pn 20 13 00.3 +0.2
CSS S Sn 20 13 32.7 +0.4
CSS **Prodhromos** 2.73 84 *e*Pn Pn 20 12 59.7 -0.4
CSS **Prodhromos** 2.73 84 P Pn 20 13 00.2 +0.2
CSS S Sn 20 13 33.4 +1.1
BCK **Bucak** 2.76 9 *e*PN Pn 20 13 00.9 +0.4
BCK **Bucak** 2.76 9 *e*Pn Pn 20 13 00.9 +0.4
YER **Yerkesik** 2.78 330 *e*PN Pn 20 13 00.8 -0.1
YER **Yerkesik** 2.78 330 *e*Pn Pn 20 13 00.8 -0.1
NIS1 **Nisyros Isl.** 2.97 310 *e*PN Pn 20 13 03.5 0.0
NIS1 **Nisyros Isl.** 2.97 310 *e*P Pn 20 13 02.8 -0.7
NIS1 **Nisyros Isl.** 2.97 310 P Pn 20 13 03.1 -0.3
NIS1 **Nisyros Isl.** 2.97 310 *e*Pn Pn 20 13 03.5 0.0
NIS1 **Nisyros Isl.** 2.97 310 P Pn 20 13 03.1 -0.3
HDMB **Hadim** 2.99 41 *e*PN Pn 20 13 05.4 +1.5
HDMB **Hadim** 2.99 41 *e*Pn Pn 20 13 05.4 +1.5
ERMK **Ermenek** 3.02 50 *i* P Pn 20 13 05.6 +1.3
ERMK *i* S Sn 20 13 42.2 +2.3
ERMK **Ermenek** 3.02 50 *i* P Pn 20 13 05.6 +1.3
ISP **Isparta** 3.11 7 *e*PN Pn 20 13 06.0 +0.6
ISP **Isparta** 3.11 7 *e*P Pn 20 13 07.2 +1.8
ISP **Isparta** 3.11 7 ⇑*i*P Pn 20 13 07.6 +2.2
ISP **Isparta** 3.11 7 *e*Pn Pn 20 13 06.0 +0.6
ISP **Isparta** 3.11 7 *e*P Pn 20 13 07.2 +1.8
ISP **Isparta** 3.11 7 P Pn 20 13 07.2 +1.8
DENT **Denizli** 3.12 345 *e*PN Pn 20 13 05.8 +0.3
DENT **Denizli** 3.12 345 *e*Pn Pn 20 13 05.8 +0.3
BDRM **Kayabasi** 3.13 319 *i* P Pn 20 13 05.5 -0.1
BDRM *i* S Sn 20 13 38.7 -3.5
BDRM **Kayabasi** 3.13 319 *i* P Pn 20 13 05.5 -0.1
BODT **Bodrum** 3.20 317 *e*PN Pn 20 13 06.5 0.0
BODT **Bodrum** 3.20 317 *e*Pn Pn 20 13 06.6 0.0
BAGO **Egridir - ISPA** 3.31 11 *i* P Pn 20 13 09.6 +1.4
BAGO *i* S Sn 20 13 48.5 +1.8
KHL **Karahalli** 3.60 354 *e*PN Pn 20 13 12.2 0.0
KHL **Karahalli** 3.60 354 *e*Pn Pn 20 13 12.2 0.0
AYDB **Zeytinkoy-Aydi** 3.64 332 *e*PN Pn 20 13 12.3 -0.4
AYDB **Zeytinkoy-Aydi** 3.64 332 *e*Pn Pn 20 13 12.3 -0.4
NPS **Neapolis** 3.66 280 *e*P Pn 20 13 13.5 +0.6
NPS **Neapolis** 3.66 280 P Pn 20 13 13.4 +0.6
NPS S Sn 20 13 57.3 +2.0
NPS **Neapolis** 3.66 280 P Pn 20 13 13.4 +0.6
NPS S Sn 20 13 57.3 +2.0
KONT **Konya--Tatoy** 3.72 30 *e*PN Pn 20 13 15.2 +1.5
KONT **Konya--Tatoy** 3.72 30 *e*Pn Pn 20 13 15.2 +1.5
LAST **Lasithi** 3.76 278 *e*P Pn 20 13 14.3 0.0
KULA **Kula-Manisa** 3.93 344 *e*PN Pn 20 13 16.8 +0.1
KULA **Kula-Manisa** 3.93 344 P Pn 20 13 16.1 -0.5
KULA **Kula-Manisa** 3.93 344 *e*Pn Pn 20 13 16.8 +0.1
KULA S Sn 20 14 03.2 +1.2
KULA **Kula-Manisa** 3.93 344 P Pn 20 13 16.1 -0.5
KULA S Sn 20 14 03.2 +1.2
SMG **Samos** 3.93 320 *e*P Pn 20 13 16.7 +0.2
SMG **Samos** 3.93 320 P Pn 20 13 16.8 +0.2
SMG S Sn 20 14 03.4 +1.5
SMG **Samos** 3.93 320 P Pn 20 13 16.8 +0.2
SMG S Sn 20 14 03.4 +1.5
THR1 **Thera Island** 4.06 295 P Pn 20 13 18.1 -0.4
THR1 **Thera Island** 4.06 295 P Pn 20 13 18.1 -0.4
SANT **Santorini** 4.07 295 *e*P Pn 20 13 17.8 -0.7
IACM **Heraklion** 4.11 279 *e*P Pn 20 13 19.7 +0.7
THR6 **Thira Island,** 4.11 295 P Pn 20 13 18.6 -0.4
THR6 **Thira Island,** 4.11 295 P Pn 20 13 18.6 -0.4
MATC **Matruh** 4.11 216 P Pn 20 13 18.4 -0.6
baz=215
THR3 **Thira Island,** 4.12 295 P Pn 20 13 18.4 -0.8
THR3 **Thira Island,** 4.12 295 P Pn 20 13 18.4 -0.8
IDI **Anoyia** 4.25 279 Pn Pn 20 13 21.3 +0.2
68nm,0.3s,baz=82,slow=5.9,SNR=434
IDI Sn Sn 20 14 07.5 -2.4
89nm,0.3s,baz=266,slow=17,SNR=10
IDI **Anoyia** 4.25 279 *e*P Pn 20 13 21.2 +0.2
IDI **Anoyia** 4.25 279 *e*Pn Pn 20 13 20.5 -0.5
IDI Sn Sn 20 14 07.5 -2.4
IDI **Anoyia** 4.25 279 *e*Pn Pn 20 13 20.5 -0.5
IDI Sn Sn 20 14 07.5 -2.4
IZM **Izmir** 4.28 330 *e*PN Pn 20 13 20.9 -0.5
IZM **Izmir** 4.28 330 *e*Pn Pn 20 13 20.9 -0.5
SIVA **Sivas** 4.30 275 *e*P Pn 20 13 22.1 +0.5
APE **Apeiranthos** 4.33 304 *c i*P Pn 20 13 21.4 -0.6
APE **Apeiranthos** 4.33 304 ⇑*i*P Pn 20 13 21.6 -0.5
APE **Apeiranthos** 4.33 304 S Sn 20 14 08.3 -3.5
APE **Apeiranthos** 4.33 304 *e*P Pn 20 13 21.5 -0.6
APE **Apeiranthos** 4.33 304 P Pn 20 13 21.8 -0.3
APE S Sn 20 14 13.1 +1.3
APE **Apeiranthos** 4.33 304 P Pn 20 13 21.8 -0.3
APE S Sn 20 14 13.1 +1.3
BLCB **Balcova** 4.36 327 *e*PN Pn 20 13 22.4 -0.1
BLCB **Balcova** 4.36 327 *e*Pn Pn 20 13 22.4 -0.1
KIZT **Kizilcal** 4.40 19 *e*PN Pn 20 13 24.1 +1.0
KIZT **Kizilcal** 4.40 19 *e*Pn Pn 20 13 24.1 +1.0
CHBY **Cihanbeyli** 4.48 30 *e*PN Pn 20 13 25.6 +1.4
CHBY **Cihanbeyli** 4.48 30 *e*Pn Pn 20 13 25.6 +1.4
AKS **Akhisar** 4.50 337 *e*PN Pn 20 13 23.6 -0.8
AKS **Akhisar** 4.50 337 *e*Pn Pn 20 13 23.6 -0.8
DQRL **Deir Qamar** 4.71 101 *e*P Pn 20 13 26.9 -0.5
DQRL **Deir Qamar** 4.71 101 *e*P Pn 20 13 26.9 -0.5
TVSB **Tavsanli** 4.73 355 *e*PN Pn 20 13 27.4 -0.3
TVSB **Tavsanli** 4.73 355 *e*Pn Pn 20 13 27.4 -0.3
BHL **Bhannes** 4.73 98 *e*P Pn 20 13 27.1 -0.6
BHL **Bhannes** 4.73 98 *e*P Pn 20 13 27.1 -0.6
MMAI **Mount Meron Ar** 4.79 109 Pn Pn 20 13 28.1 -0.4
98nm,0.3s,baz=301,slow=13,SNR=122
MMAI Sn Sn 20 14 22.8 -0.5
130nm,0.3s,baz=305,slow=28,SNR=19
MMAI LR LR 20 15 57.2
comp=Z,436nm,18.6s,baz=290,slow=46
ESKT **Eskisehir** 4.82 8 *e*PN Pn 20 13 30.2 +1.2
ESKT **Eskisehir** 4.82 8 *e*Pn Pn 20 13 30.2 +1.2
VAM **Vamos** 4.82 280 *e*P Pn 20 13 28.5 -0.4
CHOS **Chios island** 4.85 320 P Pn 20 13 29.5 +0.3
CHOS S Sn 20 14 25.3 +0.7
CHOS **Chios island** 4.85 320 P Pn 20 13 29.5 +0.3
CHOS S Sn 20 14 25.3 +0.7
SVRH **Sivrihisar-ESK** 4.85 14 *e*PN Pn 20 13 30.6 +1.2
SVRH **Sivrihisar-ESK** 4.85 14 *e*Pn Pn 20 13 30.6 +1.2
RSH **4.88 139** P Pn 20 13 30.1 +0.4
baz=139
RSH **4.88 139** P Pn 20 13 30.1 +0.4
GVD **Gavdhos** 4.89 273 *e*P Pn 20 13 29.2 -0.5
GVD **Gavdhos** 4.89 273 *e*Pn Pn 20 13 28.6 -1.1
GVD **Gavdhos** 4.89 273 P Pn 20 13 29.9 +0.2
GVD S Sn 20 14 28.2 +2.7
GVD **Gavdhos** 4.89 273 *e*Pn Pn 20 13 28.6 -1.1
GVD **Gavdhos** 4.89 273 P Pn 20 13 29.9 +0.2
GVD S Sn 20 14 28.2 +2.7
HWQ **Hawqa** 4.91 94 *e*P Pn 20 13 29.8 -0.4
HWQ **Hawqa** 4.91 94 *e*P Pn 20 13 29.8 -0.4
RCY **Rachaya** 4.98 103 *e*P Pn 20 13 31.1 0.0
KOT **Kottamia** 5.03 162 P Pn 20 13 32.0 +0.2
baz=161
KOT **Kottamia** 5.03 162 P Pn 20 13 32.0 +0.2
HHAG **Hagoal** 5.08 159 P Pn 20 13 33.1 +0.7
baz=158
HHAG **Hagoal** 5.08 159 P Pn 20 13 33.1 +0.7
BRBR **Barbar** 5.09 103 *e*P Pn 20 13 33.3 +0.6
BRBR *e*S Sn 20 14 29.1 -1.8
BRBR AML AML 20 14 31.6
comp=E,901nm,0.6s
BRBR AML AML 20 14 32.2
comp=N,266nm,0.5s
SLNF **Slenfeh** 5.15 79 *e*P Pn 20 13 34.3 +0.8
SLUM 5.17 233 P Pn 20 13 32.8 -0.8
baz=232
SLUM AMP 20 14 00.0
comp=E,420µm,0.4s,logA/T=6.0,baz=232
SLUM S Sn 20 14 27.8 -4.7
baz=232
SLUM 5.17 233 P Pn 20 13 32.8 -0.8
QASN **Qassioun** 5.32 101 *e*P Pn 20 13 37.4 +1.6
QASN *e*S Sn 20 14 35.1 -1.3
QASN AML AML 20 14 41.1
comp=E,839nm,0.3s
QASN AML AML 20 14 44.2
comp=N,806nm,0.5s
TCHB **Talchebab** 5.37 111 *e*P Pn 20 13 37.0 +0.7
TCHB *e*S Sn 20 14 35.4 -2.0
TCHB AML AML 20 14 39.5
comp=N,835nm,0.6s
TCHB AML AML 20 14 46.5
comp=E,557nm,0.5s
PRK **Paraskevi** 5.41 327 *e*P Pn 20 13 36.5 -0.4
PRK **Paraskevi** 5.41 327 P Pn 20 13 36.6 -0.4
PRK **Paraskevi** 5.41 327 P Pn 20 13 36.6 -0.4
TOTH **TOTAH** 5.49 103 *e*P Pn 20 13 39.3 +1.2
TOTH *e*S Sn 20 14 38.3 -2.1
TOTH AML AML 20 14 43.5
comp=E,341nm,0.6s
TOTH AML AML 20 14 49.6
comp=N,323nm,0.7s
SIGR **SIGRI** 5.58 324 *e*P Pn 20 13 39.0 -0.1
SIGR **SIGRI** 5.58 324 P Pn 20 13 39.1 -0.1
SIGR **SIGRI** 5.58 324 P Pn 20 13 39.1 -0.1
ANTO **Ankara** 5.58 22 *e*P Pn 20 13 39.9 +0.6
ANTO pmax pmax
comp=Z,32nm,1.1s
ANTO **Ankara** 5.58 22 *e*P Pn 20 13 39.9 +0.6
comp=Z,32nm,1.1s
ANTO **Ankara** 5.58 22 *e*Pn Pn 20 13 39.9 +0.6
comp=Z,32nm,1.1s
ANKY **Antikythira Is** 5.61 284 *e*P Pn 20 13 38.3 -1.4
ANKY **Antikythira Is** 5.61 284 P Pn 20 13 39.0 -0.7
ANKY **Antikythira Is** 5.61 284 P Pn 20 13 39.0 -0.7
BR131 **Keskin Array S** 5.76 29 *e*Pn Pn 20 13 41.7 0.0
comp=Z,13nm,0.5s
BR131 **Keskin Array S** 5.76 29 *e*Pn Pn 20 13 41.7 -0.1
comp=Z,13nm,0.5s
BRTR **Keskin Array B** 5.76 29 Pn Pn 20 13 41.8 0.0
comp=Z,4.2nm,0.3s,baz=197,slow=16,SNR=136
BRTR Sn Sn 20 14 45.0 -2.1
comp=Z,5.1nm,0.3s,baz=203,slow=24,SNR=11
HNKL **Nakhl** 5.84 144 AMP 20 14 00.0
comp=N,200µm,0.4s,logA/T=5.7,baz=143
KYTH **Kithira** 5.91 287 *e*P Pn 20 13 42.3 -1.4
RABH **Abou Rabah** 5.93 91 *e*P Pn 20 13 45.7 +1.6
RABH *e*S Sn 20 14 49.8 -1.5
RABH AML AML 20 14 52.8
comp=E,244nm,0.5s
RABH AML AML 20 14 55.4
comp=N,200nm,0.5s
SALA **Sala** 5.94 108 *e*P Pn 20 13 45.5 +1.1
SALA *e*S Sn 20 14 50.1 -1.7
SALA AML AML 20 14 54.2
comp=E,39nm,0.5s
SALA AML AML 20 14 58.2
comp=N,195nm,0.6s
ROOS **tl_alroos** 6.03 93 *e*P Pn 20 13 47.4 +2.0
ROOS *e*S Sn 20 14 51.3 -2.5
ROOS AML AML 20 14 57.0
comp=E,407nm,0.6s
ROOS AML AML 20 15 01.8
comp=N,266nm,0.7s
ATH **Athens Observa** 6.03 304 *e*P Pn 20 13 46.0 +0.6
VLI **Veliai** 6.09 291 *e*P Pn 20 13 45.2 -1.1
DID **Didima** 6.15 299 *e*P Pn 20 13 47.2 +0.1
DIDY **Didyma** 6.16 298 *e*P Pn 20 13 47.3 0.0
KRND **KRANIDI** 6.16 297 *e*P Pn 20 13 47.7 +0.5
ASF **Jabal al Asfar** 6.29 112 Pn Pn 20 13 50.1 +1.1
comp=N,7.9nm,0.3s,baz=232,slow=4.3,SNR=34
ASF Sn Sn 20 15 00.5 +0.4
comp=N,5.0nm,0.3s,baz=98,slow=19,SNR=3.1
ZALF **Zalf** 6.35 104 *e*P Pn 20 13 51.4 +1.6
ZALF *e*S Sn 20 14 58.3 -3.2
ZALF AML AML 20 15 08.0
comp=E,101nm,0.6s
ZALF AML AML 20 15 08.4
comp=N,88nm,0.5s
LIA **Limnos Island** 6.44 325 *e*P Pn 20 13 51.0 0.0
MRKA **Markates** 6.51 309 *e*P Pn 20 13 52.5 +0.4
LOUT **Loutraki** 6.55 302 *e*P Pn 20 13 53.3 +0.7
EIL **Elat** 6.55 139 Pn Pn 20 13 52.2 -0.4
comp=N,12nm,0.3s,baz=317,slow=4.6,SNR=107
EIL Sn Sn 20 15 01.1 -5.4
comp=N,23nm,0.3s,baz=285,slow=19,SNR=9.7
LTK **Loutraki** 6.57 302 *e*P Pn 20 13 53.6 +0.7
SLMH **Al Salmeh** 6.62 75 *e*P Pn 20 13 54.2 +0.7
SLMH *e*S Sn 20 15 03.7 -4.4
SLMH AML AML 20 15 31.4
comp=N,159nm,0.5s
SLMH AML AML 20 15 35.3
comp=E,164nm,0.5s
AOS **Alonnisos** 6.62 314 *e*P Pn 20 13 55.0 +1.5
VLX **Vlachokerasia** 6.73 295 *e*P Pn 20 13 54.6 -0.5
SMTH **Samothraki Isl** 6.75 329 *e*P Pn 20 13 55.2 -0.1
LKR **Lokris** 6.86 307 *e*P Pn 20 13 58.0 +1.1
ALN **Alexandroupoli** 6.91 334 *e*P Pn 20 13 57.2 -0.3
GUR **Goura** 6.97 299 *e*P Pn 20 13 58.4 -0.1
ITM **Ithomi** 7.01 293 *e*P Pn 20 13 58.5 -0.3
DESF **Desfina** 7.06 304 *e*P Pn 20 14 00.3 +0.7
DSF **Desfina** 7.06 303 *e*P Pn 20 14 00.2 +0.6
AXAR **Agios Charalam** 7.15 306 *e*P Pn 20 14 02.1 +1.3
XOR **Xorichti** 7.16 312 *e*P Pn 20 14 01.7 +0.8
KLV **Kalavryta, Ach** 7.16 300 *e*P Pn 20 14 00.6 -0.4
RDO **Rodhopi** 7.32 332 *e*P Pn 20 14 02.2 -0.9
KALE **Kalithea** 7.32 302 *e*P Pn 20 14 03.7 +0.5
TRIZ **Trizonia** 7.35 302 *e*P Pn 20 14 04.4 +0.8
LAKA **Lakka** 7.36 301 *e*P Pn 20 14 03.8 0.0
LAKA **Lakka** 7.36 301 P Pn 20 14 03.9 +0.1
LAKA **Lakka** 7.36 301 P Pn 20 14 03.9 +0.1
DRO **Drossia** 7.44 298 *e*P Pn 20 14 05.3 +0.5
EFP **Efpalio** 7.50 302 *e*P Pn 20 14 05.7 +0.1
AGG **Agios Georgios** 7.50 307 *e*P Pn 20 14 07.4 +1.7
MAKR **Makrakomi, Fth** 7.63 306 *e*P Pn 20 14 10.2 +2.8
MALT **Malatya** 7.65 60 ⇓*i*P Pn 20 14 08.1 +0.3
RLS **Riolos of Patr** 7.66 298 *e*P Pn 20 14 08.8 +1.1
EVR **Evrytania** 7.80 305 *e*P Pn 20 14 11.7 +1.9
PDO **Prodromos** 8.08 301 *e*P Pn 20 14 13.7 +0.1
DSL **Palaion Diasel** 8.39 304 *e*P Pn 20 14 18.7 +0.9
NEST **Nestorio** 9.10 311 *e*P Pn 20 14 30.1 +2.4
MSAB **Monastry St. A** 9.50 350 ⇑*i*P Pn 20 14 34.1 +1.1
TIRR **Tirgusor** 9.79 353 ⇓*i*P Pn 20 14 37.3 +0.3
CFR **Carcaliu** 10.53 353 ⇓*i*P Pn 20 14 48.3 +1.2
SIM **Simferopol'** 10.67 16 P Pn 20 14 51.8 +2.7
SIM S Sn 20 16 55.0 +7.3
MLR **Muntele Rosu** 11.19 345 Pn Pn 20 14 58.0 +1.8
comp=E,0.2nm,0.3s,baz=114,slow=19,SNR=14
PLOR **Plostina** 11.40 348 ⇓*i*P Pn 20 15 01.4 +2.4
VRI **Vrincioaia** 11.40 348 ⇑*i*P Pn 20 15 01.5 +2.5
TIP **Timpagrande** 11.50 297 *e*Pn Pn 20 14 56.3 -4.2
comp=E,24nm,0.3s
TIP **Timpagrande** 11.50 297 *e*Pn Pn 20 14 56.3 -4.2
comp=E,24nm,0.3s
SOC **Sochi** 11.60 37 *e*P Pn 20 14 58.7 -3.0
SOC *e* 20 17 12.5
SOC MLR MLR
comp=Z,474nm,18.0s
DOPR **Dopca** 11.76 344 ⇑*i*P Pn 20 15 06.0 +2.0
CUC **Castrocucco** 12.46 299 *e*Pn Pn 20 15 09.6 -4.0
comp=Z,42nm,0.6s
CUC **Castrocucco** 12.46 299 *e*Pn Pn 20 15 09.6 -4.0
comp=Z,42nm,0.6s
STON **Ston** 12.58 314 *e*Pn Pn 20 15 13.2 -1.9
STON Sn Sn 20 17 25.4 -8.9
STON **Ston** 12.58 314 *e*Pn Pn 20 15 13.1 -1.9
GNI **Garni** 12.88 61 LR LR 20 20 47.1
comp=Z,91nm,20.0s,baz=250,slow=40
NEY **Neytrino** 13.02 45 *e*P P 20 15 28.4 -3.1
NEY pmax pmax
comp=Z,1.0nm,1.2s
BUR08 **Bucovina Ar. S** 13.40 346 *e*Pn Pn 20 15 28.2 +1.8
BUR08 **Bucovina Ar. S** 13.40 346 *e*Pn Pn 20 15 28.2 +1.8
KBZ **Khabaz** 13.41 44 Pn P 20 15 37.0 +1.4
comp=Z,1.2nm,0.3s,baz=200,slow=3.7,SNR=12
KIV **Kislovodsk** 13.43 43 ⇑*e*P P 20 15 36.4 +0.4
KIV pmax pmax
comp=Z,55nm,0.7s
KIV MLR MLR
comp=Z,102nm,17.0s
KIV **Kislovodsk** 13.43 43 *e*P P 20 15 37.0 +1.0
comp=Z,64nm,0.8s
KIV **Kislovodsk** 13.43 43 *e*P P 20 15 37.0 +1.0
comp=Z,64nm,0.8s
NCK **Nalchik** 13.68 46 *e*P Pn 20 15 34.3 +4.1
CLTB **Caltabellotta** 13.88 287 *e*P Pn 20 15 30.9 -2.1
comp=Z,9.8nm,0.4s
CLTB **Caltabellotta** 13.88 287 *e*P Pn 20 15 30.9 -2.1
comp=Z,9.8nm,0.4s
GOF **Gofitskoye** 14.34 40 *e*P P 20 15 46.1 +0.1
GOF pmax pmax
comp=Z,10.0nm,0.8s
GOF **Gofitskoye** 14.34 40 *e*P P 20 15 46.1 +0.1
comp=Z,10.0nm,0.8s
UDBI **Udbina** 14.69 316 *e*Pn Pn 20 15 43.0 -1.0
UDBI **Udbina** 14.69 316 *e*Pn Pn 20 15 43.0 -1.0
LVV **L'vov** 15.71 346 *e*P P 20 16 00.9 -0.2
LVV **L'vov** 15.71 346 *e*P P 20 16 00.9 -0.2
AK02 **Malin Array Si** 15.93 358 *e*P P 20 16 03.3 -0.2
AK02 **Malin Array Si** 15.93 358 *e*P P 20 16 03.3 -0.2
AK01 **Malin Array Si** 15.96 358 *e*P P 20 16 04.0 +0.1
AK01 **Malin Array Si** 15.96 358 *e*P P 20 16 04.0 +0.1
KIEV **Kiev** 15.96 358 *e*P P 20 16 03.7 -0.3
KIEV pmax pmax
comp=Z,45nm,1.1s
KIEV **Kiev** 15.96 358 *e*P P 20 16 03.7 -0.3
comp=Z,45nm,1.1s
KIEV **Kiev** 15.96 358 *e*P P 20 16 03.7 -0.3
comp=Z,45nm,1.1s
AKASG **Malin Array Be** 15.97 358 Pn Pn 20 15 58.2 -2.5
comp=Z,2.5nm,0.3s,baz=182,slow=10,SNR=78
AKBB **Malin Array Si** 15.97 358 *e*P P 20 16 03.8 -0.2
AKBB **Malin Array Si** 15.97 358 *e*P P 20 16 03.8 -0.2
AKBB **Malin Array Si** 15.97 358 *e*P P 20 16 03.8 -0.2
PERS **Pernice** 16.37 321 *i* P Pn 20 16 05.2 -0.8
SOKA **Soboth** 16.45 321 Pn Pn 20 16 05.9 -1.0
SNR=13
SOKA **Soboth** 16.45 321 ⇑*i*Pn Pn 20 16 05.9 -1.0
SNR=13
KEST **Kesra** 16.93 279 Pn Pn 20 16 13.3 +0.2
comp=Z,0.3nm,0.3s,baz=15,slow=2.2,SNR=12
OKC **Ostrava-Krasne** 17.43 334 AMS AMS 20 25 30.0
comp=Z,200nm,13.1s
RAYN **Ar Rayn** 17.52 126 *e*P P 20 16 23.3 +1.9
comp=Z,3.9nm,0.8s
RAYN **Ar Rayn** 17.52 126 *e*P P 20 16 23.3 +1.9
comp=Z,3.9nm,0.8s
KBA **Koelnbreinsper** 17.59 320 ⇓*i*Pn Pn 20 16 17.7 -3.6
MORC **Moravsky Berou** 17.61 332 *e*Pn Pn 20 16 20.2 -1.2
VRAC **Vranov** 17.61 330 P Pn 20 16 21.2 -0.2
comp=Z,0.2nm,0.3s,baz=149,slow=6.5,SNR=5.1
VSR **Storozhevoye** 17.75 19 *e*P Pn 20 16 22.8 -0.3
VSR *e*S Sn 20 19 42.5 +2.4
VSR pmax pmax
comp=Z,30nm,0.6s
VSR pmax pmax
comp=N,8.0nm,0.5s
VSR pmax pmax
comp=E,3.0nm,0.6s
VSR smax smax
comp=N,80nm,2.3s
VSR smax smax
comp=E,30nm,2.3s
VSR smax smax
comp=Z,40nm,2.3s
VSR **Storozhevoye** 17.75 19 *e*P Pn 20 16 22.8 -0.3
comp=Z,8.0nm,0.5s
DPC **Dobruska-Polom** 18.54 331 *e*P P 20 16 31.6 -0.9
DPC **Dobruska-Polom** 18.54 331 *e*P P 20 16 31.6 -0.9
DPC **Dobruska-Polom** 18.54 331 *e*P P 20 16 31.6 -0.9
GEC2 **GERESS Array S** 18.57 324 *e*P P 20 16 32.9 0.0
comp=Z,34nm,1.6s
GEC2 **GERESS Array S** 18.57 324 *e*P P 20 16 32.9 0.0
comp=Z,34nm,1.6s
GERES **GERESS Array B** 18.57 324 P P 20 16 31.9 -1.0
comp=Z,0.4nm,0.3s,baz=135,slow=13,SNR=44
GERES PcP PcP 20 21 01.5 0.0
comp=Z,0.1nm,0.3s,baz=225,slow=0.8,SNR=3.9
UPC **Upice** 18.78 331 AMS AMS 20 26 10.0
comp=Z,300nm,19.6s
LPSR **Galich'ya Gora** 18.96 17 *e*P P 20 16 36.3 -0.7
LPSR pmax pmax
comp=N,30nm,1.3s
LPSR pmax pmax
comp=Z,20nm,1.3s
LPSR pmax pmax
comp=E,10.0nm,0.8s
LPSR **Galich'ya Gora** 18.96 17 *e*P P 20 16 36.3 -0.7
MOTA **Moosalm** 18.98 317 Pn P 20 16 37.1 -0.4
SNR=6.3
MOTA **Moosalm** 18.98 317 ⇓*i*P P 20 16 37.1 -0.4
SNR=6.3
PRU **Pruhonice** 19.00 328 *e*P P 20 16 35.9 -1.6
PRU AMS AMS 20 26 10.0
comp=E,300nm,18.0s
PRU **Pruhonice** 19.00 328 *e*P P 20 16 35.9 -1.6
PRU MLR MLR
comp=Z,300nm,18.0s
PRU **Pruhonice** 19.00 328 *e*P P 20 16 35.9 -1.6
comp=Z,300nm,18.0s
FETA **Feichten** 19.01 316 Pn Pn 20 16 38.4 -0.2
SNR=9.9
FETA **Feichten** 19.01 316 ⇓*i*Pn Pn 20 16 38.4 -0.2
SNR=9.9
PRA **Prague** 19.11 328 AMS AMS 20 26 00.0
comp=Z,200nm,17.8s
WET **Wettzell** 19.17 324 *e*P P 20 16 38.4 -1.0
comp=Z,30nm,1.3s
WET **Wettzell** 19.17 324 *e*P P 20 16 38.4 -1.0
comp=Z,30nm,1.3s
FUR **Furstenfeldbru** 19.36 320 *e*P P 20 16 41.4 -0.1
comp=Z,24nm,1.2s
FUR **Furstenfeldbru** 19.36 320 *e*P P 20 16 41.4 -0.1
comp=Z,24nm,1.2s
DAVOX **Davos/Dischmat** 19.37 314 P Pn 20 16 44.2 +1.2
comp=Z,0.2nm,0.3s,baz=117,slow=8.4,SNR=3.1
DAVOX LR LR 20 25 53.6
comp=Z,111nm,19.5s,baz=86,slow=42
MICGM **Minsk** 19.82 356 ⇑*e*P P 20 16 44.0 -2.4
MICGM **Minsk** 19.82 356 PM 20 16 46.0
comp=Z,0.0nm,1.5s
MNK **Minsk** 19.82 356 ⇑*e*P P 20 16 44.0 -2.4
MNK pmax pmax
comp=Z,90nm,1.5s
MNK **Minsk** 19.82 356 *e*P P 20 16 44.0 -2.4
comp=Z,90nm,1.5s
BRG **Berggiesshubel** 19.91 329 *e*P P 20 16 46.4 -1.1
comp=Z,6.9nm,1.2s
comp=N,236nm,16.6s
comp=E,155nm,21.0s
comp=Z,389nm,14.7s
BRG **Berggiesshubel** 19.91 329 *e*P P 20 16 46.2 -1.3
comp=Z,7.0nm,1.2s
BRG **Berggiesshubel** 19.91 329 *e*P P 20 16 46.4 -1.1
BRG pmax pmax
comp=Z,7.0nm,1.2s
BRG MLR MLR
comp=N,236nm,16.6s
BRG MLR MLR
comp=E,155nm,21.0s
BRG MLR MLR
comp=Z,389nm,14.7s
BRG **Berggiesshubel** 19.91 329 *e*P P 20 16 46.4 -1.1
comp=Z,389nm,14.7s
ROTZ **Rotzenmuhle** 19.91 324 *e*P P 20 16 46.5 -1.0
comp=Z,14nm,1.2s
ROTZ **Rotzenmuhle** 19.91 324 *e*P P 20 16 46.5 -1.0
comp=Z,14nm,1.2s
TANN **Tannenbergstha** 20.24 326 *e*P P 20 16 49.5 -1.6
comp=Z,8.0nm,1.2s
TANN **Tannenbergstha** 20.24 326 *e*P P 20 16 49.5 -1.6
comp=Z,8.0nm,1.2s
NACGM **Naroch** 20.30 355 *e* P 20 16 49.0 -2.6
GRA1 **Grafenberg Arr** 20.34 323 *e*P P 20 16 53.0 +0.8
comp=Z,16nm,1.2s
GRF **Grafenberg Arr** 20.34 323 *e*P P 20 16 53.0 +0.8
comp=Z,16nm,1.2s
CLL **Collm** 20.64 329 *e*P P 20 16 54.3 -1.0
comp=Z,17nm,1.8s
CLL **Collm** 20.64 329 *e*P P 20 16 55.0 -0.3
CLL *e*S S 20 20 46.0 +1.4
CLL **Collm** 20.64 329 *e*P S 20 16 55.0 -0.3
CLL *e*S S 20 20 46.0 +1.4
CLL **Collm** 20.64 329 *e*P P 20 16 55.0 -0.3
CLL *i* 20 16 58.1
CLL *i* 20 17 01.0
CLL *e*(sP) sP 20 17 08.0 +2.6
CLL *e*S S 20 20 46.0 +1.4
MOX **Moxa** 20.79 325 *e*P Pn 20 16 59.1 -0.4
comp=Z,29nm,1.1s
MOX **Moxa** 20.79 325 *e*P Pn 20 16 59.1 -0.4
comp=Z,29nm,1.1s
OBN **Obninsk** 20.88 11 P P 20 16 58.9 +0.9
comp=Z,7.5nm,0.3s,baz=24,slow=23,SNR=5.6
OBN **Obninsk** 20.88 11 ⇑*e*P P 20 16 58.8 +0.9

OBN eS Sn 20 21 21.8 +26
OBN pmax pmax
comp=Z,13nm,1.0s
OBN MLR MLR
comp=Z,79nm,16.0s
OBN Obninsk 20.88 11 *e*P **P 20 16 58.8 +0.9**
comp=Z,13nm,1.0s
GEYT Alibeck 22.82 74 P **P 20 17 19.1 +0.1**
comp=Z,1.7nm,0.3s,baz=292,slow=9.2,SNR=6.1
VSU Vasula 23.84 356 *e*P **P 20 17 28.2 -0.5**
VSU pmax pmax
comp=Z,24nm,1.2s
VSU Vasula 23.84 356 *e*P **P 20 17 28.2 -0.5**
comp=Z,24nm,1.2s
TAM Tamanrasset 24.48 247 *e*P **P 20 17 36.9 +1.6**
TAM pmax pmax
comp=Z,8.0nm,1.4s
TAM Tamanrasset 24.48 247 *e*P **P 20 17 36.9 +1.6**
comp=Z,8.2nm,1.4s
TAM Tamanrasset 24.48 247 *e*P **P 20 17 36.9 +1.6**
comp=Z,8.2nm,1.4s
AKTK Aktyubinsk 25.70 44 P **P 20 17 44.3 -1.5**
AKTO Aktyubinsk 25.70 44 P **P 20 17 44.2 -1.6**
comp=Z,4.8nm,0.5s,baz=244,slow=6.8,SNR=20
AKTO LR LR 20 30 21.9
comp=Z,42nm,18.3s,baz=182,slow=42
ABKAR Akbulak array 26.34 47 *e*P **P 20 17 50.9 -0.7**
comp=Z,3.7nm,0.4s
ABKAR Akbulak array 26.34 47 *e*P **P 20 17 50.9 -0.7**
comp=Z,3.7nm,0.4s
FINES FINESS Array B 26.85 356 P **P 20 17 54.8 -1.3**
comp=Z,2.4nm,0.4s,baz=162,slow=12,SNR=20
FINES PcP **PcP 20 21 18.1 +0.1**
comp=Z,1.2nm,0.5s,baz=171,slow=3.7,SNR=5.9
FIA1 FINESS Array S 26.85 356 *e*P **P 20 17 55.2 -0.8**
FIA1 FINESS Array S 26.85 356 *e*P **P 20 17 55.2 -0.8**
ESDC Sonseca Array 27.41 290 P **P 20 18 01.3 -0.2**
comp=Z,1.1nm,0.4s,baz=85,slow=9.7,SNR=16
ESLA Sonseca Array 27.41 290 *e*P **P 20 18 01.9 +0.4**
comp=Z,0.8nm,0.8s
ESLA Sonseca Array 27.41 290 *e*P **P 20 18 01.9 +0.4**
comp=Z,0.8nm,0.8s
HFS Hagfors 27.55 342 P **P 20 18 02.3 -0.1**
comp=Z,5.4nm,0.5s,baz=140,slow=9.5,SNR=32
HFS LR LR 20 31 39.4
comp=Z,95nm,19.3s,baz=147,slow=42
PRGR Permogore 28.70 16 P P 20 18 08.9 -3.7
PRGR pmax pmax
comp=Z,20nm,1.2s
NAO01 NORSAR Array S 28.89 341 *e*P **P 20 18 13.8 -0.6**
NAO01 NORSAR Array S 28.89 341 *e*P **P 20 18 13.8 -0.6**
NB2 NORSAR Subarra 28.97 341 P **P 20 18 13.9 -1.2**
comp=Z,4.7nm,0.6s,baz=143,slow=9.3
NB2 NORSAR Subarra 28.97 341 P **P 20 18 13.9 -1.2**
comp=Z,4.7nm,0.6s,SNR=3.5
NOA NORSAR Array B 28.97 341 P **P 20 18 13.9 -1.2**
comp=Z,4.2nm,0.7s,baz=145,slow=8.7,SNR=15
ARU Arti 29.12 33 LR LR 20 32 08.7
comp=Z,56nm,20.1s,baz=241,slow=41
ARU Arti 29.12 33*d i*P **P 20 18 15.4 -1.1**
ARU S **S 20 23 11.0 +4.2**
ARU pmax pmax
comp=Z,7.0nm,1.2s
ARU Arti 29.12 33 *i* P **P 20 18 15.4 -1.1**
comp=Z,7.0nm,1.2s
ARU Arti 29.12 33 *e*P **P 20 18 14.8 -1.7**
comp=Z,3.2nm,0.4s
SVE Sverdlovsk 30.29 34 *e*P **P 20 18 26.2 -0.6**
SVE Sverdlovsk 30.29 34 *e*P **P 20 18 26.2 -0.6**
KKAR Karatay Array 32.33 63 *e*P **P 20 18 45.2 +0.2**
KKAR pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 32.33 63 *e*P **P 20 18 45.2 +0.2**
comp=Z,2.0nm,0.5s
KKAR Karatay Array 32.33 63 *e*P **P 20 18 45.2 +0.2**
comp=Z,2.0nm,0.5s
TOA0 Torodi Ar. Sit 33.45 237 *e*P **P 20 18 55.3 +0.4**
TOA0 Torodi Ar. Sit 33.45 237 *e*P **P 20 18 55.3 +0.4**
TORD Torodi Ar. Bea 33.45 237 P **P 20 18 55.5 +0.6**
comp=Z,0.7nm,0.5s,baz=20,slow=9.4,SNR=9.9
TORD LR LR 20 35 18.3
comp=Z,98nm,18.7s,baz=55,slow=41
ARCES ARCESS Array B 34.95 357 P **P 20 19 06.0 -1.3**
comp=Z,3.6nm,0.5s,baz=167,slow=9.4,SNR=49
ARCES PcP **PcP 20 21 39.0 -0.3**
comp=Z,0.5nm,0.4s,baz=160,slow=3.7,SNR=5.7
ARCES ARCESS Array B 34.95 357 PcP **PcP 20 21 39.0 -0.3**
ARE0 ARCESS Array S 34.95 357 *e*P **P 20 19 06.1 -1.3**
ARE0 ARCESS Array S 34.95 357 *e*P **P 20 19 06.1 -1.3**
TKM2 Tokmak 2 36.06 63 *e*P **P 20 19 18.8 +1.2**
TKM2 pmax pmax
comp=Z,3.0nm,0.7s
TKM2 Tokmak 2 36.06 63 *e*P **P 20 19 18.8 +1.2**
comp=Z,3.0nm,0.7s
TKM2 Tokmak 2 36.06 63 *e*P **P 20 19 18.8 +1.2**
comp=Z,3.0nm,0.7s
KURK Kurchatov 38.36 50 *e*P **P 20 19 36.3 -0.4**
KURK pmax pmax
comp=Z,8.0nm,0.5s
KURK Kurchatov 38.36 50 *e*P **P 20 19 36.3 -0.4**
comp=Z,7.8nm,0.5s
KURK Kurchatov 38.36 50 *e*P **P 20 19 36.3 -0.4**
comp=Z,7.8nm,0.5s
MK31 Makanchi Array 40.67 56 *e*P **P 20 19 56.1 0.0**
MK31 Makanchi Array 40.67 56 *e*P **P 20 19 56.1 0.0**
MK31 Makanchi Array 40.67 56 *e*P **P 20 19 56.1 0.0**
MKAR Makanchi Array 40.67 56 P **P 20 19 56.3 +0.3**
comp=Z,11nm,0.6s,baz=265,slow=8.5,SNR=71
MKAR PcP **PcP 20 21 57.6 +0.1**
comp=Z,1.6nm,0.7s,baz=260,slow=3.2,SNR=4.1
MKAR Makanchi Array 40.67 56 *i* P **P 20 19 56.2 +0.1**
MKAR pmax pmax
comp=Z,11nm,0.6s
MKAR Makanchi Array 40.67 56 *i* P **P 20 19 56.2 +0.1**
comp=Z,11nm,0.6s
NVS Novosibirsk 41.59 44 *e*P **P 20 20 02.6 -0.8**
NVS pmax pmax
comp=Z,8.0nm,0.8s
NVS pmax pmax
comp=N,2.0nm,0.6s
NVS pmax pmax
comp=E,3.0nm,0.8s
NVS Novosibirsk 41.59 44 *e*P **P 20 20 02.6 -0.8**
comp=E,2.0nm,0.6s
ZAA0 Zalesovo Array 42.43 46 *e*P **P 20 20 08.7 -1.6**
ZAA0 Zalesovo Array 42.43 46 *e*P **P 20 20 08.7 -1.6**
ZALV Zalesovo Beam 42.43 46 P **P 20 20 08.9 -1.4**
comp=E,8.0nm,0.4s,baz=265,slow=9.2,SNR=43
ZALV PcP **PcP 20 22 02.8 -0.2**
comp=E,0.9nm,0.5s,baz=263,slow=4.9,SNR=3.1
DBIC Dimbokro 42.56 237 P **P 20 20 11.8 0.0**
comp=E,2.1nm,0.5s,baz=23,slow=9.0,SNR=5.8
DANN Dangsing 45.79 83 *e*P **P 20 20 39.6 +1.7**
comp=E,12nm,0.6s
KOLN Koldanda 45.88 83 *e*P **P 20 20 39.6 +1.1**
comp=E,22nm,0.8s
GKN Gorkha 46.64 83 *e*P **P 20 20 45.2 +0.8**
comp=E,33nm,0.6s
DMN Daman 47.17 83 *e*P **P 20 20 49.7 +1.0**
comp=E,29nm,0.8s
KKN Kakani 47.24 83 *e*P **P 20 20 49.8 +0.6**
comp=E,27nm,0.6s
PKIN Phulchoki 47.42 83 *e*P **P 20 20 51.0 +0.3**
comp=E,26nm,0.9s
PKI Pulchoki 47.43 83 *e*P **P 20 20 51.1 +0.2**
comp=E,22nm,0.7s
GUN Gumba 47.69 82 *e*P **P 20 20 53.8 +1.0**
comp=E,40nm,0.8s
RAMN Ramite 48.65 83 *e*P **P 20 21 00.0 -0.2**
comp=E,7.2nm,0.6s
ODAN Odare 49.33 83 *e*P **P 20 21 05.2 -0.2**
comp=E,7.2nm,0.6s
TAPN Taplejung 49.40 82 *e*P **P 20 21 05.3 -0.7**
comp=E,20nm,0.8s
LSZ Lusaka 49.76 182 P **P 20 21 09.2 +0.8**
comp=E,1.3nm,0.6s,baz=1.8,slow=13,SNR=3.3
SUMG Summit 50.81 339 *i* P **P 20 21 15.2 -1.0**
comp=E,8.1nm,0.9s
SUMG Summit 50.81 339 *e*P **P 20 21 16.2 0.0**
SUMG pmax pmax
comp=Z,10.0nm,1.0s
SUMG Summit 50.81 339 *e*P **P 20 21 16.2 0.0**
comp=Z,10nm,1.0s
SUMG Summit 50.81 339 *e*P **P 20 21 16.2 0.0**
comp=Z,10nm,1.0s
ZAK Zakamensk 54.01 49 *e*P **P 20 21 37.2 -2.7**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
SONM Songino Array 56.64 52 P **P 20 21 58.9 0.0**
comp=Z,2.8nm,0.5s,baz=285,slow=7.6,SNR=22
BOD Bodaibo 58.31 39 *e*P **P 20 22 08.0 -2.3**
BOD pmax pmax
comp=Z,3.0nm,0.8s
HHC Hu-ho-hao-te 62.52 58 *e*P **P 20 22 40.8 +1.3**
HHC PP **PP 20 25 00.3 +3.4**
HHC S **S 20 31 06.0 +0.4**
HHC SS **SS 20 35 11.8 +2.4**
HHC PMZ
comp=Z,15nm,1.2s
HHC PMZ
comp=Z,90nm,5.1s
CM31 Chiang Mai Arr 62.63 86 *e*P **P 20 22 39.1 -1.4**
comp=Z,2.9nm,0.7s
CM31 Chiang Mai Arr 62.63 86 *e*P **P 20 22 39.1 -1.4**
comp=Z,2.9nm,0.7s
CMAR Chiang Mai Arr 62.63 86 P **P 20 22 40.4 -0.1**
comp=Z,3.1nm,0.6s,baz=293,slow=8.6,SNR=26
BOSA Boshof 63.17 185 P **P 20 22 44.4 +0.7**
comp=Z,1.9nm,0.8s,baz=354,slow=6.4,SNR=4.6
SCHQ Schefferville 66.06 321 P **P 20 23 01.8 -0.5**
comp=Z,3.5nm,0.5s,baz=52,slow=8.6,SNR=5.1
CN2 Changchun 70.44 50 *e*P **P 20 23 31.9 +2.0**
SEY Seymchan 72.38 24 P **P 20 23 41.5 +0.2**
comp=Z,1.2nm,0.4s,baz=314,slow=7.7,SNR=5.2
SEY Seymchan 72.38 24 P **P 20 23 41.5 +0.2**
SEY pmax pmax
comp=Z,1.0nm,0.4s
USRK Ussuriysk Ar. 74.26 47 P **P 20 23 51.6 -1.2**
comp=Z,2.3nm,0.6s,baz=296,slow=4.4,SNR=8.1
KSAR Wonju Array Be 75.30 55 P **P 20 23 58.7 -0.2**
KSAR Wonju Array Be 75.30 55 P **P 20 23 58.7 -0.2**
KSAR Wonju Array Be 75.30 55 P **P 20 23 58.6 -0.2**
KSRS Korea Array 75.32 55 P **P 20 23 58.6 -0.3**
comp=Z,1.4nm,0.6s,baz=313,slow=4.6,SNR=5.5
KSRS Korea Array 75.32 55 P **P 20 23 58.7 -0.3**
KSRS pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 79.02 344 P **P 20 24 18.7 -0.6**
comp=Z,1.1nm,0.7s,baz=31,slow=5.6,SNR=10
ASAJ Asahikawa 80.46 42 P **P 20 24 26.5 -0.9**
comp=Z,5.6nm,0.9s,baz=270,slow=20
ASAJ Asahikawa 80.46 42 P **P 20 24 26.5 -0.9**
ASAJ pmax pmax
comp=Z,6.0nm,0.9s
ILAR Eielson Array 80.79 359 P **P 20 24 28.5 -0.4**
comp=Z,0.4nm,0.8s,baz=337,slow=4.4,SNR=4.9
MJAR Matsushiro Arr 82.57 50 P **P 20 24 39.1 +0.2**
comp=Z,1.0nm,0.6s,baz=288,slow=1.9,SNR=3.8
ASAR Alice Springs 114.05 103 PKP PKPdf 20 30 53.5 -1.6
comp=Z,0.2nm,0.5s,baz=298,slow=2.0,SNR=4.1

*IDC **21** 20:13:43.0±1.9,34°.69N×30°.24E,h0km,mb3.9/5,*
mb1 3.9/6,mb1mx3.6/38,mbtmp3.8/6,ML3.2/1,MS3.7/4,
Ms1 3.6/4,ms1mx3.1/32,Error ellipse: s-maj=51.3km
s-min=26.5km az=5.0
ISC 21 20:13:48.0±1.7,35°.0N±0°.3×29°.96E±0°.1,h35km,n11,
σ1®69/7,mb3.8/5,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
IDI	**Anoyia**	**4.17**	**276**		Sn	**Sn**	**20 15 35.1**	**-1.6**
	3.6nm,0.3s,baz=233,slow=20,SNR=2.0							
KBZ	**Khabaz**	**13.27**	**45**		LR	LR	20 23 36.5	
	comp=Z,211nm,18.6s,baz=283,slow=45							
AKASG	**Malin Array Be**	**15.72**	**358**		Pn	**P**	**20 17 30.3**	**+0.1**
	0.1nm,0.3s,baz=185,slow=10,SNR=4.7							
GERES	**GERESS Array B**	**18.34**	**324**		LR	LR	20 26 24.2	
	comp=Z,261nm,18.3s,baz=138,slow=41							
ESDC	**Sonseca Array**	**27.28**	**290**		P	**P**	**20 19 31.9**	**+2.7**
	0.3nm,0.4s,baz=86,slow=10,SNR=2.3							
MKAR	**Makanchi Array**	**40.58**	**57**		P	**P**	**20 21 24.4**	**+0.4**
	2.5nm,0.6s,baz=277,slow=6.5,SNR=4.6							
ZALV	**Zalesovo Beam**	**42.29**	**46**		P	**P**	**20 21 36.9**	**-1.0**
	1.5nm,0.3s,baz=262,slow=9.4,SNR=3.7							
SONM	**Songino Array**	**56.53**	**52**		P	**P**	**20 23 26.8**	**-0.1**
	0.4nm,0.5s,baz=274,slow=5.6,SNR=2.7							
CMAR	**Chiang Mai Arr**	**62.66**	**86**		P	**P**	**20 24 08.8**	**-0.5**
	0.5nm,0.6s,baz=293,slow=8.3,SNR=3.1							
SCHQ	**Schefferville**	**65.84**	**321**		LR	LR	20 54 30.3	
	comp=Z,24nm,18.3s,baz=276,slow=37							
ULM	**Lac du Bonnet**	**82.59**	**328**		LR	LR	21 04 20.8	
	comp=Z,62nm,19.1s,baz=350,slow=37							

*ISK **21** 20:24:26.9,34°.67N×29°.94E,h31km,MD3.4*
*CSEM **21** 20:24:27.8±0.4,34°.71N×29°.97E,h20km,MD3.1,Error*
ellipse: s-maj=10.4km s-min=5.0km az=16.0
*ISCJB **21** 20:24:28.1±0.6,34°.73N±0°.05×29°.97E±0°.04,h35km,Error*
ellipse: s-maj=7.0km s-min=4.2km az=172.6
*DDA **21** 20:24:35.1,35°.45N×30°.39E,h5km,MD3.1*
*ATH **21** 20:25:00.8,35°.70N×27°.10E,h35km±17km,MD3.7/6*
ISC 21 20:24:29.5±1.5,34°.73N±0°.07×29°.98E±0°.04,h35km,n54,
σ0®93/66,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ELL	**Elmali**	**2.01**	**358**	*e*Pn		**Pn**	**20 25 00.7**	**-0.4**
ELL				*e*Sn		**Sn**	**20 25 24.5**	**-0.6**
ELL	**Elmali**	**2.01**	**358**	*e*Pn		**Pn**	**20 25 00.7**	**-0.4**
ELL				*e*Sn		**Sn**	**20 25 24.5**	**-0.6**
DALY	**Dalyan (Mu˙la**	**2.34**	**333**	*e*Pn		**Pn**	**20 25 04.9**	**-0.6**
DALY				*e*Sn		**Sn**	**20 25 31.0**	**-2.0**
DALY	**Dalyan (Mu˙la**	**2.34**	**333**	*e*Pn		**Pn**	**20 25 04.9**	**-0.6**
DALY				*e*Sn		**Sn**	**20 25 31.0**	**-2.0**
LEF	**Lefka**	**2.42**	**80**	*e*Pn		**Pn**	**20 25 05.3**	**-1.3**
LEF	**Lefka**	**2.42**	**80**	*e*Pn		**Pn**	**20 25 05.3**	**-1.3**
GAZI	**Gazipasa**	**2.43**	**51**	*i* P		**Pn**	**20 25 06.1**	**-0.6**
GAZI				*i* S		**Sn**	**20 25 34.2**	**-1.0**
GAZI	**Gazipasa**	**2.43**	**51**	*i* P		**Pn**	**20 25 06.1**	**-0.6**
GAZI				*i* S		**Sn**	**20 25 34.2**	**-1.0**
KARP	**Karpathos**	**2.45**	**290**	*e*PB		**Pn**	**20 25 07.4**	**+0.4**
KARP	**Karpathos**	**2.45**	**290**	*e*Pb		**Pn**	**20 25 07.4**	**+0.4**
AKDN	**Akdeniz- K˘–br**	**2.52**	**76**	*e*PN		**Pn**	**20 25 07.7**	**-0.2**
AKDN	**Akdeniz- K˘–br**	**2.52**	**76**	*e*Pn		**Pn**	**20 25 07.7**	**-0.2**
GOLH	**Golhisar**	**2.52**	**352**	*i* P		**Pn**	**20 25 09.5**	**+1.4**
GOLH				*i* S		**Sn**	**20 25 39.1**	**+1.5**
GOLH	**Golhisar**	**2.52**	**352**	*i* P		**Pn**	**20 25 09.5**	**+1.4**
GOLH				*i* S		**Sn**	**20 25 39.1**	**+1.5**
YER	**Yerkesik**	**2.76**	**331**	*e*PN		**Pn**	**20 25 10.2**	**-1.1**
YER	**Yerkesik**	**2.76**	**331**	*e*Pn		**Pn**	**20 25 10.2**	**-1.1**
CSS	**Prodhromos**	**2.77**	**84**	*e*PN		**Pn**	**20 25 10.8**	**-0.5**
CSS	**Prodhromos**	**2.77**	**84**	*e*Pn		**Pn**	**20 25 10.8**	**-0.5**
BCK	**Bucak**	**2.77**	**10**	*e*PN		**Pn**	**20 25 11.4**	**+0.1**
BCK	**Bucak**	**2.77**	**10**	*e*Pn		**Pn**	**20 25 11.5**	**+0.1**
LFK	**Lefkose**	**2.97**	**78**	*e*PN		**Pn**	**20 25 13.9**	**-0.2**
LFK	**Lefkose**	**2.97**	**78**	*e*Pn		**Pn**	**20 25 13.9**	**-0.2**
HDMB	**Hadim**	**3.02**	**42**	*e*PN		**Pn**	**20 25 15.1**	**+0.1**
HDMB	**Hadim**	**3.02**	**42**	*e*Pn		**Pn**	**20 25 15.1**	**+0.1**
ERMK	**Ermenek**	**3.06**	**51**	*i* P		**Pn**	**20 25 17.1**	**+1.6**
ERMK				*i* S		**Sn**	**20 25 52.9**	**+2.0**
ERMK	**Ermenek**	**3.06**	**51**	*i* P		**Pn**	**20 25 17.1**	**+1.6**
ERMK				*i* S		**Sn**	**20 25 52.9**	**+2.0**
BODT	**Bodrum**	**3.18**	**318**	*e*PN		**Pn**	**20 25 16.8**	**-0.2**
BODT	**Bodrum**	**3.18**	**318**	*e*Pn		**Pn**	**20 25 16.8**	**-0.2**
EREN	**Erenkoy**	**3.53**	**76**	*e*PN		**Pn**	**20 25 21.7**	**-0.1**
EREN	**Erenkoy**	**3.53**	**76**	*e*Pn		**Pn**	**20 25 21.7**	**-0.1**
NPS	**Neapolis**	**3.62**	**280**	*e*PN		**Pn**	**20 25 24.3**	**+1.2**
NPS	**Neapolis**	**3.62**	**280**	*e*Pn		**Pn**	**20 25 24.3**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**3.62**	**333**	*e*PN		**Pn**	**20 25 23.6**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**3.62**	**333**	*e*Pn		**Pn**	**20 25 23.6**	**+0.4**
LAST	**Lasithi**	**3.72**	**278**	*e*PB		**Pn**	**20 25 25.6**	**+1.1**
LAST	**Lasithi**	**3.72**	**278**	*e*Pb		**Pn**	**20 25 25.6**	**+1.1**
KONT	**Konya--Tatoy**	**3.74**	**30**	*e*PN		**Pn**	**20 25 25.3**	**+0.6**
KONT	**Konya--Tatoy**	**3.74**	**30**	*e*Pn		**Pn**	**20 25 25.3**	**+0.6**
THR5	**Thira Island,**	**4.13**	**295**	*e*PN		**Pn**	**20 25 29.8**	**-0.3**
THR5	**Thira Island,**	**4.13**	**295**	*e*Pn		**Pn**	**20 25 29.8**	**-0.3**
KDHN	**Kadinhani**	**4.15**	**24**	*i* P		**Pn**	**20 25 30.9**	**+0.4**
KDHN				*i* S		**Sn**	**20 26 17.6**	**-0.3**
KDHN	**Kadinhani**	**4.15**	**24**	*i* P		**Pn**	**20 25 30.9**	**+0.4**
KDHN				*i* S		**Sn**	**20 26 17.6**	**-0.3**
IDI	**Anoyia**	**4.21**	**279**	*e*PN		**Pn**	**20 25 32.1**	**+0.8**
IDI	**Anoyia**	**4.21**	**279**	*e*Pn		**Pn**	**20 25 32.1**	**+0.8**
APE	**Apeiranthos**	**4.30**	**304**	*e*PN		**Pn**	**20 25 32.7**	**+0.3**
APE	**Apeiranthos**	**4.30**	**304**	*e*PN		**Pn**	**20 25 32.4**	**0.0**
APE	**Apeiranthos**	**4.30**	**304**	*e*Pn		**Pn**	**20 25 32.4**	**0.0**
APE	**Apeiranthos**	**4.30**	**304**	*e*Pn		**Pn**	**20 25 32.7**	**+0.3**
VAM	**Vamos**	**4.79**	**280**	*e*PN		**Pn**	**20 25 40.0**	**+0.9**
VAM	**Vamos**	**4.79**	**280**	*e*Pn		**Pn**	**20 25 40.0**	**+0.9**
ANKY	**Antikythira Is**	**5.58**	**284**	*e*PN		**Pn**	**20 25 49.0**	**-0.9**
ANKY	**Antikythira Is**	**5.58**	**284**	*e*Pn		**Pn**	**20 25 49.0**	**-0.9**
KYTH	**Kithira**	**5.87**	**287**	*e*PN		**Pn**	**20 25 53.1**	**-0.9**
KYTH	**Kithira**	**5.87**	**287**	*e*Pn		**Pn**	**20 25 53.1**	**-0.9**

*ISCJB **21** 20:30:12.4±0.9,52°.6N±0°.1×169°.6W±0°.1,h10km,mb3.2/2,*
Error ellipse: s-maj=19.4km s-min=6.7km az=151.4
*NEIC **21** 20:30:14.2,52°.72N×169°.58W,h11km,ML3.2(AEIC),After*
AEIC.
*IDC **21** 20:30:16.4±26.0,52°.66N×168°.58W,h0km,mb3.3/2,*
mb1 3.6/3,mb1mx3.2/38,mbtmp3.1/3,ML3.3/1,Error
ellipse: s-maj=495.0km s-min=49.2km az=86.0
ISC 21 20:30:13.4±1.2,52.7N±0°.1×169°.56W±0°.08,h10km,n23,
σ1®03/21,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.51**	**57**		P	**Pg**	**20 30 23.7**	**+0.4**
NIKH					S	**Sg**	**20 30 31.4**	**+1.4**
OKWR	**Okmok West Rim**	**1.10**	**47**		P	**Pb**	**20 30 34.8**	**+0.2**
OKCE	**Okmok Cone E**	**1.11**	**48**		P	**Pb**	**20 30 34.0**	**-0.8**
OKAK	**Okmok**	**1.14**	**39**		P	**Pb**	**20 30 33.1**	**-2.1**
OKTU	**Okmok Mt. Tuli**	**1.15**	**52**		P	**Pb**	**20 30 35.6**	**+0.3**
OKFG	**Magazine Ridge**	**1.22**	**54**		P	**Pn**	**20 30 35.5**	**-1.0**
OKFG					S	**Sb**	**20 30 52.2**	**-0.3**
MSOM	**Makushin Julie**	**1.93**	**53**		P	**Pn**	**20 30 45.8**	**-0.4**
MSOM					S	**Sb**	**20 31 12.5**	**-0.1**
MCIR	**Makushin Cirqu**	**2.03**	**51**		P	**Pn**	**20 30 48.8**	**+1.1**
MSW	**Makushin Switc**	**2.06**	**53**		P	**Pn**	**20 30 49.3**	**+1.2**
MTBL	**Makushin Table**	**2.15**	**52**		P	**Pn**	**20 30 50.5**	**+1.3**
UNV	**Unalaska Valle**	**2.17**	**57**		P	**Pn**	**20 30 50.3**	**+0.8**
UNV					S	**Sb**	**20 31 19.2**	**-0.3**
ZRO	**Akutan Zero**	**2.56**	**55**		P	**Pn**	**20 30 56.1**	**+1.2**
ATKA	**Atka Island**	**2.88**	**262**		P	**Pn**	**20 30 59.9**	**+0.6**
SPIA	**Saint Paul Isl**	**4.51**	**355**		P	**Pn**	**20 31 22.9**	**+1.3**
ILAR	**Eielson Array**	**16.75**	**35**		Pn	**Pn**	**20 34 06.4**	**-1.4**
	0.0nm,0.3s,baz=232,slow=11,SNR=3.0							
H11N2	**WAKE ISLAND Hy**	**37.64**	**218**		T	T	21 17 23.2	
	baz=23,slow=76,SNR=7.8							
H11N3	**WAKE ISLAND Hy**	**37.65**	**218**		T	T	21 17 23.4	
	baz=23,slow=76,SNR=7.7							
H11N1	**WAKE ISLAND Hy**	**37.66**	**218**		T	T	21 17 28.5	
	baz=23,slow=76,SNR=7.5							
H11S1	**WAKE ISLAND Hy**	**38.83**	**218**		T	T	21 18 51.2	
	baz=23,slow=76,SNR=20							
H11S2	**WAKE ISLAND Hy**	**38.84**	**218**		T	T	21 18 53.2	
	baz=23,slow=76,SNR=15							
H11S3	**WAKE ISLAND Hy**	**38.85**	**218**		T	T	21 18 52.5	
	baz=23,slow=76,SNR=16							
PDAR	**Pinedale Array**	**40.45**	**79**		P	**P**	**20 37 51.7**	**-0.4**
	0.3nm,0.6s,baz=294,slow=4.5,SNR=2.8							
TXAR	**Lajitas Array**	**52.85**	**89**		P	**P**	**20 39 29.4**	**+0.1**
	0.2nm,0.6s,baz=298,slow=5.5,SNR=4.0							

IDC 21 20:41:30.0±2.0,24°.14S×67°.56W,h0km,mb3.9/1,
mb1 3.9/2,mb1mx3.5/17,mbtmp3.8/2,ML3.9/1,Error
ellipse: s-maj=69.9km s-min=49.4km az=84.0,
Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LPAZ	**La Paz**	**7.83**	**356**		Pn	Pn	20 43 26.3	+0.3
	0.9nm,0.3s,baz=178,slow=7.5,SNR=11							
TORD	**Torodi Ar. Bea**	**77.10**	**69**		P	P	20 53 26.0	+0.3
	0.6nm,0.5s,baz=254,slow=4.9,SNR=14							
WRA	**Warramunga Arr**	**131.26**	**208**		PKP	PKPdf	21 00 45.1	+0.1
	0.8nm,1.0s,baz=155,slow=1.9,SNR=3.9							
MKAR	**Makanchi Array**	**146.96**	**39**		PKPbc	PKPdf	21 01 12.6	+0.1
	0.3nm,0.5s,baz=303,slow=3.1,SNR=4.5							

*MOS **21** 21:09:16.0±2.1,49°.68N×156°.96E,h16km,mb4.3/1,Error*
ellipse: s-maj=50.1km s-min=9.5km az=84.9
KRSC 21 21:09:16.0±1.7,49°.68N×156°.96E,h16km±31km,ML4.2,
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.14**	**332**	*e*P		Pn	21 09 35.9	-1.4
SKR				*e*S		Sb	21 09 50.8	-1.1
SKR	**Severo-Kuril's**	**1.14**	**332**	*e*PN		Pn	21 09 33.0	-4.3
SKR				pmax	pmax			
	comp=Z,60nm,0.4s							
PAU	**Pauzhetka**	**1.79**	**357**	*e*P		Pb	21 09 47.9	-0.5
PAU				*e*S		Sb	21 10 11.3	+0.7
PAU	**Pauzhetka**	**1.79**	**357**	PN		Pb	21 09 47.9	-0.5
PAU				S		Sb	21 10 11.3	+0.7
MIPR	**Malaya Ipel'ka**	**2.60**	**357**	*e*P		Pb	21 09 59.5	+2.1
ASAK	**Asacha**	**2.77**	**12**	*e*P		Pb	21 10 03.0	-2.2
MTVR	**Mutnovka**	**2.91**	**15**	*e*P		Pn	21 10 04.3	+2.5
MTVR				*e*S		Sn	21 10 39.8	+3.2
RUS	**Russkaya**	**2.92**	**19**	*e*P		Pn	21 10 03.8	+2.0
RUS				*e*S		Sn	21 10 39.3	+2.7
RUS	**Russkaya**	**2.92**	**19**	PN		Pn	21 10 03.8	+2.0
RUS				S		Sn	21 10 39.3	+2.7
APC	**Apacha**	**3.25**	**2**	*e*P		Pn	21 10 09.3	+3.0
APC	**Apacha**	**3.25**	**2**	PN		Pn	21 10 09.3	+3.0
PET	**Petropavlovsk**	**3.51**	**17**	*e*S		Sb	21 10 56.2	-3.9
UGLR	**Uglovaya**	**3.72**	**18**	*e*P		Pn	21 10 16.2	+3.3
AVH	**Avacha**	**3.76**	**16**	*e*P		Pb	21 10 18.0	-4.0
AVH	**Avacha**	**3.76**	**16**	PN		Pb	21 10 18.0	-4.0
KOK	**Koryaka**	**3.77**	**15**	*e*P		Pn	21 10 17.6	+4.1
KOK	**Koryaka**	**3.77**	**15**	PN		Pn	21 10 17.6	+4.1
KRER	**Koryakskii**	**3.80**	**16**	*e*P		Pn	21 10 17.3	+3.8
SDLR	**Sedlovina**	**3.80**	**18**	*e*P		Pn	21 10 17.3	+3.3
SDLR	**Sedlovina**	**3.80**	**18**	PN		Pn	21 10 17.3	+3.3
NLC	**Nalytchevo**	**3.80**	**22**	*e*S		Sn	21 11 00.6	+2.5
KRX	**Arik**	**3.83**	**15**	*e*P		Pn	21 10 18.3	+3.8
SPN	**Mys Shipunski**	**3.92**	**28**	*e*P		Pn	21 10 18.8	+3.3
SPN	**Mys Shipunski**	**3.92**	**28

BKZ			AML	AML	21 11 32.6		
TOZ	**Tahuroa Road**	**1.65 274**	P*	Pn	21 11 04.0	-0.3	
TLZ	**Tolley Road**	**1.67 253**	P*	Pn	21 11 04.5	-0.2	
MCHZ	**McNeill Hill**	**1.72 203**	PN	Pn	21 11 04.9	-0.4	
KWHZ	**Kaweka Forest**	**1.80 210**	P*	Pn	21 11 06.0	-0.5	
CKHZ	**Cape Kidnapper**	**1.83 192**	PN	Pn	21 11 05.1	-1.7	
KUZ	**Kuaotunu**	**1.86 306**	⇓PN	Pn	21 11 06.7	-0.4	
KUZ			SN	Sn	21 11 28.8	-0.6	
OTVZ	**Oturere**	**1.98 229**	*e*P*	Pn	21 11 09.3	+0.2	
KAHZ	**Kahuranaki**	**2.00 196**	PN	Pn	21 11 07.8	-1.4	
BHHZ	**Black Hill Sta**	**2.01 216**	P*	Pn	21 11 09.0	-0.3	
KRHZ	**Kereru**	**2.01 208**	PN	Pn	21 11 08.1	-1.3	
NGZ	**Ngauruhoe**	**2.03 229**	*e*P*	Pn	21 11 09.9	+0.2	
TUVZ	**Tukino**	**2.06 297**	P*	Pn	21 11 10.0	-0.1	
MKAZ	**Moumakai**	**2.06 291**	⇓PN	Pn	21 11 10.1	+0.1	
WPVZ	**Whakapapa**	**2.08 229**	*e*P*	Pn	21 11 10.7	+0.3	
MOVZ	**Moawhango**	**2.10 222**	P*	Pn	21 11 10.1	-0.5	
WHVZ	**Whangaehu Hut**	**2.10 227**	P*	Pn	21 11 10.8	-0.1	
FWVZ	**Far West T-bar**	**2.11 228**	P*	Pn	21 11 11.5	+0.6	
WNVZ	**Wahianoa**	**2.13 226**	P*	Pn	21 11 11.0	-0.2	
PXZ	**Pawanui**	**2.23 194**	PN	Pn	21 11 09.6	-2.6	
PNHZ	**Pukenui**	**2.31 207**	PN	Pn	21 11 11.7	-1.7	
GRZ	**Great Barrier**	**2.34 313**	PN	Pn	21 11 13.9	+0.1	
PRHZ	**Porangahau**	**2.51 197**	PN	Pn	21 11 13.4	-2.7	
TSZ	**Takapari Road**	**2.53 209**	PN	Pn	21 11 14.3	-2.0	
DVHZ	**Dannevirke**	**2.67 204**	*e*PN	Pn	21 11 15.2	-3.1	
WAZ	**Wanganui**	**2.77 226**	*e*PN	Pn	21 11 18.7	-1.0	
POWZ	**Post Office Ro**	**2.89 209**	*e*PN	Pn	21 11 18.7	-2.6	
PRWZ	**Pori Road**	**2.96 204**	*e*PN	Pn	21 11 19.5	-2.8	
BFZ	**Birch Farm**	**2.99 200**	PN	Pn	21 11 19.9	-2.8	
TIWZ	**Tintock**	**3.19 204**	PN	Pn	21 11 22.4	-3.0	
TIWZ			AML	AML	21 12 02.4		
TIWZ			AML	AML	21 12 03.9		
MRZ	**Mangatainoka R**	**3.19 208**	PN	Pn	21 11 22.4	-3.1	
MRZ			SN	Sn	21 11 58.4	-3.9	
MRZ			AML	AML	21 12 01.5		
CPWZ	**Castlepoint**	**3.22 199**	PN	Pn	21 11 22.9	-2.9	
HOWZ	**Holdsworth Sta**	**3.42 207**	PN	Pn	21 11 25.2	-3.4	
OGWZ	**Otaki Gorge**	**3.49 212**	PN	Pn	21 11 26.3	-3.2	
TMWZ	**Te Maipa**	**3.49 201**	PN	Pn	21 11 25.9	-3.6	
KIW	**Kapiti Island**	**3.64 214**	PN	Pn	21 11 28.7	-2.9	
MTW	**Mount Morrison**	**3.66 205**	PN	Pn	21 11 27.9	-3.9	
CAW	**Cannon Point**	**3.77 210**	PN	Pn	21 11 29.8	-3.6	
TRWZ	**Traveller**	**3.82 202**	PN	Pn	21 11 29.9	-4.2	
PAWZ	**Paruwai Farm**	**3.88 205**	PN	Pn	21 11 30.8	-4.1	
PLWZ	**Palliser**	**4.11 205**	PN	Pn	21 11 33.3	-4.8	
TCW	**Tory Channel**	**4.21 216**	PN	Pn	21 11 35.8	-3.5	
TUWZ	**Tuamarina**	**4.53 217**	PN	Pn	21 11 34.1	-10	
LTZ	**Lake Taylor**	**6.37 218**	*e*PN	Pn	21 12 05.7	-3.3	
OXZ	**Oxford**	**6.89 216**	*e*PN	Pn	21 12 10.8	-5.3	
MQZ	**McQueen's Vall**	**6.93 211**	PN	Pn	21 12 10.7	-5.9	
MQZ			SN	Sn	21 13 21.5	-12	

NIED ***21*** *21:29:00,28.˚50N×142.˚10E,h47km,Mw3.9 Best double couple: M0 8.49000×10^14 NP1:φs 325.00000°, δ56.00000°, λ144.00000°. NP2:φs 77.00000°, δ61.00000°, λ39.00000°.*
ISCJB ***21*** *21:29:06.8±0.3,28.˚47N±0.˚04×141.˚7E±0.˚1, h35km, mb4.0/17, MS2.9/1, Error ellipse: s-maj=16.8km s-min=3.1km az=165.9*
IDC ***21*** *21:29:09.8±1.6,28.˚38N×141.˚73E,h52km±15km, mb3.7/16, mb1 3.9/19, mb1mx3.7/38, mbtmp4.0/19, ML3.6/2, MS2.8/3, Ms1 2.9/3, ms1mx2.6/30, Error ellipse: s-maj=20.0km s-min=12.3km az=80.0*

ISC 21 21:29:08.2±0.5, 28.˚44N±0.˚06×141.˚8E±0.˚1, h35km, n40, σ1s 58/46, mb4.0/17, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.38 166**		P	**Pn**	**21 29 31.5**	**+0.5**
CBIJ				S	**Sn**	**21 29 49.0**	**+1.0**
JCJ	**Chichijima**	**1.38 166**		P	**Pn**	**21 29 31.6**	**+0.6**
	174nm,0.3s,baz=292,slow=22,SNR=437						
JCJ				S	**Sn**	**21 29 47.5**	**-0.5**
	728nm,0.3s,baz=288,slow=19,SNR=28						
JHHJ	**Haha-jima-NKT**	**1.83 170**		P	**Pn**	**21 29 38.2**	**+1.0**
JHHJ				S	**Sn**	**21 30 00.1**	**+0.9**
JHJ	**Hachijo jima 2**	**4.98 340**		P	**Pn**	**21 30 22.3**	**+1.9**
	3.3nm,0.3s,baz=221,slow=20,SNR=3.2						
JHJ				S	**Sn**	**21 31 15.9**	**-0.9**
	22nm,0.3s,baz=61,slow=20,SNR=7.6						
BSO1	**Boso 1**	**6.23 354**		S	**Sn**	**21 31 46.8**	**-0.1**
BSO3	**Boso 3**	**6.44 350**		P	**Pn**	**21 30 42.4**	**+2.2**
BSO3				S	**Sn**	**21 31 52.5**	**+0.2**
BSO4	**Boso 4**	**6.65 349**		P	**Pn**	**21 30 45.7**	**+2.4**
BSO4				S	**Sn**	**21 32 00.2**	**+2.5**
JOD2	**Odawara 2**	**7.18 342**		P	**Pn**	**21 30 53.8**	**+3.0**
JHU	**Hanno**	**7.69 344**		P	**Pn**	**21 30 59.9**	**+2.2**
JHU				*e*S	**Sn**	**21 32 22.4**	**-1.2**
JRY	**Ryogami san**	**7.95 343**		P	**Pn**	**21 31 04.0**	**+2.8**
JRY				S	**Sn**	**21 32 31.3**	**+1.4**
JAG	**Ashikaga**	**8.21 347**		P	**Pn**	**21 31 07.2**	**+2.5**
JAG				S	**Sn**	**21 32 33.7**	**-2.5**
JHO	**Hitachi**	**8.21 353**		P	**Pn**	**21 31 05.3**	**+0.5**
JHO				S	**Sn**	**21 32 33.3**	**-3.1**
MJAR	**Matsushiro Arr**	**8.63 340**		P	**Pn**	**21 31 13.3**	**+2.7**
	1.2nm,0.3s,baz=158,slow=13,SNR=7.5						
MJAR				S	**Sn**	**21 32 46.4**	**-0.3**
	0.5nm,0.3s,baz=147,slow=23,SNR=4.2						
JMK	**Ichinoseki**	**10.48 357**		P	**Pn**	**21 31 36.5**	**+0.4**
JNU	**Nakatsue**	**10.50 299**		LR	LR	21 35 19.9	
	comp=Z,92nm,20.2s,baz=148,slow=35						
KSRS	**Korea Array**	**14.71 311**		LR	LR	21 37 52.9	
	comp=Z,22nm,20.2s,baz=170,slow=36						
ASAJ	**Asahikawa**	**15.65 2**		P	**Pn**	**21 32 46.4**	**+0.4**
	baz=208,slow=15						
H11N2	**WAKE ISLAND Hy**	**24.44 105**		T	T	21 59 59.1	
	baz=296,slow=75,SNR=78						
H11N1	**WAKE ISLAND Hy**	**24.45 105**		T	T	22 00 00.4	
	baz=296,slow=75,SNR=54						
H11N3	**WAKE ISLAND Hy**	**24.46 105**		T	T	22 00 01.0	
	baz=296,slow=75,SNR=75						
CMAR	**Chiang Mai Arr**	**40.39 265**		LR	LR	21 54 39.6	
	comp=Z,14nm,18.1s,baz=80,slow=38						
WRA	**Warramunga Arr**	**48.64 189**		P	**P**	**21 37 48.0**	**-0.8**
	10nm,0.5s,baz=11,slow=8.6,SNR=62						
MKAR	**Makanchi Array**	**49.38 309**		P	**P**	**21 37 53.4**	**-0.9**
	0.2nm,0.4s,baz=87,slow=7.8,SNR=3.7						
MKAR				ScP	**ScP**	**21 43 05.3**	**-3.8**
	0.4nm,0.6s,baz=62,slow=3.7,SNR=4.0						
KURBB	**Kurchatov Arra**	**51.87 314**		P	**P**	**21 38 12.4**	**-0.6**
	0.7nm,0.5s,baz=91,slow=7.1,SNR=23						
ASAR	**Alice Springs**	**52.37 189**		P	**P**	**21 38 15.8**	**-1.2**
	0.4nm,0.4s,baz=16,slow=8.2,SNR=9.4						
ILAR	**Eielson Array**	**56.69 29**		P	**P**	**21 38 47.2**	**-0.6**
	1.0nm,0.7s,baz=259,slow=6.6,SNR=13						
BVAR	**Borovoye Array**	**56.84 317**		P	**P**	**21 38 48.6**	**-0.5**
	0.7nm,0.4s,baz=83,slow=5.9,SNR=4.6						
STKA	**Stephens Creek**	**59.99 180**		P	**P**	**21 39 10.7**	**-0.5**
	0.5nm,0.4s,baz=354,slow=6.7,SNR=4.7						
INK	**Inuvik**	**61.94 25**		P	**P**	**21 39 23.3**	**-0.7**
	1.0nm,0.5s,baz=272,slow=7.5,SNR=3.6						
YKA	**Yellowknife Ar**	**71.11 28**		P	**P**	**21 40 22.2**	**-0.5**
	0.7nm,0.4s,baz=294,slow=6.5,SNR=5.5						
ARCES	**ARCESS Array B**	**72.17 341**		P	**P**	**21 40 30.5**	**+1.5**
	4.6nm,0.9s,baz=81,slow=7.4,SNR=5.0						
NEW	**Newport**	**76.13 42**		P	**P**	**21 40 54.7**	**+2.2**
	1.1nm,0.4s,baz=297,slow=9.0,SNR=2.7						
FINES	**FINESS Array B**	**76.60 334**		P	**P**	**21 40 54.9**	**+0.1**
	0.6nm,0.4s,baz=74,slow=5.3,SNR=14						
NVAR	**Mina Array Bea**	**79.94 52**		P	**P**	**21 41 14.4**	**+0.3**
	1.0nm,0.6s,baz=297,slow=6.0,SNR=3.3						
AKASG	**Malin Array Be**	**81.34 324**		P	**P**	**21 41 20.3**	**-0.7**
	0.2nm,0.3s,baz=50,slow=5.4,SNR=2.4						
NOA	**NORSAR Array B**	**82.24 338**		P	**P**	**21 41 25.3**	**-0.4**
	0.5nm,0.6s,baz=42,slow=5.4,SNR=2.6						
BRTR	**Keskin Array B**	**84.85 313**		P	**P**	**21 41 39.7**	**+0.1**
	0.3nm,0.5s,baz=108,slow=6.0,SNR=3.2						
TXAR	**Lajitas Array**	**95.05 53**		P	**P**	**21 42 28.4**	**+0.5**
	0.4nm,0.7s,baz=342,slow=6.4,SNR=5.5						
TORD	**Torodi Ar. Bea**	**123.45 312**		PKP	**PKPdf**	**21 48 02.1**	**-0.4**
	0.3nm,0.5s,baz=354,slow=2.9,SNR=3.4						
LPAZ	**La Paz**	**149.87 73**		PKPbc	**PKPbc**	**21 48 55.5**	**-0.6**
	1.0nm,0.8s,baz=288,slow=6.4,SNR=3.3						

IDC ***21*** *22:00:16.2±22.0, 52.˚49N×170.˚23W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/32, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=400.7km s-min=47.9km az=86.0*
NEIC ***21*** *22:00:21.0, 52.˚51N×169.˚27W, h11km, ML3.1(AEIC), After AEIC.*

ISC 21 22:00:19.9±1.1, 52.˚8N±0.˚2×169.˚76W±0.˚10, h10km, n21, σ0s 74/18, mb3.4/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.57**	**73**	P	**Pg**	**22 00 31.1**	**+0.1**
NIKH				S	**Sg**	**22 00 38.8**	**+0.3**
OKWR	**Okmok West Rim**	**1.12**	**56**	P	**Pn**	**22 00 41.6**	**-0.2**
OKCE	**Okmok Cone E**	**1.14**	**57**	P	**Pn**	**22 00 42.5**	**+0.5**
OKTU	**Okmok Mt. Tuli**	**1.18**	**60**	P	**Pn**	**22 00 42.4**	**-0.2**
OKFG	**Magazine Ridge**	**1.26**	**61**	P	**Pn**	**22 00 42.5**	**-1.2**
OKFG				S	**Sn**	**22 00 58.8**	**-1.9**
MSOM	**Makushin Julie**	**1.96**	**58**	P	**Pn**	**22 00 53.6**	**+0.4**
MSOM				S	**Sn**	**22 01 16.9**	**-0.9**
MSW	**Makushin Switc**	**2.10**	**57**	P	**Pn**	**22 00 55.0**	**-0.1**
MTBL	**Makushin Table**	**2.18**	**57**	P	**Pn**	**22 00 56.6**	**+0.3**
UNV	**Unalaska Valle**	**2.21**	**61**	P	**Pn**	**22 00 56.7**	**+0.1**
UNV				S	**Sn**	**22 01 24.6**	**+0.6**
ATKA	**Atka Island**	**2.78**	**259**	P	**Pb**	**22 01 09.4**	**-0.3**
SPIA	**Saint Paul Isl**	**4.39**	**357**	P	Pn	22 01 33.0	+6.5
ILAR	**Eielson Array**	**16.72**	**35**	Pn	**Pn**	**22 04 14.9**	**+0.9**
	0.0nm,0.3s,baz=228,slow=11,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**37.66**	**218**	T	T	22 47 28.3	
	baz=24,slow=76,SNR=54						
H11N3	**WAKE ISLAND Hy**	**37.66**	**218**	T	T	22 47 29.9	
	baz=24,slow=76,SNR=46						
H11N1	**WAKE ISLAND Hy**	**37.67**	**218**	T	T	22 47 30.2	
	baz=24,slow=76,SNR=54						
NVAR	**Mina Array Bea**	**37.91**	**91**	P	**P**	**22 07 38.1**	**+0.8**
	0.2nm,0.4s,baz=293,slow=7.7,SNR=2.5						
H11S1	**WAKE ISLAND Hy**	**38.85**	**217**	T	T	22 48 58.2	
	baz=22,slow=76,SNR=920						
H11S2	**WAKE ISLAND Hy**	**38.86**	**217**	T	T	22 48 59.3	
	baz=22,slow=76,SNR=567						
H11S3	**WAKE ISLAND Hy**	**38.87**	**217**	T	T	22 48 59.4	
	baz=22,slow=76,SNR=459						
PDAR	**Pinedale Array**	**40.55**	**79**	P	**P**	**22 07 59.4**	**-0.1**
	0.5nm,0.6s,baz=340,slow=5.1,SNR=4.7						
TXAR	**Lajitas Array**	**52.97**	**89**	P	**P**	**22 09 36.5**	**-0.2**
	0.7nm,0.7s,baz=322,slow=6.1,SNR=6.5						

IDC ***21*** *22:21:37.5±0.8,6.˚38S×150.˚66E,h0km,mb4.1/9, mb1 4.4/10,mb1mx4.0/39,mbtmp4.1/10,ML2.3/1, MS3.2/3, Ms1 3.2/3,ms1mx2.9/35,Error ellipse: s-maj=27.4km s-min=17.5km az=101.0*
ISCJB ***21*** *22:21:41.0±0.6,6.˚38S±0.˚09×150.˚56E±0.˚10, h33km, mb4.0/9, MS3.2/2, Error ellipse: s-maj=16.5km s-min=8.9km az=37.7*
NEIC ***21*** *22:21:42.7±0.5,6.˚40S×150.˚59E, h35km, mb4.5/3, Error ellipse: s-maj=15.3km s-min=10.3km az=119.0*

ISC 21 22:21:42.5±0.7, 6.˚4S±0.˚1×150.˚6E±0.˚1, h33km, n20, σ0s 92/21, mb4.1/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.55**	**229**	Pn	**Pn**	**22 22 50.2**	**+1.0**
	9.5nm,0.3s,baz=58,slow=5.2,SNR=15						
PMG				Sn	**Sn**	**22 23 40.1**	**-0.9**
	16nm,0.3s,baz=86,slow=22,SNR=12						
PMG	**Port Moresby**	**4.55**	**229**	*e*Pn	**Pn**	**22 22 49.3**	**+0.2**
PMG				*e*Sn	**Sn**	**22 23 42.0**	**+0.9**
HNR	**Honiara**	**9.72**	**109**	LR	LR	22 27 03.5	
	comp=Z,102nm,21.4s,baz=116,slow=34						
GUMO	**Guam**	**20.66**	**344**	LR	LR	22 32 55.8	
	comp=Z,74nm,21.3s,baz=168,slow=33						
WRAB	**Tennant Creek**	**20.76**	**228**	*e*P	**P**	**22 26 20.1**	**-0.7**
	52nm,1.4s						
WRA	**Warramunga Arr**	**20.77**	**228**	P	**P**	**22 26 20.6**	**-0.3**
	18nm,0.8s,baz=53,slow=11,SNR=69						
WRA				PcP	**PcP**	**22 30 30.3**	**+0.7**
	0.7nm,0.8s,baz=58,slow=3.1,SNR=3.9						
DZM	**Mont Dzumac**	**21.83**	**137**	P	**P**	**22 26 32.9**	**+0.5**
	4.0nm,0.6s,baz=270,slow=20,SNR=7.0						
AS31	**Alice Springs**	**23.52**	**221**	*e*P	**P**	**22 26 49.8**	**-0.1**
ASAR	**Alice Springs**	**23.53**	**221**	P	**P**	**22 26 49.6**	**-0.3**
	5.6nm,0.8s,baz=55,slow=9.0,SNR=35						
ASAR				LR	LR	22 35 50.0	
	comp=Z,109nm,21.0s,baz=318,slow=36						
STKA	**Stephens Creek**	**26.72**	**197**	P	**P**	**22 27 18.1**	**-0.9**
	7.6nm,0.7s,baz=7.1,slow=9.4,SNR=16						
STKA	**Stephens Creek**	**26.72**	**197**	*e*P	**P**	**22 27 17.6**	**-1.4**
	3.6nm,1.2s						
KSRS	**Korea Array**	**48.49**	**336**	P	**P**	**22 30 21.8**	**-0.4**
	0.8nm,0.5s,baz=160,slow=9.3,SNR=3.7						
KSAR	**Wonju Array Be**	**48.50**	**336**	P	**P**	**22 30 21.8**	**-0.5**
SONM	**Songino Array**	**66.54**	**329**	P	**P**	**22 32 31.1**	**+1.7**
	0.3nm,0.4s,baz=145,slow=5.3,SNR=3.2						
VNDA	**Vanda**	**71.34**	**177**	P	**P**	**22 32 59.0**	**+0.4**
	0.8nm,0.6s,baz=324,slow=9.0,SNR=6.4						
QSPA	**South Pole Qui**	**83.58**	**180**	*e*P	**P**	**22 34 07.5**	**+0.1**
	5.1nm,1.0s						
ILAR	**Eielson Array**	**84.44**	**22**	P	**P**	**22 34 10.3**	**-1.2**
	0.5nm,0.7s,baz=252,slow=4.9,SNR=5.0						
NVAR	**Mina Array Bea**	**94.77**	**52**	P	**P**	**22 35 02.1**	**+0.8**
	1.2nm,0.8s,baz=252,slow=6.1,SNR=8.4						
GERES	**GERESS Array B**	**124.23**	**327**	PKP	**PKPdf**	**22 40 36.7**	**-1.5**
	0.5nm,0.6s,baz=62,slow=2.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**148.68**	**285**	PKPbc	**PKPbc**	**22 41 26.9**	**-0.6**
	2.9nm,0.7s,baz=68,slow=3.1,SNR=17						

CSEM ***21*** *22:23:58.9,41.˚84N×13.˚66E,h9km, MD1.7/4*
ROM 21 22:23:58.9±0.2, 41.˚84N×13.˚66E, h9km±1km, Md1.7/4, Ml0.7/2, Error ellipse: s-maj=1.2km s-min=0.5km az=89, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VVLD	**Villa Vallelon**	**0.04**	**317**	Pg	Pg	22 24 01.0	+0.2
VVLD				Sg	Sg	22 24 02.3	+0.2
	104nm,0.1s						
VVLD	**Villa Vallelon**	**0.04**	**317**	Pg	Pg	22 24 01.0	+0.2
VVLD				Sg	Sg	22 24 02.3	+0.2
	104nm,0.1s						
POFI	**Posta Fibreno**	**0.13**	**162**	Pg	Pg	22 24 02.5	+0.5
POFI				Sg	Sg	22 24 04.8	+0.7
	15nm,0.4s						
POFI	**Posta Fibreno**	**0.13**	**162**	Pg	Pg	22 24 02.5	+0.5
POFI				Sg	Sg	22 24 04.8	+0.7
	15nm,0.4s						
SDI	**San Donato**	**0.17**	**139**	Pg	Pg	22 24 03.1	+0.4
SDI				Sg	Sg	22 24 06.4	+1.2
	9.0nm,0.2s						
SDI	**San Donato**	**0.17**	**139**	Pg	Pg	22 24 03.1	+0.4
SDI				Sg	Sg	22 24 06.4	+1.2
	9.0nm,0.2s						
INTR	**Introdacqua**	**0.25**	**47**	Pg	Pg	22 24 04.7	+0.6
INTR				Sg	Sb	22 24 09.1	-1.3
	10.0nm,0.2s						
INTR	**Introdacqua**	**0.25**	**47**	Pg	Pg	22 24 04.7	+0.6
INTR				Sg	Sb	22 24 09.1	-1.3
	10.0nm,0.2s						

BJI ***21*** *22:25:25.6,5.˚76S×101.˚09E, h31km, mb5.2/71, mB5.2/53, Ms5.1/65, Ms7 4.9/63*
IDC ***21*** *22:25:28.2±0.4,5.˚03S×101.˚10E, h0km, mb4.8/35, mb1 4.8/38, mb1mx4.7/55, mbtmp4.8/38, ML4.4/3, MS4.1/14, Ms1 4.2/14, ms1mx3.8/36, Error ellipse: s-maj=13.9km s-min=9.4km az=43.0*
DJA ***21*** *22:25:30.2±0.9,5.˚5S±2.˚×10.˚1E±.˚, h13km±7km, M4.9/48, mb5.2/48, mB5.4/31, MLv5.3/25, Mw(mB)4.8/31, Mwp5.6/1*
MOS ***21*** *22:25:31.8±1.1,4.˚96S×101.˚17E, h33km, mb5.2/48, MS4.3/13, Error ellipse: s-maj=8.8km s-min=5.5km az=109.5*
KLM ***21*** *22:25:31.1,5.˚19S×100.˚92E, h38km, mb5.3, ML5.2, MS6.0*
ISCJB ***21*** *22:25:31.2±0.2,5.˚03S±0.˚02×101.˚13E±0.˚02, h30km, mb5.0/106, MS4.4/27, Error ellipse: s-maj=4.0km s-min=2.4km az=35.3*
NEIC ***21*** *22:25:32.5±0.4,5.˚00S×101.˚13E, h26km±2km, mb5.2/40, Error ellipse: s-maj=5.8km s-min=4.0km az=222.0*

ISC 21 22:25:32.8±0.3, 5.˚17S±0.˚03×101.˚10E±0.˚04, h32km±1km, h31km: pP-P, n691, σ1s 47/704, mb5.1/107, MS4.4/28, 56C-48D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**2.01**	**67**	P	**Pn**	**22 26 04.5**	**-0.1**
MNAI				S	**Sb**	**22 26 33.4**	**-0.1**
MNAI	**Manna**	**2.01**	**67**	P	**Pn**	**22 26 04.6**	**-0.1**
	baz=2.1,SNR=30						
MNAI	**Manna**	**2.01**	**67**	*e*Pn	**Pn**	**22 26 04.9**	**+0.2**
MNAI				*e*Sn	**Sn**	**22 26 23.6**	**-5.2**
KSI	**Kapahiang**	**2.11**	**45**	P	**Pn**	**22 26 05.3**	**-0.8**
PPSI	**Pulau Pagai**	**2.62**	**335**	P	**Pn**	**22 26 10.8**	**-2.3**
PPSI				S	**Sn**	**22 26 42.9**	**-1.0**
LHSI	**Lahat**	**2.76**	**61**	P	**Pn**	**22 26 15.0**	**+0.1**
LWLI	**Liwa**	**2.95**	**87**	P	**Pn**	**22 26 18.1**	**+0.5**
MDSI	**Maura Dua**	**3.14**	**78**	P	**Pn**	**22 26 20.5**	**+0.4**
KASI	**Kota Agung**	**3.40**	**96**	P	**Pn**	**22 26 24.2**	**+0.5**
KLSI		**3.65**	**83**	P	**Pn**	**22 26 28.2**	**+1.1**
KLI	**Kotabumi**	**3.75**	**86**	P	**Pn**	**22 26 29.7**	**+1.1**
SDSI	**Sungai Dareh**	**4.22**	**4**	P	**Pn**	**22 26 33.4**	**-1.6**
SDSI				S	**Pn**	**22 26 33.2**	**-1.8**
PMBI	**Palembang**	**4.28**	**59**	P	**Pn**	**22 26 35.7**	**-0.2**
PMBI	**Palembang**	**4.28**	**59**	⇓P	**Pn**	**22 26 35.6**	**-0.3**
	baz=4.4,SNR=4.3						
SISI	**Saibi**	**4.31**	**332**	P	**Pn**	**22 26 33.9**	**-2.4**
SISI				S	**Pn**	**22 26 35.3**	**-1.0**
JMBI	**JAMBI**	**4.33**	**36**	P	**Pn**	**22 26 36.6**	**+0.1**
PPI	**Padang Panjang**	**4.73**	**351**	P	**Pn**	**22 26 39.9**	**-2.2**
PPI	**Padang Panjang**	**4.73**	**351**	P	**Pn**	**22 26 39.9**	**-2.2**
	baz=4.7,SNR=27						
CGJI	**Cibinong**	**4.79**	**108**	P	**Pn**	**22 26 42.5**	**-0.3**
RGRI	**Rengat**	**4.94**	**14**	P	**Pn**	**22 26 44.8**	**-0.1**
SBJI	**Serang**	**5.09**	**101**	P	**Pn**	**22 26 47.9**	**+0.9**
BKNI	**Bangkinang**	**5.46**	**359**	P	**Pn**	**22 26 49.8**	**-2.2**
BKNI	**Bangkinang**	**5.46**	**359**	⇑P	**Pn**	**22 26 49.7**	**-2.3**
	baz=5.4,SNR=10						
BKNI	**Bangkinang**	**5.46**	**359**	*e*Pn	Pn	22 26 47.6	-4.5
SKJI	**Sukabumi**	**5.72**	**109**	P	**Pn**	**22 26 55.7**	**0.0**
PBSI	**Pulau Batu**	**5.81**	**331**	P	**Pn**	**22 26 55.0**	**-1.9**
PPBI	**Pangkal Pinang**	**5.84**	**59**	P	**Pn**	**22 26 57.6**	**+0.2**
	215nm,0.9s,2μm0.7nm						
CBJI	**Citeko**	**5.85**	**103**	P	Pn	22 27 00.7	+3.2
	1μm,0.7s,10μm3.4nm						
MNSI	**Mandailing Nat**	**6.11**	**346**	P	**Pn**	**22 26 58.9**	**-2.2**
	325nm,0.9s,3μm1.1nm						
CNJI	**Cibinong**	**6.36**	**110**	P	**Pn**	**22 27 03.4**	**-1.0**
LEM	**Lembang**	**6.69**	**105**	P	**Pn**	**22 27 10.5**	**+1.3**
	722nm,0.8s,7μm2.1nm						
LEM	**Lembang**	**6.69**	**105**	Pn	**Pn**	**22 27 10.4**	**+1.3**
	41nm,0.3s,baz=222,slow=5.1,SNR=51						
LEM				Sn	**Sn**	**22 28 24.9**	**+0.5**
	baz=306,slow=19,SNR=2.1						
LEM	**Lembang**	**6.69**	**105**	P	**Pn**	**22 27 10.4**	**+1.3**
LEM						22 28 24.9	
LEM				pmax	pmax		
	comp=Z,41nm,0.3s						
LEM	**Lembang**	**6.69**	**105**	P	**Pn**	**22 27 11.4**	**+2.3**
	baz=6.9,SNR=21						
XMIS	**Christmas Isla**	**6.94**	**140**	*e*Pn	**Pn**	**22 27 10.2**	**-2.3**
XMIS				*e*Sn	Sn	22 28 18.9	-12
TPRI	**Tanjung Pinang**	**6.94**	**30**	P	**Pn**	**22 27 12.1**	**-0.4**
	comp=Z,210nm,1.1s,comp=Z,26μmcomp=Z,1.3nm						
TPI	**Tanjungpandan**	**6.96**	**70**	P	**Pn**	**22 27 13.6**	**+0.9**
	comp=Z,71nm,0.8s,comp=Z,899nmcomp=Z,0.4nm						
BTDF	**Bukit Timah Da**	**7.01**	**22**	⇓P	**Pn**	**22 27 12.5**	**-0.9**
	baz=7.0,SNR=3.4						
BTDF				⇓P	**Pn**	**22 27 12.5**	**-0.9**
	baz=7.0,SNR=3.4						
CISI	**Cisompet, Garu**	**7.08**	**110**	P	**Pn**	**22 27 13.8**	**-0.6**
CISI	**Cisompet, Garu**	**7.08**	**110**	⇓P	**Pn**	**22 27 13.3**	**-1.1**
	baz=7.3,SNR=65						
CISI	**Cisompet, Garu**	**7.08**	**110**	*e*Pn	**Pn**	**22 27 13.3**	**-1.1**
CISI				*e*Sn	**Sn**

MYLDM	**Lahad Datu**	20.19	60	*e*P		**P**		**22 30 06.0**	**+1.0**	
	comp=Z,169nm,0.9s									
UBPT	**Khong Chiam**	20.77	12	P		**P**		**22 30 09.5**	**-1.9**	
	comp=Z,176nm,1.1s,comp=Z,1μm									
APSI	**Ampana**	20.94	79	P		**P**		**22 30 13.6**	**+0.3**	
	comp=Z,256nm,0.9s,comp=Z,2μm									
CHAI	**Chaiyaphum**	20.95	2	P		**P**		**22 30 12.7**	**-0.6**	
	comp=Z,43nm,0.9s,comp=Z,304nm									
MMRI	**Maumere**	21.26	100	*e*P		**P**		**22 30 14.8**	**-1.9**	
	comp=Z,113nm,0.9s									
KDI	**Kendari**	21.48	88	P		**P**		**22 30 19.3**	**+0.2**	
	comp=Z,143nm,1.4s,comp=Z,2μm									
MRSI	**Marisa**	21.55	76	P		**P**		**22 30 19.8**	**-0.1**	
	comp=Z,177nm,0.9s,comp=Z,2μm									
PBKT	**Sadao Pong**	21.60	360	P		**P**		**22 30 18.6**	**-1.6**	
	comp=Z,64nm,0.8s,comp=Z,884nm									
LUWI	**Luwuk**	22.02	80	P		**P**		**22 30 24.5**	**-0.3**	
	comp=Z,235nm,1.0s,comp=Z,2μm									
LUWI	**Luwuk**	22.02	80	P		**P**		**22 30 24.1**	**-0.7**	
	baz=22,SNR=3.9									
LUWI	**Luwuk**	22.02	80	*e*P		**P**		**22 30 21.9**	**-2.9**	
	comp=Z,192nm,0.9s									
SKNT	**Sakolnakorn**	22.18	7	P		**P**		**22 30 24.8**	**-1.7**	
	comp=Z,45nm,0.9s									
LOEI	**Loei**	22.53	0	P		**P**		**22 30 28.0**	**-2.3**	
	comp=Z,140nm,0.9s									
UTTA	**Uttaradit**	22.77	359	P		**P**		**22 30 31.3**	**-1.5**	
	comp=Z,27nm,0.9s,comp=Z,178nm									
BATI	**Baumata**	22.91	104	P		**P**		**22 30 33.9**	**-0.5**	
	comp=Z,160nm,0.9s									
BATI	**Baumata**	22.91	104	P		**P**		**22 30 33.9**	**-0.5**	
	comp=Z,170nm,0.7s,baz=271,slow=3.7,SNR=18									
NONG	**Nongkai**	23.17	5	P		**P**		**22 30 34.5**	**-2.4**	
	comp=Z,195nm,0.8s,comp=Z,8μm									
MHMT	**Maesarieng**	23.40	352	P		**P**		**22 30 38.8**	**-0.4**	
	comp=Z,41nm,1.0s,comp=Z,456nm									
SOEI	**Soe**	23.41	103	P		**P**		**22 30 39.5**	**0.0**	
	comp=Z,150nm,0.9s									
SOEI	**Soe**	23.41	103	P		**P**		**22 30 39.3**	**-0.3**	
	baz=24,SNR=3.2									
SOEI	**Soe**	23.41	103	*e*P		**P**		**22 30 39.2**	**-0.3**	
SOEI				*e*pP		**pP**		**22 30 44.8**	**-3.5**	
SOEI				*e*S		**S**		**22 34 55.2**	**+4.3**	
CM31	**Chiang Mai Arr**	23.57	355	⇓P		**P**		**22 30 40.0**	**-0.8**	
	baz=24,SNR=6.7									
CM31	**Chiang Mai Arr**	23.57	355	*e*P		**P**		**22 30 38.8**	**-2.1**	
CM31				*e*PcP		**PcP**		**22 34 25.9**	**+0.2**	
CMAR	**Chiang Mai Arr**	23.57	355	P		**P**		**22 30 38.8**	**-2.1**	
	comp=Z,53nm,1.0s,baz=187,slow=8.7,SNR=160									
CMAR				PcP		**PcP**		**22 34 25.9**	**+0.2**	
	comp=Z,1.0nm,0.6s,baz=222,slow=3.5,SNR=3.3									
CMAR				LR		LR		22 41 13.6		
	comp=Z,839nm,18.1s,baz=177,slow=40									
CMAR	**Chiang Mai Arr**	23.57	355	P		**P**		**22 30 38.8**	**-2.1**	
CMAR								22 34 26.0		
CMAR				pmax		pmax				
	comp=Z,53nm,1.0s									
CMAR				pmax		pmax				
	comp=Z,1.0nm,0.6s									
CMAR				MLR		MLR				
	comp=Z,839nm,18.1s									
LAMP	**Lampang**	23.58	357	P		**P**		**22 30 41.0**	**0.0**	
	comp=Z,35nm,1.1s,comp=Z,284nm									
CHTO	**Chiang Mai**	23.92	355	P		**P**		**22 30 43.2**	**-1.0**	
	comp=Z,193nm,1.2s,comp=Z,3μm									
CHTO	**Chiang Mai**	23.92	355	*e*P		**P**		**22 30 42.9**	**-1.3**	
CHTO				pmax		pmax				
	comp=Z,58nm,1.2s									
CHTO	**Chiang Mai**	23.92	355	*e*P		**P**		**22 30 42.9**	**-1.3**	
	comp=Z,58nm,1.2s									
MBWA	**Marble Bar**	24.07	133	*e*P		**P**		**22 30 42.6**	**-3.0**	
	comp=Z,111nm,1.9s									
CMAI	**Chiengmai2**	25.02	355	P		**P**		**22 30 56.3**	**+1.9**	
	comp=Z,72nm,1.2s									
SANI	**Sanana**	25.02	84	P		**P**		**22 30 53.9**	**-0.5**	
	comp=Z,122nm,1.2s,comp=Z,2μm									
CRAI	**Chiangrai**	25.25	358	P		**P**		**22 30 52.6**	**-3.7**	
	comp=Z,203nm,0.7s,comp=Z,10μm									
QIZ	**Qiongzhong**	25.54	19	P		**P**		**22 30 59.3**	**+0.4**	
QIZ				pP		**pP**		**22 31 07.8**	**-0.2**	
QIZ				sP		**sP**		**22 31 12.0**	**+0.2**	
QIZ				S		**S**		**22 35 28.0**	**+3.3**	
QIZ				sS		**sS**		**22 35 42.8**	**+3.1**	
QIZ				PMZ						
	comp=Z,220nm,2.8s									
QIZ				LZ						
	comp=Z,2μm,13.8s									
SLVN	**Son La**	26.48	6	*e*P		**P**		**22 31 05.2**	**-2.3**	
	comp=Z,73nm,1.0s									
LBMI	**Labuha**	26.74	81	P		**P**		**22 31 10.7**	**+0.8**	
	comp=Z,298nm,0.9s,comp=Z,2μm									
TNTI	**Ternate**	26.89	78	*e*P		**P**		**22 31 09.0**	**-2.2**	
	comp=Z,118nm,1.1s									
MEEK	**Meekatharra**	27.12	144	⇓P		**P**		**22 31 15.7**	**+2.5**	
	baz=27,SNR=4.4									
FITZ	**Fitzroy Crossi**	27.20	120	⇓P		**P**		**22 31 14.8**	**+0.8**	
	baz=27									
FITZ	**Fitzroy Crossi**	27.20	120	*e*P		**P**		**22 31 14.8**	**+0.8**	
	comp=Z,33nm,1.1s									
MORW	**Morawa**	27.66	151	⇑P		**P**		**22 31 20.4**	**+2.4**	
	baz=28									
H08S2	**Diego Garcia H**	28.53	264	T		T		23 01 14.2		
	baz=83,slow=75									
H08S3	**Diego Garcia H**	28.54	264	T		T		23 01 14.2		
	baz=83									
H08S1	**Diego Garcia H**	28.55	264	T		T		23 01 14.2		
	baz=83,slow=75									
KNRA	**Kununurra**	29.10	113	⇓P		**P**		**22 31 31.3**	**+0.3**	
	baz=29,SNR=3.2									
KMI	**Kunming**	30.15	3	⇑P		**P**		**22 31 41.4**	**+1.0**	
KMI				pP		**pP**		**22 31 50.0**	**+0.5**	
KMI				sP		**sP**		**22 31 53.8**	**+0.4**	
KMI				PP		**PnPn**		**22 32 41.5**	**+3.1**	
KMI				S		**S**		**22 36 39.8**	**+2.1**	
KMI				sS		**sS**		**22 36 55.8**	**+3.0**	
KMI				SS		**ScP**		**22 38 21.0**	**-0.6**	
KMI				PMZ						
	comp=Z,58nm,1.0s									
KMI				PMZ						
	comp=Z,410nm,3.7s									
KMI				LN						
	comp=Z,2μm,18.2s									
KMI				LE						
	comp=Z,3μm,13.9s									
KMI				LZ						
	comp=Z,2μm,13.4s									
SIJI	**Sorong**	30.41	83	P		**P**		**22 31 41.2**	**-1.5**	
	comp=Z,7.7nm,0.7s,baz=311,slow=5.2,SNR=10									
MTN	**Manton Dam**	30.60	106	⇑P		**P**		**22 31 44.9**	**+0.6**	
	baz=31,SNR=3.5									
FAKI	**Fak Fak**	31.15	87	*e*P		P		22 31 44.4	-4.8	
	comp=Z,34nm,1.0s									
NWAO	**Narrogin (SRO)**	31.45	153	P		**P**		**22 31 53.3**	**+1.7**	
	comp=Z,18nm,0.8s,baz=330,slow=9.7,SNR=10									
NWAO	**Narrogin (SRO)**	31.45	153	P		**P**		**22 31 53.3**	**+1.7**	
NWAO				pmax		pmax				
	comp=Z,18nm,0.8s									
NWAO	**Narrogin (SRO)**	31.45	153	⇓P		**P**		**22 31 53.7**	**+2.1**	
	baz=32									
NWAO				⇓P		**P**		**22 31 53.7**	**+2.1**	
	baz=32									
KDU	**Kakadu**	31.85	106	⇓P		**P**		**22 31 54.2**	**-1.1**	
	baz=32,SNR=6.2									
GYA	**Guiyang**	31.90	9	P		**P**		**22 31 56.8**	**+1.1**	
GYA				pP		**pP**		**22 32 06.0**	**+1.2**	
GYA				PP		**PP**		**22 33 05.3**	**-2.8**	
GYA				PcP		**PcP**		**22 34 45.5**	**-0.4**	
GYA				S		**S**		**22 37 07.8**	**+3.0**	
GYA				sS		**sS**		**22 37 23.0**	**+3.1**	
GYA				ScP		**ScP**		**22 38 25.6**	**-1.7**	
GYA				SS		**SnSn**		**22 39 01.8**	**+7.1**	
GYA				PMZ						
	comp=Z,20nm,0.8s									
GYA				PMZ						
	comp=Z,140nm,5.2s									
GYA				LN						
	comp=Z,740nm,16.2s									
GYA				LE						
	comp=Z,670nm,17.0s									
GYA				LZ						
	comp=Z,760nm,16.4s									
H01W3	**Cape Leeuwin H**	31.93	159	T		T		23 06 06.5		
	baz=337,slow=75,SNR=82									
H01W2	**Cape Leeuwin H**	31.95	159	T		T		23 06 04.4		
	baz=337,slow=75,SNR=71									
H01W1	**Cape Leeuwin H**	31.95	159	T		T		23 06 05.1		
	baz=337,slow=75,SNR=72									

KMBL	**Kambalda**	32.55	146	⇑P		**P**		**22 32 02.0**	**+0.7**	
	baz=33,SNR=5.2									
WRKA	**Warakurna**	32.73	130	P		**P**		**22 32 03.9**	**+0.9**	
	baz=33,SNR=8.8									
TWG	**Pinlang**	33.98	34	*e*P		P		22 32 07.6	-6.2	
	comp=Z,250nm,1.4s									
ODAN	**Odare**	34.49	338	*e*P		**P**		**22 32 18.5**	**0.0**	
	comp=Z,78nm,1.1s									
YULB	**Yu-li**	34.56	34	*e*P		**P**		**22 32 18.6**	**-0.3**	
	comp=Z,14nm,0.9s									
TAPN	**Taplejung**	34.82	339	*e*P		**P**		**22 32 22.0**	**+0.6**	
	comp=Z,142nm,1.2s									
RAMN	**Ramite**	34.88	337	*e*P		**P**		**22 32 22.3**	**+0.5**	
	comp=Z,49nm,1.1s									
NACB	**Ninganchiao**	35.34	34	*e*P		**P**		**22 32 25.9**	**+0.3**	
	comp=Z,34nm,1.0s									
WRA	**Warramunga Arr**	35.51	117	P		**P**		**22 32 27.0**	**-0.1**	
	comp=Z,6.7nm,0.8s,baz=293,slow=9.8,SNR=13									
WRA	**Warramunga Arr**	35.51	117	P		**P**		**22 32 27.0**	**-0.1**	
WRA				pmax		pmax				
	comp=Z,7.0nm,0.8s									
WRAB	**Tennant Creek**	35.51	117	P		**P**		**22 32 29.0**	**+1.8**	
	comp=Z,122nm,0.8s,SNR=6.2									
WRAB	**Tennant Creek**	35.51	117	*e*P		**P**		**22 32 25.6**	**-1.6**	
WRAB				*e*PP		**pP**		**22 32 31.8**	**-4.6**	
WRAB	**Tennant Creek**	35.51	117	*e*P		**P**		**22 32 25.6**	**-1.6**	
WRAB				*e*pP		**pP**		**22 32 31.8**	**-4.6**	
YHNB	**Yeheng**	35.62	33	*e*P		**P**		**22 32 28.3**	**+0.3**	
	comp=Z,30nm,1.0s									
PKI	**Pulchoki**	35.90	336	*e*P		**P**		**22 32 30.4**	**-0.3**	
	comp=Z,45nm,1.2s									
PKIN	**Phulchoki**	35.91	336	*e*P		**P**		**22 32 30.4**	**-0.3**	
LSA	**Lhasa**	35.96	345	P		**P**		**22 32 31.5**	**+0.2**	
LSA				PMZ						
	comp=Z,40nm,0.9s									
LSA	**Lhasa**	35.96	345	*e*P		**P**		**22 32 31.6**	**+0.2**	
LSA				pmax		pmax				
	comp=Z,26nm,0.9s									
LSA	**Lhasa**	35.96	345	*e*P		**P**		**22 32 31.6**	**+0.2**	
	comp=Z,26nm,0.9s									
CD2	**Chengdu**	35.96	4	⇑P		**P**		**22 32 29.6**	**-1.2**	
CD2				pP		**pP**		**22 32 38.9**	**-1.2**	
CD2				sP		**sP**		**22 32 43.0**	**-0.9**	
CD2				PP		**PP**		**22 33 52.6**	**-0.4**	
CD2				S		**S**		**22 38 09.1**	**+1.6**	
CD2				sS		**sS**		**22 38 25.0**	**+2.3**	
CD2				PMZ						
	comp=Z,110nm,1.0s									
CD2				PMZ						
	comp=Z,170nm,3.6s									
CD2				LN						
	comp=Z,2μm,17.3s									
CD2				LZ						
	comp=Z,2μm,13.9s									
GUN	**Gumba**	36.02	337	*e*P		**P**		**22 32 31.7**	**0.0**	
	comp=Z,68nm,0.8s									
DMN	**Daman**	36.06	335	*e*P		**P**		**22 32 31.9**	**-0.1**	
	comp=Z,40nm,1.0s									
ENH	**Enshi**	36.14	12	*e*P		**P**		**22 32 31.8**	**-0.6**	
	comp=Z,24nm,0.9s									
KKN	**Kakani**	36.15	336	*e*P		**P**		**22 32 32.6**	**-0.1**	
	comp=Z,38nm,0.9s									
AS12	**Alice Springs**	36.55	123	*e*P		**P**		**22 32 36.4**	**+0.3**	
AS12				*e*PcP		**PcP**		**22 34 59.7**	**+0.4**	
AS12				*e*S		**S**		**22 38 18.1**	**+1.3**	
ASAR	**Alice Springs**	36.55	123	P		**P**		**22 32 36.4**	**+0.3**	
	comp=Z,4.3nm,0.7s,baz=300,slow=7.9,SNR=31									
ASAR				PcP		**PcP**		**22 34 59.7**	**+0.4**	
	comp=Z,2.2nm,0.8s,baz=333,slow=3.6,SNR=3.1									
ASAR				S		**S**		**22 38 18.1**	**+1.3**	
	comp=Z,2.3nm,1.0s,baz=298,slow=16,SNR=6.6									
ASAR	**Alice Springs**	36.55	123	P		**P**		**22 32 36.4**	**+0.3**	
ASAR								22 34 59.7		
ASAR				S		**S**		**22 38 18.2**	**+1.3**	
ASAR				pmax		pmax				
	comp=Z,4.0nm,0.7s									
ASAR				pmax		pmax				
	comp=Z,2.0nm,0.8s									
ASAR				smax		smax				
	comp=N,2.0nm,1.0s									
GKN	**Gorkha**	36.60	335	*e*P		**P**		**22 32 36.4**	**-0.1**	
	comp=N,62nm,1.1s									
KOLN	**Koldanda**	36.85	334	*e*P		**P**		**22 32 38.5**	**-0.1**	
	comp=N,42nm,0.8s									
WHN	**Wuhan**	37.70	19	⇑P		**P**		**22 32 45.8**	**+0.2**	
WHN				S		**S**		**22 38 33.8**	**-0.1**	
WHN				PMZ						
	comp=N,130nm,1.0s									
WHN				LN						
	comp=N,2μm,12.6s									
WHN				LE						
	comp=N,5μm,15.8s									
WHN				LZ						
	comp=N,4μm,12.5s									
JAY	**Jayapura**	39.59	88	P		**P**		**22 33 01.2**	**-0.6**	
	comp=N,11nm,0.9s,baz=288,slow=20,SNR=3.3									
JAY	**Jayapura**	39.59	88	P		**P**		**22 33 01.2**	**-0.6**	
JAY				pmax		pmax				
	comp=Z,11nm,0.9s									
XAN	**Xi'an**	39.69	10	P		**P**		**22 33 01.4**	**-0.9**	
XAN				pP		**pP**		**22 33 11.3**	**-0.3**	
XAN				sP		**sP**		**22 33 15.8**	**+0.4**	
XAN				PP		**PnPn**		**22 34 40.5**	**+3.4**	
XAN				PcP		**PcP**		**22 35 05.6**	**-3.1**	
XAN				S		**S**		**22 39 05.1**	**+1.2**	
XAN				SS		**SS**		**22 41 58.8**	**-1.5**	
XAN				PMZ						
	comp=Z,35nm,1.0s									
XAN				PMZ						
	comp=Z,41nm,6.2s									
XAN				LN						
	comp=Z,1μm,10.9s									
XAN				LE						
	comp=Z,190nm,15.5s									
XAN				LZ						
	comp=Z,550nm,11.9s									
QIS	**Mount Isa**	40.39	116	⇓P		**P**		**22 33 10.0**	**+1.7**	
	baz=41,SNR=3.6									
NJ2	**Nanjing**	40.69	23	*e*P		**P**		**22 33 09.3**	**-1.2**	
NJ2				pP		**pP**		**22 33 18.5**	**-1.4**	
NJ2				sP		**sP**		**22 33 22.4**	**-1.3**	
NJ2				S		**S**		**22 39 20.0**	**+1.2**	
NJ2				sS		**sS**		**22 39 34.0**	**-0.2**	
NJ2				PMZ						
	comp=Z,20nm,0.6s									
NJ2				PMZ						
	comp=Z,380nm,8.5s									
NJ2				LN						
	comp=Z,2μm,15.3s									
NJ2				LE						
	comp=Z,1μm,15.4s									
NJ2				LZ						
	comp=Z,1μm,15.0s									
LZH	**Lanzhou**	41.12	3	*e*P		**P**		**22 33 14.5**	**+0.3**	
LZH				pP		**pP**		**22 33 23.6**	**+0.1**	
LZH				sP		**sP**		**22 33 27.1**	**-0.2**	
LZH				PcP		**PcP**		**22 35 14.8**	**+1.4**	
LZH				*e*S		**S**		**22 39 28.0**	**+2.6**	
LZH				sS		**sS**		**22 39 44.1**	**+3.3**	
LZH				PMZ						
	comp=Z,93nm,1.0s									
LZH				PMZ						
	comp=Z,240nm,4.2s									
LZH				LN						
	comp=Z,2μm,13.2s									
LZH				LE						
	comp=Z,2μm,15.8s									
LZH				LZ						
	comp=Z,3μm,16.2s									
TIA	**Tai'an**	43.81	19	⇑P		**P**		**22 33 35.1**	**-0.9**	
TIA				S		S		22 40 13.8	+9.0	
TIA				PMZ						
	comp=Z,40nm,1.0s									
TIA				LN						
	comp=Z,620nm,14.3s									
TIA				LE						
	comp=Z,1μm,16.1s									
TIA				LZ						
	comp=Z,330nm,14.8s									
MTSU	**Mount Surprise**	44.12	111	P		**P**		**22 33 39.9**	**+1.2**	
	baz=44,SNR=5.9									
GTA	**Gaotai**	44.37	359	⇑P		**P**		**22 33 40.3**	**-0.2**	
GTA				pP		**pP**		**22 33 50.3**	**+0.4**	
GTA				sP		**sP**		**22 33 54.5**	**+0.8**	
GTA				PcP		**PP**		**22 35 24.9**	**+0.4**	
GTA				S		**S**		**22 40 15.0**	**+1.9**	

GTA				sS		**sS**		**22 40 30.9**	**+2.3**	
GTA				SS		**SS**		**22 43 26.8**	**-6.0**	
GTA				PMZ						
	comp=Z,18nm,1.2s									
GTA				PMZ						
	comp=Z,140nm,4.9s									
GTA				LN						
	comp=Z,1μm,14.2s									
GTA				LE						
	comp=Z,1μm,15.2s									
GTA				LZ						
	comp=Z,1μm,15.2s									
HTT	**Hallett**	45.01	134	⇓P		**P**		**22 33 46.6**	**+0.9**	
	baz=45,SNR=4.8									
PMG	**Port Moresby**	45.85	98	*e*P		**P**		**22 33 53.5**	**+0.9**	
PMG				pmax		pmax				
	comp=Z,220nm,0.9s									
PMG	**Port Moresby**	45.85	98	⇓P		**P**		**22 33 53.5**	**+0.9**	
	baz=46									
PMG				⇓P		**P**		**22 33 53.5**	**+0.9**	
	baz=46									
PMG				⇓P		**P**		**22 33 53.5**	**+0.9**	
	baz=46									
PMG	**Port Moresby**	45.85	98	*e*P		**P**		**22 33 53.5**	**+0.9**	
	comp=Z,220nm,0.9s									
STKA	**Stephens Creek**	46.26	130	P		**P**		**22 33 56.3**	**+0.8**	
	comp=Z,9.1nm,0.8s,baz=299,slow=8.1,SNR=24									
STKA	**Stephens Creek**	46.26	130	P		**P**		**22 33 56.3**	**+0.8**	
STKA				pmax		pmax				
	comp=Z,9.0nm,0.8s									
STKA	**Stephens Creek**	46.26	130	⇑P		**P**		**22 33 56.5**	**+0.9**	
	baz=46									
STKA	**Stephens Creek**	46.26	130	*e*P		**P**		**22 33 56.8**	**+1.3**	
	comp=Z,3.7nm,0.8s									
CTA	**Charters Tower**	46.31	113	P		**P**		**22 33 56.9**	**+0.8**	
	comp=Z,18nm,1.0s,baz=324,slow=8.4,SNR=4.9									
CTA	**Charters Tower**	46.31	113	P		**P**		**22 33 56.9**	**+0.8**	
CTA				pmax		pmax				
	comp=Z,18nm,1.0s									
CTAO	**Charters Tower**	46.31	113	*e*P		**P**		**22 33 57.1**	**+1.0**	
CTAO				pmax		pmax				
	comp=Z,42nm,1.0s									
CTAO	**Charters Tower**	46.31	113	*e*P		**P**		**22 33 57.1**	**+1.0**	
	comp=Z,42nm,1.0s									
QLP	**Quilpie**	46.31	122	P		**P**		**22 33 57.7**	**+1.7**	
	baz=46,SNR=8.2									
HHC	**Hu-ho-hao-te**	46.79	11	*e*P		**P**		**22 34 00.3**	**+0.7**	
HHC				PP		**PP**		**22 35 50.6**	**+0.5**	
HHC				S		**S**		**22 40 49.9**	**+2.1**	
HHC				sS		**sS**		**22 41 06.4**	**+3.0**	
HHC				PMZ						
	comp=Z,51nm,0.8s									
HHC				PMZ						
	comp=Z,140nm,9.9s									
HHC				LN						
	comp=Z,1μm,12.4s									
HHC				LE						
	comp=Z,910nm,11.2s									
HHC				LZ						
	comp=Z,1μm,12.6s									
BJT	**Baijiatuan**	47.05	16	*e*P		**P**		**22 34 02.1**	**+0.5**	
BJT				pmax		pmax				
	comp=Z,192nm,0.8s									
BJT	**Baijiatuan**	47.05	16	*e*P		**P**		**22 34 02.0**	**+0.5**	
	comp=Z,192nm,0.8s									
BJI	**Beijing**	47.08	16	P		**P**		**22 34 01.9**	**+0.2**	
BJI				PP		**PP**		**22 35 51.5**	**-1.4**	
BJI				S		**S**		**22 40 55.0**	**+3.3**	
BJI				PMZ						
	comp=Z,240nm,0.9s									
BJI				PMZ						
	comp=Z,1μm,4.3s									
BJI				LN						
	comp=Z,470nm,18.3s									
BJI				LE						
	comp=Z,1μm,20.3s									
BJI				LZ						
	comp=Z,3μm,16.1s									
JNU	**Nakatsue**	47.40	34	P		**P**		**22 34 03.7**	**-0.8**	
	comp=Z,30nm,1.1s,baz=197,slow=4.5,SNR=13									
JNU	**Nakatsue**	47.40	34	*e*P		**P**		**22 34 04.2**	**-0.2**	
	comp=Z,74nm,1.3s									
DL2	**Dalian**	47.79	22	P		**P**		**22 34 07.0**	**-0.3**	
DL2				S		S		22 41 08.5	+6.5	
DL2				PMZ						
	comp=Z,50nm,1.5s									
DL2				LN						
	comp=Z,420nm,12.8s									
DL2				LE						
	comp=Z,480nm,12.5s									
DL2				LZ						
	comp=Z,520nm,13.3s									
KS15	**Wonju Array Si**	49.19	28	*e*P		**P**		**22 34 17.4**	**-0.7**	
KSAR	**Wonju Array Be**	49.19	28	P		**P**		**22 34 17.4**	**-0.7**	
KSAR	**Wonju Array Be**	49.19	28	P		**P**		**22 34 17.4**	**-0.7**	
KSRS	**Korea Array**	49.22	28	P		**P**		**22 34 17.4**	**-0.9**	
	comp=Z,22nm,0.9s,baz=213,slow=8.0,SNR=54									
KSRS	**Korea Array**	49.22	28	P		**P**		**22 34 17.4**	**-0.9**	
KSRS				pmax		pmax				
	comp=Z,22nm,0.9s									
CMSA	**Cobar Meteorol**	49.29	128	⇑P		**P**		**22 34 20.4**	**+1.3**	
	baz=50,SNR=11									
RMQ	**Roma**	50.14	120	P		**P**		**22 34 27.4**	**+1.8**	
	baz=50,SNR=7.3									
KSH	**Kashi**	50.15	335	P		**P**		**22 34 23.8**	**-1.7**	
KSH				pP		**pP**		**22 34 35.1**	**0.0**	
KSH				PP		**PP**		**22 36 20.3**	**-0.7**	
KSH				S		**S**		**22 41 31.0**	**-4.4**	
KSH				sS		**sS**		**22 41 50.1**	**-1.0**	
KSH				SS		**SS**		**22 45 03.3**	**-5.9**	
KSH				PMZ						
	comp=Z,24nm,0.8s									
KSH				PMZ						
	comp=Z,430nm,6.2s									
K

comp=Z,14nm,0.8s
TKM2 Tokmak 2 53.16 337 *e*P **P** **22 34 47.6 -0.5**
comp=Z,14nm,0.8s
CN2 Changchun 53.46 22⇑ *i*P **P** **22 34 49.3 -0.7**
CN2 *e*pP **pP** **22 35 00.8 +1.2**
CN2 *e*S **S** **22 42 20.3 -0.3**
CN2 PMZ
comp=Z,50nm,1.0s
CN2 PMZ
comp=Z,160nm,3.0s
CN2 LN
comp=Z,1μm,14.0s
CN2 LE
comp=Z,610nm,14.0s
CN2 LZ
comp=Z,490nm,14.0s
FRU Bishkek 53.48 336 *e*P **P** **22 34 50.0 -0.2**
FRU *e* 22 35 02.0
EKS2 Erkin-Say 53.68 335 *e*P **P** **22 34 51.6 -0.2**
EKS2 pmax pmax
comp=Z,24nm,0.8s
EKS2 Erkin-Say 53.68 335 *e*P **P** **22 34 51.6 -0.2**
comp=Z,24nm,0.8s
MAJO Matsushiro 54.08 37*c i*P **P** **22 34 52.9 -1.8**
MAJO pmax pmax
comp=Z,142nm,1.0s
MAJO Matsushiro 54.08 37 *e*P **P** **22 34 53.2 -1.5**
comp=Z,23nm,0.9s
MAT Matsushiro 54.08 37 P **P** **22 34 53.1 -1.6**
MAT S **S** **22 42 33.8 +4.6**
MJAR Matsushiro Arr 54.08 37 P **P** **22 34 53.3 -1.4**
comp=Z,26nm,0.9s,baz=218,slow=8.3,SNR=80
MJAR Matsushiro Arr 54.08 37 P **P** **22 34 53.3 -1.4**
MJAR pmax pmax
comp=Z,27nm,0.9s
MK31 Makanchi Array 54.35 344 P **P** **22 34 56.3 -0.2**
baz=54,SNR=20
MK32 Makanchi Array 54.35 344 *e*P **P** **22 34 55.9 -0.7**
MKAR Makanchi Array 54.35 344 P **P** **22 34 55.8 -0.7**
comp=Z,24nm,0.9s,baz=148,slow=8.2,SNR=102
MKAR LR LR 23 01 46.5
comp=Z,132nm,18.2s,baz=157,slow=40
MKAR Makanchi Array 54.35 344 *i* P **P** **22 34 56.0 -0.6**
MKAR pmax pmax
comp=Z,24nm,0.9s
MKAR Makanchi Array 54.35 344 *e*P **P** **22 34 56.4 -0.2**
MSHR Mys Shultsa 54.80 27 *e*P **P** **22 35 00.4 +0.6**
ZAK Zakamensk 55.36 2 *e*P **P** **22 35 03.8 0.0**
ZAK pmax pmax
comp=Z,10.0nm,1.0s
KKAR Karatay Array 55.46 333 *e*P **P** **22 35 03.5 -1.1**
KKAR Karatay Array 55.46 333 *e*P **P** **22 35 03.5 -1.1**
VLA Vladivostok 55.55 27⇓ *e*P **P** **22 35 05.5 +0.3**
VLA pmax pmax
comp=Z,43nm,0.9s
MDJ Mudanjiang 55.77 24 P **P** **22 35 06.8 +0.1**
MDJ pP **pP** **22 35 15.8 -0.6**
MDJ sP **sP** **22 35 19.6 -0.5**
MDJ ScP **ScP** **22 40 00.3 -2.3**
MDJ PcS **PcS** **22 40 04.6 -1.2**
MDJ S **S** **22 42 55.0 +3.5**
MDJ sS **sS** **22 43 09.3 +1.9**
MDJ PMZ
comp=Z,27nm,1.1s
MDJ PMZ
comp=Z,91nm,3.7s
MDJ LN
comp=Z,560nm,12.7s
MDJ LE
comp=Z,520nm,15.0s
MDJ LZ
comp=Z,850nm,13.8s
MDJ Mudanjiang 55.77 24 *e*P **P** **22 35 06.9 +0.1**
comp=Z,25nm,0.9s
USRK Ussurisyk Ar. 56.45 26 P **P** **22 35 11.6 -0.1**
comp=Z,80nm,0.8s,baz=220,slow=6.3,SNR=119
HIA Hailar 56.59 15 *e*P **P** **22 35 12.1 -0.5**
HIA pmax pmax
comp=Z,22nm,0.9s
HIA Hailar 56.59 15 *e*P **P** **22 35 12.1 -0.5**
comp=Z,22nm,0.9s
IRK Irkutsk 57.25 2 *e*P **P** **22 35 17.3 +0.1**
IRK pmax pmax
comp=Z,49nm,2.8s
ABKT Ailbek 58.57 321 P **P** **22 35 26.3 -0.5**
comp=Z,121nm,1.0s,SNR=5.1
GEYT Alibeck 58.57 321 P **P** **22 35 26.1 -0.8**
comp=Z,12nm,1.1s,baz=158,slow=4.7,SNR=22
KURK Kurchatov 58.94 344 P **P** **22 35 28.6 -0.4**
comp=Z,162nm,1.0s,SNR=15
KURK Kurchatov 58.94 344 *e*P **P** **22 35 27.7 -1.3**
KURK pmax pmax
comp=Z,13nm,0.9s
KURK Kurchatov 58.94 344 *e*P **P** **22 35 27.7 -1.3**
comp=Z,13nm,0.9s
KLR Kul'dur 60.38 23 *e*P P 22 35 34.7 -4.3
KLR *e*S SKSac 22 45 22.5 -4.7
KLR pmax pmax
comp=Z,88nm,1.6s
KLR MLR MLR
comp=Z,4μm,12.5s
ZAA0 Zalesovo Array 60.46 349 P **P** **22 35 39.2 -0.2**
baz=61,SNR=35
ZALV Zalesovo Beam 60.46 349 P **P** **22 35 38.8 -0.7**
comp=Z,64nm,0.9s,baz=172,slow=4.5,SNR=170
ZALV LR LR 23 04 38.9
comp=Z,192nm,19.7s,baz=262,slow=39
ZALV Zalesovo Beam 60.46 349 P **P** **22 35 38.8 -0.7**
ZALV pmax pmax
comp=Z,64nm,0.9s
ZALV MLR MLR
comp=Z,193nm,19.7s
ZAA1 Zalesovo Array 60.47 349 *e*P **P** **22 35 38.8 -0.7**
ERM Erimo 60.56 35*d i*P **P** **22 35 40.1 -0.3**
ERM pmax pmax
comp=Z,30nm,1.2s
ERM Erimo 60.56 35 *e*P **P** **22 35 40.0 -0.3**
comp=Z,28nm,0.9s
HABR Khabarovsk 61.12 25 *e*P **P** **22 35 41.6 -2.4**
HABR *e**PP **pP** **22 35 51.9 -1.8**
HABR *e**SP **sP** **22 35 55.9 -1.5**
HABR 22 36 23.7
HABR *e* 22 37 56.8
HABR *e*S **S** **22 43 59.4 -1.6**
HABR *e*S S 22 44 12.5 +11
HABR *e**SS **sS** **22 44 17.3 +0.3**
HABR *e* 22 45 30.1
HABR pmax pmax
comp=Z,50nm,1.2s
HABR MLR MLR
comp=Z,324nm,17.0s
NVS Novosibirsk 61.62 348 *e*P **P** **22 35 45.2 -2.0**
NVS *e*S **S** **22 44 02.0 -5.2**
NVS pmax pmax
comp=N,14nm,1.1s
NVS pmax pmax
comp=E,12nm,1.1s
NVS pmax pmax
comp=Z,27nm,1.1s
NVS smax smax
comp=N,11nm,2.2s
NVS smax smax
comp=E,19nm,2.2s
BVAR Borovoye Array 63.52 340 P **P** **22 35 58.5 -1.5**
comp=E,6.8nm,0.9s,baz=142,slow=7.5,SNR=31
BVAR Borovoye Array 63.52 340 P **P** **22 35 58.5 -1.5**
BVAR pmax pmax
comp=Z,7.0nm,0.9s
BVAR Borovoye Array 63.52 340 P **P** **22 35 58.5 -1.5**
BVAR Borovoye Array 63.52 340 P **P** **22 35 58.5 -1.5**
YSS Yuzh-Sakhalins 63.60 31 *e*P **P** **22 36 00.0 -0.6**
YSS *e* 22 36 08.7
BOD Bodaibo 63.64 8⇓ *i*P **P** **22 36 00.1 -0.6**
BOD pmax pmax
comp=Z,27nm,1.0s
KMBO Kilima Mbogo 63.86 271 P **P** **22 36 04.2 +0.8**
comp=Z,1.5nm,1.0s,baz=39,slow=14,SNR=2.7
KMBO Kilima Mbogo 63.86 271 P **P** **22 36 04.2 +0.8**
KMBO pmax pmax
comp=Z,2.0nm,1.0s
KMBO Kilima Mbogo 63.86 271 *e*P **P** **22 36 04.2 +0.8**
comp=Z,25nm,1.1s
ABKAR Akbulak array 64.93 332 *e*P **P** **22 36 08.3 -1.0**
AKTO Aktyubinsk 66.65 332 P **P** **22 36 18.9 -1.5**
comp=Z,4.2nm,0.9s,baz=131,slow=8.1,SNR=11
AKTO LR LR 23 07 03.6
comp=Z,74nm,21.1s,baz=127,slow=38
AKTO Aktyubinsk 66.65 332 P **P** **22 36 18.9 -1.5**
AKTO pmax pmax
comp=Z,4.0nm,0.9s
AKTO MLR MLR
comp=Z,74nm,21.1s
MAW Mawson 67.52 195 P **P** **22 36 25.9 +0.3**
comp=Z,2.7nm,0.8s,baz=24,slow=9.3,SNR=4.4
MAW LR LR 23 00 06.3
comp=Z,246nm,20.3s,baz=60,slow=31
MAW Mawson 67.52 195 P **P** **22 36 25.9 +0.3**
MAW pmax pmax
comp=Z,3.0nm,0.8s
MAW MLR MLR
comp=Z,246nm,20.3s
MAW Mawson 67.52 195 *e*P **P** **22 36 27.3 +1.7**
comp=Z,1.7nm,1.1s
MAW *e*PKKSdf PKKSdf 23 00 06.3 -3.7
SVE Sverdlovsk 70.01 338⇑ *i*P **P** **22 36 41.3 0.0**
SVE *e*PPP PPP 22 40 55.4
SVE *e*S **S** **22 45 48.0 -1.5**
SVE *e*SS **SS** **22 50 24.9 +5.4**
SVE pmax pmax
comp=Z,37nm,1.1s
SVE MLR MLR
comp=Z,275nm,21.0s
MBAR Mbarara 70.39 271 *e*P **P** **22 36 45.1 +0.4**
MBAR pmax pmax
comp=Z,11nm,1.0s
MBAR Mbarara 70.39 271 *e*P **P** **22 36 45.1 +0.4**
comp=Z,11nm,1.0s
YAK Yakutsk 70.52 14 LR LR 23 12 56.0
comp=Z,318nm,18.5s,baz=270,slow=40
YAK Yakutsk 70.52 14 *e*P **P** **22 36 43.0 -1.3**
YAK *e**PP **pP** **22 36 51.4 -2.7**
YAK *e* 22 37 03.1
YAK *e* 22 39 14.5
YAK *e*PPP PPP 22 41 03.5
YAK *e*S **S** **22 45 55.8 +0.5**
YAK *e**SS **sS** **22 46 13.4 +1.9**
YAK *e* 22 46 43.9
YAK *e*SS **SS** **22 50 23.4 -3.7**
YAK *e*SSS SSS 22 53 36.5
YAK pmax pmax
comp=E,24nm,1.5s
YAK pmax pmax
comp=Z,67nm,0.9s
YAK pmax pmax
comp=N,20nm,1.0s
YAK pmax pmax
comp=Z,105nm,4.2s
YAK smax smax
comp=N,28nm,3.5s
YAK smax smax
comp=E,11nm,1.7s
YAK MLR MLR
comp=N,573nm,21.0s
YAK MLR MLR
comp=E,746nm,17.0s
YAK MLR MLR
comp=Z,1μm,17.0s
YAK Yakutsk 70.52 14 *e*P **P** **22 36 43.3 -1.0**
comp=Z,79nm,0.9s
ARU Arti 70.53 337 P **P** **22 36 43.3 -1.2**
baz=153,slow=2.3
ARU Arti 70.53 337*c i*P **P** **22 36 43.6 -0.9**
ARU 22 37 03.3
ARU PPP PPP 22 41 01.0
ARU S **S** **22 45 56.7 +1.1**
ARU SS **SS** **22 50 29.3 +1.8**
ARU pmax pmax
comp=Z,20nm,1.0s
ARU MLR MLR
comp=Z,258nm,18.0s
ARU Arti 70.53 337 P **P** **22 36 43.6 -0.9**
comp=Z,90nm,1.0s,SNR=7.8
ARU Arti 70.53 337 *e*P **P** **22 36 43.5 -0.9**
comp=Z,18nm,1.0s
ASF Jabal al Asfar 71.33 306 P **P** **22 36 50.9 +0.9**
comp=Z,0.9nm,0.4s,baz=70,slow=5.0,SNR=4.2
ASF Jabal al Asfar 71.33 306 P **P** **22 36 50.9 +0.9**
ASF pmax pmax
comp=Z,1.0nm,0.4s
KBZ Khabaz 71.41 319 P **P** **22 36 49.8 -0.3**
comp=Z,3.6nm,1.0s,baz=87,slow=1.1,SNR=4.8
KBZ Khabaz 71.41 319 P **P** **22 36 49.8 -0.3**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
KIV Kislovodsk 71.65 320⇑ *e*P **P** **22 36 48.9 -2.8**
KIV *e* 22 37 06.9
KIV *i* 22 39 26.8
KIV *i* S **S** **22 46 10.0 +0.7**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,85nm,16.0s
GOF Gofitskoye 71.92 321 *e*P P 22 37 02.0 +8.9
GOF pmax pmax
comp=Z,30nm,1.3s
EIL Elat 72.16 303 P **P** **22 36 55.0 +0.1**
comp=Z,3.6nm,0.8s,baz=79,slow=7.5,SNR=2.6
MALT Malatya 72.28 313⇑ P P 22 37 05.3 +10
MALT Malatya 72.28 313 *i*P P 22 37 05.3 +10
MMAI Mount Meron Ar 72.79 307 P **P** **22 36 59.4 +0.7**
comp=Z,3.5nm,0.9s,baz=56,slow=10,SNR=3.9
SKR Severo-Kuril's 72.89 33 *e*P **P** **22 36 56.0 -2.7**
SKR pmax pmax
comp=Z,110nm,1.0s
PETK Petropavlovsk- 74.98 31 P **P** **22 37 10.7 -0.3**
comp=Z,9.2nm,0.9s,baz=211,slow=5.2,SNR=8.6
PETK Petropavlovsk- 74.98 31 P **P** **22 37 10.7 -0.3**
PETK pmax pmax
comp=Z,9.0nm,0.9s
PEA2 Petropavlovsk- 74.98 31 *e*P **P** **22 37 10.7 -0.3**
BOSA Boshof 75.12 242 P **P** **22 37 12.8 +0.2**
comp=Z,8.3nm,1.0s,baz=92,slow=9.9,SNR=6.8
BOSA LR LR 23 05 32.7
comp=Z,219nm,18.4s,baz=102,slow=32
BOSA Boshof 75.12 242 P **P** **22 37 12.8 +0.2**
BOSA pmax pmax
comp=Z,8.0nm,1.0s
BOSA MLR MLR
comp=Z,219nm,18.4s
BKZ Black Stump Fm 75.43 129 *e*P P 22 37 18.9 +4.8
comp=Z,30nm,0.8s
PET Petropavlovsk 75.43 32 *e*P **P** **22 37 13.2 -0.4**
PET *e*S **S** **22 46 52.4 +0.9**
PET pmax pmax
comp=Z,45nm,0.9s
PET pmax pmax
comp=Z,100nm,17.7s
MA2 Magadan 75.46 24 *i* P **P** **22 37 14.1 +0.5**
BR101 Keskin Array S 76.26 313 *e*P **P** **22 37 17.6 -1.2**
BRTR Keskin Array B 76.26 313 P **P** **22 37 17.6 -1.2**
comp=Z,1.4nm,0.7s,baz=141,slow=6.8,SNR=9.5
BRTR LR LR 23 13 03.8
comp=Z,73nm,18.4s,baz=112,slow=38
BRTR Keskin Array B 76.26 313 P **P** **22 37 17.7 -1.2**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR MLR MLR
comp=Z,73nm,18.4s
VSR Storozhevoye 76.99 325 *e*P **P** **22 37 20.8 -1.7**
VSR pmax pmax
comp=N,6.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
SIM Simferopol' 77.67 318 *e*P **P** **22 37 27.0 +0.5**
SIM *e*S **S** **22 47 22.0 +5.6**
SIM pmax pmax
comp=Z,18nm,0.6s
LPSR Galich'ya Gora 77.72 326 *e*P **P** **22 37 25.7 -0.8**
LPSR pmax pmax
comp=N,6.0nm,0.8s
LPSR pmax pmax
comp=E,3.0nm,0.8s
LPSR pmax pmax
comp=Z,10.0nm,0.8s
SEY Seymchan 78.14 21 P **P** **22 37 28.8 +0.2**
comp=Z,23nm,0.9s,baz=227,slow=5.4,SNR=34
SEY Seymchan 78.14 21*c i*P **P** **22 37 29.4 +0.7**
VNDA Vanda 78.86 169 P **P** **22 37 33.9 +1.4**
comp=Z,5.2nm,0.8s,baz=338,slow=4.5,SNR=17
VNDA Vanda 78.86 169 *e*P **P** **22 37 33.7 +1.2**
VNDA pmax pmax
comp=Z,9.0nm,0.9s
VNDA Vanda 78.86 169 *e*P **P** **22 37 33.7 +1.2**
comp=Z,8.7nm,0.9s
PRGR Permogore 78.99 336⇓ *i*P **P** **22 37 32.3 -1.0**
PRGR *e* 22 37 40.2
PRGR *e**PP **pP** **22 37 42.6 -0.7**
PRGR pmax pmax
comp=Z,20nm,0.9s
MOS Moscow 79.76 329 *e*P **P** **22 37 36.1 -1.6**
MOS *e* 22 37 44.9
SBA Scott Base 79.96 169 *e*P **P** **22 37 41.1 +2.7**
SBA pmax pmax
comp=Z,109nm,2.5s
SBA Scott Base 79.96 169 *e*P **P** **22 37 41.0 +2.7**
comp=Z,109nm,2.5s
KARP Karpathos 80.04 307 *e*P P 22 37 45.0 +5.3
OBN Obninsk 80.05 328 P **P** **22 37 38.8 -0.4**
comp=Z,6.4nm,0.5s,baz=201,slow=4.2,SNR=5.3
OBN Obninsk 80.05 328⇓ *i*P **P** **22 37 39.1 -0.1**
OBN *e* 22 37 47.8
OBN *i* 22 40 42.4
OBN *i* S S 22 47 30.1 -11
OBN pmax pmax
comp=Z,34nm,2.5s
OBN Obninsk 80.05 328 *e*P **P** **22 37 39.2 -0.1**
TIRR Tirgusor 81.39 316 ⇓P P 22 37 54.7 +8.1
TIRR Tirgusor 81.39 316⇓ *i*P P 22 37 54.7 +8.1
CHOS Chios island 81.57 310 *e*P P 22 37 57.5 +10
PRK Paraskevi 81.60 311 *e*P **P** **22 37 48.0 +0.1**
APE Apeiranthos 81.67 308 *e*P P 22 37 56.5 +8.1
ALN Alexandroupoli 82.16 312 *e*P **P** **22 37 48.5 -2.3**
TSUM Tsumeb 82.21 251 *e*P **P** **22 37 52.8 +1.1**
comp=Z,6.9nm,1.1s
VAM Vamos 82.37 307 *e*P sP 22 38 09.5 +3.8
RDO Rodhopi 82.59 312 *e*PP PP 22 41 06.1 +3.1
AKASG Malin Array Be 82.65 322 P **P** **22 37 51.7 -1.4**
comp=Z,0.7nm,0.6s,baz=87,slow=5.2,SNR=8.9
AKASG LR LR 23 19 37.3
comp=Z,59nm,18.1s,baz=90,slow=39
AKASG Malin Array Be 82.65 322 P **P** **22 37 51.7 -1.4**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG MLR MLR
comp=Z,59nm,18.1s
AKBB Malin Array Si 82.65 322 *e*P **P** **22 37 51.7 -1.4**
AKBB Malin Array Si 82.65 322 *e*P **P** **22 37 51.7 -1.4**
VRI Vrincioaia 82.91 317⇑ P **P** **22 37 55.3 +0.6**
VRI Vrincioaia 82.91 317⇑ *i*P **P** **22 37 55.3 +0.6**
SULR 82.93 316⇑ *i*P P 22 37 59.9 +5.2
PLOR Plostina 82.96 317⇑ P P 22 38 03.0 +8.1
PLOR Plostina 82.96 317⇑ *i*P P 22 38 03.0 +8.1
TESR Tescani 83.13 318⇓ *i*P **P** **22 37 58.0 +2.2**
TMCR Tamitsa 83.27 337 *e*P **P** **22 37 54.7 -1.3**
TMCR *e* 22 41 08.8
TMCR pmax pmax
comp=Z,11nm,0.8s
KAVA Kavala 83.31 312 *e*P P 22 38 05.5 +8.7
MLR Muntele Rosu 83.34 317⇑ P **P** **22 37 57.6 +0.5**
MLR Muntele Rosu 83.34 317⇑ *i*P **P** **22 37 57.6 +0.5**
OUR Ouranopolis 83.57 311 *e*P sP 22 38 11.0 -0.8
DIDY Didyma 83.57 308 *e*P P 22 38 06.0 +7.6
KRND KRANIDI 83.60 308 *e*P P 22 38 06.0 +7.6
PRAR RASCA 83.62 319⇑ *i*P P 22 38 05.5 +7.2
PAIG Paliouri 83.71 311 *e*P P 22 38 08.0 +9.1
SMIA Simia 83.85 310 *e*P P 22 38 04.0 +4.3
NVR Nevrokopi 83.87 312 *e*P P 22 38 07.0 +7.2
SMY Shemya 83.91 36 *e*P **P** **22 37 59.5 -0.1**
SMY Shemya 83.91 36 *e*P **P** **22 37 59.5 -0.1**
VOIR 83.94 317⇓ P P 22 38 04.3 +4.2
VOIR 83.94 317⇓ *i*P P 22 38 04.3 +4.2
XOR Xorichti 83.96 310 *e*P P 22 38 04.5 +4.3
SRS Serrai 84.02 312 *e*P P 22 38 05.0 +4.5
SOH Sokhos 84.14 312 *e*P P 22 38 07.0 +5.9
ARR Arges 84.21 316⇓ *i*P P 22 38 05.1 +3.7
AXAR Agios Charalam 84.25 310 *e*P P 22 38 09.5 +7.8
DESF Desfina 84.28 309 *e*P P 22 38 09.5 +7.6
HORT Hortiatis 84.28 312 *e*P P 22 38 09.0 +7.1
DSF Desfina 84.28 309 *e*P P 22 38 09.5 +7.6
GUR Goura 84.33 309 *e*P **P** **22 38 05.0 +2.7**
BURAR Bucovina Array 84.35 319⇑ P **P** **22 38 04.3 +2.2**
BURAR Bucovina Array 84.35 319⇑ *i*P **P** **22 38 04.3 +2.2**
ITM Ithomi 84.52 308 *e*P sP 22 38 19.5 +2.7
KNT Kendrikon 84.54 312 *e*P **P** **22 38 05.5 +2.4**
AGG Agios Georgios 84.55 310 *e*P P 22 37 54.5 -8.7
KALE Kalithea 84.58 309 *e*P **P** **22 38 02.5 -0.9**
VTS Vitosha 84.61 314 ⇓P **P** **22 38 03.5 -0.1**
VTS Vitosha 84.61 314⇓ *i*P **P** **22 38 03.5 -0.1**
LIT Litokhoron 84.64 311 *e*P P 22 38 08.0 +4.3
LAKA Lakka 84.67 309 *e*P **P** **22 38 04.0 +0.1**
MAKR Makrakomi, Fth 84.70 310 *e*P P 22 38 12.0 +8.0
EFP Efpalio 84.76 309 *e*P P 22 38 15.0 +11
LOT Lotru 84.82 316⇑ *i*P P 22 38 08.8 +4.2
DRO Drossia 84.83 309 *e*P P 22 38 09.5 +4.8
THL Kokkos Trika 84.89 310 *e*P P 22 37 55.0 -10
EVR Evrytania 84.93 310 *e*P P 22 38 13.5 +8.3
CJR Cluj-Napoca 85.22 318⇑ P P 22 38 11.2 +4.7
CJR Cluj-Napoca 85.22 318⇑ *i*P P 22 38 11.2 +4.7
KZN Kozani 85.22 311 *e*P **P** **22 38 05.5 +1.9**
PDO Prodromos 85.35 309 *e*P sP 22 38 19.0 -1.9
DSL Palaion Diasel 85.52 310 *e*P **P** **22 38 08.0 -0.1**
BILL Bilibino 85.73 20*ce*P **P** **22 38 08.4 -0.1**
BILL *e* 22 38 13.6
BILL *e* 22 41 27.5
BILL pmax pmax
comp=Z,17nm,1.0s
BILL MLR MLR
comp=Z,189nm,16.0s
BILL Bilibino 85.73 20 *e*P **P** **22 38 08.9 +0.4**
comp=Z,21nm,1.1s
NEST Nestorio 85.78 311 *e*P **P** **22 38 09.0 -0.5**
JAN Janina 85.80 310 *e*P P 22 38 19.0 +10
DRGR 85.83 318⇑ P **P** **22 38 10.5 +1.0**
DRGR 85.83 318⇑ *i*P **P** **22 38 10.5 +1.0**
IGT Igoumenitsa 86.17 310 *e*P **P** **22 38 10.0 -1.3**
SGD Sagiada 86.26 310 *e*P P 22 38 18.5 +6.8
BZS Buzias 86.34 316⇑ P **P** **22 38 12.5 +0.5**
BZS Buzias 86.34 316⇑ *i*P **P** **22 38 12.5 +0.5**
APA Apatity 86.42 339⇑ *i*P P 22 38 22.5 +11
APA pmax pmax
comp=Z,11nm,0.8s
APA MLR MLR
comp=Z,300nm,11.0s
KOLS Kolonicke sedl 86.56 320 *e*P **P** **22 38 13.4 +0.4**
KOLS pmax pmax
comp=Z,21nm,2.0s
KOLS Kolonicke sedl 86.56 320 *e*P **P** **22 38 13.4 +0.4**
AMKA Amchitka 86.68 38 *e*P **P** **22 38 13.3 -0.1**
DIVS Divibare 87.20 315⇑ *i*P **P** **22 38 16.0 -0.3**
FIA0 FINESS Array S 87.41 332 *e*P **P** **22 38 16.8 0.0**
FIA0 FINESS Array S 87.41 332 *e*P **P** **22 38 16.8 0.0**
FINES FINESS Array B 87.41 332 P **P** **22 38 16.8 0.0**
comp=Z,3.6nm,0.8s,baz=99,slow=6.0,SNR=7.8
FINES FINESS Array B 87.41 332 *i* P **P** **22 38 16.7 0.0**
FINES pmax pmax
comp=Z,4.0nm,0.9s
KECS Kecovo 87.64 319 *e*P **P** **22 38 16.7 -1.5**
KECS pmax pmax
comp=Z,3.0nm,1.1s
KECS Kecovo 87.64 319 *e*P **P** **22 38 16.7 -1.5**
PKSM Moragy 88.49 316⇑ P **P** **22 38 21.8 -0.5**
PKSM Moragy 88.49 316⇑ *i*P **P** **22 38 21.8 -0.5**
VYHS Vyhne 88.72 319 *e*P **P** **22 38 22.8 -0.6**
VYHS pmax pmax
comp=Z,3.0nm,1.7s
VYHS Vyhne 88.72 319 *e*P **P** **22 38 22.8 -0.6**
OKC Ostrava-Krasne 89.37 320 *e*P **P** **22 38 26.9 +0.5**
OKC *e*pP **pP** **22 38 34.9 -1.6**
OKC *e*sP **sP** **22 38 38.6 -1.5**
OKC *ex* x 22 38 45.9
OKC *e*S **S** **22 49 13.4 -0.9**
OKC AMS AMS 23 27 10.0
comp=Z,100nm,12.4s
OKC Ostrava-Krasne 89.37 320 *e*P P 22 38 35.2 +8.8
SNAA Sanae 89.49 198 P **P** **22 38 28.8 +2.1**
SNAA Sanae 89.49 198 *e*P **P** **22 38 29.7 +3.1**
SNAA pmax pmax
comp=Z,28nm,2.6s
SNAA Sanae 89.49 198 *e*P **P** **22 38 29.7 +3.1**
comp=Z,28nm,2.6s
MORC Moravsky Berou 89.75 320 ⇑P **P** **22 38 29.4 +1.2**

MORC	Moravsky Berou	89.75	320	⇑*iP*	P	P	22 38 29.4	+1.2
ARA0	ARCESS Array S	89.81	340	*e*P	P	P	22 38 28.2	+0.2
ARCES	ARCESS Array B	89.81	340	P	P	P	22 38 28.2	+0.2
	comp=Z,5.4nm,0.9s,baz=145,slow=4.4,SNR=8.4							
ARCES				LR	LR	23 23 42.3		
	comp=Z,185nm,18.6s,baz=104,slow=39							
ARCES	ARCESS Array B	89.81	340	P	P	P	22 38 28.2	+0.2
ARCES				pmax	pmax			
	comp=Z,5.0nm,0.9s							
ARCES				MLR	MLR			
	comp=Z,185nm,18.6s							
KRLC	Kraliky	90.28	320	*e*P	P	P	22 38 31.1	+0.4
KRLC				*ep*P	pP	22 38 40.1	-0.7	
DPC	Dobruska-Polom	90.61	320	*e*P	P	P	22 38 32.6	+0.4
DPC				*ep*P	pP	22 38 40.4	-1.9	
DPC				*ex*	x	22 38 48.9		
DPC				*ex*	x	22 38 53.8		
DPC				*eS*	S	22 49 25.3	-0.6	
DPC	Dobruska-Polom	90.61	320	*e*P	P	22 38 32.9	+0.7	
DOBS	Dobrina	90.66	316	*e*P	P	22 38 33.0	+0.5	
BOJS	Bojanci	90.74	315	*e*P	P	22 38 33.2	+0.4	
ARSA	Arzberg	90.75	317	⇓*i*PcP	P	22 38 33.5	+0.6	
	comp=Z,8.5nm,1.2s							
UPC	Upice	90.83	320	*e*P	P	22 38 33.9	+0.7	
UPC				*eS*	S	22 49 27.5	-0.2	
UPC				AMS	AMS	23 32 00.0		
	comp=Z,100nm,19.4s							
TREC	Trest	91.02	319	*eS*	S	22 49 26.6	-3.0	
TREC				AMS	AMS	23 28 40.0		
	comp=Z,100nm,17.6s							
SOKA	Soboth	91.02	317	⇑*iP*	P	22 38 34.3	+0.1	
	comp=Z,6.7nm,1.0s							
VNA2	Neumayer--Watz	91.11	198	P	P	22 38 40.5	+6.4	
	baz=77,slow=2.6							
VNA1	Neumayer--Stat	91.48	198	P	P	22 38 38.9	+3.1	
GOPC	GO Pecny, Ondr	91.54	320	*eS*	S	22 49 33.0	-1.3	
GOPC				AMS	AMS	23 36 50.0		
	comp=Z,200nm,14.6s							
PRU	Pruhonice	91.70	320	*e*P	P	22 38 36.1	-1.1	
PRU				*ep*P	pP	22 38 46.4	-1.0	
PRU				*eS*	S	22 49 35.4	-0.3	
PRU				AMS	AMS	23 37 10.0		
	comp=Z,100nm,16.4s							
PRA	Prague	91.78	320	*eS*	S	22 49 35.2	-1.2	
PRA				AMS	AMS	23 28 30.0		
	comp=Z,100nm,21.8s							
GEC2	GERESS Array S	92.14	319	*e*P	P	22 38 39.3	-0.1	
GEC2	GERESS Array S	92.14	319	*e*P	P	22 38 39.2	-0.1	
GERES	GERESS Array B	92.14	319	P	P	22 38 39.2	-0.1	
	comp=Z,0.7nm,0.8s,baz=96,slow=4.0,SNR=6.0							
GERES	GERESS Array B	92.14	319	P	P	22 38 39.3	-0.1	
GERES				pmax	pmax			
	comp=Z,1.0nm,0.8s							
BRG	Berggiesshubel	92.17	321	*e*PKP	P	22 38 38.7	-0.7	
	comp=Z,2.4nm,1.1s							
BRG				*e*		22 38 48.3		
	comp=Z,3.0nm,0.9s							
BRG	Berggiesshubel	92.17	321	*e*P	P	22 38 38.7	-0.7	
BRG				*e*		22 38 48.3		
BRG				pmax	pmax			
	comp=Z,2.0nm,1.1s							
BRG				pmax	pmax			
	comp=Z,3.0nm,0.9s							
CLL	Collm	92.80	321	*e*P	P	22 38 51.0	+8.7	
CLL				*eS*	S	22 49 49.0	+3.5	
CLL	Collm	92.80	321	*ep*P	P	22 38 51.0	+8.7	
CLL				*ep*PP		22 42 34.0		
CLL				*eS*	S	22 49 49.0	+3.5	
CLL				*e*PPS	PPS	22 52 00.0		
CLL				Lm	MLR	23 26 00.0		
	comp=Z,200nm,21.4s							
KEST	Kesra	94.41	305	LR	LR	23 24 01.8		
	comp=Z,25nm,19.2s,baz=265,slow=37							
NOA	NORSAR Array B	94.43	331	LR	LR	23 27 17.8		
	comp=Z,58nm,18.8s,baz=50,slow=39							
IM04	Indian Mountai	100.83	24	*e*Pdif	Pdif	22 39 18.9	+0.6	
WRH	Wood River Hil	103.53	25	*e*PP	PP	22 43 47.1	+0.7	
ILAR	Eielson Array	103.93	24	PP	PP	22 43 49.5	+0.1	
	comp=Z,1.3nm,1.0s,baz=290,slow=9.3,SNR=7.8							
ILB	Eielson Array	103.93	24	*e*PP	PP	22 43 49.5	+0.1	
FYU	Fort Yukon	104.00	22	*e*Pdif	Pdif	22 39 37.4	+5.0	
YKA	Yellowknife Ar	117.05	18	PKP	PKPdf	22 44 13.9	-0.4	
	comp=Z,0.4nm,0.8s,baz=334,slow=2.1,SNR=3.4							
YKB5	Yellowknife Ar	117.05	18	*e*PKPdf	PKPdf	22 44 13.9	-0.4	
D08A	Wollman Farm,	125.93	33	*ep*PKPdf	pPKPdf	22 44 42.3	0.0	
FFC	Flin Flon	127.18	17	*e*PKIKP	PKPdf	22 44 43.4	+9.4	
FFC	Flin Flon	127.18	17	*ep*PKPdf	PKPdf	22 44 43.4	+9.4	
DLMT	Dillon	130.36	31	*e*PKPdf	PKPdf	22 44 42.5	+1.9	
NV01	Mina Array Sit	131.28	42	*e*PKPdf	PKPdf	22 44 43.5	+0.8	
NV01				*eS*KPbc	SKPab	22 48 07.9	+2.1	
NVAR	Mina Array Bea	131.28	42	PKP	PKPdf	22 44 43.5	+0.8	
	comp=Z,0.3nm,0.5s,baz=243,slow=4.0,SNR=3.0							
NVAR				SKPbc	SKPab	22 48 07.9	+2.1	
	comp=Z,1.8nm,1.0s,baz=272,slow=3.4,SNR=6.9							
GCMT	Greycliff	131.50	29	*e*SKPdf	SKPdf	22 48 16.0	0.0	
ELK	Elko	131.89	37	PKP	PKPdf	22 44 45.1	+1.3	
	comp=Z,0.6nm,0.4s,baz=189,slow=1.0,SNR=4.0							
ELK	Elko	131.89	37	PKIKP	PKPdf	22 44 45.1	+1.3	
ELK				pmax	pmax			
	comp=Z,1.0nm,0.4s							
FXWY	Fox Creek	132.37	32	*ep*PKPdf	pPKPdf	22 44 54.6	-0.4	
TPAW	Teton Pass	132.51	32	*e*SKPbc	SKPbc	22 48 04.2	-5.5	
REDW	Red Top Meadow	132.65	32	*e*PKPdf	PKPdf	22 44 48.2	+3.1	
ULM	Lac du Bonnet	132.85	15	PKP	PKPdf	22 44 45.0	0.0	
	comp=Z,1.5nm,0.6s,baz=24,slow=5.3,SNR=3.1							
ULM	Lac du Bonnet	132.85	15	PKIKP	PKPdf	22 44 45.0	0.0	
ULM				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ULM	Lac du Bonnet	132.85	15	*e*PKPdf	PKPdf	22 44 45.0	0.0	
ULM				*ep*PKPdf	pPKPdf	22 44 53.6	-1.7	
R11A	Troy Canyon, C	133.10	40	*e*PKPdf	PKPdf	22 44 49.4	+3.3	
HWUT	Hardware Ranch	133.47	34	*e*PKPdf	PKPdf	22 44 49.1	+2.4	
PD31	Pinedale Array	133.74	31	*e*PKPpre	PKPpre	22 44 42.0		
PDAR	Pinedale Array	133.74	31	PKhKP	PKPpre	22 44 42.0		
	comp=Z,0.6nm,0.7s,baz=48,slow=2.2,SNR=4.0							
MDND	Maddock	133.92	19	*e*PKPpre	PKPpre	22 44 40.8		
GSC	Goldstone	133.97	44	*ep*PKPdf	pPKPdf	22 44 57.6	-0.4	
SRU	San Rafael	135.72	36	*e*PKIKP	PKPdf	22 44 50.5	-0.4	
SRU	San Rafael	135.72	36	*e*PKPdf	PKPdf	22 44 50.5	-0.4	
ECSD	EROS Data Cent	138.53	19	*e*PKPdf	PKPdf	22 44 57.4	+1.6	
ANMO	Albuquerque	140.93	37	PKhKP	PKPpre	22 44 54.4		
	comp=Z,0.6nm,0.4s,baz=251,slow=4.3,SNR=3.3							
ANMO	Albuquerque	140.93	37	PKHKP	PKPpre	22 44 54.4		
ANMO				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ANMO	Albuquerque	140.93	37	*e*PKPpre	PKPpre	22 44 54.4		
ANMO				*e*PKPdf	PKiKP	22 45 04.0	+0.7	
S35A	Otter Creek Ra	143.94	24	PKPdf	PKPab	22 45 02.4	-0.4	
	baz=144							
V31A	Spring Creek L	143.95	30	PKPdf	PKPab	22 45 03.1	+0.1	
	baz=144							
R37A	Teagarden Farm	143.96	22	PKPdf	PKPab	22 45 01.9	-1.0	
	baz=144							
X29A	Tulia	144.01	33	PKPdf	PKPab	22 45 03.1	-0.2	
	baz=144							
Y28A	McKinney Farm,	144.11	34	PKPdf	PKPab	22 45 03.4	-0.3	
	baz=144							
T34A	McClaskey Farm	144.14	25	PKPdf	PKPab	22 45 03.4	-0.2	
	baz=144							
SFIN	Scholer Farm	144.17	11	PKPdf	PKPab	22 45 03.2	-0.4	
	baz=144							
S36A	Lake Cedric, C	144.19	23	PKPdf	PKPab	22 45 03.3	-0.5	
	baz=144							
U33A	Lingo Farm, Me	144.23	27	PKPdf	PKPab	22 45 03.5	-0.5	
	baz=144							
W31A	Holland Ranch,	144.36	30	PKiKP	PKPbc	22 45 05.0	+0.2	
	baz=144							
V32A	Arapaho	144.38	29	PKiKP	PKPbc	22 45 05.3	+0.4	
	baz=144							
S37A	Fort Scott	144.45	22	PKPdf	PKPab	22 45 03.8	-1.0	
	baz=144							
X30A	Coker Ranch, T	144.46	32	PKiKP	PKPab	22 45 04.7	-0.2	
	baz=144							
Y29A	Porterfield Fa	144.47	34	PKiKP	PKPbc	22 45 05.5	+0.2	
	baz=144							
U34A	Anderson Ranch	144.48	26	PKiKP	PKPbc	22 45 05.2	+0.1	
	baz=144							
U34A	Anderson Ranch	144.48	26	*e*PKPdf	PKPbc	22 45 05.6	+0.5	
Z28A	Tucker Farm, M	144.49	35	PKiKP	PKPbc	22 45 05.5	+0.1	
	baz=144							
T35A	Sooner Cattle	144.52	25	PKiKP	PKPbc	22 45 05.5	+0.2	
	baz=144							
LUPA	Lehigh Univers	144.58	355	*e*PKPdf	PKPab	22 45 05.1	0.0	
T36A	Boggs Farm, Ca	144.65	24	PKiKP	PKPbc	22 45 05.9	+0.2	
	baz=144							
V33A	Lossen Ranch,	144.65	28	PKiKP	PKPab	22 45 05.4	-0.1	
	baz=144							
W32A	Sentinel	144.76	30	PKiKP	PKPbc	22 45 06.3	+0.2	
	baz=144							
X31A	McDonald Ranch	144.78	31	PKiKP	PKPbc	22 45 06.3	+0.1	
	baz=144							
Y30A	Stafford Cattl	144.88	33	PKiKP	PKPbc	22 45 06.9	+0.3	
	baz=145							
U35A	Pawnee	144.89	25	PKiKP	PKPbc	22 45 06.5	+0.1	
	baz=145							
Z29A	Hungry Hill Ra	144.89	34	PKiKP	PKPdf	22 45 07.1	-0.4	
	baz=145							
ACSO	Alum Creek Sta	144.90	5	*e*PKPdf	PKPab	22 45 06.0	-0.3	
128A	Castleberry Fa	144.91	36	PKiKP	PKPbc	22 45 06.9	+0.2	
	baz=145							
T37A	Cheneyville 18	144.98	23	PKiKP	PKPab	22 45 06.6	-0.1	
	baz=145							
V34A	Guthrie	144.99	27	PKiKP	PKPbc	22 45 07.0	+0.2	
	baz=145							
V34A	Guthrie	144.99	27	*e*PKPdf	PKPbc	22 45 07.2	+0.3	
W33A	Caddo, Fort Co	145.11	29	PKiKP	PKPdf	22 45 07.7	-0.1	
	baz=145							
Y31A	Rekieta Farm,	145.15	32	PKiKP	PKPbc	22 45 07.3	-0.1	
	baz=145							
Z30A	Sanderson Ranc	145.20	34	PKiKP	PKPdf	22 45 07.9	-0.1	
	baz=145							
228A	UT Block 9, Go	145.21	37	PKiKP	PKPdf	22 45 08.2	+0.1	
	baz=145							
MVL	Millersville	145.25	357	*e*PKPbc	PKPab	22 45 07.5	0.0	
129A	Stewart Farms,	145.26	35	PKiKP	PKPdf	22 45 08.1	-0.1	
	baz=145							
U36A	Oologah	145.29	24	PKiKP	PKPbc	22 45 07.6	-0.1	
	baz=145							
WMOK	Wichita Mounta	145.29	29	*e*PKIKP	PKPbc	22 45 06.9	-1.0	
WMOK	Wichita Mounta	145.29	29	*e*PKPbc	PKPbc	22 45 06.9	-1.0	
X32A	Elmer	145.30	30	PKiKP	PKPbc	22 45 07.7	-0.1	
	baz=145							
V35A	Meyer Ranch, C	145.36	26	PKiKP	PKPab	22 45 08.1	-0.1	
	baz=145							
W34A	Bridge Creek,	145.37	28	PKiKP	PKPbc	22 45 08.1	0.0	
	baz=145							
W34A	Bridge Creek,	145.37	28	*e*PKPbc	PKPab	22 45 08.7	+0.5	
W34A				*ep*PKPab	pPKPab	22 45 18.7	+0.3	
BLO	Bloomington	145.45	10	*e*PKIKP	PKPbc	22 45 08.0	-0.1	
BLO	Bloomington	145.45	10	*e*PKPbc	PKPbc	22 45 08.0	-0.1	
U37A	Salina	145.53	23	PKiKP	PKPdf	22 45 08.4	0.0	
	baz=145							
Y32A	R-V Farms, Ver	145.54	31	PKiKP	PKPdf	22 45 08.5	0.0	
	baz=145							
OLIL	Olney	145.56	13	*e*PKPdf	PKPab	22 45 08.7	0.0	
X33A	Lawton	145.59	29	PKiKP	PKPdf	22 45 08.4	-0.2	
	baz=145							
TUL1	Tulsa	145.68	25	PKiKP	PKPbc	22 45 08.9	0.0	
	baz=145							
TUL1	Tulsa	145.68	25	*e*PKPdf	PKPab	22 45 09.3	0.0	
Z31A	Sharp Cattle R	145.71	33	PKiKP	PKPbc	22 45 09.3	+0.1	
	baz=145							
V36A	Jenks	145.72	25	PKiKP	PKPbc	22 45 09.1	0.0	
	baz=145							
229A	Bryant Ranch,	145.78	36	PKiKP	PKPbc	22 45 09.5	0.0	
	baz=146							
U38A	Gravette	145.78	23	PKiKP	PKPdf	22 45 08.8	-0.1	
	baz=146							
130A	Snyder	145.80	34	PKiKP	PKPbc	22 45 09.7	+0.1	
	baz=146							
W35A	Tecumseh	145.85	27	PKiKP	PKPbc	22 45 09.5	-0.1	
	baz=146							
SDMD	Soldier's Deli	145.86	357	*e*PKPdf	PKPab	22 45 09.7	-0.2	
X34A	Smith Ranch, M	145.86	28	PKiKP	PKPbc	22 45 09.5	-0.1	
	baz=146							
Y33A	Hilltop Ranch,	145.96	30	PKiKP	PKPdf	22 45 09.6	+0.3	
	baz=146							
V37A	Hulbert	145.97	24	PKiKP	PKPbc	22 45 09.7	-0.2	
	baz=146							
329A	Wagon Wheel Ra	146.02	37	PKiKP	PKPab	22 45 10.8	-0.1	
	baz=146							
131A	Roby	146.06	34	PKiKP	PKPab	22 45 10.8	-0.2	
	baz=146							
Z32A	Haskell	146.07	32	PKiKP	PKPbc	22 45 10.0	-0.3	
	baz=146							
W36A	Wetumka	146.15	26	PKiKP	PKPbc	22 45 10.1	-0.4	
	baz=146							
230A	Sterling City	146.24	35	PKiKP	PKPbc	22 45 11.3	+0.3	
	baz=146							
SIUC	Southern Illin	146.26	15	*e*PKPdf	PKPbc	22 45 10.9	+0.2	
SIUC				*ep*PKPab	pPKPab	22 45 19.9	-1.8	
V38A	Canehill	146.28	23	PKiKP	PKPdf	22 45 10.1	+0.3	
	baz=146							
USIN	University of	146.39	13	*e*PKPdf	PKPab	22 45 11.6	-0.3	
USIN				*ep*PKPab	pPKPab	22 45 20.5	-1.6	
Y34A	Reagan Ranch,	146.42	29	PKiKP	PKPbc	22 45 11.1	-0.2	
	baz=146							
X35A	Drake	146.43	28	PKiKP	PKPbc	22 45 10.9	-0.4	
	baz=146							
LTX	Lajitas	146.44	41	*e*PKP2	PKPab	22 45 12.5	0.0	
LTX	Lajitas	146.44	41	*e*PKPdf	PKPab	22 45 12.5	0.0	
TXAR	Lajitas Array	146.44	41	PKPbc	PKPab	22 45 12.5	0.0	
	comp=Z,16nm,0.8s,baz=226,slow=1.2,SNR=126							
TXAR	Lajitas Array	146.44	41	PKP2	PKPab	22 45 12.5	0.0	
TXAR				pmax	pmax			
	comp=Z,17nm,0.8s							
Z33A	Whitaker Ranch	146.46	31	PKiKP	PKPbc	22 45 11.3	-0.2	
	baz=146							
W37A	Quinton	146.49	25	PKiKP	PKPbc	22 45 11.4	-0.1	
	baz=146							
ABTX	Abilene, Hawle	146.51	33	PKiKP	PKPbc	22 45 11.5	-0.2	
	baz=146							
ABTX	Abilene, Hawle	146.51	33	*e*PKPdf	PKPbc	22 45 11.5	-0.2	
330A	Mertzon	146.56	36	PKiKP	PKPbc	22 45 11.8	0.0	
	baz=146							
X36A	Centrahoma	146.57	27	PKiKP	PKPbc	22 45 11.2	-0.5	
	baz=146							
231A	Bronte	146.66	34	PKiKP	PKPbc	22 45 12.2	+0.1	
	baz=146							
429A	Davenport Ranc	146.69	38	PKiKP	PKPbc	22 45 12.3	0.0	
	baz=146							
PBMO	Poplar Bluff	146.81	17	*e*PKPdf	PKPbc	22 45 12.0	-0.3	
Y35A	Marietta	146.81	28	PKiKP	PKPbc	22 45 11.6	-0.8	
	baz=146							
Z34A	Collier Ranch,	146.82	30	PKiKP	PKPbc	22 45 11.7	-0.8	
	baz=146							
529A	Stev Forest Ra	146.83	39	PKiKP	PKPbc	22 45 13.1	+0.4	
	baz=147							
133A	Hamilton Ranch	146.91	32	PKiKP	PKPbc	22 45 13.1	+0.3	
	baz=147							
W38A	Poteau	146.93	24	PKiKP	PKPbc	22 45 12.2	-0.5	
	baz=147							
430A	Baggett Ranch,	146.97	37	PKiKP	PKPbc	22 45 12.7	-0.4	
	baz=147							
X37A	Clayton	146.99	25	PKiKP	PKPbc	22 45 12.4	-0.5	
	baz=147							
331A	San Angelo	147.06	35	PKiKP	PKPbc	22 45 13.4	+0.1	
	baz=147							
232A	Coleman	147.07	34	PKiKP	PKPbc	22 45 13.0	-0.3	
	baz=147							
X38A	Whitesboro	147.15	25	PKiKP	PKPbc	22 45 13.0	-0.4	
	baz=147							
Y36A	Durant	147.16	27	PKiKP	PKPbc	22 45 12.6	-0.8	
	baz=147							
Z35A	Perchaven, San	147.18	29	PKiKP	PKPbc	22 45 12.6	-0.9	
	baz=147							
530A	J-C Ranch, Com	147.36	38	PKiKP	PKPbc	22 45 13.5	-0.7	
	baz=147							
134A	White-Moore Ra	147.37	31	PKiKP	PKPbc	22 45 13.6	-0.5	
	baz=147							
233A	Rising Star	147.38	33	PKiKP	PKPbc	22 45 13.9	-0.3	
	baz=147							
Y37A	Hugo	147.39	26	PKiKP	PKPbc	22 45 13.3	-0.8	
	baz=147							
332A	Millersview	147.40	34	PKiKP	PKPbc	22 45 13.6	-0.6	
	baz=147							
431A	Sonora	147.42	36	PKiKP	PKPbc	22 45 14.2	-0.1	
	baz=147							
JSRW	J. Sargeant Re	147.61	358	*e*PKPbc	PKPbc	22 45 14.6	+0.1	
Z36A	Blue Ridge	147.62	28	PKiKP	PKPbc	22 45 14.2	-0.5	
	baz=147							
URVA	University of	147.72	358	*e*PKPbc	PKPbc	22 45 15.6	+0.8	
135A	Vickery Place,	147.72	30	PKiKP	PKPbc	22 45 14.1	-0.9	
	baz=148							
432A	Menard	147.75	35	PKPab	PKPbc	22 45 14.7	-0.5	
	baz=148							
MIAR	Mount Ida	147.76	23	*e*PKP2	PKPbc	22 45 15.1	+0.1	
MIAR	Mount Ida	147.76	23	PKiKP	PKPbc	22 45 14.2	-0.8	
	baz=148							
MIAR	Mount Ida	147.76	23	*e*PKPbc	PKPbc	22 45 15.1	+0.1	
234A	Clairette	147.79	32	PKPab	PKPbc	22 45 15.1	-0.2	
	baz=148							
Y38A	Idabel	147.82	25	PKPab	PKPbc	22 45 14.6	-0.6	
	baz=148							
531A	Rocksprings	147.83	37	PKPab	PKPbc	22 45 15.3	-0.1	
	baz=148							
333A	Richland Sprin	147.86	34	PKPab	PKPbc	22 45 15.4	0.0	
	baz=148							
JCT	Junction City	148.04	36	*e*PKP2	PKPbc	22 45 16.9	+0.9	
JCT	Junction City	148.04	36	PKPab	PKPbc	22 45 16.2	+0.2	
	baz=148							
JCT	Junction City	148.04	36	*e*PKPbc	PKPbc	22 45 16.9	+0.9	
Z37A	Pogue Cattle C	148.05	27	PKPab	PKPbc	22 45 15.6	-0.3	
	baz=148							
BLA	Blacksburg	148.07	2	*e*PKP2	PKPab	22 45 24.6	+6.0	
BLA	Blacksburg	148.07	2	*ep*PKPab	PKPab	22 45 24.6	+6.0	
Y39A	Lockesburg	148.08	24	PKPab	PKPbc	22 45 15.7	-0.2	
	baz=148							
WVT	Waverly	148.11	14	*e*PKP2	PKPbc	22 45 15.4	-0.6	
WVT	Waverly	148.11	14	*e*PKPbc	PKPbc	22 45 15.4	-0.6	
WHTX	Lake Whitney	148.15	31	PKPab	PKPbc	22 45 16.1	-0.1	
	baz=148							
WHTX	Lake Whitney	148.15	31	*ep*PKPab	pPKPab	22 45 26.3	-2.9	
136A	Ennis	148.22	29	PKPab	PKPbc	22 45 16.2	-0.1	
	baz=148							
532A	Rocksprings	148.23	36	PKPab	PKPbc	22 45 16.1	-0.5	
	baz=148							
433A	Art	148.24	34	PKPab	PKPbc	22 45 16.3	-0.2	
	baz=148							
334A	Lometa	148.26	33	PKPab	PKPbc	22 45 16.3	-0.2	
	baz=148							
Z38A	Mt. Pleasant	148.29	26	PKPab	PKPbc	22 45 16.1	-0.4	
	baz=148							
631A	Perdido Creek	148.35	38	PKPab	PKPbc	22 45 16.9	+0.1	
	baz=148							
TZTN	Tazewell	148.48	7	*e*PKPbc	PKPbc	22 45 16.9	0.0	
137A	Heron Place, G	148.49	28	PKPab	PKPbc	22 45 17.2	+0.1	
	baz=148							
236A	Katherine and	148.61	30	PKPab	PKPbc	22 45 17.3	0.0	
	baz=148							
Z39A	Irene McRaven,	148.65	25	PKPab	PKPbc	22 45 17.2	-0.2	
	baz=148							
434A	Burnet	148.65	33	PKPab	PKPbc	22 45 17.5	-0.1	
	baz=148							
335A	Moody	148.73	32	PKPab	PKPbc	22 45 17.8	+0.1	
	baz=148							
138A	Matatall Enter	148.74	27	PKPab	PKPbc	22 45 18.2	+0.5	
	baz=148							
632A	Uvalde	148.76	37	PKPab	PKPbc	22 45 18.1	+0.2	
	baz=148							
533A	Kerrville	148.78	35	PKPab	PKPbc	22 45 18.1	+0.1	
	baz=148							
336A	Riesel	148.95	31	PKPab	PKPbc	22 45 18.6	+0.4	
	baz=149							
237A	Washetta, Mont	148.96	29	PKPab	PKPbc	22 45 18.6	+0.4	
	baz=149							
435B	Jarrell	149.04	32	PKPab	PKPbc	22 45 19.0	+0.5	
	baz=149							
534A	Blanco	149.13	34	PKPab	PKPbc	22 45 18.9	0.0	
	baz=149							
633A	Saathoff Ranch	149.15	36	PKPab	PKPbc	22 45 19.3	+0.4	
	baz=149							
732A	Laxson Ranch,	149.21	38	PKPab	PKPbc	22 45 19.6	+0.6	
	baz=149							
OXF	Oxford	149.22	17	*e*PKP2	PKPbc	22 45 18.8	0.0	
OXF	Oxford	149.22	17	*e*PKPbc	PKPbc	22 45 18.8	0.0	
238A	Jacksonville	149.28	28	PKPab	PKPbc	22 45 19.9	+0.8	
	baz=149							
TKL	Tuckaleechee C	149.32	8	*e*PKP2	PKPbc	22 45 19.2	+0.1	
TKL	Tuckaleechee C	149.32	8	*e*PKPbc	PKPbc	22 45 19.2	+0.1	
SWET	Sewanee	149.40	11	*e*PKPbc	PKPbc	22 45 18.8	-0.5	
CPCT	Cooper Cave	149.42	9	*e*PKPbc	PKPbc	22 45 19.5	+0.2	
436A	Wall Ranch, Ga	149.47	31	PKPab	PKPbc	22 45 20.2	+0.6	
	baz=149							
832A	Faith Ranch, C	149.52	39	PKPab	PKPbc	22 45 20.7	+1.0	
	baz=149							
239A	Gary	149.56	27	PKPab	PKPbc	22 45 20.5	+0.7	
	baz=149							
733A	Divot King Ran	149.62	37	PKPab	PKPbc	22 45 21.1	+1.0	
	baz=149							
535A	Dale	149.63	33	PKPab	PKPbc	22 45 20.9	+0.9	
	baz=149							
634A	China Grove, S	149.69	35	PKPab	PKPbc	22 45 21.3	+1.2	
	baz=149							
NATX	Nacogdoches	149.70	27	PKPab	PKPbc	22 45 20.8	+0.7	
	baz=149							
338A	Crock

SOF ***21*** *22:30:12.3,45°22N×26°22E,h15km,MD3.4*
ISC 21 22:30:10.1±0.6,**45°53N**±0°02×**26°36E**±0°02,**h121**km±4km,
n299,σ1**6**37/410,**mb3.7**/8,**76C-66D,Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**0.29**	**262**	P	**Pn**	**22 30 26.6**	**-0.7**
	67nm,0.3s,baz=102,slow=1.9,SNR=6411						
MLR				S	**Sn**	**22 30 38.8**	**-1.4**
	68nm,0.3s,baz=72,slow=20,SNR=28						
MLR	**Muntele Rosu**	**0.29**	**262**	P	**Pn**	**22 30 26.6**	**-0.7**
MLR				S	**Sn**	**22 30 38.8**	**-1.4**
MLR				pmax	pmax		
	comp=Z,67nm,0.3s						
MLR				smax	smax		
	comp=N,68nm,0.3s						
MLR	**Muntele Rosu**	**0.29**	**262**	↑*iP*	**Pn**	**22 30 26.7**	**-0.6**
MLR	**Muntele Rosu**	**0.29**	**262**	↑*iP*	**Pn**	**22 30 26.7**	**-0.6**
MLR				*i* S	**Sn**	**22 30 38.6**	**-1.6**
PLOR	**Plostina**	**0.38**	**32**	↑*iP*	**Pn**	**22 30 26.6**	**-0.9**
PLOR	**Plostina**	**0.38**	**32**	↑*iP*	**Pn**	**22 30 26.6**	**-0.9**
PLOR				*i* S	**Sn**	**22 30 38.6**	**-2.1**
PLOR	**Plostina**	**0.38**	**32**	↑*iP*	**Pn**	**22 30 26.6**	**-0.9**
PLOR				*i* S	**Sn**	**22 30 38.6**	**-2.1**
VRI	**Vrincioaia**	**0.42**	**37**	↑*iP*	**Pn**	**22 30 27.0**	**-0.7**
VRI	**Vrincioaia**	**0.42**	**37**	↑*iP*	**Pn**	**22 30 27.0**	**-0.7**
VRI				*i* S	**Sn**	**22 30 39.4**	**-1.6**
VRI	**Vrincioaia**	**0.42**	**37**	↑*iP*	**Pn**	**22 30 27.0**	**-0.7**
VRI				*i* S	**Sn**	**22 30 39.4**	**-1.6**
ISR	**Istrita**	**0.43**	**162**	*eP*	**Pn**	**22 30 27.2**	**-0.6**
ISR				*e*Sg	**Sn**	**22 30 40.5**	**-0.6**
ISR	**Istrita**	**0.43**	**162**	↓*iP*	**Pn**	**22 30 27.2**	**-0.6**
ISR	**Istrita**	**0.43**	**162**	↓*iP*	**Pn**	**22 30 27.2**	**-0.6**
ISR				*i* S	**Sn**	**22 30 40.5**	**-0.6**
ISR	**Istrita**	**0.43**	**162**	↓*iP*	**Pn**	**22 30 27.2**	**-0.6**
ISR				*i* S	**Sn**	**22 30 40.5**	**-0.6**
GRER		**0.46**	**109**	↑*iP*	**Pn**	**22 30 27.8**	**-0.1**
GRER		**0.46**	**109**	↑*iP*	**Pn**	**22 30 27.8**	**-0.1**
GRER				*i* S	**Sn**	**22 30 40.8**	**-0.5**
GRER		**0.46**	**109**	↑*iP*	**Pn**	**22 30 27.8**	**-0.1**
GRER				*i* S	**Sn**	**22 30 40.8**	**-0.5**
SECR		**0.54**	**203**	↑*iP*	**Pn**	**22 30 28.3**	**-0.1**
SECR		**0.54**	**203**	↑*iP*	**Pn**	**22 30 28.3**	**-0.1**
SECR				*i* S	**Sn**	**22 30 41.7**	**-0.4**
SECR		**0.54**	**203**	↑*iP*	**Pn**	**22 30 28.3**	**-0.1**
SECR				*i* S	**Sn**	**22 30 41.7**	**-0.4**
PETR	**Petresti**	**0.64**	**72**	↑*iP*	**Pn**	**22 30 28.9**	**-0.1**
PETR	**Petresti**	**0.64**	**72**	↑*iP*	**Pn**	**22 30 28.9**	**-0.1**
PETR				*i* S	**Sn**	**22 30 42.3**	**-1.0**
PETR	**Petresti**	**0.64**	**72**	↑*iP*	**Pn**	**22 30 28.9**	**-0.1**
PETR				*i* S	**Sn**	**22 30 42.3**	**-1.0**
PLAR	**PLOIESTI**	**0.66**	**201**	↑*iP*	**Pn**	**22 30 29.2**	**0.0**
PLAR	**PLOIESTI**	**0.66**	**201**	S	**Sn**	**22 30 44.0**	**+0.4**
PLAR	**PLOIESTI**	**0.66**	**201**	↑*iP*	**Pn**	**22 30 29.2**	**0.0**
PLAR				*i* S	**Sn**	**22 30 44.0**	**+0.4**
PLAR	**PLOIESTI**	**0.66**	**201**	↑*iP*	**Pn**	**22 30 29.2**	**0.0**
PLAR				*i* S	**Sn**	**22 30 44.0**	**+0.4**
PGOR	**Pogoanele**	**0.76**	**144**	↑*iP*	**Pn**	**22 30 29.7**	**-0.3**
PGOR	**Pogoanele**	**0.76**	**144**	↑*iP*	**Pn**	**22 30 29.7**	**-0.3**
PGOR				*i* S	**Sn**	**22 30 44.7**	**-0.3**
PGOR	**Pogoanele**	**0.76**	**144**	↑*iP*	**Pn**	**22 30 29.7**	**-0.3**
PGOR				*i* S	**Sn**	**22 30 44.7**	**-0.3**
DOPR	**Dopca**	**0.81**	**303**	↑*iP*	**Pn**	**22 30 29.7**	**-0.7**
DOPR	**Dopca**	**0.81**	**303**	↑*iP*	**Pn**	**22 30 29.7**	**-0.7**
DOPR				*i* S	**Sn**	**22 30 43.9**	**-1.9**
DOPR	**Dopca**	**0.81**	**303**	↑*iP*	**Pn**	**22 30 29.7**	**-0.7**
DOPR				*i* S	**Sn**	**22 30 43.9**	**-1.9**
SULR		**0.85**	**185**	↑*iP*	**Pn**	**22 30 30.7**	**-0.1**
SULR		**0.85**	**185**	↑*iP*	**Pn**	**22 30 30.7**	**-0.1**
SULR				*i* S	**Sn**	**22 30 46.5**	**+0.1**
SULR		**0.85**	**185**	↑*iP*	**Pn**	**22 30 30.7**	**-0.1**
SULR				*i* S	**Sn**	**22 30 46.5**	**+0.1**
VOIR		**0.93**	**265**	↑*iP*	**Pn**	**22 30 31.1**	**-0.5**
VOIR		**0.93**	**265**	↑*iP*	**Pn**	**22 30 31.1**	**-0.5**
VOIR				*i* S	**Sn**	**22 30 46.1**	**-1.7**
VOIR		**0.93**	**265**	↑*iP*	**Pn**	**22 30 31.1**	**-0.5**
VOIR				*i* S	**Sn**	**22 30 46.1**	**-1.7**
MTUR	**Matau**	**0.96**	**252**	↑*iP*	**Pn**	**22 30 31.8**	**-0.1**
MTUR	**Matau**	**0.96**	**252**	↑*iP*	**Pn**	**22 30 31.8**	**-0.1**
MTUR	**Matau**	**0.96**	**252**	↑*iP*	**Pn**	**22 30 31.8**	**-0.1**
TESR	**Tescani**	**1.00**	**12**	↑*iP*	**Pn**	**22 30 31.5**	**-0.7**
TESR	**Tescani**	**1.00**	**12**	↑*iP*	**Pn**	**22 30 31.5**	**-0.7**
TESR				*i* S	**Sn**	**22 30 46.5**	**-2.5**
TESR	**Tescani**	**1.00**	**12**	↑*iP*	**Pn**	**22 30 31.5**	**-0.7**
TESR				*i* S	**Sn**	**22 30 46.5**	**-2.5**
BUC	**Bucharest**	**1.13**	**190**	↑*iP*	**Pn**	**22 30 33.4**	**-0.1**
BUC	**Bucharest**	**1.13**	**190**	↑*iP*	**Pn**	**22 30 33.4**	**-0.1**
BUC				*i* S	**Sn**	**22 30 50.5**	**-0.7**
BUC	**Bucharest**	**1.13**	**190**	↑*iP*	**Pn**	**22 30 33.4**	**-0.1**
BUC				*i* S	**Sn**	**22 30 50.5**	**-0.7**
AMRR	**Amara**	**1.15**	**143**	↑*iP*	**Pn**	**22 30 33.4**	**-0.3**
AMRR	**Amara**	**1.15**	**143**	↑*iP*	**Pn**	**22 30 33.4**	**-0.3**
AMRR				*i* S	**Sn**	**22 30 50.6**	**-0.9**
AMRR	**Amara**	**1.15**	**143**	↑*iP*	**Pn**	**22 30 33.4**	**-0.3**
AMRR				*i* S	**Sn**	**22 30 50.6**	**-0.9**
GOLR		**1.21**	**236**	↓*iP*	**Pn**	**22 30 34.3**	**0.0**
GOLR		**1.21**	**236**	↓*iP*	**Pn**	**22 30 34.3**	**0.0**
GOLR				*i* S	**Sn**	**22 30 52.0**	**-0.6**
GOLR		**1.21**	**236**	↓*iP*	**Pn**	**22 30 34.3**	**0.0**
GOLR				*i* S	**Sn**	**22 30 52.0**	**-0.6**
ARR	**Arges**	**1.23**	**263**	↓*iP*	**Pn**	**22 30 34.5**	**-0.1**
ARR	**Arges**	**1.23**	**263**	↓*iP*	**Pn**	**22 30 34.5**	**-0.1**
ARR				*i* S	**Sn**	**22 30 51.9**	**-1.2**
ARR	**Arges**	**1.23**	**263**	↓*iP*	**Pn**	**22 30 34.5**	**-0.1**
ARR				*i* S	**Sn**	**22 30 51.9**	**-1.2**
GIUM	**Giurgiulesti**	**1.30**	**91**	↓*iP*	**Pn**	**22 30 35.0**	**-0.3**
GIUM	**Giurgiulesti**	**1.30**	**91**	↓*iP*	**Pn**	**22 30 35.0**	**-0.3**
GIUM				*i* S	**Sn**	**22 30 52.5**	**-1.9**
GIUM	**Giurgiulesti**	**1.30**	**91**	↓*iP*	**Pn**	**22 30 35.0**	**-0.3**
GIUM				*i* S	**Sn**	**22 30 52.5**	**-1.9**
CFR	**Carcaliu**	**1.30**	**105**	↓*iP*	**Pn**	**22 30 34.2**	**-1.1**
CFR	**Carcaliu**	**1.30**	**105**	↓*iP*	**Pn**	**22 30 34.2**	**-1.1**
CFR				*i* S	**Sn**	**22 30 51.3**	**-3.1**
CFR	**Carcaliu**	**1.30**	**105**	↓*iP*	**Pn**	**22 30 34.2**	**-1.1**
HARR	**Harsova**	**1.40**	**126**	↓*iP*	**Pn**	**22 30 35.7**	**-0.6**
HARR	**Harsova**	**1.40**	**126**	↓*iP*	**Pn**	**22 30 35.7**	**-0.6**
HARR	**Harsova**	**1.40**	**126**	↓*iP*	**Pn**	**22 30 35.7**	**-0.6**
HUMR	**Humele**	**1.40**	**225**	↓*iP*	**Pn**	**22 30 36.1**	**-0.3**
HUMR	**Humele**	**1.40**	**225**	↓*iP*	**Pn**	**22 30 36.1**	**-0.3**
HUMR				*i* S	**Sn**	**22 30 55.3**	**-1.1**
HUMR	**Humele**	**1.40**	**225**	↓*iP*	**Pn**	**22 30 36.1**	**-0.3**
HUMR				*i* S	**Sn**	**22 30 55.3**	**-1.1**
MDB	**Medias**	**1.51**	**295**	↓*iP*	**Pn**	**22 30 38.3**	**+0.6**
MDB	**Medias**	**1.51**	**295**	↓*iP*	**Pn**	**22 30 38.3**	**+0.6**
MDB				*i* S	**Sn**	**22 30 58.5**	**-0.2**
MDB	**Medias**	**1.51**	**295**	↓*iP*	**Pn**	**22 30 38.3**	**+0.6**
MDB				*i* S	**Sn**	**22 30 58.5**	**-0.2**
SIBR	**Sibiu**	**1.56**	**281**	↑*iP*	**Pn**	**22 30 37.5**	**-0.7**
SIBR	**Sibiu**	**1.56**	**281**	↑*iP*	**Pn**	**22 30 37.5**	**-0.7**
SIBR	**Sibiu**	**1.56**	**281**	↑*iP*	**Pn**	**22 30 37.5**	**-0.7**
CVD	**Cernavoda**	**1.70**	**135**	↓*iP*	**Pn**	**22 30 39.4**	**-0.5**
CVD	**Cernavoda**	**1.70**	**135**	↓*iP*	**Pn**	**22 30 39.4**	**-0.5**
CVD				*i* S	**Sn**	**22 31 00.0**	**-2.6**
CVD	**Cernavoda**	**1.70**	**135**	↓*iP*	**Pn**	**22 30 39.4**	**-0.5**
TLCR		**1.77**	**100**	↑*iP*	**Pn**	**22 30 40.0**	**-0.7**
TLCR		**1.77**	**100**	↑*iP*	**Pn**	**22 30 40.0**	**-0.7**
TLCR				*i* S	**Sn**	**22 30 40.0**	**-1.5**
TLCR		**1.77**	**100**	↑*iP*	**Pn**	**22 30 40.0**	**-0.7**
TLCR				*i* S	**Sn**	**22 31 02.5**	**-1.5**
MSAB	**Monastry St. A**	**1.78**	**144**	↓*iP*	**Pn**	**22 30 40.7**	**-0.2**
MSAB	**Monastry St. A**	**1.78**	**144**	↓*iP*	**Pn**	**22 30 40.7**	**-0.2**
MSAB				*i* S	**Sn**	**22 31 02.6**	**-1.7**
MSAB	**Monastry St. A**	**1.78**	**144**	↓*iP*	**Pn**	**22 30 40.7**	**-0.2**
MSAB				*i* S	**Sn**	**22 31 02.6**	**-1.7**
TIRR	**Tirgusor**	**1.81**	**126**	*eP*	**Pn**	**22 30 40.7**	**-0.5**
TIRR				*e*SG	**Sn**	**22 31 02.8**	**-2.1**
TIRR	**Tirgusor**	**1.81**	**126**	↓*iP*	**Pn**	**22 30 40.7**	**-0.5**
TIRR	**Tirgusor**	**1.81**	**126**	↓*iP*	**Pn**	**22 30 40.7**	**-0.5**
TIRR				*i* S	**Sn**	**22 31 02.8**	**-2.1**
TIRR	**Tirgusor**	**1.81**	**126**	↓*iP*	**Pn**	**22 30 40.7**	**-0.5**
TIRR				*i* S	**Sn**	**22 31 02.8**	**-2.1**
LOT	**Lotru**	**1.82**	**268**	↓*iP*	**Pn**	**22 30 41.0**	**-0.5**
LOT	**Lotru**	**1.82**	**268**	↓*iP*	**Pn**	**22 30 41.0**	**-0.5**
LOT				*i* S	**Sn**	**22 31 04.5**	**-1.0**
LOT	**Lotru**	**1.82**	**268**	↓*iP*	**Pn**	**22 30 41.0**	**-0.5**
LOT				*i* S	**Sn**	**22 31 04.5**	**-1.0**
PRAR	**RASCA**	**1.83**	**357**	↑*iP*	**Pn**	**22 30 41.3**	**-0.2**
PRAR	**RASCA**	**1.83**	**357**	↑*iP*	**Pn**	**22 30 41.3**	**-0.2**
PRAR	**RASCA**	**1.83**	**357**	↑*iP*	**Pn**	**22 30 41.3**	**-0.2**
IAS	**Iasi**	**1.86**	**26**	↓*iP*	**Pn**	**22 30 41.2**	**-0.6**
IAS	**Iasi**	**1.86**	**26**	↓*iP*	**Pn**	**22 30 41.2**	**-0.6**
IAS				*i* S	**Sn**	**22 31 03.8**	**-2.3**
IAS	**Iasi**	**1.86**	**26**	↓*iP*	**Pn**	**22 30 41.2**	**-0.6**
IAS				*i* S	**Sn**	**22 31 03.8**	**-2.3**
ZIMR		**2.00**	**201**	↑*iP*	**Pn**	**22 30 43.2**	**-0.4**
ZIMR		**2.00**	**201**	↑*iP*	**Pn**	**22 30 43.2**	**-0.4**
ZIMR				*i* S	**Sn**	**22 31 07.4**	**-1.8**
ARCR	**ARCALIA**	**2.09**	**319**	↑*iP*	**Pn**	**22 30 44.5**	**-0.1**
ARCR	**ARCALIA**	**2.09**	**319**	↑*iP*	**Pn**	**22 30 44.5**	**-0.1**
ARCR	**ARCALIA**	**2.09**	**319**	↑*iP*	**Pn**	**22 30 44.5**	**-0.1**
EFOR	**EFORIE**	**2.17**	**131**	↓*iP*	**Pn**	**22 30 45.5**	**-0.2**
EFOR	**EFORIE**	**2.17**	**131**	↓*iP*	**Pn**	**22 30 45.5**	**-0.2**
EFOR				*i* S	**Sn**	**22 31 11.3**	**-1.7**
EFOR	**EFORIE**	**2.17**	**131**	↓*iP*	**Pn**	**22 30 45.5**	**-0.2**
EFOR				*i* S	**Sn**	**22 31 11.3**	**-1.7**
CRAR	**CRAIOVA**	**2.18**	**237**	S	**Sn**	**22 31 11.9**	**-1.3**
CRAR	**CRAIOVA**	**2.18**	**237**	*i* S	**Sn**	**22 31 11.9**	**-1.3**
CRAR	**CRAIOVA**	**2.18**	**237**	*i* S	**Sn**	**22 31 11.9**	**-1.3**
BURAR	**Bucovina Array**	**2.23**	**340**	↓*iP*	**Pn**	**22 30 47.5**	**+1.0**
BURAR	**Bucovina Array**	**2.23**	**340**	↓*iP*	**Pn**	**22 30 47.5**	**+1.0**
BURAR	**Bucovina Array**	**2.23**	**340**	↓*iP*	**Pn**	**22 30 47.5**	**+1.0**
KIS	**Kishinev**	**2.25**	**48**	*i* P	**Pn**	**22 30 46.0**	**-0.7**
	comp=N,1μm,0.6s						
KIS				*i* S	**Sn**	**22 31 12.0**	**-2.8**
	comp=N,2μm,0.7s						
KIS	**Kishinev**	**2.25**	**48**	↓*iP*	**Pn**	**22 30 46.0**	**-0.7**
KIS				*i* S	**Sn**	**22 31 12.0**	**-2.8**
KIS				pmax	pmax		
	comp=Z,1μm,0.6s						
KIS				smax	smax		
	comp=E,2μm,0.7s						
KIS				smax	smax		
	comp=N,2μm,1.0s						
KIS				smax	smax		
	comp=E,2μm,0.7s						
KIS	**Kishinev**	**2.25**	**48**	*i* P	**Pn**	**22 30 46.0**	**-0.7**
	comp=E,1μm,0.6s						
KIS				*i* S	**Sn**	**22 31 12.0**	**-2.8**
	comp=E,2μm,1.0s						
KIS	**Kishinev**	**2.25**	**48**	*i* P	**Pn**	**22 30 46.0**	**-0.7**
KIS				Pm		22 30 46.4	
KIS				*i* S	**Sn**	**22 31 13.0**	**-1.8**
KIS				Sm		22 31 13.5	
CJR	**Cluj-Napoca**	**2.25**	**303**	↓*iP*	**Pn**	**22 30 46.9**	**+0.1**
CJR	**Cluj-Napoca**	**2.25**	**303**	↓*iP*	**Pn**	**22 30 46.9**	**+0.1**
CJR				*i* S	**Sn**	**22 31 14.0**	**-1.0**
CJR	**Cluj-Napoca**	**2.25**	**303**	↓*iP*	**Pn**	**22 30 46.9**	**+0.1**
CJR				*i* S	**Sn**	**22 31 14.0**	**-1.0**
PSN	**Preselentsi**	**2.26**	**144**	P	**Pn**	**22 30 47.0**	**+0.1**
PSN	**Preselentsi**	**2.26**	**144**	P	**Pn**	**22 30 47.0**	**+0.1**
SZH	**Strazhica**	**2.28**	**188**	P	**Pn**	**22 30 46.7**	**-0.5**
SZH	**Strazhica**	**2.28**	**188**	P	**Pn**	**22 30 46.7**	**-0.5**
MANR	**Mangalia**	**2.34**	**136**	↑*iP*	**Pn**	**22 30 47.6**	**-0.2**
MANR	**Mangalia**	**2.34**	**136**	↑*iP*	**Pn**	**22 30 47.6**	**-0.2**
MANR	**Mangalia**	**2.34**	**136**	↑*iP*	**Pn**	**22 30 47.6**	**-0.2**
SRE	**Strehaia**	**2.40**	**250**	↓*iP*	**Pn**	**22 30 48.1**	**-0.5**
SRE	**Strehaia**	**2.40**	**250**	↓*iP*	**Pn**	**22 30 48.1**	**-0.5**
SRE				*i* S	**Sn**	**22 31 16.2**	**-1.9**
SRE	**Strehaia**	**2.40**	**250**	↓*iP*	**Pn**	**22 30 48.1**	**-0.5**
SRE				*i* S	**Sn**	**22 31 16.2**	**-1.9**
PVL	**Pavlikeni**	**2.43**	**198**	P	**Pn**	**22 30 49.8**	**+0.8**
PVL	**Pavlikeni**	**2.43**	**198**	P	**Pn**	**22 30 49.8**	**+0.8**
DEV	**Deva**	**2.45**	**280**	↓*iP*	**Pn**	**22 30 49.6**	**+0.4**
DEV	**Deva**	**2.45**	**280**	↓*iP*	**Pn**	**22 30 49.6**	**+0.4**
DEV				*i* S	**Sn**	**22 31 19.5**	**+0.3**
DEV	**Deva**	**2.45**	**280**	↓*iP*	**Pn**	**22 30 49.6**	**+0.4**
DEV				*i* S	**Sn**	**22 31 19.5**	**+0.3**
RMGR	**Halanga-Turnu**	**2.74**	**253**	↑*iP*	**Pn**	**22 30 52.5**	**-0.5**
RMGR	**Halanga-Turnu**	**2.74**	**253**	↑*iP*	**Pn**	**22 30 52.5**	**-0.5**
RMGR				*i* S	**Sn**	**22 31 23.4**	**-2.5**
RMGR	**Halanga-Turnu**	**2.74**	**253**	↑*iP*	**Pn**	**22 30 52.5**	**-0.5**
RMGR				*i* S	**Sn**	**22 31 23.4**	**-2.5**
CHRU	**Chernivtsi**	**2.79**	**354**	*eP*	**Pn**	**22 30 53.7**	**+0.1**
CHRU				*i* S	**Sn**	**22 31 26.1**	**-0.9**
DRGR		**2.83**	**298**	*ePn*	**Pn**	**22 30 53.9**	**-0.4**
DRGR				*e*Sn	**Sn**	**22 31 27.8**	**-0.4**
DRGR		**2.83**	**298**	↓*iP*	**Pn**	**22 30 53.8**	**-0.5**
DRGR		**2.83**	**298**	↓*iP*	**Pn**	**22 30 53.8**	**-0.5**
DRGR		**2.83**	**298**	↓*iP*	**Pn**	**22 30 53.8**	**-0.5**
DRGR				*e*Sn	**Sn**	**22 31 27.8**	**-0.4**
DJES	**Djerdap**	**2.85**	**254**	*ePn*	**Pn**	**22 30 52.6**	**-1.9**
MPEP	**Malo Peshtene**	**2.87**	**222**	P	**Pn**	**22 30 54.5**	**-0.2**
KSV	**Kosov**	**2.92**	**343**	*iP*	**Pn**	**22 30 55.7**	**+0.3**
KSV				Pm		22 31 00.3	
KSV				*e*S	**Sn**	**22 31 30.3**	**0.0**
KSV				Sm		22 31 33.9	
RAK	**Rakhov**	**2.93**	**330**	*eP*	**Pn**	**22 30 55.2**	**-0.3**
RAK				Pm		22 31 00.0	
RAK				*i* S	**Sn**	**22 31 30.2**	**-0.2**
RAK				Sm		22 31 33.8	
SORM	**Soroca**	**2.94**	**27**	↑*iP*	**Pn**	**22 30 54.7**	**-0.9**
SORM	**Soroca**	**2.94**	**27**	↑*iP*	**Pn**	**22 30 54.7**	**-0.9**
SORM	**Soroca**	**2.94**	**27**	↑*iP*	**Pn**	**22 30 54.7**	**-0.9**
NSLU	**Nyzhne Selyshc**	**2.97**	**335**	*eP*	**Pn**	22 31 01.2	+5.2
NSLU				*e*S	**Sn**	22 31 40.8	+9.4
KMPD	**K-Podol'skiy**	**3.04**	**1**	*iP*	**Pn**	**22 30 56.1**	**-0.7**
KMPD				*e*S	**Sn**	**22 31 32.2**	**-0.6**
JMB	**Yambol**	**3.07**	**177**	P	**Pn**	**22 30 56.9**	**-0.4**
JMB	**Yambol**	**3.07**	**177**	P	**Pn**	**22 30 56.9**	**-0.4**
NDNU	**Novodnistrovsk**	**3.14**	**12**	*iP*	**Pn**	**22 30 57.6**	**-0.6**
NDNU				Pm		22 30 57.7	
NDNU				*e*S	**Sn**	**22 31 35.1**	**-0.3**
NDNU				Sm		22 31 37.5	
BZS	**Buzias**	**3.33**	**273**	*ePn*	**Pn**	**22 31 00.0**	**-0.8**
BZS				*e*Sg	**Sn**	22 31 50.4	+11
BZS	**Buzias**	**3.33**	**273**	↑*iP*	**Pn**	**22 30 59.9**	**-0.8**
BZS	**Buzias**	**3.33**	**273**	↑*iP*	**Pn**	**22 30 59.9**	**-0.8**
BZS	**Buzias**	**3.33**	**273**	*ePn*	**Pn**	**22 31 00.0**	**-0.8**
SIRR	**Siria**	**3.36**	**284**	↑*iP*	**Pn**	**22 31 01.5**	**+0.3**
SIRR	**Siria**	**3.36**	**284**	↑*iP*	**Pn**	**22 31 01.5**	**+0.3**
SIRR				*i* S	**Sn**	**22 31 38.2**	**-2.4**
SIRR	**Siria**	**3.36**	**284**	↑*iP*	**Pn**	**22 31 01.5**	**+0.3**
SIRR				*i* S	**Sn**	**22 31 38.2**	**-2.4**
PGB	**Panagyurishte**	**3.37**	**209**	P	**Pn**	**22 31 01.8**	**+0.4**
PGB	**Panagyurishte**	**3.37**	**209**	P	**Pn**	**22 31 01.8**	**+0.4**
KORU	**Korolevo**	**3.44**	**321**	*eP*	**Pn**	**22 31 03.2**	**+1.1**
KORU				*e*S	**Sn**	**22 31 42.8**	**+0.5**
ZAPS	**Zavoj**	**3.50**	**231**	*ePn*	**Pn**	**22 31 02.5**	**-0.5**
ZAPS				*e*Sn	**Sn**	**22 31 39.9**	**-3.9**
ZAPS	**Zavoj**	**3.50**	**231**	*ePn*	**Pn**	**22 31 02.5**	**-0.5**
ZAPS				*e*Sn	**Sn**	**22 31 39.9**	**-3.9**
KUBS	**Kucevo**	**3.51**	**253**	*ePn*	**Pn**	**22 31 00.6**	**-2.5**
KUBS	**Kucevo**	**3.51**	**253**	*ePn*	**Pn**	**22 31 00.6**	**-2.5**
MEZ	**Mezhgor'ye**	**3.56**	**328**	*eP*	**Pn**	**22 31 05.1**	**+1.3**
MEZ				*e*S	**Sn**	**22 31 44.9**	**-0.5**
BOLS	**Boljevac**	**3.57**	**243**	*ePn*	**Pn**	**22 31 01.3**	**-2.7**
BOLS	**Boljevac**	**3.57**	**243**	*ePn*	**Pn**	**22 31 01.3**	**-2.7**
BRIU	**Brid**	**3.62**	**322**	*eP*	**Pn**	**22 31 04.0**	**-0.6**
BRIU				*e*S	**Sn**	**22 31 47.4**	**+0.7**
PLD	**Plovdiv**	**3.63**	**200**	*ePn*	**Pn**	**22 31 03.6**	**-1.1**
PLD	**Plovdiv**	**3.63**	**200**	*ePn*	**Pn**	**22 31 03.6**	**-1.1**
BANR	**Banloc**	**3.68**	**270**	↓*iP*	**Pn**	**22 31 05.5**	**+0.2**
BANR	**Banloc**	**3.68**	**270**	↓*iP*	**Pn**	**22 31 05.5**	**+0.2**
BANR	**Banloc**	**3.68**	**270**	↓*iP*	**Pn**	**22 31 05.5**	**+0.2**
EDRB	**Edirne**	**3.69**	**176**	P	**Pn**	**22 31 05.5**	**-0.1**
EDRB	**Edirne**	**3.69**	**176**	P	**Pn**	**22 31 05.5**	**-0.1**
VTS	**Vitosha**	**3.71**	**219**	*ePn*	**Pn**	**22 31 05.3**	**-0.7**
VTS				*e*Sn	**Sn**	**22 31 44.6**	**-4.6**
VTS	**Vitosha**	**3.71**	**219**	↑*iP*	**Pn**	**22 31 05.7**	**-0.3**
VTS	**Vitosha**	**3.71**	**219**	↑*iP*	**Pn**	**22 31 05.7**	**-0.3**
VTS	**Vitosha**	**3.71**	**219**	P	**Pn**	**22 31 05.5**	**-0.5**
VTS	**Vitosha**	**3.71**	**219**	*ePn*	**Pn**	**22 31 05.3**	**-0.7**
VTS	**Vitosha**	**3.71**	**219**	↑*iP*	**Pn**	**22 31 05.7**	**-0.3**
VTS				*e*Sn	**Sn**	**22 31 44.6**	**-4.6**
VTS				S	**Sn**	**22 31 46.0**	**-3.2**
VTS	**Vitosha**	**3.71**	**219**	P	**Pn**	**22 31 05.5**	**-0.5**
VTS				S	**Sn**	**22 31 46.0**	**-3.2**
SVIS	**Svilajnac**	**3.87**	**253**	*ePn*	**Pn**	**22 31 06.6**	**-1.2**
KDZ	**Kurdzhali**	**3.94**	**190**	P	**Pn**	**22 31 08.9**	**0.0**
KDZ	**Kurdzhali**	**3.94**	**190**	P	**Pn**	**22 31 08.9**	**0.0**
RZN	**Rozhen**	**4.02**	**198**	P	**Pn**	**22 31 09.9**	**-0.2**
RZN	**Rozhen**	**4.02**	**198**	P	**Pn**	**22 31 09.9**	**-0.2**
BARS	**Barje**	**4.25**	**232**	*ePn*	**Pn**	**22 31 12.4**	**-0.6**
BARS	**Barje**	**4.25**	**232**	*ePn*	**Pn**	**22 31 12.4**	**-0.6**
GRUS	**Gruza**	**4.34**	**250**	*ePn*	**Pn**	**22 31 13.8**	**-0.4**
GRUS				*e*Sn	**Sn**	**22 31 58.5**	**-5.5**
GRUS	**Gruza**	**4.34**	**250**	*ePn*	**Pn**	**22 31 13.8**	**-0.4**
KKB	**Krupnik**	**4.36**	**214**	P	**Pn**	**22 31 14.8**	**+0.2**
KKB	**Krupnik**	**4.36**	**214**	P	**Pn**	**22 31 14.8**	**+0.2**
MMB	**Musomiste**	**4.38**	**207**	P	**Pn**	**22 31 14.9**	**+0.1**
MMB	**Musomiste**	**4.38**	**207**	P	**Pn**	**22 31 14.9**	**+0.1**
KOLS	**Kolonicke sedl**	**4.40**	**322**	*e*	**Pn**	**22 31 15.5**	**+0.6**
SELS	**Selova**	**4.41**	**240**	*ePn*	**Pn**	**22 31 13.8**	**-1.4**
RDO	**Rodhopi**	**4.42**	**188**	*eP*	**Pn**	**22 31 15.0**	**-0.2**
RDO	**Rodhopi**	**4.42**	**188**	P	**Pn**	**22 31 15.1**	**-0.2**
RDO	**Rodhopi**	**4.42**	**188**	P	**Pn**	**22 31 15.1**	**-0.2**
TRUS	**Trudelj**	**4.43**	**255**	*ePn*	**Pn**	**22 31 13.5**	**-1.9**
TRUS	**Trudelj**	**4.43**	**255**	*ePn*	**Pn**	**22 31 13.5**	**-1.9**
NVR	**Nevrokopi**	**4.56**	**204**	*eP*	**Pn**	**22 31 17.0**	**-0.2**
NVR	**Nevrokopi**	**4.56**	**204**	P	**Pn**	**22 31 16.9**	**-0.2**
NVR				S	**Sn**	**22 32 06.7**	**-2.5**
NVR	**Nevrokopi**	**4.56**	**204**	P	**Pn**	**22 31 16.9**	**-0.2**
NVR				S	**Sn**	**22 32 06.7**	**-2.5**
FGSL	**Fruska Gora**	**4.63**	**268**	*ePn*	**Pn**	**22 31 17.0**	**-1.1**
FGSL				*e*Sn	**Sn**	**22 32 06.5**	**-4.4**
FRGS	**Fruska Gora**	**4.63**

ellipse: s-maj=9.8km s-min=8.4km az=102.0,Mining explosion.
*HEL **21** 22:35:20.2±0.1, 67°.87N×19°.97E, h0km, ML1.7, Explosion*
*NAO **21** 22:35:21.0±2.2, 67°.69N×20°.43E, ML2.3*
*BER **21** 22:35:23.7±3.2, 67°.74N×20°.32E, h0km, ML1.9, ML2.3(NAO), Suspected explosion*

ISC 21 22:35:20.4±0.9, 67°.75N±0°.03×20°.20E±0°.04, h0km, n36, σ1$29/51, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LANU	**Lannavaara**	**0.74**	**65**	PB	**Pg**	**22 35 35.1**	**+0.5**
	baz=257						
LANU				SG	**Sg**	**22 35 44.4**	**+0.2**
LANU	**Lannavaara**	**0.74**	**65**	Pb	**Pg**	**22 35 35.0**	**+0.5**
LANU				Sg	**Sg**	**22 35 44.3**	**+0.2**
KIF	**Kilpisjarvi**	**1.28**	**10**	PN	**Pg**	**22 35 44.2**	**-0.6**
	baz=190						
KIF				SG	Sg	22 35 53.8	-7.5
KIF	**Kilpisjarvi**	**1.28**	**10**	Pn	**Pg**	**22 35 44.2**	**-0.6**
ERTU	**Ertsjaerv**	**1.43**	**146**	PG	**Pb**	**22 35 48.5**	**+0.6**
ERTU				SG	**Sn**	**22 36 08.8**	**+1.8**
HEF	**Hetta**	**1.46**	**62**	PG	**Pn**	**22 35 46.9**	**-1.0**
HEF				MSG		22 36 04.8	
	comp=Z,5.9nm,0.2s						
HEF				SG	**Sg**	**22 36 06.0**	**-1.1**
HEF	**Hetta**	**1.46**	**62**	Pg	**Pn**	**22 35 46.9**	**-1.0**
HEF				Sg	**Sg**	**22 36 06.0**	**-1.1**
KTK1	**Kautokeino**	**1.69**	**40**	*e*P	**Pb**	**22 35 52.0**	**-0.3**
KTK1				*e*Sg	**Sg**	**22 36 15.1**	**+0.4**
KTK1				IAML		22 36 15.8	
	comp=Z,11nm,0.3s						
KTK1	**Kautokeino**	**1.69**	**40**	*e*P	**Pb**	**22 35 52.0**	**-0.3**
	SNR=50						
KTK1				*e*Sg	**Sg**	**22 36 15.1**	**+0.4**
	SNR=90						
KALU	**Kalix**	**2.28**	**145**	PB	**Pb**	**22 36 01.5**	**-0.7**
KALU				SG	**Sg**	**22 36 33.4**	**+0.1**
KALU	**Kalix**	**2.28**	**145**	Pb	**Pb**	**22 36 01.5**	**-0.7**
SGF	**Sodankyl**	**2.45**	**94**	PB	**Pb**	**22 36 04.2**	**-0.9**
SGF				SB	**Sb**	**22 36 35.8**	**0.0**
SGF	**Sodankyl**	**2.45**	**94**	Pb	**Pb**	**22 36 04.2**	**-0.9**
SGF				Sb	**Sb**	**22 36 35.7**	**0.0**
RNF	**Rovaniemi**	**2.54**	**114**	PB	**Pb**	**22 36 05.8**	**-1.1**
RNF				SB	**Sb**	**22 36 39.7**	**+1.2**
RNF	**Rovaniemi**	**2.54**	**114**	Pb	**Pb**	**22 36 05.7**	**-1.1**
RNF				Sb	**Sb**	**22 36 39.7**	**+1.2**
ARA0	**ARCESS Array S**	**2.64**	**45**	Pn	**Pn**	**22 36 05.3**	**+1.1**
	baz=235,slow=14						
ARA0				Sn	**Sn**	**22 36 38.5**	**+1.6**
	baz=232,slow=28						
ARA0	**ARCESS Array S**	**2.64**	**45**	Pn	**Pn**	**22 36 05.3**	**+1.1**
	baz=235,slow=14						
ARA0				Sn	**Sn**	**22 36 38.5**	**+1.6**
	baz=232,slow=28						
ARA0	**ARCESS Array S**	**2.64**	**45**	Pn	**Pn**	**22 36 05.3**	**+1.1**
	SNR=50						
ARA0				Sn	**Sn**	**22 36 38.5**	**+1.6**
	SNR=50						
MOR8	**Moi Rana**	**2.76**	**238**	*e*Sg	**Sb**	**22 36 44.7**	**-0.3**
MOR8				IAML		22 36 46.4	
	comp=Z,22nm,0.4s						
MOR8	**Moi Rana**	**2.76**	**238**	*e*Sg	**Sb**	**22 36 44.7**	**-0.3**
	SNR=90						
KEV	**Kevo**	**3.19**	**48**	SN	**Sn**	**22 36 50.8**	**+0.4**
KEV				MSG		22 36 53.7	
	comp=Z,2.5nm,0.2s						
KEV	**Kevo**	**3.19**	**48**	Sn	**Sn**	**22 36 50.8**	**+0.4**
OUL	**Oulu**	**3.52**	**137**	SB	**Sb**	**22 37 09.3**	**+2.5**
OUL	**Oulu**	**3.52**	**137**	Sb	**Sb**	**22 37 09.3**	**+2.5**
UMAU	**Umeaa**	**3.89**	**177**	SG	**Sg**	**22 37 25.3**	**+0.1**
MSF	**Maaselka**	**3.95**	**114**	SG	**Sg**	**22 37 26.8**	**-0.5**
KU6	**Riekki**	**4.20**	**110**	PG	**Pb**	**22 36 37.2**	**+2.2**
KU6				SG	**Sg**	**22 37 32.0**	**-3.0**
KU6	**Riekki**	**4.20**	**110**	Pg	**Pb**	**22 36 37.2**	**+2.2**
KU6				Sg	**Sg**	**22 37 32.0**	**-3.0**
APA0	**Apatity Array**	**4.88**	**86**	Pn	**Pn**	**22 36 33.6**	**-1.3**
APA0				Sn	**Sn**	**22 37 30.8**	**-1.2**
	baz=270,slow=16						
APA0				Lg	Lg	22 37 51.5	
	baz=270,slow=28						
APA0	**Apatity Array**	**4.88**	**86**	Pn	**Pn**	**22 36 33.6**	**-1.3**
APA0				Sn	**Sn**	**22 37 30.8**	**-1.2**
	baz=270,slow=16						
APA0				Lg	Lg	22 37 51.5	
	baz=270,slow=28						
APA0	**Apatity Array**	**4.88**	**86**	Pn	**Pn**	**22 36 33.6**	**-1.3**
	SNR=50						
APA0				Sn	**Sn**	**22 37 30.8**	**-1.2**
	SNR=50						
APA0				Lg	Lg	22 37 51.5	
	SNR=5.4						
FIA0	**FINESS Array S**	**6.82**	**155**	Lg	Lg	22 38 52.4	
	baz=350,slow=28						
FIA0	**FINESS Array S**	**6.82**	**155**	Lg	Lg	22 38 52.4	
	baz=350,slow=28						
HFS	**Hagfors**	**8.16**	**204**	Lg	Lg	22 39 37.4	
	baz=17,slow=28						
HFS	**Hagfors**	**8.16**	**204**	Lg	Lg	22 39 37.4	
	baz=17,slow=28						
HFS	**Hagfors**	**8.16**	**204**	Lg	Lg	22 39 37.4	

*IDC **21** 22:36:27.2±0.4, 15°.14S×168°.22E, h0km, mb4.8/29, mb1 4.9/30, mb1mx4.8/37, mbtmp4.8/30, MS4.1/13, Ms1 4.1/13, ms1mx3.8/35, Error ellipse: s-maj=15.3km s-min=12.0km az=105.0*
*ISCJB **21** 22:36:30.4±2.6, 15°.25S±0°.04×168°.16E±0°.03, h27km±18km, mb5.0/108, MS4.1/12, Error ellipse: s-maj=6.7km s-min=5.4km az=176.2*
*NOU **21** 22:36:30.1±1.7, 15°.36S×169°.19E, h30km, MD4.0, ML3.1*
*NEIC **21** 22:36:33.0±0.1, 15°.17S×168°.18E, h35km, mb5.2/70, Error ellipse: s-maj=5.9km s-min=4.8km az=135.0*
*MOS **21** 22:36:33.6±1.1, 15°.23S×168°.11E, h52km, mb5.1/47, MS4.2/7, Error ellipse: s-maj=8.9km s-min=8.4km az=171.0*
*BJI **21** 22:36:35.6, 15°.20S×168°.20E, h73km, mb4.9/45, mB5.3/27, Ms5.2/18, Ms7 4.8/15*
*GCMT **21** 22:36:37.4±0.3, 15°.16S×168°.19E, h18km±1km, MW5.0/62, Moment Tensor Solution. s29,c34; s62,c85; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr2.72±.22; Mθθ 1.21±.17; Mφφ -3.93±.14; Mrθ -0.38±.49; Mθφ 0.91±.12; Mφr 0.44±.27; Best double couple: Mo 3.47100×10^16 NP1: φs 182.00000°, δ 50.00000°, λ 75.00000°. NP2: φs 182.00000°, δ 42.00000°, λ 108.00000°. Principal axes: T 2.8190, Plg 78.0000°, Azm 189.0000°; N 1.3040, Plg 12.0000°, Azm 349.0000°; P -4.1230, Plg 4.0000°, Azm 80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 21 22:36:32.2±0.8, 15°.24S±0°.05×168°.35E±0°.07, h34km±3km, n434, σ1$60/424, mb5.1/108, MS4.1/12, 12C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**5.61**	**191**	*e*P	**Pn**	**22 37 50.2**	**-3.0**
BAYA	**Yate Dam**	**7.02**	**191**	*e*P	**Pn**	**22 38 11.9**	**-0.7**
DZM	**Mont Dzumac**	**7.03**	**195**	Pn	**Pn**	**22 38 12.6**	**-0.3**
	baz=90,slow=20						
DZM				Sn	**Sn**	**22 39 33.0**	**+1.3**
	2.4nm,0.3s,baz=90,slow=20,SNR=1.8						
DZM				LR	LR	22 40 40.8	
	comp=Z,1μm,20.6s,baz=0.0,slow=36						
NOUC	**Port Laguerre**	**7.09**	**196**	*e*P	**Pn**	**22 38 13.2**	**-0.5**
NOUC				*e*S	**Sn**	**22 39 28.9**	**-4.2**
NOUC				AMP		22 39 41.4	
	comp=Z,26nm,0.6s						
MSVF	**Nonsavu**	**9.63**	**106**	*e*P	Pn	22 38 53.3	+4.8
MSVF	**Nonsavu**	**9.63**	**106**	*e*Pn	Pn	22 38 53.3	+4.8
HNR	**Honiara**	**10.04**	**304**	LR	LR	22 42 48.9	
	comp=Z,857nm,18.0s,baz=142,slow=39						
HNR	**Honiara**	**10.04**	**304**	*e*P	Pn	22 38 57.1	+3.0
HNR	**Honiara**	**10.04**	**304**	*e*Pn	Pn	22 38 57.1	+3.0
EIDS	**Eidsvold**	**19.05**	**235**	P	**Pn**	**22 40 54.0**	**+1.3**
	baz=19,SNR=4.6						
EIDS	**Eidsvold**	**19.05**	**235**	*e*P	**Pn**	**22 40 54.0**	**+1.3**
	comp=Z,36nm,1.3s						
AFI	**Afiamalu**	**19.28**	**89**	LR	LR	22 46 06.3	
	comp=Z,259nm,20.0s,baz=170,slow=30						
OUZ	**Omahuta**	**20.45**	**168**	*e*P	Pn	22 41 10.0	+1.0
	comp=Z,83nm,1.0s						
RMQ	**Roma**	**21.43**	**235**	P	**P**	**22 41 18.9**	**+1.4**
	baz=21,SNR=20						
PMG	**Port Moresby**	**21.49**	**283**	P	**P**	**22 41 21.2**	**+3.0**
	comp=Z,20nm,0.7s,baz=71,slow=11,SNR=3.9						
PMG				LR	LR	22 48 42.1	
	comp=Z,876nm,19.6s,baz=48,slow=34						
PMG	**Port Moresby**	**21.49**	**283**	P	**P**	**22 41 21.2**	**+3.0**
PMG				pmax	pmax		
	comp=Z,20nm,0.7s						
PMG				MLR	MLR		
	comp=Z,876nm,19.6s						
ARMA	**Armidale**	**21.54**	**223**	P	**P**	**22 41 21.3**	**+2.6**
	baz=21,SNR=4.1						
ARMA	**Armidale**	**21.54**	**223**	*e*P	**P**	**22 41 21.3**	**+2.6**
	comp=Z,82nm,1.2s						
CTA	**Charters Tower**	**21.59**	**254**	P	**P**	**22 41 19.7**	**+0.4**
	comp=Z,25nm,0.9s,baz=82,slow=12,SNR=11						
CTA				LR	LR	22 48 38.5	
	comp=Z,704nm,21.2s,baz=86,slow=34						
CTA	**Charters Tower**	**21.59**	**254**	P	**P**	**22 41 19.7**	**+0.4**
CTA				pmax	pmax		
	comp=Z,25nm,0.9s						
CTA				MLR	MLR		
	comp=Z,704nm,21.3s						
CTAO	**Charters Tower**	**21.59**	**254**	*e*P	**P**	**22 41 20.1**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,26nm,0.8s						
CTAO	**Charters Tower**	**21.59**	**254**	*e*P	**P**	**22 41 20.1**	**+0.8**
	comp=Z,26nm,0.8s						
MTSU	**Mount Surprise**	**23.20**	**260**	P	**P**	**22 41 36.8**	**+0.5**
	baz=23,SNR=8.8						
URZ	**Urewera**	**24.20**	**163**	P	**P**	**22 41 47.5**	**+1.9**
	comp=Z,92nm,0.9s,baz=334,slow=4.9,SNR=25						
URZ				LR	LR	22 50 43.0	
	comp=Z,474nm,18.4s,baz=340,slow=35						
COEN	**Coen**	**24.39**	**270**	*e*P	**P**	**22 41 46.5**	**-1.1**
	comp=Z,142nm,1.8s						
BKZ	**Black Stump Fm**	**24.89**	**165**	*e*P	**P**	**22 41 53.9**	**+2.0**
	comp=Z,146nm,1.2s						
QLP	**Quilpie**	**25.15**	**239**	P	**P**	**22 41 54.6**	**+0.2**
	baz=25,SNR=15						
CNB	**Canberra Magne**	**26.26**	**217**	P	**P**	**22 42 05.4**	**+1.0**
	baz=26,SNR=5.9						
BFZ	**Birch Farm**	**26.27**	**166**	*e*P	**P**	**22 42 05.2**	**+0.9**
	comp=Z,110nm,1.0s						
CMSA	**Cobar Meteorol**	**26.29**	**228**	P	**P**	**22 42 04.7**	**+0.1**
	baz=26,SNR=12						
SNZO	**South Karori**	**26.56**	**169**	*e*P	**P**	**22 42 07.2**	**+0.3**
	comp=Z,130nm,1.3s						
KHZ	**Kahutara**	**27.45**	**172**	*e*P	**P**	**22 42 15.1**	**+0.1**
	comp=Z,420nm,2.4s						
QIS	**Mount Isa**	**27.84**	**255**	P	**P**	**22 42 18.6**	**-0.1**
	baz=28,SNR=6.0						
RPZ	**Rata Peaks**	**28.48**	**176**	P	**P**	**22 42 25.4**	**+1.2**
	comp=Z,19nm,0.7s,baz=7.0,slow=3.1,SNR=7.5						
RPZ				LR	LR	22 53 11.7	
	comp=Z,516nm,18.4s,baz=1.0,slow=35						
RPZ	**Rata Peaks**	**28.48**	**176**	*e*P	**P**	**22 42 25.3**	**+1.2**
	comp=Z,749nm,2.8s						
RPZ				*e*ScS	ScS	22 53 11.7	+4.4
STKA	**Stephens Creek**	**29.47**	**231**	P	**P**	**22 42 33.2**	**+0.1**
	comp=Z,16nm,0.9s,baz=51,slow=7.5,SNR=28						
STKA				PcP	**PcP**	**22 45 38.1**	**-0.2**
	comp=Z,3.5nm,0.9s,baz=57,slow=5.4,SNR=3.1						
STKA				LR	LR	22 53 02.3	
	comp=Z,485nm,21.1s,baz=6.2,slow=34						
STKA	**Stephens Creek**	**29.47**	**231**	*e*P	**P**	**22 42 33.5**	**+0.4**
STKA				*e*		22 45 38.1	
STKA				*e*		22 53 02.3	
STKA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TOO	**Toolangi**	**30.08**	**218**	P	**P**	**22 42 39.3**	**+0.8**
	baz=30,SNR=4.0						
DCZ	**Deep Cove**	**30.16**	**182**	*e*P	**P**	**22 42 39.5**	**+0.6**
	comp=Z,75nm,1.3s						
ARPS	**Mount Arapiles**	**31.87**	**223**	P	**P**	**22 42 54.8**	**+0.6**
	baz=32,SNR=5.5						
SMPI	**Sarmi**	**32.06**	**291**	P	**P**	**22 42 56.4**	**+0.3**
	comp=Z,66nm,1.4s						
HTT	**Hallett**	**32.19**	**230**	P	**P**	**22 42 57.3**	**+0.2**
	baz=32,SNR=9.0						
WRAB	**Tennant Creek**	**32.71**	**257**	P	**P**	**22 43 00.2**	**-1.6**
	comp=Z,96nm,1.3s,SNR=6.2						
WRAB	**Tennant Creek**	**32.71**	**257**	*e*P	**P**	**22 42 59.9**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,37nm,1.2s						
WRA	**Warramunga Arr**	**32.72**	**257**	P	**P**	**22 42 59.7**	**-2.2**
	comp=Z,9.3nm,0.9s,baz=87,slow=8.8,SNR=26						
WRA				PcP	**PcP**	**22 45 46.5**	**-0.7**
	comp=Z,2.3nm,1.0s,baz=84,slow=2.0,SNR=4.7						
WRA				LR	LR	22 55 45.6	
	comp=Z,598nm,18.8s,baz=100,slow=36						
WRA	**Warramunga Arr**	**32.72**	**257**	P	**P**	**22 42 59.7**	**-2.2**
WRA						22 45 46.5	
WRA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WRA				MLR	MLR		
	comp=Z,598nm,18.8s						
AS12	**Alice Springs**	**33.48**	**250**	*e*P	**P**	**22 43 07.3**	**-1.2**
ASAR	**Alice Springs**	**33.48**	**250**	P	**P**	**22 43 07.3**	**-1.2**
	comp=Z,16nm,0.7s,baz=79,slow=9.3,SNR=70						
ASAR	**Alice Springs**	**33.48**	**250**	P	**P**	**22 43 07.4**	**-1.2**
ASAR				pmax	pmax		
	comp=Z,16nm,0.7s						
BBOO	**Buckleboo**	**34.10**	**233**	P	**P**	**22 43 14.0**	**+0.1**
	baz=34,SNR=34						
BBOO	**Buckleboo**	**34.10**	**233**	*e*P	**P**	**22 43 14.3**	**+0.4**
	comp=Z,256nm,2.2s						
MTN	**Manton Dam**	**36.16**	**269**	P	**P**	**22 43 30.4**	**-1.3**
	baz=36,SNR=4.4						
FAKI	**Fak Fak**	**37.62**	**285**	P	**P**	**22 43 44.2**	**+0.1**
	baz=37,SNR=3.4						
FAKI	**Fak Fak**	**37.62**	**285**	*e*P	**P**	**22 43 44.2**	**+0.1**
	comp=Z,34nm,1.0s						
KNRA	**Kununurra**	**38.12**	**264**	P	**P**	**22 43 47.3**	**-1.0**
	baz=38,SNR=5.8						
WRKA	**Warakurna**	**38.72**	**249**	P	**P**	**22 43 52.4**	**-1.0**
	baz=38,SNR=21						
FORT	**Forrest**	**39.94**	**240**	P	**P**	**22 44 03.5**	**+0.1**
	baz=40,SNR=32						
FORT	**Forrest**	**39.94**	**240**	*e*P	**P**	**22 44 03.6**	**+0.1**
	comp=Z,114nm,0.7s						
PPT2	**Papeete2**	**40.37**	**99**	*e*S	S	22 50 22.9	+10
	comp=Z,166nm,24.8s						
PPT2				*e*LR	LR	22 55 23.9	
	comp=Z,572nm,30.0s,baz=259						
PPT	**Papeete**	**40.37**	**99**	LR	LR	22 57 30.3	
	comp=Z,96nm,20.9s,baz=205,slow=31						
TBI	**Tubuai**	**40.51**	**108**	*e*S	S	22 50 26.1	+11
	comp=Z,195nm,27.8s						
TBI				*e*LQ	LQ	22 53 46.1	
	comp=Z,477nm,28.2s						
TBI				*e*LR	LR	22 55 27.9	
	comp=Z,361nm,33.8s,baz=277						
NLAI	**Namlea**	**42.33**	**282**	P	**P**	**22 44 25.7**	**+2.4**
	comp=Z,74nm,2.1s,comp=Z,1μm						
LBMI	**Labuha**	**42.86**	**286**	P	**P**	**22 44 28.7**	**+1.1**
	comp=Z,74nm,1.5s,comp=Z,1μm						
SOEI	**Soe**	**43.33**	**272**	*e*P	**P**	**22 44 30.6**	**-0.9**
	comp=Z,64nm,1.1s						
SANI	**Sanana**	**43.77**	**283**	P	**P**	**22 44 35.7**	**+0.7**
	comp=Z,48nm,1.1s						
KMBL	**Kambalda**	**45.25**	**241**	P	**P**	**22 44 46.2**	**-0.4**
	baz=45,SNR=12						
MBWA	**Marble Bar**	**46.42**	**255**	*e*P	**P**	**22 44 55.6**	**-0.3**
	comp=Z,45nm,1.2s						
MEEK	**Meekatharra**	**47.56**	**248**	P	**P**	**22 45 04.4**	**-0.4**
	baz=47,SNR=22						
KLBR	**Kellerberrin**	**48.77**	**241**	P	**P**	**22 45 13.2**	**-0.9**
	baz=48,SNR=8.4						
KAPI	**Kappang**	**48.80**	**277**	*e*P	**P**	**22 45 14.9**	**+0.3**
	comp=Z,90nm,1.8s						
BLDU	**Ballidu**	**49.55**	**243**	P	**P**	**22 45 19.1**	**-0.9**
	baz=49,SNR=4.3						
PCI	**Palu**	**49.95**	**282**	P	**P**	**22 45 25.1**	**+1.8**
	comp=Z,76nm,1.6s						
MORW	**Morawa**	**49.99**	**245**	P	**P**	**22 45 22.8**	**-0.6**
	baz=50,SNR=10.0						
MPSI	**Mapaga**	**50.31**	**283**	P	**P**	**22 45 25.2**	**-0.8**
	comp=Z,38nm,1.2s						
MYLDM	**Lahad Datu**	**53.38**	**288**	*e*P	**P**	**22 45 49.1**	**+0.1**
	comp=Z,42nm,1.2s						
RKT	**Rikitea**	**53.83**	**108**	*e*S	S	22 53 33.7	+8.8
	comp=Z,127nm,27.5s						
RKT				*e*LR	LR	23 01 37.5	
	comp=Z,281nm,31.2s						
KKM	**Kota Kinabalu**	**55.81**	**288**	*e*P	**P**	**22 46 06.7**	**0.0**
	comp=Z,64nm,1.2s						
MJAR	**Matsushiro Arr**	**58.84**	**332**	P	**P**	**22 46 26.4**	**-1.2**
	comp=Z,7.4nm,0.8s,baz=170,slow=8.2,SNR=23						
MJAR	**Matsushiro Arr**	**58.84**	**332**	P	**P**	**22 46 26.4**	**-1.2**
MJAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MAJO	**Matsushiro**	**58.84**	**332**	*e*P	**P**	**22 46 27.0**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,15nm,0.8s						
MAJO	**Matsushiro**	**58.84**	**332**	*e*P	**P**	**22 46 27.0**	**-0.6**
	comp=Z,15nm,0.8s						
MAT	**Matsushiro**	**58.84**	**332**	P	**P**	**22 46 26.5**	**-1.0**
JNU	**Nakatsue**	**59.95**	**324**	P	**P**	**22 46 34.3**	**-1.0**
	baz=170,slow=12						
JNU	**Nakatsue**	**59.95**	**324**	*e*P	**P**	**22 46 34.6**	**-0.7**
	comp=Z,25nm,1.2s						
ERM	**Erimo**	**61.53**	**339**	*e*P	P	22 46 54.2	+8.4
ERM				pmax	pmax		
	comp=Z,18nm,1.2s						
VNDA	**Vanda**	**62.38**	**182**	P	**P**	**22 46 51.9**	**+0.9**
	comp=Z,8.7nm,0.7s,baz=358,slow=7.4,SNR=53						
VNDA				LR	LR	23 11 22.7	
	comp=Z,183nm,18.4s,baz=334,slow=34						
VNDA	**Vanda**	**62.38**	**182**	P	**P**	**22 46 51.9**	**+0.9**
VNDA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
VNDA				MLR	MLR		
	comp=Z,183nm,18.5s						
VNDA	**Vanda**	**62.38**	**182**	*e*P	**P**	**22 46 52.0**	**+0.9**
	comp=Z,97nm,2.0s						
VNDA				*e*PKKSdf	PKKSdf	23 11 22.7	+8.8
SBA	**Scott Base**	**62.63**	**180**	*e*P	**P**	**22 46 54.8**	**+2.0**
SBA				pmax	pmax		
	comp=Z,224nm,1.8s						
SBA	**Scott Base**	**62.63**	**180**	*e*P	**P**	**22 46 54.8**	**+2.0**
	comp=Z,224nm,1.8s						
KSRS	**Korea Array**	**64.75**	**325**	P	**P**	**22 47 07.3**	**+0.1**
	comp=Z,3.1nm,0.8s,baz=140,slow=6.3,SNR=9.6						
KSRS	**Korea Array**	**64.75**	**325**	P	**P**	**22 47 07.3**	**+0.1**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KS15	**Wonju Array Si**	**64.76**	**325**	*e*P	**P**	**22 47 07.3**	**0.0**
KSAR	**Wonju Array Be**	**64.76**	**325**	P	**P**	**22 47 07.3**	**0.0**
KSAR	**Wonju Array Be**	**64.76**	**325**	P	**P**	**22 47 07.3**	**0.0**
YSS	**Yuzh-Sakhalins**	**66.04**	**341**	*e*P	P	22 47 19.0	+3.6
NJ2	**Nanjing**	**66.77**	**315**	*e*P	**P**	**22 47 21.9**	**+1.5**
NJ2				PMZ			
	comp=Z,30nm,0.8s						
VLA	**Vladivostok**	**67.01**	**332**	*e*P	**P**	**22 47 23.7**	**+2.0**
AMKA	**Amchitka**	**67.02**	**7**	*e*P	P	22 47 24.8	+3.3
USRK	**Ussuriysk Ar.**	**67.81**	**333**	P	**P**	**22 47 27.1**	**+0.4**
	comp=Z,2.9nm,0.6s,baz=130,slow=7.5,SNR=9.2						
PEA2	**Petropavlovsk-**	**68.68**	**353**	*e*P	**P**	**22 47 31.6**	**-0.4**
PETK	**Petropavlovsk-**	**68.68**	**353**	P	**P**	**22 47 31.6**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=152,slow=9.6,SNR=3.0						
PETK	**Petropavlovsk-**	**68.68**	**353**	P	**P**	**22 47 31.6**	**-0.4**
PETK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MDJ	**Mudanjiang**	**69.22**	**331**	P	**P**	**22 47 35.8**	**+0.2**
MDJ				pP	**PcP**	**22 47 56.1**	**-3.0**
MDJ				sP	sP	22 48 05.4	+15
MDJ				S	S	22 56 31.6	-7.7
MDJ				sS	SKiKP	22 57 09.3	-14
MDJ				PMZ			
	comp=Z,15nm,1.0s						
MDJ				LN			
	comp=Z,560nm,12.4s						
MDJ				LE			
	comp=Z,520nm,16.0s						
MDJ				LZ			
	comp=Z,850nm,13.6s						
MDJ	**Mudanjiang**	**69.22**	**331**	*e*P	**P**	**22 47 36.2**	**+0.7**
	comp=Z,18nm,0.9s						
IPM	**Ipoh**	**69.47**	**281**	*e*P	**P**	**22 47 40.5**	**+2.7**
	comp=Z,14nm,1.1s						
NIKH	**Nikolski High**	**70.72**	**14**	*e*P	**P**	**22 47 45.2**	**+0.7**
PSI	**Prapat**	**70.97**	**278**	*e*P	**P**	**22 47 45.8**	**-1.3**
PSI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PSI	**Prapat**	**70.97**	**278**	*e*P	**P**	**22 47 45.8**	**-1.3**
	comp=Z,7.6nm,0.7s						
SKNT	**Sakolnakorn**	**71.11**	**294**	P	P	22 47 55.5	+7.8
	comp=Z,29nm,1.5s						
KLR	**Kul'dur**	**71.90**	**336**	*e*P	P	22 47 47.0	-4.8
GYA	**Guiyang**	**72.86**	**304**	P	**P**	**22 48 00.3**	**+2.1**
GYA				pP	PcP	22 48 22.0	+6.8
GYA				sP	sP	22 48 31.4	+19
GYA				PP	**PP**	**22 50 45.8**	**+4.9**
GYA				S	**S**	**22 57 18.4**	**-4.1**
GYA				SKS	SKSac	22 57 52.0	-10
GYA				SS	**SS**	**23 02 02.6**	**-0.9**
GYA				PMZ			
	comp=Z,20nm,1.0s						
GYA				PMZ			
	comp=Z,130nm,6.0s						
GYA				LN			
	comp=Z,540nm,22.2s						
GYA				LE			
	comp=Z,470nm,23.0s						
GYA				LZ			
	comp=Z,520nm,22.4s						
BJI	**Beijing**	**73.32**	**321**	P	**P**	**22 47 59.8**	**-0.6**
BJI				PMZ			
	comp=Z,53nm,1.0s						
PBKT	**Sadao Pong**	**73.62**	**293**	P	P	22 48 12.3	+10
LOEI	**Loei**	**73.71**	**294**	P	**P**	**22 48 01.5**	**-1.7**
	comp=Z,23nm,0.7s						
UTTA	**Uttaradit**	**74.42**	**294**	P	**P**	**22 48 07.9**	**+0.5**
	comp=Z,3.1nm,0.9s						
KMI	**Kunming**	**75.46**	**301**	P	**P**	**22 48 14.8**	**+1.3**
KMI				S	**S**	**22 57 48.1**	**-3.8**
KMI				PMZ			
	comp=Z,18nm,0.8s						
KMI				PMZ			
	comp=Z,840nm,13.6s						
CRAI	**Chiangrai**	**75.52**	**296**	P	**P**	**22 48 11.3**	**-2.4**
	comp=Z,277nm,1.1s						

SEY Seymchan 78.92 353 P **P** **22 48 31.4 -0.4**
comp=Z,11nm,0.9s,baz=158,slow=6.4,SNR=18
SEY Seymchan 78.92 353 *eP* **P** **22 48 31.6 -0.1**
LZH Lanzhou 79.44 312 *eP* **P** **22 48 36.8 +1.3**
LZH PcP **PcP** **22 48 45.8 +2.4**
LZH pP pP 22 49 00.4 +14
LZH PP **PP** **22 51 38.3 +2.1**
LZH *e*S S 22 58 28.0 -6.5
LZH sS sS 22 59 03.4 +11
LZH SS **SS** **23 03 38.5 -4.3**
LZH PMZ
comp=Z,30nm,1.0s
LZH PMZ
comp=Z,190nm,4.7s
LZH LN
comp=Z,230nm,12.9s
LZH LE
comp=Z,390nm,13.5s
LZH LZ
comp=Z,290nm,13.9s
MAW Mawson 81.81 202 P **P** **22 48 47.6 +0.2**
comp=Z,5.8nm,0.9s,baz=100,slow=4.7,SNR=8.5
MAW Mawson 81.81 202 P **P** **22 48 47.6 +0.2**
MAW pmax pmax
comp=Z,6.0nm,0.9s
MAW Mawson 81.81 202 *eP* **P** **22 48 48.1 +0.7**
comp=Z,1.6nm,0.9s
YAK Yakutsk 82.82 343 P **P** **22 48 51.7 -0.9**
comp=Z,2.7nm,0.3s,baz=216,slow=20,SNR=4.4
YAK Yakutsk 82.82 343 *eP* **P** **22 48 51.3 -1.3**
YAK pmax pmax
comp=Z,19nm,0.8s
BILL Bilibino 83.06 359 *c iP* **P** **22 48 53.3 -0.5**
BILL *e**PP pP 22 49 18.5 +14
BILL pmax pmax
comp=Z,11nm,1.0s
BILL MLR MLR
comp=Z,183nm,17.0s
BILL Bilibino 83.06 359 *eP* **P** **22 48 53.9 +0.1**
comp=Z,28nm,1.1s
ULN Ulaanbaatar 83.16 323 *eP* **P** **22 48 55.0 0.0**
ULN pmax pmax
comp=Z,32nm,1.0s
ULN Ulaanbaatar 83.16 323 *eP* **P** **22 48 55.0 0.0**
comp=Z,32nm,1.0s
SONA0 Songino Array 83.53 323 *eP* **P** **22 48 56.7 -0.1**
SONM Songino Array 83.53 323 P **P** **22 48 56.7 -0.1**
comp=Z,12nm,1.0s,baz=139,slow=5.1,SNR=55
SONM Songino Array 83.53 323 P **P** **22 48 56.7 -0.1**
SONM pmax pmax
comp=Z,12nm,1.0s
GTA Gaotai 83.77 314 *eP* **P** **22 48 58.9 +0.6**
GTA pP pP 22 49 23.9 +15
GTA PMZ
comp=Z,18nm,1.4s
PKM Peak Mountain 84.34 52 P **P** **22 49 02.9 +1.6**
baz=85
SCI San Clemente I 84.59 54 P **P** **22 49 04.0 +1.7**
baz=85
L02D Cave Junction, 84.63 44 P **P** **22 49 03.6 +1.2**
baz=85
WDC Whiskeytown Da 84.67 46 *eP* P 22 49 06.1 +3.5
WDC pmax pmax
comp=Z,13nm,1.2s
WDC Whiskeytown Da 84.67 46 *eP* P 22 49 06.1 +3.5
comp=Z,13nm,1.2s
TRF Thorofare Moun 84.71 17 *eP* **P** **22 49 02.2 -0.3**
comp=Z,12nm,0.9s
N02D Trinity Center 84.72 45 P **P** **22 49 03.8 +0.9**
baz=85
M02C Callahan 84.80 45 P **P** **22 49 05.1 +1.7**
baz=85
YBH Yreka Blue Hor 85.04 45 P **P** **22 49 06.1 +1.5**
comp=Z,5.8nm,0.9s,baz=221,slow=4.0,SNR=6.9
YBH Yreka Blue Hor 85.04 45 P **P** **22 49 06.1 +1.5**
YBH pmax pmax
comp=Z,6.0nm,0.9s
YBH Yreka Blue Hor 85.04 45 *eP* **P** **22 49 06.5 +1.9**
comp=Z,13nm,1.0s
RND Reindeer 85.09 18 *eP* **P** **22 49 04.2 -0.1**
RND pmax pmax
comp=Z,19nm,1.2s
RND Reindeer 85.09 18 *eP* **P** **22 49 04.2 -0.1**
comp=Z,19nm,1.2s
CMB Columbia Colle 85.15 49 *eP* **P** **22 49 06.6 +1.5**
CMB pmax pmax
comp=Z,17nm,0.9s
CMB Columbia Colle 85.15 49 *eP* **P** **22 49 06.6 +1.5**
comp=Z,16nm,0.9s
ARVC Arvin 85.18 52 P **P** **22 49 06.5 +1.2**
baz=85
HUMO Hull Mountain 85.25 44 *eP* **P** **22 49 07.4 +1.9**
comp=Z,16nm,0.9s
MCK McKinley 85.32 18 *eP* **P** **22 49 05.6 +0.3**
MCK McKinley 85.32 18 *eP* **P** **22 49 05.6 +0.3**
MCK *e*PcP **pP** **22 49 14.3 -1.9**
BOD Bodaibo 85.39 334 *eP* **P** **22 49 05.1 -0.7**
BOD pmax pmax
comp=Z,13nm,1.5s
MWC Mount Wilson 85.43 53 *eP* **P** **22 49 08.4 +1.6**
MWC pmax pmax
comp=Z,30nm,1.0s
MWC Mount Wilson 85.43 53 *eP* **P** **22 49 08.3 +1.6**
comp=Z,30nm,1.0s
ISA Isabella 85.65 51 *eP* **P** **22 49 09.5 +1.8**
ISA pmax pmax
comp=Z,18nm,1.1s
ISA Isabella 85.65 51 P **P** **22 49 09.1 +1.3**
baz=86
ISA Isabella 85.65 51 *eP* **P** **22 49 09.5 +1.8**
comp=Z,18nm,1.1s
M04C Macdoel 85.66 45 P **P** **22 49 08.9 +1.2**
baz=86
EDW2 Edwards Air Fo 85.72 52 P **P** **22 49 09.2 +1.1**
baz=86
BFSC Mount Baldy Ra 85.74 53 P **P** **22 49 09.3 +1.0**
baz=86
IM04 Indian Mountai 85.78 15 *eP* **P** **22 49 07.5 -0.1**
IM04 *e*PcP **pP** **22 49 16.2 -2.2**
MURC Murrieta 85.86 54 P **P** **22 49 10.3 +1.5**
baz=86
BAR Barrett 85.95 55 *eP* **P** **22 49 10.9 +1.6**
comp=Z,15nm,1.1s
WAKR Walker 86.02 48 *eP* **P** **22 49 11.3 +1.7**
WRH Wood River Hil 86.12 17 *eP* **P** **22 49 08.6 -0.6**
comp=Z,4.9nm,0.9s
I04A Tendick Farm, 86.12 43 P **P** **22 49 10.9 +1.0**
baz=86
MTUM Tungsten Hills 86.22 50 *eP* **P** **22 49 12.5 +1.9**
MONP Monument Peak 86.22 55 P **P** **22 49 12.5 +1.6**
baz=86
CCB Clear Creek Bu 86.33 17 *eP* **P** **22 49 09.5 -0.8**
comp=Z,6.1nm,0.4s
HDA Harding Lake 86.40 18 *eP* **P** **22 49 10.8 +0.1**
comp=Z,82nm,1.8s
MDM Murphy Dome 86.44 17 *eP* **P** **22 49 09.1 -1.9**
comp=Z,19nm,0.5s
PFO Pinyon Flat Ob 86.45 54 P **P** **22 49 13.1 +1.2**
comp=Z,5.3nm,1.0s,baz=261,slow=5.1,SNR=7.4
PFO Pinyon Flat Ob 86.45 54 *eP* **P** **22 49 13.4 +1.6**
PFO pmax pmax
comp=Z,9.0nm,0.8s
PFO Pinyon Flat Ob 86.45 54 P **P** **22 49 12.9 +1.1**
baz=87
PFO Pinyon Flat Ob 86.45 54 *eP* **P** **22 49 13.4 +1.6**
comp=Z,9.3nm,0.8s
COLA College 86.49 17 *eP* **P** **22 49 10.7 -0.3**
COLA pmax pmax
comp=Z,11nm,0.8s
DAC Darwin (Calif) 86.54 51 *eP* **P** **22 49 13.5 +1.2**
DAC pmax pmax
comp=Z,18nm,1.3s
DAC Darwin (Calif) 86.54 51 *eP* **P** **22 49 13.5 +1.2**
comp=Z,18nm,1.3s
ZAK Zakamensk 86.57 324 ⇑ *iP* **P** **22 49 11.1 -0.9**
ZAK pmax pmax
comp=Z,8.0nm,1.3s
K05A Summer Lake 86.68 44 *eP* **P** **22 49 14.6 +1.7**
comp=Z,12nm,0.9s
J05D Fort Rock, OR 86.69 44 P **P** **22 49 14.0 +1.2**
baz=87
ILAR Eielson Array 86.69 18 P **P** **22 49 10.7 -1.4**
comp=Z,3.6nm,0.8s,baz=233,slow=5.5,SNR=29
ILAR Eielson Array 86.69 18 P **P** **22 49 10.7 -1.4**
ILAR pmax pmax
comp=Z,4.0nm,0.8s

ILB Eielson Array 86.69 18 *eP* **P** **22 49 10.7 -1.4**
LSA Lhasa 86.72 302 P **P** **22 49 13.3 -0.3**
LSA Lhasa 86.72 302 *eP* **P** **22 49 13.9 +0.3**
LSA pmax pmax
comp=Z,6.0nm,0.7s
LSA Lhasa 86.72 302 *eP* **P** **22 49 13.9 +0.3**
comp=Z,5.6nm,0.7s
LSA *e*PKKPbc **PKKPbc** **23 07 10.4 +1.2**
SWSC Sam W. Stewart 86.73 55 P **P** **22 49 14.4 +1.4**
baz=87
GSC Goldstone 86.78 52 *eP* **P** **22 49 14.7 +1.4**
GSC pmax pmax
comp=Z,32nm,1.7s
GSC Goldstone 86.78 52 *eP* **P** **22 49 14.7 +1.4**
comp=Z,32nm,1.7s
NV01 Mina Array Sit 86.81 49 *eP* **P** **22 49 14.9 +1.3**
NVAR Mina Array Bea 86.81 49 P **P** **22 49 14.9 +1.3**
comp=Z,5.8nm,0.8s,baz=231,slow=8.4,SNR=33
BELC Belle Mtn. Jos 86.94 54 P **P** **22 49 15.8 +1.5**
baz=87
HEC Hector,Ludlow 86.98 53 P **P** **22 49 15.3 +1.0**
baz=87
BC3 Big Chuckawall 87.25 54 P **P** **22 49 17.3 +1.6**
baz=88
TPH Tonopah 87.47 50 *eP* **P** **22 49 18.5 +1.7**
TPH pmax pmax
comp=Z,42nm,1.8s
TPH Tonopah 87.47 50 *eP* **P** **22 49 18.5 +1.7**
comp=Z,42nm,1.8s
GMRC Granite Mounta 87.48 53 P **P** **22 49 18.1 +1.3**
baz=88
TUQ Turquoise Moun 87.50 52 P **P** **22 49 18.3 +1.4**
baz=88
GLA Glamis 87.53 55 *eP* **P** **22 49 19.3 +2.3**
GLA Glamis 87.53 55 P **P** **22 49 18.8 +1.8**
baz=88
GLA Glamis 87.53 55 *eP* **P** **22 49 19.3 +2.3**
GLA *e*PcP **pP** **22 49 27.5 -0.4**
IRM Iron Mountain 87.66 54 P **P** **22 49 19.3 +1.8**
baz=88
TPNV Topopah Spring 87.79 51 P **P** **22 49 19.7 +1.4**
baz=88
WVOR Wild Horse Val 88.10 45 *eP* **P** **22 49 21.2 +1.6**
WVOR pmax pmax
comp=Z,9.0nm,1.1s
WVOR Wild Horse Val 88.10 45 *eP* **P** **22 49 21.2 +1.6**
comp=Z,8.6nm,1.1s
BMN Battle Mountai 88.33 47 *eP* **P** **22 49 22.5 +1.7**
BMN pmax pmax
comp=Z,6.0nm,0.8s
BMN Battle Mountai 88.33 47 *eP* **P** **22 49 22.5 +1.7**
comp=Z,5.7nm,0.8s
BMN *e*PKKPdf **PKKPdf** **23 07 01.9 +1.5**
EGAK Eagle 88.45 19 *eP* P 22 49 23.9 +3.4
comp=Z,3.6nm,0.9s
SHPR Sheep Range 88.45 52 *eP* **P** **22 49 23.0 +1.6**
SYO Syowa Base 88.52 196 ⇑ *iP* **P** **22 49 19.5 -1.4**
LTY Liberty 88.68 40 *eP* **P** **22 49 24.2 +2.1**
comp=Z,9.6nm,1.1s
R11A Troy Canyon, C 88.77 50 P **P** **22 49 24.0 +1.0**
baz=89
R11A Troy Canyon, C 88.77 50 *eP* **P** **22 49 23.5 +0.5**
comp=Z,14nm,1.4s
214A Organ Pipe Nat 88.78 57 P **P** **22 49 24.8 +1.8**
baz=89
G08A Pilot Rock 88.98 42 *eP* **P** **22 49 24.7 +1.0**
comp=Z,8.2nm,1.0s
PALK Pallekele 89.63 278 P **P** **22 49 27.8 +0.5**
comp=Z,8.4nm,0.8s,baz=124,slow=9.7,SNR=3.2
PALK Pallekele 89.63 278 P **P** **22 49 27.8 +0.5**
PALK pmax pmax
comp=Z,8.0nm,0.8s
PALK Pallekele 89.63 278 *eP* **P** **22 49 27.8 +0.5**
comp=Z,260nm,2.5s
ELK Elko 89.86 48 P **P** **22 49 29.2 +1.2**
comp=Z,3.9nm,0.8s,baz=246,slow=4.7,SNR=14
ELK Elko 89.86 48 P **P** **22 49 29.2 +1.2**
ELK pmax pmax
comp=Z,4.0nm,0.8s
ELK Elko 89.86 48 *eP* **P** **22 49 29.4 +1.4**
comp=Z,6.3nm,0.9s
B08A Colville Reser 89.95 39 *eP* **P** **22 49 28.9 +0.9**
comp=Z,6.0nm,1.0s
CCUT Cedar City 90.16 51 *eP* **P** **22 49 31.8 +2.3**
comp=Z,16nm,1.0s
F10A Beach Ranch, E 90.37 42 *eP* **P** **22 49 31.3 +1.2**
comp=Z,11nm,0.7s
MFID Camas Ranch 90.38 45 *eP* **P** **22 49 31.7 +1.5**
comp=Z,6.4nm,0.9s
KNB Kanab 90.39 52 *eP* **P** **22 49 32.9 +2.3**
KNB pmax pmax
comp=Z,25nm,1.2s
KNB Kanab 90.39 52 *eP* **P** **22 49 32.9 +2.3**
comp=Z,25nm,1.2s
TUC Tucson 90.53 57 *eP* **P** **22 49 33.4 +2.3**
TUC pmax pmax
comp=Z,8.0nm,1.0s
TUC Tucson 90.53 57 *eP* **P** **22 49 33.4 +2.3**
comp=Z,8.1nm,1.0s
WUAZ Wupatki 91.03 54 P **P** **22 49 35.2 +1.7**
baz=91
WUAZ Wupatki 91.03 54 *eP* **P** **22 49 35.8 +2.3**
comp=Z,16nm,0.9s
NEW Newport 91.28 40 P **P** **22 49 34.8 +0.5**
comp=Z,2.7nm,0.8s,baz=255,slow=8.6,SNR=4.4
NEW Newport 91.28 40 *eP* **P** **22 49 35.1 +0.9**
NEW pmax pmax
comp=Z,5.0nm,0.9s
NEW Newport 91.28 40 P **P** **22 49 34.9 +0.7**
baz=92
NEW Newport 91.28 40 *eP* **P** **22 49 35.1 +0.9**
comp=Z,4.8nm,0.9s
MSU Marysvale 91.35 50 *eP* **P** **22 49 37.6 +2.5**
MSU Marysvale 91.35 50 *eP* **P** **22 49 37.6 +2.5**
HLID Hailey 91.39 45 P **P** **22 49 36.9 +1.8**
baz=92
HLID Hailey 91.39 45 *eP* **P** **22 49 36.8 +1.8**
comp=Z,26nm,0.1s
DUG Dugway 91.42 49 P **P** **22 49 36.2 +1.0**
baz=92
BGU Big Grassy Mou 91.50 48 *eP* **P** **22 49 38.2 +2.7**
comp=Z,8.2nm,1.2s
HVU Hansel Valley 91.95 47 *eP* **P** **22 49 39.4 +1.7**
HVU pmax pmax
comp=Z,6.0nm,1.1s
HVU Hansel Valley 91.95 47 *eP* **P** **22 49 39.4 +1.7**
comp=Z,6.0nm,1.1s
W18A Petrified Fore 92.19 54 P **P** **22 49 40.3 +1.4**
baz=92
NVL N'lazarevskaya 92.69 188 *eP* **P** **22 49 39.4 -0.9**
NVL pmax pmax
comp=Z,9.0nm,0.8s
SRU San Rafael 92.77 50 *eP* **P** **22 49 42.4 +0.9**
SRU pmax pmax
comp=Z,3.0nm,0.7s
SRU San Rafael 92.77 50 *eP* **P** **22 49 42.4 +0.9**
comp=Z,3.4nm,0.7s
SNAA Sanae 93.09 183 P **P** **22 49 41.6 -0.7**
SNAA Sanae 93.09 183 *eP* **P** **22 49 41.1 -1.2**
SNAA pmax pmax
comp=Z,14nm,1.6s
SNAA Sanae 93.09 183 *eP* **P** **22 49 41.1 -1.2**
comp=Z,14nm,1.6s
WMQ Urumqi 93.83 314 P **P** **22 49 46.8 +0.7**
WMQ pP pP 22 50 07.8 +11
WMQ sP sP 22 50 15.8 +15
WMQ PMZ
comp=Z,17nm,1.4s
WMQ PMZ
comp=Z,140nm,4.7s
WMQ LN
comp=Z,58nm,15.0s
WMQ LE
comp=Z,50nm,22.8s
VNA2 Neumayer--Watz 94.00 181 P **P** **22 49 45.9 -0.5**
baz=184,slow=3.5
VNA1 Neumayer--Stat 94.30 181 P **P** **22 49 47.0 -0.7**
PD31 Pinedale Array 94.53 47 *eP* **P** **22 49 49.6 0.0**
PDAR Pinedale Array 94.53 47 P **P** **22 49 49.6 0.0**
comp=Z,0.3nm,0.5s,baz=259,slow=1.5,SNR=3.8
ANMO Albuquerque 94.73 55 P **P** **22 49 51.5 +0.8**
comp=Z,1.7nm,0.9s,baz=236,slow=4.7,SNR=4.3
ANMO Albuquerque 94.73 55 P **P** **22 49 51.5 +0.8**
ANMO pmax pmax
comp=Z,2.0nm,0.9s
ANMO Albuquerque 94.73 55 *eP* **P** **22 49 52.4 +1.8**
comp=Z,4.2nm,1.1s

S22A 4UR Ranch, Cre 95.17 52 P **P** **22 49 53.9 +1.1**
baz=95
LTX Lajitas 95.60 61 *eP* **P** **22 49 55.7 +1.1**
LTX Lajitas 95.60 61 *eP* **P** **22 49 55.7 +1.1**
TXAR Lajitas Array 95.60 61 P **P** **22 49 55.7 +1.1**
comp=Z,0.5nm,0.6s,baz=225,slow=5.1,SNR=4.7
TXAR LR LR 23 26 51.5
comp=Z,54nm,18.7s,baz=0.0,slow=32
TXAR Lajitas Array 95.60 61 P **P** **22 49 55.7 +1.1**
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR MLR MLR
comp=Z,55nm,18.7s
ISCO Idaho Springs 96.61 51 P **P** **22 50 00.4 +1.1**
baz=97
N23A Red Feather La 96.64 50 P **P** **22 50 00.6 +1.3**
baz=97
N23A Red Feather La 96.64 50 *eP* **P** **22 50 01.2 +1.9**
comp=Z,5.2nm,1.0s
429A Davenport Ranc 97.40 60 P Pdif 22 50 03.4 +0.5
baz=98
YKA Yellowknife Ar 97.52 27 P **P** **22 50 01.8 -0.6**
comp=Z,1.4nm,0.8s,baz=258,slow=4.8,SNR=12
YKA Yellowknife Ar 97.52 27 P **P** **22 50 01.8 -0.6**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKB5 Yellowknife Ar 97.52 27 *eP* **P** **22 50 01.8 -0.6**
MK31 Makanchi Array 98.29 316 P Pdif 22 50 07.0 +0.6
baz=98,SNR=5.8
MK32 Makanchi Array 98.29 316 *eP* **P** **22 50 06.5 +0.1**
MK32 *e*PKKPbc **PKKPbc** **23 06 36.4 -2.9**
MKAR Makanchi Array 98.29 316 P **P** **22 50 06.5 +0.1**
comp=Z,4.5nm,0.7s,baz=96,slow=6.1,SNR=32
MKAR PKKPbc **PKKPbc** **23 06 36.4 -2.9**
comp=Z,0.5nm,0.7s,baz=270,slow=2.4,SNR=4.6
MKAR Makanchi Array 98.29 316 P Pdif 22 50 06.5 +0.1
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 98.29 316 *eP* Pdif 22 50 06.7 +0.3
ZALV Zalesovo Beam 98.42 324 P **P** **22 50 05.4 -1.3**
comp=Z,3.2nm,0.7s,baz=121,slow=4.3,SNR=16
ZALV Zalesovo Beam 98.42 324 *i P* **P** **22 50 05.6 -1.0**
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZAA1 Zalesovo Array 98.42 324 *eP* **P** **22 50 05.4 -1.3**
KSH Kashi 101.33 308 P Pdif 22 50 34.9 +15
KSH PP **PP** **22 54 28.1 -1.9**
KSH Kashi 101.33 308 sS sS 23 02 41.4 +25
KSH pmax pmax
comp=Z,250nm,6.7s
KSH LR LR
comp=N,170nm,4.2s
KSH LR LR
comp=E,160nm,4.0s
KSH LR LR
comp=Z,440nm,6.6s
KURK Kurchatov 101.46 320 P **Pdif** **22 50 18.2 -2.1**
KURK 22 54 33.2
KURK Kurchatov 101.46 320 *e*Pdif **Pdif** **22 50 18.2 -2.1**
KURK *e*PP PP **22 54 33.2 +2.7**
KURBB Kurchatov Arra 101.50 319 P **Pdif** **22 50 18.2 -2.2**
comp=Z,0.2nm,0.2s,baz=90,slow=5.6,SNR=3.0
KURBB PP PP **22 54 33.2 +2.4**
comp=Z,0.4nm,0.5s,baz=98,slow=6.2,SNR=4.6
BVAR Borovoye Array 106.80 321 Pdiff **Pdif** **22 50 43.4 -0.6**
comp=Z,0.5nm,0.6s,baz=126,slow=7.3,SNR=4.3
BVAR Borovoye Array 106.80 321 P **Pdif** **22 50 43.4 -0.6**
BVAR pmax pmax
comp=Z,1.0nm,0.6s
ARU Arti 113.50 325 PKiKP **PKiKP** **22 55 06.1 -0.4**
baz=27,slow=2.3
ARU Arti 113.50 325 PKIKP **PKiKP** **22 55 05.8 -0.7**
GEYT Alibeck 115.08 305 PKP **PKPdf** **22 55 09.8 -0.4**
comp=Z,0.8nm,0.5s,baz=142,slow=3.3,SNR=4.1
LPAZ La Paz 116.05 117 PKP **PKPdf** **22 55 13.5 +0.1**
comp=Z,2.2nm,0.9s,baz=355,slow=3.0,SNR=8.6
LPAZ La Paz 116.05 117 PKIKP **PKPdf** **22 55 13.5 +0.1**
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
LPAZ La Paz 116.05 117 *e*PKPdf **PKPdf** **22 55 13.9 +0.5**
CPUP Villa Florida 119.34 133 PKP **PKPdf** **22 55 18.4 -0.3**
comp=Z,4.1nm,0.9s,baz=330,slow=2.1,SNR=7.0
CPUP Villa Florida 119.34 133 PKIKP **PKPdf** **22 55 18.4 -0.3**
CPUP pmax pmax
comp=Z,4.0nm,0.9s
ARA0 ARCESS Array S 121.00 346 *e*PKPdf **PKPdf** **22 55 20.4 -0.2**
ARCES ARCESS Array B 121.00 346 PKP **PKPdf** **22 55 20.4 -0.1**
comp=Z,4.6nm,0.6s,baz=61,slow=0.9,SNR=29
ARCES ARCESS Array B 121.00 346 PKIKP **PKPdf** **22 55 20.5 -0.1**
ARCES pmax pmax
comp=Z,5.0nm,0.6s
SDV Santo Domingo 122.11 89 *e*PKPdf **PKPdf** **22 55 25.2 +0.7**
SAML Samuel 123.56 112 *e*PKPdf **PKPdf** **22 55 26.9 -0.2**
BOSA Boshof 123.66 219 PKP **PKPdf** **22 55 27.1 -0.1**
comp=Z,3.2nm,1.0s,baz=265,slow=3.5,SNR=3.8
BOSA Boshof 123.66 219 PKIKP **PKPdf** **22 55 27.1 -0.1**
BOSA pmax pmax
comp=Z,3.0nm,1.0s
LPSR Galich'ya Gora 125.51 325 *e*PKIKP **PKPdf** **22 55 29.2 -0.5**
LPSR pmax pmax
comp=N,3.0nm,1.1s
LPSR pmax pmax
comp=E,5.0nm,1.1s
LPSR pmax pmax
comp=Z,10.0nm,1.1s
OBN Obninsk 125.69 328 ⇓ *i* PKIKP **PKPdf** **22 55 29.9 0.0**
OBN *e* 22 57 22.5
OBN pmax pmax
comp=Z,17nm,1.3s
OBN MLR MLR
comp=Z,79nm,20.0s
RAYN Ar Rayn 125.75 288 *e*PKPdf **PKPdf** **22 55 31.6 +0.5**
VSR Storozhevoye 125.92 323 *e*PKIKP **PKPdf** **22 55 28.9 -1.6**
VSR pmax pmax
comp=Z,7.0nm,0.9s
VSR pmax pmax
comp=N,3.0nm,0.7s
VSR pmax pmax
comp=E,2.0nm,0.9s
KIV Kislovodsk 125.95 314 *d i* PKIKP **PKPdf** **22 55 31.0 0.0**
KIV *e* 22 57 20.1
KIV pmax pmax
comp=Z,12nm,1.1s
FIA0 FINESS Array S 126.58 339 *e*PKIKP **PKPdf** **22 55 31.2 -0.3**
FIA0 FINESS Array S 126.58 339 *e*PKPdf **PKPdf** **22 55 31.2 -0.3**
FINES FINESS Array B 126.58 339 PKP **PKPdf** **22 55 31.2 -0.3**
comp=Z,3.9nm,0.9s,baz=45,slow=2.2,SNR=8.4
FINES FINESS Array B 126.58 339 PKIKP **PKPdf** **22 55 31.2 -0.3**
FINES pmax pmax
comp=Z,4.0nm,0.9s
PTGA Pitinga 129.68 104 *e*PKPdf **PKPdf** **22 55 39.4 +0.6**
NB2 NORSAR Subarra 131.38 345 PKPdf **PKPdf** **22 55 41.2 +0.4**
comp=Z,2.3nm,1.0s,baz=31,slow=1.9
NB200 NORSAR Array S 131.38 345 *e*PKPdf **PKPdf** **22 55 41.1 +0.4**
NOA NORSAR Array B 131.38 345 PKP **PKPdf** **22 55 41.1 +0.4**
comp=Z,1.7nm,0.7s,baz=33,slow=2.0,SNR=8.5
NOA NORSAR Array B 131.38 345 PKIKP **PKPdf** **22 55 41.1 +0.4**
NOA pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 131.74 326 PKP **PKPdf** **22 55 41.0 -0.6**
comp=Z,0.3nm,0.3s,baz=42,slow=1.8,SNR=11
AKASG Malin Array Be 131.74 326 PKIKP **PKPdf** **22 55 41.0 -0.6**
AKBB Malin Array Si 131.74 326 *e*PKIKP **PKPdf** **22 55 41.0 -0.6**
AKBB Malin Array Si 131.74 326 *e*PKPdf **PKPdf** **22 55 41.0 -0.6**
BDFB Brasilia 132.76 129 PKP **PKPdf** **22 55 45.1 +0.4**
comp=Z,8.9nm,0.8s,baz=241,slow=2.4,SNR=9.8
BDFB Brasilia 132.76 129 PKIKP **PKPdf** **22 55 45.1 +0.4**
BDFB pmax pmax
comp=Z,9.0nm,0.8s
BDFB Brasilia 132.76 129 *e*PKPdf **PKPdf** **22 55 45.5 +0.8**
BR101 Keskin Array S 133.63 311 *e*PKPdf **PKPdf** **22 55 45.0 -0.8**
BRTR Keskin Array B 133.63 311 PKP **PKPdf** **22 55 45.0 -0.8**
comp=Z,2.1nm,0.9s,baz=149,slow=2.3,SNR=8.2
BRTR Keskin Array B 133.63 311 PKIKP **PKPdf** **22 55 45.0 -0.8**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
KOLS Kolonicke sedl 136.43 328 *e*PKIKP **PKPdf** **22 55 51.0 +0.5**
KOLS Kolonicke sedl 136.43 328 *e*PKP **PKPdf** **22 55 51.0 +0.5**
KECS Kecovo 137.63 328 *e*PKIKP **PKPdf** **22 55 52.6 -0.2**
KECS Kecovo 137.63 328 *e*PKP **PKPdf** **22 55 52.5 -0.2**
KRLC Kraliky 138.31 333 *e*PKPdf **PKPdf** **22 55 52.8 -1.2**
KRLC Kraliky 138.31 333 *e*PKIKP **PKPdf** **22 55 52.8 -1.2**
DPC Dobruska-Polom 138.31 333 *e*PKPdf **PKPdf** **22 55 54.2 +0.2**

DPC	Dobruska-Polom	138.31	333	ePKIKP	PKPdf	22 55 54.2	+0.2
VYHS	Vyhne	138.45	329	ePKIKP	PKPdf	22 55 53.9	-0.4
VYHS	Vyhne	138.45	329	ePKP	PKPdf	22 55 53.9	-0.4
ALN	Alexandroupoli	138.54	316	eP	PKPdf	22 55 58.5	+3.9
BRG	Berggiesshubel	138.91	335	ePKP	PKPdf	22 55 49.8	-5.2
	comp=Z,2.5nm,0.9s						
BRG				e		22 55 54.7	
	comp=Z,12nm,1.8s						
BRG	Berggiesshubel	138.91	335	ePKIKP	PKPdf	22 55 49.8	-5.2
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRG				pmax	pmax		
	comp=Z,13nm,1.8s						
CLL	Collm	138.94	337	ePKIKP	PKPdf	22 55 53.0	-2.0
CLL				pmax	pmax		
	comp=Z,4.0nm,1.2s						
CLL	Collm	138.94	337	ePKPdf	PKPdf	22 55 53.0	-2.0
CLL				pmax	pmax		
	comp=Z,4.0nm,1.2s						
CLL				ePKiKP	PKiKP	22 55 57.0	-0.2
CLL				ePP	PP	22 58 48.0	+1.3
PRU	Pruhonice	139.34	334	ePKPdf	PKPdf	22 55 57.0	+1.2
PRU	Pruhonice	139.34	334	ePKIKP	PKPdf	22 55 57.0	+1.2
SIGRI	SIGRI	139.41	313	eP	PKPdf	22 55 55.0	-1.3
NIS1	Nisyros Isl.	139.48	309	eP	PKPdf	22 55 57.0	+0.5
CHOS	Chios island	139.62	312	eP	PKPdf	22 56 01.5	+4.7
OUR	Ouranopolis	140.19	316	eP	PKPdf	22 55 53.5	-4.1
GEC2	GERESS Array S	140.57	334	ePKIKP	PKPdf	22 55 59.1	+0.9
GEC2	GERESS Array S	140.57	334	ePKPdf	PKPdf	22 55 59.1	+0.9
GERES	GERESS Array B	140.57	334	PKhKP	PKPpre	22 55 54.7	
	comp=Z,0.9nm,0.7s,baz=50,slow=2.3,SNR=9.8						
GERES	GERESS Array B	140.57	334	PKIKP	PKPdf	22 55 54.7	-3.5
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PAIG	Paliouri	140.59	316	eP	PKPpre	22 55 50.5	
HORT	Hortiatis	140.65	317	eP	PKPdf	22 55 07.5	+8.9
THE	Thessaloniki	140.72	317	eP	PKPdf	22 55 59.5	+0.9
AOS	Alonnisos	140.80	314	eP	PKPdf	22 56 00.5	+1.7
XOR	Xorichti	141.18	315	eP	PKPdf	22 55 59.0	-0.5
MRKA	Markates	141.22	314	eP	PKPdf	22 56 10.0	+10
LIT	Litokhoron	141.30	316	eP	PKPdf	22 55 55.0	-4.7
SMIA	Simia	141.40	314	eP	PKPdf	22 56 00.0	+0.1
SOKA	Soboth	141.56	330	⇑iPKPdf	PKPdf	22 55 55.6	-4.5
	comp=Z,4.8nm,1.1s						
VIL2	Platees	141.67	313	eP	PKPdf	22 56 10.0	+10
FNA	Florina	141.68	318	eP	PKPdf	22 56 00.0	-0.4
AXAR	Agios Charalam	141.83	315	eP	PKPpre	22 55 51.5	
OBKA	Obir	141.92	330	⇑iPKPdf	PKPdf	22 55 56.3	-4.4
	comp=Z,2.8nm,1.0s						
AGG	Agios Georgios	141.94	315	eP	PKPdf	22 56 00.0	-0.9
LOUT	Loutraki	141.97	313	eP	PKPdf	22 56 02.5	+1.5
DID	Didima	142.00	312	eP	PKPdf	22 55 55.0	-6.1
DIDY	Didyma	142.04	312	eP	PKPdf	22 56 00.0	-1.2
KBA	Koelnbreinsper	142.06	332	⇑iPKPdf	PKPdf	22 55 55.9	-5.1
	comp=Z,6.8nm,0.9s						
MAKR	Makrakomi, Fth	142.08	315	eP	PKPdf	22 55 58.5	-2.7
NEST	Nestorio	142.08	318	eP	PKPdf	22 55 56.5	-4.7
DESF	Desfina	142.09	314	eP	PKPpre	22 55 52.0	
DSF	Desfina	142.09	314	eP	PKPdf	22 55 52.0	-9.2
KRND	KRANIDI	142.12	312	eP	PKPdf	22 55 55.0	-6.2
MYKA	Terra Mystica	142.25	331	⇑iPKPdf	PKPdf	22 55 56.9	-4.4
	comp=Z,4.2nm,0.8s						
GUR	Goura	142.44	314	eP	PKPdf	22 55 57.5	-4.4
EFP	Efpalio	142.51	314	eP	PKPdf	22 55 59.0	-2.9
WTTA	Wattenberg	142.67	334	⇑iPKPdf	PKPdf	22 55 58.5	-3.7
	comp=Z,11nm,1.1s,SNR=6.2						
VLX	Vlachokerasia	142.68	313	eP	PKPdf	22 55 57.5	-4.9
ABTA	Abfaltersbach	142.68	332	⇑iPKPdf	PKPdf	22 55 57.4	-4.7
	comp=Z,8.7nm,0.9s,SNR=12						
DSL	Palaion Diasel	142.72	316	eP	PKPdf	22 55 58.0	-4.3
MOTA	Moosalm	142.83	334	⇑iPKPdf	PKPdf	22 55 58.8	-3.6
	comp=Z,13nm,1.0s,SNR=8.0						
IGT	Igoumenitsa	143.02	317	eP	PKPdf	22 55 59.0	-3.8
SGD	Sagiada	143.04	317	eP	PKPab	22 55 59.0	+0.9
BFO	Black Forest	143.12	338	ePKIKP	PKPdf	22 56 01.8	-0.9
BFO	Black Forest	143.12	338	ePKPdf	PKPdf	22 56 01.8	-0.9
FETA	Feichten	143.25	334	⇑iPKPdf	PKPbc	22 56 00.6	+0.4
	comp=Z,15nm,0.9s,SNR=9.7						
PYL	PYLOS	143.34	312	eP	PKPab	22 55 52.0	-7.4
DAVA	Damuels	143.38	335	⇑iPKPdf	PKPbc	22 56 01.0	+0.5
	comp=Z,8.8nm,1.1s						
SFD	Strofades	143.69	313	eP	PKPab	22 55 53.5	-7.2
FUORN	Ofenpass-Fuorn	143.76	334	ePKPdf	PKPbc	22 56 02.6	+0.8
TUE	Stuetta	144.26	335	ePKPdf	PKPbc	22 56 03.8	+0.6
SENIN	Lac Senin/Sane	145.15	337	ePKPbc	PKPab	22 56 06.5	+0.3
AQU	L'Aquila	145.44	326	ePKIKP	PKPab	22 56 07.6	+0.4
AQU	L'Aquila	145.44	326	ePKPdf	PKPab	22 56 07.6	+0.4
TIP	Timpagrande	145.52	319	ePKPdf	PKPdf	22 56 06.8	-0.5
CUC	Castrocucco	145.61	321	ePKPdf	PKPdf	22 56 06.4	-0.9
VLC	Villacollemand	145.62	331	ePKPdf	PKPdf	22 56 06.9	-0.3
KEST	Kesra	145.26	321	PKPbc	PKPbc	22 56 25.2	+0.3
	comp=Z,5.5nm,1.0s,baz=110,slow=2.5,SNR=11						
KEST				PKPab	PKPab	22 56 32.8	-2.0
	comp=Z,3.1nm,1.0s,baz=352,slow=3.9,SNR=4.6						
CMAH	Djebel Manchou	152.76	325	P	PKPbc	22 56 26.8	+0.8
ABSA	Djebel Ababsia	152.98	324	P	PKPbc	22 56 27.2	+0.6
PBRG	Braganca	153.19	352	ePKPdf	PKPdf	22 56 19.1	-0.2
PBRG	Braganca	153.19	352	ePKPbc	PKPbc	22 56 27.2	+0.4
PBRG	Braganca	153.19	352	ePKPab	PKPab	22 56 35.9	-2.5
CKFL	Kef-Lekhel	153.31	326	P	PKPbc	22 56 27.6	+0.3
CASM	Ain Smara	153.54	326	P	PKPbc	22 56 28.0	+0.3
DFRA	Djebel Bou Aff	153.65	327	P	PKPbc	22 56 29.7	+1.6
CTEI	Djebel Teioual	153.73	325	P	PKPbc	22 56 29.0	+0.7
POLO	Lamas de Olo	153.75	353	ePKPdf	PKPdf	22 56 21.1	+0.9
POLO	Lamas de Olo	153.75	353	ePKPbc	PKPbc	22 56 28.7	+0.6
POLO	Lamas de Olo	153.75	353	ePKPab	PKPab	22 56 37.2	-3.6
PVRL	Vila Real	153.83	353	ePKPdf	PKPdf	22 56 20.9	+0.6
PVRL	Vila Real	153.83	353	ePKPbc	PKPbc	22 56 29.1	+0.9
MVO	Moncorvo	153.86	352	ePKPbc	PKPbc	22 56 29.0	+0.7
MTE	Manteigas	154.68	353	ePKPbc	PKPbc	22 56 31.0	+0.9
ESDC	Sonseca Array	154.74	346	PKP	PKPdf	22 56 22.2	+0.6
	comp=Z,1.3nm,0.9s,baz=22,slow=2.1,SNR=6.0						
ESDC				PKPbc	PKPbc	22 56 29.9	-0.4
	comp=Z,1.2nm,0.7s,baz=22,slow=3.3,SNR=6.7						
ESDC				PKPab	PKPab	22 56 45.0	-0.1
	comp=Z,2.1nm,0.7s,baz=15,slow=4.2,SNR=11						
PAB	San Pablo	154.95	347	ePKIKP	PKPdf	22 56 22.7	+0.8
PAB	San Pablo	154.95	347	ePKPdf	PKPdf	22 56 22.7	+0.8
PCBR	Castelo Branco	155.22	352	ePKPdf	PKPdf	22 56 23.1	+0.9
EVO	Evora	156.58	353	ePKPdf	PKPdf	22 56 23.2	-0.8
PBAR	Barrancos	156.79	351	ePKPab	PKPab	22 56 55.6	+1.8
TOA0	Torodi Ar. Sit	166.90	263	ePKPdf	PKPdf	22 56 34.4	-1.0
TOA0				ePKPab	PKPab	22 57 37.4	-1.5
TORD	Torodi Ar. Bea	166.90	263	PKP	PKPdf	22 56 34.4	-1.0
	comp=Z,1.3nm,0.7s,baz=134,slow=1.0,SNR=8.6						
TORD				PKPab	PKPab	22 57 37.4	-1.5
	comp=Z,2.4nm,0.9s,baz=100,slow=3.5,SNR=7.1						

*ISCJB **21** 23:06:03.8±0.4,52°.61N±0°.06×169°.34W±0°.06,h10km, mb4.0/23, MS3.8/10, Error ellipse: s-maj=9.1km s-min=3.6km az=150.1*

*IDC **21** 23:06:03.4±0.7,52°.72N×169°.58W,h0km,mb4.1/15, mb1 4.3/17,mb1mx4.0/48,mbtmp4.0/17,ML3.6/2,MS3.8/11, Ms1 3.8/11,ms1mx3.4/44, Error ellipse: s-maj=24.0km s-min=13.5km az=169.0*

*NEIC **21** 23:06:04.5,52°.68N×169°.21W,h1km,mb4.2/13, ML4.0(AEIC), After AEIC.*

ISC 21 23:06:05.0±0.6,52°.70N±0°.09×169°.21W±0°.05,h10km,n81, σ1§25/69,mb4.1/23,MS3.8/10,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	Nikolski High	0.35	38	P	Pb	23 06 13.6	+0.2
NIKH				S	Sb	23 06 21.4	+2.4
OKWR	Okmok West Rim	0.95	39	P	Pn	23 06 24.9	+0.3
OKCE	Okmok Cone E	0.96	41	P	Pn	23 06 24.1	-0.6
OKTU	Okmok Mt. Tuli	0.99	45	P	Pn	23 06 24.8	-0.1
OKAK	Okmok	1.02	30	P	Pg	23 06 23.3	-1.4
OKFG	Magazine Ridge	1.06	47	P	Pn	23 06 25.5	-0.4
OKFG				S	Sn	23 06 42.1	+1.4
MSOM	Makushin Julie	1.76	50	P	Pb	23 06 36.5	-0.9
MSOM				S	Sg	23 07 01.4	-0.3
MCIR	Makushin Cirqu	1.87	47	P	Pn	23 06 38.8	-0.6
MSW	Makushin Switc	1.90	49	P	Pn	23 06 38.2	+0.7
MTBL	Makushin Table	1.98	49	P	Pn	23 06 39.4	+0.7
UNV	Unalaska Valle	1.99	54	ePn	Pn	23 06 38.6	-0.1
UNV				S	Sg	23 07 08.0	-1.0
AKRB	Akutan Reef Bi	2.37	51	P	Pn	23 06 45.4	+1.5
ZRO	Akutan Zero	2.39	53	P	Pn	23 06 45.5	+1.3
AKGG	Akutan Green G	2.44	51	P	Pb	23 06 46.7	-2.3
AKUT	Akutan	2.51	54	P	Pb	23 06 48.1	-2.1
ATKA	Atka Island	3.09	263	P	Pn	23 06 54.9	+1.1
WESP	Westdahl Peak	3.22	54	P	Pn	23 06 57.4	+1.6
WEBT	Westdahl Beart	3.26	53	P	Pn	23 06 57.8	+1.6
SSBA	Shishaldin	3.67	53	P	Pn	23 07 03.5	+1.7
SSLW	Shishaldin Wes	3.67	54	P	Pn	23 07 03.3	+1.5
FALS	False Pass	4.06	56	ePn	Pn	23 07 09.4	+2.3
GSTR	Great Sitkin T	4.24	264	P	Pn	23 07 10.7	+1.1
GSCK	Great Sitkin C	4.32	264	P	Pn	23 07 11.2	+0.5
SPIA	Saint Paul Isl	4.53	353	P	Pn	23 07 14.5	+0.9
ADAG	Mount Adagdak	4.59	264	P	Pn	23 07 14.9	+0.5
AMKA	Amchitka	7.21	264	P	Pn	23 07 51.4	+1.1
SML	Sawmill	14.46	43	ePn	Pn	23 09 29.5	0.0
	4.9nm,1.2s						
BPAW	Bear Paw Mtn.	14.82	32	eP	P	23 09 38.9	-1.4
	3.6nm,0.6s						
IM04	Indian Mountai	15.39	24	eP	Pn	23 09 42.0	0.0
BMRM	Bremner River	15.72	49	ePn	Pn	23 09 45.8	-0.6
	5.7nm,0.6s						
ILAR	Eielson Array	16.62	35	Pn	Pn	23 09 57.6	-0.2
	0.2nm,0.3s,baz=232,slow=11,SNR=12						
ILAR				LR	LR	23 16 53.8	
	comp=Z,290nm,18.3s,baz=236,slow=39						
COLD	Coldfoot	17.27	25	eP	P	23 10 08.1	+0.6
	11nm,1.1s						
EGAK	Eagle	18.72	39	ePn	P	23 10 23.1	-0.3
	4.0nm,0.8s						
HYT	Haines Junctio	19.02	52	eP	Pn	23 10 28.9	+1.3
	21nm,0.6s						
DAWY	Dawson	19.12	42	ePn	P	23 10 26.6	-1.3
	3.0nm,0.8s						
PETK	Petropavlovsk-	19.87	284	P	P	23 10 34.8	-1.3
	0.3nm,0.3s,baz=90,slow=12,SNR=2.6						
SKAG	Skagway	19.91	57	eP	Pn	23 10 37.8	-0.3
	18nm,0.6s						
H02N1	VAN INLET T-PH	21.94	74	T	T	23 33 44.1	
H02S1	DAWSON INLET T	21.99	74	T	T	23 33 54.2	
	SNR=19						
SEY	Seymchan	22.52	312	P	P	23 11 06.8	+2.3
	3.6nm,0.8s,baz=103,slow=7.9,SNR=7.9						
DLBC	Dease Lake	22.64	60	P	P	23 11 09.5	+3.6
	1.0nm,0.3s,baz=265,slow=15,SNR=5.8						
DLBC				LR	LR	23 20 49.5	
	comp=Z,227nm,19.9s,baz=266,slow=39						
INK	Inuvik	23.02	34	LR	LR	23 20 43.9	
	comp=Z,245nm,20.2s,baz=256,slow=38						
YKA	Yellowknife Ar	29.95	49	P	P	23 12 14.4	+1.5
	1.0nm,0.5s,baz=273,slow=7.8,SNR=16						
YKA				PcP	PcP	23 15 15.1	+0.1
	0.6nm,0.8s,baz=292,slow=2.6,SNR=4.3						
NEW	Newport	32.84	76	P	P	23 12 39.8	+1.2
	comp=Z,6s,baz=294,slow=6.5,SNR=9.2						
BSMT	Basoo Peak	34.41	76	eP	P	23 12 53.7	+1.3
	3.0nm,0.6s						
WVOR	Wild Horse Val	34.96	86	eP	P	23 12 59.4	+2.2
	3.8nm,0.8s						
CHMT	Chamberlain Mo	35.78	76	eP	P	23 13 04.8	+0.4
	2.5nm,0.5s						
RES	Resolute Bay	36.03	26	LR	LR	23 30 06.8	
	comp=Z,175nm,19.4s,baz=288,slow=40						
MCMT	McKenzie Canyo	37.12	79	eP	P	23 13 16.3	+0.5
	3.8nm,0.6s						
NVAR	Mina Array Bea	37.58	92	P	P	23 13 22.4	+2.7
	1.3nm,0.6s,baz=301,slow=8.9,SNR=8.5						
H11N2	WAKE ISLAND Hy	37.77	219	T	T	23 53 20.8	
	baz=24,slow=76,SNR=1186						
H11N3	WAKE ISLAND Hy	37.78	218	T	T	23 53 21.4	
	baz=24,slow=76,SNR=1400						
H11N1	WAKE ISLAND Hy	37.79	219	T	T	23 53 22.2	
	baz=24,slow=76,SNR=1353						
ELK	Elko	38.01	86	P	P	23 13 25.3	+1.9
	3.0nm,0.8s,baz=321,slow=10,SNR=11						
ELK	Elko	38.01	86	eP	P	23 13 24.1	+0.7
	3.7nm,0.9s						
H11S1	WAKE ISLAND Hy	38.96	218	T	T	23 54 49.7	
	baz=23,slow=76						
H11S2	WAKE ISLAND Hy	38.98	218	T	T	23 54 50.8	
	baz=23,slow=76						
H11S3	WAKE ISLAND Hy	38.98	218	T	T	23 54 50.4	
	baz=23,slow=76						
RLMT	Red Lodge	39.09	76	eP	P	23 13 34.0	+1.6
	3.5nm,0.9s						
MJAR	Matsushiro Arr	39.80	268	P	P	23 13 37.3	-0.8
	0.5nm,0.4s,baz=60,slow=6.6,SNR=4.2						
MJAR				LR	LR	23 27 56.2	
	comp=Z,165nm,22.0s,baz=70,slow=33						
PDAR	Pinedale Array	40.25	80	P	P	23 13 43.0	+1.0
	3.3nm,0.6s,baz=314,slow=5.5,SNR=21						
ULM	Lac du Bonnet	43.91	62	LR	LR	23 34 56.8	
	comp=Z,136nm,18.3s,baz=333,slow=39						
KSRS	Korea Array	45.46	276	LR	LR	23 31 45.9	
	comp=Z,75nm,21.9s,baz=68,slow=34						
SDCO	Great Sand Dun	45.78	83	eP	P	23 14 27.6	+0.7
	2.5nm,0.8s						
JNU	Nakatsue	46.56	270	LR	LR	23 32 36.5	
	comp=Z,159nm,21.8s,baz=124,slow=34						
SONM	Songino Array	51.21	301	P	P	23 15 10.1	+1.7
	0.2nm,0.4s,baz=26,slow=5.0,SNR=2.9						
SONM				PcP	PcP	23 16 23.3	-0.3
	2.1nm,0.8s,baz=80,slow=2.6,SNR=9.5						
TXAR	Lajitas Array	52.65	89	P	P	23 15 20.2	+0.9
	2.9nm,0.6s,baz=300,slow=5.3,SNR=53						
H06N1	SOCORRO T-PHAS	56.05	104	T	T	00 16 26.4	
	SNR=30						
H06E1	SOCORRO T-PHAS	56.15	104	T	T	00 16 30.5	
	SNR=32						
MKAR	Makanchi Array	63.65	313	LR	LR	23 46 43.1	
	comp=Z,62nm,18.3s,baz=49,slow=38						
FINES	FINESS Array B	65.56	352	P	P	23 16 47.2	-1.0
	1.7nm,0.9s,baz=19,slow=6.5,SNR=3.9						
NOA	NORSAR Array B	66.61	360	P	P	23 16 54.8	-0.3
	0.7nm,0.8s,baz=356,slow=6.2,SNR=3.5						
AKASG	Malin Array Be	75.80	348	P	P	23 17 49.5	-1.2
	0.3nm,0.4s,baz=15,slow=5.7,SNR=3.2						
CMAR	Chiang Mai Arr	76.64	283	P	P	23 17 54.9	-1.2
	0.7nm,0.3s,baz=34,slow=8.4,SNR=4.7						
CMAR				LR	LR	23 57 20.7	
	comp=Z,25nm,18.2s,baz=162,slow=40						
ESDC	Sonseca Array	87.11	11	P	P	23 18 49.9	-1.0
	1.0nm,0.8s,baz=349,slow=4.8,SNR=4.8						
WRA	Warramunga Arr	87.28	232	P	P	23 18 50.6	-1.2
	0.9nm,0.8s,baz=33,slow=5.8,SNR=4.3						
ROSC	El Rosal	89.13	83	LR	LR	00 01 58.0	
	comp=Z,112nm,18.8s,baz=118,slow=38						
ASAR	Alice Springs	90.68	230	P	P	23 19 07.0	-0.7
	1.6nm,0.8s,baz=34,slow=5.1,SNR=10						
LBTB	Lobatse	150.17	332	ePKPbc	PKPbc	23 25 55.8	-0.3
MAW	Mawson	151.19	219	PKPbc	PKPbc	23 25 56.4	-0.5
	0.9nm,0.5s,baz=27,slow=4.5,SNR=4.3						
BOSA	Boshof	153.66	330	PKPbc	PKPbc	23 26 03.9	0.0
	1.9nm,0.8s,baz=5.8,slow=3.3,SNR=5.1						

IDC 21 23:07:58.7±1.6,52°.54N×169°.06W,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.4/50,mbtmp3.5/4,ML3.4/1,Error ellipse: s-maj=56.3km s-min=28.0km az=137.0,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILAR	Eielson Array	16.70	34	Pn	Pn	23 11 52.2	-1.7
	0.1nm,0.3s,baz=236,slow=13,SNR=2.7						
YKA	Yellowknife Ar	29.99	49	P	P	23 14 08.0	-0.4
	11nm,0.7s,baz=270,slow=7.9,SNR=4.2						
PDAR	Pinedale Array	40.18	80	P	P	23 15 36.6	-0.2
	0.7nm,0.6s,baz=331,slow=5.2,SNR=3.9						
TXAR	Lajitas Array	52.55	89	P	P	23 17 14.1	+0.2
	0.6nm,0.6s,baz=299,slow=5.0,SNR=4.1						
H06E1	SOCORRO T-PHAS	56.02	104	T	T	00 18 24.4	
	SNR=9.9						
ASAR	Alice Springs	90.65	230	P	P	23 21 02.9	-0.1
	0.1nm,0.3s,baz=22,slow=5.3,SNR=3.4						

*IDC **21** 23:34:11.2±1.2,52°.45N×169°.40W,h0km,mb3.8/5, mb1 4.0/7,mb1mx3.5/51,mbtmp3.7/7,ML3.4/2, Error ellipse: s-maj=41.6km s-min=22.4km az=162.0*

*ISCJB **21** 23:34:12.2±1.4,52°.6N±0°.1×169°.4W±0°.1,h17km±8km, mb3.8/5, Error ellipse: s-maj=21.3km s-min=8.7km az=150.0*

*NEIC **21** 23:34:15.2,52°.70N×169°.11W,h5km,ML3.5(AEIC), After AEIC.*

ISC 21 23:34:12.5±1.9,52°.7N±0°.1×169°.36W±0°.07,h8km±12km, n28,σ0§86/26,mb3.8/5,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	Nikolski High	0.45	43	P	Pg	23 34 22.3	+1.1
NIKH				S	Sb	23 34 29.4	-0.1
OKWR	Okmok West Rim	1.05	41	P	Pn	23 34 33.7	0.0
OKCE	Okmok Cone E	1.06	42	P	Pg	23 34 32.8	-0.2
OKTU	Okmok Mt. Tuli	1.09	47	P	Pg	23 34 33.5	+0.2
OKAK	Okmok	1.11	33	P	Pg	23 34 31.9	-2.0
OKFG	Magazine Ridge	1.16	48	P	Pb	23 34 34.3	-0.5
OKFG				S	Sb	23 34 49.8	-0.2
MSOM	Makushin Julie	1.86	50	P	Pn	23 34 44.5	-0.2
MSOM				S	Sb	23 35 09.7	-0.5
MCIR	Makushin Cirqu	1.98	48	P	Pn	23 34 47.4	+1.1
MSW	Makushin Switc	2.00	50	P	Pn	23 34 47.5	+0.9
MSW				S	Sn	23 35 12.1	+0.3
MTBL	Makushin Table	2.08	49	P	Pn	23 34 48.0	+0.2
UNV	Unalaska Valle	2.10	54	P	Pn	23 34 47.7	-0.1
UNV				S	Sn	23 35 13.2	-0.9
ZRO	Akutan Zero	2.49	53	P	Pn	23 34 53.8	+0.5
ATKA	Atka Island	2.99	263	P	Pb	23 35 05.6	-0.4
SPIA	Saint Paul Isl	4.57	354	P	Pn	23 35 23.4	+1.6
ILAR	Eielson Array	16.72	35	Pn	Pn	23 38 06.2	-0.6
	0.1nm,0.3s,baz=227,slow=11,SNR=4.4						
PETK	Petropavlovsk-	19.80	285	P	Pn	23 38 44.5	0.0
	0.2nm,0.3s,baz=90,slow=11,SNR=3.3						
H02S1	DAWSON INLET T	22.09	74	T	T	00 01 58.6	
	SNR=6.4						
YKA	Yellowknife Ar	30.06	49	P	P	23 40 22.5	+0.9
	0.3nm,0.4s,baz=272,slow=7.9,SNR=5.7						
NEW	Newport	32.94	76	P	P	23 40 47.8	+0.6
	1.3nm,0.5s,baz=304,slow=7.3,SNR=3.2						
H11N2	WAKE ISLAND Hy	37.67	218	T	T	00 21 27.5	
	baz=25						
H11N3	WAKE ISLAND Hy	37.68	218	T	T	00 21 29.8	
	baz=25						
H11N1	WAKE ISLAND Hy	37.69	218	T	T	00 21 28.9	
	baz=25						
H11S1	WAKE ISLAND Hy	38.86	218	T	T	00 22 56.8	
	baz=23						
H11S2	WAKE ISLAND Hy	38.88	218	T	T	00 22 57.9	
	baz=23						
H11S3	WAKE ISLAND Hy	38.88	218	T	T	00 22 58.1	
	baz=23						
PDAR	Pinedale Array	40.35	79	P	P	23 41 51.2	+0.6
	0.9nm,0.6s,baz=308,slow=4.4,SNR=4.6						
TXAR	Lajitas Array	52.74	89	P	P	23 43 28.4	+0.7
	0.6nm,0.6s,baz=295,slow=5.2,SNR=12						
ASAR	Alice Springs	90.58	230	P	P	23 47 13.5	-1.5
	0.4nm,0.6s,baz=38,slow=4.7,SNR=3.4						

BJI 21 23:34:24.4,46°.76N×124°.15E,h10km,ML3.6/9, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CN2	Changchun	3.10	162	ePg	Pn	23 35 11.6	-1.7
CN2				Pg	Pb	23 35 21.1	+1.6
CN2				eSg	Sg	23 36 00.8	-3.0
CN2				smax	smax		
	comp=N,190nm,0.5s						
CN2				smax	smax		
	comp=E,210nm,0.5s						
CN2	Changchun	3.10	162	Pg	Pb	23 35 21.1	+1.6
CN2				eSg	Sg	23 36 00.8	-3.0
CN2				SMN			
	comp=E,190nm,0.5s						
CN2				SME			
	comp=E,210nm,0.5s						
WMQ	Urumqi	25.67	277	P	P	23 39 52.6	-1.8

IDC 21 23:53:31.8±2.8,6°.44S×151°.02E,h0km,mb3.9/3, mb1 4.1/4,mb1mx3.6/40,mbtmp4.0/4,ML1.9/1,Error ellipse: s-maj=73.4km s-min=43.6km az=119.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	4.83	232	Pn	Pn	23 54 46.6	+0.9
	3.8nm,0.3s,baz=50,slow=7.9,SNR=6.5						
PMG				Sn	Sn	23 55 37.5	-5.0
	5.4nm,0.3s,baz=66,slow=22,SNR=3.6						
WRA	Warramunga Arr	21.04	229	P	P	23 58 16.9	-0.6
	4.1nm,0.7s,baz=55,slow=11,SNR=16						
ASAR

SEUS				*e*Sn	**Sn**	**00 01 06.2**	**+1.5**	
AGPR	**Aguadilla, PR**	**2.06 275**	⇑	*e*P	**Pn**	**00 00 38.7**	**-0.3**	
AGPR	**Aguadilla, PR**	**2.06 275**		*e*S	**Sn**	**00 01 04.0**	**-1.0**	
AGPR	**Aguadilla, PR**	**2.06 275**	⇓	*e*P	**Pn**	**00 00 38.7**	**-0.3**	
AGPR				*e*S	**Sn**	**00 01 04.0**	**-1.0**	
AGPR	**Aguadilla, PR**	**2.06 275**	⇑	*e*P	**Pn**	**00 00 38.7**	**-0.3**	
AGPR				*e*S	**Sn**	**00 01 04.0**	**-1.0**	
CRPR	**Cabo Rojo, PR**	**2.07 262**	⇑	*e*P	**Pn**	**00 00 39.2**	**0.0**	
CRPR	**Cabo Rojo, PR**	**2.07 262**		*e*S	**Sn**	**00 01 05.7**	**+0.4**	
CRPR	**Cabo Rojo, PR**	**2.07 262**	⇓	*e*P	**Pn**	**00 00 39.2**	**0.0**	
CRPR				*e*S	**Sn**	**00 01 05.7**	**+0.4**	
CRPR	**Cabo Rojo, PR**	**2.07 262**	⇑	*e*P	**Pn**	**00 00 39.2**	**0.0**	
CRPR				*e*Sn	**Sn**	**00 01 05.2**	**-0.1**	
CRPR				*e*S	**Sn**	**00 01 05.7**	**+0.4**	
AGP	**Aguadilla**	**2.08 273**		*e*Pn	**Pn**	**00 00 38.6**	**-0.8**	
AGP				*e*Sn	**Sn**	**00 01 03.2**	**-2.3**	
IDE	**Isla Desecheo**	**2.40 273**	⇑	*e*P	**Pn**	**00 00 43.2**	**-0.2**	
IDE	**Isla Desecheo**	**2.40 273**	⇑	*e*P	**Pn**	**00 00 43.2**	**-0.2**	
IDE	**Isla Desecheo**	**2.40 273**	⇓	*e*P	**Pn**	**00 00 43.2**	**-0.2**	
IMO	**Isla Mona**	**2.81 267**	⇑	*e*P	**Pn**	**00 00 49.9**	**+1.0**	
IMO	**Isla Mona**	**2.81 267**	⇓	*e*P	**Pn**	**00 00 49.9**	**+1.0**	
IMO	**Isla Mona**	**2.81 267**	⇑	*e*P	**Pn**	**00 00 49.9**	**+1.0**	
ANWB	**Willy Bob**	**3.08 101**		*e*P	**Pn**	**00 00 51.1**	**-1.2**	
ANWB	**Willy Bob**	**3.08 101**		*e*Pn	**Pn**	**00 00 51.4**	**-0.9**	
ANWB				*e*Sn	**Sn**	**00 01 27.2**	**-1.5**	
LZG	**Guadaloupe-1**	**3.72 125**	⇑	*i*P	**Pn**	**00 01 01.6**	**+0.7**	
SEG	**Port Louis**	**3.79 119**	⇑	*i*P	**Pn**	**00 01 02.0**	**+0.1**	
SCG	**Saint Claude**	**3.86 125**		*e*P	**Pn**	**00 01 03.3**	**+0.6**	
HMG	**Houelmont**	**3.87 126**		*e*P	**Pn**	**00 01 03.6**	**+0.7**	
ECG	**Echelle**	**3.87 125**		*e*P	**Pn**	**00 01 03.6**	**+0.6**	
PHG	**Guadaloupe-2**	**3.89 125**		*e*P	**Pn**	**00 01 04.0**	**+0.7**	
DOG	**Dongo Capester**	**3.90 125**		*e*P	**Pn**	**00 01 04.1**	**+0.8**	
TBG	**Guadaloupe-3**	**3.99 127**	⇑	*i*P	**Pn**	**00 01 04.9**	**+0.4**	
TBG				*e*S	**Sn**	**00 01 49.5**	**-1.0**	
MGG	**Marie-Galante**	**4.21 124**		*e*P	**Pn**	**00 01 07.9**	**+0.6**	
MGG	**Marie-Galante**	**4.21 124**		*e*S	**Sn**	**00 01 54.1**	**-1.5**	
H05N1	**Guadeloupe/Mar**	**4.21 117**		P	**Pn**	**00 01 06.6**	**-0.9**	
	SNR=184							
H05N1				S	**Sn**	**00 01 50.9**	**-4.9**	
DR12	**Loma Pena Alta**	**4.23 277**	⇓	*e*P	**Pn**	**00 01 06.8**	**-0.9**	
DR12	**Loma Pena Alta**	**4.23 277**	⇓	*e*P	**Pn**	**00 01 06.8**	**-0.9**	
BBL	**Barber's Block**	**4.33 129**		*e*P	**Pn**	**00 01 09.7**	**+0.7**	
DWS	**Wesley**	**4.42 127**		*e*P	Pn	00 01 05.6	-4.6	
DWS	**Wesley**	**4.42 127**		*e*S	**Sn**	**00 01 58.7**	**-2.1**	
SDD	**Santo Domingo**	**4.71 273**		*e*Pn	Pn	00 01 18.8	+4.6	
SDD				*e*Sn	**Sn**	**00 02 11.3**	**+3.4**	
FDF	**Fort de France**	**5.08 134**		*e*P	**Pn**	**00 01 20.1**	**+0.9**	
BVM	**Bellevue**	**5.14 133**		*e*P	**Pn**	**00 01 21.2**	**+1.1**	
BIM	**Bigot**	**5.29 135**		*e*P	**Pn**	**00 01 23.4**	**+1.4**	
H05S1	**Guadeloupe/Mar**	**5.52 134**		P	**Pn**	**00 01 25.6**	**+0.5**	
	SNR=61							
H05S1				S	**Sn**	**00 02 24.1**	**-3.2**	
SDDR	**Presa de Saban**	**6.04 277**	⇑	*e*P	**Pn**	**00 01 32.6**	**+0.4**	
SDDR	**Presa de Saban**	**6.04 277**	⇑	*e*P	**Pn**	**00 01 32.6**	**+0.4**	
SDDR	**Presa de Saban**	**6.04 277**	⇓	*e*P	**Pn**	**00 01 32.6**	**+0.4**	
GRTK	**Grand Turk**	**6.63 300**	⇑	*e*P	**Pn**	**00 01 37.8**	**-2.4**	
GRTK	**Grand Turk**	**6.63 300**		*e*Pn	**Pn**	**00 01 38.0**	**-2.1**	
GRTK				*e*Sn	Sn	00 02 47.4	-7.0	
GRGR	**Grenville**	**6.91 152**		*e*Pn	Pn	00 01 48.1	+4.2	
PAPH	**Port-au-Prince**	**6.98 273**		*e*Pn	**Pn**	**00 01 45.2**	**+0.4**	
PAPH				*e*Sn	**Sn**	**00 03 05.1**	**+2.3**	
LGNH	**LØogne**	**7.27 273**		*e*Pn	**Pn**	**00 01 47.8**	**-1.0**	
BBGH	**Gun Hill**	**7.29 134**		*e*Pn	**Pn**	**00 01 50.0**	**+0.9**	
WSYH	**La Gonave Hosp**	**7.52 275**		*e*Pn	**Pn**	**00 01 51.1**	**-1.1**	
WSYH				*e*Sn	**Sn**	**00 03 14.1**	**-1.9**	
PCRV	**Puerto La Cruz**	**8.08 178**		P	**Pn**	**00 02 00.3**	**+0.5**	
	2.2nm,0.3s,baz=98,slow=1.6,SNR=14							
PCRV				S	**Sn**	**00 03 24.9**	**-4.7**	
	0.9nm,0.3s,baz=340,slow=18,SNR=3.6							
GTBY	**Guantanamo Bay**	**9.74 281**		*e*Pn	Pn	00 02 18.0	-4.2	
GTBY				*e*Sn	Sn	00 04 00.9	-8.9	
SDV	**Santo Domingo**	**10.86 211**		*e*Pn	**Pn**	**00 02 38.3**	**+0.7**	
SDV				*e*Sn	**Sn**	**00 04 36.0**	**-1.4**	
BBSR	**BB Station**	**14.02 1**		*e*P	**Pn**	**00 03 20.6**	**+1.9**	
BBSR				*e*Sn	Sn	00 05 35.8	-17	
ROSC	**El Rosal**	**16.20 216**		P	**Pn**	**00 03 46.7**	**0.0**	
	2.4nm,0.3s,baz=40,slow=4.2,SNR=18							
ROSC	**El Rosal**	**16.20 216**		*e*Pn	**P**	**00 03 48.9**	**+1.2**	
BCIP	**Isla Barro Col**	**17.06 240**		*e*P	**Pn**	**00 03 57.8**	**+1.0**	
	38nm,0.9s							
DWPF	**Disney**	**18.01 306**		*e*P	**P**	**00 04 04.8**	**-2.3**	
	113nm,1.4s							
PTGA	**Pitinga**	**19.53 165**		P	**P**	**00 04 23.8**	**0.0**	
	0.8nm,0.3s,baz=360,slow=12,SNR=6.4							
PTGA	**Pitinga**	**19.53 165**		*e*P	**P**	**00 04 23.1**	**-0.8**	
	6.8nm,1.0s							
JTS	**JuntasAbangare**	**20.94 250**		P	**P**	**00 04 40.1**	**+1.1**	
	22nm,0.9s,baz=40,slow=17,SNR=3.5							
TEIG	**Tepich**	**22.10 279**		P	**P**	**00 04 52.5**	**+1.2**	
	0.3nm,0.5s,baz=90,slow=20,SNR=3.1							
OTAV	**Otavalo**	**22.32 218**		*e*P	**P**	**00 04 54.2**	**+0.2**	
	38nm,1.0s							
BLA	**Blacksburg**	**23.23 327**		P	P	00 04 55.5	-6.8	
	74nm,0.9s							
BLA				*e*		00 05 20.9		
BLA				*e*		00 05 27.4		
SAML	**Samuel**	**27.13 176**		*e*P	**P**	**00 05 37.5**	**-0.2**	
	26nm,1.8s							
SAML				*e*S	**S**	**00 10 12.1**	**+4.3**	
ATAH	**Atahualpa**	**28.54 209**		P	**P**	**00 05 50.8**	**0.0**	
	7.9nm,0.8s,baz=352,slow=1.4,SNR=4.2							
JCT	**Junction City**	**33.84 298**		*e*P	**P**	**00 06 37.3**	**+0.5**	
	5.2nm,0.8s							
SIV	**San Ignacio**	**34.29 173**		P	**P**	**00 06 39.9**	**-0.8**	
	2.5nm,0.6s,baz=22,slow=10.0,SNR=12							
LPAZ	**La Paz**	**34.51 185**		P	**P**	**00 06 42.1**	**-1.1**	
	3.4nm,0.9s,baz=57,slow=1.3,SNR=10							
LPAZ	**La Paz**	**34.51 185**		*e*P	**P**	**00 06 42.7**	**-0.6**	
	7.7nm,1.3s							
TXAR	**Lajitas Array**	**36.93 295**		P	**P**	**00 07 03.9**	**+0.6**	
	0.8nm,0.5s,baz=109,slow=11,SNR=10							
TXAR				ScP	**ScP**	**00 12 58.1**	**-0.9**	
	0.6nm,0.8s,baz=108,slow=5.8,SNR=5.3							
TXAR				LR	LR	00 27 09.7		
	comp=Z,24nm,18.4s,baz=0.0,slow=44							
BDFB	**Brasilia**	**37.63 153**		P	**P**	**00 07 09.1**	**-0.1**	
	3.6nm,0.8s,baz=322,slow=14,SNR=4.6							
SDCO	**Great Sand Dun**	**40.31 307**		*e*P	**P**	**00 07 30.1**	**-1.7**	
	5.9nm,0.9s							
ANMO	**Albuquerque**	**40.32 303**		P	**P**	**00 07 32.2**	**+0.5**	
	0.9nm,0.7s,baz=114,slow=15,SNR=3.6							
LVC	**Limon Verde**	**40.84 186**		P	**P**	**00 07 33.9**	**-2.2**	
	26nm,0.6s,baz=233,slow=22,SNR=15							
LVC	**Limon Verde**	**40.84 186**		*e*P	**P**	**00 07 33.9**	**-2.2**	
	5.4nm,0.8s							
PV15	**Paradox Valley**	**42.74 307**		*e*P	**P**	**00 07 49.9**	**-1.6**	
PDAR	**Pinedale Array**	**44.83 313**		P	**P**	**00 08 09.1**	**+1.0**	
	0.5nm,0.6s,baz=106,slow=9.7,SNR=4.8							
PDAR				pP	**pP**	**00 08 35.1**	**+0.6**	
	1.0nm,0.8s,baz=106,slow=7.9,SNR=4.0							
PDAR				PcP	**PcP**	**00 09 47.2**	**-0.9**	
	0.7nm,0.9s,baz=96,slow=6.4,SNR=2.1							
CPUP	**Villa Florida**	**44.98 170**		P	**P**	**00 08 06.9**	**-2.1**	
	1.5nm,0.6s,baz=12,slow=11,SNR=3.8							
CHNC	**Chino**	**49.33 299**		*e*P	**P**	**00 08 42.3**	**-0.6**	
CFAA	**Coronel Fontan**	**49.72 184**		P	**P**	**00 08 44.1**	**-1.6**	
	1.7nm,0.8s,baz=351,slow=6.8,SNR=29							
NVAR	**Mina Array Bea**	**50.31 305**		P	**P**	**00 08 50.4**	**-0.2**	
	0.9nm,0.7s,baz=125,slow=4.5,SNR=5.0							
NVAR				pP	**pP**	**00 09 17.8**	**+0.2**	
	1.4nm,0.7s,baz=115,slow=7.0,SNR=4.2							
SEPW	**September Lobe**	**54.44 314**		*e*P	**P**	**00 09 19.4**	**-1.6**	
MDT	**Midelt**	**55.65 62**		P	**P**	**00 09 30.7**	**+1.0**	
	2.6nm,0.7s,baz=292,slow=5.5,SNR=5.2							
YKA	**Yellowknife Ar**	**55.81 335**		P	**P**	**00 09 29.5**	**-0.6**	
	0.3nm,0.6s,baz=112,slow=7.8,SNR=3.9							
ESDC	**Sonseca Array**	**56.36 54**		P	**P**	**00 09 35.0**	**+0.5**	
	3.6nm,0.9s,baz=266,slow=7.3,SNR=17							
EKA	**Eskdalemuir Ar**	**59.16 36**		P	**P**	**00 09 53.9**	**+0.1**	
	0.3nm,0.3s,baz=270,slow=4.3,SNR=5.6							
TIC	**Toumodi**	**59.42 93**		*e*P	**P**	**00 09 56.6**	**+0.3**	
DBIC	**Dimbokro**	**59.57 93**		P	**P**	**00 09 57.4**	**+0.1**	
	6.7nm,0.5s,baz=282,slow=5.7,SNR=44							
KIC	**Kosan Boka**	**59.77 93**		*e*P	**P**	**00 09 59.1**	**+0.4**	
	13nm,0.3s							
TOB4	**Torodi Ar. Sit**	**64.06 84**		*e*P	**P**	**00 10 27.4**	**0.0**	
TORD	**Torodi Ar. Bea**	**64.06 84**		P	**P**	**00 10 27.4**	**0.0**	
	4.3nm,0.8s,baz=288,slow=6.4,SNR=29							
TORD				LR	LR	00 34 10.2		
	comp=Z,18nm,21.9s,baz=310,slow=32							
TAM	**Tamanrasset**	**65.59 73**		*e*P	**P**	**00 10 39.6**	**+2.1**	
	6.1nm,1.1s							
NOA	**NORSAR Array B**	**67.47 31**		P	**P**	**00 10 49.3**	**+0.7**	
	1.0nm,0.8s,baz=266,slow=6.3,SNR=3.4							
NOA				LR	LR	00 39 36.6		
	comp=Z,6.3nm,18.0s,baz=185,slow=35							
GERES	**GERESS Array B**	**69.04 44**		P	**P**	**00 10 58.8**	**+0.1**	
	0.5nm,0.8s,baz=291,slow=3.7,SNR=4.5							
ILAR	**Eielson Array**	**70.18 333**		P	**P**	**00 11 05.2**	**0.0**	
	0.4nm,0.8s,baz=90,slow=2.2,SNR=3.5							
ILAR				pP	**pP**	**00 11 33.5**	**-0.2**	
	0.9nm,0.9s,baz=98,slow=5.4,SNR=4.4							
ARCES	**ARCESS Array B**	**73.18 22**		P	**P**	**00 11 23.4**	**+0.3**	
	3.2nm,0.9s,baz=328,slow=4.3,SNR=5.4							
FINES	**FINESS Array B**	**74.61 30**		P	**P**	**00 11 32.4**	**+0.8**	
	1.2nm,0.6s,baz=247,slow=3.9,SNR=9.4							
BRTR	**Keskin Array B**	**84.88 50**		P	**P**	**00 12 28.4**	**+0.7**	
	1.3nm,0.8s,baz=275,slow=4.9,SNR=9.7							
WMQ	**Urumqi**	**113.30 21**		PKP	**PKiKP**	**00 18 27.5**	**-2.2**	
WMQ				LN				
	47nm,16.2s							
WMQ				LZ				
	27nm,16.8s							
HHC	**Hu-ho-hao-te**	**121.07**	**3**	*e*PKP	**PKPdf**	**00 18 44.8**	**0.0**	
HHC				PP	**PP**	**00 20 17.9**	**+3.5**	
HHC				SKS	**SKSdf**	**00 25 45.4**	**-1.2**	
HHC				SS	**SS**	**00 36 37.1**	**0.0**	
HHC				PPMZ				
	44nm,9.9s							
LZH	**Lanzhou**	**124.88**	**11**	*e*PKP	**PKPdf**	**00 18 51.8**	**-0.5**	
LZH				sPKP		00 19 36.9		
LZH				LN				
	120nm,18.0s							
LZH				LE				
	110nm,18.2s							
LZH				LZ				
	140nm,20.1s							
CD2	**Chengdu**	**129.89**	**13**	PKP	**PKPdf**	**00 18 58.6**	**-3.3**	
STKA	**Stephens Creek**	**152.50**	**235**	PKPbc	**PKPbc**	**00 19 47.8**	**-0.8**	
	1.4nm,0.7s,baz=120,slow=20,SNR=3.3							
ASAR	**Alice Springs**	**161.60**	**250**	PKPab	**PKPab**	**00 20 40.4**	**+1.6**	
	1.1nm,0.8s,baz=115,slow=4.3,SNR=6.8							

IDC ***22*** *00:01:20.7±13.0, 52.˚54N×170.˚96W, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.5/30, mbtmp3.5/5, ML3.6/1, MS2.9/2, Ms1 2.9/2, ms1mx2.4/45, Error ellipse: s-maj=260.2km s-min=51.6km az=88.0*

ISCJB ***22*** *00:01:27.8±0.8, 52.˚61N±0.˚10×169.˚5W±0.˚1, h10km, mb3.5/4, MS2.8/2, Error ellipse: s-maj=16.6km s-min=5.5km az=147.9*

NEIC ***22*** *00:01:29.7, 52.˚73N×169.˚42W, h9km, ML3.7(AEIC), After AEIC.*

ISC 22 00:01:29.2±1.1, 52.˚7N±0.˚1×169.˚45W±0.˚07, h10km, n29, σ0s91/21, mb3.6/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.45**	**54**	P		**Pb**		**00 01 38.8**	**-0.4**
NIKH				S		**Sb**		**00 01 45.9**	**0.0**
OKCE	**Okmok Cone E**	**1.06**	**47**	P		**Pg**		**00 01 49.1**	**-0.4**
OKCE				S		**Sn**		**00 02 05.6**	**+0.7**
OKAK	**Okmok**	**1.09**	**37**	P		**Pg**		**00 01 48.2**	**-1.9**
OKFG	**Magazine Ridge**	**1.16**	**52**	P		**Pb**		**00 01 50.5**	**-0.9**
OKFG				S		**Sg**		**00 02 06.6**	**0.0**
MCIR	**Makushin Cirqu**	**1.98**	**50**	P		**Pn**		**00 02 03.3**	**+0.6**
MSW	**Makushin Switc**	**2.00**	**52**	P		**Pn**		**00 02 04.0**	**+0.9**
MTBL	**Makushin Table**	**2.09**	**52**	P		**Pn**		**00 02 05.0**	**+0.7**
UNV	**Unalaska Valle**	**2.10**	**56**	P		**Pn**		**00 02 04.0**	**-0.4**
UNV				S		**Sn**		**00 02 30.4**	**-0.2**
ZRO	**Akutan Zero**	**2.50**	**55**	P		**Pn**		**00 02 11.0**	**+1.2**
GSTR	**Great Sitkin T**	**4.09**	**264**	P		**Pn**		**00 02 32.1**	**+0.3**
GSMY	**Great Sitkin M**	**4.10**	**263**	P		**Pn**		**00 02 32.0**	**+0.1**
SPIA	**Saint Paul Isl**	**4.50**	**354**	P		**Pn**		**00 02 38.6**	**+1.3**
ILAR	**Eielson Array**	**16.70**	**35**	Pn		**Pn**		**00 05 22.4**	**-0.5**
	0.1nm,0.3s,baz=228,slow=9.4,SNR=4.4								
H02N1	**VAN INLET T-PH**	**22.08**	**74**	T		T		00 29 32.2	
H02S1	**DAWSON INLET T**	**22.13**	**74**	T		T		00 29 36.0	
DLBC	**Dease Lake**	**22.75**	**60**	P		**P**		**00 06 33.3**	**+2.0**
	3.6nm,0.9s,baz=270,slow=10,SNR=4.4								
INK	**Inuvik**	**23.09**	**34**	LR		LR		00 15 23.1	
	comp=Z,34nm,19.8s,baz=208,slow=36								
YKA	**Yellowknife Ar**	**30.05**	**49**	P		**P**		**00 07 38.2**	**+0.2**
	0.2nm,0.5s,baz=277,slow=7.8,SNR=3.5								
H11N2	**WAKE ISLAND Hy**	**37.69**	**218**	T		T		00 48 26.9	
	baz=30,slow=74,SNR=28								
H11N3	**WAKE ISLAND Hy**	**37.70**	**218**	T		T		00 48 27.4	
	baz=30,slow=74								
H11N1	**WAKE ISLAND Hy**	**37.71**	**218**	T		T		00 48 29.2	
	baz=30,slow=74,SNR=26								
H11S1	**WAKE ISLAND Hy**	**38.88**	**218**	T		T		00 50 00.6	
	baz=22,slow=76,SNR=586								
H11S2	**WAKE ISLAND Hy**	**38.90**	**218**	T		T		00 50 01.7	
	baz=22,slow=76,SNR=408								
H11S3	**WAKE ISLAND Hy**	**38.90**	**218**	T		T		00 50 00.7	
	baz=22,slow=76,SNR=322								
PDAR	**Pinedale Array**	**40.39**	**79**	P		**P**		**00 09 07.6**	**+0.3**
	0.5nm,0.6s,baz=343,slow=2.8,SNR=2.4								
KSRS	**Korea Array**	**45.31**	**276**	LR		LR		00 28 36.6	
	comp=Z,13nm,19.5s,baz=200,slow=37								
TXAR	**Lajitas Array**	**52.79**	**89**	P		**P**		**00 10 44.5**	**-0.1**
	1.0nm,0.8s,baz=300,slow=5.9,SNR=9.9								
H06N1	**SOCORRO T-PHAS**	**56.20**	**104**	T		T		01 12 01.0	
	SNR=4.9								
H06E1	**SOCORRO T-PHAS**	**56.30**	**104**	T		T		01 12 04.2	
	SNR=3.5								

IDC ***22*** *00:03:15.5±0.6, 6.˚20S×150.˚63E, h0km, mb4.2/16, mb1 4.4/17, mb1mx4.3/21, mbtmp4.2/17, ML2.3/1, MS3.1/5, Ms1 3.1/5, ms1mx2.9/28, Error ellipse: s-maj=24.6km s-min=14.1km az=101.0*

ISCJB ***22*** *00:03:19.0±0.5, 6.˚23S±0.˚06×150.˚62E±0.˚09, h35km, mb4.2/17, MS3.0/4, Error ellipse: s-maj=13.4km s-min=6.5km az=23.8*

NEIC ***22*** *00:03:20.8±0.3, 6.˚25S×150.˚63E, h35km, mb4.6/5, Error ellipse: s-maj=12.1km s-min=6.6km az=108.0*

ISC 22 00:03:21.2±0.5, 6.˚23S±0.˚08×150.˚6E±0.˚1, h35km, n48, σ1s32/50, mb4.1/17, MS3.1/4, 2C, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.67**	**227**	Pn		**Pn**		**00 04 29.8**	**+0.6**
	8.7nm,0.3s,baz=55,slow=6.8,SNR=23								
PMG				Sn		**Sn**		**00 05 22.3**	**+0.2**
	27nm,0.3s,baz=72,slow=20,SNR=6.6								
HNR	**Honiara**	**9.76**	**110**	LR		LR		00 08 44.3	
	comp=Z,110nm,21.7s,baz=341,slow=34								
MTSU	**Mount Surprise**	**13.34**	**207**	P		**Pn**		**00 06 28.4**	**+0.3**
	baz=11,SNR=4.8								
QIS	**Mount Isa**	**17.81**	**216**	P		**P**		**00 07 27.7**	**+0.8**
	baz=16,SNR=7.9								
KDU	**Kakadu**	**19.02**	**249**	P		**P**		**00 07 40.5**	**+0.3**
	baz=17,SNR=6.5								
EIDS	**Eidsvold**	**19.04**	**179**	*e*P		**P**		**00 07 39.4**	**-0.9**
	9.5nm,0.7s								
RMQ	**Roma**	**20.22**	**185**	P		**P**		**00 07 53.9**	**+0.6**
	baz=18,SNR=26								
MTN	**Manton Dam**	**20.31**	**250**	P		**P**		**00 07 54.7**	**+0.4**
	baz=18,SNR=7.4								
GUMO	**Guam**	**20.51**	**344**	LR		LR		00 15 40.1	
	comp=Z,21nm,18.6s,baz=102,slow=36								
WRAB	**Tennant Creek**	**20.87**	**228**	*e*P		**P**		**00 07 59.5**	**-1.0**
	26nm,0.8s								
WRA	**Warramunga Arr**	**20.89**	**228**	P		**P**		**00 08 00.1**	**-0.4**
	15nm,0.5s,baz=51,slow=11,SNR=51								
WRA				PcP		**PcP**		**00 12 08.6**	**+0.4**
	1.2nm,0.6s,baz=54,slow=2.5,SNR=4.4								
WRA				ScP		**ScP**		**00 15 48.3**	**+5.9**
	0.2nm,0.3s,baz=66,slow=2.7,SNR=2.5								
QLP	**Quilpie**	**21.14**	**196**	P		**P**		**00 08 03.5**	**+0.3**
	baz=19,SNR=9.6								
AS31	**Alice Springs**	**23.65**	**221**	*e*P		**P**		**00 08 29.5**	**0.0**
ASAR	**Alice Springs**	**23.65**	**221**	P		**P**		**00 08 29.1**	**-0.5**
	10nm,0.7s,baz=53,slow=8.9,SNR=84								
ASAR				PcP		**PcP**		**00 12 14.4**	**+0.7**
	0.9nm,0.7s,baz=35,slow=3.5,SNR=4.1								
ASAR				ScP		**ScP**		**00 15 54.2**	**+4.8**
	0.3nm,0.6s,baz=34,slow=2.5,SNR=4.2								
STKA	**Stephens Creek**	**26.88**	**197**	P		**P**		**00 08 57.6**	**-1.2**
	5.7nm,0.7s,baz=354,slow=8.6,SNR=17								
STKA				LR		LR		00 19 20.7	
	comp=Z,77nm,18.6s,baz=24,slow=36								
STKA	**Stephens Creek**	**26.88**	**197**	P		**P**		**00 08 58.9**	**+0.1**
	baz=25,SNR=3.6								
STKA	**Stephens Creek**	**26.88**	**197**	*e*P		**P**		**00 08 57.3**	**-1.5**
	3.5nm,0.9s								
WRKA	**Warakurna**	**28.41**	**226**	P		**P**		**00 09 12.1**	**-0.6**
	baz=26,SNR=14								
HTT	**Hallett**	**29.17**	**200**	P		P		00 09 23.8	+4.5
	baz=27,SNR=4.4								
JCJ	**Chichijima**	**34.12**	**347**	LR		LR		00 22 17.0	
	comp=Z,18nm,18.7s,baz=38,slow=34								
MEEK	**Meekatharra**	**36.62**	**233**	P		**P**		**00 10 24.2**	**-0.2**
	baz=34,SNR=7.2								
KLBR	**Kellerberrin**	**39.76**	**226**	P		**P**		**00 10 50.0**	**-0.8**
	baz=38,SNR=7.7								
CISI	**Cisompet, Garu**	**42.51**	**266**	*e*P		**P**		**00 11 12.9**	**-0.9**
	73nm,0.8s								
JNU	**Nakatsue**	**43.40**	**336**	P		**P**		**00 11 21.2**	**+0.6**
	6.7nm,0.7s,baz=194,slow=2.2,SNR=6.0								
KSRS	**Korea Array**	**48.35**	**336**	P		**P**		**00 12 00.2**	**+0.7**
	2.0nm,0.6s,baz=156,slow=9.0,SNR=8.2								
KSAR	**Wonju Array Be**	**48.36**	**336**	P		**P**		**00 12 00.2**	**+0.6**
CMAR	**Chiang Mai Arr**	**56.56**	**297**	PcP		**PcP**		**00 13 57.6**	**+0.5**
	0.5nm,0.3s,baz=92,slow=2.7,SNR=4.5								
CMAR				LR		LR		00 38 03.6	
	comp=Z,27nm,18.7s,baz=180,slow=37								
PETK	**Petropavlovsk-**	**59.42**	**5**	P		**P**		**00 13 19.9**	**-0.2**
	4.0nm,0.9s,baz=169,slow=8.2,SNR=3.1								
SONM	**Songino Array**	**66.41**	**329**	P		**P**		**00 14 06.5**	**-0.4**
	0.6nm,0.6s,baz=134,slow=6.4,SNR=4.8								
VNDA	**Vanda**	**71.50**	**177**	P		**P**		**00 14 37.5**	**-0.4**
	1.0nm,0.7s,baz=331,slow=7.1,SNR=5.9								
MKAR	**Makanchi Array**	**79.99**	**320**	P		**P**		**00 15 26.1**	**-0.9**
	0.3nm,0.5s,baz=101,slow=6.1,SNR=6.2								
ZALV	**Zalesovo Beam**	**81.15**	**327**	P		**P**		**00 15 31.6**	**-1.4**
	0.9nm,0.6s,baz=104,slow=5.6,SNR=4.8								
MAW	**Mawson**	**83.42**	**203**	P		**P**		**00 15 44.2**	**-0.5**
	1.4nm,0.9s,baz=102,slow=19,SNR=2.2								
KURK	**Kurchatov**	**83.57**	**323**	P		**P**		**00 15 44.3**	**-1.5**
KURBB	**Kurchatov Arra**	**83.60**	**322**	P		**P**		**00 15 44.3**	**-1.6**
	0.4nm,0.2s,baz=104,slow=4.2,SNR=5.9								
QSPA	**South Pole Qui**	**83.74**	**180**	*e*P		**P**		**00 15 45.9**	**-0.6**
	5.9nm,0.9s								
QSPA				*e*				00 15 55.2	
ILAR	**Eielson Array**	**84.29**	**22**	P		P		00 15 47.5	-1.7
	1.3nm,0.8s,baz=253,slow=5.0,SNR=11								
BVAR	**Borovoye Array**	**89.09**	**323**	P

WRA	**Warramunga Arr**	**24.71**	**163**	P	P	00 22 01.2	-0.5
	3.7nm,0.9s,baz=343,slow=11,SNR=7.2						
ASAR	**Alice Springs**	**28.14**	**166**	P	P	00 22 32.4	-0.3
	0.2nm,0.3s,baz=345,slow=8.8,SNR=2.5						
STKA	**Stephens Creek**	**38.16**	**159**	P	P	00 24 00.6	+0.7
	2.3nm,0.8s,baz=329,slow=10.0,SNR=5.1						
MKAR	**Makanchi Array**	**57.54**	**325**	P	P	00 26 29.9	-0.2
	0.3nm,0.7s,baz=132,slow=8.0,SNR=4.0						

IDC ***22*** *00:17:52.7±0.6,5˚11S×101˚03E,h0km,mb4.4/20, mb1 4.5/22,mb1mx4.2/45,mbtmp4.4/22,ML4.6/2,MS3.1/2, Ms1 3.2/2,ms1mx2.7/39,Error ellipse: s-maj=18.6km s-min=12.8km az=58.0*

ISCJB ***22*** *00:17:53.2±0.3,5˚23S±0˙03×100˚87E±0˙03,h22km, mb4.5/31,MS3.1/2,Error ellipse: s-maj=4.7km s-min=3.2km az=28.7*

DJA ***22*** *00:17:55.9±1.5,5˚S±3˚×10˚1E±˚,h33km±18km,M4.7/5, mb4.6/5,MLv4.7/5*

NEIC ***22*** *00:17:57.3±0.4,5˚15S×100˚99E,h35km,mb4.6/7,Error ellipse: s-maj=10.4km s-min=7.4km az=64.0*

ISC 22 00:17:55.5±0.5,5˚21S±0˙06×100˚89E±0˙05,h22km,n96, σ1§02/97,mb4.5/31,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**2.22**	**68**	P	**Pn**	**00 18 30.2**	**-0.8**
MNAI				S	**Sn**	**00 18 58.5**	**+0.7**
MNAI	**Manna**	**2.22**	**68**	P	**Pn**	**00 18 29.7**	**-1.4**
	baz=1.6,SNR=26						
MNAI	**Manna**	**2.22**	**68**	*e*Pn	**Pn**	**00 18 29.3**	**-1.7**
KSI	**Kapahiang**	**2.29**	**48**	P	**Pn**	**00 18 30.4**	**-1.7**
KSI				S	**Sn**	**00 18 59.9**	**+0.2**
PPSI	**Pulau Pagai**	**2.58**	**340**	P	**Pn**	**00 18 35.3**	**-0.7**
PPSI				S	**Sn**	**00 19 07.1**	**+0.3**
LHSI	**Lahat**	**2.96**	**62**	P	**Pn**	**00 18 40.6**	**-0.6**
LHSI				S	**Sn**	**00 19 16.4**	**+0.4**
LWLI	**Liwa**	**3.16**	**87**	P	**Pn**	**00 18 43.6**	**-0.4**
LWLI				S	**Sn**	**00 19 21.9**	**+0.8**
MDSI	**Maura Dua**	**3.35**	**78**	P	**Pn**	**00 18 46.1**	**-0.5**
MDSI				S	**Sn**	**00 19 26.4**	**+0.7**
KASI	**Kota Agung**	**3.60**	**95**	P	**Pn**	**00 18 48.9**	**-1.1**
KASI				S	**Sn**	**00 19 33.0**	**+1.1**
KLSI		**3.86**	**82**	P	**Pn**	**00 18 53.2**	**-0.3**
KLSI				S	**Sn**	**00 19 39.3**	**+1.1**
KLI	**Kotabumi**	**3.96**	**85**	P	**Pn**	**00 18 55.0**	**0.0**
KLI				S	**Sn**	**00 19 42.3**	**+1.5**
SISI	**Saibi**	**4.26**	**335**	P	**Pn**	**00 18 58.4**	**-0.6**
SISI				S	**Sn**	**00 19 48.6**	**+0.6**
SDSI	**Sungai Dareh**	**4.28**	**7**	P	**Pn**	**00 18 58.6**	**-0.8**
SDSI				S	**Sn**	**00 19 49.0**	**+0.3**
JMBI	**JAMBI**	**4.49**	**38**	P	**Pn**	**00 19 01.6**	**-0.6**
JMBI				S	**Sn**	**00 19 54.3**	**+0.5**
PPI	**Padang Panjang**	**4.75**	**354**	P	**Pn**	**00 19 05.0**	**-0.8**
PPI				S	**Sn**	**00 20 00.4**	**+0.2**
PPI	**Padang Panjang**	**4.75**	**354**	P	**Pn**	**00 19 05.0**	**-0.8**
	baz=4.4,SNR=8.8						
CGJI	**Cibinong**	**4.97**	**107**	P	**Pn**	**00 19 07.1**	**-1.8**
PPBI	**Pangkal Pinang**	**6.04**	**60**	P	Pn	00 19 20.3	-3.3
MNSI	**Mandailing Nat**	**6.11**	**348**	P	**Pn**	**00 19 23.4**	**-1.1**
CNJI	**Cibinong**	**6.54**	**109**	P	**Pn**	**00 19 28.2**	**-2.2**
LEM	**Lembang**	**6.88**	**104**	P	**Pn**	**00 19 34.9**	**-0.3**
LEM	**Lembang**	**6.88**	**104**	Pn	**Pn**	**00 19 33.6**	**-1.6**
	21nm,0.3s,baz=325,slow=16,SNR=12						
LEM	**Lembang**	**6.88**	**104**	P	**Pn**	**00 19 37.0**	**+1.8**
	baz=6.6,SNR=3.4						
CISI	**Cisompet, Garu**	**7.26**	**109**	P	**Pn**	**00 19 38.5**	**-1.9**
CISI	**Cisompet, Garu**	**7.26**	**109**	P	**Pn**	**00 19 38.5**	**-1.9**
	baz=7.0,SNR=11						
GSI	**Gunungsitoli**	**7.27**	**333**	P	**Pn**	**00 19 39.9**	**-0.5**
GSI	**Gunungsitoli**	**7.27**	**333**	*e*Pn	**Pn**	**00 19 40.4**	**0.0**
	80nm,0.8s						
CMJI	**Cimerak**	**7.93**	**109**	P	**Pn**	**00 19 48.6**	**-0.9**
	155nm,0.6s,0.5nm						
COCO	**West Island**	**8.01**	**210**	*e*Pn	**Pn**	**00 19 48.6**	**-2.0**
PSI	**Prapat**	**8.20**	**346**	Pn	Pn	00 19 49.9	-3.4
	3.7nm,0.3s,baz=148,slow=21,SNR=6.9						
KPJI	**Karang Pucung**	**8.26**	**105**	P	**Pn**	**00 19 53.9**	**-0.2**
SNSI	**Sinabang, Aceh**	**8.84**	**329**	P	**Pn**	**00 20 01.5**	**-0.5**
IPM	**Ipoh**	**9.62**	**1**	*e*Pn	**Pn**	**00 20 11.8**	**-1.0**
UGM	**Wanagama**	**9.94**	**106**	P	**Pn**	**00 20 15.4**	**-1.7**
	baz=9.7,SNR=4.2						
KULM	**Kulim**	**10.43**	**359**	*e*Pn	**Pn**	**00 20 21.9**	**-2.0**
UBPT	**Khong Chiam**	**20.86**	**12**	P	**P**	**00 22 34.8**	**-1.2**
	35nm,1.2s						
CHAI	**Chaiyaphum**	**21.00**	**3**	P	**P**	**00 22 39.4**	**+1.8**
	11nm,0.8s						
PBKT	**Sadao Pong**	**21.64**	**0**	P	**P**	**00 22 44.6**	**+0.2**
	14nm,0.9s						
LOEI	**Loei**	**22.58**	**1**	P	**P**	**00 22 53.2**	**-1.3**
	107nm,1.1s						
BATI	**Baumata**	**23.10**	**104**	P	**P**	**00 22 59.3**	**-0.8**
	37nm,0.5s,baz=319,slow=2.1,SNR=5.1						
NONG	**Nongkai**	**23.23**	**5**	P	**P**	**00 23 00.5**	**-0.8**
	277nm,0.7s						
CMAR	**Chiang Mai Arr**	**23.60**	**355**	P	**P**	**00 23 04.2**	**-0.7**
	6.5nm,0.8s,baz=186,slow=9.0,SNR=36						
LAMP	**Lampang**	**23.61**	**357**	P	**P**	**00 23 06.9**	**+1.8**
CHTO	**Chiang Mai**	**23.95**	**355**	*e*P	**P**	**00 23 08.2**	**0.0**
	5.4nm,0.8s						
SLVN	**Son La**	**26.54**	**6**	*e*P	**P**	**00 23 32.9**	**+1.0**
	13nm,1.0s						
H08S2	**Diego Garcia H**	**28.32**	**264**	T	T	00 53 26.1	
	baz=86,slow=74,SNR=136						
H08S3	**Diego Garcia H**	**28.33**	**264**	T	T	00 53 25.6	
	baz=86,slow=74,SNR=184						
H08S1	**Diego Garcia H**	**28.34**	**264**	T	T	00 53 26.5	
	baz=86,slow=74,SNR=122						
H08N1	**Diego Garcia H**	**29.75**	**266**	T	T	00 55 45.4	
	baz=97,slow=71,SNR=5.0						
H08N2	**Diego Garcia H**	**29.76**	**266**	T	T	00 55 46.5	
	baz=97,slow=71,SNR=4.2						
H08N3	**Diego Garcia H**	**29.77**	**266**	T	T	00 55 44.2	
	baz=97,slow=71,SNR=4.5						
SIJI	**Sorong**	**30.63**	**83**	LR	LR	00 38 51.6	
	comp=Z,28nm,18.0s,baz=70,slow=41						
MTN	**Manton Dam**	**30.79**	**106**	P	**P**	**00 24 10.2**	**+0.4**
	baz=30,SNR=3.2						
H01W3	**Cape Leeuwin H**	**31.97**	**159**	T	T	00 58 28.1	
	baz=337,slow=76,SNR=52						
H01W2	**Cape Leeuwin H**	**31.98**	**159**	T	T	00 58 29.8	
	baz=337,slow=76,SNR=60						
H01W1	**Cape Leeuwin H**	**31.98**	**159**	T	T	00 58 27.9	
	baz=337,slow=76,SNR=47						
WRKA	**Warakurna**	**32.86**	**130**	P	P	00 24 38.2	+10
	baz=33,SNR=3.9						
WRA	**Warramunga Arr**	**35.67**	**117**	P	**P**	**00 24 52.2**	**-0.2**
	3.0nm,0.9s,baz=291,slow=10,SNR=5.6						
WRA				PcP	**PcP**	**00 27 20.7**	**0.0**
	0.2nm,0.3s,baz=304,slow=2.2,SNR=2.7						
ASAR	**Alice Springs**	**36.70**	**123**	P	**P**	**00 25 01.4**	**+0.2**
	1.1nm,0.4s,baz=299,slow=7.9,SNR=22						
ASAR				PcP	**PcP**	**00 27 24.3**	**+0.5**
	0.4nm,0.6s,baz=290,slow=2.8,SNR=3.2						
STKA	**Stephens Creek**	**46.39**	**130**	P	**P**	**00 26 20.1**	**-0.4**
	2.3nm,0.7s,baz=301,slow=8.3,SNR=8.1						
STKA	**Stephens Creek**	**46.39**	**130**	P	**P**	**00 26 21.6**	**+1.1**
	baz=46,SNR=4.7						
KSAR	**Wonju Array Be**	**49.33**	**28**	P	**P**	**00 26 43.2**	**+0.2**
KSRS	**Korea Array**	**49.35**	**28**	P	**P**	**00 26 43.2**	**0.0**
	3.7nm,0.8s,baz=216,slow=7.5,SNR=11						
CMSA	**Cobar Meteorol**	**49.43**	**128**	P	**P**	**00 26 45.5**	**+1.5**
	baz=49,SNR=7.7						
SONM	**Songino Array**	**53.04**	**5**	P	**P**	**00 27 12.0**	**+1.1**
	8.7nm,0.8s,baz=186,slow=8.9,SNR=45						
TKM2	**Tokmak 2**	**53.11**	**337**	*e*P	**P**	**00 27 12.1**	**+0.4**
	3.0nm,0.5s						
ULN	**Ulaanbaatar**	**53.13**	**5**	*e*P	**P**	**00 27 12.3**	**+0.7**
	8.4nm,1.0s						
EKS2	**Erkin-Say**	**53.63**	**335**	*e*P	**P**	**00 27 16.1**	**+0.7**
	4.8nm,0.8s						
MAT	**Matsushiro**	**54.24**	**37**	P	**P**	**00 27 18.1**	**-1.7**
MJAR	**Matsushiro Arr**	**54.24**	**37**	P	**P**	**00 27 17.4**	**-2.4**
	4.5nm,0.6s,baz=218,slow=8.2,SNR=14						
MK31	**Makanchi Array**	**54.34**	**344**	*e*P	**P**	**00 27 20.4**	**+0.1**
MKAR	**Makanchi Array**	**54.34**	**344**	P	**P**	**00 27 20.9**	**+0.5**
	3.3nm,0.5s,baz=152,slow=9.5,SNR=43						
USRK	**Ussuriysk Ar.**	**56.58**	**26**	P	**P**	**00 27 36.5**	**0.0**
	14nm,0.8s,baz=222,slow=6.0,SNR=32						
GEYT	**Alibeck**	**58.48**	**321**	P	**P**	**00 27 50.6**	**+0.5**
	0.7nm,0.3s,baz=131,slow=5.9,SNR=3.6						
KURK	**Kurchatov**	**58.92**	**344**	*e*P	**P**	**00 27 52.8**	**0.0**
	6.8nm,1.0s						
ZAA0	**Zalesovo Array**	**60.47**	**349**	*e*P	**P**	**00 28 03.4**	**-0.1**
ZALV	**Zalesovo Beam**	**60.47**	**349**	P	**P**	**00 28 03.7**	**+0.3**
	10.0nm,0.8s,baz=181,slow=4.1,SNR=42						
ASAJ	**Asahikawa**	**61.77**	**33**	P	**P**	**00 28 11.4**	**-1.1**
	2.9nm,0.3s,baz=288,slow=20						
ABKAR	**Akbulak array**	**64.87**	**332**	*e*P	**P**	**00 28 32.6**	**-0.2**
	5.3nm,0.6s						
MATP	**Matopo**	**71.71**	**250**	P	**P**	**00 29 18.4**	**+1.8**
	3.6nm,0.9s,baz=82,slow=23,SNR=5.1						
BOSA	**Boshof**	**74.92**	**242**	P	**P**	**00 29 37.3**	**+1.9**
	2.5nm,0.9s,baz=117,slow=9.0,SNR=3.9						
BRTR	**Keskin Array B**	**76.14**	**313**	P	**P**	**00 29 42.4**	**+0.3**
	0.6nm,0.7s,baz=116,slow=5.6,SNR=4.0						
SEY	**Seymchan**	**78.26**	**21**	P	**P**	**00 29 53.6**	**+0.3**
	3.3nm,0.6s,baz=233,slow=4.8,SNR=7.9						
VNDA	**Vanda**	**78.86**	**169**	P	**P**	**00 29 57.8**	**+1.3**
	1.3nm,0.8s,baz=303,slow=7.5,SNR=8.3						
FINES	**FINESS Array B**	**87.35**	**332**	P	**P**	**00 30 40.8**	**+0.3**
	1.0nm,0.6s,baz=117,slow=6.6,SNR=7.1						
ARCES	**ARCESS Array B**	**89.77**	**340**	P	**P**	**00 30 52.1**	**+0.2**
	2.8nm,0.9s,baz=110,slow=7.8,SNR=3.5						
NOA	**NORSAR Array B**	**94.36**	**331**	LR	LR	01 19 30.1	
	comp=Z,10nm,18.5s,baz=85,slow=39						
ACSO	**Alum Creek Sta**	**144.96**	**5**	*e*PKPdf	PKPbc	00 37 30.4	-0.2
WMOK	**Wichita Mounta**	**145.44**	**29**	*e*PKPdf	**PKPbc**	**00 37 31.4**	**-0.9**
OLIL	**Olney**	**145.64**	**13**	*e*PKPdf	**PKPbc**	**00 37 32.5**	**-0.3**
TXAR	**Lajitas Array**	**146.61**	**41**	PKPbc	**PKPab**	**00 37 37.4**	**+0.1**
	4.3nm,0.8s,baz=294,slow=1.4,SNR=38						
MIAR	**Mount Ida**	**147.88**	**23**	*e*PKPdf	**PKPdf**	**00 37 35.9**	**-0.6**
MIAR				*e*PKPbc	**PKPbc**	**00 37 39.9**	**+0.5**
JCT	**Junction City**	**148.19**	**35**	*e*PKPbc	**PKPbc**	**00 37 39.8**	**-0.7**
WVT	**Waverly**	**148.20**	**13**	*e*PKPdf	**PKPbc**	**00 37 40.3**	**0.0**
TKL	**Tuckaleechee C**	**149.40**	**7**	PKPbc	**PKPbc**	**00 37 43.6**	**+0.3**
	1.7nm,0.4s,baz=260,slow=6.1,SNR=8.3						
SWET	**Sewanee**	**149.48**	**11**	*e*PKPbc	**PKPbc**	**00 37 43.0**	**-0.6**

MEX 22 00:22:34.0±0.4,14˚08N×92˚63W,h16km±33km,MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.71**	**341**	*e*P	Pn	00 22 59.8	-3.4
PCIG				*i* S	Sn	00 23 19.3	-5.5
TGIG		**2.73**	**350**	*e*P	Pn	00 23 14.6	-2.6
TGIG				*i* S	Sn	00 23 45.7	-4.3
CMIG	**Matias Romero**	**3.70**	**324**	*e*P	Pn	00 23 27.9	-2.6
CMIG				*i* S	Sn	00 24 10.5	-3.4
HUIG	**Huatulco**	**3.76**	**297**	*i* P	Pn	00 23 25.6	-5.8

IDC 22 00:27:43.5±2.5,6˚27S×150˚67E,h0km,mb3.4/3, mb1 3.7/4,mb1mx3.4/30,mbtmp3.6/4,ML1.3/1,MS2.3/1, Ms1 2.3/1,ms1mx2.2/19,Error ellipse: s-maj=81.3km s-min=39.7km az=115.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.67**	**228**	Pn	Pn	00 28 54.6	-0.8
	1.0nm,0.3s,baz=352,slow=19,SNR=2.2						
PMG				Sn	Sn	00 29 46.4	-3.9
	1.7nm,0.3s,baz=100,slow=16,SNR=2.1						
GUMO	**Guam**	**20.55**	**344**	LR	LR	00 39 11.8	
	comp=Z,8.2nm,20.3s,baz=192,slow=34						
WRA	**Warramunga Arr**	**20.89**	**228**	P	P	00 32 27.9	+0.3
	0.6nm,0.4s,baz=54,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**23.65**	**221**	P	P	00 32 57.0	+0.2
	0.4nm,0.5s,baz=54,slow=8.6,SNR=5.0						
STKA	**Stephens Creek**	**26.85**	**197**	P	P	00 33 25.6	-0.4
	0.7nm,0.5s,baz=0.0,slow=11,SNR=3.4						
TORD	**Torodi Ar. Bea**	**148.69**	**285**	PKPbc	PKPbc	00 47 33.4	-0.4
	0.4nm,0.3s,baz=89,slow=2.6,SNR=15						

CSEM ***22*** *00:39:33.5,38˚06N×26˚50W,h7km,ML2.0*

PDA 22 00:39:33.5±0.8,38˚06N×26˚50W,h7km±6km,MD3.6, ML2.0,Error ellipse: s-maj=6.4km s-min=1.4km az=36.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSET	**Sete Cidades**	**0.66**	**111**	*e*P	Pg	00 39 44.2	-2.1
PSET				*e*S	Sg	00 39 52.7	-2.2
PSET				A	A	00 39 54.4	
	36nm,0.2s						
PSET	**Sete Cidades**	**0.66**	**111**	*e*P	Pg	00 39 44.2	-2.1
PSET				*e*S	Sg	00 39 52.7	-2.2
PDA	**Ponta Delgada**	**0.73**	**115**	*e*P	Pg	00 39 45.3	-2.3
PDA				*e*S	Sg	00 39 54.3	-2.8
PDA				A	A	00 39 55.6	
	24nm,0.1s						
PDA	**Ponta Delgada**	**0.73**	**115**	*e*P	Pg	00 39 45.3	-2.3
PDA				*e*S	Sg	00 39 54.3	-2.8
GRON	**Grota Negra**	**0.82**	**111**	*e*S	Sg	00 39 59.2	-0.8
GRON				A	A	00 40 01.3	
	26nm,0.1s						
ADH	**Angra Heroismo**	**0.83**	**316**	*e*P	Pg	00 39 46.7	-2.8
ADH				*e*S	Sg	00 39 56.6	-3.6
ADH				A	A	00 39 57.4	
	16nm,0.2s						
ADH	**Angra Heroismo**	**0.83**	**316**	*e*P	Pg	00 39 46.7	-2.8
ADH				*e*S	Sg	00 39 56.6	-3.6
PMAN	**Manadas**	**1.37**	**295**	*e*S	Sb	00 40 10.2	-7.2
PMAN				A	A	00 40 11.9	
	4.4nm,0.2s						
PMAN	**Manadas**	**1.37**	**295**	*e*S	Sb	00 40 10.2	-7.2
PPNO	**Prainha do Nor**	**1.45**	**287**	*e*P	Pn	00 39 55.6	-4.6
PPNO				*e*S	Sn	00 40 11.6	-8.0
PPNO				A	A	00 40 15.7	
	7.9nm,0.2s						
PPNO	**Prainha do Nor**	**1.45**	**287**	*e*P	Pn	00 39 55.6	-4.6
PPNO				*e*S	Sn	00 40 11.6	-8.0
ROSA	**Rosais**	**1.52**	**296**	*e*P	Pn	00 39 56.5	-4.6
ROSA				*e*S	Sn	00 40 13.4	-7.8
ROSA				A	A	00 40 14.6	
	10nm,0.4s						
ROSA	**Rosais**	**1.52**	**296**	*e*P	Pn	00 39 56.5	-4.6
ROSA				*e*S	Sn	00 40 13.4	-7.8
PSMA	**Santa Maria**	**1.52**	**134**	*e*P	Pn	00 39 56.2	-4.9
PSMA				*e*S	Sn	00 40 13.7	-7.5
PSMA				A	A	00 40 15.3	
	12nm,0.2s						
PSMN	**Pico do Norte,**	**1.55**	**132**	*e*P	Pn	00 39 57.1	-4.5
PSMN				*e*S	Sn	00 40 14.1	-7.9
PSMN				A	A	00 40 16.6	
	11nm,0.3s						
PSMN	**Pico do Norte,**	**1.55**	**132**	*e*P	Pn	00 39 57.1	-4.5
PSMN				*e*S	Sn	00 40 14.1	-7.9

IDC 22 00:41:04.2±3.7,6˚41S×150˚82E,h0km,mb3.4/2, mb1 3.7/2,mb1mx3.3/27,mbtmp3.5/2,Error ellipse: s-maj=143.7km s-min=49.4km az=119.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.91**	**228**	P	P	00 45 48.3	-0.2
	1.1nm,0.5s,baz=54,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**23.64**	**222**	P	P	00 46 17.5	+0.1
	0.5nm,0.7s,baz=52,slow=8.3,SNR=4.2						
TORD	**Torodi Ar. Bea**	**148.87**	**285**	PKPbc	PKPbc	01 00 54.5	-0.6
	0.1nm,0.3s,baz=76,slow=2.1,SNR=7.1						

IDC ***22*** *00:43:27.2±0.6,52˚63N×169˚53W,h0km,mb4.0/21, mb1 4.2/23,mb1mx4.0/44,mbtmp4.0/23,ML3.8/2,MS3.6/21, Ms1 3.6/21,ms1mx3.4/43,Error ellipse: s-maj=20.0km s-min=11.4km az=170.0*

MOS ***22*** *00:43:29.9±0.8,52˚78N×169˚56W,h26km,mb4.6/15, Error ellipse: s-maj=14.1km s-min=11.3km az=139.5*

NEIC ***22*** *00:43:30.2,52˚61N×169˚34W,h15km,mb4.4/43, ML4.3(AEIC),After AEIC.*

ISC 22 00:43:28.1±1.8,52˚58N±0˙07×169˚36W±0˙04,h6km±10km, n326,σ1§22/316,mb4.3/61,MS3.6/20,1D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.50**	**38**	P	**Pb**	**00 43 39.8**	**+0.4**
NIKH				S	**Sb**	**00 43 47.7**	**+0.7**
OKWR	**Okmok West Rim**	**1.11**	**39**	P	**Pn**	**00 43 50.7**	**+0.5**
OKCE	**Okmok Cone E**	**1.12**	**40**	P	**Pb**	**00 43 50.0**	**+0.2**
OKCE				S	**Sn**	**00 44 06.9**	**+0.8**
OKTU	**Okmok Mt. Tuli**	**1.14**	**44**	P	**Pn**	**00 43 50.5**	**-0.1**
OKAK	**Okmok**	**1.17**	**31**	P	**Pg**	**00 43 49.1**	**-1.4**
OKFG	**Magazine Ridge**	**1.21**	**46**	P	**Pb**	**00 43 51.1**	**-0.3**
OKFG				S	**Sg**	**00 44 06.7**	**-0.3**
MSOM	**Makushin Julie**	**1.91**	**48**	P	**Pn**	**00 44 01.2**	**0.0**
MSOM	**Makushin Julie**	**1.91**	**48**	P	**Pn**	**00 44 01.2**	**0.0**
MCIR	**Makushin Cirqu**	**2.02**	**46**	P	**Pn**	**00 44 03.5**	**+0.7**
MSW	**Makushin Switc**	**2.05**	**48**	P	**Pn**	**00 44 03.4**	**+0.3**
MTBL	**Makushin Table**	**2.13**	**48**	P	**Pn**	**00 44 04.9**	**+0.6**
UNV	**Unalaska Valle**	**2.14**	**52**	P	**Pn**	**00 44 04.3**	**0.0**
UNV				S	**Sn**	**00 44 29.5**	**-1.6**
AKRB	**Akutan Reef Bi**	**2.51**	**50**	P	**Pn**	**00 44 10.6**	**+1.1**
ZRO	**Akutan Zero**	**2.53**	**52**	P	**Pn**	**00 44 10.8**	**+1.1**
AKGG	**Akutan Green G**	**2.59**	**50**	P	**Pn**	**00 44 11.6**	**+1.0**
AKUT	**Akutan**	**2.66**	**53**	*e*Pn	**Pn**	**00 44 12.4**	**+1.0**
ATKA	**Atka Island**	**2.99**	**265**	P	**Pn**	**00 44 16.4**	**+0.5**
ATKA				S	**Sn**	**00 44 51.7**	**-0.3**
SSBA	**Shishaldin**	**3.81**	**53**	P	**Pn**	**00 44 28.7**	**+1.4**
GSTR	**Great Sitkin T**	**4.14**	**266**	P	**Pn**	**00 44 34.2**	**+2.4**
GSMY	**Great Sitkin M**	**4.14**	**265**	P	**Pn**	**00 44 33.5**	**+1.6**
FALS	**False Pass**	**4.21**	**55**	P	**Pn**	**00 44 34.7**	**+2.0**
GSCK	**Great Sitkin C**	**4.21**	**265**	P	**Pn**	**00 44 33.9**	**+1.1**
ADAG	**Mount Adagdak**	**4.49**	**265**	P	**Pn**	**00 44 38.8**	**+2.2**
SPIA	**Saint Paul Isl**	**4.64**	**354**	P	**Pn**	**00 44 40.5**	**+1.9**
SPIA				S	**Sn**	**00 45 33.8**	**+1.0**
SDPT	**Sand Point**	**5.93**	**59**	*e*Pn	**Pn**	**00 44 59.5**	**+3.1**
	160nm,0.8s						
AMKA	**Amchitka**	**7.11**	**265**	*e*Pn	**Pn**	**00 45 14.9**	**+2.4**
OHAK	**Old Harbor**	**10.35**	**57**	*e*Pn	**Pn**	**00 45 56.9**	**0.0**
RSO	**Redoubt South**	**12.07**	**43**	*e*Pn	Pn	00 46 24.5	+3.8
SEW	**Seward**	**13.33**	**48**	*e*Pn	**Pn**	**00 46 37.1**	**-0.5**
BPAW	**Bear Paw Mtn.**	**14.97**	**32**	*e*Pn	**P**	**00 47 03.5**	**-2.2**
	2.7nm,0.7s						
ILAR	**Eielson Array**	**16.78**	**35**	Pn	**Pn**	**00 47 22.6**	**-0.8**
	0.3nm,0.3s,baz=229,slow=11,SNR=12						
ILAR				LR	LR	00 54 14.6	
	comp=Z,262nm,19.9s,baz=230,slow=39						
COLD	**Coldfoot**	**17.42**	**25**	*e*P	**P**	**00 47 33.0**	**+0.3**
	14nm,1.1s						
EGAK	**Eagle**	**18.87**	**39**	*e*P	**P**	**00 47 48.2**	**-0.6**
	7.4nm,0.6s						
HYT	**Haines Junctio**	**19.17**	**52**	*e*P	**Pn**	**00 47 55.0**	**+2.0**
	12nm,0.5s						
PET	**Petropavlovsk**	**19.27**	**284**	*e*P	**Pn**	**00 47 57.7**	**+3.6**
PET				*e*S	**Sn**	**00 51 30.2**	**+0.1**
PET				pmax	pmax		
	comp=Z,100nm,9.3s						
PET				pmax	pmax		
	comp=Z,200nm,7.0s						
PET				MLR	MLR		
	comp=Z,200nm,19.0s						
DAWY	**Dawson**	**19.27**	**42**	*e*P	**Pn**	**00 47 54.3**	**+0.2**
	comp=Z,7.3nm,0.8s						
BILL	**Bilibino**	**19.42**	**332**	*i*P	**Pn**	**00 47 57.7**	**+1.9**
BILL				pmax	pmax		
	comp=Z,30nm,1.6s						
PETK	**Petropavlovsk-**	**19.81**	**285**	P	**P**	**00 47 57.9**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=97,slow=13,SNR=4.0						
SKAG	**Skagway**	**20.05**	**56**	*e*P	Pn	00 48 04.0	+0.6
	comp=Z,35nm,0.6s						
H02N1	**VAN INLET T-PH**	**22.06**	**73**	T	T	01 11 11.8	
	SNR=32						
H02S1	**DAWSON INLET T**	**22.11**	**74**	T	T	01 11 16.1	
	SNR=30						
SEY	**Seymchan**	**22.53**	**312**	P	**P**	**00 48 27.9**	**-0.4**
	comp=Z,1.0nm,0.2s,baz=130,slow=14,SNR=3.2						
SEY				PcP	**PcP**	**00 52 22.1**	**+0.5**
	comp=Z,1.1nm,0.2s,baz=180,slow=20,SNR=2.8						
DLBC	**Dease Lake**	**22.77**	**59**	P	**P**	**00 48 30.8**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=240,slow=20,SNR=2.4						
DLBC				LR	LR	00 57 24.0	
	comp=Z,77nm,20.6s,baz=263,slow=37						
INK	**Inuvik**	**23.17**	**34**	P	**P**	**00 48 34.3**	**-0.7**
	comp=Z,3.0nm,0.5s,baz=241,slow=6.4,SNR=6.4						
INK				LR	LR	00 58 01.4	
	comp=Z,190nm,19.5s,baz=255,slow=38						
INK	**Inuvik**	**23.17**	**34**	P	**P**	**00 48 34.3**	**-0.7**
INK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
INK				MLR	MLR		
	comp=Z,191nm,19.5s						

ISA	**Isabella**	39.35	95	P	P	00 51 00.3	+2.2
	baz=39						
R11A	**Troy Canyon, C**	39.37	89	P	P	00 51 00.1	+1.6
	baz=39,SNR=7.0						
R11A	**Troy Canyon, C**	39.37	89	*e*P	P	00 50 59.5	+1.1
	comp=Z,4.0nm,0.9s						
H19A	**Powell**	39.62	77	P	P	00 51 02.0	+1.6
	baz=40						
MJAR	**Matsushiro Arr**	39.71	268	P	P	00 51 00.4	-0.6
	comp=Z,0.8nm,0.3s,baz=46,slow=7.0,SNR=4.5						
MJAR				PcP	PcP	00 53 08.0	+0.4
	comp=Z,1.1nm,0.6s,baz=45,slow=1.9,SNR=4.2						
MJAR				LR	LR	01 05 20.2	
	comp=Z,89nm,21.6s,baz=55,slow=33						
G20A	**Bridger**	39.77	75	P	P	00 51 02.9	+1.3
	baz=40						
TPNV	**Topopah Spring**	39.86	91	P	P	00 51 04.9	+2.4
	baz=40						
DUG	**Dugway**	39.92	85	*e*P	P	00 51 04.6	+1.7
DUG				pmax	pmax		
	comp=Z,12nm,1.2s						
DUG	**Dugway**	39.92	85	P	P	00 51 05.0	+2.0
	baz=40,SNR=12						
DUG	**Dugway**	39.92	85	*e*P	P	00 51 04.6	+1.7
	comp=Z,12nm,1.2s						
I19A	**Meeteetse**	39.97	77	P	P	00 51 04.4	+1.0
	baz=40						
LAO	**LASA Array**	40.14	72	P	P	00 51 05.4	+0.8
	baz=40						
H20A	**Greybull**	40.31	76	P	P	00 51 06.8	+0.7
	baz=40						
BW06	**Boulder Array**	40.36	79	*e*P	P	00 51 07.7	+1.0
	comp=Z,1.9nm,0.6s						
PDAR	**Pinedale Array**	40.36	79	P	P	00 51 08.3	+1.6
	comp=Z,3.8nm,0.9s,baz=330,slow=5.6,SNR=18						
PDAR				LR	LR	01 07 17.5	
	comp=Z,50nm,18.4s,baz=324,slow=35						
G21A	**Lodge Grass**	40.36	75	P	P	00 51 08.0	+1.4
	baz=40						
J19A	**Crowheart**	40.37	78	P	P	00 51 08.3	+1.6
	baz=40						
E22A	**Miles City**	40.44	72	P	P	00 51 08.6	+1.6
	baz=40						
NLU	**North Lily Min**	40.51	85	*e*P	P	00 51 09.1	+1.1
	comp=Z,6.9nm,1.1s						
I20A	**Worland**	40.53	77	P	P	00 51 09.6	+1.6
	baz=40						
GSC	**Goldstone**	40.60	94	*e*P	P	00 51 10.4	+1.8
GSC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GSC	**Goldstone**	40.60	94	P	P	00 51 11.0	+2.4
	baz=40,SNR=5.8						
GSC	**Goldstone**	40.60	94	*e*P	P	00 51 10.3	+1.8
	comp=Z,7.5nm,1.0s						
F22A	**Rosebud**	40.62	73	P	P	00 51 10.1	+1.6
	baz=40						
A25A	**Svangstu Ranch**	40.74	68	P	P	00 51 11.0	+1.5
	baz=40						
E23A	**Ismay**	40.78	72	P	P	00 51 10.8	+0.9
	baz=41						
BFSC	**Mount Baldy Ra**	40.80	96	P	P	00 51 11.8	+1.6
	baz=41						
J20A	**Shoshoni**	40.90	78	P	P	00 51 12.5	+1.5
	baz=41						
G22A	**Birney**	40.91	74	P	P	00 51 11.8	+0.8
	baz=41						
I21A	**Big Trails, Te**	41.11	77	P	P	00 51 13.4	+0.7
	baz=41						
F23A	**Volborg**	41.15	73	P	P	00 51 13.8	+0.9
	baz=41						
HEC	**Hector,Ludlow**	41.21	94	P	P	00 51 14.8	+1.3
	baz=41						
H22A	**Clearmont**	41.22	75	P	P	00 51 14.4	+0.8
	baz=41						
J21A	**Lysite**	41.29	77	P	P	00 51 15.3	+1.0
	baz=41						
MVU	**Marysvale**	41.33	86	*e*P	P	00 51 16.8	+2.0
	comp=Z,3.2nm,0.8s						
MSU	**Marysvale**	41.35	86	*e*P	P	00 51 16.4	+1.5
MSU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MSU	**Marysvale**	41.35	86	*e*P	P	00 51 16.4	+1.5
	comp=Z,3.3nm,0.8s						
A26A	**Wade Farm, Ken**	41.37	67	P	P	00 51 15.6	+1.0
	baz=41						
G23A	**Biddle**	41.44	74	P	P	00 51 16.6	+1.2
	baz=41						
MURC	**Murrieta**	41.51	96	P	P	00 51 17.5	+1.5
	baz=41						
I22A	**9 Mile Ranch,**	41.54	76	P	P	00 51 17.8	+1.5
	baz=41						
F24A	**Ekalaka**	41.64	72	P	P	00 51 18.0	+1.0
	baz=42						
GMRC	**Granite Mounta**	41.65	93	P	P	00 51 19.3	+2.1
	baz=42,SNR=5.2						
J22A	**Midwest**	41.82	77	P	P	00 51 19.6	+1.0
	baz=42,SNR=12						
BOD	**Bodaibo**	41.87	309	*e*P	P	00 51 16.2	-2.4
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PFO	**Pinyon Flat Ob**	41.96	95	P	P	00 51 20.7	+0.9
	baz=42						
BELC	**Belle Mtn. Jos**	41.97	95	P	P	00 51 20.6	+0.7
	baz=42						
SRU	**San Rafael**	41.98	84	*e*P	P	00 51 21.9	+1.9
SRU				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SRU	**San Rafael**	41.98	84	*e*P	P	00 51 21.9	+1.9
	comp=Z,8.5nm,1.0s						
H24A	**Dirks Ranch, A**	42.19	74	P	P	00 51 21.8	+0.3
	baz=42						
K22A	**Casper**	42.24	78	P	P	00 51 23.1	+1.0
	baz=42						
K22A	**Casper**	42.24	78	*e*P	P	00 51 22.2	+0.2
	comp=Z,3.2nm,0.8s						
J23A	**Dilts Ranch, B**	42.38	76	P	P	00 51 24.6	+1.5
	baz=42						
IRM	**Iron Mountain**	42.38	94	P	P	00 51 25.2	+2.1
	baz=42						
MONP	**Monument Peak**	42.47	96	P	P	00 51 26.3	+2.2
	baz=42						
BC3	**Big Chuckawall**	42.54	94	P	P	00 51 26.4	+1.9
	baz=42						
O20A	**White River Ci**	42.73	82	P	P	00 51 27.3	+1.2
	baz=43,SNR=6.4						
O20A	**White River Ci**	42.73	82	*e*P	P	00 51 26.0	-0.1
	comp=Z,10nm,0.6s						
H25A	**Fruitdale**	42.82	73	P	P	00 51 27.8	+1.1
	baz=43						
PDMCI	**Parker Dam,Lak**	42.90	93	P	P	00 51 29.5	+2.2
	baz=43						
Y12C	**Blythe**	43.04	94	P	P	00 51 30.1	+1.8
	baz=43						
GLA	**Glamis**	43.33	95	P	P	00 51 32.8	+2.0
	baz=43						
G27A	**Dupree**	43.36	71	P	P	00 51 32.4	+1.5
	baz=43						
PV04	**Paradox Valley**	43.41	84	*e*P	P	00 51 31.9	+0.3
J25A	**Sunshine Ranch**	43.42	75	P	P	00 51 32.4	+0.9
	baz=43						
N23A	**Red Feather La**	43.64	79	P	P	00 51 34.4	+0.8
	baz=44						
B30A	**Myrvik Farm, E**	43.68	66	P	P	00 51 34.7	+1.3
	baz=44						
WUAZ	**Wupatki**	43.77	89	P	P	00 51 36.7	+2.1
	baz=44,SNR=7.1						
WUAZ	**Wupatki**	43.77	89	*e*P	P	00 51 35.6	+1.1
	comp=Z,12nm,0.8s						
PV01	**Paradox Valley**	43.78	84	*e*P	P	00 51 35.6	+0.9
ULM	**Lac du Bonnet**	44.05	62	P	P	00 51 36.0	-0.3
	comp=Z,2.2nm,0.7s,baz=306,slow=11,SNR=2.4						
ULM				PcP	PcP	00 53 20.7	-0.9
	comp=Z,1.6nm,0.6s,baz=339,slow=8.1,SNR=3.3						
ULM				LR	LR	01 10 31.5	
	comp=Z,68nm,19.8s,baz=322,slow=37						
D30A	**Buchanan**	44.19	68	P	P	00 51 38.2	+0.7
	baz=44						
MVCO	**Mesa Verde**	44.42	85	P	P	00 51 41.4	+1.7
	baz=44						
ISCO	**Idaho Springs**	44.52	80	P	P	00 51 41.9	+1.3
	baz=44						
I28A	**Midland**	44.60	73	P	P	00 51 42.2	+1.3
	baz=44						
H29A	**Onida**	44.79	71	P	P	00 51 43.3	+0.9
	baz=45						
J28A	**Allard Ranch,**	44.90	73	P	P	00 51 44.3	+0.9
	baz=45						
W18A	**Petrified Fore**	45.04	88	P	P	00 51 46.1	+1.5
	baz=45						
S22A	**4UR Ranch, Cre**	45.08	83	P	P	00 51 46.7	+1.5
	baz=45						
I29A	**Vivian Onida**	45.09	72	P	P	00 51 45.8	+1.0
	baz=45						
AGMN	**Agassiz Nation**	45.13	65	P	P	00 51 45.7	+0.6
	baz=45						
AGMN	**Agassiz Nation**	45.13	65	*e*P	P	00 51 45.0	-0.1
	comp=Z,3.2nm,0.7s						
214A	**Organ Pipe Nat**	45.31	94	P	P	00 51 48.7	+2.0
	baz=45						
214A	**Organ Pipe Nat**	45.31	94	*e*P	P	00 51 47.8	+1.1
	comp=Z,5.8nm,0.9s						
KSRS	**Korea Array**	45.39	276	P	P	00 51 46.9	-0.2
	comp=Z,0.5nm,0.3s,baz=59,slow=7.6,SNR=3.1						
KSRS				LR	LR	01 10 40.0	
	comp=Z,37nm,19.0s,baz=66,slow=36						
KSRS	**Korea Array**	45.39	276	P	P	00 51 46.9	-0.2
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,37nm,19.0s						
KSAR	**Wonju Array Be**	45.42	277	P	P	00 51 46.9	-0.5
KSAR	**Wonju Array Be**	45.42	277	P	P	00 51 46.9	-0.5
J29A	**Okreek**	45.45	73	P	P	00 51 49.0	+1.4
	baz=45						
SDCO	**Great Sand Dun**	45.89	82	P	P	00 51 52.9	+1.4
	baz=46,SNR=7.9						
SDCO	**Great Sand Dun**	45.89	82	*e*P	P	00 51 52.7	+1.2
	comp=Z,5.9nm,1.1s						
J30A	**Dallas**	45.98	72	P	P	00 51 52.4	+0.5
	baz=46						
P26A	**Davis Ranch, A**	46.03	79	P	P	00 51 53.7	+1.3
	baz=46						
TUC	**Tucson**	46.30	92	*e*P	P	00 51 56.2	+1.6
TUC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TUC	**Tucson**	46.30	92	*e*P	P	00 51 56.2	+1.6
	comp=Z,6.0nm,0.9s						
JNU	**Nakatsue**	46.47	270	P	P	00 51 54.3	-1.5
	comp=Z,4.1nm,0.9s,baz=66,slow=19,SNR=2.4						
JNU				LR	LR	01 08 41.1	
	comp=Z,84nm,22.0s,baz=122,slow=33						
R26A	**Arlington**	46.77	80	P	P	00 51 59.6	+1.4
	baz=47						
KSCO	**Kaye Shedlock'**	46.81	79	P	P	00 51 60.0	+1.5
	baz=47						
T25A	**Trinidad**	46.94	82	P	P	00 52 01.2	+1.5
	baz=47						
LAZ	**Ladron**	47.10	87	*e*P	P	00 52 02.9	+2.0
	comp=Z,5.4nm,1.2s						
R27A	**Eads**	47.17	80	P	P	00 52 02.6	+1.3
	baz=47						
O29A	**4D Ranch, Culb**	47.19	77	P	P	00 52 02.7	+1.2
	baz=47						
ECSD	**ERG Data Cent**	47.40	70	P	P	00 52 03.1	+0.2
	baz=47						
T26A	**Comanche Natio**	47.41	82	P	P	00 52 04.6	+1.2
	baz=47						
P29A	**Atwood**	47.44	77	P	P	00 52 04.4	+1.0
	baz=47						
EYMN	**Ely**	47.73	63	P	P	00 52 05.8	+0.4
	baz=48						
EYMN	**Ely**	47.73	63	*e*P	P	00 52 03.5	-2.0
	comp=Z,5.4nm,0.9s						
R28A	**Tribune**	47.73	79	P	P	00 52 07.4	+1.8
	baz=48						
P30A	**Selden**	47.89	77	P	P	00 52 08.5	+1.6
	baz=48						
121A	**Cookes Peak, D**	47.98	89	P	P	00 52 10.0	+2.3
	baz=48,SNR=6.5						
121A	**Cookes Peak, D**	47.98	89	*e*P	P	00 52 09.3	+1.5
	comp=Z,18nm,1.2s						
O31A	**Wooden Ranch,**	48.05	76	P	P	00 52 09.4	+1.3
	baz=48						
SPMN	**St. Paul**	48.64	66	P	P	00 52 12.7	+0.2
	baz=48						
CBKS	**Cedar Bluff**	48.66	77	P	P	00 52 13.1	+0.3
	baz=48						
R30A	**Dighton**	48.68	78	P	P	00 52 13.3	+0.3
	baz=48						
S30A	**Montezuma**	48.99	79	P	P	00 52 16.3	+0.9
	baz=49						
R31A	**Burdett**	49.13	78	P	P	00 52 17.7	+1.3
	baz=49						
R32A	**Long Quarter,**	49.52	77	P	P	00 52 19.6	+0.2
	baz=49						
O34A	**Beatrice**	49.58	74	P	P	00 52 20.1	+0.3
	baz=49						
Q33A	**Connelly Farm,**	49.67	76	P	P	00 52 21.3	+0.8
	baz=50						
N35A	**Tabor**	49.76	73	P	P	00 52 21.7	+0.6
	baz=50						
R34A	**Isabella, Hill**	50.47	76	P	P	00 52 27.2	+0.7
	baz=50						
P36A	**Good Intent, A**	50.81	73	P	P	00 52 29.6	+0.5
	baz=51						
128A	**Castleberry Fa**	51.15	85	P	P	00 52 33.1	+1.2
	baz=51,SNR=6.0						
Z29A	**Hungry Hill Ra**	51.18	84	P	P	00 52 32.9	+0.8
	baz=51						
SONM	**Songino Array**	51.20	301	PcP	PcP	00 53 47.0	-0.3
	comp=Z,4.0nm,0.9s,baz=47,slow=2.0,SNR=12						
SONM				LR	LR	01 17 09.7	
	comp=Z,96nm,18.1s,baz=74,slow=40						
X31A	**McDonald Ranch**	51.29	82	P	P	00 52 33.5	+0.7
	baz=51						
T34A	**McClaskey Farm**	51.35	77	P	P	00 52 33.3	+0.1
	baz=51						
S35A	**Otter Creek Ra**	51.43	76	P	P	00 52 34.2	+0.4
	baz=51						
R36A	**Gordon, Harris**	51.49	75	P	P	00 52 34.7	+0.5
	baz=51						
Z30A	**Sanderson Ranc**	51.52	84	P	P	00 52 35.4	+0.9
	baz=51,SNR=5.5						
129A	**Stewart Farms,**	51.52	85	P	P	00 52 35.4	+0.8
	baz=51						
U34A	**Anderson Ranch**	51.54	78	P	P	00 52 35.0	+0.4
	baz=51						
T35A	**Sooner Cattle**	51.83	77	P	P	00 52 37.3	+0.6
	baz=52						
X32A	**Elmer**	51.85	81	P	P	00 52 37.7	+0.7
	baz=52						
WMOK	**Wichita Mounta**	51.94	81	*e*P	P	00 52 38.1	+0.4
WMOK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WMOK	**Wichita Mounta**	51.94	81	*e*P	P	00 52 38.1	+0.4
	comp=Z,4.5nm,0.7s						
V34A	**Guthrie**	51.95	79	P	P	00 52 38.6	+0.9
	baz=52						
U35A	**Pawnee**	52.06	78	P	P	00 52 39.0	+0.5
	baz=52						
Z31A	**Sharp Cattle R**	52.09	83	P	P	00 52 39.2	+0.4
	baz=52						
329A	**Wagon Wheel Ra**	52.24	86	P	P	00 52 41.2	+1.2
	baz=52						
S37A	**Fort Scott**	52.26	75	P	P	00 52 40.3	+0.3
	baz=52						
131A	**Roby**	52.39	84	P	P	00 52 42.0	+1.0
	baz=52						
V35A	**Meyer Ranch, C**	52.41	78	P	P	00 52 42.0	+0.9
	baz=52						
230A	**Sterling City**	52.49	85	P	P	00 52 42.6	+0.8
	baz=52						
Z32A	**Haskell**	52.50	82	P	P	00 52 42.7	+0.9
	baz=52						
T37A	**Cheneyville 18**	52.63	76	P	P	00 52 42.8	+0.1
	baz=52						
TXAR	**Lajitas Array**	52.74	89	P	P	00 52 45.2	+1.5
	comp=Z,9.2nm,0.7s,baz=297,slow=5.3,SNR=103						
ABTX	**Abilene, Hawle**	52.87	83	P	P	00 52 45.7	+1.1
	baz=53						
ABTX	**Abilene, Hawle**	52.87	83	*e*P	P	00 52 45.1	+0.5
	comp=Z,26nm,1.4s						
429A	**Davenport Ranc**	52.90	87	P	P	00 52 45.8	+0.8
	baz=53,SNR=8.5						
V36A	**Jenks**	52.93	78	P	P	00 52 45.9	+1.0
	baz=53						
TUL1	**Tulsa**	52.93	77	P	P	00 52 45.7	+0.7
	baz=53						
U37A	**Salina**	53.00	76	P	P	00 52 45.8	+0.3
	baz=53						
529A	**Stev Forest Ra**	53.06	87	P	P	00 52 46.9	+0.9
	baz=53						
Y34A	**Reagan Ranch,**	53.09	81	P	P	00 52 46.5	+0.3
	baz=53						
430A	**Baggett Ranch,**	53.19	86	P	P	00 52 47.8	+0.8
	baz=53,SNR=5.7						
W36A	**Wetumka**	53.20	78	P	P	00 52 47.5	+0.5
	baz=53						
X35A	**Drake**	53.26	80	P	P	00 52 48.0	+0.6
	baz=53						
331A	**San Angelo**	53.32	85	P	P	00 52 48.0	+0.1
	baz=53						
133A	**Hamilton Ranch**	53.32	83	P	P	00 52 48.8	+0.9
	baz=53,SNR=5.1						
V37A	**Hulbert**	53.34	77	P	P	00 52 48.1	+0.1
	baz=53						
232A	**Coleman**	53.38	84	P	P	00 52 49.0	+0.6
	baz=53						
Z34A	**Collier Ranch,**	53.40	81	P	P	00 52 48.9	+0.5
	baz=53						
U38A	**Gravette**	53.41	76	P	P	00 52 48.3	-0.2
	baz=53						
X36A	**Centrahoma**	53.51	79	P	P	00 52 50.1	+0.8
	baz=53						
Y35A	**Marietta**	53.56	80	P	P	00 52 50.8	+1.2
	baz=53						
530A	**J-C Ranch, Com**	53.58	87	P	P	00 52 50.7	+0.9
	baz=53,SNR=19						
HDIL	**Hopedale**	53.61	69	P	P	00 52 50.1	+0.2
	baz=53						
431A	**Sonora**	53.65	86	P	P	00 52 50.8	+0.5
	baz=54,SNR=7.8						
W37A	**Quinton**	53.68	78	P	P	00 52 51.1	+0.6
	baz=54						
332A	**Millersview**	53.68	84	P	P	00 52 51.4	+0.8
	baz=54						
233A	**Rising Star**	53.75	83	P	P	00 52 51.9	+0.9
	baz=54						
V38A	**Canehill**	53.79	76	P	P	00 52 51.4	+0.1
	baz=54						
134A	**White-Moore Ra**	53.85	82	P	P	00 52 52.4	+0.6
	baz=54						
432A	**Menard**	54.01	85	P	P	00 52 54.3	+1.3
	baz=54						
Y36A	**Durant**	54.02	80	P	P	00 52 53.5	+0.6
	baz=54						
531A	**Rocksprings**	54.05	86	P	P	00 52 54.2	+0.9
	baz=54						
X37A	**Clayton**	54.09	78	P	P	00 52 54.1	+0.7
	baz=54,SNR=5.7						
333A	**Richland Sprin**	54.18	84	P	P	00 52 55.0	+0.8
	baz=54						
W38A	**Poteau**	54.27	77	P	P	00 52 55.4	+0.6
	baz=54						
135A	**Vickery Place,**	54.27	82	P	P	00 52 56.0	+1.1
	baz=54						
JCT	**Junction City**	54.28	85	P	P	00 52 55.8	+0.8
	baz=54						
X38A	**Whitesboro**	54.36	78	P	P	00 52 56.1	+0.6
	baz=54						
532A	**Rocksprings**	54.47	85	P	P	00 52 56.7	+0.3
	baz=54						
433A	**Art**	54.52	84	P	P	00 52 57.1	+0.5
	baz=54						
631A	**Perdido Creek**	54.57	87	P	P	00 52 57.1	+0.1
	baz=54,SNR=5.6						
334A	**Lometa**	54.63	83	P	P	00 52 58.3	+0.8
	baz=54,SNR=8.6						
WHTX	**Lake Whitney**	54.64	82	P	P	00 52 58.3	+0.8
	baz=54						
136A	**Ennis**	54.86	81	P	P	00 52 60.0	+0.9
	baz=55						
434A	**Burnet**	54.97	84	P	P	00 53 00.6	+0.6
	baz=55,SNR=7.9						
632A	**Uvalde**	54.98	86	P	P	00 53 00.4	+0.4
	baz=55						
533A	**Kerrville**	55.03	85	P	P	00 53 01.2	+0.7
	baz=55						
MIAR	**Mount Ida**	55.19	77	P	P	00 53 01.9	+0.5
	baz=55						
SCHQ	**Schefferville**	55.28	43	LR	LR	01 19 20.5	
	comp=Z,111nm,18.0s,baz=343,slow=39						
633A	**Saathoff Ranch**	55.38	86	P	P	00 53 03.7	+0.8
	baz=55						
534A	**Blanco**	55.41	85	P	P	00 53 04.0	+0.8
	baz=55						
732A	**Laxson Ranch,**	55.42	87	P	P	00 53 04.1	+0.9
	baz=55						
832A	**Faith Ranch, C**	55.74	87	P	P	00 53 06.4	+0.9
	baz=56,SNR=7.2						
535A	**Dale**	55.95	84	P	P	00 53 08.3	+1.2
	baz=56						
833A	**Chaparral WMA,**	56.07	87	P	P	00 53 08.8	+1.0
	baz=56,SNR=6.7						
H06N1	**SOCORRO T-PHAS**	56.11	104	T	T	01 53 53.1	
	SNR=13						
H06E1	**SOCORRO T-PHAS**	56.21	104	T	T	01 53 53.5	
	SNR=24						
ZALV	**Zalesovo Beam**	57.27	317	P	P	00 53 15.5	-0.6
	comp=Z,0.3nm,0.4s,baz=12,slow=7.4,SNR=2.5						
ZALV				PcP	PcP	00 54 09.4	-0.8
	comp=Z,0.7nm,0.4s,baz=29,slow=3.4,SNR=3.6						
ZALV				LR	LR	01 19 27.1	
	comp=Z,48nm,18.4s,baz=250,slow=38						
034A	**Hebbronville**	57.41	87	P	P	00 53 19.2	+1.8
	baz=57						
OXF	**Oxford**	57.67	74	*e*P	P	00 53 19.0	-0.2
OXF				pmax	pmax		
	comp=Z,13nm,0.8s						
OXF	**Oxford**	57.67	74	*e*P	P	00 53 19.0	-0.2
	comp=Z,13nm,0.8s						
ARCES	**ARCESS Array B**	57.72	354	PcP	PcP	00 54 11.1	-0.7
	comp=Z,3.8nm,0.9s,baz=32,slow=7.1,SNR=3.5						
ARCES				LR	LR	01 19 43.5	
	comp=Z,52nm,18.9s,baz=49,slow=38						
NCB	**Newcomb**	59.43	57	*e*P	P	00 53 28.0	-3.3
	comp=Z,27nm,0.8s						
BLA	**Blacksburg**	60.92	66	*e*P	P	00 53 41.2	-0.4
BLA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BLA	**Blacksburg**	60.92	66	*e*P	P	00 53 41.2	-0.4
	comp=Z,5.7nm,0.7s						
MKAR	**Makanchi Array**	63.67	313	P	P	00 53 59.6	-0.3
	comp=Z,0.4nm,0.8s,baz=70,slow=7.4,SNR=2.9						
MKAR				LR	LR	01 22 20.7	
	comp=Z,53nm,20.3s,baz=30,slow=37						
FINES	**FINESS Array B**	65.66	352	P	P	00 54 12.2	-0.4
	comp=Z,1.6nm,0.8s,baz=0.0,slow=1.4,SNR=3.6						
FINES				LR	LR	01 24 54.6	
	comp=Z,34nm,18.7s,baz=50,slow=38						
TAOE	**Nuku Hiva Isla**	66.09	148	*e*T	T	02 06 20.7	
	comp=Z,46nm,0.2s						
PMOR	**Pomariorio Ree**	69.81	158	*e*T	T	02 10 59.8	
	comp=Z,5.2nm,0.2s						
ABKAR	**Akbulak array**	70.26	328	*e*P	P	00 54 40.7	-1.0
	comp=Z,0.9nm,0.6s						
PPT2	**Papeete2**	71.95	160	*e*LR	LR	01 16 56.7	
	comp=Z,66nm,23.5s						
AKASG	**Malin Array Be**	75.90	348	P	P	00 55 13.1	-2.0
	comp=Z,0.9nm,0.5s,baz=7.6,slow=5.6,SNR=5.0						
CMAR	**Chiang Mai Arr**	76.58	283	P	P	00 55 18.6	-0.8
	comp=Z,1.1nm,0.3s,baz=21,slow=6.3,SNR=7.0						
CMAR				LR	LR	01 32 41.5	
	comp=Z,30nm,18.7s,baz=85,slow=39						
DPC	**Dobruska-Polom**	77.33	356	*e*P	P	00 55 23.1	-0.2
DPC				*e*PCP	PcP	00 55 36.6	+2.8
DPC	**Dobruska-Polom**	77.33	356	*e*P	P	00 55 23.1	-0.2
DPC				*e*		00 55 36.6	
TBI	**Tubuai**	77.57	161	*e*T	T	02 20 41.4	
	comp=Z,7.1nm,0.2s						
GERES	**GERESS Array B**	78.92	358	P	P	00 55 31.9	-0.3
	comp=Z,0.2nm,0.5s,baz=2.9,slow=2.0,SNR=4.0						
GEYT	**Alibeck**	80.87	324	P	P	00 55 41.9	-1.0
	comp=Z,0.7nm,0.5s,baz=316,slow=6.0,SNR=4.0						
RKT	**Rikitea**	81.12	148	*e*T	T	02 25 07.1	
	comp=Z

	comp=Z,64nm,20.3s,baz=25,slow=31							
TORD	**Torodi Ar. Bea**	**114.09**	**10**	PKP	PKPdf	01 02 07.7	-0.7	
	comp=Z,0.4nm,0.8s,baz=326,slow=2.1,SNR=2.8							
TORD				PKKPbc	**PKKPbc**	**01 12 47.3**	**+0.2**	
	comp=Z,0.6nm,1.1s,baz=182,slow=2.8,SNR=6.2							
TORD				PKKPab	**PKKPab**	**01 12 55.4**	**-3.0**	
	comp=Z,1.8nm,0.8s,baz=174,slow=5.7,SNR=8.8							
KMBO	**Kilima Mbogo**	**124.12 327**		PKP	**PKPdf**	**01 02 28.1**	**+0.1**	
	comp=Z,0.6nm,0.4s,baz=52,slow=19,SNR=2.9							
QSPA	**South Pole Qui**	**142.34 180**		*e*PKPpre	PKPpre	01 02 54.5		
TSUM	**Tsumeb**	**146.25 348**		*e*PKPdf	**PKPbc**	**01 03 09.5**	**-0.1**	
LBTB	**Lobatse**	**150.23 332**		*e*PKP2	**PKPbc**	**01 03 20.6**	**+0.7**	
LBTB	**Lobatse**	**150.23 332**		*e*PKPbc	**PKPbc**	**01 03 20.6**	**+0.7**	
LBTB				*e*PKPab	**PKPab**	**01 03 25.7**	**-0.4**	
MAW	**Mawson**	**151.04 219**		PKPbc	**PKPbc**	**01 03 19.6**	**-0.7**	
	comp=Z,5.6nm,0.9s,baz=152,slow=1.4,SNR=10							
MAW	**Mawson**	**151.04 219**		PKIKP	**PKPbc**	**01 03 19.6**	**-0.7**	
MAW				pmax	pmax			
	comp=Z,6.0nm,0.9s							
MAW	**Mawson**	**151.04 219**		*e*PKPbc	**PKPbc**	**01 03 20.5**	**+0.2**	
BOSA	**Boshof**	**153.72 330**		PKPbc	**PKPbc**	**01 03 27.4**	**-0.5**	
	comp=Z,1.7nm,0.7s,baz=95,slow=0.6,SNR=3.8							

*ISCJB **22** 00:43:36.3±0.9, 76.7°N±0.1°×18.2°E±0.3, h16km, Error ellipse: s-maj=16.0km s-min=7.1km az=24.9*
*NAO **22** 00:43:36.4±1.1, 76.86°N×18.49°E, h12km±10km, ML3.4*
*CSEM **22** 00:43:36.0±0.2, 76.89°N×18.71°E, h12km, ML3.4, Error ellipse: s-maj=7.2km s-min=3.5km az=28.0*
*BER **22** 00:43:38.3±3.3, 76.88°N×18.46°E, h22km±27km, MD2.0, ML3.0, ML3.4(NAO)*

ISC 22 00:43:36.6±1.0, 76.8N±0.1°×18.54E±0.07, h16km, n18, σ0.83/24, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HSP	**Hornsund**	**0.71**	**287**	Pg		**Pg**	**00 43 50.2**	**-0.1**
HSP				Lg		Lg	00 43 58.5	
HSP	**Hornsund**	**0.71**	**287**	Pg		**Pg**	**00 43 50.2**	**-0.1**
HSPB	**Hornsund (broa**	**0.71**	**286**	*e*P		**Pg**	**00 43 50.2**	**-0.2**
HSPB				Lg		Lg	00 43 58.5	
HSPB	**Hornsund (broa**	**0.71**	**286**	*e*P		**Pg**	**00 43 50.2**	**-0.2**
	SNR=62							
HSPB				Lg		Lg	00 43 58.5	
	SNR=90							
SPA0	**Spitsbergen Ar**	**1.44**	**342**	Pn		**Pn**	**00 44 01.7**	**-0.3**
	baz=152,slow=18							
SPA0				Lg		Lg	00 44 19.9	
	baz=155,slow=37							
SPA0	**Spitsbergen Ar**	**1.44**	**342**	*e*P		**Pn**	**00 44 02.1**	**+0.1**
SPA0				Lg		Lg	00 44 19.9	
	baz=155,slow=37							
SPA0	**Spitsbergen Ar**	**1.44**	**342**	Pn		**Pn**	**00 44 01.7**	**-0.3**
	baz=152,slow=18,SNR=15							
SPA0	**Spitsbergen Ar**	**1.44**	**342**	*e*P		**Pn**	**00 44 02.1**	**+0.1**
	SNR=62							
SPA0				Lg		Lg	00 44 19.9	
	baz=155,slow=30,SNR=50							
HOPEN	**Hopen**	**1.53**	**99**	Pn		**Pn**	**00 44 01.7**	**-1.5**
HOPEN				Pg		**Pb**	**00 44 05.3**	**+0.8**
HOPEN				Lg		Lg	00 44 25.7	
HOPEN	**Hopen**	**1.53**	**99**	Pn		**Pn**	**00 44 01.7**	**-1.5**
HOPEN				Pg		**Pb**	**00 44 05.3**	**+0.8**
HOPEN				*e*Sg		**Sg**	**00 44 25.6**	**-0.3**
HOPEN	**Hopen**	**1.53**	**99**	Pn		**Pn**	**00 44 01.7**	**-1.5**
HOPEN	**Hopen**	**1.53**	**99**	Pg		**Pb**	**00 44 05.3**	**+0.8**
HOPEN				*e*Sg		**Sg**	**00 44 25.6**	**-0.3**
	SNR=94							
KBS	**Kingsbay**	**2.53**	**330**	Pn		**Pn**	**00 44 16.3**	**-0.6**
KBS				Pg		**Pb**	**00 44 22.6**	**+1.0**
KBS				Lg		Lg	00 44 53.4	
KBS	**Kingsbay**	**2.53**	**330**	Pn		**Pn**	**00 44 16.3**	**-0.6**
KBS				Pg		**Pb**	**00 44 22.6**	**+1.0**
KBS				Lg		Lg	00 44 53.4	
KBS				IAML			00 44 59.5	
	comp=Z,162nm,0.2s							
KBS	**Kingsbay**	**2.53**	**330**	Pn		**Pn**	**00 44 16.3**	**-0.6**
ARA0	**ARCESS Array S**	**7.59**	**161**	Pn		**Pn**	**00 45 27.2**	**+0.8**
ARA0				Sn		Sn	00 46 47.2	-4.7
	baz=2.3,slow=28							
ARA0	**ARCESS Array S**	**7.59**	**161**	Pn		**Pn**	**00 45 27.2**	**+0.8**
ARA0				Sn		Sn	00 46 47.2	-4.7
	baz=2.3,slow=28							
ARA0	**ARCESS Array S**	**7.59**	**161**	Pn		**Pn**	**00 45 27.2**	**+0.8**

*SKO **22** 00:49:18.9, 40.54N×23.04E, h4km, M1.8, ML2.1*
*BEO **22** 00:49:19.5±1.0, 40.51N×22.73E, h0km, ML2.3/3*
*CSEM **22** 00:49:20.2±0.1, 40.61N×23.01E, h2km, MD2.9, Error ellipse: s-maj=2.5km s-min=2.4km az=128.0*
*ATH **22** 00:49:20.4, 40.63N×23.01E, h4km, MD2.9/9*
*THE **22** 00:49:20.3, 40.62N×23.02E, h6km, ML2.6/10, Error ellipse: s-maj=0.8km s-min=0.5km az=68.0*
*ISCJB **22** 00:49:20.0±0.3, 40.61N±0.02°×23.01E±0.03, h4km±3km, Error ellipse: s-maj=3.7km s-min=3.2km az=31.7*

ISC 22 00:49:20.3±0.8, 40.60N±0.02°×23.00E±0.02, h7km±4km, n59, σ0.54/96, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
THE	**Thessaloniki**	**0.04**	**319**	*e*PG		**Pg**	**00 49 21.6**	**-0.1**
THE				*e*SG		**Sg**	**00 49 22.3**	**-0.4**
THE	**Thessaloniki**	**0.04**	**319**	*e*Pg		**Pg**	**00 49 21.6**	**-0.1**
THE				*e*Sg		**Sg**	**00 49 22.3**	**-0.4**
THE	**Thessaloniki**	**0.04**	**319**	P		**Pg**	**00 49 21.5**	**-0.1**
THE				S		**Sg**	**00 49 22.2**	**-0.4**
HORT	**Hortiatis**	**0.08**	**93**	*e*PG		**Pg**	**00 49 22.3**	**+0.1**
HORT				*e*SG		**Sg**	**00 49 23.6**	**0.0**
HORT	**Hortiatis**	**0.08**	**93**	P		**Pg**	**00 49 22.3**	**+0.1**
HORT				S		**Sg**	**00 49 23.6**	**0.0**
HORT	**Hortiatis**	**0.08**	**93**	P		**Pg**	**00 49 22.3**	**+0.1**
HORT				S		**Sg**	**00 49 23.6**	**0.0**
SOH	**Sokhos**	**0.35**	**51**	*e*PG		**Pg**	**00 49 27.2**	**+0.1**
SOH				*e*SG		**Sg**	**00 49 31.8**	**+0.1**
SOH	**Sokhos**	**0.35**	**51**	P		**Pg**	**00 49 27.2**	**+0.1**
SOH				S		**Sg**	**00 49 31.7**	**+0.1**
SOH	**Sokhos**	**0.35**	**51**	P		**Pg**	**00 49 27.2**	**+0.1**
SOH				S		**Sg**	**00 49 31.7**	**+0.1**
PLG	**Polygyros**	**0.41**	**124**	*e*PG		**Pg**	**00 49 27.9**	**-0.3**
PLG	**Polygyros**	**0.41**	**124**	P		**Pg**	**00 49 27.9**	**-0.3**
PLG				S		**Sg**	**00 49 34.1**	**+0.5**
PLG	**Polygyros**	**0.41**	**124**	P		**Pg**	**00 49 27.9**	**-0.3**
PLG				S		**Sg**	**00 49 34.1**	**+0.5**
KNT	**Kendrikon**	**0.56**	**352**	*e*PG		**Pg**	**00 49 31.0**	**-0.2**
KNT				*e*SG		**Sg**	**00 49 38.2**	**-0.4**
KNT	**Kendrikon**	**0.56**	**352**	P		**Pg**	**00 49 31.0**	**-0.2**
KNT				S		**Sg**	**00 49 38.2**	**-0.4**
KNT	**Kendrikon**	**0.56**	**352**	P		**Pg**	**00 49 31.0**	**-0.2**
KNT				S		**Sg**	**00 49 38.2**	**-0.4**
LIT	**Litokhoron**	**0.63**	**218**	*e*PG		**Pg**	**00 49 33.1**	**+0.6**
LIT	**Litokhoron**	**0.63**	**218**	P		**Pg**	**00 49 32.8**	**+0.3**
LIT	**Litokhoron**	**0.63**	**218**	*e*Pg		**Pg**	**00 49 33.1**	**+0.6**
LIT				S		**Sb**	**00 49 42.9**	**+0.1**
LIT	**Litokhoron**	**0.63**	**218**	P		**Pg**	**00 49 32.8**	**+0.3**
LIT				S		**Sb**	**00 49 42.9**	**+0.1**
SRS	**Serrai**	**0.68**	**41**	*e*PG		**Pg**	**00 49 32.7**	**-0.7**
SRS	**Serrai**	**0.68**	**41**	*e*Pg		**Pg**	**00 49 32.7**	**-0.7**
SRS	**Serrai**	**0.68**	**41**	P		**Pg**	**00 49 32.5**	**-0.9**
VAY	**Valandovo**	**0.79**	**336**	*e*Pg		**Pg**	**00 49 35.6**	**+0.1**
VAY				*e*Sg		**Sg**	**00 49 45.3**	**-0.4**
VAY				*e*Lg		Lg	00 49 48.4	
	comp=N,44nm,0.3s							
VAY				*e*Lg		Lg	00 49 48.6	
	comp=E,58nm,0.5s							
VAY	**Valandovo**	**0.79**	**336**	*e*Pg		**Pg**	**00 49 35.0**	**-0.4**
VAY				*e*Sg		**Sg**	**00 49 44.6**	**-1.1**
VAY	**Valandovo**	**0.79**	**336**	P		**Pg**	**00 49 35.0**	**-0.4**
VAY				*e*Sg		**Sg**	**00 49 45.3**	**-0.4**
VAY				*e*Lg		Lg	00 49 48.4	
	comp=E,44nm,0.3s							
VAY	**Valandovo**	**0.79**	**336**	P		**Pg**	**00 49 35.0**	**-0.4**
OUR	**Ouranopolis**	**0.80**	**109**	*e*PG		**Pg**	**00 49 35.2**	**-0.3**
OUR				*e*SG		**Sb**	**00 49 47.2**	**-0.2**
OUR	**Ouranopolis**	**0.80**	**109**	P		**Pg**	**00 49 35.2**	**-0.3**
OUR				S		**Sg**	**00 49 46.2**	**+0.4**
OUR				*e*Sg		**Sb**	**00 49 47.2**	**-0.2**
OUR	**Ouranopolis**	**0.80**	**109**	P		**Pg**	**00 49 35.2**	**-0.3**
OUR				S		**Sg**	**00 49 46.2**	**+0.4**
PAIG	**Paliouri**	**0.85**	**142**	*e*PG		**Pg**	**00 49 36.1**	**-0.5**
PAIG				*e*SG		**Sg**	**00 49 48.1**	**+0.5**
PAIG	**Paliouri**	**0.85**	**142**	*e*Pg		**Pg**	**00 49 36.1**	**-0.5**
PAIG				*e*Sg		**Sg**	**00 49 48.1**	**+0.5**
PAIG	**Paliouri**	**0.85**	**142**	P		**Pg**	**00 49 35.9**	**-0.7**
PAIG				S		**Sg**	**00 49 48.3**	**+0.7**
KZN	**Kozani**	**0.98**	**253**	P		**Pg**	**00 49 38.8**	**-0.3**
KZN				S		**Sb**	**00 49 53.2**	**+0.3**
KZN	**Kozani**	**0.98**	**253**	P		**Pg**	**00 49 38.8**	**-0.3**
KZN				S		**Sb**	**00 49 53.2**	**+0.3**
NVR	**Nevrokopi**	**0.99**	**41**	*e*PB		**Pg**	**00 49 38.6**	**-0.7**
NVR	**Nevrokopi**	**0.99**	**41**	P		**Pg**	**00 49 38.4**	**-0.9**
NVR	**Nevrokopi**	**0.99**	**41**	P		**Pg**	**00 49 38.4**	**-0.9**
KAVA	**Kavala**	**1.22**	**71**	*e*PB		**Pg**	**00 49 42.8**	**-0.8**
KAVA				*e*SB		**Sg**	**00 49 58.9**	**-0.4**
KAVA	**Kavala**	**1.22**	**71**	P		**Pg**	**00 49 42.8**	**-0.8**
KAVA				*e*Sb		**Sg**	**00 49 58.9**	**-0.4**
KAVA				S		**Sb**	**00 49 59.3**	**-0.2**
KAVA	**Kavala**	**1.22**	**71**	P		**Pg**	**00 49 42.8**	**-0.8**
KAVA				S		**Sb**	**00 49 59.3**	**-0.2**
XOR	**Xorichti**	**1.24**	**173**	P		**Pg**	**00 49 43.3**	**-0.8**
XOR	**Xorichti**	**1.24**	**173**	P		**Pg**	**00 49 43.3**	**-0.8**
FNA	**Florina**	**1.25**	**279**	P		**Pg**	**00 49 43.8**	**-0.4**
FNA				S		**Sn**	**00 50 01.8**	**+0.5**
FNA	**Florina**	**1.25**	**279**	P		**Pg**	**00 49 43.8**	**-0.4**
FNA				S		**Sn**	**00 50 01.8**	**+0.5**
THL	**Klokotos Trika**	**1.28**	**216**	P		**Pg**	**00 49 43.8**	**-1.0**
THL	**Klokotos Trika**	**1.28**	**216**	P		**Pg**	**00 49 43.8**	**-1.0**
NEST	**Nestorio**	**1.50**	**263**	P		**Pn**	**00 49 47.8**	**+0.1**
NEST	**Nestorio**	**1.50**	**263**	P		**Pn**	**00 49 47.8**	**+0.1**
AOS	**Alonnisos**	**1.58**	**154**	P		**Pn**	**00 49 48.3**	**-0.4**
AOS	**Alonnisos**	**1.58**	**154**	P		**Pn**	**00 49 48.3**	**-0.4**
PLD	**Plovdiv**	**1.98**	**40**	*e*Pn		**Pb**	**00 49 56.3**	**-0.2**
PLD				*e*Sn		**Sg**	**00 50 24.5**	**+0.8**
PLD	**Plovdiv**	**1.98**	**40**	*e*Pn		**Pb**	**00 49 56.3**	**-0.2**
VTS	**Vitosha**	**2.00**	**4**	*e*Pn		**Pn**	**00 49 55.4**	**+0.8**
VTS				*e*Sn		**Sb**	**00 50 23.4**	**+1.3**
VTS	**Vitosha**	**2.00**	**4**	*e*Pn		**Pn**	**00 49 55.8**	**+1.2**
VTS	**Vitosha**	**2.00**	**4**	*e*Pn		**Pn**	**00 49 55.4**	**+0.8**
VTS				*e*Sn		**Sb**	**00 50 23.4**	**+1.3**
BARS	**Barje**	**2.38**	**339**	*e*Pn		**Pn**	**00 50 00.0**	**+0.2**
BARS	**Barje**	**2.38**	**339**	*e*Pn		**Pn**	**00 50 00.0**	**+0.2**
ZAPS	**Zavoj**	**2.68**	**354**	*e*Pn		**Pn**	**00 50 04.9**	**+0.9**
SELS	**Selova**	**2.97**	**332**	*e*Pn		**Pn**	**00 50 07.6**	**-0.3**

*ISCJB **22** 00:50:19.5±0.3, 37.94N±0.02°×21.48E±0.02, h27km±2km, Error ellipse: s-maj=3.2km s-min=2.8km az=28.7*
*THE **22** 00:50:19.9, 37.94N×21.49E, h13km, ML3.0/13, Error ellipse: s-maj=0.9km s-min=0.5km az=314.0*
*CSEM **22** 00:50:19.4±0.1, 37.93N×21.49E, h15km, MD3.0, Error ellipse: s-maj=2.2km s-min=1.9km az=30.0*
*ATH **22** 00:50:19.0, 37.94N×21.50E, h23km±1km, MD3.0/26*

ISC 22 00:50:19.5±0.8, 37.94N±0.01°×21.49E±0.01, h17km±6km, n109, σ0.45/174, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RLS	**Riolos of Patr**	**0.12**	**352**	*e*PB		**Pb**	**00 50 23.6**	**+0.2**
RLS				*e*SB		**Sb**	**00 50 26.7**	**+0.7**
RLS	**Riolos of Patr**	**0.12**	**352**	P		**Pb**	**00 50 23.6**	**+0.2**
RLS				S		**Sb**	**00 50 26.1**	**+0.1**
RLS	**Riolos of Patr**	**0.12**	**352**	P		**Pb**	**00 50 23.6**	**+0.2**
RLS				S		**Sb**	**00 50 26.1**	**+0.1**
DRO	**Drossia**	**0.17**	**84**	*e*PB		**Pg**	**00 50 24.0**	**-0.1**
DRO				*e*SB		**Sb**	**00 50 27.5**	**0.0**
DRO	**Drossia**	**0.17**	**84**	P		**Pg**	**00 50 24.0**	**-0.1**
DRO				S		**Sg**	**00 50 27.2**	**0.0**
DRO	**Drossia**	**0.17**	**84**	P		**Pg**	**00 50 24.0**	**-0.1**
DRO				S		**Sg**	**00 50 27.2**	**0.0**
VTN	**Vitineika**	**0.24**	**266**	*e*PB		**Pb**	**00 50 25.9**	**+0.5**
VTN				*e*SB		**Sb**	**00 50 30.4**	**+1.1**
VTN	**Vitineika**	**0.24**	**266**	P		**Pb**	**00 50 25.8**	**+0.4**
VTN				S		**Sb**	**00 50 29.3**	**0.0**
VTN	**Vitineika**	**0.24**	**266**	P		**Pb**	**00 50 25.8**	**+0.4**
VTN				S		**Sb**	**00 50 29.3**	**0.0**
UPR	**University Cam**	**0.42**	**34**	*e*PB		**Pb**	**00 50 28.9**	**+0.4**
UPR				*e*SB		**Sb**	**00 50 34.3**	**-0.2**
UPR	**University Cam**	**0.42**	**34**	P		**Pb**	**00 50 28.7**	**+0.2**
UPR				*e*Sb		**Sb**	**00 50 34.3**	**-0.2**
UPR	**University Cam**	**0.42**	**34**	S		**Sb**	**00 50 34.9**	**+0.4**
UPR	**University Cam**	**0.42**	**34**	P		**Pb**	**00 50 28.7**	**+0.2**
UPR				S		**Sb**	**00 50 34.9**	**+0.4**
AMT	**Artemida-Makis**	**0.44**	**157**	P		**Pg**	**00 50 28.5**	**+0.1**
AMT				S		**Sb**	**00 50 35.5**	**+0.5**
AMT	**Artemida-Makis**	**0.44**	**157**	P		**Pg**	**00 50 28.5**	**+0.1**
AMT				S		**Sb**	**00 50 35.5**	**+0.5**
LAKA	**Lakka**	**0.49**	**52**	*e*PB		**Pg**	**00 50 29.1**	**-0.4**
LAKA				*e*SB		**Sg**	**00 50 35.9**	**-0.2**
LAKA	**Lakka**	**0.49**	**52**	*e*Pb		**Pg**	**00 50 29.1**	**-0.4**
LAKA				*e*Sb		**Sg**	**00 50 35.9**	**-0.2**
LAKA				S		**Sb**	**00 50 36.9**	**+0.3**
LAKA	**Lakka**	**0.49**	**52**	P		**Pg**	**00 50 29.0**	**-0.4**
LAKA				S		**Sb**	**00 50 36.9**	**+0.3**
KLV	**Kalavryta, Ach**	**0.53**	**78**	*e*PN		**Pg**	**00 50 29.7**	**-0.5**
KLV				*e*SN		**Sg**	**00 50 37.6**	**+0.2**
KLV	**Kalavryta, Ach**	**0.53**	**78**	*e*Pn		**Pg**	**00 50 29.7**	**-0.5**
KLV				*e*Sn		**Sg**	**00 50 37.6**	**+0.2**
KLV	**Kalavryta, Ach**	**0.53**	**78**	S		**Sb**	**00 50 38.2**	**+0.4**
KLV	**Kalavryta, Ach**	**0.53**	**78**	P		**Pg**	**00 50 29.6**	**-0.6**
KLV				S		**Sb**	**00 50 38.2**	**+0.4**
KFL	**Anninata**	**0.58**	**288**	*e*PN		**Pg**	**00 50 30.7**	**-0.4**
KFL				*e*SN		**Sg**	**00 50 38.2**	**-0.7**
KFL	**Anninata**	**0.58**	**288**	*e*Pn		**Pg**	**00 50 30.7**	**-0.4**
KFL				*e*Sn		**Sg**	**00 50 38.2**	**-0.7**
KFL	**Anninata**	**0.58**	**288**	P		**Pg**	**00 50 30.9**	**-0.2**
EFP	**Efpalio**	**0.59**	**34**	*e*PN		**Pg**	**00 50 31.2**	**0.0**
EFP				*e*SN		**Sg**	**00 50 38.8**	**-0.4**
EFP	**Efpalio**	**0.59**	**34**	P		**Pg**	**00 50 31.2**	**0.0**
EFP				*e*Sn		**Sg**	**00 50 38.8**	**-0.4**
EFP				S		**Sb**	**00 50 40.2**	**+0.8**
EFP	**Efpalio**	**0.59**	**34**	P		**Pg**	**00 50 31.2**	**0.0**
EFP				S		**Sb**	**00 50 40.2**	**+0.8**
ZKS	**Zakynthos**	**0.61**	**247**	P		**Pg**	**00 50 31.0**	**-0.5**
ZKS	**Zakynthos**	**0.61**	**247**	P		**Pg**	**00 50 31.0**	**-0.5**
TRIZ	**Trizonia**	**0.63**	**47**	*e*PN		**Pg**	**00 50 31.6**	**-0.4**
TRIZ				*e*SN		**Sb**	**00 50 40.5**	**0.0**
TRIZ	**Trizonia**	**0.63**	**47**	P		**Pg**	**00 50 31.5**	**-0.4**
TRIZ				*e*Sn		**Sb**	**00 50 41.4**	**+0.9**
TRIZ				S		**Sb**	**00 50 41.4**	**+0.9**
TRIZ	**Trizonia**	**0.63**	**47**	P		**Pg**	**00 50 31.5**	**-0.4**
TRIZ				S		**Sb**	**00 50 41.4**	**+0.9**
GUR	**Goura**	**0.67**	**90**	*e*PN		**Pg**	**00 50 32.1**	**-0.7**
GUR				*e*SN		**Sg**	**00 50 41.7**	**-0.1**
GUR	**Goura**	**0.67**	**90**	P		**Pg**	**00 50 31.9**	**-0.9**
GUR				*e*Sn		**Sg**	**00 50 41.7**	**-0.1**
GUR				S		**Sb**	**00 50 42.1**	**+0.2**
GUR	**Goura**	**0.67**	**90**	P		**Pg**	**00 50 31.9**	**-0.9**
GUR				S		**Sb**	**00 50 42.1**	**+0.2**
PVO	**Paravola**	**0.68**	**2**	*e*PN		**Pb**	**00 50 32.9**	**0.0**
PVO				*e*SN		**Sb**	**00 50 42.9**	**+0.9**
PVO	**Paravola**	**0.68**	**2**	P		**Pb**	**00 50 32.9**	**0.0**
PVO				*e*Sn		**Sb**	**00 50 42.9**	**+0.9**
PVO	**Paravola**	**0.68**	**2**	P		**Pb**	**00 50 32.9**	**0.0**
KALE	**Kalithea**	**0.69**	**48**	*e*PN		**Pg**	**00 50 32.5**	**-0.5**
KALE				*e*SN		**Sg**	**00 50 41.7**	**-0.5**
KALE	**Kalithea**	**0.69**	**48**	P		**Pg**	**00 50 32.5**	**-0.5**
KALE				*e*Sn		**Sg**	**00 50 41.7**	**-0.5**
KALE				S		**Sb**	**00 50 43.2**	**+1.0**
KALE	**Kalithea**	**0.69**	**48**	P		**Pg**	**00 50 32.5**	**-0.5**
KALE				S		**Sb**	**00 50 43.2**	**+1.0**
PDO	**Prodromos**	**0.70**	**340**	*e*PN		**Pg**	**00 50 33.2**	**-0.2**
PDO				*e*SN		**Sg**	**00 50 42.8**	**0.0**
PDO	**Prodromos**	**0.70**	**340**	P		**Pg**	**00 50 33.1**	**-0.3**
PDO				S		**Sg**	**00 50 42.7**	**0.0**
PDO	**Prodromos**	**0.70**	**340**	P		**Pg**	**00 50 33.1**	**-0.3**
PDO				S		**Sg**	**00 50 42.7**	**0.0**
VLS	**Valsamata**	**0.75**	**289**	*e*PN		**Pg**	**00 50 33.4**	**-0.8**
VLS	**Valsamata**	**0.75**	**289**	P		**Pg**	**00 50 33.3**	**-0.9**
VLS				S		**Sb**	**00 50 44.8**	**+0.8**
VLS	**Valsamata**	**0.75**	**289**	P		**Pg**	**00 50 33.3**	**-0.9**
VLS				S		**Sb**	**00 50 44.8**	**+0.8**
ITM	**Ithomi**	**0.83**	**155**	*e*PN		**Pb**	**00 50 35.2**	**-0.3**
ITM				*e*SN		**Sg**	**00 50 46.4**	**-0.3**
ITM	**Ithomi**	**0.83**	**155**	P		**Pb**	**00 50 35.1**	**-0.4**
ITM				*e*Sn		**Sg**	**00 50 46.4**	**-0.3**
ITM				S		**Sb**	**00 50 47.4**	**+1.1**
ITM	**Ithomi**	**0.83**	**155**	P		**Pb**	**00 50 35.1**	**-0.4**
ITM				S		**Sb**	**00 50 47.4**	**+1.1**
EXG	**Exogi**	**0.85**	**308**	*e*PN		**Pb**	**00 50 35.8**	**-0.1**
EXG	**Exogi**	**0.85**	**308**	P		**Pb**	**00 50 35.8**	**-0.1**
EXG				S		**Sn**	**00 50 49.2**	**+0.3**
VLX	**Vlachokerasia**	**0.90**	**128**	*e*PN		**Pg**	**00 50 37.1**	**0.0**
VLX				*e*SN		**Sg**	**00 50 49.7**	**+0.6**
VLX	**Vlachokerasia**	**0.90**	**128**	P		**Pb**	**00 50 36.6**	**-0.2**
VLX	**Vlachokerasia**	**0.90**	**128**	*e*Pn		**Pg**	**00 50 37.1**	**0.0**
VLX				*e*Sn		**Sg**	**00 50 49.7**	**+0.6**
VLX				S		**Sn**	**00 50 50.2**	**0.0**
VLX	**Vlachokerasia**	**0.90**	**128**	P		**Pb**	**00 50 36.6**	**-0.2**
VLX				S		**Sn**	**00 50 50.2**	**0.0**
THAL	**Thalero**	**0.93**	**83**	*e*PN		**Pb**	**00 50 36.7**	**-0.5**
THAL	**Thalero**	**0.93**	**83**	P		**Pb**	**00 50 36.7**	**-0.5**
THAL	**Thalero**	**0.93**	**83**	P		**Pb**	**00 50 36.7**	**-0.5**
DSF	**Desfina**	**0.95**	**60**	*e*PN		**Pb**	**00 50 36.9**	**-0.6**
DSF				*e*SN		**Sg**	**00 50 50.6**	**+0.2**
DSF	**Desfina**	**0.95**	**60**	P		**Pb**	**00 50 36.8**	**-0.7**
DSF				*e*Sn		**Sg**	**00 50 50.6**	**+0.2**
DSF	**Desfina**	**0.95**	**60**	P		**Pb**	**00 50 36.8**	**-0.7**
DSF				S		**Sg**	**00 50 50.9**	**+0.5**
DESF	**Desfina**	**0.95**	**60**	*e*PN		**Pb**	**00 50 36.9**	**-0.6**
DESF				*e*SN		**Sb**	**00 50 49.7**	**-0.1**
DESF	**Desfina**	**0.95**	**60**	*e*Pn		**Pb**	**00 50 36.9**	**-0.6**
DESF				*e*Sn		**Sb**	**00 50 49.7**	**-0.1**
EVR	**Evrytania**	**1.01**	**14**	*e*PN		**Pb**	**00 50 38.8**	**+0.2**
EVR	**Evrytania**	**1.01**	**14**	P		**Pb**	**00 50 38.6**	**0.0**
EVR				S		**Sn**	**00 50 53.1**	**+0.2**
EVR	**Evrytania**	**1.01**	**14**	P		**Pb**	**00 50 38.6**	**0.0**
EVR				S		**Sn**	**00 50 53.1**	**+0.2**
PYL	**PYLOS**	**1.06**	**169**	*e*PN		**Pb**	**00 50 38.8**	**-0.5**
PYL	**PYLOS**	**1.06**	**169**	P		**Pb**	**00 50 38.6**	**-0.7**
PYL	**PYLOS**	**1.06**	**169**	P		**Pb**	**00 50 38.6**	**-0.7**
ACOR	**Acrocorinthos**	**1.09**	**92**	P		**Pb**	**00 50 39.6**	**-0.3**
LTK	**Loutraki**	**1.17**	**85**	*e*PN		**Pn**	**00 50 41.0**	**-0.1**
LTK	**Loutraki**	**1.17**	**85**	P		**Pn**	**00 50 40.6**	**-0.5**
LTK	**Loutraki**	**1.17**	**85**	*e*Pn		**Pn**	**00 50 41.0**	**-0.1**
LTK	**Loutraki**	**1.17**	**85**	P		**Pn**	**00 50 40.6**	**-0.5**
LOUT	**Loutraki**	**1.18**	**87**	*e*PN		**Pb**	**00 50 41.5**	**+0.2**
LOUT	**Loutraki**	**1.18**	**87**	P		**Pb**	**00 50 41.5**	**+0.2**
LOUT	**Loutraki**	**1.18**	**87**	P		**Pb**	**00 50 41.5**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.19**	**25**	*e*PN		**Pb**	**00 50 42.0**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.19**	**25**	*e*Pn		**Pb**	**00 50 42.0**	**+0.4**
DSL	**Palaion Diasel**	**1.24**	**346**	*e*PN		**Pn**	**00 50 42.2**	**+0.2**
DSL	**Palaion Diasel**	**1.24**	**346**	P		**Pn**	**00 50 42.2**	**+0.2**
DSL	**Palaion Diasel**	**1.24**	**346**	P		**Pn**	**00 50 42.2**	**+0.2**
AXAR	**Agios Charalam**	**1.24**	**48**	*e*PN		**Pb**	**00

SMPI			S	Sn	01 19 37.8	+0.9	
GENI	**Genyem**	**1.55 135**	P	**Pn**	01 19 40.9	-0.3	
GENI			S	**Sn**	01 20 00.7	+0.6	
JAY	**Jayapura**	**1.92 122**	P	**Pn**	01 19 47.3	+0.9	
JAY	**Jayapura**	**1.92 122**	Pn	**Pn**	01 19 46.5	0.0	
	2.6nm,0.3s,baz=283,slow=18,SNR=12						
JAY			Sn	**Sn**	01 20 08.4	-1.0	
	22nm,0.3s,baz=311,slow=19,SNR=13						
SRPI	**Serui, Papua**	**2.85 262**	P	Pn	01 19 53.6	-5.6	
SIJI	**Sorong**	**7.83 274**	LR	LR	01 24 52.0		
	comp=Z,72nm,21.8s,baz=71,slow=42						
WRA	**Warramunga Arr**	**18.91 194**	P	**Pn**	01 23 33.5	-1.3	
	0.1nm,0.3s,baz=20,slow=12,SNR=3.8						
ASAR	**Alice Springs**	**22.60 192**	P	**P**	01 24 15.1	+1.1	
	1.4nm,0.6s,baz=23,slow=11,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**33.65 53**	T	T	02 01 40.3		
	baz=236,slow=75,SNR=19						
H11S2	**WAKE ISLAND Hy**	**33.66 53**	T	T	02 01 41.5		
	baz=236,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**33.67 53**	T	T	02 01 41.6		
	baz=236,slow=75,SNR=18						
MKAR	**Makanchi Array**	**69.05 322**	P	P	01 30 27.5	+9.0	
	0.2nm,0.5s,baz=108,slow=4.7,SNR=2.5						

CSEM ***22*** *01:23:55.7±0.1,38.°70N×22.°84E,h15km,MD3.0, Error ellipse: s-maj=3.1km s-min=3.1km az=64.0*

ATH 22 01:23:55.7,38.°69N×22.°83E,h23km,MD3.0/37**,ML2.5, Greece**

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.14**	**106**	*e*PB	Pb	01 23 59.3	-1.1
LKR	**Lokris**	**0.14**	**106**	*e*Pb	Pb	01 23 59.3	-1.1
AXAR	**Agios Charalam**	**0.15**	**300**	*e*PB	Pb	01 24 00.2	-0.5
AXAR				*e*SB	Sb	01 24 03.4	-0.6
AXAR	**Agios Charalam**	**0.15**	**300**	*e*Pb	Pb	01 24 00.2	-0.5
AXAR				*e*Sb	Sb	01 24 03.4	-0.6
SMIA	**Simia**	**0.35**	**57**	*e*PB	Pb	01 24 03.2	-0.2
SMIA				*e*SB	Sb	01 24 08.9	+0.2
SMIA	**Simia**	**0.35**	**57**	*e*Pb	Pb	01 24 03.2	-0.2
SMIA				*e*Sb	Sb	01 24 08.9	+0.2
DESF	**Desfina**	**0.36**	**220**	*e*PB	Pb	01 24 03.2	-0.5
DESF				*e*SB	Sb	01 24 08.4	-0.7
DESF	**Desfina**	**0.36**	**220**	*e*Pb	Pb	01 24 03.2	-0.5
DESF				*e*Sb	Sb	01 24 08.4	-0.7
DSF	**Desfina**	**0.37**	**221**	*e*PB	Pb	01 24 03.3	-0.4
DSF				*e*SB	Sb	01 24 08.9	-0.2
DSF	**Desfina**	**0.37**	**221**	*e*Pb	Pb	01 24 03.3	-0.4
DSF				*e*Sb	Sb	01 24 08.9	-0.2
AGG	**Agios Georgios**	**0.51**	**311**	*e*PN	Pb	01 24 06.5	+0.4
AGG				*e*SN	Sb	01 24 14.2	+1.0
AGG	**Agios Georgios**	**0.51**	**311**	*e*Pn	Pb	01 24 06.5	+0.4
AGG				*e*Sn	Sb	01 24 14.2	+1.0
VIL2	**Platees**	**0.59**	**144**	*e*PB	Pn	01 24 08.1	-0.6
VIL2				*e*SN	Sn	01 24 18.7	+1.1
MRKA	**Markates**	**0.59**	**88**	*e*PN	Pb	01 24 06.8	-0.7
MRKA				*e*SN	Sb	01 24 15.7	+0.2
MRKA	**Markates**	**0.59**	**88**	*e*Pn	Pb	01 24 06.8	-0.7
MRKA				*e*Sn	Sb	01 24 15.7	+0.2
KALE	**Kalithea**	**0.62**	**241**	*e*PB	Pb	01 24 07.5	-0.5
KALE	**Kalithea**	**0.62**	**241**	*e*Pb	Pb	01 24 07.5	-0.5
MAKR	**Makrakomi, Fth**	**0.63**	**301**	*e*PN	Pb	01 24 08.4	+0.2
MAKR				*e*SN	Sn	01 24 18.1	-0.7
MAKR	**Makrakomi, Fth**	**0.63**	**301**	*e*Pn	Pb	01 24 08.4	+0.2
MAKR				*e*Sn	Sn	01 24 18.1	-0.7
VILL	**Villia**	**0.65**	**144**	*e*Pb	Pb	01 24 08.1	-0.3
VILL				*e*Sn	Sn	01 24 18.7	-0.4
THAL	**Thalero**	**0.67**	**191**	*e*PB	Pb	01 24 08.5	-0.1
THAL				*e*SN	Sn	01 24 18.5	-0.9
THAL	**Thalero**	**0.67**	**191**	*e*Pb	Pb	01 24 08.5	-0.1
THAL				*e*Sn	Sn	01 24 18.5	-0.9
LTK	**Loutraki**	**0.68**	**171**	*e*PB	Pb	01 24 08.5	-0.4
LTK				*e*SN	Sn	01 24 19.7	0.0
LTK	**Loutraki**	**0.68**	**171**	*e*Pb	Pb	01 24 08.5	-0.4
LTK				*e*Sn	Sn	01 24 19.7	0.0
TRIZ	**Trizonia**	**0.68**	**242**	*e*PB	Pb	01 24 08.5	-0.3
TRIZ	**Trizonia**	**0.68**	**242**	*e*Pb	Pb	01 24 08.5	-0.3
NEO	**Neokhori**	**0.69**	**26**	*e*PN	Pb	01 24 09.5	+0.4
NEO				*e*SN	Sb	01 24 18.7	+0.4
NEO	**Neokhori**	**0.69**	**26**	*e*Pn	Pb	01 24 09.5	+0.4
NEO				*e*Sn	Sb	01 24 18.7	+0.4
LOUT	**Loutraki**	**0.71**	**171**	*e*PN	Pb	01 24 09.4	0.0
LOUT				*e*SN	Sn	01 24 19.9	-0.7
LOUT	**Loutraki**	**0.71**	**171**	*e*Pn	Pb	01 24 09.4	0.0
LOUT				*e*Sn	Sn	01 24 19.9	-0.7
XOR	**Xorichti**	**0.73**	**23**	*e*PN	Pn	01 24 10.4	-0.3
XOR				*e*SN	Sn	01 24 20.4	-0.8
XOR	**Xorichti**	**0.73**	**23**	*e*Pn	Pn	01 24 10.4	-0.3
XOR				*e*Sn	Sn	01 24 20.4	-0.8
EFP	**Efpalio**	**0.77**	**250**	*e*PN	Pb	01 24 10.4	0.0
EFP				*e*SN	Sn	01 24 22.4	+0.4
EFP	**Efpalio**	**0.77**	**250**	*e*Pn	Pb	01 24 10.4	0.0
EFP				*e*Sn	Sn	01 24 22.4	+0.4
LAKA	**Lakka**	**0.81**	**236**	*e*PN	Pn	01 24 11.4	-0.3
LAKA	**Lakka**	**0.81**	**236**	*e*Pn	Pn	01 24 11.4	-0.3
EVR	**Evrytania**	**0.83**	**286**	*e*PN	Pn	01 24 11.9	-0.2
EVR				*e*SN	Sn	01 24 23.3	-0.5
EVR	**Evrytania**	**0.83**	**286**	*e*Pn	Pn	01 24 11.9	-0.2
EVR				*e*Sn	Sn	01 24 23.3	-0.5
KLV	**Kalavryta, Ach**	**0.84**	**220**	*e*PN	Pn	01 24 12.2	0.0
KLV	**Kalavryta, Ach**	**0.84**	**220**	*e*Pn	Pn	01 24 12.2	0.0
GUR	**Goura**	**0.84**	**207**	*e*PN	Pn	01 24 12.9	+0.6
GUR				*e*SN	Sn	01 24 24.4	+0.3
GUR	**Goura**	**0.84**	**207**	*e*Pn	Pn	01 24 12.9	+0.6
GUR				*e*Sn	Sn	01 24 24.4	+0.3
EREA	**Eretria**	**0.91**	**107**	*e*PN	Pn	01 24 14.0	+0.9
EREA				*e*SN	Sn	01 24 25.7	+0.2
EREA	**Eretria**	**0.91**	**107**	*e*Pn	Pn	01 24 14.0	+0.9
EREA				*e*Sn	Sn	01 24 25.7	+0.2
AOS	**Alonnisos**	**0.95**	**59**	*e*PN	Pn	01 24 14.1	+0.5
AOS				*e*SN	Sn	01 24 27.2	+0.7
AOS	**Alonnisos**	**0.95**	**59**	*e*Pn	Pn	01 24 14.1	+0.5
AOS				*e*Sn	Sn	01 24 27.2	+0.7
ATH	**Athens Observa**	**1.00**	**136**	*e*PN	Pb	01 24 15.6	+1.3
ATH				*e*SN	Sn	01 24 29.9	+2.2
ATH	**Athens Observa**	**1.00**	**136**	*e*Pn	Pb	01 24 15.6	+1.3
ATH				*e*Sn	Sn	01 24 29.9	+2.2
PTL	**Penteli**	**1.03**	**128**	*e*PN	Pb	01 24 16.1	+1.1
PTL				*e*SN	Sn	01 24 29.9	+1.2
PTL	**Penteli**	**1.03**	**128**	*e*Pn	Pb	01 24 16.1	+1.1
PTL				*e*Sn	Sn	01 24 29.9	+1.2
THL	**Klokotos Trika**	**1.08**	**324**	*e*PB	Pn	01 24 15.2	-0.2
THL	**Klokotos Trika**	**1.08**	**324**	*e*Pb	Pn	01 24 15.2	-0.2
DRO	**Drossia**	**1.15**	**230**	*e*PN	Pb	01 24 18.5	+1.6
DRO	**Drossia**	**1.15**	**230**	*e*Pn	Pb	01 24 18.5	+1.6
DID	**Didima**	**1.23**	**165**	*e*PN	Pb	01 24 19.1	+0.9
DID				*e*SN	Sb	01 24 36.1	+2.5
DID	**Didima**	**1.23**	**165**	*e*Pn	Pb	01 24 19.1	+0.9
DID				*e*Sn	Sb	01 24 36.1	+2.5
RLS	**Riolos of Patr**	**1.24**	**240**	*e*PN	Pb	01 24 19.3	+0.8
RLS	**Riolos of Patr**	**1.24**	**240**	*e*Pn	Pb	01 24 19.3	+0.8
DIDY	**Didyma**	**1.25**	**166**	*e*PN	Pb	01 24 19.2	+0.5
DIDY	**Didyma**	**1.25**	**166**	*e*Pn	Pb	01 24 19.2	+0.5
PDO	**Prodromos**	**1.29**	**266**	*e*PN	Pb	01 24 21.4	+2.1
PDO				*e*SB	Sb	01 24 39.6	+4.1
PDO	**Prodromos**	**1.29**	**266**	*e*Pn	Pb	01 24 21.4	+2.1
PDO				*e*Sb	Sb	01 24 39.6	+4.1
KRND	**KRANIDI**	**1.33**	**169**	*e*PN	Pb	01 24 20.6	+0.6
KRND				*e*SN	Sb	01 24 39.9	+3.4
KRND	**KRANIDI**	**1.33**	**169**	*e*Pn	Pb	01 24 20.6	+0.6
KRND				*e*Sn	Sb	01 24 39.9	+3.4
VLX	**Vlachokerasia**	**1.36**	**195**	*e*PN	Pb	01 24 21.3	+0.6
VLX				*e*SN	Sb	01 24 39.7	+1.9
VLX	**Vlachokerasia**	**1.36**	**195**	*e*Pn	Pb	01 24 21.3	+0.6
VLX				*e*Sn	Sb	01 24 39.7	+1.9
PAIG	**Paliouri**	**1.40**	**28**	*e*PB	Pn	01 24 20.5	+0.7
PAIG	**Paliouri**	**1.40**	**28**	*e*Pb	Pn	01 24 20.5	+0.7
DSL	**Palaion Diasel**	**1.42**	**289**	*e*PN	Pb	01 24 23.1	+1.5
DSL				*e*SN	Sb	01 24 41.6	+2.2
DSL	**Palaion Diasel**	**1.42**	**289**	*e*Pn	Pb	01 24 23.1	+1.5
DSL				*e*Sn	Sb	01 24 41.6	+2.2
ITM	**Ithomi**	**1.67**	**206**	*e*PN	Pb	01 24 26.5	+0.7
ITM	**Ithomi**	**1.67**	**206**	*e*Pn	Pb	01 24 26.5	+0.7
PLG	**Polygyros**	**1.75**	**16**	*e*PB	Pb	01 24 26.0	-1.2
OUR	**Ouranopolis**	**1.87**	**28**	*e*PB	Pb	01 24 27.9	-1.2
VLI	**Veliai**	**1.97**	**177**	*e*PB	Pb	01 24 29.5	-1.4
VLI				*e*SN	Sb	01 24 54.3	-0.7
SGD	**Sagiada**	**2.22**	**295**	*e*PB	Pb	01 24 33.5	-1.6
KYTH	**Kithira**	**2.41**	**176**	*e*PN	Pn	01 24 35.0	+1.2
KYTH	**Kithira**	**2.41**	**176**	*e*Pn	Pn	01 24 35.0	+1.2

THE ***22*** *01:25:25.9,41.°24N×20.°85E,h0km±1km,ML3.0/9, Error ellipse: s-maj=1.1km s-min=0.4km az=18.0*
PDG ***22*** *01:25:25.7±0.3,41.°19N×20.°84E,h10km,ML3.2/12, Error ellipse: s-maj=0.7km s-min=0.7km az=90.0*
SKO ***22*** *01:25:25.6,41.°21N×20.°79E,h15km,M2.2,ML2.5*
ATH ***22*** *01:25:25.1,41.°29N×20.°88E,h18km±2km,MD3.4/24*
CSEM ***22*** *01:25:26.0±0.1,41.°24N×20.°89E,h2km,ML3.0, Error ellipse: s-maj=2.9km s-min=1.7km az=63.0*
BEO ***22*** *01:25:26.6±0.5,41.°21N×20.°86E,h13km±3km,ML2.4/8*

ISC 22 01:25:26.0±1.0,41.°24N±0.°01×20.°86E±0.°02,h8km±9km, n182,σ0.96/241,13C-14D,Albania

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.55**	**325**	P	**Pg**	01 25 36.0	-0.6
PHP	**Peshkopia**	**0.55**	**325**	P	**Pg**	01 25 36.0	-0.6
FNA	**Florina**	**0.60**	**139**	*i* P	**Pg**	01 25 37.4	-0.1
FNA				*e*SN	**Sb**	01 25 46.6	-0.7
FNA	**Florina**	**0.60**	**139**	P	**Pg**	01 25 37.3	-0.2
FNA				*e*Sn	**Sb**	01 25 46.6	-0.7
FNA	**Florina**	**0.60**	**139**	P	**Pg**	01 25 37.3	-0.2
FNA				S	**Sb**	01 25 46.7	-0.6
KBN	**Korca**	**0.61**	**185**	P	**Pg**	01 25 37.3	-0.5
KBN				S	**Sb**	01 25 46.9	-0.9
KBN	**Korca**	**0.61**	**185**	P	**Pg**	01 25 37.3	-0.5
KBN				S	**Sb**	01 25 46.9	-0.9
TIR	**Tirane**	**0.76**	**279**	*e*Pg	**Pg**	01 25 39.7	-0.8
TIR	**Tirane**	**0.76**	**279**	P	**Pg**	01 25 39.8	-0.8
TIR				S	**Sb**	01 25 51.1	-0.8
TIR	**Tirane**	**0.76**	**279**	P	**Pg**	01 25 39.8	-0.8
TIR				S	**Sb**	01 25 51.1	-0.8
NEST	**Nestorio**	**0.83**	**170**	*e*PN	**Pg**	01 25 41.6	-0.4
NEST	**Nestorio**	**0.83**	**170**	P	**Pg**	01 25 41.2	-0.8
NEST	**Nestorio**	**0.83**	**170**	*e*Pn	**Pg**	01 25 41.6	-0.4
NEST				S	**Sb**	01 25 53.9	-0.2
NEST	**Nestorio**	**0.83**	**170**	P	**Pg**	01 25 41.2	-0.8
NEST				S	**Sb**	01 25 53.9	-0.2
SKO	**Skopje**	**0.86**	**30**	*e*Pg	**Pn**	01 25 43.5	-0.8
SKO				*e*Sg	**Sb**	01 25 54.9	+0.2
SKO	**Skopje**	**0.86**	**30**	*e*Pg	**Pb**	01 25 43.1	0.0
SKO				*e*Sg	**Sb**	01 25 54.9	+0.2
SKO	**Skopje**	**0.86**	**30**	*e*Pg	**Pb**	01 25 43.1	0.0
SKO				*e*Sg	**Sb**	01 25 54.9	+0.2
KZN	**Kozani**	**1.16**	**143**	*e*PN	**Pb**	01 25 47.5	-0.7
KZN				*e*SN	**Sn**	01 26 04.8	+0.2
KZN	**Kozani**	**1.16**	**143**	P	**Pb**	01 25 47.6	-0.7
KZN				*e*Sn	**Sn**	01 26 04.8	+0.2
KZN				S	**Sn**	01 26 05.1	+0.5
KZN	**Kozani**	**1.16**	**143**	P	**Pb**	01 25 47.6	-0.7
KZN				S	**Sn**	01 26 05.1	+0.5
ZATK	**Zatriq**	**1.23**	**352**	P	**Pg**	01 25 50.1	+0.6
VAY	**Valandovo**	**1.29**	**86**	*e*Pn	**Pg**	01 25 51.3	+0.6
VAY				*e*Sn	**Sg**	01 26 09.9	+2.3
VAY				*e*Lg	Lg	01 26 10.6	
	comp=N,120nm,0.8s						
VAY				*e*Lg	Lg	01 26 12.6	
	comp=E,62nm,0.4s						
VAY	**Valandovo**	**1.29**	**86**	*e*Pg	**Pb**	01 25 50.1	-0.4
VAY				*e*Sg	**Sg**	01 26 08.0	+0.5
VAY	**Valandovo**	**1.29**	**86**	*e*Pg	**Pb**	01 25 50.1	-0.4
VAY	**Valandovo**	**1.29**	**86**	*e*Pn	**Pg**	01 25 51.3	+0.6
VAY				*e*Sg	**Sg**	01 26 08.0	+0.5
VAY				*e*Sn	**Sg**	01 26 09.8	+2.3
VAY				*e*Lg	Lg	01 26 12.6	
	comp=E,62nm,0.4s						
GJIK	**Gjilan**	**1.30**	**19**	P	**Pg**	01 25 50.8	-0.1
ULC	**Ulcinj**	**1.41**	**302**	*i* Pg	**Pn**	01 25 51.7	-0.3
ULC				*e*Sg	**Sg**	01 26 14.4	+3.0
ULC	**Ulcinj**	**1.41**	**302**	P	**Pn**	01 25 51.7	-0.3
ULC	**Ulcinj**	**1.41**	**302**	*e*Sg	**Sg**	01 26 14.4	+3.0
PEJK	**Peje**	**1.47**	**343**	P	**Pg**	01 25 54.0	-0.2
SRN	**Sarande**	**1.50**	**206**	P	**Pb**	01 25 53.5	-0.6
SRN				S	**Sg**	01 26 14.8	+0.5
SRN	**Sarande**	**1.50**	**206**	P	**Pb**	01 25 53.5	-0.6
SRN				S	**Sg**	01 26 14.8	+0.5
PVY	**Plav**	**1.52**	**334**	*i* Pg	**Pb**	01 25 54.2	-0.2
PVY				*e*Sg	**Sg**	01 26 16.7	+2.0
PVY	**Plav**	**1.52**	**334**	*i* Pg	**Pb**	01 25 54.2	-0.2
PVY				*e*Sg	**Sg**	01 26 16.7	+2.0
KNT	**Kendrikon**	**1.54**	**92**	*e*PN	**Pb**	01 25 54.2	-0.6
KNT	**Kendrikon**	**1.54**	**92**	*e*Pn	**Pb**	01 25 54.2	-0.6
KNT				S	**Sg**	01 26 15.7	+0.2
KNT	**Kendrikon**	**1.54**	**92**	P	**Pb**	01 25 54.0	-0.8
KNT				S	**Sg**	01 26 15.7	+0.2
DRME	**Dracevica, Mon**	**1.57**	**308**	*i* Pn	**Pb**	01 25 54.6	-0.7
DRME				*e*Sn	**Sg**	01 26 18.5	+2.0
DRME	**Dracevica, Mon**	**1.57**	**308**	*i* Pn	**Pb**	01 25 54.6	-0.7
DRME				*e*Sn	**Sg**	01 26 18.5	+2.0
JAN	**Janina**	**1.58**	**180**	*e*PN	**Pb**	01 25 54.7	-0.7
JAN				*e*SN	**Sg**	01 26 16.5	-0.1
JAN	**Janina**	**1.58**	**180**	P	**Pb**	01 25 54.7	-0.7
JAN				*e*Sn	**Sg**	01 26 16.5	-0.1
JAN	**Janina**	**1.58**	**180**	P	**Pb**	01 25 54.7	-0.7
JAN				S	**Sg**	01 26 16.6	-0.1
SMRK	**Smrekonice**	**1.64**	**2**	P	**Pb**	01 25 55.8	-0.7
LIT	**Litokhoron**	**1.68**	**132**	*e*PN	**Pb**	01 25 56.1	-1.1
LIT	**Litokhoron**	**1.68**	**132**	P	**Pn**	01 25 55.8	+0.1
LIT	**Litokhoron**	**1.68**	**132**	*e*Pn	**Pb**	01 25 56.1	-1.1
LIT				S	**Sg**	01 26 19.8	-0.2
LIT	**Litokhoron**	**1.68**	**132**	P	**Pn**	01 25 55.8	+0.1
LIT				S	**Sg**	01 26 19.8	-0.2
SGD	**Sagiada**	**1.69**	**197**	*e*PN	**Pb**	01 25 57.0	-0.3
SGD	**Sagiada**	**1.69**	**197**	P	**Pb**	01 25 56.7	-0.6
SGD	**Sagiada**	**1.69**	**197**	*e*Pn	**Pb**	01 25 57.0	-0.3
SGD	**Sagiada**	**1.69**	**197**	P	**Pb**	01 25 56.7	-0.6
PDG	**Podgorica**	**1.69**	**315**	*e*Pn	**Pb**	01 25 56.6	-0.8
PDG				*e*Sn	**Sb**	01 26 18.6	-0.2
PDG	**Podgorica**	**1.69**	**315**	P	**Pn**	01 25 56.0	+0.2
PDG	**Podgorica**	**1.69**	**315**	*e*Pn	**Pb**	01 25 56.6	-0.8
PDG				*e*Sn	**Sb**	01 26 18.6	-0.2
PDG	**Podgorica**	**1.69**	**315**	P	**Pn**	01 25 56.0	+0.2
PDG				*e*Sn	**Sb**	01 26 18.9	+0.1
TTG	**Podgorica**	**1.69**	**315**	*i* Pn	**Pb**	01 25 56.5	-0.8
TTG				*e*Sn	**Sg**	01 26 21.0	+0.7
THE	**Thessaloniki**	**1.71**	**110**	*e*PN	**Pn**	01 25 56.2	+0.2
THE	**Thessaloniki**	**1.71**	**110**	*e*Pn	**Pn**	01 25 56.2	+0.2
BARS	**Barje**	**1.73**	**24**	*e*Pn	**Pb**	01 25 56.8	-1.3
BARS	**Barje**	**1.73**	**24**	*e*Pn	**Pb**	01 25 56.8	-1.3
IGT	**Igoumenitsa**	**1.75**	**193**	*e*PN	**Pb**	01 25 58.0	-0.3
IGT	**Igoumenitsa**	**1.75**	**193**	P	**Pn**	01 25 56.9	+0.3
IGT	**Igoumenitsa**	**1.75**	**193**	*e*Pn	**Pb**	01 25 58.0	-0.3
IGT				S	**Sb**	01 26 20.9	+0.5
IGT	**Igoumenitsa**	**1.75**	**193**	P	**Pn**	01 25 56.9	+0.3
IGT				S	**Sb**	01 26 20.9	+0.5
KKB	**Krupnik**	**1.79**	**69**	P	**Pb**	01 25 58.5	-0.4
KKB	**Krupnik**	**1.79**	**69**	P	**Pb**	01 25 58.5	-0.4
BEY	**Berane**	**1.79**	**337**	*i* Pn	**Pb**	01 25 57.9	-1.1
BEY	**Berane**	**1.79**	**337**	P	**Pg**	01 26 00.1	-0.1
BEY				*e*Sn	**Sg**	01 26 23.1	-0.3
IVA	**Berane**	**1.79**	**337**	*i* Pn	**Pb**	01 25 57.9	-1.1
IVA				*e*Sn	**Sg**	01 26 23.1	-0.3
HORT	**Hortiatis**	**1.81**	**110**	*e*PN	**Pn**	01 25 57.5	-0.1
HORT	**Hortiatis**	**1.81**	**110**	*e*Pn	**Pn**	01 25 57.5	-0.1
BUM	**Brajici-Budva**	**1.81**	**307**	*e*Pn	**Pb**	01 25 58.9	-0.6
BUM				*e*Sn	**Sg**	01 26 23.7	-0.6
BUM	**Brajici-Budva**	**1.81**	**307**	*e*Pn	**Pb**	01 25 58.9	-0.6
BUM				*e*Sn	**Sg**	01 26 23.7	-0.6
THL	**Klokotos Trika**	**1.89**	**152**	*e*PN	**Pn**	01 25 58.9	+0.4
THL	**Klokotos Trika**	**1.89**	**152**	*e*Pn	**Pn**	01 25 58.9	+0.4
THL	**Klokotos Trika**	**1.89**	**152**	P	**Pn**	01 25 58.7	+0.2
SOH	**Sokhos**	**1.93**	**102**	*e*PN	**Pn**	01 25 59.2	0.0
SOH	**Sokhos**	**1.93**	**102**	*e*Pn	**Pn**	01 25 59.2	0.0
SELS	**Selova**	**1.99**	**5**	*e*Pn	**Pn**	01 25 59.6	-0.4
NKME	**Niksic**	**2.09**	**318**	*i* Pn	**Pb**	01 26 02.5	-1.6
NKME				*e*Sn	**Sb**	01 26 30.5	+0.2
NKME	**Niksic**	**2.09**	**318**	*i* Pn	**Pb**	01 26 02.5	-1.6
NKME				*e*Sn	**Sb**	01 26 30.5	+0.2
NKY	**Niksic**	**2.10**	**319**	*i* Pn	**Pb**	01 26 03.0	-1.4
NKY				*e*Sn	**Sb**	01 26 30.5	-0.2
NKY	**Niksic**	**2.10**	**319**	*i* Pn	**Pb**	01 26 03.0	-1.4
NKY				*e*Sn	**Sb**	01 26 30.5	-0.2
DSL	**Palaion Diasel**	**2.11**	**175**	*e*PN	**Pb**	01 26 03.7	-0.7
DSL	**Palaion Diasel**	**2.11**	**175**	*e*Pn	**Pb**	01 26 03.7	-0.7
SJES	**Sjenica**	**2.13**	**342**	*e*Pn	**Pn**	01 26 02.8	+0.8
HCY	**Herceg Novi**	**2.14**	**305**	*i* Pn	**Pn**	01 26 02.6	+0.6
HCY				*e*Sn	**Sb**	01 26 32.2	+0.4
HCY	**Herceg Novi**	**2.14**	**305**	*i* Pn	**Pn**	01 26 02.6	+0.6
HCY				*e*Sn	**Sb**	01 26 32.2	+0.4
PLG	**Polygyros**	**2.14**	**113**	*e*PN	**Pn**	01 26 02.5	+0.4
PLG	**Polygyros**	**2.14**	**113**	P	**Pn**	01 26 02.4	+0.4
PLG	**Polygyros**	**2.14**	**113**	P	**Pn**	01 26 02.4	+0.4
VTS	**Vitosha**	**2.22**	**52**	*e*Pn	**Pn**	01 26 03.3	+0.1
VTS	**Vitosha**	**2.22**	**52**	*i* P	**Pb**	01 26 04.5	-1.9
VTS	**Vitosha**	**2.22**	**52**	*e*P	**Pb**	01 26 04.4	-1.9
VTS	**Vitosha**	**2.22**	**52**	*e*Pn	**Pn**	01 26 03.3	+0.1
VTS	**Vitosha**	**2.22**	**52**	P	**Pn**	01 26 03.6	+0.4
VTS	**Vitosha**	**2.22**	**52**	P	**Pn**	01 26 03.6	+0.4
NVR	**Nevrokopi**	**2.27**	**86**	*e*PN	**Pn**	01 26 03.6	-0.2
NVR	**Nevrokopi**	**2.27**	**86**	*e*Pn	**Pn**	01 26 03.6	-0.2
PLE	**Pljevlja**	**2.36**	**333**	*i* Pn	**Pn**	01 26 05.1	0.0
PLE				*e*Sn	**Sb**	01 26 36.6	-1.6
PLE	**Pljevlja**	**2.36**	**333**	*i* Pn	**Pn**	01 26 05.1	0.0
PLE				*e*Sn	**Sb**	01 26 36.6	-1.6
IVAS	**Ivanjica**	**2.40**	**348**	*e*Pn	**Pn**	01 26 06.5	+0.9
IVAS	**Ivanjica**	**2.40**	**348**	*e*Pn	**Pn**	01 26 06.5	+0.9
BRY	**Bratogost**	**2.40**	**315**	*i* Pn	**Pb**	01 26 07.3	-2.2
BRY				*e*Sn	**Sb**	01 26 38.4	-0.9
BRY	**Bratogost**	**2.40**	**315**	*i* Pn	**Pb**	01 26 07.3	-2.2
BRY				*e*Sn	**Sb**	01 26 38.4	-0.9
MAKR	**Makrakomi, Fth**	**2.42**	**156**	*e*PN	**Pn**	01 26 06.7	+0.8
MAKR	**Makrakomi, Fth**	**2.42**	**156**	*e*Pn	**Pn**	01 26 06.7	+0.8
ZAPS	**Zavoj**	**2.43**	**32**	*e*Pn	**Pn**	01 26 06.9	+0.9
EVR	**Evrytania**	**2.43**	**162**	*e*PB	**Pn**	01 26 07.3	+1.3
EVR	**Evrytania**	**2.43**	**162**	*e*Pb	**Pn**	01 26 07.3	+1.3
UPM	**Unac-Piva**	**2.44**	**324**	*e*Pn	**Pb**	01 26 08.0	-2.3
UPM				*e*Sn	**Sb**	01 26 39.6	-1.0
UPM	**Unac-Piva**	**2.44**	**324**	*e*Pn	**Pb**	01 26 08.0	-2.3
UPM	**Unac-Piva**	**2.44**	**324**	P	**Pb**	01 26 09.0	-0.9
UPM				*e*Sn	**Sb**	01 26 39.6	-1.0
AGG	**Agios Georgios**	**2.48**	**152**	*e*PN	**Pn**	01 26 07.1	+0.4
AGG	**Agios Georgios**	**2.48**	**152**	*e*Pn	**Pn**

mb1 3.4/5,mb1mx3.2/22,mbtmp3.8/5,MS3.2/1,Ms1 3.2/1, ms1mx2.6/11,Error ellipse: s-maj=29.5km s-min=21.0km az=122.0

ISC 22 01:41:35.1±0.9,**7°02S**±0.08×**129°67E**±0.10,**h100**km,**n11,** σ2s**42**/12,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.81**	**32**	P	**Pn**	**01 42 48.1**	**+2.7**
	baz=5.2,SNR=5.0						
MTN	**Manton Dam**	**5.97**	**166**	P	**Pn**	**01 43 03.6**	**+2.5**
	baz=6.2,SNR=9.7						
SOEI	**Soe**	**6.00**	**243**	P	**Pn**	**01 43 04.4**	**+2.8**
	baz=5.5,SNR=4.2						
KDU	**Kakadu**	**6.28**	**154**	P	**Pn**	**01 43 07.0**	**+1.8**
	baz=6.6,SNR=30						
SIJI	**Sorong**	**6.31**	**15**	P	**Pn**	**01 43 07.3**	**+1.6**
	1.4nm,0.3s,baz=216,slow=19,SNR=6.4						
SIJI				S	**Sn**	**01 44 13.7**	**-2.7**
	3.0nm,0.3s,baz=138,slow=22,SNR=7.8						
BATI	**Baumata**	**6.74**	**241**	P	**Pn**	**01 43 13.1**	**+1.6**
	6.6nm,0.3s,baz=67,slow=13,SNR=9.1						
BATI				S	**Sn**	**01 44 25.6**	**-1.2**
	11nm,0.3s,baz=58,slow=19,SNR=5.0						
KNRA	**Kununurra**	**8.65**	**186**	P	**Pn**	**01 43 37.7**	**+0.1**
	baz=8.7,SNR=5.4						
WRA	**Warramunga Arr**	**13.63**	**161**	P	**Pn**	**01 44 41.6**	**-2.7**
	0.5nm,0.3s,baz=344,slow=13,SNR=3.2						
WRA				S	Sn	01 47 03.8	-11
	1.2nm,0.3s,baz=331,slow=22,SNR=6.7						
ASAR	**Alice Springs**	**17.05**	**167**	P	**Pn**	**01 45 26.0**	**-1.5**
	0.3nm,0.3s,baz=341,slow=9.7,SNR=14						
ASAR				S	Sn	01 48 26.9	-10
	0.2nm,0.3s,baz=346,slow=27,SNR=3.7						
KSRS	**Korea Array**	**44.27**	**358**	LR	LR	02 10 39.9	
	comp=Z,28nm,18.3s,baz=198,slow=39						
MKAR	**Makanchi Array**	**68.06**	**327**	P	**P**	**01 52 22.1**	**-2.0**
	0.3nm,0.4s,baz=120,slow=7.2,SNR=3.7						

*IDC **22** 01:41:39.5±1.5,6.41S×150.28E,h0km,mb3.8/4, mb1 4.0/5,mb1mx3.7/28,mbtmp3.9/5,ML2.0/1,Error ellipse: s-maj=72.2km s-min=23.4km az=123.0*
*ISCJB **22** 01:41:42.7±1.3,6.5S±0.3×150.3E±0.3,h33km,mb3.6/3, Error ellipse: s-maj=62.2km s-min=14.0km az=44.3*

ISC 22 01:41:44.2±1.4,**6.5S**±0.3×**150.3E**±0.4,**h33**km,**n6,** σ0s**81**/7, **mb3.6**/3,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.25**	**227**	Pn	**Pn**	**01 42 45.5**	**-1.1**
	6.4nm,0.3s,baz=20,slow=11,SNR=10						
PMG				Sn	**Sn**	**01 43 35.5**	**+0.5**
	7.4nm,0.3s,baz=120,slow=20,SNR=9.3						
WRA	**Warramunga Arr**	**20.47**	**228**	P	**P**	**01 46 20.0**	**+0.8**
	3.8nm,0.8s,baz=52,slow=11,SNR=10						
ASAR	**Alice Springs**	**23.23**	**221**	P	**P**	**01 46 49.0**	**+0.3**
	1.4nm,0.7s,baz=56,slow=8.5,SNR=11						
STKA	**Stephens Creek**	**26.52**	**197**	P	**P**	**01 47 19.0**	**+0.1**
	2.7nm,0.8s,baz=6.5,slow=8.4,SNR=5.2						
ILAR	**Eielson Array**	**84.67**	**23**	P	**P**	**01 54 14.1**	**-0.3**
	0.3nm,0.7s,baz=237,slow=4.9,SNR=5.1						
TORD	**Torodi Ar. Bea**	**148.40**	**284**	PKPbc	**PKPbc**	**02 01 29.1**	**+0.7**
	0.6nm,0.5s,baz=78,slow=2.9,SNR=13						

*ISCJB **22** 01:56:12.7±0.8,6.79S±0.07×129.0E±0.1,h10km,mb3.5/1, Error ellipse: s-maj=19.1km s-min=9.0km az=170.3*
*IDC **22** 01:56:13.1±1.9,6.73S×128.74E,h0km,mb3.5/1, mb1 3.8/3,mb1mx3.5/20,mbtmp3.6/3,ML3.7/3,Error ellipse: s-maj=64.1km s-min=29.7km az=81.0*

ISC 22 01:56:14.4±1.0,**6.82S**±0.09×**129.0E**±0.1,**h10**km,**n8,** σ2s**31**/7,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**5.05**	**40**	P	**Pn**	**01 57 29.3**	**-0.9**
	baz=4.5,SNR=4.2						
SIJI	**Sorong**	**6.33**	**21**	Pn	**Pn**	**01 57 48.9**	**+1.1**
	2.5nm,0.3s,baz=184,slow=22,SNR=19						
MTN	**Manton Dam**	**6.35**	**161**	P	Pb	01 57 58.7	-6.4
	baz=6.6,SNR=13						
KDU	**Kakadu**	**6.77**	**150**	P	Pn	01 58 00.7	+6.9
	baz=6.8,SNR=68						
LUWI	**Luwuk**	**8.45**	**312**	P	**Pn**	**01 58 18.0**	**+1.0**
	baz=8.7,SNR=3.3						
WRA	**Warramunga Arr**	**14.04**	**159**	Pn	**Pn**	**01 59 35.7**	**+2.1**
	0.3nm,0.3s,baz=342,slow=13,SNR=3.3						
WRA				Sn	Sn	02 02 03.2	-6.4
	0.5nm,0.3s,baz=345,slow=22,SNR=4.0						
ASAR	**Alice Springs**	**17.41**	**165**	P	**P**	**02 00 19.6**	**+0.7**
	0.3nm,0.3s,baz=340,slow=11,SNR=10						
ASAR				S	**Sn**	**02 03 28.1**	**-3.4**
	0.2nm,0.3s,baz=357,slow=27,SNR=4.1						
MKAR	**Makanchi Array**	**67.53**	**327**	P	**P**	**02 07 09.6**	**-1.3**
	0.3nm,0.6s,baz=114,slow=8.0,SNR=2.9						

IDC 22 02:03:52.6±3.4,**6.44S**×**150.21E**,**h0**km,**mb3.1**/2, **mb1 3.5**/3,**mb1mx3.3**/24,**mbtmp3.3**/3,**ML1.6**/1,**Error ellipse: s-maj=136.3km s-min=39.0km az=124.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.22**	**226**	Pn	Pn	02 04 59.9	+1.6
	2.7nm,0.3s,baz=95,slow=11,SNR=3.5						
PMG				Sn	Sn	02 05 47.3	-1.1
	2.8nm,0.3s,baz=66,slow=20,SNR=6.0						
WRA	**Warramunga Arr**	**20.44**	**227**	P	P	02 08 31.2	-0.6
	0.6nm,0.5s,baz=54,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**23.22**	**221**	P	P	02 09 01.6	0.0
	0.3nm,0.6s,baz=58,slow=8.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**148.29**	**285**	PKPbc	PKPbc	02 23 41.3	-0.7
	0.5nm,0.9s,baz=69,slow=1.8,SNR=4.1						

IDC 22 02:16:00.8±6.1,**6.19S**×**150.89E**,**h0**km,**mb3.3**/2, **mb1 3.7**/2,**mb1mx3.3**/23,**mbtmp3.4**/2,**Error ellipse: s-maj=319.1km s-min=46.9km az=120.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.11**	**228**	P	P	02 20 47.1	-0.1
	0.4nm,0.3s,baz=56,slow=12,SNR=2.7						
ASAR	**Alice Springs**	**23.85**	**221**	P	P	02 21 16.2	+0.2
	0.3nm,0.3s,baz=50,slow=8.9,SNR=4.2						
TORD	**Torodi Ar. Bea**	**148.88**	**285**	PKPbc	PKPbc	02 35 51.0	-0.7
	0.4nm,0.3s,baz=71,slow=2.2,SNR=15						

*ISCJB **22** 02:20:55.2±1.0,4.0N±0.2×48.0W±0.2,h10km,mb3.7/8, MS3.8/3,Error ellipse: s-maj=29.8km s-min=21.9km az=156.7*
*IDC **22** 02:20:55.3±1.2,3.99N×48.03W,h0km,mb3.7/8,mb1 4.1/8, mb1mx3.8/23,mbtmp3.7/8,MS3.8/3,Ms1 3.8/3, ms1mx2.8/33,Error ellipse: s-maj=39.4km s-min=25.9km az=172.0*

ISC 22 02:20:56.8±1.1,**4.0N**±0.2×**48.0W**±0.2,**h10**km,**n17,** σ0s**87**/8, **mb3.8**/8,**MS4.1**/3,**North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**26.24**	**273**	LR	LR	02 37 20.2	
	comp=Z,39nm,18.9s,baz=348,slow=38						
LPAZ	**La Paz**	**28.31**	**224**	P	**P**	**02 26 51.6**	**0.0**
	0.5nm,0.6s,baz=83,slow=7.5,SNR=3.5						
H10N3	**ASCENSION HYDR**	**35.45**	**109**	T	T	03 05 17.6	
	baz=287,slow=75,SNR=39						
H10N2	**ASCENSION HYDR**	**35.46**	**109**	T	T	03 05 18.7	
	baz=287,slow=75,SNR=42						
H10N1	**ASCENSION HYDR**	**35.47**	**109**	T	T	03 05 19.6	
	baz=287,slow=75,SNR=33						
H10S3	**ASCENSION HYDR**	**35.66**	**111**	T	T	03 05 31.6	
	baz=289,slow=75,SNR=57						
H10S1	**ASCENSION HYDR**	**35.67**	**111**	T	T	03 05 33.3	
	baz=289,slow=75,SNR=53						
H10S2	**ASCENSION HYDR**	**35.68**	**111**	T	T	03 05 32.7	
	baz=289,slow=75,SNR=46						
TORD	**Torodi Ar. Bea**	**49.92**	**76**	P	**P**	**02 29 50.7**	**-0.5**
	0.8nm,0.8s,baz=259,slow=5.7,SNR=11						
TXAR	**Lajitas Array**	**58.31**	**302**	P	**P**	**02 30 52.8**	**+0.3**
	1.6nm,0.8s,baz=128,slow=7.7,SNR=15						
PDAR	**Pinedale Array**	**66.61**	**315**	P	**P**	**02 31 47.5**	**-0.5**
	0.6nm,0.8s,baz=110,slow=8.0,SNR=5.0						
NVAR	**Mina Array Bea**	**72.11**	**309**	P	**P**	**02 32 22.7**	**+0.6**
	0.3nm,0.4s,baz=104,slow=6.6,SNR=3.0						
YKA	**Yellowknife Ar**	**75.80**	**334**	P	**P**	**02 32 41.9**	**-1.0**
	0.3nm,0.7s,baz=94,slow=5.6,SNR=3.8						
FINES	**FINESS Array B**	**78.94**	**28**	P	**P**	**02 33 01.8**	**+1.3**
	0.6nm,0.5s,baz=256,slow=4.1,SNR=5.5						
BBB	**Bella Bella**	**80.78**	**322**	LR	LR	03 12 51.0	
	comp=Z,85nm,18.0s,baz=352,slow=39						
GNI	**Garni**	**89.57**	**50**	LR	LR	03 12 32.5	
	comp=Z,147nm,20.1s,baz=70,slow=35						
ILAR	**Eielson Array**	**90.19**	**335**	P	**P**	**02 33 57.1**	**-0.2**
	0.4nm,0.7s,baz=88,slow=3.0,SNR=4.9						

WEL 22 02:23:38.7±0.3,**37.02S**×**176.97E**,**h167**km±3km,**ML3.8**/7, **6C-1D**,**Error ellipse: s-maj=3.6km s-min=3.2km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.98**	**139**	⇑P	Pn	02 24 05.0	+0.1
HAZ				S	Sn	02 24 24.7	-0.5
URZ	**Urewera**	**1.25**	**175**	⇑P	Pn	02 24 07.2	0.0
URZ				S	Sn	02 24 30.0	+0.7
MWZ	**Matawai**	**1.39**	**162**	P	Pn	02 24 08.3	-0.3
MWZ				S	Sn	02 24 31.8	+0.1
MWZ				AML	AML	02 24 36.3	
WMGZ	**Waiomatatini S**	**1.40**	**125**	PN	Pn	02 24 08.7	+0.1
WMGZ				SN	Sn	02 24 31.4	-0.3
TWGZ	**Tauwhareparae**	**1.41**	**146**	PN	Pn	02 24 09.1	+0.3
TWGZ				SN	Sn	02 24 32.3	+0.2
PUZ	**Puketiti**	**1.47**	**136**	⇑P	Pn	02 24 09.1	-0.2
PUZ				S	Sn	02 24 31.5	-1.5
PUZ				AML	AML	02 24 33.3	
RAGZ	**Rawiri**	**1.52**	**167**	PN	Pn	02 24 10.4	+0.5
TKGZ	**Te Karaka**	**1.58**	**154**	PN	Pn	02 24 10.3	0.0
TKGZ				SN	Sn	02 24 34.0	-1.0
CNGZ	**Carnagh Statio**	**1.76**	**147**	⇑P	Pn	02 24 12.4	+0.2
SNGZ	**Shannon Statio**	**1.78**	**171**	PN	Pn	02 24 12.3	-0.2
RIGZ	**Rimuhau**	**1.80**	**160**	PN	Pn	02 24 12.5	-0.2
RAHZ	**Arahi**	**1.90**	**177**	PN	Pn	02 24 13.6	-0.2
PRGZ	**Paritu Road**	**2.04**	**160**	PN	Pn	02 24 14.8	-0.5
WHHZ	**Waihua**	**2.07**	**174**	PN	Pn	02 24 15.2	-0.4
KNZ	**Kokohu**	**2.08**	**165**	PN	Pn	02 24 14.8	-0.8
NMHZ	**Naumai**	**2.08**	**184**	PN	Pn	02 24 15.8	-0.1
BKZ	**Black Stump Fm**	**2.18**	**190**	⇑P	Pn	02 24 15.9	-1.1
ARHZ	**Aropaoanui**	**2.24**	**180**	PN	Pn	02 24 17.2	-0.4
MCHZ	**McNeill Hill**	**2.43**	**185**	PN	Pn	02 24 19.1	-0.8
KWHZ	**Kaweka Forest**	**2.44**	**195**	PN	Pn	02 24 19.2	-0.8
FWVZ	**Far West T-bar**	**2.50**	**206**	PN	Pn	02 24 20.5	-0.5
WHVZ	**Whangaehu Hut**	**2.51**	**205**	PN	Pn	02 24 20.4	-0.7
WNVZ	**Wahianoa**	**2.55**	**205**	PN	Pn	02 24 20.6	-0.8
BHHZ	**Black Hill Sta**	**2.57**	**196**	PN	Pn	02 24 20.0	-1.5
BHHZ				SN	Sn	02 24 52.3	-2.6
MOVZ	**Moawhango**	**2.57**	**202**	PN	Pn	02 24 20.4	-1.2
CKHZ	**Cape Kidnapper**	**2.64**	**178**	⇓P	Pn	02 24 21.1	-1.2
KRHZ	**Kereru**	**2.67**	**190**	PN	Pn	02 24 21.2	-1.5
KAHZ	**Kahuranaki**	**2.77**	**182**	⇑P	Pn	02 24 22.7	-1.3
PNHZ	**Pukenui**	**2.96**	**192**	PN	Pn	02 24 24.2	-2.0
PXZ	**Pawanui**	**3.01**	**182**	PN	Pn	02 24 24.8	-2.0
PXZ				AML	AML	02 25 03.7	
PXZ				AML	AML	02 25 05.3	
WPHZ	**Waipukurau**	**3.07**	**188**	PN	Pn	02 24 25.5	-2.1
TSZ	**Takapari Road**	**3.14**	**194**	*e*PN	Pn	02 24 26.2	-2.3
WAZ	**Wanganui**	**3.15**	**209**	*e*PN	Pn	02 24 27.5	-1.1
PRHZ	**Porangahau**	**3.26**	**185**	PN	Pn	02 24 27.6	-2.3
DVHZ	**Dannevirke**	**3.34**	**191**	PN	Pn	02 24 27.9	-3.0
POWZ	**Post Office Ro**	**3.50**	**195**	PN	Pn	02 24 30.3	-2.6
PRWZ	**Pori Road**	**3.62**	**192**	PN	Pn	02 24 32.2	-2.3
BFZ	**Birch Farm**	**3.70**	**189**	PN	Pn	02 24 32.4	-3.1
MRZ	**Mangatainoka R**	**3.80**	**196**	PN	Pn	02 24 33.5	-3.2
MRZ				AML	AML	02 25 18.7	
TIWZ	**Tintock**	**3.85**	**192**	PN	Pn	02 24 34.3	-3.2
TIWZ				AML	AML	02 25 22.3	
CPWZ	**Castlepoint**	**3.93**	**189**	PN	Pn	02 24 35.8	-2.7
HOWZ	**Holdsworth Sta**	**4.04**	**196**	PN	Pn	02 24 36.2	-3.7
OGWZ	**Otaki Gorge**	**4.05**	**200**	PN	Pn	02 24 36.6	-3.3
KIW	**Kapiti Island**	**4.16**	**202**	PN	Pn	02 24 38.0	-3.5
TMWZ	**Te Maipa**	**4.17**	**191**	PN	Pn	02 24 37.9	-3.7
CAW	**Cannon Point**	**4.34**	**199**	PN	Pn	02 24 39.9	-3.9
PAWZ	**Paruwai Farm**	**4.52**	**195**	PN	Pn	02 24 41.7	-4.4
MSWZ	**Moikau Station**	**4.59**	**196**	PN	Pn	02 24 42.7	-4.4
BHW	**Baring Head**	**4.68**	**200**	PN	Pn	02 24 43.8	-4.2
TCW	**Tory Channel**	**4.68**	**206**	PN	Pn	02 24 44.2	-4.0
TCW				AML	AML	02 25 38.2	
TCW				AML	AML	02 25 38.9	
PLWZ	**Palliser**	**4.74**	**196**	PN	Pn	02 24 44.4	-4.6
TUWZ	**Tuamarina**	**5.00**	**207**	PN	Pn	02 24 48.0	-4.3
TUWZ				AML	AML	02 25 44.8	
NNZ	**Nelson**	**5.04**	**213**	*e*PN	Pn	02 24 48.5	-4.3
NNZ				SN	Sn	02 25 45.1	-5.8
QRZ	**Quartz Range**	**5.14**	**221**	*e*PN	Pn	02 24 49.7	-4.5
BSWZ	**Blackbirch Sta**	**5.27**	**206**	PN	Pn	02 24 51.6	-4.3
THZ	**Tophouse**	**5.69**	**212**	*e*PN	Pn	02 24 57.0	-4.4
THZ				SN	Sn	02 25 59.7	-6.8
KHZ	**Kahutara**	**6.01**	**205**	PN	Pn	02 25 00.6	-4.9
DSZ	**Denniston Nort**	**6.19**	**219**	*e*PN	Pn	02 25 03.8	-4.3
LTZ	**Lake Taylor**	**6.80**	**211**	PN	Pn	02 25 10.5	-5.5
OXZ	**Oxford**	**7.34**	**209**	PN	Pn	02 25 17.1	-6.2
MQZ	**McQueen's Vall**	**7.45**	**205**	PN	Pn	02 25 18.0	-6.6

IDC 22 02:24:46.2±3.1,**6.30S**×**150.78E**,**h0**km,**mb3.2**/2, **mb1 3.6**/3,**mb1mx3.3**/25,**mbtmp3.4**/3,**ML1.0**/1,**Error ellipse: s-maj=129.1km s-min=38.8km az=127.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.73**	**229**	Pn	Pn	02 25 59.6	+0.7
	0.5nm,0.3s,baz=47,slow=15,SNR=2.5						
PMG				Sn	Sn	02 26 53.6	-1.0
	1.0nm,0.3s,baz=24,slow=20,SNR=3.5						
WRA	**Warramunga Arr**	**20.95**	**228**	P	P	02 29 30.2	-0.8
	0.7nm,0.6s,baz=54,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**23.70**	**221**	P	P	02 30 00.6	+0.6
	0.5nm,0.7s,baz=57,slow=8.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**148.80**	**285**	PKPbc	PKPbc	02 44 36.2	-0.7
	0.4nm,0.9s,baz=86,slow=1.5,SNR=4.3						

*ISCJB **22** 02:50:39.2±0.6,29.0S±0.1×13.01W±0.09,h11km, mb4.0/14,MS3.4/8,Error ellipse: s-maj=17.5km s-min=11.0km az=166.3*
*IDC **22** 02:50:39.2±0.8,28.98S×13.04W,h0km,mb4.0/12, mb1 4.0/12,mb1mx3.9/24,mbtmp4.0/12,MS3.4/8, Ms1 3.4/8,ms1mx3.1/25,Error ellipse: s-maj=23.8km s-min=16.7km az=170.0*
*NEIC **22** 02:50:40.8±0.4,28.99S×13.02W,h10km,mb4.2/2,Error ellipse: s-maj=14.2km s-min=9.0km az=166.0*

ISC 22 02:50:41.0±0.7,**29.0S**±0.1×**13.0W**±0.1,**h11**km,**n28,** σ0s**79**/17,**mb4.1**/14,**MS3.5**/8,**Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H09N1	**TRISTAN DA CUN**	**8.09**	**176**	T	T	03 01 09.2	
	SNR=8.3						
H09W1	**TRISTAN DA CUN**	**8.12**	**176**	T	T	03 01 07.7	
	SNR=4.8						
H10S2	**ASCENSION HYDR**	**19.97**	**355**	T	T	03 15 35.6	
	baz=176,slow=74,SNR=123						
H10S3	**ASCENSION HYDR**	**19.98**	**355**	T	T	03 15 36.2	
	baz=176,slow=74,SNR=80						
H10S1	**ASCENSION HYDR**	**19.99**	**355**	T	T	03 15 36.9	
	baz=176,slow=74,SNR=133						
H10N1	**ASCENSION HYDR**	**21.06**	**356**	T	T	03 17 06.5	
	baz=191,slow=74,SNR=5.8						
H10N3	**ASCENSION HYDR**	**21.07**	**356**	T	T	03 17 07.6	
	baz=191,slow=74,SNR=15						
H10N2	**ASCENSION HYDR**	**21.08**	**356**	T	T	03 17 07.0	
	baz=191						
TSUM	**Tsumeb**	**29.52**	**78**	P	**P**	**02 56 45.3**	**-0.4**
	0.9nm,0.7s,baz=248,slow=13,SNR=4.1						
TSUM				LR	LR	03 06 12.9	
	comp=Z,55nm,20.1s,baz=305,slow=32						
TSUM	**Tsumeb**	**29.52**	**78**	*e*P	**P**	**02 56 45.9**	**+0.1**
BOSA	**Boshof**	**33.46**	**99**	P	**P**	**02 57 20.8**	**+0.4**
	2.0nm,0.8s,baz=228,slow=14,SNR=2.8						
BOSA				LR	LR	03 08 06.3	
	comp=Z,95nm,21.2s,baz=272,slow=31						
BDFB	**Brasilia**	**34.83**	**285**	P	**P**	**02 57 31.8**	**-0.5**
	3.9nm,0.6s,baz=99,slow=6.8,SNR=7.5						
BDFB				LR	LR	03 09 19.6	
	comp=Z,78nm,20.1s,baz=55,slow=32						
DBIC	**Dimbokro**	**36.30**	**14**	P	**P**	**02 57 44.5**	**-0.2**
	8.5nm,1.2s,baz=167,slow=10,SNR=3.8						
MATP	**Matopo**	**38.53**	**87**	P	**P**	**02 58 02.4**	**-1.4**
	4.9nm,1.1s,baz=241,slow=12,SNR=3.9						
CPUP	**Villa Florida**	**39.15**	**263**	LR	LR	03 11 28.1	
	comp=Z,110nm,20.7s,baz=118,slow=32						
TRQA	**Tornquist**	**41.40**	**244**	*e*P	**P**	**02 58 27.1**	**-0.3**
	3.9nm,0.9s						
TOA0	**Torodi Ar. Sit**	**44.23**	**21**	*e*P	**P**	**02 58 50.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**44.23**	**21**	P	**P**	**02 58 50.6**	**+0.2**
	0.6nm,0.5s,baz=199,slow=8.4,SNR=21						
TORD				LR	LR	03 14 00.3	
	comp=Z,42nm,19.5s,baz=150,slow=32						
SIV	**San Ignacio**	**45.94**	**276**	P	**P**	**02 59 04.5**	**+0.3**
	1.6nm,0.8s,baz=120,slow=7.9,SNR=5.8						
CFAA	**Coronel Fontan**	**47.31**	**252**	P	**P**	**02 59 13.6**	**-1.3**
	0.3nm,0.6s,baz=89,slow=7.2,SNR=5.6						
CFAA				LR	LR	03 17 31.6	
	comp=Z,8.8nm,18.6s,baz=130,slow=34						
SAML	**Samuel**	**51.01**	**283**	*e*P	**P**	**02 59 44.8**	**+1.5**
	3.9nm,1.2s						
LPAZ	**La Paz**	**51.98**	**272**	P	**P**	**02 59 51.8**	**+0.5**
	1.1nm,0.9s,baz=100,slow=9.1,SNR=4.3						
PTGA	**Pitinga**	**52.81**	**294**	LR	LR	03 19 32.9	
	comp=Z,71nm,20.2s,baz=156,slow=33						
MAW	**Mawson**	**58.20**	**154**	P	**P**	**03 00 35.5**	**+0.8**
	2.2nm,0.8s,baz=294,slow=7.0,SNR=5.6						
MAW				LR	LR	03 21 25.0	
	comp=Z,33nm,18.1s,baz=244,slow=32						
KEST	**Kesra**	**67.73**	**20**	P	**P**	**03 01 38.7**	**+0.2**
	1.2nm,0.9s,baz=223,slow=9.8,SNR=4.3						
ESDC	**Sonseca Array**	**68.82**	**8**	P	**P**	**03 01 46.0**	**+0.8**
	0.2nm,0.4s,baz=179,slow=6.9,SNR=2.2						
YKA	**Yellowknife Ar**	**120.56**	**328**	PKP	**PKPdf**	**03 09 31.4**	**-0.6**
	0.2nm,0.6s,baz=85,slow=4.0,SNR=3.5						
SEY	**Seymchan**	**144.73**	**12**	PKP	PKPbc	03 10 16.2	+0.1
	1.3nm,0.5s,baz=291,slow=17,SNR=3.2						

*MDD **22** 02:53:56.0±2.3,36.74N×12.67W,h50km,mb3.6/7,Error ellipse: s-maj=19.7km s-min=18.6km az=10.0,PRXIMO SOLUCIN POBRE*
*INMG **22** 02:53:57.7±1.1,36.61N×12.75W,h10km,ML2.1,Error ellipse: s-maj=7.4km s-min=5.9km az=100.0*

ISC 22 02:53:54.4±3.8,**36.9N**±0.1×**12.5W**±0.2,**h10**km,**n37,** σ1s**67**/60,**Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**3.05**	**76**	*e*Pn	**Pn**	**02 54 44.3**	**+1.6**
PTEO				*e*Sn	**Sn**	**02 55 18.7**	**-0.6**
PTEO	**Sao Teotonio**	**3.05**	**76**	P	**Pn**	**02 54 44.3**	**+1.6**
PTEO				S	**Sn**	**02 55 18.7**	**-0.6**
PMAFR	**Mafra**	**3.26**	**49**	*e*Pn	**Pn**	**02 54 48.1**	**+2.5**
PMAFR				*e*Sn	**Sn**	**02 55 25.4**	**+1.0**
PMAFR	**Mafra**	**3.26**	**49**	P	**Pn**	**02 54 47.2**	**+1.6**
	0.9nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**02 55 24.1**	**-0.3**
	3.3nm,0.2s,SNR=7.9						
PNCL	**Nicolau / Gran**	**3.36**	**67**	*e*Pn	**Pn**	**02 54 48.8**	**+1.9**
PNCL				*e*Sn	**Sn**	**02 55 26.9**	**+0.1**
PNCL				A	A	02 55 33.5	
	2.1nm,0.6s						
PACT	**Alcochete**	**3.44**	**55**	*e*Sn	**Sn**	**02 55 29.8**	**+1.1**
MESJ	**Messejana**	**3.51**	**73**	*e*Sn	**Sn**	**02 55 30.2**	**-0.4**
MESJ	**Messejana**	**3.51**	**73**	S	**Sn**	**02 55 30.2**	**-0.4**
PCVE	**Castro Verde**	**3.60**	**77**	*e*Pn	**Pn**	**02 54 51.8**	**+1.5**
PCVE				*e*Sn	**Sn**	**02 55 31.5**	**-1.4**
PCVE				A	A	02 55 36.3	
	2.3nm,0.2s						
PCVE	**Castro Verde**	**3.60**	**77**	P	**Pn**	**02 54 51.8**	**+1.5**
PCVE				S	**Sn**	**02 55 31.5**	**-1.4**
	2.3nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.64**	**83**	*e*Pn	**Pn**	**02 54 51.9**	**+1.1**
PBDV				*e*Sn	**Sn**	**02 55 33.0**	**-0.8**
PBDV				A	A	02 55 39.6	
	2.5nm,0.5s						
PBDV	**Barranco-do-Ve**	**3.64**	**83**	P	**Pn**	**02 54 51.9**	**+1.1**
PBDV				S	**Sn**	**02 55 33.0**	**-0.8**
	2.5nm,0.5s						
PVAQ	**Vaqueiros**	**3.82**	**81**	*e*Pn	**Pn**	**02 54 54.5**	**+1.2**
PVAQ				*e*Sn	**Sn**	**02 55 37.4**	**-0.9**
PVAQ				A	A	02 55 44.9	
	1.9nm,0.6s						
PVAQ	**Vaqueiros**	**3.82**	**81**	P	**Pn**	**02 54 54.5**	**+1.2**
PVAQ				S	**Sn**	**02 55 37.4**	**-0.9**

ASAR	**Alice Springs**	**23.70**	**221**	P		**P**	**03 01 24.3**	**+0.8**
	0.8nm,0.6s,baz=56,slow=9.3,SNR=8.2							
STKA	**Stephens Creek**	**26.97**	**197**	P		**P**	**03 01 52.7**	**-0.4**
	1.9nm,0.8s,baz=6.3,slow=11,SNR=3.0							
ILAR	**Eielson Array**	**84.21**	**22**	P		**P**	**03 08 41.1**	**-1.0**
	0.2nm,0.9s,baz=256,slow=3.6,SNR=3.4							
TORD	**Torodi Ar. Bea**	**148.55**	**285**	PKPbc		**PKPbc**	**03 15 59.5**	**+0.7**
	0.4nm,0.6s,baz=76,slow=2.1,SNR=6.3							

MEX 22 03:03:44.4±0.6, 18°23N×101°91W, h7km±7km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.75**	**146**	*e*P	Pg	03 03 57.2	-1.7
ZIIG				*e*S	Sg	03 04 07.5	-1.1
MMIG	**Aquila**	**1.37**	**272**	*e*P	Pn	03 04 06.3	-3.7
MMIG				*e*S	Sb	03 04 23.4	-4.8
ARIG	**Puente Sto Nin**	**1.48**	**88**	*e*P	Pn	03 04 08.1	-3.5
ARIG				*e*S	Sn	03 04 26.3	-5.0
CAIG	**El Cayaco**	**1.96**	**127**	*e*P	Pn	03 04 15.4	-2.6
CAIG				*i* S	Sn	03 04 39.0	-3.9
PLIG	**Platanillo**	**2.29**	**86**	*i* P	Pn	03 04 19.7	-3.1
PLIG				*i* S	Sn	03 04 46.2	-5.1

*ATH **22** 03:10:31.1, 40°.91N×20°.73E, h14km±1km, MD3.0/10*
*TIR **22** 03:10:32.5, 40°.82N×20°.85E, h24km, ML3.8*
*BEO **22** 03:10:32.6±0.8, 40°.73N×20°.89E, h0km, ML1.9/5*
*CSEM **22** 03:10:33.0±0.2, 40°.81N×20°.80E, h2km, MD3.0, Error ellipse: s-maj=4.8km s-min=2.9km az=56.0*
*SKO **22** 03:10:34.7, 40°.84N×20°.95E, h20km, M1.6, ML1.8*
ISC 22 03:10:33.3±0.9, 40°.81N±0°.02×20°.81E±0°.02, h9km±8km, n46, σ0s82/78, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBN	**Korca**	**0.19**	**184**	*i* PG	**Pg**	**03 10 36.4**	**-0.9**
KBN				*i* SG	**Sg**	**03 10 40.8**	**+0.9**
KBN	**Korca**	**0.19**	**184**	*i* Pg	**Pg**	**03 10 36.4**	**-0.9**
KBN				*i* Sg	**Sg**	**03 10 40.8**	**+0.9**
FNA	**Florina**	**0.43**	**93**	*e*PB	**Pg**	**03 10 41.2**	**-0.6**
FNA				*e*SB	**Sb**	**03 10 48.5**	**-1.3**
FNA	**Florina**	**0.43**	**93**	*e*Pb	**Pg**	**03 10 41.2**	**-0.6**
FNA				*e*Sb	**Sb**	**03 10 48.5**	**-1.3**
NEST	**Nestorio**	**0.44**	**155**	*e*PG	**Pg**	**03 10 41.6**	**-0.3**
NEST				*e*SB	**Sb**	**03 10 49.4**	**-0.6**
NEST	**Nestorio**	**0.44**	**155**	*e*Pg	**Pg**	**03 10 41.6**	**-0.3**
NEST				*e*Sb	**Sb**	**03 10 49.4**	**-0.6**
KZN	**Kozani**	**0.89**	**124**	*e*PG	**Pg**	**03 10 49.6**	**-0.9**
KZN				*e*SB	**Sn**	**03 11 04.6**	**-0.6**
KZN	**Kozani**	**0.89**	**124**	*e*Pg	**Pg**	**03 10 49.6**	**-0.9**
KZN				*e*Sb	**Sn**	**03 11 04.6**	**-0.6**
TIR	**Tirane**	**0.89**	**307**	*i* PG	**Pg**	**03 10 50.5**	**0.0**
TIR				*i* SG	**Sn**	**03 11 06.5**	**+1.4**
TIR	**Tirane**	**0.89**	**307**	*e*Pg	**Pg**	**03 10 49.9**	**-0.6**
TIR				*e*Sg	**Sn**	**03 11 04.9**	**-0.2**
TIR	**Tirane**	**0.89**	**307**	*e*Pg	**Pg**	**03 10 49.9**	**-0.6**
TIR				*e*Sg	**Sn**	**03 11 04.9**	**-0.2**
SKO	**Skopje**	**1.25**	**22**	*e*Pn	**Pg**	**03 10 58.3**	**+0.9**
SKO				*e*Sn	**Sn**	**03 11 14.3**	**+0.3**
SKO	**Skopje**	**1.25**	**22**	*e*Pg	**Pn**	**03 10 56.8**	**-0.3**
SKO				*e*Sg	**Sn**	**03 11 13.8**	**-0.3**
SKO	**Skopje**	**1.25**	**22**	*e*Pg	**Pn**	**03 10 56.8**	**-0.3**
SKO	**Skopje**	**1.25**	**22**	*e*Pn	**Pg**	**03 10 58.3**	**+0.9**
SKO				*e*Sg	**Sn**	**03 11 13.8**	**-0.3**
SKO				*e*Sn	**Sn**	**03 11 14.3**	**+0.3**
IGT	**Igoumenitsa**	**1.33**	**196**	*e*PB	**Pb**	**03 10 58.3**	**-0.1**
IGT	**Igoumenitsa**	**1.33**	**196**	*e*Pb	**Pb**	**03 10 58.3**	**-0.1**
PUK	**Puka**	**1.41**	**331**	*i* PG	**Pn**	**03 10 59.0**	**-0.2**
PUK				*i* SG	Sn	03 11 11.1	-6.9
PUK	**Puka**	**1.41**	**331**	*i* Pg	**Pn**	**03 10 59.0**	**-0.2**
VAY	**Valandovo**	**1.43**	**69**	*e*Pn	**Pb**	**03 11 00.0**	**-0.1**
VAY				*e*Sn	**Sg**	**03 11 19.2**	**0.0**
VAY				*e*Lg	Lg	03 11 26.4	
	comp=E,18nm,0.9s						
VAY				*e*Lg	Lg	03 11 29.1	
	comp=N,28nm,0.8s						
VAY	**Valandovo**	**1.43**	**69**	*e*Pn	**Pb**	**03 11 00.0**	**-0.1**
VAY				*e*Sn	**Sg**	**03 11 19.2**	**0.0**
VAY				*e*Lg	Lg	03 11 29.0	
	comp=N,28nm,0.8s						
LIT	**Litokhoron**	**1.47**	**118**	*e*PB	**Pb**	**03 11 00.7**	**-0.1**
LIT				*e*SB	**Sg**	**03 11 22.5**	**+2.0**
LIT	**Litokhoron**	**1.47**	**118**	*e*Pb	**Pb**	**03 11 00.7**	**-0.1**
LIT				*e*Sb	**Sg**	**03 11 22.5**	**+2.0**
THL	**Klokotos Trika**	**1.55**	**143**	*e*PB	**Pb**	**03 11 01.7**	**-0.5**
THL				*e*SB	**Sg**	**03 11 24.5**	**+1.3**
THL	**Klokotos Trika**	**1.55**	**143**	*e*Pb	**Pb**	**03 11 01.7**	**-0.5**
THL				*e*Sb	**Sg**	**03 11 24.5**	**+1.3**
KNT	**Kendrikon**	**1.62**	**77**	*e*PB	**Pn**	**03 11 01.2**	**-0.9**
HORT	**Hortiatis**	**1.76**	**96**	*e*PG	**Pb**	**03 11 05.1**	**-0.7**
HORT	**Hortiatis**	**1.76**	**96**	*e*Pg	**Pb**	**03 11 05.1**	**-0.7**
SOH	**Sokhos**	**1.93**	**89**	*e*PN	**Pn**	**03 11 06.8**	**+0.4**
SOH				*e*SN	**Sb**	**03 11 32.2**	**-0.8**
SOH	**Sokhos**	**1.93**	**89**	*e*Pn	**Pn**	**03 11 06.8**	**+0.4**
SOH				*e*Sn	**Sb**	**03 11 32.2**	**-0.8**
PDG	**Podgorica**	**1.99**	**325**	*e*Pn	**Pb**	**03 11 08.8**	**-0.9**
PDG				*e*Sg	**Sg**	**03 11 38.0**	**+0.7**
PDG	**Podgorica**	**1.99**	**325**	*e*Pn	**Sg**	**03 11 08.8**	**-0.9**
PDG				*e*Sg	**Sg**	**03 11 38.0**	**+0.7**
AGG	**Agios Georgios**	**2.14**	**146**	*e*PN	**Pn**	**03 11 10.5**	**+1.3**
AGG				*e*SN	**Sb**	**03 11 38.9**	**+0.1**
AGG	**Agios Georgios**	**2.14**	**146**	*e*Pn	**Pn**	**03 11 10.5**	**+1.3**
AGG				*e*Sn	**Sb**	**03 11 38.9**	**+0.1**
BARS	**Barje**	**2.14**	**20**	*e*Pn	**Pn**	**03 11 09.6**	**+0.4**
BARS	**Barje**	**2.14**	**20**	*e*Pn	**Pn**	**03 11 09.6**	**+0.4**
SELS	**Selova**	**2.42**	**5**	*e*Pn	**Pn**	**03 11 13.6**	**+0.5**
SJES	**Sjenica**	**2.53**	**346**	*e*Pn	**Pn**	**03 11 16.2**	**+1.6**
SJES				*e*Sn	**Sb**	**03 11 49.6**	**-0.5**
IVAS	**Ivanjica**	**2.81**	**350**	*e*Pn	**Pn**	**03 11 20.2**	**+1.8**
IVAS	**Ivanjica**	**2.81**	**350**	*e*Pn	**Pn**	**03 11 20.2**	**+1.8**
STON	**Ston**	**3.10**	**313**	*e*Pn	**Pn**	**03 11 21.6**	**-0.8**
STON				Sn	**Sn**	**03 11 59.2**	**-0.5**
STON	**Ston**	**3.10**	**313**	*e*Pn	**Pn**	**03 11 21.6**	**-0.8**
STON				Sn	**Sn**	**03 11 59.1**	**-0.5**
BBLS	**Lazići**	**3.23**	**342**	*e*Pn	**Pn**	**03 11 25.3**	**+1.1**
BBLS	**Lazići**	**3.23**	**342**	*e*Pn	**Pn**	**03 11 25.3**	**+1.1**
NVLJ	**Novalja**	**5.76**	**313**	*e*Pn	**Pn**	**03 11 59.3**	**+0.4**
NVLJ				Sn	**Sn**	**03 13 05.2**	**+0.1**
NVLJ	**Novalja**	**5.76**	**313**	*e*Pn	**Pn**	**03 11 59.3**	**+0.4**
NVLJ				Sn	**Sn**	**03 13 05.2**	**+0.1**

*IDC **22** 03:10:50.2±1.3, 15°.84S×74°.64W, h0km, mb3.8/5, mb1 3.9/9, mb1mx3.8/34, mbtmp3.9/9, ML3.3/2, MS2.3/3, Ms1 3.2/3, ms1mx2.8/22, Error ellipse: s-maj=37.6km s-min=18.8km az=48.0*
*ISCJB **22** 03:10:54.4±0.6, 16.00S±0°.07×74°.7W±0°.1, h49km, mb3.8/6, MS3.4/2, Error ellipse: s-maj=17.1km s-min=6.1km az=149.8*
*NEIC **22** 03:10:55.0±0.7, 15°.93S×74°.74W, h35km, mb4.1/1, Error ellipse: s-maj=17.0km s-min=10.0km az=63.0*
ISC 22 03:10:55.8±0.7, 16°15S±0°.08×74°8W±0°.1, h49km, n27, σ2s93/21, mb3.8/6, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.60**	**334**	Pn	Pn	03 11 58.8	-4.1
	2.0nm,0.3s,baz=176,slow=13,SNR=3.5						
NNA				Sn	**Sn**	**03 12 52.0**	**-3.2**
	16nm,0.3s,baz=159,slow=14,SNR=3.3						
NNA	**Nana**	**4.60**	**334**	*e*Pn	Pn	03 11 57.9	-5.0
NNA				*e*S	**Sn**	**03 12 52.7**	**-2.5**
LPAZ	**La Paz**	**6.36**	**92**	Pn	**Pn**	**03 12 29.9**	**+2.3**
	2.9nm,0.3s,baz=274,slow=8.8,SNR=66						
LPAZ				Sn	Sn	03 13 50.2	+11
	baz=336,slow=20,SNR=2.1						
LVC	**Limon Verde**	**8.47**	**140**	Pn	**Pn**	**03 12 56.4**	**+0.3**
	102nm,0.3s,baz=308,slow=10,SNR=24						
LVC				Sn	**Sn**	**03 14 27.2**	**-3.4**
	15nm,0.3s,baz=27,slow=19,SNR=1.9						
LVC	**Limon Verde**	**8.47**	**140**	*e*Pn	**Pn**	**03 12 57.1**	**+0.9**
	8.4nm,0.6s						
LVC				Sn	**Sn**	**03 14 27.2**	**-3.4**
ATAH	**Atahualpa**	**9.64**	**338**	Pn	**Pn**	**03 13 13.0**	**+0.7**
	0.6nm,0.3s,baz=173,slow=8.1,SNR=2.1						
ATAH				Sn	**Sn**	**03 14 59.5**	**+0.1**
	0.6nm,0.3s,baz=119,slow=19,SNR=2.0						
SIV	**San Ignacio**	**13.15**	**91**	Pn	Pn	03 13 56.1	-3.9
	0.2nm,0.3s,baz=234,slow=19,SNR=3.1						
LCO	**Las Campanas**	**13.34**	**164**	*e*Pn	**Pn**	**03 14 03.1**	**+0.4**
SAML	**Samuel**	**13.36**	**59**	*e*Pn	Pn	03 13 59.1	-3.7
	5.3nm,0.9s						
CFAA	**Coronel Fontan**	**16.50**	**160**	Pn	**P**	**03 14 47.3**	**+1.4**
	baz=338,slow=11,SNR=5.5						
CFAA					Sn	**S**	**03 17 53.0**	**-2.8**
	0.0nm,0.3s,baz=291,slow=8.6,SNR=2.7						
CPUP	**Villa Florida**	**19.12**	**125**	LR	LR	03 24 04.0	
	comp=Z,47nm,18.7s,baz=266,slow=41						
PTGA	**Pitinga**	**21.15**	**45**	P	**P**	**03 15 34.0**	**-2.9**
	2.9nm,0.5s,baz=215,slow=12,SNR=5.9						
BDFB	**Brasilia**	**25.72**	**93**	P	**P**	**03 16 22.0**	**+0.1**
	2.0nm,0.8s,baz=258,slow=20,SNR=3.3						
TXAR	**Lajitas Array**	**53.14**	**328**	P	**P**	**03 20 08.3**	**-0.6**
	0.5nm,0.8s,baz=146,slow=7.2,SNR=4.2						
SNAA	**Sanae**	**69.11**	**161**	*e*P	**P**	**03 21 59.0**	**+2.5**
	1.0nm,0.5s						
DBIC	**Dimbokro**	**72.77**	**78**	LR	LR	03 53 20.3	
	comp=Z,21nm,18.4s,baz=355,slow=35						
TOA0	**Torodi Ar. Sit**	**80.97**	**74**	*e*P	**P**	**03 23 05.9**	**+0.1**
TORD	**Torodi Ar. Bea**	**80.97**	**74**	P	**P**	**03 23 06.4**	**+0.7**
	2.8nm,0.7s,baz=255,slow=5.1,SNR=35						
TORD					LR	LR	03 57 28.3	
	comp=Z,18nm,19.2s,baz=320,slow=35						
YKA	**Yellowknife Ar**	**84.39**	**343**	P	**P**	**03 23 22.0**	**-0.4**
	0.2nm,0.6s,baz=130,slow=7.2,SNR=3.4						
H11N3	**WAKE ISLAND Hyl**	**21.50**	**283**	T	T	05 42 50.0	
	baz=97						
H11N2	**WAKE ISLAND Hyl**	**21.51**	**283**	T	T	05 42 48.9	
	baz=97						
H11N1	**WAKE ISLAND Hyl**	**21.51**	**283**	T	T	05 42 48.9	
	baz=97						
H11S2	**WAKE ISLAND Hyl**	**21.53**	**282**	T	T	05 42 51.4	
	baz=103						
H11S1	**WAKE ISLAND Hyl**	**21.53**	**282**	T	T	05 42 49.2	
	baz=103						
H11S3	**WAKE ISLAND Hyl**	**21.55**	**282**	T	T	05 42 50.9	
	baz=103						
ZALV	**Zalesovo Beam**	**139.05**	**18**	PKP	**PKPdf**	**03 30 18.2**	**+1.3**
	0.5nn,0.3s,baz=327,slow=2.4,SNR=3.1						
SONM	**Songino Array**	**148.38**	**359**	PKPbc	**PKPbc**	**03 30 37.8**	**+0.8**
	0.8nm,0.6s,baz=353,slow=1.6,SNR=5.1						

*IDC **22** 03:13:34.8±0.6, 3°.03S×130°.04E, h0km, mb4.2/17, mb1 4.3/21, mb1mx4.2/31, mbtmp4.2/21, ML4.2/4, MS3.5/6, Ms1 3.5/6, ms1mx3.0/36, Error ellipse: s-maj=20.3km s-min=13.1km az=71.0*
*ISCJB **22** 03:13:36.4±1.2, 3°.02S±0°.03×130°.04E±0°.02, h21km±9km, mb4.3/26, MS3.3/4, Error ellipse: s-maj=5.5km s-min=4.0km az=10.0*
*MOS **22** 03:13:36.1±1.2, 3°.07S×130°.02E, h21km, mb4.5/8, Error ellipse: s-maj=15.6km s-min=8.5km az=123.1*
*NEIC **22** 03:13:37.6±2.6, 3°.05S×130°.07E, h19km±16km, mb4.4/6, Error ellipse: s-maj=7.0km s-min=5.6km az=224.0*
*BJI **22** 03:13:39.5, 2°.80S×130°.10E, h30km, mb4.5/4, mB4.6/3, Ms4.5/2, Ms7 4.0/2*
*DJA **22** 03:13:41.1±0.2, 3°S±3°×13°0E±°, h47km±18km, M4.8/3, mb5.0/3, mB5.5/1, MLv4.7/2, Mw(mB)5.0/1*
ISC 22 03:13:39.1±0.9, 2°.95S±0°.04×130°.08E±0°.03, h27km±6km, n84, σ1s49/92, mb4.3/26, MS3.3/4, 3C, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**1.22**	**251**	P	**Pb**	**03 14 01.9**	**+0.5**
MSAI				S	**Sb**	**03 14 18.5**	**+1.8**
BNDI	**Bandanaira**	**1.57**	**186**	P	**Pb**	**03 14 07.8**	**+0.3**
BNDI				S	**Sb**	**03 14 29.7**	**+2.8**
AAI	**Ambon**	**2.02**	**249**	P	**Pn**	**03 14 12.3**	**+0.9**
AAI				S	**Sb**	**03 14 38.2**	**-1.7**
AAI	**Ambon**	**2.02**	**249**	P	**Pn**	**03 14 12.3**	**+0.9**
	baz=2.1,SNR=18						
FAKI	**Fak Fak**	**2.17**	**89**	P	**Pn**	**03 14 14.4**	**+1.0**
FAKI				S	**Sb**	**03 14 43.0**	**-1.1**
FAKI	**Fak Fak**	**2.17**	**89**	P	**Pn**	**03 14 14.3**	**+0.8**
	baz=2.1,SNR=84						
FAKI	**Fak Fak**	**2.17**	**89**	*e*Pn	**Pn**	**03 14 13.9**	**+0.5**
FAKI				*e*S	**Sn**	**03 14 39.1**	**-0.4**
SIJI	**Sorong**	**2.38**	**30**	Pn	**Pn**	**03 14 16.6**	**+0.2**
	46nm,0.3s,baz=173,slow=23,SNR=277						
SIJI					Sn	**Sn**	**03 14 41.8**	**-3.0**
	67nm,0.3s,baz=244,slow=23,SNR=7.7						
SIJI					LR	LR	03 15 38.7	
	comp=Z,1μm,21.4s,baz=96,slow=50						
SWI	**Sorong**	**2.39**	**30**	P	**Pn**	**03 14 17.0**	**+0.6**
SWI				S	**Sn**	**03 14 44.8**	**0.0**
SWI	**Sorong**	**2.39**	**30**	P	**Pn**	**03 14 17.6**	**+1.1**
	baz=2.5,SNR=12						
NLAI	**Namlea**	**2.99**	**264**	P	**Pn**	**03 14 26.0**	**+1.3**
LBMI	**Labuha**	**3.45**	**312**	P	**Pn**	**03 14 31.2**	**+0.1**
LBMI				S	**Sn**	**03 15 10.6**	**-0.6**
SANI	**Sanana**	**4.18**	**282**	P	**Pn**	**03 14 39.4**	**-1.8**
SANI				S	**Sn**	**03 15 29.1**	**-0.2**
RKPI	**Ransiki, Papua**	**4.34**	**71**	P	**Pn**	**03 14 44.8**	**+1.5**
RKPI				S	**Sn**	**03 15 34.4**	**+1.4**
TNTI	**Ternate**	**4.59**	**324**	Pn	Pn	03 14 41.7	-5.0
TNTI				*e*S	**Sn**	**03 15 39.2**	**0.0**
BAKI	**Biak**	**6.27**	**74**	P	**Pn**	**03 15 11.2**	**+1.3**
	353nm,0.7s,4μm1.3nm						
BAKI				S	**Sn**	**03 16 22.4**	**+1.7**
	353nm,0.7s,4μm1.3nm						
LUWI	**Luwuk**	**7.55**	**284**	P	Pn	03 15 35.2	+7.8
	baz=7.7,SNR=4.2						
APSI	**Ampana**	**8.67**	**283**	P	**Pn**	**03 15 42.6**	**-0.2**
MRSI	**Marisa**	**8.82**	**293**	P	**Pn**	**03 15 43.0**	**-1.9**
BATI	**Baumata**	**9.62**	**221**	LR	LR	03 19 43.1	
	comp=Z,781nm,21.4s,baz=108,slow=39						
MTN	**Manton Dam**	**9.88**	**174**	P	**Pn**	**03 15 59.2**	**-0.3**
	baz=9.8,SNR=23						
KDU	**Kakadu**	**9.96**	**166**	P	**Pn**	**03 16 00.1**	**-0.5**
	baz=9.9,SNR=11						
GENI	**Genyem**	**10.08**	**88**	P	**Pn**	**03 16 04.3**	**+2.1**
BKSI	**Bulukumba**	**10.21**	**256**	P	**Pn**	**03 16 05.3**	**+1.4**
TTSI	**Tana Toraja**	**10.25**	**269**	P	**Pn**	**03 16 05.6**	**+1.1**
SPSI	**Sidrap Palu**	**10.34**	**264**	P	**Pn**	**03 16 06.9**	**+1.1**
PCI	**Palu**	**10.44**	**281**	P	**Pn**	**03 16 07.6**	**+0.5**
	71nm,1.0s						
KAPI	**Kappang**	**10.51**	**258**	Pn	**Pn**	**03 16 07.3**	**-0.7**
	2.2nm,0.3s,baz=133,slow=17,SNR=2.2						
JAY	**Jayapura**	**10.62**	**88**	Pn	**Pn**	**03 16 08.6**	**-1.1**
	0.4nm,0.3s,baz=288,slow=13,SNR=4.3						
MPSI	**Mapaga**	**10.69**	**288**	P	**Pn**	**03 16 10.0**	**-0.5**
WRAB	**Tennant Creek**	**17.39**	**166**	*e*P	**Pn**	**03 17 37.4**	**-2.5**
WRAB				pmax	pmax		
	comp=Z,17nm,1.0s						
WRAB	**Tennant Creek**	**17.39**	**166**	*e*Pn	**Pn**	**03 17 37.4**	**-2.5**
	comp=Z,17nm,1.0s						
WRAB				*e*S	Sn	03 20 33.9	-19
WRA	**Warramunga Arr**	**17.39**	**166**	P	**Pn**	**03 17 37.5**	**-2.5**
	comp=Z,1.4nm,0.3s,baz=347,slow=12,SNR=14						
WRA				S	Sn	03 20 36.5	-17
	comp=Z,0.3nm,0.3s,baz=354,slow=24,SNR=3.4						
PMG	**Port Moresby**	**18.14**	**111**	*e*P	**P**	**03 17 51.3**	**+1.9**
PMG				pmax	pmax		
	comp=Z,103nm,1.2s						
KSM	**Kuching**	**20.25**	**282**	*e*P	**P**	**03 18 12.9**	**+0.3**
	comp=Z,8.1nm,0.5s						
MTSU	**Mount Surprise**	**20.55**	**138**	P	Pn	03 18 17.1	-1.0
	baz=20,SNR=8.7						
AS31	**Alice Springs**	**20.92**	**170**	*e*P	**P**	**03 18 18.6**	**-1.2**
AS31				*e*S	**S**	**03 22 06.1**	**-5.7**
ASAR	**Alice Springs**	**20.92**	**170**	P	**P**	**03 18 18.8**	**-1.1**
	comp=Z,15nm,0.6s,baz=350,slow=11,SNR=116						
ASAR				S	S	03 22 01.6	-10
	comp=Z,2.6nm,0.9s,baz=351,slow=17,SNR=2.7						
CTA	**Charters Tower**	**23.22**	**138**	P	**P**	**03 18 44.0**	**-0.2**
	comp=Z,5.2nm,0.7s,baz=255,slow=14,SNR=3.6						
STKA	**Stephens Creek**	**30.75**	**161**	P	**P**	**03 19 51.5**	**-0.7**
	comp=Z,2.4nm,0.4s,baz=344,slow=7.8,SNR=11						
STKA	**Stephens Creek**	**30.75**	**161**	P	**P**	**03 19 51.5**	**-0.7**
STKA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
STKA	**Stephens Creek**	**30.75**	**161**	*e*P	**P**	**03 19 52.0**	**-0.2**
PSI	**Prapat**	**31.66**	**280**	P	**P**	**03 19 59.8**	**-0.9**
	comp=Z,9.8nm,0.9s,baz=146,slow=7.8,SNR=3.7						
JCJ	**Chichijima**	**32.08**	**21**	LR	LR	03 32 24.4	
	comp=Z,53nm,18.1s,baz=20,slow=35						
JNU	**Nakatsue**	**35.89**	**1**	LR	LR	03 36 32.8	
	comp=Z,76nm,18.2s,baz=112,slow=38						
CMAR	**Chiang Mai Arr**	**37.32**	**306**	P	**P**	**03 20 50.1**	**+0.7**
	comp=Z,2.6nm,0.6s,baz=132,slow=6.8,SNR=12						
CMAR	**Chiang Mai Arr**	**37.32**	**306**	*e*P	**P**	**03 20 50.5**	**+1.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CHTO	**Chiang Mai**	**37.50**	**306**	*e*P	**P**	**03 20 51.1**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CHTO	**Chiang Mai**	**37.50**	**306**	*e*P	**P**	**03 20 51.1**	**+0.1**
	comp=Z,6.2nm,0.8s						
MJAR	**Matsushiro Arr**	**40.02**	**10**	P	**P**	**03 21 11.6**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=187,slow=8.7,SNR=4.0						
MJAR				LR	LR	03 36 42.8	
	comp=Z,36nm,20.9s,baz=95,slow=35						
MJAR	**Matsushiro Arr**	**40.02**	**10**	P	**P**	**03 21 11.6**	**-0.2**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MJAR				MLR	MLR		
	comp=Z,36nm,20.9s						
KSRS	**Korea Array**	**40.25**	**357**	LR	LR	03 39 40.5	
	comp=Z,35nm,18.2s,baz=186,slow=39						
HHC	**Hu-ho-hao-te**	**46.76**	**341**	*e*P	P	03 22 09.8	+3.5
HHC				PP	**PP**	**03 23 59.5**	**+2.9**
HHC				S	**S**	**03 28 56.8**	**+2.0**
HHC				sS	sS	03 29 13.3	+5.0
HHC				SS	**SS**	**03 32 16.1**	**-5.5**
HHC				PMZ			
	comp=Z,20nm,1.1s						
HHC				PMZ			
	comp=Z,46nm,5.1s						
HHC				LN			
	comp=Z,100nm,12.9s						
HHC				LE			
	comp=Z,100nm,12.9s						
HHC				LZ			
	comp=Z,35nm,13.9s						
USRK	**Ussuriysk Ar.**	**46.97**	**2**	P	**P**	**03 22 08.8**	**+1.2**
	comp=Z,2.0nm,0.8s,baz=203,slow=12,SNR=4.6						
GTA	**Gaotai**	**50.51**	**330**	*e*P	**P**	**03 22 36.4**	**+1.2**
GTA				pP	**pP**	**03 22 41.0**	**-2.5**
GTA				PMZ			
	comp=Z,4.0nm,1.1s						
SONM	**Songino Array**	**54.66**	**341**	P	**P**	**03 23 06.5**	**+0.7**
	comp=Z,2.9nm,1.0s,baz=155,slow=6.7,SNR=14						
ZAK	**Zakamensk**	**57.90**	**340**	*e*P	**P**	**03 23 29.7**	**+0.9**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MK31	**Makanchi Array**	**64.92**	**326**	*e*P	**P**	**03 24 16.7**	**+0.4**
MK31	**Makanchi Array**	**64.92**	**326**	*e*P	**P**	**03 24 16.7**	**+0.4**
MKAR	**Makanchi Array**	**64.92**	**326**	P	**P**	**03 24 16.3**	**0.0**
	comp=Z,0.6nm,0.4s,baz=122,slow=8.2,SNR=9.1						
MKAR	**Makanchi Array**	**64.92**	**326**	*c*e*P**	**P**	**03 24 16.6**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SEY	**Seymchan**	**67.84**	**11**	P	**P**	**03 24 35.0**	**+0.4**
	comp=Z,4.4nm,0.8s,baz=199,slow=6.1,SNR=8.0						
SEY	**Seymchan**	**67.84**	**11**	⇑*i*P	**P**	**03 24 37.2**	**+2.6**
ZALV	**Zalesovo Beam**	**68.02**	**333**	P	**P**	**03 24 36.2**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=106,slow=11,SNR=4.1						
KURBB	**Kurchatov Arra**	**69.14**	**328**	P	**P**	**03 24 43.1**	**+0.2**
	comp=Z,3.0nm,0.6s,baz=128,slow=5.7,SNR=29						
KURK	**Kurchatov**	**69.14**	**328**	P	**P**	**03 24 43.2**	**+0.3**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KURK	**Kurchatov**	**69.14**	**328**	*e*P	**P**	**03 24 42.7**	**-0.3**
	comp=Z,5.0nm,0.8s						
BVAR	**Borovoye Array**	**74.71**	**327**	P	**P**	**03 25 15.5**	**-0.8**
	comp=Z,2.6nm,0.9s,baz=134,slow=8.5,SNR=7.2						
BRVK	**Borovoye**	**74.78**	**327**	*e*P	**P**	**03 25 17.6**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BILL	**Bilibino**	**75.18**	**13**	*e*P	P	03 25 24.1	+5.3
BILL				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GEYT	**Alibeck**	**77.69**	**310**	P	**P**	**03 25 33.7**	**0.0**
	comp=Z,1.1nm,0.3s,baz=131,slow=7.9,SNR=2.6						
MAW	**Mawson**	**78.73**	**201**	P	**P**	**

DBIC	**Dimbokro**	**59.19**	**261**	P	**P**	**03 28 19.2**	**-1.0**
	comp=E,5.1nm,1.1s,baz=45,slow=5.7,SNR=1.9						
YKA	**Yellowknife Ar**	**90.24**	**355**	P	**P**	**03 31 18.8**	**-0.3**
	comp=E,0.1nm,0.5s,baz=7.8,slow=3.8,SNR=2.9						

IDC 22 03:22:44.4±2.4, 6°29S×150°56E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/35, mbtmp3.8/4, ML1.7/1, Error ellipse: s-maj=69.8km s-min=36.4km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.58**	**227**	Pn	Pn	03 23 56.1	+1.2
	2.5nm,0.3s,baz=346,slow=4.2,SNR=3.2						
PMG				Sn	Sn	03 24 48.2	-0.7
	0.8nm,0.3s,baz=106,slow=20,SNR=3.0						
WRA	**Warramunga Arr**	**20.80**	**228**	P	P	03 27 27.0	-0.5
	3.4nm,0.8s,baz=54,slow=11,SNR=12						
ASAR	**Alice Springs**	**23.56**	**221**	P	P	03 27 57.6	+0.8
	0.9nm,0.7s,baz=51,slow=9.7,SNR=7.5						
STKA	**Stephens Creek**	**26.80**	**197**	P	P	03 28 26.2	-0.2
	0.6nm,0.3s,baz=6.2,slow=18,SNR=6.4						
TORD	**Torodi Ar. Bea**	**148.59**	**285**	PKPbc	PKPbc	03 42 33.5	-1.0
	0.4nm,0.6s,baz=72,slow=2.6,SNR=7.9						

*BJI **22** 03:23:55.1, 4.1°06S×138.1°96E, h94km, mb5.0/34, mB5.1/25*
*MOS **22** 03:23:56.3±0.9, 3.1°69S×138.1°48E, h72km, mb5.0/12, Error ellipse: s-maj=12.8km s-min=7.0km az=101.7*
*ISCJB **22** 03:23:57.9±0.3, 3.1°76S±0.1°02×138.1°69E±0.1°02, h85km±3km, mb4.6/41, Error ellipse: s-maj=4.0km s-min=3.1km az=175.5*
*NEIC **22** 03:23:59.0±0.6, 3.1°75S×138.1°56E, h84km±6km, mb4.9/21, Error ellipse: s-maj=6.2km s-min=3.8km az=99.0*
*DJA **22** 03:24:00.0±0.2, 4.1°S±2.1°×137.1°9E±0.1°, h69km±4km, M5.0/7, mb5.0/7, mB5.6/2, MLv5.0/2, Mw(mB)5.1/2*
*IDC **22** 03:24:00.4±0.6, 3.1°58S×138.1°74E, h94km±5km, mb4.2/18, mb1 4.4/23, mb1mx4.4/25, mbtmp4.6/23, MS2.9/2, Ms1 2.9/2, ms1mx2.6/31, Error ellipse: s-maj=12.2km s-min=8.3km az=134.0*

ISC 22 03:24:00.2±0.3, 3.1°80S±0.1°03×138.1°69E±0.1°04, h97km±2km, h97km:pP-P,n169,σ1ŝ46/206, mb4.8/41, 2C-1D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**1.79**	**1**	P	Pn	**03 24 27.3**	**-2.7**
SMPI				S	**Sn**	**03 24 49.3**	**-3.4**
GENI	**Genyem**	**1.90**	**51**	P	**Pn**	**03 24 29.0**	**-2.4**
GENI				S	**Sn**	**03 24 51.5**	**-3.6**
JAY	**Jayapura**	**2.38**	**58**	P	**Pn**	**03 24 35.5**	**-2.2**
JAY				S	**Sn**	**03 25 03.3**	**-3.1**
JAY	**Jayapura**	**2.38**	**58**	P	**Pn**	**03 24 35.7**	**-2.0**
	53nm,0.3s,baz=227,slow=12,SNR=128						
JAY				S	**Sn**	**03 25 03.1**	**-3.3**
	226nm,0.3s,baz=233,slow=20,SNR=15						
JAY				LR	LR	03 25 26.3	
	comp=Z,195nm,19.8s,baz=316,slow=38						
SRPI	**Serui, Papua**	**3.11**	**308**	P	**Pn**	**03 24 46.1**	**-1.2**
BAKI	**Biak**	**3.66**	**315**	P	Pn	03 24 51.6	-3.1
BAKI				S	**Sn**	**03 25 35.4**	**-1.5**
RKPI	**Ransiki, Papua**	**5.05**	**297**	P	**Pn**	**03 25 12.8**	**-0.8**
RKPI				S	**Sn**	**03 26 10.4**	**-0.3**
FAKI	**Fak Fak**	**6.49**	**278**	P	**Pn**	**03 25 32.0**	**-1.2**
	124nm,0.7s,1µm0.8nm						
FAKI				S	**Sn**	**03 26 46.4**	**+0.6**
	124nm,0.7s,1µm0.8nm						
FAKI	**Fak Fak**	**6.49**	**278**	P	**Pn**	**03 25 32.1**	**-1.2**
	baz=6.3,SNR=58						
FAKI	**Fak Fak**	**6.49**	**278**	*e*Pn	**Pn**	**03 25 31.9**	**-1.2**
FAKI				*e*S	**Sn**	**03 26 43.9**	**-1.9**
SIJI	**Sorong**	**7.97**	**291**	P	**Pn**	**03 25 52.4**	**-1.0**
	26nm,0.3s,baz=98,slow=9.1,SNR=58						
SIJI				S	Sn	03 27 14.7	-7.2
	1.5nm,0.3s,baz=127,slow=20,SNR=2.8						
SWI	**Sorong**	**7.97**	**291**	P	**Pn**	**03 25 52.9**	**-0.5**
SWI				S	**Sn**	**03 27 22.3**	**+0.2**
SWI	**Sorong**	**7.97**	**291**	P	**Pn**	**03 25 54.0**	**+0.6**
	baz=7.9,SNR=12						
SAUI	**Saumlaki**	**8.45**	**240**	P	**Pn**	**03 26 00.9**	**+1.1**
BNDI	**Bandanaira**	**8.79**	**265**	P	**Pn**	**03 26 04.8**	**+0.2**
MSAI	**Masohi**	**9.75**	**272**	P	**Pn**	**03 26 17.6**	**0.0**
PMG	**Port Moresby**	**10.09**	**124**	P	**Pn**	**03 26 24.8**	**+2.6**
	7.9nm,0.3s,baz=300,slow=6.0,SNR=26						
PMG				S	**Sn**	**03 28 11.4**	**-2.2**
	1.5nm,0.3s,baz=208,slow=18,SNR=3.0						
PMG	**Port Moresby**	**10.09**	**124**	*e*P	**Pn**	**03 26 25.0**	**+2.8**
PMG				*e*S	**Sn**	**03 28 13.5**	**0.0**
PMG	**Port Moresby**	**10.09**	**124**	*e*Pn	**Pn**	**03 26 25.0**	**+2.8**
PMG				*e*S	**Sn**	**03 28 13.5**	**0.0**
AAI	**Ambon**	**10.47**	**270**	P	**Pn**	**03 26 27.0**	**-0.5**
KDU	**Kakadu**	**10.76**	**214**	P	**Pn**	**03 26 29.6**	**-1.8**
	baz=11,SNR=64						
COEN	**Coen**	**11.02**	**157**	P	**Pn**	**03 26 34.8**	**-0.1**
	baz=11,SNR=60						
COEN	**Coen**	**11.02**	**157**	*e*Pn	**Pn**	**03 26 34.5**	**-0.5**
COEN				*e*S	**Sn**	**03 28 32.1**	**-4.2**
NLAI	**Namlea**	**11.58**	**272**	P	**Pn**	**03 26 42.2**	**-0.3**
LBMI	**Labuha**	**11.61**	**285**	P	**Pn**	**03 26 42.6**	**-0.3**
MTN	**Manton Dam**	**11.69**	**219**	P	**Pn**	**03 26 42.0**	**-1.8**
	baz=12,SNR=32						
MTN	**Manton Dam**	**11.69**	**219**	*e*Pn	**Pn**	**03 26 42.5**	**-1.3**
SANI	**Sanana**	**12.80**	**277**	P	**Pn**	**03 26 57.2**	**-1.5**
MTSU	**Mount Surprise**	**15.28**	**159**	P	**P**	**03 27 32.8**	**-0.5**
	baz=15,SNR=35						
KNRA	**Kununurra**	**15.32**	**219**	P	**P**	**03 27 32.5**	**-1.3**
	baz=15,SNR=11						
SOEI	**Soe**	**15.49**	**247**	P	**Pn**	**03 27 34.3**	**+0.8**
SOEI	**Soe**	**15.49**	**247**	*e*Pn	**Pn**	**03 27 31.4**	**-2.1**
	70nm,0.8s						
KDI	**Kendari**	**16.04**	**269**	P	**Pn**	**03 27 40.8**	**+0.6**
	28nm,0.7s						
LUWI	**Luwuk**	**16.14**	**279**	P	**Pn**	**03 27 41.5**	**0.0**
BBSI	**Bau Bau**	**16.15**	**263**	P	**Pn**	**03 27 42.0**	**+0.3**
BATI	**Baumata**	**16.21**	**246**	P	**P**	**03 27 43.3**	**-0.5**
BATI	**Baumata**	**16.21**	**246**	P	**P**	**03 27 44.9**	**+1.1**
	6.4nm,0.3s,baz=107,slow=19,SNR=3.0						
BATI				S	**Sn**	**03 30 36.6**	**-5.5**
	5.9nm,0.3s,baz=117,slow=6.8,SNR=3.3						
WB0	**Warramunga Arr**	**16.42**	**194**	*e*Pn	**Pn**	**03 27 44.2**	**-0.7**
WB9	**Warramunga Arr**	**16.44**	**194**	*e*Pn	**Pn**	**03 27 43.9**	**-1.3**
WB8	**Warramunga Arr**	**16.46**	**194**	*e*Pn	**Pn**	**03 27 44.8**	**-0.7**
WB7	**Warramunga Arr**	**16.49**	**194**	*e*Pn	**Pn**	**03 27 44.7**	**-1.1**
WB6	**Warramunga Arr**	**16.51**	**194**	*e*Pn	**Pn**	**03 27 44.9**	**-1.2**
WB5	**Warramunga Arr**	**16.53**	**194**	*e*Pn	**Pn**	**03 27 45.8**	**-0.5**
WB4	**Warramunga Arr**	**16.56**	**194**	*e*Pn	**Pn**	**03 27 46.1**	**-0.5**
WR0	**Warramunga Arr**	**16.57**	**194**	*e*Pn	**Pn**	**03 27 46.0**	**-0.8**
WR9	**Warramunga Arr**	**16.57**	**194**	*e*Pn	**Pn**	**03 27 46.1**	**-0.8**
WR8	**Warramunga Arr**	**16.57**	**194**	*e*Pn	**Pn**	**03 27 45.6**	**-1.2**
WB3	**Warramunga Arr**	**16.58**	**194**	*e*Pn	**Pn**	**03 27 46.1**	**-0.8**
WC2	**Warramunga Arr**	**16.58**	**194**	*e*Pn	**Pn**	**03 27 46.4**	**-0.5**
WR7	**Warramunga Arr**	**16.58**	**194**	*e*Pn	**Pn**	**03 27 45.8**	**-1.1**
WC1	**Warramunga Arr**	**16.58**	**194**	*e*Pn	**Pn**	**03 27 46.5**	**-0.5**
WR5	**Warramunga Arr**	**16.59**	**194**	*e*Pn	**Pn**	**03 27 47.3**	**+0.3**
WRAB	**Tennant Creek**	**16.59**	**194**	*e*P	**Pn**	**03 27 44.9**	**-2.1**
WRAB				*e*S	Sn	03 30 41.2	-10
WRAB				pmax	pmax		
	comp=Z,47nm,0.7s						
WRAB	**Tennant Creek**	**16.59**	**194**	*e*Pn	**Pn**	**03 27 44.9**	**-2.1**
	comp=Z,47nm,0.7s						
WRAB				*e*S	Sn	03 30 41.2	-10
WR4	**Warramunga Arr**	**16.59**	**194**	*e*Pn	**P**	**03 27 48.0**	**+0.1**
WR3	**Warramunga Arr**	**16.59**	**194**	*e*Pn	**Pn**	**03 27 46.9**	**-0.2**
WB2	**Warramunga Arr**	**16.60**	**194**	*e*Pn	**Pn**	**03 27 46.1**	**-1.0**
WR2	**Warramunga Arr**	**16.60**	**194**	*e*Pn	**Pn**	**03 27 46.6**	**-0.6**
WR1	**Warramunga Arr**	**16.60**	**194**	*e*Pn	**Pn**	**03 27 46.3**	**-0.9**
WRA	**Warramunga Arr**	**16.60**	**194**	P	**Pn**	**03 27 45.8**	**-1.4**
	comp=Z,2.7nm,0.3s,baz=13,slow=13,SNR=22						
WRA				S	Sn	03 30 41.5	-10
	comp=Z,3.2nm,0.3s,baz=9.2,slow=22,SNR=7.6						
WRB	**Warramunga Arr**	**16.61**	**194**	*e*Pn	**Pn**	**03 27 46.8**	**-0.6**
WC4	**Warramunga Arr**	**16.62**	**194**	*e*Pn	**Pn**	**03 27 46.3**	**-1.1**
QIS	**Mount Isa**	**16.68**	**177**	P	**Pn**	**03 27 47.6**	**-0.6**
	baz=17,SNR=35						
APSI	**Ampana**	**17.27**	**279**	P	**P**	**03 27 55.7**	**+0.3**
CTA	**Charters Tower**	**17.79**	**156**	P	**Pn**	**03 28 03.3**	**+1.6**
	comp=Z,1.9nm,0.3s,baz=328,slow=12,SNR=16						
CTAO	**Charters Tower**	**17.79**	**156**	*e*P	**Pn**	**03 28 02.6**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,27nm,0.6s						
CTAO	**Charters Tower**	**17.79**	**156**	*e*Pn	**Pn**	**03 28 02.6**	**+0.9**
	comp=Z,27nm,0.6s						
AS16	**Alice Springs**	**20.25**	**193**	*e*Pn	Pn	03 28 30.7	-0.1
AS06	**Alice Springs**	**20.25**	**193**	*e*Pn	Pn	03 28 30.9	0.0
AS15	**Alice Springs**	**20.26**	**193**	*e*Pn	Pn	03 28 30.7	-0.2
AS05	**Alice Springs**	**20.26**	**193**	*e*Pn	Pn	03 28 31.0	+0.1
AS17	**Alice Springs**	**20.27**	**193**	*e*Pn	Pn	03 28 30.9	0.0
AS07	**Alice Springs**	**20.27**	**193**	*e*Pn	Pn	03 28 31.1	0.0
AS14	**Alice Springs**	**20.27**	**193**	*e*Pn	Pn	03 28 30.9	-0.1
AS04	**Alice Springs**	**20.27**	**193**	*e*Pn	Pn	03 28 31.0	-0.1
AS13	**Alice Springs**	**20.28**	**193**	*e*Pn	Pn	03 28 30.8	-0.3
AS31	**Alice Springs**	**20.29**	**193**	*e*P	**P**	**03 28 29.2**	**+0.8**
AS31				*e*S	**S**	**03 32 07.9**	**-2.7**
ASAR	**Alice Springs**	**20.29**	**193**	P	Pn	03 28 31.0	-0.2
	comp=Z,17nm,0.6s,baz=16,slow=12,SNR=60						
ASAR				S	**S**	**03 32 06.4**	**-4.3**
	comp=Z,2.0nm,0.5s,baz=4.5,slow=13,SNR=3.7						
HNR	**Honiara**	**21.84**	**106**	LR	LR	03 37 55.9	
	comp=Z,47nm,19.1s,baz=168,slow=38						
QLP	**Quilpie**	**23.27**	**167**	P	**P**	**03 29 03.7**	**+4.3**
	baz=23,SNR=4.3						
WRKA	**Warakurna**	**23.37**	**204**	P	**P**	**03 29 00.5**	**+0.1**
	baz=23,SNR=33						
EIDS	**Eidsvold**	**24.53**	**152**	P	**P**	**03 29 13.6**	**+2.7**
	baz=25,SNR=3.2						
STKA	**Stephens Creek**	**28.07**	**175**	P	P	03 29 45.8	+3.1
	comp=Z,1.1nm,0.5s,baz=345,slow=9.7,SNR=4.3						
STKA				pP	pP	03 30 05.7	+1.3
	comp=Z,3.3nm,0.6s,baz=335,slow=9.1,SNR=4.4						
STKA	**Stephens Creek**	**28.07**	**175**	*e*P	**P**	**03 29 44.1**	**+1.5**
STKA				*PP	**pP**	**03 30 05.7**	**+1.3**
STKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
STKA	**Stephens Creek**	**28.07**	**175**	*e*P	**P**	**03 29 44.1**	**+1.5**
	comp=Z,0.9nm,0.5s						
STKA				pP	**pP**	**03 30 05.7**	**+1.3**
FORT	**Forrest**	**28.65**	**199**	*e*P	**P**	**03 29 47.4**	**-0.5**
	comp=Z,32nm,0.7s						
HTT	**Hallett**	**29.48**	**180**	P	**P**	**03 29 57.3**	**+2.1**
	baz=30,SNR=3.5						
QIZ	**Qiongzhong**	**36.34**	**310**	P	**P**	**03 30 54.6**	**-0.5**
QIZ				pP	**pP**	**03 31 15.8**	**-1.5**
QIZ				sP	**sP**	**03 31 27.1**	**-1.3**
QIZ				S	**S**	**03 36 29.4**	**+0.1**
QIZ				PMZ			
	comp=Z,310nm,4.0s						
JNU	**Nakatsue**	**37.46**	**349**	P	**P**	**03 31 01.8**	**-2.6**
	comp=Z,24nm,1.0s,baz=223,slow=2.2,SNR=11						
JNU	**Nakatsue**	**37.46**	**349**	*e*P	**P**	**03 31 03.8**	**-0.6**
	comp=Z,14nm,1.1s						
MJAR	**Matsushiro Arr**	**40.13**	**359**	P	**P**	**03 31 24.2**	**-2.4**
	comp=Z,1.1nm,0.5s,baz=176,slow=11,SNR=5.0						
NJ2	**Nanjing**	**40.33**	**334**	*e*P	**P**	**03 31 28.3**	**0.0**
NJ2				PMZ			
	comp=Z,30nm,1.0s						
WHN	**Wuhan**	**41.32**	**327**	⇑P	**P**	**03 31 37.4**	**+0.9**
KSAR	**Wonju Array Be**	**42.24**	**347**	P	**P**	**03 31 43.5**	**-0.4**
KSAR	**Wonju Array Be**	**42.24**	**347**	P	**P**	**03 31 43.5**	**-0.4**
KSRS	**Korea Array**	**42.25**	**347**	P	**P**	**03 31 43.5**	**-0.4**
	comp=Z,7.1nm,0.7s,baz=158,slow=8.5,SNR=30						
KSRS	**Korea Array**	**42.25**	**347**	P	**P**	**03 31 43.5**	**-0.4**
KSRS				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GYA	**Guiyang**	**43.18**	**316**	*e*P	**P**	**03 31 52.0**	**+0.2**
GYA				pP	**pP**	**03 32 15.4**	**+0.8**
GYA				sP	**sP**	**03 32 26.3**	**+0.7**
GYA				PP	**PP**	**03 33 35.6**	**+1.5**
GYA				PcP	**PcP**	**03 33 41.8**	**+2.0**
GYA				ScP	**ScP**	**03 37 22.0**	**-0.5**
GYA				S	**S**	**03 38 11.5**	**-0.1**
GYA				sS	**sS**	**03 38 51.0**	**+0.3**
GYA				SS	SS	03 41 19.4	-8.8
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
GYA				PMZ			
	comp=Z,110nm,5.0s						
GYA				LN			
	comp=Z,470nm,17.8s						
GYA				LE			
	comp=Z,410nm,18.0s						
GYA				LZ			
	comp=Z,480nm,17.6s						
CMAR	**Chiang Mai Arr**	**44.97**	**301**	P	**P**	**03 32 06.0**	**-0.1**
	comp=Z,4.5nm,0.8s,baz=126,slow=6.4,SNR=13						
CMAR	**Chiang Mai Arr**	**44.97**	**301**	P	**P**	**03 32 06.0**	**-0.1**
CHTO	**Chiang Mai**	**45.12**	**301**	*e*P	**P**	**03 32 06.2**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CHTO	**Chiang Mai**	**45.12**	**301**	*e*P	**P**	**03 32 06.2**	**-1.1**
	comp=Z,2.3nm,0.6s						
KMI	**Kunming**	**45.21**	**311**	P	**P**	**03 32 08.5**	**+0.3**
KMI				pP	pP	03 32 25.9	-5.2
KMI				PMZ			
	comp=Z,6.0nm,1.1s						
KMI				PMZ			
	comp=Z,97nm,4.3s						
KMI				LZ			
	comp=Z,50nm,31.8s						
CD2	**Chengdu**	**47.97**	**319**	P	**P**	**03 32 28.3**	**-1.2**
CD2				pP	**pP**	**03 32 51.9**	**-0.7**
CD2				sP	**sP**	**03 33 02.9**	**-0.6**
CD2				PP	**PP**	**03 34 22.1**	**-0.3**
CD2				S	**S**	**03 39 20.6**	**+0.3**
CD2				sS	**sS**	**03 40 00.3**	**+0.3**
CD2				SS	**SS**	**03 42 52.3**	**+1.8**
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,6.7s						
CD2				LN			
	comp=Z,510nm,5.5s						
CD2				LZ			
	comp=Z,280nm,5.5s						
USRK	**Ussuriysk Ar.**	**48.16**	**354**	P	**P**	**03 32 30.2**	**-0.3**
	comp=Z,10.0nm,0.6s,baz=187,slow=7.5,SNR=30						
CN2	**Changchun**	**48.86**	**347**	*e*P	P	03 32 39.3	+3.3
CN2				*e*S	**S**	**03 39 35.6**	**+3.4**
CN2				PMZ			
	comp=Z,10.0nm,0.6s						
CN2				PMZ			
	comp=Z,200nm,3.0s						
MDJ	**Mudanjiang**	**48.88**	**351**	P	**P**	**03 32 36.1**	**0.0**
MDJ				PMZ			
	comp=Z,21nm,0.8s						
MDJ				PMZ			
	comp=Z,64nm,5.2s						
MDJ	**Mudanjiang**	**48.88**	**351**	*e*P	**P**	**03 32 36.2**	**0.0**
	comp=Z,5.9nm,0.8s						
YSS	**Yuzh-Sakhalins**	**50.66**	**4**	*e*P	**P**	**03 32 49.8**	**+0.2**
YSS				pmax	pmax		
	comp=Z,28nm,1.4s						
HHC	**Hu-ho-hao-te**	**50.89**	**334**	*e*P	**P**	**03 32 54.0**	**+2.4**
HHC				PP	**PP**	**03 34 52.9**	**+4.0**
HHC				S	**S**	**03 40 02.1**	**+1.3**
HHC				sS	**sS**	**03 40 42.9**	**+2.1**
HHC				SS	**SS**	**03 43 36.0**	**-1.0**
HHC				PMZ			
	comp=Z,17nm,0.9s						
HHC				PMZ			
	comp=Z,120nm,9.9s						
HHC				LN			
	comp=Z,100nm,17.3s						
HHC				LE			
	comp=Z,140nm,14.8s						
HHC				LZ			
	comp=Z,85nm,17.3s						
LZH	**Lanzhou**	**51.34**	**324**	*e*P	**P**	**03 32 55.3**	**+0.2**
LZH				pP	**pP**	**03 33 18.5**	**+0.1**
LZH				sP	**sP**	**03 33 30.0**	**+0.7**
LZH				PP	**PP**	**03 34 55.0**	**+1.9**
LZH				PMZ			
	comp=Z,25nm,1.3s						
LZH				PMZ			
	comp=Z,86nm,7.2s						
LZH				LN			
	comp=Z,410nm,13.8s						
LZH				LE			
	comp=Z,430nm,14.2s						
LZH				LZ			
	comp=Z,500nm,18.3s						
KLR	**Kul'dur**	**53.16**	**354**	*e*P	P	03 33 04.0	-4.1
KLR				pmax	pmax		
	comp=Z,70nm,1.8s						
GTA	**Gaotai**	**55.93**	**324**	*e*P	**P**	**03 33 28.8**	**+0.3**
GTA				pP	**pP**	**03 33 53.1**	**+0.9**
GTA				sP	**sP**	**03 34 03.3**	**+0.3**
GTA				PMZ			
	comp=Z,12nm,0.8s						
SONM	**Songino Array**	**58.69**	**335**	P	**P**	**03 33 47.7**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=151,slow=8.0,SNR=8.3						
PETK	**Petropavlovsk-**	**58.92**	**13**	P	**P**	**03 33 49.3**	**+0.2**
	comp=Z,8.7nm,1.0s,baz=157,slow=8.0,SNR=5.8						
ZAK	**Zakamensk**	**61.96**	**335**	*i* P	**P**	**03 34 10.0**	**0.0**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
TLY	**Talaya**	**62.80**	**336**	P	**P**	**03 34 15.2**	**-0.3**
	comp=Z,1.6nm,0.4s,baz=177,slow=4.2,SNR=3.8						
TLY	**Talaya**	**62.80**	**336**	*e*P	**P**	**03 34 15.6**	**+0.2**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MA2	**Magadan**	**63.90**	**7**	*e*P	**P**	**03 34 23.4**	**+0.9**
BOD	**Bodaibo**	**64.56**	**346**	*e*P	**P**	**03 34 25.5**	**-1.3**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.5s						
WMQ	**Urumqi**	**65.85**	**322**	P	**P**	**03 34 35.8**	**+0.2**
WMQ				pP	**pP**	**03 34 59.4**	**-0.5**
WMQ				PcP	**PcP**	**03 35 07.8**	**+2.0**
WMQ				PMZ			
	comp=Z,17nm,1.0s						
WMQ				PMZ			
	comp=Z,120nm,6.0s						
WMQ				LN			
	comp=Z,58nm,17.0s						
WMQ				LZ			
	comp=Z,17nm,17.0s						
YAK	**Yakutsk**	**66.01**	**355**	*e*P	**P**	**03 34 34.8**	**-1.3**
YAK				pmax	pmax		
	comp=Z,12nm,0.7s						
SEY	**Seymchan**	**67.36**	**7**	P	**P**	**03 34 44.5**	**-0.2**
	comp=Z,4.8nm,0.9s,baz=173,slow=6.7,SNR=8.9						
SEY	**Seymchan**	**67.36**	**7**	*e*P	**P**	**03 34 45.7**	**+1.0**
MK31	**Makanchi Array**	**70.63**	**323**	*e*P	**P**	**03 35 05.4**	**0.0**
MK31	**Makanchi Array**	**70.63**	**323**	*e*P	**P**	**03 35 05.4**	**0.0**
MKAR	**Makanchi Array**	**70.63**	**323**	P	**P**	**03 35 05.6**	**+0.2**
	comp=Z,9.4nm,0.7s,baz=113,slow=8.1,SNR=78						
MKAR	**Makanchi Array**	**70.63**	**323**	P	**P**	**03 35 05.6**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KSH	**Kashi**	**71.81**	**314**	P	**P**	**03 35 14.3**	**+1.5**
KSH				PcP	**PcP**	**03 35 33.4**	**+2.2**
KSH				pP	**pP**	**03 35 40.3**	**+2.8**
KSH				S	**S**	**03 44 21.5**	**-4.4**
KSH				SKS	**SKSac**	**03 45 05.6**	**-2.5**
KSH				sS	**ScS**	**03 45 10.3**	**+0.3**
KSH				PMZ			
	comp=Z,320nm,4.8s						
KSH				LN			
	comp=Z,110nm,3.9s						
KSH				LE			
	comp=Z,130nm,3.9s						
KSH				LZ			
	comp=Z,200nm,7.2s						
ZALV	**Zalesovo Beam**	**72.86**	**330**	P	**P**	**03 35 17.6**	**-0.8**
	comp=Z,3.1nm,0.6s,baz=114,slow=5.5,SNR=9.6						
BILL	**Bilibino**	**74.23**	**10**	*e*P	**P**	**03 35 28.0**	**+1.7**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KURK	**Kurchatov**	**74.59**	**325**	*e*P	**P**	**03 35 28.5**	**-0.2**
KURK				pmax	pmax		
	comp=Z,14nm,0.7s						
KURK	**Kurchatov**	**74.59**	**325**	*e*P	**P**	**03 35 28.5**	**-0.2**
	comp=Z,14nm,0.7s						
VNDA	**Vanda**	**74.71**	**175**	P	**P**	**03 35 29.3**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=327,slow=6.3,SNR=8.0						
VNDA				pP	**pP**	**03 35 53.9**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=330,slow=6.5,SNR=4.9						
KKAR	**Karatay Array**	**76.89**	**316**	*e*P	**P**	**03 35 41.5**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KKAR	**Karatay Array**	**76.89**	**316**	*e*P	**P**	**03 35 41.5**	**-0.5**
	comp=Z,2.1nm,0.6s						
BVAR	**Borovoye Array**	**80.19**	**325**	P	**P**	**03 36 00.1**	**+0.2**
	comp=Z,24nm,0.6s,baz=118,slow=7.4,SNR=38						
BRVK	**Borovoye**	**80.26**	**325**	*e*P	**P**	**03 36 00.7**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,30nm,0.7s						
BRVK	**Borovoye**	**80.26**	**325**	*e*P	**P**	**03 36 00.7**	**+0.4**
	comp=Z,30nm,0.7s						
MAW	**Mawson**	**81.12**	**202**	pP	pP	03 36 30.5	+0.8
	comp=Z,2.0nm,0.8s,baz=61,slow=8.8,SNR=3.7						
KDAK	**Kodiak Island**	**82.05**	**30**	*i* P	**P**	**03 36 10.5**	**+0.9**
IM04	**Indian Mountai**	**84.48**	**22**	*e*P	**P**	**03 36 22.8**	**+0.8**
GEYT	**Alibeck**	**84.90**	**308**	P	**P**	**03 36 24.3**	**-0.4**
	comp=Z,1.8nm,0.4s,baz=49,slow=4.4,SNR=3.1						
ABKAR	**Akbulak array**	**85.53**	**320**	*e*P	**P**	**03 36 26.7**	**-0.8**
	comp=Z,3.8nm,0.6s						
MCK	**McKinley**	**85.67**	**25**	*e*P	**P**	**03 36 27.5**	**-0.5**
MCK				pmax	pmax		
	comp=Z,13nm,0.8s						
MCK	**McKinley**	**85.67**	**25**	*e*P	**P**	**03 36 27.5**	**-0.5**
	comp=Z,13nm,0.8s						
DHY	**Denali Highway**	**86.15**	**26**	*e*P	**P**	**03 36 31.2**	**+0.7**
	comp=Z,9.4nm,0.8s						
QSPA	**South Pole Qui**	**86.16**	**180**	*e*P	**P**	**03 36 30.7**	**+0.2**

PDA	**Ponta Delgada**	**0.28**	**324**	*e*P	Pg	03 47 43.9	-0.6
PDA				*e*S	Sg	03 47 48.1	-0.4
BART	**Pico Bartolome**	**0.34**	**41**	*e*S	Sg	03 47 49.8	-0.7
BART				A	A	03 47 51.3	
	44nm,0.3s						
BART	**Pico Bartolome**	**0.34**	**41**	*e*S	Sg	03 47 49.8	-0.7
PSET	**Sete Cidades**	**0.37**	**325**	*e*P	Pg	03 47 45.1	-1.1
PSET				*e*S	Sg	03 47 49.9	-1.4
PSET				A	A	03 47 50.8	
	31nm,0.3s						
PSET	**Sete Cidades**	**0.37**	**325**	*e*P	Pg	03 47 45.1	-1.1
PSET				*e*S	Sg	03 47 49.9	-1.4

IDC ***22*** *03:54:22.5±0.5,6˙31S×150˙73E,h0km,mb4.5/22, mb1 4.7/24,mb1mx4.5/46,mbtmp4.5/24,ML3.3/2,MS4.2/25, Ms1 4.2/25,ms1mx4.1/33,Error ellipse: s-maj=19.5km s-min=12.6km az=104.0*

ISCJB ***22*** *03:54:26.9±0.2,6˙24S±0˙03×150˙27E±0˙04,h33km, mb4.7/45,MS4.4/28,Error ellipse: s-maj=6.4km s-min=3.4km az=33.1*

NEIC ***22*** *03:54:28.9±1.4,6˙33S×150˙45E,h41km±12km,mb5.0/29, Error ellipse: s-maj=8.0km s-min=6.6km az=133.0*

GCMT ***22*** *03:54:29.0±0.2,6˙56S×150˙55E,h17km±1km,MW5.1/67, Moment Tensor Solution. s50,c74; s67,c100; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mr3.31±.17; Mθθ-3.27±.12; Mϕϕ-0.04±.12; Mrθ4.51±.39; Mrϕ-1.59±.08; Mθϕ1.50±.32; Best double couple: M○5.97300×10¹⁶ NP1:ϑ8 71.00000°,δ71.00000°,λ93.00000°. NP2: ϕ243.00000°,δ19.00000°,λ82.00000°. Principal axes: T 5.6740, Plg64.0000°, Azm345.0000°; N 0.5910, Plg2.0000°, Azm250.0000°; P -6.2730, Plg26.0000°, Azm159.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***22*** *03:54:29.3±1.4,6˙37S×150˙48E,h56km,mb4.9/22, MS4.5/11 Error ellipse: s-maj=11.6km s-min=8.7km az=68.3*

BJI ***22*** *03:54:29.5,6˙01S×149˙68E,h33km,mb4.9/31,mB5.2/28, Ms4.9/24,Ms7 4.6/24*

DJA ***22*** *03:54:39.5±2.1,7˙5S±9˙×15˙0E±1˙0,h79km±18km,M5.3/6, mb4.8/6,MLv5.6/1*

ISC 22 03:54:27.9±0.4,6˙13S±0˙04×150˙31E±0˙06,h30km±2km, h30km:pP-P,n231,σ1§53/264,mb4.8/45,MS4.4/29,21C-9D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.51**	**224**	Pn		**Pn**	**03 55 35.5**	**+1.4**
	26nm,0.3s,baz=38,slow=8.2,SNR=35							
PMG				Sn		**Sn**	**03 56 26.7**	**+1.1**
	26nm,0.3s,baz=113,slow=15,SNR=3.2							
PMG				LR		LR	03 57 23.6	
	comp=Z,2μm,20.0s,baz=23,slow=39							
PMG	**Port Moresby**	**4.51**	**224**	P		**Pn**	**03 55 35.5**	**+1.4**
PMG							03 56 26.7	
PMG				pmax		pmax		
	comp=Z,26nm,0.3s							
PMG				smax		smax		
	comp=N,26nm,0.3s							
PMG				MLR		MLR		
	comp=Z,2μm,20.0s							
PMG	**Port Moresby**	**4.51**	**224**	*e*Pn		**Pn**	**03 55 35.8**	**+1.6**
PMG				*e*S		**Sn**	**03 56 28.2**	**+2.6**
MANU	**Manus Island**	**5.01**	**324**	⇓P		**Pb**	**03 55 52.1**	**-2.8**
	baz=5.5,SNR=9.3							
HNR	**Honiara**	**10.10**	**110**	LR		LR	04 00 12.6	
	comp=Z,1μm,20.0s,baz=278,slow=36							
JAY	**Jayapura**	**10.22**	**290**	Pn		Pn	03 57 02.7	+10
	comp=Z,0.3nm,0.3s,baz=114,slow=20,SNR=3.0							
JAY				LR		LR	04 01 22.9	
	comp=Z,1μm,18.3s,baz=347,slow=39							
COEN	**Coen**	**10.48**	**222**	⇑P		**Pn**	**03 56 56.4**	**+0.2**
	baz=10,SNR=4.6							
MTSU	**Mount Surprise**	**13.29**	**206**	⇑P		**Pn**	**03 57 35.1**	**+0.5**
	baz=13,SNR=5.9							
CTA	**Charters Tower**	**14.42**	**195**	Pn		**Pn**	**03 57 48.3**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=12,slow=15,SNR=3.8							
CTA				LR		LR	04 03 13.8	
	comp=Z,785nm,20.3s,baz=18,slow=37							
QIS	**Mount Isa**	**17.71**	**215**	⇑P		**Pn**	**03 58 31.8**	**-0.6**
	baz=18,SNR=8.1							
KDU	**Kakadu**	**18.75**	**248**	⇑P		**Pn**	**03 58 46.2**	**+1.0**
	baz=19,SNR=10.0							
EIDS	**Eidsvold**	**19.15**	**178**	⇑P		**P**	**03 58 46.8**	**-2.0**
	baz=19							
EIDS	**Eidsvold**	**19.15**	**178**	*e*Pn		**P**	**03 58 46.4**	**-2.4**
	comp=Z,29nm,1.1s							
SIJI	**Sorong**	**19.70**	**285**	P		**Pn**	**03 59 00.2**	**+3.5**
	comp=Z,8.3nm,0.9s,baz=64,slow=5.6,SNR=7.4							
SIJI				LR		LR	04 08 03.4	
	comp=Z,746nm,18.6s,baz=119,slow=41							
SWI	**Sorong**	**19.71**	**285**	P		Pn	03 59 03.5	+6.8
MTN	**Manton Dam**	**20.04**	**249**	⇓P		Pn	03 59 00.8	+0.2
	baz=20,SNR=4.7							
MTN	**Manton Dam**	**20.04**	**249**	*e*P		**P**	**03 58 59.6**	**+0.9**
	comp=Z,160nm,1.1s							
RMQ	**Roma**	**20.30**	**184**	⇓P		**P**	**03 59 00.1**	**-1.3**
	baz=20,SNR=26							
GUMO	**Guam**	**20.32**	**345**	LR		LR	04 05 20.0	
	comp=Z,709nm,21.8s,baz=145,slow=32							
WB0	**Warramunga Arr**	**20.57**	**227**	*e*P		**P**	**03 59 04.3**	**-0.1**
WR0	**Warramunga Arr**	**20.58**	**227**	*e*P		**P**	**03 59 04.5**	**0.0**
WB9	**Warramunga Arr**	**20.59**	**227**	*e*P		**P**	**03 59 04.8**	**+0.1**
WR9	**Warramunga Arr**	**20.60**	**227**	*e*P		**P**	**03 59 04.7**	**0.0**
WB8	**Warramunga Arr**	**20.61**	**227**	*e*P		**P**	**03 59 04.7**	**-0.1**
WR8	**Warramunga Arr**	**20.61**	**227**	*e*P		**P**	**03 59 04.7**	**-0.2**
WB7	**Warramunga Arr**	**20.62**	**227**	*e*P		**P**	**03 59 04.9**	**-0.1**
WR7	**Warramunga Arr**	**20.63**	**227**	*e*P		**P**	**03 59 05.1**	**0.0**
WR6	**Warramunga Arr**	**20.64**	**227**	*e*P		**P**	**03 59 05.0**	**-0.2**
WB6	**Warramunga Arr**	**20.64**	**227**	*e*P		**P**	**03 59 05.1**	**-0.1**
WB5	**Warramunga Arr**	**20.66**	**227**	*e*P		**P**	**03 59 05.2**	**-0.2**
WR5	**Warramunga Arr**	**20.66**	**227**	*e*P		**P**	**03 59 05.1**	**-0.3**
WR4	**Warramunga Arr**	**20.67**	**227**	*e*P		**P**	**03 59 05.4**	**-0.2**
WB4	**Warramunga Arr**	**20.68**	**227**	*e*Pn		**P**	**03 59 05.7**	**+0.1**
WR3	**Warramunga Arr**	**20.69**	**227**	*e*P		**P**	**03 59 05.6**	**-0.1**
WC2	**Warramunga Arr**	**20.69**	**227**	*e*P		**P**	**03 59 05.5**	**-0.2**
WB3	**Warramunga Arr**	**20.69**	**227**	*e*P		**P**	**03 59 05.6**	**-0.2**
WR2	**Warramunga Arr**	**20.70**	**227**	*e*P		**P**	**03 59 05.6**	**-0.3**
WRAB	**Tennant Creek**	**20.70**	**227**	P		**P**	**03 59 05.9**	**0.0**
	comp=Z,424nm,1.0s,SNR=36							
WRAB	**Tennant Creek**	**20.70**	**227**	*e*P		**P**	**03 59 05.8**	**-0.1**
WRAB				pmax		pmax		
	comp=Z,68nm,0.9s							
WRAB	**Tennant Creek**	**20.70**	**227**	*e*Pn		**P**	**03 59 05.8**	**-0.1**
	comp=Z,68nm,0.9s							
WC1	**Warramunga Arr**	**20.71**	**227**	*e*P		**P**	**03 59 06.0**	**+0.1**
WB2	**Warramunga Arr**	**20.71**	**227**	*e*P		**P**	**03 59 06.0**	**0.0**
WR1	**Warramunga Arr**	**20.72**	**227**	*e*P		**P**	**03 59 06.0**	**0.0**
WRA	**Warramunga Arr**	**20.72**	**227**	P		**P**	**03 59 05.9**	**-0.1**
	comp=Z,54nm,0.8s,baz=51,slow=11,SNR=84							
WRA				PcP		**PcP**	**04 03 16.0**	**+0.7**
	comp=Z,3.3nm,0.8s,baz=47,slow=2.5,SNR=5.4							
WRA				ScP		**ScP**	**04 06 52.8**	**+2.8**
	comp=Z,1.4nm,0.9s,baz=49,slow=3.0,SNR=3.6							
WRA				LR		LR	04 08 00.3	
	comp=Z,512nm,18.7s,baz=40,slow=39							
WRA	**Warramunga Arr**	**20.72**	**227**	P		**P**	**03 59 05.9**	**-0.1**
WRA							04 03 16.0	
WRA				pmax		pmax		
	comp=Z,54nm,0.8s							
WRA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
WRA				pmax		pmax		
	comp=N,1.0nm,0.9s							
WRA				MLR		MLR		
	comp=Z,512nm,18.7s							
WRB	**Warramunga Arr**	**20.72**	**227**	*e*P		**P**	**03 59 05.5**	**-0.6**
WC4	**Warramunga Arr**	**20.73**	**227**	*e*P		**P**	**03 59 05.6**	**-0.6**
QLP	**Quilpie**	**21.15**	**195**	⇑P		**P**	**03 59 09.3**	**-1.3**
	baz=21,SNR=32							
DZM	**Mont Dzumac**	**22.24**	**137**	*e*P		**P**	**03 59 18.8**	**-3.6**
	comp=Z,13nm,0.7s							
KNRA	**Kununurra**	**23.16**	**244**	⇑P		**P**	**03 59 34.2**	**+2.1**
	baz=23,SNR=5.8							
AS31	**Alice Springs**	**23.52**	**220**	*e*P		**P**	**03 59 35.0**	**-0.6**
ASAR	**Alice Springs**	**23.52**	**220**	P		**P**	**03 59 35.1**	**-0.4**
	comp=Z,32nm,0.9s,baz=55,slow=9.1,SNR=100							
ASAR				PcP		**PcP**	**04 03 22.0**	**+1.2**
	comp=Z,1.2nm,0.9s,baz=56,slow=4.9,SNR=4.0							
ASAR	**Alice Springs**	**23.52**	**220**	P		**P**	**03 59 35.2**	**-0.4**
ASAR							04 03 22.0	
ASAR				pmax		pmax		
	comp=Z,32nm,0.9s							
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.9s							
ARMA	**Armidale**	**24.20**	**177**	⇓P		**P**	**03 59 40.4**	**-1.6**
	baz=24,SNR=4.4							
ARMA	**Armidale**	**24.20**	**177**	*e*P		**P**	**03 59 40.8**	**-1.2**
	comp=Z,163nm,1.9s							
CMSA	**Cobar Meteorol**	**25.64**	**189**	⇑P		**P**	**03 59 52.3**	**-2.7**
	baz=25,SNR=15							
SOEI	**Soe**	**26.03**	**260**	⇓P		**P**	**03 59 59.6**	**+0.7**
	baz=26							
FITZ	**Fitzroy Crossi**	**26.85**	**242**	⇑P		**P**	**04 00 06.7**	**+0.6**
	baz=27							
STKA	**Stephens Creek**	**26.88**	**197**	P		**P**	**04 00 03.6**	**-2.5**
	comp=Z,18nm,0.8s,baz=3.6,slow=8.0,SNR=24							
STKA				LR		LR	04 11 16.4	
	comp=Z,799nm,19.8s,baz=7.7,slow=38							
STKA	**Stephens Creek**	**26.88**	**197**	P		**P**	**04 00 03.7**	**-2.5**
STKA				pmax		pmax		
	comp=Z,18nm,0.8s							
STKA				MLR		MLR		
	comp=Z,799nm,19.8s							
STKA	**Stephens Creek**	**26.88**	**197**	⇑P		**P**	**04 00 03.9**	**-2.3**
	baz=27							
STKA	**Stephens Creek**	**26.88**	**197**	*e*P		**P**	**04 00 03.7**	**-2.5**
	comp=Z,13nm,1.4s							
WRKA	**Warakurna**	**28.25**	**226**	⇑P		**P**	**04 00 18.2**	**-0.4**
	baz=28,SNR=6.0							
HTT	**Hallett**	**29.15**	**200**	⇓P		**P**	**04 00 25.3**	**-1.2**
	baz=29,SNR=7.0							
BBOO	**Buckleboo**	**29.68**	**205**	*e*P		**P**	**04 00 31.1**	**0.0**
KAPI	**Kappang**	**30.43**	**271**	LR		LR	04 14 33.2	
	comp=Z,335nm,20.3s,baz=109,slow=39							
ARPS	**Mount Arapiles**	**31.47**	**193**	⇑P		**P**	**04 00 46.1**	**-0.7**
	baz=31,SNR=5.3							
FORT	**Forrest**	**32.21**	**218**	⇓P		**P**	**04 00 52.7**	**-0.8**
	baz=32,SNR=8.0							
FORT	**Forrest**	**32.21**	**218**	*e*P		**P**	**04 00 52.5**	**-1.0**
	comp=Z,44nm,1.0s							
JCJ	**Chichijima**	**33.95**	**347**	LR		LR	04 15 06.9	
	comp=Z,286nm,18.4s,baz=180,slow=36							
JAGI	**Jajag, Banyuwa**	**35.93**	**264**	*e*P		**P**	**04 01 25.8**	**-0.2**
	comp=Z,30nm,0.8s							
MEEK	**Meekatharra**	**36.43**	**232**	⇓P		**P**	**04 01 30.4**	**+0.2**
	baz=36,SNR=13							
KMBL	**Kambalda**	**36.59**	**223**	⇓P		**P**	**04 01 30.9**	**-0.5**
	baz=36,SNR=12							
RAO	**Raoul Island**	**37.79**	**131**	LR		LR	04 14 26.0	
	comp=Z,272nm,19.4s,baz=260,slow=32							
AFI	**Afiamalu**	**38.09**	**105**	LR		LR	04 14 39.1	
	comp=Z,371nm,19.4s,baz=242,slow=32							
MORW	**Morawa**	**39.59**	**231**	⇑P		**P**	**04 01 56.9**	**+0.2**
	baz=40,SNR=4.4							
KLBR	**Kellerberrin**	**39.60**	**226**	⇑P		**P**	**04 01 56.0**	**-0.8**
	baz=39,SNR=13							
URZ	**Urewera**	**40.17**	**147**	LR		LR	04 16 20.2	
	comp=Z,868nm,20.4s,baz=318,slow=33							
RPZ	**Rata Peaks**	**41.65**	**157**	LR		LR	04 18 18.4	
	comp=Z,731nm,18.6s,baz=316,slow=35							
CISI	**Cisompet, Garu**	**42.20**	**266**	*e*P		**P**	**04 02 19.2**	**+0.6**
	comp=Z,272nm,1.1s							
LEM	**Lembang**	**42.41**	**267**	P		**P**	**04 02 22.4**	**+2.1**
	comp=Z,56nm,0.8s,baz=105,slow=14,SNR=5.5							
LEM	**Lembang**	**42.41**	**267**	P		**P**	**04 02 22.5**	**+2.1**
LEM				pmax		pmax		
	comp=Z,56nm,0.8s							
JNU	**Nakatsue**	**43.17**	**336**	P		**P**	**04 02 27.8**	**+1.7**
	comp=Z,15nm,0.9s,baz=116,slow=4.8,SNR=9.7							
JNU	**Nakatsue**	**43.17**	**336**	*e*P		**P**	**04 02 28.3**	**+2.2**
	comp=Z,8.4nm,1.0s							
MJAR	**Matsushiro Arr**	**43.93**	**346**	P		**P**	**04 02 31.9**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=167,slow=8.8,SNR=5.4							
MJAR				LR		LR	04 20 33.3	
	comp=Z,264nm,18.8s,baz=170,slow=36							
MJAR	**Matsushiro Arr**	**43.93**	**346**	P		**P**	**04 02 31.9**	**-0.3**
MJAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
MJAR				MLR		MLR		
	comp=Z,264nm,18.8s							
QIZ	**Qiongzhong**	**47.05**	**303**	P		**P**	**04 02 54.9**	**-2.2**
QIZ				sP		**sP**	**04 03 08.0**	**-1.9**
QIZ				S		**S**	**04 09 44.5**	**-2.9**
QIZ				PMZ				
	comp=Z,37nm,2.1s							
QIZ				PMZ				
	comp=Z,310nm,4.2s							
KSRS	**Korea Array**	**48.13**	**336**	P		**P**	**04 03 07.5**	**+2.4**
	comp=Z,6.4nm,0.9s,baz=154,slow=8.9,SNR=19							
KSRS	**Korea Array**	**48.13**	**336**	P		**P**	**04 03 07.5**	**+2.4**
KSRS				pmax		pmax		
	comp=Z,6.0nm,0.9s							
KSAR	**Wonju Array Be**	**48.13**	**336**	P		**P**	**04 03 07.5**	**+2.3**
KSAR	**Wonju Array Be**	**48.13**	**336**	P		**P**	**04 03 07.5**	**+2.3**
NJ2	**Nanjing**	**48.37**	**324**	*e*P		**P**	**04 03 05.8**	**-1.3**
NJ2				pP		**pP**	**04 03 15.8**	**-0.5**
NJ2				sP		**sP**	**04 03 19.3**	**-0.6**
NJ2				PP		**PP**	**04 04 58.3**	**-1.7**
NJ2				S		**S**	**04 10 02.5**	**-3.2**
NJ2				sS		**sS**	**04 10 18.5**	**-2.3**
NJ2				PMZ				
	comp=Z,50nm,0.9s							
NJ2				PMZ				
	comp=Z,480nm,4.6s							
NJ2				LN				
	comp=Z,470nm,13.7s							
NJ2				LE				
	comp=Z,660nm,15.0s							
USRK	**Ussuriysk Ar.**	**52.75**	**344**	P		**P**	**04 03 41.7**	**+1.7**
	comp=Z,1.5nm,0.7s,baz=173,slow=13,SNR=3.9							
USRK				LR		LR	04 24 17.7	
	comp=Z,192nm,20.2s,baz=154,slow=34							
GYA	**Guiyang**	**53.27**	**309**	P		**P**	**04 03 44.0**	**-0.3**
GYA				pP		**pP**	**04 03 54.5**	**+0.9**
GYA				PP		**PP**	**04 05 46.3**	**+1.5**
GYA				ScP		**ScP**	**04 08 43.4**	**-4.2**
GYA				S		**S**	**04 11 10.8**	**-3.3**
GYA				sS		**sS**	**04 11 27.0**	**-2.3**
GYA				SS		**SS**	**04 14 48.9**	**-5.4**
GYA				PMZ				
	comp=Z,20nm,1.0s							
GYA				PMZ				
	comp=Z,120nm,5.2s							
GYA				LN				
	comp=Z,570nm,17.6s							
GYA				LE				
	comp=Z,540nm,18.2s							
GYA				LZ				
	comp=Z,580nm,17.9s							
MDJ	**Mudanjiang**	**53.84**	**342**	P		P	04 03 51.8	+3.8
MDJ				pP		pP	04 04 00.8	+3.5
MDJ				sP		sP	04 04 04.6	+3.7
MDJ				PcP		**PcP**	**04 04 56.5**	**+3.0**
MDJ				PP		**PP**	**04 05 52.3**	**+2.8**
MDJ				ScP		**ScP**	**04 08 51.1**	**+1.6**
MDJ				PcS		**PcS**	**04 08 55.5**	**+3.0**
MDJ				S		**S**	**04 11 24.3**	**+3.3**
MDJ				PMZ				
	comp=Z,9.0nm,1.8s							
MDJ				PMZ				
	comp=Z,56nm,6.6s							
MDJ				LN				
	comp=Z,120nm,26.5s							
MDJ				LE				
	comp=Z,72nm,28.9s							
MDJ				LZ				
	comp=Z,230nm,27.1s							
CN2	**Changchun**	**54.54**	**338**	*e*P		**P**	**04 03 55.0**	**+1.9**
CN2				*e*pP		**pP**	**04 04 05.0**	**+2.6**
CN2				*e*S		**S**	**04 11 30.1**	**-0.3**
CN2				PMZ				
	comp=Z,10.0nm,0.7s							
CN2				PMZ				
	comp=Z,200nm,4.0s							
CN2				LN				
	comp=Z,1μm,16.0s							
CN2				LE				
	comp=Z,1μm,16.0s							
CN2				LZ				
	comp=Z,1μm,17.0s							
BJI	**Beijing**	**55.67**	**329**	P		**P**	**04 04 02.4**	**+1.1**
BJI				S		**S**	**04 11 45.9**	**+0.2**
BJI				PMZ				
	comp=Z,19nm,1.5s							
BJI				LZ				
	comp=Z,5μm,18.3s							

KMI	**Kunming**	**55.71**	**306**	P		**P**	**04 04 03.8**	**+1.6**
KMI				pP		**pP**	**04 04 14.4**	**+2.9**
KMI				sP		**sP**	**04 04 18.8**	**+3.7**
KMI				S		S	04 11 40.3	-6.9
KMI				sS		sS	04 11 57.5	-5.0
KMI				PMZ				
	comp=Z,7.0nm,0.9s							
KMI				PMZ				
	comp=Z,130nm,3.9s							
KMI				LN				
	comp=Z,290nm,20.6s							
KMI				LE				
	comp=Z,240nm,17.6s							
KMI				LZ				
	comp=Z,240nm,18.9s							
CMAR	**Chiang Mai Arr**	**56.22**	**297**	P		P	04 04 09.6	+3.9
	comp=Z,0.6nm,0.3s,baz=121,slow=7.1,SNR=4.3							
CMAR				PcP		**PcP**	**04 05 05.3**	**+2.0**
	comp=Z,1.2nm,0.3s,baz=118,slow=4.2,SNR=5.2							
CMAR				LR		LR	04 29 22.6	
	comp=Z,57nm,20.7s,baz=140,slow=37							
CMAR	**Chiang Mai Arr**	**56.22**	**297**	P		P	04 04 09.6	+3.9
CMAR							04 05 05.3	
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
CMAR				MLR		MLR		
	comp=Z,57nm,20.7s							
CD2	**Chengdu**	**57.75**	**312**	P		**P**	**04 04 13.8**	**-2.6**
CD2				pP		**pP**	**04 04 24.3**	**-1.5**
CD2				sP		**sP**	**04 04 28.5**	**-0.8**
CD2				PP		**PP**	**04 06 21.8**	**-3.0**
CD2				S		**S**	**04 12 10.3**	**-3.4**
CD2				sS		**sS**	**04 12 28.3**	**-0.8**
CD2				SS		**SS**	**04 16 02.3**	**-2.5**
CD2				PMZ				
	comp=Z,20nm,0.5s							
CD2				PMZ				
	comp=Z,200nm,4.2s							
CD2				LN				
	comp=Z,590nm,4.8s							
CD2				LZ				
	comp=Z,470nm,16.0s							
HHC	**Hu-ho-hao-te**	**58.72**	**326**	*e*P		**P**	**04 04 23.8**	**+0.8**
HHC				PP		**PP**	**04 06 35.3**	**+2.1**
HHC				S		**S**	**04 12 24.3**	**-1.8**
HHC				sS		**sS**	**04 12 41.5**	**0.0**
HHC				SS		**SS**	**04 16 19.3**	**-0.4**
HHC				PMZ				
	comp=Z,13nm,0.7s							
HHC				PMZ				
	comp=Z,100nm,9.9s							
HHC				LN				
	comp=Z,320nm,14.8s							
HHC				LE				
	comp=Z,280nm,18.5s							
HHC				LZ				
	comp=Z,270nm,17.3s							
PETK	**Petropavlovsk-**	**59.34**	**5**	P		**P**	**04 04 27.0**	**0.0**
	comp=Z,1.7nm,0.5s,baz=170,slow=12,SNR=3.2							
PETK				LR		LR	04 26 18.5	
	comp=Z,149nm,21.3s,baz=186,slow=32							
PETK	**Petropavlovsk-**	**59.34**	**5**	P		**P**	**04 04 27.0**	**0.0**
PETK				pmax		pmax		
	comp=Z,3.0nm,0.7s							
PPT2	**Papeete2**	**59.71**	**107**	*e*S		**S**	**04 12 43.1**	**+3.5**
	comp=Z,313nm,27.5s							
PPT2				*e*LQ		LQ	04 19 15.4	
	comp=Z,666nm,27.8s							
PPT2				*e*LR		LR	04 21 39.3	
	comp=Z,147nm,24.2s							
LZH	**Lanzhou**	**60.49**	**318**	*e*P		**P**	**04 04 34.6**	**-0.8**
LZH				pP		**pP**	**04 04 45.3**	**+0.5**
LZH				sP		**sP**	**04 04 49.3**	**+0.9**
LZH				*e*S		**S**	**04 12 45.8**	**-3.4**
LZH				sS		**sS**	**04 13 03.0**	**-1.7**
LZH				*e*SS		**SS**	**04 16 45.0**	**-2.8**
LZH				PMZ				
	comp=Z,25nm,1.5s							
LZH				PMZ				
	comp=Z,120nm,7.4s							
LZH				LN				
	comp=Z,450nm,15.0s							
LZH				LE				
	comp=Z,440nm,14.7s							
LZH				LZ				
	comp=Z,730nm,16.2s							
SONM	**Songino Array**	**66.15**	**329**	P		**P**	**04 05 14.3**	**+1.6**
	comp=Z,2.2nm,0.7s,baz=131,slow=4.3,SNR=11							
SONM				LR		LR	04 34 18.8	
	comp=Z,128nm,21.0s,baz=121,slow=36							
SONM	**Songino Array**	**66.15**	**329**	P		**P**	**04 05 14.3**	**+1.6**
SONM				pmax		pmax		
	comp=Z,2.0nm,0.7s							
SONM				MLR		MLR		
	comp=Z,128nm,21.0s							
SEY	**Seymchan**	**68.88**	**1**	*e*P		**P**	**04 05 29.2**	**-0.2**
ZAK	**Zakamensk**	**69.36**	**330**	*e*P		**P**	**04 05 33.4**	**+0.6**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.1s							
VNDA	**Vanda**	**71.61**	**177**	P		**P**	**04 05 44.1**	**-1.8**
	comp=Z,3.2nm,0.8s,baz=313,slow=5.4,SNR=16							
VNDA				LR		LR	04 35 27.0	
	comp=Z,140nm,18.3s,baz=11,slow=34							
VNDA	**Vanda**	**71.61**	**177**	*e*P		**P**	**04 05 44.3**	**-1.7**
	comp=Z,3.9nm,0.9s							
BILL	**Bilibino**	**74.85**	**6**	*e*P		**P**	**04 06 06.4**	**+1.2**
BILL				pmax		pmax		
	comp=Z,2.0nm,0.8s							
WMQ	**Urumqi**	**75.05**	**318**	P		**P**	**04 06 06.3**	**-0.6**
WMQ				pP		**pP**	**04 06 15.8**	**-0.7**
WMQ				sP		**sP**	**04 06 20.3**	**+0.2**
WMQ				S		**S**	**04 15 39.8**	**-3.4**
WMQ				SS		**SS**	**04 20 30.3**	**-2.4**
WMQ				PMZ				
	comp=Z,11nm,0.9s							
WMQ				PMZ				
	comp=Z,93nm,4.0s							
WMQ				LN				
	comp=Z,130nm,21.4s							
WMQ				LE				
	comp=Z,170nm,21.5s							
WMQ				LZ				
	comp=Z,130nm,23.2s							
MKAR	**Makanchi Array**	**79.71**	**320**	P		**P**	**04 06 33.2**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=101,slow=6.5,SNR=6.3							
MKAR				LR		LR	04 42 43.6	
	comp=Z,148nm,18.0s,baz=94,slow=36							
MKAR	**Makanchi Array**	**79.71**	**320**	P		**P

KURK	**Kurchatov**	**83.29**	**323**	*e*P		**P**	**04 06 51.6**	**-0.1**
KURK	comp=Z,4.0nm,0.3s			pmax		pmax			
KURK	**Kurchatov**	**83.29**	**323**	*e*P		**P**	**04 06 51.6**	**-0.1**
	comp=Z,3.7nm,0.3s								
MAW	**Mawson**	**83.40**	**203**	P		**P**	**04 06 51.2**	**-0.7**
	comp=Z,2.6nm,1.0s,baz=44,slow=14,SNR=4.0								
MAW				LR		LR	04 40 55.8		
	comp=Z,258nm,21.8s,baz=62,slow=34								
QSPA	**South Pole Qui**	**83.84**	**180**	*e*P		**P**	**04 06 53.1**	**-1.3**
	comp=Z,12nm,1.1s								
CCB	**Clear Creek Bu**	**83.92**	**22**	*e*P		**P**	**04 06 54.2**	**-0.4**
	comp=Z,5.6nm,1.1s								
COLA	**College**	**84.00**	**22**	*e*P		**P**	**04 06 53.9**	**-1.1**
COLA				pmax		pmax			
	comp=Z,8.0nm,1.0s								
COLA	**College**	**84.00**	**22**	*e*P		**P**	**04 06 53.9**	**-1.1**
	comp=Z,8.1nm,1.0s								
EKS2	**Erkin-Say**	**84.30**	**314**	*e*P		**P**	**04 06 58.4**	**+1.1**
EKS2				pmax		pmax			
	comp=Z,8.0nm,1.1s								
EKS2	**Erkin-Say**	**84.30**	**314**	*e*P		**P**	**04 06 58.4**	**+1.1**
	comp=Z,8.5nm,1.1s								
ILAR	**Eielson Array**	**84.32**	**23**	P		**P**	**04 06 54.6**	**-2.0**
	comp=Z,4.6nm,0.9s,baz=250,slow=4.3,SNR=31								
ILAR				LR		LR	04 41 09.3		
	comp=Z,154nm,20.3s,baz=270,slow=33								
EGAK	**Eagle**	**86.56**	**24**	*e*P		**P**	**04 07 08.1**	**+0.3**
	comp=Z,10nm,1.0s								
HYT	**Haines Junctio**	**86.76**	**28**	*e*P		**P**	**04 07 10.8**	**+1.7**
DAWY	**Dawson**	**87.01**	**24**	*e*P		**P**	**04 07 10.0**	**-0.1**
	comp=Z,11nm,1.2s								
DLBC	**Dease Lake**	**89.79**	**31**	P		**P**	**04 07 23.1**	**-0.4**
	comp=Z,1.8nm,0.9s,baz=294,slow=8.4,SNR=3.4								
INK	**Inuvik**	**90.58**	**21**	P		**P**	**04 07 25.6**	**-1.2**
	comp=Z,4.6nm,1.0s,baz=240,slow=7.3,SNR=7.7								
INK	**Inuvik**	**90.58**	**21**	P		**P**	**04 07 25.6**	**-1.2**
INK				pmax		pmax			
	comp=Z,5.0nm,1.0s								
HUMO	**Hull Mountain**	**91.70**	**48**	*e*P		**P**	**04 07 33.8**	**+1.1**
	comp=Z,8.3nm,0.8s								
YBH	**Yreka Blue Hor**	**91.79**	**48**	P		**P**	**04 07 32.6**	**-0.6**
	comp=Z,2.3nm,0.9s,baz=207,slow=2.3,SNR=4.2								
YBH	**Yreka Blue Hor**	**91.79**	**48**	P		**P**	**04 07 32.6**	**-0.6**
YBH				pmax		pmax			
	comp=Z,4.0nm,0.9s								
J04D	**Umpqua Nationa**	**92.39**	**47**	P		**P**	**04 07 36.9**	**+0.8**
	baz=92								
J05D	**Fort Rock, OR**	**93.03**	**47**	P		**P**	**04 07 39.4**	**+0.4**
	baz=93								
CMB	**Columbia Colle**	**93.19**	**52**	*e*P		**P**	**04 07 40.0**	**+0.3**
CMB				pmax		pmax			
	comp=Z,5.0nm,0.9s								
CMB	**Columbia Colle**	**93.19**	**52**	*e*P		**P**	**04 07 40.0**	**+0.3**
	comp=Z,5.2nm,0.9s								
K05A	**Summer Lake**	**93.23**	**48**	*e*P		**P**	**04 07 40.8**	**+0.8**
	comp=Z,20nm,1.1s								
PKM	**Peak Mountain**	**93.36**	**55**	P		**P**	**04 07 41.9**	**+1.2**
	baz=93								
MOD	**Modoc**	**93.59**	**48**	*e*P		**P**	**04 07 41.9**	**+0.3**
	comp=Z,11nm,1.3s								
WAKR	**Walker**	**93.97**	**52**	*e*P		**P**	**04 07 44.5**	**+1.1**
ARVC	**Arvin**	**94.19**	**55**	P		**P**	**04 07 45.1**	**+0.8**
	baz=94								
ISA	**Isabella**	**94.52**	**55**	*e*P		**P**	**04 07 46.7**	**+0.8**
ISA				pmax		pmax			
	comp=Z,8.0nm,1.1s								
ISA	**Isabella**	**94.52**	**55**	P		**P**	**04 07 46.5**	**+0.6**
	baz=95								
ISA	**Isabella**	**94.52**	**55**	*e*P		**P**	**04 07 46.7**	**+0.8**
	comp=Z,7.9nm,1.1s								
PASC	**Pasadena Art C**	**94.65**	**56**	*e*P		**P**	**04 07 47.7**	**+1.3**
	comp=Z,19nm,1.0s								
NVAR	**Mina Array Bea**	**94.85**	**52**	P		**P**	**04 07 47.8**	**+0.2**
	comp=Z,6.9nm,0.8s,baz=254,slow=6.6,SNR=33								
EDW2	**Edwards Air Fo**	**94.86**	**56**	P		**P**	**04 07 48.7**	**+1.3**
	baz=95								
BFSC	**Mount Baldy Ra**	**95.09**	**56**	P		**P**	**04 07 49.3**	**+0.7**
	baz=95								
DAC	**Darwin (Calif)**	**95.28**	**54**	*e*P		**P**	**04 07 50.1**	**+0.6**
DAC				pmax		pmax			
	comp=Z,9.0nm,1.0s								
DAC	**Darwin (Calif)**	**95.28**	**54**	*e*P		**P**	**04 07 50.1**	**+0.6**
	comp=Z,9.4nm,1.0s								
GEYT	**Alibeck**	**95.45**	**307**	LR		LR	04 53 29.6		
	comp=Z,139nm,19.7s,baz=55,slow=37								
109C	**Camp Elliot, M**	**95.46**	**58**	P		**P**	**04 07 51.5**	**+1.4**
	baz=96								
GRAC	**Grapevine Rang**	**95.50**	**53**	P		**P**	**04 07 51.4**	**+1.1**
	baz=96								
TPH	**Tonopah**	**95.68**	**52**	*e*P		**P**	**04 07 51.6**	**+0.3**
TPH				pmax		pmax			
	comp=Z,5.0nm,1.0s								
TPH	**Tonopah**	**95.68**	**52**	*e*P		**P**	**04 07 51.6**	**+0.3**
	comp=Z,4.9nm,1.0s								
GSC	**Goldstone**	**95.86**	**55**	P		**P**	**04 07 52.6**	**+0.5**
	baz=96								
FURC	**Furnace Creek,**	**95.88**	**54**	P		**P**	**04 07 53.0**	**+1.0**
	baz=96								
MONP	**Monument Peak**	**96.03**	**58**	P		**P**	**04 07 54.1**	**+1.1**
	baz=96								
PFO	**Pinyon Flat Ob**	**96.05**	**57**	P		**P**	**04 07 53.4**	**+0.4**
	baz=96								
NEW	**Newport**	**96.24**	**42**	P		**P**	**04 07 53.7**	**+0.3**
	baz=96								
SHOC	**Shoshone**	**96.31**	**55**	P		**P**	**04 07 54.7**	**+0.6**
	baz=96								
TPNV	**Topopah Spring**	**96.39**	**54**	P		**P**	**04 07 55.2**	**+0.6**
	baz=96								
BELC	**Belle Mtn. Jos**	**96.45**	**57**	P		**P**	**04 07 55.4**	**+0.6**
	baz=96								
GMRC	**Granite Mounta**	**96.77**	**56**	P		**P**	**04 07 57.4**	**+1.2**
	baz=97								
R11A	**Troy Canyon, C**	**96.98**	**52**	P		**P**	**04 07 57.8**	**+0.6**
	baz=97								
IRM	**Iron Mountain**	**97.16**	**56**	P		Pdif	04 07 58.7	+0.7	
	baz=97								
YKA	**Yellowknife Ar**	**97.75**	**28**	P		**P**	**04 07 59.2**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=270,slow=4.6,SNR=8.1								
YKA	**Yellowknife Ar**	**97.75**	**28**	P		**P**	**04 07 59.2**	**-0.6**
YKA				pmax		pmax			
	comp=Z,1.0nm,0.9s								
HLID	**Hailey**	**98.01**	**47**	P		**P**	**04 08 00.4**	**-1.3**
	baz=98								
PDAR	**Pinedale Array**	**101.57**	**48**	P		**Pdif**	**04 08 16.7**	**-1.0**
	comp=Z,1.6nm,0.9s,baz=288,slow=1.4,SNR=13								
J21A	**Lysite**	**103.09**	**47**	P		**Pdif**	**04 08 24.1**	**-0.2**
	baz=103								
I21A	**Big Trails, Te**	**103.17**	**47**	P		**Pdif**	**04 08 25.1**	**+0.5**
	baz=103								
AKASG	**Malin Array Be**	**114.10**	**323**	PKP		PKPdf	04 13 04.2	-0.1	
	comp=Z,0.2nm,0.3s,baz=65,slow=2.0,SNR=5.1								
BRTR	**Keskin Array B**	**114.31**	**311**	PKP		PKPdf	04 13 05.4	+0.2	
	comp=Z,0.8nm,0.8s,baz=51,slow=4.0,SNR=4.4								
BRTR	**Keskin Array B**	**114.31**	**311**	PKIKP		PKPdf	04 13 05.4	+0.2	
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
NOA	**NORSAR Array B**	**117.28**	**339**	PKP		**PKPdf**	**04 13 09.2**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=19,slow=5.7,SNR=3.7								
NOA	**NORSAR Array B**	**117.28**	**339**	PKIKP		**PKPdf**	**04 13 09.2**	**-1.0**
NOA				pmax		pmax			
	comp=Z,2.0nm,0.8s								
KOLS	**Kolonicke sedl**	**118.93**	**324**	*e*PKIKP		**PKPdf**	**04 13 13.9**	**+0.3**
KOLS	**Kolonicke sedl**	**118.93**	**324**	*e*PKP		**PKPdf**	**04 13 13.9**	**+0.3**
KECS	**Kecovo**	**120.19**	**324**	*e*PKIKP		**PKPdf**	**04 13 13.8**	**-2.2**
KECS	**Kecovo**	**120.19**	**324**	*e*PKP		**PKPdf**	**04 13 13.8**	**-2.2**
OKC	**Ostrava-Krasne**	**120.86**	**326**	AMS		AMS	05 12 00.0		
	comp=Z,100nm,11.3s								
VYHS	**Vyhne**	**121.14**	**324**	*e*PKIKP		**PKPdf**	**04 13 17.6**	**-0.3**
VYHS	**Vyhne**	**121.14**	**324**	*e*PKP		**PKPdf**	**04 13 17.6**	**-0.3**
DPC	**Dobruska-Polom**	**121.59**	**327**	*e*PKPdf		**PKPdf**	**04 13 19.2**	**+0.5**
DPC				*ep*PKP		**pPKPdf**	**04 13 27.4**	**-1.4**
DPC				AMS		AMS	05 07 30.0		
	comp=Z,200nm,18.8s								
DPC	**Dobruska-Polom**	**121.59**	**327**	*e*PKIKP		**PKPdf**	**04 13 19.2**	**+0.5**
DPC				MLR		MLR			
	comp=Z,200nm,18.8s								
UPC	**Upice**	**121.67**	**328**	*e*PKPdf		**PKPdf**	**04 13 19.3**	**+0.5**
UPC				*ep*PKP		**pPKPdf**	**04 13 33.0**	**+4.1**
UPC				AMS		AMS	05 07 10.0		
	comp=Z,200nm,21.5s								
UPC	**Upice**	**121.67**	**328**	*e*PKIKP		**PKPdf**	**04 13 19.3**	**+0.5**
UPC				*e*			04 13 33.0		
UPC				MLR		MLR			
	comp=Z,200nm,21.5s								
PVCC	**Panska Ves**	**122.42**	**328**	*e*PKPdf		**PKPdf**	**04 13 20.7**	**+0.4**
PVCC				AMS		AMS	05 07 30.0		
	comp=Z,200nm,19.9s								
PVCC	**Panska Ves**	**122.42**	**328**	*e*PKIKP		**PKPdf**	**04 13 20.7**	**+0.4**
PVCC				MLR		MLR			
	comp=Z,200nm,19.9s								
BRG	**Berggiesshubel**	**122.55**	**329**	*e*PKP		**PKPdf**	**04 13 20.8**	**+0.3**
	comp=Z,5.5nm,0.9s								
BRG				*e*			04 13 32.0		
	comp=Z,4.6nm,0.9s								
BRG	**Berggiesshubel**	**122.55**	**329**	*e*PKIKP		**PKPdf**	**04 13 20.8**	**+0.3**
BRG				*e*			04 13 32.0		
BRG				pmax		pmax			
	comp=Z,6.0nm,0.9s								
BRG				pmax		pmax			
	comp=Z,5.0nm,0.9s								
TREC	**Trest**	**122.62**	**327**	*e*PKPdf		**PKPdf**	**04 13 21.1**	**+0.4**
TREC				AMS		AMS	05 09 00.0		
	comp=Z,200nm,17.5s								
TREC	**Trest**	**122.62**	**327**	*e*PKIKP		**PKPdf**	**04 13 21.1**	**+0.4**
TREC				MLR		MLR			
	comp=Z,200nm,17.5s								
GOPC	**GO Pecny, Ondr**	**122.65**	**327**	*e*PKPdf		**PKPdf**	**04 13 21.0**	**+0.2**
GOPC				AMS		AMS	05 08 00.0		
	comp=Z,200nm,17.5s								
PRU	**Pruhonice**	**122.74**	**328**	*e*PKPdf		**PKPdf**	**04 13 21.0**	**+0.1**
PRU				AMS		AMS	05 08 10.0		
	comp=Z,200nm,16.6s								
PRU	**Pruhonice**	**122.74**	**328**	*e*PKIKP		**PKPdf**	**04 13 21.0**	**+0.1**
PRU				MLR		MLR			
	comp=Z,200nm,16.6s								
CLL	**Collm**	**122.77**	**330**	*i* PKIKP		**PKPdf**	**04 13 20.6**	**-0.3**
CLL				pmax		pmax			
	comp=Z,5.0nm,0.9s								
CLL	**Collm**	**122.77**	**330**	*i* PKPdf		**PKPdf**	**04 13 20.6**	**-0.3**
	comp=Z,5.0nm,0.9s								
CLL				*e*PP		**PP**	**04 15 00.0**	**+1.4**
CLL				*e*PS		**PS**	**04 24 54.0**	**-0.8**
CLL				*e*PPS		PPS	04 26 24.0		
CLL				*e*SS		SS	04 31 54.0	+15	
CLL				*e*SSS		SSS	04 36 30.0		
CLL				*e*			04 37 54.0		
CLL				*e*			04 41 12.0		
CLL				Lm		MLR	05 08 00.0		
	comp=Z,100nm,21.6s								
SCHQ	**Schefferville**	**123.03**	**25**	PKP		**PKPdf**	**04 13 20.4**	**-0.9**
	comp=Z,3.3nm,0.9s,baz=25,slow=19,SNR=4.3								
CONA	**Conrad Observa**	**123.14**	**325**	⇑*i* PKiKP		**PKiKP**	**04 13 22.1**	**0.0**
	comp=Z,5.2nm,0.8s								
NKC	**Novy Kostel**	**123.70**	**329**	*e*PKPdf		**PKPdf**	**04 13 22.8**	**0.0**
NKC				AMS		AMS	05 09 40.0		
	comp=Z,200nm,16.0s								
NKC	**Novy Kostel**	**123.70**	**329**	*e*PKIKP		**PKPdf**	**04 13 22.8**	**0.0**
NKC				MLR		MLR			
	comp=Z,200nm,16.0s								
GERES	**GERESS Array B**	**123.84**	**327**	PKP		**PKPdf**	**04 13 23.2**	**+0.1**
	comp=Z,3.0nm,0.8s,baz=50,slow=2.1,SNR=27								
GERES	**GERESS Array B**	**123.84**	**327**	PKIKP		**PKPdf**	**04 13 23.3**	**+0.1**
GERES				pmax		pmax			
	comp=Z,3.0nm,0.8s								
KBA	**Koelnbreinsper**	**125.04**	**325**	⇑*i* PKPdf		**PKPdf**	**04 13 24.6**	**-1.1**
	comp=Z,3.9nm,0.8s								
ABTA	**Abfaltersbach**	**125.70**	**325**	⇑*i* PKiKP		**PKPdf**	**04 13 26.3**	**-0.5**
	comp=Z,6.9nm,1.0s								
WTTA	**Wattenberg**	**125.89**	**326**	⇑*i* PKiKP		**PKPdf**	**04 13 27.2**	**-0.1**
	comp=Z,12nm,0.9s								
MOTA	**Moosalm**	**126.13**	**327**	⇑*i* PKiKP		**PKPdf**	**04 13 27.4**	**-0.3**
	comp=Z,14nm,1.2s								
FETA	**Feichten**	**126.53**	**326**	⇑*i* PKiKP		**PKPdf**	**04 13 28.4**	**-0.1**
	comp=Z,7.4nm,0.9s								
DAVA	**Damuels**	**126.83**	**327**	⇑*i* PKiKP		**PKPdf**	**04 13 29.1**	**0.0**
	comp=Z,5.4nm,0.8s								
KEST	**Kesra**	**133.63**	**315**	PKP		**PKPdf**	**04 13 43.0**	**+0.8**
	comp=Z,2.0nm,1.0s,baz=76,slow=8.3,SNR=4.2								
LPAZ	**La Paz**	**135.93**	**121**	PKP		**PKPdf**	**04 13 46.0**	**-1.7**
	comp=Z,1.4nm,1.0s,baz=212,slow=9.5,SNR=5.2								
LPAZ	**La Paz**	**135.93**	**121**	PKIKP		**PKPdf**	**04 13 46.0**	**-1.7**
LPAZ				pmax		pmax			
	comp=Z,1.0nm,1.0s								
SDV	**Santo Domingo**	**139.34**	**84**	PKPdf		**PKPdf**	**04 13 54.0**	**+0.5**
TOA0	**Torodi Ar. Sit**	**148.30**	**285**	*e*PKPbc		**PKPbc**	**04 14 12.1**	**-0.2**
TORD	**Torodi Ar. Bea**	**148.30**	**285**	PKPbc		**PKPbc**	**04 14 12.3**	**0.0**
	comp=Z,7.9nm,0.7s,baz=51,slow=2.8,SNR=70								
BDFB	**Brasilia**	**151.77**	**140**	PKPbc		**PKPbc**	**04 14 19.1**	**-1.7**
	comp=Z,5.6nm,0.8s,baz=186,slow=5.6,SNR=8.0								
BDFB	**Brasilia**	**151.77**	**140**	PKIKP		**PKPbc**	**04 14 19.1**	**-1.7**
BDFB				pmax		pmax			
	comp=Z,6.0nm,0.8s								
DBIC	**Dimbokro**	**155.31**	**273**	PKPbc		PKPdf	04 14 29.3	+10	
	comp=Z,4.5nm,1.0s,baz=164,slow=12,SNR=3.9								
DBIC	**Dimbokro**	**155.31**	**273**	PKIKP		PKPdf	04 14 29.3	+10	
DBIC				pmax		pmax			
	comp=Z,5.0nm,1.0s								

IDC ***22*** *03:58:50.0±0.5, 6.˚25S×150.˚67E, h0km, mb4.6/22, mb1 4.7/24, mb1mx4.7/27, mbtmp4.6/24, ML3.3/2, Error ellipse: s-maj=18.7km s-min=12.2km az=95.0*

ISCJB ***22*** *03:58:54.0±0.2, 6.˚36S±0.˚03×150.˚57E±0.˚04, h33km, mb4.6/37, Error ellipse: s-maj=6.8km s-min=4.0km az=28.5*

GCMT ***22*** *03:58:55.8±0.5, 6.˚65S×150.˚76E, h28km±1km, MW5.0/54, Moment Tensor Solution. s22,c25; s54,c75; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.76±.28; Mθθ-2.76±.17; Mϕϕ0.00±.17; Mrθ1.66±.22; Mθϕ-0.67±.13; Mϕr1.79±.35; Best double couple: M0 3.73900×10^16 NP1:ϕs57.00000°, δ66.00000°, λ72.00000°. NP2: ϕs275.00000°, δ30.00000°, λ124.00000°. Principal axes: T 3.8680, Plg65.0000°, Azm296.0000°; N -0.2580, Plg16.0000°, Azm64.0000°; P -3.6110, Plg19.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***22*** *03:58:55.7±1.2, 6.˚33S×150.˚53E, h49km, mb5.1/10 Error ellipse: s-maj=11.7km s-min=9.1km az=65.9*

NEIC ***22*** *03:58:55.8±0.2, 6.˚30S×150.˚55E, h35km, mb4.9/19, Error ellipse: s-maj=6.6km s-min=3.6km az=130.0*

BJI ***22*** *03:58:55.9, 6.˚51S×150.˚13E, h36km, mb4.8/23, mB5.1/17, Ms4.9/12, Ms7 4.5/14*

ISC 22 03:58:55.9±0.5, 6.˚39S±0.˚05×150.˚68E±0.˚06, h33km±2km, h33km:pP-P,n131,σ1$37/157, mb4.7/37, 10C-10D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.60**	**229**	Op Pn		**Pn**	**04 00 03.6**	**+0.5**
	26nm,0.3s,baz=64,slow=9.0,SNR=9.5							
PMG				Sn		**Sn**	**04 00 55.0**	**-0.4**
	13nm,0.3s,baz=112,slow=19,SNR=3.4							
PMG	**Port Moresby**	**4.60**	**229**	*e*P		**Pn**	**04 00 03.7**	**+0.5**
PMG				*e*S		**Sn**	**04 00 57.5**	**+2.1**
PMG	**Port Moresby**	**4.60**	**229**	*e*Pn		**Pn**	**04 00 03.6**	**+0.5**
PMG				*e*S		**Sn**	**04 00 57.5**	**+2.1**
HNR	**Honiara**	**9.67**	**109**	*e*P		**Pn**	**04 01 15.3**	**+2.5**
HNR				pmax		pmax		
	comp=Z,282nm,0.4s							
HNR	**Honiara**	**9.67**	**109**	*e*P		Pn	04 01 21.0	+8.2
HNR	**Honiara**	**9.67**	**109**	*e*Pn		**Pn**	**04 01 15.3**	**+2.5**
	comp=Z,282nm,0.4s							
COEN	**Coen**	**10.54**	**224**	⇑P		**Pn**	**04 01 25.6**	**+0.8**
	baz=10.0,SNR=4.0							
JAY	**Jayapura**	**10.66**	**291**	Pn		**Pn**	**04 01 28.6**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=163,slow=20,SNR=2.2							
JAY	**Jayapura**	**10.66**	**291**	⇑P		Pn	04 01 32.5	+6.1
	baz=10							
MTSU	**Mount Surprise**	**13.22**	**207**	⇑P		**Pn**	**04 02 01.9**	**+0.4**
	baz=13,SNR=5.2							
CTA	**Charters Tower**	**14.28**	**197**	Pn		**Pn**	**04 02 16.1**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=23,slow=12,SNR=5.9							
QIS	**Mount Isa**	**17.71**	**216**	⇓P		**Pn**	**04 02 58.9**	**-1.2**
	baz=17,SNR=13							
EIDS	**Eidsvold**	**18.88**	**179**	⇑P		**Pn**	**04 03 14.3**	**0.0**
	baz=18,SNR=7.3							
KDU	**Kakadu**	**19.00**	**249**	⇓P		**P**	**04 03 14.5**	**-0.5**
	baz=18,SNR=5.7							
RMQ	**Roma**	**20.07**	**185**	⇑P		Pn	04 03 27.9	-0.7
	baz=20,SNR=74							
MTN	**Manton Dam**	**20.30**	**250**	⇓P		**P**	**04 03 28.8**	**-0.5**
	baz=20,SNR=4.8							
MTN	**Manton Dam**	**20.30**	**250**	*e*P		**P**	**04 03 28.6**	**-0.6**
	comp=Z,59nm,0.9s							
WB0	**Warramunga Arr**	**20.67**	**228**	*e*P		**P**	**04 03 32.5**	**-0.7**
WR0	**Warramunga Arr**	**20.68**	**228**	*e*P		**P**	**04 03 32.5**	**-0.8**
WB9	**Warramunga Arr**	**20.69**	**228**	*e*P		**P**	**04 03 32.9**	**-0.5**
WR9	**Warramunga Arr**	**20.70**	**228**	*e*P		**P**	**04 03 32.5**	**-1.0**
WR8	**Warramunga Arr**	**20.70**	**228**	*e*P		**P**	**04 03 32.8**	**-0.9**
WB8	**Warramunga Arr**	**20.71**	**228**	*e*P		**P**	**04 03 33.0**	**-0.6**
WR7	**Warramunga Arr**	**20.72**	**228**	*e*P		**P**	**04 03 32.7**	**-1.0**
WB7	**Warramunga Arr**	**20.72**	**228**	*e*P		**P**	**04 03 33.0**	**-0.8**
WR6	**Warramunga Arr**	**20.74**	**228**	*e*P		**P**	**04 03 33.2**	**-0.8**
WB6	**Warramunga Arr**	**20.74**	**228**	*e*P		**P**	**04 03 33.0**	**-1.0**
WR5	**Warramunga Arr**	**20.75**	**228**	*e*P		**P**	**04 03 33.3**	**-0.8**
WB5	**Warramunga Arr**	**20.76**	**228**	*e*P		**P**	**04 03 33.4**	**-0.8**
WR4	**Warramunga Arr**	**20.77**	**228**	*e*P		**P**	**04 03 33.5**	**-0.8**
WB4	**Warramunga Arr**	**20.78**	**228**	*e*P		**P**	**04 03 33.9**	**-0.4**
WRAB	**Tennant Creek**	**20.80**	**228**	*e*P		**P**	**04 03 34.0**	**-0.7**
WRAB				pmax		pmax		
	comp=Z,73nm,0.7s							
WRAB	**Tennant Creek**	**20.80**	**228**	*e*P		**P**	**04 03 34.0**	**-0.7**
	comp=Z,73nm,0.7s							
WRA	**Warramunga Arr**	**20.82**	**228**	P		**P**	**04 03 33.8**	**-1.0**
	comp=Z,76nm,0.8s,baz=53,slow=11,SNR=18							
WRA				S		**S**	**04 07 22.9**	**-2.6**
	comp=Z,7.2nm,1.3s,baz=54,slow=20,SNR=4.9							
WRA				PcP		**PcP**	**04 07 43.0**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=48,slow=2.5,SNR=2.6							
WRA				ScP		**ScP**	**04 11 21.4**	**+3.8**
	comp=Z,2.0nm,0.9s,baz=52,slow=2.6,SNR=3.8							
QLP	**Quilpie**	**21.00**	**196**	P		**P**	**04 03 37.1**	**+0.4**
	baz=21,SNR=23							
DZM	**Mont Dzumac**	**21.80**	**137**	P		**P**	**04 03 45.3**	**0.0**
	comp=Z,18nm,0.6s,baz=360,slow=7.4,SNR=8.5							
KNRA	**Kununurra**	**23.38**	**245**	⇑P		**P**	**04 04 01.1**	**-0.8**
	baz=23,SNR=4.7							
AS31	**Alice Springs**	**23.56**	**221**	*e*P		**P**	**04 04 02.8**	**-0.9**
ASAR	**Alice Springs**	**23.56**	**221**	P		**P**	**04 04 03.1**	**-0.6**
	comp=Z,21nm,0.8s,baz=54,slow=9.1,SNR=35							
ASAR				S		**S**	**04 08 14.7**	**-1.2**
	comp=Z,1.1nm,0.9s,baz=35,slow=20,SNR=3.2							
ASAR				ScP		**ScP**	**04 11 28.9**	**+4.3**
	comp=Z,2.2nm,0.8s,baz=50,slow=3.5,SNR=6.5							
ARMA	**Armidale**	**23.92**	**178**	⇓P		**P**	**04 04 07.9**	**+0.8**
	baz=24,SNR=6.1							
ARMA	**Armidale**	**23.92**	**178**	*e*P		**P**	**04 04 08.2**	**+1.1**
	comp=Z,19nm,0.8s							
CMSA	**Cobar Meteorol**	**25.45**	**190**	⇓P		**P**	**04 04 20.4**	**-0.5**
	baz=25,SNR=18							
STKA	**Stephens Creek**	**26.74**	**197**	P		**P**	**04 04 31.8**	**-0.8**
	comp=Z,31nm,0.7s,baz=4.9,slow=9.2,SNR=28							
STKA	**Stephens Creek**	**26.74**	**197**	*e*P		**P**	**04 04 31.8**	**-0.8**
STKA				pmax		pmax		
	comp=Z,7.0nm,0.8s							
STKA	**Stephens Creek**	**26.74**	**197**	⇓P		**P**	**04 04 31.9**	**-0.7**
	baz=26							
STKA	**Stephens Creek**	**26.74**	**197**	*e*P		**P**	**04 04 31.8**	**-0.8**
	comp=Z,6.5nm,0.8s							
BATI	**Baumata**	**26.99**	**260**	P		**P**	**04 04 35.3**	**+0.2**
	comp=Z,26nm,0.6s,baz=129,slow=18,SNR=2.4							
FITZ	**Fitzroy Crossi**	**27.05**	**242**	⇑P		**P**	**04 04 34.7**	**-0.8**
	baz=27							
FITZ	**Fitzroy Crossi**	**27.05**	**242**	*e*P		**P**	**04 04 34.7**	**-0.8**
YNG	**Young**	**27.85**	**184**	⇓P		**P**	**04 04 43.2**	**+0.6**
	baz=28,SNR=4.7							
WRKA	**Warakurna**	**28.34**	**227**	P		**P**	**04 04 46.2**	**-0.8**
	baz=28,SNR=14							
CAN	**Canberra**	**28.83**	**183**	⇓P		**P**	**04 04 52.2**	**+0.9**
	baz=28							
HTT	**Hallett**	**29.04**	**201**	⇓P		**P**	**04 04 53.1**	**-0.1**
	baz=29,SNR=12							
BBOO	**Buckleboo**	**29.60**	**205**	⇑P		**P**	**04 04 57.0**	**-1.2**
	baz=29							
KAPI	**Kappang**	**30.80**	**271**	P		**P**	**04 05

LZH				PMZ				
	comp=N,22nm,1.4s							
LZH				PMZ				
	comp=N,78nm,7.5s							
LZH				LN				
	comp=N,400nm,14.5s							
LZH				LE				
	comp=N,400nm,14.7s							
LZH				LZ				
	comp=N,490nm,19.1s							
SONM	**Songino Array**	**66.56**	**329**	P	**P**		04 09 41.7	-1.2
	comp=N,1.3nm,0.5s,baz=156,slow=4.5,SNR=6.3							
ZAK	**Zakamensk**	**69.77**	**330**	*e*P	**P**		04 10 01.1	-1.9
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.2s							
VNDA	**Vanda**	**71.34**	**177**	P	**P**		04 10 12.4	+0.5
	comp=Z,2.6nm,0.6s,baz=333,slow=6.8,SNR=29							
VNDA	**Vanda**	**71.34**	**177**	*e*P	**P**		04 10 12.3	+0.3
VNDA				*e**PP	**pP**		04 10 21.2	-1.0
VNDA				pmax	pmax			
	comp=Z,6.0nm,0.9s							
VNDA	**Vanda**	**71.34**	**177**	*e*P	**P**		04 10 12.3	+0.3
	comp=Z,5.8nm,0.9s							
VNDA				*e*pP	**pP**		04 10 21.2	-1.0
WMQ	**Urumqi**	**75.49**	**318**	P	**P**		04 10 38.1	+1.0
WMQ				pP	**pP**		04 10 47.8	+0.4
WMQ				sP	**sP**		04 10 51.4	+0.2
WMQ				PP	**PP**		04 13 29.3	+2.6
WMQ				S	**S**		04 20 14.4	-1.1
WMQ				SS	**SS**		04 25 07.4	+0.6
WMQ				PMZ				
	comp=Z,8.0nm,0.7s							
WMQ				PMZ				
	comp=Z,55nm,3.8s							
WMQ				LN				
	comp=Z,130nm,18.6s							
WMQ				LE				
	comp=Z,170nm,21.4s							
WMQ				LZ				
	comp=Z,130nm,21.4s							
MKAR	**Makanchi Array**	**80.14**	**320**	P	**P**		04 11 00.5	-2.4
	comp=Z,1.4nm,0.8s,baz=116,slow=5.0,SNR=5.6							
ZALV	**Zalesovo Beam**	**81.31**	**327**	P	**P**		04 11 06.3	-2.5
	comp=Z,1.5nm,0.5s,baz=118,slow=5.3,SNR=5.5							
SML	**Sawmill**	**82.44**	**25**	*e*P	**P**		04 11 14.5	-0.2
SML				pmax	pmax			
	comp=Z,2.0nm,0.7s							
SML	**Sawmill**	**82.44**	**25**	*e*P	**P**		04 11 14.5	-0.2
	comp=Z,1.5nm,0.7s							
MCK	**McKinley**	**83.14**	**23**	*e*P	**P**		04 11 17.8	-0.5
MCK				pmax	pmax			
	comp=Z,9.0nm,0.9s							
MCK	**McKinley**	**83.14**	**23**	*e*P	**P**		04 11 17.8	-0.5
	comp=Z,8.5nm,0.9s							
MAW	**Mawson**	**83.30**	**203**	P	**P**		04 11 18.8	-0.2
	comp=Z,2.0nm,0.9s,baz=51,slow=9.6,SNR=3.7							
KLU	**Klutina**	**83.31**	**26**	*e*P	**P**		04 11 19.8	+0.5
	comp=Z,8.9nm,1.0s							
QSPA	**South Pole Qui**	**83.58**	**180**	*e*P	**P**		04 11 21.2	+0.5
	comp=Z,17nm,1.0s							
CCB	**Clear Creek Bu**	**84.01**	**22**	*e*P	**P**		04 11 21.5	-1.3
	comp=Z,3.0nm,0.8s							
COLA	**College**	**84.11**	**22**	*c i*P	**P**		04 11 21.7	-1.5
COLA				pmax	pmax			
	comp=Z,27nm,1.0s							
COLA	**College**	**84.11**	**22**	*e*P	**P**		04 11 22.1	-1.0
	comp=Z,14nm,1.4s							
ILAR	**Eielson Array**	**84.42**	**22**	P	**P**		04 11 22.1	-2.7
	comp=Z,3.4nm,0.8s,baz=254,slow=4.9,SNR=22							
EGAK	**Eagle**	**86.65**	**23**	*e*P	**P**		04 11 35.8	-0.1
HYT	**Haines Junctio**	**86.81**	**28**	*e*P	**P**		04 11 36.7	-0.2
INK	**Inuvik**	**90.69**	**21**	P	**P**		04 11 52.4	-2.5
	comp=Z,2.2nm,0.9s,baz=165,slow=27,SNR=7.1							
YBH	**Yreka Blue Hor**	**91.68**	**48**	P	**P**		04 12 00.6	+0.2
	comp=Z,3.2nm,1.0s,baz=291,slow=3.5,SNR=4.3							
CMB	**Columbia Colle**	**93.05**	**52**	*e*P	**P**		04 12 07.6	+0.9
CMB				pmax	pmax			
	comp=Z,4.0nm,0.9s							
CMB	**Columbia Colle**	**93.05**	**52**	*e*P	**P**		04 12 07.6	+0.9
	comp=Z,3.7nm,0.9s							
K05A	**Summer Lake**	**93.13**	**48**	*e*P	**P**		04 12 08.0	+0.9
	comp=Z,17nm,1.1s							
MOD	**Modoc**	**93.49**	**48**	*e*P	**P**		04 12 09.3	+0.5
	comp=Z,4.3nm,0.9s							
MWC	**Mount Wilson**	**94.59**	**56**	*e*P	**P**		04 12 15.6	+1.5
MWC				pmax	pmax			
	comp=Z,24nm,1.1s							
MWC	**Mount Wilson**	**94.59**	**56**	*e*P	**P**		04 12 15.6	+1.5
	comp=Z,24nm,1.1s							
NVAR	**Mina Array Bea**	**94.72**	**52**	P	**P**		04 12 15.0	+0.4
	comp=Z,5.6nm,0.8s,baz=251,slow=6.4,SNR=24							
DAC	**Darwin (Calif)**	**95.13**	**54**	*e*P	**P**		04 12 16.6	+0.1
DAC				pmax	pmax			
	comp=Z,7.0nm,1.0s							
DAC	**Darwin (Calif)**	**95.13**	**54**	*e*P	**P**		04 12 16.6	+0.1
	comp=Z,6.6nm,1.0s							
TPH	**Tonopah**	**95.55**	**52**	*e*P	**P**		04 12 18.8	+0.5
TPH				pmax	pmax			
	comp=Z,4.0nm,0.9s							
TPH	**Tonopah**	**95.55**	**52**	*e*P	**P**		04 12 18.8	+0.5
	comp=Z,3.8nm,0.9s							
YKA	**Yellowknife Ar**	**97.81**	**28**	P	**P**		04 12 26.7	-1.0
	comp=Z,1.0nm,0.9s,baz=270,slow=5.0,SNR=11							
PDAR	**Pinedale Array**	**101.47**	**48**	P	**Pdif**		04 12 44.2	-0.6
	comp=Z,1.3nm,0.8s,baz=112,slow=0.8,SNR=9.2							
TXAR	**Lajitas Array**	**106.74**	**61**	Pdiff	**Pdif**		04 13 06.7	-1.8
	comp=Z,0.9nm,1.1s,baz=245,slow=8.2,SNR=4.8							
AKASG	**Malin Array Be**	**114.53**	**323**	PKP	PKPdf		04 17 30.6	-2.0
	comp=Z,0.6nm,0.4s,baz=54,slow=2.3,SNR=5.7							
DPC	**Dobruska-Polom**	**122.00**	**327**	*e*PKPdf	**PKPdf**		04 17 45.3	-1.9
DPC	**Dobruska-Polom**	**122.00**	**327**	*e*PKIKP	**PKPdf**		04 17 45.3	-1.9
TREC	**Trest**	**123.04**	**327**	*e*PKPdf	**PKPdf**		04 17 48.5	-0.6
TREC	**Trest**	**123.04**	**327**	*e*PKIKP	**PKPdf**		04 17 48.5	-0.6
CLL	**Collm**	**123.18**	**330**	*e*PKPdf	**PKPdf**		04 17 49.0	-0.3
GERES	**GERESS Array B**	**124.26**	**327**	PKP	**PKPdf**		04 17 51.0	-0.6
	comp=Z,2.5nm,0.7s,baz=68,slow=1.9,SNR=23							
WTTA	**Wattenberg**	**126.31**	**326**	⇑ *i*PKiKP	**PKPdf**		04 17 54.8	-0.9
	comp=Z,10nm,1.3s							
FETA	**Feichten**	**126.95**	**327**	⇓ *i*PKiKP	**PKPdf**		04 17 56.5	-0.5
	comp=Z,4.2nm,0.7s							
KEST	**Kesra**	**134.08**	**315**	PKP	**PKPdf**		04 18 09.7	-1.0
	comp=Z,0.6nm,0.8s,baz=85,slow=12,SNR=3.0							
LPAZ	**La Paz**	**135.48**	**121**	PKP	**PKPdf**		04 18 14.6	+0.2
	comp=Z,0.4nm,0.6s,baz=300,slow=5.7,SNR=2.2							
TOA0	**Torodi Ar. Sit**	**148.73**	**285**	*e*PKPbc	**PKPbc**		04 18 40.2	-0.8
TORD	**Torodi Ar. Bea**	**148.73**	**285**	PKPbc	**PKPbc**		04 18 39.9	-1.1
	comp=Z,8.6nm,0.7s,baz=85,slow=2.8,SNR=100							
BDFB	**Brasilia**	**151.33**	**140**	PKPbc	**PKPbc**		04 18 46.8	-0.7
	comp=Z,2.3nm,0.6s,baz=254,slow=18,SNR=3.8							
DBIC	**Dimbokro**	**155.69**	**272**	PKIKPbc	PKPdf		04 18 54.1	+6.5
	comp=Z,3.5nm,0.9s,baz=139,slow=12,SNR=2.8							
DBIC	**Dimbokro**	**155.69**	**272**	PKIKP	PKPdf		04 18 54.1	+6.5
DBIC				pmax	pmax			
	comp=Z,4.0nm,0.9s							

*IDC **22** 04:04:29.8±0.9, 6°.33S×150°.68E, h0km, mb4.2/7, mb1 4.5/8, mb1mx4.1/19, mbtmp4.2/8, ML1.9/1, Error ellipse: s-maj=35.2km s-min=20.8km az=119.0*
*ISCJB **22** 04:04:33.3±0.8, 6°.3S±0°.1×150°.6E±0°.1, h33km, mb4.1/6, Error ellipse: s-maj=21.1km s-min=10.7km az=43.3*
ISC 22 04:04:35.0±0.8, 6°.3S±0°.2×150°.6E±0°.2, h33km, n17, σ0s70/17, mb4.3/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.61**	**228**		Op	**Pn**	**04 05 43.4**	**+1.0**
	3.8nm,0.3s,baz=32,slow=14,SNR=6.5							
PMG					Sn	**Sn**	**04 06 34.9**	**0.0**
	3.8nm,0.3s,baz=131,slow=20,SNR=4.9							
RMQ	**Roma**	**20.14**	**185**	P		Pn	04 09 07.8	-0.7
	baz=21,SNR=8.1							
MTN	**Manton Dam**	**20.28**	**250**	P		**P**	**04 09 08.2**	**+0.1**
	baz=21,SNR=4.1							
WRA	**Warramunga Arr**	**20.83**	**228**	P		**P**	**04 09 13.7**	**-0.3**
	16nm,0.9s,baz=51,slow=10,SNR=23							
QLP	**Quilpie**	**21.06**	**196**	P		**P**	**04 09 16.8**	**+0.4**
	baz=22,SNR=10.0							
ASAR	**Alice Springs**	**23.59**	**221**	P		**P**	**04 09 42.8**	**-0.2**
	7.4nm,0.8s,baz=54,slow=9.3,SNR=16							
STKA	**Stephens Creek**	**26.80**	**197**	P		**P**	**04 10 10.8**	**-1.4**
	6.4nm,0.7s,baz=14,slow=10,SNR=9.6							
WRKA	**Warakurna**	**28.36**	**227**	P		**P**	**04 10 25.7**	**-0.5**
	baz=29,SNR=3.6							
MEEK	**Meekatharra**	**36.58**	**233**	P		**P**	**04 11 38.3**	**+0.1**
	baz=38,SNR=3.5							

KLBR	**Kellerberrin**	**39.70**	**226**	P		**P**	**04 12 03.7**	**-0.7**
	baz=41,SNR=6.8							
CMAR	**Chiang Mai Arr**	**56.59**	**297**	P		**P**	**04 14 14.8**	**-0.3**
	1.1nm,0.3s,baz=128,slow=6.3,SNR=4.8							
VNDA	**Vanda**	**71.42**	**177**	P		**P**	**04 15 51.3**	**-0.2**
	0.6nm,0.6s,baz=318,slow=4.8,SNR=7.8							
ILAR	**Eielson Array**	**84.37**	**22**	P		**P**	**04 17 02.9**	**-0.7**
	0.6nm,0.9s,baz=255,slow=6.4,SNR=5.2							
NVAR	**Mina Array Bea**	**94.71**	**52**	P		**P**	**04 17 55.0**	**+1.4**
	1.2nm,0.8s,baz=255,slow=6.5,SNR=5.6							
GERES	**GERESS Array B**	**124.17**	**327**	PKP		**PKPdf**	**04 23 30.8**	**+0.3**
	0.4nm,0.5s,baz=45,slow=1.5,SNR=5.9							
TORD	**Torodi Ar. Bea**	**148.66**	**285**	PKPbc		**PKPbc**	**04 24 19.6**	**-0.2**
	1.5nm,0.6s,baz=67,slow=2.9,SNR=15							
BDFB	**Brasilia**	**151.42**	**140**	PKPbc		**PKPbc**	**04 24 26.6**	**-0.1**
	2.3nm,1.0s,baz=215,slow=12,SNR=3.4							

*IDC **22** 04:15:38.8±1.2, 52°.76N×169°.58W, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.7/30, mbtmp3.6/8, ML3.5/1, Error ellipse: s-maj=42.8km s-min=21.9km az=140.0*
*NEIC **22** 04:15:42.0, 52°.76N×169°.37W, h11km, ML3.6(AEIC), After AEIC.*
*ISCJB **22** 04:15:42.2±1.1, 52°.7N±0°.1×169°.32W±0°.09, h29km±7km, mb3.7/7, Error ellipse: s-maj=18.5km s-min=4.7km az=156.0*
ISC 22 04:15:41.5±2.0, 52°.7N±0°.1×169°.24W±0°.06, h13km±12km, n36, σ1s23/37, mb3.8/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.40**	**35**	P		**Pb**	**04 15 50.1**	**-0.4**
NIKH				S		**Sb**	**04 15 56.9**	**+0.3**
OKWR	**Okmok West Rim**	**1.01**	**38**	P		**Pb**	**04 16 01.4**	**+0.5**
OKCE	**Okmok Cone E**	**1.01**	**39**	P		**Pg**	**04 16 00.5**	**-0.6**
OKCE				S		**Sn**	**04 16 15.2**	**-0.5**
OKTU	**Okmok Mt. Tuli**	**1.03**	**44**	P		**Pg**	**04 16 01.1**	**-0.3**
OKFG	**Magazine Ridge**	**1.11**	**46**	P		**Pb**	**04 16 01.8**	**-0.8**
OKFG				S		**Sb**	**04 16 17.4**	**+0.5**
MSOM	**Makushin Julie**	**1.81**	**49**	P		**Pn**	**04 16 11.9**	**-0.4**
MCIR	**Makushin Cirqu**	**1.92**	**46**	P		**Pn**	**04 16 15.2**	**+1.3**
MSW	**Makushin Switc**	**1.94**	**48**	P		**Pn**	**04 16 14.0**	**-0.2**
MTBL	**Makushin Table**	**2.03**	**48**	P		**Pn**	**04 16 15.8**	**+0.3**
UNV	**Unalaska Valle**	**2.04**	**53**	*e*Pn		**Pn**	**04 16 15.4**	**-0.1**
UNV				*e*S		**Sn**	**04 16 40.6**	**-0.1**
ZRO	**Akutan Zero**	**2.43**	**52**	P		**Pn**	**04 16 22.3**	**+1.4**
AKGG	**Akutan Green G**	**2.49**	**50**	P		**Pn**	**04 16 23.3**	**+1.6**
AKUT	**Akutan**	**2.56**	**53**	*e*Pn		**Pn**	**04 16 24.7**	**+2.1**
AKUT				*e*S		**Sb**	**04 17 00.2**	**+1.7**
ATKA	**Atka Island**	**3.07**	**264**	P		**Pn**	**04 16 28.6**	**-1.0**
FALS	**False Pass**	**4.10**	**55**	*e*Pn		**Pn**	**04 16 44.7**	**+0.9**
FALS				*e*S		**Sn**	**04 17 30.2**	**-1.4**
GSTR	**Great Sitkin T**	**4.22**	**265**	*e*Pn		**Pn**	**04 16 45.1**	**-0.4**
GSTR				*e*S		**Sn**	**04 17 34.5**	**-0.1**
GSMY	**Great Sitkin M**	**4.23**	**265**	P		**Pn**	**04 16 47.6**	**+2.1**
GSCK	**Great Sitkin C**	**4.30**	**264**	P		**Pn**	**04 16 47.0**	**+0.4**
SPIA	**Saint Paul Isl**	**4.58**	**353**	P		**Pn**	**04 16 51.1**	**+0.7**
AMKA	**Amchitka**	**7.19**	**264**	*e*Pn		**Pn**	**04 17 26.7**	**+0.5**
	17nm,0.5s							
CHGN	**Chignik**	**7.29**	**56**	*e*Pn		**Pn**	**04 17 30.5**	**+2.9**
BPAW	**Bear Paw Mtn.**	**14.87**	**32**	*e*Pn		**Pn**	**04 19 13.0**	**+1.8**
	0.8nm,0.6s							
ILAR	**Eielson Array**	**16.68**	**35**	Pn		**Pn**	**04 19 33.0**	**-1.6**
	0.1nm,0.3s,baz=225,slow=12,SNR=7.4							
INK	**Inuvik**	**23.07**	**34**	P		**P**	**04 20 43.8**	**-2.5**
	0.9nm,0.7s,baz=239,slow=5.9,SNR=4.0							
YKA	**Yellowknife Ar**	**30.00**	**49**	P		**P**	**04 21 49.0**	**-0.4**
	0.3nm,0.5s,baz=271,slow=8.0,SNR=10							
NVAR	**Mina Array Bea**	**37.59**	**91**	P		**P**	**04 22 56.5**	**+0.7**
	0.5nm,0.6s,baz=306,slow=7.7,SNR=2.8							
H11N2	**WAKE ISLAND Hy**	**37.72**	**219**	T		T	05 02 53.9	
	baz=23,slow=76,SNR=41							
H11N3	**WAKE ISLAND Hy**	**37.73**	**219**	T		T	05 02 57.9	
	baz=23,slow=76,SNR=75							
H11N1	**WAKE ISLAND Hy**	**37.74**	**219**	T		T	05 02 58.0	
	baz=23,slow=76,SNR=46							
H11S1	**WAKE ISLAND Hy**	**38.91**	**218**	T		T	05 04 23.2	
	baz=23,slow=76,SNR=689							
H11S2	**WAKE ISLAND Hy**	**38.92**	**218**	T		T	05 04 24.6	
	baz=23,slow=76,SNR=585							
H11S3	**WAKE ISLAND Hy**	**38.93**	**218**	T		T	05 04 27.0	
	baz=23,slow=76,SNR=391							
PDAR	**Pinedale Array**	**40.27**	**80**	P		**P**	**04 23 18.9**	**+0.6**
	1.2nm,0.6s,baz=316,slow=6.2,SNR=6.3							
TXAR	**Lajitas Array**	**52.66**	**89**	P		**P**	**04 24 56.5**	**+1.1**
	1.0nm,0.6s,baz=294,slow=5.6,SNR=14							
WRA	**Warramunga Arr**	**87.24**	**232**	P		**P**	**04 28 26.0**	**-1.5**
	0.4nm,0.3s,baz=30,slow=7.0,SNR=6.0							
ASAR	**Alice Springs**	**90.64**	**230**	P		**P**	**04 28 43.2**	**-0.3**
	0.4nm,0.7s,baz=32,slow=5.5,SNR=4.2							

*AZER **22** 04:44:30.3±97.0, 38°.89N×42°.52E, h5km, Error ellipse: s-maj=22.5km s-min=11.3km az=287.0*
*NSSP **22** 04:44:32.5, 39°.02N×42°.98E, h5km, Ms3.2*
*DDA **22** 04:44:33.0, 39°.31N×42°.75E, h5km, MD3.4*
*ISK **22** 04:44:32.0, 39°.25N×42°.74E, h5km, ML3.5*
*CSEM **22** 04:44:33.4±0.2, 39°.26N×42°.73E, h2km, ML3.5, Error ellipse: s-maj=5.8km s-min=4.9km az=128.0*
ISC 22 04:44:33.0±1.1, 39°.22N±0°.02×42°.75E±0°.02, h5km±10km, n63, σ1s22/88, 6C-6D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AGRB	**Hanur-Agry**	**0.40**	**28**	*e*PG		**Pg**	**04 44 40.3**	**-0.5**
AGRB				*e*SG		**Sg**	**04 44 47.1**	**+1.0**
AGRB	**Hanur-Agry**	**0.40**	**28**	*e*Pg		**Pg**	**04 44 40.3**	**-0.5**
AGRB				*e*Sg		**Sg**	**04 44 47.1**	**+1.0**
EKAR	**Karacoban**	**0.53**	**274**	*i* P		**Pg**	**04 44 43.6**	**+0.4**
EKAR				*i* S		**Sb**	**04 44 53.5**	**+0.5**
EKAR	**Karacoban**	**0.53**	**274**	*i* P		**Pg**	**04 44 43.6**	**+0.4**
EKAR				*i* S		**Sb**	**04 44 53.5**	**+0.5**
EATA	**Eleskirt**	**0.67**	**343**	*i* P		**Pg**	**04 44 44.3**	**-1.6**
EATA				*i* S		**Sg**	**04 44 54.6**	**0.0**
EATA	**Eleskirt**	**0.67**	**343**	*i* P		**Pg**	**04 44 44.3**	**-1.6**
EATA				*i* S		**Sg**	**04 44 54.6**	**0.0**
DYDN	**Diyadin**	**0.80**	**66**	*i* P		**Pg**	**04 44 47.0**	**-1.3**
DYDN				*i* S		**Sg**	**04 44 58.5**	**-0.2**
DYDN	**Diyadin**	**0.80**	**66**	*i* P		**Pg**	**04 44 47.0**	**-1.3**
DYDN				*i* S		**Sg**	**04 44 58.5**	**-0.2**
TATV	**Tatvan**	**0.81**	**208**	*i* P		**Pg**	**04 44 48.7**	**+0.3**
TATV				*i* S		**Sn**	**04 45 03.0**	**-0.6**
TATV	**Tatvan**	**0.81**	**208**	*i* P		**Pg**	**04 44 48.7**	**+0.3**
TATV				*i* S		**Sn**	**04 45 03.0**	**-0.6**
TVAN	**Van**	**0.86**	**143**	*i* P		**Pn**	**04 44 51.0**	**-1.0**
TVAN				*i* S		**Sn**	**04 45 05.3**	**+0.2**
TVAN	**Van**	**0.86**	**143**	*i* P		**Pn**	**04 44 51.0**	**-1.0**
TVAN				*i* S		**Sn**	**04 45 05.3**	**+0.2**
CLDR	**Caldiran**	**0.91**	**95**	*e*PG		**Pb**	**04 44 50.9**	**-0.5**
CLDR				*e*SG		**Sb**	**04 45 04.2**	**+0.2**
CLDR	**Caldiran**	**0.91**	**95**	*e*Pg		**Pb**	**04 44 50.9**	**-0.5**
CLDR				*e*Sg		**Sb**	**04 45 04.2**	**+0.2**
VRTB	**Varto-Mus**	**1.00**	**267**	*e*PG		**Pg**	**04 44 52.5**	**+0.2**
VRTB				*e*SG		**Sn**	**04 45 07.7**	**-0.8**
VRTB	**Varto-Mus**	**1.00**	**267**	*e*Pg		**Pg**	**04 44 52.5**	**+0.2**
VRTB				*e*Sg		**Sn**	**04 45 07.7**	**-0.8**
HOMI	**Horasan**	**1.05**	**322**	*i* P		**Pg**	**04 44 51.4**	**-1.7**
HOMI				*i* S		**Sn**	**04 45 09.5**	**-0.2**
EZM	**Erzurum**	**1.27**	**303**	*e*PN		**Pn**	**04 44 56.6**	**-1.1**
BNGL	**BINGOL**	**1.27**	**258**	*i* P		**Pn**	**04 44 56.8**	**-0.8**
BNGL				*i* S		**Sg**	**04 45 15.7**	**+1.8**
DIGO	**Kars**	**1.29**	**22**	*i* P		**Pn**	**04 44 56.8**	**-1.1**
DIGO				*i* S		**Sg**	**04 45 18.4**	**+4.0**
DIGO	**Kars**	**1.29**	**22**	*i* P		**Pn**	**04 44 56.8**	**-1.1**
BTMT	**Batman**	**1.42**	**224**	*e*PN		**Pg**	**04 45 00.2**	**-0.1**
BTMT	**Batman**	**1.42**	**224**	*e*Pn		**Pg**	**04 45 00.2**	**-0.1**
KARS	**Kars**	**1.43**	**10**	*e*PN		**Pb**	**04 44 59.5**	**-0.7**
KARS	**Kars**	**1.43**	**10**	*e*Pn		**Pb**	**04 44 59.5**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.62**	**229**	*e*PN		**Pb**	**04 45 02.8**	**-0.5**
SVAN				*e*SN		**Sg**	**04 45 25.4**	**+0.5**
BNGB	**Bing˜¶l**	**1.62**	**263**	*e*PN		**Pb**	**04 45 02.5**	**-1.0**
SIRT	**Sirnak**	**1.73**	**188**	*e*PN		**Pg**	**04 45 05.7**	**-0.5**
SIRT	**Sirnak**	**1.73**	**188**	*e*Pn		**Pg**	**04 45 05.7**	**-0.5**
GMRZ	**Gyumri**	**1.79**	**27**	*e*		**Pn**	**04 45 05.0**	**+0.3**
GNI	**Garni**	**1.80**	**58**	⇑ *i*P		**Pb**	**04 45 05.5**	**-1.0**
GNI				⇓ *i*S		**Sg**	**04 45 30.3**	**-0.4**
GNI	**Garni**	**1.80**	**58**	⇑P		**Pb**	**04 45 05.5**	**-1.0**
GNI				S		**Sg**	**04 45 30.3**	**-0.4**
HKR	**Hakkari**	**1.82**	**154**	*e*PN		**Pb**	**04 45 05.7**	**-1.1**
HKR	**Hakkari**	**1.82**	**154**	*e*Pn		**Pb**	**04 45 05.7**	**-1.1**
CUKT	**Cukurca**	**2.08**	**161**	*e*PN		**Pb**	**04 45 10.6**	**-0.8**
CUKT	**Cukurca**	**2.08**	**161**	*e*Pn		**Pb**	**04 45 10.6**	**-0.8**
NAX	**Nakhchivan**	**2.14**	**90**	⇓P		**Pg**	**04 45 13.5**	**-0.4**
NAX				⇑S		**Sg**	**04 45 44.5**	**+2.9**
NAX	**Nakhchivan**	**2.14**	**90**	P		**Pg**	**04 45 13.5**	**-0.4**
STE	**Stepanavan**	**2.17**	**35**	P		**Pn**	**04 45 10.0**	**+0.1**
STEZ	**Stepenevan**	**2.18**	**35**	*e*P		**Pn**	**04 45 10.0**	**-0.1**
AKH	**Akhalkalaki**	**2.26**	**14**	P		**Pb**	**04 45 14.3**	**-0.1**
AKH	**Akhalkalaki**	**2.26**	**14**	P		**Pb**	**04 45 14.3**	**-0.1**
ERZN	**Erzincan**	**2.37**	**280**	*e*PN		**Pb**	**04 45 14.0**	**-2.2**
DIY	**Diyarbakir**	**2.38**	**237**	*e*Pn		**Pb**	**04 45 14.2**	**-2.1**
BCA	**Borcka**	**2.38**	**339**	*e*PN		**Pb**	**04 45 14.1**	**-2.3**
BCA	**Borcka**	**2.38**	**339**	*e*Pn		**Pb**	**04 45 14.1**	**-2.3**
DYBB	**Diyarbakir**	**2.40**	**239**	*e*PN		**Pn**	**04 45 14.2**	**+1.1**
MAZI	**Mazidag**	**2.52**	**226**	*e*PN		**Pn**	**04 45 15.1**	**+0.3**
MAZI	**Mazidag**	**2.52**	**226**	*e*Pn		**Pn**	**04 45 15.1**	**+0.3**
QZX	**Qazax, Azerbai**	**2.72**	**47**	⇓P		**Pb**	**04 45 22.0**	**-0.2**
	SNR=3.0							
QZX				⇑S		**Sg**	**04 46 02.9**	**+2.5**
QZX	**Qazax, Azerbai**	**2.72**	**47**	P		**Pb**	**04 45 22.0**	**-0.2**
	SNR=3.0							
GUMT	**Gumushane**	**2.80**	**297**	*e*PN		**Pn**	**04 45 19.9**	**+1.3**
GUMT	**Gumushane**	**2.80**	**297**	*e*Pn		**Pn**	**04 45 19.9**	**+1.3**
TBLG	**Delisi**	**2.93**	**31**	P		**Pb**	**04 45 25.8**	**0.0**
DGRG	**David-gareji**	**3.00**	**41**	P		**Pn**	**04 45 23.1**	**+1.9**
DGRG	**David-gareji**	**3.00**	**41**	P		**Pn**	**04 45 23.1**	**+1.9**
GANJ	**Ganja**	**3.10**	**62**	⇓P		**Pb**	**04 45 28.5**	**0.0**
	SNR=7.9							
GANJ				⇓S		**Sg**	**04 46 10.6**	**-1.8**
ONI	**Oni**	**3.41**	**9**	P		**Pn**	**04 45 28.7**	**+1.9**
ONI	**Oni**	**3.41**	**9**	P		**Pn**	**04 45 28.7**	**+1.9**
CHVG	**Ch'k'valeri**	**3.53**	**352**	*e*PN		**Pn**	**04 45 30.5**	**+2.0**
CHVG	**Ch'k'valeri**	**3.53**	**352**	*e*Pn		**Pn**	**04 45 30.5**	**+2.0**
ZKTA	**Zakatala**	**3.82**	**50**	⇑P		Pb	04 45 36.9	-4.0
	SNR=2.9							
ZKTA				⇑S		**Sb**	**04 46 29.6**	**+2.2**
LRK	**Lerik**	**4.40**	**96**	⇓P		**Pg**	**04 45 55.9**	**-1.4**
	SNR=4.6							

*BJI **22** 04:44:54.6, 3°.51S×128°.40E, h15km, mb4.7/32, mB5.1/24, Ms4.7/19, Ms7 4.3/20*
*IDC **22** 04:44:58.9±0.4, 2°.94S×128°.02E, h0km, mb4.6/23, mb1 4.7/27, mb1mx4.6/34, mbtmp4.6/27, ML4.8/4, MS4.1/7, Ms1 4.1/7, ms1mx3.7/53, Error ellipse: s-maj=17.1km s-min=8.6km az=74.0*
*MOS **22** 04:45:01.3±0.9, 2°.90S×128°.04E, h28km, mb4.8/20, Error ellipse: s-maj=12.2km s-min=7.1km az=174.0*
*ISCJB **22** 04:45:03.0±0.2, 2°.83S±0°.02×128°.09E±0°.02, h33km, mb4.7/55, MS3.9/4, Error ellipse: s-maj=3.0km s-min=2.5km az=32.8*
*GCMT **22** 04:45:

KKM	**Kota Kinabalu**	**14.83**	**307**	P		**Pn**	**04 48 29.7**	**-1.5**
	baz=15,SNR=6.1							
KKM	**Kota Kinabalu**	**14.83**	**307**	*e*Pn		**Pn**	**04 48 29.0**	**-2.2**
JAGI	**Jajag, Banyuwa**	**14.96**	**248**	P		**Pn**	**04 48 35.6**	**+2.6**
BLJI	**Banyuglugur**	**15.25**	**251**	P		**P**	**04 48 39.7**	**-1.7**
FITZ	**Fitzroy Crossi**	**15.33**	**189**	*e*Pn		**Pn**	**04 48 39.3**	**+1.5**
	34nm,0.9s							
GRJI	**Gresik**	**16.09**	**255**	P		**P**	**04 48 50.6**	**-0.2**
SBUM	**Sibu**	**16.75**	**288**	*e*P		**P**	**04 48 59.7**	**+1.5**
	56nm,1.7s							
PWJI	**Pagerwojo**	**17.02**	**252**	P		**P**	**04 49 01.6**	**+0.4**
NGJI	**Ngawi**	**17.18**	**254**	P		**P**	**04 49 04.4**	**+1.5**
WOJI	**Wonogiri, Jawa**	**17.81**	**253**	P		**P**	**04 49 12.1**	**+2.2**
	217nm,1.1s,7µm							
WRAB	**Tennant Creek**	**18.01**	**161**	*e*P		**Pn**	**04 49 11.7**	**-0.1**
WRAB				*e*S		**Sn**	**04 52 32.0**	**-0.2**
WRAB				pmax	pmax			
	comp=Z,52nm,1.1s							
WRAB	**Tennant Creek**	**18.01**	**161**	*e*Pn		**Pn**	**04 49 11.7**	**-0.1**
	comp=Z,52nm,1.1s							
WRAB				*e*S		**Sn**	**04 52 32.0**	**-0.2**
WRA	**Warramunga Arr**	**18.02**	**161**	P		**Pn**	**04 49 11.6**	**-0.2**
	comp=Z,5.7nm,0.3s,baz=341,slow=12,SNR=50							
WRA				S		**Sn**	**04 52 32.0**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=340,slow=21,SNR=5.5							
SMRI	**Semarang**	**18.09**	**256**	P		**P**	**04 49 15.5**	**+2.5**
SMRI	**Semarang**	**18.09**	**256**	*e*Pn		**P**	**04 49 14.3**	**+1.2**
	comp=Z,154nm,0.9s							
UGM	**Wanagama**	**18.21**	**253**	P		**P**	**04 49 15.7**	**+1.3**
	baz=18,SNR=3.6							
KSM	**Kuching**	**18.32**	**283**	P		**Pn**	**04 49 17.0**	**+1.4**
	baz=18,SNR=12							
KSM	**Kuching**	**18.32**	**283**	*e*Pn		**Pn**	**04 49 16.6**	**+1.0**
	comp=Z,132nm,1.4s							
COEN	**Coen**	**18.50**	**127**	P		**Pn**	**04 49 18.3**	**+0.5**
	baz=19,SNR=34							
COEN	**Coen**	**18.50**	**127**	*e*Pn		**Pn**	**04 49 17.9**	**+0.1**
	comp=Z,66nm,1.0s							
COEN				*e*S		Sn	04 52 33.5	-11
MBWA	**Marble Bar**	**19.92**	**204**	*e*P		**P**	**04 49 32.4**	**-0.7**
	comp=Z,70nm,1.2s							
PMG	**Port Moresby**	**20.00**	**110**	LR		LR	05 00 36.4	
	comp=Z,915nm,18.1s,baz=298,slow=47							
PMG	**Port Moresby**	**20.00**	**110**	*e*P		**Pn**	**04 49 35.2**	**-0.6**
CMJI	**Cimerak**	**20.18**	**255**	P		**P**	**04 49 34.0**	**-1.9**
CISI	**Cisompet, Garu**	**20.74**	**256**	P		**P**	**04 49 40.1**	**-2.0**
CISI	**Cisompet, Garu**	**20.74**	**256**	*e*P		**P**	**04 49 40.4**	**-1.7**
	comp=Z,128nm,0.6s							
LEM	**Lembang**	**20.80**	**258**	P		Pn	04 49 46.1	+0.8
	comp=Z,82nm,0.9s							
LEM	**Lembang**	**20.80**	**258**	P		**P**	**04 49 42.7**	**-0.1**
	comp=Z,50nm,0.7s,baz=337,slow=12,SNR=8.1							
LEM				LR		LR	04 58 50.5	
	comp=Z,2µm,19.9s,baz=92,slow=40							
QIS	**Mount Isa**	**20.84**	**148**	P		**P**	**04 49 43.6**	**+0.5**
	baz=21,SNR=31							
AS31	**Alice Springs**	**21.41**	**165**	*e*P		**P**	**04 49 49.5**	**+0.3**
AS31				*e*S		**S**	**04 53 42.6**	**-3.3**
ASAR	**Alice Springs**	**21.41**	**165**	P		**P**	**04 49 49.4**	**+0.2**
	comp=Z,96nm,0.9s,baz=345,slow=11,SNR=264							
ASAR				S		**S**	**04 53 44.2**	**-1.7**
	comp=Z,24nm,1.1s,baz=340,slow=17,SNR=16							
MTSU	**Mount Surprise**	**21.95**	**135**	P		**P**	**04 49 57.1**	**+2.0**
	baz=22,SNR=11							
PPBI	**Pangkal Pinang**	**21.97**	**271**	P		**P**	**04 49 57.6**	**+2.3**
WRKA	**Warakurna**	**22.03**	**180**	P		**P**	**04 49 56.1**	**+0.2**
	baz=22,SNR=53							
GUMO	**Guam**	**23.32**	**45**	LR		LR	04 58 54.4	
	comp=Z,100nm,19.1s,baz=203,slow=36							
KLSI		**23.41**	**265**	P		**P**	**04 50 10.2**	**-0.1**
GIRL	**Giralia**	**23.82**	**213**	P		**P**	**04 50 12.6**	**-1.6**
	baz=24,SNR=7.6							
MDSI	**Maura Dua**	**23.94**	**265**	P		**P**	**04 50 15.1**	**-0.4**
LHSI	**Lahat**	**24.57**	**267**	P		**P**	**04 50 22.7**	**+1.4**
	comp=Z,103nm,1.0s							
CTA	**Charters Tower**	**24.62**	**135**	P		**P**	**04 50 23.1**	**+1.5**
	comp=Z,5.6nm,1.0s,baz=297,slow=8.9,SNR=2.2							
MEEK	**Meekatharra**	**25.32**	**200**	P		**P**	**04 50 26.7**	**-1.3**
	baz=25,SNR=28							
PDSI	**Padang**	**27.71**	**273**	P		**P**	**04 50 49.7**	**0.0**
	comp=Z,34nm,0.9s							
FORT	**Forrest**	**27.75**	**180**	P		**P**	**04 50 49.2**	**-0.5**
	baz=28,SNR=17							
FORT	**Forrest**	**27.75**	**180**	*e*P		**P**	**04 50 49.0**	**-0.8**
	comp=Z,21nm,0.7s							
PPI	**Padang Panjang**	**27.81**	**274**	P		**P**	**04 50 51.3**	**+0.8**
	comp=Z,53nm,1.1s							
IPM	**Ipoh**	**28.04**	**285**	*e*P		**P**	**04 50 53.4**	**+0.7**
	comp=Z,46nm,1.6s							
MORW	**Morawa**	**28.47**	**203**	P		**P**	**04 50 58.5**	**+2.3**
	baz=29,SNR=3.5							
KULM	**Kulim**	**28.61**	**286**	*e*P		**P**	**04 50 57.1**	**-0.6**
	comp=Z,18nm,1.2s							
MNSI	**Mandailing Nat**	**28.76**	**277**	P		**P**	**04 50 59.7**	**+0.7**
	comp=Z,42nm,0.8s							
KMBL	**Kambalda**	**28.94**	**191**	P		**P**	**04 50 59.0**	**-1.4**
	baz=29,SNR=11							
BLDU	**Ballidu**	**29.63**	**200**	P		**P**	**04 51 05.9**	**-0.5**
	baz=30,SNR=6.7							
PSI	**Prapat**	**29.72**	**281**	P		**P**	**04 51 06.8**	**-0.8**
	comp=Z,4.4nm,0.3s,baz=111,slow=4.2,SNR=6.2							
KLBR	**Kellerberrin**	**30.19**	**198**	P		**P**	**04 51 09.8**	**-1.7**
	baz=30,SNR=12							
BBOO	**Buckleboo**	**30.70**	**167**	P		**P**	**04 51 15.1**	**-0.8**
	baz=31,SNR=41							
BBOO	**Buckleboo**	**30.70**	**167**	*e*P		**P**	**04 51 15.2**	**-0.8**
	comp=Z,76nm,1.7s							
GSI	**Gunungsitoli**	**30.82**	**277**	*e*P		**P**	**04 51 16.0**	**-1.3**
	comp=Z,39nm,0.9s							
KHON	**Khomkaen**	**31.45**	**308**	P		**P**	**04 51 24.1**	**+1.3**
	comp=Z,29nm,0.9s,comp=Z,1µm							
STKA	**Stephens Creek**	**31.52**	**158**	P		**P**	**04 51 22.9**	**-0.2**
	comp=Z,8.5nm,0.5s,baz=339,slow=8.2,SNR=34							
STKA	**Stephens Creek**	**31.52**	**158**	*e*P		**P**	**04 51 22.8**	**-0.4**
STKA				pmax	pmax			
	comp=Z,4.0nm,1.1s							
STKA	**Stephens Creek**	**31.52**	**158**	P		**P**	**04 51 22.9**	**-0.4**
	baz=32,SNR=29							
STKA	**Stephens Creek**	**31.52**	**158**	*e*P		**P**	**04 51 22.8**	**-0.4**
	comp=Z,3.7nm,1.1s							
NWAO	**Narrogin (SRO)**	**31.59**	**198**	P		**P**	**04 51 22.2**	**-1.6**
	comp=Z,12nm,0.5s,baz=326,slow=5.2,SNR=16							
CHAI	**Chaiyaphum**	**31.87**	**307**	P		**P**	**04 51 27.5**	**+1.0**
	comp=Z,11nm,0.9s							
HTT	**Hallett**	**32.03**	**163**	P		**P**	**04 51 28.0**	**+0.2**
	baz=32,SNR=7.7							
CMSA	**Cobar Meteorol**	**32.97**	**152**	P		**P**	**04 51 38.1**	**+2.2**
	baz=33,SNR=10							
PBKT	**Sadao Pong**	**33.05**	**307**	P		P	04 51 43.5	+6.7
	comp=Z,9.8nm,0.8s							
UTTA	**Uttaradit**	**34.03**	**308**	P		**P**	**04 51 46.8**	**+1.4**
	comp=Z,3.2nm,1.0s							
CRAI	**Chiangrai**	**35.62**	**311**	P		P	04 52 06.6	+7.6
	comp=Z,13nm,1.9s							
CMAR	**Chiang Mai Arr**	**35.70**	**308**	P		**P**	**04 52 00.1**	**+0.4**
	comp=Z,1.9nm,0.4s,baz=141,slow=7.4,SNR=7.4							
CMAR				PcP		**PcP**	**04 54 29.3**	**+1.4**
	comp=Z,1.1nm,0.3s,baz=155,slow=2.9,SNR=5.5							
CMAR	**Chiang Mai Arr**	**35.70**	**308**	*i* P		P	04 51 56.0	-3.8
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
GYA	**Guiyang**	**35.79**	**326**	*e*P		**P**	**04 52 02.1**	**+1.6**
GYA				PP		**PP**	**04 53 24.5**	**+2.4**
GYA				S		**S**	**04 57 40.6**	**+3.8**
GYA				PMZ				
	comp=Z,10.0nm,0.8s							
GYA				PMZ				
	comp=Z,90nm,4.8s							
GYA				LN				
	comp=Z,480nm,16.6s							
GYA				LE				
	comp=Z,380nm,17.0s							
GYA				LZ				
	comp=Z,460nm,16.8s							
CMMT	**Chiang Mai**	**35.90**	**308**	P		**P**	**04 52 02.7**	**+1.3**
	comp=Z,29nm,1.2s							
CHTO	**Chiang Mai**	**35.90**	**308**	P		**P**	**04 52 02.8**	**+1.3**
	comp=Z,66nm,1.2s							
CHTO	**Chiang Mai**	**35.90**	**308**	*e*P		**P**	**04 52 02.1**	**+0.6**
CHTO				pmax	pmax			
	comp=Z,8.0nm,0.8s							
CHTO	**Chiang Mai**	**35.90**	**308**	*e*P		**P**	**04 52 02.0**	**+0.6**
	comp=Z,8.0nm,0.8s							
ARPS	**Mount Arapiles**	**36.02**	**161**	P		**P**	**04 52 03.6**	**+1.3**
	baz=36,SNR=8.9							
KMI	**Kunming**	**37.16**	**320**	P		**P**	**04 52 14.8**	**+2.4**
KMI				pP		**pP**	**04 52 22.3**	**+2.8**
KMI				sP		**sP**	**04 52 24.8**	**+2.5**
KMI				PMZ				
	comp=Z,10.0nm,1.9s							
KMI				PMZ				
	comp=Z,190nm,3.6s							
TOO	**Toolangi**	**38.03**	**157**	P		**P**	**04 52 21.5**	**+2.0**
	baz=38,SNR=4.5							
KSAR	**Wonju Array Be**	**40.11**	**360**	P		**P**	**04 52 37.5**	**+0.8**
KSAR	**Wonju Array Be**	**40.11**	**360**	P		**P**	**04 52 37.5**	**+0.8**
KSRS	**Korea Array**	**40.12**	**360**	P		**P**	**04 52 37.5**	**+0.7**
	comp=Z,4.3nm,0.9s,baz=176,slow=9.0,SNR=8.9							
KSRS				LR		LR	05 10 15.4	
	comp=Z,86nm,21.2s,baz=189,slow=38							
KSRS	**Korea Array**	**40.12**	**360**	P		**P**	**04 52 37.5**	**+0.7**
KSRS				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KSRS				MLR		MLR		
	comp=Z,86nm,21.3s							
MJAR	**Matsushiro Arr**	**40.33**	**13**	P		**P**	**04 52 38.5**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=187,slow=9.3,SNR=4.3							
MJAR				ScP		**ScP**	**04 58 30.7**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=191,slow=5.8,SNR=4.3							
CD2	**Chengdu**	**40.84**	**327**	P		**P**	**04 52 43.4**	**+0.5**
CD2				pP		**pP**	**04 52 47.4**	**-2.6**
CD2				sP		**sP**	**04 52 49.1**	**-3.8**
CD2				PP		**PP**	**04 54 18.0**	**+0.6**
CD2				S		**S**	**04 58 55.9**	**+2.9**
CD2				SS		**SnSn**	**05 01 59.3**	**-2.8**
CD2				PMZ				
	comp=Z,10.0nm,0.7s							
CD2				PMZ				
	comp=Z,210nm,4.5s							
CD2				LN				
	comp=Z,670nm,5.5s							
CD2				LZ				
	comp=Z,320nm,5.9s							
LZH	**Lanzhou**	**44.91**	**332**	*e*P		**P**	**04 53 17.3**	**+1.3**
LZH				pP		**pP**	**04 53 21.3**	**-1.8**
LZH				sP		**sP**	**04 53 23.5**	**-2.5**
LZH				*e*PP		**PP**	**04 55 03.5**	**+2.3**
LZH				*e*S		**S**	**04 59 55.3**	**+2.4**
LZH				PMZ				
	comp=Z,23nm,1.3s							
LZH				PMZ				
	comp=Z,140nm,8.4s							
LZH				LN				
	comp=Z,380nm,14.0s							
LZH				LE				
	comp=Z,310nm,14.1s							
LZH				LZ				
	comp=Z,470nm,16.5s							
HHC	**Hu-ho-hao-te**	**46.07**	**343**	*e*P		**P**	**04 53 28.0**	**+3.0**
HHC				PP		**PP**	**04 55 16.6**	**+3.2**
HHC				S		**S**	**05 00 13.6**	**+4.2**
HHC				SS		**SS**	**05 03 32.5**	**-2.3**
HHC				PMZ				
	comp=Z,65nm,8.6s							
HHC				LN				
	comp=Z,82nm,13.6s							
HHC				LE				
	comp=Z,110nm,14.8s							
HHC				LZ				
	comp=Z,50nm,14.8s							
CN2	**Changchun**	**46.53**	**357**	*e*P		P	04 53 32.8	+4.4
CN2				PMZ				
	comp=Z,10.0nm,0.6s							
ERM	**Erimo**	**46.72**	**15**	*i* P		**P**	**04 53 28.6**	**-1.4**
ERM				pmax	pmax			
	comp=Z,16nm,1.3s							
USRK	**Ussuriysk Ar.**	**46.99**	**4**	P		**P**	**04 53 32.0**	**-0.1**
	comp=Z,3.1nm,0.6s,baz=188,slow=6.5,SNR=8.0							
LSA	**Lhasa**	**47.95**	**315**	P		**P**	**04 53 41.8**	**+1.4**
LSA	**Lhasa**	**47.95**	**315**	*e*P		**P**	**04 53 41.0**	**+0.6**
LSA				pmax	pmax			
	comp=Z,16nm,0.8s							
LSA	**Lhasa**	**47.95**	**315**	*e*P		**P**	**04 53 41.0**	**+0.6**
	comp=Z,16nm,0.8s							
ODAN	**Odare**	**49.18**	**310**	*e*P		**P**	**04 53 50.1**	**+0.5**
	comp=Z,66nm,0.8s							
TAPN	**Taplejung**	**49.18**	**310**	*e*P		**P**	**04 53 50.2**	**+0.5**
	comp=Z,53nm,0.9s							
GTA	**Gaotai**	**49.48**	**331**	P		**P**	**04 53 52.4**	**+0.8**
GTA				pP		**pP**	**04 53 56.9**	**-1.9**
GTA				sP		**sP**	**04 53 59.3**	**-2.3**
GTA				PcP		**PcP**	**04 55 13.8**	**+0.3**
GTA				S		**S**	**05 00 58.9**	**+1.0**
GTA				ScS		**ScS**	**05 03 39.3**	**-3.0**
GTA				PMZ				
	comp=Z,4.0nm,1.3s							
GTA				PMZ				
	comp=Z,96nm,5.9s							
GTA				LN				
	comp=Z,160nm,17.6s							
GTA				LE				
	comp=Z,230nm,18.0s							
GTA				LZ				
	comp=Z,180nm,18.1s							
RAMN	**Ramite**	**49.83**	**309**	*e*P		**P**	**04 53 54.9**	**+0.3**
	comp=Z,89nm,0.7s							
GUN	**Gumba**	**50.86**	**310**	*e*P		**P**	**04 54 02.8**	**+0.3**
	comp=Z,63nm,0.7s							
PKI	**Pulchoki**	**51.06**	**309**	*e*P		**P**	**04 54 03.6**	**-0.4**
	comp=Z,31nm,1.0s							
PKIN	**Phulchoki**	**51.07**	**309**	*e*P		**P**	**04 54 04.8**	**+0.8**
KKN	**Kakani**	**51.27**	**309**	*e*P		**P**	**04 54 05.1**	**-0.3**
	comp=Z,36nm,0.9s							
DMN	**Daman**	**51.31**	**309**	*e*P		**P**	**04 54 05.6**	**-0.2**
	comp=Z,43nm,0.9s							
GKN	**Gorkha**	**51.87**	**309**	*e*P		**P**	**04 54 10.1**	**+0.3**
	comp=Z,43nm,0.8s							
KLR	**Kul'dur**	**51.99**	**3**	*e*P		P	04 54 06.1	-4.0
KOLN	**Koldanda**	**52.56**	**309**	*e*P		**P**	**04 54 15.2**	**+0.2**
	comp=Z,67nm,0.8s							
DANN	**Dangsing**	**52.71**	**309**	*e*P		**P**	**04 54 16.2**	**0.0**
	comp=Z,14nm,0.7s							
ULN	**Ulaanbaatar**	**53.79**	**343**	*e*P		**P**	**04 54 23.7**	**0.0**
ULN				pmax	pmax			
	comp=Z,7.0nm,1.0s							
ULN	**Ulaanbaatar**	**53.79**	**343**	*e*P		**P**	**04 54 23.7**	**0.0**
	comp=Z,7.5nm,1.0s							
SONM	**Songino Array**	**53.96**	**342**	P		**P**	**04 54 24.9**	**0.0**
	comp=Z,3.2nm,1.0s,baz=161,slow=8.2,SNR=14							
ZAK	**Zakamensk**	**57.18**	**341**	*e*P		P	04 54 54.2	+6.3
ZAK				*e*			04 55 42.9	
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.0s							
WMQ	**Urumqi**	**58.94**	**327**	P		**P**	**04 54 58.8**	**-1.6**
WMQ	**Urumqi**	**58.94**	**327**	P		**P**	**04 55 01.0**	**+0.6**
WMQ				pP		**pP**	**04 55 06.3**	**-1.4**
WMQ				sP		**sP**	**04 55 08.4**	**-2.1**
WMQ				PMZ				
	comp=Z,12nm,1.2s							
WMQ				PMZ				
	comp=Z,89nm,6.0s							
WMQ				LN				
	comp=Z,120nm,20.1s							
WMQ				LE				
	comp=Z,120nm,20.0s							
WMQ				LZ				
	comp=Z,70nm,21.6s							
BOD	**Bodaibo**	**61.56**	**351**	*e*P		**P**	**04 55 17.8**	**-0.1**
BOD				pmax	pmax			
	comp=Z,5.0nm,1.5s							
KSH	**Kashi**	**63.74**	**317**	P		**P**	**04 55 34.1**	**+1.1**
KSH				pP		**pP**	**04 55 39.8**	**-0.6**
KSH				PP		PP	04 58 00.6	+7.2
KSH				S		**S**	**05 04 05.9**	**-0.7**
KSH				sS		**sS**	**05 04 19.4**	**+0.6**
KSH				SS		**SS**	**05 08 21.3**	**+6.4**
KSH				PMZ				
	comp=Z,13nm,0.8s							
KSH				PMZ				
	comp=Z,150nm,4.9s							
KSH				LN				
	comp=Z,270nm,6.6s							
KSH				LE				
	comp=Z,130nm,4.8s							
KSH				LZ				
	comp=Z,830nm,7.5s							
MK31	**Makanchi Array**	**63.77**	**327**	*e*P		**P**	**04 55 32.8**	**-0.2**
MK31	**Makanchi Array**	**63.77**	**327**	*e*P		**P**	**04 55 32.8**	**-0.2**
MKAR	**Makanchi Array**	**63.77**	**327**	P		**P**	**04 55 32.6**	**-0.4**
	comp=Z,8.6nm,0.9s,baz=121,slow=6.1,SNR=40							
MKAR	**Makanchi Array**	**63.77**	**327**	*c*e P		**P**	**04 55 33.2**	**+0.2**
MKAR				pmax	pmax			
	comp=Z,9.0nm,0.9s							
MA2	**Magadan**	**64.77**	**13**	*e*P		**P**	**04 55 39.8**	**+0.6**
TKM2	**Tokmak 2**	**65.63**	**320**	*e*P		**P**	**04 55 45.0**	**-0.4**
TKM2				pmax	pmax			
	comp=Z,7.0nm,0.8s							
TKM2	**Tokmak 2**	**65.63**	**320**	*e*P		**P**	**04 55 45.0**	**-0.4**
	comp=Z,6.5nm,0.8s							
EKS2	**Erkin-Say**	**66.68**	**319**	*e*P		**P**	**04 55 52.5**	**+0.4**
EKS2				pmax	pmax			
	comp=Z,10.0nm,1.0s							
EKS2	**Erkin-Say**	**66.68**	**319**	*e*P		**P**	**04 55 52.5**	**+0.4**
	comp=Z,10.0nm,1.0s							
ZALV	**Zalesovo Beam**	**67.08**	**334**	P		**P**	**04 55 53.4**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=123,slow=5.5,SNR=6.9							
ZALV	**Zalesovo Beam**	**67.08**	**334**	*i* P		**P**	**04 55 53.9**	**-0.3**
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.7s							
KURBB	**Kurchatov Arra**	**68.04**	**328**	P		**P**	**04 55 60.0**	**-0.3**
	comp=Z,12nm,0.9s,baz=127,slow=5.6,SNR=90							
KURK	**Kurchatov**	**68.04**	**329**	*e*P		**P**	**04 55 59.5**	**-0.8**
KURK				pmax	pmax			
	comp=Z,26nm,0.9s							
KURK	**Kurchatov**	**68.04**	**329**	*e*P		**P**	**04 55 59.5**	**-0.8**
	comp=Z,26nm,0.9s							
SEY	**Seymchan**	**68.15**	**12**	P		**P**	**04 56 01.4**	**+0.7**
	comp=Z,7.5nm,0.9s,baz=218,slow=4.4,SNR=11							
SEY	**Seymchan**	**68.15**	**12**	*c i*P		**P**	**04 56 02.7**	**+2.0**
NVS	**Novosibirsk**	**68.36**	**334**	*e*P		**P**	**04 56 01.3**	**-0.9**
NVS				pmax	pmax			
	comp=N,2.0nm,0.8s							
NVS				pmax	pmax			
	comp=E,2.0nm,0.8s							
NVS				pmax	pmax			
	comp=Z,5.0nm,0.8s							
KKAR	**Karatay Array**	**69.03**	**319**	*e*P		**P**	**04 56 06.2**	**-0.5**
KKAR				pmax	pmax			
	comp=Z,7.0nm,0.9s							
KKAR	**Karatay Array**	**69.03**	**319**	*e*P		**P**	**04 56 06.2**	**-0.5**
	comp=Z,7.5nm,0.9s							
BVAR	**Borovoye Array**	**73.60**	**328**	P		**P**	**04 56 33.4**	**-0.7**
	comp=Z,6.2nm,0.8s,baz=142,slow=7.3,SNR=22							
BRVK	**Borovoye**	**73.67**	**328**	*e*P		**P**	**04 56 34.1**	**-0.4**
BRVK				pmax	pmax			
	comp=Z,7.0nm,0.8s							
BRVK	**Borovoye**	**73.67**	**328**	*e*P		**P**	**04 56 34.1**	**-0.4**
	comp=Z,7.3nm,0.8s							
VNDA	**Vanda**	**76.74**	**173**	P		**P**	**04 56 50.5**	**-1.3**
	comp=Z,3.1nm,1.0s,baz=318,slow=5.7,SNR=9.9							
VNDA	**Vanda**	**76.74**	**173**	*e*P		**P**	**04 56 49.9**	**-1.9**
VNDA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
VNDA	**Vanda**	**76.74**	**173**	*e*P		**P**	**04 56 49.9**	**-1.9**
	comp=Z,2.6nm,0.8s							
SBA	**Scott Base**	**77.65**	**172**	*e*P		**P**	**04 56 57.2**	**+0.4**
SBA				pmax	pmax			
	comp=Z,11nm,1.4s							
SBA	**Scott Base**	**77.65**	**172**	*e*P		**P**	**04 56 57.2**	**+0.4**
	comp=Z,11nm,1.4s							
MAW	**Mawson**	**78.10**	**201**	P		**P**	**04 56 58.2**	**-1.3**
	comp=Z,2.0nm,0.5s,baz=82,slow=6.9,SNR=9.6							
ABKAR	**Akbulak array**	**78.13**	**322**	*e*P		**P**	**04 56 59.1**	**-0.9**
	comp=Z,5.5nm,1.0s							
AKTO	**Aktyubinsk**	**79.69**	**322**	P		**P**	**04 57 08.3**	**-0.3**
	comp=Z,5.8nm,0.8s,baz=108,slow=6.4,SNR=21							
ARU	**Arti**	**81.24**	**328**	P		**P**	**04 57 15.8**	**-1.0**
	baz=135,slow=10.0							
ARU	**Arti**	**81.24**	**328**	*d i*P		**P**	**04 57 16.5**	**-0.2**
ARU							05 00 16.8	
ARU				S		**S**	**05 07 28.2**	**+2.5**
ARU				SS		**SS**	**05 12 36.1**	**-5.3**
ARU				pmax	pmax			
	comp=Z,7.0nm,1.0s							
ARU	**Arti**	**81.24**	**328**	*e*P		**P**	**04 57 16.1**	**-0.6**
SYO	**Syowa Base**	**86.81**	**201**	*e*X		**P**	**04 57 42.5**	**-2.4**
QSPA	**South Pole Qui**	**87.07**	**180**	*e*P		**P**	**04 57 45.2**	**-1.2**
	comp=Z,7.2nm,1.0s							
PRGR	**Permogore**	**88.94**	**332**	P		**P**	**04 57 52.9**	**-2.3**
PRGR				pmax	pmax			
	comp=Z,8.0nm,0.9s							
ILAR	**Eielson Array**	**90.44**	**25**	P		**P**	**04 58 01.4**	**-0.8**
	comp=Z,0.8nm,0.9s,baz=258,slow=4.0,SNR=8.5							
KMBO	**Kilima Mbogo**	**90.81**	**269**	P		**P**	**04 58 05.4**	**0.0**
	comp=Z,0.9nm,0.4s,baz=22,slow=12,SNR=3.6							
DAWY	**Dawson**	**93.66**	**26**	*e*P		**P**	**04 58 18.5**	**+1.3**
	comp=Z,4.6nm,1.1s							
BRTR	**Keskin Array B**	**95.27**	**309**	P		**P**	**04 58 23.4**	**-1.8**
	comp=Z,0.9nm,0.8s,baz=122,slow=1.9,SNR=4.5							
BRTR	**Keskin Array B**	**95.27**	**309**	*c e*P		**P**	**04 58 25.3**	**0.0**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ARCES	**ARCESS Array B**	**97.09**	**340**	P		**P**	**04 58 31.1**	**-1.6**
	comp=Z,4.6nm,0.9s,baz=80,slow=5.0,SNR=4.4							
TXAR	**Lajitas Array**	**124.32**	**56**	PKP		**PKPdf**	**05 04 01.8**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=322,slow=2.8,SNR=4.8							
TORD	**Torodi Ar. Bea**	**126.08**	**284**	PKP		**PKPdf**	**05 04 04.5**	**+0.3**
	comp=Z,2.0nm,0.9s,baz=65,slow=1.8,SNR=10							
CPUP	**Villa Florida**	**150.49**	**170**	PKPbc		**PKPbc**	**05 04 53.3**	**-0.1**
	comp=Z,13nm,1.1s,baz=185,slow=6.3,SNR=2.9							
CPUP	**Villa Florida**	**150.49**	**170**	PKIKP		**PKPbc**	**05 04 53.3**	**-0.1**
CPUP				pmax	pmax			
	comp=Z,13nm,1.1s							
CPUP	**Villa Florida**	**150.49**	**170**	*e*PKPbc		**PKPbc**	**05 04 54.1**	**+0.8**
LPAZ	**La Paz**	**155.09**	**140**	PKP		**PKPdf**	**05 04 56.7**	**+0.9**
	comp=Z,1.7nm,1.0s,baz=214,slow=3.6,SNR=5.3							
LPAZ				PKPbc	PKP

DJA 22 04:58:34.0±0.4, 3°S±3°×12°8E±°, h28km±8km, M4.2/9, mb5.4/1, mB5.2/1, MLv3.6/9, Mw(mB)4.6/1, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.97**	**166**	P	Pn	04 58 51.6	-0.2
AAI				S	Sn	04 59 04.4	-0.2
NLAI	**Namlea**	**0.99**	**240**	P	Pn	04 58 52.1	0.0
MSAI	**Masohi**	**1.14**	**122**	P	Pn	04 58 54.4	+0.3
MSAI				S	Sb	04 59 09.2	-0.3
SANI	**Sanana**	**2.09**	**289**	P	Pn	04 59 07.4	+0.3
SANI				S	Sn	04 59 32.8	+0.6
LBMI	**Labuha**	**2.14**	**348**	P	Pn	04 59 08.6	+0.7
LBMI				S	Sn	04 59 35.1	+1.6
SWI	**Sorong**	**3.79**	**61**	P	Pn	04 59 31.1	+0.5
SWI				S	Sn	05 00 15.7	+1.5
APSI	**Ampana**	**6.56**	**286**	P	Pn	05 00 09.0	+0.3

*IDC **22** 05:00:41.8±1.2, 6°.52S×150°.22E, h0km, mb4.0/6, mb1 4.3/7, mb1mx4.0/19, mbtmp4.1/7, ML2.6/1, Error ellipse: s-maj=49.2km s-min=20.1km az=109.0*

*ISCJB **22** 05:00:46.2±0.9, 6°.5S±0°.1×150°.0E±0°.1, h43km, mb3.8/5, Error ellipse: s-maj=21.7km s-min=10.5km az=32.6*

*NEIC **22** 05:00:48.4±2.3, 6°.49S×149°.99E, h46km±18km, mb4.4/2, Error ellipse: s-maj=23.2km s-min=11.8km az=91.0*

ISC 22 05:00:48.0±1.1, 6°.5S±0°.1×150°.0E±0°.2, h43km, n13, σ0§61/15, mb3.8/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.08**	**224**	Pn	**Pn**	**05 01 48.9**	**+1.0**
	26nm,0.3s,baz=45,slow=3.2,SNR=31						
PMG				Sn	**Sn**	**05 02 34.9**	**+0.4**
	30nm,0.3s,baz=220,slow=20,SNR=7.8						
PMG	**Port Moresby**	**4.08**	**224**	*e*Pn	**Pn**	**05 01 48.2**	**+0.3**
PMG				*e*Sn	**Sn**	**05 02 34.8**	**+0.4**
PMG				Sn	Sn	05 02 34.9	+0.4
COEN	**Coen**	**10.05**	**222**	*e*Pn	**Pn**	**05 03 09.2**	**-0.6**
FAKI	**Fak Fak**	**18.08**	**280**	P	**Pn**	**05 04 55.6**	**-0.5**
	32nm,1.0s						
WRAB	**Tennant Creek**	**20.28**	**227**	*e*P	**P**	**05 05 20.2**	**0.0**
	19nm,0.8s						
WRA	**Warramunga Arr**	**20.29**	**227**	P	**P**	**05 05 20.5**	**+0.1**
	19nm,0.7s,baz=51,slow=11,SNR=38						
AS31	**Alice Springs**	**23.09**	**221**	*e*P	**P**	**05 05 49.7**	**-0.5**
ASAR	**Alice Springs**	**23.09**	**221**	P	**P**	**05 05 49.4**	**-0.8**
	2.0nm,0.4s,baz=58,slow=8.7,SNR=15						
STKA	**Stephens Creek**	**26.48**	**196**	P	**P**	**05 06 20.6**	**-0.7**
	8.3nm,0.9s,baz=18,slow=12,SNR=9.6						
MJAR	**Matsushiro Arr**	**44.20**	**346**	P	**P**	**05 08 52.6**	**-0.3**
	0.8nm,0.6s,baz=168,slow=6.2,SNR=3.5						
VNDA	**Vanda**	**71.28**	**177**	P	**P**	**05 12 02.5**	**0.0**
	0.9nm,0.8s,baz=325,slow=7.7,SNR=4.0						
ILAR	**Eielson Array**	**84.74**	**23**	P	**P**	**05 13 17.9**	**+0.6**
	0.4nm,0.7s,baz=260,slow=5.4,SNR=4.3						
TORD	**Torodi Ar. Bea**	**148.14**	**284**	PKPbc	**PKPbc**	**05 20 31.0**	**+0.8**
	1.6nm,0.6s,baz=94,slow=2.2,SNR=17						

DJA 22 05:03:04.9±0.7, 3°S±4°×12°8E±°, h31km±11km, M4.2/13, mb5.1/2, MLv3.8/13, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.94**	**239**	P	Pn	05 03 22.2	+0.2
AAI	**Ambon**	**0.97**	**163**	P	Pn	05 03 22.4	-0.1
MSAI	**Masohi**	**1.18**	**120**	P	Pn	05 03 25.3	0.0
MSAI				S	Sn	05 03 40.6	+0.3
SANI	**Sanana**	**2.04**	**290**	P	Pn	05 03 37.5	+0.3
SANI				S	Sn	05 04 02.7	+1.1
LBMI	**Labuha**	**2.14**	**349**	P	Pn	05 03 39.0	+0.5
LBMI				S	Sn	05 04 05.0	+1.0
BNDI	**Bandanaira**	**2.66**	**132**	P	Pn	05 03 45.8	+0.2
TNTI	**Ternate**	**3.54**	**351**	P	Pn	05 03 58.1	+0.3
SWI	**Sorong**	**3.84**	**61**	P	Pn	05 04 02.1	+0.2
FAKI	**Fak Fak**	**4.34**	**92**	P	Pn	05 04 09.1	+0.3
KMSI	**Cibinong**	**5.13**	**310**	P	Pn	05 04 20.1	+0.4
	146nm,0.6s,0.7nm						

*NOU **22** 05:03:54.2±1.3, 14°.69S×168°.15E, h30km±999km, MD4.5, ML5.6*

*IDC **22** 05:03:55.4±0.3, 15°.10S×168°.20E, h0km, mb5.8/37, mb1 5.9/39, mb1mx5.9/39, mbtmp5.8/39, ML5.6/2, MS5.3/22, Ms1 5.3/22, ms1mx5.1/27, Error ellipse: s-maj=10.5km s-min=9.9km az=9.0*

*NEIC **22** 05:03:56.4±0.1, 15°.13S×168°.16E, h6km, mb6.2/196, ME5.9, MS5.4/148, MW5.9, MW6.1, Error ellipse: s-maj=3.8km s-min=2.7km az=153.0, Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt at Luganville.

*ISCJB **22** 05:03:57.9±1.3, 15°.14S±0°.02×168°.15E±0°.02, h24km±9km, mb6.0/319, MS5.4/192, Error ellipse: s-maj=3.9km s-min=2.6km az=178.5*

*GCMT **22** 05:03:57.1±0.1, 15°.15S×168°.26E, h12km, MW5.9/135, Moment Tensor Solution. s130,c277; s135,c444; Duration: 2s2 Moment tensor: Scale 10¹⁸Nm; Mrr0.85±.01; Mθθ-0.06±.01; Mϕϕ-0.79±.01; Mrθ0.06±.02; Mθϕ0.40±.01; Mrϕ0.20±.02; Best double couple: M₀0.93500×10¹⁸ NP1:ϕs346.00000°,δ51.00000°, λ103.00000°. NP2:ϕs146.00000°,δ41.00000°,λ75.00000°. Principal axes: T 0.8890, Plg79.0000°, Azm311.0000°; N 0.0940, Plg10.0000°, Azm158.0000°; P -0.9820, Plg5.0000°, Azm67.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*MOS **22** 05:03:57.7±1.0, 15°.09S×168°.12E, h21km, mb6.3/86, MS5.4/71 Error ellipse: s-maj=6.2km s-min=5.7km az=110.7*

*BJI **22** 05:04:00.8, 14°.66S×168°.03E, h30km, mb6.1/82, mB6.2/76, Ms5.8/84, Ms7 5.3/80*

*SZGRF **22** 05:04:00.4, 15°.56S×167°.23E, h33km, mb5.4, Vanuatu Islands*

*NEIC **22** 05:04:01.0±0.0, 14°.95S×167°.99E, h15km, Moment Tensor Solution. s42 Moment tensor: Scale 10¹⁷Nm; Mrr7.02; Mθθ-0.57; Mϕϕ-6.45; Mrθ0.22; Mθϕ2.53; Mϕr6.45; Best double couple: M₀9.70000×10¹⁷ NP1:ϕs354.00000°, δ66.00000°,λ102.00000°. NP2:ϕs145.00000°,δ26.00000°, λ64.00000°. Principal axes: T 9.7400, Plg66.0000°, Azm286.0000°; N -0.1200, Plg11.0000°, Azm169.0000°; P -9.6100, Plg20.0000°, Azm74.0000°;*

*NEIC **22** 05:04:19.5±0.0, 15°.42S×168°.38E, h26km, Moment Tensor Solution. s40 Moment tensor: Scale 10¹⁸Nm; Mrr1.07; Mθθ-0.10; Mϕϕ-0.96; Mrθ0.61; Mθϕ0.42; Mϕr1.02; Best double couple: M₀1.60000×10¹⁸ NP1:ϕs138.00000°, δ32.00000°,λ43.00000°. NP2:ϕs10.00000°,δ69.00000°, λ114.00000°. Principal axes: T 1.7700, Plg58.0000°, Azm313.0000°; N -0.3600, Plg22.0000°, Azm180.0000°; P -1.4100, Plg20.0000°, Azm81.0000°;*

ISC 22 05:04:00.9±0.2, 15°.16S±0°.03×168°.25E±0°.03, h38km±1km, h38km:pP-P, n1935, σ1§30/1951, mb6.1/332, MS5.4/195, 135C-55D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**5.66**	**190**	*e*P	**Pn**	**05 05 20.7**	**-1.8**
LIFNC				AMP		05 06 40.5	
	comp=Z,882μm,3.5s						
BAYA	**Yate Dam**	**7.07**	**190**	*e*P	**Pn**	**05 05 41.4**	**-0.5**
DZM	**Mont Dzumac**	**7.08**	**194**	Pn	**Pn**	**05 05 41.8**	**-0.3**
	comp=Z,82nm,0.3s,baz=90,slow=24,SNR=420						
DZM				Sn	**Sn**	**05 07 00.6**	**-0.7**
	comp=Z,15nm,0.3s,baz=285,slow=20,SNR=2.2						
DZM	**Mont Dzumac**	**7.08**	**194**	*e*P	**Pn**	**05 05 40.4**	**-1.6**
DZM	**Mont Dzumac**	**7.08**	**194**	*e*Pn	**Pn**	**05 05 41.4**	**-0.7**
DZM				*e*Sn	**Sn**	**05 06 59.3**	**-2.0**
NOUC	**Port Laguerre**	**7.14**	**195**	*e*P	**Pn**	**05 05 41.4**	**-1.4**
NOUC				*e*S	**Sn**	**05 07 00.6**	**-2.1**
NOUC				AMP		05 07 08.5	
	comp=Z,117nm,3.3s						
LASL	**Noumea**	**7.21**	**193**	*e*P	**Pn**	**05 05 43.4**	**-0.4**
LASL				*e*S	**Sn**	**05 07 03.0**	**-1.5**
HNR	**Honiara**	**9.91**	**304**	LR	LR	05 10 09.8	
	comp=Z,15μm,18.2s,baz=138,slow=38						
HNR	**Honiara**	**9.91**	**304**	*e*P	**Pn**	**05 06 21.6**	**+0.8**
HNR				*e*		05 08 06.7	
HNR	**Honiara**	**9.91**	**304**	*i*P	Pn	05 06 27.0	+6.2
HNR	**Honiara**	**9.91**	**304**	*e*Pn	**Pn**	**05 06 21.6**	**+0.8**
HNR				*e*Sn	**Sn**	**05 08 06.7**	**-4.1**
TARA	**Tarawa**	**17.05**	**16**	*e*P	**P**	**05 07 58.8**	**+0.8**
	comp=Z,9μm,2.4s						
RAO	**Raoul Island**	**18.96**	**140**	P	**Pn**	**05 08 20.8**	**+1.0**
	comp=Z,24nm,0.3s,baz=230,slow=8.0,SNR=3.4						
RAO				LR	LR	05 14 03.0	
	comp=Z,8μm,19.7s,baz=316,slow=32						
RAO	**Raoul Island**	**18.96**	**140**	*e*P	**Pn**	**05 08 20.0**	**+0.2**
RAO				pmax	pmax		
	comp=Z,1μm,0.8s						
RAO	**Raoul Island**	**18.96**	**140**	*e*P	**Pn**	**05 08 20.0**	**+0.2**
	comp=Z,1μm,0.8s						
EIDS	**Eidsvold**	**19.02**	**235**	⇑P	**Pn**	**05 08 22.5**	**+2.0**
	baz=19,SNR=21						
EIDS	**Eidsvold**	**19.02**	**235**	*e*P	**Pn**	**05 08 21.2**	**+0.7**
	comp=Z,832nm,1.4s						
EIDS				*e*S	S	05 12 00.7	+7.2
AFI	**Afiamalu**	**19.38**	**89**	P	**Pn**	**05 08 26.4**	**+1.4**
	comp=Z,3.5nm,0.3s,baz=113,slow=9.6,SNR=3.3						
AFI	**Afiamalu**	**19.38**	**89**	*e*P	**Pn**	**05 08 26.8**	**+1.8**
AFI				pmax	pmax		
	comp=Z,465nm,1.5s						
AFI	**Afiamalu**	**19.38**	**89**	*e*P	**Pn**	**05 08 26.8**	**+1.8**
	comp=Z,465nm,1.5s						
OUZ	**Omahuta**	**20.54**	**167**	*e*P	Pn	05 08 38.3	-0.2
	comp=Z,189nm,1.1s						
OUZ				LR	LR		
	comp=Z,22μm,19.0s						
PMG	**Port Moresby**	**21.38**	**283**	P	**P**	**05 08 46.4**	**+1.1**
	comp=Z,334nm,0.8s,baz=82,slow=6.4,SNR=48						
PMG				S	Sn	05 12 47.1	-2.5
	comp=Z,26nm,0.9s,baz=227,slow=18,SNR=4.0						
PMG				LR	LR	05 15 58.9	
	comp=Z,25μm,19.8s,baz=53,slow=34						
PMG	**Port Moresby**	**21.38**	**283**	*e*P	**P**	**05 08 46.7**	**+1.4**
PMG				*e*S	Sn	05 12 46.6	-3.0
PMG				pmax	pmax		
	comp=Z,2μm,0.9s						
PMG	**Port Moresby**	**21.38**	**283**	*e*P	**P**	**05 08 46.7**	**+1.4**
	comp=Z,2μm,0.9s						
PMG				*e*S	Sn	05 12 46.6	-2.9
RMQ	**Roma**	**21.39**	**235**	⇑P	**P**	**05 08 47.0**	**+1.7**
	baz=22,SNR=36						
CTA	**Charters Tower**	**21.52**	**254**	P	**P**	**05 08 47.3**	**+0.6**
	comp=Z,80nm,0.8s,baz=81,slow=12,SNR=52						
CTA				S	**S**	**05 12 45.2**	**+1.7**
	comp=Z,9.0nm,0.8s,baz=48,slow=19,SNR=1.7						
CTA				LR	LR	05 15 49.0	
	comp=Z,21μm,21.4s,baz=72,slow=33						
CTA	**Charters Tower**	**21.52**	**254**	⇓P	**P**	**05 08 48.3**	**+1.5**
	baz=22						
CTAO	**Charters Tower**	**21.52**	**254**	*e*P	**P**	**05 08 47.7**	**+0.9**
CTAO				*e*S	**S**	**05 12 46.9**	**+3.4**
CTAO				pmax	pmax		
	comp=Z,2μm,2.0s						
CTAO				MLR	MLR		
	comp=Z,24μm,22.0s						
CTAO	**Charters Tower**	**21.52**	**254**	*e*P	**P**	**05 08 47.7**	**+0.9**
	comp=Z,2μm,2.0s						
CTAO				*e*S	**S**	**05 12 46.9**	**+3.4**
CTAO				LR	LR		
	comp=Z,24μm,22.0s						
ARMA	**Armidale**	**21.52**	**222**	⇑P	**P**	**05 08 49.4**	**+2.5**
	baz=22,SNR=42						
ARMA	**Armidale**	**21.52**	**222**	*e*P	**P**	**05 08 47.8**	**+0.9**
	comp=Z,740nm,1.3s						
MKAZ	**Momakai**	**22.71**	**166**	P*	**P**	**05 08 60.0**	**+0.6**
MTSU	**Mount Surprise**	**23.11**	**259**	⇑P	**P**	**05 09 04.7**	**+1.0**
	baz=23,SNR=94						
KNTN	**Kanton**	**23.27**	**60**	*e*P	**P**	**05 09 04.5**	**-0.8**
	comp=Z,4μm,2.2s						
MGCD	**Mangrove Creek**	**23.75**	**218**	P	**P**	**05 09 11.4**	**+1.6**
	baz=24,SNR=40						
HIZ	**Hauiti**	**23.98**	**167**	P*	**P**	**05 09 14.0**	**+2.2**
HAZ	**Te Kaha**	**24.04**	**161**	P*	**P**	**05 09 13.5**	**+1.2**
RIV	**Riverview**	**24.16**	**217**	⇓P	**P**	**05 09 14.9**	**+1.4**
	baz=24						
COEN	**Coen**	**24.29**	**270**	P	**P**	**05 09 15.6**	**+0.7**
	baz=24,SNR=29						
COEN	**Coen**	**24.29**	**270**	*e*P	**P**	**05 09 15.8**	**+0.8**
	comp=Z,2μm,1.7s						
URZ	**Urewera**	**24.30**	**163**	P	**P**	**05 09 15.9**	**+1.1**
	comp=Z,183nm,0.8s,baz=358,slow=4.6,SNR=35						
URZ				LR	LR	05 17 58.9	
	comp=Z,8μm,19.5s,baz=350,slow=35						
URZ	**Urewera**	**24.30**	**163**	*e*P*	**P**	**05 09 16.1**	**+1.3**
URZ	**Urewera**	**24.30**	**163**	*e*P	**P**	**05 09 16.1**	**+1.3**
	comp=Z,466nm,1.2s						
PUZ	**Puketiti**	**24.48**	**161**	*e*P*	**P**	**05 09 17.0**	**+0.6**
MWZ	**Matawai**	**24.49**	**162**	P*	**P**	**05 09 17.6**	**+1.0**
RATZ	**Rangitukua**	**24.53**	**166**	P*	**P**	**05 09 18.6**	**+1.7**
COVZ	**Chateau Observ**	**24.79**	**166**	P*	**P**	**05 09 21.6**	**+2.2**
FWVZ	**Far West T-bar**	**24.84**	**166**	*e*P*	**P**	**05 09 21.6**	**+1.7**
BKZ	**Black Stump Fm**	**24.99**	**165**	P*	**P**	**05 09 22.3**	**+1.3**
BKZ	**Black Stump Fm**	**24.99**	**165**	*e*P	**P**	**05 09 20.6**	**-0.4**
	comp=Z,340nm,1.1s						
QLP	**Quilpie**	**25.10**	**239**	⇓P	**P**	**05 09 22.8**	**+0.6**
	baz=25,SNR=56						
KWHZ	**Kawheka Forest**	**25.21**	**165**	*e*P*	**P**	**05 09 24.0**	**+0.9**
TSZ	**Takapari Road**	**25.70**	**166**	P*	**P**	**05 09 28.5**	**+1.0**
QRZ	**Quartz Range**	**25.84**	**173**	*e*P*	**P**	**05 09 30.6**	**+1.9**
YNG	**Young**	**26.14**	**220**	P	**P**	**05 09 32.6**	**+1.1**
	baz=26,SNR=58						
CNB	**Canberra Magne**	**26.26**	**217**	⇑P	**P**	**05 09 33.5**	**+0.9**
	baz=26,SNR=14						
CMSA	**Cobar Meteorol**	**26.27**	**228**	⇓P	**P**	**05 09 33.1**	**+0.4**
	baz=26,SNR=47						
BFZ	**Birch Farm**	**26.36**	**166**	P*	**P**	**05 09 32.9**	**-0.6**
BFZ	**Birch Farm**	**26.36**	**166**	*e*P	**P**	**05 09 33.6**	**+0.2**
	comp=Z,468nm,1.1s						
CAN	**Canberra**	**26.48**	**217**	*e*P	**P**	**05 09 34.8**	**+0.2**
CAN				pmax	pmax		
	comp=Z,776nm,1.8s						
CAN				MLR	MLR		
	comp=Z,11μm,20.0s						
CAN	**Canberra**	**26.48**	**217**	⇑P	**P**	**05 09 35.6**	**+1.0**
	baz=27						
CAN	**Canberra**	**26.48**	**217**	*e*P	**P**	**05 09 34.8**	**+0.2**
	comp=Z,776nm,1.8s						
CAN				LR	LR		
	comp=Z,11μm,20.0s						
SNZO	**South Karori**	**26.65**	**169**	*e*P	**P**	**05 09 36.3**	**+0.3**
	comp=Z,679nm,1.6s						
SNZO				LR	LR		
	comp=Z,14μm,19.0s						
THZ	**Tophouse**	**26.81**	**172**	P*	**P**	**05 09 38.1**	**+0.6**
KHZ	**Kahutara**	**27.54**	**172**	*e*P	**P**	**05 09 44.3**	**+0.3**
MILA	**Mila**	**27.63**	**214**	⇓P	**P**	**05 09 46.5**	**+1.6**
	baz=28,SNR=6.1						
QIS	**Mount Isa**	**27.76**	**255**	⇑P	**P**	**05 09 46.5**	**+0.2**
	baz=28,SNR=44						
WVZ	**Waitaha Valley**	**27.90**	**176**	P*	**P**	**05 09 47.6**	**+0.4**
RPZ	**Rata Peaks**	**28.56**	**176**	P	**P**	**05 09 53.6**	**+0.5**
	comp=Z,44nm,0.7s,baz=360,slow=2.1,SNR=19						
RPZ				LR	LR	05 20 29.8	
	comp=Z,9μm,18.0s,baz=345,slow=35						
RPZ	**Rata Peaks**	**28.56**	**176**	*e*P	**P**	**05 09 54.2**	**+1.1**
	comp=Z,158nm,1.3s						
STKA	**Stephens Creek**	**29.44**	**231**	P	**P**	**05 10 01.6**	**+0.6**
	comp=Z,124nm,1.1s,baz=54,slow=9.6,SNR=79						
STKA				PcP	**PcP**	**05 13 06.5**	**+0.2**
	comp=Z,27nm,0.8s,baz=51,slow=4.3,SNR=3.9						
STKA				LR	LR	05 21 18.3	
	comp=Z,8μm,19.7s,baz=67,slow=35						
STKA				P3KPbc		05 42 06.0	
	comp=Z,6.0nm,1.1s,baz=270,slow=3.0,SNR=7.9						
STKA	**Stephens Creek**	**29.44**	**231**	*e*P	**P**	**05 10 01.5**	**+0.4**
STKA						05 13 06.5	
STKA				pmax	pmax		
	comp=Z,280nm,2.3s						
STKA	**Stephens Creek**	**29.44**	**231**	⇓P	**P**	**05 10 01.9**	**+0.8**
	baz=30,SNR=66						
STKA	**Stephens Creek**	**29.44**	**231**	*e*P	**P**	**05 10 01.5**	**+0.4**
	comp=Z,280nm,2.3s						
STKA				PcP	**PcP**	**05 13 06.5**	**+0.2**
STKA				*e*		05 42 06.0	
JAY	**Jayapura**	**29.92**	**292**	P	**P**	**05 10 04.1**	**-1.4**
	comp=Z,53nm,0.8s,baz=148,slow=5.7,SNR=17						
JAY				LR	LR	05 21 07.1	
	comp=Z,10μm,20.9s,baz=116,slow=35						
JAY	**Jayapura**	**29.92**	**292**	⇑P	**P**	**05 10 05.9**	**+0.3**
	baz=30						
TOO	**Toolangi**	**30.07**	**218**	⇓P	**P**	**05 10 07.2**	**+0.5**
	baz=30,SNR=28						
DCZ	**Deep Cove**	**30.23**	**182**	*e*P	**P**	**05 10 09.2**	**+1.4**
	comp=Z,1μm,2.8s						
GENI	**Genyem**	**30.37**	**292**	P	**P**	**05 10 10.0**	**+0.5**
WHZ	**Wether Hill Ro**	**30.64**	**180**	*e*P	**P**	**05 10 10.7**	**-0.8**
	comp=Z,119nm,1.3s						
RAR	**Rarotonga**	**30.94**	**106**	LR	LR	05 20 06.1	
	comp=Z,3μm,20.3s,baz=292,slow=31						
RAR	**Rarotonga**	**30.94**	**106**	*e*P	**P**	**05 10 14.4**	**0.0**
RAR	**Rarotonga**	**30.94**	**106**	*e*P	**P**	**05 10 14.4**	**0.0**
ARPS	**Mount Arapiles**	**31.86**	**223**	⇓P	**P**	**05 10 23.1**	**+0.8**
	baz=32,SNR=38						
SMPI	**Sarmi**	**31.94**	**291**	P	**P**	**05 10 23.9**	**+0.6**
HTT	**Hallett**	**32.16**	**230**	⇓P	**P**	**05 10 25.3**	**+0.2**
	baz=32,SNR=41						
WRAB	**Tennant Creek**	**32.63**	**257**	*e*P	**P**	**05 10 27.9**	**-1.5**
WRAB				*e*		05 13 14.4	
WRAB				*e*S	**S**	**05 15 42.7**	**-0.2**
WRAB				MLR	MLR		
	comp=Z,23μm,21.0s						
WRAB	**Tennant Creek**	**32.63**	**257**	*e*P	**P**	**05 10 27.9**	**-1.5**
WRAB				*e*PcP	**PcP**	**05 13 14.4**	**-0.7**
WRAB				*e*S	**S**	**05 15 42.7**	**-0.2**
WRAB				LR	LR		
	comp=Z,23μm,21.0s						
WRA	**Warramunga Arr**	**32.64**	**257**	P	**P**	**05 10 28.1**	**-1.4**
	comp=Z,84nm,0.9s,baz=86,slow=8.5,SNR=170						
WRA				PcP	**PcP**	**05 13 15.3**	**+0.2**
	comp=Z,30nm,1.0s,baz=88,slow=2.4,SNR=7.0						
WRA				ScP	**ScP**	**05 15 40.5**	**-2.6**
	comp=Z,32nm,1.3s,baz=82,slow=15,SNR=5.5						
WRA				ScP	**ScP**	**05 17 02.6**	**+6.4**
	comp=Z,4.6nm,1.0s,baz=78,slow=2.8,SNR=3.3						
WRA				PKiKP	**PKiKP**	**05 20 41.1**	**-1.1**
	comp=Z,2.6nm,0.8s,baz=13,slow=0.8,SNR=7.4						
WRA				LR	LR	05 22 56.1	
	comp=Z,21μm,19.8s,baz=85,slow=35						
WRA				P3KPbc		05 41 53.8	
	comp=Z,5.1nm,1.0s,baz=284,slow=2.9,SNR=14						
MOO	**Moorlands**	**32.67**	**210**	⇑P	**P**	**05 10 30.1**	**+0.8**
	baz=33,SNR=6.2						
TAU	**Tasmania Unive**	**32.97**	**209**	*e*P	**P**	**05 10 31.4**	**-0.6**
TAU				pmax	pmax		
	comp=Z,607nm,2.2s						
TAU				MLR	MLR		
	comp=Z,10μm,20.0s						
TAU	**Tasmania Unive**	**32.97**	**209**	*e*P	**P**	**05 10 31.4**	**-0.6**
	comp=Z,608nm,2.2s						
TAU				LR	LR		
	comp=Z,10μm,20.0s						
AS07	**Alice Springs**	**33.35**	**250**	⇑P	**P**	**05 10 35.1**	**-0.5**
	baz=34						
AS31	**Alice Springs**	**33.41**	**250**	*e*P	**P**	**05 10 35.2**	**-0.9**
ASAR	**Alice Springs**	**33.41**	**250**	P	**P**	**05 10 35.2**	**-0.9**
	comp=Z,170nm,0.9s,baz=78,slow=8.8,SNR=373						
ASAR				PcP	**PcP**	**05 13 17.8**	**+0.6**
	comp=Z,6.9nm,0.8s,baz=84,slow=4.7,SNR=3.5						
ASAR				ScP	**ScP**	**05 17 03.6**	**+4.8**
	comp=Z,2.8nm,0.9s,baz=70,slow=3.0,SNR=4.7						
ASAR				PKiKP	**PKiKP**	**05 20 41.5**	**-1.2**
	comp=Z,1.7nm,0.8s,baz=131,slow=2.6,SNR=4.6						
ASAR				LR	LR	05 23 15.2	
	comp=Z,21μm,20.8s,baz=76,slow=35						
ASAR				P3KPbc		05 41 50.0	
	comp=Z,2.7nm,0.9s,baz=268,slow=4.0,SNR=13						
ASAR				P3KP		05 43 07.7	
	comp=Z,1.1nm,1.0s,baz=169,slow=0.9,SNR=3.5						
AS13	**Alice Springs**	**33.41**	**250**	⇓P	**P**	**05 10 36.1**	**-0.1**
	baz=34						
BBOO	**Buckleboo**	**34.07**	**233**	⇓P	**P**	**05 10 41.8**	**0.0**
	baz=34,SNR=78						
BBOO	**Buckleboo**	**34.07**	**233**	*e*P	**P**	**05 10 42.4**	**+0.6**
	comp=Z,167nm,0.9s						
WAKE	**Wake Island**	**34.27**	**357**	*e*P	**P**	**05 10 44.0**	**+0.6**
	comp=Z,733nm,1.3s						
WAKE				LR	LR		
	comp=Z,2μm,19.0s						
BAKI	**Biak**	**34.63**	**291**	P	**P**	**05 10 47.9**	**+1.1**
	comp=Z,613nm,1.2s,comp=Z,12μm						
KDU	**Kakadu**	**34.79**	**270**	⇓P	**P**	**05 10 47.9**	**-0.2**
	baz=35,SNR=11						
MTN	**Manton Dam**	**36.06**	**269**	⇓P	**P**	**05 10 59.0**	**0.0**
	baz=36,SNR=18						
RKPI	**Ransiki, Papua**	**36.25**	**289**	P	**P**	**05 11 02.3**	**+1.6**
GUMO	**Guam**	**36.76**	**320**	P	**P**	**05 11 04.1**	**-0.9**
	comp=Z,103nm,0.6s,baz=135,slow=8.7,SNR=7.5						
GUMO	**Guam**	**36.76**	**320**	P	**P**	**05 11 04.1**	**-0.9**
GUMO				pmax	pmax		
	comp=Z,103nm,0.6s						
GUMO	**Guam**	**36.76**	**320**	*e*P	**P**	**05 11 04.7**	**-0.3**
FAKI	**Fak Fak**	**37.50**	**285**	P	**P**	**05 11 12.4**	**+1.1**
	comp=Z,737nm,0.9s,comp=Z,9μm						
FAKI	**Fak Fak**	**37.50**	**285**	⇑P	**P**	**05 11 12.0**	**+0.6**
	baz=38,SNR=82						
FAKI	**Fak Fak**	**37.50**	**285**	*e*P	**P**	**05 11 10.5**	**-0.8**
	comp=Z,561nm,0.9s						
KNRA	**Kununurra**	**38.03**	**264**	⇓P	**P**	**05 11 15.3**	**-0.5**
	baz=38,SNR=88						
WRKA	**Warakurna**	**38.66**	**249**	⇓P	**P**	**05 11 20.6**	**-0.5**
	baz=39,SNR=75						
BNDI	**Bandanaira**	**39.16**	**282**	P	**P**	**05 11 26.4**	**+1.1**
SIJI	**Sorong**	**39.18**	**288**	P	**P**	**05 11 24.9**	**-0.5**
	comp=Z,546nm,0.8s,baz=90,slow=6.4,SNR=203						
SIJI				S	**S**	**05 17 25.1**	**+1.7**
	comp=Z,2.8nm,0.2s,baz=254,slow=15,SNR=11						
SWI	**

SANI Sanana 43.66 283 P **P** 05 12 02.8 +0.5
comp=Z,655nm,0.9s,comp=Z,11µm
BATI Baumata 43.72 271 P **P** 05 12 04.3 +1.5
comp=Z,425nm,0.9s,comp=Z,6µm
BATI Baumata 43.72 271 P **P** 05 12 03.3 +0.6
comp=Z,453nm,0.8s,baz=163,slow=1.6,SNR=39
KMBL Kambalda 45.20 241 ⇓P **P** 05 12 14.3 -0.1
baz=45,SNR=93
MIDW Midway 45.32 18 PFAKE 05 12 30.0 +15
MIDW LR LR
comp=Z,3µm,22.0s
MMRI Maumere 45.42 273 P **P** 05 12 16.4 +0.1
comp=Z,477nm,1.2s,comp=Z,10µmcomp=Z,14µm
MMRI Maumere 45.42 273 *e*P **P** 05 12 15.7 -0.6
comp=Z,367nm,0.9s
BBSI Bau Bau 45.87 277 P P 05 12 23.5 +3.6
comp=Z,759nm,1.9s,comp=Z,13µm
KDI Kendari 46.25 279 P P 05 12 29.9 +7.0
MBWA Marble Bar 46.34 255 *e*P **P** 05 12 23.9 +0.3
comp=Z,2µm,2.1s
MBWA LR LR
comp=Z,12µm,21.0s
KMSI Cibinong 46.46 286 P **P** 05 12 25.3 +0.8
comp=Z,2µm,1.3s,comp=Z,17µm
BASI Baing, Sumba 46.69 270 P P 05 12 31.4 +5.0
LUWI Luwuk 47.02 283 P **P** 05 12 30.0 +1.0
comp=Z,555nm,1.2s,comp=Z,10µm
LUWI Luwuk 47.02 283 ⇑P **P** 05 12 29.9 +1.0
baz=47,SNR=8.8
LUWI Luwuk 47.02 283 *e*P **P** 05 12 29.8 +0.8
comp=Z,1µm,1.5s
MEEK Meekatharra 47.49 248 ⇓P **P** 05 12 32.1 -0.4
baz=48,SNR=80
BSSI Bau Bau, Buton 47.69 276 P **P** 05 12 35.3 +1.2
comp=Z,306nm,1.9s,comp=Z,6µm
DAV Davao City (W) 47.71 295 PFAKE 05 12 40.0 +5.8
DAV LR LR
comp=Z,3µm,22.0s
APSI Ampana 48.12 283 P **P** 05 12 38.4 +0.9
comp=Z,632nm,1.3s,comp=Z,9µmcomp=Z,100µm
BKSI Bulukumba 48.26 276 P **P** 05 12 38.5 0.0
comp=Z,183nm,1.3s,comp=Z,3µm
MRSI Marisa 48.33 285 P **P** 05 12 38.6 -0.4
comp=Z,139nm,0.9s,comp=Z,3µm
KAPI Kappang 48.70 277 P **P** 05 12 41.7 -0.2
comp=Z,188nm,0.8s,baz=103,slow=4.8,SNR=84
KAPI Kappang 48.70 277 *e*P **P** 05 12 42.5 +0.6
comp=Z,262nm,0.8s
KAPI LR LR
comp=Z,3µm,20.0s
KLBR Kellerberrin 48.72 241 ⇑P **P** 05 12 41.2 -0.7
baz=49,SNR=74
CTBH Cotabato--PC H 48.95 294 ⇓*i*P **P** 05 12 45.0 +1.1
SPSI Sidrap Palu 48.97 278 P **P** 05 12 43.6 -0.4
comp=Z,219nm,1.1s,comp=Z,3µm
CBIJ Chichi jima 49.04 329 *e*P **P** 05 12 43.3 -1.0
comp=Z,1µm,1.0s
KIP Kipapa 49.17 43 *e*P **P** 05 12 46.2 +0.9
KIP *e**PP **pP** 05 12 57.2 +0.7
KIP pmax pmax
comp=Z,245nm,1.1s
KIP MLR MLR
comp=Z,3µm,21.0s
KIP Kipapa 49.17 43 *e*P **P** 05 12 46.2 +0.9
comp=Z,245nm,1.1s
KIP *e*pP **pP** 05 12 57.2 +0.7
KIP *e*sP **sP** 05 13 01.9 +1.0
KIP LR LR
comp=Z,3µm,21.0s
TTSI Tana Toraja 49.19 279 P **P** 05 12 46.9 +1.2
comp=Z,220nm,0.8s,comp=Z,4µm
NWAO Narrogin (SRO) 49.34 240 P **P** 05 12 45.9 -0.7
comp=Z,233nm,0.9s,baz=149,slow=3.2,SNR=78
OPA Opana 49.36 43 *e*P **P** 05 12 48.2 +1.4
OPA Opana 49.36 43 *e*P **P** 05 12 48.2 +1.4
BLDU Ballidu 49.49 243 ⇑P **P** 05 12 47.0 -0.8
baz=50,SNR=25
TOLI Toli-Toli 49.62 285 *e*P **P** 05 12 48.7 -0.3
comp=Z,304nm,1.0s
POHA Pohakuloa 49.73 47 *e*P **P** 05 12 51.4 +1.4
comp=Z,194nm,1.0s
POHA LR LR
comp=Z,3µm,22.0s
RKGY Rocky Gully 49.81 237 ⇓P **P** 05 12 50.6 +0.4
baz=50,SNR=12
PCI Palu 49.84 282 P **P** 05 12 52.7 +2.1
comp=Z,1µm,1.0s,comp=Z,15µm
HLK Haleakala 49.90 45 *e*P **P** 05 12 52.7 +1.4
MORW Morawa 49.93 245 ⇑P **P** 05 12 50.9 -0.3
baz=50,SNR=84
MPSI Mapaga 50.19 283 P **P** 05 12 52.8 -0.5
comp=Z,589nm,0.8s,comp=Z,6µm
GIRL Giralia 51.41 253 ⇓P **P** 05 13 03.6 +1.2
baz=52,SNR=11
H01W1 Cape Leeuwin H 52.15 237 P **P** 05 13 09.1 +1.6
baz=101,slow=9.8,SNR=12
H01W3 Cape Leeuwin H 52.17 237 P **P** 05 13 09.3 +1.7
baz=101,slow=9.8,SNR=10
H01W2 Cape Leeuwin H 52.17 237 P **P** 05 13 09.3 +1.7
baz=101,slow=9.8,SNR=9.2
DNP Denpasar 52.19 271 P **P** 05 13 09.8 +1.5
comp=Z,1µm,0.8s,comp=Z,31µm
IGBI Denpasar 52.22 271 P **P** 05 13 09.1 +0.5
comp=Z,708nm,0.9s,comp=Z,9µm
SRBI Singaraja 52.32 271 P **P** 05 13 10.0 +0.7
comp=Z,285nm,1.8s,comp=Z,7µm
BKB Balikpapan 52.51 280 P P 05 13 14.7 +4.0
comp=Z,387nm,1.4s,comp=Z,8µm
KBKI Kotabaru 52.60 278 P **P** 05 13 12.2 +0.8
comp=Z,317nm,1.1s,comp=Z,3µm
JAGI Jajag, Banyuwa 53.26 271 P **P** 05 13 15.4 -0.8
comp=Z,260nm,0.8s,comp=Z,5µm
JAGI Jajag, Banyuwa 53.26 271 *e*P **P** 05 13 14.8 -1.4
comp=Z,163nm,0.8s
MYLDM Lahad Datu 53.26 288 ⇑P **P** 05 13 17.1 +0.8
MYLDM Lahad Datu 53.26 288 ⇑P **P** 05 13 17.1 +0.8
MYLDM Lahad Datu 53.26 288 *e*P **P** 05 13 17.6 +1.3
comp=Z,619nm,1.2s
ABJI Asem Bagus 53.33 272 P **P** 05 13 17.6 +0.9
comp=Z,276nm,1.4s,comp=Z,9µm
TSM Tawau 53.50 287 ⇑P **P** 05 13 18.2 +0.2
TSM Tawau 53.50 287 ⇑P **P** 05 13 18.2 +0.2
KMMI Kalianget 53.75 272 P **P** 05 13 21.6 +1.7
comp=Z,156nm,0.8s,comp=Z,6µm
BBKI Banjar Baru 53.83 277 P **P** 05 13 21.6 +1.2
comp=Z,333nm,1.7s,comp=Z,10µm
RKT Rikitea 53.95 108 *e*P **P** 05 13 22.4 +1.2
comp=Z,218nm,1.4s
RKT *e*S S 05 21 01.9 +7.5
comp=Z,4µm,27.8s
RKT *e*SS **SS** 05 24 41.3 +5.2
comp=Z,2µm,27.2s
RKT *e*LQ LQ 05 26 50.4
comp=Z,5µm,31.0s
RKT *e*LR LR 05 29 05.5
comp=Z,8µm,31.8s,baz=274
BLJI Banyuglugur 53.95 271 P **P** 05 13 21.4 +0.1
comp=Z,214nm,0.9s,comp=Z,5µm
SDKM Sandakan 54.64 288 ⇑P **P** 05 13 26.3 -0.1
SDKM Sandakan 54.64 288 ⇑P **P** 05 13 26.3 -0.1
DRV Dumont d'Urvil 54.74 193 P P 05 13 06.0 -20
DRV S **S** 05 21 00.0 -3.7
DRV SS **SS** 05 24 42.0 -4.9
DRV L L 05 26 00.0
DRV R 05 29 00.0
TGY Tagaytay City 55.09 300 P **P** 05 13 30.6 +1.1
comp=Z,253nm,0.3s,baz=169,slow=5.2,SNR=12
JHJ2 Mitsune 55.16 331 *e*P **P** 05 13 29.6 0.0
comp=Z,476nm,0.9s
JHJ Hachijo jima 2 55.18 331 P **P** 05 13 29.1 -0.7
comp=Z,391nm,0.9s,baz=179,slow=7.8,SNR=15
JHJ LR LR 05 36 46.1
comp=Z,2µm,18.7s,baz=104,slow=36
KDM Kudat 55.47 290 ⇑P **P** 05 13 32.5 +0.3
KDM Kudat 55.47 290 ⇑P **P** 05 13 32.5 +0.3
PWJI Pagerwojo 55.62 271 P **P** 05 13 33.4 0.0
comp=Z,202nm,0.9s,comp=Z,5µm
KKM Kota Kinabalu 55.69 288 P **P** 05 13 34.5 +0.5
baz=56,SNR=74
KKM Kota Kinabalu 55.69 288 ⇑P **P** 05 13 34.7 +0.7
KKM Kota Kinabalu 55.69 288 ⇑P **P** 05 13 34.7 +0.7
KKM Kota Kinabalu 55.69 288 *e*P **P** 05 13 34.3 +0.3
comp=Z,742nm,1.3s
KKM LR LR
comp=Z,2µm,19.0s
TBJI Tambak Boyo 55.85 272 P **P** 05 13 37.1 +2.0
comp=Z,234nm,1.1s,comp=Z,6µm

NGJI Ngawi 56.10 271 P **P** 05 13 39.2 +2.4
comp=Z,581nm,1.9s,comp=Z,9µm
WOJI Wonogiri, Jawa 56.51 271 P **P** 05 13 40.3 +0.5
comp=Z,397nm,0.8s,comp=Z,7µm
UGM Wanagama 56.88 270 P **P** 05 13 43.0 +0.5
comp=Z,507nm,1.2s
UGM Wanagama 56.88 270 ⇓P **P** 05 13 42.4 0.0
baz=57,SNR=11
UGM Wanagama 56.88 270 *e*P **P** 05 13 40.7 -1.8
comp=Z,425nm,1.0s
JOW Kunigami 57.01 317 *e*P **P** 05 13 43.9 +0.9
comp=Z,300nm,0.9s
PBKI Pangkalan Bun 57.08 277 P P 05 13 49.2 +5.4
SMRI Semarang 57.16 271 P **P** 05 13 45.5 +1.1
comp=Z,374nm,0.9s,comp=Z,11µm
SMRI Semarang 57.16 271 ⇑P **P** 05 13 45.3 +0.9
baz=57,SNR=7.2
SMRI Semarang 57.16 271 *e*P **P** 05 13 45.2 +0.8
comp=Z,275nm,0.9s
BTM Bintulu 57.56 284 ⇑P **P** 05 13 47.7 +0.5
BTM Bintulu 57.56 284 ⇑P **P** 05 13 47.7 +0.5
STKI Sintang 58.07 280 P **P** 05 13 52.3 +1.5
comp=Z,278nm,1.7s,comp=Z,17µm
SBUM Sibu 58.12 283 ⇑P **P** 05 13 52.1 +1.0
SBUM Sibu 58.12 283 ⇑P **P** 05 13 52.1 +1.0
SBUM Sibu 58.12 283 *e*P **P** 05 13 51.7 +0.6
comp=Z,307nm,1.4s
PTCN Pitcairn Islan 58.31 110 PFAKE 05 14 00.0 +7.6
PTCN LR LR
comp=Z,3µm,22.0s
MJAR Matsushiro Arr 58.73 332 P **P** 05 13 54.1 -0.8
comp=Z,222nm,0.9s,baz=168,slow=7.9,SNR=334
MJAR PKPPKP P'P'df 05 43 20.9 -7.3
comp=Z,0.5nm,0.3s,baz=358,slow=2.3,SNR=4.1
MAJO Matsushiro 58.73 332*c* *i*P **P** 05 13 54.2 -0.7
MAJO pmax pmax
comp=Z,3µm,1.2s
MAJO MLR MLR
comp=Z,12µm,20.0s
MAJO Matsushiro 58.73 332 *e*P **P** 05 13 54.5 -0.5
comp=Z,428nm,1.0s
MAJO LR LR
comp=Z,1µm,20.0s
MAT Matsushiro 58.73 332 P **P** 05 13 54.2 -0.7
MAT S **S** 05 21 57.4 +0.1
YOJ Yonaguni jima 59.16 311 *e*P **P** 05 13 58.1 0.0
YOJ pmax pmax
comp=Z,292nm,0.9s
YOJ Yonaguni jima 59.16 311 *e*P **P** 05 13 58.1 0.0
comp=Z,292nm,0.9s
JCJI Jatiwangi 59.38 271 P **P** 05 14 00.6 +0.7
comp=Z,548nm,2.1s,comp=Z,11µm
CISI Cisompet, Garu 59.58 270 P **P** 05 14 00.7 -0.6
comp=Z,414nm,0.9s,comp=Z,5µm
CISI Cisompet, Garu 59.58 270 ⇑P **P** 05 14 00.3 -1.0
baz=60,SNR=5.0
CISI Cisompet, Garu 59.58 270 *e*P **P** 05 13 59.5 -1.8
comp=Z,368nm,1.0s
KSM Kuching 59.62 281 ⇓P **P** 05 14 01.9 +0.3
baz=60,SNR=44
KSM Kuching 59.62 281 ⇑P **P** 05 14 01.6 0.0
KSM Kuching 59.62 281 ⇑P **P** 05 14 01.6 0.0
KSM Kuching 59.62 281 *e*P **P** 05 14 01.6 0.0
comp=Z,234nm,1.1s
KSM LR LR
comp=Z,2µm,19.0s
TWG Pinlang 59.64 308 *e*P **P** 05 13 59.8 -1.8
comp=Z,964nm,1.9s
YULB Yuli 59.80 309 *e*P **P** 05 14 01.7 -0.9
comp=Z,81nm,1.1s
JNU Nakatsue 59.82 324 P **P** 05 14 02.4 -0.2
comp=Z,216nm,0.9s,baz=102,slow=3.5,SNR=127
JNU Nakatsue 59.82 324 *e*P **P** 05 14 02.4 -0.2
comp=Z,383nm,1.0s
LEM Lembang 59.94 271 P **P** 05 14 04.3 +0.4
comp=Z,535nm,0.8s,comp=Z,8µm
LEM Lembang 59.94 271 P **P** 05 14 03.8 -0.2
comp=Z,358nm,0.8s,baz=86,slow=8.1,SNR=47
LEM Lembang 59.94 271 P **P** 05 14 04.8 +0.8
baz=60,SNR=12
NACB Ninganchiao 60.03 310 *e*P **P** 05 14 04.0 -0.2
comp=Z,860nm,1.8s
SSLB Suanglung 60.28 309 *e*P **P** 05 14 04.9 -1.0
comp=Z,115nm,0.7s
CNJI Cibinong 60.30 270 P **P** 05 14 05.9 -0.3
comp=Z,486nm,0.8s,comp=Z,5µm
YHNB Yeheng 60.48 310 *e*P **P** 05 14 07.3 0.0
comp=Z,356nm,0.8s
YHNB LR LR
comp=Z,3µm,22.0s
TATO Taipei 60.58 311 *e*P **P** 05 14 08.0 +0.1
comp=Z,279nm,1.1s
TATO LR LR
comp=Z,2µm,20.0s
CBJI Citeko 60.77 271 P **P** 05 14 09.0 -0.4
comp=Z,401nm,0.9s
SKJI Sukabumi 60.92 270 P **P** 05 14 10.3 -0.2
comp=Z,551nm,0.8s,comp=Z,7µm
TPI Tanjungpandan 60.92 275 P **P** 05 14 11.2 +0.7
comp=Z,201nm,1.1s,comp=Z,3µm
XMI Christmas Isla 61.02 266 ⇓P **P** 05 14 11.8 +0.7
baz=61,SNR=4.1
XMIS Christmas Isla 61.05 266 ⇓P **P** 05 14 12.0 +0.7
baz=61,SNR=7.0
XMIS Christmas Isla 61.05 266 *e*P **P** 05 14 12.0 +0.7
comp=Z,307nm,1.0s
ERM Erimo 61.42 339 *e*P **P** 05 14 13.6 +0.4
ERM pmax pmax
comp=Z,130nm,0.8s
ERM MLR MLR
comp=Z,3µm,19.0s
ERM Erimo 61.42 339 *e*P **P** 05 14 13.6 +0.4
comp=Z,130nm,0.8s
ERM LR LR
comp=Z,3µm,19.0s
SBJI Serang 61.54 271 P **P** 05 14 15.4 +0.8
comp=Z,352nm,1.6s,comp=Z,9µm
CGJI Cibinong 61.84 271 P **P** 05 14 15.7 -1.0
comp=Z,522nm,0.8s,comp=Z,6µm
YUK Yuzh-Kuril'sk 62.36 342*c* *i*P **P** 05 14 18.5 -1.0
YUK *i* 05 15 00.0
YUK *i* 05 16 35.2
YUK *e*S **S** 05 22 43.4 +0.1
YUK *i* 05 24 12.2
YUK *e*SS **SS** 05 26 42.4 -5.4
YUK *e*SSS SSS 05 29 37.9
YUK pmax pmax
comp=N,99nm,1.6s
YUK pmax pmax
comp=E,258nm,1.6s
YUK pmax pmax
comp=Z,599nm,1.6s
YUK pmax pmax
comp=Z,1µm,5.6s
YUK MLR MLR
comp=N,1µm,19.0s
YUK MLR MLR
comp=E,678nm,19.0s
YUK MLR MLR
comp=Z,2µm,19.0s
KSBUS Busan 62.37 324 P **P** 05 14 20.5 +0.7
SNR=9.5
KSBUS Busan 62.37 324 P **P** 05 14 20.5 +0.7
SNR=9.5
VNDA Vanda 62.45 182 P **P** 05 14 20.3 +0.6
comp=Z,25nm,0.7s,baz=359,slow=7.1,SNR=132
VNDA PKPPKP **P'P'df** 05 43 24.4 -2.9
comp=Z,4.6nm,1.0s,baz=240,slow=5.2,SNR=5.9
VNDA Vanda 62.45 182 *e*P **P** 05 14 20.0 +0.3
VNDA pmax pmax
comp=Z,395nm,2.0s
VNDA Vanda 62.45 182 *e*P **P** 05 14 20.0 +0.3
comp=Z,395nm,2.0s
VNDA P'P' 05 43 24.4
KSTOY TONGYEONG 62.47 324 P **P** 05 14 21.6 +1.2
SNR=7.7
KSTOY TONGYEONG 62.47 324 P **P** 05 14 21.5 +1.1
SNR=12
PPBI Pangkal Pinang 62.54 276 P **P** 05 14 22.4 +1.0
KSJJU Jeju 62.59 321 P **P** 05 14 22.0 +0.7
SNR=9.5
KSJJU Jeju 62.59 321 P **P** 05 14 22.0 +0.7
SNR=9.5
SBA Scott Base 62.71 180 *e*P **P** 05 14 21.2 -0.2
SBA pmax pmax
comp=Z,1µm,2.0s
SBA MLR MLR
comp=Z,2µm,19.0s
SBA Scott Base 62.71 180 *e*P **P** 05 14 21.2 -0.2
comp=Z,1µm,2.0s
SBA LR LR
comp=Z,2µm,19.0s
QZH Quanzhou 62.71 309⇑ *i*P **P** 05 14 22.3 +0.1
QZH S **S** 05 22 53.0 +4.5
QZH PMZ
comp=Z,200nm,0.8s
QZH PMZ
comp=Z,5µm,6.0s
QZH LZ
comp=Z,4µm,16.3s
KSNAH Namhae 62.74 323 P **P** 05 14 22.7 +0.4
SNR=20
KSNAH Namhae 62.74 323 P **P** 05 14 22.7 +0.4
SNR=20
KSDAG Daegu 62.87 325 P **P** 05 14 24.1 +1.0
SNR=6.4
KSDAG Daegu 62.87 325 P **P** 05 14 24.0 +0.9
SNR=19
KUR Kuril'sk 62.89 344*c* *i*P **P** 05 14 22.9 -0.1
KUR *i* 05 14 58.5
KUR *i* 05 16 37.3
KUR *i* S S 05 23 02.2 +12
KUR *i* SS **SS** 05 26 54.7 -1.4
KUR *e*SSS SSS 05 29 44.6
KUR pmax pmax
comp=Z,310nm,1.4s
KUR pmax pmax
comp=N,101nm,1.5s
KUR pmax pmax
comp=E,79nm,1.4s
KUR pmax pmax
comp=Z,1µm,5.9s
KUR MLR MLR
comp=N,3µm,17.0s
KUR MLR MLR
comp=E,909nm,17.0s
KUR MLR MLR
comp=Z,2µm,17.0s
KSPHA Pohang 62.92 325 P **P** 05 14 24.0 +0.6
SNR=28
KSJIN Jinju 62.93 324 P **P** 05 14 24.6 +1.2
SNR=8.8
KSJIN Jinju 62.93 324 P **P** 05 14 24.6 +1.2
SNR=14
KSKOH Goheung 62.98 323 P **P** 05 14 24.4 +0.6
SNR=5.9
KSYOC YEONGCHEON 62.99 325 P **P** 05 14 24.8 +0.9
SNR=10.0
KSYOC YEONGCHEON 62.99 325 P **P** 05 14 24.8 +0.9
SNR=10.0
KSULL Ulleungdo 63.05 327 P **P** 05 14 25.8 +1.6
SNR=9.7
KSULL Ulleungdo 63.05 327 P **P** 05 14 25.2 +0.9
SNR=9.3
KSWAN Wando 63.16 322 P **P** 05 14 26.2 +1.2
SNR=7.3
KLSI 63.24 272 P **P** 05 14 27.4 +1.4
comp=Z,122nm,2.2s
KASI Kota Agung 63.26 271 P **P** 05 14 25.1 -1.0
comp=Z,332nm,1.1s,comp=Z,5µm
KSULJ Uljin 63.27 326 P **P** 05 14 26.8 +1.1
SNR=8.3
KSULJ Uljin 63.27 326 P **P** 05 14 26.2 +0.4
SNR=17
KSEUS ULSEONG 63.41 325 P **P** 05 14 28.3 +1.6
SNR=9.0
KSEUS ULSEONG 63.41 325 P **P** 05 14 27.9 +1.3
SNR=9.2
KSJDO Jindo 63.44 322 P **P** 05 14 27.2 +0.2
SNR=10
KSJDO Jindo 63.44 322 P **P** 05 14 27.7 +0.7
SNR=5.3
ASAJ Asahikawa 63.47 340 LR LR 05 38 41.2
comp=Z,2µm,20.0s,baz=167,slow=33
ASAJ Asahikawa 63.47 340 *e*P **P** 05 14 27.8 +0.9
comp=Z,474nm,1.0s
CASY Casey 63.49 202 *e*P **P** 05 14 27.1 +0.3
comp=Z,547nm,1.9s
CASY LR LR
comp=Z,2µm,21.0s
KSKWJ Gwangju 63.53 323 P **P** 05 14 28.1 +0.7
SNR=7.9
KSGWJ Gwangju-acc 63.59 323 P **P** 05 14 28.9 +1.0
SNR=5.8
KSCPR CHUPUNGNYEONG 63.72 324 P **P** 05 14 28.9 +0.2
SNR=32
KSCPR CHUPUNGNYEONG 63.72 324 P **P** 05 14 29.6 +0.9
SNR=10
KSJEU Jeongeup 63.80 323 P **P** 05 14 30.3 +1.1
SNR=6.8
LWLI Liwa 63.80 272 P **P** 05 14 29.7 -0.2
comp=Z,150nm,0.8s,comp=Z,16µm
MDSI Maura Dua 63.82 272 P **P** 05 14 28.6 -1.3
comp=Z,120nm,0.8s,comp=Z,3µm
KSTBA Taebaek 63.83 326 P **P** 05 14 30.2 +0.7
SNR=105
KSTBA Taebaek 63.83 326 P **P** 05 14 30.2 +0.7
SNR=105
KSJEO Jeonju 63.90 324 P **P** 05 14 30.4 +0.5
SNR=31
KSBON Boeun 64.01 324 P **P** 05 14 31.4 +0.8
SNR=12
KSHUK Heuksando 64.11 322 P **P** 05 14 32.8 +1.6
SNR=6.1
KSYOW Yeongwol 64.13 325 P **P** 05 14 32.9 +1.4
SNR=11
KSTEJ Daejeon 64.16 324 P **P** 05 14 32.8 +1.2
SNR=8.6
TJN Taejon 64.17 324*c* *i*P **P** 05 14 30.7 -1.0
KSCHJ Chungju 64.18 325 P **P** 05 14 32.7 +1.0
SNR=8.3
KSJES JEONGSEON 64.21 326 P **P** 05 14 32.7 +0.8
SNR=34
KSGUS GUNSAN 64.26 323 P **P** 05 14 33.3 +1.1
SNR=7.8
KSKOJ Gongju 64.36 324 P **P** 05 14 33.7 +0.8
SNR=11
KSDGY Daegwallyeong 64.39 326 P **P** 05 14 34.0 +0.8
SNR=27
KSJMJ Jumunjin 64.49 326 P **P** 05 14 34.4 +0.7
SNR=42
SSE Sheshan 64.49 316 ⇑P **P** 05 14 33.5 -0.3
SSE sP **sP** 05 14 49.6 -0.1
SSE S **S** 05 23 13.8 +3.4
SSE PMZ
comp=Z,88nm,1.5s
SSE PMZ
comp=Z,1µm,5.2s
SSE LN
comp=Z,2µm,19.9s
SSE LE
comp=Z,840nm,19.9s
SSE LZ
comp=Z,1µm,18.4s
KSWJU Wonju 64.52 325 P **P** 05 14 35.0 +1.0
SNR=13
KSCEA Cheonan 64.55 324 P **P** 05 14 35.3 +1.2
SNR=5.2
LHSI Lahat 64.62 273 P **P** 05 14 38.2 +3.1
comp=Z,85nm,2.3s,comp=Z,3µm
KSRS Korea Array 64.63 325 P **P** 05 14 34.7 +0.1
comp=Z,82nm,0.8s,baz=139,slow=6.9,SNR=194
KSRS PKPPKP **P'P'df** 05 43 21.9 +2.6
comp=Z,0.4nm,0.3s,baz=323,slow=3.0,SNR=7.1
KSAR Wonju Array Be 64.64 325 P **P** 05 14 34.7 0.0
KSAR Wonju Array Be 64.64 325 P **P** 05 14 34.7 0.0
KSAR P'P' 05 43 21.9
KSICN Icheon 64.79 325 P **P** 05 14 36.5 +0.7
SNR=20
KSSKC Sokcho 64.91 326 P **P** 05 14 37.6 +1.2
SNR=15
KSIJA INJE 64.91 326 P **P** 05 14 37.4 +0.9
SNR=44
KSCHC Chuncheon 64.92 325 P **P** 05 14 37.4 +0.8
SNR=22
KSSES Seosan 64.98 324 P **P** 05 14 37.9 +0.9
SNR=6.9
DLV T Lat 65.01 291 *e*P **P** 05 14 39.5 +1.6
KSSWO Suwon 65.03 325 P **P** 05 14 38.1 +0.9
SNR=9.0
SEHB SEOHWA 65.04 326 P **P** 05 14 38.0 +0.6
SNR=23
JMBI JAMBI 65.08 275 P P 05 14 46.3 +8.2
KSSEO Seoul 65.21 325 P **P** 05 14 39.9 +1.5
SNR=10.0

KSCWO **Cheorwon** 65.31 325 P **P** 05 14 40.1 +1.0
SNR=39
INCN **Inchon** 65.37 324 *e*P **P** 05 14 40.2 +0.7
comp=Z,836nm,1.6s
INCN LR LR
comp=Z,1μm,19.0s
KSDDC **Dongducheon** 65.43 325 P **P** 05 14 40.8 +1.0
SNR=16
KSI **Kapahiang** 65.56 273 P **P** 05 14 42.6 +1.3
comp=Z,259nm,1.7s
KSMUS **Musan** 65.58 325 P **P** 05 14 42.2 +1.4
SNR=14
YNCB **YEONCHEON** 65.60 325 P **P** 05 14 42.7 +1.7
SNR=63
KSGAH **Ganghwa** 65.63 325 P **P** 05 14 42.5 +1.4
SNR=16
GZH **Guangzhou** 65.80 304 *e*P **P** 05 14 43.9 +1.4
GZH ScP 05 19 12.3
GZH PcS 05 19 16.0
GZH S **S** **05 23 31.6 +4.8**
GZH LN
comp=Z,2μm,20.8s
GZH LE
comp=Z,3μm,21.3s
BTDF **Bukit Timah Da** 65.80 278 ⇑P **P** 05 14 43.7 +0.9
baz=66
BTDF ⇑P **P** 05 14 43.7 +0.9
baz=66
MYKOM **Kota Tinggi** 65.86 279 ⇑P **P** 05 14 43.1 0.0
MYKOM **Kota Tinggi** 65.86 279 ⇑P **P** 05 14 43.1 0.0
MYKOM **Kota Tinggi** 65.86 279 *e*P **P** 05 14 43.7 +0.5
comp=Z,99nm,1.1s
YSS **Yuzh-Sakhalins** 65.94 341*c* *i*P **P** 05 14 44.0 +1.1
YSS *e* 05 15 09.5
YSS *e*S **S** **05 23 30.0 +2.4**
YSS pmax pmax
comp=E,260nm,1.4s
YSS pmax pmax
comp=Z,580nm,1.4s
YSS pmax pmax
comp=Z,2μm,6.0s
YSS smax smax
comp=N,1μm,9.0s
YSS MLR MLR
comp=N,1μm,18.0s
YSS MLR MLR
comp=Z,1μm,18.0s
YSS **Yuzh-Sakhalins** 65.94 341 *e*P **P** 05 14 44.2 +1.3
comp=Z,256nm,0.9s
YSS LR LR
comp=Z,1μm,19.0s
MASI **Maura Aman, Be** 66.03 273 P P 05 14 48.0 +3.7
SKR **Severo-Kuril's** 66.42 352 *i* P **P** **05 14 43.0 -2.9**
SKR *e*S S 05 23 42.0 +8.8
SKR *e*PS PnS 05 24 10.0 +12
SKR *e*SS **SS** **05 27 48.0 -2.9**
SKR pmax pmax
comp=Z,110nm,1.0s
SKR pmax pmax
comp=Z,3μm,6.0s
SKR pmax pmax
comp=N,2μm,4.0s
SKR pmax pmax
comp=E,2μm,4.0s
SKR pmax pmax
comp=N,1μm,6.0s
SKR pmax pmax
comp=E,1μm,6.0s
SKR pmax pmax
comp=Z,1μm,6.0s
SKR smax smax
comp=N,1μm,10.0s
SKR smax smax
comp=E,3μm,10.0s
SKR MLR MLR
comp=N,1μm,14.0s
SKR MLR MLR
comp=Z,2μm,14.0s
SKR MLR MLR
comp=E,1μm,12.0s
KGM **Kluang** 66.43 279 ⇑P **P** 05 14 46.9 0.0
KGM **Kluang** 66.43 279 ⇑P **P** 05 14 46.9 0.0
NJ2 **Nanjing** 66.64 315 *e*P **P** 05 14 48.8 +1.0
NJ2 pP **pP** **05 14 57.1 -2.2**
NJ2 sP **sP** **05 15 01.8 -1.9**
NJ2 PP **PP** **05 17 17.5 +2.4**
NJ2 S **S** **05 23 40.5 +3.8**
NJ2 PMZ
comp=E,270nm,0.8s
NJ2 PMZ
comp=E,5μm,6.2s
NJ2 LN
comp=E,2μm,19.2s
NJ2 LE
comp=E,3μm,15.2s
NJ2 LZ
comp=E,6μm,14.9s
QIZ **Qiongzhong** 66.77 299 P **P** 05 14 49.8 +0.9
QIZ pP **pP** **05 14 59.0 -1.4**
QIZ S **S** **05 23 40.8 +2.0**
QIZ sS **sS** **05 23 57.9 0.0**
QIZ PMZ
comp=E,110nm,1.1s
QIZ PMZ
comp=E,2μm,6.3s
QIZ LZ
comp=E,2μm,20.7s
QIZ **Qiongzhong** 66.77 299 PFAKE 05 15 00.0 +11
QIZ LR LR
comp=Z,2μm,19.0s
KSBAR **Backryungdo** 66.80 324 P **P** 05 14 49.9 +1.3
SNR=6.4
MSHR **Mys Shultsa** 66.82 331 *i* P **P** 05 14 49.5 +0.9
VLA **Vladivostok** 66.90 332*c* *i*P **P** 05 14 49.5 +0.4
VLA pmax pmax
comp=Z,128nm,0.8s
AMKA **Amchitka** 66.96 8 *e*P **P** 05 14 49.3 -0.1
KTGM **Kuala Trenggan** 67.62 282 ⇑P **P** 05 14 54.5 +0.1
KTGM **Kuala Trenggan** 67.62 282 ⇑P **P** 05 14 54.5 +0.1
USRK **Ussuriysk Ar.** 67.70 333 P **P** 05 14 54.9 +0.6
comp=Z,126nm,1.0s,baz=132,slow=7.2,SNR=189
USRK LR LR 05 40 47.1
comp=Z,1μm,21.1s,baz=151,slow=33
USRK PKPPKP **P'P'df** **05 43 12.3 -1.3**
comp=Z,0.9nm,0.6s,baz=207,slow=0.6,SNR=8.8
SMY **Shemya** 67.80 4 *e*P **P** 05 14 54.7 +0.1
SMY pmax pmax
comp=Z,599nm,1.3s
SMY **Shemya** 67.80 4 *e*P **P** 05 14 54.7 +0.1
comp=Z,600nm,1.3s
BKNI **Bangkinang** 68.12 277 P **P** 05 14 58.7 +1.1
comp=Z,410nm,1.0s,comp=Z,8μm
BKNI **Bangkinang** 68.12 277 ⇑P **P** 05 14 58.5 +0.9
baz=68
BKNI **Bangkinang** 68.12 277 *e*P **P** 05 14 58.2 +0.6
comp=Z,316nm,0.5s
PDSI **Padang** 68.34 275 P **P** 05 14 58.1 -0.8
comp=Z,102nm,0.9s
GSTR **Great Sitkin T** 68.35 10 *e*P **P** 05 14 59.1 +1.0
FRIM **Kepong** 68.41 280 ⇑P **P** 05 14 59.3 -0.1
FRIM **Kepong** 68.41 280 ⇑P **P** 05 14 59.3 -0.1
PET **Petropavlovsk** 68.41 354*c* *i*P **P** 05 14 58.2 -0.2
PET *e*S **S** **05 23 53.9 -3.1**
PET pmax pmax
comp=Z,103nm,1.4s
PET pmax pmax
comp=Z,2μm,4.5s
PET pmax pmax
comp=Z,2μm,7.5s
PET **Petropavlovsk** 68.41 354 *e*P **P** 05 14 58.8 +0.4
comp=Z,196nm,1.4s
PET LR LR
comp=Z,1μm,20.0s
PPI **Padang Panjang** 68.52 276 P **P** 05 15 01.3 +1.2
comp=Z,52nm,1.6s,comp=Z,2μm
PEA0B **Petropavlovsk-** 68.60 353 *e*P **P** 05 14 59.5 -0.1
PETK **Petropavlovsk-** 68.60 353 P **P** 05 14 59.9 +0.2
comp=Z,52nm,0.8s,baz=142,slow=7.3,SNR=52
PETK LR LR 05 40 46.4
comp=Z,752nm,20.2s,baz=171,slow=32
ATKA **Atka Island** 68.80 11 *e*P **P** 05 15 01.2 +0.3
comp=Z,167nm,1.4s
WHN **Wuhan** 68.93 312 ⇑P **P** 05 15 02.3 +0.1
WHN S **S** **05 24 06.3 +2.1**
WHN PMZ
comp=Z,4μm,5.0s
WHN LN
comp=Z,2μm,14.0s
WHN LE
comp=Z,1μm,12.2s
WHN LZ
comp=Z,3μm,16.0s
UBPT **Khong Chiam** 69.01 293 P **P** 05 15 03.9 +0.9
comp=Z,180nm,1.0s,comp=Z,3μm
MDJ **Mudanjiang** 69.11 331 P **P** 05 15 03.8 +0.8
MDJ pP **pP** **05 15 13.3 -1.3**
MDJ sP **sP** **05 15 17.1 -1.9**
MDJ PP **PP** **05 17 35.8 -0.5**
MDJ S **S** **05 24 09.8 +4.1**
MDJ ScS **ScS** **05 25 01.9 +1.1**
MDJ PMZ
comp=Z,390nm,1.1s
MDJ PMZ
comp=Z,2μm,5.7s
MDJ LN
comp=Z,1μm,17.5s
MDJ LE
comp=Z,780nm,18.6s
MDJ LZ
comp=Z,2μm,17.5s
MDJ **Mudanjiang** 69.11 331 *e*P **P** 05 15 03.5 +0.5
comp=Z,376nm,1.0s
COCO **West Island** 69.18 263 *i* P **P** 05 15 06.9 +2.8
COCO **West Island** 69.18 263 PFAKE 05 15 10.0 +5.9
COCO LR LR
comp=Z,5μm,21.0s
DL2 **Dalian** 69.21 323⇑ *i*P **P** 05 15 04.4 +0.6
DL2 S **S** **05 24 12.6 +5.4**
DL2 SKS **SKKSac** **05 25 00.9 0.0**
DL2 PMZ
comp=Z,630nm,0.9s
DL2 PMZ
comp=Z,1μm,6.3s
DL2 LN
comp=Z,510nm,14.5s
DL2 LE
comp=Z,830nm,16.3s
DL2 LZ
comp=Z,950nm,21.8s
IPM **Ipoh** 69.36 281 ⇑P **P** 05 15 05.4 +0.2
IPM **Ipoh** 69.36 281 ⇑P **P** 05 15 05.4 +0.2
IPM **Ipoh** 69.36 281 *e*P **P** 05 15 05.1 -0.2
TYV **Tymovskoe** 69.46 343 *e*P **P** 05 15 06.0 +1.0
TYV pmax pmax
comp=N,2μm,5.0s
TYV pmax pmax
comp=Z,3μm,5.0s
SISI **Saibi** 69.55 274 P P 05 15 13.8 +7.4
MNSI **Mandailing Nat** 69.66 277 P **P** **05 15 06.4 -0.7**
comp=Z,223nm,0.9s,comp=Z,4μm
HABR **Khabarovsk** 69.90 337*c* *i*P **P** **05 15 08.0 +0.2**
HABR *e**PP **pP** **05 15 16.0 -3.4**
HABR *e* 05 15 28.0
HABR *e* 05 17 39.8
HABR *e*PPP PPP 05 19 21.8
HABR *e*S **S** **05 24 15.3 +0.5**
HABR *e* 05 25 05.1
HABR *e*SS **SS** **05 28 42.9 -1.9**
HABR pmax pmax
comp=N,166nm,1.6s
HABR pmax pmax
comp=Z,855nm,1.6s
HABR pmax pmax
comp=E,68nm,1.0s
HABR pmax pmax
comp=Z,2μm,1.9s
HABR MLR MLR
comp=Z,981nm,18.0s
KULM **Kulim** 69.96 281 ⇑P **P** **05 15 09.3 +0.4**
KULM **Kulim** 69.96 281 ⇑P **P** **05 15 09.3 +0.4**
KULM **Kulim** 69.96 281 *e*P **P** **05 15 08.8 -0.2**
comp=Z,132nm,1.0s
KULM *e*PP **PP** **05 17 41.7 -2.5**
KULM LR LR
comp=Z,2μm,20.0s
SNY **Shenyang** 70.09 326 ⇑P **P** **05 15 09.0 -0.1**
SNY PP **PP** **05 17 39.8 -5.0**
SNY S **S** **05 24 21.5 +4.1**
SNY sS sS 05 24 31.1 -5.5
SNY PMZ
comp=Z,120nm,0.8s
SNY PMZ
comp=Z,3μm,6.7s
SNY LN
comp=Z,1μm,15.5s
SNY LE
comp=Z,890nm,20.0s
SNY LZ
comp=Z,2μm,18.6s
TIA **Tai'an** 70.29 318 ⇑P **P** **05 15 10.1 -0.4**
TIA S **S** **05 24 19.3 -0.7**
TIA PMZ
comp=Z,240nm,1.1s
TIA PMZ
comp=Z,3μm,5.6s
TIA LN
comp=Z,2μm,14.3s
TIA LE
comp=Z,2μm,14.3s
TIA LZ
comp=Z,3μm,18.0s
MIR **Mirnyy** 70.32 204⇑ *e*P P 05 15 19.0 +8.8
MIR pmax pmax
comp=Z,180nm,1.5s
CN2 **Changchun** 70.50 329 ⇑P **P** **05 15 12.4 +0.8**
CN2 *e*sP **sP** **05 15 28.0 +0.4**
CN2 *e*S **S** **05 24 23.0 +0.8**
CN2 PMZ
comp=Z,100nm,0.6s
CN2 PMZ
comp=Z,2μm,5.0s
CN2 LN
comp=Z,2μm,17.0s
CN2 LE
comp=Z,1μm,17.0s
CN2 LZ
comp=Z,2μm,18.0s
SKLT **Songkhla** 70.58 283 P **P** **05 15 13.7 +1.0**
comp=Z,154nm,1.8s,comp=Z,3μm
NIKH **Nikolski High** 70.67 14 *e*P **P** **05 15 12.9 +0.4**
comp=Z,368nm,0.8s
PSI **Prapat** 70.86 278 *e*P **P** **05 15 13.3 -1.3**
PSI *e* 05 17 50.6
PSI pmax pmax
comp=Z,147nm,1.0s
PSI **Prapat** 70.86 278 P **P** **05 15 13.5 -1.1**
baz=71,SNR=42
PSI **Prapat** 70.86 278 *e*P **P** **05 15 13.3 -1.3**
comp=Z,147nm,1.0s
PSI *e*PP **PP** **05 17 50.6 -1.4**
TSI **Tuntungan** 71.40 279 P **P** **05 15 18.3 +0.6**
comp=Z,224nm,1.0s
TRTT **Trang** 71.67 284 P **P** **05 15 21.5 +2.2**
comp=Z,172nm,1.5s
GSI **Gunungsitoli** 71.72 277 P **P** **05 15 20.2 +0.5**
comp=Z,338nm,1.3s,comp=Z,6μm
GSI **Gunungsitoli** 71.72 277 ⇓P **P** **05 15 20.1 +0.5**
baz=72
GSI **Gunungsitoli** 71.72 277 *e*P **P** **05 15 19.5 -0.2**
comp=Z,233nm,0.9s
KHON **Khomkaen** 71.76 293 P **P** **05 15 20.8 +1.0**
comp=Z,40nm,1.2s
KLR **Kul'dur** 71.79 336⇓ *i*P P 05 15 16.0 -3.3
KLR *e*S **S** **05 24 38.0 +1.2**
KLR pmax pmax
comp=N,170nm,1.8s
KLR pmax pmax
comp=E,260nm,1.8s
KLR pmax pmax
comp=Z,1μm,1.8s
KLR pmax pmax
comp=Z,4μm,6.5s
UNV **Unalaska Valle** 72.06 15 *e*P **P** **05 15 20.2 -0.5**
comp=Z,84nm,1.0s
NKL **Nikolayevsk** 72.06 343 *i* P **P** **05 15 20.0 -0.8**
NKL *e* 05 15 29.0
NKL *e*S **S** **05 24 44.0 +4.3**
NKL pmax pmax
comp=N,1μm,7.0s
NKL pmax pmax
comp=E,700nm,7.0s
NKL pmax pmax
comp=Z,3μm,7.0s
NKL pmax pmax
comp=N,100nm,1.2s
NKL pmax pmax
comp=E,120nm,1.2s
NKL pmax pmax
comp=Z,350nm,1.2s
NKL smax smax
comp=N,1μm,8.0s
NKL smax smax
comp=E,500nm,8.0s
NKL MLR MLR
comp=N,2μm,17.0s
NKL MLR MLR
comp=E,1μm,17.0s
NKL MLR MLR
comp=Z,3μm,17.0s
SURA **Surathani** 72.15 285 P **P** **05 15 23.7 +1.5**
comp=Z,195nm,1.0s,comp=Z,5μm
KRAB **Krabi** 72.25 284 P **P** **05 15 23.8 +1.0**
comp=Z,77nm,0.9s
PATY **Pattaya** 72.28 289 P **P** **05 15 24.7 +1.8**
comp=Z,40nm,1.2s,comp=Z,989nm
ENH **Enshi** 72.37 309 *e*P **P** **05 15 22.7 -0.5**
comp=Z,147nm,0.8s
GYA **Guiyang** 72.74 304⇑ *i*P **P** **05 15 25.8 +0.2**
GYA pP **pP** **05 15 37.3 0.0**
GYA PcP **PcP** **05 15 45.0 +2.2**
GYA PP **PP** **05 18 12.8 +4.8**
GYA S **S** **05 24 52.3 +3.4**
GYA sS **sS** **05 25 07.9 -0.3**
GYA SKS **SKSac** **05 25 25.3 -3.1**
GYA PMZ
comp=Z,140nm,0.8s
GYA PMZ
comp=Z,1μm,6.5s
GYA LN
comp=Z,1μm,15.8s
GYA LE
comp=Z,920nm,16.2s
GYA LZ
comp=Z,1μm,15.9s
SLVN **Son La** 72.79 298 *e*P **P** **05 15 27.2 +1.2**
comp=Z,114nm,1.4s
SURT **Suratani** 72.86 285 P **P** **05 15 27.9 +1.4**
comp=Z,152nm,1.3s,comp=Z,1μm
PKDT **Phuket** 72.96 283 P **P** **05 15 28.7 +1.7**
comp=Z,116nm,0.9s,comp=Z,3μm
BJT **Baijiatuau** 73.19 321 *e*P **P** **05 15 28.2 +0.4**
BJT pmax pmax
comp=Z,1μm,1.1s
BJT **Baijiatuau** 73.19 321 *e*P **P** **05 15 28.2 +0.4**
comp=Z,1μm,1.1s
BJI **Beijing** 73.19 321 P **P** **05 15 28.3 +0.5**
BJI PMZ
comp=Z,1μm,1.3s
LHMI **Lhok Sumawe** 73.45 280 P **P** **05 15 32.8 +2.8**
comp=Z,229nm,1.1s,comp=Z,7μm
LHMI **Lhok Sumawe** 73.45 280 *e*P **P** **05 15 30.6 +0.6**
comp=Z,414nm,1.5s
PBKT **Sadao Pong** 73.50 293 P **P** **05 15 30.9 +0.8**
comp=Z,231nm,0.8s,comp=Z,4μm
LOEI **Loei** 73.59 294 P **P** **05 15 28.8 -1.9**
comp=Z,170nm,0.9s,comp=Z,2μm
FALS **False Pass** 73.78 17 *e*P **P** **05 15 28.5 -2.5**
comp=Z,14nm,0.9s
TIY **Taiyuan** 74.22 317 *e*P **P** **05 15 35.3 +1.3**
TIY S **SKiKP** **05 25 00.3 +1.6**
TIY PMZ
comp=Z,310nm,1.0s
TIY PMZ
comp=Z,3μm,5.3s
TIY LN
comp=Z,2μm,19.6s
TIY LE
comp=Z,840nm,14.3s
TIY LZ
comp=Z,2μm,19.4s
UTTA **Uttaradit** 74.30 294 P **P** **05 15 35.4 +0.6**
comp=Z,44nm,0.9s,comp=Z,401nm
SRDT **SRDT** 74.37 290 P **P** **05 15 36.9 +1.7**
comp=Z,406nm,0.6s,comp=Z,10μm
XAN **Xi'an** 74.68 312 P **P** **05 15 37.1 +0.3**
XAN sP **sP** **05 15 51.4 -1.4**
XAN PP **PP** **05 18 23.8 -0.5**
XAN S **S** **05 25 09.5 -0.9**
XAN SKS **SKSac** **05 25 38.3 -4.2**
XAN SS **SS** **05 29 56.3 -2.4**
XAN PMZ
comp=Z,52nm,1.0s
XAN PMZ
comp=Z,620nm,6.7s
XAN LN
comp=Z,900nm,19.6s
XAN LE
comp=Z,290nm,23.5s
XAN LZ
comp=Z,520nm,20.3s
QSPA **South Pole Qui** 74.87 180 *e*P **P** **05 15 37.3 -0.2**
comp=Z,321nm,0.9s
KHLT **Khaolaem Dam** 75.00 290 P **P** **05 15 41.1 +2.2**
comp=Z,55nm,2.0s,comp=Z,1μm
SDPT **Sand Point** 75.05 18 *e*P **P** **05 15 38.0 -0.3**
comp=Z,525nm,1.9s
KMI **Kunming** 75.34 301 P **P** **05 15 42.1 +1.1**
KMI pP **pP** **05 15 53.1 +0.4**
KMI sP **sP** **05 15 57.8 +0.8**
KMI PP **PP** **05 18 32.3 +2.0**
KMI S **S** **05 25 14.3 -4.1**
KMI sS **sS** **05 25 33.0 -4.7**
KMI SS **SS** **05 30 08.8 -0.5**
KMI PMZ
comp=Z,260nm,1.1s
KMI PMZ
comp=Z,3μm,4.9s
KMI LN
comp=Z,720nm,22.1s
KMI LE
comp=Z,940nm,25.1s
KMI LZ
comp=Z,1μm,28.5s
CRAI **Chiangrai** 75.39 296 P **P** **05 15 38.9 -2.2**
comp=Z,191nm,0.9s,comp=Z,2μm
LAMP **Lampang** 75.40 294 P **P** **05 15 42.2 +1.0**
comp=Z,92nm,0.9s,comp=Z,818nm
MA2 **Magadan** 75.82 351 *i* P **P** **05 15 41.8 -0.9**
CM31 **Chiang Mai Arr** 75.99 294 *e*P **P** **05 15 45.1 +0.5**
comp=Z,73nm,0.8s
CM31 *e*pP **pP** **05 15 53.9 -2.4**
CMAR **Chiang Mai Arr** 75.99 294 P P **05 15 45.5 +0.9**
comp=Z,59nm,0.8s,baz=130,slow=4.5,SNR=191
CMAR PKiKP **PKiKP** **05 21 31.7 +0.6**
comp=Z,1.9nm,0.3s,baz=96,slow=0.9,SNR=4.0
CMAR PKKPbc **PKKPbc** **05 35 01.6 +0.9**
comp=Z,1.4nm,0.3s,baz=296,slow=4.1,SNR=7.8
CMAR PKPPKP **P'P'df** **05 43 01.4 -1.6**
comp=Z,1.2nm,0.3s,baz=288,slow=3.2,SNR=7.8
CMAR LR LR 05 48 26.7
comp=Z,521nm,20.9s,baz=143,slow=35
CMMT **Chiang Mai** 76.11 294 P **P** **05 15 45.8 +0.5**
comp=Z,209nm,1.2s,comp=Z,4μm
CHTO **Chiang Mai** 76.12 294 P **P** **05 15 45.7 +0.4**
comp=Z,1μm,0.8s,comp=Z,13μm
CHTO **Chiang Mai** 76.12 294 *e*P **P** **05 15 46.0 +0.7**
CHTO pmax pmax
comp=Z,256nm,1.4s
CHTO MLR MLR
comp=Z,767nm,19.0s
CHTO **Chiang Mai** 76.12 294 *e*P **P** **05 15 46.0 +0.7**
comp=Z,256nm,1.4s
CHTO LR LR
comp=Z,767nm,19.0s
CMAI **Chiengmai2** 76.44 295 P **P** **05 15 48.5 +1.2**
comp=Z,194nm,1.0s
CHGN **Chignik** 76.48 18 *e*P **P** **05 15 45.6 -0.8**
HHC **Hu-ho-hao-te** 76.53 319 *e*P **P** **05 15 48.1 +0.8**
HHC PMZ
comp=Z,270nm,1.2s
HHC PMZ
comp=Z,3μm,4.9s
HHC LN
comp=Z,2μm,17.6s
HHC LE
comp=Z,910nm,17.0s
HHC LZ
comp=Z,2μm,17.2s
MHMT **Maesarieng** 76.78 293 P **P** **05 15 50.3 +1.3**

comp=Z,90nm,0.9s,comp=Z,1µm
CMBY CAMPBELL BAY 76.85 281 *e*P P 05 15 49.2 -0.3
CD2 Chengdu 77.02 307 ⇑P P 05 15 50.8 +0.6
CD2 pP **pP** 05 16 01.8 -0.1
CD2 sP **sP** 05 16 06.0 -0.3
CD2 PP **PP** 05 18 44.4 +0.2
CD2 S **S** 05 25 37.8 +1.5
CD2 PMZ
comp=Z,240nm,1.1s
CD2 PMZ
comp=Z,3µm,5.5s
CD2 LN
comp=Z,2µm,12.2s
CD2 LZ
comp=Z,2µm,16.8s
HIA Hailar 77.13 330 *e*P P 05 15 50.5 +0.1
HIA pmax pmax
comp=Z,235nm,1.1s
HIA MLR MLR
comp=Z,1µm,20.0s
HIA Hailar 77.13 330 *e*P P 05 15 50.5 +0.1
comp=Z,235nm,1.1s
HIA LR LR
comp=Z,1µm,20.0s
BTO Baotou 77.37 318 *e*P P 05 15 52.4 +0.4
SEY Seymchan 78.83 353 P P 05 15 59.6 +0.2
comp=Z,186nm,0.9s,baz=158,slow=7.5,SNR=216
SEY Seymchan 78.83 353 *ce*P P 05 15 59.2 -0.2
OHAK Old Harbor 78.86 20 *e*P P 05 16 00.6 +0.8
comp=Z,121nm,1.1s
LZH Lanzhou 79.31 312 ⇑P P 05 16 04.4 +1.5
LZH pP **pP** 05 16 15.3 +0.6
LZH sP **sP** 05 16 19.5 +0.4
LZH PP **PP** 05 19 06.5 +3.1
LZH S **S** 05 26 01.0 0.0
LZH PMZ
comp=Z,720nm,1.5s
LZH PMZ
comp=Z,3µm,5.3s
LZH LN
comp=Z,2µm,17.5s
LZH LE
comp=Z,1µm,17.8s
LZH LZ
comp=Z,2µm,19.5s
PBA Port Blair 79.36 285 *e*P P 05 16 04.0 +0.6
KDAK Kodiak Island 79.54 20 *e*P P 05 16 04.9 +1.5
KDAK pmax pmax
comp=Z,84nm,1.2s
KDAK MLR MLR
comp=Z,1µm,21.0s
KDAK Kodiak Island 79.54 20 *e*P P 05 16 04.9 +1.5
comp=Z,84nm,1.2s
KDAK LR LR
comp=Z,1µm,21.0s
DGPR DIGLIPUR 79.66 287 *e*P P 05 16 05.5 +0.5
CLNS Chul'man 80.29 337 *e*P P 05 16 08.1 +0.5
CLNS *e* 05 16 16.1
CLNS *e* 05 19 14.5
CLNS *e*PPP PPP 05 21 03.1
CLNS *e*S **S** 05 26 11.0 +0.9
CLNS *e* 05 26 50.7
CLNS *e**SS PnS 05 27 13.4 +14
CLNS pmax pmax
comp=Z,177nm,0.9s
CLNS pmax pmax
comp=N,91nm,1.2s
CLNS pmax pmax
comp=E,53nm,1.0s
CLNS pmax pmax
comp=E,19nm,1.0s
CLNS pmax pmax
comp=Z,29nm,1.1s
CLNS pmax pmax
comp=N,26nm,1.3s
CLNS smax smax
comp=N,630nm,11.0s
CLNS smax smax
comp=E,517nm,11.0s
SVW2 Sparrevohn 81.29 17 *e*P P 05 16 13.7 +0.9
comp=E,461nm,2.8s
RSO Redoubt South 81.60 18 *e*P P 05 16 14.8 +0.1
comp=E,97nm,0.9s
BRLK Bradley Lake 81.64 20 *e*P P 05 16 15.5 +0.8
comp=E,150nm,1.4s
MAW Mawson 81.84 202 P P 05 16 15.3 -0.4
comp=E,19nm,0.9s,baz=106,slow=6.0,SNR=37
MAW Mawson 81.84 202 P P 05 16 15.3 -0.4
MAW pmax pmax
comp=Z,19nm,0.9s
MAW Mawson 81.84 202 ⇓P P 05 16 16.1 +0.3
baz=82
MAW Mawson 81.84 202 *e*P P 05 16 16.2 +0.5
comp=Z,11nm,1.2s
CIT Chita 81.92 329 *e*P P 05 16 17.9 +1.5
CIT *e* 05 16 25.1
CIT *e* 05 19 32.7
CIT pmax pmax
comp=Z,1µm,2.0s
SEW Seward 82.37 20 *e*P P 05 16 19.1 +0.7
comp=Z,2µm,3.0s
TNA Tin City 82.47 10 *e*P P 05 16 19.7 +0.9
comp=Z,71nm,0.9s
TNA *ep*P **pP** 05 16 29.4 -1.3
YAK Yakutsk 82.72 343 *c i*P P 05 16 19.9 -0.3
YAK *e* 05 16 24.1
YAK *e**PP **pP** 05 16 28.9 -3.1
YAK *e* 05 19 26.0
YAK *e*PPP PPP 05 21 29.9
YAK *e*S **S** 05 26 38.2 +3.2
YAK *e*SS **SS** 05 32 04.5 +6.2
YAK *e*SSS SSS 05 35 25.7
YAK pmax pmax
comp=E,67nm,1.3s
YAK pmax pmax
comp=Z,326nm,0.8s
YAK pmax pmax
comp=N,126nm,1.4s
YAK pmax pmax
comp=E,128nm,2.4s
YAK pmax pmax
comp=N,193nm,2.2s
YAK pmax pmax
comp=Z,757nm,5.8s
YAK smax smax
comp=E,668nm,6.9s
YAK smax smax
comp=N,770nm,6.3s
YAK MLR MLR
comp=Z,2µm,18.0s
YAK MLR MLR
comp=N,2µm,16.0s
YAK MLR MLR
comp=E,629nm,17.0s
YAK Yakutsk 82.72 343 *e*P P 05 16 20.5 +0.2
comp=E,544nm,0.9s
YAK LR LR
comp=Z,2µm,19.0s
MID Middleton Isla 82.93 22 *e*P P 05 16 21.4 0.0
MID Middleton Isla 82.93 22 *e*P P 05 16 21.4 0.0
BILL Bilibino 82.98 359 *i* P P 05 16 21.4 -0.1
BILL *i* 05 16 27.7
BILL pmax pmax
comp=Z,519nm,1.5s
BILL Bilibino 82.98 359 *e*P P 05 16 21.2 -0.3
comp=Z,723nm,1.5s
SUA Susitna One 83.00 19 *e*P P 05 16 22.3 +0.4
comp=Z,2µm,2.9s
RC01 Rabbit Creek A 83.03 19 *e*P P 05 16 21.8 -0.1
comp=Z,200nm,1.2s
ULN Ulaanbaatar 83.04 324 *e*P P 05 16 22.2 -0.3
ULN pmax pmax
comp=Z,625nm,1.0s
ULN MLR MLR
comp=Z,1µm,20.0s
ULN Ulaanbaatar 83.04 324 *e*P P 05 16 22.2 -0.3
comp=Z,625nm,1.0s
ULN LR LR
comp=Z,1µm,20.0s
SONM Songino Array 83.41 323 P P 05 16 24.7 +0.3
comp=Z,226nm,0.9s,baz=137,slow=5.4,SNR=466
SONM PKKPbc **PKKPbc** 05 34 44.3 -1.3
comp=Z,1.6nm,0.8s,baz=280,slow=2.6,SNR=7.4
SONM PKPPKP P'P'df 05 42 36.4 -11
comp=Z,0.2nm,0.4s,baz=304,slow=1.3,SNR=3.9
SONM LR LR 05 53 32.5

comp=Z,827nm,18.3s,baz=126,slow=36
MCCM Marconi Confer 83.42 48 *e*P P 05 16 25.8 +1.4
comp=Z,180nm,0.9s
SAC San Andreas 83.52 48 *e*P P 05 16 26.8 +1.8
SAC San Andreas 83.52 48 *e*P P 05 16 26.8 +1.8
KCPM Cahto Peak 83.58 46 *e*P P 05 16 27.7 +2.3
comp=Z,231nm,1.3s
PMR Palmer 83.60 19 *e*P P 05 16 24.4 -0.4
PMR pmax pmax
comp=Z,414nm,1.7s
PMR Palmer 83.60 19 *e*P P 05 16 24.4 -0.4
comp=Z,414nm,1.7s
GTA Gaotai 83.65 314 ⇑P P 05 16 26.5 +0.7
GTA S **S** 05 26 48.6 +2.9
GTA PMZ
comp=Z,380nm,1.2s
GTA PMZ
comp=Z,3µm,5.0s
GTA LN
comp=Z,850nm,19.0s
GTA LE
comp=Z,940nm,19.0s
GTA LZ
comp=Z,1µm,20.9s
PPLA Purkeypile 83.69 17 *e*P P 05 16 24.9 -0.6
comp=Z,198nm,1.7s
KIPM Iron Peak 83.71 46 *e*P P 05 16 27.2 +1.2
KMRM Mail Ridge 83.73 46 *e*P P 05 16 28.3 +2.2
comp=Z,282nm,1.1s
NSHM Saint Helena R 83.78 48 *e*P P 05 16 28.0 +1.7
PAF Port-aux-Franc 83.78 221 P P 05 16 11.0 -15
PAF Port-aux-Franc 83.78 221 S S 05 26 20.0 -26
PAF SS SS 05 32 02.0 -12
PAF L L 05 39 00.0
PAF R 05 43 00.0
KHMM Horse Mountain 84.00 45 *e*P P 05 16 29.8 +2.3
comp=Z,2µm,2.5s
SML Sawmill 84.01 19 *e*P P 05 16 26.3 -0.7
SML *e* 05 19 38.7
SML pmax pmax
comp=Z,22nm,1.2s
SML Sawmill 84.01 19 *e*P P 05 16 26.3 -0.7
comp=Z,22nm,1.2s
SML *e*PP **PP** 05 19 38.7 -2.7
LRV Little Rabbit 84.07 50 *e*P P 05 16 29.9 +2.0
LRV *e*PP **PP** 05 19 43.6 +1.1
BSC Santa Cruz Isl 84.17 53 P P 05 16 29.1 +0.7
baz=84,SNR=16
RAGM Ragged Mountai 84.20 21 *e*P P 05 16 28.9 +0.8
comp=Z,177nm,1.4s
KBO Bosley Butte 84.25 44 *e*P P 05 16 31.1 +2.3
comp=Z,334nm,1.5s
SBC Santa Barbara 84.28 52 P P 05 16 30.2 +1.3
baz=84,SNR=6.5
SCM Sheep Creek Mo 84.35 19 *e*P P 05 16 29.1 +0.3
SCM pmax pmax
comp=Z,2µm,2.9s
SCM Sheep Creek Mo 84.35 19 *e*P P 05 16 29.1 +0.3
comp=Z,2µm,2.9s
DIV Divide 84.36 21 *e*P P 05 16 29.0 +0.3
comp=Z,156nm,1.5s
PKM Peak Mountain 84.37 52 P P 05 16 30.7 +1.1
baz=85,SNR=54
SMMC Simmler 84.39 51 P P 05 16 30.6 +1.0
baz=85,SNR=18
KLU Klutina 84.57 20 *e*P P 05 16 30.2 +0.3
comp=Z,97nm,1.4s
SHL Shillong 84.60 298 *e*P P 05 16 30.6 -0.4
SCI San Clemente I 84.63 54 P P 05 16 31.8 +1.1
baz=85,SNR=18
BMRM Bremner River 84.64 21 *e*P P 05 16 30.3 +0.1
comp=Z,190nm,1.6s
L02D Cave Junction, 84.64 44 P P 05 16 32.1 +1.5
baz=85
BLG Laguna Peak 84.65 53 P P 05 16 31.6 +0.7
baz=85
TRF Thorofare Moun 84.67 17 *ep*P pP 05 16 42.3 0.0
WDC Whiskeytown Da 84.69 46 *e*P P 05 16 32.2 +1.3
WDC pmax pmax
comp=Z,316nm,1.5s
WDC Whiskeytown Da 84.69 46 *e*P P 05 16 32.2 +1.3
comp=Z,316nm,1.5s
N02D Trinity Center 84.74 45 P P 05 16 32.9 +1.6
baz=85
M02C Callahan 84.82 45 P P 05 16 33.1 +1.5
baz=85,SNR=8.2
CIS Catalina Islan 84.90 54 P P 05 16 32.3 +0.1
baz=85,SNR=17
OHCM Honcut 84.91 47 *e*P P 05 16 32.6 +0.6
BPAW Bear Paw Mtn. 84.97 17 *e*P P 05 16 30.2 -1.6
comp=Z,19nm,1.3s
BPAW *e*PP **PP** 05 19 45.6 -3.5
RND Reindeer 85.05 18 *e*P P 05 16 31.4 -0.9
RND pmax pmax
comp=Z,222nm,1.3s
RND Reindeer 85.05 18 *e*P P 05 16 31.4 -0.9
comp=Z,222nm,1.3s
YBH Yreka Blue Hor 85.06 45 P P 05 16 33.4 +0.6
comp=Z,64nm,0.9s,baz=260,slow=3.8,SNR=67
YBH PP **PP** 05 19 52.0 +1.5
comp=Z,7.6nm,1.2s,baz=231,slow=4.2,SNR=3.0
YBH Yreka Blue Hor 85.06 45 P P 05 16 33.4 +0.6
YBH 05 19 52.0
YBH pmax pmax
comp=Z,64nm,0.9s
YBH pmax pmax
comp=Z,8.0nm,1.2s
YBH Yreka Blue Hor 85.06 45 *e*P P 05 16 34.4 +1.6
comp=Z,135nm,1.1s
YBH PP **PP** 05 19 52.0 +1.5
FMP Fort Macarthur 85.09 53 P P 05 16 33.8 +0.7
baz=85,SNR=12
OSI Osito Adit 85.10 52 P P 05 16 34.1 +0.9
baz=85,SNR=12
OSI Osito Adit 85.10 52 *e*P P 05 16 34.1 +0.9
comp=Z,465nm,1.5s
OSI *e*PP **PP** 05 19 51.7 +0.8
CMB Columbia Colle 85.17 49 *e*P P 05 16 33.7 +0.3
CMB pmax pmax
comp=Z,142nm,1.0s
CMB Columbia Colle 85.17 49 *e*P P 05 16 33.7 +0.3
comp=Z,142nm,1.0s
ARVC Arvin 85.21 52 P P 05 16 34.5 +0.9
baz=85,SNR=33
DECC Green Verdugo 85.26 53 P P 05 16 34.3 +0.3
baz=86,SNR=14
HUMO Hull Mountain 85.27 44 *e*P P 05 16 35.5 +1.7
comp=Z,124nm,1.0s
BOD Bodaibo 85.27 334 ⇓*i*P P 05 16 32.8 -0.6
BOD pmax pmax
comp=Z,214nm,1.4s
MCK McKinley 85.28 18 *e*P P 05 16 33.2 -0.1
MCK pmax pmax
comp=Z,184nm,1.3s
MCK McKinley 85.28 18 *e*P P 05 16 33.1 -0.1
comp=Z,184nm,1.3s
RNO Roman Nose 85.32 42 P P 05 16 35.9 +1.9
PASC Pasadena Art C 85.35 53 *e*P P 05 16 35.5 +1.1
comp=Z,222nm,1.1s
RCTC Rector, Farmer 85.35 51 P P 05 16 34.6 +0.3
baz=86
MWC Mount Wilson 85.46 53 *e*P P 05 16 35.9 +0.7
MWC *e* 05 19 54.8
MWC pmax pmax
comp=Z,386nm,1.2s
MWC Mount Wilson 85.46 53 *e*P P 05 16 35.9 +0.7
comp=Z,386nm,1.2s
MWC *e*PP **PP** 05 19 54.8 +0.7
I03D Drain, OR 85.48 43 P P 05 16 35.5 +0.8
baz=86,SNR=8.7
FOXC Fox Airport 85.52 52 *e*P P 05 16 36.5 +1.3
LTIM Timbered Crate 85.66 45 P P 05 16 36.9 +1.0
M04C Macdoel 85.67 45 P P 05 16 36.7 +0.8
baz=86,SNR=29
ISA Isabella 85.68 51 *e*P P 05 16 36.9 +0.9
ISA pmax pmax
comp=Z,284nm,1.2s
ISA Isabella 85.68 51 P P 05 16 37.0 +0.9
baz=86,SNR=129
ISA Isabella 85.68 51 *e*P P 05 16 36.9 +0.9
comp=Z,284nm,1.2s
109C Camp Elliot, M 85.72 54 P P 05 16 36.6 +0.4
baz=86,SNR=24
IM04 Indian Mountai 85.73 15 *e*P P 05 16 35.4 -0.1
EDW2 Edwards Air Fo 85.76 52 P P 05 16 37.4 +1.0
baz=86,SNR=123

MLY Manley 85.76 16 *e*P P 05 16 35.7 0.0
comp=Z,497nm,2.4s
PAX Paxson 85.78 19 *e*P P 05 16 34.7 -1.2
PAX pmax pmax
comp=Z,18nm,1.1s
PAX Paxson 85.78 19 *e*P P 05 16 34.7 -1.2
comp=Z,18nm,1.1s
BFSC Mount Baldy Ra 85.78 53 P P 05 16 36.9 +0.3
baz=86,SNR=93
COR Corvallis 85.89 42 *e*P P 05 16 38.9 +2.1
COR pmax pmax
comp=Z,1µm,2.5s
COR Corvallis 85.89 42 *e*P P 05 16 38.9 +2.1
comp=Z,1µm,2.5s
MURC Murrieta 85.90 54 P P 05 16 37.6 +0.4
baz=86,SNR=40
BAR Barrett 85.99 55 *e*P P 05 16 38.4 +0.8
comp=Z,158nm,1.3s
BAR *e* 05 20 07.1
WAKR Walker 86.05 49 *e*P P 05 16 39.0 +1.0
K04D Chiloquin, OR 86.08 44 P P 05 16 38.4 +0.4
baz=86,SNR=9.3
J04D Umpqua Nationa 86.10 43 P P 05 16 38.8 +0.7
baz=86,SNR=26
I04A Tendick Farm, 86.14 43 P P 05 16 38.4 +0.3
baz=86,SNR=17
MLAC Mammoth Lakes 86.15 50 P P 05 16 39.7 +1.1
baz=86
G03D McMinnville, O 86.19 41 P P 05 16 39.7 +1.4
baz=86
MTUM Tungsten Hills 86.25 50 *e*P P 05 16 40.1 +1.1
MONP Monument Peak 86.26 55 P P 05 16 39.9 +0.7
baz=86
F03A Seaside 86.32 40 *e*P P 05 16 40.8 +2.0
comp=Z,437nm,1.8s
MENT Mentasta 86.32 20 *e*P P 05 16 38.6 +0.1
BBRC Big Bear Solar 86.36 53 P P 05 16 40.3 +0.6
baz=86,SNR=20
HDA Harding Lake 86.36 18 *e*P P 05 16 38.3 -0.3
comp=Z,112nm,1.0s
TIN Tinemaha 86.38 50 P P 05 16 40.7 +1.1
baz=87
MDM Murphy Dome 86.40 17 *e*P P 05 16 38.1 -0.8
comp=Z,101nm,1.2s
BLKC Black Mountain 86.42 52 *e*P P 05 16 41.0 +1.4
IBP Imperial Bould 86.44 55 P P 05 16 41.2 +1.3
baz=87
COLA College 86.45 17 *c i*P P 05 16 36.5 -2.5
COLA pmax pmax
comp=Z,161nm,0.8s
COLA MLR MLR
comp=Z,4µm,23.0s
COLA College 86.45 17 *e*P P 05 16 38.5 -0.5
comp=Z,77nm,1.0s
COLA LR LR
comp=Z,773nm,20.0s
ZAK Zakamensk 86.45 324 ⇑*i*P P 05 16 39.6 +0.1
ZAK pmax pmax
comp=Z,171nm,1.4s
PFO Pinyon Flat Ob 86.49 54 P P 05 16 41.0 +0.8
comp=Z,580nm,1.0s,SNR=24
PFO Pinyon Flat Ob 86.49 54 *e*P P 05 16 41.0 +0.8
PFO pmax pmax
comp=Z,230nm,1.4s
PFO MLR MLR
comp=Z,3µm,20.0s
PFO Pinyon Flat Ob 86.49 54 P P 05 16 40.8 +0.6
baz=87,SNR=39
PFO Pinyon Flat Ob 86.49 54 *e*P P 05 16 41.0 +0.8
comp=Z,230nm,1.4s
PFO LR LR
comp=Z,3µm,20.0s
RRX Edison Barstow 86.52 53 P P 05 16 41.1 +0.9
baz=87,SNR=6.3
DAC Darwin (Calif) 86.57 51 *e*P P 05 16 41.3 +0.7
DAC pmax pmax
comp=Z,206nm,1.4s
DAC Darwin (Calif) 86.57 51 *e*P P 05 16 41.3 +0.7
comp=Z,206nm,1.4s
E03A Lebam 86.59 40 P P 05 16 40.9 +0.8
LSA Lhasa 86.59 302 P P 05 16 41.8 +0.6
LSA S **S** 05 27 17.3 +1.4
LSA PMZ
comp=Z,1µm,5.2s
LSA Lhasa 86.59 302 *e*P P 05 16 41.9 +0.7
LSA pmax pmax
comp=Z,110nm,0.8s
LSA MLR MLR
comp=Z,892nm,22.0s
LSA Lhasa 86.59 302 *e*P P 05 16 41.9 +0.7
comp=Z,110nm,0.8s
LSA LR LR
comp=Z,892nm,22.0s
BBB Bella Bella 86.61 34 P P 05 16 39.5 -0.6
comp=Z,6.9nm,0.7s,baz=221,slow=9.3,SNR=3.6
ILAR Eielson Array 86.65 18 P P 05 16 38.8 -1.3
comp=Z,39nm,0.9s,baz=236,slow=5.3,SNR=245
ILAR PP **PP** 05 19 58.0 -4.7
comp=Z,4.7nm,1.1s,baz=213,slow=7.9,SNR=4.7
ILAR PKiKP **PKiKP** 05 21 48.2 +1.8
comp=Z,1.6nm,0.9s,baz=292,slow=3.3,SNR=5.4
ILAR PKKPbc **PKKPdf** 05 34 35.0 +2.9
comp=Z,0.4nm,0.9s,baz=17,slow=2.6,SNR=4.5
ILAR PKPPKP **P'P'df** 05 42 40.0 +0.4
comp=Z,0.3nm,0.8s,baz=345,slow=2.1,SNR=4.1
ILAR LR LR 05 49 16.0
comp=Z,814nm,21.7s,baz=238,slow=31
H04A Detroit Lake 86.66 42 *e*P P 05 16 40.9 +0.2
comp=Z,82nm,1.1s
G04A Mulino 86.69 41 *e*P P 05 16 41.7 +1.0
J05D Fort Rock, OR 86.70 44 P P 05 16 42.1 +1.1
baz=87,SNR=5.3
J05D S **S** 05 27 19.9 +4.1
baz=87
K05A Summer Lake 86.70 44 P P 05 16 42.1 +1.0
F04D Rainier, OR 86.73 41 P P 05 16 41.9 +1.1
baz=87
WRAK Wrangell Islan 86.73 29 PFAKE 05 16 50.0 +9.4
WRAK LR LR
comp=Z,1µm,19.0s
MOD Modoc 86.77 45 *e*P P 05 16 41.8 +0.4
comp=Z,82nm,1.4s
MOD *e*PP **PP** 05 20 03.8 -0.6
SWSC Sam W. Stewart 86.77 55 P P 05 16 42.4 +1.0
baz=87
NLWA Neilton Lookou 86.77 39 *e*P P 05 16 43.1 +2.0
comp=Z,210nm,1.6s
NLWA LR LR
comp=Z,1µm,20.0s
GSC Goldstone 86.81 52 *e*P P 05 16 42.5 +0.8
GSC pmax pmax
comp=Z,390nm,1.6s
GSC Goldstone 86.81 52 P P 05 16 42.6 +1.0
baz=87,SNR=60
GSC Goldstone 86.81 52 *e*P P 05 16 42.5 +0.8
comp=Z,390nm,1.6s
IRK Irkutsk 86.82 326 *e*P P 05 16 38.9 -2.3
IRK pmax pmax
comp=Z,278nm,2.7s
NVAR Mina Array Bea 86.84 49 P P 05 16 42.7 +0.8
comp=Z,62nm,0.8s,baz=231,slow=7.8,SNR=239
NVAR PKKPbc **PKKPbc** 05 34 37.0 -0.1
comp=Z,0.9nm,0.6s,baz=90,slow=1.8,SNR=4.2
NVAR PKPPKP **P'P'df** 05 42 43.6 +1.6
comp=Z,0.6nm,0.4s,baz=128,slow=2.3,SNR=6.0
BESE Bessie Mountai 86.86 26 *e*P P 05 16 46.2 +5.0
comp=Z,18nm,0.5s
TLY Talaya 86.88 326 *c i*P P 05 16 41.0 -0.5
TLY *e*S **S** 05 27 11.8 -5.1
TLY pmax pmax
comp=Z,89nm,0.7s
TLY MLR MLR
comp=Z,706nm,15.0s
TLY Talaya 86.88 326 P P 05 16 41.9 +0.4
comp=Z,609nm,0.9s,SNR=29
TLY Talaya 86.88 326 *e*P P 05 16 42.1 +0.6
comp=Z,121nm,1.0s
TLY LR LR
comp=Z,1µm,21.0s
HDB Hidalgo Marine 86.89 53 *e*P P 05 16 42.8 +0.7
BELC Belle Mtn. Jos 86.98 54 P P 05 16 43.5 +1.0
baz=87,SNR=148
GRAC Grapevine Rang 87.00 51 P P 05 16 43.4 +0.9
baz=87
HEC Hector,Ludlow 87.01 53 P P 05 16 43.4 +0.8
baz=87,SNR=60
F04A Amboy 87.04 41 *e*P P 05 16 43.5 +1.2

	comp=Z,185nm,1.4s								
I05D	**Terrebonne, OR**	87.06	43	P		P		05 16 43.9	+1.3
	baz=87								
HYT	**Haines Junctio**	87.14	23	*e*P		P		05 16 42.6	-0.1
SKAG	**Skagway**	87.18	25	*e*P		P		05 16 43.8	+1.1
	comp=Z,81nm,1.8s								
FURC	**Furnace Creek,**	87.19	51	P		P		05 16 44.6	+1.3
	baz=87								
ERK	**Elk Rock**	87.25	41	P		P		05 16 45.2	+1.7
BC3	**Big Chuckawall**	87.28	54	P		P		05 16 45.4	+1.4
	baz=88,SNR=29								
VLL	**Laurance Lake**	87.31	41	P		P		05 16 45.5	+1.7
TDL	**Tradedollar La**	87.34	41	P		P		05 16 44.9	+0.8
SHOC	**Shoshone**	87.43	52	P		P		05 16 45.5	+0.9
	baz=88,SNR=82								
G05D	**Wamic, OR**	87.45	42	P		P		05 16 45.3	+0.8
	baz=88								
GNW	**Green Mountain**	87.49	39	P		P		05 16 45.1	+0.7
TPH	**Tonopah**	87.50	50	*e*P		P		05 16 45.8	+0.7
TPH				pmax	pmax				
	comp=Z,506nm,1.8s								
TPH	**Tonopah**	87.50	50	*e*P		P		05 16 45.8	+0.7
	comp=Z,506nm,1.8s								
GMRC	**Granite Mounta**	87.51	53	P		P		05 16 46.1	+1.0
	baz=88,SNR=92								
TUQ	**Turquoise Moun**	87.54	52	P		P		05 16 46.0	+0.7
	baz=88,SNR=31								
GLA	**Glamis**	87.57	55	*e*P		P		05 16 46.8	+1.5
GLA				pmax	pmax				
	comp=Z,445nm,1.4s								
GLA	**Glamis**	87.57	55	P		P		05 16 46.6	+1.3
	baz=88								
GLA	**Glamis**	87.57	55	*e*P		P		05 16 46.8	+1.5
	comp=Z,445nm,1.4s								
PGC	**Sidney**	87.58	38	*e*P		P		05 16 46.6	+1.7
COLD	**Coldfoot**	87.60	15	*e*P		P		05 16 45.8	+1.2
	comp=Z,62nm,1.0s								
IRM	**Iron Mountain**	87.69	54	P		P		05 16 47.1	+1.2
	baz=88,SNR=66								
LON	**Longmire**	87.77	40	*e*P		P		05 16 47.1	+1.1
LON				pmax	pmax				
	comp=Z,92nm,1.7s								
LON	**Longmire**	87.77	40	*e*P		P		05 16 47.1	+1.1
	comp=Z,92nm,1.7s								
TPNV	**Topopah Spring**	87.82	51	*e*P		P		05 16 47.5	+0.9
TPNV				pmax	pmax				
	comp=Z,264nm,1.3s								
TPNV	**Topopah Spring**	87.82	51	P		P		05 16 47.7	+1.1
	baz=88								
TPNV	**Topopah Spring**	87.82	51	*e*P		P		05 16 47.5	+0.9
	comp=Z,264nm,1.3s								
D05A	**Enumclaw**	87.84	40	*e*P		P		05 16 48.3	+2.1
	comp=Z,559nm,1.7s								
G06A	**Carlson Farm,**	87.89	42	*e*P		P		05 16 47.9	+1.4
	comp=Z,1000nm,2.7s								
LDFC	**Landfair**	88.04	53	*e*P		P		05 16 49.6	+2.0
	comp=Z,394nm,1.1s								
Y12C	**Blythe**	88.05	54	P		P		05 16 49.0	+1.5
	baz=88,SNR=50								
WVOR	**Wild Horse Val**	88.12	45	*e*P		P		05 16 49.6	+1.8
WVOR				pmax	pmax				
	comp=Z,1μm,2.3s								
WVOR				MLR	MLR				
	comp=Z,1μm,19.0s								
WVOR	**Wild Horse Val**	88.12	45	*e*P		P		05 16 49.6	+1.8
	comp=Z,1μm,2.3s								
WVOR				LR	LR				
	comp=Z,1μm,19.0s								
NEE2	**Needles Airpor**	88.31	53	P		P		05 16 49.6	+0.9
	baz=88,SNR=12								
MOY	**Mondy**	88.33	325	*e*P		P		05 16 48.3	-0.3
MOY				pmax	pmax				
	comp=Z,405nm,3.9s								
BMN	**Battle Mountai**	88.36	47	*e*P		P		05 16 50.1	+1.1
BMN				*e*				05 20 17.8	
BMN				pmax	pmax				
	comp=Z,581nm,1.9s								
BMN	**Battle Mountai**	88.36	47	*e*P		P		05 16 50.1	+1.1
	comp=Z,581nm,1.9s								
BMN				*e*PP		PP		05 20 17.8	+0.5
EGAK	**Eagle**	88.41	19	PFAKE				05 17 00.0	+12
EGAK				LR	LR				
	comp=Z,1μm,20.0s								
FYU	**Fort Yukon**	88.42	17	*e*P		P		05 16 48.3	-0.2
	comp=Z,111nm,2.2s								
SHPR	**Sheep Range**	88.49	52	*e*P		P		05 16 50.8	+1.1
DAWY	**Dawson**	88.52	20	*e*P		P		05 16 48.9	-0.2
LPIG	**La Paz**	88.53	65	P		P		05 16 51.8	+1.9
	comp=Z,29nm,0.4s,baz=252,slow=3.2,SNR=6.1								
PDMCI	**Parker Dam,Lak**	88.53	54	P		P		05 16 51.1	+1.4
	baz=89,SNR=60								
A05A	**Maple Falls**	88.55	38	*e*P		P		05 16 50.9	+1.4
	comp=Z,196nm,1.8s								
SYO	**Syowa Base**	88.56	196⇑	*e*P		P		05 16 46.4	-2.9
SYO	**Syowa Base**	88.56	196⇑	*i*P		P		05 16 48.2	-1.1
LTY	**Liberty**	88.69	40	*e*P		P		05 16 50.8	+0.4
	comp=Z,52nm,1.0s								
B06A	**Marblemount**	88.71	39	*e*P		P		05 16 51.6	+1.4
	comp=Z,465nm,2.3s								
TAPN	**Taplejung**	88.72	299	*e*P		P		05 16 51.0	-0.2
	comp=Z,157nm,0.8s								
SLBS	**Sierra La Lagu**	88.72	65	*e*P		P		05 16 53.6	+2.5
	comp=Z,438nm,2.1s								
R11A	**Troy Canyon, C**	88.80	50	P		P		05 16 52.1	+0.8
	baz=89								
R11A	**Troy Canyon, C**	88.80	50	*e*P		P		05 16 51.9	+0.7
	comp=Z,198nm,1.4s								
214A	**Organ Pipe Nat**	88.82	57	P		P		05 16 52.9	+1.6
	baz=89								
214A	**Organ Pipe Nat**	88.82	57	*e*P		P		05 16 52.5	+1.2
	comp=Z,977nm,2.4s								
214A				*e*PP		PP		05 20 21.2	+0.2
ODAN	**Odare**	88.84	298	*e*P		P		05 16 51.7	0.0
	comp=Z,301nm,0.8s								
DLBC	**Dease Lake**	88.88	28	P		P		05 16 51.0	+0.1
	comp=Z,15nm,1.2s,baz=255,slow=5.1,SNR=9.6								
DLBC				PP		PP		05 20 16.7	-4.2
	comp=Z,6.9nm,1.1s,baz=246,slow=10.0,SNR=4.1								
G08A	**Pilot Rock**	89.00	42	*e*P		P		05 16 52.5	+0.6
	comp=Z,2μm,2.8s								
HAWA	**Hanford**	89.06	41	*e*P		P		05 16 53.4	+1.4
	comp=Z,437nm,1.8s								
HAWA				LR	LR				
	comp=Z,751nm,22.0s								
BOK	**Bokaro**	89.24	295	*e*P		P		05 16 52.8	-0.6
WTV	**Waterville**	89.31	40	P		P		05 16 54.2	+1.0
CHLP	**Challavanipeta**	89.38	289	*e*P		P		05 16 53.3	-0.8
CHLP				IAmb	IAmb			05 16 55.2	
	comp=Z,54nm,0.9s								
CHLP				*e*SKSac		SKSac		05 27 23.9	+2.1
E08A	**Dider Farm, El**	89.40	41	P		P		05 16 54.6	+1.0
PALK	**Pallekele**	89.52	278	*e*P		P		05 16 54.6	-0.4
PALK				*e**PP		pP		05 17 04.5	-2.4
PALK				pmax	pmax				
	comp=Z,731nm,2.5s								
PALK	**Pallekele**	89.52	278	⇓P		P		05 16 55.9	+1.0
PALK	**Pallekele**	89.52	278	*e*P		P		05 16 54.6	-0.4
	comp=Z,731nm,2.5s								
PALK				*e*pP		pP		05 17 04.5	-2.4
RAMN	**Ramite**	89.54	298	*e*P		P		05 16 54.7	-0.3
	comp=Z,133nm,1.0s								
LNOR	**Lincton Mounta**	89.66	42	P		P		05 16 56.2	+1.3
LNOR	**Lincton Mounta**	89.66	42	P		P		05 16 56.2	+1.3
D08A	**Wollman Farm,**	89.70	41	*e*P		P		05 16 56.0	+0.9
	comp=Z,134nm,1.3s								
ELK	**Elko**	89.88	48	*e*P		P		05 16 56.9	+0.6
ELK				pmax	pmax				
	comp=Z,1μm,2.8s								
ELK	**Elko**	89.88	48	*e*P		P		05 16 56.9	+0.6
	comp=Z,1μm,2.8s								
E09A	**Wood Farm, Sta**	89.99	41	*e*P		P		05 16 56.9	+0.5
	comp=Z,182nm,1.4s								
PNT	**Penticton**	90.16	39	*e*P		P		05 16 57.8	+0.7
PNT	**Penticton**	90.16	39	*e*P		P		05 16 57.8	+0.7
CCUT	**Cedar City**	90.19	51	*e*P		P		05 16 59.2	+1.4
F10A	**Beach Ranch, E**	90.38	42	P		P		05 16 58.6	+0.3
C09A	**Chrisman Ranch**	90.39	40	*e*P		P		05 16 58.6	+0.4
	comp=Z,170nm,1.8s								
MFID	**Camas Ranch**	90.40	45	*e*P		P		05 16 59.0	+0.6
	comp=Z,76nm,1.0s								
MFID				*e*PP		PP		05 20 30.2	-3.2
KNB	**Kanab**	90.43	52	*e*P		P		05 17 00.4	+1.5
KNB				pmax	pmax				
	comp=Z,300nm,1.2s								
KNB	**Kanab**	90.43	52	*e*P		P		05 17 00.4	+1.5
	comp=Z,300nm,1.2s								
GUN	**Gumba**	90.43	299	*e*P		P		05 16 59.0	-0.3
	comp=Z,167nm,0.9s								
TUC	**Tucson**	90.57	57	*e*P		P		05 17 00.7	+1.2
TUC				pmax	pmax				
	comp=Z,143nm,1.3s								
TUC				MLR	MLR				
	comp=Z,1μm,21.0s								
TUC	**Tucson**	90.57	57	*e*P		P		05 17 00.7	+1.2
	comp=Z,143nm,1.3s								
TUC				LR	LR				
	comp=Z,1μm,21.0s								
PKI	**Pulchoki**	90.73	298	*e*P		P		05 17 00.0	-0.7
	comp=Z,167nm,0.9s								
PKIN	**Phulchoki**	90.75	298	*e*P		P		05 17 00.6	-0.1
	comp=Z,46nm,0.7s								
FSU	**Fish Springs**	90.87	49	*e*P		P		05 17 02.0	+1.1
KKN	**Kakani**	90.91	298	*e*P		P		05 17 00.8	-0.5
	comp=Z,101nm,0.8s								
DMN	**Daman**	91.00	298	*e*P		P		05 17 01.4	-0.4
	comp=Z,226nm,1.0s								
PMSA	**Palmer Station**	91.04	160	PFAKE				05 17 10.0	+9.0
PMSA				LR	LR				
	comp=Z,2μm,19.0s								
WUAZ	**Wupatki**	91.07	54	P		P		05 17 03.3	+1.5
	baz=91,SNR=81								
WUAZ	**Wupatki**	91.07	54	*e*P		P		05 17 03.7	+1.8
	comp=Z,186nm,1.0s								
WUAZ				*e*PP		PP		05 20 41.0	+2.0
WUAZ				LR	LR				
	comp=Z,3μm,22.0s								
PVM	**Polavaram**	91.28	287	*e*P		P		05 17 02.7	-0.2
PVM				IAmb	IAmb			05 17 06.1	
	comp=Z,24nm,0.9s								
PVM				*e*SKSac		SKSac		05 27 34.3	+1.5
NEW	**Newport**	91.28	40	P		P		05 17 01.9	-0.4
	comp=Z,26nm,0.8s,baz=243,slow=3.2,SNR=47								
NEW	**Newport**	91.28	40	P		P		05 17 02.0	-0.4
NEW				pmax	pmax				
	comp=Z,27nm,0.9s								
NEW	**Newport**	91.28	40	P		P		05 17 03.0	+0.6
	baz=92								
NEW	**Newport**	91.28	40	*e*P		P		05 17 02.7	+0.3
NEW				LR	LR				
	comp=Z,592nm,20.0s								
MVU	**Marysvale**	91.36	51	*e*P		P		05 17 04.8	+1.6
MSU	**Marysvale**	91.38	51	*e*P		P		05 17 04.9	+1.6
MSU	**Marysvale**	91.38	51	*e*P		P		05 17 04.9	+1.6
HLID	**Hailey**	91.41	45	P		P		05 17 04.3	+1.1
	baz=92								
HLID	**Hailey**	91.41	45	*e*P		P		05 17 04.1	+0.8
	comp=Z,50nm,1.1s								
HLID				*e*PP		PP		05 20 42.4	+0.9
HLID				LR	LR				
	comp=Z,2μm,22.0s								
DUG	**Dugway**	91.45	49	*e*P		P		05 17 04.3	+0.8
DUG				pmax	pmax				
	comp=Z,199nm,1.8s								
DUG				MLR	MLR				
	comp=Z,2μm,21.0s								
DUG	**Dugway**	91.45	49	P		P		05 17 04.2	+0.8
	baz=92								
DUG	**Dugway**	91.45	49	*e*P		P		05 17 04.3	+0.8
	comp=Z,199nm,1.8s								
DUG				LR	LR				
	comp=Z,2μm,21.0s								
GKN	**Gorkha**	91.51	298	*e*P		P		05 17 03.2	-0.9
	comp=Z,84nm,0.9s								
BGU	**Big Grassy Mou**	91.52	48	*e*P		P		05 17 05.4	+1.6
	comp=Z,49nm,1.1s								
BGU				*e*PP		PP		05 20 43.7	+1.3
NLU	**North Lily Min**	91.91	49	*e*P		P		05 17 06.5	+0.8
	comp=Z,70nm,1.1s								
HVU	**Hansel Valley**	91.98	47	*e*P		P		05 17 06.9	+1.0
HVU				pmax	pmax				
	comp=Z,1μm,2.8s								
HVU	**Hansel Valley**	91.98	47	*e*P		P		05 17 06.9	+1.0
	comp=Z,1μm,2.8s								
SKHT	**Srikalahasti**	92.14	284	*e*P		P		05 17 07.2	+0.2
SKHT				IAmb	IAmb			05 17 08.7	
	comp=Z,61nm,1.1s								
SKHT				⇑*e*SKS		SKSac		05 27 42.0	+4.2
W18A	**Petrified Fore**	92.23	54	P		P		05 17 07.9	+0.6
	baz=92,SNR=19								
W18A	**Petrified Fore**	92.23	54	*e*P		P		05 17 09.5	+2.2
MPU	**Maple Canyon**	92.25	49	*e*P		P		05 17 08.1	+0.8
	comp=Z,3μm,2.5s								
MPU				*e*PP		PP		05 20 46.9	-1.3
NPI	**North Pocatell**	92.27	47	*e*P		P		05 17 08.0	+0.7
KOLN	**Koldanda**	92.33	298	*e*P		P		05 17 07.2	-0.7
	comp=Z,33nm,0.8s								
TMUT	**Trail Mountain**	92.34	50	*e*P		P		05 17 08.9	+1.0
	comp=Z,64nm,1.1s								
DANN	**Dangsing**	92.35	299	*e*P		P		05 17 07.6	-0.5
	comp=Z,11nm,0.8s								
CTU	**Camp Tracy**	92.37	49	*e*P		P		05 17 08.6	+0.8
	comp=Z,22nm,0.8s								
ADKI	**Addanki**	92.44	286	*e*P		P		05 17 08.1	-0.3
ADKI				IAmb	IAmb			05 17 09.6	
	comp=Z,27nm,1.2s								
ADKI				*e*SKSac		SKSac		05 27 41.3	+1.8
WVUT	**Wellsville**	92.50	48	*e*P		P		05 17 08.4	0.0
BSMT	**Bassoo Peak**	92.61	41	*e*P		P		05 17 08.8	+0.1
HDU	**Hyde Park**	92.70	47	*e*P		P		05 17 09.7	+0.4
TCUT	**Toone Canyon**	92.75	48	*e*P		P		05 17 10.2	+0.5
	comp=Z,72nm,0.9s								
NVL	**N'lazarevskaya**	92.75	188⇓	*i*P		P		05 17 08.6	-0.2
NVL				*e**PP		pP		05 17 15.7	-5.0
NVL				*e*				05 27 40.4	
NVL				pmax	pmax				
	comp=Z,47nm,0.8s								
HWUT	**Hardware Ranch**	92.78	48	*e*P		P		05 17 10.0	+0.3
	comp=Z,519nm,2.9s								
HWUT				LR	LR				
	comp=Z,1μm,21.0s								
SRU	**San Rafael**	92.80	50	*e*P		P		05 17 10.1	+0.3
SRU				*e*				05 20 51.7	
SRU				pmax	pmax				
	comp=Z,20nm,0.8s								
SRU	**San Rafael**	92.80	50	*e*P		P		05 17 10.1	+0.3
	comp=Z,20nm,0.8s								
SRU				*e*PP		PP		05 20 51.7	-0.9
MSO	**Missoula**	92.81	42	P		P		05 17 09.4	-0.2
	baz=93								
MSO	**Missoula**	92.81	42	*e*P		P		05 17 10.0	+0.4
	comp=Z,33nm,1.5s								
MCMT	**McKenzie Canyo**	92.89	44	*e*P		P		05 17 11.1	+0.9
JTMT	**Jette**	92.89	41	*e*P		P		05 17 10.0	0.0
BLMT	**Blacktail Moun**	92.93	41	*e*P		P		05 17 10.8	+0.5
SWMT	**Swartz Lake**	93.00	42	*e*P		P		05 17 10.8	+0.4
SWMT				*e*PP		PP		05 20 51.5	-2.3
INK	**Inuvik**	93.00	18	P		P		05 17 08.2	-1.6
	comp=Z,1.6nm,0.8s,baz=256,slow=6.3,SNR=7.1								
INK				PP		PP		05 20 52.3	-0.8
	comp=Z,8.1nm,1.0s,baz=198,slow=6.1,SNR=5.2								
INK				PKiKP		PKiKP		05 21 57.5	+0.6
	comp=Z,4.8nm,1.0s,baz=318,slow=1.0,SNR=4.3								
INK	**Inuvik**	93.00	18	P		P		05 17 08.2	-1.6
INK								05 20 52.3	
INK				pmax	pmax				
	comp=Z,2.0nm,0.8s								
INK				pmax	pmax				
	comp=Z,8.0nm,1.0s								
INK	**Inuvik**	93.00	18	*e*P		P		05 17 08.9	-0.8
INK				PP	PP			05 20 52.3	-0.8
INK				PKiKP	PKiKP			05 21 57.5	+0.6
121A	**Cookes Peak, D**	93.06	57	P		P		05 17 12.5	+1.3
	baz=93,SNR=25								
121A	**Cookes Peak, D**	93.06	57	*e*P		P		05 17 12.1	+0.9
	comp=Z,53nm,1.2s								
YBMT	**Yellow Bay**	93.10	41	*e*P		P		05 17 11.4	+0.5
	comp=Z,14nm,1.3s								
SNAA	**Sanae**	93.17	183	P		P		05 17 09.7	-1.1
SNAA	**Sanae**	93.17	183	*e*P		P		05 17 09.5	-1.3
SNAA				pmax	pmax				
	comp=Z,21nm,1.1s								
SNAA	**Sanae**	93.17	183	*e*P		P		05 17 09.5	-1.3
	comp=Z,21nm,1.1s								
DLMT	**Dillon**	93.23	44	*e*P		P		05 17 12.5	+0.9
	comp=Z,13nm,0.8s								
DLMT				*e*PP		PP		05 20 55.8	+0.1
SLMT	**Seeley Lake**	93.23	42	*e*P		P		05 17 11.0	-0.6
	comp=Z,21nm,1.4s								
NJS	**Nagarjunasagar**	93.24	286	*e*P		P		05 17 11.5	-0.6
NJS				IAmb	IAmb			05 17 13.0	
	comp=Z,55nm,1.0s								
NJS				*e*SKSac		SKSac		05 27 43.9	0.0
NJS				*e*				05 28 18.9	
CHMT	**Chamberlain Mo**	93.28	42	*e*P		P		05 17 12.5	+0.6
	comp=Z,29nm,1.5s								
CHMT				*e*PP		PP		05 20 54.5	-1.7
RCLA	**Racherla**	93.29	285	*e*P		P		05 17 11.7	-0.6
RCLA				IAmb	IAmb			05 17 12.8	
	comp=Z,26nm,0.9s								
AHID	**Auburn Hatcher**	93.46	47	*e*P		P		05 17 12.9	+0.1
	comp=Z,228nm,2.2s								
AHID				LR	LR				
	comp=Z,2μm,22.0s								
LRM	**Limekiln Ridge**	93.47	44	*e*P		P		05 17 13.7	+0.8
SRLM	**Srisailam**	93.51	286	*e*P		P		05 17 12.7	-0.6
SRLM				IAmb	IAmb			05 17 14.4	
	comp=Z,64nm,0.9s								
SRLM				*e*SKSac		SKSac		05 27 44.8	-0.6
WALA	**Waterton Lakes**	93.56	40	*e*P		P		05 17 14.3	+1.4
PV05	**Paradox Valley**	93.57	52	*e*P		P		05 17 15.5	+2.0
PV05				*e*				05 20 59.5	
DGAR	**Diego Garcia**	93.63	261	PFAKE				05 17 20.0	+6.0
DGAR				LR	LR				
	comp=Z,3μm,21.0s								
WMQ	**Urumqi**	93.70	314	P		P		05 17 15.5	+1.8
WMQ				pP		pP		05 17 25.5	-0.2
WMQ				sP		sP		05 17 30.5	+0.5
WMQ				PP		PP		05 20 59.0	-0.4
WMQ				SKS		SKSac		05 27 45.8	+0.3
WMQ				S		S		05 28 19.8	-0.4
WMQ				PMZ					
	comp=Z,220nm,1.2s								
WMQ				PMZ					
	comp=Z,2μm,4.0s								
WMQ				LN					
	comp=Z,1μm,18.7s								
WMQ				LE					
	comp=Z,1μm,18.7s								
WMQ				LZ					
	comp=Z,990nm,22.0s								
FXWY	**Fox Creek**	93.77	46	*e*P		P		05 17 15.3	+1.0
	comp=Z,127nm,2.3s								
MVCO	**Mesa Verde**	93.78	53	P		P		05 17 14.8	+0.3
	baz=94								
MVCO	**Mesa Verde**	93.78	53	*e*P		P		05 17 16.0	+1.6
MVCO				*e*				05 20 59.4	
MVCO				LR	LR				
	comp=Z,2μm,20.0s								
PV04	**Paradox Valley**	93.80	51	*e*P		P		05 17 16.1	+1.6
RPR	**Rampur**	93.83	288	*e*P		P		05 17 14.8	0.0
RPR				IAmb	IAmb			05 17 15.4	
	comp=Z,86nm,0.8s								
RPR				*e*SKSac		SKSac		05 27 51.0	+4.0
QLMT	**Earthquake Lak**	93.85	45	*e*P		P		05 17 16.3	+1.7
QLMT				*e*				05 21 01.4	
IMW	**Indian Meadow**	93.91	46	*e*P		P		05 17 16.4	+1.4
SNOW	**Snow King Moun**	93.91	46	*e*P		P		05 17 16.6	+1.7
	comp=Z,326nm,2.5s								
BOZ	**Bozeman (W)**	93.96	44	*e*P		P		05 17 15.3	+0.3
BOZ				pmax	pmax				
	comp=Z,28nm,1.3s								
BOZ				MLR	MLR				
	comp=Z,1μm,21.0s								
BOZ	**Bozeman (W)**	93.96	44	P		P		05 17 15.7	+0.7
	baz=94								
BOZ	**Bozeman (W)**	93.96	44	*e*P		P		05 17 15.3	+0.3
	comp=Z,28nm,1.3s								
BOZ				LR	LR				
	comp=Z,1μm,21.0s								
PV01	**Paradox Valley**	93.98	52	*e*P		P		05 17 16.6	+1.2
	comp=Z,4μm,1.2s								
MOOW	**Moose Ponds**	94.00	46	*e*P		P		05 17 15.6	+0.3
	comp=Z,22nm,1.3s								
LOHW	**Long Hollow**	94.06	46	*e*P		P		05 17 15.9	+0.4
	comp=Z,199nm,2.7s								
LAZ	**Ladron**	94.09	56	*e*P		P		05 17 16.9	+1.0
	comp=Z,9.7nm,1.2s								
LAZ				*e*PP		PP		05 20 58.7	-4.1
YMR	**Madison River**	94.12	45	*e*P		P		05 17 18.0	+2.2
	comp=Z,25nm,1.0s								
FLWY	**Flagg Ranch**	94.13	46	*e*P		P		05 17 17.7	+1.8
	comp=Z,400nm,3.0s								
YFT	**Old Faithful**	94.14	45	*e*P		P		05 17 17.3	+1.3
	comp=Z,14nm,0.9s								
YFT				*e*PP		PP		05 21 02.3	-0.7
HRY	**Holter Researc**	94.15	43	*e*P		P		05 17 16.9	+1.2
	comp=Z,15nm,0.9s								
HYB	**Hyderabad**	94.15	287	*i*P		P		05 17 15.0	-1.3
HYB				*e*SKS		SKSac		05 27 52.0	+3.1
HYB	**Hyderabad**	94.15	287	*e*P		P		05 17 15.1	-1.3
HYBB	**Hyderabad (bro**	94.15	287	*e*P		P		05 17 15.3	-1.0
HYBB				IAmb	IAmb			05 17 17.2	
	comp=Z,31nm,0.9s								
HYBB				*e*SKSac		SKSac		05 27 52.1	+3.2
HYBB				*e*SS		SS		05 34 49.1	+2.4
LENM	**Lemitar**	94.16	56	*e*P		P		05 17 18.0	+1.8
Y22D	**IRIS PASSCAL I**	94.17	56	P		P		05 17 17.2	+1.0
	baz=94								
H17A	**Grant Village**	94.31	45	P		P		05 17 18.3	+1.6
	baz=94								
H17A	**Grant Village**	94.31	45	*e*P		P		05 17 18.4	+1.7
	comp=Z,17nm,1.0s								
VNA1	**Neumayer--Stat**	94.37	181	P		P		05 17 15.3	-0.9
BNM	**Barren Site**	94.43	56	*e*P		P		05 17 18.1	+0.6
LPM	**Los Pinos Moun**	94.47	56	*e*P		P		05 17 19.1	+1.5
LKWY	**Lake**	94.47	45	*e*P		P		05 17 19.1	+1.6
LKWY				pmax	pmax

H19A	**Powell**	**95.47**	**45**	P	**P**	**05 17 22.9**	**+1.0**
	baz=96							
TXAR	**Lajitas Array**	**95.66**	**61**	P	**P**	**05 17 23.7**	**+0.7**
	comp=Z,3.4nm,0.6s,baz=228,slow=4.4,SNR=44							
TXAR				PP	**PP**	**05 21 13.9**	**-1.1**
	comp=Z,1.4nm,1.0s,baz=212,slow=8.4,SNR=3.6							
TXAR				PKKPbc	**PKKPbc**	**05 34 13.6**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=107,slow=4.2,SNR=4.2							
TXAR				LR	LR	05 52 10.5		
	comp=Z,1µm,20.9s,baz=0.0,slow=30							
J20A	**Shoshoni**	**95.75**	**47**	P	**P**	**05 17 23.7**	**+0.5**
	baz=96							
I20A	**Worland**	**95.87**	**46**	P	**P**	**05 17 23.9**	**+0.2**
	baz=96							
EGMT	**Eagleton**	**95.88**	**42**	P	**P**	**05 17 24.0**	**+0.4**
	baz=96							
EGMT	**Eagleton**	**95.88**	**42**	PFAKE		05 17 30.0	+6.4
EGMT				LR	LR			
	comp=Z,577nm,19.0s							
H20A	**Greybull**	**96.11**	**46**	P	**P**	**05 17 24.7**	**0.0**
	baz=96							
KLRI	**Killari**	**96.12**	**287**	*e*P	**P**	**05 17 24.4**	**-0.9**
KLRI				IAmb	IAmb	05 17 35.2		
	comp=Z,259nm,2.3s							
KLRI				*e*SKSac	**SKSac**	**05 27 56.9**	**-2.6**
KLRI				*e*		05 28 41.2		
G20A	**Bridger**	**96.15**	**45**	P	**P**	**05 17 25.4**	**+0.5**
	baz=96							
J21A	**Lysite**	**96.20**	**47**	P	**P**	**05 17 25.8**	**+0.4**
	baz=96							
SDCO	**Great Sand Dun**	**96.22**	**53**	P	**P**	**05 17 25.7**	**+0.1**
	baz=96							
SDCO	**Great Sand Dun**	**96.22**	**53**	*e*P	**P**	**05 17 26.7**	**+1.0**
SDCO				*e*		05 21 16.3		
SDCO				LR	LR			
	comp=Z,3µm,22.0s							
CRZF	**Crozet Islands**	**96.26**	**219**	S	**S**	**05 28 38.0**	**-4.4**
CRZF				SS	SS	05 35 04.0	-10	
CRZF				L	L	05 44 00.0		
CRZF				R		05 49 00.0		
F20A	**Billings**	**96.34**	**44**	P	**P**	**05 17 26.3**	**+0.5**
	baz=96							
I21A	**Big Trails, Te**	**96.42**	**46**	P	**P**	**05 17 26.2**	**-0.1**
	baz=97							
BHPL	**Bhopal**	**96.59**	**292**	*e*P	**P**	**05 17 26.7**	**-0.7**
ISCO	**Idaho Springs**	**96.64**	**51**	*e*P	**P**	**05 17 29.3**	**+1.7**
ISCO				MLR	MLR			
	comp=Z,2µm,20.0s							
ISCO	**Idaho Springs**	**96.64**	**51**	P	**P**	**05 17 28.4**	**+0.8**
	baz=97							
ISCO	**Idaho Springs**	**96.64**	**51**	*e*P	**P**	**05 17 29.2**	**+1.7**
ISCO				LR	LR			
	comp=Z,2µm,20.0s							
N23A	**Red Feather La**	**96.66**	**50**	P	**P**	**05 17 28.5**	**+0.9**
	baz=97							
N23A	**Red Feather La**	**96.66**	**50**	*e*P	**P**	**05 17 28.9**	**+1.3**
K22A	**Casper**	**96.67**	**48**	P	**P**	**05 17 27.5**	**+0.1**
	baz=97							
K22A	**Casper**	**96.67**	**48**	*e*P	**P**	**05 17 27.8**	**+0.3**
Q24A	**Divide**	**96.79**	**52**	P	**P**	**05 17 28.7**	**+0.4**
	baz=97							
Q24A	**Divide**	**96.79**	**52**	*e*P	**P**	**05 17 29.9**	**+1.7**
H21A	**Big Horn, Sher**	**96.80**	**46**	P	**P**	**05 17 28.2**	**+0.3**
	baz=97							
G21A	**Lodge Grass**	**96.84**	**45**	P	**P**	**05 17 28.3**	**+0.2**
	baz=97							
J22A	**Midwest**	**96.89**	**47**	P	**P**	**05 17 28.4**	**0.0**
	baz=97							
T25A	**Trinidad**	**96.92**	**54**	P	**P**	**05 17 29.0**	**+0.2**
	baz=97							
C20A	**Veseth Ranch,**	**96.93**	**43**	P	**P**	**05 17 28.8**	**+0.5**
	baz=97							
I22A	**9 Mile Ranch,**	**97.01**	**47**	P	Pdif	05 17 29.0	0.0	
	baz=97							
F21A	**Absaloka Mine,**	**97.04**	**45**	P	Pdif	05 17 29.6	+0.5	
	baz=97							
529A	**Stev Forest Ra**	**97.06**	**61**	P	Pdif	05 17 29.7	+0.2	
	baz=97,SNR=8.4							
PHWY	**Pilot Hill**	**97.12**	**49**	*e*P	Pdif	05 17 30.6	+0.8	
228A	**UT Block 9, Go**	**97.21**	**59**	P	Pdif	05 17 30.1	0.0	
	baz=97							
E21A	**Keefer Ranch,**	**97.25**	**44**	P	Pdif	05 17 30.9	+0.9	
	baz=97							
H22A	**Clearmont**	**97.27**	**46**	P	Pdif	05 17 30.3	+0.2	
	baz=98							
K23A	**Bowen Ranch, D**	**97.34**	**48**	P	**P**	**05 17 30.5**	**0.0**
	baz=98							
128A	**Castleberry Fa**	**97.42**	**58**	P	**P**	**05 17 30.9**	**0.0**
	baz=98							
429A	**Davenport Ranc**	**97.45**	**60**	P	Pdif	05 17 31.2	0.0	
	baz=98,SNR=21							
G22A	**Birney**	**97.46**	**45**	P	Pdif	05 17 31.2	+0.2	
	baz=98							
YKA	**Yellowknife Ar**	**97.50**	**27**	P	**P**	**05 17 29.9**	**-0.6**
	comp=Z,12nm,0.8s,baz=255,slow=4.7,SNR=54							
YKA				PP	**PP**	**05 21 24.9**	**-3.2**
	comp=Z,4.7nm,1.0s,baz=254,slow=7.7,SNR=8.9							
YKA				PKiKP	**PKiKP**	**05 22 05.7**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=245,slow=1.3,SNR=9.6							
YKA				PKKPbc	**PKKPbc**	**05 34 06.7**	**-3.4**
	comp=Z,0.9nm,0.8s,baz=60,slow=3.2,SNR=7.4							
YKW3	**Yellowknife Ar**	**97.52**	**27**	*e*P	**P**	**05 17 29.2**	**-1.3**
	comp=Z,0.3nm,0.9s							
J23A	**Dilts Ranch, B**	**97.55**	**47**	P	Pdif	05 17 31.6	+0.1	
	baz=98							
T26A	**Comanche Natio**	**97.56**	**54**	P	**P**	**05 17 31.6**	**0.0**
	baz=98							
329A	**Wagon Wheel Ra**	**97.58**	**60**	P	Pdif	05 17 31.8	0.0	
	baz=98,SNR=6.1							
F22A	**Rosebud**	**97.62**	**45**	P	Pdif	05 17 32.4	+0.8	
	baz=98							
Z28A	**Tucker Farm, M**	**97.65**	**58**	P	**P**	**05 17 31.8**	**-0.2**
	baz=98							
DDI	**Dehra Dun**	**97.66**	**299**	*e*P	**P**	**05 17 31.5**	**-0.6**
DDI				AMB	AMB	05 17 32.5		
	comp=Z,40nm,0.9s							
I23A	**Meade Ranch, G**	**97.74**	**47**	P	Pdif	05 17 32.4	+0.1	
	baz=98							
530A	**J-C Ranch, Com**	**97.81**	**61**	P	Pdif	05 17 33.1	+0.3	
	baz=98,SNR=5.7							
229A	**Bryant Ranch,**	**97.83**	**59**	P	**P**	**05 17 32.6**	**-0.2**
	baz=98							
V27A	**Dan Oppiter Fa**	**97.84**	**55**	P	**P**	**05 17 32.7**	**-0.1**
	baz=98							
LAO	**LASA Array**	**97.86**	**44**	P	Pdif	05 17 33.3	+0.7	
	baz=98							
LAO	**LASA Array**	**97.86**	**44**	PFAKE		05 17 40.0	+7.4	
LAO				LR	LR			
	comp=Z,907nm,22.0s							
Y28A	**McKinney Farm,**	**97.90**	**57**	P	**P**	**05 17 32.6**	**-0.5**
	baz=98							
K24A	**Anderson Ranch**	**97.92**	**48**	P	Pdif	05 17 33.2	+0.1	
	baz=98							
H23A	**Clabaugh Cattl**	**97.92**	**46**	P	**P**	**05 17 32.6**	**-0.4**
	baz=98							
129A	**Stewart Farms,**	**97.93**	**58**	P	Pdif	05 17 33.3	0.0	
	baz=98							
R26A	**Arlington**	**97.93**	**53**	P	Pdif	05 17 33.2	0.0	
	baz=98							
E22A	**Miles City**	**97.98**	**44**	P	Pdif	05 17 33.4	+0.2	
	baz=98							
U27A	**Thompson Grove**	**98.00**	**55**	P	**P**	**05 17 33.3**	**-0.3**
	baz=98							
NDI	**New Delhi**	**98.01**	**297**	*e*P	**P**	**05 17 33.0**	**-0.6**
NDI				*ex*	x	05 21 25.0		
Q26A	**Hugo**	**98.02**	**52**	P	Pdif	05 17 34.1	+0.5	
	baz=98							
430A	**Baggett Ranch,**	**98.04**	**60**	P	**P**	**05 17 33.7**	**-0.1**
	baz=98,SNR=7.2							
X28A	**Dimmitt**	**98.08**	**57**	P	**P**	**05 17 33.6**	**-0.3**
	baz=98							
G23A	**Biddle**	**98.08**	**45**	P	Pdif	05 17 33.7	0.0	
	baz=98							
J24A	**Dixon Ranch, L**	**98.16**	**47**	Pdiff	Pdif	05 17 34.2	0.0	
	baz=98							
MK31	**Makanchi Array**	**98.17**	**316**	*i* P	**P**	**05 17 33.7**	**-0.2**
MK31				pmax	pmax			
	comp=Z,582nm,1.7s							
MK31	**Makanchi Array**	**98.17**	**316**	*e*P	**P**	**05 17 33.9**	**-0.1**
MK31				*e*PP	**PP**	**05 21 31.2**	**-2.6**
MKAR	**Makanchi Array**	**98.17**	**316**	P	Pdif	05 17 34.6	+0.6	
	comp=Z,68nm,0.7s,baz=95,slow=4.4,SNR=361							
MKAR				PP	**PP**	**05 21 31.4**	**-2.4**
	comp=Z,8.9nm,1.0s,baz=108,slow=9.3,SNR=6.1							
MKAR				PKKPbc	**PKKPbc**	**05 34 05.0**	**-2.7**
	comp=Z,3.4nm,0.9s,baz=308,slow=2.2,SNR=9.6							
MKAR				PKPPKP	**P'P'df**	**05 42 18.3**	**-1.8**
	comp=Z,1.4nm,1.0s,baz=289,slow=4.4,SNR=5.7							
MKAR	**Makanchi Array**	**98.17**	**316**	P	Pdif	05 17 34.6	+0.7	
MKAR						05 21 31.4		
MKAR				pmax	pmax			
	comp=Z,68nm,0.7s							
MKAR				pmax	pmax			
	comp=Z,9.0nm,1.0s							
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.9s							
MKAR				pmax	pmax			
	comp=Z,1.0nm,1.0s							
MKAR	**Makanchi Array**	**98.17**	**316**	*e*P	Pdif	05 17 34.0	+0.1	
MKAR				PP	**PP**	**05 21 31.4**	**-2.4**
MKAR				PKKPbc	**PKKPbc**	**05 34 05.0**	**-2.7**
MKAR				P'P'		05 42 18.3		
M25A	**Palm-Egli Farm**	**98.18**	**49**	Pdiff	Pdif	05 17 34.8	+0.5	
	baz=98							
F23A	**Volborg**	**98.19**	**45**	Pdiff	Pdif	05 17 34.5	+0.4	
	baz=98							
Z29A	**Hungry Hill Ra**	**98.20**	**58**	Pdiff	**P**	**05 17 33.9**	**-0.5**
	baz=98							
S27A	**Las Animas**	**98.22**	**53**	Pdiff	**P**	**05 17 34.3**	**-0.3**
	baz=98							
T27A	**Campo**	**98.22**	**54**	Pdiff	**P**	**05 17 34.0**	**-0.5**
	baz=98							
330A	**Mertzon**	**98.23**	**60**	Pdiff	**P**	**05 17 34.2**	**-0.4**
	baz=98							
W28A	**Vega**	**98.23**	**56**	Pdiff	**P**	**05 17 33.9**	**-0.6**
	baz=98							
P26A	**Davis Ranch, A**	**98.29**	**51**	Pdiff	Pdif	05 17 35.2	+0.4	
	baz=98							
631A	**Perdido Creek**	**98.30**	**62**	Pdiff	**P**	**05 17 34.6**	**-0.3**
	baz=98							
ZAA0	**Zalesovo Array**	**98.30**	**324**	*e*P	**P**	**05 17 33.0**	**-1.3**
ZAA0				*e*PP	**PP**	**05 21 32.4**	**-2.1**
ZALV	**Zalesovo Beam**	**98.30**	**324**	P	**P**	**05 17 33.2**	**-1.0**
	comp=Z,60nm,0.7s,baz=116,slow=4.2,SNR=179							
ZALV				PP	**PP**	**05 21 31.3**	**-3.2**
	comp=Z,4.0nm,0.8s,baz=111,slow=6.3,SNR=4.8							
ZALV				PKPPKP	P'P'df	05 42 05.3	-14	
	comp=Z,1.2nm,0.7s,baz=270,slow=2.9,SNR=3.6							
ZALV				LR	LR	06 02 00.4		
	comp=Z,711nm,19.6s,baz=75,slow=36							
I24A	**Kuemmerle Ranc**	**98.31**	**47**	Pdiff	**P**	**05 17 34.5**	**-0.2**
	baz=98							
V28A	**Channing**	**98.32**	**55**	Pdiff	**P**	**05 17 34.7**	**-0.3**
	baz=98							
Y29A	**Porterfield Fa**	**98.36**	**57**	Pdiff	**P**	**05 17 34.9**	**-0.3**
	baz=98							
230A	**Sterling City**	**98.39**	**59**	Pdiff	**P**	**05 17 34.7**	**-0.6**
	baz=98							
L25A	**Engebretsen Ra**	**98.40**	**49**	Pdiff	Pdif	05 17 35.6	+0.3	
	baz=99							
R27A	**Eads**	**98.43**	**53**	Pdiff	**P**	**05 17 35.3**	**-0.1**
	baz=99							
E23A	**Ismay**	**98.43**	**44**	Pdiff	Pdif	05 17 35.6	+0.4	
	baz=99							
X29A	**Tulia**	**98.46**	**57**	Pdiff	**P**	**05 17 35.3**	**-0.3**
	baz=99							
U28A	**Mallet**	**98.46**	**55**	Pdiff	**P**	**05 17 35.3**	**-0.3**
	baz=99							
O26A	**Horse Wrangler**	**98.46**	**51**	Pdiff	Pdif	05 17 35.7	+0.2	
	baz=99							
531A	**Rocksprings**	**98.49**	**61**	Pdiff	**P**	**05 17 35.7**	**-0.1**
	baz=99							
431A	**Sonora**	**98.55**	**61**	Pdiff	**P**	**05 17 35.8**	**-0.2**
	baz=99							
H24A	**Dirks Ranch, A**	**98.56**	**46**	Pdiff	**P**	**05 17 35.8**	**0.0**
	baz=99							
832A	**Faith Ranch, C**	**98.57**	**63**	Pdiff	Pdif	05 17 36.1	0.0	
	baz=99							
K25A	**Mack Ranch, Ha**	**98.57**	**48**	Pdiff	Pdif	05 17 36.5	+0.5	
	baz=99							
SMLA	**Simla**	**98.59**	**300**	*e*P	**P**	**05 17 35.5**	**-0.6**
SMLA				AMB	AMB	05 17 35.9		
	comp=Z,36nm,1.1s							
W29A	**Amraillo**	**98.65**	**56**	Pdiff	**P**	**05 17 36.4**	**0.0**
	baz=99							
N26A	**Koester Ranch,**	**98.66**	**50**	Pdiff	**P**	**05 17 36.3**	**0.0**
	baz=99							
130A	**Snyder**	**98.66**	**59**	Pdiff	**P**	**05 17 35.8**	**-0.7**
	baz=99							
732A	**Laxson Ranch,**	**98.67**	**63**	Pdiff	Pdif	05 17 36.6	0.0	
	baz=99							
Z30A	**Sanderson Ranc**	**98.67**	**58**	Pdiff	**P**	**05 17 36.0**	**-0.5**
	baz=99							
T28A	**Walsh**	**98.71**	**54**	Pdiff	**P**	**05 17 36.0**	**-0.6**
	baz=99							
KSCO	**Kaye Shedlock'**	**98.71**	**52**	Pdiff	**P**	**05 17 36.7**	**0.0**
	baz=99							
KSCO	**Kaye Shedlock'**	**98.71**	**52**	*e*P	Pdif	05 17 37.1	+0.4	
G24A	**Alzada**	**98.78**	**45**	Pdiff	Pdif	05 17 37.0	+0.2	
	baz=99							
RSSD	**Black Hills**	**98.78**	**47**	*e*P	Pdif	05 17 37.7	+0.7	
RSSD	**Black Hills**	**98.78**	**47**	*e*P	Pdif	05 17 37.7	+0.7	
J25A	**Sunshine Ranch**	**98.79**	**47**	Pdiff	Pdif	05 17 37.2	+0.3	
	baz=99							
331A	**San Angelo**	**98.83**	**60**	Pdiff	**P**	**05 17 36.8**	**-0.5**
	baz=99							
M26A	**McRoberts Ranc**	**98.85**	**49**	Pdiff	Pdif	05 17 37.7	+0.4	
	baz=99							
P27A	**Ficken Ranch,**	**98.87**	**51**	Pdiff	**P**	**05 17 37.3**	**-0.1**
	baz=99							
F24A	**Ekalaka**	**98.87**	**45**	Pdiff	**P**	**05 17 37.2**	**0.0**
	baz=99							
V29A	**Stinnett**	**98.91**	**55**	Pdiff	**P**	**05 17 37.3**	**-0.3**
	baz=99							
S28A	**Manter**	**98.97**	**54**	Pdiff	**P**	**05 17 37.7**	**-0.1**
	baz=99							
Y30A	**Stafford Cattl**	**98.99**	**57**	Pdiff	**P**	**05 17 37.8**	**-0.2**
	baz=99							
632A	**Uvalde**	**98.99**	**62**	Pdiff	Pdif	05 17 38.4	+0.4	
	baz=99							
L26A	**Underwood Farm**	**99.02**	**49**	Pdiff	**Pdif**	**05 17 38.3**	**+0.3**
	baz=99							
532A	**Rocksprings**	**99.02**	**61**	Pdiff	**Pdif**	**05 17 38.3**	**+0.1**
	baz=99							
933A	**Laredo**	**99.03**	**64**	Pdiff	**Pdif**	**05 17 38.8**	**+0.6**
	baz=99							
231A	**Bronte**	**99.06**	**59**	Pdiff	**Pdif**	**05 17 37.8**	**-0.4**
	baz=99							
O27A	**Beecher Island**	**99.08**	**51**	Pdiff	**Pdif**	**05 17 38.7**	**+0.4**
	baz=99							
833A	**Chaparral WMA,**	**99.08**	**63**	Pdiff	**Pdif**	**05 17 38.8**	**+0.4**
	baz=99							
K26A	**Motz Farm, Whi**	**99.09**	**48**	Pdiff	**Pdif**	**05 17 38.1**	**-0.1**
	baz=99							
E24A	**Baker**	**99.12**	**44**	Pdiff	**Pdif**	**05 17 38.4**	**+0.2**
	baz=99							
X30A	**Coker Ranch, T**	**99.13**	**57**	Pdiff	**Pdif**	**05 17 38.4**	**-0.1**
	baz=99							
131A	**Roby**	**99.15**	**59**	Pdiff	**Pdif**	**05 17 38.5**	**-0.2**
	baz=99							
N27A	**Anderson Farm,**	**99.16**	**50**	Pdiff	**Pdif**	**05 17 38.7**	**+0.1**
	baz=99							
JCT	**Junction City**	**99.18**	**61**	*e*P	**Pdif**	**05 17 39.5**	**+0.6**
JCT				MLR	MLR			
	comp=Z,1µm,22.0s							
JCT	**Junction City**	**99.18**	**61**	Pdiff	**Pdif**	**05 17 38.5**	**-0.4**
	baz=99							
JCT	**Junction City**	**99.18**	**61**	*e*P	**Pdif**	**05 17 39.5**	**+0.6**
JCT				LR	LR			
	comp=Z,1µm,22.0s							
H25A	**Fruitdale**	**99.19**	**46**	Pdiff	**Pdif**	**05 17 39.2**	**+0.6**
	baz=99							
R28A	**Tribune**	**99.20**	**53**	Pdiff	**Pdif**	**05 17 39.2**	**+0.4**
	baz=99							
D24A	**Glendive**	**99.22**	**44**	Pdiff	**Pdif**	**05 17 39.1**	**+0.4**
	baz=99							
U29A	**Oasis Ranch, S**	**99.23**	**55**	Pdiff	**Pdif**	**05 17 39.0**	**0.0**
	baz=99							
C24A	**Savage**	**99.25**	**43**	Pdiff	**Pdif**	**05 17 39.8**	**+1.1**
	baz=99							
733A	**Divot King Ran**	**99.25**	**63**	Pdiff	**Pdif**	**05 17 39.8**	**+0.7**
	baz=99							
432A	**Menard**	**99.27**	**61**	Pdiff	**Pdif**	**05 17 39.2**	**-0.1**
	baz=99							
J26A	**Sides Ranch, S**	**99.29**	**48**	Pdiff	**Pdif**	**05 17 39.3**	**+0.2**
	baz=100							
Q28A	**Sharon Springs**	**99.33**	**52**	Pdiff	**Pdif**	**05 17 40.1**	**+0.7**
	baz=100							
T29A	**Hugoton**	**99.35**	**54**	Pdiff	**Pdif**	**05 17 39.3**	**-0.2**
	baz=100							
NVS	**Novosibirsk**	**99.41**	**324**	*e*P	**Pdif**	**05 17 37.8**	**-1.4**
NVS				pmax	pmax			
	comp=Z,274nm,2.8s							
NVS				pmax	pmax			
	comp=N,45nm,2.4s							
NVS				pmax	pmax			
	comp=E,107nm,2.4s							
NVS				pmax	pmax			
	comp=N,42nm,2.3s							
NVS				pmax	pmax			
	comp=E,89nm,2.3s							
NVS				pmax	pmax			
	comp=Z,152nm,2.3s							
M27A	**Reverse DX Ran**	**99.42**	**50**	Pdiff	**Pdif**	**05 17 40.0**	**+0.2**
	baz=100							
332A	**Millersview**	**99.42**	**60**	Pdiff	**Pdif**	**05 17 39.7**	**-0.2**
	baz=100							
034A	**Hebbronville**	**99.43**	**65**	Pdiff	**Pdif**	**05 17 41.2**	**+1.2**
	baz=100							
G25A	**Newell**	**99.44**	**46**	Pdiff	**Pdif**	**05 17 39.8**	**+0.1**
	baz=100							
Z31A	**Sharp Cattle R**	**99.49**	**58**	Pdiff	**Pdif**	**05 17 40.0**	**-0.2**
	baz=100							
P28A	**Saint Francis**	**99.49**	**52**	Pdiff	**Pdif**	**05 17 40.5**	**+0.4**
	baz=100							
633A	**Saathoff Ranch**	**99.50**	**62**	Pdiff	**Pdif**	**05 17 41.0**	**+0.8**
	baz=100							
W30A	**Crocket Farms**	**99.52**	**56**	Pdiff	**Pdif**	**05 17 40.3**	**0.0**
	baz=100							
Y31A	**Rekieta Farm,**	**99.52**	**57**	Pdiff	**Pdif**	**05 17 40.3**	**0.0**
	baz=100							
DHRM	**DHARAMSHALA**	**99.55**	**301**	*e*P	**Pdif**	**05 17 38.1**	**-2.6**
V30A	**Spur Ranch, Mi**	**99.55**	**56**	Pdiff	**Pdif**	**05 17 40.9**	**+0.5**
	baz=100							
F25A	**Bowman**	**99.56**	**45**	Pdiff	**Pdif**	**05 17 40.7**	**+0.5**
	baz=100							
OGNE	**Ogallala**	**99.56**	**50**	Pdiff	**Pdif**	**05 17 41.0**	**+0.6**
	baz=100							
OGNE	**Ogallala**	**99.56**	**50**	PFAKE		05 17 50.0	+10	
OGNE				LR	LR			
	comp=Z,1µm,22.0s							
S29A	**Ulysses**	**99.58**	**54**	Pdiff	**Pdif**	**05 17 40.8**	**+0.3**
	baz=100							
L27A	**T5 Ranch, Ells**	**99.59**	**49**	Pdiff	**Pdif**	**05 17 40.9**	**+0.5**
	baz=100							
I26A	**New Underwood**	**99.59**	**47**	Pdiff	**Pdif**	**05 17 41.0**	**+0.6**
	baz=100							
O28A	**Krutsinger Ran**	**99.59**	**51**	Pdiff	**Pdif**	**05 17 41.1**	**+0.6**
	baz=100							
232A	**Coleman**	**99.61**	**60**	Pdiff	**Pdif**	**05 17 40.6**	**-0.1**
	baz=100							
934A	**Benavides**	**99.68**	**64**	Pdiff	**Pdif**	**05 17 41.7**	**+0.6**
	baz=100							
E25A	**Miller Ranch,**	**99.72**	**44**	Pdiff	**Pdif**	**05 17 41.0**	**+0.1**
	baz=100							
R29A	**Marienthal**	**99.73**	**53**	Pdiff	**Pdif**	**05 17 41.5**	**+0.3**
	baz=100							
U30A	**WK&E Inc. Balk**	**99.73**	**55**	Pdiff	**Pdif**	**05 17 41.1**	**-0.1**
	baz=100							
533A	**Kerrville**	**99.75**	**61**	Pdiff	**Pdif**	**05 17 41.8**	**+0.4**
	baz=100							
ABTX	**Abilene, Hawle**	**99.76**	**59**	Pdiff	**Pdif**	**05 17 41.4**	**+0.1**
	baz=100							
ABTX	**Abilene, Hawle**	**99.76**	**59**	*e*Pdif	**Pdif**	**05 17 42.3**	**+0.9**
834A	**Tilden**	**99.76**	**63**	Pdiff	**Pdif**	**05 17 42.5**	**+1.1**
	baz=100							
K27A	**Flueckinger Fa**	**99.77**	**48**	Pdiff	**Pdif**	**05 17 41.9**	**+0.6**
	baz=100							
H26A	**Fairpoint**	**99.77**	**46**	Pdiff	**Pdif**	**05 17 41.6**	**+0.5**
	baz=100							
035Z	**Hargill**	**99.84**	**65**	Pdiff	**Pdif**	**05 17 41.3**	**-0.5**
	baz=100							
433A	**Art**	**99.84**	**61**	Pdiff	**Pdif**	**05 17 41.7**	**-0.1**
	baz=100							
N28A	**Pribbeno Ranch**	**99.88**	**51**	Pdiff	**Pdif**	**05 17 42.2**	**+0.5**
	baz=100							
X31A	**McDonald Ranch**	**99.89**	**57**	Pdiff	**Pdif**	**05 17 41.9**	**0.0**
	baz=100							
D25A	**Fairfield**	**99.90**	**44**	Pdiff	**Pdif**	**05 17 42.6**	**+0.9**
	baz=100							
734A	**La Parita Cree**	**99.90**	**63**	Pdiff	**Pdif**	**05 17 42.9**	**+0.9**
	baz=100							
T30A	**Plains**	**99.93**	**54**	Pdiff	**Pdif**	**05 17 42.1**	**0.0**
	baz=100							
Q29A	**Oakley**	**99.95**	**52**	Pdiff	**Pdif**	**05 17 42.3**	**+0.2**
	baz=100							
G26A	**Maurine**	**100.03**	**46**	Pdiff	**Pdif**	**05 17 42.9**	**+0.6**
	baz=100							
W31A	**Holland Ranch,**	**100.03**	**56**	Pdiff	**Pdif**	**05 17 42.5**	**0.0**
	baz=100							
Z32A	**Haskell**	**100.03**	**58**	Pdiff	**Pdif**	**05 17 43.0**	**+0.5**
	baz=100							
J27A	**Elkhorn Farm,**	**100.04**	**48**	Pdiff	**Pdif**	**05 17 43.0**	**+0.5**
	baz=100							
333A	**Richland Sprin**	**100.04**	**60**	Pdiff	**Pdif**	**05 17 42.8**	**+0.2**
	baz=100							
C25A	**Freed Ranch, W**	**100.06**	**43**	Pdiff	**Pdif**	**05 17 43.5**	**+1.2**
	baz=100							
F26A	**Lodgepole**	**100.09**	**45**	Pdiff	**Pdif**	**05 17 43.3**	**+0.7**
	baz=100							
S30A	**Montezuma**	**100.10**	**54**	Pdiff	**Pdif**	**05 17 43.1**	**+0.3**
	baz=100							
P29A	**Atwood**	**100.12**	**52**	Pdiff	**Pdif**	**05 17 43.4**	**+0.6**
	baz=100							
M28A	**Bar X Bar Ranc**	**100.14**	**50**	Pdiff	**Pdif**	**05 17 42.7**	**-0.3**
	baz=100							
L28A	**Connealy Angus**	**100.15**	**49**	Pdiff	**Pdif**	**05 17 43.2**	**+0.2**
	baz=100							
I27A	**Quinn**	**100.17**	**47**	Pdiff	**Pdif**	**05 17 43.2**	**+0.2**
	baz=100							
634A	**China Grove, S**	**100.19**	**62**	Pdiff	**Pdif**	**05 17 43.7**	**+0.4**
	baz=100							
Y32A	**R-V Farms, Ver**	**100.20**	**58**	Pdiff	**Pdif**	**

baz=101
V32A Arapaho 100.85 56 Pdiff **Pdif** 05 17 47.2 +1.0
baz=101
B26A Jensen Ranch, 100.86 43 Pdiff **Pdif** 05 17 46.3 +0.4
baz=101
S31A Mullinville 100.86 54 Pdiff **Pdif** 05 17 46.2 0.0
baz=101
Y33A Hilltop Ranch, 100.86 58 Pdiff **Pdif** 05 17 46.3 +0.1
baz=101
WMOK Wichita Mounta 100.88 57 PFAKE 05 18 00.0 +14
WMOK LR LR
comp=Z,1µm,20.0s
CBKS Cedar Bluff 100.88 53 Pdiff **Pdif** 05 17 46.6 +0.3
baz=101
CBKS Cedar Bluff 100.88 53 PFAKE 05 18 00.0 +14
CBKS LR LR
comp=Z,1µm,20.0s
234A Clairette 100.89 60 Pdiff **Pdif** 05 17 46.4 +0.1
baz=101
PAYG Puerto Ayora 100.89 94 PFAKE 05 18 00.0 +13
PAYG LR LR
comp=Z,2µm,22.0s
O30A MW Ranch, Wils 100.89 51 Pdiff **Pdif** 05 17 46.5 +0.2
baz=101
L29A Maesberg Ranch 100.92 49 Pdiff **Pdif** 05 17 46.9 +0.5
baz=101
R31A Burdett 100.95 53 Pdiff **Pdif** 05 17 46.7 +0.2
baz=101
E27A Carson 100.95 45 Pdiff **Pdif** 05 17 47.2 +0.9
baz=101
N30A Hueftle Ranch, 100.97 51 Pdiff **Pdif** 05 17 47.0 +0.3
baz=101
535A Dale 100.98 62 Pdiff **Pdif** 05 17 46.9 0.0
baz=101
U32A Winter Ranch, 101.01 55 Pdiff **Pdif** 05 17 46.9 0.0
baz=101
H28A Mission Ridge 101.01 47 Pdiff **Pdif** 05 17 47.1 +0.5
baz=101
134A White-Moore Ra 101.04 59 Pdiff **Pdif** 05 17 47.4 +0.3
baz=101
X33A Lawton 101.07 57 Pdiff **Pdif** 05 17 47.1 0.0
baz=101
A26A Wade Farm, Ken 101.08 42 Pdiff **Pdif** 05 17 47.7 +0.8
baz=101
D27A Center 101.10 44 Pdiff **Pdif** 05 17 47.3 +0.3
baz=101
435B Jarrell 101.12 61 Pdiff **Pdif** 05 17 47.7 +0.3
baz=101
G28A Parade 101.15 46 Pdiff **Pdif** 05 17 47.3 0.0
baz=101
K29A Lazy Trails An 101.17 49 Pdiff **Pdif** 05 17 47.6 +0.1
baz=101
Q31A Ellis 101.18 53 Pdiff **Pdif** 05 17 48.1 +0.6
baz=101
W33A Caddo, Fort Co 101.21 57 Pdiff **Pdif** 05 17 48.1 +0.4
baz=101
KSH Kashi 101.21 308 P **Pdif** 05 17 50.1 +2.3
KSH pP pP 05 18 01.1 +1.2
KSH sP 05 18 05.3
KSH PP **PP** **05 22 00.3 +3.0**
KSH SKS **SKSac** **05 28 26.1 +1.8**
KSH S **Sdif** **05 29 22.4 -2.2**
KSH sS **sS** **05 29 42.0 -2.7**
KSH PMZ
comp=Z,970nm,5.3s
KSH LN
comp=Z,850nm,8.3s
KSH LE
comp=Z,880nm,7.9s
KSH LZ
comp=Z,980nm,13.3s
T32A Huddler Ranch, 101.22 54 Pdiff **Pdif** 05 17 48.5 +0.8
baz=101
C27A Sayler Ranch, 101.22 44 Pdiff **Pdif** 05 17 48.3 +0.8
baz=101
M30A Dale-Ortello V 101.28 50 Pdiff **Pdif** 05 17 48.7 +0.7
baz=101
J29A Okreek 101.28 48 Pdiff **Pdif** 05 17 48.3 +0.4
baz=101
P31A Stockton 101.29 52 Pdiff **Pdif** 05 17 48.7 +0.7
baz=102
S32A Newby Ranch, P 101.30 54 Pdiff **Pdif** 05 17 48.8 +0.7
baz=102
636A Smothers Creek 101.32 62 Pdiff **Pdif** 05 17 49.2 +0.9
baz=102
Z34A Collier Ranch, 101.33 58 Pdiff **Pdif** 05 17 48.3 0.0
baz=102
KURK Kurchatov 101.34 320 P **Pdif** 05 17 46.2 -1.7
KURK pmax pmax
comp=Z,84nm,1.9s
KURK Kurchatov 101.34 320 *e*Pdif **Pdif** 05 17 48.1 +0.2
KURK PP PP 05 21 47.5 -10
KURK PKiKP **PKiKP** **05 22 12.3 +0.2**
KURK PKKPbc **PKKPbc** **05 33 56.6 -2.2**
KURK LR LR
comp=Z,2µm,21.0s
335A Moody 101.34 61 Pdiff **Pdif** 05 17 48.8 +0.4
baz=102
F28A McLaughlin 101.37 45 Pdiff **Pdif** 05 17 48.5 +0.3
baz=102
KURBB Kurchatov Arra 101.38 319 P **Pdif** 05 17 47.8 -0.3
comp=Z,5.5nm,0.9s,baz=108,slow=3.4,SNR=46
KURBB PP PP 05 21 47.5 -11
comp=Z,11nm,1.1s,baz=98,slow=6.7,SNR=5.9
KURBB PKiKP **PKiKP** **05 22 12.3 +0.1**
comp=Z,8.3nm,1.1s,baz=105,slow=1.5,SNR=6.2
KURBB PKKPbc **PKKPbc** **05 33 56.6 -2.0**
comp=Z,2.1nm,0.8s,baz=278,slow=3.5,SNR=9.4
I29A Vivian Onida 101.40 47 Pdiff **Pdif** 05 17 48.8 +0.5
baz=102
536A Bastrop 101.42 62 Pdiff **Pdif** 05 17 49.2 +0.4
baz=102
O31A Woolen Ranch, 101.44 51 Pdiff **Pdif** 05 17 48.6 0.0
baz=102
WHTX Lake Whitney 101.45 60 Pdiff **Pdif** 05 17 48.9 +0.1
baz=102
WHTX Lake Whitney 101.45 60 *e*Pdif **Pdif** 05 17 49.3 +0.4
L30A Spencer Herefo 101.46 50 Pdiff **Pdif** 05 17 49.5 +0.7
baz=102
V33A Lossen Ranch, 101.47 56 Pdiff **Pdif** 05 17 49.1 +0.1
baz=102
B27A Peters Farms, 101.50 43 Pdiff **Pdif** 05 17 48.8 +0.1
baz=102
Y34A Reagan Ranch, 101.56 58 Pdiff **Pdif** 05 17 49.1 -0.3
baz=102
E28A Huff 101.57 45 Pdiff **Pdif** 05 17 48.8 -0.2
baz=102
H29A Onida 101.57 47 Pdiff **Pdif** 05 17 49.2 +0.1
baz=102
135A Vickery Place, 101.59 59 Pdiff **Pdif** 05 17 49.6 +0.1
baz=102
R32A Long Quarter, 101.60 53 Pdiff **Pdif** 05 17 49.6 +0.2
baz=102
A27A Ledoux Ranch, 101.61 42 Pdiff **Pdif** 05 17 49.8 +0.6
baz=102
X34A Smith Ranch, M 101.62 57 Pdiff **Pdif** 05 17 49.8 +0.2
baz=102
K30A Basset 101.66 49 Pdiff **Pdif** 05 17 50.3 +0.6
baz=102
737A Port Lavaca 101.71 63 Pdiff **Pdif** 05 17 50.2 +0.1
baz=102
U33A Lingo Farm, Me 101.72 55 Pdiff **Pdif** 05 17 49.9 -0.1
baz=102
T33A Patterson Ranc 101.73 55 Pdiff **Pdif** 05 17 50.4 +0.4
baz=102
D28A Regan 101.75 44 Pdiff **Pdif** 05 17 50.2 +0.3
baz=102
436A Wall Ranch, Ga 101.78 61 Pdiff **Pdif** 05 17 50.6 +0.3
baz=102
W34A Bridge Creek, 101.78 57 Pdiff **Pdif** 05 17 50.7 +0.4
baz=102
Q32A Meitler Ranch, 101.82 53 Pdiff **Pdif** 05 17 50.7 +0.3
baz=102
N31A Bailey Ranch, 101.83 51 Pdiff **Pdif** 05 17 50.9 +0.5
baz=102
336A Riesel 101.85 61 Pdiff **Pdif** 05 17 50.5 -0.2
baz=102
J30A Dallas 101.86 48 Pdiff **Pdif** 05 17 50.1 -0.3
baz=102
Z35A Perchaven, San 101.86 59 Pdiff **Pdif** 05 17 50.4 -0.3
baz=102
G29A Hoven 101.87 46 Pdiff **Pdif** 05 17 50.4 0.0
baz=102
P32A Huiting Farm, 101.90 52 Pdiff **Pdif** 05 17 51.2 +0.5
baz=102
M31A Lambtecht Ranc 101.91 50 Pdiff **Pdif** 05 17 51.2 +0.5
baz=102
C28A Hausauer Farms 101.96 44 Pdiff **Pdif** 05 17 51.1 +0.3
baz=102
I30A Oacoma 102.01 48 Pdiff **Pdif** 05 17 51.2 +0.1
baz=102
S33A Kaszmaul Farm, 102.01 54 Pdiff **Pdif** 05 17 51.4 +0.2
baz=102
F29A Eureka 102.04 46 Pdiff **Pdif** 05 17 51.2 0.0
baz=102
537A Green Hill Far 102.06 62 Pdiff **Pdif** 05 17 52.5 +0.9
baz=102
TKM2 Tokmak 2 102.07 311 *e*P **Pdif** 05 17 51.2 -0.5
TKM2 *e* 05 22 00.8
TKM2 pmax pmax
comp=Z,7.0nm,1.0s
TKM2 MLR MLR
comp=Z,982nm,21.0s
TKM2 Tokmak 2 102.07 311 *e*Pdif **Pdif** 05 17 51.2 -0.5
comp=Z,7.1nm,1.0s
TKM2 *e*PP **PP** 05 22 00.8 -3.0
TKM2 LR LR
comp=Z,982nm,21.0s
V34A Guthrie 102.09 56 Pdiff **Pdif** 05 17 51.8 +0.2
baz=102
FFC Flin Flon 102.10 36 *e*P **Pdif** 05 17 51.6 +0.4
FFC MLR MLR
comp=Z,2µm,22.0s
FFC Flin Flon 102.10 36 *e*Pdif **Pdif** 05 17 51.6 +0.4
FFC LR LR
comp=Z,2µm,22.0s
B28A Dugan Ranch, T 102.10 43 Pdiff **Pdif** 05 17 51.8 +0.5
baz=102
Y35A Marietta 102.14 58 Pdiff **Pdif** 05 17 52.6 +0.7
baz=102
L31A Butterfield Fa 102.14 49 Pdiff **Pdif** 05 17 52.0 +0.3
baz=102
R33A Olander Ranch, 102.15 53 Pdiff **Pdif** 05 17 52.5 +0.7
baz=102
U34A Anderson Ranch 102.18 55 Pdiff **Pdif** 05 17 52.3 +0.3
baz=102
236A Katherine and 102.23 60 Pdiff **Pdif** 05 17 52.5 +0.2
baz=102
A28A Rude Farm, Bot 102.23 42 Pdiff **Pdif** 05 17 52.3 +0.3
baz=102
O32A Brockman Farm, 102.25 51 Pdiff **Pdif** 05 17 52.4 +0.1
baz=102
E29A Napoleon 102.28 45 Pdiff **Pdif** 05 17 52.0 -0.2
baz=102
X35A Drake 102.28 57 Pdiff **Pdif** 05 17 52.5 0.0
baz=102
136A Ennis 102.31 59 Pdiff **Pdif** 05 17 52.8 +0.1
baz=102
N32A Stulken Farm, 102.32 51 Pdiff **Pdif** 05 17 52.9 +0.4
baz=102
437A Phantom Ranch, 102.35 61 Pdiff **Pdif** 05 17 53.3 +0.4
baz=102
Q33A Connelly Farm, 102.38 53 Pdiff **Pdif** 05 17 53.3 +0.5
baz=102
D29A Pettibone, Tap 102.39 44 Pdiff **Pdif** 05 17 52.7 0.0
baz=103
G30A Faulkton 102.40 46 Pdiff **Pdif** 05 17 52.8 0.0
baz=103
W35A Tecumseh 102.49 57 Pdiff **Pdif** 05 17 53.3 -0.1
baz=103
MDND Maddock 102.51 44 Pdiff **Pdif** 05 17 53.0 -0.2
baz=103
BGNE Belgrade 102.53 50 Pdiff **Pdif** 05 17 53.7 +0.2
baz=103
Z36A Blue Ridge 102.53 59 Pdiff **Pdif** 05 17 54.1 +0.5
baz=103
T34A McClaskey Farm 102.55 55 Pdiff **Pdif** 05 17 54.0 +0.3
baz=103
P33A Williams Farm, 102.56 52 Pdiff **Pdif** 05 17 53.8 +0.2
baz=103
F30A Leola 102.59 46 Pdiff **Pdif** 05 17 53.6 0.0
baz=103
V35A Meyer Ranch, C 102.62 56 Pdiff **Pdif** 05 17 54.1 +0.1
baz=103
337A Centerville 102.65 61 Pdiff **Pdif** 05 17 55.2 +1.0
baz=103
R34A Isabella, Hill 102.72 54 Pdiff **Pdif** 05 17 54.9 +0.6
baz=103
S34A Willow Spring 102.73 54 Pdiff **Pdif** 05 17 54.6 +0.2
baz=103
O33A Hebron 102.74 52 Pdiff **Pdif** 05 17 54.8 +0.3
baz=103
Y36A Durant 102.76 58 Pdiff **Pdif** 05 17 54.6 0.0
baz=103
B29A Wagenman Farm, 102.76 43 Pdiff **Pdif** 05 17 54.3 -0.1
baz=103
E30A Jud 102.77 45 Pdiff **Pdif** 05 17 54.4 0.0
baz=103
FRU Bishkek 102.77 311 *e*P **Pdif** 05 17 54.0 -0.5
FRU pmax pmax
comp=Z,110nm,2.5s
538A Harpers Horsep 102.79 62 Pdiff **Pdif** 05 17 56.0 +1.2
baz=103
U35A Pawnee 102.81 56 Pdiff **Pdif** 05 17 54.6 -0.2
baz=103
X36A Centrahoma 102.82 57 Pdiff **Pdif** 05 17 55.2 +0.4
baz=103
AAK Ala-Archa 102.83 311 PFAKE 05 18 10.0 +15
AAK LR LR
comp=Z,876nm,22.0s
237A Washetta, Mont 102.83 60 Pdiff **Pdif** 05 17 55.3 +0.3
baz=103
438A Sam Houston St 102.90 61 Pdiff **Pdif** 05 17 56.0 +0.7
baz=103
A29A Manning Farm, 102.91 43 Pdiff **Pdif** 05 17 54.9 -0.1
baz=103
N33A J Bar K, Exete 102.95 51 Pdiff **Pdif** 05 17 55.3 0.0
baz=103
D30A Buchanan 102.96 44 Pdiff **Pdif** 05 17 55.4 +0.1
baz=103
137A Heron Place, G 102.98 59 Pdiff **Pdif** 05 17 56.1 +0.5
baz=103
W36A Wetumka 103.01 57 Pdiff **Pdif** 05 17 56.1 +0.4
baz=103
Q34A Chapman 103.05 53 Pdiff **Pdif** 05 17 56.3 +0.5
baz=103
T35A Sooner Cattle 103.07 55 Pdiff **Pdif** 05 17 56.1 +0.1
baz=103
338A Cockett 103.14 61 Pdiff **Pdif** 05 17 56.4 0.0
baz=103
Z37A Pogue Cattle C 103.19 59 Pdiff **Pdif** 05 17 56.6 +0.1
baz=103
C30A Mose, Pekin 103.23 44 Pdiff **Pdif** 05 17 56.2 -0.2
baz=103
P34A Walnut Farm, R 103.24 52 Pdiff **Pdif** 05 17 56.9 +0.2
baz=103
M33A Taylor Creek F 103.26 50 Pdiff **Pdif** 05 17 56.6 -0.1
baz=103
L33A Hoskins 103.29 50 Pdiff **Pdif** 05 17 56.1 -0.7
baz=104
Y37A Hugo 103.32 58 Pdiff **Pdif** 05 17 57.5 +0.4
baz=104
S35A Otter Creek Ra 103.34 54 Pdiff **Pdif** 05 17 57.6 +0.4
baz=104
V36A Jenks 103.35 56 Pdiff **Pdif** 05 17 57.6 +0.4
baz=104
EKS2 Erkin-Say 103.36 311 *e*P **Pdif** 05 17 57.4 +0.1
EKS2 pmax pmax
comp=Z,10.0nm,1.1s
EKS2 MLR MLR
comp=Z,710nm,20.0s
EKS2 Erkin-Say 103.36 311 *e*Pdif **Pdif** 05 17 57.4 +0.1
comp=Z,9.6nm,1.1s
EKS2 LR LR
comp=Z,710nm,20.0s
238A Jacksonville 103.41 60 Pdiff **Pdif** 05 17 58.4 +0.8
baz=104
539A Cross D Ranch, 103.42 62 Pdiff **Pdif** 05 17 58.0 +0.4
baz=104
O34A Beatrice 103.43 52 Pdiff **Pdif** 05 17 57.7 +0.2
baz=104
B30A Myrvik Farm, E 103.44 43 Pdiff **Pdif** 05 17 57.4 0.0
baz=104
TUL1 Tulsa 103.49 56 Pdiff **Pdif** 05 17 57.6 -0.2
baz=104
439A Center Grove, 103.50 61 Pdiff **Pdif** 05 17 59.4 +1.4
baz=104
A30A Hoffart Farm, 103.52 43 Pdiff **Pdif** 05 17 57.6 -0.1
baz=104
R35A Emporia Munici 103.53 54 Pdiff **Pdif** 05 17 58.3 +0.3
baz=104
138A Matatall Enter 103.54 60 Pdiff **Pdif** 05 17 58.8 +0.7
baz=104
T36A Boggs Farm, Ca 103.59 55 Pdiff **Pdif** 05 17 58.1 -0.2
baz=104
U36A Oologah 103.61 56 Pdiff **Pdif** 05 17 58.4 0.0
baz=104
X37A Clayton 103.62 58 Pdiff **Pdif** 05 17 58.8 +0.4
baz=104
W37A Quinton 103.66 57 Pdiff **Pdif** 05 17 58.7 +0.1
baz=104
N34A Lincoln 103.67 51 Pdiff **Pdif** 05 17 58.7 +0.1
baz=104
M34A Aspy Farms, Fr 103.71 50 Pdiff **Pdif** 05 17 58.9 +0.3
baz=104
Z38A Mt. Pleasant 103.72 59 Pdiff **Pdif** 05 17 59.6 +0.7
baz=104
Q35A Mercer Eighty, 103.74 53 Pdiff **Pdif** 05 17 59.3 +0.4
baz=104
NATX Nacogdoches 103.75 60 Pdiff **Pdif** 05 17 59.8 +0.7
baz=104
339A Huntington 103.77 61 Pdiff **Pdif** 05 17 60.0 +0.8
baz=104
P35A Duane Minner, 103.85 52 Pdiff **Pdif** 05 17 59.5 +0.1
baz=104
S36A Lake Cedric, C 103.92 54 Pdiff **Pdif** 05 17 59.8 0.0
baz=104
L34A Svendsen Farm, 103.93 50 Pdiff **Pdif** 05 17 59.4 -0.2
baz=104
239A Gary 103.95 60 Pdiff **Pdif** 05 18 00.6 +0.7
baz=104
ECSD EROS Data Cent 103.99 48 Pdiff **Pdif** 05 17 60.0 0.0
baz=104
ECSD EROS Data Cent 103.99 48 *e*Pdif **Pdif** 05 17 60.0 0.0
ECSD LR LR
comp=Z,1µm,19.0s
V37A Hulbert 104.00 56 Pdiff **Pdif** 05 18 00.5 +0.4
baz=104
Y38A Idabel 104.04 58 Pdiff **Pdif** 05 18 00.3 0.0
baz=104
O35A Humboldt 104.04 52 Pdiff **Pdif** 05 18 00.7 +0.5
baz=104
X38A Whitesboro 104.07 58 Pdiff **Pdif** 05 18 00.9 +0.5
baz=104
R36A Gordon, Harris 104.08 54 Pdiff **Pdif** 05 18 00.9 +0.5
baz=104
U37A Salina 104.10 56 Pdiff **Pdif** 05 18 00.9 +0.4
baz=104
440A Kirbyville 104.18 62 Pdiff **Pdif** 05 18 02.0 +1.0
baz=104
Q36A Arnold C. Orve 104.20 53 Pdiff **Pdif** 05 18 01.4 +0.4
baz=104
N35A Tabor 104.32 51 Pdiff **Pdif** 05 18 01.9 +0.5
baz=104
340A Bronson 104.35 61 Pdiff **Pdif** 05 18 02.4 +0.7
baz=104
M35A Neola 104.36 50 Pdiff **Pdif** 05 18 02.0 +0.4
baz=104
T37A Cheneyville 18 104.36 55 Pdiff **Pdif** 05 18 01.9 +0.2
baz=104
W38A Poteau 104.39 57 Pdiff **Pdif** 05 18 02.4 +0.6
baz=104
Z39A Irene McRaven, 104.39 59 Pdiff **Pdif** 05 18 02.7 +0.8
baz=104
P36A Good Intent, A 104.49 52 Pdiff **Pdif** 05 18 03.0 +0.8
baz=105
S37A Fort Scott 104.53 54 Pdiff **Pdif** 05 18 02.9 +0.5
baz=105
L35A Bielow Farm, R 104.56 50 Pdiff **Pdif** 05 18 02.3 -0.1
baz=105
Y39A Lockesburg 104.56 58 Pdiff **Pdif** 05 18 02.7 +0.1
baz=105
V38A Canehill 104.59 56 Pdiff **Pdif** 05 18 02.5 -0.3
baz=105
R37A Teagarden Farm 104.60 54 Pdiff **Pdif** 05 18 03.1 +0.4
baz=105
U38A Gravette 104.69 56 Pdiff **Pdif** 05 18 03.3 +0.1
baz=105
O36A Bolckow 104.74 52 Pdiff **Pdif** 05 18 03.8 +0.5
baz=105
Q37A Longview Farm, 104.97 53 Pdiff **Pdif** 05 18 01.9 -2.5
baz=105
AGMN Agassiz Nation 105.05 43 Pdiff **Pdif** 05 18 03.4 -1.1
baz=105
AGMN Agassiz Nation 105.05 43 *e*PKPdf **PKiKP** 05 22 18.4 -0.6
AGMN LR LR
comp=Z,708nm,20.0s
MIAR Mount Ida 105.08 58 Pdiff **Pdif** 05 18 04.8 -0.2
baz=105
MIAR Mount Ida 105.08 58 *e*PKPdf **PKiKP** 05 22 21.4 +1.9
MIAR LR LR
comp=Z,567nm,20.0s
ULM Lac du Bonnet 105.24 41 PKiKP **PKiKP** 05 22 19.6 +0.3
comp=Z,6.2nm,0.9s,baz=304,slow=3.5,SNR=6.5
KKAR Karatay Array 105.79 311 *e*P **Pdif** 05 18 08.2 +0.3
KKAR Karatay Array 105.79 311 *e*Pdif **Pdif** 05 18 08.2 +0.3
KBL Kabul 105.91 302 *e*PKPdf **PKiKP** 05 22 20.4 -1.0
SCIA State Center 106.26 50 PFAKE 05 22 30.0
SCIA LR LR
comp=Z,2µm,20.0s
BVA0 Borovoye Array 106.67 321 *i* P **Pdif** 05 18 10.6 -1.0
BVA0 pmax pmax
comp=Z,84nm,1.8s
BVAR Borovoye Array 106.67 321 Pdiff **Pdif** 05 18 10.8 -0.7
comp=Z,10nm,0.8s,baz=101,slow=4.7,SNR=40
BVAR PKiKP **PKiKP** 05 22 21.1 -0.8
comp=Z,4.1nm,0.8s,baz=104,slow=3.6,SNR=7.3
BRVK Borovoye 106.74 321 *e*P **Pdif** 05 18 12.3 +0.4
BRVK MLR MLR
comp=Z,1µm,21.0s
BRVK Borovoye 106.74 321 *e*Pdif **Pdif** 05 18 12.3 +0.4
BRVK LR LR
comp=Z,1µm,21.0s
FCC Fort Churchill 106.80 33 *e*PKPdf **PKiKP** 05 22 20.2 -1.7
SPMN St. Paul 106.86 47 Pdiff **Pdif** 05 18 12.1 -0.5
baz=107
SPMN St. Paul 106.86 47 *e*PKPdf **PKiKP** 05 22 21.7 -0.8
VBMS Vicksburg 107.30 61 Pdiff **Pdif** 05 18 16.3 +1.5
baz=107
HBAR Harrisburg 107.58 57 *e*PKPdf **PKiKP** 05 22 23.7 -0.4
EYMN Ely 107.94 44 Pdiff **Pdif** 05 18 16.1 -1.2
baz=108
EYMN Ely 107.94 44 PFAKE 05 22 40.0
EYMN LR LR
comp=Z,803nm,19.0s
LCO Las Campanas 108.11 128 *e*PKPdf **PKiKP** 05 22 25.9 +0.2
JFWS Jewell Farm 108.53 49 PFAKE 05 22 40.0
JFWS LR LR
comp=Z,2µm,20.0s
JTS JuntasAbangare 108.71 84 PFAKE 05 22 40.0
JTS LR LR
comp=Z,2µm,20.0s
HDIL Hopedale 109.09 52 Pdiff **Pdif** 05 18 20.3 -2.3
baz=109
HDIL Hopedale 109.09 52 PFAKE 05 22 40.0
HDIL LR LR
comp=Z,2µm,20.0s
TRQA Tornquist 109.15 140 PFAKE 05 22 40.0
TRQA LR LR
comp=Z,852nm,19.0s
BRAL Brewton 110.10 62 PFAKE 05 22 40.0
BRAL LR LR
comp=Z,919nm,21.0s
NNA Nana 110.14 109 PFAKE 05 22 40.0
NNA LR LR
comp=Z,987nm,19.0s
MSEY Mahe Island 110.57 259 PFAKE 05 22 40.0
MSEY LR LR
comp=Z,4µm,20.0s
SFIN Scholer Farm 110.76 52 Pdiff **Pdif** 05 18 28.2 -1.8
baz=111
SVE Sverdlovsk 112.19 326 *e*PKiKP **PKiKP** 05 22 32.9 +0.8
SVE pmax pmax
comp=Z,43nm,1.6s
OTAV Otavalo 112.52 96 *e*PKPdf **PKiKP** 05 22 34.6 0.0
OTAV LR LR
comp=Z,523nm,19.0s
LVC Limon Verde 112.61 123 PFAKE 05 22 50.0
LVC LR LR
comp=Z,754nm,19.0s
GLMI Grayling 112.65 47 PFAKE 05 22 40.0
GLMI LR LR
comp=Z,1µm,19.0s
ABPO Ambohimpanom 112.74 242 PFAKE 05 22 40.0
ABPO LR LR
comp=Z,2µm,21.0s
OPO Ambohidratompo 112.97 242 PKiKP **PKiKP** 05 22 34.9 -0.1
comp=Z,7.4nm,0.8s,baz=79,slow=5.7,SNR=5.4
TIGA Tifton 113.09 62 Pdiff **Pdif** 05 18 35.3 -5.3
baz=113
ABKAR Akbulak array 113.27 317 *e*PKPdf **PKiKP** 05 22 34.7 +0.3
GOGA Godfrey 113.32 60 PFAKE 05 22 50.0
GOGA LR LR

comp=Z,1µm,22.0s
IMYA Miami 113.34 303 *e*P **PKiKP** 05 22 34.0 -1.2
AAM Ann Arbor 113.38 50 PFAKE 05 22 50.0
AAM LR LR
comp=Z,2µm,20.0s
ARU Arti 113.38 325 *i* PKIKP **PKiKP** 05 22 34.6 +0.2
ARU 05 23 25.8
ARU 05 29 16.6
ARU SP SP 05 32 50.2 -6.4
ARU PS **PS** 05 32 58.4 -3.6
ARU Arti 113.38 325 *e*PKPdf **PKiKP** 05 22 33.9 -0.5
ARU LR LR
comp=Z,1µm,20.0s
BCIP Isla Barro Col 113.39 86 PFAKE 05 22 50.0
BCIP LR LR
comp=Z,817nm,22.0s
ACSO Alum Creek Sta 113.90 52 *e*PKPdf **PiKiP** 05 22 36.4 +0.5
ACSO *e*PP **PP** 05 23 28.8 -1.1
ACSO LR LR
comp=Z,2µm,22.0s
AKTO Aktyubinsk 114.42 319 PKP PKPdf 05 22 36.6 0.0
comp=Z,11nm,0.9s,baz=74,slow=2.0,SNR=23
AKTO PKKPbc **PKKPbc** 05 33 16.1 -1.3
comp=Z,2.0nm,0.8s,baz=353,slow=2.5,SNR=6.3
IAKL Akhelmad 114.43 304 *e*P PKPdf 05 22 36.0 -1.4
GEYT Alibeck 114.95 305 PKP PKPdf 05 22 38.2 +0.1
comp=Z,12nm,0.7s,baz=294,slow=1.5,SNR=15
GEYT PKKPbc **PKKPbc** 05 33 15.1 -0.1
comp=Z,1.9nm,0.3s,baz=258,slow=7.1,SNR=4.5
KBS Kingsbay 115.21 355 *e*PP **PP** 05 23 35.1 -2.8
KBS Kingsbay 115.21 355 *e*PKIKP **PKPdf** 05 22 37.4 0.0
KBS *e* 05 23 36.1
KBS MLR MLR
comp=Z,750nm,20.0s
KBS Kingsbay 115.21 355 *e*PKPdf **PKPdf** 05 22 37.4 0.0
KBS *e*PP **PP** 05 23 36.1 -1.8
KBS LR LR
comp=Z,750nm,20.0s
SPA0 Spitsbergen Ar 115.47 354 *e*PP PP 05 23 41.6 +1.8
SPITS Spitsbergen Ar 115.47 354 PKP **PKPdf** 05 22 37.4 -0.5
comp=Z,51nm,0.8s,baz=64,slow=3.4,SNR=31
KULLO Kullorsuaq 115.57 12 *i* P **PKPdf** 05 22 38.0 -0.1
comp=Z,34nm,0.9s
KULLO *i* 05 23 38.2
BLA Blacksburg 115.91 56 *e*PKIKP **PKPdf** 05 22 39.9 0.0
BLA MLR MLR
comp=Z,889nm,19.0s
BLA Blacksburg 115.91 56 *e*PKPdf **PKPdf** 05 22 39.9 0.0
BLA LR LR
comp=Z,889nm,19.0s
HATD Hatta, Dubai 116.03 290⇓ *i*P **PKPdf** 05 22 40.0 -0.5
SNR=21
NHSC New Hope 116.06 60 PFAKE 05 22 50.0 +10
NHSC LR LR
comp=Z,1µm,21.0s
LPAZ La Paz 116.17 117 PKP **PKPdf** 05 22 41.8 0.0
comp=Z,13nm,0.9s,baz=264,slow=1.0,SNR=39
LPAZ PKKPbc **PKKPbc** 05 33 10.7 -0.5
comp=Z,2.9nm,0.8s,baz=55,slow=2.7,SNR=9.3
NAZ Nazwa, Dubai 116.47 291⇓ *i*P **PKPdf** 05 22 41.1 -0.2
SNR=10
HSPB Hornsund (broa 116.58 353 *e*PP PP 05 23 47.3 -0.2
ASUD Al Ashush, Dub 116.74 290⇑ *i*P **PKPdf** 05 22 42.0 +0.2
SNR=11
MTDJ Mount Denham 117.21 77 PFAKE 05 22 50.0 +7.0
MTDJ LR LR
comp=Z,573nm,20.0s
ROSC El Rosal 117.71 92 PKP **PKPdf** 05 22 44.7 +0.1
comp=Z,12nm,0.7s,baz=248,slow=3.4,SNR=16
IMEH Mehriz 117.76 298 *e*P **PKPdf** 05 22 42.7 -1.2
SSPA Standing Stone 117.77 52 *e*PKPdf **PKPdf** 05 22 42.1 -1.3
CNNC Cliffs of the 117.97 58 PFAKE 05 22 50.0 +6.1
CNNC LR LR
comp=Z,2µm,22.0s
BJO Bjornoya 118.23 351 *e*PP PP 05 23 55.3 -3.7
DAG Danmarks Havn 118.28 2⇑ *i*P **PKPdf** 05 22 42.3 -1.0
comp=Z,50nm,0.9s
DAG *i* 05 23 53.9
DAG Danmarks Havn 118.28 2⇑ *i* PKIKP **PKPdf** 05 22 42.3 -1.0
DAG pmax pmax
comp=Z,42nm,0.9s
CBN Corbin 118.30 55 PFAKE 05 23 00.0 +16
CBN LR LR
comp=Z,1µm,19.0s
PRGR Permogore 118.49 333 *e*PKIKP **PKPdf** 05 22 43.3 -0.7
PRGR pmax pmax
comp=Z,55nm,1.0s
IKIA Kiasar 118.52 303 *e*P **PKPdf** 05 22 44.1 -1.1
ISRV Sarvestan 119.00 295 *e*P **PKPdf** 05 22 46.5 0.0
IPAR Pars 119.07 296 *e*P **PKPdf** 05 22 45.1 -1.5
CPUP Villa Florida 119.47 133 PKP **PKPdf** 05 22 46.6 -0.5
comp=Z,22nm,0.9s,baz=253,slow=2.9,SNR=35
CPUP PKKPbc **PKKPbc** 05 32 58.3 -0.7
comp=Z,5.9nm,1.0s,baz=62,slow=3.7,SNR=6.5
CPUP Villa Florida 119.47 133 PKIKP **PKPdf** 05 22 46.6 -0.5
CPUP pmax pmax
comp=Z,22nm,0.9s
CPUP pmax pmax
comp=Z,6.0nm,1.0s
LVZ Lovozero 119.51 342 *e*PKIKP **PKPdf** 05 22 45.6 -0.3
LVZ MLR MLR
comp=Z,824nm,20.0s
LVZ Lovozero 119.51 342 *e*PKPdf **PKPdf** 05 22 45.6 -0.3
LVZ LR LR
comp=Z,824nm,20.0s
GTBY Guantanamo Bay 119.70 76 PFAKE 05 23 00.0 +12
GTBY LR LR
comp=Z,818nm,20.0s
LONY Lake Ozonia 119.79 47 *e*PKPdf **PKPdf** 05 22 47.8 +0.7
LONY LR LR
comp=Z,1µm,20.0s
APA Apatity 120.09 342⇑ *i* PKIKP **PKPdf** 05 22 46.2 -0.8
APA *i* 05 24 08.0
APA *i* 05 29 52.0
APA *i* PS **PS** 05 34 03.0 +0.6
APA *i* PPS PPS 05 35 18.0
APA *i* SS SS 05 40 38.0 +2.5
APA pmax pmax
comp=Z,60nm,1.1s
APA MLR MLR
comp=Z,1µm,22.0s
IKAZ Kazeroun 120.12 296 *e*P **PKPdf** 05 22 47.9 -0.7
NCB Newcomb 120.14 48 PFAKE 05 23 00.0 +12
NCB LR LR
comp=Z,1µm,20.0s
IVRN Varamin 120.16 302 *e*P **PKPdf** 05 22 47.8 -0.5
IKLH Kolahrood 120.33 300 *e*P **PKPdf** 05 22 48.9 0.0
KEV Kevo 120.38 345 *e*PKIKP **PKPdf** 05 22 47.2 -0.3
KEV MLR MLR
comp=Z,912nm,20.0s
KEV Kevo 120.38 345 *e*PKPdf **PKPdf** 05 22 47.2 -0.3
KEV LR LR
comp=Z,912nm,20.0s
TMCR Tamitsa 120.45 337 *e*PKIKP **PKPdf** 05 22 47.3 -0.4
TMCR *e* 05 24 12.0
TMCR pmax pmax
comp=Z,65nm,1.5s
SUMG Summit 120.52 9⇑ *i*P **PKPdf** 05 22 48.8 +0.6
comp=Z,97nm,1.3s
SUMG *i* 05 24 11.6
SUMG Summit 120.52 9⇑ *i* PKIKP **PKPdf** 05 22 48.8 +0.6
SUMG *i* 05 24 11.6
SUMG pmax pmax
comp=Z,97nm,1.3s
SUMG Summit 120.52 9 *e*PKPdf **PKPdf** 05 22 47.9 -0.4
SUMG *e*PP **PP** 05 24 11.4 -3.8
ILULI Ilulissat 120.62 15⇑ *i*P **PKPdf** 05 22 48.0 +0.1
comp=Z,69nm,0.8s
ILULI *i* 05 24 11.9
TRY Troy 120.71 49 *e*PKPdf **PKPdf** 05 22 49.5 +0.6
ARCES ARCESS Array B 120.91 346 PKP **PKPdf** 05 22 48.6 0.0
comp=Z,51nm,0.7s,baz=75,slow=1.0,SNR=145
ARCES PKKPbc **PKKPab** 05 32 50.9 -1.6
comp=Z,1.9nm,0.7s,baz=294,slow=1.2,SNR=5.4
ARE0 ARCESS Array S 120.91 346 *e*PKPdf **PKPdf** 05 22 48.6 +0.1
ARE0 *e*PP **PP** 05 24 15.2 -2.3
IPIR Pirpir 120.92 299 *e*P **PKPdf** 05 22 46.6 -3.5
IRAZ Razeghan 121.61 302 *e*P **PKPdf** 05 22 50.0 -1.2
SCHQ Schefferville 122.13 34 PKP **PKPdf** 05 22 51.0 -0.4
comp=Z,14nm,0.9s,baz=270,slow=2.4,SNR=15
SCHQ PKKPbc **PKKPab** 05 32 47.9 +0.3
comp=Z,3.1nm,0.7s,baz=92,slow=8.5,SNR=6.2
SDV Santo Domingo 122.21 89 *e*PKPdf **PKPdf** 05 22 51.9 -1.0
SDV LR LR
comp=Z,889nm,21.0s
SFJD Kangerlussuaq 122.31 17 *i* P **PKPdf** 05 22 51.1 -0.2
comp=Z,33nm,0.9s
SFJD *i* 05 24 24.2
SFJD Kangerlussuaq 122.31 17 *i* PKIKP **PKPdf** 05 22 51.1 -0.2
SFJD *i* 05 24 24.2
SFJD pmax pmax
comp=Z,33nm,0.9s
SFJD Kangerlussuaq 122.31 17 *e*PKPdf **PKPdf** 05 22 51.4 +0.1
SFJD *e*PP **PP** 05 24 25.0 -2.0
SFJD LR LR
comp=Z,794nm,20.0s
MAK Makhachkala 122.61 311 *e*P **Pdif** 05 19 26.9 +4.3
MAK *e*PPP PPP 05 27 05.1
MAK *e*PS **PS** 05 34 19.3 -6.6
MAK pmax pmax
comp=Z,367nm,1.5s
SDDR Presa de Saban 123.19 77 PFAKE 05 23 10.0 +16
SDDR LR LR
comp=Z,1µm,22.0s
ISRB Sarab 123.21 305 *e*P **PKPdf** 05 22 53.1 -1.1
SUR Sutherland 123.37 213 PFAKE 05 23 10.0 +15
SUR LR LR
comp=Z,3µm,20.0s
PKME Peaks-Kenny Pk 123.37 46 *e*PKPdf **PKPdf** 05 22 55.4 +1.5
PKME LR LR
comp=Z,1µm,20.0s
GRTK Grand Turk 123.56 74 PFAKE 05 23 10.0 +15
GRTK LR LR
comp=Z,1µm,20.0s
IHRS Heris 123.64 306 *e*P **PKPdf** 05 22 54.1 -0.9
BOSA Boshof 123.65 219 PKP **PKPdf** 05 22 55.1 -0.1
comp=Z,15nm,0.8s,baz=122,slow=2.6,SNR=19
BOSA PKKPbc **PKKPbc** 05 32 43.4 0.0
comp=Z,1.1nm,0.6s,baz=273,slow=4.7,SNR=5.9
BOSA Boshof 123.65 219 PKIKP **PKPdf** 05 22 55.2 -0.1
BOSA pmax pmax
comp=Z,15nm,0.9s
BOSA pmax pmax
comp=Z,1.0nm,0.6s
SAML Samuel 123.69 112 *e*PKPdf **PKPdf** 05 22 54.9 -0.6
SAML *e*PP **PP** 05 24 38.5 +0.5
SAML LR LR
comp=Z,817nm,22.0s
PQI Presque Isle 123.90 44 *e*PKPdf **PKPdf** 05 22 54.9 0.0
JMIC Jan Mayen 124.16 359 PKP **PKPdf** 05 22 54.7 -0.1
comp=Z,82nm,0.8s,baz=4.4,slow=3.5,SNR=6.5
DGRG David-gareji 124.43 310 P **PKPdf** 05 22 57.6 +1.4
DGRG S **PP** 05 24 39.5 -3.0
LOF Lofoten 124.62 349 *e*PKPdf **PKPdf** 05 22 56.3 +0.6
IMRD Marand 124.63 307 *e*P **PKPdf** 05 22 56.5 -0.4
MOS Moscow 124.75 329 *i* PKIKP **PKPdf** 05 22 52.8 -3.4
MOS *e* 05 23 02.9
MOS pmax pmax
comp=Z,131nm,1.0s
MOS pmax pmax
comp=Z,400nm,2.0s
MOS MLR MLR
comp=Z,1µm,19.0s
TBLG Delisi 124.85 310 P **PKPdf** 05 22 58.0 +1.1
TBLG S **PP** 05 24 47.9 +2.6
GNI Garni 125.14 309 PKP **PKPdf** 05 22 58.6 +0.9
comp=Z,40nm,0.8s,baz=38,slow=1.4,SNR=20
GNI Garni 125.14 309 *e*PKIKP **PKPdf** 05 22 57.9 +0.1
GNI *e* 05 24 45.6
GNI MLR MLR
comp=Z,638nm,19.0s
GNI Garni 125.14 309⇑ *i*P **PKPdf** 05 22 58.4 +0.7
SNR=9.9
GNI Garni 125.14 309 *e*PKPdf **PKPdf** 05 22 57.9 +0.1
GNI *e*PP **PP** 05 24 45.5 -1.9
GNI LR LR
comp=Z,638nm,19.0s
GOF Gofitskoye 125.30 315 *e*PKIKP **PKPdf** 05 22 57.8 +0.1
GOF pmax pmax
comp=Z,60nm,0.9s
LPSR Galich'ya Gora 125.39 325 *e*PKIKP **PKPdf** 05 22 57.8 +0.2
LPSR *e* 05 24 44.3
LPSR pmax pmax
comp=N,20nm,1.2s
LPSR pmax pmax
comp=E,40nm,1.2s
LPSR pmax pmax
comp=Z,170nm,1.2s
LPSR pmax pmax
comp=N,110nm,2.9s
LPSR pmax pmax
comp=E,310nm,2.9s
LPSR pmax pmax
comp=Z,310nm,2.9s
OBN Obninsk 125.57 328 PKP **PKPdf** 05 22 58.3 +0.5
comp=Z,26nm,0.4s,baz=75,slow=2.1,SNR=29
OBN Obninsk 125.57 328 *d* PKIKP **PKPdf** 05 22 58.7 +0.9
OBN *i* 05 23 06.1
OBN *i* 05 24 48.8
OBN *i* 05 30 11.1
OBN *i* SS SS 05 41 53.1 +7.5
OBN pmax pmax
comp=Z,156nm,1.3s
OBN MLR MLR
comp=Z,867nm,19.0s
OBN Obninsk 125.57 328 *e*PKPdf **PKPdf** 05 22 58.2 +0.4
OBN LR LR
comp=Z,934nm,20.0s
ONI Oni 125.60 312 P **PKPdf** 05 22 59.1 +0.6
RAYN Ar Rayn 125.63 288 *e*PKPdf **PKPdf** 05 22 59.4 +0.4
RAYN LR LR
comp=Z,2µm,22.0s
KBZ Khabaz 125.74 313 PKP **PKPdf** 05 22 58.8 +0.3
comp=Z,18nm,0.9s,baz=129,slow=2.4,SNR=16
KBZ PP **PP** 05 24 51.4 +0.4
comp=Z,9.4nm,1.0s,baz=80,slow=7.3,SNR=4.1
VSR Storozhevoye 125.80 323 *e*PKIKP **PKPdf** 05 22 58.1 -0.3
VSR pmax pmax
comp=Z,130nm,1.1s
VSR pmax pmax
comp=N,10.0nm,0.7s
VSR pmax pmax
comp=E,20nm,1.1s
VSR pmax pmax
comp=Z,730nm,4.0s
VSR pmax pmax
comp=N,170nm,3.3s
VSR pmax pmax
comp=E,390nm,4.0s
AKH Akhalkalaki 125.83 310 P **PKPdf** 05 23 00.6 +1.6
AKH S **PP** 05 24 53.6 +1.6
AKH Akhalkalaki 125.83 310 PKIKP **PKPdf** 05 23 00.6 +1.6
AKH S **PP** 05 24 53.6 +1.6
AKH Akhalkalaki 125.83 310⇑ *i*P **PKPdf** 05 23 00.5 +1.4
KIV Kislovodsk 125.83 314 *c* PKIKP **PKPdf** 05 22 58.9 0.0
KIV *i* 05 23 03.6
KIV *i* 05 24 48.8
KIV pmax pmax
comp=Z,46nm,1.0s
KIV Kislovodsk 125.83 314⇑ *i*P **PKPdf** 05 22 58.7 -0.1
SNR=13
KIV Kislovodsk 125.83 314 *e*PKPdf **PKPdf** 05 22 59.0 +0.2
KIV LR LR
comp=Z,721nm,20.0s
DAMY Dhamar 125.86 277 *e*PKPdf **PKPdf** 05 23 01.6 +1.7
LBTB Lobatse 125.95 223 *e*PKIKP **PKPdf** 05 22 59.6 -0.1
LBTB Lobatse 125.95 223 *e*PKPdf **PKPdf** 05 22 59.6 -0.1
FIA1 FINESS Array S 126.47 339 *e*PKPdf **PKPdf** 05 22 58.7 -0.7
FIA1 *e*PP **PP** 05 24 54.2 -0.8
FINES FINESS Array B 126.47 339 PKP **PKPdf** 05 22 59.1 -0.3
comp=Z,54nm,0.9s,baz=90,slow=2.8,SNR=70
CHVG Ch'k'valeri 126.56 312 P **PKPdf** 05 23 01.9 +1.7
CHVG Ch'k'valeri 126.56 312⇑ *i*P **PKPdf** 05 23 01.6 +1.4
CELP Cerrillos 127.54 79 *e*PKPdf **PKPdf** 05 23 03.2 +0.5
SJG San Juan 127.95 79 *e*PKIKP **PKPdf** 05 23 03.5 0.0
SJG MLR MLR
comp=Z,1µm,22.0s
SJG San Juan 127.95 79 *e*PKPdf **PKPdf** 05 23 03.5 0.0
SJG LR LR
comp=Z,1µm,22.0s
SOC Sochi 128.00 314 *c* PKIKP **PKPdf** 05 23 02.3 -0.6
SOC *i* 05 25 01.7
SOC *e*PPP PPP 05 27 58.8
SOC *e*PS **PS** 05 35 07.7 -5.6
SOC *e*SS SS 05 42 20.4 +3.4
SOC pmax pmax
comp=Z,81nm,1.1s
SOC MLR MLR
comp=Z,1µm,22.0s
KMBO Kilima Mbogo 128.92 256 PKP **PKPdf** 05 23 07.1 +1.2
comp=Z,14nm,1.0s,baz=121,slow=4.3,SNR=15
KMBO Kilima Mbogo 128.92 256 *e*PKIKP **PKPdf** 05 23 06.3 +0.4
KMBO MLR MLR
comp=Z,5µm,22.0s
KMBO Kilima Mbogo 128.92 256 *e*PKPdf **PKPdf** 05 23 06.3 +0.4
KMBO LR LR
comp=Z,5µm,22.0s
KBSD Kabsdagh 128.94 305 *e*P **PKPdf** 05 23 06.5 +1.6
BB16B Bebedouro 129.00 134⇑ *i*P **PKPdf** 05 23 04.4 -1.2
BB16B *i* 05 23 17.8
BB16B *i* 05 23 28.2
BBSR BB Station 129.12 61 PFAKE 05 23 20.0 +15
BBSR LR LR
comp=Z,757nm,19.0s
ANN Anapa 129.19 316 *i* PKIKP **PKPdf** 05 23 04.3 -0.8
ANN *e* 05 25 13.5
ANN *e*PS **PS** 05 35 20.7 -2.8
ANN pmax pmax
comp=Z,60nm,1.2s
ANN MLR MLR
comp=E,223nm,24.0s
ANN MLR MLR
comp=N,418nm,24.0s
ANN pmax pmax
comp=Z,657nm,24.0s
SFNV Sufian 129.39 305 *e*P **PKPdf** 05 23 07.3 +1.4
PTGA Pitinga 129.80 104 *e*PKPdf **PKPdf** 05 23 07.0 -0.2
BORG Borgarnes 130.03 5 *i* PKIKP **PKPdf** 05 23 09.3 +3.2
BORG Borgarnes 130.03 5 PFAKE 05 23 20.0 +14
BORG LR LR
comp=Z,588nm,22.0s
IZAR Zarasai 130.14 333 *e*P **PKPdf** 05 23 07.7 +1.2
IZAR IAmb IAmb 05 23 09.2
comp=Z,31nm,1.1s
MICGM Minsk 130.16 331⇓ *e*P **PKPdf** 05 23 07.0 +0.4
MNK Minsk 130.18 331⇓ *e*PKIKP **PKPdf** 05 23 07.0 +0.3
MNK pmax pmax
comp=Z,200nm,2.0s
IDID Didziasalis 130.19 332 *e*P **PKPdf** 05 23 07.7 +1.0
IDID IAmb IAmb 05 23 09.2
comp=Z,36nm,1.0s
LSZ Lusaka 130.27 234 PKP **PKPdf** 05 23 08.5 +0.3
comp=Z,7.2nm,0.7s,baz=56,slow=6.6,SNR=13
LSZ Lusaka 130.27 234 PKIKP **PKPdf** 05 23 08.5 +0.3
LSZ pmax pmax
comp=Z,7.0nm,0.7s
LSZ Lusaka 130.27 234 *e*PKPdf **PKPdf** 05 23 08.9 +0.7
LSZ *e*PP **PP** 05 25 21.2 0.0
ISAL Salakas 130.30 333 *e*P **PKPdf** 05 23 08.2 +1.4
ISAL IAmb IAmb 05 23 09.5
comp=Z,46nm,1.3s
MALT Malatya 130.31 308 ⇓ PKIKP **PKPdf** 05 23 08.1 +0.5
MALT Malatya 130.31 308⇓ *i*P **PKPdf** 05 23 08.1 +0.5
KSRV Kasrt alli 130.38 304 *e*P **PKPdf** 05 23 09.8 +2.2
IIGN Ignalina 130.40 333 *e*P **PKPdf** 05 23 08.3 +1.3
AKN Aaknes 131.19 348 *e*PKPdf **PKPdf** 05 23 08.7 +0.3
AKN IAmb IAmb 05 23 11.3
comp=Z,59nm,0.7s
AKN *e*PP **PP** 05 25 25.7 -0.1
NB2 NORSAR Subarra131.28 345 PKPdf **PKPdf** 05 23 08.5 -0.2
comp=Z,130nm,1.7s,baz=31,slow=1.9
NB2 NORSAR Subarra131.28 345 PKPdf **PKPdf** 05 23 08.5 -0.2
baz=31,slow=1.9
NOA NORSAR Array B 131.28 345 PKP **PKPdf** 05 23 08.1 -0.6
comp=Z,18nm,0.7s,baz=32,slow=2.0,SNR=54
SIM Simferopol' 131.34 317 *d* PKIKP **PKPdf** 05 23 10.9 +1.7
SIM *i* 05 25 27.0
SIM pmax pmax
comp=Z,32nm,0.9s
SIM pmax pmax
comp=Z,340nm,9.0s
TPP Pointe-a-Pierr 131.37 90 *e* **PKPdf** 05 23 13.0 +2.9
HFS Hagfors 131.41 343 PKP **PKPdf** 05 23 08.8 0.0
comp=Z,22nm,0.8s,baz=90,slow=1.4,SNR=28
HFS SKKPbc SKKPbc 05 35 59.0 -6.6
comp=Z,2.9nm,0.9s,baz=176,slow=8.7,SNR=3.6
NC602 NORSAR Array S 131.47 345 *e*P **PKPdf** 05 23 08.8 -0.1
NC602 *e*PP **PP** 05 25 27.3 -0.2
GRGR Grenville 131.50 87 PFAKE 05 23 20.0 +10
GRGR LR LR
comp=Z,582nm,20.0s
NAO01 NORSAR Array S 131.53 345 *e*PKPdf **PKPdf** 05 23 10.2 +1.1
AKASG Malin Array Be 131.62 326 PKP **PKPdf** 05 23 09.7 +0.2
comp=Z,20nm,1.0s,baz=47,slow=2.9,SNR=55
AKASG PP **PP** 05 25 26.4 -2.7
comp=Z,11nm,1.0s,baz=48,slow=6.7,SNR=7.5
AKASG SKKPbc SKKPbc 05 35 50.2 -14
comp=Z,0.1nm,0.2s,baz=260,slow=4.0,SNR=5.2
AKBB Malin Array Si 131.62 326 *e*PKIKP **PKPdf** 05 23 09.5 0.0
AKBB Malin Array Si 131.62 326 *e*PKPdf **PKPdf** 05 23 09.5 0.0
AK01 Malin Array Si 131.63 326 *e*PKPdf **PKPdf** 05 23 09.9 +0.4
KIEV Kiev 131.63 326 *e*PKIKP **PKPdf** 05 23 08.9 -0.6
KIEV MLR MLR
comp=Z,980nm,19.0s
KIEV Kiev 131.63 326 *e*PKPdf **PKPdf** 05 23 08.9 -0.6
KIEV *e*SKPbc **SKPbc** 05 26 30.6 -1.5
KIEV LR LR
comp=Z,980nm,19.0s
AK02 Malin Array Si 131.65 326 *e*PKPdf **PKPdf** 05 23 09.8 +0.2
TBH Brigand Hill 131.77 89 *e* **PKPdf** 05 23 14.9 +4.0
ANWB Willy Bob 132.05 80 PFAKE 05 23 20.0 +8.7
ANWB LR LR
comp=Z,783nm,22.0s
SVB Belmont 132.06 86 *e* **PP** 05 25 32.9 -0.6
RABH Abou Rabah 132.09 303 *e*P **PKPdf** 05 23 09.7 -1.3
HYA Hoyanger 132.28 348 *e*PKPdf **PKPdf** 05 23 11.4 +1.0
FDF Fort de France 132.36 84 *e*PKIKP **PKPdf** 05 23 13.1 +1.1
FDF MLR MLR
comp=Z,991nm,21.0s
FDF Fort de France 132.36 84 *e*PKPdf **PKPdf** 05 23 13.1 +1.1
FDF LR LR
comp=Z,991nm,21.0s
MCLT Moule a Chique 132.42 85 *e* **PKSab** 05 26 38.5 -3.2
TOSP Speyside 132.43 88 *e* **PKPdf** 05 23 13.4 +1.4
SUW Suwalki 132.61 333 *e*PKPdf **PKPdf** 05 23 11.3 0.0
SUW *e*PKS PKSdf 05 26 40.2 -7.3
SUW Suwalki 132.61 333 *e*PKIKP **PKPdf** 05 23 11.4 +0.1
SUE Sulen 132.65 349 *e*P **PKPdf** 05 23 11.3 +0.2
SUE *e*PP **PP** 05 25 35.4 +0.4
ASF Jabal al Asfar 132.75 300 PKP **PKPdf** 05 23 12.7 +0.4
comp=Z,19nm,0.8s,baz=27,slow=1.3,SNR=25
ASF PP **PP** 05 25 39.5 +2.0
comp=Z,2.8nm,0.9s,baz=198,slow=1.7,SNR=3.6
ASF PKKP **PKKPdf** 05 33 05.2 0.0
comp=Z,1.1nm,0.6s,baz=268,slow=0.7,SNR=3.6
BDFB Brasilia 132.88 129 PKP **PKPdf** 05 23 12.9 -0.2
comp=Z,36nm,0.8s,baz=246,slow=1.7,SNR=28
KONO Kongsberg 132.89 345 *e*P **PKPdf** 05 23 10.7 -0.9
KONO *e*PP **PP** 05 25 36.1 -0.6
KONO Kongsberg 132.89 345 *e*PKIKP **PKPdf** 05 23 12.3 +0.6
KONO MLR MLR
comp=Z,871nm,20.0s
KONO Kongsberg 132.89 345 *e*PKPdf **PKPdf** 05 23 12.3 +0.6
KONO LR LR
comp=Z,871nm,20.0s
TOTH TOTAH 132.93 302 *e*P **PKPdf** 05 23 09.2 -3.5
BER Bergen 133.16 348 *e*P **PKPdf** 05 23 12.4 +0.3
BER *e*PP **PP** 05 25 37.8 -0.5
TCHB Talchebab 133.44 301 *e*P **PKPdf** 05 23 15.4 +1.8
BR131 Keskin Array S 133.51 311 *e*PKPdf **PKPdf** 05 23 13.4 -0.2
BRTR Keskin Array B 133.51 311 PKP **PKPdf** 05 23 13.6 -0.1
comp=Z,20nm,0.9s,baz=126,slow=2.9,SNR=32
BRTR PP **PP** 05 25 42.1 +0.1
comp=Z,6.3nm,0.9s,baz=78,slow=4.8,SNR=5.3
BRTR PKKP **PKKPdf** 05 33 02.4 -1.5
comp=Z,1.6nm,0.8s,baz=196,slow=4.1,SNR=5.7
BRTR SKKPbc SKKPbc 05 35 47.0 -10
comp=Z,2.8nm,1.0s,baz=215,slow=4.6,SNR=5.9
BBGH Gun Hill 133.67 86 PFAKE 05 23 30.0 +16
BBGH LR LR
comp=Z,2µm,22.0s
KIS Kishinev 133.75 322 *e*PKP **PKPdf** 05 23 13.0 -0.7
KIS Kishinev 133.75 322 *i* PP PP 05 25 40.0 -2.9
comp=Z,1µm,10.0s
KIS Kishinev 133.75 322 *i* PKS **PKSbc** 05 26 43.0 -0.7
KIS *e*SKS **SKSdf** 05 30 20.0 -2.0
KIS *e*SKKS **SKKSac** 05 32 40.0 +4.2
KIS Kishinev 133.75 322 *e*PS PS 05 36 04.0 +1.2
KIS Kishinev 133.75 322 *e*PPS PPS 05 37 40.0
KIS LRM MLR 06 28 20.0
comp=Z,1µm,22.0s
KIS Kishinev 133.75 322 *e*PKIKP **PKPdf** 05 23 13.0 -0.7
KIS *i* 05 25 40.0
KIS *e* 05 30 20.0

KIS *e*PS **PS** **05 36 04.0 +1.2**
KIS *e*PPS PPS 05 37 40.0
KIS pmax pmax
comp=Z,1μm,10.0s
BLS5 Blasjo 133.82 347 *e*P **PKPdf** **05 23 13.4 0.0**
BLS5 *e*PP **PP** **05 25 43.2 +0.7**
MMAI Mount Meron Ar 133.84 301 PKP **PKPdf** **05 23 15.2 +0.8**
comp=Z,2.8nm,0.3s,baz=74,slow=3.6,SNR=18
ANTO Ankara 134.08 311 *e*PKIKP **PKPdf** **05 23 15.7 +1.1**
ANTO MLR MLR
comp=Z,460nm,19.0s
ANTO Ankara 134.08 311 *e*PKPdf **PKPdf** **05 23 15.7 +1.1**
ANTO LR LR
comp=Z,460nm,19.0s
KMY Karmoy 134.26 348 *e*PKPdf **PKPdf** **05 23 15.0 +0.8**
KMY IAmb IAmb 05 23 17.9
comp=Z,103nm,1.1s
KMY *e*PP **PP** **05 25 46.1 +0.8**
LRW Lerwick 134.44 353 *e*P **PKPdf** **05 23 14.9 +0.4**
TLCR 134.63 320 ⇑PKIKP **PKPdf** **05 23 17.6 +2.3**
TLCR 134.63 320 ⇑*i*P **PKPdf** **05 23 17.6 +2.3**
EIL Elat 134.78 297 PKP **PKPdf** **05 23 16.9 +0.8**
comp=Z,25nm,0.8s,baz=30,slow=3.5,SNR=10
EIL PP **PP** **05 25 53.1 +2.8**
comp=Z,9.3nm,0.9s,baz=339,slow=3.0,SNR=3.7
LVV L'vov 134.86 328 *e*PKIKP **PKPdf** **05 23 15.9 +0.2**
LVV *e* 05 25 50.1
LVV *e*PPP PPP 05 28 46.1
LVV *e* 05 30 15.5
CFR Carcaliu 135.06 320 ⇓PKIKP **PKPdf** **05 23 16.3 +0.2**
CFR Carcaliu 135.06 320 ⇓*i*P **PKPdf** **05 23 16.3 +0.2**
CSS Prodhromos 135.09 305 *e*PKPdf **PKPdf** **05 23 17.4 +0.8**
CSS LR LR
comp=Z,262nm,22.0s
CSS Prodhromos 135.09 305 P **PKPdf** **05 23 16.1 -0.5**
BSD Bornholm Skovb 135.12 339 ⇑*i*P **PKPdf** **05 23 16.0 +0.1**
comp=Z,49nm,0.9s
BSD Bornholm Skovb 135.12 339 ⇑*i*PKIKP **PKPdf** **05 23 16.0 +0.1**
BSD pmax pmax
comp=Z,49nm,0.9s
BSD MLR MLR
comp=Z,1μm,19.0s
BEL Belsk 135.15 332 *e*PKPdf **PKPdf** **05 23 16.5 +0.4**
BEL *e*PP **PP** **05 25 47.8 -3.6**
BEL *e* 05 25 51.8
BEL *e* 05 25 56.8
BEL *e*PKS **PKSdf** **05 26 49.7 -2.5**
BEL Belsk 135.15 332 *e*PKIKP **PKPdf** **05 23 16.5 +0.4**
BEL *e* 05 25 56.9
MBAR Mbarara 135.18 253 PFAKE 05 23 30.0 +12
MBAR LR LR
comp=Z,794nm,22.0s
TSUM Tsumeb 135.28 221 *e*PKPdf **PKPdf** **05 23 16.6 -1.0**
TSUM LR LR
comp=Z,3μm,22.0s
TESR Tescani 135.28 322 ⇓*i*P **PKPdf** **05 23 17.1 +0.5**
HARR Harsova 135.42 320 ⇑PKIKP **PKPdf** **05 23 19.6 +2.8**
HARR Harsova 135.42 320 ⇑*i*P **PKPdf** **05 23 19.6 +2.8**
COP Copenhagen 135.49 341 *i* P **PKPdf** **05 23 16.7 +0.1**
comp=Z,21nm,0.8s
COP Copenhagen 135.49 341 *i* PKIKP **PKPdf** **05 23 16.7 +0.1**
COP pmax pmax
comp=Z,21nm,0.8s
BUR08 Bucovina Ar. S 135.50 325 *e*PKPdf **PKPdf** **05 23 17.6 +0.5**
BURAR Bucovina Array 135.51 325 ⇑PKIKP **PKPdf** **05 23 17.6 +0.5**
BURAR Bucovina Array 135.51 325 ⇑*i*P **PKPdf** **05 23 17.6 +0.5**
VRI Vrincioaia 135.57 322 ⇑PKIKP **PKPdf** **05 23 16.5 -0.7**
VRI Vrincioaia 135.57 322 ⇑*i*P **PKPdf** **05 23 16.5 -0.7**
PLOR Plostina 135.63 322 ⇑PKIKP **PKPdf** **05 23 16.6 -0.7**
PLOR Plostina 135.63 322 ⇑*i*P **PKPdf** **05 23 16.6 -0.7**
GKP Gorka Klasztor 135.66 335 *e*PKPdf **PKPdf** **05 23 17.5 +0.5**
GKP *e*PKS **PKSdf** **05 26 51.1 -1.9**
GKP Gorka Klasztor 135.66 335 *e*PKIKP **PKPdf** **05 23 17.5 +0.5**
KWP Kalwaria Pacla 135.66 328 *e*PKPdf **PKPdf** **05 23 17.4 +0.3**
KWP *e*PP **PP** **05 25 54.8 0.0**
KWP *i* PKS **PKSdf** **05 26 50.2 -3.1**
KWP Kalwaria Pacla 135.66 328 *e*PKIKP **PKPdf** **05 23 17.5 +0.3**
KWP *e* 05 25 54.8
PSN Preselentsi 135.73 318 P **PP** **05 25 56.4 +0.8**
MSAB Monastry St. A 135.77 319 ⇓*i*P **PKPdf** **05 23 19.1 +1.6**
MUD Monsted U'grnd 135.80 343 ⇑*i*P **PKPdf** **05 23 17.2 0.0**
comp=Z,104nm,1.5s
MUD Monsted U'grnd 135.80 343 ⇑*i*PKIKP **PKPdf** **05 23 17.2 0.0**
MUD pmax pmax
comp=Z,100nm,1.5s
MUD MLR MLR
comp=Z,1μm,17.0s
ISR Istrita 136.06 321 ⇑PKIKP **PKPdf** **05 23 18.6 +0.5**
ISR Istrita 136.06 321 ⇑*i*P **PKPdf** **05 23 18.6 +0.5**
MLR Muntele Rosu 136.24 322 PKhKP PKPpre 05 23 08.9
comp=Z,1.1nm,0.9s,baz=221,slow=10,SNR=4.8
MLR PKP **PKPdf** **05 23 19.0 +0.4**
comp=Z,6.6nm,1.1s,baz=33,slow=4.9,SNR=15
MLR PP **PP** **05 25 59.1 +0.3**
comp=Z,2.2nm,1.1s,baz=58,slow=5.0,SNR=3.6
MLR Muntele Rosu 136.24 322 ⇑*i*P **PKPdf** **05 23 18.1 -0.5**
ARCR ARCALIA 136.29 324 ⇓*i*P **PKPdf** **05 23 21.1 +2.7**
DOPR Dopca 136.31 322 ⇑*i*P **PKPdf** **05 23 18.9 +0.4**
KOLS Kolonicke sedl 136.32 328 *e*PKIKP **PKPdf** **05 23 20.0 +1.6**
KOLS *e* 05 25 55.3
KOLS Kolonicke sedl 136.32 328 *e*PKP **PKPdf** **05 23 20.0 +1.6**
KOLS *e*PP **PP** **05 25 55.3 -3.6**
ISP Isparta 136.43 309 *e*PKIKP **PKPdf** **05 23 17.6 -1.5**
ISP *e* 05 25 55.4
ISP MLR MLR
comp=Z,740nm,20.0s
ISP Isparta 136.43 309 *e*PKPdf **PKPdf** **05 23 17.6 -1.5**
ISP *e*PP **PP** **05 25 55.4 -5.1**
ISP LR LR
comp=Z,740nm,20.0s
ISP Isparta 136.43 309 P **PKPdf** **05 23 18.6 -0.5**
UZH Uzhgorod 136.49 327 *e*P **Pdif** **05 20 27.2 +2.9**
UZH *e* 05 25 59.0
UZH *e* 05 28 58.2
UZH *e* 05 30 19.8
UZH *e* 05 36 27.2
UZH *e* 05 44 06.0
TRPA Tarpa 136.67 327 ⇑*i*P **PKPdf** **05 23 19.6 +0.5**
TRPA Tarpa 136.67 327 ⇑*e*SKPdf **PKPdf** **05 23 18.8 -0.3**
OJC Ojcow 136.70 331 *e*PKPdf **PKPdf** **05 23 19.2 +0.1**
OJC *e*PP PP 05 25 48.6 -13
OJC *e* 05 26 00.5
OJC *e*PKS **PKSdf** **05 26 53.2 -2.0**
OJC Ojcow 136.70 331 *e*PKIKP **PKPdf** **05 23 19.2 +0.1**
OJC *e* 05 26 00.5
VOIR 136.80 322 ⇓PKHKP PKPpre 05 23 10.8
VOIR 136.80 322 ⇓*i*P PKPpre 05 23 10.8
CJR Cluj-Napoca 136.93 324 ⇓PKIKP **PKPdf** **05 23 20.2 +0.5**
CJR Cluj-Napoca 136.93 324 ⇓*i*P **PKPdf** **05 23 20.2 +0.5**
MVH1 Achvaich 136.94 354 *e*P **PKPdf** **05 23 19.3 0.0**
NIE Niedzica 136.99 329 *e*PKPdf **PKPdf** **05 23 20.6 +0.9**
NIE *e*PP **PP** **05 26 03.1 0.0**
NIE *e*PKS **PKSdf** **05 26 56.3 +0.5**
NIE Niedzica 136.99 329 *e*PKIKP **PKPdf** **05 23 20.7 +1.0**
NIE *e* 05 26 03.2
ARR Arges 137.08 322 ⇑*i*P **PKPdf** **05 23 22.3 +2.3**
HUMR Humele 137.32 321 ⇑*i*P **PKPdf** **05 23 20.0 -0.4**
JMB Yambol 137.33 317 P **PP** **05 26 04.3 -1.3**
SZH Strazhica 137.37 319 P **PP** **05 26 04.3 -1.5**
DRGR 137.38 325 ⇑PKIKP **PKPdf** **05 23 20.3 -0.3**
DRGR 137.38 325 ⇑*i*P **PKPdf** **05 23 20.3 -0.3**
MME1 Meikle Cairn 137.40 353 *e*P **PKPdf** **05 23 20.0 -0.2**
MDO Dochfour 137.43 354 *e*P **PKPdf** **05 23 20.6 +0.3**
EDRB Edirne 137.51 316 P **PKPdf** **05 23 20.5 -0.3**
KECS Kecovo 137.52 328 *e*PKIKP **PKPdf** **05 23 20.5 -0.2**
KECS *e* 05 26 03.9
KECS Kecovo 137.52 328 *e*PKP **PKPdf** **05 23 20.5 -0.2**
KECS *e*PP **PP** **05 26 03.9 -2.5**
KULA Kula-Manisa 137.56 311 P **PKPdf** **05 23 18.6 -2.6**
RUE Ruedersdorf 137.61 337 *e*PKPdf **PKPdf** **05 23 22.2 +1.5**
RUE *e*PP **PP** **05 26 07.8 +1.2**
BSEG Bad Segeberg 137.62 341 *e*PKPdf **PKPdf** **05 23 21.1 +0.5**
KPL Plockton 137.65 355 *e*P **PKPdf** **05 23 21.1 +0.5**
OKC Ostrava-Krasne 137.74 331 *e*PKPpre PKPpre 05 23 11.6
OKC *ex* x 05 23 17.1
OKC *e*PKPdf **PKPdf** **05 23 21.4 +0.4**
OKC *ex* x 05 23 30.1
OKC *ex* x 05 23 36.3
OKC *e*PP **PP** **05 26 07.5 -0.2**
OKC *e*PKS **PKSdf** **05 26 57.6 +0.6**
OKC *ex* x 05 38 25.4
OKC AMS AMS 06 28 00.0
comp=Z,700nm,18.4s
OKC Ostrava-Krasne 137.74 331 *e*PKHKP PKPpre 05 23 11.6
OKC *e* 05 23 21.4
OKC *e* 05 23 30.1
OKC *e* 05 26 07.5
OKC *e* 05 38 25.4
OKC MLR MLR
comp=Z,700nm,18.4s
KSP Ksiaz 137.84 334 *e*PKPdf **PKPdf** **05 23 21.8 +0.6**
KSP *e*PP **PP** **05 26 09.7 +1.5**
KSP *e*PKS **PKSdf** **05 26 56.6 -0.6**
KSP Ksiaz 137.84 334 *e*PKIKP **PKPdf** **05 23 21.8 +0.6**
KSP *e* 05 26 09.7
MORC Moravsky Berou 138.06 332 ⇑PKHKP PKPpre 05 23 11.1
MORC Moravsky Berou 138.06 332 ⇑*i*P PKPpre 05 23 11.1
MORC Moravsky Berou 138.06 332 *e*PKPdf **PKPdf** **05 23 22.8 +1.1**
PSZ Piszkesteto 138.18 328 *e*PKIKP **PKPdf** **05 23 22.9 +0.9**
PSZ *e* 05 26 06.7
PSZ MLR MLR
comp=Z,1μm,19.0s
PSZ Piszkesteto 138.18 328 ⇑*i*P **PKPdf** **05 23 22.3 +0.3**
PSZ Piszkesteto 138.18 328 *e*PKPdf **PKPdf** **05 23 22.9 +0.9**
PSZ *e*PP **PP** **05 26 06.7 -3.9**
PSZ LR LR
comp=Z,1μm,19.0s
PSZ Piszkesteto 138.18 328 ⇑*e*SKPdf **PKPdf** **05 23 22.0 0.0**
KRLC Kraliky 138.19 333 *e*PKPpre PKPpre 05 23 13.5
KRLC *e*PKPdf **PKPdf** **05 23 22.8 +0.9**
KRLC Kraliky 138.19 333 *e*PKHKP PKPpre 05 23 13.5
KRLC *e* 05 23 22.8
DPC Dobruska-Polom 138.19 333 *e*PKPpre PKPpre 05 23 12.7
DPC *ex* x 05 23 17.1
DPC *e*PKPdf **PKiKP** **05 23 23.3 -0.7**
DPC *ep*PKP pPKPdf 05 23 29.7 -4.5
DPC *e*PP **PP** **05 26 05.4 -5.1**
DPC *e*PKS **PKSdf** **05 26 58.5 +0.6**
DPC *ex* x 05 29 10.8
DPC *ex* x 05 38 22.1
DPC AMS AMS 06 29 40.0
comp=Z,800nm,17.5s
DPC Dobruska-Polom 138.19 333 *e*PKHKP PKPpre 05 23 12.7
DPC *e* 05 23 23.3
DPC *e* 05 23 29.7
DPC *e* 05 29 10.8
DPC *e* 05 38 22.1
DPC MLR MLR
comp=Z,800nm,17.5s
UPC Upice 138.21 333 *e*PKPpre PKPpre 05 23 13.8
UPC *ex* x 05 23 17.4
UPC *e*PKPdf **PKPdf** **05 23 22.8 +0.9**
UPC *ex* x 05 23 29.7
UPC *e*PP **PP** **05 26 07.6 -2.9**
UPC *e*PKS **PKSdf** **05 26 58.0 +0.1**
UPC *ex* x 05 38 28.5
UPC AMS AMS 06 32 30.0
comp=Z,900nm,19.1s
UPC Upice 138.21 333 *e*PKHKP PKPpre 05 23 13.8
UPC *e* 05 23 22.8
UPC *e* 05 23 29.7
UPC *e* 05 26 07.6
UPC *e* 05 38 28.5
UPC MLR MLR
comp=Z,900nm,19.1s
SIRR Siria 138.28 325 ⇑*i*P **PKPdf** **05 23 22.3 +0.1**
VYHS Vyhne 138.33 329 *e*PKIKP **PKPdf** **05 23 20.8 -1.4**
VYHS *e* 05 26 09.7
VYHS Vyhne 138.33 329 *e*PKP **PKPdf** **05 23 20.8 -1.4**
VYHS *e*PP **PP** **05 26 09.6 -1.8**
ALN Alexandroupoli 138.41 316 *e*P **PKPdf** **05 23 21.8 -0.7**
BZS Buzias 138.69 324 ⇑PKIKP **PKPdf** **05 23 22.9 0.0**
BZS Buzias 138.69 324 ⇑*i*P **PKPdf** **05 23 22.9 0.0**
MPEP Malo Peshtene 138.70 320 P **PP** **05 26 11.5 -2.5**
ESY Stoneypath 138.72 352 *e*P **PKPdf** **05 23 22.1 -0.5**
PLD Plovdiv 138.73 318 P **PP** **05 26 13.0 -1.3**
ARG Arkhangelos 138.78 308 *e*P **PKPdf** **05 23 24.9 +1.6**
BRG Berggiesshubel 138.80 335 *e*PKP PKPpre 05 23 14.6
comp=Z,12nm,1.1s
BRG *i* 05 23 24.0
comp=Z,67nm,1.2s
BRG PP **PP** **05 26 10.0 -4.1**
BRG Berggiesshubel 138.80 335 *e*PKPdf **PKPdf** **05 23 23.6 +0.7**
BRG Berggiesshubel 138.80 335 *e*PKHKP PKPpre 05 23 14.6
BRG *i* 05 23 24.0
BRG pmax pmax
comp=Z,12nm,1.1s
BRG pmax pmax
comp=Z,67nm,1.2s
BRG MLR MLR
comp=N,490nm,17.9s
BRG MLR MLR
comp=E,658nm,19.0s
BRG MLR MLR
comp=Z,1μm,16.4s
PVCC Panska Ves 138.81 335 *e*PKPpre PKPpre 05 23 16.8
PVCC *e*PKPdf **PKiKP** **05 23 24.6 -0.5**
PVCC *ep*PKP pPKPdf 05 23 30.4 -4.8
PVCC *e*PP **PP** **05 26 09.5 -4.7**
PVCC *e*PKS **PKSdf** **05 26 58.8 -0.1**
PVCC AMS AMS 06 30 10.0
comp=Z,1μm,19.5s
PVCC Panska Ves 138.81 335 *e*PKHKP PKPpre 05 23 16.8
PVCC *e* 05 23 24.6
PVCC *e* 05 23 30.4
PVCC MLR MLR
comp=Z,1μm,19.5s
VRAC Vranov 138.83 332 PKhKP PKPpre 05 23 15.9
comp=Z,4.8nm,0.7s,baz=31,slow=4.1,SNR=9.1
VRAC PKP **PKPdf** **05 23 23.0 -0.1**
comp=Z,6.9nm,0.7s,baz=24,slow=1.6,SNR=15
VRAC PP **PP** **05 26 16.3 +1.9**
comp=Z,13nm,1.1s,baz=46,slow=5.3,SNR=12
VRAC Vranov 138.83 332 ⇓*i*P PKPpre 05 23 15.6
CLL Collm 138.83 336 *e*PKPdf **PKPdf** **05 23 23.4 +0.5**
CLL Collm 138.83 336 ⇓*e*PKHKP PKPpre 05 23 14.0
CLL *i* 05 23 23.5
CLL *i* 05 23 25.9
CLL *i* 05 23 33.4
CLL pmax pmax
comp=Z,12nm,0.8s
CLL pmax pmax
comp=Z,52nm,1.2s
CLL pmax pmax
comp=Z,57nm,1.0s
CLL MLR MLR
comp=Z,900nm,20.0s
CLL Collm 138.83 336 *e*PKPpre PKPpre 05 23 14.0
comp=Z,12nm,0.8s
CLL *e* 05 23 18.0
CLL ⇑*i*PKPdf **PKPdf** **05 23 23.5 +0.5**
comp=Z,52nm,1.2s
CLL ⇓*i*PKiKP **PKiKP** **05 23 25.9 +0.8**
comp=Z,57nm,1.0s
CLL *i* 05 23 33.4
CLL *i* 05 23 38.4
CLL *e*PPk 05 26 07.0
CLL *e*PP **PP** **05 26 14.0 -0.2**
comp=Z,500nm,15.8s
CLL *i* PKSbc **PKSbc** **05 26 59.2 +0.3**
CLL *e*PPP PPP 05 29 13.0
CLL *e*PPS PPS 05 38 30.0
CLL *e*SS SS 05 44 36.0 +10
CLL *e*(PSPS) 05 45 30.0
CLL *e*(SSS) 05 49 18.0
CLL *e*(SSSS) 05 53 06.0
CLL Lm MLR 06 32 00.0
comp=N,600nm,19.1s
CLL Lm MLR 06 32 00.0
comp=E,400nm,19.8s
CLL Lm MLR 06 32 00.0
comp=Z,900nm,20.0s
PGB Panagyurishte 138.85 319 P **PP** **05 26 15.1 0.0**
BUD Budapest 138.91 328 ⇑*e*SKPdf **PKPdf** **05 23 23.4 +0.2**
RZN Rozhen 138.92 317 P **PP** **05 26 13.3 -2.5**
SMTH Samothraki Isl 138.95 315 *e*P PKPpre 05 23 14.5
SMTH Samothraki Isl 138.95 315 P **PKPdf** **05 23 22.7 -0.9**
PRK Paraskevi 138.98 313 *e*P **PKPdf** **05 23 23.8 +0.2**
PRK Paraskevi 138.98 313 P **PKPdf** **05 23 22.7 -0.9**
GOPC GO Pecny, Ondr 139.18 334 *e*PKPpre PKPpre 05 23 16.2
GOPC *e*PKPdf **PKPdf** **05 23 24.7 +1.0**
GOPC *ex* x 05 23 32.3
GOPC *e*PP PP 05 26 11.3 -5.2
GOPC *e*PKS **PKSdf** **05 27 00.7 +1.1**
GOPC AMS AMS 06 28 20.0
comp=Z,800nm,18.3s
SMG Samos 139.19 311 *e*P PKPpre 05 23 19.6
SMG Samos 139.19 311 P **PKPdf** **05 23 23.3 -0.8**
PRA Prague 139.21 334 *e*PKPpre PKPpre 05 23 17.2
PRA *e*PKPdf **PKPdf** **05 23 24.6 +0.9**
PRA *ex* x 05 23 32.8
PRA *e*PP PP 05 26 10.5 -6.2
PRA *e*PKS **PKSdf** **05 26 59.7 +0.1**
PRA AMS AMS 06 29 00.0
comp=Z,1μm,17.1s
PRA Prague 139.21 334 *e*PKHKP PKPpre 05 23 17.2
PRA *e* 05 23 24.6
PRA *e* 05 23 32.8
PRA MLR MLR
comp=Z,1μm,17.1s
PRU Pruhonice 139.23 334 *e*PKPpre PKPpre 05 23 16.7
PRU *e*PKPdf **PKPdf** **05 23 24.1 +0.4**
PRU *ex* x 05 23 31.9
PRU *e*PP PP 05 26 11.6 -5.2
PRU *e*PKS **PKSdf** **05 27 00.4 +0.8**
PRU AMS AMS 06 29 00.0
comp=Z,1μm,17.9s
PRU Pruhonice 139.23 334 *e*PKHKP PKPpre 05 23 16.7
PRU *e* 05 23 24.1
PRU *e* 05 23 31.9
PRU MLR MLR
comp=Z,1μm,17.9s
SIGR SIGRI 139.28 313 *e*P PKPpre 05 23 15.7
SIGR SIGRI 139.28 313 P **PKPdf** **05 23 22.4 -1.8**
TREC Trest 139.34 333 *e*PKPpre PKPpre 05 23 17.4
TREC *e*PKPdf **PKPdf** **05 23 25.1 +1.1**
TREC *ex* x 05 23 32.8
TREC *e*PP PP 05 26 11.3 -6.2
TREC *e*PKS **PKSdf** **05 27 01.2 +1.3**
TREC *ex* x 05 38 31.8
TREC AMS AMS 06 28 30.0
comp=Z,600nm,16.0s
TREC Trest 139.34 333 *e*PKHKP PKPpre 05 23 17.4
TREC *e* 05 23 25.1
TREC *e* 05 23 32.8
TREC *e* 05 38 31.8
TREC MLR MLR
comp=Z,600nm,16.0s
TREC smax smax
comp=N,6.0nm,0.2s
CLZ Clausthal 139.36 339 *e*PKPdf **PKPdf** **05 23 24.7 +0.7**
CLZ *e*PP **PP** **05 26 18.6 +1.1**
EKA Eskdalemuir Ar 139.37 352 PKhKP PKPpre 05 23 16.6
comp=N,5.0nm,0.8s,baz=20,slow=2.7,SNR=7.0
EKA PKP **PKPdf** **05 23 23.5 -0.3**
comp=N,20nm,0.9s,baz=5.9,slow=1.8,SNR=8.8
ESK Eskdalemuir 139.39 352 *e*PKIKP **PKPdf** **05 23 23.2 -0.7**
ESK MLR MLR
comp=Z,703nm,20.0s
ESK Eskdalemuir 139.39 352 *e*PKPdf **PKPdf** **05 23 23.2 -0.7**
ESK LR LR
comp=Z,703nm,20.0s
KAVA Kavala 139.39 317 *e*P PKPpre 05 23 16.3
KAVA Kavala 139.39 317 P **PKPdf** **05 23 23.0 -1.3**
VTS Vitosha 139.44 319 ⇑PKHKP PKPpre 05 23 13.1
VTS Vitosha 139.44 319 ⇑*i*P PKPpre 05 23 13.1
VTS Vitosha 139.44 319 P PKPpre 05 23 13.5
LIA Limnos Island 139.45 315 *e*P **PKPdf** **05 23 20.8 -3.6**
LIA Limnos Island 139.45 315 P **PKPdf** **05 23 23.0 -1.4**
CHOS Chios island 139.49 312 *e*P **PKPdf** **05 23 25.3 +0.6**
CHOS Chios island 139.49 312 P **PKPdf** **05 23 24.3 -0.4**
MMB Musomiste 139.62 318 P **PP** **05 26 17.1 -2.7**
NVR Nevrokopi 139.65 317 *e*P PKPpre 05 23 16.8
NVR Nevrokopi 139.65 317 P PKPpre 05 23 12.6
LCP Cassop 139.71 351 *e*P **PKPdf** **05 23 24.7 +0.3**
KARP Karpathos 139.74 308 *e*P **PKPdf** **05 23 23.4 -1.8**
TANN Tannenbergstha 139.75 336 *e*PKPdf **PKPdf** **05 23 25.3 +0.5**
TANN *e*PP **PP** **05 26 20.5 +0.5**
IBBN Ibbenburen 139.82 341 *e*PKPdf **PKPdf** **05 23 25.4 +0.7**
MOX Moxa 139.89 337 *e*PKPdf **PKPdf** **05 23 25.6 +0.6**
MOX *e*L L 06 35 32.8
comp=E,543nm,20.6s
KKB Krupnik 139.89 319 P **PP** **05 26 20.5 -1.0**
NKC Novy Kostel 139.90 336 *e*PKPpre PKPpre 05 23 17.6
NKC *e*PKPdf **PKPdf** **05 23 26.2 +1.2**
NKC *ex* x 05 23 35.6
NKC *ex* x 05 23 38.2
NKC *e*PP **PP** **05 26 21.3 +0.4**
NKC *e*PKS **PKSdf** **05 27 01.1 +0.2**
NKC AMS AMS 06 31 40.0
comp=E,900nm,17.1s
NKC Novy Kostel 139.90 336 *e*PKHKP PKPpre 05 23 17.6
NKC *e* 05 23 26.2
NKC *e* 05 23 35.6
NKC *e* 05 26 21.3
NKC MLR MLR
comp=Z,900nm,17.1s
SRS Serrai 139.94 317 *e*P PKPpre 05 23 17.1
SRS Serrai 139.94 317 P **PKPdf** **05 23 23.3 -2.0**
PKSM Moragy 139.94 327 ⇓*e*PKPPKPdf PKPpre 05 23 16.7
SOP Sopron 140.00 330 ⇑*e*PKPPKPdf **PKPdf** **05 23 25.4 +0.2**
GAL1 Galloway 140.00 354 *e*P **PKPdf** **05 23 23.7 -1.3**
OUR Ouranopolis 140.06 316 *e*P PKPpre 05 23 17.6
OUR Ouranopolis 140.06 316 P **PKPdf** **05 23 24.3 -1.2**
KESW Keswick, Cumbr 140.09 352 *e*P **PKPdf** **05 23 25.1 -0.1**
CONA Conrad Observa 140.16 331 *i* PKPdf PKPpre 05 23 20.1
comp=Z,115nm,1.7s,SNR=13
KHC Kasperske Hory 140.29 334 *e*PKPpre PKPpre 05 23 20.0
KHC PKPdf **PKPdf** **05 23 27.0 +1.2**
KHC Kasperske Hory 140.29 334 *e*PKHKP PKPpre 05 23 20.0
KHC *e* 05 23 27.0
UBBA Unterbreizbach 140.34 338 *e*PKPdf **PKPdf** **05 23 26.2 +0.6**
ROTZ Rotzenmuhle 140.36 336 *e*PKPdf **PKPdf** **05 23 26.6 +0.8**
ROTZ *e*PP **PP** **05 26 24.4 +0.7**
KNT Kendrikon 140.37 318 *e*P PKPpre 05 23 19.0
KNT Kendrikon 140.37 318 P **PKPdf** **05 23 25.2 -0.9**
PLG Polygyros 140.40 316 *e*P PKPpre 05 23 18.2
WTSB Winterswijk 140.41 342 *e*PKP **PKPdf** **05 23 25.7 -0.1**
comp=Z,164nm,1.3s
GEC2 GERESS Array S 140.45 334 *e*PKPdf **PKPdf** **05 23 26.6 +0.4**
GEC2 *e*PP **PP** **05 26 24.2 -0.3**
GERES GERESS Array B 140.45 334 PKhKP PKPpre 05 23 18.3
comp=Z,12nm,0.7s,baz=35,slow=3.6,SNR=24
GERES PP **PP** **05 26 26.7 +2.3**
comp=Z,3.7nm,1.0s,baz=31,slow=3.1,SNR=4.3
PAIG Paliouri 140.46 316 *e*P PKPpre 05 23 17.5
PAIG Paliouri 140.46 316 P **PKPdf** **05 23 25.2 -1.1**
HORT Hortiatis 140.52 317 *e*P PKPpre 05 23 18.8
HORT Hortiatis 140.52 317 P **PKPdf** **05 23 25.5 -1.0**
DIVS Divibare 140.52 323 ⇑*i*P PKPpre 05 23 19.4
DIVS Divibare 140.52 323 P PKPpre 05 23 20.8
WET Wettzell 140.57 334 *e*PKPdf **PKPdf** **05 23 27.0 +0.7**
WET *e*PP **PP** **05 26 25.3 +0.2**
AOS Alonnisos 140.68 314 *e*P **PKPdf** **05 23 25.7 -1.0**
AOS Alonnisos 140.68 314 P **PKPdf** **05 23 24.9 -1.8**
BUG Bochum--Univer 140.72 341 *e*PKPdf **PKPdf** **05 23 26.9 +0.5**
BEHE Becsehely 140.74 329 ⇓*e*PKPPKPdf PKPpre 05 23 20.0
GRG Griva 140.80 318 *e*P PKPpre 05 23 19.9
ARSA Arzberg 140.80 330 *i* PKPdf PKPpre 05 23 21.6
comp=Z,40nm,1.6s,SNR=10
GRF Grafenberg Arr 140.81 336 *e*PKPdf **PKPdf** **05 23 27.2 +0.5**
GRF *e*PP **PP** **05 26 27.6 +1.2**
GRF *e*L L 06 28 49.9
comp=Z,677nm,20.5s
GRFO Grafenberg 140.81 336 *e*PKIKP **PKPdf** **05 23 27.6 +1.0**
GRFO Grafenberg 140.81 336 *e*PKPdf **PKPdf** **05 23 27.6 +1.0**
LHO Holmfirth 140.92 351 *e*P PKPpre 05 23 22.3
MOA Molln 140.95 332 *i* PKPdf PKPpre 05 23 22.1
comp=Z,36nm,0.9s,SNR=12
EREA Eretria 140.98 313 *e*P PKPpre 05 23 21.6
EREA Eretria 140.98 313 P **PKPdf** **05 23 26.5 -0.8**
KOGS Kog 141.01 329 *e*PKPdf PKPpre 05 23 19.2
KOGS *e* 05 23 27.0
KOGS *e*PP **PP** **05 26 26.6 -1.3**
XOR Xorichti 141.06 315 *e*P PKPpre 05 23 19.7
XOR Xorichti 141.06 315 P PKPpre 05 23 18.9
NEO Neokhori 141.06 315 *e*P **PKPdf** **05 23 25.9 -1.6**
NEO Neokhori 141.06 315 P **PKPdf** **05 23 26.5 -1.0**
LIT Litokhoron 141.17 316 *e*P PKPpre 05 23 20.6
LIT Litokhoron 141.17 316 P PKPpre 05 23 19.5
ATHU Athens Univers 141.29 313 P **PKPdf** **05 23 26.5 -1.4**
TNS Taunus Mts 141.38 339 *e*PKPdf **PKPdf** **05 23 28.4 +0.7**
WME Myndd Eilian 141.40 353 *e*P **PKPdf** **05 23 25.0 -2.6**
PERS Pernice 141.44 330 *e*PKPdf PKPpre 05 23 21.7
SOKA Soboth 141.45 330 *i* PKPdf PKPpre 05 23 22.2
comp=Z,56nm,1.1s,SNR=26
WPM1 Penmaenmawr 141.49 352 *e*P PKPpre 05 23 22.6

ATAL	Atalanti	141.49	314	P		PKPpre	05 23 21.1	
WLF1	Llynfaes	141.52	353	*e*P		PKPpre	05 23 23.4	
LKR	Lokris	141.53	314	*e*P		PKPpre	05 23 23.0	
LKR	Lokris	141.53	314	P		**PKPdf**	**05 23 26.8**	**-1.5**
VILL	Villia	141.53	313	P		**PKPdf**	**05 23 27.1**	**-1.3**
VIL2	Platees	141.54	313	*e*P		**PKPdf**	**05 23 24.5**	**-3.8**
KZN	Kozani	141.54	317	*e*P		**PKPdf**	**05 23 28.0**	**-0.4**
KZN	Kozani	141.54	317	P		**PKPdf**	**05 23 27.1**	**-1.3**
FNA	Florina	141.55	318	*e*P		PKPpre	05 23 22.5	
FNA	Florina	141.55	318	P		PKPpre	05 23 20.2	
IDI	Anoyia	141.57	308	PKP		**PKPdf**	**05 23 27.7**	**-0.9**
	comp=Z,60nm,1.0s,baz=27,slow=3.2,SNR=11							
IDI	Anoyia	141.57	309	*e*PKPdf		**PKPdf**	**05 23 28.6**	**+0.1**
IDI	Anoyia	141.57	308	P		PKPpre	05 23 19.8	
YRC	Rhoscolyn	141.58	353	*e*P		**PKPdf**	**05 23 24.1**	**-3.7**
RJOB	Jochberg	141.69	333	*e*PKPdf		**PKPdf**	**05 23 29.0**	**+0.6**
RJOB				*e*PP		**PP**	**05 26 33.1**	**+1.1**
AXAR	Agios Charalam	141.71	315	*e*P		PKPpre	05 23 22.6	
HGN	Heimansgroeve	141.72	342	*e*PKP		PKPpre	05 23 21.9	
	comp=Z,166nm,1.6s							
HGN				*e*PP		**PP**	**05 26 27.8**	**-4.0**
HGN				*e*PPP		PPP	05 29 49.1	
HGN				*e*SKSP			05 38 31.0	
FOEL	Foel Wylfa	141.76	352	*e*P		PKPpre	05 23 22.0	
THL	Klokotos Trika	141.76	316	*e*P		PKPpre	05 23 22.2	
THL	Klokotos Trika	141.76	316	P		PKPpre	05 23 21.1	
DSB	Dublin	141.77	355	*e*PKPdf		**PKPdf**	**05 23 28.7**	**+0.5**
BEBN	Eben Emael	141.77	342	PKhKP		PKPpre	05 23 26.2	
OBKA	Obir	141.80	330	*i* PKPdf		PKPpre	05 23 23.1	
	comp=Z,45nm,1.7s,SNR=12							
AGG	Agios Georgios	141.81	315	*e*P		PKPpre	05 23 25.8	
AGG	Agios Georgios	141.81	315	P		PKPpre	05 23 21.7	
LEGS	Legarje	141.82	329	*e*PKPdf		PKPpre	05 23 23.8	
LTK	Loutraki	141.84	313	*e*P		PKPpre	05 23 24.1	
LTK	Loutraki	141.84	313	P		PKPpre	05 23 25.8	
MEM	Membach	141.84	342	PKhKP		PKPpre	05 23 23.6	
DID	Didima	141.88	312	*e*P		PKPpre	05 23 23.1	
DID	Didima	141.88	312	P		**PKPdf**	**05 23 27.1**	**-1.9**
DIDY	Didyma	141.91	312	*e*P		PKPpre	05 23 23.1	
DIDY	Didyma	141.91	312	P		**PKPdf**	**05 23 27.1**	**-2.0**
KBA	Koelnbreinsper	141.94	332	*i* PKPdf		PKPpre	05 23 23.6	
	comp=Z,85nm,1.1s,SNR=41							
MAKR	Makrakomi, Fth	141.95	315	*e*P		PKPpre	05 23 23.6	
MAKR	Makrakomi, Fth	141.95	315	P		**PKPdf**	**05 23 28.7**	**-0.4**
NEST	Nestorio	141.96	318	*e*P		PKPpre	05 23 23.6	
NEST	Nestorio	141.96	318	P		**PKPdf**	**05 23 28.4**	**-0.7**
DSF	Desfina	141.97	314	*e*P		**PKPdf**	**05 23 25.8**	**-3.3**
DSF	Desfina	141.97	314	P		**PKPdf**	**05 23 27.1**	**-2.0**
KRND	KRANIDI	142.00	312	*e*P		PKPpre	05 23 22.6	
KRND	KRANIDI	142.00	312	P		PKPpre	05 23 21.7	
FUR	Furstenfeldbru	142.00	335	*e*PP		PP	05 26 34.9	+1.1
VAM	Vamos	142.04	309	*e*P		PKPpre	05 23 25.0	
MYKA	Terra Mystica	142.14	331	*i* PKPdf		PKPpre	05 23 24.2	
	comp=Z,88nm,1.7s,SNR=21							
LJU	Ljubljana	142.15	330	*e*PKPdf		PKPpre	05 23 24.5	
BOJS	Bojanci	142.17	329	*e*PKPdf		PKPpre	05 23 23.8	
MEV	Metsovon	142.17	317	*e*P		PKPpre	05 23 25.4	
TIR	Tirane	142.20	320	*e*PKIKP		**PKPdf**	**05 23 30.5**	**+1.1**
TIR				*e*			05 26 36.4	
TIR				MLR		MLR		
	comp=Z,1μm,21.0s							
TIR	Tirane	142.20	320	*e*PKPdf		**PKPdf**	**05 23 30.5**	**+1.1**
TIR				*e*PP		**PP**	**05 26 36.4**	**+0.9**
TIR				LR		LR		
	comp=Z,1μm,21.0s							
EVR	Evrytania	142.22	315	*e*P		PKPpre	05 23 25.6	
EVR	Evrytania	142.22	315	P		PKPpre	05 23 23.3	
KALE	Kalithea	142.24	314	*e*P		PKPpre	05 23 25.4	
KALE	Kalithea	142.24	314	P		PKPpre	05 23 22.7	
TRIZ	Trizonia	142.30	314	*e*P		PKPpre	05 23 25.8	
TRIZ	Trizonia	142.30	314	P		PKPpre	05 23 23.9	
GUR	Goura	142.32	314	P		PKPpre	05 23 22.7	
STU	Stuttgart	142.33	337	*e*PKPdf		**PKPdf**	**05 23 30.3**	**+0.9**
STU	Stuttgart	142.33	337	*e*PKIKP		PKPpre	05 23 26.0	
STU	Stuttgart	142.33	337	*e*PKPdf		PKPpre	05 23 26.0	
GVD	Gavdhos	142.34	308	P		PKPpre	05 23 22.7	
EFP	Efpalio	142.39	314	P		PKPpre	05 23 25.5	
KLV	Kalavryta, Ach	142.40	314	*e*P		PKPpre	05 23 25.0	
KLV	Kalavryta, Ach	142.40	314	P		PKPpre	05 23 23.0	
LAKA	Lakka	142.43	314	*e*P		PKPpre	05 23 24.7	
LAKA	Lakka	142.43	314	P		PKPpre	05 23 26.8	
SNF	Seneffe	142.43	343	PKhKP		PKPpre	05 23 26.0	
VLI	Veliai	142.44	311	*e*P		PKPpre	05 23 26.4	
VLI	Veliai	142.44	311	P		PKPpre	05 23 23.3	
JAN	Janina	142.49	317	*e*P		PKPpre	05 23 25.9	
JAN	Janina	142.49	317	P		**PKPdf**	**05 23 29.6**	**-0.4**
WATA	Walderalm	142.53	334	*i* PKPdf		PKPpre	05 23 25.7	
	comp=Z,73nm,1.1s,SNR=9.6							
VLX	Vlachokerasia	142.55	313	*e*P		PKPpre	05 23 25.4	
VLX	Vlachokerasia	142.55	313	P		PKPpre	05 23 25.8	
WTTA	Wattenberg	142.56	334	*i* PKPdf		PKPpre	05 23 25.5	
	comp=Z,137nm,1.1s,SNR=41							
ABTA	Abfaltersbach	142.57	332	*i* PKPdf		PKPpre	05 23 25.4	
	comp=Z,179nm,1.2s,SNR=77							
UDBI	Udbina	142.58	327	P		PKPpre	05 23 26.0	
DSL	Palaion Diasel	142.59	316	*e*P		PKPpre	05 23 25.5	
DSL	Palaion Diasel	142.59	316	P		PKPpre	05 23 23.9	
STON	Ston	142.59	323	P		PKPpre	05 23 24.2	
MCH1	Michaelchurch	142.59	351	*e*P		PKPpre	05 23 25.2	
WLF	Walferdange	142.62	341	PKhKP		PKPpre	05 23 27.6	
WLF	Walferdange	142.62	341	*e*PKPdf		**PKPdf**	**05 23 31.2**	**+1.3**
WLF	Walferdange	142.62	341	*e*PKIKP		**PKPdf**	**05 23 27.5**	**-2.4**
WLF				MLR		MLR		
	comp=Z,1μm,21.0s							
WLF	Walferdange	142.62	341	*e*PKPdf		**PKPdf**	**05 23 27.5**	**-2.4**
WLF				LR		LR		
	comp=Z,1μm,21.0s							
STRD	Stroud	142.68	350	*e*P		PKPpre	05 23 25.3	
DOU	Dourbes	142.71	343	PKhKP		PKPpre	05 23 26.5	
MONM	Monmouth	142.72	351	*e*P		PKPpre	05 23 25.7	
MOTA	Moosalm	142.72	334	*i* PKPdf		PKPpre	05 23 26.8	
	comp=Z,138nm,0.9s,SNR=65							
DRO	Drossia	142.75	314	*e*P		PKPpre	05 23 26.7	
DRO	Drossia	142.75	314	P		PKPpre	05 23 26.8	
RETA	Reute	142.75	335	*i* PKPdf		PKPpre	05 23 27.2	
	comp=Z,83nm,1.2s,SNR=31							
TRI	Trieste	142.76	330	*e*PKIKP		PKPpre	05 23 27.2	
TRI				*e*			05 26 38.7	
TRI	Trieste	142.76	330	*e*PKPdf		PKPpre	05 23 27.2	
TRI				*e*PP		**PP**	**05 26 38.7**	**+0.3**
PDO	Prodromos	142.80	315	*e*P		**PKPdf**	**05 23 26.9**	**-3.6**
PDO	Prodromos	142.80	315	P		PKPpre	05 23 24.9	
RLS	Riolos of Patr	142.87	314	*e*P		PKPpre	05 23 27.3	
RLS	Riolos of Patr	142.87	314	P		PKPpre	05 23 26.1	
SWN1	Swindon	142.87	350	*e*P		PKPpre	05 23 24.7	
IGT	Igoumenitsa	142.89	317	*e*P		PKPpre	05 23 26.5	
IGT	Igoumenitsa	142.89	317	P		PKPpre	05 23 25.5	
SGD	Sagiada	142.91	317	*e*P		PKPpre	05 23 27.2	
SGD	Sagiada	142.91	317	P		PKPpre	05 23 25.5	
SRN	Sarande	142.92	318	P		PKPpre	05 23 25.5	
ITM	Ithomi	142.96	313	*e*P		PKPpre	05 23 26.8	
ITM	Ithomi	142.96	313	P		PKPpre	05 23 26.1	
WOL	Wolverton	142.96	349	*e*P		PKPpre	05 23 26.2	
BFO	Black Forest	143.02	338	*e*PKPdf		**PKPdf**	**05 23 31.7**	**+1.0**
BFO	Black Forest	143.02	338	*e*PKIKP		PKPbc	05 23 28.3	+0.8
BFO				MLR		MLR		
	comp=Z,619nm,20.0s							
BFO	Black Forest	143.02	338	*e*PKPdf		PKPbc	05 23 28.3	+0.8
BFO				LR		LR		
	comp=Z,619nm,20.0s							
NVLJ	Novalja	143.02	328	P		PKPab	05 23 26.4	+0.4
FETA	Feichten	143.13	334	*i* PKPdf		PKPbc	05 23 28.7	+0.7
	comp=Z,196nm,1.0s,SNR=119							
PYL	PYLOS	143.22	312	*e*P		PKPab	05 23 27.4	+0.3
PYL	PYLOS	143.22	312	P		PKPab	05 23 25.8	-1.3
EXG	Exogi	143.24	315	*e*P		PKPbc	05 23 28.0	-0.4
DAVA	Damuels	143.27	335	*i* PKPdf		PKPbc	05 23 28.6	+0.2
	comp=Z,125nm,0.9s,SNR=43							
VAL	Valentia	143.29	358	*e*P		PKPab	05 23 25.4	-1.4
KFL	Anninata	143.31	315	*e*P		PKPab	05 23 27.5	+0.1
VLS	Valsamata	143.41	315	*e*P		PKPbc	05 23 28.6	-0.3
VLS	Valsamata	143.41	315	P		PKPab	05 23 26.8	-1.0
ZKS	Zakynthos	143.51	314	P		PKPab	05 23 27.4	-0.8
ECH	Echery	143.53	339	*e*PKIKP		PKPbc	05 23 29.6	+0.7
ECH				MLR		MLR		
	comp=Z,721nm,19.0s							
ECH	Echery	143.53	339	*e*PKPdf		PKPbc	05 23 29.6	+0.7
ECH				LR		LR		
	comp=Z,721nm,19.0s							
DAVOX	Davos/Dischmat	143.68	335	PKP		PKPbc	05 23 30.7	+1.1
	comp=Z,148nm,0.8s,baz=39,slow=2.7,SNR=141							
DAVOX	Davos/Dischmat	143.68	335	PKIKP		PKPbc	05 23 30.7	+1.1
DAVOX				pmax		pmax		
	comp=Z,149nm,0.8s							
HTL	Hartland	143.78	352	*e*P		PKPab	05 23 27.1	-1.6
TUE	Stuetta	144.14	335	*e*PKPdf		**PKPdf**	**05 23 32.2**	**-0.8**
TUE				LR		LR		
	comp=Z,871nm,19.0s							
DYA	Yadsworthy	144.25	351	*e*P		**PKPab**	**05 23 29.9**	**-0.7**
JQE	Queens East	145.14	349	*e*P		**PKPdf**	**05 23 34.4**	**+0.1**
JSA	Saint Aubin	145.17	349	*e*P		**PKPbc**	**05 23 33.5**	**-0.4**
AQU	L'Aquila	145.32	326	*e*PKIKP		**PKPbc**	**05 23 34.6**	**-0.1**
AQU				MLR		MLR		
	comp=Z,942nm,21.0s							
AQU	L'Aquila	145.32	326	*e*PKPbc		**PKPbc**	**05 23 34.6**	**-0.1**
AQU				LR		LR		
	comp=Z,942nm,21.0s							
TIP	Timpagrande	145.39	319	*e*PKPbc		**PKPbc**	**05 23 34.8**	**-0.3**
TIP				LR		LR		
	comp=Z,738nm,22.0s							
TIP	Timpagrande	145.39	319	P		**PKPbc**	**05 23 34.4**	**-0.7**
CUC	Castrocucco	145.49	321	*e*PKPbc		**PKPdf**	**05 23 34.0**	**-1.3**
CUC				LR		LR		
	comp=Z,514nm,20.0s							
VLC	Villacollemand	145.51	331	*e*PKPbc		**PKPdf**	**05 23 34.1**	**-1.0**
VLC				*e*PP		**PP**	**05 26 55.5**	**+0.6**
VLC				LR		LR		
	comp=Z,618nm,20.0s							
SSB	Saint Sauveur	146.98	339	*e*PKIKP		**PKPdf**	**05 23 37.7**	**+0.1**
SSB				*e*			05 23 41.6	
SSB				MLR		MLR		
	comp=Z,671nm,20.0s							
SSB	Saint Sauveur	146.98	339	*e*PKPdf		**PKPdf**	**05 23 37.7**	**+0.1**
SSB				*e*PKPab		**PKPab**	**05 23 41.6**	**+0.5**
SSB				LR		LR		
	comp=Z,671nm,20.0s							
RCBR	Riachuelo	148.26	129	*e*PKPdf		**PKPdf**	**05 23 40.9**	**+0.2**
RCBR				LR		LR		
	comp=Z,750nm,20.0s							
CLTB	Caltabellotta	148.58	320	*e*PKPdf		**PKPdf**	**05 23 40.8**	**+0.2**
CLTB				*e*PKPbc		**PKiKP**	**05 23 45.0**	**-0.7**
CLTB				LR		LR		
	comp=Z,519nm,20.0s							
WDD	Wield Dalam	148.75	316	*e*PKPdf		**PKPdf**	**05 23 40.9**	**+0.1**
WDD				*e*PKPbc		**PKPbc**	**05 23 45.0**	**+0.4**
WDD				*e*PKPab		**PKPab**	**05 23 49.1**	**+0.7**
WDD				LR		LR		
	comp=Z,541nm,19.0s							
H07N1	FLORES T-PHASB	150.26	31	*e*PKPdf		**PKPbc**	**05 23 45.8**	**-2.4**
KEST	Kesra	152.14	321	PKP		**PKPdf**	**05 23 46.4**	**+0.2**
	comp=Z,9.0nm,1.0s,baz=0.5,slow=0.6,SNR=14							
KEST				PKPbc		**PKiKP**	**05 23 54.0**	**+0.9**
	comp=Z,49nm,0.9s,baz=332,slow=1.1,SNR=54							
KEST	Kesra	152.14	321	*e*PKPdf		**PKPdf**	**05 23 46.2**	**0.0**
KEST				*e*PKPbc		**PKiKP**	**05 23 54.4**	**+1.3**
KEST				*e*PKPab		**PKPab**	**05 24 02.5**	**+0.1**
KEST				*e*PP		**PP**	**05 27 36.0**	**+2.0**
PCED	Cedros	152.26	29	*e*PKPdf		**PKPbc**	**05 23 51.5**	**-1.4**
PGRA	Graciosa	152.27	28	*e*PKPdf		**PKPdf**	**05 23 47.4**	**+1.3**
HOR	Horta	152.38	29	*e*PKPdf		**PKPbc**	**05 23 52.4**	**-0.7**
ROSA	Rosais	152.41	29	*e*PKPdf		**PKPdf**	**05 23 46.5**	**+0.1**
PCAN	Candelaria	152.50	29	*e*PKPdf		**PKPbc**	**05 23 50.1**	**-3.3**
PMAN	Manadas	152.54	29	*e*PKPdf		**PKPdf**	**05 23 49.4**	**+2.8**
PPNO	Prainha do Nor	152.59	29	*e*PKPdf		**PKPdf**	**05 23 49.6**	**+2.9**
CMAH	Djebel Manchou	152.64	325	P		**PKPdf**	**05 23 47.4**	**+0.5**
ABSA	Djebel Ababsia	152.86	324	P		**PKPdf**	**05 23 48.4**	**+1.2**
ADH	Angra Heroismo	152.91	27	*e*PKPdf		**PKPbc**	**05 23 55.3**	**+1.0**
PBRG	Braganca	153.10	352	*e*PKPdf		**PKPdf**	**05 23 47.4**	**+0.1**
PBRG	Braganca	153.10	352	*e*PKPbc		**PKPbc**	**05 23 55.8**	**+1.1**
PGAV	Gavieira, Arco	153.12	354	*e*PKPdf		**PKPdf**	**05 23 47.7**	**+0.3**
PGAV	Gavieira, Arco	153.12	354	*e*PKPbc		**PKPbc**	**05 23 55.9**	**+1.1**
PGAV	Gavieira, Arco	153.12	354	*e*PP		PP	05 27 40.3	+1.6
PGAV	Gavieira, Arco	153.12	354	*e*LR		LR	06 31 06.6	
	comp=Z,691nm,20.0s							
CKFL	Kef-Lekhel	153.19	325	P		**PKPdf**	**05 23 48.6**	**+0.9**
PCAB	Cabril	153.35	354	*e*PKPdf		**PKPdf**	**05 23 46.7**	**-1.0**
PCAB	Cabril	153.35	354	*e*PKPbc		**PKPbc**	**05 23 56.4**	**+1.1**
CASM	Ain Smara	153.42	326	P		**PKPdf**	**05 23 48.6**	**+0.6**
DFRA	Djebel Bou Aff	153.53	327	P		**PKPdf**	**05 23 50.0**	**+1.8**
CTEI	Djebel Teioual	153.61	325	P		**PKPdf**	**05 23 49.2**	**+0.8**
POLO	Lamas de Olo	153.66	353	*e*PKPdf		**PKPdf**	**05 23 48.5**	**+0.3**
PVRL	Vila Real	153.75	353	*e*PKPdf		**PKPdf**	**05 23 49.4**	**+1.1**
PVRL	Vila Real	153.75	353	*e*PKPbc		**PKPbc**	**05 23 57.5**	**+1.4**
MVO	Moncorvo	153.77	352	*e*PKPdf		**PKPdf**	**05 23 48.9**	**+0.5**
MVO	Moncorvo	153.77	352	*e*PP		PP	05 27 43.4	+1.1
MVO	Moncorvo	153.77	352	*e*LR		LR	06 31 46.8	
	comp=Z,863nm,18.0s							
PTO	Porto	153.97	355	*e*PKPdf		**PKPdf**	**05 23 49.7**	**+1.2**
PTO	Porto	153.97	355	*e*PKPbc		**PKPbc**	**05 23 57.6**	**+1.1**
SET	Setif	154.05	327	P		**PKPdf**	**05 23 51.0**	**+2.1**
CKHR	Kef el Ahmar	154.12	327	P		**PKPdf**	**05 23 50.8**	**+1.6**
PSET	Sete Cidades	154.26	26	*e*PKPdf		**PKPdf**	**05 23 50.8**	**+1.7**
PVIS	Viseu	154.32	353	*e*PKPdf		**PKPdf**	**05 23 50.2**	**+1.1**
PVIS	Viseu	154.32	353	*e*PKPab		**PKPab**	**05 24 12.8**	**+1.4**
PDA	Ponta Delgada	154.35	26	*e*PKPdf		**PKPdf**	**05 23 51.4**	**+2.2**
GRON	Grota Negra	154.39	26	*e*PKPdf		**PKPbc**	**05 23 56.7**	**-0.9**
BART	Pico Bartolome	154.53	25	*e*PKPdf		**PKPdf**	**05 23 50.7**	**+1.1**
MTE	Manteigas	154.59	352	*e*PKPdf		**PKPdf**	**05 23 49.9**	**+0.4**
MTE	Manteigas	154.59	352	*e*PKPab		**PKPab**	**05 24 13.9**	**+1.4**
MTE	Manteigas	154.59	352	*e*PP		PP	05 27 49.6	+2.7
MTE	Manteigas	154.59	352	*e*LR		LR	06 30 26.8	
	comp=Z,1μm,20.0s							
MTE	Manteigas	154.59	352	*e*PKPdf		**PKPdf**	**05 23 49.6**	**+0.1**
MTE				*e*PKPbc		**PKiKP**	**05 23 59.0**	**+1.0**
MTE				LR		LR		
	comp=Z,1μm,20.0s							
ESDC	Sonseca Array	154.65	346	PKP		**PKPdf**	**05 23 50.0**	**+0.4**
	comp=Z,9.9nm,0.9s,baz=0.9,slow=2.8,SNR=47							
ESDC				PKPbc		**PKiKP**	**05 23 59.3**	**+1.1**
	comp=Z,15nm,0.9s,baz=7.6,slow=3.8,SNR=20							
ESDC				PKPab		**PKPab**	**05 24 12.9**	**+0.2**
	comp=Z,28nm,0.7s,baz=13,slow=3.9,SNR=28							
ESDC				PP		**PP**	**05 27 45.0**	**-2.3**
	comp=Z,3.2nm,0.8s,baz=26,slow=6.6,SNR=5.0							
ESLA	Sonseca Array	154.65	346	*e*PKPdf		**PKPdf**	**05 23 50.6**	**+1.0**
ESLA				*e*PKPbc		**PKiKP**	**05 23 58.5**	**+0.3**
ESLA				*e*PKPab		**PKPab**	**05 24 13.7**	**+0.9**
ESLA				*e*PP		**PP**	**05 27 49.6**	**+2.3**
PAB	San Pablo	154.86	346	*e*PKIKP		**PKPdf**	**05 23 50.3**	**+0.4**
PAB				*e*			05 23 59.1	
PAB				*e*			05 27 45.9	
PAB				MLR		MLR		
	comp=Z,843nm,20.0s							
PAB	San Pablo	154.86	346	*e*PKPdf		**PKPdf**	**05 23 50.3**	**+0.4**
PAB				*e*PKPbc		**PKiKP**	**05 23 59.1**	**+0.5**
PAB				*e*PKPab		**PKPab**	**05 24 14.4**	**+0.7**
PAB				*e*PP		**PP**	**05 27 45.9**	**-2.6**
PAB				LR		LR		
	comp=Z,843nm,20.0s							
PCAS	Casmilo, Conde	155.04	354	*e*PKPdf		**PKPdf**	**05 23 50.3**	**+0.2**
PCAS	Casmilo, Conde	155.04	354	*e*PKPab		**PKPab**	**05 24 15.6**	**+1.2**
PCAS	Casmilo, Conde	155.04	354	*e*PP		PP	05 27 50.6	+1.3
PCBR	Castelo Branco	155.13	352	*e*PKPdf		**PKPdf**	**05 23 50.2**	**0.0**
PCBR	Castelo Branco	155.13	352	*e*PP		PP	05 27 51.8	+2.0
PSMA	Santa Maria	155.21	26	*e*PKPdf		**PKPdf**	**05 23 50.2**	**-0.2**
PSMN	Pico do Norte,	155.24	26	*e*PKPdf		**PKPdf**	**05 23 50.8**	**+0.4**
EMHD	Djebel Mahouad	155.27	331	P		**PKPdf**	**05 23 49.9**	**-0.8**
PTOM	Tomar	155.46	354	*e*PKPdf		**PKPdf**	**05 23 51.7**	**+1.1**
PTOM	Tomar	155.46	354	*e*PP		PP	05 27 55.9	+4.3
PMRV	Marv??o	155.53	352	*e*PKPdf		**PKPdf**	**05 23 51.0**	**+0.2**
PMRV	Marv??o	155.53	352	*e*PP		PP	05 27 54.5	+2.5
PMRV	Marv??o	155.53	352	*e*LR		LR	06 29 42.0	
	comp=Z,1μm,20.0s							
EBNR	Beni Rached	155.85	333	P		**PKPdf**	**05 23 54.0**	**+2.7**
PMTG	Montargil	155.99	353	*e*PKPdf		**PKPdf**	**05 23 51.4**	**0.0**
PMTG	Montargil	155.99	353	*e*PKPab		**PKPab**	**05 24 19.4**	**+1.0**
PMTG	Montargil	155.99	353	*e*PP		PP	05 27 56.2	+1.7
PESTR	Estremoz	156.10	352	*e*PKPdf		**PKPdf**	**05 23 51.7**	**+0.1**
PESTR	Estremoz	156.10	352	*e*PKPab		**PKPab**	**05 24 20.1**	**+1.1**
PESTR	Estremoz	156.10	352	*e*PP		PP	05 28 03.7	+8.4
PMAFR	Mafra	156.20	355	*e*PKPdf		**PKPdf**	**05 23 52.1**	**+0.4**
PMAFR	Mafra	156.20	355	*e*PKPab		**PKPab**	**05 24 20.4**	**+1.0**
EANR	'Ain N'Sour	156.32	333	P		**PKPdf**	**05 23 53.5**	**+1.5**
PACT	Alcochete	156.35	354	*e*PKPdf		**PKPdf**	**05 23 51.6**	**-0.2**
PACT	Alcochete	156.35	354	*e*PKPab		**PKPab**	**05 24 19.7**	**-0.3**
PMST	Lisbon--Monsan	156.41	355	*e*PKPdf		**PKPdf**	**05 23 52.3**	**+0.4**
PMST	Lisbon--Monsan	156.41	355	*e*PKPab		**PKPab**	**05 24 21.7**	**+1.5**
PMST	Lisbon--Monsan	156.41	355	*e*PP		PP	05 27 58.5	+1.6
LIS	Lisbon	156.43	355	*e*P		**PKPdf**	**05 23 51.7**	**-0.2**
LIS				*e*PP		**PP**	**05 27 58.2**	**+1.3**
LIS				AMS		AMS	06 39 40.5	
	comp=E,992nm,25.4s							
LIS	Lisbon	156.43	355	*e*PKIKP		**PKPdf**	**05 23 51.7**	**-0.2**
LIS				*e*			05 27 58.2	
ETRT	Tiaret	156.70	332	P		**PKPdf**	**05 23 53.2**	**+0.6**
PBAR	Barrancos	156.70	351	*e*PKPdf		**PKPdf**	**05 23 52.5**	**+0.2**
PBAR	Barrancos	156.70	351	*e*PKPab		**PKPab**	**05 24 22.6**	**+1.1**
PBAR	Barrancos	156.70	351	*e*PP		PP	05 28 00.3	+1.7
ASCN	Ascension	156.91	173	PFAKE			05 24 00.0	+6.7
ASCN				LR		LR		
	comp=Z,1μm,21.0s							
PNCL	Nicolau / Gran	156.96	353	*e*PKPdf		**PKPdf**	**05 23 53.2**	**+0.5**
PNCL	Nicolau / Gran	156.96	353	*e*PKPab		**PKPab**	**05 24 23.9**	**+1.3**
PNCL	Nicolau / Gran	156.96	353	*e*PP		PP	05 28 02.0	+2.0
MESJ	Messejana	157.20	353	*e*P		**PKPdf**	**05 23 52.3**	**-0.7**
MESJ				*e*PP		**PP**	**05 28 02.6**	**+1.3**
MESJ				AMS		AMS	06 50 03.7	
	comp=Z,1μm,18.6s							
MESJ	Messejana	157.20	353	*e*PKPdf		**PKPdf**	**05 23 53.0**	**0.0**
MESJ	Messejana	157.20	353	*e*PKPab		**PKPab**	**05 24 25.3**	**+1.6**
MESJ	Messejana	157.20	353	*e*PKIKP		**PKPdf**	**05 23 52.2**	**-0.7**
MESJ				*e*			05 28 02.5	
PCVE	Castro Verde	157.38	352	*e*PKPdf		**PKPdf**	**05 23 53.9**	**+0.7**
PCVE	Castro Verde	157.38	352	*e*PKPab		**PKPab**	**05 24 26.0**	**+1.5**
PTEO	Sao Teotonio	157.54	354	*e*PKPdf		**PKPdf**	**05 23 54.2**	**+0.8**
PTEO	Sao Teotonio	157.54	354	*e*PKPab		**PKPab**	**05 24 26.4**	**+1.2**
PVAQ	Vaqueiros	157.56	352	*e*PKPdf		**PKPdf**	**05 23 53.9**	**+0.5**
PVAQ	Vaqueiros	157.56	352	*e*PKPab		**PKPab**	**05 24 26.4**	**+1.1**
PVAQ	Vaqueiros	157.56	352	*e*PP		PP	05 28 05.0	+1.7
PVAQ	Vaqueiros	157.56	352	*e*LR		LR	06 30 55.3	
	comp=Z,1μm,22.0s							
PBDV	Barranco-do-Ve	157.75	352	*e*PKPdf		**PKPdf**	**05 23 54.4**	**+0.7**
PBDV	Barranco-do-Ve	157.75	352	*e*PKPab		**PKPab**	**05 24 27.8**	**+1.7**
PBDV	Barranco-do-Ve	157.75	352	*e*PP		PP	05 28 07.2	+2.9
MORF	Marmelete	157.77	353	*e*P		**PKPdf**

5.3nm,1.0s,baz=167,slow=7.2,SNR=13
MAT Matsushiro 58.73 332 P **P 05 22 17.0 -1.1**
VNDA Vanda 62.47 182 P *eP* **P 05 22 42.7 -0.3**
1.8nm,0.7s,baz=2.1,slow=6.0,SNR=13
SBA Scott Base 62.72 180 *eP* **P 05 22 46.0 +1.3**
6.0nm,0.8s
KSRS Korea Array 64.64 325 P **P 05 22 58.1 +0.2**
1.2nm,0.7s,baz=151,slow=5.7,SNR=4.5
KSAR Wonju Array Be 64.65 325 P **P 05 22 58.1 +0.1**
USRK Ussuriysk Ar. 67.70 333 P **P 05 23 18.4 +1.0**
1.7nm,0.6s,baz=134,slow=5.5,SNR=6.9
QSPA South Pole Qui 74.88 180 *eP* **P 05 24 00.8 0.0**
10nm,0.9s
CMAR Chiang Mai Arr 76.01 294 P **P 05 24 08.3 +0.4**
1.4nm,0.5s,baz=116,slow=4.2,SNR=6.3
CHTO Chiang Mai 76.14 294 *eP* **P 05 24 08.2 -0.4**
1.8nm,0.4s
ULN Ulaanbaatar 83.05 324 *eP* **P 05 24 46.2 +0.5**
22nm,1.3s
SONM Songino Array 83.41 323 P **P 05 24 47.3 -0.2**
3.9nm,0.9s,baz=140,slow=5.3,SNR=12
ILAR Eielson Array 86.63 18 P **P 05 25 01.8 -1.4**
0.9nm,0.7s,baz=237,slow=5.5,SNR=5.6
NVAR Mina Array Bea 86.81 49 P **P 05 25 06.2 +1.2**
1.7nm,0.7s,baz=232,slow=8.2,SNR=5.6
TXAR Lajitas Array 95.62 61 P **P 05 25 46.5 +0.4**
0.2nm,0.6s,baz=212,slow=3.2,SNR=2.4
MKAR Makanchi Array 98.18 316 *eP* Pdif 05 25 57.2 0.0
1.5nm,0.6s,baz=105,slow=5.1,SNR=5.8
ZALV Zalesovo Beam 98.31 324 P **P 05 25 56.7 -0.7**
1.3nm,0.7s,baz=129,slow=3.9,SNR=3.6
ARCES ARCESS Array B 120.90 346 PKP **PKPdf 05 31 11.0 -0.8**
1.6nm,0.7s,baz=63,slow=2.2,SNR=7.4
CLL Collm 138.83 336 *e*PKPdf **PKPdf 05 31 46.0 -0.2**

IDC ***22*** *05:13:02.5±3.1,26.°60N×55.°35E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/28, mbtmp3.7/7, Error ellipse: s-maj=60.3km s-min=30.9km az=150.0*
DSN ***22*** *05:13:06.2±1.2,26.°95N×55.°38E, h10km, mb3.5/6, ML3.7/2, Error ellipse: s-maj=15.9km s-min=4.3km az=27.0*
ISC 22 05:13:05.0±0.8**,26.°76N**±0.°08×**55.°3E**±0.°2**, h10**km**, n11,** σ0**°78/11, mb3.7/7, 2C-2D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NAZ	**Nazwa, Dubai**	**1.79**	**170**	⇑P	**Pg**	**05 13 40.4**	**+1.1**
FAQ	**Al Faqa, Dubai**	**2.02**	**173**	⇓P	**Pg**	**05 13 43.0**	**-0.7**
HATD	**Hatta, Dubai**	**2.05**	**159**	⇑P	**Pg**	**05 13 43.6**	**-0.8**
ASUD	**Al Ashush, Dub**	**2.12**	**180**	⇓P	**Pb**	**05 13 44.1**	**+0.5**
BRTR	**Keskin Array B**	**22.21**	**311**	P	**P**	**05 18 02.1**	**+0.3**
	2.5nm,0.8s,baz=126,slow=11,SNR=9.4						
AKTO	**Aktyubinsk**	**23.73**	**4**	P	**P**	**05 18 18.4**	**+1.1**
	0.7nm,0.6s,baz=193,slow=13,SNR=3.3						
AKASG	**Malin Array Be**	**31.11**	**327**	P	**P**	**05 19 23.2**	**-0.3**
	0.1nm,0.2s,baz=135,slow=8.7,SNR=5.0						
ZALV	**Zalesovo Beam**	**34.79**	**31**	P	**P**	**05 19 55.4**	**-0.3**
	1.3nm,0.4s,baz=258,slow=11,SNR=3.0						
FINES	**FINESS Array B**	**39.87**	**339**	P	**P**	**05 20 38.9**	**+0.3**
	1.2nm,0.7s,baz=124,slow=7.5,SNR=4.4						
NOA	**NORSAR Array B**	**45.28**	**332**	P	**P**	**05 21 22.6**	**-0.1**
	0.7nm,0.8s,baz=125,slow=6.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	**51.85**	**266**	P	**P**	**05 22 13.0**	**-0.8**
	1.0nm,0.7s,baz=62,slow=7.4,SNR=5.4						

IDC 22 05:31:27.7±2.5**,54.°12N×86.°44E, h0**km**, mb1 3.3/2, mb1mx3.0/31, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=20.2km s-min=12.9km az=58.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**260**	*i*		05 38 05.0	
	baz=79,slow=314,SNR=8.0						
ZALV	**Zalesovo Beam**	**0.97**	**260**	Pg	Pg	05 31 45.2	-1.2
	1.9nm,0.3s,baz=79,slow=17,SNR=12						
ZALV				Lg	Lg	05 31 60.0	
	3.4nm,0.3s,baz=80,slow=28,SNR=25						
KURBB	**Kurchatov Arra**	**5.98**	**237**	Pn	Pn	05 32 58.2	+0.8
	0.2nm,0.3s,baz=54,slow=13,SNR=12						
KURBB				Lg	Lg	05 34 39.2	
	0.0nm,0.3s,baz=54,slow=33,SNR=4.0						
MKAR	**Makanchi Array**	**7.80**	**201**	Pn	Pn	05 33 23.5	+1.1
	0.3nm,0.3s,baz=24,slow=15,SNR=6.4						
MKAR				Lg	Lg	05 35 33.6	
	0.1nm,0.3s,baz=23,slow=27,SNR=4.4						

IDC 22 05:52:57.2±2.4**,6.°43S×150.°56E, h0**km**, mb3.6/3, mb1 3.9/4, mb1mx3.5/32, mbtmp3.7/4, ML1.4/1, Error ellipse: s-maj=74.9km s-min=36.4km az=123.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.48**	**229**	Pn	Pn	05 54 07.9	+1.5
	1.3nm,0.3s,baz=32,slow=9.5,SNR=3.7						
PMG				Sn	Sn	05 54 59.4	+0.1
	4.0nm,0.3s,baz=258,slow=21,SNR=6.1						
WRA	**Warramunga Arr**	**20.70**	**228**	P	P	05 57 39.5	+0.3
	1.8nm,0.5s,baz=51,slow=11,SNR=10						
ASAR	**Alice Springs**	**23.45**	**221**	P	P	05 58 08.7	+0.2
	0.9nm,0.7s,baz=53,slow=9.3,SNR=8.0						
STKA	**Stephens Creek**	**26.66**	**197**	P	P	05 58 36.5	-1.5
	1.3nm,0.7s,baz=353,slow=14,SNR=3.3						
TORD	**Torodi Ar. Bea**	**148.62**	**285**	PKPbc	PKPbc	06 12 47.1	-0.3
	0.2nm,0.5s,baz=97,slow=2.4,SNR=3.2						

ISK ***22*** *05:53:17.5, 37.°15N×36.°21E, h3km, MD2.2*
CSEM ***22*** *05:53:21.9±0.7, 37.°52N×36.°23E, h5km, MD2.2, Error ellipse: s-maj=29.1km s-min=12.1km az=6.0*
ISCJB ***22*** *05:53:22.6±0.8, 37.°50N±0.°07×36.°18E±0.°05, h15km, Error ellipse: s-maj=9.8km s-min=5.1km az=177.2*
DDA ***22*** *05:53:23.0, 37.°42N×36.°17E, h7km, MD2.6*
ISC 22 05:53:21.9±1.1**,37.°42N**±0.°07×**36.°22E**±0.°03**, h15**km**, n8,** σ1ℓ**°13/16, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANDN	**Andirin**	**0.19**	**32**	*i* P	**Pg**	**05 53 26.3**	**-0.3**
ANDN				*i* S	**Sb**	**05 53 30.8**	**0.0**
ANDN	**Andirin**	**0.19**	**32**	*i* P	**Pg**	**05 53 26.3**	**-0.3**
ANDN				*i* S	**Sb**	**05 53 30.8**	**0.0**
KOZT	**Kozan**	**0.32**	**282**	*e*PG	**Pg**	**05 53 27.4**	**-1.1**
KOZT				*e*SG	**Sb**	**05 53 34.0**	**-0.3**
KOZT	**Kozan**	**0.32**	**282**	*e*Pg	**Pg**	**05 53 27.4**	**-1.1**
KOZT				*e*Sg	**Sb**	**05 53 34.0**	**-0.3**
KMRS	**Kahramanmaras**	**0.55**	**81**	*e*PG	**Pg**	**05 53 30.7**	**-2.2**
KMRS				*e*SG	**Sb**	**05 53 41.2**	**+0.1**
KMRS	**Kahramanmaras**	**0.55**	**81**	*e*Pg	**Pg**	**05 53 30.7**	**-2.2**
KMRS				*e*Sg	**Sb**	**05 53 41.2**	**+0.1**
KUZU	**Kuzuini**	**0.94**	**133**	*i* P	**Pn**	**05 53 41.5**	**+0.8**
KUZU				*i* S	**Sn**	**05 53 55.1**	**+1.2**
KUZU	**Kuzuini**	**0.94**	**133**	*i* P	**Pn**	**05 53 41.5**	**+0.8**
KUZU				*i* S	**Sn**	**05 53 55.1**	**+1.2**

IDC ***22*** *05:59:00.2±1.1,6.°28S×150.°61E, h0km, mb4.0/6, mb1 4.3/7, mb1mx3.9/19, mbtmp4.0/7, ML1.7/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/34, Error ellipse: s-maj=54.8km s-min=21.3km az=127.0*
ISCJB ***22*** *05:59:05.1±0.9, 6.°2S±0.°1×150.°4E±0.°2, h48km, mb4.5/6, MS3.6/1, Error ellipse: s-maj=29.4km s-min=11.1km az=41.8*
NEIC ***22*** *05:59:05.5±0.7, 6.°19S×150.°44E, h35km, mb4.4/1, Error ellipse: s-maj=23.9km s-min=12.2km az=128.0*
ISC 22 05:59:06.8±1.0**,6.°2S**±0.°2×**150.°4E**±0.°2**, h48**km**, n12,** σ0**°97/12, mb4.1/6, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.56**	**225**	Pn	**Pn**	**06 00 13.1**	**-0.2**
	2.7nm,0.3s,baz=49,slow=5.1,SNR=7.9						
PMG				Sn	**Sn**	**06 01 06.6**	**+1.6**
	2.8nm,0.3s,baz=77,slow=19,SNR=4.2						
WRAB	**Tennant Creek**	**20.76**	**227**	*e*P	**P**	**06 03 43.8**	**0.0**
	20nm,1.0s						
WRA	**Warramunga Arr**	**20.77**	**227**	P	**P**	**06 03 44.0**	**-0.1**
	10nm,0.8s,baz=51,slow=10,SNR=44						
AS31	**Alice Springs**	**23.56**	**221**	*e*P	**P**	**06 04 12.6**	**-0.6**
ASAR	**Alice Springs**	**23.56**	**221**	P	**P**	**06 04 12.8**	**-0.4**
	4.4nm,0.8s,baz=54,slow=9.3,SNR=32						
STKA	**Stephens Creek**	**26.88**	**197**	P	**P**	**06 04 41.6**	**-1.6**
	4.6nm,0.7s,baz=353,slow=7.7,SNR=12						
TOLI	**Toli-Toli**	**30.44**	**283**	*e*P	**P**	**06 05 14.6**	**-0.6**
	2μm,0.3s						
JCJ	**Chichijima**	**34.01**	**347**	LR	LR	06 17 29.7	
	comp=Z,108nm,18.6s,baz=352,slow=32						
VNDA	**Vanda**	**71.57**	**177**	P			
	0.7nm,0.7s,baz=328,slow=6.9,SNR=4.2				**P**	**06 10 22.6**	**+0.1**
ILAR	**Eielson Array**	**84.31**	**23**	P	**P**	**06 11 33.0**	**-0.4**
	0.4nm,0.9s,baz=234,slow=5.1,SNR=4.0						
NVAR	**Mina Array Bea**	**94.79**	**52**	P	**P**	**06 12 25.2**	**+1.2**
	0.3nm,0.3s,baz=265,slow=6.2,SNR=3.2						
TORD	**Torodi Ar. Bea**	**148.42**	**285**	PKPbc	**PKPbc**	**06 18 50.0**	**+0.8**
	0.9nm,0.6s,baz=67,slow=3.1,SNR=6.8						

ISCJB ***22*** *06:00:28.2±0.5, 8.°13S±0.°04×119.°68E±0.°06, h201km, mb3.5/6, Error ellipse: s-maj=8.5km s-min=4.4km az=150.1*
DJA ***22*** *06:00:29.2±0.4, 8.°5S±2.°×12.°0E±°, h145km±5km, M4.1/12, mb4.1/2, mB5.3/1, MLv4.1/12, Mw(mB)4.7/1*
IDC ***22*** *06:00:30.7±1.6, 7.°87S×120.°10E, h205km±13km, mb3.3/7, mb1 3.4/10, mb1mx3.2/48, mbtmp3.8/10, MS3.7/1, Ms1 3.7/1, ms1mx3.0/19, Error ellipse: s-maj=42.8km s-min=7.1km az=56.0*
ISC 22 06:00:30.4±0.9**,8.°07S**±0.°07×**119.°9E**±0.°1**, h201**km**, n27,** σ0**°99/34, mb3.6/6, Flores region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**1.66**	**164**	P	Pn	06 00 59.6	-6.1
WSI				S	S	06 01 23.3	-9.4
BSSI	**Bau Bau, Buton**	**2.01**	**19**	P	**Pn**	**06 01 08.5**	**-0.7**
BSSI				S	**S**	**06 01 39.3**	**+0.4**
MMRI	**Maumere**	**2.43**	**104**	P	**Pn**	**06 01 12.7**	**-1.0**
MMRI				S	**S**	**06 01 46.8**	**+0.1**
BKSI	**Bulukumba**	**2.74**	**6**	P	**Pn**	**06 01 17.0**	**-0.1**
BKSI				S	**S**	**06 01 54.3**	**+1.3**
KAPI	**Kappang**	**3.03**	**358**	P	**Pn**	**06 01 19.2**	**-1.3**
	3.0nm,0.3s,baz=188,slow=13,SNR=7.0						
KAPI				S	**S**	**06 01 56.7**	**-2.5**
	2.1nm,0.3s,baz=90,slow=20,SNR=3.0						
SPSI	**Sidrap Palu**	**4.07**	**359**	P	**Pn**	**06 01 33.8**	**+0.6**
SPSI				S	**S**	**06 02 23.7**	**+1.7**
BATI	**Baumata**	**4.33**	**120**	P	**Pn**	**06 01 35.8**	**-0.6**
BATI				S	**S**	**06 02 28.3**	**+0.6**
BATI	**Baumata**	**4.33**	**120**	P	**Pn**	**06 01 35.8**	**-0.6**
	21nm,0.3s,baz=270,slow=4.4,SNR=11						
BATI				S	**S**	**06 02 26.9**	**-0.8**
	28nm,0.3s,baz=335,slow=18,SNR=5.6						
SOEI	**Soe**	**4.68**	**111**	P	**Pn**	**06 01 41.2**	**+0.2**
SOEI				S	**S**	**06 02 37.7**	**+1.8**
SOEI	**Soe**	**4.68**	**111**	P	**Pn**	**06 01 40.4**	**-0.5**
	baz=5.1,SNR=18						
TTSI	**Tana Toraja**	**4.99**	**360**	P	**Pn**	**06 01 45.7**	**+0.9**
	20nm,0.8s,0.1nm						
JAGI	**Jajag, Banyuwa**	**5.65**	**266**	P	Pn	06 01 47.4	-5.9
KNRA	**Kununurra**	**11.54**	**132**	P	**Pn**	**06 03 10.9**	**+1.3**
	baz=12,SNR=4.9						
MTN	**Manton Dam**	**12.07**	**114**	P	**Pn**	**06 03 15.9**	**-0.4**
	baz=12,SNR=27						
KDU	**Kakadu**	**13.24**	**111**	P	**Pn**	**06 03 31.7**	**+0.7**
	baz=14,SNR=5.0						
FAKI	**Fak Fak**	**13.36**	**68**	P	**Pn**	**06 03 33.1**	**+0.6**
	baz=14,SNR=16						
SIJI	**Sorong**	**13.44**	**58**	P	**Pn**	**06 03 32.8**	**-0.7**
	1.1nm,0.3s,baz=202,slow=6.0,SNR=5.0						
WRA	**Warramunga Arr**	**18.34**	**132**	P	**P**	**06 04 30.0**	**0.0**
	0.7nm,0.3s,baz=304,slow=12,SNR=7.3						
WRA				S	**S**	**06 07 48.1**	**-1.1**
	0.4nm,0.3s,baz=308,slow=20,SNR=5.2						
WRKA	**Warakurna**	**18.71**	**155**	P	**P**	**06 04 34.2**	**+0.2**
	baz=19,SNR=22						
ASAR	**Alice Springs**	**20.55**	**141**	P	**P**	**06 04 54.1**	**+0.3**
	0.8nm,0.4s,baz=316,slow=9.2,SNR=8.6						
ASAR				S	**S**	**06 08 31.9**	**-0.5**
	1.6nm,0.9s,baz=318,slow=19,SNR=8.3						
STKA	**Stephens Creek**	**31.16**	**142**	P	**P**	**06 06 31.0**	**+0.4**
	1.2nm,0.6s,baz=294,slow=8.0,SNR=3.1						
JNU	**Nakatsue**	**42.28**	**14**	LR	LR	06 28 48.9	
	comp=Z,97nm,18.0s,baz=138,slow=40						
SONM	**Songino Array**	**56.31**	**349**	P	**P**	**06 09 55.1**	**+0.4**
	0.4nm,0.5s,baz=162,slow=5.2,SNR=2.9						
MKAR	**Makanchi Array**	**64.02**	**332**	P	**P**	**06 10 41.9**	**-0.7**
	0.5nm,0.4s,baz=152,slow=6.9,SNR=6.4						
ZALV	**Zalesovo Beam**	**68.47**	**339**	P	**P**	**06 11 09.1**	**-1.6**
	1.4nm,0.3s,baz=146,slow=5.8,SNR=5.1						
KURBB	**Kurchatov Arra**	**68.51**	**333**	P	**P**	**06 11 10.0**	**-1.0**
	0.3nm,0.5s,baz=143,slow=6.1,SNR=3.8						
VNDA	**Vanda**	**72.78**	**171**	P	**P**	**06 11 37.1**	**+0.7**
	0.2nm,0.4s,baz=330,slow=8.9,SNR=4.3						

IDC ***22*** *06:08:42.6±3.4, 38.°74N×70.°80E, h0km, mb3.7/2, mb1 3.7/7, mb1mx3.4/32, mbtmp3.6/7, ML2.9/4, Error ellipse: s-maj=51.6km s-min=24.4km az=171.0*
ISCJB ***22*** *06:08:43.6±1.2, 39.°02N±0.°10×70.°79E±0.°08, h10km, mb3.7/2, Error ellipse: s-maj=15.2km s-min=7.5km az=154.6*
NNC ***22*** *06:08:45.1±1.4, 38.°74N×70.°64E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=16.4km s-min=4.9km az=160.0*
ISC 22 06:08:44.2±1.4**,38.°8N**±0.°1×**70.°72E**±0.°07**, h10**km**, n13,** σ2ℓ**°53/16, 5C-7D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**1.48**	**270**	⇑P	**Pn**	**06 09 10.6**	**-0.4**
	130nm,0.4s						
DZET				⇑S	**Sb**	**06 09 31.5**	**+0.8**
	762nm,0.5s						
SFK	**Sufi-Kurgan**	**2.46**	**60**	⇓Pn	**Pb**	**06 09 28.1**	**-0.6**
	25nm,0.5s						
SFK				⇑Lg	Lg	06 10 05.3	
	67nm,0.6s						
KK31	**Karatay Array**	**4.27**	**358**	Pn	Pn	06 09 53.4	+4.1
	5.6nm,0.4s,baz=180,slow=12,SNR=85						
KK31				⇓Pg	**Pg**	**06 10 04.9**	**-1.1**
	3.5nm,0.3s,baz=174,slow=15,SNR=5.4						
KK31				⇓Sn	**Sn**	**06 10 45.0**	**+5.9**
	20nm,0.8s,baz=185,slow=25,SNR=3.7						
KK31				⇑Lg	Lg	06 11 00.8	
	50nm,0.8s,baz=184,slow=26,SNR=6.9						
TKM2	**Tokmak 2**	**5.51**	**41**	⇓Pn	Pn	06 10 12.1	+5.6
	7.4nm,0.8s						
TKM2				⇓Sn	Sb	06 11 18.5	-8.2
	16nm,0.7s						
MKAR	**Makanchi Array**	**11.63**	**43**	Pn	**Pn**	**06 11 31.3**	**+1.1**
	0.1nm,0.3s,baz=225,slow=10,SNR=11						
AB31	**Akbulak array**	**12.97**	**327**	⇑Pn	**Pn**	**06 11 48.7**	**+0.2**
	1.9nm,0.6s,baz=145,slow=13,SNR=29						
AB31				Sn	**Sn**	**06 14 08.3**	**-4.5**
	2.6nm,0.7s,baz=144,slow=23,SNR=5.2						
KURBB	**Kurchatov Arra**	**13.02**	**23**	Pn	**Pn**	**06 11 47.2**	**-1.9**
	0.0nm,0.3s,baz=215,slow=13,SNR=3.9						
BVAR	**Borovoye Array**	**14.20**	**359**	Pn	**Pn**	**06 12 02.3**	**-2.9**
	baz=172,slow=11,SNR=2.3						
AKTO	**Aktyubinsk**	**14.68**	**326**	⇓Pn	**Pn**	**06 12 12.6**	**+0.8**
	3.3nm,0.7s						
AKTO				⇓Sn	**Sn**	**06 14 54.5**	**0.0**
	3.8nm,0.8s						
AKTO	**Aktyubinsk**	**14.68**	**326**	Pn	**Pn**	**06 12 09.4**	**-2.5**
	0.1nm,0.3s,baz=142,slow=16,SNR=3.1						
ZALV	**Zalesovo Beam**	**17.92**	**28**	P	**Pn**	**06 12 52.6**	**-0.8**
	0.2nm,0.3s,baz=230,slow=11,SNR=3.2						
FINES	**FINESS Array B**	**35.44**	**324**	P	**P**	**06 15 42.5**	**+2.2**
	1.5nm,0.8s,baz=108,slow=12,SNR=3.6						
YKA	**Yellowknife Ar**	**78.93**	**3**	P	**P**	**06 20 46.9**	**-0.5**
	0.4nm,0.6s,baz=350,slow=5.7,SNR=5.9						

ISCJB ***22*** *06:18:50.5±1.3, 52.°6N±0.°1×169.°4W±0.°1, h27km±8km, mb3.1/3, Error ellipse: s-maj=21.3km s-min=5.7km az=155.6*
NEIC ***22*** *06:18:50.3, 52.°60N×169.°38W, h13km, ML3.4(AEIC), After AEIC.*
IDC ***22*** *06:18:53.5±19.0, 52.°23N×168.°24W, h0km, mb3.2/3, mb1 3.6/4, mb1mx3.3/30, mbtmp3.1/4, ML3.4/1, Error ellipse: s-maj=356.5km s-min=48.7km az=84.0*
ISC 22 06:18:49.7±3.6**,52.°6N**±0.°1×**169.°38W**±0.°06**, h8**km±23km**, n23,** σ1ℓ**°06/30, mb3.1/3, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.47**	**43**	P	**Pb**	**06 19 00.1**	**-0.2**
NIKH				S	**Sb**	**06 19 07.1**	**-0.3**
OKWR	**Okmok West Rim**	**1.08**	**41**	P	**Pb**	**06 19 11.2**	**+0.6**
OKCE	**Okmok Cone E**	**1.09**	**42**	P	**Pb**	**06 19 10.3**	**-0.4**
OKCE				S	**Sn**	**06 19 27.2**	**+0.7**
OKTU	**Okmok Mt. Tuli**	**1.11**	**46**	P	**Pb**	**06 19 11.1**	**0.0**
OKAK	**Okmok**	**1.14**	**33**	P	**Pb**	**06 19 09.3**	**-2.3**
OKFG	**Magazine Ridge**	**1.19**	**48**	P	**Pn**	**06 19 11.7**	**-0.8**
OKFG				S	**Sb**	**06 19 27.0**	**-0.9**
MSOM	**Makushin Julie**	**1.89**	**50**	P	**Pn**	**06 19 21.8**	**-0.3**
MSOM				S	**Sn**	**06 19 44.7**	**-1.4**
MCIR	**Makushin Cirqu**	**2.00**	**47**	P	**Pn**	**06 19 24.5**	**+0.7**
MSW	**Makushin Switc**	**2.03**	**49**	P	**Pn**	**06 19 23.9**	**-0.1**
MSW				S	**Sb**	**06 19 51.3**	**-0.8**
MTBL	**Makushin Table**	**2.11**	**49**	P	**Pn**	**06 19 25.3**	**0.0**
UNV	**Unalaska Valle**	**2.12**	**54**	P	**Pn**	**06 19 24.9**	**-0.5**
UNV				S	**Sn**	**06 19 49.9**	**-2.0**
AKRB	**Akutan Reef Bi**	**2.49**	**52**	P	**Pn**	**06 19 31.6**	**+1.1**
ZRO	**Akutan Zero**	**2.51**	**53**	P	**Pn**	**06 19 31.4**	**+0.6**
AKGG	**Akutan Green G**	**2.57**	**51**	P	**Pn**	**06 19 31.9**	**+0.4**
AKUT	**Akutan**	**2.64**	**54**	*e*Pn	**Pn**	**06 19 32.1**	**-0.4**
ATKA	**Atka Island**	**2.98**	**264**	P	**Pn**	**06 19 36.7**	**-0.4**
ATKA				S	**Sn**	**06 20 10.5**	**-2.4**
SSBA	**Shishaldin**	**3.79**	**53**	P	**Pn**	**06 19 47.9**	**-0.5**
GSCK	**Great Sitkin C**	**4.20**	**264**	P	**Pn**	**06 19 54.7**	**+0.7**
SPIA	**Saint Paul Isl**	**4.59**	**354**	P	**Pn**	**06 20 00.3**	**+1.1**
ILAR	**Eielson Array**	**16.74**	**35**	Pn	**P**	**06 22 48.4**	**+1.9**
	0.1nm,0.3s,baz=229,slow=10,SNR=4.3						
YKA	**Yellowknife Ar**	**30.08**	**49**	P	**P**	**06 24 59.8**	**+0.8**
	0.1nm,0.4s,baz=270,slow=7.3,SNR=3.1						
PDAR	**Pinedale Array**	**40.36**	**79**	P	**P**	**06 26 28.2**	**+0.2**
	0.2nm,0.5s,baz=276,slow=8.1,SNR=3.1						
TXAR	**Lajitas Array**	**52.75**	**89**	P	**P**	**06 28 05.3**	**+0.3**
	0.3nm,0.6s,baz=303,slow=5.0,SNR=5.3						

IDC ***22*** *06:20:22.9±0.8, 10.°94N×91.°77E, h0km, mb4.0/10, mb1 4.2/13, mb1mx3.9/31, mbtmp4.1/13, ML4.0/3, Error ellipse: s-maj=29.9km s-min=16.9km az=52.0*
ISCJB ***22*** *06:20:25.1±0.4, 10.°88N±0.°05×91.°76E±0.°05, h27km, mb4.1/12, Error ellipse: s-maj=7.3km s-min=6.5km az=36.6*
NEIC ***22*** *06:20:28.3±0.4, 10.°95N×91.°77E, h35km, mb4.6/2, Error ellipse: s-maj=12.9km s-min=8.0km az=47.0*
ISC 22 06:20:27.1±0.6**,11.°03N**±0.°07×**91.°84E**±0.°08**, h27**km**, n29,** σ1ℓ**°17/24, mb4.1/12, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**1.09**	**55**	*e*P	**Pb**	**06 20 46.6**	**-0.6**
PBA				*e*S	**Sb**	**06 21 02.4**	**+1.4**
PBA				AML	AML	06 21 04.2	
	comp=N,9μm,0.3s						
PBA				AML	AML	06 21 05.4	
	comp=E,11μm,0.2s						
DGPR	**DIGLIPUR**	**2.39**	**27**	*e*P	**Pb**	**06 21 07.9**	**-1.6**
DGPR				*e*S	**Sb**	**06 21 37.0**	**-1.5**
CMBY	**CAMPBELL BAY**	**4.50**	**152**	*e*P	**Pn**	**06 21 32.4**	**-1.1**
CMAR	**Chiang Mai Arr**	**10.09**	**42**	Pn	**Pn**	**06 22 52.3**	**+2.0**
	comp=E,0.4nm,0.3s,baz=227,slow=14,SNR=2.6						
VIS	**Vishakhapatnam**	**10.59**	**310**	*e*P	**Pn**	**06 22 56.0**	**-1.2**
VIS				x	ex	06 24 46.1	
PSI	**Prapat**	**10.78**	**139**	Pn	**Pn**	**06 23 01.6**	**+1.7**
	comp=E,0.6nm,0.3s,baz=334,slow=23,SNR=8.6						
IPM	**Ipoh**	**11.19**	**125**	*e*Pn	**Pn**	**06 23 04.6**	**-0.8**
PALK	**Pallekele**	**11.61**	**252**	Pn	**Pn**	**06 23 10.3**	**-0.9**
	comp=E,1.4nm,0.3s,baz=65,slow=13,SNR=5.0						
TRD	**Trivandrum**	**14.88**	**262**	*e*P	**Pn**	**06 23 55.6**	**-0.2**
H08S3	**Diego Garcia H**	**26.73**	**227**	T	T	06 53 53.3	
	baz=47,slow=75,SNR=300						
H08S2	**Diego Garcia H**	**26.73**	**227**	T	T	06 53 52.1	
	baz=47,slow=75,SNR=309						
H08S1	**Diego Garcia H**	**26.75**	**227**	T	T	06 53 54.7	
	baz=47,slow=75,SNR=332						
MK31	**Makanchi Array**	**36.55**	**349**	*e*P	**P**	**06 27 31.4**	**+0.8**
MKAR	**Makanchi Array**	**36.55**	**349**	P	**P**	**06 27 31.7**	**+1.1**
	comp=E,2.2nm,0.5s,baz=169,slow=8.2,SNR=26						
KKAR	**Karatay Array**	**36.94**	**334**	*e*P	**P**	**06 27 35.6**	**+1.6**
KURBB	**Kurchatov Arra**	**40.97**	**347**	P	**P**	**06 28 08.8**	**+1.3**
	comp=E,1.5nm,0.7s,baz=168,slow=7.2,SNR=12						
KURK	**Kurchatov**	**41.03**	**347**	P	**P**	**06 28 08.8**	**+0.7**
ZALV	**Zalesovo Beam**	**43.17**	**354**	P	**P**	**06 28 24.2**	**-1.3**
	comp=E,1.6nm,0.4s,baz=182,slow=9.7,SNR=7.2						
ABKAR	**Akbulak array**	**46.39**	**331**	*e*P	**P**	**06 28 52.5**	**+1.3**
	comp=E,2.6nm,0.7s						
WRA	**Warramunga Arr**	**51.94**	**126**	P	**P**	**06 29 33.1**	**-1.0**
	comp=E,0.7nm,0.3s,baz=307,slow=

1.4nm,0.8s,baz=241,slow=5.1,SNR=7.5
KURBB **Kurchatov Arra 86.36 14** P P 06 42 09.2 +0.2
0.3nm,0.3s,baz=202,slow=7.3,SNR=3.5
INK **Inuvik 145.02 6** PKPbc PKPbc 06 49 00.5 -2.5
2.3nm,1.0s,baz=353,slow=7.3,SNR=4.9
ILAR **Eielson Array 145.98 17** PKPbc PKPdf 06 49 05.5 +0.1
0.4nm,0.6s,baz=313,slow=4.2,SNR=6.4
YKA **Yellowknife Ar 150.70 351** PKPbc PKPbc 06 49 18.9 +0.2
0.6nm,0.7s,baz=19,slow=1.7,SNR=8.1

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*ISCJB **22** 06:33:03.9±0.7, 4.4°S±0.0° × 30.3°E±0.1, h10km, mb3.8/5, Error ellipse: s-maj=16.5km s-min=10.3km az=19.3*
*IDC **22** 06:33:04.8±1.0, 4.4°S × 30.2°E, h0km, mb3.7/6, mb1 4.1/10, mb1mx3.8/40, mbtmp4.0/10, ML3.3/3, Error ellipse: s-maj=23.3km s-min=15.6km az=104.0*
ISC 22 06:33:05.6±0.7, 4.3°S±0.0° × 30.3°E±0.0°, 109, h10km, n12, σ1°S 60/13, mb3.6/6, 1C, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LWI	**Lwiro**	**2.64**	**324**	⇑*iP*	**Pb**	**06 33 52.5**	**-0.7**
LWI				*iS*	Sn	06 34 05.5	-15
KMBO	**Kilima Mbogo**	**7.61**	**65**	Pn	**Pn**	**06 34 58.3**	**+1.5**
	4.8nm,0.3s,baz=243,slow=24,SNR=31						
KMBO				Sn	**Sn**	**06 36 20.0**	**-3.3**
	19nm,0.3s,baz=245,slow=22,SNR=8.9						
KMBO				Lg	Lg	06 37 11.6	
	21nm,0.3s,baz=210,slow=22,SNR=5.8						
LSZ	**Lusaka**	**11.03**	**191**	Pn	**Pn**	**06 35 42.8**	**-0.9**
	3.6nm,0.3s,baz=9.4,slow=12,SNR=18						
LSZ				Sn	Sn	06 37 33.6	-14
	2.1nm,0.3s,baz=110,slow=12,SNR=3.9						
LSZ				Lg	Lg	06 38 45.1	
	4.6nm,0.3s,baz=298,slow=21,SNR=4.9						
MATP	**Matopo**	**16.04**	**186**	Pn	**Pn**	**06 36 49.8**	**-1.9**
	0.9nm,0.3s,baz=4.6,slow=14,SNR=12						
MATP				Sn	Sn	06 39 31.6	-18
	0.5nm,0.3s,baz=351,slow=19,SNR=2.8						
MATP				Lg	Lg	06 41 33.7	
	0.3nm,0.3s,baz=290,slow=23,SNR=4.5						
TSUM	**Tsumeb**	**19.30**	**219**	P	**P**	**06 37 30.2**	**-0.8**
	0.9nm,0.3s,baz=35,slow=14,SNR=13						
TSUM				S	Sn	06 40 51.7	-17
	0.2nm,0.3s,baz=302,slow=15,SNR=3.8						
TSUM	**Tsumeb**	**19.30**	**219**	*eP*	**P**	**06 37 30.0**	**-1.1**
	8.9nm,0.5s						
LBTB	**Lobatse**	**21.01**	**192**	P	**P**	**06 37 50.6**	**+1.0**
	3.1nm,1.0s,baz=29,slow=10,SNR=3.2						
OPO	**Ambohidratompo**	**21.66**	**132**	P	**P**	**06 37 58.1**	**+1.4**
	13nm,1.0s,baz=315,slow=14,SNR=4.7						
BOSA	**Boshof**	**24.58**	**191**	P	**P**	**06 38 27.3**	**+1.2**
	3.5nm,1.0s,baz=0.0,slow=5.1,SNR=2.5						
TORD	**Torodi Ar. Bea**	**33.38**	**302**	P	**P**	**06 39 44.6**	**+0.1**
	0.6nm,0.9s,baz=118,slow=8.3,SNR=2.7						
BRTR	**Keskin Array B**	**44.00**	**4**	P	**P**	**06 41 14.7**	**+1.3**
	0.7nm,0.6s,baz=183,slow=10.0,SNR=5.1						
AKASG	**Malin Array Be**	**54.88**	**359**	P	**P**	**06 42 36.2**	**0.0**
	0.2nm,0.4s,baz=186,slow=6.9,SNR=2.7						

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*ISCJB **22** 06:33:13.8±0.6, 4.6°S±0.0° × 30.4°E±0.1, h10km, mb3.9/7, Error ellipse: s-maj=19.2km s-min=10.9km az=27.3*
*NEIC **22** 06:33:15.8±0.7, 4.6°S × 30.4°E, h10km, mb4.2/2, Error ellipse: s-maj=19.5km s-min=12.4km az=109.0*
*IDC **22** 06:33:15.0±1.0, 4.5°S × 30.3°E, h0km, mb3.9/7, mb1 4.2/10, mb1mx3.9/28, mbtmp4.1/10, ML3.4/2, Error ellipse: s-maj=29.7km s-min=18.4km az=112.0*
ISC 22 06:33:15.9±0.7, 4.6°S±0.1° × 30.4°E±0.1, h10km, n15, σ1°S 14/15, mb3.9/7, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**7.63**	**63**	Pn	**Pn**	**06 35 06.7**	**-0.8**
	5.2nm,0.3s,baz=235,slow=15,SNR=22						
KMBO	**Kilima Mbogo**	**7.63**	**63**	*e*Pn	**Pn**	**06 35 06.8**	**-0.8**
KMBO				*e*Sn	Sn	06 36 17.9	-17
LSZ	**Lusaka**	**10.83**	**192**	Pn	**Pn**	**06 35 51.8**	**+0.5**
	8.5nm,0.3s,baz=3.8,slow=12,SNR=15						
TSUM	**Tsumeb**	**19.18**	**220**	P	**P**	**06 37 39.0**	**-1.0**
	2.5nm,0.3s,baz=38,slow=16,SNR=22						
TSUM	**Tsumeb**	**19.18**	**220**	P	**P**	**06 37 39.0**	**-1.0**
TSUM				*e*S	Sn	06 40 45.7	-30
BOSA	**Boshof**	**24.38**	**191**	P	**P**	**06 38 36.4**	**+1.8**
	4.5nm,0.8s,baz=14,slow=11,SNR=6.4						
BOSA	**Boshof**	**24.38**	**191**	P	**P**	**06 38 33.4**	**-1.2**
	4.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**33.55**	**302**	P	**P**	**06 39 56.4**	**0.0**
	7.6nm,0.7s,baz=114,slow=8.4,SNR=48						
BRTR	**Keskin Array B**	**44.21**	**4**	P	**P**	**06 41 26.8**	**+1.3**
	1.0nm,0.7s,baz=181,slow=8.6,SNR=4.3						
KEST	**Kesra**	**44.74**	**335**	P	**P**	**06 41 30.1**	**+0.4**
	1.2nm,0.9s,baz=13,slow=21,SNR=3.6						
KEST	**Kesra**	**44.74**	**335**	P	**P**	**06 41 27.9**	**-1.8**
AKASG	**Malin Array Be**	**55.10**	**359**	P	**P**	**06 42 47.6**	**-0.5**
	1.2nm,0.7s,baz=181,slow=6.5,SNR=7.4						
MKAR	**Makanchi Array**	**68.59**	**35**	P	**P**	**06 44 20.4**	**+1.3**
	0.2nm,0.4s,baz=243,slow=5.3,SNR=3.6						
KURBB	**Kurchatov Arra**	**68.71**	**31**	P	**P**	**06 44 20.7**	**+0.8**
	0.2nm,0.2s,baz=223,slow=6.4,SNR=3.0						
KURK	**Kurchatov**	**68.84**	**31**	P	**P**	**06 44 20.7**	**+0.2**

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*ISCJB **22** 07:23:12.8±0.9, 16.1°S±0.3° × 177.6°W±0.2, h400km, mb3.4/10, Error ellipse: s-maj=39.5km s-min=13.1km az=156.2*
*IDC **22** 07:23:12.7±2.2, 15.9°S × 177.6°W, h380km±25km, mb3.1/10, mb1 3.4/12, mb1mx3.2/31, mbtmp3.8/12, Error ellipse: s-maj=44.2km s-min=15.3km az=154.0*
ISC 22 07:23:13.9±1.1, 16.1°S±0.3° × 177.5°W±0.2, h400km, n13, σ0°S 89/13, mb3.5/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.96**	**69**	P	**Pn**	**07 24 44.8**	**-1.4**
	3.8nm,0.3s,baz=65,slow=2.4,SNR=6.0						
DZM	**Mont Dzumac**	**16.27**	**246**	P	**P**	**07 26 40.9**	**+0.6**
	0.3nm,0.3s,baz=90,slow=20,SNR=4.1						
WRA	**Warramunga Arr**	**45.82**	**258**	P	**P**	**07 30 57.2**	**-1.1**
	0.6nm,0.9s,baz=89,slow=6.8,SNR=4.8						
ASAR	**Alice Springs**	**46.12**	**253**	P	**P**	**07 31 00.1**	**-0.4**
	0.8nm,0.7s,baz=85,slow=8.2,SNR=8.9						
MJAR	**Matsushiro Arr**	**67.00**	**322**	P	**P**	**07 33 24.1**	**-1.2**
	0.8nm,0.4s,baz=143,slow=6.3,SNR=2.9						
NVAR	**Mina Array Bea**	**77.54**	**4**	P	**P**	**07 34 27.5**	**+0.3**
	0.7nm,0.8s,baz=225,slow=10,SNR=4.3						
SEY	**Seymchan**	**82.23**	**347**	P	**P**	**07 34 51.6**	**+0.5**
	0.9nm,0.6s,baz=17,slow=19,SNR=2.8						
ILAR	**Eielson Array**	**83.95**	**13**	P	**P**	**07 35 00.1**	**+0.3**
	0.8nm,0.6s,baz=230,slow=5.6,SNR=20						
TXAR	**Lajitas Array**	**84.31**	**57**	P	**P**	**07 35 03.9**	**+1.3**
	0.5nm,0.7s,baz=218,slow=5.7,SNR=6.8						
PDAR	**Pinedale Array**	**85.46**	**43**	P	**P**	**07 35 08.8**	**+0.6**
	0.2nm,0.7s,baz=222,slow=2.4,SNR=3.0						
YKA	**Yellowknife Ar**	**92.35**	**24**	P	**P**	**07 35 39.8**	**+0.2**
	0.4nm,0.8s,baz=247,slow=4.8,SNR=4.0						
SONM	**Songino Array**	**92.75**	**319**	P	**P**	**07 35 42.4**	**+0.4**
	0.2nm,0.4s,baz=131,slow=6.5,SNR=2.7						
BRTR	**Keskin Array B**	**144.09**	**317**	PKP	**PKPdf**	**07 42 02.9**	**-0.3**
	0.4nm,0.3s,baz=90,slow=1.4,SNR=3.4						

DJA 22 07:28:04.1±1.8, 9°S±4°× 11°E±°, h28km±24km, M3.9/21, MLv3.9/21, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UGM	**Wanagama**	**1.74**	**31**	P	Pn	07 28 32.7	+0.2
UGM				S	Sn	07 28 55.4	+1.6
CMJI	**Cimerak**	**1.98**	**325**	P	Pn	07 28 36.0	+0.2
CMJI				S	Sn	07 29 01.4	+1.7
WOJI	**Wonogiri, Jawa**	**2.03**	**40**	P	Pn	07 28 36.6	+0.1
WOJI				S	Sn	07 29 02.7	+1.7
KPJI	**Karang Pucung**	**2.17**	**342**	S	Sn	07 29 05.9	+1.5
SMRI	**Semarang**	**2.49**	**19**	P	Pn	07 28 42.9	+0.1
SMRI				S	Sn	07 29 13.8	+1.6
CISI	**Cisompet, Garu**	**2.56**	**316**	P	Pn	07 28 43.9	+0.1
CISI				S	Sn	07 29 15.6	+1.5
PWJI	**Pagerwojo**	**2.57**	**58**	P	Pn	07 28 42.8	-1.1
PWJI				S	Sn	07 29 13.7	-0.5
NGJI	**Ngawi**	**2.73**	**42**	P	Pn	07 28 46.3	+0.2
CNJI	**Cibinong**	**3.22**	**310**	P	Pn	07 28 53.0	+0.1
LEM	**Lembang**	**3.24**	**322**	P	Pn	07 28 53.1	-0.2
UWJI	**Ujung Watu**	**3.25**	**24**	P	Pn	07 28 53.4	+0.1
TBJI	**Tambak Boyo**	**3.40**	**41**	P	Pn	07 28 55.4	+0.1
GRJI	**Gresik**	**3.77**	**49**	P	Pn	07 29 00.5	+0.1
SKJI	**Sukabumi**	**3.85**	**308**	P	Pn	07 29 01.7	+0.1
BLJI	**Banyuglugur**	**4.27**	**68**	P	Pn	07 29 07.5	+0.2

DJA 22 07:35:52.5±0.8, 9°S±5° × 11°E±°, h18km±8km, M3.3/7, MLv3.7/, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WOJI	**Wonogiri, Jawa**	**0.82**	**2**	P	Pb	07 36 07.7	-0.5
WOJI				S	Sb	07 36 18.7	-0.2
UGM	**Wanagama**	**0.83**	**333**	P	Pb	07 36 07.8	-0.7
UGM				S	Sb	07 36 19.6	+0.2
PWJI	**Pagerwojo**	**1.10**	**55**	P	Pb	07 36 10.2	-2.7
PWJI				S	Sb	07 36 23.9	-3.0
NGJI	**Ngawi**	**1.40**	**23**	P	Pn	07 36 16.4	-0.7
NGJI				S	Sn	07 36 34.6	-0.6
CMJI	**Cimerak**	**2.58**	**290**	P	Pn	07 36 33.3	-0.1

IDC 22 07:40:54.4±3.2, 6.4°S × 150.6°E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.4/30, mbtmp3.5/3, ML1.5/1, Error ellipse: s-maj=130.1km s-min=36.6km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.11**	**224**	Pn	Pn	07 41 59.5	+1.0
	2.1nm,0.3s,baz=192,slow=19,SNR=4.6						
PMG				Sn	Sn	07 42 48.3	+1.0
	1.6nm,0.3s,baz=284,slow=19,SNR=2.9						
WRA	**Warramunga Arr**	**20.32**	**227**	P	P	07 45 33.1	+0.7
	1.9nm,0.7s,baz=52,slow=11,SNR=15						
ASAR	**Alice Springs**	**23.11**	**221**	P	P	07 46 00.9	-1.4
	0.3nm,0.5s,baz=57,slow=10,SNR=3.6						
TORD	**Torodi Ar. Bea**	**148.15**	**284**	PKPbc	PKPbc	08 00 43.0	-0.4
	0.2nm,0.5s,baz=61,slow=3.2,SNR=3.2						

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*IDC **22** 07:53:57.8±1.0, 56.0°S × 26.69W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/15, mbtmp3.9/3, Error ellipse: s-maj=41.9km s-min=32.2km az=84.0*
ISC 22 07:54:03.3±1.0, 56.0°S±0.2° × 26.7°W±0.3, h35km, n12, σ0°S 97/6, mb3.9/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**46.63**	**183**	P	**P**	**08 02 27.7**	**+0.4**
	0.9nm,0.7s,baz=201,slow=7.6,SNR=5.5						
H10S2	**ASCENSION HYDR**	**47.89**	**16**	T	T	08 54 46.6	
	baz=189						
H10S3	**ASCENSION HYDR**	**47.89**	**16**	T	T	08 54 45.2	
	baz=189						
H10S1	**ASCENSION HYDR**	**47.90**	**16**	T	T	08 54 46.3	
	baz=189						
H10N1	**ASCENSION HYDR**	**49.01**	**16**	T	T	08 56 24.3	
	baz=233						
H10N3	**ASCENSION HYDR**	**49.01**	**16**	T	T	08 56 22.8	
	baz=233						
H10N2	**ASCENSION HYDR**	**49.02**	**16**	T	T	08 56 24.3	
	baz=233						
LPAZ	**La Paz**	**50.56**	**305**	P	**P**	**08 02 59.0**	**+0.1**
	1.8nm,0.7s,baz=156,slow=2.8,SNR=9.1						
TORD	**Torodi Ar. Bea**	**72.89**	**29**	P	**P**	**08 05 29.2**	**+0.7**
	0.5nm,0.5s,baz=202,slow=6.5,SNR=12						
INK	**Inuvik**	**145.93**	**321**	PKPbc	**PKPdf**	**08 13 36.8**	**+0.3**
	0.8nm,0.7s,baz=133,slow=2.6,SNR=3.2						
ILAR	**Eielson Array**	**150.28**	**312**	PKPbc	**PKPbc**	**08 13 48.3**	**-0.7**
	0.7nm,0.7s,baz=130,slow=3.4,SNR=13						
SONM	**Songino Array**	**150.47**	**86**	PKPbc	**PKPbc**	**08 13 48.9**	**-1.3**
	0.3nm,0.3s,baz=224,slow=4.0,SNR=6.3						

CASC 22 07:54:57.2±2.0, 12.78N × 88.17W, h59km±36km, MD4.0, ML4.0, 6C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.59**	**34**	⇑*iP*	Pn	07 55 10.1	-0.1
CNCH				*eS*	Sn	07 55 21.0	+1.3
VSM	**San Miguel**	**0.65**	**351**	⇑*eP*	Pn	07 55 10.9	-0.3
BLLM	**Bellamira**	**0.66**	**354**	⇑*eP*	Pn	07 55 10.8	-0.3
CAHU	**Cacacuatique**	**0.98**	**358**	⇑*eP*	Pn	07 55 14.7	-0.6
SNVI	**San Vicente**	**1.05**	**322**	⇓*eP*	Pn	07 55 15.8	-0.3
LFRS	**El Faro**	**1.21**	**314**	⇑*iP*	Pn	07 55 17.8	-0.3
LBRS	**Las Brisas**	**1.28**	**318**	*eP*	Pn	07 55 18.6	-0.4
LBRS				*eS*	Sn	07 55 36.2	+0.9
LFU	**La Fuente**	**1.33**	**316**	*eP*	Pn	07 55 19.4	-0.3
SNET	**Serv Nac Est T**	**1.37**	**311**	*eP*	Pn	07 55 20.1	-0.2
SNET				*eS*	Sn	07 55 37.8	+0.2
SNET				AML	AML	07 55 39.4	
	comp=Z,3μm,0.3s						
BOQS	**Boqueron**	**1.44**	**311**	*eP*	Pn	07 55 21.4	0.0
COPN	**Copaltepe**	**1.65**	**111**	*eP*	Pn	07 55 23.6	-0.3
COPN				*eS*	Sn	07 55 43.5	-0.7
SBLS	**San Blas**	**1.76**	**307**	*eP*	Pn	07 55 25.8	0.0
SNJE	**San Jose**	**1.77**	**308**	*eP*	Pn	07 55 25.8	0.0
RTR	**El Retiro**	**1.81**	**308**	⇑*iP*	Pn	07 55 26.6	+0.2
RBDL	**Robledal**	**1.98**	**312**	*eP*	Pn	07 55 28.6	-0.1
MRL	**Marmol**	**2.71**	**327**	*eP*	Pn	07 55 39.5	+1.0
VCR	**Vista de Mar**	**3.63**	**136**	*eP*	Pn	07 55 51.4	+0.3
JAT	**Jato**	**3.70**	**295**	*eP*	Pn	07 55 52.9	+0.9
JCR	**Jicaral**	**4.18**	**134**	*eP*	Pn	07 55 58.9	+0.3
CGA2	**Cerro Gallo 2**	**4.55**	**127**	*eP*	Pn	07 56 06.7	+2.8
CGA2				*eS*	Sn	07 56 55.9	+0.3
URSC	**Urasca**	**5.21**	**124**	*eP*	Pn	07 56 15.7	+2.9
BUS	**Buena Vista**	**5.39**	**126**	*eP*	Pn	07 56 17.4	+1.8

IDC 22 07:58:14.4±2.4, 6.17S × 150.69E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/41, mbtmp3.8/4, ML1.3/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/24, Error ellipse: s-maj=72.1km s-min=36.5km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.75**	**227**	Pn	Pn	07 59 27.9	+0.6
	0.9nm,0.3s,baz=267,slow=19,SNR=3.5						
PMG				Sn	Sn	08 00 21.8	-1.3
	2.2nm,0.3s,baz=201,slow=14,SNR=3.0						
JAY	**Jayapura**	**10.60**	**290**	LR	LR	08 04 18.8	
	comp=Z,104nm,20.7s,baz=172,slow=34						
WRA	**Warramunga Arr**	**20.97**	**228**	P	P	08 02 59.8	+0.5
	1.4nm,0.5s,baz=52,slow=11,SNR=20						
ASAR	**Alice Springs**	**23.73**	**221**	P	P	08 03 28.9	+0.4
	1.3nm,0.5s,baz=54,slow=9.0,SNR=26						
STKA	**Stephens Creek**	**26.95**	**197**	P	P	08 03 56.5	-1.2
	1.3nm,0.7s,baz=24,slow=10,SNR=3.9						
TORD	**Torodi Ar. Bea**	**148.68**	**285**	PKPbc	PKPbc	08 18 04.3	-0.4
	0.4nm,0.5s,baz=76,slow=2.5,SNR=5.7						

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*IDC **22** 08:01:23.6±16.0, 52.4°N × 170.36W, h0km, mb3.2/3, mb1 3.6/4, mb1mx3.3/53, mbtmp3.1/4, ML3.1/1, Error ellipse: s-maj=312.2km s-min=49.7km az=85.0*
*NEIC **22** 08:01:29.8, 52.62°N × 169.38W, h8km, ML3.2(AEIC), After AEIC.*
ISC 22 08:01:27.1±1.8, 52.8N±0.1° × 169.80W±0.07, h2km±11km, n20, σ0°S 76/22, mb3.2/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.59**	**74**	P	**Pb**	**08 01 39.7**	**-0.5**
NIKH				S	**Sg**	**08 01 47.2**	**+1.1**
OKWR	**Okmok West Rim**	**1.14**	**56**	P	**Pn**	**08 01 50.9**	**+0.6**
OKAK	**Okmok**	**1.16**	**48**	P	**Pg**	**08 01 49.1**	**-0.1**
OKAK				S	**Sg**	**08 02 03.4**	**-0.8**
OKCE	**Okmok Cone E**	**1.16**	**57**	P	**Pb**	**08 01 50.1**	**+0.2**
OKTU	**Okmok Mt. Tuli**	**1.20**	**61**	P	**Pb**	**08 01 50.8**	**+0.1**
OKFG	**Magazine Ridge**	**1.28**	**61**	P	**Pg**	**08 01 51.5**	**-0.2**
OKFG				S	**Sg**	**08 02 08.1**	**-0.2**
MSOM	**Makushin Julie**	**1.98**	**58**	P	**Pn**	**08 02 01.4**	**-0.2**
MSOM				S	**Sn**	**08 02 27.8**	**+0.8**
MCIR	**Makushin Cirqu**	**2.08**	**56**	P	**Pn**	**08 02 04.0**	**+0.9**
MSW	**Makushin Switc**	**2.12**	**57**	P	**Pn**	**08 02 03.7**	**+0.2**
MSW				S	**Sb**	**08 02 32.2**	**-0.7**
MTBL	**Makushin Table**	**2.20**	**57**	P	**Pn**	**08 02 05.4**	**+0.7**
UNV	**Unalaska Valle**	**2.23**	**61**	P	**Pn**	**08 02 04.9**	**-0.2**
UNV				S	**Sn**	**08 02 31.2**	**-2.0**
ATKA	**Atka Island**	**2.76**	**259**	P	**Pb**	**08 02 16.8**	**-0.3**
SPIA	**Saint Paul Isl**	**4.38**	**357**	P	Pb	08 02 39.6	-5.2
ILAR	**Eielson Array**	**16.74**	**35**	Pn	**Pn**	**08 05 23.0**	**+0.6**
	0.0nm,0.3s,baz=221,slow=11,SNR=4.1						
YKA	**Yellowknife Ar**	**30.15**	**49**	P	**P**	**08 07 38.8**	**+0.8**
	0.1nm,0.4s,baz=276,slow=7.0,SNR=4.4						
H11S1	**WAKE ISLAND Hy**	**38.84**	**217**	T	T	08 50 10.5	
	baz=23,slow=76,SNR=122						
H11S2	**WAKE ISLAND Hy**	**38.85**	**217**	T	T	08 50 14.1	
	baz=23,slow=76,SNR=85						
H11S3	**WAKE ISLAND Hy**	**38.85**	**217**	T	T	08 50 10.0	
	baz=23,slow=76,SNR=50						
PDAR	**Pinedale Array**	**40.58**	**79**	P	**P**	**08 09 07.9**	**-0.2**
	0.3nm,0.6s,baz=321,slow=8.1,SNR=3.2						
TXAR	**Lajitas Array**	**53.00**	**89**	P	**P**	**08 10 44.9**	**-0.4**
	0.3nm,0.5s,baz=298,slow=5.7,SNR=5.3						

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*IDC **22** 08:02:40.5±0.9, 38.26S × 73.62W, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.8/25, mbtmp3.7/9, ML3.3/2, MS3.1/2, Ms1 3.1/2, ms1mx2.6/20, Error ellipse: s-maj=33.4km s-min=19.6km az=93.0*
*ISCJB **22** 08:02:42.1±0.8, 38.3°S±0.1° × 73.5°W±0.2, h18km, mb3.6/8, MS3.2/1, Error ellipse: s-maj=25.5km s-min=14.1km az=17.8*
ISC 22 08:02:43.5±0.9, 38.3°S±0.1° × 73.6°W±0.2, h18km, n13, σ0°S 56/12, mb3.7/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**7.95**	**35**	Pn	**Pn**	**08 04 38.0**	**-0.1**
	0.1nm,0.3s,baz=226,slow=17,SNR=7.0						
CPUP	**Villa Florida**	**18.13**	**54**	P	**P**	**08 06 54.4**	**-0.1**
	0.1nm,0.3s,baz=211,slow=6.1,SNR=3.3						
CPUP				LR	LR	08 13 55.7	
	comp=Z,40nm,20.5s,baz=194,slow=37						
LPAZ	**La Paz**	**22.40**	**14**	P	**P**	**08 07 42.2**	**+0.6**
	0.7nm,0.8s,baz=218,slow=3.4,SNR=5.2						
SIV	**San Ignacio**	**24.76**	**30**	P	**P**	**08 08 03.5**	**-0.6**
	1.7nm,1.1s,baz=217,slow=15,SNR=3.3						
BDFB	**Brasilia**	**31.84**	**52**	LR	LR	08 23 26.3	
	comp=Z,53nm,19.1s,baz=226,slow=39						
SNAA	**Sanae**	**48.16**	**156**	P	**P**	**08 11 22.6**	**+0.5**
	0.4nm,0.9s,baz=291,slow=8.3,SNR=3.4						
QSPA	**South Pole Qui**	**51.99**	**180**	P	**P**	**08 11 50.9**	**-0.5**
	0.3nm,0.3s,baz=162,slow=3.9,SNR=2.9						
TXAR	**Lajitas Array**	**72.89**	**333**	P	**P**	**08 14 11.8**	**+0.4**
	0.6nm,0.7s,baz=152,slow=9.0,SNR=8.1						
DBIC	**Dimbokro**	**77.71**	**71**	P	**P**	**08 14 39.9**	**+0.5**
	2.0nm,0.6s,baz=231,slow=5.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**86.81**	**71**	P	**P**	**08 15 26.9**	**-0.1**
	0.5nm,0.9s,baz=200,slow=3.8,SNR=3.0						
PDAR	**Pinedale Array**	**87.02**	**334**	P	**P**	**08 15 27.8**	**+0.1**
	0.3nm,0.9s,baz=140,slow=4.4,SNR=3.6						
BVAR	**Borovoye Array**	**151.15**	**47**	PKPbc	**PKPbc**	**08 22 34.7**	**-0.2**
	1.8nm,0.8s,baz=258,slow=4.1,SNR=8.1						
SONM	**Songino Array**	**170.42**	**0**	PKPab	**PKPab**	**08 24 05.6**	**-1.1**
	0.2nm,0.4s,baz=34,slow=0.5,SNR=2.5						

IDC 22 08:07:58.2±6.8, 7.40S × 148.59E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/33, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=110.8km s-min=73.9km az=170.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.61**	**227**	P	P	08 12 16.9	-0.4
	0.1nm,0.3s,baz=53,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**21.45**	**219**	P	P	08 12 47.0	-1.4
	0.3nm,0.5s,baz=58,slow=9.1,SNR=4.2						
STKA	**Stephens Creek**	**25.21**	**194**	P	P	08 13 26.9	+1.1
	1.4nm,1.0s,baz=20,slow=15,SNR=3.0						

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*IDC **22** 08:09:00.2±0.8, 3.07S × 148.02E, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.0/31, mbtmp4.1/11, MS3.4/9, Ms1 3.4/9, ms1mx3.2/30, Error ellipse: s-maj=34.8km s-min=17.7km az=100.0*
*ISCJB **22** 08:09:02.0±0.7, 3.1°S±0.1° × 148.0°E±0.2°, h22km, mb4.1/12, MS3.5/8, Error ellipse: s-maj=29.6km s-min=13.6km az=11.4*
ISC 22 08:09:03.7±0.8, 3.1°S±0.1° × 148.0°E±0.2°, h22km, n25, σ0°S 62/13, mb4.1/12, MS3.4/8, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**16.85**	**350**	LR	LR	08 19 27.6	
	comp=Z,53nm,18.7s,baz=151,slow=37						
WRA	**Warramunga Arr**	**21.40**	**217**	P	**P**	**08 13 49.7**	**-0.4**
	4.3nm,0.5s,baz=42,slow=10,SNR=20						
ASAR	**Alice Springs**	**24.57**	**212**	P	**P**	**08 14 23.2**	**+0.9**
	4.6nm,0.8s,baz=41,slow=8.0,

KURBB				⇑Lg	Lg	08 17 10.1		
	25nm,1.1s							
KURBB	**Kurchatov Arra**	**8.54**	**256**	Pn	Pn	08 14 53.8	0.0	
	0.1nm,0.3s,baz=63,slow=14,SNR=5.5							
KURBB				Sn	Sn	08 16 28.5	-2.3	
	0.1nm,0.3s,baz=67,slow=26,SNR=12							
KURBB				Lg	Lg	08 17 12.4		
	0.1nm,0.3s,baz=71,slow=33,SNR=6.8							
MK31	**Makanchi Array**	**8.97**	**225**	⇑Pn	Pn	08 15 03.2	+3.3	
	0.2nm,0.5s,baz=36,slow=13,SNR=8.6							
MK31				⇑Sn	Sn	08 16 40.6	-1.0	
	0.6nm,0.6s							
MK31				⇓Lg	Lg	08 17 28.6		
	3.0nm,0.8s,baz=47,slow=28,SNR=4.8							
MKAR	**Makanchi Array**	**8.97**	**225**	Pn	Pn	08 14 59.9	+0.1	
	0.2nm,0.3s,baz=33,slow=12,SNR=6.7							
MKAR				Sn	Sn	08 16 41.4	-0.2	
	0.1nm,0.3s,baz=31,slow=25,SNR=5.3							
MKAR				Lg	Lg	08 17 30.0		
	0.1nm,0.3s,baz=45,slow=37,SNR=3.6							
SONM	**Songino Array**	**10.97**	**115**	Lg	Lg	08 18 46.6		
	0.3nm,0.3s,baz=295,slow=21,SNR=5.6							

ISCJB ***22*** *08:24:55.6±0.6,38°.47N±0°.06×15°.13E±0°.08,h217km±5km, mb3.6/4, Error ellipse: s-maj=11.8km s-min=6.6km az=39.0*

CSEM ***22*** *08:24:55.4,38°.49N×15°.05E,h216km,ML3.0/34*

ROM ***22*** *08:24:55.4±0.2,38°.49N×15°.05E,h216km±3km,Ml3.0/34, Error ellipse: s-maj=4.3km s-min=2.4km az=134.0*

IDC ***22*** *08:25:07.0±17.0,38°.93N×14°.59E,h342km±59km,mb3.1/4, mb1 3.0/6,mb1mx2.7/40,mbtmp3.7/6,Error ellipse: s-maj=269.2km s-min=32.8km az=38.0*

ISC 22 08:24:54.4±0.9,**38°.49N**±0°.06×**15°.04E**±0°.06,**h220**km±7km, **n88,**σ1§**20**/107,**mb3.8/4,4C-22D,Sicily**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MILZ	**Milazzo**	**0.26**	**145**	⇓*i*Pg	Pn	**08 25 23.6**	**+0.3**
MILZ				Sg	**S**	**08 25 44.8**	**-1.0**
	146nm,0.4s						
MILZ	**Milazzo**	**0.26**	**145**	⇓*i*Pg	Pn	**08 25 23.6**	**+0.3**
MILZ				Sg	**S**	**08 25 44.8**	**-1.0**
	146nm,0.4s						
STR4	**STROMBOLI 4**	**0.32**	**25**	Pg	Pn	**08 25 24.3**	**+0.9**
STR4	**STROMBOLI 4**	**0.32**	**25**	Pg	Pn	**08 25 24.3**	**+0.9**
STR3	**STROMBOLI 3**	**0.34**	**25**	Pg	Pn	**08 25 24.7**	**+1.3**
STR3	**STROMBOLI 3**	**0.34**	**25**	Pg	Pn	**08 25 24.7**	**+1.3**
IFIL	**Filicudi I Eol**	**0.38**	**282**	Pg	Pn	**08 25 24.2**	**+0.7**
	112nm,0.4s						
IFIL	**Filicudi I Eol**	**0.38**	**282**	Pg	Pn	**08 25 24.2**	**+0.7**
	112nm,0.4s						
NOV	**Novara**	**0.46**	**171**	Pg	Pn	**08 25 25.0**	**+1.0**
	133nm,0.5s						
IACL	**Alicudi**	**0.54**	**275**	⇓*i*Pg	Pn	**08 25 24.8**	**+0.8**
	62nm,0.5s						
IACL	**Alicudi**	**0.54**	**275**	⇓*i*Pg	Pn	**08 25 24.8**	**+0.8**
	62nm,0.5s						
MMME	**Mongiuffi-Meli**	**0.57**	**163**	Pg	Pn	**08 25 25.3**	**+0.9**
	92nm,0.4s						
MMME	**Mongiuffi-Meli**	**0.57**	**163**	Pg	Pn	**08 25 25.3**	**+0.9**
	92nm,0.4s						
MNO	**Monte Soro**	**0.62**	**207**	Pg	Pn	**08 25 26.1**	**+1.4**
	158nm,0.6s						
MNO	**Monte Soro**	**0.62**	**207**	Pg	Pn	**08 25 26.1**	**+1.4**
	158nm,0.6s						
MSCL	**Scilla**	**0.64**	**113**	Pg	Pn	**08 25 25.0**	**+0.4**
MSCL				Sg	**S**	**08 25 47.7**	**-0.3**
	298nm,0.4s						
MSCL	**Scilla**	**0.64**	**113**	Pg	Pn	**08 25 25.0**	**+0.4**
MSCL				Sg	**S**	**08 25 47.7**	**-0.3**
	298nm,0.4s						
JOPP	**Joppolo**	**0.67**	**79**	Pg	Pn	**08 25 25.4**	**+0.8**
	66nm,0.3s						
JOPP	**Joppolo**	**0.67**	**79**	Pg	Pn	**08 25 25.4**	**+0.8**
	66nm,0.3s						
MTTG	**Motta San Giov**	**0.70**	**133**	Pg	Pn	**08 25 25.9**	**+1.1**
MTTG				Sg	**S**	**08 25 49.0**	**+0.6**
	126nm,0.6s						
MTTG	**Motta San Giov**	**0.70**	**133**	Pg	Pn	**08 25 25.9**	**+1.1**
MTTG				Sg	**S**	**08 25 49.0**	**+0.6**
	126nm,0.6s						
GALF	**Gagliano Caste**	**0.86**	**206**	Pg	Pn	**08 25 27.1**	**+1.4**
	72nm,0.8s						
GALF	**Gagliano Caste**	**0.86**	**206**	Pg	Pn	**08 25 27.1**	**+1.4**
	72nm,0.8s						
PLLN	**Pollina**	**0.86**	**235**	Pg	Pn	**08 25 25.8**	**+0.2**
PLLN				Sg	**S**	**08 25 49.7**	**-0.2**
	19nm,0.2s						
PLLN	**Pollina**	**0.86**	**235**	Pg	Pn	**08 25 25.8**	**+0.2**
PLLN				Sg	**S**	**08 25 49.7**	**-0.2**
	19nm,0.2s						
SOI	**Samo**	**0.90**	**117**	⇓*i*Pg	Pn	**08 25 26.8**	**+1.1**
SOI				Sg	**S**	**08 25 49.6**	**-0.5**
	107nm,0.4s						
SOI	**Samo**	**0.90**	**117**	⇓*i*Pg	Pn	**08 25 26.8**	**+1.1**
SOI				Sg	**S**	**08 25 49.6**	**-0.5**
	107nm,0.4s						
ECNV	**Catenanuova**	**0.93**	**196**	Pg	Pn	**08 25 27.8**	**+1.8**
	199nm,1.1s						
ECNV	**Catenanuova**	**0.93**	**196**	Pg	Pn	**08 25 27.8**	**+1.8**
	199nm,1.1s						
MPAZ	**Palizzi**	**0.93**	**125**	⇓*i*Pg	Pn	**08 25 26.9**	**+0.9**
MPAZ				Sg	**S**	**08 25 50.0**	**-0.4**
	146nm,0.3s						
MPAZ	**Palizzi**	**0.93**	**125**	⇓*i*Pg	Pn	**08 25 26.9**	**+0.9**
MPAZ				Sg	**S**	**08 25 50.0**	**-0.4**
	146nm,0.3s						
GIB	**Gibilmanna**	**0.94**	**239**	Pg	Pn	**08 25 26.3**	**+0.2**
	89nm,0.5s						
GIB	**Gibilmanna**	**0.94**	**239**	Pg	Pn	**08 25 26.3**	**+0.2**
	89nm,0.5s						
CSLB	**Castelbuono**	**0.95**	**235**	Pg	Pn	**08 25 26.4**	**+0.3**
	31nm,0.3s						
CSLB	**Castelbuono**	**0.95**	**235**	Pg	Pn	**08 25 26.4**	**+0.3**
	31nm,0.3s						
CAGR	**Agira**	**0.96**	**207**	⇓*i*Pg	Pn	**08 25 28.2**	**+2.0**
	140nm,0.3s						
CAGR	**Agira**	**0.96**	**207**	⇓*i*Pg	Pn	**08 25 28.2**	**+2.0**
	140nm,0.3s						
PLAC	**Placanica**	**1.10**	**91**	⇓*i*Pg	Pn	**08 25 28.0**	**+1.0**
PLAC				Sg	**S**	**08 25 52.1**	**-0.2**
	101nm,0.4s						
PLAC	**Placanica**	**1.10**	**91**	⇓*i*Pg	Pn	**08 25 28.0**	**+1.0**
PLAC				Sg	**S**	**08 25 52.1**	**-0.2**
	101nm,0.4s						
GRI	**Girifalco**	**1.13**	**72**	Pg	Pn	**08 25 28.4**	**+1.2**
	85nm,0.5s						
GRI	**Girifalco**	**1.13**	**72**	Pg	Pn	**08 25 28.4**	**+1.2**
	85nm,0.5s						
RESU	**Resuttano**	**1.14**	**223**	Pg	Pn	**08 25 29.2**	**+1.8**
	46nm,0.4s						
RESU	**Resuttano**	**1.14**	**223**	Pg	Pn	**08 25 29.2**	**+1.8**
	46nm,0.4s						
HLNI	**Lentini**	**1.14**	**187**	⇓*i*Pg	Pn	**08 25 28.2**	**+0.9**
	30nm,0.3s						
HLNI	**Lentini**	**1.14**	**187**	⇓*i*Pg	Pn	**08 25 28.2**	**+0.9**
	30nm,0.3s						
CAR1	**CAROLEI**	**1.19**	**50**	Pg	Pn	**08 25 28.3**	**+0.7**
CAR1				Sg	**S**	**08 25 52.1**	**-1.4**
CAR1	**CAROLEI**	**1.19**	**50**	Pg	Pn	**08 25 28.3**	**+0.7**
CAR1				Sg	**S**	**08 25 52.1**	**-1.4**
AGST	**Augusta-Monte**	**1.23**	**173**	Pg	Pn	**08 25 29.0**	**+1.0**
AGST	**Augusta-Monte**	**1.23**	**173**	Pg	Pn	**08 25 29.0**	**+1.0**
ALJA	**Alia**	**1.25**	**235**	Pg	Pn	**08 25 29.4**	**+1.2**
	72nm,0.4s						
ALJA	**Alia**	**1.25**	**235**	Pg	Pn	**08 25 29.4**	**+1.2**
	72nm,0.4s						
SSY	**Sortino**	**1.33**	**179**	Pg	Pn	**08 25 29.6**	**+0.9**
	57nm,0.3s						
SSY	**Sortino**	**1.33**	**179**	Pg	Pn	**08 25 29.6**	**+0.9**
	57nm,0.3s						
HVZN	**Vizzini**	**1.33**	**191**	⇓*i*Pg	Pn	**08 25 30.0**	**+1.2**
	120nm,0.7s						
HVZN	**Vizzini**	**1.33**	**191**	⇓*i*Pg	Pn	**08 25 30.0**	**+1.2**
	120nm,0.7s						
RAFF	**Raffo Rosso**	**1.37**	**203**	⇓*i*Pg	Pn	**08 25 30.5**	**+1.5**
	79nm,0.7s						
RAFF	**Raffo Rosso**	**1.37**	**203**	⇓*i*Pg	Pn	**08 25 30.5**	**+1.5**
	79nm,0.7s						
SERS	**Sersale**	**1.40**	**66**	⇓*i*Pg	Pn	**08 25 30.6**	**+1.3**
SERS				Sg	**S**	**08 25 56.0**	**-0.4**
	101nm,0.8s						
SERS	**Sersale**	**1.40**	**66**	⇓*i*Pg	Pn	**08 25 30.6**	**+1.3**
SERS				Sg	**S**	**08 25 56.0**	**-0.4**
	101nm,0.8s						
TIP	**Timpagrande**	**1.51**	**62**	⇓*i*Pg	Pn	**08 25 31.4**	**+1.3**
TIP				Sg	**S**	**08 25 58.0**	**+0.2**
	42nm,0.5s						
TIP	**Timpagrande**	**1.51**	**62**	⇓*i*Pg	Pn	**08 25 31.4**	**+1.3**
TIP				Sg	**S**	**08 25 58.0**	**+0.2**
	42nm,0.5s						
HAVL	**Avola**	**1.52**	**178**	Pg	Pn	**08 25 31.3**	**+1.0**
	56nm,0.3s						
HAVL	**Avola**	**1.52**	**178**	Pg	Pn	**08 25 31.3**	**+1.0**
	56nm,0.3s						
HMDC	**Modica**	**1.54**	**188**	Pg	Pn	**08 25 31.8**	**+1.4**
	82nm,0.9s						
HMDC	**Modica**	**1.54**	**188**	Pg	Pn	**08 25 31.8**	**+1.4**
	82nm,0.9s						
PIPA	**Pietrapaola**	**1.71**	**54**	Pg	Pn	**08 25 33.3**	**+1.6**
	68nm,0.8s						
PIPA	**Pietrapaola**	**1.71**	**54**	Pg	Pn	**08 25 33.3**	**+1.6**
	68nm,0.8s						
LADO	**San Nicola del**	**1.71**	**62**	Pg	Pn	**08 25 32.7**	**+0.9**
	93nm,0.3s						
LADO	**San Nicola del**	**1.71**	**62**	Pg	Pn	**08 25 32.7**	**+0.9**
	93nm,0.3s						
SALB	**San Lorenzo Be**	**1.72**	**36**	Pg	Pn	**08 25 34.1**	**+2.1**
	38nm,0.6s						
SALB	**San Lorenzo Be**	**1.72**	**36**	Pg	Pn	**08 25 34.1**	**+2.1**
	38nm,0.6s						
CMPR	**Campora**	**1.84**	**6**	⇑*i*Pg	Pn	**08 25 34.7**	**+1.7**
	28nm,0.4s						
CMPR	**Campora**	**1.84**	**6**	⇑*i*Pg	Pn	**08 25 34.7**	**+1.7**
	28nm,0.4s						
SCHR	**S. Chirico Rap**	**1.89**	**25**	Pg	Pn	**08 25 36.6**	**+3.1**
	7.0nm,0.0s						
CDRU	**Civita di Ruta**	**2.01**	**6**	⇑*i*Pg	Pn	**08 25 36.4**	**+1.7**
	7.0nm,0.3s						
CDRU	**Civita di Ruta**	**2.01**	**6**	⇑*i*Pg	Pn	**08 25 36.4**	**+1.7**
	7.0nm,0.3s						
SGO	**Sicignano**	**2.08**	**6**	Pg	Pn	**08 25 37.2**	**+1.9**
	7.0nm,0.3s						
SGO	**Sicignano**	**2.08**	**6**	Pg	Pn	**08 25 37.2**	**+1.9**
	7.0nm,0.3s						
LTRZ	**Laterza**	**2.52**	**32**	Pg	Pn	**08 25 39.6**	**-0.2**
	813nm,2.3s						
LTRZ	**Laterza**	**2.52**	**32**	Pg	Pn	**08 25 39.6**	**-0.2**
	813nm,2.3s						
PTRJ	**Pietraroja**	**2.90**	**352**	Pg	Pn	**08 25 46.1**	**+2.0**
	31nm,0.7s						
PTRJ	**Pietraroja**	**2.90**	**352**	Pg	Pn	**08 25 46.1**	**+2.0**
	31nm,0.7s						
GERES	**GERESS Array B**	**10.40**	**355**	P	**P**	**08 27 23.6**	**-1.3**
	0.2nm,0.3s,baz=167,slow=10.0,SNR=2.3						
BRTR	**Keskin Array B**	**14.50**	**79**	P	P	08 28 20.3	+10
	0.1nm,0.3s,baz=255,slow=10,SNR=2.7						
HFS	**Hagfors**	**21.69**	**358**	P	**P**	**08 29 26.4**	**-1.2**
	4.1nm,1.1s,baz=180,slow=14,SNR=4.3						
FINES	**FINESS Array B**	**23.99**	**13**	P	**P**	**08 29 48.4**	**-0.1**
	1.1nm,0.4s,baz=191,slow=9.9,SNR=9.7						
ARCES	**ARCESS Array B**	**31.62**	**7**	P	**P**	**08 30 55.2**	**-1.1**
	1.9nm,0.8s,baz=182,slow=8.5,SNR=6.2						
MKAR	**Makanchi Array**	**48.79**	**57**	P	**P**	**08 33 18.4**	**+1.3**
	0.3nm,0.3s,baz=284,slow=7.2,SNR=6.7						

SJA 22 08:31:33.5±1.2,**31°.51S**×**70°.21W**,**h89**km±11km,**ML3.0, MW3.7,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.83**	**110**	*e*P	Pn	08 31 53.0	+1.4
RTLS				*e*S	Sn	08 32 06.7	+1.7
AUSP	**Uspallata**	**0.99**	**136**	*e*P	Pn	08 31 54.7	+1.3
AUSP				*e*S	Sn	08 32 10.6	+2.2
SJA	**San Juan**	**1.41**	**91**	*e*P	Pn	08 31 59.4	+1.3
SJA				*e*S	Sn	08 32 19.0	+2.3
RTCV	**Cerro Valdivia**	**1.46**	**104**	*e*P	Pn	08 31 59.6	+0.8
RTCV				*e*S	Sn	08 32 19.4	+1.4
RTLL	**Cerro Villicun**	**1.49**	**83**	*e*P	Pn	08 31 59.7	+0.5
RTLL				*e*S	Sn	08 32 20.0	+1.4
AMOG	**MOGNA**	**1.57**	**69**	*e*P	Pn	08 32 01.6	+1.3
AMOG				*e*S	Sn	08 32 22.5	+1.9
ASAL	**Salagasta**	**1.58**	**133**	*e*P	Pn	08 32 01.4	+1.0
ASAL				*e*S	Sn	08 32 23.3	+2.5
CFAA	**Coronel Fontan**	**1.68**	**94**	*e*P	Pn	08 32 02.0	+0.4
CFAA				*e*S	Sn	08 32 23.8	+0.8
ARCO	**CERRO ARCO**	**1.71**	**141**	*e*P	Pn	08 32 03.4	+1.3
ARCO				*e*S	Sn	08 32 26.1	+2.3
ARCO				AML	AML	08 32 28.8	
	comp=Z,145nm,0.3s						
AAGR	**Agrelo**	**1.95**	**144**	*e*P	Pn	08 32 06.6	+1.4
AAGR				*e*S	Sn	08 32 30.8	+1.4
VCA	**Vinchina**	**3.27**	**33**	*e*P	Pn	08 32 24.5	+1.6
VCA				*e*S	Sn	08 33 02.5	+1.5

IDC 22 08:31:57.1±3.0,**5°.64S**×**150°.42E**,**h0**km,**mb3.4/3, mb1 3.6/3,mb1mx3.3/25,mbtmp3.4/3,Error ellipse: s-maj=84.6km s-min=46.6km az=105.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.95**	**221**	Sn	Sn	08 34 06.8	-4.0
	0.9nm,0.3s,baz=139,slow=3.8,SNR=3.6						
WRA	**Warramunga Arr**	**21.14**	**226**	P	P	08 36 43.6	-0.2
	0.8nm,0.4s,baz=51,slow=10,SNR=10						
ASAR	**Alice Springs**	**23.96**	**220**	P	P	08 37 13.1	-0.3
	0.3nm,0.7s,baz=60,slow=8.5,SNR=5.1						
STKA	**Stephens Creek**	**27.38**	**196**	P	P	08 37 44.2	-0.1
	1.1nm,0.9s,baz=38,slow=14,SNR=2.5						
TORD	**Torodi Ar. Bea**	**148.28**	**286**	PKPbc	PKPbc	08 51 46.2	-0.2
	0.4nm,0.4s,baz=82,slow=2.8,SNR=4.6						

DJA 22 08:43:16.0±2.2,**9°S**±7°×**11°0E**±°,**h36**km±28km,**M3.6/7, MLv3.6/7,South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.55**	**33**	P	Pn	08 43 41.1	0.0
UGM				S	Sn	08 44 01.5	+1.5
WOJI	**Wonogiri, Jawa**	**1.85**	**42**	P	Pn	08 43 44.8	-0.4
CMJI	**Cimerak**	**1.87**	**320**	P	Pn	08 43 46.0	+0.5
PWJI	**Pagerwojo**	**2.42**	**61**	P	Pn	08 43 52.4	-0.7
PWJI				S	Sn	08 44 21.2	-0.3
NGJI	**Ngawi**	**2.56**	**44**	P	Pn	08 43 55.1	+0.2

KRSC 22 08:43:32.7±1.1,**50°.05N**×**159°.98E**,**h96**km±36km,**ML3.9, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**2.56**	**339**	*i* P	Pn	08 44 13.6	+1.2
RUS				*e*S	Sn	08 44 45.3	+2.5
ASAK	**Asacha**	**2.68**	**331**	*e*S	Sn	08 44 47.7	+1.8
MTVR	**Mutnovka**	**2.68**	**336**	*e*S	Sn	08 44 48.4	+2.2
SPN	**Mys Shipunski**	**3.05**	**0**	*e*P	Pn	08 44 21.2	+2.2
SPN				*e*S	Sn	08 44 56.8	+2.2
NLC	**Nalytchevo**	**3.15**	**353**	*e*S	Sn	08 44 59.2	+2.3
UGLR	**Uglovaya**	**3.24**	**348**	*e*P	Pn	08 44 24.4	+2.7
SDLR	**Sedlovina**	**3.30**	**348**	*e*P	Pn	08 44 25.2	+2.7
AVH	**Avacha**	**3.31**	**347**	*e*P	Pn	08 44 24.7	+2.1
KRER	**Koryakskii**	**3.34**	**347**	*e*P	Pn	08 44 24.9	+1.7
KOK	**Koryaka**	**3.35**	**346**	*e*P	Pn	08 44 25.6	+2.5
GNL	**Ganaly**	**3.86**	**342**	*e*P	Pn	08 44 31.9	+1.9
MKZ	**Mys Kozlova**	**4.64**	**13**	*e*P	Pn	08 44 42.8	+2.5

ISCJB ***22*** *08:45:49.6±0.3,23°.51S±0°.04×66°.50W±0°.07,h201km, mb3.9/22,Error ellipse: s-maj=9.1km s-min=4.8km az=162.2*

SJA ***22*** *08:45:49.0±1.2,23°.51S×66°.54W,h240km±12km,ML3.5, MW2.9*

NEIC ***22*** *08:45:50.1±1.0,23°.60S×66°.43W,h196km±9km,mb4.2/16, Error ellipse: s-maj=21.5km s-min=8.6km az=75.0*

IDC ***22*** *08:45:50.6±0.9,23°.51S×66°.55W,h208km±8km,mb3.6/7, mb1 3.8/11,mb1mx3.6/32,mbtmp4.1/11,Error ellipse: s-maj=16.5km s-min=11.8km az=15.0*

ISC 22 08:45:50.5±0.5,**23°.49S**±0°.06×**66°.51W**±0°.07,**h201**km,**n48,** σ1§**38**/52,**mb4.1/22,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.05**	**75**	*e*P	Pn	08 46 24.4	+3.1
AZAP	**Zapla**	**1.51**	**119**	*e*P	**Pn**	**08 46 26.5**	**+1.8**
SLA	**San Lorenzo**	**1.53**	**143**	*e*P	Pn	08 46 27.7	+2.9
SLA				*e*S	**S**	**08 46 55.5**	**+4.4**
SLA				AML	AML	08 46 59.2	
	comp=Z,181nm,0.7s						
YJA	**Yavi**	**1.60**	**35**	*e*P	Pn	08 46 29.2	+3.4
ASTB	**Santa Barbara**	**1.92**	**104**	*e*P	Pn	08 46 31.2	+2.7
LVC	**Limon Verde**	**2.38**	**291**	P	**Pn**	**08 46 34.6**	**+1.2**
	comp=Z,4μm,0.3s,baz=102,slow=6.3,SNR=750						
LVC				S	**S**	**08 47 07.7**	**+1.6**
	comp=Z,1μm,0.3s,baz=357,slow=10,SNR=9.6						
LVC	**Limon Verde**	**2.38**	**291**	*e*Pn	**Pn**	**08 46 34.6**	**+1.2**
LVC				*e*Sn	**S**	**08 47 08.4**	**+2.3**
LVC	**Limon Verde**	**2.38**	**291**	*e*P	**Pn**	**08 46 34.5**	**+1.1**
LVC				*e*S	**S**	**08 47 09.1**	**+3.0**
FSA	**Cafayete**	**2.63**	**170**	*e*P	**Pn**	**08 46 37.1**	**+0.9**
AHML	**Horco Molle**	**3.45**	**162**	*e*P	**Pn**	**08 46 46.3**	**+0.6**
AHML				*e*S	**S**	**08 47 29.1**	**+0.8**
CYA	**Choya**	**4.97**	**173**	*e*P	**Pn**	**08 47 05.6**	**+1.0**
LCO	**Las Campanas**	**6.66**	**213**	*e*Pn	**Pn**	**08 47 23.8**	**-2.8**
LPAZ	**La Paz**	**7.33**	**348**	P	**Pn**	**08 47 37.4**	**+1.7**
	comp=Z,3.3nm,0.3s,baz=160,slow=6.5,SNR=114						
LPAZ				S	**S**	**08 48 58.5**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=22,slow=18,SNR=8.0						
LPAZ	**La Paz**	**7.33**	**348**	*e*Pn	**Pn**	**08 47 37.4**	**+1.7**
LPAZ				*e*Sn	**S**	**08 48 59.0**	**+0.1**
TCA	**Tanti**	**8.00**	**168**	*e*P	**Pn**	**08 47 42.7**	**-1.1**
CFAA	**Coronel Fontan**	**8.22**	**190**	P	**Pn**	**08 47 44.9**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=297,slow=2.2,SNR=24						
CFAA				S	S	08 49 10.0	-9.3
	comp=Z,0.4nm,0.3s,baz=222,slow=16,SNR=12						
CPUP	**Villa Florida**	**8.80**	**111**	P	**Pn**	**08 47 54.0**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=292,slow=11,SNR=12						
SIV	**San Ignacio**	**9.05**	**35**	P	**Pn**	**08 47 58.0**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=223,slow=14,SNR=27						
TRQA	**Tornquist**	**15.03**	**166**	*e*Pn	**Pn**	**08 49 11.6**	**-1.4**
	comp=Z,1.9nm,0.4s						
BDFB	**Brasilia**	**19.09**	**69**	P	**P**	**08 49 58.8**	**+0.4**
	comp=Z,1.7nm,0.3s,baz=237,slow=12,SNR=20						
PTGA	**Pitinga**	**23.50**	**17**	P	**P**	**08 50 41.1**	**-1.4**
	comp=Z,3.5nm,0.8s,baz=208,slow=9.5,SNR=6.1						
TEIG	**Tepich**	**48.36**	**332**	*e*P	**P**	**08 54 11.9**	**-0.3**
	comp=Z,0.6nm,0.6s						
SNAA	**Sanae**	**59.68**	**161**	*e*P	**P**	**08 55 33.1**	**-0.4**
	comp=Z,0.4nm,0.4s						
JCT	**Junction City**	**62.45**	**328**	*e*P	**P**	**08 55 53.1**	**+0.5**
	comp=Z,5.0nm,0.7s						
WVT	**Waverly**	**62.63**	**341**	*e*P	**P**	**08 55 52.8**	**-0.7**
	comp=Z,5.7nm,0.7s						
TXAR	**Lajitas Array**	**63.53**	**324**	P	**P**	**08 55 58.3**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=152,slow=6.9,SNR=11						
PBMO	**Poplar Bluff**	**64.05**	**339**	*e*P	**P**	**08 56 02.6**	**-0.3**
	comp=Z,5.6nm,0.7s						
QSPA	**South Pole Qui**	**66.71**	**180**	*e*P	**P**	**08 56 20.4**	**+0.6**
	comp=Z,2.1nm,0.5s						
SDCO	**Great Sand Dun**	**71.09**	**328**	*e*P	**P**	**08 56 48.7**	**+1.4**
	comp=Z,4.7nm,1.3s						
ECSD	**EROS Data Cent**	**72.38**	**338**	*e*P	**P**	**08 56 54.6**	**+0.2**
	comp=Z,3.9nm,1.0s						
O20A	**White River Ci**	**74.29**	**328**	*e*P	**P**	**08 57 07.3**	**+1.3**
	comp=Z,4.0nm,0.8s						
SRU	**San Rafael**	**74.65**	**326**	*e*P	**P**	**08 57 09.3**	**+1.3**
	comp=Z,3.8nm,0.7s						
TOA0	**Torodi Ar. Sit**	**75.97**	**69**	*e*P	**P**	**08 57 15.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**75.97**	**69**	P	**P**	**08 57 15.0**	**-0.8**
	comp=Z,2.0nm,0.4s,baz=262,slow=6.1,SNR=44						
PDAR	**Pinedale Array**	**76.94**	**329**	P	**P**	**08 57 20.7**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=118,slow=7.7,SNR=11						
HWUT	**Hardware Ranch**	**77.04**	**327**	*e*P	**P**	**08 57 22.4**	**+0.8**
	comp=Z,2.5nm,0.6s						
AHID	**Auburn Hatcher**	**77.68**	**328**	*e*P	**P**	**08 57 26.1**	**+1.1**
	comp=Z,2.9nm,0.5s						
SCHQ	**Schefferville**	**78.00**	**360**	P	**P**	**08 57 25.2**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=266,slow=16,SNR=3.7						
NVAR	**Mina Array Bea**	**78.42**	**321**	P	**P**	**08 57 28.7**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=152,slow=6.6,SNR=4.2						
IMW	**Indian Meadow**	**78.46**	**329**	*e*P	**P**	**08 57 30.8**	**+1.4**
	comp=Z,3.5nm,0.8s						
RLMT	**Red Lodge**	**78.62**	**331**	*e*P	**P**	**08 57 31.3**	**+1.1**
	comp=Z,5.0nm,0.6s						
HLID	**Hailey**	**79.91**	**327**	*e*P	**P**	**08 57 38.7**	**+1.6**
	comp=Z,4.2nm,0.8s						
MCMT	**McKenzie Canyo**	**80.06**	**328**	*e*P	**P**	**08 57 39.7**	**+1.7**
YKA	**Yellowknife Ar**	**93.80**	**340**	P	**P**	**08 58 44.2**	**0.0**
	comp=Z,0.6nm,0.7s,baz=136,slow=4.8,SNR=9.4						
ASAR	**Alice Springs**	**129.10**	**204**	PKP	**PKPdf**	**09 04 34.1**	**-1.2**
	comp=Z,0.6n

MSOM	**Makushin Julie**	**1.87**	**53**	P		**Pn**	**08 48 33.5**	**+0.2**
MSOM				S		**Sb**	**08 48 59.2**	**+0.2**
MCIR	**Makushin Cirqu**	**1.98**	**51**	P		**Pn**	**08 48 35.9**	**+1.1**
MSW	**Makushin Switc**	**2.01**	**53**	P		**Pn**	**08 48 35.5**	**+0.4**
MSW				S		**Sb**	**08 49 02.2**	**-0.8**
MTBL	**Makushin Table**	**2.09**	**52**	P		**Pn**	**08 48 36.8**	**+0.5**
UNV	**Unalaska Valle**	**2.11**	**57**	P		**Pn**	**08 48 36.5**	**-0.1**
UNV				S		**Sn**	**08 49 01.8**	**-1.5**
AKRB	**Akutan Reef Bi**	**2.48**	**54**	P		**Pn**	**08 48 42.8**	**+1.1**
ZRO	**Akutan Zero**	**2.50**	**55**	P		**Pn**	**08 48 43.1**	**+1.1**
AKUT	**Akutan**	**2.63**	**56**	*e*Pn		**Pn**	**08 48 45.4**	**+1.8**
AKUT				*e*Sn		**Sn**	**08 49 17.2**	**+1.2**
ATKA	**Atka Island**	**2.93**	**262**	P		**Pn**	**08 48 47.9**	**+0.1**
ATKA				S		**Sb**	**08 49 28.6**	**-0.7**
GSMY	**Great Sitkin M**	**4.08**	**263**	P		**Pn**	**08 49 05.1**	**+1.4**
SPIA	**Saint Paul Isl**	**4.48**	**355**	P		**Pn**	**08 49 10.3**	**+1.2**
ILAR	**Eielson Array**	**16.70**	**35**	Pn		**Pn**	**08 51 54.7**	**-0.3**
	0.0nm,0.3s,baz=226,slow=11,SNR=4.6							
PDAR	**Pinedale Array**	**40.41**	**79**	P		**P**	**08 55 39.5**	**-0.3**
	0.4nm,0.8s,baz=318,slow=4.2,SNR=4.3							
TXAR	**Lajitas Array**	**52.81**	**89**	P		**P**	**08 57 17.1**	**+0.1**
	0.2nm,0.7s,baz=322,slow=5.7,SNR=2.7							

IDC ***22*** *08:51:26.8±1.1,6˚.30S×150˚.67E, h0km, mb4.1/6, mb1 4.4/7, mb1mx3.8/41, mbtmp4.1/7, ML2.5/1, MS2.9/4, Ms1 2.9/4, ms1mx2.7/32, Error ellipse: s-maj=45.4km s-min=18.3km az=121.0*

ISCJB ***22*** *08:51:32.0±0.7,6˚.18S±0˚.08×150˚.4E±0˚.1, h48km, mb4.0/6, MS2.8/3, Error ellipse: s-maj=19.8km s-min=8.3km az=26.8*

NEIC ***22*** *08:51:32.5±0.7,6˚.22S×150˚.50E, h35km, mb4.3/2, Error ellipse: s-maj=24.3km s-min=9.2km az=116.0*

ISC 22 08:51:33.6±0.9,6˚.2S±0˚.1×150˚.4E±0˚.2, h48km, n25, σ1ᵗ10/24, mb4.1/6, MS2.8/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.57**	**225**	Pn	**Pn**	**08 52 39.7**	**-0.5**
	14nm,0.3s,baz=48,slow=8.1,SNR=30						
PMG				Sn	**Sn**	**08 53 32.8**	**+0.7**
	9.5nm,0.3s,baz=232,slow=18,SNR=3.6						
PMG				LR	LR	08 54 28.9	
	comp=Z,150nm,21.3s,baz=2.0,slow=39						
PMG	**Port Moresby**	**4.57**	**225**	*e*Pn	**Pn**	**08 52 39.3**	**-0.9**
PMG				*e*Sn	**Sn**	**08 53 32.8**	**+0.7**
RMQ	**Roma**	**20.27**	**184**	P	Pn	08 56 05.0	-2.6
	baz=21,SNR=12						
GUMO	**Guam**	**20.38**	**344**	LR	LR	09 02 33.7	
	comp=Z,25nm,21.8s,baz=163,slow=32						
GUMO	**Guam**	**20.38**	**344**	*e*P	**P**	**08 56 06.1**	**-0.4**
WRAB	**Tennant Creek**	**20.77**	**227**	*e*P	**P**	**08 56 10.9**	**+0.1**
	16nm,0.8s						
WRA	**Warramunga Arr**	**20.79**	**227**	P	**P**	**08 56 10.8**	**-0.1**
	9.6nm,0.5s,baz=53,slow=11,SNR=121						
QLP	**Quilpie**	**21.15**	**196**	P	**P**	**08 56 17.4**	**+2.7**
	baz=22,SNR=3.8						
AS31	**Alice Springs**	**23.57**	**221**	*e*P	**P**	**08 56 40.1**	**0.0**
ASAR	**Alice Springs**	**23.57**	**221**	P	**P**	**08 56 39.5**	**-0.6**
	2.9nm,0.6s,baz=56,slow=9.0,SNR=48						
STKA	**Stephens Creek**	**26.89**	**197**	P	**P**	**08 57 08.2**	**-1.9**
	4.5nm,0.6s,baz=9.5,slow=8.5,SNR=13						
STKA				LR	LR	09 06 44.7	
	comp=Z,34nm,19.1s,baz=15,slow=34						
STKA	**Stephens Creek**	**26.89**	**197**	P	**P**	**08 57 08.8**	**-1.2**
	baz=28,SNR=12						
STKA	**Stephens Creek**	**26.89**	**197**	*e*P	**P**	**08 57 08.7**	**-1.4**
FITZ	**Fitzroy Crossi**	**26.94**	**242**	*e*P	**P**	**08 57 11.5**	**+0.8**
	3.1nm,0.4s						
WRKA	**Warakurna**	**28.32**	**226**	P	**P**	**08 57 22.8**	**-0.2**
	baz=29,SNR=10						
HTT	**Hallett**	**29.16**	**200**	P	**P**	**08 57 29.8**	**-0.6**
	baz=30,SNR=3.7						
JCJ	**Chichijima**	**34.01**	**347**	LR	LR	09 10 01.8	
	comp=Z,22nm,21.8s,baz=122,slow=33						
MEEK	**Meekatharra**	**36.51**	**232**	P	**P**	**08 58 35.3**	**+0.7**
	baz=37,SNR=4.9						
KLBR	**Kellerberrin**	**39.66**	**226**	P	**P**	**08 59 01.3**	**+0.1**
	baz=40,SNR=6.1						
KSRS	**Korea Array**	**48.21**	**336**	P	**P**	**09 00 10.4**	**+0.9**
	0.3nm,0.3s,baz=153,slow=11,SNR=3.7						
KSAR	**Wonju Array Be**	**48.21**	**336**	P	**P**	**09 00 10.4**	**+0.9**
ILAR	**Eielson Array**	**84.31**	**22**	P	**P**	**09 03 59.7**	**-0.4**
	0.5nm,0.9s,baz=256,slow=5.3,SNR=4.9						
NVAR	**Mina Array Bea**	**94.78**	**52**	P	**Pdif**	**09 04 51.8**	**+1.1**
	0.8nm,0.8s,baz=248,slow=7.3,SNR=4.7						
PDAR	**Pinedale Array**	**101.50**	**48**	P	**Pdif**	**09 05 19.8**	**-1.0**
	0.3nm,0.7s,baz=302,slow=2.0,SNR=2.7						
TORD	**Torodi Ar. Bea**	**148.43**	**285**	PKPbc	**PKPab**	**09 11 17.6**	**-1.8**
	0.5nm,0.4s,baz=71,slow=1.9,SNR=11						

DJA 22 08:53:47.5±1.9,9˚S±5˚×11˚0E±˚, h37km±25km, M3.7/9, MLv3.7/9, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.61**	**35**	P	Pn	08 54 13.6	+0.1
UGM				S	Sn	08 54 34.8	+1.7
CMJI	**Cimerak**	**1.83**	**322**	P	Pn	08 54 16.6	+0.2
CMJI				S	Sn	08 54 40.1	+1.8
KPJI	**Karang Pucung**	**2.00**	**341**	P	Pn	08 54 18.8	0.0
KPJI				S	Sn	08 54 43.8	+1.3
SMRI	**Semarang**	**2.34**	**21**	P	Pn	08 54 23.4	0.0
SMRI				S	Sn	08 54 52.4	+1.5
CISI	**Cisompet, Garu**	**2.42**	**314**	P	Pn	08 54 24.8	+0.2
CISI				S	Sn	08 54 54.9	+1.9
PWJI	**Pagerwojo**	**2.51**	**61**	P	Pn	08 54 25.2	-0.6
PWJI				S	Sn	08 54 55.2	+0.1
NGJI	**Ngawi**	**2.63**	**45**	P	Pn	08 54 27.8	+0.4
NGJI				S	Sn	08 55 00.2	+2.1
GRJI	**Gresik**	**3.69**	**51**	P	Pn	08 54 56.8	+15

IDC ***22*** *08:55:29.2±12.0, 25˚.55N×122˚.60E, h260km±132km, mb3.2/7, mb1 3.3/7, mb1mx2.9/38, mbtmp3.8/7, Error ellipse: s-maj=114.8km s-min=13.9km az=65.0*

ISCJB ***22*** *08:55:30.2±0.4, 25˚.50N±0˚.07×122˚.47E±0˚.03, h268km±4km, mb3.3/7, Error ellipse: s-maj=10.9km s-min=4.2km az=172.7*

TAP ***22*** *08:55:30.8, 25˚.67N×122˚.63E, h263km±1km, ML4.1, D*

JMA ***22*** *08:55:32.8±0.3, 25˚.33N×122˚.45E, h256km±3km, M4.3*

ISC 22 08:55:30.0±0.8, 25˚.58N±0˚.08×122˚.49E±0˚.04, h266km±7km, n45, σ1ᵗ49/79, mb3.4/7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCYT	**Pengchaiyu**	**0.38**	**278**	*e*P	**Pn**	**08 56 04.7**	**+0.3**
	baz=265						
NWF	**Wu-fen Shan**	**0.81**	**232**	*e*P	**Pn**	**08 56 07.6**	**+1.7**
	baz=239						
NWF				*e*S	**S**	**08 56 34.1**	**-0.2**
	baz=239						
EGS		**0.89**	**215**	*e*P	**Pn**	**08 56 07.5**	**+1.3**
	baz=217						
EGS				*e*S	**S**	**08 56 33.8**	**-0.9**
	baz=217						
TWA	**Mucha**	**1.01**	**234**	*e*P	**Pn**	**08 56 08.4**	**+1.5**
	baz=242						
TWA				*e*S	**S**	**08 56 36.0**	**+0.1**
	baz=242						
TWS1	**Kuangyinshan**	**1.08**	**244**	*e*P	**Pn**	**08 56 07.9**	**+0.8**
	baz=243						
TWS1				*e*S	**S**	**08 56 35.5**	**-1.0**
	baz=243						
TWC	**Suao**	**1.12**	**211**	*e*P	**Pn**	**08 56 08.2**	**+0.8**
	baz=207						
TWC				*e*S	**S**	**08 56 35.0**	**-2.0**
	baz=207						
TWE	**Neicheng**	**1.13**	**221**	*e*P	**Pn**	**08 56 08.8**	**+1.4**
	baz=227						
TWE				*e*S	**S**	**08 56 36.5**	**-0.6**
	baz=227						
JYNG	**Yonagunijimaku**	**1.19**	**160**	P	**Pn**	**08 56 08.2**	**+0.4**
JYNG				*e*S	**S**	**08 56 36.2**	**-1.5**
YOJ	**Yonaguni jima**	**1.21**	**157**	P	**Pn**	**08 56 08.4**	**+0.5**
YOJ				*e*S	**S**	**08 56 36.8**	**-1.1**
ENTT	**Nioudou**	**1.25**	**222**	*e*P	**Pn**	**08 56 09.3**	**+1.1**
	baz=224						
ENTT				*e*S	**S**	**08 56 37.6**	**-0.8**
	baz=224						
ENA	**Nanau**	**1.33**	**211**	P	**Pn**	**08 56 09.9**	**+1.2**
	baz=213						
ENA				*e*S	**S**	**08 56 38.8**	**-0.5**
	baz=213						
NSK	**Sanguang**	**1.36**	**229**	*e*P	**Pn**	**08 56 09.8**	**+0.8**
	baz=229						
NSK				S	**S**	**08 56 38.5**	**-1.3**
	baz=229						
NNS	**Nan Shan**	**1.52**	**222**	*e*P	**Pn**	**08 56 11.2**	**+1.0**
	baz=228						
NNS				*e*S	**S**	**08 56 41.0**	**-0.9**
	baz=228						
NSTT	**Nanjuang**	**1.65**	**235**	*e*P	**Pn**	**08 56 12.1**	**+1.1**
	baz=230						
NSTT				*e*S	**S**	**08 56 41.9**	**-1.4**
	baz=230						
IRIF	**Iriomote-Funau**	**1.67**	**137**	P	**Pn**	**08 56 11.9**	**+0.8**
IRIF				*e*S	**S**	**08 56 42.1**	**-1.6**
TWD	**Chiawan**	**1.70**	**209**	*e*P	**Pn**	**08 56 11.7**	**+0.4**
	baz=211						
TWD				*e*S	**S**	**08 56 42.3**	**-1.7**
	baz=211						
TWT	**Tachien**	**1.78**	**222**	*e*P	**Pn**	**08 56 12.6**	**+0.4**
	baz=229						
TWT				*e*S	**S**	**08 56 44.6**	**-0.9**
	baz=229						
WHF	**Hehuan Shan**	**1.81**	**218**	*e*P	**Pn**	**08 56 13.9**	**+1.2**
	baz=223						
WHF				*e*S	**S**	**08 56 45.0**	**-1.4**
	baz=223						
JKRS	**Kuro-shima**	**1.92**	**134**	P	**Pn**	**08 56 14.5**	**+1.4**
JKRS				*e*S	**S**	**08 56 45.9**	**-1.3**
JISG	**Ishigakijimahi**	**1.92**	**120**	P	**Pn**	**08 56 14.3**	**+1.2**
JISG				*e*S	**S**	**08 56 46.3**	**-1.0**
JIJ	**Ishigaki jima**	**1.93**	**128**	P	**Pn**	**08 56 14.2**	**+1.0**
JIJ				*e*S	**S**	**08 56 45.1**	**-2.3**
HATJ	**Hateruma jima**	**1.93**	**141**	P	**Pn**	**08 56 14.7**	**+1.5**
HATJ				*e*S	**S**	**08 56 46.3**	**-1.1**
TWQ1	**Liyutan**	**1.98**	**232**	*e*P	**Pn**	**08 56 15.5**	**+1.8**
	baz=227						
TWQ1				*e*S	**S**	**08 56 47.4**	**-0.8**
	baz=227						
ESL	**Shilin**	**2.00**	**209**	*e*P	**Pn**	**08 56 14.9**	**+1.1**
	baz=211						
ESL				*e*S	**S**	**08 56 46.5**	**-2.1**
	baz=211						
JTJ	**Tarama**	**2.21**	**114**	P	**Pn**	**08 56 17.7**	**+2.0**
JTJ				*e*S	**S**	**08 56 51.2**	**-0.7**
SMLT	**Sun Moon Lake**	**2.22**	**221**	*e*P	**Pn**	**08 56 16.2**	**+0.3**
	baz=228						
TYC	**Yuchr**	**2.23**	**222**	*e*P	**Pn**	**08 56 16.8**	**+0.9**
	baz=228						
TYC				*e*S	**S**	**08 56 51.1**	**-1.2**
	baz=228						
TWF1	**Yuli**	**2.46**	**206**	*e*P	**Pn**	**08 56 20.1**	**+1.9**
	baz=209						
JIRB	**Irabujima**	**2.54**	**106**	P	**Pn**	**08 56 20.6**	**+1.8**
JIRB				*e*S	**S**	**08 56 56.7**	**-0.8**
CHN5	**Tsauling**	**2.57**	**220**	*e*P	**Pn**	**08 56 19.0**	**-0.2**
	baz=226						
CHN5				*e*S	**S**	**08 56 57.1**	**-1.2**
	baz=226						
JIKM	**Ikemajima**	**2.58**	**104**	P	**Pn**	**08 56 21.6**	**+2.4**
JIKM				*e*S	**S**	**08 56 59.0**	**+0.8**
JMJ	**Miyako jima 2**	**2.65**	**106**	P	**Pn**	**08 56 22.2**	**+2.3**
JMJ				*e*S	**S**	**08 57 00.1**	**+0.6**
JOGS	**Gusukube**	**2.77**	**106**	P	**Pn**	**08 56 23.3**	**+2.3**
JOGS				*e*S	**S**	**08 57 02.3**	**+0.8**
STYT	**Tauyuan**	**2.87**	**214**	*e*P	**Pn**	**08 56 23.4**	**+1.1**
	baz=219						
STYT				*e*S	**S**	**08 57 02.9**	**-0.9**
	baz=219						
JKE	**Kume jima 2**	**3.94**	**78**	P	**Pn**	**08 56 35.8**	**+2.0**
JKE				*e*S	**S**	**08 57 24.1**	**-0.5**
JOW	**Kunigami**	**5.34**	**75**	P	**Pn**	**08 56 51.9**	**+1.5**
JOW				*e*S	**S**	**08 57 51.1**	**-3.8**
JOKE	**Okinoerabujima**	**5.73**	**71**	*e*S	**S**	**08 57 59.2**	**-4.2**
JMZ	**Minamidaito 2**	**7.88**	**86**	P	**Pn**	**08 57 23.8**	**+2.0**
JMZ				*e*S	**S**	**08 58 47.8**	**-4.3**
SONM	**Songino Array**	**25.59**	**334**	P	**P**	**09 00 35.6**	**+0.5**
	0.9nm,0.7s,baz=153,slow=9.0,SNR=3.9						
MKAR	**Makanchi Array**	**38.20**	**314**	P	**P**	**09 02 25.2**	**+0.9**
	0.8nm,0.3s,baz=97,slow=9.5,SNR=9.4						
ZALV	**Zalesovo Beam**	**39.75**	**326**	P	**P**	**09 02 37.2**	**+0.2**
	0.8nm,0.4s,baz=125,slow=7.1,SNR=2.7						
KURBB	**Kurchatov Arra**	**41.83**	**318**	P	**P**	**09 02 53.1**	**-0.8**
	0.4nm,0.3s,baz=110,slow=10,SNR=4.9						
WRA	**Warramunga Arr**	**46.69**	**165**	P	**P**	**09 03 31.6**	**-1.0**
	1.0nm,0.5s,baz=348,slow=8.8,SNR=9.2						
ASAR	**Alice Springs**	**50.18**	**166**	P	**P**	**09 03 58.8**	**-0.3**
	0.3nm,0.4s,baz=349,slow=7.8,SNR=7.0						
FINES	**FINESS Array B**	**70.85**	**330**	P	**P**	**09 06 18.1**	**+0.4**
	0.6nm,0.5s,baz=60,slow=4.6,SNR=5.3						

IDC 22 09:03:54.3±2.6, 53˚.69N×86˚.95E, h0km, mb1 3.2/3, mb1mx3.0/53, mbtmp3.2/3, ML2.8/3, Error ellipse: s-maj=27.0km s-min=15.0km az=74.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**282**	*i*		09 11 30.0	
	baz=100,slow=316,SNR=1.7						
ZALV	**Zalesovo Beam**	**1.29**	**282**	Pg	Pg	09 04 17.1	-2.0
	2.3nm,0.3s,baz=102,slow=16,SNR=17						
ZALV				Lg	Lg	09 04 34.4	
	1.4nm,0.3s,baz=99,slow=32,SNR=3.8						
KURBB	**Kurchatov Arra**	**6.03**	**243**	Pn	Pn	09 05 25.2	+0.6
	0.1nm,0.3s,baz=58,slow=14,SNR=11						
MKAR	**Makanchi Array**	**7.53**	**205**	Pn	Pn	09 05 45.6	+0.4
	0.2nm,0.3s,baz=26,slow=14,SNR=4.9						
BVAR	**Borovoye Array**	**9.93**	**273**	Pn	Pn	09 06 18.6	+0.5
	0.1nm,0.3s,baz=67,slow=16,SNR=2.5						

IDC ***22*** *09:09:26.6±1.2, 52˚.17N×169˚.59W, h0km, mb3.5/6, mb1 3.8/8, mb1mx3.5/53, mbtmp3.5/8, ML3.1/2, Error ellipse: s-maj=34.6km s-min=22.3km az=159.0*

ISCJB ***22*** *09:09:29.7±1.2, 52˚.7N±0˚.1×169˚.47W±0˚.09, h29km±7km, mb3.4/6, Error ellipse: s-maj=19.8km s-min=5.6km az=157.6*

NEIC ***22*** *09:09:29.9, 52˚.60N×169˚.28W, h18km, ML3.3(AEIC), After AEIC.*

ISC 22 09:09:29.8±1.8, 52˚.6N±0˚.1×169˚.36W±0˚.06, h17km±10km, n32, σ1ᵗ44/30, mb3.4/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.49**	**38**	P	**Pg**	**09 09 39.0**	**-0.7**
NIKH				S	**Sg**	**09 09 47.0**	**+0.7**
OKWR	**Okmok West Rim**	**1.10**	**39**	P	**Pb**	**09 09 49.8**	**-0.5**
OKCE	**Okmok Cone E**	**1.11**	**40**	P	**Pn**	**09 09 49.0**	**-1.5**
OKTU	**Okmok Mt. Tuli**	**1.13**	**44**	P	**Pn**	**09 09 49.7**	**-1.1**
OKAK	**Okmok**	**1.16**	**31**	P	Pn	09 09 48.2	-3.0
OKFG	**Magazine Ridge**	**1.20**	**46**	P	**Pn**	**09 09 50.3**	**-1.5**
OKFG				S	**Sb**	**09 10 06.0**	**-1.3**
MSOM	**Makushin Julie**	**1.90**	**49**	P	**Pn**	**09 10 00.9**	**-0.4**
MSOM				S	**Sn**	**09 10 24.0**	**-0.9**
MCIR	**Makushin Cirqu**	**2.01**	**46**	P	**Pn**	**09 10 03.2**	**+0.2**
MSW	**Makushin Switc**	**2.04**	**48**	P	**Pn**	**09 10 02.6**	**-0.7**
MTBL	**Makushin Table**	**2.12**	**48**	P	**Pn**	**09 10 04.0**	**-0.5**
UNV	**Unalaska Valle**	**2.13**	**53**	P	**Pn**	**09 10 03.4**	**-1.2**
UNV				S	**Sn**	**09 10 28.6**	**-2.0**
AKRB	**Akutan Reef Bi**	**2.50**	**51**	P	**Pn**	**09 10 09.9**	**+0.2**
ZRO	**Akutan Zero**	**2.52**	**52**	P	**Pn**	**09 10 10.0**	**0.0**
AKGG	**Akutan Green G**	**2.58**	**50**	P	**Pn**	**09 10 11.0**	**+0.2**
AKUT	**Akutan**	**2.65**	**53**	*e*Pn	**Pn**	**09 10 12.4**	**+0.7**
ATKA	**Atka Island**	**2.99**	**265**	P	**Pn**	**09 10 15.5**	**-0.8**
ATKA				S	**Sn**	**09 10 48.6**	**-3.1**
GSTR	**Great Sitkin T**	**4.14**	**266**	P	**Pn**	**09 10 33.9**	**+1.6**
SPIA	**Saint Paul Isl**	**4.63**	**354**	P	**Pn**	**09 10 39.8**	**+1.0**
ILAR	**Eielson Array**	**16.77**	**35**	Pn	**P**	**09 13 28.4**	**+2.7**
	0.0nm,0.3s,baz=235,slow=12,SNR=3.9						
PETK	**Petropavlovsk-**	**19.81**	**285**	P	**P**	**09 13 58.9**	**-0.3**
	0.2nm,0.3s,baz=97,slow=14,SNR=4.9						
INK	**Inuvik**	**23.16**	**34**	P	**P**	**09 14 36.8**	**+1.9**
	0.7nm,0.5s,baz=262,slow=7.1,SNR=3.6						
YKA	**Yellowknife Ar**	**30.09**	**49**	P	**P**	**09 15 39.6**	**+1.7**
	0.2nm,0.5s,baz=272,slow=7.6,SNR=5.2						
H11N2	**WAKE ISLAND Hy**	**37.63**	**218**	T	T	09 56 40.8	
	baz=24,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**37.64**	**218**	T	T	09 56 48.7	
	baz=24,slow=76,SNR=20						
H11N1	**WAKE ISLAND Hy**	**37.65**	**218**	T	T	09 56 42.2	
	baz=24,slow=76,SNR=15						
NVAR	**Mina Array Bea**	**37.66**	**91**	P	**P**	**09 16 45.5**	**+1.5**
	0.1nm,0.3s,baz=303,slow=8.5,SNR=2.8						
H11S1	**WAKE ISLAND Hy**	**38.82**	**218**	T	T	09 58 10.7	
	baz=23,slow=76,SNR=200						
H11S2	**WAKE ISLAND Hy**	**38.83**	**218**	T	T	09 58 11.8	
	baz=23,slow=76,SNR=206						
H11S3	**WAKE ISLAND Hy**	**38.84**	**218**	T	T	09 58 10.3	
	baz=23,slow=76,SNR=150						
PDAR	**Pinedale Array**	**40.35**	**79**	P	**P**	**09 17 08.2**	**+1.6**
	0.4nm,0.6s,baz=331,slow=4.7,SNR=6.0						
TXAR	**Lajitas Array**	**52.73**	**89**	P	**P**	**09 18 43.6**	**0.0**
	0.6nm,0.6s,baz=294,slow=5.0,SNR=11						
ASAR	**Alice Springs**	**90.54**	**230**	P	**P**	**09 22 28.4**	**-2.3**
	0.8nm,0.8s,baz=26,slow=4.6,SNR=10						

NNC ***22*** *09:16:47.4±3.0, 53˚.24N×87˚.20E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=22.9km s-min=18.2km az=20.0*

IDC 22 09:16:42.6±2.3, 53˚.49N×87˚.63E, h0km, mb1 3.7/3, mb1mx3.2/46, mbtmp3.7/3, ML3.5/3, 5C-4D, Error ellipse: s-maj=20.3km s-min=12.5km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.73**	**286**	*i*		09 25 30.0	
	baz=100,slow=316,SNR=17						
ZALV	**Zalesovo Beam**	**1.73**	**286**	Pn	Pn	09 17 12.7	-1.3
	14nm,0.3s,baz=104,slow=15,SNR=79						
ZALV				Lg	Lg	09 17 37.2	
	13nm,0.3s,baz=109,slow=22,SNR=19						
KURK	**Kurchatov**	**6.21**	**247**	⇑Pn	Pn	09 18 15.5	0.0
	4.3nm,0.7s						
KURK				⇑Sn	Sn	09 19 24.4	-2.7
	4.7nm,0.6s						
KURK				⇓Lg	Lg	09 19 56.7	
	27nm,0.8s						
KURBB	**Kurchatov Arra**	**6.30**	**247**	⇑Pn	Pn	09 18 17.0	+0.2
	6.8nm,0.3s						
KURBB				⇑Sn	Sn	09 19 26.7	-2.8
	15nm,0.8s						
KURBB				⇓Lg	Lg	09 20 00.2	
	40nm,0.7s						
KURBB	**Kurchatov Arra**	**6.30**	**247**	Pn	Pn	09 18 17.2	+0.5
	0.7nm,0.3s,baz=62,slow=14,SNR=29						
KURBB				Sn	Sn	09 19 27.3	-2.2
	0.0nm,0.3s,baz=64,slow=24,SNR=3.2						
KURBB				Lg	Lg	09 20 03.0	
	0.2nm,0.3s,baz=63,slow=32,SNR=16						
MK31	**Makanchi Array**	**7.53**	**209**	⇓Pn	Pn	09 18 34.5	+0.8
	0.6nm,0.3s,baz=30,slow=13,SNR=25						
MK31				⇑Sn	Sn	09 19 56.9	-2.9
	6.3nm,0.9s,baz=34,slow=26,SNR=3.5						
MK31				⇓Lg	Lg	09 20 35.9	
	8.3nm,0.8s,baz=38,slow=29,SNR=7.5						
MKAR	**Makanchi Array**	**7.53**	**209**	Pn	Pn	09 18 34.6	+0.9
	1.2nm,0.3s,baz=30,slow=14,SNR=30						
MKAR				Sn	Sn	09 20 00.4	+0.7
	0.5nm,0.3s,baz=30,slow=25,SNR=14						
MKAR				Lg	Lg	09 20 42.0	
	0.5nm,0.3s,baz=37,slow=29,SNR=7.2						
BVAR	**Borovoye Array**	**10.34**	**274**	Pn	Pn	09 19 11.6	-0.5
	0.4nm,0.3s,baz=78,slow=13,SNR=4.8						
BVAR				Sn	Sn	09 21 04.5	-4.2
	baz=86,slow=23,SNR=2.9						
SONM	**Songino Array**	**13.17**	**108**	Lg	Lg	09 23 32.4	
	0.3nm,0.3s,baz=305,slow=29,SNR=5.7						

ISCJB ***22*** *09:35:43.2±0.7, 55˚.32S±0˚.09×27˚.9W±0˚.3, h10km, mb4.2/8, MS3.3/2, Error ellipse: s-maj=22.4km s-min=11.4km az=162.5*

IDC ***22*** *09:35:43.6±0.7, 55˚.37S×27˚.90W, h0km, mb4.2/8, mb1 4.3/9, mb1mx4.1/26, mbtmp4.2/9, ML3.9/1, MS3.1/3, Ms1 3.1/3, ms1mx2.8/21, Error ellipse: s-maj=26.8km s-min=17.3km az=75.0*

ISC 22 09:35:44.9±0.7, 55˚.4S±0˚.1×27˚.9W±0˚.2, h10km, n24, σ0ᵗ85/16, mb4.3/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.58**	**158**	P	**P**	**09 39 52.6**	**+1.9**
VNA2	**Neumayer--Watz**	**17.98**	**158**	P	**P**	**09 39 55.3**	**+0.3**
	baz=312,slow=14						
SNAA	**Sanae**	**19.53**	**156**	P	**Pn**	**09 40 12.2**	**-1.3**
SNAA	**Sanae**	**19.53**	**156**	P	**Pn**	**09 40 11.9**	**-1.6**
	0.4nm,0.3s,baz=310,slow=11,SNR=67						
SNAA				LR	LR	09 46 27.4	
	comp=Z,30nm,20.8s,baz=354,slow=33						
QSPA	**South Pole Qui**	**34.88**	**180**	P	**P**	**09 42 36.3**	**+0.1**
	3.1nm,0.6s,baz=194,slow=3.0,SNR=17						
CPUP	**Villa Florida**	**36.05**	**312**	P	**P**	**09 42 46.1**	**-0.2**
	5.0nm,1.1s,baz=171,slow=4.4,SNR=3.8						
MAW	**Mawson**	**40.95**	**144**	P	**P**	**09 43 27.5**	**+0.5**
	1.8nm,0.8s,baz=214,slow=6.3,SNR=3.8						
BDFB	**Brasilia**	**42.56**	**331**	LR	LR	09 58 49.0	
	comp=Z,42nm,21.6s,baz=67,slow=32						
BOSA	**Boshof**	**46.22**	**77**	LR	LR	10 01 24.3	
	comp=Z,27nm,18.0s,

comp=Z,149nm,18.2s,baz=105,slow=42
MAT Matsushiro 2.91 275 P **Pn 09 45 21.4 +1.4**
MAT S **Sn 09 45 49.6 -4.9**
JHJ Hachijo jima 2 3.61 208 Pn **Pn 09 45 29.2 -0.4**
22nm,0.3s,baz=80,slow=7.8,SNR=14
JHJ Sn **Sn 09 46 10.6 -1.1**
38nm,0.3s,baz=63,slow=22,SNR=8.0
JCJ Chichijima 9.21 178 Pn **Pn 09 46 45.2 -1.3**
2.8nm,0.3s,baz=304,slow=19,SNR=6.4
JCJ Sn Sn 09 48 20.9 -8.8
2.5nm,0.3s,baz=284,slow=19,SNR=4.3
JNU Nakatsue 9.55 254 LR LR 09 50 48.9
comp=Z,67nm,18.3s,baz=122,slow=39
USRK Ussuriysk Ar. 10.86 319 Pn **Pn 09 47 11.7 +2.7**
0.1nm,0.3s,baz=147,slow=13,SNR=2.7
KSRS Korea Array 11.18 280 LR LR 09 50 54.0
comp=Z,65nm,18.6s,baz=58,slow=34
SONM Songino Array 28.44 305 P **P 09 50 28.5 +0.2**
1.4nm,0.8s,baz=102,slow=8.7,SNR=7.9
SONM LR LR 10 02 10.4
comp=Z,43nm,18.1s,baz=262,slow=37
ZALV Zalesovo Beam 42.62 313 P **P 09 52 29.8 +0.3**
0.6nm,0.3s,baz=104,slow=6.1,SNR=3.4
MKAR Makanchi Array 44.76 303 P **P 09 52 47.1 +0.3**
0.6nm,0.7s,baz=84,slow=11,SNR=4.1
WRA Warramunga Arr 56.41 188 P **P 09 54 14.2 -0.7**
0.2nm,0.5s,baz=5.9,slow=7.0,SNR=6.4

*ISCJB **22** 09:47:03.4±0.6,52°.52N±0°.08×169°.4W±0°.1,h10km, mb3.7/6, Error ellipse: s-maj=13.9km s-min=5.1km az=142.0*
*IDC **22** 09:47:03.0±1.2,52°.52N×169°.55W,h0km,mb3.7/6, mb1 4.0/8,mb1mx3.5/63,mbtmp3.7/8,ML3.8/2,Error ellipse: s-maj=48.2km s-min=19.9km az=140.0*
*NEIC **22** 09:47:06.1,52°.61N×169°.28W,h16km,ML3.5(AEIC),After AEIC.*
ISC 22 09:47:05.2±1.0,52°.6N±0°.1×169°.38W±0°.07,h10km,n33, σ1§11/31,mb3.7/6,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.47**	**42**	P	**Pg**	**09 47 15.1**	**+0.7**
NIKH				S	**Sb**	**09 47 22.7**	**+0.1**
OKWR	**Okmok West Rim**	**1.08**	**41**	P	**Pg**	**09 47 26.1**	**+0.2**
OKCE	**Okmok Cone E**	**1.09**	**42**	P	**Pg**	**09 47 25.1**	**-0.9**
OKTU	**Okmok Mt. Tuli**	**1.11**	**46**	P	**Pg**	**09 47 25.9**	**-0.6**
OKAK	**Okmok**	**1.14**	**32**	P	**Pb**	**09 47 24.6**	**-2.3**
OKFG	**Magazine Ridge**	**1.19**	**48**	P	**Pb**	**09 47 26.5**	**-1.2**
OKFG				S	**Sb**	**09 47 42.5**	**-0.6**
MSOM	**Makushin Julie**	**1.89**	**50**	P	**Pn**	**09 47 36.5**	**-0.8**
MCIR	**Makushin Cirqu**	**2.00**	**47**	P	**Pn**	**09 47 38.9**	**-0.1**
MSW	**Makushin Switc**	**2.02**	**49**	P	**Pn**	**09 47 38.7**	**-0.6**
MSW				S	**Sn**	**09 48 04.4**	**-0.2**
MTBL	**Makushin Table**	**2.11**	**49**	P	**Pn**	**09 47 40.3**	**-0.2**
UNV	**Unalaska Valle**	**2.12**	**53**	P	**Pn**	**09 47 39.6**	**-1.0**
UNV				S	**Sn**	**09 48 05.0**	**-1.9**
AKRB	**Akutan Reef Bi**	**2.49**	**51**	P	**Pn**	**09 47 46.1**	**+0.4**
ZRO	**Akutan Zero**	**2.51**	**53**	P	**Pn**	**09 47 46.4**	**+0.4**
AKGG	**Akutan Green G**	**2.57**	**51**	P	**Pn**	**09 47 47.3**	**+0.5**
AKUT	**Akutan**	**2.64**	**54**	*e*Pn	**Pn**	**09 47 48.5**	**+0.8**
ATKA	**Atka Island**	**2.98**	**264**	P	**Pn**	**09 47 51.3**	**-1.1**
GSCK	**Great Sitkin C**	**4.21**	**264**	P	**Pn**	**09 48 09.1**	**-0.3**
SPIA	**Saint Paul Isl**	**4.59**	**354**	P	**Pn**	**09 48 16.1**	**+1.6**
CHGN	**Chignik**	**7.37**	**56**	*e*Pn	**Pn**	**09 48 53.3**	**+0.6**
KDAK	**Kodiak Island**	**10.89**	**55**	Pn	**Pn**	**09 49 43.7**	**+2.9**
	1.1nm,0.3s,baz=279,slow=12,SNR=12						
ILAR	**Eielson Array**	**16.74**	**35**	Pn	**Pn**	**09 50 59.1**	**-0.3**
	0.1nm,0.3s,baz=213,slow=9.1,SNR=5.4						
INK	**Inuvik**	**23.14**	**34**	P	**P**	**09 52 12.4**	**+1.3**
	0.6nm,0.4s,baz=281,slow=15,SNR=4.4						
YKA	**Yellowknife Ar**	**30.08**	**49**	P	**P**	**09 53 14.4**	**+0.2**
	0.3nm,0.3s,baz=277,slow=7.0,SNR=10						
H11N2	**WAKE ISLAND Hy**	**37.65**	**218**	T	T	10 34 18.6	
	baz=23,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**37.66**	**218**	T	T	10 34 25.5	
	baz=23,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**37.67**	**218**	T	T	10 34 21.8	
	baz=23,slow=76,SNR=9.4						
H11S1	**WAKE ISLAND Hy**	**38.84**	**218**	T	T	10 35 53.6	
	baz=23,slow=76,SNR=221						
H11S2	**WAKE ISLAND Hy**	**38.85**	**218**	T	T	10 35 53.1	
	baz=23,slow=76,SNR=240						
H11S3	**WAKE ISLAND Hy**	**38.86**	**218**	T	T	10 35 55.1	
	baz=23,slow=76,SNR=136						
PDAR	**Pinedale Array**	**40.36**	**79**	P	**P**	**09 54 44.0**	**+0.9**
	0.6nm,0.7s,baz=328,slow=4.5,SNR=7.6						
TXAR	**Lajitas Array**	**52.75**	**89**	P	**P**	**09 56 20.6**	**+0.4**
	0.9nm,0.6s,baz=299,slow=5.1,SNR=16						
WRA	**Warramunga Arr**	**87.16**	**232**	P	**P**	**09 59 49.5**	**-1.7**
	0.5nm,0.7s,baz=33,slow=4.8,SNR=2.9						
ASAR	**Alice Springs**	**90.56**	**230**	P	**P**	**10 00 06.5**	**-0.8**
	0.8nm,0.6s,baz=27,slow=4.5,SNR=5.5						

*IDC **22** 09:50:37.0±0.7,6°.36S×151°.06E,h0km,mb4.3/11, mb1 4.5/12,mb1mx4.2/38,mbtmp4.3/12,ML2.3/1,MS3.1/6, Ms1 3.1/6,ms1mx2.8/30,Error ellipse: s-maj=29.3km s-min=15.8km az=106.0*
*ISCJB **22** 09:50:41.5±0.6,6°.26S±0°.07×150°.74E±0°.10,h36km, mb4.2/11,MS3.0/5,Error ellipse: s-maj=15.2km s-min=7.4km az=29.0*
*NEIC **22** 09:50:42.4±0.4,6°.32S×150°.91E,h35km,mb4.8/2,Error ellipse: s-maj=16.4km s-min=8.5km az=115.0*
ISC 22 09:50:42.7±0.7,6°.3S±0°.1×150°.9E±0°.1,h36km,n35, σ0§89/31,mb4.4/12,MS3.1/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.80**	**230**	Pn	**Pn**	**09 51 52.9**	**+0.5**
	7.7nm,0.3s,baz=43,slow=4.2,SNR=17						
PMG				Sn	**Sn**	**09 52 46.2**	**-0.5**
	14nm,0.3s,baz=307,slow=12,SNR=7.1						
PMG	**Port Moresby**	**4.80**	**230**	Pn	**Pn**	**09 51 52.9**	**+0.5**
PMG				*e*Pn	Pn	09 51 53.8	+1.4
PMG				Sn	**Sn**	**09 52 46.2**	**-0.5**
HNR	**Honiara**	**9.53**	**110**	LR	LR	09 56 18.1	
	comp=Z,94nm,19.5s,baz=286,slow=37						
QIS	**Mount Isa**	**17.89**	**217**	P	**P**	**09 54 51.0**	**+1.7**
	baz=16,SNR=6.0						
KDU	**Kakadu**	**19.21**	**249**	P	**P**	**09 55 03.2**	**-0.5**
	baz=18,SNR=5.5						
RMQ	**Roma**	**20.18**	**185**	P	Pn	09 55 16.9	+0.6
	baz=19,SNR=12						
SIJI	**Sorong**	**20.28**	**285**	LR	LR	10 04 15.4	
	comp=Z,81nm,18.6s,baz=82,slow=40						
MTN	**Manton Dam**	**20.50**	**250**	P	**P**	**09 55 17.6**	**-0.2**
	baz=20,SNR=8.7						
WRAB	**Tennant Creek**	**21.00**	**228**	*e*P	**P**	**09 55 22.7**	**-0.5**
	21nm,0.6s						
WRA	**Warramunga Arr**	**21.02**	**228**	P	**P**	**09 55 23.3**	**0.0**
	15nm,0.6s,baz=51,slow=10,SNR=49						
QLP	**Quilpie**	**21.14**	**197**	P	**P**	**09 55 26.2**	**+1.5**
	baz=20,SNR=12						
KNRA	**Kununurra**	**23.59**	**245**	P	**P**	**09 55 50.6**	**+0.3**
	baz=22,SNR=8.3						
ASAR	**Alice Springs**	**23.75**	**222**	P	**P**	**09 55 52.2**	**+0.3**
	10nm,0.6s,baz=55,slow=9.0,SNR=160						
STKA	**Stephens Creek**	**26.89**	**198**	P	**P**	**09 56 19.6**	**-0.7**
	7.9nm,0.8s,baz=7.0,slow=9.6,SNR=17						
STKA				LR	LR	10 07 26.8	
	comp=Z,37nm,18.0s,baz=20,slow=38						
STKA	**Stephens Creek**	**26.89**	**198**	P	**P**	**09 56 20.5**	**+0.2**
	baz=26,SNR=17						
WRKA	**Warakurna**	**28.53**	**227**	P	**P**	**09 56 34.9**	**-0.3**
	baz=27,SNR=21						
MEEK	**Meekatharra**	**36.77**	**233**	P	**P**	**09 57 47.2**	**+0.1**
	baz=36,SNR=10						
RPZ	**Rata Peaks**	**41.28**	**158**	LR	LR	10 16 18.1	
	comp=Z,38nm,18.1s,baz=44,slow=38						
JNU	**Nakatsue**	**43.55**	**335**	P	**P**	**09 58 43.4**	**+0.2**
	8.0nm,1.0s,baz=89,slow=11,SNR=4.5						
XMI	**Christmas Isla**	**44.85**	**262**	P	**P**	**09 58 52.6**	**-1.3**
	baz=44,SNR=3.7						
KSRS	**Korea Array**	**48.50**	**336**	P	**P**	**09 59 22.4**	**+0.3**
	1.6nm,0.8s,baz=153,slow=7.4,SNR=6.5						
KSRS				LR	LR	10 18 40.9	
	comp=Z,6.6nm,18.5s,baz=80,slow=35						
KSAR	**Wonju Array Be**	**48.51**	**335**	P	**P**	**09 59 22.4**	**+0.3**
USRK	**Ussuriysk Ar.**	**53.07**	**343**	P	**P**	**09 59 58.5**	**+2.2**
	1.3nm,0.7s,baz=197,slow=7.5,SNR=4.9						
SONM	**Songino Array**	**66.58**	**329**	P	**P**	**10 01 29.9**	**+0.5**
	0.5nm,0.6s,baz=143,slow=7.4,SNR=3.3						
YAK	**Yakutsk**	**70.06**	**350**	LR	LR	10 30 37.8	
	comp=Z,14nm,19.4s,baz=118,slow=34						
VNDA	**Vanda**	**71.42**	**177**	P	**P**	**10 01 57.5**	**-1.3**
	1.3nm,0.7s,baz=293,slow=5.4,SNR=5.5						
MK31	**Makanchi Array**	**80.19**	**320**	*e*P	**P**	**10 02 49.7**	**+0.2**
QSPA	**South Pole Qui**	**83.68**	**180**	*e*P	**P**	**10 03 08.3**	**+0.8**
	12nm,1.2s						
ILAR	**Eielson Array**	**84.26**	**22**	P	**P**	**10 03 08.3**	**-2.0**
	0.7nm,0.6s,baz=242,slow=5.1,SNR=9.8						
NVAR	**Mina Array Bea**	**94.52**	**52**	P	**P**	**10 04 00.5**	**+0.5**
	1.5nm,0.7s,baz=250,slow=7.0,SNR=14						
YKA	**Yellowknife Ar**	**97.64**	**28**	P	Pdif	10 04 13.5	+0.2
	0.5nm,0.6s,baz=267,slow=4.7,SNR=6.4						
PDAR	**Pinedale Array**	**101.28**	**48**	P	**Pdif**	**10 04 29.5**	**-0.8**
	0.4nm,0.8s,baz=270,slow=0.6,SNR=4.3						
GERES	**GERESS Array B**	**124.28**	**327**	PKP	**PKPdf**	**10 09 38.3**	**+0.3**
	1.2nm,0.5s,baz=50,slow=2.1,SNR=11						
TORD	**Toroddi Ar. Bea**	**148.88**	**285**	PKPbc	**PKPbc**	**10 10 27.6**	**0.0**
	4.2nm,0.6s,baz=42,slow=2.8,SNR=47						
BDFB	**Brasilia**	**151.29**	**140**	PKPbc	**PKPbc**	**10 10 34.1**	**+0.5**
	3.2nm,0.4s,baz=24,slow=18,SNR=5.1						

*ATH **22** 09:54:37.6,36°.02N×21°.40E,h13km±2km,MD3.5/11*
*CSEM **22** 09:54:40.2±0.6,36°.15N×21°.54E,h2km,ML2.7,Error ellipse: s-maj=11.3km s-min=6.3km az=40.0*
*THE **22** 09:54:42.8,36°.23N×21°.70E,h4km±1km,ML2.7/3,Error ellipse: s-maj=2.6km s-min=1.2km az=46.0*
ISC 22 09:54:39.1±1.8,36.08N±0.06×21.46E±0.06,h15km±10km, n58,σ1§11/72,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.84**	**16**	*e*PB	**Pg**	**09 54 55.0**	**-0.4**
PYL	**PYLOS**	**0.84**	**16**	*e*Pb	**Pg**	**09 54 55.0**	**-0.4**
PYL	**PYLOS**	**0.84**	**16**	P	**Pn**	**09 54 55.8**	**-0.6**
PYL				S	**Sg**	**09 55 05.7**	**-0.8**
PYL	**PYLOS**	**0.84**	**16**	P	**Pn**	**09 54 55.8**	**-0.6**
PYL				S	**Sg**	**09 55 05.7**	**-0.8**
ITM	**Ithomi**	**1.16**	**19**	*e*PB	**Pg**	**09 55 01.5**	**0.0**
ITM				*e*SB	**Sg**	**09 55 17.5**	**+1.0**
ITM	**Ithomi**	**1.16**	**19**	P	**Pg**	**09 55 01.4**	**0.0**
ITM				S	**Sb**	**09 55 14.8**	**-0.8**
ITM				*e*Sb	**Sg**	**09 55 17.5**	**+1.0**
ITM	**Ithomi**	**1.16**	**19**	P	**Pg**	**09 55 01.4**	**0.0**
ITM				S	**Sb**	**09 55 14.8**	**-0.8**
KYTH	**Kithira**	**1.29**	**81**	*e*PB	**Pg**	**09 55 03.5**	**-0.5**
KYTH	**Kithira**	**1.29**	**81**	*e*Pb	**Pg**	**09 55 03.5**	**-0.5**
KYTH	**Kithira**	**1.29**	**81**	P	**Pg**	**09 55 03.4**	**-0.5**
VLI	**Veliai**	**1.35**	**62**	*e*PG	**Pb**	**09 55 04.1**	**+0.1**
VLI	**Veliai**	**1.35**	**62**	P	**Pb**	**09 55 03.8**	**-0.2**
VLI	**Veliai**	**1.35**	**62**	*e*Pg	**Pb**	**09 55 04.1**	**+0.1**
VLI				S	**Sn**	**09 55 19.5**	**-1.5**
VLI	**Veliai**	**1.35**	**62**	P	**Pb**	**09 55 03.8**	**-0.2**
VLI				S	**Sn**	**09 55 19.5**	**-1.5**
AMT	**Artemida-Makis**	**1.46**	**8**	*e*PB	**Pb**	**09 55 06.4**	**+0.5**
AMT	**Artemida-Makis**	**1.46**	**8**	P	**Pb**	**09 55 06.5**	**+0.5**
AMT	**Artemida-Makis**	**1.46**	**8**	P	**Pb**	**09 55 06.5**	**+0.5**
VLX	**Vlachokerasia**	**1.48**	**30**	*e*PG	**Pn**	**09 55 05.7**	**+0.4**
VLX				*e*SB	**Sg**	**09 55 28.8**	**+1.9**
VLX	**Vlachokerasia**	**1.48**	**30**	P	**Pn**	**09 55 05.6**	**+0.3**
VLX				S	**Sn**	**09 55 24.9**	**+0.5**
VLX				*e*Sb	**Sg**	**09 55 28.8**	**+1.9**
VLX	**Vlachokerasia**	**1.48**	**30**	P	**Pn**	**09 55 05.6**	**+0.3**
VLX				S	**Sn**	**09 55 24.9**	**+0.5**
ANKY	**Antikythira Is**	**1.51**	**98**	*e*PG	**Pb**	**09 55 06.6**	**-0.1**
ANKY	**Antikythira Is**	**1.51**	**98**	P	**Pb**	**09 55 27.7**	**0.0**
ANKY				S	**Sg**	**09 55 27.7**	**0.0**
ANKY	**Antikythira Is**	**1.51**	**98**	P	**Pb**	**09 55 06.7**	**0.0**
ANKY				S	**Sg**	**09 55 27.7**	**0.0**
DRO	**Drossia**	**1.88**	**6**	*e*PG	**Pb**	**09 55 13.4**	**+0.4**
DRO	**Drossia**	**1.88**	**6**	P	**Pb**	**09 55 12.7**	**-0.3**
DRO	**Drossia**	**1.88**	**6**	*e*Pg	**Pb**	**09 55 13.4**	**+0.4**
DRO	**Drossia**	**1.88**	**6**	P	**Pb**	**09 55 12.7**	**-0.3**
KRND	**KRANIDI**	**1.88**	**46**	*e*PN	**Pb**	**09 55 12.3**	**-0.7**
KRND	**KRANIDI**	**1.88**	**46**	*e*Pn	**Pb**	**09 55 12.3**	**-0.7**
DIDY	**Didyma**	**1.98**	**45**	*e*PN	**Pb**	**09 55 13.9**	**-0.9**
DIDY	**Didyma**	**1.98**	**45**	*e*Pn	**Pb**	**09 55 13.9**	**-0.9**
GUR	**Goura**	**1.98**	**21**	*e*PN	**Pb**	**09 55 14.1**	**-0.7**
GUR	**Goura**	**1.98**	**21**	P	**Pb**	**09 55 14.1**	**-0.7**
GUR	**Goura**	**1.98**	**21**	P	**Pb**	**09 55 14.1**	**-0.7**
DID	**Didima**	**2.01**	**45**	*e*PN	**Pb**	**09 55 15.0**	**-0.4**
DID	**Didima**	**2.01**	**45**	*e*Pn	**Pb**	**09 55 15.0**	**-0.4**
KLV	**Kalavryta, Ach**	**2.03**	**16**	*e*PB	**Pn**	**09 55 14.0**	**+1.2**
KLV	**Kalavryta, Ach**	**2.03**	**16**	*e*Pb	**Pn**	**09 55 14.0**	**+1.2**
KLV	**Kalavryta, Ach**	**2.03**	**16**	P	**Pb**	**09 55 14.6**	**-1.1**
KLV	**Kalavryta, Ach**	**2.03**	**16**	P	**Pb**	**09 55 14.6**	**-1.1**
LAKA	**Lakka**	**2.19**	**11**	*e*PN	**Pn**	**09 55 16.5**	**+1.5**
LAKA	**Lakka**	**2.19**	**11**	*e*Pn	**Pn**	**09 55 16.5**	**+1.5**
VLS	**Valsamata**	**2.20**	**342**	*e*PN	**Pb**	**09 55 16.6**	**-2.0**
VLS	**Valsamata**	**2.20**	**342**	*e*Pn	**Pb**	**09 55 16.6**	**-2.0**
LTK	**Loutraki**	**2.28**	**31**	*e*PN	**Pb**	**09 55 18.9**	**-1.0**
LTK	**Loutraki**	**2.28**	**31**	*e*Pn	**Pb**	**09 55 18.9**	**-1.0**
TRIZ	**Trizonia**	**2.33**	**12**	*e*PN	**Pb**	**09 55 19.7**	**-1.0**
TRIZ	**Trizonia**	**2.33**	**12**	*e*Pn	**Pb**	**09 55 19.7**	**-1.0**
KALE	**Kalithea**	**2.37**	**13**	*e*PN	**Pb**	**09 55 19.8**	**-1.6**
KALE	**Kalithea**	**2.37**	**13**	*e*Pn	**Pb**	**09 55 19.8**	**-1.6**
VILL	**Villia**	**2.55**	**35**	*e*Pn	**Pb**	**09 55 22.5**	**-2.0**
VIL2	**Platees**	**2.57**	**34**	*e*PN	**Pn**	**09 55 22.5**	**+2.4**
EVR	**Evrytania**	**2.84**	**5**	*e*PN	**Pn**	**09 55 26.1**	**+2.1**
EVR	**Evrytania**	**2.84**	**5**	*e*Pn	**Pn**	**09 55 26.1**	**+2.1**
AGG	**Agios Georgios**	**3.02**	**13**	*e*PN	**Pn**	**09 55 27.9**	**+1.6**
AGG	**Agios Georgios**	**3.02**	**13**	*e*Pn	**Pn**	**09 55 27.9**	**+1.6**
SGD	**Sagiada**	**3.66**	**345**	*e*PN	**Pn**	**09 55 36.9**	**+1.9**
SGD	**Sagiada**	**3.66**	**345**	*e*Pn	**Pn**	**09 55 36.9**	**+1.9**

*ISCJB **22** 09:58:26.2±0.5,17°.12N±0°.07×94°.00W±0°.04,h186km±4km, mb3.5/3,Error ellipse: s-maj=11.2km s-min=6.0km az=15.2*
*IDC **22** 09:58:26.0±0.8,17°.31N×93°.74W,h168km±11km,mb3.2/4, mb1 3.5/6,mb1mx3.2/38,mbtmp3.8/6,MS3.2/2,Ms1 3.1/2, ms1mx2.5/15,Error ellipse: s-maj=27.2km s-min=16.3km az=47.0*
*MEX **22** 09:58:27.6±1.0,17°.15N×94°.00W,h191km±8km,MD4.3*
*NEIC **22** 09:58:28.5,17°.17N×93°.97W,h185km,MD4.3(MEX),After MEX.*
ISC 22 09:58:26.7±0.8,17°.12N±0°.06×94°.01W±0°.04,h186km±6km, n26,σ1§19/40,mb3.6/3,Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.83**	**268**	*i* P	**Pn**	**09 58 54.3**	**+0.5**
CMIG				*e*S	**Sn**	**09 59 14.5**	**-0.3**
CMIG	**Matias Romero**	**0.83**	**268**	P	**Pn**	**09 58 54.1**	**+0.3**
	136nm,0.3s,baz=66,slow=7.8,SNR=2235						
CMIG				LR	LR	09 59 02.9	
	comp=Z,38nm,21.5s,baz=244,slow=33						
CMIG				S	**Sn**	**09 59 14.5**	**-0.3**
	72nm,0.3s,baz=297,slow=21,SNR=35						
TGIG		**0.92**	**112**	*e*P	**Pn**	**09 58 54.4**	**-0.1**
TGIG				*e*S	**Sn**	**09 59 15.2**	**-0.8**
TGIG		**0.92**	**112**	*e*P	**Pn**	**09 58 54.4**	**-0.1**
TGIG				*e*S	**Sn**	**09 59 15.2**	**-0.8**
TUIG	**Tuzandepetl**	**0.99**	**337**	*i* P	**Pn**	**09 58 55.0**	**+0.1**
TUIG				*e*S	**Sn**	**09 59 16.3**	**-0.6**
TUIG	**Tuzandepetl**	**0.99**	**337**	*i* P	**Pn**	**09 58 55.0**	**+0.1**
TUIG				*e*S	**Sn**	**09 59 16.3**	**-0.6**
PCIG		**1.60**	**151**	*i* P	**Pn**	**09 59 01.0**	**+0.9**
PCIG				*e*S	**Sn**	**09 59 25.8**	**-0.3**
PCIG		**1.60**	**151**	*i* P	**Pn**	**09 59 01.0**	**+0.9**
PCIG				*e*S	**Sn**	**09 59 25.8**	**-0.3**
CCIG	**Comitan**	**1.98**	**115**	*e*P	**Pn**	**09 59 04.5**	**+0.3**
CCIG				*i* S	**Sn**	**09 59 32.2**	**-1.0**
CCIG	**Comitan**	**1.98**	**115**	*e*P	**Pn**	**09 59 04.5**	**+0.3**
CCIG				*i* S	**Sn**	**09 59 32.2**	**-1.0**
HUIG	**Huatulco**	**2.42**	**237**	*e*P	**Pn**	**09 59 08.0**	**-0.8**
HUIG				*e*S	**Sn**	**09 59 42.8**	**+1.2**
HUIG	**Huatulco**	**2.42**	**237**	*e*P	**Pn**	**09 59 08.0**	**-0.8**
HUIG				*e*S	**Sn**	**09 59 42.8**	**+1.2**
VHO	**Vista Hermosa**	**2.60**	**269**	*e*P	**Pn**	**09 59 12.3**	**+1.2**
VHO				*e*S	**Sn**	**09 59 46.1**	**+0.5**
VHO	**Vista Hermosa**	**2.60**	**269**	*e*P	**Pn**	**09 59 12.3**	**+1.2**
VHO				*e*S	**Sn**	**09 59 46.1**	**+0.5**
PNIG	**Pinotepa**	**4.01**	**260**	*i* P	**Pn**	**09 59 27.7**	**-0.4**
PNIG				*i* S	**Sn**	**10 00 15.3**	**-0.9**
PNIG	**Pinotepa**	**4.01**	**260**	*i* P	**Pn**	**09 59 27.7**	**-0.4**
PNIG				*i* S	**Sn**	**10 00 10.7**	**-5.5**
TLIG	**Tlapa**	**4.37**	**276**	*e*P	**Pn**	**09 59 34.1**	**+1.2**
TLIG				*i* S	**Sn**	**10 00 24.2**	**-0.5**
TEIG	**Tepich**	**6.25**	**60**	P	Pn	09 59 51.5	-5.5
	0.1nm,0.3s,baz=92,slow=23,SNR=6.3						
JTS	**JuntasAbangare**	**11.11**	**126**	P	**Pn**	**10 01 00.7**	**0.0**
	0.8nm,0.3s,baz=336,slow=19,SNR=3.3						
TXAR	**Lajitas Array**	**15.04**	**326**	P	**P**	**10 01 51.4**	**+0.3**
	0.1nm,0.3s,baz=151,slow=14,SNR=30						
ANMO	**Albuquerque**	**20.95**	**330**	P	**P**	**10 02 56.9**	**+1.6**
	0.5nm,0.6s,baz=150,slow=13,SNR=5.4						
ATAH	**Atahualpa**	**28.62**	**146**	LR	LR	10 13 33.2	
	comp=Z,36nm,19.1s,baz=144,slow=32						
ULM	**Lac du Bonnet**	**33.08**	**358**	LR	LR	10 22 18.7	
	comp=Z,44nm,18.4s,baz=252,slow=44						
LPAZ	**La Paz**	**41.87**	**141**	P	**P**	**10 06 00.0**	**+0.5**
	1.4nm,0.8s,baz=315,slow=4.3,SNR=6.9						
YKA	**Yellowknife Ar**	**47.57**	**347**	P	**P**	**10 06 42.5**	**-0.7**
	0.2nm,0.4s,baz=153,slow=7.5,SNR=3.1						
ARCES	**ARCESS Array B**	**83.79**	**18**	P	**P**	**10 10 34.5**	**-0.2**
	2.6nm,0.9s,baz=288,slow=5.0,SNR=5.5						

*IDC **22** 10:21:03.1±1.2,1°.97S×100°.05E,h0km,mb4.3/13, mb1 4.3/14,mb1mx4.0/41,mbtmp4.3/14,ML3.2/1,MS3.1/7, Ms1 3.1/7,ms1mx2.9/38,Error ellipse: s-maj=41.8km s-min=15.2km az=61.0*
*ISCJB **22** 10:21:08.9±0.5,2°.08S±0°.03×99°.86E±0°.04,h65km±4km, mb4.4/17,Error ellipse: s-maj=7.6km s-min=5.1km az=154.2*
*NEIC **22** 10:21:08.1±0.4,2°.00S×99°.99E,h35km,mb4.6/6,Error ellipse: s-maj=12.4km s-min=6.7km az=60.0*
*DJA **22** 10:21:08.7±0.3,2°.S±2°×10°.0E±°,h10km,M4.4/13, MLv4.4/13*
ISC 22 10:21:09.8±1.0,2°.07S±0°.04×99°.88E±0°.05,h52km±9km, n53,σ1§19/51,mb4.4/17,MS3.1/5,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.70**	**169**	P	**Pn**	**10 21 22.2**	**-1.5**
PPSI				S	**Sn**	**10 21 34.2**	**+0.4**
SISI	**Saibi**	**1.08**	**313**	P	**Pn**	**10 21 27.2**	**-1.5**
SISI				S	**Sn**	**10 21 44.7**	**+2.1**
PDSI	**Padang**	**1.29**	**27**	P	**Pn**	**10 21 29.2**	**-2.3**
PDSI				S	**Sn**	**10 21 48.8**	**+1.1**
PPI	**Padang Panjang**	**1.68**	**18**	P	**Pn**	**10 21 35.6**	**-1.3**
PPI				S	**Sn**	**10 21 58.6**	**+1.3**
PPI	**Padang Panjang**	**1.68**	**18**	P	**Pn**	**10 21 35.5**	**-1.3**
	baz=2.1,SNR=162						
SDSI	**Sungai Dareh**	**1.92**	**54**	P	**Pn**	**10 21 39.6**	**-0.4**
SDSI				S	**Sn**	**10 22 04.3**	**+1.3**
PBSI	**Pulau Batu**	**2.56**	**321**	P	**Pn**	**10 21 50.0**	**+1.1**
PBSI				S	**Sn**	**10 22 21.8**	**+2.9**
MASI	**Maura Aman, Be**	**2.59**	**114**	P	**Pn**	**10 21 50.4**	**+1.1**
MASI				S	**Sn**	**10 22 22.7**	**+3.1**
BKNI	**Bangkinang**	**2.65**	**26**	P	**Pn**	**10 21 50.5**	**+0.4**
BKNI				S	**Sn**	**10 22 22.7**	**+1.8**
BKNI	**Bangkinang**	**2.65**	**26**	P	Pn	10 21 56.0	+5.9
	baz=3.1,SNR=4.6						
BKNI	**Bangkinang**	**2.65**	**26**	*e*Pn	Pn	10 21 46.2	-3.8
MNSI	**Mandailing Nat**	**2.86**	**354**	P	**Pn**	**10 21 53.8**	**+0.8**
KSI	**Kapahiang**	**3.13**	**120**	P	**Pn**	**10 21 58.8**	**+1.2**
MNAI	**Manna**	**3.82**	**127**	P	**Pn**	**10 22 06.3**	**+0.1**
	baz=4.0,SNR=6.7						
GSI	**Gunungsitoli**	**4.07**	**325**	*e*Pn	Pn	10 22 07.0	-2.5
MDSI	**Maura Dua**	**4.92**	**119**	P	**Pn**	**10 22 21.7**	**+0.5**
PSI	**Prapat**	**4.93**	**349**	Pn	Pn	10 22 17.1	-4.5
	1.1nm,0.3s,baz=197,slow=11,SNR=2.6						
PSI				LR	LR	10 24 30.9	
	comp=Z,315nm,19.9s,baz=188,slow=44					

PAU				*e*S	Sn	10 29 53.7	+3.5	
PAU	**Pauzhetka**	**2.10**	**355**	PN	Pn	10 29 28.2	+2.9	
PAU				S	Sn	10 29 53.7	+3.5	
MIPR	**Malaya Ipel'ka**	**2.91**	**356**	*e*P	Pn	10 29 39.6	+3.1	
ASAK	**Asacha**	**3.04**	**9**	*e*P	Pn	10 29 42.2	+3.8	
MTVR	**Mutnovka**	**3.17**	**12**	*e*P	Pn	10 29 43.9	+3.6	
RUS	**Russkaya**	**3.18**	**15**	*e*P	Pn	10 29 43.7	+3.6	
RUS				*e*S	Sn	10 30 20.6	+3.9	
RUS	**Russkaya**	**3.18**	**15**	PN	Pn	10 29 43.7	+3.6	
RUS				S	Sn	10 30 20.6	+3.9	
APC	**Apacha**	**3.55**	**0**	*e*P	Pn	10 29 49.1	+3.9	
APC	**Apacha**	**3.55**	**0**	PN	Pn	10 29 49.1	+3.9	
UGLR	**Uglovaya**	**3.98**	**15**	*e*P	Pn	10 29 54.3	+3.0	
AVH	**Avacha**	**4.02**	**14**	*e*P	Pn	10 29 55.5	+3.7	
AVH	**Avacha**	**4.02**	**14**	PN	Pn	10 29 55.5	+3.7	
SMAR	**Somma**	**4.03**	**14**	*e*P	Pn	10 29 56.3	+4.2	
SMAR	**Somma**	**4.03**	**14**	PN	Pn	10 29 56.3	+4.2	
KOK	**Koryaka**	**4.03**	**13**	*e*P	Pn	10 29 56.5	+4.6	
KOK	**Koryaka**	**4.03**	**13**	PN	Pn	10 29 56.5	+4.6	
SDLR	**Sedlovina**	**4.05**	**15**	*e*P	Pn	10 29 55.2	+2.9	
SDLR	**Sedlovina**	**4.05**	**15**	PN	Pn	10 29 55.2	+2.9	
KRER	**Koryakskii**	**4.06**	**14**	*e*P	Pn	10 29 56.0	+3.5	
SPN	**Mys Shipunski**	**4.14**	**25**	*e*P	Pn	10 29 57.8	+4.5	
SPN				*e*S	Sn	10 30 46.0	+5.6	
SPN	**Mys Shipunski**	**4.14**	**25**	PN	Pn	10 29 57.8	+4.5	
SPN				S	Sn	10 30 46.0	+5.6	
GNL	**Ganaly**	**4.35**	**6**	*e*P	Pn	10 30 00.4	+4.0	
GNL	**Ganaly**	**4.35**	**6**	PN	Pn	10 30 00.4	+4.0	
MKZ	**Mys Kozlova**	**5.91**	**27**	*e*P	Pn	10 30 21.0	+3.4	
MKZ	**Mys Kozlova**	**5.91**	**27**	PN	Pn	10 30 21.0	+3.4	
KBTR	**Krutoberegovo**	**7.66**	**25**	*e*P	Pn	10 30 46.2	+4.7	
KBTR	**Krutoberegovo**	**7.66**	**25**	PN	Pn	10 30 46.2	+4.7	

*CRAAG **22** 10:31:17.5, 36°.63N×1°.26E, Ml3.6*
*ISCJB **22** 10:31:21.0±0.4, 36°.57N±0°.02×1°.22E±0°.04, h14km, Error ellipse: s-maj=5.0km s-min=3.5km az=166.3*
*MDD **22** 10:31:21.8±0.7, 36°.54N×1°.25E, h25km, mb3.6/7, Error ellipse: s-maj=6.7km s-min=3.7km az=98.0, PRXIMO*
*CSEM **22** 10:31:21.8±0.2, 36°.51N×1°.23E, h15km, mb3.6, Error ellipse: s-maj=5.8km s-min=3.8km az=74.0*
ISC 22 10:31:21.4±0.8, 36°.52N±0°.04×1°.23E±0°.04, h14km, n41, σ0.996/61, 1C-1D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.33**	**133**	P	**Pg**	**10 31 28.6**	**+0.4**
EBNR	**Beni Rached**	**0.33**	**133**	P	**Pg**	**10 31 28.6**	**+0.4**
ECHF	**Ech Chlef**	**0.37**	**166**	P	**Pg**	**10 31 29.0**	**+0.1**
ECHF	**Ech Chlef**	**0.37**	**166**	P	**Pg**	**10 31 29.0**	**+0.1**
ECHA	**Ech Chlef**	**0.38**	**163**	P	**Pg**	**10 31 29.0**	**-0.1**
ECHA	**Ech Chlef**	**0.38**	**163**	P	**Pg**	**10 31 29.0**	**-0.1**
EANR	**'Ain N'Sour**	**0.57**	**191**	P	**Pb**	**10 31 33.7**	**+0.4**
EANR	**'Ain N'Sour**	**0.57**	**191**	P	**Pb**	**10 31 33.7**	**+0.4**
EANR	**'Ain N'Sour**	**0.57**	**191**	P	**Pb**	**10 31 33.7**	**+0.4**
OKGL	**Djebel Kef Gue**	**0.67**	**225**	P	**Pb**	**10 31 35.1**	**+0.2**
OKGL	**Djebel Kef Gue**	**0.67**	**225**	⇑P	**Pb**	**10 31 35.2**	**+0.2**
	46nm,0.2s,SNR=18						
OKGL				S	**Sb**	**10 31 44.5**	**+0.3**
	217nm,0.2s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**0.67**	**225**	P	**Pb**	**10 31 35.1**	**+0.2**
OKGL				S	**Sb**	**10 31 44.5**	**+0.3**
	217nm,0.2s,SNR=7.9						
OJGS	**Djebel Guires**	**1.08**	**201**	P	**Pb**	**10 31 40.9**	**-1.1**
OJGS	**Djebel Guires**	**1.08**	**201**	P	**Pb**	**10 31 40.9**	**-1.1**
OJGS	**Djebel Guires**	**1.08**	**201**	P	**Pb**	**10 31 40.9**	**-1.1**
ETRT	**Tiaret**	**1.12**	**177**	P	**Pb**	**10 31 42.1**	**-0.6**
ETRT	**Tiaret**	**1.12**	**177**	P	**Pb**	**10 31 42.1**	**-0.6**
ETRT	**Tiaret**	**1.12**	**177**	P	**Pb**	**10 31 42.1**	**-0.6**
EMHD	**Djebel Mahouad**	**1.43**	**102**	P	**Pb**	**10 31 48.3**	**+0.4**
EMHD	**Djebel Mahouad**	**1.43**	**102**	P	**Pb**	**10 31 48.3**	**+0.4**
EMHD	**Djebel Mahouad**	**1.43**	**102**	P	**Pb**	**10 31 48.3**	**+0.4**
EMUR	**La Murta**	**2.38**	**305**	P	**Pn**	**10 31 59.0**	**-1.0**
	1.2nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**10 32 28.1**	**-0.9**
	0.6nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**2.38**	**305**	P	**Pn**	**10 31 59.0**	**-1.0**
	1.2nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**10 32 28.1**	**-0.9**
	0.6nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**2.47**	**333**	P	**Pn**	**10 32 02.2**	**+0.9**
	0.2nm,0.1s,SNR=7.9						
EBEN				S	**Sn**	**10 32 29.7**	**-1.6**
	0.8nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**2.47**	**333**	P	**Pn**	**10 32 02.2**	**+0.9**
	0.2nm,0.1s,SNR=7.9						
EBEN				S	**Sn**	**10 32 29.7**	**-1.6**
	0.8nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**2.51**	**2**	P	**Pn**	**10 32 02.4**	**+0.6**
	3.7nm,0.3s,SNR=18						
EIBI				S	**Sn**	**10 32 30.5**	**-1.7**
	18nm,0.2s,SNR=11						
EIBI	**Ibiza**	**2.51**	**2**	P	**Pn**	**10 32 02.4**	**+0.6**
	3.7nm,0.3s,SNR=18						
EIBI				S	**Sn**	**10 32 30.5**	**-1.7**
	18nm,0.2s,SNR=11						
ETOB	**Tobarra**	**3.06**	**315**	P	**Pn**	**10 32 10.2**	**+0.7**
	3.0nm,0.3s,SNR=23						
ETOB				S	**Sn**	**10 32 45.5**	**-0.5**
	0.3nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**3.06**	**315**	P	**Pn**	**10 32 10.2**	**+0.7**
	3.0nm,0.3s,SNR=23						
ETOB				S	**Sn**	**10 32 45.5**	**-0.5**
	0.3nm,0.1s,SNR=7.9						
EBER	**Berja**	**3.33**	**278**	P	**Pn**	**10 32 13.4**	**+0.1**
	0.5nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**10 32 51.5**	**-1.3**
	0.6nm,0.1s,SNR=7.9						
EBER	**Berja**	**3.33**	**278**	P	**Pn**	**10 32 13.4**	**+0.1**
	0.5nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**10 32 51.5**	**-1.3**
	0.6nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**3.41**	**299**	P	**Pn**	**10 32 15.7**	**+1.4**
	0.5nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**10 32 54.7**	**+0.1**
	2.0nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**3.41**	**299**	P	**Pn**	**10 32 15.7**	**+1.4**
	0.5nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**10 32 54.7**	**+0.1**
	2.0nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**3.48**	**21**	P	**Pn**	**10 32 15.0**	**-0.2**
	0.4nm,0.2s,SNR=6.6						
ETOS				S	**Sn**	**10 32 55.3**	**-0.9**
	1.0nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**3.48**	**21**	P	**Pn**	**10 32 15.0**	**-0.2**
	0.4nm,0.2s,SNR=6.6						
ETOS				S	**Sn**	**10 32 55.3**	**-0.9**
	1.0nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.67**	**292**	P	**Pn**	**10 32 19.8**	**+1.9**
	0.7nm,0.1s,SNR=4.0						
EQES				S	**Sn**	**10 33 01.4**	**+0.4**
	1.3nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.67**	**292**	P	**Pn**	**10 32 19.8**	**+1.9**
	0.7nm,0.1s,SNR=4.0						
EQES				S	**Sn**	**10 33 01.4**	**+0.4**
	1.3nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**4.07**	**341**	P	**Pn**	**10 32 25.0**	**+1.6**
	1.1nm,0.1s,SNR=10.0						
EMOS				S	**Sn**	**10 33 09.3**	**-1.6**
	0.8nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.07**	**341**	P	**Pn**	**10 32 25.0**	**+1.6**
	1.1nm,0.1s,SNR=10.0						
EMOS				S	**Sn**	**10 33 09.3**	**-1.6**
	0.8nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**4.83**	**359**	⇓P	**Pn**	**10 32 34.7**	**+0.9**
	1.2nm,0.1s,SNR=18						
EPOB	**Poblet**	**4.83**	**359**	P	**Pn**	**10 32 34.7**	**+0.9**
	1.2nm,0.1s,SNR=18						

MEX 22 10:31:22.1±0.4, 14°.30N×94°.53W, h14km±863km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.89**	**42**	*e*P	Pn	10 31 50.5	-3.5
PCIG				*e*S	Sn	10 32 13.2	-4.5

KRSC 22 10:32:37.6±1.2, 50°.56N×157°.17E, h39km±16km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.68**	**281**	*i* P	Pn	10 32 51.2	+0.5
SKR				*e*S	Sn	10 33 00.5	+0.4
PAU	**Pauzhetka**	**0.94**	**346**	*e*P	Pn	10 32 56.0	+1.8
PAU				*e*S	Sn	10 33 08.8	+2.3
MIPR	**Malaya Ipel'ka**	**1.74**	**352**	*e*P	Pn	10 33 07.4	+2.1
ASAK	**Asacha**	**1.89**	**14**	*e*P	Pn	10 33 09.2	+1.8
MTVR	**Mutnovka**	**2.03**	**18**	*e*S	Sn	10 33 35.8	+2.1
RUS	**Russkaya**	**2.06**	**24**	*e*P	Pn	10 33 10.9	+1.3
RUS				*e*S	Sn	10 33 35.2	+1.2
UGLR	**Uglovaya**	**2.85**	**21**	*e*P	Pn	10 33 23.5	+2.9
AVH	**Avacha**	**2.88**	**19**	*e*P	Pn	10 33 25.2	+4.2
KOK	**Koryaka**	**2.89**	**18**	*e*P	Pn	10 33 24.9	+3.8
KRER	**Koryakskii**	**2.92**	**19**	*e*P	Pn	10 33 25.3	+3.6
SDLR	**Sedlovina**	**2.93**	**21**	*e*P	Pn	10 33 25.1	+3.4
KRX	**Arik**	**2.95**	**11**	*e*P	Pn	10 33 26.3	+4.2
GNL	**Ganaly**	**3.18**	**8**	*e*P	Pn	10 33 28.5	+3.3

*NEIC **22** 10:47:18.4, 38°.45S×175°.87E, h165km, MG4.0(WEL), After WEL.*
WEL 22 10:47:18.7±0.2, 38°.46S×175°.88E, h162km±1km, ML4.0/19, 23C-13D, Error ellipse: s-maj=1.2km s-min=1.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUTZ	**Kaahu Road**	**0.05**	**236**	⇓PN	Pn	10 47 40.4	+0.2
TLZ	**Tolley Road**	**0.30**	**296**	⇓PN	Pn	10 47 40.9	+0.1
TLZ				SN	Sn	10 47 58.2	+0.7
PRRZ	**Plateau Road**	**0.41**	**96**	PN	Pn	10 47 41.0	0.0
PRRZ	**Plateau Road**	**0.41**	**96**	Pn	Pn	10 47 41.0	0.0
RATZ	**Rangitukua**	**0.42**	**191**	PN	Pn	10 47 40.7	-0.4
RATZ				SN	Sn	10 47 58.3	-0.1
RATZ	**Rangitukua**	**0.42**	**191**	Pn	Pn	10 47 40.7	-0.4
RATZ				Sn	Sn	10 47 58.3	-0.1
RRRZ	**Republican Roa**	**0.52**	**77**	PN	Pn	10 47 41.4	-0.1
RRRZ	**Republican Roa**	**0.52**	**77**	Pn	Pn	10 47 41.5	0.0
RITZ	**Rihia Road**	**0.52**	**182**	⇓PN	Pn	10 47 42.0	+0.5
RITZ	**Rihia Road**	**0.52**	**182**	Pn	Pn	10 47 42.0	+0.5
KARZ	**Kaharoa**	**0.53**	**34**	⇓PN	Pn	10 47 41.5	-0.1
KARZ	**Kaharoa**	**0.53**	**34**	Pn	Pn	10 47 41.5	-0.1
KATZ	**Kakaramea**	**0.54**	**195**	PN	Pn	10 47 41.6	-0.1
KATZ	**Kakaramea**	**0.54**	**195**	Pn	Pn	10 47 41.6	-0.1
TARZ	**Mount Tarawera**	**0.54**	**66**	PN	Pn	10 47 41.6	-0.1
TARZ	**Mount Tarawera**	**0.54**	**66**	Pn	Pn	10 47 41.6	-0.1
KRVZ	**Karewarewa**	**0.66**	**196**	PN	Pn	10 47 42.4	0.0
KRVZ	**Karewarewa**	**0.66**	**196**	Pn	Pn	10 47 42.4	0.0
WTVZ	**West Tongariro**	**0.69**	**199**	PN	Pn	10 47 42.6	0.0
WTVZ				SN	Sn	10 48 00.5	-0.5
WTVZ	**West Tongariro**	**0.69**	**199**	Pn	Pn	10 47 42.6	0.0
TWVZ	**Taurewa**	**0.70**	**209**	PN	Pn	10 47 42.5	-0.1
TWVZ	**Taurewa**	**0.70**	**209**	Pn	Pn	10 47 42.5	-0.1
OTVZ	**Oturere**	**0.72**	**193**	PN	Pn	10 47 42.8	0.0
OTVZ	**Oturere**	**0.72**	**193**	Pn	Pn	10 47 42.8	0.0
NGZ	**Ngauruhoe**	**0.75**	**197**	PN	Pn	10 47 42.8	-0.1
NGZ	**Ngauruhoe**	**0.75**	**197**	Pn	Pn	10 47 42.8	-0.1
COVZ	**Chateau Observ**	**0.78**	**199**	⇑PN	Pn	10 47 43.1	0.0
TOZ	**Tahuroa Road**	**0.79**	**338**	PN	Pn	10 47 42.9	-0.1
TOZ	**Tahuroa Road**	**0.79**	**338**	Pn	Pn	10 47 43.0	-0.1
WPVZ	**Whakapapa**	**0.79**	**199**	PN	Pn	10 47 43.1	-0.1
WPVZ	**Whakapapa**	**0.79**	**199**	Pn	Pn	10 47 43.1	-0.1
HIZ	**Hauiti**	**0.80**	**266**	⇑PN	Pn	10 47 43.0	-0.2
HIZ	**Hauiti**	**0.80**	**266**	Pn	Pn	10 47 43.0	-0.2
OPRZ	**Ohinepanea**	**0.81**	**41**	⇓PN	Pn	10 47 43.0	-0.2
OPRZ				SN	Sn	10 48 01.9	0.0
OPRZ	**Ohinepanea**	**0.81**	**41**	Pn	Pn	10 47 43.0	-0.2
OPRZ				Sn	Sn	10 48 01.9	0.0
TUVZ	**Tukino**	**0.83**	**192**	PN	Pn	10 47 43.5	+0.1
TUVZ	**Tukino**	**0.83**	**192**	Pn	Pn	10 47 43.5	+0.1
FWVZ	**Far West T-bar**	**0.83**	**198**	⇑PN	Pn	10 47 43.6	-0.1
FWVZ	**Far West T-bar**	**0.83**	**198**	Pn	Pn	10 47 43.6	-0.1
WHVZ	**Whangaehu Hut**	**0.85**	**195**	⇑PN	Pn	10 47 43.7	0.0
BKZ	**Black Stump Fm**	**0.85**	**146**	PN	Pn	10 47 43.5	-0.1
BKZ				SN	Sn	10 48 01.5	-1.3
BKZ				AML	AML	10 48 01.9	
BKZ	**Black Stump Fm**	**0.85**	**146**	Pn	Pn	10 47 43.5	-0.1
WNVZ	**Wahianoa**	**0.89**	**194**	⇑PN	Pn	10 47 43.9	-0.1
WNVZ	**Wahianoa**	**0.89**	**194**	Pn	Pn	10 47 43.9	-0.1
PKVZ	**Pokaka**	**0.93**	**206**	⇑PN	Pn	10 47 44.0	-0.1
PKVZ	**Pokaka**	**0.93**	**206**	Pn	Pn	10 47 44.0	-0.1
MOVZ	**Moawhango**	**0.95**	**186**	⇑PN	Pn	10 47 44.0	-0.3
MOVZ	**Moawhango**	**0.95**	**186**	Pn	Pn	10 47 44.0	-0.3
NMHZ	**Naumai**	**0.97**	**132**	PN	Pn	10 47 45.4	+1.0
NMHZ	**Naumai**	**0.97**	**132**	Pn	Pn	10 47 45.4	+1.0
MTVZ	**Mangateitei**	**0.98**	**199**	PN	Pn	10 47 44.4	-0.1
MTVZ	**Mangateitei**	**0.98**	**199**	Pn	Pn	10 47 44.4	-0.1
URZ	**Urewera**	**0.99**	**79**	⇓PN	Pn	10 47 43.8	-0.6
URZ				AML	AML	10 48 03.3	
URZ				AML	AML	10 48 04.6	
URZ	**Urewera**	**0.99**	**79**	Pn	Pn	10 47 43.9	-0.6
BHHZ	**Black Hill Sta**	**1.04**	**172**	⇑PN	Pn	10 47 44.7	-0.2
BHHZ	**Black Hill Sta**	**1.04**	**172**	Pn	Pn	10 47 44.7	-0.2
RAHZ	**Arahi**	**1.05**	**116**	PN	Pn	10 47 45.6	+0.6
RAHZ	**Arahi**	**1.05**	**116**	Pn	Pn	10 47 45.6	+0.6
KWHZ	**Kaweka Forest**	**1.05**	**156**	PN	Pn	10 47 45.4	+0.3
VRZ	**Vera Road**	**1.10**	**232**	PN	Pn	10 47 45.2	-0.1
VRZ	**Vera Road**	**1.10**	**232**	Pn	Pn	10 47 45.2	-0.1
MCHZ	**McNeill Hill**	**1.17**	**147**	PN	Pn	10 47 46.8	+0.8
MCHZ	**McNeill Hill**	**1.17**	**147**	Pn	Pn	10 47 46.8	+0.8
ARHZ	**Aropaoanui**	**1.19**	**133**	⇓PN	Pn	10 47 46.7	+0.6
SNGZ	**Shannon Statio**	**1.19**	**106**	⇓PN	Pn	10 47 46.5	+0.3
RAGZ	**Rawiri**	**1.21**	**92**	PN	Pn	10 47 46.3	-0.1
WHHZ	**Waihua**	**1.23**	**121**	PN	Pn	10 47 47.0	+0.5
KRHZ	**Kereru**	**1.24**	**162**	⇑PN	Pn	10 47 46.8	+0.1
KRHZ				SN	Sn	10 48 07.9	-0.5
MWZ	**Matawai**	**1.30**	**85**	⇓PN	Pn	10 47 46.9	-0.3
MWZ				SN	Sn	10 48 07.8	-1.5
MWZ				AML	AML	10 48 09.0	
MWZ				AML	AML	10 48 09.6	
MWZ				AML	AML	10 48 10.0	
MWZ	**Matawai**	**1.30**	**85**	Pn	Pn	10 47 47.0	-0.3
MWZ				Sn	Sn	10 48 07.8	-1.5
MHEZ	**Mangahewa**	**1.36**	**243**	⇑PN	Pn	10 47 48.0	+0.2
MHEZ	**Mangahewa**	**1.36**	**243**	Pn	Pn	10 47 48.0	+0.2
MKAZ	**Moumakai**	**1.46**	**337**	⇑PN	Pn	10 47 48.4	-0.4
MKAZ	**Moumakai**	**1.46**	**337**	Pn	Pn	10 47 48.4	-0.4
WAZ	**Wanganui**	**1.47**	**208**	⇑PN	Pn	10 47 48.5	-0.4
WAZ	**Wanganui**	**1.47**	**208**	Pn	Pn	10 47 48.5	-0.4
PNHZ	**Pukenui**	**1.47**	**170**	⇑PN	Pn	10 47 48.7	-0.3
PNHZ	**Pukenui**	**1.47**	**170**	Pn	Pn	10 47 48.7	-0.3
RIGZ	**Rimuhau**	**1.50**	**100**	⇓PN	Pn	10 47 49.2	0.0
KNZ	**Kokohu**	**1.51**	**112**	⇓PN	Pn	10 47 49.3	+0.1
KNZ	**Kokohu**	**1.51**	**112**	Pn	Pn	10 47 49.3	+0.1
CKHZ	**Cape Kidnapper**	**1.52**	**142**	PN	Pn	10 47 49.7	+0.4
CKHZ	**Cape Kidnapper**	**1.52**	**142**	Pn	Pn	10 47 49.7	+0.4
LREZ	**Lake Rotokare**	**1.52**	**229**	PN	Pn	10 47 49.2	-0.1
KAHZ	**Kahuranaki**	**1.54**	**150**	⇑PN	Pn	10 47 50.0	+0.4
KAHZ	**Kahuranaki**	**1.54**	**150**	Pn	Pn	10 47 50.0	+0.4
TKGZ	**Te Karaka**	**1.55**	**90**	PN	Pn	10 47 49.7	+0.1
TKGZ				SN	Sn	10 48 12.7	-0.7
TSZ	**Takapari Road**	**1.60**	**178**	PN	Pn	10 47 49.7	-0.5
TSZ				AML	AML	10 48 15.0	
TSZ				AML	AML	10 48 18.0	
TSZ	**Takapari Road**	**1.60**	**178**	Pn	Pn	10 47 49.7	-0.5
PRRZ	**Palmer Road**	**1.60**	**236**	PN	Pn	10 47 50.2	0.0
NEZ	**North Egmont**	**1.61**	**239**	⇑PN	Pn	10 47 50.3	-0.1
NEZ	**North Egmont**	**1.61**	**239**	Pn	Pn	10 47 50.3	-0.1
PRGZ	**Paritu Road**	**1.64**	**107**	PN	Pn	10 47 50.5	-0.1
PRGZ	**Paritu Road**	**1.64**	**107**	Pn	Pn	10 47 50.5	0.0
HAZ	**Te Kaha**	**1.66**	**66**	⇑PN	Pn	10 47 49.6	-1.2
WPHZ	**Waipukurau**	**1.66**	**165**	⇑PN	Pn	10 47 50.6	-0.2
WPHZ	**Waipukurau**	**1.66**	**165**	Pn	Pn	10 47 50.6	-0.2
KHEZ	**Kahui Hut**	**1.68**	**240**	PN	Pn	10 47 50.8	-0.3
TWGZ	**Tauwhareparae**	**1.68**	**81**	PN	Pn	10 47 51.0	0.0
PXZ	**Pawanui**	**1.75**	**154**	PN	Pn	10 47 51.6	-0.1
PXZ				AML	AML	10 48 18.1	
PXZ				AML	AML	10 48 19.9	
PXZ	**Pawanui**	**1.75**	**154**	Pn	Pn	10 47 51.6	-0.1
CNGZ	**Carnagh Statio**	**1.83**	**92**	PN	Pn	10 47 52.9	+0.3
CNGZ	**Carnagh Statio**	**1.83**	**92**	Pn	Pn	10 47 52.9	+0.3
DVHZ	**Dannevirke**	**1.85**	**173**	PN	Pn	10 47 52.1	-0.8
DVHZ	**Dannevirke**	**1.85**	**173**	Pn	Pn	10 47 52.1	-0.8
PRHZ	**Porangahau**	**1.90**	**162**	PN	Pn	10 47 53.0	-0.4
PRHZ	**Porangahau**	**1.90**	**162**	Pn	Pn	10 47 53.0	-0.4
PUZ	**Puketiti**	**1.91**	**79**	PN	Pn	10 47 52.9	-0.7
PUZ				AML	AML	10 48 19.0	
PUZ				AML	AML	10 48 19.2	
PUZ	**Puketiti**	**1.91**	**79**	Pn	Pn	10 47 52.9	-0.7
POWZ	**Post Office Ro**	**1.93**	**182**	PN	Pn	10 47 52.8	-1.0
POWZ	**Post Office Ro**	**1.93**	**182**	Pn	Pn	10 47 52.8	-1.0
ANWZ	**Angora Road**	**2.05**	**167**	⇑PN	Pn	10 47 54.6	-0.5
PRWZ	**Pori Road**	**2.10**	**178**	PN	Pn	10 47 54.9	-0.7
WMGZ	**Waiomatatini S**	**2.10**	**73**	PN	Pn	10 47 55.0	-0.7
MXZ	**Matakaoa Point**	**2.12**	**66**	PN	Pn	10 47 55.5	-0.4
MXZ				AML	AML	10 48 24.1	
MXZ				AML	AML	10 48 24.1	
MXZ				AML	AML	10 48 25.1	
MXZ				AML	AML	10 48 25.1	
MXZ	**Matakaoa Point**	**2.12**	**66**	Pn	Pn	10 47 55.5	-0.4
MRZ	**Mangatainoka R**	**2.21**	**186**	⇑PN	Pn	10 47 55.5	-1.5
MRZ				AML	AML	10 48 26.1	
MRZ				AML	AML	10 48 26.2	
MRZ	**Mangatainoka R**	**2.21**	**186**	Pn	Pn	10 47 55.5	-1.5
BFZ	**Birch Farm**	**2.24**	**173**	PN	Pn	10 47 56.1	-1.2
BFZ	**Birch Farm**	**2.24**	**173**	Pn	Pn	10 47 56.1	-1.2
TIWZ	**Tintock**	**2.31**	**180**	PN	Pn	10 47 56.8	-1.4
TIWZ				AML	AML	10 48 27.0	
TIWZ				AML	AML	10 48 27.6	
TIWZ	**Tintock**	**2.31**	**180**	Pn	Pn	10 47 56.8	-1.4
OGWZ	**Otaki Gorge**	**2.42**	**193**	PN	Pn	10 47 57.8	-1.6
OGWZ	**Otaki Gorge**	**2.42**	**193**	Pn	Pn	10 47 57.8	-1.6
HOWZ	**Holdsworth Sta**	**2.45**	**186**	PN	Pn	10 47 57.9	-1.9
HOWZ	**Holdsworth Sta**	**2.45**	**186**	Pn	Pn	10 47 57.9	-1.9
CPWZ	**Castlepoint**	**2.46**	**174**	PN	Pn	10 47 58.6	-1.2
KIW	**Kapiti Island**	**2.51**	**197**	⇑PN	Pn	10 47 58.5	-2.0
KIW				AML	AML	10 48 31.1	
KIW				AML	AML	10 48 31.3	
KIW	**Kapiti Island**	**2.51**	**197**	Pn	Pn	10 47 58.5	-2.0
TMWZ	**Te Maipa**	**2.65**	**180**	PN	Pn	10 48 00.3	-1.8
TMWZ	**Te Maipa**	**2.65**	**180**	Pn	Pn	10 48 00.3	-1.8
MTW	**Mount Morrison**	**2.71**	**186**	⇑PN	Pn	10 48 00.7	-2.2
MTW				AML	AML	10 48 35.7	
MTW				AML	AML	10 48 35.8	
MTW	**Mount Morrison**	**2.71**	**186**	Pn	Pn	10 48 00.7	-2.2
CAW	**Cannon Point**	**2.72**	**193**	PN	Pn	10 48 00.9	-2.1
CAW				AML	AML	10 48 35.9	
CAW				AML	AML	10 48 36.0	
CAW	**Cannon Point**	**2.72**	**193**	Pn	Pn	10 48 00.9	-2.1
DUWZ	**D'Urville Isla**	**2.79**	**212**	PN	Pn	10 48 01.5	-2.4
DUWZ	**D'Urville Isla**	**2.79**	**212**	Pn	Pn	10 48 01.5	-2.4
PAWZ	**Paruwai Farm**	**2.94**	**187**	PN	Pn	10 48 03.2	-2.5
PAWZ				AML	AML	10 48 39.9	
PAWZ				AML	AML	10 48 40.6	
PAWZ	**Paruwai Farm**	**2.94**	**187**	Pn	Pn	10 48 03.2	-2.5
TRWZ	**Traveller**	**2.94**	**183**	PN	Pn	10 48 03.5	-2.2
TRWZ				AML

ANKY					S	Sg	11 03 09.1	-0.3		
VLI	**Veliai**	**0.99**	**39**	*e*PN	**Pn**	11 02 58.7	+0.4			
VLI	**Veliai**	**0.99**	**39**	P	**Pb**	11 02 57.8	0.0			
VLI	**Veliai**	**0.99**	**39**	*e*Pn	**Pn**	11 02 58.7	+0.4			
VLI					S	Sn	11 03 12.0	+0.1		
VLI	**Veliai**	**0.99**	**39**	P	**Pb**	11 02 57.8	0.0			
VLI					S	Sn	11 03 12.0	+0.1		
PYL	**PYLOS**	**1.00**	**341**	*e*PB	**Pb**	11 02 57.7	-0.2			
PYL				*e*SB	**Sg**	11 03 11.3	-0.1			
PYL	**PYLOS**	**1.00**	**341**	*e*Pb	**Pb**	11 02 57.7	-0.2			
PYL	**PYLOS**	**1.00**	**341**	P	**Pn**	11 02 58.9	+0.6			
PYL				*e*Sb	**Sg**	11 03 11.3	-0.1			
PYL				S	**Sn**	11 03 14.8	+2.7			
PYL	**PYLOS**	**1.00**	**341**	P	**Pn**	11 03 58.9	+0.6			
PYL				S	**Sn**	11 03 14.8	+2.7			
ITM	**Ithomi**	**1.24**	**352**	*e*PB	**Pb**	11 03 01.9	-0.1			
ITM	**Ithomi**	**1.24**	**352**	*e*Pb	**Pb**	11 03 01.9	-0.1			
ITM	**Ithomi**	**1.24**	**352**	P	**Pg**	11 03 03.2	+0.3			
ITM				S	**Sg**	11 03 21.6	+2.6			
ITM	**Ithomi**	**1.24**	**352**	P	**Pg**	11 03 03.2	+0.3			
ITM				S	**Sg**	11 03 21.6	+2.6			
VLX	**Vlachokerasia**	**1.43**	**7**	*e*PB	**Pb**	11 03 05.4	+0.1			
VLX				*e*SB	**Sg**	11 03 25.0	0.0			
VLX	**Vlachokerasia**	**1.43**	**7**	*e*Pb	**Pb**	11 03 05.4	+0.1			
VLX	**Vlachokerasia**	**1.43**	**7**	P	**Pg**	11 03 06.1	-0.4			
VLX				*e*Sb	**Sg**	11 03 25.0	0.0			
VLX				S	**Sg**	11 03 26.0	+1.0			
VLX	**Vlachokerasia**	**1.43**	**7**	P	**Pg**	11 03 06.1	-0.4			
VLX				S	**Sg**	11 03 26.0	+1.0			
AMT	**Artemida-Makis**	**1.61**	**347**	*e*PB	**Pg**	11 03 09.1	-1.0			
AMT	**Artemida-Makis**	**1.61**	**347**	*e*Pb	**Pg**	11 03 09.1	-1.0			
AMT	**Artemida-Makis**	**1.61**	**347**	P	**Pg**	11 03 09.7	-0.4			
AMT	**Artemida-Makis**	**1.61**	**347**	P	**Pg**	11 03 09.7	-0.4			
KRND	**KRANIDI**	**1.64**	**29**	*e*PN	**Pn**	11 03 07.7	+0.6			
KRND	**KRANIDI**	**1.64**	**29**	*e*Pn	**Pn**	11 03 07.7	+0.6			
KRND	**KRANIDI**	**1.64**	**29**	P	**Pb**	11 03 08.7	-0.1			
KRND	**KRANIDI**	**1.64**	**29**	P	**Pb**	11 03 08.7	-0.1			
DIDY	**Didyma**	**1.74**	**29**	*e*PN	**Pb**	11 03 10.7	0.0			
DIDY				*e*SN	**Sg**	11 03 34.1	-1.0			
DIDY	**Didyma**	**1.74**	**29**	P	**Pn**	11 03 09.7	+1.0			
DIDY	**Didyma**	**1.74**	**29**	*e*Pn	**Pb**	11 03 10.7	0.0			
DIDY	**Didyma**	**1.74**	**29**	P	**Pn**	11 03 09.7	+1.0			
DID	**Didima**	**1.78**	**29**	*e*PN	**Pb**	11 03 11.3	+0.1			
DID	**Didima**	**1.78**	**29**	P	**Pb**	11 03 10.9	-0.3			
DID	**Didima**	**1.78**	**29**	*e*Pn	**Pb**	11 03 11.3	+0.1			
DID				S	**Sg**	11 03 35.2	-1.0			
DID	**Didima**	**1.78**	**29**	P	**Pb**	11 03 10.9	-0.3			
DID				S	**Sg**	11 03 35.2	-1.0			
GVD	**Gavdhos**	**1.93**	**125**	*e*PN	**Pb**	11 03 14.4	+0.6			
GVD	**Gavdhos**	**1.93**	**125**	*e*Pn	**Pb**	11 03 14.4	+0.6			
GUR	**Goura**	**1.98**	**4**	*e*PN	**Pb**	11 03 13.9	-0.8			
GUR	**Goura**	**1.98**	**4**	P	**Pb**	11 03 14.0	-0.8			
GUR				S	**Sb**	11 03 40.5	+1.2			
GUR	**Goura**	**1.98**	**4**	P	**Pb**	11 03 14.0	-0.8			
GUR				S	**Sb**	11 03 40.5	+1.2			
ACOR	**Acrocorinthos**	**2.02**	**16**	P	**Pb**	11 03 14.4	-0.9			
DRO	**Drossia**	**2.03**	**350**	*e*PN	**Pb**	11 03 14.8	-0.7			
DRO	**Drossia**	**2.03**	**350**	*e*Pn	**Pb**	11 03 14.8	-0.7			
DRO	**Drossia**	**2.03**	**350**	P	**Pb**	11 03 15.3	-0.2			
DRO	**Drossia**	**2.03**	**350**	P	**Pb**	11 03 15.3	-0.2			
ZKS	**Zakynthos**	**2.06**	**328**	*e*PN	**Pb**	11 03 15.1	-0.9			
ZKS	**Zakynthos**	**2.06**	**328**	*e*Pn	**Pb**	11 03 15.1	-0.9			
KLV	**Kalavryta, Ach**	**2.09**	**360**	*e*PN	**Pb**	11 03 15.9	-0.6			
KLV	**Kalavryta, Ach**	**2.09**	**360**	*e*Pn	**Pb**	11 03 15.9	-0.6			
KLV	**Kalavryta, Ach**	**2.09**	**360**	P	**Pb**	11 03 16.0	-0.6			
NAIG	**Nisos Aigina**	**2.10**	**30**	*e*PN	**Pb**	11 03 15.2	-1.4			
NAIG	**Nisos Aigina**	**2.10**	**30**	*e*Pn	**Pb**	11 03 15.2	-1.4			
THAL	**Thalero**	**2.12**	**11**	*e*PN	**Pb**	11 03 16.3	-0.7			
THAL	**Thalero**	**2.12**	**11**	*e*Pn	**Pb**	11 03 16.3	-0.7			
LOUT	**Loutraki**	**2.13**	**18**	*e*PN	**Pb**	11 03 16.2	-1.1			
LOUT	**Loutraki**	**2.13**	**18**	*e*Pn	**Pb**	11 03 16.2	-1.1			
LTK	**Loutraki**	**2.17**	**17**	*e*PN	**Pb**	11 03 16.7	-1.1			
LTK	**Loutraki**	**2.17**	**17**	P	**Pb**	11 03 16.5	-1.3			
LTK	**Loutraki**	**2.17**	**17**	P	**Pb**	11 03 16.5	-1.3			
RLS	**Riolos of Patr**	**2.17**	**346**	*e*PN	**Pb**	11 03 17.0	-1.0			
RLS	**Riolos of Patr**	**2.17**	**346**	P	**Pb**	11 03 16.9	-1.0			
RLS	**Riolos of Patr**	**2.17**	**346**	P	**Pb**	11 03 16.9	-1.0			
LAKA	**Lakka**	**2.29**	**357**	*e*PN	**Pb**	11 03 18.4	-1.5			
LAKA	**Lakka**	**2.29**	**357**	P	**Pb**	11 03 18.4	-1.5			
LAKA	**Lakka**	**2.29**	**357**	P	**Pb**	11 03 18.4	-1.5			
IDI	**Anoyia**	**2.33**	**106**	Pn	**Pn**	11 03 15.1	-1.6			
	2.2nm,0.3s,baz=267,slow=9.1,SNR=13									
IDI					LR	LR	11 04 25.9			
	comp=Z,86nm,19.7s,baz=76,slow=52									
SIVA	**Sivas**	**2.36**	**113**	*e*PN	**Pb**	11 03 20.1	-1.0			
SIVA	**Sivas**	**2.36**	**113**	*e*Pn	**Pb**	11 03 20.1	-1.0			
VILL	**Villia**	**2.39**	**22**	*e*Pn	**Pb**	11 03 20.4	-1.3			
TRIZ	**Trizonia**	**2.41**	**358**	*e*PB	**Pn**	11 03 19.4	+1.7			
TRIZ	**Trizonia**	**2.41**	**358**	*e*Pb	**Pn**	11 03 19.4	+1.7			
VIL2	**Platees**	**2.42**	**21**	*e*PN	**Pb**	11 03 20.4	-1.8			
KALE	**Kalithea**	**2.43**	**360**	*e*PB	**Pn**	11 03 20.0	+1.9			
KALE	**Kalithea**	**2.43**	**360**	*e*Pb	**Pn**	11 03 20.0	+1.9			
KALE	**Kalithea**	**2.43**	**360**	P	**Pb**	11 03 20.6	-1.8			
KALE	**Kalithea**	**2.43**	**360**	P	**Pb**	11 03 20.6	-1.8			
DSF	**Desfina**	**2.47**	**7**	*e*PN	**Pn**	11 03 20.7	+2.0			
DSF	**Desfina**	**2.47**	**7**	*e*Pn	**Pn**	11 03 20.7	+2.0			
DESF	**Desfina**	**2.47**	**7**	*e*PN	**Pb**	11 03 21.0	-2.1			
DESF	**Desfina**	**2.47**	**7**	*e*Pn	**Pb**	11 03 21.0	-2.1			
EFP	**Efpalio**	**2.48**	**355**	*e*PN	**Pb**	11 03 21.6	-1.5			
EFP	**Efpalio**	**2.48**	**355**	*e*Pn	**Pb**	11 03 21.6	-1.5			
VLS	**Valsamata**	**2.55**	**331**	*e*PB	**Pn**	11 03 20.5	+0.8			
VLS	**Valsamata**	**2.55**	**331**	*e*Pb	**Pn**	11 03 20.5	+0.8			
PDO	**Prodromos**	**2.75**	**344**	*e*PN	**Pn**	11 03 24.2	+1.7			
PDO	**Prodromos**	**2.75**	**344**	*e*Pn	**Pn**	11 03 24.2	+1.7			
LKR	**Lokris**	**2.77**	**14**	*e*PN	**Pn**	11 03 23.7	+0.9			
LKR	**Lokris**	**2.77**	**14**	*e*Pn	**Pn**	11 03 23.7	+0.9			
EXG	**Exogi**	**2.78**	**335**	*e*PN	**Pn**	11 03 24.5	+1.6			
EXG	**Exogi**	**2.78**	**335**	*e*Pn	**Pn**	11 03 24.5	+1.6			
LAST	**Lasithi**	**2.82**	**105**	*e*PN	**Pn**	11 03 26.3	+2.8			
LAST	**Lasithi**	**2.82**	**105**	*e*Pn	**Pn**	11 03 26.3	+2.8			
AXAR	**Agios Charalam**	**2.84**	**8**	*e*PN	**Pn**	11 03 26.1	+2.5			
AXAR	**Agios Charalam**	**2.84**	**8**	*e*Pn	**Pn**	11 03 26.1	+2.5			
EREA	**Eretria**	**2.84**	**29**	*e*PN	**Pn**	11 03 25.6	+1.9			
EREA	**Eretria**	**2.84**	**29**	*e*Pn	**Pn**	11 03 25.6	+1.9			
NPS	**Neapolis**	**2.90**	**103**	*e*PB	**Pn**	11 03 27.6	+3.1			
NPS	**Neapolis**	**2.90**	**103**	*e*Pb	**Pn**	11 03 27.6	+3.1			
EVR	**Evrytania**	**2.97**	**355**	*e*PN	**Pn**	11 03 28.1	+2.5			
EVR	**Evrytania**	**2.97**	**355**	*e*Pn	**Pn**	11 03 28.1	+2.5			
MRKA	**Markates**	**2.98**	**22**	*e*PN	**Pn**	11 03 27.8	+2.2			
MRKA	**Markates**	**2.98**	**22**	*e*Pn	**Pn**	11 03 27.8	+2.2			
SMIA	**Simia**	**3.04**	**16**	*e*PN	**Pn**	11 03 28.0	+1.6			
SMIA	**Simia**	**3.04**	**16**	*e*Pn	**Pn**	11 03 28.0	+1.6			
MAKR	**Makrakomi, Fth**	**3.05**	**360**	*e*PN	**Pn**	11 03 29.4	+2.7			
MAKR	**Makrakomi, Fth**	**3.05**	**360**	*e*Pn	**Pn**	11 03 29.4	+2.7			
AGG	**Agios Georgios**	**3.07**	**3**	*e*PN	**Pn**	11 03 29.0	+2.2			
AGG	**Agios Georgios**	**3.07**	**3**	*e*Pn	**Pn**	11 03 29.0	+2.2			
DSL	**Palaion Diasel**	**3.28**	**345**	*e*PN	**Pn**	11 03 31.4	+1.6			
DSL	**Palaion Diasel**	**3.28**	**345**	*e*Pn	**Pn**	11 03 31.4	+1.6			
NEO	**Neokhori**	**3.45**	**14**	*e*PN	**Pn**	11 03 34.0	+1.9			
NEO	**Neokhori**	**3.45**	**14**	*e*Pn	**Pn**	11 03 34.0	+1.9			
XOR	**Xorichti**	**3.50**	**13**	*e*PN	**Pn**	11 03 34.3	+1.5			
XOR	**Xorichti**	**3.50**	**13**	*e*Pn	**Pn**	11 03 34.3	+1.5			
THL	**Klokotos Trika**	**3.61**	**358**	*e*PN	**Pn**	11 03 36.2	+2.0			
THL	**Klokotos Trika**	**3.61**	**358**	*e*Pn	**Pn**	11 03 36.2	+2.0			
SGD	**Sagiada**	**3.96**	**338**	*e*PN	**Pn**	11 03 39.5	+0.5			
SGD	**Sagiada**	**3.96**	**338**	*e*Pn	**Pn**	11 03 39.5	+0.5			
PAIG	**Paliouri**	**4.15**	**16**	*e*PN	**Pn**	11 03 42.2	+0.6			
PAIG	**Paliouri**	**4.15**	**16**	*e*Pn	**Pn**	11 03 42.2	+0.6			
LIT	**Litokhoron**	**4.15**	**4**	*e*PN	**Pn**	11 03 44.3	+2.6			
LIT	**Litokhoron**	**4.15**	**4**	*e*Pn	**Pn**	11 03 44.3	+2.6			
SIGR	**SIGRI**	**4.38**	**41**	*e*PN	**Pn**	11 03 47.5	+2.6			
SIGR	**SIGRI**	**4.38**	**41**	*e*Pn	**Pn**	11 03 47.5	+2.6			
NEST	**Nestorio**	**4.54**	**349**	*e*PN	**Pn**	11 03 49.2	+2.1			
NEST	**Nestorio**	**4.54**	**349**	*e*Pn	**Pn**	11 03 49.2	+2.1			
HORT	**Hortiatis**	**4.70**	**9**	*e*PN	**Pn**	11 03 50.9	+1.6			
HORT	**Hortiatis**	**4.70**	**9**	*e*Pn	**Pn**	11 03 50.9	+1.6			
FNA	**Florina**	**4.86**	**353**	*e*PN	**Pn**	11 03 52.4	+0.9			
FNA	**Florina**	**4.86**	**353**	*e*Pn	**Pn**	11 03 52.4	+0.9			
SOH	**Sokhos**	**4.95**	**11**	*e*PN	**Pn**	11 03 53.3	+0.6			
SOH	**Sokhos**	**4.95**	**11**	*e*Pn	**Pn**	11 03 53.3	+0.6			
GRG	**Griva**	**5.00**	**2**	*e*PN	**Pn**	11 03 53.8	+0.4			
GRG	**Griva**	**5.00**	**2**	*e*Pn	**Pn**	11 03 53.8	+0.4			
KNT	**Kendrikon**	**5.23**	**6**	*e*PN	**Pn**	11 03 57.7	+1.1			
KNT	**Kendrikon**	**5.23**	**6**	*e*Pn	**Pn**	11 03 57.7	+1.1			
STON	**Ston**	**7.72**	**335**	*e*Pn	Pn	11 04 26.8	-3.9			
STON					Sn	Sn	11 05 50.3	-7.4		
GNI	**Garni**	**18.26**	**70**		LR	LR	11 13 38.0			
	comp=Z,31nm,21.5s,baz=290,slow=38									
HFS	**Hagfors**	**24.81**	**350**		P	**P**	**11 07 57.3**	**-2.8**		
	1.5nm,0.5s,baz=158,slow=12,SNR=12									

FINES	**FINES Array B**	**25.63**	**4**		P	**P**	**11 08 02.9**	**-4.6**		
	2.6nm,1.0s,baz=176,slow=11,SNR=6.2									
EKA	**Eskdalemuir Ar**	**26.00**	**326**		P	**P**	**11 08 10.2**	**-0.7**		
	0.5nm,0.5s,baz=126,slow=8.4,SNR=3.8									
NOA	**NORSAR Array B**	**26.06**	**348**		P	**P**	**11 08 10.0**	**-1.4**		
	0.4nm,0.4s,baz=168,slow=8.7,SNR=3.2									
AKTO	**Aktyubinsk**	**29.55**	**49**		LR	LR	11 21 58.1			
	comp=Z,12nm,18.5s,baz=123,slow=40									
ARCES	**ARCESS Array B**	**33.69**	**2**		P	P	11 09 14.2	-4.7		
	0.8nm,0.4s,baz=196,slow=8.3,SNR=13									
MKAR	**Makanchi Array**	**45.39**	**57**		P	P	11 10 52.6	-4.1		
	2.6nm,0.4s,baz=274,slow=7.3,SNR=35									
ZALV	**Zalesovo Beam**	**46.23**	**47**		P	P	11 10 56.3	-6.8		
	0.7nm,0.3s,baz=263,slow=8.7,SNR=4.4									
SONM	**Songino Array**	**60.87**	**50**		P	P	11 12 45.6	-5.2		
	0.2nm,0.3s,baz=317,slow=9.8,SNR=3.0									

NAO 22 11:12:16.5±1.7, 67°56.N×34°04.E, ML2.4, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**0.40**	**277**	Pg	Pg	11 12 22.1	-2.2
APA0				Pg	Pb	11 12 24.0	-2.5
	baz=96,slow=18						
APA0				Lg	Lg	11 12 25.2	
APA0				Rg	Rg	11 12 26.1	
APA0				Lg	Lg	11 12 28.6	
	baz=85,slow=28						
APA0				Rg	Rg	11 12 31.4	
	baz=83,slow=37						
APA0	**Apatity Array**	**0.40**	**277**	Pg	Pg	11 12 22.1	-2.2
APA0				Pg	Pb	11 12 24.0	-2.5
	baz=96,slow=18						
APA0				Lg	Lg	11 12 25.2	
APA0				Rg	Rg	11 12 26.1	
APA0				Lg	Lg	11 12 28.6	
	baz=85,slow=28						
APA0				Rg	Rg	11 12 31.4	
	baz=83,slow=37						
ARA0	**ARCESS Array S**	**3.71**	**306**	Pn	Pn	11 13 14.3	-0.7
	baz=122,slow=16						
ARA0				Sn	Sn	11 13 56.8	-2.5
	baz=119,slow=22						
ARA0				Lg	Lg	11 14 07.8	
	baz=123,slow=28						
ARA0	**ARCESS Array S**	**3.71**	**306**	Pn	Pn	11 13 14.3	-0.7
	baz=122,slow=16						
ARA0				Sn	Sn	11 13 56.8	-2.5
	baz=119,slow=22						
ARA0				Lg	Lg	11 14 07.8	
	baz=123,slow=28						

IDC ***22*** *11:12:57.5±1.1, 36°.21S×72°.90W, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.8/25, mbtmp3.7/7, ML2.9/1, MS3.4/13, Ms1 3.4/13, ms1mx3.3/23, Error ellipse: s-maj=34.9km s-min=24.7km az=97.0*

ISCJB ***22*** *11:13:00.7±0.8, 36°.1S±0°.1×73°.0W±0°.2, h28km, mb3.8/5, MS3.4/9, Error ellipse: s-maj=22.2km s-min=10.9km az=30.5*

ISC 22 11:13:02.3±1.0, 36°.1S±0°.1×73°.0W±0°.2, h28km, n19, σ1§60/10, mb3.8/5, MS3.4/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**6.01**	**43**	Pn	**Pn**	**11 14 28.3**	**-1.1**
	0.3nm,0.3s,baz=218,slow=12,SNR=9.5						
CFAA				Sn	**Sn**	**11 15 39.5**	**+2.2**
	0.2nm,0.3s,baz=41,slow=9.3,SNR=2.3						
CFAA				LR	LR	11 17 15.8	
	comp=Z,60nm,19.2s,baz=234,slow=43						
LVC	**Limon Verde**	**13.93**	**16**	LR	LR	11 22 17.8	
	comp=Z,853nm,19.0s,baz=208,slow=40						
CPUP	**Villa Florida**	**16.57**	**58**	LR	LR	11 22 59.5	
	comp=Z,65nm,21.6s,baz=238,slow=36						
USHA	**Ushuaia**	**18.98**	**172**	LR	LR	11 24 46.6	
	comp=Z,293nm,20.1s,baz=169,slow=38						
LPAZ	**La Paz**	**20.23**	**14**	P	Pn	11 17 35.5	-2.4
	2.3nm,1.0s,baz=173,slow=8.6,SNR=4.0						
SIV	**San Ignacio**	**22.70**	**3**	P	**P**	**11 18 00.5**	**-1.4**
	3.2nm,0.9s,baz=231,slow=14,SNR=4.6						
SIV				LR	LR	11 28 33.4	
	comp=Z,237nm,18.9s,baz=229,slow=41						
PMSA	**Palmer Station**	**29.19**	**172**	LR	LR	11 29 24.6	
	comp=Z,53nm,19.0s,baz=87,slow=34						
PTGA	**Pitinga**	**37.24**	**22**	LR	LR	11 37 20.1	
	comp=Z,59nm,21.5s,baz=190,slow=39						
JTS	**JuntasAbangare**	**47.52**	**344**	LR	LR	11 38 11.0	
	comp=Z,19nm,18.4s,baz=128,slow=32						
VNA1	**Neumayer--Stat**	**48.05**	**156**	P	P	11 21 31.7	-6.9
VNA2	**Neumayer--Watz**	**48.38**	**156**	P	**P**	**11 21 43.1**	**+1.8**
	baz=292,slow=10						
SNAA	**Sanae**	**49.94**	**157**	P	**P**	**11 21 54.1**	**+0.9**
SNAA	**Sanae**	**49.94**	**157**	P	**P**	**11 21 51.6**	**-1.6**
	0.9nm,0.9s,baz=295,slow=7.1,SNR=6.4						
SNAA				LR	LR	11 43 02.7	
	comp=Z,23nm,18.1s,baz=328,slow=36						
PPT	**Papeete**	**69.17**	**263**	LR	LR	11 45 09.4	
	comp=Z,34nm,20.5s,baz=112,slow=28						
TXAR	**Lajitas Array**	**71.21**	**332**	P	**P**	**11 24 18.5**	**-0.2**
	0.5nm,0.6s,baz=150,slow=7.3,SNR=4.5						
TXAR				LR	LR	11 49 49.9	
	comp=Z,35nm,20.3s,baz=0.0,slow=31						
BOSA	**Boshof**	**79.79**	**118**	LR	LR	11 55 21.4	
	comp=Z,18nm,20.4s,baz=244,slow=32						
NVAR	**Mina Array Bea**	**85.18**	**326**	P	**P**	**11 25 37.5**	**+1.5**
	0.6nm,0.7s,baz=158,slow=5.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**85.68**	**70**	P	**P**	**11 25 38.2**	**-0.6**
	0.5nm,0.8s,baz=245,slow=8.8,SNR=3.2						
TORD				LR	LR	12 01 36.4	
	comp=Z,19nm,19.8s,baz=290,slow=34						
BVAR	**Borovoye Array**	**149.36**	**45**	PKPbc	**PKPbc**	**11 32 47.2**	**-0.7**
	0.6nm,0.5s,baz=287,slow=5.9,SNR=2.6						

IDC ***22*** *11:14:43.7±20.0, 52°.00N×170°.47W, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.2/43, mbtmp3.1/3, ML3.2/1, Error ellipse: s-maj=406.6km s-min=55.1km az=86.0*

ISCJB ***22*** *11:14:48.3±1.0, 52°.45N±0°.09×169°.3W±0°.1, h10km, mb3.2/2, Error ellipse: s-maj=16.1km s-min=7.3km az=135.8*

NEIC ***22*** *11:14:50.4, 52°.46N×169°.18W, h13km, ML3.2(AEIC), After AEIC.*

ISC 22 11:14:49.6±1.4, 52°.5N±0°.1×169°.26W±0°.08, h10km, n15, σ1§12/17, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.56**	**26**	P	**Pg**	**11 15 01.0**	**+0.5**
NIKH				S	**Sg**	**11 15 08.7**	**+0.9**
OKWR	**Okmok West Rim**	**1.15**	**33**	P	**Pb**	**11 15 11.4**	**-0.3**
OKCE	**Okmok Cone E**	**1.16**	**34**	P	**Pb**	**11 15 10.7**	**-1.1**
OKCE				S	**Sg**	**11 15 27.6**	**+0.6**
OKTU	**Okmok Mt. Tuli**	**1.17**	**38**	P	**Pb**	**11 15 11.3**	**-0.7**
OKAK	**Okmok**	**1.23**	**26**	P	Pn	11 15 10.3	-2.6
OKFG	**Magazine Ridge**	**1.24**	**40**	P	**Pn**	**11 15 11.9**	**-1.1**
OKFG				S	**Sb**	**11 15 27.9**	**-1.4**
MSOM	**Makushin Julie**	**1.94**	**45**	P	**Pn**	**11 15 22.2**	**-0.3**
UNV	**Unalaska Valle**	**2.15**	**49**	P	**Pn**	**11 15 25.3**	**-0.3**
UNV				S	**Sn**	**11 15 50.1**	**-2.2**
MTBL	**Makushin Table**	**2.16**	**45**	P	**Pn**	**11 15 25.5**	**-0.2**
ZRO	**Akutan Zero**	**2.55**	**49**	P	**Pn**	**11 15 31.7**	**+0.7**
ATKA	**Atka Island**	**3.04**	**267**	P	**Pn**	**11 15 36.8**	**-0.9**
SPIA	**Saint Paul Isl**	**4.75**	**353**	P	**Pn**	**11 16 01.4**	**+0.2**
ILAR	**Eielson Array**	**16.83**	**34**	Pn	**P**	**11 18 49.2**	**+2.1**
	0.6nm,0.3s,baz=221,slow=13,SNR=3.7						
YKA	**Yellowknife Ar**	**30.12**	**49**	P	P	11 21 03.5	+4.5
	0.1nm,0.3s,baz=276,slow=6.9,SNR=4.5						
TXAR	**Lajitas Array**	**52.68**	**89**	P	**P**	**11 24 04.8**	**+0.7**
	0.3nm,0.6s,baz=289,slow=5.6,SNR=5.1						

IDC 22 11:22:17.9±2.4, 6°.07S×150°.64E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/33, mbtmp3.8/4, ML1.7/1, Error ellipse: s-maj=73.6km s-min=35.3km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.78**	**226**	Pn	Pn	11 23 33.2	+2.0
	2.1nm,0.3s,baz=45,slow=2.9,SNR=5.3						
PMG				Sn	Sn	11 24 27.7	+0.3
	2.8nm,0.3s,baz=307,slow=12,SNR=3.3						

WRA	**Warramunga Arr**	**21.00**	**227**		P	P	11 27 02.6	-0.6		
	1.4nm,0.4s,baz=52,slow=11,SNR=22									
ASAR	**Alice Springs**	**23.78**	**221**		P	P	11 27 32.0	-0.3		
	1.3nm,0.6s,baz=55,slow=9.0,SNR=44									
STKA	**Stephens Creek**	**27.03**	**197**		P	P	11 28 01.2	-0.7		
	1.2nm,0.6s,baz=26,slow=13,SNR=3.7									
TORD	**Torodi Ar. Bea**	**148.60**	**285**		PKPbc	PKPbc	11 42 07.9	-0.1		
	0.5nm,0.7s,baz=83,slow=2.3,SNR=3.1									

ISCJB ***22*** *11:27:47.4±0.5, 37°.21S±0°.04×72°.82W±0°.09, h55km±5km, mb4.1/13, MS3.5/2, Error ellipse: s-maj=13.1km s-min=5.4km az=20.1*

NEIC ***22*** *11:27:47.0, 37°.27S×72°.80W, h42km, mb4.2/2, After GUC.*

NEIC Felt [IV] at Angol, La Laja, Nacimiento and San Rosendo; [II] at Mulchen and Temuco.

GUC ***22*** *11:27:47.4±0.4, 37°.27S×72°.80W, h42km±1km, ML4.4*

IDC ***22*** *11:27:49.2±0.8, 37°.11S×72°.68W, h53km±6km, mb3.9/12, mb1 4.0/15, mb1mx3.9/33, mbtmp4.2/15, MS3.2/4, Ms1 3.2/4, ms1mx3.0/15, Error ellipse: s-maj=22.3km s-min=12.3km az=101.0*

ISC 22 11:27:48.8±0.6, 37°.18S±0°.05×72°.90W±0°.08, h54km±5km, h54km:pP-P, n36, σ1§11/51, mb4.1/13, 2C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U14B	**Concepcin**	**0.35**	**335**	⇑*i*P	**Pn**	**11 27 58.3**	**-0.3**
U14B				*i* S	**Sn**	**11 28 06.3**	**+0.5**
U14B				AML	AML	11 28 10.3	
	comp=E,62μm,0.6s						
U14B	**Concepcin**	**0.35**	**335**	*e*Pn	**Pn**	**11 27 58.4**	**-0.3**
U14B				*e*Sn	**Sn**	**11 28 05.3**	**-0.5**
CCSP	**San Pedro de C**	**0.37**	**333**	*e*P	**Pn**	**11 27 58.1**	**-0.9**
CCSP				*i*

SMMC	**Simmler**	**2.50**	**203**	P		**Pn**	**11 40 50.3**	**+0.9**
	baz=2.5								
SMMC				Sb		**Sb**	**11 41 24.2**	**-0.2**
	baz=2.5								
R11A	**Troy Canyon, C**	**2.66**	**73**	Pb		**Pb**	**11 40 56.1**	**-0.3**
	baz=2.6								
R11A				Sb		**Sg**	**11 41 32.1**	**-1.6**
	baz=2.6								
R11A	**Troy Canyon, C**	**2.66**	**73**	*e*Pn		**Pn**	**11 40 51.7**	**0.0**
R11A				*e*Sn		**Sb**	**11 41 29.5**	**+0.2**
EDW2	**Edwards Air Fo**	**2.83**	**166**	P		**Pn**	**11 40 55.3**	**+1.4**
	baz=2.8								
EDW2				Sb		**Sb**	**11 41 35.4**	**+1.4**
	baz=2.8								
GSC	**Goldstone**	**2.84**	**144**	P		**Pn**	**11 40 54.2**	**+0.2**
	baz=2.8								
GSC	**Goldstone**	**2.84**	**144**	*e*Pn		**Pn**	**11 40 54.3**	**+0.2**
PKM	**Peak Mountain**	**2.84**	**197**	P		**Pn**	**11 40 55.4**	**+1.2**
	baz=2.8								
SAC	**San Andreas**	**2.85**	**270**	*e*Pn		**Pn**	**11 40 55.0**	**+0.9**
SAC				*e*Sn		**Sn**	**11 41 28.0**	**-0.7**
OSI	**Osito Adit**	**3.01**	**178**	Sb		**Sb**	**11 41 38.9**	**-0.2**
	baz=3.0								
OSI	**Osito Adit**	**3.01**	**178**	Pn		**Pn**	**11 40 54.3**	**-2.1**
OSI				*e*Sn		**Sn**	**11 41 33.0**	**+0.2**
BMN	**Battle Mountai**	**3.07**	**24**	*e*Pn		**Pn**	**11 40 58.2**	**+0.9**
SHPR	**Sheep Range**	**3.14**	**110**	*e*Pn		**Pn**	**11 40 58.4**	**+0.1**
SHPR				*e*Sn		**Sb**	**11 41 39.2**	**-3.9**
TUQ	**Turquoise Moun**	**3.20**	**132**	P		**Pn**	**11 40 58.8**	**-0.3**
	baz=3.2								
MCCM	**Marconi Confer**	**3.25**	**280**	*e*Pn		**Pn**	**11 40 59.2**	**-0.4**
DECC	**Green Verdugo**	**3.40**	**173**	Sb		**Sb**	**11 41 53.2**	**+2.9**
	baz=3.4								
HEC	**Hector,Ludlow**	**3.45**	**143**	P		**Pn**	**11 41 02.4**	**0.0**
	baz=3.4								
MWC	**Mount Wilson**	**3.45**	**169**	*e*Pn		**Pn**	**11 41 04.5**	**+1.8**
MWC				*e*Sn		**Sn**	**11 41 44.0**	**0.0**
PASC	**Pasadena Art C**	**3.49**	**171**	*e*Pn		**Pn**	**11 41 04.8**	**+1.9**
BFSC	**Mount Baldy Ra**	**3.51**	**164**	P		**Pn**	**11 41 05.2**	**+1.8**
	baz=3.5								
BLG	**Laguna Peak**	**3.52**	**183**	Sb		**Sb**	**11 41 55.7**	**+1.9**
	baz=3.5								
GMRC	**Granite Mounta**	**3.83**	**137**	P		**Pn**	**11 41 06.9**	**-0.8**
	baz=3.8								
LDFC	**Landfair**	**3.94**	**129**	*e*Pn		**Pn**	**11 41 11.3**	**+2.1**
WDC	**Whiskeytown Da**	**4.13**	**317**	*e*Pn		**Pn**	**11 41 13.8**	**+2.1**
ELK	**Elko**	**4.18**	**41**	*e*Pn		**Pn**	**11 41 12.8**	**+0.1**
MURC	**Murrieta**	**4.23**	**161**	P		**Pn**	**11 41 14.6**	**+1.4**
	baz=4.2								
BELC	**Belle Mtn. Jos**	**4.29**	**147**	P		**Pn**	**11 41 14.4**	**+0.3**
	baz=4.3								
CCUT	**Cedar City**	**4.34**	**89**	*e*Pn		**Pn**	**11 41 16.3**	**+1.4**
MOD	**Modoc**	**4.42**	**346**	Pn		Pn	11 41 19.0	+3.1
PFO	**Pinyon Flat Ob**	**4.45**	**154**	P		**Pn**	**11 41 17.3**	**+0.9**
	baz=4.4								
PFO	**Pinyon Flat Ob**	**4.45**	**154**	*e*Pn		**Pn**	**11 41 17.2**	**+0.9**
WVOR	**Wild Horse Val**	**4.80**	**2**	*e*Pn		Pn	11 41 25.3	+4.1
YBH	**Yreka Blue Hor**	**5.08**	**325**	*e*Pn		**Pn**	**11 41 26.0**	**+1.1**
	4.9nm,0.7s								
BAR	**Barrett**	**5.24**	**160**	*e*Pn		**Pn**	**11 41 28.8**	**+1.7**
MVU	**Marysvale**	**5.29**	**78**	*e*Pn		**Pn**	**11 41 30.0**	**+2.0**
MSU	**Marysvale**	**5.32**	**78**	*e*Pn		**Pn**	**11 41 29.6**	**+1.2**
	14nm,0.6s								
DUG	**Dugway**	**5.35**	**60**	*e*Pn		Pn	11 41 31.6	+2.9
BGU	**Big Grassy Mou**	**5.58**	**52**	*e*Pn		**Pn**	**11 41 33.7**	**+1.9**
HUMO	**Hull Mountain**	**5.89**	**329**	*e*Pn		Pn	11 41 40.0	+4.0
HVU	**Hansel Valley**	**6.24**	**47**	*e*Pn		**Pn**	**11 41 43.4**	**+2.4**

MEX 22 11:44:01.6±0.3, 18°34'N×100°10'W, h59km±5km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.25**	**257**	*e*P	Pn	11 44 09.9	-1.4
ARIG				*e*S	Sn	11 44 16.4	-1.9
PLIG	**Platanillo**	**0.57**	**84**	*e*P	Pn	11 44 13.2	-1.2
PLIG				*e*S	Sn	11 44 22.1	-1.6
MEIG	**Mezcala**	**0.61**	**132**	*e*P	Pn	11 44 13.4	-1.5
MEIG				*e*S	Sn	11 44 22.5	-2.0
CAIG	**El Cayaco**	**1.29**	**187**	*e*P	Pn	11 44 21.8	-1.7
CAIG				*e*S	Sn	11 44 38.2	-1.6
TLIG	**Tlapa**	**1.65**	**118**	*e*P	Pn	11 44 26.0	-2.4
TLIG				*i* S	Sn	11 44 46.8	-1.9

IDC 22 11:50:56.7±1.5, 1°83'N×127°80'E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/32, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=78.5km s-min=23.4km az=61.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.38**	**128**	Pn	Pn	11 52 04.2	-0.4
	1.4nm,0.3s,baz=270,slow=20,SNR=3.3						
WRA	**Warramunga Arr**	**22.57**	**164**	P	P	11 55 57.7	-1.1
	1.8nm,0.7s,baz=342,slow=10,SNR=12						
ASAR	**Alice Springs**	**26.03**	**167**	P	P	11 56 32.6	+0.8
	0.5nm,0.8s,baz=344,slow=11,SNR=6.5						
MKAR	**Makanchi Array**	**59.72**	**325**	P	P	12 01 03.3	0.0
	0.3nm,0.5s,baz=126,slow=7.3,SNR=3.7						

IDC 22 12:13:39.0±2.9, 54°20'N×87°24'E, h0km, mb1 3.2/2, mb1mx3.0/46, mbtmp3.2/2, ML2.9/2, 4C-2D, Error ellipse: s-maj=23.4km s-min=16.9km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.45**	**261**	*i*		12 21 20.0	
	baz=80,slow=312,SNR=6.9						
ZALV	**Zalesovo Beam**	**1.45**	**261**	Pg	Pn	12 14 05.6	-0.8
	6.8nm,0.3s,baz=81,slow=16,SNR=43						
ZALV				Lg	Lg	12 14 25.3	
	2.0nm,0.3s,baz=78,slow=30,SNR=6.0						
KURBB	**Kurchatov Arra**	**6.42**	**240**	⇑Pn	Pn	12 15 16.3	+1.6
	1.1nm,0.3s						
KURBB				⇑Sn	Sn	12 16 27.4	-1.2
	0.3nm,0.3s						
KURBB				⇑Lg	Lg	12 17 00.2	
	2.7nm,0.8s						
KURBB	**Kurchatov Arra**	**6.42**	**240**	Pn	Pn	12 15 15.0	+0.3
	0.3nm,0.3s,baz=55,slow=14,SNR=5.5						
KURBB				Sn	Sn	12 16 28.1	-0.5
	0.1nm,0.3s,baz=50,slow=22,SNR=4.8						
KURBB				Lg	Lg	12 17 03.3	
	0.1nm,0.3s,baz=58,slow=32,SNR=3.2						
MK31	**Makanchi Array**	**8.05**	**205**	⇑Pn	Pn	12 15 39.4	+2.2
	0.1nm,0.3s,baz=28,slow=13,SNR=5.6						
MK31				⇓Sn	Sn	12 17 09.2	+0.3
	0.4nm,0.6s,baz=102,slow=14,SNR=2.8						
MK31				⇓Lg	Lg	12 17 53.1	
	1.1nm,0.8s,baz=28,slow=32,SNR=4.0						
MKAR	**Makanchi Array**	**8.05**	**205**	Pn	Pn	12 15 38.3	+1.1
	0.2nm,0.3s,baz=22,slow=10,SNR=4.5						
MKAR				Sn	Sn	12 17 08.5	-0.4
	0.1nm,0.3s,baz=19,slow=24,SNR=3.0						
MKAR				Lg	Lg	12 17 55.7	
	baz=18,slow=29,SNR=3.4						

IDC 22 12:43:13.2±1.0, 34°.17N×70°.68E, h0km, mb3.8/7, mb1 3.9/11, mb1mx3.6/56, mbtmp3.7/11, ML3.6/4, MS3.3/2, Ms1 3.3/2, ms1mx2.4/43, Error ellipse: s-maj=28.3km s-min=21.3km az=64.0

ISCJB 22 12:43:15.9±0.6, 34°.13N±0°.05×70°.68E±0°.08, h33km, mb3.7/7, MS3.3/2, Error ellipse: s-maj=10.3km s-min=4.7km az=147.2

NNC 22 12:43:23.4±2.5, 34°.36N×70°.54E, h86km±25km, mb3.5, mpv3.9, Error ellipse: s-maj=19.4km s-min=16.0km az=10.0

ISC 22 12:43:17.5±0.8, 34°.06N±0°.07×70°.64E±0°.08, h35km, n35, σ1°72/37, mb3.8/7, 6C-4D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**4.71**	**107**	*ex*	**Pn**	**12 44 28.0**	**+1.7**
DLH				*e*S	Sn	12 45 27.0	+7.2
DZET	**Dzherino**	**4.96**	**343**	⇑P	**Pn**	**12 44 31.4**	**+1.8**
	13nm,0.6s						
DZET				⇓S	**Sn**	**12 45 25.1**	**-0.6**
	86nm,0.8s						
SDNR	**Sundarnagar**	**5.91**	**114**	*e*P	Pn	12 44 48.0	+5.4
SMLA	**Simla**	**6.24**	**116**	*i* P	**Pn**	**12 44 49.8**	**+2.8**
SMLA				*i* S	**Sn**	**12 45 59.3**	**+2.2**
SFK	**Sufi-Kurgan**	**6.37**	**20**	⇑P	**Pn**	**12 44 51.6**	**+2.6**
	3.9nm,0.3s						
SFK				⇑S	**Sn**	**12 46 01.9**	**+1.3**
	18nm,0.5s						
KHET	**Khetri**	**7.43**	**142**	*e*S	**Sn**	**12 46 23.4**	**-3.2**
KHET				AML	AML	12 47 19.1	
	comp=E,27nm,0.0s						
KHET				AML	AML	12 47 19.4	
	comp=N,23nm,0.0s						
KUDL	**Kundal**	**7.74**	**138**	*e*S	**Sn**	**12 46 30.2**	**-3.9**
KUDL				AML	AML	12 47 42.0	
	comp=N,9.0nm,0.1s						
KUDL				AML	AML	12 47 42.2	
	comp=E,13nm,1.2s						
NDI	**New Delhi**	**7.77**	**132**	*e*S	**Sn**	**12 46 33.0**	**-1.8**
SONA	**Sohna**	**8.00**	**135**	*e*S	**Sn**	**12 46 37.6**	**-2.9**
SONA				AML	AML	12 47 01.1	
	comp=E,26nm,0.7s						
SONA				AML	AML	12 47 01.6	
	comp=N,18nm,0.2s						
KK31	**Karatay Array**	**9.03**	**359**	⇑P	**Pn**	**12 45 25.7**	**+0.4**
	comp=N,1.5nm,0.4s,baz=180,slow=13,SNR=21						
KK31				⇑S	**Sn**	**12 47 03.2**	**-2.5**
	comp=N,0.2nm,0.2s,baz=184,slow=22,SNR=7.9						
AAK	**Ala-Archa**	**9.08**	**18**	P	**Pn**	**12 45 27.9**	**+1.7**
AAK				S	**Sn**	**12 47 04.5**	**-2.6**
TKM2	**Tokmak 2**	**9.66**	**22**	P	**Pn**	**12 45 34.7**	**+0.5**
KOLN	**Koldanda**	**12.77**	**116**	*e*P	**Pn**	**12 46 17.5**	**+0.8**
	comp=N,5.0nm,0.3s						
GKN	**Gorkha**	**13.43**	**113**	*e*P	**Pn**	**12 46 25.6**	**-0.1**
	comp=N,11nm,0.4s						
DMN	**Daman**	**13.99**	**113**	*e*P	**Pn**	**12 46 32.7**	**-0.7**
	comp=N,9.4nm,0.4s						
PKIN	**Phulchoki**	**14.23**	**113**	*e*P	**Pn**	**12 46 36.1**	**-0.6**
	comp=N,7.4nm,0.3s						
PKI	**Pulchoki**	**14.24**	**113**	*e*P	**Pn**	**12 46 36.2**	**-0.7**
RAMN	**Ramite**	**15.47**	**113**	*e*P	**Pn**	**12 46 52.6**	**-0.7**
	comp=N,9.7nm,0.4s						
MK31	**Makanchi Array**	**15.49**	**31**	⇓P	**P**	**12 46 55.6**	**-1.6**
	comp=N,2.3nm,0.5s,baz=208,slow=12,SNR=22						
MKAR	**Makanchi Array**	**15.49**	**31**	Pn	**Pn**	**12 46 53.1**	**0.0**
	comp=N,0.3nm,0.3s,baz=208,slow=12,SNR=14						
AB31	**Akbulak array**	**17.13**	**336**	P	**P**	**12 47 12.8**	**-1.1**
	comp=N,1.0nm,0.4s,baz=154,slow=12,SNR=23						
AB31				⇑S	Sn	12 50 15.7	-7.6
	comp=N,0.5nm,0.4s,baz=159,slow=23,SNR=2.5						
KURBB	**Kurchatov Arra**	**17.53**	**17**	P	**Pn**	**12 47 17.9**	**-1.1**
	comp=N,0.0nm,0.3s,baz=204,slow=11,SNR=4.3						
AKTO	**Aktyubinsk**	**18.80**	**334**	⇓P	**P**	**12 47 33.0**	**-0.7**
	comp=N,2.6nm,0.9s						
AKTO	**Aktyubinsk**	**18.80**	**334**	P	**P**	**12 47 33.5**	**-0.2**
	comp=N,0.2nm,0.3s,baz=135,slow=13,SNR=4.3						
BVA0	**Borovoye Array**	**18.96**	**360**	⇓P	**P**	**12 47 34.7**	**-0.8**
	comp=N,1.0nm,0.5s,baz=175,slow=11,SNR=4.8						
BVAR	**Borovoye Array**	**18.96**	**360**	P	**P**	**12 47 34.5**	**-1.0**
	comp=N,0.6nm,0.3s,baz=167,slow=11,SNR=8.3						
ZALV	**Zalesovo Beam**	**22.27**	**22**	P	**P**	**12 48 10.2**	**-1.1**
	comp=N,1.1nm,0.3s,baz=224,slow=12,SNR=6.2						
FINES	**FINESS Array B**	**39.36**	**328**	P	**P**	**12 50 43.1**	**-0.1**
	comp=N,2.1nm,0.9s,baz=125,slow=12,SNR=3.5						
YAK	**Yakutsk**	**46.14**	**34**	LR	LR	13 11 35.9	
	comp=N,33nm,18.2s,baz=338,slow=37						
NOA	**NORSAR Array B**	**46.17**	**324**	P	**P**	**12 51 38.7**	**+0.3**
	comp=N,0.8nm,0.6s,baz=98,slow=7.8,SNR=3.2						
TGY	**Tagaytay City**	**49.50**	**101**	LR	LR	13 14 38.1	
	comp=N,27nm,20.6s,baz=245,slow=38						
TORD	**Torodi Ar. Bea**	**65.38**	**270**	P	**P**	**12 53 58.5**	**+1.7**
	comp=N,0.4nm,0.4s,baz=39,slow=6.2,SNR=5.0						
WRA	**Warramunga Arr**	**80.97**	**121**	P	**P**	**12 55 30.0**	**+1.3**
	comp=N,0.2nm,0.5s,baz=323,slow=4.9,SNR=2.5						
ASAR	**Alice Springs**	**83.11**	**124**	P	**P**	**12 55 41.5**	**+1.6**
	comp=N,0.3nm,0.5s,baz=311,slow=5.1,SNR=9.4						
YKA	**Yellowknife Ar**	**83.69**	**2**	P	**P**	**12 55 41.9**	**-0.4**
	comp=N,0.7nm,0.4s,baz=351,slow=5.4,SNR=9.4						

IDC 22 12:51:48.9±2.4, 52°.19N×170°.87W, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.5/31, mbtmp3.5/6, MS2.9/2, Ms1 2.9/2, ms1mx2.4/31, Error ellipse: s-maj=55.9km s-min=27.7km az=24.0

ISCJB 22 12:51:53.9±1.1, 52°.7N±0°.1×169°.73W±0°.09, h4km±7km, mb3.5/5, MS2.8/2, Error ellipse: s-maj=20.6km s-min=4.1km az=157.1

NEIC 22 12:51:55.8, 52°.72N×169°.72W, h14km, ML3.5(AEIC), After AEIC.

ISC 22 12:51:54.9±1.7, 52°.7N±0°.1×169°.71W±0°.06, h2km±12km, n30, σ0°74/31, mb3.4/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.57**	**65**	P	**Pg**	**12 52 06.1**	**+0.3**
NIKH				S	**Sg**	**12 52 13.6**	**+0.4**
OKWR	**Okmok West Rim**	**1.14**	**52**	P	**Pb**	**12 52 16.9**	**-0.5**
OKCE	**Okmok Cone E**	**1.16**	**53**	P	**Pb**	**12 52 16.6**	**-1.1**
OKCE				S	**Sb**	**12 52 33.5**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**1.20**	**57**	P	**Pn**	**12 52 17.5**	**-1.1**
OKFG	**Magazine Ridge**	**1.28**	**57**	P	**Pn**	**12 52 18.4**	**-1.3**
OKFG				S	**Sb**	**12 52 35.4**	**-1.0**
MSOM	**Makushin Julie**	**1.98**	**56**	P	**Pn**	**12 52 29.3**	**0.0**
MCIR	**Makushin Cirqu**	**2.08**	**53**	P	**Pn**	**12 52 31.2**	**+0.4**
MSW	**Makushin Switc**	**2.11**	**55**	P	**Pn**	**12 52 31.4**	**+0.1**
MSW				S	**Sn**	**12 52 58.8**	**+0.7**
MTBL	**Makushin Table**	**2.19**	**55**	P	**Pn**	**12 52 32.7**	**+0.3**
UNV	**Unalaska Valle**	**2.22**	**59**	P	**Pn**	**12 52 32.3**	**-0.4**
UNV				S	**Sn**	**12 53 00.6**	**-0.1**
AKRB	**Akutan Reef Bi**	**2.58**	**56**	P	**Pn**	**12 52 38.5**	**+0.7**
ZRO	**Akutan Zero**	**2.61**	**57**	P	**Pn**	**12 52 38.7**	**+0.5**
AKUT	**Akutan**	**2.74**	**58**	*e*Pn	**Pn**	**12 52 40.4**	**+0.6**
AKUT				*e*Sn	**Sn**	**12 53 13.6**	**+0.1**
ATKA	**Atka Island**	**2.80**	**261**	P	**Pn**	**12 52 39.8**	**-0.8**
ATKA				S	**Sn**	**12 53 15.1**	**+0.2**
GSTR	**Great Sitkin T**	**3.94**	**263**	*e*Pn	**Pn**	**12 52 56.1**	**-0.3**
GSMY	**Great Sitkin M**	**3.95**	**262**	P	**Pn**	**12 52 56.2**	**-0.3**
GSCK	**Great Sitkin C**	**4.02**	**262**	P	**Pn**	**12 52 57.3**	**-0.1**
ADAG	**Mount Adagdak**	**4.29**	**263**	P	**Pn**	**12 53 02.1**	**+0.9**
SPIA	**Saint Paul Isl**	**4.46**	**356**	P	**Pn**	**12 53 03.0**	**-0.4**
AMKA	**Amchitka**	**6.92**	**263**	*e*Pn	**Pn**	**12 53 36.1**	**-1.0**
	24nm,0.6s						
ILAR	**Eielson Array**	**16.77**	**35**	Pn	**P**	**12 55 54.5**	**+1.6**
	baz=231,slow=11,SNR=1.2						
SEY	**Seymchan**	**22.27**	**312**	P	P	12 56 45.5	-7.3
	1.1nm,0.9s,baz=101,slow=10,SNR=3.0						
DLBC	**Dease Lake**	**22.88**	**60**	P	P	12 57 04.6	+5.2
	1.9nm,0.8s,baz=298,slow=12,SNR=3.5						
DLBC				LR	LR	13 04 50.1	
	comp=Z,28nm,21.7s,baz=248,slow=33						
NVAR	**Mina Array Bea**	**37.88**	**91**	P	**P**	**12 59 14.1**	**+0.8**
	0.5nm,0.8s,baz=289,slow=8.3,SNR=3.4						
H11S1	**WAKE ISLAND Hy**	**38.81**	**217**	T	T	13 40 32.6	
	baz=22,slow=76,SNR=17						
H11S2	**WAKE ISLAND Hy**	**38.82**	**217**	T	T	13 40 32.6	
	baz=22,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**38.82**	**217**	T	T	13 40 33.1	
	baz=22,slow=76,SNR=11						
PDAR	**Pinedale Array**	**40.54**	**79**	P	**P**	**12 59 34.6**	**-0.9**
	0.5nm,0.6s,baz=328,slow=4.3,SNR=6.2						
JNU	**Nakatsue**	**46.26**	**269**	LR	LR	13 20 01.0	
	comp=Z,15nm,19.3s,baz=90,slow=37						
TXAR	**Lajitas Array**	**52.95**	**89**	P	**P**	**13 01 12.5**	**-0.2**
	1.4nm,0.8s,baz=298,slow=5.3,SNR=20						

IDC 22 12:56:01.5±1.1, 2°.77S×127°.94E, h0km, mb4.0/4, mb1 4.2/6, mb1mx3.8/25, mbtmp4.1/6, ML4.2/2, MS3.0/6, Ms1 3.1/6, ms1mx2.7/37, Error ellipse: s-maj=32.3km s-min=20.5km az=72.0

ISCJB 22 12:56:06.3±0.3, 2°.77S±0°.04×128°.01E±0°.03, h38km, mb4.0/4, MS3.0/4, Error ellipse: s-maj=5.5km s-min=4.2km az=22.1

DJA 22 12:56:07.0±0.5, 3°S±3°×127°8E±°, h20km±7km, M4.6/17, mb5.0/1, mb4.9/17, mB5.2/1, mB5.3/9, MLv4.5/3, MLv4.4/16, Mw(mB)4.6/1, Mw(mB)4.7/9, Mwp8.3/1

ISC 22 12:56:07.6±0.7, 2°84S±0°05×128°04E±0°05, h38km, n41, σ1°08/38, mb4.0/4, MS3.1/4, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.02**	**247**	P	**Pn**	**12 56 25.1**	**-0.2**
NLAI				S	**Sn**	**12 56 39.5**	**+1.1**
SANI	**Sanana**	**2.20**	**291**	P	**Pn**	**12 56 39.7**	**-1.9**
SANI				S	**Sn**	**12 57 09.3**	**+1.8**
LBMI	**Labuha**	**2.26**	**346**	P	**Pn**	**12 56 42.5**	**+0.1**
LBMI				S	**Sn**	**12 57 10.4**	**+1.4**
BNDI	**Bandanaira**	**2.50**	**132**	P	**Pn**	**12 56 47.5**	**+1.8**
TNTI	**Ternate**	**3.65**	**349**	P	**Pn**	**12 57 01.9**	**+0.3**
SIJI	**Sorong**	**3.77**	**59**	Pn	**Pn**	**12 57 02.6**	**-0.7**
	38nm,0.3s,baz=243,slow=12,SNR=42						
SIJI				Sn	**Sn**	**12 57 47.9**	**+1.4**
	17nm,0.3s,baz=210,slow=20,SNR=13						
FAKI	**Fak Fak**	**4.20**	**91**	P	**Pn**	**12 57 09.9**	**+0.7**
FAKI	**Fak Fak**	**4.20**	**91**	P	**Pn**	**12 57 09.9**	**+0.7**
	baz=4.3,SNR=41						
KMSI	**Cibinong**	**5.29**	**310**	P	**Pn**	**12 57 24.3**	**+0.2**
	116nm,0.5s,4μm1.9nm						
KDI	**Kendari**	**5.52**	**258**	P	**Pn**	**12 57 28.0**	**+0.7**
	43nm,0.7s,0.2nm						
LUWI	**Luwuk**	**5.56**	**289**	P	**Pn**	**12 57 28.0**	**+0.2**
	114nm,0.8s,2μm0.4nm						
LUWI	**Luwuk**	**5.56**	**289**	P	**Pn**	**12 57 27.6**	**-0.2**
	baz=5.4,SNR=4.8						
GTOI	**Gorontalo**	**6.10**	**304**	P	**Pn**	**12 57 37.4**	**+2.1**
APSI	**Ampana**	**6.67**	**287**	P	**Pn**	**12 57 43.3**	**+0.2**
	433nm,0.5s,4μm1.6nm						
MRSI	**Marisa**	**6.93**	**298**	P	**Pn**	**12 57 45.9**	**-0.8**
	30nm,0.5s,724nm0.2nm0.2nm						
TTSI	**Tana Toraja**	**8.21**	**268**	P	**Pn**	**12 58 04.5**	**+0.2**
	41nm,0.7s						
BAKI	**Biak**	**8.23**	**79**	P	**Pn**	**12 58 05.7**	**+1.2**
	79nm,0.7s						
BKSI	**Bulukumba**	**8.27**	**252**	P	**Pn**	**12 58 05.9**	**+0.8**
	20nm,1.1s						
SPSI	**Sidrap Palu**	**8.33**	**262**	P	**Pn**	**12 58 06.7**	**+0.8**
	42nm,0.6s,573nm						
PCI	**Palu**	**8.42**	**283**	P	**Pn**	**12 58 07.4**	**+0.2**
	129nm,0.9s,1μm						
BATI	**Baumata**	**8.51**	**211**	LR	LR	13 01 23.8	
	comp=Z,107nm,19.7s,baz=208,slow=38						
KAPI	**Kappang**	**8.54**	**255**	LR	LR	13 01 32.2	
	comp=Z,51nm,21.6s,baz=119,slow=39						
MPSI	**Mapaga**	**8.73**	**291**	P	**Pn**	**12 58 11.6**	**+0.2**
	17nm,0.7s						
MTN	**Manton Dam**	**10.40**	**163**	P	Pn	12 58 37.9	+3.7
	baz=11,SNR=5.8						
KDU	**Kakadu**	**10.72**	**156**	P	Pn	12 58 43.9	+5.3
	baz=11,SNR=3.3						
KNRA	**Kununurra**	**12.77**	**177**	P	P	12 59 13.5	-3.6
	baz=13,SNR=5.2						
WRA	**Warramunga Arr**	**18.07**	**161**	P	**Pn**	**13 00 14.9**	**-1.0**
	0.7nm,0.3s,baz=341,slow=12,SNR=31						
WRA				S	**Sn**	**13 03 36.7**	**+0.1**
	0.1nm,0.3s,baz=337,slow=21,SNR=2.8						
COEN	**Coen**	**18.59**	**127**	P	**Pn**	**13 00 22.9**	**+0.7**
	baz=19,SNR=4.7						
MANU	**Manus Island**	**19.32**	**88**	P	**P**	**13 00 27.9**	**-1.9**
	baz=19,SNR=3.7						
PMG	**Port Moresby**	**20.09**	**110**	LR	LR	13 10 03.6	
	comp=Z,90nm,18.2s,baz=315,slow=42						
LEM	**Lembang**	**20.73**	**258**	LR	LR	13 09 43.9	
	comp=Z,108nm,18.7s,baz=165,slow=40						
QIS	**Mount Isa**	**20.91**	**148**	P	Pn	13 00 50.1	+0.5
	baz=21,SNR=5.9						
ASAR	**Alice Springs**	**21.46**	**165**	P	**P**	**13 00 52.6**	**-0.3**
	8.5nm,0.7s,baz=345,slow=12,SNR=96						
ASAR				S	**S**	**13 04 47.1**	**-2.0**
	1.0nm,0.8s,baz=347,slow=24,SNR=7.3						
ASAR				PcP	**PcP**	**13 04 55.6**	**+0.3**
	1.0nm,0.8s,baz=1.5,slow=1.9,SNR=7.6						
WRKA	**Warakurna**	**22.07**	**179**	P	**P**	**13 01 01.2**	**+1.8**
	baz=22,SNR=12						
MEEK	**Meekatharra**	**25.33**	**200**	P	**P**	**13 01 30.7**	**-0.3**
	baz=26,SNR=11						
STKA	**Stephens Creek**	**31.57**	**158**	P	**P**	**13 02 26.4**	**-0.3**
	1.0nm,0.5s,baz=341,slow=12,SNR=6.4						
STKA	**Stephens Creek**	**31.57**	**158**	P	**P**	**13 02 26.8**	**+0.1**
	baz=32,SNR=5.2						
JCJ	**Chichijima**	**32.75**	**24**	LR	LR	13 14 52.8	
	comp=Z,11nm,19.1s,baz=15,slow=35						
CMAR	**Chiang Mai Arr**	**35.62**	**308**	LR	LR	13 20 07.6	
	comp=Z,22nm,18.1s,baz=215,slow=41						
MKAR	**Makanchi Array**	**63.70**	**327**	P	**P**	**13 06 34.1**	**-1.2**
	0.9nm,1.0s,baz=116,slow=9.8,SNR=4.3						
KURBB	**Kurchatov Arra**	**67.97**	**328**	P	**P**	**13 07 01.5**	**-1.1**
	1.5nm,1.0s,baz=127,slow=5.6,SNR=4.6					

KUR				A	A	13 36 08.3	
	comp=Z,10.0nm,0.2s						
PETK	**Petropavlovsk-**	**6.37**	**13**	Pn	**Pn**	**13 35 06.0**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=182,slow=14,SNR=7.3						
PETK				Sn	**Sn**	**13 36 20.3**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=146,slow=18,SNR=2.1						
PETK				LR	LR	13 37 57.1	
	comp=Z,29nm,21.0s,baz=252,slow=42						
JKA	**Kamikawa-asahi**	**9.38**	**257**	*e*P	**Pn**	**13 35 48.5**	**+0.1**
ASAJ	**Asahikawa**	**9.39**	**257**	Pn	**Pn**	**13 35 48.5**	**+0.1**
	baz=82,slow=14						
EKMR	**Ekimchan**	**15.63**	**301**	*e*P	**Pn**	**13 37 14.8**	**+1.4**
EKMR				AMB	AMB	13 37 19.7	
	comp=Z,4.0nm,0.6s						
KLR	**Kul'dur**	**15.93**	**287**	AMS	AMS	13 45 33.5	
	comp=Z,700nm,14.0s						
MJAR	**Matsushiro Arr**	**16.44**	**237**	Pn	**Pn**	**13 37 23.3**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=40,slow=6.6,SNR=3.4						
USRK	**Ussuriysk Ar.**	**16.58**	**269**	Pn	**Pn**	**13 37 25.8**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=145,slow=43,SNR=4.0						
BMKR	**Bomnak**	**18.39**	**305**	*e*P	**P**	**13 37 47.7**	**-0.2**
YAK	**Yakutsk**	**21.03**	**325**	P	**P**	**13 38 17.1**	**+0.5**
	comp=Z,1.8nm,0.4s,baz=239,slow=19,SNR=2.7						
YAK	**Yakutsk**	**21.03**	**325**	P	**P**	**13 38 17.1**	**+0.5**
YAK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KSRS	**Korea Array**	**22.32**	**255**	P	**P**	**13 38 31.5**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=59,slow=8.9,SNR=6.1						
KSAR	**Wonju Array Be**	**22.36**	**255**	P	**P**	**13 38 31.5**	**+0.5**
KSAR	**Wonju Array Be**	**22.36**	**255**	*e*P	**P**	**13 38 31.5**	**+0.5**
KSAR	**Wonju Array Be**	**22.36**	**255**	P	**P**	**13 38 31.5**	**+0.5**
CHGN	**Chignik**	**29.68**	**54**	*e*P	P	13 39 33.0	-5.5
SONM	**Songino Array**	**32.73**	**290**	P	**P**	**13 40 05.4**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=53,slow=9.6,SNR=4.2						
SONM				LR	LR	13 53 50.1	
	comp=Z,23nm,19.2s,baz=266,slow=37						
ILAR	**Eielson Array**	**35.45**	**39**	P	**P**	**13 40 28.5**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=252,slow=7.8,SNR=15						
EGAK	**Eagle**	**37.91**	**39**	*e*P	**P**	**13 40 49.3**	**-0.5**
	comp=Z,0.8nm,0.6s						
INK	**Inuvik**	**40.68**	**33**	P	**P**	**13 41 12.7**	**-0.2**
	comp=Z,2.0nm,1.0s,baz=285,slow=7.3,SNR=3.4						
ZALV	**Zalesovo Beam**	**43.75**	**306**	P	**P**	**13 41 38.2**	**0.0**
	comp=Z,0.6nm,0.4s,baz=79,slow=7.5,SNR=2.9						
ZALV				LR	LR	14 01 05.2	
	comp=Z,23nm,18.9s,baz=66,slow=38						
MKAR	**Makanchi Array**	**48.22**	**298**	P	**P**	**13 42 13.9**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=65,slow=7.8,SNR=7.3						
KURK	**Kurchatov**	**48.54**	**304**	*e*P	**P**	**13 42 14.9**	**-1.0**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KURK	**Kurchatov**	**48.54**	**304**	*e*P	**P**	**13 42 14.9**	**-1.0**
KURK	**Kurchatov**	**48.54**	**304**	*e*P	**P**	**13 42 14.9**	**-1.0**
	comp=Z,2.8nm,0.6s						
YKA	**Yellowknife Ar**	**49.86**	**37**	P	**P**	**13 42 25.8**	**0.0**
	comp=Z,0.5nm,0.7s,baz=284,slow=5.9,SNR=2.9						
CMAR	**Chiang Mai Arr**	**53.91**	**258**	P	**P**	**13 42 57.2**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=34,slow=9.8,SNR=3.6						
ARU	**Arti**	**55.92**	**318**	*e*P	**P**	**13 43 10.4**	**-0.2**
ARU	**Arti**	**55.92**	**318**	*e*P	**P**	**13 43 10.4**	**-0.2**
ARU	**Arti**	**55.92**	**318**	*e*P	**P**	**13 43 10.4**	**-0.2**
	comp=Z,13nm,1.4s						
ARCES	**ARCESS Array B**	**58.19**	**341**	LR	LR	14 12 59.7	
	comp=Z,24nm,18.1s,baz=66,slow=41						
ABKAR	**Akbulak array**	**59.49**	**311**	*e*P	**P**	**13 43 36.2**	**+0.4**
	comp=Z,1.1nm,0.5s						
FINES	**FINESS Array B**	**64.53**	**336**	P	**P**	**13 44 09.7**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=22,slow=7.7,SNR=7.6						
WRA	**Warramunga Ar**	**20.20**	**201**	P	**P**	**13 44 39.3**	**-0.3**
	comp=Z,0.9nm,1.0s,baz=20,slow=7.4,SNR=3.6						
KBZ	**Khabaz**	**71.84**	**315**	P	**P**	**13 44 56.5**	**+1.0**
	comp=Z,3.9nm,0.9s,baz=93,slow=3.6,SNR=3.0						
ASAR	**Alice Springs**	**72.89**	**201**	P	**P**	**13 45 02.0**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=17,slow=6.4,SNR=7.3						
TXAR	**Lajitas Array**	**76.06**	**62**	P	**P**	**13 45 20.7**	**0.0**
	comp=Z,0.9nm,0.8s,baz=300,slow=4.3,SNR=11						
BRTR	**Keskin Array B**	**79.30**	**318**	P	**P**	**13 45 39.7**	**+1.0**
	comp=Z,1.2nm,1.0s,baz=46,slow=4.2,SNR=4.2						

IDC 22 13:46:39.8±2.5, 6°05S×150°04E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.5/29, mbtmp3.8/4, ML1.9/1, MS2.6/1, Ms1 2.6/1, ms1mx2.2/34, Error ellipse: s-maj=75.3km s-min=36.6km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.39**	**220**	Pn	Pn	13 47 49.2	+1.4
	4.4nm,0.3s,baz=39,slow=18,SNR=14						
PMG				Sn	Sn	13 48 38.9	-0.8
	8.2nm,0.3s,baz=112,slow=19,SNR=8.3						
GUMO	**Guam**	**20.17**	**345**	LR	LR	13 57 52.7	
	comp=Z,18nm,20.1s,baz=170,slow=33						
WRA	**Warramunga Arr**	**20.58**	**226**	P	P	13 51 21.0	+0.5
	3.8nm,0.7s,baz=52,slow=11,SNR=22						
ASAR	**Alice Springs**	**23.41**	**220**	P	P	13 51 50.2	-0.5
	0.5nm,0.8s,baz=56,slow=9.8,SNR=8.8						
STKA	**Stephens Creek**	**26.89**	**196**	P	P	13 52 22.3	-0.2
	1.5nm,0.7s,baz=30,slow=8.1,SNR=4.3						
TORD	**Torodi Ar. Bea**	**148.03**	**285**	PKPbc	PKPbc	14 06 27.6	-0.8
	0.6nm,0.4s,baz=64,slow=2.2,SNR=5.7						

GUC 22 13:53:39.2±0.6, 22°27S×70°63W, h29km±7km, ML3.8, 1C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB07	**IPOC Station P**	**0.88**	**52**	↓*i* P	Pn	13 53 55.0	-0.8
PB07				*i* S	Sb	13 54 07.1	-0.5
PB04	**IPOC Station P**	**1.05**	**90**	↓*i* P	Pn	13 53 48.6	-9.4
PB04				*i* S	Sn	13 53 55.3	-17
PB06	**IPOC Station P**	**1.06**	**114**	↓*i* P	Pn	13 53 58.5	0.0
PB06				*e*S	Sn	13 54 12.3	-0.2
PB06				AML	AML	13 54 12.8	
	comp=N,2μm,0.5s						
PB10	**IPOC Station P**	**1.24**	**177**	*e*P	Pn	13 54 00.6	-0.1
PB10				*i* S	Sn	13 54 16.5	+0.1
PB10				AML	AML	13 54 26.0	
	comp=N,3μm,0.5s						
PB09	**IPOC Station P**	**1.37**	**70**	*e*P	Pn	13 54 03.4	+0.8
PB09				*i* S	Sb	13 54 21.1	-0.6
PB09				AML	AML	13 54 21.7	
	comp=N,3μm,0.2s						
ANCH	**Antofagasta**	**1.42**	**172**	↓*i* P	Pn	13 54 03.5	+0.5
ANCH				*i* S	Sb	13 54 22.1	-0.6
PB01	**IPOC Station P**	**1.62**	**41**	↑*i* P	Pn	13 54 06.8	+0.8
PB01				*i* S	Sb	13 54 28.1	-0.6
PB11	**IPOC Station P**	**2.66**	**20**	AML	AML	13 55 04.0	
	comp=N,1μm,0.7s						

*IDC **22** 14:02:01.3±1.3, 52°78N×169°87W, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.6/30, mbtmp3.7/7, ML3.6/2, Error ellipse: s-maj=54.3km s-min=21.4km az=142.0*
*ISCJB **22** 14:02:05.2±1.2, 52°6N±0°.1×169°5W±0°.1, h29km±8km, mb3.8/5, Error ellipse: s-maj=20.6km s-min=7.3km az=145.4*
*NEIC **22** 14:02:05.5, 52°.55N×169°.33W, h13km, ML3.4(AEIC), After AEIC.*

ISC 22 14:02:04.8±2.0, 52°6N±0°.1×169°46W±0°.08, h16km±12km, n29, σ1°36/31, mb3.8/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.51**	**46**	P	**Pb**	**14 02 15.5**	**+0.1**
NIKH				S	**Sb**	**14 02 23.2**	**+0.6**
OKWR	**Okmok West Rim**	**1.12**	**42**	P	**Pn**	**14 02 26.7**	**+0.9**
OKCE	**Okmok Cone E**	**1.13**	**43**	P	**Pb**	**14 02 26.0**	**+0.1**
OKTU	**Okmok Mt. Tuli**	**1.15**	**48**	P	**Pb**	**14 02 26.7**	**+0.4**
OKAK	**Okmok**	**1.17**	**34**	P	**Pb**	**14 02 25.0**	**-1.6**
OKAK				S	**Sb**	**14 02 39.6**	**-1.9**
OKFG	**Magazine Ridge**	**1.23**	**49**	P	**Pn**	**14 02 27.1**	**-0.2**
OKFG				S	**Sb**	**14 02 43.2**	**+0.1**
MSOM	**Makushin Julie**	**1.93**	**50**	P	**Pn**	**14 02 37.2**	**+0.3**
MSOM				S	**Sn**	**14 03 02.4**	**+1.6**
MCIR	**Makushin Cirqu**	**2.04**	**48**	P	**Pn**	**14 02 39.9**	**+1.5**
MSW	**Makushin Switc**	**2.07**	**50**	P	**Pn**	**14 02 39.8**	**+0.9**
MTBL	**Makushin Table**	**2.15**	**50**	P	**Pn**	**14 02 40.8**	**+0.8**
UNV	**Unalaska Valle**	**2.16**	**54**	P	**Pn**	**14 02 40.2**	**+0.1**
UNV				S	**Sn**	**14 03 06.5**	**0.0**
ZRO	**Akutan Zero**	**2.56**	**53**	P	**Pn**	**14 02 46.9**	**+1.4**
AKGG	**Akutan Green G**	**2.61**	**51**	P	**Pn**	**14 02 47.8**	**+1.6**
AKUT	**Akutan**	**2.68**	**54**	*e*Pn	**Pn**	**14 02 48.5**	**+1.3**
AKUT				*e*Pg	**Pg**	**14 02 56.8**	**+0.6**
AKUT				*e*Sn	**Sn**	**14 03 19.9**	**+0.6**
AKUT				*e*Sg	**Sg**	**14 03 30.0**	**-0.9**
ATKA	**Atka Island**	**2.93**	**264**	P	**Pn**	**14 02 51.7**	**+1.1**
SPIA	**Saint Paul Isl**	**4.59**	**355**	P	**Pn**	**14 03 16.1**	**+2.6**
KDAK	**Kodiak Island**	**10.93**	**55**	Pn	**Pn**	**14 04 41.5**	**+1.2**
	0.4nm,0.3s,baz=259,slow=16,SNR=3.5						
ILAR	**Eielson Array**	**16.78**	**35**	Pn	**Pn**	**14 05 55.1**	**-3.7**
	0.1nm,0.3s,baz=230,slow=11,SNR=7.7						
YKA	**Yellowknife Ar**	**30.12**	**49**	P	**P**	**14 08 13.4**	**+0.2**
	0.4nm,0.4s,baz=274,slow=7.6,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**37.61**	**218**	T	T	14 49 11.8	
	baz=23,slow=76,SNR=25						
H11N3	**WAKE ISLAND Hy**	**37.62**	**218**	T	T	14 49 12.2	
	baz=23,slow=76,SNR=35						
H11N1	**WAKE ISLAND Hy**	**37.63**	**218**	T	T	14 49 13.1	
	baz=23,slow=76,SNR=27						
H11S1	**WAKE ISLAND Hy**	**38.80**	**218**	T	T	14 50 43.2	
	baz=22,slow=76,SNR=465						
H11S2	**WAKE ISLAND Hy**	**38.82**	**218**	T	T	14 50 43.2	
	baz=22,slow=76,SNR=366						
H11S3	**WAKE ISLAND Hy**	**38.82**	**218**	T	T	14 50 43.8	
	baz=22,slow=76,SNR=249						
PDAR	**Pinedale Array**	**40.41**	**79**	P	**P**	**14 09 43.0**	**+0.9**
	0.7nm,0.6s,baz=328,slow=5.6,SNR=7.9						
TXAR	**Lajitas Array**	**52.80**	**89**	P	**P**	**14 11 20.1**	**+0.8**
	1.5nm,0.6s,baz=298,slow=5.3,SNR=27						
WRA	**Warramunga Arr**	**87.11**	**232**	P	**P**	**14 14 48.1**	**-1.5**
	0.7nm,1.1s,baz=36,slow=5.6,SNR=2.9						
ASAR	**Alice Springs**	**90.51**	**230**	P	**P**	**14 15 04.4**	**-1.2**
	0.6nm,0.8s,baz=32,slow=4.4,SNR=8.3						

IDC 22 14:12:56.8±4.8, 13°09N×143°53E, h204km±42km, mb2.8/3, mb1 3.2/3, mb1mx2.8/26, mbtmp3.4/3, Error ellipse: s-maj=153.8km s-min=21.7km az=112.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.39**	**69**	P	Pn	14 13 30.8	+0.8
	6.6nm,0.3s,baz=174,slow=9.2,SNR=11						
GUMO				S	S	14 13 55.7	+0.3
	20nm,0.3s,baz=194,slow=21,SNR=8.9						
WRA	**Warramunga Arr**	**34.05**	**196**	P	P	14 19 21.8	-0.1
	1.0nm,0.8s,baz=17,slow=9.5,SNR=5.8						
ASAR	**Alice Springs**	**37.73**	**195**	P	P	14 19 52.9	-0.2
	0.4nm,0.8s,baz=15,slow=13,SNR=3.9						
ILAR	**Eielson Array**	**69.57**	**25**	P	P	14 23 43.4	0.0
	0.1nm,0.6s,baz=262,slow=5.3,SNR=4.0						

*ISCJB **22** 14:13:05.9±0.6, 37°.60N±0°.02×22°.82E±0°.04, h76km±4km, Error ellipse: s-maj=4.7km s-min=4.1km az=175.2*
*ATH **22** 14:13:05.3, 37°.59N×22°.82E, h77km±1km, ML6.2*
*CSEM **22** 14:13:06.0±0.1, 37°.59N×22°.82E, h74km±1km, ML2.6, Error ellipse: s-maj=1.4km s-min=1.3km az=90.0*
*THE **22** 14:13:06.4, 37°.61N×22°.82E, h74km±1km, ML2.6/11, Error ellipse: s-maj=1.1km s-min=0.6km az=96.0*

ISC 22 14:13:06.1±1.4, 37°59N±0°.03×22°83E±0°.03, h75km±7km, n98, σ0°32/165, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACOR	**Acrocorinthos**	**0.30**	**7**	P	**Pn**	**14 13 17.9**	**-0.1**
ACOR				S	**Sn**	**14 13 26.4**	**-0.3**
DIDY	**Didyma**	**0.33**	**111**	*e*P	**Pn**	**14 13 18.1**	**-0.2**
DIDY				*e*S	**Sn**	**14 13 27.6**	**+0.5**
DIDY	**Didyma**	**0.33**	**111**	*e*P	**Pn**	**14 13 18.1**	**-0.2**
DIDY				*e*S	**Sn**	**14 13 27.6**	**+0.5**
DIDY	**Didyma**	**0.33**	**111**	P	**Pn**	**14 13 18.0**	**-0.2**
DIDY				S	**Sn**	**14 13 27.3**	**+0.2**
KRND	**KRANIDI**	**0.33**	**129**	*e*P	**Pn**	**14 13 18.4**	**+0.3**
KRND				*e*S	**Sn**	**14 13 27.4**	**+0.5**
KRND	**KRANIDI**	**0.33**	**129**	P	**Pn**	**14 13 18.2**	**+0.1**
KRND				S	**Sn**	**14 13 27.5**	**+0.5**
KRND	**KRANIDI**	**0.33**	**129**	P	**Pn**	**14 13 18.3**	**+0.1**
KRND				S	**Sn**	**14 13 27.5**	**+0.5**
DID	**Didima**	**0.34**	**105**	*e*P	**Pn**	**14 13 18.0**	**-0.2**
DID				*e*S	**Sn**	**14 13 27.2**	**+0.1**
DID	**Didima**	**0.34**	**105**	P	**Pn**	**14 13 18.0**	**-0.2**
DID				S	**Sn**	**14 13 27.2**	**+0.1**
DID	**Didima**	**0.34**	**105**	P	**Pn**	**14 13 18.0**	**-0.2**
DID				S	**Sn**	**14 13 27.2**	**+0.1**
LOUT	**Loutraki**	**0.41**	**17**	*e*P	**Pn**	**14 13 18.9**	**+0.2**
LOUT				*e*S	**Sn**	**14 13 28.4**	**+0.4**
LOUT	**Loutraki**	**0.41**	**17**	P	**Pn**	**14 13 18.7**	**0.0**
LOUT				S	**Sn**	**14 13 28.4**	**+0.4**
LOUT	**Loutraki**	**0.41**	**17**	P	**Pn**	**14 13 18.7**	**0.0**
LOUT				S	**Sn**	**14 13 28.4**	**+0.4**
VLX	**Vlachokerasia**	**0.42**	**238**	*e*P	**Pn**	**14 13 19.0**	**+0.1**
VLX				*e*S	**Sn**	**14 13 27.9**	**-0.4**
VLX	**Vlachokerasia**	**0.42**	**238**	P	**Pn**	**14 13 19.0**	**+0.1**
VLX				S	**Sn**	**14 13 28.1**	**-0.2**
VLX	**Vlachokerasia**	**0.42**	**238**	P	**Pn**	**14 13 19.0**	**+0.1**
VLX				S	**Sn**	**14 13 28.1**	**-0.2**
LTK	**Loutraki**	**0.44**	**15**	*e*P	**Pn**	**14 13 19.0**	**-0.1**
LTK				*e*S	**Sn**	**14 13 27.9**	**-0.6**
LTK	**Loutraki**	**0.44**	**15**	P	**Pn**	**14 13 19.0**	**-0.1**
LTK				S	**Sn**	**14 13 28.4**	**-0.1**
LTK	**Loutraki**	**0.44**	**15**	P	**Pn**	**14 13 18.9**	**-0.1**
LTK				S	**Sn**	**14 13 28.4**	**-0.1**
THAL	**Thalero**	**0.46**	**344**	*e*P	**Pn**	**14 13 19.4**	**+0.3**
THAL				*e*S	**Sn**	**14 13 28.6**	**-0.1**
THAL	**Thalero**	**0.46**	**344**	P	**Pn**	**14 13 19.1**	**0.0**
THAL				*e*S	**Sn**	**14 13 28.6**	**-0.1**
THAL	**Thalero**	**0.46**	**344**	P	**Pn**	**14 13 19.1**	**0.0**
THAL				S	**Sn**	**14 13 28.0**	**-0.7**
GUR	**Goura**	**0.51**	**312**	*e*P	**Pn**	**14 13 19.8**	**0.0**
GUR				*e*S	**Sn**	**14 13 29.9**	**+0.2**
GUR	**Goura**	**0.51**	**312**	P	**Pn**	**14 13 19.8**	**0.0**
GUR				*e*S	**Sn**	**14 13 29.9**	**+0.2**
GUR	**Goura**	**0.51**	**312**	P	**Pn**	**14 13 19.7**	**0.0**
GUR				S	**Sn**	**14 13 29.4**	**-0.3**
NAIG	**Nisos Aigina**	**0.55**	**72**	*e*P	**Pn**	**14 13 19.9**	**0.0**
NAIG	**Nisos Aigina**	**0.55**	**72**	*e*P	**Pn**	**14 13 19.9**	**0.0**
VILL	**Villia**	**0.69**	**34**	P	**Pn**	**14 13 21.2**	**-0.2**
VILL				S	**Sn**	**14 13 32.6**	**-0.1**
VILL	**Villia**	**0.69**	**34**	P	**Pn**	**14 13 21.2**	**-0.2**
VILL				S	**Sn**	**14 13 32.6**	**-0.1**
KLV	**Kalavryta, Ach**	**0.70**	**310**	*e*P	**Pn**	**14 13 21.3**	**-0.2**
KLV				*e*S	**Sn**	**14 13 32.4**	**-0.5**
KLV	**Kalavryta, Ach**	**0.70**	**310**	P	**Pn**	**14 13 21.3**	**-0.2**
KLV				S	**Sn**	**14 13 32.4**	**-0.5**
KLV	**Kalavryta, Ach**	**0.70**	**310**	P	**Pn**	**14 13 21.3**	**-0.2**
KLV				S	**Sn**	**14 13 32.4**	**-0.5**
VIL2	**Platees**	**0.71**	**29**	*e*P	**Pn**	**14 13 21.4**	**-0.2**
VIL2				*e*S	**Sn**	**14 13 32.5**	**-0.5**
ATH	**Athens Observa**	**0.80**	**62**	*e*P	**Pn**	**14 13 22.8**	**+0.2**
ATH	**Athens Observa**	**0.80**	**62**	P	**Pn**	**14 13 22.7**	**+0.2**
ATH	**Athens Observa**	**0.80**	**62**	P	**Pn**	**14 13 22.7**	**+0.2**
ITM	**Ithomi**	**0.83**	**240**	*e*P	**Pn**	**14 13 23.7**	**+0.8**
ITM				*e*S	**Sn**	**14 13 36.1**	**+0.8**
ITM	**Ithomi**	**0.83**	**240**	P	**Pn**	**14 13 23.5**	**+0.6**
ITM				*e*S	**Sn**	**14 13 36.1**	**+0.8**
ITM	**Ithomi**	**0.83**	**240**	P	**Pn**	**14 13 23.5**	**+0.6**
ITM				S	**Sn**	**14 13 36.2**	**+0.9**
ATHU	**Athens Univers**	**0.85**	**64**	P	**Pn**	**14 13 23.1**	**0.0**
ATHU				S	**Sn**	**14 13 35.3**	**-0.4**
ATHU	**Athens Univers**	**0.85**	**64**	P	**Pn**	**14 13 23.1**	**0.0**
ATHU				S	**Sn**	**14 13 35.3**	**-0.4**
DSF	**Desfina**	**0.85**	**344**	*e*P	**Pn**	**14 13 23.1**	**-0.2**
DSF				*e*S	**Sn**	**14 13 35.8**	**-0.1**
DSF	**Desfina**	**0.85**	**344**	*e*P	**Pn**	**14 13 23.1**	**-0.2**
DSF				S	**Sn**	**14 13 35.8**	**-0.1**
DSF	**Desfina**	**0.85**	**344**	P	**Pn**	**14 13 23.0**	**-0.2**
DSF				S	**Sn**	**14 13 35.8**	**-0.1**
DESF	**Desfina**	**0.85**	**344**	*e*P	**Pn**	**14 13 23.1**	**-0.1**
DESF				*e*S	**Sn**	**14 13 35.9**	**0.0**
DESF	**Desfina**	**0.85**	**344**	*e*P	**Pn**	**14 13 23.1**	**-0.1**
DESF				*e*S	**Sn**	**14 13 35.9**	**0.0**
VLI	**Veliai**	**0.88**	**174**	*e*P	**Pn**	**14 13 23.1**	**-0.4**
VLI				*e*S	**Sn**	**14 13 35.8**	**-0.5**
VLI	**Veliai**	**0.88**	**174**	*e*P	**Pn**	**14 13 23.1**	**-0.4**
VLI				*e*S	**Sn**	**14 13 35.8**	**-0.5**
VLI	**Veliai**	**0.88**	**174**	P	**Pn**	**14 13 22.9**	**-0.6**
AMT	**Artemida-Makis**	**0.89**	**266**	*e*P	**Pn**	**14 13 23.7**	**+0.1**
AMT	**Artemida-Makis**	**0.89**	**266**	P	**Pn**	**14 13 23.4**	**-0.2**
AMT	**Artemida-Makis**	**0.89**	**266**	P	**Pn**	**14 13 23.4**	**-0.2**
LAKA	**Lakka**	**0.93**	**314**	*e*P	**Pn**	**14 13 24.1**	**0.0**
LAKA				*e*S	**Sn**	**14 13 37.1**	**-0.4**
LAKA	**Lakka**	**0.93**	**314**	P	**Pn**	**14 13 24.1**	**0.0**
LAKA				S	**Sn**	**14 13 37.1**	**-0.4**
DRO	**Drossia**	**0.95**	**292**	*e*P	**Pn**	**14 13 25.1**	**+0.7**
DRO	**Drossia**	**0.95**	**292**	P	**Pn**	**14 13 24.7**	**+0.3**
DRO	**Drossia**	**0.95**	**292**	P	**Pn**	**14 13 24.7**	**+0.3**
KALE	**Kalithea**	**0.96**	**326**	*e*P	**Pn**	**14 13 24.2**	**-0.4**
KALE	**Kalithea**	**0.96**	**326**	*e*P	**Pn**	**14 13 24.2**	**-0.4**
KALE	**Kalithea**	**0.96**	**326**	P	**Pn**	**14 13 24.1**	**-0.5**
TRIZ	**Trizonia**	**0.97**	**323**	*e*P	**Pn**	**14 13 24.5**	**-0.1**
TRIZ				*e*S	**Sn**	**14 13 38.1**	**-0.3**
TRIZ	**Trizonia**	**0.97**	**323**	*e*P	**Pn**	**14 13 24.5**	**-0.1**
TRIZ				*e*S	**Sn**	**14 13 38.1**	**-0.3**
TRIZ	**Trizonia**	**0.97**	**323**	P	**Pn**	**14 13 24.2**	**-0.4**
TRIZ				S	**Sn**	**14 13 38.0**	**-0.3**
LKR	**Lokris**	**1.06**	**7**	*e*P	**Pn**	**14 13 25.7**	**0.0**
LKR				*e*S	**Sn**	**14 13 40.7**	**+0.4**
LKR	**Lokris**	**1.06**	**7**	P	**Pn**	**14 13 25.6**	**-0.1**
LKR				S	**Sn**	**14 13 40.3**	**0.0**
LKR	**Lokris**	**1.06**	**7**	P	**Pn**	**14 13 25.6**	**-0.1**
LKR				S	**Sn**	**14 13 40.3**	**0.0**
EFP	**Efpalio**	**1.10**	**319**	*e*P	**Pn**	**14 13 26.3**	**+0.1**
EFP				*e*S	**Sn**	**14 13 41.6**	**+0.4**
EFP	**Efpalio**	**1.10**	**319**	P	**Pn**	**14 13 26.1**	**-0.1**
EFP				S	**Sn**	**14 13 41.4**	**+0.2**
EFP	**Efpalio**	**1.10**	**319**	P	**Pn**	**14 13 26.1**	**-0.1**
EFP				S	**Sn**	**14 13 41.4**	**+0.2**
ATAL	**Atalanti**	**1.11**	**8**	P	**Pn**	**14 13 26.2**	**-0.1**
ATAL				S	**Sn**	**14 13 40.9**	**-0.4**
ATAL	**Atalanti**	**1.11**	**8**	P	**Pn**	**14 13 26.2**	**-0.1**
ATAL				S	**Sn**	**14 13 40.9**	**-0.4**
PYL	**PYLOS**	**1.11**	**231**	*e*P	**Pn**	**14 13 25.9**	**-0.4**
PYL	**PYLOS**	**1.11**	**231**	P	**Pn**	**14 13 25.9**	**-0.4**
PYL	**PYLOS**	**1.11**	**231**	P	**Pn**	**14 13 25.9**	**-0.4**
AXAR	**Agios Charalam**	**1.18**	**354**	*e*P	**Pn**	**14 13 27.3**	**+0.1**
AXAR	**Agios Charalam**	**1.18**	**354**	P	**Pn**	**14 13 27.2**	**+0.1**
AXAR				S	**Sn**	**14 13 43.1**	**+0.2**
AXAR	**Agios Charalam**	**1.18**	**354**	P	**Pn**	**14 13 27.2**	**+0.1**
AXAR				S	**Sn**	**14 13 43.1**	**+0.2**
EREA	**Eretria**	**1.20**	**46**	*e*P	**Pn**	**14 13 27.7**	**+0.2**
EREA				*e*S	**Sn**	**14 13 43.8**	**+0.3**
EREA	**Eretria**	**1.20**	**46**	*e*P	**Pn**	**14 13 27.7**	**+0.2**
EREA				*e*S	**Sn**	**14 13 43.8**	**+0.3**
MRKA	**Markates**	**1.26**	**28**	*e*P	**Pn**	**14 13 28.7**	**+0.5**
MRKA	**Markates**	**1.26**	**28**	*e*P	**Pn**	**14 13 28.7**	**+0.5**
KYTH	**Kithira**	**1.32**	**173**	P	**Pn**	**14 13 28.9**	**-0.1**
KYTH	**Kithira**	**1.32**	**173**	P	**Pn**	**14 13 28.9**	**-0.1**
AGG	**Agios Georgios**	**1.48**	**345**	*e*P	**Pn**	**14 13 31.1**	**0.0**
AGG				*e*S	**Sn**	**14 13 49.9**	**+0.1**
AGG	**Agios Georgios**	**1.48**	**345**	P	**Pn**	**14 13 30.9**	**-0.2**
AGG				S	**Sn**	**14 13 49.9**	**+0.1**
AGG	**Agios Georgios**	**1.48**	**345**	P	**Pn**	**14 13 30.9**	**-0.2**
AGG				S	**Sn**	**14 13 49.9**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.52**	**339**	*e*P	**Pn**	**14 13 31.9**	**+0.3**
MAKR				*e*S	**Sn**	**14 13 51.1**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.52**	**339**	P	**Pn**	**14 13 31.7**	**+0.1**
MAKR				S	**Sn**	**14 13 51.1**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.52**	**339**	P	**Pn**	**14

1C-1D, Error ellipse: s-maj=5.1km s-min=4.5km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.45**	**160**	PN	Pn	14 20 36.3	+0.2
HAZ				SN	Sn	14 21 01.6	-0.3
WMGZ	**Waiomatatini S**	**1.74**	**145**	PN	Pn	14 20 38.8	+0.1
WMGZ				SN	Sn	14 21 06.2	-0.5
URZ	**Urewera**	**1.86**	**181**	PN	Pn	14 20 40.1	+0.2
URZ				SN	Sn	14 21 09.0	+0.1
PUZ	**Puketiti**	**1.89**	**153**	PN	Pn	14 20 40.0	-0.2
PUZ				SN	Sn	14 21 07.9	-1.6
TWGZ	**Tauwhareparae**	**1.90**	**160**	PN	Pn	14 20 40.8	+0.4
TWGZ				SN	Sn	14 21 09.8	+0.1
MWZ	**Matawai**	**1.96**	**172**	PN	Pn	14 20 41.1	+0.1
MWZ				SN	Sn	14 21 10.4	-0.4
RAGZ	**Rawiri**	**2.11**	**175**	PN	Pn	14 20 42.8	+0.2
RIGZ	**Rimuhau**	**2.36**	**168**	PN	Pn	14 20 44.6	-0.6
SNGZ	**Shannon Statio**	**2.39**	**177**	PN	Pn	14 20 45.1	-0.4
RAHZ	**Arahi**	**2.52**	**181**	PN	Pn	14 20 46.6	-0.4
KNZ	**Kokohu**	**2.66**	**171**	PN	Pn	14 20 47.3	-1.2
WHHZ	**Waihua**	**2.68**	**179**	PN	Pn	14 20 48.1	-0.7
BKZ	**Black Stump Fm**	**2.82**	**191**	PN	Pn	14 20 49.2	-1.2
ARHZ	**Aropaoanui**	**2.87**	**183**	PN	Pn	14 20 50.2	-0.7
MCHZ	**McNeill Hill**	**3.07**	**187**	PN	Pn	14 20 52.2	-1.0
KWHZ	**Kaweka Forest**	**3.08**	**191**	PN	Pn	14 20 52.4	-1.1
WNVZ	**Wahianoa**	**3.18**	**202**	⇑PN	Pn	14 20 54.0	-0.8
BHHZ	**Black Hill Sta**	**3.21**	**195**	PN	Pn	14 20 53.5	-1.6
KRHZ	**Kereru**	**3.31**	**191**	PN	Pn	14 20 54.3	-1.9
KAHZ	**Kahuranaki**	**3.41**	**184**	PN	Pn	14 20 55.8	-1.6
PNHZ	**Pukenui**	**3.60**	**192**	PN	Pn	14 20 57.2	-2.5
TSZ	**Takapari Road**	**3.78**	**194**	PN	Pn	14 20 59.4	-2.6
POWZ	**Post Office Ro**	**4.14**	**195**	PN	Pn	14 21 03.4	-2.9
BFZ	**Birch Farm**	**4.34**	**189**	PN	Pn	14 21 05.5	-3.4
MRZ	**Mangatainoka R**	**4.44**	**196**	⇓PN	Pn	14 21 06.4	-3.7
OGWZ	**Otaki Gorge**	**4.69**	**199**	PN	Pn	14 21 09.5	-3.7
KIW	**Kapiti Island**	**4.80**	**201**	PN	Pn	14 21 10.7	-3.9
CAW	**Cannon Point**	**4.99**	**198**	PN	Pn	14 21 12.6	-4.4
TCW	**Tory Channel**	**5.31**	**204**	PN	Pn	14 21 16.8	-4.4
NNZ	**Nelson**	**5.65**	**210**	SN	Sn	14 22 27.0	-3.9
THZ	**Tophouse**	**6.30**	**210**	PN	Pn	14 21 30.4	-3.7

CSEM 22 14:24:36.1±0.4, 51°55N×16°00E, h2km, ML3.0/9, Error ellipse: s-maj=6.6km s-min=4.0km az=3.0, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**165**	*e*Pg	Pb	14 24 51.1	-0.5
KSP				*i* Sg	Sb	14 25 01.3	-0.7
KSP	**Ksiaz**	**0.73**	**165**	*e*Pg	Pb	14 24 51.1	-0.5
KSP	**Ksiaz**	**0.73**	**165**	*i* Sg	Sb	14 25 01.3	-0.7
UPC	**Upice**	**1.04**	**180**	*e*PG	Pg	14 24 56.4	+0.3
UPC				*e*SG	Sg	14 25 09.6	-0.1
	comp=Z,20nm,0.2s						
UPC	**Upice**	**1.04**	**180**	Pg	Pg	14 24 56.4	+0.3
UPC				Sg	Sg	14 25 09.6	-0.1
	20nm,0.2s						
DPC	**Dobruska-Polom**	**1.22**	**170**	*e*PG	Pg	14 24 59.6	+0.1
DPC				*e*SG	Sg	14 25 15.1	-0.3
	comp=Z,9.2nm,0.2s						
DPC	**Dobruska-Polom**	**1.22**	**170**	Pg	Pg	14 24 59.6	+0.1
DPC				Sg	Sg	14 25 15.1	-0.3
	9.2nm,0.2s						
PVCC	**Panska Ves**	**1.37**	**222**	*e*PG	Pb	14 25 02.6	+0.2
PVCC				*e*SG	Sn	14 25 20.7	-0.1
	comp=Z,39nm,0.2s						
PVCC	**Panska Ves**	**1.37**	**222**	Pg	Pb	14 25 02.6	+0.2
PVCC				Sg	Sn	14 25 20.7	-0.1
	39nm,0.2s						
BRG	**Berggiesshubel**	**1.46**	**243**	PG	Pb	14 25 03.9	-0.1
BRG				SG	Sn	14 25 23.9	+0.7
	31nm,0.4s						
PRA	**Prague**	**1.79**	**215**	*e*SG	Sg	14 25 33.7	+0.3
	comp=Z,7.7nm,0.3s						
PRA	**Prague**	**1.79**	**215**	Sg	Sg	14 25 33.7	+0.3
	7.7nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.81**	**206**	*e*PG	Pb	14 25 10.4	+0.4
GOPC				*e*SG	Sg	14 25 34.3	-0.1
	comp=Z,5.7nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.81**	**206**	Pg	Pb	14 25 10.4	+0.4
GOPC				Sg	Sg	14 25 34.3	-0.1
	5.7nm,0.2s						
PRU	**Pruhonice**	**1.82**	**211**	*e*PG	Pg	14 25 10.6	-0.4
PRU				*e*SG	Sg	14 25 34.6	+0.1
	comp=Z,13nm,0.4s						
PRU	**Pruhonice**	**1.82**	**211**	Pg	Pg	14 25 10.6	-0.4
PRU				Sg	Sg	14 25 34.6	+0.1
	13nm,0.4s						
CLL	**Collm**	**1.89**	**264**	*e*Pn	Pn	14 25 09.0	-0.4
CLL				*e*(Pg)	Pg	14 25 12.0	-0.4
CLL				*i*		14 25 19.3	
CLL				*e*Sg	Sg	14 25 37.0	0.0
MORC	**Moravsky Berou**	**2.03**	**151**	*e*Pn	Pn	14 25 10.9	-0.4
MORC				*e*Sg	Sn	14 25 37.3	0.0
OKC	**Ostrava-Krasne**	**2.19**	**141**	*e*PN	Pn	14 25 14.1	+0.6
OKC				*e*PG	Pb	14 25 17.2	+0.8
OKC				*e*SG	Sg	14 25 46.6	+0.1
	comp=Z,4.7nm,0.3s						
OKC	**Ostrava-Krasne**	**2.19**	**141**	Pn	Pn	14 25 14.1	+0.6
OKC	**Ostrava-Krasne**	**2.19**	**141**	Pg	Pb	14 25 17.2	+0.8
OKC				Sg	Sg	14 25 46.6	+0.1
	4.7nm,0.3s						
VRAC	**Vranov**	**2.27**	**170**	*e*Sg	Sg	14 25 49.8	+0.5
TREC	**Trest**	**2.28**	**189**	*e*SG	Sg	14 25 49.0	-0.5
	comp=Z,6.8nm,0.2s						
TREC	**Trest**	**2.28**	**189**	Sg	Sg	14 25 49.0	-0.5
	6.8nm,0.2s						
NKC	**Novy Kostel**	**2.61**	**241**	*e*PN	Pn	14 25 20.5	+1.2
NKC				*e*PG	Pg	14 25 25.2	-0.9
NKC				*e*SG	Sg	14 26 00.6	+0.6
	comp=Z,8.3nm,0.4s						
NKC	**Novy Kostel**	**2.61**	**241**	Pn	Pn	14 25 20.5	+1.2
KHC	**Kasperske Hory**	**2.88**	**214**	*e*PG	Pg	14 25 30.5	-0.8
KHC				*e*SG	Sg	14 26 09.0	+0.4
KHC	**Kasperske Hory**	**2.88**	**214**	Pg	Pg	14 25 30.5	-0.8
KHC				Sg	Sg	14 26 09.0	+0.4

MEX 22 14:54:25.8±0.9, 17°18N×94°17W, h171km±10km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.69**	**263**	*e*P	Pn	14 54 49.5	-1.0
CMIG				*e*S	Sn	14 55 06.7	-2.7
TGIG		**1.08**	**112**	*i* P	Pn	14 54 53.0	-0.3
TGIG				*i* S	Sn	14 55 13.3	-1.2
HUIG	**Huatulco**	**2.33**	**233**	*e*P	Pn	14 55 04.2	-1.8
HUIG				*e*S	Sn	14 55 35.4	-1.8
VHO	**Vista Hermosa**	**2.45**	**268**	*e*P	Pn	14 55 05.7	-2.0
VHO				*e*S	Sn	14 55 38.5	-1.6

*IDC **22** 15:00:05.3±1.6, 29°17S×178°85W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/16, mbtmp3.8/3, Error ellipse: s-maj=163.0km s-min=13.9km az=2.0*

ISC 22 15:00:08.1±0.9, 29°99S±0°09×178°6W±0°2, h35km, n31, σ2s75/34, mb3.9/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.94**	**38**	Pn	**Pn**	**15 00 24.9**	**+0.1**
	240nm,0.3s,baz=85,slow=6.2,SNR=21						
RAO				Sn	**Sn**	**15 00 35.9**	**-1.0**
	3µm,0.3s,baz=75,slow=20,SNR=53						
WMGZ	**Waiomatatini S**	**8.19**	**197**	*e*PN	**Pn**	**15 02 03.6**	**-0.9**
HAZ	**Te Kaha**	**8.31**	**200**	PN	**Pn**	**15 02 06.0**	**0.0**
HAZ				SN	**Sn**	**15 03 44.6**	**+6.0**
PUZ	**Puketiti**	**8.47**	**197**	PN	**Pn**	**15 02 06.1**	**-2.2**
PUZ				SN	**Sn**	**15 03 45.0**	**+2.3**
TWGZ	**Tauwhareparae**	**8.64**	**198**	PN	**Pn**	**15 02 09.5**	**-1.2**
TWGZ				SN	**Sn**	**15 03 52.2**	**+5.2**
CNGZ	**Carnagh Statio**	**8.88**	**197**	PN	**Pn**	**15 02 12.7**	**-1.1**
MWZ	**Matawai**	**8.92**	**200**	PN	**Pn**	**15 02 12.3**	**-2.2**
MWZ				SN	**Sn**	**15 03 57.6**	**+3.8**
URZ	**Urewera**	**8.98**	**202**	*e*PN	**Pn**	**15 02 13.6**	**-1.7**
URZ				SN	**Sn**	**15 03 57.9**	**+2.7**
SNGZ	**Shannon Statio**	**9.39**	**200**	*e*PN	**Pn**	**15 02 19.1**	**-1.8**
SNGZ				SN	**Sn**	**15 04 07.7**	**+2.4**
WHHZ	**Waihua**	**9.69**	**200**	SN	**Sn**	**15 04 15.9**	**+3.3**
ARHZ	**Aropaoanui**	**9.94**	**200**	*e*PN	**Pn**	**15 02 25.9**	**-2.5**
ARHZ				SN	**Sn**	**15 04 21.4**	**+2.7**
BKZ	**Black Stump Fm**	**10.01**	**203**	*e*PN	Pn	15 02 26.5	-2.9
MCHZ	**McNeill Hill**	**10.20**	**201**	*e*PN	Pn	15 02 28.7	-3.2
MCHZ				SN	**Sn**	**15 04 27.1**	**+2.1**
KAHZ	**Kahuranaki**	**10.46**	**200**	SN	**Sn**	**15 04 32.1**	**+0.5**
PXZ	**Pawanui**	**10.69**	**199**	SN	**Sn**	**15 04 34.7**	**-2.3**
DVHZ	**Dannevirke**	**11.14**	**201**	SN	**Sn**	**15 04 45.8**	**-2.4**
BFZ	**Birch Farm**	**11.47**	**200**	SN	**Sn**	**15 04 53.2**	**-2.9**
MRZ	**Mangatainoka R**	**11.66**	**203**	PN	Pn	15 02 46.2	-5.8
MRZ				SN	**Sn**	**15 04 57.6**	**-3.3**
HOWZ	**Holdsworth Sta**	**11.89**	**202**	SN	**Sn**	**15 05 03.6**	**-3.0**
KIW	**Kapiti Island**	**12.07**	**204**	SN	**Sn**	**15 05 08.5**	**-2.3**
CAW	**Cannon Point**	**12.23**	**203**	*e*PN	Pn	15 02 54.5	-5.3
TCW	**Tory Channel**	**12.61**	**205**	SN	**Sn**	**15 05 20.1**	**-3.9**
TUWZ	**Tumarina**	**12.92**	**206**	SN	**Sn**	**15 05 28.3**	**-3.3**
NNZ	**Nelson**	**12.96**	**208**	SN	**Sn**	**15 05 29.1**	**-3.6**
QRZ	**Quartz Range**	**13.01**	**211**	SN	**Sn**	**15 05 33.9**	**+0.1**
CTZ	**Chatham Island**	**13.81**	**174**	PN	Pn	15 03 17.2	-4.0
CTZ				SN	Sn	15 05 31.8	-21
OXZ	**Oxford**	**15.27**	**207**	SN	Sn	15 06 19.2	-10
MQZ	**McQueen's Vall**	**15.37**	**205**	SN	Sn	15 06 20.1	-11
STKA	**Stephens Creek**	**34.08**	**256**	P	**P**	**15 06 51.8**	**+2.5**
	1.3nm,0.5s,baz=107,slow=12,SNR=5.4						
ASAR	**Alice Springs**	**42.63**	**267**	P	**P**	**15 08 01.8**	**+0.5**
	0.4nm,0.5s,baz=108,slow=7.5,SNR=15						
WRA	**Warramunga Arr**	**43.58**	**272**	P	**P**	**15 08 08.9**	**-0.2**
	0.6nm,0.3s,baz=111,slow=7.4,SNR=9.7						

KRSC 22 15:10:17.1±1.2, 50°65N×157°39E, h60km±20km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.81**	**273**	*i* P	Pn	15 10 33.5	+0.8
SKR				*i* S	Sn	15 10 44.5	+0.4
PAU	**Pauzhetka**	**0.90**	**336**	*e*P	Pn	15 10 35.4	+1.7
PAU				*e*S	Sn	15 10 48.5	+2.5
MIPR	**Malaya Ipel'ka**	**1.67**	**347**	*e*P	Pn	15 10 46.6	+2.5
ASAK	**Asacha**	**1.76**	**10**	*e*P	Pn	15 10 48.0	+2.6
MTVR	**Mutnovka**	**1.90**	**15**	*e*S	Sn	15 11 12.8	+2.5
RUS	**Russkaya**	**1.92**	**21**	*e*P	Pn	15 10 49.4	+2.1
RUS				*e*S	Sn	15 11 12.1	+1.7
PET	**Petropavlovsk**	**2.50**	**18**	*e*S	Sn	15 11 27.7	+3.1
UGLR	**Uglovaya**	**2.71**	**19**	*e*P	Pn	15 11 01.5	+3.2
AVH	**Avacha**	**2.75**	**17**	*e*P	Pn	15 11 01.6	+2.8
KOK	**Koryaka**	**2.75**	**16**	*e*P	Pn	15 11 02.3	+3.4
SDLR	**Sedlovina**	**2.79**	**19**	*e*P	Pn	15 11 01.8	+2.4
NLC	**Nalytchevo**	**2.80**	**25**	*e*S	Sn	15 11 32.7	+0.8
KRX	**Arik**	**2.82**	**15**	*e*P	Pn	15 11 02.4	+2.5
SPN	**Mys Shipunski**	**2.94**	**33**	*e*P	Pn	15 11 04.2	+2.9
SPN				*e*S	Sn	15 11 38.6	+3.2
GNL	**Ganaly**	**3.07**	**6**	*e*P	Pn	15 11 06.5	+3.3

*ISCJB **22** 15:16:42.1±1.1, 43°17N±0°06×146°52E±0°07, h34km±32km, Error ellipse: s-maj=12.6km s-min=5.7km az=145.1*
*JMA **22** 15:16:42.0±0.2, 43°17N×146°52E, h49km±2km, M2.7*
*SKHL **22** 15:16:43.1±0.4, 43°20N×146°45E, h52km±4km, mb3.8/2*

ISC 22 15:16:42.5±1.9, 43°22N±0°08×146°46E±0°07, h24km±17km, n12, σ0s91/22, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.54**	**285**	P	**Pn**	**15 16 54.4**	**-0.2**
NEM2				*e*S	**Sn**	**15 17 03.5**	**+0.6**
SHO	**Shikotan**	**0.70**	**23**	*e*P	**Pb**	**15 16 55.7**	**-0.3**
SHO				*e*S	**Sb**	**15 17 05.2**	**-0.1**
SHO				A	A	15 17 06.3	
	690nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.92**	**332**	*i* P	**Pb**	**15 17 00.0**	**+0.3**
YUK				AMB	AMB	15 17 00.6	
	20nm,0.3s						
YUK				AMB	AMB	15 17 00.6	
	70nm,0.3s						
YUK				*i* S	**Sn**	**15 17 12.3**	**0.0**
YUK				A	A	15 17 14.0	
	230nm,0.5s						
YUK				A	A	15 17 14.0	
	620nm,0.5s						
JRA	**Rausu**	**1.20**	**307**	P	**Pn**	**15 17 03.9**	**+0.2**
JRA				*e*S	**Sn**	**15 17 20.1**	**+0.8**
JAK	**Akkeshi**	**1.31**	**261**	P	**Pn**	**15 17 04.5**	**-0.7**
JAK				*e*S	**Sn**	**15 17 21.2**	**-0.7**
JNK	**Nakash**	**1.32**	**287**	P	**Pn**	**15 17 04.9**	**-0.4**
JNK				*e*S	**Sn**	**15 17 22.0**	**-0.1**
JOB	**Onbets**	**1.95**	**261**	P	**Pn**	**15 17 14.1**	**+0.1**
JAR	**Ashorobuto**	**1.96**	**273**	P	**Pn**	**15 17 14.4**	**+0.2**
JAR				*e*S	**Sn**	**15 17 38.0**	**-0.1**
JTKR	**Abashiri--Toko**	**2.00**	**293**	P	**Pn**	**15 17 15.5**	**+0.9**
JTKR				*e*S	**Sn**	**15 17 40.3**	**+1.5**
KUR	**Kuril'sk**	**2.25**	**26**	*i* P	**Pn**	**15 17 18.6**	**+0.5**
KUR				AMB	AMB	15 17 20.0	
	10.0nm,0.3s						
KUR				*i* S	**Sn**	**15 17 45.5**	**+0.4**
KUR				A	A	15 17 51.1	
	130nm,0.5s						
KUR				A	A	15 17 51.1	
	220nm,0.5s						
JCH	**Churui**	**2.35**	**256**	P	**Pn**	**15 17 19.9**	**+0.4**
JCH				*e*S	**Sn**	**15 17 47.8**	**+0.2**
YSS	**Yuzh-Sakhalins**	**4.56**	**326**	*e*S	**Sn**	**15 18 39.0**	**-3.0**
YSS				A	A	15 18 44.0	
	20nm,0.4s						

*OMAN **22** 15:19:60.0±99.0, 15°63N×60°13E, h30km±999km, Error ellipse: s-maj=173.4km s-min=33.1km az=328.0*
*ISCJB **22** 15:20:01.6±0.5, 15°90N±0°06×59°67E±0°06, h10km, mb4.0/22, MS3.2/12, Error ellipse: s-maj=8.6km s-min=8.3km az=14.2*
*IDC **22** 15:20:01.7±0.8, 15°83N×59°76E, h0km, mb3.9/15, mb1 4.0/15, mb1mx3.8/57, mbtmp3.9/15, MS3.2/12, Ms1 3.2/12, ms1mx3.0/41, Error ellipse: s-maj=20.2km s-min=17.5km az=28.0*
*NEIC **22** 15:20:03.2±0.6, 15°81N×59°64E, h10km, mb4.3/10, Error ellipse: s-maj=13.7km s-min=11.2km az=145.0*
*CSEM **22** 15:20:03.8±0.3, 15°90N×59°72E, h10km, mb4.3/7, Error ellipse: s-maj=9.7km s-min=9.5km az=165.0*

ISC 22 15:20:03.2±0.7, 15°88N±0°09×59°72E±0°08, h10km, n75, σ1s25/62, mb4.0/22, MS3.2/12, 3C-2D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHAO	**Shalim** SNR=7.5	**4.46**	**299**	⇓P	**Pn**	**15 21 11.4**	**+0.4**
SHAO	**Shalim** SNR=7.5	**4.46**	**299**	P	**Pn**	**15 21 11.4**	**+0.4**
RBK	**Rabkut**	**5.53**	**288**	⇑P	**Pn**	**15 21 26.2**	**+0.5**
RBK	**Rabkut**	**5.53**	**288**	P	**Pn**	**15 21 26.2**	**+0.5**
ABTO	**Aybut**	**6.33**	**284**	⇓P	**Pn**	**15 21 37.8**	**+1.0**
ABTO	**Aybut**	**6.33**	**284**	P	**Pn**	**15 21 37.8**	**+1.0**
JMDO	**Jabal Madar** SNR=38	**6.63**	**347**	P	**Pn**	**15 21 40.5**	**-0.3**
JMDO	**Jabal Madar** SNR=38	**6.63**	**347**	P	**Pn**	**15 21 40.5**	**-0.3**
WBK	**Wadi Bani Khal** SNR=24	**6.73**	**354**	P	**Pn**	**15 21 41.5**	**-0.7**
WBK	**Wadi Bani Khal** SNR=24	**6.73**	**354**	P	**Pn**	**15 21 41.5**	**-0.7**
BSYO	**Bisya** SNR=7.2	**7.20**	**341**	P	**Pn**	**15 21 49.3**	**+0.6**
BSY	**Bisya** SNR=7.2	**7.23**	**341**	P	**Pn**	**15 21 49.3**	**+0.3**
SMDO	**Samad** SNR=41	**7.31**	**348**	P	**Pn**	**15 21 49.4**	**-0.9**
SMDO	**Samad** SNR=41	**7.31**	**348**	P	**Pn**	**15 21 49.3**	**-0.9**
HOQ	**Hoqain** SNR=7.3	**7.99**	**344**	P	**Pn**	**15 21 59.6**	**+0.1**
HOQ	**Hoqain** SNR=7.3	**7.99**	**344**	P	**Pn**	**15 21 59.6**	**+0.1**
ARQ	**Araqi**	**8.00**	**338**	⇑P	**Pn**	**15 22 00.2**	**+0.5**
ARQ	**Araqi**	**8.00**	**338**	P	**Pn**	**15 22 00.2**	**+0.5**
ASHO	**Ashiyiah**	**9.41**	**339**	⇑P	**Pn**	**15 22 19.2**	**+0.3**
ASHO	**Ashiyiah**	**9.41**	**339**	P	**Pn**	**15 22 19.2**	**+0.3**
RAYN	**Ar Rayn** 20nm,0.8s	**15.39**	**302**	*e*Pn	**Pn**	**15 23 37.5**	**-3.1**
RAYN				*e*Sn	Sn	15 26 14.4	-17
KBL	**Kabul** 11nm,0.9s	**20.38**	**23**	P	**P**	**15 24 38.6**	**-1.8**
KBL	**Kabul** 11nm,0.9s	**20.38**	**23**	P	**P**	**15 24 38.6**	**-1.8**
GEYT	**Alibeck** 1.3nm,0.6s,baz=179,slow=15,SNR=3.9	**22.01**	**357**	P	**P**	**15 24 57.9**	**+0.2**
H08N2	**Diego Garcia H** baz=333,slow=76,SNR=14	**24.73**	**152**	T	T	15 51 00.4	
H08N3	**Diego Garcia H** baz=333,slow=76,SNR=9.9	**24.75**	**152**	T	T	15 51 01.5	
H08N1	**Diego Carcia H** baz=333,slow=76,SNR=12	**24.75**	**152**	T	T	15 51 00.4	
GNI	**Garni** comp=Z,66nm,18.2s,baz=109,slow=40	**27.48**	**335**	LR	LR	15 38 20.7	
GNI	**Garni** 43nm,1.1s	**27.48**	**335**	P	P	15 25 56.6	+6.8
EKS2	**Erkin-Say** 6.0nm,0.8s	**29.28**	**21**	*e*P	**P**	**15 26 08.7**	**+2.8**
EKS2	**Erkin-Say** 6.0nm,0.8s	**29.28**	**21**	*e*P	**P**	**15 26 08.7**	**+2.8**
KBZ	**Khabaz** 0.6nm,0.3s,baz=161,slow=7.7,SNR=3.8	**31.23**	**336**	P	**P**	**15 26 23.6**	**+0.7**
BR131	**Keskin Array S** 1.2nm,0.7s	**32.89**	**321**	P	**P**	**15 26 39.1**	**+1.3**
BR131	**Keskin Array S** 1.2nm,0.7s	**32.89**	**321**	P	**P**	**15 26 39.1**	**+1.3**
BRTR	**Keskin Array B** 1.0nm,0.7s,baz=147,slow=12,SNR=6.2	**32.89**	**321**	P	**P**	**15 26 38.9**	**+1.1**
BRTR	comp=Z,35nm,19.6s,baz=106,slow=38			LR	LR	15 40 59.6	
MBAR	**Mbarara**	**32.98**	**243**	P	**P**	**15 26 36.3**	**-2.5**
ABKAR	**Akbulak array** 2.2nm,0.7s	**33.28**	**0**	*e*P	**P**	**15 26 42.5**	**+1.6**
ABKAR	**Akbulak array** 2.2nm,0.7s	**33.28**	**0**	*e*P	**P**	**15 26 42.5**	**+1.6**
MK31	**Makanchi Array**	**36.08**	**27**	*e*P	**P**	**15 27 06.6**	**+1.4**
MK31	**Makanchi Array**	**36.08**	**27**	*e*P	**P**	**15 27 06.6**	**+1.4**
MKAR	**Makanchi Array** 2.5nm,0.7s,baz=212,slow=9.4,SNR=20	**36.08**	**27**	P	**P**	**15 27 05.7**	**+0.5**
MKAR	comp=Z,31nm,18.3s,baz=216,slow=39			LR	LR	15 43 45.0	
CMAR	**Chiang Mai Arr** 0.5nm,0.3s,baz=281,slow=9.9,SNR=6.4	**37.51**	**80**	P	**P**	**15 27 18.3**	**+0.6**
CMAR	comp=Z,19nm,18.1s,baz=202,slow=40			LR	LR	15 44 44.0	
BRVK	**Borovoye** 2.5nm,0.6s	**38.02**	**10**	P	**P**	**15 27 24.5**	**+3.1**
BRVK	**Borovoye** 2.5nm,0.6s	**38.02**	**10**	P	**P**	**15 27 24.5**	**+3.1**
AKASG	**Malin Array Be** 0.2nm,0.3s,baz=133,slow=7.3,SNR=6.1	**42.51**	**331**	P	**P**	**15 27 59.2**	**+0.5**
ZAA0	**Zalesovo Array**	**42.73**	**22**	*e*P	**P**	**15 28 01.3**	**+0.8**
ZAA0	**Zalesovo Array**	**42.73**	**22**	*e*P	**P**	**15 28 01.3**	**+0.8**
ZALV	**Zalesovo Beam** 2.0nm,0.5s,baz=215,slow=8.8,SNR=9.9	**42.73**	**22**	P	**P**	**15 28 00.4**	**-0.2**
ZALV	comp=Z,35nm,19.8s,baz=114,slow=38			LR	LR	15 47 23.6	
PSZ	**Piszkesteto** 3.8nm,0.8s	**45.70**	**323**	P	**P**	**15 28 25.5**	**+1.0**
PSZ	**Piszkesteto** 3.8nm,0.8s	**45.70**	**323**	P	**P**	**15 28 25.5**	**+1.0**
MATP	**Matopo** 2.2nm,0.8s,baz=56,slow=7.8,SNR=5.7	**47.36**	**221**	P	**P**	**15 28 38.2**	**+0.4**
MORC	**Moravsky Berou**	**47.98**	**324**	P	**P**	**15 28 41.2**	**-1.1**
MORC	**Moravsky Berou**	**47.98**	**324**	P	**P**	**15 28 41.2**	**-1.1**
SONM	**Songino Array** 0.3nm,0.4s,baz=238,slow=6.8,SNR=3.5	**49.77**	**40**	P	**P**	**15 28 56.5**	**+0.3**
SONM	comp=Z,39nm,18.8s,baz=240,slow=40			LR	LR	15 53 31.3	
GERES	**GERESS Array B** comp=Z,11nm,18.4s,baz=120,slow=42	**49.79**	**322**	LR	LR	15 55 00.9	
FINES	**FINESS Array B** 5.0nm,0.7s,baz=141,slow=9.1,SNR=14	**51.43**	**340**	P	**P**	**15 29 09.0**	**+0.7**
LBTB	**Lobatse** 1.4nm,0.5s	**52.53**	**220**	P	**P**	**15 29 17.2**	**+0.1**
LBTB	**Lobatse** 1.4nm,0.5s	**52.53**	**220**	P	**P**	**15 29 17.2**	**+0.1**
TOA0	**Torodi Ar. Sit**	**56.09**	**275**	*e*P	**P**	**15 29 42.8**	**-0.4**
TOA0	**Torodi Ar. Sit**	**56.09**	**275**	*e*P	**P**	**15 29 42.8**	**-0.4**
TORD	**Torodi Ar. Bea** 0.8nm,0.9s,baz=77,slow=6.2,SNR=3.4	**56.09**	**275**	P	**P**	**15 29 44.0**	**+0.8**
TORD	**Torodi Ar. Bea**	**56.09**	**275**	P	**P**	**15 29 44.0**	**+0.8**
NOA	**NORSAR Array B** 1.4nm,0.9s,baz=120,slow=8.6,SNR=2.9	**56.78**	**334**	P	**P**	**15 29 47.8**	**+0.4**
NOA	comp=Z,12nm,20.0s,baz=70,slow=38			LR	LR	15 55 46.8	
KEV	**Kevo** 24nm,1.2s	**57.53**	**347**	*e*P	**P**	**15 29 51.4**	**-1.1**
KEV	**Kevo** 24nm,1.2s	**57.53**	**347**	*e*P	**P**	**15 29 51.4**	**-1.1**
ARCES	**ARCESS Array B** comp=Z,22nm,18.2s,baz=120,slow=39	**57.69**	**346**	LR	LR	15 57 28.4	
ESDC	**Sonseca Array** 0.2nm,0.3s,baz=95,slow=5.3,SNR=3.5	**59.86**	**307**	P	**P**	**15 30 08.6**	**-0.7**
KSRS	**Corea Array** comp=Z,20nm,18.6s,baz=230,slow=36	**63.31**	**56**	LR	LR	15 58 04.1	
MJAR	**Matsushiro Arr** comp=Z,13nm,18.5s,baz=70,slow=37	**71.58**	**56**	LR	LR	16 04 07.4	
H01W3	**Cape Leeuwin H** baz=305,slow=75,SNR=8.9	**72.21**	**135**	T	T	16 50 10.7	
H01W2	**Cape Leeuwin H** baz=305,slow=75,SNR=8.1	**72.22**	**135**	T	T	16 50 09.8	
**H

UNV				S	Sn	15 27 56.0	-2.0
AKRB	Akutan Reef Bi	2.49	53	P	Pn	15 27 37.4	+0.8
ZRO	Akutan Zero	2.52	54	P	Pn	15 27 37.3	+0.3
AKGG	Akutan Green G	2.57	52	P	Pn	15 27 38.3	+0.5
AKUT	Akutan	2.64	55	P	Pn	15 27 39.7	+1.0
ATKA	Atka Island	2.94	263	P	Pn	15 27 42.6	-0.2
ATKA				S	Sn	15 28 17.1	-1.0
GSTR	Great Sitkin T	4.09	264	P	Pn	15 27 59.9	+1.3
GSTD	Great Sitkin T	4.15	264	P	Pn	15 27 59.1	-0.3
SPIA	Saint Paul Isl	4.53	355	P	Pn	15 28 05.3	+0.7
ILAR	Eielson Array	16.73	35	Pn	P	15 30 53.9	+1.4
	0.0nm,0.3s,baz=237,slow=12,SNR=3.0						
YKA	Yellowknife Ar	30.08	49	P	P	15 33 07.7	+2.6
	0.4nm,0.8s,baz=279,slow=7.0,SNR=2.8						
H11N2	WAKE ISLAND Hy	37.66	218	T	T	16 14 08.6	
	baz=24,slow=76,SNR=20						
H11N3	WAKE ISLAND Hy	37.67	218	T	T	16 14 09.8	
	baz=24,slow=76,SNR=22						
H11N1	WAKE ISLAND Hy	37.68	218	T	T	16 14 09.2	
	baz=24,slow=76,SNR=15						
H11S1	WAKE ISLAND Hy	38.85	218	T	T	16 15 38.7	
	baz=22,slow=76,SNR=384						
H11S2	WAKE ISLAND Hy	38.87	218	T	T	16 15 38.2	
	baz=22,slow=76,SNR=224						
H11S3	WAKE ISLAND Hy	38.87	218	T	T	16 15 38.3	
	baz=22,slow=76,SNR=172						
PDAR	Pinedale Array	40.40	79	P	P	15 34 34.7	+0.4
	0.2nm,0.5s,baz=325,slow=4.5,SNR=3.4						
TXAR	Lajitas Array	52.80	89	P	P	15 36 10.9	-0.5
	0.6nm,0.6s,baz=303,slow=5.2,SNR=8.7						
BVAR	Borovoye Array	63.42	324	P	P	15 37 25.1	-0.3
	0.2nm,0.2s,baz=20,slow=6.3,SNR=2.8						
WRA	Warramunga Arr	87.16	232	P	P	15 39 40.9	-1.2
	0.4nm,0.7s,baz=35,slow=5.7,SNR=4.2						
ASAR	Alice Springs	90.55	230	P	P	15 39 57.3	-0.9
	0.7nm,0.8s,baz=30,slow=4.6,SNR=9.4						

IDC ***22*** *15:28:18.8±3.5, 14°.31N×92°.86W, h0km, mb3.6/3, mb1 3.8/6, mb1mx3.6/49, mbtmp3.4/6, ML3.4/3, MS3.6/3, Ms1 3.5/3, ms1mx2.7/26, Error ellipse: s-maj=57.1km s-min=36.9km az=173.0*

MEX ***22*** *15:28:21.7±0.6, 14°.03N×92°.83W, h16km±999km, MD4.0*

ISC 22 15:28:22.6±1.9, 14°.1N±0°.1×92°.89W±0°.09, h37km, n12, σ0§95/14, mb3.5/3, MS3.4/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PCIG		1.59	348	*eP*		**Pn**		**15 28 47.1**	**-1.1**
PCIG				*eS*		**Sn**		**15 29 07.5**	**0.0**
CCIG	Comitan	2.25	19	*i* P		**Pn**		**15 28 57.4**	**-0.1**
CCIG				*i* S		**Sn**		**15 29 23.8**	**-0.3**
TGIG		2.63	355	*eP*		**Pn**		**15 29 03.3**	**+0.6**
TGIG				*eS*		**Sn**		**15 29 34.4**	**+1.0**
CMIG	Matias Romero	3.51	327	Pn		**Pn**		**15 29 13.2**	**-1.4**
	2.7nm,0.3s,baz=145,slow=13,SNR=21								
CMIG				S		**Sn**		**15 29 53.8**	**-1.1**
	5.2nm,0.3s,baz=136,slow=17,SNR=3.7								
TEIG	Tepich	7.48	35	Pn		**Pn**		**15 30 07.6**	**-1.7**
	0.3nm,0.3s,baz=180,slow=20,SNR=11								
TEIG				S		**Sn**		**15 31 32.6**	**-0.3**
	baz=180,slow=20,SNR=3.1								
TXAR	Lajitas Array	18.11	328	P		**P**		**15 32 32.0**	**+0.4**
	0.1nm,0.3s,baz=156,slow=14,SNR=3.5								
NVAR	Mina Array Bea	33.02	322	P		**P**		**15 34 55.3**	**+0.6**
	0.5nm,0.7s,baz=123,slow=9.8,SNR=4.1								
SCHQ	Schefferville	45.39	21	LR		LR		15 55 43.3	
	comp=Z,46nm,19.0s,baz=66,slow=36								
YKA	Yellowknife Ar	50.69	347	P		**P**		**15 37 18.1**	**-0.1**
	1.2nm,0.8s,baz=152,slow=7.6,SNR=7.3								
CPUP	Villa Florida	53.05	139	LR		LR		15 58 43.4	
	comp=Z,22nm,18.3s,baz=201,slow=34								
ILAR	Eielson Array	62.37	337	P		**P**		**15 38 42.1**	**+0.8**
	0.3nm,0.7s,baz=118,slow=5.9,SNR=3.3								
USHA	Ushuaia	71.77	165	LR		LR		16 02 10.9	
	comp=Z,139nm,21.6s,slow=28								

IDC 22 15:31:01.4±2.1, 1°.01N×126°.57E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.2/35, mbtmp3.3/3, Error ellipse: s-maj=179.3km s-min=26.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WRA	Warramunga Arr	22.17	160	P		P		15 35 58.9	-0.3
	0.7nm,0.6s,baz=339,slow=11,SNR=2.8								
ASAR	Alice Springs	25.54	164	P		P		15 36 32.3	+0.2
	0.1nm,0.3s,baz=344,slow=9.6,SNR=11								
MKAR	Makanchi Array	59.70	326	P		P		15 41 07.8	-0.1
	0.1nm,0.4s,baz=125,slow=6.7,SNR=4.6								

IDC 22 15:42:50.7±4.0, 5.72°S×150.30°E, h0km, mb3.0/2, mb1 3.5/3, mb1mx3.2/29, mbtmp3.3/3, ML2.2/1, MS2.7/2, Ms1 2.7/2, ms1mx2.4/9, Error ellipse: s-maj=168.0km s-min=43.3km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PMG	Port Moresby	4.80	220	Pn		Pn		15 44 05.0	+0.6
	6.4nm,0.3s,baz=21,slow=14,SNR=18								
PMG				S		Sn		15 44 53.6	-7.1
	14nm,0.3s,baz=102,slow=20,SNR=10								
HNR	Honiara	10.25	112	LR		LR		15 48 38.4	
	comp=Z,46nm,19.3s,baz=334,slow=34								
GUMO	Guam	19.93	344	LR		LR		15 54 23.5	
	comp=Z,21nm,21.5s,baz=245,slow=35								
WRA	Warramunga Arr	20.99	226	P		P		15 47 35.1	-0.8
	0.7nm,0.7s,baz=54,slow=11,SNR=3.5								
ASAR	Alice Springs	23.82	220	P		P		15 48 06.0	+0.4
	0.1nm,0.5s,baz=49,slow=8.5,SNR=5.5								
TORD	Torodi Ar. Bea	148.19	286	PKPbc		PKPbc		16 02 39.1	-0.7
	0.4nm,0.6s,baz=88,slow=3.5,SNR=5.5								

IDC ***22*** *15:56:20.4±7.9, 38°.05N×73°.01E, h120km±57km, mb3.3/1, mb1 3.1/6, mb1mx2.9/44, mbtmp3.6/6, Error ellipse: s-maj=109.4km s-min=27.3km az=147.0*

ISCJB ***22*** *15:56:24.3±1.0, 38°.39N±0°.08×72°.80E±0°.07, h150km, mb3.6/1, Error ellipse: s-maj=11.7km s-min=6.4km az=153.6*

NNC ***22*** *15:56:27.1±2.4, 38°.49N×72°.76E, h132km±16km, mb2.8, mpv3.8, Error ellipse: s-maj=23.1km s-min=8.3km az=148.0*

ISC 22 15:56:24.7±1.5, 38°.4N±0°.1×72°.83E±0°.08, h150km, n20, σ1§83/25, 7C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SFK	Sufi-Kurgan	1.70	18	⇑P		**Pn**		**15 56 56.7**	**0.0**
	19nm,0.3s								
SFK				⇑S		**Sn**		**15 57 20.2**	**-1.1**
	81nm,0.2s								
DZET	Dzherino	3.16	279	⇓P		**Pn**		**15 57 15.1**	**+0.9**
	15nm,0.5s								
DZET				⇓S		**Sn**		**15 57 52.4**	**-0.1**
	44nm,0.3s								
AML	Almayashu	3.79	10	P		**Pn**		**15 57 23.9**	**+1.3**
	SNR=164								
KZA	Kyzart	4.12	26	P		**Pn**		**15 57 27.6**	**+0.7**
	SNR=6.6								
EKS2	Erkin-Say	4.33	9	P		**Pn**		**15 57 31.3**	**+2.0**
	SNR=19								
AAK	Ala-Archa	4.42	16	P		**Pn**		**15 57 32.9**	**+2.3**
	SNR=9.2								
AAK	Ala-Archa	4.42	16	⇑P		**Pn**		**15 57 32.9**	**+2.3**
AAK				⇑S		**Sn**		**15 58 23.6**	**+1.6**
	41nm,1.0s								
KBK	Karagaybulak	4.56	20	P		Pn		15 57 37.2	+4.8
	SNR=5.7								
ULHL	Ulahol	4.65	33	P		**Pn**		**15 57 34.2**	**+0.5**
	SNR=9.3								
TKM2	Tokmak 2	4.99	24	⇑P		**Pn**		**15 57 38.3**	**+0.2**
TKM2				⇓S		**Sn**		**15 58 33.2**	**-2.2**
	4.9nm,0.5s								
KK31	Karatay Array	5.03	340	⇓P		**Pn**		**15 57 40.7**	**+2.3**
	5.1nm,0.3s,baz=154,slow=17,SNR=100								
KK31				S		**Sn**		**15 58 35.5**	**-0.4**
	5.1nm,0.3s,baz=161,slow=22,SNR=14								
USP	Ospenovka	5.03	14	P		**Pn**		**15 57 40.2**	**+1.6**
	SNR=8.6								
MKAR	Makanchi Array	10.91	37	P		**Pn**		**15 58 56.6**	**0.0**
	0.1nm,0.3s,baz=218,slow=14,SNR=4.0								
GEYT	Alibeck	11.59	272	P		**Pn**		**15 59 04.3**	**-1.4**
	0.8nm,0.3s,baz=96,slow=7.9,SNR=7.2								
KURBB	Kurchatov Arra	12.88	16	P		**Pn**		**15 59 21.9**	**-0.3**
	0.0nm,0.3s,baz=207,slow=12,SNR=2.9								
AB31	Akbulak array	14.28	324	⇑P		**P**		**15 59 42.1**	**-0.5**
	0.5nm,0.4s,baz=129,slow=13,SNR=14								
AB31				⇑S		**Sn**		**16 02 13.8**	**-4.3**
	1.0nm,0.6s,baz=124,slow=27,SNR=4.4								
BVAR	Borovoye Array	14.73	354	P		**Pn**		**15 59 46.4**	**+0.8**
	0.2nm,0.3s,baz=162,slow=12,SNR=4.3								
AKTO	Aktyubinsk	15.99	324	P		**P**		**16 00 06.0**	**+4.3**
	1.7nm,0.8s								
ZALV	Zalesovo Beam	17.60	24	P		**P**		**16 00 19.3**	**0.0**
	0.7nm,0.3s,baz=213,slow=12,SNR=11								
TORD	Torodi Ar. Bea	67.21	269	P		**P**		**16 07 02.9**	**-0.1**
	0.4nm,0.4s,baz=54,slow=5.8,SNR=2.2								

ISCJB ***22*** *16:02:36.7±0.7, 24°.20S±0°.06×67°.19W±0°.07, h181km, mb3.3/2, Error ellipse: s-maj=11.2km s-min=6.6km az=135.9*

SJA ***22*** *16:02:36.0±0.5, 24°.26S×67°.18W, h190km±7km, ML2.9, MW3.2*

IDC ***22*** *16:02:36.8±1.5, 24°.17S×67°.01W, h166km±14km, mb3.1/2, mb1 3.4/5, mb1mx3.2/25, mbtmp3.8/5, Error ellipse: s-maj=21.8km s-min=18.6km az=57.0*

ISC 22 16:02:36.5±0.9, 24°.29S±0°.06×67°.23W±0°.06, h181km, n15, σ1§88/19, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SLA	San Lorenzo	1.63	105	*eP*		**Pn**		**16 03 11.2**	**+1.2**
SLA				*eS*		**Sn**		**16 03 36.9**	**+1.0**
AZAP	Zapla	1.98	88	*eP*		**Pn**		**16 03 14.0**	**+0.3**
AZAP				*eS*		**Sn**		**16 03 42.5**	**+0.1**
HJA	Humahuaca	1.99	57	*eP*		**Pn**		**16 03 14.7**	**+0.7**
FSA	Cafayete	2.10	149	AML		AML		16 03 47.4	
	comp=Z,50nm,0.7s								
LVC	Limon Verde	2.28	317	P		**Pn**		**16 03 18.2**	**+1.1**
	comp=Z,2μm,0.3s,baz=128,slow=8.2,SNR=310								
LVC				S		**Sn**		**16 03 48.5**	**0.0**
	comp=Z,2μm,0.3s,baz=184,slow=3.3,SNR=30								
LVC	Limon Verde	2.28	317	*eP*		**Pn**		**16 03 18.2**	**+1.1**
LVC				*eS*		**Sn**		**16 03 48.7**	**+0.2**
AHML	Horco Molle	3.01	146	*eP*		**Pn**		**16 03 26.1**	**+0.7**
CFAA	Coronel Fontan	7.34	187	P		**Pn**		**16 04 22.3**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=7.2,slow=12,SNR=6.3								
CFAA				S		**Sn**		**16 05 39.8**	**-4.0**
	comp=Z,0.2nm,0.3s,baz=282,slow=21,SNR=8.8								
LPAZ	La Paz	8.01	354	P		**Pn**		**16 04 30.6**	**0.0**
	comp=Z,2.9nm,0.3s,baz=163,slow=9.5,SNR=50								
LPAZ				S		**Sn**		**16 05 56.4**	**-4.5**
	comp=Z,0.2nm,0.3s,baz=342,slow=18,SNR=4.8								
SIV	San Ignacio	10.08	36	P		**Pn**		**16 04 54.7**	**-2.6**
	comp=Z,0.4nm,0.3s,baz=218,slow=15,SNR=4.2								
BDFB	Brasilia	19.99	68	P		**P**		**16 06 54.9**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=238,slow=10,SNR=4.7								
TXAR	Lajitas Array	63.79	325	P		**P**		**16 12 51.4**	**+1.9**
	comp=Z,0.2nm,0.8s,baz=144,slow=10.0,SNR=3.4								
TORD	Torodi Ar. Bea	76.87	69	P		**P**		**16 14 09.2**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=257,slow=5.9,SNR=9.8								
ZALV	Zalesovo Beam	143.75	28	PKP		PKPbc		16 21 49.1	+1.3
	comp=Z,0.7nm,0.5s,baz=335,slow=2.1,SNR=3.5								
MKAR	Makanchi Array	146.88	40	PKPbc		**PKPbc**		**16 21 58.8**	**+1.3**
	comp=Z,1.1nm,0.6s,baz=304,slow=3.9,SNR=12								

CSEM ***22*** *16:06:31.3, 39°.45N×20°.58E, h11km, ML2.3/2*

THE 22 16:06:31.3, 39°.45N×20°.58E, h11km±3km, ML2.3/2, Error ellipse: s-maj=3.8km s-min=0.4km az=338.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
IGT	Igoumenitsa	0.21	294	P		Pg		16 06 35.3	-0.5
IGT				S		Sg		16 06 39.1	+0.3
IGT	Igoumenitsa	0.21	294	P		Pg		16 06 35.3	-0.5
IGT				S		Sg		16 06 39.1	+0.3
JAN	Janina	0.29	45	P		Pg		16 06 36.9	-0.5
JAN				S		Sg		16 06 41.9	+0.5
JAN	Janina	0.29	45	P		Pg		16 06 36.9	-0.5
JAN				S		Sg		16 06 41.9	+0.5
SGD	Sagiada	0.31	302	P		Pg		16 06 37.4	-0.2
SGD				S		Sg		16 06 42.6	+0.7
SGD	Sagiada	0.31	302	P		Pg		16 06 37.4	-0.2
SGD				S		Sg		16 06 42.6	+0.7
DSL	Palaion Diasel	0.51	128	P		Pg		16 06 40.8	-0.5
DSL	Palaion Diasel	0.51	128	P		Pg		16 06 40.8	-0.5
SRN	Sarande	0.62	314	P		Pg		16 06 42.8	-0.6
SRN	Sarande	0.62	314	P		Pg		16 06 42.8	-0.6
PDO	Prodromos	0.97	151	P		Pg		16 06 49.4	-0.6
PDO				S		Sb		16 07 03.7	+0.7
PDO	Prodromos	0.97	151	P		Pg		16 06 49.4	-0.6
PDO				S		Sb		16 07 03.7	+0.7
EXG	Exogi	0.99	178	P		Pg		16 06 50.2	-0.2
EXG				S		Sn		16 07 04.6	-0.5
EXG	Exogi	0.99	178	P		Pg		16 06 50.2	-0.2
EXG				S		Sn		16 07 04.6	-0.5

BUC ***22*** *16:08:31.0±0.5, 45°.83N×21°.62E, h9km±5km, MD2.4/2, Error ellipse: s-maj=6.7km s-min=4.1km az=110.0*

ISCJB ***22*** *16:08:32.0±0.7, 45°.85N×0°.03×21°.65E±0°.05, h5km±6km, Error ellipse: s-maj=6.9km s-min=4.0km az=34.0*

CSEM ***22*** *16:08:32.2±0.3, 45°.88N×21°.66E, h2km, ML2.0, Error ellipse: s-maj=10.3km s-min=6.8km az=120.0*

BEO ***22*** *16:08:36.7±0.6, 45°.57N×21°.68E, h0km, ML2.0/4*

ISC 22 16:08:31.9±1.1, 45°.83N±0°.02×21°.70E±0°.03, h3km±10km, n31, σ1§19/46, 9C-9D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BZS	Buzias	0.22	195	*e*Pg		**Pg**		**16 08 37.0**	**+0.8**
BZS				*e*Sg		**Sg**		**16 08 38.7**	**-0.4**
BZS	Buzias	0.22	195	⇑*i*P		**Pg**		**16 08 35.6**	**-0.6**
BZS				S		**Sg**		**16 08 39.7**	**+0.6**
BZS	Buzias	0.22	195	⇑*i*P		**Pg**		**16 08 35.6**	**-0.6**
BZS				*i* S		**Sg**		**16 08 39.7**	**+0.6**
BZS	Buzias	0.22	195	⇑*i*P		**Pg**		**16 08 35.6**	**-0.6**
BZS	Buzias	0.22	195	*e*Pg		**Pg**		**16 08 37.0**	**+0.8**
BZS				*e*Sg		**Sg**		**16 08 38.7**	**-0.4**
SIRR	Siria	0.44	356	⇓*i*P		**Pg**		**16 08 40.4**	**+0.1**
SIRR				S		**Sg**		**16 08 46.4**	**+0.4**
SIRR	Siria	0.44	356	⇓*i*P		**Pg**		**16 08 40.4**	**+0.1**
SIRR				*i* S		**Sg**		**16 08 46.4**	**+0.4**
SIRR	Siria	0.44	356	⇓*i*P		**Pg**		**16 08 40.4**	**+0.1**
DRGR		1.19	36	⇓*i*P		**Pg**		**16 08 54.2**	**-0.5**
DRGR		1.19	36	⇓*i*P		**Pg**		**16 08 54.2**	**-0.5**
DRGR				*i* S		**Sg**		**16 09 11.3**	**+1.2**
DRGR		1.19	36	⇓*i*P		**Pg**		**16 08 54.2**	**-0.5**
DRGR				S		**Sg**		**16 09 11.3**	**+1.2**
KUBS	Kucevo	1.42	181	*e*Pg		**Pn**		**16 08 56.5**	**-2.0**
KUBS				*e*Sg		**Sg**		**16 09 13.2**	**-4.2**
FGSL	Fruska Gora	1.49	244	*e*Pg		**Pg**		**16 09 02.0**	**+1.6**
FGSL				*e*Sg		**Sn**		**16 09 20.6**	**+1.1**
FRGS	Fruska Gora	1.49	244	*e*Pg		**Pg**		**16 09 02.0**	**+1.6**
FRGS				*e*Sg		**Sn**		**16 09 20.6**	**+1.1**
LOT	Lotru	1.50	104	⇑*i*P		**Pn**		**16 09 00.2**	**+0.4**
LOT	Lotru	1.50	104	S		**Sn**		**16 09 19.9**	**0.0**
LOT	Lotru	1.50	104	⇑*i*P		**Pn**		**16 09 00.2**	**+0.4**
LOT				*i* S		**Sn**		**16 09 19.9**	**0.0**
LOT	Lotru	1.50	104	⇑*i*P		**Pn**		**16 09 00.2**	**+0.4**
LOT				S		**Sn**		**16 09 19.9**	**0.0**
CJR	Cluj-Napoca	1.58	55	S		**Sn**		**16 09 21.4**	**-0.5**
CJR	Cluj-Napoca	1.58	55	*i* S		**Sn**		**16 09 21.4**	**-0.5**
GRUS	Gruza	2.06	200	*e*Pn		**Pb**		**16 09 09.5**	**-0.5**
GRUS	Gruza	2.06	200	*e*Pn		**Pb**		**16 09 09.5**	**-0.5**
DIVS	Divibare	2.12	216	⇓*i*P		**Pn**		**16 09 08.3**	**+0.1**
DIVS	Divibare	2.12	216	⇓*i*P		**Pn**		**16 09 08.3**	**+0.1**
DIVS				*i* S		**Sn**		**16 09 34.6**	**-0.4**
DIVS	Divibare	2.12	216	⇓*i*P		**Pn**		**16 09 08.3**	**+0.1**
DIVS				S		**Sn**		**16 09 34.6**	**-0.4**
PKSM	Moragy	2.17	281	⇑*i*P		**Pn**		**16 09 07.3**	**-1.5**
PKSM	Moragy	2.17	281	⇑*i*P		**Pn**		**16 09 07.3**	**-1.5**
PKSM	Moragy	2.17	281	⇑*i*P		**Pn**		**16 09 07.3**	**-1.5**
ZAPS	Zavoj	2.64	165	*e*Pn		**Pn**		**16 09 18.0**	**+2.6**
BARS	Barje	3.02	178	*e*Pn		**Pn**		**16 09 22.5**	**+2.0**
BARS	Barje	3.02	178	*e*Pn		**Pn**		**16 09 22.5**	**+2.0**

IDC ***22*** *16:11:10.7±0.7, 10°.95N×91°.89E, h0km, mb3.9/13, mb1 4.0/15, mb1mx3.8/38, mbtmp3.9/15, ML3.6/2, MS3.1/2, Ms1 3.1/2, ms1mx2.6/37, Error ellipse: s-maj=25.2km s-min=15.7km az=52.0*

NEIC ***22*** *16:11:11.9±0.4, 11°.00N×91°.87E, h10km, mb4.5/5, Error ellipse: s-maj=7.9km s-min=7.6km az=122.0*

ISCJB ***22*** *16:11:12.5±0.5, 10°.99N±0°.07×91°.94E±0°.07, h27km, mb4.0/15, MS3.2/1, Error ellipse: s-maj=10.7km s-min=9.3km az=151.5*

ISC 22 16:11:14.6±0.6, 11°.01N±0°.10×91°.89E±0°.09, h27km, n32, σ1§00/28, mb4.0/15, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
CM31	Chiang Mai Arr	10.06	42	Pn		**Pn**		**16 13 37.4**	**0.0**
CMAR	Chiang Mai Arr	10.06	42	Pn		**Pn**		**16 13 38.0**	**+0.6**
	0.1nm,0.3s,baz=235,slow=15,SNR=4.5								
CHTO	Chiang Mai	10.32	40	*e*Pn		**Pn**		**16 13 38.4**	**-2.5**
PALK	Pallekele	11.66	252	Pn		**Pn**		**16 13 57.9**	**-1.4**
	1.1nm,0.3s,baz=70,slow=12,SNR=6.5								
PALK				Sn		Sn		16 15 55.9	-13
	1.5nm,0.3s,baz=354,slow=10,SNR=3.0								
PALK				LR		LR		16 18 20.5	
	comp=Z,86nm,19.9s,baz=110,slow=37								
LSA	Lhasa	18.61	358	*e*P		**P**		**16 15 28.9**	**-1.5**
KSM	Kuching	20.60	116	P		**P**		**16 15 52.6**	**+0.8**
	16nm,1.2s								
ENH	Enshi	25.20	38	*e*P		**P**		**16 16 38.1**	**+0.1**
	9.9nm,0.6s								
H08S3	Diego Garcia H	26.76	227	T		T		16 44 32.0	
	baz=46,slow=75,SNR=150								
H08S2	Diego Garcia H	26.76	227	T		T		16 44 29.9	
	baz=46,slow=75,SNR=148								
H08S1	Diego Garcia H	26.78	227	T		T		16 44 33.5	
	baz=46,slow=75,SNR=143								
MK31	Makanchi Array	36.58	349	*e*P		**P**		**16 18 19.1**	**+0.9**
MKAR	Makanchi Array	36.58	349	P		**P**		**16 18 19.3**	**+1.1**
	1.1nm,0.6s,baz=168,slow=7.9,SNR=14								
GEYT	Alibeck	40.40	317	P		**P**		**16 18 52.4**	**+1.9**
	2.2nm,0.7s,baz=143,slow=10,SNR=3.8								
KURBB	Kurchatov Arra	40.99	347	P		**P**		**16 18 56.0**	**+0.9**
	1.1nm,1.0s,baz=163,slow=7.2,SNR=5.2								
KURK	Kurchatov	41.06	347	P		**P**		**16 18 56.0**	**+0.3**
KSRS	Korea Array	41.68	45	LR		LR		16 38 17.2	
	comp=Z,28nm,18.2s,baz=270,slow=39								
ZAAO	Zalesovo Array	43.19	354	P		**P**		**16 19 12.2**	**-0.9**
ZALV	Zalesovo Beam	43.19	354	P		**P**		**16 19 13.1**	**0.0**
	1.1nm,0.8s,baz=164,slow=17,SNR=3.5								
WRA	Warramunga Arr	51.89	126	P		**P**		**16 20 20.6**	**-0.5**
	2.1nm,0.5s,baz=305,slow=8.6,SNR=14								
WRAB	Tennant Creek	51.89	126	*e*P		**P**		**16 20 20.8**	**-0.4**
	5.9nm,0.6s								
AS31	Alice Springs	53.62	130	P		**P**		**16 20 33.7**	**-0.2**
ASAR	Alice Springs	53.62	130	P		**P**		**16 20 33.8**	**-0.2**
	0.7nm,0.7s,baz=305,slow=6.9,SNR=11								
BRTR	Keskin Array B	58.72	310	P		**P**		**16 21 08.9**	**-1.4**
	1.2nm,0.8s,baz=115,slow=8.8,SNR=6.4								
STKA	Stephens Creek	63.87	134	P		**P**		**16 21 45.5**	**+0.4**
	0.9nm,0.6s,baz=302,slow=4.7,SNR=4.1								
STKA	Stephens Creek	63.87	134	*e*P		**P**		**16 21 44.8**	**-0.2**
	1.9nm,1.2s								
LSZ	Lusaka	68.28	249	P		**P**		**16 22 13.8**	**-0.1**
FINES	FINESS Array B	68.92	332	P		**P**		**16 22 17.3**	**+0.4**
	0.9nm,0.7s,baz=151,slow=8.3,SNR=3.8								
ARCES	ARCESS Array B	71.58	340	P		**P**		**16 22 34.1**	**+1.0**
	4.2nm,1.0s,baz=76,slow=6.4,SNR=3.6								
GERES	GERESS Array B	74.02	318	P		**P**		**16 22 48.3**	**+0.2**
	0.3nm,0.5s,baz=107,slow=4.6,SNR=5.4								
BOSA	Boshof	75.41	237	P		**P**		**16 22 57.5**	**+0.9**
	2.6nm,0.8s,baz=0.0,slow=1.0,SNR=4.4								
BOSA	Boshof	75.41	237	P		**P**		**16 22 55.9**	**-0.6**
	5.9nm,0.9s								
TORD	Torodi Ar. Bea	87.73	283	P		**P**		**16 24 02.7**	**+0.9**
	0.6nm,0.9s,baz=133,slow=6.1,SNR=3.4								

ISCJB ***22*** *16:19:33.9±0.3, 27°.96S±0°.03×66°.52W±0°.07, h167km, mb3.7/7, Error ellipse: s-maj=8.7km s-min=3.3km az=20.2*

SJA ***22*** *16:19:33.6±1.1, 27°.96S×66°.50W, h186km±5km, ML3.4,

comp=Z,0.4nm,0.3s,baz=294,slow=4.1,SNR=2.2

MKAR	**Makanchi Array**	**149.19**	**44**	PKPbc	**PKPbc**	**16 39 03.4**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=306,slow=2.7,SNR=12						
MKAR				pPKPbc	**pPKPbc**	**16 39 49.8**	**+2.9**
	comp=Z,0.5nm,0.6s,baz=288,slow=4.2,SNR=2.3						

*SJA **22** 16:25:39.1±1.1,35°.17S×73°.79W,h9km±115km,ML4.0, MW3.8*

*GUC **22** 16:25:56.1±0.7,34°.67S×72°.54W,h32km±4km,ML3.3*

ISC 22 16:25:56.4±1.9,**34°.79S**±0°.06×**72°.51W**±0°.07,**h10**km±15km, **n15**,σ1§**52**/24,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.94**	**131**	*e*P	**Pn**	**16 26 15.1**	**-0.6**
TALC				*e*S	**Sg**	**16 26 25.9**	**-1.0**
NICH	**Los Niches**	**1.08**	**102**	*e*P	**Pg**	**16 26 16.6**	**-0.5**
NICH				*e*S	**Sn**	**16 26 32.0**	**-0.5**
LNCH	**Linares**	**1.29**	**145**	*e*P	**Pg**	**16 26 21.0**	**-0.3**
LNCH				*e*S	**Sg**	**16 26 40.1**	**+2.0**
COCH	**Cobquecura**	**1.36**	**189**	*e*P	**Pg**	**16 26 21.6**	**-1.0**
COCH				*e*S	**Sg**	**16 26 42.0**	**+1.8**
CLCH	**Cerro Calan**	**2.15**	**50**	*e*P	**Pn**	**16 26 15.3**	**-0.9**
CLCH				*e*S	**Sn**	**16 26 59.3**	**+0.2**
CLCH				AML	AML	16 27 15.8	
	comp=N,665nm,0.5s						
PEL	**Peldehue**	**2.23**	**43**	*e*P	**Pn**	**16 26 32.2**	**-1.3**
PEL				*e*S	**Sn**	**16 27 01.5**	**+0.3**
PEL				AML	AML	16 27 09.5	
	comp=N,973nm,0.4s						
AUSP	**Uspallata**	**3.65**	**46**	*e*P	**Pn**	**16 26 54.1**	**+0.8**
ASAL	**Salagasta**	**3.77**	**56**	*e*P	Pn	16 26 57.6	+2.9
ASAL				*e*S	**Sb**	**16 27 52.0**	**+3.2**
RTLS	**Leoncito**	**4.01**	**43**	*e*P	**Pn**	**16 26 58.9**	**+0.7**
RTLS				*e*S	**Sb**	**16 27 59.0**	**+2.9**
RTCV	**Cerro Valdivia**	**4.42**	**50**	*e*P	**Pn**	**16 27 04.7**	**+1.0**
CFAA	**Coronel Fontan**	**4.79**	**50**	*e*P	**Pn**	**16 27 08.6**	**0.0**
CFAA				*e*S	**Sb**	**16 28 17.0**	**-1.1**
RTLL	**Cerro Villicun**	**4.83**	**46**	*e*P	**Pn**	**16 27 09.2**	**-0.1**
RTLL				*e*S	**Sb**	**16 28 16.6**	**-2.9**
AMOG	**MOGNA**	**5.11**	**43**	*e*P	**Pn**	**16 27 12.8**	**-0.4**
AVFE	**Valle Fertil**	**5.92**	**47**	*e*P	**Pn**	**16 27 22.6**	**-1.7**
AVFE				*e*S	Sb	16 28 41.5	-9.4
AVFE				AML	AML	16 28 50.0	
	comp=Z,26nm,0.6s						
ACHE	**Chepes**	**6.10**	**55**	*e*P	**Pn**	**16 27 26.1**	**-0.7**
ACHE				*e*S	Sb	16 28 46.3	-10

*ISCJB **22** 16:43:03.8±0.7,52°.53N±0°.09×169°.4W±0°.1,h10km, mb3.6/4,MS3.1/1,Error ellipse: s-maj=15.3km s-min=5.6km az=145.2*

*IDC **22** 16:43:04.1±1.3,52°.25N×169°.67W,h0km,mb3.7/4, mb1 3.9/6,mb1mx3.5/31,mbtmp3.5/6,ML3.2/2,MS3.1/1, Ms1 3.1/1,ms1mx2.7/22,Error ellipse: s-maj=45.4km s-min=23.6km az=160.0*

*NEIC **22** 16:43:05.6,52°.61N×169°.32W,h13km,ML3.8(AEIC),After AEIC.*

ISC 22 16:43:05.6±1.0,**52°.6N**±0°.1×**169°.35W**±0°.08,**h10**km,**n26**, σ1§**38**/26,**mb3.7**/4,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.46**	**41**	P	**Pg**	**16 43 15.1**	**+0.5**
NIKH				S	**Sb**	**16 43 22.7**	**+0.1**
OKWR	**Okmok West Rim**	**1.06**	**40**	P	**Pg**	**16 43 25.8**	**-0.2**
OKCE	**Okmok Cone E**	**1.07**	**41**	P	**Pg**	**16 43 25.2**	**-1.1**
OKTU	**Okmok Mt. Tuli**	**1.09**	**46**	P	**Pb**	**16 43 25.9**	**-0.8**
OKFG	**Magazine Ridge**	**1.17**	**47**	P	**Pb**	**16 43 26.5**	**-1.4**
OKFG				S	**Sb**	**16 43 42.1**	**-1.0**
MSOM	**Makushin Julie**	**1.87**	**49**	P	**Pn**	**16 43 36.4**	**-1.2**
MGOD	**Makushin Gods**	**1.89**	**51**	P	**Pn**	**16 43 36.7**	**-1.3**
MCIR	**Makushin Cirqu**	**1.98**	**47**	P	**Pn**	**16 43 38.9**	**-0.4**
MSW	**Makushin Switc**	**2.01**	**49**	P	**Pn**	**16 43 38.9**	**-0.7**
MTBL	**Makushin Table**	**2.09**	**49**	P	**Pn**	**16 43 40.2**	**-0.5**
UNV	**Unalaska Valle**	**2.10**	**53**	P	**Pn**	**16 43 39.9**	**-0.9**
AKRB	**Akutan Reef Bi**	**2.47**	**51**	P	**Pn**	**16 43 46.2**	**+0.2**
ZRO	**Akutan Zero**	**2.50**	**53**	P	**Pn**	**16 43 46.0**	**-0.2**
AKGG	**Akutan Green G**	**2.55**	**51**	P	**Pn**	**16 43 47.3**	**+0.2**
AKUT	**Akutan**	**2.62**	**53**	*e*Pn	**Pn**	**16 43 48.9**	**+1.0**
ATKA	**Atka Island**	**3.00**	**264**	P	**Pn**	**16 43 52.4**	**-0.7**
GSCK	**Great Sitkin C**	**4.23**	**264**	P	**Pn**	**16 44 10.8**	**+0.8**
SPIA	**Saint Paul Isl**	**4.59**	**354**	P	**Pn**	**16 44 15.6**	**+0.6**
KDAK	**Kodiak Island**	**10.87**	**55**	Pn	**Pn**	**16 45 43.5**	**+2.4**
	0.4nm,0.3s,baz=260,slow=11,SNR=2.9						
ILAR	**Eielson Array**	**16.73**	**35**	Pn	**P**	**16 47 02.9**	**+0.8**
	0.1nm,0.3s,baz=238,slow=10,SNR=3.4						
PETK	**Petropavlovsk-**	**19.81**	**285**	P	**P**	**16 47 34.5**	**-1.6**
	0.1nm,0.3s,baz=88,slow=13,SNR=3.3						
DLBC	**Dease Lake**	**22.74**	**60**	P	**P**	**16 48 12.2**	**+4.5**
	2.2nm,0.9s,baz=272,slow=11,SNR=3.2						
USRK	**Ussuriysk Ar.**	**38.85**	**282**	LR	LR	17 08 47.4	
	comp=Z,26nm,18.4s,baz=47,slow=40						
PDAR	**Pinedale Array**	**40.34**	**79**	P	P	16 50 47.0	+3.6
	0.3nm,0.5s,baz=333,slow=1.0,SNR=3.7						
TXAR	**Lajitas Array**	**52.73**	**89**	P	**P**	**16 52 20.6**	**+0.1**
	0.7nm,0.6s,baz=305,slow=5.9,SNR=12						
ASAR	**Alice Springs**	**90.57**	**230**	P	**P**	**16 56 06.5**	**-1.3**
	0.4nm,0.6s,baz=29,slow=4.7,SNR=9.9						

*NNC **22** 16:43:31.8±3.6,43°.39N×84°.62E,h0km,mb3.4,mpv3.0, Error ellipse: s-maj=33.7km s-min=17.0km az=115.0*

*IDC **22** 16:43:31.5±4.7,43°.60N×85°.32E,h0km,mb1 3.2/3, mb1mx3.0/31,mbtmp3.2/3,ML2.6/2,Error ellipse: s-maj=54.4km s-min=30.6km az=27.0*

ISC 22 16:43:28.8±1.7,**43°.29N**±0°.09×**84°.9E**±0°.1,**h10**km,**n7**, σ1§**99**/12,**9C-2D**,**Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**3.96**	**272**	⇑Pn	**Pn**	**16 44 31.1**	**+1.5**
	1.1nm,0.3s						
PDGK				⇑Pg	**Pb**	**16 44 38.8**	**+0.2**
	18nm,0.5s						
PDGK				⇑Lg	Lg	16 45 31.8	
	51nm,0.6s						
MK31	**Makanchi Array**	**3.97**	**333**	⇓Pn	**Pn**	**16 44 31.9**	**+2.2**
	0.1nm,0.2s,baz=149,slow=14,SNR=80						
MK31				⇑Pg	**Pb**	**16 44 41.0**	**+2.1**
	2.4nm,0.3s,baz=138,slow=17,SNR=12						
MK31				Lg	Lg	16 45 35.4	
	7.1nm,0.3s,baz=139,slow=31,SNR=8.1						
MKAR	**Makanchi Array**	**3.97**	**333**	Pn	**Pn**	**16 44 32.2**	**+2.5**
	0.3nm,0.3s,baz=146,slow=15,SNR=15						
MKAR				Pg	**Pg**	**16 44 42.4**	**-2.4**
	3.2nm,0.3s,baz=141,slow=16,SNR=46						
MKAR				Lg	Lg	16 45 34.9	
	5.4nm,0.3s,baz=142,slow=30,SNR=8.1						
KURBB	**Kurchatov Arra**	**8.54**	**332**	⇑Pn	Pn	16 45 36.1	+3.7
	0.9nm,0.6s						
KURBB				⇓Sn	**Sn**	**16 47 09.0**	**+0.4**
	3.3nm,0.6s						
KURBB				⇑Lg	Lg	16 47 56.6	
	17nm,0.8s						
KURK	**Kurchatov**	**8.58**	**332**	⇑Pn	**Pn**	**16 45 34.6**	**+1.5**
	0.1nm,0.3s						
KURK				⇑Sn	**Sn**	**16 47 09.1**	**-0.7**
	0.9nm,0.5s						
KURK				⇑Lg	Lg	16 47 57.4	
	5.9nm,0.7s						
ZALV	**Zalesovo Beam**	**10.67**	**360**	Pn	**Pn**	**16 46 01.5**	**-0.2**
	0.3nm,0.3s,baz=186,slow=13,SNR=4.2						
ZALV				Sn	**Sn**	**16 47 58.1**	**-2.9**
	0.5nm,0.3s,baz=183,slow=22,SNR=5.8						
SONM	**Songino Array**	**15.71**	**66**	Pn	**Pn**	**16 47 10.8**	**+0.6**
	baz=256,slow=12,SNR=3.0						

*ISCJB **22** 16:43:28.0±0.2,52°.67N±0°.04×169°.40W±0°.05,h10km, mb4.2/28,Error ellipse: s-maj=6.3km s-min=3.9km az=151.2*

*IDC **22** 16:43:27.8±0.7,52°.78N×169°.62W,h0km,mb4.1/12, mb1 4.3/15,mb1mx4.0/39,mbtmp4.1/15,ML3.8/3,Error ellipse: s-maj=23.8km s-min=14.4km az=164.0*

*NEIC **22** 16:43:31.8±1.0,52°.84N×169°.45W,h23km±7km,mb4.3/17, ML4.0(AEIC),Error ellipse: s-maj=11.5km s-min=4.6km az=162.0*

ISC 22 16:43:29.8±0.5,**52°.70N**±0°.08×**169°.36W**±0°.06,**h10**km, **n217**,σ0§**90**/208,**mb4.3**/28,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.41**	**48**	P	**Pb**	**16 43 40.0**	**+0.9**
NIKH				S	**Sb**	**16 43 47.5**	**+2.1**
OKCE	**Okmok Cone E**	**1.02**	**44**	P	**Pg**	**16 43 50.0**	**+0.6**
OKAK	**Okmok**	**1.07**	**34**	P	**Pg**	**16 43 49.4**	**-0.9**
OKFG	**Magazine Ridge**	**1.13**	**50**	P	**Pb**	**16 43 51.6**	**+0.3**
OKFG				S	**Sg**	**16 44 06.8**	**+0.8**
MSOM	**Makushin Julie**	**1.83**	**51**	P	**Pn**	**16 44 00.3**	**-0.9**
UNV	**Unalaska Valle**	**2.06**	**55**	*e*Pn	**Pn**	**16 44 04.2**	**-0.2**
UNV				*e*Sn	**Sn**	**16 44 28.4**	**-1.7**
AKGG	**Akutan Green G**	**2.51**	**52**	P	**Pn**	**16 44 11.2**	**+0.6**
AKUT	**Akutan**	**2.58**	**55**	*e*Pn	**Pn**	**16 44 13.7**	**+2.1**
AKUT				*e*Sn	**Sn**	**16 44 42.1**	**-0.8**
ATKA	**Atka Island**	**3.00**	**262**	P	**Pn**	**16 44 16.0**	**-1.3**
FALS	**False Pass**	**4.13**	**56**	Pn	**Pn**	**16 44 31.3**	**-1.6**
GSTR	**Great Sitkin T**	**4.15**	**264**	*e*Pn	**Pn**	**16 44 32.9**	**-0.2**
GSCK	**Great Sitkin C**	**4.23**	**263**	P	**Pn**	**16 44 34.0**	**-0.2**
SPIA	**Saint Paul Isl**	**4.52**	**354**	P	**Pn**	**16 44 40.5**	**+2.4**
SDPT	**Sand Point**	**5.87**	**60**	Pn	**Pn**	**16 44 57.0**	**+0.4**
AMKA	**Amchitka**	**7.12**	**264**	*e*Pn	**Pn**	**16 45 15.2**	**+1.3**
	77nm,0.8s						
CHGN	**Chignik**	**7.32**	**56**	Pn	**Pn**	**16 45 16.4**	**-0.2**
KDAK	**Kodiak Island**	**10.83**	**55**	Pn	**Pn**	**16 46 07.8**	**+3.2**
	1.8nm,0.3s,baz=276,slow=16,SNR=7.8						
KDAK				Sn	Sn	16 48 00.3	-5.5
	0.3nm,0.3s,baz=114,slow=22,SNR=1.1						
KDAK	**Kodiak Island**	**10.83**	**55**	*e*Pn	**Pn**	**16 46 03.6**	**-1.1**
KDAK				Sn	Sn	16 48 00.3	-5.5
RSO	**Redoubt South**	**11.98**	**43**	*e*Pn	Pn	16 46 24.1	+3.5
	45nm,0.9s						
RC01	**Rabbit Creek A**	**13.57**	**44**	*e*Pn	**Pn**	**16 46 43.0**	**+0.9**
PPLA	**Purkeypile**	**13.66**	**35**	Pn	**Pn**	**16 46 45.4**	**+1.9**
SML	**Sawmill**	**14.52**	**43**	*e*Pn	**Pn**	**16 46 53.4**	**-1.6**
SML				*e*P	**P**	**16 47 01.6**	**-0.1**
BPAW	**Bear Paw Mtn.**	**14.87**	**33**	*e*Pn	**P**	**16 47 03.8**	**-1.7**
	2.0nm,1.0s						
DIV	**Divide**	**15.32**	**47**	Pn	**Pn**	**16 47 04.2**	**-1.7**
MCK	**McKinley**	**15.34**	**36**	Pn	**Pn**	**16 47 06.3**	**+0.3**
IM04	**Indian Mountai**	**15.43**	**24**	Pn	**P**	**16 47 11.1**	**-0.8**
BMRM	**Bremner River**	**15.79**	**49**	*e*Pn	**Pn**	**16 47 12.4**	**+0.5**
PAX	**Paxson**	**16.25**	**41**	*e*Pn	**Pn**	**16 47 15.7**	**-2.1**
COLA	**College**	**16.41**	**34**	Pn	**Pn**	**16 47 21.2**	**+1.5**
	11nm,0.9s						
ILAR	**Eielson Array**	**16.67**	**35**	Pn	**Pn**	**16 47 22.4**	**-0.9**
	0.3nm,0.3s,baz=232,slow=11,SNR=9.6						
EGAK	**Eagle**	**18.78**	**39**	Pn	**P**	**16 47 47.6**	**-1.1**
HYT	**Haines Junctio**	**19.09**	**52**	*e*P	**P**	**16 47 54.2**	**+1.9**
	4.3nm,0.4s						
PETK	**Petropavlovsk-**	**19.78**	**284**	P	**P**	**16 47 59.4**	**-0.5**
	0.2nm,0.3s,baz=88,slow=13,SNR=4.1						
SKAG	**Skagway**	**19.98**	**57**	P	**P**	**16 48 03.1**	**+1.2**
	24nm,1.0s						
H02N1	**VAN INLET T-PH**	**22.02**	**74**	T	T	17 11 10.8	
	SNR=15						
H02S1	**DAWSON INLET T**	**22.07**	**74**	T	T	17 11 14.6	
	SNR=27						
DLBC	**Dease Lake**	**22.71**	**60**	P	**P**	**16 48 32.4**	**+1.0**
	26nm,1.4s						
INK	**Inuvik**	**23.07**	**34**	P	**P**	**16 48 33.0**	**-2.0**
	1.4nm,0.3s,baz=221,slow=6.8,SNR=3.3						
INK	**Inuvik**	**23.07**	**34**	*e*P	**P**	**16 48 32.7**	**-2.3**
	8.3nm,1.1s						
YKA	**Yellowknife Ar**	**30.02**	**49**	P	**P**	**16 49 37.8**	**-0.5**
	0.6nm,0.4s,baz=271,slow=7.5,SNR=7.9						
I04A	**Tendick Farm,**	**32.00**	**87**	P	**P**	**16 49 57.5**	**+1.5**
	baz=32						
NEW	**Newport**	**32.92**	**76**	P	**P**	**16 50 05.0**	**+1.0**
	1.6nm,0.4s,baz=294,slow=9.2,SNR=4.0						
NEW	**Newport**	**32.92**	**76**	P	**P**	**16 50 04.5**	**+0.5**
	baz=33						
J05D	**Fort Rock, OR**	**32.99**	**87**	P	**P**	**16 50 06.8**	**+2.0**
	baz=33						
WVOR	**Wild Horse Val**	**35.05**	**86**	*e*P	**P**	**16 50 24.0**	**+1.4**
	10nm,1.1s						
MSO	**Missoula**	**35.51**	**77**	P	**P**	**16 50 26.7**	**+0.2**
	baz=35						
EGMT	**Eagleton**	**37.36**	**73**	P	**P**	**16 50 43.2**	**+0.9**
	baz=37						
EGMT	**Eagleton**	**37.36**	**73**	*e*P	P	16 50 38.6	-3.7
	8.6nm,1.0s						
BOZ	**Bozeman (W)**	**37.49**	**77**	P	**P**	**16 50 44.1**	**+0.6**
	baz=37,SNR=5.1						
NVAR	**Mina Array Bea**	**37.66**	**91**	P	**P**	**16 50 46.5**	**+1.3**
	1.6nm,0.9s,baz=290,slow=8.5,SNR=9.4						
NVAR				PcP	**PcP**	**16 53 02.5**	**+0.2**
	0.6nm,0.5s,baz=285,slow=3.5,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**37.72**	**218**	T	T	17 30 41.8	
	baz=24,slow=76,SNR=211						
H11N3	**WAKE ISLAND Hy**	**37.73**	**218**	T	T	17 30 43.6	
	baz=24,slow=76,SNR=218						
H11N1	**WAKE ISLAND Hy**	**37.74**	**218**	T	T	17 30 43.4	
	baz=24,slow=76,SNR=149						
FFC	**Flin Flon**	**38.54**	**59**	*e*P	**P**	**16 50 51.6**	**-0.5**
	2.2nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**38.91**	**218**	T	T	17 32 10.9	
	baz=23,slow=76,SNR=4789						
H11S2	**WAKE ISLAND Hy**	**38.92**	**218**	T	T	17 32 12.0	
	baz=23,slow=76,SNR=4939						
H11S3	**WAKE ISLAND Hy**	**38.92**	**218**	T	T	17 32 13.7	
	baz=23,slow=76,SNR=3426						
PKM	**Peak Mountain**	**39.06**	**97**	P	**P**	**16 50 59.4**	**+2.5**
	baz=39						
RLMT	**Red Lodge**	**39.17**	**76**	P	**P**	**16 50 58.6**	**+0.8**
	baz=39,SNR=6.6						
ISA	**Isabella**	**39.36**	**95**	P	**P**	**16 51 00.2**	**+1.0**
	baz=39						
R11A	**Troy Canyon, C**	**39.37**	**89**	P	**P**	**16 51 00.1**	**+0.7**
	baz=39,SNR=9.3						
R11A	**Troy Canyon, C**	**39.37**	**89**	*e*P	**P**	**16 50 60.0**	**+0.6**
	8.8nm,1.4s						
F20A	**Billings**	**39.46**	**75**	P	**P**	**16 51 00.5**	**+0.5**
	baz=39						
H19A	**Powell**	**39.59**	**77**	P	**P**	**16 51 01.6**	**+0.5**
	baz=40						
MAJO	**Matsushiro**	**39.72**	**267**	*e*P	**P**	**16 51 04.7**	**+2.6**
	3.1nm,0.8s						
MJAR	**Matsushiro Arr**	**39.72**	**267**	P	**P**	**16 51 03.9**	**+1.8**
	1.9nm,0.8s,baz=59,slow=6.2,SNR=5.4						
G20A	**Bridger**	**39.74**	**76**	P	**P**	**16 51 02.5**	**+0.1**
	baz=40,SNR=5.9						
TPNV	**Topopah Spring**	**39.86**	**92**	P	**P**	**16 51 04.1**	**+0.6**
	baz=40						
DUG	**Dugway**	**39.91**	**85**	P	**P**	**16 51 04.8**	**+0.9**
	baz=40,SNR=8.5						
DUG	**Dugway**	**39.91**	**85**	*e*P	**P**	**16 51 04.3**	**+0.5**
	9.8nm,1.1s						
I19A	**Meeteetse**	**39.94**	**78**	P	**P**	**16 51 04.4**	**+0.2**
	baz=40						
LAO	**LASA Array**	**40.10**	**72**	P	**P**	**16 51 06.0**	**+0.7**
	baz=40						
EDW2	**Edwards Air Fo**	**40.17**	**95**	P	**P**	**16 51 07.3**	**+1.3**
	baz=40						
G21A	**Lodge Grass**	**40.33**	**75**	P	**P**	**16 51 07.4**	**+0.1**
	baz=40						
PDAR	**Pinedale Array**	**40.34**	**80**	P	**P**	**16 51 07.8**	**+0.3**
	3.7nm,0.9s,baz=328,slow=5.2,SNR=21						
I20A	**Worland**	**40.51**	**77**	P	**P**	**16 51 08.4**	**-0.3**
	baz=40						
F22A	**Rosebud**	**40.58**	**74**	P	**P**	**16 51 09.8**	**+0.6**
	baz=40						
GSC	**Goldstone**	**40.61**	**94**	P	**P**	**16 51 10.8**	**+1.1**
	baz=41						
GSC	**Goldstone**	**40.61**	**94**	*e*P	**P**	**16 51 10.7**	**+1.1**
	6.4nm,1.0s						
A25A	**Svangstu Ranch**	**40.69**	**68**	P	**P**	**16 51 10.9**	**+0.8**
	baz=40						
FCC	**Fort Churchill**	**40.72**	**51**	P	P	16 51 08.3	-1.8
E23A	**Ismay**	**40.74**	**72**	P	**P**	**16 51 11.3**	**+0.7**
	baz=41						
BFSC	**Mount Baldy Ra**	**40.81**	**96**	P	**P**	**16 51 12.4**	**+1.1**
	baz=41						
D24A	**Glendive**	**40.97**	**71**	P	**P**	**16 51 13.2**	**+0.7**
	baz=41						
TUQ	**Turquoise Moun**	**41.05**	**93**	P	**P**	**16 51 14.0**	**+0.6**
	baz=41						
I21A	**Big Trails, Te**	**41.08**	**77**	P	**P**	**16 51 13.9**	**+0.3**
	baz=41						
F23A	**Volborg**	**41.11**	**73**	P	**P**	**16 51 14.2**	**+0.6**
	baz=41						
HEC	**Hector,Ludlow**	**41.22**	**94**	P	**P**	**16 51 15.8**	**+1.2**
	baz=41						
E24A	**Baker**	**41.28**	**71**	P	**P**	**16 51 15.9**	**+0.9**
	baz=41						
I22A	**9 Mile Ranch,**	**41.51**	**76**	P	**P**	**16 51 17.5**	**+0.5**
	baz=41						
MURC	**Murrieta**	**41.52**	**96**	P	**P**	**16 51 18.7**	**+1.6**
	baz=42						
GMRC	**Granite Mounta**	**41.66**	**94**	P	**P**	**16 51 19.3**	**+1.0**
	baz=42						
J22A	**Midwest**	**41.79**	**77**	P	**P**	**16 51 19.7**	**+0.3**
	baz=42,SNR=5.9						
PFO	**Pinyon Flat Ob**	**41.97**	**96**	P	**P**	**16 51 22.0**	**+1.1**
	baz=42						
BELC	**Belle Mtn. Jos**	**41.98**	**95**	P	**P**	**16 51 21.4**	**+0.4**
	baz=42						
H24A	**Dirks Ranch, A**	**42.16**	**74**	P	**P**	**16 51 22.6**	**+0.3**
	baz=42						
K22A	**Casper**	**42.21**	**78**	P	**P**	**16 51 23.1**	**+0.3**
	baz=42						
IRM	**Iron Mountain**	**42.38**	**94**	P	**P**	**16 51 24.7**	**+0.6**
	baz=42						
MONP	**Monument Peak**	**42.49**	**96**	P	**P**	**16 51 26.2**	**+1.0**
	baz=42						
BC3	**Big Chuckawall**	**42.54**	**95**	P	**P**	**16 51 26.2**	**+0.7**
	baz=42						
K23A	**Bowen Ranch, D**	**42.69**	**77**	P	**P**	**16 51 26.8**	**+0.1**
	baz=42						
SWSC	**Sam W. Stewart**	**42.83**	**96**	P	**P**	**16 51 28.3**	**+0.6**
	baz=43						
A29A	**Manning Farm,**	**42.87**	**66**	P	**P**	**16 51 28.2**	**+0.3**
	baz=43						
PDMCI	**Parker Dam,Lak**	**42.90**	**93**	P	**P**	**16 51 28.9**	**+0.6**
	baz=43						
G26A	**Maurine**	**42.98**	**72**	P	**P**	**16 51 29.4**	**+0.5**
	baz=43						
F27A	**Lemmon**	**42.98**	**71**	P	**P**	**16 51 29.3**	**+0.4**
	baz=43						
Y12C	**Blythe**	**43.04**	**94**	P	**P**	**16 51 30.2**	**+0.8**
	baz=43						
MDND	**Maddock**	**43.25**	**67**	P	**P**	**16 51 31.6**	**+0.6**
	baz=43						
N23A	**Red Feather La**	**43.62**	**79**	P	**P**	**16 51 34.4**	**+0.1**
	baz=44						
PV01	**Paradox Valley**	**43.77**	**84**	*e*P	**P**	**16 51 35.4**	**-0.2**
	277nm,0.7s						
WUAZ	**Wupatki**	**43.77**	**89**	P	**P**	**16 51 35.9**	**+0.4**
	baz=44						
WUAZ	**Wupatki**	**43.77**	**89**	*e*P	**P**	**16 51 36.6**	**+1.1**
	4.9nm,0.8s						
L25A	**Engebretsen Ra**	**44.03**	**77**	P	**P**	**16 51 37.5**	**+0.1**
	baz=44						
D30A	**Buchanan**	**44.14**	**68**	P	**P**	**16 51 38.6**	**+0.4**
	baz=44						
H28A	**Mission Ridge**	**44.25**	**72**	P	**P**	**16 51 39.5**	**+0.4**
	baz=44						
F29A	**Eureka**	**44.26**	**70**	P	**P**	**16 51 40.2**	**+1.0**
	baz=44						
H29A	**Onida**	**44.75**	**71**	P	**P**	**16 51 43.7**	**+0.6**
	baz=45						
J28A	**Allard Ranch,**	**44.87**	**73**	P	**P**	**16 51 44.7**	**+0.6**
	baz=45						
S22A	**4UR Ranch, Cre**	**45.07**	**83**	P	**P**	**16 51 47.1**	**+1.1**
	baz=45						
AGMN	**Agassiz Nation**	**45.08**	**65**	P	**P**	**16 51 45.3**	**-0.3**
	baz=45						
K28A	**Ten Mile Ranch**	**45.22**	**74**	P	**P**	**16 51 46.5**	**-0.4**
	baz=45						
214A	**Organ Pipe Nat**	**45.32**	**94**	P	**P**	**16 51 48.3**	**+0.5**
	baz=45						
KSRS	**Korea Array**	**45.37**	**276**	P	P	16 51 51.2	+3.2
	1.3nm,0.9s,baz=86,slow=7.3,SNR=4.9						
KSAR	**Wonju Array Be**	**45.40**	**276**	P	**P**	**16 51 51.2**	**+2.9**
J29A	**Okreek**	**45.41**	**73**	P	**P**	**16 51 48.6**	**+0.2**
	baz=45						
SDCO	**Great Sand Dun**	**45.87**	**82**	P	**P**	**16 51 52.8**	**+0.4**
	baz=46,SNR=5.6						
SDCO	**Great Sand Dun**	**45.87**	**82**	*e*P	**P**	**16 51 52.8**	**+0.4**
	2.7nm,1.0s						
J30A	**Dallas**	**45.94**	**72**	P	**P**	**16 51 52.4**	**-0.1**
	baz=46						
P26A	**Davis Ranch, A**	**46.00**	**79**	P	**P**	**16 51 53.8**	**+0.6**
	baz=46						
TUC	**Tucson**	**46.31**	**92**	*e*P	**P**	**16 51 55.8**	**+0.2**
	5.3nm,1.0s						
R26A	**Arlington**	**46.75**	**80**	P	**P**	**16 51 59.2**	**+0.2**
	baz=47						
KSCO	**Kaye Shedlock'**	**46.78**	**79**	P	**P**	**16 51 59.8**	**+0.4**
	baz=47						
T25A	**Trinidad**	**46.92**	**82**	P	**P**	**16 52 01.0**	**+0.4**
	baz=47,SNR=5.6						
LAZ	**Ladron**	**47.09**	**87**	*e*P	**P**	**16 52 01.7**	**+0.9**
	3.7nm,1.0s						
ANMO	**Albuquerque**	**47.14**	**86**	P	**P**	**16 52 03.4**	**+1.2**
	1.2nm,0.6s,baz=302,slow=9.3,SNR=6.0						
ANMO				PcP	**PcP**	**16 53 34.5**	**+0.7**
	2.3nm,0.8s,baz=353,slow=1.5,SNR=5.1						
ECSD	**EROS Data Cent**	**47.35**	**70**	P	**P**	**16 52 03.2**	**-0.3**
	baz=47						
T26A	**Comanche Natio**	**47.39**	**82**	P	**P**	**16 52 03.5**

	baz=53								
V37A	**Hulbert**	**53.31**	**77**	P		**P**	**16 52 48.7**	**-0.1**
	baz=53								
232A	**Coleman**	**53.37**	**84**	P		**P**	**16 52 49.1**	**-0.2**
	baz=53								
Y35A	**Marietta**	**53.54**	**80**	P		**P**	**16 52 50.4**	**0.0**
	baz=53								
530A	**J-C Ranch, Com**	**53.57**	**87**	P		**P**	**16 52 50.7**	**-0.1**
	baz=54,SNR=13								
431A	**Sonora**	**53.63**	**86**	P		**P**	**16 52 51.3**	**0.0**
	baz=54								
W37A	**Quinton**	**53.65**	**78**	P		**P**	**16 52 51.2**	**0.0**
	baz=54								
332A	**Millersview**	**53.67**	**84**	P		**P**	**16 52 51.4**	**-0.1**
	baz=54								
233A	**Rising Star**	**53.73**	**83**	P		**P**	**16 52 51.9**	**0.0**
	baz=54								
V38A	**Canehill**	**53.76**	**77**	P		**P**	**16 52 51.3**	**-0.7**
	baz=54								
Y36A	**Durant**	**53.99**	**80**	P		**P**	**16 52 53.8**	**0.0**
	baz=54								
432A	**Menard**	**53.99**	**85**	P		**P**	**16 52 53.7**	**-0.1**
	baz=54								
531A	**Rocksprings**	**54.04**	**86**	P		**P**	**16 52 53.8**	**-0.5**
	baz=54,SNR=5.4								
X37A	**Clayton**	**54.06**	**78**	P		**P**	**16 52 54.0**	**-0.2**
	baz=54								
333A	**Richland Sprin**	**54.17**	**84**	P		**P**	**16 52 55.0**	**-0.1**
	baz=54								
W38A	**Poteau**	**54.24**	**77**	P		**P**	**16 52 55.7**	**+0.1**
	baz=54								
135A	**Vickery Place,**	**54.25**	**82**	P		**P**	**16 52 55.8**	**+0.2**
	baz=54								
JCT	**Junction City**	**54.27**	**85**	P		**P**	**16 52 55.3**	**-0.6**
	baz=54								
X38A	**Whitesboro**	**54.33**	**78**	P		**P**	**16 52 55.6**	**-0.6**
	baz=54								
532A	**Rocksprings**	**54.45**	**86**	P		**P**	**16 52 56.9**	**-0.4**
	baz=54								
433A	**Art**	**54.50**	**84**	P		**P**	**16 52 57.2**	**-0.4**
	baz=54								
631A	**Perdido Creek**	**54.56**	**87**	P		**P**	**16 52 57.6**	**-0.3**
	baz=54								
334A	**Lometa**	**54.61**	**83**	P		**P**	**16 52 58.3**	**-0.1**
	baz=54,SNR=5.0								
WHTX	**Lake Whitney**	**54.62**	**82**	P		**P**	**16 52 58.0**	**-0.3**
	baz=54								
434A	**Burnet**	**54.96**	**84**	P		**P**	**16 53 00.7**	**-0.2**
	baz=55,SNR=5.2								
632A	**Uvalde**	**54.97**	**86**	P		P	16 53 00.1	-0.9
	baz=55								
MIAR	**Mount Ida**	**55.16**	**77**	P		**P**	**16 53 02.0**	**-0.3**
	baz=55								
MIAR	**Mount Ida**	**55.16**	**77**	*e*P		**P**	**16 53 01.6**	**-0.6**
	9.2nm,1.3s								
534A	**Blanco**	**55.39**	**85**	P		**P**	**16 53 03.9**	**-0.1**
	baz=55								
Z39A	**Irene McRaven,**	**55.71**	**79**	P		**P**	**16 53 06.0**	**-0.1**
	baz=56								
832A	**Faith Ranch, C**	**55.73**	**87**	P		**P**	**16 53 06.4**	**0.0**
	baz=56								
733A	**Divot King Ran**	**55.84**	**86**	P		**P**	**16 53 07.4**	**+0.3**
	baz=56								
833A	**Chaparral WMA,**	**56.06**	**87**	P		**P**	**16 53 08.3**	**-0.5**
	baz=56								
H06N1	**SOCORRO T-PHAS**	**56.14**	**104**	T		T	17 53 52.2	
	SNR=10.0								
H06E1	**SOCORRO T-PHAS**	**56.24**	**104**	T		T	17 53 55.1	
	SNR=16								
ZALV	**Zalesovo Beam**	**57.18**	**317**	PcP		**PcP**	**16 54 10.2**	**-0.7**
	1.0nm,0.3s,baz=69,slow=7.9,SNR=5.3								
034A	**Hebbronville**	**57.40**	**87**	P		**P**	**16 53 18.8**	**+0.5**
	baz=57								
ARCES	**ARCESS Array B**	**57.59**	**354**	PcP		**PcP**	**16 54 11.2**	**-1.0**
	1.8nm,0.8s,baz=12,slow=6.2,SNR=4.4								
FINES	**FINESS Array B**	**65.54**	**352**	P		**P**	**16 54 11.5**	**-1.3**
	1.6nm,0.8s,baz=29,slow=4.4,SNR=4.5								
AKASG	**Malin Array Be**	**75.78**	**348**	P		**P**	**16 55 13.5**	**-1.9**
	0.3nm,0.4s,baz=16,slow=5.8,SNR=2.7								
CMAR	**Chiang Mai Arr**	**76.55**	**283**	P		**P**	**16 55 19.3**	**-0.9**
	1.6nm,1.0s,baz=30,slow=7.3,SNR=7.5								
WRA	**Warramunga Arr**	**87.22**	**232**	P		P	16 56 14.3	-1.8
	2.5nm,1.1s,baz=39,slow=4.9,SNR=7.5								
ASAR	**Alice Springs**	**90.61**	**230**	P		**P**	**16 56 31.4**	**-0.7**
	2.2nm,0.8s,baz=32,slow=4.4,SNR=13								
TORD	**Torodi Ar. Bea**	**113.97**	**10**	PKKPab		PKKPab	17 12 55.2	-4.7
	1.2nm,0.8s,baz=181,slow=4.0,SNR=5.7								
MAW	**Mawson**	**151.14**	**219**	PKPbc		**PKPbc**	**17 03 21.2**	**-0.3**
	3.9nm,0.9s,baz=18,slow=4.9,SNR=6.5								

*ISCJB **22** 17:01:10.8±0.8,52°.51N±0°.08×169°.3W±0°.1,h10km, mb3.5/3,MS3.1/1,Error ellipse: s-maj=15.4km s-min=6.4km az=137.5*

*NEIC **22** 17:01:11.6,52°.60N×169°.50W,h12km,ML3.2(AEIC),After AEIC.*

*IDC **22** 17:01:11.5±1.8,52°.19N×169°.28W,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.4/29,mbtmp3.4/4,ML3.5/1,MS3.2/1, Ms1 3.2/1,ms1mx2.4/34,Error ellipse: s-maj=62.8km s-min=31.8km az=142.0*

ISC 22 17:01:12.0±1.0,52°.6N±0°.1×169°.34W±0°.08,h10km,n22, σ0§98/19,mb3.5/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.51**	**35**	P	**Pg**	**17 01 22.3**	**+0.4**
NIKH				S	**Sb**	**17 01 30.2**	**-0.3**
OKWR	**Okmok West Rim**	**1.11**	**38**	P	**Pb**	**17 01 33.4**	**0.0**
OKCE	**Okmok Cone E**	**1.12**	**39**	P	**Pb**	**17 01 32.5**	**-1.0**
OKFG	**Magazine Ridge**	**1.21**	**45**	P	**Pn**	**17 01 33.9**	**-1.1**
OKFG				S	**Sb**	**17 01 49.7**	**-1.1**
MSOM	**Makushin Julie**	**1.91**	**48**	P	**Pn**	**17 01 43.8**	**-0.8**
MSOM				S	**Sn**	**17 02 07.0**	**-1.6**
MCIR	**Makushin Cirqu**	**2.03**	**46**	P	**Pn**	**17 01 46.8**	**+0.6**
UNV	**Unalaska Valle**	**2.14**	**52**	P	**Pn**	**17 01 47.4**	**-0.3**
UNV				S	**Sn**	**17 02 13.2**	**-1.0**
AKGG	**Akutan Green G**	**2.59**	**49**	P	**Pn**	**17 01 54.4**	**+0.4**
AKUT	**Akutan**	**2.66**	**52**	*e*P	**Pn**	**17 01 55.2**	**+0.4**
ATKA	**Atka Island**	**3.00**	**265**	P	**Pn**	**17 01 58.3**	**-1.2**
SPIA	**Saint Paul Isl**	**4.66**	**354**	P	**Pn**	**17 02 23.2**	**+1.0**
ILAR	**Eielson Array**	**16.78**	**35**	Pn	**P**	**17 05 09.9**	**+0.8**
	0.1nm,0.3s,baz=231,slow=12,SNR=3.4						
BBB	**Bella Bella**	**24.93**	**74**	LR	LR	17 14 17.4	
	comp=Z,53nm,18.2s,baz=310,slow=31						
H11N2	**WAKE ISLAND Hy**	**37.61**	**218**	T	T	17 48 24.1	
	baz=23,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**37.62**	**218**	T	T	17 48 25.6	
	baz=23,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**37.63**	**218**	T	T	17 48 26.7	
	baz=23,slow=76,SNR=9.6						
H11S1	**WAKE ISLAND Hy**	**38.80**	**218**	T	T	17 49 55.3	
	baz=22,slow=76,SNR=110						
H11S2	**WAKE ISLAND Hy**	**38.82**	**218**	T	T	17 49 55.8	
	baz=22,slow=76,SNR=167						
H11S3	**WAKE ISLAND Hy**	**38.82**	**218**	T	T	17 49 56.2	
	baz=22,slow=76,SNR=57						
PDAR	**Pinedale Array**	**40.35**	**79**	P	**P**	**17 08 49.4**	**-0.4**
	0.2nm,0.3s,baz=288,slow=3.7,SNR=2.8						
TXAR	**Lajitas Array**	**52.73**	**89**	P	**P**	**17 10 28.7**	**+1.8**
	0.4nm,0.7s,baz=296,slow=5.7,SNR=6.7						
ASAR	**Alice Springs**	**90.53**	**230**	P	**P**	**17 14 14.1**	**+0.1**
	0.3nm,0.6s,baz=28,slow=4.2,SNR=5.9						

KRSC 22 17:03:08.9±1.2,55°.30N×161°.17E,h128km±14km,ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZV	**Kizimen**	**0.54**	**250**	*e*P	Pn	17 03 28.3	+0.2
BZGR	**Bezymyannyi-Gr**	**0.69**	**337**	*e*P	Pn	17 03 28.9	-0.2
KMNR	**Kamenistaya**	**0.70**	**311**	*e*P	Pn	17 03 29.6	+0.5
MKZ	**Mys Kozlova**	**0.82**	**156**	*e*P	Pn	17 03 30.7	+0.8
MKZ				*e*S	Sn	17 03 46.9	+1.1
KOZ	**Kozyrevsk**	**1.05**	**316**	*e*P	Pn	17 03 32.8	+0.7
BDR	**Baidarnaya**	**1.27**	**1**	*e*P	Pn	17 03 35.2	+0.9
BDR				*e*S	Sn	17 03 54.8	+1.0
SMKR	**Semkarok**	**1.29**	**7**	*e*P	Pn	17 03 35.5	+0.9
SMKR				*e*S	Sn	17 03 55.4	+1.2
KBTR	**Krutoberegovo**	**1.30**	**45**	*e*P	Pn	17 03 36.7	+2.2
KBTR				*e*S	Sn	17 03 56.7	+2.6
SRDR	**Sredinnyy**	**1.31**	**322**	*e*P	Pn	17 03 35.3	+0.6
SRKR	**Sorokina**	**1.35**	**360**	*e*P	Pn	17 03 36.9	+1.7
SRKR				*e*S	Sn	17 03 57.9	+2.5
ESO	**Esso**	**1.53**	**295**	*e*P	Pn	17 03 37.9	+0.7
SPN	**Mys Shipunski**	**2.31**	**197**	*e*P	Pn	17 03 48.0	+1.5
SPN				*e*S	Sn	17 04 17.1	+1.7
NLC	**Nalytchevo**	**2.39**	**207**	*e*S	Sn	17 04 20.1	+2.9
SDLR	**Sedlovina**	**2.43**	**214**	*e*P	Pn	17 03 51.3	+3.0
GNL	**Ganaly**	**2.48**	**231**	*e*P	Pn	17 03 50.8	+2.0
AVH	**Avacha**	**2.49**	**216**	*e*P	Pn	17 03 51.5	+2.6
KOK	**Koryaka**	**2.50**	**217**	*e*P	Pn	17 03 49.7	+0.6
BKI	**Bering**	**2.75**	**90**	*e*S	Sn	17 04 26.3	+1.0
RUS	**Russkaya**	**3.28**	**210**	*e*P	Pn	17 03 59.2	+0.2

*TIF **22** 17:09:20.6,43°.32N×46°.31E,h13km±2km*

*CSEM **22** 17:09:21.1,43°.26N×46°.37E,h10km,mb3.9*

*MOS **22** 17:09:21.1±1.3,43°.26N×46°.37E,h10km,mb3.9/1,Error ellipse: s-maj=13.3km s-min=7.5km az=28.3*

ISC 22 17:09:20.0±1.5,43°.38N±0°.07×46°.45E±0°.05,h5km±10km, n32,σ0§75/63,2C-3D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLMR	**Dylym**	**0.34**	**156**	*e*PG	**Pg**	**17 09 26.4**	**-0.2**
DLMR				*e*S	**Sg**	**17 09 30.9**	**-0.2**
DLMR				pmax	pmax		
	comp=Z,104nm,0.2s						
DLMR	**Dylym**	**0.34**	**156**	*e*Pg	**Pg**	**17 09 26.4**	**-0.2**
	comp=Z,104nm,0.2s						
DLMR				*e*Sg	**Sg**	**17 09 30.9**	**-0.2**
DBC	**Dubki**	**0.46**	**142**	⇑*i*PG	**Pb**	**17 09 30.4**	**-0.2**
DBC				*i* S	**Sb**	**17 09 38.4**	**+0.6**
DBC	**Dubki**	**0.46**	**142**	*i* Pg	**Pb**	**17 09 30.4**	**-0.2**
DBC				*i* Sg	**Sb**	**17 09 38.4**	**+0.6**
GRO	**Groznyy**	**0.51**	**263**	⇓*i*PG	**Pg**	**17 09 30.2**	**+0.4**
GRO				*i* S	**Sb**	**17 09 38.3**	**-0.9**
GRO	**Groznyy**	**0.51**	**263**	*i* Pg	**Pg**	**17 09 30.2**	**+0.4**
GRO				*i* Sg	**Sb**	**17 09 38.3**	**-0.9**
KRNR	**Karanay**	**0.65**	**148**	*e*PG	**Pb**	**17 09 33.8**	**-0.1**
KRNR				*e*S	**Sn**	**17 09 45.0**	**-1.7**
KRNR				pmax	pmax		
	comp=Z,34nm,0.2s						
KRNR	**Karanay**	**0.65**	**148**	*e*Pg	**Pb**	**17 09 33.8**	**-0.1**
	comp=Z,34nm,0.2s						
KRNR				*e*Sg	**Sn**	**17 09 45.0**	**-1.7**
UNCR	**Uncukul**	**0.72**	**159**	*e*PG	**Pb**	**17 09 35.0**	**0.0**
UNCR				*e*S	**Sb**	**17 09 46.0**	**+0.8**
UNCR				pmax	pmax		
	comp=Z,40nm,0.2s						
UNCR	**Uncukul**	**0.72**	**159**	*e*Pg	**Pb**	**17 09 35.0**	**0.0**
	comp=Z,40nm,0.2s						
UNCR				*e*Sg	**Sb**	**17 09 46.0**	**+0.8**
GNBR	**Gunib**	**1.06**	**159**	⇑*i*PG	**Pb**	**17 09 40.9**	**-0.1**
GNBR				*i* S	**Sn**	**17 09 58.7**	**+1.8**
GNBR	**Gunib**	**1.06**	**159**	*i* Pg	**Pb**	**17 09 40.9**	**-0.1**
GNBR				*i* Sg	**Sn**	**17 09 58.7**	**+1.8**
TRKR	**Terskaya**	**1.29**	**286**	⇓*i*PG	**Pn**	**17 09 44.1**	**-0.6**
TRKR				*e*S	**Sn**	**17 10 02.9**	**+0.5**
TRKR	**Terskaya**	**1.29**	**286**	*i* Pg	**Pn**	**17 09 44.1**	**-0.6**
TRKR				*e*Sg	**Sn**	**17 10 02.9**	**+0.5**
VLKR	**Vladikavkaz**	**1.33**	**256**	*e*PG	**Pn**	**17 09 44.2**	**-1.2**
VLKR				*e*S	**Sg**	**17 10 03.1**	**+0.2**
VLKR	**Vladikavkaz**	**1.33**	**256**	*e*Pg	**Pn**	**17 09 44.2**	**-1.2**
VLKR				*e*Sg	**Sg**	**17 10 03.1**	**+0.2**
BTKR	**Batakoyurt**	**1.39**	**270**	*e*PG	**Pn**	**17 09 45.9**	**-0.2**
BTKR				*e*S	**Sg**	**17 10 05.4**	**+0.8**
BTKR	**Batakoyurt**	**1.39**	**270**	*e*Pg	**Pn**	**17 09 45.9**	**-0.2**
BTKR				*e*Sg	**Sg**	**17 10 05.4**	**+0.8**
ARNR	**Ardon**	**1.59**	**263**	*e*PG	**Pn**	**17 09 48.7**	**-0.2**
ARNR				*e*S	**Sg**	**17 10 10.9**	**-0.2**
ARNR	**Ardon**	**1.59**	**263**	*e*Pg	**Pn**	**17 09 48.7**	**-0.2**
ARNR				*e*Sg	**Sg**	**17 10 10.9**	**-0.2**
PRTR	**Priterechnaya**	**1.61**	**284**	*i* PG	**Pn**	**17 09 49.4**	**+0.2**
PRTR				*i* S	**Sg**	**17 10 12.2**	**+0.3**
PRTR	**Priterechnaya**	**1.61**	**284**	*i* Pg	**Pn**	**17 09 49.4**	**+0.2**
PRTR				*i* Sg	**Sg**	**17 10 12.2**	**+0.3**
LACR	**Lac**	**1.67**	**251**	⇓*i*PG	**Pn**	**17 09 49.8**	**-0.2**
LACR				*i* S	**Sb**	**17 10 12.3**	**-0.4**
LACR	**Lac**	**1.67**	**251**	*i* Pg	**Pn**	**17 09 49.8**	**-0.2**
LACR				*i* Sg	**Sb**	**17 10 12.3**	**-0.4**
STDR	**Stavd-Durt**	**1.74**	**270**	*e*PN	**Pg**	**17 09 53.2**	**-0.1**
STDR				*e*S	**Sg**	**17 10 17.3**	**+1.5**
STDR	**Stavd-Durt**	**1.74**	**270**	*e*Pn	**Pg**	**17 09 53.2**	**-0.1**
STDR				*e*Sg	**Sg**	**17 10 17.3**	**+1.5**
KORR	**Kora**	**1.76**	**261**	*e*PN	**Pn**	**17 09 50.2**	**-1.1**
KORR				*e*S	**Sb**	**17 10 14.7**	**-0.6**
KORR	**Kora**	**1.76**	**261**	*e*Pn	**Pn**	**17 09 50.2**	**-1.1**
KORR				*e*Sg	**Sb**	**17 10 14.7**	**-0.6**
DIGR	**Digorskoe uzhe**	**2.15**	**258**	*e*PN	**Pn**	**17 09 56.6**	**-0.2**
DIGR				*e*S	**Sn**	**17 10 24.7**	**+0.8**
DIGR	**Digorskoe uzhe**	**2.15**	**258**	*e*Pn	**Pn**	**17 09 56.6**	**-0.2**
DIGR				*e*Sb	**Sn**	**17 10 24.7**	**+0.8**
KIV	**Kislovodsk**	**2.79**	**283**	*i* PN	**Pb**	**17 10 09.7**	**-0.6**
KIV				*i*		17 10 45.5	
KIV				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KIV				smax	smax		
	comp=N,8.0nm,0.4s						
KIV	**Kislovodsk**	**2.79**	**283**	*i* Pn	**Pb**	**17 10 09.7**	**-0.6**
	comp=N,4.0nm,0.4s						
KIV				*i* Sn	**Sb**	**17 10 45.5**	**+0.7**
	comp=N,8.0nm,0.4s						

*IDC **22** 17:29:06.8±2.7,7°.80N×127°.30E,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.5/26,mbtmp3.8/4,ML4.4/1,Error ellipse: s-maj=217.1km s-min=23.4km az=65.0*

*ISCJB **22** 17:29:12.5±1.1,7°.37N±0°.09×127°.15E±0°.09,h52km, mb3.4/3,Error ellipse: s-maj=16.0km s-min=8.0km az=42.3*

*MAN **22** 17:29:14,7°.38N×126°.94E,h101km,mb4.4,ML3.3,MS3.2*

ISC 22 17:29:14.5±1.1,7°.34N±0°.08×127°.05E±0°.10,h52km,n9, σ1§54/11,mb3.2/3,3C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**1.08**	**321**	⇑*i*P	**Pn**	**17 29 36.0**	**+2.5**
BIPH				*i* S	**Sn**	**17 29 48.3**	**+0.9**
DMPH	**Davao City--Mi**	**1.55**	**261**	⇓*i*P	**Pn**	**17 29 41.2**	**+1.4**
DMPH				*i* S	**Sn**	**17 30 00.3**	**+1.5**
CGP	**Cagayan de Oro**	**2.58**	**296**	⇑*e*P	**Pn**	**17 29 53.8**	**-0.1**
CGP				*e*S	**Sn**	**17 30 23.5**	**-0.7**
CTBH	**Cotabato--PC H**	**2.78**	**268**	⇑*i*P	**Pn**	**17 29 56.2**	**-0.4**
TBP	**Tagbilaran**	**3.92**	**307**	*e*P	**Pn**	**17 30 12.4**	**+0.1**
SIJI	**Sorong**	**9.17**	**153**	Pn	**Pn**	**17 31 24.1**	**-0.3**
	3.3nm,0.3s,baz=350,slow=15,SNR=12						
SIJI					Sn	17 32 59.5	-6.7
	0.5nm,0.3s,baz=197,slow=19,SNR=5.6						
WRA	**Warramunga Arr**	**28.04**	**165**	P	P	17 35 05.3	+4.1
	0.4nm,0.9s,baz=348,slow=9.9,SNR=3.5						
ASAR	**Alice Springs**	**31.54**	**168**	P	**P**	**17 35 33.0**	**+1.0**
	0.4nm,0.8s,baz=339,slow=7.5,SNR=5.2						
MKAR	**Makanchi Array**	**54.82**	**324**	P	**P**	**17 38 37.0**	**-2.4**
	0.5nm,0.4s,baz=114,slow=7.4,SNR=21						

*NIED **22** 17:30:00,45°.80N×152°.00E,h35km,Mw4.8 Best double couple: M0 1.97000×10^16 NP1:φs=20.00000°,δ=8.00000°, λ=35.00000°. NP2:φs=255.00000°,δ=85.00000°,λ=97.00000°.*

*IDC **22** 17:30:23.8±0.5,45°.70N×151°.91E,h0km,mb4.3/26, mb1 4.4/33,mb1mx4.4/36,mbtmp4.3/33,ML3.9/6,MS3.7/24, Ms1 3.7/24,ms1mx3.5/41,Error ellipse: s-maj=14.8km s-min=10.5km az=141.0*

*BJI **22** 17:30:23.3,45°.66N×152°.20E,h20km,mb4.7/32,mB4.7/22, Ms4.2/16,Ms7 4.1/17*

*ISCJB **22** 17:30:24.5±0.9,45°.54N±0°.03×151°.92E±0°.03,h17km±6km, mb4.4/65,MS3.7/21,Error ellipse: s-maj=6.0km s-min=3.0km az=153.7*

*SKHL **22** 17:30:25.2±0.1,45°.63N×152°.18E,h27km±5km,mb6.0/1, mbh5.7/1,Ms4.1/9,msh5.2/4*

*MOS **22** 17:30:26.9±1.1,45°.76N×151°.85E,h30km,mb4.8/18,Error ellipse: s-maj=7.5km s-min=6.1km az=81.6*

*JMA **22** 17:30:26.4±0.5,45°.78N×151°.95E,h30km,M5.2*

*NEIC **22** 17:30:27.5±1.5,45°.71N×151°.85E,h22km±10km,mb4.6/34, Error ellipse: s-maj=7.1km s-min=3.6km az=149.0*

ISC 22 17:30:28.0±0.6,45°.60N±0°.05×152°.00E±0°.04,h29km±3km, h29km:pP-P,n271,σ1§47/283,mb4.5/65,MS3.7/22, 19C-23D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.93**	**264**	*c* iPN	**Pn**	**17 31 12.2**	**-0.3**
KUR				*i* S	**Sn**	**17 31 47.7**	**+1.0**
KUR				pmax	pmax		
	comp=Z,362nm,0.5s						
KUR				pmax	pmax		
	comp=N,102nm,0.2s						
KUR				pmax	pmax		
	comp=E,80nm,0.2s						
KUR	**Kuril'sk**	**2.93**	**264**	⇑*i*P	**Pn**	**17 31 12.2**	**-0.3**
KUR				AMB	AMB	17 31 16.0	
	comp=E,450nm,0.3s						
KUR				AMB	AMB	17 31 16.0	
	comp=E,230nm,0.3s						
KUR				AMB	AMB	17 31 16.0	
	comp=E,810nm,0.3s						
KUR				AMB	AMB	17 31 16.1	
	comp=E,600nm,0.3s						
KUR				*i* S	**Sn**	**17 31 47.4**	**+0.7**
KUR				A	A	17 31 52.5	
	comp=E,2μm,2.0s						
KUR				A	A	17 31 52.5	
	comp=E,2μm,2.0s						
KUR				A	A	17 31 57.5	
	comp=E,2μm,0.3s						
KUR				A	A	17 31 57.5	
	comp=E,1μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.64**	**252**	*c* iPN	**Pn**	**17 31 35.8**	**-0.1**
YUK				*i* S	**Sn**	**17 32 28.8**	**+0.1**
YUK				pmax	pmax		
	comp=N,64nm,0.3s						
YUK				pmax	pmax		
	comp=E,135nm,0.3s						
YUK				pmax	pmax		
	comp=Z,487nm,0.3s						
YUK				smax	smax		
	comp=N,2μm,2.5s						
YUK				smax	smax		
	comp=E,1μm,2.5s						
YUK				smax	smax		
	comp=N,326nm,0.6s						
YUK				smax	smax		
	comp=E,586nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**4.64**	**252**	⇑*i*P	**Pn**	**17 31 35.8**	**-0.1**
YUK				AMB	AMB	17 31 37.0	
	comp=E,60nm,0.3s						
YUK				AMB	AMB	17 31 37.0	
	comp=E,130nm,0.3s						
YUK				AMB	AMB	17 31 37.0	
	comp=E,500nm,0.3s						
YUK				*i* S	**Sn**	**17 32 28.8**	**+0.1**
YUK				A	A	17 32 33.5	
	comp=E,2μm,2.5s						
YUK				A	A	17 32 33.5	
	comp=E,1μm,2.5s						
YUK				A	A	17 32 35.2	
	comp=E,330nm,0.6s						
YUK				A	A	17 32 35.2	
	comp=E,590nm,0.6s						
NEM2	**Nemuro 2**	**5.00**	**246**	P	**Pn**	**17 31 39.4**	**-1.5**
NEM2				*e*S	**Sn**	**17 32 32.8**	**-4.9**
JRA	**Rausu**	**5.17**	**254**	P	**Pn**	**17 31 43.7**	**+0.5**
JRA				*e*S	**Sn**	**17 32 40.8**	**-1.0**
JNK	**Nakash**	**5.57**	**251**	P	**Pn**	**17 31 48.7**	**-0.1**
JNK				*e*S	**Sn**	**17 32 50.0**	**-1.8**
SKR	**Severo-Kuril's**	**5.79**	**27**	*e*PN	Pn	17 31 48.4	-3.3
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,40nm,0.3s						
SKR				pmax	pmax		
	comp=N,400nm,2.0s						
SKR				pmax	pmax		
	comp=E,600nm,2.0s						
SKR				pmax	pmax		
	comp=Z,1μm,2.0s						
SKR				MLR	MLR		
	comp=N,1μm,14.0s						
SKR				MLR	MLR		
	comp=E,2μm,14.0s						
SKR				MLR	MLR		
	comp=Z,1μm,14.0s						
SKR	**Severo-Kuril's**	**5.79**	**27**	*e*P	Pn	17 31 48.4	-3.3
SKR				AMB	AMB	17 31 49.8	
	comp=Z,50nm,0.5s						
SKR				AMB	AMB	17 31 49.8	
	comp=Z,40nm,0.5s						
SKR				AMB	AMB	17 31 49.8	
	comp=Z,80nm,0.5s						
SKR				AMB	AMB	17 31 52.0	
	comp=Z,400nm,2.0s						
SKR				AMB	AMB	17 31 52.0	
	comp=Z,600nm,2.0s						
SKR				AMB	AMB	17 31 52.0	
	comp=Z,1μm,2.0s						
SKR				*e*S	**Sn**	**17 32 54.0**	**-3.1**
SKR				A	A	17 33 04.0	
	comp=Z,1μm,4.0s						
SKR				A	A	17 33 18.5	
	comp=E,360nm,0.7s						
SKR				A	A	17 33 18.5	
	comp=E,200nm,0.7s						
SKR				AMS	AMS	17 34 08.0	
	comp=Z,1μm,14.0s						
SKR				AMS	AMS	17 34 08.0	
	comp=Z,2μm,14.0s						
SKR				AMS	AMS	17 34 36.3	
	comp=Z,100nm,21.0s						
SKR				AMS	AMS	17 34 36.3	
	comp=Z,200nm,21.0s						
JAK	**Akkeshi**	**5.85**	**246**	P	**Pn**	**17 31 50.9**	**-1.7**
JAK				*e*S	**Sn**	**17 32 54.9**	**-3.7**
JTKR	**Abashiri--Toko**	**5.98**	**257**	P	**Pn**	**17 31 55.1**	**+0.7**
JAR	**Ashorobuto**	**6.32**	**252**	P	**Pn**	**17 31 59.4**	**+0.3**
JAR				*e*S	**Sn**	**17 33 09.1**	**-1.2**
JMP	**Maruseppu**	**6.35**	**259**	P	**Pn**	**17 32 00.5**	**+1.0**
JOB	**Onbets**	**6.45**	**248**	P	**Pn**	**17 32 00.2**	**-0.7**
JOB				*e*S	**Sn**	**17 33 10.7**	**-2.7**
YSS	**

UGL	**Uglegorsk**	**7.59**	**301**	*e*P		Pn		17 32 19.0	+2.5
UGL				*e*S		**Sn**		**17 33 41.8**	**+0.4**
UGL				A		A		17 34 10.9	
	comp=Z,80nm,0.6s								
UGL				AMS		AMS		17 35 21.0	
	comp=Z,800nm,15.0s								
UGL				AMS		AMS		17 35 21.0	
	comp=Z,1µm,15.0s								
JEW	**Eniwo**	**8.06**	**254**	P		**Pn**		**17 32 23.5**	**+0.5**
JEW				*e*S		**Sn**		**17 33 53.4**	**+0.3**
TYV	**Tymovskoe**	**8.16**	**314**	*e*P		**Pn**		**17 32 26.4**	**+2.1**
TYV				*e*S		**Sn**		**17 33 55.2**	**-0.2**
TYV				A		A		17 34 25.4	
	comp=Z,900nm,3.0s								
TYV				A		A		17 34 25.4	
	comp=Z,600nm,3.0s								
TYV				AMS		AMS		17 35 44.0	
	comp=Z,1µm,14.0s								
TYV				AMS		AMS		17 35 44.0	
	comp=Z,500nm,14.0s								
PEA0B	**Petropavlovsk-**	**8.39**	**24**	*e*Pn		**Pn**		**17 32 27.4**	**0.0**
PETK	**Petropavlovsk-**	**8.39**	**24**	Pn		**Pn**		**17 32 27.2**	**-0.2**
	comp=Z,6.1nm,0.3s,baz=182,slow=14,SNR=103								
PETK				LR		LR		17 35 42.3	
	comp=Z,381nm,19.7s,baz=211,slow=38								
JNB	**Noboribetsu**	**8.49**	**252**	P		**Pn**		**17 32 28.0**	**-0.9**
JNB				*e*S		**Sn**		**17 33 59.1**	**-4.5**
JSK	**Shakotan**	**8.54**	**259**	P		Pn		17 32 31.8	+2.3
PET	**Petropavlovsk**	**8.61**	**28**	*e*PN		**Pn**		**17 32 29.7**	**-0.7**
PET				pmax		pmax			
	comp=Z,49nm,0.7s								
PET				MLR		MLR			
	comp=Z,600nm,15.0s								
PET				MLR		MLR			
	comp=Z,500nm,14.0s								
PET	**Petropavlovsk**	**8.61**	**28**	*e*P		**Pn**		**17 32 29.7**	**-0.7**
PET				AMB		AMB		17 32 38.0	
	comp=Z,50nm,0.7s								
PET				*e*S		**Sn**		**17 34 02.5**	**-3.9**
PET				AMS		AMS		17 35 59.0	
	comp=Z,600nm,15.0s								
PET	**Petropavlovsk**	**8.61**	**28**	*e*Pn		**Pn**		**17 32 28.7**	**-1.7**
	comp=Z,22nm,0.4s								
JKB	**Kayabe**	**8.76**	**249**	P		**Pn**		**17 32 30.9**	**-1.6**
JKB				*e*S		Sn		17 34 02.6	-7.6
JSH	**Shimam**	**9.09**	**255**	P		**Pn**		**17 32 37.2**	**+0.1**
JYM2	**Yakumo 2**	**9.09**	**252**	P		**Pn**		**17 32 35.9**	**-1.2**
JYM2				*e*S		**Sn**		**17 34 14.2**	**-4.1**
JANG	**Nango**	**9.28**	**239**	P		Pn		17 32 35.7	-4.1
JANG				*e*S		Sn		17 34 12.2	-11
JTM	**Tenmabayashi**	**9.31**	**243**	P		**Pn**		**17 32 37.4**	**-2.8**
JTM				*e*S		Sn		17 34 13.7	-10
JSR	**Shiriuchi**	**9.34**	**248**	P		**Pn**		**17 32 39.0**	**-1.4**
JSR				*e*S		Sn		17 34 16.8	-7.5
JTH	**Tanohata**	**9.35**	**236**	P		Pn		17 32 36.4	-4.3
JTH				*e*S		Sn		17 34 13.2	-12
JOSM	**Okushiri--Mats**	**9.70**	**253**	P		**Pn**		**17 32 44.7**	**-0.8**
OKH	**Okha**	**9.89**	**327**	AMS		AMS		17 39 34.0	
	comp=Z,1µm,11.0s								
OKH				AMS		AMS		17 39 34.0	
	comp=Z,1µm,11.0s								
OFUJ	**Ofunato**	**10.04**	**233**	P		Pn		17 32 46.7	-3.4
OFUJ				*e*S		Sn		17 34 30.6	-11
JRG	**Rokugo**	**10.42**	**238**	P		**Pn**		**17 32 52.2**	**-3.2**
JRG				*e*S		Sn		17 34 42.9	-8.2
NKL	**Nikolayevsk**	**10.55**	**320**	*e*P		**Pn**		**17 32 59.3**	**+2.3**
NKL				AMS		AMS		17 36 42.0	
	comp=Z,700nm,18.0s								
NKL				AMS		AMS		17 36 42.0	
	comp=Z,800nm,18.0s								
JOG2	**Oga 2**	**10.61**	**242**	P		**Pn**		**17 32 56.0**	**-2.0**
JIO	**Ouri**	**10.65**	**232**	P		Pn		17 32 55.2	-3.3
JIO				*e*S		Sn		17 34 46.4	-10
TEY	**Ternei**	**10.86**	**273**	*e*P		Pn		17 33 06.2	+4.9
TEY				AMB		AMB		17 33 06.7	
	comp=Z,20nm,0.6s								
TEY				AMS		AMS		17 37 20.0	
	comp=Z,1µm,14.0s								
TEY				AMS		AMS		17 37 20.0	
	comp=Z,700nm,14.0s								
TEY				AMS		AMS		17 37 20.0	
	comp=Z,800nm,14.0s								
JYA	**Atsumi**	**11.49**	**237**	P		**Pn**		**17 33 07.1**	**-2.9**
GRNR	**Gornyy**	**11.61**	**302**	*e*P		**Pn**		**17 33 13.6**	**+2.1**
JFK	**Kawauchi**	**11.70**	**229**	*e*S		Sn		17 35 10.1	-12
HABR	**Khabarovsk**	**11.91**	**290**	*e*Pn		Pn		17 33 20.3	+4.6
HABR				*e*SS		Sn		17 35 37.5	+10
HABR				pmax		pmax			
	comp=N,5.0nm,0.6s								
HABR				pmax		pmax			
	comp=E,23nm,1.7s								
HABR				pmax		pmax			
	comp=Z,23nm,1.7s								
HABR				MLR		MLR			
	comp=Z,348nm,15.0s								
HABR	**Khabarovsk**	**11.91**	**290**	*e*P		Pn		17 33 20.3	+4.6
HABR				AMB		AMB		17 33 21.6	
	comp=Z,20nm,1.7s								
HABR				*e*S		Sn		17 35 37.5	+10
HABR				AMS		AMS		17 38 09.5	
	comp=Z,400nm,15.0s								
JFY	**Yanaizu**	**12.31**	**233**	P		**Pn**		**17 33 18.4**	**-2.8**
MJAR	**Matsushiro Arr**	**13.77**	**234**	Pn		**Pn**		**17 33 38.2**	**-2.9**
	comp=Z,0.8nm,0.3s,baz=25,slow=13,SNR=12								
MJAR				LR		LR		17 39 49.1	
	comp=Z,204nm,20.6s,baz=50,slow=41								
MAJO	**Matsushiro**	**13.77**	**234**⇑	*e*P		Pn		17 33 37.9	-3.2
MAJO	**Matsushiro**	**13.77**	**234**⇑	*e*P		Pn		17 33 35.6	-5.5
MAJO				AMB		AMB		17 33 51.0	
	comp=Z,200nm,0.5s								
MAJO	**Matsushiro**	**13.77**	**234**	*e*Pn		Pn		17 33 37.4	-3.7
	comp=Z,14nm,0.6s								
MAT	**Matsushiro**	**13.77**	**234**	P		**Pn**		**17 33 38.2**	**-2.9**
MAT				*e*S		**Sn**		**17 36 09.9**	**-3.0**
MA2	**Magadan**	**14.02**	**357**	*e*P		**Pn**		**17 33 44.9**	**+0.5**
MA2	**Magadan**	**14.02**	**357**	*e*P		**Pn**		**17 33 44.9**	**+0.5**
KLR	**Kul'dur**	**14.18**	**292**	*e*P		**Pn**		**17 33 47.2**	**+0.6**
KLR				MLR		MLR			
	comp=Z,1µm,14.0s								
KLR	**Kul'dur**	**14.18**	**292**	*e*P		**Pn**		**17 33 47.2**	**+0.6**
KLR				AMS		AMS		17 40 21.5	
	comp=Z,1µm,14.0s								
USRK	**Ussuriysk Ar.**	**14.25**	**272**	Pn		**Pn**		**17 33 46.0**	**-1.6**
	comp=Z,1.4nm,0.3s,baz=71,slow=13,SNR=19								
USRK				LR		LR		17 39 15.8	
	comp=Z,405nm,19.8s,baz=71,slow=38								
EKMR	**Ekimchan**	**14.47**	**308**	*e*P		**Pn**		**17 33 51.5**	**+1.0**
EKMR				AMB		AMB		17 33 55.6	
	comp=Z,10.0nm,0.7s								
VLA	**Vladivostok**	**14.60**	**267**⇑	*e*P		**Pn**		**17 33 50.6**	**-1.7**
VLA				pmax		pmax			
	comp=Z,41nm,2.5s								
VLA	**Vladivostok**	**14.60**	**267**⇑	*e*P		**Pn**		**17 33 50.6**	**-1.7**
VLA				AMB		AMB		17 33 52.8	
	comp=Z,40nm,2.5s								
JHJ	**Hachijo jima 2**	**15.61**	**221**	Pn		**Pn**		**17 34 06.4**	**+0.6**
	comp=Z,5.5nm,0.3s,baz=60,slow=20,SNR=6.4								
MDJ	**Mudanjiang**	**15.85**	**274**	P		**Pn**		**17 34 08.3**	**-0.5**
MDJ				S		S		17 37 09.5	-7.6
MDJ				PMZ					
	comp=Z,6.0nm,0.9s								
MDJ				PMZ					
	comp=Z,90nm,6.6s								
MDJ				LN					
	comp=Z,120nm,16.5s								
MDJ				LE					
	comp=Z,180nm,23.2s								
MDJ				LZ					
	comp=Z,300nm,23.2s								
MDJ	**Mudanjiang**	**15.85**	**274**	*e*Pn		**Pn**		**17 34 08.0**	**-0.7**
	comp=Z,9.8nm,0.6s								
BMKR	**Bomnak**	**17.34**	**310**	*e*P		**P**		**17 34 31.0**	**+2.2**
BMKR				AMB		AMB		17 34 33.5	
	comp=Z,10.0nm,0.5s								
YASR	**Yasnyy**	**17.35**	**305**	*e*P		**Pn**		**17 34 26.7**	**-1.0**
YASR				AMB		AMB		17 34 29.1	
	comp=Z,10.0nm,0.8s								
SEY	**Seymchan**	**17.37**	**1**	P		**Pn**		**17 34 26.7**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=176,slow=8.6,SNR=24								
SEY	**Seymchan**	**17.37**	**1**⇑	*e*P		**Pn**		**17 34 26.4**	**-1.5**
SEY	**Seymchan**	**17.37**	**1**⇑	*e*P		**Pn**		**17 34 26.4**	**-1.5**
ZEA	**Zeya**	**17.90**	**306**	*e*P		**P**		**17 34 34.5**	**-0.4**
ZEA				*e*S		**S**		**17 37 58.0**	**-0.8**
ZEA				AMS		AMS		17 41 49.0	
	comp=Z,300nm,16.0s								
ZEA				AMS		AMS		17 41 49.0	
	comp=Z,400nm,16.0s								
KSRS	**Korea Array**	**19.72**	**254**	P		**Pn**		**17 34 55.6**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=54,slow=12,SNR=15								
KSRS				LR		LR		17 41 48.1	
	comp=Z,188nm,21.2s,baz=63,slow=35								
KSRS	**Korea Array**	**19.72**	**254**	P		**Pn**		**17 34 55.6**	**-1.0**
KSRS				pmax		pmax			
	comp=Z,1.0nm,0.3s								
KSRS				MLR		MLR			
	comp=Z,188nm,21.2s								
KSAR	**Wonju Array Be**	**19.75**	**254**	P		**Pn**		**17 34 55.6**	**-1.4**
KSAR	**Wonju Array Be**	**19.75**	**254**	P		**Pn**		**17 34 55.6**	**-1.4**
CBIJ	**Chichi jima**	**20.05**	**206**	P		Pn		17 34 59.6	-1.0
JCJ	**Chichijima**	**20.05**	**206**	P		Pn		17 34 59.6	-1.0
	comp=Z,53nm,1.0s,baz=47,slow=18,SNR=3.2								
JCJ				LR		LR		17 41 16.7	
	comp=Z,77nm,21.2s,baz=266,slow=32								
JNU	**Nakatsue**	**20.46**	**240**	P		Pn		17 35 03.8	-1.7
	comp=Z,6.7nm,1.0s,baz=104,slow=4.2,SNR=3.6								
JNU				LR		LR		17 44 19.4	
	comp=Z,189nm,18.5s,baz=70,slow=41								
TJN	**Taejon**	**20.68**	**252**⇑	*e*P		**P**		**17 35 05.0**	**-0.5**
YAK	**Yakutsk**	**20.90**	**330**	P		**P**		**17 35 06.3**	**-1.3**
	comp=Z,1.4nm,0.4s,baz=130,slow=18,SNR=5.4								
YAK	**Yakutsk**	**20.90**	**330**	*e*P		**P**		**17 35 05.8**	**-1.8**
YAK				*e**PP		**pP**		**17 35 15.6**	**+0.1**
YAK				*e*				17 35 22.5	
YAK				*e*S		**S**		**17 38 52.8**	**-6.0**
YAK				*e**SS		Sn		17 39 03.0	-2.2
YAK				*e*				17 39 19.4	
YAK				*e*SS		SSS		17 39 28.5	
YAK				*e*				17 46 30.3	
YAK				pmax		pmax			
	comp=E,12nm,1.1s								
YAK				pmax		pmax			
	comp=Z,25nm,0.9s								
YAK				pmax		pmax			
	comp=N,13nm,1.0s								
YAK				pmax		pmax			
	comp=Z,29nm,1.0s								
YAK				pmax		pmax			
	comp=N,63nm,2.7s								
YAK				pmax		pmax			
	comp=E,24nm,1.1s								
YAK				smax		smax			
	comp=E,18nm,1.6s								
YAK				smax		smax			
	comp=N,23nm,1.4s								
YAK				MLR		MLR			
	comp=Z,76nm,13.0s								
YAK				MLR		MLR			
	comp=N,69nm,13.0s								
YAK	**Yakutsk**	**20.90**	**330**	*e*P		**P**		**17 35 05.8**	**-1.8**
BILL	**Bilibino**	**23.69**	**13**⇑	*e*P		**P**		**17 35 36.0**	**-0.8**
BILL				pmax		pmax			
	comp=Z,3.0nm,0.5s								
BILL	**Bilibino**	**23.69**	**13**⇑	*e*P		**P**		**17 35 36.0**	**-0.8**
BOD	**Bodaibo**	**26.15**	**312**	*e*P		P		17 35 53.7	-5.6
BOD				pmax		pmax			
	comp=Z,3.0nm,0.9s								
BJT	**Baijiatuao**	**26.72**	**271**	*e*P		**P**		**17 36 06.3**	**+1.7**
BJT				pmax		pmax			
	comp=Z,12nm,0.5s								
BJT	**Baijiatuao**	**26.72**	**271**	*e*P		**P**		**17 36 06.3**	**+1.7**
BJT	**Baijiatuao**	**26.72**	**271**	*e*Pn		**P**		**17 36 06.3**	**+1.7**
	comp=Z,12nm,0.5s								
H11N2	**WAKE ISLAND Hy**	**28.58**	**150**	T		T		18 06 49.2	
	baz=338,slow=75,SNR=2760								
H11N1	**WAKE ISLAND Hy**	**28.60**	**150**	T		T		18 06 50.5	
	baz=338,slow=75,SNR=1794								
H11N3	**WAKE ISLAND Hy**	**28.60**	**150**	T		T		18 06 49.5	
	baz=338,slow=75,SNR=2295								
NJ2	**Nanjing**	**28.92**	**254**	*e*P		**P**		**17 36 25.5**	**+1.2**
NJ2				S		**S**		**17 41 11.0**	**-2.0**
NJ2				PMZ					
	comp=Z,40nm,1.2s								
NJ2				LN					
	comp=Z,210nm,13.5s								
NJ2				LE					
	comp=Z,410nm,13.6s								
NJ2				LZ					
	comp=Z,3µm,15.5s								
HHC	**Hu-ho-hao-te**	**29.61**	**275**	*e*P		**P**		**17 36 31.9**	**+1.3**
HHC				PP		**PnPn**		**17 37 27.8**	**+2.0**
HHC				S		**S**		**17 41 24.8**	**+0.8**
HHC				SS		**SnSn**		**17 42 57.3**	**+3.8**
HHC				ScS		**ScS**		**17 47 10.6**	**+1.5**
HHC				PMZ					
	comp=Z,38nm,1.1s								
HHC				PMZ					
	comp=Z,73nm,5.4s								
HHC				LN					
	comp=Z,190nm,12.9s								
HHC				LE					
	comp=Z,230nm,12.4s								
HHC				LZ					
	comp=Z,250nm,13.3s								
H11S1	**WAKE ISLAND Hy**	**29.65**	**151**	T		T		18 08 08.8	
	baz=339,slow=76,SNR=1960								
H11S3	**WAKE ISLAND Hy**	**29.65**	**151**	T		T		18 08 13.0	
	baz=339,slow=76,SNR=1028								
H11S2	**WAKE ISLAND Hy**	**29.66**	**151**	T		T		18 08 10.1	
	baz=339,slow=76,SNR=1608								
ULN	**Ulaanbaatar**	**30.56**	**291**	*de*P		**P**		**17 36 39.5**	**+0.6**
ULN				pmax		pmax			
	comp=Z,4.0nm,1.7s								
ULN	**Ulaanbaatar**	**30.56**	**291**⇓	*e*P		**P**		**17 36 39.5**	**+0.6**
ULN	**Ulaanbaatar**	**30.56**	**291**	*e*P		**P**		**17 36 38.9**	**-0.1**
	comp=Z,1.3nm,0.5s								
SONM	**Songino Array**	**31.00**	**291**	P		**P**		**17 36 42.1**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=79,slow=7.8,SNR=5.3								
SONM				PcP		**PcP**		**17 39 38.7**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=127,slow=3.8,SNR=2.8								
SONM				LR		LR		17 50 03.5	
	comp=Z,209nm,19.3s,baz=68,slow=38								
IM04	**Indian Mountai**	**35.14**	**35**	*e*P		**P**		**17 37 18.3**	**-0.3**
KDAK	**Kodiak Island**	**35.44**	**50**	P		**P**		**17 37 21.0**	**-0.1**
	comp=Z,5.5nm,0.5s,baz=261,slow=2.0,SNR=5.7								
BPAW	**Bear Paw Mtn.**	**36.14**	**39**	*e*P		**P**		**17 37 27.6**	**+0.4**
	comp=Z,0.9nm,0.8s								
TRF	**Thorofare Moun**	**36.42**	**40**	*e*P		**P**		**17 37 30.0**	**+0.3**
	comp=Z,2.9nm,0.5s								
LZH	**Lanzhou**	**37.16**	**273**	*e*P		**P**		**17 37 36.5**	**+0.2**
LZH				pP		**pP**		**17 37 40.1**	**-4.9**
LZH				PMZ					
	comp=Z,19nm,1.3s								
SML	**Sawmill**	**37.34**	**43**	*e*P		**P**		**17 37 37.2**	**-0.2**
SML				pmax		pmax			
	comp=Z,4.0nm,0.9s								
SML	**Sawmill**	**37.34**	**43**	*e*P		**P**		**17 37 37.2**	**-0.2**
	comp=Z,3.9nm,0.9s								
COLA	**College**	**37.52**	**37**	*d*iP		**P**		**17 37 39.4**	**+0.6**
COLA				pmax		pmax			
	comp=Z,37nm,0.9s								
COLA	**College**	**37.52**	**37**⇓	*i*P		**P**		**17 37 39.4**	**+0.6**
COLA	**College**	**37.52**	**37**	*e*P		**P**		**17 37 39.7**	**+0.9**
	comp=Z,5.2nm,0.6s								
ILAR	**Eielson Array**	**37.94**	**38**	P		**P**		**17 37 42.0**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=260,slow=7.6,SNR=18								
ILAR				LR		LR		17 56 04.8	
	comp=Z,73nm,18.2s,baz=284,slow=41								
ILAR	**Eielson Array**	**37.94**	**38**	P		**P**		**17 37 42.0**	**-0.4**
ILAR	**Eielson Array**	**37.94**	**38**	*e*P		**P**		**17 37 42.0**	**-0.4**
GTA	**Gaotai**	**38.39**	**280**	*e*P		**P**		**17 37 47.3**	**+0.6**
GTA				pP		**pP**		**17 37 55.0**	**-0.4**
GTA				sP		**sP**		**17 37 58.5**	**-0.5**
GTA				PMZ					
	comp=Z,10.0nm,1.0s								
GTA				PMZ					
	comp=Z,39nm,5.2s								
GTA				LN					
	comp=Z,130nm,16.1s								
GTA				LE					
	comp=Z,140nm,13.8s								
GTA				LZ					
	comp=Z,190nm,14.3s								
EGAK	**Eagle**	**40.39**	**37**	*e*P		**P**		**17 38 02.8**	**-0.1**
	comp=Z,7.3nm,1.0s								
ZALV	**Zalesovo Beam**	**42.66**	**306**	P		**P**		**17 38 20.4**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=64,slow=7.5,SNR=2.6								
ZALV				PcP		**PcP**		**17 40 13.0**	**-0.1**
	comp=Z,3.3nm,0.9s,baz=64,slow=3.4,SNR=9.1								
ZALV				LR		LR		17 57 04.2	
	comp=Z,207nm,18.3s,baz=70,slow=38								
INK	**Inuvik**	**43.04**	**32**	P		**P**		**17 38 24.2**	**-0.2**
	comp=Z,3.6nm,0.6s,baz=298,slow=6.1,SNR=10								
INK				LR		LR		17 58 57.0	
	comp=Z,64nm,18.1s,baz=304,slow=40								
INK	**Inuvik**	**43.04**	**32**	P		**P**		**17 38 24.2**	**-0.2**
INK				pmax		pmax			
	comp=Z,4.0nm,0.6s								
INK				MLR		MLR			
	comp=Z,64nm,18.2s								
INK	**Inuvik**	**43.04**	**32**	*e*P		**P**		**17 38 24.6**	**+0.2**
QIZ	**Qiongzhong**	**43.68**	**247**	P		**P**		**17 38 31.8**	**+1.6**
QIZ				sP		**sP**		**17 38 44.4**	**+1.9**
QIZ				S		**S**		**17 45 00.8**	**+2.5**
QIZ				sS		**sS**		**17 45 16.0**	**+3.2**
QIZ				PMZ					
	comp=Z,12nm,2.2s								
QIZ				PMZ					
	comp=Z,49nm,4.3s								
MK31	**Makanchi Array**	**46.79**	**298**	*e*P		**P**		**17 38 53.1**	**-1.5**
MK31	**Makanchi Array**	**46.79**	**298**	*e*P		**P**		**17 38 53.0**	**-1.5**
MKAR	**Makanchi Array**	**46.79**	**298**	P		**P**		**17 38 53.8**	**-0.8**
	comp=Z,1.5nm,0.5s,baz=75,slow=4.7,SNR=16								
MKAR				PcP		**PcP**		**17 40 27.5**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=60,slow=4.8,SNR=4.1								
MKAR				LR		LR		17 59 24.4	
	comp=Z,228nm,18.5s,baz=59,slow=37								
DLBC	**Dease Lake**	**46.96**	**45**	LR		LR		18 03 22.2	
	comp=Z,29nm,18.0s,baz=338,slow=42								
DLBC	**Dease Lake**	**46.96**	**45**	*e*P		**P**		**17 38 58.1**	**+2.3**
	comp=Z,7.9nm,1.0s								
KURK	**Kurchatov**	**47.36**	**304**	*e*P		**P**		**17 38 58.7**	**-0.3**
LSA	**Lhasa**	**49.56**	**273**	P		**P**		**17 39 18.5**	**+1.7**
LSA	**Lhasa**	**49.56**	**273**	*e*P		**P**		**17 39 18.4**	**+1.7**
LSA				pmax		pmax			
	comp=Z,7.0nm,0.6s								
LSA	**Lhasa**	**49.56**	**273**	*e*P		**P**		**17 39 18.4**	**+1.6**
	comp=Z,6.7nm,0.6s								
CHTO	**Chiang Mai**	**51.10**	**257**	*e*P		**P**		**17 39 28.1**	**+0.2**
CHTO				pmax		pmax			
	comp=Z,5.0nm,0.8s								
CHTO	**Chiang Mai**	**51.10**	**257**	*e*P		**P**		**17 39 28.1**	**+0.2**
	comp=Z,5.3nm,0.8s								
CMAR	**Chiang Mai Arr**	**51.34**	**256**	P		**P**		**17 39 30.5**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=40,slow=6.8,SNR=13								
CMAR				LR		LR		18 02 24.2	
	comp=Z,88nm,18.4s,baz=45,slow=37								
YKA	**Yellowknife Ar**	**52.31**	**36**	P		**P**		**17 39 36.9**	**+0.5**
	comp=Z,5.0nm,0.9s,baz=298,slow=7.1,SNR=17								
TAPN	**Taplejung**	**53.39**	**273**	*e*P		**P**		**17 39 45.5**	**+0.3**
	comp=Z,13nm,0.5s								
SPITS	**Spitsbergen Ar**	**53.61**	**350**	LR		LR		18 03 44.8	
	comp=Z,31nm,19.4s,baz=95,slow=37								
ODAN	**Odare**	**53.91**	**273**	*e*P		**P**		**17 39 50.8**	**+1.8**
	comp=Z,8.6nm,0.4s								
EKS2	**Erkin-Say**	**54.09**	**297**	*e*P		**P**		**17 39 49.6**	**-0.3**
EKS2				pmax		pmax			
	comp=Z,3.0nm,0.8s								
EKS2	**Erkin-Say**	**54.09**	**297**	*e*P		**P**		**17 39 49.6**	**-0.3**
	comp=Z,3.3nm,0.8s								
RAMN	**Ramite**	**54.41**	**274**	*e*P		**P**		**17 39 52.7**	**0.0**
	comp=Z,20nm,0.5s								
KKN	**Kakani**	**54.82**	**275**	*e*P		**P**		**17 39 56.2**	**+0.6**
	comp=Z,29nm,0.9s								
PKI	**Pulchoki**	**54.87**	**275**	*e*P		**P**		**17 39 57.4**	**+1.4**
	comp=Z,9.6nm,0.6s								
PKIN	**Phulchoki**	**54.87**	**275**	*e*P		**P**		**17 39 57.6**	**+1.6**
	comp=Z,8.2nm,0.5s								
DMN	**Daman**	**55.05**	**275**	*e*P		**P**		**17 39 59.1**	**+1.8**
	comp=Z,24nm,0.7s								
GKN	**Gorkha**	**55.14**	**276**	*e*P		**P**		**17 39 59.1**	**+1.3**
	comp=Z,16nm,0.5s								
ARU	**Arti**	**55.34**	**318***d*	*i*P		**P**		**17 39 56.8**	**-1.8**
ARU								17 41 58.2	
ARU				S		**S**		**17 47 41.0**	**+0.4**
ARU				SS		**SS**		**17 51 24.5**	**0.0**
ARU				pmax		pmax			
	comp=Z,2.0nm,0.6s								
ARU	**Arti**	**55.34**	**318**⇓	*i*P		**P**		**17 39 56.8**	**-1.8**
KKAR	**Karatay Array**	**55.88**	**299**	*e*P		**P**		**17 40 02.5**	**-0.2**
KKAR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
KKAR	**Karatay Array**	**55.88**	**299**	*e*P		**P**		**17 40 02.5**	**-0.2**
KOLN	**Koldanda**	**56.01**	**276**	*e*P		**P**		**17 40 04.8**	**+0.7**
	comp=Z,18nm,0.8s								
EDM	**Edmonton**	**57.68**	**45**	*e*P		**P**		**17 40 16.0**	**+0.6**
EDM				pmax		pmax			
	comp=Z,51nm,1.2s								
EDM	**Edmonton**	**57.68**	**45**	*e*P		**P**		**17 40 16.0**	**+0.6**
EDM	**Edmonton**	**57.68**	**45**	*e*P		**P**		**17 40 16.0**	**+0.6**
	comp=Z,51nm,1.2s								
PRGR	**Permogore**	**57.92**	**327**	P		P		17 40 12.7	-4.1
PRGR				pmax		pmax			
	comp=Z,6.0nm,0.4s								
ABKAR	**Akbulak array**	**58.57**	**310**	*e*P		**P**		**17 40 19.8**	**-1.8**
	comp=Z,2.6nm,0.4s								
ARCES	**ARCESS Array B**	**58.69**	**341**	P		**P**		**17 40 21.7**	**-0.4**
	comp=Z,3.4nm,1.0s,baz=44,slow=7.

MSU	**Marysvale**	**67.32**	**58**	*e*P	**P**	**17 41 21.4**	**+1.2**
	comp=Z,2.0nm,0.6s							
LDFC	**Landfair**	**67.77**	**62**	*e*P	**P**	**17 41 24.1**	**+1.1**
	comp=Z,8.9nm,0.4s							
SRU	**San Rafael**	**67.90**	**56**	*e*P	**P**	**17 41 24.9**	**+1.1**
SRU				pmax	pmax			
	comp=Z,7.0nm,1.1s							
SRU	**San Rafael**	**67.90**	**56**	*e*P	**P**	**17 41 24.9**	**+1.1**
	comp=Z,8.9nm,1.1s							
ULM	**Lac du Bonnet**	**67.90**	**40**	P	**P**	**17 41 22.8**	**-0.7**
	comp=Z,3.0nm,0.7s,baz=323,slow=11,SNR=3.6							
ULM				LR	LR	18 13 13.6		
	comp=Z,39nm,18.7s,baz=358,slow=38							
NB2	**NORSAR Subarra**	**69.06**	**341**	P	**P**	**17 41 29.5**	**-1.1**
	comp=Z,3.7nm,0.8s,baz=28,slow=6.5							
NOA	**NORSAR Array B**	**69.06**	**341**	P	**P**	**17 41 29.5**	**-1.1**
	comp=Z,2.4nm,0.6s,baz=26,slow=6.5,SNR=12							
NOA				LR	LR	18 16 07.4		
	comp=Z,45nm,19.3s,baz=35,slow=40							
AGMN	**Agassiz Nation**	**69.31**	**41**	*e*P	**P**	**17 41 31.9**	**-0.3**
	comp=Z,8.4nm,1.2s							
SMCO	**Snowmass**	**69.90**	**54**	*e*P	**P**	**17 41 37.5**	**+0.9**
ASAR	**Alice Springs**	**70.87**	**198**	P	**P**	**17 41 43.0**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=12,slow=6.2,SNR=15							
ASAR	**Alice Springs**	**70.87**	**198**	P	**P**	**17 41 43.0**	**+1.0**
ASAR	**Alice Springs**	**70.87**	**198**	*e*P	**P**	**17 41 43.0**	**+1.0**
KIV	**Kislovodsk**	**71.04**	**314**	*i* P	**P**	**17 41 42.9**	**-0.2**
KIV				pmax	pmax			
	comp=Z,11nm,1.0s							
KIV				MLR	MLR			
	comp=Z,72nm,18.0s							
KIV	**Kislovodsk**	**71.04**	**314**	*i* P	**P**	**17 41 42.9**	**-0.2**
KIV	**Kislovodsk**	**71.04**	**314**	*e*P	**P**	**17 41 44.1**	**+1.1**
	comp=Z,8.6nm,0.8s							
KBZ	**Khabaz**	**71.10**	**314**	P	**P**	**17 41 44.0**	**+0.8**
	comp=Z,8.3nm,0.8s,baz=57,slow=4.9,SNR=16							
KBZ				LR	LR	18 17 32.8		
	comp=Z,95nm,18.1s,baz=41,slow=40							
AKASG	**Malin Array Be**	**72.07**	**326**	P	**P**	**17 41 47.7**	**-1.2**
	comp=Z,2.7nm,0.6s,baz=35,slow=6.2,SNR=8.5							
KIEV	**Kiev**	**72.08**	**326**	*de*P	**P**	**17 41 47.5**	**-1.5**
AK02	**Malin Array Si**	**72.11**	**326**	*e*P	**P**	**17 41 48.2**	**-1.0**
ECSD	**EROS Data Cent**	**72.25**	**45**	*e*P	**P**	**17 41 50.2**	**0.0**
121A	**Cookes Peak, D**	**73.98**	**60**	*e*P	**P**	**17 42 01.8**	**+0.9**
	comp=Z,4.1nm,0.9s							
SCHQ	**Schefferville**	**74.67**	**22**	P	**P**	**17 42 04.0**	**-0.3**
	comp=Z,2.3nm,0.6s,baz=357,slow=5.9,SNR=4.6							
SCHQ				LR	LR	18 16 21.7		
	comp=Z,46nm,21.5s,baz=358,slow=37							
BUR08	**Bucovina Ar. S**	**76.10**	**326**	*e*P	**P**	**17 42 12.6**	**-0.2**
BURAR	**Bucovina Array**	**76.12**	**326**	⇓P	**P**	**17 42 12.5**	**-0.3**
BURAR	**Bucovina Array**	**76.12**	**326**	⇓*i*P	**P**	**17 42 12.5**	**-0.3**
TRPA	**Tarpa**	**76.72**	**328**	⇓*i*P	**P**	**17 42 16.7**	**+0.7**
OKC	**Ostrava-Krasne**	**76.84**	**331**	*e*P	**P**	**17 42 16.0**	**-0.7**
OKC	**Ostrava-Krasne**	**76.84**	**331**	*e*P	**P**	**17 42 16.0**	**-0.7**
CFR	**Carcaliu**	**76.90**	**323**	⇑P	**P**	**17 42 17.9**	**+0.8**
CFR	**Carcaliu**	**76.90**	**323**	⇑*i*P	**P**	**17 42 17.9**	**+0.8**
UPC	**Upice**	**76.96**	**333**	*e*P	**P**	**17 42 17.2**	**-0.2**
UPC				*ex*	x	17 42 32.7		
UPC	**Upice**	**76.96**	**333**	*e*P	**P**	**17 42 17.2**	**-0.2**
UPC				*e*		17 42 32.7		
DPC	**Dobruska-Polom**	**77.00**	**333**	*e*P	**P**	**17 42 17.7**	**0.0**
DPC				*ep*P	**pP**	**17 42 25.6**	**-1.4**
DPC				*ex*	x	17 42 33.5		
DPC	**Dobruska-Polom**	**77.00**	**333**	*e*P	**P**	**17 42 17.7**	**0.0**
DPC				*e*		17 42 25.6		
DPC				*e*		17 42 33.5		
MORC	**Moravsky Berou**	**77.09**	**332**	*e*P	**P**	**17 42 17.6**	**-0.6**
MORC				pmax	pmax			
	comp=Z,10.0nm,0.9s							
MORC	**Moravsky Berou**	**77.09**	**332**	⇓*i*P	**P**	**17 42 18.1**	**-0.1**
MORC	**Moravsky Berou**	**77.09**	**332**	*e*P	**P**	**17 42 17.6**	**-0.6**
	comp=Z,9.9nm,0.9s							
CLL	**Collm**	**77.19**	**335**	⇓*i*P	**P**	**17 42 17.8**	**-0.8**
CLL				*i*		17 42 35.1		
CLL				pmax	pmax			
	comp=Z,9.0nm,1.2s							
CLL	**Collm**	**77.19**	**335**	⇓*i*P	**P**	**17 42 17.8**	**-0.8**
CLL	**Collm**	**77.19**	**335**	⇓*i*P	**P**	**17 42 17.8**	**-0.8**
	comp=Z,9.0nm,1.2s							
TIRR	**Tirgusor**	**77.36**	**322**	⇓P	**P**	**17 42 19.9**	**+0.2**
TIRR	**Tirgusor**	**77.36**	**322**	⇓*i*P	**P**	**17 42 19.9**	**+0.2**
MLR	**Muntele Rosu**	**77.56**	**324**	⇓P	**P**	**17 42 21.8**	**+0.8**
MLR	**Muntele Rosu**	**77.56**	**324**	⇓*i*P	**P**	**17 42 21.8**	**+0.8**
STKA	**Stephens Creek**	**77.69**	**189**	P	**P**	**17 42 21.7**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=83,slow=8.1,SNR=2.7							
PSZ	**Piszkesteto**	**77.86**	**329**	⇓*i*P	P	17 42 40.1	+18	
PRU	**Pruhonice**	**77.88**	**333**	*e*P	**P**	**17 42 21.8**	**-0.7**
PRU				*ep*P	**PcP**	**17 42 32.9**	**+0.6**
PRU				*ex*	x	17 42 38.6		
PRU	**Pruhonice**	**77.88**	**333**	*e*P	**P**	**17 42 21.8**	**-0.7**
PRU				*e*		17 42 32.9		
PRU				*e*		17 42 38.6		
PRU	**Pruhonice**	**77.88**	**333**	*e*P	**P**	**17 42 21.8**	**-0.7**
VOIR		**77.96**	**325**	⇓P	**P**	**17 42 23.5**	**+0.3**
VOIR		**77.96**	**325**	⇓*i*P	**P**	**17 42 23.5**	**+0.3**
TREC	**Trest**	**78.18**	**333**	*e*P	**P**	**17 42 23.4**	**-0.9**
TREC	**Trest**	**78.18**	**333**	*e*P	**P**	**17 42 23.4**	**-0.9**
BRTR	**Keskin Array B**	**78.69**	**316**	P	**P**	**17 42 27.4**	**0.0**
	comp=Z,1.1nm,0.8s,baz=88,slow=4.9,SNR=6.2							
BRTR				LR	LR	18 21 36.9		
	comp=Z,36nm,18.7s,baz=70,slow=39							
TXAR	**Lajitas Array**	**78.74**	**60**	P	**P**	**17 42 28.4**	**+0.6**
	comp=Z,3.3nm,0.6s,baz=300,slow=4.2,SNR=43							
GERES	**GERESS Array B**	**79.14**	**333**	P	**P**	**17 42 28.9**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=29,slow=6.1,SNR=9.2							
GERES				LR	LR	18 22 54.4		
	comp=Z,54nm,18.1s,baz=22,slow=40							
CONA	**Conrad Observa**	**79.25**	**332**	⇑*i*P	**P**	**17 42 30.8**	**+0.5**
	comp=Z,1.9nm,0.7s							
VTS	**Vitosha**	**81.06**	**324**	⇓P	**P**	**17 42 40.5**	**+0.3**
VTS	**Vitosha**	**81.06**	**324**	⇓*i*P	**P**	**17 42 40.5**	**+0.3**
WTTA	**Wattenberg**	**81.19**	**334**	⇑*i*P	**P**	**17 42 40.3**	**-0.6**
	comp=Z,5.4nm,0.5s							
PPT2	**Papeete2**	**82.14**	**125**	*e*LR	LR	18 08 48.0		
	comp=Z,90nm,23.2s							
TBI	**Tubuai**	**86.78**	**128**	*e*T	T	19 19 10.9		
	comp=Z,8.8nm,0.3s							
TORD	**Torodi Ar. Bea**	**115.67**	**328**	PKP	**PKPdf**	**17 49 06.7**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=18,slow=1.2,SNR=3.2							
DBIC	**Dimbokro**	**123.99**	**332**	PKP	**PKPdf**	**17 49 25.0**	**+1.3**
	comp=Z,4.7nm,1.0s,baz=352,slow=7.1,SNR=3.9							
DBIC	**Dimbokro**	**123.99**	**332**	PKIKP	**PKPdf**	**17 49 25.0**	**+1.3**
LPAZ	**La Paz**	**135.56**	**62**	PKP	**PKPdf**	**17 49 46.8**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=15,slow=14,SNR=3.6							
BDFB	**Brasilia**	**145.73**	**36**	PKPbc	**PKPbc**	**17 50 03.8**	**-0.4**
	comp=Z,2.0nm,0.4s,baz=318,slow=4.1,SNR=3.6							
CPUP	**Villa Florida**	**149.71**	**61**	PKPbc	**PKPbc**	**17 50 14.6**	**-0.1**
	comp=Z,3.2nm,0.6s,baz=302,slow=1.9,SNR=6.5							

IDC 22 17:37:50.2±3.5,5.61S×149.96E, *h*0km, mb3.5/2, mb1 3.8/3, mb1mx3.4/19, mbtmp3.6/3, ML1.7/1, Error ellipse: s-maj=127.1km s-min=38.2km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.69**	**216**	Pn	Pn	17 39 04.5	+2.2
	2.5nm,0.3s,baz=37,slow=1.1,SNR=12						
PMG				Sn	Sn	17 39 56.2	-1.2
	3.1nm,0.3s,baz=285,slow=22,SNR=2.0						
WRA	**Warramunga Arr**	**20.83**	**225**	P	P	17 42 33.8	+0.1
	2.0nm,0.5s,baz=51,slow=10,SNR=9.9						
ASAR	**Alice Springs**	**23.69**	**219**	P	P	17 43 03.3	-0.7
	0.6nm,0.7s,baz=54,slow=9.6,SNR=9.9						
TORD	**Torodi Ar. Bea**	**147.83**	**286**	PKPbc	PKPbc	17 57 37.6	-0.7
	0.3nm,0.5s,baz=98,slow=2.3,SNR=3.3						

*ISCJB **22** 17:50:55.4±0.6,52.59N±0.08×169.41W±0.09, h10km, mb3.7/5, Error ellipse: s-maj=12.8km s-min=4.5km az=150.0*

*IDC **22** 17:50:55.5±1.0,52.38N×169.40W, h0km, mb3.7/5, mb1 4.0/8, mb1mx3.6/30, mbtmp3.7/8, ML3.6/2, Error ellipse: s-maj=39.5km s-min=19.0km az=158.0*

*NEIC **22** 17:50:56.9,52.62N×169.36W, h14km, ML3.5(AEIC), After AEIC.*

ISC 22 17:50:56.6±0.8,52.7N±0.1×169.38W±0.06, h10km, n32, σ1§01/28, mb3.8/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.46**	**45**	P	**Pg**	**17 51 06.2**	**+0.8**
NIKH				S	**Sb**	**17 51 13.8**	**+0.3**
OKWR	**Okmok West Rim**	**1.06**	**42**	P	**Pg**	**17 51 17.0**	**+0.1**
OKCE	**Okmok Cone E**	**1.07**	**43**	P	**Pb**	**17 51 16.4**	**-0.8**
OKTU	**Okmok Mt. Tuli**	**1.09**	**47**	P	**Pb**	**17 51 17.1**	**-0.5**
OKAK	**Okmok**	**1.12**	**33**	P	**Pb**	**17 51 15.6**	**-2.3**
OKFG	**Magazine Ridge**	**1.17**	**49**	P	**Pb**	**17 51 17.7**	**-1.2**
OKFG				S	**Sb**	**17 51 33.5**	**-0.6**
MSOM	**Makushin Julie**	**1.87**	**50**	P	**Pn**	**17 51 28.1**	**-0.6**
MCIR	**Makushin Cirqu**	**1.98**	**48**	P	**Pn**	**17 51 30.7**	**+0.5**
MSW	**Makushin Switc**	**2.01**	**50**	P	**Pn**	**17 51 30.2**	**-0.4**
MTBL	**Makushin Table**	**2.09**	**50**	P	**Pn**	**17 51 31.5**	**-0.2**
UNV	**Unalaska Valle**	**2.11**	**54**	P	**Pn**	**17 51 31.0**	**-0.8**
UNV				S	**Sn**	**17 51 57.0**	**-1.1**
AKRB	**Akutan Reef Bi**	**2.48**	**52**	P	**Pn**	**17 51 37.6**	**+0.7**
ZRO	**Akutan Zero**	**2.50**	**53**	P	**Pn**	**17 51 37.9**	**+0.6**
AKGG	**Akutan Green G**	**2.56**	**51**	P	**Pn**	**17 51 38.9**	**+0.8**
AKUT	**Akutan**	**2.62**	**54**	*e*P	**Pn**	**17 51 40.4**	**+1.4**
ATKA	**Atka Island**	**2.98**	**263**	P	**Pn**	**17 51 43.8**	**0.0**
ATKA				S	**Sn**	**17 52 18.7**	**-0.8**
SPIA	**Saint Paul Isl**	**4.56**	**354**	P	**Pn**	**17 52 07.4**	**+1.8**
KDAK	**Kodiak Island**	**10.88**	**55**	Pn	Pn	17 53 36.3	+4.2
	0.7nm,0.3s,baz=233,slow=10,SNR=3.9						
ILAR	**Eielson Array**	**16.73**	**35**	Pn	**P**	**17 54 52.9**	**-0.1**
	0.1nm,0.3s,baz=226,slow=11,SNR=3.8						
PETK	**Petropavlovsk-**	**19.78**	**285**	P	**Pn**	**17 55 28.7**	**+0.5**
	baz=67,slow=11,SNR=4.3						
H02S1	**DAWSON INLET T**	**22.10**	**74**	T	T	18 18 44.7		
	SNR=6.0						
H11N2	**WAKE ISLAND Hy**	**37.67**	**218**	T	T	18 38 10.9		
	baz=24,slow=76,SNR=34						
H11N3	**WAKE ISLAND Hy**	**37.67**	**218**	T	T	18 38 11.5		
	baz=24,slow=76,SNR=40						
NVAR	**Mina Array Bea**	**37.68**	**91**	P	**P**	**17 58 14.3**	**+2.2**
	0.2nm,0.4s,baz=285,slow=7.2,SNR=2.1						
H11N1	**WAKE ISLAND Hy**	**37.69**	**218**	T	T	18 38 11.0		
	baz=24,slow=76,SNR=30						
H11S1	**WAKE ISLAND Hy**	**38.86**	**218**	T	T	18 39 40.3		
	baz=23,slow=76,SNR=672						
H11S2	**WAKE ISLAND Hy**	**38.87**	**218**	T	T	18 39 41.4		
	baz=23,slow=76,SNR=549						
H11S3	**WAKE ISLAND Hy**	**38.88**	**218**	T	T	18 39 41.5		
	baz=23,slow=76,SNR=280						
PDAR	**Pinedale Array**	**40.36**	**79**	P	**P**	**17 58 34.5**	**+0.1**
	0.6nm,0.5s,baz=333,slow=5.0,SNR=5.3						
TXAR	**Lajitas Array**	**52.75**	**89**	P	**P**	**18 00 12.0**	**+0.4**
	1.0nm,0.6s,baz=293,slow=4.8,SNR=8.7						
WRA	**Warramunga Arr**	**87.17**	**232**	P	**P**	**18 03 41.5**	**-1.2**
	0.3nm,0.6s,baz=35,slow=5.9,SNR=4.2						
ASAR	**Alice Springs**	**90.57**	**230**	P	**P**	**18 03 58.4**	**-0.3**
	0.7nm,0.6s,baz=31,slow=4.7,SNR=16						

IDC 22 18:03:29.8±1.4,2.54N×126.26E, *h*0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/33, mbtmp3.6/5, ML3.9/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/28, Error ellipse: s-maj=63.9km s-min=21.3km az=57.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.04**	**124**	Pn	Pn	18 05 00.9	+0.4
	2.7nm,0.3s,baz=160,slow=23,SNR=16						
SIJI				Sn	Sn	18 06 09.6	-1.0
	0.3nm,0.3s,baz=172,slow=20,SNR=1.5						
WRA	**Warramunga Arr**	**23.71**	**161**	P	P	18 08 43.7	+0.1
	1.7nm,0.4s,baz=339,slow=11,SNR=17						
ASAR	**Alice Springs**	**27.09**	**164**	P	P	18 09 15.0	+0.5
	0.4nm,0.8s,baz=344,slow=11,SNR=9.8						
PSI	**Prapat**	**27.30**	**271**	LR	LR	18 20 33.5		
	comp=Z,55nm,18.5s,baz=78,slow=38						
STKA	**Stephens Creek**	**37.20**	**158**	P	P	18 10 42.5	-0.4
	0.7nm,0.4s,baz=349,slow=9.5,SNR=3.7						
MKAR	**Makanchi Array**	**58.26**	**326**	P	P	18 13 26.0	-0.3
	0.1nm,0.3s,baz=112,slow=6.6,SNR=2.5						

*IDC **22** 18:05:22.1±2.2, 43.46N×105.32W, h0km, mb4.2/1, mb1 4.0/4, mb1mx3.5/28, mbtmp3.8/4, ML3.5/3, MS3.5/1, Ms1 3.5/1, ms1mx2.4/34, Error ellipse: s-maj=47.8km s-min=8.2km az=151.0*

*ISCJB **22** 18:05:23.6±0.2, 43.68N±0.02×105.34W±0.02, h0km, mb4.4/1, MS3.5/1, Error ellipse: s-maj=2.7km s-min=2.5km az=11.5*

*NEIC **22** 18:05:23.9±0.3, 43.73N×105.25W, h0km, ML3.1(AEIC), Error ellipse: s-maj=6.0km s-min=4.5km az=146.0, Suspected Mining explosion.*

NEIC 65 km [40 miles] SSE of Gillette.

ISC 22 18:05:23.6±0.7, 43.68N±0.02×105.32W±0.02, h0km, n88, σ0§97/93, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I23A	**Meade Ranch, G**	**0.30**	**339**	P	**Pg**	**18 05 30.8**	**+1.4**
	baz=0.3,SNR=53						
J23A	**Dilts Ranch, B**	**0.32**	**212**	P	**Pb**	**18 05 31.1**	**-1.3**
	baz=0.4,SNR=470						
I24A	**Kuemmerle Ranc**	**0.53**	**70**	P	**Pg**	**18 05 34.8**	**+1.0**
	baz=0.5,SNR=606						
J24A	**Dixon Ranch, L**	**0.59**	**126**	P	**Pb**	**18 05 35.7**	**-1.2**
	baz=0.6,SNR=126						
J24A				S	**Sb**	**18 05 45.0**	**-0.8**
	baz=0.6						
I22A	**9 Mile Ranch,**	**0.87**	**285**	P	**Pg**	**18 05 40.8**	**+0.5**
	baz=0.9,SNR=348						
J22A	**Midwest**	**0.89**	**253**	P	**Pg**	**18 05 40.8**	**+0.2**
	baz=0.9,SNR=230						
J22A				S	**Sg**	**18 05 53.4**	**+1.3**
	baz=0.9						
H23A	**Clabaugh Cattl**	**0.89**	**356**	P	**Pg**	**18 05 40.8**	**+0.2**
	baz=0.8,SNR=49						
K23A	**Bowen Ranch, D**	**0.95**	**194**	P	**Pb**	**18 05 42.3**	**-0.7**
	baz=1.0,SNR=27						
K24A	**Anderson Ranch**	**1.02**	**159**	P	**Pb**	**18 05 44.2**	**-0.1**
	baz=1.1,SNR=20						
RSSD	**Black Hills**	**1.03**	**64**	*e*Pn	**Pg**	**18 05 43.3**	**0.0**
J25A	**Sunshine Ranch**	**1.14**	**104**	P	**Pb**	**18 05 45.6**	**-0.6**
	baz=1.1,SNR=211						
H22A	**Clawmont**	**1.18**	**321**	P	**Pg**	**18 05 46.5**	**+0.3**
	baz=1.2,SNR=114						
H24A	**Dirks Ranch, A**	**1.20**	**27**	P	**Pg**	**18 05 46.2**	**-0.5**
	baz=1.1,SNR=231						
K22A	**Casper**	**1.35**	**221**	P	**Pg**	**18 05 49.2**	**-0.3**
	baz=1.4						
K22A	**Casper**	**1.35**	**221**	*e*Pn	**Pg**	**18 05 48.8**	**-0.8**
I21A	**Big Trails, Te**	**1.44**	**276**	P	**Pn**	**18 05 50.3**	**-0.9**
	baz=1.5						
K25A	**Mack Ranch, Ha**	**1.50**	**135**	P	**Pb**	**18 05 52.6**	**+0.2**
	baz=1.5,SNR=27						
G23A	**Biddle**	**1.52**	**358**	P	**Pn**	**18 05 51.9**	**-0.3**
	baz=1.5,SNR=128						
H25A	**Fruitdale**	**1.56**	**52**	P	**Pn**	**18 05 52.9**	**+0.3**
	baz=1.5,SNR=33						
H21A	**Big Horn, Sher**	**1.56**	**308**	P	**Pn**	**18 05 53.1**	**+0.3**
	baz=1.6,SNR=204						
J21A	**Lysite**	**1.58**	**259**	P	**Pn**	**18 05 52.9**	**-0.3**
	baz=1.6,SNR=93						
J26A	**Sides Ranch, S**	**1.67**	**102**	P	**Pg**	**18 05 55.1**	**-0.5**
	baz=1.6,SNR=133						
J26A				S	**Sg**	**18 06 18.4**	**+1.1**
	baz=1.6						
G22A	**Birney**	**1.69**	**336**	P	**Pn**	**18 05 55.0**	**+0.5**
	baz=1.7,SNR=112						
G24A	**Alzada**	**1.77**	**21**	P	**Pn**	**18 05 56.3**	**+0.7**
	baz=1.7,SNR=37						
I26A	**New Underwood**	**1.81**	**78**	P	**Pb**	**18 05 57.3**	**-0.4**
	baz=1.8,SNR=59						
L25A	**Engebretsen Ra**	**1.82**	**146**	P	**Pg**	**18 05 57.9**	**-0.5**
	baz=1.8,SNR=23						
K26A	**Motz Farm, Whi**	**1.84**	**121**	P	**Pb**	**18 05 58.0**	**-0.3**
	baz=1.8						
G25A	**Newell**	**2.04**	**41**	P	**Pn**	**18 06 00.6**	**+1.3**
	baz=2.0,SNR=68						
J20A	**Shoshoni**	**2.04**	**262**	Pb	**Pb**	**18 06 01.7**	**+0.1**
	baz=2.1						
F23A	**Volborg**	**2.04**	**358**	P	**Pn**	**18 06 00.0**	**+0.7**
	baz=2.0,SNR=161						
F23A				S	**Sn**	**18 06 27.5**	**+1.8**
	baz=2.0						
I20A	**Worland**	**2.05**	**279**	P	**Pn**	**18 06 00.7**	**+1.1**
	baz=2.1,SNR=419						
G21A	**Lodge Grass**	**2.06**	**319**	P	**Pn**	**18 06 00.2**	**+0.6**
	baz=2.0,SNR=65						
H26A	**Fairpoint**	**2.06**	**62**	Pb	**Pb**	**18 06 01.8**	**-0.1**
	baz=2.0						
H20A	**Greybull**	**2.10**	**294**	P	**Pn**	**18 06 00.5**	**+0.4**
	baz=2.1,SNR=28						
H20A				S	**Sn**	**18 06 28.1**	**+1.2**
	baz=2.1						
F22A	**Rosebud**	**2.21**	**343**	P	**Pn**	**18 06 02.1**	**+0.5**
	baz=2.2,SNR=59						
F24A	**Ekalaka**	**2.25**	**16**	Sb	**Sg**	**18 06 36.0**	**-0.1**
	baz=2.2						
PHWY	**Pilot Hill**	**2.38**	**183**	*e*Pn	**Pn**	**18 06 05.2**	**+1.0**
F21A	**Absaloka Mine,**	**2.50**	**330**	P	**Pn**	**18 06 05.8**	**+0.2**
	baz=2.5						
G26A	**Maurine**	**2.53**	**49**	P	**Pn**	**18 06 07.5**	**+1.5**
	baz=2.5,SNR=17						
G20A	**Bridger**	**2.59**	**308**	P	**Pn**	**18 06 07.0**	**+0.1**
	baz=2.6,SNR=154						
I19A	**Meeteetse**	**2.69**	**279**	P	**Pn**	**18 06 09.6**	**+1.3**
	baz=2.7,SNR=42						
E22A	**Miles City**	**2.80**	**351**	P	**Pn**	**18 06 09.5**	**-0.2**
	baz=2.8,SNR=9.7						
N23A	**Red Feather La**	**2.82**	**190**	P	**Pn**	**18 06 11.9**	**+1.7**
	baz=2.9,SNR=25						
E23A	**Ismay**	**2.82**	**0**	P	**Pn**	**18 06 10.3**	**+0.3**
	baz=2.8,SNR=8.2						
H19A	**Powell**	**2.82**	**292**	P	**Pn**	**18 06 11.0**	**+0.9**
	baz=2.8,SNR=61						
F20A	**Billings**	**2.93**	**317**	P	**Pn**	**18 06 11.6**	**+0.1**
	baz=2.9,SNR=26						
G27A	**Dupree**	**2.96**	**54**	P	**Pn**	**18 06 13.0**	**+1.1**
	baz=2.9,SNR=25						
E24A	**Baker**	**2.97**	**14**	P	**Pn**	**18 06 13.3**	**+1.2**
	baz=2.9,SNR=26						
LAO	**LASA Array**	**3.08**	**348**	P	**Pn**	**18 06 13.4**	**-0.2**
	baz=3.0,SNR=19						
LAO	**LASA Array**	**3.08**	**348**	*e*Pn	**Pn**	**18 06 14.1**	**+0.5**
E21A	**Keefer Ranch,**	**3.12**	**337**	P	**Pn**	**18 06 13.4**	**-0.8**
	baz=3.1,SNR=13						
RLMT	**Red Lodge**	**3.18**	**298**	P	**Pn**	**18 06 16.0**	**+0.9**
	baz=3.2,SNR=28						
RLMT	**Red Lodge**	**3.18**	**298**	*e*Pn	**Pn**	**18 06 15.9**	**+0.9**
BW06	**Boulder Array**	**3.23**	**255**	*e*Pn	**Pn**	**18 06 16.9**	**+1.1**
PDAR	**Pinedale Array**	**3.23**	**255**	Pn	**Pn**	**18 06 16.8**	**+1.0**
	3.8nm,0.3s,baz=73,slow=15,SNR=53						
PDAR				Lg	Lg	18 07 01.7		
	19nm,0.3s,baz=76,slow=30,SNR=6.2						
N27A	**Anderson Farm,**	**3.53**	**143**	P	**Pn**	**18 06 21.2**	**+1.3**
	baz=3.5,SNR=22						
OGNE	**Ogallala**	**3.66**	**137**	P	**Pn**	**18 06 23.1**	**+1.6**
	baz=3.7,SNR=8.6						
OGNE	**Ogallala**	**3.66**	**137**	*e*Pn	**Pn**	**18 06 23.1**	**+1.6**
M28A	**Bar X Bar Ranc**	**3.70**	**127**	P	**Pn**	**18 06 23.5**	**+1.4**
	baz=3.7,SNR=6.5						
GCMT	**Greycliff**	**3.75**	**306**	*e*Pn	**Pn**	**18 06 23.6**	**+0.7**
ISCO	**Idaho Springs**	**3.88**	**183**	*e*Pn	**Pn**	**18 06 26.7**	**+1.9**
C24A	**Savage**	**3.90**	**9**	P	**Pn**	**18 06 26.1**	**+1.2**
	baz=3.8,SNR=14						
D26A	**Manning**	**3.92**	**30**	P	**Pn**	**18 06 26.1**	**+1.0**
	baz=3.8,SNR=28						
REDW	**Red Top Meadow**	**4.04**	**267**	*e*Pn	**Pn**	**18 06 28.5**	**+1.6**
TPAW	**Teton Pass**	**4.10**	**269**	*e*Pn	**Pn**	**18 06 29.0**	**+1.2**
E28A	**Huff**	**4.37**	**47**	P	**Pn**	**18 06 32.1**	**+0.8**
	baz=4.3,SNR=11						
P27A	**Ficken Ranch,**	**4.60**	**153**	P	**Pn**	**18 06 35.5**	**+1.0**
	baz=4.6,SNR=6.2						
C26A	**Wahner Farm, P**	**4.72**	**27**	P	**Pn**	**18 06 37.1**	**+1.0**
	baz=4.6,SNR=16						
B25A	**Knox Farm, Ray**	**4.83**	**17**	P	**Pn**	**18 06 39.0**	**+1.4**
	baz=4.8,SNR=8.3						
P28A	**Saint Francis**	**4.89**	**146**	P	**Pn**	**18 06 39.3**	**+0.8**
	baz=4.9,SNR=6.3						
BOZ	**Bozeman (W)**	**4.92**	**296**	P	**Pn**	**18 06 39.0**	**+0.2**
	baz=4.9,SNR=6.3						
BOZ	**Bozeman (W)**	**4.92**	**296**	*e*Pn	**Pn**	**18 06 38.6**	**-0.2**
HWUT	**Hardware Ranch**	**5.05**	**248**	*e*Pn	**Pn**	**18 06 41.9**	**+1.0**

DIDY	**Didya**	**1.64**	**6**	*e*PB	**Pb**	**18 07 18.6**	**-0.3**
DIDY				*e*SB	**Sg**	**18 07 40.9**	**+0.2**
DIDY	**Didya**	**1.64**	**6**	P	**Pn**	**18 07 17.1**	**-0.6**
DIDY	**Didya**	**1.64**	**6**	*e*Pb	**Pb**	**18 07 18.6**	**-0.3**
DIDY				S	**Sn**	**18 07 39.3**	**0.0**
DIDY				*e*Sb	**Sg**	**18 07 40.9**	**+0.2**
DIDY	**Didya**	**1.64**	**6**	P	**Pn**	**18 07 17.1**	**-0.6**
DIDY				S	**Sn**	**18 07 39.3**	**0.0**
IDI	**Anoyia**	**1.65**	**109**	*e*PB	**Pg**	**18 07 19.5**	**-0.3**
IDI	**Anoyia**	**1.65**	**109**	P	**Pn**	**18 07 18.1**	**+0.2**
IDI	**Anoyia**	**1.65**	**109**	*e*Pb	**Pg**	**18 07 19.5**	**-0.3**
IDI	**Anoyia**	**1.65**	**109**	P	**Pn**	**18 07 18.1**	**+0.2**
DID	**Didima**	**1.67**	**7**	*e*PG	**Pb**	**18 07 18.8**	**-0.6**
DID	**Didima**	**1.67**	**7**	P	**Pn**	**18 07 17.3**	**-0.8**
DID	**Didima**	**1.67**	**7**	*e*Pg	**Pb**	**18 07 18.8**	**-0.6**
DID				S	**Sb**	**18 07 40.6**	**-0.2**
DID	**Didima**	**1.67**	**7**	P	**Pn**	**18 07 17.3**	**-0.8**
DID				S	**Sb**	**18 07 40.6**	**-0.2**
SIVA	**Sivas**	**1.71**	**118**	*e*PN	**Pg**	**18 07 20.5**	**-0.3**
SIVA	**Sivas**	**1.71**	**118**	*e*Pn	**Pg**	**18 07 20.5**	**-0.3**
AMT	**Artemida-Makis**	**1.97**	**329**	*e*PN	**Pb**	**18 07 24.3**	**-0.2**
AMT	**Artemida-Makis**	**1.97**	**329**	P	**Pn**	**18 07 22.7**	**+0.5**
AMT	**Artemida-Makis**	**1.97**	**329**	*e*Pn	**Pb**	**18 07 24.3**	**-0.2**
AMT	**Artemida-Makis**	**1.97**	**329**	P	**Pn**	**18 07 22.7**	**+0.5**
THR5	**Thira Island,**	**2.00**	**73**	P	**Pn**	**18 07 22.4**	**-0.2**
THR5	**Thira Island,**	**2.00**	**73**	P	**Pn**	**18 07 22.4**	**-0.2**
THR6	**Thira Island,**	**2.02**	**75**	P	**Pn**	**18 07 22.4**	**-0.5**
THR6	**Thira Island,**	**2.02**	**75**	P	**Pn**	**18 07 22.4**	**-0.5**
THR3	**Thira Island,**	**2.04**	**73**	P	**Pn**	**18 07 23.3**	**+0.2**
THR3	**Thira Island,**	**2.04**	**73**	P	**Pn**	**18 07 23.3**	**+0.2**
ACOR	**Acrocorinthos**	**2.04**	**358**	P	**Pn**	**18 07 23.2**	**0.0**
ACOR				S	**Sb**	**18 07 50.4**	**-1.1**
SANT	**Santorini**	**2.07**	**75**	*e*PG	**Pb**	**18 07 26.3**	**0.0**
SANT	**Santorini**	**2.07**	**75**	*e*Pg	**Pb**	**18 07 26.3**	**0.0**
GUR	**Goura**	**2.15**	**346**	*e*PG	**Pb**	**18 07 27.5**	**-0.1**
GUR				*e*SN	**Sb**	**18 07 55.0**	**+0.4**
GUR	**Goura**	**2.15**	**346**	P	**Pn**	**18 07 24.6**	**-0.2**
GUR	**Goura**	**2.15**	**346**	*e*Pg	**Pb**	**18 07 27.5**	**-0.1**
GUR				S	**Sb**	**18 07 53.5**	**-1.1**
GUR				*e*Sn	**Sb**	**18 07 55.0**	**+0.4**
GUR	**Goura**	**2.15**	**346**	P	**Pn**	**18 07 24.6**	**-0.2**
GUR				S	**Sb**	**18 07 53.5**	**-1.1**
LAST	**Lasithi**	**2.15**	**108**	*e*PN	**Pb**	**18 07 26.4**	**-1.2**
LAST	**Lasithi**	**2.15**	**108**	P	**Pn**	**18 07 24.6**	**-0.1**
LAST	**Lasithi**	**2.15**	**108**	*e*Pn	**Pb**	**18 07 26.4**	**-1.2**
LAST				S	**Sn**	**18 07 52.3**	**+0.4**
LAST	**Lasithi**	**2.15**	**108**	P	**Pn**	**18 07 24.6**	**-0.1**
LAST				S	**Sn**	**18 07 52.3**	**+0.4**
LTK	**Loutraki**	**2.17**	**360**	*e*PN	**Pb**	**18 07 26.5**	**-1.5**
LTK				*e*SN	**Sb**	**18 07 56.3**	**+1.0**
LTK	**Loutraki**	**2.17**	**360**	P	**Pn**	**18 07 24.7**	**-0.3**
LTK	**Loutraki**	**2.17**	**360**	*e*Pn	**Pb**	**18 07 26.5**	**-1.5**
LTK				*e*Sn	**Sb**	**18 07 56.3**	**+1.0**
LTK	**Loutraki**	**2.17**	**360**	P	**Pn**	**18 07 24.7**	**-0.3**
THAL	**Thalero**	**2.20**	**353**	*e*PN	**Pb**	**18 07 27.5**	**-0.9**
THAL				*e*SN	**Sb**	**18 07 56.3**	**+0.2**
THAL	**Thalero**	**2.20**	**353**	*e*Pn	**Pb**	**18 07 27.5**	**-0.9**
THAL				*e*Sn	**Sb**	**18 07 56.3**	**+0.2**
NPS	**Neapolis**	**2.22**	**104**	*e*PN	**Pb**	**18 07 27.2**	**-1.6**
NPS				*e*SN	**Sb**	**18 07 57.0**	**+0.3**
NPS	**Neapolis**	**2.22**	**104**	P	**Pn**	**18 07 26.1**	**+0.4**
NPS	**Neapolis**	**2.22**	**104**	*e*Pn	**Pb**	**18 07 27.2**	**-1.6**
NPS				*e*Sn	**Sb**	**18 07 57.0**	**+0.3**
NPS	**Neapolis**	**2.22**	**104**	P	**Pn**	**18 07 26.1**	**+0.4**
KLV	**Kalavryta, Ach**	**2.29**	**343**	*e*PN	**Pb**	**18 07 29.1**	**-0.9**
KLV				*e*SN	**Sb**	**18 07 59.3**	**+0.6**
KLV	**Kalavryta, Ach**	**2.29**	**343**	*e*Pn	**Pb**	**18 07 29.1**	**-0.9**
KLV				*e*Sn	**Sb**	**18 07 59.3**	**+0.6**
VILL	**Villia**	**2.33**	**6**	*e*Pn	**Pb**	**18 07 29.2**	**-1.4**
DRO	**Drossia**	**2.34**	**335**	*e*PN	**Pb**	**18 07 29.7**	**-1.1**
DRO	**Drossia**	**2.34**	**335**	*e*Pn	**Pb**	**18 07 29.7**	**-1.1**
VIL2	**Platees**	**2.37**	**5**	*e*PN	**Pb**	**18 07 29.2**	**-2.2**
RLS	**Riolos of Patr**	**2.52**	**332**	*e*PN	**Pb**	**18 07 32.5**	**-1.3**
RLS	**Riolos of Patr**	**2.52**	**332**	*e*Pn	**Pb**	**18 07 32.5**	**-1.3**
LAKA	**Lakka**	**2.52**	**342**	*e*PN	**Pb**	**18 07 33.0**	**-0.9**
LAKA	**Lakka**	**2.52**	**342**	P	**Pn**	**18 07 30.1**	**+0.3**
LAKA	**Lakka**	**2.52**	**342**	*e*Pn	**Pb**	**18 07 33.0**	**-0.9**
LAKA				S	**Sn**	**18 08 01.8**	**+0.8**
LAKA	**Lakka**	**2.52**	**342**	P	**Pn**	**18 07 30.1**	**+0.3**
LAKA				S	**Sn**	**18 08 01.8**	**+0.8**
DSF	**Desfina**	**2.59**	**352**	*e*PN	**Pb**	**18 07 32.8**	**-2.2**
DSF	**Desfina**	**2.59**	**352**	P	**Pn**	**18 07 30.6**	**-0.1**
DSF	**Desfina**	**2.59**	**352**	*e*Pn	**Pb**	**18 07 32.8**	**-2.2**
DSF	**Desfina**	**2.59**	**352**	P	**Pn**	**18 07 30.6**	**-0.1**
DESF	**Desfina**	**2.59**	**352**	*e*PN	**Pb**	**18 07 33.3**	**-1.8**
DESF	**Desfina**	**2.59**	**352**	*e*Pn	**Pb**	**18 07 33.3**	**-1.8**
KALE	**Kalithea**	**2.63**	**345**	*e*PN	**Pb**	**18 07 33.8**	**-2.0**
KALE	**Kalithea**	**2.63**	**345**	*e*Pn	**Pb**	**18 07 33.8**	**-2.0**
EFP	**Efpalio**	**2.72**	**342**	*e*PB	**Pn**	**18 07 33.9**	**+1.4**
EFP	**Efpalio**	**2.72**	**342**	*e*Pb	**Pn**	**18 07 33.9**	**+1.4**
AXAR	**Agios Charalam**	**2.93**	**355**	*e*PN	**Pb**	**18 07 38.0**	**-2.8**
AXAR	**Agios Charalam**	**2.93**	**355**	*e*Pn	**Pb**	**18 07 38.0**	**-2.8**
SMIA	**Simia**	**3.03**	**3**	*e*PB	**Pn**	**18 07 38.7**	**+1.8**
SMIA	**Simia**	**3.03**	**3**	*e*Pb	**Pn**	**18 07 38.7**	**+1.8**
PDO	**Prodromos**	**3.10**	**333**	*e*PN	**Pn**	**18 07 40.2**	**+2.5**
PDO	**Prodromos**	**3.10**	**333**	*e*Pn	**Pn**	**18 07 40.2**	**+2.5**
AGG	**Agios Georgios**	**3.21**	**351**	*e*PB	**Pn**	**18 07 41.7**	**+2.4**
AGG	**Agios Georgios**	**3.21**	**351**	*e*Pb	**Pn**	**18 07 41.7**	**+2.4**
MAKR	**Makrakomi, Fth**	**3.23**	**348**	*e*PB	**Pn**	**18 07 42.0**	**+2.4**
MAKR	**Makrakomi, Fth**	**3.23**	**348**	*e*Pb	**Pn**	**18 07 42.0**	**+2.4**
KARP	**Karpathos**	**3.42**	**94**	*e*PB	Pn	18 07 45.2	+3.1
KARP	**Karpathos**	**3.42**	**94**	*e*Pb	Pn	18 07 45.2	+3.1
XOR	**Xorichti**	**3.52**	**3**	*e*PN	**Pn**	**18 07 45.8**	**+2.3**
XOR	**Xorichti**	**3.52**	**3**	*e*Pn	**Pn**	**18 07 45.8**	**+2.3**

*IDC **22** 18:10:54.6±0.6, 11°.35N×141°.57E, h0km, mb4.3/21, mb1 4.4/24, mb1mx4.3/34, mbtmp4.4/24, ML4.4/3, MS3.4/20, Ms1 3.4/20, ms1mx3.3/30, Error ellipse: s-maj=19.2km s-min=11.6km az=95.0*
*ISCJB **22** 18:10:56.7±0.3, 11°.32N±0°.05×141°.60E±0°.06, h27km, mb4.3/31, MS3.4/16, Error ellipse: s-maj=9.2km s-min=5.9km az=26.2*
*NEIC **22** 18:11:01.0±1.1, 11°.30N×141°.61E, h48km±11km, mb4.4/12, Error ellipse: s-maj=10.7km s-min=6.5km az=100.0*

ISC 22 18:10:58.7±0.5, 11°33N±0°.07×141°54E±0°.09, h27km, n49, σ0s95/47, mb4.5/31, MS3.4/16, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
GUMO	**Guam**	**3.96**	**55**	Pn		**Pn**	**18 11 58.1**	**+0.4**
	45nm,0.3s,baz=164,slow=23,SNR=31							
GUMO				Sn		**Sn**	**18 12 42.6**	**-0.6**
	62nm,0.3s,baz=21,slow=23,SNR=5.9							
GUMO				LR		LR	18 13 28.0	
	comp=Z,285nm,18.6s,baz=224,slow=39							
JAY	**Jayapura**	**13.78**	**183**	Pn		**Pn**	**18 14 13.7**	**+1.2**
	3.0nm,0.3s,baz=315,slow=3.5,SNR=14							
JAY				LR		LR	18 18 25.3	
	comp=Z,232nm,19.6s,baz=2.5,slow=33							
CBIJ	**Chichi jima**	**15.70**	**2**	Pn		**P**	**18 14 41.7**	**-0.2**
JCJ	**Chichijima**	**15.70**	**2**	Pn		**P**	**18 14 41.7**	**-0.2**
	3.6nm,0.3s,baz=123,slow=23,SNR=5.8							
JCJ				LR		LR	18 19 55.0	
	comp=Z,52nm,18.8s,baz=129,slow=34							
SIJI	**Sorong**	**15.85**	**221**	Pn		**P**	**18 14 41.8**	**-1.8**
	0.5nm,0.3s,baz=52,slow=17,SNR=3.7							
SIJI				LR		LR	18 20 07.9	
	comp=Z,241nm,18.1s,baz=38,slow=35							
TGY	**Tagaytay City**	**20.28**	**280**	P		Pn	18 15 35.1	+0.4
	47nm,0.2s,baz=227,slow=5.2,SNR=4.6							
PMG	**Port Moresby**	**21.34**	**165**	P		**P**	**18 15 43.6**	**-0.4**
	50nm,1.2s,baz=167,slow=13,SNR=5.9							
PMG				LR		LR	18 23 42.5	
	comp=Z,143nm,18.7s,baz=314,slow=36							
JHJ2	**Mitsune**	**21.74**	**356**	*e*P		**P**	**18 15 47.3**	**-0.7**
JHJ	**Hachijo jima 2**	**21.75**	**356**	P		**P**	**18 15 47.5**	**-0.6**
	28nm,0.3s,baz=65,slow=20,SNR=9.2							
JNU	**Nakatsue**	**23.79**	**337**	P		**P**	**18 16 10.2**	**+0.8**
	8.6nm,0.7s,baz=290,slow=1.1,SNR=6.4							
JNU				LR		LR	18 24 00.8	
	comp=Z,79nm,21.0s,baz=132,slow=33							
JNU	**Nakatsue**	**23.79**	**337**	*e*P		**P**	**18 16 09.5**	**+0.2**
	8.1nm,1.3s							
MJAR	**Matsushiro Arr**	**25.28**	**354**	P		**P**	**18 16 21.6**	**-1.3**
	3.0nm,0.7s,baz=176,slow=11,SNR=16							
MJAR				LR		LR	18 25 42.5	
	comp=Z,34nm,19.9s,baz=160,slow=35							
MAJO	**Matsushiro**	**25.28**	**354**	*e*P		**P**	**18 16 22.0**	**-1.0**
	6.2nm,0.6s							
MAT	**Matsushiro**	**25.28**	**354**	P		**P**	**18 16 21.3**	**-1.6**

HNR	**Honiara**	**27.58**	**138**	LR		LR	18 26 31.2	
	comp=Z,49nm,19.1s,baz=268,slow=34							
KSRS	**Korea Array**	**28.75**	**337**	LR		LR	18 26 54.1	
	comp=Z,83nm,21.8s,baz=166,slow=33							
WRAB	**Tennant Creek**	**31.86**	**193**	*e*P		**P**	**18 17 20.6**	**-1.1**
	4.2nm,0.4s							
WRA	**Warramunga Arr**	**31.87**	**193**	P		**P**	**18 17 21.1**	**-0.7**
	5.1nm,0.5s,baz=14,slow=9.7,SNR=46							
USRK	**Ussuriysk Ar.**	**33.77**	**348**	P		**P**	**18 17 38.8**	**+0.5**
	6.0nm,0.7s,baz=167,slow=8.8,SNR=18							
AS31	**Alice Springs**	**35.57**	**192**	*e*P		**P**	**18 17 53.5**	**-0.5**
ASAR	**Alice Springs**	**35.57**	**192**	P		**P**	**18 17 53.8**	**-0.3**
	2.8nm,0.5s,baz=23,slow=12,SNR=93							
ASAR				PcP		**PcP**	**18 20 23.8**	**+1.0**
	0.6nm,0.7s,baz=47,slow=2.2,SNR=5.1							
ASAR				LR		LR	18 33 27.2	
	comp=Z,67nm,18.7s,baz=339,slow=38							
CM31	**Chiang Mai Arr**	**41.69**	**285**	*e*P		**P**	**18 18 46.9**	**+1.3**
	2.4nm,0.6s							
CMAR	**Chiang Mai Arr**	**41.69**	**285**	P		**P**	**18 18 47.2**	**+1.7**
	4.2nm,0.9s,baz=90,slow=6.7,SNR=25							
CMAR				LR		LR	18 35 34.9	
	comp=Z,26nm,19.6s,baz=240,slow=36							
STKA	**Stephens Creek**	**42.96**	**180**	P		**P**	**18 18 54.9**	**-0.7**
	2.1nm,0.7s,baz=9.4,slow=6.2,SNR=6.2							
STKA				LR		LR	18 37 22.8	
	comp=Z,152nm,18.4s,baz=25,slow=37							
PSI	**Prapat**	**43.08**	**262**	P		**P**	**18 18 57.0**	**0.0**
	10nm,0.7s,baz=48,slow=8.4,SNR=5.6							
PETK	**Petropavlovsk-**	**43.64**	**14**	P		**P**	**18 19 02.3**	**+1.4**
	1.5nm,0.5s,baz=224,slow=6.0,SNR=3.6							
PETK				LR		LR	18 35 44.0	
	comp=Z,29nm,20.6s,baz=192,slow=34							
SONM	**Songino Array**	**46.80**	**328**	P		**P**	**18 19 26.8**	**+0.6**
	0.6nm,0.5s,baz=141,slow=7.4,SNR=5.1							
SONM				PcP		**PcP**	**18 20 57.6**	**-1.5**
	0.3nm,0.5s,baz=141,slow=5.5,SNR=1.6							
SONM				LR		LR	18 38 58.7	
	comp=Z,33nm,21.6s,baz=118,slow=36							
YAK	**Yakutsk**	**51.34**	**353**	P		**P**	**18 19 59.9**	**-0.6**
	1.9nm,0.5s,baz=163,slow=23,SNR=2.6							
YAK	**Yakutsk**	**51.34**	**353**	*e*P		**P**	**18 19 59.7**	**-0.8**
	19nm,0.7s							
SEY	**Seymchan**	**52.10**	**6**	P		**P**	**18 20 05.6**	**-0.6**
	2.2nm,0.9s,baz=155,slow=6.1,SNR=4.7							
MKAR	**Manchi Array**	**60.90**	**317**	P		**P**	**18 21 09.3**	**+0.1**
	0.7nm,0.7s,baz=100,slow=9.3,SNR=7.1							
MKAR				LR		LR	18 48 22.2	
	comp=Z,29nm,20.0s,baz=92,slow=37							
ZALV	**Zalesovo Beam**	**61.60**	**326**	P		**P**	**18 21 13.4**	**-0.4**
	1.1nm,0.6s,baz=101,slow=7.8,SNR=3.3							
KURK	**Kurchatov**	**64.24**	**321**	*e*P		**P**	**18 21 31.1**	**-0.3**
	9.7nm,0.9s							
PPLA	**Purkeypile**	**69.25**	**27**	*e*P		**P**	**18 22 02.9**	**-0.4**
BPAW	**Bear Paw Mtn.**	**70.10**	**26**	*e*P		**P**	**18 22 08.2**	**-0.2**
	1.1nm,0.6s							
TRF	**Thorofare Moun**	**70.23**	**26**	*e*P		**P**	**18 22 08.4**	**-1.0**
	4.3nm,0.6s							
SML	**Sawmill**	**70.73**	**28**	*e*P		**P**	**18 22 11.7**	**-0.5**
	0.9nm,0.6s							
ILAR	**Eielson Array**	**71.99**	**25**	P		**P**	**18 22 18.2**	**-1.5**
	4.6nm,0.6s,baz=247,slow=6.1,SNR=63							
ILAR				LR		LR	18 54 27.6	
	comp=Z,30nm,18.7s,baz=236,slow=36							
PAX	**Paxson**	**72.26**	**27**	*e*P		**P**	**18 22 21.3**	**-0.2**
	5.4nm,0.6s							
EGAK	**Eagle**	**74.41**	**26**	*e*P		**P**	**18 22 33.9**	**-0.2**
	6.0nm,1.2s							
DAWY	**Dawson**	**75.11**	**27**	*e*P		**P**	**18 22 38.7**	**+0.5**
	7.6nm,1.2s							
INK	**Inuvik**	**77.68**	**22**	*e*P		**P**	**18 22 52.2**	**-0.4**
YKA	**Yellowknife Ar**	**86.34**	**27**	P		**P**	**18 23 38.6**	**+0.4**
	1.2nm,0.4s,baz=289,slow=4.9,SNR=12							
ARCES	**ARCESS Array B**	**88.20**	**342**	P		**P**	**18 23 46.6**	**-0.5**
	0.9nm,0.5s,baz=48,slow=5.4,SNR=6.4							
ARCES				LR		LR	19 05 11.4	
	comp=Z,22nm,22.0s,baz=80,slow=37							
NVAR	**Mina Array Bea**	**90.86**	**51**	P		**P**	**18 24 01.6**	**+1.1**
	0.7nm,0.7s,baz=262,slow=6.2,SNR=5.8							
FINES	**FINESS Array B**	**91.80**	**334**	P		**P**	**18 24 02.5**	**-1.5**
	1.7nm,0.4s,baz=75,slow=4.6,SNR=36							
FINES				LR		LR	19 09 28.9	
	comp=Z,20nm,18.2s,baz=68,slow=38							
AKASG	**Malin Array Be**	**94.94**	**324**	LR		LR	19 09 30.7	
	comp=Z,31nm,21.3s,baz=240,slow=37							
NOA	**NORSAR Array B**	**97.95**	**338**	LR		LR	19 13 19.2	
	comp=Z,7.1nm,19.4s,baz=50,slow=38							
LPAZ	**La Paz**	**150.79**	**103**	PKPbc		**PKPbc**	**18 30 52.4**	**+1.9**
	2.6nm,0.7s,baz=253,slow=3.6,SNR=11							

*ISCJB **22** 18:20:42.6±0.4, 43°.28N±0°.05×143°.57E±0°.05, h146km±3km, mb3.4/9, Error ellipse: s-maj=8.5km s-min=6.2km az=178.2*
*JMA **22** 18:20:44.0±0.1, 43°.29N×143°.54E, h142km±1km, M3.1*
*IDC **22** 18:20:46.4±2.3, 43°.67N×143°.41E, h150km±6km, mb3.3/9, mb1 3.4/10, mb1mx3.2/33, mbtmp3.7/10, Error ellipse: s-maj=53.9km s-min=18.4km az=169.0*

ISC 22 18:20:43.5±0.7, 43°28N±0°.06×143°57E±0°.04, h143km±5km, n29, σ0s66/41, mb3.5/9, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JAR	**Ashorobuto**	**0.14**	**83**	P		**Pn**	**18 21 03.3**	**+0.5**
JOB	**Onbets**	**0.42**	**153**	P		**Pn**	**18 21 04.4**	**+0.8**
JCH	**Churui**	**0.68**	**193**	P		**Pn**	**18 21 05.2**	**+0.1**
JCH				*e*S		**Sn**	**18 21 20.6**	**-0.9**
JFR	**Furan**	**0.72**	**261**	P		**Pn**	**18 21 05.7**	**+0.3**
JFR				*e*S		**Sn**	**18 21 21.8**	**-0.2**
JTKR	**Abashiri--Toko**	**0.73**	**19**	P		**Pn**	**18 21 05.8**	**+0.4**
JTKR				*e*S		**Sn**	**18 21 21.8**	**-0.4**
JMP	**Maruseppu**	**0.74**	**348**	P		**Pn**	**18 21 05.8**	**+0.3**
JMP				*e*S		**Sn**	**18 21 21.7**	**-0.7**
JKK2	**Kamakawa 2**	**0.84**	**315**	P		**Pn**	**18 21 06.5**	**+0.2**
JKK2				*e*S		**Sn**	**18 21 23.1**	**-0.6**
JAK	**Akkeshi**	**0.87**	**109**	P		**Pn**	**18 21 06.8**	**+0.4**
JAK				*e*S		**Sn**	**18 21 23.7**	**-0.2**
JNK	**Nakash**	**0.89**	**70**	P		**Pn**	**18 21 07.2**	**+0.6**
JAB	**Ashibetsu**	**1.01**	**283**	P		**Pn**	**18 21 08.2**	**+0.6**
JAB				*e*S		**Sn**	**18 21 26.5**	**+0.5**
JBT2	**Biratori 2**	**1.02**	**241**	P		**Pn**	**18 21 07.9**	**+0.2**
JBT2				*e*S		**Sn**	**18 21 26.2**	**0.0**
ASAJ	**Asahikawa**	**1.09**	**320**	P		**Pn**	**18 21 08.8**	**+0.4**
	baz=153,slow=5.6							
ASAJ				S		**Sn**	**18 21 27.7**	**+0.3**
	baz=328,slow=32,SNR=1.0							
JNBK	**Urakawa-nobuka**	**1.17**	**211**	P		**Pn**	**18 21 09.3**	**+0.2**
JNBK				*e*S		**Sn**	**18 21 28.5**	**-0.1**
JRA	**Rausu**	**1.30**	**59**	P		**Pn**	**18 21 11.6**	**+1.2**
JHR	**Hokuryu**	**1.42**	**290**	P		**Pn**	**18 21 12.1**	**+0.5**
JHR				*e*S		**Sn**	**18 21 33.9**	**+0.7**
NEM2	**Nemuro 2**	**1.59**	**86**	P		**Pn**	**18 21 13.4**	**0.0**
NEM2				*e*S		**Sn**	**18 21 35.2**	**-1.1**
JEW	**Eniwo**	**1.62**	**255**	*e*S		**Sn**	**18 21 36.4**	**-0.5**
JSE	**Soyaes**	**1.82**	**337**	P		**Pn**	**18 21 16.1**	**+0.1**
JYG	**Yagishiri**	**1.93**	**307**	P		**Pn**	**18 21 17.3**	**0.0**
SEY	**Seymchan**	**20.35**	**12**	P		**P**	**18 25 06.1**	**-2.1**
	0.5nm,0.3s,baz=192,slow=8.8,SNR=11							
SONM	**Songino Array**	**26.25**	**293**	P		**P**	**18 26 05.5**	**+0.2**
	1.2nm,0.7s,baz=75,slow=8.5,SNR=8.6							
ZALV	**Zalesovo Beam**	**39.20**	**307**	P		**P**	**18 27 57.4**	**+0.1**
	0.6nm,0.4s,baz=60,slow=8.8,SNR=4.1							
MKAR	**Makanchi Array**	**42.48**	**297**	P		**P**	**18 28 24.1**	**-0.2**
	0.6nm,0.6s,baz=81,slow=9.4,SNR=7.5							
ILAR	**Eielson Array**	**43.40**	**36**	P		**P**	**18 28 31.9**	**+0.5**
	0.6nm,0.6s,baz=258,slow=5.7,SNR=8.0							
YKA	**Yellowknife Ar**	**57.62**	**33**	P		**P**	**18 30 18.6**	**+0.6**
	0.2nm,0.3s,baz=301,slow=6.3,SNR=3.8							
FINES	**FINESS Array B**	**64.08**	**332**	P		**P**	**18 31 00.8**	**-0.8**
	1.3nm,0.9s,baz=66,slow=6.7,SNR=5.4							
AKASG	**Malin Array Be**	**70.38**	**322**	P		**P**	**18 31 40.9**	**-0.6**
	0.4nm,0.4s,baz=41,slow=6.0,SNR=2.9							
GERES	**GERESS Array B**	**78.25**	**329**	P		**P**	**18 32 27.4**	**+0.1**
	0.2nm,0.3s,baz=44,slow=5.8,SNR=4.0							
TXAR	**Lajitas Array**	**85.05**	**54**	P		**P**	**18 33 04.6**	**+1.3**
	0.2nm,0.5s,baz=297,slow=2.9,SNR=3.6							

CASC 22 18:38:55.8±2.3, 8°.52N×82°.97W, h11km±17km, MD3.9, 3C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CTCR	**Cotoan**	**0.43**	**28**	*i*P		Pb	18 39 05.2	-0.4
BRU	**Baru**	**0.49**	**54**	*e*P		Pg	18 39 06.5	+0.4
BUS	**Buena Vista**	**1.29**	**323**	*e*P		Pn	18 39 18.4	-2.0
BUS				*e*S		Sb	18 39 36.9	-1.0
QCR	**Quepos**	**1.49**	**307**	*e*P		Pn	18 39 21.4	-1.1
QCR				*e*S		Sb	18 39 42.5	+0.1
URSC	**Urasca**	**1.54**	**329**	*e*P		Pn	18 39 22.4	-1.0
CGA2	**Cerro Gallo 2**	**2.10**	**315**	*e*P		Pn	18 39 30.9	-0.2
CAO	**Cobano**	**2.42**	**299**	*e*P		Pn	18 39 33.6	-1.7
JCR	**Jicaral**	**2.50**	**302**	*e*P		Pn	18 39 37.1	+0.6
FORC	**Fortuna**	**2.56**	**319**	*i*P		Pn	18 39 39.0	+1.7
FORC				*i*S		Sb	18 40 13.5	0.0
CEDE	**Laguna Cedeˆ–o**	**2.60**	**319**	*i*P		Pn	18 39 37.9	0.0
CHPA	**Chiripa**	**2.71**	**315**	*i*P		Pn	18 39 41.5	+2.0
CUI	**Cuipilapa**	**3.04**	**315**	*i*P		Pn	18 39 44.8	+0.9
VCR	**Vista de Mar**	**3.08**	**302**	*e*P		Pn	18 39 44.2	-0.3

NNC 22 18:55:11.1±2.4, 36°.81N×70°.33E, h188km±20km, mb2.5, mpv3.6, 1C-6D, Error ellipse: s-maj=26.0km s-min=12.2km az=168.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
DZET	**Dzherino**	**2.32**	**330**	⇓P		Pn	18 55 52.2	-0.1
	26nm,0.4s							
DZET				⇓S		Sn	18 56 24.9	+0.3
	37nm,0.3s							
SFK	**Sufi-Kurgan**	**4.05**	**37**	⇑P		Pn	18 56 13.3	-0.1
	1.2nm,0.3s							
SFK				⇓S		Sn	18 57 02.6	+0.4
	12nm,0.4s							
KK31	**Karatay Array**	**6.29**	**1**	P		Pn	18 56 42.4	+0.5
	3.1nm,0.2s,baz=183,slow=13,SNR=47							
KK31				⇓S		Sn	18 57 53.8	+0.1
	3.2nm,0.6s,baz=191,slow=24,SNR=7.3							
AB31	**Akbulak array**	**14.55**	**332**	⇓P		P	18 58 31.3	+1.7
	0.1nm,0.3s,baz=159,slow=11,SNR=6.5							
AKTO	**Aktyubinsk**	**16.25**	**331**	⇓P		P	18 58 45.4	-3.0
	1.7nm,0.7s							

*DJA **22** 18:57:18.9±1.8, 0°.5±3°×9°.6E±°, h24km±26km, M4.8/18, mb4.7/16, mB5.5/3, MLv4.8/18, Mw(mB)5.0/3*
*IDC **22** 18:57:33.0±0.8, 0°.39N×97°.28E, h0km, mb4.1/15, mb1 4.2/16, mb1mx4.0/43, mbtmp4.1/16, ML2.9/1, MS3.3/7, Ms1 3.3/7, ms1mx3.0/33, Error ellipse: s-maj=25.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**0.05**	**104**	*i* P	Pg	19 06 31.4	+1.3
TUMR	**Tumrok**	**0.16**	**346**	*i* P	Pg	19 06 33.4	+1.1
KMNR	**Kamenistaya**	**0.63**	**1**	P	Pb	19 06 42.4	-0.6
KIRR	**Kirishev**	**0.83**	**5**	P	Pg	19 06 45.8	+0.6
KIRR				S	Sb	19 06 59.5	+1.1
KOZ	**Kozyrevsk**	**0.96**	**348**	P	Pg	19 06 47.8	+0.4
MKZ	**Mys Kozlova**	**1.04**	**122**	*e*P	Pb	19 06 49.5	-0.3
MKZ				S	Sb	19 07 04.4	+0.4
ESO	**Esso**	**1.18**	**314**	*e*P	Pg	19 06 50.4	-1.2
ESO				*e*S	Sb	19 07 07.6	-0.4
KLY	**Klyuchi**	**1.22**	**12**	P	Pn	19 06 53.9	+0.8
KLY				S	Sn	19 07 12.9	+2.7
SRDR	**Sredinnyy**	**1.23**	**347**	*e*P	Pn	19 06 53.5	+0.1
SRDR				*e*S	Sn	19 07 10.9	+0.2
BDR	**Baidarnaya**	**1.55**	**21**	P	Pb	19 06 58.6	0.0
SMKR	**Semkarok**	**1.62**	**25**	*e*P	Pg	19 07 00.1	-0.1
SRKR	**Sorokina**	**1.62**	**19**	*e*P	Pb	19 06 59.6	-0.3
SRKR				*e*S	Sg	19 07 22.2	+0.8
KBTR	**Krutoberegovo**	**1.83**	**53**	P	Pn	19 07 01.8	+0.2
KBTR				S	Sn	19 07 25.8	+0.4
GNL	**Ganaly**	**1.95**	**224**	P	Pn	19 07 04.3	+0.9
GNL				S	Sb	19 07 31.1	+0.6
KRX	**Arik**	**1.99**	**208**	P	Pn	19 07 05.0	+1.0
KRX				S	Sb	19 07 32.3	+0.6
SDLR	**Sedlovina**	**2.01**	**203**	P	Pb	19 07 05.7	-0.8
SDLR				S	Sg	19 07 33.1	-0.7
KRER	**Koryakskii**	**2.02**	**206**	P	Pb	19 07 06.8	+0.1
SPN	**Mys Shipunski**	**2.03**	**183**	P	Pn	19 07 04.1	-0.2
SPN				S	Sn	19 07 30.4	+0.1
SMMR	**Somma**	**2.04**	**205**	*e*P	Pb	19 07 06.3	-0.8
AVH	**Avacha**	**2.06**	**206**	P	Pb	19 07 06.7	-0.5
KOK	**Koryaka**	**2.06**	**207**	P	Pb	19 07 06.5	-0.8
UGLR	**Uglovaya**	**2.09**	**204**	*e*P	Pb	19 07 07.1	-0.7
PET	**Petropavlovsk**	**2.30**	**204**	P	Pb	19 07 09.8	-1.4
APC	**Apacha**	**2.85**	**221**	P	Pn	19 07 16.7	+1.2
RUS	**Russkaya**	**2.88**	**201**	P	Pn	19 07 17.7	+1.8
ASAK	**Asacha**	**3.07**	**208**	P	Pb	19 07 23.4	-1.1

NIED ***22*** *19:07:00,46°.60N×152°.50E, h35km, Mw3.7 Best double couple: M◁3.85000×10^14 NP1:φ≈219.00000°, δ64.00000°, λ-164.00000°. NP2:φ≈122.00000°, δ76.00000°, λ-27.00000°*

JMA ***22*** *19:07:15.0±0.6, 46°.62N×152°.52E, h30km, M4.3*

SKHL ***22*** *19:07:18.7±0.8, 45°.46N×152°.63E, h33km±4km*

IDC ***22*** *19:07:23.5±3.0, 46°.95N×152°.00E, h94km±27km, mb3.0/4, mb1 3.3/7, mb1mx3.1/42, mbtmp3.5/7, Error ellipse: s-maj=50.6km s-min=18.9km az=150.0*

ISC 22 19:07:17.3±1.2, 46°.0N±0°.2×152°.7E±0°.1, h52km, n31, σ1§98/33, mb3.3/3,1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.46**	**260**	⇑*i*P	**Pn**	**19 08 09.7**	**+1.1**
KUR				AMB	AMB	19 08 12.5	
	20nm,0.3s						
KUR				AMB	AMB	19 08 12.5	
	10.0nm,0.3s						
KUR				AMB	AMB	19 08 12.5	
	30nm,0.3s						
KUR				*i* S	**Sn**	**19 08 47.4**	**-0.9**
KUR				A	A	19 08 55.4	
	60nm,0.4s						
KUR				A	A	19 08 55.4	
	30nm,0.4s						
SHO	**Shikotan**	**4.65**	**246**	*e*P	**Pn**	**19 08 25.5**	**+0.6**
SHO				AMB	AMB	19 08 33.4	
	80nm,0.4s						
SHO				*e*S	**Sn**	**19 09 16.2**	**-1.4**
SHO				A	A	19 09 28.6	
	220nm,0.8s						
NEM2	**Nemuro 2**	**5.58**	**245**	P	**Pn**	**19 08 38.0**	**+0.2**
NEM2				*e*S	**Sn**	**19 09 39.7**	**-0.9**
JRA	**Rausu**	**5.73**	**252**	P	**Pn**	**19 08 42.5**	**+2.7**
JAK	**Akkeshi**	**6.43**	**246**	P	**Pn**	**19 08 49.4**	**0.0**
JAK				*e*S	**Sn**	**19 09 59.1**	**-2.3**
JTKR	**Abashiri--Toko**	**6.53**	**256**	P	**Pn**	**19 08 52.6**	**+1.8**
JAR	**Ashorobuto**	**6.89**	**251**	P	**Pn**	**19 08 56.8**	**+1.1**
JAR				*e*S	**Sn**	**19 10 14.0**	**+1.3**
JOB	**Onbets**	**7.03**	**247**	P	**Pn**	**19 08 58.6**	**+1.0**
JOB				*e*S	**Sn**	**19 10 15.3**	**-0.8**
JKK2	**Kamakawa 2**	**7.36**	**257**	P	**Pn**	**19 09 03.6**	**+1.6**
ASAJ	**Asahikawa**	**7.38**	**259**	P	**Pn**	**19 09 04.6**	**+2.2**
ASAJ	**Asahikawa**	**7.38**	**259**	P	**Pn**	**19 09 04.6**	**+2.2**
JCH	**Churui**	**7.47**	**247**	P	**Pn**	**19 09 03.8**	**+0.1**
JCH				*e*S	**Sn**	**19 10 24.5**	**-2.5**
MYR	**Moyori**	**7.69**	**245**	*e*P	**Pn**	**19 09 07.1**	**+0.5**
MYR				*e*S	**Sn**	**19 10 29.4**	**-2.8**
PETK	**Petropavlovsk-**	**7.87**	**23**	P	**Pn**	**19 09 06.6**	**-2.5**
	baz=181,slow=12,SNR=1.6						
JEM	**Erimo**	**7.92**	**244**	*e*S	**Sn**	**19 10 35.8**	**-2.0**
JNBK	**Urakawa-nobuka**	**8.03**	**246**	P	**Pn**	**19 09 11.2**	**-0.1**
JNBK				*e*S	**Sn**	**19 10 37.6**	**-3.1**
JKB	**Kayabe**	**9.34**	**248**	P	**Pn**	**19 09 28.4**	**-0.7**
JKB				*e*S	**Sn**	**19 11 07.1**	**-5.5**
JYM2	**Yakumo 2**	**9.66**	**251**	P	**Pn**	**19 09 33.6**	**0.0**
JTM	**Tenmabayashi**	**9.90**	**243**	P	**Pn**	**19 09 36.1**	**-0.8**
JTM				*e*S	Sn	19 11 19.8	-6.8
MJAR	**Matsushiro Arr**	**14.37**	**234**	P	**P**	**19 10 46.4**	**+3.1**
	0.2nm,0.3s,baz=32,slow=8.9,SNR=7.7						
USRK	**Ussuriysk Ar.**	**14.73**	**271**	P	**Pn**	**19 10 40.6**	**-1.8**
	0.2nm,0.3s,baz=70,slow=12,SNR=5.2						
KSRS	**Korea Array**	**20.28**	**254**	P	Pn	19 11 50.1	-0.8
	1.3nm,0.5s,baz=56,slow=10.0,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**28.65**	**151**	T	T	19 44 33.7	
	baz=340,slow=76,SNR=395						
H11N1	**WAKE ISLAND Hy**	**28.67**	**151**	T	T	19 44 33.3	
	baz=340,slow=76,SNR=252						
H11N3	**WAKE ISLAND Hy**	**28.67**	**151**	T	T	19 44 35.2	
	baz=340,slow=76,SNR=226						
H11S1	**WAKE ISLAND Hy**	**29.73**	**152**	T	T	19 45 56.4	
	baz=340,slow=76,SNR=106						
H11S3	**WAKE ISLAND Hy**	**29.74**	**152**	T	T	19 45 57.0	
	baz=340,slow=76,SNR=126						
H11S2	**WAKE ISLAND Hy**	**29.75**	**152**	T	T	19 45 55.9	
	baz=340,slow=76,SNR=94						
MKAR	**Makanchi Array**	**47.05**	**298**	P	P	19 15 38.1	-5.4
	0.2nm,0.5s,baz=69,slow=7.9,SNR=3.9						
CMAR	**Chiang Mai Arr**	**51.90**	**257**	P	**P**	**19 16 21.6**	**+0.9**
	0.7nm,0.9s,baz=34,slow=8.2,SNR=4.1						
TXAR	**Lajitas Array**	**78.15**	**60**	P	**P**	**19 19 11.7**	**+0.6**
	0.1nm,0.5s,baz=265,slow=4.3,SNR=2.6						

ISCJB ***22*** *19:14:48.7±0.7, 15°.7S±0°.2×174°.7W±0°.2, h10km, mb3.9/6, MS3.7/14, Error ellipse: s-maj=36.5km s-min=11.8km az=147.8*

IDC ***22*** *19:14:49.4±1.0, 15°.83S×174°.69W, h0km, mb3.9/6, mb1 4.2/7, mb1mx3.9/29, mbtmp4.0/7, ML3.5/1, MS3.7/16, Ms1 3.7/16, ms1mx3.5/28, Error ellipse: s-maj=50.3km s-min=20.0km az=143.0*

ISC 22 19:14:50.1±0.8, 15°.8S±0°.3×174°.6W±0°.2, h10km, n30, σ1§58/10, mb4.1/6, MS3.8/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.28**	**56**	Pn	**Pn**	**19 15 39.6**	**-2.0**
	10.0nm,0.3s,baz=58,slow=7.1,SNR=8.9						
AFI				LR	LR	19 16 53.1	
	comp=Z,1μm,20.8s,baz=257,slow=36						
RAO	**Raoul Island**	**13.76**	**192**	LR	LR	19 22 30.3	
	comp=Z,171nm,21.6s,baz=308,slow=34						
DZM	**Mont Dzumac**	**19.01**	**248**	P	**Pn**	**19 19 13.3**	**+0.3**
	0.2nm,0.3s,baz=90,slow=24,SNR=5.6						
URZ	**Urewera**	**23.57**	**197**	P	**P**	**19 20 01.5**	**+0.7**
	6.0nm,0.8s,baz=321,slow=8.1,SNR=3.9						
URZ				LR	LR	19 28 27.6	
	comp=Z,220nm,19.8s,baz=13,slow=35						
PPT	**Papeete**	**24.01**	**98**	LR	LR	19 26 46.6	
	comp=Z,66nm,19.8s,baz=238,slow=30						
PPT2	**Papeete2**	**24.01**	**98**	*e*LQ	LQ	19 24 50.3	
	771nm,25.5s						
PPT2				*e*LR	LR	19 25 55.1	
	98nm,24.8s						
TBI	**Tubuai**	**24.80**	**112**	*e*LQ	LQ	19 25 11.2	
	568nm,28.0s						
RKT	**Rikitea**	**37.96**	**107**	*e*T	T	20 02 16.6	
	2.0nm,0.2s						
H11S2	**WAKE ISLAND Hy**	**38.72**	**331**	T	T	20 03 25.6	
	baz=150,slow=74,SNR=23						
H11S3	**WAKE ISLAND Hy**	**38.73**	**331**	T	T	20 03 26.4	
	baz=150,slow=74,SNR=8.6						
H11S1	**WAKE ISLAND Hy**	**38.74**	**331**	T	T	20 03 28.1	
	baz=150						
H11N3	**WAKE ISLAND Hy**	**39.69**	**332**	T	T	20 04 44.6	
	baz=151,slow=76,SNR=77						
H11N1	**WAKE ISLAND Hy**	**39.70**	**332**	T	T	20 04 41.9	
	baz=151,slow=76,SNR=106						
H11N2	**WAKE ISLAND Hy**	**39.71**	**332**	T	T	20 04 43.1	
	baz=151,slow=76,SNR=83						
STKA	**Stephens Creek**	**42.87**	**240**	P	**P**	**19 22 47.1**	**-1.7**
	3.5nm,1.0s,baz=56,slow=7.0,SNR=4.2						
STKA				LR	LR	19 38 02.2	
	comp=Z,121nm,20.3s,baz=33,slow=33						
WRA	**Warramunga Arr**	**48.66**	**257**	P	**P**	**19 23 36.1**	**+1.3**
	0.2nm,0.3s,baz=90,slow=7.0,SNR=4.0						
ASAR	**Alice Springs**	**48.92**	**252**	P	**P**	**19 23 35.0**	**-1.8**
	1.9nm,0.8s,baz=83,slow=8.3,SNR=18						
ASAR				LR	LR	19 42 30.2	
	comp=Z,267nm,21.9s,baz=127,slow=34						
MJAR	**Matsushiro Arr**	**68.50**	**321**	LR	LR	19 50 38.7	
	comp=Z,27nm,21.7s,baz=110,slow=31						
PETK	**Petropavlovsk-**	**72.65**	**343**	LR	LR	19 54 49.8	
	comp=Z,15nm,20.5s,baz=129,slow=33						
NVAR	**Mina Array Bea**	**75.36**	**42**	P	**P**	**19 26 35.5**	**+1.3**
	1.5nm,0.8s,baz=223,slow=8.8,SNR=10.0						
KDAK	**Kodiak Island**	**75.52**	**12**	LR	LR	19 55 45.2	
	comp=Z,41nm,18.6s,baz=170,slow=32						
KSRS	**Korea Array**	**75.64**	**316**	LR	LR	19 57 06.4	
	comp=Z,26nm,18.2s,baz=171,slow=34						
USRK	**Ussuriysk Ar.**	**77.01**	**324**	LR	LR	19 54 21.2	
	comp=Z,75nm,21.2s,baz=141,slow=31						
BBB	**Bella Bella**	**78.73**	**27**	LR	LR	19 57 30.1	
	comp=Z,63nm,18.0s,baz=218,slow=32						
TXAR	**Lajitas Array**	**81.76**	**56**	P	**P**	**19 27 11.4**	**+1.8**
	0.3nm,0.8s,baz=205,slow=5.5,SNR=4.0						
TXAR				LR	LR	19 58 01.2	
	comp=Z,45nm,18.8s,baz=0.0,slow=32						
PDAR	**Pinedale Array**	**83.30**	**42**	LR	LR	19 59 05.4	
	comp=Z,48nm,18.2s,baz=254,slow=32						
SONM	**Songino Array**	**94.37**	**318**	LR	LR	20 04 34.9	
	comp=Z,17nm,21.2s,baz=90,slow=32						
ULM	**Lac du Bonnet**	**94.93**	**39**	LR	LR	20 04 33.9	
	comp=Z,62nm,20.7s,baz=266,slow=31						
BRTR	**Keskin Array B**	**145.72**	**320**	PKPbc	**PKPab**	**19 34 30.7**	**+0.6**
	1.2nm,0.9s,baz=108,slow=2.9,SNR=6.1						
GERES	**GERESS Array B**	**146.33**	**350**	PKPbc	**PKPab**	**19 34 31.8**	**-0.2**
	0.4nm,0.5s,baz=38,slow=5.0,SNR=2.9						

CASC 22 19:15:39.0±1.5, 13°.26N×89°.68W, h37km±74km, MD3.8, ML3.8,4C-5D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.58**	**6**	⇓*e*P	Pn	19 15 51.2	-0.1
SBLS				*e*S	Sn	19 16 00.5	+0.8
SNJE	**San Jose**	**0.61**	**7**	*e*P	Pn	19 15 51.5	-0.1
SNJE				*e*S	Sn	19 16 00.8	+0.5
SNET	**Serv Nac Est T**	**0.61**	**46**	*e*P	Pn	19 15 51.0	-0.5
SNET				AML	AML	19 16 02.4	
	comp=Z,4μm,0.3s						
BQQS	**Boqueron**	**0.61**	**40**	⇑*i*P	Pn	19 15 51.5	-0.2
BQQS				*e*S	Sn	19 16 01.2	+0.7
RTR	**El Retiro**	**0.64**	**3**	⇓*e*P	Pn	19 15 51.9	0.0
LFRS	**El Faro**	**0.70**	**59**	⇓*i*P	Pn	19 15 52.6	-0.1
LFU	**La Fuente**	**0.74**	**49**	⇓*i*P	Pn	19 15 53.4	+0.4
LFU				*e*S	Sn	19 16 04.7	+1.6
LBRS	**Las Brisas**	**0.78**	**53**	*e*P	Pn	19 15 54.0	+0.3
RBDL	**Robledal**	**0.85**	**360**	⇓*e*P	Pn	19 15 55.1	+0.4
SNVI	**San Vicente**	**0.89**	**67**	*e*P	Pn	19 15 55.1	-0.2
SNVI				*e*S	Sn	19 16 07.7	+0.6
IXG	**Ixpaco**	**1.18**	**321**	⇑*i*P	Pn	19 15 58.4	-0.8
VSM	**San Miguel**	**1.38**	**83**	*e*P	Pn	19 16 01.7	-0.4
NBG	**Las Nubes**	**1.47**	**334**	*e*P	Pn	19 16 05.1	+1.8
CAHU	**Cacacuatique**	**1.52**	**70**	*e*P	Pn	19 16 03.7	-0.2
FUG	**Fuego 3**	**1.63**	**317**	⇓*e*P	Pn	19 16 06.1	+0.7
MRL	**Marmol**	**1.80**	**360**	*e*P	Pn	19 16 08.3	+0.7
CNCH	**Conchagua**	**1.80**	**89**	*e*P	Pn	19 16 07.6	-0.1
CNCH				*e*S	Sn	19 16 30.3	+0.8
JAT	**Jato**	**2.17**	**299**	⇑*e*P	Pn	19 16 13.9	+1.3
COPN	**Copaltepe**	**3.20**	**109**	*e*P	Pn	19 16 26.3	-0.5
JCR	**Jicaral**	**5.62**	**127**	*e*P	Pn	19 17 00.6	+0.5
CGA2	**Cerro Gallo 2**	**6.04**	**122**	*e*P	Pn	19 17 07.8	+1.7
CGA2				*e*S	Sn	19 18 10.5	-3.7
URSC	**Urasca**	**6.71**	**120**	*e*P	Pn	19 17 16.3	+1.0
BUS	**Buena Vista**	**6.88**	**122**	*e*P	Pn	19 17 20.0	+2.1
BUS				*e*S	Sn	19 18 33.7	-1.7

IDC 22 19:23:09.0±3.5, 6°.05S×150°.14E, h0km, mb3.0/2, mb1 3.4/3, mb1mx3.2/30, mbtmp3.3/3, ML1.6/1, Error ellipse: s-maj=140.1km s-min=37.7km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.46**	**221**	Pn	Pn	19 24 19.7	+1.8
	2.0nm,0.3s,baz=234,slow=4.9,SNR=8.4						
PMG				Sn	Sn	19 25 09.4	-1.1
	1.6nm,0.3s,baz=204,slow=15,SNR=6.0						
WRA	**Warramunga Arr**	**20.65**	**227**	P	P	19 27 50.0	-0.5
	0.7nm,0.6s,baz=52,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**23.47**	**220**	P	P	19 28 20.3	-0.2
	0.3nm,0.9s,baz=55,slow=9.4,SNR=3.3						
TORD	**Torodi Ar. Bea**	**148.13**	**285**	PKPbc	PKPbc	19 42 57.2	-0.7
	0.3nm,0.7s,baz=90,slow=2.4,SNR=5.2						

NNC 22 19:28:51.1±9.1, 36°.94N×70°.90E, h0km, mb3.8, mpv3.3, 4C-2D, Error ellipse: s-maj=78.1km s-min=30.8km az=178.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.49**	**319**	⇑Pn	Pn	19 29 33.2	+0.2
	2.1nm,0.2s						
DZET				⇑Sn	Sn	19 30 05.6	+1.4
	55nm,0.4s						
SFK	**Sufi-Kurgan**	**3.69**	**33**	⇓Pn	Pn	19 29 48.6	-1.1
	11nm,0.3s						
SFK				⇑Sn	Sn	19 30 35.9	+1.8
	2.5nm,0.2s						
KK31	**Karatay Array**	**6.17**	**357**	⇓Pn	Pn	19 30 22.5	-0.9
	0.4nm,0.3s,baz=175,slow=13						
KK31				⇑Sn	Sn	19 31 32.9	-1.8
	0.4nm,0.2s,baz=185,slow=24						

ISCJB ***22*** *19:33:15.8±2.2, 52°.55N±0°.10×169°.4W±0°.1, h6km±15km, mb3.5/4, Error ellipse: s-maj=20.8km s-min=7.3km az=139.3*

IDC ***22*** *19:33:16.4±1.7, 52°.45N×169°.34W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.4/35, mbtmp3.6/4, Error ellipse: s-maj=83.1km s-min=31.8km az=152.0*

NEIC ***22*** *19:33:17.7, 52°.57N×169°.27W, h7km, ML3.2(AEIC), After AEIC.*

ISC 22 19:33:17.6±2.4, 52°.6N±0°.1×169°.39W±0°.08, h9km±15km, n23, σ1§10/22, mb3.5/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.47**	**44**	P	**Pb**	**19 33 27.8**	**-0.2**
NIKH				S	**Sb**	**19 33 35.4**	**+0.3**
OKWR	**Okmok West Rim**	**1.07**	**41**	P	**Pg**	**19 33 38.7**	**+0.5**
OKCE	**Okmok Cone E**	**1.09**	**43**	P	**Pb**	**19 33 38.1**	**-0.4**
OKTU	**Okmok Mt. Tuli**	**1.11**	**47**	P	**Pb**	**19 33 38.6**	**-0.3**
OKTU				S	**Sb**	**19 33 53.6**	**+0.1**
OKAK	**Okmok**	**1.13**	**33**	P	**Pb**	**19 33 37.2**	**-2.1**
OKAK				S	**Sb**	**19 33 51.2**	**-2.9**
OKFG	**Magazine Ridge**	**1.19**	**48**	P	**Pb**	**19 33 39.4**	**-0.8**
OKFG				S	**Sb**	**19 33 55.3**	**-0.3**
MCIR	**Makushin Cirqu**	**2.00**	**48**	P	**Pn**	**19 33 52.3**	**+0.8**
MSW	**Makushin Switc**	**2.02**	**50**	P	**Pn**	**19 33 51.4**	**-0.5**
MSW				S	**Sb**	**19 34 19.8**	**0.0**
MTBL	**Makushin Table**	**2.11**	**50**	P	**Pn**	**19 33 52.9**	**-0.1**
UNV	**Unalaska Valle**	**2.12**	**54**	P	**Pn**	**19 33 52.0**	**-1.1**
ZRO	**Akutan Zero**	**2.51**	**53**	P	**Pn**	**19 33 59.3**	**+0.7**
ATKA	**Atka Island**	**2.97**	**264**	P	**Pn**	**19 34 04.5**	**-0.3**
SPIA	**Saint Paul Isl**	**4.58**	**354**	P	**Pn**	**19 34 28.5**	**+1.6**
YKA	**Yellowknife Ar**	**30.08**	**49**	P	**P**	**19 39 28.0**	**+1.2**
	0.2nm,0.4s,baz=274,slow=7.9,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**37.65**	**218**	T	T	20 20 31.8	
	baz=24,slow=76,SNR=10.0						
H11N3	**WAKE ISLAND Hy**	**37.66**	**218**	T	T	20 20 30.8	
	baz=24,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**37.67**	**218**	T	T	20 20 32.0	
	baz=24,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**38.84**	**218**	T	T	20 21 59.6	
	baz=23,slow=76,SNR=123						
H11S2	**WAKE ISLAND Hy**	**38.86**	**218**	T	T	20 22 00.8	
	baz=23,slow=76,SNR=108						
H11S3	**WAKE ISLAND Hy**	**38.86**	**218**	T	T	20 22 00.9	
	baz=23,slow=76,SNR=76						
PDAR	**Pinedale Array**	**40.37**	**79**	P	**P**	**19 40 55.1**	**-0.7**
	0.5nm,0.6s,baz=298,slow=3.2,SNR=4.2						
TXAR	**Lajitas Array**	**52.76**	**89**	P	**P**	**19 42 33.3**	**+0.5**
	0.6nm,0.6s,baz=298,slow=5.3,SNR=11						
ASAR	**Alice Springs**	**90.56**	**230**	P	**P**	**19 46 19.6**	**-0.2**
	0.3nm,0.6s,baz=26,slow=4.6,SNR=3.5						

NEIC ***22*** *19:43:06.3, 52°.70N×169°.58W, h3km, ML3.0(AEIC), After AEIC.*

IDC ***22*** *19:43:10.5±2.0, 52°.81N×168°.68W, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.4/30, mbtmp3.4/5, ML3.1/1, Error ellipse: s-maj=53.5km s-min=33.7km az=143.0*

ISC 22 19:43:06.6±1.9, 52°.9N±0°.2×169°.7W±0°.1, h10km, n19, σ1§00/18, mb3.4/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.55**	**79**	P	**Pb**	**19 43 17.2**	**-1.1**
NIKH				S	**Sb**	**19 43 25.1**	**-1.1**
OKWR	**Okmok West Rim**	**1.08**	**58**	P	**Pn**	**19 43 28.2**	**+0.3**
OKAK	**Okmok**	**1.09**	**49**	P	**Pb**	**19 43 26.4**	**-1.3**
OKCE	**Okmok Cone E**	**1.10**	**59**	P	**Pb**	**19 43 27.7**	**-0.1**
OKTU	**Okmok Mt. Tuli**	**1.15**	**63**	P	**Pb**	**19 43 28.6**	**0.0**
OKFG	**Magazine Ridge**	**1.23**	**63**	P	**Pb**	**19 43 29.4**	**-0.4**
OKFG				S	**Sn**	**19 43 48.4**	**+1.9**
MSOM	**Makushin Julie**	**1.92**	**59**	P	**Pn**	**19 43 40.3**	**+0.9**
MCIR	**Makushin Cirqu**	**2.02**	**56**	P	**Pb**	**19 43 42.6**	**-0.9**
MSW	**Makushin Switc**	**2.06**	**58**	P	**Pn**	**19 43 42.4**	**+1.1**
MTBL	**Makushin Table**	**2.14**	**58**	P	**Pb**	**19 43 44.2**	**-1.3**
UNV	**Unalaska Valle**	**2.17**	**62**	P	**Pn**	**19 43 43.4**	**+0.5**
UNV				S	**Sb**	**19 44 13.1**	**+0.1**
ILAR	**Eielson Array**	**16.67**	**35**	Pn	**Pn**	**19 46 59.2**	**-0.9**
	0.0nm,0.3s,baz=234,slow=8.8,SNR=3.0						
NVAR	**Mina Array Bea**	**37.90**	**91**	P	**P**	**19 50 23.5**	**-0.5**
	0.2nm,0.5s,baz=282,slow=5.4,SNR=2.6						
H11S1	**WAKE ISLAND Hy**	**38.90**	**217**	T	T	20 31 42.0	
	baz=22						
H11S2	**WAKE ISLAND Hy**	**38.92**	**217**	T	T	20 31 42.6	
	baz=22						
H11S3	**WAKE ISLAND Hy**	**38.92**	**217**	T	T	20 31 43.6	
	baz=22						
PDAR	**Pinedale Array**	**40.53**	**79**	P	**P**	**19 50 46.0**	**0.0**
	0.5nm,0.6s,baz=337,slow=2.7,SNR=4.8						
TXAR	**Lajitas Array**	**52.97**	**89**	P	**P**	**19 52 24.2**	**+0.9**
	0.6nm,0.7s,baz=290,slow=5.3,SNR=8.5						
ASAR	**Alice Springs**	**90.55**	**230**	P	P	19 56 16.3	+7.6
	0.1nm,0.6s,baz=19,slow=6.9,SNR=3.0						

IDC 22 20:00:05.5±34.0, 36°.10S×78°.81E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/24, mbtmp3.7/3, MS3.7/8, Ms1 3.7/8, ms1mx3.3/33, Error ellipse: s-maj=1137.0km s-min=47.8km az=35.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**28.69**	**98**	T	T	20 36 21.4	
	baz=255,slow=75,SNR=398						
H01W3	**Cape Leeuwin H**	**28.70**	**98**	T	T	20 36 20.8	
	baz=255,slow=75,SNR=366						
H01W1	**Cape Leeuwin H**	**28.71**	**98**	T	T	20 36 22.7	
	baz=255,slow=75,SNR=306						
H08S2	**Diego Garcia H**	**28.91**	**347**	T	T	20 37 04.1	
	baz=171,slow=76,SNR=238						
H08S1	**Diego Garcia H**	**28.91**	**347**	T	T	20 37 04.5	
	baz=171,slow=76,SNR=201						
H08S3	**Diego Garcia H**	**28.93**	**347**	T	T	20 37 05.7	
	baz=171,slow=76,SNR=234						
MAW	**Mawson**	**32.83**	**191**	LR	LR	20 17 09.9	
	comp=Z,99nm,18.7s,baz=60,slow=31						
BOSA	**Boshof**	**45.37**	**264**	LR	LR	20 23 52.7	
	comp=Z,23nm,21.0s,baz=138,slow=32						
ASAR	**Alice Springs**	**48.77**	**91**	P	P	20 08 52.2	-0.3
	0.7nm,1.0s,baz=249,slow=6.8,SNR=4.6						
WRA	**Warramunga Arr**	**50.94**	**87**	P	P	20 09 09.0	0.0
	1.2nm,0.9s,baz=236,slow=8.1,SNR=4.2						
STKA	**Stephens Creek**	**51.44**	**105**	LR	LR	20 27 22.1	
	comp=Z,97nm,19.1s,baz=209,slow=32						
VNDA	**Vanda**	**53.56**

ILAR	**Eielson Array**	**16.70**	**36**	Pn		**Pn**	**20 37 01.6**	**-0.6**
	0.1nm,0.3s,baz=225,slow=11,SNR=13							
ILAR				LR		LR	20 43 13.3	
	comp=Z,95nm,20.1s,baz=276,slow=36							
EGAK	**Eagle**	**18.82**	**40**	*eP*		**P**	**20 37 26.6**	**-1.4**
	5.8nm,1.1s							
HYT	**Haines Junctio**	**19.21**	**53**	*eP*		**Pn**	**20 37 33.6**	**+0.3**
	10nm,0.8s							
SEY	**Seymchan**	**22.14**	**312**	P		**P**	**20 38 04.3**	**+0.4**
	5.6nm,0.9s,baz=114,slow=7.9,SNR=13							
DLBC	**Dease Lake**	**22.87**	**60**	P		**P**	**20 38 13.3**	**+1.5**
	8.8nm,0.8s,baz=277,slow=10.0,SNR=18							
DLBC				LR		LR	20 46 25.6	
	comp=Z,82nm,18.7s,baz=234,slow=35							
DLBC	**Dease Lake**	**22.87**	**60**	*eP*		**P**	**20 38 14.4**	**+2.6**
	7.8nm,0.8s							
INK	**Inuvik**	**23.09**	**34**	P		**P**	**20 38 12.5**	**-1.4**
	2.0nm,0.5s,baz=231,slow=10,SNR=5.3							
INK				LR		LR	20 47 12.3	
	comp=Z,33nm,20.7s,baz=227,slow=36							
YKA	**Yellowknife Ar**	**30.12**	**49**	P		**P**	**20 39 17.6**	**-0.3**
	0.3nm,0.6s,baz=273,slow=7.1,SNR=3.7							
WVOR	**Wild Horse Val**	**35.31**	**86**	*eP*		**P**	**20 40 04.6**	**+0.9**
	5.5nm,0.9s							
NVAR	**Mina Array Bea**	**37.94**	**91**	P		**P**	**20 40 26.8**	**+0.5**
	3.0nm,0.8s,baz=294,slow=8.2,SNR=20							
ELK	**Elko**	**38.07**	**86**	P		**P**	**20 40 30.4**	**+0.5**
	2.1nm,0.7s,baz=289,slow=7.5,SNR=6.6							
H11S1	**WAKE ISLAND Hy**	**38.87**	**217**	T		T	21 21 55.1	
	baz=22							
H11S2	**WAKE ISLAND Hy**	**38.88**	**217**	T		T	21 21 37.5	
	baz=22							
H11S3	**WAKE ISLAND Hy**	**38.89**	**217**	T		T	21 21 53.8	
	baz=22							
R11A	**Troy Canyon, C**	**39.64**	**89**	*eP*		**P**	**20 40 41.1**	**+0.7**
	4.1nm,1.0s							
DUG	**Dugway**	**40.16**	**85**	*eP*		**P**	**20 40 45.8**	**+1.0**
	3.7nm,1.0s							
PDAR	**Pinedale Array**	**40.57**	**79**	P		**P**	**20 40 48.4**	**+0.1**
	1.6nm,0.7s,baz=325,slow=4.2,SNR=12							
GSC	**Goldstone**	**40.89**	**94**	*eP*		**P**	**20 40 52.0**	**+1.2**
	2.8nm,0.7s							
PV01	**Paradox Valley**	**44.02**	**84**	*eP*		**P**	**20 41 16.2**	**-0.1**
	375nm,0.7s							
TUC	**Tucson**	**46.59**	**92**	*eP*		**P**	**20 41 37.4**	**+0.8**
	9.1nm,1.3s							
121A	**Cookes Peak, D**	**48.25**	**89**	*eP*		**P**	**20 41 50.1**	**+0.4**
	5.2nm,0.9s							
TXAR	**Lajitas Array**	**53.01**	**89**	P		**P**	**20 42 25.6**	**+0.1**
	2.8nm,0.8s,baz=293,slow=5.3,SNR=29							
SCHQ	**Schefferville**	**55.26**	**43**	LR		LR	21 07 23.7	
	comp=Z,57nm,19.2s,baz=34,slow=37							
KURK	**Kurchatov**	**61.83**	**318**	P		**P**	**20 43 26.2**	**-1.1**
KURBB	**Kurchatov Arra**	**61.94**	**318**	P		**P**	**20 43 26.2**	**-1.8**
	0.5nm,0.8s,baz=44,slow=6.6,SNR=5.7							
SIJI	**Sorong**	**72.49**	**244**	P		**P**	**20 44 34.9**	**-0.6**
	7.1nm,0.9s,baz=16,slow=7.4,SNR=4.5							
CMAR	**Chiang Mai Arr**	**76.25**	**282**	P		**P**	**20 44 56.2**	**-1.2**
	0.7nm,1.0s,baz=34,slow=6.6,SNR=3.4							
WRA	**Warramunga Arr**	**87.10**	**231**	P		**P**	**20 45 53.5**	**-0.9**
	0.8nm,0.7s,baz=34,slow=5.9,SNR=3.5							
ASAR	**Alice Springs**	**90.51**	**230**	P		**P**	**20 46 09.9**	**-0.5**
	1.8nm,0.8s,baz=30,slow=5.1,SNR=11							

IDC 22 20:37:27.3±1.8, 6°11'S×150°41'E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.5/38, mbtmp4.0/4, ML2.2/1, Error ellipse: s-maj=76.0km s-min=30.2km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.59**	**224**	Pn	Pn	20 38 38.6	+0.5
	7.3nm,0.3s,baz=45,slow=7.1,SNR=15						
PMG				Sn	Sn	20 39 29.7	-2.6
	11nm,0.3s,baz=60,slow=20,SNR=10						
WRA	**Warramunga Arr**	**20.81**	**227**	P	P	20 42 10.1	-0.4
	4.1nm,0.6s,baz=52,slow=11,SNR=21						
ASAR	**Alice Springs**	**23.60**	**221**	P	P	20 42 40.0	-0.1
	1.8nm,0.9s,baz=59,slow=8.7,SNR=8.9						
STKA	**Stephens Creek**	**26.93**	**197**	P	P	20 43 10.1	-0.4
	1.7nm,0.7s,baz=9.3,slow=10.0,SNR=6.2						
GERES	**GERESS Array B**	**38.36**	**327**	PKP	PKPdf	20 56 27.5	-0.2
	0.4nm,0.4s,baz=61,slow=2.4,SNR=2.2						
TORD	**Torodi Ar. Bea**	**148.40**	**285**	PKPbc	PKPbc	20 57 16.6	-0.3
	0.9nm,0.4s,baz=92,slow=2.5,SNR=18						

IDC 22 20:43:41.0±1.2, 52°.39N×169°.72W, h0km, mb3.9/6, mb1 4.2/7, mb1mx3.5/69, mbtmp3.8/7, ML3.6/1, MS3.0/1, Ms1 3.1/1, ms1mx2.5/51, Error ellipse: s-maj=49.3km s-min=21.2km az=148.0
ISCJB 22 20:43:42.2±0.9, 52°.69N±0°.07×169°.66W±0°.07, h15km±7km, mb3.8/6, Error ellipse: s-maj=12.3km s-min=5.5km az=155.1
NEIC 22 20:43:42.9, 52°.62N×169°.45W, h13km, mb3.4/1, ML3.8(AEIC), After AEIC.

ISC 22 20:43:41.6±1.7, 52.71N±0°.09×169.62W±0°.05, h3km±11km, n35, σ1s09/34, mb3.8/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.53**	**60**	P	**Pg**	**20 43 52.7**	**+0.9**
NIKH				S	**Sb**	**20 44 00.8**	**-0.8**
OKWR	**Okmok West Rim**	**1.12**	**49**	P	**Pg**	**20 44 03.6**	**+0.6**
OKCE	**Okmok Cone E**	**1.13**	**50**	P	**Pg**	**20 44 03.0**	**-0.3**
OKCE				S	**Sb**	**20 44 18.9**	**-0.1**
OKAK	**Okmok**	**1.15**	**41**	P	**Pg**	**20 44 02.0**	**-1.7**
OKTU	**Okmok Mt. Tuli**	**1.17**	**54**	P	**Pg**	**20 44 04.0**	**+0.1**
OKFG	**Magazine Ridge**	**1.25**	**55**	P	**Pb**	**20 44 04.5**	**-1.2**
OKFG				S	**Sg**	**20 44 21.7**	**+0.1**
MSOM	**Makushin Julie**	**1.95**	**54**	P	**Pn**	**20 44 15.4**	**-0.1**
MSOM				S	**Sn**	**20 44 40.5**	**0.0**
MCIR	**Makushin Cirqu**	**2.05**	**52**	P	**Pn**	**20 44 17.4**	**+0.4**
MTBL	**Makushin Table**	**2.17**	**53**	P	**Pn**	**20 44 18.5**	**-0.1**
UNV	**Unalaska Valle**	**2.19**	**58**	P	**Pn**	**20 44 18.2**	**-0.7**
UNV				S	**Sn**	**20 44 45.0**	**-1.4**
AKRB	**Akutan Reef Bi**	**2.56**	**55**	P	**Pn**	**20 44 24.6**	**+0.7**
ZRO	**Akutan Zero**	**2.58**	**56**	P	**Pn**	**20 44 25.3**	**+1.0**
AKGG	**Akutan Green G**	**2.63**	**54**	P	**Pn**	**20 44 26.1**	**+1.1**
AKUT	**Akutan**	**2.71**	**57**	*e*Pn	**Pn**	**20 44 27.7**	**+1.8**
ATKA	**Atka Island**	**2.89**	**267**	P	**Pn**	**20 44 28.0**	**+0.1**
GSTR	**Great Sitkin T**	**3.99**	**264**	*e*Pn	**Pn**	**20 44 43.9**	**+0.2**
GSCK	**Great Sitkin C**	**4.07**	**263**	P	**Pn**	**20 44 44.6**	**-0.2**
ADAG	**Mount Adagdak**	**4.34**	**263**	P	**Pn**	**20 44 50.2**	**+1.7**
SPIA	**Saint Paul Isl**	**4.49**	**356**	P	**Pn**	**20 44 51.4**	**+1.0**
SPIA				S	**Sn**	**20 45 43.7**	**+0.6**
PPLA	**Purkeypile**	**13.75**	**35**	*e*Pn	P	20 47 02.2	-3.9
	17nm,1.3s						
BPAW	**Bear Paw Mtn.**	**14.94**	**33**	*eP*	**P**	**20 47 18.6**	**-0.7**
	1.0nm,0.7s						
ILAR	**Eielson Array**	**16.75**	**35**	Pn	**P**	**20 47 38.5**	**-0.8**
	0.1nm,0.3s,baz=235,slow=11,SNR=9.4						
ILAR				LR	LR	20 54 33.3	
	comp=Z,50nm,18.2s,baz=269,slow=38						
EGAK	**Eagle**	**18.87**	**39**	*eP*	**Pn**	**20 48 04.4**	**+1.3**
	1.5nm,0.6s						
DLBC	**Dease Lake**	**22.84**	**60**	P	**P**	**20 48 48.4**	**+2.8**
	6.3nm,1.0s,baz=270,slow=7.6,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**37.63**	**218**	T	T	21 30 45.9	
	baz=23,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**37.64**	**218**	T	T	21 30 56.6	
	baz=23,slow=75,SNR=8.5						
H11N1	**WAKE ISLAND Hy**	**37.65**	**218**	T	T	21 30 46.0	
	baz=23,slow=75,SNR=9.0						
NVAR	**Mina Array Bea**	**37.82**	**91**	P	**P**	**20 51 00.8**	**+1.4**
	0.7nm,0.7s,baz=303,slow=8.4,SNR=6.2						
H11S1	**WAKE ISLAND Hy**	**38.82**	**217**	T	T	21 32 19.4	
	baz=23,slow=76,SNR=167						
H11S2	**WAKE ISLAND Hy**	**38.84**	**217**	T	T	21 32 17.6	
	baz=23,slow=76,SNR=100						
H11S3	**WAKE ISLAND Hy**	**38.84**	**217**	T	T	21 32 17.6	
	baz=23,slow=76,SNR=58						
PDAR	**Pinedale Array**	**40.49**	**79**	P	**P**	**20 51 21.4**	**-0.3**
	1.0nm,0.7s,baz=308,slow=4.4,SNR=7.9						
TXAR	**Lajitas Array**	**52.89**	**89**	P	**P**	**20 52 58.7**	**-0.1**
	1.0nm,0.7s,baz=300,slow=5.0,SNR=13						
WRA	**Warramunga Arr**	**87.10**	**231**	P	**P**	**20 56 26.9**	**-1.7**
	0.4nm,0.7s,baz=34,slow=6.0,SNR=2.8						
ASAR	**Alice Springs**	**90.50**	**230**	P	**P**	**20 56 43.7**	**-0.9**
	1.2nm,0.7s,baz=30,slow=4.6,SNR=9.0						

IDC 22 20:45:08.8±1.7, 3°37'S×142°04'E, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.4/40, mbtmp3.7/3, ML3.6/1, Error ellipse: s-maj=32.1km s-min=17.0km az=45.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.58**	**302**	Pn	Pb	20 45 38.7	-0.3
	3.1nm,0.3s,baz=138,slow=14,SNR=18						
JAY				Lg	Lg	20 45 58.7	
	11nm,0.3s,baz=72,slow=20,SNR=10						
WRA	**Warramunga Arr**	**18.10**	**204**	P	Pn	20 49 21.8	-0.2
	0.2nm,0.3s,baz=26,slow=13,SNR=4.2						
ASAR	**Alice Springs**	**21.66**	**201**	P	P	20 50 01.3	+0.1
	1.3nm,0.7s,baz=28,slow=9.8,SNR=11						
ILAR	**Eielson Array**	**85.07**	**24**	P	P	20 57 46.0	-0.2
	0.4nm,0.5s,baz=265,slow=4.0,SNR=5.1						

IDC 22 20:46:41.6±2.5, 27°.39N×53°.54E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.3/45, mbtmp3.6/5, MS2.6/1, Ms1 2.6/1, ms1mx2.2/37, Error ellipse: s-maj=61.0km s-min=26.4km az=157.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMAI	**Mount Meron Ar**	**16.65**	**294**	LR	LR	20 58 47.5	
	comp=Z,18nm,18.6s,baz=340,slow=44						
BRTR	**Keskin Array B**	**20.60**	**312**	P	Pn	20 51 24.2	-0.5
	0.7nm,0.7s,baz=130,slow=12,SNR=4.8						
MKAR	**Makanchi Array**	**29.76**	**42**	P	P	20 52 50.7	+0.9
	0.3nm,0.6s,baz=229,slow=9.1,SNR=2.6						
ZALV	**Zalesovo Beam**	**35.08**	**32**	P	P	20 53 35.8	-0.5
	0.4nm,0.4s,baz=236,slow=10,SNR=2.8						
FINES	**FINESS Array B**	**38.70**	**339**	P	P	20 54 05.9	-1.1
	3.1nm,0.9s,baz=146,slow=13,SNR=3.4						
TORD	**Torodi Ar. Bea**	**50.32**	**264**	P	P	20 55 40.3	-0.2
	0.6nm,1.1s,baz=75,slow=9.2,SNR=3.7						

NAO 22 20:48:14.9±1.4, 76°.89N×18°.45E, h8km±12km, ML3.9
CSEM 22 20:48:14.4±0.2, 76°.95N×18°.62E, h2km, ML2.9, Error ellipse: s-maj=5.8km s-min=3.5km az=48.0
ISCJB 22 20:48:15.4±0.7, 76°.8N±0°.1×18°.3E±0°.2, h16km, Error ellipse: s-maj=15.2km s-min=5.7km az=18.4
BER 22 20:48:17.6±4.3, 76°.93N×18°.37E, h15km±27km, MD2.1, ML2.9, ML3.9(NAO)

ISC 22 20:48:16.0±0.8, 76°.87N±0°.05×18°.36E±0°.06, h16km, n19, σ0s66/27, 2D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HSP	**Hornsund**	**0.66**	**284**	Pg	**Pg**	**20 48 28.6**	**-0.3**
HSP				Lg	Lg	20 48 36.5	
HSP	**Hornsund**	**0.66**	**284**	Pg	**Pg**	**20 48 28.6**	**-0.3**
HSP				Lg	Lg	20 48 36.5	
HSPB	**Hornsund (broa**	**0.66**	**283**	*e*P	**Pg**	**20 48 28.4**	**-0.5**
HSPB				*e*S	**Sg**	**20 48 37.3**	**-0.3**
HSPB	**Hornsund (broa**	**0.66**	**283**	*e*P	**Pg**	**20 48 28.4**	**-0.5**
	SNR=62						
HSPB				*e*S	**Sg**	**20 48 37.3**	**-0.3**
	SNR=62						
SPA0	**Spitsbergen Ar**	**1.39**	**343**	Pn	**Pn**	**20 48 40.0**	**-0.7**
	baz=153,slow=16						
SPA0				Lg	Lg	20 48 57.6	
	baz=160,slow=37						
SPA0	**Spitsbergen Ar**	**1.39**	**343**	Pn	**Pn**	**20 48 40.0**	**-0.7**
	baz=153,slow=16						
SPA0				Lg	Lg	20 48 57.6	
	baz=160,slow=37						
SPA0	**Spitsbergen Ar**	**1.39**	**343**	Pn	**Pn**	**20 48 40.0**	**-0.7**
	SNR=62						
SPA0				Lg	Lg	20 48 57.6	
	SNR=90						
HOPEN	**Hopen**	**1.58**	**100**	Pn	**Pn**	**20 48 43.6**	**+0.3**
HOPEN				Lg	Lg	20 49 03.3	
HOPEN	**Hopen**	**1.58**	**100**	*e*P	**Pn**	**20 48 43.6**	**+0.3**
HOPEN				*e*S	**Sb**	**20 49 04.0**	**-0.5**
HOPEN				IAML		20 49 11.4	
	comp=Z,136nm,0.3s						
HOPEN	**Hopen**	**1.58**	**100**	*e*P	**Pn**	**20 48 43.6**	**+0.3**
	SNR=62						
HOPEN				Lg	Lg	20 49 03.3	
HOPEN				*e*S	**Sb**	**20 49 04.0**	**-0.5**
	SNR=62						
BJO	**Bjornoya**	**2.38**	**175**	*e*Pg	**Pg**	**20 49 01.1**	**-0.6**
BJO				*e*Sg	**Sg**	**20 49 32.6**	**+0.1**
BJO				IAML		20 49 37.6	
	comp=Z,50nm,0.3s						
BJO	**Bjornoya**	**2.38**	**175**	*e*Pg	**Pg**	**20 49 01.1**	**-0.6**
	SNR=92						
BJO				*e*Sg	**Sg**	**20 49 32.6**	**+0.1**
	SNR=92						
KBS	**Kingsbay**	**2.47**	**330**	Pn	**Pn**	**20 48 54.6**	**-1.0**
KBS				Pg	**Pb**	**20 49 00.8**	**+0.8**
KBS				Lg	Lg	20 49 30.5	
KBS	**Kingsbay**	**2.47**	**330**	*e*P	**Pn**	**20 48 54.4**	**-1.1**
KBS				*e*Sg	**Sb**	**20 49 30.6**	**+0.4**
KBS				IAML		20 49 37.7	
	comp=Z,463nm,0.2s						
KBS	**Kingsbay**	**2.47**	**330**	Pn	**Pn**	**20 48 54.6**	**-1.0**
KBS	**Kingsbay**	**2.47**	**330**	Pg	**Pb**	**20 49 00.8**	**+0.8**
KBS				Lg	Lg	20 49 30.5	
ARA0	**ARCESS Array S**	**7.65**	**161**	Pn	**Pn**	**20 50 07.4**	**+0.8**
	baz=351,slow=12						
ARA0				Sn	Sn	20 51 25.2	-7.5
	baz=2.3,slow=22						
ARA0	**ARCESS Array S**	**7.65**	**161**	Pn	**Pn**	**20 50 07.4**	**+0.8**
	baz=351,slow=12						
ARA0				Sn	Sn	20 51 25.2	-7.5
	baz=2.3,slow=22						
ARA0	**ARCESS Array S**	**7.65**	**161**	Pn	**Pn**	**20 50 07.4**	**+0.8**
	SNR=62						

IDC 22 20:50:47.6±0.9, 12°.86S×166°.20E, h0km, mb4.0/12, mb1 4.1/12, mb1mx3.9/39, mbtmp4.0/12, MS3.9/6, Ms1 3.9/6, ms1mx3.3/40, Error ellipse: s-maj=33.4km s-min=19.9km az=109.0
ISCJB 22 20:50:49.5±1.1, 12°.8S±0°.1×166°.0E±0°.2, h20km, mb4.0/12, MS4.1/5, Error ellipse: s-maj=33.8km s-min=16.9km az=21.3
NEIC 22 20:50:52.9±0.7, 12°.88S×166°.16E, h35km, mb4.5/1, Error ellipse: s-maj=26.2km s-min=14.9km az=117.0

ISC 22 20:50:50.8±1.0, 12°.9S±0°.2×166°.2E±0°.2, h20km, n22, σ0s87/19, mb4.0/12, MS3.9/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.00**	**298**	LR	LR	20 55 31.6	
	comp=Z,171nm,19.4s,baz=132,slow=40						
STKA	**Stephens Creek**	**29.46**	**226**	P	**P**	**20 56 53.0**	**-0.5**
	2.1nm,0.8s,baz=53,slow=8.2,SNR=5.4						
STKA				LR	LR	21 09 03.3	
	comp=Z,100nm,18.7s,baz=23,slow=37						
WRA	**Warramunga Arr**	**31.31**	**253**	P	**P**	**20 57 09.4**	**-0.6**
	0.8nm,0.8s,baz=82,slow=8.5,SNR=3.4						
ASAR	**Alice Springs**	**32.41**	**246**	P	**P**	**20 57 18.3**	**-1.4**
	1.4nm,0.7s,baz=70,slow=8.9,SNR=8.5						
PPT	**Papeete**	**42.88**	**102**	LR	LR	21 12 52.4	
	comp=Z,48nm,21.4s,baz=178,slow=31						
MJAR	**Matsushiro Arr**	**55.76**	**333**	P	**P**	**21 00 25.6**	**-0.8**
	1.1nm,0.9s,baz=177,slow=8.1,SNR=4.0						
ASAJ	**Asahikawa**	**60.63**	**341**	P	**P**	**21 01 00.6**	**+0.2**
	8.6nm,0.8s,baz=171,slow=5.5						
USRK	**Ussuriysk Ar.**	**64.75**	**333**	P	**P**	**21 01 28.1**	**+0.4**
	1.2nm,0.8s,baz=116,slow=6.6,SNR=3.8						
CMAR	**Chiang Mai Arr**	**73.22**	**294**	P	**P**	**21 02 22.8**	**+1.7**
	0.6nm,0.8s,baz=107,slow=3.1,SNR=4.1						
QSPA	**South Pole Qui**	**77.16**	**180**	P	**P**	**21 02 44.0**	**+1.0**
	4.8nm,1.0s,baz=0.3,slow=1.1,SNR=11						
QSPA	**South Pole Qui**	**77.16**	**180**	*e*P	**P**	**21 02 43.8**	**+0.8**
	5.2nm,1.0s						
SONM	**Songino Array**	**80.37**	**324**	P	**P**	**21 03 01.6**	**+0.7**
	0.4nm,0.6s,baz=137,slow=6.0,SNR=5.1						
ILAR	**Eielson Array**	**85.09**	**18**	P	**P**	**21 03 23.6**	**-1.3**
	0.7nm,0.8s,baz=234,slow=5.0,SNR=6.3						
ILAR				LR	LR	21 37 03.0	
	comp=Z,53nm,19.9s,baz=276,slow=33						
BBB	**Bella Bella**	**85.82**	**34**	LR	LR	21 35 08.9	
	comp=Z,304nm,19.9s,baz=136,slow=31						
MKAR	**Makanchi Array**	**95.12**	**317**	P	**P**	**21 04 12.7**	**0.0**
	0.2nm,0.4s,baz=89,slow=5.7,SNR=6.5						
ZALV	**Zalesovo Beam**	**95.26**	**324**	P	**P**	**21 04 13.4**	**+0.3**
	0.3nm,0.4s,baz=108,slow=4.7,SNR=3.1						
USHA	**Ushuaia**	**98.42**	**152**	LR	LR	21 40 24.9	
	comp=Z,464nm,19.4s,baz=129,slow=30						

ARCES	**ARCESS Array B**	**118.18**	**345**	PKP		**PKPdf**	**21 09 35.0**	**-1.0**
	8.0nm,1.1s,baz=48,slow=1.8,SNR=4.7							
FINES	**FINESS Array B**	**123.60**	**338**	PKP		**PKPdf**	**21 09 46.1**	**-0.5**
	0.7nm,0.7s,baz=45,slow=0.6,SNR=4.6							
KEST	**Kesra**	**149.10**	**321**	PKPbc		**PKPbc**	**21 10 38.1**	**-0.2**
	2.0nm,0.8s,baz=299,slow=4.1,SNR=7.0							
ESDC	**Sonseca Array**	**151.90**	**344**	PKPbc		**PKPbc**	**21 10 45.0**	**+0.2**
	0.4nm,0.5s,baz=348,slow=1.5,SNR=5.3							
ESDC				PKPab		**PKPab**	**21 10 54.1**	**+0.2**
	0.3nm,0.4s,baz=8.2,slow=3.8,SNR=5.4							
TORD	**Torodi Ar. Bea**	**164.88**	**273**	PKPab		**PKPab**	**21 11 51.5**	**+0.8**
	0.5nm,0.9s,baz=101,slow=2.9,SNR=3.4							

ISCJB 22 20:58:37.3±1.1, 5°.4S±0°.1×145°.2E±0°.1, h68km, mb3.6/4, Error ellipse: s-maj=25.0km s-min=7.3km az=142.8
IDC 22 20:58:39.4±2.4, 5°.37S×145°.24E, h76km±20km, mb3.5/4, mb1 3.6/7, mb1mx3.3/40, mbtmp3.8/7, Error ellipse: s-maj=38.8km s-min=11.5km az=52.0

ISC 22 20:58:39.1±1.3, 5°.3S±0°.2×145°.2E±0°.2, h68km, n9, σ1s22/10, mb3.8/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.47**	**155**	P	**Pn**	**20 59 46.0**	**+1.6**
	6.7nm,0.3s,baz=320,slow=10,SNR=14						
PMG				S	**Sn**	**21 00 34.9**	**-0.3**
	0.3nm,0.3s,baz=319,slow=20,SNR=4.2						
JAY	**Jayapura**	**5.31**	**302**	P	**Pn**	**20 59 56.0**	**0.0**
	1.5nm,0.3s,baz=123,slow=7.1,SNR=9.6						
JAY				S	**Sn**	**21 00 57.5**	**+1.7**
	0.6nm,0.3s,baz=108,slow=20,SNR=2.4						
WRA	**Warramunga Arr**	**17.97**	**215**	P	**P**	**21 02 42.2**	**-1.9**
	0.1nm,0.3s,baz=40,slow=12,SNR=4.5						
ASAR	**Alice Springs**	**21.23**	**210**	P	**P**	**21 03 19.6**	**-0.1**
	1.0nm,0.8s,baz=37,slow=12,SNR=7.4						
CMAR	**Chiang Mai Arr**	**51.38**	**299**	P	**P**	**21 07 37.3**	**-0.1**
	1.6nm,0.6s,baz=119,slow=6.2,SNR=18						
MKAR	**Makanchi Array**	**75.87**	**321**	P	**P**	**21 10 17.7**	**-0.6**
	0.5nm,0.5s,baz=109,slow=6.6,SNR=8.7						
ZALV	**Zalesovo Beam**	**77.52**	**328**	P	**P**	**21 10 26.5**	**-0.9**
	0.5nm,0.5s,baz=111,slow=7.9,SNR=3.4						
TORD	**Torodi Ar. Bea**	**143.22**	**285**	PKP	PKPbc	21 18 03.6	-0.2
	0.3nm,0.5s,baz=74,slow=2.7,SNR=4.6						
DBIC	**Dimbokro**	**150.22**	**274**	PKPbc	**PKPbc**	**21 18 23.4**	**-0.2**
	1.4nm,0.5s,baz=66,slow=0.6,SNR=5.5						

MEX 22 21:00:59.1±1.2, 16°.73N×98°.45W, h10km±11km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.46**	**137**	*e*P	Pg	21 01 07.3	-0.8
PNIG				*e*S	Sg	21 01 14.3	+0.2
TLIG	**Tlapa**	**0.84**	**353**	*e*P	Pg	21 01 12.2	-3.2
TLIG				*i* S	Sg	21 01 23.4	-3.1
MEIG	**Mezcala**	**1.63**	**317**	*e*P	Pn	21 01 25.1	-2.9
MEIG				*i* S	Sn	21 01 44.7	-4.4
CAIG	**El Cayaco**	**1.77**	**281**	*i* P	Pn	21 01 26.1	-3.6
CAIG				*i* S	Sn	21 01 47.6	-4.7
PLIG	**Platanillo**	**1.94**	**329**	*i* P	Pn	21 01 29.3	-2.9
PLIG				*i* S	Sn	21 01 52.1	-4.6

ISCJB 22 21:06:20.6±1.3, 52°.52N±0°.08×169°.37W±0°.07, h8km±8km, mb3.8/9, MS3.3/3, Error ellipse: s-maj=14.5km s-min=4.9km az=154.9
IDC 22 21:06:20.9±0.8, 52°.44N×169°.43W, h0km, mb3.8/9, mb1 4.1/12, mb1mx3.8/59, mbtmp3.8/12, ML3.6/3, MS3.4/4, Ms1 3.4/4, ms1mx2.9/49, Error ellipse: s-maj=30.7km s-min=14.8km az=160.0
NEIC 22 21:06:23.3, 52°.59N×169°.26W, h13km, ML3.8(AEIC), After AEIC.

ISC 22 21:06:23.7±1.4, 52°.59N±0°.10×169°.29W±0°.06, h20km±5km, n38, σ1s50/38, mb3.8/9, MS3.3/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.47**	**34**	P	**Pg**	**21 06 32.1**	**-1.1**
NIKH				S	**Sb**	**21 06 39.9**	**+0.1**
OKWR	**Okmok West Rim**	**1.07**	**37**	P	**Pb**	**21 06 43.4**	**-0.2**
OKTU	**Okmok Mt. Tuli**	**1.09**	**43**	P	**Pn**	**21 06 43.1**	**-0.8**
OKFG	**Magazine Ridge**	**1.17**	**45**	P	**Pn**	**21 06 43.9**	**-1.1**
OKFG				S	**Sb**	**21 07 00.1**	**+0.2**
MCIR	**Makushin Cirqu**	**1.98**	**46**	P	**Pn**	**21 06 56.1**	**0.0**
MSW	**Makushin Switc**	**2.00**	**48**	P	**Pn

JMA **22** *21:06:31.4,35˚.88N×140˚.49E,h35km±1km,M5.0 Broadband fault plane solution: P waves. NP1: ϕ±74.00000°,δ50.00000°,λ111.00000°. NP2: ϕ±223.00000°,δ44.00000°,λ67.00000°. Principal axes: T Plg74.0000°, Azm49.0000°; N Plg16.0000°, Azm240.0000°; P Plg3.0000°, Azm149.0000°;*

MOS **22** *21:06:31.6±0.9,35˚.92N×140˚.33E,h38km,mb5.3/81, MS4.2/30 Error ellipse: s-maj=6.6km s-min=4.4km az=101.5*

ISCJB **22** *21:06:31.1±0.3,35˚.82N±0˚.02×140˚.40E±0˚.02,h35km±3km, mb5.0/221,MS4.3/46,Error ellipse: s-maj=3.2km s-min=2.5km az=175.0*

NEIC **22** *21:06:34.2±2.1,35˚.84N×140˚.41E,h47km±1km,mb5.1/142, MW4.9(NIED),Error ellipse: s-maj=11.7km s-min=9.9km az=83.0*

NEIC Felt [IV] at Kashima and Tsukuba; [III] at Chiba, Narita and Tokyo; [II] at Yokosuka. Felt in much of southeastern Honshu. Recorded [5L JMA] in Ibaraki; [2 JMA] in Gumma, Kanagawa and Tochigi; [1 JMA] in Fukushima, Miyagi and Niigata.

GCMT **22** *21:06:34.2±0.2,35˚.83N×140˚.58E,h37km,MW5.1/76, Moment Tensor Solution. s60,c91; s76,c123; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.57±.15; Mθθ-4.40±.10; Mϕϕ-0.17±.11; Mrθ1.77±.11; Mθϕ-1.92±.07; Mϕr1.04±.10; Best double couple: M05.27400×10^16 NP1:ϕ±65.00000°,δ56.00000°,λ85.00000°. NP2: ϕ±253.00000°,δ34.00000°,λ97.00000°. Principal axes: T 5.0000, Plg78.0000°, Azm318.0000°; N 0.5470, Plg4.0000°, Azm67.0000°; P -5.5480, Plg11.0000°, Azm158.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SZGRF **22** *21:06:35.1,36˚.76N×141˚.40E,h40km,mb5.1,MS4.4,Near east coast of eastern Honshu, Japan*

ISC 22 21:06:34.0±0.3,35˚.82N±0˚.03×140˚.50E±0˚.03,h52km±2km, h52km:pP-P,n769,σ1§30/844,mb5.0/221,MS4.3/49, 44C-31D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.32**	**111**	⇑P	Pn	21 06 39.7	-3.7
CHOJ				S	**Sn**	**21 06 45.6**	**-4.6**
JYT	**Yasato**	**0.48**	**329**	⇓P	Pn	21 06 40.9	-4.2
JYT				S	**Sn**	**21 06 47.4**	**-5.7**
I30JP	**ISUMI INFRASON**	**0.53**	**197**	Pn	**Pn**	**21 06 43.8**	**-1.9**
	baz=23,slow=14,SNR=6.0						
I30JP				Sn	**Sn**	**21 06 54.5**	**+0.4**
JHO	**Hitachi**	**0.80**	**4**	⇓P	Pn	21 06 45.0	-4.1
JHO				S	**Sn**	**21 06 54.5**	**-5.6**
BSO4	**Boso 4**	**0.83**	**189**	⇓P	**Pn**	**21 06 48.1**	**-1.4**
BSO3	**Boso 3**	**1.01**	**179**	⇓P	**Pn**	**21 06 49.9**	**-1.8**
JAG	**Ashikaga**	**1.04**	**306**	⇓P	Pn	21 06 48.6	-3.7
JAG				*e*S	**Sn**	**21 07 01.7**	**-4.2**
MJAR	**Matsushiro Arr**	**1.99**	**292**	Pn	Pn	21 07 01.5	-3.7
	222nm,0.3s,baz=88,slow=8.5,SNR=1343						
MJAR				Sn	**Sn**	**21 07 27.0**	**-2.0**
	261nm,0.3s,baz=83,slow=22,SNR=9.8						
MJAR				LR	LR	21 07 58.8	
	comp=Z,7μm,18.8s,baz=120,slow=48						
MJAR	**Matsushiro Arr**	**1.99**	**292**	P	Pn	21 07 01.5	-3.7
MJAR						21 07 27.0	
MJAR				pmax	pmax		
	comp=Z,222nm,0.3s						
MJAR				smax	smax		
	comp=N,261nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,7μm,18.8s						
MAJO	**Matsushiro**	**1.99**	**292**	*e*P	**Pn**	**21 07 02.9**	**-2.3**
MAJO				*e*		21 07 27.0	
MAJO	**Matsushiro**	**1.99**	**292**	*e*Pn	**Pn**	**21 07 02.9**	**-2.3**
MAJO				*e*Sn	**Sn**	**21 07 27.0**	**-2.0**
MAT	**Matsushiro**	**1.99**	**292**	P	**Pn**	**21 07 03.4**	**-1.9**
MAT				S	**Sn**	**21 07 27.7**	**-1.3**
JHJ	**Hachijo jima 2**	**2.75**	**193**	Pn	**Pn**	**21 07 13.1**	**-2.6**
	comp=Z,379nm,0.3s,baz=330,slow=16,SNR=73						
JHJ				Sn	**Sn**	**21 07 44.8**	**-3.0**
	comp=Z,635nm,0.3s,baz=166,slow=23,SNR=8.1						
JHJ				LR	LR	21 08 20.1	
	comp=Z,4μm,20.7s,baz=78,slow=41						
JHJ2	**Mitsune**	**2.76**	**192**	*e*Pn	**Pn**	**21 07 13.2**	**-2.5**
JHJ2				*e*Sn	**Sn**	**21 07 44.8**	**-3.0**
ERM	**Erimo**	**6.53**	**18**	Pn	Pn	21 08 04.1	-3.3
	comp=Z,1μm,0.7s,SNR=32						
ERM	**Erimo**	**6.53**	**18**	*e*P	**Pn**	**21 08 05.1**	**-2.3**
ERM				*e*		21 09 17.8	
ERM	**Erimo**	**6.53**	**18**	*e*Pn	**Pn**	**21 08 05.1**	**-2.3**
ERM				*e*Sn	**Sn**	**21 09 17.8**	**-2.7**
JNU	**Nakatsue**	**8.38**	**254**	Pn	Pn	21 08 29.6	-3.3
	comp=Z,0.2nm,0.3s,baz=61,slow=14,SNR=2.2						
ASAJ	**Asahikawa**	**8.45**	**10**	*e*Pn	Pn	21 08 30.0	-3.6
CBIJ	**Chichi jima**	**8.81**	**170**	*e*Pn	Pn	21 08 33.8	-5.0
CBIJ				*e*Sn	Sn	21 10 09.8	-6.9
JCJ	**Chichijima**	**8.81**	**170**	Pn	Pn	21 08 33.7	-5.1
	comp=Z,67nm,0.3s,baz=48,slow=4.8,SNR=52						
JCJ				Sn	**Sn**	**21 10 12.6**	**-4.1**
	comp=Z,16nm,0.3s,baz=270,slow=20,SNR=3.5						
CBI	**Chichi jima**	**8.82**	**170**	*e*Pn	Pn	21 08 33.7	-5.2
CBI				*e*Sn	**Sn**	**21 10 12.6**	**-4.2**
KSPHA	**Pohang**	**9.03**	**276**	P	**Pn**	**21 08 43.9**	**+2.3**
	SNR=5.4						
YUK	**Yuzh-Kuril'sk**	**9.18**	**25**	*e*P	**Pn**	**21 08 40.7**	**-3.0**
YUK				*i* S	Sn	21 10 18.8	-6.7
YUK				pmax	pmax		
	comp=Z,80nm,0.6s						
YUK				pmax	pmax		
	comp=E,54nm,0.3s						
YUK				pmax	pmax		
	comp=Z,29nm,0.3s						
YUK				smax	smax		
	comp=E,1μm,1.8s						
YUK				smax	smax		
	comp=N,859nm,0.9s						
YUK				MLR	MLR		
	comp=Z,652nm,20.0s						
VLA	**Vladivostok**	**9.87**	**320**	*d i*P	**Pn**	**21 08 54.9**	**+1.8**
MSHR	**Mys Shultsa**	**9.90**	**316**	*i* P	**Pn**	**21 08 55.7**	**+2.1**
KSCPR	**CHUPUNGNYEONG**	**10.16**	**276**	P	**Pn**	**21 08 59.5**	**+2.4**
	SNR=5.5						
KSRS	**Korea Array**	**10.24**	**283**	Pn	**Pn**	**21 08 55.1**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=96,slow=14,SNR=2.4						
KSRS				LR	LR	21 12 46.1	
	comp=Z,2μm,21.3s,baz=90,slow=37						
KS15	**Wonju Array Si**	**10.27**	**283**	*e*Pn	Pn	21 08 55.1	-3.5
KSCHC	**Chuncheon**	**10.36**	**285**	P	Pn	21 09 06.8	+6.9
	SNR=5.6						
USRK	**Ussuriysk Ar.**	**10.61**	**325**	Pn	**Pn**	**21 09 01.4**	**-1.9**
	comp=Z,0.7nm,0.3s,baz=135,slow=12,SNR=64						
USRK				LR	LR	21 12 58.7	
	comp=Z,1μm,18.4s,baz=134,slow=37						
KSCWO	**Cheorwon**	**10.63**	**286**	P	Pn	21 09 12.1	+8.5
	SNR=5.3						
TJN	**Taejon**	**10.64**	**277**	⇑*i*P	**Pn**	**21 09 06.3**	**+2.5**
KUR	**Kuril'sk**	**10.95**	**29**	⇑*i*P	Pn	**21 09 07.6**	**-0.2**
KUR				*i* S	Sn	21 11 01.5	-7.2
KUR				pmax	pmax		
	comp=N,16nm,0.9s						
KUR				pmax	pmax		
	comp=E,17nm,0.9s						
KUR				pmax	pmax		
	comp=Z,33nm,0.9s						
KUR				smax	smax		
	comp=E,101nm,0.6s						
KUR				smax	smax		
	comp=N,341nm,1.3s						
KUR				MLR	MLR		
	comp=N,605nm,19.0s						
KUR				MLR	MLR		
	comp=E,625nm,19.0s						
KUR				MLR	MLR		
	comp=Z,324nm,19.0s						
YSS	**Yuzh-Sakhalins**	**11.26**	**8**	⇑*i*P	**Pn**	**21 09 12.0**	**0.0**
YSS				*e*S	**Sn**	**21 11 17.0**	**+0.7**
YSS				pmax	pmax		
	comp=N,50nm,0.7s						
YSS				pmax	pmax		
	comp=Z,50nm,0.7s						
YSS				MLR	MLR		
	comp=Z,1μm,15.0s						
YSS				MLR	MLR		
	comp=N,2μm,16.0s						
YSS				MLR	MLR		
	comp=E,2μm,17.0s						
YSS	**Yuzh-Sakhalins**	**11.26**	**8**	*e*Pn	**Pn**	**21 09 11.0**	**-1.0**
KSSES	**Seosan**	**11.38**	**279**	P	Pn	21 09 17.6	+3.8
	SNR=5.9						
KSJJU	**Jeju**	**11.74**	**262**	P	Pn	21 09 25.5	+6.7
	SNR=18						
MDJ	**Mudanjiang**	**12.10**	**320**	P	**Pn**	**21 09 24.1**	**+0.5**
MDJ				S	**Sn**	**21 11 36.8**	**-0.2**
MDJ				PMZ			
	comp=E,38nm,1.0s						
MDJ				PMZ			
	comp=E,620nm,7.6s						
MDJ				LN			
	comp=E,890nm,18.2s						
MDJ				LE			
	comp=E,770nm,16.3s						
MDJ				LZ			
	comp=E,1μm,20.1s						
MDJ	**Mudanjiang**	**12.10**	**320**	*e*Pn	**Pn**	**21 09 24.7**	**+1.1**
HABR	**Khabarovsk**	**13.27**	**344**	*e*P	**Pn**	**21 09 36.9**	**-2.7**
HABR				*e*S	**Sn**	**21 12 02.5**	**-2.9**
HABR				pmax	pmax		
	comp=E,53nm,2.5s						
HABR				pmax	pmax		
	comp=N,33nm,2.5s						
HABR				pmax	pmax		
	comp=Z,54nm,2.5s						
HABR				MLR	MLR		
	comp=Z,850nm,15.0s						
UGL	**Uglegorsk**	**13.30**	**4**	*e*P	**Pn**	**21 09 37.0**	**-3.0**
UGL				*e*S	**Sn**	**21 12 02.8**	**-3.4**
JOW	**Kunigami**	**13.75**	**233**	*e*Pn	**P**	**21 09 50.3**	**-3.0**
CN2	**Changchun**	**14.04**	**309**	⇓P	**Pn**	**21 09 50.9**	**+0.9**
CN2				*e*sP		21 10 07.9	
CN2				*e*S	**Sn**	**21 12 24.1**	**0.0**
CN2				PMZ			
	comp=Z,10.0nm,0.6s						
CN2				PMZ			
	comp=Z,200nm,4.0s						
CN2				LN			
	comp=E,500nm,18.0s						
CN2				LE			
	comp=Z,700nm,18.0s						
CN2				LZ			
	comp=Z,500nm,17.0s						
SNY	**Shenyang**	**14.48**	**300**	⇑P	**Pn**	**21 09 56.8**	**+0.9**
SNY				S	S	21 12 45.6	-6.7
SNY				PMZ			
	comp=Z,38nm,2.0s						
SNY				PMZ			
	comp=Z,410nm,3.5s						
SNY				LN			
	comp=Z,820nm,17.5s						
SNY				LE			
	comp=Z,1μm,16.7s						
SNY				LZ			
	comp=Z,1μm,16.5s						
KLR	**Kul'dur**	**14.86**	**337**	*e*P	Pn	21 09 55.2	-5.6
KLR				MLR	MLR		
	comp=Z,2μm,12.0s						
TYV	**Tymovskoe**	**15.12**	**5**	*e*P	**P**	**21 10 11.0**	**+2.6**
TYV				MLR	MLR		
	comp=Z,2μm,18.0s						
TYV				MLR	MLR		
	comp=N,1μm,20.0s						
TYV				MLR	MLR		
	comp=E,2μm,20.0s						
DL2	**Dalian**	**15.32**	**287**	⇑*i*P	**P**	**21 10 08.8**	**-1.9**
DL2				pP	**pP**	**21 10 20.1**	**-2.2**
DL2				S	**Sn**	**21 12 56.0**	**+0.7**
DL2				SS	S	21 13 16.8	+7.4
DL2				PMZ			
	comp=E,97nm,1.0s						
DL2				PMZ			
	comp=E,280nm,5.6s						
SSE	**Sheshan**	**16.78**	**259**	P	**Pn**	**21 10 25.3**	**-0.1**
SSE				sP	**sP**	**21 10 42.9**	**-2.2**
SSE				S	**Sn**	**21 13 28.3**	**-2.7**
SSE				PMZ			
	comp=E,30nm,0.7s						
SSE				PMZ			
	comp=E,160nm,6.1s						
SSE				LN			
	comp=E,800nm,14.3s						
SSE				LE			
	comp=E,210nm,14.3s						
SSE				LZ			
	comp=E,650nm,14.0s						
NJ2	**Nanjing**	**18.34**	**264**	*e*P	**Pn**	**21 10 44.9**	**+0.3**
NJ2				pP	**pP**	**21 10 55.6**	**-0.2**
NJ2				sP	**sP**	**21 11 03.0**	**+0.6**
NJ2				S	**Sn**	**21 14 07.5**	**-1.1**
NJ2				sS	**sS**	**21 14 27.5**	**-2.3**
NJ2				PMZ			
	comp=E,30nm,1.0s						
NJ2				PMZ			
	comp=E,910nm,8.3s						
NJ2				LN			
	comp=E,2μm,21.5s						
NJ2				LE			
	comp=E,2μm,21.7s						
NJ2				LZ			
	comp=E,3μm,23.0s						
SKR	**Severo-Kuril's**	**18.66**	**32**	*e*P	**Pn**	**21 10 50.0**	**+1.8**
SKR				pmax	pmax		
	comp=N,110nm,1.0s						
SKR				pmax	pmax		
	comp=E,130nm,1.0s						
SKR				pmax	pmax		
	comp=Z,160nm,1.0s						
SKR				MLR	MLR		
	comp=Z,1μm,14.0s						
TIA	**Tai'an**	**18.91**	**278**	⇑P	**P**	**21 10 49.3**	**-1.1**
TIA				PMZ			
	comp=Z,30nm,1.1s						
TIA				LN			
	comp=Z,930nm,16.8s						
TIA				LE			
	comp=Z,800nm,17.0s						
TIA				LZ			
	comp=Z,890nm,19.2s						
BJI	**Beijing**	**19.62**	**290**	P	**P**	**21 10 57.5**	**-0.6**
BJI				S	**S**	**21 14 33.4**	**-3.3**
BJI				PMZ			
	comp=Z,22nm,1.3s						
BJI				PMZ			
	comp=Z,170nm,4.3s						
BJI				LN			
	comp=Z,550nm,16.6s						
BJI				LE			
	comp=Z,460nm,23.5s						
BJI				LZ			
	comp=Z,720nm,26.8s						
BJT	**Baijiatuau**	**19.63**	**290**	*e*P	**P**	**21 10 57.0**	**-1.2**
BJT				pmax	pmax		
	comp=Z,51nm,1.0s						
BJT	**Baijiatuau**	**19.63**	**290**	*e*P	**P**	**21 10 57.0**	**-1.2**
	comp=Z,51nm,1.0s						
HIA	**Hailar**	**20.27**	**318**	*e*P	**P**	**21 11 01.5**	**-3.7**
HIA				pmax	pmax		
	comp=Z,30nm,1.1s						
HIA	**Hailar**	**20.27**	**318**	*e*P	**P**	**21 11 01.5**	**-3.7**
	comp=Z,30nm,1.1s						
SSLB	**Suanglung**	**20.72**	**240**	*e*P	**P**	**21 11 10.0**	**-0.2**
	comp=Z,46nm,1.5s						
PETK	**Petropavlovsk-**	**21.11**	**30**	P	**P**	**21 11 14.0**	**-0.1**
	comp=Z,8.9nm,0.7s,baz=212,slow=10,SNR=10						
PETK				LR	LR	21 19 08.6	
	comp=Z,250nm,21.9s,baz=220,slow=36						
PETK	**Petropavlovsk-**	**21.11**	**30**	P	**P**	**21 11 14.0**	**-0.1**
PETK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
PETK				MLR	MLR		
	comp=Z,250nm,21.9s						
PEA2	**Petropavlovsk-**	**21.11**	**30**	*e*P	**P**	**21 11 14.0**	**-0.1**
PET	**Petropavlovsk**	**21.44**	**31**	*e*P	**P**	**21 11 18.9**	**+1.3**
PET				*e*S	**S**	**21 15 09.2**	**-3.2**
PET				pmax	pmax		
	comp=Z,73nm,0.9s						
PET				pmax	pmax		
	comp=Z,500nm,7.2s						
PET				pmax	pmax		
	comp=Z,300nm,12.0s						
PET				MLR	MLR		
	comp=Z,500nm,17.0s						
PET				MLR	MLR		
	comp=Z,500nm,19.0s						
PET	**Petropavlovsk**	**21.44**	**31**	*e*P	**P**	**21 11 19.0**	**+1.5**
	comp=Z,63nm,1.0s						
WHN	**Wuhan**	**22.48**	**264**	⇑P	**P**	**21 11 29.0**	**+0.1**
WHN				S	S	21 15 23.3	-8.9
WHN				LN			
	comp=Z,1μm,12.8s						
WHN				LE			
	comp=Z,980nm,12.8s						
WHN				LZ			
	comp=Z,2μm,13.8s						
GUMO	**Guam**	**22.48**	**169**	P	**P**	**21 11 27.4**	**-1.6**
	comp=Z,40nm,0.6s,baz=9.5,slow=12,SNR=3.9						
GUMO	**Guam**	**22.48**	**169**	P	**P**	**21 11 27.4**	**-1.6**
GUMO				pmax	pmax		
	comp=Z,40nm,0.6s						
GUMO	**Guam**	**22.48**	**169**	*e*P	**P**	**21 11 29.7**	**+0.7**
	comp=Z,716nm,1.6s						
HHC	**Hu-ho-hao-te**	**23.19**	**291**	*e*P	**P**	**21 11 34.3**	**-2.0**
HHC				PP	**PnPn**	**21 12 06.1**	**+2.5**
HHC				S	**S**	**21 15 43.5**	**-0.8**
HHC				sS	**sS**	**21 16 06.6**	**+0.5**
HHC				PMZ			
	comp=Z,25nm,1.1s						
HHC				PMZ			
	comp=Z,140nm,8.6s						
HHC				LN			
	comp=Z,370nm,12.3s						
HHC				LE			
	comp=Z,380nm,16.2s						
HHC				LZ			
	comp=Z,310nm,18.5s						
MA2	**Magadan**	**24.70**	**13**	*e*P	**P**	**21 11 49.3**	**-0.6**
XAN	**Xi'an**	**25.89**	**275**	P	**P**	**21 12 00.0**	**-1.1**
XAN				pP	**pP**	**21 12 12.3**	**-2.0**
XAN				PP	**PnPn**	**21 12 39.8**	**-0.7**
XAN				PcP	**PcP**	**21 15 29.8**	**+0.8**
XAN				S	S	21 16 19.1	-8.5
XAN				PMZ			
	comp=Z,4.0nm,0.8s						
XAN				PMZ			
	comp=Z,25nm,8.9s						
XAN				LN			
	comp=Z,500nm,19.2s						
XAN				LE			
	comp=Z,110nm,23.6s						
XAN				LZ			
	comp=Z,170nm,20.1s						
ENH	**Enshi**	**26.51**	**267**	*e*P	**P**	**21 12 05.2**	**-1.5**
	comp=Z,53nm,0.9s						
YAK	**Yakutsk**	**27.11**	**349**	P	**P**	**21 12 10.6**	**-1.0**
	comp=Z,2.0nm,0.3s,baz=163,slow=19,SNR=30						
YAK				LR	LR	21 22 51.1	
	comp=Z,570nm,19.9s,baz=172,slow=36						
YAK	**Yakutsk**	**27.11**	**349**	*d i*P	**P**	**21 12 10.8**	**-0.8**
YAK				*e**PP	pP	21 12 18.3	-6.5
YAK				*e*		21 12 55.1	
YAK				*e*PPP	PPP	21 13 03.4	
YAK				*e*		21 15 28.6	
YAK				*e*S	**S**	**21 16 47.8**	**+1.9**
YAK				*e*SS	**SnSn**	**21 17 56.7**	**0.0**
YAK				*e*SSS	SSS	21 18 12.9	
YAK				pmax	pmax		
	comp=Z,136nm,1.3s						
YAK				pmax	pmax		
	comp=E,30nm,1.4s						
YAK				pmax	pmax		
	comp=N,97nm,1.4s						
YAK				pmax	pmax		
	comp=Z,192nm,3.3s						
YAK				pmax	pmax		
	comp=N,199nm,3.5s						
YAK				pmax	pmax		
	comp=E,38nm,1.4s						
YAK				smax	smax		
	comp=E,121nm,2.9s						
YAK				smax	smax		
	comp=N,126nm,3.6s						
YAK				MLR	MLR		
	comp=Z,312nm,15.0s						
YAK				MLR	MLR		
	comp=N,468nm,17.0s						
YAK				MLR	MLR		
	comp=E,334nm,17.0s						
YAK	**Yakutsk**	**27.11**	**349**	*e*P	**P**	**21 12 10.7**	**-1.0**
	comp=E,107nm,0.9s						
ULN	**Ulaanbaatar**	**27.45**	**306**	*c i*P	**P**	**21 12 14.8**	**-0.4**
ULN				pmax	pmax		
	comp=Z,20nm,1.2s						
ULN	**Ulaanbaatar**	**27.45**	**306**	*e*P	**P**	**21 12 13.7**	**-1.5**
	comp=Z,13nm,0.9s						
SONA0	**Songino Array**	**27.88**	**306**	*e*P	**P**	**21 12 17.8**	**-1.1**
SONA0				*e*PcP	**PcP**	**21 15 34.3**	**+0.7**
SONM	**Songino Array**	**27.88**	**306**	P	**P**	**21 12 17.8**	**-1.1**
	comp=Z,3.9nm,0.5s,baz=110,slow=9.9,SNR=26						
SONM				PcP	**PcP**	**21 15 34.3**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=98,slow=2.9,SNR=3.0						
SONM				LR	LR	21 23 51.1	
	comp=Z,600nm,18.4s,baz=102,slow=38						
SONM	**Songino Array**	**27.88**	**306**	P	**P**	**21 12 17.8**	**-1.1**
SONM						21 15 34.3	
SONM				pmax	pmax		
	comp=Z,4.0nm,0.5s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,600nm,18.4s						
SEY	**Seymchan**	**28.13**	**12**	P	**P**	**21 12 20.7**	**-0.1**
	comp=Z,13nm,0.8s,baz=200,slow=6.0,SNR=16						
SEY	**Seymchan**	**28.13**	**12**	⇓*e*P	**P**	**21 12 21.7**	**+0.9**
BOD	**Bodaibo**	**28.18**	**330**	*e*P	**P**	**21 12 20.5**	**-0.8**
BOD				pmax	pmax		
	comp=Z,27nm,1.5s						
H11N2	**WAKE ISLAND Hy**	**28.20**	**118**	T	T	21 41 34.2	
	baz=311,slow=75,SNR=135						
H11N1	**WAKE ISLAND Hy**	**28.21**	**118**	T	T	21 41 54.4	
	baz=311,slow=75,SNR=260						
H11N3	**WAKE ISLAND Hy**	**28.22**	**118**	T	T	21 41 34.2	
	baz=311,slow=75,SNR=112						
H11S1	**WAKE ISLAND Hy**	**28.86**	**120**	T	T	21 42 25.6	
	baz=312,slow=75,SNR=274						
H11S3	**WAKE ISLAND Hy**	**28.86**	**120**	T	T	21 42 20.3	
	baz=312,slow=75,SNR=273						
H11S2	**WAKE ISLAND Hy**	**28.87**	**120**	T	T	21 42 21.4	
	baz=312,slow=75,SNR=241						
LZH	**Lanzhou**	**29.56**	**281**	*e*P	**P**	**21 12 34.0**	**-0.1**
LZH				pP	**pP**	**21 12 48.1**	**+0.8**
LZH				sP	**sP**	**21 12 55.5**	**+2.0**
LZH				PP	**PnPn**	**21 13 31.3**	**+0.9**
LZH				*e*S	**S**	**21 17 22.3**	**-3.2**
LZH				sS	**sS**	**21 17 47.0**	**-0.9**
LZH				PMZ			
	comp=Z,51nm,1.2s						
LZH				PMZ			
	comp=Z,160nm,5.9s						
LZH				LN			
	comp=Z,980nm,13.0s						
LZH				LE			
	comp=Z,620nm,13.8s						
LZH				LZ			
	comp=Z,1μm,16.2s						
GYA	**Guiyang**	**30.30**	**262**	P	**P**	**21 12 42.8**	**+2.2**
GYA				pP	**pP**	**21 12 56.6**	**+2.7**
GYA				sP	**sP**	**21 13 04.0**	**+4.0**
GYA				PP	**PnPn**	**21 13 42.9**	**+2.7**
GYA				PcP	**PcP**	**21 15 43.6**	**+3.6**
GYA				S	S	**21 17 36.0**	**-1.2**
GYA				sS	**sS**	**21 18 01.4**	**+1.8**
GYA				SS	**SnSn**	**21 19 16.0**	**+0.6**
GYA				ScS	**ScS**	**21 23 12.8**	**-1.3**
GYA				PMZ			
	comp=Z,20nm,0.8s						
GYA				PMZ			
	comp=Z,120nm,4.9s						
GYA				LN			
	comp=Z,920nm,16.6s						
GYA				LE			
	comp=Z,780nm,17.0s						
GYA				LZ			
	comp=Z,860nm,16.8s						
IRK	**Irkutsk**	**30.39**	**314**	*e*P	**P**	**21 12 40.0**	**-1.0**
IRK				pmax	pmax		
	comp=Z,20nm,0.8s						
ZAK	**Zakamensk**	**30.47**	**310**	*e*P	**P**	**21 12 40.8**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.6s						
TLY	**Talaya**	**30.59**	**313**	P	**P**	**21 12 42.1**	**-0.7**

comp=Z,4.7nm,0.8s,baz=114,slow=9.5,SNR=7.0
TLY Talaya 30.59 313 *e*P **P** **21 12 42.7 -0.1**
TLY pmax pmax
comp=Z,10.0nm,0.9s
TLY MLR MLR
comp=Z,482nm,14.0s
TLY Talaya 30.59 313 *e*P **P** **21 12 43.0 +0.2**
comp=Z,8.7nm,0.8s
CD2 Chengdu 30.95 272 P **P** **21 12 45.4 -0.8**
CD2 pP **pP** **21 12 59.6 +0.1**
CD2 sP **sP** **21 13 06.6 +0.9**
CD2 S **S** **21 17 45.4 -1.8**
CD2 sS **sS** **21 18 10.3 +0.7**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,150nm,6.4s
CD2 LN
comp=Z,780nm,13.5s
CD2 LZ
comp=Z,960nm,17.3s
QIZ Qiongzhong 31.76 246 P **P** **21 12 54.5 +1.1**
QIZ pP **pP** **21 13 07.5 +0.8**
QIZ S **S** **21 18 01.4 +1.6**
QIZ sS **sS** **21 18 24.0 +1.7**
QIZ PMZ
comp=Z,12nm,1.5s
QIZ LZ
comp=Z,340nm,14.8s
GTA Gaotai 32.23 289 *e*P **P** **21 12 57.8 +0.3**
GTA pP **pP** **21 13 12.4 +1.6**
GTA sP **sP** **21 13 17.4 +0.4**
GTA PP **PnPn** **21 14 03.8 -1.3**
GTA PcP **PcP** **21 15 46.3 +1.3**
GTA S **S** **21 18 06.0 -1.2**
GTA sS **sS** **21 18 32.6 +2.9**
GTA PcS **PcS** **21 19 30.8 +0.8**
GTA SS **SnSn** **21 20 05.3 +3.2**
GTA ScS **ScS** **21 23 23.5 +0.1**
GTA PMZ
comp=Z,6.0nm,1.1s
GTA PMZ
comp=Z,86nm,5.3s
GTA LN
comp=Z,390nm,22.8s
GTA LE
comp=Z,430nm,20.9s
GTA LZ
comp=Z,470nm,22.8s
KMI Kunming 34.06 262 P **P** **21 13 12.5 -1.2**
KMI pP **pP** **21 13 28.3 +1.3**
KMI sP **sP** **21 13 35.3 +2.1**
KMI PP **PP** **21 14 31.8 +0.4**
KMI S **S** **21 18 34.1 -1.8**
KMI sS **sS** **21 19 00.3 +1.8**
KMI SS **SnSn** **21 20 44.0 -2.8**
KMI PMZ
comp=Z,22nm,1.1s
KMI PMZ
comp=Z,88nm,3.7s
KMI LN
comp=Z,280nm,13.9s
KMI LE
comp=Z,440nm,13.9s
KMI LZ
comp=Z,420nm,18.7s
BILL Bilibino 35.40 16*d i*P **P** **21 13 24.6 +0.1**
BILL pmax pmax
comp=Z,38nm,1.2s
BILL Bilibino 35.40 16 *e*P **P** **21 13 24.5 0.0**
comp=Z,20nm,0.8s
SKNT Sakolnakorn 37.42 250 P P 21 13 48.8 +6.5
SWI Sorong 37.49 195 P **P** **21 13 42.8 0.0**
comp=Z,18nm,0.9s
SIJI Sorong 37.50 195 LR LR 21 27 01.3
comp=Z,498nm,20.4s,slow=33
KRAR Krasnoyarsk 37.84 317⇑ *i*P **P** **21 13 44.6 -0.8**
KRAR pmax pmax
comp=Z,37nm,1.2s
JAY Jayapura 38.13 180 LR LR 21 26 17.7
comp=Z,195nm,19.8s,baz=52,slow=31
LBMI Labuha 38.24 201 P **P** **21 13 49.0 -0.1**
comp=Z,35nm,0.9s,comp=Z,674nm
CRAI Chiangrai 38.38 257 P P 21 13 47.0 -3.4
comp=Z,180nm,1.1s
KHON Khomkaen 38.69 250 P P 21 14 01.6 +8.6
CHAI Chaiyaphum 39.59 250 P **P** **21 14 00.4 -0.1**
comp=Z,10.0nm,1.0s,comp=Z,81nm
UTTA Uttaradit 39.62 254 P **P** **21 14 00.9 +0.2**
comp=Z,3.7nm,1.1s
PBKT Sadao Pong 39.98 252 P **P** **21 14 03.3 -0.4**
comp=Z,20nm,1.1s
SANI Sanana 40.04 203 P **P** **21 14 03.9 -0.2**
comp=Z,32nm,0.7s
CMMT Chiang Mai 40.28 256 P **P** **21 14 06.1 -0.1**
comp=Z,12nm,1.1s
CHTO Chiang Mai 40.28 256 P **P** **21 14 06.2 -0.1**
comp=Z,46nm,1.1s
CHTO Chiang Mai 40.28 256 *e*P **P** **21 14 06.1 -0.1**
CHTO pmax pmax
comp=Z,7.0nm,0.8s
CHTO Chiang Mai 40.28 256 *e*P **P** **21 14 06.1 -0.1**
comp=Z,6.6nm,0.8s
CM31 Chiang Mai Arr 40.48 256 *e*P **P** **21 14 07.0 -0.9**
CM31 *e*PcP **PcP** **21 16 10.6 +0.8**
CMAR Chiang Mai Arr 40.48 256 P **P** **21 14 07.0 -0.9**
comp=Z,1.7nm,0.6s,baz=47,slow=5.5,SNR=13
CMAR PcP **PcP** **21 16 10.6 +0.8**
comp=Z,0.7nm,0.5s,baz=24,slow=3.3,SNR=4.3
CMAR Chiang Mai Arr 40.48 256 P **P** **21 14 07.0 -0.9**
CMAR 21 16 10.6
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR pmax pmax
comp=Z,1.0nm,0.5s
WMQ Urumqi 40.74 298 P **P** **21 14 10.4 +0.6**
WMQ pP **pP** **21 14 26.6 +3.1**
WMQ sP **sP** **21 14 32.8 +3.3**
WMQ S **S** **21 20 15.4 -1.3**
WMQ ScS **ScS** **21 24 07.6 -2.7**
WMQ PMZ
comp=Z,26nm,1.1s
WMQ PMZ
comp=Z,100nm,3.7s
WMQ LN
comp=Z,480nm,19.3s
WMQ LE
comp=Z,210nm,24.0s
WMQ LZ
comp=Z,260nm,25.0s
MHMT Maesarieng 41.43 256 P P 21 14 24.2 +8.5
LSA Lhasa 41.59 276 P **P** **21 14 17.8 +0.3**
LSA Lhasa 41.59 276 *e*P **P** **21 14 17.9 +0.4**
LSA pmax pmax
comp=Z,30nm,1.1s
LSA Lhasa 41.59 276 *e*P **P** **21 14 17.9 +0.4**
comp=Z,30nm,1.1s
ZAA1 Zalesovo Array 42.20 313 *e*P **P** **21 14 21.3 -0.2**
ZAA1 *e*PcP **PcP** **21 16 15.1 +0.2**
ZALV Zalesovo Beam 42.20 313 P **P** **21 14 21.3 -0.2**
comp=Z,36nm,0.9s,baz=96,slow=6.0,SNR=86
ZALV PcP **PcP** **21 16 15.1 +0.2**
comp=Z,2.7nm,0.5s,baz=120,slow=2.3,SNR=4.4
ZALV LR LR 21 32 42.4
comp=Z,277nm,18.5s,baz=70,slow=37
ZALV Zalesovo Beam 42.20 313 P **P** **21 14 21.3 -0.2**
ZALV 21 16 15.1
ZALV pmax pmax
comp=Z,36nm,0.9s
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV MLR MLR
comp=Z,277nm,18.5s
NVS Novosibirsk 43.16 315⇑ *i*P **P** **21 14 28.4 -0.9**
NVS *e*S S 21 20 43.5 -8.3
NVS pmax pmax
comp=N,12nm,1.3s
NVS pmax pmax
comp=E,59nm,1.3s
NVS pmax pmax
comp=Z,57nm,1.3s
NVS smax smax
comp=E,22nm,2.5s
MK32 Makanchi Array 44.15 303 *e*P **P** **21 14 37.2 -0.3**
MKAR Makanchi Array 44.15 303 P **P** **21 14 37.2 -0.2**
comp=E,28nm,1.0s,baz=82,slow=9.2,SNR=94
MKAR LR LR 21 33 36.5
comp=E,534nm,19.1s,baz=86,slow=37
MKAR Makanchi Array 44.15 303 P **P** **21 14 37.2 -0.2**
MKAR pmax pmax
comp=Z,28nm,1.0s
MKAR MLR MLR
comp=Z,534nm,19.1s
MKAR Makanchi Array 44.15 303 *e*P **P** **21 14 37.3 -0.1**
KAPI Kappang 45.04 210 P **P** **21 14 44.5 -0.3**
comp=Z,4.2nm,0.6s,baz=27,slow=11,SNR=2.6
KAPI LR LR 21 33 06.8
comp=Z,82nm,19.0s,baz=38,slow=36
TAPN Taplejung 45.30 275 *e*P **P** **21 14 47.2 +0.1**
comp=Z,20nm,0.4s
ODAN Odare 45.76 274 *e*P **P** **21 14 50.5 -0.2**
comp=Z,18nm,0.5s
SRIT Nakonsritamara 46.05 244 P P 21 15 02.8 +10
KURK Kurchatov 46.11 309 P **P** **21 14 52.2 -0.6**
comp=Z,459nm,0.8s,SNR=27
KURK Kurchatov 46.11 309 *e*P **P** **21 14 52.2 -0.6**
KURK pmax pmax
comp=Z,48nm,1.0s
KURK Kurchatov 46.11 309 *e*P **P** **21 14 52.2 -0.6**
comp=Z,48nm,1.0s
RAMN Ramite 46.36 275 *e*P **P** **21 14 55.3 -0.2**
comp=Z,54nm,0.7s
GUN Gumba 46.55 276 *e*P **P** **21 14 57.2 +0.2**
SVW2 Sparrevohn 46.94 37 *e*P **P** **21 15 00.2 +1.0**
comp=Z,18nm,1.0s
PKI Pulchoki 47.07 276 *e*P **P** **21 15 00.7 -0.4**
comp=Z,35nm,0.9s
PKIN Phulchoki 47.07 276 *e*P **P** **21 15 00.8 -0.3**
KKN Kakani 47.08 276 *e*P **P** **21 15 00.5 -0.6**
comp=Z,36nm,0.8s
DMN Daman 47.30 276 *e*P **P** **21 15 02.0 -0.8**
comp=Z,30nm,0.9s
GKN Gorkha 47.51 277 *e*P **P** **21 15 03.9 -0.4**
comp=Z,194nm,1.3s
IM04 Indian Mountai 48.06 30 *e*P **P** **21 15 08.8 +0.9**
DANN Dangsing 48.08 278 *e*P **P** **21 15 09.3 +0.4**
comp=Z,23nm,0.9s
RSO Redoubt South 48.31 38 *e*P **P** **21 15 12.0 +1.9**
KOLN Koldanda 48.44 277 *e*P **P** **21 15 11.4 -0.2**
comp=Z,32nm,0.8s
KDAK Kodiak Island 48.50 41 P **P** **21 15 11.5 +0.2**
comp=Z,7.2nm,0.6s,baz=267,slow=5.6,SNR=11
KDAK LR LR 21 35 38.6
comp=Z,167nm,19.8s,baz=251,slow=36
KDAK Kodiak Island 48.50 41 *e*P **P** **21 15 12.9 +1.6**
KDAK pmax pmax
comp=Z,80nm,1.5s
KDAK Kodiak Island 48.50 41 *e*P **P** **21 15 12.9 +1.6**
comp=Z,80nm,1.5s
PPLA Purkeypile 48.59 34 *e*P **P** **21 15 14.0 +1.9**
comp=Z,40nm,1.2s
CAST Castle Rocks 48.65 34 *e*P **P** **21 15 14.5 +2.0**
comp=Z,12nm,1.1s
BPAW Bear Paw Mtn. 49.15 33 *e*P **P** **21 15 18.0 +1.7**
comp=Z,3.9nm,1.3s
MLY Manley 49.27 31 *e*P **P** **21 15 18.7 +1.5**
comp=Z,27nm,1.0s
SUA Susitna One 49.27 36 *e*P **P** **21 15 18.5 +1.2**
comp=Z,18nm,0.9s
TRF Thorofare Moun 49.45 34 *e*P **P** **21 15 20.6 +1.8**
comp=Z,17nm,1.2s
TKM2 Tokmak 2 49.57 299 P **P** **21 15 19.0 -1.0**
SNR=14
TKM2 Tokmak 2 49.57 299 *e*P **P** **21 15 20.5 +0.5**
TKM2 pmax pmax
comp=Z,59nm,1.4s
TKM2 Tokmak 2 49.57 299 *e*P **P** **21 15 20.5 +0.5**
comp=Z,59nm,1.4s
COEN Coen 49.57 177 *e*P **P** **21 15 22.3 +2.4**
comp=Z,43nm,1.0s
COLD Coldfoot 49.57 29 *e*P **P** **21 15 21.8 +2.4**
comp=Z,9.2nm,0.9s
RC01 Rabbit Creek A 49.77 37 *e*P **P** **21 15 21.2 +0.1**
comp=Z,21nm,1.0s
SEW Seward 49.97 38 *e*P **P** **21 15 22.9 +0.3**
comp=Z,41nm,1.1s
KZA Kyzart 50.03 298 P P 21 15 27.6 +3.8
SNR=7.0
PMR Palmer 50.04 36 *e*P **P** **21 15 23.7 +0.7**
PMR pmax pmax
comp=Z,18nm,0.9s
PMR Palmer 50.04 36 *e*P **P** **21 15 23.7 +0.7**
comp=Z,18nm,0.9s
MCK McKinley 50.05 33 *e*P **P** **21 15 23.6 +0.4**
MCK pmax pmax
comp=Z,25nm,1.2s
MCK McKinley 50.05 33 *e*P **P** **21 15 23.6 +0.4**
comp=Z,25nm,1.2s
KBK Karagaybulak 50.10 299 P **P** **21 15 24.8 +0.8**
SNR=16
RND Reindeer 50.10 34 *e*P **P** **21 15 24.4 +0.8**
RND pmax pmax
comp=Z,31nm,1.1s
RND Reindeer 50.10 34 *e*P **P** **21 15 24.4 +0.8**
comp=Z,31nm,1.1s
CHMS Chumysh 50.15 299 P **P** **21 15 24.3 +0.1**
SNR=9.6
KSH Kashi 50.23 295 P P 21 15 29.4 +4.4
KSH pP pP 21 15 45.3 +6.3
KSH PcP **PcP** **21 16 47.3 +3.8**
KSH PP PP 21 17 26.1 +5.6
KSH S **S** **21 22 37.1 +3.5**
KSH sS sS 21 23 04.1 +7.0
KSH SS **SS** **21 26 08.1 +0.8**
KSH PMZ
comp=Z,27nm,1.1s
KSH LN
comp=Z,170nm,4.5s
KSH LE
comp=Z,250nm,4.9s
KSH LZ
comp=Z,260nm,7.4s
USP Ospenovka 50.25 300 P **P** **21 15 25.4 +0.4**
SNR=7.5
MDM Murphy Dome 50.34 32 *e*P **P** **21 15 26.7 +1.4**
comp=Z,69nm,1.1s
WRH Wood River Hil 50.41 32 *e*P **P** **21 15 26.9 +1.1**
comp=Z,15nm,0.9s
SML Sawmill 50.41 36 *e*P **P** **21 15 27.1 +1.2**
SML pmax pmax
comp=Z,4.0nm,1.0s
SML Sawmill 50.41 36 *e*P **P** **21 15 27.1 +1.2**
comp=Z,4.2nm,1.0s
AAK Ala-Archa 50.42 299 *e*P **P** **21 15 27.0 +0.5**
AAK pmax pmax
comp=Z,16nm,1.0s
AAK Ala-Archa 50.42 299 *e*P **P** **21 15 27.0 +0.5**
comp=Z,16nm,1.0s
COLA College 50.50 32*c i*P **P** **21 15 27.4 +1.0**
COLA pmax pmax
comp=Z,84nm,1.2s
CCB Clear Creek Bu 50.52 32 *e*P **P** **21 15 27.6 +1.0**
comp=Z,12nm,1.2s
PSI Prapat 50.54 239 LR LR 21 36 45.4
comp=Z,116nm,19.9s,baz=44,slow=36
SCM Sheep Creek Mo 50.88 36 *e*P **P** **21 15 30.8 +1.3**
SCM pmax pmax
comp=Z,33nm,1.2s
SCM Sheep Creek Mo 50.88 36 *e*P **P** **21 15 30.8 +1.3**
comp=Z,33nm,1.2s
HDA Harding Lake 50.90 32 *e*P P 21 15 26.3 -3.2
comp=Z,21nm,0.9s
BRVK Borovoye 50.91 313 P **P** **21 15 29.2 -0.5**
comp=Z,98nm,1.1s,SNR=15
BRVK Borovoye 50.91 313 *e*P **P** **21 15 29.9 +0.2**
BRVK pmax pmax
comp=Z,18nm,1.0s
BRVK Borovoye 50.91 313 *e*P **P** **21 15 29.9 +0.2**
comp=Z,18nm,1.0s
ILAR Eielson Array 50.92 32 P **P** **21 15 29.9 +0.3**
comp=Z,6.9nm,0.8s,baz=270,slow=6.0,SNR=50
ILAR Eielson Array 50.92 32 P **P** **21 15 29.9 +0.3**
ILAR pmax pmax
comp=Z,7.0nm,0.8s
ILB Eielson Array 50.92 32 *e*P **P** **21 15 29.9 +0.3**
EKS2 Erkin-Say 50.93 299 *e*P **P** **21 15 31.0 +0.8**
EKS2 pmax pmax
comp=Z,16nm,1.3s
EKS2 Erkin-Say 50.93 299 *e*P **P** **21 15 31.0 +0.8**
comp=Z,16nm,1.3s
AML Almayashu 51.13 299 P **P** **21 15 33.1 +1.1**
SNR=16
KLU Klutina 51.58 36 *e*P **P** **21 15 36.2 +1.5**
comp=Z,22nm,1.0s
DIV Divide 51.69 36 *e*P **P** **21 15 37.3 +1.7**
comp=Z,32nm,1.0s
BMRM Bremner River 52.27 37 *e*P **P** **21 15 41.0 +1.1**
comp=Z,26nm,1.0s
RAGM Ragged Mountai 52.31 37 *e*P **P** **21 15 40.4 +0.3**
comp=Z,43nm,1.2s
KLSI 52.41 227 P **P** **21 15 40.7 -0.7**
comp=Z,44nm,1.7s
LHSI Lahat 52.46 229 P **P** **21 15 41.2 -0.5**
comp=Z,42nm,1.1s
LEM Lembang 52.48 223 P **P** **21 15 41.3 -0.8**
comp=Z,38nm,1.7s
LEM Lembang 52.48 223 LR LR 21 38 22.1
comp=Z,144nm,19.9s,slow=36
GSI Gunungsitoli 52.54 239 P **P** **21 15 41.9 -0.5**
comp=Z,45nm,1.1s,comp=Z,45nm,1.1s
GSI Gunungsitoli 52.54 239 *e*P **P** **21 15 43.1 +0.7**
comp=Z,41nm,1.0s
MDSI Maura Dua 52.58 228 P **P** **21 15 41.5 -1.1**
comp=Z,20nm,1.0s
KKAR Karatay Array 53.10 301 *e*P **P** **21 15 46.3 +0.1**
KKAR Karatay Array 53.10 301 *e*P **P** **21 15 46.3 +0.1**
NDI New Delhi 53.18 281 *e*P **P** **21 15 47.0 0.0**
EGAK Eagle 53.36 32 *e*P **P** **21 15 48.3 +0.6**
comp=Z,14nm,1.0s
DAWY Dawson 54.22 32 *e*P **P** **21 15 54.8 +0.6**
comp=Z,8.9nm,1.2s
FITZ Fitzroy Crossi 55.44 197 *e*P **P** **21 16 05.3 +2.0**
comp=Z,98nm,1.6s
SVE Sverdlovsk 55.58 319⇑ *i*P **P** **21 16 04.4 +0.5**
SVE *e*S **S** **21 23 41.5 -4.1**
SVE pmax pmax
comp=Z,47nm,1.2s
SVE MLR MLR
comp=Z,395nm,16.0s
HYT Haines Junctio 55.72 36 *e*P **P** **21 16 07.1 +2.1**
WRAB Tennant Creek 55.75 187 P **P** **21 16 05.1 -0.4**
comp=Z,131nm,0.9s,SNR=13
WRAB Tennant Creek 55.75 187 *e*P **P** **21 16 05.5 0.0**
WRAB pmax pmax
comp=Z,22nm,0.9s
WRAB Tennant Creek 55.75 187 *e*P **P** **21 16 05.5 0.0**
comp=Z,22nm,0.9s
WRA Warramunga Arr 55.76 187 P **P** **21 16 04.8 -0.8**
comp=Z,7.5nm,0.4s,baz=2.7,slow=7.4,SNR=59
INK Inuvik 55.80 27 P **P** **21 16 05.4 0.0**
comp=Z,7.2nm,0.5s,baz=290,slow=6.1,SNR=16
INK Inuvik 55.80 27 *e*P **P** **21 16 05.8 +0.5**
INK pmax pmax
comp=Z,17nm,0.8s
INK Inuvik 55.80 27 *e*P **P** **21 16 05.8 +0.5**
comp=Z,18nm,0.8s
ARU Arti 56.79 319*c i*P **P** **21 16 12.0 -0.6**
ARU *PP **pP** **21 16 25.0 -1.8**
ARU 21 17 05.5
ARU 21 18 18.4
ARU PPP PPP 21 19 33.2
ARU S **S** **21 24 01.9 +0.3**
ARU SS **SS** **21 27 55.3 +5.7**
ARU pmax pmax
comp=Z,66nm,1.2s
ARU MLR MLR
comp=Z,375nm,17.0s
ARU Arti 56.79 319 P **P** **21 16 12.4 -0.2**
comp=Z,242nm,0.5s,SNR=31
ARU Arti 56.79 319 *e*P **P** **21 16 12.3 -0.3**
comp=Z,45nm,1.0s
SOKR Solikamsk 56.84 323*c i*P **P** **21 16 13.5 +0.6**
SOKR pmax pmax
comp=Z,40nm,1.3s
SOKR MLR MLR
comp=Z,430nm,23.0s
KBL Kabul 57.16 291 *e*P **P** **21 16 15.5 -0.4**
KBL pmax pmax
comp=Z,15nm,0.8s
KBL Kabul 57.16 291 *e*P **P** **21 16 15.5 -0.4**
comp=Z,14nm,0.8s
HYB Hyderabad 57.43 269 *i* P **P** **21 16 17.5 -0.2**
HYB *e* 21 16 27.0
ABKAR Akbulak array 58.16 310 *e*P **P** **21 16 22.3 -0.1**
AS12 Alice Springs 59.49 187 *e*P **P** **21 16 31.7 -0.1**
ASAR Alice Springs 59.49 187 P **P** **21 16 31.7 -0.1**
comp=Z,6.0nm,0.7s,baz=7.1,slow=7.6,SNR=49
ASAR LR LR 21 40 59.4
comp=Z,154nm,21.6s,baz=326,slow=35
ASAR Alice Springs 59.49 187 P **P** **21 16 31.7 -0.1**
ASAR pmax pmax
comp=Z,6.0nm,0.7s
ASAR MLR MLR
comp=Z,154nm,21.7s
MBWA Marble Bar 59.98 202 *e*P **P** **21 16 36.4 +1.2**
comp=Z,45nm,1.2s
DLBC Dease Lake 60.04 37 P **P** **21 16 36.4 +1.1**
comp=Z,6.0nm,0.9s,baz=331,slow=13,SNR=6.1
DLBC Dease Lake 60.04 37 *e*P **P** **21 16 37.1 +1.8**
comp=Z,12nm,0.9s
ALE Alert 61.37 3 P **P** **21 16 44.2 +0.3**
comp=Z,136nm,1.0s,SNR=7.5
PRGR Permogore 61.38 327 *e*P **P** **21 16 42.5 -1.8**
PRGR *PP **pP** **21 16 57.0 -1.6**
PRGR S **S** **21 25 00.9 0.0**
PRGR pmax pmax
comp=Z,39nm,1.0s
PALK Pallekele 61.39 258 P **P** **21 16 45.2 +0.2**
baz=39,slow=7.3
PALK Pallekele 61.39 258 *e*P **P** **21 16 45.2 +0.2**
PALK pmax pmax
comp=Z,343nm,2.8s
PALK Pallekele 61.39 258 *e*P **P** **21 16 45.2 +0.2**
comp=Z,343nm,2.8s
SPA0 Spitsbergen Ar 61.57 349 *e*P **P** **21 16 46.4 +1.0**
SPITS Spitsbergen Ar 61.57 349 P **P** **21 16 46.4 +1.0**
comp=Z,9.5nm,0.8s,baz=64,slow=6.6,SNR=12
SPITS LR LR 21 44 11.8
comp=Z,121nm,21.9s,baz=40,slow=37
SPITS Spitsbergen Ar 61.57 349 P **P** **21 16 46.4 +1.0**
SPITS pmax pmax
comp=Z,10.0nm,0.8s
SPITS MLR MLR
comp=Z,121nm,21.9s
KBS Kingsbay 61.73 350 *e*P **P** **21 16 48.1 +1.7**
KBS pmax pmax
comp=Z,164nm,1.0s
KBS Kingsbay 61.73 350 *e*P **P** **21 16 48.1 +1.7**
comp=Z,164nm,1.0s
DZM Mont Dzumac 62.60 153 P **P** **21 16 54.2 +1.3**
comp=Z,29nm,1.3s,baz=271,slow=23,SNR=4.7
LVZ Lovozero 62.92 336⇑ *e*P **P** **21 16 53.5 -1.0**
LVZ pmax pmax
comp=Z,26nm,1.2s
IMYA Miami 63.05 297 *e*P **P** **21 16 55.3 -0.8**
TMCR Tamitsa 63.46 331 *e*P **P** **21 16 58.4 +0.3**
TMCR *e* 21 19 18.2
TMCR pmax pmax
comp=Z,84nm,1.2s
APA Apatity 63.49 336⇓ *i*P **P** **21 16 58.5 +0.2**
APA pmax pmax
comp=Z,26nm,1.0s
APA MLR MLR
comp=Z,500nm,15.0s
ABKT Ailbek 63.78 299 P **P** **21 17 01.6 +0.9**
comp=Z,79nm,1.1s,SNR=5.7
GEYT Alibeck 63.78 299 P **P** **21 17 00.9 +0.1**
comp=Z,111nm,0.9s,baz=46,slow=4.3,SNR=16
GEYT LR LR 21 46 36.8
comp=Z,337nm,18.7s,baz=120,slow=38
RES Resolute Bay 63.96 14 P **P** **21 17 01.7 +0.5**
comp=Z,32nm,1.0s,baz=312,slow=2.5,SNR=8.0
RES Resolute Bay 63.96 14 *e*P **P** **21 17 01.8 +0.5**
RES pmax pmax
comp=Z,31nm,0.9s
RES Resolute Bay 63.96 14 *e*P **P** **21 17 01.8 +0.5**
comp=Z,31nm,0.9s
IKRD Kardeh 64.00 298 *e*P P 21 16 55.6 -6.9
ARA0 ARCESS Array S 64.87 339 *e*P **P** **21 17 07.0 -0.3**
ARCES ARCESS Array B 64.87 339 P **P** **21 17 07.0 -0.2**
comp=Z,14nm,0.8s,baz=56,slow=8.1,SNR=13
ARCES LR LR 21 50 49.7
comp=Z,293nm,18.1s,baz=64,slow=41
ARCES ARCESS Array B 64.87 339 P **P** **21 17 07.1 -0.2**
ARCES pmax pmax
comp=Z,14nm,0.9s
ARCES MLR MLR
comp=Z,293nm,18.1s
YKA Yellowknife Ar 65.23 30 P **P** **21 17 10.1 +0.4**

comp=Z,1.4nm,0.7s,baz=297,slow=6.5,SNR=12
YKA Yellowknife Ar 65.23 30 P **P 21 17 10.1 +0.4**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKB5 Yellowknife Ar 65.23 30 *eP* **P 21 17 10.2 +0.5**
DAG Danmarks Havn 66.92 355⇑ *i*P **P 21 17 20.2 -0.1**
DAG *i* 21 17 31.3
comp=Z,29nm,1.2s
DAG Danmarks Havn 66.92 355⇑ *i*P **P 21 17 20.2 -0.1**
DAG *i* 21 17 31.3
DAG pmax pmax
comp=Z,45nm,1.2s
FORT Forrest 67.27 192 *eP* **P 21 17 23.8 +0.8**
comp=Z,34nm,0.7s
STKA Stephens Creek 67.35 179 P **P 21 17 23.8 +0.3**
comp=Z,12nm,0.8s,baz=344,slow=6.6,SNR=35
STKA LR LR 21 46 25.4
comp=Z,147nm,20.8s,baz=22,slow=36
STKA Stephens Creek 67.35 179 P **P 21 17 23.8 +0.3**
STKA pmax pmax
comp=Z,12nm,0.8s
STKA MLR MLR
comp=Z,147nm,20.8s
STKA Stephens Creek 67.35 179 *eP* **P 21 17 23.7 +0.3**
comp=Z,2.3nm,0.9s
MOS Moscow 67.78 323 *eP* **P 21 17 25.0 -1.1**
MOS pmax pmax
comp=Z,77nm,1.1s
MOS pmax pmax
comp=Z,100nm,1.6s
BBOO Buckleboo 68.40 184 *eP* **P 21 17 30.7 +0.6**
comp=Z,11nm,0.8s
OBN Obninsk 68.63 323 *c i*P **P 21 17 30.7 -0.7**
OBN pmax pmax
comp=Z,84nm,1.7s
OBN Obninsk 68.63 323 P **P 21 17 31.2 -0.2**
comp=Z,253nm,0.9s,SNR=5.2
OBN Obninsk 68.63 323 *eP* **P 21 17 31.4 0.0**
comp=Z,36nm,0.9s
ILAS Lasjerd 68.63 299 *eP* **P 21 17 32.5 +0.4**
LPSR Galich'ya Gora 68.76 320 *eP* **P 21 17 32.3 0.0**
LPSR pmax pmax
comp=N,10.0nm,0.8s
LPSR pmax pmax
comp=E,20nm,0.8s
LPSR pmax pmax
comp=Z,40nm,0.8s
LPSR MLR MLR
comp=N,330nm,19.0s
LPSR MLR MLR
comp=E,380nm,19.0s
LPSR MLR MLR
comp=Z,390nm,19.0s
IDMV Damavand 69.19 299 *eP* **P 21 17 35.2 -0.5**
IAFJ Afjeh 69.28 300 *eP* **P 21 17 35.5 -0.8**
VSR Storozhevoye 69.36 319 *eP* **P 21 17 35.3 -0.7**
VSR pmax pmax
comp=N,20nm,1.0s
VSR pmax pmax
comp=E,30nm,1.0s
VSR pmax pmax
comp=Z,50nm,1.0s
VSR MLR MLR
comp=N,150nm,12.0s
VSR MLR MLR
comp=E,150nm,12.0s
VSR MLR MLR
comp=Z,240nm,12.0s
IMEH Mehriz 69.40 294 *eP* **P 21 17 35.3 -1.6**
FIA0 FINESS Array S 69.54 332 *eP* **P 21 17 36.9 0.0**
FIA0 FINESS Array S 69.54 332 *eP* **P 21 17 36.9 0.0**
FINES FINESS Array B 69.54 332 P **P 21 17 36.9 0.0**
comp=Z,14nm,0.8s,baz=76,slow=6.0,SNR=24
FINES LR LR 21 53 01.7
comp=Z,214nm,18.1s,baz=31,slow=40
FINES FINESS Array B 69.54 332 P **P 21 17 36.9 0.0**
FINES pmax pmax
comp=Z,14nm,0.8s
FINES MLR MLR
comp=Z,214nm,18.1s
IGZV Ghazvin 70.07 301 *eP* **P 21 17 40.8 -0.1**
B08A Colville Reser 70.22 44 *eP* **P 21 17 42.7 +1.2**
comp=Z,12nm,1.1s
I03D Drain, OR 70.25 50 P **P 21 17 44.4 +2.8**
baz=70
IZEF Zefreh 70.32 297 *eP* **P 21 17 41.6 -1.0**
GOF Gofitskoye 70.35 312 *eP* **P 21 17 42.2 0.0**
GOF pmax pmax
comp=Z,60nm,1.3s
IKLH Kolahrood 70.65 297 *eP* **P 21 17 43.8 -0.8**
EDM Edmonton 70.76 38 *eP* **P 21 17 46.1 +1.5**
EDM pmax pmax
comp=Z,35nm,1.5s
EDM Edmonton 70.76 38 *eP* **P 21 17 46.1 +1.5**
comp=Z,35nm,1.5s
IRAZ Razeghan 70.77 300 *eP* **P 21 17 44.9 -0.4**
NCK Nalchik 70.82 310⇑ *i*P **P 21 17 45.8 +0.6**
TBLG Delisi 71.02 308 P P 21 17 41.3 -5.1
TBLG Delisi 71.02 308 P P 21 17 41.3 -5.1
ISRB Sarab 71.09 303 *eP* **P 21 17 47.0 -0.2**
C09A Chrisman Ranch 71.12 44 *eP* **P 21 17 48.3 +1.4**
comp=Z,37nm,1.6s
VSU Vasula 71.12 329 *c i*P **P 21 17 46.5 -0.2**
VSU pmax pmax
comp=Z,135nm,1.2s
KBZ Khabaz 71.13 311 P **P 21 17 47.0 0.0**
comp=Z,30nm,1.1s,baz=47,slow=3.6,SNR=24
KBZ Khabaz 71.13 311 *eP* **P 21 17 47.0 0.0**
KIV Kislovodsk 71.14 311 *c i*P **P 21 17 47.3 +0.1**
KIV *i* 21 18 02.6
KIV *i* S S 21 26 54.2 -5.9
KIV pmax pmax
comp=Z,93nm,1.2s
KIV MLR MLR
comp=Z,187nm,20.0s
KIV Kislovodsk 71.14 311 P **P 21 17 47.5 +0.3**
comp=Z,346nm,1.0s,SNR=11
KIV Kislovodsk 71.14 311 *eP* **P 21 17 47.8 +0.6**
comp=Z,106nm,1.3s
D08A Wollman Farm, 71.15 45 *eP* **P 21 17 48.5 +1.4**
comp=Z,12nm,1.1s
ONI Oni 71.38 309 P **P 21 17 47.2 -1.4**
IPIR Pirpir 71.47 297 *eP* **P 21 17 47.0 -2.7**
NEY Neytrino 71.49 310⇓ *eP* **P 21 17 50.5 +1.1**
NEY pmax pmax
comp=Z,8.0nm,1.2s
NEW Newport 71.52 43 P **P 21 17 50.3 +1.0**
comp=Z,2.8nm,0.6s,baz=300,slow=7.2,SNR=6.2
NEW Newport 71.52 43 *eP* **P 21 17 49.4 +0.1**
NEW pmax pmax
comp=Z,16nm,1.4s
NEW Newport 71.52 43 P **P 21 17 50.0 +0.7**
baz=71
NEW Newport 71.52 43 *eP* **P 21 17 49.4 +0.1**
comp=Z,16nm,1.4s
YBH Yreka Blue Hor 71.67 52 P **P 21 17 50.9 +0.4**
comp=Z,4.0nm,0.9s,baz=322,slow=3.0,SNR=5.6
YBH LR LR 21 41 31.9
comp=Z,28nm,20.6s,baz=314,slow=29
YBH Yreka Blue Hor 71.67 52 *eP* **P 21 17 51.5 +1.0**
YBH pmax pmax
comp=Z,25nm,1.5s
YBH Yreka Blue Hor 71.67 52 *eP* **P 21 17 51.5 +1.0**
comp=Z,25nm,1.5s
J05D Fort Rock, OR 71.78 50 P **P 21 17 51.9 +0.8**
baz=72
GNI Garni 71.84 307 *c i*P **P 21 17 53.5 +2.0**
GNI pmax pmax
comp=Z,49nm,1.7s
GNI Garni 71.84 307 *eP* **P 21 17 52.5 +0.9**
comp=Z,32nm,1.0s
E09A Wood Farm, Sta 71.89 45 *eP* **P 21 17 53.1 +1.5**
comp=Z,24nm,1.2s
SUMG Summit 71.90 360 *i*P **P 21 17 52.5 +0.8**
comp=Z,8.1nm,0.9s
SUMG Summit 71.90 360 *eP* **P 21 17 52.4 +0.8**
SUMG pmax pmax
comp=Z,17nm,1.0s
SUMG Summit 71.90 360 *eP* **P 21 17 52.4 +0.8**
comp=Z,17nm,1.0s
IMRD Marand 71.96 305 *eP* **P 21 17 52.0 -0.3**
N02D Trinity Center 72.08 52 P **P 21 17 54.3 +1.4**
baz=72
G08A Pilot Rock 72.08 47 *eP* **P 21 17 55.0 +2.2**
comp=Z,60nm,2.7s
CHVG Ch'k'valeri 72.17 310 P **P 21 17 53.0 -0.3**
CHVG Ch'k'valeri 72.17 310⇓ *i*P **P 21 17 54.3 +1.0**
M04C Macdoel 72.20 51 P **P 21 17 55.3 +1.6**
baz=72
K05A Summer Lake 72.29 50 *eP* **P 21 17 56.4 +2.2**
comp=Z,27nm,1.3s
IAZR Azarshahr 72.31 304 *eP* **P 21 17 54.7 +0.2**
WDC Whiskeytown Da 72.39 52 *eP* **P 21 17 55.2 +0.6**
WDC pmax pmax
comp=Z,21nm,1.4s
WDC Whiskeytown Da 72.39 52 *eP* **P 21 17 55.2 +0.6**
comp=Z,21nm,1.4s
WALA Waterton Lakes 72.83 42 *eP* **P 21 17 58.7 +1.4**
comp=Z,18nm,1.4s
NACGM Naroch 73.33 326 *e* **P 21 17 59.0 -0.9**
IVIS Veis 73.38 301 *eP* **P 21 17 59.1 -1.6**
JTMT Jette 73.39 43 *eP* **P 21 18 01.8 +1.2**
YBMT Yellow Bay 73.47 43 *eP* **P 21 18 02.7 +1.6**
SWMT Swartz Lake 73.68 43 *eP* **P 21 18 03.6 +1.3**
OHCM Honcut 73.75 53 *eP* **P 21 18 04.6 +1.9**
ANN Anapa 73.84 314 *eP* **P 21 18 02.9 -0.2**
ANN pmax pmax
comp=Z,68nm,1.6s
MSO Missoula 74.11 43 P **P 21 18 05.2 +0.4**
baz=74
MSO Missoula 74.11 43 *eP* **P 21 18 05.8 +1.0**
comp=Z,16nm,1.3s
SLMT Seeley Lake 74.11 43 *eP* **P 21 18 05.8 +0.9**
CHMT Chamberlain Mo 74.44 43 *eP* **P 21 18 07.5 +0.7**
AKASG Malin Array Be 74.80 322 P **P 21 18 07.8 -0.8**
comp=Z,15nm,0.8s,baz=45,slow=6.0,SNR=49
AKASG Malin Array Be 74.80 322 P **P 21 18 07.8 -0.8**
AKASG pmax pmax
comp=Z,15nm,0.8s
AKBB Malin Array Si 74.80 322 *eP* **P 21 18 07.8 -0.8**
AKBB Malin Array Si 74.80 322 *eP* **P 21 18 07.8 -0.8**
KIEV Kiev 74.82 322 *eP* **P 21 18 08.5 -0.2**
KIEV pmax pmax
comp=Z,26nm,1.0s
KIEV Kiev 74.82 322 *eP* **P 21 18 08.5 -0.2**
comp=Z,26nm,1.0s
ILULI Ilulissat 74.93 4 *i*P **P 21 18 09.4 +0.4**
MFID Camas Ranch 74.99 47 *eP* **P 21 18 11.3 +1.3**
comp=Z,15nm,1.3s
NB2 NORSAR Subarra 75.02 337 P **P 21 18 09.5 -0.2**
comp=Z,9.5nm,0.7s,baz=41,slow=5.9
NB200 NORSAR Array S 75.02 337 *eP* **P 21 18 09.6 -0.1**
NOA NORSAR Array B 75.02 337 P **P 21 18 09.6 -0.1**
comp=Z,5.7nm,0.5s,baz=40,slow=5.8,SNR=26
NOA LR LR 21 53 38.4
comp=Z,258nm,21.0s,baz=45,slow=38
NOA NORSAR Array B 75.02 337 P **P 21 18 09.6 -0.1**
NOA pmax pmax
comp=Z,1.0nm,0.4s
NOA MLR MLR
comp=Z,258nm,21.0s
FFC Flin Flon 75.13 32 P **P 21 18 10.9 +0.5**
comp=Z,60nm,1.0s,SNR=6.8
FFC Flin Flon 75.13 32 *eP* **P 21 18 10.8 +0.5**
FFC pmax pmax
comp=Z,15nm,1.0s
FFC Flin Flon 75.13 32 *eP* **P 21 18 10.8 +0.5**
comp=Z,15nm,1.0s
CMB Columbia Colle 75.18 54 *eP* **P 21 18 12.1 +1.0**
CMB pmax pmax
comp=Z,10.0nm,0.9s
CMB Columbia Colle 75.18 54 *eP* **P 21 18 12.1 +1.0**
comp=Z,10.0nm,0.9s
HRY Holter Researc 75.35 43 *eP* **P 21 18 13.4 +1.5**
FCC Fort Churchill 75.42 26 *eP* **P 21 18 12.3 +0.4**
FCC pmax pmax
comp=Z,29nm,1.3s
FCC Fort Churchill 75.42 26 *eP* **P 21 18 12.3 +0.4**
comp=Z,29nm,1.3s
SUW Suwalki 75.51 327 *eP* **P 21 18 12.2 -0.3**
SUW Suwalki 75.51 327 *eP* **P 21 18 12.3 -0.3**
LRM Limekiln Ridge 75.53 44 *eP* **P 21 18 14.4 +1.2**
WAKR Walker 75.54 53 *eP* **P 21 18 15.2 +1.9**
EGMT Eagleton 75.67 41 P **P 21 18 14.7 +0.9**
baz=75
EGMT Eagleton 75.67 41 *eP* **P 21 18 14.3 +0.6**
comp=Z,35nm,1.3s
SIM Simferopol' 75.67 315 *c i*P **P 21 18 14.4 +0.7**
SIM *i* 21 18 29.0
SIM pmax pmax
comp=Z,15nm,1.5s
SIM MLR MLR
comp=E,130nm,17.8s
DLMT Dillon 75.73 44 *eP* **P 21 18 15.7 +1.5**
comp=E,28nm,1.1s
HLID Hailey 75.74 46 P **P 21 18 15.6 +1.2**
baz=76
HLID Hailey 75.74 46 *eP* **P 21 18 15.9 +1.5**
comp=E,7.7nm,1.1s
BMN Battle Mountai 75.85 50 *eP* **P 21 18 17.0 +2.0**
BMN pmax pmax
comp=Z,13nm,0.9s
BMN Battle Mountai 75.85 50 *eP* **P 21 18 17.0 +2.0**
comp=Z,13nm,0.9s
MCMT McKenzie Canyo 75.90 45 *eP* **P 21 18 16.4 +1.1**
BOZ Bozeman (W) 76.10 43 P **P 21 18 17.6 +1.2**
baz=76
NV01 Mina Array Sit 76.31 52 *eP* **P 21 18 19.1 +1.4**
NVAR Mina Array Bea 76.31 52 P **P 21 18 19.1 +1.4**
comp=Z,6.5nm,0.9s,baz=290,slow=5.5,SNR=31
QLMT Earthquake Lak 76.71 44 *eP* **P 21 18 21.7 +1.9**
ELK Elko 76.90 49 P **P 21 18 22.5 +1.5**
comp=Z,5.2nm,1.0s,baz=326,slow=4.9,SNR=9.2
ELK Elko 76.90 49 P **P 21 18 22.5 +1.5**
ELK pmax pmax
comp=Z,5.0nm,1.0s
ELK Elko 76.90 49 *eP* **P 21 18 22.9 +1.9**
comp=Z,9.0nm,1.2s
MALT Malatya 76.94 308⇑ *i*P **P 21 18 22.6 +1.5**
GCMT Greycliff 77.10 42 *eP* **P 21 18 23.6 +1.7**
TPH Tonopah 77.21 52 *eP* **P 21 18 24.5 +1.7**
TPH pmax pmax
comp=Z,17nm,1.1s
TPH Tonopah 77.21 52 *eP* **P 21 18 24.4 +1.7**
comp=Z,17nm,1.1s
PKM Peak Mountain 77.33 56 P **P 21 18 23.9 +0.5**
baz=77
FLWY Flagg Ranch 77.58 44 *eP* **P 21 18 27.4 +2.7**
comp=Z,18nm,1.0s
FXWY Fox Creek 77.66 45 *eP* **P 21 18 27.5 +2.2**
comp=Z,14nm,1.3s
RLMT Red Lodge 77.73 43 P **P 21 18 26.8 +1.2**
baz=78
MOOW Moose Ponds 77.76 45 *eP* **P 21 18 27.8 +2.0**
comp=Z,14nm,1.4s
HVU Hansel Valley 77.77 47 *eP* **P 21 18 27.8 +1.9**
HVU pmax pmax
comp=Z,7.0nm,0.8s
HVU Hansel Valley 77.77 47 *eP* **P 21 18 27.8 +1.9**
comp=Z,6.7nm,0.8s
ISA Isabella 77.79 55 P **P 21 18 26.4 +0.5**
baz=78
TPAW Teton Pass 77.80 45 *eP* **P 21 18 28.2 +2.1**
comp=Z,31nm,1.6s
IAS Iasi 77.87 320⇓ *i*P **P 21 18 26.4 +0.4**
LVV L'vov 77.92 324 *eP* **P 21 18 26.1 -0.2**
REDW Red Top Meadow 77.93 45 *eP* **P 21 18 28.1 +1.3**
comp=Z,14nm,1.1s
DAC Darwin (Calif) 78.01 54 *eP* **P 21 18 27.5 +0.2**
DAC pmax pmax
comp=Z,6.0nm,1.1s
DAC Darwin (Calif) 78.01 54 *eP* **P 21 18 27.5 +0.2**
comp=Z,6.1nm,1.1s
R11A Troy Canyon, C 78.09 51 P **P 21 18 28.9 +1.2**
baz=78
R11A Troy Canyon, C 78.09 51 *eP* **P 21 18 28.9 +1.2**
comp=Z,13nm,1.3s
FRB Frobisher Bay 78.12 13 P **P 21 18 28.0 +0.9**
comp=Z,17nm,1.1s,baz=317,slow=7.9,SNR=3.0
FRB Frobisher Bay 78.12 13 *eP* **P 21 18 28.0 +0.9**
BGU Big Grassy Mou 78.14 48 *eP* **P 21 18 28.9 +1.1**
comp=Z,6.6nm,1.0s
H19A Powell 78.17 43 P **P 21 18 29.4 +1.4**
baz=78
MPMC Manual Prospec 78.21 54 P **P 21 18 29.1 +0.7**
baz=78
G20A Bridger 78.25 42 P **P 21 18 28.8 +0.4**
baz=78
LAO LASA Array 78.38 40 P **P 21 18 29.9 +0.9**
baz=78
TPNV Topopah Spring 78.50 53 *eP* **P 21 18 30.2 +0.3**
TPNV pmax pmax
comp=Z,11nm,1.0s
TPNV Topopah Spring 78.50 53 P **P 21 18 30.9 +0.9**
baz=78
TPNV Topopah Spring 78.50 53 *eP* **P 21 18 30.2 +0.3**
comp=Z,11nm,1.0s
EDW2 Edwards Air Fo 78.56 55 P **P 21 18 31.2 +1.0**
baz=78
I19A Meeteetse 78.57 44 P **P 21 18 31.4 +1.1**
baz=78
HWUT Hardware Ranch 78.60 47 *eP* **P 21 18 31.1 +0.6**
comp=Z,23nm,1.2s
KWP Kalwaria Pacla 78.68 324 *eP* **P 21 18 31.0 +0.5**
KWP Kalwaria Pacla 78.68 324 *eP* **P 21 18 31.0 +0.5**
DUG Dugway 78.71 48 *eP* **P 21 18 32.1 +1.1**
DUG pmax pmax
comp=Z,14nm,1.1s
DUG Dugway 78.71 48 P **P 21 18 32.1 +1.1**
baz=78
DUG Dugway 78.71 48 *eP* **P 21 18 32.1 +1.1**
comp=Z,14nm,1.1s
C24A Savage 78.76 39 P **P 21 18 31.6 +0.7**
baz=78
TESR Tescani 78.79 320⇓ *i*P **P 21 18 31.6 +0.5**
BURAR Bucovina Array 78.80 321⇑ *i*P **P 21 18 31.4 +0.1**
F22A Rosebud 78.95 41 P **P 21 18 33.0 +0.9**
baz=79
E23A Ismay 78.98 40 P **P 21 18 33.3 +1.0**
baz=79
J19A Crowheart 79.02 44 P **P 21 18 33.8 +1.1**
baz=79
A26A Wade Farm, Ken 79.03 37 P **P 21 18 33.1 +0.7**
baz=79
PD31 Pinedale Array 79.05 45 *eP* **P 21 18 33.3 +0.3**
PDAR Pinedale Array 79.05 45 P **P 21 18 33.3 +0.3**
comp=Z,3.6nm,0.6s,baz=336,slow=2.0,SNR=21
D24A Glendive 79.08 39 P **P 21 18 33.6 +0.8**
baz=79
BR101 Keskin Array S 79.10 311 *eP* **P 21 18 33.4 +0.2**
BRTR Keskin Array B 79.10 311 P **P 21 18 33.3 +0.2**
comp=Z,5.6nm,0.9s,baz=108,slow=3.2,SNR=27
BRTR LR LR 21 56 26.4
comp=Z,53nm,19.0s,baz=22,slow=38
BRTR Keskin Array B 79.10 311 P **P 21 18 33.3 +0.2**
BRTR pmax pmax
comp=Z,6.0nm,0.9s
BRTR MLR MLR
comp=Z,53nm,19.0s
GSC Goldstone 79.10 54 *eP* **P 21 18 34.6 +1.4**
GSC pmax pmax
comp=Z,23nm,1.9s
GSC Goldstone 79.10 54 P **P 21 18 34.3 +1.1**
baz=79
GSC Goldstone 79.10 54 *eP* **P 21 18 34.6 +1.4**
comp=Z,23nm,1.9s
I20A Worland 79.11 43 P **P 21 18 34.3 +1.2**
baz=79
BFSC Mount Baldy Ra 79.16 56 P **P 21 18 34.6 +1.0**
baz=79
VRI Vrincioaia 79.17 319⇓ *i*P **P 21 18 34.5 +1.2**
PLOR Plostina 79.22 319⇓ *i*P **P 21 18 34.6 +1.0**
HARR Harsova 79.29 318⇓ *i*P **P 21 18 35.6 +1.7**
G22A Birney 79.29 41 P **P 21 18 34.7 +0.6**
baz=79
NLU North Lily Min 79.31 48 *eP* **P 21 18 36.2 +1.8**
comp=Z,8.3nm,0.9s
KOLS Kolonicke sedl 79.37 324 *eP* **P 21 18 34.3 0.0**
KOLS pmax pmax
comp=Z,9.0nm,1.2s
KOLS Kolonicke sedl 79.37 324 *eP* **P 21 18 34.3 0.0**
KOLS *e*PCP **PcP 21 18 41.0 -1.3**
KOLS *e*pP **pP 21 18 47.6 -1.5**
KOLS *e*PP **PP 21 21 33.0 -1.1**
A27A Ledoux Ranch, 79.37 36 P **P 21 18 34.8 +0.5**
baz=79
F23A Volborg 79.44 41 P **P 21 18 35.3 +0.5**
baz=79
E24A Baker 79.46 39 P **P 21 18 35.5 +0.6**
baz=79
SHPR Sheep Range 79.46 53 *eP* **P 21 18 37.1 +1.9**
MPU Maple Canyon 79.54 48 *eP* **P 21 18 36.2 +0.6**
comp=Z,83nm,1.3s
UZH Uzhgorod 79.56 324 *eP* **P 21 18 37.3 +2.0**
UZH *e* 21 18 43.3
UZH *e* 21 18 53.3
ARCR ARCALIA 79.59 321⇓ *i*P **P 21 18 36.8 +1.3**
BMR Baia Mare 79.63 322⇓ *i*P pP 21 18 47.3 -3.2
I21A Big Trails, Te 79.66 43 P **P 21 18 36.8 +0.6**
baz=79
HEC Hector,Ludlow 79.69 55 P **P 21 18 37.4 +1.0**
baz=80
C26A Wahner Farm, P 79.72 37 P **P 21 18 37.0 +0.7**
baz=80
MSAB Monastry St. A 79.73 317⇑ *i*P **P 21 18 37.3 +1.0**
G23A Biddle 79.79 41 P **P 21 18 37.2 +0.5**
baz=80
TRPA Tarpa 79.79 323⇓ *i*P **P 21 18 37.5 +1.0**
TRPA Tarpa 79.79 323 *e*SKKPbc **P 21 18 37.1 +0.6**
DOPR Dopca 79.81 320⇓ *i*P **P 21 18 38.1 +1.4**
MLR Muntele Rosu 79.83 319⇑ *i*P **P 21 18 37.9 +0.9**
F24A Ekalaka 79.86 40 P **P 21 18 37.7 +0.6**
baz=80
NIE Niedzica 79.96 325 *eP* **P 21 18 38.0 +0.5**
NIE Niedzica 79.96 325 *eP* **P 21 18 38.0 +0.5**
E25A Miller Ranch, 79.96 39 P **P 21 18 38.2 +0.6**
baz=80
CCUT Cedar City 79.98 51 *eP* **P 21 18 39.0 +0.9**
comp=Z,11nm,1.4s
MVU Marysvale 80.11 50 *eP* **P 21 18 40.2 +1.4**
comp=Z,5.9nm,0.9s
MSU Marysvale 80.13 49 *eP* **P 21 18 40.7 +1.8**
MSU Marysvale 80.13 49 *eP* **P 21 18 40.7 +1.8**
F25A Bowman 80.32 40 P **P 21 18 40.0 +0.4**
baz=80
PFO Pinyon Flat Ob 80.34 56 P **P 21 18 40.4 +0.5**
comp=Z,9.3nm,1.0s,baz=305,slow=3.4,SNR=9.2
PFO LR LR 21 48 05.3
comp=Z,77nm,19.5s,baz=314,slow=31
PFO Pinyon Flat Ob 80.34 56 *eP* **P 21 18 40.6 +0.6**
PFO pmax pmax
comp=Z,12nm,1.0s
PFO Pinyon Flat Ob 80.34 56 P **P 21 18 40.8 +0.9**
baz=80
PFO Pinyon Flat Ob 80.34 56 *eP* **P 21 18 40.6 +0.6**
comp=Z,12nm,1.0s
VOIR 80.34 320⇓ *i*P **P 21 18 40.5 +0.8**
A29A Manning Farm, 80.35 35 P **P 21 18 39.7 +0.1**
baz=80
LDFC Landfair 80.35 54 *eP* **P 21 18 41.1 +1.1**
comp=Z,20nm,0.4s
BELC Belle Mtn. Jos 80.41 55 P **P 21 18 41.2 +0.9**
baz=80
RAYN Ar Rayn 80.43 292 P **P 21 18 40.3 -0.2**
comp=Z,107nm,1.0s,SNR=12
RAYN Ar Rayn 80.43 292 *eP* **P 21 18 40.0 -0.5**
comp=Z,47nm,1.5s
E26A Carlson Angus 80.46 39 P **P 21 18 40.7 +0.4**
baz=80
KECS Kecovo 80.53 324 *eP* **P 21 18 40.9 +0.3**
KECS pmax pmax
comp=Z,8.0nm,1.7s
KECS Kecovo 80.53 324 *eP* **P 21 18 40.8 +0.2**
KECS *e*PCP **PcP 21 18 46.8 -0.6**
KECS *e*pP **pP 21 18 52.4 -3.0**
KECS *e*PP **PP 21 21 41.6 -2.2**
ARR Arges 80.60 320⇓ *i*P **P 21 18 42.7 +1.6**
KNB Kanab 80.65 51 *eP* **P 21 18 42.8 +1.2**
KNB pmax pmax
comp=Z,35nm,1.3s
KNB Kanab 80.65 51 *eP* **P 21 18 42.8 +1.2**
comp=Z,35nm,1.3s
OKC Ostrava-Krasne 80.65 326 *eP* **P 21 18 41.0 -0.2**
OKC *e*pP **pP 21 18 53.7 -2.3**
OKC *e*sP **sP 21 19 03.8 +2.0**
OKC *e*PP **PP 21 21 44.5 -0.2**
OKC AMS AMS 21 58 10.0
comp=Z,300nm,13.0s
OKC Ostrava-Krasne 80.65 326 *eP* **P 21 18 41.0 -0.2**
OKC *e* 21 18 53.7
OKC *e* 21 21 44.5
OKC MLR MLR
comp=Z,300nm,13.0s
BAR Barrett 80.74 56 *eP* **P 21 18 42.6 +0.6**
comp=Z,22nm,1.4s
KSP Ksiaz 80.74 328 *eP* **P 21 18 41.9 +0.3**
KSP Ksiaz 80.74 328 *eP* **P 21 18 41.9 +0.3**
A30A Hoffart Farm, 80.77 35 P **P 21 18 42.1 +0.3**

baz=80
SRU San Rafael 80.77 48 *e*P **P 21 18 43.1 +0.8**
SRU pmax pmax
comp=Z,13nm,0.7s
SRU San Rafael 80.77 48 *e*P **P 21 18 43.1 +0.8**
comp=Z,13nm,0.7s
MONP Monument Peak 80.79 56 P **P 21 18 43.7 +1.2**
baz=81
BSEG Bad Segeberg 80.81 333 *e*P **P 21 18 41.3 -0.5**
comp=Z,17nm,1.2s
IRM Iron Mountain 80.88 54 P **P 21 18 43.8 +1.0**
baz=81
ULM Lac du Bonnet 80.92 33 P **P 21 18 42.7 +0.1**
comp=Z,3.2nm,0.6s,baz=320,slow=6.5,SNR=5.8
ULM LR LR 21 58 19.9
comp=Z,61nm,18.2s,baz=344,slow=38
ULM Lac du Bonnet 80.92 33 *e*P **P 21 18 42.9 +0.3**
ULM pmax pmax
comp=Z,27nm,1.7s
ULM Lac du Bonnet 80.92 33 *e*P **P 21 18 42.9 +0.3**
comp=Z,27nm,1.7s
MORC Moravsky Berou 80.97 327 *e*P **P 21 18 43.1 +0.2**
MORC pmax pmax
comp=Z,63nm,1.3s
MORC Moravsky Berou 80.97 327 ⇓*i*P **P 21 18 43.2 +0.3**
MORC Moravsky Berou 80.97 327 *e*P **P 21 18 43.1 +0.2**
comp=Z,63nm,1.3s
BC3 Big Chuckawall 80.98 55 P **P 21 18 44.3 +0.9**
baz=81
DPC Dobruska-Polom 81.09 328 *e*P **P 21 18 44.1 +0.5**
DPC *e*PCP **PcP 21 18 51.3 +1.5**
DPC *e*pP **pP 21 18 55.8 -2.6**
DPC *e*sP **sP 21 19 05.0 +0.8**
DPC *e*PP **PP 21 21 45.0 -3.4**
DPC AMS AMS 22 00 30.0
comp=Z,200nm,13.4s
DPC Dobruska-Polom 81.09 328 *e*P **P 21 18 44.1 +0.5**
DPC *e* 21 18 55.8
DPC *e* 21 21 45.0
DPC MLR MLR
comp=Z,200nm,13.4s
KRLC Kraliky 81.09 327 *e*P **P 21 18 43.3 -0.3**
KRLC *e*PCP **PcP 21 18 50.3 +0.5**
KRLC *e*pP **pP 21 18 56.2 -2.2**
KRLC *e*PP **PP 21 21 45.6 -2.8**
KRLC Kraliky 81.09 327 *e*P **P 21 18 43.3 -0.3**
KRLC *e* 21 18 56.2
KRLC *e* 21 21 45.6
B30A Myrvik Farm, E 81.10 35 P **P 21 18 43.8 +0.2**
baz=81
UPC Upice 81.11 328 *e*P **P 21 18 43.1 -0.5**
UPC *e*x x 21 18 54.3
UPC AMS AMS 21 59 00.0
comp=Z,300nm,14.8s
UPC Upice 81.11 328 *e*P **P 21 18 43.1 -0.5**
UPC *e* 21 18 54.3
UPC MLR MLR
comp=Z,300nm,14.8s
IBP Imperial Bould 81.14 56 P **P 21 18 44.9 +0.7**
baz=81
SWSC Sam W. Stewart 81.18 56 P **P 21 18 44.9 +0.6**
baz=81
G26A Maurine 81.19 40 P **P 21 18 43.9 -0.3**
baz=81
PSZ Piszkesteto 81.21 324 *e*P **P 21 18 44.9 +0.6**
PSZ pmax pmax
comp=Z,40nm,1.5s
PSZ Piszkesteto 81.21 324 ⇓*i*P **P 21 18 45.2 +0.9**
PSZ Piszkesteto 81.21 324 *e*P **P 21 18 44.9 +0.6**
comp=Z,40nm,1.5s
PSZ Piszkesteto 81.21 324 ⇑*e*P **P 21 18 44.8 +0.5**
VYHS Vyhne 81.30 325 *e*P **P 21 18 45.3 +0.6**
VYHS pmax pmax
comp=Z,12nm,1.5s
VYHS Vyhne 81.30 325 *e*P **P 21 18 45.3 +0.6**
VYHS *e*PCP **PcP 21 18 49.9 -0.8**
VYHS *e*pP **pP 21 18 57.6 -2.0**
VYHS *e*PP **PP 21 21 50.1 0.0**
SZH Strazhica 81.31 318 P **P 21 18 45.0 +0.2**
PDMCI Parker Dam,Lak 81.46 54 P **P 21 18 46.1 +0.4**
baz=81
G27A Dupree 81.48 39 P **P 21 18 45.7 0.0**
baz=81
Y12C Blythe 81.54 54 P **P 21 18 47.1 +1.0**
baz=81
H26A Fairpoint 81.56 40 P **P 21 18 46.6 +0.4**
baz=81
C30A Mose, Pekin 81.56 36 P **P 21 18 46.3 +0.2**
baz=81
PVCC Panska Ves 81.71 329 *e*P **P 21 18 46.7 -0.1**
PVCC *e*x x 21 18 56.9
PVCC *e*pP **pP 21 19 00.7 -1.0**
PVCC AMS AMS 21 57 40.0
comp=Z,400nm,17.2s
PVCC Panska Ves 81.71 329 *e*P **P 21 18 46.7 -0.1**
PVCC *e* 21 18 56.9
PVCC *e* 21 19 00.7
PVCC MLR MLR
comp=Z,400nm,17.2s
BRG Berggiesshubel 81.72 329 *e*P **P 21 18 46.4 -0.4**
comp=Z,11nm,1.3s
BRG *e* 21 21 53.5
comp=Z,5.5nm,1.1s
comp=N,261nm,13.7s
comp=E,126nm,12.6s
comp=Z,216nm,17.3s
BRG Berggiesshubel 81.72 329 *e*P **P 21 18 46.5 -0.3**
comp=Z,36nm,2.0s
BRG *e*pP **pP 21 18 58.0 -3.7**
BRG Berggiesshubel 81.72 329 *e*P **P 21 18 46.4 -0.4**
BRG *e* 21 21 53.5
BRG pmax pmax
comp=Z,11nm,1.3s
BRG pmax pmax
comp=Z,6.0nm,1.2s
BRG MLR MLR
comp=N,261nm,13.7s
BRG MLR MLR
comp=E,126nm,12.6s
BRG MLR MLR
comp=Z,216nm,17.3s
VRAC Vranov 81.73 327 ⇓*i*P **P 21 18 47.9 +1.0**
GLA Glamis 81.76 55 P **P 21 18 48.9 +1.5**
baz=82
CLL Collm 81.78 330 *e*P **P 21 18 46.6 -0.5**
comp=Z,18nm,1.2s
CLL Collm 81.78 330 ⇑*i*P **P 21 18 46.7 -0.4**
CLL *i* 21 18 56.4
CLL *e*S **S 21 28 58.0 +2.0**
CLL pmax pmax
comp=Z,18nm,1.2s
CLL MLR MLR
comp=Z,200nm,18.4s
CLL Collm 81.78 330 *e*P **P 21 18 46.8 -0.4**
comp=Z,17nm,1.0s
CLL Collm 81.78 330 ⇑*i*P **P 21 18 46.7 -0.4**
comp=Z,18nm,1.2s
CLL *i* 21 18 51.1
CLL *i* 21 18 56.4
CLL *i* (pP) **pP 21 19 00.2 -1.8**
CLL *e*PP **PP 21 21 53.0 -0.9**
CLL *e*S **S 21 28 58.0 +2.0**
CLL *e*(SP) 21 29 36.0
CLL *e*SS SS 21 34 30.0 +17
CLL *e*SSS SSS 21 37 54.0
CLL *e* 21 39 00.0
CLL *e*(SSSS) 21 40 12.0
CLL LmV 21 58 00.0
comp=Z,200nm,18.4s
E29A Napoleon 81.80 37 P **P 21 18 47.7 +0.3**
baz=82
H27A Howes 81.91 40 P **P 21 18 48.6 +0.5**
baz=82
BZS Buzias 81.98 322 ⇓*i*P **P 21 18 48.3 0.0**
PV09 Paradox Valley 82.00 48 *e*P **P 21 18 50.7 +1.8**
GOPC GO Pecny, Ondr 82.08 328 *e*P **P 21 18 48.5 -0.2**
GOPC *e*pP **pP 21 18 59.6 -4.1**
GOPC AMS AMS 21 59 30.0
comp=Z,200nm,12.7s
PRA Prague 82.11 328 *e*P **P 21 18 49.5 +0.6**
PRA AMS AMS 21 59 50.0
PRA Prague 82.11 328 *e*P **P 21 18 49.5 +0.6**
PRU Pruhonice 82.13 328 *e*P **P 21 18 49.1 +0.1**
PRU *e*pP **pP 21 18 59.7 -4.2**
PRU AMS AMS 21 59 50.0
comp=Z,300nm,14.2s
PRU Pruhonice 82.13 328 *e*P **P 21 18 49.1 +0.1**
PRU *e* 21 18 59.7
PRU MLR MLR
comp=Z,300nm,14.2s
PV10 Paradox Valley 82.13 48 *e*P **P 21 18 52.0 +2.4**
PV04 Paradox Valley 82.20 48 *e*P **P 21 18 51.6 +1.8**
E30A Jud 82.21 37 P **P 21 18 49.5 0.0**
baz=82
F29A Eureka 82.23 38 P **P 21 18 49.9 +0.3**
baz=82
TREC Trest 82.23 327 *e*P **P 21 18 49.6 0.0**
TREC *e*pP **pP 21 19 01.2 -3.3**
TREC AMS AMS 21 59 30.0
comp=Z,200nm,14.5s
TREC Trest 82.23 327 *e*P **P 21 18 49.6 0.0**
TREC *e* 21 19 01.2
TREC MLR MLR
comp=Z,200nm,14.5s
J26A Sides Ranch, S 82.29 41 P **P 21 18 51.2 +1.2**
baz=82
PV05 Paradox Valley 82.29 48 *e*P **P 21 18 51.9 +1.5**
N23A Red Feather La 82.32 45 P **P 21 18 51.5 +1.0**
baz=82
AGMN Agassiz Nation 82.36 34 *e*P **P 21 18 50.2 0.0**
comp=Z,16nm,1.5s
CLZ Clausthal 82.42 331 *e*P **P 21 18 50.4 -0.1**
comp=Z,22nm,1.3s
H28A Mission Ridge 82.43 39 P **P 21 18 51.0 +0.3**
baz=82
WUAZ Wupatki 82.49 51 P **P 21 18 52.6 +1.3**
baz=82
WUAZ Wupatki 82.49 51 *e*P **P 21 18 52.5 +1.1**
comp=Z,21nm,1.4s
K26A Motz Farm, Whi 82.65 42 P **P 21 18 52.2 +0.3**
baz=82
KDZ Kurdzhali 82.67 317 P **P 21 18 52.1 +0.1**
TANN Tannenbergstha 82.68 329 *e*P **P 21 18 51.7 -0.2**
comp=Z,14nm,1.7s
I28A Midland 82.82 40 P **P 21 18 53.1 +0.3**
baz=83
NKC Novy Kostel 82.83 329 *e*P **P 21 18 52.5 -0.1**
NKC *e*PCP **PcP 21 18 56.9 -0.5**
NKC *e*pP **pP 21 19 03.2 -4.4**
NKC *e*PP PP 21 21 56.8 -5.8
NKC Novy Kostel 82.83 329 *e*P **P 21 18 52.5 -0.1**
NKC *e* 21 19 03.2
SMCO Snowmass 82.85 46 *e*P **P 21 18 54.3 +0.9**
comp=Z,11nm,1.1s
MOX Moxa 82.85 330 *e*P **P 21 18 52.4 -0.3**
comp=Z,7.0nm,1.1s
MOX *e*L L 21 58 52.3
comp=Z,141nm,18.5s
H29A Onida 82.88 39 P **P 21 18 53.2 +0.2**
baz=83
SOP Sopron 82.94 326 ⇑*e*P **P 21 18 54.0 +0.8**
PKSM Moragy 83.03 324 ⇓*i*P **P 21 18 53.8 +0.1**
PKSM Moragy 83.03 324 ⇑*e*P **P 21 18 53.3 -0.4**
RZN Rozhen 83.03 317 P **P 21 18 54.4 +0.3**
IBBN Ibbenburen 83.04 333 *e*P **P 21 18 53.1 -0.5**
comp=Z,26nm,1.3s
G30A Faulkton 83.06 38 P **P 21 18 54.0 +0.1**
baz=83
CONA Conrad Observa 83.08 326 ⇑*i*P **P 21 18 54.6 +0.6**
comp=Z,22nm,1.4s,SNR=16
KHC Kasperske Hory 83.19 328 *e*P pP 21 19 05.0 -4.5
KHC Kasperske Hory 83.19 328 *e*P pP 21 19 05.0 -4.5
MVCO Mesa Verde 83.21 49 P **P 21 18 56.4 +1.2**
baz=83
MVCO Mesa Verde 83.21 49 *e*P **P 21 18 56.9 +1.8**
comp=Z,16nm,1.1s
ISCO Idaho Springs 83.23 45 *e*P **P 21 18 56.6 +1.3**
ISCO pmax pmax
comp=Z,8.0nm,1.0s
ISCO Idaho Springs 83.23 45 P **P 21 18 56.5 +1.2**
baz=83
ISCO Idaho Springs 83.23 45 *e*P **P 21 18 56.6 +1.3**
comp=Z,7.6nm,1.0s
VTS Vitosha 83.24 319 ⇓*i*P **P 21 18 56.0 +0.9**
VTS Vitosha 83.24 319 P **P 21 18 54.7 -0.4**
ROTZ Rotzenmuhle 83.28 329 *e*P **P 21 18 55.3 +0.3**
comp=Z,26nm,1.5s
GEC2 GERESS Array S 83.35 328 *e*P **P 21 18 55.1 -0.4**
comp=Z,10.0nm,1.5s
GEC2 GERESS Array S 83.35 328 *e*P **P 21 18 56.2 +0.7**
GEC2 GERESS Array S 83.35 328 *e*P **P 21 18 56.2 +0.7**
GERES GERESS Array B 83.35 328 P **P 21 18 55.1 -0.4**
comp=Z,0.9nm,0.5s,baz=40,slow=7.0,SNR=8.8
GERES LR LR 22 00 16.5
comp=Z,147nm,19.1s,baz=31,slow=39
GERES GERESS Array B 83.35 328 P **P 21 18 55.1 -0.4**
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES MLR MLR
comp=Z,147nm,19.1s
UBBA Unterbreizbach 83.36 331 *e*P **P 21 18 54.9 -0.3**
comp=Z,29nm,2.1s
WET Wettzell 83.48 328 *e*P **P 21 18 56.0 0.0**
comp=Z,19nm,1.6s
WET *e*pP **pP 21 19 07.7 -3.3**
MMB Musomiste 83.65 318 P **P 21 18 57.0 -0.1**
ARSA Arzberg 83.73 326 ⇑*i*P **P 21 18 57.9 +0.5**
comp=Z,9.6nm,1.2s,SNR=6.5
GRF Grafenberg Arr 83.75 330 *e*P **P 21 18 57.8 +0.4**
comp=Z,68nm,1.8s
GRF *e*L L 21 59 19.9
comp=Z,175nm,18.3s
GRFO Grafenberg 83.75 330 *e*P **P 21 18 58.0 +0.6**
GRFO pmax pmax
comp=Z,111nm,1.9s
GRFO Grafenberg 83.75 330 *e*P **P 21 18 58.0 +0.6**
comp=Z,111nm,1.9s
214A Organ Pipe Nat 83.78 55 P **P 21 18 58.4 +0.5**
baz=84
KKB Krupnik 83.81 318 P **P 21 18 58.0 +0.2**
MOA Mollin 83.85 327 ⇑*i*P **P 21 18 57.9 -0.1**
comp=Z,13nm,1.3s
S22A 4UR Ranch, Cre 83.87 47 P **P 21 19 00.3 +1.7**
baz=84
S22A 4UR Ranch, Cre 83.87 47 *e*P **P 21 19 00.1 +1.5**
comp=Z,20nm,1.3s
DIVS Divibare 83.87 321 ⇓*i*P **P 21 18 58.6 +0.4**
Q24A Divide 84.05 46 P **P 21 19 00.5 +1.0**
baz=84
Q24A Divide 84.05 46 *e*P **P 21 18 59.5 -0.1**
comp=Z,8.3nm,1.2s
J30A Dallas 84.16 39 P **P 21 18 59.8 +0.1**
baz=84
O26A Horse Wrangler 84.24 44 P **P 21 19 00.7 +0.4**
baz=84
N27A Anderson Farm, 84.29 43 P **P 21 19 00.9 +0.5**
baz=84
PERS Pernice 84.38 326 *e*P **P 21 19 00.7 -0.1**
PMOR Pomariorio Ree 84.38 113 *e*T T 22 51 17.8
comp=Z,14nm,0.2s
SOKA Soboth 84.39 326 ⇑*i*P **P 21 19 00.8 +0.1**
comp=Z,21nm,1.1s,SNR=18
TNS Taunus Mts 84.44 331 *e*P **P 21 19 00.7 -0.3**
comp=Z,32nm,1.9s
TNS *e*pP **pP 21 19 12.4 -3.5**
OGNE Ogallala 84.47 42 P **P 21 19 01.7 +0.4**
baz=84
EYMN Ely 84.56 32 P **P 21 19 01.5 -0.1**
baz=84
EYMN Ely 84.56 32 *e*P **P 21 19 01.4 -0.1**
comp=Z,19nm,1.3s
K30A Basset 84.56 40 P **P 21 19 02.2 +0.5**
baz=84
GOLS Golise 84.61 325 ⇑*i*P **P 21 19 01.4 -0.4**
SDCO Great Sand Dun 84.66 47 P **P 21 19 03.6 +1.0**
baz=84
SDCO Great Sand Dun 84.66 47 *e*P **P 21 19 03.6 +1.0**
comp=Z,24nm,1.4s
PPT Papeete 84.76 116 LR LR 21 49 19.9
comp=Z,123nm,21.0s,baz=355,slow=30
PPT2 Papeete2 84.77 116 *e*LR LR 21 45 34.9
comp=Z,308nm,25.0s
KBA Koelnbreinsper 84.85 327 ⇑*i*P **P 21 19 02.9 -0.3**
comp=Z,9.9nm,1.0s
FUR Furstenfeldbru 84.91 329 *e*P **P 21 19 03.2 -0.1**
comp=Z,20nm,1.1s
MYKA Terra Mystica 85.05 326 ⇑*i*P **P 21 19 03.6 -0.5**
comp=Z,10.0nm,1.0s
MEM Membach 85.06 333 P **P 21 19 04.5 +0.6**
comp=Z,6.4nm,1.2s
P27A Ficken Ranch, 85.12 44 P **P 21 19 04.8 +0.2**
baz=85
O28A Krutsinger Ran 85.18 43 P **P 21 19 05.2 +0.3**
baz=85
STU Stuttgart 85.30 330 *e*P **P 21 19 04.7 -0.5**
comp=Z,22nm,1.2s
STU *e*pP **pP 21 19 16.5 -3.7**
ECSD EROS Data Cent 85.33 38 P **P 21 19 05.4 0.0**
baz=85
ECSD EROS Data Cent 85.33 38 *e*P **P 21 19 05.0 -0.5**
comp=Z,6.6nm,0.8s
KSCO Kaye Shedlock' 85.47 44 P **P 21 19 07.0 +0.5**
baz=85
R26A Arlington 85.48 45 P **P 21 19 06.9 +0.4**
baz=85
MOTA Moosalm 85.62 328 ⇑*i*P **P 21 19 06.6 -0.5**
comp=Z,6.2nm,1.1s
RETA Reutte 85.66 328 ⇑*i*P **P 21 19 07.1 0.0**
comp=Z,18nm,1.3s,SNR=8.3
T25A Trinidad 85.71 47 P **P 21 19 08.8 +1.0**
baz=86
T25A Trinidad 85.71 47 *e*P **P 21 19 08.5 +0.7**
comp=Z,17nm,1.0s
SNF Seneffe 85.77 334 P **P 21 19 07.6 +0.1**
WLF Walferdange 85.77 332 P **P 21 19 08.3 +0.8**
comp=Z,11nm,1.5s
WLF Walferdange 85.77 332 *e*P **P 21 19 07.3 -0.2**
comp=Z,41nm,1.6s
R27A Eads 85.87 45 P **P 21 19 08.9 +0.5**
baz=86
LAZ Ladron 85.87 50 *e*P **P 21 19 10.4 +1.8**
Q28A Sharon Springs 85.88 44 P **P 21 19 08.8 +0.4**
baz=86
ANMO Albuquerque 85.94 49 P **P 21 19 09.7 +0.8**
comp=Z,12nm,1.1s,baz=316,slow=9.5,SNR=18
ANMO Albuquerque 85.94 49 P **P 21 19 09.7 +0.8**
ANMO pmax pmax
comp=Z,11nm,1.1s
ANMO Albuquerque 85.94 49 *e*P **P 21 19 10.3 +1.4**
comp=Z,16nm,1.2s
BFO Black Forest 86.00 330 *e*P **P 21 19 08.2 -0.5**
comp=Z,26nm,1.4s
BFO *e*pP **pP 21 19 19.7 -4.0**
BFO Black Forest 86.00 330 P **P 21 19 08.0 -0.7**
comp=Z,66nm,0.9s,SNR=6.1
BFO Black Forest 86.00 330 *e*P **P 21 19 08.3 -0.5**
BFO pmax pmax
comp=Z,15nm,1.0s
BFO Black Forest 86.00 330 *e*P **P 21 19 08.3 -0.5**
comp=Z,15nm,1.0s
DOU Dourbes 86.00 333 P **P 21 19 08.7 +0.1**
comp=Z,6.7nm,1.6s
FETA Feichten 86.03 328 ⇑*i*P **P 21 19 09.1 0.0**
comp=Z,7.5nm,1.6s
T26A Comanche Natio 86.17 46 P **P 21 19 10.5 +0.5**
baz=86
DAVA Damuels 86.19 329 ⇑*i*P **P 21 19 09.7 -0.1**
comp=Z,15nm,1.4s
S27A Las Animas 86.22 45 P **P 21 19 10.8 +0.6**
baz=86
BNM Barren Site 86.36 50 *e*P **P 21 19 11.7 +0.7**
R28A Tribune 86.39 44 P **P 21 19 11.2 +0.2**
baz=86
Q29A Oakley 86.48 43 P **P 21 19 11.4 0.0**
baz=86
FUORN Ofenpass-Fuorn 86.55 328 *e*P **P 21 19 12.1 +0.3**
comp=Z,15nm,1.0s
121A Cookes Peak, D 86.69 52 P **P 21 19 13.7 +1.0**
baz=86
SCHQ Schefferville 86.71 15 P **P 21 19 12.3 +0.2**
comp=Z,4.5nm,0.8s,baz=317,slow=7.9,SNR=4.2
SCHQ LR LR 22 01 35.0
comp=Z,36nm,18.5s,baz=308,slow=38
SCHQ Schefferville 86.71 15 *e*P **P 21 19 11.2 -0.9**
comp=Z,29nm,1.6s
T27A Campo 86.75 46 P **P 21 19 13.5 +0.7**
baz=86
S28A Manter 86.86 45 P **P 21 19 13.5 +0.2**
baz=87
P31A Stockton 86.92 42 P **P 21 19 13.4 -0.1**
baz=87
TUE Stuetta 87.05 329 *e*P **P 21 19 14.3 +0.1**
comp=Z,13nm,1.4s
U27A Thompson Grove 87.13 46 P **P 21 19 15.1 +0.4**
baz=87
P32A Huiting Farm, 87.27 42 P **P 21 19 14.6 -0.5**
baz=87
N34A Lincoln 87.50 40 P **P 21 19 15.7 -0.5**
baz=87
O34A Beatrice 87.88 40 P **P 21 19 17.9 -0.1**
baz=88
Q33A Connelly Farm, 88.13 42 P **P 21 19 18.9 -0.3**
baz=88
P34A Walnut Farm, R 88.27 41 P **P 21 19 19.9 0.0**
baz=88
U30A WK&E Inc. Balk 88.31 45 P **P 21 19 19.8 -0.4**
baz=88
AQU L'Aquila 88.41 324 *e*P **P 21 19 20.5 -0.1**
AQU pmax pmax
comp=Z,12nm,0.7s
AQU L'Aquila 88.41 324 *e*P **P 21 19 20.5 -0.1**
comp=Z,12nm,0.7s
TBI Tubuai 88.55 120 *e*LR LR 21 47 26.2
comp=Z,254nm,23.0s,baz=305
TBI Tubuai 88.55 120 *e*T T 22 56 31.6
comp=Z,5.1nm,0.2s
CUC Castrocucco 88.99 321 *e*P **P 21 19 22.3 -1.0**
comp=Z,6.8nm,0.5s
P36A Good Intent, A 89.06 40 P **P 21 19 24.3 +0.7**
baz=89
X29A Tulia 89.16 47 P **P 21 19 24.1 -0.2**
baz=89
W31A Holland Ranch, 89.67 45 P **P 21 19 26.6 0.0**
baz=89
R36A Gordon, Harris 89.87 41 P **P 21 19 27.2 -0.2**
baz=90
S35A Otter Creek Ra 89.90 42 P **P 21 19 27.3 -0.3**
baz=90
128A Castleberry Fa 89.94 49 P **P 21 19 28.6 +0.7**
baz=90
X31A McDonald Ranch 90.04 46 P **P 21 19 28.4 +0.1**
baz=90
U34A Anderson Ranch 90.14 43 P **P 21 19 28.6 -0.1**
baz=90
Z30A Sanderson Ranc 90.30 47 P **P 21 19 30.0 +0.4**
baz=90
T36A Boggs Farm, Ca 90.60 42 P **P 21 19 30.6 -0.2**
baz=90
S37A Fort Scott 90.64 41 P **P 21 19 31.2 +0.2**
baz=90
WMOK Wichita Mounta 90.66 45 *e*P **P 21 19 32.1 +0.9**
WMOK pmax pmax
comp=Z,21nm,1.5s
WMOK Wichita Mounta 90.66 45 *e*P **P 21 19 32.1 +0.9**
comp=Z,21nm,1.5s
Z31A Sharp Cattle R 90.87 47 P **P 21 19 32.6 +0.4**
baz=91
T37A Cheneyville 18 91.07 41 P **P 21 19 33.2 +0.2**
baz=91
131A Roby 91.17 47 P **P 21 19 33.7 +0.1**
baz=91
Y33A Hilltop Ranch, 91.27 45 P **P 21 19 34.2 +0.2**
baz=91
Z32A Haskell 91.27 46 P **P 21 19 34.7 +0.7**
baz=91
X34A Smith Ranch, M 91.30 45 P **P 21 19 35.1 +1.0**
baz=91
W35A Tecumseh 91.44 44 P **P 21 19 35.4 +0.6**
baz=91
LTX Lajitas 91.45 52 *e*P **P 21 19 36.0 +1.0**
LTX Lajitas 91.45 52 *e*P **P 21 19 36.0 +1.0**
TXAR Lajitas Array 91.45 52 P **P 21 19 36.0 +1.0**
comp=Z,3.5nm,0.8s,baz=298,slow=2.6,SNR=31
TXAR LR LR 21 57 13.0
comp=Z,38nm,19.8s,baz=0.0,slow=33
TXAR Lajitas Array 91.45 52 P **P 21 19 36.0 +1.0**
TXAR pmax pmax
comp=Z,4.0nm,0.8s
TXAR MLR MLR
comp=Z,38nm,19.8s
TUL1 Tulsa 91.49 42 P **P 21 19 35.6 +0.6**
baz=91
U37A Salina 91.49 42 P **P 21 19 35.1 +0.1**
baz=91
V36A Jenks 91.50 43 P **P 21 19 35.5 +0.5**
baz=91
330A Mertzon 91.58 49 P **P 21 19 36.0 +0.4**
baz=91
ABTX Abilene, Hawle 91.65 47 P **P 21 19 36.3 +0.5**

	baz=91							
ABTX	**Abilene, Hawle**	**91.65**	**47**	*e*P	**P**		**21 19 37.2**	**+1.4**
	comp=Z,40nm,1.5s							
429A	**Davenport Ranc**	**91.68**	**50**	P	**P**		**21 19 36.2**	**+0.1**
	baz=92							
W36A	**Wetumka**	**91.81**	**43**	P	**P**		**21 19 37.0**	**+0.5**
	baz=92							
529A	**Stev Forest Ra**	**91.82**	**50**	P	**P**		**21 19 37.3**	**+0.6**
	baz=92							
U38A	**Gravette**	**91.86**	**41**	P	**P**		**21 19 36.8**	**+0.1**
	baz=92							
V37A	**Hulbert**	**91.86**	**42**	P	**P**		**21 19 37.1**	**+0.4**
	baz=92							
430A	**Baggett Ranch,**	**91.98**	**49**	P	**P**		**21 19 37.7**	**+0.3**
	baz=92							
331A	**San Angelo**	**92.11**	**48**	P	**P**		**21 19 38.2**	**+0.3**
	baz=92							
X36A	**Centrahoma**	**92.16**	**44**	P	**P**		**21 19 38.7**	**+0.6**
	baz=92							
232A	**Coleman**	**92.17**	**48**	P	**P**		**21 19 38.8**	**+0.6**
	baz=92							
Y35A	**Marietta**	**92.25**	**45**	P	**P**		**21 19 38.9**	**+0.3**
	baz=92							
W37A	**Quinton**	**92.26**	**43**	P	**P**		**21 19 38.5**	**0.0**
	baz=92							
V38A	**Canehill**	**92.28**	**42**	P	**P**		**21 19 38.4**	**-0.2**
	baz=92							
530A	**J-C Ranch, Com**	**92.36**	**50**	P	**P**		**21 19 40.0**	**+0.9**
	baz=92							
431A	**Sonora**	**92.44**	**49**	P	**P**		**21 19 39.6**	**+0.1**
	baz=92							
332A	**Millersview**	**92.47**	**48**	P	**P**		**21 19 40.2**	**+0.5**
	baz=92							
233A	**Rising Star**	**92.53**	**47**	P	**P**		**21 19 40.5**	**+0.6**
	baz=92							
Z35A	**Perchaven, San**	**92.55**	**45**	P	**P**		**21 19 40.0**	**+0.1**
	baz=92							
531A	**Rocksprings**	**92.84**	**49**	P	**P**		**21 19 41.9**	**+0.5**
	baz=93							
X38A	**Whitesboro**	**92.94**	**43**	P	**P**		**21 19 42.2**	**+0.5**
	baz=93							
333A	**Richland Sprin**	**92.97**	**48**	P	**P**		**21 19 42.5**	**+0.6**
	baz=93							
234A	**Clairette**	**92.99**	**47**	P	**P**		**21 19 42.6**	**+0.6**
	baz=93							
JCT	**Junction City**	**93.07**	**49**	*e*P	**P**		**21 19 42.4**	**0.0**
JCT				pmax	pmax			
	comp=Z,8.0nm,0.9s							
JCT	**Junction City**	**93.07**	**49**	P	**P**		**21 19 42.9**	**+0.5**
	baz=93							
JCT	**Junction City**	**93.07**	**49**	*e*P	**P**		**21 19 42.4**	**0.0**
	comp=Z,8.2nm,0.9s							
532A	**Rocksprings**	**93.26**	**49**	P	**P**		**21 19 43.6**	**+0.3**
	baz=93							
433A	**Art**	**93.31**	**48**	P	**P**		**21 19 42.5**	**-1.0**
	baz=93							
631A	**Perdido Creek**	**93.34**	**50**	P	**P**		**21 19 44.6**	**+0.9**
	baz=93							
334A	**Lometa**	**93.41**	**47**	P	**P**		**21 19 44.1**	**+0.2**
	baz=93							
MIAR	**Mount Ida**	**93.72**	**42**	*e*P	**P**		**21 19 45.4**	**+0.1**
MIAR				pmax	pmax			
	comp=Z,23nm,1.4s							
MIAR	**Mount Ida**	**93.72**	**42**	P	**P**		**21 19 45.4**	**+0.1**
	baz=94							
MIAR	**Mount Ida**	**93.72**	**42**	*e*P	**P**		**21 19 45.4**	**+0.1**
	comp=Z,23nm,1.4s							
534A	**Blanco**	**94.20**	**48**	P	**P**		**21 19 47.2**	**-0.4**
	baz=94							
732A	**Laxson Ranch,**	**94.20**	**50**	P	**P**		**21 19 48.2**	**+0.6**
	baz=94							
933A	**Laredo**	**95.42**	**50**	P	**P**		**21 19 54.6**	**+1.4**
	baz=95							
KEST	**Kesra**	**95.53**	**322**	LR	LR		22 07 54.7	
	comp=Z,79nm,18.7s,baz=284,slow=39							
034A	**Hebbronville**	**96.18**	**50**	P	**P**		**21 19 57.6**	**+1.0**
	baz=96							
ESDC	**Sonseca Array**	**98.05**	**333**	LR	LR		22 08 18.8	
	comp=Z,75nm,19.1s,baz=5.0,slow=38							
RKT	**Rikitea**	**98.98**	**112**	*e*LR	LR		21 52 16.9	
	comp=Z,253nm,25.0s,baz=305							
TOA0	**Torodi Ar. Sit**	**117.65**	**314**	*e*PKPdf	**PKPdf**		**21 25 15.0**	**+0.1**
TOA0				*e*PP	PP		21 26 16.5	-11
TORD	**Torodi Ar. Bea**	**117.65**	**314**	PKP	**PKPdf**		**21 25 15.0**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=29,slow=1.2,SNR=15							
TORD				PP	PP		21 26 16.5	-11
	comp=Z,0.8nm,1.0s,baz=19,slow=5.6,SNR=3.7							
TORD				PKKPbc	**PKKPbc**		**21 35 35.3**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=210,slow=3.5,SNR=7.5							
BOSA	**Boshof**	**125.61**	**258**	PKP	**PKPdf**		**21 25 30.4**	**+0.5**
	comp=Z,2.9nm,0.9s,baz=204,slow=9.5,SNR=3.1							
SDV	**Santo Domingo**	**126.73**	**40**	*e*PKPdf	**PKPdf**		**21 25 31.1**	**-1.5**
SNAA	**Sanae**	**139.37**	**197**	PKPdf	PKPdf		21 25 47.5	-6.9
VNA2	**Neumayer--Watz**	**140.95**	**196**	PKPdf	**PKPdf**		**21 25 54.2**	**-3.0**
	baz=121,slow=2.3							
VNA1	**Neumayer--Stat**	**141.34**	**196**	PKPdf	**PKPdf**		**21 25 54.9**	**-2.9**
SAML	**Samuel**	**145.63**	**45**	*e*PKPdf	**PKPdf**		**21 26 07.3**	**+0.2**
LPAZ	**La Paz**	**147.94**	**60**	PKPbc	**PKPbc**		**21 26 15.5**	**+0.8**
	comp=Z,6.1nm,0.7s,baz=340,slow=4.2,SNR=22							
LPAZ	**La Paz**	**147.94**	**60**	*e*PKP2	**PKPbc**		**21 26 13.5**	**-1.2**
LPAZ	**La Paz**	**147.94**	**60**	*e*PKPdf	**PKPbc**		**21 26 13.5**	**-1.2**
RCBR	**Riachuelo**	**149.97**	**353**	PKPbc	**PKPbc**		**21 26 19.6**	**+0.3**
	comp=Z,7.1nm,0.8s,baz=8.1,slow=2.0,SNR=5.6							
RCBR	**Riachuelo**	**149.97**	**353**	*e*PKPdf	**PKPbc**		**21 26 17.2**	**-2.0**
RCBR				*e*PKPbc	**PKPbc**		**21 26 19.6**	**+0.3**
LVC	**Limon Verde**	**151.28**	**71**	PKPbc	**PKPbc**		**21 26 23.8**	**+1.4**
	comp=Z,30nm,0.8s,baz=286,slow=3.0,SNR=3.5							
SIV	**San Ignacio**	**152.43**	**50**	PKPbc	**PKPbc**		**21 26 25.3**	**+0.4**
	comp=Z,3.0nm,0.4s,baz=265,slow=2.7,SNR=13							
CFAA	**Coronel Fontan**	**155.77**	**88**	PKPab	**PKPab**		**21 26 50.2**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=267,slow=1.9,SNR=3.4							

JMA 22 21:08:38.3±0.1, 35°.87N×140°.48E, h35km±1km, M3.8, 1C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.35**	**118**	⇑P	Pn	21 08 46.6	-0.3
CHOJ				*e*S	Sn	21 08 52.3	-0.4
JYT	**Yasato**	**0.43**	**327**	P	Pn	21 08 47.8	-0.1
JYT				*e*S	Sn	21 08 54.2	-0.3
JHO	**Hitachi**	**0.74**	**6**	⇓P	Pn	21 08 51.9	-0.4
JHO				*e*S	Sn	21 09 01.3	-1.1
JAG	**Ashikaga**	**1.00**	**304**	P	Pn	21 08 55.8	0.0

DJA 22 21:10:01.7±0.9, 4°.5±3°.×12°.0E±°, h13km±8km, M3.6/12, mb4.5/3, MLv3.2/12, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPSI	**Sidrap Palu**	**0.01**	**191**	P	Pg	21 10 00.7	-3.3
TTSI	**Tana Toraja**	**0.91**	**3**	P	Pg	21 10 17.3	-2.0
BKSI	**Bulukumba**	**1.40**	**165**	P	Pn	21 10 26.6	-0.3
BSSI	**Bau Bau, Buton**	**2.28**	**162**	P	Pn	21 10 38.6	-0.5
KDI	**Kendari**	**2.84**	**90**	P	Pn	21 10 45.4	-1.4
PCI	**Palu**	**3.04**	**1**	P	Pn	21 10 49.3	-0.2
APSI	**Ampana**	**3.56**	**32**	P	Pn	21 10 56.5	-0.2
KBKI	**Kotabaru**	**3.66**	**280**	P	Pn	21 10 57.4	-0.6
BKB	**Balikpapan**	**3.93**	**313**	P	Pn	21 11 03.1	+1.3
WSI	**Waingapu**	**5.70**	**175**	P	Pn	21 11 25.7	-0.4
	141nm,2.0s,2.1nm						
SRBI	**Singaraja**	**6.11**	**228**	P	Pn	21 11 31.2	-0.6

LJU 22 21:17:21.6, 46°.39N×15°.07E, h0km Rockburst, Northwestern Balkan Peninsula

PRU 22 21:18:24.7, 50°.19N×19°.13E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.43**	**86**	*e*Pg	Pg	21 18 33.0	0.0
OJC				*e*Sg	Sg	21 18 38.7	+0.1
OJC	**Ojcow**	**0.43**	**86**	*e*P	Pg	21 18 33.3	+0.3
OJC				pmax	pmax		
	comp=Z,80nm,1.3s						
OJC	**Ojcow**	**0.43**	**86**	*e*P	Pg	21 18 33.3	+0.3
	comp=Z,80nm,1.3s						
OKC	**Ostrava-Krasne**	**0.73**	**241**	*e*PG	Pg	21 18 38.2	-0.4
OKC				*e*SG	Sg	21 18 48.0	-0.1
NIE	**Niedzica**	**1.09**	**135**	*e*Pg	Pg	21 18 45.6	0.0
NIE				*e*Sg	Sb	21 19 00.6	-0.7
KRLC	**Kraliky**	**1.52**	**267**	*e*PG	Pn	21 18 52.4	-0.8
KRLC				*e*SG	Sg	21 19 13.3	-0.3
DPC	**Dobruska-Polom**	**1.81**	**276**	*e*PG	Pn	21 18 57.6	+0.4
DPC				*e*SG	Sb	21 19 22.3	+0.3
	comp=Z,3.9nm,0.4s						
UPC	**Upice**	**2.02**	**280**	*e*SG	Sg	21 19 29.5	-0.3
GOPC	**GO Pecny, Ondr**	**2.81**	**266**	*e*SG	Sg	21 19 53.5	-1.7

IDC 22 21:19:19.1±2.9, 3°.63S×154°.19E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/32, mbtmp4.0/3, MS3.4/1, Ms1 3.4/1, ms1mx2.6/29, Error ellipse: s-maj=96.3km s-min=44.4km az=108.0, North of Solomon Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.25**	**229**	P	P	21 24 47.5	+0.3
	1.5nm,0.4s,baz=53,slow=10,SNR=14						
ASAR	**Alice Springs**	**27.94**	**223**	P	P	21 25 10.8	-0.7
	0.7nm,0.3s,baz=56,slow=9.3,SNR=11						
STKA	**Stephens Creek**	**30.49**	**201**	P	P	21 25 33.5	-0.4
	0.5nm,0.3s,baz=46,slow=12,SNR=7.8						
RAR	**Rarotonga**	**48.00**	**115**	LR	LR	21 43 00.4	
	comp=Z,40nm,21.5s,baz=306,slow=30						
TORD	**Torodi Ar. Bea**	**151.23**	**291**	PKPbc	PKPbc	21 39 16.0	+0.3
	0.4nm,0.8s,baz=77,slow=1.7,SNR=3.0						

IDC 22 21:22:02.1±1.4, 5°.73S×147°.19E, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.5/33, mbtmp3.6/5, ML3.0/2, Error ellipse: s-maj=57.7km s-min=22.7km az=105.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.66**	**180**	Pn	Pn	21 23 02.0	+2.0
	13nm,0.3s,baz=0.0,slow=9.1,SNR=35						
PMG				Sn	Sn	21 23 43.6	-0.3
	10.0nm,0.3s,baz=17,slow=19,SNR=8.5						
WRA	**Warramunga Arr**	**18.86**	**220**	P	P	21 26 23.2	-0.8
	0.2nm,0.3s,baz=48,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**21.35**	**214**	P	P	21 26 57.2	-0.3
	0.9nm,0.3s,baz=37,slow=11,SNR=14						
STKA	**Stephens Creek**	**26.54**	**191**	P	P	21 27 41.5	-0.2
	1.4nm,0.8s,baz=22,slow=11,SNR=3.4						
ILAR	**Eielson Array**	**85.16**	**23**	P	P	21 34 40.1	+0.2
	0.2nm,0.6s,baz=257,slow=5.7,SNR=3.0						
TORD	**Torodi Ar. Bea**	**145.20**	**285**	PKPbc	PKPbc	21 41 41.4	-1.0
	0.5nm,1.0s,baz=61,slow=4.2,SNR=5.6						

IDC 22 21:30:35.1±2.2, 8°.48S×118°.84E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/42, mbtmp3.4/4, ML3.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/27, Error ellipse: s-maj=221.2km s-min=24.1km az=53.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.84**	**129**	P	P	21 34 56.6	-0.2
	0.2nm,0.3s,baz=308,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**20.89**	**138**	P	P	21 35 20.1	+1.0
	0.6nm,0.6s,baz=313,slow=9.4,SNR=8.9						
STKA	**Stephens Creek**	**31.45**	**141**	P	P	21 36 57.7	-0.8
	0.7nm,0.5s,baz=321,slow=11,SNR=3.8						
KSRS	**Korea Array**	**46.48**	**10**	LR	LR	21 59 29.3	
	comp=Z,11nm,18.3s,baz=295,slow=37						
MKAR	**Makanchi Array**	**63.92**	**333**	P	P	21 41 10.1	+0.1
	0.2nm,0.5s,baz=142,slow=7.3,SNR=3.3						

*ISCJB **22** 21:35:26.6±0.6, 52°.58N±0°.08×169°.55W±0°.08, h10km, mb3.7/7, MS3.0/2, Error ellipse: s-maj=13.4km s-min=4.2km az=152.5*
*IDC **22** 21:35:26.5±1.0, 52°.37N×169°.56W, h0km, mb3.8/7, mb1 4.1/9, mb1mx3.6/54, mbtmp3.7/9, ML3.2/2, MS3.0/2, Ms1 3.0/2, ms1mx2.6/37, Error ellipse: s-maj=36.6km s-min=18.6km az=157.0*
*NEIC **22** 21:35:28.2, 52°.51N×169°.24W, h7km, ML3.4(AEIC), After AEIC.*

ISC 22 21:35:28.0±0.8, 52°.6N±0°.1×169°.48W±0°.06, h10km, n31, σ0§94/28, mb3.7/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.52**	**48**	P	**Pg**	**21 35 38.7**	**+0.6**
NIKH				S	**Sb**	**21 35 47.0**	**+0.3**
OKWR	**Okmok West Rim**	**1.12**	**43**	P	**Pn**	**21 35 50.0**	**+0.2**
OKTU	**Okmok Mt. Tuli**	**1.16**	**48**	P	**Pb**	**21 35 49.7**	**-0.3**
OKAK	**Okmok**	**1.17**	**35**	P	**Pb**	**21 35 48.1**	**-2.1**
OKFG	**Magazine Ridge**	**1.23**	**50**	P	**Pn**	**21 35 50.4**	**-0.9**
OKFG				S	**Sg**	**21 36 07.0**	**-0.6**
MSOM	**Makushin Julie**	**1.93**	**51**	P	**Pn**	**21 36 00.3**	**-0.6**
MSW	**Makushin Switc**	**2.07**	**50**	P	**Pn**	**21 36 02.2**	**-0.7**
MTBL	**Makushin Table**	**2.15**	**50**	P	**Pn**	**21 36 04.1**	**+0.1**
UNV	**Unalaska Valle**	**2.17**	**55**	*e*Pn	**Pn**	**21 36 03.6**	**-0.5**
UNV				*e*S	**Sn**	**21 36 30.0**	**-1.0**
AKRB	**Akutan Reef Bi**	**2.54**	**52**	P	**Pn**	**21 36 10.0**	**+0.8**
AKUT	**Akutan**	**2.69**	**54**	*e*Pn	**Pn**	**21 36 11.8**	**+0.6**
AKUT				*e*S	**Sn**	**21 36 42.7**	**-1.1**
ATKA	**Atka Island**	**2.92**	**263**	P	**Pn**	**21 36 14.8**	**+0.5**
GSTR	**Great Sitkin T**	**4.07**	**265**	*e*Pn	**Pn**	**21 36 29.9**	**-0.3**
GSTR				*e*S	**Sn**	**21 37 16.4**	**-1.5**
SPIA	**Saint Paul Isl**	**4.58**	**355**	P	**Pn**	**21 36 38.9**	**+1.6**
ILAR	**Eielson Array**	**16.78**	**35**	Pn	**P**	**21 39 25.7**	**+0.7**
	0.1nm,0.3s,baz=236,slow=9.6,SNR=4.1						
PETK	**Petropavlovsk-**	**19.73**	**285**	P	**P**	**21 39 57.2**	**-0.3**
	0.1nm,0.3s,baz=86,slow=12,SNR=3.0						
DLBC	**Dease Lake**	**22.81**	**60**	P	**P**	**21 40 31.4**	**+0.6**
	2.0nm,0.8s,baz=278,slow=7.1,SNR=2.3						
YKA	**Yellowknife Ar**	**30.12**	**49**	P	**P**	**21 41 38.3**	**+0.8**
	0.2nm,0.5s,baz=272,slow=8.0,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**37.61**	**218**	T	T	22 22 36.1	
	baz=24,slow=76,SNR=60						
H11N3	**WAKE ISLAND Hy**	**37.62**	**218**	T	T	22 22 36.7	
	baz=24,slow=76,SNR=90						
H11N1	**WAKE ISLAND Hy**	**37.63**	**218**	T	T	22 22 37.5	
	baz=24,slow=76,SNR=54						
NVAR	**Mina Array Bea**	**37.74**	**91**	P	**P**	**21 42 45.4**	**+1.4**
	0.5nm,0.6s,baz=310,slow=7.0,SNR=5.9						
H11S1	**WAKE ISLAND Hy**	**38.80**	**218**	T	T	22 24 05.0	
	baz=23,slow=76,SNR=1700						
H11S2	**WAKE ISLAND Hy**	**38.82**	**218**	T	T	22 24 06.2	
	baz=23,slow=76,SNR=1101						
H11S3	**WAKE ISLAND Hy**	**38.82**	**218**	T	T	22 24 06.2	
	baz=23,slow=76,SNR=418						
MJAR	**Matsushiro Arr**	**39.64**	**267**	LR	LR	21 57 38.1	
	comp=Z,20nm,21.5s,baz=40,slow=34						
PDAR	**Pinedale Array**	**40.42**	**79**	P	**P**	**21 43 06.0**	**-0.4**
	1.1nm,0.7s,baz=335,slow=4.7,SNR=8.0						
JNU	**Nakatsue**	**46.39**	**270**	LR	LR	22 02 20.7	
	comp=Z,18nm,19.5s,baz=313,slow=35						
TXAR	**Lajitas Array**	**52.81**	**89**	P	**P**	**21 44 44.3**	**+0.8**
	1.6nm,0.6s,baz=300,slow=5.6,SNR=18						
WRA	**Warramunga Arr**	**87.11**	**231**	P	**P**	**21 48 12.5**	**-1.4**
	0.6nm,0.7s,baz=36,slow=5.8,SNR=2.8						
ASAR	**Alice Springs**	**90.51**	**230**	P	**P**	**21 48 30.1**	**+0.3**
	0.7nm,0.8s,baz=37,slow=4.2,SNR=5.4						

IDC 22 21:41:15.5±2.4, 18°.86S×177°.67W, h589km±41km, mb3.1/4, mb1 3.3/5, mb1mx2.9/38, mbtmp4.2/5, Error ellipse: s-maj=65.5km s-min=36.8km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.50**	**50**	P	P	21 43 09.7	-0.1
	9.6nm,0.3s,baz=229,slow=6.5,SNR=4.5						
STKA	**Stephens Creek**	**38.80**	**242**	P	P	21 47 51.7	+0.5
	0.6nm,0.3s,baz=80,slow=9.0,SNR=5.4						
JAY	**Jayapura**	**43.85**	**287**	P	P	21 48 31.6	+0.5
	7.3nm,0.8s,baz=107,slow=2.0,SNR=4.1						
WRA	**Warramunga Arr**	**45.16**	**260**	P	P	21 48 40.0	-1.2
	0.9nm,0.6s,baz=97,slow=8.2,SNR=7.4						
WRA				PcP	PcP	21 50 08.5	-0.3
	0.1nm,0.3s,baz=90,slow=3.4,SNR=3.1						
ASAR	**Alice Springs**	**45.22**	**255**	P	P	21 48 41.5	-0.1
	1.2nm,0.5s,baz=90,slow=7.7,SNR=18						

IDC 22 21:43:28.9±1.1, 25°.49N×141°.37E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.6/44, mbtmp3.7/8, ML3.4/1, MS2.8/1, Ms1 2.8/1, ms1mx2.2/31, Error ellipse: s-maj=28.5km s-min=20.1km az=110.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.76**	**24**	Pn	Pn	21 44 00.9	+0.2
	47nm,0.3s,baz=183,slow=8.6,SNR=82						
JCJ				Sn	Sn	21 44 22.9	-0.9
	18nm,0.3s,baz=231,slow=22,SNR=13						
GUMO	**Guam**	**12.29**	**164**	LR	LR	21 50 28.5	
	comp=Z,44nm,18.2s,baz=132,slow=34						
KSRS	**Korea Array**	**16.52**	**319**	Pn	P	21 47 24.1	-0.6
	0.2nm,0.3s,baz=134,slow=11,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**24.23**	**98**	T	T	22 13 58.2	
	baz=288,slow=74,SNR=13						
H11N1	**WAKE ISLAND Hy**	**24.24**	**99**	T	T	22 13 58.3	
	baz=288,slow=74,SNR=5.7						
H11N3	**WAKE ISLAND Hy**	**24.25**	**98**	T	T	22 13 59.5	
	baz=288,slow=74,SNR=7.2						
H11S3	**WAKE ISLAND Hy**	**24.46**	**101**	T	T	22 14 15.0	
	baz=291,slow=75,SNR=90						
H11S1	**WAKE ISLAND Hy**	**24.47**	**101**	T	T	22 14 15.5	
	baz=291,slow=75,SNR=122						
H11S2	**WAKE ISLAND Hy**	**24.48**	**101**	T	T	22 14 16.4	
	baz=291,slow=75,SNR=119						
SONM	**Songino Array**	**35.39**	**318**	P	P	21 50 27.2	+0.8
	0.6nm,0.7s,baz=126,slow=7.4,SNR=4.1						
WRA	**Warramunga Arr**	**45.67**	**189**	P	P	21 51 51.4	-0.2
	3.2nm,0.7s,baz=9.5,slow=8.4,SNR=18						
MKAR	**Makanchi Array**	**50.94**	**311**	P	P	21 52 31.1	-1.0
	0.6nm,0.8s,baz=94,slow=11,SNR=6.4						
KURBB	**Kurchatov Arra**	**53.65**	**315**	P	P	21 52 51.1	-0.9
	0.4nm,0.5s,baz=93,slow=8.1,SNR=7.3						
BVAR	**Borovoye Array**	**58.73**	**318**	P	P	21 53 28.8	+0.4
	0.8nm,0.6s,baz=98,slow=11,SNR=6.5						
ILAR	**Eielson Array**	**59.47**	**28**	P	P	21 53 33.5	+0.2
	0.5nm,0.7s,baz=261,slow=5.8,SNR=4.7						
YKA	**Yellowknife Ar**	**73.90**	**28**	P	P	21 55 05.6	+0.2
	0.5nm,0.7s,baz=298,slow=6.6,SNR=3.6						

*IDC **22** 21:48:28.4±1.1, 6°.54S×150°.70E, h0km, mb3.9/6, mb1 4.2/7, mb1mx3.8/36, mbtmp4.0/7, ML2.0/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/21, Error ellipse: s-maj=52.3km s-min=19.3km az=124.0*
*ISCJB **22** 21:48:32.0±0.9, 6°.7S±0°.2×150°.8E±0°.2, h33km, mb3.8/5, Error ellipse: s-maj=39.7km s-min=10.9km az=136.0*
ISC 22 21:48:33.3±1.1, 6°.6S±0°.2×150°.8E±0°.3, h33km, n8, σ0§86/9, mb4.0/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.53**	**232**	Pn	**Pn**	**21 49 39.2**	**-0.4**
	5.1nm,0.3s,baz=44,slow=6.5,SNR=12						
PMG				Sn	**Sn**	**21 50 32.3**	**+1.2**
	6.5nm,0.3s,baz=79,slow=19,SNR=4.6						
PMG				LR	LR	21 51 20.0	
	comp=Z,84nm,20.6s,baz=63,slow=38						
WRA	**Warramunga Arr**	**20.74**	**229**	P	**P**	**21 53 11.2**	**-0.2**
	8.3nm,0.7s,baz=53,slow=11,SNR=37						
ASAR	**Alice Springs**	**23.46**	**222**	P	**P**	**21 53 39.9**	**-0.2**
	3.3nm,0.6s,baz=55,slow=9.3,SNR=30						
STKA	**Stephens Creek**	**26.57**	**198**	P	**P**	**21 54 08.2**	**-0.2**
	3.4nm,0.8s,baz=356,slow=7.4,SNR=10						
KURBB	**Kurchatov Arra**	**83.96**	**322**	P	**P**	**22 00 59.8**	**-0.3**
	0.1nm,0.3s,baz=101,slow=3.6,SNR=3.2						
ILAR	**Eielson Array**	**84.58**	**22**	P	**P**	**22 01 03.8**	**+0.9**
	0.4nm,0.7s,baz=243,slow=4.0,SNR=2.4						
NVAR	**Mina Array Bea**	**94.78**	**52**	P	**P**	**22 01 52.6**	**+0.4**
	0.4nm,0.7s,baz=251,slow=7.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**148.86**	**284**	PKPbc	**PKPbc**	**22 08 17.4**	**-1.3**
	0.6nm,0.5s,baz=67,slow=2.9,SNR=5.4						

*IDC **22** 21:50:30.1±3.7, 32°.72N×85°.24E, h0km, mb3.0/2, mb1 3.3/5, mb1mx3.1/42, mbtmp3.2/5, ML3.1/3, Error ellipse: s-maj=85.6km s-min=29.2km az=63.0*
ISC 22 21:50:30.7±1.0, 32°.60N±0°.08×85°.2E±0°.2, h16km, n14, σ1§31/11, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GKN	**Gorkha**	**4.60**	**186**	*e*P	**Pb**	**21 51 51.5**	**+0.3**
	9.6nm,0.5s						
GUN	**Gumba**	**4.71**	**173**	*e*P	**Pb**	**21 51 51.9**	**-1.1**
	21nm,0.4s						
KKN	**Kakani**	**4.79**	**179**	*e*P	**Pb**	**21 51 53.2**	**-1.2**
	7.6nm,0.4s						
PKIN	**Phulchoki**	**5.00**	**178**	*e*P	**Pb**	**21 51 56.7**	**-1.4**
	8.7nm,0.4s						
KOLN	**Koldanda**	**5.01**	**197**	*e*P	**Pb**	**21 51 58.2**	**+0.1**
	3.1nm,0.2s						
PKI	**Pulchoki**	**5.01**	**178**	*e*P	**Pb**	**21 51 56.7**	**-1.5**
	11nm,0.3s						
TAPN	**Taplejung**	**5.66**	**157**	*e*P	Pn	21 52 01.9	+7.5
	7.3nm,0.3s						
RAMN	**Ramite**	**5.75**	**168**	*e*P	Pn	21 52 04.0	+8.3
	9.2nm,0.4s						
ODAN	**Odare**	**6.02**	**161**	*e*P	Pn	21 52 07.1	+7.8
	8.0nm,0.4s	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRG	**Griva**	**0.42**	**127**	*e*PB	Pg	22 23 44.7	+0.5
GRG				*e*SB	Sg	22 23 49.8	0.0
GRG	**Griva**	**0.42**	**127**	*e*Pb	Pg	22 23 44.7	+0.5
GRG				S	Sg	22 23 49.5	-0.3
GRG	**Griva**	**0.42**	**127**	P	Pg	22 23 44.6	+0.4
GRG				S	Sg	22 23 49.5	-0.3
VAY	**Valandovo**	**0.47**	**76**	⇓*i*Pg	Pb	22 23 46.7	+0.1
VAY				*e*Sg	Sb	22 23 53.2	-0.6
VAY				*e*Lg	Lg	22 23 53.3	
	comp=E,112nm,0.2s						
VAY				*e*Lg	Lg	22 23 55.1	
	comp=N,53nm,0.3s						
VAY	**Valandovo**	**0.47**	**76**	*e*Pg	Pb	22 23 46.1	-0.5
VAY				*e*Sg	Sg	22 23 52.0	+0.5
VAY	**Valandovo**	**0.47**	**76**	P	Pb	22 23 46.0	-0.6
VAY				*e*Sg	Sg	22 23 52.0	+0.5
VAY				*e*Lg	Lg	22 23 53.3	
	comp=N,112nm,0.2s						
VAY	**Valandovo**	**0.47**	**76**	P	Pb	22 23 46.0	-0.6
VAY				S	Sg	22 23 52.6	+1.1
FNA	**Florina**	**0.61**	**226**	*e*PB	Pb	22 23 48.8	-0.2
FNA				*e*SB	Sg	22 23 56.7	+0.7
FNA	**Florina**	**0.61**	**226**	*e*Pb	Pb	22 23 48.8	-0.2
FNA				S	Sg	22 23 56.7	+0.7
FNA	**Florina**	**0.61**	**226**	P	Pb	22 23 48.7	-0.3
FNA				S	Sg	22 23 56.7	+0.7
KNT	**Kendrikon**	**0.71**	**93**	*e*PB	Pb	22 23 50.3	-0.4
KNT				*e*SB	Sg	22 23 59.6	+0.5
KNT	**Kendrikon**	**0.71**	**93**	*e*Pb	Pb	22 23 50.3	-0.4
KNT				S	Sg	22 23 59.6	+0.5
KNT	**Kendrikon**	**0.71**	**93**	P	Pg	22 23 50.2	+0.4
KNT				S	Sg	22 23 59.6	+0.5
SKO	**Skopje**	**0.86**	**333**	*e*Sg	Sn	22 24 06.3	-0.8
SKO	**Skopje**	**0.86**	**333**	*e*Sg	Sb	22 24 05.0	+0.2
SKO	**Skopje**	**0.86**	**333**	*e*Sg	Sb	22 24 05.0	+0.2
KZN	**Kozani**	**0.91**	**189**	*e*PG	Pg	22 23 53.6	-0.1
KZN				*e*SB	Sg	22 24 05.4	-0.2
KZN	**Kozani**	**0.91**	**189**	P	Pg	22 23 53.2	-0.5
KZN	**Kozani**	**0.91**	**189**	*e*Pg	Pg	22 23 53.6	-0.1
KZN				*e*Sb	Sg	22 24 05.4	-0.2
KZN	**Kozani**	**0.91**	**189**	P	Pg	22 23 53.2	-0.5
KZN				S	Sg	22 24 05.9	+0.3
THE	**Thessaloniki**	**0.96**	**127**	*e*PG	Pg	22 23 53.7	-0.7
THE				*e*SB	Sg	22 24 06.6	-0.2
THE	**Thessaloniki**	**0.96**	**127**	P	Pg	22 23 53.7	-0.7
THE				*e*Sb	Sg	22 24 06.6	-0.2
THE	**Thessaloniki**	**0.96**	**127**	P	Pg	22 23 53.7	-0.7
NEST	**Nestorio**	**1.05**	**221**	*e*PB	Pb	22 23 56.7	+0.1
NEST				*e*SB	Sn	22 24 11.8	-0.3
NEST	**Nestorio**	**1.05**	**221**	P	Pg	22 23 56.3	-0.1
NEST	**Nestorio**	**1.05**	**221**	*e*Pb	Pb	22 23 56.7	+0.1
NEST				S	Sn	22 24 11.8	-0.3
NEST	**Nestorio**	**1.05**	**221**	P	Pg	22 23 56.3	-0.1
NEST				S	Sn	22 24 11.8	-0.3
HORT	**Hortiatis**	**1.06**	**125**	*e*PG	Pg	22 23 56.0	-0.5
HORT	**Hortiatis**	**1.06**	**125**	*e*Pg	Pg	22 23 56.0	-0.5
HORT				S	Sg	22 24 10.4	+0.1
HORT	**Hortiatis**	**1.06**	**125**	P	Pg	22 23 55.9	-0.6
HORT				S	Sg	22 24 10.4	+0.1
SOH	**Sokhos**	**1.12**	**110**	*e*PB	Pg	22 23 57.4	-0.3
SOH				*e*SB	Sg	22 24 12.3	-0.1
SOH	**Sokhos**	**1.12**	**110**	*e*Pb	Pg	22 23 57.4	-0.3
SOH				*e*Sb	Sg	22 24 12.3	-0.1
SOH	**Sokhos**	**1.12**	**110**	P	Pg	22 23 57.3	-0.4
SOH				S	Sb	22 24 12.6	0.0
LIT	**Litokhoron**	**1.18**	**160**	*e*PB	Pn	22 23 58.8	0.0
LIT				*e*SB	Sn	22 24 15.0	-0.1
LIT	**Litokhoron**	**1.18**	**160**	P	Pb	22 23 58.5	-0.2
LIT	**Litokhoron**	**1.18**	**160**	*e*Pb	Pn	22 23 58.8	0.0
LIT				*e*Sb	Sn	22 24 15.0	-0.1
LIT	**Litokhoron**	**1.18**	**160**	P	Pb	22 23 58.5	-0.2
LIT				S	Sn	22 24 14.8	-0.3
SRS	**Serrai**	**1.24**	**94**	*e*PG	Pn	22 23 59.6	0.0
SRS				*e*SB	Sg	22 24 16.0	+0.1
SRS	**Serrai**	**1.24**	**94**	P	Pn	22 23 59.6	0.0
SRS				*e*Sb	Sg	22 24 16.0	+0.1
SRS	**Serrai**	**1.24**	**94**	P	Sb	22 23 59.6	0.0
SRS				S	Sb	22 24 15.8	0.0
PLG	**Polygyros**	**1.40**	**126**	*e*PG	Pb	22 24 02.3	-0.2
PLG	**Polygyros**	**1.40**	**126**	P	Pn	22 24 01.8	-0.2
PLG	**Polygyros**	**1.40**	**126**	*e*Pg	Pb	22 24 02.3	-0.2
PLG	**Polygyros**	**1.40**	**126**	P	Pn	22 24 01.8	-0.2
NVR	**Nevrokopi**	**1.44**	**84**	*e*PB	Pg	22 24 03.8	0.0
NVR				*e*SB	Sg	22 24 22.4	-0.1
NVR	**Nevrokopi**	**1.44**	**84**	P	Pn	22 24 02.7	+0.2
NVR	**Nevrokopi**	**1.44**	**84**	*e*Pb	Pg	22 24 03.8	0.0
NVR				*e*Sb	Sg	22 24 22.4	-0.1
NVR	**Nevrokopi**	**1.44**	**84**	P	Pn	22 24 02.7	+0.2
NVR				S	Sg	22 24 22.7	+0.2
BARS	**Barje**	**1.61**	**356**	*e*Pg	Pg	22 24 06.9	-0.1
BARS				*e*Sg	Sg	22 24 28.3	+0.4
BARS	**Barje**	**1.61**	**356**	*e*Pg	Pg	22 24 06.9	-0.1
BARS				*e*Sg	Sg	22 24 28.3	+0.4
THL	**Klokotos Trika**	**1.64**	**178**	P	Pb	22 24 06.2	-0.3
THL				S	Sb	22 24 28.0	+0.6
THL	**Klokotos Trika**	**1.64**	**178**	P	Pb	22 24 06.2	-0.3
THL				S	Sb	22 24 28.0	+0.6
VTS	**Vitosha**	**1.67**	**34**	*e*Pg	Pg	22 24 08.5	+0.3
VTS	**Vitosha**	**1.67**	**34**	*e*Pg	Pg	22 24 08.5	+0.3
PAIG	**Paliouri**	**1.83**	**134**	P	Pn	22 24 08.3	+0.5
PAIG	**Paliouri**	**1.83**	**134**	P	Pn	22 24 08.3	+0.5
ZAPS	**Zavoj**	**2.12**	**13**	*e*Pg	Pb	22 24 15.6	+0.8
ZAPS				*e*Sg	Sg	22 24 45.6	+1.2

BJI ***22*** *22:26:44.2, 1.°14N× 126.°86E, h62km, mb5.0/64, mB5.2/50, Ms4.5/56, Ms7 4.2/57*

MOS ***22*** *22:26:45.1±1.2, 1.°37N× 126.°87E, h51km, mb5.3/55, MS4.0/19, Error ellipse: s-maj=8.9km s-min=5.0km az=110.3*

ISCJB ***22*** *22:26:48.1±0.3, 1.°44N±0.°02× 126.°98E±0.°02, h77km±2km, mb5.0/138, Error ellipse: s-maj=3.1km s-min=2.6km az=153.8*

IDC ***22*** *22:26:48.2±1.1, 1.°39N× 126.°96E, h70km±8km, mb4.5/37, mb1 4.6/40, mb1mx4.6/41, mbtmp4.8/40, MS4.0/23, Ms1 4.0/23, ms1mx3.8/40, Error ellipse: s-maj=11.7km s-min=6.8km az=74.0*

GCMT ***22*** *22:26:49.4±0.1, 1.°63N× 126.°88E, h77km±1km, MW5.3/110, Moment Tensor Solution. s93,c149; s110,c191; Duration: 1§0 Moment tensor: Scale 10¹⁷Nm; Mrr=0.64±.02; Mθθ 0.13±.02; Mφφ 0.50±.02; Mrθ=0.28±.01; Mθφ 0.25±.02; Mφr 0.69±.01; Best double couple: M₀ 0.97300× 10¹⁷ NP1:φs 203.00000°, δ 70.00000°, λ -92.00000°. NP2:φs 29.00000°, δ 20.00000°, λ -84.00000°. Principal axes: T 0.9690, Plg 25.0000°, Azm 295.0000°; N 0.0090, Plg 2.0000°, Azm 204.0000°; P -0.9780, Plg 65.0000°, Azm 110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***22*** *22:26:49.4±0.5, 1.°36N× 126.°93E, h80km±4km, mb5.0/60 Error ellipse: s-maj=4.9km s-min=3.7km az=57.0*

NEIC Felt [II] on Pulau Ternate, Indonesia.

DJA ***22*** *22:26:50.6±0.2, 1.°N±2.°× 12.°7E±.°, h70km±2km, M5.1/102, mb5.3/102, mB5.6/47, MLv5.4/22, Mw(mB) 5.1/47*

ISC 22 22:26:47.5±0.3, 1.°43N±0.°02× 126.°95E±0.°03, h61km±1km, h61km:pP-P, n550, σ1§61/652, mb5.0/145, 33C-21D, Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.78**	**147**	P	Pn	**22 27 03.8**	**+0.9**
TNTI				S	Sn	**22 27 15.4**	**+1.3**
TNTI	**Ternate**	**0.78**	**147**	*e*Pn	Pn	**22 27 04.3**	**+1.4**
TNTI				*e*S	Sn	**22 27 15.3**	**+1.3**
LBMI	**Labuha**	**2.13**	**165**	P	Pn	**22 27 22.8**	**+1.9**
LBMI				S	Sn	**22 27 50.9**	**+4.7**
SGSI	**Sangihe**	**2.65**	**328**	P	Pn	**22 27 29.7**	**+1.8**
SGSI				S	Sn	**22 28 01.8**	**+2.9**
KMSI	**Cibinong**	**3.08**	**254**	P	Pn	**22 27 36.4**	**+2.5**
KMSI				S	Sn	**22 28 12.1**	**+2.5**
SANI	**Sanana**	**3.59**	**195**	P	Pn	**22 27 42.2**	**+1.4**
SANI				S	Sn	**22 28 25.2**	**+3.2**
GTOI	**Gorontalo**	**4.01**	**259**	P	Pn	22 27 53.1	+6.5
GTOI				S	Sn	**22 28 37.4**	**+5.0**
NLAI	**Namlea**	**4.64**	**178**	P	Pn	**22 27 58.1**	**+2.9**
LUWI	**Luwuk**	**4.84**	**240**	P	Pn	**22 28 00.6**	**+2.6**
LUWI				S	Sn	**22 28 55.5**	**+2.7**
LUWI	**Luwuk**	**4.84**	**240**	P	Pn	22 28 01.6	+3.6
	baz=4.8,SNR=35						
LUWI	**Luwuk**	**4.84**	**240**	*e*Pn	Pn	**22 28 00.3**	**+2.3**
LUWI				*e*S	Sn	22 28 59.3	+6.5
SWI	**Sorong**	**4.88**	**118**	P	Pn	**22 28 00.1**	**+1.7**
SWI	**Sorong**	**4.88**	**118**	P	Pn	**22 28 01.4**	**+3.0**
	baz=4.8,SNR=6.0						
SIJI	**Sorong**	**4.89**	**118**	P	Pn	**22 28 00.0**	**+1.5**
	11nm,0.3s,baz=319,slow=12,SNR=32						
SIJI				LR	LR	22 30 14.3	
	comp=Z,9μm,21.7s,baz=304,slow=42						
MRSI	**Marisa**	**5.09**	**259**	P	Pn	**22 28 03.7**	**+2.3**
	877nm,0.7s,9μm3.1nm						
MSAI	**Masohi**	**5.14**	**157**	P	Pn	22 28 05.4	+3.3
DAV	**Davao City (W)**	**5.76**	**346**	*e*Pn	Pn	**22 28 10.9**	**+0.4**
DAV				*e*S	Sn	22 29 21.5	+6.2
APSI	**Ampana**	**5.79**	**246**	P	Pn	**22 28 13.5**	**+2.6**
	988nm,0.9s,13μm5.2nm						
APSI				S	Sn	**22 29 19.8**	**+3.9**
	988nm,0.9s,13μm5.2nm						
TOLI	**Toli-Toli**	**6.16**	**267**	*e*Pn	Pn	**22 28 17.5**	**+1.5**
TOLI				*e*S	Sn	**22 29 25.4**	**+0.3**
CTBH	**Cotabato--PC H**	**6.35**	**335**	⇓*i*P	Pn	**22 28 18.9**	**+0.3**
BNDI	**Bandanaira**	**6.61**	**153**	P	Pn	**22 28 25.3**	**+3.1**
	906nm,1.6s,11μm2.9nm						
BIPH	**Bislig**	**6.73**	**355**	⇑*e*P	Pn	22 28 30.1	+6.3
BIPH				*e*S	Sn	**22 29 43.8**	**+4.7**
FAKI	**Fak Fak**	**6.84**	**129**	P	Pn	**22 28 28.5**	**+3.2**
	210nm,1.5s,3μm0.8nm						
FAKI	**Fak Fak**	**6.84**	**129**	⇓P	Pn	**22 28 27.1**	**+1.8**
	baz=6.8,SNR=42						
FAKI	**Fak Fak**	**6.84**	**129**	*e*Pn	Pn	**22 28 27.2**	**+1.9**
KDI	**Kendari**	**6.88**	**219**	P	Pn	**22 28 28.6**	**+2.7**
	162nm,0.9s,3μm0.7nm						
MPSI	**Mapaga**	**7.13**	**261**	P	Pn	**22 28 32.4**	**+3.1**
CGP	**Cagayan de Oro**	**7.33**	**342**	*e*P	Pn	22 28 36.9	+4.9
CGP				*e*S	Sn	**22 29 55.6**	**+1.8**
PCI	**Palu**	**7.48**	**252**	P	Pn	**22 28 36.4**	**+2.3**
	253nm,1.1s,2μm0.9nm						
RKPI	**Ransiki, Papua**	**7.80**	**112**	P	Pn	**22 28 41.6**	**+3.1**
	259nm,1.5s,29μm1.2nm						
TTSI	**Tana Toraja**	**8.40**	**238**	P	Pn	**22 28 48.2**	**+1.5**
	258nm,0.8s,3μm						
SPSI	**Sidrap Palu**	**8.96**	**233**	P	Pn	**22 28 56.4**	**+2.1**
	169nm,0.6s,2μm						
MYLDM	**Lahad Datu**	**9.22**	**294**	*e*Pn	Pn	22 29 01.8	+3.9
BAKI	**Biak**	**9.52**	**106**	P	Pn	**22 29 05.2**	**+3.1**
	1μm,1.5s,16μm						
PALU	**Palu**	**9.53**	**52**	⇓P	Pn	**22 29 03.5**	**+1.4**
	baz=9.6,SNR=3.9						
BKSI	**Bulukumba**	**9.56**	**225**	P	Pn	**22 29 05.6**	**+3.0**
	97nm,0.8s,1μm						
KAPI	**Kappang**	**9.63**	**228**	Pn	Pn	**22 29 06.5**	**+3.0**
	451nm,0.6s,SNR=9.7						
KAPI	**Kappang**	**9.63**	**228**	P	Pn	**22 29 04.2**	**+0.8**
	11nm,0.3s,baz=70,slow=3.2,SNR=25						
KAPI				S	Sn	**22 30 49.2**	**-1.0**
	1.6nm,0.3s,baz=217,slow=20,SNR=4.0						
KAPI	**Kappang**	**9.63**	**228**	*e*Pn	Pn	**22 29 04.5**	**+1.0**
KAPI				*e*S	Sn	**22 30 49.0**	**-1.2**
KAPI				S	Sn	**22 30 49.2**	**-1.0**
BSSI	**Bau Bau, Buton**	**9.91**	**221**	P	Pn	**22 29 10.2**	**+2.9**
	141nm,0.8s,1μm						
SAUI	**Saumlaki**	**10.31**	**155**	P	Pn	**22 29 15.8**	**+3.0**
	590nm,1.2s						
BKB	**Balikpapan**	**10.40**	**255**	P	Pn	**22 29 11.6**	**-2.4**
MMRI	**Maumere**	**11.05**	**205**	P	Pn	**22 29 25.9**	**+3.0**
	119nm,1.3s						
SOEI	**Soe**	**11.43**	**193**	P	Pn	**22 29 31.1**	**+2.9**
	216nm,0.9s,2μm						
SOEI	**Soe**	**11.43**	**193**	*e*Pn	Pn	**22 29 29.9**	**+1.7**
KKM	**Kota Kinabalu**	**11.64**	**293**	P	Pn	22 29 35.0	+3.8
	baz=12,SNR=11						
KKM	**Kota Kinabalu**	**11.64**	**293**	*e*Pn	Pn	**22 29 34.2**	**+3.0**
KBKI	**Kotabaru**	**11.76**	**246**	P	Pn	**22 29 35.3**	**+2.7**
	59nm,1.3s						
SMPI	**Sarmi**	**12.24**	**106**	P	Pn	22 29 42.6	+3.4
	130nm,1.2s,2μm						
WSI	**Waingapu**	**12.86**	**211**	P	Pn	22 29 51.0	+3.3
	387nm,0.4s						
GENI	**Genyem**	**13.81**	**107**	P	Pn	**22 30 03.4**	**+2.9**
	223nm,1.5s						
TGY	**Tagaytay City**	**13.92**	**335**	P	Pn	**22 30 02.9**	**+0.9**
	15nm,0.3s,baz=258,slow=6.3,SNR=3.8						
TGY	**Tagaytay City**	**13.92**	**335**	P	Pn	**22 30 02.9**	**+0.9**
TGY				pmax	pmax		
	comp=Z,15nm,0.3s						
JAY	**Jayapura**	**14.30**	**106**	P	P	**22 30 11.1**	**-1.4**
JAY	**Jayapura**	**14.30**	**106**	P	Pn	**22 30 08.8**	**+1.7**
	comp=Z,1.5nm,0.3s,baz=129,slow=21,SNR=15						
JAY				LR	LR	22 35 07.4	
	comp=Z,2μm,21.8s,baz=278,slow=35						
JAY	**Jayapura**	**14.30**	**106**	P	Pn	**22 30 08.8**	**+1.7**
JAY				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JAY				MLR	MLR		
	comp=Z,2μm,21.8s						
JAY	**Jayapura**	**14.30**	**106**	⇑P	Pn	**22 30 09.0**	**+1.9**
	baz=14,SNR=7.6						
SBUM	**Sibu**	**14.75**	**274**	*e*Pn	Pn	**22 30 15.1**	**+2.2**
MTN	**Manton Dam**	**14.78**	**164**	⇑P	Pn	**22 30 12.4**	**-0.8**
	baz=15,SNR=11						
SRBI	**Singaraja**	**15.04**	**231**	P	P	**22 30 20.2**	**-0.5**
	comp=Z,127nm,0.9s						
KDU	**Kakadu**	**15.06**	**159**	⇓P	Pn	**22 30 15.6**	**-1.3**
	baz=15,SNR=32						
DNP	**Denpasar**	**15.42**	**229**	P	P	**22 30 24.9**	**0.0**
	comp=Z,680nm,1.5s						
KMMI	**Kalianget**	**15.45**	**237**	P	P	**22 30 25.1**	**-0.1**
	comp=Z,481nm,1.3s,comp=Z,5μm						
STKI	**Sintang**	**15.53**	**265**	P	Pn	**22 30 23.9**	**+1.0**
	comp=Z,156nm,1.6s,comp=Z,9μm						
IGBI	**Denpasar**	**15.56**	**229**	P	P	**22 30 27.1**	**+0.7**
	comp=Z,242nm,1.1s						
ABJI	**Asem Bagus**	**15.65**	**234**	P	P	**22 30 27.8**	**+0.4**
	comp=Z,156nm,1.4s						
PBKI	**Pangkalan Bun**	**15.82**	**255**	P	P	**22 30 30.0**	**+0.7**
	comp=Z,148nm,1.1s						
BWJI	**Bawean**	**16.00**	**243**	P	P	**22 30 32.0**	**+0.7**
	comp=Z,188nm,1.1s						
BLJI	**Banyuglugur**	**16.14**	**235**	P	P	**22 30 34.3**	**+1.4**
	comp=Z,237nm,1.1s,comp=Z,3μm						
GMJI	**Gumukmas**	**16.56**	**234**	P	P	**22 30 39.3**	**+1.8**
KSM	**Kuching**	**16.63**	**270**	⇓P	P	**22 30 38.9**	**+0.6**
	baz=17,SNR=18						
KSM	**Kuching**	**16.63**	**270**	*e*Pn	P	**22 30 38.4**	**+0.1**
	comp=Z,202nm,1.0s						
GRJI	**Gresik**	**16.65**	**240**	P	P	**22 30 40.4**	**+1.9**
	comp=Z,122nm,1.1s						
KNRA	**Kununurra**	**17.09**	**174**	⇓P	Pn	**22 30 42.7**	**+0.2**
	baz=17,SNR=24						
TBJI	**Tambak Boyo**	**17.15**	**241**	P	P	**22 30 46.7**	**+2.6**
	comp=Z,168nm,1.1s						
NGJI	**Ngawi**	**17.75**	**240**	P	P	**22 30 53.8**	**+3.1**
	comp=Z,197nm,1.2s						
PWJI	**Pagerwojo**	**17.78**	**238**	P	P	**22 30 52.8**	**+1.7**
	comp=Z,175nm,1.1s,comp=Z,2μm						
SMRI	**Semarang**	**18.50**	**243**	P	Pn	**22 31 01.5**	**+1.7**
	comp=Z,95nm,1.2s						
UGM	**Wanagama**	**18.83**	**240**	P	Pn	**22 31 06.1**	**+2.4**
	comp=Z,216nm,1.5s						
FITZ	**Fitzroy Crossi**	**19.45**	**184**	P	P	**22 31 09.0**	**-0.3**
	baz=20,SNR=49						
FITZ	**Fitzroy Crossi**	**19.45**	**184**	*e*P	P	**22 31 08.6**	**-0.8**
	comp=Z,57nm,1.1s						
FITZ				*e*S	S	**22 34 42.8**	**-3.4**
TPI	**Tanjungpandan**	**19.73**	**258**	P	Pn	**22 31 15.5**	**+1.1**
	comp=Z,115nm,0.9s,comp=Z,1μm						
KPJI	**Karang Pucung**	**19.97**	**244**	P	P	**22 31 15.6**	**+0.5**
	comp=Z,170nm,0.8s						
JCJI	**Jatiwangi**	**20.24**	**247**	P	Pn	22 31 21.5	+1.1
CMJI	**Cimerak**	**20.60**	**243**	P	Pn	22 31 24.8	+0.2
	comp=Z,126nm,1.0s						
LEM	**Lembang**	**20.96**	**247**	P	P	**22 31 26.6**	**+0.6**
	comp=Z,75nm,1.3s						
LEM	**Lembang**	**20.96**	**247**	P	P	**22 31 25.8**	**-0.2**
	comp=Z,45nm,0.8s,baz=21,slow=12,SNR=10						
LEM	**Lembang**	**20.96**	**247**	P	P	**22 31 25.8**	**-0.2**
LEM				pmax	pmax		
	comp=Z,45nm,0.8s						
CISI	**Cisompet, Garu**	**21.07**	**245**	P	P	**22 31 30.0**	**+3.0**
	comp=Z,124nm,0.7s						
CISI	**Cisompet, Garu**	**21.07**	**245**	P	P	**22 31 26.6**	**-0.4**
	baz=21,SNR=13						
CISI	**Cisompet, Garu**	**21.07**	**245**	*e*P	P	**22 31 24.3**	**-2.7**
	comp=Z,94nm,0.8s						
CISI				*e*S	S	**22 35 15.7**	**-2.7**
DLV	**T Lat**	**21.08**	**300**	*e*P	P	**22 31 26.3**	**-0.9**
	comp=Z,19nm,0.6s						
PPBI	**Pangkal Pinang**	**21.11**	**260**	P	P	**22 31 29.3**	**+1.9**
GUMO	**Guam**	**21.46**	**55**	P	P	**22 31 31.8**	**+0.8**
	comp=Z,34nm,0.5s,baz=190,slow=14,SNR=3.7						
GUMO				LR	LR	22 38 27.9	
	comp=Z,428nm,21.1s,baz=236,slow=33						
GUMO	**Guam**	**21.46**	**55**	P	P	**22 31 31.8**	**+0.8**
GUMO				pmax	pmax		
	comp=Z,34nm,0.5s						
GUMO				MLR	MLR		
	comp=Z,428nm,21.1s						
CBJI	**Citeko**	**21.52**	**249**	P	P	**22 31 33.6**	**+1.8**
	comp=Z,326nm,1.1s,comp=Z,8μm						
CNJI	**Cibinong**	**21.59**	**246**	P	P	**22 31 34.1**	**+1.6**
COEN	**Coen**	**22.19**	**134**	P	P	**22 31 39.7**	**+0.7**
	baz=22,SNR=15						
COEN	**Coen**	**22.19**	**134**	*e*P	P	**22 31 39.2**	**+0.3**
	comp=Z,72nm,1.1s						
WRAB	**Tennant Creek**	**22.44**	**161**	P	P	**22 31 40.6**	**-1.1**
	comp=Z,866nm,0.5s						
WRAB	**Tennant Creek**	**22.44**	**161**	*e*P	P	**22 31 40.5**	**-1.1**
WRAB				*e*		22 35 43.6	
WRAB				pmax	pmax		
	comp=Z,88nm,0.6s						
WRAB	**Tennant Creek**	**22.44**	**161**	*e*P	P	**22 31 40.5**	**-1.1**
	comp=Z,88nm,0.6s						
WRAB				*e*		22 35 43.5	
WRA	**Warramunga Arr**	**22.45**	**162**	P	P	**22 31 40.0**	**-1.7**
	comp=Z,64nm,0.6s,baz=340,slow=11,SNR=141						
WRA				S	S	**22 35 42.7**	**-1.5**
	comp=Z,7.2nm,0.9s,baz=344,slow=18,SNR=6.2						
WRA				ScP	ScP	**22 39 04.5**	**-2.4**
	comp=Z,3.1nm,0.8s,baz=343,slow=3.2,SNR=7.5						
WRA	**Warramunga Arr**	**22.45**	**162**	P	P	**22 31 40.0**	**-1.7**
WRA				S	S	**22 35 42.7**	**-1.5**
WRA				pmax	pmax		
	comp=Z,64nm,0.6s						
WRA				smax	smax		
	comp=N,7.0nm,0.9s						
WRA				pmax	pmax		
	comp=N,3.0nm,0.8s						
YULB	**Yu-li**	**22.51**	**346**	*e*P	P	**22 31 38.0**	**-4.3**
	comp=N,21nm,0.6s						
YULB				*e*		22 35 34.9	
CGJI	**Cibinong**	**22.67**	**249**	P	P	**22 31 44.5**	**+0.4**
	comp=N,81nm,0.8s						
PMG	**Port Moresby**	**22.83**	**119**	P	P	**22 31 44.9**	**-0.9**
	comp=N,15nm,0.8s,baz=258,slow=14,SNR=2.5						
PMG				LR	LR	22 42 14.8	
	comp=N,1μm,18.5s,baz=330,slow=41						
PMG	**Port Moresby**	**22.83**	**119**	⇓*e*P	P	**22 31 47.3**	**+1.5**
PMG				pmax	pmax		
	comp=Z,223nm,1.7s						
PMG	**Port Moresby**	**22.83**	**119**	*e*P	P	**22 31 45.9**	**+0.1**
KLI	**Kotabumi**	**22.94**	**254**	P	P	**22 31 49.7**	**+2.8**
	comp=Z,94nm,0.9s						
SSLB	**Suanglung**	**22.97**	**346**	*e*P	P	**22 31 44.7**	**-2.4**
	comp=Z,62nm,1.0s						
SSLB				*e*		22 35 44.1	
KLSI		**23.02**	**255**	P	P	**22 31 48.4**	**+0.7**
	comp=Z,94nm,1.0s						
YOJ	**Yonaguni jima**	**23.21**	**351**	*e*P	P	**22 31 50.7**	**+1.3**
YOJ				pmax	pmax		
	comp=Z,54nm,1.0s						
YOJ	**Yonaguni jima**	**23.21**	**351**	*e*P	P	**22 31 50.7**	**+1.3**
	comp=Z,54nm,1.0s						
KASI	**Kota Agung**	**23.46**	**253**	P	P	**22 31 55.4**	**+3.5**
	comp=Z,89nm,0.9s						
MDSI	**Maura Dua**	**23.50**	**255**	P	P	**22 31 52.2**	**0.0**
	comp=Z,46nm,1.1s						
JMBI	**JAMBI**	**23.50**	**263**	P	P	**22 31 55.8**	**+3.5**
	comp=Z,352nm,0.9s						
MBWA	**Marble Bar**	**23.54**	**197**	*e*P	P	**22 31 51.0**	**-1.5**
	comp=Z,45nm,0.8s						
YHNB	**Yeheng**	**23.72**	**347**	*e*P	P	**22 31 53.2**	**-1.0**
	comp=Z,40nm,0.9s						
LWLI	**Liwa**	**23.75**	**254**	P	P	**22 31 55.6**	**+0.9**
	comp=Z,92nm,0.8s						
LHSI	**Lahat**	**23.99**	**257**	P	P	**22 32 00.8**	**+4.1**
	comp=Z,55nm,1.4s						
QIZ	**Qiongzhong**	**24.22**	**317**	P	P	**22 31 59.4**	**+0.6**
QIZ				pP	pP	**22 32 11.9**	**-1.8**
QIZ				sP	sP	**22 32 18.6**	**-2.4**
QIZ				PMZ			
	comp=Z,19nm,0.6s						
QIZ				LZ			
	comp=Z,1μm,36.2s						
QIZ	**Qiongzhong**	**24.22**	**317**	*e*P	P	**22 31 58.3**	**-0.5**
	comp=Z,58nm,0.9s						
XMIS	**Christmas Isla**	**24.27**	**240**	⇑P	P	**22 31 59.2**	**-0.1**

comp=Z,37nm,0.7s
CHAI Chaiyaphum 28.50 302 P **P** **22 32 36.2 -1.2**
comp=Z,32nm,0.8s,comp=Z,218nm
CTA Charters Tower 28.56 139 P **P** **22 32 36.2 -1.7**
comp=Z,19nm,0.9s,baz=328,slow=13,SNR=3.2
CTA ScP **ScP** **22 39 22.5 -1.9**
comp=Z,6.7nm,0.6s,baz=315,slow=2.9,SNR=2.0
CTA LR LR 22 45 58.3
comp=Z,380nm,19.6s,baz=312,slow=40
CTA Charters Tower 28.56 139 P **P** **22 32 36.3 -1.7**
CTA pmax pmax
comp=Z,19nm,0.9s
CTA pmax pmax
comp=N,7.0nm,0.6s
CTA MLR MLR
comp=Z,380nm,19.6s
CTAO Charters Tower 28.56 139 *e*P **P** **22 32 38.5 +0.5**
CTAO pmax pmax
comp=Z,27nm,1.0s
CTAO Charters Tower 28.56 139 *e*P **P** **22 32 38.5 +0.5**
comp=Z,27nm,1.0s
MEEK Meekatharra 29.04 195 P **P** **22 32 41.9 -0.2**
baz=29,SNR=35
CBIJ Chichi jima 29.41 28 P **P** **22 32 44.6 -0.7**
JCJ Chichijima 29.41 29 P **P** **22 32 44.6 -0.7**
comp=Z,22nm,0.5s,baz=277,slow=17,SNR=4.7
PBKT Sadao Pong 29.67 302 P **P** **22 32 48.1 +0.3**
comp=Z,18nm,1.0s,comp=Z,1µm
SLVN Son La 29.93 313 *e*P **P** **22 32 52.1 +2.0**
comp=Z,23nm,1.4s
SSE Sheshan 30.00 350 *e*P **P** **22 32 51.5 +1.0**
SSE S **S** **22 37 46.3 +2.1**
SSE PMZ
comp=Z,15nm,0.6s
SSE PMZ
comp=Z,93nm,4.0s
SSE LN
comp=Z,70nm,16.4s
SSE LE
comp=Z,410nm,16.3s
SSE LZ
comp=Z,270nm,23.5s
SRDT SRDT 30.35 296 P **P** **22 32 55.4 +1.6**
comp=Z,85nm,1.1s,comp=Z,10µm
UTTA Uttaradit 30.58 304 P **P** **22 32 55.2 -0.6**
comp=Z,12nm,0.8s,comp=Z,86nm
KHLT Khaolaem Dam 30.99 297 P **P** **22 33 01.0 +1.5**
comp=Z,32nm,1.0s
WHN Wuhan 31.32 339 ⇓P P 22 33 07.3 +5.1
WHN S **S** **22 38 09.3 +4.4**
WHN LZ
comp=Z,960nm,20.3s
UMPA Umpang Tak 31.32 300 P **P** **22 33 03.1 +0.7**
comp=Z,11nm,0.7s,comp=Z,2µm
NJ2 Nanjing 31.40 347 *e*P **P** **22 33 02.6 -0.2**
NJ2 S **S** **22 38 07.0 +0.9**
NJ2 sS **sS** **22 38 32.0 +0.2**
NJ2 PMZ
comp=Z,40nm,0.8s
NJ2 LN
comp=Z,870nm,13.8s
NJ2 LE
comp=Z,400nm,16.0s
NJ2 LZ
comp=Z,3µm,16.0s
GYA Guiyang 31.61 324 P **P** **22 33 06.8 +1.8**
GYA pP **pP** **22 33 21.0 +1.0**
GYA sP **sP** **22 33 28.3 +1.1**
GYA PP **PnPn** **22 34 13.8 +3.1**
GYA PcP **PcP** **22 35 57.0 +0.8**
GYA S **S** **22 38 12.5 +2.6**
GYA sS **sS** **22 38 36.3 +0.7**
GYA ScS **ScS** **22 43 31.0 -1.6**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,130nm,4.9s
GYA LN
comp=Z,1µm,16.6s
GYA LE
comp=Z,1µm,17.0s
GYA LZ
comp=Z,1µm,16.8s
LAMP Lampang 31.72 304 P **P** **22 33 07.8 +1.9**
comp=Z,8.9nm,0.8s,comp=Z,71nm
JNU Nakatsue 31.74 6 P **P** **22 33 06.5 +0.6**
comp=Z,14nm,0.9s,baz=212,slow=9.1,SNR=2.9
JNU Nakatsue 31.74 6 *e*P **P** **22 33 06.7 +0.8**
comp=Z,26nm,1.0s
CRAI Chiangrai 31.99 308 P P 22 33 04.8 -3.4
comp=Z,303nm,0.7s,comp=Z,10µm
FORT Forrest 32.05 178 P **P** **22 33 08.1 -0.6**
baz=32,SNR=120
FORT Forrest 32.05 178 *e*P **P** **22 33 08.0 -0.6**
comp=Z,247nm,0.6s
FORT *e*PcP **PcP** **22 35 57.0 -0.1**
MORW Morawa 32.08 198 ⇑P **P** **22 33 08.0 -0.9**
baz=32,SNR=12
CM31 Chiang Mai Arr 32.26 303 *e*P **P** **22 33 10.4 -0.2**
comp=Z,16nm,0.9s
CMAR Chiang Mai Arr 32.26 303 P **P** **22 33 09.5 -1.1**
comp=Z,7.5nm,0.8s,baz=133,slow=7.9,SNR=35
CMAR PcP **PcP** **22 35 58.0 0.0**
comp=Z,2.4nm,0.8s,baz=170,slow=2.0,SNR=5.9
CMAR ScP **ScP** **22 39 35.9 -0.7**
comp=Z,2.0nm,1.0s,baz=142,slow=1.8,SNR=7.7
CMAR Chiang Mai Arr 32.26 303 P **P** **22 33 09.5 -1.1**
CMAR 22 35 58.0
CMAR pmax pmax
comp=Z,8.0nm,0.8s
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR pmax pmax
comp=N,2.0nm,1.0s
CMMT Chiang Mai 32.43 304 P **P** **22 33 11.3 -0.8**
comp=N,46nm,0.8s,comp=N,382nm
CHTO Chiang Mai 32.43 304 P **P** **22 33 11.4 -0.7**
comp=N,160nm,0.8s,comp=N,1µm
CHTO Chiang Mai 32.43 304 *e*P **P** **22 33 11.4 -0.7**
CHTO pmax pmax
comp=Z,22nm,0.6s
CHTO Chiang Mai 32.43 304 *e*P **P** **22 33 11.4 -0.7**
comp=Z,22nm,0.6s
QLP Quilpie 32.47 150 P **P** **22 33 11.7 -0.5**
baz=32,SNR=11
CMAI Chiengmai2 32.90 306 P **P** **22 33 17.4 +1.0**
comp=Z,72nm,1.2s,comp=Z,8µm
KMBL Kambalda 32.97 188 P **P** **22 33 16.4 -0.2**
baz=33,SNR=67
MHMT Maesarieng 32.98 302 P **P** **22 33 17.5 +0.6**
comp=Z,20nm,0.9s
KMI Kunming 33.17 317 P **P** **22 33 19.0 +0.2**
KMI pP **pP** **22 33 33.3 -0.6**
KMI sP **sP** **22 33 39.3 -1.8**
KMI S **S** **22 38 35.4 +1.0**
KMI sS **sS** **22 38 58.3 -1.9**
KMI PMZ
comp=Z,20nm,1.5s
KMI PMZ
comp=Z,180nm,3.9s
KMI LN
comp=Z,410nm,23.6s
KMI LE
comp=Z,410nm,24.2s
KMI LZ
comp=Z,630nm,30.1s
BLDU Ballidu 33.33 196 P **P** **22 33 19.7 -0.1**
baz=33,SNR=49
KLBR Kellerberrin 33.98 194 P **P** **22 33 25.2 -0.3**
baz=34,SNR=22
TJN Taejon 34.77 1 ⇑*e*P P 22 33 36.1 +3.9
RMQ Roma 34.84 144 P **P** **22 33 32.6 -0.3**
baz=35,SNR=6.0
BBOO Buckleboo 35.13 167 P **P** **22 33 34.8 -0.5**
baz=35,SNR=80
BBOO Buckleboo 35.13 167 *e*P **P** **22 33 34.7 -0.7**
BBOO *e*P **PnPn** **22 34 54.3 -0.4**
BBOO *e*PcP **PcP** **22 36 04.5 -1.3**
NWAO Narrogin (SRO) 35.39 194 P **P** **22 33 36.6 -0.9**
comp=Z,32nm,0.7s,baz=330,slow=6.5,SNR=24
NWAO Narrogin (SRO) 35.39 194 P **P** **22 33 36.6 -0.9**
NWAO pmax pmax
comp=Z,32nm,0.7s
NWAO Narrogin (SRO) 35.39 194 P **P** **22 33 37.9 +0.3**
baz=36,SNR=20
NWAO P **P** **22 33 37.9 +0.3**
baz=36,SNR=20
EIDS Eidsvold 35.44 140 P **P** **22 33 38.9 +0.8**
baz=36,SNR=14
EIDS Eidsvold 35.44 140 *e*P **P** **22 33 37.1 -1.0**
comp=Z,68nm,1.0s
TIA Tai'an 35.78 346 ⇑P **P** **22 33 41.1 +0.2**
TIA S **S** **22 39 14.8 +0.9**
TIA PMZ
comp=Z,40nm,1.0s
TIA PMZ
comp=Z,270nm,3.9s
TIA LN
comp=Z,150nm,16.7s
TIA LE
comp=Z,300nm,22.3s
TIA LZ
comp=Z,230nm,11.2s
KSAR Wonju Array Be 35.84 1 P **P** **22 33 41.9 +0.5**
KSAR 22 36 08.0
KSAR Wonju Array Be 35.84 1 P **P** **22 33 41.9 +0.5**
KSAR PcP **PcP** **22 36 08.0 +0.3**
KSAR ScP **ScP** **22 39 47.0 -1.8**
KSRS Korea Array 35.86 1 P **P** **22 33 41.9 +0.4**
comp=Z,4.3nm,0.8s,baz=178,slow=9.4,SNR=18
KSRS PcP **PcP** **22 36 08.0 +0.2**
comp=Z,2.6nm,0.7s,baz=184,slow=3.4,SNR=6.7
KSRS ScP **ScP** **22 39 47.0 -1.8**
comp=Z,2.2nm,0.8s,baz=181,slow=4.0,SNR=6.9
KSRS Korea Array 35.86 1 P **P** **22 33 41.9 +0.4**
KSRS 22 36 08.0
KSRS pmax pmax
comp=Z,4.0nm,0.8s
KSRS pmax pmax
comp=Z,3.0nm,0.7s
KSRS pmax pmax
comp=N,2.0nm,0.8s
STKA Stephens Creek 35.92 158 P **P** **22 33 41.5 -0.6**
comp=N,24nm,0.5s,baz=327,slow=8.4,SNR=37
STKA S **S** **22 39 15.0 -1.1**
comp=N,1.1nm,0.5s,baz=94,slow=19,SNR=2.9
STKA Stephens Creek 35.92 158 *e*P **P** **22 33 41.7 -0.5**
STKA *e* 22 35 04.2
STKA S **S** **22 39 15.1 -1.1**
STKA pmax pmax
comp=Z,6.0nm,0.7s
STKA Stephens Creek 35.92 158 *e*P **P** **22 33 41.7 -0.5**
comp=Z,5.6nm,0.7s
STKA *e*PP **PnPn** **22 35 04.2 -0.3**
STKA S **S** **22 39 15.1 -1.1**
MAJO Matsushiro 36.46 15*c i*P **P** **22 33 46.8 +0.1**
MAJO pmax pmax
comp=Z,93nm,0.8s
MAJO Matsushiro 36.46 15 *e*P **P** **22 33 46.7 +0.1**
comp=Z,18nm,1.0s
MAT Matsushiro 36.46 15 P **P** **22 33 46.7 0.0**
MAT S **S** **22 39 26.6 +2.3**
MJAR Matsushiro Arr 36.46 15 P **P** **22 33 45.1 -1.6**
comp=Z,8.2nm,0.8s,baz=188,slow=10,SNR=31
MJAR ScP **ScP** **22 39 49.4 -1.8**
comp=Z,0.8nm,0.7s,baz=229,slow=5.8,SNR=4.4
MJAR LR LR 22 49 25.6
comp=Z,183nm,18.8s,baz=200,slow=37
MJAR Matsushiro Arr 36.46 15 P **P** **22 33 45.1 -1.6**
MJAR pmax pmax
comp=Z,8.0nm,0.8s
MJAR pmax pmax
comp=N,1.0nm,0.7s
MJAR MLR MLR
comp=Z,183nm,18.8s
HTT Hallett 36.47 163 P **P** **22 33 46.7 -0.2**
baz=37,SNR=11
XAN Xi'an 36.56 334 P **P** **22 33 45.8 -1.8**
XAN pP **pP** **22 33 58.8 -4.1**
XAN PP **PP** **22 35 09.4 -2.5**
XAN S **S** **22 39 22.1 -3.9**
XAN PMZ
comp=Z,3.0nm,0.8s
XAN PMZ
comp=Z,32nm,5.9s
XAN LN
comp=Z,230nm,28.6s
XAN LZ
comp=Z,98nm,29.2s
CD2 Chengdu 36.63 325 P **P** **22 33 49.1 +0.8**
CD2 pP **pP** **22 34 02.8 -0.8**
CD2 sP **sP** **22 34 09.3 -1.4**
CD2 S **S** **22 39 29.8 +2.7**
CD2 sS **sS** **22 39 53.4 +0.3**
CD2 PMZ
comp=Z,30nm,0.5s
CD2 PMZ
comp=Z,280nm,5.2s
CD2 LN
comp=Z,490nm,15.6s
CD2 LZ
comp=Z,370nm,18.5s
RKGY Rocky Gully 37.05 194 P **P** **22 33 53.1 +1.3**
baz=37,SNR=23
CMSA Cobar Meteorol 37.31 153 P **P** **22 33 53.8 -0.1**
baz=37,SNR=27
DL2 Dalian 37.61 353 ⇑P P **22 33 58.4 +2.0**
DL2 S **S** **22 39 41.5 -0.2**
DL2 ScP **ScP** **22 39 56.3 +0.9**
DL2 PMZ
comp=Z,50nm,0.9s
DL2 PMZ
comp=Z,110nm,5.4s
DL2 LE
comp=Z,450nm,14.0s
DL2 LZ
comp=Z,250nm,14.6s
H01W3 Cape Leeuwin H 38.07 197 P **P** **22 34 03.1 +3.0**
baz=40,slow=7.2,SNR=6.6
H01W1 Cape Leeuwin H 38.07 197 P **P** **22 34 02.4 +2.3**
baz=40,slow=7.2,SNR=5.0
H01W2 Cape Leeuwin H 38.09 197 P **P** **22 34 02.5 +2.3**
baz=40,slow=7.2,SNR=3.6
ARMA Armidale 39.45 145 P **P** **22 34 13.0 +0.8**
baz=40,SNR=29
ARMA Armidale 39.45 145 *e*P **P** **22 34 12.6 +0.4**
comp=Z,65nm,0.8s
BJT Baijiatuau 39.64 347 *e*P **P** **22 34 13.4 0.0**
BJT pmax pmax
comp=Z,88nm,1.0s
BJT Baijiatuau 39.64 347 *e*P **P** **22 34 13.4 0.0**
comp=Z,88nm,1.0s
BJI Beijing 39.66 347 P **P** **22 34 13.8 +0.3**
BJI PP **PnPn** **22 35 49.6 +0.3**
BJI S **S** **22 40 11.5 -1.0**
BJI PMZ
comp=Z,90nm,1.2s
BJI PMZ
comp=Z,300nm,3.7s
BJI LN
comp=Z,130nm,19.2s
BJI LE
comp=Z,350nm,16.7s
SNY Shenyang 40.33 356 ⇑P P **22 34 16.5 -2.5**
SNY S **S** **22 40 22.6 +0.2**
SNY PMZ
comp=Z,68nm,4.4s
SNY LN
comp=Z,170nm,20.3s
SNY LE
comp=Z,410nm,15.1s
SNY LZ
comp=Z,230nm,29.0s
ARPS Mount Arapiles 40.45 161 P **P** **22 34 20.5 +0.4**
baz=41,SNR=32
LZH Lanzhou 40.59 331 *e*P **P** **22 34 22.8 +1.2**
LZH pP **pP** **22 34 34.6 -2.4**
LZH sP **sP** **22 34 43.0 -1.1**
LZH PP **PnPn** **22 36 01.0 +0.5**
LZH *e*S **S** **22 40 30.0 +3.1**
LZH sS **sS** **22 40 51.5 -1.6**
LZH SS **SS** **22 43 24.3 -4.7**
LZH PMZ
comp=Z,45nm,1.2s
LZH PMZ
comp=Z,260nm,5.0s
LZH LN
comp=Z,590nm,13.5s
LZH LE
comp=Z,730nm,13.7s
LZH LZ
comp=Z,980nm,16.0s
YNG Young 40.86 152 P **P** **22 34 24.1 +0.6**
baz=41,SNR=22
MSHR Mys Shultsa 41.14 5 *i*P **P** **22 34 27.9 +2.2**
MGCD Mangrove Creek 41.31 149 ⇓P **P** **22 34 28.2 +0.9**
baz=41,SNR=4.6
HHC Hu-ho-hao-te 41.63 342 *e*P P 22 34 33.8 +3.8
HHC PP **PnPn** **22 36 14.4 +1.8**
HHC S **S** **22 40 39.8 -2.4**
HHC sS sS 22 41 07.3 -1.2
HHC PMZ
comp=Z,14nm,0.9s
HHC PMZ
comp=Z,110nm,7.4s
HHC LN
comp=Z,270nm,23.4s
HHC LE
comp=Z,150nm,25.9s
HHC LZ
comp=Z,440nm,27.1s
CAN Canberra 41.98 153 *e*P **P** **22 34 33.4 +0.6**
CAN pmax pmax
comp=Z,60nm,0.6s
CAN Canberra 41.98 153 *e*P **P** **22 34 33.4 +0.6**
comp=Z,60nm,0.6s
CNB Canberra Magne 42.14 152 P **P** **22 34 35.0 +0.8**
baz=42,SNR=12
CN2 Changchun 42.21 358 *e*P **P** **22 34 36.3 +1.8**
CN2 *es*P **sP** **22 34 55.8 -1.3**
CN2 *e*S **S** **22 40 53.1 +2.8**
CN2 PMZ
comp=Z,10.0nm,0.5s
CN2 PMZ
comp=Z,100nm,3.0s
CN2 LN
comp=Z,300nm,18.0s
CN2 LE
comp=Z,500nm,18.0s
CN2 LZ
comp=Z,900nm,19.0s
TOO Toolangi 42.44 158 P **P** **22 34 37.7 +1.2**
baz=42,SNR=16
USRK Ussuriysk Ar. 42.82 5 P **P** **22 34 40.8 +1.4**
comp=Z,12nm,0.7s,baz=190,slow=7.6,SNR=21
ERM Erimo 42.95 18 ⇑*e*P **P** **22 34 42.2 +1.7**
ERM pmax pmax
comp=Z,35nm,1.2s
MDJ Mudanjiang 43.06 3 P **P** **22 34 43.3 +1.9**
MDJ pP **pP** **22 34 56.3 -0.7**
MDJ PP **PP** **22 36 24.0 +1.5**
MDJ PcP **PcP** **22 36 31.4 +0.9**
MDJ ScP **ScP** **22 40 17.3 +0.7**
MDJ PcS **PcS** **22 40 24.3 +1.5**
MDJ S **S** **22 41 03.3 +0.4**
MDJ ScS **ScS** **22 44 36.9 +0.7**
MDJ PMZ
comp=Z,18nm,1.1s
MDJ PMZ
comp=Z,57nm,4.2s
MDJ LN
comp=Z,140nm,27.8s
MDJ LE
comp=Z,150nm,28.9s
MDJ LZ
comp=Z,280nm,35.5s
MDJ Mudanjiang 43.06 3 *e*P **P** **22 34 42.8 +1.4**
comp=Z,23nm,0.9s
MILA Mila 43.49 154 P **P** **22 34 46.1 +1.1**
baz=44,SNR=6.7
LSA Lhasa 44.13 313 P **P** **22 34 50.8 0.0**
LSA Lhasa 44.13 313 *e*P **P** **22 34 51.1 +0.3**
LSA pmax pmax
comp=Z,23nm,0.6s
LSA Lhasa 44.13 313 *e*P **P** **22 34 51.1 +0.3**
comp=Z,23nm,0.6s
ASAJ Asahikawa 44.72 16 P **P** **22 34 54.6 -0.1**
comp=Z,6.5nm,0.8s,baz=254,slow=18
ASAJ Asahikawa 44.72 16 P **P** **22 34 54.6 -0.1**
ASAJ pmax pmax
comp=Z,7.0nm,0.9s
DZM Mont Dzumac 45.07 124 P **P** **22 34 57.3 -0.7**
comp=Z,6.1nm,0.6s,baz=270,slow=24,SNR=8.3
GTA Gaotai 45.17 330 *e*P **P** **22 34 58.6 0.0**
GTA pP **pP** **22 35 12.6 -1.6**
GTA sP **sP** **22 35 20.3 -1.0**
GTA PcP **PcP** **22 36 40.4 +2.4**
GTA PP **PP** **22 36 46.9 +1.7**
GTA ScP **ScP** **22 40 25.9 +0.3**
GTA S **S** **22 41 34.6 +0.6**
GTA sS **sS** **22 42 01.4 +0.8**
GTA ScS **ScS** **22 44 50.0 -0.1**
GTA PMZ
comp=Z,4.0nm,1.1s
GTA PMZ
comp=Z,170nm,4.4s
GTA LN
comp=Z,230nm,21.4s
GTA LE
comp=Z,250nm,16.2s
GTA LZ
comp=Z,560nm,23.8s
CHLP Challavanipeta 45.34 295 *e*P **P** **22 35 00.6 +0.6**
CHLP IAmb IAmb 22 35 10.2
comp=Z,40nm,1.3s
TAPN Taplejung 45.57 308 *e*P **P** **22 35 01.1 -1.0**
comp=Z,18nm,0.6s
ODAN Odare 45.60 307 *e*P **P** **22 35 01.7 -0.5**
comp=Z,38nm,0.7s
RAMN Ramite 46.27 307 *e*P **P** **22 35 06.9 -0.6**
comp=Z,30nm,0.6s
PALK Pallekele 46.45 279 P **P** **22 35 09.7 +0.8**
comp=Z,6.3nm,0.8s,baz=7.3,slow=2.9,SNR=3.3
PALK Pallekele 46.45 279 P **P** **22 35 09.7 +0.8**
PALK pmax pmax
comp=Z,6.0nm,0.8s
PVM Polavaram 47.23 292 *e*P **P** **22 35 14.2 -0.7**
PVM IAmb IAmb 22 35 15.9
comp=Z,11nm,0.8s
GUN Gumba 47.27 308 *e*P **P** **22 35 14.7 -0.8**
comp=Z,40nm,0.4s
HABR Khabarovsk 47.38 7 *e*P **P** **22 35 15.1 -0.4**
HABR *e**PP **pP** **22 35 28.6 -2.7**
HABR *e**SP **sP** **22 35 34.7 -3.6**
HABR *e* 22 36 45.0
HABR *e* 22 37 06.8
HABR *e*PPP PPP 22 37 52.7
HABR *e*S **S** **22 42 05.9 +0.9**
HABR *e**SS **sS** **22 42 29.2 -2.5**
HABR *e* 22 45 04.2
HABR *e*SSS SSS 22 46 41.0
HABR pmax pmax
comp=Z,55nm,2.2s
HABR MLR MLR
comp=Z,195nm,20.0s
YSS Yuzh-Sakhalins 47.39 15 *e*P P 22 35 23.2 +7.6
PKI Pulchoki 47.49 307 *e*P **P** **22 35 15.9 -1.3**
comp=Z,15nm,0.5s
PKIN Phulchoki 47.50 307 *e*P **P** **22 35 16.1 -1.1**
comp=Z,11nm,0.5s
KKN Kakani 47.69 307 *e*P **P** **22 35 17.6 -1.0**
comp=Z,19nm,0.5s
DMN Daman 47.75 307 *e*P **P** **22 35 18.1 -1.0**
comp=Z,20nm,0.6s
KLR Kul'dur 47.79 4 *e*P **P** **22 35 16.7 -2.0**
HIA Hailar 48.05 354 *e*P **P** **22 35 23.0 +2.2**
HIA Hailar 48.05 354 *e*P **P** **22 35 23.0 +2.2**
SKHT Srikalahasti 48.28 287 *e*P **P** **22 35 23.4 +0.4**
GKN Gorkha 48.29 307 *e*P **P** **22 35 22.3 -0.9**
comp=Z,23nm,0.5s
ADKI Addanki 48.45 290 *e*P **P** **22 35 23.1 -1.3**
KOLN Koldanda 49.03 306 *e*P **P** **22 35 28.2 -0.7**
comp=Z,47nm,0.5s
DANN Dangsing 49.14 307 *e*P **P** **22 35 28.3 -1.6**
NJS Nagarjunasagar 49.23 291 *e*P **P** **22 35 29.5 -0.8**
NJS IAmb IAmb 22 35 43.6
comp=Z,12nm,0.9s
RCLA Racherla 49.33 289 *e*P **P** **22 35 29.6 -1.5**
RCLA IAmb IAmb 22 35 31.8
comp=Z,26nm,0.9s
ULN Ulaanbaatar 49.36 342 *e*P **P** **22 35 31.9 +0.9**
ULN pmax pmax
comp=Z,56nm,1.0s
ULN Ulaanbaatar 49.36 342 *e*P **P** **22 35 31.9 +0.9**
comp=Z,56nm,1.0s
SRLM Srisailam 49.52 290 *e*P **P** **22 35 31.0 -1.6**
SONM Songino Array 49.53 342 P **P** **22 35 32.3 0.0**
comp=Z,21nm,0.8s,baz=153,slow=7.6,SNR=82

SONM ScP **ScP** **22 40 41.7 -2.1**
comp=Z,0.6nm,0.8s,baz=145,slow=5.3,SNR=3.3
SONM LR LR 22 58 58.9
comp=Z,105nm,20.4s,baz=155,slow=39
SONM Songino Array 49.53 342 P **P** **22 35 32.3 0.0**
SONM pmax pmax
comp=Z,21nm,0.8s
SONM pmax pmax
comp=N,1.0nm,0.8s
SONM MLR MLR
comp=Z,105nm,20.4s
RPR Rampur 49.78 294 *eP* **P** **22 35 33.1 -1.4**
RPR IAmb IAmb 22 35 35.6
comp=Z,16nm,0.8s
HYB Hyderabad 50.12 292 *i* P **P** **22 35 36.0 -1.2**
HYBB Hyderabad (bro 50.12 292 *eP* **P** **22 35 36.4 -0.8**
HYBB IAmb IAmb 22 35 38.0
comp=Z,26nm,0.9s
SRSP Sriramsagar 50.67 293 *eP* **P** **22 35 39.8 -1.5**
SRSP IAmb IAmb 22 35 42.0
comp=Z,13nm,0.9s
URV Uravakonda 50.84 288 *eP* **P** **22 35 40.8 -1.8**
KLRI Killari 52.08 292 *eP* **P** **22 35 49.8 -2.1**
ZAK Zakamensk 52.75 341 *eP* **P** **22 35 56.6 +0.3**
ZAK pmax pmax
comp=Z,10.0nm,1.5s
TLY Talaya 53.77 342 P **P** **22 36 04.6 +0.9**
comp=Z,6.0nm,0.7s,baz=185,slow=4.7,SNR=16
TLY Talaya 53.77 342 *eP* **P** **22 36 06.2 +2.5**
TLY *eS* **S** **22 43 31.7 -1.9**
TLY pmax pmax
comp=Z,19nm,1.2s
TLY MLR MLR
comp=Z,93nm,18.0s
TLY Talaya 53.77 342 P **P** **22 36 06.5 +2.8**
comp=Z,80nm,1.1s,SNR=5.2
TLY Talaya 53.77 342 *eP* **P** **22 36 05.8 +2.2**
comp=Z,15nm,1.0s
MSVF Nonsavu 53.79 113 *eP* **P** **22 36 06.2 +1.7**
MSVF pmax pmax
comp=Z,31nm,1.1s
MSVF Nonsavu 53.79 113 *eP* **P** **22 36 06.2 +1.7**
comp=Z,31nm,1.1s
IRK Irkutsk 54.07 343 *eP* P 22 36 09.6 +3.7
IRK pmax pmax
comp=Z,50nm,2.1s
NDI New Delhi 54.58 305 *eP* **P** **22 36 08.0 -2.0**
MOY Mondy 54.60 340 *eP* **P** **22 36 11.8 +1.9**
MOY pmax pmax
comp=Z,80nm,1.9s
WMQ Urumqi 54.73 326 P **P** **22 36 12.3 +1.4**
WMQ pP **pP** **22 36 28.3 +1.3**
WMQ sP **sP** **22 36 34.0 +0.1**
WMQ S **S** **22 43 46.3 -0.6**
WMQ sS **sS** **22 44 13.3 -0.8**
WMQ ScS **ScS** **22 45 52.4 -2.4**
WMQ PMZ
comp=Z,73nm,0.8s
WMQ PMZ
comp=Z,360nm,3.8s
WMQ LN
comp=Z,380nm,26.0s
WMQ LE
comp=Z,280nm,27.6s
WMQ LZ
comp=Z,230nm,28.0s
H08S3 Diego Garcia H 55.06 260 P P 22 36 08.9 -4.5
H08S1 Diego Garcia H 55.07 260 P P 22 36 09.0 -4.5
CLNS Chul'man 55.26 359 *eP* **P** **22 36 15.3 +0.9**
CLNS pmax pmax
comp=Z,10.0nm,0.8s
BOD Bodaibo 57.15 352 *eP* **P** **22 36 27.7 -0.1**
BOD pmax pmax
comp=Z,11nm,1.1s
PETK Petropavlovsk- 57.47 21 P **P** **22 36 30.5 +0.3**
comp=Z,6.1nm,0.6s,baz=189,slow=5.6,SNR=7.3
PETK Petropavlovsk- 57.47 21 P **P** **22 36 30.5 +0.3**
PETK pmax pmax
comp=Z,6.0nm,0.6s
MK31 Makanchi Array 59.56 326 *eP* **P** **22 36 45.6 +0.7**
MK31 Makanchi Array 59.56 326 *eP* **P** **22 36 45.6 +0.7**
MKAR Makanchi Array 59.56 326 P **P** **22 36 45.2 +0.3**
comp=Z,44nm,0.7s,baz=122,slow=8.5,SNR=138
MKAR ScP **ScP** **22 41 24.7 -2.8**
comp=Z,2.3nm,0.8s,baz=122,slow=2.8,SNR=6.1
MKAR S **S** **22 44 50.9 +0.6**
comp=Z,2.4nm,1.1s,baz=130,slow=14,SNR=8.4
MKAR LR LR 23 04 09.9
comp=Z,274nm,20.3s,baz=110,slow=38
MKAR Makanchi Array 59.56 326 P **P** **22 36 45.2 +0.3**
MKAR S **S** **22 44 50.9 +0.6**
MKAR pmax pmax
comp=Z,44nm,0.7s
MKAR pmax pmax
comp=N,2.0nm,0.8s
MKAR smax smax
comp=N,2.0nm,1.1s
MKAR MLR MLR
comp=Z,274nm,20.3s
KSH Kashi 59.82 316 P **P** **22 36 48.5 +1.5**
KSH pP **pP** **22 37 06.1 +2.8**
KSH PcP **PcP** **22 37 35.1 +2.0**
KSH PP **PP** **22 39 04.0 +4.4**
KSH S **S** **22 44 53.3 -0.9**
KSH sS **sS** **22 45 23.0 +1.3**
KSH SS **SS** **22 48 54.0 +2.7**
KSH PMZ
comp=Z,52nm,1.2s
KSH PMZ
comp=Z,500nm,4.2s
KSH LN
comp=Z,220nm,6.5s
KSH LE
comp=Z,220nm,5.8s
KSH LZ
comp=Z,310nm,7.4s
YAK Yakutsk 60.48 1 *eP* **P** **22 36 51.6 +0.8**
YAK *e**PP **pP** **22 37 07.3 +0.1**
YAK *e* 22 37 33.9
YAK *e*S **S** **22 45 01.0 -0.5**
YAK *e**SS **sS** **22 45 27.9 -1.2**
YAK *e* 22 46 34.3
YAK *e*SS **SS** **22 48 58.9 -1.6**
YAK pmax pmax
comp=Z,21nm,0.7s
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,8.0nm,0.5s
YAK pmax pmax
comp=N,5.0nm,0.6s
YAK pmax pmax
comp=E,3.0nm,0.6s
YAK smax smax
comp=E,116nm,3.4s
YAK smax smax
comp=N,83nm,2.7s
YAK MLR MLR
comp=Z,199nm,22.0s
YAK MLR MLR
comp=N,197nm,26.0s
YAK MLR MLR
comp=E,95nm,23.0s
YAK Yakutsk 60.48 1 *eP* **P** **22 36 52.2 +1.4**
comp=E,44nm,0.6s
URZ Urewera 60.74 136 *eP* **P** **22 36 51.9 -1.2**
comp=E,68nm,1.5s
BKZ Black Stump Fm 60.75 137 *eP* **P** **22 36 52.4 -0.8**
comp=E,27nm,0.7s
KRAR Krasnoyarsk 60.95 339⇑ *eP* **P** **22 36 55.3 +1.2**
KRAR pmax pmax
comp=Z,39nm,0.6s
KZA Kyzart 61.45 318 P **P** **22 36 59.7 +1.3**
SNR=11
TKM2 Tokmak 2 61.61 319 P **P** **22 37 00.0 +0.8**
SNR=16
TKM2 Tokmak 2 61.61 319 *eP* **P** **22 36 59.9 +0.8**
TKM2 Tokmak 2 61.61 319 *eP* **P** **22 36 59.9 +0.8**
KBK Karagaybulak 61.91 319 P **P** **22 37 03.1 +2.0**
SNR=7.5
AAK Ala-Archa 62.20 319 *eP* **P** **22 37 06.1 +3.0**
AAK pmax pmax
comp=Z,56nm,1.8s
AAK Ala-Archa 62.20 319 *eP* **P** **22 37 06.1 +3.0**
comp=Z,56nm,1.8s
USP Ospenovka 62.48 319 P **P** **22 37 05.7 +0.9**
SNR=16
AML Almayashu 62.52 318 P **P** **22 37 06.7 +1.2**
SNR=6.7
AFI Afiamalu 62.58 106 LR LR 23 04 32.4
comp=Z,86nm,18.4s,baz=306,slow=36
EKS2 Erkin-Say 62.69 318 P P 22 37 09.6 +3.3
SNR=12
EKS2 Erkin-Say 62.69 318 *eP* **P** **22 37 07.2 +0.9**
EKS2 pmax pmax
comp=Z,21nm,0.8s
EKS2 Erkin-Say 62.69 318 *eP* **P** **22 37 07.2 +0.9**
comp=Z,21nm,0.8s
ZAA0 Zalesovo Array 62.72 334 *eP* **P** **22 37 05.4 -0.7**
ZALV Zalesovo Beam 62.72 334 P **P** **22 37 05.3 -0.8**
comp=Z,7.4nm,0.7s,baz=114,slow=5.9,SNR=26
ZALV PKP2bc 23 06 13.6
comp=Z,0.4nm,0.4s,baz=292,slow=7.6,SNR=3.9
ZALV LR LR 23 06 35.0
comp=Z,81nm,18.4s,baz=68,slow=38
KBL Kabul 63.09 308 *eP* **P** **22 37 08.8 -0.5**
KBL pmax pmax
comp=Z,20nm,0.8s
KBL Kabul 63.09 308 *eP* **P** **22 37 08.8 -0.5**
comp=Z,20nm,0.8s
KURBB Kurdehav Arra 63.78 328 PKP2bc **P'P'bc** **23 06 10.4 -3.2**
comp=Z,0.2nm,0.6s,baz=316,slow=3.6,SNR=4.9
KURK Kurchatov 63.78 328 P **P** **22 37 13.8 +0.6**
comp=Z,943nm,0.9s,SNR=76
KURK Kurchatov 63.78 328 *eP* **P** **22 37 13.3 +0.1**
KURK pmax pmax
comp=Z,57nm,0.7s
KURK Kurchatov 63.78 328 *eP* **P** **22 37 13.3 +0.1**
comp=Z,57nm,0.7s
NVS Novosibirsk 64.01 334 *eP* **P** **22 37 14.4 -0.2**
NVS *eS* **S** **22 45 43.5 -2.6**
NVS pmax pmax
comp=Z,47nm,1.3s
NVS pmax pmax
comp=N,21nm,1.1s
NVS pmax pmax
comp=E,22nm,1.1s
NVS smax smax
comp=N,41nm,2.8s
NVS smax smax
comp=E,69nm,2.7s
SEY Seymchan 64.21 13 P **P** **22 37 16.6 +0.9**
comp=E,5.8nm,0.6s,baz=217,slow=5.2,SNR=19
SEY Seymchan 64.21 13⇑ *eP* **P** **22 37 18.4 +2.7**
KKAR Karatay Array 65.06 318 *eP* **P** **22 37 22.1 +0.4**
KKAR pmax pmax
comp=Z,20nm,0.8s
KKAR Karatay Array 65.06 318 *eP* **P** **22 37 22.1 +0.4**
comp=Z,20nm,0.8s
CASY Casey 68.58 187 *eP* **P** **22 37 43.3 -0.3**
comp=Z,22nm,0.8s
CASY *e*PP **PP** **22 40 14.8 -0.8**
BRVK Borovoye 69.43 327 P **P** **22 37 49.7 +0.6**
comp=Z,240nm,0.9s,SNR=5.5
BRVK Borovoye 69.43 327 *ceP* **P** **22 37 49.4 +0.3**
BRVK pmax pmax
comp=Z,54nm,1.2s
BRVK Borovoye 69.43 327 *eP* **P** **22 37 48.8 -0.3**
comp=Z,43nm,1.0s
IDAH Dahanechah 70.03 304 *eP* **P** **22 37 54.7 +1.0**
ATKA Atka Island 70.26 34 *eP* **P** **22 37 55.8 +1.6**
comp=Z,6.9nm,0.7s
IMYA Miami 70.61 308 *eP* **P** **22 37 57.5 +0.5**
IKOO Kooshah 70.68 304 *eP* **P** **22 37 58.1 +0.5**
ITEG Tejag 70.99 304 *eP* **P** **22 38 00.2 +0.8**
ISRO Mashad 71.10 308 *eP* **P** **22 37 59.8 0.0**
IMOG Moghan 71.16 308 *eP* **P** **22 38 00.4 0.0**
IPAY Payeh 71.50 308 *eP* **P** **22 38 02.5 0.0**
BILL Bilibino 71.70 15⇑ *eP* **P** **22 38 04.9 +2.2**
BILL *eS* **S** **22 47 21.0 +3.3**
BILL pmax pmax
comp=Z,12nm,1.7s
BILL MLR MLR
comp=Z,164nm,20.0s
IAKL Akhelmad 71.72 308 *eP* **P** **22 38 04.4 +0.6**
IKRD Kurdeh 71.95 308 *eP* P 22 38 01.6 -3.5
MIR Mirnyy 71.99 194⇑ *eP* P 22 38 13.0 +8.6
MIR pmax pmax
comp=Z,60nm,1.0s
HATD Hatta, Dubai 72.01 296⇑ P **P** **22 38 05.2 -0.2**
ISFR Sfrayin 72.41 308 *eP* **P** **22 38 08.9 +1.0**
NAZ Nazwa, Dubai 72.45 296⇑ P **P** **22 38 08.4 +0.4**
FAQ Al Faqa, Dubai 72.48 295⇑ *iP* **P** **22 38 09.9 +1.6**
SNR=12
ABKT Ailbek 72.50 309 P **P** **22 38 09.3 +1.1**
comp=Z,348nm,1.0s,SNR=12
GEYT Ailbeck 72.50 309 P **P** **22 38 08.7 +0.6**
comp=Z,39nm,0.8s,baz=283,slow=4.6,SNR=44
ASUD Al Ashush, Dub 72.71 295⇑ *iP* **P** **22 38 10.8 +1.2**
SNR=20
IBAF Bafgh 73.42 302 *eP* **P** **22 38 13.5 -0.4**
ABKAR Akbulak array 74.06 321 *eP* **P** **22 38 17.0 0.0**
comp=Z,24nm,0.9s
IMEH Mehriz 74.20 302 *eP* **P** **22 38 17.8 -0.8**
ICHK Chekchek 74.49 303 *eP* **P** **22 38 20.7 +0.5**
RAR Rarotonga 74.97 112 LR LR 23 10 21.3
comp=Z,266nm,20.0s,baz=274,slow=35
ISAD Sadrabad 75.05 303 *eP* **P** **22 38 23.6 0.0**
IANJ Anjilo 75.37 306 *eP* **P** **22 38 25.9 +0.7**
AKTO Aktyubinsk 75.58 322 LR LR 23 15 05.7
comp=Z,106nm,21.4s,baz=108,slow=38
IGLO Ghaloghah 75.60 307 *eP* **P** **22 38 27.2 +0.7**
ISHM Shahmirzad 75.93 306 *eP* **P** **22 38 29.0 +0.6**
SVE Sverdlovsk 76.02 329 *eP* **P** **22 38 27.9 -0.3**
SVE *eS* **S** **22 48 01.2 -5.4**
SVE pmax pmax
comp=Z,34nm,1.0s
ILAS Lasjerd 76.13 306 *eP* **P** **22 38 30.2 +0.6**
IZEF Zefreh 76.32 303 *eP* **P** **22 38 30.1 -0.6**
IFIR Firoozkooh 76.34 306 *eP* **P** **22 38 31.4 +0.6**
IALA Alasht 76.35 307 *eP* **P** **22 38 31.9 +0.9**
IKAZ Kazeroun 76.37 300 *eP* **P** **22 38 30.6 -0.6**
IPRN Peran 76.75 307 *eP* **P** **22 38 33.7 +0.7**
IDMV Damavand 76.91 306 *eP* **P** **22 38 34.3 +0.3**
ARU Arti 76.98 328 P **P** **22 38 33.0 -0.6**
baz=115,slow=6.2
ARU Arti 76.98 328*c iP* **P** **22 38 32.7 -0.9**
ARU *PP **pP** **22 38 48.3 -2.2**
ARU 22 41 23.9
ARU S **S** **22 48 13.1 -4.0**
ARU pmax pmax
comp=Z,26nm,1.7s
ARU Arti 76.98 328 P **P** **22 38 33.2 -0.4**
comp=Z,89nm,0.6s,SNR=7.5
ARU Arti 76.98 328 *eP* **P** **22 38 32.7 -0.9**
comp=Z,20nm,1.1s
IKLH Kolahrood 77.00 304 *eP* **P** **22 38 35.6 +1.0**
IPIR Pirpir 77.50 303 *eP* **P** **22 38 35.8 -1.6**
IR3 Iran Long-Peri 77.71 306 *eP* **P** **22 38 39.6 +1.3**
IMHD Mahdasht 78.03 306 *eP* **P** **22 38 40.7 +0.7**
IR5 Iran Long-Peri 78.04 306 *eP* **P** **22 38 41.1 +0.9**
SOKR Solikamsk 78.81 331 ⇓ *iP* P 22 38 54.1 +10
SOKR pmax pmax
comp=Z,10.0nm,0.7s
SDPT Sand Point 78.97 34 *eP* **P** **22 38 46.0 +1.4**
IKOM Komasi 80.45 304 *eP* **P** **22 38 52.9 -0.5**
ISRB Sarab 80.65 308 *eP* **P** **22 38 55.1 +0.6**
IVIS Veis 81.03 305 *eP* **P** **22 38 55.9 -0.5**
VNDA Vanda 81.14 173 P **P** **22 38 55.5 -0.4**
comp=Z,18nm,0.8s,baz=317,slow=6.3,SNR=82
VNDA LR LR 23 17 06.0
comp=Z,76nm,18.1s,baz=339,slow=37
VNDA Vanda 81.14 173 P **P** **22 38 55.5 -0.4**
VNDA pmax pmax
comp=Z,18nm,0.8s
VNDA MLR MLR
comp=Z,76nm,18.1s
IDHR Dehrash 81.42 305 *eP* **P** **22 38 57.2 -1.4**
RAYN Ar Rayn 81.58 293 P **P** **22 38 59.6 +0.1**
comp=Z,368nm,0.9s,SNR=31
RAYN Ar Rayn 81.58 293 *eP* **P** **22 38 59.5 +0.1**
comp=Z,54nm,0.8s
MAW Mawson 81.69 200 P **P** **22 38 59.1 +0.1**
comp=Z,16nm,0.8s,baz=75,slow=4.9,SNR=56
MAW LR LR 23 09 16.0
comp=Z,72nm,22.0s,baz=62,slow=31
MAW Mawson 81.69 200 P **P** **22 38 59.1 +0.1**
MAW pmax pmax
comp=Z,16nm,0.8s
MAW MLR MLR
comp=Z,72nm,22.0s
MAW Mawson 81.69 200 P **P** **22 38 59.3 +0.4**
baz=82,SNR=37
MAW Mawson 81.69 200 *eP* **P** **22 38 58.9 0.0**
comp=Z,2.8nm,0.7s
IAZR Azarshahr 81.97 308 *eP* **P** **22 39 02.3 +0.8**
SBA Scott Base 82.05 172 *eP* **P** **22 39 00.7 0.0**
SBA pmax pmax
comp=Z,6.0nm,0.6s
SBA Scott Base 82.05 172 *eP* **P** **22 39 00.7 0.0**
comp=Z,5.7nm,0.6s
IMRD Marand 82.27 309 *eP* **P** **22 39 04.2 +1.2**
DAMY Dhamar 82.44 284 *eP* **P** **22 39 05.8 +1.4**
comp=Z,40nm,0.8s
SVW2 Sparrevohn 82.70 29 *eP* **P** **22 39 07.0 +2.6**
DGRG David-gareji 82.73 311 P **P** **22 39 07.4 +2.3**
GNI Garni 83.11 310 LR LR 23 21 16.9
comp=Z,29nm,22.0s,baz=94,slow=39
TBLG Delisi 83.23 312 P **P** **22 39 08.7 +1.1**
TBLG Delisi 83.23 312 P **P** **22 39 08.7 +1.1**
OHAK Old Harbor 83.25 33 *eP* **P** **22 39 07.9 +0.5**
KDAK Kodiak Island 83.70 32 *i* P **P** **22 39 10.5 +0.9**
RSO Redoubt South 83.97 29 *eP* **P** **22 39 10.8 -0.4**
comp=Z,38nm,0.8s
AKH Akhalkalaki 84.14 311 ⇓ P **P** **22 39 15.1 +2.6**
AKH Akhalkalaki 84.14 311 ⇓ *iP* **P** **22 39 15.1 +2.6**
NCK Nalchik 84.19 313⇑ *eP* **P** **22 39 12.8 +0.3**
PPT2 Papeete2 84.21 108 *eS* S 22 49 41.9 +7.6
comp=Z,199nm,26.8s
PPT2 *eSS **SS** **22 55 07.5 +2.6**
comp=Z,137nm,28.5s
PPT2 Papeete2 84.21 108 *e*LR LR 23 05 45.0
comp=Z,531nm,29.0s
ONI Oni 84.24 312 P **P** **22 39 14.3 +1.5**
ONI Oni 84.24 312 P **P** **22 39 14.3 +1.5**
IM04 Indian Mountai 84.33 24 *eP* **P** **22 39 13.6 +0.9**
PRGR Permogore 84.61 332 *eP* **P** **22 39 14.4 +0.2**
PRGR pmax pmax
comp=Z,9.0nm,0.6s
CAST Castle Rocks 84.68 27 *eP* **P** **22 39 16.6 +2.1**
TBI Tubuai 84.68 113 *eS* **S** **22 49 41.3 +2.7**
comp=Z,284nm,34.2s
TBI *eSS SS 22 55 23.5 +12
comp=Z,1µm,36.0s
TBI Tubuai 84.68 113 *e*LR LR 23 06 04.8
comp=Z,578nm,40.0s
KBZ Khabaz 84.71 314 P **P** **22 39 15.1 +0.1**
comp=Z,6.4nm,1.0s,baz=172,slow=2.6,SNR=4.5
KBZ LR LR 23 21 57.5
comp=Z,41nm,19.1s,baz=75,slow=39
KBZ Khabaz 84.71 314 P **P** **22 39 15.1 +0.1**
KBZ pmax pmax
comp=Z,6.0nm,1.0s
KBZ MLR MLR
comp=Z,41nm,19.1s
BRLK Bradley Lake 84.81 30 *eP* **P** **22 39 15.0 -0.3**
KIV Kislovodsk 84.87 314 *i* P **P** **22 39 15.6 -0.4**
KIV *i* 22 42 33.1
KIV *i* S S 22 49 33.5 -6.5
KIV pmax pmax
comp=Z,11nm,1.0s
BPAW Bear Paw Mtn. 85.25 26 *eP* **P** **22 39 16.9 -0.5**
comp=Z,0.7nm,0.9s
CHVG Ch'k'valeri 85.25 313 P **P** **22 39 20.1 +2.2**
CHVG Ch'k'valeri 85.25 313⇑ *iP* **P** **22 39 20.8 +2.9**
MLY Manley 85.45 25 *eP* **P** **22 39 19.1 +0.7**
RC01 Rabbit Creek A 85.51 29 *eP* **P** **22 39 18.2 -0.5**
comp=Z,21nm,0.9s
SEW Seward 85.57 30 *eP* **P** **22 39 20.8 +1.8**
PMR Palmer 85.85 28 *eP* **P** **22 39 19.7 -0.6**
PMR pmax pmax
comp=Z,14nm,0.8s
PMR Palmer 85.85 28 *eP* **P** **22 39 19.7 -0.6**
comp=Z,14nm,0.8s
COLD Coldfoot 85.91 23 *eP* **P** **22 39 21.3 +0.7**
comp=Z,9.0nm,0.9s
MCK McKinley 86.11 26 *eP* **P** **22 39 23.5 +1.8**
MCK McKinley 86.11 26 *eP* **P** **22 39 23.5 +1.8**
RND Reindeer 86.12 27 *eP* **P** **22 39 21.3 -0.5**
RND Reindeer 86.12 27 *eP* **P** **22 39 21.3 -0.5**
SML Sawmill 86.24 28 *eP* **P** **22 39 22.0 -0.4**
SML pmax pmax
comp=Z,4.0nm,0.9s
SML Sawmill 86.24 28 *eP* **P** **22 39 21.9 -0.4**
comp=Z,3.9nm,0.9s
WRH Wood River Hil 86.54 26 *eP* **P** **22 39 24.0 +0.3**
COLA College 86.67 25⇑ *eP* **P** **22 39 25.5 +1.2**
COLA pmax pmax
comp=Z,16nm,0.7s
SCM Sheep Creek Mo 86.72 28 *eP* **P** **22 39 26.1 +1.3**
SCM Sheep Creek Mo 86.72 28 *eP* **P** **22 39 26.1 +1.3**
ILAR Eielson Array 87.07 25 P **P** **22 39 24.2 -2.1**
comp=Z,0.9nm,0.6s,baz=234,slow=5.6,SNR=9.0
ILAR PP **PP** **22 42 49.7 -0.6**
comp=Z,0.4nm,0.9s,baz=266,slow=5.1,SNR=3.8
ILAR PKKPbc **PKKPbc** **22 57 19.1 -2.1**
comp=Z,0.6nm,0.9s,baz=68,slow=1.4,SNR=5.1
ILAR Eielson Array 87.07 25 P **P** **22 39 24.2 -2.1**
ILAR 22 42 49.7
ILAR pmax pmax
comp=Z,1.0nm,0.6s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
VSR Storozhevoye 87.50 321 *eP* **P** **22 39 30.9 +2.3**
VSR pmax pmax
comp=N,9.0nm,0.9s
VSR pmax pmax
comp=E,9.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 87.66 322 *eP* **P** **22 39 29.5 +0.1**
LPSR pmax pmax
comp=Z,20nm,1.0s
LPSR pmax pmax
comp=N,5.0nm,0.9s
LPSR pmax pmax
comp=E,5.0nm,0.8s
MALT Malatya 87.96 308 ⇓ P P 22 39 34.7 +3.4
MALT Malatya 87.96 308 ⇓ *iP* P 22 39 34.7 +3.4
ANN Anapa 88.65 315 *eP* P 22 39 31.0 -3.3
ANN *e**PP pP 22 39 46.0 -5.5
ANN pmax pmax
comp=Z,50nm,1.1s
OBN Obninsk 89.05 325 P **P** **22 39 35.9 0.0**
comp=Z,8.5nm,0.6s,baz=117,slow=5.6,SNR=3.7
OBN LR LR 23 22 01.7
comp=Z,95nm,21.7s,baz=89,slow=37
OBN Obninsk 89.05 325⇑ *iP* **P** **22 39 36.5 +0.6**
OBN *i* *PP **pP** **22 39 51.4 -1.7**
OBN *e* 22 43 14.7
OBN *i* S **S** **22 50 20.2 +0.7**
OBN *i* SS **SS** **22 56 14.0 +0.3**
OBN pmax pmax
comp=Z,12nm,0.9s
OBN MLR MLR
comp=Z,105nm,22.0s
EGAK Eagle 89.53 25 *eP* **P** **22 39 37.5 -0.4**
KMBO Kilima Mbogo 89.72 269 P **P** **22 39 40.0 -0.3**
comp=Z,1.7nm,0.6s,baz=37,slow=8.8,SNR=3.1
KMBO LR LR 23 16 25.8
comp=Z,37nm,20.1s,baz=104,slow=33
KMBO Kilima Mbogo 89.72 269 *eP* **P** **22 39 40.2 -0.1**
KMBO pmax pmax
comp=Z,4.0nm,1.1s
KMBO Kilima Mbogo 89.72 269 *eP* **P** **22 39 40.2 -0.1**
comp=Z,4.0nm,1.1s
DAWY Dawson 90.33 26 *eP* **P** **22 39 41.8 0.0**
comp=Z,2.7nm,0.6s
SYO Syowa Base 90.38 201 ⇓ *eX* **P** **22 39 40.8 -1.0**
QSPA South Pole Qui 91.36 180 *eP* **P** **22 39 45.9 -0.7**
comp=Z,6.7nm,0.8s
BR131 Keskin Array S 91.64 310 *eP* **P** **22 39 49.0 +0.4**
comp=Z,1.4nm,0.6s
BRTR Keskin Array B 91.64 310 P **P** **22 39 48.7 +0.1**
comp=Z,1.1nm,0.8s,baz=110,slow=5.9,SNR=6.3
BRTR LR LR 23 26 46.2
comp=Z,31nm,20.7s,baz=86,slow=39
BRTR Keskin Array B 91.64 310 P **P** **22 39 48.7 +0.1**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR MLR MLR
comp=Z,31nm,20.7s
ARCES ARCESS Array B 92.66 340 P **P** **22 39 52.4 -0.1**
comp=Z,4.3nm,0.9s,baz=56,slow=10,SNR=6.7

ARCES				LR	LR	23 27 46.4		
	comp=Z,70nm,18.2s,baz=74,slow=40							
ARCES	**ARCESS Array B**	**92.66**	**340**	P	**P**	**22 39 52.4**	**-0.1**	
ARCES				pmax	pmax			
	comp=Z,4.0nm,0.9s							
ARCES				MLR	MLR			
	comp=Z,70nm,18.2s							
SPITS	**Spitsbergen Ar**	**92.76**	**349**	P	**P**	**22 39 51.5**	**-1.3**	
	comp=Z,2.2nm,0.7s,baz=138,slow=15,SNR=2.7							
SPITS	**Spitsbergen Ar**	**92.76**	**349**	P	**P**	**22 39 51.5**	**-1.3**	
SPITS				pmax	pmax			
	comp=Z,2.0nm,0.7s							
AKASG	**Malin Array Be**	**93.80**	**321**	P	**P**	**22 39 57.7**	**-0.3**	
	comp=Z,0.3nm,0.4s,baz=76,slow=4.0,SNR=4.2							
AKASG				LR	LR	23 25 10.4		
	comp=Z,79nm,21.5s,baz=90,slow=37							
FINES	**FINESS Array B**	**93.94**	**332**	P	**P**	**22 39 57.4**	**-1.1**	
	comp=Z,2.0nm,0.6s,baz=90,slow=4.2,SNR=12							
FINES				LR	LR	23 24 55.5		
	comp=Z,96nm,20.1s,baz=74,slow=37							
FINES	**FINESS Array B**	**93.94**	**332**	P	**P**	**22 39 57.4**	**-1.1**	
FINES				pmax	pmax			
	comp=Z,2.0nm,0.6s							
FINES				MLR	MLR			
	comp=Z,96nm,20.1s							
MSAB	**Monastry St. A**	**95.56**	**314**	⇓*i*P	P	22 40 13.3	+7.0	
TESR	**Tescani**	**96.05**	**317**	⇓*i*P	**P**	**22 40 09.4**	**+0.9**	
VRI	**Vrincioaia**	**96.09**	**316**	⇑P	**P**	**22 40 09.4**	**+0.7**	
VRI	**Vrincioaia**	**96.09**	**316**	⇑*i*P	**P**	**22 40 09.4**	**+0.7**	
PLOR	**Plostina**	**96.15**	**316**	⇓P	**P**	**22 40 10.0**	**+1.0**	
PLOR	**Plostina**	**96.15**	**316**	⇓*i*P	**P**	**22 40 10.0**	**+1.0**	
MLR	**Muntele Rosu**	**96.69**	**316**	P	**P**	**22 40 11.8**	**+0.2**	
	comp=Z,0.5nm,0.8s,baz=315,slow=3.1,SNR=6.6							
MLR	**Muntele Rosu**	**96.69**	**316**	P	**P**	**22 40 11.8**	**+0.2**	
MLR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
MLR	**Muntele Rosu**	**96.69**	**316**	⇓*i*P	**P**	**22 40 11.9**	**+0.3**	
BURAR	**Bucovina Array**	**96.85**	**318**	⇑P	**P**	**22 40 13.7**	**+1.5**	
BURAR	**Bucovina Array**	**96.85**	**318**	⇑*i*P	**P**	**22 40 13.7**	**+1.5**	
BUR08	**Bucovina Ar. S**	**96.85**	**318**	*e*P	**P**	**22 40 13.1**	**+0.8**	
RKT	**Rikitea**	**97.99**	**113**	*e*LR	LR	23 12 06.2		
	comp=Z,596nm,38.2s							
VTS	**Vitosha**	**99.12**	**313**	⇑P	**Pdif**	**22 40 26.4**	**+3.8**	
VTS	**Vitosha**	**99.12**	**313**	⇑*i*P	**Pdif**	**22 40 26.4**	**+3.8**	
KECS	**Kecovo**	**99.78**	**320**	*e*P	**Pdif**	**22 40 25.3**	**+0.1**	
KECS	**Kecovo**	**99.78**	**320**	PDIF	**Pdif**	**22 40 25.3**	**+0.1**	
HFS	**Hagfors**	**100.14**	**332**	P	**Pdif**	**22 40 25.4**	**-1.1**	
	comp=Z,2.2nm,1.0s,baz=97,slow=3.3,SNR=4.0							
HFS	**Hagfors**	**100.14**	**332**	P	**Pdif**	**22 40 25.4**	**-1.1**	
HFS				pmax	pmax			
	comp=Z,2.0nm,1.0s							
NOA	**NORSAR Array B**	**100.92**	**333**	P	**Pdif**	**22 40 29.4**	**-0.6**	
	comp=Z,1.2nm,0.8s,baz=79,slow=9.3,SNR=3.4							
NOA	**NORSAR Array B**	**100.92**	**333**	P	**Pdif**	**22 40 29.4**	**-0.6**	
NOA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
OKC	**Ostrava-Krasne**	**100.93**	**321**	*e*SKS	**SKSac**	**22 51 04.0**	**-0.2**	
YKA	**Yellowknife Ar**	**101.48**	**25**	P	**Pdif**	**22 40 31.8**	**-0.6**	
	comp=Z,0.6nm,0.7s,baz=291,slow=4.3,SNR=3.6							
YKA				PKKPbc	**PKKPbc**	**22 56 39.5**	**-3.4**	
	comp=Z,0.7nm,0.8s,baz=115,slow=2.7,SNR=5.0							
YKA	**Yellowknife Ar**	**101.48**	**25**	P	**Pdif**	**22 40 31.8**	**-0.6**	
YKA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
YKA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
DPC	**Dobruska-Polom**	**101.92**	**322**	*e*SKS	**SKSac**	**22 51 04.2**	**-4.9**	
UPC	**Upice**	**102.06**	**322**	AMS	AMS	23 29 30.0		
	comp=Z,200nm,20.4s							
TREC	**Trest**	**102.75**	**321**	AMS	AMS	23 31 10.0		
	comp=Z,100nm,23.0s							
GOPC	**GO Pecny, Ondr**	**102.99**	**322**	AMS	AMS	23 32 00.0		
	comp=Z,100nm,18.7s							
SNAA	**Sanae**	**103.06**	**194**	P	**Pdif**	**22 40 40.5**	**+1.1**	
SNAA	**Sanae**	**103.06**	**194**	*e*P	**Pdif**	**22 40 40.3**	**+0.9**	
SNAA	**Sanae**	**103.06**	**194**	*e*Pdif	**Pdif**	**22 40 40.3**	**+0.9**	
PRU	**Pruhonice**	**103.12**	**322**	*e*SKS	**SKSac**	**22 51 08.0**	**-6.6**	
PRU				*e*SP	**SP**	**22 53 53.8**	**-3.1**	
PRA	**Prague**	**103.16**	**322**	AMS	AMS	23 31 00.0		
	comp=Z,100nm,20.5s							
CLL	**Collm**	**103.61**	**324**	*e*PP	PP	22 45 00.0	+1.3	
CLL				*e*PPPP		22 49 06.0		
CLL				*e*SP	SP	22 53 59.0	-3.0	
CLL				*e*PPS	PPS	22 54 55.0		
CLL				*e*SS	**SS**	**22 59 40.0**	**+0.5**	
CLL				*e*SSS	SSS	23 03 54.0		
CLL				LmV		23 31 00.0		
	comp=Z,100nm,21.5s							
NKC	**Novy Kostel**	**104.31**	**323**	AMS	AMS	23 31 50.0		
	comp=Z,100nm,20.0s							
PDAR	**Pinedale Array**	**112.92**	**42**	PKKPbc	PKKPbc	22 56 05.7	-1.2	
	comp=Z,0.8nm,0.5s,baz=72,slow=8.6,SNR=4.7							
ULM	**Lac du Bonnet**	**116.85**	**29**	PKP	**PKPdf**	**22 45 23.6**	**-1.7**	
	comp=Z,1.8nm,0.6s,baz=348,slow=3.3,SNR=3.0							
ULM	**Lac du Bonnet**	**116.85**	**29**	PKIKP	**PKPdf**	**22 45 23.6**	**-1.7**	
ULM				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ESDC	**Sonseca Array**	**119.31**	**318**	PKP	**PKPdf**	**22 45 30.0**	**-0.5**	
	comp=Z,0.4nm,0.6s,baz=41,slow=3.3,SNR=3.9							
ECSD	**EROS Data Cent**	**120.53**	**35**	*e*PKPdf	**PKPdf**	**22 45 31.8**	**-0.9**	
SCHQ	**Schefferville**	**122.78**	**9**	PKP	**PKPdf**	**22 45 34.5**	**-2.2**	
	comp=Z,1.6nm,0.4s,baz=43,slow=5.8,SNR=6.3							
TXAR	**Lajitas Array**	**122.81**	**53**	PKP	**PKPdf**	**22 45 35.8**	**-1.7**	
	comp=Z,1.4nm,0.8s,baz=321,slow=0.9,SNR=13							
TXAR				PKKPbc	**PKKPbc**	**22 55 30.0**	**-0.9**	
	comp=Z,0.5nm,0.8s,baz=116,slow=8.5,SNR=5.1							
TXAR	**Lajitas Array**	**122.81**	**53**	PKIKP	**PKPdf**	**22 45 35.8**	**-1.7**	
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
W31A	**Holland Ranch,**	**123.05**	**46**	P	**PKPdf**	**22 45 37.5**	**-0.3**	
	baz=123							
429A	**Davenport Ranc**	**123.68**	**51**	P	**PKPdf**	**22 45 38.9**	**-0.3**	
	baz=124							
Q35A	**Mercer Eighty,**	**123.74**	**40**	P	**PKPdf**	**22 45 38.8**	**-0.1**	
	baz=124							
TORD	**Torodi Ar. Bea**	**123.81**	**287**	PKP	**PKPdf**	**22 45 38.6**	**-1.1**	
	comp=Z,5.7nm,0.8s,baz=83,slow=1.3,SNR=42							
TORD				PP	PP	22 47 11.1	-12	
	comp=Z,1.0nm,0.8s,baz=69,slow=6.2,SNR=2.6							
TORD				PKKPbc	**PKKPbc**	**22 55 25.5**	**-0.9**	
	comp=Z,0.5nm,0.7s,baz=262,slow=3.0,SNR=4.1							
430A	**Baggett Ranch,**	**124.12**	**51**	P	**PKPdf**	**22 45 40.5**	**+0.5**	
	baz=124							
Z32A	**Haskell**	**124.30**	**47**	P	**PKPdf**	**22 45 41.0**	**+0.8**	
	baz=124							
530A	**J-C Ranch, Com**	**124.32**	**52**	P	**PKPdf**	**22 45 39.9**	**-0.5**	
	baz=124							
431A	**Sonora**	**124.66**	**51**	P	**PKPdf**	**22 45 40.9**	**-0.1**	
	baz=125							
S37A	**Fort Scott**	**125.15**	**40**	P	**PKPdf**	**22 45 41.3**	**-0.4**	
	baz=125							
432A	**Menard**	**125.19**	**50**	P	**PKPdf**	**22 45 41.2**	**-0.8**	
	baz=125							
631A	**Perdido Creek**	**125.23**	**52**	P	**PKPdf**	**22 45 41.8**	**-0.3**	
	baz=125							
JCT	**Junction City**	**125.37**	**50**	P	**PKPdf**	**22 45 42.0**	**-0.3**	
	baz=125							
532A	**Rocksprings**	**125.44**	**51**	P	**PKPdf**	**22 45 42.3**	**-0.2**	
	baz=125							
333A	**Richland Sprin**	**125.60**	**49**	P	**PKPdf**	**22 45 42.4**	**-0.3**	
	baz=126							
433A	**Art**	**125.79**	**50**	P	**PKPdf**	**22 45 42.4**	**-0.7**	
	baz=126							
632A	**Uvalde**	**125.81**	**52**	P	**PKPdf**	**22 45 42.6**	**-0.6**	
	baz=126							
V37A	**Hulbert**	**126.01**	**42**	P	**PKPdf**	**22 45 43.3**	**0.0**	
	baz=126							
434A	**Burnet**	**126.39**	**49**	P	**PKPdf**	**22 45 43.6**	**-0.7**	
	baz=126							
DBIC	**Dimbokro**	**131.23**	**280**	PKP	**PKPdf**	**22 45 54.0**	**+0.1**	
	comp=Z,3.4nm,0.7s,baz=95,slow=3.7,SNR=5.3							
DBIC				SKPbc	**SKPbc**	**22 49 12.1**	**-1.6**	
	comp=Z,4.6nm,0.6s,baz=73,slow=4.6,SNR=8.1							
DBIC	**Dimbokro**	**131.23**	**280**	PKIKP	**PKPdf**	**22 45 54.0**	**+0.1**	
DBIC				pmax	pmax			
	comp=Z,3.0nm,0.7s							
DBIC				pmax	pmax			
	comp=N,5.0nm,0.6s							
DBIC	**Dimbokro**	**131.23**	**280**	PKP	**PKPdf**	**22 45 54.0**	**+0.1**	
DBIC				PKPdf	**PKiKP**	**22 45 54.4**	**-0.4**	
DBIC				SKPbc	**SKPbc**	**22 49 12.1**	**-1.6**	
U65B	**HualaæØ**	**142.35**	**154**	*e*PKPdf	**PKPdf**	**22 46 11.2**	**-2.7**	
LCO	**Las Campanas**	**147.82**	**150**	*e*PKPbc	**PKPbc**	**22 46 26.3**	**-0.4**	
LCO				*e*PKPab	**PKiKP**	**22 46 28.1**	**-0.6**	
CPUP	**Villa Florida**	**154.91**	**171**	PKP	**PKPdf**	**22 46 33.8**	**-0.5**	
	comp=N,3.5nm,0.9s,baz=165,slow=3.7,SNR=4.1							
CPUP				PKPbc	**PKPbc**	**22 46 43.0**	**0.0**	
	comp=N,7.1nm,0.9s,baz=272,slow=3.0,SNR=7.0							
CPUP	**Villa Florida**	**154.91**	**171**	PKIKP	**PKPdf**	**22 46 33.8**	**-0.5**	
CPUP				pmax	pmax			
	comp=Z,4.0nm,0.9s							
CPUP				pmax	pmax			
	comp=Z,7.0nm,1.0s							
ROSC	**El Rosal**	**157.84**	**73**	PKP	**PKPdf**	**22 46 37.6**	**-1.4**	
	comp=Z,3.6nm,0.3s,baz=105,slow=20,SNR=2.2							
LPAZ	**La Paz**	**159.06**	**136**	PKP	**PKPdf**	**22 46 40.6**	**+0.1**	
	comp=Z,1.8nm,0.7s,baz=214,slow=3.9,SNR=7.5							
LPAZ				PKPab	**PKPab**	**22 47 18.0**	**+0.8**	
	comp=Z,2.5nm,0.8s,baz=113,slow=2.1,SNR=4.7							
LPAZ	**La Paz**	**159.06**	**136**	PKIKP	**PKPdf**	**22 46 40.7**	**+0.1**	
LPAZ				pmax	pmax			
	comp=Z,2.0nm,0.7s							
LPAZ				pmax	pmax			
	comp=Z,3.0nm,0.8s							
BDFB	**Brasilia**	**165.03**	**199**	PKPab	**PKPab**	**22 47 42.7**	**+0.1**	
	comp=Z,4.6nm,0.7s,baz=174,slow=6.3,SNR=6.6							
BDFB	**Brasilia**	**165.03**	**199**	PKP2	**PKPab**	**22 47 42.7**	**+0.1**	
BDFB				pmax	pmax			
	comp=Z,5.0nm,0.7s							

IDC ***22*** *22:44:51.2±15.0, 52.˚62N×170.˚83W, h0km, mb3.4/4, mb1 3.8/5, mb1mx3.5/29, mbtmp3.3/5, ML3.6/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/29, Error ellipse: s-maj=278.0km s-min=49.4km az=84.0*

ISCJB ***22*** *22:44:57.5±0.9, 52.˚8N±0.˚2×169.˚7W±0.˚1, h10km, mb3.3/4, MS2.9/1, Error ellipse: s-maj=23.9km s-min=6.9km az=156.4*

NEIC ***22*** *22:44:57.4, 52.˚61N×169.˚40W, h7km, ML3.3(AEIC), After AEIC.*

ISC 22 22:44:58.7±0.9, 52.˚9N±0.˚2×169.˚58W±0.˚07, h10km, n23, σ0.96/19, mb3.2/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.44**	**80**	P	**Pg**	**22 45 07.5**	**+0.1**
NIKH				S	**Sb**	**22 45 15.6**	**+0.3**
OKWR	**Okmok West Rim**	**0.98**	**57**	P	**Pn**	**22 45 18.9**	**+0.3**
OKAK	**Okmok**	**1.00**	**47**	P	**Pb**	**22 45 17.0**	**-1.0**
OKTU	**Okmok Mt. Tuli**	**1.04**	**62**	P	**Pb**	**22 45 18.9**	**0.0**
OKFG	**Magazine Ridge**	**1.12**	**62**	P	**Pn**	**22 45 19.3**	**-1.2**
OKFG				S	**Sb**	**22 45 35.8**	**+0.9**
MCIR	**Makushin Cirqu**	**1.92**	**56**	P	**Pb**	**22 45 33.0**	**-0.8**
MSW	**Makushin Switc**	**1.96**	**58**	P	**Pn**	**22 45 32.1**	**+0.2**
UNV	**Unalaska Valle**	**2.07**	**62**	P	**Pn**	**22 45 32.8**	**-0.6**
UNV				S	**Sb**	**22 46 02.0**	**-0.1**
AKUT	**Akutan**	**2.59**	**60**	*e*Pn	**Pn**	**22 45 42.3**	**+1.8**
AKUT				*e*S	**Sg**	**22 46 21.4**	**-0.3**
ATKA	**Atka Island**	**2.91**	**258**	P	**Pn**	**22 45 45.3**	**+0.4**
GSTR	**Great Sitkin T**	**4.04**	**261**	*e*Pn	Pn	22 45 55.3	-5.3
GSTR				*e*S	**Sb**	**22 46 58.6**	**-0.3**
ILAR	**Eielson Array**	**16.59**	**35**	Pn	**Pn**	**22 48 50.5**	**-0.5**
	0.1nm,0.3s,baz=241,slow=11,SNR=2.0						
DLBC	**Dease Lake**	**22.73**	**60**	LR	LR	22 58 25.6	
	comp=Z,40nm,19.0s,baz=269,slow=35						
YKA	**Yellowknife Ar**	**29.99**	**50**	P	**P**	**22 51 09.1**	**+2.2**
	0.2nm,0.6s,baz=277,slow=8.3,SNR=1.6						
H11N2	**WAKE ISLAND Hy**	**37.79**	**218**	T	T	23 32 07.0	
	baz=24,slow=76,SNR=62						
H11N3	**WAKE ISLAND Hy**	**37.80**	**218**	T	T	23 32 06.8	
	baz=24,slow=76,SNR=53						
NVAR	**Mina Array Bea**	**37.80**	**91**	P	P	22 52 16.8	+1.6
	0.3nm,0.6s,baz=285,slow=7.2,SNR=2.7						
H11N1	**WAKE ISLAND Hy**	**37.81**	**218**	T	T	23 32 08.8	
	baz=24,slow=76,SNR=48						
H11S1	**WAKE ISLAND Hy**	**38.99**	**217**	T	T	23 33 35.5	
	baz=23,slow=76,SNR=412						
H11S2	**WAKE ISLAND Hy**	**39.00**	**217**	T	T	23 33 36.8	
	baz=23,slow=76,SNR=228						
H11S3	**WAKE ISLAND Hy**	**39.00**	**217**	T	T	23 33 36.6	
	baz=23,slow=76,SNR=198						
PDAR	**Pinedale Array**	**40.43**	**80**	P	**P**	**22 52 36.9**	**-0.3**
	0.5nm,0.8s,baz=332,slow=5.7,SNR=3.6						
TXAR	**Lajitas Array**	**52.87**	**89**	P	**P**	**22 54 13.4**	**-1.2**
	0.8nm,0.7s,baz=291,slow=5.7,SNR=9.5						

IDC 22 23:20:33.5±14.0, 15.˚17S×167.˚99E, h0km, mb4.2/3, mb1 4.3/4, mb1mx3.9/20, mbtmp4.2/4, ML4.0/1, Error ellipse: s-maj=243.8km s-min=42.2km az=71.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.02**	**192**	Pn	Pn	23 22 17.5	-0.2
	2.7nm,0.3s,baz=270,slow=24,SNR=22						
DZM				Sn	Sn	23 23 38.9	+0.6
	0.7nm,0.3s,baz=181,slow=3.6,SNR=5.0						
DZM	**Mont Dzumac**	**7.02**	**192**	*e*P	Pn	23 22 16.5	-1.2
DZM				*e*S	Sn	23 23 37.8	-0.5
STKA	**Stephens Creek**	**29.25**	**231**	P	P	23 26 37.4	+0.1
	1.4nm,0.7s,baz=49,slow=9.9,SNR=3.9						
WRA	**Warramunga Ar**	**32.40**	**257**	P	P	23 27 05.6	+0.3
	1.3nm,0.4s,baz=86,slow=8.6,SNR=7.1						
ASAR	**Alice Springs**	**33.17**	**250**	P	P	23 27 11.8	-0.3
	4.3nm,0.8s,baz=76,slow=9.2,SNR=27						

NIED ***22*** *23:27:00, 26.˚90N×143.˚40E, h8km, Mw5.0 Best double couple: M04.14000×1016 NP1:ϕs4.00000°, δ18.00000°, λ114.00000°. NP2:ϕs159.00000°, δ73.00000°, λ82.00000°.*

IDC ***22*** *23:27:08.2±0.4, 26.˚79N×143.˚14E, h0km, mb4.5/28, mb1 4.7/34, mb1mx4.6/37, mbtmp4.5/34, ML3.9/6, MS4.2/27, Ms1 4.2/27, ms1mx4.0/42, Error ellipse: s-maj=12.1km s-min=10.5km az=68.0*

ISCJB ***22*** *23:27:09.8±0.9, 26.˚89N±0.˚03×143.˚06E±0.˚03, h15km±6km, mb4.8/131, MS4.3/36, Error ellipse: s-maj=4.2km s-min=3.9km az=171.4*

MOS ***22*** *23:27:09.7±1.0, 26.˚79N×143.˚07E, h17km, mb5.1/62, MS4.4/22, Error ellipse: s-maj=9.1km s-min=4.9km az=105.5*

JMA ***22*** *23:27:09.5±0.2, 26.˚91N×143.˚37E, h65km, M4.5*

NEIC ***22*** *23:27:11.0±2.9, 26.˚78N×143.˚12E, h15km±3km, mb4.9/76, MW5.0(NIED), Error ellipse: s-maj=13.4km s-min=11.7km az=222.0*

BJI ***22*** *23:27:13.0, 26.˚81N×142.˚75E, h27km, mb4.8/61, mB4.9/45, Ms4.6/63, Ms7 4.3/60*

ISC 22 23:27:13.8±0.4, 26.˚88N±0.˚04×143.˚09E±0.˚04, h31km±2km, h31km:pP-P, n330, σ1.9/60/409, mb4.9/131, MS4.2/37, 13C-11D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBI	**Chichi jima**	**0.83**	**285**	*e*Pn	**Pn**	**23 27 29.0**	**-0.3**
CBI				*e*Sn	**Sb**	**23 27 42.3**	**+1.7**
CBIJ	**Chichi jima**	**0.83**	**285**	P	**Pn**	**23 27 29.0**	**-0.4**
CBIJ				S	**Sb**	**23 27 42.6**	**+1.8**
CBIJ	**Chichi jima**	**0.83**	**285**	*e*Pn	**Pn**	**23 27 29.3**	**-0.1**
CBIJ				*e*Sn	**Sn**	**23 27 38.5**	**-2.1**
JCJ	**Chichijima**	**0.83**	**285**	Pn	**Pn**	**23 27 29.0**	**-0.4**
	801nm,0.3s,baz=341,slow=1.6,SNR=302						
JCJ				Sn	**Sb**	**23 27 42.3**	**+1.6**
	2µm,0.3s,baz=287,slow=19,SNR=22						
JHHJ	**Haha-jima-NKT**	**0.85**	**253**	P	**Pn**	**23 27 29.3**	**-0.3**
JHHJ				S	**Sb**	**23 27 44.1**	**+2.9**
JHJ	**Hachijo jima 2**	**6.85**	**336**	Pn	**Pn**	**23 28 51.4**	**-0.7**
	6.2nm,0.3s,baz=187,slow=5.4,SNR=3.5						
JHJ				Sn	**Sn**	**23 30 08.2**	**-0.8**
	8.5nm,0.3s,baz=180,slow=20,SNR=3.3						
JHJ				LR	LR	23 31 02.8	
	comp=Z,958nm,21.1s,baz=108,slow=34						
BSO1	**Boso 1**	**7.96**	**347**	S	**Sn**	**23 30 34.3**	**-1.2**
BSO3	**Boso 3**	**8.20**	**345**	P	**Pn**	**23 29 09.5**	**-0.9**
BSO3				S	**Sn**	**23 30 41.6**	**-0.3**
BSO4	**Boso 4**	**8.42**	**344**	S	**Sn**	**23 30 48.3**	**+0.7**
JOD2	**Odawara 2**	**9.03**	**339**	P	**Pn**	**23 29 22.2**	**+0.1**
JHU	**Hanno**	**9.52**	**341**	P	**Pn**	**23 29 28.1**	**-0.6**
JHU				S	**Sn**	**23 31 10.3**	**-4.3**
JRY	**Ryogami san**	**9.79**	**340**	P	**Pn**	**23 29 31.7**	**-0.7**
JRY				S	**Sn**	**23 31 20.0**	**-1.2**
JHO	**Hitachi**	**9.94**	**348**	P	**Pn**	**23 29 32.0**	**-2.5**
JHO				S	**Sn**	**23 31 21.4**	**-3.5**
JAG	**Ashikaga**	**10.01**	**343**	P	**Pn**	**23 29 34.5**	**-0.9**
JAG				S	**Sn**	**23 31 23.0**	**-3.6**
MJAR	**Matsushiro Arr**	**10.49**	**338**	Pn	**Pn**	**23 29 41.2**	**-0.9**
	2.2nm,0.3s,baz=168,slow=14,SNR=28						
MJAR				LR	LR	23 33 38.8	
	comp=Z,1µm,18.4s,baz=140,slow=37						
MJAR	**Matsushiro Arr**	**10.49**	**338**	P	**Pn**	**23 29 41.2**	**-0.9**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,1µm,18.4s						
MAJO	**Matsushiro**	**10.49**	**338**	*e*P	**Pn**	**23 29 41.1**	**-1.0**
MAJO				*e*		23 31 34.0	
MAJO	**Matsushiro**	**10.49**	**338**	*e*Pn	**Pn**	**23 29 41.1**	**-1.0**
MAJO				*e*Sn	**Sn**	**23 31 34.0**	**-4.5**
MAT	**Matsushiro**	**10.49**	**338**	P	**Pn**	**23 29 41.3**	**-0.8**
MAT				S	**Sn**	**23 31 38.0**	**-0.5**
JFK	**Kawauchi**	**10.62**	**350**	P	**Pn**	**23 29 42.9**	**-1.0**
JNU	**Nakatsue**	**12.27**	**303**	Pn	**Pn**	**23 30 06.7**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=104,slow=9.9,SNR=7.8						
JNU				LR	LR	23 34 27.8	
	comp=Z,554nm,19.1s,baz=126,slow=36						
JNU	**Nakatsue**	**12.27**	**303**	*e*Pn	**Pn**	**23 30 08.3**	**+1.8**
GUMO	**Guam**	**13.33**	**172**	Pn	**Pn**	**23 30 18.7**	**-2.2**
	comp=Z,2.3nm,0.3s,baz=18,slow=20,SNR=3.2						
GUMO				LR	LR	23 34 41.9	
	comp=Z,1µm,19.7s,baz=5.5,slow=34						
GUMO	**Guam**	**13.33**	**172**	*e*P	**Pn**	**23 30 21.0**	**+0.1**
GUMO	**Guam**	**13.33**	**172**	*e*Pn	**Pn**	**23 30 21.0**	**+0.1**
GUMO				*e*Sn	Sn	23 32 29.9	-18
ERM	**Erimo**	**15.10**	**0**	⇓*e*P	**Pn**	**23 30 44.1**	**-0.7**
ERM				pmax	pmax		
	comp=Z,58nm,1.7s						
TJN	**Taejon**	**16.38**	**309**	⇑*i*P	**P**	**23 31 04.6**	**+0.6**
KSRS	**Korea Array**	**16.59**	**313**	Pn	**Pn**	**23 31 04.3**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=119,slow=10,SNR=18						
KSRS				LR	LR	23 37 38.1	
	comp=Z,1µm,18.0s,baz=125,slow=38						
KS15	**Wonju Array Si**	**16.61**	**313**	*e*Pn	**Pn**	**23 31 04.3**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**17.27**	**7**	*e*P	**P**	**23 31 14.1**	**+0.4**
YUK				*e*S	**Sn**	**23 34 23.7**	**+0.2**
YUK				MLR	MLR		
	comp=N,714nm,11.0s						
YUK				MLR	MLR		
	comp=E,485nm,11.0s						
YUK				MLR	MLR		
	comp=Z,537nm,11.0s						
MSHR	**Mys Shultsa**	**18.45**	**331**	*e*P	**Pn**	**23 31 26.9**	**-0.1**
VLA	**Vladivostok**	**18.59**	**334**	*d*P	**Pn**	**23 31 30.2**	**+1.4**
VLA				pmax	pmax		
	comp=Z,89nm,1.2s						
KUR	**Kuril'sk**	**18.71**	**11**	⇓*i*P	**Pn**	**23 31 30.9**	**+0.7**
KUR				*i* S	**S**	**23 35 00.4**	**-0.5**
KUR				pmax	pmax		
	comp=Z,25nm,1.1s						
KUR				pmax	pmax		
	comp=Z,650nm,3.3s						
KUR				pmax	pmax		
	comp=N,365nm,3.5s						
KUR				pmax	pmax		
	comp=E,864nm,3.5s						
USRK	**Ussuriysk Ar.**	**19.47**	**335**	P	**P**	**23 31 38.1**	**+0.2**
	comp=E,0.8nm,0.3s,baz=160,slow=11,SNR=18						
SSE	**Sheshan**	**19.61**	**288**	*e*P	**P**	**23 31 37.3**	**-2.3**
SSE				S	**S**	**23 35 15.6**	**-3.6**
SSE				PMZ			
	comp=E,40nm,0.6s						
SSE				PMZ			
	comp=E,54nm,3.5s						
SSE				LN			
	comp=E,290nm,14.1s						
SSE				LE			
	comp=E,450nm,14.1s						
SSE				LZ			
	comp=E,430nm,13.5s						
YHNB	**Yeheng**	**19.68**	**268**	*e*P	**P**	**23 31 39.8**	**-0.7**
	comp=E,37nm,0.7s						
YULB	**Yu-li**	**20.03**	**265**	*e*P	**P**	**23 31 43.8**	**-0.4**
	comp=E,251nm,2.1s						
YSS	**Yuzh-Sakhalins**	**20.04**	**359**	*e*P	Pn	23 31 50.0	+3.9
YSS				*e**SP	sP	23 32 04.0	+7.5
YSS				*e*		23 32 12.0	
YSS				*e*S	Sn	23 35 30.0	-0.5
YSS				MLR	MLR		
	comp=Z,500nm,14.0s				

TIA LN
comp=Z,600nm,10.1s
TIA LE
comp=Z,700nm,12.5s
TIA LZ
comp=Z,930nm,17.5s
KLR Kul'dur 23.98 342 *e*P **P** **23 32 23.7 -1.7**
KLR *e* 23 32 24.0
KLR *e*S **S** **23 36 45.0 +4.8**
KLR pmax pmax
comp=E,45nm,1.6s
KLR pmax pmax
comp=Z,120nm,1.6s
TGY Tagaytay City 24.28 243 P **P** **23 32 28.0 -0.6**
comp=Z,99nm,0.3s,baz=279,slow=0.4,SNR=8.6
TGY Tagaytay City 24.28 243 *e*P **P** **23 32 28.0 -0.6**
WHN Wuhan 25.44 285 ⇑P **P** **23 32 39.0 +0.1**
WHN LN
comp=Z,1μm,11.8s
WHN LE
comp=Z,1μm,12.6s
WHN LZ
comp=Z,1μm,13.0s
SKR Severo-Kuril's 25.77 19 *e*P P 23 32 54.0 +12
SKR *e* 23 37 16.0
SKR MLR MLR
comp=Z,1μm,16.0s
BJI Beijing 25.89 307 P **P** **23 32 43.1 +0.2**
BJI S **S** **23 37 06.3 -4.6**
BJI PMZ
comp=Z,6.0nm,0.8s
BJI LN
comp=Z,580nm,13.6s
BJI LE
comp=Z,780nm,17.8s
BJI LZ
comp=Z,500nm,17.1s
NKL Nikolayevsk 26.30 357 *e*P **P** **23 32 44.0 -2.4**
NKL *e* 23 37 20.0
NKL pmax pmax
comp=Z,26nm,1.0s
NKL pmax pmax
comp=Z,500nm,6.0s
NKL MLR MLR
comp=E,600nm,15.0s
PETK Petropavlovsk- 28.38 19 LR LR 23 47 35.1
comp=E,89nm,18.8s,baz=199,slow=43
BAKI Biak 28.71 195 P **P** **23 33 08.4 +0.1**
comp=E,87nm,0.7s,comp=E,3μm
HIA Hailar 28.72 327 *e*P **P** **23 33 09.1 +0.8**
HIA pmax pmax
comp=Z,43nm,1.3s
HIA Hailar 28.72 327 *e*P **P** **23 33 09.1 +0.8**
comp=Z,43nm,1.3s
JAY Jayapura 29.31 185 LR LR 23 43 33.2
comp=Z,425nm,18.6s,baz=354,slow=34
HHC Hu-ho-hao-te 29.47 306 *e*P **P** **23 33 17.4 +2.3**
HHC PP **PnPn** **23 34 13.3 +3.5**
HHC S **S** **23 38 09.3 +1.7**
HHC PMZ
comp=Z,16nm,0.9s
HHC PMZ
comp=Z,74nm,7.4s
HHC LN
comp=Z,330nm,12.3s
HHC LE
comp=Z,430nm,13.6s
HHC LZ
comp=Z,500nm,14.0s
SIJI Sorong 29.84 204 P **P** **23 33 17.2 -1.2**
comp=Z,2.6nm,0.3s,baz=19,slow=10,SNR=4.8
SIJI LR LR 23 43 29.3
comp=Z,816nm,18.5s,baz=66,slow=33
XAN Xi'an 30.20 292 P **P** **23 33 19.8 -1.8**
XAN pP **pP** **23 33 29.3 -1.4**
XAN sP **sP** **23 33 33.3 -1.2**
XAN PP **PnPn** **23 34 14.3 -5.4**
XAN S S 23 38 11.4 -7.7
XAN PMZ
comp=Z,10.0nm,1.0s
XAN PMZ
comp=Z,22nm,8.4s
XAN LN
comp=Z,240nm,17.4s
XAN LE
comp=Z,62nm,19.7s
XAN LZ
comp=Z,110nm,13.4s
KMSI Cibinong 31.96 218 P **P** **23 33 40.1 +3.0**
GTOI Gorontalo 32.45 220 P P 23 33 48.2 +6.8
GYA Guiyang 32.48 278 *e*P **P** **23 33 42.8 +1.0**
GYA pP **pP** **23 33 52.6 +1.7**
GYA PP **PnPn** **23 34 51.0 +1.6**
GYA PcP **PcP** **23 36 29.8 +1.4**
GYA S **S** **23 38 52.4 -2.6**
GYA sS **sS** **23 39 10.3 +0.3**
GYA ScS **ScS** **23 44 07.3 -2.4**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,4.9s
GYA LN
comp=Z,520nm,16.8s
GYA LE
comp=Z,480nm,17.2s
GYA LZ
comp=Z,530nm,16.7s
MSAI Masohi 33.02 207 P **P** **23 33 49.5 +3.2**
MRSI Marisa 33.20 221 P P 23 33 52.0 +4.0
CIT Chita 33.51 327 *e*P **P** **23 33 52.4 +2.0**
CIT *e* 23 34 02.0
CIT *e* 23 34 58.0
CIT pmax pmax
comp=Z,128nm,1.9s
LZH Lanzhou 34.51 295 *e*P **P** **23 33 58.8 -0.6**
LZH pP **pP** **23 34 08.8 +0.2**
LZH sP **sP** **23 34 12.6 +0.2**
LZH PP **PnPn** **23 35 14.8 -0.2**
LZH *e*S **S** **23 39 24.0 -2.3**
LZH sS **sS** **23 39 40.0 -1.4**
LZH *e*SS **SnSn** **23 41 34.5 -4.2**
LZH PMZ
comp=Z,34nm,1.2s
LZH PMZ
comp=Z,130nm,5.4s
LZH LN
comp=Z,640nm,13.2s
LZH LE
comp=Z,520nm,13.3s
LZH LZ
comp=Z,990nm,17.0s
CD2 Chengdu 34.55 286 ⇓P **P** **23 33 58.5 -1.2**
CD2 pP **pP** **23 34 08.8 0.0**
CD2 sP **sP** **23 34 13.0 +0.4**
CD2 PP **PP** **23 35 17.3 -0.9**
CD2 S **S** **23 39 25.4 -1.3**
CD2 sS **sS** **23 39 42.1 +0.3**
CD2 PMZ
comp=Z,50nm,1.0s
CD2 PMZ
comp=Z,180nm,4.5s
CD2 LN
comp=Z,810nm,14.3s
CD2 LZ
comp=Z,730nm,14.3s
ULN Ulaanbaatar 35.03 316 ⇓*i*P **P** **23 34 03.6 -0.2**
ULN pmax pmax
comp=Z,17nm,1.7s
ULN Ulaanbaatar 35.03 316 *e*P **P** **23 34 03.4 -0.4**
comp=Z,14nm,1.3s
SONA0 Songino Array 35.43 316 *e*P **P** **23 34 06.4 -0.8**
SONA0 *e*PcP **PcP** **23 36 37.3 +0.8**
SONA0 *e*ScP **ScP** **23 40 22.9 +2.8**
SONM Songino Array 35.43 316 P **P** **23 34 06.4 -0.8**
comp=Z,2.0nm,0.7s,baz=118,slow=9.0,SNR=12
SONM PcP **PcP** **23 36 37.3 +0.8**
comp=Z,1.9nm,0.9s,baz=164,slow=1.8,SNR=3.8
SONM ScP **ScP** **23 40 22.9 +2.8**
comp=Z,0.3nm,0.6s,baz=132,slow=2.1,SNR=4.0
SONM LR LR 23 49 24.7
comp=Z,433nm,19.2s,baz=112,slow=38
SONM Songino Array 35.43 316 P **P** **23 34 06.4 -0.8**
SONM 23 36 37.3
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM pmax pmax
comp=N,1.0nm,1.0s
SONM MLR MLR
comp=Z,433nm,19.2s
SLVN Son La 36.09 270 *e*P **P** **23 34 12.3 -0.8**
comp=Z,12nm,1.0s
KMI Kunming 36.20 276 P **P** **23 34 13.6 -0.6**
KMI pP **pP** **23 34 23.0 -0.3**
KMI sP **sP** **23 34 26.4 -0.7**
KMI PP **PnPn** **23 35 35.3 -0.8**
KMI S **S** **23 39 51.8 -0.8**
KMI sS **sS** **23 40 07.3 -0.4**
KMI PMZ
comp=Z,11nm,1.3s
KMI PMZ
comp=Z,130nm,4.6s
KMI LN
comp=Z,260nm,13.5s
KMI LE
comp=Z,240nm,16.2s
KMI LZ
comp=Z,260nm,13.5s
YAK Yakutsk 36.27 349 *e*P **P** **23 34 14.6 +0.6**
YAK *e**PP **pP** **23 34 24.6 +1.4**
YAK *e* 23 35 33.8
YAK *e*PPP PPP 23 35 58.4
YAK *e*S **S** **23 39 54.5 +2.1**
YAK *e*SSS SSS 23 42 53.8
YAK *e* 23 44 27.3
YAK pmax pmax
comp=Z,9.0nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,7.0nm,0.5s
YAK pmax pmax
comp=N,4.0nm,0.6s
YAK pmax pmax
comp=E,5.0nm,0.6s
YAK smax smax
comp=N,119nm,3.0s
YAK smax smax
comp=E,50nm,2.6s
YAK MLR MLR
comp=Z,348nm,16.0s
YAK MLR MLR
comp=E,198nm,16.0s
YAK MLR MLR
comp=N,230nm,16.0s
SAUI Saumlaki 36.49 200 P **P** **23 34 16.2 -0.1**
SEY Seymchan 36.57 7 P **P** **23 34 15.6 -0.9**
comp=N,5.2nm,0.7s,baz=199,slow=8.2,SNR=11
SEY Seymchan 36.57 7 ⇑*e*P **P** **23 34 18.8 +2.2**
AMKA Amchitka 36.67 38 *e*P **P** **23 34 19.2 +1.6**
BOD Bodaibo 37.10 334 *e*P P 23 34 11.7 -9.4
BOD pmax pmax
comp=Z,11nm,1.2s
SKNT Sakolnakorn 37.46 263 P **P** **23 34 25.0 +0.3**
comp=Z,28nm,1.3s
GTA Gaotai 37.99 300 *e*P **P** **23 34 28.4 -0.7**
GTA pP **pP** **23 34 37.8 -0.5**
GTA sP **sP** **23 34 41.9 -0.1**
GTA PcP **PcP** **23 36 45.8 +1.5**
GTA S **S** **23 40 17.1 -2.2**
GTA sS **ScP** **23 40 33.3 +3.5**
GTA SS **SnSn** **23 42 53.4 -9.2**
GTA PMZ
comp=Z,12nm,1.3s
GTA PMZ
comp=Z,67nm,4.1s
GTA LN
comp=Z,430nm,14.7s
GTA LE
comp=Z,390nm,15.7s
GTA LZ
comp=Z,350nm,16.1s
ZAK Zakamensk 38.30 319 *e*P **P** **23 34 31.9 +0.3**
ZAK pmax pmax
comp=Z,12nm,1.1s
TLY Talaya 38.62 321 *e*P **P** **23 34 34.8 +0.7**
TLY *e*S **S** **23 40 33.5 +5.2**
TLY *e* 23 44 43.1
TLY pmax pmax
comp=Z,27nm,1.4s
TLY MLR MLR
comp=Z,1μm,15.0s
TLY Talaya 38.62 321 *e*P **P** **23 34 34.9 +0.9**
comp=Z,19nm,1.1s
KHON Khomkaen 38.73 263 P **P** **23 34 35.7 +0.3**
comp=Z,12nm,0.9s,comp=Z,472nm
HNR Honiara 39.63 153 LR LR 23 49 54.2
comp=Z,391nm,21.4s,baz=344,slow=35
CHAI Chaiyaphum 39.64 263 P **P** **23 34 42.6 -0.4**
comp=Z,11nm,1.2s,comp=Z,137nm
UTTA Uttaradit 40.23 266 P P 23 34 57.2 +9.3
PBKT Sadao Pong 40.28 264 P **P** **23 34 48.4 +0.1**
comp=Z,43nm,1.2s,comp=Z,6μm
CMMT Chiang Mai 41.30 268 P **P** **23 34 56.2 -0.5**
comp=Z,24nm,1.3s
CHTO Chiang Mai 41.30 268 P **P** **23 34 56.2 -0.5**
comp=Z,80nm,1.4s
CHTO Chiang Mai 41.30 268 *e*P **P** **23 34 55.6 -1.1**
CHTO pmax pmax
comp=Z,12nm,0.8s
CHTO Chiang Mai 41.30 268 *e*P **P** **23 34 55.6 -1.1**
comp=Z,12nm,0.8s
CM31 Chiang Mai Arr 41.42 268 *e*P **P** **23 34 56.2 -1.5**
CMAR Chiang Mai Arr 41.42 268 P **P** **23 34 56.2 -1.5**
comp=Z,5.9nm,0.9s,baz=58,slow=8.7,SNR=21
CMAR LR LR 23 54 10.8
comp=Z,144nm,18.1s,baz=62,slow=39
CMAR Chiang Mai Arr 41.42 268 P **P** **23 34 56.2 -1.5**
CMAR pmax pmax
comp=Z,6.0nm,0.9s
CMAR MLR MLR
comp=Z,144nm,18.1s
BILL Bilibino 43.49 12 *c**e*P **P** **23 35 15.4 +1.5**
BILL pmax pmax
comp=Z,42nm,2.5s
BILL MLR MLR
comp=Z,168nm,16.0s
TRTT Trang 45.26 253 P **P** **23 35 29.9 +1.2**
comp=Z,29nm,1.2s
KRAB Krabi 45.49 254 P **P** **23 35 31.6 +1.1**
comp=Z,27nm,1.3s
KULM Kulim 45.77 250 *e*P **P** **23 35 33.5 +0.7**
comp=Z,41nm,1.2s
IPM Ipoh 45.89 248 *e*P **P** **23 35 33.6 -0.2**
comp=Z,25nm,1.2s
CTA Charters Tower 46.79 176 P **P** **23 35 39.2 -1.3**
comp=Z,6.5nm,0.8s,baz=22,slow=11,SNR=3.2
WRAB Tennant Creek 47.30 191 *c**e*P **P** **23 35 43.6 -1.0**
WRAB pmax pmax
comp=Z,150nm,1.2s
WRA Warramunga Arr 47.31 191 P **P** **23 35 43.4 -1.2**
comp=Z,29nm,0.9s,baz=11,slow=8.4,SNR=81
WRA S **S** **23 42 34.0 -2.3**
comp=Z,0.5nm,0.3s,baz=11,slow=15,SNR=4.2
WRA LR LR 23 54 25.2
comp=Z,226nm,21.9s,baz=5.0,slow=35
WMQ Urumqi 47.35 306 P **P** **23 35 46.0 +1.0**
WMQ pP **pP** **23 35 56.5 +2.2**
WMQ sP **sP** **23 36 01.0 +2.9**
WMQ S **S** **23 42 36.3 -0.5**
WMQ ScS **ScS** **23 45 34.0 -2.7**
WMQ PMZ
comp=Z,17nm,1.2s
WMQ PMZ
comp=Z,96nm,4.4s
WMQ LN
comp=Z,400nm,18.0s
WMQ LE
comp=Z,320nm,18.6s
WMQ LZ
comp=Z,200nm,18.5s
FITZ Fitzroy Crossi 47.81 203 *e*P **P** **23 35 47.5 -1.0**
TAPN Taplejung 48.94 284 *e*P **P** **23 35 58.2 +0.5**
ODAN Odare 49.33 283 *e*P **P** **23 36 00.1 -0.5**
comp=Z,16nm,0.5s
RAMN Ramite 49.99 284 *e*P **P** **23 36 04.7 -1.0**
comp=Z,58nm,1.1s
ZAA1 Zalesovo Array 50.18 319 *e*P **P** **23 36 05.9 -0.4**
ZALV Zalesovo Beam 50.18 319 P **P** **23 36 05.9 -0.5**
comp=Z,8.2nm,0.9s,baz=100,slow=7.2,SNR=18
ZALV LR LR 23 58 05.5
comp=Z,597nm,18.0s,baz=70,slow=37
ZALV Zalesovo Beam 50.18 319 P **P** **23 36 05.9 -0.5**
ZALV pmax pmax
comp=Z,8.0nm,0.9s
ZALV MLR MLR
comp=Z,597nm,18.0s
GUN Gumba 50.40 285 *e*P **P** **23 36 08.6 -0.2**
comp=Z,100nm,0.9s
CHGN Chignik 50.69 38 *e*P **P** **23 36 12.6 +2.4**
PKI Pulchoki 50.88 285 *e*P **P** **23 36 11.7 -0.8**
comp=Z,50nm,1.2s
KKN Kakani 50.94 285 *e*P **P** **23 36 12.3 -0.5**
comp=Z,58nm,1.2s
AS12 Alice Springs 51.03 191 *e*P **P** **23 36 10.9 -2.2**
AS12 *e*S **S** **23 43 33.8 +5.3**
ASAR Alice Springs 51.03 191 P **P** **23 36 10.9 -2.2**
comp=Z,2.8nm,0.7s,baz=11,slow=6.2,SNR=23
ASAR S **S** **23 43 33.8 +5.3**
comp=Z,0.4nm,0.6s,baz=22,slow=18,SNR=4.0
ASAR Alice Springs 51.03 191 P **P** **23 36 10.9 -2.2**
ASAR S **S** **23 43 33.8 +5.3**
ASAR pmax pmax
comp=Z,3.0nm,0.7s
DMN Daman 51.13 285 *e*P **P** **23 36 13.2 -1.1**
comp=Z,30nm,0.8s
NVS Novosibirsk 51.22 320 *e*P **P** **23 36 13.8 -0.4**
NVS *e*S **S** **23 43 32.1 +1.6**
NVS pmax pmax
comp=Z,67nm,1.7s
NVS pmax pmax
comp=N,12nm,1.5s
NVS pmax pmax
comp=E,44nm,1.7s
NVS smax smax
comp=N,51nm,3.3s
MK32 Makanchi Array 51.23 310 *e*P **P** **23 36 13.6 -0.9**
MK32 *e*PcP **PcP** **23 37 30.0 +0.6**
MK32 *e*ScP **ScP** **23 41 27.1 +3.4**
MKAR Makanchi Array 51.23 310 P **P** **23 36 13.6 -0.9**
comp=N,4.4nm,0.7s,baz=92,slow=9.2,SNR=48
MKAR PcP **PcP** **23 37 30.0 +0.6**
comp=N,5.7nm,0.9s,baz=69,slow=6.6,SNR=6.7
MKAR ScP **ScP** **23 41 27.1 +3.4**
comp=N,0.8nm,0.9s,baz=108,slow=3.2,SNR=4.3
MKAR LR LR 23 59 09.5
comp=N,452nm,18.0s,baz=87,slow=37
MKAR Makanchi Array 51.23 310 P **P** **23 36 13.6 -0.9**
MKAR 23 37 30.0
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MKAR pmax pmax
comp=Z,6.0nm,0.9s
MKAR pmax pmax
comp=N,1.0nm,0.9s
MKAR MLR MLR
comp=Z,452nm,18.0s
MKAR Makanchi Array 51.23 310 *e*P **P** **23 36 14.3 -0.1**
GKN Gorkha 51.44 286 *e*P **P** **23 36 16.1 -0.4**
comp=Z,97nm,1.3s
DANN Dangsing 52.12 286 *e*P **P** **23 36 21.5 -0.2**
KOLN Koldanda 52.39 285 *e*P **P** **23 36 22.9 -0.7**
comp=Z,27nm,0.8s
DZM Mont Dzumac 53.66 153 P **P** **23 36 30.4 -2.3**
comp=Z,14nm,1.0s,baz=359,slow=8.6,SNR=5.2
DZM LR LR 23 57 30.0
comp=Z,215nm,20.6s,baz=359,slow=34
KURK Kurchatov 53.71 315 *e*P **P** **23 36 32.9 +0.2**
KURK pmax pmax
comp=Z,29nm,1.3s
KURK Kurchatov 53.71 315 *e*P **P** **23 36 32.9 +0.2**
comp=Z,29nm,1.3s
KDAK Kodiak Island 54.06 37 P **P** **23 36 35.3 +0.2**
comp=Z,17nm,1.1s,baz=276,slow=4.6,SNR=5.6
KDAK Kodiak Island 54.06 37 P **P** **23 36 35.3 +0.2**
KDAK pmax pmax
comp=Z,17nm,1.1s
KDAK Kodiak Island 54.06 37 *e*P **P** **23 36 36.0 +0.9**
comp=Z,28nm,1.2s
RSO Redoubt South 54.30 33 *e*P **P** **23 36 38.3 +1.2**
PPLA Purkeypile 54.94 30 *e*P **P** **23 36 42.4 +0.7**
comp=Z,26nm,1.3s
CAST Castle Rocks 55.08 30 *e*P **P** **23 36 42.4 -0.2**
comp=Z,10nm,1.0s
TRF Thorofare Moun 55.88 30 *e*P **P** **23 36 48.5 0.0**
comp=Z,24nm,1.6s
MLY Manley 55.92 28 *e*P **P** **23 36 49.5 +0.9**
comp=Z,6.4nm,0.9s
PMR Palmer 56.19 32 *e*P **P** **23 36 50.2 -0.3**
PMR pmax pmax
comp=Z,18nm,1.2s
PMR Palmer 56.19 32 *e*P **P** **23 36 50.2 -0.3**
comp=Z,18nm,1.2s
TKM2 Tokmak 2 56.20 305 *e*P **P** **23 36 49.9 -1.2**
TKM2 pmax pmax
comp=Z,22nm,1.2s
TKM2 Tokmak 2 56.20 305 *e*P **P** **23 36 49.9 -1.2**
comp=Z,22nm,1.2s
KSH Kashi 56.38 301 P P 23 36 56.3 +3.9
KSH pP pP 23 37 07.1 +5.2
KSH PcP **PcP** **23 37 53.1 +3.8**
KSH PP PP 23 39 04.1 +6.2
KSH S **S** **23 44 42.8 +1.7**
KSH sS sS 23 45 01.4 +4.6
KSH ScS **ScS** **23 46 40.3 +0.7**
KSH PMZ
comp=Z,58nm,0.8s
KSH LN
comp=Z,190nm,5.5s
KSH LE
comp=Z,150nm,6.6s
KSH LZ
comp=Z,350nm,6.2s
RND Reindeer 56.51 30 *e*P **P** **23 36 52.3 -0.6**
RND pmax pmax
comp=Z,17nm,1.2s
RND Reindeer 56.51 30 *e*P **P** **23 36 52.3 -0.6**
comp=Z,17nm,1.2s
MCK McKinley 56.51 30 *e*P **P** **23 36 53.3 +0.5**
MCK pmax pmax
comp=Z,23nm,1.4s
MCK McKinley 56.51 30 *e*P **P** **23 36 53.3 +0.5**
comp=Z,23nm,1.4s
COLD Coldfoot 56.52 25 *e*P **P** **23 36 54.2 +1.5**
comp=Z,120nm,2.6s
SML Sawmill 56.59 32 *e*P **P** **23 36 53.9 +0.5**
SML pmax pmax
comp=Z,5.0nm,1.3s
SML Sawmill 56.59 32 *e*P **P** **23 36 53.9 +0.5**
comp=Z,5.2nm,1.3s
MDM Murphy Dome 56.97 28 *e*P **P** **23 36 57.7 +1.7**
comp=Z,37nm,1.7s
WRH Wood River Hil 56.97 29 *e*P **P** **23 36 55.5 -0.5**
comp=Z,6.0nm,1.0s
AAK Ala-Archa 57.04 305 *e*P **P** **23 36 56.4 -0.7**
AAK pmax pmax
comp=Z,10.0nm,0.9s
AAK Ala-Archa 57.04 305 *e*P **P** **23 36 56.4 -0.7**
comp=Z,9.6nm,0.9s
CCB Clear Creek Bu 57.11 29 *e*P **P** **23 36 58.8 +1.8**
comp=Z,38nm,2.5s
ILAR Eielson Array 57.52 29 P **P** **23 36 59.8 -0.1**
comp=Z,4.8nm,0.8s,baz=259,slow=5.9,SNR=47
ILAR Eielson Array 57.52 29 P **P** **23 36 59.8 -0.1**
ILAR pmax pmax
comp=Z,5.0nm,0.8s
ILB Eielson Array 57.52 29 *e*P **P** **23 36 59.8 -0.1**
EKS2 Erkin-Say 57.56 305 *e*P **P** **23 36 59.9 -0.8**
EKS2 pmax pmax
comp=Z,10.0nm,0.9s
EKS2 Erkin-Say 57.56 305 *e*P **P** **23 36 59.9 -0.8**
comp=Z,10.0nm,0.9s
KLU Klutina 57.72 32 *e*P **P** **23 37 01.5 +0.1**
comp=Z,7.4nm,0.8s
BMRM Bremner River 58.34 33 *e*P **P** **23 37 06.5 +0.8**
comp=Z,17nm,1.0s
STKA Stephens Creek 58.45 181 P **P** **23 37 04.4 -2.2**
comp=Z,3.3nm,0.9s,baz=347,slow=11,SNR=5.0
STKA LR LR 00 02 27.2
comp=Z,139nm,21.0s,baz=22,slow=36
STKA Stephens Creek 58.45 181 P **P** **23 37 04.4 -2.2**
STKA pmax pmax
comp=Z,2.0nm,0.7s
STKA MLR MLR

comp=Z,139nm,21.0s
STKA Stephens Creek 58.45 181 *e*P **P** **23 37 05.2 -1.4**
comp=Z,3.0nm,1.3s
BRVK Borovoye 58.81 318 *e*P **P** **23 37 09.7 +0.6**
BRVK pmax pmax
comp=Z,33nm,1.0s
BRVK Borovoye 58.81 318 *e*P **P** **23 37 09.7 +0.6**
comp=Z,33nm,1.0s
KKAR Karatay Array 59.86 306 *e*P **P** **23 37 16.3 -0.3**
KKAR Karatay Array 59.86 306 *e*P **P** **23 37 16.3 -0.3**
EGAK Eagle 59.97 29 *e*P **P** **23 37 17.3 +0.4**
comp=Z,24nm,1.9s
DAWY Dawson 60.74 29 *e*P **P** **23 37 23.1 +0.8**
comp=Z,9.9nm,1.1s
KBL Kabul 62.84 297 *e*P **P** **23 37 36.5 -0.6**
KBL pmax pmax
comp=Z,40nm,1.4s
KBL Kabul 62.84 297 *e*P **P** **23 37 36.5 -0.6**
comp=Z,40nm,1.4s
INK Inuvik 62.89 25 P **P** **23 37 34.1 -2.4**
comp=Z,5.1nm,0.7s,baz=290,slow=7.1,SNR=12
INK Inuvik 62.89 25 P **P** **23 37 34.1 -2.4**
INK pmax pmax
comp=Z,5.0nm,0.7s
INK Inuvik 62.89 25 *e*P **P** **23 37 36.5 -0.1**
comp=Z,10nm,0.9s
SVE Sverdlovsk 63.89 323⇑ *i*P **P** **23 37 44.9 +1.6**
SVE pmax pmax
comp=Z,20nm,1.2s
SVE MLR MLR
comp=Z,333nm,17.0s
ARU Arti 65.09 322 *c i*P **P** **23 37 51.9 +0.7**
ARU 23 38 28.9
ARU 23 40 14.3
ARU S **S** **23 46 31.9 +0.4**
ARU 23 47 42.2
ARU SS **SS** **23 50 39.9 -3.5**
ARU pmax pmax
comp=Z,27nm,1.0s
ARU MLR MLR
comp=Z,258nm,18.0s
ARU Arti 65.09 322 *e*P **P** **23 37 51.3 +0.1**
comp=Z,19nm,0.8s
SOKR Solikamsk 65.39 326⇑ *i*P **P** **23 37 54.9 +1.9**
SOKR S **S** **23 46 38.2 +3.3**
SOKR pmax pmax
comp=Z,20nm,1.5s
SOKR MLR MLR
comp=Z,460nm,20.0s
ABKAR Akbulak array 65.82 315 *e*P **P** **23 37 56.4 +0.3**
IMYA Miami 69.31 301 *e*P **P** **23 38 19.3 +0.7**
ISRO Mashad 69.80 301 *e*P **P** **23 38 22.2 +0.7**
IPAY Payeh 70.11 301 *e*P **P** **23 38 23.7 +0.1**
PRGR Permogore 70.14 330⇑ *i*P **P** **23 38 24.0 +1.0**
PRGR pmax pmax
comp=Z,17nm,1.0s
GEYT Alibeck 70.29 303 P **P** **23 38 24.2 -0.2**
comp=Z,4.4nm,0.7s,baz=48,slow=2.2,SNR=8.7
GEYT LR LR 00 11 14.1
comp=Z,155nm,20.6s,baz=335,slow=38
IKRD Kardeh 70.37 302 *e*P P 23 38 21.5 -3.7
IKOO Kooshah 71.47 297 *e*P **P** **23 38 32.4 +0.5**
YKA Yellowknife Ar 71.95 28 P **P** **23 38 34.7 +0.8**
comp=Z,4.1nm,0.7s,baz=292,slow=6.1,SNR=20
YKA Yellowknife Ar 71.95 28 P **P** **23 38 34.7 +0.8**
YKA pmax pmax
comp=Z,4.0nm,0.7s
YKB5 Yellowknife Ar 71.95 28 *e*P **P** **23 38 34.7 +0.8**
TMCR Tamitsa 72.39 334 *e*P P 23 38 41.3 +4.8
TMCR pmax pmax
comp=Z,20nm,1.0s
APA Apatity 72.55 338⇓ *i*P **P** **23 38 38.5 +1.0**
APA pmax pmax
comp=Z,12nm,0.8s
APA MLR MLR
comp=Z,300nm,14.0s
ARA0 ARCESS Array S 74.01 341 *e*P **P** **23 38 47.3 +1.2**
ARCES ARCESS Array B 74.01 341 P **P** **23 38 47.3 +1.2**
comp=Z,3.6nm,0.9s,baz=45,slow=6.5,SNR=3.8
ARCES ARCESS Array B 74.01 341 P **P** **23 38 47.3 +1.2**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
LTY Liberty 74.75 45 *e*P **P** **23 38 49.8 -1.0**
comp=Z,32nm,1.9s
RPZ Rata Peaks 74.79 159 P **P** **23 38 48.8 -2.0**
comp=Z,14nm,0.8s,baz=180,slow=8.4,SNR=3.6
RPZ LR LR 00 06 30.7
comp=Z,107nm,21.1s,baz=353,slow=32
B08A Colville Reser 75.14 43 *e*P **P** **23 38 52.9 -0.1**
comp=Z,9.1nm,0.8s
ISAD Sadrabad 75.85 299 *e*P **P** **23 38 58.0 +0.3**
D08A Wollman Farm, 75.92 44 *e*P **P** **23 38 56.9 -0.6**
comp=Z,6.9nm,0.8s
MOS Moscow 76.34 326 *e*P **P** **23 38 59.8 +0.2**
MOS *e* 23 39 09.0
MOS pmax pmax
comp=Z,37nm,1.1s
K05A Summer Lake 76.41 49 *e*P **P** **23 39 01.9 +1.3**
comp=Z,17nm,0.9s
EDM Edmonton 76.51 37 *e*P **P** **23 39 00.9 +0.1**
EDM pmax pmax
comp=Z,58nm,1.8s
EDM Edmonton 76.51 37 *e*P **P** **23 39 00.9 +0.1**
comp=Z,58nm,1.8s
IZEF Zefreh 76.52 300 *e*P **P** **23 39 01.7 +0.2**
NEW Newport 76.52 43 *e*P **P** **23 39 01.3 +0.4**
NEW *e* 23 41 51.4
NEW pmax pmax
comp=Z,10.0nm,0.8s
NEW Newport 76.52 43 *e*P **P** **23 39 01.3 +0.4**
comp=Z,9.7nm,0.8s
NEW *e*PP **PP** **23 41 51.4 -1.3**
G08A Pilot Rock 76.63 46 *e*P **P** **23 39 01.9 +0.2**
comp=Z,4.7nm,0.8s
E09A Wood Farm, Sta 76.63 45 *e*P **P** **23 39 00.9 -0.6**
comp=Z,7.1nm,0.8s
IKLH Kolahrood 76.93 301 *e*P **P** **23 39 04.0 +0.2**
LPSR Galich'ya Gora 77.11 323 *e*P **P** **23 39 05.0 +0.9**
LPSR *e**PP **PcP** **23 39 14.8 0.0**
LPSR *e*S **S** **23 48 49.2 -1.6**
LPSR pmax pmax
comp=N,7.0nm,1.0s
LPSR pmax pmax
comp=E,10.0nm,1.0s
LPSR pmax pmax
comp=Z,20nm,1.0s
LPSR smax smax
comp=E,90nm,2.4s
LPSR smax smax
comp=Z,20nm,2.1s
LPSR smax smax
comp=N,80nm,2.4s
LPSR MLR MLR
comp=N,280nm,18.0s
LPSR MLR MLR
comp=E,230nm,18.0s
LPSR MLR MLR
comp=Z,260nm,18.0s
OBN Obninsk 77.17 326⇓ *e*P **P** **23 39 05.8 +1.5**
OBN *i* 23 39 14.2
OBN *i* 23 41 58.5
OBN *i* S S 23 48 41.8 -10
OBN pmax pmax
comp=Z,39nm,1.7s
OBN MLR MLR
comp=Z,519nm,17.0s
VSR Storozhevoye 77.62 321 P **P** **23 39 07.6 +0.7**
VSR *e**PP **PcP** **23 39 17.1 0.0**
VSR S **S** **23 48 56.4 0.0**
VSR pmax pmax
comp=Z,30nm,1.0s
VSR pmax pmax
comp=N,4.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR smax smax
comp=N,60nm,2.3s
VSR smax smax
comp=E,110nm,2.3s
VSR smax smax
comp=Z,40nm,2.3s
VSR MLR MLR
comp=N,340nm,18.0s
VSR MLR MLR
comp=E,310nm,18.0s
VSR MLR MLR

comp=Z,530nm,18.0s
WVOR Wild Horse Val 78.05 48 *e*P **P** **23 39 10.0 +0.3**
WVOR pmax pmax
comp=Z,10.0nm,1.3s
WVOR Wild Horse Val 78.05 48 *e*P **P** **23 39 10.0 +0.3**
comp=Z,10nm,1.3s
GOF Gofitskoye 78.06 314 *e*P **P** **23 39 10.2 +0.6**
GOF pmax pmax
comp=Z,20nm,1.3s
WALA Waterton Lakes 78.08 41 *e*P **P** **23 39 09.9 +0.1**
comp=Z,9.3nm,0.9s
BSMT Bassoo Peak 78.11 42 *e*P **P** **23 39 10.0 0.0**
NCK Nalchik 78.39 313⇓ *e*P **P** **23 39 12.6 +1.1**
JTMT Jette 78.46 42 *e*P **P** **23 39 12.7 +0.8**
FIA0 FINESS Array S 78.50 334 *e*P **P** **23 39 10.2 -1.4**
FIA0 FINESS Array S 78.50 334 *e*P **P** **23 39 10.2 -1.4**
FINES FINESS Array B 78.50 334 P **P** **23 39 10.2 -1.4**
comp=Z,3.0nm,0.4s,baz=86,slow=4.3,SNR=31
FINES FINESS Array B 78.50 334 P **P** **23 39 10.2 -1.4**
FINES pmax pmax
comp=Z,3.0nm,0.4s
CMB Columbia Colle 78.71 53 *e*P **P** **23 39 14.4 +1.0**
CMB pmax pmax
comp=Z,10.0nm,1.0s
CMB Columbia Colle 78.71 53 *e*P **P** **23 39 14.4 +1.0**
comp=Z,9.5nm,1.0s
SWMT Swartz Lake 78.74 42 *e*P **P** **23 39 14.2 +0.8**
KBZ Khabaz 78.74 313 P **P** **23 39 14.2 +0.8**
comp=Z,15nm,0.9s,baz=88,slow=2.8,SNR=20
KBZ LR LR 00 15 28.4
comp=Z,163nm,21.1s,baz=50,slow=37
KIV Kislovodsk 78.78 314 *e*P **P** **23 39 13.9 +0.2**
KIV *i* 23 39 24.8
KIV *i* 23 42 08.9
KIV pmax pmax
comp=Z,17nm,1.3s
KIV MLR MLR
comp=Z,186nm,16.0s
KIV Kislovodsk 78.78 314 *e*P **P** **23 39 15.3 +1.6**
comp=Z,36nm,1.4s
PPT Papeete 78.85 116 LR LR 00 08 41.3
comp=Z,106nm,19.4s,baz=266,slow=32
NEY Neytrino 79.07 313⇓ *i*P **P** **23 39 16.7 +1.3**
NEY pmax pmax
comp=Z,3.0nm,1.2s
GNI Garni 79.08 309⇑ *i*P **P** **23 39 16.7 +1.2**
GNI pmax pmax
comp=Z,31nm,1.7s
SLMT Seeley Lake 79.17 42 *e*P **P** **23 39 16.9 +1.0**
WAKR Walker 79.19 52 *e*P **P** **23 39 17.5 +1.3**
MFID Camas Ranch 79.47 47 *e*P **P** **23 39 16.8 -0.7**
comp=Z,9.9nm,0.9s
MFID *e*PP **PP** **23 42 14.8 -2.8**
BMN Battle Mountai 79.88 50 *e*P **P** **23 39 19.7 -0.1**
BMN pmax pmax
comp=Z,16nm,1.6s
BMN Battle Mountai 79.88 50 *e*P **P** **23 39 19.7 -0.1**
comp=Z,16nm,1.6s
VSU Vasula 79.97 331⇑ *e*P **P** **23 39 21.3 +1.6**
VSU pmax pmax
comp=Z,42nm,1.0s
NV01 Mina Array Sit 80.02 52 *e*P **P** **23 39 20.4 -0.3**
NVAR Mina Array Bea 80.02 52 P **P** **23 39 20.4 -0.3**
comp=Z,2.5nm,0.7s,baz=275,slow=5.2,SNR=23
HLID Hailey 80.31 46 *e*P **P** **23 39 22.0 -0.1**
comp=Z,8.5nm,1.4s
HRY Holter Researc 80.42 42 *e*P **P** **23 39 22.6 0.0**
LRM Limekiln Ridge 80.48 43 *e*P **P** **23 39 23.4 +0.4**
SOC Sochi 80.86 314 *e*P **P** **23 39 24.5 -0.3**
SOC *e*S **S** **23 49 32.1 +0.9**
SOC *e*SS **SS** **23 54 49.1 +4.6**
SOC *e*SSS SSS 23 58 07.3
SOC pmax pmax
comp=Z,25nm,1.0s
TPH Tonopah 80.94 52 *e*P **P** **23 39 25.4 -0.2**
TPH pmax pmax
comp=Z,17nm,1.6s
TPH Tonopah 80.94 52 *e*P **P** **23 39 25.4 -0.2**
comp=Z,17nm,1.6s
ELK Elko 81.08 49 *e*P **P** **23 39 26.3 -0.1**
ELK pmax pmax
comp=Z,6.0nm,1.1s
ELK Elko 81.08 49 *e*P **P** **23 39 26.3 -0.1**
comp=Z,6.2nm,1.1s
FFC Flin Flon 81.50 32 *e*P **P** **23 39 28.2 +0.2**
FFC pmax pmax
comp=Z,16nm,1.1s
FFC Flin Flon 81.50 32 *e*P **P** **23 39 28.2 +0.2**
comp=Z,16nm,1.1s
ANN Anapa 81.71 316 *e*P **P** **23 39 30.2 +0.9**
ANN *e*S **S** **23 49 42.3 +2.4**
ANN pmax pmax
comp=Z,44nm,1.3s
R11A Troy Canyon, C 81.96 51 *e*P **P** **23 39 31.3 +0.3**
comp=Z,40nm,2.5s
NACGM Naroch 82.04 328 *e* P 23 39 23.0 -7.8
TPNV Topopah Spring 82.14 53 *e*P **P** **23 39 31.9 -0.1**
TPNV pmax pmax
comp=Z,4.0nm,0.8s
TPNV Topopah Spring 82.14 53 *e*P **P** **23 39 31.9 -0.1**
comp=Z,4.2nm,0.8s
YFT Old Faithful 82.14 44 *e*P **P** **23 39 32.1 +0.2**
comp=Z,18nm,1.2s
GCMT Greycliff 82.18 42 *e*P **P** **23 39 32.5 +0.5**
FXWY Fox Creek 82.43 45 *e*P **P** **23 39 33.4 0.0**
comp=Z,6.0nm,1.1s
GSC Goldstone 82.50 54 *e*P **P** **23 39 32.6 -1.2**
GSC pmax pmax
comp=Z,6.0nm,1.1s
GSC Goldstone 82.50 54 *e*P **P** **23 39 32.6 -1.2**
comp=Z,5.7nm,1.1s
DUG Dugway 82.97 48 *e*P **P** **23 39 35.0 -1.2**
DUG pmax pmax
comp=Z,14nm,1.4s
DUG Dugway 82.97 48 *e*P **P** **23 39 35.0 -1.2**
comp=Z,14nm,1.4s
HWUT Hardware Ranch 83.10 47 *e*P **P** **23 39 36.4 -0.5**
comp=Z,7.5nm,0.9s
AKASG Malin Array Be 83.27 324 P **P** **23 39 37.2 -0.1**
comp=Z,5.7nm,0.8s,baz=44,slow=5.5,SNR=20
AKASG LR LR 00 19 25.3
comp=Z,429nm,19.0s,baz=45,slow=38
AKASG Malin Array Be 83.27 324 P **P** **23 39 37.2 -0.1**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG MLR MLR
comp=Z,429nm,19.0s
AKBB Malin Array Si 83.27 324 *e*P **P** **23 39 37.2 -0.1**
AKBB Malin Array Si 83.27 324 *e*P **P** **23 39 37.2 -0.1**
KIEV Kiev 83.28 324 *e*P **P** **23 39 35.1 -2.3**
KIEV pmax pmax
comp=Z,25nm,1.4s
KIEV Kiev 83.28 324 *e*P **P** **23 39 35.0 -2.3**
comp=Z,25nm,1.4s
NLU North Lily Min 83.58 48 *e*P **P** **23 39 37.9 -1.6**
comp=Z,9.9nm,1.4s
SIM Simferopol' 83.66 317 *d i*P **P** **23 39 40.8 +1.3**
SIM *i* 23 39 50.0
SIM pmax pmax
comp=Z,25nm,1.0s
PD31 Pinedale Array 83.80 45 *e*P **P** **23 39 38.6 -1.9**
PD31 *e*PP **PP** **23 42 51.9 -1.5**
PDAR Pinedale Array 83.80 45 P **P** **23 39 38.6 -1.9**
comp=Z,1.4nm,0.8s,baz=319,slow=4.3,SNR=10
PDAR PP **PP** **23 42 51.9 -1.5**
comp=Z,0.8nm,1.0s,baz=345,slow=6.5,SNR=4.1
CCUT Cedar City 83.88 51 *e*P **P** **23 39 40.1 -0.9**
comp=Z,33nm,2.4s
NB2 NORSAR Subarra 84.11 339 P **P** **23 39 43.4 +1.9**
comp=Z,4.6nm,0.9s,baz=48,slow=4.8
NB200 NORSAR Array S 84.11 339 *e*P **P** **23 39 41.6 +0.1**
NOA NORSAR Array B 84.11 339 P **P** **23 39 41.6 +0.1**
comp=Z,3.7nm,0.9s,baz=44,slow=5.0,SNR=3.0
NOA LR LR 00 22 46.1
comp=Z,101nm,18.2s,baz=50,slow=40
KNB Kanab 84.52 51 *e*P **P** **23 39 42.3 -1.9**
KNB pmax pmax
comp=Z,14nm,1.3s
KNB Kanab 84.52 51 *e*P **P** **23 39 42.3 -1.9**
comp=Z,14nm,1.3s
SRU San Rafael 85.04 49 *e*P **P** **23 39 46.0 -0.8**
SRU pmax pmax
comp=Z,6.0nm,0.9s
SRU San Rafael 85.04 49 *e*P **P** **23 39 46.0 -0.8**
comp=Z,5.6nm,0.9s
RAYN Ar Rayn 85.97 294 *e*P **P** **23 39 50.8 -0.8**

comp=Z,14nm,0.9s
WUAZ Wupatki 86.28 52 *e*P **P** **23 39 52.5 -0.6**
comp=Z,8.5nm,1.4s
PV09 Paradox Valley 86.29 48 *e*P **P** **23 39 53.0 -0.1**
PV10 Paradox Valley 86.41 49 *e*P **P** **23 39 53.7 -0.1**
BR101 Keskin Array S 86.74 313 *e*P **P** **23 39 54.4 -0.8**
BRTR Keskin Array B 86.74 313 P **P** **23 39 54.4 -0.8**
comp=Z,3.9nm,0.9s,baz=102,slow=3.7,SNR=11
BRTR LR LR 00 22 47.8
comp=Z,64nm,18.1s,baz=56,slow=38
BRTR Keskin Array B 86.74 313 P **P** **23 39 54.4 -0.8**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR MLR MLR
comp=Z,64nm,18.1s
PV01 Paradox Valley 86.86 49 *e*P **P** **23 39 53.7 -2.2**
N23A Red Feather La 87.08 45 *e*P P 23 39 53.6 -3.4
comp=Z,28nm,1.6s
ULM Lac du Bonnet 87.18 33 P **P** **23 39 56.9 0.0**
comp=Z,1.9nm,0.6s,baz=13,slow=5.6,SNR=2.8
ULM LR LR 00 21 23.1
comp=Z,49nm,18.5s,baz=336,slow=37
SMCO Snowmass 87.35 47 *e*P **P** **23 39 58.4 -0.1**
comp=Z,5.5nm,1.1s
TUC Tucson 88.33 54 *e*P **P** **23 40 01.5 -1.4**
TUC pmax pmax
comp=Z,12nm,1.8s
TUC Tucson 88.33 54 *e*P **P** **23 40 01.5 -1.4**
comp=Z,12nm,1.8s
AGMN Agassiz Nation 88.45 35 *e*P **P** **23 40 01.2 -1.8**
comp=Z,32nm,1.8s
PSZ Piszkesteto 89.78 326 *e*P **P** **23 40 08.4 -1.0**
PSZ pmax pmax
comp=Z,12nm,0.7s
PSZ Piszkesteto 89.78 326 *e*P **P** **23 40 08.4 -1.0**
comp=Z,12nm,0.7s
DPC Dobruska-Polom 89.84 329 *e*PP PP 23 43 45.1 +3.6
GEC2 GERESS Array S 92.11 329 *e*P **P** **23 40 19.5 -0.7**
GEC2 *e* 23 43 59.0
GEC2 GERESS Array S 92.11 329 *e*P **P** **23 40 19.5 -0.7**
GEC2 *e*PP **PP** **23 43 59.6 +0.1**
GERES GERESS Array B 92.11 329 P **P** **23 40 19.5 -0.7**
comp=Z,0.3nm,0.3s,baz=53,slow=6.9,SNR=5.3
GERES PP **PP** **23 43 59.6 +0.1**
comp=Z,0.2nm,0.4s,baz=42,slow=7.9,SNR=3.7
GERES LR LR 00 25 05.5
comp=Z,199nm,18.8s,baz=54,slow=38
GRF Grafenberg Arr 92.59 331 *e*P **P** **23 40 23.2 +0.9**
comp=Z,3.0nm,0.9s
LPIG La Paz 92.90 61 LR LR 00 18 50.5
comp=Z,59nm,18.1s,baz=214,slow=33
SCHQ Schefferville 94.65 17 LR LR 00 28 41.9
comp=Z,62nm,19.4s,baz=343,slow=39
BFO Black Forest 94.86 332 *i* P **P** **23 40 34.2 +1.4**
LTX Lajitas 95.09 54 *e*P **P** **23 40 33.7 -0.6**
LTX Lajitas 95.09 54 *e*P **P** **23 40 33.7 -0.6**
TXAR Lajitas Array 95.09 54 P **P** **23 40 33.7 -0.6**
comp=Z,0.5nm,0.7s,baz=334,slow=1.6,SNR=7.2
TXAR Lajitas Array 95.09 54 P **P** **23 40 33.7 -0.6**
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TOA0 Torodi Ar. Sit 125.33 312 *e*PKPdf **PKPdf** **23 46 10.7 -1.7**
TORD Torodi Ar. Bea 125.33 312 PKP **PKPdf** **23 46 10.7 -1.7**
comp=Z,1.5nm,0.9s,baz=33,slow=1.5,SNR=8.3
SNAA Sanae 131.35 194 P **PKPdf** **23 46 23.2 +1.0**
VNA2 Neumayer--Watz 132.86 193 P **PKPdf** **23 46 25.9 +0.9**
baz=118,slow=2.0
VNA1 Neumayer--Stat 133.25 193 P **PKPdf** **23 46 27.3 +1.7**
PTGA Pitinga 145.84 44 PKPbc **PKPdf** **23 46 49.6 -0.6**
comp=Z,3.4nm,0.8s,baz=259,slow=2.4,SNR=4.6
PTGA Pitinga 145.84 44 *e*PKPdf **PKPdf** **23 46 46.3 -3.9**
LPAZ La Paz 149.20 76 PKPbc **PKPbc** **23 47 01.4 +0.7**
comp=Z,5.1nm,0.7s,baz=323,slow=4.1,SNR=29
LPAZ La Paz 149.20 76 *e*PKP2 **PKPbc** **23 46 59.6 -1.1**
LPAZ La Paz 149.20 76 *e*PKPbc **PKPbc** **23 46 59.6 -1.1**

MEX 22 23:46:08.8±1.0, **16.91N**×**90.19W, h114**km±39km**, MD3.8, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
CCIG	**Comitan**	**1.97**	**252**	*e*P		Pn 23 46 39.7	-2.1
CCIG				*e*S		Sn 23 47 06.1	-1.0
TGIG		**2.81**	**268**	*i* P		Pn 23 46 52.0	-0.6
TGIG				*e*S		Sn 23 47 24.5	-1.7
PCIG		**3.15**	**248**	*i* P		Pn 23 46 56.5	-0.3
PCIG				*i* S		Sn 23 47 31.7	-2.3

*ISCJB **22** 23:46:29.7±0.8, 6.5N±0.2×77.9W±0.2, h10km, mb3.6/9, Error ellipse: s-maj=32.9km s-min=12.8km az=138.7*
*IDC **22** 23:46:30.1±0.8, 6.58N×77.73W, h0km, mb3.5/8, mb1 3.8/9, mb1mx3.7/21, mbtmp3.5/9, ML2.0/1, MS2.9/3, Ms1 2.9/3, ms1mx2.7/29, Error ellipse: s-maj=36.0km s-min=19.2km az=52.0*

ISC 22 23:46:31.6±0.9, **6.6N**±0.2×**77.8W**±0.2, **h10**km, **n14, s18/16/12, mb3.5/9, Near west coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
ROSC	**El Rosal**	**3.85**	**116**	Pn		**Pn 23 47 32.0**	**+0.7**
	2.5nm,0.3s,baz=96,slow=18,SNR=3.7						
ROSC				LR		LR 23 48 59.3	
	comp=Z,187nm,19.4s,baz=343,slow=39						
JTS	**JuntasAbangare**	**7.99**	**298**	LR		LR 23 51 52.1	
	comp=Z,75nm,20.4s,baz=198,slow=40						
PCRV	**Puerto La Cruz**	**13.51**	**74**	LR		LR 23 55 31.4	
	comp=Z,61nm,19.4s,baz=344,slow=40						
LPAZ	**La Paz**	**24.64**	**157**	P		**P 23 51 52.8**	**-0.4**
	0.7nm,0.6s,baz=320,slow=9.3,SNR=2.8						
SIV	**San Ignacio**	**27.86**	**144**	P		**P 23 52 19.9**	**-1.8**
	0.8nm,0.5s,baz=326,slow=12,SNR=3.7						
PDAR	**Pinedale Array**	**45.66**	**327**	P		**P 23 54 51.1**	**-1.8**
	0.1nm,0.4s,baz=114,slow=13,SNR=2.4						
NVAR	**Mina Array Bea**	**48.42**	**317**	P		**P 23 55 16.4**	**+1.9**
	0.2nm,0.6s,baz=133,slow=6.6,SNR=2.4						
YKA	**Yellowknife Ar**	**61.97**	**342**	P		**P 23 56 50.7**	**-0.9**
	0.6nm,0.7s,baz=123,slow=7.9,SNR=5.9						
ESDC	**Sonseca Array**	**73.41**	**51**	P		**P 23 58 04.5**	**+0.2**
	0.5nm,0.8s,baz=271,slow=5.7,SNR=3.2						
ILAR	**Eielson Array**	**75.25**	**336**	P		**P 23 58 14.8**	**+0.3**
	0.3nm,0.6s,baz=112,slow=4.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**78.34**	**78**	P		**P 23 58 32.9**	**0.0**
	0.1nm,0.3s,baz=285,slow=5.6,SNR=4.8						
ARCES	**ARCESS Array B**	**88.52**	**20**	P		**P 23 59 24.6**	**+0.4**
	4.9nm,1.0s,baz=292,slow=4.8,SNR=3.9						
ASAR	**Alice Springs**	**145.12**	**237**	PKPbc		**PKPdf 00 06 10.7**	**+0.3**
	0.8nm,0.6s,baz=131,slow=4.5,SNR=6.3						
WRA	**Warramunga Arr**	**146.09**	**244**	PKPbc		**PKPdf 00 06 12.5**	**+0.4**
	0.7nm,0.7s,baz=101,slow=3.3,SNR=2.2						

*ISCJB **23** 00:03:17.9±0.7, 45.02S±0.09×82.2W±0.2, h10km, mb4.0/10, MS3.8/3, Error ellipse: s-maj=22.8km s-min=11.8km az=11.3*
*IDC **23** 00:03:17.8±0.8, 45.00S×82.21W, h0km, mb4.1/10, mb1 4.4/10, mb1mx4.1/34, mbtmp4.1/10, ML2.6/1, MS3.7/4, Ms1 3.7/4, ms1mx3.2/20, Error ellipse: s-maj=31.0km s-min=17.7km az=101.0*

ISC 23 00:03:19.5±0.8, **45.0S**±0.1×**82.2W**±0.2, **h10**km, **n16, s0/63/15, mb4.0/10, MS3.8/3, West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
USHA	**Ushuaia**	**13.22**	**143**	LR		LR 00 10 45.3	
	comp=Z,120nm,20.4s,baz=181,slow=34						
CFAA	**Coronel Fontan**	**17.24**	**44**	P		**Pn 00 07 20.4**	**0.0**
	0.0nm,0.3s,baz=228,slow=6.4,SNR=5.1						
LVC	**Limon Verde**	**24.83**	**30**	P		**P 00 08 41.9**	**-0.3**
	25nm,0.9s,baz=205,slow=9.8,SNR=4.1						
LVC				LR		LR 00 16 04.0	
	comp=Z,335nm,19.6s,baz=118,slow=31						
CPUP	**Villa Florida**	**27.29**	**55**	P		**P 00 09 04.5**	**+0.4**
	3.4nm,1.0s,baz=231,slow=18,SNR=2.0						
CPUP				LR		LR 00 19 51.5	
	comp=Z,216nm,18.2s,baz=246,slow=36						
LPAZ	**La Paz**	**30.96**	**27**	P		**P 00 09 37.1**	**-0.5**
	1.2nm,0.8s,baz=191,slow=7.3,SNR=4.6						
BDFB	**Brasilia**	**41.02**	**56**	P		**P 00 11 03.7**	**+0.6**
	6.8nm,1.0s,baz=190,slow=9.6,SNR=3.5						
BDFB				LR		LR 00 28 20.1	
	comp=Z,91nm,19.2s,baz=221,slow=37						
VNA1	**Neumayer--Stat**	**43.12**	**152**	P		**P 00 11 20.0**	**+0.5**
VNA2	**Neumayer--Watz**	**43.39**	**152**	P		**P 00 11 21.4**	**-0.3**

baz=280,slow=8.5
SNAA Sanae 44.77 154 P **P** **00 11 32.4 -0.4**
SNAA Sanae 44.77 154 P **P** **00 11 32.3 -0.4**
1.5nm,0.9s,baz=256,slow=7.3,SNR=14
VNDA Vanda 51.67 194 P **P** **00 12 26.6 +0.7**
1.5nm,0.9s,baz=133,slow=6.5,SNR=6.2
MAW Mawson 64.66 166 P **P** **00 13 56.2 -0.7**
3.0nm,0.8s,baz=210,slow=12,SNR=6.7
TXAR Lajitas Array 76.52 341 P **P** **00 15 10.2 +0.5**
0.5nm,0.9s,baz=162,slow=9.2,SNR=5.8
NVAR Mina Array Bea 89.20 332 P **P** **00 16 15.8 +0.4**
0.9nm,0.8s,baz=155,slow=6.4,SNR=6.2
PDAR Pinedale Array 90.73 340 P **P** **00 16 21.1 -1.4**
1.0nm,0.9s,baz=133,slow=6.3,SNR=6.0
SEY Seymchan 144.57 320 PKP **PKPab** **00 22 53.6 0.0**
2.1nm,0.2s,baz=117,slow=4.7,SNR=3.9

IDC ***23*** *00:15:40.8±0.6, 22.°26N×143.°59E, h127km±5km, mb3.6/13, mb1 3.9/15, mb1mx3.7/37, mbtmp4.1/15, MS3.4/2, Ms1 3.4/2, ms1mx2.7/31, Error ellipse: s-maj=19.0km s-min=10.0km az=87.0*
JMA ***23*** *00:15:45.2±0.2, 22.°81N×144.°15E, h133km, M4.7*
ISC 23 00:15:44.0±1.0, 22.°6N±0.°1×143.°8E±0.°2, h150km, n31, σ1§83/31, mb3.8/12, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**4.30**	**340**	P	**Pn**	**00 16 48.6**	**+0.5**
JHHJ				S	**Sn**	**00 17 37.9**	**-0.2**
JCJ	**Chichijima**	**4.73**	**342**	P	**Pn**	**00 16 53.8**	**-0.1**
78nm,0.3s,baz=24,slow=13,SNR=63							
JCJ				S	**Sn**	**00 17 48.9**	**+0.6**
63nm,0.3s,baz=130,slow=23,SNR=11							
CBIJ	**Chichi jima**	**4.73**	**342**	P	**Pn**	**00 16 54.3**	**+0.5**
CBIJ				S	**Sn**	**00 17 47.7**	**-0.6**
GUMO	**Guam**	**9.00**	**173**	LR	LR	00 20 03.2	
comp=Z,56nm,19.8s,baz=1.0,slow=30							
BSO1	**Boso 1**	**12.28**	**349**	P	**Pn**	**00 18 35.4**	**+2.0**
BSO3	**Boso 3**	**12.52**	**347**	P	**Pn**	**00 18 38.6**	**+2.0**
BSO4	**Boso 4**	**12.73**	**347**	P	**Pn**	**00 18 40.4**	**+0.8**
BSO4				S	**Sn**	**00 20 57.4**	**-2.9**
JHU	**Hanno**	**13.80**	**344**	P	**Pn**	**00 18 52.4**	**-0.9**
JRY	**Ryogami san**	**14.05**	**343**	P	**Pn**	**00 18 57.7**	**+1.2**
JAG	**Ashikaga**	**14.31**	**346**	P	**Pn**	**00 19 00.0**	**+0.3**
MJAR	**Matsushiro Arr**	**14.74**	**342**	P	**Pn**	**00 19 06.0**	**+0.9**
0.9nm,0.3s,baz=171,slow=9.4,SNR=4.7							
MAT	**Matsushiro**	**14.74**	**342**	P	**P**	**00 19 08.1**	**+0.8**
KSRS	**Korea Array**	**20.18**	**321**	P	**P**	**00 20 08.7**	**+1.9**
1.6nm,0.6s,baz=146,slow=8.9,SNR=9.9							
H11S3	**WAKE ISLAND Hy 21.80**	**97**		T	T	00 43 56.9	
baz=284,slow=74,SNR=10							
H11S1	**WAKE ISLAND Hy 21.81**	**97**		T	T	00 43 43.7	
baz=284,slow=74,SNR=11							
H11S2	**WAKE ISLAND Hy 21.82**	**97**		T	T	00 43 54.2	
baz=284,slow=74,SNR=10							
SONM	**Songino Array**	**39.04**	**319**	P	**P**	**00 22 55.9**	**-0.3**
0.6nm,0.5s,baz=137,slow=8.0,SNR=6.9							
WRA	**Warramunga Arr**	**43.26**	**193**	P	P	00 23 26.8	-4.0
1.7nm,0.3s,baz=8.9,slow=8.2,SNR=17							
WRA				pP	pP	00 23 54.7	-9.4
0.5nm,0.3s,baz=5.3,slow=9.3,SNR=2.3							
ASAR	**Alice Springs**	**46.97**	**192**	P	P	00 23 56.0	-4.0
1.3nm,0.5s,baz=13,slow=8.6,SNR=19							
STKA	**Stephens Creek**	**54.19**	**182**	P	P	00 24 50.0	-3.9
2.3nm,0.5s,baz=352,slow=8.5,SNR=11							
MKAR	**Makanchi Array**	**54.53**	**312**	P	**P**	**00 24 56.6**	**+0.2**
0.3nm,0.3s,baz=87,slow=9.2,SNR=10							
MKAR				pP	pP	00 25 24.7	-6.5
0.9nm,0.5s,baz=87,slow=9.5,SNR=8.0							
ILAR	**Eielson Array**	**61.00**	**27**	P	**P**	**00 25 42.1**	**+1.0**
0.3nm,0.7s,baz=271,slow=6.2,SNR=3.2							
ILAR				pP	**pP**	**00 26 11.9**	**-4.7**
0.5nm,0.7s,baz=257,slow=4.8,SNR=3.5							
INK	**Inuvik**	**66.53**	**24**	P	**P**	**00 26 18.0**	**+0.7**
0.8nm,0.6s,baz=309,slow=1.4,SNR=2.9							
YKA	**Yellowknife Ar**	**75.41**	**28**	P	**P**	**00 27 12.8**	**+1.9**
0.8nm,0.4s,baz=292,slow=5.8,SNR=12							
YKA				pP	**pP**	**00 27 45.9**	**-1.9**
0.7nm,0.5s,baz=291,slow=6.0,SNR=4.2							
ARCES	**ARCESS Array B**	**78.27**	**342**	P	**P**	**00 27 28.1**	**+1.3**
4.9nm,1.1s,baz=62,slow=11,SNR=4.3							
NVAR	**Mina Array Bea**	**82.15**	**52**	P	**P**	**00 27 49.9**	**+1.4**
1.6nm,0.7s,baz=278,slow=5.5,SNR=8.0							
FINES	**FINESS Array B**	**82.64**	**335**	P	**P**	**00 27 49.7**	**-0.6**
1.3nm,0.3s,baz=77,slow=3.9,SNR=22							
FINES				pP	**pP**	**00 28 24.6**	**-3.1**
0.6nm,0.4s,baz=85,slow=3.9,SNR=1.2							
PDAR	**Pinedale Array**	**86.36**	**45**	P	**P**	**00 28 11.2**	**+1.4**
0.4nm,0.8s,baz=270,slow=3.6,SNR=3.0							
BRTR	**Keskin Array B**	**90.16**	**314**	LR	LR	01 11 57.9	
comp=Z,65nm,20.2s,baz=86,slow=37							
TORD	**Torodi Ar. Bea**	**128.63**	**310**	PKP	**PKPdf**	**00 34 33.9**	**-0.3**
0.3nm,0.5s,baz=53,slow=0.9,SNR=9.9							
TORD				pPKP	**pPKPdf**	**00 35 09.4**	**-4.5**
0.3nm,0.6s,baz=71,slow=1.3,SNR=2.0							
LPAZ	**La Paz**	**149.28**	**84**	PKPbc	**PKPbc**	**00 35 17.3**	**+0.7**
2.3nm,0.5s,baz=19,slow=1.5,SNR=12							

TIF ***23*** *00:49:38.5, 40.°27N×45.°20E, h12km±3km*
NSSP ***23*** *00:49:40.0, 40.°28N×45.°02E, h11km, Ms2.9*
AZER ***23*** *00:49:41.1±12.0, 40.°46N×44.°97E, h8km, Error ellipse: s-maj=8.0km s-min=2.4km az=251.0*
CSEM ***23*** *00:49:42.8±0.2, 40.°38N×44.°91E, h2km, ML2.9, Error ellipse: s-maj=3.8km s-min=3.2km az=144.0*
ISK ***23*** *00:49:43.3, 40.°40N×44.°98E, h10km, MD3.4*
MOS ***23*** *00:49:47.0±2.0, 40.°55N×45.°00E, h10km, mb4.1/1, Error ellipse: s-maj=29.0km s-min=6.5km az=98.8*
DDA ***23*** *00:49:47.0, 40.°32N×44.°51E, h3km, ML3.6*
ISC 23 00:49:41.2±0.9, 40.°31N±0.°02×45.°00E±0.°01, h16km±7km, n101, σ1§54/174, 27C-23D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPZ	**Kaputan**	**0.23**	**272**	⇑*i*P	**Pg**	**00 49 46.6**	**+0.1**
KAPZ				⇓*i*S	**Sb**	**00 49 50.7**	**-0.4**
KAPZ	**Kaputan**	**0.23**	**272**	⇑P	**Pg**	**00 49 46.6**	**+0.1**
KAPZ				S	**Sb**	**00 49 50.7**	**-0.4**
GNI	**Garni**	**0.26**	**231**	⇓*i*P	**Pg**	**00 49 46.1**	**-0.8**
GNI				⇑*i*S	**Sg**	**00 49 50.5**	**-0.3**
ERE	**Yerevan**	**0.43**	**251**	*e*	**Pg**	**00 49 47.0**	**-2.9**
PAAR	**P'arak'ar**	**0.50**	**251**	⇑*i*P	**Pg**	**00 49 50.9**	**-0.3**
PAAR				⇑*i*S	**Sb**	**00 49 58.3**	**-0.5**
PAAR	**P'arak'ar**	**0.50**	**251**	⇑P	**Pg**	**00 49 50.9**	**-0.3**
PAAR				S	**Sb**	**00 49 58.3**	**-0.5**
AMBZ	**Amberd**	**0.57**	**278**	⇑*i*P	**Pb**	**00 49 53.0**	**+0.1**
AMBZ				⇑*i*S	**Sb**	**00 50 02.0**	**+1.1**
AMBZ	**Amberd**	**0.57**	**278**	⇑P	**Pb**	**00 49 53.0**	**+0.1**
VRNZ	**Vardanashen**	**0.67**	**247**	⇓*i*P	**Pb**	**00 49 54.9**	**+0.3**
VRNZ				⇑*i*S	**Sn**	**00 50 05.1**	**-1.3**
VRNZ	**Vardanashen**	**0.67**	**247**	⇓P	**Pb**	**00 49 54.9**	**+0.3**
VRNZ				S	**Sn**	**00 50 05.1**	**-1.3**
QZX	**Qazax, Azerbai**	**0.80**	**21**	⇓P	**Pb**	**00 49 56.0**	**-0.7**
SNR=99							
QZX				⇓S	**Sb**	**00 50 07.5**	**+0.3**
QZX	**Qazax, Azerbai**	**0.80**	**21**	P	**Pb**	**00 49 56.0**	**-0.7**
SNR=99							
QZX				S	**Sb**	**00 50 07.5**	**+0.3**
STEZ	**Stepenevan**	**0.82**	**327**	⇓*i*P	**Pb**	**00 49 55.4**	**-1.8**
STEZ				⇓S	**Sb**	**00 50 07.0**	**-1.2**
STE	**Stepanavan**	**0.84**	**325**	⇓P	**Pb**	**00 49 55.4**	**-2.0**
STE				S	**Sb**	**00 50 07.0**	**-1.5**
GMRZ	**Gyumri**	**1.02**	**300**	*e*	**Sb**	**00 50 11.0**	**-2.8**
GANJ	**Ganja**	**1.06**	**71**	⇑Pg	**Pb**	**00 50 00.6**	**-0.6**
SNR=28							
GANJ				⇑Sg	**Sg**	**00 50 15.1**	**-0.5**
GANJ	**Ganja**	**1.06**	**71**	Pg	**Pb**	**00 50 00.6**	**-0.6**
SNR=28							
GANJ				Sg	**Sg**	**00 50 15.1**	**-0.5**
DGRG	**David-gareji**	**1.17**	**14**	P	**Pg**	**00 50 03.5**	**-0.3**
DGRG				S	**Sg**	**00 50 21.1**	**+2.0**
DGRG	**David-gareji**	**1.17**	**14**	PG	**Pg**	**00 50 03.5**	**-0.3**
DGRG				S	**Sg**	**00 50 21.1**	**+2.0**
DGRG	**David-gareji**	**1.17**	**14**	P	**Pg**	**00 50 03.5**	**-0.3**
DGRG				S	**Sg**	**00 50 21.1**	**+2.0**
NAX	**Nakhchivan**	**1.20**	**161**	⇑Pg	**Pg**	**00 50 04.5**	**+0.1**
SNR=11							
NAX	**Nakhchivan**	**1.20**	**161**	Pg	**Pg**	**00 50 04.5**	**+0.1**
SNR=11							
DIGO	**Kars**	**1.25**	**275**	*i* P	**Pn**	**00 50 03.4**	**-0.8**
DIGO				*i* S	**Sb**	**00 50 17.1**	**-3.3**
DIGO	**Kars**	**1.25**	**275**	*i* P	**Pn**	**00 50 03.4**	**-0.8**
DIGO				*i* S	**Sb**	**00 50 17.1**	**-3.3**
DYDN	**Diyadin**	**1.27**	**233**	*e*P	**Pg**	**00 50 06.6**	**+0.9**
DYDN				*e*S	**Sg**	**00 50 24.1**	**+1.9**
DYDN	**Diyadin**	**1.27**	**233**	*e*P	**Pg**	**00 50 06.6**	**+0.9**
DYDN				*e*S	**Sg**	**00 50 24.1**	**+1.9**
GRS	**Goris**	**1.31**	**128**	⇑*i*P	**Pb**	**00 50 05.0**	**-0.5**
GRS				⇓*i*S	**Sg**	**00 50 23.0**	**-0.5**
TBLG	**Delisi**	**1.43**	**352**	*e*PN	**Pb**	**00 50 07.7**	**+0.2**
TBLG				*e*SN	**Sg**	**00 50 27.4**	**+0.1**
TBLG	**Delisi**	**1.43**	**352**	P	**Pn**	**00 50 06.6**	**+0.1**
TBLG				S	**Sb**	**00 50 26.3**	**+0.8**
TBLG	**Delisi**	**1.43**	**352**	PG	**Pn**	**00 50 06.6**	**+0.1**
TBLG				S	**Sb**	**00 50 26.3**	**+0.8**
TBLG	**Delisi**	**1.43**	**352**	P	**Pn**	**00 50 06.6**	**+0.1**
TBLG	**Delisi**	**1.43**	**352**	*e*Pn	**Pb**	**00 50 07.7**	**+0.2**
TBLG				S	**Sb**	**00 50 26.3**	**+0.8**
TBLG				*e*Sn	**Sg**	**00 50 27.4**	**+0.1**
CLDR	**Caldiran**	**1.44**	**216**	*e*PN	**Pg**	**00 50 10.6**	**+1.8**
CLDR				*e*SN	**Sg**	**00 50 31.2**	**+3.6**
CLDR	**Caldiran**	**1.44**	**216**	*e*Pn	**Pg**	**00 50 10.6**	**+1.8**
CLDR				*e*Sn	**Sg**	**00 50 31.2**	**+3.6**
SEAG	**Tbilisi Sea**	**1.46**	**354**	P	**Pn**	**00 50 05.3**	**-1.6**
SEAG				S	**Sn**	**00 50 25.5**	**-0.2**
SEAG	**Tbilisi Sea**	**1.46**	**354**	P	**Pn**	**00 50 05.3**	**-1.6**
SEAG				S	**Sn**	**00 50 25.5**	**-0.2**
KARS	**Kars**	**1.50**	**283**	*e*PN	**Pg**	**00 50 10.4**	**+0.4**
KARS				*e*SN	**Sg**	**00 50 29.6**	**0.0**
KARS	**Kars**	**1.50**	**283**	*e*Pn	**Pg**	**00 50 10.4**	**+0.4**
KARS				*e*Sn	**Sg**	**00 50 29.6**	**0.0**
AKH	**Akhalkalaki**	**1.58**	**314**	*e*PN	**Pg**	**00 50 11.1**	**-0.6**
AKH	**Akhalkalaki**	**1.58**	**314**	P	**Pb**	**00 50 10.4**	**+0.2**
AKH				S	**Sg**	**00 50 31.4**	**-0.9**
AKH	**Akhalkalaki**	**1.58**	**314**	PG	**Pb**	**00 50 10.4**	**+0.2**
AKH				S	**Sg**	**00 50 31.4**	**-0.9**
AKH	**Akhalkalaki**	**1.58**	**314**	P	**Pb**	**00 50 10.4**	**+0.2**
AKH	**Akhalkalaki**	**1.58**	**314**	*e*Pn	**Pg**	**00 50 11.1**	**-0.6**
AKH				S	**Sg**	**00 50 31.4**	**-0.9**
MNGR	**Mingechevir, A**	**1.65**	**73**	⇑Pn	**Pg**	**00 50 12.8**	**-0.1**
MNGR				⇑Sn	**Sg**	**00 50 36.9**	**+2.4**
MNGR	**Mingechevir, A**	**1.65**	**73**	Pn	**Pg**	**00 50 12.8**	**-0.1**
MNGR				Sn	**Sg**	**00 50 36.9**	**+2.4**
BRDA	**Brd**	**1.67**	**91**	⇓Pn	**Pg**	**00 50 13.1**	**-0.1**
SNR=4.5							
BRDA				⇓Sn	**Sg**	**00 50 37.7**	**+2.8**
BRDA	**Brd**	**1.67**	**91**	Pn	**Pg**	**00 50 13.1**	**-0.1**
SNR=4.5							
BRDA				Sn	**Sg**	**00 50 37.7**	**+2.8**
DUS	**Dusheti**	**1.79**	**353**	P	**Pb**	**00 50 13.9**	**+0.2**
DUS	**Dusheti**	**1.79**	**353**	PG	**Pb**	**00 50 13.9**	**+0.2**
DUS	**Dusheti**	**1.79**	**353**	P	**Pb**	**00 50 13.9**	**+0.2**
ZKTA	**Zakatala**	**1.81**	**42**	⇑Pn	**Pb**	**00 50 14.4**	**+0.5**
SNR=14							
ZKTA				⇓Sn	**Sg**	**00 50 39.0**	**-0.3**
SEKA	**Sheki**	**1.89**	**61**	⇓Pn	**Pb**	**00 50 15.5**	**+0.1**
SNR=26							
SEKA				⇑Sn	**Sg**	**00 50 41.6**	**-0.5**
SEKA	**Sheki**	**1.89**	**61**	Pn	**Pb**	**00 50 15.5**	**+0.1**
SNR=26							
SEKA				Sn	**Sg**	**00 50 41.6**	**-0.5**
HOMI	**Horasan**	**2.39**	**265**	*e*P	**Pb**	**00 50 24.4**	**+0.5**
IML	**Ismayilli**	**2.47**	**78**	⇓Pn	**Pb**	**00 50 25.0**	**-0.2**
SNR=6.6							
IML				⇑Sn	**Sg**	**00 50 59.2**	**-1.4**
IML	**Ismayilli**	**2.47**	**78**	Pn	**Pb**	**00 50 25.0**	**-0.2**
SNR=6.6							
IML				Sn	**Sg**	**00 50 59.2**	**-1.4**
DDEM	**Demirkent**	**2.54**	**284**	*e*P	**Pb**	**00 50 27.8**	**+1.4**
DDEM				*e*S	**Sn**	**00 50 53.7**	**+1.2**
DDEM	**Demirkent**	**2.54**	**284**	*e*P	**Pb**	**00 50 27.8**	**+1.4**
DDEM				*e*S	**Sn**	**00 50 53.7**	**+1.2**
ONI	**Oni**	**2.56**	**333**	P	**Pb**	**00 50 26.4**	**-0.3**
ONI				S	**Sb**	**00 50 59.9**	**+2.0**
ONI	**Oni**	**2.56**	**333**	PN	**Pb**	**00 50 26.4**	**-0.3**
ONI				S	**Sb**	**00 50 59.9**	**+2.0**
LACR	**Lac**	**2.57**	**348**	⇓*i*PN	**Pb**	**00 50 26.6**	**-0.3**
LACR				*i* S	**Sg**	**00 51 01.3**	**-2.4**
LACR	**Lac**	**2.57**	**348**	*i* Pn	**Pb**	**00 50 26.6**	**-0.3**
LACR				*i* Sb	**Sg**	**00 51 01.3**	**-2.4**
DBAD	**Bademkaya**	**2.61**	**287**	*e*P	**Pb**	**00 50 28.7**	**+1.0**
DBAD	**Bademkaya**	**2.61**	**287**	*e*P	**Pb**	**00 50 28.7**	**+1.0**
DBOC	**Borcka**	**2.73**	**293**	*e*P	**Pb**	**00 50 29.7**	**0.0**
DBOC				*e*S	**Sn**	**00 50 55.6**	**-1.5**
DBOC	**Borcka**	**2.73**	**293**	*e*P	**Pb**	**00 50 29.7**	**0.0**
DBOC				*e*S	**Sn**	**00 50 55.6**	**-1.5**
VLKR	**Vladikavkaz**	**2.74**	**355**	*e*PN	**Pb**	**00 50 30.6**	**+0.7**
VLKR				*e*S	**Sg**	**00 51 07.1**	**-2.2**
VLKR	**Vladikavkaz**	**2.74**	**355**	*e*Pn	**Pb**	**00 50 30.6**	**+0.7**
VLKR				*e*Sb	**Sg**	**00 51 07.1**	**-2.2**
PQL	**Pirkuli**	**2.78**	**79**	⇓Pn	**Pb**	**00 50 29.2**	**-1.4**
PQL	**Pirkuli**	**2.78**	**79**	Pn	**Pb**	**00 50 29.2**	**-1.4**
DIGR	**Digorskoe uzhe**	**2.79**	**338**	ePN	**Pb**	**00 50 30.8**	**-0.1**
DIGR				*e*S	**Sb**	**00 51 08.0**	**+3.1**
DIGR	**Digorskoe uzhe**	**2.79**	**338**	*e*Pn	**Pb**	**00 50 30.8**	**-0.1**
DIGR				*e*Sb	**Sb**	**00 51 08.0**	**+3.1**
BCA	**Borcka**	**2.80**	**295**	*e*PN	**Pb**	**00 50 29.2**	**-1.6**
BCA	**Borcka**	**2.80**	**295**	*e*Pn	**Pb**	**00 50 29.2**	**-1.6**
EZM	**Erzurum**	**2.82**	**263**	*e*PN	**Pb**	**00 50 29.8**	**-1.6**
GLBA	**Clilabad**	**2.83**	**111**	⇓Pn	**Pb**	**00 50 30.6**	**-0.6**
SNR=12							
GLBA				⇑Sn	**Sg**	**00 51 09.3**	**-2.6**
GLBA	**Clilabad**	**2.83**	**111**	Pn	**Pb**	**00 50 30.6**	**-0.6**
SNR=12							
GLBA				Sn	**Sg**	**00 51 09.3**	**-2.6**
QUBA	**Quba, Azerbaij**	**2.85**	**67**	⇑Pn	**Pb**	**00 50 29.6**	**-2.0**
SNR=5.0							
QUBA				⇓Sn	**Sb**	**00 51 08.2**	**+1.9**
QUBA	**Quba, Azerbaij**	**2.85**	**67**	Pn	**Pb**	**00 50 29.6**	**-2.0**
SNR=5.0							
QUBA				Sn	**Sb**	**00 51 08.2**	**+1.9**
KORR	**Kora**	**2.86**	**346**	⇑*i*PN	**Pb**	**00 50 31.9**	**+0.1**
KORR				*e*S	**Sb**	**00 51 09.6**	**+3.0**
KORR	**Kora**	**2.86**	**346**	*e*Sb	**Sb**	**00 51 09.6**	**+3.0**
HKR	**Hakkari**	**2.90**	**200**	*e*PN	**Pb**	**00 50 32.3**	**-0.4**
ARNR	**Ardon**	**2.91**	**350**	⇓*i*PN	**Pb**	**00 50 33.9**	**+1.1**
ARNR				*e*S	**Sg**	**00 51 12.1**	**-2.7**
GRO	**Groznyy**	**3.06**	**10**	*e*PN	**Pn**	**00 50 31.7**	**+2.9**
GRO				*i* S	**Sb**	**00 51 10.5**	**-1.7**
GRO	**Groznyy**	**3.06**	**10**	*e*Pn	**Pn**	**00 50 31.7**	**+2.9**
GRO				*i* Sn	**Sb**	**00 51 10.5**	**-1.7**
SIZA	**Siyzn**	**3.06**	**74**	⇓Pn	**Pb**	**00 50 33.3**	**-2.0**
SIZA				⇑Sn	**Sb**	**00 51 11.6**	**-0.9**
SIZA	**Siyzn**	**3.06**	**74**	Pn	**Pb**	**00 50 33.3**	**-2.0**
SIZA				Sn	**Sb**	**00 51 11.6**	**-0.9**
BTKR	**Batakoyurt**	**3.08**	**354**	*e*PN	**Pb**	**00 50 35.8**	**+0.3**
BTKR				*e*S	**Sb**	**00 51 15.0**	**+2.2**
BTKR	**Batakoyurt**	**3.08**	**354**	*e*Sb	**Sb**	**00 51 15.0**	**+2.2**
LRK	**Lerik**	**3.08**	**122**	⇓Pn	**Pb**	**00 50 35.6**	**0.0**
SNR=6.5							
LRK				⇓Sn	**Sg**	**00 51 18.5**	**-1.5**
LRK	**Lerik**	**3.08**	**122**	Pn	**Pb**	**00 50 35.6**	**0.0**
SNR=6.5							
LSNR	**Lesken**	**3.09**	**344**	⇑*i*PN	**Pb**	**00 50 36.4**	**+0.6**
LSNR				*e*S	**Sb**	**00 51 16.1**	**+2.8**
LSNR	**Lesken**	**3.09**	**344**	*e*Sb	**Sb**	**00 51 16.1**	**+2.8**
STDR	**Stavd-Durt**	**3.13**	**347**	⇑*i*PN	**Pb**	**00 50 38.0**	**+1.5**
STDR				*e*S	**Sb**	**00 51 17.9**	**+3.5**
STDR	**Stavd-Durt**	**3.13**	**347**	*e*Sb	**Sb**	**00 51 17.9**	**+3.5**
CUKT	**Cukurca**	**3.25**	**200**	*e*PN	**Pb**	**00 50 37.0**	**-1.6**
CUKT	**Cukurca**	**3.25**	**200**	*e*Pn	**Pb**	**00 50 37.0**	**-1.6**
CHVG	**Ch'k'valeri**	**3.25**	**319**	*e*PN	**Pn**	**00 50 32.1**	**+0.6**
CHVG	**Ch'k'valeri**	**3.25**	**319**	*e*Pn	**Pn**	**00 50 32.1**	**+0.6**
LKRN	**Lenkeran, Azer**	**3.33**	**118**	⇑Pn	**Pb**	**00 50 36.8**	**-3.1**
LKRN				⇑Sn	**Sb**	**00 51 21.6**	**+1.4**
LKRN	**Lenkeran, Azer**	**3.33**	**118**	Pn	**Pb**	**00 50 36.8**	**-3.1**
LKRN				Sn	**Sb**	**00 51 21.6**	**+1.4**

IDC ***23*** *00:56:40.8±0.6, 37.°65N×56.°91E, h0km, mb4.3/28, mb1 4.4/36, mb1mx4.3/49, mbtmp4.3/36, ML3.9/7, MS3.8/31, Ms1 3.8/31, ms1mx3.7/46, Error ellipse: s-maj=13.4km s-min=6.8km az=174.0*
THR ***23*** *00:56:40.9±1.2, 37.°72N×56.°98E, h14km±7km, ML4.2*
ISCJB ***23*** *00:56:40.8±0.1, 37.°71N±0.°02×57.°02E±0.°02, h10km, mb4.6/95, MS3.8/34, Error ellipse: s-maj=2.9km s-min=1.8km az=10.8*
BJI ***23*** *00:56:41.9, 37.°89N×57.°08E, h12km, mb4.7/37, mB4.8/23, Ms4.5/29, Ms7 4.1/23*
CSEM ***23*** *00:56:41.3±0.1, 37.°75N×57.°01E, h2km, mb4.8/82, Error ellipse: s-maj=3.7km s-min=2.7km az=10.0*

NEIC ***23*** *00:56:42.0, 37.°72N×57.°01E, h5km, mb4.9/39, MN5.0(TEH), After TEH.*
NEIC Felt at Ashgabat, Turkmenistan.
TEH ***23*** *00:56:42.7, 37.°72N×57.°01E, h5km, ML4.6*
MOS ***23*** *00:56:44.4±1.6, 37.°86N×56.°96E, h33km, mb4.8/36, Error ellipse: s-maj=5.9km s-min=4.2km az=129.7*
SZGRF ***23*** *00:56:46.4, 36.°54N×56.°15E, h33km, mb4.8, Northern and central Iran*
NNC ***23*** *00:56:49.9±4.5, 38.°46N×57.°48E, h0km, mb5.0, mpv4.7, Error ellipse: s-maj=47.8km s-min=21.6km az=41.0*
ISC 23 00:56:42.3±0.7, 37.°75N±0.°03×56.°98E±0.°02, h10km±4km, n578, σ1§46/603, mb4.7/94, MS3.7/33, 31C-34D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BJRD	**Bojnurd**	**0.34**	**98**	*e*Pg	**Pg**	**00 56 48.2**	**-0.9**
BJRD	**Bojnurd**	**0.34**	**98**	*e*Pg	**Pg**	**00 56 48.2**	**-0.9**
BJRD	**Bojnurd**	**0.34**	**98**	Pg	**Pg**	**00 56 48.0**	**-1.1**
ISHV	**Shirvan**	**0.61**	**110**	*e*Pg	**Pg**	**00 56 52.5**	**-1.6**
ISHV				*e*Sg	**Sg**	**00 57 01.8**	**-0.5**
ISHV				*e*		00 57 04.7	
comp=Z,27μm,0.1s							
ISHV	**Shirvan**	**0.61**	**110**	Pg	**Pg**	**00 56 53.2**	**-1.0**
ISHV	**Shirvan**	**0.61**	**110**	Pg	**Pg**	**00 56 53.2**	**-1.0**
MRVT	**Maraveh tapeh**	**0.71**	**263**	*e*Pg	**Pg**	**00 56 54.3**	**-1.8**
MRVT				*e*Sg	**Sg**	**00 57 04.8**	**-0.6**
MRVT				AML	AML	00 57 10.1	
comp=E,14μm,0.3s							
MRVT				AML	AML	00 57 10.4	
comp=N,16μm,0.6s							
MRVT	**Maraveh tapeh**	**0.71**	**263**	*e*Pg	**Pg**	**00 56 54.3**	**-1.8**
MRVT				*e*Sg	**Sg**	**00 57 04.8**	**-0.6**
comp=N,16μm,0.6s							
MRVT	**Maraveh tapeh**	**0.71**	**263**	Pg	**Pg**	**00 56 54.0**	**-2.1**
MRVT				Sg	**Sg**	**00 57 04.0**	**-1.5**
GEYT	**Alibeck**	**0.92**	**78**	Pg	**Pg**	**00 56 58.7**	**-1.2**
comp=N,157nm,0.3s,baz=270,slow=30,SNR=282							
GEYT				Lg	Lg	00 57 13.2	
comp=N,1μm,0.3s,baz=253,slow=39,SNR=71							
GEYT				LR	LR	00 57 33.8	
comp=N,3μm,18.9s,baz=185,slow=53							
ISFR	**Sfrayin**	**1.07**	**130**	*e*Pg	Pg	00 56 59.8	-3.0
ISFR				*e*Sg	**Sg**	**00 57 14.0**	**-2.7**
ISFR				*e*		00 57 20.0	
comp=Z,78μm,0.2s							
ISFR	**Sfrayin**	**1.07**	**130**	*e*Pg	Pg	00 56 59.8	-3.0
ISFR				*e*Sg	**Sg**	**00 57 14.0**	**-2.7**
ISFR	**Sfrayin**	**1.07**	**130**	Pg	**Pg**	**00 57 01.3**	**-1.5**
IEMG	**Emamgholi**	**1.37**	**104**	*e*	Sg	00 57 33.3	+7.0
comp=Z,51μm,0.3s							
IEMG				*e*Pg	**Pn**	**00 57 06.4**	**-1.4**
IQHU	**Qucahn**	**1.41**	**118**	*e*	Sg	00 57 50.8	+23
comp=Z,72μm,0.3s							
IQHU				*e*Pg	**Pn**	**00 57 07.2**	**-1.0**
IKRD	**Kardeh**	**1.56**	**128**	*e*Pn	Pg	00 57 20.2	+8.0
IKRD				*e*Sg	Sg	00 57 51.9	+19
IKRD				*e*		00 57 55.4	
comp=Z,63μm,0.5s							
IKRD	**Kardeh**	**1.56**	**128**	*e*Pn

IKOO **Kooshah** 5.56 162 *e*Pn **Pn** 00 58 04.9 -0.5
IKOO **Kooshah** 5.56 162 Pn **Pn** 00 58 05.1 -0.3
IGZV **Ghazvin** 5.58 258 *e*Pn **Pn** 00 58 06.2 +0.6
IGZV *e* 01 00 06.6
comp=Z,3μm,0.5s
IGZV **Ghazvin** 5.58 258 *e*Pn **Pn** 00 58 06.2 +0.6
IGZV **Ghazvin** 5.58 258 Pn **Pn** 00 58 05.9 +0.3
GHVR **GHOM** 5.64 236 *e*Pn **Pn** 00 58 07.1 +0.8
GHVR AML AML 00 59 56.6
comp=E,104nm,0.7s
GHVR AML AML 01 00 03.0
comp=N,61nm,0.7s
GHVR **GHOM** 5.64 236 Pn **Pn** 00 58 07.0 +0.7
GHVR **GHOM** 5.64 236 *e*Pn **Pn** 00 58 07.0 +0.7
IR5 **Iran Long-Peri** 5.75 246 *e*Pn **Pn** 00 58 08.0 +0.2
IR5 **Iran Long-Peri** 5.75 246 *e*Pn **Pn** 00 58 08.0 +0.2
ICHK **Chekchek** 5.88 202 *e*Pn **Pn** 00 58 08.7 -1.1
ICHK *e* 01 00 04.7
comp=Z,3μm,0.4s
ICHK **Chekchek** 5.88 202 *e*Pn **Pn** 00 58 08.7 -1.1
ICHK **Chekchek** 5.88 202 Pn **Pn** 00 58 09.6 -0.2
IRAZ **Razeghan** 6.14 250 *e*Pn **Pn** 00 58 13.7 +0.3
IRAZ *e* 01 00 32.8
comp=Z,1μm,0.4s
IRAZ **Razeghan** 6.14 250 *e*Pn **Pn** 00 58 13.6 +0.3
IRAZ **Razeghan** 6.14 250 Pn **Pn** 00 58 13.4 +0.1
IBAF **Bafgh** 6.25 191 *e*Pn **Pn** 00 58 14.8 0.0
IBAF *e* 00 59 33.9
comp=Z,2μm,0.4s
IBAF **Bafgh** 6.25 191 *e*Pn **Pn** 00 58 14.8 0.0
IBAF **Bafgh** 6.25 191 Pn **Pn** 00 58 14.5 -0.3
ISAD **Sadrabad** 6.42 206 *e*Pn **Pn** 00 58 17.1 -0.1
ISAD *e* 01 00 17.7
comp=Z,2μm,0.4s
ISAD **Sadrabad** 6.42 206 *e*Pn **Pn** 00 58 17.1 -0.1
ISAD **Sadrabad** 6.42 206 Pn **Pn** 00 58 16.9 -0.3
ASAO **Ashtian** 6.47 243 *e*Pn **Pn** 00 58 17.9 0.0
ASAO **Ashtian** 6.47 243 Pn **Pn** 00 58 18.0 +0.1
ASAO **Ashtian** 6.47 243 Pn **Pn** 00 58 18.0 +0.1
IMEH **Mehriz** 6.64 198 *e*Pn **Pn** 00 58 20.5 +0.4
IMEH *e* 01 00 35.5
comp=Z,2μm,0.6s
IMEH **Mehriz** 6.64 198 *e*Pn **Pn** 00 58 20.5 +0.4
IMEH **Mehriz** 6.64 198 Pn **Pn** 00 58 19.8 -0.4
ZNJK **Zanjan** 6.71 263 *e*Pn **Pn** 00 58 20.5 -0.6
ZNJK **Zanjan** 6.71 263 *e*Pn **Pn** 00 58 20.5 -0.6
KRBR **Kerman** 7.75 181 *e*Pn **Pn** 00 58 35.7 +0.2
KRBR **Kerman** 7.75 181 *e*Pn **Pn** 00 58 35.7 +0.2
KRBR **Kerman** 7.75 181 Pn **Pn** 00 58 35.0 -0.5
DZET **Dzherino** 9.38 80 ⇑Pn **Pn** 00 58 57.7 +0.1
DZET ⇑Sn **Sn** 01 00 42.5 -0.6
comp=Z,21nm,0.7s
comp=Z,140nm,0.7s
DGRG **David-gareji** 9.69 296 P **Pn** 00 59 00.9 -0.9
DGRG **David-gareji** 9.69 296 P **Pn** 00 59 00.9 -0.9
GNI **Garni** 9.83 288 Pn **Pn** 00 59 03.6 -0.3
comp=Z,0.4nm,0.3s,baz=167,slow=18,SNR=5.6
GNI LR LR 01 04 28.5
comp=Z,262nm,19.3s,baz=90,slow=48
GNI **Garni** 9.83 288 *e*P **Pn** 00 59 05.1 +1.2
GNI *e* 01 00 49.7
GNI **Garni** 9.83 288 *e*P **Pn** 00 59 05.1 +1.2
GNI **Garni** 9.83 288 *e*Pn **Pn** 00 59 05.1 +1.2
GNI eSn **Sn** 01 00 49.7 -4.7
TAS **Tashkent** 10.16 66 *e*P **Pn** 00 59 08.5 +0.3
TBLG **Delisi** 10.23 297 P **Pn** 00 59 08.1 -1.1
TBLG **Delisi** 10.23 297 P **Pn** 00 59 08.1 -1.1
KBL **Kabul** 10.26 105 *e*P **Pn** 00 59 10.2 +0.3
KBL **Kabul** 10.26 105 *e*Pn **Pn** 00 59 10.1 +0.3
KBL **Kabul** 10.26 105 *e*Pn **Pn** 00 59 10.2 +0.3
AKH **Akhalkalaki** 11.03 294 P **Pn** 00 59 19.9 -0.4
AKH **Akhalkalaki** 11.03 294 P **Pn** 00 59 19.9 -0.4
ONI **Oni** 11.42 299 P **Pn** 00 59 24.6 -0.9
ONI **Oni** 11.42 299 P **Pn** 00 59 24.6 -0.9
KK31 **Karatay Array** 11.61 58 ⇑Pn **Pn** 00 59 26.5 -1.6
comp=Z,30nm,0.8s,baz=245,slow=16,SNR=241
KK31 ⇓Sn **Sn** 01 01 32.5 -5.3
comp=Z,24nm,0.9s,baz=257,slow=23,SNR=6.3
KK31 **Karatay Array** 11.61 58 *i* P **Pn** 00 59 26.4 -1.6
KK31 01 01 31.1
KK31 pmax pmax
comp=Z,24nm,0.6s
KK31 smax smax
comp=N,37nm,1.0s
KK31 **Karatay Array** 11.61 58 Pn **Pn** 00 59 26.5 -1.6
comp=N,30nm,0.8s,SNR=241
KKAR **Karatay Array** 11.61 58 *e*P **Pn** 00 59 26.2 -1.9
KKAR **Karatay Array** 11.61 58 *e*P **Pn** 00 59 26.2 -1.9
KKAR **Karatay Array** 11.61 58 *e*Pn **Pn** 00 59 26.2 -1.9
NCK **Nalchik** 11.68 304 ⇓*e*P **Pn** 00 59 27.6 -1.4
NCK **Nalchik** 11.68 304 *e*P **Pn** 00 59 27.6 -1.4
AB31 **Akbulak array** 11.70 10 ⇓Pn **Pn** 00 59 27.7 -1.5
comp=N,11nm,0.6s,baz=215,slow=5.0,SNR=79
AB31 ⇓Sn Sn 01 01 31.9 -8.0
comp=N,33nm,0.9s,baz=202,slow=22,SNR=3.6
AB31 **Akbulak array** 11.70 10 *i* P **Pn** 00 59 27.7 -1.5
AB31 01 01 31.3
AB31 pmax pmax
comp=Z,44nm,1.1s
AB31 smax smax
comp=N,34nm,0.9s
AB31 **Akbulak array** 11.70 10 Pn **Pn** 00 59 27.7 -1.5
comp=N,11nm,0.6s,SNR=79
ABKAR **Akbulak array** 11.70 10 *e*Pn **Pn** 00 59 28.2 -1.0
ABKAR **Akbulak array** 11.70 10 *e*Pn **Pn** 00 59 28.2 -1.0
ABKAR *e*Sn **Sn** 01 01 35.7 -4.1
NEY **Neytrino** 12.16 301 ⇑*e*P **Pn** 00 59 34.2 -1.5
NEY pmax pmax
comp=Z,5.0nm,1.7s
NEY **Neytrino** 12.16 301 *e*P **Pn** 00 59 34.2 -1.5
comp=Z,5.0nm,1.7s
KBZ **Khabaz** 12.23 304 Pn **Pn** 00 59 34.4 -2.1
comp=Z,2.0nm,0.3s,baz=139,slow=10,SNR=39
KBZ Sn **Sn** 01 01 51.5 -1.4
comp=Z,1.3nm,0.3s,baz=147,slow=0.9,SNR=4.4
KBZ LR LR 01 06 01.9
comp=Z,198nm,18.5s,baz=112,slow=46
CHVG **Ch'k'valeri** 12.42 298 P **Pn** 00 59 39.6 +0.5
KIV **Kislovodsk** 12.47 304 *d* iP **Pn** 00 59 37.4 -2.4
KIV pmax pmax
comp=Z,8.0nm,0.7s
KIV MLR MLR
comp=Z,120nm,19.0s
KIV **Kislovodsk** 12.47 304 *e*Pn **Pn** 00 59 37.2 -2.6
KIV *e*Sn Sn 01 01 49.3 -10
AKTK **Aktyubinsk** 12.70 3 P **Pn** 00 59 42.1 -0.9
comp=Z,72nm,1.4s
AKTO **Aktyubinsk** 12.70 3 ⇑Pn **Pn** 00 59 42.2 -0.8
comp=Z,47nm,1.1s
AKTO ⇓Sn Sn 01 01 56.0 -8.4
comp=Z,35nm,1.1s
AKTO **Aktyubinsk** 12.70 3 Pn **Pn** 00 59 42.2 -0.8
comp=Z,1.5nm,0.3s,baz=182,slow=13,SNR=49
AKTO Sn **Sn** 01 01 59.7 -4.7
comp=Z,0.7nm,0.3s,baz=246,slow=20,SNR=4.3
AKTO **Aktyubinsk** 12.70 3 P **Pn** 00 59 42.1 -0.8
AKTO 01 01 56.0
AKTO pmax pmax
comp=Z,72nm,1.4s
AKTO smax smax
comp=N,77nm,1.8s
AKTO **Aktyubinsk** 12.70 3 Pn **Pn** 00 59 42.2 -0.8
comp=N,47nm,1.1s
GOF **Gofitskoye** 12.75 309 *e*P **Pn** 00 59 41.6 -2.0
GOF *e*S Sn 01 01 59.8 -5.8
GOF pmax pmax
comp=Z,40nm,1.3s
GOF **Gofitskoye** 12.75 309 *e*P **Pn** 00 59 41.6 -2.0
comp=Z,40nm,1.3s
SFK **Sufi-Kurgan** 13.07 75 ⇑Pn **Pn** 00 59 47.2 -1.0
comp=Z,41nm,1.1s
SFK ⇑Sn **Sn** 01 02 12.8 -1.0
comp=Z,38nm,0.9s
SFK **Sufi-Kurgan** 13.07 75 P **Pn** 00 59 47.2 -1.0
SFK 01 02 12.8
SFK pmax pmax
comp=Z,41nm,1.1s
SFK smax smax
comp=N,52nm,1.1s
SFK **Sufi-Kurgan** 13.07 75 Pn **Pn** 00 59 47.2 -1.0
comp=N,41nm,1.1s
SFK Sn **Sn** 01 02 12.8 -1.0
comp=N,38nm,0.9s
AML **Almayashu** 13.55 66 P **Pn** 00 59 55.4 +0.5
SNR=10
EKS2 **Erkin-Say** 13.74 64 P **Pn** 00 59 57.2 0.0
SNR=21
EKS2 **Erkin-Say** 13.74 64 *e*P **Pn** 00 59 55.3 -1.9
EKS2 **Erkin-Say** 13.74 64 *e*P **Pn** 00 59 55.3 -1.9
EKS2 **Erkin-Say** 13.74 64 *e*Pn **Pn** 00 59 55.3 -1.9
AAK **Ala-Archa** 14.24 65 P **Pn** 01 00 03.6 -0.5
SNR=9.1
AAK **Ala-Archa** 14.24 65 ⇑Pn **Pn** 01 00 02.5 -1.6
comp=N,30nm,0.8s
AAK **Ala-Archa** 14.24 65 *e*P **Pn** 01 00 02.6 -1.6
AAK **Ala-Archa** 14.24 65 *e*Pn **Pn** 01 00 02.6 -1.6
AAK **Ala-Archa** 14.24 65 *e*Pn **Pn** 01 00 02.6 -1.6
SOC **Sochi** 14.33 299 *e*P Pn 01 00 01.4 -3.8
SOC *e* 01 02 36.7
SOC pmax pmax
comp=Z,12nm,0.5s
SOC MLR MLR
comp=Z,118nm,15.0s
USP **Ospenovka** 14.41 62 P **Pn** 01 00 04.7 -1.7
SNR=18
CHMS **Chumysh** 14.52 63 P **Pn** 01 00 06.7 -1.1
SNR=8.6
KBK **Karagaybulak** 14.57 65 P **Pn** 01 00 08.0 -0.7
SNR=13
KZA **Kyzart** 14.67 67 P **Pn** 01 00 08.9 -1.3
SNR=14
KSH **Kashi** 14.95 77 P Pn 01 00 07.9 -5.9
KSH sP 01 00 19.4
KSH PP **PnPn** 01 00 23.3 +1.6
KSH S Sn 01 02 48.0 -12
KSH sS S 01 03 00.8 -17
KSH SS **SnSn** 01 03 11.3 -0.6
KSH PMZ
comp=Z,77nm,1.2s
KSH PMZ
comp=Z,420nm,4.9s
KSH LN
comp=Z,1μm,3.9s
KSH LE
comp=Z,1μm,3.0s
TKM2 **Tokmak 2** 15.10 64 P **Pn** 01 00 14.4 -1.4
SNR=8.5
TKM2 **Tokmak 2** 15.10 64 ⇑P **Pn** 01 00 13.5 -2.3
comp=Z,15nm,0.9s
TKM2 **Tokmak 2** 15.10 64 P **Pn** 01 00 13.5 -2.3
TKM2 pmax pmax
comp=Z,13nm,0.8s
TKM2 **Tokmak 2** 15.10 64 *e*Pn **Pn** 01 00 12.2 -3.7
comp=Z,15nm,0.8s
ANN **Anapa** 16.28 302 *e*P **P** 01 00 33.7 -0.2
ANN pmax pmax
comp=Z,191nm,1.6s
ANN **Anapa** 16.28 302 *e*P **P** 01 00 33.7 -0.2
comp=Z,191nm,1.6s
DHRM **DHARAMSHALA** 16.74 103 *e*P **Pn** 01 00 35.3 -1.8
DHRM AMB AMB 01 00 36.3
comp=Z,25nm,0.3s
RAYN **Ar Rayn** 17.26 218 *e*Pn **Pn** 01 00 40.6 -3.0
comp=Z,41nm,1.3s
ASF **Jabal al Asfar** 17.37 257 Pn **Pn** 01 00 44.1 -0.8
comp=Z,0.2nm,0.3s,baz=42,slow=5.3,SNR=21
BRVK **Borovoye** 17.88 27 ⇑P **Pn** 01 00 49.2 -1.8
comp=Z,191nm,1.5s
BRVK **Borovoye** 17.88 27 P **Pn** 01 00 49.2 -1.8
BRVK pmax pmax
comp=Z,191nm,1.5s
BRVK **Borovoye** 17.88 27 *e*Pn **Pn** 01 00 49.0 -2.1
comp=Z,101nm,1.2s
BRVK **Borovoye** 17.88 27 *e*Pn **Pn** 01 00 49.0 -2.1
comp=Z,101nm,1.2s
BVA0 **Borovoye Array** 17.89 27 P **Pn** 01 00 50.2 -1.0
comp=Z,96nm,1.1s,baz=204,slow=10.0,SNR=239
BVA0 **Borovoye Array** 17.89 27 *i* P **Pn** 01 00 50.1 -1.0
BVA0 pmax pmax
comp=Z,96nm,1.1s
BVA0 **Borovoye Array** 17.89 27 P **Pn** 01 00 50.2 -1.0
comp=Z,96nm,1.1s,SNR=239
BVAR **Borovoye Array** 17.89 27 Pn **Pn** 01 00 50.2 -1.0
comp=Z,1.2nm,0.3s,baz=208,slow=12,SNR=44
BVAR LR LR 01 08 45.6
comp=Z,620nm,19.5s,baz=234,slow=40
BVAR **Borovoye Array** 17.89 27 P **Pn** 01 00 50.2 -1.0
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR MLR MLR
comp=Z,620nm,19.5s
SMLA **Simla** 17.89 106 *e*P **Pn** 01 00 50.9 -0.4
SMLA AMB AMB 01 00 53.9
comp=Z,36nm,1.4s
PDGK **Podgornoye** 17.97 65 ⇓P **P** 01 00 53.1 +0.5
comp=Z,30nm,1.0s
MMAI **Mount Meron Ar** 18.21 261 P **P** 01 00 55.7 +0.2
comp=Z,0.3nm,0.3s,baz=77,slow=7.9,SNR=4.4
MMAI LR LR 01 09 09.8
comp=Z,100nm,18.5s,baz=20,slow=41
BR101 **Keskin Array S** 18.31 283 *e*Pn **Pn** 01 00 56.8 +0.3
BR101 **Keskin Array S** 18.31 283 *e*Pn **Pn** 01 00 56.9 +0.3
BRTR **Keskin Array B** 18.31 283 P **Pn** 01 00 56.9 +0.3
comp=Z,0.1nm,0.3s,baz=109,slow=12,SNR=13
VSR **Storozhevoye** 18.45 323 *e*P **P** 01 00 55.8 -2.1
VSR *e*S **Sn** 01 04 24.3 +0.3
VSR pmax pmax
comp=N,20nm,0.9s
VSR pmax pmax
comp=E,40nm,0.9s
VSR pmax pmax
comp=Z,30nm,0.9s
VSR smax smax
comp=N,260nm,3.5s
VSR smax smax
comp=Z,220nm,3.8s
VSR smax smax
comp=E,160nm,3.5s
VSR MLR MLR
comp=N,340nm,24.0s
VSR MLR MLR
comp=E,250nm,24.0s
VSR MLR MLR
comp=Z,270nm,24.0s
SIM **Simferopol'** 18.58 300 *ce*P **P** 01 00 59.4 0.0
SIM *e*S **Sn** 01 04 29.0 +1.8
SIM pmax pmax
comp=Z,151nm,1.7s
SIM MLR MLR
comp=Z,100nm,18.0s
SIM **Simferopol'** 18.58 300 *e*P **P** 01 00 59.4 0.0
comp=Z,151nm,1.7s
ARU **Arti** 18.72 3 *d* iP **P** 01 01 00.7 -0.1
ARU S **Sn** 01 04 31.1 +0.7
ARU pmax pmax
comp=Z,30nm,1.0s
ARU MLR MLR
comp=Z,580nm,16.0s
ARU **Arti** 18.72 3 *i* P **P** 01 01 00.7 -0.1
comp=Z,30nm,1.0s
ARU **Arti** 18.72 3 *e*P **P** 01 00 58.7 -2.2
comp=Z,120nm,1.3s
NDI **New Delhi** 19.16 112 *e*P **P** 01 01 05.0 -0.9
SVE **Sverdlovsk** 19.24 6 ⇓*e*P **Pn** 01 01 07.4 -0.1
SVE pmax pmax
comp=Z,79nm,1.2s
SVE MLR MLR
comp=Z,741nm,13.0s
SVE **Sverdlovsk** 19.24 6 *e*P **Pn** 01 01 07.4 -0.1
comp=Z,741nm,13.0s
CSS **Prodhromos** 19.24 269 *e*P **P** 01 01 04.3 -2.5
comp=Z,4.3nm,1.2s
LPSR **Galich'ya Gora** 19.48 325 *e*P **P** 01 01 08.8 -0.3
LPSR *e*S **Sn** 01 04 49.4 +0.6
comp=Z,130nm,16.0s
LPSR **Galich'ya Gora** 19.48 325 *e*P **P** 01 01 08.8 -0.3
LPSR *e*S **Sn** 01 04 49.4 +0.6
comp=Z,120nm,2.3s
EIL **Elat** 19.99 253 P **P** 01 01 15.4 +0.5
comp=Z,0.2nm,0.3s,baz=39,slow=6.0,SNR=10.0
EIL LR LR 01 10 29.4
comp=Z,384nm,18.4s,baz=69,slow=42
KURBB **Kurchatov Arra** 20.02 43 ⇓P Pn 01 01 17.8 +1.0
comp=Z,63nm,1.4s
KURBB **Kurchatov Arra** 20.02 43 P Pn 01 01 17.2 +0.4
comp=Z,13nm,0.8s,baz=247,slow=12,SNR=44
KURBB **Kurchatov Arra** 20.02 43 P Pn 01 01 17.8 +1.0
comp=Z,63nm,1.4s
KURK **Kurchatov** 20.11 43 ⇑P Pn 01 01 17.9 -0.1
comp=Z,66nm,1.2s
KURK **Kurchatov** 20.11 43 *e*P Pn 01 01 17.6 -0.4
KURK pmax pmax
comp=Z,33nm,1.2s
KURK **Kurchatov** 20.11 43 *e*P Pn 01 01 17.6 -0.4
comp=Z,33nm,1.2s
KURK **Kurchatov** 20.11 43 *e*P Pn 01 01 17.6 -0.4
comp=Z,33nm,1.2s
MK31 **Makanchi Array** 20.72 56 P **P** 01 01 23.9 +1.0
comp=Z,55nm,1.1s,baz=246,slow=9.5,SNR=182
MK31 **Makanchi Array** 20.72 56 *i* P **P** 01 01 23.8 +1.0
MK31 pmax pmax
comp=Z,55nm,1.1s
MK31 **Makanchi Array** 20.72 56 *i* P **P** 01 01 23.8 +1.0
comp=Z,55nm,1.1s
MK32 **Makanchi Array** 20.72 56 *e*P Pn 01 01 24.4 -0.8
MK32 **Makanchi Array** 20.72 56 *e*P Pn 01 01 24.4 -0.8
MKAR **Makanchi Array** 20.72 56 P Pn 01 01 24.4 -0.8
comp=Z,31nm,1.0s,baz=246,slow=10.0,SNR=64
MKAR LR LR 01 10 00.9
comp=Z,247nm,18.4s,baz=250,slow=38
MKAR **Makanchi Array** 20.72 56 P Pn 01 01 24.4 -0.8
MKAR pmax pmax
comp=Z,31nm,1.0s
MKAR MLR MLR
comp=Z,247nm,18.4s
MKAR **Makanchi Array** 20.72 56 *e*P Pn 01 01 24.1 -1.1
MKAR **Makanchi Array** 20.72 56 *e*P Pn 01 01 24.1 -1.1
SOKR **Solikamsk** 21.86 360 *d* iP **P** 01 01 37.2 +2.3
SOKR pmax pmax
comp=Z,120nm,1.6s
SOKR MLR MLR
comp=Z,610nm,19.0s
OBN **Obninsk** 22.21 328 P **P** 01 01 38.4 -0.3
comp=Z,35nm,1.1s,baz=125,slow=18,SNR=16
OBN LR LR 01 11 17.9
comp=Z,163nm,18.1s,baz=90,slow=39
OBN **Obninsk** 22.21 328 *d* iP **P** 01 01 38.4 -0.3
OBN *e* 01 01 59.5
OBN pmax pmax
comp=Z,110nm,1.7s
OBN MLR MLR
comp=Z,120nm,15.0s
OBN **Obninsk** 22.21 328 *e*P **P** 01 01 39.0 +0.3
comp=Z,46nm,0.9s
OBN **Obninsk** 22.21 328 *e*P **P** 01 01 39.0 +0.3
comp=Z,46nm,0.9s
MOS **Moscow** 22.22 330 *e*P **P** 01 01 38.0 -0.8
MOS pmax pmax
comp=Z,79nm,1.4s
MOS pmax pmax
comp=Z,100nm,1.6s
MOS **Moscow** 22.22 330 *e*P **P** 01 01 38.0 -0.8
comp=Z,100nm,1.6s
TIRR **Tirgusor** 22.48 296 *e*P **P** 01 01 40.4 -1.2
TIRR pmax pmax
comp=Z,80nm,1.7s
TIRR **Tirgusor** 22.48 296 ⇑*i* P **P** 01 01 46.1 +4.5
TIRR **Tirgusor** 22.48 296 *e*P **P** 01 01 40.4 -1.2
comp=Z,80nm,1.7s
TIRR **Tirgusor** 22.48 296 *e*P **P** 01 01 40.4 -1.2
comp=Z,80nm,1.7s
KIS **Kishinev** 22.66 303 *e*P **P** 01 01 45.0 +1.4
comp=Z,200nm,2.0s
KIS *e*S **S** 01 05 53.0 +1.3
KIS LRM MLR 01 12 30.0
comp=Z,300nm,14.0s
KIS **Kishinev** 22.66 303 *e*P **P** 01 01 45.0 +1.4
KIS *e* 01 02 15.0
KIS *e*S **S** 01 05 53.0 +1.3
KIS MLR MLR
comp=Z,300nm,13.0s
KIS MLR MLR
comp=Z,300nm,14.0s
KIS **Kishinev** 22.66 303 *e*P **P** 01 01 45.0 +1.4
KIS *e*S **S** 01 05 53.0 +1.3
comp=Z,300nm,14.0s
BHPL **Bhopal** 22.72 124 *e*P **P** 01 01 43.0 -1.5
BHPL AMB AMB 01 01 49.6
comp=Z,24nm,1.3s
CFR **Carcaliu** 22.77 298 ⇑P **P** 01 01 43.9 -0.9
CFR **Carcaliu** 22.77 298 ⇑*i* P **P** 01 01 43.8 -1.0
CFR **Carcaliu** 22.77 298 P **P** 01 01 43.9 -0.9
HARR **Harsova** 22.85 297 ⇑P **P** 01 01 49.3 +3.7
HARR **Harsova** 22.85 297 ⇑*i* P **P** 01 01 49.3 +3.7
PRD **Provadia** 23.09 293 *e*P **P** 01 01 48.7 +0.7
PRD **Provadia** 23.09 293 *e*P **P** 01 01 48.7 +0.7
AKASG **Malin Array Be** 23.57 312 P **P** 01 01 52.5 -0.4
comp=Z,8.4nm,0.7s,baz=111,slow=8.5,SNR=30
AKASG LR LR 01 12 27.5
comp=Z,223nm,19.1s,baz=105,slow=40
AKASG **Malin Array Be** 23.57 312 P **P** 01 01 52.5 -0.4
AKASG pmax pmax
comp=Z,8.0nm,0.7s
AKASG MLR MLR
comp=Z,223nm,19.2s
AKBB **Malin Array Si** 23.57 312 *e*P **P** 01 01 52.5 -0.4
AKBB **Malin Array Si** 23.57 312 *e*P **P** 01 01 52.5 -0.4
AKBB **Malin Array Si** 23.57 312 *e*P **P** 01 01 52.5 -0.4
KIEV **Kiev** 23.58 312 *e*P **P** 01 01 52.5 -0.4
KIEV pmax pmax
comp=Z,27nm,1.0s
KIEV **Kiev** 23.58 312 *e*P **P** 01 01 52.5 -0.4
comp=Z,27nm,1.0s
KIEV **Kiev** 23.58 312 *e*P **P** 01 01 52.5 -0.4
comp=Z,27nm,1.0s
VRI **Vrincioaia** 23.86 299 ⇓P **P** 01 01 57.6 +1.9
VRI **Vrincioaia** 23.86 299 ⇓*i* P **P** 01 01 57.6 +1.9
VRI **Vrincioaia** 23.86 299 P **P** 01 01 57.6 +1.9
ISR **Istrita** 23.88 298 ⇓P **P** 01 01 59.1 +3.1
ISR **Istrita** 23.88 298 ⇓*i* P **P** 01 01 59.1 +3.1
ISR **Istrita** 23.88 298 ⇓*i* P **P** 01 01 59.1 +3.1
PLOR **Plostina** 23.91 299 ⇓P **P** 01 01 57.3 +1.0
PLOR **Plostina** 23.91 299 ⇓*i* P **P** 01 01 57.3 +1.0
PLOR **Plostina** 23.91 299 P **P** 01 01 57.3 +1.0
WMQ **Urumqi** 23.95 66 P **P** 01 01 57.3 +0.6
WMQ pP pP 01 02 02.8 +3.2
WMQ sP sP 01 02 06.9 +6.0
WMQ S **S** 01 06 09.5 -3.7
WMQ SS **SnSn** 01 06 57.8 +5.1
WMQ PMZ
comp=Z,39nm,1.0s
WMQ PMZ
comp=Z,290nm,4.0s
WMQ LN
comp=Z,200nm,21.6s
WMQ LE
comp=Z,210nm,21.2s
WMQ LZ
comp=Z,230nm,21.0s
TESR **Tescani** 24.02 301 ⇑*i* P **P** 01 01 58.5 +1.2
TESR **Tescani** 24.02 301 ⇑*i* P **P** 01 01 58.5 +1.2
SZH **Strazhica** 24.16 293 *e*P **P** 01 01 58.9 +0.3
SZH **Strazhica** 24.16 293 *e*P **P** 01 01 58.9 +0.3
MLR **Muntele Rosu** 24.35 298 P **P** 01 02 01.6 +1.1
comp=Z,2.2nm,0.6s,baz=107,slow=4.6,SNR=34
MLR LR LR 01 13 29.0
comp=Z,55nm,20.7s,baz=68,slow=41
MLR **Muntele Rosu** 24.35 298 ⇓*i* P **P** 01 02 02.5 +2.1
KOLN **Koldanda** 24.42 106 *e*P **P** 01 02 01.7 +0.3
DIM **Dimitrovgrad** 24.43 290 *e*P **P** 01 02 03.0 +1.9
DIM **Dimitrovgrad** 24.43 290 *e*P **P** 01 02 03.0 +1.9
KDZ **Kurdzhali** 24.52 289 *e*P **P** 01 02 02.8 +0.8
KDZ **Kurdzhali** 24.52 289 *e*P **P** 01 02 02.8 +0.8
NVS **Novosibirsk** 24.70 38 *e*P **P** 01 02 04.8 +1.5
NVS *e*S S 01 06 15.6 -9.3
NVS pmax pmax
comp=Z,17nm,1.2s
NVS pmax pmax
comp=E,9.0nm,0.9s

NVS smax smax
comp=E,14nm,1.8s
NVS Novosibirsk 24.70 38 *e*P **P 01 02 04.8 +1.5**
comp=E,17nm,1.2s
DOPR Dopca 24.80 299⇑*i*P **P 01 02 05.6 +1.2**
DOPR Dopca 24.80 299⇑*i*P **P 01 02 05.6 +1.2**
PRGR Permogore 24.94 347 *e*P **P 01 02 04.9 -0.5**
PRGR *e* 01 02 38.9
PRGR S **S 01 06 29.6 +1.0**
PRGR pmax pmax
comp=Z,32nm,1.4s
PRGR Permogore 24.94 347 *e*P **P 01 02 04.9 -0.5**
comp=Z,32nm,1.4s
PRGR S **S 01 06 29.6 +1.0**
VOIR 24.96 298 ⇓P **P 01 02 07.4 +1.4**
VOIR 24.96 298 ⇓*i*P **P 01 02 07.3 +1.3**
VOIR 24.96 298 P **P 01 02 07.4 +1.4**
ZALV Zalesovo Beam 25.03 41 P **P 01 02 08.4 +2.0**
comp=Z,16nm,1.0s,baz=259,slow=8.4,SNR=32
ZALV LR LR 01 13 19.2
comp=Z,464nm,18.7s,baz=250,slow=40
ZALV Zalesovo Beam 25.03 41 P **P 01 02 08.4 +2.0**
ZALV pmax pmax
comp=Z,16nm,1.0s
ZALV MLR MLR
comp=Z,465nm,18.7s
ZAA1 Zalesovo Array 25.04 41 *e*P **P 01 02 08.4 +2.0**
ZAA1 Zalesovo Array 25.04 41 *e*P **P 01 02 08.4 +2.0**
RZN Rozhen 25.05 289 *e*P **P 01 02 07.6 +0.7**
RZN Rozhen 25.05 289 *e*P **P 01 02 07.6 +0.7**
PLD Plovdiv 25.05 290 *e*P **P 01 02 06.9 +0.3**
PLD Plovdiv 25.05 290 *e*P **P 01 02 06.9 +0.3**
GKN Gorkha 25.10 105 *e*P **P 01 02 07.5 +0.1**
comp=Z,149nm,1.6s
BURAR Bucovina Array 25.19 303 ⇑P **P 01 02 08.9 +0.9**
BURAR Bucovina Array 25.19 303⇑*i*P **P 01 02 08.9 +0.9**
BURAR Bucovina Array 25.19 303⇑*i*P **P 01 02 08.9 +0.9**
DMN Daman 25.66 105 *e*P **P 01 02 12.5 -0.1**
comp=Z,235nm,1.6s
KKN Kakani 25.70 104 *e*P **P 01 02 12.6 -0.3**
comp=Z,104nm,1.5s
MPEP Malo Peshtene 25.76 293 *e*P **P 01 02 14.8 +1.7**
MPEP Malo Peshtene 25.76 293 *e*P **P 01 02 14.8 +1.7**
MMB Musomiste 25.79 289 *e*P **P 01 02 14.0 +0.5**
MMB Musomiste 25.79 289 *e*P **P 01 02 14.0 +0.5**
IDI Anoyia 25.84 274 P **P 01 02 14.3 +0.3**
comp=Z,18nm,0.7s,baz=57,slow=12,SNR=12
LOT Lotru 25.86 298 ⇓*i*P **P 01 02 15.2 +1.0**
LOT Lotru 25.86 298 ⇓*i*P **P 01 02 15.2 +1.0**
PKIN Phulchoki 25.89 105 *e*P **P 01 02 15.6 +0.8**
comp=Z,44nm,1.0s
PKI Pulchoki 25.91 105 *e*P **P 01 02 15.1 +0.1**
comp=Z,361nm,1.8s
GUN Gumba 26.10 104 *e*P **P 01 02 17.5 +0.8**
comp=Z,87nm,0.9s
CJR Cluj-Napoca 26.13 301 ⇑P P 01 02 21.8 +5.3
CJR Cluj-Napoca 26.13 301⇑*i*P P 01 02 21.8 +5.3
VTS Vitosha 26.15 291 ⇓P **P 01 02 17.9 +1.1**
VTS Vitosha 26.15 291 ⇓*i*P **P 01 02 17.9 +1.1**
VTS Vitosha 26.15 291 *e*P **P 01 02 17.4 +0.6**
VTS Vitosha 26.15 291 P **P 01 02 17.9 +1.1**
KKB Krupnik 26.26 290 *e*P **P 01 02 18.1 +0.4**
KKB Krupnik 26.26 290 *e*P **P 01 02 18.1 +0.4**
LVV L'vov 26.45 308 *e*P **P 01 02 22.9 +3.6**
LVV *e*S **S 01 06 57.7 +4.8**
LVV MLR MLR
comp=E,100nm,18.0s
LVV MLR MLR
comp=Z,100nm,18.0s
LVV MLR MLR
comp=N,80nm,17.0s
NACGM Naroch 26.70 320 *e* **P 01 02 21.0 -0.5**
DRGR 26.74 301 ⇓P **P 01 02 20.8 -1.3**
DRGR 26.74 301 ⇓*i*P **P 01 02 20.8 -1.3**
DRGR 26.74 301 P **P 01 02 20.8 -1.3**
TRPA Tarpa 27.06 304 ⇓*i*P P 01 02 30.0 +5.2
AGG Agios Georgios 27.10 284 *e*P **P 01 02 24.1 -1.2**
AGG pmax pmax
comp=Z,60nm,1.9s
AGG Agios Georgios 27.10 284 *e*P **P 01 02 24.1 -1.2**
comp=Z,60nm,1.9s
AGG Agios Georgios 27.10 284 *e*P **P 01 02 24.1 -1.2**
comp=Z,60nm,1.9s
RAMN Ramite 27.13 105 *e*P **P 01 02 26.1 +0.1**
comp=Z,81nm,1.3s
UZH Uzhgorod 27.31 305 *e*P **P 01 02 25.9 -1.1**
UZH *e* 01 02 35.2
UZH Uzhgorod 27.31 305 *e*P **P 01 02 25.9 -1.1**
KOLS Kolonicke sedl 27.38 305 *e*P **P 01 02 27.7 0.0**
KOLS pmax pmax
comp=Z,8.0nm,1.5s
KOLS Kolonicke sedl 27.38 305 *e*P **P 01 02 27.7 0.0**
comp=Z,8.0nm,1.5s
KOLS Kolonicke sedl 27.38 305 *e*P **P 01 02 27.7 0.0**
KOLS *e*PCP **PcP 01 05 45.0 -1.5**
BZS Buzias 27.38 298 ⇓P **P 01 02 29.0 +1.3**
BZS Buzias 27.38 298 ⇓*i*P **P 01 02 29.0 +1.3**
BZS Buzias 27.38 298 P **P 01 02 29.0 +1.3**
SIRR Siria 27.41 299 ⇓*i*P **P 01 02 31.2 +3.2**
ODAN Odare 27.79 104 *e*P **P 01 02 32.4 +0.6**
comp=Z,54nm,1.0s
TAPN Taplejung 27.79 103 *e*P **P 01 02 32.1 +0.2**
comp=Z,54nm,1.2s
BOK Bokaro 28.33 111 *e*P **P 01 02 34.6 -1.8**
BOK AMB AMB 01 02 38.6
comp=Z,20nm,2.3s
KECS Kecovo 28.47 304 *e*P **P 01 02 36.9 -0.5**
KECS pmax pmax
comp=Z,2.0nm,0.7s
KECS Kecovo 28.47 304 *e*P **P 01 02 36.9 -0.5**
comp=Z,2.0nm,0.7s
KECS Kecovo 28.47 304 *e*P **P 01 02 36.9 -0.5**
KECS *e*PCP **PcP 01 05 50.4 +1.3**
VYHS Vyhne 29.56 304 *e*P **P 01 02 47.8 +0.7**
VYHS pmax pmax
comp=Z,8.0nm,1.7s
VYHS Vyhne 29.56 304 *e*P **P 01 02 47.8 +0.7**
comp=Z,8.0nm,1.7s
VYHS Vyhne 29.56 304 *e*P **P 01 02 47.8 +0.7**
OKC Ostrava-Krasne 30.19 306 *e*P **P 01 02 54.5 +1.9**
OKC AMS AMS 01 17 20.0
comp=Z,100nm,17.9s
OKC Ostrava-Krasne 30.19 306 *e*P **P 01 02 54.5 +1.9**
OKC MLR MLR
comp=Z,100nm,17.9s
OKC Ostrava-Krasne 30.19 306 *e*P **P 01 02 54.5 +1.9**
comp=Z,100nm,17.9s
VIS Vishakhapatnam 30.52 124 *e*P **P 01 02 54.3 -1.5**
VIS AMB AMB 01 03 07.7
comp=Z,34nm,1.8s
FIA0 FINESS Array S 30.52 331 *e*P **P 01 02 55.8 +0.4**
FIA0 FINESS Array S 30.52 331 *e*P **P 01 02 55.8 +0.4**
FIA0 FINESS Array S 30.52 331 *e*P **P 01 02 55.8 +0.4**
FINES FINESS Array B 30.52 331 P **P 01 02 55.8 +0.4**
comp=Z,2.8nm,0.6s,baz=143,slow=11,SNR=15
FINES LR LR 01 16 21.2
comp=Z,87nm,19.0s,baz=134,slow=39
FINES FINESS Array B 30.52 331 P **P 01 02 55.8 +0.4**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES MLR MLR
comp=Z,87nm,19.0s
MORC Moravsky Berou 30.57 306 *e*P **P 01 02 56.9 +0.9**
MORC pmax pmax
comp=Z,115nm,1.8s
MORC Moravsky Berou 30.57 306 *e*P **P 01 02 56.9 +0.9**
comp=Z,115nm,1.8s
MORC Moravsky Berou 30.57 306 *e*P **P 01 02 56.9 +0.9**
comp=Z,115nm,1.8s
KRLC Kraliky 31.09 306 *e*P **P 01 03 01.9 +1.2**
KRLC Kraliky 31.09 306 *e*P **P 01 03 01.9 +1.2**
KRLC Kraliky 31.09 306 *e*P **P 01 03 01.9 +1.2**
VRAC Vranov 31.12 305 P **P 01 03 01.3 +0.4**
comp=Z,1.2nm,0.3s,baz=80,slow=11,SNR=4.1
VRAC LR LR 01 17 40.2
comp=Z,150nm,20.9s,baz=86,slow=40
KOGS Kog 31.16 299 *e*P **P 01 03 01.8 +0.6**
KOGS Kog 31.16 299 *e*P **P 01 03 01.8 +0.6**
DPC Dobruska-Polom 31.42 307 *e*P **P 01 03 04.9 +1.3**
DPC AMS AMS 01 18 00.0
comp=Z,100nm,16.9s
DPC Dobruska-Polom 31.42 307 *e*P **P 01 03 04.9 +1.3**
DPC MLR MLR
comp=Z,100nm,16.9s
DPC Dobruska-Polom 31.42 307 *e*P **P 01 03 04.9 +1.3**
comp=Z,100nm,16.9s
UPC Upice 31.64 307 *e*P **P 01 03 07.8 +2.3**
UPC AMS AMS 01 18 10.0
comp=Z,100nm,12.2s
UPC Upice 31.64 307 *e*P **P 01 03 07.8 +2.3**
UPC MLR MLR
comp=Z,100nm,12.2s
UPC Upice 31.64 307 *e*P **P 01 03 07.8 +2.3**
comp=Z,100nm,12.2s
ARSA Arzberg 31.68 301 P **P 01 03 06.7 +0.8**
comp=Z,5.5nm,0.8s,SNR=5.6
ARSA Arzberg 31.68 301⇑*i*pP **P 01 03 06.7 +0.8**
comp=Z,5.5nm,0.8s,SNR=5.6
PERS Pernice 31.94 300 *e*P **P 01 03 08.8 +0.6**
PERS Pernice 31.94 300 *e*P **P 01 03 08.8 +0.6**
SOKA Soboth 32.00 300 P **P 01 03 09.6 +0.8**
comp=Z,7.0nm,1.2s,SNR=6.1
SOKA Soboth 32.00 300 *i* pP **P 01 03 09.6 +0.8**
comp=Z,7.0nm,1.2s,SNR=6.1
NVLJ Novalja 32.15 296 P **P 01 03 09.0 -0.9**
NVLJ Novalja 32.15 296 *i* P **P 01 03 09.0 -0.9**
LJU Ljubljana 32.35 299 *e*P **P 01 03 12.7 +0.9**
LJU Ljubljana 32.35 299 *e*P **P 01 03 12.7 +0.9**
GOPC GO Pecny, Ondr 32.35 306 *e*P **P 01 03 13.7 +2.0**
GOPC GO Pecny, Ondr 32.35 306 P **P 01 03 13.7 +2.0**
PRU Pruhonice 32.52 306 *e*P **P 01 03 14.7 +1.5**
PRU AMS AMS 01 18 50.0
comp=Z,100nm,14.0s
PRU Pruhonice 32.52 306 *e*P **P 01 03 14.7 +1.5**
PRU MLR MLR
comp=Z,100nm,14.0s
PRU Pruhonice 32.52 306 *e*P **P 01 03 14.7 +1.5**
comp=Z,100nm,14.0s
PVCC Panska Ves 32.56 307 *e*P **P 01 03 15.8 +2.3**
PVCC Panska Ves 32.56 307 *e*P **P 01 03 15.8 +2.3**
PVCC Panska Ves 32.56 307 *e*P **P 01 03 15.8 +2.3**
GEC2 GERESS Array S 32.98 304 *e*P **P 01 03 18.8 +1.5**
comp=Z,40nm,2.4s
GEC2 GERESS Array S 32.98 304 *e*P **P 01 03 17.4 +0.1**
GEC2 GERESS Array S 32.98 304 *e*P **P 01 03 17.4 +0.1**
GEC2 GERESS Array S 32.98 304 *e*P **P 01 03 17.4 +0.1**
GERES GERESS Array B 32.98 304 P **P 01 03 17.9 +0.6**
comp=Z,0.6nm,0.5s,baz=95,slow=9.0,SNR=7.1
GERES LR LR 01 18 58.5
comp=Z,142nm,20.1s,baz=96,slow=41
GERES GERESS Array B 32.98 304 P **P 01 03 17.9 +0.6**
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES MLR MLR
comp=Z,142nm,20.1s
BRG Berggiesshubel 32.99 307 *e*P **P 01 03 18.8 +1.5**
comp=Z,29nm,1.7s
BRG Berggiesshubel 32.99 307 *e*P **P 01 03 19.8 +2.5**
comp=Z,29nm,1.7s
BRG Berggiesshubel 32.99 307 *e*P **P 01 03 18.8 +1.5**
BRG pmax pmax
comp=Z,29nm,1.7s
BRG Berggiesshubel 32.99 307 *e*P **P 01 03 18.8 +1.5**
comp=Z,29nm,1.7s
GTA Gaotai 33.30 74 *e*P P 01 03 24.0 +3.7
GTA pP pP 01 03 29.0 +5.8
GTA sP sP 01 03 32.3 +7.8
GTA S **S 01 08 42.3 +1.5**
GTA sS sS 01 08 51.1 +5.4
GTA SS **SnSn 01 10 44.3 +3.5**
GTA PMZ
comp=Z,7.0nm,1.3s
GTA PMZ
comp=Z,65nm,5.9s
GTA LN
comp=Z,190nm,14.0s
GTA LE
comp=Z,210nm,15.7s
GTA LZ
comp=Z,150nm,14.7s
RUE Ruedersdorf 33.31 310 *e*P **P 01 03 20.7 +0.7**
comp=Z,205nm,2.6s
RUE Ruedersdorf 33.31 310 *e*P **P 01 03 20.7 +0.7**
comp=Z,205nm,2.6s
FBE Freiberg 33.37 307 *e*P **P 01 03 23.4 +2.8**
comp=Z,46nm,1.8s
FBE Freiberg 33.37 307 *e*P **P 01 03 23.4 +2.8**
comp=Z,46nm,1.8s
AQU L'Aquila 33.40 292 *e*P **P 01 03 19.9 -1.1**
AQU pmax pmax
comp=Z,10.0nm,1.0s
AQU L'Aquila 33.40 292 *e*P **P 01 03 19.9 -1.1**
comp=Z,10.0nm,1.0s
AQU L'Aquila 33.40 292 *e*P **P 01 03 19.9 -1.1**
comp=Z,10.0nm,1.0s
WET Wettzell 33.53 304 *e*P **P 01 03 24.8 +2.7**
comp=Z,21nm,2.3s
WET Wettzell 33.53 304 *e*P **P 01 03 24.8 +2.7**
comp=Z,21nm,2.3s
CLL Collm 33.63 308 *e*P **P 01 03 24.8 +1.9**
comp=Z,14nm,1.8s
CLL Collm 33.63 308 *e*P **P 01 03 22.3 -0.6**
CLL pmax pmax
comp=Z,16nm,1.7s
CLL Collm 33.63 308 *e*P **P 01 03 22.3 -0.6**
comp=Z,16nm,1.7s
CLL Collm 33.63 308 *e*P **P 01 03 22.3 -0.6**
comp=Z,16nm,1.7s
CLL Collm 33.63 308 *e*P **P 01 03 24.0 +1.1**
CLL *e* 01 04 27.0
CLL LmH 01 16 00.0
comp=N,100nm,21.2s
CLL LmH 01 16 00.0
comp=E,100nm,18.0s
WDD Wield Dalam 33.84 280 *e*P **P 01 03 23.7 -1.1**
comp=E,83nm,1.7s
WDD Wield Dalam 33.84 280 *e*P **P 01 03 23.7 -1.1**
comp=E,83nm,1.7s
NKC Novy Kostel 33.88 306 *e*P **P 01 03 26.0 +0.9**
NKC Novy Kostel 33.88 306 *e*P **P 01 03 26.0 +0.9**
NKC Novy Kostel 33.88 306 *e*P **P 01 03 26.0 +0.9**
TANN Tannenbergstha 33.89 306 *e*P **P 01 03 27.5 +2.3**
comp=Z,7.0nm,1.5s
TANN Tannenbergstha 33.89 306 *e*P **P 01 03 27.5 +2.3**
comp=Z,7.0nm,1.5s
WERN Wernitzgruen 33.93 306 *e*P **P 01 03 27.8 +2.3**
comp=Z,30nm,1.9s
WERN Wernitzgruen 33.93 306 *e*P **P 01 03 27.8 +2.3**
comp=Z,30nm,1.9s
WERD Werda 33.99 306 *e*P **P 01 03 28.1 +2.1**
comp=Z,20nm,1.9s
WERD Werda 33.99 306 *e*P **P 01 03 28.1 +2.1**
comp=Z,20nm,1.9s
ROTZ Rotzenmuhle 34.01 305 *e*P **P 01 03 28.1 +1.9**
comp=Z,8.0nm,1.5s
ROTZ Rotzenmuhle 34.01 305 *e*P **P 01 03 28.1 +1.9**
comp=Z,8.0nm,1.5s
MANZ Manzenberg 34.08 306 *e*P **P 01 03 29.0 +2.1**
comp=Z,18nm,2.0s
MANZ Manzenberg 34.08 306 *e*P **P 01 03 29.0 +2.1**
comp=Z,18nm,2.0s
PLN Plauen 34.09 307 *e*P **P 01 03 29.0 +2.1**
comp=Z,16nm,1.8s
PLN Plauen 34.09 307 *e*P **P 01 03 29.0 +2.1**
comp=Z,16nm,1.8s
WTTA Wattenberg 34.33 301 P **P 01 03 29.0 -0.2**
comp=Z,17nm,1.3s,SNR=6.0
WTTA Wattenberg 34.33 301⇑*i*P **P 01 03 29.0 -0.2**
comp=Z,17nm,1.3s,SNR=6.0
NEUB Neuenburg 34.39 308 *e*P **P 01 03 31.6 +2.2**
comp=Z,72nm,2.0s
NEUB Neuenburg 34.39 308 *e*P **P 01 03 31.6 +2.2**
comp=Z,72nm,2.0s
CLTB Caltabellotta 34.41 283 *e*P **P 01 03 29.4 -0.5**
comp=Z,22nm,1.7s
CLTB Caltabellotta 34.41 283 *e*P **P 01 03 29.4 -0.5**
comp=Z,22nm,1.7s
MOX Moxa 34.44 307 *e*P **P 01 03 32.3 +2.4**
comp=Z,18nm,1.4s
MOX Moxa 34.44 307 *e*P **P 01 03 32.3 +2.4**
comp=Z,18nm,1.4s
FUR Furstenfeldbru 34.57 302 *e*P **P 01 03 32.3 +1.2**
comp=Z,53nm,2.2s
FUR Furstenfeldbru 34.57 302 *e*P **P 01 03 32.3 +1.2**
comp=Z,53nm,2.2s
GRA1 Grafenberg Arr 34.64 305 *e*P **P 01 03 33.6 +1.9**
comp=Z,37nm,1.9s
GRF Grafenberg Arr 34.64 305 *e*P **P 01 03 33.6 +1.9**
comp=Z,37nm,1.9s
FETA Feichten 34.95 300 P **P 01 03 32.9 -1.7**
comp=Z,9.3nm,1.4s
FETA Feichten 34.95 300⇑*i*P **P 01 03 32.9 -1.7**
comp=Z,9.3nm,1.4s
ZAK Zakamensk 35.02 54 *e*P P 01 03 38.5 +3.5
ZAK pmax pmax
comp=Z,6.0nm,1.5s
HFS Hagfors 35.26 324 P **P 01 03 37.8 +1.0**
comp=Z,5.8nm,1.0s,baz=101,slow=7.7,SNR=5.1
HFS LR LR 01 18 59.0
comp=Z,114nm,19.0s,baz=116,slow=38
HFS Hagfors 35.26 324 P **P 01 03 37.8 +1.0**
HFS pmax pmax
comp=Z,6.0nm,1.0s
HFS MLR MLR
comp=Z,114nm,19.0s
FUORN Ofenpass-Fuorn 35.29 300 *e*P **P 01 03 37.0 -0.5**
comp=Z,28nm,1.7s
FUORN Ofenpass-Fuorn 35.29 300 *e*P **P 01 03 37.0 -0.5**
comp=Z,28nm,1.7s
CLZ Clausthal 35.32 309 *e*P **P 01 03 39.8 +2.3**
comp=Z,19nm,1.6s
CLZ Clausthal 35.32 309 *e*P **P 01 03 39.8 +2.3**
comp=Z,19nm,1.6s
UBBA Unterbreizbach 35.48 307 *e*P **P 01 03 41.3 +2.6**
comp=Z,33nm,1.7s
UBBA Unterbreizbach 35.48 307 *e*P **P 01 03 41.3 +2.6**
comp=Z,33nm,1.7s
DAVA Damuels 35.52 301 P **P 01 03 39.2 -0.3**
comp=Z,7.5nm,0.8s
DAVA Damuels 35.52 301⇑*i*P **P 01 03 39.2 -0.3**
comp=Z,7.5nm,0.8s
DAVOX Davos/Dischmat 35.54 300 P **P 01 03 40.1 +0.4**
comp=Z,2.2nm,0.5s,baz=274,slow=9.3,SNR=6.3
BSEG Bad Segeberg 35.58 312 *e*P **P 01 03 42.0 +2.4**
comp=Z,28nm,1.5s
BSEG Bad Segeberg 35.58 312 *e*P **P 01 03 42.0 +2.4**
comp=Z,28nm,1.5s
STU Stuttgart 35.95 303 *e*P **P 01 03 44.3 +1.4**
comp=Z,40nm,1.5s
STU Stuttgart 35.95 303 *e*P **P 01 03 43.1 +0.2**
STU pmax pmax
comp=Z,33nm,1.3s
STU Stuttgart 35.95 303 *e*P **P 01 03 43.1 +0.2**
comp=Z,33nm,1.3s
STU Stuttgart 35.95 303 *e*P **P 01 03 43.1 +0.2**
comp=Z,34nm,1.3s
ARCES ARCESS Array B 36.05 342 LR LR 01 20 29.0
comp=Z,280nm,18.8s,baz=108,slow=40
TNS Taunus Mts 36.45 306 *e*P **P 01 03 49.6 +2.4**
comp=Z,22nm,1.7s
TNS Taunus Mts 36.45 306 *e*P **P 01 03 49.6 +2.4**
comp=Z,22nm,1.7s
NB2 NORSAR Subarra 36.71 324 P **P 01 03 49.3 0.0**
comp=Z,13nm,1.1s,baz=109,slow=8.6
NB2 NORSAR Subarra 36.71 324 P **P 01 03 49.3 0.0**
comp=Z,13nm,1.1s,SNR=6.9
NB200 NORSAR Array S 36.71 324 *e*P **P 01 03 49.5 +0.2**
NB200 NORSAR Array S 36.71 324 *e*P **P 01 03 49.5 +0.2**
NB200 *e*PP **PnPn 01 05 08.5 -4.0**
NOA NORSAR Array B 36.71 324 P **P 01 03 49.5 +0.2**
comp=Z,6.6nm,1.0s,baz=109,slow=8.3,SNR=7.1
NOA PP **PnPn 01 05 08.5 -4.0**
comp=Z,2.5nm,1.0s,baz=113,slow=9.7,SNR=3.3
NOA LR LR 01 19 54.4
comp=Z,82nm,20.6s,baz=105,slow=38
NOA NORSAR Array B 36.71 324 P **P 01 03 49.5 +0.2**
NOA 01 05 08.5
NOA pmax pmax
comp=Z,7.0nm,1.0s
NOA pmax pmax
comp=Z,3.0nm,1.0s
NOA MLR MLR
comp=Z,82nm,20.6s
SONA0 Songino Array 37.06 58 *e*P **P 01 03 53.6 +1.0**
SONA0 Songino Array 37.06 58 *e*P **P 01 03 53.6 +1.0**
SONA0 *e*PP **PnPn 01 05 20.9 +3.7**
SONM Songino Array 37.06 58 P **P 01 03 53.6 +1.0**
comp=Z,2.4nm,1.0s,baz=269,slow=7.9,SNR=14
SONM PP **PnPn 01 05 20.9 +3.7**
comp=Z,1.3nm,1.0s,baz=267,slow=10,SNR=4.2
SONM LR LR 01 21 04.3
comp=Z,174nm,18.4s,baz=268,slow=39
SONM Songino Array 37.06 58 P **P 01 03 53.6 +1.0**
SONM 01 05 20.9
SONM pmax pmax
comp=Z,2.0nm,1.0s
SONM pmax pmax
comp=Z,1.0nm,1.0s
SONM MLR MLR
comp=Z,175nm,18.4s
LZH Lanzhou 37.20 78 *e*P **P 01 03 56.5 +2.6**
LZH pP pP 01 04 02.6 +5.7
LZH sP sP 01 04 05.8 +7.6
LZH *e*PP **PnPn 01 05 23.5 +4.5**
LZH *e*S **S 01 09 40.5 -0.4**
LZH sS sS 01 09 50.6 +4.8
LZH *e*SS **SnSn 01 12 12.5 -3.0**
LZH PMZ
comp=Z,25nm,1.0s
LZH PMZ
comp=Z,180nm,4.9s
LZH LN
comp=Z,330nm,14.5s
LZH LE
comp=Z,300nm,13.0s
LZH LZ
comp=Z,530nm,17.0s
ULN Ulaanbaatar 37.50 58*ce*P **P 01 03 57.9 +1.5**
ULN pmax pmax
comp=Z,25nm,1.7s
ULN Ulaanbaatar 37.50 58 *e*P **P 01 03 57.8 +1.4**
comp=Z,37nm,1.6s
ULN Ulaanbaatar 37.50 58 *e*P **P 01 03 57.8 +1.4**
comp=Z,37nm,1.6s
KEST Kesra 37.91 282 P **P 01 03 59.6 -0.2**
comp=Z,2.8nm,0.9s,baz=26,slow=4.3,SNR=9.0
KEST Kesra 37.91 282 *e*P **P 01 03 59.4 -0.4**
KEST Kesra 37.91 282 *e*P **P 01 03 59.4 -0.4**
CD2 Chengdu 38.90 86 P **P 01 04 07.3 -0.9**
CD2 pP **pP 01 04 13.9 +2.7**
CD2 sP sP 01 04 16.8 +4.4
CD2 PP **PP 01 05 36.5 -0.7**
CD2 S **S 01 10 04.8 -1.7**
CD2 sS ScP 01 10 16.0 +8.7
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,90nm,5.1s
CD2 LN
comp=Z,270nm,10.8s
CD2 LZ
comp=Z,180nm,13.2s
DGPR DIGLIPUR 40.26 118 *e*P **P 01 04 17.6 -2.0**
DGPR AMB AMB 01 04 48.4
comp=Z,65nm,1.4s
KMI Kunming 40.65 94 P **P 01 04 23.4 +0.4**
KMI pP pP 01 04 29.4 +3.4
KMI sP sP 01 04 32.1 +4.9
KMI S **S 01 10 33.6 +0.5**
KMI SS SS 01 13 26.4 -6.8
KMI PMZ
comp=Z,17nm,1.4s
KMI LN
comp=Z,160nm,16.8s
KMI LE
comp=Z,190nm,18.4s
KMI LZ
comp=Z,170nm,18.1s
CHTO Chiang Mai 41.08 105 *e*P **P 01 04 25.9 -0.5**
CHTO pmax pmax
comp=Z,31nm,1.8s
CHTO Chiang Mai 41.08 105 *e*P **P 01 04 25.9 -0.5**
comp=Z,31nm,1.8s
CHTO Chiang Mai 41.08 105 *e*P **P 01 04 25.9 -0.5**
comp=Z,31nm,1.8s
CM31 Chiang Mai Arr 41.29 106 *e*P **P 01 04 28.4 +0.3**
CM31 Chiang Mai Arr 41.29 106 *e*P **P 01 04 28.4 +0.3**
CMAR Chiang Mai Arr 41.29 106 P **P 01 04 28.4 +0.3**
comp=Z,2.1nm,0.7s,baz=297,slow=8.3,SNR=13
CMAR LR LR 01 23 56.5
comp=Z,73nm,20.4s,baz=210,slow=40
CMAR Chiang Mai Arr 41.29 106 P **P 01 04 28.4 +0.3**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CMAR MLR MLR
comp=Z,73nm,20.4s
BOD Bodaibo 41.76 42 *e*P **P 01 04 31.8 +0.3**

BOD					pmax	pmax		
	comp=Z,11nm,1.5s							
BOD	**Bodaibo**	**41.76**	**42**	*eP*	**P**		**01 04 31.8 +0.3**	
	comp=Z,11nm,1.5s							
HHC	**Hu-ho-hao-te**	**41.78**	**68**	*eP*	**P**		**01 04 32.9 +0.9**	
HHC				PP	**PnPn**		**01 06 12.9 -0.5**	
HHC				S	**S**		**01 10 48.6 -0.8**	
HHC				SS	**SS**		**01 13 49.9 -5.1**	
HHC				PMZ				
	comp=Z,20nm,1.0s							
HHC				PMZ				
	comp=Z,63nm,3.8s							
HHC				LN				
	comp=Z,200nm,11.2s							
HHC				LE				
	comp=Z,140nm,12.6s							
HHC				LZ				
	comp=Z,150nm,12.7s							
KMBO	**Kilima Mbogo**	**42.77**	**210**	LR	LR		01 23 48.5	
	comp=Z,269nm,19.4s,baz=7.0,slow=38							
GYA	**Guiyang**	**43.12**	**90**	*eP*	**P**		**01 04 43.8 +0.7**	
GYA				pP	pP		01 04 50.3 +4.2	
GYA				PP	**PP**		**01 06 26.0 +2.9**	
GYA				ScP	**ScP**		**01 10 22.4 -1.7**	
GYA				S	**S**		**01 11 08.6 -0.9**	
GYA				sS	sS		01 11 19.3 +4.8	
GYA				SS	SS		01 14 14.4 -7.4	
GYA				PMZ				
	comp=Z,10.0nm,1.0s							
GYA				PMZ				
	comp=Z,90nm,5.0s							
GYA				LN				
	comp=Z,510nm,17.5s							
GYA				LE				
	comp=Z,460nm,18.0s							
GYA				LZ				
	comp=Z,500nm,17.6s							
EKA	**Eskdalemuir Ar**	**43.46**	**314**	P	**P**		**01 04 46.2 +0.9**	
	comp=Z,1.3nm,0.7s,baz=95,slow=10,SNR=5.6							
EKA				PP	**PP**		**01 06 29.7 +3.5**	
	comp=Z,1.8nm,0.9s,baz=94,slow=13,SNR=3.4							
SPA0	**Spitsbergen Ar**	**43.90**	**349**	*eP*	**P**		**01 04 49.6 +1.0**	
SPA0	**Spitsbergen Ar**	**43.90**	**349**	*eP*	**P**		**01 04 49.6 +1.0**	
SPITS	**Spitsbergen Ar**	**43.90**	**349**	P	**P**		**01 04 49.6 +1.0**	
	comp=Z,7.5nm,1.0s,baz=132,slow=12,SNR=4.3							
SPITS				LR	LR		01 26 25.1	
	comp=Z,266nm,18.8s,baz=170,slow=41							
SPITS	**Spitsbergen Ar**	**43.90**	**349**	P	**P**		**01 04 49.6 +1.0**	
SPITS				pmax	pmax			
	comp=Z,8.0nm,1.0s							
SPITS				MLR	MLR			
	comp=Z,266nm,18.8s							
BJI	**Beijing**	**45.39**	**68**	P	**P**		**01 05 00.0 -0.9**	
BJI				S	**S**		**01 11 39.3 -2.6**	
BJI				PMZ				
	comp=Z,6.0nm,0.7s							
BJI				LN				
	comp=Z,250nm,20.9s							
BJI				LE				
	comp=Z,180nm,17.3s							
BJI				LZ				
	comp=Z,170nm,21.3s							
ESDC	**Sonseca Array**	**46.78**	**292**	P	**P**		**01 05 11.3 -0.7**	
	comp=Z,1.7nm,0.6s,baz=62,slow=8.1,SNR=27							
WHN	**Wuhan**	**47.39**	**81**	P	P		01 05 08.4 -8.4	
NJ2	**Nanjing**	**50.26**	**77**	*eP*	**P**		**01 05 40.1 +1.3**	
NJ2				PMZ				
	comp=Z,40nm,0.8s							
TOA0	**Torodi Ar. Sit**	**54.73**	**259**	*eP*	**P**		**01 06 09.9 -2.2**	
TOA0	**Torodi Ar. Sit**	**54.73**	**259**	*eP*	**P**		**01 06 09.9 -2.2**	
TORD	**Torodi Ar. Bea**	**54.73**	**259**	P	**P**		**01 06 09.9 -2.2**	
	comp=Z,2.4nm,1.0s,baz=56,slow=3.9,SNR=11							
KS15	**Wonju Array Si**	**54.87**	**67**	*eP*	**P**		**01 06 14.1 +1.2**	
KS15	**Wonju Array Si**	**54.87**	**67**	*eP*	**P**		**01 06 14.1 +1.2**	
KSRS	**Korea Array**	**54.89**	**67**	P	**P**		**01 06 14.1 +1.0**	
	comp=Z,2.0nm,0.9s,baz=279,slow=7.1,SNR=6.6							
KSRS				LR	LR		01 30 34.1	
	comp=Z,108nm,18.6s,baz=294,slow=37							
KSRS	**Korea Array**	**54.89**	**67**	P	**P**		**01 06 14.1 +1.0**	
KSRS				pmax	pmax			
	comp=Z,2.0nm,0.9s							
KSRS				MLR	MLR			
	comp=Z,108nm,18.6s							
USRK	**Ussuriysk Ar.**	**55.18**	**58**	P	**P**		**01 06 15.2 +0.1**	
	comp=Z,1.7nm,0.8s,baz=323,slow=4.8,SNR=5.4							
USRK				LR	LR		01 32 03.5	
	comp=Z,144nm,18.7s,baz=296,slow=38							
SEY	**Seymchan**	**59.47**	**32**	P	**P**		**01 06 46.2 +1.2**	
	comp=Z,3.8nm,0.9s,baz=322,slow=7.6,SNR=5.8							
SEY	**Seymchan**	**59.47**	**32**	*eP*	**P**		**01 06 46.9 +1.9**	
YSS	**Yuzh-Sakhalins**	**61.04**	**51**	*eP*	**P**		**01 06 58.6 +2.5**	
YSS	**Yuzh-Sakhalins**	**61.04**	**51**	*eP*	**P**		**01 06 58.6 +2.5**	
MAJO	**Matsushiro**	**62.69**	**64**	*eP*	**P**		**01 07 08.1 +0.7**	
MAJO				pmax	pmax			
	comp=Z,62nm,2.6s							
MAJO	**Matsushiro**	**62.69**	**64**	*eP*	**P**		**01 07 08.1 +0.7**	
	comp=Z,62nm,2.6s							
MAJO	**Matsushiro**	**62.69**	**64**	*eP*	**P**		**01 07 08.1 +0.7**	
	comp=Z,62nm,2.6s							
MJAR	**Matsushiro Ar**	**62.69**	**64**	P	**P**		**01 07 08.1 +0.7**	
	comp=Z,1.3nm,0.6s,baz=287,slow=8.4,SNR=6.9							
MJAR				LR	LR		01 34 36.3	
	comp=Z,52nm,20.1s,baz=305,slow=36							
MJAR	**Matsushiro Arr**	**62.69**	**64**	P	**P**		**01 07 08.1 +0.7**	
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
MJAR				MLR	MLR			
	comp=Z,52nm,20.1s							
DBIC	**Dimbokro**	**63.77**	**257**	LR	LR		01 38 20.1	
	comp=Z,86nm,18.4s,baz=40,slow=39							
PETK	**Petropavlovsk-**	**66.58**	**40**	LR	LR		01 39 20.8	
	comp=Z,136nm,18.0s,baz=298,slow=38							
BOSA	**Boshof**	**72.40**	**209**	P	**P**		**01 08 07.9 -0.8**	
	comp=Z,2.5nm,0.8s,baz=4.9,slow=4.1,SNR=5.0							
BOSA				LR	LR		01 41 27.0	
	comp=Z,120nm,20.0s,baz=24,slow=37							
COLD	**Coldfoot**	**73.32**	**11**	*eP*	**P**		**01 08 14.8 +1.1**	
	comp=Z,15nm,1.2s							
COLD	**Coldfoot**	**73.32**	**11**	*eP*	**P**		**01 08 14.8 +1.1**	
	comp=Z,15nm,1.2s							
INK	**Inuvik**	**73.97**	**4**	*eP*	**P**		**01 08 18.6 +1.2**	
INK				pmax	pmax			
	comp=Z,7.0nm,1.0s							
INK	**Inuvik**	**73.97**	**4**	*eP*	**P**		**01 08 18.6 +1.2**	
	comp=Z,7.0nm,1.0s							
INK	**Inuvik**	**73.97**	**4**	*eP*	**P**		**01 08 18.6 +1.2**	
	comp=Z,6.8nm,1.0s							
MLY	**Manley**	**75.28**	**12**	*eP*	**P**		**01 08 26.2 +1.0**	
	comp=Z,20nm,1.6s							
MLY	**Manley**	**75.28**	**12**	*eP*	**P**		**01 08 26.2 +1.0**	
	comp=Z,20nm,1.6s							
MDM	**Murphy Dome**	**75.73**	**11**	*eP*	**P**		**01 08 28.3 +0.5**	
	comp=Z,26nm,1.6s							
MDM	**Murphy Dome**	**75.73**	**11**	*eP*	**P**		**01 08 28.3 +0.5**	
	comp=Z,26nm,1.6s							
COLA	**College**	**75.87**	**11**	*d iP*	**P**		**01 08 29.8 +1.4**	
COLA				pmax	pmax			
	comp=Z,76nm,1.7s							
COLA	**College**	**75.87**	**11**	*i* P	**P**		**01 08 29.8 +1.4**	
	comp=Z,76nm,1.7s							
SCHQ	**Schefferville**	**76.00**	**330**	LR	LR		01 42 43.6	
	comp=Z,56nm,19.1s,baz=70,slow=36							
CCB	**Clear Creek Bu**	**76.09**	**11**	*eP*	**P**		**01 08 30.5 +0.8**	
	comp=Z,19nm,1.7s							
CCB	**Clear Creek Bu**	**76.09**	**11**	*eP*	**P**		**01 08 30.5 +0.8**	
	comp=Z,19nm,1.7s							
BPAW	**Bear Paw Mtn.**	**76.10**	**12**	*eP*	**P**		**01 08 29.7 -0.2**	
	comp=Z,13nm,2.2s							
BPAW	**Bear Paw Mtn.**	**76.10**	**12**	*eP*	**P**		**01 08 29.7 -0.2**	
	comp=Z,13nm,2.2s							
ILAR	**Eielson Array**	**76.11**	**10**	P	**P**		**01 08 30.7 +0.9**	
	comp=Z,1.8nm,1.1s,baz=328,slow=3.2,SNR=12							
ILAR				LR	LR		01 46 04.0	
	comp=Z,62nm,18.9s,baz=328,slow=39							
ILAR	**Eielson Array**	**76.11**	**10**	P	**P**		**01 08 30.7 +0.9**	
ILAR				pmax	pmax			
	comp=Z,2.0nm,1.1s							
ILAR				MLR	MLR			
	comp=Z,62nm,19.0s							
ILB	**Eielson Array**	**76.11**	**10**	*eP*	**P**		**01 08 30.7 +0.9**	
ILB	**Eielson Array**	**76.11**	**10**	*eP*	**P**		**01 08 30.7 +0.9**	
CAST	**Castle Rocks**	**76.54**	**13**	*eP*	**P**		**01 08 33.0 +0.7**	
	comp=Z,36nm,1.8s							
CAST	**Castle Rocks**	**76.54**	**13**	*eP*	**P**		**01 08 33.0 +0.7**	
	comp=Z,36nm,1.8s							
EGAK	**Eagle**	**76.82**	**8**	*eP*	**P**		**01 08 33.0 -0.8**	
	comp=Z,18nm,1.4s							
EGAK	**Eagle**	**76.82**	**8**	*eP*	**P**		**01 08 33.0 -0.8**	
	comp=Z,18nm,1.4s							
TRF	**Thorofare Moun**	**76.82**	**12**	*eP*	**P**		**01 08 32.2 -2.0**	
	comp=Z,26nm,1.7s							
RND	**Reindeer**	**77.10**	**12**	*eP*	**P**		**01 08 35.8 +0.2**	
RND				pmax	pmax			
	comp=Z,30nm,1.6s							
RND	**Reindeer**	**77.10**	**12**	*eP*	**P**		**01 08 35.8 +0.2**	
	comp=Z,30nm,1.6s							
RND	**Reindeer**	**77.10**	**12**	*eP*	**P**		**01 08 35.8 +0.2**	
	comp=Z,30nm,1.6s							
DAWY	**Dawson**	**77.69**	**7**	*eP*	**P**		**01 08 39.5 +0.6**	
	comp=Z,30nm,1.5s							
DAWY	**Dawson**	**77.69**	**7**	*eP*	**P**		**01 08 39.5 +0.6**	
	comp=Z,30nm,1.5s							
PAX	**Paxson**	**78.02**	**10**	*eP*	**P**		**01 08 40.6 -0.1**	
PAX				*e*			01 11 40.9	
PAX				pmax	pmax			
	comp=Z,5.0nm,1.1s							
PAX	**Paxson**	**78.02**	**10**	*eP*	**P**		**01 08 40.6 -0.1**	
	comp=Z,5.0nm,1.1s							
PAX	**Paxson**	**78.02**	**10**	*eP*	**P**		**01 08 40.6 -0.1**	
	comp=Z,4.7nm,1.1s							
PAX				*e*PP	**PP**		**01 11 40.9 +4.8**	
SUA	**Susitna One**	**78.59**	**13**	*eP*	**P**		**01 08 43.3 -0.7**	
	comp=Z,22nm,1.4s							
SUA	**Susitna One**	**78.59**	**13**	*eP*	**P**		**01 08 43.3 -0.7**	
	comp=Z,22nm,1.4s							
SML	**Sawmill**	**78.68**	**12**	*eP*	**P**		**01 08 43.6 -0.8**	
SML				pmax	pmax			
	comp=Z,2.0nm,1.0s							
SML	**Sawmill**	**78.68**	**12**	*eP*	**P**		**01 08 43.6 -0.8**	
	comp=Z,2.0nm,1.0s							
SML	**Sawmill**	**78.68**	**12**	*eP*	**P**		**01 08 43.6 -0.8**	
	comp=Z,2.3nm,1.0s							
PMR	**Palmer**	**78.75**	**12**	*eP*	**P**		**01 08 43.6 -1.0**	
PMR				pmax	pmax			
	comp=Z,18nm,1.4s							
PMR	**Palmer**	**78.75**	**12**	*eP*	**P**		**01 08 43.6 -1.0**	
	comp=Z,18nm,1.4s							
PMR	**Palmer**	**78.75**	**12**	*eP*	**P**		**01 08 43.6 -1.0**	
	comp=Z,18nm,1.4s							
KLU	**Klutina**	**79.36**	**11**	*eP*	**P**		**01 08 46.8 -1.4**	
	comp=Z,28nm,1.5s							
KLU	**Klutina**	**79.36**	**11**	*eP*	**P**		**01 08 46.8 -1.4**	
	comp=Z,28nm,1.5s							
YKA	**Yellowknife Ar**	**79.87**	**356**	P	**P**		**01 08 51.1 +0.4**	
	comp=Z,1.2nm,0.8s,baz=4.7,slow=6.0,SNR=10							
YKA	**Yellowknife Ar**	**79.87**	**356**	P	**P**		**01 08 51.1 +0.4**	
YKA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
YKB5	**Yellowknife Ar**	**79.87**	**356**	*eP*	**P**		**01 08 51.2 +0.4**	
YKB5	**Yellowknife Ar**	**79.87**	**356**	*eP*	**P**		**01 08 51.1 +0.4**	
FFC	**Flin Flon**	**86.14**	**348**	*eP*	**P**		**01 09 22.6 -0.8**	
FFC				pmax	pmax			
	comp=Z,11nm,1.4s							
FFC	**Flin Flon**	**86.14**	**348**	*eP*	**P**		**01 09 22.6 -0.8**	
	comp=Z,11nm,1.4s							
FFC	**Flin Flon**	**86.14**	**348**	*eP*	**P**		**01 09 22.6 -0.8**	
	comp=Z,11nm,1.4s							
JAY	**Jayapura**	**86.56**	**96**	LR	LR		01 50 50.9	
	comp=Z,32nm,20.1s,slow=38							
ULM	**Lac du Bonnet**	**89.17**	**343**	P	**P**		**01 09 37.0 -0.9**	
	comp=Z,2.8nm,0.5s,baz=14,slow=6.3,SNR=5.3							
ULM				LR	LR		01 51 02.1	
	comp=Z,58nm,21.7s,baz=337,slow=36							
ULM	**Lac du Bonnet**	**89.17**	**343**	P	**P**		**01 09 37.1 -0.9**	
ULM				pmax	pmax			
	comp=Z,3.0nm,0.5s							
ULM				MLR	MLR			
	comp=Z,58nm,21.7s							
ULM	**Lac du Bonnet**	**89.17**	**343**	*eP*	**P**		**01 09 37.5 -0.5**	
	comp=Z,10nm,1.5s							
ULM	**Lac du Bonnet**	**89.17**	**343**	*eP*	**P**		**01 09 37.5 -0.5**	
	comp=Z,10nm,1.5s							
HLID	**Hailey**	**98.69**	**354**	*eP*	Pdif		01 10 22.6 +0.5	
	comp=Z,32nm,2.5s							
HLID	**Hailey**	**98.69**	**354**	*eP*	Pdif		01 10 22.6 +0.5	
	comp=Z,32nm,2.5s							
PDAR	**Pinedale Array**	**98.93**	**350**	LR	LR		01 59 57.3	
	comp=Z,92nm,18.3s,baz=16,slow=38							

DDA 23 01:00:10.1,38.70N×28.88E,h7km,MD2.4,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.37**	**340**	*i* Pg	Pg	01 00 18.1	+0.6
DEMI				*i* Sg	Sg	01 00 22.6	+0.2
KHAL	**Karahalli**	**0.58**	**124**	*eP*	Pb	01 00 22.4	-0.4
KHAL				*eS*	Sg	01 00 29.5	+0.3
GDZ	**Gediz**	**0.61**	**50**	*eP*	Pg	01 00 22.7	+0.6
GDZ				*eS*	Sg	01 00 30.2	-0.1

*IDC **23** 01:07:53.6±1.6,21°.29S×169°.61E,h0km,mb3.9/7, mb1 4.1/8,mb1mx3.9/24,mbtmp3.9/8,ML3.8/1,MS3.2/1, Ms1 3.1/1,ms1mx2.6/20,Error ellipse: s-maj=65.5km s-min=22.3km az=149.0*

*ISCJB **23** 01:07:54.3±0.6,21°.4S±0°.1×169°.64E±0°.07,h21km, mb4.1/11,MS3.1/1,Error ellipse: s-maj=20.1km s-min=7.7km az=161.4*

*NEIC **23** 01:08:01.4±1.5,21°.36S×169°.41E,h59km±13km,mb4.5/4, Error ellipse: s-maj=30.0km s-min=12.2km az=159.0*

ISC 23 01:07:56.1±0.8,21°.4S±0°.2×169°.6E±0°.1,h21km,n22, σ1s05/23,mb4.0/11,1D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.04**	**257**	Pn	**Pn**	**01 08 43.9**	**+0.8**
	12nm,0.3s,baz=90,slow=24,SNR=215						
DZM				Sn	**Sn**	**01 09 18.6**	**-0.3**
	baz=90,slow=20						
NOUC	**Port Laguerre**	**3.17**	**257**	*eP*	**Pn**	**01 08 44.6**	**-0.2**
NOUC				*eS*	**Sn**	**01 09 22.4**	**+0.3**
MSVF	**Nonsavu**	**8.73**	**67**	*ePn*	Pn	01 10 08.4	+7.1
	19nm,0.8s						
PMG	**Port Moresby**	**24.70**	**295**	*eP*	**P**	**01 13 13.7**	**-2.2**
	37nm,1.1s						
STKA	**Stephens Creek**	**27.07**	**242**	P	**P**	**01 13 38.7**	**+1.4**
	1.6nm,0.8s,baz=113,slow=8.8,SNR=3.2						
STKA				LR	LR	01 23 27.7	
	comp=Z,55nm,21.1s,baz=25,slow=34						
WRA	**Warramunga Arr**	**33.02**	**266**	P	**P**	**01 14 29.2**	**-0.9**
	0.9nm,0.9s,baz=99,slow=8.3,SNR=2.8						
ASAR	**Alice Springs**	**33.03**	**259**	P	**P**	**01 14 30.4**	**+0.2**
	0.6nm,0.6s,baz=84,slow=8.3,SNR=6.5						
MJAR	**Matsushiro Arr**	**64.84**	**332**	P	**P**	**01 18 34.0**	**+0.4**
	0.9nm,0.3s,baz=166,slow=6.8,SNR=4.5						
SNAA	**Sanae**	**87.02**	**182**	P	**P**	**01 20 38.9**	**-0.7**
SNAA	**Sanae**	**87.02**	**182**	*eP*	**P**	**01 20 38.3**	**-1.3**
	1.3nm,1.0s						
VNA2	**Neumayer--Watz**	**87.89**	**181**	P	**P**	**01 20 42.7**	**-1.0**
	baz=169,slow=4.2						
VNA1	**Neumayer--Stat**	**88.17**	**181**	P	**P**	**01 20 44.0**	**-1.0**
SONM	**Songino Array**	**89.17**	**323**	P	**P**	**01 20 50.8**	**+0.6**
	0.9nm,0.9s,baz=51,slow=1.7,SNR=4.2						
NVAR	**Mina Array Bea**	**89.96**	**48**	P	**P**	**01 20 54.6**	**+0.4**
	0.5nm,0.7s,baz=232,slow=8.4,SNR=4.1						
COLA	**College**	**92.00**	**17**	*eP*	**P**	**01 21 02.2**	**-0.6**
	0.9nm,0.4s						
ILAR	**Eielson Array**	**92.19**	**17**	P	**P**	**01 21 02.5**	**-1.1**
	0.2nm,0.5s,baz=224,slow=5.3,SNR=5.4						
INK	**Inuvik**	**98.48**	**18**	*eP*	**P**	**01 21 32.3**	**0.0**
	1.1nm,0.8s						
ARCES	**ARCESS Array B**	**127.25**	**345**	PKP	**PKPdf**	**01 26 58.6**	**+0.3**
	5.8nm,1.0s,baz=90,slow=2.4,SNR=9.0						
FINES	**FINESS Array B**	**132.73**	**337**	PKP	**PKPdf**	**01 27 11.4**	**+2.6**
	3.6nm,1.1s,baz=318,slow=2.6,SNR=4.0						
CLL	**Collm**	**145.03**	**334**	*i*PKPdf	**PKPdf**	**01 27 31.9**	**+0.3**
	comp=Z,7.0nm,0.9s						
EKA	**Eskdalemuir Ar**	**145.70**	**353**	PKPbc	**PKPdf**	**01 27 32.9**	**+0.2**
	comp=Z,5.0nm,0.6s,baz=0.6,slow=2.5,SNR=20						
GERES	**GERESS Array B**	**146.57**	**331**	PKPbc	**PKPab**	**01 27 36.6**	**-0.4**
	comp=Z,1.8nm,0.6s,baz=64,slow=3.1,SNR=15						

*CSEM **23** 01:34:07.7,42°.49N×13°.19E,h15km,MD1.6/5*

ROM 23 01:34:07.7±0.1,42°.49N×13°.19E,h15km±2km,Md1.6/5, MI1.1/4,Error ellipse: s-maj=2.1km s-min=1.0km az=37.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.16**	**316**	Pg	Pg	01 34 12.1	+0.1
LNSS				Sg	Sg	01 34 15.2	+0.4
	32nm,0.3s						
T0104	**Madonna delle**	**0.17**	**139**	Pg	Pg	01 34 12.2	+0.3
T0104				Sg	Sb	01 34 15.7	-0.1
CAMP	**Campotosto**	**0.17**	**73**	Pg	Pg	01 34 12.2	+0.1
CAMP				Sg	Sg	01 34 15.1	+0.1
	7.0nm,0.7s						
CAMP	**Campotosto**	**0.17**	**73**	Pg	Pg	01 34 12.2	+0.1
CAMP				Sg	Sg	01 34 15.1	+0.1
	7.0nm,0.7s						
SMA1	**SAN MARTINO**	**0.18**	**36**	Pg	Pb	01 34 12.7	-0.2
SMA1				Sg	Sb	01 34 16.0	-0.4
	35nm,0.3s						
SMA1	**SAN MARTINO**	**0.18**	**36**	Pg	Pb	01 34 12.7	-0.2
SMA1				Sg	Sb	01 34 16.0	-0.4
	35nm,0.3s						
T0106	**Roio Piano**	**0.23**	**142**	Pg	Pg	01 34 13.0	0.0

ROM 23 01:34:11.5±0.0,42°.96N×13°.03E,h11km,Md1.4/2,MI0.8/2, Error ellipse: s-maj=0.3km s-min=0.2km az=113.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESI	**CESI - Serrava**	**0.10**	**298**	Pg	Pg	01 34 14.8	+0.4
CESI				Sg	Sg	01 34 17.1	+0.6
	20nm,0.2s						
NRCA	**Norcia**	**0.14**	**153**	Pg	Pg	01 34 15.3	+0.5
	28nm,0.1s						
NRCA	**Norcia**	**0.14**	**153**	Pg	Pg	01 34 15.3	+0.5
NRCA				Sg	Sg	01 34 18.0	+0.8
	28nm,0.1s						
NRCA	**Norcia**	**0.14**	**153**	Pg	Pg	01 34 15.3	+0.5
	28nm,0.1s						
SNTG	**Esanatoglia**	**0.31**	**348**	Pg	Pg	01 34 18.2	+0.4
SNTG				Sg	Sb	01 34 23.2	-1.0

*IDC **23** 01:34:41.8±21.0,53°.05N×170°.36W,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.4/40,mbtmp3.3/4,ML3.1/1,Error ellipse: s-maj=386.6km s-min=47.4km az=87.0*

*ISCJB **23** 01:34:44.9±1.1,52°.8N±0°.1×169°.79W±0°.09,h7km±8km, mb3.4/3,Error ellipse: s-maj=19.4km s-min=5.4km az=157.1*

*NEIC **23** 01:34:46.6,52°.79N×169°.59W,h4km,ML3.4(AEIC),After AEIC.*

ISC 23 01:34:45.1±1.6,52°.92N±0°.09×169°.81W±0°.05,h6km±10km, n19,σ1s35/27,mb3.4/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.58**	**84**	P	**Pg**	**01 34 56.6**	**+0.2**
NIKH				S	**Sg**	**01 35 04.6**	**+0.7**
OKAK	**Okmok**	**1.10**	**52**	P	**Pg**	**01 35 05.6**	**-0.6**
OKAK				S	**Sg**	**01 35 20.2**	**-0.1**
OKCE	**Okmok Cone E**	**1.11**	**62**	P	**Pb**	**01 35 07.0**	**+0.1**
OKCE				S	**Sn**	**01 35 23.1**	**+0.2**
OKTU	**Okmok Mt. Tuli**	**1.16**	**66**	P	**Pn**	**01 35 08.5**	**+0.5**
OKFG	**Magazine Ridge**	**1.25**	**66**	P	**Pg**	**01 35 08.8**	**-0.2**
OKFG				S	**Sb**	**01 35 25.6**	**+0.3**
MSOM	**Makushin Julie**	**1.94**	**61**	P	**Pn**	**01 35 19.7**	**+1.1**
MSOM				S	**Sn**	**01 35 45.6**	**+0.4**
MCIR	**Makushin Cirqu**	**2.03**	**58**	P	**Pb**	**01 35 21.9**	**-0.5**
MSW	**Makushin Switc**	**2.07**	**60**	P	**Pn**	**01 35 21.8**	**+1.4**
MSW				S	**Sb**	**01 35 49.3**	**+0.3**
MTBL	**Makushin Table**	**2.15**	**59**	P	**Pn**	**01 35 23.1**	**+1.5**
UNV	**Unalaska Valle**	**2.19**	**64**	P	**Pn**	**01 35 22.6**	**+0.6**
UNV				S	**Sn**	**01 35 50.2**	**+0.8**
AKUT	**Akutan**	**2.70**	**62**	*ePn*	**Pn**	**01 35 30.9**	**+1.9**
AKUT				*eSg*	**Sb**	**01 36 07.1**	**0.0**
ATKA	**Atka Island**	**2.77**	**257**	P	**Pn**	**01 35 30.6**	**+0.6**
GSTR	**Great Sitkin T**	**3.91**	**260**	P	**Pn**	**01 35 47.1**	**+1.5**
GSCK	**Great Sitkin C**	**3.99**	**259**	P	**Pn**	**01 35 48.0**	**+1.2**
SPIA	**Saint Paul Isl**	**4.28**	**357**	P	**Pn**	**01 35 53.1**	**+2.5**
ILAR	**Eielson Array**	**16.66**	**36**	Pn	**Pn**	**01 38 34.5**	**-4.4**
	0.0nm,0.3s,baz=225,slow=10.0,SNR=2.8						
NVAR	**Mina Array Bea**	**37.94**	**91**	P	**P**	**01 42 03.7**	**+0.2**
	0.1nm,0.3s,baz=305,slow=9.5,SNR=3.4						
PDAR	**Pinedale Array**	**40.57**	**79**	P	**P**	**01 42 25.9**	**+0.5**
	0.5nm,0.6s,baz=318,slow=4.5,SNR=4.8						
TXAR	**Lajitas Array**	**53.01**	**89**	P	**P**	**01 44 02.5**	**-0.3**
	0.8nm,0.8s,baz=296,slow=5.5,SNR=7.6						

*IDC **23** 01:36:34.1±3.9,6°.00S×130°.24E,h46km±48km,mb3.8/2, mb1 4.0/5,mb1mx3.5/28,mbtmp4.1/5,ML4.0/3,Error ellipse: s-maj=96.1km s-min=21.0km az=77.0*

*ISCJB **23** 01:36:35.5±0.7,5°.93S±0°.05×130°.6E±0°.2,h86km,mb3.8/2, Error ellipse: s-maj=27.3km s-min=7.3km az=1.3*

ISC 23 01:36:37.0±0.9,5°.85S±0°.07×130°.6E±0°.2,h86km,n13, σ1s20/12,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**3.34**	**30**	P	**Pn**	**01 37 28.0**	**+0.9**
	baz=3.3,SNR=15						
SIJI	**Sorong**	**4.99**	**8**	P	**Pn**	**01 37 50.4**	**+0.9**
	5.7nm,0.3s,baz=217,slow=23,SNR=35						
SIJI				S	**Sn**	**01 38 43.5**	**-2.4**
	8.6nm,0.3s,baz=228,slow=23,SNR=14						
SWI	**Sorong**	**5.00**	**8**	P	**Pn**	**01 37 50.5**	**+0.9**
	baz=5.1,SNR=4.5						
MTN	**Manton Dam**	**6.97**	**176**	P	**Pn**	**01 38 16.6**

ISC 23 01:57:08.5±0.4, 17°92S±0°08×178°50W±0°07, h579km, n138, σ1s11/160, mb4.5/33, 7C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.29**	**273**	*eP*	**P**	**01 58 29.4**	**+1.6**
AFI	**Afiamalu**	**7.60**	**59**	P	**P**	**01 59 01.5**	**-1.9**
	9.1nm,0.3s,baz=133,slow=12,SNR=5.9						
NIUE	**Niue**	**8.21**	**99**	P	**P**	**01 59 09.4**	**+0.2**
	baz=9.2,SNR=5.0						
DZM	**Mont Dzumac**	**14.74**	**251**	P	**P**	**02 00 13.7**	**-1.3**
	1.9nm,0.3s,baz=194,slow=1.9,SNR=24						
URZ	**Urewera**	**20.62**	**190**	P	**P**	**02 01 07.2**	**-1.4**
	5.9nm,0.5s,baz=351,slow=11,SNR=3.9						
EIDS	**Eidsvold**	**29.18**	**250**	P	**P**	**02 02 24.2**	**-0.2**
	baz=28,SNR=4.4						
EIDS	**Eidsvold**	**29.18**	**250**	*eP*	**P**	**02 02 24.2**	**-0.2**
	17nm,0.8s						
ARMA	**Armidale**	**29.86**	**240**	P	**P**	**02 02 31.2**	**+0.9**
	baz=29,SNR=16						
MGCD	**Mangrove Creek**	**31.22**	**235**	P	**P**	**02 02 43.1**	**+1.3**
	baz=31,SNR=9.5						
RMQ	**Roma**	**31.42**	**248**	P	**P**	**02 02 44.4**	**+0.8**
	baz=31,SNR=7.3						
CNB	**Canberra Magne**	**33.35**	**232**	P	**P**	**02 03 00.8**	**+0.9**
	baz=33,SNR=23						
CTA	**Charters Tower**	**33.36**	**261**	P	**P**	**02 02 59.9**	**-0.3**
	15nm,0.6s,baz=96,slow=11,SNR=10						
CTAO	**Charters Tower**	**33.36**	**261**	*eP*	**P**	**02 02 59.3**	**-0.8**
	17nm,0.7s						
PMG	**Port Moresby**	**34.38**	**280**	P	**P**	**02 03 09.6**	**+0.9**
	42nm,0.8s,baz=71,slow=5.7,SNR=7.2						
PMG	**Port Moresby**	**34.38**	**280**	P	**P**	**02 03 09.6**	**+0.9**
	baz=33,SNR=3.9						
PMG				P	**P**	**02 03 09.6**	**+0.9**
	baz=33,SNR=3.9						
PMG				P	**P**	**02 03 09.6**	**+0.9**
	baz=33,SNR=3.9						
PMG	**Port Moresby**	**34.38**	**280**	*eP*	**P**	**02 03 09.2**	**+0.5**
	49nm,0.9s						
CMSA	**Cobar Meteorol**	**35.07**	**240**	P	**P**	**02 03 14.5**	**+0.3**
	baz=34,SNR=58						
MTSU	**Mount Surprise**	**35.32**	**264**	P	**P**	**02 03 16.1**	**-0.4**
	baz=34,SNR=8.8						
QLP	**Quilpie**	**35.45**	**249**	P	**P**	**02 03 17.3**	**-0.1**
	baz=35,SNR=29						
COEN	**Coen**	**37.02**	**270**	P	**P**	**02 03 30.9**	**+0.4**
	baz=36,SNR=18						
COEN	**Coen**	**37.02**	**270**	*eP*	**P**	**02 03 30.5**	**0.0**
TOO	**Toolangi**	**37.09**	**231**	P	**P**	**02 03 31.5**	**+0.7**
	baz=36,SNR=12						
STKA	**Stephens Creek**	**38.55**	**241**	P	**P**	**02 03 43.4**	**+0.7**
	29nm,0.5s,baz=91,slow=9.8,SNR=128						
STKA	**Stephens Creek**	**38.55**	**241**	*eP*	**P**	**02 03 43.5**	**+0.7**
	6.3nm,0.6s						
QIS	**Mount Isa**	**39.57**	**259**	P	**P**	**02 03 50.3**	**-0.7**
	baz=39,SNR=4.5						
ARPS	**Mount Arapiles**	**39.57**	**234**	P	**P**	**02 03 51.3**	**+0.4**
	baz=39,SNR=6.8						
HTT	**Hallett**	**41.06**	**239**	P	**P**	**02 04 03.2**	**+0.4**
	baz=40,SNR=49						
JAY	**Jayapura**	**42.83**	**286**	P	**P**	**02 04 17.3**	**+0.3**
	16nm,0.4s,baz=175,slow=5.7,SNR=21						
JAY	**Jayapura**	**42.83**	**286**	P	**P**	**02 04 17.5**	**+0.6**
	baz=42,SNR=11						
BBOO	**Buckleboo**	**43.33**	**241**	P	**P**	**02 04 20.6**	**+0.1**
	baz=43,SNR=95						
BBOO	**Buckleboo**	**43.33**	**241**	*eP*	**P**	**02 04 20.6**	**+0.1**
WRAB	**Tennant Creek**	**44.54**	**260**	*eP*	**P**	**02 04 28.5**	**-1.5**
	24nm,0.5s						
WRA	**Warramunga Arr**	**44.55**	**260**	P	**P**	**02 04 29.1**	**-1.0**
	14nm,0.4s,baz=92,slow=7.9,SNR=46						
WRA				PcP	**PcP**	**02 06 00.4**	**-0.2**
	1.9nm,0.4s,baz=93,slow=3.4,SNR=4.7						
AS31	**Alice Springs**	**44.70**	**254**	*eP*	**P**	**02 04 30.9**	**-0.5**
ASAR	**Alice Springs**	**44.71**	**254**	P	**P**	**02 04 31.1**	**-0.2**
	119nm,0.6s,baz=87,slow=8.5,SNR=583						
ASAR				PcP	**PcP**	**02 06 01.0**	**-0.1**
	2.9nm,0.4s,baz=108,slow=3.9,SNR=4.5						
ASAR				S	**S**	**02 10 25.4**	**-1.4**
	0.4nm,0.6s,baz=89,slow=15,SNR=4.7						
KDU	**Kakadu**	**47.47**	**269**	P	**P**	**02 04 51.8**	**-0.5**
	baz=46,SNR=12						
MTN	**Manton Dam**	**48.72**	**268**	P	**P**	**02 05 00.8**	**-0.7**
	baz=48,SNR=7.0						
MTN	**Manton Dam**	**48.72**	**268**	*eP*	**P**	**02 05 00.8**	**-0.7**
	22nm,0.8s						
WRKA	**Warakurna**	**49.76**	**252**	P	**P**	**02 05 09.0**	**-0.2**
	baz=49,SNR=52						
FORT	**Forrest**	**49.92**	**245**	P	**P**	**02 05 09.3**	**-0.8**
	baz=49,SNR=17						
FORT	**Forrest**	**49.92**	**245**	*eP*	**P**	**02 05 09.2**	**-1.0**
	42nm,0.6s						
KNRA	**Kununurra**	**50.40**	**264**	P	**P**	**02 05 13.3**	**-0.6**
	baz=49,SNR=11						
FAKI	**Fak Fak**	**50.50**	**281**	P	**P**	**02 05 14.2**	**-0.5**
	baz=50,SNR=5.4						
SIJI	**Sorong**	**52.16**	**283**	P	**P**	**02 05 26.6**	**0.0**
	56nm,0.8s,baz=90,slow=6.2,SNR=28						
KMBL	**Kambalda**	**55.23**	**244**	P	**P**	**02 05 47.1**	**-0.9**
	baz=54,SNR=7.1						
MBWA	**Marble Bar**	**57.99**	**256**	*eP*	**P**	**02 06 05.9**	**-1.1**
	20nm,0.7s						
MEEK	**Meekatharra**	**58.35**	**249**	P	**P**	**02 06 08.5**	**-0.9**
	baz=58,SNR=8.8						
KLBR	**Kellerberrin**	**58.75**	**244**	P	**P**	**02 06 11.2**	**-0.8**
	baz=58,SNR=24						
NWAO	**Narrogin (SRO)**	**59.13**	**242**	P	**P**	**02 06 14.1**	**-0.4**
	6.4nm,0.5s,baz=151,slow=4.6,SNR=9.6						
NWAO	**Narrogin (SRO)**	**59.13**	**242**	P	**P**	**02 06 14.2**	**-0.4**
	baz=58,SNR=7.2						
NWAO				P	**P**	**02 06 14.2**	**-0.4**
	baz=58,SNR=7.2						
RKGY	**Rocky Gully**	**59.29**	**240**	P	**P**	**02 06 15.7**	**+0.1**
	baz=58,SNR=5.3						
BLDU	**Ballidu**	**59.70**	**245**	P	**P**	**02 06 17.4**	**-0.9**
	baz=59,SNR=23						
MORW	**Morawa**	**60.40**	**246**	P	**P**	**02 06 22.4**	**-0.6**
	baz=60,SNR=7.9						
KAPI	**Kappang**	**61.61**	**274**	*eP*	**P**	**02 06 30.8**	**-0.4**
GIRL	**Giralia**	**62.81**	**253**	P	**P**	**02 06 39.6**	**+0.8**
	baz=62,SNR=6.1						
MJAR	**Matsushiro Arr**	**67.87**	**323**	P	**P**	**02 07 09.4**	**-0.6**
	2.1nm,0.5s,baz=164,slow=7.0,SNR=6.5						
UGM	**Wanagama**	**69.56**	**268**	P	**P**	**02 07 20.5**	**-0.3**
	baz=69,SNR=5.2						
QSPA	**South Pole Qui**	**72.13**	**180**	*eP*	**P**	**02 07 35.6**	**+0.6**
	111nm,3.0s						
KSM	**Kuching**	**72.60**	**277**	*eP*	**P**	**02 07 38.6**	**+0.1**
	29nm,1.1s						
LEM	**Lembang**	**72.63**	**268**	P	**P**	**02 07 38.7**	**-0.2**
	58nm,0.7s,baz=26,slow=8.6,SNR=4.2						
CMB	**Columbia Colle**	**77.91**	**43**	*eP*	**P**	**02 08 08.4**	**+0.9**
WAKR	**Walker**	**78.79**	**43**	*eP*	**P**	**02 08 13.0**	**+0.6**
	4.2nm,1.1s						
NVAR	**Mina Array Bea**	**79.49**	**44**	P	**P**	**02 08 16.1**	**0.0**
	2.6nm,0.8s,baz=225,slow=9.0,SNR=11						
MOD	**Modoc**	**80.15**	**40**	*eP*	**P**	**02 08 20.5**	**+1.0**
RSO	**Redoubt South**	**80.84**	**13**	*eP*	**P**	**02 08 21.2**	**-1.4**
WVOR	**Wild Horse Val**	**81.47**	**40**	*eP*	**P**	**02 08 26.8**	**+0.6**
	5.6nm,1.0s						
TUC	**Tucson**	**81.78**	**52**	*eP*	**P**	**02 08 29.9**	**+2.0**
IPM	**Ipoh**	**82.34**	**277**	*eP*	**P**	**02 08 31.2**	**+0.1**
	7.9nm,0.5s						
ELK	**Elko**	**82.73**	**43**	*eP*	**P**	**02 08 33.5**	**+0.8**
	1.6nm,0.8s						
CAST	**Castle Rocks**	**83.66**	**12**	*eP*	**P**	**02 08 35.1**	**-1.4**
MFID	**Camas Ranch**	**83.74**	**41**	*eP*	**P**	**02 08 37.5**	**-0.1**
SEY	**Seymchan**	**83.77**	**347**	P	**P**	**02 08 35.9**	**-1.2**
	1.5nm,0.5s,baz=32,slow=4.5,SNR=4.0						
PSI	**Prapat**	**83.80**	**275**	P	**P**	**02 08 37.7**	**-0.8**
	4.9nm,0.4s,baz=65,slow=11,SNR=4.1						
MAW	**Mawson**	**83.82**	**200**	P	**P**	**02 08 37.4**	**0.0**
	2.6nm,0.4s,baz=168,slow=5.5,SNR=11						
TRF	**Thorofare Moun**	**84.05**	**12**	*eP*	**P**	**02 08 37.9**	**-0.8**
HLID	**Hailey**	**84.70**	**41**	*eP*	**P**	**02 08 42.9**	**+0.6**
	3.8nm,1.1s						
GYA	**Guiyang**	**84.97**	**300**	*eP*	**P**	**02 08 44.0**	**0.0**
GYA				pP	**pP**	**02 10 51.3**	**+3.1**
GYA				sP	**sP**	**02 11 49.8**	**+3.2**
GYA				PP	**PP**	**02 12 14.0**	**+2.0**
GYA				SKS	**SKSac**	**02 18 10.4**	**-3.7**
GYA				S	**SKKSac**	**02 18 23.6**	**+1.3**
GYA				PMZ			
	10.0nm,1.0s						
NEW	**Newport**	**85.57**	**36**	*eP*	**P**	**02 08 45.7**	**-0.5**
	8.8nm,1.4s						
ILAR	**Eielson Array**	**85.92**	**13**	P	**P**	**02 08 46.5**	**-1.0**
	0.8nm,0.4s,baz=225,slow=5.0,SNR=15						
TXAR	**Lajitas Array**	**86.07**	**58**	P	**P**	**02 08 49.5**	**+0.3**
	1.5nm,0.6s,baz=232,slow=4.1,SNR=13						
IMW	**Indian Meadow**	**87.05**	**42**	*eP*	**P**	**02 08 54.8**	**+1.1**
LOHW	**Long Hollow**	**87.13**	**42**	*eP*	**P**	**02 08 54.4**	**+0.4**
HHC	**Hu-ho-hao-te**	**87.22**	**314**	*eP*	**P**	**02 08 54.3**	**0.0**
HHC				PP	**PP**	**02 12 34.3**	**+4.7**
HHC				S	**S**	**02 18 43.0**	**-3.4**
HHC				SS	**SS**	**02 24 45.8**	**-3.0**
HHC				PMZ			
	28nm,1.0s						
HHC				PMZ			
	77nm,4.4s						
BW06	**Boulder Array**	**87.42**	**43**	*eP*	**P**	**02 08 55.6**	**+0.2**
	7.0nm,1.3s						
PDAR	**Pinedale Array**	**87.42**	**43**	P	**P**	**02 08 55.8**	**+0.4**
	1.5nm,0.6s,baz=235,slow=1.7,SNR=15						
KMI	**Kunming**	**87.76**	**297**	P	P	02 09 00.6	+3.3
KMI				PMZ			
	6.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**88.81**	**290**	P	**P**	**02 09 03.4**	**+1.3**
	1.4nm,0.3s,baz=124,slow=5.6,SNR=9.8						
CD2	**Chengdu**	**89.01**	**303**	P	**P**	**02 09 02.3**	**-0.5**
CD2				pP	**pP**	**02 11 10.3**	**+1.8**
CD2				sP	**sP**	**02 12 09.8**	**+3.4**
CD2				PP	**PP**	**02 12 42.8**	**-0.9**
CD2				S	**S**	**02 19 00.8**	**-2.3**
CD2				sS	**sS**	**02 22 50.0**	**+2.7**
CD2				SS	**SS**	**02 25 13.3**	**-1.4**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,7.8s						
SNAA	**Sanae**	**90.58**	**179**	P	**P**	**02 09 08.9**	**-0.5**
LZH	**Lanzhou**	**90.83**	**308**	*eP*	**P**	**02 09 10.3**	**-1.0**
LZH				pP	**pP**	**02 11 18.3**	**+1.0**
LZH				sP	**sP**	**02 12 17.5**	**+2.4**
LZH				PP	**PP**	**02 12 59.5**	**+1.5**
LZH				PMZ			
	17nm,1.3s						
LZH				PMZ			
	75nm,8.6s						
VNA2	**Neumayer--Watz**	**91.17**	**177**	P	**P**	**02 09 11.7**	**-0.3**
	baz=192,slow=4.0						
VNA1	**Neumayer--Stat**	**91.39**	**177**	P	**P**	**02 09 13.6**	**+0.6**
YKA	**Yellowknife Ar**	**94.38**	**25**	P	**P**	**02 09 26.7**	**0.0**
	0.5nm,0.9s,baz=239,slow=4.3,SNR=3.4						
MKAR	**Makanchi Array**	**109.09**	**314**	PKiKP	**PKiKP**	**02 14 31.9**	**-1.2**
	0.6nm,0.5s,baz=162,slow=1.0,SNR=8.6						
ABKAR	**Akbulak array**	**123.89**	**318**	*e*PKPdf	**PKPdf**	**02 15 01.0**	**-0.3**
NAO01	**NORSAR Array S**	**136.61**	**353**	*e*PKPdf	**PKPdf**	**02 15 23.8**	**-1.2**
KIV	**Kislovodsk**	**136.81**	**316**	*e*PKPdf	**PKPdf**	**02 15 26.4**	**+0.3**
AKASG	**Malin Array Be**	**140.54**	**332**	PKhKP	PKPpre	02 15 25.0	
	0.3nm,0.4s,baz=47,slow=4.5,SNR=4.2						
AKASG				PKP	**PKPdf**	**02 15 32.9**	**+0.4**
	0.6nm,0.4s,baz=48,slow=4.5,SNR=5.3						
BUR08	**Bucovina Ar. S**	**144.57**	**332**	*e*PKPdf	**PKPab**	**02 15 40.9**	**0.0**
BURAR	**Bucovina Array**	**144.59**	**332**	*i*P	**PKPab**	**02 15 40.9**	**+0.1**
BR131	**Keskin Array S**	**144.73**	**315**	*e*PKPdf	**PKPdf**	**02 15 40.2**	**-0.2**
BRTR	**Keskin Array B**	**144.73**	**315**	PKP	**PKPdf**	**02 15 40.5**	**0.0**
	4.1nm,0.9s,baz=104,slow=3.2,SNR=23						
CFR	**Carcaliu**	**144.90**	**327**	*i*P	PKPbc	02 15 41.2	+0.2
NIE	**Niedzica**	**145.10**	**338**	*e*PKP	**PKPbc**	**02 15 41.9**	**+0.3**
TRPA	**Tarpa**	**145.33**	**335**	*i*P	**PKPbc**	**02 15 42.2**	**0.0**
CLZ	**Clausthal**	**145.44**	**350**	*e*PKPbc	**PKPbc**	**02 15 42.9**	**+0.4**
CLL	**Collm**	**145.46**	**347**	*e*PKPbc	**PKPbc**	**02 15 42.7**	**+0.2**
CLL	**Collm**	**145.46**	**347**	*i*PKPbc	**PKPbc**	**02 15 42.3**	**-0.2**
	comp=Z,4.0nm,0.8s						
UPC	**Upice**	**145.48**	**344**	*e*PKP	**PKPbc**	**02 15 42.7**	**+0.1**
DPC	**Dobruska-Polom**	**145.54**	**343**	*e*PKP	**PKPbc**	**02 15 43.3**	**+0.5**
BRG	**Berggiesshubel**	**145.66**	**346**	*e*PKP	**PKPbc**	**02 15 43.1**	**0.0**
	comp=Z,2.6nm,0.8s						
BRG	**Berggiesshubel**	**145.66**	**346**	*e*PKPbc	**PKPbc**	**02 15 43.6**	**+0.5**
DOPR	**Dopca**	**145.73**	**330**	*i*P	**PKPbc**	**02 15 44.3**	**+0.8**
FBE	**Freiberg**	**145.75**	**347**	*e*PKPbc	**PKPbc**	**02 15 44.1**	**+0.8**
MLR	**Muntele Rosu**	**145.80**	**329**	*i*P	**PKPbc**	**02 15 44.9**	**+1.0**
PRU	**Pruhonice**	**146.34**	**345**	*e*PKP	**PKPbc**	**02 15 45.0**	**0.0**
PLN	**Plauen**	**146.41**	**348**	*e*PKPbc	**PKPbc**	**02 15 45.6**	**+0.4**
TANN	**Tannenbergstha**	**146.42**	**347**	*e*PKPbc	**PKPbc**	**02 15 45.7**	**+0.4**
WERD	**Werda**	**146.42**	**347**	*e*PKPbc	**PKPbc**	**02 15 45.6**	**+0.3**
GUNZ	**Gunzen**	**146.49**	**347**	*e*PKPbc	**PKPbc**	**02 15 46.0**	**+0.5**
MANZ	**Manzenberg**	**146.90**	**347**	*e*PKPbc	**PKPbc**	**02 15 47.0**	**+0.4**
CSS	**Prodhromos**	**147.02**	**307**	*e*PKPbc	**PKPbc**	**02 15 46.8**	**-0.6**
ROTZ	**Rotzenmuhle**	**147.09**	**347**	*e*PKPbc	**PKPbc**	**02 15 47.8**	**+0.8**
SIRR	**Siria**	**147.18**	**334**	*i*P	**PKPbc**	**02 15 47.7**	**+0.3**
TNS	**Taunus Mts**	**147.30**	**352**	*e*PKPbc	**PKPbc**	**02 15 48.6**	**+1.0**
KHC	**Kasperske Hory**	**147.37**	**345**	*e*PKP	**PKPbc**	**02 15 48.5**	**+0.7**
GEC2	**GERESS Array S**	**147.61**	**345**	*e*PKPbc	**PKPbc**	**02 15 48.9**	**+0.4**
GERES	**GERESS Array B**	**147.61**	**345**	PKPbc	**PKPbc**	**02 15 48.4**	**-0.1**
	comp=Z,1.7nm,0.5s,baz=21,slow=3.0,SNR=18						
BZS	**Buzias**	**147.71**	**333**	*i*P	**PKPbc**	**02 15 48.6**	**-0.2**
BFO	**Black Forest**	**149.17**	**351**	*e*PKPbc	**PKPbc**	**02 15 52.4**	**+0.1**
VTS	**Vitosha**	**149.26**	**328**	*i*P	**PKPbc**	**02 15 52.6**	**-0.3**
WTTA	**Wattenberg**	**149.58**	**346**	*i*PKiKP	**PKPbc**	**02 15 53.4**	**-0.1**
	comp=Z,5.2nm,0.6s						
VNDS	**Vrh nad Dolski**	**149.84**	**342**	*i* PKPbc	**PKPbc**	**02 15 53.5**	**-0.5**
ABTA	**Abfaltersbach**	**149.85**	**345**	*i*PKPbc	**PKPbc**	**02 15 53.1**	**-1.0**
	comp=Z,3.4nm,0.6s						
CRNS	**Crni Vrh**	**149.99**	**342**	*i* PKPbc	**PKPbc**	**02 15 53.7**	**-0.7**
BOJS	**Bojanci**	**150.21**	**340**	*i* PKPbc	**PKPbc**	**02 15 54.9**	**0.0**
AQU	**L'Aquila**	**153.62**	**340**	*e*PKPdf	**PKPdf**	**02 15 54.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**175.25**	**182**	PKP	**PKPdf**	**02 16 12.6**	**-0.9**
	comp=Z,0.7nm,1.0s,baz=145,slow=5.3,SNR=3.1						
TORD				PKPab	**PKPab**	**02 17 52.7**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=169,slow=3.4,SNR=4.6						

*IDC **23** 01:58:42.7±0.8, 1°25N×126°46E, h0km, mb4.2/7, mb1 4.3/8, mb1mx3.9/38, mbtmp4.2/8, ML3.5/1, MS3.2/2, Ms1 3.2/2, ms1mx2.5/30, Error ellipse: s-maj=58.5km s-min=13.1km az=68.0*

*ISCJB **23** 01:58:52.3±0.5, 1°29N±0°06×126°89E±0°05, h100km, mb4.2/12, Error ellipse: s-maj=8.7km s-min=6.9km az=23.2*

*NEIC **23** 01:58:52.5±0.8, 1°35N×126°91E, h82km±8km, mb4.4/5, Error ellipse: s-maj=13.1km s-min=8.3km az=50.0*

ISC 23 01:58:53.7±0.7, 1°22N±0°10×126°95E±0°08, h100km, n25, σ1s35/23, mb4.2/12, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.61**	**137**	P	Pn	01 59 07.2	-3.1
	4µm,0.6s,63µm						
TNTI	**Ternate**	**0.61**	**137**	*e*Pn	Pn	01 59 07.1	-3.3
TNTI				*e*Sn	**Sn**	**01 59 20.3**	**-2.5**
LBMI	**Labuha**	**1.92**	**163**	P	**Pn**	**01 59 25.2**	**-0.1**
	324nm,0.9s,8µm						
KMSI	**Cibinong**	**3.04**	**258**	P	**Pn**	**01 59 39.2**	**-0.8**
	1µm,0.6s,14µm						
LUWI	**Luwuk**	**4.74**	**242**	*e*Pn	**Pn**	**02 00 03.1**	**+0.2**
LUWI				*e*Sn	**Sn**	**02 00 55.0**	**-1.9**
SIJI	**Sorong**	**4.79**	**116**	Pn	**Pn**	**02 00 02.5**	**-1.0**
	1.5nm,0.3s,baz=209,slow=22,SNR=5.3						
SIJI				LR	LR	02 02 15.7	
	comp=Z,131nm,20.1s,baz=114,slow=41						
MRSI	**Marisa**	**5.06**	**262**	P	**Pn**	**02 00 06.8**	**-0.5**
	64nm,0.5s,1µm						
APSI	**Ampana**	**5.71**	**248**	P	**Pn**	**02 00 16.1**	**0.0**
FAKI	**Fak Fak**	**6.70**	**128**	*e*Pn	**Pn**	**02 00 32.3**	**+2.7**
KAPI	**Kappang**	**9.49**	**229**	*e*Pn	**Pn**	**02 01 06.8**	**-0.7**
WRAB	**Tennant Creek**	**22.24**	**161**	*e*P	**P**	**02 03 43.5**	**+1.1**
	9.2nm,0.3s						
WRA	**Warramunga Arr**	**22.24**	**161**	P	**P**	**02 03 43.5**	**+1.1**
	5.1nm,0.3s,baz=338,slow=11,SNR=20						
AS31	**Alice Springs**	**25.64**	**165**	*e*P	**P**	**02 04 16.1**	**+1.9**
ASAR	**Alice Springs**	**25.64**	**165**	P	**P**	**02 04 15.4**	**+1.2**
	2.9nm,0.5s,baz=351,slow=15,SNR=32						
ASAR				S	S	02 08 48.1	+13
	1.6nm,0.9s,baz=339,slow=18,SNR=8.0						
ASAR				LR	LR	02 16 17.8	
	comp=Z,80nm,18.1s,baz=307,slow=41						
STKA	**Stephens Creek**	**35.72**	**158**	P	**P**	**02 05 45.0**	**+2.2**
	2.2nm,0.3s,baz=337,slow=9.0,SNR=5.3						
SONM	**Songino Array**	**49.74**	**342**	P	**P**	**02 07 35.6**	**-0.3**
	1.2nm,0.7s,baz=159,slow=8.9,SNR=8.0						
MK31	**Makanchi Array**	**59.74**	**326**	*e*P	**P**	**02 08 48.0**	**-0.1**
MKAR	**Makanchi Array**	**59.74**	**326**	P	P	02 08 48.3	+0.2
	1.4nm,0.4s,baz=120,slow=8.2,SNR=18						
TKM2	**Tokmak 2**	**61.77**	**319**	*e*P	**P**	**02 09 02.1**	**-0.1**
	1.9nm,0.6s						
EKS2	**Erkin-Say**	**62.85**	**318**	*e*P	P	02 09 09.6	+0.3
	7.7nm,1.2s						
ZALV	**Zalesovo Beam**	**62.92**	**334**	P	**P**	**02 09 08.7**	**-0.6**
	0.5nm,0.4s,baz=127,slow=5.9,SNR=2.6						
BRVK	**Borovoye**	**69.61**	**327**	*e*P	**P**	**02 09 52.2**	**+0.1**
	2.2nm,0.6s						
ABKAR	**Akbulak array**	**74.23**	**321**	*e*P	**P**	**02 10 19.7**	**-0.1**
	0.4nm,0.5s						
VNDA	**Vanda**	**80.92**	**173**	P	**P**	**02 10 58.5**	**+2.1**
	1.2nm,0.5s,baz=310,slow=7.0,SNR=9.2						
TORD	**Torodi Ar. Bea**	**123.88**	**287**	PKP	**PKPdf**	**02 17 41.5**	**+0.4**
	0.4nm,0.9s,baz=123,slow=1.9,SNR=5.2						

*IDC **23** 02:22:42.7±7.7, 18°01S×167°90E, h63km±82km, mb4.2/4, mb1 4.4/5, mb1mx3.7/35, mbtmp4.4/5, ML4.0/1, Error ellipse: s-maj=114.5km s-min=51.2km az=111.0*

ISC 23 02:22:42.5±3.7, 17°95S±0°1×167°4E±0°5, h32km, n7, σ1s42/10, mb4.3/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.27**	**192**	P	**Pn**	**02 23 46.5**	**+1.1**
	8.0nm,0.3s,baz=4.5,slow=3.4,SNR=74						
DZM				S	**Sn**	**02 24 33.6**	**-0.6**
	14nm,0.3s,baz=180,slow=20,SNR=6.1						
DZM	**Mont Dzumac**	**4.27**	**192**	*eP*	**Pn**	**02 23 46.2**	**+0.8**
DZM				*eS*	**Sn**	**02 24 34.6**	**+0.4**
NOUC	**Port Laguerre**	**4.33**	**194**	*eP*	**Pn**	**02 23 46.7**	**+0.6**
NOUC				*eS*	**Sn**	**02 24 32.7**	**-2.8**
STKA	**Stephens Creek**	**27.18**	**234**	P	**P**	**02 28 24.0**	**+0.8**
	5.9nm,0.8s,baz=58,slow=7.5,SNR=15						
WRA	**Warramunga Arr**	**31.34**	**261**	P	**P**	**02 29 00.8**	**+0.5**
	1.4nm,0.5s,baz=91,slow=9.0,SNR=7.0						
ASAR	**Alice Springs**	**31.82**	**254**	P	**P**	**02 29 05.3**	**+0.7**
	9.3nm,0.6s,baz=80,slow=8.9,SNR=86						
CMAR	**Chiang Mai Arr**	**76.38**	**295**	P	**P**	**02 34 27.7**	**-1.5**
	1.0nm,0.3s,baz=138,slow=2.4,SNR=5.2						

IDC 23 02:25:26.1±4.0, 55°95S×26°91W, h0km, mb3.8/2, mb1 3.9/2, mb1mx3.6/18, mbtmp3.8/2, Error ellipse: s-maj=137.5km s-min=51.0km az=173.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**50.45**	**305**	P	P	02 34 26.0	-0.2
	0.9nm,0.4s,baz=144,slow=3.1,SNR=7.4						
TORD	**Torodi Ar. Bea**	**72.89**	**29**	P	P	02 36 56.7	0.0
	0.2nm,0.5s,baz=205,slow=6.3,SNR=4.8						
ILAR	**Eielson Array**	**150.16**	**312**	PKPbc	PKPbc	02 45 16.9	-0.4
	0.3nm,0.7s,baz=116,slow=2.1,SNR=6.1						

MEX 23 02:29:47.8±0.5, 15°99N×98°71W, h2km±14km, MD3.6, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.69**	**54**	*eP*	**Pg**	**02 30 00.8**	**-0.3**
PNIG				*i* S	Sg	02 30 10.3	+0.2
TLIG	**Tlapa**	**1.57**	**5**	*eP*	Pn	02 30 12.5	-4.4
TLIG				*eS*	Sn	02 30 33.0	-5.0
MEIG	**Mezcala**	**2.11**	**336**	*eP*	Pn	02 30 21.4	-3.0
MEIG				*i* S	Sn	02 30 47.3	-4.0
VHO	**Vista Hermosa**	**2.18**	**60**	*i* P	Pn	02 30 21.8	-3.5
VHO				*i* S	Sn	02 30 49.3	-3.8
PLIG	**Platanillo**	**2.51**	**342**	*eP*	Pn	02 30 26.2	-3.6
PLIG				*i* S	Sn

PDO	**Prodromos**	**0.74**	**348**	P		**Pb**	**02 36 39.5 +0.1**
PDO	**Prodromos**	**0.74**	**348**	*e*Pb		**Pg**	**02 36 39.8 +0.2**
PDO				*e*Sb		**Sg**	**02 36 50.2 +0.7**
PDO				S		**Sn**	**02 36 51.3 -0.2**
PDO	**Prodromos**	**0.74**	**348**	P		**Pg**	**02 36 39.7 +0.2**
PVO	**Paravola**	**0.75**	**9**	*e*PB		**Pg**	**02 36 40.1 +0.3**
PVO				*e*Sb		**Sn**	**02 36 51.1 -0.6**
PVO	**Paravola**	**0.75**	**9**	P		**Pg**	**02 36 40.0 +0.3**
PVO				*e*Sb		**Sn**	**02 36 51.1 -0.6**
GUR	**Goura**	**0.76**	**85**	*e*PG		**Pb**	**02 36 39.3 -0.5**
GUR				*e*SB		**Sg**	**02 36 50.7 +0.6**
GUR	**Goura**	**0.76**	**85**	*e*Pg		**Pb**	**02 36 39.3 -0.5**
GUR				*e*Sb		**Sg**	**02 36 50.7 +0.6**
GUR				S		**Sg**	**02 36 51.1 +1.0**
GUR	**Goura**	**0.76**	**85**	P		**Pg**	**02 36 39.2 -0.5**
GUR				S		**Sg**	**02 36 51.1 +1.0**
KALE	**Kalithea**	**0.79**	**49**	*e*PG		**Pb**	**02 36 40.2 -0.1**
KALE				*e*SB		**Sb**	**02 36 51.0 +0.3**
KALE	**Kalithea**	**0.79**	**49**	*e*Pg		**Pb**	**02 36 40.2 -0.1**
KALE				*e*Sb		**Sb**	**02 36 51.0 +0.3**
KALE				S		**Sn**	**02 36 52.5 -0.2**
KALE	**Kalithea**	**0.79**	**49**	P		**Pb**	**02 36 40.1 -0.2**
KALE				S		**Sn**	**02 36 52.5 -0.2**
ITM	**Ithomi**	**0.81**	**148**	*e*PG		**Pb**	**02 36 40.2 -0.4**
ITM				*e*SB		**Sg**	**02 36 52.3 +0.6**
ITM	**Ithomi**	**0.81**	**148**	P		**Pb**	**02 36 39.9 -0.7**
ITM	**Ithomi**	**0.81**	**148**	*e*Pg		**Pb**	**02 36 40.2 -0.4**
ITM				*e*Sb		**Sg**	**02 36 52.3 +0.6**
ITM	**Ithomi**	**0.81**	**148**	P		**Pb**	**02 36 39.9 -0.7**
EXG	**Exogi**	**0.84**	**315**	*e*PG		**Pb**	**02 36 40.8 -0.2**
EXG				*e*SB		**Sn**	**02 36 53.2 -0.6**
EXG	**Exogi**	**0.84**	**315**	P		**Pb**	**02 36 40.9 -0.1**
EXG				*e*Sb		**Sn**	**02 36 53.2 -0.6**
EXG	**Exogi**	**0.84**	**315**	P		**Pb**	**02 36 40.9 -0.1**
VLX	**Vlachokerasia**	**0.94**	**122**	*e*PB		**Pb**	**02 36 42.9 +0.2**
VLX				*e*SB		**Sg**	**02 36 55.7 +0.2**
VLX	**Vlachokerasia**	**0.94**	**122**	P		**Pb**	**02 36 43.0 +0.2**
VLX				*e*Sb		**Sg**	**02 36 55.7 +0.2**
VLX				S		**Sn**	**02 36 56.6 +0.3**
VLX	**Vlachokerasia**	**0.94**	**122**	P		**Pb**	**02 36 43.0 +0.2**
VLX				S		**Sn**	**02 36 56.6 +0.3**
PYL	**PYLOS**	**1.01**	**164**	*e*PG		**Pb**	**02 36 43.9 -0.1**
PYL				*e*SB		**Sn**	**02 36 59.4 +1.3**
PYL	**PYLOS**	**1.01**	**164**	*e*Pg		**Pb**	**02 36 43.9 -0.1**
PYL				*e*Sb		**Sn**	**02 36 59.4 +1.3**
THAL	**Thalero**	**1.02**	**80**	*e*PG		**Pb**	**02 36 44.2 0.0**
THAL				*e*SB		**Sg**	**02 36 59.1 +0.7**
THAL	**Thalero**	**1.02**	**80**	*e*Pg		**Pb**	**02 36 44.2 0.0**
THAL				*e*Sb		**Sg**	**02 36 59.1 +0.7**
DSF	**Desfina**	**1.05**	**59**	*e*PG		**Pb**	**02 36 44.5 -0.2**
DSF				*e*SB		**Sg**	**02 36 59.5 +0.3**
DSF	**Desfina**	**1.05**	**59**	*e*Pg		**Pb**	**02 36 44.5 -0.2**
DSF				*e*Sb		**Sg**	**02 36 59.5 +0.3**
DESF	**Desfina**	**1.05**	**59**	*e*PG		**Pb**	**02 36 44.6 -0.2**
DESF				*e*SB		**Sg**	**02 37 00.3 +0.9**
DESF	**Desfina**	**1.05**	**59**	*e*Pg		**Pb**	**02 36 44.6 -0.2**
DESF				*e*Sb		**Sg**	**02 37 00.3 +0.9**
EVR	**Evrytania**	**1.10**	**18**	*e*PG		**Pn**	**02 36 45.9 +0.3**
EVR	**Evrytania**	**1.10**	**18**	*e*Pg		**Pn**	**02 36 45.9 +0.3**
EVR	**Evrytania**	**1.10**	**18**	P		**Pn**	**02 36 45.8 +0.2**
LTK	**Loutraki**	**1.26**	**83**	*e*PB		**Pg**	**02 36 49.3 -0.1**
LTK	**Loutraki**	**1.26**	**83**	P		**Pb**	**02 36 48.8 +0.6**
LTK	**Loutraki**	**1.26**	**83**	*e*Pb		**Pg**	**02 36 49.3 -0.1**
LTK	**Loutraki**	**1.26**	**83**	P		**Pb**	**02 36 48.8 +0.6**
LOUT	**Loutraki**	**1.26**	**84**	*e*PG		**Pb**	**02 36 48.9 +0.6**
LOUT	**Loutraki**	**1.26**	**84**	*e*Pg		**Pb**	**02 36 48.9 +0.6**
LOUT	**Loutraki**	**1.26**	**84**	P		**Pg**	**02 36 49.6 +0.2**
LOUT	**Loutraki**	**1.26**	**84**	P		**Pg**	**02 36 49.6 +0.2**
DSL	**Palaion Diasel**	**1.28**	**350**	*e*PN		**Pb**	**02 36 48.6 0.0**
DSL	**Palaion Diasel**	**1.28**	**350**	*e*Pn		**Pb**	**02 36 48.6 0.0**
MAKR	**Makrakomi, Fth**	**1.28**	**27**	*e*PG		**Pb**	**02 36 49.3 +0.6**
MAKR	**Makrakomi, Fth**	**1.28**	**27**	P		**Pg**	**02 36 49.5 -0.3**
MAKR				S		**Sg**	**02 37 08.8 +2.2**
MAKR	**Makrakomi, Fth**	**1.28**	**27**	P		**Pg**	**02 36 49.5 -0.3**
MAKR				S		**Sg**	**02 37 08.8 +2.2**
AXAR	**Agios Charalam**	**1.34**	**48**	*e*PN		**Pb**	**02 36 49.9 +0.2**
AXAR	**Agios Charalam**	**1.34**	**48**	P		**Pb**	**02 36 50.1 +0.4**
AXAR				S		**Sg**	**02 37 10.5 +2.0**
AXAR	**Agios Charalam**	**1.34**	**48**	P		**Pb**	**02 36 50.1 +0.4**
AXAR				S		**Sg**	**02 37 10.5 +2.0**
AGG	**Agios Georgios**	**1.37**	**33**	*e*PG		**Pb**	**02 36 50.6 +0.5**
AGG	**Agios Georgios**	**1.37**	**33**	*e*Pg		**Pb**	**02 36 50.6 +0.5**
KRND	**KRANIDI**	**1.48**	**109**	*e*PB		**Pg**	**02 36 53.8 +0.2**
KRND	**KRANIDI**	**1.48**	**109**	*e*Pb		**Pg**	**02 36 53.8 +0.2**
LKR	**Lokris**	**1.49**	**58**	*e*PB		**Pg**	**02 36 53.1 -0.4**
LKR	**Lokris**	**1.49**	**58**	P		**Pg**	**02 36 53.1 -0.6**
LKR	**Lokris**	**1.49**	**58**	P		**Pg**	**02 36 53.1 -0.6**
DIDY	**Didyma**	**1.50**	**105**	*e*PB		**Pg**	**02 36 54.1 +0.1**
DIDY	**Didyma**	**1.50**	**105**	*e*Pb		**Pg**	**02 36 54.1 +0.1**
DID	**Didima**	**1.51**	**103**	*e*PB		**Pg**	**02 36 53.7 -0.5**
DID	**Didima**	**1.51**	**103**	P		**Pb**	**02 36 53.1 +0.5**
DID	**Didima**	**1.51**	**103**	*e*Pb		**Pg**	**02 36 53.7 -0.5**
DID				S		**Sg**	**02 37 14.2 +0.3**
DID	**Didima**	**1.51**	**103**	P		**Pb**	**02 36 53.1 +0.5**
DID				S		**Sg**	**02 37 14.2 +0.3**
VIL2	**Platees**	**1.53**	**77**	*e*PB		**Pg**	**02 36 54.8 +0.4**
ATAL	**Atalanti**	**1.53**	**57**	P		**Pg**	**02 36 53.9 -0.5**
ATAL	**Atalanti**	**1.53**	**57**	P		**Pg**	**02 36 53.9 -0.5**
VILL	**Villia**	**1.55**	**78**	*e*Pb		**Pg**	**02 36 54.8 -0.1**
NAIG	**Nisos Aigina**	**1.67**	**93**	*e*PB		**Pb**	**02 36 56.2 +1.0**
NAIG	**Nisos Aigina**	**1.67**	**93**	*e*Pb		**Pb**	**02 36 56.2 +1.0**
VLI	**Veliai**	**1.69**	**132**	*e*PN		**Pg**	**02 36 56.7 -0.8**
VLI	**Veliai**	**1.69**	**132**	*e*Pn		**Pg**	**02 36 56.7 -0.8**
SMIA	**Simia**	**1.75**	**54**	*e*PG		**Pb**	**02 36 57.8 +1.2**
SMIA	**Simia**	**1.75**	**54**	*e*Pg		**Pb**	**02 36 57.8 +1.2**
THL	**Klokotos Trika**	**1.76**	**16**	*e*PG		**Pg**	**02 36 58.0 -0.9**
THL	**Klokotos Trika**	**1.76**	**16**	*e*Pg		**Pg**	**02 36 58.0 -0.9**
JAN	**Janina**	**1.83**	**347**	*e*PN		**Pb**	**02 36 58.7 +0.7**
JAN	**Janina**	**1.83**	**347**	*e*Pn		**Pb**	**02 36 58.7 +0.7**
ATH	**Athens Observa**	**1.85**	**86**	*e*PN		**Pb**	**02 36 58.6 +0.4**
ATH	**Athens Observa**	**1.85**	**86**	*e*Pn		**Pb**	**02 36 58.6 +0.4**
IGT	**Igoumenitsa**	**1.85**	**334**	*e*PN		**Pb**	**02 36 58.8 +0.5**
IGT	**Igoumenitsa**	**1.85**	**334**	*e*Pn		**Pb**	**02 36 58.8 +0.5**
IGT	**Igoumenitsa**	**1.85**	**334**	P		**Pb**	**02 36 58.2 -0.1**
MRKA	**Markates**	**1.93**	**64**	*e*PN		**Pb**	**02 36 59.7 +0.1**
MRKA	**Markates**	**1.93**	**64**	*e*Pn		**Pb**	**02 36 59.7 +0.1**
SGD	**Sagiada**	**1.96**	**333**	*e*PN		**Pb**	**02 37 00.7 +0.6**
SGD	**Sagiada**	**1.96**	**333**	*e*Pn		**Pb**	**02 37 00.7 +0.6**
NEO	**Neokhori**	**2.03**	**45**	*e*PN		**Pb**	**02 37 01.5 +0.1**
NEO	**Neokhori**	**2.03**	**45**	*e*Pn		**Pb**	**02 37 01.5 +0.1**
KYTH	**Kithira**	**2.06**	**140**	*e*PG		**Pb**	**02 37 02.8 +0.8**
KYTH	**Kithira**	**2.06**	**140**	*e*Pg		**Pb**	**02 37 02.8 +0.8**
EREA	**Eretria**	**2.08**	**74**	*e*PN		**Pb**	**02 37 02.5 +0.2**
EREA	**Eretria**	**2.08**	**74**	*e*Pn		**Pb**	**02 37 02.5 +0.2**
SRN	**Sarande**	**2.28**	**332**	*i* PG		**Pg**	**02 37 09.0 +0.3**
SRN	**Sarande**	**2.28**	**332**	*i* Pg		**Pg**	**02 37 09.0 +0.3**
LIT	**Litokhoron**	**2.39**	**21**	*e*PN		**Pb**	**02 37 07.2 -0.3**
LIT	**Litokhoron**	**2.39**	**21**	*e*Pn		**Pb**	**02 37 07.2 -0.3**
ANKY	**Antikythira Is**	**2.52**	**142**	*e*PB		**Pb**	**02 37 07.9 -1.8**
NEST	**Nestorio**	**2.56**	**354**	*e*PN		**Pb**	**02 37 09.3 -1.1**
NEST	**Nestorio**	**2.56**	**354**	*e*Pn		**Pb**	**02 37 09.3 -1.1**
FNA	**Florina**	**2.91**	**360**	*e*PN		**Pn**	**02 37 13.5 +3.0**
FNA	**Florina**	**2.91**	**360**	*e*Pn		**Pn**	**02 37 13.5 +3.0**
PLG	**Polygyros**	**2.97**	**32**	*e*PN		**Pn**	**02 37 14.1 +2.8**
PLG	**Polygyros**	**2.97**	**32**	*e*Pn		**Pn**	**02 37 14.1 +2.8**
HORT	**Hortiatis**	**3.03**	**26**	*e*PN		**Pb**	**02 37 15.6 -2.9**
HORT	**Hortiatis**	**3.03**	**26**	*e*Pn		**Pb**	**02 37 15.6 -2.9**
GRG	**Griva**	**3.18**	**14**	*e*PN		**Pn**	02 37 17.7 +3.5
GRG	**Griva**	**3.18**	**14**	*e*Pn		**Pn**	02 37 17.7 +3.5
VAM	**Vamos**	**3.34**	**136**	*e*PN		**Pn**	**02 37 19.4 +3.1**
VAM	**Vamos**	**3.34**	**136**	*e*Pn		**Pn**	**02 37 19.4 +3.1**
KNT	**Kendrikon**	**3.49**	**19**	*e*PN		Pn	02 37 21.7 +3.3
KNT	**Kendrikon**	**3.49**	**19**	*e*Pn		Pn	02 37 21.7 +3.3
BARS	**Barje**	**4.95**	**4**	*e*Pn		**Pn**	**02 37 37.2 -1.3**
STON	**Ston**	**5.73**	**332**	*i* Pn		**Pn**	**02 37 48.8 -0.3**
STON						Sn	**02 38 48.9 -5.5**
IVAS	**Ivanjica**	**5.78**	**351**	*e*Pn		**Pn**	**02 37 50.8 +1.0**
GRUS	**Gruza**	**6.03**	**355**	*e*Pn		**Pn**	**02 37 53.8 +0.5**
DIVS	**Divibare**	**6.31**	**351**	*e*Pn		**Pn**	**02 37 57.5 +0.3**
FINES	**FINESS Array B**	**23.78**	**6**	P		**P**	**02 41 35.0 -1.2**
	2.4nm,1.0s,baz=159,slow=8.2,SNR=3.7						
NOA	**NORSAR Array B**	**24.06**	**348**	LR		LR	02 53 34.5
	comp=Z,5.1nm,20.3s,baz=5.0,slow=43						
TORD	**Torodi Ar. Bea**	**30.23**	**221**	P		**P**	**02 42 35.1 +0.4**
	0.2nm,0.4s,baz=34,slow=9.0,SNR=6.2						
MKAR	**Makanchi Array**	**44.88**	**58**	P		**P**	**02 44 37.0 -1.4**
	0.6nm,0.5s,baz=270,slow=6.8,SNR=6.5						
ZALV	**Zalesovo Beam**	**45.39**	**48**	P		**P**	**02 44 40.8 -1.4**
	0.7nm,0.4s,baz=281,slow=7.6,SNR=3.8						

*IDC **23** 02:46:50.0±0.7, 6°.77S×150°.43E, h0km, mb4.2/12, mb1 4.4/13, mb1mx4.2/40, mbtmp4.2/13, ML2.4/1, MS3.2/4, Ms1 3.2/4, ms1mx2.8/30, Error ellipse: s-maj=27.5km s-min=15.6km az=103.0*

*ISCJB **23** 02:46:54.0±0.5, 6°.70S±0°.06×150°.26E±0°.09, h33km, mb4.2/14, MS3.2/2, Error ellipse: s-maj=13.9km s-min=7.2km az=29.7*

*NEIC **23** 02:46:58.4±2.3, 6°.77S×150°.19E, h59km±19km, mb4.7/7, Error ellipse: s-maj=19.2km s-min=10.5km az=91.0*

ISC 23 02:46:55.5±0.6, 6°.69S±0°.09×150°.3E±0°.1, h33km, n48, σ0°.93/48, mb4.3/14, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.14**	**229**	Pn		**Pn**	**Pn**	**02 47 56.4**	**-0.1**
	18nm,0.3s,baz=60,slow=6.6,SNR=37								
PMG				Sn			**Sn**	**02 48 44.2**	**+0.4**
	20nm,0.3s,baz=106,slow=18,SNR=3.1								
PMG				LR		LR	LR	02 49 45.0	
	comp=Z,246nm,19.1s,baz=142,slow=42								
PMG	**Port Moresby**	**4.14**	**229**	P			**Pn**	**02 47 57.4**	**+0.9**
	baz=5.1,SNR=27								
PMG				P			**Pn**	**02 47 57.4**	**+0.9**
	baz=5.1,SNR=27								
PMG				P			**Pn**	**02 47 57.4**	**+0.9**
	baz=5.1,SNR=27								
PMG	**Port Moresby**	**4.14**	**229**	*e*Pn			**Pn**	**02 47 56.9**	**+0.4**
PMG				Sn			**Sn**	**02 48 44.2**	**+0.4**
HNR	**Honiara**	**9.90**	**107**	LR		LR	LR	02 51 50.1	
	comp=Z,87nm,18.8s,baz=3.5,slow=31								
QIS	**Mount Isa**	**17.27**	**216**	P			**Pn**	**02 50 53.7**	**-0.5**
	baz=18,SNR=8.4								
KDU	**Kakadu**	**18.58**	**250**	P			**P**	**02 51 08.8**	**-1.2**
	baz=19,SNR=4.2								
RMQ	**Roma**	**19.74**	**184**	P			**Pn**	**02 51 25.0**	**+0.8**
	baz=21,SNR=8.4								
WRAB	**Tennant Creek**	**20.35**	**228**	*e*P			**P**	**02 51 28.0**	**-1.3**
	34nm,0.8s								
WRA	**Warramunga Arr**	**20.36**	**228**	P			**P**	**02 51 28.6**	**-0.9**
	40nm,0.9s,baz=51,slow=11,SNR=58								
QLP	**Quilpie**	**20.62**	**196**	P			Pn	02 51 32.7	-1.8
	baz=22,SNR=17								
GUMO	**Guam**	**20.87**	**345**	LR		LR	LR	02 58 05.9	
	comp=Z,62nm,20.8s,baz=172,slow=32								
KNRA	**Kununurra**	**22.95**	**245**	P			**P**	**02 51 57.6**	**+0.5**
	baz=24,SNR=3.9								
AS31	**Alice Springs**	**23.11**	**221**	*e*P			**P**	**02 51 57.8**	**-1.0**
ASAR	**Alice Springs**	**23.11**	**221**	P			**P**	**02 51 57.6**	**-1.2**
	7.5nm,0.7s,baz=56,slow=8.5,SNR=43								
ASAR				S			**S**	**02 56 08.8**	**+0.7**
	3.0nm,1.2s,baz=43,slow=22,SNR=5.5								
ARMA	**Armidale**	**23.63**	**177**	P			**P**	**02 52 05.5**	**+1.5**
	baz=25,SNR=5.3								
ARMA	**Armidale**	**23.63**	**177**	*e*P			**P**	**02 52 04.7**	**+0.8**
	37nm,1.1s								
STKA	**Stephens Creek**	**26.35**	**197**	P			**P**	**02 52 27.6**	**-1.1**
	26nm,1.1s,baz=7.5,slow=9.1,SNR=16								
STKA	**Stephens Creek**	**26.35**	**197**	*e*P			**P**	**02 52 28.4**	**-0.3**
	4.7nm,1.0s								
WRKA	**Warakurna**	**27.88**	**227**	P			**P**	**02 52 41.6**	**-0.9**
	baz=29,SNR=12								
HTT	**Hallett**	**28.64**	**200**	P			**P**	**02 52 50.4**	**+1.3**
	baz=30,SNR=5.5								
FORT	**Forrest**	**31.79**	**218**	P			**P**	**02 53 16.7**	**-0.3**
	baz=33,SNR=7.4								
FORT	**Forrest**	**31.79**	**218**	*e*P			**P**	**02 53 16.1**	**-0.9**
	12nm,0.6s								
MEEK	**Meekatharra**	**36.11**	**233**	P			**P**	**02 53 54.0**	**-0.7**
	baz=37,SNR=8.9								
KMBL	**Kambalda**	**36.20**	**224**	P			**P**	**02 53 54.9**	**-0.4**
	baz=37,SNR=7.6								
KLBR	**Kellerberrin**	**39.23**	**227**	P			**P**	**02 54 19.7**	**-1.2**
	baz=40,SNR=10								
NIUE	**Niue**	**40.53**	**112**	P			P	02 54 22.0	-10
	baz=41,SNR=5.7								
KSRS	**Korea Array**	**48.65**	**336**	P			**P**	**02 55 37.6**	**+1.3**
	0.6nm,0.4s,baz=158,slow=9.0,SNR=3.0								
KSAR	**Wonju Array Be**	**48.66**	**336**	P			**P**	**02 55 37.6**	**+1.2**
SONM	**Songino Array**	**66.65**	**329**	P			**P**	**02 57 44.8**	**+1.7**
	0.9nm,0.8s,baz=132,slow=5.5,SNR=4.7								
VNDA	**Vanda**	**71.05**	**177**	P			**P**	**02 58 09.2**	**-0.6**
	2.8nm,0.9s,baz=319,slow=6.3,SNR=12								
VNDA	**Vanda**	**71.05**	**177**	*e*P			**P**	**02 58 09.7**	**-0.1**
	3.4nm,0.9s								
MKAR	**Makanchi Array**	**80.15**	**320**	P			**P**	**02 59 02.6**	**+0.1**
	0.2nm,0.4s,baz=99,slow=6.6,SNR=2.8								
MAW	**Mawson**	**82.89**	**203**	P			**P**	**02 59 15.9**	**-0.6**
	0.8nm,0.6s,baz=80,slow=20,SNR=3.6								
QSPA	**South Pole Qui**	**83.28**	**180**	P			**P**	**02 59 18.0**	**-0.8**
	7.9nm,0.8s,baz=327,slow=1.3,SNR=31								
QSPA	**South Pole Qui**	**83.28**	**180**	*e*P			**P**	**02 59 18.5**	**-0.2**
	7.3nm,0.9s								
KURK	**Kurchatov**	**83.76**	**323**	P			**P**	**02 59 20.4**	**-0.8**
KURBB	**Kurchatov Arra**	**83.78**	**323**	P			**P**	**02 59 20.4**	**-1.0**
	0.4nm,0.7s,baz=117,slow=4.1,SNR=3.3								
ILAR	**Eielson Array**	**84.83**	**22**	P			**P**	**02 59 24.7**	**-1.7**
	0.8nm,0.7s,baz=259,slow=4.7,SNR=10								
INK	**Inuvik**	**91.09**	**21**	*e*P			**P**	**02 59 56.6**	**+0.3**
	4.7nm,1.2s								
NVAR	**Mina Array Bea**	**95.17**	**52**	P			**P**	**03 00 17.2**	**+1.0**
	1.2nm,0.8s,baz=246,slow=7.0,SNR=7.9								
AKTO	**Aktyubinsk**	**96.59**	**320**	LR			LR	03 46 19.6	
	comp=Z,14nm,18.1s,slow=37								
GERES	**GERESS Array B**	**124.33**	**327**	PKP			**PKPdf**	**03 05 50.5**	**-0.8**
	0.5nm,0.6s,baz=346,slow=2.8,SNR=5.6								
WLF	**Walferdange**	**127.69**	**331**	*e*PKPdf			**PKPdf**	**03 05 57.2**	**-0.4**
LPAZ	**La Paz**	**135.61**	**121**	PKP			**PKPdf**	**03 06 15.1**	**+0.8**
	0.9nm,0.8s,baz=327,slow=3.5,SNR=4.1								
SDV	**Santo Domingo**	**139.36**	**84**	*e*PKPdf			**PKPdf**	**03 06 19.4**	**-1.3**
TOA0	**Torodi Ar. Sit**	**148.47**	**284**	*e*PKPbc			**PKPbc**	**03 06 38.8**	**-1.1**
TORD	**Torodi Ar. Bea**	**148.47**	**284**	PKPbc			**PKPbc**	**03 06 38.9**	**-1.0**
	2.9nm,0.5s,baz=81,slow=2.5,SNR=48								
BDFB	**Brasilia**	**151.31**	**141**	PKPbc			**PKPbc**	**03 06 46.4**	**-0.5**
	4.5nm,0.7s,baz=171,slow=3.5,SNR=6.8								

*IDC **23** 02:49:26.9±0.5, 16°.24S×173°.39W, h0km, mb4.6/23, mb1 4.7/24, mb1mx4.6/44, mbtmp4.5/24, ML3.7/1, MS3.8/16, Ms1 3.8/16, ms1mx3.7/27, Error ellipse: s-maj=18.3km s-min=13.3km az=124.0*

*MOS **23** 02:49:31.6±1.5, 16°.07S×173°.47W, h33km, mb4.9/25, Error ellipse: s-maj=12.9km s-min=9.7km az=47.1*

*ISCJB **23** 02:49:31.9±0.2, 16°.24S±0°.06×173°.41W±0°.06, h47km, mb4.6/64, MS3.8/16, Error ellipse: s-maj=10.6km s-min=5.0km az=142.3*

*BJI **23** 02:49:33.5, 15°.53S×173°.69W, h25km, mb5.2/16, mB5.2/10, Ms4.9/4, Ms7 4.4/4*

*NEIC **23** 02:49:33.3±0.2, 16°.19S×173°.42W, mb4.7/48, Error ellipse: s-maj=9.3km s-min=4.4km az=141.0*

*SZGRF **23** 02:49:37.0, 15°.80S×172°.96W, h48km, mb4.1, Samoa Islands region*

ISC 23 02:49:33.7±0.5, 16°.27S±0°.09×173°.35W±0°.09, h48km±4km, h50km:pP-P, n345, σ0°.95/334, mb4.6/65, MS3.9/18, 16C-34D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.80**	**33**	Pn			Pn	02 50 08.7	-7.4
	34nm,0.3s,baz=165,slow=2.4,SNR=22								
AFI				Sn			Sn	02 50 37.1	-12
	132nm,0.3s,baz=42,slow=21,SNR=17								
NIUE	**Niue**	**4.29**	**131**	P			Pn	02 50 30.6	-5.9
	baz=4.1,SNR=44								
MSVF	**Nonsavu**	**8.36**	**259**	*e*P			Pn	02 51 39.7	+7.3
MSVF	**Nonsavu**	**8.36**	**259**	*e*Pn			Pn	02 51 39.7	+7.3
RAR	**Rarotonga**	**13.76**	**113**	Pn			Pn	02 52 39.2	-7.0
	5.0nm,0.3s,baz=241,slow=5.4,SNR=7.2								
RAR				LR			LR	02 56 45.8	
	comp=Z,406nm,21.7s,baz=294,slow=32								
DZM	**Mont Dzumac**	**19.93**	**250**	P			**P**	**02 54 01.6**	**-0.2**
	0.2nm,0.3s,baz=6.3,slow=9.2,SNR=3.0								
PAE	**Paea**	**22.77**	**97**	*e*T			T	03 17 40.0	
	4.2nm,0.3s								
PPT	**Papeete**	**22.77**	**97**	LR			LR	03 00 51.0	
	comp=Z,202nm,20.9s,baz=292,slow=30								
PPT2	**Papeete2**	**22.77**	**97**	*e*LQ			LQ	02 58 58.1	
	435nm,26.2s								
PPT2				*e*LR			LR	02 59 58.2	
	496nm,24.8s,baz=265								
PPT2	**Papeete2**	**22.77**	**97**	*e*T			T	03 17 41.0	
	6.8nm,0.4s								
TIAR	**Tiarei**	**23.00**	**97**	*e*T			T	03 17 56.4	
	4.7nm,0.4s								

TVO	**Taravao**	**23.08**	**97**	*e*T		T	03 18 03.6	
	2.7nm,0.4s							
URZ	**Urewera**	**23.46**	**199**	P		**P**	**02 54 37.0**	**-1.9**
	18nm,0.5s,baz=45,slow=5.2,SNR=16							
URZ	**Urewera**	**23.46**	**199**	*e*P		**P**	**02 54 37.7**	**-1.2**
	23nm,0.6s							
TBI	**Tubuai**	**23.53**	**111**	*e*LQ		LQ	02 59 05.6	
	197nm,32.0s							
TBI				*e*LR		LR	03 00 13.4	
	662nm,26.2s,baz=281							
TBI	**Tubuai**	**23.53**	**111**	*e*T		T	03 18 47.4	
	14nm,0.3s							
PMOR	**Pomariorio Ree**	**24.54**	**91**	*e*T		T	03 19 48.2	
	3.3nm,0.2s							
VAH	**Vaihoa**	**24.77**	**91**	*e*T		T	03 20 05.6	
	7.9nm,0.3s							
HNR	**Honiara**	**26.89**	**281**	LR		LR	03 04 15.8	
	comp=Z,846nm,21.6s,baz=150,slow=33							
RPZ	**Rata Peaks**	**30.40**	**203**	*e*P		**P**	**02 55 43.2**	**+1.9**
	20nm,0.8s							
TAOE	**Nuku Hiva Isla**	**33.20**	**81**	*e*T		T	03 30 30.4	
	247nm,0.3s							
ARMA	**Armidale**	**34.94**	**240**	P		**P**	**02 56 20.9**	**-0.5**
	baz=35,SNR=8.0							
RKT	**Rikitea**	**36.68**	**107**	*e*LR		LR	03 06 15.8	
	320nm,26.2s							
RKT	**Rikitea**	**36.68**	**107**	*e*T		T	03 35 09.6	
	5.1nm,0.3s							
CTA	**Charters Tower**	**38.51**	**258**	P		**P**	**02 56 50.3**	**-1.4**
	7.8nm,0.9s,baz=77,slow=18,SNR=2.9							
CTAO	**Charters Tower**	**38.51**	**258**	*e*P		**P**	**02 56 50.7**	**-1.0**
CTAO				pmax		pmax		
	comp=Z,14nm,1.0s							
CTAO	**Charters Tower**	**38.51**	**258**	*e*P		**P**	**02 56 50.6**	**-1.0**
	comp=Z,14nm,1.0s							
PMG	**Port Moresby**	**39.06**	**275**	*ce*P		**P**	**02 56 58.3**	**+2.0**
H11S2	**WAKE ISLAND Hy**	**39.74**	**330**	T		T	03 39 09.3	
	baz=149,slow=76,SNR=12							
H11S3	**WAKE ISLAND Hy**	**39.75**	**330**	T		T	03 38 53.4	
	baz=149,slow=76,SNR=13							
H11S1	**WAKE ISLAND Hy**	**39.76**	**330**	T		T	03 38 45.9	
	baz=149,slow=76,SNR=12							
CMSA	**Cobar Meteorol**	**40.16**	**240**	P	

TUC	**Tucson**	**76.90**	**50**	*e*P	**P**	**03 01 21.4**	**+0.1**
TUC				*e**PP	**pP**	**03 01 34.6**	**-0.7**
TUC	**Tucson**	**76.90**	**50**	*e*P	**P**	**03 01 21.4**	**+0.1**
TUC				*ep*P	**pP**	**03 01 34.6**	**-0.7**
WVOR	**Wild Horse Val**	**77.08**	**38**	*e*P	**P**	**03 01 22.0**	**-0.1**
WVOR				*e**PP	**pP**	**03 01 37.4**	**+1.3**
WVOR				pmax	pmax		
	comp=Z,9.0nm,1.4s						
WVOR	**Wild Horse Val**	**77.08**	**38**	*e*P	**P**	**03 01 22.0**	**-0.1**
	comp=Z,9.2nm,1.4s						
WVOR				*ep*P	**pP**	**03 01 37.4**	**+1.3**
CCUT	**Cedar City**	**77.71**	**45**	*e*P	**P**	**03 01 25.5**	**-0.4**
	comp=Z,11nm,1.6s						
KNB	**Kanab**	**77.80**	**45**	*e*P	**P**	**03 01 26.0**	**-0.3**
KNB				pmax	pmax		
	comp=Z,14nm,1.6s						
KNB	**Kanab**	**77.80**	**45**	*e*P	**P**	**03 01 26.0**	**-0.3**
	comp=Z,14nm,1.6s						
USRK	**Ussuriysk Ar.**	**78.11**	**323**	P	**P**	**03 01 28.5**	**+0.9**
	comp=Z,2.4nm,0.8s,baz=140,slow=4.6,SNR=4.7						
USRK				LR	LR	03 30 11.3	
	comp=Z,57nm,21.6s,baz=113,slow=31						
G08A	**Pilot Rock**	**78.61**	**36**	*e*P	**P**	**03 01 30.4**	**-0.1**
	comp=Z,44nm,2.3s						
MVU	**Marysvale**	**78.98**	**44**	*e*P	**P**	**03 01 33.0**	**+0.1**
	comp=Z,4.1nm,0.8s						
MSU	**Marysvale**	**79.01**	**44**	*e*P	**P**	**03 01 32.8**	**-0.2**
MSU				*e**PP	**pP**	**03 01 47.1**	**0.0**
MSU	**Marysvale**	**79.01**	**44**	*e*P	**P**	**03 01 32.8**	**-0.2**
MSU				*ep*P	**pP**	**03 01 47.0**	**0.0**
DUG	**Dugway**	**79.46**	**43**	*e*P	**P**	**03 01 34.0**	**-1.4**
DUG				pmax	pmax		
	comp=Z,4.0nm,1.1s						
DUG	**Dugway**	**79.46**	**43**	*e*P	**P**	**03 01 34.0**	**-1.4**
	comp=Z,3.8nm,1.1s						
SUA	**Susitna One**	**79.54**	**11**	*e*P	**P**	**03 01 34.9**	**-0.4**
	comp=Z,6.1nm,0.8s						
MDJ	**Mudanjiang**	**79.75**	**322**	P	**P**	**03 01 38.3**	**+1.7**
MDJ				PMZ			
	comp=Z,6.0nm,0.5s						
F10A	**Beach Ranch, E**	**79.99**	**36**	*e*P	**P**	**03 01 36.6**	**-1.4**
	comp=Z,91nm,2.8s						
TMUT	**Trail Mountain**	**80.06**	**44**	*e*P	**P**	**03 01 38.7**	**-0.1**
	comp=Z,9.0nm,0.9s						
HLID	**Hailey**	**80.27**	**39**	*e*P	**P**	**03 01 39.5**	**-0.1**
	comp=Z,4.2nm,1.1s						
HVU	**Hansel Valley**	**80.32**	**41**	*e*P	**P**	**03 01 39.2**	**-0.8**
HVU				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HVU	**Hansel Valley**	**80.32**	**41**	*e*P	**P**	**03 01 39.2**	**-0.8**
	comp=Z,2.7nm,0.7s						
SRU	**San Rafael**	**80.43**	**45**	*e*P	**P**	**03 01 40.4**	**-0.3**
SRU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SRU	**San Rafael**	**80.43**	**45**	*e*P	**P**	**03 01 40.4**	**-0.3**
	comp=Z,4.1nm,1.0s						
SCM	**Sheep Creek Mo**	**80.54**	**12**	*e*P	**P**	**03 01 40.1**	**-0.5**
SCM				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SCM	**Sheep Creek Mo**	**80.54**	**12**	*e*P	**P**	**03 01 40.1**	**-0.5**
	comp=Z,7.6nm,0.7s						
TXAR	**Lajitas Array**	**81.05**	**56**	P	**P**	**03 01 43.9**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=238,slow=7.2,SNR=5.3						
TXAR				LR	LR	03 31 02.1	
	comp=Z,53nm,19.4s,baz=0.0,slow=31						
PV01	**Paradox Valley**	**81.29**	**46**	*e*P	**P**	**03 01 45.0**	**-0.3**
PV01				*ep*P	**pP**	**03 01 57.9**	**-1.5**
ANMO	**Albuquerque**	**81.32**	**50***c*	*i*P	**P**	**03 01 45.2**	**-0.3**
ANMO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ANMO	**Albuquerque**	**81.32**	**50**	*e*P	**P**	**03 01 44.5**	**-1.0**
ANMO				*ep*P	**pP**	**03 01 58.5**	**-1.1**
RND	**Reindeer**	**81.68**	**11**	*e*P	**P**	**03 01 44.8**	**-1.8**
RND				pmax	pmax		
	comp=Z,6.0nm,0.9s						
RND	**Reindeer**	**81.68**	**11**	*e*P	**P**	**03 01 44.8**	**-1.8**
	comp=Z,6.2nm,0.9s						
CN2	**Changchun**	**81.79**	**320**	*e*P	**P**	**03 01 47.6**	**+0.1**
CN2				PMZ			
	comp=Z,10.0nm,0.8s						
MCMT	**McKenzie Canyo**	**81.90**	**39**	*e*P	**P**	**03 01 48.6**	**+0.2**
MCMT				*ep*P	**pP**	**03 02 01.5**	**-1.0**
MCK	**McKinley**	**81.97**	**11**	*e*P	**P**	**03 01 46.8**	**-1.2**
MCK				pmax	pmax		
	comp=Z,13nm,0.8s						
MCK	**McKinley**	**81.97**	**11**	*e*P	**P**	**03 01 46.8**	**-1.2**
	comp=Z,13nm,0.8s						
S22A	**4UR Ranch, Cre**	**82.32**	**47**	*e*P	**P**	**03 01 51.2**	**+0.3**
	comp=Z,5.5nm,0.8s						
FXWY	**Fox Creek**	**82.39**	**40**	*e*P	**P**	**03 01 50.9**	**-0.1**
	comp=Z,3.8nm,1.2s						
IMW	**Indian Meadow**	**82.58**	**40**	*e*P	**P**	**03 01 51.8**	**-0.3**
	comp=Z,5.9nm,1.2s						
IMW				*ep*P	**pP**	**03 02 05.8**	**-0.3**
WRH	**Wood River Hil**	**82.80**	**11**	*e*P	**P**	**03 01 50.7**	**-1.6**
	comp=Z,10nm,0.8s						
FLWY	**Flagg Ranch**	**82.82**	**40**	*e*P	**P**	**03 01 52.5**	**-0.7**
	comp=Z,18nm,1.4s						
MLY	**Manley**	**82.87**	**9**	*e*P	**P**	**03 01 51.4**	**-1.3**
	comp=Z,4.3nm,0.9s						
BW06	**Boulder Array**	**82.88**	**42**	*e*P	**P**	**03 01 51.8**	**-1.8**
	comp=Z,3.7nm,0.8s						
SMCO	**Snowmass**	**82.88**	**46**	*e*P	**P**	**03 01 52.9**	**-0.9**
	comp=Z,15nm,1.4s						
PDAR	**Pinedale Array**	**82.88**	**42**	P	**P**	**03 01 53.0**	**-0.5**
	comp=Z,3.7nm,0.8s,baz=214,slow=1.2,SNR=27						
PDAR				LR	LR	03 33 04.3	
	comp=Z,80nm,18.8s,baz=255,slow=32						
HDA	**Harding Lake**	**82.94**	**11**	*e*P	**P**	**03 01 52.4**	**-0.7**
	comp=Z,6.1nm,0.8s						
CCB	**Clear Creek Bu**	**83.01**	**11**	*e*P	**P**	**03 01 52.0**	**-1.4**
	comp=Z,8.2nm,0.8s						
BOZ	**Bozeman (W)**	**83.06**	**38**	*e*P	**P**	**03 01 53.9**	**-0.5**
BOZ				*e**PP	**pP**	**03 02 07.4**	**-1.1**
BOZ				pmax	pmax		
	comp=Z,8.0nm,1.3s						
BOZ	**Bozeman (W)**	**83.06**	**38**	*e*P	**P**	**03 01 53.9**	**-0.5**
	comp=Z,8.4nm,1.3s						
BOZ				*ep*P	**pP**	**03 02 07.4**	**-1.1**
COLA	**College**	**83.21**	**11***c*	*i*P	**P**	**03 01 53.6**	**-0.8**
COLA				*i **PP	**pP**	**03 02 09.6**	**+1.1**
COLA				pmax	pmax		
	comp=Z,51nm,1.0s						
COLA	**College**	**83.21**	**11**	*e*P	**P**	**03 01 53.0**	**-1.4**
	comp=Z,51nm,0.3s						
SDCO	**Great Sand Dun**	**83.26**	**48**	*e*P	**P**	**03 01 55.8**	**+0.1**
SDCO				*ep*P	**pP**	**03 02 08.9**	**-1.0**
ILAR	**Eielson Array**	**83.29**	**11**	P	**P**	**03 01 54.2**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=230,slow=6.4,SNR=33						
SEY	**Seymchan**	**83.37**	**345**	P	**P**	**03 01 55.2**	**-0.1**
	comp=Z,4.7nm,0.7s,baz=137,slow=5.8,SNR=8.3						
SEY	**Seymchan**	**83.37**	**345**⇓	*e*P	**P**	**03 01 55.4**	**+0.1**
HRY	**Holter Researc**	**83.50**	**37**	*e*P	**P**	**03 01 55.5**	**-1.1**
RLMT	**Red Lodge**	**84.23**	**40**	*e*P	**P**	**03 02 00.0**	**-0.4**
	comp=Z,4.4nm,0.9s						
DAWY	**Dawson**	**84.25**	**14**	*e*P	**P**	**03 01 59.7**	**-0.2**
	comp=Z,8.7nm,0.9s						
GCMT	**Greycliff**	**84.32**	**39**	*e*P	**P**	**03 02 00.5**	**-0.2**
N23A	**Red Feather La**	**84.37**	**45**	*e*P	**P**	**03 02 01.1**	**-0.2**
	comp=Z,4.1nm,1.0s						
EGAK	**Eagle**	**84.45**	**13**	*e*P	**P**	**03 01 59.8**	**-1.0**
	comp=Z,3.6nm,0.9s						
BILL	**Bilibino**	**85.38**	**352**⇓	*i*P	**P**	**03 02 05.2**	**-0.2**
BILL				pmax	pmax		
	comp=Z,12nm,1.2s						
BILL	**Bilibino**	**85.38**	**352**	*e*P	**P**	**03 02 05.5**	**+0.1**
	comp=Z,12nm,1.0s						
ABTX	**Abilene, Hawle**	**85.53**	**54**	*e*P	**P**	**03 02 05.9**	**-1.1**
ABTX				*ep*P	**pP**	**03 02 19.9**	**-1.3**
BJI	**Beijing**	**86.11**	**314**	P	**P**	**03 02 10.5**	**+0.9**
BJI				S	S	03 12 46.3	+5.8
BJI				PMZ			
	comp=Z,9.0nm,0.8s						
BJI				PMZ			
	comp=Z,90nm,5.8s						
MAW	**Mawson**	**86.98**	**199**	P	**P**	**03 02 14.6**	**+1.1**
	comp=Z,7.0nm,0.7s,baz=122,slow=6.9,SNR=17						
MAW				LR	LR	03 40 06.8	
	comp=Z,57nm,18.7s,baz=62,slow=35						
MAW	**Mawson**	**86.98**	**199**	P	**P**	**03 02 14.6**	**+1.1**
MAW				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MAW				MLR	MLR		
	comp=Z,57nm,18.7s						
MAW	**Mawson**	**86.98**	**199**	P	**P**	**03 02 14.6**	**+1.1**
	baz=87,SNR=9.8						

MAW	**Mawson**	**86.98**	**199**	*e*P	**P**	**03 02 14.1**	**+0.6**
	comp=Z,1.6nm,0.8s						
GYA	**Guiyang**	**88.50**	**298**	*e*P	**P**	**03 02 23.0**	**+1.4**
GYA				PMZ			
	comp=Z,10.0nm,1.0s						
INK	**Inuvik**	**89.10**	**14**	*e*P	**P**	**03 02 23.1**	**-0.2**
INK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
INK	**Inuvik**	**89.10**	**14**	*e*P	**P**	**03 02 23.1**	**-0.2**
	comp=Z,4.6nm,1.1s						
HHC	**Hu-ho-hao-te**	**89.66**	**313**	*e*P	**P**	**03 02 27.5**	**+0.8**
HHC				PP	**PP**	**03 06 04.3**	**+4.9**
HHC				S	**S**	**03 13 11.3**	**-3.3**
HHC				PMZ			
	comp=Z,23nm,1.1s						
HHC				PMZ			
	comp=Z,86nm,4.6s						
HHC				LN			
	comp=Z,89nm,14.2s						
HHC				LE			
	comp=Z,110nm,15.2s						
HHC				LZ			
	comp=Z,61nm,13.6s						
YKA	**Yellowknife Ar**	**90.88**	**23**	P	**P**	**03 02 31.5**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=225,slow=3.9,SNR=5.8						
KMI	**Kunming**	**91.45**	**296**	P	**P**	**03 02 37.3**	**+1.7**
KMI				pP	pP	03 02 43.5	-6.4
KMI				sP	sP	03 02 45.6	-10
KMI				PMZ			
	comp=Z,9.0nm,0.5s						
SYO	**Syowa Base**	**91.76**	**191**⇑	*e*P	**P**	**03 02 34.8**	**-1.1**
SNAA	**Sanae**	**92.03**	**177**	P	**P**	**03 02 37.5**	**+0.2**
SNAA	**Sanae**	**92.03**	**177**	P	**P**	**03 02 37.4**	**+0.1**
	comp=Z,1.6nm,1.0s,baz=183,slow=3.6,SNR=10						
SNAA	**Sanae**	**92.03**	**177**	P	**P**	**03 02 37.4**	**+0.1**
SNAA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SNAA	**Sanae**	**92.03**	**177**	*e*P	**P**	**03 02 37.1**	**-0.2**
	comp=Z,2.1nm,1.1s						
CD2	**Chengdu**	**92.31**	**301**	P	**P**	**03 02 39.3**	**+0.1**
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
VNA2	**Neumayer--Watz**	**92.48**	**175**	P	**P**	**03 02 40.0**	**+0.8**
	baz=191,slow=4.0						
VNA1	**Neumayer--Stat**	**92.68**	**175**	P	**P**	**03 02 41.2**	**+1.0**
CMAR	**Chiang Mai Arr**	**92.94**	**288**	P	**P**	**03 02 42.5**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=96,slow=2.3,SNR=5.0						
CMAR				LR	LR	03 38 17.3	
	comp=Z,20nm,21.6s,baz=95,slow=32						
LZH	**Lanzhou**	**93.78**	**306**	*e*P	**P**	**03 02 46.8**	**+0.7**
LZH				pP	**pP**	**03 03 01.9**	**+1.5**
LZH				PP	**PP**	**03 06 36.0**	**+3.8**
LZH				PMZ			
	comp=Z,18nm,1.6s						
LZH				PMZ			
	comp=Z,74nm,9.2s						
LZH				LN			
	comp=Z,140nm,17.6s						
LZH				LE			
	comp=Z,140nm,17.8s						
LZH				LZ			
	comp=Z,190nm,19.7s						
ULM	**Lac du Bonnet**	**94.58**	**39**	LR	LR	03 38 11.6	
	comp=Z,102nm,21.9s,baz=256,slow=31						
SONM	**Songino Array**	**95.53**	**318**	P	**P**	**03 02 53.1**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=126,slow=2.5,SNR=3.5						
LPAZ	**La Paz**	**99.47**	**110**	LR	LR	03 38 36.3	
	comp=Z,44nm,20.2s,baz=258,slow=30						
MK31	**Makanchi Array**	**111.47**	**314**	*e*PKIKP	**PKiKP**	**03 08 02.3**	**-0.4**
MK31	**Makanchi Array**	**111.47**	**314**	*e*PKP	**PKiKP**	**03 08 02.3**	**-0.4**
BVAR	**Borovoye Array**	**118.60**	**322**	PKP	**PKPdf**	**03 08 16.1**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=96,slow=1.5,SNR=6.0						
KBL	**Kabul**	**121.64**	**301**	*e*PKIKP	**PKPdf**	**03 08 23.5**	**+0.6**
KBL	**Kabul**	**121.64**	**301**	*e*PKPdf	**PKPdf**	**03 08 23.5**	**+0.6**
ARU	**Arti**	**124.11**	**328**	*i* PKIKP	**PKPdf**	**03 08 26.6**	**0.0**
ARU						03 15 22.8	
ARCES	**ARCESS Array B**	**125.48**	**352**	PKP	**PKPdf**	**03 08 29.4**	**+0.5**
	comp=Z,2.7nm,0.5s,baz=11,slow=1.2,SNR=14						
ABKAR	**Akbulak array**	**125.91**	**320**	*e*PKPdf	**PKPdf**	**03 08 30.6**	**+0.3**
BOSA	**Boshof**	**131.88**	**202**	PKP	**PKPdf**	**03 08 43.8**	**+1.2**
	comp=Z,2.0nm,0.7s,baz=95,slow=1.4,SNR=4.5						
BOSA	**Boshof**	**131.88**	**202**	PKIKP	**PKPdf**	**03 08 43.8**	**+1.2**
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BOSA	**Boshof**	**131.88**	**202**	*e*PKPdf	**PKPdf**	**03 08 43.5**	**+0.9**
FINES	**FINESS Array B**	**132.80**	**347**	PKP	**PKPdf**	**03 08 43.9**	**+0.8**
	comp=Z,2.6nm,0.9s,baz=42,slow=3.3,SNR=11						
OBN	**Obninsk**	**134.93**	**336**⇓	*i* PKIKP	**PKPdf**	**03 08 48.6**	**+1.4**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,24nm,16.0s						
KIV	**Kislovodsk**	**138.90**	**320**	*e*PKIKP	**PKPdf**	**03 08 55.6**	**+0.5**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AKASG	**Malin Array Be**	**141.16**	**337**	PKhKP	PKPpre	03 08 52.0	
	comp=Z,1.4nm,0.6s,baz=35,slow=3.7,SNR=10						
AKASG				PKP	**PKPdf**	**03 08 59.8**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=34,slow=2.1,SNR=4.3						
TSUM	**Tsumeb**	**143.14**	**197**	*e*PKPdf	PKPbc	03 09 01.4	+1.0
KWP	**Kalwaria Pacla**	**144.27**	**342**	*e*PKP	PKPbc	03 09 03.0	+0.3
KWP	**Kalwaria Pacla**	**144.27**	**342**	*e*PKIKP	PKPbc	03 09 03.1	+0.4
MALT	**Malatya**	**144.51**	**314**	⇓PKIKP	**PKPdf**	**03 09 05.6**	**+0.3**
MALT	**Malatya**	**144.51**	**314**⇓	*i*P	**PKPdf**	**03 09 05.6**	**+0.3**
OJC	**Ojcow**	**144.51**	**345**	*e*PKP	PKPbc	03 09 03.4	0.0
OJC	**Ojcow**	**144.51**	**345**	*e*PKIKP	PKPbc	03 09 03.4	0.0
CLL	**Collm**	**144.68**	**353**	*i* PKIKP	**PKPab**	**03 09 03.7**	**-0.1**
CLL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CLL	**Collm**	**144.68**	**353**	*i* PKPdf	**PKPab**	**03 09 03.7**	**-0.1**
	comp=Z,6.0nm,0.7s						
CLL				*i*		03 09 05.6	
	comp=Z,7.0nm,0.8s						
CLL				*ep*PKPdf	**pPKPdf**	**03 09 16.0**	**-3.8**
BRG	**Berggiesshubel**	**144.99**	**352**	*e*PKP	PKPbc	03 09 05.0	+0.1
	comp=Z,3.6nm,0.8s						
BRG	**Berggiesshubel**	**144.99**	**352**	*e*PKIKP	PKPbc	03 09 05.1	+0.2
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KOLS	**Kolonicke sedl**	**145.02**	**342**	*e*PKIKP	**PKPdf**	**03 09 05.7**	**0.0**
KOLS	**Kolonicke sedl**	**145.02**	**342**	*e*PKP	**PKPdf**	**03 09 05.7**	**0.0**
UPC	**Upice**	**145.03**	**350**	*e*PKP	**PKPdf**	**03 09 05.7**	**0.0**
UPC	**Upice**	**145.03**	**350**	*e*PKIKP	**PKPdf**	**03 09 05.7**	**0.0**
NIE	**Niedzica**	**145.12**	**344**	*e*PKP	**PKPdf**	**03 09 06.1**	**+0.2**
NIE	**Niedzica**	**145.12**	**344**	*e*PKIKP	**PKPdf**	**03 09 06.1**	**+0.2**
DPC	**Dobruska-Polom**	**145.12**	**349**	*e*PKP	**PKPdf**	**03 09 06.0**	**+0.1**
DPC				*ep*PKP	**pPKPdf**	**03 09 19.8**	**-0.9**
DPC	**Dobruska-Polom**	**145.12**	**349**	*e*PKIKP	**PKPdf**	**03 09 06.0**	**+0.1**
DPC				*e*		03 09 19.8	
BUR08	**Bucovina Ar. S**	**145.18**	**338**	*e*PKPdf	**PKPdf**	**03 09 06.3**	**+0.2**
BURAR	**Bucovina Array**	**145.19**	**338**	⇓PKIKP	**PKPdf**	**03 09 06.5**	**+0.3**
BURAR	**Bucovina Array**	**145.19**	**338**⇓	*i*P	**PKPdf**	**03 09 06.5**	**+0.3**
KMBO	**Kilima Mbogo**	**145.20**	**243**	PKPbc	**PKPdf**	**03 09 08.4**	**+1.0**
	comp=Z,6.9nm,1.0s,baz=67,slow=4.4,SNR=8.3						
PVCC	**Panska Ves**	**145.24**	**351**	*e*PKP	**PKPdf**	**03 09 06.5**	**+0.5**
PVCC	**Panska Ves**	**145.24**	**351**	*e*PKIKP	**PKPdf**	**03 09 06.5**	**+0.5**
OKC	**Ostrava-Krasne**	**145.25**	**347**	*e*PKP	**PKPdf**	**03 09 06.3**	**+0.3**
OKC	**Ostrava-Krasne**	**145.25**	**347**	*e*PKIKP	**PKPdf**	**03 09 06.3**	**+0.3**
UZH	**Uzhgorod**	**145.28**	**342**	*e*PKIKP	**PKPdf**	**03 09 06.9**	**+0.8**
UZH				*e*		03 09 12.2	
UZH				*e*		03 09 18.6	
KRLC	**Kraliky**	**145.30**	**349**	*e*PKP	**PKPdf**	**03 09 06.4**	**+0.2**
KRLC	**Kraliky**	**145.30**	**349**	*e*PKIKP	**PKPdf**	**03 09 06.4**	**+0.2**
MORC	**Moravsky Berou**	**145.44**	**348**	⇓PKIKP	**PKPab**	**03 09 07.1**	**+0.4**
MORC	**Moravsky Berou**	**145.44**	**348**⇓	*i*P	**PKPab**	**03 09 07.1**	**+0.4**
MORC	**Moravsky Berou**	**145.44**	**348**	*e*PKPbc	**PKPab**	**03 09 06.8**	**+0.1**
MOX	**Moxa**	**145.48**	**354**	*e*PKPbc	**PKPdf**	**03 09 06.3**	**-0.2**
MOX				*ep*PKPbc	pPKPbc	03 09 20.8	-0.4
MOX				eL	L	04 21 31.4	
	comp=Z,34nm,19.4s						
TESR	**Tescani**	**145.56**	**335**⇓	*i*P	**PKPab**	**03 09 07.3**	**+0.1**
PLN	**Plauen**	**145.59**	**354**	*e*PKPbc	**PKPab**	**03 09 07.0**	**-0.2**
PLN				*ep*PKPbc	pPKPbc	03 09 21.3	-0.2
WERD	**Werda**	**145.61**	**354**	*e*PKPbc	**PKPab**	**03 09 07.1**	**-0.2**
WERD				*ep*PKPbc	pPKPbc	03 09 21.2	-0.4
TANN	**Tannenbergstha**	**145.62**	**353**	*e*PKPbc	**PKPbc**	**03 09 07.1**	**+0.1**
TANN				*ep*PKPbc	pPKPbc	03 09 21.4	-0.3
TRPA	**Tarpa**	**145.65**	**341**⇓	*i*P	**PKPab**	**03 09 07.7**	**+0.3**
TRPA	**Tarpa**	**145.65**	**341**	*e*PKPbc	**PKPab**	**03 09 07.2**	**-0.2**
GUNZ	**Gunzen**	**145.69**	**354**	*e*PKPbc	**PKPab**	**03 09 07.5**	**-0.1**
GUNZ				*ep*PKPbc	pPKPbc	03 09 21.6	-0.3
PRA	**Prague**	**145.71**	**351**	*ep*PKP	pPKPdf	03 09 22.1	+0.5
MEM	**Membach**	**145.75**	**1**	PKP	**PKPbc**	**03 09 07.3**	**0.0**
MEM				APKP	**pPKPdf**	**03 09 22.0**	**+0.3**

WERN	**Wernitzgruen**	**145.76**	**353**	*e*PKPbc	**PKPab**	**03 09 07.9**	**+0.1**
WERN				*ep*PKPbc	pPKPbc	03 09 22.1	0.0
PRU	**Pruhonice**	**145.77**	**351**	*e*PKP	**PKPab**	**03 09 07.7**	**-0.1**
PRU				*ep*PKP	**pPKPdf**	**03 09 21.9**	**+0.2**
PRU	**Pruhonice**	**145.77**	**351**	*e*PKP2	**PKPab**	**03 09 07.7**	**-0.1**
SNF	**Seneffe**	**145.80**	**3**	PKP	**PKPab**	**03 09 07.8**	**-0.1**
SNF				APKP	**pPKPdf**	**03 09 24.5**	**+2.7**
GOPC	**GO Pecny, Ondr**	**145.81**	**351**	*e*PKP	**PKPab**	**03 09 08.0**	**0.0**
GOPC				*ep*PKP	**pPKPdf**	**03 09 22.1**	**+0.3**
KECS	**Kecovo**	**145.93**	**344**	*e*PKIKP	**PKPdf**	**03 09 06.5**	**-0.8**
KECS				*e*		03 09 08.4	
KECS	**Kecovo**	**145.93**	**344**	*e*PKP	**PKPdf**	**03 09 06.5**	**-0.8**
KECS				*e*		03 09 08.4	
CFR	**Carcaliu**	**146.00**	**332**	⇓PKP2	**PKPab**	**03 09 08.8**	**0.0**
CFR	**Carcaliu**	**146.00**	**332**⇓	*i*P	**PKPab**	**03 09 08.8**	**0.0**
VRI	**Vrincioaia**	**146.05**	**335**⇑	PKP2	**PKPab**	**03 09 08.9**	**-0.2**
VRI	**Vrincioaia**	**146.05**	**335**⇑	*i*P	**PKPab**	**03 09 08.9**	**-0.2**
MANZ	**Manzenberg**	**146.09**	**354**	*e*PKPbc	**PKPab**	**03 09 08.8**	**-0.3**
MANZ				*ep*PKPbc	pPKPbc	03 09 22.9	-0.2
TNS	**Taunus Mts**	**146.11**	**358**	*e*PKPbc	**PKPbc**	**03 09 08.7**	**+0.2**
TNS				*ep*PKPbc	pPKPbc	03 09 23.2	0.0
DOU	**Dourbes**	**146.22**	**2**	PKP	**PKPbc**	**03 09 09.0**	**+0.2**
TREC	**Trest**	**146.29**	**350**	*e*PKP	**PKPbc**	**03 09 09.0**	**-0.1**
TREC	**Trest**	**146.29**	**350**	*e*PKP2	**PKPbc**	**03 09 09.0**	**-0.1**
ROTZ	**Rotzenmuhle**	**146.29**	**354**	*e*PKPbc	**PKPab**	**03 09 09.7**	**-0.1**
ROTZ				*ep*PKPbc	pPKPbc	03 09 23.8	+0.1
VYHS	**Vyhne**	**146.35**	**345**	*e*PKIKP	**PKPdf**	**03 09 07.4**	**-0.6**
VYHS				*e*		03 09 09.7	
VYHS	**Vyhne**	**146.35**	**345**	*e*PKP	**PKPdf**	**03 09 07.4**	**-0.6**
VYHS				*e*		03 09 09.7	
GRF	**Grafenberg Arr**	**146.46**	**355**	*e*PKPbc	**PKPab**	**03 09 10.1**	**-0.4**
GRF				*ep*PKPbc	pPKPbc	03 09 24.7	+0.5
GRF				eL	L	04 15 57.3	
	comp=Z,31nm,21.3s						
GRFO	**Grafenberg**	**146.46**	**355**	*e*PKP2	**PKPab**	**03 09 10.2**	**-0.3**
GRFO	**Grafenberg**	**146.46**	**355**	*e*PKPbc	**PKPab**	**03 09 10.2**	**-0.3**
HARR	**Harsova**	**146.47**	**332**	⇓PKP2	**PKPab**	**03 09 10.8**	**+0.2**
HARR	**Harsova**	**146.47**	**332**⇓	*i*P	**PKPab**	**03 09 10.8**	**+0.2**
DOPR	**Dopca**	**146.51**	**336**⇓	*i*P	**PKPab**	**03 09 11.2**	**+0.4**
PSZ	**Piszkesteto**	**146.61**	**344**	⇓PKP2	**PKPab**	**03 09 11.7**	**+0.5**
PSZ	**Piszkesteto**	**146.61**	**344**⇓	*i*P	**PKPab**	**03 09 11.7**	**+0.5**
PSZ	**Piszkesteto**	**146.61**	**344**	*e*PKPbc	**PKPbc**	**03 09 09.5**	**-0.6**
PSZ	**Piszkesteto**	**146.61**	**344**	*e*PKPdf	**PKPbc**	**03 09 10.2**	**+0.1**
MLR	**Muntele Rosu**	**146.68**	**335**	⇑PKP2	**PKPab**	**03 09 11.3**	**-0.3**
MLR	**Muntele Rosu**	**146.68**	**335**⇑	*i*P	**PKPab**	**03 09 11.3**	**-0.3**
WLF	**Walferdange**	**146.69**	**1**	PKP	**PKPbc**	**03 09 10.2**	**0.0**
WLF	**Walferdange**	**146.69**	**1**	*e*PKP2	**PKPbc**	**03 09 10.0**	**-0.2**
WLF	**Walferdange**	**146.69**	**1**	*e*PKPbc	**PKPbc**	**03 09 10.0**	**-0.2**
ISR	**Istrita**	**146.73**	**334**	⇓PKP2	**PKPab**	**03 09 11.4**	**-0.4**
ISR	**Istrita**	**146.73**	**334**⇓	*i

*ISCJB **23** 03:07:06.9±1.0, 1°.70N×0°.06×127°.6E±0°.1, h10km, mb3.4/3, Error ellipse: s-maj=16.5km s-min=8.4km az=176.3*
*IDC **23** 03:07:07.5±2.7, 1°.80N×127°.46E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/39, mbtmp3.6/3, Error ellipse: s-maj=222.8km s-min=27.3km az=67.0*
*DJA **23** 03:07:08.0±0.5, 2°.N±3°×12°.8E±°, h10km, M3.7/5, MLv3.7/5*

ISC 23 03:07:06.9±1.1, 1°.74N±0°.07×127°.5E±0°.1, h10km, n7, σ2⁰11/9, mb3.5/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.97**	**186**	P	**Pg**	**03 07 24.6**	**-1.0**
TNTI				S	**Sg**	**03 07 37.1**	**-1.2**
LBMI	**Labuha**	**2.36**	**179**	P	**Pn**	**03 07 46.1**	**+0.3**
LBMI				S	**Sn**	**03 08 15.1**	**+0.2**
SGSI	**Sangihe**	**2.74**	**315**	P	**Pb**	**03 07 54.1**	**-1.9**
SWI	**Sorong**	**4.59**	**124**	P	**Pn**	**03 08 14.8**	**-1.6**
WRA	**Warramunga Arr**	**22.58**	**163**	P	**P**	**03 12 09.2**	**+1.4**
	0.8nm,0.6s,baz=341,slow=10,SNR=8.2						
ASAR	**Alice Springs**	**26.02**	**166**	P	**P**	**03 12 44.0**	**+3.5**
	1.1nm,1.0s,baz=345,slow=6.7,SNR=7.2						
MKAR	**Makanchi Array**	**59.60**	**326**	P	**P**	**03 17 13.0**	**+1.9**
	0.3nm,0.5s,baz=117,slow=8.7,SNR=3.8						

*IDC **23** 03:10:54.6±0.6, 6°.19S×148°.61E, h0km, mb4.3/13, mb1 4.5/16, mb1mx4.4/33, mbtmp4.4/16, ML2.7/2, MS3.1/5, Ms1 3.1/5, ms1mx2.9/20, Error ellipse: s-maj=24.3km s-min=12.8km az=90.0*
*ISCJB **23** 03:10:58.2±0.5, 6°.20S±0°.05×148°.5E±0°.1, h35km, mb4.3/19, MS3.0/3, Error ellipse: s-maj=14.6km s-min=6.0km az=13.3*
*NEIC **23** 03:11:02.3±1.3, 6°.21S×148°.42E, h55km±11km, mb4.5/8, Error ellipse: s-maj=12.4km s-min=7.8km az=88.0*

ISC 23 03:11:00.3±0.5, 6°.17S±0°.06×148°.5E±0°.1, h35km, n54, σ1⁰56/54, mb4.4/19, MS3.1/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.46**	**202**	Pn	**Pn**	**03 11 51.9**	**+0.1**
	25nm,0.3s,baz=44,slow=9.4,SNR=32						
PMG				Sn	**Sn**	**03 12 32.6**	**+1.0**
	445nm,0.3s,baz=359,slow=16,SNR=32						
PMG	**Port Moresby**	**3.46**	**202**	P	Pn	03 11 54.7	+2.9
	baz=3.1,SNR=25						
PMG				P	Pn	03 11 54.7	+2.9
	baz=3.1,SNR=25						
PMG				P	Pn	03 11 54.7	+2.9
	baz=3.1,SNR=25						
PMG	**Port Moresby**	**3.46**	**202**	*e*Pn	**Pn**	**03 11 54.2**	**+2.4**
PMG				*e*Sn	**Sn**	**03 12 34.3**	**+2.7**
RABL	**Rabaul**	**4.19**	**62**	P	Pn	03 12 09.7	+7.9
	baz=4.3,SNR=4.8						
JAY	**Jayapura**	**8.53**	**295**	LR	LR	03 16 19.4	
	comp=Z,234nm,21.9s,baz=126,slow=37						
COEN	**Coen**	**9.32**	**213**	P	**Pn**	**03 13 13.6**	**+1.3**
	baz=9.1,SNR=20						
COEN	**Coen**	**9.32**	**213**	*e*Pn	**Pn**	**03 13 13.2**	**+1.0**
	20nm,0.8s						
COEN				*e*Sn	**Sn**	**03 14 50.2**	**-5.8**
CTAO	**Charters Tower**	**14.00**	**189**	*e*Pn	**Pn**	**03 14 16.7**	**+0.3**
SIJI	**Sorong**	**17.93**	**286**	P	**P**	**03 15 09.5**	**+2.0**
	0.1nm,0.3s,baz=127,slow=20,SNR=3.3						
SIJI				LR	LR	03 24 19.7	
	comp=Z,63nm,18.1s,baz=160,slow=44						
WRAB	**Tennant Creek**	**19.36**	**224**	*e*P	**P**	**03 15 23.0**	**-0.2**
	45nm,0.6s						
WRA	**Warramunga Arr**	**19.38**	**224**	P	**P**	**03 15 23.8**	**+0.5**
	5.9nm,0.3s,baz=50,slow=11,SNR=80						
WRA				S	Sn	03 18 48.5	-13
	0.4nm,0.3s,baz=46,slow=23,SNR=5.0						
AS31	**Alice Springs**	**22.32**	**217**	*e*P	**P**	**03 15 54.8**	**-0.4**
AS31				*e*S	**S**	**03 19 52.2**	**-6.6**
ASAR	**Alice Springs**	**22.33**	**217**	P	**P**	**03 15 55.0**	**-0.2**
	57nm,0.6s,baz=49,slow=9.3,SNR=635						
ASAR				S	S	03 19 51.0	-7.8
	6.2nm,0.8s,baz=34,slow=22,SNR=16						
DZM	**Mont Dzumac**	**23.50**	**134**	P	**P**	**03 16 05.7**	**-1.7**
	3.3nm,0.5s,baz=90,slow=24						
STKA	**Stephens Creek**	**26.37**	**193**	P	**P**	**03 16 33.4**	**0.0**
	7.3nm,0.7s,baz=359,slow=9.0,SNR=18						
STKA				LR	LR	03 27 57.8	
	comp=Z,25nm,21.0s,baz=24,slow=39						
STKA	**Stephens Creek**	**26.37**	**193**	*e*P	**P**	**03 16 32.4**	**-1.0**
	4.3nm,1.1s						
FORT	**Forrest**	**31.08**	**216**	*e*P	**P**	**03 17 14.3**	**-1.0**
	22nm,0.6s						
MBWA	**Marble Bar**	**31.55**	**239**	*e*P	**P**	**03 17 18.8**	**-0.7**
	11nm,0.7s						
JNU	**Nakatsue**	**42.48**	**338**	P	**P**	**03 18 52.6**	**+0.3**
	5.2nm,0.6s,baz=136,slow=5.5,SNR=5.2						
MJAR	**Matsushiro Arr**	**43.55**	**348**	P	**P**	**03 19 00.9**	**0.0**
	6.2nm,0.8s,baz=177,slow=8.7,SNR=20						
MJAR				LR	LR	03 34 54.0	
	comp=Z,27nm,21.8s,baz=150,slow=33						
MAJO	**Matsushiro**	**43.55**	**348**	*e*P	**P**	**03 19 01.6**	**+0.8**
	9.6nm,0.8s						
MAT	**Matsushiro**	**43.55**	**348**	P	**P**	**03 19 01.7**	**+0.8**
KSRS	**Korea Array**	**47.43**	**338**	P	**P**	**03 19 32.0**	**+0.5**
	3.5nm,0.7s,baz=155,slow=8.7,SNR=12						
KSAR	**Wonju Array Be**	**47.44**	**338**	P	**P**	**03 19 32.0**	**+0.5**
USRK	**Ussuriysk Ar.**	**52.29**	**345**	P	**P**	**03 20 09.2**	**+0.9**
	5.8nm,0.6s,baz=185,slow=5.6,SNR=17						
PETK	**Petropavlovsk-**	**59.57**	**6**	P	**P**	**03 21 01.7**	**+1.4**
	2.8nm,0.6s,baz=152,slow=6.6,SNR=5.9						
PETK				LR	LR	03 43 16.3	
	comp=Z,17nm,21.4s,baz=178,slow=33						
SONM	**Songino Array**	**65.25**	**330**	P	**P**	**03 21 39.0**	**+0.4**
	0.8nm,0.6s,baz=140,slow=5.7,SNR=4.6						
VNDA	**Vanda**	**71.67**	**177**	P	**P**	**03 22 17.4**	**-0.7**
	0.5nm,0.5s,baz=342,slow=7.2,SNR=5.3						
MK31	**Makanchi Array**	**78.54**	**320**	*e*P	**P**	**03 22 57.1**	**-1.1**
MKAR	**Makanchi Array**	**78.54**	**320**	P	**P**	**03 22 57.5**	**-0.7**
	0.7nm,0.5s,baz=97,slow=7.3,SNR=5.6						
ZALV	**Zalesovo Beam**	**79.92**	**327**	P	**P**	**03 23 04.0**	**-1.6**
	0.7nm,0.3s,baz=116,slow=6.1,SNR=4.3						
KURK	**Kurchatov**	**82.20**	**323**	*e*P	**P**	**03 23 17.2**	**-0.6**
	1.0nm,0.7s						
EKS2	**Erkin-Say**	**83.00**	**314**	*e*P	**P**	**03 23 21.4**	**-0.9**
	2.0nm,0.8s						
MCK	**McKinley**	**83.81**	**23**	*e*P	**P**	**03 23 25.3**	**-0.6**
	3.2nm,0.8s						
ILAR	**Eielson Array**	**85.07**	**23**	P	P	03 23 30.8	-1.4
	1.1nm,0.8s,baz=252,slow=5.0,SNR=17						
LSZ	**Lusaka**	**117.10**	**249**	*e*PKPdf	**PKPdf**	**03 29 43.3**	**+0.4**
CLL	**Collm**	**121.86**	**329**	*e*PKPdf	**PKPdf**	**03 29 50.0**	**-0.9**
GERES	**GERESS Array B**	**122.85**	**326**	PKP	**PKPdf**	**03 29 51.6**	**-1.4**
	0.5nm,0.5s,baz=17,slow=1.4,SNR=6.3						
TSUM	**Tsumeb**	**125.44**	**241**	*e*PKPdf	**PKPdf**	**03 29 59.6**	**+0.7**
JTS	**JuntasAbangare**	**127.04**	**82**	*e*PKPdf	**PKPdf**	**03 30 02.4**	**+0.5**
LCO	**Las Campanas**	**128.60**	**135**	*e*PKPdf	**PKPdf**	**03 30 05.0**	**+0.2**
ROSC	**El Rosal**	**137.41**	**90**	PKP	**PKPdf**	**03 30 22.7**	**+0.8**
	7.2nm,0.6s,baz=93,slow=18,SNR=6.3						
ROSC	**El Rosal**	**137.41**	**90**	*e*PKPdf	**PKPdf**	**03 30 23.0**	**+1.0**
LPAZ	**La Paz**	**137.48**	**122**	PKP	**PKPdf**	**03 30 23.2**	**+1.0**
	2.2nm,0.6s,baz=297,slow=3.3,SNR=8.5						
SDV	**Santo Domingo**	**141.18**	**84**	*e*PKPdf	**PKPdf**	**03 30 29.0**	**+0.4**
SAML	**Samuel**	**145.08**	**115**	*e*PKPdf	**PKPbc**	**03 30 34.3**	**-0.4**
TOB1	**Torodi Ar. Sit**	**146.52**	**284**	*e*PKP1	**PKPdf**	**03 30 38.4**	**+0.8**
TOA0	**Torodi Ar. Sit**	**146.53**	**284**	*e*PKPbc	**PKPdf**	**03 30 38.8**	**+1.1**
TORD	**Torodi Ar. Bea**	**146.53**	**284**	PKPbc	**PKPdf**	**03 30 38.4**	**+0.7**
	3.5nm,0.4s,baz=89,slow=2.8,SNR=167						
BDFB	**Brasilia**	**152.88**	**143**	PKPbc	**PKPbc**	**03 30 54.2**	**-0.8**
	2.0nm,0.7s,baz=217,slow=1.7,SNR=4.1						
KIC	**Kosan Boka**	**153.35**	**272**	*e*PKP1	**PKPbc**	**03 30 55.8**	**-0.2**
	11nm,0.7s						
DBIC	**Dimbokro**	**153.47**	**273**	PKPbc	**PKPbc**	**03 30 55.4**	**-0.9**
	3.8nm,0.6s,baz=77,slow=3.8,SNR=8.8						
DBIC	**Dimbokro**	**153.47**	**273**	*e*PKPbc	**PKPbc**	**03 30 55.6**	**-0.6**
TIC	**Toumodi**	**153.63**	**273**	*e*PKP1	**PKPbc**	**03 30 56.2**	**-0.4**

BJI 03:30:34.0, 47°.21N×82°.87E, h5km, ML3.4/5
*NNC **23** 03:30:35.1±1.1, 47°.25N×82°.09E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=18.4km s-min=5.1km az=64.0*

ISC 23 03:30:33.8±1.5, 47°.27N±0°.04×82°.57E±0°.07, h17km±10km, n16, σ1⁰05/30, 19C-15D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK05	**Makanchi Array**	**0.51**	**202**	⇑P	**Pg**	**03 30 43.9**	**-0.1**
MK05				⇓S	**Sb**	**03 30 51.8**	**+0.3**
MK31	**Makanchi Array**	**0.51**	**202**	⇑P	**Pg**	**03 30 43.9**	**-0.2**
	54nm,0.2s,baz=216,slow=4.6,SNR=4818						
MK31				⇑S	**Sb**	**03 30 51.8**	**+0.3**
	298nm,0.5s,baz=59,slow=34,SNR=6.2						
MK06	**Makanchi Array**	**0.53**	**200**	⇑P	**Pg**	**03 30 43.9**	**-0.4**
MK06				⇓S	**Sb**	**03 30 51.6**	**-0.3**
MK02	**Makanchi Array**	**0.53**	**200**	⇑P	**Pg**	**03 30 43.9**	**-0.5**
MK02				⇓S	**Sb**	**03 30 51.8**	**-0.3**
MK01	**Makanchi Array**	**0.53**	**201**	⇑P	**Pg**	**03 30 44.1**	**-0.3**
MK01				⇑S	**Sb**	**03 30 52.1**	**0.0**
MK04	**Makanchi Array**	**0.53**	**201**	⇑P	**Pg**	**03 30 44.0**	**-0.5**
MK04				⇓S	**Sb**	**03 30 52.0**	**0.0**
MK09	**Makanchi Array**	**0.54**	**202**	⇓P	**Pg**	**03 30 44.2**	**-0.3**
MK09				⇓S	**Sb**	**03 30 52.2**	**+0.1**
MK03	**Makanchi Array**	**0.54**	**200**	⇑P	**Pg**	**03 30 44.0**	**-0.5**
MK03				⇓S	**Sb**	**03 30 52.0**	**-0.2**
MK07	**Makanchi Array**	**0.55**	**199**	⇑P	**Pg**	**03 30 44.1**	**-0.5**
MK07				⇑S	**Sb**	**03 30 51.9**	**-0.5**
MK08	**Makanchi Array**	**0.55**	**201**	⇓P	**Pg**	**03 30 44.4**	**-0.4**
MK08				⇑S	**Sb**	**03 30 52.8**	**+0.2**
KURBB	**Kurchatov Arra**	**4.28**	**323**	⇓Pn	Pn	03 31 42.3	+4.2
	2.1nm,0.3s						
KURBB				⇓Pg	**Pg**	**03 31 54.3**	**-1.5**
	5.7nm,0.3s						
KURBB				⇓Lg	Lg	03 32 51.5	
	187nm,0.5s						
PDGK	**Podgornoye**	**4.50**	**210**	⇓Pn	**Pn**	**03 31 43.2**	**+2.1**
	3.1nm,0.4s						
PDGK				⇓Pg	Pg	03 31 56.1	-3.9
	2.8nm,0.3s						
PDGK				⇓Sn	**Sn**	**03 32 29.7**	**-3.4**
	5.9nm,0.5s						
PDGK				⇓Lg	Lg	03 32 52.2	
	41nm,0.5s						
WMQ	**Urumqi**	**4.98**	**132**	Pn	**Pn**	**03 31 46.3**	**-1.5**
WMQ				Sg	**Sb**	**03 33 01.3**	**+1.2**
WMQ				SMN			
	28nm,1.0s						
WMQ				SME			
	38nm,0.6s						
KK31	**Karatay Array**	**9.48**	**248**	⇑Pn	**Pn**	**03 32 51.0**	**+1.6**
	0.8nm,0.2s,baz=61,slow=13,SNR=13						
KK31				⇑Sn	**Sn**	**03 34 35.0**	**-0.6**
	0.7nm,0.3s						
KK31				⇑Lg	Lg	03 35 30.0	
	2.4nm,0.3s						
BVA0	**Borovoye Array**	**9.71**	**311**	⇑Pn	**Pn**	**03 32 53.8**	**+1.3**
	0.9nm,0.5s,baz=122,slow=13,SNR=6.8						
BVA0				⇑Sn	**Sn**	**03 34 41.6**	**+0.5**
	3.8nm,0.9s,baz=37,slow=31,SNR=5.8						
BVA0				⇑Lg	Lg	03 35 43.7	
	15nm,0.9s,baz=115,slow=27,SNR=5.7						
AB31	**Akbulak array**	**15.19**	**286**	⇑Pn	**P**	**03 34 12.2**	**-0.1**
	0.3nm,0.5s,baz=93,slow=10,SNR=5.2						

DJA 23 03:34:59.0±1.3, 1°.N±8°.×12°.7E±°, h12km±16km, M3.7/5, MLv3.7/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.55**	**137**	P	Pg	03 35 09.6	-0.2
TNTI				S	Sb	03 35 18.2	-0.4
KMSI	**Cibinong**	**3.07**	**259**	P	Pn	03 35 47.0	-0.3
KMSI				S	Sn	03 36 25.1	+1.1
LUWI	**Luwuk**	**4.76**	**242**	P	Pn	03 36 11.3	+0.7

*IDC **23** 03:52:42.7±1.7, 15°.25S×173°.63W, h0km, mb3.8/7, mb1 4.2/7, mb1mx3.8/34, mbtmp3.8/7, MS2.7/1, Ms1 2.7/1, ms1mx2.4/22, Error ellipse: s-maj=108.6km s-min=21.7km az=152.0*
*NEIC **23** 03:52:44.6±0.9, 15°.14S×173°.43W, h10km, mb4.5/5, Error ellipse: s-maj=53.5km s-min=12.5km az=148.0*

ISC 23 03:52:47.6±1.3, 15°.1S±0°.4×173°.4W±0°.3, h30km, n21, σ1⁰29/19, mb4.0/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.98**	**52**	Pn	**Pn**	**03 53 17.4**	**-1.7**
	48nm,0.3s,baz=156,slow=1.4,SNR=26						
AFI				Sn	Sn	03 53 37.7	-5.2
	81nm,0.3s,baz=30,slow=20,SNR=20						
AFI				LR	LR	03 54 09.4	
	comp=Z,143nm,19.2s,baz=40,slow=39						
AFI	**Afiamalu**	**1.98**	**52**	*e*Pn	Pn	03 53 16.6	-2.5
WRAB	**Tennant Creek**	**49.91**	**257**	*e*P	**P**	**04 01 38.2**	**-0.8**
	1.5nm,0.8s						
WRA	**Warramunga Arr**	**49.92**	**257**	P	P	04 01 35.5	-3.5
	0.2nm,0.5s,baz=92,slow=6.9,SNR=6.7						
AS31	**Alice Springs**	**50.21**	**252**	*e*P	**P**	**04 01 39.2**	**-2.0**
ASAR	**Alice Springs**	**50.21**	**252**	P	**P**	**04 01 38.9**	**-2.3**
	5.9nm,0.6s,baz=86,slow=7.9,SNR=43						
FORT	**Forrest**	**55.55**	**243**	*e*P	**P**	**04 02 21.6**	**+1.1**
	3.6nm,0.7s						
NVAR	**Mina Array Bea**	**74.12**	**42**	P	**P**	**04 04 22.0**	**+0.6**
	0.2nm,0.6s,baz=225,slow=9.6,SNR=2.4						
TXAR	**Lajitas Array**	**80.45**	**56**	P	**P**	**04 04 58.6**	**+1.6**
	0.8nm,1.0s,baz=238,slow=4.3,SNR=6.4						
ANMO	**Albuquerque**	**80.62**	**50**	P	**P**	**04 04 59.4**	**+1.5**
	0.5nm,0.6s,baz=325,slow=2.0,SNR=4.6						
MCK	**McKinley**	**80.87**	**11**	*e*P	**P**	**04 04 57.9**	**-0.5**
	2.9nm,0.6s						
PDAR	**Pinedale Array**	**82.06**	**42**	P	**P**	**04 05 06.4**	**+1.0**
	0.7nm,1.0s,baz=197,slow=1.5,SNR=4.4						
COLA	**College**	**82.11**	**11**	*e*P	**P**	**04 05 05.6**	**+0.8**
	4.0nm,0.9s						
ILAR	**Eielson Array**	**82.19**	**11**	P	**P**	**04 05 05.2**	**-0.1**
	0.9nm,0.8s,baz=206,slow=5.2,SNR=4.8						
KULM	**Kulim**	**87.49**	**276**	*e*P	**P**	**04 05 34.9**	**+1.8**
	1.9nm,0.4s						
LSZ	**Lusaka**	**143.02**	**216**	*e*PKPdf	**PKPdf**	**04 12 18.9**	**-0.7**
PSZ	**Piszkesteto**	**145.52**	**344**	*e*PKPbc	**PKPab**	**04 12 23.8**	**+0.5**
WLF	**Walferdange**	**145.57**	**1**	*e*PKPbc	**PKPdf**	**04 12 21.6**	**-1.3**
GERES	**GERESS Array B**	**145.89**	**352**	PKPbc	**PKPab**	**04 12 24.6**	**-0.1**
	0.2nm,0.4s,baz=306,slow=3.4,SNR=4.3						
BR131	**Keskin Array S**	**145.97**	**321**	*e*PKPbc	**PKPab**	**04 12 25.4**	**+0.1**
BRTR	**Keskin Array B**	**145.97**	**321**	PKPbc	**PKPab**	**04 12 25.4**	**+0.1**
	1.5nm,0.7s,baz=80,slow=3.3,SNR=10						

*ISCJB **23** 03:59:53.8±1.2, 52°.8N±0°.1×169°.5W±0°.1, h18km±7km, mb3.2/3, Error ellipse: s-maj=20.2km s-min=7.9km az=154.1*
*IDC **23** 03:59:53.8±19.0, 52°.64N×169°.03W, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.4/41, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=359.8km s-min=48.7km az=85.0*
*NEIC **23** 03:59:54.3, 52°.70N×169°.20W, h5km, ML3.3(AEIC), After AEIC.*

ISC 23 03:59:53.0±2.1, 52°.8N±0°.1×169°.34W±0°.07, h2km±12km, n20, σ0⁰62/27, mb3.2/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.35**	**57**	P	**Pb**	**04 00 02.0**	**0.0**
NIKH				S	**Sb**	**04 00 08.5**	**+0.5**
OKWR	**Okmok West Rim**	**0.95**	**46**	P	**Pn**	**04 00 13.7**	**+0.2**
OKCE	**Okmok Cone E**	**0.96**	**47**	P	**Pb**	**04 00 12.5**	**+0.1**
OKTU	**Okmok Mt. Tuli**	**0.99**	**52**	P	**Pb**	**04 00 13.4**	**+0.5**
OKAK	**Okmok**	**0.99**	**36**	P	**Pg**	**04 00 11.5**	**-0.5**
OKAK				S	**Sg**	**04 00 24.2**	**-0.8**
OKFG	**Magazine Ridge**	**1.07**	**53**	P	**Pg**	**04 00 14.1**	**+0.7**
OKFG				S	**Sn**	**04 00 29.8**	**-0.6**
MSOM	**Makushin Julie**	**1.77**	**53**	P	**Pn**	**04 00 24.8**	**+0.2**
MSOM				S	**Sg**	**04 00 49.5**	**-0.4**
MCIR	**Makushin Cirqu**	**1.88**	**50**	P	**Pn**	**04 00 27.0**	**+0.8**
MSW	**Makushin Switc**	**1.91**	**53**	P	**Pn**	**04 00 26.9**	**+0.4**
MSW				S	**Sb**	**04 00 53.0**	**+0.2**
MTBL	**Makushin Table**	**1.99**	**52**	P	**Pn**	**04 00 28.5**	**+0.8**
UNV	**Unalaska Valle**	**2.01**	**57**	P	**Pn**	**04 00 27.8**	**-0.1**
UNV				S	**Sn**	**04 00 53.3**	**-0.3**
ZRO	**Akutan Zero**	**2.40**	**56**	P	**Pn**	**04 00 34.7**	**+1.4**
AKGG	**Akutan Green G**	**2.45**	**53**	P	**Pn**	**04 00 34.9**	**+0.8**
AKUT	**Akutan**	**2.53**	**56**	*e*Pn	**Pn**	**04 00 35.8**	**+0.7**
AKUT				*e*Sn	**Sn**	**04 01 06.4**	**+0.1**
ATKA	**Atka Island**	**3.02**	**261**	P	**Pn**	**04 00 42.1**	**+0.3**
SPIA	**Saint Paul Isl**	**4.44**	**354**	P	**Pn**	**04 01 02.4**	**+1.2**
ILAR	**Eielson Array**	**16.60**	**35**	Pn	**Pn**	**04 03 46.4**	**-0.2**
	0.1nm,0.3s,baz=233,slow=13,SNR=3.4						
YKA	**Yellowknife Ar**	**29.96**	**49**	P	**P**	**04 06 01.7**	**-0.5**
	0.2nm,0.5s,baz=269,slow=6.8,SNR=5.3						
PDAR	**Pinedale Array**	**40.31**	**80**	P	**P**	**04 07 31.4**	**-0.4**
	0.5nm,0.8s,baz=306,slow=7.7,SNR=4.0						
TXAR	**Lajitas Array**	**52.73**	**89**	P	**P**	**04 09 09.3**	**+0.2**
	0.3nm,0.8s,baz=300,slow=5.3,SNR=4.1						

*IDC **23** 04:10:24.9±4.1, 7°.73S×68°.78E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/32, mbtmp3.8/3, MS3.4/1, Ms1 3.4/1, ms1mx2.5/38, Error ellipse: s-maj=151.4km s-min=35.9km az=57.0*

ISC 23 04:10:26.5±1.4, 7°.7S±0°.1×68°.70E±0°.09, h10km, n14, σ0⁰97/16, mb4.0/3, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N3	**Diego Garcia H**	**2.63**	**60**	Pn	**Pn**	**04 11 09.4**	**+0.7**
H08N3				Sn	**Sg**	**04 11 50.0**	**-0.9**
H08N3				T	T	04 14 45.1	
	baz=235,slow=74,SNR=716						
H08N2	**Diego Garcia H**	**2.64**	**60**	Pn	**Pn**	**04 11 09.6**	**+0.7**
H08N2				Sn	**Sg**	**04 11 50.3**	**-1.2**
H08N2				T	T	04 14 52.6	
	baz=235,slow=74,SNR=950						
H08N1	**Diego Garcia H**	**2.65**	**60**	Pn	**Pn**	**04 11 09.6**	**+0.7**
H08N1				Sn	**Sg**	**04 11 50.3**	**-1.3**
H08N1				T	T	04 14 49.5	
	baz=235,slow=74,SNR=675						
H08S1	**Diego Garcia H**	**3.74**	**90**	Pn	**Pn**	**04 11 23.9**	**-0.2**
H08S1				Sn	**Sn**	**04 12 08.8**	**+0.7**
	baz=216,slow=74,SNR=15						
H08S1				T	T	04 16 00.7	
	baz=209,slow=71,SNR=13						
H08S3	**Diego Garcia H**	**3.75**	**90**	Pn	**Pn**	**04 11 24.0**	**-0.2**
H08S3				Sn	**Sn**	**04 12 10.1**	**+1.7**
	baz=216,slow=74,SNR=9.6						
H08S3				T	T	04 16 05.0	
	baz=209,slow=71,SNR=12						
H08S2	**Diego Garcia H**	**3.76**	**90**	Pn	**Pn**	**04 11 24.1**	**-0.2**
H08S2				Sn	**Sn**	**04 12 10.2**	**+1.6**
	baz=216,slow=74,SNR=13						
H08S2				T	T	04 16 03.7	
	baz=209,slow=71,SNR=12						
PALK	**Pallekele**	**19.07**	**39**	LR	LR	04 20 05.5	
	comp=Z,112nm,18.1s,baz=296,slow=30						
H01W3	**Cape Leeuwin H**	**49.66**	**130**	T	T	05 12 31.3	
	baz=292,slow=75,SNR=4.9						
H01W2	**Cape Leeuwin H**	**49.67**	**130**	T	T	05 12 30.2	
	baz=292,slow=75,SNR=5.4						
H01W1	**Cape Leeuwin H**	**49.68**	**130**	T	T	05 12 33.0	
	baz=292,slow=75,SNR=5.7						
MKAR	**Makanchi Array**	**55.56**	**11**	P	**P**	**04 20 02.4**	**+0.3**
	0.5nm,0.6s,baz=203,slow=8.1,SNR=4.9						
ASAR	**Alice Springs**	**64.27**	**112**	P	**P**	**04 21 02.0**	**-0.5**
	0.7nm,0.5s,baz=277,slow=6.2,SNR=6.6						
WRA	**Warramunga Arr**	**64.56**	**108**	P	**P**	**04 21 03.9**	**-0.5**
	0.7nm,0.7s,baz=278,slow=12,SNR=4.5						
NVAR	**Mina Array Bea**	**148.73**	**11**	PKPbc	**PKPbc**	**04 30 14.5**	**-0.4**
	0.6nm,0.6s,baz=221,slow=1.3,SNR=5.6						

IDC 23 04:33:10.4±2.1, 0°.88N×126°.75E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/32, mbtmp3.5/3, Error ellipse: s-maj=180.6km s-min=25.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.99**	**161**	P	P	04 38 04.9	-1.4
	0.8nm,0.4s,baz=339,slow=11,SNR=9.1						
ASAR	**Alice Springs**	**25.37**	**165**	P	P	04 38 40.6	+1.2
	0.4nm,0.3s,baz=341,slow=11,SNR=5.8						
MKAR	**Makanchi Array**	**59.91**	**326**	P	P	04 43 18.2	-0.1
	0.2nm,0.4s,baz=139,slow=7.7,SNR=2.7						

IDC 23 04:46:11.7±7.1, 18°.48S×69°.44W, h163km±44km, mb3.7/3, mb1 3.6/4, mb1mx3.3/20, mbtmp4.1/4, Error ellipse: s-maj=79.0km s-min=67.8km az=40.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.51**	**30**	P	Pn	04 46 54.3	-0.1
	7.0nm,0.3s,baz=193,slow=5.6,SNR=524						
LPAZ				S	Sn	04 47 27.6	+0.1
	0.6nm,0.3s,baz=13,slow=20,SNR=6.1						
BDFB	**Brasilia**	**20.67**	**85**	P	P	04 50 39.2	0.0

RESF	Ens	0.61	128	Pg	Pg	05 03 10.5	+0.1
RESF				Lg	Lg	05 03 18.5	
SJPF	Ste Jean	0.67	264	ePg	Pb	05 03 12.2	-0.1
SJPF				eSg	Sb	05 03 21.2	-0.4
	280nm,0.2s						
SJPF	Ste Jean	0.67	264	Pg	Pb	05 03 12.2	-0.1
SJPF				Lg	Lg	05 03 21.2	
	140nm,0.2s						
SJPF	Ste Jean	0.67	264	ePg	Pb	05 03 12.2	-0.1
SJPF				eSg	Sb	05 03 21.2	-0.4
	140nm,0.2s						
OSSF	Osses	0.69	276	Pg	Pg	05 03 12.2	+0.2
OSSF				Sg	Sb	05 03 23.5	+1.2
OSSF	Osses	0.69	276	Pg	Pb	05 03 12.5	-0.2
OSSF				Lg	Lg	05 03 22.3	
OSSF	Osses	0.69	276	Pg	Pg	05 03 12.2	+0.2
OSSF				Lg	Lg	05 03 22.3	
OSSF				Sg	Sb	05 03 23.5	+1.2
YBER	Berdun	0.74	217	⇑Pg	Pg	05 03 12.9	-0.1
	48nm,0.3s,SNR=18						
YBER				Lg	Lg	05 03 22.5	
	260nm,0.2s,SNR=7.9						
YBER	Berdun	0.74	217	Pg	Pg	05 03 12.9	-0.1
	48nm,0.3s,SNR=18						
YBER				Lg	Lg	05 03 22.5	
	260nm,0.2s,SNR=7.9						
IELO	Elcoad	0.75	244	⇑Pg	Pg	05 03 13.1	0.0
	27nm,0.1s,SNR=18						
IELO				Lg	Lg	05 03 23.1	
	219nm,0.2s,SNR=7.9						
IELO	Elcoad	0.75	244	Pg	Pg	05 03 13.1	0.0
	27nm,0.1s,SNR=18						
IELO				Lg	Lg	05 03 23.1	
	219nm,0.2s,SNR=7.9						
YASP	Aspurt	0.77	234	⇑Pg	Pg	05 03 13.4	0.0
	29nm,0.2s,SNR=18						
YASP				Lg	Lg	05 03 23.8	
	221nm,0.2s,SNR=7.9						
YASP	Aspurt	0.77	234	Pg	Pg	05 03 13.4	0.0
	29nm,0.2s,SNR=18						
YASP				Lg	Lg	05 03 23.8	
	221nm,0.2s,SNR=7.9						
YMUS	Pe˜–a Musera	0.79	221	Pg	Pg	05 03 13.8	0.0
	49nm,0.2s,SNR=7.9						
YMUS				Lg	Lg	05 03 24.0	
	303nm,0.2s,SNR=7.9						
YMUS	Pe˜–a Musera	0.79	221	Pg	Pg	05 03 13.8	0.0
	49nm,0.2s,SNR=7.9						
YMUS				Lg	Lg	05 03 24.0	
	303nm,0.2s,SNR=7.9						
IEPA	Eparoz	0.80	240	Pg	Pg	05 03 14.0	-0.1
	24nm,0.2s,SNR=7.9						
IEPA				Lg	Lg	05 03 25.1	
	274nm,0.2s,SNR=7.9						
IEPA	Eparoz	0.80	240	Pg	Pg	05 03 14.0	-0.1
	24nm,0.2s,SNR=7.9						
IEPA				Lg	Lg	05 03 25.1	
	274nm,0.2s,SNR=7.9						
YARA	Arangoiti	0.83	231	⇑Pg	Pg	05 03 14.8	+0.1
	52nm,0.3s,SNR=18						
YARA				Lg	Lg	05 03 25.5	
	334nm,0.4s,SNR=7.9						
YARA	Arangoiti	0.83	231	Pg	Pg	05 03 14.8	+0.1
	52nm,0.3s,SNR=18						
YARA				Lg	Lg	05 03 25.5	
	334nm,0.4s,SNR=7.9						
MELF	Melles	0.85	111	Pg	Pg	05 03 14.9	0.0
MELF				Sg	Sb	05 03 27.2	+0.4
MELF	Melles	0.85	111	Pg	Pg	05 03 15.1	+0.1
MELF				Lg	Lg	05 03 26.1	
MELF	Melles	0.85	111	Pg	Pg	05 03 14.9	0.0
MELF				Lg	Lg	05 03 26.1	
MELF				Sg	Sb	05 03 27.2	+0.4
IPRE	Itoiz	0.85	244	Pg	Pg	05 03 15.1	+0.1
	20nm,0.1s,SNR=27						
IPRE				Lg	Lg	05 03 26.5	
	280nm,0.3s,SNR=7.9						
IPRE	Itoiz	0.85	244	Pg	Pg	05 03 15.1	+0.1
	20nm,0.1s,SNR=27						
IPRE				Lg	Lg	05 03 26.5	
	280nm,0.3s,SNR=7.9						
YUND	Undues	0.85	225	Pg	Pg	05 03 15.0	0.0
	51nm,0.3s,SNR=7.9						
YUND				Lg	Lg	05 03 26.2	
	170nm,0.2s,SNR=7.9						
YUND	Undues	0.85	225	Pg	Pg	05 03 15.0	0.0
	51nm,0.3s,SNR=7.9						
YUND				Lg	Lg	05 03 26.2	
	170nm,0.2s,SNR=7.9						
EALK	Alkurruntz	0.87	273	Pg	Pb	05 03 15.7	0.0
	2.6nm,0.1s,SNR=39						
EALK				Lg	Lg	05 03 28.0	
	274nm,0.4s,SNR=5.0						
EALK	Alkurruntz	0.87	273	Pg	Pb	05 03 15.7	0.0
	2.6nm,0.1s,SNR=39						
EALK				Lg	Lg	05 03 28.0	
	274nm,0.4s,SNR=5.0						
ELIZ	Elizondo	0.89	269	Pg	Pb	05 03 16.1	+0.1
	7.9nm,0.2s,SNR=63						
ELIZ				Lg	Lg	05 03 28.5	
	116nm,0.2s,SNR=18						
ELIZ	Elizondo	0.89	269	Pg	Pb	05 03 16.1	+0.1
	7.9nm,0.2s,SNR=63						
ELIZ				Lg	Lg	05 03 28.5	
	116nm,0.2s,SNR=18						
IUSE	Utxeti	0.93	256	Pg	Pb	05 03 17.0	+0.2
	13nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	05 03 29.6	
	128nm,0.2s,SNR=7.9						
IUSE	Utxeti	0.93	256	Pg	Pb	05 03 17.0	+0.2
	13nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	05 03 29.6	
	128nm,0.2s,SNR=7.9						
YNAR	Nardues-Alduna	0.94	235	Pg	Pg	05 03 16.8	+0.1
	23nm,0.2s,SNR=7.9						
YNAR				Lg	Lg	05 03 29.4	
	85nm,0.2s,SNR=7.9						
YNAR	Nardues-Alduna	0.94	235	Pg	Pg	05 03 16.8	+0.1
	23nm,0.2s,SNR=7.9						
YNAR				Lg	Lg	05 03 29.4	
	85nm,0.2s,SNR=7.9						
YSOS	Sos del Rey Ca	0.95	220	Pg	Pg	05 03 17.2	+0.4
	23nm,0.2s,SNR=7.9						
YSOS				Lg	Lg	05 03 29.3	
	298nm,0.2s,SNR=7.9						
YSOS	Sos del Rey Ca	0.95	220	Pg	Pg	05 03 17.2	+0.4
	23nm,0.2s,SNR=7.9						
YSOS				Lg	Lg	05 03 29.3	
	298nm,0.2s,SNR=7.9						
IUNC	Unciti	0.97	244	Pg	Pg	05 03 17.6	+0.4
	22nm,0.2s,SNR=7.9						
IUNC				Lg	Lg	05 03 30.1	
	117nm,0.2s,SNR=7.9						
IUNC	Unciti	0.97	244	Pg	Pg	05 03 17.6	+0.4
	22nm,0.2s,SNR=7.9						
IUNC				Lg	Lg	05 03 30.1	
	117nm,0.2s,SNR=7.9						
EARA	Aranguren	1.01	247	Pg	Pg	05 03 18.4	+0.4
	18nm,0.2s,SNR=9.1						
EARA				Lg	Lg	05 03 31.5	
	223nm,0.2s,SNR=7.2						
EARA	Aranguren	1.01	247	Pg	Pg	05 03 18.4	+0.4
	18nm,0.2s,SNR=9.1						
EARA				Lg	Lg	05 03 31.5	
	223nm,0.2s,SNR=7.2						
MLS	Moulis	1.06	102	Pg	Pb	05 03 19.5	+0.6
MLS				Sg	Sn	05 03 34.7	+0.5
MLS	Moulis	1.06	102	Pg	Pn	05 03 19.8	+0.4
MLS				Lg	Lg	05 03 34.1	
MLS	Moulis	1.06	102	Pg	Pb	05 03 19.5	+0.6
MLS				Lg	Lg	05 03 34.1	
SALF	Salau	1.18	110	Pg	Pb	05 03 21.8	+0.7
SALF				Sg	Sn	05 03 38.3	+1.0
SALF	Salau	1.18	110	Pg	Pn	05 03 21.3	+0.1
SALF				Lg	Lg	05 03 36.0	
SALF	Salau	1.18	110	Pg	Pn	05 03 21.3	+0.1
SALF				Lg	Lg	05 03 36.0	
SALF				Sg	Sn	05 03 38.3	+1.0
CSOR	Sort	1.34	127	Pg	Pn	05 03 23.9	+0.6
	7.0nm,0.3s,SNR=63						
CSOR				Lg	Lg	05 03 42.5	
	203nm,0.2s,SNR=24						
CSOR	Sort	1.34	127	Pg	Pn	05 03 23.9	+0.6
	7.0nm,0.3s,SNR=63						
CSOR				Lg	Lg	05 03 42.5	
	203nm,0.2s,SNR=24						
GRBF	Gourbit	1.40	103	Pg	Pg	05 03 26.3	+0.8
GRBF				Lg	Lg	05 03 43.9	
GRBF	Gourbit	1.40	103	Pg	Pg	05 03 26.3	+0.8
GRBF				Lg	Lg	05 03 43.9	
ESAC	San Caprasio	1.46	184	Pg	Pn	05 03 26.1	+1.1
	74nm,0.2s,SNR=82						
ESAC				Lg	Lg	05 03 45.1	
	516nm,0.2s,SNR=5.0						
ESAC	San Caprasio	1.46	184	Pg	Pn	05 03 26.1	+1.1
	74nm,0.2s,SNR=82						
ESAC				Lg	Lg	05 03 45.1	
	516nm,0.2s,SNR=5.0						
PAND	Andorre	1.52	115	Pg	Pb	05 03 27.6	+0.7
PAND				Lg	Lg	05 03 47.1	
PAND	Andorre	1.52	115	Pg	Pb	05 03 27.6	+0.7
PAND				Lg	Lg	05 03 47.1	
CLLI	Llivia	1.83	112	Pg	Pb	05 03 33.3	+1.2
	2.0nm,0.2s,SNR=39						
CLLI				Lg	Lg	05 03 57.9	
	153nm,0.6s,SNR=5.0						
CLLI	Llivia	1.83	112	Pg	Pb	05 03 33.3	+1.2
	2.0nm,0.2s,SNR=39						
CLLI				Lg	Lg	05 03 57.9	
	153nm,0.6s,SNR=5.0						
CARF	Carcanieres	1.84	104	Pg	Pb	05 03 33.7	+1.4
CARF				Sg	Sg	05 04 00.3	+2.6
CARF	Carcanieres	1.84	104	Pg	Pg	05 03 34.0	+0.1
CARF				Lg	Lg	05 03 58.5	
CARF	Carcanieres	1.84	104	Pg	Pb	05 03 33.7	+1.4
CARF				Lg	Lg	05 03 58.5	
MTLF	Montolieu	1.86	84	ePn	Pn	05 03 31.0	+0.6
MTLF	Montolieu	1.86	84	ePg	Pg	05 03 35.3	+1.1
MTLF				eSg	Sg	05 03 59.4	+1.1
	82nm,0.2s						
MTLF	Montolieu	1.86	84	Pn	Pn	05 03 31.0	+0.6
MTLF				Pg	Pg	05 03 35.3	+1.1
MTLF				Lg	Lg	05 03 59.4	
	41nm,0.2s						
MTLF	Montolieu	1.86	84	ePn	Pn	05 03 31.0	+0.6
MTLF	Montolieu	1.86	84	ePg	Pg	05 03 35.3	+1.1
MTLF				eSg	Sg	05 03 59.4	+1.1
	41nm,0.2s						
EMIR	Miracle	1.86	132	Pg	Pb	05 03 33.5	+0.9
	9.6nm,0.3s,SNR=59						
EMIR				Lg	Lg	05 03 58.6	
	36nm,0.2s,SNR=8.4						
EMIR	Miracle	1.86	132	Pg	Pb	05 03 33.5	+0.9
	9.6nm,0.3s,SNR=59						
EMIR				Lg	Lg	05 03 58.6	
	36nm,0.2s,SNR=8.4						
VALF	Valcebollere	1.89	114	Pg	Pg	05 03 34.7	-0.1
VALF				Sg	Sg	05 04 01.6	+2.3
VALF	Valcebollere	1.89	114	Pg	Pg	05 03 35.0	+0.2
VALF				Lg	Lg	05 03 58.8	
VALF	Valcebollere	1.89	114	Pg	Pg	05 03 34.7	-0.1
VALF				Lg	Lg	05 03 58.8	
VALF				Sg	Sg	05 04 01.6	+2.3
LFF	La Frestale	1.92	23	ePn	Pb	05 03 33.2	-0.3
LFF	La Frestale	1.92	23	ePg	Pg	05 03 37.6	+2.3
LFF				eSg	Sg	05 04 01.8	+1.7
	260nm,0.3s						
LFF	La Frestale	1.92	23	Pn	Pb	05 03 33.2	-0.3
LFF				Pg	Pg	05 03 37.6	+2.3
LFF				Lg	Lg	05 04 01.8	
	130nm,0.3s						
LFF	La Frestale	1.92	23	ePn	Pb	05 03 33.2	-0.3
LFF	La Frestale	1.92	23	ePg	Pg	05 03 37.6	+2.3
LFF				eSg	Sg	05 04 01.8	+1.7
	130nm,0.3s						
EPOB	Poblet	2.10	150	Pn	Pn	05 03 35.3	+1.5
	0.7nm,0.2s,SNR=7.9						
EPOB				Pg	Pb	05 03 37.5	+0.8
	4.0nm,0.2s,SNR=7.9						
EPOB				Lg	Lg	05 04 04.4	
	32nm,0.2s,SNR=15						
EPOB	Poblet	2.10	150	Pn	Pn	05 03 35.3	+1.5
	0.7nm,0.2s,SNR=7.9						
FILF	Fillols	2.21	105	Pg	Pb	05 03 39.7	+1.2
FILF				Lg	Lg	05 04 07.1	
FILF	Fillols	2.21	105	Pg	Pb	05 03 39.7	+1.2
FILF				Lg	Lg	05 04 07.1	
ERTA	Horta de San J	2.28	167	Pn	Pn	05 03 36.7	+0.6
	2.4nm,0.2s,SNR=22						
ERTA				Pg	Pb	05 03 40.2	+0.5
	10.0nm,0.2s,SNR=7.9						
ERTA				Sn	Sn	05 04 03.2	-1.0
	8.3nm,0.2s,SNR=7.9						
ERTA				Lg	Lg	05 04 09.0	
	34nm,0.2s,SNR=5.0						
ERTA	Horta de San J	2.28	167	Pn	Pn	05 03 36.7	+0.6
	2.4nm,0.2s,SNR=22						
ELAN	Lanestosa	2.28	272	Pg	Pb	05 03 40.5	+0.8
	3.2nm,0.2s,SNR=7.3						
ELAN				Lg	Lg	05 04 09.9	
	14nm,0.2s,SNR=7.9						
ELAN	Lanestosa	2.28	272	Pg	Pb	05 03 40.5	+0.8
	3.2nm,0.2s,SNR=7.3						
ELAN				Lg	Lg	05 04 09.9	
	14nm,0.2s,SNR=7.9						
EBR	Ebro Roquetas	2.44	165	Pg	Pg	05 03 47.0	+1.7
	83nm,0.3s,SNR=7.9						
EBR				Lg	Lg	05 04 17.7	
	255nm,0.4s,SNR=7.9						
EBR	Ebro Roquetas	2.44	165	Pg	Pg	05 03 47.0	+1.7
	83nm,0.3s,SNR=7.9						
EBR				Lg	Lg	05 04 17.7	
	255nm,0.4s,SNR=7.9						
CAF	Calviac	2.45	44	ePn	Pn	05 03 39.5	+1.0
CAF	Calviac	2.45	44	ePg	Pg	05 03 46.3	+0.8
CAF				eSg	Sg	05 04 18.0	+0.8
	98nm,0.3s						
CAF	Calviac	2.45	44	Pn	Pn	05 03 39.5	+1.0
CAF				Pg	Pg	05 03 46.3	+0.8
CAF				Lg	Lg	05 04 18.0	
	49nm,0.3s						
CAF	Calviac	2.45	44	ePn	Pn	05 03 39.5	+1.0
CAF	Calviac	2.45	44	ePg	Pg	05 03 46.3	+0.8
CAF				eSg	Sg	05 04 18.0	+0.8
	49nm,0.3s						
SJAF	Saint Jean de	2.46	105	Pg	Pg	05 03 45.6	0.0
SJAF				Sg	Sg	05 04 19.2	+1.8
SJAF	Saint Jean de	2.46	105	Pn	Pn	05 03 40.8	+2.2
	0.2nm,0.2s,SNR=7.9						
SJAF				Pg	Pg	05 03 45.2	-0.4
	4.7nm,0.2s,SNR=7.9						
SJAF				Lg	Lg	05 04 17.2	
	35nm,0.5s,SNR=7.9						
SJAF	Saint Jean de	2.46	105	Pn	Pn	05 03 40.8	+2.2
	0.2nm,0.2s,SNR=7.9						
SJAF	Saint Jean de	2.46	105	Pg	Pg	05 03 45.2	-0.4
	4.7nm,0.2s,SNR=7.9						
SJAF				Lg	Lg	05 04 17.2	
	35nm,0.5s,SNR=7.9						
SJAF				Sg	Sg	05 04 19.2	+1.8
EJON	La Jonquera	2.47	106	Pg	Pg	05 03 45.4	-0.5
	5.7nm,0.3s,SNR=13						
EJON				Lg	Lg	05 04 19.2	
	59nm,0.3s,SNR=7.9						
EJON	La Jonquera	2.47	106	Pg	Pg	05 03 45.4	-0.5
	5.7nm,0.3s,SNR=13						
EJON				Lg	Lg	05 04 19.2	
	59nm,0.3s,SNR=7.9						
CFON	Fontmartina	2.48	124	Pn	Pb	05 03 42.1	-1.2
	2.7nm,0.1s,SNR=16						
CFON				Pg	Pg	05 03 44.7	-1.4
	6.4nm,0.2s,SNR=7.9						
CFON				Lg	Lg	05 04 17.2	
	189nm,0.2s,SNR=5.0						
CFON	Fontmartina	2.48	124	Pn	Pb	05 03 42.1	-1.2
	2.7nm,0.1s,SNR=16						
RJF	Les Rejaudoux	2.50	31	ePn	Pn	05 03 39.7	+0.5
RJF	Les Rejaudoux	2.50	31	ePg	Pg	05 03 47.5	+1.1
RJF				eSg	Sg	05 04 20.1	+1.3
	142nm,0.4s						
RJF	Les Rejaudoux	2.50	31	Pn	Pn	05 03 39.7	+0.5
RJF				Pg	Pg	05 03 47.5	+1.1
RJF				Lg	Lg	05 04 20.1	
	71nm,0.4s						
RJF	Les Rejaudoux	2.50	31	ePn	Pn	05 03 39.7	+0.5
RJF	Les Rejaudoux	2.50	31	ePg	Pg	05 03 47.5	+1.1
RJF				eSg	Sg	05 04 20.1	+1.3
	71nm,0.4s						
ETOR	Torete	2.69	209	Pn	Pn	05 03 43.6	+1.7
	41nm,0.1s,SNR=37						
ETOR				Sn	Sn	05 04 14.6	0.0
	85nm,0.2s,SNR=14						
ETOR				Lg	Lg	05 04 23.8	
	158nm,0.3s,SNR=5.0						
ETOR	Torete	2.69	209	Pn	Pn	05 03 43.6	+1.7
	41nm,0.1s,SNR=37						
ETOR				Sn	Sn	05 04 14.6	0.0
	85nm,0.2s,SNR=14						
ETOR				Lg	Lg	05 04 23.8	
	158nm,0.3s,SNR=5.0						
EMOS	Mosqueruela	2.82	182	Pn	Pn	05 03 45.5	+1.7
	0.3nm,0.2s,SNR=14						
EMOS				Pg	Pb	05 03 50.0	+1.0
	1.9nm,0.2s,SNR=19						
EMOS				Sn	Sn	05 04 17.3	-0.5
	3.2nm,0.1s,SNR=7.9						
EMOS				Lg	Lg	05 04 26.3	
	24nm,0.3s,SNR=5.0						
EMOS	Mosqueruela	2.82	182	Pn	Pn	05 03 45.5	+1.7
	0.3nm,0.2s,SNR=14						
EMOS	Mosqueruela	2.82	182	Pg	Pb	05 03 50.0	+1.0
	1.9nm,0.2s,SNR=19						
EMOS				Sn	Sn	05 04 17.3	-0.5
	3.2nm,0.1s,SNR=7.9						
EMOS				Lg	Lg	05 04 26.3	
	24nm,0.3s,SNR=5.0						
LASF	Ste Croix	3.16	72	ePn	Pn	05 03 49.7	+1.4
LASF	Ste Croix	3.16	72	ePg	Pg	05 03 59.4	+0.3
LASF				eSg	Sg	05 04 40.0	-0.1
	38nm,0.2s						
LASF	Ste Croix	3.16	72	Pn	Pn	05 03 49.7	+1.4
LASF				Pg	Pg	05 03 59.4	+0.3
LASF				Lg	Lg	05 04 40.0	
	19nm,0.2s						
LASF	Ste Croix	3.16	72	ePn	Pn	05 03 49.7	+1.4
LASF	Ste Croix	3.16	72	ePg	Pg	05 03 59.4	+0.3
LASF				eSg	Sg	05 04 40.0	-0.1
	19nm,0.2s						
MFF	Saint Martin d	3.42	2	ePn	Pn	05 03 53.5	+1.6
MFF	Saint Martin d	3.42	2	ePg	Pg	05 04 04.6	+0.5
MFF				eSg	Sg	05 04 48.8	+0.3
	45nm,0.3s						
MFF	Saint Martin d	3.42	2	Pn	Pn	05 03 53.5	+1.6
MFF				Pg	Pg	05 04 04.6	+0.5
MFF				Lg	Lg	05 04 48.8	
	23nm,0.3s						
MFF	Saint Martin d	3.42	2	ePn	Pn	05 03 53.5	+1.6
MFF	Saint Martin d	3.42	2	ePg	Pg	05 04 04.6	+0.5
MFF				eSg	Sg	05 04 48.8	+0.3
	23nm,0.3s						
EARI	Arriondas	3.58	274	Pn	Pn	05 03 57.3	+3.3
	1.2nm,0.3s,SNR=14						
EARI				Sn	Sn	05 04 38.7	+2.4
	18nm,0.6s,SNR=5.0						
EARI	Arriondas	3.58	274	Pn	Pn	05 03 57.3	+3.3
	1.2nm,0.3s,SNR=14						
EARI				Sn	Sn	05 04 38.7	+2.4
	18nm,0.6s,SNR=5.0						
TCF	Toulx Ste Croi	3.59	29	ePn	Pn	05 03 55.3	+1.1
TCF	Toulx Ste Croi	3.59	29	ePg	Pg	05 04 07.3	0.0
TCF				eSn	Sn	05 04 36.1	-0.5
TCF				eSg	Sg	05 04 53.8	0.0
	83nm,0.5s						
TCF	Toulx Ste Croi	3.59	29	Pn	Pn	05 03 55.3	+1.1
TCF				Pg	Pg	05 04 07.3	0.0
TCF				Sn	Sn	05 04 36.1	-0.5
TCF				Lg	Lg	05 04 53.8	
	41nm,0.5s						
TCF	Toulx Ste Croi	3.59	29	ePn	Pn	05 03 55.3	+1.1
TCF	Toulx Ste Croi	3.59	29	ePg	Pg	05 04 07.3	0.0
TCF				eSn	Sn	05 04 36.1	-0.5
TCF				eSg	Sg	05 04 53.8	0.0
	41nm,0.5s						
GUD	Guadarrama	3.83	230	Pn	Pn	05 04 00.0	+2.5
	1.3nm,0.2s,SNR=11						
GUD				Sn	Sn	05 04 42.5	-0.1
	4.6nm,0.2s,SNR=7.9						
GUD				Lg	Lg	05 04 57.7	
	16nm,0.6s,SNR=5.0						
GUD	Guadarrama	3.83	230	Pn	Pn	05 04 00.0	+2.5
	1.3nm,0.2s,SNR=11						
GUD				Sn	Sn	05 04 42.5	-0.1
	4.6nm,0.2s,SNR=7.9						
GUD				Lg	Lg	05 04 57.7	
	16nm,0.6s,SNR=5.0						
VIVF	Saint-Julien-l	3.97	63	ePn	Pn	05 04 00.7	+1.3
VIVF	Saint-Julien-l	3.97	63	ePg	Pg	05 04 14.2	-0.4
VIVF				eSg	Sg	05 05 05.4	-0.6
	36nm,0.3s						
VIVF	Saint-Julien-l	3.97	63	Pn	Pn	05 04 00.7	+1.3
VIVF				Pg	Pg	05 04 14.2	-0.4
VIVF				Lg	Lg	05 05 05.4	
	18nm,0.3s						
VIVF	Saint-Julien-l	3.97	63	ePn	Pn	05 04 00.7	+1.3
VIVF	Saint-Julien-l	3.97	63	ePg	Pg	05 04 14.2	-0.4
VIVF				eSg	Sg	05 05 05.4	-0.6
	18nm,0.3s						
BGF	Bois d'Agland	4.06	33	ePn	Pn	05 04 01.6	+1.0
BGF	Bois d'Agland	4.06	33	ePg	Pg	05 04 16.0	-0.2
BGF				eSg	Sg	05 05 08.3	-0.5
	144nm,0.4s						
BGF	Bois d'Agland	4.06	33	Pn	Pn	05 04 01.6	+1.0
BGF				Pg	Pg	05 04 16.0	-0.2
BGF				Lg	Lg	05 05 08.3	
	72nm,0.4s						
BGF	Bois d'Agland	4.06	33	ePn	Pn	05 04 01.6	+1.0
BGF	Bois d'Agland	4.06	33	ePg	Pg	05 04 16.0	-0.2
BGF				eSg	Sg	05 05 08.3	-0.5
	72nm,0.4s						
ETOS	Mallorca	4.14	144	Pn	Pn	05 04 03.9	+2.1
	0.9nm,0.2s,SNR=7.9						
ETOS				Sn	Sn	05 04 49.2	-1.1
	5.2nm,0.4s,SNR=7.9						
ETOS	Mallorca	4.14	144	Pn	Pn	05 04 03.9	+2.1
	0.9nm,0.2s,SNR=7.9						
ETOS				Sn	Sn	05 04 49.2	-1.1
	5.2nm,0.4s,SNR=7.9						
EIBI	Ibiza	4.34	163	Pn	Pn	05 04 05.0	+0.5
	0.6nm,0.2s,SNR=7.9						
EIBI				Sn	Sn	05 04 51.3	-3.7
	1.7nm,0.2s,SNR=7.9						
EIBI	Ibiza	4.34	163	Pn	Pn	05 04 04.9	+0.5
	0.6nm,0.2s,SNR=7.9						
SMRF	Simiane la Rot	4.36	77	ePn	Pn	05 04 06.3	+1.6
SMRF	Simiane la Rot	4.36	77	ePg	Pg	05 04 21.6	-0.4
SMRF				eSg	Sg	05 05 17.3	-1.1
	9.8nm,0.4s						
SMRF	Simiane la Rot	4.36	77	Pn	Pn	05 04 06.3	+1.6
SMRF				Pg	Pg	05 04 21.6	-0.4
SMRF				Lg	Lg	05 05 17.3	
	9.8nm,0.4s						
SMRF	Simiane la Rot	4.36	77	ePn	Pn	05 04 06.3	+1.6
SMRF	Simiane la Rot	4.36	77	ePg	Pg	05 04 21.6	-0.4
SMRF				eSg	Sg	05 05 17.3	-1.1
	4.9nm,0.4s						
ESDC	Sonseca Array	4.45	219	Pn	Pn	05 04 06.6	+0.5
	2.5nm,0.3s,baz=41,slow=14,SNR=30						
ESDC				Sn	Sn	05 04 55.3	-2.6
	7.1nm,0.4s,baz=41,slow=24,SNR=11						
ESDC				Lg	Lg	05 05 17.5	
	2.4nm,0.6s,baz=38,slow=29,SNR=20						
ESDC	Sonseca Array	4.45	219	Pn	Pn	05 04 06.6	+0.5
	2.5nm,0.3s,SNR=30						
ESDC				Sn	Sn	05 04 55.3	-2.6
	7.1nm,0.4s,SNR=11						
ESDC				Lg	Lg	05 05 17.5	
	2.4nm,0.6s,SNR=20						
AVF	Avril sur Loir	4.45	35	ePn	Pn	05 04 06.9	+0.9
AVF	Avril sur Loir	4.45	35	ePg	Pg	05 04 23.2	-0.6
AVF				eSg	Sg	05 05 20.6	-0.8
	20nm,0.4s						
AVF	Avril sur Loir	4.45	35	Pn	Pn	05 04 06.9	+0.9
AVF				Pg	Pg	05 04 23.2	-0.6
AVF				Lg	Lg	05 05 20.6	
	10nm,0.4s						
AVF	Avril sur Loir	4.45	35	ePn	Pn	05 04 06.9	+0.9
AVF	Avril sur Loir	4.45	35	ePg	Pg	05 04 23.2	-0.6
AVF				eSg	Sg	05 05 20.6	-0.8
	10nm,0.4s						
EBEN	Beniarda	4.47	179	Pn	Pn	05 04 07.8	+1.4
	0.1nm,0.1s,SNR=7.9						
EBEN				Sn	Sn	05 04 55.0	-3.5
	1.3nm,0.2s,SNR=7.9						
EBEN	Beniarda	4.47	179	Pn	Pn	05 04 07.8	+1.4
	0.1nm,0.1s,SNR=7.9						
SMF	Signal de Mont	4.55	39	ePn	Pn	05 04 08.3	+0.9
SMF	Signal de Mont	4.55	39	ePg	Pg	05 04 24.7	-1.0
SMF				eSg	Sg	05 05 24.1	-0.6

38nm,0.5s
SMF Signal de Mont 4.55 39 Pn **Pn 05 04 08.3 +0.9**
SMF Pg **Pg 05 04 24.7 -1.0**
SMF Lg Lg 05 05 24.1
19nm,0.5s
SMF Signal de Mont 4.55 39 *e*Pn **Pn 05 04 08.3 +0.9**
SMF Signal de Mont 4.55 39 *e*Pg **Pg 05 04 24.7 -1.0**
SMF *e*Sg **Sg 05 05 24.1 -0.6**
19nm,0.5s
HYF Humbligny 4.59 26 *e*Pn **Pn 05 04 08.9 +1.0**
HYF Humbligny 4.59 26 *e*Pg **Pg 05 04 25.8 -0.6**
HYF *e*Sn **Sn 05 05 00.3 -0.9**
HYF *e*Sg **Sg 05 05 25.0 -0.9**
HYF Humbligny 4.59 26 Pn **Pn 05 04 08.9 +1.0**
HYF Pg **Pg 05 04 25.8 -0.6**
HYF Sn **Sn 05 05 00.3 -0.9**
HYF Lg Lg 05 05 25.0
HYF Humbligny 4.59 26 *e*Pn **Pn 05 04 08.9 +1.0**
HYF Humbligny 4.59 26 *e*Pg **Pg 05 04 25.8 -0.6**
HYF *e*Sn **Sn 05 05 00.3 -0.9**
HYF *e*Sg **Sg 05 05 25.0 -0.9**
ETOB Tobarra 4.63 192 Pn **Pn 05 04 10.2 +1.7**
1.4nm,0.2s,SNR=7.9
ETOB Sn **Sn 05 04 59.8 -2.5**
1.4nm,0.2s,SNR=5.0
ETOB Lg Lg 05 05 26.6
2.0nm,0.3s,SNR=7.9
ETOB Tobarra 4.63 192 Pn **Pn 05 04 10.2 +1.7**
1.4nm,0.2s,SNR=7.9
ETOB Sn **Sn 05 04 59.8 -2.5**
1.4nm,0.2s,SNR=5.0
ETOB Lg Lg 05 05 26.6
2.0nm,0.3s,SNR=7.9
SSF Saint Saulge 4.73 34 *e*Pn **Pn 05 04 10.6 +0.8**
SSF Saint Saulge 4.73 34 *e*Pg **Pg 05 04 28.4 -0.7**
SSF *e*Sg **Sg 05 05 29.4 -1.0**
28nm,0.4s
SSF Saint Saulge 4.73 34 Pn **Pn 05 04 10.6 +0.8**
SSF Pg **Pg 05 04 28.4 -0.7**
SSF Lg Lg 05 05 29.4
14nm,0.4s
SSF Saint Saulge 4.73 34 *e*Pn **Pn 05 04 10.6 +0.8**
SSF Saint Saulge 4.73 34 *e*Pg **Pg 05 04 28.4 -0.7**
SSF *e*Sg **Sg 05 05 29.4 -1.0**
14nm,0.4s
PAB San Pablo 4.73 221 Pn **Pn 05 04 10.7 +0.8**
0.4nm,0.3s,SNR=7.9
PAB Sn **Sn 05 05 04.0 -0.9**
2.6nm,0.3s,SNR=7.9
PAB Lg Lg 05 05 25.4
5.5nm,0.5s,SNR=7.9
PAB San Pablo 4.73 221 Pn **Pn 05 04 10.7 +0.8**
0.4nm,0.3s,SNR=7.9
PAB Sn **Sn 05 05 04.0 -0.9**
2.6nm,0.3s,SNR=7.9
PAB Lg Lg 05 05 25.4
5.5nm,0.5s,SNR=7.9
ORIF Oris-en-Rattie 4.79 67 *e*Pn **Pn 05 04 11.7 +0.9**
ORIF *e*Sg **Sg 05 05 31.2 -1.2**
7.4nm,0.5s
ORIF Oris-en-Rattie 4.79 67 Pn **Pn 05 04 11.7 +0.9**
ORIF Lg Lg 05 05 31.2
3.7nm,0.5s
ORIF Oris-en-Rattie 4.79 67 *e*Pn **Pn 05 04 11.7 +0.9**
ORIF *e*Sg **Sg 05 05 31.2 -1.2**
3.7nm,0.5s
ECAL Calabor 4.90 258 Pn **Pn 05 04 14.1 +1.8**
0.7nm,0.1s,SNR=7.9
ECAL Sn **Sn 05 05 07.1 -1.9**
34nm,0.2s,SNR=4.6
ECAL Calabor 4.90 258 Pn **Pn 05 04 14.1 +1.8**
0.7nm,0.1s,SNR=7.9
ECAL Sn **Sn 05 05 07.1 -1.9**
34nm,0.2s,SNR=4.6
PBRG Braganca 4.95 256 *e*Pn **Pn 05 04 14.8 +2.0**
PBRG *e*Sn **Sn 05 05 10.0 -0.1**
PBRG A A 05 05 12.4
16nm,0.4s
PBRG Braganca 4.95 256 Pn **Pn 05 04 14.8 +2.0**
PBRG Sn **Sn 05 05 10.0 -0.1**
8.2nm,0.4s
PBRG Braganca 4.95 256 Pn **Pn 05 04 14.8 +2.0**
PBRG Sn **Sn 05 05 10.0 -0.1**
8.2nm,0.4s
LMR La Mourre 4.99 86 *e*Pn **Pn 05 04 14.3 +0.9**
LMR La Mourre 4.99 86 *e*Pg **Pg 05 04 32.3 -1.8**
LMR *e*Sn **Sn 05 05 09.2 -1.8**
LMR *e*Sg **Sg 05 05 36.8 -1.9**
5.0nm,0.3s
LMR La Mourre 4.99 86 Pn **Pn 05 04 14.3 +0.9**
LMR Pg **Pg 05 04 32.3 -1.8**
LMR Sn **Sn 05 05 09.2 -1.8**
LMR Lg Lg 05 05 36.8
2.5nm,0.3s
LMR La Mourre 4.99 86 *e*Pn **Pn 05 04 14.3 +0.9**
LMR La Mourre 4.99 86 *e*Pg **Pg 05 04 32.3 -1.8**
LMR *e*Sn **Sn 05 05 09.2 -1.8**
LMR *e*Sg **Sg 05 05 36.8 -1.9**
2.5nm,0.3s
EPON Pontenova 4.99 274 Pn **Pn 05 04 16.3 +2.9**
1.5nm,0.2s,SNR=6.8
EPON Sn **Sn 05 05 12.8 +1.7**
1.9nm,0.3s,SNR=5.0
EPON Pontenova 4.99 274 Pn **Pn 05 04 16.3 +2.9**
1.5nm,0.2s,SNR=6.8
EPON Sn **Sn 05 05 12.8 +1.7**
1.9nm,0.3s,SNR=5.0
LOR Lormes 5.04 34 *e*Pn **Pn 05 04 15.1 +1.0**
baz=212
LOR Lormes 5.04 34 *e*Pg **Pg 05 04 34.3 -0.8**
baz=220
LOR *e*Sg **Sg 05 05 39.3 -1.0**
13nm,0.3s
LOR Lormes 5.04 34 Pn **Pn 05 04 15.1 +1.0**
LOR Pg **Pg 05 04 34.3 -0.8**
LOR Lg Lg 05 05 39.3
6.4nm,0.3s
LOR Lormes 5.04 34 *e*Pn **Pn 05 04 15.1 +1.0**
LOR Lormes 5.04 34 *e*Pg **Pg 05 04 34.3 -0.8**
LOR *e*Sg **Sg 05 05 39.3 -1.0**
6.4nm,0.3s
FRF La Foret Royal 5.09 83 *e*Pn **Pn 05 04 15.8 +1.0**
FRF La Foret Royal 5.09 83 *e*Pg **Pg 05 04 34.6 -1.5**
FRF *e*Sg **Sg 05 05 40.1 -1.9**
3.5nm,0.3s
FRF La Foret Royal 5.09 83 Pn **Pn 05 04 15.8 +1.0**
FRF Pg **Pg 05 04 34.6 -1.5**
FRF Lg Lg 05 05 40.1
1.8nm,0.3s
FRF La Foret Royal 5.09 83 *e*Pn **Pn 05 04 15.8 +1.0**
FRF La Foret Royal 5.09 83 *e*Pg **Pg 05 04 34.6 -1.5**
FRF *e*Sg **Sg 05 05 40.1 -1.9**
1.8nm,0.3s
QUIF Quistinic 5.14 338 *e*Pn **Pn 05 04 16.4 +1.0**
QUIF *e*Sn **Sn 05 05 12.5 -2.2**
QUIF *e*Sg **Sg 05 05 42.3 -1.2**
16nm,0.4s
QUIF Quistinic 5.14 338 Pn **Pn 05 04 16.4 +1.0**
QUIF Sn **Sn 05 05 12.5 -2.2**
QUIF Lg Lg 05 05 42.3
7.8nm,0.4s
QUIF Quistinic 5.14 338 *e*Pn **Pn 05 04 16.4 +1.0**
QUIF *e*Sn **Sn 05 05 12.5 -2.2**
QUIF *e*Sg **Sg 05 05 42.3 -1.2**
7.8nm,0.4s
GRR Gorron 5.22 356 *e*Pn **Pn 05 04 17.6 +1.0**
GRR Gorron 5.22 356 *e*Pg **Pg 05 04 38.3 -0.2**
GRR *e*Sn **Sn 05 05 14.5 -2.2**
GRR *e*Sg **Sg 05 05 45.2 -0.9**
19nm,0.4s
GRR Gorron 5.22 356 Pn **Pn 05 04 17.6 +1.0**
GRR Pg **Pg 05 04 38.3 -0.2**
GRR Sn **Sn 05 05 14.5 -2.2**
GRR Lg Lg 05 05 45.2
9.6nm,0.4s
GRR Gorron 5.22 356 *e*Pn **Pn 05 04 17.6 +1.0**
GRR Gorron 5.22 356 *e*Pg **Pg 05 04 38.3 -0.2**
GRR *e*Sn **Sn 05 05 14.5 -2.2**
GRR *e*Sg **Sg 05 05 45.2 -0.9**
9.6nm,0.4s
SGMF Saint Gilles 5.31 344 *e*Pn **Pn 05 04 19.2 +1.4**
SGMF Saint Gilles 5.31 344 *e*Pg **Pg 05 04 39.2 -1.0**
SGMF *e*Sn **Sn 05 05 16.8 -2.1**
SGMF *e*Sg **Sg 05 05 47.6 -1.3**
27nm,0.6s
SGMF Saint Gilles 5.31 344 Pn **Pn 05 04 19.2 +1.4**
SGMF Pg **Pg 05 04 39.2 -1.0**
SGMF Sn **Sn 05 05 16.8 -2.1**
SGMF Lg Lg 05 05 47.6
14nm,0.6s
SGMF Saint Gilles 5.31 344 *e*Pn **Pn 05 04 19.2 +1.4**
SGMF Saint Gilles 5.31 344 *e*Pg **Pg 05 04 39.2 -1.0**
SGMF *e*Sn **Sn 05 05 16.8 -2.1**
SGMF *e*Sg **Sg 05 05 47.6 -1.3**
14nm,0.6s
EPLA Plasencia 5.32 236 Pn **Pn 05 04 19.3 +1.2**
0.4nm,0.1s,SNR=5.7
EPLA Sn **Sn 05 05 17.6 -1.8**
3.7nm,0.3s,SNR=7.9
EPLA Lg Lg 05 05 47.8
3.9nm,0.6s,SNR=7.9
EPLA Plasencia 5.32 236 Pn **Pn 05 04 19.3 +1.2**
0.4nm,0.1s,SNR=5.7
EPLA Sn **Sn 05 05 17.6 -1.8**
3.7nm,0.3s,SNR=7.9
EPLA Lg Lg 05 05 47.8
3.9nm,0.6s,SNR=7.9
SESP Santiago Espad 5.33 199 Pn **Pn 05 04 19.5 +1.2**
0.1nm,0.3s,SNR=7.9
SESP Santiago Espad 5.33 199 Pn **Pn 05 04 19.5 +1.2**
0.1nm,0.3s,SNR=7.9
MBDF Montbardon 5.35 71 *e*Pn **Pn 05 04 19.3 +0.8**
MBDF Montbardon 5.35 71 *e*Pg **Pg 05 04 41.7 +0.8**
MBDF *e*Sg **Sg 05 05 48.4 -1.8**
2.1nm,0.4s
MBDF Montbardon 5.35 71 Pn **Pn 05 04 19.3 +0.8**
MBDF Pg **Pg 05 04 41.7 +0.8**
MBDF Lg Lg 05 05 48.4
1.1nm,0.4s
MBDF Montbardon 5.35 71 *e*Pn **Pn 05 04 19.3 +0.8**
MBDF Montbardon 5.35 71 *e*Pg **Pg 05 04 41.7 +0.8**
MBDF *e*Sg **Sg 05 05 48.4 -1.8**
1.0nm,0.4s
MVO Moncorvo 5.38 250 *e*Pn **Pn 05 04 20.6 +1.7**
MVO *e*Sn **Sn 05 05 19.5 -1.3**
MVO A A 05 05 55.6
9.2nm,0.4s
MVO Moncorvo 5.38 250 Pn **Pn 05 04 20.5 +1.7**
2.7nm,0.2s,SNR=7.8
MVO Sn **Sn 05 05 18.5 -2.3**
6.4nm,0.3s,SNR=7.9
MVO Lg Lg 05 05 46.6
9.8nm,0.4s,SNR=5.0
MVO Moncorvo 5.38 250 Pn **Pn 05 04 20.5 +1.7**
2.7nm,0.2s,SNR=7.8
MVO Lg Lg 05 05 46.6
9.8nm,0.4s,SNR=5.0
LDF La Druitiere 5.42 1 *e*Pn **Pn 05 04 20.2 +1.0**
LDF *e*Sn **Sn 05 05 19.3 -2.2**
LDF *e*Sg **Sg 05 05 50.9 -1.4**
26nm,0.6s
LDF La Druitiere 5.42 1 *e*Pn **Pn 05 04 20.2 +1.0**
LDF *e*Sg **Sg 05 05 50.9 -1.4**
13nm,0.6s
ROSF Rostrenen 5.55 339 *e*Pn **Pn 05 04 22.3 +1.2**
ROSF *e*Sn **Sn 05 05 22.1 -2.9**
ROSF *e*Sg **Sg 05 05 55.3 -1.5**
8.9nm,0.4s
ROSF Rostrenen 5.55 339 Pn **Pn 05 04 22.3 +1.2**
ROSF Sn **Sn 05 05 22.1 -2.9**
ROSF Lg Lg 05 05 55.3
4.4nm,0.4s
ROSF Rostrenen 5.55 339 *e*Pn **Pn 05 04 22.3 +1.2**
ROSF *e*Sg **Sg 05 05 55.3 -1.5**
4.4nm,0.4s
LPL La Plagne 5.57 63 *e*Pn **Pn 05 04 22.5 +0.9**
LPL La Plagne 5.57 63 *e*Pg **Pg 05 04 43.9 -1.3**
LPL *e*Sg **Sg 05 05 55.7 -1.6**
2.7nm,0.3s
LPL La Plagne 5.57 63 Pn **Pn 05 04 22.5 +0.9**
LPL Pg **Pg 05 04 43.9 -1.3**
LPL Lg Lg 05 05 55.7
1.4nm,0.3s
LPL La Plagne 5.57 63 *e*Pn **Pn 05 04 22.5 +0.9**
LPL La Plagne 5.57 63 *e*Pg **Pg 05 04 43.9 -1.3**
LPL *e*Sg **Sg 05 05 55.7 -1.6**
1.4nm,0.3s
LPG La Plagne 5.57 63 *e*Pn **Pn 05 04 22.8 +1.1**
LPG La Plagne 5.57 63 *e*Pg **Pg 05 04 44.2 -1.1**
LPG *e*Sg **Sg 05 05 56.1 -1.4**
4.9nm,0.5s
LPG La Plagne 5.57 63 Pn **Pn 05 04 22.8 +1.1**
LPG Pg **Pg 05 04 44.2 -1.1**
LPG Lg Lg 05 05 56.1
2.5nm,0.5s
LPG La Plagne 5.57 63 *e*Pn **Pn 05 04 22.8 +1.1**
LPG La Plagne 5.57 63 *e*Pg **Pg 05 04 44.2 -1.1**
LPG *e*Sg **Sg 05 05 56.1 -1.4**
2.5nm,0.5s
FLN La Foliniere 5.58 359 *e*Pn **Pn 05 04 22.6 +1.1**
baz=183
FLN *e*Sn **Sn 05 05 23.2 -2.5**
FLN *e*Sg **Sg 05 05 56.2 -1.5**
12nm,0.3s
FLN La Foliniere 5.58 359 Pn **Pn 05 04 22.6 +1.1**
FLN Sn **Sn 05 05 23.2 -2.5**
FLN Lg Lg 05 05 56.2
6.2nm,0.3s
FLN La Foliniere 5.58 359 *e*Pn **Pn 05 04 22.6 +1.1**
FLN *e*Sg **Sg 05 05 56.2 -1.5**
6.2nm,0.3s
SBF Sospel 5.68 80 *e*Pn **Pn 05 04 23.8 +0.9**
SBF Sospel 5.68 80 *e*Pg **Pg 05 04 45.2 -2.1**
SBF *e*Sn **Sn 05 05 25.8 -2.4**
SBF *e*Sg **Sg 05 05 58.6 -2.2**
3.7nm,0.3s
SBF Sospel 5.68 80 Pn **Pn 05 04 23.8 +0.9**
SBF Pg **Pg 05 04 45.2 -2.1**
SBF Sn **Sn 05 05 25.8 -2.4**
SBF Lg Lg 05 05 58.6
1.9nm,0.3s
SBF Sospel 5.68 80 *e*Pn **Pn 05 04 23.8 +0.9**
SBF Sospel 5.68 80 *e*Pg **Pg 05 04 45.2 -2.1**
SBF *e*Sg **Sg 05 05 58.6 -2.2**
1.9nm,0.3s
CABF La Chapelle 5.70 51 *e*Pn **Pn 05 04 24.1 +0.9**
CABF *e*Sg **Sg 05 05 59.6 -1.8**
29nm,0.7s
CABF La Chapelle 5.70 51 Pn **Pn 05 04 24.1 +0.9**
CABF Lg Lg 05 05 59.6
14nm,0.7s
CABF La Chapelle 5.70 51 *e*Pn **Pn 05 04 24.1 +0.9**
CABF *e*Sg **Sg 05 05 59.6 -1.8**
14nm,0.7s
EAGO Agolada(Pontev 5.71 269 Pn **Pn 05 04 25.9 +2.5**
1.5nm,0.1s,SNR=7.9
EAGO Sn **Sn 05 05 29.1 +0.1**
4.6nm,0.3s,SNR=7.9
EAGO Agolada(Pontev 5.71 269 Pn **Pn 05 04 25.9 +2.5**
1.5nm,0.1s,SNR=7.9
EAGO Sn **Sn 05 05 29.1 +0.1**
4.6nm,0.3s,SNR=7.9
EQES Quesada 5.77 202 Pn **Pn 05 04 26.0 +1.8**
0.6nm,0.2s,SNR=7.9
EQES Quesada 5.77 202 Pn **Pn 05 04 26.0 +1.8**
0.6nm,0.2s,SNR=7.9
PVRL Vila Real 5.81 253 *e*Pn **Pn 05 04 26.4 +1.6**
PVRL *e*Sn **Sn 05 05 31.6 +0.1**
PVRL A A 05 06 01.7
9.1nm,0.6s
PVRL Vila Real 5.81 253 Pn **Pn 05 04 26.4 +1.6**
PVRL Sn **Sn 05 05 31.6 +0.1**
4.6nm,0.6s
PVRL Vila Real 5.81 253 Pn **Pn 05 04 26.4 +1.6**
PVRL Sn **Sn 05 05 31.6 +0.1**
4.6nm,0.6s
POLO Lamas de Olo 5.83 254 *e*Pn **Pn 05 04 27.1 +2.0**
POLO *e*Sn **Sn 05 05 29.8 -2.2**
POLO A A 05 06 05.6
3.5nm,0.1s
ELOB Lobios 5.87 260 Pn **Pn 05 04 27.4 +1.8**
0.7nm,0.2s,SNR=7.9
ELOB Sn **Sn 05 05 31.1 -1.8**
0.3nm,0.6s,SNR=8.6
ELOB Lobios 5.87 260 Pn **Pn 05 04 27.4 +1.8**
0.7nm,0.2s,SNR=7.9
PCAB Cabril 5.89 258 *e*Pn **Pn 05 04 27.6 +1.8**
PCAB *e*Sn **Sn 05 05 33.3 0.0**
PCAB A A 05 06 07.0
8.1nm,0.5s
PCAB Cabril 5.89 258 Pn **Pn 05 04 27.6 +1.8**
PCAB Sn **Sn 05 05 33.3 0.0**
4.1nm,0.5s
PCAB Cabril 5.89 258 Pn **Pn 05 04 27.6 +1.8**
PCAB Sn **Sn 05 05 33.3 0.0**
4.1nm,0.5s
EADA Adamuz 5.96 214 Pn **Pn 05 04 28.0 +1.1**
0.9nm,0.2s,SNR=7.9
EADA Sn **Sn 05 05 31.7 -3.4**
1.1nm,0.2s,SNR=7.9
EADA Lg Lg 05 06 06.9
2.2nm,0.2s,SNR=7.9
EADA Adamuz 5.96 214 Pn **Pn 05 04 28.0 +1.1**
0.9nm,0.2s,SNR=7.9
EADA Lg Lg 05 06 06.9
2.2nm,0.2s,SNR=7.9
PGAV Gavieira, Arco 6.00 261 *e*Pn **Pn 05 04 28.2 +0.9**
PGAV *e*Sn **Sn 05 05 36.1 +0.1**
PGAV A A 05 06 18.9
5.5nm,0.7s
MTE Manteigas 6.07 245 *e*Sn **Sn 05 05 36.6 -1.3**
MTE A A 05 06 14.7
8.2nm,0.5s
MTE Manteigas 6.07 245 Sn **Sn 05 05 36.6 -1.3**
4.1nm,0.5s
PVIS Viseu 6.16 249 *e*Sn **Sn 05 05 39.2 -0.9**
PVIS A A 05 06 20.8
5.6nm,0.9s
PVIS Viseu 6.16 249 Sn **Sn 05 05 39.2 -0.9**
2.8nm,0.9s
SFTF Sexfontaines 6.27 35 *e*Pn **Pn 05 04 31.7 +0.7**
SFTF *e*Sg **Sg 05 06 17.4 -2.3**
29nm,0.7s
SFTF Sexfontaines 6.27 35 Pn **Pn 05 04 31.7 +0.7**
SFTF Lg Lg 05 06 17.4
29nm,0.7s
SFTF Sexfontaines 6.27 35 *e*Pn **Pn 05 04 31.7 +0.7**
SFTF *e*Sg **Sg 05 06 17.4 -2.3**
15nm,0.7s
PCBR Castelo Branco 6.33 241 *e*Sn **Sn 05 05 40.9 -3.1**
PCBR A A 05 06 28.2
5.2nm,1.0s
PCBR Castelo Branco 6.33 241 Sn **Sn 05 05 40.9 -3.1**
2.6nm,1.0s
EMAZ Mazaricos 6.35 271 Pn **Pn 05 04 34.7 +2.6**
1.7nm,0.2s,SNR=7.9
EMAZ Sn **Sn 05 05 43.8 -0.7**
3.7nm,0.3s,SNR=7.9
EMAZ Mazaricos 6.35 271 Pn **Pn 05 04 34.7 +2.6**
1.7nm,0.2s,SNR=7.9
ECAB El Cabril 6.41 219 Pn **Pn 05 04 34.0 +1.1**
0.5nm,0.2s,SNR=5.7
ECAB Sn **Sn 05 05 42.8 -3.3**
1.3nm,0.3s,SNR=7.9
ECAB El Cabril 6.41 219 Pn **Pn 05 04 34.0 +1.1**
0.5nm,0.2s,SNR=5.7
EQUE Quentar 6.43 203 Pn **Pn 05 04 35.4 +2.1**
1.0nm,0.2s,SNR=7.9
EQUE Quentar 6.43 203 Pn **Pn 05 04 35.4 +2.1**
1.0nm,0.2s,SNR=7.9
MEZF Maizieres J'vi 6.51 33 *e*Pn **Pn 05 04 35.3 +1.1**
MEZF *e*Sg **Sg 05 06 25.0 -2.4**
28nm,0.6s
MEZF Maizieres J'vi 6.51 33 Pn **Pn 05 04 35.3 +1.1**
MEZF Lg Lg 05 06 25.0
28nm,0.6s
MEZF Maizieres J'vi 6.51 33 *e*Pn **Pn 05 04 35.3 +1.1**
MEZF *e*Sg **Sg 05 06 25.0 -2.4**
14nm,0.6s
PMRV Marv??o 6.51 237 *e*Pn **Pn 05 04 35.5 +1.1**
PMRV *e*Sn **Sn 05 05 47.4 -1.3**
PMRV A A 05 06 31.7
5.1nm,0.6s
PMRV Marv??o 6.51 237 Pn **Pn 05 04 35.5 +1.1**
PMRV Sn **Sn 05 05 47.4 -1.3**
5.1nm,0.6s
PMRV Marv??o 6.51 237 Pn **Pn 05 04 35.5 +1.1**
HAU Haudompre 6.72 42 *e*Pn **Pn 05 04 38.0 +0.9**
HAU *e*Sg **Sg 05 06 31.6 -2.5**
11nm,0.6s
HAU Haudompre 6.72 42 Pn **Pn 05 04 38.0 +0.9**
HAU Lg Lg 05 06 31.6
5.7nm,0.6s
HAU Haudompre 6.72 42 *e*Pn **Pn 05 04 38.0 +0.9**
HAU *e*Sg **Sg 05 06 31.6 -2.5**
5.7nm,0.6s
EBAD Badajoz 6.72 231 Pn **Pn 05 04 38.5 +1.2**
0.7nm,0.2s,SNR=7.9
EBAD Sn **Sn 05 05 50.7 -3.1**
3.0nm,0.2s,SNR=7.9
EBAD Badajoz 6.72 231 Pn **Pn 05 04 38.5 +1.2**
0.7nm,0.3s,SNR=7.9
PAGF Fort de Pagny 6.83 36 *e*Pn **Pn 05 04 39.8 +1.1**
baz=222
PAGF *e*Sg **Sg 05 06 35.4 -2.3**
6.5nm,0.7s
PAGF Fort de Pagny 6.83 36 *e*Pn **Pn 05 04 39.8 +1.1**
PAGF *e*Sg **Sg 05 06 35.4 -2.3**
3.2nm,0.7s
HINF Hinteralfeld 6.84 45 *e*Pn **Pn 05 04 39.6 +0.7**
HINF *e*Sg **Sg 05 06 35.5 -2.7**
9.2nm,0.6s
HINF Hinteralfeld 6.84 45 Pn **Pn 05 04 39.6 +0.7**
HINF Lg Lg 05 06 35.5
4.6nm,0.6s
HINF Hinteralfeld 6.84 45 *e*Pn **Pn 05 04 39.6 +0.7**
HINF *e*Sg **Sg 05 06 35.5 -2.7**
4.6nm,0.6s
PGF Pioggiola 6.88 92 *e*Pn **Pn 05 04 40.2 +0.8**
PGF *e*Sn **Sn 05 05 54.2 -3.5**
3.5nm,0.4s
PGF Pioggiola 6.88 92 Pn **Pn 05 04 40.2 +0.8**
PGF Sn **Sn 05 05 54.2 -3.5**
1.8nm,0.4s
PGF Pioggiola 6.88 92 *e*Pn **Pn 05 04 40.2 +0.8**
PESTR Estremoz 6.99 234 *e*Pn **Pn 05 04 42.0 +1.2**
PESTR *e*Sn **Sn 05 05 58.4 -1.9**
PESTR A A 05 06 42.5
3.1nm,0.6s
PBAR Barrancos 7.15 228 *e*Sn **Sn 05 06 01.3 -2.9**
PBAR A A 05 06 48.9
9.1nm,0.5s
PBAR Barrancos 7.15 228 Sn **Sn 05 06 01.3 -2.9**
9.1nm,0.5s
EMIN Mina Concepcio 7.26 224 Sn **Sn 05 06 02.4 -4.6**
0.2nm,0.2s,SNR=7.9
CDF Champ du Feu 7.45 43 *e*Pn **Pn 05 04 48.1 +0.8**
CDF *e*Sg **Sg 05 06 54.3 -3.2**
9.8nm,0.7s
CDF Champ du Feu 7.45 43 Pn **Pn 05 04 48.1 +0.8**
CDF Lg Lg 05 06 54.3
4.9nm,0.7s
CDF Champ du Feu 7.45 43 *e*Pn **Pn 05 04 48.1 +0.8**
CDF Lg Lg 05 06 54.3
4.9nm,0.7s
EVO Evora 7.45 234 *e*Pn **Pn 05 04 48.9 +1.6**
EVO *e*Sn **Sn 05 06 10.3 -1.5**
EVO *e*Sg **Sg 05 06 53.7 -4.0**
7.6nm,0.5s
EVOP Sao Brissos 7.52 234 *e*Pn **Pn 05 04 48.9 +0.7**
BAIF Baives 7.55 23 *e*Pn **Pn 05 04 49.3 +0.8**
BAIF *e*Sg **Sg 05 06 57.6 -3.1**
2.0nm,0.3s
BAIF Baives 7.55 23 Pn **Pn 05 04 49.3 +0.8**
BAIF Lg Lg 05 06 57.6
1.0nm,0.3s
BAIF Baives 7.55 23 *e*Pn **Pn 05 04 49.3 +0.8**
BAIF Lg Lg 05 06 57.6
1.0nm,0.3s
GIVF Givet 7.77 25 *e*Pn **Pn 05 04 52.4 +0.8**
GIVF *e*Sg **Sg 05 07 04.5 -3.3**
7.0nm,0.4s
GIVF Givet 7.77 25 Pn **Pn 05 04 52.4 +0.8**
GIVF Lg Lg 05 07 04.5
3.5nm,0.4s
GIVF Givet 7.77 25 *e*Pn **Pn 05 04 52.4 +0.8**
GIVF Lg Lg 05 07 04.5
3.5nm,0.4s
PNCL Nicolau / Gran 8.04 234 *e*Pn **Pn 05 04 57.5 +2.3**
PVAQ Vaqueiros 8.08 227 *e*Pn **Pn 05 04 58.0 +2.2**
PVAQ *e*Sn **Sn 05 06 24.5 -2.6**
PVAQ Vaqueiros 8.08 227 Pn **Pn 05 04 58.0 +2.2**
PVAQ Sn **Sn 05 06 24.5 -2.6**
PVAQ Vaqueiros 8.08 227 Pn **Pn 05 04 58.0 +2.2**
PCVE Castro Verde 8.09 229 *e*Sn **Sn 05 06 23.9 -3.4**
PCVE Castro Verde 8.09 229 Sn **Sn 05 06 23.9 -3.4**

IDC ***23*** *05:04:02.5±1.1, 11°.66N×145°.09E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/43, mbtmp3.8/8, Error ellipse: s-maj=37.6km s-min=21.4km az=90.0*

ISCJB ***23*** *05:04:05.6±0.9, 11°.61N±0°.08×145°.0E±0°.2, h33km, mb4.0/10, Error ellipse: s-maj=29.1km s-min=11.1km az=1.8*

NEIC ***23*** *05:04:07.7±0.8, 11°.67N×145°.07E, h35km, mb4.5/2, Error ellipse: s-maj=23.8km s-min=14.2km az=88.0*

ISC 23 05:04:07.6±1.1, 11°.66N±0°.09×145°.1E±0°.2, h35km, n12, σ0s75/14, mb4.0/10, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.93**	**355**	Pn	**Pn**	**05 04 37.8**	**-0.2**
	34nm,0.3s,baz=260,slow=22,SNR=11						
GUMO				Sn	**Sn**	**05 05 00.9**	**-0.1**
	68nm,0.3s,baz=254,slow=23,SNR=14						
GUMO	**Guam**	**1.93**	**355**	*e*Pn	**Pn**	**05 04 37.7**	**-0.3**
GUMO				*e*Sn	**Sn**	**05 05 01.6**	**+0.6**
JOW	**Kunigami**	**21.84**	**316**	*e*P	**P**	**05 08 57.8**	**+0.6**
	37nm,1.5s						
MJAR	**Matsushiro Arr**	**25.54**	**347**	P	**P**	**05 09 31.6**	**-1.5**
	0.9nm,0.2s,baz=169,slow=9.1,SNR=4.4						
WRA	**Warramunga Arr**	**33.12**	**199**	P	**P**	**05 10 40.3**	**-0.4**
	0.9nm,1.0s,baz=22,slow=9.5,SNR=3.2						
MKAR	**Makanchi Array**	**63.00**	**317**	P	**P**	**05 14 32.0**	**+0.9**
	0.8nm,0.6s,baz=102,slow=9.2,SNR=7.8						
ZALV	**Zalesovo Beam**	**63.29**	**325**	P	**P**	**05 14 32.5**	**-0.4**
	0.8nm,0.4s,baz=118,slow=8.3,SNR=4.5						
KURK	**Kurchatov**	**66.17**	**320**	*e*P	**P**	**05 14 51.9**	**+0.2**
	3.4nm,0.8s						
KURBB	**Kurchatov Arra**	**66.21**	**320**	P	**P**	**05 14 53.0**	**+1.0**
	2.7nm,0.8s,baz=104,slow=6.5,SNR=31						
ILAR	**Eielson Array**	**70.23**	**25**	P	**P**	**05 15 16.6**	**-0.3**
	0.3nm,0.5s,baz=256,slow=5.4,SNR=5.0						
BVAR	**Borovoye Array**	**71.55**	**322**	P	**P**	**05 15 25.4**	**+0.2**
	1.1nm,0.7s,baz=115,slow=7.0,SNR=6.2						
NVAR	**Mina Array Bea**	**87.98**	**51**	P	**P**	**05 16 55.7**	**+0.9**
	0.2nm,0.6s,baz=263,slow=6.3,SNR=2.7						

NIED ***23*** *05:25:00, 33°.40N×133°.10E, h29km, Mw4.2 Best double couple: M0 1.92000×10^15 NP1:φs139.00000°, δ62.00000°, λ-172.00000°. NP2:φs45.00000°, δ83.00000°, λ-28.00000°.*

IDC ***23*** *05:25:43.7±0.7, 34°.05N×132°.90E, h0km, mb3.8/14, mb1 4.0/15, mb1mx3.9/38, mbtmp3.8/15, ML4.0/1, MS3.1/9, Ms1 3.2/9, ms1mx3.0/33, Error ellipse: s-maj=15.8km s-min=11.8km az=140.0*

ISCJB ***23*** *05:25:44.1±0.4, 33°.39N±0°.04×133°.10E±0°.04, h43km±3km, mb3.9/19, MS3.2/7, Error ellipse: s-maj=7.1km s-min=4.6km az=151.8*

JMA ***23*** *05:25:45.0, 33°.39N×133°.11E, h34km, M4.4 Broadband fault plane solution: P waves. NP1:φs42.00000°, δ82.00000°, λ-20.00000°. NP2:φs135.00000°, δ70.00000°, λ-171.00000°. Principal axes: T Plg8.0000°, Azm90.0000°; N Plg68.0000°, Azm201.0000°; P Plg20.0000°, Azm357.0000°;*

JMA Felt III J1.

NEIC ***23*** *05:25:46.4±4.0, 34°.00N×132°.83E, h16km±26km, mb4.3/5 Error ellipse: s-maj=11.1km s-min=10.1km az=168.0*

NEIC Recorded [2 JMA] in Hiroshima, Okayama, Shimane and Yamaguchi. Recorded [3 JMA] in Ehime and [2 JMA] in Kagawa, Kochi and Tokushima, Shikoku. Recorded [2 JMA] in Oita and [1 JMA] in Miyazaki, Kyushu.

MOS ***23*** *05:25:47.4±0.7, 34°.04N×132°.93E, h37km, mb4.4/5, Error ellipse: s-maj=15.1km s-min=10.8km az=116.1*

ISC 23 05:25:44.6±0.9, 33°.39N±0°.04×133°.12E±0°.04, h33km±4km, n59, σ1s05/57, mb3.8/19, MS3.3/7, 4C-4D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKU	**Kubokawa**	**0.09**	**211**	⇓P	**Pb**	**05 25 50.6**	**+0.3**
JKU				S	**Sb**	**05 25 54.4**	**+0.2**
JET	**Tanbara**	**0.40**	**352**	⇓P	**Pb**	**05 25 53.8**	**+0.1**
JET				S	**Sb**	**05 25 59.9**	**0.0**
UWA2	**Uwa jima 2**	**0.45**	**248**	⇑P	**Pb**	**05 25 54.5**	**+0.1**
UWA2				S	**Sb**	**05 26 01.1**	**0.0**
JNA	**Nagahama**	**0.56**	**288**	⇑P	**Pn**	**05 25 56.1**	**-0.2**
JNA				S	**Sb**	**05 26 04.0**	**-0.1**
JTO	**Tosashimizu**	**0.59**	**207**	⇓P	**Pn**	**05 25 56.7**	**+0.1**
JTO				S	**Sn**	**05 26 04.5**	**-0.6**
JMN	**Monobe**	**0.72**	**61**	⇑P	**Pn**	**05 25 58.6**	**0.0**
JMN				S	**Sn**	**05 26 08.7**	**+0.2**
JHM	**Kurahashi**	**0.90**	**327**	P	**Pn**	**05 26 01.3**	**+0.4**
JHM				S	**Sn**	**05 26 13.1**	**+0.3**
JAI	**Aioi**	**1.19**	**70**	⇑P	**Pn**	**05 26 04.7**	**-0.2**
JJS	**Sakaide**	**1.20**	**34**	⇓P	**Pn**	**05 26 05.2**	**+0.1**
JJS				S	**Sn**	**05 26 20.1**	**-0.1**
JNU	**Nakatsue**	**1.89**	**263**	Pn	**Pn**	**05 26 16.6**	**+1.9**
	170nm,0.3s,baz=84,slow=4.6,SNR=229						
JNU				Pg	**Pb**	**05 26 17.9**	**-0.6**
	79nm,0.3s,baz=86,slow=3.8,SNR=230						
JNU				Lg	Lg	05 26 44.7	
	152nm,0.3s,baz=279,slow=15,SNR=6.7						
JNU				LR	LR	05 26 47.7	
	comp=Z,180nm,20.1s,baz=98,slow=33						
JNU	**Nakatsue**	**1.89**	**263**	*e*Pn	**Pn**	**05 26 15.2**	**+0.5**
JNU				Pg	**Pb**	**05 26 17.9**	**-0.6**
JNU				Lg	Lg	05 26 44.7	
MAJO	**Matsushiro**	**5.23**	**52**	*e*P	**Pn**	**05 27 01.9**	**+1.3**
MAJO				pmax	pmax		
	comp=Z,23nm,0.4s						
MAJO	**Matsushiro**	**5.23**	**52**	*e*Pn	**Pn**	**05 27 01.9**	**+1.3**
	comp=Z,23nm,0.4s						
MAT	**Matsushiro**	**5.23**	**52**	P	**Pn**	**05 27 02.5**	**+1.9**
MAT				S	**Sn**	**05 28 03.2**	**+3.4**
MJAR	**Matsushiro Arr**	**5.23**	**52**	Pn	**Pn**	**05 27 01.8**	**+1.3**
	comp=Z,6.4nm,0.3s,baz=238,slow=14,SNR=45						
MJAR				Sn	**Sn**	**05 27 58.2**	**-1.6**
	comp=Z,1.6nm,0.3s,baz=216,slow=18,SNR=5.1						
MJAR				LR	LR	05 28 44.7	
	comp=Z,29nm,21.6s,baz=235,slow=36						
KSKWJ	**Gwangju**	**5.37**	**291**	P	**Pn**	**05 27 05.1**	**+2.6**
	SNR=5.8						
KSKWJ	**Gwangju**	**5.37**	**291**	P	**Pn**	**05 27 05.1**	**+2.6**
	SNR=5.8						
KSJEU	**Jeongeup**	**5.53**	**294**	P	**Pn**	**05 27 06.7**	**+2.1**
	SNR=14						
KSJEU	**Jeongeup**	**5.53**	**294**	P	**Pn**	**05 27 06.7**	**+2.1**
	SNR=14						
KSDGY	**Daegwallycong**	**5.62**	**321**	P	**Pn**	**05 27 06.1**	**+0.2**
	SNR=7.2						
KSDGY	**Daegwallycong**	**5.62**	**321**	P	**Pn**	**05 27 06.1**	**+0.2**
	SNR=7.2						
KSJMJ	**Jumunjin**	**5.72**	**323**	P	**Pn**	**05 27 06.9**	**-0.3**
	SNR=10						
KSJMJ	**Jumunjin**	**5.72**	**323**	P	**Pn**	**05 27 06.9**	**-0.3**
	SNR=10						
KSRS	**Korea Array**	**5.87**	**315**	Pn	Pn	05 27 06.2	-3.1
	baz=133,slow=14,SNR=2.5						
KSRS				Sn	Sn	05 28 06.5	-8.9
	comp=Z,2.0nm,0.3s,baz=134,slow=18,SNR=6.0						
KSRS	**Korea Array**	**5.87**	**315**	P	Pn	05 27 06.2	-3.1
KSRS						05 28 06.5	
KSRS				smax	smax		
	comp=N,2.0nm,0.3s						
KSAR	**Wonju Array Be**	**5.88**	**315**	P	Pn	05 27 06.2	-3.3
KSAR						05 28 06.5	
KSAR	**Wonju Array Be**	**5.88**	**315**	Pn	Pn	05 27 06.2	-3.3
KSAR				Sn	Sn	05 28 06.5	-9.3
SEHB	**SEOHWA**	**6.27**	**322**	P	**Pn**	**05 27 15.0**	**+0.2**
	SNR=30						
SEHB	**SEOHWA**	**6.27**	**322**	P	**Pn**	**05 27 15.0**	**+0.2**
	SNR=30						
JCJ	**Chichijima**	**10.04**	**126**	LR	LR	05 31 21.8	
	comp=N,112nm,20.4s,baz=349,slow=32						
KLR	**Kul'dur**	**15.86**	**357**	*e*P	**Pn**	**05 29 24.3**	**-1.0**
KLR				pmax	pmax		
	comp=Z,56nm,1.8s						
SONM	**Songino Array**	**24.74**	**314**	P	**P**	**05 31 02.3**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=136,slow=9.8,SNR=9.3						
SONM				LR	LR	05 41 50.8	
	comp=Z,108nm,18.4s,baz=124,slow=40						
PETK	**Petropavlovsk-**	**26.41**	**34**	LR	LR	05 43 06.9	
	comp=Z,12nm,18.7s,baz=203,slow=40						
ZAK	**Zakamensk**	**27.70**	**317**	*e*P	P	05 31 38.6	+8.8
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**33.96**	**253**	LR	LR	05 47 36.8	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,43nm,18.5s,baz=164,slow=39						
ZALV	**Zalesovo Beam**	**39.58**	**316**	P	**P**	**05 33 12.3**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=106,slow=11,SNR=4.0						
ZALV				LR	LR	05 49 30.1	
	comp=Z,41nm,19.8s,baz=70,slow=37						
MKAR	**Makanchi Array**	**40.44**	**305**	P	**P**	**05 33 20.7**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=85,slow=13,SNR=2.7						
MKAR				LR	LR	05 51 34.7	
	comp=Z,42nm,18.4s,baz=106,slow=39						
KURK	**Kurchatov**	**42.97**	**311**	*e*P	**P**	**05 33 40.4**	**-0.1**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KURK	**Kurchatov**	**42.97**	**311**	*e*P	**P**	**05 33 40.4**	**-0.1**
	comp=Z,3.6nm,0.9s						
KURBB	**Kurchatov Arra**	**43.03**	**310**	P	**P**	**05 33 40.8**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=95,slow=8.8,SNR=11						
BVAR	**Borovoye Array**	**48.08**	**314**	P	**P**	**05 34 21.5**	**+0.7**
	comp=Z,1.8nm,0.5s,baz=94,slow=9.5,SNR=9.9						
WRAB	**Tennant Creek**	**53.03**	**179**	*e*P	P	05 35 08.2	+10
WRAB				pmax	pmax		
	comp=Z,7.0nm,1.1s						
WRAB	**Tennant Creek**	**53.03**	**179**	*e*P	P	05 35 08.2	+10
	comp=Z,6.9nm,1.1s						
WRA	**Warramunga Arr**	**53.04**	**179**	P	P	05 35 07.8	+9.2
	comp=Z,0.6nm,0.5s,baz=354,slow=8.1,SNR=6.6						
ABKAR	**Akbulak array**	**55.08**	**310**	*e*P	**P**	**05 35 13.9**	**+0.7**
	comp=Z,1.4nm,0.6s						
ILAR	**Eielson Array**	**56.14**	**31**	P	**P**	**05 35 20.9**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=279,slow=9.2,SNR=9.9						
ILAR	**Eielson Array**	**56.14**	**31**	P	**P**	**05 35 21.0**	**+0.4**
ASAR	**Alice Springs**	**56.74**	**179**	P	P	05 35 34.5	+9.2
	comp=Z,0.7nm,0.8s,baz=11,slow=13,SNR=6.3						
INK	**Inuvik**	**60.65**	**25**	P	**P**	**05 35 52.2**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=292,slow=6.4,SNR=14						
INK	**Inuvik**	**60.65**	**25**	P	**P**	**05 35 52.2**	**+0.3**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK	**Inuvik**	**60.65**	**25**	*e*P	**P**	**05 35 52.7**	**+0.8**
	comp=Z,2.1nm,0.7s						
STKA	**Stephens Creek**	**65.40**	**172**	P	P	05 36 33.2	+9.4
	comp=Z,1.1nm,0.7s,baz=326,slow=12,SNR=3.5						
FINES	**FINESS Array B**	**68.75**	**330**	P	**P**	**05 36 44.6**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=98,slow=7.9,SNR=6.1						
AKASG	**Malin Array Be**	**72.85**	**320**	P	**P**	**05 37 09.5**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=53,slow=6.2,SNR=5.9						
SUMG	**Summit**	**74.16**	**357**	*e*P	**P**	**05 37 18.3**	**+0.4**
SUMG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SUMG	**Summit**	**74.16**	**357**	*e*P	**P**	**05 37 18.3**	**+0.4**
	comp=Z,3.6nm,0.8s						
NOA	**NORSAR Array B**	**74.74**	**335**	P	**P**	**05 37 19.8**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=44,slow=18,SNR=3.2						
NOA				LR	LR	06 13 14.6	
	comp=Z,19nm,18.8s,baz=165,slow=38						
BRTR	**Keskin Array B**	**75.97**	**308**	P	**P**	**05 37 27.9**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=54,slow=2.5,SNR=3.6						
GERES	**GERESS Array B**	**81.97**	**324**	LR	LR	06 18 12.1	
	comp=Z,27nm,22.0s,baz=41,slow=39						

ISCJB ***23*** *05:27:57.5±0.7, 56°.0S±0°.1×27°.3W±0°.2, h112km, mb4.1/7, Error ellipse: s-maj=17.7km s-min=12.8km az=148.8*

NEIC ***23*** *05:28:01.2±2.0, 55°.95S×27°.50W, h133km±16km, mb4.0/2, Error ellipse: s-maj=19.2km s-min=10.8km az=84.0*

IDC ***23*** *05:28:01.9±5.2, 56°.00S×27°.57W, h138km±48km, mb3.9/7, mb1 3.9/9, mb1mx3.6/22, mbtmp4.2/9, Error ellipse: s-maj=24.0km s-min=15.9km az=73.0*

ISC 23 05:27:59.1±0.7, 56°.0S±0°.1×27°.3W±0°.1, h112km, n26, σ0s93/21, mb4.2/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.51**	**284**	*e*Pn	**Pn**	**05 29 19.3**	**+0.6**
SNAA	**Sanae**	**18.87**	**156**	P	**P**	**05 32 10.4**	**+0.3**
	0.7nm,0.3s,baz=304,slow=11,SNR=83						
PMSA	**Palmer Station**	**19.91**	**229**	P	**P**	**05 32 22.2**	**+0.9**
	0.5nm,0.3s,baz=56,slow=3.9,SNR=4.1						
QSPA	**South Pole Qui**	**34.30**	**180**	P	**P**	**05 34 34.2**	**-0.2**
	1.4nm,0.4s,baz=41,slow=3.3,SNR=24						
QSPA	**South Pole Qui**	**34.30**	**180**	*e*P	**P**	**05 34 34.7**	**+0.3**
	1.8nm,0.5s						
CPUP	**Villa Florida**	**36.69**	**311**	P	**P**	**05 34 54.4**	**-0.5**
	0.9nm,0.5s,baz=149,slow=11,SNR=3.9						
VNDA	**Vanda**	**46.67**	**183**	P	**P**	**05 36 15.3**	**-0.3**
	1.0nm,0.6s,baz=187,slow=7.1,SNR=9.8						
H10S2	**ASCENSION HYDR**	**47.93**	**17**	T	T	06 28 39.3	
	baz=189,slow=75,SNR=10						
H10S3	**ASCENSION HYDR**	**47.93**	**17**	T	T	06 28 39.3	
	baz=189,slow=75,SNR=10						
H10S1	**ASCENSION HYDR**	**47.94**	**17**	T	T	06 28 39.3	
	baz=189,slow=75,SNR=7.7						
H10N1	**ASCENSION HYDR**	**49.05**	**17**	T	T	06 30 07.8	
	baz=190						
H10N3	**ASCENSION HYDR**	**49.05**	**17**	T	T	06 30 19.0	
	baz=190						
H10N2	**ASCENSION HYDR**	**49.06**	**17**	T	T	06 30 01.9	
	baz=190,SNR=3.4						
LPAZ	**La Paz**	**50.25**	**305**	P	**P**	**05 36 43.3**	**-1.2**
	1.6nm,0.4s,baz=96,slow=4.6,SNR=22						
LPAZ	**La Paz**	**50.25**	**305**	*e*P	**P**	**05 36 44.3**	**-0.2**
	1.9nm,0.8s						
DBIC	**Dimbokro**	**65.11**	**25**	P	**P**	**05 38 28.3**	**+0.7**
	3.6nm,0.8s,baz=164,slow=8.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**73.01**	**30**	P	**P**	**05 39 17.6**	**+1.2**
	4.1nm,0.6s,baz=200,slow=6.5,SNR=42						
ASAR	**Alice Springs**	**99.11**	**163**	P	**Pdif**	**05 41 26.9**	**-0.6**
	0.3nm,0.6s,baz=202,slow=12,SNR=3.8						
NVAR	**Mina Array Bea**	**121.28**	**293**	PKP	**PKPdf**	**05 46 38.0**	**-0.4**
	0.3nm,0.5s,baz=133,slow=5.0,SNR=3.3						
FINES	**FINESS Array B**	**124.33**	**28**	PKP	**PKPdf**	**05 46 41.8**	**-1.4**
	4.2nm,1.0s,baz=298,slow=4.1,SNR=3.8						
YKA	**Yellowknife Ar**	**136.04**	**318**	PKP	**PKPdf**	**05 47 04.5**	**-0.8**
	0.5nm,0.5s,baz=117,slow=2.8,SNR=5.9						
INK	**Inuvik**	**145.67**	**321**	*e*PKPdf	**PKPdf**	**05 47 21.9**	**-0.5**
DAWY	**Dawson**	**146.66**	**312**	*e*PKPbc	**PKPdf**	**05 47 25.1**	**+0.7**
ILAR	**Eielson Array**	**149.99**	**312**	PKPbc	**PKPbc**	**05 47 34.0**	**-0.8**
	5.0nm,0.8s,baz=136,slow=2.0,SNR=54						
ILAR				pPKPbc	**pPKPbc**	**05 48 07.3**	**+2.4**
	1.8nm,1.1s,baz=122,slow=1.5,SNR=5.3						
MCK	**McKinley**	**150.65**	**309**	*e*PKPbc	**PKPbc**	**05 47 35.9**	**-0.5**
SONM	**Songino Array**	**150.80**	**86**	PKPbc	**PKPbc**	**05 47 36.9**	**-0.5**
	3.7nm,0.4s,baz=221,slow=3.6,SNR=27						

IDC 23 06:00:35.5±7.8, 16°.83S×175°.45W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/36, mbtmp3.6/3, Error ellipse: s-maj=342.8km s-min=37.7km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.61**	**258**	P	P	06 09 13.6	-0.1
	0.1nm,0.3s,baz=92,slow=8.3,SNR=3.9						
ASAR	**Alice Springs**	**47.80**	**253**	P	P	06 09 14.9	-0.2
	1.5nm,0.6s,baz=90,slow=8.0,SNR=19						
ILAR	**Eielson Array**	**84.23**	**12**	P	P	06 13 08.5	0.0
	0.2nm,0.5s,baz=212,slow=5.6,SNR=4.9						

KRSC ***23*** *06:12:02.8±1.1, 55°.15N×160°.65E, h171km±10km, ML4.2*

ISCJB ***23*** *06:12:03.9±0.8, 55°.11N±0°.03×160°.66E±0°.08, h167km±7km, Error ellipse: s-maj=8.6km s-min=4.1km az=24.8*

MOS ***23*** *06:12:03.5±0.6, 55°.15N×160°.62E, h171km, mb4.3/1, Error ellipse: s-maj=25.6km s-min=8.3km az=77.7*

ISC 23 06:12:03.5±1.7, 55°.13N±0°.04×160°.60E±0°.05, h175km±10km, n47, σ0s87/81, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**0.18**	**264**	*e*P	**Pn**	**06 12 27.2**	**+0.3**
KZV				*e*S	**Sn**	**06 12 45.2**	**+0.4**
TUMR	**Tumrok**	**0.30**	**300**	*e*P	**Pn**	**06 12 27.8**	**+0.7**
TUMR				*e*S	**Sn**	**06 12 46.2**	**+1.0**
TUMR	**Tumrok**	**0.30**	**300**	PN	**Pn**	**06 12 27.8**	**+0.7**
TUMR				S	**Sn**	**06 12 46.2**	**+1.0**
KMNR	**Kamenistaya**	**0.66**	**342**	*e*P	**Pn**	**06 12 29.0**	**+0.5**
KMNR				*e*S	**Sn**	**06 12 48.6**	**+0.7**
KMNR	**Kamenistaya**	**0.66**	**342**	PN	**Pn**	**06 12 29.0**	**+0.5**
KMNR				S	**Sn**	**06 12 48.6**	**+0.7**
BZMR	**Bezymyannaya**	**0.81**	**356**	*e*P	**Pn**	**06 12 29.7**	**+0.3**
BZGR	**Bezymyannyi-Gr**	**0.81**	**4**	*e*P	**Pn**	**06 12 28.0**	**-1.4**
BZGR				*e*S	**Sn**	**06 12 46.4**	**-3.1**
BZWR	**Bezymyannyi-We**	**0.84**	**356**	*e*P	**Pn**	**06 12 30.0**	**+0.4**
MKZ	**Mys Kozlova**	**0.87**	**131**	*e*P	**Pn**	**06 12 29.7**	**+0.1**
MKZ				*e*S	**Sn**	**06 12 49.5**	**-0.2**
MKZ	**Mys Kozlova**	**0.87**	**131**	PN	**Pn**	**06 12 29.7**	**+0.1**
MKZ				S	**Sn**	**06 12 49.5**	**-0.2**
KOZ	**Kozyrevsk**	**1.02**	**336**	*e*P	**Pn**	**06 12 31.0**	**+0.3**
KOZ				*e*S	**Sn**	**06 12 51.6**	**-0.2**
KOZ	**Kozyrevsk**	**1.02**	**336**	PN	**Pn**	**06 12 31.0**	**+0.3**
KOZ				S	**Sn**	**06 12 51.6**	**-0.2**
KLY	**Klyuchi**	**1.18**	**1**	*e*P	**Pn**	**06 12 32.5**	**+0.5**
KLY				*e*S	**Sn**	**06 12 54.4**	**+0.2**
SRDR	**Sredinnyy**	**1.29**	**338**	*i* P	**Pn**	**06 12 32.8**	**-0.2**
SRDR				*e*S	**Sn**	**06 12 54.7**	**-1.3**
SRDR	**Sredinnyy**	**1.29**	**338**	PN	**Pn**	**06 12 32.8**	**-0.2**
SRDR				S	**Sn**	**06 12 54.7**	**-1.3**
ESO	**Esso**	**1.34**	**307**	*e*P	**Pn**	**06 12 33.2**	**-0.2**
ESO	**Esso**	**1.34**	**307**	PN	**Pn**	**06 12 33.2**	**-0.2**
BDR	**Baidarnaya**	**1.48**	**13**	*e*P	**Pn**	**06 12 35.3**	**+0.5**
BDR				*e*S	**Sn**	**06 12 59.0**	**-0.1**
SMKR	**Semkarok**	**1.53**	**18**	*e*P	**Pn**	**06 12 35.5**	**+0.2**
SMKR				*e*S	**Sn**	**06 12 59.5**	**-0.5**
SMKR	**Semkarok**	**1.53**	**18**	PN	**Pn**	**06 12 35.5**	**+0.2**
SMKR				S	**Sn**	**06 12 59.5**	**-0.5**
SRKR	**Sorokina**	**1.56**	**12**	*e*P	**Pn**	**06 12 35.9**	**+0.4**
SRKR				*e*S	**Sn**	**06 13 00.2**	**-0.3**
SRKR	**Sorokina**	**1.56**	**12**	PN	**Pn**	**06 12 35.9**	**+0.4**
SRKR				S	**Sn**	**06 13 00.2**	**-0.3**
KBTR	**Krutoberegovo**	**1.66**	**48**	*e*P	**Pn**	**06 12 36.7**	**+0.3**
KBTR				*e*S	**Sn**	**06 13 01.4**	**-0.6**
KBTR	**Krutoberegovo**	**1.66**	**48**	PN	**Pn**	**06 12 36.7**	**+0.3**
KBTR				S	**Sn**	**06 13 01.4**	**-0.6**
SPN	**Mys Shipunski**	**2.07**	**190**	*e*P	**Pn**	**06 12 40.3**	**-0.6**
SPN				*e*S	**Sn**	**06 13 07.7**	**-2.1**
SPN	**Mys Shipunski**	**2.07**	**190**	PN	**Pn**	**06 12 40.3**	**-0.6**
SPN				S	**Sn**	**06 13 07.7**	**-2.1**
NLC	**Nalytchevo**	**2.10**	**201**	*e*P	**Pn**	**06 12 41.4**	**+0.2**
NLC				*e*S	**Sn**	**06 13 09.5**	**-0.9**
NLC	**Nalytchevo**	**2.10**	**201**	PN	**Pn**	**06 12 41.4**	**+0.2**
NLC				S	**Sn**	**06 13 09.5**	**-0.9**
SDLR	**Sedlovina**	**2.11**	**209**	*e*P	**Pn**	**06 12 42.2**	**+0.7**
SDLR				*e*S	**Sn**	**06 13 11.1**	**+0.1**
SDLR	**Sedlovina**	**2.11**	**209**	PN	**Pn**	**06 12 42.2**	**+0.7**
SDLR				S	**Sn**	**06 13 11.1**	**+0.1**
GNL	**Ganaly**	**2.12**	**228**	*e*P	**Pn**	**06 12 42.2**	**+0.6**
GNL	**Ganaly**	**2.12**	**228**	PN	**Pn**	**06 12 42.2**	**+0.6**
KRER	**Koryakskii**	**2.13**	**211**	*e*P	**Pn**	**06 12 43.3**	**+1.5**
SMAR	**Somma**	**2.15**	**210**	*e*P	**Pn**	**06 12 42.8**	**+0.8**
SMAR				*e*S	**Sn**	**06 13 12.0**	**+0.1**
SMAR	**Somma**	**2.15**	**210**	PN	**Pn**	**06 12 42.8**	**+0.8**
SMAR				S	**Sn**	**06 13 12.0**	**+0.1**
AVH	**Avacha**	**2.17**	**211**	*e*P	**Pn**	**06 12 43.2**	**+1.1**
AVH	**Avacha**	**2.17**	**211**	PN	**Pn**	**06 12 43.2**	**+1.1**
KOK	**Koryaka**	**2.17**	**213**	*e*P	**Pn**	**06 12 43.8**	**+1.6**
KOK	**Koryaka**	**2.17**	**213**	PN	**Pn**	**06 12 43.8**	**+1.6**
UGLR	**Uglovaya**	**2.19**	**209**	*e*P	**Pn**	**06 12 43.1**	**+0.7**
UGLR				*e*S	**Sn**	**06 13 12.6**	**+0.1**
PET	**Petropavlovsk**	**2.40**	**209**	*e*S	**Sn**	**06 13 16.7**	**+0.1**
PET	**Petropavlovsk**	**2.40**	**209**	*e*PN	**Pn**	**06 12 44.4**	**-0.3**
PET				*e*S	**Sn**	**06 13 15.5**	**-1.1**
PET				smax	smax		
	comp=N,48nm,0.6s						
RUS	**Russkaya**	**2.98**	**205**	*e*P	**Pn**	**06 12 51.8**	**+0.3**
RUS				*e*S	**Sn**	**06 13 27.5**	**-1.3**
RUS	**Russkaya**	**2.98**	**205**	PN	**Pn**	**06 12 51.8**	**+0.3**
RUS				S	**Sn**	**06 13 27.5**	**-1.3**
BKI	**Bering**	**3.08**	**86**	*e*P	**Pn**	**06 12 53.6**	**+0.9**
BKI				*e*S	**Sn**	**06 13 31.2**	**+0.1**
BKI	**Bering**	**3.08**	**86**	PN	**Pn**	**06 12 53.6**	**+0.9**
BKI				S	**Sn**	**06 13 31.2**	**+0.1**
ASAK	**Asacha**	**3.19**	**211**	*e*P	**Pn**	**06 12 56.1**	**+1.9**

IDC 23 06:15:08.7±1.5, 59°.69N×152°.37W, h258km±17km, mb3.3/2, mb1 3.4/3, mb1mx2.8/41, mbtmp3.7/3, Error ellipse: s-maj=47.9km s-min=23.5km az=80.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.91**	**183**	P	Pn	06 15 51.1	0.0
	2.8n

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.36**	**57**	P	**Pb**	**07 01 09.4**	**+0.2**
NIKH				S	**Sb**	**07 01 15.9**	**+1.0**
OKWR	**Okmok West Rim**	**0.96**	**46**	P	**Pn**	**07 01 20.3**	**+0.1**
OKCE	**Okmok Cone E**	**0.97**	**47**	P	**Pg**	**07 01 19.1**	**-0.2**
OKCE				S	**Sn**	**07 01 36.3**	**+2.1**
OKTU	**Okmok Mt. Tuli**	**1.00**	**52**	P	**Pg**	**07 01 18.8**	**-1.0**
OKFG	**Magazine Ridge**	**1.08**	**53**	P	**Pb**	**07 01 19.7**	**-1.6**
OKFG				S	**Sb**	**07 01 36.4**	**+0.9**
MSOM	**Makushin Julie**	**1.78**	**53**	P	**Pn**	**07 01 30.8**	**-0.6**
MSW	**Makushin Switc**	**1.92**	**53**	P	**Pn**	**07 01 33.8**	**+0.5**
MTBL	**Makushin Table**	**2.00**	**52**	P	**Pn**	**07 01 35.3**	**+0.7**
UNV	**Unalaska Valle**	**2.02**	**57**	P	**Pn**	**07 01 34.8**	**+0.1**
UNV				S	**Sn**	**07 02 00.9**	**+0.9**
ZRO	**Akutan Zero**	**2.41**	**56**	P	**Pn**	**07 01 41.6**	**+1.5**
AKGG	**Akutan Green G**	**2.46**	**53**	P	**Pn**	**07 01 41.7**	**+0.9**
AKUT	**Akutan**	**2.54**	**56**	*e*P	**Pb**	**07 01 44.8**	**-1.5**
ATKA	**Atka Island**	**3.01**	**261**	P	**Pn**	**07 01 49.0**	**+0.7**
SPIA	**Saint Paul Isl**	**4.44**	**354**	P	**Pn**	**07 02 08.4**	**+0.5**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=229,slow=11,SNR=5.2	**16.61**	**35**	Pn	**Pn**	**07 04 51.5**	**-1.8**
NVAR	**Mina Array Bea** 0.3nm,0.7s,baz=300,slow=9.3,SNR=3.5	**37.67**	**92**	P	**P**	**07 08 16.0**	**-0.1**
PDAR	**Pinedale Array** 0.3nm,0.7s,baz=337,slow=4.3,SNR=3.3	**40.32**	**80**	P	**P**	**07 08 39.0**	**+0.7**
TXAR	**Lajitas Array** 0.4nm,0.6s,baz=297,slow=5.5,SNR=7.7	**52.73**	**89**	P	**P**	**07 10 15.6**	**0.0**

WEL 23 07:06:40.0±0.6, 35°28S×179°02E, h228km±10km, ML3.7/8, Error ellipse: s-maj=15.0km s-min=12.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.35**	**194**	PN	Pn	07 07 23.8	-0.3
MXZ				*e*SN	S	07 07 57.2	-1.4
WMGZ	**Waiomatatini S**	**2.58**	**191**	PN	Pn	07 07 27.1	+0.6
WMGZ				*e*SN	S	07 08 02.5	-0.5
HAZ	**Te Kaha**	**2.67**	**202**	PN	Pn	07 07 27.2	-0.2
HAZ				SN	S	07 08 05.0	+0.4
PUZ	**Puketiti**	**2.86**	**192**	PN	Pn	07 07 29.5	0.0
PUZ				SN	S	07 08 07.7	-0.7
TWGZ	**Tauwhareparae**	**3.01**	**196**	PN	Pn	07 07 32.0	+0.7
CNGZ	**Carnagh Statio**	**3.27**	**191**	PN	Pn	07 07 34.8	+0.7
MWZ	**Matawai**	**3.28**	**201**	PN	Pn	07 07 34.7	+0.4
TKGZ	**Te Karaka**	**3.29**	**196**	PN	Pn	07 07 34.6	+0.2
URZ	**Urewera**	**3.35**	**207**	PN	Pn	07 07 35.0	-0.1
URZ				*e*SN	S	07 08 18.4	0.0
RAGZ	**Rawiri**	**3.46**	**201**	PN	Pn	07 07 36.7	+0.3
RIGZ	**Rimuhau**	**3.57**	**196**	PN	Pn	07 07 37.5	-0.1
SNGZ	**Shannon Statio**	**3.75**	**201**	PN	Pn	07 07 40.1	+0.3
KNZ	**Kokohu**	**3.89**	**196**	PN	Pn	07 07 41.0	-0.4
RAHZ	**Arahi**	**3.95**	**202**	PN	Pn	07 07 42.3	+0.1
NMHZ	**Naumai**	**4.20**	**204**	PN	Pn	07 07 45.8	+0.5
ARHZ	**Aropaoanui**	**4.29**	**201**	PN	Pn	07 07 46.3	0.0
BKZ	**Black Stump Fm**	**4.38**	**207**	PN	Pn	07 07 47.5	+0.1
KWHZ	**Kaweka Forest**	**4.63**	**206**	PN	Pn	07 07 50.3	-0.2
PXZ	**Pawanui**	**5.04**	**199**	AML	AML	07 08 20.5	
PNHZ	**Pukenui**	**5.14**	**205**	PN	Pn	07 07 56.1	-0.8
TSZ	**Takapari Road**	**5.36**	**206**	AML	AML	07 09 09.5	
MRZ	**Mangatainoka R**	**6.02**	**206**	*e*PN	Pn	07 08 06.3	-1.6
OGWZ	**Otaki Gorge**	**6.31**	**208**	PN	Pn	07 08 10.0	-1.6

*ISCJB **23** 07:09:06.7±0.8, 5°41S±0°09×147°2E±0°2, h195km, mb3.4/6, Error ellipse: s-maj=21.9km s-min=10.9km az=16.0*
*IDC **23** 07:09:07.4±1.6, 5°49S×147°11E, h186km±16km, mb3.3/6, mb1 3.5/8, mb1mx3.4/23, mbtmp3.9/8, Error ellipse: s-maj=32.1km s-min=10.9km az=109.0*
ISC 23 07:09:08.1±1.1, 5°45S±0°1×147°2E±0°2, h195km, n13, σ2s01/15, mb3.5/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island** baz=3.0,SNR=7.4	**3.30**	**3**	P	Pn	07 09 53.4	-7.8
PMG	**Port Moresby** 17nm,0.3s,baz=32,slow=9.5,SNR=45	**4.02**	**181**	P	**Pn**	**07 10 08.8**	**-1.2**
PMG	8.5nm,0.3s,baz=197,slow=22,SNR=5.6			S	Sn	07 10 53.6	-5.1
PMG	**Port Moresby** baz=4.4,SNR=30	**4.02**	**181**	P	**Pn**	**07 10 09.0**	**-0.9**
PMG	baz=4.4,SNR=30			P	**Pn**	**07 10 09.0**	**-0.9**
PMG	baz=4.4,SNR=30			P	**Pn**	**07 10 09.0**	**-0.9**
COEN	**Coen** baz=9.7,SNR=5.3	**9.42**	**205**	P	**Pn**	**07 11 23.1**	**+3.1**
MTSU	**Mount Surprise** baz=13,SNR=5.6	**13.00**	**192**	P	**P**	**07 12 11.9**	**+2.6**
KDU	**Kakadu** baz=16,SNR=23	**16.26**	**242**	P	**Pn**	**07 12 44.4**	**-1.5**
WRA	**Warramunga Arr** 1.4nm,0.3s,baz=37,slow=12,SNR=50	**19.15**	**220**	P	**P**	**07 13 16.8**	**-0.1**
WRA	0.1nm,0.3s,baz=40,slow=20,SNR=4.6			S	**S**	**07 16 38.8**	**-4.8**
ASAR	**Alice Springs** 3.2nm,0.6s,baz=45,slow=9.2,SNR=24	**22.26**	**214**	P	**P**	**07 13 49.7**	**+0.4**
ASAR	2.0nm,0.8s,baz=33,slow=23,SNR=9.5			S	**S**	**07 17 40.5**	**+0.7**
SONM	**Songino Array** 0.3nm,0.5s,baz=130,slow=2.0,SNR=3.6	**63.95**	**331**	P	P	07 19 22.3	+1.7
VNDA	**Vanda** 0.8nm,0.5s,baz=339,slow=7.8,SNR=7.5	**72.53**	**177**	P	**P**	**07 20 12.4**	**-0.8**
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=108,slow=9.3,SNR=3.8	**77.14**	**320**	P	**P**	**07 20 39.5**	**-0.7**
MKAR	0.4nm,0.9s,baz=116,slow=5.5,SNR=3.6			pP	pP	07 21 30.2	+3.0
ZALV	**Zalesovo Beam** 0.6nm,0.4s,baz=143,slow=5.0,SNR=2.9	**78.58**	**328**	P	**P**	**07 20 47.8**	**-0.1**
ILAR	**Eielson Array** 0.2nm,0.7s,baz=247,slow=4.7,SNR=5.1	**84.82**	**23**	P	**P**	**07 21 20.9**	**+0.5**

IDC 23 07:57:38.3±2.0, 4°20S×144°00E, h139km±21km, mb3.2/5, mb1 3.4/8, mb1mx3.3/36, mbtmp3.8/8, MS2.8/1, Ms1 2.8/1, ms1mx2.3/19, Error ellipse: s-maj=28.7km s-min=16.4km az=59.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura** 4.3nm,0.3s,baz=97,slow=4.6,SNR=15	**3.69**	**297**	P	Pn	07 58 33.5	-0.7
PMG	**Port Moresby** 4.8nm,0.3s,baz=28,slow=7.5,SNR=11	**6.05**	**149**	P	Pn	07 59 06.5	+0.9
PMG	4.5nm,0.3s,baz=298,slow=23,SNR=8.1			S	Sn	08 00 14.7	+0.8
HNR	**Honiara** comp=Z,33nm,19.0s,baz=132,slow=33	**16.67**	**109**	LR	LR	08 06 53.6	
WRA	**Warramunga Arr** 0.8nm,0.3s,baz=32,slow=11,SNR=13	**18.26**	**210**	P	P	08 01 41.5	+0.1
ASAR	**Alice Springs** 0.5nm,0.4s,baz=34,slow=6.9,SNR=13	**21.67**	**206**	P	P	08 02 17.2	-0.9
SONM	**Songino Array** 0.2nm,0.3s,baz=142,slow=7.3,SNR=2.5	**61.40**	**332**	P	P	08 07 40.7	+0.8
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=104,slow=6.1,SNR=3.9	**74.22**	**321**	P	P	08 09 00.4	+0.4
BVAR	**Borovoye Array** 0.7nm,0.6s,baz=121,slow=7.1,SNR=3.9	**83.56**	**324**	P	P	08 09 50.5	-0.4
ILAR	**Eielson Array** 0.3nm,0.6s,baz=247,slow=5.5,SNR=5.4	**85.03**	**24**	P	P	08 09 57.0	-1.0

*ISCJB **23** 07:57:54.1±1.0, 25°1S±0°2×179°8E±0°2, h501km, mb3.9/9, Error ellipse: s-maj=23.7km s-min=19.0km az=29.8*
*IDC **23** 07:57:55.4±5.3, 25°09S×179°81E, h510km±62km, mb3.5/9, mb1 3.7/10, mb1mx3.4/36, mbtmp4.4/10, Error ellipse: s-maj=43.9km s-min=27.9km az=180.0*
ISC 23 07:57:54.8±1.0, 25°1S±0°2×179°8E±0°2, h501km, n12, σ0s71/12, mb4.0/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 0.6nm,0.3s,baz=13,slow=6.2,SNR=5.4	**13.35**	**189**	P	**P**	**08 00 47.3**	**-0.1**
CTA	**Charters Tower** 9.3nm,0.4s,baz=94,slow=11,SNR=17	**31.33**	**272**	P	**P**	**08 03 34.0**	**+0.3**
STKA	**Stephens Creek** 0.9nm,0.4s,baz=90,slow=7.6,SNR=7.5	**34.14**	**250**	P	**P**	**08 03 57.5**	**+0.1**
ASAR	**Alice Springs** 4.2nm,0.8s,baz=90,slow=7.2,SNR=24	**41.69**	**262**	P	**P**	**08 04 59.1**	**-0.2**

WRA	**Warramunga Arr** 3.6nm,0.4s,baz=99,slow=6.8,SNR=85	**42.17**	**267**	P	**P**	**08 05 02.5**	**-0.7**
MJAR	**Matsushiro Arr** 3.5nm,0.8s,baz=164,slow=6.2,SNR=11	**72.77**	**326**	P	**P**	**08 08 31.3**	**-0.5**
KSRS	**Korea Array** 1.7nm,0.8s,baz=126,slow=6.1,SNR=5.8	**79.04**	**320**	P	**P**	**08 09 07.0**	**+0.6**
CMAR	**Chiang Mai Arr** 0.8nm,0.2s,baz=135,slow=3.5,SNR=4.0	**89.78**	**290**	P	**P**	**08 10 01.1**	**+1.2**
SEY	**Seymchan** 1.5nm,0.7s,baz=136,slow=5.6,SNR=4.6	**90.38**	**348**	P	**P**	**08 10 01.0**	**-0.5**
TXAR	**Lajitas Array** 0.4nm,0.7s,baz=204,slow=6.5,SNR=6.1	**91.19**	**58**	P	**P**	**08 10 06.7**	**+0.4**
AKASG	**Malin Array Be** 1.1nm,0.5s,baz=44,slow=4.2,SNR=7.4	**145.85**	**326**	PKPbc	**PKPdf**	**08 16 35.7**	**0.0**
BRTR	**Keskin Array B** 0.8nm,0.7s,baz=64,slow=2.9,SNR=3.7	**148.13**	**306**	PKPbc	**PKPbc**	**08 16 42.9**	**-1.2**

*IDC **23** 08:07:37.6±21.0, 52°52N×170°21W, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.4/29, mbtmp3.2/4, ML3.2/1, Error ellipse: s-maj=387.8km s-min=48.5km az=86.0*
*NEIC **23** 08:07:43.3, 52°66N×169°31W, h12km, ML3.4(AEIC), After AEIC.*
ISC 23 08:07:40.8±1.6, 52°9N±0°1×169°78W±0°07, h6km±10km, n26, σ0s88/24, mb3.3/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.57**	**84**	P	**Pg**	**08 07 52.0**	**+0.3**
NIKH				S	**Sg**	**08 07 58.9**	**-0.1**
OKWR	**Okmok West Rim**	**1.08**	**61**	P	**Pn**	**08 08 02.9**	**+0.3**
OKAK	**Okmok**	**1.08**	**52**	P	**Pg**	**08 08 01.3**	**-0.2**
OKAK				S	**Sg**	**08 08 14.7**	**-0.9**
OKCE	**Okmok Cone E**	**1.10**	**62**	P	**Pg**	**08 08 02.2**	**+0.3**
OKCE				S	**Sb**	**08 08 18.4**	**+1.6**
OKTU	**Okmok Mt. Tuli**	**1.15**	**65**	P	**Pg**	**08 08 03.0**	**+0.2**
OKFG	**Magazine Ridge**	**1.23**	**66**	P	**Pn**	**08 08 03.7**	**-0.9**
OKFG				S	**Sg**	**08 08 19.7**	**-0.6**
MSOM	**Makushin Julie**	**1.92**	**61**	P	**Pn**	**08 08 14.3**	**+0.3**
MCIR	**Makushin Cirqu**	**2.02**	**58**	P	**Pn**	**08 08 16.5**	**+1.1**
MSW	**Makushin Switc**	**2.06**	**60**	P	**Pn**	**08 08 16.2**	**+0.3**
MTBL	**Makushin Table**	**2.13**	**59**	P	**Pn**	**08 08 17.7**	**+0.7**
UNV	**Unalaska Valle**	**2.17**	**63**	P	**Pn**	**08 08 17.2**	**-0.3**
UNV				S	**Sn**	**08 08 43.7**	**-1.1**
AKRB	**Akutan Reef Bi**	**2.53**	**60**	P	**Pn**	**08 08 23.5**	**+1.1**
AKUT	**Akutan**	**2.69**	**61**	*e*Pn	**Pn**	**08 08 25.7**	**+1.2**
AKUT				*e*Sg	**Sb**	**08 09 01.0**	**-1.4**
ATKA	**Atka Island**	**2.79**	**257**	P	**Pb**	**08 08 30.5**	**-0.4**
GSMY	**Great Sitkin M**	**3.93**	**260**	P	Pb	08 08 46.5	-4.0
SPIA	**Saint Paul Isl**	**4.28**	**357**	P	Pn	08 08 51.9	+5.5
ILAR	**Eielson Array** 0.0nm,0.3s,baz=230,slow=10,SNR=3.0	**16.64**	**36**	Pn	**Pn**	**08 11 35.9**	**+1.5**
H11N2	**WAKE ISLAND Hy** baz=23	**37.73**	**218**	T	T	08 55 01.5	
H11N3	**WAKE ISLAND Hy** baz=23	**37.74**	**218**	T	T	08 55 03.5	
H11N1	**WAKE ISLAND Hy** baz=23	**37.75**	**218**	T	T	08 55 02.4	
NVAR	**Mina Array Bea** 0.3nm,0.5s,baz=320,slow=8.3,SNR=3.0	**37.93**	**91**	P	**P**	**08 14 59.4**	**+0.4**
H11S1	**WAKE ISLAND Hy** baz=24	**38.92**	**217**	T	T	08 56 30.3	
H11S2	**WAKE ISLAND Hy** baz=24	**38.94**	**217**	T	T	08 56 30.2	
H11S3	**WAKE ISLAND Hy** baz=24	**38.94**	**217**	T	T	08 56 27.8	
PDAR	**Pinedale Array** 0.4nm,0.9s,baz=287,slow=3.7,SNR=2.8	**40.55**	**79**	P	**P**	**08 15 20.4**	**-0.5**
TXAR	**Lajitas Array** 0.4nm,0.7s,baz=302,slow=5.3,SNR=7.3	**52.99**	**89**	P	**P**	**08 16 57.9**	**-0.4**

*ISCJB **23** 08:08:22.0±0.5, 38°28N±0°05×98°61E±0°06, h10km, mb3.7/8, MS3.5/3, Error ellipse: s-maj=7.2km s-min=6.3km az=149.8*
*IDC **23** 08:08:22.2±0.8, 38°18N×98°61E, h0km, mb3.7/8, mb1 3.9/13, mb1mx3.8/33, mbtmp3.8/13, ML3.7/5, MS3.3/7, Ms1 3.4/7, ms1mx3.0/39, Error ellipse: s-maj=26.9km s-min=15.9km az=48.0*
*MOS **23** 08:08:24.0±1.4, 38°20N×98°58E, h26km, mb4.0/5, Error ellipse: s-maj=21.9km s-min=10.9km az=103.0*
*BJI **23** 08:08:24.0, 38°27N×98°52E, h10km, ML3.8/16, Ms3.6/5, Ms7 3.6/3*
ISC 23 08:08:24.2±0.6, 38°28N±0°06×98°60E±0°07, h10km, n31, σ1s18/29, mb3.8/8, MS3.6/3, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**1.48**	**39**	Pg	**Pn**	**08 08 49.9**	**-1.1**
GTA				Sg	**Sn**	**08 09 10.3**	**-0.2**
GTA	560nm,1.1s			SMN			
GTA	520nm,0.8s			SME			
LZH	**Lanzhou**	**4.72**	**116**	Pn	**Pn**	**08 09 37.5**	**+1.9**
LZH	150nm,1.2s			SMN			
LZH	130nm,1.1s			SME			
LZH	750nm,5.8s			LN			
LZH	560nm,6.2s			LE			
LZH	750nm,8.0s			LZ			
WMQ	**Urumqi**	**9.93**	**307**	P	**Pn**	**08 10 47.0**	**0.0**
WMQ				S	**Sn**	**08 12 40.6**	**+2.2**
SONM	**Songino Array** 2.4nm,0.3s,baz=211,slow=15,SNR=54	**11.12**	**28**	Pn	**Pn**	**08 11 04.6**	**+1.2**
SONM	baz=218,slow=30,SNR=5.6			Lg	Lg	08 14 04.9	
SONM	comp=Z,116nm,21.9s,baz=192,slow=40			LR	LR	08 15 48.1	
ZAK	**Zakamensk**	**12.55**	**14**	*e*P	**Pn**	**08 11 24.6**	**+1.7**
ZAK	comp=Z,3.0nm,0.3s			pmax	pmax		
MKAR	**Makanchi Array** comp=Z,0.2nm,0.3s,baz=118,slow=14,SNR=6.9	**14.71**	**311**	Pn	Pn	08 11 47.4	-5.0
MKAR	comp=Z,83nm,21.1s,baz=104,slow=40			LR	LR	08 18 09.7	
GUN	**Gumba** comp=Z,17nm,0.5s	**14.84**	**230**	*e*P	**P**	**08 12 00.7**	**+0.4**
RAMN	**Ramite** comp=Z,20nm,0.7s	**15.14**	**225**	*e*P	**Pn**	**08 11 57.7**	**-0.8**
KKN	**Kani** comp=Z,31nm,0.7s	**15.29**	**231**	*e*P	**P**	**08 12 06.1**	**+0.9**
DMN	**Daman** comp=Z,19nm,0.7s	**15.52**	**231**	*e*P	**P**	**08 12 07.5**	**-0.4**
ZALV	**Zalesovo Beam** comp=Z,0.3nm,0.3s,baz=138,slow=11,SNR=11	**18.30**	**333**	P	**P**	**08 12 38.7**	**+0.5**
ZALV	comp=Z,81nm,18.9s,baz=70,slow=37			LR	LR	08 19 42.1	
KURBB	**Kurchatov Arra** comp=Z,0.1nm,0.3s,baz=122,slow=12,SNR=16	**18.84**	**317**	P	**Pn**	**08 12 43.9**	**-0.7**
KURK	**Kurchatov**	**18.84**	**318**	P	**Pn**	**08 12 43.9**	**-0.8**
NVS	**Novosibirsk**	**19.58**	**333**	*e*P	**P**	**08 12 52.1**	**-0.1**
CMAR	**Chiang Mai Arr** comp=Z,0.2nm,0.3s,baz=354,slow=9.1,SNR=5.8	**19.75**	**179**	P	**P**	**08 12 53.0**	**-1.2**
CMAR	comp=Z,61nm,20.9s,baz=356,slow=38			LR	LR	08 20 40.8	
KSRS	**Korea Array** comp=Z,1.6nm,0.7s,baz=269,slow=8.9,SNR=7.7	**23.12**	**83**	P	**P**	**08 13 31.1**	**+0.8**
KSRS	**Korea Array**	**23.12**	**83**	P	**P**	**08 13 31.2**	**+0.8**
KSRS	comp=Z,2.0nm,0.6s			pmax	pmax		
BVAR	**Borovoye Array** comp=Z,1.0nm,0.7s,baz=126,slow=15,SNR=5.8	**24.42**	**316**	P	**P**	**08 13 44.5**	**+1.7**
BVAR	**Borovoye Array**	**24.42**	**316**	P	**P**	**08 13 44.5**	**+1.7**
BVAR	comp=Z,1.0nm,0.7s			pmax	pmax		
YAK	**Yakutsk** comp=Z,61nm,19.9s,baz=357,slow=38	**30.48**	**29**	LR	LR	08 27 35.8	
PSI	**Prapat** comp=Z,104nm,18.2s,baz=133,slow=38	**35.31**	**179**	LR	LR	08 30 44.8	
PETK	**Petropavlovsk-** comp=Z,98nm,18.4s,baz=91,slow=36	**42.62**	**50**	LR	LR	08 34 15.8	
FINES	**FINESS Array B** comp=Z,2.4nm,0.8s,baz=94,slow=16,SNR=3.9	**49.12**	**323**	P	**P**	**08 17 10.7**	**-0.8**
FINES	**FINESS Array B**	**49.12**	**323**	P	**P**	**08 17 10.7**	**-0.8**
FINES	comp=Z,2.0nm,0.9s			pmax	pmax		
AKASG	**Malin Array Be** comp=Z,0.3nm,0.3s,baz=250,slow=37,SNR=4.1	**49.28**	**308**	P	**P**	**08 17 11.8**	**-1.2**
BRTR	**Keskin Array B**	**49.49**	**293**	P	**P**	**08 17 16.0**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=77,slow=6.4,SNR=4.6						
BRTR	**Keskin Array B**	**49.49**	**293**	P	**P**	**08 17 16.0**	**+1.0**
BRTR	comp=Z,1.0nm,0.7s			pmax	pmax		
ILAR	**Eielson Array** comp=Z,0.2nm,0.7s,baz=291,slow=4.7,SNR=4.7	**65.33**	**25**	P	**P**	**08 19 05.0**	**-1.1**
WRA	**Warramunga Arr** comp=Z,0.7nm,0.7s,baz=345,slow=6.5,SNR=6.8	**66.93**	**143**	P	**P**	**08 19 15.6**	**-1.3**
WRA	**Warramunga Arr** comp=Z,1.0nm,0.7s	**66.93**	**143**	P	**P**	**08 19 15.6**	**-1.3**
WRA				pmax	pmax		
ASAR	**Alice Springs** comp=Z,0.3nm,0.4s,baz=336,slow=6.5,SNR=5.3	**69.96**	**146**	P	**P**	**08 19 34.9**	**-0.9**

IDC 23 08:11:38.8±1.9, 1°15N×126°28E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/22, mbtmp3.7/4, Error ellipse: s-maj=171.0km s-min=25.0km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.7nm,0.3s,baz=338,slow=10,SNR=22	**22.40**	**160**	P	P	08 16 39.1	0.0
ASAR	**Alice Springs** 0.6nm,0.4s,baz=343,slow=11,SNR=14	**25.76**	**164**	P	P	08 17 11.8	+0.3
STKA	**Stephens Creek** 0.7nm,0.6s,baz=344,slow=10.0,SNR=3.9	**35.91**	**157**	P	P	08 18 40.4	-0.6
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=111,slow=8.0,SNR=4.3	**59.42**	**326**	P	P	08 21 43.4	+0.1

*SZGRF **23** 08:16:27.1, 19°70S×175°85W, h33km, Tonga Islands*
*IDC **23** 08:17:17.6±1.7, 20°41S×177°69W, h481km±19km, mb3.7/16, mb1 3.9/19, mb1mx3.8/24, mbtmp4.5/19, Error ellipse: s-maj=14.9km s-min=12.4km az=136.0*
*ISCJB **23** 08:17:18.2±0.4, 20°55S±0°06×177°73W±0°07, h500km, mb4.0/16, Error ellipse: s-maj=8.7km s-min=7.4km az=18.8*
ISC 23 08:17:18.7±0.4, 20°56S±0°07×177°68W±0°08, h500km, n81, σ1s25/86, mb3.9/16, 10C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue** baz=6.7,SNR=5.8	**7.45**	**80**	P	**P**	**08 19 09.2**	**-0.2**
RAO	**Raoul Island** 128nm,0.3s,baz=37,slow=24,SNR=6.8	**8.65**	**181**	P	**P**	**08 19 21.1**	**-0.6**
RAO	44nm,0.3s,baz=239,slow=23,SNR=5.1			S	**S**	**08 21 00.8**	**-2.1**
AFI	**Afiamalu** 10nm,0.3s,baz=160,slow=1.3,SNR=15	**8.69**	**41**	P	P	08 19 18.6	-3.8
AFI	24nm,0.3s,baz=308,slow=19,SNR=13			S	S	08 20 53.5	-11
DZM	**Mount Dzumac** 0.3nm,0.3s,baz=90,slow=20,SNR=3.0	**14.87**	**261**	P	**P**	**08 20 28.5**	**+0.8**
URZ	**Urewera** 0.9nm,0.3s,baz=27,slow=2.3,SNR=7.7	**18.20**	**193**	P	**P**	**08 21 00.9**	**+0.2**
URZ	0.2nm,0.3s,baz=49,slow=19,SNR=3.5			S	**S**	**08 23 59.0**	**-2.9**
EIDS	**Eidsvold** baz=30,SNR=3.1	**29.12**	**255**	P	**P**	**08 22 39.2**	**+0.8**
ARMA	**Armidale** baz=30,SNR=9.4	**29.31**	**244**	P	**P**	**08 22 41.9**	**+1.7**
MGCD	**Mangrove Creek** baz=31,SNR=5.1	**30.43**	**239**	P	**P**	**08 22 51.5**	**+1.7**
CNB	**Canberra Magne** baz=33,SNR=14	**32.44**	**236**	P	**P**	**08 23 08.6**	**+1.6**
CTA	**Charters Tower** 7.8nm,0.3s,baz=89,slow=10,SNR=22	**33.78**	**264**	P	**P**	**08 23 19.1**	**+0.5**
CMSA	**Cobar Meteorol** baz=35,SNR=44	**34.53**	**244**	P	**P**	**08 23 25.4**	**+0.7**
QLP	**Quilpie** baz=36,SNR=10	**35.33**	**253**	P	**P**	**08 23 31.8**	**+0.4**
MTSU	**Mount Surprise** baz=36,SNR=8.6	**35.89**	**267**	P	**P**	**08 23 36.6**	**+0.4**
TOO	**Toolangi** baz=37,SNR=3.9	**36.10**	**234**	P	**P**	**08 23 38.8**	**+1.1**
STKA	**Stephens Creek** 9.1nm,0.5s,baz=92,slow=9.9,SNR=59	**38.03**	**244**	P	**P**	**08 23 54.6**	**+1.0**
ARPS	**Mount Arapiles** baz=40,SNR=5.7	**38.70**	**236**	P	**P**	**08 23 59.7**	**+0.7**
HTT	**Hallett** baz=41,SNR=13	**40.46**	**242**	P	**P**	**08 24 14.0**	**+0.6**
BBOO	**Buckleboo** baz=44,SNR=29	**42.79**	**244**	P	**P**	**08 24 31.9**	**+0.1**
JAY	**Jayapura** 17nm,0.7s,baz=146,slow=7.3,SNR=6.6	**44.35**	**288**	P	**P**	**08 24 44.5**	**+0.2**
ASAR	**Alice Springs** 33nm,0.8s,baz=99,slow=7.4,SNR=314	**44.80**	**257**	P	**P**	**08 24 47.8**	**+0.2**
ASAR	2.1nm,0.7s,baz=104,slow=3.3,SNR=6.9			PcP	**pP**	**08 26 19.1**	**-1.4**
ASAR	1.6nm,1.0s,baz=88,slow=15,SNR=8.6			S	**S**	**08 30 46.6**	**-1.5**
WRA	**Warramunga Arr** 6.4nm,0.3s,baz=95,slow=5.0,SNR=236	**44.89**	**262**	P	**P**	**08 24 47.8**	**-0.5**
WRA	1.0nm,0.7s,baz=98,slow=4.1,SNR=3.3			PcP	**pP**	**08 26 19.4**	**-1.9**
KDU	**Kakadu** baz=49,SNR=6.1	**48.25**	**271**	P	**P**	**08 25 13.7**	**-0.1**
MTN	**Manton Dam** baz=50,SNR=6.1	**49.46**	**270**	P	**P**	**08 25 22.7**	**-0.1**
FORT	**Forrest** baz=50,SNR=15	**49.55**	**247**	P	**P**	**08 25 23.1**	**-0.1**
WRKA	**Warakurna** baz=50,SNR=118	**49.74**	**254**	P	**P**	**08 25 25.0**	**+0.2**
KNRA	**Kununurra** baz=52,SNR=3.5	**50.95**	**266**	P	**P**	**08 25 33.7**	**0.0**
VNDA	**Vanda** 0.6nm,0.9s,baz=356,slow=7.2,SNR=10	**57.87**	**185**	P	**P**	**08 26 23.9**	**+2.4**
MEEK	**Meekatharra** baz=59,SNR=12	**58.18**	**251**	P	**P**	**08 26 24.2**	**-0.3**
KLBR	**Kellerberrin** baz=59,SNR=9.2	**58.30**	**245**	P	**P**	**08 26 25.2**	**0.0**
NWAO	**Narrogin (SRO)** baz=59,SNR=4.8	**58.61**	**243**	P	**P**	**08 26 27.8**	**+0.4**
NWAO	baz=59,SNR=4.8			P	**P**	**08 26 27.8**	**+0.4**
RKGY	**Rocky Gully** baz=60,SNR=5.8	**58.68**	**241**	P	**P**	**08 26 28.9**	**+1.2**
BLDU	**Ballidu** baz=60,SNR=9.7	**59.30**	**246**	P	**P**	**08 26 32.1**	**0.0**
MORW	**Morawa** baz=61,SNR=4.7	**60.08**	**248**	P	**P**	**08 26 37.2**	**0.0**
GIRL	**Giralia** baz=64,SNR=3.6	**62.82**	**254**	P	**P**	**08 26 56.7**	**+1.4**
UGM	**Wanagama** baz=71,SNR=3.7	**70.26**	**269**	P	**P**	**08 27 41.9**	**+0.2**
MJAR	**Matsushiro Arr** 1.5nm,0.7s,baz=162,slow=4.8,SNR=6.5	**70.44**	**323**	P	**P**	**08 27 41.5**	**-0.7**

CFR	Carcaliu	147.51	325	⇑*i*P		PKPdf	08 35 57.6	-5.2
VRI	Vrincioaia	147.78	327	⇑*i*P		PKPbc	08 36 07.2	+0.3
TIRR	Tirgusor	147.82	324	⇑*i*P		PKPbc	08 36 07.5	+0.5
CLZ	Clausthal	148.15	351	*e*PKPbc		PKPbc	08 36 08.1	+0.4
CLL	Collm	148.19	347	*e*PKPbc		PKPbc	08 36 07.9	+0.2
CLL	Collm	148.19	347	⇓*i*PKP		PKPbc	08 36 07.8	+0.1
	comp=Z,14nm,0.8s							
DOPR	Dopca	148.38	329	⇑*i*P		PKPbc	08 36 09.4	+1.0
BRG	Berggiesshubel	148.40	346	*i* PKP		PKPbc	08 36 08.7	+0.5
	comp=Z,7.1nm,0.9s							
BRG	Berggiesshubel	148.40	346	*e*PKPbc		PKPbc	08 36 08.5	+0.3
FBE	Freiberg	148.48	347	*e*PKPbc		PKPbc	08 36 09.1	+0.7
MOX	Moxa	149.09	348	*e*PKPbc		PKPbc	08 36 10.2	+0.2
PLN	Plauen	149.14	348	*e*PKPbc		PKPbc	08 36 10.4	+0.3
TANN	Tannenbergstha	149.15	347	*e*PKPbc		PKPbc	08 36 10.5	+0.3
WERD	Werda	149.15	348	*e*PKPbc		PKPbc	08 36 10.6	+0.4
ARR	Arges	149.18	329	⇑*i*P		PKPbc	08 36 11.5	+1.1
GUNZ	Gunzen	149.22	347	*e*PKPbc		PKPbc	08 36 10.8	+0.4
LOT	Lotru	149.54	329	⇑*i*P		PKPdf	08 36 01.4	-4.8
MANZ	Manzenberg	149.63	347	*e*PKPbc		PKPbc	08 36 11.7	+0.4
ROTZ	Rotzenmuhle	149.81	347	*e*PKPbc		PKPbc	08 36 12.3	+0.6
TNS	Taunus Mts	150.01	352	*e*PKPbc		PKPbc	08 36 12.3	+0.1
GERES	GERESS Array B	150.34	345	PKPbc		PKPbc	08 36 12.8	-0.3
	comp=Z,1.8nm,0.6s,baz=26,slow=2.5,SNR=14							
CONA	Conrad Observa	150.59	341	⇑*i*PKPdf		PKPdf	08 36 05.9	-1.8
	comp=Z,1.5nm,0.4s							
CONA				⇑*i*PKPbc		PKiKP	08 36 14.2	0.0
	comp=Z,4.1nm,0.6s							
WTTA	Wattenberg	152.31	346	⇓*i*PKPbc		PKPbc	08 36 17.6	-0.1
	comp=Z,6.7nm,0.8s							
TORD	Torodi Ar. Bea	172.60	175	PKP		PKPdf	08 36 30.1	-0.7
	comp=Z,1.7nm,0.9s,baz=132,slow=3.5,SNR=7.6							
TORD				PKPab		PKPab	08 38 00.4	+1.1
	comp=Z,0.6nm,0.7s,baz=168,slow=4.2,SNR=4.8							

ISCJB ***23*** *08:19:40.4±1.2, 52.°8N±0.°10×169.°79W±0.°10, h8km±7km, mb3.6/5, MS3.4/2, Error ellipse: s-maj=18.3km s-min=6.4km az=152.8*

IDC ***23*** *08:19:40.3±1.4, 52.°52N×169.°76W, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/29, mbtmp3.5/6, ML3.3/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/25, Error ellipse: s-maj=52.1km s-min=24.9km az=148.0*

NEIC ***23*** *08:19:42.3, 52.°76N×169.°54W, h4km, ML3.1(AEIC), After AEIC.*

ISC 23 08:19:41.0±1.8, 52.°89N±0.°09×169.°80W±0.°06, h4km±11km, n20, σ0°94/25, mb3.7/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.58	82	P		Pg	08 19 52.0	-0.1
NIKH				S		Sg	08 19 59.9	+0.3
OKWR	Okmok West Rim	1.10	60	P		Pb	08 20 02.7	+0.1
OKAK	Okmok	1.10	51	P		Pg	08 20 00.9	-1.2
OKAK				S		Sg	08 20 15.0	-1.4
OKCE	Okmok Cone E	1.12	61	P		Pg	08 20 02.3	-0.1
OKCE				S		Sg	08 20 17.6	+0.7
OKTU	Okmok Mt. Tuli	1.17	64	P		Pb	08 20 03.7	0.0
OKFG	Magazine Ridge	1.25	65	P		Pg	08 20 04.4	-0.4
OKFG				S		Sg	08 20 21.5	+0.4
MSOM	Makushin Julie	1.94	60	P		Pn	08 20 15.3	+0.7
MCIR	Makushin Cirqu	2.04	57	P		Pn	08 20 17.4	+1.3
MSW	Makushin Switc	2.08	59	P		Pn	08 20 17.3	+0.7
MSW				S		Sb	08 20 44.8	-0.4
MTBL	Makushin Table	2.15	59	P		Pn	08 20 19.1	+1.4
UNV	Unalaska Valle	2.19	63	P		Pn	08 20 18.4	+0.3
UNV				S		Sn	08 20 46.0	+0.3
ATKA	Atka Island	2.77	257	P		Pn	08 20 27.2	+1.1
SPIA	Saint Paul Isl	4.30	357	P		Pn	08 20 48.3	+1.3
ILAR	Eielson Array	16.67	36	Pn		Pn	08 23 36.5	+1.4
	0.1nm,0.3s,baz=224,slow=10,SNR=7.9							
NVAR	Mina Array Bea	37.94	91	P		P	08 27 00.3	+0.8
	0.2nm,0.5s,baz=303,slow=8.5,SNR=4.5							
PDAR	Pinedale Array	40.56	79	P		P	08 27 20.7	-0.8
	0.4nm,0.6s,baz=310,slow=5.0,SNR=4.2							
PDAR				LR		LR	08 43 40.8	
	comp=Z,36nm,18.4s,baz=316,slow=36							
TXAR	Lajitas Array	53.00	89	P		P	08 28 58.2	-0.6
	0.8nm,0.8s,baz=289,slow=5.6,SNR=7.6							
MKAR	Makanchi Array	63.26	313	LR		LR	08 59 12.7	
	comp=Z,37nm,19.7s,baz=30,slow=37							
WRA	Warramunga Arr	87.13	231	P		P	08 32 26.3	-1.5
	0.4nm,0.8s,baz=35,slow=5.8,SNR=2.4							
ASAR	Alice Springs	90.53	230	P		P	08 32 43.3	-0.6
	0.7nm,0.8s,baz=32,slow=4.5,SNR=5.5							

BJI ***23*** *08:20:40.6, 52.°80N×169.°80W, h8km, mb4.8/14, mB4.9/11, Ms4.8/9, Ms7 4.7/4*

IDC ***23*** *08:20:41.0±0.5, 52.°90N×169.°99W, h0km, mb4.3/20, mb1 4.5/23, mb1mx4.3/35, mbtmp4.3/23, ML3.9/3, MS3.9/2, Ms1 3.9/2, ms1mx3.2/24, Error ellipse: s-maj=20.8km s-min=10.4km az=168.0*

NEIC ***23*** *08:20:42.6, 52.°74N×169.°60W, h5km, mb4.6/90, ML4.2(AEIC), After AEIC.*

ISCJB ***23*** *08:20:43.9±0.8, 52.°85N±0.°04×169.°78W±0.°04, h27km±5km, mb4.6/100, MS3.8/1, Error ellipse: s-maj=6.6km s-min=3.7km az=173.2*

MOS ***23*** *08:20:43.0±1.0, 52.°97N×170.°01W, h23km, mb4.9/27, Error ellipse: s-maj=13.6km s-min=7.7km az=141.7*

ISC 23 08:20:43.6±0.5, 52.°89N±0.°08×169.°74W±0.°03, h17km±2km, n536, σ1°26/535, mb4.6/100, 3C-1D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.54	81	P		Pg	08 20 52.9	-1.5
NIKH				S		Sg	08 21 01.0	-0.6
OKWR	Okmok West Rim	1.07	59	P		Pb	08 21 03.6	-0.1
OKAK	Okmok	1.08	50	P		Pb	08 21 02.0	-1.9
OKCE	Okmok Cone E	1.09	60	P		Pb	08 21 03.1	-0.9
OKCE				S		Sb	08 21 18.0	+0.1
OKTU	Okmok Mt. Tuli	1.14	64	P		Pn	08 21 04.2	-0.6
OKFG	Magazine Ridge	1.22	64	P		Pn	08 21 04.9	-1.0
OKFG				S		Sb	08 21 21.8	+0.2
MSOM	Makushin Julie	1.91	60	P		Pn	08 21 15.2	-0.2
MSOM	Makushin Julie	1.91	60	P		Pn	08 21 15.2	-0.2
MCIR	Makushin Cirqu	2.01	57	P		Pn	08 21 17.9	+1.1
MSW	Makushin Switc	2.04	59	P		Pn	08 21 18.5	+1.2
UNV	Unalaska Valle	2.16	62	P		Pn	08 21 19.6	+0.7
UNV				S		Sn	08 21 46.6	+1.4
AKRB	Akutan Reef Bi	2.52	59	P		Pn	08 21 25.6	+1.9
ZRO	Akutan Zero	2.55	60	P		Pn	08 21 25.5	+1.4
AKGG	Akutan Green G	2.59	58	P		Pn	08 21 26.2	+1.4
AKUT	Akutan	2.67	61	*e*Pn		Pn	08 21 28.4	+2.5
AKUT				*e*Sn		Sb	08 22 02.7	-0.8
ATKA	Atka Island	2.81	258	P		Pn	08 21 28.2	+0.5
ATKA				S		Sb	08 22 04.5	-2.8
SSBA	Shishaldin	3.82	58	P		Pn	08 21 41.7	-0.1
GSTR	Great Sitkin T	3.95	261	P		Pn	08 21 44.8	+1.4
FALS	False Pass	4.23	60	*e*Pn		Pn	08 21 52.2	+5.0
ADAG	Mount Adagdak	4.30	260	P		Pn	08 21 50.2	+1.9
SPIA	Saint Paul Isl	4.31	356	P		Pn	08 21 50.4	+2.1
SDPT	Sand Point	5.98	62	*e*Pn		Pn	08 22 13.0	+1.8
AMKA	Amchitka	6.92	262	*e*Pn		Pn	08 22 26.2	+2.0
	98nm,0.6s							
OHAK	Old Harbor	10.38	59	*e*Pn		Pn	08 23 11.4	-0.1
KDAK	Kodiak Island	10.92	57	Pn		Pn	08 23 21.0	+2.1
	1.3nm,0.3s,baz=267,slow=6.5,SNR=8.2							
KDAK				Sn		Sn	08 25 16.5	-4.0
	0.2nm,0.3s,baz=294,slow=20,SNR=3.9							
KDAK				LR		LR	08 28 22.4	
	comp=Z,832nm,18.6s,baz=242,slow=42							
KDAK	Kodiak Island	10.92	57	P		Pn	08 23 21.0	+2.1
KDAK							08 25 16.5	
KDAK				pmax		pmax		
	comp=Z,1.0nm,0.3s							
KDAK				MLR		MLR		
	comp=Z,832nm,18.6s							
KDAK	Kodiak Island	10.92	57	*e*Pn		Pn	08 23 20.7	+1.8
KDAK				Sn		Sn	08 25 16.5	-4.0
RSO	Redoubt South	12.00	44	*e*Pn		Pn	08 23 39.5	+5.6
	comp=Z,69nm,0.7s							
CNPM	China Poot	12.23	50	*e*Pn		Pn	08 23 38.1	+1.3
BRLK	Bradley Lake	12.49	49	*e*Pn		Pn	08 23 44.9	+4.4
TNA	Tin City	12.74	3	*e*Pn		Pn	08 23 45.8	+2.0
SEW	Seward	13.29	49	*e*Pn		Pn	08 23 52.1	+0.8
	comp=Z,20nm,1.0s							
RC01	Rabbit Creek A	13.60	45	*e*Pn		Pn	08 23 60.0	+4.5
	comp=Z,27nm,1.3s							
PPLA	Purkeypile	13.64	36	*e*Pn		P	08 24 01.5	-3.5
CAST	Castle Rocks	14.02	34	*e*Pn		P	08 24 06.0	-3.1
PMR	Palmer	14.10	44	*e*P		P	08 24 06.5	-3.4
PMR				pmax		pmax		
	comp=Z,11nm,1.0s							
PMR	Palmer	14.10	44	*e*Pn		P	08 24 06.5	-3.4
	comp=Z,11nm,1.0s							
SML	Sawmill	14.53	44	*e*P		P	08 24 12.2	-2.6
SML				pmax		pmax		
	comp=Z,4.0nm,1.1s							
SML	Sawmill	14.53	44	*e*Pn		P	08 24 12.2	-2.6
	comp=Z,4.2nm,1.1s							
TRF	Thorofare Moun	14.66	36	*e*Pn		P	08 24 14.6	-1.8
BPAW	Bear Paw Mtn.	14.83	33	*e*Pn		P	08 24 16.5	-1.6
MCK	McKinley	15.32	37	*e*P		P	08 24 22.9	-0.6
MCK				pmax		pmax		
	comp=Z,27nm,1.2s							
MCK	McKinley	15.32	37	*e*P		P	08 24 22.9	-0.6
	comp=Z,27nm,1.2s							
IM04	Indian Mountai	15.35	25	*e*Pn		P	08 24 22.2	-1.7
DIV	Divide	15.36	48	*e*Pn		P	08 24 22.3	-1.7
BWN	Browne	15.39	35	*e*Pn		P	08 24 24.7	+0.3
	comp=Z,129nm,1.6s							
BMRM	Bremner River	15.84	49	*e*P		Pn	08 24 27.3	+1.7
	comp=Z,14nm,0.8s							
HARP	HAARP	16.14	44	*e*Pn		P	08 24 33.0	+0.4
	comp=Z,28nm,0.7s							
CCB	Clear Creek Bu	16.26	35	*e*Pn		Pn	08 24 32.2	+1.4
	comp=Z,21nm,1.4s							
PAX	Paxson	16.26	42	*e*P		Pn	08 24 32.0	+1.0
PAX				pmax		pmax		
	comp=Z,7.0nm,0.8s							
PAX	Paxson	16.26	42	*e*P		Pn	08 24 32.0	+1.0
	comp=Z,6.9nm,0.8s							
COLA	College	16.38	34	⇓*i*P		Pn	08 24 33.9	+1.5
COLA				pmax		pmax		
	comp=Z,50nm,1.3s							
COLA	College	16.38	34	*e*P		Pn	08 24 33.2	+0.8
	comp=Z,16nm,1.0s							
HDA	Harding Lake	16.42	37	*e*Pn		Pn	08 24 33.8	+0.8
	comp=Z,20nm,1.2s							
ILAR	Eielson Array	16.65	36	Pn		Pn	08 24 35.5	-0.5
	comp=Z,0.3nm,0.3s,baz=226,slow=10,SNR=30							
ILAR				LR		LR	08 30 46.0	
	comp=Z,297nm,21.6s,baz=244,slow=36							
MENT	Mentasta	16.96	43	*e*P		P	08 24 42.6	+0.8
COLD	Coldfoot	17.24	26	*e*P		P	08 24 47.0	+2.2
	comp=Z,12nm,0.9s							
EGAK	Eagle	18.77	40	*e*P		P	08 25 01.8	+0.1
	comp=Z,8.2nm,0.8s							
BILL	Bilibino	19.03	332	*e*P		Pn	08 25 11.1	+5.9
BILL				pmax		pmax		
	comp=Z,15nm,1.3s							
BILL				MLR		MLR		
	comp=Z,173nm,16.0s							
BILL	Bilibino	19.03	332	*e*P		P	08 25 03.7	-0.8
	comp=Z,81nm,1.8s							
HYT	Haines Junctio	19.16	53	*e*P		Pn	08 25 07.8	+0.9
DAWY	Dawson	19.19	43	*e*P		P	08 25 06.5	+0.2
	comp=Z,9.4nm,1.1s							
PETK	Petropavlovsk-	19.51	284	P		P	08 25 08.6	-1.3
	comp=Z,0.5nm,0.3s,baz=79,slow=15,SNR=4.0							
SKAG	Skagway	20.07	57	*e*P		Pn	08 25 17.3	-0.4
	comp=Z,36nm,0.9s							
SEY	Seymchan	22.15	312	P		P	08 25 38.6	+0.4
	comp=Z,3.1nm,0.6s,baz=126,slow=8.7,SNR=11							
SEY				PcP		PcP	08 29 34.3	-0.2
	comp=Z,1.9nm,0.6s,baz=117,slow=6.8,SNR=5.5							
SEY	Seymchan	22.15	312	⇑*i*P		P	08 25 42.3	+4.1
MA2	Magadan	22.67	303	*e*P		P	08 25 49.3	+5.5
DLBC	Dease Lake	22.81	60	P		P	08 25 48.4	+3.0
	comp=Z,19nm,0.9s,baz=243,slow=6.5,SNR=20							
DLBC	Dease Lake	22.81	60	*e*P		P	08 25 48.4	+3.0
	comp=Z,27nm,0.9s							
INK	Inuvik	23.04	34	P		P	08 25 46.6	-0.8
	comp=Z,4.6nm,0.6s,baz=251,slow=10.0,SNR=28							
INK				PcP		PcP	08 29 36.1	-0.1
	comp=Z,2.6nm,1.0s,baz=292,slow=6.0,SNR=5.5							
INK	Inuvik	23.04	34	P		P	08 25 46.7	-0.8
INK							08 29 36.1	
INK				pmax		pmax		
	comp=Z,5.0nm,0.6s							
INK				pmax		pmax		
	comp=Z,3.0nm,1.0s							
INK	Inuvik	23.04	34	*e*P		P	08 25 46.4	-1.2
	comp=Z,14nm,1.1s							
INK				PcP		PcP	08 29 36.1	-0.1
YKA	Yellowknife Ar	30.07	49	P		P	08 26 52.3	+0.8
	comp=Z,0.5nm,0.5s,baz=272,slow=7.9,SNR=6.0							
YKA				PcP		PcP	08 29 52.6	-0.2
	comp=Z,0.6nm,0.7s,baz=305,slow=2.0,SNR=3.5							
D05A	Enumclaw	30.72	81	*e*P		P	08 27 01.3	+3.8
	comp=Z,34nm,1.4s							
B08A	Colville Reser	31.75	78	*e*P		P	08 27 08.3	+1.7
	comp=Z,10.0nm,0.9s							
G05D	Wamic, OR	32.10	84	P		P	08 27 11.9	+2.2
	baz=32							
I04A	Tendick Farm,	32.22	87	P		P	08 27 13.0	+2.3
	baz=32							
L02D	Cave Junction,	32.42	91	P		P	08 27 13.5	+1.0
	baz=32							
I05D	Terrebonne, OR	32.57	85	P		P	08 27 14.5	+0.6
	baz=32,SNR=5.6							
D08A	Wollman Farm,	32.62	79	*e*P		P	08 27 17.9	+3.7
	comp=Z,10.0nm,1.1s							
J04D	Umpqua Nationa	32.71	88	P		P	08 27 16.2	+0.9
	baz=32							
NEW	Newport	33.10	76	P		P	08 27 19.7	+1.3
	comp=Z,7.2nm,0.8s,baz=297,slow=9.3,SNR=16							
NEW	Newport	33.10	76	P		P	08 27 19.7	+1.3
NEW				pmax		pmax		
	comp=Z,7.0nm,0.8s							
NEW	Newport	33.10	76	P		P	08 27 19.5	+1.1
	baz=33,SNR=7.1							
NEW	Newport	33.10	76	*e*P		P	08 27 20.1	+1.6
	comp=Z,10nm,0.9s							
EDM	Edmonton	33.14	66	*e*P		P	08 27 19.4	+0.7
EDM				pmax		pmax		
	comp=Z,7.0nm,0.6s							
EDM	Edmonton	33.14	66	*e*P		P	08 27 19.4	+0.7
	comp=Z,7.4nm,0.6s							
YBH	Yreka Blue Hor	33.21	90	P		P	08 27 22.5	+3.0
	comp=Z,5.3nm,0.9s,baz=331,slow=7.6,SNR=6.5							
M02C	Callahan	33.32	91	P		P	08 27 21.4	+0.9
	baz=33							
G08A	Pilot Rock	33.49	82	*e*P		P	08 27 25.6	+3.6
	comp=Z,6.9nm,1.3s							
N02D	Trinity Center	33.66	92	P		P	08 27 24.4	+1.0
	baz=34							
M04C	Macdoel	33.70	90	P		P	08 27 25.6	+1.7
	baz=34,SNR=5.1							
K05A	Summer Lake	33.73	88	*e*P		P	08 27 27.6	+3.4
	comp=Z,30nm,1.0s							
MOD	Modoc	34.56	88	*e*P		P	08 27 33.4	+2.1
	comp=Z,14nm,0.9s							
BSMT	Bassoo Peak	34.67	76	*e*P		P	08 27 33.9	+1.6
	comp=Z,8.8nm,0.9s							
BLMT	Blacktail Moun	34.84	75	*e*P		P	08 27 35.7	+2.0
JTMT	Jette	35.02	76	*e*P		P	08 27 38.1	+2.9
YBMT	Yellow Bay	35.12	75	*e*P		P	08 27 37.9	+1.8
	comp=Z,3.4nm,0.8s							
WVOR	Wild Horse Val	35.27	86	*e*P		P	08 27 39.6	+2.3
WVOR				pmax		pmax		
	comp=Z,23nm,1.0s							
WVOR	Wild Horse Val	35.27	86	*e*P		P	08 27 39.6	+2.3
	comp=Z,23nm,1.0s							
SWMT	Swartz Lake	35.31	76	*e*P		P	08 27 38.2	+0.6
	comp=Z,8.8nm,1.5s							
MSO	Missoula	35.69	77	P		P	08 27 41.7	+0.8
	baz=36							
MSO	Missoula	35.69	77	*e*P		P	08 27 44.1	+3.3
	comp=Z,17nm,1.4s							
SLMT	Seeley Lake	35.74	76	*e*P		P	08 27 42.4	+1.0
	comp=Z,7.0nm,1.0s							
CHMT	Chamberlain Mo	36.05	76	*e*P		P	08 27 44.5	+0.3
	comp=Z,4.4nm,0.8s							
MFID	Camas Ranch	36.40	83	*e*P		P	08 27 48.9	+1.9
	comp=Z,11nm,1.1s							
CMB	Columbia Colle	36.89	94	*e*P		P	08 27 54.0	+2.8
CMB				pmax		pmax		
	comp=Z,30nm,2.0s							
CMB	Columbia Colle	36.89	94	*e*P		P	08 27 54.0	+2.8
	comp=Z,30nm,2.0s							
HRY	Holter Researc	36.99	76	*e*P		P	08 27 53.6	+1.6
	comp=Z,6.3nm,0.9s							
WAKR	Walker	37.16	92	*e*P		P	08 27 56.2	+2.5
HLID	Hailey	37.16	82	P		P	08 27 54.6	+1.0
	baz=37,SNR=7.8							
HLID	Hailey	37.16	82	*e*P		P	08 27 55.5	+1.8
	comp=Z,11nm,1.4s							
DLMT	Dillon	37.25	78	*e*P		P	08 27 58.5	+4.2
	comp=Z,4.5nm,0.9s							
BMN	Battle Mountai	37.31	88	*e*P		P	08 27 56.6	+1.7
BMN				pmax		pmax		
	comp=Z,11nm,0.8s							
BMN	Battle Mountai	37.31	88	*e*P		P	08 27 56.6	+1.7
	comp=Z,11nm,0.8s							
MCMT	McKenzie Canyo	37.40	79	*e*P		P	08 27 56.7	+1.1
EGMT	Eagleton	37.52	73	P		P	08 27 57.6	+1.2
	baz=37							
EGMT	Eagleton	37.52	73	*e*P		P	08 27 57.7	+1.2
	comp=Z,30nm,1.4s							
BOZ	Bozeman (W)	37.67	77	*e*P		P	08 27 59.5	+1.6
BOZ				pmax		pmax		
	comp=Z,13nm,1.1s							
BOZ	Bozeman (W)	37.67	77	P		P	08 27 58.9	+1.0
	baz=38,SNR=12							
BOZ	Bozeman (W)	37.67	77	*e*P		P	08 27 59.5	+1.6
	comp=Z,13nm,1.1s							
H11N2	WAKE ISLAND Hy	37.73	218	T		T	09 08 25.2	
	baz=251,slow=74,SNR=28							
H11N3	WAKE ISLAND Hy	37.73	218	T		T	09 08 47.1	
	baz=23,slow=74,SNR=33							
H11N1	WAKE ISLAND Hy	37.74	218	T		T	09 09 21.2	
	SNR=30							
NVAR	Mina Array Bea	37.90	91	P		P	08 28 01.9	+1.9
	comp=Z,8.6nm,0.9s,baz=299,slow=7.9,SNR=29							
NVAR				PcP		PcP	08 30 16.5	+0.7
	comp=Z,1.0nm,0.7s,baz=333,slow=1.2,SNR=5.5							
ELK	Elko	38.32	86	P		P	08 28 05.3	+1.8
	comp=Z,9.4nm,0.8s,baz=292,slow=7.5,SNR=25							
ELK	Elko	38.32	86	*e*P		P	08 28 05.5	+2.0
ELK				pmax		pmax		
	comp=Z,11nm,0.9s							
ELK	Elko	38.32	86	*e*P		P	08 28 05.5	+2.0
	comp=Z,11nm,0.9s							
USRK	Ussuriysk Ar.	38.57	281	PcP		PcP	08 30 17.2	-0.2
	comp=Z,2.3nm,0.8s,baz=104,slow=6.1,SNR=7.3							
YMR	Madison River	38.60	78	*e*P		P	08 28 08.3	+2.5
	comp=Z,9.5nm,0.7s							
FFC	Flin Flon	38.64	59	*e*P		P	08 28 05.4	-0.4
FFC				pmax		pmax		
	comp=Z,5.0nm,1.0s							
FFC	Flin Flon	38.64	59	*e*P		P	08 28 05.4	-0.4
	comp=Z,5.3nm,1.0s							
GCMT	Greycliff	38.75	76	*e*P		P	08 28 08.4	+1.5
	comp=Z,5.2nm,1.0s							
TPH	Tonopah	38.78	91	*e*P		P	08 28 08.5	+1.1
TPH				pmax		pmax		
	comp=Z,21nm,1.1s							
TPH	Tonopah	38.78	91	*e*P		P	08 28 08.5	+1.1
	comp=Z,21nm,1.1s							
H11S1	WAKE ISLAND Hy	38.92	217	T		T	09 09 19.3	
	baz=23,slow=76,SNR=918							
H11S2	WAKE ISLAND Hy	38.93	217	T		T	09 09 20.3	
	baz=23,slow=76,SNR=43							
H11S3	WAKE ISLAND Hy	38.94	217	T		T	09 09 20.5	
	baz=23,slow=76,SNR=51							
IMW	Indian Meadow	39.05	79	*e*P		P	08 28 11.8	+2.1
	comp=Z,7.8nm,1.0s							
FXWY	Fox Creek	39.15	79	*e*P		P	08 28 14.5	+4.1
	comp=Z,2.1nm,0.8s							
HVU	Hansel Valley	39.18	83	*e*P		P	08 28 11.7	+1.0
HVU				pmax		pmax		
	comp=Z,6.0nm,1.1s							
HVU	Hansel Valley	39.18	83	*e*P		P	08 28 11.7	+1.0
	comp=Z,6.5nm,1.1s							
PKM	Peak Mountain	39.31	97	P		P	08 28 12.4	+0.6
	baz=39							
CWC	Cottonwood Cre	39.32	94	P		P	08 28 12.1	+0.2
	baz=39							
RLMT	Red Lodge	39.35	76	P		P	08 28 13.2	+1.2
	baz=39,SNR=7.3							
RLMT	Red Lodge	39.35	76	*e*P		P	08 28 14.0	+1.9
	comp=Z,15nm,1.0s							
GRAC	Grapevine Rang	39.38	92	P		P	08 28 13.4	+1.1
	baz=39,SNR=6.3							
SNOW	Snow King Moun	39.41	79	*e*P		P	08 28 14.7	+2.1
	comp=Z,4.8nm,1.1s							
LOHW	Long Hollow	39.41	79	*e*P		P	08 28 15.2	+2.6
	comp=Z,3.1nm,0.8s							
MJAR	Matsushiro Arr	39.50	267	P		P	08 28 11.2	-1.9
	comp=Z,1.0nm,0.7s,baz=47,slow=7.2,SNR=2.9							
MJAR				PcP		PcP	08 30 21.9	+1.4
	comp=Z,1.1nm,0.6s,baz=60,slow=1.0,SNR=5.3							
R11A	Troy Canyon, C	39.60	89	P		P	08 28 14.8	+0.7
	baz=39,SNR=43							
R11A	Troy Canyon, C	39.60	89	*e*P		P	08 28 15.0	+0.9
	comp=Z,18nm,1.0s							
ISA	Isabella	39.60	95	*e*P		P	08 28

baz=41,SNR=9.0
J20A **Shoshoni** 41.06 78 P P 08 28 26.9 +0.7
baz=41,SNR=8.0
D24A **Glendive** 41.12 71 P P 08 28 27.2 +0.7
baz=41
B25A **Knox Farm, Ray** 41.16 69 P P 08 28 27.2 +0.4
baz=41
CIS **Catalina Islan** 41.18 97 P P 08 28 27.2 +0.1
baz=41
I21A **Big Trails, Te** 41.26 77 P P 08 28 28.3 +0.4
baz=41,SNR=6.3
F23A **Volborg** 41.27 73 P P 08 28 28.4 +0.6
baz=41
H22A **Clearmont** 41.36 75 P P 08 28 29.1 +0.5
baz=41
SCI **San Clemente I** 41.39 98 P P 08 28 30.1 +1.3
baz=41
C25A **Freed Ranch, W** 41.41 69 P P 08 28 29.5 +0.6
baz=41
E24A **Baker** 41.44 71 P P 08 28 30.1 +0.9
baz=41
J21A **Lysite** 41.44 77 P P 08 28 29.9 +0.5
baz=41,SNR=7.3
CCUT **Cedar City** 41.45 88 eP P 08 28 31.0 +1.4
comp=Z,10nm,1.0s
A26A **Wade Farm, Ken** 41.46 67 P P 08 28 29.3 +0.1
baz=41
HEC **Hector,Ludlow** 41.46 94 P P 08 28 30.1 +0.6
baz=41,SNR=7.3
BBRC **Big Bear Solar** 41.49 95 P P 08 28 30.1 +0.2
baz=41
BOD **Bodaibo** 41.49 308 eP P 08 28 28.8 -0.5
BOD pmax pmax
comp=Z,3.0nm,1.1s
MVU **Marysvale** 41.54 86 eP P 08 28 32.2 +1.9
comp=Z,11nm,1.0s
MSU **Marysvale** 41.56 86 eP P 08 28 32.6 +2.2
MSU pmax pmax
comp=Z,12nm,1.1s
MSU **Marysvale** 41.56 86 eP P 08 28 32.5 +2.2
comp=Z,12nm,1.1s
G23A **Biddle** 41.58 74 P P 08 28 31.1 +0.8
baz=41
B26A **Jensen Ranch,** 41.63 68 P P 08 28 31.5 +0.9
baz=41
TMUT **Trail Mountain** 41.65 85 eP P 08 28 33.2 +2.0
comp=Z,18nm,1.0s
D25A **Fairfield** 41.68 70 P P 08 28 31.8 +0.7
baz=42
I22A **9 Mile Ranch,** 41.69 76 P P 08 28 32.1 +0.8
baz=42,SNR=5.8
F24A **Ekalaka** 41.76 72 P P 08 28 32.5 +0.7
baz=42
MURC **Murrieta** 41.77 96 P P 08 28 33.0 +1.0
baz=42
GMRC **Granite Mounta** 41.90 93 P P 08 28 34.2 +1.1
baz=42,SNR=9.6
J22A **Midwest** 41.97 77 P P 08 28 34.6 +0.9
baz=42,SNR=20
E25A **Miller Ranch,** 41.99 71 P P 08 28 34.5 +0.8
baz=42
C26A **Wahner Farm, P** 42.00 69 P P 08 28 34.4 +0.7
baz=42
LDFC **Landfair** 42.03 93 eP P 08 28 35.7 +1.6
comp=Z,43nm,1.3s
G24A **Alzada** 42.07 73 P P 08 28 34.7 +0.4
baz=42
B27A **Peters Farms,** 42.16 67 P P 08 28 35.4 +0.5
baz=42
SRU **San Rafael** 42.17 85 eP P 08 28 37.1 +1.7
SRU pmax pmax
comp=Z,30nm,1.5s
SRU **San Rafael** 42.17 85 eP P 08 28 37.1 +1.7
comp=Z,30nm,1.5s
PFO **Pinyon Flat Ob** 42.22 95 eP P 08 28 36.7 +1.0
PFO pmax pmax
comp=Z,14nm,1.4s
PFO **Pinyon Flat Ob** 42.22 95 eP P 08 28 36.7 +1.0
comp=Z,14nm,1.4s
BELC **Belle Mtn. Jos** 42.22 95 P P 08 28 36.4 +0.6
baz=42
I23A **Meade Ranch, G** 42.25 75 P P 08 28 36.0 +0.1
baz=42
F25A **Bowman** 42.28 72 P P 08 28 36.7 +0.7
baz=42
109C **Camp Elliot, M** 42.32 97 P P 08 28 37.7 +1.3
baz=42
H24A **Dirks Ranch, A** 42.32 74 P P 08 28 36.4 0.0
baz=42
K22A **Casper** 42.40 78 P P 08 28 37.8 +0.7
baz=42
K22A **Casper** 42.40 78 eP P 08 28 38.1 +0.9
comp=Z,26nm,1.6s
C27A **Sayler Ranch,** 42.40 68 P P 08 28 37.8 +0.9
baz=42
A28A **Rude Farm, Bot** 42.44 66 P P 08 28 37.6 +0.4
baz=42
E26A **Carlson Angus** 42.55 71 P P 08 28 38.7 +0.6
baz=42
IRM **Iron Mountain** 42.63 94 P P 08 28 39.8 +0.9
baz=42,SNR=7.5
B28A **Dugan Ranch, T** 42.63 67 P P 08 28 39.4 +0.6
baz=42
D27A **Center** 42.72 69 P P 08 28 40.5 +1.0
baz=42
G25A **Newell** 42.73 73 P P 08 28 40.6 +0.9
baz=42
BAR **Barrett** 42.73 97 eP P 08 28 42.5 +2.7
comp=Z,18nm,1.0s
MONP **Monument Peak** 42.73 96 P P 08 28 40.9 +0.9
baz=42
F26A **Lodgepole** 42.78 71 P P 08 28 41.0 +0.9
baz=43
BC3 **Big Chuckawall** 42.79 94 P P 08 28 40.2 -0.1
baz=43
I24A **Kuemmerle Ranc** 42.80 75 P P 08 28 41.3 +1.0
baz=43
K23A **Bowen Ranch, D** 42.87 77 P P 08 28 41.0 0.0
baz=43
O20A **White River Ci** 42.91 82 P P 08 28 42.2 +0.9
baz=43,SNR=15
O20A **White River Ci** 42.91 82 eP P 08 28 42.3 +0.9
comp=Z,28nm,1.0s
H25A **Fruitdale** 42.95 73 P P 08 28 42.4 +0.9
baz=43
RSSD **Black Hills** 42.99 74 eP P 08 28 42.7 +0.7
RSSD pmax pmax
comp=Z,19nm,2.0s
RSSD **Black Hills** 42.99 74 eP P 08 28 42.7 +0.7
comp=Z,19nm,2.0s
A29A **Manning Farm,** 43.00 66 P P 08 28 42.0 +0.2
baz=43
C28A **Hausauer Farms** 43.03 68 P P 08 28 42.4 +0.4
baz=43
E27A **Carson** 43.08 70 P P 08 28 43.1 +0.6
baz=43
J24A **Dixon Ranch, L** 43.09 76 P P 08 28 43.8 +1.1
baz=43
F27A **Lemmon** 43.14 71 P P 08 28 43.4 +0.4
baz=43
G26A **Maurine** 43.14 72 P P 08 28 43.4 +0.4
baz=43
PDMCI **Parker Dam,Lak** 43.14 93 P P 08 28 44.2 +1.1
baz=43,SNR=5.4
B29A **Wagenman Farm,** 43.19 66 P P 08 28 44.4 +1.1
baz=43
D28A **Regan** 43.22 69 P P 08 28 44.1 +0.6
baz=43
Y12C **Blythe** 43.28 94 P P 08 28 45.4 +1.1
baz=43,SNR=6.9
MDND **Maddock** 43.39 67 P P 08 28 45.3 +0.4
baz=43
H26A **Fairpoint** 43.43 73 P P 08 28 45.7 +0.3
baz=43
G27A **Dupree** 43.48 72 P P 08 28 45.7 +0.1
baz=43
E28A **Huff** 43.49 69 P P 08 28 46.1 +0.3
baz=43
A30A **Hoffart Farm,** 43.51 65 P P 08 28 46.3 +0.5
baz=43
J25A **Sunshine Ranch** 43.56 75 P P 08 28 47.2 +0.7
baz=43
GLA **Glamis** 43.58 95 eP P 08 28 49.0 +2.3
GLA pmax pmax
comp=Z,37nm,1.6s
GLA **Glamis** 43.58 95 P P 08 28 47.4 +0.7
baz=43
GLA **Glamis** 43.58 95 eP P 08 28 49.0 +2.3
comp=Z,37nm,1.6s
PV04 **Paradox Valley** 43.61 84 eP P 08 28 49.0 +2.0
I26A **New Underwood** 43.73 74 P P 08 28 48.3 +0.5
baz=44
B30A **Myrvik Farm, E** 43.76 66 P P 08 28 48.4 +0.5
baz=44
N23A **Red Feather La** 43.81 79 P P 08 28 49.3 +0.6
baz=44,SNR=6.6
H27A **Howes** 43.83 72 P P 08 28 49.2 +0.7
baz=44
D29A **Pettibone, Tap** 43.84 68 P P 08 28 49.1 +0.6
baz=44
F28A **McLaughlin** 43.85 70 P P 08 28 49.3 +0.6
baz=44
PV01 **Paradox Valley** 43.98 84 eP P 08 28 51.0 +1.0
comp=Z,1µm,0.8s
WUAZ **Wupatki** 44.00 89 P P 08 28 51.2 +1.0
baz=44,SNR=27
WUAZ **Wupatki** 44.00 89 eP P 08 28 51.5 +1.4
comp=Z,14nm,0.6s
J26A **Sides Ranch, S** 44.03 75 P P 08 28 50.8 +0.6
baz=44
E29A **Napoleon** 44.09 69 P P 08 28 50.9 +0.3
baz=44
C30A **Mose, Pekin** 44.10 67 P P 08 28 51.4 +0.7
baz=44
ULM **Lac du Bonnet** 44.10 62 P P 08 28 50.4 -0.2
comp=Z,3.3nm,1.0s,baz=300,slow=9.5,SNR=3.3
I27A **Quinn** 44.17 73 P P 08 28 52.2 +0.9
baz=44
G28A **Parade** 44.23 71 P P 08 28 52.0 +0.2
baz=44
D30A **Buchanan** 44.28 68 P P 08 28 52.1 0.0
baz=44
K26A **Motz Farm, Whi** 44.34 75 P P 08 28 52.6 -0.1
baz=44
H28A **Mission Ridge** 44.41 72 P P 08 28 53.5 +0.3
baz=44
M25A **Palm-Egli Farm** 44.59 77 P P 08 28 55.0 +0.1
baz=44
MVCO **Mesa Verde** 44.62 85 P P 08 28 55.7 +0.6
baz=44
MVCO **Mesa Verde** 44.62 85 eP P 08 28 57.6 +2.4
comp=Z,4.2nm,0.8s
ISCO **Idaho Springs** 44.69 80 eP P 08 28 56.7 +0.9
ISCO pmax pmax
comp=Z,3.0nm,0.9s
ISCO **Idaho Springs** 44.69 80 P P 08 28 56.4 +0.6
baz=44
ISCO **Idaho Springs** 44.69 80 eP P 08 28 56.7 +0.9
comp=Z,2.5nm,0.9s
J27A **Elkhorn Farm,** 44.69 74 P P 08 28 56.2 +0.7
baz=44
I28A **Midland** 44.73 73 P P 08 28 56.5 +0.8
baz=44
L26A **Underwood Farm** 44.80 76 P P 08 28 57.1 +0.7
baz=45
K27A **Flueckinger Fa** 44.89 75 P P 08 28 57.8 +0.7
baz=45
H29A **Onida** 44.90 71 P P 08 28 58.2 +1.1
baz=45
J28A **Allard Ranch,** 45.03 73 P P 08 28 59.0 +0.8
baz=45,SNR=5.7
KSRS **Korea Array** 45.12 276 P P 08 28 58.4 -0.5
comp=Z,1.3nm,0.8s,baz=49,slow=7.4,SNR=5.1
KSRS **Korea Array** 45.12 276 P P 08 28 58.4 -0.5
KSRS pmax pmax
comp=Z,1.0nm,0.8s
KSAR **Wonju Array Be** 45.16 276 P P 08 28 58.4 -0.7
KSAR **Wonju Array Be** 45.16 276 P P 08 28 58.4 -0.7
AGMN **Agassiz Nation** 45.21 65 P P 08 28 59.9 +0.5
baz=45
AGMN **Agassiz Nation** 45.21 65 eP P 08 28 59.8 +0.4
comp=Z,7.5nm,1.1s
I29A **Vivan Onida** 45.21 72 P P 08 29 00.0 +0.4
baz=45
G30A **Faulkton** 45.22 70 P P 08 29 00.3 +0.7
baz=45
L27A **T5 Ranch, Ells** 45.22 76 P P 08 29 00.6 +0.8
baz=45
W18A **Petrified Fore** 45.26 88 P P 08 29 01.2 +1.0
baz=45,SNR=6.4
W18A **Petrified Fore** 45.26 88 eP P 08 29 04.4 +4.2
comp=Z,17nm,1.0s
S22A **4UR Ranch, Cre** 45.27 83 P P 08 29 01.1 +0.6
baz=45,SNR=11
K28A **Ten Mile Ranch** 45.39 74 P P 08 29 01.7 +0.6
baz=45
Q24A **Divide** 45.50 81 P P 08 29 02.3 +0.1
baz=45
M27A **Reverse DX Ran** 45.52 76 P P 08 29 02.5 +0.3
baz=45
214A **Organ Pipe Nat** 45.56 94 P P 08 29 03.7 +1.2
baz=45,SNR=12
214A **Organ Pipe Nat** 45.56 94 eP P 08 29 04.5 +1.9
comp=Z,26nm,1.1s
J29A **Okreek** 45.57 73 P P 08 29 03.4 +0.9
baz=45,SNR=5.5
O26A **Horse Wrangler** 45.78 78 P P 08 29 05.2 +0.9
baz=46
I30A **Oacoma** 45.78 72 P P 08 29 04.8 +0.7
baz=46
N27A **Anderson Farm,** 45.88 77 P P 08 29 05.0 -0.1
baz=46
K29A **Lazy Trails An** 45.97 74 P P 08 29 06.3 +0.6
baz=46
SDCO **Great Sand Dun** 46.07 82 P P 08 29 07.8 +1.0
baz=46,SNR=14
SDCO **Great Sand Dun** 46.07 82 eP P 08 29 08.5 +1.7
comp=Z,10nm,1.1s
J30A **Dallas** 46.10 72 P P 08 29 07.5 +0.9
baz=46
P26A **Davis Ranch, A** 46.19 79 P P 08 29 08.2 +0.6
baz=46,SNR=6.6
O27A **Beecher Island** 46.31 78 P P 08 29 09.7 +1.3
baz=46
L29A **Maesberg Ranch** 46.31 74 P P 08 29 09.8 +1.5
baz=46
K30A **Basset** 46.43 73 P P 08 29 10.1 +0.9
baz=46
Q26A **Hugo** 46.50 80 P P 08 29 10.9 +1.0
baz=46
TUC **Tucson** 46.54 92 eP P 08 29 11.6 +1.3
TUC pmax pmax
comp=Z,18nm,1.0s
TUC **Tucson** 46.54 92 eP P 08 29 11.6 +1.3
comp=Z,18nm,1.0s
M29A **Burnside Ranch** 46.57 75 P P 08 29 11.1 +0.7
baz=46
P27A **Ficken Ranch,** 46.65 78 P P 08 29 12.3 +1.2
baz=46
R26A **Arlington** 46.94 80 P P 08 29 14.1 +0.7
baz=47
KSCO **Kaye Shedlock'** 46.97 79 P P 08 29 14.3 +0.7
baz=47,SNR=5.0
KSCO **Kaye Shedlock'** 46.97 79 eP P 08 29 14.8 +1.2
comp=Z,20nm,0.9s
T25A **Trinidad** 47.13 82 P P 08 29 15.8 +0.8
baz=47,SNR=17
P28A **Saint Francis** 47.13 78 P P 08 29 15.6 +0.8
baz=47
O29A **4D Ranch, Culb** 47.34 77 P P 08 29 17.4 +1.0
baz=47
R27A **Eads** 47.34 80 P P 08 29 17.3 +0.8
baz=47,SNR=5.5
ANMO **Albuquerque** 47.36 86 eP P 08 29 19.8 +3.1
ANMO pmax pmax
comp=Z,7.0nm,1.3s
ANMO **Albuquerque** 47.36 86 eP P 08 29 19.8 +3.1
comp=Z,7.4nm,1.3s
ECSD **EROS Data Cent** 47.50 70 P P 08 29 17.1 -0.5
baz=47
LENM **Lemitar** 47.57 87 eP P 08 29 20.5 +2.1
T26A **Comanche Natio** 47.59 82 P P 08 29 19.3 +0.7
baz=47,SNR=6.0
P29A **Atwood** 47.60 77 P P 08 29 19.3 +0.9
baz=47
Y22D **IRIS PASSCAL I** 47.67 87 P P 08 29 20.2 +1.1
baz=48
O30A **MW Ranch, Wils** 47.74 76 P P 08 29 20.1 +0.6
baz=48
R28A **Tribune** 47.89 79 P P 08 29 21.3 +0.6
baz=48
P30A **Selden** 48.04 77 P P 08 29 22.7 +0.9
baz=48
O31A **Woolen Ranch,** 48.19 76 P P 08 29 23.6 +0.6
baz=48
121A **Cookes Peak, D** 48.21 89 P P 08 29 24.1 +0.8
baz=48,SNR=9.5
121A **Cookes Peak, D** 48.21 89 eP P 08 29 24.5 +1.2
comp=Z,23nm,1.0s
R29A **Marienthal** 48.24 79 P P 08 29 24.2 +0.8
baz=48,SNR=6.2
S28A **Manter** 48.33 80 P P 08 29 25.0 +0.8
baz=48,SNR=5.3
T28A **Walsh** 48.52 81 P P 08 29 26.3 +0.7
baz=48,SNR=5.2
U27A **Thompson Grove** 48.55 82 P P 08 29 26.6 +0.7
baz=48,SNR=5.3
P31A **Stockton** 48.57 76 P P 08 29 26.9 +1.0
baz=48
SPMN **St. Paul** 48.73 66 P P 08 29 27.4 +0.4
baz=48
S29A **Ulysses** 48.78 79 P P 08 29 28.0 +0.5
baz=49
CBKS **Cedar Bluff** 48.81 77 eP P 08 29 30.6 +2.8
CBKS pmax pmax
comp=Z,22nm,0.9s
CBKS **Cedar Bluff** 48.81 77 P P 08 29 28.2 +0.4
baz=49,SNR=6.1
CBKS **Cedar Bluff** 48.81 77 eP P 08 29 30.6 +2.8
comp=Z,22nm,0.9s
R30A **Dighton** 48.84 78 P P 08 29 28.6 +0.6
baz=49,SNR=6.3
U28A **Mallet** 48.94 81 P P 08 29 29.7 +0.8
baz=49
P32A **Huiting Farm,** 48.96 76 P P 08 29 29.6 +0.8
baz=49
S30A **Montezuma** 49.16 79 P P 08 29 31.0 +0.6
baz=49
O33A **Hebron** 49.26 75 P P 08 29 31.3 +0.2
baz=49
R31A **Burdett** 49.28 78 P P 08 29 32.0 +0.6
baz=49,SNR=5.9
V28A **Channing** 49.36 82 P P 08 29 32.7 +0.6
baz=49
Q32A **Meitler Ranch,** 49.39 76 P P 08 29 32.8 +0.7
baz=49
N34A **Lincoln** 49.40 73 P P 08 29 32.7 +0.5
baz=49
R32A **Long Quarter,** 49.68 77 P P 08 29 34.5 +0.2
baz=50
O34A **Beatrice** 49.71 74 P P 08 29 34.7 +0.2
baz=50
U30A **WK&E Inc. Balk** 49.78 80 P P 08 29 35.7 +0.5
baz=50
Q33A **Connelly Farm,** 49.82 76 P P 08 29 36.1 +0.7
baz=50
TLY **Talaya** 49.85 306 eP P 08 29 38.1 +2.6
TLY pmax pmax
comp=Z,2.0nm,0.8s
TLY MLR MLR
comp=Z,68nm,16.0s
N35A **Tabor** 49.88 73 P P 08 29 36.6 +0.8
baz=50
T31A **Randall Ranch,** 49.98 79 P P 08 29 37.5 +0.8
baz=50
X28A **Dimmitt** 50.22 83 P P 08 29 39.7 +1.1
baz=50
T32A **Huddler Ranch,** 50.38 78 P P 08 29 40.8 +1.1
baz=50
BJI **Beijing** 50.41 287 P P 08 29 39.1 -0.7
BJI S S 08 36 53.0 +0.8
BJI PMZ
comp=Z,7.0nm,0.8s
BJI PMZ
comp=Z,89nm,7.2s
BJI LN
comp=Z,160nm,16.2s
BJI LE
comp=Z,120nm,17.0s
ULN **Ulaanbaatar** 50.48 300 eP P 08 29 45.5 +5.0
ULN pmax pmax
comp=Z,1.0nm,0.9s
P35A **Duane Minner,** 50.53 74 P P 08 29 41.3 +0.5
baz=50
Y28A **McKinney Farm,** 50.60 84 P P 08 29 41.9 +0.4
baz=50
R34A **Isabella, Hill** 50.62 76 P P 08 29 41.8 +0.3
baz=50
V31A **Spring Creek L** 50.77 80 P P 08 29 43.9 +1.1
baz=51
SONM **Songino Array** 50.84 300 P P 08 29 43.4 +0.3
comp=Z,0.6nm,0.7s,baz=69,slow=7.9,SNR=6.7
Z28A **Tucker Farm, M** 50.95 85 P P 08 29 44.9 +0.7
baz=51,SNR=7.8
Y29A **Porterfield Fa** 50.98 83 P P 08 29 45.1 +0.7
baz=51
X30A **Coker Ranch, T** 51.06 82 P P 08 29 45.4 +0.5
baz=51
S34A **Willow Spring** 51.10 77 P P 08 29 45.5 +0.4
baz=51
W31A **Holland Ranch,** 51.11 81 P P 08 29 45.8 +0.5
baz=51
128A **Castleberry Fa** 51.35 85 P P 08 29 47.5 +0.4
baz=51,SNR=11
U33A **Lingo Farm, Me** 51.36 78 P P 08 29 48.0 +0.9
baz=51
Z29A **Hungry Hill Ra** 51.38 84 P P 08 29 48.1 +0.8
baz=51,SNR=7.2
Y30A **Stafford Cattl** 51.44 83 P P 08 29 48.7 +0.9
baz=51
X31A **McDonald Ranch** 51.47 81 P P 08 29 48.8 +0.8
baz=51
T34A **McClaskey Farm** 51.51 77 P P 08 29 48.2 +0.1
baz=51
W32A **Sentinel** 51.57 81 P P 08 29 49.4 +0.7
baz=51
S35A **Otter Creek Ra** 51.58 76 P P 08 29 48.8 +0.1
baz=51
R36A **Gordon, Harris** 51.63 75 P P 08 29 49.5 +0.4
baz=51
228A **UT Block 9, Go** 51.64 86 P P 08 29 49.9 +0.6
baz=51
V33A **Lossen Ranch,** 51.67 79 P P 08 29 50.1 +0.7
baz=52
U34A **Anderson Ranch** 51.70 78 P P 08 29 50.0 +0.4
baz=52,SNR=5.5
U34A **Anderson Ranch** 51.70 78 eP P 08 29 52.2 +2.6
comp=Z,12nm,0.8s
Z30A **Sanderson Ranc** 51.71 84 P P 08 29 50.6 +0.8
baz=52,SNR=8.5
129A **Stewart Farms,** 51.72 85 P P 08 29 50.3 +0.4
baz=52,SNR=5.2
Y31A **Rekieta Farm,** 51.76 82 P P 08 29 50.7 +0.6
baz=52
Q37A **Longview Farm,** 51.87 74 P P 08 29 51.3 +0.4
baz=52
S36A **Lake Cedric, C** 51.98 76 P P 08 29 51.6 -0.1
baz=52
T35A **Sooner Cattle** 51.98 77 P P 08 29 51.9 +0.2
baz=52
W33A **Caddo, Fort Co** 52.02 80 P P 08 29 52.0 -0.1
baz=52
WMOK **Wichita Mounta** 52.12 81 eP P 08 29 52.9 +0.1
WMOK pmax pmax
comp=Z,12nm,0.9s
WMOK **Wichita Mounta** 52.12 81 eP P 08 29 52.9 +0.1
comp=Z,12nm,0.9s
V34A **Guthrie** 52.12 79 P P 08 29 53.1 +0.3
baz=52
229A **Bryant Ranch,** 52.22 85 P P 08 29 53.9 +0.3
baz=52
U35A **Pawnee** 52.22 78 P P 08 29 53.8 +0.3
baz=52
Y32A **R-V Farms, Ver** 52.23 82 P P 08 29 54.1 +0.6
baz=52,SNR=5.3
T36A **Boggs Farm, Ca** 52.26 76 P P 08 29 54.6 +0.8
baz=52
Z31A **Sharp Cattle R** 52.28 83 P P 08 29 54.6 +0.6
baz=52,SNR=5.4
130A **Snyder** 52.29 84 P P 08 29 55.0 +0.9
baz=52
W34A **Bridge Creek,** 52.38 79 P P 08 29 55.5 +0.8
baz=52
S37A **Fort Scott** 52.40 75 P P 08 29 55.2 +0.4
baz=52
X33A **Lawton** 52.42 81 P P 08 29 56.2 +1.2
baz=52
329A **Wagon Wheel Ra** 52.45 86 P P 08 29 55.8 +0.4
baz=52,SNR=7.6
HHC **Hu-ho-hao-te** 52.53 290 eP P 08 29 55.3 -0.5
HHC S S 08 37 16.3 -5.4
HHC SS SS 08 40 53.3 -6.0
HHC PMZ
comp=Z,15nm,1.2s

HHC PMZ
comp=Z,85nm,4.3s
HHC LN
comp=Z,130nm,13.5s
HHC LE
comp=Z,140nm,16.1s
V35A Meyer Ranch, C 52.57 78 P P 08 29 56.5 +0.5
baz=52
131A Roby 52.58 84 P P 08 29 57.1 +0.8
baz=52
Z32A Haskell 52.69 82 P P 08 29 57.2 +0.2
baz=52,SNR=9.0
230A Sterling City 52.69 85 P P 08 29 58.3 +1.2
baz=52,SNR=6.6
Y33A Hilltop Ranch, 52.71 81 P P 08 29 57.9 +0.7
baz=52
X34A Smith Ranch, M 52.77 80 P P 08 29 57.5 -0.2
baz=53
T37A Cheneyville 18 52.78 76 P P 08 29 57.2 -0.4
baz=53
TXAR Lajitas Array 52.96 89 P P 08 29 59.6 +0.5
comp=Z,17nm,0.8s,baz=302,slow=5.2,SNR=54
W35A Tecumseh 52.97 79 P P 08 29 59.9 +0.8
baz=53,SNR=5.2
330A Mertzon 52.99 85 P P 08 29 59.9 +0.6
baz=53,SNR=5.5
ABTX Abilene, Hawle 53.06 83 P P 08 30 00.5 +0.7
baz=53
ABTX Abilene, Hawle 53.06 83 *e*P P 08 30 01.2 +1.4
comp=Z,20nm,1.0s
V36A Jenks 53.09 78 P P 08 30 00.3 +0.5
baz=53
TUL1 Tulsa 53.09 77 P P 08 30 00.4 +0.5
baz=53
429A Davenport Ranc 53.11 87 P P 08 30 00.6 +0.3
baz=53,SNR=9.7
Z33A Whitaker Ranch 53.13 82 P P 08 30 00.5 +0.2
baz=53
231A Bronte 53.14 84 P P 08 30 00.8 +0.5
baz=53
U37A Salina 53.15 76 P P 08 30 00.3 0.0
baz=53
Y34A Reagan Ranch, 53.27 80 P P 08 30 01.8 +0.6
baz=53,SNR=7.9
529A Stev Forest Ra 53.27 87 P P 08 30 02.2 +0.8
baz=53,SNR=10
W36A Wetumka 53.36 78 P P 08 30 02.4 +0.5
baz=53
430A Baggett Ranch, 53.40 86 P P 08 30 03.1 +0.8
baz=53,SNR=9.0
V37A Hulbert 53.49 77 P P 08 30 03.8 +1.0
baz=53
133A Hamilton Ranch 53.51 83 P P 08 30 04.2 +1.1
baz=53,SNR=8.7
331A San Angelo 53.52 85 P P 08 30 03.4 +0.2
baz=53,SNR=7.9
U38A Gravette 53.56 76 P P 08 30 03.3 -0.1
baz=53
232A Coleman 53.58 84 P P 08 30 04.2 +0.6
baz=53
Z34A Collier Ranch, 53.58 81 P P 08 30 04.3 +0.7
baz=53
X36A Centrahoma 53.68 79 P P 08 30 04.9 +0.6
baz=54
Y35A Marietta 53.73 80 P P 08 30 05.1 +0.5
baz=54,SNR=6.5
530A J-C Ranch, Com 53.79 87 P P 08 30 06.0 +0.8
baz=54,SNR=25
W37A Quinton 53.84 78 P P 08 30 05.9 +0.5
baz=54
431A Sonora 53.85 85 P P 08 30 05.7 +0.1
baz=54,SNR=22
332A Millersview 53.88 84 P P 08 30 06.1 +0.3
baz=54,SNR=10.0
V38A Canehill 53.94 76 P P 08 30 06.5 +0.3
baz=54
Z35A Perchaven, San 54.00 81 P P 08 30 07.2 +0.6
baz=54
134A White-Moore Ra 54.04 82 P P 08 30 07.2 +0.2
baz=54,SNR=5.4
Y36A Durant 54.18 79 P P 08 30 08.4 +0.5
baz=54
432A Menard 54.20 85 P P 08 30 08.2 0.0
baz=54
X37A Clayton 54.25 78 P P 08 30 09.0 +0.6
baz=54,SNR=5.6
NJ2 Nanjing 54.26 277 *e*P P 08 30 09.8 +1.3
NJ2 PMZ
comp=Z,30nm,0.6s
531A Rocksprings 54.26 86 P P 08 30 09.2 +0.6
baz=54,SNR=7.3
333A Richland Sprin 54.37 84 P P 08 30 10.0 +0.6
baz=54,SNR=11
234A Clairette 54.40 82 P P 08 30 10.1 +0.5
baz=54,SNR=7.2
W38A Poteau 54.42 77 P P 08 30 09.6 0.0
baz=54
135A Vickery Place, 54.45 81 P P 08 30 10.3 +0.4
baz=54
JCT Junction City 54.48 85 *e*P P 08 30 09.8 -0.4
JCT pmax pmax
comp=Z,17nm,0.9s
JCT Junction City 54.48 85 P P 08 30 10.4 +0.2
baz=54,SNR=8.3
JCT Junction City 54.48 85 *e*P P 08 30 09.8 -0.4
comp=Z,17nm,0.9s
X38A Whitesboro 54.51 78 P P 08 30 10.8 +0.5
baz=54
Y37A Hugo 54.52 79 P P 08 30 10.8 +0.4
baz=54
Z36A Blue Ridge 54.53 80 P P 08 30 11.0 +0.5
baz=54
532A Rocksprings 54.67 85 P P 08 30 11.8 +0.2
baz=54
433A Art 54.71 84 P P 08 30 12.0 +0.1
baz=54,SNR=8.7
631A Perdido Creek 54.78 87 P P 08 30 12.6 +0.3
baz=55,SNR=5.7
334A Lometa 54.82 83 P P 08 30 13.2 +0.6
baz=55,SNR=8.9
WHTX Lake Whitney 54.82 82 P P 08 30 13.0 +0.4
baz=55
136A Ennis 55.04 81 P P 08 30 14.7 +0.5
baz=55
SFIN Scholer Farm 55.06 68 P P 08 30 14.3 0.0
baz=55
434A Burnet 55.17 84 P P 08 30 15.6 +0.5
baz=55,SNR=8.4
632A Uvalde 55.19 86 P P 08 30 15.7 +0.4
baz=55
SCHQ Schefferville 55.21 43 P P 08 30 14.8 -0.3
comp=Z,1.8nm,0.6s,baz=292,slow=11,SNR=4.8
533A Kerrville 55.23 85 P P 08 30 15.8 +0.1
baz=55,SNR=5.5
MIAR Mount Ida 55.34 77 *e*P P 08 30 17.5 +1.2
MIAR pmax pmax
comp=Z,9.0nm,0.9s
MIAR Mount Ida 55.34 77 P P 08 30 16.5 +0.2
baz=55
MIAR Mount Ida 55.34 77 *e*P P 08 30 17.5 +1.2
comp=Z,8.9nm,0.9s
236A Katherine and 55.37 81 P P 08 30 17.3 +0.8
baz=55
534A Blanco 55.60 84 P P 08 30 18.9 +0.6
baz=55,SNR=5.2
336A Riesel 55.62 82 P P 08 30 18.9 +0.5
baz=55,SNR=6.0
732A Laxson Ranch, 55.63 87 P P 08 30 19.2 +0.7
baz=55
832A Faith Ranch, C 55.95 87 P P 08 30 21.4 +0.6
baz=56,SNR=8.7
733A Divot King Ran 56.05 86 P P 08 30 22.7 +1.2
baz=56
535A Dale 56.15 84 P P 08 30 24.0 +1.8
baz=56
833A Chaparral WMA, 56.28 87 P P 08 30 23.6 +0.4
baz=56,SNR=9.2
734A La Parita Cree 56.40 85 P P 08 30 25.1 +1.1
baz=56
635A Leesville 56.49 84 P P 08 30 25.8 +1.2
baz=56
735A Kenedy 56.85 85 P P 08 30 28.1 +0.9
baz=57
636A Smothers Creek 56.85 84 P P 08 30 27.7 +0.6
baz=57
933A Laredo 56.87 87 P P 08 30 28.0 +0.7
baz=57,SNR=5.6
834A Tilden 56.93 86 P P 08 30 29.0 +1.2
baz=57
HKT Hockley 57.25 83 *e*P P 08 30 32.2 +2.3
HKT pmax pmax
comp=Z,18nm,1.4s
HKT Hockley 57.25 83 *e*P P 08 30 32.1 +2.3
comp=Z,18nm,1.4s
934A Benavides 57.33 86 P P 08 30 31.1 +0.5
baz=57
034A Hebbronville 57.62 87 P P 08 30 34.3 +1.6
baz=57
SSPA Standing Stone 59.92 62 *e*P P 08 30 47.8 -0.7
comp=Z,58nm,2.4s
LZH Lanzhou 60.19 291 *e*P P 08 30 52.5 +1.9
LZH pP **pP** 08 30 55.8 -0.2
LZH sP **sP** 08 30 57.3 -0.7
LZH PP **PP** 08 33 06.8 +3.8
LZH PMZ
comp=Z,22nm,1.5s
LZH PMZ
comp=Z,76nm,7.5s
LZH LN
comp=Z,280nm,14.7s
LZH LE
comp=Z,280nm,15.0s
LZH LZ
comp=Z,380nm,18.5s
WMQ Urumqi 63.03 308 P P 08 31 11.6 +2.0
WMQ pP **pP** 08 31 16.6 +1.6
WMQ sP **sP** 08 31 18.4 +1.4
WMQ PMZ
comp=Z,7.0nm,0.8s
WMQ PMZ
comp=Z,49nm,6.0s
WMQ LN
comp=Z,120nm,19.6s
WMQ LE
comp=Z,130nm,24.0s
BRVK Borovoye 63.16 324 *c e*P P 08 31 14.8 +4.7
BRVK pmax pmax
comp=Z,6.0nm,2.5s
CD2 Chengdu 64.00 287 P P 08 31 15.3 -0.8
CD2 pP **pP** 08 31 18.4 -3.1
CD2 PP **PP** 08 33 35.3 -1.2
CD2 S **S** 08 39 50.8 -0.7
CD2 SS **SS** 08 44 00.0 +0.4
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,90nm,5.8s
CD2 LN
comp=Z,190nm,6.6s
CD2 LZ
comp=Z,160nm,7.8s
GYA Guiyang 65.60 282 *e*P P 08 31 28.8 +2.1
GYA PMZ
comp=Z,10.0nm,0.8s
KMI Kunming 68.92 284 P P 08 31 49.1 +1.2
KMI sP **sP** 08 31 54.5 -0.9
KMI PMZ
comp=Z,7.0nm,0.8s
KMI PMZ
comp=Z,85nm,4.2s
CMAR Chiang Mai Arr 76.28 282 P P 08 32 29.6 -1.9
comp=Z,1.1nm,0.3s,baz=19,slow=5.7,SNR=3.8
GERES GERESS Array B 78.60 358 P P 08 32 43.6 -0.5
comp=Z,0.4nm,0.2s,baz=23,slow=5.3,SNR=3.2
BFO Black Forest 79.14 1 *i* P P 08 32 53.7 +6.7
KIV Kislovodsk 79.58 337 *e*P P 08 32 55.0 +5.4
KIV pmax pmax
comp=Z,4.0nm,1.0s
ESDC Sonseca Array 86.99 11 P P 08 33 26.8 -1.0
comp=Z,0.6nm,0.5s,baz=348,slow=6.9,SNR=2.7
WRA Warramunga Arr 87.16 231 P P 08 33 27.4 -1.1
comp=Z,3.0nm,0.9s,baz=34,slow=6.0,SNR=14
AS31 Alice Springs 90.56 230 *e*P P 08 33 45.2 +0.5
ASAR Alice Springs 90.56 230 P P 08 33 44.4 -0.3
comp=Z,6.5nm,0.8s,baz=32,slow=4.8,SNR=27
OTAV Otavalo 90.59 89 *e*P P 08 33 46.6 +0.9
comp=Z,17nm,1.7s
STKA Stephens Creek 94.45 220 P P 08 34 02.3 -0.1
comp=Z,2.6nm,1.0s,baz=59,slow=5.9,SNR=4.5
TORD Torodi Ar. Bea 113.82 9 PKiKP PKiKP 08 39 19.9 -1.6
comp=Z,0.2nm,0.5s,baz=12,slow=2.0,SNR=2.7
TORD PKKPab **PKKPab** 08 50 10.0 -3.2
comp=Z,1.8nm,0.8s,baz=188,slow=3.6,SNR=9.3
MAW Mawson 151.14 219 PKPbc PKPbc 08 40 33.5 -0.7
comp=Z,2.1nm,0.5s,baz=97,slow=5.5,SNR=7.1
MAW Mawson 151.14 219 PKIKP PKPbc 08 40 33.5 -0.7
MAW pmax pmax
comp=Z,2.0nm,0.5s
MAW Mawson 151.14 219 *e*PKPbc PKPbc 08 40 33.3 -0.9
BOSA Boshof 153.33 330 PKPbc PKPbc 08 40 39.6 -1.0
comp=Z,2.0nm,0.6s,baz=45,slow=3.2,SNR=7.1

*CSEM **23** 08:38:23.4, 66.67N×17.98W, h14km, ML3.2*
REY 23 08:38:23.4, 66.67N×17.98W, h14km, ML3.7, ML3.2,
Iceland region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IGRI	**Grimsey**	**0.13**	**186**	P	Pg		08 38 26.6	-0.2
IGRI				S	Sg		08 38 28.8	-0.3
IGRI	**Grimsey**	**0.13**	**186**	P	Pg		08 38 26.6	-0.1
baz=186								
IGRI				S	Sg		08 38 28.8	-0.3
baz=186								
IFLA	**Flatey**	**0.51**	**174**	P	Pg		08 38 33.0	-0.5
IFLA				S	Sg		08 38 40.1	-0.2
IFLA	**Flatey**	**0.51**	**174**	P	Pg		08 38 33.0	-0.5
baz=174								
IFLA				S	Sg		08 38 40.1	-0.2
baz=174								
IBRE	**Brettingsstaoi**	**0.55**	**177**	P	Pg		08 38 33.4	-0.7
IBRE				S	Sg		08 38 40.9	-0.5
IBRE	**Brettingsstaoi**	**0.55**	**177**	P	Pg		08 38 33.4	-0.8
baz=177								
IBRE				S	Sg		08 38 40.9	-0.5
baz=177								
IHED	**Heoinshofoi**	**0.65**	**155**	P	Pg		08 38 34.7	-1.3
IHED				S	Sg		08 38 43.2	-1.4
IHED	**Heoinshofoi**	**0.65**	**155**	S	Sg		08 38 43.2	-1.4
baz=155								
IHED				P	Pg		08 38 34.7	-1.4
baz=155								
ILEI	**Leirhofn**	**0.65**	**113**	P	Pg		08 38 34.8	-1.3
ILEI				S	Sg		08 38 43.6	-1.1
ILEI	**Leirhofn**	**0.65**	**113**	P	Pg		08 38 34.8	-1.2
baz=113								
ILEI				S	Sg		08 38 43.6	-1.0
baz=113								
ISIG	**Siglufjorour**	**0.66**	**215**	P	Pg		08 38 34.8	-1.4
ISIG				S	Sg		08 38 43.2	-1.7
ISIG	**Siglufjorour**	**0.66**	**215**	S	Sg		08 38 43.2	-1.7
baz=215								
ISIG				P	Pg		08 38 34.8	-1.4
baz=215								
IHLA	**Hella**	**0.75**	**193**	P	Pg		08 38 36.5	-1.4
IHLA				S	Sg		08 38 45.9	-1.8
IHLA	**Hella**	**0.75**	**193**	P	Pg		08 38 36.5	-1.4
baz=193								
IHLA				S	Sg		08 38 45.9	-1.7
baz=193								
IGRA	**Granastaoir**	**0.77**	**168**	P	Pg		08 38 36.7	-1.6
IGRA				S	Sg		08 38 46.9	-1.5
IGRA	**Granastaoir**	**0.77**	**168**	P	Pg		08 38 36.7	-1.6
baz=168								
IGRA				S	Sg		08 38 46.9	-1.6
baz=168								
IDIM	**Dimmadalsˆjs**	**0.83**	**149**	P	Pg		08 38 37.7	-1.7
IDIM				S	Sg		08 38 48.3	-2.0
IDIM	**Dimmadalsˆjs**	**0.83**	**149**	P	Pg		08 38 37.7	-1.7
baz=149								
IDIM				S	Sg		08 38 48.3	-1.9
baz=149								
IGIL	**Gilhagi**	**0.89**	**131**	P	Pg		08 38 38.2	-2.3
IGIL				S	Sg		08 38 49.6	-2.5
IGIL	**Gilhagi**	**0.89**	**131**	P	Pg		08 38 38.2	-2.3
baz=131								
IGIL				S	Sg		08 38 49.6	-2.5
baz=131								
ISKI	**Skildingahˆ‡ls**	**0.89**	**154**	P	Pg		08 38 38.4	-2.2
ISKI				S	Sg		08 38 49.7	-2.6
ISKI	**Skildingahˆ‡ls**	**0.89**	**154**	P	Pg		08 38 38.4	-2.2
baz=154								
ISKI				S	Sg		08 38 49.7	-2.6
baz=154								
IGHA	**Grjothals**	**0.98**	**147**	P	Pb		08 38 40.2	-2.1
IGHA				S	Sb		08 38 52.8	-2.3
IGHA	**Grjothals**	**0.98**	**147**	P	Pb		08 38 40.2	-2.0
baz=147								
IGHA				S	Sb		08 38 52.9	-2.3
baz=147								
IHRN	**Hraun**	**1.03**	**238**	P	Pb		08 38 40.4	-2.6
IHRN				S	Sb		08 38 53.2	-3.1
IHRN	**Hraun**	**1.03**	**238**	P	Pb		08 38 40.4	-2.6
baz=238								
IHRN				S	Sb		08 38 53.2	-3.1
baz=238								
IKVO	**Krokottuvotn**	**1.06**	**155**	P	Pb		08 38 40.9	-2.6
IKVO				S	Sb		08 38 54.6	-2.7
IKVO	**Krokottuvotn**	**1.06**	**155**	P	Pb		08 38 40.9	-2.6
baz=155								
IKVO				S	Sb		08 38 54.6	-2.6
baz=155								
IREN	**Reynihlio**	**1.11**	**157**	P	Pb		08 38 41.9	-2.6
IREN				S	Sb		08 38 56.2	-2.7
IREN	**Reynihlio**	**1.11**	**157**	P	Pb		08 38 41.9	-2.6
baz=156								
IREN				S	Sb		08 38 56.2	-2.6
baz=156								
IMEL	**Melhnausar**	**1.23**	**153**	P	Pn		08 38 43.6	-2.6
IMEL				S	Sb		08 39 00.0	-2.1
IMEL	**Melhnausar**	**1.23**	**153**	P	Pn		08 38 43.6	-2.6
baz=153								
IMEL				S	Sb		08 39 00.0	-2.1
baz=153								
IGRS	**Grimsstaoir**	**1.28**	**143**	P	Pn		08 38 44.2	-2.7
IGRS				S	Sb		08 39 00.8	-2.8
IGRS	**Grimsstaoir**	**1.28**	**143**	P	Pn		08 38 44.2	-2.7
baz=143								
IGRS				S	Sb		08 39 00.8	-2.8
baz=143								
ISVA	**Svartarkot**	**1.37**	**167**	P	Pn		08 38 46.0	-2.1
ISVA				S	Sn		08 39 03.3	-2.8
ISVA	**Svartarkot**	**1.37**	**167**	P	Pn		08 38 46.0	-2.1
baz=167								
ISVA				S	Sn		08 39 03.3	-2.7
baz=167								
IMKO	**Mokollar**	**1.83**	**158**	P	Pn		08 38 52.8	-1.7
IMKO				S	Sn		08 39 16.2	-1.2
IMKO	**Mokollar**	**1.83**	**158**	P	Pn		08 38 52.8	-1.6
baz=158								
IMKO				S	Sn		08 39 16.2	-1.2
baz=158								
IHVE	**Hveravellir**	**1.92**	**201**	P	Pn		08 38 55.0	-0.7
IHVE				S	Sn		08 39 19.1	-0.7
IHVE	**Hveravellir**	**1.92**	**201**	P	Pn		08 38 55.0	-0.7
baz=201								
IHVE				S	Sn		08 39 19.1	-0.6
baz=201								
IHVA	**Hvannstoosfjol**	**1.93**	**152**	P	Pn		08 38 54.1	-1.7
IHVA	**Hvannstoosfjol**	**1.93**	**152**	P	Pn		08 38 54.1	-1.8
baz=152								
IADA	**Aoalbol**	**1.93**	**148**	P	Pn		08 38 53.7	-2.1
IADA	**Aoalbol**	**1.93**	**148**	P	Pn		08 38 53.7	-2.1
baz=148								
IBRU	**Bruarjokull**	**2.01**	**156**	P	Pn		08 38 55.3	-1.6
IBRU	**Bruarjokull**	**2.01**	**156**	P	Pn		08 38 55.3	-1.6
baz=156								
IGLU	**Glumsstadir**	**2.07**	**144**	P	Pn		08 38 57.4	-0.3
IGLU				S	Sn		08 39 23.2	-0.1
IGLU	**Glumsstadir**	**2.07**	**144**	P	Pn		08 38 57.4	-0.3
baz=144								
IGLU				S	Sn		08 39 23.2	-0.1
baz=144								
ISKR	**Skrokkalda**	**2.12**	**185**	P	Pn		08 38 57.7	-0.9
ISKR	**Skrokkalda**	**2.12**	**185**	P	Pn		08 38 57.7	-0.8
baz=185								
IASB	**`sbjarnarst**	**2.37**	**217**	P	Pn		08 39 01.5	-0.4
IASB				S	Sn		08 39 31.5	+0.8
IASB	**`sbjarnarst**	**2.37**	**217**	P	Pn		08 39 01.5	-0.4
baz=217								
IASB				S	Sn		08 39 31.5	+0.8
baz=217								
IVAT	**Vatnsfell**	**2.52**	**189**	P	Pn		08 39 03.3	-0.7
IVAT	**Vatnsfell**	**2.52**	**189**	P	Pn		08 39 03.4	-0.6
baz=189								
IGYG	**Gygjarholskot**	**2.57**	**202**	P	Pn		08 39 04.3	-0.3
IGYG	**Gygjarholskot**	**2.57**	**202**	P	Pn		08 39 04.3	-0.3
baz=202								
IKAL	**Kalfafell**	**2.73**	**177**	P	Pn		08 39 06.4	-0.4
IKAL	**Kalfafell**	**2.73**	**177**	P	Pn		08 39 06.4	-0.5
baz=177								
IHEI	**Heioarbar**	**2.83**	**210**	P	Pn		08 39 08.8	+0.7
IHEI	**Heioarbar**	**2.83**	**210**	P	Pn		08 39 08.8	+0.7
baz=210								

IDC 23 08:40:00.4±3.0, 27.91N×142.20E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/26, mbtmp3.7/5, Error ellipse: s-maj=126.9km s-min=32.6km az=75.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.18**	**190**	P	P		08 48 42.6	-0.1
	0.2nm,0.3s,baz=4.1,slow=7.9,SNR=3.5							
MKAR	**Makanchi Array**	**49.97**	**309**	P	P		08 48 56.1	-0.2
	0.2nm,0.3s,baz=96,slow=6.2,SNR=3.7							
KURBB	**Kurchatov Arra**	**52.48**	**314**	P	P		08 49 15.2	+0.2
	0.7nm,0.5s,baz=90,slow=8.4,SNR=5.6							
BVAR	**Borovoye Array**	**57.45**	**317**	P	P		08 49 51.1	+0.1
	0.7nm,0.4s,baz=86,slow=6.1,SNR=3.6							
FINES	**FINESS Array B**	**77.22**	**334**	P	P		08 51 55.9	-0.2
	0.8nm,0.5s,baz=47,slow=6.1,SNR=6.4							

*IDC **23** 08:44:02.2±2.2, 33.02N×142.32E, h0km, mb3.3/3, mb1 3.4/5, mb1mx3.3/27, mbtmp3.3/5, ML3.1/2, Error ellipse: s-maj=49.8km s-min=23.7km az=51.0*
*ISCJB **23** 08:44:03.3±1.0, 33.32N±0.06×142.48E±0.10, h33km, mb3.3/3, Error ellipse: s-maj=12.2km s-min=8.2km az=158.7*
*JMA **23** 08:44:03.9±0.3, 33.32N×142.44E, h78km, M3.1*
ISC 23 08:44:05.0±1.6, 33.30N±0.08×142.4E±0.1, h33km, n14, σ1.9s56/18, mb3.3/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.77**	**320**	P	**Pn**		**08 44 33.5**	**+0.8**
BSO1				S	**Sn**		**08 44 56.5**	**+2.7**
JHJ2	**Mitsune**	**2.13**	**266**	P	**Pn**		**08 44 39.4**	**+1.1**
BSO3	**Boso 3**	**2.14**	**315**	P	**Pn**		**08 44 39.0**	**+0.9**
JHJ	**Hachijo jima 2**	**2.16**	**266**	Pn	**Pn**		**08 44 39.3**	**+0.6**
	13nm,0.3s,baz=130,slow=23,SNR=26							
JHJ				Sn	**Sb**		**08 45 06.3**	**-3.5**
	44nm,0.3s,baz=69,slow=23,SNR=9.0							
CHOJ	**Chosi**	**2.69**	**333**	P	**Pn**		**08 44 46.0**	**0.0**
JOD2	**Odawara 2**	**3.33**	**307**	P	**Pn**		**08 44 55.4**	**+0.6**
JAG	**Ashikaga**	**3.92**	**323**	P	**Pn**		**08 45 03.3**	**+0.4**
JRY	**Ryogami san**	**3.93**	**315**	P	**Pn**		**08 45 04.0**	**+1.0**
JFT	**Otama**	**4.52**	**339**	P	**Pn**		**08 45 10.7**	**-0.4**
JFT				S	**Sn**		**08 46 00.1**	**-2.3**
MJAR	**Matsushiro Arr**	**4.69**	**315**	Pn	**Pn**		**08 45 15.1**	**+1.6**
	1.0nm,0.3s,baz=157,slow=11,SNR=7.3							
MJAR				Sn	**Sn**		**08 46 07.4**	**+0.6**
	0.8nm,0.3s,baz=150,slow=20,SNR=3.9							
MAT	**Matsushiro**	**4.69**	**315**	P	**Pn**		**08 45 15.3**	**+1.8**
MAT				S	**Sn**		**08 46 07.8**	**+1.0**
SONM	**Songino Array**	**30.62**	**309**	P	P		08 50 19.9	+3.8
	0.2nm,0.4s,baz=104,slow=9.5,SNR=2.4							
WRA	**Warramunga Arr**	**53.50**	**189**	P	**P**		**08 53 22.2**	**-0.1**
	0.3nm,0.5s,baz=4.9,slow=7.6,SNR=5.3							
ASAR	**Alice Springs**	**57.22**	**189**	P	**P**		**08 53 49.2**	**+0.2**
	0.1nm,0.4s,baz=10,slow=6.6,SNR=2.8							

*ISCJB **23** 08:45:58.5±0.6, 52.84N±0.09×169.71W±0.09, h10km, mb3.6/5, Error ellipse: s-maj=14.0km s-min=5.0km az=154.2*
*NEIC **23** 08:45:59.2, 52.85N×169.52W, h2km, ML3.3(AEIC), After AEIC.*
*IDC **23** 08:45:59.1±1.3, 52.56N×169.37W, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.5/47, mbtmp3.5/6, ML3.2/1, Error ellipse: s-maj=50.7km s-min=23.4km az=150.0*
ISC 23 08:45:59.3±0.9, 52.91N±0.09×169.59W±0.06, h10km, n27, σ0.97/28, mb3.6/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.45**	**81**	P	**Pb**	**08 46 08.6**	**-0.8**
NIKH				S	**Sb**	**08 46 16.1**	**0.0**
OKWR	**Okmok West Rim**	**0.99**	**57**	P	**Pn**	**08 46 19.4**	**+0.1**
OKWR				S	**Sn**	**08 46 34.6**	**+1.2**
OKAK	**Okmok**	**1.00**	**47**	P	**Pg**	**08 46 17.5**	**-1.1**
OKAK				S	**Sg**	**08 46 31.3**	**-0.3**
OKCE	**Okmok Cone E**	**1.00**	**58**	P	**Pb**	**08 46 18.8**	**0.0**
OKCE				S	**Sn**	**08 46 34.5**	**+0.8**
OKTU	**Okmok Mt. Tuli**	**1.05**	**62**	P	**Pn**	**08 46 19.9**	**-0.1**
OKFG	**Magazine Ridge**	**1.13**	**63**	P	**Pb**	**08 46 20.7**	**-0.2**
OKFG				S	**Sn**	**08 46 37.6**	**+0.8**
MSOM	**Makushin Julie**	**1.83**	**59**	P	**Pn**	**08 46 31.3**	**+0.6**
MCIR	**Makushin Cirqu**	**1.92**	**56**	P	**Pb**	**08 46 33.7**	**-0.8**
MSW	**Makushin Switc**	**1.96**	**58**	P	**Pb**	**08 46 33.9**	**-1.2**
MSW				S	**Sg**	**08 47 02.1**	**-0.1**
MTBL	**Makushin Table**	**2.04**	**57**	P	**Pb**	**08 46 35.4**	**-1.1**
UNV	**Unalaska Valle**	**2.08**	**62**	P	**Pn**	**08 46 34.8**	**+0.7**
UNV				S	**Sb**	**08 47 02.4**	**-0.4**
AKGG	**Akutan Green G**	**2.51**	**57**	P	**Pb**	**08 46 42.5**	**-1.8**
AKUT	**Akutan**	**2.59**	**60**	P	**Pb**	**08 46 43.9**	**-1.9**
ATKA	**Atka Island**	**2.90**	**258**	P	**Pn**	**08 46 44.7**	**-0.8**
SPIA	**Saint Paul Isl**	**4.30**	**355**	P	**Pn**	**08 47 05.9**	**+1.2**
ILAR	**Eielson Array**	**16.59**	**35**	Pn	**P**	**08 49 53.3**	**-0.8**
	0.0nm,0.3s,baz=221,slow=9.5,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**37.79**	**218**	T	T	09 33 16.1	
	baz=24						
H11N3	**WAKE ISLAND Hy**	**37.80**	**218**	T	T	09 33 23.7	
	baz=24						
NVAR	**Mina Array Bea**	**37.81**	**91**	P	**P**	**08 53 17.4**	**+1.5**
	0.6nm,0.8s,baz=300,slow=7.5,SNR=4.4						
H11N1	**WAKE ISLAND Hy**	**37.81**	**218**	T	T	09 33 11.7	
	baz=24						
H11S1	**WAKE ISLAND Hy**	**38.98**	**217**	T	T	09 34 50.4	
	baz=23,slow=76,SNR=21						
H11S2	**WAKE ISLAND Hy**	**39.00**	**217**	T	T	09 34 42.4	
	baz=23,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**39.00**	**217**	T	T	09 34 49.4	
	baz=23,slow=76,SNR=13						
PDAR	**Pinedale Array**	**40.44**	**80**	P	**P**	**08 53 38.0**	**+0.2**
	0.5nm,0.8s,baz=336,slow=3.3,SNR=4.8						
TXAR	**Lajitas Array**	**52.87**	**89**	P	**P**	**08 55 14.9**	**-0.3**
	0.9nm,0.8s,baz=293,slow=4.9,SNR=12						
WRA	**Warramunga Arr**	**87.23**	**231**	P	**P**	**08 58 46.4**	**+0.7**
	0.2nm,0.6s,baz=35,slow=5.8,SNR=3.0						
ASAR	**Alice Springs**	**90.64**	**230**	P	**P**	**08 59 03.1**	**+1.4**
	0.6nm,0.8s,baz=28,slow=4.7,SNR=5.5						

IDC ***23*** *08:58:09.8±2.1,1°.94N×96°.59E,h0km,mb3.9/5,mb1 4.0/6, mb1mx3.7/47,mbtmp4.0/6,ML4.3/1,MS2.5/1,Ms1 2.5/1, ms1mx2.2/41,Error ellipse: s-maj=50.7km s-min=25.8km az=51.0*

ISCJB ***23*** *08:58:12.3±0.9,1°.99N±0°.10×96°.6E±0°.1,h28km,mb4.0/7, Error ellipse: s-maj=17.4km s-min=10.8km az=137.1*

NEIC ***23*** *08:58:15.4±1.8,1°.97N×96°.70E,h37km±14km,mb4.2/2, Error ellipse: s-maj=21.2km s-min=8.0km az=69.0*

ISC 23 08:58:13.9±1.2,1°.94N±0°.10×96°.6E±0°.1,h28km,n21, σ0§46/16,mb4.1/7,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.14**	**124**	*e*Pn	**Pn**	**08 58 33.9**	**-0.1**
PSI	**Prapat**	**2.45**	**69**	Pn	**Pn**	**08 58 52.1**	**-0.1**
	0.9nm,0.3s,baz=243,slow=6.8,SNR=3.6						
PSI				Sn	**Sb**	**08 59 27.6**	**+0.3**
	2.6nm,0.3s,baz=323,slow=20,SNR=4.1						
PSI				LR	LR	08 59 43.5	
	comp=Z,106nm,21.6s,baz=314,slow=38						
IPM	**Ipoh**	**5.07**	**60**	*e*Pn	**Pn**	**08 59 28.4**	**+0.3**
	12nm,0.6s						
KULM	**Kulim**	**5.22**	**50**	*e*Pn	**Pn**	**08 59 29.8**	**-0.3**
	27nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.57**	**8**	Pn	**Pn**	**09 02 05.0**	**+0.5**
	0.4nm,0.3s,baz=198,slow=11,SNR=16						
H08S2	**Diego Garcia H**	**25.89**	**248**	T	T	09 30 28.1	
	baz=68,slow=76						
H08S3	**Diego Garcia H**	**25.89**	**248**	T	T	09 30 27.3	
	baz=68,slow=76						
H08S1	**Diego Carcia H**	**25.91**	**248**	T	T	09 30 26.3	
	baz=68,slow=76						
H01W3	**Cape Leeuwin H**	**40.14**	**157**	T	T	09 48 30.6	
	baz=333,slow=76,SNR=22						
H01W2	**Cape Leeuwin H**	**40.15**	**157**	T	T	09 48 31.5	
	baz=333,slow=76,SNR=26						
H01W1	**Cape Leeuwin H**	**40.16**	**157**	T	T	09 48 28.4	
	baz=333,slow=76,SNR=30						
WRAB	**Tennant Creek**	**42.92**	**122**	*e*P	**P**	**09 06 10.5**	**-0.1**
	5.0nm,1.0s						
ASAR	**Alice Springs**	**44.30**	**127**	P	**P**	**09 06 22.1**	**+0.4**
	0.6nm,0.8s,baz=293,slow=8.7,SNR=5.5						
KSAR	**Wonju Array Be**	**45.55**	**35**	P	**P**	**09 06 30.6**	**-0.7**
KSRS	**Korea Array**	**45.58**	**35**	P	**P**	**09 06 30.6**	**-1.0**
	0.9nm,0.7s,baz=234,slow=8.3,SNR=4.8						
MK31	**Makanchi Array**	**46.39**	**346**	*e*P	**P**	**09 06 38.1**	**+0.2**
MKAR	**Makanchi Array**	**46.39**	**346**	P	**P**	**09 06 38.1**	**+0.2**
	2.4nm,0.7s,baz=160,slow=6.6,SNR=18						
SONM	**Songino Array**	**46.49**	**9**	P	**P**	**09 06 38.8**	**-0.1**
	1.2nm,0.8s,baz=190,slow=8.6,SNR=6.9						
KURK	**Kurchatov**	**50.94**	**345**	*e*P	**P**	**09 07 13.3**	**+0.6**
	1.8nm,0.7s						
ZAA0	**Zalesovo Array**	**52.74**	**351**	*e*P	**P**	**09 07 26.4**	**+0.3**
ZALV	**Zalesovo Beam**	**52.74**	**351**	P	**P**	**09 07 26.2**	**+0.1**
	3.9nm,0.8s,baz=174,slow=5.1,SNR=14						

IDC ***23*** *09:00:56.6±3.1,3°.46N×125°.66E,h59km±27km,mb3.8/11, mb1 3.9/12,mb1mx3.6/51,mbtmp4.1/12,ML4.3/1,MS2.6/2, Ms1 2.8/2,ms1mx2.3/37,Error ellipse: s-maj=43.7km s-min=11.2km az=71.0*

NEIC ***23*** *09:00:59.1±1.6,3°.45N×125°.76E,h85km±15km,mb4.1/2, Error ellipse: s-maj=34.3km s-min=9.3km az=73.0*

ISCJB ***23*** *09:01:00.2±0.4,3°.41N±0°.03×125°.94E±0°.05,h116km, mb4.0/13,Error ellipse: s-maj=6.6km s-min=4.7km az=175.4*

DJA ***23*** *09:01:00.1±0.6,3°N±4°×12°6E±°,h65km±7km,M4.6/14, mb4.7/8,mB5.1/6,MLv4.6/6,MLv4.6/14,Mw(mB)4.5/6*

ISC 23 09:01:02.2±0.5,3°.42N±0°.06×125°.99E±0°.06,h116km,n38, σ1§40/42,mb4.0/13,1C-1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.53**	**300**	P	Pn	09 01 14.4	-5.5
SGSI				S	Sn	09 01 25.5	-7.7
TNTI	**Ternate**	**2.97**	**152**	P	**Pn**	**09 01 45.3**	**-2.7**
TNTI				S	**Sn**	**09 02 21.6**	**-1.6**
TNTI	**Ternate**	**2.97**	**152**	*e*Pn	**Pn**	**09 01 45.9**	**-2.1**
TNTI				*e*Sn	**Sn**	**09 02 21.7**	**-1.5**
KMSI	**Cibinong**	**3.47**	**215**	P	**Pn**	**09 01 52.4**	**-2.1**
KMSI				S	**Sn**	**09 02 33.3**	**-1.7**
CTBH	**Cotabato--PC H**	**4.16**	**335**	*i*P	**Pn**	**09 02 01.4**	**-2.4**
LBMI	**Labuha**	**4.30**	**159**	P	**Pn**	**09 02 02.8**	**-3.0**
LBMI				S	**Sn**	**09 02 53.7**	**-1.4**
MRSI	**Marisa**	**4.99**	**234**	P	**Pn**	**09 02 14.4**	**-0.6**
	221nm,0.5s,3µm1.0nm						
LUWI	**Luwuk**	**5.48**	**216**	P	**Pn**	**09 02 19.9**	**-1.6**
	86nm,0.8s,3µm0.7nm						
LUWI				S	**Sn**	**09 03 22.6**	**-0.8**
	86nm,0.8s,3µm0.7nm						
APSI	**Ampana**	**6.11**	**225**	P	Pn	09 02 26.5	-3.6
	44nm,0.9s,715nm0.3nm0.3nm						
NLAI	**Namlea**	**6.71**	**170**	P	**Pn**	**09 02 36.6**	**-1.6**
	33nm,0.7s,2µm0.6nm						
SIJI	**Sorong**	**6.78**	**129**	P	**Pn**	**09 02 38.2**	**-1.0**
	4.9nm,0.3s,baz=166,slow=24,SNR=8.3						
SIJI				LR	LR	09 05 48.1	
	comp=Z,44nm,18.8s,baz=122,slow=41						
MPSI	**Mapaga**	**6.81**	**243**	P	**Pn**	**09 02 37.8**	**-1.8**
	18nm,0.4s,738nm0.1nm0.1nm						
FAKI	**Fak Fak**	**8.88**	**135**	P	**Pn**	**09 03 07.6**	**0.0**
	baz=8.5,SNR=9.2						
PALU	**Palau**	**9.30**	**65**	P	**Pn**	**09 03 12.1**	**-1.3**
	baz=8.8,SNR=4.9						
KDU	**Kakadu**	**17.25**	**158**	P	**Pn**	**09 04 56.5**	**+0.5**
	baz=17,SNR=3.3						
MNAI	**Manna**	**24.28**	**252**	P	P	09 06 14.6	+5.7
	baz=25,SNR=11						
WRAB	**Tennant Creek**	**24.62**	**161**	*e*P	**P**	**09 06 12.6**	**+0.7**
	1.5nm,0.4s						
WRA	**Warramunga Arr**	**24.62**	**161**	P	**P**	**09 06 11.9**	**0.0**
	1.1nm,0.5s,baz=343,slow=9.6,SNR=15						
WRA				PcP	**PcP**	**09 09 48.4**	**+1.5**
	0.5nm,0.8s,baz=320,slow=2.3,SNR=4.6						
WRA				S	S	09 10 33.1	+8.1
	1.4nm,0.8s,baz=344,slow=18,SNR=5.8						
AS31	**Alice Springs**	**28.00**	**164**	*e*P	**P**	**09 06 43.8**	**+1.4**
ASAR	**Alice Springs**	**28.01**	**164**	P	**P**	**09 06 43.2**	**+0.8**
	0.6nm,0.5s,baz=339,slow=7.1,SNR=20						
ASAR				PcP	**PcP**	**09 09 56.5**	**+1.8**
	0.7nm,0.5s,baz=344,slow=2.3,SNR=8.8						
WRKA	**Warakurna**	**28.38**	**176**	P	**P**	**09 06 47.2**	**+1.6**
	baz=28,SNR=11						
CMAR	**Chiang Mai Arr**	**30.40**	**301**	LR	LR	09 19 38.0	
	comp=Z,12nm,18.3s,baz=90,slow=37						
MEEK	**Meekatharra**	**30.72**	**193**	↓P	**P**	**09 07 07.3**	**+1.0**
	baz=31,SNR=4.6						
KSAR	**Wonju Array Be**	**33.90**	**3**	P	**P**	**09 07 34.7**	**+0.7**
KSRS	**Korea Array**	**33.92**	**3**	P	**P**	**09 07 34.7**	**+0.6**
	1.5nm,0.6s,baz=182,slow=10,SNR=8.8						
BBOO	**Buckleboo**	**37.27**	**166**	P	**P**	**09 08 04.2**	**+1.3**
	baz=37,SNR=9.6						
STKA	**Stephens Creek**	**38.11**	**158**	P	**P**	**09 08 11.2**	**+1.3**
	0.6nm,0.4s,baz=344,slow=8.7,SNR=6.1						
USRK	**Ussuriysk Ar.**	**40.95**	**7**	P	**P**	**09 08 34.0**	**+0.7**
	2.1nm,0.7s,baz=182,slow=7.2,SNR=6.2						
MK31	**Makanchi Array**	**57.39**	**326**	*e*P	**P**	**09 10 37.7**	**-0.8**
MKAR	**Makanchi Array**	**57.39**	**326**	P	**P**	**09 10 37.9**	**-0.6**
	0.3nm,0.3s,baz=116,slow=8.9,SNR=4.8						
MKAR				PcP	**PcP**	**09 11 31.4**	**+0.2**
	1.8nm,0.6s,baz=122,slow=3.7,SNR=13						
KURBB	**Kurchatov Arra**	**61.60**	**328**	P	**P**	**09 11 07.0**	**-0.3**
	1.0nm,0.6s,baz=130,slow=6.4,SNR=16						
KURK	**Kurchatov**	**61.60**	**328**	*e*P	**P**	**09 11 07.0**	**-0.4**
	2.1nm,0.5s						
ILAR	**Eielson Array**	**85.70**	**25**	P	**P**	**09 13 27.7**	**-0.1**
	0.2nm,0.4s,baz=263,slow=4.8,SNR=7.0						
ARCES	**ARCESS Array B**	**90.48**	**340**	P	**P**	**09 13 50.5**	**0.0**
	3.6nm,0.8s,baz=81,slow=5.9,SNR=3.8						
SPITS	**Spitsbergen Ar**	**90.64**	**349**	P	**P**	**09 13 51.2**	**+0.1**
	4.3nm,0.9s,baz=94,slow=6.8,SNR=5.3						
NOA	**NORSAR Array B**	**98.73**	**333**	P	**P**	**09 14 27.0**	**-1.4**
	0.5nm,0.7s,baz=67,slow=4.6,SNR=3.2						
TORD	**Torodi Ar. Bea**	**122.31**	**288**	PKP	**PKPdf**	**09 19 45.3**	**+0.7**
	0.3nm,0.5s,baz=83,slow=2.1,SNR=4.5						
TXAR	**Lajitas Array**	**122.37**	**52**	PKP	**PKPdf**	**09 19 46.5**	**+2.0**
	0.2nm,0.6s,baz=302,slow=2.0,SNR=3.4						

IDC ***23*** *09:21:59.1±1.6,52°.29N×169°.73W,h0km,mb3.8/3, mb1 4.0/4,mb1mx3.4/56,mbtmp3.7/4,ML3.4/1,MS2.8/1, Ms1 2.8/1,ms1mx2.2/39,Error ellipse: s-maj=59.4km s-min=29.7km az=143.0*

NEIC ***23*** *09:22:00.7,52°.73N×169°.67W,h5km,ML3.4(AEIC),After AEIC.*

ISC 23 09:21:58.8±1.9,52°.8N±0°.1×169°.79W±0°.07,h1km±12km, n26,σ1§07/25,mb3.8/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.61**	**68**	P	**Pg**	**09 22 11.4**	**+1.0**
NIKH				S	**Sb**	**09 22 20.5**	**-0.9**
OKWR	**Okmok West Rim**	**1.18**	**54**	P	**Pg**	**09 22 22.5**	**+1.2**
OKCE	**Okmok Cone E**	**1.19**	**55**	P	**Pg**	**09 22 21.9**	**+0.2**
OKAK	**Okmok**	**1.20**	**46**	P	**Pg**	**09 22 20.5**	**-1.2**
OKAK				S	**Sg**	**09 22 35.8**	**-1.4**
OKTU	**Okmok Mt. Tuli**	**1.23**	**58**	P	**Pg**	**09 22 22.7**	**+0.4**
OKFG	**Magazine Ridge**	**1.31**	**59**	P	**Pg**	**09 22 23.5**	**-0.4**
OKFG				S	**Sn**	**09 22 42.0**	**-0.5**
MSOM	**Makushin Julie**	**2.01**	**57**	P	**Pn**	**09 22 34.4**	**+0.5**
MCIR	**Makushin Cirqu**	**2.11**	**54**	P	**Pn**	**09 22 36.4**	**+1.0**
MSW	**Makushin Switc**	**2.15**	**56**	P	**Pn**	**09 22 36.7**	**+0.9**
MSW				S	**Sb**	**09 23 04.4**	**-1.2**
MTBL	**Makushin Table**	**2.23**	**56**	P	**Pn**	**09 22 37.9**	**+0.9**
UNV	**Unalaska Valle**	**2.26**	**60**	P	**Pn**	**09 22 37.5**	**+0.2**
UNV				S	**Sn**	**09 23 05.7**	**0.0**
ZRO	**Akutan Zero**	**2.65**	**58**	P	**Pn**	**09 22 44.2**	**+1.6**
ATKA	**Atka Island**	**2.75**	**260**	P	**Pn**	**09 22 44.1**	**+0.1**
AKUT	**Akutan**	**2.77**	**58**	*e*Pn	**Pn**	**09 22 46.1**	**+1.7**
AKUT				*e*Sn	**Sn**	**09 23 17.3**	**-1.1**
SPIA	**Saint Paul Isl**	**4.44**	**357**	P	**Pn**	**09 23 09.2**	**+2.0**
ILAR	**Eielson Array**	**16.78**	**35**	Pn	**P**	**09 25 57.9**	**+0.7**
	0.1nm,0.3s,baz=230,slow=11,SNR=5.0						
H11N2	**WAKE ISLAND Hy**	**37.60**	**218**	T	T	10 09 01.7	
	baz=24,slow=76						
H11N3	**WAKE ISLAND Hy**	**37.60**	**218**	T	T	10 09 01.9	
	baz=24,slow=76						
H11N1	**WAKE ISLAND Hy**	**37.62**	**218**	T	T	10 08 58.7	
	baz=24,slow=76						
H11S1	**WAKE ISLAND Hy**	**38.79**	**217**	T	T	10 10 25.9	
	baz=22,slow=76,SNR=72						
H11S2	**WAKE ISLAND Hy**	**38.80**	**217**	T	T	10 10 27.9	
	baz=22,slow=76,SNR=47						
H11S3	**WAKE ISLAND Hy**	**38.81**	**217**	T	T	10 10 28.3	
	baz=22,slow=76,SNR=22						
MJAR	**Matsushiro Arr**	**39.46**	**267**	LR	LR	09 44 53.8	
	comp=Z,12nm,20.5s,baz=265,slow=35						
PDAR	**Pinedale Array**	**40.59**	**79**	P	**P**	**09 29 40.4**	**+0.3**
	0.6nm,0.6s,baz=334,slow=4.0,SNR=6.1						
TXAR	**Lajitas Array**	**53.00**	**89**	P	**P**	**09 31 17.5**	**+0.3**
	1.0nm,0.7s,baz=293,slow=5.2,SNR=14						
ASAR	**Alice Springs**	**90.44**	**230**	P	**P**	**09 35 01.1**	**-0.9**
	0.9nm,0.8s,baz=33,slow=4.8,SNR=8.9						

ISCJB ***23*** *09:29:50.3±1.1,52°.8N±0°.1×169°.72W±0°.09,h4km±7km, mb3.5/7,Error ellipse: s-maj=18.4km s-min=6.0km az=157.2*

NEIC ***23*** *09:29:50.7,52°.77N×169°.59W,h2km,ML3.2(AEIC),After AEIC.*

IDC ***23*** *09:29:51.1±1.1,52°.66N×169°.61W,h0km,mb3.6/7, mb1 3.8/9,mb1mx3.5/52,mbtmp3.6/9,ML3.2/2,Error ellipse: s-maj=31.5km s-min=19.7km az=180.0*

ISC 23 09:29:50.9±2.1,52°.9N±0°.1×169°.64W±0°.06,h2km±13km, n29,σ1§11/29,mb3.6/7,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.49**	**75**	P	**Pb**	**09 30 01.2**	**-1.0**
NIKH				S	**Sb**	**09 30 09.4**	**-0.4**
OKWR	**Okmok West Rim**	**1.04**	**55**	P	**Pn**	**09 30 11.9**	**-0.7**
OKCE	**Okmok Cone E**	**1.06**	**56**	P	**Pb**	**09 30 11.6**	**-0.4**
OKAK	**Okmok**	**1.06**	**46**	P	**Pb**	**09 30 10.1**	**-1.8**
OKAK				S	**Sg**	**09 30 25.7**	**+0.8**
OKTU	**Okmok Mt. Tuli**	**1.10**	**60**	P	**Pb**	**09 30 12.7**	**-0.7**
OKFG	**Magazine Ridge**	**1.18**	**61**	P	**Pb**	**09 30 13.4**	**-0.6**
OKFG				S	**Sn**	**09 30 30.7**	**-0.3**
MSOM	**Makushin Julie**	**1.88**	**58**	P	**Pb**	**09 30 24.6**	**-1.3**
MCIR	**Makushin Cirqu**	**1.98**	**55**	P	**Pb**	**09 30 26.6**	**-1.1**
MSW	**Makushin Switc**	**2.01**	**57**	P	**Pn**	**09 30 26.3**	**+0.4**
MTBL	**Makushin Table**	**2.10**	**57**	P	**Pb**	**09 30 28.1**	**-1.6**
UNV	**Unalaska Valle**	**2.13**	**61**	P	**Pn**	**09 30 27.6**	**+0.2**
UNV				S	**Sb**	**09 30 56.1**	**-0.9**
ZRO	**Akutan Zero**	**2.52**	**59**	P	**Pb**	**09 30 34.8**	**-1.9**
AKUT	**Akutan**	**2.64**	**59**	*e*Pn	**Pb**	**09 30 36.4**	**-2.5**
AKUT				*e*Pg	**Pg**	**09 30 42.4**	**+0.9**
AKUT				*e*Sn	**Sn**	**09 31 08.1**	**+1.0**
ATKA	**Atka Island**	**2.86**	**259**	P	**Pn**	**09 30 36.6**	**-0.9**
ILAR	**Eielson Array**	**16.65**	**35**	Pn	**P**	**09 33 46.4**	**-1.2**
	0.0nm,0.3s,baz=227,slow=9.9,SNR=5.5						
PETK	**Petropavlovsk-**	**19.58**	**284**	P	**Pn**	**09 34 21.6**	**+0.4**
	0.3nm,0.3s,baz=92,slow=14,SNR=5.6						
SEY	**Seymchan**	**22.22**	**312**	P	**P**	**09 34 49.7**	**+1.3**
	1.4nm,0.6s,baz=80,slow=13,SNR=4.7						
INK	**Inuvik**	**23.04**	**34**	P	**P**	**09 34 57.7**	**+0.8**
	1.6nm,0.8s,baz=261,slow=12,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**37.73**	**218**	T	T	10 16 57.5	
	baz=24						
H11N3	**WAKE ISLAND Hy**	**37.74**	**218**	T	T	10 16 56.9	
	baz=24						
H11N1	**WAKE ISLAND Hy**	**37.75**	**218**	T	T	10 16 55.5	
	baz=24						
NVAR	**Mina Array Bea**	**37.84**	**91**	P	**P**	**09 37 09.8**	**+0.8**
	0.5nm,0.8s,baz=294,slow=8.8,SNR=4.7						
ELK	**Elko**	**38.26**	**86**	P	**P**	**09 37 13.2**	**+0.7**
	0.6nm,0.5s,baz=240,slow=9.0,SNR=3.6						
H11S1	**WAKE ISLAND Hy**	**38.92**	**217**	T	T	10 18 26.5	
	baz=22						
H11S2	**WAKE ISLAND Hy**	**38.94**	**217**	T	T	10 18 27.9	
	baz=22						
H11S3	**WAKE ISLAND Hy**	**38.94**	**217**	T	T	10 18 24.7	
	baz=22						
PDAR	**Pinedale Array**	**40.47**	**80**	P	**P**	**09 37 31.3**	**+0.3**
	0.2nm,0.4s,baz=1.1,slow=3.9,SNR=4.7						
TXAR	**Lajitas Array**	**52.90**	**89**	P	**P**	**09 39 08.0**	**-0.3**
	0.8nm,0.7s,baz=287,slow=5.5,SNR=11						
ASAR	**Alice Springs**	**90.58**	**230**	P	**P**	**09 42 54.8**	**+0.3**
	0.5nm,0.7s,baz=31,slow=4.7,SNR=8.7						

DJA 23 09:34:52.9±1.0,3°S±5°×13°6E±°,h27km±13km,M4.2/7, mb5.2/1,mB5.8/1,MLv3.7/7,Mw(mB)5.4/1,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.99**	**23**	P	Pn	09 35 10.6	-0.5
SRPI				S	Sb	09 35 22.7	-1.5
BAKI	**Biak**	**1.61**	**9**	P	Pb	09 35 21.2	-0.8
BAKI				S	Sb	09 35 40.9	-1.0
RKPI	**Ransiki, Papua**	**2.10**	**307**	P	Pn	09 35 23.3	-3.0
SMPI	**Sarmi**	**2.97**	**75**	P	Pn	09 35 38.2	0.0
FAKI	**Fak Fak**	**3.60**	**268**	P	Pn	09 35 46.9	-0.1

ISCJB ***23*** *09:41:11.7±0.8,52°.84N±0°.10×169°.70W±0°.09,h10km, mb3.5/3,Error ellipse: s-maj=15.3km s-min=6.0km az=157.7*

NEIC ***23*** *09:41:12.2,52°.75N×169°.56W,h6km,ML3.3(AEIC),After AEIC.*

IDC ***23*** *09:41:12.1±1.8,52°.06N×169°.58W,h0km,mb3.6/3, mb1 3.9/4,mb1mx3.4/38,mbtmp3.5/4,ML2.7/1,Error ellipse: s-maj=56.4km s-min=32.8km az=141.0*

ISC 23 09:41:12.3±1.0,52°.9N±0°.1×169°.66W±0°.06,h10km,n21, σ1§13/21,mb3.5/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.50**	**79**	P	**Pg**	**09 41 22.0**	**0.0**
NIKH				S	**Sb**	**09 41 29.2**	**-1.2**
OKWR	**Okmok West Rim**	**1.04**	**57**	P	**Pb**	**09 41 32.9**	**+0.5**
OKAK	**Okmok**	**1.05**	**48**	P	**Pb**	**09 41 31.0**	**-1.5**
OKAK				S	**Sg**	**09 41 44.5**	**-1.6**
OKCE	**Okmok Cone E**	**1.05**	**58**	P	**Pg**	**09 41 32.5**	**-0.1**
OKTU	**Okmok Mt. Tuli**	**1.10**	**62**	P	**Pb**	**09 41 32.8**	**-0.7**
OKFG	**Magazine Ridge**	**1.18**	**62**	P	**Pb**	**09 41 34.1**	**-0.6**
OKFG				S	**Sg**	**09 41 50.5**	**+0.3**
MSOM	**Makushin Julie**	**1.88**	**59**	P	**Pn**	**09 41 45.3**	**+0.8**
MCIR	**Makushin Cirqu**	**1.97**	**56**	P	**Pn**	**09 41 47.1**	**+1.3**
MSW	**Makushin Switc**	**2.01**	**58**	P	**Pn**	**09 41 47.3**	**+1.0**
MTBL	**Makushin Table**	**2.09**	**57**	P	**Pb**	**09 41 49.4**	**-1.0**
UNV	**Unalaska Valle**	**2.12**	**62**	P	**Pn**	**09 41 48.5**	**+0.7**
UNV				S	**Sb**	**09 42 16.2**	**-1.0**
AKRB	**Akutan Reef Bi**	**2.48**	**58**	P	**Pn**	**09 41 54.5**	**+1.8**
ATKA	**Atka Island**	**2.85**	**258**	P	**Pn**	**09 41 58.0**	**+0.2**
SPIA	**Saint Paul Isl**	**4.32**	**356**	P	**Pn**	**09 42 19.7**	**+1.7**
ILAR	**Eielson Array**	**16.63**	**35**	Pn	P	09 45 13.3	+5.6
	0.0nm,0.3s,baz=219,slow=12,SNR=5.1						
NVAR	**Mina Array Bea**	**37.85**	**91**	P	**P**	**09 48 31.0**	**+1.7**
	0.4nm,0.8s,baz=289,slow=9.1,SNR=4.0						
H11S1	**WAKE ISLAND Hy**	**38.94**	**217**	T	T	10 29 53.9	
	baz=22						
H11S2	**WAKE ISLAND Hy**	**38.95**	**217**	T	T	10 29 55.7	
	baz=22						
H11S3	**WAKE ISLAND Hy**	**38.96**	**217**	T	T	10 29 54.9	
	baz=22						
TXAR	**Lajitas Array**	**52.91**	**89**	P	**P**	**09 50 28.6**	**0.0**
	0.5nm,0.7s,baz=295,slow=5.9,SNR=6.2						
ASAR	**Alice Springs**	**90.59**	**230**	P	**P**	**09 54 13.8**	**-0.9**
	0.4nm,0.8s,baz=32,slow=5.5,SNR=4.6						

ISCJB ***23*** *09:54:59.1±1.2,54°.5S±0°.2×137°.8W±0°.5,h10km,mb3.9/4, MS3.6/10,Error ellipse: s-maj=39.2km s-min=30.3km az=15.1*

IDC ***23*** *09:54:59.3±1.3,54°.48S×137°.79W,h0km,mb3.9/4, mb1 4.2/4,mb1mx3.7/24,mbtmp3.9/4,MS3.7/9,Ms1 3.7/9, ms1mx3.5/18,Error ellipse: s-maj=50.2km s-min=38.3km az=122.0*

ISC 23 09:55:00.8±1.2,54°.5S±0°.2×137°.7W±0°.3,h10km,n28, σ0§65/5,mb4.0/4,MS3.7/10,Pacific-Antarctic Ridge

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h m s | Res

comp=Z,128nm,20.0s,baz=192,slow=43
WRA Warramunga Arr 40.21 124 P **P** 10 18 54.5 +0.5
0.9nm,0.3s,baz=304,slow=9.1,SNR=54
WRA PcP **PcP** 10 20 54.9 -0.5
0.4nm,0.5s,baz=310,slow=2.4,SNR=4.5
ASAR Alice Springs 41.75 129 P **P** 10 19 06.4 -0.2
0.6nm,0.4s,baz=302,slow=7.8,SNR=24
ASAR PcP **PcP** 10 20 59.8 -0.5
0.4nm,0.9s,baz=316,slow=3.0,SNR=4.3
SONM Songino Array 46.23 6 P **P** 10 19 42.0 0.0
0.6nm,0.5s,baz=184,slow=10,SNR=6.1
SONM PcP **PcP** 10 21 14.5 -0.7
0.5nm,0.4s,baz=200,slow=3.6,SNR=3.7
MKAR Makanchi Array 47.34 344 P **P** 10 19 50.0 -0.6
1.2nm,0.3s,baz=159,slow=8.9,SNR=11
MKAR PcP **PcP** 10 21 18.5 -0.5
0.2nm,0.3s,baz=142,slow=2.5,SNR=2.4
KURBB Kurchatov Arra 51.88 343 P **P** 10 20 24.1 -0.7
0.3nm,0.3s,baz=166,slow=7.0,SNR=6.9
ZALV Zalesovo Beam 53.42 349 P **P** 10 20 35.6 -0.5
2.5nm,0.5s,baz=179,slow=5.9,SNR=11
PETK Petropavlovsk- 69.84 33 LR LR 10 55 58.6
comp=Z,9.6nm,18.9s,baz=19,slow=38

IDC 23 10:16:06.3±26.0, 18.99S×174.18W, h0km, mb4.3/4, mb1 4.4/4, mb1mx3.8/20, mbtmp4.3/4, Error ellipse: s-maj=482.3km s-min=143.8km az=74.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.25**	**262**	P	P	10 23 20.9	+0.8
	3.0nm,0.3s,baz=90,slow=12,SNR=6.5						
STKA	**Stephens Creek**	**41.68**	**243**	P	P	10 23 56.9	0.0
	1.5nm,0.5s,baz=90,slow=10,SNR=8.8						
ASAR	**Alice Springs**	**48.38**	**255**	P	P	10 24 49.9	-0.6
	3.0nm,0.7s,baz=96,slow=7.6,SNR=52						
WRA	**Warramunga Arr**	**48.39**	**260**	P	P	10 24 50.1	-0.5
	0.9nm,0.4s,baz=96,slow=7.7,SNR=45						

IDC 23 10:19:13.6±1.3, 35.91N×141.14E, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.5/41, mbtmp3.5/6, ML3.3/2, MS2.7/3, Ms1 2.7/3, ms1mx2.4/22, Error ellipse: s-maj=33.8km s-min=23.6km az=80.0
ISCJB 23 10:19:18.8±0.7, 35.89N±0.05×140.87E±0.09, h51km±5km, mb3.5/4, MS2.9/1, Error ellipse: s-maj=12.9km s-min=6.5km az=159.1
JMA 23 10:19:19.9±0.1, 35.90N×140.83E, h41km±1km, M3.1
ISC 23 10:19:19.5±1.1, 35.91N±0.05×140.89E±0.09, h41km±9km, n15, σ0.78/18, mb3.7/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.21**	**187**	P	**Pn**	**10 19 27.0**	**0.0**
CHOJ				S	**Sn**	**10 19 32.5**	**+0.3**
JYT	**Yasato**	**0.65**	**299**	P	**Pn**	**10 19 32.0**	**-0.2**
JYT				*e*S	**Sn**	**10 19 40.7**	**-0.6**
JHO	**Hitachi**	**0.74**	**340**	P	**Pn**	**10 19 33.9**	**+0.3**
JHO				S	**Sn**	**10 19 43.9**	**+0.2**
BSO3	**Boso 3**	**1.15**	**196**	P	**Pn**	**10 19 39.6**	**+0.7**
BSO1	**Boso 1**	**1.26**	**177**	P	**Pn**	**10 19 40.6**	**+0.5**
JAG	**Ashikaga**	**1.27**	**294**	P	**Pn**	**10 19 40.8**	**0.0**
MJAR	**Matsushiro Arr**	**2.26**	**287**	Pn	**Pn**	**10 19 55.6**	**+1.3**
	7.8nm,0.3s,baz=100,slow=8.8,SNR=64						
MJAR				LR	LR	10 20 55.4	
	comp=Z,100nm,20.3s,baz=95,slow=42						
MAT	**Matsushiro**	**2.26**	**287**	P	**Pn**	**10 19 55.9**	**+1.5**
MAT				S	**Sn**	**10 20 19.6**	**-1.4**
JHJ	**Hachijo jima 2**	**2.93**	**198**	Pn	**Pn**	**10 20 03.5**	**-0.1**
	9.1nm,0.3s,baz=153,slow=22,SNR=14						
JHJ				Sn	**Sn**	**10 20 37.1**	**-0.5**
	32nm,0.3s,baz=148,slow=22,SNR=10						
KSRS	**Korea Array**	**10.53**	**282**	LR	LR	10 25 20.6	
	comp=Z,34nm,22.0s,baz=154,slow=34						
SONM	**Songino Array**	**28.08**	**306**	LR	LR	10 35 52.3	
	comp=Z,27nm,18.1s,baz=188,slow=35						
MKAR	**Makanchi Array**	**44.37**	**303**	P	**P**	**10 27 26.3**	**+0.6**
	1.0nm,0.7s,baz=86,slow=10,SNR=8.0						
ILAR	**Eielson Array**	**50.67**	**32**	P	**P**	**10 28 13.8**	**-0.6**
	0.1nm,0.6s,baz=272,slow=6.8,SNR=1.9						
WRA	**Warramunga Arr**	**55.90**	**187**	P	**P**	**10 28 52.7**	**-0.5**
	0.3nm,0.3s,baz=2.1,slow=7.6,SNR=12						
ASAR	**Alice Springs**	**59.62**	**187**	P	**P**	**10 29 19.5**	**+0.1**
	0.4nm,0.8s,baz=15,slow=7.7,SNR=3.0						

IDC 23 11:06:48.1±5.6, 52.94N×169.58W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.4/40, mbtmp3.6/3, Error ellipse: s-maj=427.4km s-min=39.6km az=162.0
NEIC 23 11:06:50.1, 52.61N×169.44W, h13km, ML3.4(AEIC), After AEIC.
ISCJB 23 11:06:51.1±1.3, 52.7N±0.1×169.4W±0.1, h26km±8km, mb3.5/3, Error ellipse: s-maj=22.0km s-min=8.1km az=150.3
ISC 23 11:06:51.5±1.5, 52.7N±0.1×169.39W±0.08, h20km±5km, n18, σ1.01/24, mb3.6/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.45**	**47**	P	**Pg**	**11 07 00.2**	**-0.5**
NIKH				S	**Sg**	**11 07 07.3**	**+0.4**
OKWR	**Okmok West Rim**	**1.05**	**43**	P	**Pb**	**11 07 11.4**	**+0.4**
OKCE	**Okmok Cone E**	**1.06**	**44**	P	**Pb**	**11 07 10.5**	**-0.8**
OKTU	**Okmok Mt. Tuli**	**1.08**	**48**	P	**Pb**	**11 07 11.2**	**-0.5**
OKTU				S	**Sb**	**11 07 26.5**	**+1.1**
OKAK	**Okmok**	**1.10**	**34**	P	**Pn**	**11 07 09.6**	**-2.3**
OKAK				S	**Sb**	**11 07 23.6**	**-2.3**
OKFG	**Magazine Ridge**	**1.16**	**50**	P	**Pn**	**11 07 12.1**	**-0.6**
OKFG				S	**Sb**	**11 07 28.1**	**+0.6**
MSOM	**Makushin Julie**	**1.86**	**51**	P	**Pn**	**11 07 22.0**	**-0.2**
MCIR	**Makushin Cirqu**	**1.97**	**48**	P	**Pn**	**11 07 24.3**	**+0.4**
MSW	**Makushin Switc**	**2.00**	**50**	P	**Pn**	**11 07 24.2**	**0.0**
MTBL	**Makushin Table**	**2.08**	**50**	P	**Pn**	**11 07 25.8**	**+0.3**
UNV	**Unalaska Valle**	**2.10**	**55**	P	**Pn**	**11 07 25.3**	**-0.2**
UNV				S	**Sn**	**11 07 50.6**	**-0.4**
AKRB	**Akutan Reef Bi**	**2.47**	**52**	P	**Pn**	**11 07 31.4**	**+0.8**
AKUT	**Akutan**	**2.62**	**54**	*e*Pn	**Pn**	**11 07 33.6**	**+1.0**
AKUT				*e*Sn	**Sn**	**11 08 03.5**	**-0.3**
ATKA	**Atka Island**	**2.98**	**263**	P	**Pn**	**11 07 36.9**	**-0.7**
SPIA	**Saint Paul Isl**	**4.54**	**354**	P	**Pn**	**11 08 01.1**	**+2.0**
PDAR	**Pinedale Array**	**40.36**	**79**	P	**P**	**11 14 28.4**	**+0.4**
	0.5nm,0.8s,baz=316,slow=6.2,SNR=3.6						
TXAR	**Lajitas Array**	**52.76**	**89**	P	**P**	**11 16 05.3**	**+0.2**
	0.5nm,0.7s,baz=303,slow=5.3,SNR=9.1						
ASAR	**Alice Springs**	**90.58**	**230**	P	**P**	**11 19 52.4**	**+0.3**
	0.3nm,0.7s,baz=32,slow=5.4,SNR=2.7						

MEX 23 11:10:07.0±1.1, 16.96N×98.94W, h4km±12km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLIG	**Tlapa**	**0.69**	**30**	*e*P	Pg	11 10 19.0	-1.5
TLIG				*i* S	Sg	11 10 28.5	-1.2
PNIG	**Pinotepa**	**0.96**	**126**	*e*P	Pg	11 10 23.6	-1.9
PNIG				*i* S	Sg	11 10 36.6	-1.4
CAIG	**El Cayaco**	**1.28**	**274**	*e*P	Pg	11 10 27.2	-4.3
CAIG				*i* S	Sg	11 10 43.5	-4.6
PLIG	**Platanillo**	**1.52**	**339**	*e*P	Pn	11 10 32.3	-2.8
PLIG				*e*S	Sn	11 10 51.3	-4.1
ARIG	**Puente Sto Nin**	**1.88**	**314**	*e*P	Pn	11 10 36.8	-3.2
ARIG				*e*S	Sn	11 11 00.1	-4.0

MAN 23 11:10:33, 17.63N×122.54E, h20km, mb4.7, ML3.5, MS3.5, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CVP	**Callao Caves**	**0.69**	**276**	*i* P	Pn	11 10 47.9	+0.3
CVP				*i* S	Sn	11 11 00.1	+2.4

BJI 23 11:19:16.5, 7.73S×130.17E, h128km, mb4.7/12, mB4.9/8
IDC 23 11:19:22.6±2.8, 6.97S×129.97E, h126km±26km, mb4.0/10, mb1 4.1/12, mb1mx3.9/22, mbtmp4.4/12, MS2.7/2, Ms1 2.8/2, ms1mx2.5/30, Error ellipse: s-maj=24.6km s-min=14.2km az=73.0
ISCJB 23 11:19:23.1±0.2, 7.07S±0.03×130.04E±0.04, h150km, mb4.3/22, Error ellipse: s-maj=5.7km s-min=3.8km az=173.4
NEIC 23 11:19:23.1±0.8, 7.06S×129.90E, h133km±8km, mb4.6/14, Error ellipse: s-maj=9.0km s-min=7.2km az=68.0
DJA 23 11:19:24.3±0.4, 7.5±3.×13.0E±.°, h176km±7km, M4.9/11, mb5.0/9, mB5.3/7, MLv5.0/11, Mw(mB)4.7/7
ISC 23 11:19:24.9±0.4, 6.97S±0.04×130.10E±0.05, h150km, n84, σ1.77/93, mb4.3/22, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.56**	**130**	P	**Pn**	**11 19 56.3**	**+1.1**
SAUI				S	**Sn**	**11 20 06.0**	**+1.7**
BNDI	**Bandanaira**	**2.43**	**355**	P	**Pn**	**11 20 07.0**	**+1.7**
AAI	**Ambon**	**3.77**	**330**	P	**Pn**	**11 20 22.5**	**+0.3**
	baz=3.8,SNR=6.4						
FAKI	**Fak Fak**	**4.55**	**28**	P	**Pn**	**11 20 32.6**	**+0.1**
FAKI				S	**Sn**	**11 21 25.3**	**+0.2**
FAKI	**Fak Fak**	**4.55**	**28**	P	**Pn**	**11 20 32.9**	**+0.4**
	baz=4.8,SNR=191						
FAKI	**Fak Fak**	**4.55**	**28**	*e*Pn	**Pn**	**11 20 33.0**	**+0.4**
FAKI				*e*Sn	**Sn**	**11 21 22.8**	**-2.3**
NLAI	**Namlea**	**4.76**	**321**	P	Pn	11 20 39.0	+3.8
MTN	**Manton Dam**	**5.93**	**170**	P	**Pn**	**11 20 47.8**	**-3.0**
	baz=5.9,SNR=489						
MTN	**Manton Dam**	**5.93**	**170**	*e*Pn	**Pn**	**11 20 47.9**	**-2.8**
KDU	**Kakadu**	**6.15**	**158**	P	**Pn**	**11 20 51.5**	**-2.1**
	baz=6.1,SNR=706						
SIJI	**Sorong**	**6.17**	**11**	P	**Pn**	**11 20 52.8**	**-1.1**
	14nm,0.3s,baz=212,slow=16,SNR=44						
SIJI				S	**Sn**	**11 22 00.1**	**-3.5**
	25nm,0.3s,baz=341,slow=22,SNR=15						
SWI	**Sorong**	**6.17**	**11**	P	**Pn**	**11 20 53.5**	**-0.5**
	57nm,0.3s,4µm1.0nm						
SWI	**Sorong**	**6.17**	**11**	P	**Pn**	**11 20 54.1**	**+0.1**
	baz=6.4,SNR=12						
SANI	**Sanana**	**6.38**	**320**	P	**Pn**	**11 20 58.7**	**+2.0**
	32nm,1.2s,574nm0.1nm						
SOEI	**Soe**	**6.40**	**244**	P	Pn	11 20 52.5	-4.7
	478nm,1.0s,9µm3.7nm						
SOEI				S	Sn	11 21 58.6	-11
	478nm,1.0s,9µm3.7nm						
SOEI	**Soe**	**6.40**	**244**	*e*Pn	Pn	11 20 52.3	-4.9
	372nm,0.8s						
SOEI				*e*Sn	Sn	11 22 00.3	-9.0
LBMI	**Labuha**	**6.80**	**337**	P	**Pn**	**11 21 04.7**	**+2.3**
	76nm,1.0s,2µm0.6nm						
MMRI	**Maumere**	**7.96**	**257**	*e*Pn	Pn	11 21 13.5	-4.4
BAKI	**Biak**	**8.29**	**47**	P	**Pn**	**11 21 22.6**	**+0.3**
	446nm,0.9s,4µm						
BAKI				S	**Sn**	**11 22 54.4**	**-0.3**
	446nm,0.9s,4µm						
KNRA	**Kununurra**	**8.76**	**188**	P	Pn	11 21 23.3	-5.2
	baz=8.6,SNR=317						
WAMI	**Wamena**	**9.10**	**71**	P	**Pn**	**11 21 32.0**	**-1.1**
	137nm,0.8s						
KAPI	**Kappang**	**10.47**	**280**	P	**Pn**	**11 21 52.7**	**+1.4**
	0.7nm,0.3s,baz=158,slow=13,SNR=3.4						
KAPI				LR	LR	11 26 08.6	
	comp=Z,56nm,19.0s,baz=111,slow=39						
GENI	**Genyem**	**10.93**	**67**	P	Pn	11 21 53.8	-3.5
JAY	**Jayapura**	**11.45**	**68**	P	P	11 22 07.8	-4.1
	1.1nm,0.3s,baz=7.0,slow=19,SNR=4.6						
WRAB	**Tennant Creek**	**13.54**	**163**	*e*Pn	Pn	11 22 24.7	-6.4
WRAB				*e*Sn	Sn	11 24 48.3	-13
WRA	**Warramunga Arr**	**13.54**	**163**	P	Pn	11 22 26.6	-4.5
	3.6nm,0.3s,baz=347,slow=13,SNR=66						
WRA				S	Sn	11 24 48.9	-12
	10nm,0.3s,baz=336,slow=23,SNR=8.2						
COEN	**Coen**	**14.61**	**119**	P	**P**	**11 22 47.9**	**+1.0**
	baz=15,SNR=11						
JAGI	**Jajag, Banyuwa**	**15.88**	**264**	P	Pn	11 22 54.9	-5.4
	baz=16,SNR=5.4						
QIS	**Mount Isa**	**16.35**	**147**	P	**P**	**11 23 06.4**	**+0.2**
	baz=16,SNR=9.0						
MYLDM	**Lahad Datu**	**16.72**	**316**	*e*Pn	**P**	**11 23 06.9**	**-3.4**
	36nm,1.2s						
AS31	**Alice Springs**	**17.00**	**168**	*e*P	**Pn**	**11 23 13.0**	**-1.0**
AS31				*e*S	S	11 26 14.1	-9.0
ASAR	**Alice Springs**	**17.00**	**168**	P	**P**	**11 23 11.1**	**-2.3**
	2.1nm,0.3s,baz=338,slow=10,SNR=78						
ASAR				S	S	11 26 11.6	-12
	3.4nm,0.3s,baz=353,slow=28,SNR=9.3						
PMG	**Port Moresby**	**17.06**		P	Pn	11 23 20.1	+5.4
	0.5nm,0.3s,baz=264,slow=10,SNR=3.7						
PMG				S	**S**	**11 26 22.6**	**-1.7**
	0.9nm,0.3s,baz=195,slow=20,SNR=4.6						
MTSU	**Mount Surprise**	**17.75**	**130**	P	**Pn**	**11 23 25.0**	**+2.1**
	baz=18,SNR=23						
WRKA	**Warakurna**	**18.05**	**185**	P	**P**	**11 23 23.8**	**-1.1**
	baz=18,SNR=64						
UGM	**Wanagama**	**19.44**	**266**	P	**P**	**11 23 38.8**	**-1.2**
	baz=19,SNR=3.6						
SBUM	**Sibu**	**20.15**	**297**	*e*P	**P**	**11 23 47.5**	**-0.1**
	30nm,1.0s						
KSM	**Kuching**	**21.46**	**292**	P	**P**	**11 24 02.6**	**+0.9**
	baz=21,SNR=5.0						
KSM	**Kuching**	**21.46**	**292**	*e*P	**P**	**11 24 00.3**	**-1.3**
	33nm,1.0s						
KSM				*e*S	**S**	**11 27 53.2**	**+2.6**
CISI	**Cisompet, Garu**	**22.11**	**267**	P	**P**	**11 24 06.4**	**-2.2**
	baz=22,SNR=3.1						
LEM	**Lembang**	**22.32**	**269**	P	**P**	**11 24 09.2**	**-1.5**
	40nm,0.8s,baz=27,slow=8.4,SNR=5.2						
MEEK	**Meekatharra**	**22.41**	**208**	P	**P**	**11 24 08.7**	**-2.6**
	baz=22,SNR=5.3						
QLP	**Quilpie**	**23.70**	**147**	P	**P**	**11 24 25.0**	**+1.9**
	baz=24,SNR=8.7						
FORT	**Forrest**	**23.77**	**184**	P	**P**	**11 24 23.6**	**-0.1**
	baz=24,SNR=9.8						
FORT	**Forrest**	**23.77**	**184**	*e*P	**P**	**11 24 23.6**	**-0.1**
	23nm,0.7s						
KMBL	**Kambalda**	**25.46**	**197**	P	**P**	**11 24 37.9**	**-1.2**
	baz=25,SNR=4.5						
MORW	**Morawa**	**25.68**	**209**	P	**P**	**11 24 38.8**	**-2.3**
	baz=26,SNR=6.4						
BLDU	**Ballidu**	**26.67**	**206**	P	**P**	**11 24 51.7**	**+1.7**
	baz=26,SNR=5.4						
STKA	**Stephens Creek**	**27.01**	**158**	P	**P**	**11 24 53.0**	**0.0**
	5.1nm,0.7s,baz=330,slow=8.9,SNR=16						
STKA	**Stephens Creek**	**27.01**	**158**	*e*P	**P**	**11 24 53.5**	**+0.5**
ARPS	**Mount Arapiles**	**31.54**	**162**	P	**P**	**11 25 34.2**	**+1.2**
	baz=32,SNR=5.4						
CMAR	**Chiang Mai Arr**	**39.78**	**310**	P	**P**	**11 26 42.2**	**-1.3**
	2.8nm,0.5s,baz=141,slow=7.9,SNR=13						
CMAR				LR	LR	11 45 22.6	
	comp=Z,7.5nm,19.3s,baz=205,slow=39						
CHTO	**Chiang Mai**	**40.00**	**310**	*e*P	**P**	**11 26 42.8**	**-2.5**
	10nm,1.1s						
GYA	**Guiyang**	**40.26**	**327**	*e*P	**P**	**11 26 47.8**	**+0.3**
GYA				pP	**pP**	**11 27 18.3**	**-2.1**
GYA				sP	**sP**	**11 27 34.5**	**-2.9**
GYA				PP	**PnPn**	**11 28 28.3**	**-0.2**
GYA				PcP	**PcP**	**11 28 50.0**	**+1.6**
GYA				ScP	**ScP**	**11 32 25.4**	**+1.6**
GYA				S	**S**	**11 32 46.5**	**+2.7**
GYA				PMZ			
	10.0nm,0.8s						
KMI	**Kunming**	**41.55**	**321**	P	**P**	**11 27 00.3**	**+2.1**
KMI				PMZ			
	6.0nm,0.7s						
MJAR	**Matsushiro Arr**	**43.94**	**9**	P	**P**	**11 27 17.3**	**+0.2**
	1.5nm,0.9s,baz=189,slow=10,SNR=4.8						
KSAR	**Wonju Array Be**	**44.22**	**357**	P	**P**	**11 27 19.9**	**+0.7**
KSRS	**Korea Array**	**44.23**	**358**	P	**P**	**11 27 19.9**	**+0.6**
	0.7nm,0.6s,baz=173,slow=10.0,SNR=4.2						
CD2	**Chengdu**	**45.33**	**328**	P	**P**	**11 27 29.0**	**+0.8**
CD2				pP	**pP**	**11 27 58.8**	**-3.0**
CD2				sP	**sP**	**11 28 13.9**	**-4.7**
CD2				PP	**PP**	**11 29 18.1**	**+0.7**
CD2				S	**S**	**11 34 01.4**	**+3.7**
CD2				sS	**sS**	**11 34 53.8**	**-2.3**
CD2				SS	**SS**	**11 37 28.3**	**+4.8**
CD2				PMZ			
	20nm,0.6s						
CD2				PMZ			
	50nm,3.5s						
CD2				LN			
	150nm,7.8s						
CD2				LZ			
	140nm,6.6s						
BJI	**Beijing**	**48.51**	**346**	P	**P**	**11 27 52.8**	**+0.2**
BJI				PMZ			
	12nm,0.9s						
LZH	**Lanzhou**	**49.42**	**332**	*e*P	**P**	**11 28 00.0**	**+0.1**
LZH				pP	**pP**	**11 28 30.5**	**-3.5**
LZH				sP	sP	11 28 45.3	-5.4
LZH				PP	**PP**	**11 29 57.4**	**+1.9**
LZH				PMZ			
	20nm,1.3s						
LZH				PMZ			
	65nm,5.2s						
LZH				LN			
	200nm,13.5s						
LZH				LE			
	210nm,14.0s						
LZH				LZ			
	280nm,18.0s						
HHC	**Hu-ho-hao-te**	**50.54**	**342**	*e*P	P	11 28 12.8	+4.7
HHC				S	S	11 35 23.3	+12
HHC				PMZ			
	21nm,1.1s						
HHC				PMZ			
	51nm,3.5s						
ULN	**Ulaanbaatar**	**58.26**	**342**	*e*P	**P**	**11 29 04.7**	**+0.9**
	5.4nm,0.6s						
SONM	**Songino Array**	**58.44**	**341**	P	**P**	**11 29 05.7**	**+0.6**
	2.1nm,0.5s,baz=158,slow=6.9,SNR=14						
WMQ	**Urumqi**	**63.42**	**327**	P	**P**	**11 29 41.4**	**+2.7**
MK31	**Makanchi Array**	**68.25**	**327**	*e*P	**P**	**11 30 09.7**	**+0.1**
MKAR	**Makanchi Array**	**68.25**	**327**	P	**P**	**11 30 09.9**	**+0.4**
	8.9nm,0.5s,baz=117,slow=8.4,SNR=84						
EKS2	**Erkin-Say**	**71.05**	**320**	*e*P	**P**	**11 30 27.6**	**+0.7**
	2.6nm,0.6s						
ZAA0	**Zalesovo Array**	**71.60**	**334**	*e*P	**P**	**11 30 28.9**	**-0.9**
ZALV	**Zalesovo Beam**	**71.60**	**334**	P	**P**	**11 30 28.9**	**-0.8**
	3.7nm,0.6s,baz=116,slow=4.9,SNR=15						
SEY	**Seymchan**	**71.75**	**11**	P	**P**	**11 30 30.1**	**-0.4**
	4.8nm,0.9s,baz=205,slow=3.5,SNR=7.2						
KURK	**Kurchatov**	**72.54**	**329**	*e*P	**P**	**11 30 35.2**	**-0.1**
	24nm,1.3s						
KKAR	**Karatay Array**	**73.38**	**319**	*e*P	**P**	**11 30 40.9**	**+0.3**
	1.3nm,0.4s						
BRVK	**Borovoye**	**78.16**	**328**	*e*P	**P**	**11 31 07.3**	**-0.1**
	8.9nm,1.0s						
ABKAR	**Akbulak array**	**82.54**	**322**	*e*P	**P**	**11 31 30.5**	**-0.5**
	1.5nm,0.5s						
ARU	**Arti**	**85.73**	**328**	*e*P	**P**	**11 31 46.3**	**-0.7**
	3.0nm,0.7s						
RAYN	**Ar Rayn**	**87.82**	**294**	*e*P	**P**	**11 31 57.2**	**-0.7**
	8.7nm,1.1s						
DHY	**Denali Highway**	**92.78**	**27**	*e*P	**P**	**11 32 22.0**	**+1.8**
	8.0nm,0.7s						
ILAR	**Eielson Array**	**93.27**	**25**	P	**P**	**11 32 21.4**	**-0.9**
	0.4nm,0.7s,baz=256,slow=4.7,SNR=5.1						
SNAA	**Sanae**	**95.72**	**193**	P	**P**	**11 32 32.6**	**-0.9**
CLL	**Collm**	**112.19**	**323**	*e*PKiKP	**PKiKP**	**11 37 45.0**	**+2.3**
TORD	**Torodi Ar. Bea**	**128.90**	**281**	PKP	**PKPdf**	**11 38 15.4**	**-0.4**
	1.7nm,1.1s,baz=69,slow=1.8,SNR=4.4						
CPUP	**Villa Florida**	**146.13**	**168**	PKPbc	**PKPab**	**11 38 49.2**	**+0.2**
	4.7nm,0.8s,baz=255,slow=2.3,SNR=8.1						
LPAZ	**La Paz**	**150.69**	**142**	PKPbc	**PKPbc**	**11 39 03.0**	**+1.9**
	1.2nm,0.4s,baz=22,slow=5.1,SNR=7.1						

ISK 23 11:23:36.1, 37.62N×39.04E, h5km, MD2.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URFA	**Urfa**	**0.25**	**225**	*e*PG	Pg	11 23 41.7	+0.6
URFA				*e*SG	Sg	11 23 46.9	+2.5
MALT	**Malatya**	**0.85**	**325**	*e*PG	Pb	11 23 53.4	-0.1
MALT				*e*SG	Sb	11 24 06.4	+1.0
MAZI	**Mazidag**	**1.13**	**97**	*e*PG	Pn	11 23 58.8	+0.1

CSEM 23 11:25:38.9, 40.32N×26.13E, h16km, MD2.4
ISK 23 11:25:38.9, 40.32N×26.13E, h16km, MD2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GADA	**Gvkgeada**	**0.22**	**235**	*e*PG	Pb	11 25 44.9	+0.4
GADA				*e*SG	Sb	11 25 48.1	-0.1
GADA	**Gvkgeada**	**0.22**	**235**	*e*Pg	Pb	11 25 44.9	+0.4
GADA				*e*Sg	Sb	11 25 48.1	-0.1
GELI	**Tayfur-Gelibol**	**0.28**	**72**	*e*PG	Pb	11 25 45.9	+0.4
GELI	**Tayfur-Gelibol**	**0.28**	**72**	*e*Pg	Pb	11 25 45.9	+0.4
ERIK	**Erikli-Kesan**	**0.46**	**39**	*e*PG	Pg	11 25 48.1	-0.1
ERIK	**Erikli-Kesan**	**0.46**	**39**	*e*Pg	Pg	11 25 48.1	0.0
LPK	**Lapseki**	**0.48**	**83**	*e*PG	Pg	11 25 48.7	+0.1
LPK	**Lapseki**	**0.48**	**83**	*e*Pg	Pg	11 25 48.7	+0.1
EZN	**Ezine**	**0.51**	**163**	*e*PG	Pg	11 25 49.2	+0.2
EZN				*e*SG	Sb	11 25 57.0	+0.4
EZN	**Ezine**	**0.51**	**163**	*e*Pg	Pg	11 25 49.2	+0.1
EZN				*e*Sg	Pg	11 25 57.0	+0.3
ALN	**Alexandroupoli**	**0.58**	**354**	*e*PG	Pg	11 25 50.3	-0.2
ALN	**Alexandroupoli**	**0.58**	**354**	*e*Pg	Pg	11 25 50.3	-0.2
RKY	**Sarkoy-Tekirda**	**0.88**	**65**	*e*PG	Pn	11 25 56.9	+0.2
RKY	**Sarkoy-Tekirda**	**0.88**	**65**	*e*Pg	Pn	11 25 56.9	+0.2
SIGR	**SIGRI**	**1.12**	**191**	*e*PN	Pg	11 26 00.5	-0.1
SIGR	**SIGRI**	**1.12**	**191**	*e*Pn	Pg	11 26 00.5	-0.1

NNC 23 11:46:22.1±2.7, 54.25N×86.18E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=22.4km s-min=18.1km az=169.0
IDC 23 11:46:23.2±2.0, 54.19N×86.05E, h0km, mb1 3.4/3, mb1mx3.1/46, mbtmp3.4/3, ML3.2/3, 6C-3D, Error ellipse: s-maj=16.6km s-min=9.5km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.77**	**252**	*i*		11 51 46.6	
	baz=66,slow=309,SNR=4.1						
ZALV	**Zalesovo Beam**	**0.77**	**252**	Pg	Pg	11 46 36.0	-1.9
	3.2nm,0.3s,baz=68,slow=16,SNR=25						
ZALV			

0.3nm,0.6s,baz=55,slow=1.3,SNR=2.2

*IDC **23** 12:01:32.7±1.0,52°.67N×169°.73W,h0km, mb3.7/6, mb1 3.9/7, mb1mx3.5/54, mbtmp3.6/7, ML3.5/1, MS3.1/3, Ms1 3.1/3, ms1mx2.5/48, Error ellipse: s-maj=32.5km s-min=20.8km az=168.0*

*ISCJB **23** 12:01:34.5±1.1, 52°.7N±0°.1×169°.68W±0°.08, h19km±8km, mb3.6/6, MS3.0/3, Error ellipse: s-maj=18.9km s-min=5.4km az=158.6*

*NEIC **23** 12:01:34.9, 52°.72N×169°.61W, h6km, ML3.4(AEIC), After AEIC.*

ISC 23 12:01:33.7±1.6, 52°.7N±0°.1×169°.71W±0°.06, h6km±10km, n34, σ0°92/31, mb3.6/6, MS2.8/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.57**	**64**	P		**Pg**		**12 01 44.9**	**+0.1**
NIKH				S		**Sg**		**12 01 53.1**	**+0.9**
OKWR	**Okmok West Rim**	**1.15**	**51**	P		**Pg**		**12 01 56.3**	**+0.2**
OKWR				S		**Sb**		**12 02 11.7**	**+0.4**
OKCE	**Okmok Cone E**	**1.17**	**52**	P		**Pg**		**12 01 55.9**	**-0.1**
OKTU	**Okmok Mt. Tuli**	**1.20**	**56**	P		**Pg**		**12 01 56.8**	**0.0**
OKFG	**Magazine Ridge**	**1.28**	**57**	P		**Pg**		**12 01 57.1**	**-1.1**
OKFG				S		**Sg**		**12 02 14.3**	**-0.6**
MSOM	**Makushin Julie**	**1.98**	**55**	P		**Pn**		**12 02 07.9**	**+0.1**
MCIR	**Makushin Cirqu**	**2.09**	**53**	P		**Pn**		**12 02 10.5**	**+1.2**
MSW	**Makushin Switc**	**2.12**	**55**	P		**Pn**		**12 02 10.0**	**+0.3**
MSW				S		**Sn**		**12 02 37.1**	**+0.7**
MTBL	**Makushin Table**	**2.20**	**54**	P		**Pn**		**12 02 11.4**	**+0.5**
UNV	**Unalaska Valle**	**2.23**	**58**	P		**Pn**		**12 02 10.9**	**-0.2**
UNV				S		**Sn**		**12 02 38.5**	**-0.5**
ZRO	**Akutan Zero**	**2.62**	**57**	P		**Pn**		**12 02 17.9**	**+1.3**
AKGG	**Akutan Green G**	**2.67**	**55**	P		**Pn**		**12 02 18.3**	**+1.1**
AKUT	**Akutan**	**2.75**	**57**	P		**Pn**		**12 02 19.8**	**+1.5**
ATKA	**Atka Island**	**2.79**	**261**	P		**Pn**		**12 02 19.1**	**+0.1**
ATKA				S		**Sn**		**12 02 53.9**	**+1.0**
GSMY	**Great Sitkin M**	**3.95**	**263**	P		**Pn**		**12 02 35.5**	**+0.7**
FALS	**False Pass**	**4.30**	**58**	*e*Pn		**Pn**		**12 02 41.0**	**+1.5**
FALS				*e*Sn		**Sn**		**12 03 29.7**	**-0.3**
SPIA	**Saint Paul Isl**	**4.47**	**356**	P		**Pn**		**12 02 42.8**	**+0.8**
ILAR	**Eielson Array**	**16.78**	**35**	Pn		**Pn**		**12 05 26.6**	**-2.4**
	0.1nm,0.3s,baz=228,slow=11,SNR=7.4								
H02S1	**DAWSON INLET T**	**22.27**	**74**	T		T		12 28 53.9	
	SNR=4.5								
SEY	**Seymchan**	**22.28**	**312**	P		**P**		**12 06 31.4**	**+0.2**
	1.4nm,0.8s,baz=73,slow=20,SNR=3.4								
DLBC	**Dease Lake**	**22.88**	**60**	LR		LR		12 15 26.0	
	comp=Z,28nm,18.8s,baz=176,slow=36								
INK	**Inuvik**	**23.16**	**34**	LR		LR		12 16 33.7	
	comp=Z,33nm,18.4s,baz=262,slow=39								
H11N2	**WAKE ISLAND Hy**	**37.61**	**218**	T		T		12 48 34.5	
	baz=21								
H11N3	**WAKE ISLAND Hy**	**37.61**	**218**	T		T		12 48 36.9	
	baz=21								
H11N1	**WAKE ISLAND Hy**	**37.62**	**218**	T		T		12 48 36.5	
	baz=21								
NVAR	**Mina Array Bea**	**37.88**	**91**	P		**P**		**12 08 50.7**	**-0.9**
	0.4nm,0.7s,baz=289,slow=8.2,SNR=4.8								
H11S1	**WAKE ISLAND Hy**	**38.80**	**217**	T		T		12 50 07.6	
	baz=19,slow=76								
H11S2	**WAKE ISLAND Hy**	**38.81**	**217**	T		T		12 50 03.4	
	baz=19,slow=76								
H11S3	**WAKE ISLAND Hy**	**38.81**	**217**	T		T		12 50 07.6	
	baz=19,slow=76								
PDAR	**Pinedale Array**	**40.54**	**79**	P		**P**		**12 09 14.1**	**+0.3**
	0.8nm,0.7s,baz=337,slow=4.5,SNR=7.7								
TXAR	**Lajitas Array**	**52.95**	**89**	P		**P**		**12 10 51.5**	**+0.6**
	0.8nm,0.8s,baz=299,slow=6.2,SNR=11								
BVAR	**Borovoye Array**	**63.29**	**324**	LR		LR		12 42 17.5	
	comp=Z,33nm,21.8s,baz=252,slow=39								
WRA	**Warramunga Arr**	**87.06**	**231**	P		**P**		**12 14 20.3**	**+0.2**
	0.4nm,0.7s,baz=33,slow=5.0,SNR=3.1								
ASAR	**Alice Springs**	**90.47**	**230**	P		**P**		**12 14 35.2**	**-0.9**
	0.6nm,0.6s,baz=33,slow=4.6,SNR=8.8								

DJA 23 12:12:21.3±0.5, 1°S±6°×13°1E±°, h19km±7km, M3.8/5, MLv3.8/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SWI	**Sorong**	**0.16**	**262**	P		Pg		12 12 25.9	+0.1
SWI				S		Sg		12 12 31.7	+2.8
FAKI	**Fak Fak**	**2.23**	**158**	P		Pn		12 12 57.2	0.0
FAKI				S		Sn		12 13 25.8	+1.6
RKPI	**Ransiki, Papua**	**2.84**	**104**	P		Pn		12 13 04.3	-1.3
RKPI				S		Sb		12 13 45.0	-0.8

*ISCJB **23** 12:22:56.1±0.3, 2°.83S±0°.03×128°.02E±0°.03, h38km, mb4.1/5, MS3.0/3, Error ellipse: s-maj=4.7km s-min=3.7km az=29.3*

*DJA **23** 12:22:56.2±0.2, 3°S±2°×12°8E±°, h10km, M4.3/14, mb4.6/9, mB4.9/4, MLv4.2/14, Mw(mB)4.2/4*

*IDC **23** 12:22:59.0±3.6, 2°.94S×128°.15E, h56km±34km, mb3.7/4, mb1 4.0/6, mb1mx3.5/43, mbtmp4.1/6, ML4.4/2, MS2.9/5, Ms1 2.9/5, ms1mx2.6/39, Error ellipse: s-maj=28.5km s-min=10.2km az=84.0*

ISC 23 12:22:57.5±0.6, 2°.82S±0°.04×128°.00E±0°.04, h38km, n39, σ1s72/44, mb4.0/5, MS3.0/3, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.89**	**167**	P			**Pn**	**12 23 13.1**	**-0.3**
	baz=0.7,SNR=116								
NLAI	**Namlea**	**0.99**	**245**	P			**Pn**	**12 23 15.9**	**+1.0**
NLAI				S			**Sn**	**12 23 30.8**	**+3.1**
SANI	**Sanana**	**2.15**	**291**	P			**Pn**	**12 23 30.7**	**-0.1**
SANI				S			**Sn**	**12 23 56.1**	**-0.1**
LBMI	**Labuha**	**2.22**	**347**	P			**Pn**	**12 23 32.5**	**+0.7**
LBMI				S			**Sn**	**12 23 59.6**	**+1.6**
BNDI	**Bandanaira**	**2.55**	**132**	P			**Pn**	**12 23 37.4**	**+1.2**
BNDI				S			**Sn**	**12 24 10.5**	**+4.5**
TNTI	**Ternate**	**3.62**	**350**	P			**Pn**	**12 23 51.0**	**0.0**
SWI	**Sorong**	**3.79**	**59**	P			**Pn**	**12 23 52.9**	**-0.4**
SWI				S			**Sn**	**12 24 38.1**	**+1.4**
SWI	**Sorong**	**3.79**	**59**	P			**Pn**	**12 23 54.0**	**+0.6**
	baz=3.8,SNR=17								
SIJI	**Sorong**	**3.79**	**59**	P			**Pn**	**12 23 53.9**	**+0.5**
	26nm,0.3s,baz=231,slow=10,SNR=73								
SIJI				S			**Sn**	**12 24 37.5**	**+0.7**
	7.7nm,0.3s,baz=22,slow=20,SNR=23								
SIJI				LR			LR	12 26 00.1	
	comp=Z,128nm,21.1s,baz=44,slow=48								
FAKI	**Fak Fak**	**4.24**	**92**	P			**Pn**	**12 23 59.4**	**-0.2**
FAKI	**Fak Fak**	**4.24**	**92**	P			**Pn**	**12 23 59.8**	**+0.2**
	baz=4.1,SNR=33								
KMSI	**Cibinong**	**5.24**	**310**	P			**Pn**	**12 24 14.2**	**+0.9**
	119nm,1.0s,1.9nm								
KMSI				S			**Sn**	**12 25 10.2**	**-2.4**
	119nm,1.0s,1.9nm								
LUWI	**Luwuk**	**5.51**	**289**	P			**Pn**	**12 24 19.6**	**+2.5**
	52nm,0.9s,0.4nm								
LUWI				S			**Sn**	**12 25 20.3**	**+1.0**
	52nm,0.9s,0.4nm								
LUWI	**Luwuk**	**5.51**	**289**	P			Pn	12 24 21.5	+4.4
	baz=5.7,SNR=3.5								
APSI	**Ampana**	**6.62**	**286**	P			**Pn**	**12 24 34.1**	**+1.8**
	141nm,0.6s,1μm0.5nm								
APSI				S			**Sn**	**12 25 48.3**	**+1.7**
	141nm,0.6s,1μm0.5nm								
MRSI	**Marisa**	**6.88**	**298**	P			**Pn**	**12 24 36.2**	**+0.3**
	12nm,0.5s,554nm0.2nm								
BAKI	**Biak**	**8.26**	**79**	P			**Pn**	**12 24 55.4**	**+0.6**
	54nm,1.5s								
SPSI	**Sidrap Palu**	**8.30**	**262**	P			Pn	12 24 59.6	+4.3
	16nm,1.4s								
PCI	**Palu**	**8.38**	**283**	P			**Pn**	**12 24 58.7**	**+2.3**
	51nm,0.8s,650nm								
KAPI	**Kappang**	**8.52**	**255**	LR			LR	12 28 46.0	
	comp=Z,57nm,18.7s,baz=112,slow=40								
MPSI	**Mapaga**	**8.69**	**291**	P			**Pn**	**12 25 03.1**	**+2.5**
MTN	**Manton Dam**	**10.44**	**163**	P			**Pn**	**12 25 22.3**	**-2.3**
	baz=10,SNR=3.6								
KDU	**Kakadu**	**10.76**	**156**	P			**Pn**	**12 25 30.4**	**+1.4**
	baz=11,SNR=4.1								
KNRA	**Kununurra**	**12.80**	**177**	P			**Pn**	**12 25 59.2**	**+2.2**
	baz=13,SNR=4.2								
WRA	**Warramunga Arr**	**18.11**	**160**	P			**Pn**	**12 27 04.3**	**-1.9**
	1.4nm,0.3s,baz=342,slow=12,SNR=69								
WRA				S			**Sn**	**12 30 24.8**	**-2.7**
	0.1nm,0.3s,baz=327,slow=25,SNR=2.7								
PMG	**Port Moresby**	**20.13**	**110**	LR			LR	12 37 15.2	
	comp=Z,64nm,18.2s,baz=54,slow=43								
QIS	**Mount Isa**	**20.95**	**148**	P			**P**	**12 27 36.1**	**-1.2**
	baz=21,SNR=3.4								
ASAR	**Alice Springs**	**21.50**	**165**	P			**P**	**12 27 42.7**	**-0.5**
	12nm,0.6s,baz=346,slow=11,SNR=109								
ASAR				S			**S**	**12 31 36.5**	**-3.3**
	2.0nm,1.0s,baz=346,slow=21,SNR=11								
WRKA	**Warakurna**	**22.09**	**179**	P			**P**	**12 27 50.4**	**+0.8**
	baz=22,SNR=15								
GUMO	**Guam**	**23.36**	**45**	LR			LR	12 38 07.3	
	comp=Z,15nm,18.9s,baz=186,slow=39								
MEEK	**Meekatharra**	**25.34**	**200**	P			**P**	**12 28 19.6**	**-1.4**
	baz=25,SNR=6.5								
BBOO	**Buckleboo**	**30.78**	**167**	P			**P**	**12 29 08.4**	**-1.1**
	baz=31,SNR=5.6								
STKA	**Stephens Creek**	**31.61**	**158**	P			**P**	**12 29 14.2**	**-2.7**
	0.8nm,0.4s,baz=333,slow=7.1,SNR=6.0								
HTT	**Hallett**	**32.13**	**163**	P			**P**	**12 29 22.2**	**+0.8**
	baz=32,SNR=3.7								
ARPS	**Mount Arapiles**	**36.12**	**161**	P			**P**	**12 29 56.4**	**+0.5**
	baz=36,SNR=5.6								
LZH	**Lanzhou**	**44.80**	**332**	*e*P			**P**	**12 31 06.8**	**-1.1**
LZH				pP			pP	12 31 12.1	-6.8
LZH				sP			sP	12 31 15.0	-8.4
LZH				pmax			pmax		
	comp=Z,22nm,1.0s								
LZH				pmax			pmax		
	comp=Z,85nm,4.0s								
MKAR	**Makanchi Array**	**63.66**	**327**	P			**P**	**12 33 25.4**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=119,slow=12,SNR=3.6								
KURBB	**Kurchatov Arra**	**67.92**	**329**	P			**P**	**12 33 53.5**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=127,slow=6.1,SNR=4.1								
ARU	**Arti**	**81.12**	**328**	LR			LR	13 15 15.9	
	comp=Z,16nm,18.1s,baz=142,slow=39								

*CSEM **23** 12:23:37.6, 46°.87N×8°.60E, h1km, ML1.2/5, Suspected Mining explosion.*

ZUR 23 12:23:37.6, 46°.87N×8°.60E, h1km±3km, ML1.2/5, 10C, Suspected Mining explosion., Switzerland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MUO	**Muotathal**	**0.10**	**13**	⇑*i*Pg			Pg	12 23 40.1	+0.3
	299nm,0.5s								
MUO	**Muotathal**	**0.10**	**13**	⇑*i*Pg			Pg	12 23 40.1	+0.3
	299nm,0.5s								
BNALP	**Bannalp**	**0.12**	**269**	⇑*i*Pg			Pg	12 23 40.5	+0.3
	192nm,0.4s								
BNALP				*e*Sg			Sg	12 23 42.4	+0.4
	192nm,0.4s								
BNALP	**Bannalp**	**0.12**	**269**	⇑*i*Pg			Pg	12 23 40.5	+0.3
	192nm,0.4s								
BNALP				*e*Sg			Sg	12 23 42.4	+0.4
	192nm,0.4s								
CURA	**Stauanlage Cun**	**0.25**	**163**	⇑*i*Pg			Pg	12 23 43.1	+0.4
	35nm,0.5s								
CURA	**Stauanlage Cun**	**0.25**	**163**	⇑*i*Pg			Pg	12 23 43.1	+0.4
	35nm,0.5s								
CUNA	**Curaglia**	**0.26**	**140**	⇑*i*Pg			Pg	12 23 42.9	+0.1
	35nm,0.2s								
CUNA				*e*Sg			Sg	12 23 46.7	+0.3
	35nm,0.2s								
CUNA	**Curaglia**	**0.26**	**140**	⇑*i*Pg			Pg	12 23 42.9	+0.1
	35nm,0.2s								
CUNA				*e*Sg			Sg	12 23 46.7	+0.3
	35nm,0.2s								
HASLI	**Hasliberg/Brie**	**0.33**	**250**	*e*Sg			Sg	12 23 44.9	-3.7
	143nm,0.4s								
HASLI	**Hasliberg/Brie**	**0.33**	**250**	*e*Sg			Sg	12 23 44.9	-3.7
	143nm,0.4s								
PIORA	**Tunnel**	**0.36**	**160**	⇑*i*Pg			Pn	12 23 49.3	-0.7
	14nm,0.2s								
PIORA	**Tunnel**	**0.36**	**160**	⇑*i*Pg			Pn	12 23 49.3	-0.7
	14nm,0.2s								

*NIED **23** 12:23:00, 43°.00N×143°.90E, h101km, Mw3.9 Best double couple: M0 8.38000×10^14 NP1:ϕs103.00000°, δ46.00000°, λ-47.00000°. NP2:ϕs230.00000°, δ59.00000°, λ-125.00000°.*

*MOS **23** 12:23:56.6±1.4, 43°.06N×143°.70E, h108km, mb4.0/14, Error ellipse: s-maj=12.8km s-min=7.3km az=90.6*

*ISCJB **23** 12:23:56.6±0.3, 42°.94N±0°.03×143°.89E±0°.04, h113km±2km, mb3.9/20, Error ellipse: s-maj=5.5km s-min=3.7km az=142.5*

*IDC **23** 12:23:57.8±0.9, 42°.95N×143°.81E, h105km±8km, mb3.7/17, mb1 3.8/20, mb1mx3.7/43, mbtmp4.1/20, MS2.3/1, Ms1 2.3/1, ms1mx2.0/35, Error ellipse: s-maj=15.4km s-min=12.9km az=164.0*

*SKHL **23** 12:23:58.6±0.2, 43°.05N×143°.97E, h115km±5km, msh4.6/1*

*JMA **23** 12:23:58.0±0.1, 42°.96N×143°.87E, h105km±1km, M3.7 Broadband fault plane solution: P waves. NP1: ϕs259.00000°, δ51.00000°, λ-105.00000°. NP2: ϕs103.00000°, δ41.00000°, λ-72.00000°. Principal axes: T Plg5.0000°, Azm0.0000°; N Plg12.0000°, Azm269.0000°; P Plg77.0000°, Azm112.0000°;*

JMA Felt II J1.

ISC 23 12:23:57.7±0.5, 42°.99N±0°.04×143°.83E±0°.03, h106km±5km, n85, σ1s31/109, mb3.9/20, 7C-13D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JOB	**Onbets**	**0.08**	**179**	⇓P			**Pn**	**12 24 12.9**	**+0.6**
JOB				*e*S			**Sn**	**12 24 23.9**	**+0.7**
JAR	**Ashorobuto**	**0.31**	**352**	⇓P			**Pn**	**12 24 13.5**	**+0.5**
JAR				*e*S			**Sn**	**12 24 25.0**	**+0.5**
JCH	**Churui**	**0.51**	**223**	⇓P			**Pn**	**12 24 14.2**	**+0.1**
JCH				*e*S			**Sn**	**12 24 25.7**	**-0.7**
JAK	**Akkeshi**	**0.63**	**89**	⇓P			**Pn**	**12 24 14.8**	**-0.2**
JAK				*e*S			**Sn**	**12 24 27.6**	**-0.5**
JNK	**Nakash**	**0.88**	**47**	⇑P			**Pn**	**12 24 17.4**	**+0.1**
JNK				*e*S			**Sn**	**12 24 32.0**	**-0.1**
JFR	**Furan**	**0.93**	**281**	⇓P			**Pn**	**12 24 18.1**	**+0.3**
JFR				*e*S			**Sn**	**12 24 34.0**	**+1.1**
JTKR	**Abashiri--Toko**	**0.98**	**3**	⇑P			**Pn**	**12 24 19.3**	**+0.9**
JTKR				*e*S			**Sn**	**12 24 34.7**	**+0.8**
JNBK	**Urakawa-nobuka**	**1.06**	**229**	⇓P			**Pn**	**12 24 19.3**	**+0.1**
JNBK				*e*S			**Sn**	**12 24 34.8**	**-0.7**
JMP	**Maruseppu**	**1.08**	**342**	⇓P			**Pn**	**12 24 20.2**	**+0.8**
JMP				*e*S			**Sn**	**12 24 36.3**	**+0.5**
JEM	**Erimo**	**1.09**	**207**	P			**Pn**	**12 24 20.6**	**+1.1**
ERM	**Erimo**	**1.09**	**207**	*d*iPN			**Pn**	**12 24 20.8**	**+1.3**
ERM	**Erimo**	**1.09**	**207**	*e*P			**Pn**	**12 24 20.8**	**+1.3**
JBT2	**Biratori 2**	**1.10**	**260**	⇓P			**Pn**	**12 24 20.1**	**+0.5**
JBT2				*e*S			**Sn**	**12 24 37.3**	**+1.2**
JKK2	**Kamakawa 2**	**1.19**	**319**	⇓P			**Pn**	**12 24 21.7**	**+1.1**
JKK2				*e*S			**Sn**	**12 24 39.0**	**+1.1**
JRA	**Rausu**	**1.34**	**44**	P			**Pn**	**12 24 22.8**	**+0.6**
JRA				*e*S			**Sn**	**12 24 41.7**	**+0.8**
NEM2	**Nemuro 2**	**1.45**	**74**	⇓P			**Pn**	**12 24 23.0**	**-0.6**
NEM2				*e*S			**Sn**	**12 24 41.2**	**-2.0**
JHR	**Hokuryu**	**1.71**	**297**	P			**Pn**	**12 24 28.6**	**+1.8**
JHR				*e*S			**Sn**	**12 24 52.9**	**+3.9**
JEW	**Eniwo**	**1.76**	**266**	⇓P			**Pn**	**12 24 28.6**	**+1.2**
YUK	**Yuzh-Kuril'sk**	**1.81**	**54**	*c*iPN			**Pn**	**12 24 28.9**	**+0.9**
YUK				*i* S			**Sn**	**12 24 51.8**	**+0.6**
YUK				pmax			pmax		
	comp=Z,183nm,0.5s								
YUK				pmax			pmax		
	comp=E,101nm,0.2s								
YUK				pmax			pmax		
	comp=N,136nm,0.5s								
YUK				smax			smax		
	comp=N,784nm,0.5s								
YUK				smax			smax		
	comp=E,578nm,0.5s								
YUK	**Yuzh-Kuril'sk**	**1.81**	**54**	⇑*i*P			**Pn**	**12 24 28.9**	**+0.9**
YUK				AMB			AMB	12 24 32.2	
	comp=E,140nm,0.4s								
YUK				AMB			AMB	12 24 32.2	
	comp=E,100nm,0.4s								
YUK				AMB			AMB	12 24 32.2	
	comp=E,180nm,0.4s								
YUK				*i* S			**Sn**	**12 24 51.8**	**+0.6**
YUK				A			A	12 24 52.9	
	comp=E,600nm,0.7s								
YUK				A			A	12 24 53.0	
	comp=E,780nm,0.5s								
YUK				A			A	12 24 53.0	
	comp=E,580nm,0.5s								
SHO	**Shikotan**	**2.35**	**67**	*e*P			**Pn**	**12 24 34.6**	**-0.4**
SHO				*e*S			**Sn**	**12 25 01.5**	**-2.2**
SHO				A			A	12 25 02.0	
	comp=E,600nm,0.3s								
KUR	**Kuril'sk**	**3.67**	**51**	⇓*i*PN			**Pn**	**12 24 53.4**	**+0.9**
KUR				*e*S			**Sn**	**12 25 36.2**	**+1.3**
KUR				pmax			pmax		
	comp=Z,16nm,0.6s								
KUR				pmax			pmax		
	comp=N,4.0nm,0.3s								
KUR				pmax			pmax		
	comp=E,6.0nm,0.2s								
KUR				smax			smax		
	comp=E,16nm,0.2s								
KUR				smax			smax		
	comp=N,46nm,0.3s								
KUR	**Kuril'sk**	**3.67**	**51**	⇑*i*P			**Pn**	**12 24 53.2**	**+0.7**
KUR				AMB			AMB	12 24 54.5	
	comp=N,10.0nm,0.5s								
KUR				AMB			AMB	12 24 54.5	
	comp=N,20nm,0.5s								
KUR				*i* S			**Sn**	**12 25 35.9**	**+1.0**
KUR				A			A	12 25 41.7	
	comp=N,130nm,0.4s								
KUR				A			A	12 25 41.7	
	comp=N,40nm,0.4s								
YSS	**Yuzh-Sakhalins**	**4.04**	**349**	⇑*i*PN			**Pn**	**12 24 58.6**	**+1.2**
YSS				*e*S			**Sn**	**12 25 45.0**	**+1.3**
YSS				pmax			pmax		
	comp=Z,100nm,0.8s								
YSS				smax			smax		
	comp=N,60nm,1.0s								
YSS	**Yuzh-Sakhalins**	**4.04**	**349**	⇑*i*P			**Pn**	**12 24 58.3**	**+0.9**
YSS				*e*S			**Sn**	**12 25 45.0**	**+1.3**
YSS				A			A	12 25 47.5	
	comp=N,60nm,1.0s								
UGL	**Uglegorsk**	**6.21**	**349**	*e*PN			Pn	12 25 23.2	-3.6
UGL				*e*S			**Sn**	**12 26 31.4**	**-4.9**
UGL	**Uglegorsk**	**6.21**	**349**	*e*P			**Pn**	**12 25 24.9**	**-1.9**
UGL				AMB			AMB	12 25 25.3	
	comp=N,50nm,0.3s								
UGL				*e*S			**Sn**	**12 26 34.0**	**-2.3**
MAJO	**Matsushiro**	**7.76**	**216**	*e*PN			**Pn**	**12 25 47.1**	**-0.8**
MAJO	**Matsushiro**	**7.76**	**216**	*e*P			**Pn**	**12 25 47.1**	**-0.8**
MAJO				AMB			AMB	12 25 50.8	
	comp=N,110nm,0.4s								
MAT	**Matsushiro**	**7.76**	**216**	P			**Pn**	**12 25 47.0**	**-0.9**
MAT				*e*S			**Sn**	**12 27 16.1**	**+2.1**
MJAR	**Matsushiro Arr**	**7.76**	**216**	P			**Pn**	**12 25 47.5**	**-0.4**
	comp=N,1.4nm,0.3s,baz=28,slow=13,SNR=27								
MJAR				LR			LR	12 29 04.8	
	comp=N,23nm,20.8s,baz=115,slow=40								
MJAR	**Matsushiro Arr**	**7.76**	**216**	PN			**Pn**	**12 25 47.5**	**-0.4**
MJAR				pmax			pmax		
	comp=Z,1.0nm,0.3s								
MJAR				MLR			MLR		
	comp=Z,23nm,20.8s								
HABR	**Khabarovsk**	**8.23**	**315**	*e*PN			**Pn**	**12 25 51.5**	**-2.7**
HABR				S			**Sn**	**12 27 21.3**	**-4.1**
HABR				pmax			pmax		
	comp=Z,12nm,2.4s								
HABR	**Khabarovsk**	**8.23**	**315**	*e*P			**Pn**	**12 25 51.5**	**-2.7**
HABR				AMB			AMB	12 25 52.7	
	comp=Z,10.0nm,2.4s								
JHJ	**Hachijo jima 2**	**10.35**	**199**	P			Pn	12 26 19.8	-3.3
	comp=Z,11nm,0.3s,baz=280,slow=22,SNR=11								
JHJ				S			Sn	12 28 07.0	-10
	comp=Z,7.2nm,0.3s,baz=82,slow=23,SNR=7.5								
KLR	**Kul'dur**	**10.45**	**311**	*e*PN			**Pn**	**12 26 24.2**	**-0.1**
KLR	**Kul'dur**	**10.45**	**311**	*e*P			**Pn**	**12 26 24.2**	**-0.1**
EKMR	**Ekimchan**	**12.43**	**328**	*e*P			Pn	12 26 54.7	+4.0
PETK	**Petropavlovsk-**	**13.71**	**38**	P			**Pn**	**12 27 08.4**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=217,slow=12,SNR=3.7								
JCJ	**Chichijima**	**15.91**	**185**	P			**Pn**	**12 27 33.8**	**-1.7**
	comp=Z,3.2nm,0.3s,baz=168,slow=19,SNR=16								
SEY	**Seymchan**	**20.60**	**11**	P			**P**	**12 28 26.0**	**-2.0**
	comp=Z,5.5nm,0.8s,baz=196,slow=11,SNR=16								
SEY	**Seymchan**	**20.60**	**11**	*e*P			**P**	**12 28 26.1**	**-1.9**
SEY	**Seymchan**	**20.60**	**11**	*e*P			**P**	**12 28 26.1**	**-1.9**
HHC	**Hu-ho-hao-te**	**24.03**	**276**	*e*P			**P**	**12 29 00.3**	**-2.5**
HHC				PP			**PnPn**	**12 29 37.8**	**-0.5**
HHC				S			S	12 33 05.0	-7.4
HHC				sS			sS	12 33 41.3	-11
HHC				SS			**SnSn**	**12 34 01.8**	**-3.0**
HHC				pmax			pmax		
	comp=Z,19nm,1.1s								
HHC				pmax			pmax		
	comp=Z,89nm,5.1s								
ULN	**Ulaanbaatar**	**26.10**	**294**	*e*P			**P**	**12 29 20.8**	**-0.8**
ULN				pmax			pmax		
	comp=Z,2.0nm,1.2s								
ULN	**Ulaanbaatar**	**26.10**	**294**	*e*P			**P**	**12 29 20.8**	**-0.8**
SONM	**Songino Array**	**26.55**	**294**	P			**P**	**12 29 26.6**	**+1.0**
	comp=Z,3.4nm,0.8s,baz=87,slow=8.8,SNR=19								
SONM	**Songino Array**	**26.55**	**294**	P			**P**	**12 29 26.6**	**

comp=Z,0.5nm,0.8s,baz=8.5,slow=6.8,SNR=5.0
WRA Warramunga Arr 63.22 190 P **P** **12 34 14.4 -0.3**
WRA pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 64.43 332 P **P** **12 34 21.6 -0.6**
comp=Z,1.9nm,0.7s,baz=54,slow=7.0,SNR=9.0
FINES FINESS Array B 64.43 332 P **P** **12 34 21.6 -0.6**
FINES pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 66.95 190 P **P** **12 34 39.5 +0.7**
comp=Z,0.4nm,0.8s,baz=11,slow=6.6,SNR=4.1
NB2 NORSAR Subarra 69.41 338 P **P** **12 34 54.2 +0.4**
comp=Z,0.6nm,0.5s,baz=35,slow=6.2
NOA NORSAR Array B 69.41 338 P **P** **12 34 53.8 0.0**
comp=Z,0.3nm,0.4s,baz=23,slow=5.0,SNR=5.2
NOA NORSAR Array B 69.41 338 P **P** **12 34 53.8 0.0**
NOA pmax pmax
comp=Z,1.0nm,0.7s
NVAR Mina Array Bea 70.02 56 P **P** **12 34 59.5 +1.3**
comp=Z,0.8nm,0.6s,baz=287,slow=5.9,SNR=9.4
AKASG Malin Array Be 70.73 322 P **P** **12 35 01.8 -0.2**
comp=Z,0.4nm,0.4s,baz=40,slow=6.4,SNR=2.9
AKASG Malin Array Be 70.73 322 P **P** **12 35 01.8 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
PDAR Pinedale Array 72.23 48 P **P** **12 35 11.8 +0.3**
comp=Z,0.7nm,0.5s,baz=342,slow=1.0,SNR=6.9
TXAR Lajitas Array 85.07 54 P **P** **12 36 21.9 +0.1**
comp=Z,0.8nm,0.6s,baz=297,slow=3.5,SNR=15
TXAR Lajitas Array 85.07 54 P **P** **12 36 21.9 +0.1**
TXAR pmax pmax
comp=Z,1.0nm,0.6s

NNC ***23*** *12:34:51.9±6.0,53°.92N×86°.44E,h0km,mb3.8,mpv3.5, Error ellipse: s-maj=73.1km s-min=37.0km az=166.0*
IDC 23 12:34:50.0±2.3,54°.11N×86°.41E,h0km,mb1 3.6/2, mb1mx3.2/31,mbtmp3.6/2,ML3.3/2,6C-1D,Error ellipse: s-maj=18.3km s-min=11.7km az=57.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**261**	*i*		12 41 00.0	
	baz=78,slow=314,SNR=5.0						
ZALV	**Zalesovo Beam**	**0.95**	**261**	Pg	Pg	12 35 07.0	-1.3
	4.1nm,0.3s,baz=77,slow=16,SNR=55						
ZALV				Lg	Lg	12 35 21.8	
	5.6nm,0.3s,baz=79,slow=27,SNR=30						
KURK	**Kurchatov**	**5.86**	**238**	⇑Pn	Pn	12 36 18.9	+0.9
	2.4nm,0.7s						
KURK				⇑Sn	Sn	12 37 26.8	+1.1
	1.2nm,0.7s						
KURK				⇑Lg	Lg	12 37 58.1	
	7.1nm,0.8s						
KURBB	**Kurchatov Arra**	**5.96**	**237**	⇑Pn	Pn	12 36 19.6	+0.2
	2.9nm,0.4s						
KURBB				⇑Sn	Sn	12 37 28.0	-0.2
	6.3nm,0.7s						
KURBB				⇓Lg	Lg	12 37 59.0	
	6.4nm,0.7s						
KURBB	**Kurchatov Arra**	**5.96**	**237**	Pn	Pn	12 36 20.4	+1.1
	0.4nm,0.3s,baz=55,slow=14,SNR=34						
KURBB				Sn	Sn	12 37 28.1	-0.2
	0.1nm,0.3s,baz=58,slow=26,SNR=4.4						
KURBB				Lg	Lg	12 37 58.5	
	0.0nm,0.3s,baz=56,slow=30,SNR=6.9						
MK31	**Makanchi Array**	**7.78**	**201**	⇑Pn	Pn	12 36 45.3	+0.9
	1.7nm,0.7s,baz=27,slow=14,SNR=15						
MK31				Lg	Lg	12 38 55.3	
	2.4nm,0.7s,baz=33,slow=30,SNR=3.6						
MKAR	**Makanchi Array**	**7.78**	**201**	Pn	Pn	12 36 45.6	+1.2
	0.7nm,0.3s,baz=25,slow=14,SNR=16						
MKAR				Sn	Sn	12 38 11.8	-1.5
	0.2nm,0.3s,baz=25,slow=28,SNR=7.0						
MKAR				Lg	Lg	12 38 55.3	
	0.1nm,0.3s,baz=12,slow=22,SNR=5.4						

IDC ***23*** *12:45:10.1±0.9,35°.90N×10°.44W,h0km,mb3.8/10, mb1 4.1/13,mb1mx3.8/34,mbtmp3.9/13,ML5.0/2,MS2.9/9, Ms1 2.9/9,ms1mx2.6/39,Error ellipse: s-maj=23.3km s-min=21.2km az=44.0*
NEIC ***23*** *12:45:11.6±0.5,35°.93N×10°.43W,h10km,mb4.3/1,Error ellipse: s-maj=8.1km s-min=6.1km az=111.0*
SFS ***23*** *12:45:14.0,35°.88N×10°.40W,h0km,ML4.2*
MDD ***23*** *12:45:14.8±0.6,35°.90N×10°.45W,h30km,mbLg3.9/26, Error ellipse: s-maj=6.5km s-min=4.6km az=107.0, PRXIMO*
CSEM ***23*** *12:45:15.1±0.2,35°.95N×10°.32W,h30km,ML3.9,Error ellipse: s-maj=5.2km s-min=3.7km az=73.0*
IGIL ***23*** *12:45:16.8,35°.92N×10°.35W,h31km,ML4.1*
LDG ***23*** *12:45:16.0±0.2,35°.92N×10°.42W,h30km,Ml4.3/9,Error ellipse: s-maj=5.1km s-min=3.3km az=57.0*
INMG ***23*** *12:45:17.2±1.0,35°.93N×10°.34W,h31km±9km,MD3.6, ML3.9,Error ellipse: s-maj=5.5km s-min=3.0km az=55.0*
CNRM ***23*** *12:45:19.9,35°.73N×9°.96W,h30km,MD4.0*
ISC 23 12:45:14.1±1.5,35°.99N±0°.04×10°.29W±0°.05,h26km±10km, n302,σ2°.02/418,mb3.7/12,MS2.9/8,8C-9D,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**1.86**	**45**	*e*P	**Pb**	**12 45 46.6**	**-0.8**
MORF				*e*S	**Sn**	**12 46 07.8**	**+0.8**
MORF				AML	AML	12 46 08.4	
	comp=N,2μm,0.3s						
MORF	**Marmelete**	**1.86**	**45**	*e*Pn	**Pb**	**12 45 46.7**	**-0.8**
MORF				*e*Sn	**Sn**	**12 46 08.0**	**+1.0**
MORF				A	A	12 46 09.1	
	comp=N,930nm,0.3s						
MORF	**Marmelete**	**1.86**	**45**	⇓P	**Pb**	**12 45 46.7**	**-0.8**
MORF				S	**Sn**	**12 46 08.0**	**+1.0**
	comp=N,930nm,0.3s						
MORF	**Marmelete**	**1.86**	**45**	P	**Pb**	**12 45 46.7**	**-0.8**
MORF				S	**Sn**	**12 46 08.0**	**+1.0**
	comp=N,930nm,0.3s						
PTEO	**Sao Teotonio**	**2.00**	**39**	*e*Pn	**Pb**	**12 45 48.5**	**-1.2**
PTEO				*e*Sn	**Sn**	**12 46 11.6**	**+1.3**
PTEO				A	A	12 46 12.4	
	comp=N,552nm,0.5s						
PTEO	**Sao Teotonio**	**2.00**	**39**	⇓P	**Pb**	**12 45 48.5**	**-1.2**
PTEO				S	**Sn**	**12 46 11.6**	**+1.3**
	comp=N,276nm,0.5s						
PTEO	**Sao Teotonio**	**2.00**	**39**	P	**Pb**	**12 45 48.5**	**-1.2**
PTEO				S	**Sn**	**12 46 11.6**	**+1.3**
	comp=N,276nm,0.5s						
PBDV	**Barranco-do-Ve**	**2.27**	**56**	*e*Pn	**Pb**	**12 45 52.4**	**-2.0**
PBDV				*e*Sn	**Sn**	**12 46 17.8**	**+0.7**
PBDV				A	A	12 46 20.7	
	comp=N,396nm,0.4s						
PBDV	**Barranco-do-Ve**	**2.27**	**56**	P	**Pb**	**12 45 52.4**	**-2.0**
PBDV				S	**Sn**	**12 46 17.8**	**+0.7**
	comp=N,396nm,0.4s						
PBDV	**Barranco-do-Ve**	**2.27**	**56**	P	**Pb**	**12 45 52.4**	**-2.0**
PBDV				S	**Sn**	**12 46 17.8**	**+0.7**
	comp=N,396nm,0.4s						
PCVE	**Castro Verde**	**2.44**	**47**	*e*Pn	**Pn**	**12 45 54.8**	**+2.6**
PCVE				*e*Sn	**Sn**	**12 46 22.3**	**+1.1**
PCVE				A	A	12 46 26.8	
	comp=N,23nm,0.4s						
PCVE	**Castro Verde**	**2.44**	**47**	P	**Pn**	**12 45 54.8**	**+2.6**
PCVE				S	**Sn**	**12 46 22.3**	**+1.1**
	comp=N,23nm,0.4s						
PCVE	**Castro Verde**	**2.44**	**47**	P	**Pn**	**12 45 54.8**	**+2.6**
PCVE				S	**Sn**	**12 46 22.3**	**+1.1**
	comp=N,23nm,0.4s						
MESJ	**Messejana**	**2.48**	**41**	*e*P	**Pn**	**12 45 55.1**	**+2.4**
MESJ				*e*S	**Sn**	**12 46 23.0**	**+0.8**
MESJ				AML	AML	12 46 24.4	
	comp=N,518nm,0.3s						
MESJ	**Messejana**	**2.48**	**41**	*e*Pn	**Pn**	**12 45 55.2**	**+2.4**
MESJ				*e*Sn	**Sn**	**12 46 23.3**	**+1.1**
MESJ				A	A	12 46 25.2	
	comp=N,286nm,0.3s						
MESJ	**Messejana**	**2.48**	**41**	P	**Pn**	**12 45 55.2**	**+2.4**
MESJ				S	**Sn**	**12 46 23.3**	**+1.1**
	comp=N,286nm,0.3s						
MESJ	**Messejana**	**2.48**	**41**	P	**Pn**	**12 45 55.2**	**+2.4**
MESJ				S	**Sn**	**12 46 23.3**	**+1.1**
	comp=N,286nm,0.3s						
PVAQ	**Vaqueiros**	**2.50**	**55**	*e*Pn	**Pn**	**12 45 55.5**	**+2.4**
PVAQ				*e*Sn	**Sn**	**12 46 23.2**	**+0.5**
PVAQ				A	A	12 46 29.9	
	comp=N,507nm,0.3s						
PVAQ	**Vaqueiros**	**2.50**	**55**	⇓P	**Pn**	**12 45 55.5**	**+2.4**
PVAQ				S	**Sn**	**12 46 23.2**	**+0.5**
	comp=N,507nm,0.3s						
PVAQ	**Vaqueiros**	**2.50**	**55**	P	**Pn**	**12 45 55.5**	**+2.4**
PVAQ				S	**Sn**	**12 46 23.2**	**+0.5**
	comp=N,507nm,0.3s						
PNCL	**Nicolau / Gran**	**2.54**	**33**	*e*Pn	**Pn**	**12 45 55.9**	**+2.2**
PNCL				*e*Sn	**Sn**	**12 46 24.5**	**+0.8**
PNCL				A	A	12 46 26.9	
	comp=N,329nm,0.4s						
EGRO	**El Granado**	**2.73**	**55**	P	**Pn**	**12 45 58.5**	**+2.3**
	comp=N,26nm,0.1s,SNR=147						
EGRO				S	**Sn**	**12 46 28.6**	**+0.2**
	comp=N,462nm,0.2s,SNR=21						
EGRO	**El Granado**	**2.73**	**55**	P	**Pn**	**12 45 58.5**	**+2.3**
	comp=N,26nm,0.1s,SNR=147						
EGRO				S	**Sn**	**12 46 28.6**	**+0.2**
	comp=N,462nm,0.2s,SNR=21						
LIS	**Lisbon**	**2.87**	**18**	*e*P	**Pn**	**12 46 00.2**	**+2.0**
LIS				*e*S	**Sn**	**12 46 32.0**	**+0.2**
LIS				AML	AML	12 46 33.5	
	comp=E,769nm,0.3s						
LIS	**Lisbon**	**2.87**	**18**	P	**Pn**	**12 46 00.2**	**+2.0**
LIS				S	**Sn**	**12 46 32.0**	**+0.2**
	comp=E,769nm,0.3s						
PMST	**Lisbon--Monsan**	**2.88**	**17**	*e*Pn	**Pn**	**12 46 00.1**	**+1.8**
PMST				*e*Sn	**Sn**	**12 46 32.7**	**+0.6**
PMST				A	A	12 46 34.8	
	comp=E,306nm,0.3s						
INMG	**Instituto de M**	**2.93**	**18**	*e*Pn	**Pn**	**12 46 01.9**	**+2.9**
INMG	**Instituto de M**	**2.93**	**18**	P	**Pn**	**12 46 01.9**	**+2.9**
INMG	**Instituto de M**	**2.93**	**18**	P	**Pn**	**12 46 01.9**	**+2.9**
PACT	**Alcochete**	**3.00**	**22**	*e*Pn	**Pn**	**12 46 00.8**	**+0.8**
PACT				*e*Sn	**Sn**	**12 46 35.7**	**+0.6**
PACT				A	A	12 46 43.2	
	comp=E,295nm,0.4s						
EVOP	**Sao Brissos**	**3.06**	**34**	*e*Pn	**Pn**	**12 46 02.6**	**+1.8**
EVOP				*e*Sn	**Sn**	**12 46 36.2**	**-0.4**
	comp=E,442nm,0.3s						
EVOP	**Sao Brissos**	**3.06**	**34**	*e*Pn	**Pn**	**12 46 02.6**	**+1.8**
EVOP				*e*Sn	**Sn**	**12 46 36.2**	**-0.4**
PMAFR	**Mafra**	**3.06**	**15**	*e*Pn	**Pn**	**12 46 02.6**	**+1.7**
PMAFR				*e*Sn	**Sn**	**12 46 36.8**	**+0.1**
PMAFR				A	A	12 46 40.0	
	comp=E,573nm,0.3s						
PMAFR	**Mafra**	**3.06**	**15**	⇓P	**Pn**	**12 46 02.6**	**+1.7**
	comp=E,75nm,0.1s,SNR=18						
PMAFR				S	**Sn**	**12 46 36.5**	**-0.2**
	comp=E,643nm,0.2s,SNR=11						
PMAFR	**Mafra**	**3.06**	**15**	P	**Pn**	**12 46 02.6**	**+1.7**
	comp=E,75nm,0.1s,SNR=18						
PMAFR				S	**Sn**	**12 46 36.5**	**-0.2**
	comp=E,643nm,0.2s,SNR=11						
EVO	**Evora**	**3.12**	**35**	*e*Pn	**Pn**	**12 46 02.6**	**+1.0**
EVO				*e*Sn	**Sn**	**12 46 36.2**	**-1.8**
	comp=E,883nm,0.3s						
EVO	**Evora**	**3.12**	**35**	*e*Pn	**Pn**	**12 46 03.7**	**+2.1**
EVO				*e*Sn	**Sn**	**12 46 38.3**	**+0.3**
EVO				A	A	12 46 41.1	
	comp=E,389nm,0.1s						
EVO	**Evora**	**3.12**	**35**	P	**Pn**	**12 46 03.7**	**+2.1**
EVO				S	**Sn**	**12 46 38.3**	**+0.3**
	comp=E,389nm,0.1s						
PBAR	**Barrancos**	**3.39**	**49**	*e*Pn	**Pn**	**12 46 07.3**	**+2.0**
PBAR				*e*Sn	**Sn**	**12 46 45.0**	**+0.3**
PBAR				A	A	12 46 49.3	
	comp=E,382nm,0.3s						
PBAR	**Barrancos**	**3.39**	**49**	P	**Pn**	**12 46 07.3**	**+2.0**
PBAR				S	**Sn**	**12 46 45.0**	**+0.3**
	comp=E,382nm,0.3s						
PBAR	**Barrancos**	**3.39**	**49**	P	**Pn**	**12 46 07.3**	**+2.0**
PBAR				S	**Sn**	**12 46 45.0**	**+0.3**
	comp=E,382nm,0.3s						
EMIN	**Mina Concepcio**	**3.40**	**57**	⇑P	**Pn**	**12 46 07.5**	**+2.0**
	comp=E,16nm,0.2s,SNR=18						
EMIN				S	**Sn**	**12 46 44.5**	**-0.4**
	comp=E,237nm,0.3s						
EMIN	**Mina Concepcio**	**3.40**	**57**	P	**Pn**	**12 46 07.5**	**+2.0**
	comp=E,16nm,0.2s,SNR=18						
EMIN				S	**Sn**	**12 46 44.5**	**-0.4**
	comp=E,237nm,0.3s						
CNIL	**Conil**	**3.44**	**82**	*e*P	Pn	12 46 10.0	+3.9
RTC	**Rabat Centre**	**3.45**	**124**	P	**Pn**	**12 46 06.0**	**-0.2**
RTC				S	Sn	12 46 38.0	-8.2
RTC	**Rabat Centre**	**3.45**	**124**	P	**Pn**	**12 46 06.0**	**-0.2**
PMTG	**Montargil**	**3.48**	**27**	*e*Pn	**Pn**	**12 46 08.5**	**+1.9**
PMTG				*e*Sn	**Sn**	**12 46 46.8**	**-0.1**
PMTG				A	A	12 46 47.7	
	comp=E,500nm,0.4s						
GIBL	**Gibalbin**	**3.58**	**75**	*e*P	Pn	12 46 12.5	+4.5
GIBL				*e*S	**Sn**	**12 46 50.0**	**+0.5**
PESTR	**Estremoz**	**3.58**	**36**	*e*Pn	**Pn**	**12 46 09.8**	**+1.8**
PESTR				*e*Sn	**Sn**	**12 46 49.2**	**-0.3**
PESTR				A	A	12 46 52.1	
	comp=E,161nm,0.3s						
ESPR	**Espera**	**3.68**	**75**	⇑P	**Pn**	**12 46 11.3**	**+2.0**
	comp=E,143nm,0.1s,SNR=18						
ESPR				S	**Sn**	**12 46 51.3**	**-0.5**
	comp=E,891nm,0.3s,SNR=16						
ESPR	**Espera**	**3.68**	**75**	P	**Pn**	**12 46 11.3**	**+2.0**
	comp=E,143nm,0.1s,SNR=18						
ESPR				S	**Sn**	**12 46 51.3**	**-0.5**
	comp=E,891nm,0.3s,SNR=16						
EBAD	**Badajoz**	**3.80**	**42**	P	**Pn**	**12 46 12.7**	**+1.8**
	comp=E,37nm,0.1s,SNR=138						
EBAD				S	**Sn**	**12 46 54.5**	**-0.2**
	comp=E,164nm,0.3s,SNR=41						
EBAD	**Badajoz**	**3.80**	**42**	P	**Pn**	**12 46 12.7**	**+1.8**
	comp=E,37nm,0.1s,SNR=138						
EBAD				S	**Sn**	**12 46 54.5**	**-0.2**
	comp=E,164nm,0.3s,SNR=41						
PTOM	**Tomar**	**3.91**	**22**	*e*Pn	**Pn**	**12 46 14.3**	**+1.8**
PTOM				*e*Sn	**Sn**	**12 46 57.0**	**-0.6**
PTOM				A	A	12 47 01.4	
	comp=E,213nm,0.3s						
PTOM	**Tomar**	**3.91**	**22**	P	**Pn**	**12 46 14.3**	**+1.8**
PTOM				S	**Sn**	**12 46 57.0**	**-0.6**
	comp=E,106nm,0.3s						
PTOM	**Tomar**	**3.91**	**22**	P	**Pn**	**12 46 14.3**	**+1.8**
ECEU	**Ceuta**	**3.98**	**90**	⇑P	**Pn**	**12 46 15.7**	**+2.2**
	comp=E,49nm,0.3s,SNR=18						
ECEU				S	**Sn**	**12 47 00.1**	**+0.7**
	comp=E,47nm,0.3s						
ECEU	**Ceuta**	**3.98**	**90**	P	**Pn**	**12 46 15.7**	**+2.2**
	comp=E,49nm,0.3s,SNR=18						
ECEU				S	**Sn**	**12 47 00.1**	**+0.7**
	comp=E,47nm,0.3s						
CEU	**Ceuta**	**3.99**	**90**	P	**Pn**	**12 46 16.3**	**+2.8**
CEU				S	**Sn**	**12 47 01.5**	**+2.1**
CEU	**Ceuta**	**3.99**	**90**	P	**Pn**	**12 46 16.3**	**+2.8**
CEU				S	**Sn**	**12 47 01.5**	**+2.1**
LIJA	**Lijar**	**4.04**	**76**	*e*P	Pn	12 46 18.0	+3.6
LIJA				*e*S	**Sn**	**12 46 57.0**	**-3.9**
PMRV	**Marv??o**	**4.13**	**33**	*e*Pn	**Pn**	**12 46 17.5**	**+2.0**
PMRV				*e*Sn	**Sn**	**12 47 01.9**	**-1.0**
PMRV				A	A	12 47 04.6	
	comp=E,299nm,0.4s						
PMRV	**Marv??o**	**4.13**	**33**	P	**Pn**	**12 46 17.5**	**+2.0**
PMRV				S	**Sn**	**12 47 01.9**	**-1.0**
	comp=E,299nm,0.4s						
PMRV	**Marv??o**	**4.13**	**33**	P	**Pn**	**12 46 17.5**	**+2.0**
REAL	**Reales**	**4.13**	**82**	*e*P	Pn	12 46 20.0	+4.3
REAL				*e*S	**Sn**	**12 47 04.0**	**+0.7**
PCAS	**Casmilo, Conde**	**4.29**	**19**	*e*Pn	**Pn**	**12 46 19.4**	**+1.6**
PCAS				*e*Sn	**Sn**	**12 47 06.3**	**-0.7**
PCAS				A	A	12 47 10.6	
	comp=E,115nm,0.5s						
ECAB	**El Cabril**	**4.42**	**60**	⇑P	**Pn**	**12 46 21.3**	**+1.9**
	comp=E,13nm,0.1s,SNR=18						
ECAB				S	**Sn**	**12 47 08.5**	**-1.6**
	comp=E,184nm,0.3s,SNR=17						
ECAB	**El Cabril**	**4.42**	**60**	P	**Pn**	**12 46 21.3**	**+1.9**
	comp=E,13nm,0.1s,SNR=18						
ECAB				S	**Sn**	**12 47 08.5**	**-1.6**
	comp=E,184nm,0.3s,SNR=17						
PCBR	**Castelo Branco**	**4.44**	**29**	*e*Pn	**Pn**	**12 46 21.7**	**+2.0**
PCBR				*e*Sn	**Sn**	**12 47 09.3**	**-1.2**
PCBR				A	A	12 47 12.6	
	comp=E,140nm,0.4s						
PCBR	**Castelo Branco**	**4.44**	**29**	⇓P	**Pn**	**12 46 21.7**	**+2.0**
PCBR				S	**Sn**	**12 47 09.3**	**-1.2**
	comp=E,70nm,0.4s						
PCBR	**Castelo Branco**	**4.44**	**29**	P	**Pn**	**12 46 21.7**	**+2.0**
EMIJ	**Mijas**	**4.49**	**81**	P	**Pn**	**12 46 21.6**	**+1.1**
	comp=E,12nm,0.3s,SNR=15						
EMIJ				S	**Sn**	**12 47 09.9**	**-2.0**
	comp=E,96nm,0.4s,SNR=7.0						
EMIJ	**Mijas**	**4.49**	**81**	P	**Pn**	**12 46 21.6**	**+1.1**
	comp=E,12nm,0.3s,SNR=15						
EMIJ				S	**Sn**	**12 47 09.9**	**-2.0**
	comp=E,96nm,0.4s,SNR=7.0						
TGT	**Taghat**	**4.70**	**113**	P	**Pn**	**12 46 23.0**	**-0.4**
TGT				S	Sn	12 47 11.0	-6.2
TGT	**Taghat**	**4.70**	**113**	P	**Pn**	**12 46 23.0**	**-0.4**
EMAL	**Malaga-Limoner**	**4.79**	**79**	*e*P	**Pn**	**12 46 26.8**	**+2.2**
EMAL				*e*S	**Sn**	**12 47 18.7**	**-0.5**
KIB	**El Ksiba**	**4.90**	**133**	P	**Pn**	**12 46 26.0**	**-0.1**
KIB				S	Sn	12 47 16.0	-6.0
KIB	**El Ksiba**	**4.90**	**133**	P	**Pn**	**12 46 26.0**	**-0.1**
KIB				*i* S	Sn	12 47 16.0	-6.0
MIF	**Mishlifen**	**4.90**	**120**	P	**Pn**	**12 46 26.5**	**+0.2**
MIF				S	Sn	12 47 16.0	-6.3
MIF	**Mishlifen**	**4.90**	**120**	P	**Pn**	**12 46 26.5**	**+0.2**
MIF				*i* S	Sn	12 47 16.0	-6.3
MTE	**Manteigas**	**4.90**	**25**	*e*Pn	**Pn**	**12 46 27.9**	**+1.7**
MTE				*e*Sn	**Sn**	**12 47 19.9**	**-2.2**
MTE				A	A	12 47 26.5	
	comp=E,160nm,0.5s						
MTE	**Manteigas**	**4.90**	**25**	P	**Pn**	**12 46 27.9**	**+1.7**
MTE				S	**Sn**	**12 47 19.9**	**-2.2**
	comp=E,80nm,0.5s						
MTE	**Manteigas**	**4.90**	**25**	*e*Pn	**Pn**	**12 46 27.6**	**+1.4**
	comp=E,127nm,0.5s						
MTE	**Manteigas**	**4.90**	**25**	P	**Pn**	**12 46 27.9**	**+1.7**
MTE				*e*Sn	**Sn**	**12 47 23.1**	**+1.0**
MTE	**Manteigas**	**4.90**	**25**	*e*Pn	**Pn**	**12 46 27.6**	**+1.4**
	comp=E,127nm,0.5s						
MTE				*e*Sn	**Sn**	**12 47 23.1**	**+1.0**
TZC	**Tazercounte**	**4.96**	**139**	P	**Pn**	**12 46 26.0**	**-1.1**
TZC				S	Sn	12 47 16.0	-7.8
TZC	**Tazercounte**	**4.96**	**139**	P	**Pn**	**12 46 26.0**	**-1.1**
EADA	**Adamuz**	**5.06**	**63**	⇓P	**Pn**	**12 46 30.1**	**+1.8**
	comp=E,18nm,0.2s,SNR=18						
EADA				S	**Sn**	**12 47 23.8**	**-2.0**
	comp=E,198nm,0.3s,SNR=12						
EADA	**Adamuz**	**5.06**	**63**	P	**Pn**	**12 46 30.1**	**+1.8**
	comp=E,18nm,0.2s,SNR=18						
PVIS	**Viseu**	**5.08**	**21**	*e*Pn	**Pn**	**12 46 30.2**	**+1.6**
PVIS				*e*Sn	**Sn**	**12 47 25.0**	**-1.4**
PVIS				A	A	12 47 28.9	
	comp=E,121nm,0.5s						
PVIS	**Viseu**	**5.08**	**21**	P	**Pn**	**12 46 30.2**	**+1.6**
PVIS				S	**Sn**	**12 47 25.0**	**-1.4**
	comp=E,61nm,0.5s						
PVIS	**Viseu**	**5.08**	**21**	P	**Pn**	**12 46 30.2**	**+1.6**
CZD	**Col de Zad**	**5.24**	**123**	P	**Pn**	**12 46 31.0**	**0.0**
CZD				S	Sn	12 47 22.0	-8.7
CZD	**Col de Zad**	**5.24**	**123**	P	**Pn**	**12 46 31.0**	**0.0**
EPLA	**Plasencia**	**5.25**	**38**	⇑P	**Pn**	**12 46 32.6**	**+1.8**
	comp=E,32nm,0.2s,SNR=18						
EPLA				S	**Sn**	**12 47 29.9**	**-0.7**
	comp=E,100nm,0.2s						
EPLA	**Plasencia**	**5.25**	**38**	P	**Pn**	**12 46 32.7**	**+1.8**
	comp=E,32nm,0.2s,SNR=18						
EPLA				S	**Sn**	**12 47 29.9**	**-0.7**
	comp=E,100nm,0.2s						
PTO	**Porto**	**5.31**	**14**	*e*Pn	**Pn**	**12 46 33.1**	**+1.5**
PTO				*e*Sn	**Sn**	**12 47 29.1**	**-2.8**
PTO	**Porto**	**5.31**	**14**	P	**Pn**	**12 46 33.1**	**+1.5**
PTO				S	**Sn**	**12 47 29.1**	**-2.8**
PTO	**Porto**	**5.31**	**14**	P	**Pn**	**12 46 33.1**	**+1.5**
TZK	**Tazeka**	**5.36**	**109**	P	**Pn**	**12 46 33.0**	**+0.4**
TZK				S	Sn	12 47 26.0	-7.5
TZK	**Tazeka**	**5.36**	**109**	P	**Pn**	**12 46 33.0**	**+0.4**
SELV	**Sierra Elvira**	**5.42**	**75**	⇑P	**Pn**	**12 46 35.5**	**+2.2**
	comp=E,17nm,0.5s,SNR=18						
SELV				S	**Sn**	**12 47 34.1**	**-0.8**
	comp=E,54nm,0.5s,SNR=7.9						
SELV	**Sierra Elvira**	**5.42**	**75**	P	**Pn**	**12 46 35.5**	**+2.2**
	comp=E,17nm,0.5s,SNR=18						
SELV				S	**Sn**	**12 47 34.1**	**-0.8**
	comp=E,54nm,0.5s,SNR=7.9						
ECOG	**Cogollos-Vega**	**5.55**	**75**	⇓P	**Pn**	**12 46 37.6**	**+2.4**
	comp=E,42nm,0.3s,SNR=18						
ECOG				S	**Sn**	**12 47 37.4**	**-0.8**
	comp=E,88nm,0.4s,SNR=8.6						
ECOG	**Cogollos-Vega**	**5.55**	**75**	P	**Pn**	**12 46 37.6**	**+2.4**
	comp=E,42nm,0.3s,SNR=18						
ECOG				S	**Sn**	**12 47 37.4**	**-0.8**
	comp=E,88nm,0.4s,SNR=8.6						
AFS	**Agadir Fac de**	**5.60**	**173**	P	**Pn**	**12 46 35.5**	**-0.2**
AFS				S	**Sn**	**12 47 34.0**	**-5.1**
AFS	**Agadir Fac de**	**5.60**	**173**	P	**Pn**	**12 46 35.5**	**-0.2**
EQUE	**Quentar**	**5.64**	**76**	⇑P	**Pn**	**12 46 38.6**	**+2.2**
	comp=E,15nm,0.3s,SNR=18						
EQUE				S	**Sn**	**12 47 40.5**	**+0.2**
	comp=E,62nm,0.4s,SNR=5.6						
EQUE	**Quentar**	**5.64**	**76**	P	**Pn**	**12 46 38.6**	**+2.2**
	comp=E,15nm,0.3s,SNR=18						
EQUE				S	**Sn**	**12 47 40.5**	**+0.2**
	comp=E,62nm,0.4s,SNR=5.6						
PVRL	**Vila Real**	**5.65**	**20**	*e*Pn	**Pn**	**12 46 37.6**	**+1.2**
PVRL				*e*Sn	**Sn**	**12 47 37.4**	**-3.0**
PVRL				A	A	12 47 41.9	
	comp=E,99nm,0.4s						
PVRL	**Vila Real**	**5.65**	**20**	P	**Pn**	**12 46 37.6**	**+1.2**
PVRL				S	**Sn**	**12 47 37.4**	**-3.

comp=E,34nm,0.3s,SNR=7.9
GORA S Sn 12 47 48.7 -0.6
comp=E,152nm,0.4s,SNR=7.9
GORA Gorafe 6.01 74 P Pn **12 46 43.2 +1.8**
comp=E,34nm,0.3s,SNR=7.9
GORA S Sn 12 47 48.7 -0.6
comp=E,152nm,0.4s,SNR=7.9
EMEL Melilla 6.01 94 S Sn **12 47 45.2 -4.1**
comp=E,220nm,0.5s,SNR=7.9
EBER Berja 6.03 79 P Pn **12 46 42.9 +1.1**
comp=E,4.4nm,0.2s,SNR=17
EBER S Sn **12 47 49.1 -1.0**
comp=E,84nm,0.5s,SNR=6.3
EBER Berja 6.03 79 P Pn **12 46 42.9 +1.1**
comp=E,4.4nm,0.2s,SNR=17
EBER S Sn **12 47 49.1 -1.0**
comp=E,84nm,0.5s,SNR=6.3
EQES Quesada 6.06 71 ⇑P Pn **12 46 43.4 +1.3**
comp=E,17nm,0.5s,SNR=18
EQES S Sn **12 47 48.3 -2.3**
comp=E,67nm,0.3s,SNR=9.0
EQES Quesada 6.06 71 P Pn **12 46 43.4 +1.3**
comp=E,17nm,0.5s,SNR=18
ELOB Lobios 6.12 16 P Pn **12 46 44.0 +1.1**
comp=E,21nm,0.3s,SNR=39
ELOB S Sn **12 47 48.3 -3.8**
comp=E,71nm,0.2s,SNR=6.4
ELOB Lobios 6.12 16 P Pn **12 46 44.0 +1.1**
comp=E,21nm,0.3s,SNR=39
PGAV Gavieira, Arco 6.17 14 *e*Pn Pn **12 46 44.5 +0.9**
PGAV *e*Sn Sn **12 47 50.5 -2.8**
PGAV A A 12 47 55.0
comp=E,47nm,0.3s
ESDC Sonseca Array 6.21 52 Pn Pn **12 46 46.0 +1.8**
comp=E,17nm,0.3s,baz=240,slow=13,SNR=100
ESDC Sn Sn **12 47 52.7 -1.6**
comp=E,58nm,0.3s,baz=238,slow=23,SNR=45
ESDC Sonseca Array 6.21 52 P Pn **12 46 45.9 +1.8**
comp=E,27nm,0.2s,baz=242,slow=13,SNR=152
ESDC S Sn **12 47 53.0 -1.3**
comp=E,244nm,0.6s,baz=238,slow=23,SNR=75
ESDC Sonseca Array 6.21 52 P Pn **12 46 45.9 +1.8**
comp=E,27nm,0.2s,SNR=152
ESDC S Sn **12 47 53.0 -1.3**
comp=E,244nm,0.6s,SNR=75
ESLA Sonseca Array 6.21 52 *e*Pn Pn **12 46 46.2 +2.1**
comp=E,3.7nm,0.6s
ESLA Sonseca Array 6.21 52 *e*Pn Pn **12 46 46.2 +2.1**
comp=E,3.7nm,0.6s
ESLA *e*Sn Sn **12 47 52.4 -1.9**
ZFT Errachidia 6.31 127 P Pn **12 46 46.0 +0.3**
ZFT S Sn 12 47 48.0 -9.1
ZFT Errachidia 6.31 127 P Pn **12 46 46.0 +0.3**
PMAR Madeira 6.38 241 *e*Sn Sn 12 47 47.0 -12
PMAR A A 12 47 52.9
comp=E,168nm,0.2s
PMAR Madeira 6.38 241 S Sn 12 47 47.0 -12
comp=E,84nm,0.2s
PBRG Braganca 6.43 24 *e*Pn Pn **12 46 48.8 +1.7**
PBRG *e*Sn Sn **12 47 56.5 -3.2**
PBRG A A 12 47 59.7
comp=E,54nm,0.5s
PBRG Braganca 6.43 24 P Pn **12 46 48.8 +1.7**
PBRG S Sn **12 47 56.5 -3.2**
comp=E,27nm,0.5s
PBRG Braganca 6.43 24 P Pn **12 46 48.8 +1.7**
PMOZ Porto Moniz, M 6.53 243 *e*Sn Sn 12 47 55.0 -7.2
PMOZ A A 12 48 00.0
comp=E,142nm,0.3s
PMOZ Porto Moniz, M 6.53 243 S Sn 12 47 55.0 -7.2
comp=E,142nm,0.3s
SESP Santiago Espad 6.54 69 ⇓P Pn **12 46 49.8 +0.9**
comp=E,18nm,0.2s,SNR=18
SESP S Sn **12 48 00.0 -2.7**
comp=E,91nm,0.3s,SNR=7.9
SESP Santiago Espad 6.54 69 P Pn **12 46 49.8 +0.9**
comp=E,18nm,0.2s,SNR=18
ECAL Calabor 6.55 24 P Pn **12 46 49.9 +1.1**
comp=E,47nm,0.3s,SNR=67
ECAL S Sn **12 47 59.7 -3.1**
comp=E,191nm,0.4s,SNR=6.9
ECAL Calabor 6.55 24 P Pn **12 46 49.9 +1.1**
comp=E,47nm,0.3s,SNR=67
ENIJ Nijar 6.58 79 P Pn **12 46 51.5 +2.3**
comp=E,7.1nm,0.3s,SNR=7.9
ENIJ S Sn **12 48 02.0 -1.5**
comp=E,24nm,0.4s,SNR=7.9
ENIJ Nijar 6.58 79 P Pn **12 46 51.5 +2.3**
comp=E,7.1nm,0.3s,SNR=7.9
ENIJ S Sn **12 48 02.0 -1.5**
comp=E,24nm,0.4s,SNR=7.9
GUD Guadarrama 6.69 44 P Pn **12 46 52.1 +1.3**
comp=E,22nm,0.2s,SNR=104
GUD S Sn **12 48 04.3 -2.0**
comp=E,55nm,0.3s,SNR=14
GUD Guadarrama 6.69 44 P Pn **12 46 52.1 +1.3**
comp=E,22nm,0.2s,SNR=104
EAGO Agolada(Pontev 7.01 13 P Pn **12 46 55.9 +0.8**
comp=E,16nm,0.3s,SNR=7.9
EAGO S Sn **12 48 09.9 -4.0**
comp=E,14nm,0.2s,SNR=7.9
EAGO Agolada(Pontev 7.01 13 P Pn **12 46 55.9 +0.8**
comp=E,16nm,0.3s,SNR=7.9
EMAZ Mazaricos 7.02 8 P Pn **12 46 55.7 +0.5**
comp=E,17nm,0.2s,SNR=20
EMAZ S Sn **12 48 09.5 -4.6**
comp=E,84nm,0.3s,SNR=4.9
EMAZ Mazaricos 7.02 8 P Pn **12 46 55.7 +0.5**
comp=E,17nm,0.2s,SNR=20
EFAM Famara 7.37 203 P Pn 12 46 55.8 -4.2
comp=E,8.5nm,0.3s,SNR=7.9
EFAM S Sn 12 48 12.7 -10
comp=E,23nm,0.2s,SNR=7.9
ETOB Tobarra 7.45 67 P Pn **12 47 01.9 +0.7**
comp=E,19nm,0.6s,SNR=32
ETOB S Sn **12 48 21.1 -3.7**
comp=E,36nm,0.2s,SNR=9.1
ETOB Tobarra 7.45 67 P Pn **12 47 01.9 +0.7**
comp=E,19nm,0.6s,SNR=32
EMUR La Murta 7.48 73 P Pn **12 47 02.7 +1.2**
comp=E,17nm,0.7s,SNR=5.0
EMUR S Sn **12 48 21.7 -3.8**
comp=E,42nm,0.7s,SNR=7.6
EMUR La Murta 7.48 73 P Pn **12 47 02.7 +1.2**
comp=E,17nm,0.7s,SNR=5.0
EPON Pontenova 7.71 17 P Pn **12 47 05.5 +0.8**
comp=E,9.0nm,0.3s,SNR=18
EPON S Sn **12 48 26.4 -4.8**
comp=E,9.6nm,0.2s,SNR=6.1
EPON Pontenova 7.71 17 P Pn **12 47 05.5 +0.8**
comp=E,9.0nm,0.3s,SNR=18
ETOR Torete 8.06 51 P Pn **12 47 11.4 +1.8**
comp=E,86nm,0.3s,SNR=56
ETOR S Sn **12 48 34.8 -5.0**
comp=E,213nm,0.5s,SNR=5.9
ETOR Torete 8.06 51 P Pn **12 47 11.4 +1.8**
comp=E,86nm,0.3s,SNR=56
CFTV Fuerteventura 8.21 204 P Pn 12 47 07.4 -4.2
comp=E,1.8nm,0.2s,SNR=8.4
CFTV S Sn 12 48 33.5 -10
comp=E,8.0nm,0.2s,SNR=7.3
EARI Arriondas 8.28 27 P Pn **12 47 14.1 +1.5**
comp=E,6.1nm,0.2s,SNR=28
EARI S Sn **12 48 42.2 -3.0**
comp=E,19nm,0.5s,SNR=5.6
EARI Arriondas 8.28 27 P Pn **12 47 14.1 +1.5**
comp=E,6.1nm,0.2s,SNR=28
EBEN Beniarda 8.46 68 P Pn **12 47 15.7 +0.7**
comp=E,2.5nm,0.3s,SNR=7.7
EBEN S Sn **12 48 44.8 -4.8**
comp=E,17nm,0.4s,SNR=4.7
EBEN Beniarda 8.46 68 P Pn **12 47 15.7 +0.7**
comp=E,2.5nm,0.3s,SNR=7.7
OKGL Djebel Kef Gue 8.86 86 S Sn **12 48 56.0 -3.4**
comp=E,34nm,0.4s,SNR=7.9
EMOS Mosqueruela 8.87 58 P Pn 12 47 24.1 +3.3
comp=E,5.4nm,0.6s,SNR=10
EMOS S Sn **12 48 54.9 -5.1**
comp=E,17nm,0.3s,SNR=5.6
EMOS Mosqueruela 8.87 58 P Pn 12 47 24.1 +3.3
comp=E,5.4nm,0.6s,SNR=10
ELAN Lanestosa 8.96 34 P Pn **12 47 24.1 +2.4**
comp=E,5.0nm,0.2s,SNR=19
ELAN S Sn **12 48 56.8 -4.9**
comp=E,13nm,0.4s,SNR=5.5
ELAN Lanestosa 8.96 34 P Pn **12 47 24.1 +2.4**
comp=E,5.0nm,0.2s,SNR=19
EBAJ Bajamar 9.03 216 P Pn 12 47 16.6 -6.1
comp=E,2.3nm,0.2s,SNR=7.9
EBAJ S Sn 12 48 50.8 -13
comp=E,8.4nm,0.2s,SNR=7.9
EOSO Osorio 9.07 211 S Sn 12 48 52.7 -12
comp=E,40nm,0.5s,SNR=7.9
CCAN Las Canadas 9.42 216 S Sn 12 48 58.5 -15
comp=E,2.6nm,0.2s,SNR=7.9
EARA Aranguren 9.55 42 P Pn **12 47 32.5 +2.6**
comp=E,12nm,0.2s,SNR=7.9
EARA S Sn **12 49 12.8 -3.5**
comp=E,31nm,0.5s,SNR=7.9
EARA Aranguren 9.55 42 P Pn **12 47 32.5 +2.6**
comp=E,12nm,0.2s,SNR=7.9
ESAC San Caprasio 9.55 50 P Pn **12 47 32.9 +2.9**
comp=E,15nm,0.4s,SNR=7.9
ESAC S Sn **12 49 13.5 -3.0**
comp=E,63nm,0.4s,SNR=7.9
ESAC San Caprasio 9.55 50 P Pn **12 47 32.9 +2.9**
comp=E,15nm,0.4s,SNR=7.9
ERTA Horta de San J 9.69 56 P Pn **12 47 34.5 +2.7**
comp=E,2.1nm,0.3s,SNR=7.9
ERTA S Sn **12 49 15.4 -4.4**
comp=E,17nm,0.4s,SNR=7.9
ERTA Horta de San J 9.69 56 P Pn **12 47 34.5 +2.7**
comp=E,2.1nm,0.3s,SNR=7.9
IPRE Itoiz 9.70 43 P Pn **12 47 34.7 +2.8**
comp=E,6.6nm,0.3s,SNR=4.0
IPRE S Sn **12 49 16.6 -3.3**
comp=E,18nm,0.5s,SNR=7.9
IPRE Itoiz 9.70 43 P Pn **12 47 34.7 +2.8**
comp=E,6.6nm,0.3s,SNR=4.0
EIBI Ibiza 9.72 68 S Sn **12 49 15.4 -5.2**
comp=E,22nm,0.6s,SNR=7.9
EGOM La Gomera 9.77 219 S Sn 12 49 07.2 -15
comp=E,29nm,0.2s,SNR=6.6
EHIG Higuera 9.77 223 S Sn 12 49 08.4 -14
comp=E,59nm,0.3s,SNR=7.9
IELO Elcoad 9.79 43 P Pn **12 47 35.4 +2.2**
comp=E,13nm,0.3s,SNR=7.9
IELO S Sn **12 49 17.7 -4.5**
comp=E,42nm,0.6s,SNR=7.9
IELO Elcoad 9.79 43 P Pn **12 47 35.4 +2.2**
comp=E,13nm,0.3s,SNR=7.9
ELIZ Elizondo 9.85 41 ⇓P Pn **12 47 36.0 +2.1**
comp=E,14nm,0.3s,SNR=18
ELIZ S Sn **12 49 19.3 -4.3**
comp=E,5.8nm,0.3s,SNR=7.9
ELIZ Elizondo 9.85 41 P Pn **12 47 36.0 +2.1**
comp=E,14nm,0.3s,SNR=18
EALK Alkurruntz 9.89 40 P Pn **12 47 36.4 +1.8**
comp=E,9.0nm,0.3s,SNR=12
EALK S Sn **12 49 20.1 -4.6**
comp=E,67nm,0.7s,SNR=5.7
EALK Alkurruntz 9.89 40 P Pn **12 47 36.4 +1.8**
comp=E,9.0nm,0.3s,SNR=12
SJPF Ste Jean 9.97 42 *e*Pn Pn **12 47 37.6 +1.9**
SJPF *e*Sn Sn **12 49 21.8 -4.9**
comp=E,46nm,0.6s
SJPF Ste Jean 9.97 42 P Pn **12 47 37.6 +1.9**
SJPF S Sn **12 49 21.8 -4.9**
comp=E,23nm,0.6s
SJPF Ste Jean 9.97 42 P Pn **12 47 37.6 +1.9**
SJPF Ste Jean 9.97 42 *e*Pn Pn **12 47 37.6 +1.9**
SJPF *e*Sn Sn **12 49 21.8 -4.9**
OSSF Osses 10.05 41 P Pn **12 47 36.9 +0.4**
LARF Larrau 10.05 43 P Pn **12 47 36.9 +0.1**
ATE Arette 10.24 43 P Pn **12 47 41.8 +2.4**
comp=E,6.8nm,0.3s,SNR=7.9
ATE S Sn **12 49 29.2 -4.1**
comp=E,32nm,0.6s,SNR=7.9
ATE Arette 10.24 43 P Pn **12 47 41.8 +2.4**
comp=E,6.8nm,0.3s,SNR=7.9
EPOB Poblet 10.37 56 P Pn **12 47 43.1 +1.9**
comp=E,2.5nm,0.4s,SNR=7.9
EPOB S Sn **12 49 31.4 -5.1**
comp=E,8.3nm,0.5s,SNR=7.9
EPOB Poblet 10.37 56 P Pn **12 47 43.1 +1.9**
comp=E,2.5nm,0.4s,SNR=7.9
EPF Esparros 10.80 46 *e*Pn Pn **12 47 48.7 +1.6**
EPF *e*Sn Sn **12 49 41.4 -5.7**
comp=E,44nm,0.6s
EPF Esparros 10.80 46 P Pn **12 47 48.7 +1.6**
EPF S Sn **12 49 41.4 -5.7**
comp=E,22nm,0.6s
EPF Esparros 10.80 46 P Pn **12 47 48.7 +1.6**
EPF Esparros 10.80 46 *e*Pn Pn **12 47 48.7 +1.6**
EPF *e*Sn Sn **12 49 41.4 -5.7**
CSOR Sort 10.91 51 P Pn **12 47 50.1 +1.4**
comp=E,2.7nm,0.3s,SNR=5.9
CSOR S Sn **12 49 44.8 -5.1**
comp=E,9.4nm,0.3s,SNR=7.9
CSOR Sort 10.91 51 P Pn **12 47 50.1 +1.4**
comp=E,2.7nm,0.3s,SNR=5.9
EMIR Miracle 10.93 54 S Sn **12 49 45.0 -5.3**
comp=E,8.3nm,0.3s,SNR=7.9
ETOS Mallorca 11.02 66 S Sn **12 49 47.6 -4.8**
comp=E,3.0nm,0.5s,SNR=7.9
CLLI Llivia 11.50 52 S Sn **12 49 58.6 -5.7**
comp=E,8.5nm,0.4s,SNR=7.9
EJON La Jonquera 12.08 54 S Sn **12 50 13.4 -4.9**
comp=E,2.2nm,0.3s,SNR=7.9
MTLF Montolieu 12.10 49 *e*Pn Pn **12 48 06.1 +1.3**
MTLF *e*Sn Sn 12 50 12.5 -6.4
comp=E,2.6nm,0.3s
MTLF Montolieu 12.10 49 P Pn **12 48 06.1 +1.3**
MTLF S Sn 12 50 12.5 -6.4
comp=E,1.3nm,0.3s
MTLF Montolieu 12.10 49 P Pn **12 48 06.1 +1.3**
MTLF Montolieu 12.10 49 *e*Pn Pn **12 48 06.1 +1.3**
MTLF *e*Sn Sn 12 50 12.5 -6.4
LFF La Frestale 12.25 40 *e*Pn Pn **12 48 07.0 +0.2**
LFF La Frestale 12.25 40 P Pn **12 48 07.0 +0.2**
LFF La Frestale 12.25 40 P Pn **12 48 07.0 +0.2**
LFF La Frestale 12.25 40 *e*Pn Pn **12 48 07.0 +0.2**
RJF Les Rejaudoux 12.90 40 *e*Pn Pn **12 48 16.2 +0.4**
RJF *e*Sn Sn 12 50 29.6 -8.8
comp=E,14nm,0.7s
RJF Les Rejaudoux 12.90 40 P Pn **12 48 16.2 +0.4**
RJF S Sn 12 50 29.6 -8.8
comp=E,6.8nm,0.7s
RJF Les Rejaudoux 12.90 40 P Pn **12 48 16.2 +0.4**
RJF Les Rejaudoux 12.90 40 *e*Pn Pn **12 48 16.2 +0.4**
RJF *e*Sn Sn 12 50 29.6 -8.8
CAF Calviac 12.95 43 *e*Pn Pn **12 48 16.7 +0.3**
CAF *e*Sn Sn 12 50 32.0 -7.7
comp=E,14nm,0.7s
CAF Calviac 12.95 43 P Pn **12 48 16.7 +0.3**
CAF S Sn 12 50 32.0 -7.7
comp=E,6.9nm,0.7s
CAF Calviac 12.95 43 P Pn **12 48 16.7 +0.3**
CAF Calviac 12.95 43 *e*Pn Pn **12 48 16.7 +0.3**
CAF *e*Sn Sn 12 50 32.0 -7.7
QUIF Quistinic 13.03 22 *e*Pn Pn **12 48 18.4 +0.9**
QUIF *e*Sn Sn 12 50 33.8 -7.7
comp=E,4.0nm,0.3s
QUIF Quistinic 13.03 22 P Pn **12 48 18.4 +0.9**
QUIF S Sn 12 50 33.8 -7.7
comp=E,2.0nm,0.3s
QUIF Quistinic 13.03 22 P Pn **12 48 18.4 +0.9**
QUIF Quistinic 13.03 22 *e*Pn Pn **12 48 18.4 +0.9**
QUIF *e*Sn Sn 12 50 33.8 -7.7
MFF Saint Martin d 13.04 33 *e*Pn Pn **12 48 18.4 +0.7**
MFF *e*Sn Sn 12 50 35.0 -6.8
comp=E,3.8nm,0.5s
MFF Saint Martin d 13.04 33 P Pn **12 48 18.4 +0.7**
MFF S Sn 12 50 35.0 -6.8
comp=E,1.9nm,0.5s
MFF Saint Martin d 13.04 33 P Pn **12 48 18.4 +0.7**
MFF Saint Martin d 13.04 33 *e*Pn Pn **12 48 18.4 +0.7**
MFF *e*Sn Sn 12 50 35.0 -6.8
ROSF Rostrenen 13.38 21 *e*Pn Pn **12 48 22.3 +0.1**
ROSF Rostrenen 13.38 21 P Pn **12 48 22.3 +0.1**
ROSF Rostrenen 13.38 21 P Pn **12 48 22.3 +0.1**
ROSF Rostrenen 13.38 21 *e*Pn Pn **12 48 22.3 +0.1**
SGMF Saint Gilles 13.52 23 *e*Pn Pn **12 48 24.8 +0.7**
SGMF Saint Gilles 13.52 23 P Pn **12 48 24.8 +0.7**
SGMF Saint Gilles 13.52 23 P Pn **12 48 24.8 +0.7**
SGMF Saint Gilles 13.52 23 *e*Pn Pn **12 48 24.8 +0.7**
TCF Toulx Ste Croi 13.93 39 *e*Pn Pn **12 48 30.1 +0.4**
TCF Toulx Ste Croi 13.93 39 P Pn **12 48 30.1 +0.4**
TCF Toulx Ste Croi 13.93 39 *e*Pn Pn **12 48 30.1 +0.4**
TCF Toulx Ste Croi 13.93 39 *e*Pn Pn **12 48 30.1 +0.4**
GRR Gorron 14.21 26 *e*Pn Pn **12 48 33.3 -0.2**
GRR Gorron 14.21 26 P Pn **12 48 33.3 -0.2**
GRR Gorron 14.21 26 *e*Pn Pn **12 48 33.3 -0.2**
GRR Gorron 14.21 26 *e*Pn Pn **12 48 33.3 -0.2**
BGF Bois d'Agland 14.43 39 *e*Pn Pn **12 48 36.8 +0.2**
BGF Bois d'Agland 14.43 39 P Pn **12 48 36.8 +0.2**
BGF Bois d'Agland 14.43 39 *e*Pn Pn **12 48 36.8 +0.2**
BGF Bois d'Agland 14.43 39 *e*Pn Pn **12 48 36.8 +0.2**
FLN La Foliniere 14.66 26 *e*Pn Pn **12 48 39.9 +0.3**
baz=217
FLN *e*Sn Sn 12 51 13.5 -7.6
comp=E,4.4nm,0.5s
FLN La Foliniere 14.66 26 P Pn **12 48 39.9 +0.3**
FLN S Sn 12 51 13.5 -7.6
comp=E,2.2nm,0.5s
FLN La Foliniere 14.66 26 *e*Pn Pn **12 48 39.9 +0.3**
FLN La Foliniere 14.66 26 *e*Pn Pn **12 48 39.9 +0.3**
FLN *e*Sn Sn 12 51 13.5 -7.6
SSF Saint Saulge 15.11 39 *e*Pn Pn **12 48 46.1 +0.4**
SSF Saint Saulge 15.11 39 P Pn **12 48 46.1 +0.4**
SSF Saint Saulge 15.11 39 *e*Pn Pn **12 48 46.1 +0.4**
SSF Saint Saulge 15.11 39 *e*Pn Pn **12 48 46.1 +0.4**
KEST Kesra 15.92 85 Pn Pn **12 48 56.9 +0.4**
comp=E,0.0nm,0.3s,baz=297,slow=18,SNR=1.9
DAVOX Davos/Dischmat 18.52 48 LR LR 12 57 31.3
comp=E,56nm,18.2s,baz=261,slow=40
GERES GERESS Array B 21.77 46 P P **12 50 05.3 +1.5**
comp=E,0.8nm,0.5s,baz=245,slow=5.7,SNR=6.4
GERES LR LR 12 58 57.0
comp=E,30nm,20.2s,baz=268,slow=38
KHC Kasperske Hory 21.83 46 *e*P P 12 50 20.0 +16
VRAC Vranov 23.68 47 LR LR 13 00 15.7
comp=E,29nm,19.6s,baz=252,slow=38
TORD Torodi Ar. Bea 25.18 152 P P **12 50 36.9 -0.6**
comp=E,0.7nm,0.4s,baz=333,slow=8.4,SNR=7.9
NOA NORSAR Array B 28.56 22 LR LR 13 03 25.3
comp=E,8.1nm,19.2s,baz=285,slow=38
HFS Hagfors 28.67 25 P P **12 51 10.3 +1.7**
comp=E,8.2nm,1.3s,baz=236,slow=15,SNR=2.8
HFS LR LR 13 03 02.9
comp=E,21nm,21.3s,baz=234,slow=37
TIRR Tirgusor 30.50 62 *e*P P **12 51 25.6 +0.7**
comp=E,4.1nm,0.9s
TIRR Tirgusor 30.50 62 *e*P P **12 51 25.6 +0.7**
comp=E,4.1nm,0.9s
FINES FINESS Array B 34.22 30 P P **12 51 58.6 +1.4**
comp=E,3.0nm,0.5s,baz=234,slow=6.9,SNR=18
FINES LR LR 13 07 13.3
comp=E,34nm,18.2s,baz=306,slow=38
ARCES ARCESS Array B 38.83 19 P P **12 52 36.9 +0.4**
comp=E,3.1nm,0.8s,baz=215,slow=8.8,SNR=2.7
ZALV Zalesovo Beam 64.58 41 LR LR 13 24 13.7
comp=E,12nm,19.9s,baz=248,slow=36
ROSC El Rosal 66.24 258 LR LR 13 21 58.7
comp=E,11nm,19.2s,baz=43,slow=33
MKAR Makanchi Array 66.42 48 P P **12 56 01.6 +0.6**
comp=E,0.3nm,0.3s,baz=306,slow=5.4,SNR=3.9
PDAR Pinedale Array 72.56 310 P P **12 56 38.5 -0.7**
comp=E,0.4nm,0.7s,baz=54,slow=7.5,SNR=5.2
ILAR Eielson Array 73.97 342 P P **12 56 46.5 -0.3**
comp=E,0.2nm,0.6s,baz=28,slow=4.2,SNR=6.1
TXAR Lajitas Array 75.91 296 P P **12 56 60.0 +1.2**
comp=E,0.3nm,0.6s,baz=69,slow=6.9,SNR=5.2
TXAR Lajitas Array 75.91 296 P P **12 57 00.0 +1.2**
SONM Songino Array 79.22 38 P P **12 57 18.1 +1.1**
comp=E,0.4nm,0.7s,baz=299,slow=5.9,SNR=2.3
HHC Hu-ho-hao-te 86.76 40 *e*P P **12 57 58.0 +1.9**
HHC PP PP **13 01 21.4 +3.5**
HHC Hu-ho-hao-te 86.76 40 SKS SKSac **13 08 19.0 -2.4**
HHC Hu-ho-hao-te 86.76 40 S S **13 08 29.9 -2.2**
HHC Hu-ho-hao-te 86.76 40 SS SS 13 14 13.4 +0.6
HHC pmax pmax
comp=Z,19nm,1.1s
HHC pmax pmax
comp=Z,83nm,5.1s
HHC LR LR
comp=N,110nm,15.5s
HHC LR LR
comp=E,97nm,16.1s
HHC LR LR
comp=Z,56nm,14.7s
WRA Warramunga Arr 145.13 72 PKPbc **PKPbc 13 04 48.7 -0.5**
comp=Z,2.2nm,0.7s,baz=313,slow=2.9,SNR=23
ASAR Alice Springs 146.78 78 PKPbc **PKPbc 13 04 54.0 -0.1**
comp=Z,1.1nm,0.6s,baz=303,slow=2.7,SNR=22

IDC 23 12:45:24.0±7.8, 16°25S×177°39W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/28, mbtmp3.5/3, Error ellipse: s-maj=348.7km s-min=37.1km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.91**	**258**	P		12 53 48.2	-0.7
	0.4nm,1.0s,baz=91,slow=8.2,SNR=1.3						
ASAR	**Alice Springs**	**46.20**	**253**	P		12 53 51.3	+0.2
	0.6nm,0.6s,baz=88,slow=8.3,SNR=13						
ILAR	**Eielson Array**	**84.06**	**13**	P		12 57 56.2	0.0
	0.2nm,0.6s,baz=225,slow=5.1,SNR=6.1						

*ISCJB **23** 13:19:58.5±0.3, 3.44S±0.03×126.96E±0.02, h33km, mb4.2/12, MS2.9/8, Error ellipse: s-maj=4.0km s-min=3.2km az=39.8*
*DJA **23** 13:19:59.8±0.2, 3°S×12°7E±°, h10km, M4.5/24, mb4.9/16, mB5.0/8, MLv4.6/24, Mw(mB)4.3/8*
*NEIC **23** 13:20:01.0±1.0, 3.42S×127.00E, h42km±12km, mb4.3/4, Error ellipse: s-maj=13.7km s-min=8.4km az=60.0*
*IDC **23** 13:20:02.6±2.3, 3.52S×127.09E, h59km±22km, mb3.8/9, mb1 4.1/12, mb1mx3.9/25, mbtmp4.2/12, ML4.2/3, MS2.9/9, Ms1 2.9/9, ms1mx2.7/30, Error ellipse: s-maj=17.9km s-min=11.3km az=75.0*

ISC 23 13:20:00.8±0.5, 3.49S±0.04×127.00E±0.05, h35km, n66, σ1°78/69, mb4.2/12, MS2.8/8, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.27**	**21**	P		13 20 01.7	-6.7
NLAI				S		13 20 05.3	-8.2
AAI	**Ambon**	**1.21**	**99**	P		**13 20 19.9**	**-1.3**
	baz=1.2,SNR=124						
SANI	**Sanana**	**1.75**	**325**	P	Pn	13 20 24.5	-4.2
SANI				S		**13 20 47.4**	**-2.5**
LBMI	**Labuha**	**2.88**	**10**	P		**13 20 42.9**	**-1.3**
LBMI				S		**13 21 16.9**	**-0.8**
BNDI	**Bandanaira**	**3.07**	**110**	P	Pn	13 20 51.4	+4.6
TNTI	**Ternate**	**4.25**	**5**	P		**13 21 01.5**	**-1.6**
TNTI	**Ternate**	**4.25**	**5**	*e*Pn		**13 21 01.4**	**-1.7**
TNTI				*e*Sn		**13 21 52.9**	**+1.4**
LUWI	**Luwuk**	**4.88**	**300**	P		**13 21 09.3**	**-2.4**
LUWI				S		**13 22 03.8**	**-3.2**
LUWI	**Luwuk**	**4.88**	**300**	P		**13 21 09.9**	**-1.8**
	baz=4.9,SNR=20						
LUWI	**Luwuk**	**4.88**	**300**	*e*Pn		**13 21 08.8**	**-2.8**
LUWI				*e*Sn		**13 22 10.8**	**+3.9**
SWI	**Sorong**	**4.99**	**59**	P		**13 21 13.9**	**+0.6**
SWI				S		**13 22 10.9**	**+1.1**
SWI	**Sorong**	**4.99**	**59**	P		**13 21 13.7**	**+0.5**
	baz=5.0,SNR=60						
SIJI	**Sorong**	**5.00**	**59**	P		**13 21 13.8**	**+0.5**
	43nm,0.3s,baz=236,slow=12,SNR=122						
SIJI				S		**13 22 10.5**	**+0.6**
	1.0nm,0.3s,baz=17,slow=19,SNR=3.4						
SIJI				LR	LR	13 23 52.6	
	comp=Z,164nm,18.2s,baz=32,slow=47						
KMSI	**Cibinong**	**5.04**	**323**	P		**13 21 11.0**	**-3.0**
KMSI				S		**13 22 09.0**	**-2.1**
FAKI	**Fak Fak**	**5.27**	**84**	P		**13 21 19.0**	**+1.9**
	86nm,1.0s,908nm0.3nm						
FAKI	**Fak Fak**	**5.27**	**84**	P		**13 21 18.5**	**+1.4**
	baz=5.3,SNR=81						
FAKI	**Fak Fak**	**5.27**	**84**	*e*Pn		**13 21 18.7**	**+1.6**
	46nm,0.5s						
FAKI				*e*Sn		**13 22 15.6**	**-1.1**
APSI	**Ampana**	**5.93**	**295**	P		**13 21 24.6**	**-1.6**
	158nm,0.6s,2μm0.6nm						
MRSI	**Marisa**	**6.41**	**308**	P		**13 21 31.1**	**-1.7**
	356nm,0.5s,5μm1.4nm						
SOEI	**Soe**	**6.79**	**203**	P	Pn	13 21 43.6	+5.5
	65nm,1.3s,0.2nm						
SOEI	**Soe**	**6.79**	**203**	Pn		13 21 42.4	+4.4
	39nm,0.7s						
BSSI	**Bau Bau, Buton**	**7.00**	**248**	P	Pn	13 21 45.0	+4.1
	67nm,0.8s,0.2nm						
BKSI	**Bulukumba**	**7.09**	**255**	P		**13 21 45.3**	**+3.1**
	55nm,1.4s,590nm0.2nm						

TTSI	**Tana Toraja**	**7.18**	**273**	P	**Pn**	**13 21 44.5**	**+1.1**
	17nm,0.8s,0.1nm						
SPSI	**Sidrap Palu**	**7.23**	**266**	P	**Pn**	**13 21 46.3**	**+2.2**
	45nm,0.7s,0.2nm						
KAPI	**Kappang**	**7.39**	**258**	P	**Pn**	**13 21 48.7**	**+2.6**
	4.6nm,0.3s,baz=100,slow=7.3,SNR=12						
KAPI				S	**Sn**	**13 23 06.9**	**-1.9**
	1.1nm,0.3s,baz=186,slow=19,SNR=2.3						
KAPI				LR	LR	13 25 29.3	
	comp=Z,100nm,18.9s,baz=92,slow=44						
KAPI	**Kappang**	**7.39**	**258**	*e*Pn	**Pn**	**13 21 46.6**	**+0.5**
	24nm,0.6s						
PCI	**Palu**	**7.61**	**290**	P	**Pn**	**13 21 49.1**	**-0.1**
	59nm,0.6s,614nm0.2nm						
TOLI	**Toli-Toli**	**7.71**	**306**	*e*Pn	**Pn**	**13 21 49.5**	**-1.2**
	115nm,0.6s						
TOLI				*e*Sn	**Sn**	**13 23 19.4**	**+2.5**
MPSI	**Mapaga**	**8.05**	**298**	P	**Pn**	**13 21 55.1**	**-0.3**
	26nm,1.0s,325nm0.1nm						
KNRA	**Kununurra**	**12.23**	**172**	P	**Pn**	**13 22 51.4**	**-1.2**
	baz=12,SNR=4.0						
WRAB	**Tennant Creek**	**17.84**	**157**	*e*Pn	**Pn**	**13 24 06.1**	**-0.4**
	7.3nm,0.4s						
WRA	**Warramunga Arr**	**17.85**	**157**	P	**Pn**	**13 24 05.0**	**-1.5**
	0.4nm,0.3s,baz=340,slow=12,SNR=11						
WRA				S	**Sn**	**13 27 21.3**	**-3.3**
	baz=8.4,slow=17,SNR=2.7						
TGY	**Tagaytay City**	**18.49**	**341**	P	**Pn**	**13 24 15.6**	**+1.2**
	31nm,0.3s,baz=59,slow=18,SNR=2.2						
COEN	**Coen**	**19.05**	**124**	P	**P**	**13 24 20.3**	**+0.1**
	baz=19,SNR=16						
COEN	**Coen**	**19.05**	**124**	*e*P	**P**	**13 24 19.3**	**-0.9**
	21nm,0.8s						
PMG	**Port Moresby**	**20.87**	**107**	LR	LR	13 33 31.1	
	comp=Z,39nm,19.2s,baz=324,slow=39						
QIS	**Mount Isa**	**20.94**	**145**	P	Pn	13 24 42.9	-0.5
	baz=21,SNR=22						
AS31	**Alice Springs**	**21.14**	**162**	*e*P	**P**	**13 24 43.6**	**+0.8**
ASAR	**Alice Springs**	**21.14**	**162**	P	**P**	**13 24 44.0**	**+1.1**
	30nm,0.7s,baz=343,slow=11,SNR=238						
ASAR				S	**S**	**13 28 33.8**	**-2.5**
	0.2nm,0.9s,baz=349,slow=24,SNR=2.3						
WRKA	**Warakurna**	**21.46**	**177**	P	**P**	**13 24 48.0**	**+1.7**
	baz=22,SNR=28						
MTSU	**Mount Surprise**	**22.35**	**132**	P	**P**	**13 24 54.4**	**-1.5**
	baz=22,SNR=6.4						
MEEK	**Meekatharra**	**24.38**	**198**	P	**P**	**13 25 16.3**	**+0.5**
	baz=24,SNR=15						
GUMO	**Guam**	**24.54**	**46**	LR	LR	13 34 40.6	
	comp=Z,14nm,21.6s,baz=222,slow=36						
PSI	**Prapat**	**28.75**	**282**	LR	LR	13 37 24.2	
	comp=Z,26nm,20.7s,baz=130,slow=36						
BBOO	**Buckleboo**	**30.38**	**165**	P	**P**	**13 26 11.2**	**+1.6**
	baz=30,SNR=7.1						
STKA	**Stephens Creek**	**31.39**	**156**	P	**P**	**13 26 17.4**	**-1.1**
	2.7nm,0.7s,baz=328,slow=10,SNR=11						
HTT	**Hallett**	**31.80**	**161**	P	**P**	**13 26 24.1**	**+1.9**
	baz=32,SNR=8.8						
CMSA	**Cobar Meteorol**	**32.98**	**150**	P	**P**	**13 26 34.3**	**+1.8**
	baz=33,SNR=6.2						
HNR	**Honiara**	**33.25**	**102**	LR	LR	13 43 13.0	
	comp=Z,29nm,18.1s,baz=68,slow=42						
CMAR	**Chiang Mai Arr**	**35.21**	**309**	P	**P**	**13 26 52.5**	**+0.5**
	0.7nm,0.7s,baz=125,slow=7.8,SNR=3.0						
ARPS	**Mount Arapiles**	**35.82**	**159**	P	**P**	**13 26 59.2**	**+2.2**
	baz=36,SNR=7.5						
KSAR	**Wonju Array Be**	**40.73**	**1**	P	**P**	**13 27 37.9**	**-0.4**
KSRS	**Korea Array**	**40.75**	**1**	P	**P**	**13 27 37.9**	**-0.5**
	1.6nm,0.8s,baz=177,slow=9.3,SNR=7.5						
KSRS				LR	LR	13 49 23.5	
	comp=Z,9.9nm,18.2s,baz=206,slow=43						
MJAR	**Matsushiro Arr**	**41.18**	**14**	LR	LR	13 42 21.8	
	comp=Z,11nm,20.9s,baz=205,slow=32						
HHC	**Hu-ho-hao-te**	**46.33**	**344**	*e*P	**P**	**13 28 25.9**	**+2.4**
HHC				PP	**PP**	**13 30 14.9**	**+2.1**
HHC				S	**S**	**13 35 12.3**	**+3.8**
HHC				sS	sS	13 35 19.9	-5.8
HHC	**Hu-ho-hao-te**	**46.33**	**344**	SS	SS	13 38 30.3	-4.4
HHC				pmax	pmax		
	comp=Z,16nm,1.1s						
HHC				pmax	pmax		
	comp=Z,40nm,5.6s						
HHC				LR	LR		
	comp=N,73nm,13.3s						
HHC				LR	LR		
	comp=E,81nm,13.1s						
HHC				LR	LR		
	comp=Z,55nm,13.3s						
USRK	**Ussuriysk Ar.**	**47.69**	**5**	P	**P**	**13 28 33.9**	**0.0**
	comp=Z,3.8nm,0.6s,baz=181,slow=6.6,SNR=12						
ULN	**Ulaanbaatar**	**54.05**	**344**	*e*P	**P**	**13 29 21.5**	**-0.4**
	comp=Z,2.0nm,0.7s						
SONM	**Songino Array**	**54.21**	**343**	P	**P**	**13 29 22.3**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=155,slow=7.7,SNR=7.4						
SONM				PcP	**PcP**	**13 30 27.3**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=145,slow=5.3,SNR=2.8						
SONM				LR	LR	13 58 16.4	
	comp=Z,12nm,18.3s,baz=145,slow=42						
MK31	**Makanchi Array**	**63.68**	**327**	*e*P	**P**	**13 30 27.6**	**-1.1**
MKAR	**Makanchi Array**	**63.68**	**327**	P	**P**	**13 30 27.6**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=131,slow=7.2,SNR=13						
ZALV	**Zalesovo Beam**	**67.14**	**334**	P	**P**	**13 30 49.9**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=131,slow=6.1,SNR=3.9						
KURK	**Kurchatov**	**67.99**	**329**	P	**P**	**13 30 53.9**	**-2.4**
	comp=Z,5.5nm,1.1s						
ILAR	**Eielson Array**	**91.47**	**25**	P	**P**	**13 33 01.0**	**-2.3**
	comp=Z,0.3nm,0.8s,baz=285,slow=3.5,SNR=3.6						
TXAR	**Lajitas Array**	**125.58**	**56**	PKP	**PKPdf**	**13 38 59.5**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=282,slow=0.8,SNR=2.6						

KMA 23 13:33:29.9, 37.76N × 129.01E, h0 km, 3C, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSJMJ	**Jumunjin**	**0.24**	**302**	P	Pg	13 33 33.8	-0.7
	SNR=157						
KSJMJ	**Jumunjin**	**0.24**	**302**	P	Pg	13 33 33.8	-0.7
	SNR=157						
KSJMJ				⇑S	Sg	13 33 37.8	+0.2
KSDGY	**Daegwallycong**	**0.28**	**256**	P	Pg	13 33 35.4	0.0
	SNR=15						
KSDGY	**Daegwallycong**	**0.28**	**256**	P	Pg	13 33 35.4	0.0
	SNR=15						
SEHB	**SEOHWA**	**0.79**	**311**	P	Pg	13 33 43.7	-1.4
	SNR=49						
SEHB	**SEOHWA**	**0.79**	**311**	P	Pg	13 33 43.7	-1.4
	SNR=49						
KSCHC	**Chuncheon**	**0.95**	**272**	P	Pg	13 33 47.5	-0.7
	SNR=17						
KSCHC	**Chuncheon**	**0.95**	**272**	P	Pg	13 33 47.5	-0.7
	SNR=17						
KSULJ	**Uljin**	**1.10**	**163**	⇑P	Pg	13 33 50.8	-0.2
	SNR=47						
KSULJ	**Uljin**	**1.10**	**163**	⇑P	Pg	13 33 50.8	-0.2
	SNR=47						
KSCHJ	**Chungju**	**1.21**	**223**	P	Pn	13 33 53.9	-0.2
	SNR=15						
KSBON	**Boeun**	**1.58**	**218**	P	Pn	13 33 58.5	-0.8
	SNR=20						
KSPHA	**Pohang**	**1.59**	**169**	P	Pb	13 33 59.7	-0.4
	SNR=9.0						
YNCB	**YEONCHEON**	**1.67**	**280**	P	Pn	13 34 00.5	0.0
	SNR=7.7						
KSMUS	**Musan**	**1.79**	**275**	P	Pb	13 34 03.1	-0.5
	SNR=7.6						
KSDAG	**Daegu**	**1.99**	**183**	P	Pb	13 34 06.7	-0.3
	SNR=10						

*SJA **23** 13:50:17.9±0.5, 37.87S × 77.23W, h33 km, ML5.2, MW5.6*
*IDC **23** 13:50:53.4±0.7, 37.07S × 73.38W, h0 km, mb4.1/9, mb1 4.2/11, mb1mx4.1/20, mbtmp4.0/11, ML3.9/2, MS3.8/9, Ms1 3.8/9, ms1mx3.5/20, Error ellipse: s-maj=29.9km s-min=18.3km az=97.0*
*NEIC **23** 13:50:56.0, 37.02S × 73.54W, h9 km, mb4.4/3, ML5.1(GUC), After GUC.*
NEIC Felt [IV] at Chiguayante, Concepcion, Penco and Talcahuano; [III] at Arauco, La Laja and San Rosendo.
*GUC **23** 13:50:56.6±0.7, 37.02S × 73.55W, h9 km±2km, ML5.1*
ISC 23 13:50:54.0±3.4, 36.98S±0.05 × 73.63W±0.07, h6 km±20km, n49, σ1§31/57, mb4.2/12, MS3.8/6, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC

CCSP	**San Pedro de C**	**0.43**	**72**	⇑*i*P	**Pb**	**13 51 05.0**	**+0.9**
CCSP				*i* S	**Sb**	**13 51 10.9**	**+0.1**
CCSP				AML	AML	13 51 12.3	
	comp=N,164μm,0.7s						
U14B	**Concepcin**	**0.45**	**75**	⇑*i*P	**Pb**	**13 51 05.0**	**+0.6**
U14B				*e*S	**Sb**	**13 51 10.9**	**-0.5**
U14B				AML	AML	13 51 13.2	
	comp=E,796μm,0.5s						
U14B	**Concepcin**	**0.45**	**75**	*e*Pg	**Pb**	**13 51 05.2**	**+0.7**
U14B				*e*Sg	**Sb**	**13 51 10.8**	**-0.5**
COCH	**Cobquecura**	**1.08**	**39**	⇓*i*P	**Pn**	**13 51 15.7**	**+0.1**
COCH				*i* S	**Sn**	**13 51 30.7**	**-0.2**
LNCH	**Linares**	**1.98**	**56**	*e*P	**Pb**	**13 51 30.7**	**+0.1**
LNCH				*e*S	**Sb**	**13 51 55.2**	**-0.3**
CANA	**Caviahue**	**2.23**	**115**	*e*P	**Pn**	**13 51 32.9**	**+1.2**
TALC	**Talca**	**2.25**	**46**	⇓*i*P	**Pb**	**13 51 34.1**	**-1.0**
TALC				*i* S	**Sb**	**13 52 03.6**	**+0.4**
U65B	**HualaæØ**	**2.50**	**37**	*e*Pn	**Pn**	**13 51 35.7**	**+0.5**
U65B				*e*Sn	**Sn**	**13 52 06.0**	**0.0**
U73B	**San Pedro**	**3.55**	**31**	*e*Pn	**Pn**	**13 51 49.7**	**+0.1**
U73B				*e*Sn	**Sn**	**13 52 33.1**	**+1.3**
PEL	**Peldehue**	**4.52**	**33**	⇓*i*P	**Pn**	**13 52 03.6**	**+0.5**
PEL				*i* S	**Sn**	**13 52 56.6**	**+0.6**
AAGR	**Agrelo**	**5.53**	**47**	*e*P	**Pn**	**13 52 19.6**	**+2.6**
ARCO	**CERRO ARCO**	**5.65**	**44**	*e*P	**Pn**	**13 52 21.5**	**+2.8**
ASAL	**Salagasta**	**5.89**	**43**	*e*P	**Pn**	**13 52 23.4**	**+1.5**
ASAL				*e*S	Sg	13 53 56.5	-6.7
AUSP	**Uspallata**	**5.89**	**38**	*e*P	**Pn**	**13 52 23.6**	**+1.4**
RTLS	**Leoncito**	**6.28**	**36**	*e*P	**Pn**	**13 52 29.1**	**+1.7**
RTLS				*e*S	**Sb**	**13 54 04.2**	**+4.7**
RTCV	**Cerro Valdivia**	**6.61**	**41**	*e*P	**Pn**	**13 52 31.7**	**-0.1**
CFAA	**Coronel Fontan**	**6.97**	**41**	Pn	**Pn**	**13 52 36.4**	**-0.3**
	comp=E,0.6nm,0.3s,baz=218,slow=11,SNR=19						
CFAA				Sn	**Sn**	**13 53 55.4**	**-1.0**
	comp=E,0.7nm,0.3s,baz=266,slow=16,SNR=3.0						
CFAA				LR	LR	13 55 28.8	
	comp=E,125nm,18.4s,baz=220,slow=40						
CFAA	**Coronel Fontan**	**6.97**	**41**	*e*P	**Pn**	**13 52 37.0**	**+0.3**
RTLL	**Cerro Villicun**	**7.07**	**39**	*e*P	**Pn**	**13 52 38.0**	**-0.1**
RTLL				*e*S	**Sb**	**13 54 18.4**	**-3.5**
AVFE	**Valle Fertil**	**8.13**	**41**	*e*P	**Pn**	**13 52 51.9**	**-0.7**
AVFE				*e*S	Sb	13 54 40.0	-12
AVFE				AML	AML	13 55 17.7	
	comp=Z,42nm,0.7s						
LCO	**Las Campanas**	**8.32**	**18**	*e*Pn	**Pn**	**13 52 53.6**	**-1.8**
	comp=Z,26nm,0.4s						
LCO				*e*Sn	**Sn**	**13 54 31.1**	**+1.4**
TRQA	**Tornquist**	**9.32**	**100**	*e*Pn	**Pn**	**13 53 09.0**	**+0.2**
	comp=Z,7.6nm,0.6s						
TRQA				*e*Sn	**Sn**	**13 54 54.4**	**+0.4**
LVC	**Limon Verde**	**14.89**	**17**	Pn	**P**	**13 54 30.9**	**-0.3**
	comp=Z,19nm,0.3s,baz=273,slow=8.9,SNR=4.0						
LVC				LR	LR	14 00 35.7	
	comp=Z,621nm,20.9s,baz=202,slow=39						
CPUP	**Villa Florida**	**17.44**	**57**	Pn	**Pn**	**13 54 56.1**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=232,slow=12,SNR=4.2						
USHA	**Ushuaia**	**18.21**	**170**	LR	LR	14 03 24.2	
	comp=Z,467nm,18.0s,baz=268,slow=42						
LPAZ	**La Paz**	**21.18**	**15**	P	**P**	**13 55 42.5**	**+1.7**
	comp=Z,8.4nm,0.9s,baz=165,slow=11,SNR=14						
LPAZ	**La Paz**	**21.18**	**15**	*e*P	**P**	**13 55 39.8**	**-1.0**
	comp=Z,11nm,1.0s						
SIV	**San Ignacio**	**23.69**	**31**	P	**P**	**13 56 06.1**	**-0.4**
	comp=Z,7.6nm,0.8s,baz=214,slow=9.5,SNR=21						
SIV				LR	LR	14 07 03.7	
	comp=Z,246nm,19.6s,baz=177,slow=41						
PMSA	**Palmer Station**	**28.41**	**171**	LR	LR	14 07 25.4	
	comp=Z,226nm,19.6s,baz=330,slow=35						
BDFB	**Brasilia**	**31.11**	**54**	LR	LR	14 10 60.0	
	comp=Z,390nm,18.5s,baz=227,slow=39						
SNAA	**Sanae**	**49.34**	**157**	P	**P**	**13 59 43.1**	**-0.6**
	comp=Z,1.4nm,0.9s,baz=273,slow=8.6,SNR=10.0						
SNAA	**Sanae**	**49.34**	**157**	*e*P	**P**	**13 59 42.1**	**-1.5**
	comp=Z,6.0nm,1.5s						
QSPA	**South Pole Qui**	**53.26**	**180**	P	**P**	**14 00 13.2**	**-0.1**
	comp=Z,6.4nm,0.9s,baz=163,slow=3.1,SNR=14						
VNDA	**Vanda**	**60.93**	**192**	LR	LR	14 22 56.0	
	comp=Z,38nm,19.2s,baz=84,slow=32						
MAW	**Mawson**	**70.69**	**164**	LR	LR	14 31 55.0	
	comp=Z,90nm,21.1s,baz=240,slow=35						
TXAR	**Lajitas Array**	**71.74**	**333**	P	**P**	**14 02 18.1**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=150,slow=7.6,SNR=7.2						
SWET	**Sewanee**	**72.74**	**349**	*e*P	**P**	**14 02 22.9**	**+0.1**
	comp=Z,9.2nm,0.8s						
LIC	**Lamto**	**76.94**	**72**	*e*P	P	14 02 54.3	+6.7
	comp=Z,51nm,1.4s						
TIC	**Toumodi**	**77.21**	**72**	*e*P	P	14 02 55.9	+6.7
KIC	**Kosan Boka**	**77.24**	**72**	*e*P	P	14 02 56.0	+6.6
	comp=Z,21nm,0.9s						
DBIC	**Dimbokro**	**77.35**	**72**	P	**P**	**14 02 49.7**	**-0.3**
	comp=Z,7.7nm,0.9s,baz=260,slow=6.1,SNR=4.6						
DBIC				LR	LR	14 35 02.8	
	comp=Z,47nm,18.0s,baz=198,slow=34						
NVAR	**Mina Array Bea**	**85.61**	**326**	P	**P**	**14 03 35.2**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=170,slow=6.2,SNR=4.2						
PDAR	**Pinedale Array**	**85.86**	**334**	P	**P**	**14 03 35.9**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=142,slow=4.6,SNR=3.5						
TORD	**Torodi Ar. Bea**	**86.43**	**71**	P	**P**	**14 03 36.6**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=225,slow=4.7,SNR=3.8						
WRA	**Warramunga Arr**	**117.54**	**210**	PKP	**PKPdf**	**14 09 40.3**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=167,slow=1.6,SNR=3.7						
BRTR	**Keskin Array B**	**124.37**	**63**	PKP	**PKPdf**	**14 09 53.8**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=202,slow=1.6,SNR=2.8						
ZALV	**Zalesovo Beam**	**157.42**	**34**	PKP	**PKPdf**	**14 10 49.8**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=270,slow=0.3,SNR=2.4						
ZALV				PKPab	**PKPab**	**14 11 22.4**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=305,slow=5.2,SNR=3.6						
MKAR	**Makanchi Array**	**159.63**	**54**	PKP	**PKPdf**	**14 10 52.9**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=332,slow=1.0,SNR=5.2						
MKAR				PKPab	**PKPab**	**14 11 31.4**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=290,slow=3.6,SNR=7.1						
SONM	**Songino Array**	**169.15**	**360**	PKPab	**PKPab**	**14 12 14.3**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=330,slow=5.9,SNR=4.9						

*INMG **23** 14:00:08.3±0.7, 32.48N × 8.10W, h0 km, ML2.5, Error ellipse: s-maj=6.8km s-min=6.2km az=110.0*
MDD 23 14:00:06.5±3.4, 32.18N × 7.70W, h20 km, mb3.8/4, Error ellipse: s-maj=49.6km s-min=30.1km az=103.0, PRXIMO, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVAQ	**Vaqueiros**	**5.21**	**360**	*e*Pn	Pn	14 01 22.2	-1.1
PVAQ				*e*Sn	Sn	14 02 18.5	-4.4
PVAQ				A	A	14 02 20.1	
	4.9nm,0.7s						
PVAQ	**Vaqueiros**	**5.21**	**360**	P	Pn	14 01 22.2	-1.1
PVAQ				S	Sn	14 02 18.5	-4.4
	4.9nm,0.7s						
EGRO	**El Granado**	**5.35**	**2**	P	Pn	14 01 24.0	-1.1
	0.6nm,0.1s,SNR=7.9						
EGRO				S	Sn	14 02 21.1	-5.0
	3.9nm,0.4s,SNR=7.9						
PTEO	**Sao Teotonio**	**5.42**	**351**	*e*Pn	Pn	14 01 25.1	-1.0
PTEO	**Sao Teotonio**	**5.42**	**351**	P	Pn	14 01 25.1	-1.0
PCVE	**Castro Verde**	**5.45**	**357**	*e*Pn	Pn	14 01 25.7	-0.8
PCVE				*e*Sn	Sn	14 02 23.4	-5.3
PCVE				A	A	14 02 28.0	
	3.9nm,0.7s						
PCVE	**Castro Verde**	**5.45**	**357**	P	Pn	14 01 25.7	-0.8
PCVE				S	Sn	14 02 23.4	-5.3
	3.9nm,0.7s						
EMIN	**Mina Concepcio**	**5.64**	**8**	P	Pn	14 01 27.8	-1.4
	0.7nm,0.2s,SNR=7.8						
EMIN				S	Sn	14 02 27.8	-5.5
	4.4nm,0.5s,SNR=6.9						
MESJ	**Messejana**	**5.67**	**356**	*e*Pn	Pn	14 01 29.0	-0.5
MESJ	**Messejana**	**5.67**	**356**	P	Pn	14 01 29.0	-0.5
PNCL	**Nicolau / Gran**	**5.96**	**354**	*e*Pn	Pn	14 01 32.6	-0.9
PNCL				*e*Sn	Sn	14 02 35.9	-5.3
PBAR	**Barrancos**	**6.01**	**5**	*e*Pn	Pn	14 01 33.6	-0.6
PBAR				*e*Sn	Sn	14 02 38.0	-4.4
PBAR				A	A	14 02 41.6	
	4.6nm,0.3s						
PBAR	**Barrancos**	**6.01**	**5**	P	Pn	14 01 33.6	-0.6
PBAR				S	Sn	14 02 38.0	-4.4
	4.6nm,0.3s						
ECAB	**El Cabril**	**6.17**	**17**	P	Pn	14 01 35.6	-0.9
	0.4nm,0.1s,SNR=7.9						
ECAB				S	Sn	14 02 41.2	-5.4
	1.9nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**6.50**	**22**	P	Pn	14 01 40.4	-0.7
	0.7nm,0.2s,SNR=7.9						
EADA				S	Sn	14 02 48.4	-6.2
	0.9nm,0.3s,SNR=7.9						
PMTG	**Montargil**	**6.89**	**357**	*e*Pn	Pn	14 01 45.5	-0.8
PMRV	**Marv??o**	**7.24**	**2**	*e*Pn	Pn	14 01 50.6	-0.6
PMRV	**Marv??o**	**7.24**	**2**	P	Pn	14 01 50.6	-0.6

*ISCJB **23** 14:03:33.1±0.4, 7.24N±0.06 × 76.99W±0.05, h26 km, mb4.4/28, MS3.4/9, Error ellipse: s-maj=8.4km s-min=6.1km az=24.0*
*NEIC **23** 14:03:37.4±0.8, 7.20N × 77.06W, h54 km±7km, mb4.6/14, Error ellipse: s-maj=9.8km s-min=7.5km az=50.0*
*IDC **23** 14:03:37.5±2.9, 7.09N × 77.06W, h51 km±26km, mb3.8/14, mb1 4.1/17, mb1mx3.9/30, mbtmp4.1/17, ML3.8/3, MS3.4/15, Ms1 3.4/15, ms1mx3.2/31, Error ellipse: s-maj=21.7km s-min=14.0km az=45.0*
ISC 23 14:03:35.1±0.5, 7.23N±0.06 × 76.98W±0.06, h26 km, n59, σ1§47/56, mb4.5/29, MS3.3/9, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCIP	**Isla Barro Col**	**3.42**	**304**	*e*Pn	**Pn**	**14 04 27.1**	**+0.4**
BCIP				*e*Sn	**Sn**	**14 05 09.7**	**+3.2**
ROSC	**El Rosal**	**3.54**	**132**	P	Pb	14 04 33.6	-3.6
	17nm,0.3s,baz=44,slow=1.6,SNR=30						
ROSC				S	**Sb**	**14 05 18.6**	**-1.2**
	6.1nm,0.3s,baz=90,slow=20,SNR=2.7						
ROSC				LR	LR	14 06 13.2	
	comp=Z,557nm,19.9s,baz=328,slow=44						
ROSC	**El Rosal**	**3.54**	**132**	*e*Pn	Pn	14 04 32.7	+4.0
ROSC				*e*Sn	**Sn**	**14 05 12.3**	**+2.4**
SDV	**Santo Domingo**	**6.50**	**75**	Pn	**Pn**	**14 05 09.3**	**+0.1**
SDV				*e*Sn	**Sn**	**14 05 21.9**	**-0.8**
OTAV	**Otavalo**	**7.10**	**192**	*e*Pn	**Pn**	**14 05 19.**	**+1.4**
JTS	**JuntasAbangare**	**8.45**	**292**	P	**Pn**	**14 05 38.8**	**+2.9**
	0.4nm,0.3s,baz=80,slow=12,SNR=3.4						
JTS				LR	LR	14 09 08.8	
	comp=Z,314nm,18.6s,baz=90,slow=39						
JTS	**JuntasAbangare**	**8.45**	**292**	Pn	**Pn**	**14 05 36.0**	**+0.2**
	20nm,1.0s						
LGNH	**LØogne**	**12.00**	**20**	*e*Pn	**Pn**	**14 06 27.2**	**+2.7**
WSYH	**La Gonave Hosp**	**12.21**	**19**	*e*Pn	**Pn**	**14 06 29.7**	**+2.3**
PCRV	**Puerto La Cruz**	**12.55**	**76**	P	**Pn**	**14 06 35.1**	**+3.0**
	1.5nm,0.3s,baz=236,slow=9.5,SNR=3.4						
PCRV				S	Sn	14 08 43.7	-7.4
	0.4nm,0.3s,baz=306,slow=16,SNR=2.9						
PCRV				LR	LR	14 13 11.7	
	comp=Z,89nm,19.7s,baz=280,slow=45						
SDDR	**Presa de Saban**	**12.93**	**25**	*e*Pn	**Pn**	**14 06 38.7**	**+1.4**
ATAH	**Atahualpa**	**14.34**	**186**	LR	LR	14 14 07.1	
	comp=Z,113nm,21.0s,baz=3.1,slow=44						
SJG	**San Juan**	**15.11**	**43**	LR	LR	14 13 12.9	
	comp=Z,88nm,21.2s,baz=134,slow=38						
PTGA	**Pitinga**	**18.72**	**114**	P	**Pn**	**14 07 52.6**	**+0.2**
	0.3nm,0.3s,baz=298,slow=18,SNR=2.5						
NNA	**Nana**	**19.09**	**180**	LR	LR	14 16 53.9	
	comp=Z,125nm,20.7s,baz=341,slow=42						
CMIG	**Matias Romero**	**20.04**	**301**	LR	LR	14 17 00.6	
	comp=Z,145nm,19.2s,baz=126,slow=40						
LPAZ	**La Paz**	**24.95**	**160**	P	**P**	**14 08 55.4**	**-1.9**
	4.1nm,0.9s,baz=345,slow=8.0,SNR=4.0						
SIV	**San Ignacio**	**27.93**	**146**	P	**P**	**14 09 22.4**	**-1.1**
	2.9nm,0.7s,baz=329,slow=13,SNR=3.8						
TKL	**Tuckaleechee C**	**28.97**	**349**	LR	LR	14 22 16.2	
	comp=Z,58nm,18.7s,baz=210,slow=38						
WVT	**Waverly**	**30.43**	**342**	*e*P	**P**	**14 09 46.0**	**+0.6**
	9.7nm,0.8s						
USIN	**University of**	**32.10**	**344**	*e*P	**P**	**14 09 59.6**	**-0.5**
	93nm,0.7s						
TXAR	**Lajitas Array**	**33.39**	**315**	P	**P**	**14 10 11.6**	**-0.1**
	0.2nm,0.8s,baz=132,slow=5.6,SNR=3.5						
TXAR				PcP	**PcP**	**14 12 53.6**	**+0.6**
	1.3nm,0.9s,baz=140,slow=6.6,SNR=10						
TXAR				LR	LR	14 27 55.8	
	comp=Z,27nm,18.2s,baz=0.0,slow=44						
HDIL	**Hopedale**	**34.96**	**344**	*e*P	**P**	**14 10 23.6**	**-1.5**
	36nm,0.7s						
BDFB	**Brasilia**	**36.60**	**129**	LR	LR	14 26 31.6	
	comp=Z,166nm,21.0s,baz=310,slow=38						
CPUP	**Villa Florida**	**38.43**	**151**	LR	LR	14 28 07.3	
	comp=Z,48nm,18.1s,baz=338,slow=38						
AGMN	**Agassiz Nation**	**43.95**	**

LZH	**Lanzhou**	**136.91**	**359**	*e*PKP	**PKPdf**	**14**	**22**	**56.5 +0.2**
LZH				sPKP		14	23	17.0
LZH				LN				
	100nm,17.9s							
LZH				LE				
	110nm,18.0s							
LZH				LZ				
	140nm,20.2s							
CD2	**Chengdu**	**142.07**	**359**	PKP	**PKPdf**	**14**	**23**	**03.5 -2.2**
ASAR	**Alice Springs**	**146.16**	**238**	PKPbc	**PKPdf**	**14**	**23**	**12.2 -0.8**
	1.5nm,0.8s,baz=116,slow=3.5,SNR=13							
WRA	**Warramunga Arr**	**147.12**	**244**	PKPbc	**PKPdf**	**14**	**23**	**14.2 -0.5**
	1.9nm,0.9s,baz=103,slow=2.6,SNR=7.5							

*IDC **23** 14:14:20.8±1.6, 12°.22N×87°.14W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/25, mbtmp3.8/5, ML3.4/1, Error ellipse: s-maj=85.9km s-min=22.8km az=50.0*
*ISCJB **23** 14:14:23.0±1.0, 12°.1N±0°.2×87°.5W±0°.2, h37km, mb3.7/5, Error ellipse: s-maj=39.1km s-min=9.4km az=38.3*
*NEIC **23** 14:14:22.1±0.9, 12°.32N×87°.10W, h10km, mb4.0/1, Error ellipse: s-maj=40.4km s-min=11.2km az=48.0*
ISC 23 14:14:25.1±1.0, 12°.2N±0°.2×87°.3W±0°.2, h37km, n7, σ1§60/8, mb3.9/5, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**2.96**	**129**	*e*Pn	**Pn**	**14**	**15**	**08.6 -0.9**
CMIG	**Matias Romero**	**8.83**	**305**	Pn	**Pn**	**14**	**16**	**30.0 -0.1**
	0.4nm,0.3s,baz=138,slow=14,SNR=4.3							
CMIG				Sn	**Sn**	14	18	07.1 -1.4
	0.2nm,0.3s,baz=224,slow=19,SNR=1.8							
TXAR	**Lajitas Array**	**22.89**	**321**	P	**P**	**14**	**19**	**26.8 +1.0**
	1.7nm,0.8s,baz=133,slow=10,SNR=13							
MIAR	**Mount Ida**	**23.01**	**347**	*e*P	**P**	**14**	**19**	**24.6 -2.1**
	3.8nm,0.8s							
PDAR	**Pinedale Array**	**36.10**	**332**	P	**P**	**14**	**21**	**25.8 +2.1**
	0.3nm,0.6s,baz=145,slow=9.6,SNR=3.5							
SIV	**San Ignacio**	**38.15**	**137**	P	**P**	**14**	**21**	**41.5 +0.4**
	1.5nm,0.6s,baz=313,slow=11,SNR=6.6							
ULM	**Lac du Bonnet**	**38.63**	**351**	P	**P**	**14**	**21**	**44.7 0.0**
	1.6nm,0.5s,baz=162,slow=14,SNR=3.2							

*ISK **23** 14:18:29.8, 38°.73N×37°.46E, h5km, MD2.7*
*DDA **23** 14:18:34.8, 38°.76N×37°.21E, h7km, MD2.6*
CSEM 23 14:18:30.4±0.4, 38°.75N×37°.53E, h5km, MD2.7, Error ellipse: s-maj=10.0km s-min=7.5km az=30.0, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DARE	**Darende-Malaty**	**0.18**	**191**	*e*PG	Pg	14	18	33.2 -1.0
DARE				*e*SG	Sg	14	18	36.2 -0.5
DARE	**Darende-Malaty**	**0.18**	**191**	*e*Pg	Pg	14	18	33.2 -1.0
DARE				*e*Sg	Sg	14	18	36.2 -0.5
CUGUR	**Gurin_S¨VAS**	**0.20**	**263**	*i* P	Pg	14	18	35.3 +0.7
CUGUR				*i* S	Sg	14	18	39.3 +1.8
CUKAN	**kangal_SIVAS**	**0.57**	**355**	*i* P	Pn	14	18	45.5 +0.1
CUKAN				*i* S	Sn	14	18	55.7 +0.4
MALT	**Malatya**	**0.83**	**121**	*e*PG	Pb	14	18	47.0 -0.4
MALT	**Malatya**	**0.83**	**121**	*e*Pg	Pb	14	18	47.0 -0.5
PINB	**Pinarbasi**	**0.88**	**266**	*i* P	Pg	14	18	47.8 0.0
PINB				*i* S	Sb	14	19	01.2 +0.3
PINB	**Pinarbasi**	**0.88**	**266**	*i* P	Pg	14	18	47.8 +0.1
PINB				*i* S	Sb	14	19	01.2 +0.2
SVSK	**Karacayir**	**1.24**	**341**	*e*PN	Pg	14	18	53.7 -0.4
SVSK	**Karacayir**	**1.24**	**341**	*e*Pn	Pg	14	18	53.7 -0.4
KMRS	**Kahramanmaras**	**1.34**	**202**	*e*PN	Pn	14	18	55.8 0.0
KMRS	**Kahramanmaras**	**1.34**	**202**	*e*Pn	Pn	14	18	55.8 0.0
URFA	**Urfa**	**1.66**	**142**	*e*PN	Pn	14	19	00.7 +0.5
URFA	**Urfa**	**1.66**	**142**	*e*Pn	Pn	14	19	00.7 +0.4

*SJA **23** 14:32:51.2±0.9, 34°.34S×74°.03W, h32km±47km, ML3.7, MW4.0*
*GUC **23** 14:32:54.4±0.5, 34°.74S×73°.45W, h28km±2km, ML4.3*
ISC 23 14:32:56.0±3.8, 34°.77S±0°.06×73°.5W±0°.2, h35km, n13, σ1§06/20, 6C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**1.69**	**113**	⇑*i* P	**Pn**	**14**	**33**	**22.2 -0.8**
TALC				*i* S	**Sn**	14	33	43.4 **0.0**
NICH	**Los Niches**	**1.92**	**98**	⇑*i* P	**Pn**	**14**	**33**	**25.7 -0.4**
NICH				*i* S	**Sn**	14	33	**49.4 +0.4**
LNCH	**Linares**	**1.92**	**125**	⇑*i* P	**Pn**	**14**	**33**	**26.1 0.0**
LNCH				*i* S	**Sn**	14	33	**50.0 +0.9**
LNV	**Longovilo**	**1.94**	**66**	⇑*i* P	**Pn**	**14**	**33**	**24.8 -1.6**
CHCH	**Chadas Angostu**	**2.53**	**72**	⇓*i* P	**Pn**	**14**	**33**	**33.9 -0.7**
CHCH				*i* S	**Sn**	**14**	**34**	**04.1 -0.2**
CLCH	**Cerro Calan**	**2.84**	**62**	⇑*i* P	**Pn**	**14**	**33**	**38.0 -0.9**
CLCH				*i* S	**Sn**	**14**	**34**	**11.6 -0.5**
CLCH				AML	AML	14	34	17.8
	comp=N,533nm,0.7s							
PEL	**Peldehue**	**2.87**	**57**	⇑*i* P	**Pn**	**14**	**33**	**38.9 -0.4**
PEL				*i* S	**Sn**	**14**	**34**	**12.3 -0.4**
PEL				AML	AML	14	34	14.8
	comp=E,2µm,0.5s							
AUSP	**Uspallata**	**4.30**	**55**	*i* P	Pn	14	34	00.8 +1.6
AUSP				*e*S	Sn	14	34	51.2 +3.0
ASAL	**Salagasta**	**4.48**	**62**	*i* P	Pn	14	34	03.6 +2.0
ASAL				*e*S	Sn	14	34	56.8 +4.2
RTCV	**Cerro Valdivia**	**5.09**	**57**	*i* P	Pn	14	34	10.9 +1.0
RTCV				*e*S	**Sn**	**14**	**35**	**09.4 +2.0**
CFAA	**Coronel Fontan**	**5.45**	**56**	*i* P	**Pn**	**14**	**34**	**15.1 +0.4**
CFAA				⇓*e*S	**Sn**	**14**	**35**	**18.5 +2.2**
RTLL	**Cerro Villicun**	**5.46**	**53**	*i* P	**Pn**	**14**	**34**	**15.5 +0.6**
RTLL				*e*S	**Sn**	**14**	**35**	**18.1 +1.5**
AVFE	**Valle Fertil**	**6.56**	**53**	*i* P	**Pn**	**14**	**34**	**29.3 -0.7**
AVFE				*e*S	**Sn**	**14**	**35**	**42.9 -0.8**
AVFE				AML	AML	14	35	51.6
	comp=Z,16nm,0.4s							

*BJI **23** 14:34:05.6, 5°.57S×102°.60E, h58km, mb5.1/59, mB4.9/40, Ms4.5/36, Ms7 4.0/35*
*MOS **23** 14:34:12.7±1.1, 4°.27S×102°.79E, h38km, mb5.3/57, Error ellipse: s-maj=11.0km s-min=5.2km az=113.1*
*NEIC **23** 14:34:13.2±0.2, 4°.53S×102°.45E, h35km, mb5.1/33, Error ellipse: s-maj=7.7km s-min=5.2km az=46.0*
*IDC **23** 14:34:15.9±0.7, 4°.39S×102°.66E, h54km±5km, mb4.6/32, mb1 4.6/34, mb1mx4.5/45, mbtmp4.9/34, MS3.5/18, Ms1 3.6/18, ms1mx3.3/43, Error ellipse: s-maj=14.6km s-min=8.4km az=63.0*
*KLM **23** 14:34:15.9, 4°.68S×102°.56E, h50km, mb5.0, ML5.0, MS6.0*
*DJA **23** 14:34:15.4±0.4, 5°.S±2°×10°.3E±°, h27km±4km, M5.0/31, mb5.1/21, mB5.4/9, MLv5.2/31, Mw(mB)4.8/9*
*ISCJB **23** 14:34:15.3±0.4, 4°.57S±0°.03×102°.56E±0°.03, h68km±3km, mb5.0/92, Error ellipse: s-maj=5.9km s-min=2.8km az=44.8*
ISC 23 14:34:15.8±0.3, 4°.62S±0°.04×102°.51E±0°.04, h59km±2km, h59km: pP-P, n534, σ1§36/588, mb5.1/93, MS3.5/17, 39C-24D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**0.52**	**60**	P	**Pn**	**14**	**34**	**27.0 -1.0**
MNAI				S	**Sn**	**14**	**34**	**34.6 -2.1**
MNAI	**Manna**	**0.52**	**60**	*e*Pn	**Pn**	**14**	**34**	**26.9 -1.0**
MNAI				*e*Sn	**Sn**	**14**	**34**	**33.8 -2.9**
KSI	**Kapahiang**	**0.97**	**5**	P	**Pn**	**14**	**34**	**33.2 -0.3**
KSI				S	**Sn**	**14**	**34**	**46.6 +0.1**
LHSI	**Lahat**	**1.28**	**52**	P	**Pn**	**14**	**34**	**37.5 -0.1**
LHSI				S	**Sn**	**14**	**34**	**53.7 -0.2**
LWLI	**Liwa**	**1.59**	**104**	P	**Pn**	**14**	**34**	**41.8 -0.1**
LWLI				S	**Sn**	**14**	**35**	**00.7 -0.9**
MDSI	**Maura Dua**	**1.67**	**85**	P	**Pn**	**14**	**34**	**42.7 -0.1**
MDSI				S	**Sn**	**14**	**35**	**02.9 -0.3**
KASI	**Kota Agung**	**2.17**	**114**	P	**Pn**	**14**	**34**	**49.6 -0.1**
KASI				S	**Sn**	**14**	**35**	**14.0 -1.5**
KLSI		**2.22**	**92**	P	**Pn**	**14**	**34**	**50.7 +0.5**
KLI	**Kotabumi**	**2.35**	**96**	P	**Pn**	**14**	**34**	**52.6 +0.5**
KLI				S	**Sn**	**14**	**35**	**21.0 +1.1**
PMBI	**Palembang**	**2.82**	**53**	P	**Pn**	**14**	**34**	**57.6 -0.9**
BLSI	**Bandar Lampung**	**2.83**	**105**	S	**Sn**	**14**	**35**	**32.8 +1.3**
PPSI	**Pulau Pagai**	**3.10**	**306**	P	**Pn**	**14**	**35**	**02.9 +0.5**
JMBI	**JAMBI**	**3.18**	**21**	P	**Pn**	**14**	**35**	**03.8 +0.4**
CGJI	**Cibinong**	**3.74**	**122**	P	**Pn**	**14**	**35**	**10.9 -0.1**
CGJI				S	**Sn**	**14**	**35**	**51.0 -2.8**
SDSI	**Sungai Dareh**	**3.82**	**344**	P	**Pn**	**14**	**35**	**13.0 +0.8**
RGRI	**Rengat**	**4.25**	**358**	P	**Pn**	**14**	**35**	**20.0 +1.9**
PPBI	**Pangkal Pinang**	**4.37**	**56**	P	**Pn**	**14**	**35**	**19.9 +0.2**
DSRI	**Dabo**	**4.61**	**27**	P	**Pn**	**14**	**35**	**23.4 +0.4**
PPI	**Padang Panjang**	**4.64**	**333**	P	**Pn**	**14**	**35**	**23.9 +0.4**
PPI	**Padang Panjang**	**4.64**	**333**	P	**Pn**	**14**	**35**	**24.4 +0.9**
	baz=4.6,SNR=16							
SKJI	**Sukabumi**	**4.67**	**121**	P	Pn	14	35	27.6 +3.7
CBJI	**Citeko**	**4.68**	**113**	P	Pn	14	35	30.2 +6.3
SISI	**Saibi**	**4.73**	**314**	P	**Pn**	**14**	**35**	**25.3 +0.6**
BKNI	**Bangkinang**	**5.13**	**343**	P	**Pn**	**14**	**35**	**31.6 +1.5**
	506nm,0.9s,8µm3.8nm							
BKNI	**Bangkinang**	**5.13**	**343**	*e*Pn	**Pn**	**14**	**35**	**30.4 +0.2**
CNJI	**Cibinong**	**5.32**	**120**	P	**Pn**	**14**	**35**	**32.5 -0.2**
	204nm,1.1s,5µm1.8nm							
TPI	**Tanjungpandan**	**5.46**	**70**	P	**Pn**	**14**	**35**	**34.1 -0.6**
	74nm,0.6s,906nm1.4nm							
LEM	**Lembang**	**5.54**	**114**	P	**Pn**	**14**	**35**	**37.9 +2.0**
	175nm,0.9s,3µm0.9nm							
LEM	**Lembang**	**5.54**	**114**	P	Pn	14	35	39.7 +3.9
	8.4nm,0.3s,baz=342,slow=14,SNR=16							
LEM				S	**Sn**	**14**	**36**	**40.1 +1.8**
	10nm,0.3s,baz=288,slow=20,SNR=2.3							
LEM				LR	LR	14	38	06.1
	comp=Z,606nm,19.8s,baz=260,slow=42							
LEM	**Lembang**	**5.54**	**114**	P	Pn	14	35	39.7 +3.9
LEM				S	**Sn**	**14**	**36**	**40.1 +1.8**
LEM				pmax	pmax			
	comp=Z,8.0nm,0.3s							
LEM				smax	smax			
	comp=N,10.0nm,0.3s							
LEM				MLR	MLR			
	comp=Z,606nm,19.8s							
CISI	**Cisompet, Garu**	**6.03**	**119**	P	**Pn**	**14**	**35**	**42.3 -0.2**
	comp=Z,202nm,0.7s,comp=Z,6µmcomp=Z,2.3nm							
CISI	**Cisompet, Garu**	**6.03**	**119**	P	**Pn**	**14**	**35**	**42.5 -0.1**
	baz=6.1,SNR=21							
CISI	**Cisompet, Garu**	**6.03**	**119**	*e*Pn	**Pn**	**14**	**35**	**40.5 -2.0**
BTDF	**Bukit Timah Da**	**6.08**	**12**	P	**Pn**	**14**	**35**	**44.2 +1.1**
	baz=6.1,SNR=18							
BTDF				P	**Pn**	**14**	**35**	**44.2 +1.1**
	baz=6.1,SNR=18							
MNSI	**Mandailing Nat**	**6.12**	**331**	P	**Pn**	**14**	**35**	**43.7 -0.1**
	comp=Z,102nm,0.6s,comp=Z,2µmcomp=Z,0.8nm							
PBSI	**Pulau Batu**	**6.20**	**317**	P	**Pn**	**14**	**35**	**45.5 +0.7**
	comp=Z,237nm,0.7s,comp=Z,3.1nm							
MYKOM	**Kota Tinggi**	**6.51**	**12**	⇑P	**Pn**	**14**	**35**	**50.3 +1.2**
MYKOM	**Kota Tinggi**	**6.51**	**12**	⇑P	**Pn**	**14**	**35**	**50.3 +1.2**
KGM	**Kluang**	**6.64**	**7**	⇓P	**Pn**	**14**	**35**	**52.2 +1.3**
KGM	**Kluang**	**6.64**	**7**	⇓P	**Pn**	**14**	**35**	**52.2 +1.3**
CMJI	**Cimerak**	**6.69**	**118**	P	**Pn**	**14**	**35**	**50.9 -0.6**
	comp=Z,138nm,0.7s,comp=Z,0.8nm							
GSI	**Gunungsitoli**	**7.68**	**320**	*e*Pn	**Pn**	**14**	**36**	**04.7 -0.4**
	comp=Z,182nm,0.6s,comp=Z,0.6nm							
GSI	**Gunungsitoli**	**7.68**	**320**	*e*Pn	Pn	14	36	01.6 -3.4
GSI				*e*Sn	**Sn**	**14**	**37**	**25.2 -5.4**
FRIM	**Kepong**	**7.86**	**354**	⇓P	**Pn**	**14**	**36**	**09.2 +1.7**
FRIM	**Kepong**	**7.86**	**354**	⇓P	**Pn**	**14**	**36**	**09.2 +1.7**
PSI	**Prapat**	**8.20**	**334**	P	**Pn**	**14**	**36**	**09.7 -2.6**
	comp=Z,1.4nm,0.3s,baz=134,slow=7.2,SNR=4.1							
PSI				S	**Sn**	**14**	**37**	**43.7 +0.1**
	comp=Z,1.4nm,0.3s,baz=332,slow=18,SNR=1.7							
PSI				LR	LR	14	39	43.5
	comp=Z,429nm,20.6s,baz=146,slow=41							
PSI	**Prapat**	**8.20**	**334**	P	**Pn**	**14**	**36**	**09.7 -2.6**
PSI				S	**Sn**	**14**	**37**	**43.7 +0.1**
PSI				pmax	pmax			
	comp=Z,1.0nm,0.3s							
PSI				smax	smax			
	comp=N,1.0nm,0.3s							
PSI				MLR	MLR			
	comp=Z,429nm,20.7s							
UGM	**Wanagama**	**8.61**	**113**	P	**Pn**	**14**	**36**	**19.1 +1.2**
	comp=Z,220nm,1.8s							
UGM	**Wanagama**	**8.61**	**113**	P	**Pn**	**14**	**36**	**19.3 +1.4**
	baz=8.7,SNR=14							
UGM	**Wanagama**	**8.61**	**113**	*e*Pn	**Pn**	**14**	**36**	**19.6 +1.7**
IPM	**Ipoh**	**9.16**	**351**	⇑P	**Pn**	**14**	**36**	**28.3 +2.9**
IPM	**Ipoh**	**9.16**	**351**	⇑P	**Pn**	**14**	**36**	**28.3 +2.9**
IPM	**Ipoh**	**9.16**	**351**	Pn	**Pn**	**14**	**36**	**23.7 -1.7**
IPM				*e*Sn	**Sn**	**14**	**38**	**08.9 +1.8**
COCO	**West Island**	**9.38**	**216**	Pn	**Pn**	**14**	**36**	**28.0 -0.4**
	comp=Z,2µm,0.7s,SNR=5.2							
COCO	**West Island**	**9.38**	**216**	*i* P	**Pn**	**14**	**36**	**29.5 +1.1**
COCO	**West Island**	**9.38**	**216**	Pn	**Pn**	**14**	**36**	**25.7 -2.7**
PWJI	**Pagerwojo**	**9.84**	**111**	P	**Pn**	**14**	**36**	**35.4 +0.8**
	comp=Z,50nm,0.9s							
KSM	**Kuching**	**9.87**	**52**	⇑P	**Pn**	**14**	**36**	**36.1 +1.0**
KSM	**Kuching**	**9.87**	**52**	⇑P	**Pn**	**14**	**36**	**36.1 +1.0**
KSM	**Kuching**	**9.87**	**52**	*e*Pn	**Pn**	**14**	**36**	**35.1 0.0**
KTGM	**Kuala Trenggan**	**9.90**	**4**	⇓P	**Pn**	**14**	**36**	**38.3 +2.7**
KTGM	**Kuala Trenggan**	**9.90**	**4**	⇓P	**Pn**	**14**	**36**	**38.3 +2.7**
KULM	**Kulim**	**10.02**	**349**	⇓P	**Pn**	**14**	**36**	**39.8 +2.7**
KULM	**Kulim**	**10.02**	**349**	⇓P	**Pn**	**14**	**36**	**39.8 +2.7**
KULM	**Kulim**	**10.02**	**349**	*e*Pn	Pn	14	36	32.7 -4.5
STKI	**Sintang**	**10.10**	**63**	P	**Pn**	**14**	**36**	**39.7 +1.5**
	comp=Z,102nm,0.8s,comp=Z,8µm							
SBUM	**Sibu**	**11.98**	**54**	⇓P	**Pn**	**14**	**37**	**05.8 +1.8**
SBUM	**Sibu**	**11.98**	**54**	⇓P	**Pn**	**14**	**37**	**05.8 +1.8**
ABJI	**Asem Bagus**	**12.08**	**106**	P	**Pn**	**14**	**37**	**04.9 -0.3**
	comp=Z,152nm,0.6s							
SRBI	**Singaraja**	**13.09**	**106**	P	**Pn**	**14**	**37**	**19.3 +0.3**
KRAB	**Krabi**	**13.18**	**345**	P	P	14	37	34.4 +6.0
KAPI	**Kappang**	**17.19**	**92**	P	**Pn**	**14**	**38**	**11.9 -0.1**
	comp=Z,3.5nm,0.3s,baz=281,slow=6.1,SNR=5.3							
KAPI				LR	LR	14	45	14.6
	comp=Z,188nm,21.6s,baz=282,slow=39							
TSM	**Tawau**	**17.72**	**60**	⇑P	**P**	**14**	**38**	**20.0 +1.2**
TSM	**Tawau**	**17.72**	**60**	⇑P	**P**	**14**	**38**	**20.0 +1.2**
SDKM	**Sandakan**	**17.86**	**55**	⇑P	**Pn**	**14**	**38**	**21.6 +1.2**
SDKM	**Sandakan**	**17.86**	**55**	⇑P	**Pn**	**14**	**38**	**21.6 +1.2**
KDM	**Kudat**	**18.32**	**51**	⇓P	**Pn**	**14**	**38**	**28.4 +2.5**
KDM	**Kudat**	**18.32**	**51**	⇓P	**Pn**	**14**	**38**	**28.4 +2.5**
MYLDM	**Lahad Datu**	**18.71**	**59**	*e*P	**Pn**	**14**	**38**	**31.3 +0.7**
	comp=Z,80nm,0.7s							
TOLI	**Toli-Toli**	**19.14**	**73**	*e*P	**P**	**14**	**38**	**33.4 -1.1**
	comp=Z,74nm,0.7s							
UBPT	**Khong Chiam**	**19.99**	**8**	P	**P**	**14**	**38**	**42.8 -0.8**
	comp=Z,54nm,1.1s							
LUWI	**Luwuk**	**20.55**	**81**	P	**P**	**14**	**38**	**50.8 +1.1**
	baz=21,SNR=3.8							
LUWI	**Luwuk**	**20.55**	**81**	*e*P	**P**	**14**	**38**	**48.7 -1.0**
	comp=Z,103nm,0.8s							
KHON	**Khomkaen**	**20.83**	**1**	P	**P**	**14**	**38**	**53.6 +0.9**
	comp=Z,25nm,0.8s							
UMPA	**Umpang Tak**	**21.01**	**350**	P	**P**	**14**	**38**	**55.1 +0.5**
	comp=Z,10nm,0.8s							
SOEI	**Soe**	**22.18**	**105**	*e*P	**P**	**14**	**39**	**05.2 -2.1**
	comp=Z,66nm,0.7s							
UTTA	**Uttaradit**	**22.31**	**355**	P	**P**	**14**	**39**	**08.1 -0.4**
	comp=Z,21nm,0.9s,comp=Z,183nm							
LAMP	**Lampang**	**23.17**	**353**	P	**P**	**14**	**39**	**17.0 -0.5**
	comp=Z,26nm,0.9s,comp=Z,152nm							
CM31	**Chiang Mai Arr**	**23.20**	**351**	*e*P	**P**	**14**	**39**	**16.1 -1.6**
	comp=Z,64nm,0.8s							
CMAR	**Chiang Mai Arr**	**23.20**	**351**	P	**P**	**14**	**39**	**16.6 -1.2**
	comp=Z,60nm,0.9s,baz=183,slow=8.9,SNR=153							
CMAR				PcP	**PcP**	**14**	**43**	**05.5 +1.1**
	comp=Z,4.6nm,0.8s,baz=206,slow=3.1,SNR=10							
CMAR				LR	LR	14	48	11.0
	comp=Z,147nm,20.7s,baz=172,slow=36							
CMAR	**Chiang Mai Arr**	**23.20**	**351**	P	**P**	**14**	**39**	**16.6 -1.2**
CMAR						14	43	05.6
CMAR				pmax	pmax			
	comp=Z,60nm,0.9s							
CMAR				pmax	pmax			
	comp=Z,5.0nm,0.8s							
CMAR				MLR	MLR			
	comp=Z,147nm,20.7s							
CMMT	**Chiang Mai**	**23.55**	**352**	P	**P**	**14**	**39**	**19.8 -1.3**
	comp=Z,56nm,1.1s,comp=Z,568nm							
CHTO	**Chiang Mai**	**23.55**	**352**	P	**P**	**14**	**39**	**19.8 -1.3**
	comp=Z,189nm,1.2s,comp=Z,2µm							
CHTO	**Chiang Mai**	**23.55**	**352**	P	**P**	**14**	**39**	**18.4 -2.7**
CHTO				pmax	pmax			
	comp=Z,29nm,0.8s							
CHTO	**Chiang Mai**	**23.55**	**352**	P	**P**	**14**	**39**	**18.4 -2.7**
	comp=Z,29nm,0.8s							
QIZ	**Qiongzhong**	**24.59**	**17**	P	**P**	**14**	**39**	**32.1 +1.6**
QIZ				pP	**pP**	**14**	**39**	**44.4 -0.7**
QIZ				sP	**sP**	**14**	**39**	**51.1 -1.1**
QIZ				S	**S**	**14**	**43**	**50.5 +2.9**
QIZ				sS	**sS**	**14**	**44**	**13.0 +0.7**
QIZ				PMZ				
	comp=Z,14nm,0.9s							
QIZ				PMZ				
	comp=Z,73nm,4.0s							
CMAI	**Chiengmai2**	**24.64**	**352**	P	**P**	**14**	**39**	**31.0 -0.1**
	comp=Z,88nm,0.7s,comp=Z,11µm							
CTBH	**Cotabato--PC H**	**24.68**	**62**	⇓*i* P	**P**	**14**	**39**	**31.9 +0.5**
PALK	**Pallekele**	**24.76**	**298**	LR	LR	14	48	31.0
	comp=Z,107nm,20.7s,baz=116,slow=34							
KNRA	**Kununurra**	**28.04**	**115**	P	**P**	**14**	**40**	**00.9 -0.8**
	baz=28,SNR=38							
SIJI	**Sorong**	**28.96**	**83**	P	**P**	**14**	**40**	**08.0 -2.0**
	comp=Z,10.0nm,0.8s,baz=278,slow=5.9,SNR=4.8							
MTN	**Manton Dam**	**29.42**	**108**	P	**P**	**14**	**40**	**12.1 -2.0**
	baz=30,SNR=16							
KMI	**Kunming**	**29.57**	**0**	P	**P**	**14**	**40**	**15.9 +0.5**
KMI				PP	**PP**	**14**	**41**	**19.6 -3.6**
KMI				S	**S**	**14**	**45**	**09.6 +3.1**
KMI				SS	**ScP**	**14**	**46**	**49.8 -6.6**
KMI				PMZ				
	comp=Z,12nm,1.0s							
KMI				LN				
	comp=Z,220nm,15.6s							
KMI				LE				
	comp=Z,77nm,18.6s							
KMI				LZ				
	comp=Z,200nm,14.9s							
FAKI	**Fak Fak**	**29.72**	**88**	⇓P	**P**	**14**	**40**	**14.8 -2.0**
	baz=30,SNR=4.6							
H08S2	**Diego Garcia H**	**29.99**	**263**	T	T	15	10	49.2
	baz=85,slow=75,SNR=14							
H08S3	**Diego Garcia H**	**30.00**	**263**	T	T	15	10	53.8
	baz=85,slow=75,SNR=70							
H08S1	**Diego Carcia H**	**30.01**	**263**	T	T	15	10	51.5
	baz=85,slow=75,SNR=52							
GYA	**Guiyang**	**31.16**	**7**	P	**P**	**14**	**40**	**31.8 +2.5**
GYA				pP	**pP**	**14**	**40**	**46.6 +2.5**
GYA				sP	**sP**	**14**	**40**	**54.3 +3.2**
GYA				PP	**PnPn**	**14**	**41**	**36.8 +3.6**
GYA				S	**S**	**14**	**45**	**33.3 +2.0**
GYA				sS	**sS**	**14**	**45**	**59.6 +3.2**
GYA				PMZ				
	comp=Z,20nm,0.8s							
GYA				PMZ				
	comp=Z,130nm,4.9s							
GYA				LN				
	comp=Z,580nm,16.9s							
GYA				LE				
	comp=Z,520nm,17.7s							
GYA				LZ				
	comp=Z,540nm,16.8s							
NWAO	**Narrogin (SRO)**	**31.34**	**156**	P	**P**	**14**	**40**	**32.7 +1.9**
	comp=Z,7.2nm,1.1s,baz=331,slow=2.2,SNR=2.4							
NWAO	**Narrogin (SRO)**	**31.34**	**156**	P	**P**	**14**	**40**	**32.7 +1.9**
NWAO				pmax	pmax			
	comp=Z,7.0nm,1.1s							
H01W3	**Cape Leeuwin H**	**31.98**	**162**	T	T	15	14	21.1
	baz=339,slow=76,SNR=173							
H01W2	**Cape Leeuwin H**	**31.99**	**162**	T	T	15	14	22.0
	baz=339,slow=76,SNR=152							
H01W1	**Cape Leeuwin H**	**32.00**	**162**	T	T	15	14	22.1
	baz=339,slow=76,SNR=143							
WRKA	**Warakurna**	**32.02**	**132**	P	**P**	**14**	**40**	**37.8 +0.9**
	baz=32,SNR=32							
WRA	**Warramunga Arr**	**34.53**	**119**	P	**P**	**14**	**40**	**58.6 -0.2**
	comp=Z,7.1nm,0.4s,baz=304,slow=8.8,SNR=74							
WRA				PcP	**PcP**	**14**	**43**	**33.2 +0.4**
	comp=Z,2.7nm,0.5s,baz=301,slow=2.0,SNR=6.1							
WRA				S	**S**	**14**	**46**	**19.2 -4.4**
	comp=Z,0.7nm,0.8s,baz=286,slow=18,SNR=4.7							
WRA				LR	LR	14	57	20.8
	comp=Z,50nm,19.4s,baz=35,slow=40							
WRA	**Warramunga Arr**	**34.53**	**119**	P	**P**	**14**	**40**	**58.

	comp=Z,32nm,0.5s									
XAN	**Xi'an**	**38.93**	**8**	P	**P**	**14 41 34.8**	**-1.2**
XAN				pP	**pP**	**14 41 49.0**	**-2.1**
XAN				PMZ			
	comp=Z,18nm,0.8s						
XAN				PMZ			
	comp=Z,14nm,7.5s						
XAN				LN			
	comp=Z,110nm,16.7s						
XAN				LE			
	comp=Z,30nm,12.9s						
XAN				LZ			
	comp=Z,68nm,17.8s						
QIS	**Mount Isa**	**39.38**	**117**	P	**P**	**14 41 39.9**	**-0.1**
	baz=40,SNR=21						
NJ2	**Nanjing**	**39.65**	**22**	*e*P	**P**	**14 41 41.8**	**-0.2**
LZH	**Lanzhou**	**40.51**	**2**	*e*P	**P**	**14 41 49.1**	**-0.2**
LZH				pP	**pP**	**14 42 04.0**	**-0.5**
LZH				sP	**sP**	**14 42 10.6**	**-0.8**
LZH				*e*PP	**PnPn**	**14 43 27.0**	**-1.0**
LZH				*e*S	**S**	**14 47 55.0**	**+0.7**
LZH				sS	**sS**	**14 48 20.6**	**+0.7**
LZH				PMZ			
	comp=Z,58nm,1.3s						
LZH				PMZ			
	comp=Z,150nm,5.2s						
LZH				LN			
	comp=Z,430nm,13.5s						
LZH				LE			
	comp=Z,340nm,13.2s						
LZH				LZ			
	comp=Z,550nm,17.0s						
NDI	**New Delhi**	**41.09**	**325**	*e*P	**P**	**14 41 52.0**	**-2.0**
COEN	**Coen**	**41.13**	**106**	P	**P**	**14 41 53.5**	**-1.1**
	baz=41,SNR=9.0						
BBOO	**Buckleboo**	**42.03**	**136**	P	**P**	**14 42 02.5**	**+0.8**
	baz=42,SNR=17						
BBOO	**Buckleboo**	**42.03**	**136**	*e*P	**P**	**14 42 01.6**	**-0.1**
MTSU	**Mount Surprise**	**43.01**	**112**	P	**P**	**14 42 09.9**	**0.0**
	baz=43,SNR=41						
GTA	**Gaotai**	**43.88**	**357**	*e*P	**P**	**14 42 16.8**	**+0.1**
GTA				pP	**pP**	**14 42 31.9**	**0.0**
GTA				sP	**sP**	**14 42 39.0**	**+0.2**
GTA				S	**S**	**14 48 44.3**	**+0.5**
GTA				sS	**sS**	**14 49 10.1**	**+0.5**
GTA				PMZ			
	comp=Z,22nm,1.3s						
GTA				PMZ			
	comp=Z,88nm,5.9s						
GTA				LN			
	comp=Z,130nm,12.3s						
GTA				LE			
	comp=Z,110nm,14.7s						
GTA				LZ			
	comp=Z,120nm,11.6s						
HTT	**Hallett**	**44.38**	**135**	P	**P**	**14 42 22.1**	**+1.4**
	baz=44,SNR=16						
CTAO	**Charters Tower**	**45.24**	**114**	*e*P	**P**	**14 42 26.2**	**-1.5**
CTAO				pmax	pmax		
	comp=Z,43nm,0.8s						
CTAO	**Charters Tower**	**45.24**	**114**	*e*P	**P**	**14 42 26.2**	**-1.5**
	comp=Z,44nm,0.8s						
QLP	**Quilpie**	**45.43**	**123**	P	**P**	**14 42 30.3**	**+1.2**
	baz=46,SNR=13						
STKA	**Stephens Creek**	**45.55**	**131**	P	**P**	**14 42 31.1**	**+1.2**
	comp=Z,31nm,0.6s,baz=307,slow=7.5,SNR=146						
STKA				PcP	**PcP**	**14 44 08.6**	**+0.8**
	comp=Z,4.9nm,0.5s,baz=324,slow=5.7,SNR=3.1						
STKA				LR	LR	15 04 13.9	
	comp=Z,54nm,19.4s,baz=354,slow=39						
STKA	**Stephens Creek**	**45.55**	**131**	P	**P**	**14 42 31.2**	**+1.2**
STKA						14 44 08.6	
STKA				pmax	pmax		
	comp=Z,31nm,0.6s						
STKA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
STKA				MLR	MLR		
	comp=Z,54nm,19.4s						
STKA	**Stephens Creek**	**45.55**	**131**	*e*P	**P**	**14 42 30.4**	**+0.4**
	comp=Z,6.3nm,0.6s						
STKA				PcP	**PcP**	**14 44 08.6**	**+0.8**
GUMO	**Guam**	**45.77**	**66**	P	P	14 42 28.1	-3.8
	comp=Z,32nm,0.4s,baz=191,slow=10,SNR=6.1						
GUMO	**Guam**	**45.77**	**66**	P	P	14 42 28.1	-3.8
GUMO				pmax	pmax		
	comp=Z,32nm,0.4s						
HHC	**Hu-ho-hao-te**	**46.01**	**10**	*e*P	**P**	**14 42 33.5**	**0.0**
HHC				PP	**PP**	**14 44 21.6**	**-0.8**
HHC				PMZ			
	comp=Z,36nm,1.0s						
HHC				PMZ			
	comp=Z,64nm,5.1s						
HHC				LN			
	comp=Z,140nm,12.7s						
HHC				LE			
	comp=Z,200nm,15.2s						
HHC				LZ			
	comp=Z,130nm,13.9s						
JNU	**Nakatsue**	**46.17**	**34**	P	**P**	**14 42 33.3**	**-1.6**
	comp=Z,11nm,0.7s,baz=320,slow=3.8,SNR=10						
JNU	**Nakatsue**	**46.17**	**34**	*e*P	**P**	**14 42 32.2**	**-2.6**
	comp=Z,16nm,1.0s						
BJI	**Beijing**	**46.19**	**15**	P	**P**	**14 42 33.9**	**-0.9**
BJI				S	**S**	**14 49 19.9**	**+3.1**
BJI				PMZ			
	comp=Z,26nm,0.7s						
BJI				PMZ			
	comp=Z,87nm,3.8s						
BJI				LN			
	comp=Z,110nm,19.7s						
BJI				LE			
	comp=Z,100nm,15.7s						
BJI				LZ			
	comp=Z,130nm,18.7s						
KSAR	**Wonju Array Be**	**48.06**	**27**	P	**P**	**14 42 48.5**	**-0.9**
KSAR						14 44 16.3	
KSAR	**Wonju Array Be**	**48.06**	**27**	P	**P**	**14 42 48.5**	**-0.9**
KSAR				PcP	**PcP**	**14 44 16.2**	**-0.2**
KSRS	**Korea Array**	**48.09**	**27**	P	**P**	**14 42 48.5**	**-1.1**
	comp=Z,7.6nm,0.7s,baz=227,slow=7.0,SNR=39						
KSRS				PcP	**PcP**	**14 44 16.2**	**-0.3**
	comp=Z,2.9nm,0.9s,baz=226,slow=3.6,SNR=6.0						
KSRS	**Korea Array**	**48.09**	**27**	P	**P**	**14 42 48.5**	**-1.1**
KSRS						14 44 16.3	
KSRS				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
JCJ	**Chichijima**	**49.63**	**48**	P	P	14 42 57.9	-3.8
	comp=Z,65nm,0.5s,baz=269,slow=3.1,SNR=25						
WMQ	**Urumqi**	**50.04**	**346**	P	**P**	**14 43 05.3**	**+0.8**
WMQ				pP	**pP**	**14 43 19.8**	**-0.3**
WMQ				sP	**sP**	**14 43 27.8**	**+0.9**
WMQ				PMZ			
	comp=Z,64nm,0.8s						
WMQ				PMZ			
	comp=Z,120nm,3.7s						
WMQ				LN			
	comp=Z,44nm,25.0s						
WMQ				LE			
	comp=Z,51nm,18.2s						
WMQ				LZ			
	comp=Z,46nm,20.9s						
KBL	**Kabul**	**50.11**	**324**	*e*P	**P**	**14 43 03.9**	**-1.6**
KBL				pmax	pmax		
	comp=Z,11nm,0.9s						
KBL	**Kabul**	**50.11**	**324**	*e*P	**P**	**14 43 03.9**	**-1.6**
	comp=Z,11nm,0.9s						
KSH	**Kashi**	**50.27**	**333**	P	**P**	**14 43 05.3**	**-1.2**
KSH				S	**S**	**14 50 09.3**	**-5.6**
KSH				sS	**sS**	**14 50 44.6**	**+3.5**
KSH				PMZ			
	comp=Z,69nm,0.9s						
KSH				PMZ			
	comp=Z,220nm,3.9s						
KSH				LN			
	comp=Z,350nm,6.5s						
KSH				LE			
	comp=Z,350nm,5.8s						
KSH				LZ			
	comp=Z,300nm,7.1s						
EIDS	**Eidsvold**	**50.89**	**119**	⇑P	**P**	**14 43 10.0**	**-1.3**
	baz=51,SNR=3.2						
SFK	**Sufi-Kurgan**	**51.81**	**332**	P	**P**	**14 43 18.5**	**+0.4**
SFK				pmax	pmax		
	comp=Z,47nm,1.0s						
SONM	**Songino Array**	**52.35**	**3**	P	**P**	**14 43 21.9**	**+0.1**
	comp=Z,49nm,0.7s,baz=182,slow=9.0,SNR=220						
SONM				PcP	**PcP**	**14 44 31.8**	**-0.4**
	comp=Z,4.7nm,0.4s,baz=188,slow=4.2,SNR=10						
SONM				LR	LR	15 07 55.2	
	comp=Z,59nm,18.4s,baz=182,slow=39						
SONM	**Songino Array**	**52.35**	**3**	P	**P**	**14 43 21.9**	**+0.1**
SONM						14 44 31.8	
SONM				pmax	pmax		
	comp=Z,49nm,0.7s						
SONM				pmax	pmax		
	comp=Z,5.0nm,0.4s						
SONM				MLR	MLR		
	comp=Z,59nm,18.4s						
ULN	**Ulaanbaatar**	**52.42**	**4**	*d* *i*P	**P**	**14 43 21.8**	**-0.6**
ULN				pmax	pmax		
	comp=Z,30nm,1.0s						
ULN	**Ulaanbaatar**	**52.42**	**4**	*e*P	**P**	**14 43 21.7**	**-0.6**
	comp=Z,28nm,1.0s						
CN2	**Changchun**	**52.45**	**21**	*e*P	**P**	**14 43 20.6**	**-1.9**
CN2				PMZ			
	comp=Z,30nm,0.7s						
KZA	**Kyzart**	**52.68**	**335**	P	**P**	**14 43 25.9**	**+1.1**
	SNR=5.9						
MAJO	**Matsushiro**	**52.81**	**36**	*c* *i*P	**P**	**14 43 22.7**	**-2.6**
MAJO				pmax	pmax		
	comp=Z,68nm,1.1s						
MAJO	**Matsushiro**	**52.81**	**36**	P	P	14 43 21.4	-3.9
	comp=Z,8.7nm,0.9s						
MAT	**Matsushiro**	**52.81**	**36**	P	**P**	**14 43 22.8**	**-2.5**
MJAR	**Matsushiro Arr**	**52.81**	**36**	P	**P**	**14 43 22.9**	**-2.5**
	comp=Z,8.7nm,0.7s,baz=218,slow=8.1,SNR=38						
MJAR				PcP	**PcP**	**14 44 33.6**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=206,slow=5.7,SNR=4.6						
MJAR				LR	LR	15 06 43.6	
	comp=Z,31nm,18.6s,baz=220,slow=37						
MJAR	**Matsushiro Arr**	**52.81**	**36**	P	**P**	**14 43 22.9**	**-2.5**
MJAR						14 44 33.6	
MJAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MJAR				MLR	MLR		
	comp=Z,31nm,18.6s						
TKM2	**Tokmak 2**	**53.23**	**335**	P	**P**	**14 43 28.4**	**-0.2**
	SNR=41						
TKM2	**Tokmak 2**	**53.23**	**335**	P	**P**	**14 43 28.3**	**-0.2**
TKM2				pmax	pmax		
	comp=Z,45nm,0.9s						
TKM2	**Tokmak 2**	**53.23**	**335**	*e*P	**P**	**14 43 27.8**	**-0.8**
	comp=Z,45nm,0.9s						
DZET	**Dzherino**	**53.26**	**327**	P	**P**	**14 43 27.3**	**-1.5**
DZET				pmax	pmax		
	comp=Z,13nm,0.5s						
KBK	**Karagaybulak**	**53.28**	**335**	P	**P**	**14 43 29.4**	**+0.5**
	SNR=9.0						
AML	**Almayashu**	**53.40**	**333**	P	**P**	**14 43 30.2**	**+0.1**
	SNR=14						
AAK	**Ala-Archa**	**53.46**	**334**	*e*P	**P**	**14 43 30.0**	**-0.2**
AAK				pmax	pmax		
	comp=Z,12nm,1.0s						
AAK	**Ala-Archa**	**53.46**	**334**	*e*P	**P**	**14 43 30.0**	**-0.2**
	comp=Z,12nm,1.0s						
FRU	**Bishkek**	**53.57**	**335**	*e*P	**P**	**14 43 30.0**	**-0.8**
CHMS	**Chumysh**	**53.65**	**335**	P	**P**	**14 43 31.0**	**-0.4**
	SNR=6.7						
MSHR	**Mys Shultsa**	**53.69**	**26**	*i* P	**P**	**14 43 30.9**	**-0.7**
EKS2	**Erkin-Say**	**53.79**	**334**	P	**P**	**14 43 32.9**	**+0.3**
	SNR=49						
EKS2	**Erkin-Say**	**53.79**	**334**	*e*P	**P**	**14 43 31.6**	**-1.0**
EKS2				pmax	pmax		
	comp=Z,42nm,0.8s						
EKS2	**Erkin-Say**	**53.79**	**334**	*e*P	**P**	**14 43 31.6**	**-1.0**
	comp=Z,42nm,0.8s						
USP	**Ospenovka**	**53.97**	**335**	P	**P**	**14 43 33.5**	**-0.3**
	SNR=8.7						
MK31	**Makanchi Array**	**54.23**	**343**	*e*P	**P**	**14 43 34.5**	**-1.1**
MK31				pmax	pmax		
	comp=Z,22nm,0.5s						
MK31	**Makanchi Array**	**54.23**	**343**	*e*P	**P**	**14 43 34.8**	**-0.8**
MKAR	**Makanchi Array**	**54.23**	**343**	P	**P**	**14 43 35.0**	**-0.6**
	comp=Z,33nm,0.6s,baz=148,slow=8.0,SNR=370						
MKAR				S	**S**	**14 51 08.4**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=169,slow=16,SNR=3.5						
MKAR				LR	LR	15 11 11.3	
	comp=Z,42nm,18.2s,baz=146,slow=41						
MKAR	**Makanchi Array**	**54.23**	**343**	P	**P**	**14 43 35.0**	**-0.6**
MKAR				S	**S**	**14 51 08.4**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,33nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,42nm,18.2s						
MDJ	**Mudanjiang**	**54.70**	**23**	P	**P**	**14 43 38.0**	**-1.0**
MDJ				pP	**pP**	**14 43 51.4**	**-3.3**
MDJ				sP	**sP**	**14 43 57.4**	**-4.1**
MDJ				PP	**PP**	**14 45 42.9**	**+0.7**
MDJ				S	**S**	**14 51 18.8**	**+3.9**
MDJ				sS	**sS**	**14 51 44.8**	**+3.3**
MDJ				ScS	**ScS**	**14 53 21.8**	**-1.1**
MDJ				PMZ			
	comp=Z,11nm,0.8s						
MDJ				LN			
	comp=Z,62nm,20.6s						
MDJ				LE			
	comp=Z,68nm,22.1s						
MDJ				LZ			
	comp=Z,70nm,25.0s						
ZAK	**Zakamensk**	**54.79**	**1**	⇑*i*P	**P**	**14 43 39.2**	**-0.4**
ZAK				*e*		14 44 41.3	
ZAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**55.35**	**25**	P	**P**	**14 43 42.5**	**-1.1**
	comp=Z,35nm,0.6s,baz=218,slow=5.6,SNR=88						
KK31	**Karatay Array**	**55.62**	**332**	*e*P	**P**	**14 43 44.6**	**-1.1**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KKAR	**Karatay Array**	**55.62**	**332**	*e*P	**P**	**14 43 44.7**	**-1.0**
KKAR	**Karatay Array**	**55.62**	**332**	*e*P	**P**	**14 43 44.6**	**-1.0**
MOY	**Mondy**	**56.09**	**359**	*e*P	**P**	**14 43 48.6**	**-0.3**
MOY				pmax	pmax		
	comp=Z,14nm,2.0s						
TLY	**Talaya**	**56.09**	**1**	P	**P**	**14 43 49.1**	**+0.2**
	comp=Z,17nm,0.7s,baz=208,slow=6.3,SNR=35						
TLY	**Talaya**	**56.09**	**1**	*e*P	**P**	**14 43 49.3**	**+0.4**
TLY				pmax	pmax		
	comp=Z,22nm,0.8s						
TLY				MLR	MLR		
	comp=Z,34nm,16.0s						
TLY	**Talaya**	**56.09**	**1**	P	**P**	**14 43 49.9**	**+1.0**
	comp=Z,168nm,0.7s,SNR=11						
TLY	**Talaya**	**56.09**	**1**	*e*P	**P**	**14 43 48.6**	**-0.3**
	comp=Z,22nm,0.8s						
HNR	**Honiara**	**57.16**	**98**	LR	LR	15 09 59.1	
	comp=Z,28nm,20.9s,baz=278,slow=38						
IBAF	**Bafgh**	**57.38**	**312**	*e*P	**P**	**14 43 59.2**	**+0.6**
IMEH	**Mehriz**	**57.99**	**312**	*e*P	**P**	**14 44 02.5**	**-0.5**
KURBB	**Kurchatov Arra**	**58.77**	**342**	P	**P**	**14 44 07.0**	**-0.7**
	comp=Z,26nm,0.7s,baz=159,slow=6.5,SNR=242						
KURBB				PcP	**PcP**	**14 44 57.1**	**+0.3**
	comp=Z,3.3nm,0.7s,baz=159,slow=3.9,SNR=4.7						
KURK	**Kurchatov**	**58.83**	**342**	P	**P**	**14 44 07.6**	**-0.5**
	comp=Z,377nm,0.6s,SNR=45						
KURK	**Kurchatov**	**58.83**	**342**	*e*P	**P**	**14 44 07.4**	**-0.7**
KURK						14 44 57.1	
KURK				pmax	pmax		
	comp=Z,25nm,0.8s						
KURK	**Kurchatov**	**58.83**	**342**	*e*P	**P**	**14 44 07.4**	**-0.7**
	comp=Z,25nm,0.8s						
KURK				PcP	**PcP**	**14 44 57.1**	**+0.1**
OTUK	**Ortayu**	**58.90**	**337**	P	**P**	**14 44 07.5**	**-1.2**
OTUK				pmax	pmax		
	comp=Z,20nm,0.7s						
GEYT	**Alibeck**	**59.05**	**320**	P	**P**	**14 44 10.2**	**+0.2**
	comp=Z,18nm,0.8s,baz=140,slow=12,SNR=27						
GEYT				LR	LR	15 12 50.7	
	comp=Z,25nm,18.3s,baz=280,slow=39						
ERM	**Erimo**	**59.32**	**34**	P	**P**	**14 44 10.4**	**-1.3**
	comp=Z,154nm,0.7s,SNR=5.4						
KLR	**Kul'dur**	**59.35**	**22**	*e*P	P	14 44 06.7	-5.1
KLR				pmax	pmax		
	comp=E,20nm,1.0s						
KLR				pmax	pmax		
	comp=E,44nm,1.0s						
IKAZ	**Kazeroun**	**59.36**	**309**	*e*P	**P**	**14 44 13.3**	**+0.6**
HABR	**Khabarovsk**	**60.04**	**24**	*e*P	P	14 44 13.0	-3.5
HABR				*e*SP	sP	14 44 27.4	-12
HABR				S	**S**	**14 52 23.4**	**-1.4**
HABR				*e*SS	sS	14 52 39.8	-12
HABR				*e*		14 54 00.4	
HABR				*e*SS	**SS**	**14 56 20.3**	**-2.3**
HABR				pmax	pmax		
	comp=Z,39nm,1.9s						
HABR				MLR	MLR		
	comp=Z,56nm,19.0s						
ZAA0	**Zalesovo Array**	**60.21**	**348**	*e*P	**P**	**14 44 16.5**	**-1.1**
ZALV	**Zalesovo Beam**	**60.21**	**348**	P	**P**	**14 44 16.6**	**-0.9**
	comp=Z,65nm,0.4s,baz=169,slow=5.5,SNR=341						
ZALV				pP	**pP**	**14 44 31.8**	**-1.8**
	comp=Z,16nm,0.7s,baz=171,slow=4.8,SNR=4.2						
ZALV				LR	LR	15 13 36.6	
	comp=Z,94nm,20.0s,baz=67,slow=39						
ZALV	**Zalesovo Beam**	**60.21**	**348**	P	**P**	**14 44 16.7**	**-0.9**
ZALV				*PP	**pP**	**14 44 31.8**	**-1.8**
ZALV				pmax	pmax		
	comp=Z,65nm,0.4s						
ZALV				pmax	pmax		
	comp=Z,16nm,0.7s						
ZALV				MLR	MLR		
	comp=Z,94nm,20.0s						
ASAJ	**Asahikawa**	**60.41**	**32**	P	**P**	**14 44 18.4**	**-0.7**
	comp=Z,17nm,0.4s,baz=227,slow=5.6						
ASAJ	**Asahikawa**	**60.41**	**32**	P	**P**	**14 44 18.4**	**-0.7**
ASAJ				pmax	pmax		
	comp=Z,17nm,0.4s						
ASAJ	**Asahikawa**	**60.41**	**32**	*e*P	**P**	**14 44 18.0**	**-1.2**
	comp=Z,19nm,0.6s						
IANJ	**Anjilo**	**60.53**	**315**	*e*P	**P**	**14 44 20.8**	**+0.3**
NVS	**Novosibirsk**	**61.38**	**347**	⇑*i*P	**P**	**14 44 24.0**	**-1.5**
NVS				*i*		14 44 44.2	
NVS				pmax	pmax		
	comp=Z,19nm,0.7s						
NVS				pmax	pmax		
	comp=N,7.0nm,0.4s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.4s						
IPIR	**Pirpir**	**61.38**	**311**	*e*P	**P**	**14 44 26.2**	**-0.2**
RAYN	**Ar Rayn**	**62.19**	**300**	*e*P	**P**	**14 44 31.8**	**+0.1**
	comp=E,3.0nm,0.5s						
YSS	**Yuzh-Sakhalins**	**62.43**	**30**	*e*P	**P**	**14 44 31.2**	**-1.4**
YSS	**Yuzh-Sakhalins**	**62.43**	**30**	*e*P	**P**	**14 44 31.3**	**-1.4**
	comp=E,36nm,0.7s						
BOD	**Bodaibo**	**62.93**	**7**	⇑*i*P	**P**	**14 44 34.9**	**-0.9**
BOD				pmax	pmax		
	comp=Z,18nm,0.9s						
BVA0	**Borovoye Array**	**63.50**	**339**	*i* P	**P**	**14 44 38.3**	**-1.4**
BVA0				pmax	pmax		
	comp=Z,12nm,0.6s						
BVAR	**Borovoye Array**	**63.50**	**339**	P	**P**	**14 44 38.7**	**-1.0**
	comp=Z,20nm,0.7s,baz=146,slow=8.4,SNR=92						
BVAR	**Borovoye Array**	**63.50**	**339**	P	**P**	**14 44 38.7**	**-1.0**
BVAR				pmax	pmax		
	comp=Z,20nm,0.7s						
BRVK	**Borovoye**	**63.57**	**339**	P	**P**	**14 44 39.5**	**-0.6**
	comp=Z,162nm,0.5s,SNR=16						
BRVK	**Borovoye**	**63.57**	**339**	*e*P	**P**	**14 44 39.0**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,17nm,0.7s						
BRVK	**Borovoye**	**63.57**	**339**	*e*P	**P**	**14 44 39.0**	**-1.1**
	comp=N,16nm,0.7s						
DZM	**Mont Dzumac**	**64.14**	**112**	P	**P**	**14 44 46.0**	**+1.3**
	comp=Z,3.0nm,0.5s,baz=270,slow=20,SNR=5.9						
AB31	**Akbulak array**	**65.13**	**331**	*i* P	**P**	**14 44 49.8**	**-0.6**
AB31				pmax	pmax		
	comp=Z,64nm,1.0s						
ABKAR	**Akbulak array**	**65.13**	**331**	*e*P	**P**	**14 44 49.8**	**-0.6**
MAW	**Mawson**	**68.40**	**195**	LR	LR	15 09 48.6	
	comp=Z,104nm,20.7s,baz=61,slow=31						
DGRG	**David-gareji**	**69.28**	**318**	P	**P**	**14 45 18.7**	**+1.7**
YAK	**Yakutsk**	**69.67**	**13**	P	**P**	**14 45 16.9**	**-1.9**
	comp=Z,3.8nm,0.4s,baz=214,slow=18,SNR=8.3						
YAK	**Yakutsk**	**69.67**	**13**	*e*P	**P**	**14 45 16.5**	**-2.3**
YAK				pmax	pmax		
	comp=Z,40nm,1.1s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,12nm,1.2s						
YAK	**Yakutsk**	**69.67**	**13**	*e*P	**P**	**14 45 16.5**	**-2.3**
	comp=N,44nm,0.6s						
SVE	**Sverdlovsk**	**70.05**	**337**	⇑*i*P	**P**	**14 45 21.5**	**+0.2**
SVE				pmax	pmax		
	comp=Z,45nm,1.1s						
ARU	**Arti**	**70.60**	**336**	*d* *i*P	**P**	**14 45 23.8**	**-0.9**
ARU				S	**S**	**14 54 36.9**	**+3.1**
ARU				SS	**SS**	**14 59 06.8**	**+0.2**
ARU				pmax	pmax		
	comp=Z,22nm,1.0s						
ARU	**Arti**	**70.60**	**336**	P	**P**	**14 45 24.7**	**0.0**
	comp=Z,102nm,0.9s,SNR=6.9						
ARU	**Arti**	**70.60**	**336**	*e*P	**P**	**14 45 22.8**	**-1.9**
	comp=Z,27nm,1.2s						
ZEI	**Tsey**	**70.85**	**318**	*e*P	**P**	**14 45 27.2**	**+0.4**
ZEI				pmax	pmax		
	comp=Z,77nm,0.6s						
RPZ	**Rata Peaks**	**71.37**	**135**	P	**P**	**14 45 30.7**	**+1.0**
	comp=Z,8.9nm,0.5s,baz=285,slow=2.8,SNR=12						
NEY	**Neytrino**	**71.83**	**318**	⇑*e*P	**P**	**14 45 34.2**	**+1.6**
NEY				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KBZ	**Khabaz**	**71.92**	**319**	P	**P**	**14 45 33.2**	**+0.3**
	comp=Z,15nm,0.9s,baz=119,slow=5.0,SNR=24						
KBZ	**Khabaz**	**71.92**	**319**	P	**P**	**14 45 33.2**	**+0.3**
KBZ				pmax	pmax		
	comp=Z,15nm,0.9s						
KIV	**Kislovodsk**	**72.15**	**319**	⇑*e*P	**P**	**14 45 34.3**	**-0.1**
KIV				*e*		14 45 51.1	
KIV				*e*		14 48 15.9	
KIV				pmax	pmax		
	comp=Z,17nm,1.0s						
GOF	**Gofitskoye**	**72.39**	**320**	*e*P	**P**	**14 45 35.5**	**-0.2**
GOF				pmax	pmax		
	comp=Z,20nm,1.0s						
PETK	**Petropavlovsk-**	**73.79**	**31**	P	**P**	**14 45 42.4**	**-1.4**
	comp=Z,2.7nm,0.6s,baz=266,slow=9.5,SNR=5.9						
PETK				LR	LR	15 18 07.5	
	comp=Z,15nm,21.0s,baz=212,slow=36						
PETK	**Petropavlovsk-**	**73.79**	**31**	P	**P**	**14 45 42.4**	**-1.4**
PETK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
PETK				MLR	MLR		
	comp=Z,15nm,21.0s						
PET	**Petropavlovsk**	**74.24**	**31**	⇑*i*P	**P**	**14 45 45.3**	**-1.1**
PET				pmax	pmax		
	comp=Z,45nm,0.4s						
PET	**Petropavlovsk**	**74.24**	**31**	*e*P	**P**	**14 45 44.3**	**-2.1**
	comp=Z,31nm,0.5s						
BKZ	**Black Stump Fm**	**74.68**	**129**	*e*P	**P**	**14 45 50.0**	**+0.5**
	comp=Z,52nm,0.6s						
URZ	**Urewera**	**75.07**	**128**	P	**P**	**14 45 52.0**	**+0.4**
	comp=Z,6.0nm,0.4s,baz=246,slow=5.1,SNR=18						
BOSA	**Boshof**	**76.61**	**242**	LR	LR	15 13 29.9	
	comp=Z,103nm,18.7s,baz=126,slow=31						
BR131	**Keskin Array S**	**76.93**	**312**	*e*P	**P**	**14 46 00.8**	**-1.5**
	comp=Z,5.8nm,0.6s						
BRTR	**Keskin Array B**	**76.93**	**312**	P	**P**	**14 46 02.2**	**-0.1**
	comp=Z,8.9nm,0.8s,baz=138,slow=7.0,SNR=36						
BRTR	**Keskin Array B**	**76.93**	**312**	P	**P**	**14 46 02.2**	**-0.1**
BRTR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SEY	**Seymchan**	**77.13**	**21**	P	**P**	**14 46 01.8**	**-0.9**
	comp=Z,5.4nm,0.6s,baz=234,slow=4.8,SNR=58						
SEY	**Seymchan**	**77.13**	**21**	*ce*P	**P**	**14 46 01.9**	**-

comp=Z,1.0nm,1.0s
VNDA pmax pmax
comp=Z,1.0nm,0.5s
OBN Obninsk 80.33 328 *ce*P **P** 14 46 20.4 0.0
OBN *e* 14 46 26.7
OBN pmax pmax
comp=Z,23nm,0.6s
TIRR Tirgusor 81.97 316 ⇓P **P** **14 46 30.2 +0.8**
TIRR Tirgusor 81.97 316 ⇓*i*P **P** **14 46 30.2 +0.8**
HARR Harsova 82.36 316 ⇑P **P** **14 46 32.7 +1.3**
HARR Harsova 82.36 316 ⇑*i*P **P** **14 46 32.7 +1.3**
AKASG Malin Array Be 83.08 322 P **P** **14 46 34.6 -0.4**
comp=Z,4.4nm,0.6s,baz=83,slow=5.1,SNR=25
AKASG Malin Array Be 83.08 322 P **P** **14 46 34.6 -0.4**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
KIEV Kiev 83.08 322 *e*P **P** **14 46 32.9 -2.2**
KIEV pmax pmax
comp=Z,8.0nm,0.9s
KIEV Kiev 83.08 322 *e*P **P** **14 46 32.9 -2.2**
comp=Z,8.3nm,0.9s
RDO Rodhopi 83.27 312 *e*P **P** **14 46 36.0 -0.3**
comp=Z,14nm,1.0s
VRI Vrincioaia 83.46 317 ⇓P **P** **14 46 38.8 +1.6**
VRI Vrincioaia 83.46 317 ⇓*i*P **P** **14 46 38.8 +1.6**
PLOR Plostina 83.51 317 ⇑P **P** **14 46 38.8 +1.3**
PLOR Plostina 83.51 317 ⇑*i*P **P** **14 46 38.8 +1.3**
TESR Tescani 83.67 318 ⇑*i*P **P** **14 46 39.4 +1.2**
MLR Muntele Rosu 83.91 317 ⇑P **P** **14 46 40.4 +0.8**
MLR Muntele Rosu 83.91 317 ⇑*i*P **P** **14 46 40.4 +0.8**
PRAR RASCA 84.14 318 ⇓*i*P **P** **14 46 41.7 +1.1**
VOIR 84.52 316 ⇑P **P** **14 46 43.4 +0.8**
VOIR 84.52 316 ⇑*i*P **P** **14 46 43.4 +0.8**
BURAR Bucovina Array 84.87 318 ⇓P **P** **14 46 45.9 +1.6**
BURAR Bucovina Array 84.87 318 ⇓*i*P **P** **14 46 46.0 +1.6**
BUR08 Bucovina Ar. S 84.89 319 P **P** **14 46 43.5 -0.9**
VTS Vitosha 85.26 313 ⇑P **P** **14 46 46.8 +0.3**
VTS Vitosha 85.26 313 ⇑*i*P **P** **14 46 46.8 +0.3**
QSPA South Pole Qui 85.36 180 P **P** **14 46 48.0 +1.5**
comp=Z,0.9nm,0.6s,baz=336,slow=0.2,SNR=9.4
BZS Buzias 86.92 316 ⇑P **P** **14 46 55.2 +0.8**
BZS Buzias 86.92 316 ⇑*i*P **P** **14 46 55.2 +0.8**
SIRR Siria 87.00 317 ⇑*i*P **P** **14 46 56.1 +1.3**
SUW Suwalki 87.46 325 *e*P **P** **14 46 57.4 +0.6**
SUW Suwalki 87.46 325 *e*P **P** **14 46 57.4 +0.6**
FINES FINESS Array B 87.58 332 P **P** **14 46 57.4 +0.2**
comp=Z,5.8nm,0.5s,baz=117,slow=5.5,SNR=56
FINES FINESS Array B 87.58 332 P **P** **14 46 57.4 +0.2**
FINES pmax pmax
comp=Z,6.0nm,0.5s
NIE Niedzica 88.41 320 *e*P **P** **14 47 03.0 +1.5**
NIE Niedzica 88.41 320 *e*P **P** **14 47 03.1 +1.5**
PSZ Piszkesteto 88.45 318 *e*P **P** **14 47 02.3 +0.5**
PSZ pmax pmax
comp=Z,14nm,1.2s
PSZ Piszkesteto 88.45 318 ⇑*i*P P 14 46 58.4 -3.4
PSZ Piszkesteto 88.45 318 *e*P **P** **14 47 02.3 +0.5**
comp=Z,14nm,1.2s
OJC Ojcow 88.86 320 *e*P **P** **14 47 04.9 +1.3**
OJC Ojcow 88.86 320 *e*P **P** **14 47 04.9 +1.3**
PKSM Moragy 89.06 316 ⇓P **P** **14 47 05.9 +1.3**
PKSM Moragy 89.06 316 ⇓*i*P **P** **14 47 05.9 +1.3**
TIP Timpagrande 89.59 309 *e*P **P** **14 47 09.2 +1.8**
comp=Z,5.1nm,0.9s
ARCES ARCESS Array B 89.78 340 P **P** **14 47 07.8 +0.3**
comp=Z,5.6nm,0.8s,baz=102,slow=4.3,SNR=7.6
ARCES LR LR 15 33 06.3
comp=Z,39nm,19.1s,baz=229,slow=39
OKC Ostrava-Krasne 89.86 320 *e*P **P** **14 47 09.6 +1.3**
OKC Ostrava-Krasne 89.86 320 *e*P **P** **14 47 09.6 +1.3**
MORC Moravsky Berou 90.24 320 *e*P **P** **14 47 10.5 +0.4**
MORC pmax pmax
comp=Z,31nm,0.8s
MORC Moravsky Berou 90.24 320 ⇑*i*P **P** **14 47 12.1 +2.0**
MORC Moravsky Berou 90.24 320 *e*P **P** **14 47 10.5 +0.4**
comp=Z,31nm,0.8s
KRLC Kraliky 90.77 320 *e*P **P** **14 47 13.7 +1.1**
KRLC *es*P sP 14 47 30.1 -5.8
KRLC Kraliky 90.77 320 *e*P **P** **14 47 13.7 +1.1**
KRLC *e* 14 47 30.1
DPC Dobruska-Polom 91.09 320 *e*P **P** **14 47 15.5 +1.5**
DPC *es*P sP 14 47 31.6 -5.8
DPC Dobruska-Polom 91.09 320 *e*P **P** **14 47 15.5 +1.5**
DPC *e* 14 47 31.6
GROS Grobnik 91.25 316 *e*P **P** **14 47 15.9 +1.0**
UPC Upice 91.30 320 *e*P **P** **14 47 16.1 +1.1**
UPC Upice 91.30 320 *e*P **P** **14 47 16.1 +1.1**
BOJS Bojanci 91.34 315 *e*P **P** **14 47 16.2 +1.0**
VNA2 Neumayer--Watz 92.06 198 P **P** **14 47 21.2 +3.1**
baz=72,slow=3.7
PRU Pruhonice 92.19 320 *e*P **P** **14 47 20.4 +1.3**
PRU Pruhonice 92.19 320 *e*P **P** **14 47 20.4 +1.3**
PVCC Panska Ves 92.22 320 *e*P **P** **14 47 19.0 -0.2**
PVCC Panska Ves 92.22 320 *e*P **P** **14 47 19.0 -0.2**
VNA1 Neumayer--Stat 92.43 198 P **P** **14 47 18.9 -0.8**
BRG Berggiesshubel 92.64 321 *e*P **P** **14 47 22.0 +0.8**
comp=Z,5.3nm,0.7s
BRG Berggiesshubel 92.64 321 *e*P **P** **14 47 22.8 +1.6**
comp=Z,6.0nm,0.7s
BRG Berggiesshubel 92.64 321 *e*P **P** **14 47 22.0 +0.8**
BRG pmax pmax
comp=Z,5.0nm,0.7s
GEC2 GERESS Array S 92.66 319 *e*P **P** **14 47 23.0 +1.6**
comp=Z,10.0nm,1.5s
GEC2 GERESS Array S 92.66 319 *e*P **P** **14 47 22.0 +0.6**
GEC2 GERESS Array S 92.66 319 *e*P **P** **14 47 22.0 +0.6**
GERES GERESS Array B 92.66 319 P **P** **14 47 22.1 +0.6**
comp=Z,1.4nm,0.6s,baz=100,slow=4.6,SNR=12
GERES sP **sP** **14 47 42.5 -2.3**
comp=Z,0.4nm,0.4s,baz=90,slow=6.1,SNR=2.5
GERES GERESS Array B 92.66 319 P **P** **14 47 22.1 +0.6**
GERES *SP **sP** **14 47 42.5 -2.3**
GERES pmax pmax
comp=Z,1.0nm,0.6s
FBE Freiberg 93.02 321 *e*P **P** **14 47 24.7 +1.8**
comp=Z,5.0nm,0.9s
WET Wettzell 93.22 319 *e*P **P** **14 47 25.5 +1.6**
comp=Z,6.0nm,1.0s
WERD Werda 93.66 320 *e*P **P** **14 47 27.2 +1.3**
comp=Z,6.0nm,1.0s
ROTZ Rotzenmuhle 93.69 319 *e*P **P** **14 47 27.9 +1.9**
comp=Z,3.0nm,1.0s
MANZ Manzenberg 93.76 320 *e*P **P** **14 47 28.3 +1.9**
comp=Z,6.0nm,0.9s
NB2 NORSAR Subarra 94.64 331 P **P** **14 47 30.0 -0.2**
comp=Z,1.4nm,0.7s,baz=92,slow=5.3
NOA NORSAR Array B 94.64 331 P **P** **14 47 29.9 -0.2**
comp=Z,2.1nm,0.7s,baz=92,slow=4.6,SNR=7.1
NOA PP **PP** **14 51 19.8 +1.0**
comp=Z,1.3nm,0.8s,baz=87,slow=7.5,SNR=4.1
NOA LR LR 15 34 52.5
comp=Z,10nm,18.6s,baz=95,slow=38
NOA NORSAR Array B 94.64 331 P **P** **14 47 30.0 -0.2**
NOA 14 51 19.8
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 102.86 24 P **Pdif** **14 48 04.3 -2.7**
comp=Z,0.2nm,0.7s,baz=251,slow=2.8,SNR=3.2
ILAR PP PP 14 52 14.5 -6.9
comp=Z,0.2nm,0.8s,baz=270,slow=6.7,SNR=4.5
GNW Green Mountain 122.24 35 *e*PKPdf **PKPdf** **14 53 04.9 +0.7**
I03D Drain, OR 123.96 39 P **PKPdf** **14 53 08.3 +0.7**
baz=124
FCC Fort Churchill 124.48 10 *e*PKIKP **PKPdf** **14 53 07.3 -0.8**
FCC Fort Churchill 124.48 10 *e*PKPdf **PKPdf** **14 53 07.3 -0.8**
I04A Tendick Farm, 124.49 38 P **PKPdf** **14 53 09.3 +0.5**
baz=124
D08A Wollman Farm, 124.71 33 *e*PKPdf **PKPdf** **14 53 09.5 +0.5**
J04D Umpqua Nationa 124.97 39 P **PKPdf** **14 53 10.6 +0.8**
baz=125
J05D Fort Rock, OR 125.49 38 P **PKPdf** **14 53 11.5 +0.7**
baz=125
N02D Trinity Center 125.73 41 P **PKPdf** **14 53 12.0 +0.7**
baz=126
F10A Beach Ranch, E 126.30 34 *e*PKPdf **PKPdf** **14 53 12.7 +0.5**
BSMT Bassoo Peak 126.39 30 *e*PKPdf **PKPdf** **14 53 11.5 -0.9**
MSO Missoula 127.50 31 P **PKPdf** **14 53 14.8 +0.3**
baz=127
WVOR Wild Horse Val 127.55 38 *e*PKIKP **PKPdf** **14 53 15.5 +0.7**
WVOR Wild Horse Val 127.55 38 *e*PKPdf **PKPdf** **14 53 15.5 +0.7**
DLMT Dillon 129.17 32 *e*PKPdf **PKPdf** **14 53 19.2 +1.5**
SCHQ Schefferville 129.20 352 PKP **PKPdf** **14 53 17.6 +0.2**
comp=Z,3.2nm,0.8s,baz=60,slow=3.3,SNR=5.8
BOZ Bozeman (W) 129.48 31 P **PKPdf** **14 53 18.6 +0.2**
baz=129
NVAR Mina Array Bea 129.95 42 PKP **PKPdf** **14 53 20.4 +0.9**
comp=Z,1.1nm,0.6s,baz=280,slow=1.8,SNR=9.5
PKM Peak Mountain 130.64 47 P **PKPdf** **14 53 21.6 +0.7**
baz=131
A27A Ledoux Ranch, 131.42 21 P **PKPdf** **14 53 22.9 +1.1**
baz=131
HVU Hansel Valley 131.43 35 *e*PKIKP **PKPdf** **14 53 23.4 +1.2**
HVU Hansel Valley 131.43 35 *e*PKPdf **PKPdf** **14 53 23.4 +1.2**
G20A Bridger 131.47 29 P **PKPdf** **14 53 22.3 +0.2**
baz=131
MPMC Manual Prospec 131.73 44 P **PKPdf** **14 53 24.0 +1.0**
baz=132
D24A Glendive 131.75 24 P **PKPdf** **14 53 22.9 +0.4**
baz=132
R11A Troy Canyon, C 131.78 41 P **PKPdf** **14 53 24.0 +1.0**
baz=132
R11A Troy Canyon, C 131.78 41 *e*PKPdf **PKPdf** **14 53 25.6 +2.6**
E23A Ismay 131.83 26 P **PKPdf** **14 53 23.7 +1.1**
baz=132
ULM Lac du Bonnet 131.96 16 PKP **PKPdf** **14 53 22.7 0.0**
comp=Z,2.4nm,0.6s,baz=58,slow=3.0,SNR=4.3
ULM Lac du Bonnet 131.96 16 PKIKP **PKPdf** **14 53 22.7 0.0**
ULM pmax pmax
comp=Z,2.0nm,0.6s
EDW2 Edwards Air Fo 131.97 46 P **PKPdf** **14 53 24.0 +0.7**
baz=132
HWUT Hardware Ranch 132.23 35 *e*PKPdf **PKPdf** **14 53 25.0 +1.2**
DUG Dugway 132.41 37 *e*PKIKP **PKPdf** **14 53 26.7 +2.6**
DUG Dugway 132.41 37 *e*PKPdf **PKPdf** **14 53 26.7 +2.6**
I20A Worland 132.44 30 P **PKPdf** **14 53 24.0 +0.1**
baz=132
PDAR Pinedale Array 132.55 32 PKhKP PKPpre 14 53 19.1
comp=Z,0.3nm,0.6s,baz=58,slow=2.2,SNR=2.8
PDAR PKP **PKPdf** **14 53 24.2 -0.2**
comp=Z,0.7nm,0.7s,baz=52,slow=2.4,SNR=5.3
PDAR SKPab **SKPab** **14 56 49.5 +1.7**
comp=Z,0.7nm,0.6s,baz=48,slow=1.3,SNR=6.2
GSC Goldstone 132.60 45 *e*PKIKP **PKPdf** **14 53 25.3 +0.8**
GSC Goldstone 132.60 45 *e*PKPdf **PKPdf** **14 53 25.3 +0.8**
I21A Big Trails, Te 132.95 29 P **PKPdf** **14 53 24.8 -0.2**
baz=133
I22A 9 Mile Ranch, 133.29 29 P **PKPdf** **14 53 26.0 +0.4**
baz=133
J22A Midwest 133.65 29 P **PKPdf** **14 53 25.8 -0.5**
baz=134
FRD Ford Ranch 133.65 47 *e*PKPdf **PKPdf** **14 53 26.3 -0.3**
GMRC Granite Mounta 133.67 45 P **PKPdf** **14 53 27.9 +1.3**
baz=134
PFO Pinyon Flat Ob 133.70 47 PKhKP PKPpre 14 53 21.7
comp=Z,3.1nm,0.8s,baz=256,slow=4.2,SNR=2.8
PFO SKPbc **SKPbc** **14 56 50.5 -0.1**
comp=Z,0.9nm,0.4s,baz=289,slow=5.9,SNR=4.2
PFO Pinyon Flat Ob 133.70 47 PKIKP **PKPdf** **14 53 21.7 -5.0**
PFO pmax pmax
comp=Z,3.0nm,0.8s
PFO pmax pmax
comp=N,1.0nm,0.4s
BELC Belle Mtn. Jos 133.83 46 P **PKPdf** **14 53 28.0 +1.1**
baz=134
MSU Marysvale 133.84 38 *e*PKIKP **PKPdf** **14 53 28.9 +2.0**
MSU Marysvale 133.84 38 *e*PKPdf **PKPdf** **14 53 28.9 +2.0**
MONP Monument Peak 134.08 47 P **PKPdf** **14 53 26.6 -0.9**
baz=134
G27A Dupree 134.14 24 P **PKPdf** **14 53 26.8 -0.3**
baz=134
H27A Howes 134.69 25 P **PKPdf** **14 53 28.0 -0.1**
baz=134
G29A Hoven 135.08 22 P **PKPdf** **14 53 29.0 +0.2**
baz=135
I28A Midland 135.58 24 P **PKPdf** **14 53 29.6 -0.2**
baz=135
J28A Allard Ranch, 136.02 25 P **PKPdf** **14 53 29.6 -1.0**
baz=136
WUAZ Wupatki 136.17 41 *e*PKPdf **PKPdf** **14 53 33.2 +1.9**
ECSD EROS Data Cent 137.55 21 P **PKPdf** **14 53 32.9 -0.5**
baz=137
ECSD EROS Data Cent 137.55 21 *e*PKPdf **PKPdf** **14 53 34.9 +1.5**
SDCO Great Sand Dun 138.28 34 P **PKPdf** **14 53 34.4 -0.9**
baz=138
T34A McClaskey Farm 143.04 27 P PKPab 14 53 38.6 -0.2
baz=143
SFIN Scholer Farm 143.36 12 P PKPab 14 53 40.3 +0.3
baz=143
S37A Fort Scott 143.41 23 P PKPab 14 53 40.6 +0.3
baz=143
CPUP Villa Florida 143.55 211 PKP **PKPdf** **14 53 47.2 +2.5**
comp=N,1.8nm,0.6s,baz=36,slow=3.4,SNR=3.1
CPUP Villa Florida 143.55 211 PKIKP **PKPdf** **14 53 47.2 +2.5**
CPUP pmax pmax
comp=Z,2.0nm,0.6s
Z29A Hungry Hill Ra 143.65 35 P PKPbc 14 53 42.1 -0.2
baz=144
U35A Pawnee 143.79 27 P PKPab 14 53 41.3 -0.5
baz=144
V34A Guthrie 143.87 28 P PKPab 14 53 42.2 +0.1
baz=144
T37A Cheneyville 18 143.93 24 P PKPab 14 53 42.0 -0.3
baz=144
228A UT Block 9, Go 143.93 38 P PKPab 14 53 42.7 +0.1
baz=144
W33A Caddo, Fort Co 143.96 30 P PKPab 14 53 41.9 -0.6
baz=144
Z30A Sanderson Ranc 143.96 35 P PKPab 14 53 42.5 -0.1
baz=144
ACSO Alum Creek Sta 144.20 7 *e*PKPdf **PKPab** **14 53 43.3 +0.1**
V35A Meyer Ranch, C 144.24 27 P **PKPab** **14 53 43.0 -0.5**
baz=144
Y32A R-V Farms, Ver 144.35 32 P **PKPab** **14 53 43.2 -0.8**
baz=144
U37A Salina 144.46 25 P **PKPab** **14 53 43.6 -0.7**
baz=144
Z31A Sharp Cattle R 144.49 34 P **PKPab** **14 53 44.1 -0.5**
baz=144
BDFB Brasilia 144.55 235 PKP **PKPdf** **14 53 47.5 +0.6**
comp=Z,6.3nm,0.5s,baz=150,slow=5.7,SNR=9.0
BDFB Brasilia 144.55 235 PKIKP **PKPdf** **14 53 47.5 +0.6**
BDFB pmax pmax
comp=Z,6.0nm,0.5s
BDFB Brasilia 144.55 235 *e*PKPdf **PKPdf** **14 53 47.9 +1.0**
130A Snyder 144.56 35 P **PKPab** **14 53 44.5 -0.4**
baz=144
TUL1 Tulsa 144.59 26 P **PKPab** **14 53 43.9 -0.9**
baz=144
TUL1 Tulsa 144.59 26 *e*PKPdf **PKPab** **14 53 44.3 -0.5**
V36A Jenks 144.63 26 P **PKPab** **14 53 44.3 -0.7**
baz=144
OLIL Olney 144.70 14 *e*PKPdf **PKPab** **14 53 45.0 -0.1**
X34A Smith Ranch, M 144.71 30 P **PKPab** **14 53 44.8 -0.5**
baz=144
W35A Tecumseh 144.72 28 P **PKPab** **14 53 44.4 -0.9**
baz=144
U38A Gravette 144.73 24 P **PKPab** **14 53 44.4 -1.0**
baz=144
329A Wagon Wheel Ra 144.74 38 P **PKPab** **14 53 45.3 -0.4**
baz=145
MVL Millersville 144.77 358 *e*PKPdf **PKPab** **14 53 45.2 -0.1**
131A Roby 144.83 35 P **PKPab** **14 53 45.3 -0.6**
baz=145
Z32A Haskell 144.86 33 P **PKPab** **14 53 45.2 -0.8**
baz=145
V37A Hulbert 144.89 25 P **PKPab** **14 53 44.9 -1.0**
baz=145
230A Sterling City 144.98 36 P **PKPab** **14 53 46.0 -0.5**
baz=145
W36A Wetumka 145.04 27 P **PKPbc** **14 53 45.6 -0.9**
baz=145
TXAR Lajitas Array 145.10 42 PKP **PKPab** **14 53 47.1 +0.1**
comp=Z,17nm,0.7s,baz=272,slow=1.3,SNR=175
TXAR SKPbc **SKPbc** **14 57 22.2 +0.1**
comp=Z,0.4nm,0.6s,baz=259,slow=0.9,SNR=4.9
V38A Canehill 145.22 24 P **PKPbc** **14 53 45.8 -1.3**
baz=145
Y34A Regan Ranch, 145.26 30 P **PKPbc** **14 53 46.0 -1.2**
baz=145
ABTX Abilene, Hawle 145.29 34 *e*PKPbc **PKPbc** **14 53 47.4 0.0**
330A Mertzon 145.29 37 P **PKPbc** **14 53 46.7 -0.8**
baz=145
X35A Drake 145.29 29 P **PKPbc** **14 53 46.1 -1.2**
baz=145
SIUC Southern Illin 145.36 16 *e*PKPbc **PKPbc** **14 53 46.9 -0.5**
SDMD Soldier's Deli 145.36 359 *e*PKPbc **PKPbc** **14 53 46.8 -0.6**
W37A Quinton 145.40 26 P **PKPbc** **14 53 46.8 -0.8**
baz=145
231A Bronte 145.41 36 P **PKPbc** **14 53 47.1 -0.7**
baz=145
X36A Centrahoma 145.45 28 P **PKPbc** **14 53 47.0 -0.8**
baz=145
Z34A Collier Ranch, 145.64 31 P **PKPdf** **14 53 47.5 -0.7**
baz=146
Y35A Marietta 145.66 30 P **PKPdf** **14 53 47.5 -0.7**
baz=146
430A Baggett Ranch, 145.69 38 P **PKPdf** **14 53 48.0 -0.4**
baz=146
133A Hamilton Ranch 145.70 33 P **PKPdf** **14 53 48.3 0.0**
baz=146
331A San Angelo 145.80 36 P **PKPdf** **14 53 48.3 -0.2**
baz=146
232A Coleman 145.83 35 P **PKPdf** **14 53 48.8 +0.2**
baz=146
W38A Poteau 145.85 25 P **PKPdf** **14 53 48.2 -0.2**
baz=146
PBMO Poplar Bluff 145.86 19 *e*PKPdf **PKPdf** **14 53 48.0 -0.4**
X37A Clayton 145.88 27 P **PKPdf** **14 53 48.3 -0.2**
baz=146
Z35A Perchaven, San 146.01 30 P **PKPdf** **14 53 49.2 +0.4**
baz=146
Y36A Durant 146.03 29 P **PKPdf** **14 53 48.5 -0.3**
baz=146
X38A Whitesboro 146.06 26 P **PKPdf** **14 53 49.1 +0.3**
baz=146
530A J-C Ranch, Com 146.07 39 P **PKPbc** **14 53 50.0 +0.1**
baz=146
431A Sonora 146.14 37 P **PKPbc** **14 53 49.7 -0.5**
baz=146
332A Millersview 146.15 36 P **PKPbc** **14 53 49.8 -0.4**
baz=146
432A Menard 146.49 36 P **PKPbc** **14 53 50.7 -0.5**
baz=146
531A Rocksprings 146.55 38 P **PKPbc** **14 53 50.4 +0.5**
baz=146
234A Clairette 146.59 33 P **PKPbc** **14 53 51.0 -0.3**
baz=146
333A Richland Sprin 146.63 35 P **PKPdf** **14 53 50.7 +0.8**
baz=146
MIAR Mount Ida 146.70 25 *e*PKP2 **PKPdf** **14 53 50.4 +0.5**
MIAR Mount Ida 146.70 25 P **PKPbc** **14 53 51.1 -0.5**
baz=146
MIAR Mount Ida 146.70 25 *e*PKPdf **PKPdf** **14 53 50.4 +0.5**
JCT Junction City 146.77 37 *e*PKP2 **PKPdf** **14 53 51.0 +0.8**
JCT Junction City 146.77 37 P **PKPdf** **14 53 50.7 +0.5**
baz=147
JCT Junction City 146.77 37 *e*PKPdf **PKPdf** **14 53 51.0 +0.8**
532A Rocksprings 146.96 37 P **PKPdf** **14 53 51.2 +0.6**
baz=147
433A Art 146.99 36 P **PKPdf** **14 53 51.0 +0.4**
baz=147
334A Lometa 147.04 34 P **PKPdf** **14 53 51.0 +0.4**
baz=147
631A Perdido Creek 147.05 39 P **PKPdf** **14 53 50.8 +0.1**
baz=147
JSRW J. Sargeant Re 147.08 1 *e*PKPdf **PKPbc** **14 53 51.9 -0.7**
URVA University of 147.21 0 *e*PKPdf **PKPbc** **14 53 52.9 0.0**
WVT Waverly 147.23 16 *e*PKP2 **PKPbc** **14 53 52.5 -0.5**
WVT Waverly 147.23 16 *e*PKPdf **PKPbc** **14 53 52.5 -0.5**
434A Burnet 147.42 35 P **PKPdf** **14 53 51.1 -0.1**
baz=147
632A Uvalde 147.48 38 P **PKPbc** **14 53 53.2 -0.7**
baz=147
533A Kerrville 147.52 36 P **PKPbc** **14 53 52.9 -1.2**
baz=147
TZTN Tazewell 147.75 9 *e*PKPdf **PKPbc** **14 53 53.8 -0.6**
336A Riesel 147.76 32 P **PKPbc** **14 53 54.9 +0.3**
baz=148
633A Saathoff Ranch 147.88 37 P **PKPbc** **14 53 55.2 +0.2**
baz=148
534A Blanco 147.88 36 P **PKPdf** **14 53 53.0 +0.9**
baz=148
732A Laxson Ranch, 147.91 39 P **PKPbc** **14 53 55.6 +0.5**
baz=148
832A Faith Ranch, C 148.21 40 P **PKPdf** **14 53 53.9 +1.3**
baz=148
833A Chaparral WMA, 148.55 39 P **PKPbc** **14 53 55.4 -1.4**
baz=148
SWET Sewanee 148.57 13 *e*PKPbc **PKPbc** **14 53 55.9 -0.8**
TKL Tuckaleechee C 148.57 10 *e*PKP2 **PKPbc** **14 53 56.2 -0.5**
TKL Tuckaleechee C 148.57 10 *e*PKPbc **PKPbc** **14 53 56.2 -0.5**
CPCT Cooper Cave 148.64 11 *e*PKPdf **PKPdf** **14 53 52.8 -0.3**
CPCT *e*PKPbc **PKPbc** **14 53 56.3 -0.5**
636A Smothers Creek 149.11 35 P **PKPbc** **14 53 59.9 +1.7**
baz=149
933A Laredo 149.12 40 P **PKPbc** **14 53 56.2 -2.1**
baz=149
HKT Hockley 149.42 32 *e*PKP2 **PKPbc** **14 53 59.8 +1.0**
HKT Hockley 149.42 32 *e*PKPbc **PKPbc** **14 53 59.8 +1.0**
KMSC Kings Mountain 149.42 6 P **PKPbc** **14 53 58.0 -0.8**
baz=149
BBSR BB Station 149.91 338 *e*PKPbc **PKPbc** **14 54 00.7 +0.7**
LRAL Lakeview Retre 150.37 16 *e*PKPbc **PKPbc** **14 54 00.6 -0.6**
GOGA Godfrey 150.82 10 *e*PKIKP **PKPbc** **14 54 02.2 0.0**
GOGA Godfrey 150.82 10 *e*PKPbc **PKPbc** **14 54 02.2 0.0**
LVC Limon Verde 151.66 197 PKPbc **PKPbc** **14 54 06.9 +2.1**
comp=Z,30nm,0.7s,baz=25,slow=3.4,SNR=6.1
SIV San Ignacio 153.86 218 PKPbc **PKPbc** **14 54 10.2 +0.6**
comp=Z,1.2nm,0.9s,baz=147,slow=0.7,SNR=4.3
SIV PKPab **PKPab** **14 54 24.3 +1.7**
comp=Z,0.5nm,0.4s,baz=232,slow=3.1,SNR=4.1
LPAZ La Paz 157.25 204 PKPab **PKPab** **14 54 39.8 +2.0**
comp=Z,0.6nm,0.5s,baz=186,slow=10,SNR=3.0
LPAZ La Paz 157.25 204 PKP2 **PKPab** **14 54 39.8 +2.0**
LPAZ pmax pmax
comp=Z,1.0nm,0.5s

*ATH **23** 14:41:50.0,36°.13N×21°.58E,h25km±1km,MD3.5/11*
*THE **23** 14:41:52.1,36°.22N×21°.52E,h26km±1km,ML2.6/3, Error ellipse: s-maj=1.8km s-min=0.6km az=247.0*
*CSEM **23** 14:41:53.3±0.9,36°.29N×21°.72E,h20km,MD3.5, Error ellipse: s-maj=22.4km s-min=8.5km az=52.0*

ISC 23 14:41:51.3±1.9, 36°.20N±0°.07×21°.61E±0°.08, h14km, n43, σ0.974/53, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.70**	**9**	*e*PN		**Pg**		**14 42 05.3**	**+0.3**
PYL	**PYLOS**	**0.70**	**9**	P		**Pg**		**14 42 05.2**	**+0.3**
PYL	**PYLOS**	**0.70**	**9**	P		**Pg**		**14 42 05.2**	**+0.3**
ITM	**Ithomi**	**1.01**	**15**	*e*PN		**Pb**		**14 42 10.7**	**+0.2**
ITM	**Ithomi**	**1.01**	**15**	P		**Pb**		**14 42 10.2**	**-0.3**
ITM	**Ithomi**	**1.01**	**15**	*e*Pn		**Pb**		**14 42 10.7**	**+0.2**
ITM				S		**Sb**		**14 42 23.4**	**-0.3**
ITM	**Ithomi**	**1.01**	**15**	P		**Pb**		**14 42 10.2**	**-0.3**
ITM				S		**Sb**		**14 42 23.4**	**-0.3**
KYTH	**Kithira**	**1.16**	**86**	*e*PN		**Pb**		**14 42 12.9**	**-0.2**
KYTH	**Kithira**	**1.16**	**86**	*e*Pn		**Pb**		**14 42 12.9**	**-0.2**
KYTH	**Kithira**	**1.16**	**86**	P		**Pb**		**14 42 12.8**	**-0.3**
VLI	**Veliai**	**1.19**	**64**	*e*PN		**Pb**		**14 42 13.7**	**+0.1**
VLI	**Veliai**	**1.19**	**64**	P		**Pn**		**14 42 13.4**	**-0.1**
VLI	**Veliai**	**1.19**	**64**	*e*Pn		**Pb**		**14 42 13.7**	**+0.1**
VLI				S		**Sg**		**14 42 30.0**	**+0.3**
VLI	**Veliai**	**1.19**	**64**	P		**Pn**		**14 42 13.4**	**-0.1**
VLI				S		**Sg**		**14 42 30.0**	**+0.3**
VLX	**Vlachokerasia**	**1.32**	**28**	*e*PN		**Pb**		**14 42 15.8**	**-0.1**
VLX	**Vlachokerasia**	**1.32**	**28**	P		**Pn**		**14 42 14.4**	**-1.0**
VLX	**Vlachokerasia**	**1.32**	**28**	*e*Pn		**Pb**		**14 42 15.8**	**-0.1**
VLX				S		**Sb**		**14 42 32.0**	**-0.7**
VLX	**Vlachokerasia**	**1.32**	**28**	P		**Pn**		**14 42 14.4**	**-1.0**
VLX				S		**Sb**		**14 42 32.0**	**-0.7**
AMT	**Artemida-Makis**	**1.33**	**4**	*e*PN		**Pn**		**14 42 15.6**	**+0.2**
AMT	**Artemida-Makis**	**1.33**	**4**	P		**Pn**		**14 42 14.5**	**-0.9**
AMT	**Artemida-Makis**	**1.33**	**4**	*e*Pn		**Pn**		**14 42 15.6**	**+0.2**
AMT				S		**Sb**		**14 42 31.1**	**-1.8**
AMT	**Artemida-Makis**	**1.33**	**4**	P		**Pn**		**14 42 14.5**	**-0.9**
AMT				S		**Sb**		**14 42 31.1**	**-1.8**
ANKY	**Antikythira Is**	**1.42**	**103**	*e*PN		**Pn**		**14 42 16.1**	**-0.5**
ANKY	**Antikythira Is**	**1.42**	**103**	*e*Pn		**Pn**		**14 42 16.1**	**-0.5**
ANKY				S		**Sb**		**14 42 35.5**	**+0.2**
ANKY	**Antikythira Is**	**1.42**	**103**	P		**Pn**		**14 42 16.3**	**-0.3**
ANKY				S		**Sb**		**14 42 35.5**	**+0.2**
DRO	**Drossia**	**1.75**	**3**	*e*PN		**Pb**		**14 42 22.7**	**-0.4**
DRO	**Drossia**	**1.75**	**3**	*e*Pn		**Pb**		**14 42 22.7**	**-0.4**
GUR	**Goura**	**1.83**	**19**	*e*PN		**Pn**		**14 42 23.3**	**+0.9**
GUR	**Goura**	**1.83**	**19**	*e*Pn		**Pn**		**14 42 23.3**	**+0.9**
DID	**Didima**	**1.84**	**45**	*e*PB		**Pn**		**14 42 22.8**	**+0.3**
DID	**Didima**	**1.84**	**45**	*e*Pb		**Pn**		**14 42 22.8**	**+0.3**
KLV	**Kalavryta, Ach**	**1.89**	**13**	*e*PN		**Pn**		**14 42 23.9**	**+0.7**
KLV	**Kalavryta, Ach**	**1.89**	**13**	*e*Pn		**Pn**		**14 42 23.9**	**+0.7**
LAKA	**Lakka**	**2.05**	**8**	*e*PB		**Pn**		**14 42 26.4**	**+1.0**
LAKA	**Lakka**	**2.05**	**8**	*e*Pb		**Pn**		**14 42 26.4**	**+1.0**

LTK	Loutraki	2.12	31	*e*PN	Pn	14 42 26.7	+0.4
LTK	Loutraki	2.12	31	*e*Pn	Pn	14 42 26.7	+0.4
KALE	Kalithea	2.22	11	*e*PB	Pn	14 42 29.0	+1.2
KALE	Kalithea	2.22	11	*e*Pb	Pn	14 42 29.0	+1.2
MAKR	Makrakomi, Fth	2.83	8	*e*PN	Pn	14 42 37.8	+1.6
MAKR	Makrakomi, Fth	2.83	8	*e*Pn	Pn	14 42 37.8	+1.6
AGG	Agios Georgios	2.87	11	*e*PN	Pn	14 42 37.2	+0.5
AGG	Agios Georgios	2.87	11	*e*Pn	Pn	14 42 37.2	+0.5

IDC ***23*** *14:42:23.3±1.8, 46°.33N×152°.63E, h0km, mb3.7/2, mb1 3.6/3, mb1mx3.2/49, mbtmp3.6/3, ML2.5/1, MS3.1/1, Ms1 3.1/1, ms1mx2.2/36, Error ellipse: s-maj=88.8km s-min=31.5km az=99.0*

SKHL ***23*** *14:42:25.6±0.6, 46°.39N×153°.14E, h20km±4km, msh3.7/1*

ISCJB ***23*** *14:42:26.5±1.3, 46°.5N±0°.1×153°.1E±0°.2, h40km, mb3.5/2, MS3.1/1, Error ellipse: s-maj=22.9km s-min=7.0km az=138.8*

ISC 23 14:42:28.6±1.5, 46°.4N±0°.1×153°.1E±0°.1, h40km, n12, σ1§17/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.88**	**254**	*e*P	**Pn**	**14 43 25.1**	**-0.5**
KUR				AMB	AMB	14 43 26.2	
	20nm,0.4s						
KUR				AMB	AMB	14 43 26.2	
	60nm,0.4s						
KUR				*i* S	**Sn**	**14 44 10.2**	**+0.3**
KUR				A	A	14 44 18.6	
	100nm,2.5s						
KUR				A	A	14 44 19.2	
	120nm,0.6s						
SKR	**Severo-Kuril's**	**4.68**	**24**	*e*P	**Pn**	**14 43 36.5**	**-0.1**
SKR				AMB	AMB	14 43 37.0	
	20nm,0.4s						
SKR				*e*S	**Sn**	**14 44 29.2**	**-0.5**
SKR				A	A	14 44 39.5	
	100nm,0.4s						
YSS	**Yuzh-Sakhalins**	**7.16**	**278**	*e*P	**Pn**	**14 44 09.9**	**-0.8**
PETK	**Petropavlovsk-**	**7.30**	**22**	Pn	**Pn**	**14 44 14.2**	**+1.7**
	0.4nm,0.3s,baz=192,slow=12,SNR=7.5						
EKMR	**Ekimchan**	**14.62**	**304**	*e*P	**P**	**14 45 57.2**	**-1.0**
BMKR	**Bomnak**	**17.44**	**307**	*e*P	**P**	**14 46 31.5**	**+2.0**
H11N2	**WAKE ISLAND Hy**	**28.93**	**152**	T	T	15 20 06.4	
	baz=340,slow=75,SNR=4.9						
H11N1	**WAKE ISLAND Hy**	**28.95**	**152**	T	T	15 20 06.4	
	baz=340,slow=75,SNR=4.4						
H11N3	**WAKE ISLAND Hy**	**28.95**	**152**	T	T	15 20 06.4	
	baz=340,slow=75,SNR=4.9						
GUMO	**Guam**	**33.48**	**195**	LR	LR	15 01 17.5	
	comp=Z,34nm,19.9s,baz=240,slow=34						
AKASG	**Malin Array Be**	**71.82**	**326**	P	**P**	**14 53 46.8**	**+0.1**
	1.2nm,0.4s,baz=35,slow=6.5,SNR=5.2						
ASAR	**Alice Springs**	**71.92**	**199**	P	**P**	**14 53 47.0**	**-0.5**
	0.1nm,0.7s,baz=14,slow=6.6,SNR=2.8						

IDC 23 14:43:21.8±20.0, 17°.47S×177°.96W, h508km±171km, mb3.4/5, mb1 3.5/5, mb1mx3.0/44, mbtmp4.3/5, Error ellipse: s-maj=185.1km s-min=31.5km az=40.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**21.16**	**191**	P	P	14 47 30.2	-0.2
	8.8nm,0.8s,baz=5.6,slow=18,SNR=5.6						
CTA	**Charters Tower**	**33.95**	**260**	P	P	14 49 22.7	+0.1
	4.5nm,1.0s,baz=90,slow=9.1,SNR=2.2						
STKA	**Stephens Creek**	**39.22**	**241**	P	P	14 50 06.5	+0.6
	2.4nm,0.5s,baz=96,slow=12,SNR=7.1						
WRA	**Warramunga Arr**	**45.14**	**259**	P	P	14 50 52.1	-0.7
	1.0nm,0.6s,baz=96,slow=8.1,SNR=3.3						
ASAR	**Alice Springs**	**45.33**	**254**	P	P	14 50 53.9	-0.4
	7.8nm,0.5s,baz=89,slow=7.3,SNR=176						
ASAR				PcP	PcP	14 52 23.2	-0.1
	0.3nm,0.5s,baz=102,slow=3.2,SNR=3.4						

ISCJB ***23*** *14:59:20.5±0.4, 3°.55S±0°.03×138°.30E±0°.04, h71km, mb3.5/3, Error ellipse: s-maj=5.1km s-min=4.9km az=12.5*

IDC ***23*** *14:59:22.4±2.1, 3°.52S×138°.48E, h85km±22km, mb3.5/4, mb1 3.7/7, mb1mx3.4/26, mbtmp3.8/7, Error ellipse: s-maj=27.0km s-min=19.5km az=99.0*

DJA ***23*** *14:59:22.7±0.8, 3°.S±4°×13°.8E±°, h66km±14km, M4.0/6, MLv4.0/6*

ISC 23 14:59:21.4±0.6, 3°.52S±0°.06×138°.35E±0°.04, h71km, n24, σ1§65/32, mb3.4/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**1.56**	**13**	P	**Pn**	**14 59 46.5**	**-0.7**
SMPI				S	**Sn**	**15 00 06.9**	**+0.2**
GENI	**Genyem**	**2.04**	**63**	P	**Pn**	**14 59 54.7**	**+1.1**
GENI				S	**Sn**	**15 00 21.0**	**+2.9**
JAY	**Jayapura**	**2.55**	**67**	P	**Pn**	**15 00 01.7**	**+1.1**
JAY	**Jayapura**	**2.55**	**67**	P	**Pn**	**15 00 00.6**	**0.0**
	4.0nm,0.3s,baz=237,slow=12,SNR=25						
JAY				S	**Sn**	**15 00 31.4**	**+0.7**
	8.5nm,0.3s,baz=114,slow=20,SNR=5.0						
JAY	**Jayapura**	**2.55**	**67**	P	**Pn**	**15 00 02.0**	**+1.3**
	baz=2.6,SNR=3.9						
SRPI	**Serui, Papua**	**2.67**	**308**	P	**Pn**	**15 00 02.5**	**+0.3**
SRPI				S	**Sn**	**15 00 33.3**	**-0.2**
BAKI	**Biak**	**3.22**	**316**	P	**Pn**	**15 00 09.5**	**-0.2**
BAKI				S	**Sn**	**15 00 46.2**	**-0.7**
FAKI	**Fak Fak**	**6.12**	**275**	P	**Pn**	**15 00 51.7**	**+2.4**
FAKI	**Fak Fak**	**6.12**	**275**	P	**Pn**	**15 00 51.9**	**+2.6**
	baz=6.3,SNR=4.8						
SIJI	**Sorong**	**7.55**	**290**	P	**Pn**	**15 01 11.1**	**+2.2**
	1.2nm,0.3s,baz=143,slow=20,SNR=6.4						
SIJI				S	**Sn**	**15 02 29.2**	**-3.9**
	0.5nm,0.3s,baz=163,slow=19,SNR=2.1						
PMG	**Port Moresby**	**10.52**	**124**	P	**Pn**	**15 01 52.3**	**+2.9**
	0.6nm,0.3s,baz=316,slow=16,SNR=3.5						
PMG				S	**Sn**	**15 03 42.2**	**-3.6**
	0.3nm,0.3s,baz=245,slow=19,SNR=2.2						
KDU	**Kakadu**	**10.80**	**212**	P	**Pn**	**15 01 53.2**	**-0.1**
	baz=11,SNR=29						
COEN	**Coen**	**11.41**	**156**	P	**Pn**	**15 02 01.3**	**-0.3**
	baz=11,SNR=9.6						
MTN	**Manton Dam**	**11.69**	**217**	P	**Pn**	**15 02 05.6**	**+0.1**
	baz=12,SNR=12						
SOEI	**Soe**	**15.29**	**245**	P	**P**	**15 02 58.0**	**+1.3**
	baz=15,SNR=3.2						
KNRA	**Kununurra**	**15.33**	**217**	P	**Pn**	**15 02 53.2**	**-0.5**
	baz=15,SNR=18						
MTSU	**Mount Surprise**	**15.66**	**159**	P	**P**	**15 03 00.4**	**-0.2**
	baz=15,SNR=24						
WRA	**Warramunga Arr**	**16.79**	**193**	P	**Pn**	**15 03 10.8**	**-1.2**
	0.7nm,0.3s,baz=17,slow=12,SNR=21						
WRA				S	Sn	15 06 06.8	-11
	0.4nm,0.3s,baz=5.8,slow=23,SNR=5.5						
QIS	**Mount Isa**	**16.98**	**176**	P	**Pn**	**15 03 14.4**	**-0.1**
	baz=17,SNR=8.6						
ASAR	**Alice Springs**	**20.48**	**192**	P	**P**	**15 03 54.5**	**+0.9**
	4.1nm,0.7s,baz=18,slow=9.4,SNR=59						
ASAR				S	**S**	**15 07 37.0**	**-2.1**
	2.5nm,0.8s,baz=15,slow=25,SNR=10						
WRKA	**Warakurna**	**23.48**	**203**	P	**P**	**15 04 24.3**	**-0.8**
	baz=23,SNR=9.9						
STKA	**Stephens Creek**	**28.37**	**174**	P	**P**	**15 05 08.7**	**-0.3**
	0.3nm,0.3s,baz=353,slow=8.1,SNR=2.8						
MKAR	**Makanchi Array**	**70.21**	**323**	P	**P**	**15 10 27.1**	**+0.2**
	0.2nm,0.4s,baz=103,slow=6.2,SNR=4.0						
ILAR	**Eielson Array**	**86.71**	**24**	P	**P**	**15 11 56.0**	**-1.2**
	0.6nm,0.5s,baz=265,slow=4.6,SNR=9.4						

IDC ***23*** *15:45:37.2±1.7, 8°.19S×68°.07E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.6/61, mbtmp3.8/9, MS3.4/1, Ms1 3.4/1, ms1mx2.5/40, Error ellipse: s-maj=64.5km s-min=20.6km az=54.0*

ISC 23 15:45:39.3±1.1, 8°.1S±0°.2×68°.25E±0°.08, h10km, n21, σ1§09/17, mb3.9/9, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08N3	**Diego Garcia H**	**3.22**	**58**	T	T	15 50 02.7	
	baz=236,slow=75,SNR=5045						
H08N2	**Diego Garcia H**	**3.23**	**58**	T	T	15 50 01.0	
	baz=236,slow=75,SNR=6366						
H08N1	**Diego Garcia H**	**3.24**	**58**	T	T	15 50 08.2	
	baz=236,slow=75,SNR=3955						
H08S1	**Diego Carcia H**	**4.21**	**84**	Pn	**Pn**	**15 46 41.5**	**-1.8**
H08S1				Sn	**Sb**	**15 47 45.1**	**+1.1**
H08S3	**Diego Garcia H**	**4.22**	**84**	Pn	**Pn**	**15 46 41.5**	**-1.9**
H08S3				Sn	**Sb**	**15 47 45.1**	**+0.7**
H08S2	**Diego Garcia H**	**4.22**	**84**	Pn	**Pn**	**15 46 41.5**	**-2.0**
H08S2				Sn	**Sb**	**15 47 45.1**	**+0.5**
PALK	**Pallekele**	**19.66**	**39**	LR	LR	15 56 00.1	
	comp=Z,90nm,18.3s,baz=255,slow=31						
H01W3	**Cape Leeuwin H**	**49.75**	**129**	T	T	16 47 44.2	
	baz=292,slow=75,SNR=12						
H01W2	**Cape Leeuwin H**	**49.75**	**129**	T	T	16 47 44.4	
	baz=292,slow=75,SNR=12						
H01W1	**Cape Leeuwin H**	**49.77**	**129**	T	T	16 47 45.4	
	baz=292,slow=75,SNR=11						
MKAR	**Makanchi Array**	**56.04**	**12**	P	**P**	**15 55 18.7**	**+0.3**
	0.6nm,0.7s,baz=196,slow=7.6,SNR=5.5						
BRTR	**Keskin Array B**	**57.34**	**329**	P	**P**	**15 55 27.2**	**-0.7**
	0.5nm,0.8s,baz=135,slow=4.1,SNR=2.8						
AKTO	**Aktyubinsk**	**58.95**	**352**	P	**P**	**15 55 38.8**	**0.0**
	1.2nm,0.7s,baz=224,slow=2.7,SNR=4.4						
KURBB	**Kurchatov Arra**	**59.14**	**8**	P	**P**	**15 55 40.5**	**+0.5**
	0.8nm,0.8s,baz=204,slow=6.6,SNR=6.2						
BVAR	**Borovoye Array**	**60.89**	**1**	P	**P**	**15 55 52.2**	**+0.1**
	0.2nm,0.3s,baz=180,slow=8.6,SNR=3.8						
ASAR	**Alice Springs**	**64.53**	**112**	P	**P**	**15 56 17.0**	**-0.1**
	0.8nm,0.7s,baz=277,slow=6.2,SNR=15						
WRA	**Warramunga Arr**	**64.85**	**108**	P	**P**	**15 56 19.5**	**+0.3**
	2.0nm,1.1s,baz=282,slow=7.1,SNR=4.7						
SONM	**Songino Array**	**65.07**	**27**	P	**P**	**15 56 21.3**	**+1.2**
	0.3nm,0.4s,baz=214,slow=5.8,SNR=6.0						
STKA	**Stephens Creek**	**71.65**	**121**	P	**P**	**15 57 02.7**	**+1.1**
	0.9nm,0.7s,baz=262,slow=12,SNR=3.1						
PDAR	**Pinedale Array**	**145.40**	**357**	PKPbc	**PKPbc**	**16 05 17.5**	**-0.6**
	0.3nm,0.4s,baz=13,slow=3.2,SNR=5.0						
NVAR	**Mina Array Bea**	**149.21**	**10**	PKPbc	**PKPbc**	**16 05 28.4**	**-0.5**
	0.6nm,0.5s,baz=357,slow=3.0,SNR=4.9						

IDC 23 15:53:07.2±3.3, 22°.07S×178°.06W, h330km±47km, mb3.3/3, mb1 3.4/5, mb1mx3.1/44, mbtmp4.2/5, Error ellipse: s-maj=42.5km s-min=24.5km az=111.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**10.07**	**37**	P	Pn	15 55 26.4	+0.2
	3.1nm,0.3s,baz=221,slow=3.5,SNR=7.1						
AFI				S	S	15 57 11.3	-8.9
	1.4nm,0.3s,baz=267,slow=19,SNR=2.2						
URZ	**Urewera**	**16.66**	**193**	P	P	15 56 38.7	-2.0
	1.2nm,0.3s,baz=332,slow=15,SNR=16						
URZ				S	S	15 59 32.2	-5.7
	0.7nm,0.3s,baz=105,slow=23,SNR=8.0						
RPZ	**Rata Peaks**	**23.40**	**200**	P	P	15 57 48.1	+0.6
	12nm,1.1s,baz=26,slow=5.2,SNR=3.9						
STKA	**Stephens Creek**	**37.08**	**246**	P	P	15 59 47.1	+0.2
	1.0nm,0.5s,baz=90,slow=10,SNR=4.8						
ASAR	**Alice Springs**	**44.13**	**258**	P	P	16 00 43.9	-0.4
	0.8nm,0.7s,baz=90,slow=7.4,SNR=8.8						
AKASG	**Malin Array Be**	**144.35**	**330**	PKP	PKPab	16 12 03.0	-0.2
	0.5nm,0.5s,baz=44,slow=4.1,SNR=5.0						

NEIC ***23*** *15:53:25.7±0.6, 5°.64S×130°.48E, h35km, mb4.1/1, Error ellipse: s-maj=15.9km s-min=8.7km az=83.0*

ISCJB ***23*** *15:53:27.8±0.5, 5°.57S±0°.04×130°.73E±0°.10, h77km, mb3.9/5, Error ellipse: s-maj=13.6km s-min=5.8km az=5.8*

IDC ***23*** *15:53:28.6±4.7, 5°.61S×130°.64E, h63km±46km, mb3.8/5, mb1 3.9/8, mb1mx3.5/43, mbtmp4.1/8, ML4.0/3, MS2.7/1, Ms1 2.7/1, ms1mx2.3/28, Error ellipse: s-maj=64.6km s-min=18.9km az=70.0*

ISC 23 15:53:29.6±0.7, 5°.50S±0°.06×130°.8E±0°.1, h77km, n22, σ1§40/22, mb4.0/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.97**	**30**	P	**Pn**	**15 54 14.5**	**0.0**
	baz=2.8,SNR=91						
FAKI	**Fak Fak**	**2.97**	**30**	*e*Pn	**Pn**	**15 54 13.5**	**-1.0**
FAKI				*e*Sn	**Sn**	**15 54 50.5**	**+1.4**
AAI	**Ambon**	**3.12**	**305**	P	Pn	15 54 21.5	+4.9
	baz=3.3,SNR=5.4						
SIJI	**Sorong**	**4.63**	**6**	P	**Pn**	**15 54 37.3**	**+0.2**
	21nm,0.3s,baz=54,slow=6.9,SNR=163						
SIJI				S	**Sn**	**15 55 25.4**	**-4.3**
	26nm,0.3s,baz=227,slow=19,SNR=10						
SWI	**Sorong**	**4.63**	**6**	P	**Pn**	**15 54 37.4**	**+0.2**
	baz=4.6,SNR=18						
MTN	**Manton Dam**	**7.31**	**177**	P	**Pn**	**15 55 14.1**	**+0.5**
	baz=7.4,SNR=58						
KDU	**Kakadu**	**7.34**	**167**	P	**Pn**	**15 55 14.2**	**+0.1**
	baz=7.4,SNR=3.0						
KNRA	**Kununurra**	**10.30**	**191**	P	**Pn**	**15 55 54.1**	**-0.4**
	baz=10,SNR=17						
JAY	**Jayapura**	**10.36**	**74**	P	**Pn**	**15 55 57.0**	**+1.5**
	0.4nm,0.3s,baz=222,slow=16,SNR=3.4						
WRAB	**Tennant Creek**	**14.77**	**167**	*e*Pn	**Pn**	**15 56 51.7**	**-2.8**
WRA	**Warramunga Arr**	**14.77**	**167**	P	Pn	15 56 49.2	-5.3
	0.3nm,0.3s,baz=347,slow=13,SNR=8.0						
WRA				S	Sn	15 59 23.1	-14
	1.0nm,0.3s,baz=326,slow=24,SNR=8.6						
PMG	**Port Moresby**	**16.73**	**104**	LR	LR	16 04 01.1	
	comp=Z,24nm,20.7s,baz=211,slow=38						
AS31	**Alice Springs**	**18.31**	**171**	*e*P	**P**	**15 57 37.5**	**-0.3**
ASAR	**Alice Springs**	**18.32**	**171**	P	**P**	**15 57 37.1**	**-0.7**
	0.4nm,0.3s,baz=350,slow=9.4,SNR=54						
CTAO	**Charters Tower**	**20.92**	**135**	*e*P	**P**	**15 58 05.9**	**-0.2**
	10nm,1.2s						
STKA	**Stephens Creek**	**28.14**	**160**	P	**P**	**15 59 14.3**	**-0.2**
	0.6nm,0.3s,baz=347,slow=14,SNR=3.9						
SONM	**Songino Array**	**57.27**	**341**	P	**P**	**16 03 10.6**	**+1.2**
	0.4nm,0.3s,baz=160,slow=6.8,SNR=4.3						
MKAR	**Makanchi Array**	**67.39**	**326**	P	**P**	**16 04 18.1**	**+1.3**
	1.9nm,0.5s,baz=117,slow=8.1,SNR=36						
MKAR				pP	**pP**	**16 04 37.6**	**+0.7**
	0.4nm,0.5s,baz=114,slow=7.2,SNR=2.5						
ZALV	**Zalesovo Beam**	**70.58**	**333**	P	**P**	**16 04 36.6**	**+0.2**
	1.1nm,0.5s,baz=121,slow=6.6,SNR=4.6						
KURBB	**Kurchatov Arra**	**71.64**	**328**	P	**P**	**16 04 43.4**	**+0.6**
	0.9nm,0.5s,baz=123,slow=4.8,SNR=4.7						
KURK	**Kurchatov**	**71.64**	**328**	P	**P**	**16 04 43.4**	**+0.6**
LPAZ	**La Paz**	**151.41**	**140**	PKPbc	**PKPbc**	**16 13 16.7**	**+0.3**
	0.3nm,0.3s,baz=243,slow=4.5,SNR=3.9						

SJA ***23*** *16:01:57.5±0.8, 34°.69S×73°.27W, h10km, ML4.1, MW3.8*

GUC ***23*** *16:02:12.5±0.7, 34°.21S×72°.26W, h13km±1km, ML3.9*

ISC 23 16:02:12.0±2.5, 34°.27S±0°.05×72°.2W±0°.1, h6km±12km, n20, σ1§24/31, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.70**	**63**	*i*P	**Pg**	**16 02 26.6**	**+1.2**
NICH	**Los Niches**	**1.06**	**134**	*e*P	**Pn**	**16 02 33.5**	**+0.1**
NICH				*e*S	**Sn**	**16 02 48.5**	**+0.1**
TACH	**Talagante**	**1.19**	**59**	*i*P	**Pb**	**16 02 33.6**	**-1.4**
TACH				*i* S	**Sb**	**16 02 50.5**	**-0.1**
TALC	**Talca**	**1.20**	**159**	*i*P	**Pn**	**16 02 35.5**	**+0.1**
TALC				*i* S	**Sn**	**16 02 52.2**	**+0.1**
SAN	**Santiago**	**1.49**	**57**	*e*P	**Pn**	**16 02 38.7**	**-0.7**
SAN				*i* S	**Sn**	**16 02 58.7**	**-0.5**
PCH	**Pirque**	**1.51**	**65**	*i*P	**Pn**	**16 02 39.5**	**-0.3**
STL	**Santa Lucia**	**1.51**	**57**	*e*P	**Pn**	**16 02 38.7**	**-1.0**
STL				*e*S	**Sn**	**16 02 58.6**	**-1.1**
CLCH	**Cerro Calan**	**1.61**	**58**	*i*P	**Pn**	**16 02 40.6**	**-0.5**
CLCH				*i* S	**Sn**	**16 03 02.6**	**+0.4**
CLCH				AML	AML	16 03 09.4	
	comp=E,2μm,0.5s						
LNCH	**Linares**	**1.64**	**164**	*e*P	**Pn**	**16 02 41.5**	**+0.2**
LNCH				*i* S	**Sb**	**16 03 04.0**	**+0.4**
PEL	**Peldehue**	**1.67**	**48**	*e*P	**Pn**	**16 02 41.6**	**-0.2**
PEL				*i* S	**Sn**	**16 03 03.3**	**-0.2**
PEL				AML	AML	16 03 14.2	
	comp=N,3μm,0.6s						
YECH	**El Yeso**	**1.83**	**71**	*i*P	**Pn**	**16 02 45.0**	**+0.8**
YECH				*i* S	**Sb**	**16 03 10.2**	**+0.8**
AUSP	**Uspallata**	**3.09**	**49**	*e*P	Pn	16 03 05.3	+3.6
ASAL	**Salagasta**	**3.25**	**60**	*e*P	**Pb**	**16 03 07.9**	**-2.2**
ASAL				*e*S	**Sg**	**16 03 56.1**	**-0.2**
RTLS	**Leoncito**	**3.44**	**45**	*e*P	**Pn**	**16 03 09.2**	**+2.8**
RTLS				*e*S	**Sg**	**16 04 01.4**	**-1.3**
RTCV	**Cerro Valdivia**	**3.87**	**53**	*e*P	**Pn**	**16 03 14.1**	**+1.9**
CFAA	**Coronel Fontan**	**4.24**	**52**	*e*P	**Pn**	**16 03 18.5**	**+1.3**
RTLL	**Cerro Villicun**	**4.27**	**48**	*e*P	**Pn**	**16 03 19.0**	**+1.4**
RTLL				*e*S	**Sb**	**16 04 19.5**	**+0.1**
ACAN	**Cantantal**	**4.62**	**66**	*e*P	**Pn**	**16 03 24.7**	**+2.4**
AVFE	**Valle Fertil**	**5.36**	**49**	*e*P	**Pn**	**16 03 34.0**	**+1.3**
AVFE				*e*S	Sn	16 04 43.6	+8.8
AVFE				AML	AML	16 04 50.1	
	comp=Z,44nm,0.6s						
MRA	**San Martin**	**5.70**	**73**	*e*P	**Pn**	**16 03 39.5**	**+2.2**

ISCJB ***23*** *16:05:51.3±0.7, 10°.46S±0°.04×119°.46E±0°.05, h33km, mb3.8/2, Error ellipse: s-maj=7.8km s-min=5.9km az=165.0*

AUST ***23*** *16:05:55.5, 10°.49S×119°.96E, h5km*

DJA ***23*** *16:05:56.1±0.9, 10°.S±4°×12°.0E±°, h36km±10km, M4.2/9, MLv4.2/9*

IDC ***23*** *16:06:06.7±3.4, 9°.12S×121°.58E, h154km±28km, mb3.3/2, mb1 3.3/5, mb1mx3.1/22, mbtmp3.7/5, Error ellipse: s-maj=140.2km s-min=17.8km az=55.0*

ISC 23 16:05:53.8±0.9, 10°.40S±0°.07×119°.50E±0°.07, h35km, n18, σ1§62/23, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**1.07**	**47**	P	**Pn**	**16 06 12.0**	**-0.4**
WSI				S	**Sn**	**16 06 25.8**	**-0.3**
WSI	**Waingapu**	**1.07**	**47**	P	**Pn**	**16 06 11.7**	**-0.7**
	baz=0.9,SNR=14						
MMRI	**Maumere**	**3.23**	**57**	P	**Pn**	**16 06 42.0**	**0.0**
BSSI	**Bau Bau, Buton**	**4.34**	**13**	P	**Pn**	**16 06 59.6**	**+2.2**
BSSI				S	**Sn**	**16 07 47.6**	**+0.7**
IGBI	**Denpasar**	**4.57**	**290**	P	**Pn**	**16 07 00.8**	**+0.3**
SOEI	**Soe**	**4.74**	**83**	P	**Pn**	**16 07 03.9**	**+0.9**
SOEI				S	**Sn**	**16 07 59.0**	**+2.1**
SOEI	**Soe**	**4.74**	**83**	P	**Pn**	**16 07 05.3**	**+2.3**
	baz=4.3,SNR=13						
BKSI	**Bulukumba**	**5.08**	**7**	P	**Pn**	**16 07 09.1**	**+1.5**
BKSI				S	**Sn**	**16 08 06.6**	**+1.5**
KAPI	**Kappang**	**5.36**	**3**	P	**Pn**	**16 07 13.1**	**+1.8**
	3.6nm,0.3s,baz=182,slow=7.7,SNR=11						
KAPI				S	**Sn**	**16 08 11.2**	**-0.7**
	3.3nm,0.3s,baz=114,slow=21,SNR=6.8						
KNRA	**Kununurra**	**10.44**	**121**	P	**Pn**	**16 08 21.3**	**+0.2**
	baz=10.0,SNR=3.3						
MTN	**Manton Dam**	**11.66**	**103**	P	**Pn**	**16 08 36.4**	**-1.4**
	baz=11,SNR=4.9						
KDU	**Kakadu**	**12.92**	**101**	P	**Pn**	**16 08 54.6**	**-0.4**
	baz=12,SNR=3.2						
MEEK	**Meekatharra**	**16.17**	**183**	P	**Pn**	**16 09 39.3**	**+0.7**
	baz=16,SNR=5.9						
WRKA	**Warakurna**	**16.79**	**151**	P	**P**	**16 09 51.3**	**+3.1**
	baz=17,SNR=4.5						
WRA	**Warramunga Arr**	**17.17**	**125**	P	**Pn**	**16 09 48.8**	**-2.4**
	0.2nm,0.3s,baz=305,slow=13,SNR=7.7						
WRA				S	Sn	16 12 47.8	-13
	0.1nm,0.3s,baz=311,slow=26,SNR=3.2						
ASAR	**Alice Springs**	**19.05**	**136**	P	**P**	**16 10 13.2**	**-0.1**
	0.2nm,0.3s,baz=310,slow=12,SNR=32						
ASAR				S	Sn	16 13 34.8	-12
	0.1nm,0.3s,baz=306,slow=23,SNR=3.7						
MKAR	**Makanchi Array**	**65.92**	**333**	P	**P**	**16 16 34.4**	**-1.8**
	0.5nm,0.5s,baz=142,slow=7.1,SNR=6.8						
ZALV	**Zalesovo Beam**	**70.52**	**339**	P	**P**	**16 17 02.4**	**-2.4**
	0.6nm,0.5s,baz=124,slow=6.6,SNR=2.7						

IDC ***23*** *16:20:25.8±1.0, 2°.79S×139°.14E, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.8/24, mbtmp4.0/6, ML4.2/1, MS3.2/6, Ms1 3.2/6, ms1mx2.9/25, Error ellipse: s-maj=25.0km s-min=20.2km az=122.0*

ISCJB ***23*** *16:20:30.2±0.4, 2°.91S±0°.04×139°.18E±0°.04, h46km, mb3.8/5, MS3.2/4, Error ellipse: s-maj=5.7km s-min=4.7km az=40.3*

NEIC ***23*** *16:20:30.9±0.7, 2°.93S×139°.28E, h35km, mb4.4/2, Error ellipse: s-maj=17.4km s-min=10.9km az=126.0*

DJA ***23*** *16:20:31.5±0.5, 3°.S±6°×13°.9E±°, h57km±9km, M4.3/8, mb4.4/6, mB5.6/1, MLv4.3/8, Mw(mB)5.1/1*

ISC 23 16:20:31.7±0.7, 2°.85S±0°.06×139°.21E±0°.05, h46km, n36, σ1§64/37, mb3.8/5, MS3.1/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.99**	**330**	P	**Pn**	**16 20 47.5**	**-1.7**
SMPI				S	**Sn**	**16 21 00.2**	**-1.9**
GENI	**Genyem**	**0.99**	**75**	P	**Pn**	**16 20 48.5**	**-0.7**
GENI				S	**Sn**	**16 21 03.6**	**+1.5**
WAMI	**Wamena**	**1.14**	**206**	P	Pn	16 20 55.9	+4.6
JAY	**Jayapura**	**1.53**	**77**	P	**Pn**	**16 20 55.0**	**-1.7**
JAY	**Jayapura**	**1.53**	**77**	Pg	**Pn**	**16 20 54.9**	**-1.7**

DJA 23 16:23:18.4±0.6, 10°S±4°×12°0E±°, h80km±8km, M4.1/8, mb4.4/1, MLv3.9/8, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	Waingapu	0.87	38	P	Pn	16 23 35.8	-0.1
WSI				S	Sn	16 23 51.1	+2.2
MMRI	Maumere	2.98	55	P	Pn	16 24 02.1	-1.5
MMRI				S	Sn	16 24 39.7	+1.3
BSSI	Bau Bau, Buton	4.25	10	P	Pn	16 24 21.7	+0.9
BSSI				S	Sn	16 25 11.0	+1.7
SOEI	Soe	4.48	83	P	Pn	16 24 23.0	-1.1
SOEI	Soe	4.48	83	P	Pn	16 24 22.9	-1.1
	baz=17,SNR=14						
IGBI	Denpasar	4.80	288	P	Pn	16 24 28.5	+0.2
BKSI	Bulukumba	5.02	4	P	Pn	16 24 32.8	+1.5
BKSI				S	Sn	16 25 29.8	+1.8

*IDC **23** 17:01:34.4±1.3, 5°65S×150°79E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.7/32, mbtmp3.9/7, ML2.1/1, MS3.2/10, Ms1 3.2/10, ms1mx3.0/26, Error ellipse: s-maj=52.9km s-min=20.3km az=107.0*

*ISCJB **23** 17:01:38.8±1.2, 5°7S±0°2×150°5E±0°2, h35km, mb3.7/6, MS3.3/8, Error ellipse: s-maj=40.8km s-min=10.8km az=30.4*

ISC 23 17:01:41.5±1.5, 5°8S±0°2×150°6E±0°3, h35km, n15, σ1s20/9, mb3.7/6, MS3.2/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.95	223	Pn	Pn	17 02 54.3	+0.8
	4.2nm,0.3s,baz=52,slow=8.6,SNR=22						
PMG				Sn	Sn	17 03 49.2	-0.3
	6.6nm,0.3s,baz=269,slow=23,SNR=7.5						
PMG				LR	LR	17 05 04.9	
	comp=Z,284nm,19.4s,baz=2.5,slow=40						
GUMO	Guam	20.03	344	LR	LR	17 13 21.9	
	comp=Z,28nm,18.6s,baz=170,slow=35						
WRA	Warramunga Arr	21.15	227	P	P	17 06 23.1	-0.7
	1.3nm,0.4s,baz=50,slow=9.7,SNR=10						
WRA				PcP	PcP	17 10 27.6	-1.4
	0.6nm,0.9s,baz=27,slow=2.1,SNR=3.7						
ASAR	Alice Springs	23.96	220	P	P	17 06 52.0	-0.9
	1.6nm,0.8s,baz=56,slow=8.9,SNR=17						
ASAR				PcP	PcP	17 10 33.6	-1.1
	0.4nm,0.8s,baz=70,slow=3.0,SNR=3.6						
STKA	Stephens Creek	27.31	197	P	P	17 07 23.5	+0.5
	3.6nm,0.8s,baz=8.6,slow=10,SNR=11						
STKA				LR	LR	17 17 08.3	
	comp=Z,73nm,20.5s,baz=27,slow=34						
KAPI	Kappang	30.68	270	LR	LR	17 22 31.4	
	comp=Z,31nm,18.2s,baz=116,slow=41						
RAO	Raoul Island	37.85	132	LR	LR	17 20 17.3	
	comp=Z,128nm,20.7s,baz=230,slow=30						
MJAR	Matsushiro Arr	43.64	346	LR	LR	17 25 01.1	
	comp=Z,23nm,21.8s,baz=210,slow=32						
PETK	Petropavlovsk-	58.95	5	LR	LR	17 32 12.8	
	comp=Z,19nm,21.2s,baz=228,slow=31						
SONM	Songino Array	65.97	329	P	P	17 12 24.4	0.0
	0.4nm,0.4s,baz=128,slow=9.3,SNR=3.7						
MKAR	Makanchi Array	79.59	320	P	P	17 13 43.0	-2.2
	0.5nm,0.9s,baz=117,slow=4.5,SNR=2.6						
MKAR				LR	LR	17 49 37.8	
	comp=Z,11nm,18.3s,baz=124,slow=36						
ZALV	Zalesovo Beam	80.72	327	LR	LR	17 51 38.4	
	comp=Z,11nm,18.2s,baz=72,slow=37						
ILAR	Eielson Array	83.89	22	P	P	17 14 04.1	-3.3
	0.4nm,0.6s,baz=262,slow=4.9,SNR=4.7						
RPN	Rapa Nui	96.34	118	LR	LR	17 50 01.4	
	comp=Z,18nm,19.9s,baz=346,slow=30						
TORD	Torodi Ar. Bea	148.45	286	PKPbc	PKPdf	17 21 23.8	+1.7
	3.0nm,0.8s,baz=83,slow=2.5,SNR=13						

*IDC **23** 17:10:47.0±1.8, 1°00N×125°99E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/36, mbtmp3.6/4, MS2.8/1, Ms1 3.0/1, ms1mx2.3/25, Error ellipse: s-maj=176.9km s-min=23.6km az=64.0*

*DJA **23** 17:10:48.2±1.3, 2°N±11°×12°8E±°, h97km±16km, M4.0/8, mb4.0/4, mB6.1/1, MLv3.9/8, Mw(mB)5.7/1*

ISC 23 17:10:47.9±3.1, 1°7N±0°3×126°4E±0°3, h47km, n9, σ1s85/7, mb3.6/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.31	135	P	Pn	17 11 11.6	+1.7
TNTI				S	Sn	17 11 24.2	-2.1
LBMI	Labuha	2.56	155	P	Pn	17 11 28.8	+1.8
LBMI				S	Sn	17 11 58.3	+1.3
NLAI	Namlea	4.96	172	P	Pn	17 11 58.4	-1.5
	14nm,1.0s,0.1nm						
BNDI	Bandanaira	7.09	151	P	Pn	17 12 23.7	-5.5
WRA	Warramunga Arr	22.87	161	P	P	17 15 47.4	-0.1
	0.6nm,0.3s,baz=336,slow=11,SNR=6.0						
ASAR	Alice Springs	26.25	164	P	P	17 16 20.2	+1.4
	0.3nm,0.4s,baz=343,slow=10,SNR=17						
CMAR	Chiang Mai Arr	31.69	303	LR	LR	17 31 16.4	
	comp=Z,14nm,18.3s,baz=170,slow=39						
STKA	Stephens Creek	36.37	158	P	P	17 17 47.2	-0.5
	0.4nm,0.4s,baz=336,slow=10.0,SNR=2.9						
MKAR	Makanchi Array	59.05	326	P	P	17 20 51.3	+8.1
	0.3nm,0.4s,baz=124,slow=8.3,SNR=6.6						

*IDC **23** 17:11:32.2±1.5, 6°94N×93°15E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.5/47, mbtmp3.7/6, ML3.8/1, Error ellipse: s-maj=67.9km s-min=20.6km az=59.0*

*ISCJB **23** 17:11:34.4±1.3, 7°0N±0°1×93°3E±0°2, h27km, mb3.8/5, Error ellipse: s-maj=36.7km s-min=17.6km az=158.2*

ISC 23 17:11:36.4±1.4, 7°0N±0°2×93°2E±0°3, h27km, n9, σ0s66/7, mb4.0/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.73	26	Pn	Pn	17 14 36.0	+0.2
	0.2nm,0.3s,baz=208,slow=15,SNR=4.2						
H08S3	Diego Garcia H	25.22	235	T	T	17 43 34.7	
	baz=55,slow=76,SNR=702						
H08S2	Diego Garcia H	25.23	235	T	T	17 43 35.1	
	baz=55,slow=76,SNR=754						
H08S1	Diego Carcia H	25.24	235	T	T	17 43 36.3	
	baz=55,slow=76,SNR=741						
MKAR	Makanchi Array	40.78	349	P	P	17 19 14.7	-0.7
	0.3nm,0.6s,baz=158,slow=8.0,SNR=4.5						
ZALV	Zalesovo Beam	47.34	353	P	P	17 20 07.9	+0.1
	0.8nm,0.3s,baz=171,slow=8.7,SNR=4.6						
WRA	Warramunga Arr	48.52	124	P	P	17 20 16.8	-0.7
	0.5nm,0.3s,baz=306,slow=8.3,SNR=4.8						
ASAR	Alice Springs	50.07	129	P	P	17 20 29.4	0.0
	0.3nm,0.3s,baz=302,slow=7.8,SNR=26						
ASAR				PcP	PcP	17 21 49.8	+0.8
	0.4nm,0.9s,baz=306,slow=3.4,SNR=3.9						
FINES	FINESS Array B	73.08	332	P	P	17 23 04.2	+0.2
	1.4nm,0.9s,baz=124,slow=7.4,SNR=3.0						

*BJI **23** 17:24:18.5, 46°50N×71°60W, h18km, mb4.9/1, Ms4.7/1, Ms7 4.4/1*

*IDC **23** 17:24:19.0±1.2, 46°33N×71°47W, h0km, mb3.9/3, mb1 4.1/7, mb1mx3.6/49, mbtmp4.0/7, ML3.1/4, MS2.6/1, Ms1 2.5/1, ms1mx2.1/34, Error ellipse: s-maj=26.2km s-min=12.0km az=138.0*

*ISCJB **23** 17:24:20.9±0.3, 46°50N±0°02×71°68W±0°02, h25km±3km, mb3.9/3, Error ellipse: s-maj=3.5km s-min=2.0km az=147.3*

*NEIC **23** 17:24:21.4, 46°50N×71°62W, h18km, MN3.7(WES), MN4.1(OTT), After OTT.*

NEIC Felt [II] at Quebec. Also felt at Acton Vale, Beaupre, Donnacona, Laurier-Station, Montreal, Pont-Rouge, Portneuf, Saint-Agapit, Saint-Gabriel and Victoriaville.

*OTT **23** 17:24:22.3±0.2, 46°58N×71°67W, h24km±2km, MN4.1/32*

OTT 19km southeast from Donnacona, Qc. Felt Eastern Background Seismic Zone. Felt in Donnacona, qubec, Sk, Courcelette, Ste-Brigitte de Laval Lac-Beauport, Lvis, Neuville, St-Agapit, Beauport, Boischatel, Charlesbourg, L''Ancienne-lorette, Shannon, St-Augustin-de-Desmaures, Ste-Catherine-de-la-Jacques-Cartier, St-Jean Chrysostome, Val-belair lac st charles, Pont-Rouge, qubec secteur val-belair, Ste-Foy, Breakeyville, Cap Sante, Charny, chteau-richer, Courcelette Deschambault, gatineau, Laurierville, Qubec, Saint-Bernard, Sainte-Catherine J-C, Sainte-Marie Beauce, Saint-Etienne-de-Lauzon, Saint-Narcisse de Beaurivage, St-Nicolas, Stoneham, Stoneham-et- Tewkesbury, St-Rdempteur, St-Romuald, Val-Alain, Villeroy, Qc.

ISC 23 17:24:21.1±0.6, 46°50N±0°02×71°63W±0°02, h21km±2km, n94, σ1s45/148, mb4.0/3, 4C-14D, Southern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SADQ	Saint-Augustin	0.26	14	⇑PG	Pb	17 24 27.3	0.0
SADQ				SG	Sb	17 24 31.0	-0.6
SADQ				Trac		17 24 31.1	
	comp=Z,3μm,0.1s						
SMCQ	St-Marc-des-Ca	0.34	300	⇓PG	Pb	17 24 28.8	+0.4
SMCQ				SG	Sb	17 24 33.3	0.0
SMCQ				Trac		17 24 33.9	
	comp=Z,6μm,0.1s						
QCQ	Quebec	0.37	41	⇓PG	Pb	17 24 29.3	+0.5
QCQ				SG	Sb	17 24 34.6	+0.5
QCQ				Trac		17 24 34.8	
	comp=Z,6μm,0.1s						
QCQ	Quebec	0.37	41	Pg	Pb	17 24 29.4	+0.5
BCLQ	Boischatel	0.53	36	⇓PG	Pb	17 24 31.8	0.0
BCLQ				SG	Sb	17 24 38.7	-0.3
BCLQ				Trac		17 24 38.8	
	comp=Z,12μm,0.1s						
BCLQ	Boischatel	0.53	36	Pg	Pb	17 24 31.8	0.0
DPQ	Saint Jean	0.81	283	PG	Pb	17 24 36.4	-0.1
DPQ				⇓PG	Pb	17 24 36.4	-0.1
DPQ				SG	Sb	17 24 47.0	-0.1
DPQ				Trac		17 24 54.0	
	comp=Z,839nm,0.1s						
DPQ	Saint Jean	0.81	283	Pg	Pb	17 24 36.4	-0.1
LATQ	La Tuque	1.19	319	⇑PG	Pb	17 24 43.2	+0.2
LATQ				SG	Sb	17 24 58.7	+0.9
LATQ				Trac		17 24 59.7	
	comp=Z,2μm,0.1s						
BLBQ	Baie-St-Paul	1.20	39	⇓PG	Pn	17 24 42.5	-0.2
BLBQ				SG	Sb	17 24 58.9	+0.7
BLBQ				Trac		17 25 02.0	
	comp=Z,19μm,0.3s						
BSPQ	Baie-St-Paul	1.21	39	⇓PG	Pn	17 24 42.9	+0.1
BSPQ				SG	Sb	17 24 59.5	+1.0
BSPQ				Trac		17 25 01.8	
	comp=Z,2μm,0.1s						
A11	Saint Roch-des	1.23	52	⇓PG	Pn	17 24 43.1	+0.1
A11				SG	Sb	17 24 59.5	+0.5
A11				Trac		17 25 05.3	
	comp=Z,523nm,0.2s						
A11	Saint Roch-des	1.23	52	Pg	Pn	17 24 43.2	+0.1
MOQ	Mont Orford	1.27	200	⇑PG	Pb	17 24 44.4	+0.1
MOQ				SG	Sb	17 25 01.4	+1.2
MOQ				Trac		17 25 04.1	
	comp=Z,92nm,0.0s						
MOQ	Mont Orford	1.27	200	Pn	Pb	17 24 44.6	+0.3
A54	Misere	1.27	41	⇓PG	Pn	17 24 43.7	0.0
A54				SG	Sb	17 25 00.5	+0.4
A54				Trac		17 25 01.3	
	comp=Z,1μm,0.1s						
A54	Misere	1.27	41	Pg	Pn	17 24 43.7	0.0
LMQ	La Malbaie	1.38	40	⇓PG	Pn	17 24 45.3	+0.2
LMQ				SG	Sb	17 25 03.9	+0.6
LMQ				Trac		17 25 06.6	
	comp=Z,1μm,0.1s						
LMQ	La Malbaie	1.38	40	Pg	Pn	17 24 45.4	+0.2
A16	Riviere Ouelle	1.48	48	⇓PN	Pb	17 24 47.1	-0.6
A16				SN	Sb	17 25 06.6	+0.6
A16				Trac		17 25 06.9	
	comp=Z,436nm,0.1s						
DAQ	Lac Daran	1.49	10	⇓PN	Pb	17 24 47.6	-0.5
DAQ				SN	Sb	17 25 06.4	-0.2
DAQ				LG	Lg	17 25 08.2	
DAQ				Trac		17 25 10.6	
	comp=Z,622nm,0.1s						
DAQ	Lac Daran	1.49	10	Pg	Pb	17 24 48.3	+0.2
A61	Sainte Mathild	1.59	41	⇓PN	Pn	17 24 48.9	+0.8
A61				SN	Sb	17 25 10.0	+0.5
A61				LG	Lg	17 25 11.2	
A61				Trac		17 25 12.1	
	comp=Z,805nm,0.2s						
A64	Saint Simeon	1.78	41	⇓PN	Pb	17 24 51.8	-1.2
A64				SN	Sb	17 25 15.2	+0.4
A64				LG	Lg	17 25 17.0	
A64				Trac		17 25 18.7	
	comp=Z,501nm,0.2s						
A64	Saint Simeon	1.78	41	Pn	Pb	17 24 51.9	-1.2
PKME	Peaks-Kenny Pk	2.05	126	PN	Pn	17 24 55.9	+1.6
PKME				SN	Sn	17 25 20.7	+1.5
PKME				LG	Lg	17 25 25.6	
PKME				Trac		17 25 25.7	
	comp=Z,518nm,0.2s						
PKME	Peaks-Kenny Pk	2.05	126	*e*Pn	Pn	17 24 55.2	+0.9
PKME				*e*Sn	Sn	17 25 18.2	-0.9
TRQ	Mont Tremblant	2.05	263	⇓PN	Pn	17 24 56.2	+1.8
TRQ				SN	Sb	17 25 21.6	-1.1
TRQ				Trac		17 25 26.7	
	comp=Z,272nm,0.2s						
WVL	Waterville	2.38	144	PN	Pn	17 25 01.0	+2.1
WVL				SN	Sn	17 25 29.6	+2.2
WVL				LG	Lg	17 25 35.4	
WVL	Waterville	2.38	144	*e*Pn	Pn	17 25 00.5	+1.7
WVL				*e*Sn	Sn	17 25 26.2	-1.2
ALFO	Alfred	2.43	250	PN	Pn	17 25 00.8	+1.2
ALFO				LG	Lg	17 25 35.0	
ALFO				Trac		17 25 39.8	
	comp=Z,112nm,0.1s						
DMCQ	Dolbeau-Mistas	2.48	353	PN	Pn	17 25 01.3	+0.9
DMCQ				LG	Lg	17 25 37.5	
DMCQ				Trac		17 25 41.0	
	comp=Z,264nm,0.2s						
PQI	Presque Isle	2.50	85	PN	Pn	17 25 01.2	+0.8
PQI				PN	Pb	17 25 02.8	-2.4
PQI				SN	Sn	17 25 31.2	+0.9
PQI				LG	Lg	17 25 38.6	
PQI	Presque Isle	2.50	85	*e*Pn	Pn	17 25 02.2	+1.8
PQI				*e*Sn	Sn	17 25 24.3	-5.9
MDV	Middlebury	2.73	204	*e*Pn	Pn	17 25 04.5	+0.8
MDV				*e*Sn	Sn	17 25 38.1	+2.0
GAC	Glen Almond	2.79	255	PN	Pn	17 25 05.8	+1.2
GAC				SN	Sn	17 25 39.1	+1.4
GAC				Trac		17 25 46.9	
	comp=Z,127nm,0.1s						
GAC	Glen Almond	2.79	255	Pn	Pn	17 25 06.5	+1.9
VDBQ	Val-des-Bois,Q	2.80	260	PN	Pn	17 25 05.9	+1.2
VDBQ				LG	Lg	17 25 49.8	
VDBQ				Trac		17 25 57.5	
	comp=Z,123nm,0.0s						
LONY	Lake Ozonia	2.80	229	⇑PN	Pn	17 25 05.8	+1.0
LONY				SN	Sn	17 25 38.5	+0.7
LONY				LG	Lg	17 25 47.1	
LONY				Trac		17 25 51.6	
	comp=Z,151nm,0.2s						
LONY	Lake Ozonia	2.80	229	*e*Pn	Pn	17 25 05.2	+0.5
LONY				*e*Sn	Sn	17 25 39.6	+1.8
HNH	Hanover	2.83	190	*e*Pn	Pn	17 25 05.6	+0.4
ORIO	Orleans, Innes	2.90	250	PN	Pn	17 25 07.7	+1.6
ORIO				SN	Sn	17 25 39.2	-1.1
ORIO				LG	Lg	17 25 50.2	
ORIO				Trac		17 25 54.5	
	comp=Z,202nm,0.2s						
ORHO	Orleans, Herit	2.92	250	PN	Pn	17 25 04.1	-2.2
ORHO				SN	Sn	17 25 40.6	-0.1
ORHO				LG	Lg	17 25 53.9	
ORHO				Trac		17 26 05.3	
	comp=Z,1μm,0.2s						
GRQ	Grand Remous	2.92	274	PN	Pn	17 25 07.2	+0.8
GRQ				SN	Sn	17 25 40.9	+0.1
GRQ				Trac		17 25 59.0	
	comp=Z,142nm,0.1s						
GRQ	Grand Remous	2.92	274	Pn	Pn	17 25 07.4	+1.0
WBO	Williamsburg	2.96	241	PN	Pn	17 25 08.6	+1.7
WBO				SN	Sn	17 25 41.9	+0.1
WBO				LG	Lg	17 25 52.9	
WBO				Trac		17 25 57.2	
	comp=Z,66nm,0.1s						
FFD	Franklin Falls	3.03	180	*e*Pn	Pn	17 25 08.3	+0.5
NCB	Newcomb	3.12	217	PN	Pn	17 25 10.1	+0.9
NCB				SN	Sn	17 25 45.5	-0.3
NCB				LG	Lg	17 25 58.8	
NCB				Trac		17 26 04.2	
	comp=Z,3.0nm,0.3s						
NCB	Newcomb	3.12	217	*e*Pn	Pn	17 25 09.9	+0.8
EMMW	East Machias	3.43	120	PN	Pn	17 25 12.7	-0.6
EMMW	East Machias	3.43	120	*e*Pn	Pn	17 25 12.0	-1.3
ACCN	Adirondack Com	3.44	206	*e*Pn	Pn	17 25 13.3	-0.1
ACCN				*e*Sn	Sn	17 25 55.5	+2.0
GGN	Saint George	3.62	111	PN	Pn	17 25 17.2	+1.3
GGN				SN	Sn	17 25 56.5	-1.5
GGN				Trac		17 26 16.0	
	comp=Z,168nm,0.3s						
GGN				LG	Lg	17 26 17.0	
GGN	Saint George	3.62	111	Pn	Pn	17 25 16.3	+0.4
CNQ	Baie Comeau	3.69	39	PN	Pn	17 25 17.9	+1.1
CNQ				SN	Sn	17 25 57.8	-1.8
CNQ				Trac		17 26 16.3	
	comp=Z,216nm,0.2s						
BATG	Bathurst New B	3.90	76	PN	Pn	17 25 20.2	+0.4
BATG				SN	Sn	17 26 03.5	-1.3
BATG				Trac		17 26 05.2	
	comp=Z,47nm,0.1s						
HRV	Adam Dziewonsk	3.99	179	*e*Pn	Pn	17 25 21.2	+0.2
PEMO	Pembroke	4.00	260	PN	Pn	17 25 21.8	+0.6
PEMO				SN	Sn	17 26 07.1	-0.2
PEMO				LG	Lg	17 26 24.7	
PEMO				Trac		17 26 35.6	
	comp=Z,254nm,0.3s						
CRLO	Chalk River	4.02	265	PN	Pn	17 25 21.5	+0.1
CRLO				SN	Sn	17 26 06.9	-0.9
CRLO				LG	Lg	17 26 25.4	
CRLO				Trac		17 26 31.7	
	comp=Z,270nm,0.4s						
CRLO	Chalk River	4.02	265	Pn	Pn	17 25 21.2	-0.2
TRY	Troy	4.04	202	*e*Pn	Pn	17 25 22.5	+0.8
PLVO	Plevna	4.08	251	PN	Pn	17 25 22.7	+0.4
PLVO				SN	Sn	17 26 09.3	-0.1
PLVO				LG	Lg	17 26 29.9	
PLVO				Trac		17 26 36.4	
	comp=Z,61nm,0.2s						
KGNO	Kingston	4.11	238	PN	Pn	17 25 23.7	+1.0
KGNO				SN	Sn	17 26 08.5	-1.7
KGNO				LG	Lg	17 26 30.4	
KGNO				Trac		17 26 32.2	
	comp=Z,48nm,0.2s						
ICQ	Pointe Anglais	4.21	42	PN	Pn	17 25 25.1	+1.2
ICQ				SN	Sn	17 26 11.5	-0.9
ICQ				Trac		17 26 18.1	
	comp=Z,20nm,0.1s						
VLDQ	Val d'Or	4.28	294	PN	Pn	17 25 27.3	+2.3
VLDQ				SN	Sn	17 26 19.7	+5.4
VLDQ				LG	Lg	17 26 45.5	
VLDQ				Trac		17 26 46.4	
	comp=Z,80nm,0.3s						
LSQQ	Lebel-sur-Quev	4.42	307	PN	Pn	17 25 26.6	-0.4
LSQQ				SN	Sn	17 26 16.2	-1.6
LSQQ				Trac		17 26 23.7	
	comp=Z,11nm,0.0s						
LSQQ				LG	Lg	17 26 40.5	
MNQ	Manicouagan	4.46	24	PN	Pn	17 25 27.9	+0.4
MNQ				SN	Sn	17 26 17.8	-1.0
MNQ				Trac		17 26 42.2	
	comp=Z,145nm,0.2s						
ALGO	Algonquin Park	4.49	265	SN	Sn	17 26 18.1	-1.4
ALGO				LG	Lg	17 26 42.6	
PECO	Prince Edward	4.58	238	PN	Pn	17 25 29.2	+0.1
PECO				SN	Sn	17 26 20.0	-1.7
PECO				Trac		17 26 43.6	
	comp=Z,71nm,0.2s						
PECO				LG	Lg	17 26 45.3	
BANO	Bancroft	4.65	254	PN	Pn	17 25 30.6	+0.5
BANO				SN	Sn	17 26 22.6	-0.9
BANO				LG	Lg	17 26 45.5	
BANO				Trac		17 26 53.0	
	comp=Z,84nm,0.2s						
LMN	Caledonia Moun	4.78	95	PN	Pn	17 25 32.2	+0.3
LMN				SN	Sn	17 26 25.1	-1.6
LMN				LG	Lg	17 26 50.5	
LMN				Trac		17 27 00.3	
	comp=N,66nm,0.4s						
BELQ	Belleterre	4.92	283	PN	Pn	17 25 33.1	-0.6
BELQ				SN	Sn	17 26 28.3	-1.7
SMQ	Clarke City	4.96	40	PN	Pn	17 25 35.6	+1.1
SMQ				SN	Sn	17 26 29.1	-2.0
SMQ				Trac		17 26 58.2	
	comp=Z,54nm,0.2s						
SADO	Sadowa	5.55	255	Pn	Pn	17 25 42.7	+0.3
	3.5nm,0.3s,baz=80,slow=15,SNR=7.7						
SADO				Pg	Pb	17 25 55.6	-1.6
	7.1nm,0.3s,baz=84,slow=13,SNR=6.5						
SADO				Sn	Sn	17 26 39.8	-5.7
	2.8nm,0.3s,baz=69,slow=17,SNR=2.3						
SADO				Lg	Lg	17 27 06.7	
	21nm,0.3s,baz=168,slow=18,SNR=17						
SADO	Sadowa	5.55	255	PN	Pn	17 25 42.7	+0.3
BRCO	Bruce Peninsul	7.27	255	PN	Pn	17 26 07.9	+1.8
BRCO				SN	Sn	17 27 24.7	-3.3
BRCO				LG	Lg	17 28 07.5	
BRCO				Trac		17 28 21.4	
	comp=Z,64nm,0.2s						
SSPA	Standing Stone	7.42	220	*e*Pn	Pn	17 26 07.6	-0.4
SSPA				*e*Sn	Sn	17 27 28.3	-3.2
SDMD	Soldier's Deli	8.05	210	Pn	Pn	17 26 13.8	-3.0
	160nm,0.6s						
SDMD				*e*Sg	Sb	17 28 23.9	+8.7
SCHQ	Schefferville	8.88	18	Pn	Pn	17 26 27.7	-0.4
	1.8nm,0.3s,baz=205,slow=14,SNR=21						
SCHQ				Sn	Sn	17 28 00.8	-6.6
	2.7nm,0.3s,baz=342,slow=20,SNR=4.7						
SCHQ				Lg	Lg	17 28 50.6	
	6.0nm,0.3s,baz=301,slow=19,SNR=4.8						
SCHQ				LR	LR	17 29 55.0	
	comp=Z,36nm,20.0s,baz=14,slow=37						
SCHQ	Schefferville	8.88	18	*e*Pn	Pn	17 26 27.1	-1.0
	4.8nm,0.5s						
SCHQ				*e*Sn	Sn	17 27 59.4	-8.0
SCHQ				Sn	Sn	17 28 00.8	-6.6
SCHQ				Lg	Lg	17 28 50.6	
CBN	Corbin	9.31	209	Pn	Pn	17 26 35.8	+1.7
CBN				*e*Sg	Sn	17 29 03.8	+46
ACSO	Alum Creek Sta	10.37	237	Pn	Pn	17 26 50.3	+1.8
TKL	Tuckaleechee C	14.17	224	Pn	Pn	17 27 41.3	+0.8
	0.2nm,0.3s,baz=70,slow=12,SNR=3.7						
TKL				Sn	Sn	17 30 10.8	-6.2
	0.1nm,0.3s,baz=108,slow=20,SNR=2.7						
TKL				Lg	Lg	17 31 33.7	
	0.7nm,0.3s,baz=108,slow=20,SNR=6.4						
ULM	Lac du Bonnet	16.52	292	Pn	Pn	17 28 09.8	-1.6
	0.2nm,0.3s,baz=105,slow=10,SNR=5.3						
ULM				Sn	Sn	17 31 00.7	-13
	0.3nm,0.3s,baz=320,slow=16,SNR=2.5						
ULM				Lg	Lg	17 32 45.2	
	0.6nm,0.3s,baz=182,slow=19,SNR=5.4						
FRB	Frobisher Bay	17.37	5	Pn	Pn	17 28 17.3	-4.6
	0.3nm,0.3s,baz=170,slow=12,SNR=2.1						
FRB				Sn	Sn	17 31 21.8	-13
	0.5nm,0.3s,baz=270,slow=20,SNR=2.3						
FRB				Lg	Lg	17 33 10.6	
	1.0nm,0.3s,baz=90,slow=15,SNR=4.1						
PDAR	Pinedale Array	27.07	276	P	P	17 30 03.1	+0.7
	0.2nm,0.4s,baz=68,slow=7.3,SNR=2.0						
ARCES	ARCESS Array B	49.71	27	P	P	17 33 12.1	+0.9
	9.2nm,1.2s,baz=291,slow=7.5,SNR=5.0						
LPAZ	La Paz	62.57	176	P	P	17 34 45.1	+0.9
	1.0nm,0.8s,baz=9.6,slow=9.7,SNR=3.9						
WMQ	Urumqi	88.22	15	*e*P	P	17 37 11.9	+1.3
HHC	Hu-ho-hao-te	92.99	358	*e*P	P	17 37 32.8	-0.1
LZH	Lanzhou	97.69	4	*e*P	Pdif	17 37 56.5	+1.9
LZH				pP	pP	17 38 02.6	+1.2
LZH				sP	sP	17 38 05.3	+1.4
LZH				*e*PP	PP	17 41 56.3	+5.1
LZH				LN			
	91nm,17.5s						
LZH				LE			
	87nm,18.0s						
LZH				LZ			
	120nm,19.8s						
CD2	Chengdu	102.84	4	P	Pdif	17 38 15.8	-1.6
WRA	Warramunga Arr	146.04	312	PKPbc	PKPab	17 44 00.5	+0.4
	0.4nm,0.3s,baz=29,slow=3.2,SNR=7.2						
ASAR	Alice Springs	149.33	309	PKPbc	PKPbc	17 44 09.1	+0.6
	0.4nm,0.9s,baz=26,slow=2.2,SNR=5.3						

*IDC **23** 17:30:15.4±1.5, 6°44S×151°08E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.7/32, mbtmp3.9/6, ML1.2/1, Error*

ellipse: s-maj=58.2km s-min=21.4km az=114.0
*ISCJB **23** 17:30:19.4±1.2, 6°.5S±0°.2×151°.0E±0°.2, h36km, mb3.8/5, Error ellipse: s-maj=38.8km s-min=12.4km az=42.2*

ISC 23 17:30:20.9±1.4, 6°.5S±0°.2×151°.1E±0°.3, h36km, n7, σ1⁄s04/8, mb3.9/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.85**	**233**	Pn	**Pn**	**17 31 32.0**	**+0.7**
	0.7nm,0.3s,baz=23,slow=6.0,SNR=3.8						
PMG				Sn	**Sn**	**17 32 26.2**	**-0.1**
	4.2nm,0.3s,baz=9.0,slow=22,SNR=7.4						
WRA	**Warramunga Arr**	**21.05**	**229**	P	**P**	**17 35 00.5**	**-1.5**
	4.0nm,0.7s,baz=51,slow=10,SNR=18						
ASAR	**Alice Springs**	**23.76**	**222**	P	**P**	**17 35 29.2**	**-1.0**
	3.6nm,0.7s,baz=58,slow=8.6,SNR=65						
STKA	**Stephens Creek**	**26.78**	**198**	P	**P**	**17 35 58.5**	**+1.0**
	4.2nm,0.9s,baz=9.7,slow=10,SNR=7.9						
SONM	**Songino Array**	**66.83**	**329**	P	**P**	**17 41 09.7**	**+0.6**
	0.3nm,0.4s,baz=117,slow=5.2,SNR=2.4						
ILAR	**Eielson Array**	**84.35**	**22**	P	**P**	**17 42 48.8**	**-0.2**
	0.5nm,0.9s,baz=233,slow=7.5,SNR=3.2						
TORD	**Torodi Ar. Bea**	**149.12**	**285**	PKPbc	**PKPbc**	**17 50 05.8**	**-0.6**
	1.0nm,0.6s,baz=73,slow=2.8,SNR=7.1						

*ISCJB **23** 17:38:44.2±0.9, 25°.3S±0°.1×179°.7E±0°.2, h507km, mb3.7/6, Error ellipse: s-maj=18.9km s-min=13.2km az=180.0*
*IDC **23** 17:38:48.3±3.7, 25°.48S×179°.72E, h558km±43km, mb3.2/6, mb1 3.4/8, mb1mx3.2/24, mbtmp4.2/8, Error ellipse: s-maj=30.1km s-min=23.1km az=19.0*

ISC 23 17:38:44.5±1.0, 25°.3S±0°.1×179°.8E±0°.1, h507km, n9, σ1⁄s73/10, mb3.7/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.66**	**282**	P	**P**	**17 41 31.5**	**+1.2**
	0.4nm,0.3s,baz=90,slow=20,SNR=4.0						
URZ	**Urewera**	**13.16**	**189**	P	**P**	**17 41 35.6**	**+0.5**
	0.5nm,0.3s,baz=352,slow=3.0,SNR=5.2						
URZ				S	**S**	**17 43 56.7**	**+0.9**
	0.6nm,0.3s,baz=86,slow=19,SNR=5.4						
STKA	**Stephens Creek**	**34.09**	**250**	P	**P**	**17 44 46.8**	**+0.4**
	0.9nm,0.4s,baz=97,slow=8.5,SNR=6.8						
ASAR	**Alice Springs**	**41.67**	**262**	P	**P**	**17 45 48.1**	**-0.4**
	0.8nm,0.3s,baz=92,slow=7.1,SNR=59						
WRA	**Warramunga Arr**	**42.17**	**268**	P	**P**	**17 45 51.7**	**-0.8**
	2.2nm,0.4s,baz=99,slow=6.9,SNR=16						
SIJI	**Sorong**	**52.73**	**290**	P	**P**	**17 47 11.1**	**-0.8**
	4.8nm,0.4s,baz=90,slow=9.1,SNR=9.1						
NVAR	**Mina Array Bea**	**85.84**	**44**	P	**P**	**17 50 30.6**	**+0.3**
	0.5nm,0.7s,baz=222,slow=8.0,SNR=3.8						
TXAR	**Lajitas Array**	**91.28**	**58**	P	**P**	**17 50 57.0**	**+1.2**
	0.6nm,0.7s,baz=217,slow=5.7,SNR=5.7						
TORD	**Torodi Ar. Bea**	**167.82**	**189**	PKPab	**PKPab**	**17 58 59.3**	**-3.9**
	0.2nm,0.4s,baz=174,slow=4.1,SNR=2.7						

MEX 23 17:50:54.3±0.7, 16°.17N×97°.22W, h6km±8km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.90**	**284**	*e*P	Pg	17 51 09.0	-2.6
PNIG				*i* S	Sg	17 51 21.8	-1.6
VHO	**Vista Hermosa**	**1.01**	**27**	*e*P	Pg	17 51 11.4	-2.6
VHO				*i* S	Sg	17 51 24.5	-2.9
HUIG	**Huatulco**	**1.14**	**110**	*i* P	Pg	17 51 13.4	-2.8
HUIG				*i* S	Sg	17 51 27.3	-3.8

*IDC **23** 17:51:19.3±7.0, 24°.06S×179°.58W, h530km±55km, mb3.4/5, mb1 3.5/7, mb1mx3.1/35, mbtmp4.4/7, Error ellipse: s-maj=96.0km s-min=44.5km az=69.0*

ISC 23 17:51:17.7±5.4, 24°.0S±0°.4×179°.5W±0°.6, h512km, n7, σ0⁄s94/7, mb4.0/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.11**	**276**	P	**P**	**17 54 09.0**	**+1.0**
	0.4nm,0.3s,baz=90,slow=20,SNR=3.7						
URZ	**Urewera**	**14.50**	**191**	P	**P**	**17 54 22.7**	**+0.4**
	0.4nm,0.3s,baz=0.0,slow=4.0,SNR=4.8						
CTA	**Charters Tower**	**31.95**	**270**	P	**P**	**17 57 01.4**	**+0.1**
	8.4nm,0.3s,baz=93,slow=11,SNR=34						
STKA	**Stephens Creek**	**35.12**	**248**	P	**P**	**17 57 27.4**	**-0.5**
	0.7nm,0.3s,baz=87,slow=9.0,SNR=7.8						
ASAR	**Alice Springs**	**42.49**	**261**	P	**P**	**17 58 27.1**	**-0.7**
	0.7nm,0.4s,baz=92,slow=7.0,SNR=21						
WRA	**Warramunga Arr**	**42.88**	**266**	P	**P**	**17 58 29.6**	**-1.2**
	2.7nm,0.3s,baz=98,slow=8.4,SNR=14						
SIJI	**Sorong**	**52.92**	**288**	P	**P**	**17 59 46.5**	**+0.3**
	4.3nm,0.6s,baz=131,slow=20,SNR=5.8						

*IDC **23** 17:51:58.0±2.3, 9°.66S×123°.15E, h0km, mb3.7/1, mb1 3.7/3, mb1mx3.4/33, mbtmp3.6/3, ML3.4/2, MS3.1/1, Ms1 3.1/1, ms1mx2.3/36, Error ellipse: s-maj=258.1km s-min=32.1km az=54.0*
*ISCJB **23** 17:51:59.3±0.9, 10°.4S±0°.1×122°.52E±0°.09, h43km, mb3.7/1, MS3.0/1, Error ellipse: s-maj=19.1km s-min=9.6km az=34.1*

ISC 23 17:52:02.9±1.7, 10°.4S±0°.1×122°.7E±0°.2, h43km, n10, σ2⁄s00/7, Savu Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.67**	**70**	P	**Pn**	**17 52 29.7**	**0.0**
	baz=1.8,SNR=87						
WSI	**Waingapu**	**2.44**	**286**	P	Pn	17 52 35.1	-5.1
	baz=2.5,SNR=3.2						
KNRA	**Kununurra**	**7.95**	**132**	P	Pn	17 54 01.7	+5.8
	baz=9.0,SNR=29						
MTN	**Manton Dam**	**8.64**	**108**	P	**Pn**	**17 54 05.9**	**+0.5**
	baz=9.2,SNR=12						
KDU	**Kakadu**	**9.87**	**105**	P	**Pn**	**17 54 22.3**	**0.0**
	baz=10,SNR=9.0						
WRA	**Warramunga Arr**	**14.74**	**132**	Pn	**Pn**	**17 55 29.6**	**+0.9**
	0.3nm,0.3s,baz=311,slow=14,SNR=5.5						
WRA				Sn	Sn	17 58 03.8	-7.1
	0.4nm,0.3s,baz=306,slow=24,SNR=5.9						
WRKA	**Warakurna**	**15.55**	**161**	P	P	17 55 49.8	+6.8
	baz=17,SNR=8.8						
ASAR	**Alice Springs**	**17.03**	**142**	P	**P**	**17 56 01.5**	**+2.1**
	0.1nm,0.3s,baz=323,slow=13,SNR=10						
ASAR				S	**Sn**	**17 59 03.4**	**-3.2**
	0.2nm,0.3s,baz=316,slow=23,SNR=7.3						
HNR	**Honiara**	**36.71**	**92**	LR	LR	18 14 46.1	
	comp=Z,26nm,18.3s,baz=69,slow=38						
MKAR	**Makanchi Array**	**67.34**	**331**	P	**P**	**18 02 52.6**	**-0.9**
	0.6nm,0.7s,baz=136,slow=8.3,SNR=7.4						

*IDC **23** 18:05:53.2±13.0, 19°.05S×167°.66E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/28, mbtmp3.6/4, ML3.1/1, Error ellipse: s-maj=220.6km s-min=40.0km az=80.0*

ISC 23 18:06:03.2±4.3, 19°.4S±0°.1×167°.1E±0°.5, h28km, n6, σ0⁄s92/8, mb3.3/3, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.73**	**192**	Pn	**Pn**	**18 06 45.1**	**-0.1**
	2.3nm,0.3s,baz=90,slow=20,SNR=69						
DZM				Sn	**Sb**	**18 07 23.5**	**-0.8**
	3.6nm,0.3s,baz=307,slow=20,SNR=5.6						
NOUC	**Port Laguerre**	**2.79**	**194**	*e*P	**Pn**	**18 06 46.7**	**+0.8**
NOUC				*e*S	**Sb**	**18 07 26.9**	**+0.9**
LASL	**Noumea**	**2.87**	**189**	*e*S	**Sb**	**18 07 27.4**	**-0.9**
STKA	**Stephens Creek**	**26.03**	**236**	P	**P**	**18 11 34.7**	**+0.7**
	0.5nm,0.7s,baz=76,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**30.78**	**263**	P	**P**	**18 12 15.7**	**-0.9**
	0.2nm,0.4s,baz=90,slow=8.5,SNR=4.1						
ASAR	**Alice Springs**	**31.08**	**256**	P	**P**	**18 12 19.2**	**0.0**
	0.9nm,0.4s,baz=83,slow=8.4,SNR=63						

IDC 23 18:10:51.0±2.8, 5°.96S×150°.24E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.5/30, mbtmp3.8/4, ML2.0/1, MS2.5/1, Ms1 2.5/1, ms1mx2.3/36, Error ellipse: s-maj=77.8km s-min=42.2km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.58**	**222**	Pn	Pn	18 12 02.9	+1.3
	5.4nm,0.3s,baz=20,slow=3.8,SNR=24						
PMG				Sn	Sn	18 12 52.2	-3.4
	8.3nm,0.3s,baz=115,slow=19,SNR=8.5						
GUMO	**Guam**	**20.14**	**345**	LR	LR	18 23 32.0	
	comp=Z,12nm,18.2s,baz=146,slow=38						
WRA	**Warramunga Arr**	**20.78**	**227**	P	P	18 15 33.6	-0.2
	2.9nm,0.7s,baz=52,slow=11,SNR=9.8						
ASAR	**Alice Springs**	**23.60**	**220**	P	P	18 16 02.6	-1.1
	0.5nm,0.5s,baz=58,slow=9.3,SNR=10						
STKA	**Stephens Creek**	**27.02**	**196**	P	P	18 16 35.1	+0.2
	1.1nm,0.6s,baz=5.7,slow=10,SNR=6.6						
TORD	**Torodi Ar. Bea**	**148.19**	**285**	PKPbc	PKPbc	18 30 39.7	-0.3
	0.4nm,0.7s,baz=68,slow=2.6,SNR=4.5						

IDC 23 18:14:45.7±67.0, 16°.54S×176°.42W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/37, mbtmp3.7/3, Error ellipse: s-maj=1258.0km s-min=185.9km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.95**	**240**	P	P	18 22 30.6	+0.2
	1.1nm,0.9s,baz=90,slow=16,SNR=3.4						
WRA	**Warramunga Arr**	**46.76**	**258**	P	P	18 23 17.2	-0.1
	0.4nm,0.4s,baz=94,slow=7.0,SNR=5.0						
ASAR	**Alice Springs**	**47.00**	**253**	P	P	18 23 18.8	-0.4
	1.1nm,0.4s,baz=88,slow=8.9,SNR=18						

*MDD **23** 18:18:00.8±1.6, 36°.70N×11°.40W, h60km, mb4.0/11, Error ellipse: s-maj=13.7km s-min=11.5km az=48.0, PRXIMO*
*IGIL **23** 18:18:01.6, 36°.78N×11°.25W, h15km, ML1.9*
*INMG **23** 18:18:02.0±1.0, 36°.69N×11°.36W, h31km, ML2.4, Error ellipse: s-maj=4.2km s-min=3.1km az=74.0*

ISC 23 18:17:59.3±3.4, 36°.9N±0°.1×11°.2W±0°.1, h10km, n55, σ1⁄s20/98, 1D, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MORF	**Marmelete**	**2.09**	**77**	*e*P	**Pn**	**18 18 35.3**	**+0.8**
MORF				*e*S	**Sn**	**18 18 59.4**	**-1.2**
MORF				AML	AML	18 19 00.3	
	comp=N,12nm,0.1s						
MORF	**Marmelete**	**2.09**	**77**	*e*Pn	**Pn**	**18 18 35.4**	**+0.9**
MORF				*e*Sn	**Sn**	**18 19 00.2**	**-0.4**
MORF				A	A	18 19 03.8	
	comp=N,14nm,0.2s						
MORF	**Marmelete**	**2.09**	**77**	Pn	**Pn**	**18 18 35.4**	**+0.9**
MORF				Sn	**Sn**	**18 19 00.2**	**-0.4**
	comp=N,14nm,0.2s						
PTEO	**Sao Teotonio**	**2.10**	**70**	*e*Pn	**Pn**	**18 18 36.2**	**+1.7**
PTEO				*e*Sn	**Sn**	**18 19 00.8**	**+0.2**
PTEO				A	A	18 19 04.9	
	comp=N,19nm,0.5s						
PTEO	**Sao Teotonio**	**2.10**	**70**	Pn	**Pn**	**18 18 36.2**	**+1.7**
PTEO				Sn	**Sn**	**18 19 00.8**	**+0.2**
	comp=N,9.3nm,0.5s						
PMST	**Lisbon--Monsan**	**2.47**	**40**	*e*Sn	**Sn**	**18 19 11.2**	**+1.3**
PNCL	**Nicolau / Gran**	**2.47**	**59**	*e*Pn	**Pn**	**18 18 40.9**	**+1.3**
PNCL				*e*Sn	**Sn**	**18 19 09.9**	**0.0**
PNCL				A	A	18 19 12.0	
	comp=N,7.1nm,0.3s						
MESJ	**Messejana**	**2.58**	**67**	*e*P	**Pn**	**18 18 42.2**	**+1.1**
MESJ				*e*S	**Sn**	**18 19 11.6**	**-0.8**
MESJ				AML	AML	18 19 12.7	
	comp=E,3.5nm,0.2s						
MESJ	**Messejana**	**2.58**	**67**	*e*Pn	**Pn**	**18 18 42.6**	**+1.6**
MESJ				*e*Sn	**Sn**	**18 19 12.6**	**+0.2**
MESJ				A	A	18 19 18.7	
	comp=E,6.1nm,0.4s						
MESJ	**Messejana**	**2.58**	**67**	Pn	**Pn**	**18 18 42.6**	**+1.6**
MESJ				Sn	**Sn**	**18 19 12.6**	**+0.2**
	comp=E,6.1nm,0.4s						
PMAFR	**Mafra**	**2.59**	**35**	*e*Pn	**Pn**	**18 18 42.5**	**+1.2**
PMAFR				*e*Sn	**Sn**	**18 19 13.3**	**+0.4**
PMAFR				A	A	18 19 16.2	
	comp=E,32nm,0.6s						
PMAFR	**Mafra**	**2.59**	**35**	Pn	**Pn**	**18 18 42.5**	**+1.2**
	comp=E,4.3nm,0.1s,SNR=7.9						
PMAFR				Sn	**Sn**	**18 19 13.8**	**+0.9**
	comp=E,18nm,0.2s,SNR=6.4						
PCVE	**Castro Verde**	**2.64**	**72**	*e*Pn	**Pn**	**18 18 43.1**	**+1.1**
PCVE				*e*Sn	**Sn**	**18 19 13.7**	**-0.4**
PCVE				A	A	18 19 19.7	
	comp=E.4.8nm,0.1s						
PCVE	**Castro Verde**	**2.64**	**72**	Pn	**Pn**	**18 18 43.1**	**+1.1**
PCVE				Sn	**Sn**	**18 19 13.7**	**-0.4**
	comp=E.4.8nm,0.1s						
PBDV	**Barranco-do-Ve**	**2.65**	**80**	*e*Pn	**Pn**	**18 18 43.1**	**+1.0**
PBDV				*e*Sn	**Sn**	**18 19 13.8**	**-0.5**
PBDV				A	A	18 19 21.4	
	comp=E,6.0nm,0.5s						
PBDV	**Barranco-do-Ve**	**2.65**	**80**	Pn	**Pn**	**18 18 43.1**	**+1.0**
PBDV				Sn	**Sn**	**18 19 13.8**	**-0.5**
	comp=E,6.0nm,0.5s						
PACT	**Alcochete**	**2.68**	**44**	*e*Pn	**Pn**	**18 18 42.7**	**+0.2**
PACT				*e*Sn	**Sn**	**18 19 15.6**	**+0.6**
PACT				A	A	18 19 16.2	
	comp=E,28nm,0.3s						
PVAQ	**Vaqueiros**	**2.84**	**78**	*e*Pn	**Pn**	**18 18 45.9**	**+1.2**
PVAQ				*e*Sn	**Sn**	**18 19 18.4**	**-0.6**
PVAQ				A	A	18 19 23.0	
	comp=E,6.7nm,0.2s						
PVAQ	**Vaqueiros**	**2.84**	**78**	Pn	**Pn**	**18 18 45.9**	**+1.2**
PVAQ				Sn	**Sn**	**18 19 18.4**	**-0.6**
	comp=E,6.7nm,0.2s						
EVO	**Evora**	**3.04**	**55**	*e*Sn	**Sn**	**18 19 23.7**	**-0.1**
EVO				A	A	18 19 26.6	
	comp=E,12nm,0.1s						
EVO	**Evora**	**3.04**	**55**	Sn	**Sn**	**18 19 23.7**	**-0.1**
	comp=E,12nm,0.1s						
EGRO	**El Granado**	**3.05**	**76**	Pn	**Pn**	**18 18 48.6**	**+1.1**
	comp=E,0.5nm,0.1s,SNR=7.9						
EGRO				Sn	**Sn**	**18 19 24.1**	**0.0**
	comp=E,1.7nm,0.1s,SNR=9.2						
PMTG	**Montargil**	**3.23**	**46**	*e*Pn	**Pn**	**18 18 51.0**	**+0.9**
PMTG				*e*Sn	**Sn**	**18 19 28.9**	**+0.3**
PMTG				A	A	18 19 31.5	
	comp=E,5.9nm,0.5s						
PESTR	**Estremoz**	**3.50**	**54**	*e*Pn	**Pn**	**18 18 55.1**	**+1.3**
PESTR				*e*Sn	**Sn**	**18 19 35.3**	**+0.1**
PESTR				A	A	18 19 38.0	
	comp=E,2.7nm,0.2s						
PBAR	**Barrancos**	**3.57**	**67**	*e*Pn	**Pn**	**18 18 56.1**	**+1.4**
PBAR				*e*Sn	**Sn**	**18 19 36.0**	**-0.9**
PBAR				A	A	18 19 42.4	
	comp=E,7.5nm,0.5s						
PBAR	**Barrancos**	**3.57**	**67**	Pn	**Pn**	**18 18 56.1**	**+1.4**
PBAR				Sn	**Sn**	**18 19 36.0**	**-0.9**
	comp=E,7.5nm,0.5s						
EMIN	**Mina Concepcio**	**3.73**	**74**	Pn	**Pn**	**18 18 57.6**	**+0.7**
	comp=E,1.9nm,0.1s,SNR=33						
EMIN				Sn	**Sn**	**18 19 39.3**	**-1.5**
	comp=E,1.2nm,0.1s,SNR=8.0						
EBAD	**Badajoz**	**3.83**	**59**	Pn	**Pn**	**18 18 59.4**	**+1.2**
	comp=E,0.9nm,0.1s,SNR=8.9						
EBAD				Sn	**Sn**	**18 19 42.7**	**-0.5**
	comp=E,4.7nm,0.2s,SNR=5.6						
PCAS	**Casmilo, Conde**	**3.84**	**33**	*e*Pn	**Pn**	**18 18 59.7**	**+1.3**
PCAS				*e*Sn	**Sn**	**18 19 44.2**	**+0.6**
PCAS				A	A	18 19 47.0	
	comp=E,3.5nm,0.2s						
PMRV	**Marv??o**	**3.96**	**48**	*e*Pn	**Pn**	**18 19 00.9**	**+0.8**
PMRV				*e*Sn	**Sn**	**18 19 45.8**	**-0.7**
PMRV				A	A	18 19 48.0	
	comp=E,3.9nm,0.2s						
PMRV	**Marv??o**	**3.96**	**48**	Pn	**Pn**	**18 19 00.9**	**+0.8**
PMRV				Sn	**Sn**	**18 19 45.8**	**-0.7**
	comp=E,3.9nm,0.2s						
PCBR	**Castelo Branco**	**4.18**	**43**	*e*Pn	**Pn**	**18 19 04.8**	**+1.7**
PCBR				*e*Sn	**Sn**	**18 19 51.8**	**-0.3**
PCBR				A	A	18 19 53.1	
	comp=E,2.3nm,0.3s						
PCBR	**Castelo Branco**	**4.18**	**43**	Pn	**Pn**	**18 19 04.8**	**+1.7**
PCBR				Sn	**Sn**	**18 19 51.8**	**-0.3**
	comp=E,1.2nm,0.3s						
ESPR	**Espera**	**4.29**	**88**	Pn	**Pn**	**18 19 04.8**	**+0.2**
	comp=E,2.1nm,0.2s,SNR=7.9						
ESPR				Sn	**Sn**	**18 19 52.6**	**-2.1**
	comp=E,4.8nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**4.56**	**38**	*e*Sn	**Sn**	**18 20 00.4**	**-1.0**
MTE	**Manteigas**	**4.56**	**38**	Sn	**Sn**	**18 20 00.4**	**-1.0**
PVIS	**Viseu**	**4.65**	**33**	*e*Pn	**Pn**	**18 19 10.9**	**+1.3**
PVIS				*e*Sn	**Sn**	**18 20 02.5**	**-1.1**
PVIS	**Viseu**	**4.65**	**33**	Pn	**Pn**	**18 19 10.9**	**+1.3**
PVIS				Sn	**Sn**	**18 20 02.5**	**-1.1**
ECAB	**El Cabril**	**4.76**	**73**	⇓Pn	**Pn**	**18 19 12.2**	**+1.1**
	comp=E,1.0nm,0.1s,SNR=18						
ECAB				Sn	**Sn**	**18 20 04.4**	**-2.0**
	comp=E,0.4nm,0.1s,SNR=6.9						
EPLA	**Plasencia**	**5.14**	**50**	Pn	**Pn**	**18 19 17.7**	**+1.3**
	comp=E,0.8nm,0.1s,SNR=7.9						
EPLA				Sn	**Sn**	**18 20 15.4**	**-0.5**
	comp=E,2.0nm,0.1s,SNR=7.9						
POLO	**Lamas de Olo**	**5.24**	**29**	*e*Pn	**Pn**	**18 19 18.6**	**+0.9**
POLO				*e*Sn	**Sn**	**18 20 16.5**	**-1.7**
MVO	**Moncorvo**	**5.40**	**36**	*e*Pn	**Pn**	**18 19 21.0**	**+1.1**
MVO				*e*Sn	**Sn**	**18 20 19.8**	**-2.3**
MVO				A	A	18 20 23.6	
	comp=E,2.8nm,0.2s						
MVO	**Moncorvo**	**5.40**	**36**	Pn	**Pn**	**18 19 20.4**	**+0.5**
	comp=E,1.6nm,0.2s,SNR=7.9						
MVO				Sn	**Sn**	**18 20 20.3**	**-1.9**
	comp=E,2.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.43**	**74**	Pn	**Pn**	**18 19 21.0**	**+0.7**
	comp=E,1.1nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**18 20 21.0**	**-1.9**
	comp=E,1.2nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.57**	**25**	Pn	**Pn**	**18 19 23.0**	**+0.7**
	comp=E,0.9nm,0.1s,SNR=7.3						
ELOB				Sn	**Sn**	**18 20 23.8**	**-2.6**
	comp=E,1.0nm,0.1s,SNR=7.9						
PGAV	**Gavieira, Arco**	**5.59**	**23**	*e*Pn	**Pn**	**18 19 23.5**	**+0.9**
PGAV				*e*Sn	**Sn**	**18 20 24.9**	**-2.0**
PGAV				A	A	18 20 28.3	
	comp=E,2.5nm,0.1s						
PAB	**San Pablo**	**6.03**	**61**	Sn	**Sn**	**18 20 35.3**	**-2.5**
	comp=E,0.2nm,0.1s,SNR=4.0						
PBRG	**Braganca**	**6.04**	**34**	*e*Sn	**Sn**	**18 20 36.1**	**-1.7**
PBRG				A	A	18 20 38.2	
	comp=E,2.6nm,0.1s						
PBRG	**Braganca**	**6.04**	**34**	Sn	**Sn**	**18 20 36.1**	**-1.7**
	comp=E,1.3nm,0.1s						
ECAL	**Calabor**	**6.15**	**33**	Pn	**Pn**	**18 19 30.9**	**+0.7**
	comp=E,1.3nm,0.2s,SNR=5.8						
ECAL				Sn	**Sn**	**18 20 38.0**	**-2.6**
	comp=E,1.2nm,0.2s,SNR=4.0						
ESDC	**Sonseca Array**	**6.36**	**61**	Pn	**Pn**	**18 19 34.3**	**+1.2**
	comp=E,0.4nm,0.2s,baz=245,slow=14,SNR=79						
ESDC				Sn	**Sn**	**18 20 43.8**	**-2.0**
	comp=E,0.6nm,0.3s,baz=246,slow=23,SNR=6.5						
EAGO	**Agolada(Pontev**	**6.41**	**21**	Pn	**Pn**	**18 19 34.1**	**+0.4**
	comp=E,0.8nm,0.1s,SNR=7.9						
EAGO				Sn	Sn	18 20 43.7	-3.3
	comp=E,1.1nm,0.1s,SNR=7.9						
EQES	**Quesada**	**6.55**	**79**	Sn	**Sn**	**18 20 49.3**	**-1.3**
	comp=E,0.3nm,0.1s,SNR=7.9						
GUD	**Guadarrama**	**6.69**	**53**	Sn	**Sn**	**18 20 52.5**	**-1.5**
	comp=E,0.2nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**7.18**	**24**	Pn	**Pn**	**18 19 44.6**	**+0.4**
	comp=E,1.3nm,0.1s,SNR=7.9						
EPON				Sn	Sn	18 21 01.1	-4.8
	comp=E,0.7nm,0.1s,SNR=7.9						

IDC 23 18:18:16.2±1.7, 7°.31S×128°.52E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.3/46, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=62.3km s-min=29.3km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**5.73**	**41**	P	Pn	18 19 40.4	-2.1
	baz=5.1,SNR=6.4						
MTN	**Manton Dam**	**6.07**	**155**	P	Pn	18 19 53.4	+6.1
	baz=5.5,SNR=13						
KDU	**Kakadu**	**6.61**	**144**	P	Pn	18 19 57.2	+2.5
	baz=5.7,SNR=18						
SIJI	**Sorong**	**6.96**	**23**	Pn	Pn	18 20 00.3	+0.8
	0.6nm,0.3s,baz=202,slow=19,SNR=23						
SIJI				Sn	Sn	18 21 08.7	-11
	1.6nm,0.3s,baz=237,slow=23,SNR=11						
WRA	**Warramunga Arr**	**13.77**	**156**	Pn	Pn	18 21 32.3	-0.6
	0.4nm,0.3s,baz=342,slow=13,SNR=3.3						
WRA				Sn	Sn	18 23 54.0	-13
	0.7nm,0.3s,baz=333,slow=23,SNR=7.2						
ASAR	**Alice Springs**	**17.07**	**163**	P	Pn	18 22 17.1	+0.6
	0.1nm,0.3s,baz=340,slow=12,SNR=16						
ASAR				S	Sn	18 25 16.0	-11
	0.1nm,0.3s,baz=348,slow=24,SNR=5.3						
MKAR	**Makanchi Array**	**67.69**	**328**	P	P	18 29 15.1	-0.2
	0.3nm,0.8s,baz=132,slow=8.3,SNR=2.8						

*IDC **23** 18:22:04.9±0.9, 26°.96N×53°.87E, h0km, mb3.8/16, mb1 3.9/18, mb1mx3.8/49, mbtmp3.8/18, ML3.6/2, MS2.7/2, Ms1 2.7/2, ms1mx2.3/41, Error ellipse: s-maj=22.8km s-min=15.1km az=10.0*
*ISCJB **23** 18:22:07.8±0.4, 27°.07N±0°.04×53°.85E±0°.05, h19km, mb3.7/17, Error ellipse: s-maj=7.3km s-min=5.0km az=140.2*
*THR **23** 18:22:07.2±0.6, 27°.10N×53°.96E, h14km±9km, ML3.6*
*TEH **23** 18:22:10.1, 26°.91N×53°.74E, h32km, ML3.8*
*CSEM **23** 18:22:10.1±0.3, 27°.09N×53°.85E, h20km, ML3.6, Error ellipse: s-maj=11.3km s-min=5.0km az=59.0*
*DSN **23** 18:22:11.6±1.6, 26°.93N×53°.89E, h16km, m

comp=Z,257nm,0.2s
IBAF *e*Sn **Sn** 18 24 13.3 **-0.8**
IBAF Bafgh 4.74 18 *e*Pn **Pn** 18 23 21.0 **+1.4**
IBAF *e*Sn **Sn** 18 24 13.3 **-0.8**
IZEF Zefreh 5.97 347 *e*Pn **Pn** 18 23 36.2 **-0.4**
IZEF *e* 18 23 40.5
comp=Z,218nm,0.2s
IZEF Zefreh 5.97 347 *e*Pn **Pn** 18 23 36.2 **-0.4**
IPIR Pirpir 6.18 336 *e*Pn **Pn** 18 23 39.2 **-0.3**
IPIR *e* 18 24 58.3
comp=Z,309nm,0.3s
IPIR Pirpir 6.18 336 *e*Pn **Pn** 18 23 39.2 **-0.3**
GEYT Alibeck 11.41 17 LR LR 18 30 19.8
comp=Z,37nm,19.1s,baz=20,slow=43
GNI Garni 15.10 332 Pn **P** **18 25 47.9 +1.3**
comp=Z,1.1nm,0.3s,baz=214,slow=2.8,SNR=6.1
GNI LR LR 18 32 21.3
comp=Z,30nm,21.5s,baz=96,slow=41
ASF Jabal al Asfar 15.63 293 Pn **Pn** **18 25 48.6 +0.3**
comp=Z,0.2nm,0.3s,baz=117,slow=4.5,SNR=2.9
ASF Sn Sn 18 28 27.7 -14
baz=62,slow=18,SNR=3.1
EIL Elat 16.88 283 Pn **P** **18 26 06.1 0.0**
comp=Z,0.1nm,0.3s,baz=33,slow=8.4,SNR=6.1
EIL Sn **Sn** **18 29 16.1 +4.9**
comp=Z,0.2nm,0.3s,baz=6.6,slow=17,SNR=1.9
MMAI Mount Meron Ar 17.07 295 P **Pn** **18 26 06.1 -0.5**
comp=Z,0.3nm,0.3s,baz=106,slow=15,SNR=2.4
KBZ Khabaz 18.86 335 P **Pn** **18 26 30.0 +1.5**
comp=Z,0.1nm,0.3s,baz=134,slow=7.8,SNR=5.5
BRTR Keskin Array B 21.05 312 P **P** **18 26 51.9 0.0**
comp=Z,1.8nm,0.7s,baz=130,slow=12,SNR=12
AKTO Aktyubinsk 23.55 7 P **P** **18 27 18.8 +0.7**
comp=Z,1.9nm,0.6s,baz=175,slow=8.7,SNR=7.5
BVAR Borovoye Array 28.70 21 P **P** **18 28 04.4 -0.3**
comp=Z,0.7nm,0.4s,baz=180,slow=4.2,SNR=6.6
MLR Muntele Rosu 28.87 317 P **P** **18 28 09.1 +2.7**
comp=Z,0.5nm,0.7s,baz=95,slow=18,SNR=4.6
MKAR Makanchi Array 29.80 41 P **P** **18 28 14.4 -0.1**
comp=Z,0.6nm,0.7s,baz=224,slow=6.8,SNR=5.7
AKASG Malin Array Be 30.17 328 P **P** **18 28 16.1 -1.7**
comp=Z,0.5nm,0.4s,baz=136,slow=8.0,SNR=6.5
ZALV Zalesovo Beam 35.20 32 P **P** **18 29 01.2 -0.5**
comp=Z,1.7nm,0.6s,baz=236,slow=9.7,SNR=9.0
GERES GERESS Array B 37.84 316 P **P** **18 29 23.6 -0.9**
comp=Z,0.2nm,0.5s,baz=85,slow=4.1,SNR=2.4
FINES FINESS Array B 39.12 339 P **P** **18 29 34.1 -0.7**
comp=Z,1.5nm,0.6s,baz=146,slow=12,SNR=9.0
CMAR Chiang Mai Arr 42.23 92 P **P** **18 30 00.5 -0.7**
comp=Z,0.9nm,0.5s,baz=290,slow=10,SNR=5.0
NOA NORSAR Array B 44.41 332 P **P** **18 30 16.8 -1.5**
comp=Z,0.5nm,0.6s,baz=135,slow=8.7,SNR=4.4
ESDC Sonseca Array 49.16 300 P **P** **18 30 55.6 -0.2**
comp=Z,0.8nm,0.7s,baz=66,slow=7.2,SNR=4.8
TORD Torodi Ar. Bea 50.60 265 P **P** **18 31 05.2 -1.7**
comp=Z,1.4nm,0.9s,baz=63,slow=7.0,SNR=5.4
DBIC Dimbokro 59.22 261 P **P** **18 32 08.1 -1.2**
comp=Z,4.3nm,0.8s,baz=80,slow=5.3,SNR=4.0
KSRS Korea Array 62.01 60 P **P** **18 32 26.9 -1.1**
comp=Z,0.5nm,0.4s,baz=284,slow=6.8,SNR=4.0
WRA Warramunga Arr 90.81 112 P **P** **18 35 10.9 -0.5**
comp=Z,0.3nm,0.5s,baz=307,slow=4.2,SNR=3.4
ASAR Alice Springs 92.22 115 P **P** **18 35 16.2 -1.7**
comp=Z,0.3nm,0.6s,baz=307,slow=5.2,SNR=6.6

DJA 23 18:23:11.8±0.9, 1°N±11°×12°7E±°, *h*17km±13km, M3.8/4, MLv3.8/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.78**	**133**	P		Pb	18 23 26.0	-0.9
TNTI				S		Sg	18 23 37.6	+0.2
LBMI	**Labuha**	**2.06**	**160**	P		Pn	18 23 46.3	+0.6
LBMI				S		Sn	18 24 11.4	+0.4
KMSI	**Cibinong**	**2.91**	**255**	P		Pn	18 23 56.0	-1.4
KMSI				S		Sn	18 24 34.0	+2.0

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*IDC **23** 18:24:18.7±1.2, 1°.23N×126°.45E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.6/51, mbtmp3.8/6, ML2.9/1, Error ellipse: s-maj=60.5km s-min=22.7km az=60.0*
*ISCJB **23** 18:24:23.4±1.1, 1°.76N±0°.08×127°.07E±0°.06, h35km, mb3.7/5, Error ellipse: s-maj=12.1km s-min=6.8km az=27.0*
*DJA **23** 18:24:29.6±0.8, 1°N±9°×12°7E±°, h26km±10km, M4.0/7, mb4.2/1, MLv3.9/7*
ISC 23 18:24:23.0±1.2, 1°.8N±0°.1×127°.18E±0°.08, h35km, n11, σ1§90/15, mb3.7/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.03**	**170**	P		**Pn**	**18 24 43.8**	**+2.9**
TNTI				S		**Sn**	**18 24 55.3**	**+1.2**
LBMI	**Labuha**	**2.43**	**172**	P		**Pn**	**18 25 01.9**	**+1.7**
LBMI				S		**Sn**	**18 25 28.9**	**+0.1**
KMSI	**Cibinong**	**3.42**	**249**	P		**Pn**	**18 25 16.0**	**+2.2**
KMSI				S		**Sn**	**18 25 52.7**	**-0.5**
SIJI	**Sorong**	**4.86**	**123**	Pn		Pn	18 25 39.0	+5.3
	0.4nm,0.3s,baz=294,slow=18,SNR=3.1							
MRSI	**Marisa**	**5.40**	**256**	P		**Pn**	**18 25 43.1**	**+2.0**
MRSI				S		**Sn**	**18 26 41.7**	**-0.4**
APSI	**Ampana**	**6.15**	**244**	P		**Pn**	**18 25 52.0**	**+0.6**
WRA	**Warramunga Arr**	**22.71**	**162**	P		**P**	**18 29 19.5**	**-2.4**
	1.3nm,0.5s,baz=340,slow=11,SNR=7.3							
ASAR	**Alice Springs**	**26.13**	**166**	P		**P**	**18 29 51.9**	**-2.1**
	0.9nm,0.4s,baz=344,slow=11,SNR=20							
ASAR				PcP		**PcP**	**18 33 19.4**	**-1.6**
	0.3nm,0.8s,baz=354,slow=2.0,SNR=4.8							
STKA	**Stephens Creek**	**36.17**	**159**	P		**P**	**18 31 21.9**	**-0.4**
	1.3nm,0.8s,baz=321,slow=13,SNR=4.1							
MKAR	**Makanchi Array**	**59.40**	**326**	P		**P**	**18 34 24.2**	**+2.2**
	0.7nm,0.6s,baz=116,slow=8.2,SNR=7.2							
VNDA	**Vanda**	**81.46**	**173**	P		**P**	**18 36 34.3**	**-1.8**
	0.4nm,0.5s,baz=331,slow=7.3,SNR=4.7							

DJA 23 18:25:41.5±0.9, 8°S±5°×107°E±°, *h*19km±8km, M3.0/6, MLv3.0/6, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.78**	**42**	P		Pb	18 25 56.3	-0.3
CISI				S		Sb	18 26 06.3	-0.5
CNJI	**Cibinong**	**0.84**	**349**	P		Pb	18 25 56.8	-0.7
CNJI				S		Sb	18 26 07.6	-0.8
CMJI	**Cimerak**	**1.20**	**73**	P		Pn	18 26 02.7	-0.6
CMJI				S		Sb	18 26 17.7	-1.1
LEM	**Lembang**	**1.34**	**14**	P		Pn	18 26 05.9	+0.4
LEM				S		Sn	18 26 22.7	-0.3
CGJI	**Cibinong**	**2.19**	**314**	P		Pn	18 26 15.7	-1.2

IDC 23 18:26:41.4±3.7, 8°.95S×110°.22E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/49, mbtmp3.2/3, Error ellipse: s-maj=201.0km s-min=26.8km az=47.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.75**	**118**	P		P	18 32 13.5	-0.5
	0.4nm,0.8s,baz=290,slow=11,SNR=3.2							
ASAR	**Alice Springs**	**26.97**	**126**	P		P	18 32 25.6	+0.6
	0.3nm,0.6s,baz=303,slow=9.3,SNR=4.4							
MKAR	**Makanchi Array**	**60.83**	**338**	P		P	18 36 55.4	-0.1
	0.1nm,0.3s,baz=148,slow=6.7,SNR=3.1							

IDC 23 18:29:19.8±2.3, 1°.10N×126°.63E, h0km, mb3.0/3, mb1 3.3/3, mb1mx3.1/48, mbtmp3.1/3, Error ellipse: s-maj=226.8km s-min=25.0km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.24**	**161**	P		P	18 34 18.1	-0.3
	0.2nm,0.4s,baz=339,slow=11,SNR=3.1							
ASAR	**Alice Springs**	**25.61**	**164**	P		P	18 34 51.3	+0.2
	0.2nm,0.4s,baz=343,slow=11,SNR=8.0							
MKAR	**Makanchi Array**	**59.66**	**326**	P		P	18 39 25.9	-0.1
	0.1nm,0.4s,baz=127,slow=7.6,SNR=3.4							

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*NOU **23** 18:31:07.8±1.9, 23°.78S×170°.21E, h10km, MD3.4, ML3.1*
*IDC **23** 18:31:08.7±0.7, 22°.04S×170°.13E, h0km, mb4.5/16, mb1 4.5/18, mb1mx4.4/42, mbtmp4.4/18, ML3.9/2, MS4.1/23, Ms1 4.1/23, ms1mx4.1/32, Error ellipse: s-maj=21.8km s-min=15.2km az=80.0*
*BJI **23** 18:31:09.8, 22°.14S×170°.64E, h29km, mb4.8/41, mB5.2/30, Ms5.1/25, Ms7 4.6/16*
*SZGRF **23** 18:31:10.9, 22°.50S×171°.50E, h33km, mb4.4, Southeast of Loyalty Islands*
*ISCJB **23** 18:31:11.1±0.3, 22°.17S±0°.05×170°.24E±0°.04, h33km, mb4.7/38, MS4.2/21, Error ellipse: s-maj=6.9km s-min=4.7km az=172.7*
*MOS **23** 18:31:13.7±1.4, 21°.94S×170°.04E, h44km, mb4.8/19, MS4.2/7, Error ellipse: s-maj=12.9km s-min=10.5km az=26.8*
*GCMT **23** 18:31:14.7±0.1, 22°.45S×170°.26E, h19km, MW5.2/91, Moment Tensor Solution. s72,c111; s91,c151; Duration: 1§0 Moment tensor: Scale 10^16^Nm; Mrr6.46±.16; Mθθ-4.51±.12; Mϕϕ-1.95±.12; Mrθ3.23±.24; Mθϕ3.53±.09; Mϕr-0.92±.25; Best double couple: M=7.52200×10^16^ NP1=ϕs116.00000°, δ58.00000°, λ80.00000°. NP2=ϕs314.00000°, δ33.00000°, λ105.00000°. Principal axes: T 7.3410, Plg75.0000°, Azm359.0000°; N 0.3640, Plg8.0000°, Azm121.0000°; P -7.7040, Plg13.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **23** 18:31:14.7±1.4, 22°.14S×170°.12E, h48km±12km, mb5.0/22 Error ellipse: s-maj=10.0km s-min=9.5km az=138.0*
ISC 23 18:31:12.7±0.4, 22°.19S±0°.06×170°.31E±0°.06, h33km±1km, h34km:pP-P, n216, σ1§58/231, mb4.8/38, MS4.3/24, 4C-6D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.17**	**270**	*e*S		**Sn**	**18 32 35.7**	**-1.2**
BAYA				AMP			18 32 53.4	
	comp=Z,30nm,0.7s							
PLUM	**Mont Dore**	**3.40**	**268**	*e*P		**Pn**	**18 32 01.5**	**-1.9**
LASL	**Noumea**	**3.49**	**269**	*e*P		**Pn**	**18 32 02.6**	**-2.1**
LASL				AMP			18 32 50.6	
	comp=Z,425nm,3.7s							
NORM	**Noumea**	**3.54**	**269**	*e*P		Pn	18 32 02.1	-3.3
DZM	**Mont Dzumac**	**3.58**	**271**	Pn		**Pn**	**18 32 04.8**	**-1.2**
	comp=Z,17nm,0.3s,baz=90,slow=24,SNR=195							
DZM				Sn		**Sn**	**18 32 47.0**	**-0.2**
	comp=Z,16nm,0.3s,baz=90,slow=23,SNR=9.4							
DZM	**Mont Dzumac**	**3.58**	**271**	*e*P		**Pn**	**18 32 03.5**	**-2.5**
DZM				*e*S		**Sn**	**18 32 47.6**	**+0.3**
DZM				AMP			18 33 04.1	
	comp=Z,2μm,5.6s							
NOUC	**Port Laguerre**	**3.71**	**271**	*e*S		**Sn**	**18 32 50.1**	**-0.2**
NOUC				AMP			18 33 01.0	
	comp=Z,98nm,2.4s							
MSVF	**Nonsavu**	**8.53**	**60**	Pn		Pn	18 33 18.5	+4.6
	comp=Z,984nm,1.5s,SNR=8.1							
MSVF	**Nonsavu**	**8.53**	**60**	*e*P		Pn	18 33 18.2	+4.3
MSVF	**Nonsavu**	**8.53**	**60**	*e*Pn		Pn	18 33 18.2	+4.3
RAO	**Raoul Island**	**12.72**	**126**	LR		LR	18 38 03.7	
	comp=Z,1μm,18.7s,baz=308,slow=32							
HNR	**Honiara**	**16.12**	**320**	P		**Pn**	**18 34 54.0**	**-2.9**
HNR	**Honiara**	**16.12**	**320**	Pn		**Pn**	**18 34 54.0**	**-2.9**
URZ	**Urewera**	**17.05**	**161**	P		**P**	**18 35 10.2**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=315,slow=11,SNR=2.4							
URZ				LR		LR	18 40 31.0	
	comp=Z,2μm,18.1s,baz=344,slow=33							
EIDS	**Eidsvold**	**17.88**	**256**	*e*Pn		**P**	**18 35 20.1**	**+0.8**
	comp=Z,52nm,1.4s							
ARMA	**Armale**	**18.62**	**240**	*e*P		**Pn**	**18 35 27.9**	**-0.2**
AFI	**Afiamalu**	**18.91**	**67**	LR		LR	18 41 14.5	
	comp=Z,426nm,18.9s,baz=242,slow=32							
SNZO	**South Karori**	**19.42**	**170**	*e*P		**Pn**	**18 35 37.2**	**-0.2**
RMQ	**Roma**	**20.09**	**253**	P		Pn	18 35 45.5	0.0
	baz=21,SNR=8.4							
RPZ	**Rata Peaks**	**21.48**	**179**	P		**P**	**18 35 59.4**	**+1.1**
	comp=Z,18nm,1.1s,baz=358,slow=6.2,SNR=2.9							
RPZ				LR		LR	18 43 47.0	
	comp=Z,747nm,18.3s,baz=350,slow=35							
RPZ	**Rata Peaks**	**21.48**	**179**	*e*P		**P**	**18 35 55.5**	**-2.9**
RPZ				*e*pP		**pP**	**18 36 04.0**	**-3.2**
CNB	**Canberra Magne**	**22.48**	**230**	P		P	18 36 15.0	+5.7
	baz=24,SNR=4.7							
CTA	**Charters Tower**	**22.53**	**271**	P		**P**	**18 36 11.2**	**+1.3**
	comp=Z,9.7nm,0.9s,baz=94,slow=9.8,SNR=5.0							
CTA	**Charters Tower**	**22.53**	**271**	P		**P**	**18 36 11.2**	**+1.3**
CTA				pmax		pmax		
	comp=Z,10.0nm,0.9s							
CTAO	**Charters Tower**	**22.53**	**271**	*e*P		**P**	**18 36 08.7**	**-1.2**
CTAO				pmax		pmax		
	comp=Z,66nm,1.5s							
CTAO	**Charters Tower**	**22.53**	**271**	*e*P		**P**	**18 36 08.7**	**-1.2**
	comp=Z,66nm,1.5s							
DCZ	**Deep Cove**	**23.37**	**186**	*e*P		**P**	**18 36 21.0**	**+2.8**
	comp=Z,108nm,1.5s							
CMSA	**Cobar Meteorol**	**23.81**	**242**	P		**P**	**18 36 22.6**	**0.0**
	baz=25,SNR=26							
QLP	**Quilpie**	**24.13**	**254**	P		**P**	**18 36 25.6**	**0.0**
	baz=25,SNR=4.6							
MTSU	**Mount Surprise**	**24.72**	**275**	P		**P**	**18 36 32.4**	**+1.3**
	baz=25,SNR=10							
STKA	**Stephens Creek**	**27.26**	**243**	P		**P**	**18 36 53.2**	**-0.8**
	comp=Z,13nm,1.1s,baz=96,slow=9.9,SNR=11							
STKA				LR		LR	18 46 32.6	
	comp=Z,766nm,21.8s,baz=73,slow=34							
STKA	**Stephens Creek**	**27.26**	**243**	P		**P**	**18 36 53.2**	**-0.8**
STKA				pmax		pmax		
	comp=Z,13nm,1.1s							
STKA				MLR		MLR		
	comp=Z,767nm,21.8s							
STKA	**Stephens Creek**	**27.26**	**243**	*e*P		**P**	**18 36 53.1**	**-0.9**
	comp=Z,14nm,1.6s							
RAR	**Rarotonga**	**27.80**	**94**	LR		LR	18 47 54.2	
	comp=Z,259nm,18.4s,baz=280,slow=36							
HTT	**Hallett**	**29.82**	**241**	P		**P**	**18 37 16.3**	**-0.5**
	baz=31,SNR=3.5							
BBOO	**Buckleboo**	**32.04**	**243**	P		**P**	**18 37 35.4**	**-1.0**
	baz=33,SNR=4.9							
BBOO	**Buckleboo**	**32.04**	**243**	*e*P		**P**	**18 37 35.4**	**-1.0**
	comp=Z,24nm,1.1s							
AS31	**Alice Springs**	**33.50**	**260**	*e*P		**P**	**18 37 47.5**	**-1.8**
ASAR	**Alice Springs**	**33.50**	**260**	P		**P**	**18 37 48.1**	**-1.1**
	comp=Z,2.2nm,0.8s,baz=77,slow=9.3,SNR=24							
ASAR				LR		LR	18 51 46.5	
	comp=Z,418nm,18.1s,baz=97,slow=37							
ASAR	**Alice Springs**	**33.50**	**260**	P		**P**	**18 37 48.2**	**-1.1**
ASAR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
ASAR				MLR		MLR		
	comp=Z,418nm,18.1s							
WRAB	**Tennant Creek**	**33.58**	**267**	*e*P		**P**	**18 37 47.2**	**-2.8**
WRAB				pmax		pmax		
	comp=Z,27nm,0.8s							
WRAB	**Tennant Creek**	**33.58**	**267**	*e*P		**P**	**18 37 47.2**	**-2.8**
	comp=Z,26nm,0.8s							
WRA	**Warramunga Arr**	**33.59**	**267**	P		**P**	**18 37 48.4**	**-1.7**
	comp=Z,2.2nm,0.8s,baz=102,slow=8.9,SNR=7.0							
WRA				LR		LR	18 52 04.1	
	comp=Z,680nm,18.1s,baz=90,slow=38							
WRA	**Warramunga Arr**	**33.59**	**267**	P		**P**	**18 37 48.4**	**-1.7**
WRA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
WRA				MLR		MLR		
	comp=Z,680nm,18.1s							
TBI	**Tubuai**	**37.03**	**100**	*e*S		S	18 44 10.0	+6.6
	comp=Z,110nm,32.2s							
TBI				*e*LQ		LQ	18 46 38.6	
	comp=Z,563nm,29.5s							
TBI				*e*LR		LR	18 48 23.2	
	comp=Z,373nm,28.2s							
PPT2	**Papeete2**	**37.92**	**90**	*e*LQ		LQ	18 46 59.3	
	comp=Z,701nm,30.2s							
PPT2				*e*LR		LR	18 48 52.4	
	comp=Z,171nm,24.5s							
PPT	**Papeete**	**37.93**	**90**	LR		LR	18 53 36.1	
	comp=Z,240nm,18.4s,baz=217,slow=35							
WRKA	**Warakurna**	**38.49**	**257**	P		**P**	**18 38 31.6**	**-0.4**
	baz=39,SNR=8.3							
FORT	**Forrest**	**38.59**	**248**	*e*P		**P**	**18 38 31.5**	**-1.1**
	comp=Z,24nm,0.8s							
KNRA	**Kununurra**	**39.73**	**272**	P		P	18 38 33.2	-9.2
	baz=40,SNR=3.1							
GUMO	**Guam**	**43.44**	**323**	LR		LR	18 56 32.1	
	comp=Z,114nm,18.5s,baz=142,slow=35							
SIJI	**Sorong**	**43.50**	**294**	P		**P**	**18 39 12.9**	**-0.3**
	comp=Z,9.4nm,0.9s,baz=103,slow=9.3,SNR=8.7							
MBWA	**Marble Bar**	**46.83**	**261**	*e*P		**P**	**18 39 38.6**	**-1.1**
	comp=Z,25nm,0.9s							
MEEK	**Meekatharra**	**47.02**	**254**	P		**P**	**18 39 39.9**	**-1.3**
	baz=48,SNR=3.9							
RKT	**Rikitea**	**50.25**	**102**	*e*LQ		LQ	18 52 03.1	
	comp=Z,289nm,25.2s							
RKT				*e*LR		LR	18 54 30.2	
	comp=Z,269nm,25.8s							
KAPI	**Kappang**	**51.74**	**282**	LR		LR	19 01 23.6	
	comp=Z,159nm,21.5s,baz=124,slow=35							
VNDA	**Vanda**	**55.53**	**182**	P		**P**	**18 40 46.9**	**+2.8**
	comp=Z,4.2nm,1.3s,baz=335,slow=7.6,SNR=3.6							
VNDA				LR		LR	19 02 22.6	
	comp=Z,279nm,18.3s,baz=16,slow=34							
VNDA	**Vanda**	**55.53**	**182**	P		**P**	**18 40 46.9**	**+2.8**
VNDA				pmax		pmax		
	comp=Z,4.0nm,1.3s							
VNDA				MLR		MLR		
	comp=Z,279nm,18.3s							
SBA	**Scott Base**	**55.74**	**181**	*e*P		**P**	**18 40 44.9**	**-0.7**
SBA				pmax		pmax		
	comp=Z,19nm,1.3s							
SBA	**Scott Base**	**55.74**	**181**	*e*P		**P**	**18 40 44.9**	**-0.7**
	comp=Z,19nm,1.3s							
CBIJ	**Chichi jima**	**56.04**	**330**	P		P	**18 40 48.1**	**-0.3**
JCJ	**Chichijima**	**56.04**	**330**	P		P	**18 40 48.1**	**-0.3**
	comp=Z,34nm,0.8s,baz=198,slow=20,SNR=2.9							
JCJ				LR		LR	19 01 46.7	
	comp=Z,92nm,19.6s,baz=264,slow=33							
CASY	**Casey**	**57.84**	**204**	*e*P		**P**	**18 41 02.3**	**+1.6**
	comp=Z,16nm,1.2s							
KSM	**Kuching**	**63.02**	**284**	*e*P		**P**	**18 41 36.6**	**-0.3**
JOW	**Kunigami**	**63.48**	**318**	*e*P		P	18 41 33.8	-5.9
	comp=Z,22nm,0.9s							
MJAR	**Matsushiro Arr**	**65.82**	**332**	P		**P**	**18 41 54.6**	**-0.1**
	comp=Z,5.5nm,0.9s,baz=173,slow=7.8,SNR=17							
MJAR	**Matsushiro Arr**	**65.82**	**332**	P		**P**	**18 41 54.6**	**-0.1**
MJAR				pmax		pmax		
	comp=Z,4.0nm,0.7s							
MAJO	**Matsushiro**	**65.82**	**332**	*c i*P		**P**	**18 41 54.4**	**-0.3**
MAJO				pmax		pmax		
	comp=Z,128nm,1.5s							
MAJO	**Matsushiro**	**65.82**	**332**	*e*P		**P**	**18 41 54.3**	**-0.4**
	comp=Z,21nm,1.3s							
MAT	**Matsushiro**	**65.82**	**332**	P		**P**	**18 41 54.6**	**-0.1**
MAT				S		**S**	**18 50 40.2**	**+1.0**
SSLB	**Suanglung**	**66.27**	**311**	*e*P		**P**	**18 41 55.0**	**-2.9**
	comp=Z,28nm,1.3s							
JNU	**Nakatsue**	**66.64**	**325**	P		**P**	**18 42 00.0**	**-0.1**
	comp=Z,18nm,1.1s,baz=111,slow=5.4,SNR=6.2							
JNU	**Nakatsue**	**66.64**	**325**	*e*P		**P**	**18 41 59.4**	**-0.7**
	comp=Z,27nm,1.2s							
QSPA	**South Pole Qui**	**67.88**	**180**	P		**P**	**18 42 10.6**	**+3.0**
	comp=Z,9.6nm,1.0s,baz=1.5,slow=2.7,SNR=9.9							
QSPA	**South Pole Qui**	**67.88**	**180**	*e*P		**P**	**18 42 05.5**	**-2.1**
	comp=Z,18nm,1.2s							
ASAJ	**Asahikawa**	**70.70**	**339**	*e*P		**P**	**18 42 25.5**	**+0.4**
	comp=Z,30nm,1.2s							
TJN	**Taejon**	**70.99**	**324**	*i*P		**P**	**18 42 26.9**	**-0.1**
KSRS	**Korea Array**	**71.50**	**326**	P		**P**	**18 42 29.7**	**-0.3**
	comp=Z,3.6nm,1.0s,baz=147,slow=6.0,SNR=12							
KSRS				LR		LR	19 10 01.7	
	comp=Z,31nm,21.4s,baz=150,slow=33							
KSRS	**Korea Array**	**71.50**	**326**	P		**P**	**18 42 29.7**	**-0.3**
KSRS				pmax		pmax		
	comp=Z,4.0nm,1.0s							
KSRS				MLR		MLR		
	comp=Z,31nm,21.4s							
KSAR	**Wonju Array Be**	**71.51**	**326**	P		**P**	**18 42 29.7**	**-0.4**
KSAR	**Wonju Array Be**	**71.51**	**326**	P		**P**	**18 42 29.7**	**-0.4**
QIZ	**Qiongzhong**	**71.91**	**300**	P		**P**	**18 42 33.3**	**+0.3**
QIZ				pP		**pP**	**18 42 42.9**	**-0.4**
QIZ				sP		**sP**	**18 42 47.3**	**+0.1**
QIZ				S		**S**	**18 51 53.3**	**+1.2**
QIZ				sS		**sS**	**18 52 10.3**	**+1.2**
QIZ				PMZ				
	comp=Z,12nm,1.9s							
QIZ				PMZ				
	comp=Z,93nm,4.0s							
INCN	**Inchon**	**72.20**	**325**	*e*P		**P**	**18 42 34.5**	**+0.2**
	comp=Z,40nm,1.3s							
NJ2	**Nanjing**	**73.02**	**316**	*e*P		**P**	**18 42 40.0**	**+0.7**
NJ2				PMZ				
	comp=Z,50nm,1.1s							
KULM	**Kulim**	**73.35**	**283**	P		**P**	**18 42 40.1**	**-1.7**
USRK	**Ussuriysk Ar.**	**74.81**	**332**	P		**P**	**18 42 50.1**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=159,slow=5.9,SNR=5.6							
PET	**Petropavlovsk**	**75.58**	**353**	*e*P		P	18 42 49.1	-4.6
PET				*e*S		**S**	**18 52 26.6**	**-5.4**
PET				pmax		pmax		
	comp=Z,100nm,14.5s							
DL2	**Dalian**	**75.96**	**323**	P		**P**	**18 42 57.6**	**+1.4**
DL2				PMZ				
	comp=Z,24nm,0.9s							
DL2				PMZ				
	comp=Z,130nm,4.4s							
MAW	**Mawson**	**76.09**	**202**	P		**P**	**18 42 59.3**	**+2.7**
MAW				pmax		pmax		
	comp=Z,1.0nm,0.6s							
MAW	**Mawson**	**76.09**	**202**	P		**P**	**18 42 59.3**	**+2.7**
	comp=Z,1.2nm,0.6s							
MDJ	**Mudanjiang**	**76.18**	**331**	P		P	18 43 02.6	+5.2
MDJ				pP		**PcP**	**18 43 12.1**	**+2.8**
MDJ				sP		sP	18 43 15.8	+4.2
MDJ				PP		**PP**	**18 45 51.4**	**+2.3**
MDJ				S		S	18 52 48.1	+9.0
MDJ				PMZ				
	comp=Z,6.0nm,1.4s							
MDJ				PMZ				
	comp=Z,85nm,4.0s							
MDJ				LN				
	comp=Z,67nm,13.3s							
MDJ				LE				
	comp=Z,71nm,17.2s							
TIA	**Tai'an**	**76.80**	**318**	⇓P		**P**	**18 43 01.8**	**+0.7**
TIA				PMZ				
	comp=Z,20nm,1.0s							
CN2	**Changchun**	**77.49**	**328**	*e*P		**P**	**18 43 05.3**	**+0.5**
CN2				*e*S		**S**	**18 52 55.3**	**+1.9**
CN2				PMZ				
	comp=Z,10.0nm,0.9s							
GYA

CHTO				pmax	pmax			
	comp=Z,11nm,1.0s							
CHTO	**Chiang Mai**	**80.78**	**295**	*e*P	**P**	**18 43 24.7**	**+1.3**	
	comp=Z,12nm,1.0s							
CD2	**Chengdu**	**82.82**	**307**	P	**P**	**18 43 33.8**	**-0.1**	
CD2				pP	**pP**	**18 43 43.6**	**-0.8**	
CD2				sP	**sP**	**18 43 47.5**	**-0.7**	
CD2				PP	**PP**	**18 46 44.1**	**-0.6**	
CD2				S	**S**	**18 53 50.8**	**+0.7**	
CD2				sS	**sS**	**18 54 07.8**	**+0.3**	
CD2				SS	**SS**	**18 59 15.3**	**+1.5**	
CD2				PMZ				
	comp=Z,10.0nm,0.5s							
CD2				PMZ				
	comp=Z,900nm,6.6s							
CD2				LN				
	comp=Z,110nm,7.2s							
CD2				LZ				
	comp=Z,160nm,11.4s							
HHC	**Hu-ho-hao-te**	**83.10**	**319**	*e*P	**P**	**18 43 37.6**	**+2.4**	
HHC				PP	**PP**	**18 46 48.6**	**+1.7**	
HHC				S	**S**	**18 53 54.1**	**+1.4**	
HHC				SS	**SS**	**18 59 22.1**	**+4.3**	
HHC				PMZ				
	comp=Z,32nm,1.4s							
HHC				PMZ				
	comp=Z,150nm,5.2s							
HHC				LN				
	comp=Z,130nm,13.9s							
HHC				LE				
	comp=Z,69nm,14.8s							
HHC				LZ				
	comp=Z,92nm,12.0s							
LZH	**Lanzhou**	**85.44**	**312**	*e*P	**P**	**18 43 48.5**	**+1.2**	
LZH				pP	**pP**	**18 43 58.6**	**+0.8**	
LZH				sP	**sP**	**18 44 02.3**	**+0.7**	
LZH				*e*PP	**PP**	**18 47 09.3**	**+3.2**	
LZH				SKS	**SKSac**	**18 54 08.1**	**-2.1**	
LZH				*e*S	**SKKSac**	**18 54 17.0**	**+0.1**	
LZH				sS	**sS**	**18 54 33.5**	**-0.3**	
LZH				*e*SS	**SS**	**18 59 56.4**	**+3.8**	
LZH				PMZ				
	comp=Z,28nm,1.6s							
LZH				PMZ				
	comp=Z,130nm,8.3s							
LZH				LN				
	comp=Z,250nm,16.5s							
LZH				LE				
	comp=Z,220nm,17.6s							
LZH				LZ				
	comp=Z,450nm,19.8s							
KDAK	**Kodiak Island**	**85.48**	**19**	LR	LR	19 15 32.8		
	comp=Z,125nm,19.2s,baz=123,slow=31							
SEY	**Seymchan**	**86.02**	**352**	P	**P**	**18 43 48.2**	**-1.0**	
	comp=Z,6.6nm,1.1s,baz=153,slow=5.0,SNR=8.8							
SEY	**Seymchan**	**86.02**	**352**	⇓*i*P	**P**	**18 43 47.3**	**-1.9**	
SNAA	**Sanae**	**86.27**	**182**	*e*P	**P**	**18 43 47.8**	**-2.9**	
SNAA				pmax	pmax			
	comp=Z,9.0nm,1.3s							
SNAA	**Sanae**	**86.27**	**182**	*e*P	**P**	**18 43 47.8**	**-2.9**	
	comp=Z,8.7nm,1.3s							
VNA2	**Neumayer--Watz**	**87.12**	**181**	P	**P**	**18 43 52.6**	**-2.3**	
	baz=175,slow=3.4							
VNA1	**Neumayer--Stat**	**87.41**	**180**	P	**P**	**18 43 54.3**	**-1.9**	
YBH	**Yreka Blue Hor**	**88.73**	**44**	LR	LR	19 14 21.1		
	comp=Z,89nm,21.8s,baz=244,slow=29							
ULN	**Ulaanbaatar**	**89.82**	**323**	*e*P	**P**	**18 44 08.2**	**+0.2**	
ULN				pmax	pmax			
	comp=Z,15nm,1.4s							
ULN	**Ulaanbaatar**	**89.82**	**323**	*e*P	**P**	**18 44 08.2**	**+0.2**	
	comp=Z,15nm,1.4s							
GTA	**Gaotai**	**89.87**	**313**	*e*P	**P**	**18 44 08.8**	**+0.4**	
GTA				PMZ				
	comp=Z,4.0nm,1.1s							
YAK	**Yakutsk**	**89.97**	**342**	*e*P	**P**	**18 44 06.8**	**-1.4**	
YAK				*e**PP	**pP**	**18 44 17.5**	**-1.2**	
YAK				*e*		18 47 42.6		
YAK				*e*S	**SKSac**	**18 54 34.7**	**-1.4**	
YAK				*e**SS	**SKKSac**	**18 54 53.3**	**+4.0**	
YAK				*e*SP	**SP**	**18 56 05.1**	**+0.8**	
YAK				*e*PS	**PnS**	**18 56 08.6**	**-0.1**	
YAK				*e*SS	**SS**	**19 00 51.8**	**-5.6**	
YAK				pmax	pmax			
	comp=Z,5.0nm,1.0s							
YAK				pmax	pmax			
	comp=N,1.0nm,1.3s							
YAK				pmax	pmax			
	comp=E,2.0nm,0.9s							
YAK				pmax	pmax			
	comp=Z,26nm,3.3s							
YAK				pmax	pmax			
	comp=E,23nm,2.5s							
YAK				pmax	pmax			
	comp=N,63nm,3.6s							
YAK				smax	smax			
	comp=N,14nm,1.6s							
YAK				smax	smax			
	comp=E,27nm,3.0s							
YAK				MLR	MLR			
	comp=Z,117nm,22.0s							
YAK				MLR	MLR			
	comp=N,95nm,19.0s							
YAK				MLR	MLR			
	comp=E,55nm,19.0s							
YAK	**Yakutsk**	**89.97**	**342**	*e*P	**P**	**18 44 07.1**	**-1.0**	
NVAR	**Mina Array Bea**	**90.01**	**48**	P	**P**	**18 44 11.2**	**+2.0**	
	comp=E,0.2nm,0.4s,baz=231,slow=10.0,SNR=3.3							
SONM	**Songino Array**	**90.17**	**323**	P	**P**	**18 44 09.4**	**-0.2**	
	comp=E,3.3nm,1.1s,baz=136,slow=3.7,SNR=16							
SONM				LR	LR	19 23 20.3		
	comp=E,42nm,19.9s,baz=227,slow=35							
SONM	**Songino Array**	**90.17**	**323**	P	**P**	**18 44 09.4**	**-0.2**	
SONM				pmax	pmax			
	comp=Z,3.0nm,1.1s							
SONM				MLR	MLR			
	comp=Z,42nm,19.9s							
TPH	**Tonopah**	**90.59**	**49**	P	**P**	**18 44 11.5**	**-0.4**	
TPH	**Tonopah**	**90.59**	**49**	P	**P**	**18 44 11.5**	**-0.4**	
BBB	**Bella Bella**	**91.39**	**33**	LR	LR	19 16 56.3		
	comp=Z,100nm,20.7s,baz=267,slow=30							
LSA	**Lhasa**	**91.92**	**301**	*e*P	**P**	**18 44 18.1**	**-0.5**	
LSA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
LSA	**Lhasa**	**91.92**	**301**	*e*P	**P**	**18 44 18.1**	**-0.5**	
	comp=Z,2.2nm,0.9s							
BOD	**Bodaibo**	**92.41**	**334**	*e*P	**P**	**18 44 18.4**	**-1.2**	
MDM	**Murphy Dome**	**92.53**	**16**	*e*P	**P**	**18 44 17.9**	**-2.2**	
	comp=Z,16nm,1.6s							
ILAR	**Eielson Array**	**92.75**	**17**	P	**P**	**18 44 19.2**	**-1.8**	
	comp=Z,0.9nm,0.8s,baz=232,slow=5.7,SNR=6.1							
ILAR				LR	LR	19 20 34.5		
	comp=Z,137nm,20.7s,baz=242,slow=32							
ILAR	**Eielson Array**	**92.75**	**17**	P	**P**	**18 44 19.2**	**-1.8**	
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ILAR				MLR	MLR			
	comp=Z,137nm,20.7s							
ELK	**Elko**	**93.18**	**47**	LR	LR	19 21 59.2		
	comp=Z,126nm,18.1s,baz=208,slow=33							
ZAK	**Zakamensk**	**93.26**	**324**	*e*P	**P**	**18 44 22.7**	**-1.2**	
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.4s							
NEW	**Newport**	**95.39**	**40**	LR	LR	19 18 56.3		
	comp=Z,110nm,21.7s,baz=242,slow=30							
TXAR	**Lajitas Array**	**97.29**	**61**	LR	LR	19 19 35.4		
	comp=Z,158nm,21.7s,baz=0.0,slow=30							
PDAR	**Pinedale Array**	**97.88**	**47**	LR	LR	19 20 55.7		
	comp=Z,106nm,21.7s,baz=254,slow=30							
SDCO	**Great Sand Dun**	**98.89**	**53**	P	Pdif	18 44 51.5	+1.5	
N23A	**Red Feather La**	**99.70**	**50**	*e*PP	PP	18 49 02.4	+4.0	
WMQ	**Urumqi**	**99.95**	**313**	P	**Pdif**	**18 44 54.6**	**+0.3**	
WMQ				pP	**pP**	**18 45 05.6**	**+0.6**	
WMQ				sP	**sP**	**18 45 09.6**	**+0.8**	
WMQ				PMZ				
	comp=Z,5.0nm,0.7s							
WMQ				PMZ				
	comp=Z,100nm,4.0s							
WMQ				LN				
	comp=Z,36nm,20.0s							
WMQ				LE				
	comp=Z,45nm,16.3s							
BDFB	**Brasilia**	**126.86**	**132**	PKhKP	PKPpre	18 50 12.1		
	comp=Z,1.6nm,0.4s,baz=186,slow=7.3,SNR=3.4							
ARCES	**ARCESS Array B**	**128.16**	**345**	PKP	**PKPdf**	**18 50 15.6**	**+0.8**	
	comp=Z,5.4nm,1.0s,baz=22,slow=4.2,SNR=4.4							
ARCES	**ARCESS Array B**	**128.16**	**345**	PKIKP	**PKPdf**	**18 50 15.6**	**+0.8**	
ARCES				pmax	pmax			
	comp=Z,6.0nm,1.0s							
GOF	**Gofitskoye**	**131.50**	**311**	*e*PKIKP	PKPdf	18 50 31.5	+10	
KIV	**Kislovodsk**	**131.94**	**310**	*e*PKIKP	**PKPdf**	**18 50 21.6**	**-1.2**	
KIV				*e*		18 52 44.2		
KIV				pmax	pmax			
	comp=Z,3.0nm,0.9s							
AKASG	**Malin Array Be**	**138.45**	**323**	PKP	**PKPdf**	**18 50 34.1**	**-0.5**	
	comp=Z,0.2nm,0.3s,baz=57,slow=2.1,SNR=3.8							
BRTR	**Keskin Array B**	**139.37**	**306**	PKP	**PKPdf**	**18 50 37.8**	**+1.0**	
	comp=Z,0.8nm,1.0s,baz=51,slow=0.9,SNR=3.2							
BRTR	**Keskin Array B**	**139.37**	**306**	PKIKP	**PKPdf**	**18 50 37.8**	**+1.0**	
BRTR				pmax	pmax			
	comp=Z,1.0nm,1.0s							
RCBR	**Riachuelo**	**142.13**	**134**	*e*PKPpre	PKPpre	18 50 34.3		
UZH	**Uzhgorod**	**143.37**	**324**	*e*PKIKP	PKPbc	18 50 41.4	+0.7	
UZH				*e*		18 50 55.8		
KECS	**Kecovo**	**144.43**	**325**	*e*PKIKP	**PKPdf**	**18 50 44.9**	**-0.5**	
KECS	**Kecovo**	**144.43**	**325**	*e*PKP	**PKPdf**	**18 50 44.9**	**-0.5**	
RUE	**Ruedersdorf**	**144.79**	**335**	*e*PKPbc	PKPbc	18 50 45.0	+0.1	
BSEG	**Bad Segeberg**	**144.86**	**339**	*e*PKPbc	PKPbc	18 50 45.2	+0.1	
RDO	**Rodhopi**	**144.87**	**311**	*e*PKPdf	**PKPab**	**18 50 44.8**	**-0.7**	
KSP	**Ksiaz**	**144.94**	**331**	*e*PKP	**PKPab**	**18 50 45.4**	**-0.1**	
KSP	**Ksiaz**	**144.94**	**331**	*e*PKIKP	PKPbc	18 50 45.5	0.0	
PSZ	**Piszkesteto**	**145.09**	**325**	*e*PKIKP	**PKPdf**	**18 50 46.5**	**-0.1**	
PSZ	**Piszkesteto**	**145.09**	**325**	*e*PKPbc	**PKPdf**	**18 50 46.5**	**-0.1**	
MORC	**Moravsky Berou**	**145.10**	**329**	*e*PKIKP	**PKPab**	**18 50 46.3**	**+0.2**	
MORC	**Moravsky Berou**	**145.10**	**329**	*e*PKPbc	**PKPab**	**18 50 46.3**	**+0.2**	
KRLC	**Kraliky**	**145.26**	**330**	*e*PKP	**PKPbc**	**18 50 45.9**	**-0.7**	
KRLC				*ex*	x	18 50 52.7		
KRLC	**Kraliky**	**145.26**	**330**	*e*PKIKP	**PKPbc**	**18 50 45.9**	**-0.7**	
DPC	**Dobruska-Polom**	**145.28**	**330**	*e*PKP	**PKPbc**	**18 50 46.2**	**-0.4**	
DPC				*ex*	x	18 50 52.8		
DPC				*e*pPKP	**pPKPdf**	**18 50 58.0**	**+0.2**	
DPC	**Dobruska-Polom**	**145.28**	**330**	*e*PKIKP	**PKPbc**	**18 50 46.2**	**-0.4**	
DPC				*e*		18 50 58.0		
VYHS	**Vyhne**	**145.29**	**326**	*e*PKIKP	**PKPbc**	**18 50 46.5**	**-0.2**	
VYHS	**Vyhne**	**145.29**	**326**	*e*PKP	**PKPbc**	**18 50 46.5**	**-0.2**	
UPC	**Upice**	**145.31**	**331**	*e*PKP	**PKPdf**	**18 50 47.0**	**+0.1**	
UPC				*ex*	x	18 53 53.3		
UPC	**Upice**	**145.31**	**331**	*e*PKIKP	**PKPdf**	**18 50 47.0**	**+0.1**	
PVCC	**Panska Ves**	**145.93**	**332**	*e*PKP	**PKPab**	**18 50 49.1**	**0.0**	
PVCC				*ex*	x	18 50 56.0		
PVCC				*e*pPKP	**pPKPdf**	**18 51 01.8**	**+3.0**	
PVCC	**Panska Ves**	**145.93**	**332**	*e*PKP2	**PKPab**	**18 50 49.1**	**0.0**	
BRG	**Berggiesshubel**	**145.94**	**333**	*e*PKP	**PKPdf**	**18 50 48.2**	**+0.3**	
	comp=Z,82nm,1.8s							
BRG	**Berggiesshubel**	**145.94**	**333**	*e*PKPbc	**PKPab**	**18 50 48.9**	**-0.3**	
BRG	**Berggiesshubel**	**145.94**	**333**	*e*PKP2	**PKPdf**	**18 50 48.2**	**+0.3**	
BRG				pmax	pmax			
	comp=Z,83nm,1.8s							
EDI	**Edinburgh**	**145.97**	**353**	*e*PKP2	**PKPdf**	**18 50 48.0**	**+0.2**	
EDI	**Edinburgh**	**145.97**	**353**	*e*PKPdf	**PKPdf**	**18 50 48.0**	**+0.2**	
CLL	**Collm**	**146.00**	**334**	*e*PKPbc	**PKPbc**	**18 50 48.7**	**0.0**	
CLL	**Collm**	**146.00**	**334**	⇓*e*PKIKP	**PKPdf**	**18 50 47.0**	**-1.0**	
CLL				*i*		18 50 48.8		
CLL				*e*		18 50 55.0		
CLL				pmax	pmax			
	comp=Z,55nm,1.6s							
CLL	**Collm**	**146.00**	**334**	*e*PKPdf	**PKPdf**	**18 50 48.0**	**0.0**	
CLL	**Collm**	**146.00**	**334**	*e*PKPdf	**PKPdf**	**18 50 47.0**	**-1.0**	
CLL				⇓*i*PKPbc	**PKPbc**	**18 50 48.8**	**0.0**	
	comp=Z,55nm,1.6s							
CLL				*e*		18 50 55.0		
CLL				*e*pPKPdf	**pPKPdf**	**18 51 01.0**	**+2.1**	
CLL				Lm	MLR	19 58 00.0		
	comp=Z,100nm,21.0s							
FBE	**Freiberg**	**146.15**	**334**	*e*PKPbc	**PKPbc**	**18 50 49.5**	**+0.2**	
GOPC	**GO Pecny, Ondr**	**146.28**	**331**	*e*PKP	**PKPab**	**18 50 50.1**	**-0.4**	
PRA	**Prague**	**146.33**	**332**	*e*PKP	**PKPab**	**18 50 50.3**	**-0.3**	
PRA	**Prague**	**146.33**	**332**	*e*PKP2	**PKPab**	**18 50 50.3**	**-0.3**	
PRU	**Pruhonice**	**146.34**	**331**	*e*PKP	**PKPbc**	**18 50 49.8**	**-0.1**	
PRU				*ex*	x	18 50 56.0		
PRU	**Pruhonice**	**146.34**	**331**	*e*PKP2	**PKPbc**	**18 50 49.8**	**-0.1**	
NEUB	**Neuenburg**	**146.56**	**335**	*e*PKPbc	**PKPbc**	**18 50 50.3**	**-0.2**	
CLZ	**Clausthal**	**146.58**	**337**	*e*PKPbc	**PKPbc**	**18 50 50.8**	**+0.2**	
TANN	**Tannenbergstha**	**146.91**	**334**	*e*PKPbc	**PKPbc**	**18 50 51.7**	**+0.1**	
WERD	**Werda**	**146.94**	**334**	*e*PKPbc	**PKPbc**	**18 50 51.8**	**+0.1**	
PLN	**Plauen**	**146.98**	**334**	*e*PKPbc	**PKPbc**	**18 50 51.8**	**+0.1**	
GUNZ	**Gunzen**	**147.00**	**334**	*e*PKPbc	**PKPbc**	**18 50 52.0**	**+0.2**	
WERN	**Wernitzgruen**	**147.04**	**334**	*e*PKPbc	**PKPbc**	**18 50 52.3**	**+0.4**	
IBBN	**Ibbenburen**	**147.06**	**340**	*e*PKPbc	**PKPbc**	**18 50 51.7**	**-0.1**	
MOX	**Moxa**	**147.07**	**335**	*e*PKPbc	**PKPbc**	**18 50 51.9**	**-0.1**	
MOX				*e*L	L	19 50 09.8		
	comp=Z,74nm,21.9s							
CONA	**Conrad Observa**	**147.17**	**328**	⇑*i*PKPab	**PKPbc**	**18 50 52.1**	**-0.3**	
	comp=Z,10.0nm,1.5s							
MANZ	**Manzenberg**	**147.38**	**334**	*e*PKPbc	**PKPbc**	**18 50 53.1**	**+0.2**	
KHC	**Kasperske Hory**	**147.40**	**331**	*e*PKP	**PKPab**	**18 50 59.0**	**+4.1**	
KHC	**Kasperske Hory**	**147.40**	**331**	*e*PKP2	**PKPab**	**18 50 59.0**	**+4.1**	
ROTZ	**Rotzenmuhle**	**147.51**	**333**	*e*PKPbc	**PKPbc**	**18 50 53.5**	**+0.3**	
UBBA	**Unterbreizbach**	**147.55**	**337**	*e*PKPbc	**PKPbc**	**18 50 52.8**	**-0.3**	
GEC2	**GERESS Array S**	**147.55**	**331**	*e*PKPbc	**PKPbc**	**18 50 53.4**	**-0.1**	
GEC2	**GERESS Array S**	**147.55**	**331**	*e*PKP2	**PKPbc**	**18 50 53.6**	**+0.1**	
GEC2	**GERESS Array S**	**147.55**	**331**	*e*PKPbc	**PKPbc**	**18 50 53.6**	**+0.1**	
GERES	**GERESS Array B**	**147.55**	**331**	PKPbc	**PKPbc**	**18 50 52.6**	**-0.9**	
	comp=Z,1.5nm,0.8s,baz=30,slow=2.7,SNR=12							
GERES	**GERESS Array B**	**147.55**	**331**	PKP2	**PKPbc**	**18 50 52.6**	**-0.9**	
GERES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ARSA	**Arzberg**	**147.79**	**327**	⇑*i*PKPbc	**PKPdf**	**18 50 52.6**	**+1.4**	
	comp=Z,6.7nm,1.3s							
GRF	**Grafenberg Arr**	**147.97**	**334**	*e*L	L	19 50 49.8		
	comp=Z,66nm,21.7s							
SOKA	**Soboth**	**148.43**	**327**	⇓*i*PKPbc	**PKPbc**	**18 50 55.6**	**-0.2**	
	comp=Z,14nm,1.6s							
MEM	**Membach**	**149.09**	**340**	PKPbc	**PKPbc**	**18 50 57.6**	**+0.4**	
WLF	**Walferdange**	**149.86**	**339**	PKPbc	**PKPbc**	**18 50 59.9**	**+0.7**	
DOU	**Dourbes**	**149.97**	**341**	PKPbc	**PKPbc**	**18 51 00.3**	**+0.8**	
BFO	**Black Forest**	**150.21**	**335**	*e*PKP2	**PKPbc**	**18 51 00.0**	**-0.2**	
BFO	**Black Forest**	**150.21**	**335**	*e*PKPbc	**PKPbc**	**18 50 60.0**	**-0.2**	
FETA	**Feichten**	**150.24**	**331**	⇑*i*PKiKP	**PKiKP**	**18 51 00.9**	**-0.4**	
	comp=Z,13nm,0.9s							
FUORN	**Ofenpass-Fuorn**	**150.75**	**331**	*e*PKPbc	**PKPbc**	**18 51 01.8**	**0.0**	
TIP	**Timpagrande**	**151.79**	**313**	*e*PKPbc	**PKPbc**	**18 51 02.5**	**-1.7**	
SENIN	**Lac Senin/Sane**	**152.22**	**334**	*e*PKPdf	**PKPdf**	**18 51 01.3**	**+2.8**	
TORD	**Torodi Ar. Bea**	**165.91**	**232**	PKP	**PKPdf**	**18 51 14.2**	**-0.8**	
	comp=Z,1.9nm,1.2s,baz=170,slow=4.5,SNR=5.1							
TORD				PKPab	**PKPab**	**18 52 17.0**	**+2.2**	
	comp=Z,0.5nm,0.8s,baz=164,slow=4.6,SNR=3.6							

*IDC **23** 18:31:28.6±1.5,3°.84N×125°.82E,h0km,mb3.3/3, mb1 3.6/4,mb1mx3.3/52,mbtmp3.5/4,ML4.1/1,Error ellipse: s-maj=92.2km s-min=23.8km az=60.0*
*ISCJB **23** 18:31:34.1±1.0,4°.21N±0°.07×126°.82E±0°.06,h35km, mb3.2/3,Error ellipse: s-maj=11.8km s-min=6.8km az=34.9*
*DJA **23** 18:31:37.6±0.9,4°.N±7°×12°.7E±°,h10km,M4.0/6,mb4.0/3, mB4.5/1,MLv3.9/6,Mw(mB)3.6/1*
*MAN **23** 18:31:41,4°.80N×126°.60E,h169km,mb5.2,ML4.1,MS4.3*
ISC 23 18:31:35.6±1.6,4°.22N±0°.10×126°.76E±0°.08,h35km,n10, σ1°36/12,mb3.3/3,1C,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.34**	**246**	P	**Pn**	**18 31 57.9**	**+0.1**
SGSI				S	**Sn**	**18 32 14.0**	**-0.4**
TNTI	**Ternate**	**3.48**	**170**	P	**Pn**	**18 32 27.7**	**+0.4**
TNTI				S	**Sn**	**18 33 08.2**	**+0.8**
CTBH	**Cotabato--PC H**	**3.89**	**320**	⇑*i*P	**Pn**	**18 32 34.5**	**+1.6**
LBMI	**Labuha**	**4.89**	**171**	P	**Pn**	**18 32 48.1**	**+1.5**
LBMI				S	**Sn**	**18 33 42.6**	**+0.6**
MRSI	**Marisa**	**6.08**	**232**	P	**Pn**	**18 33 04.1**	**+1.0**
	13nm,0.6s,362nm0.1nm						
SWI	**Sorong**	**6.77**	**138**	P	**Pn**	**18 33 13.7**	**+1.2**
	12nm,0.7s,0.1nm						
SIJI	**Sorong**	**6.78**	**138**	Pn	**Pn**	**18 33 13.2**	**+0.6**
	3.6nm,0.3s,baz=339,slow=18,SNR=24						
SIJI				Sn	**Sn**	**18 34 27.6**	**-1.0**
	0.8nm,0.3s,baz=216,slow=23,SNR=6.8						
WRA	**Warramunga Arr**	**25.15**	**163**	P	**P**	**18 36 55.1**	**-2.6**
	0.5nm,0.6s,baz=337,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**28.58**	**166**	P	P	18 37 25.8	-2.8
	0.2nm,0.5s,baz=341,slow=7.2,SNR=6.4						
MKAR	**Makanchi Array**	**57.17**	**325**	P	P	18 41 15.8	-3.3
	0.2nm,0.6s,baz=121,slow=7.8,SNR=4.2						

*NEIC **23** 18:32:36.5,52°.60N×169°.02W,h3km,ML3.4(AEIC),After AEIC.*

*IDC **23** 18:32:40.8±25.0,52°.74N×167°.95W,h0km,mb3.4/2, mb1 3.8/3,mb1mx3.3/57,mbtmp3.3/3,ML3.6/1,MS3.2/2, Ms1 3.4/2,ms1mx2.5/37,Error ellipse: s-maj=463.1km s-min=46.9km az=86.0*
ISC 23 18:32:35.9±1.8,52.6N±0.1×169.2W±0.1,h10km,n23, σ1°03/18,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.40**	**32**	P	**Pb**	**18 32 45.1**	**+0.2**
NIKH				S	**Sb**	**18 32 52.8**	**+1.7**
OKWR	**Okmok West Rim**	**1.00**	**37**	P	**Pn**	**18 32 56.5**	**+0.4**
OKCE	**Okmok Cone E**	**1.01**	**38**	P	**Pb**	**18 32 55.6**	**+0.1**
OKCE				S	**Sn**	**18 33 12.3**	**+1.9**
OKTU	**Okmok Mt. Tuli**	**1.02**	**43**	P	**Pn**	**18 32 56.2**	**-0.1**
OKAK	**Okmok**	**1.07**	**28**	P	**Pg**	**18 32 54.7**	**-1.8**
OKFG	**Magazine Ridge**	**1.10**	**45**	P	**Pb**	**18 32 56.9**	**0.0**
OKFG				S	**Sn**	**18 33 13.1**	**+0.6**
MSOM	**Makushin Julie**	**1.80**	**48**	P	**Pn**	**18 33 07.2**	**+0.4**
MSW	**Makushin Switc**	**1.94**	**48**	P	**Pn**	**18 33 09.4**	**+0.6**
MTBL	**Makushin Table**	**2.02**	**48**	P	**Pn**	**18 33 10.8**	**+0.8**
UNV	**Unalaska Valle**	**2.02**	**52**	P	**Pn**	**18 33 10.3**	**+0.3**
UNV				S	**Sb**	**18 33 36.8**	**-1.1**
FALS	**False Pass**	**4.09**	**55**	*e*Pn	Pn	18 33 31.9	-6.5
SPIA	**Saint Paul Isl**	**4.59**	**353**	P	**Pn**	**18 33 45.6**	**+0.4**
ILAR	**Eielson Array**	**16.67**	**35**	Pn	**Pn**	**18 36 27.8**	**-1.5**
	0.1nm,0.3s,baz=233,slow=11,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**37.73**	**219**	T	T	19 19 42.5	
	baz=23,slow=76,SNR=82						
H11N3	**WAKE ISLAND Hy**	**37.73**	**219**	T	T	19 19 42.9	
	baz=23,slow=76,SNR=74						
H11N1	**WAKE ISLAND Hy**	**37.75**	**219**	T	T	19 19 43.7	
	baz=23,slow=76,SNR=64						
H11S1	**WAKE ISLAND Hy**	**38.92**	**218**	T	T	19 21 15.7	
	baz=23,slow=76,SNR=1240						
H11S2	**WAKE ISLAND Hy**	**38.93**	**218**	T	T	19 21 16.9	
	baz=23,slow=76,SNR=693						
H11S3	**WAKE ISLAND Hy**	**38.93**	**218**	T	T	19 21 17.4	
	baz=23,slow=76,SNR=463						
PDAR	**Pinedale Array**	**40.25**	**80**	P	**P**	**18 40 12.8**	**-0.1**
	0.3nm,0.6s,baz=309,slow=7.4,SNR=2.6						
LPIG	**La Paz**	**52.44**	**99**	LR	LR	18 58 10.7	
	comp=Z,18nm,19.6s,baz=52,slow=30						
TXAR	**Lajitas Array**	**52.64**	**89**	P	**P**	**18 41 51.0**	**+0.9**
	0.7nm,0.8s,baz=298,slow=6.5,SNR=5.7						
CMAR	**Chiang Mai Arr**	**76.66**	**283**	LR	LR	19 22 56.9	
	comp=Z,19nm,18.1s,baz=175,slow=39						

*IDC **23** 18:34:16.7±0.7,6°.30S×150°.83E,h0km,mb4.2/10, mb1 4.5/11,mb1mx4.1/42,mbtmp4.3/11,ML2.1/1,MS3.3/1, Ms1 3.3/1,ms1mx2.6/27,Error ellipse: s-maj=26.2km s-min=17.7km az=105.0*
*ISCJB **23** 18:34:19.8±0.5,6°.27S±0°.06×150°.77E±0°.08,h33km, mb4.4/13,MS3.3/1,Error ellipse: s-maj=11.6km s-min=7.0km az=24.6*
*NEIC **23** 18:34:25.1±1.9,6°.31S×150°.59E,h63km±16km,mb4.8/7, Error ellipse: s-maj=17.5km s-min=8.2km az=96.0*
ISC 23 18:34:21.6±0.6,6°.25S±0°.09×150°.78E±0°.09,h33km,n44, σ0°97/41,mb4.5/13,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.77**	**229**	Pn	**Pn**	**18 35 32.0**	**+0.9**
	6.1nm,0.3s,baz=40,slow=5.0,SNR=22						
PMG				Sn	**Sn**	**18 36 28.0**	**+2.7**
	12nm,0.3s,baz=213,slow=17,SNR=3.8						
PMG	**Port Moresby**	**4.77**	**229**	Pn	**Pn**	**18 35 32.0**	**+0.9**
PMG				*e*Sn	**Sn**	**18 36 25.4**	**+0.1**
CTAO	**Charters Tower**	**14.44**	**197**	Pn	Pn	18 37 36.7	-7.0
QIS	**Mount Isa**	**17.89**	**216**	P	**P**	**18 38 29.4**	**+1.0**
	baz=17,SNR=3.5						
KDU	**Kakadu**	**19.15**	**249**	P	**Pn**	**18 38 42.8**	**-0.6**
	baz=19,SNR=3.4						
SIJI	**Sorong**	**20.19**	**285**	P	**P**	**18 38 54.2**	**+0.4**

PMG	**Port Moresby**	**4.78**	**230**	Pn	**Pn**	**18 40 49.8**	**+0.9**
	7.1nm,0.3s,baz=15,slow=5.6,SNR=12						
PMG				Sn	**Sn**	**18 41 42.1**	**-0.9**
	38nm,0.3s,baz=48,slow=18,SNR=9.3						
PMG	**Port Moresby**	**4.78**	**230**	*eP*n	**Pn**	**18 40 49.2**	**+0.2**
PMG				Sn	**Sn**	**18 41 42.1**	**-0.9**
QIS	**Mount Isa**	**17.88**	**217**	P	**P**	**18 43 46.1**	**+0.2**
	baz=18,SNR=4.4						
KDU	**Kakadu**	**19.19**	**249**	P	**P**	**18 44 00.5**	**+0.2**
	baz=20,SNR=6.3						
RMQ	**Roma**	**20.17**	**185**	P	**P**	**18 44 11.1**	**+0.3**
	baz=20,SNR=16						
SIJI	**Sorong**	**20.27**	**285**	P	Pn	18 44 15.8	+1.5
	5.6nm,0.8s,baz=86,slow=8.9,SNR=4.3						
MTN	**Manton Dam**	**20.48**	**250**	P	**P**	**18 44 14.8**	**+0.4**
	baz=21,SNR=4.0						
WRAB	**Tennant Creek**	**20.98**	**228**	*eP*	**P**	**18 44 18.2**	**-1.6**
	24nm,0.7s						
WRA	**Warramunga Arr**	**21.00**	**228**	P	**P**	**18 44 19.4**	**-0.5**
	22nm,0.8s,baz=52,slow=11,SNR=38						
WRA				PcP	**PcP**	**18 48 27.5**	**+0.9**
	0.9nm,0.9s,baz=42,slow=2.0,SNR=4.9						
WRA				ScP	**ScP**	**18 52 05.4**	**+4.7**
	0.4nm,0.3s,baz=45,slow=2.3,SNR=3.7						
QLP	**Quilpie**	**21.12**	**197**	P	**P**	**18 44 21.0**	**-0.2**
	baz=21,SNR=7.4						
KNRA	**Kununurra**	**23.57**	**245**	P	P	18 44 41.6	-5.4
	baz=24,SNR=7.0						
AS31	**Alice Springs**	**23.73**	**222**	*eP*	**P**	**18 44 48.4**	**-0.1**
ASAR	**Alice Springs**	**23.73**	**222**	P	**P**	**18 44 48.0**	**-0.5**
	8.0nm,0.6s,baz=56,slow=8.7,SNR=67						
ASAR				S	**S**	**18 49 02.8**	**+1.2**
	3.9nm,1.0s,baz=42,slow=19,SNR=10						
ASAR				ScP	**ScP**	**18 52 14.4**	**+6.6**
	0.7nm,0.8s,baz=36,slow=2.5,SNR=6.7						
CMSA	**Cobar Meteorol**	**25.56**	**190**	P	**P**	**18 45 06.9**	**+1.8**
	baz=26,SNR=6.6						
STKA	**Stephens Creek**	**26.87**	**198**	P	**P**	**18 45 15.9**	**-1.0**
	26nm,1.1s,baz=8.9,slow=11,SNR=21						
STKA				LR	LR	18 56 04.1	
	comp=Z,139nm,18.4s,baz=25,slow=37						
STKA	**Stephens Creek**	**26.87**	**198**	*eP*	**P**	**18 45 15.5**	**-1.4**
	4.4nm,1.0s						
WRKA	**Warakurna**	**28.52**	**227**	P	**P**	**18 45 30.9**	**-0.9**
	baz=29,SNR=15						
HTT	**Hallett**	**29.17**	**201**	P	**P**	**18 45 37.3**	**-0.2**
	baz=30,SNR=4.5						
FORT	**Forrest**	**32.40**	**218**	*eP*	**P**	**18 46 04.8**	**-1.2**
	18nm,0.8s						
MBWA	**Marble Bar**	**33.54**	**241**	P	**P**	**18 46 16.1**	**0.0**
MEEK	**Meekatharra**	**36.75**	**233**	P	**P**	**18 46 43.3**	**-0.4**
	baz=37,SNR=3.9						
RPZ	**Rata Peaks**	**41.28**	**158**	P	**P**	**18 47 19.8**	**-1.5**
	11nm,1.0s,baz=281,slow=5.2,SNR=3.3						
CISI	**Cisompet, Garu**	**42.72**	**266**	P	**P**	**18 47 32.9**	**-0.7**
	baz=43,SNR=5.5						
JNU	**Nakatsue**	**43.56**	**335**	P	**P**	**18 47 40.2**	**+0.2**
	12nm,1.0s,baz=148,slow=5.0,SNR=5.8						
KSRS	**Korea Array**	**48.51**	**336**	P	**P**	**18 48 19.9**	**+1.0**
	2.1nm,0.7s,baz=150,slow=8.3,SNR=9.8						
KSAR	**Wonju Array Be**	**48.51**	**336**	P	**P**	**18 48 19.9**	**+1.0**
SONM	**Songino Array**	**66.58**	**329**	P	**P**	**18 50 26.3**	**+0.1**
	1.1nm,0.7s,baz=144,slow=5.0,SNR=5.9						
VNDA	**Vanda**	**71.41**	**177**	P	**P**	**18 50 56.7**	**+1.2**
	1.6nm,0.8s,baz=308,slow=6.8,SNR=5.8						
MK31	**Makanchi Array**	**80.19**	**320**	*eP*	**P**	**18 51 43.8**	**-2.4**
MKAR	**Makanchi Array**	**80.19**	**320**	P	**P**	**18 51 46.1**	**-0.1**
	0.5nm,0.8s,baz=101,slow=6.3,SNR=3.8						
ZAA0	**Zalesovo Array**	**81.33**	**327**	P	**P**	**18 51 50.7**	**-1.4**
ZALV	**Zalesovo Beam**	**81.33**	**327**	P	**P**	**18 51 50.5**	**-1.6**
	0.9nm,0.6s,baz=122,slow=5.0,SNR=4.0						
MCK	**McKinley**	**83.00**	**23**	*eP*	**P**	**18 52 00.0**	**-0.7**
	13nm,1.0s						
QSPA	**South Pole Qui**	**83.66**	**180**	*eP*	**P**	**18 52 03.6**	**-0.7**
	8.7nm,1.1s						
KURK	**Kurchatov**	**83.76**	**322**	*eP*	**P**	**18 52 03.0**	**-1.8**
	4.0nm,1.0s						
ILAR	**Eielson Array**	**84.28**	**22**	P	**P**	**18 52 05.4**	**-1.8**
	2.6nm,0.9s,baz=252,slow=4.9,SNR=14						
EKS2	**Erkin-Say**	**84.81**	**314**	P	**P**	**18 52 11.2**	**+0.6**
EGAK	**Eagle**	**86.50**	**23**	*eP*	**P**	**18 52 19.0**	**+0.7**
	5.0nm,1.0s						
NVAR	**Mina Array Bea**	**94.54**	**52**	P	**P**	**18 52 56.5**	**-0.3**
	0.4nm,0.7s,baz=262,slow=6.2,SNR=3.8						
GERES	**GERESS Array B**	**124.28**	**327**	PKP	**PKPdf**	**18 58 35.1**	**+0.3**
	0.2nm,0.4s,baz=38,slow=5.0,SNR=3.4						
TORD	**Torodi Ar. Bea**	**148.87**	**285**	PKPbc	**PKPbc**	**18 59 23.8**	**-0.7**
	3.4nm,0.7s,baz=58,slow=2.9,SNR=18						

*ISCJB **23** 18:40:45.4±0.8,52.°7N±0.°1×169.°5W±0.°1, h10km, mb3.8/3, Error ellipse: s-maj=19.6km s-min=6.7km az=143.5*
*IDC **23** 18:40:45.1±1.3,52.°61N×169.°65W, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.4/53, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=67.1km s-min=26.7km az=140.0*
*NEIC **23** 18:40:46.9,52.°67N×169.°30W, h5km, mb3.9/1, ML3.5(AEIC), After AEIC.*

ISC 23 18:40:47.3±1.0, 52.°8N±0.°1×169.°35W±0.°08, h10km, n26, σ0s98/22, mb3.9/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.37**	**56**	P	**Pb**	**18 40 55.5**	**-0.3**
NIKH				S	**Sb**	**18 41 01.9**	**+0.2**
OKWR	**Okmok West Rim**	**0.96**	**46**	P	**Pn**	**18 41 07.2**	**+0.3**
OKCE	**Okmok Cone E**	**0.97**	**47**	P	**Pg**	**18 41 05.9**	**-0.2**
OKTU	**Okmok Mt. Tuli**	**1.00**	**52**	P	**Pg**	**18 41 06.9**	**+0.3**
OKAK	**Okmok**	**1.01**	**36**	P	**Pg**	**18 41 05.2**	**-1.5**
OKFG	**Magazine Ridge**	**1.08**	**53**	P	**Pb**	**18 41 07.8**	**-0.3**
OKFG				S	**Sn**	**18 41 24.6**	**+1.0**
MSOM	**Makushin Julie**	**1.79**	**53**	P	**Pn**	**18 41 18.4**	**+0.3**
MCIR	**Makushin Cirqu**	**1.89**	**50**	P	**Pn**	**18 41 20.7**	**+1.0**
MSW	**Makushin Switc**	**1.92**	**52**	P	**Pn**	**18 41 20.5**	**+0.4**
MTBL	**Makushin Table**	**2.00**	**52**	P	**Pn**	**18 41 22.0**	**+0.8**
UNV	**Unalaska Valle**	**2.02**	**57**	P	**Pn**	**18 41 21.5**	**0.0**
UNV				S	**Sn**	**18 41 47.7**	**+1.0**
ZRO	**Akutan Zero**	**2.42**	**55**	P	**Pn**	**18 41 28.1**	**+1.3**
ATKA	**Atka Island**	**3.01**	**261**	P	**Pn**	**18 41 36.4**	**+1.4**
SPIA	**Saint Paul Isl**	**4.45**	**354**	P	**Pn**	**18 41 55.8**	**+1.1**
ILAR	**Eielson Array**	**16.62**	**35**	Pn	**Pn**	**18 44 39.6**	**-0.4**
	0.1nm,0.3s,baz=228,slow=10,SNR=5.9						
HYT	**Haines Junctio**	**19.05**	**52**	*eP*	**Pn**	**18 45 10.9**	**+0.7**
	3.9nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**37.77**	**218**	T	T	19 28 13.2	
	baz=24,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**37.78**	**218**	T	T	19 28 08.6	
	baz=24,slow=76,SNR=19						
H11N1	**WAKE ISLAND Hy**	**37.79**	**218**	T	T	19 28 06.0	
	baz=24,slow=76,SNR=13						
H11S1	**WAKE ISLAND Hy**	**38.96**	**218**	T	T	19 29 33.0	
	baz=23,slow=76,SNR=406						
H11S2	**WAKE ISLAND Hy**	**38.98**	**218**	T	T	19 29 39.7	
	baz=23,slow=76,SNR=268						
H11S3	**WAKE ISLAND Hy**	**38.98**	**218**	T	T	19 29 43.9	
	baz=23,slow=76,SNR=194						
TXAR	**Lajitas Array**	**52.73**	**89**	P	**P**	**18 50 02.8**	**+0.6**
	0.5nm,0.7s,baz=303,slow=5.8,SNR=5.3						
H06E1	**SOCORRO T-PHAS**	**56.25**	**104**	T	T	19 51 19.5	
	SNR=4.4						
WRA	**Warramunga Arr**	**87.26**	**232**	P	**P**	**18 53 31.8**	**-2.1**
	0.3nm,0.4s,baz=34,slow=5.9,SNR=4.9						
ASAR	**Alice Springs**	**90.66**	**230**	P	**P**	**18 53 48.9**	**-1.0**
	0.6nm,0.9s,baz=27,slow=4.6,SNR=5.0						

*IDC **23** 19:09:48.5±1.5,2.°80S×128.°01E, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.5/32, mbtmp3.8/5, ML4.0/2, Error ellipse: s-maj=34.1km s-min=23.9km az=86.0*
*ISCJB **23** 19:09:52.4±0.4,2.°78S±0.°03×127.°98E±0.°03, h38km, mb3.7/3, Error ellipse: s-maj=5.1km s-min=4.1km az=28.0*
*DJA **23** 19:09:52.8±0.4,3.°3S±3.°1×12.°8E±°, h25km±6km, M4.3/14, mb4.6/5, mB5.0/2, MLv4.1/14, Mw(mB)4.3/2*

ISC 23 19:09:53.8±0.8,2.°85S±0.°04×127.°98E±0.°04, h38km, n20, σ1s60/29, mb3.6/3, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.86**	**165**	P	**Pn**	**19 10 08.9**	**-0.5**
	baz=1.4,SNR=162						
NLAI	**Namlea**	**0.95**	**246**	P	**Pn**	**19 10 11.2**	**+0.5**
NLAI				S	**Sn**	**19 10 24.7**	**+1.7**
SANI	**Sanana**	**2.14**	**292**	P	**Pn**	**19 10 26.2**	**-0.7**
SANI				S	**Sn**	**19 10 50.8**	**-1.5**
LBMI	**Labuha**	**2.25**	**348**	P	**Pn**	**19 10 28.4**	**-0.1**
LBMI				S	**Sn**	**19 10 56.6**	**+1.6**
BNDI	**Bandanaira**	**2.54**	**131**	P	**Pn**	**19 10 34.1**	**+1.6**
BNDI				S	**Sn**	**19 11 04.7**	**+2.5**
TNTI	**Ternate**	**3.65**	**350**	P	**Pn**	**19 10 47.7**	**-0.1**
TNTI				S	**Sn**	**19 11 32.2**	**+2.6**
SWI	**Sorong**	**3.83**	**59**	P	**Pn**	**19 10 49.3**	**-0.9**
SWI				S	**Sn**	**19 11 34.3**	**+0.2**
SWI	**Sorong**	**3.83**	**59**	P	**Pn**	**19 10 49.5**	**-0.7**
	baz=4.1,SNR=4.8						
SIJI	**Sorong**	**3.83**	**59**	Pn	**Pn**	**19 10 49.4**	**-0.9**
	18nm,0.3s,baz=238,slow=10,SNR=95						
SIJI				Sn	**Sn**	**19 11 33.6**	**-0.5**
	4.9nm,0.3s,baz=39,slow=22,SNR=16						
FAKI	**Fak Fak**	**4.27**	**91**	P	**Pn**	**19 10 55.4**	**-0.8**
FAKI	**Fak Fak**	**4.27**	**91**	P	**Pn**	**19 10 55.5**	**-0.8**
	baz=4.8,SNR=8.1						
KMSI	**Cibinong**	**5.25**	**310**	P	**Pn**	**19 11 09.3**	**-0.4**
	76nm,1.2s,1.1nm						
KMSI				S	**Sn**	**19 12 07.7**	**-1.3**
	76nm,1.2s,1.1nm						
APSI	**Ampana**	**6.61**	**287**	P	**Pn**	**19 11 29.3**	**+0.9**
	93nm,0.7s,1μm0.4nm						
MRSI	**Marisa**	**6.88**	**299**	P	**Pn**	**19 11 32.7**	**+0.6**
MTN	**Manton Dam**	**10.41**	**163**	P	**Pn**	**19 12 23.5**	**+3.0**
	baz=11,SNR=3.7						
KDU	**Kakadu**	**10.74**	**156**	P	Pn	19 12 31.0	+5.9
	baz=11,SNR=4.1						
WRA	**Warramunga Arr**	**18.09**	**160**	P	**Pn**	**19 14 00.3**	**-2.0**
	0.5nm,0.3s,baz=342,slow=12,SNR=9.5						
WRA				S	**Sn**	**19 17 20.8**	**-2.4**
	0.1nm,0.3s,baz=341,slow=22,SNR=3.1						
ASAR	**Alice Springs**	**21.47**	**165**	P	**P**	**19 14 38.2**	**-1.0**
	2.6nm,0.4s,baz=343,slow=11,SNR=70						
ASAR				S	**S**	**19 18 31.6**	**-3.8**
	1.0nm,1.0s,baz=345,slow=17,SNR=6.7						
STKA	**Stephens Creek**	**31.59**	**158**	P	**P**	**19 16 14.2**	**+1.2**
	0.4nm,0.4s,baz=353,slow=11,SNR=4.1						
MKAR	**Makanchi Array**	**63.67**	**327**	P	**P**	**19 20 21.8**	**+0.5**
	0.3nm,0.7s,baz=115,slow=6.8,SNR=3.8						

MAN 23 19:28:36,8.°43N×125.°69E, h52km, mb4.3, ML3.1, MS2.9, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.71**	**110**	*eP*	Pn	19 28 54.3	+4.3
BIPH				*i* S	Sn	19 29 04.6	+4.5
DMPH	**Davao City--Mi**	**1.34**	**188**	*eP*	Pn	19 28 59.8	+1.3
DMPH				*e*S	Sn	19 29 17.1	+1.8
CTBH	**Cotabato--PC H**	**1.86**	**230**	*i*P	Pn	19 29 06.8	+1.3
TBP	**Tagbilaran**	**2.20**	**305**	*e*P	Pn	19 29 10.9	+0.8
TBP				*e*S	Sn	19 29 37.6	+1.4

*CSEM **23** 19:42:53.3,37.°42N×24.°70W, h5km, ML2.0*
PDA 23 19:42:53.3±0.8, 37.°42N×24.°70W, h5km, MD3.7, ML2.0, Error ellipse: s-maj=8.6km s-min=2.1km az=83.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSMN	**Pico do Norte,**	**0.51**	**216**	*e*P	Pg	19 43 01.9	-1.2
PSMN				*e*S	Sg	19 43 08.5	-1.2
PSMN				A	A	19 43 10.0	
	20nm,0.3s						
PSMN	**Pico do Norte,**	**0.51**	**216**	*e*P	Pg	19 43 01.9	-1.2
PSMN				*e*S	Sg	19 43 08.5	-1.2
BART	**Pico Bartolome**	**0.52**	**314**	*e*P	Pg	19 43 02.2	-1.3
BART				*e*S	Sg	19 43 08.7	-1.6
BART				A	A	19 43 11.2	
	66nm,0.2s						
BART	**Pico Bartolome**	**0.52**	**314**	*e*P	Pg	19 43 02.2	-1.3
BART				*e*S	Sg	19 43 08.7	-1.6
PSMA	**Santa Maria**	**0.54**	**219**	*e*P	Pg	19 43 02.4	-1.4
PSMA				*e*S	Sg	19 43 09.6	-1.2
PSMA				A	A	19 43 11.5	
	19nm,0.1s						
GRON	**Grota Negra**	**0.75**	**298**	*e*S	Sg	19 43 12.4	-5.2
GRON				A	A	19 43 13.5	
	39nm,0.2s						
PDA	**Ponta Delgada**	**0.83**	**294**	*e*P	Pg	19 43 06.9	-2.4
PDA				*e*S	Sg	19 43 17.0	-3.2
PDA				A	A	19 43 17.8	
	107nm,0.1s						
PDA	**Ponta Delgada**	**0.83**	**294**	*e*P	Pg	19 43 06.9	-2.4
PDA				*e*S	Sg	19 43 17.0	-3.2
PSET	**Sete Cidades**	**0.91**	**297**	*e*P	Pg	19 43 08.2	-2.6
PSET				*e*S	Sg	19 43 18.8	-3.9
PSET				A	A	19 43 21.2	
	61nm,0.3s						
PSET	**Sete Cidades**	**0.91**	**297**	*e*P	Pg	19 43 08.2	-2.6
PSET				*e*S	Sg	19 43 18.8	-3.9

GUC 23 19:47:44.9±0.6, 36.°01S×72.°68W, h28km±2km, ML4.3, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.15**	**216**	*i*P	Pb	19 47 50.6	+0.2
COCH				*i* S	Sb	19 47 54.5	+0.3
LNCH	**Linares**	**0.89**	**80**	*i*P	Pn	19 48 01.2	-0.4
LNCH				*i* S	Sn	19 48 13.5	-0.1
CCSP	**San Pedro de C**	**0.90**	**202**	*e*P	Pn	19 48 00.8	-0.8
CCSP				*i* S	Sb	19 48 13.2	-0.4
CCSP				AML	AML	19 48 15.2	
	comp=N,11μm,0.4s						
TALC	**Talca**	**1.05**	**55**	*i*P	Pn	19 48 03.2	-0.5
TALC				*i* S	Sn	19 48 17.4	0.0
NICH	**Los Niches**	**1.55**	**50**	*i*P	Pn	19 48 11.7	+1.0
NICH				*i* S	Sb	19 48 31.3	-0.9
AGCH	**Angol**	**1.80**	**180**	*e*P	Pn	19 48 15.1	+1.1
AGCH				*e*S	Sb	19 48 38.3	-0.9
LNV	**Longovilo**	**2.30**	**27**	*e*P	Pn	19 48 22.3	+1.3
CHCH	**Chadas Angostu**	**2.66**	**39**	*e*P	Pn	19 48 27.7	+1.7
CLCH	**Cerro Calan**	**3.15**	**35**	AML	AML	19 49 26.3	
	comp=E,1μm,0.4s						
PEL	**Peldehue**	**3.30**	**31**	*e*P	Pn	19 48 36.4	+1.6
PEL				*e*S	Sn	19 49 15.0	+1.9
PEL				AML	AML	19 49 31.6	
	comp=N,832nm,0.5s						

IDC 23 19:57:32.8±3.3, 6.°33S×150.°96E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.3/29, mbtmp3.5/3, ML1.7/1, Error ellipse: s-maj=139.8km s-min=41.2km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.85**	**231**	Pn	Pn	19 58 48.5	+1.4
	2.3nm,0.3s,baz=54,slow=9.9,SNR=10						
PMG				Sn	Sn	19 59 40.6	-3.3
	2.8nm,0.3s,baz=222,slow=15,SNR=3.7						
WRA	**Warramunga Arr**	**21.06**	**228**	P	P	20 02 18.2	-0.6
	1.2nm,0.4s,baz=53,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**23.79**	**222**	P	P	20 02 47.1	-0.3
	0.3nm,0.5s,baz=58,slow=9.3,SNR=15						
TORD	**Torodi Ar. Bea**	**148.98**	**285**	PKPbc	PKPbc	20 17 23.5	-0.4
	0.4nm,0.4s,baz=65,slow=3.4,SNR=7.2						

IDC 23 20:04:06.1±3.7, 10.°90S×166.°67E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, Error ellipse: s-maj=164.3km s-min=31.5km az=137.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.38**	**250**	P	P	20 10 38.7	+0.9
	0.2nm,0.4s,baz=80,slow=9.1,SNR=2.9						
ASAR	**Alice Springs**	**33.67**	**244**	P	P	20 10 47.9	-1.1
	0.3nm,0.8s,baz=67,slow=10,SNR=4.5						
ILAR	**Eielson Array**	**83.09**	**18**	P	P	20 16 33.1	-0.2
	1.5nm,0.6s,baz=240,slow=5.3,SNR=21						
MKAR	**Makanchi Array**	**94.03**	**317**	P	P	20 17 26.9	+0.5
	0.3nm,0.5s,baz=104,slow=6.7,SNR=3.6						

IDC 23 20:26:14.0±3.5, 6.°58S×150.°95E, h0km, mb3.1/2, mb1 3.6/3, mb1mx3.3/19, mbtmp3.4/3, ML1.7/1, Error ellipse: s-maj=126.6km s-min=47.1km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.69**	**233**	Pn	Pn	20 27 26.5	+0.4
	2.1nm,0.3s,baz=56,slow=4.6,SNR=8.9						
PMG				Sn	Sn	20 28 14.7	-6.6
	2.4nm,0.3s,baz=342,slow=19,SNR=4.7						
WRA	**Warramunga Arr**	**20.90**	**229**	P	P	20 30 57.3	-0.9
	1.0nm,0.6s,baz=54,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**23.61**	**222**	P	P	20 31 26.9	+0.1
	0.3nm,0.6s,baz=57,slow=8.8,SNR=6.5						
TORD	**Torodi Ar. Bea**	**149.04**	**285**	PKPbc	PKPbc	20 46 05.1	-0.2
	0.2nm,0.6s,baz=68,slow=3.3,SNR=2.1						

*ISCJB **23** 20:46:50.1±1.1,24.°78N±0.°07×123.°17E±0.°04, h18km±10km, mb3.5/6, MS3.1/3, Error ellipse: s-maj=12.1km s-min=5.7km az=171.0*
*JMA **23** 20:46:50.2±0.2,24.°77N×123.°17E, h24km, M3.4*
*IDC **23** 20:47:08.3±7.2,24.°85N×123.°08E, h181km±79km, mb3.1/7, mb1 3.2/8, mb1mx3.0/58, mbtmp3.6/8, MS3.0/4, Ms1 3.1/4, ms1mx2.7/20, Error ellipse: s-maj=32.0km s-min=16.7km az=62.0*

ISC 23 20:46:50.5±1.6, 24.°76N±0.°09×123.°21E±0.°04, h13km±11km, n20, σ1s02/23, mb3.5/6, MS3.0/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.35**	**212**	P	**Pg**	**20 46 57.5**	**0.0**
YOJ				S	**Sg**	**20 47 02.2**	**0.0**
JYNG	**Yonagunijimaku**	**0.39**	**219**	P	**Pg**	**20 46 58.3**	**0.0**
JYNG				*e*S	**Sg**	**20 47 03.7**	**+0.2**
IRIF	**Iriomote-Funau**	**0.63**	**132**	P	**Pg**	**20 47 03.1**	**+0.3**
IRIF				*e*S	**Sb**	**20 47 12.4**	**+0.3**
HATJ	**Hateruma jima**	**0.88**	**142**	P	**Pb**	**20 47 07.5**	**-0.2**
HATJ				*e*S	**Sg**	**20 47 19.3**	**+0.2**
JKRS	**Kuro-shima**	**0.89**	**125**	P	**Pb**	**20 47 07.3**	**-0.5**
JKRS				*e*S	**Sg**	**20 47 19.6**	**+0.2**
JIJ	**Ishigaki jima**	**0.93**	**115**	P	**Pb**	**20 47 07.2**	**-1.3**
JIJ				*e*S	**Sb**	**20 47 20.6**	**-0.2**
JISG	**Ishigakijimahi**	**1.01**	**99**	P	**Pb**	**20 47 08.6**	**-1.3**
JTJ	**Tarama**	**1.36**	**95**	P	**Pn**	**20 47 13.7**	**-1.5**
JIRB	**Irabujima**	**1.78**	**87**	P	**Pn**	**20 47 22.1**	**+1.1**
JIKM	**Ikemajima**	**1.86**	**84**	P	**Pn**	**20 47 22.2**	**+0.2**
JKE	**Kume jima 2**	**3.58**	**63**	P	**Pn**	**20 47 47.8**	**+2.0**
KSRS	**Korea Array**	**13.28**	**17**	P	P	20 50 10.1	+1.6
	0.1nm,0.3s,baz=196,slow=12,SNR=3.7						
KSRS				LR	LR	20 54 53.6	
	comp=Z,24nm,21.0s,baz=190,slow=35						
USRK	**Ussuriysk Ar.**	**20.68**	**18**	P	Pn	20 51 32.5	0.0
	1.4nm,0.8s,baz=189,slow=11,SNR=4.8						
CMAR	**Chiang Mai Arr**	**23.40**	**259**	P	**P**	**20 52 00.2**	**+0.8**
	0.8nm,0.7s,baz=56,slow=6.9,SNR=5.3						
CMAR				LR	LR	21 01 12.6	
	comp=Z,29nm,18.9s,baz=100,slow=36						
SONM	**Songino Array**	**26.61**	**334**	P	**P**	**20 52 29.7**	**+1.0**
	0.9nm,0.7s,baz=148,slow=8.4,SNR=3.8						
PETK	**Petropavlovsk-**	**38.37**	**33**	LR	LR	21 10 18.4	
	comp=Z,26nm,20.1s,baz=259,slow=36						
MKAR	**Makanchi Array**	**39.23**	**315**	P	**P**	**20 54 16.3**	**-2.3**
	0.5nm,0.9s,baz=105,slow=8.9,SNR=4.1						
ZALV	**Zalesovo Beam**	**40.79**	**326**	P	**P**	**20 54 30.8**	**-0.6**
	0.6nm,0.6s,baz=106,slow=7.9,SNR=3.8						
ZALV				LR	LR	21 12 29.9	
	comp=Z,78nm,18.3s,baz=74,slow=37						
WRA	**Warramunga Arr**	**45.73**	**165**	P	**P**	**20 55 11.8**	**+0.2**
	1.3nm,0.9s,baz=347,slow=8.7,SNR=7.7						
ASAR	**Alice Springs**	**49.24**	**167**	P	**P**	**20 55 39.9**	**+0.9**
	1.3nm,1.0s,baz=350,slow=7.5,SNR=3.6						

*IDC **23** 20:50:48.4±2.0,22.°27S×170.°34E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/17, mbtmp3.7/6, ML3.7/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/22, Error ellipse: s-maj=63.6km s-min=25.9km az=153.0*
*ISCJB **23** 20:50:51.2±1.2,22.°3S±0.°2×170.°34E±0.°08, h33km, mb3.7/5, Error ellipse: s-maj=35.6km s-min=9.9km az=176.5*

ISC 23 20:50:52.9±1.5, 22.°3S±0.°3×170.°3E±0.°1, h33km, n11, σ0s51/13, mb3.7/5, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.62**	**273**	Pn	**Pn**	**20 51 46.9**	**+0.1**
	7.1nm,0.3s,baz=90,slow=24,SNR=100						
DZM				Sn	**Sn**	**20 52 29.1**	**+0.6**
	5.0nm,0.3s,baz=90,slow=20,SNR=31						
DZM	**Mont Dzumac**	**3.62**	**273**	*e*P	**Pn**	**20 51 46.7**	**-0.1**
DZM				*e*S	**Sn**	**20 52 28.6**	**+0.2**
NOUC	**Port Laguerre**	**3.75**	**272**	*e*P	**Pn**	**20 51 48.1**	**-0.4**
NOUC				*e*S	**Sn**	**20 52 30.8**	**-0.7**
URZ	**Urewera**	**16.95**	**161**	LR	LR	21 00 39.4	
	comp=Z,69nm,18.2s,baz=277,slow=35						
STKA	**Stephens Creek**	**27.25**	**243**	P	**P**	**20 56 34.

IDC 23 20:56:59.4±3.9, 5.82S×150.41E, h0km, mb3.0/2, mb1 3.3/2, mb1mx3.1/36, mbtmp3.1/2, Error ellipse: s-maj=167.5km s-min=47.4km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.01**	**227**	P	P	21 01 45.1	+0.3
	0.7nm,1.0s,baz=52,slow=11,SNR=4.3						
ASAR	**Alice Springs**	**23.82**	**220**	P	P	21 02 14.2	-0.2
	0.2nm,0.5s,baz=56,slow=9.0,SNR=7.1						
TORD	**Torodi Ar. Bea**	**148.32**	**286**	PKPbc	PKPbc	21 16 48.0	-0.7
	0.2nm,0.5s,baz=85,slow=2.8,SNR=3.3						

IDC 23 21:07:51.0±3.8, 6.49S×150.07E, h0km, mb3.1/2, mb1 3.5/2, mb1mx3.2/24, mbtmp3.2/2, Error ellipse: s-maj=147.3km s-min=47.9km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.09**	**225**	Sn	Sn	21 09 45.7	+2.3
	0.7nm,0.3s,baz=35,slow=16,SNR=2.0						
WRA	**Warramunga Arr**	**20.30**	**227**	P	P	21 12 29.2	+0.5
	0.8nm,0.7s,baz=52,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**23.09**	**221**	P	P	21 12 57.8	-0.8
	0.5nm,0.7s,baz=56,slow=9.3,SNR=6.3						
TORD	**Torodi Ar. Bea**	**148.17**	**284**	PKPbc	PKPbc	21 27 39.6	-0.4
	0.2nm,0.6s,baz=92,slow=3.3,SNR=2.5						

CASC 23 21:16:52.8±1.9, 13.69N×90.74W, h33km±9km, MD3.6, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.55**	**30**	*e*P	Pn	21 17 04.8	+0.2
FUG	**Fuego 3**	**0.76**	**352**	*e*P	Pb	21 17 07.8	-0.1
NBG	**Las Nubes**	**0.96**	**23**	*e*P	Pn	21 17 10.1	-0.3
NBG				*e*S	Sn	21 17 23.6	+0.2
JAT	**Jato**	**1.07**	**305**	*e*P	Pb	21 17 13.2	+0.3
RTR	**El Retiro**	**1.08**	**79**	*e*P	Pn	21 17 12.3	+0.4
RTR				*e*S	Sb	21 17 27.9	+0.7
SBLS	**San Blas**	**1.09**	**82**	*e*P	Pn	21 17 11.7	-0.5
SBLS				*e*S	Sb	21 17 27.1	-0.5
RBDL	**Robledal**	**1.10**	**68**	*e*P	Pn	21 17 11.3	-0.8
SNJE	**San Jose**	**1.11**	**81**	*e*P	Pn	21 17 11.7	-0.6
SNJE				*e*S	Sn	21 17 27.4	+0.7
BOQS	**Boqueron**	**1.42**	**88**	*e*P	Pn	21 17 15.7	-0.9
LFRS	**El Faro**	**1.63**	**92**	*e*P	Pn	21 17 19.2	-0.2
LFRS				*e*S	Sn	21 17 40.5	+1.1
MRL	**Marmol**	**1.70**	**36**	*e*P	Pn	21 17 19.0	-1.4
MRL				*e*S	Sn	21 17 37.7	-3.5

IDC 23 21:36:46.0±3.4, 6.62S×150.91E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.4/19, mbtmp3.6/3, ML1.1/1, Error ellipse: s-maj=126.4km s-min=44.7km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.63**	**233**	Pn	Pn	21 37 57.6	+0.3
	0.6nm,0.3s,baz=8.7,slow=13,SNR=3.2						
PMG				Sn	Sn	21 38 48.1	-3.8
	0.7nm,0.3s,baz=3.5,slow=19,SNR=2.0						
WRA	**Warramunga Arr**	**20.84**	**229**	P	P	21 41 29.0	-0.5
	1.2nm,0.6s,baz=54,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**23.55**	**222**	P	P	21 41 58.0	-0.3
	1.4nm,0.9s,baz=55,slow=8.7,SNR=11						
TORD	**Torodi Ar. Bea**	**149.01**	**284**	PKPbc	PKPbc	21 56 37.1	-0.1
	0.6nm,1.1s,baz=90,slow=2.9,SNR=4.6						

SJA 23 21:42:48.1±1.0, 31.23S×68.39W, h103km±3km, ML3.2, MW3.6, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLL	**Cerro Villicun**	**0.12**	**215**	*e*P	Pn	21 43 03.3	+0.8
RTLL				*e*S	Sn	21 43 14.0	+0.7
AMOG	**MOGNA**	**0.30**	**343**	*e*P	Pn	21 43 04.1	+0.9
AMOG				*e*S	Sn	21 43 14.9	+0.5
SJA	**San Juan**	**0.33**	**205**	*e*P	Pn	21 43 04.2	+0.9
SJA				*e*S	Sn	21 43 14.9	+0.3
CFAA	**Coronel Fontan**	**0.40**	**161**	*e*P	Pn	21 43 04.3	+0.7
CFAA				*e*S	Sn	21 43 16.4	+1.2
RTCV	**Cerro Valdivia**	**0.65**	**191**	*e*P	Pn	21 43 06.2	+0.8
RTCV				*e*S	Sn	21 43 19.2	+0.8
RTLS	**Leoncito**	**0.96**	**233**	*e*P	Pn	21 43 10.0	+1.3
RTLS				*e*S	Sn	21 43 26.6	+2.4
AVFE	**Valle Fertil**	**0.98**	**55**	*e*P	Pn	21 43 09.8	+1.2
AVFE				*e*S	Sn	21 43 25.8	+1.7
AVFE				AML	AML	21 43 26.5	
	comp=Z,369nm,0.3s						
AUSP	**Uspallata**	**1.31**	**220**	*e*P	Pn	21 43 13.8	+1.2
AUSP				*e*S	Sn	21 43 32.5	+1.4
ASAL	**Salagasta**	**1.41**	**195**	*e*P	Pn	21 43 14.8	+1.2
ASAL				*e*S	Sn	21 43 34.9	+2.0
ACAN	**Cantantal**	**1.46**	**136**	*e*P	Pn	21 43 15.6	+1.5
ACAN				*e*S	Sn	21 43 35.1	+1.3
ACHE	**Chepes**	**1.48**	**88**	*e*P	Pn	21 43 15.6	+1.1
ACHE				*e*S	Sn	21 43 35.9	+1.4
ARCO	**CERRO ARCO**	**1.67**	**196**	*e*P	Pn	21 43 17.7	+0.8
ARCO				*e*S	Sn	21 43 40.7	+2.0
APLL	**PUNTA DE LOS L**	**1.81**	**63**	*e*P	Pn	21 43 19.7	+1.3
APLL				*e*S	Sn	21 43 42.8	+1.3
AAGR	**Agrelo**	**1.89**	**191**	*e*P	Pn	21 43 20.7	+1.2
AAGR				*e*S	Sn	21 43 44.0	+0.5
ACLC	**CERRO LA CRUZ**	**2.19**	**35**	*e*P	Pn	21 43 24.1	+0.6
ACLC				*e*S	Sn	21 43 51.7	+1.2
VCA	**Vinchina**	**2.49**	**4**	*e*P	Pn	21 43 28.6	+1.2
VCA				*e*S	Sn	21 43 58.6	+1.2
MRA	**San Martin**	**2.57**	**118**	*e*P	Pn	21 43 29.4	+1.1
MRA				*e*S	Sn	21 43 57.1	-2.1
TCA	**Tanti**	**3.25**	**93**	*e*P	Pn	21 43 38.0	+0.6

CSEM 23 21:48:33.9, 46.79N×6.79E, h2km, ML1.6/12
LDG 23 21:48:33.9±0.1, 46.79N×6.79E, h2km, Md1.9/3, Ml1.6/12, Error ellipse: s-maj=1.5km s-min=0.8km az=92.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CABF	**La Chapelle**	**0.51**	**249**	*e*Pg	Pg	21 48 43.8	-0.1
CABF				*e*Sg	Sg	21 48 50.4	-0.3
	3.5nm,0.3s						
CABF	**La Chapelle**	**0.51**	**249**	*e*Pg	Pg	21 48 43.8	-0.1
CABF				*e*Sg	Sg	21 48 50.4	-0.3
	1.8nm,0.3s						
HINF	**Hinteralfeld**	**1.02**	**3**	*e*Pg	Pg	21 48 53.4	-0.2
HINF				*e*Sg	Sg	21 49 06.4	-0.6
	5.0nm,0.2s						
HINF	**Hinteralfeld**	**1.02**	**3**	*e*Pg	Pg	21 48 53.4	-0.2
HINF				*e*Sg	Sg	21 49 06.4	-0.6
	2.5nm,0.2s						
HAU	**Haudompre**	**1.25**	**346**	*e*Pg	Pg	21 48 57.4	-0.5
HAU				*e*Sg	Sg	21 49 13.5	-0.7
	1.5nm,0.3s						
HAU	**Haudompre**	**1.25**	**346**	*e*Pg	Pg	21 48 57.4	-0.5
HAU				*e*Sg	Sg	21 49 13.5	-0.7
	0.8nm,0.3s						
LPL	**La Plagne**	**1.28**	**182**	*e*Pg	Pg	21 48 58.1	-0.6
LPL				*e*Sg	Sg	21 49 14.7	-0.8
	0.8nm,0.3s						
LPL	**La Plagne**	**1.28**	**182**	*e*Pg	Pg	21 48 58.1	-0.6
LPL				*e*Sg	Sg	21 49 14.7	-0.8
	0.4nm,0.3s						
LPG	**La Plagne**	**1.30**	**181**	*e*Pg	Pg	21 48 58.5	-0.7
LPG				*e*Sg	Sg	21 49 15.3	-1.0
	0.6nm,0.2s						
LPG	**La Plagne**	**1.30**	**181**	*e*Pg	Pg	21 48 58.5	-0.7
LPG				*e*Sg	Sg	21 49 15.3	-1.0
	0.3nm,0.2s						
CDF	**Champ du Feu**	**1.65**	**11**	*e*Pg	Pn	21 49 04.5	+0.4
CDF				*e*Sg	Sn	21 49 26.1	+0.1
	0.8nm,0.3s						
CDF	**Champ du Feu**	**1.65**	**11**	*e*Pg	Pn	21 49 04.5	+0.4
CDF				*e*Sg	Sn	21 49 26.1	+0.1
	0.4nm,0.3s						
SFTF	**Sexfontaines**	**1.84**	**321**	*e*Pn	Pn	21 49 04.9	-1.7
	baz=135						
SFTF				*e*Sg	Sb	21 49 31.9	0.0
	1.1nm,0.2s,baz=143						
SFTF	**Sexfontaines**	**1.84**	**321**	*e*Pn	Pn	21 49 04.9	-1.7
SFTF				*e*Sg	Sb	21 49 31.9	0.0
	0.6nm,0.2s						
PAGF	**Fort de Pagny**	**1.90**	**338**	*e*Pn	Pn	21 49 05.7	-1.7
PAGF				*e*Sg	Sb	21 49 33.8	+0.2
	0.1nm,0.2s,baz=156						
PAGF	**Fort de Pagny**	**1.90**	**338**	*e*Pn	Pn	21 49 05.7	-1.7
PAGF				*e*Sg	Sb	21 49 33.8	+0.2
	0.1nm,0.2s						
LOR	**Lormes**	**2.06**	**284**	*e*Pn	Pn	21 49 07.8	-1.7
	baz=104						
LOR				*e*Sg	Sb	21 49 38.6	+0.5
	0.9nm,0.3s,baz=114						
LOR	**Lormes**	**2.06**	**284**	*e*Pn	Pn	21 49 07.8	-1.7
LOR				*e*Sg	Sb	21 49 38.6	+0.5
	0.4nm,0.3s						
MEZF	**Maizieres J'vi**	**2.07**	**326**	*e*Pn	Pn	21 49 07.9	-1.8
MEZF				*e*Sg	Sb	21 49 39.1	+0.7
	1.7nm,0.3s,baz=143						
MEZF	**Maizieres J'vi**	**2.07**	**326**	*e*Pn	Pn	21 49 07.9	-1.8
MEZF				*e*Sg	Sb	21 49 39.1	+0.7
	0.9nm,0.3s						
SSF	**Saint Saulge**	**2.26**	**278**	*e*Pn	Pn	21 49 10.6	-1.7
SSF				*e*Sn	Sn	21 49 37.4	-3.4
	0.1nm,0.2s						
SSF	**Saint Saulge**	**2.26**	**278**	*e*Pn	Pn	21 49 10.6	-1.7
SSF				*e*Sn	Sn	21 49 37.4	-3.4
	0.1nm,0.2s						

CSEM 23 21:49:03.8, 43.31N×12.38E, h8km, MD2.2/14
ROM 23 21:49:03.8±0.1, 43.31N×12.38E, h8km, Md2.2/14, Ml1.7/14, 4C, Error ellipse: s-maj=0.7km s-min=0.6km az=18.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATVO	**AVT- Monte Val**	**0.07**	**18**	*i*Pg	Pg	21 49 06.2	+0.3
ATVO				Sg	Sg	21 49 07.6	+0.1
	436nm,0.2s						
ATVO	**AVT- Monte Val**	**0.07**	**18**	*i*Pg	Pg	21 49 06.2	+0.3
ATVO				Sg	Sg	21 49 07.6	+0.1
	436nm,0.2s						
MURB	**Monte Urbino**	**0.12**	**115**	*i*Pg	Pg	21 49 07.0	+0.4
MURB				Sg	Sg	21 49 09.5	+0.9
	3µm,0.2s						
MURB	**Monte Urbino**	**0.12**	**115**	*i*Pg	Pg	21 49 07.0	+0.4
MURB				Sg	Sg	21 49 09.5	+0.9
	3µm,0.2s						
ATPI	**Pietralunga -**	**0.14**	**8**	Pg	Pg	21 49 07.4	+0.4
ATPI				Sg	Sg	21 49 10.0	+0.9
	207nm,0.3s						
ATPI	**Pietralunga -**	**0.14**	**8**	Pg	Pg	21 49 07.4	+0.4
ATPI				Sg	Sg	21 49 10.0	+0.9
	207nm,0.3s						
ATFO	**Monte Foce - G**	**0.15**	**69**	Pg	Pg	21 49 07.6	+0.4
ATFO				Sg	Sg	21 49 10.5	+0.9
	269nm,0.4s						
ATFO	**Monte Foce - G**	**0.15**	**69**	Pg	Pg	21 49 07.6	+0.4
ATFO				Sg	Sg	21 49 10.5	+0.9
	269nm,0.4s						
ATPC	**Poggio Castell**	**0.18**	**20**	Pg	Pg	21 49 08.3	+0.7
ATPC				Sg	Sg	21 49 11.5	+1.3
	352nm,0.3s						
ATPC	**Poggio Castell**	**0.18**	**20**	Pg	Pg	21 49 08.3	+0.7
ATPC				Sg	Sg	21 49 11.5	+1.3
	352nm,0.3s						
BADI	**Badiali**	**0.22**	**334**	Pg	Pg	21 49 09.1	+0.8
BADI				Sg	Sg	21 49 13.2	+1.8
	93nm,0.2s						
BADI	**Badiali**	**0.22**	**334**	Pg	Pg	21 49 09.1	+0.8
BADI				Sg	Sg	21 49 13.2	+1.8
	93nm,0.2s						
PIEI	**Pieia**	**0.25**	**28**	Pg	Pg	21 49 09.5	+0.5
PIEI				Sg	Sb	21 49 13.9	-1.4
	144nm,0.3s						
PIEI	**Pieia**	**0.25**	**28**	Pg	Pg	21 49 09.5	+0.5
PIEI				Sg	Sb	21 49 13.9	-1.4
	144nm,0.3s						
CAFI	**Castiglion Fio**	**0.30**	**273**	Pg	Pb	21 49 10.7	-0.8
CAFI				Sg	Sb	21 49 15.4	-1.2
CAFI	**Castiglion Fio**	**0.30**	**273**	Pg	Pb	21 49 10.7	-0.8
CAFI				Sg	Sb	21 49 15.4	-1.2
PARC	**Parchiule**	**0.35**	**344**	Pg	Pb	21 49 11.6	-0.7
PARC				Sg	Sb	21 49 17.3	-0.8
	39nm,0.3s						
PARC	**Parchiule**	**0.35**	**344**	Pg	Pb	21 49 11.6	-0.7
PARC				Sg	Sb	21 49 17.3	-0.8
	39nm,0.3s						
SNTG	**Esanatoglia**	**0.42**	**98**	Pg	Pg	21 49 12.3	+0.3
SNTG				Sg	Sb	21 49 19.0	-1.0
	75nm,0.3s						
SNTG	**Esanatoglia**	**0.42**	**98**	Pg	Pg	21 49 12.3	+0.3
SNTG				Sg	Sb	21 49 19.0	-1.0
	75nm,0.3s						
CRE	**Caprese Michel**	**0.43**	**315**	Pg	Pg	21 49 13.0	+0.5
	16nm,0.3s						
CRE	**Caprese Michel**	**0.43**	**315**	Pg	Pg	21 49 13.0	+0.5
	16nm,0.3s						
MGAB	**Montegabbione**	**0.44**	**206**	Pg	Pg	21 49 13.1	+0.6
MGAB				Sg	Sb	21 49 20.6	-0.1
	110nm,0.3s						
MGAB	**Montegabbione**	**0.44**	**206**	Pg	Pg	21 49 13.1	+0.6
MGAB				Sg	Sb	21 49 20.6	-0.1
	110nm,0.3s						
ARVD	**Arcevia**	**0.45**	**66**	Pg	Pg	21 49 13.0	+0.3
ARVD				Sg	Sb	21 49 20.4	-0.6
	21nm,0.4s						
ARVD	**Arcevia**	**0.45**	**66**	Pg	Pg	21 49 13.0	+0.3
ARVD				Sg	Sb	21 49 20.4	-0.6
	21nm,0.4s						
FSSB	**Fossombrone**	**0.48**	**38**	Pg	Pg	21 49 13.6	+0.4
FSSB				Sg	Sb	21 49 21.4	-0.4
	74nm,0.3s						
FSSB	**Fossombrone**	**0.48**	**38**	Pg	Pg	21 49 13.6	+0.4
FSSB				Sg	Sb	21 49 21.4	-0.4
	74nm,0.3s						
CESI	**CESI - Serrava**	**0.49**	**128**	Pg	Pg	21 49 13.9	+0.4
CESI				Sg	Sb	21 49 22.0	-0.3
	9.0nm,0.3s						
CESI	**CESI - Serrava**	**0.49**	**128**	Pg	Pg	21 49 13.9	+0.4
CESI				Sg	Sb	21 49 22.0	-0.3
	9.0nm,0.3s						
NRCA	**Norcia**	**0.72**	**131**	Pg	Pg	21 49 17.6	-0.3
NRCA				Sg	Sb	21 49 28.8	-0.1
	18nm,0.2s						
NRCA	**Norcia**	**0.72**	**131**	Pg	Pg	21 49 17.6	-0.3
NRCA				Sg	Sb	21 49 28.8	-0.1
	18nm,0.2s						

FUNV 23 21:50:57.2, 6.80N×73.01W, h160km, MW3.5, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.27**	**33**	*i*P	Pn	21 51 24.5	-1.0
CAPV				*e*S	Sn	21 51 44.9	-2.5
SOCV	**Socops**	**2.60**	**55**	*e*P	Pn	21 51 39.3	-0.8
SOCV				*e*S	Sn	21 52 10.9	-2.4
VIGV	**El Vigia**	**2.61**	**39**	*e*P	Pn	21 51 39.2	-1.0
VIGV				*e*S	Sn	21 52 09.7	-3.8
ELOV	**Elorza**	**3.51**	**86**	*e*P	Pn	21 51 50.5	-1.0
SANV	**Sanarito**	**4.37**	**52**	*e*P	Pn	21 52 01.1	-1.6
CURV	**Curarigua**	**4.40**	**43**	*e*P	Pn	21 52 01.7	-1.3
CURV				*e*S	Sn	21 52 49.5	-4.9
DABV	**Dabajuro**	**4.72**	**30**	*e*P	Pn	21 52 06.0	-1.2
BAUV	**El Baul**	**5.37**	**66**	*e*P	Pn	21 52 13.2	-2.5
BAUV				*e*S	Sn	21 53 09.6	-7.4
MAPV	**Macapo**	**5.42**	**56**	*e*P	Pn	21 52 14.9	-1.5
MONV	**Montecano**	**5.94**	**30**	*e*P	Pn	21 52 20.4	-2.8

MEX 23 22:07:10.6±0.4, 17.39N×101.76W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.35**	**52**	*i*P	Pg	22 07 16.9	-0.5
ZIIG				*i*S	Sg	22 07 22.2	+0.2
CAIG	**El Cayaco**	**1.46**	**103**	*e*P	Pn	22 07 33.9	-3.8
CAIG				*e*S	Sn	22 07 52.2	-5.0
ARIG	**Puente Sto Nin**	**1.61**	**56**	*e*P	Pn	22 07 36.4	-3.4
ARIG				*i*S	Sn	22 07 55.8	-5.1

BJI 23 22:08:04.7, 6.18N×123.80E, h599km, mb6.3/77, mB6.6/64
MOS 23 22:08:09.9±0.9, 6.70N×123.43E, h611km, mb6.3/86, Error ellipse: s-maj=6.6km s-min=3.9km az=115.9
SZGRF 23 22:08:10.6, 6.83N×124.97E, h617km, Mindanao, Philippine Islands
NEIC 23 22:08:11.0±0.0, 6.69N×123.45E, h603km Best double couple: NP1:ϕs21.00000°, δ78.00000°, λ-106.00000°. NP2:ϕs257.00000°, δ20.00000°, λ-34.00000°. Principal axes: T 1.0200, Plg30.0000°, Azm125.0000°; N 0.0300, Plg16.0000°, Azm24.0000°; P -1.0500, Plg53.0000°, Azm270.0000°;
GCMT 23 22:08:11.2±0.2, 6.54N×123.59E, h597km±1km, MW7.3/138, Moment Tensor Solution. s138,c386; s116,c262; Duration: 11s0 Moment tensor: Scale 10²⁰ Nm; Mrr-0.39±.01; Mθθ0.32±.01; Mϕϕ0.07±.01; Mrθ-0.32±.01; Mrϕ0.32±.01; Mθr-0.99±.01; Best double couple: M₀1.14500×10²⁰ NP1:ϕs22.00000°, δ80.00000°, λ-106.00000°. NP2:ϕs263.00000°, δ19.00000°, λ-31.00000°. Principal axes: T 1.1100, Plg33.0000°, Azm126.0000°; N 0.0700, Plg16.0000°, Azm25.0000°; P -1.1800, Plg52.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to mantle waves, cutoff=150s.
DJA 23 22:08:11.5±0.2, 7.7N±2.2×12.4E±.1°, h617km±2km, M6.9/158, mb6.8/158, mB7.0/153, MLv7.6/12, Mw(mB)6.9/153, Mwp6.7/125
IDC 23 22:08:11.1±0.3, 6.74N×123.45E, h607km±3km, mb5.7/43, mb1 5.8/47, mb1mx5.8/48, mbtmp6.6/47, Error ellipse: s-maj=5.5km s-min=4.1km az=76.0
ISCJB 23 22:08:11.1±0.1, 6.70N±0.01×123.47E±0.01, h625km±1km, mb6.4/310, Error ellipse: s-maj=2.2km s-min=1.7km az=158.0
NEIC 23 22:08:11.2±0.1, 6.72N×123.41E, mb6.3/169, ME6.6, MW7.3, MW7.3, MW7.3, Error ellipse: s-maj=3.0km s-min=2.7km az=94.0 Best double couple: NP1: ϕs24.00000°, δ78.00000°, λ-100.00000°. NP2: ϕs244.00000°, δ15.00000°, λ-51.00000°. Principal axes: T 1.0800, Plg32.0000°, Azm121.0000°; N -0.0300, Plg9.0000°, Azm25.0000°; P -1.0500, Plg55.0000°, Azm281.0000°; Broadband fault plane solution: P waves. NP1:ϕs250.00000°, δ14.00000°, λ-45.00000°. NP2: ϕs25.00000°, δ80.00000°, λ-100.00000°. Principal axes: T Plg34.0000°, Azm124.0000°; N Plg0.0000° Azm0.0000°; P Plg54.0000°, Azm283.0000°; Two events about 10 seconds apart. Depth from broadband displacement seismograms based on first event. Energy computed from BB mechanism.
NEIC Felt [II PIVS] at Butuan, Cagayan de Oro, Cotabato, General Santos, Lingig, Socorro and Surigao; [I PIVS] at Lanuza. Also felt at Alabel, Davao, Kadingilan, Panabo and Puricay. Felt on Bohol and Leyte and at Manila, Luzon. Also felt on Pulau Ternate, Indonesia.
KLM 23 22:08:11.8, 6.76N×123.53E, h633km, mb7.2, ML7.0, MS7.8
MAN 23 22:08:12, 6.84N×123.54E, h598km, mb6.8, ML5.9, MS6.9
MAN INTENSITY II - SURIGAO CITY GENERAL SANTOS CITY; BUTUAN CITY CAGAYAN DE ORO CITY LINGIG SURIGAO DEL SUR; SOCORRO.
NEIC 23 22:08:30.5±0.0, 6.53N×123.67E, h606km Best double couple: NP1:ϕs260.00000°, δ18.00000°, λ-32.00000°. NP2:ϕs22.00000°, δ80.00000°, λ-104.00000°. Principal axes: T 1.0700, Plg33.0000°, Azm125.0000°; N 0.0500, Plg14.0000°, Azm24.0000°; P -1.1200, Plg52.0000°, Azm274.0000°;

ISC 23 22:08:11.2±0.2, 6.71N±0.02×123.49E±0.02, h610km±1km, h611km:pP-P, n2456, σ1s52/3101, mb6.4/331, 107C-159D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.91**	**56**	↓*i*P	P	**22 09 23.4**	**+0.2**
IPIL	**Ipil**	**1.40**	**320**	↑*e*P	P	**22 09 24.7**	**+0.3**
GSPH	**General Santos**	**1.58**	**113**	*e*P	P	**22 09 24.9**	**-0.3**
GSPH				*e*S	S	**22 10 30.8**	**+5.6**
DCPH	**Dipolog City**	**1.86**	**356**	↑*e*P	P	**22 09 26.0**	**0.0**
DCPH				*e*S	S	**22 10 27.8**	**+1.0**
DMPH	**Davao City--Mi**	**2.04**	**79**	↓*e*P	P	**22 09 26.8**	**+0.1**
DMPH				*e*S	S	**22 10 31.1**	**+3.1**
DAV	**Davao City (W)**	**2.11**	**80**	↑*e*P	P	22 09 19.9	-7.0
DAV				↑*i*S	S	**22 10 33.8**	**+5.4**
DAV	**Davao City (W)**	**2.11**	**80**	*e*P	P	**22 09 26.8**	**-0.1**
TBP	**Tagbilaran**	**2.98**	**7**	↓*e*P	P	**22 09 30.8**	**-0.4**
TBP				*e*S	S	**22 10 38.0**	**+1.7**
BIPH	**Bislig**	**3.20**	**63**	↓*i*P	P	22 09 36.2	+3.8
BIPH				*i*S	S	**22 10 40.5**	**+2.0**
SGSI	**Sangihe**	**3.63**	**146**	P	P	**22 09 33.9**	**-1.2**
SGSI				S	S	**22 10 43.6**	**+0.3**
JAP	**San Jose, Anti**	**4.29**	**339**	↑*e*P	P	**22 09 42.0**	**+2.6**
PLP	**Palo**	**4.66**	**18**	↑*i*P	P	**22 09 41.8**	**-0.4**
PLP				*e*S	S	**22 10 54.4**	**-2.0**
KALP	**Kalibo**	**5.06**	**347**	*e*P	P	**22 09 46.9**	**+1.6**
MYLDM	**Lahad Datu**	**5.19**	**253**	↓P	P	**22 09 49.1**	**+2.9**
MYLDM	**Lahad Datu**	**5.19**	**253**	↓P	P	**22 09 49.1**	**+2.9**
MYLDM	**Lahad Datu**	**5.19**	**253**	*e*P	P	**22 09 48.1**	**+1.9**
PPR	**Puerto Princes**	**5.61**	**303**	↓*i*P	P	**22 09 50.9**	**+1.2**
TSM	**Tawau**	**6.08**	**247**	↑P	P	**22 09 54.2**	**+0.5**
TSM	**Tawau**	**6.08**	**247**	↑P	P	**22 09 54.2**	**+0.5**
KMSI	**Cibinong**	**6.12**	**175**	P	P	**22 09 56.3**	**+2.3**
	93µm,1.2s,753µm606µm1µm						
KMSI				S	S	**22 11 21.8**	**+3.9**
	93µm,1.2s,753µm606µm1µm						
TOLI	**Toli-Toli**	**6.17**	**206**	*e*P	P	**22 09 54.3**	**-0.1**
SDKM	**Sandakan**	**6.35**	**261**	↓P	P	**22 09 57.1**	**+1.1**
SDKM	**Sandakan**	**6.35**	**261**	↓P	P	**22 09 57.1**	**+1.1**
MRSI	**Marisa**	**6.38**	**194**	P	P	**22 09 57.1**	**+0.8**
	16µm,0.7s,162µm419µm72nm						
MRSI				S	S	**22 11 25.2**	**+3.1**
	16µm,0.7s,162µm419µm72nm						
KDM	**Kudat**	**6.61**	**272**	↑P	P	**22 09 58.8**	**+0.5**
KDM	**Kudat**	**6.61**	**272**	↑P	P	**22 09 58.8**	**+0.5**
PVCP	**Virac**	**6.87**	**5**	↓*e*P	P	**22 10 00.9**	**+0.3**
PVCP				*e*S	S	**22 11 28.0**	**-2.0**
TNTI	**Ternate**	**7.06**	**147**	P	P	**22 10 01.8**	**-0.5**
	90µm,1.3s,2µm						
TNTI	**Ternate**	**7.06**	**147**	*e*P	P	**22 10 02.9**	**+0.6**
TNTI				*e*S	S	**22 11 32.7**	**-0.4**
GQP	**Guinayangan**	**7.22**	**352**	↑*e*P	P	**22 10 03.9**	**+0.2**
KKM	**Kota Kinabalu**	**7.26**	**265**	↓P	P	**22 10 04.2**	**0.0**
	baz

SANI S S 22 12 05.3 -2.1
27µm,0.7s,424µm367µm

BCPH Baguio City Da 10.02 344⇑ iP P 22 10 29.1 -1.5
BCPH i S S 22 12 25.8 +0.8
27µm,0.7s,424µm367µm

BKB Balikpapan 10.29 220 P P 22 10 34.1 +0.9
BKB S S 22 12 33.2 +3.5
9µm,0.8s,107µm312µm

PALP Palanan 10.34 354⇑ eP P 22 10 35.0 +1.5
TTSI Tana Toraja 10.36 201 P P 22 10 33.3 -0.5
TTSI S S 22 12 34.3 +3.5
11µm,0.9s,91µm89µm

NLAI Namlea 10.52 160 P P 22 10 37.3 +1.9
SWI Kendari 10.63 185 P P 22 10 36.1 -0.5
SWI Sorong 10.81 134 P P 22 10 38.8 +0.6
SWI S S 22 12 40.5 +1.6
17µm,0.8s,178µm942µm

SWI Sorong 10.81 134 P P 22 10 38.9 +0.6
SIJI Sorong 10.81 134 P P 22 10 38.5 +0.1
SIJI S S 22 12 31.4 -7.7
48nm,0.3s,baz=306,slow=16,SNR=1.6

PALU Palau 10.92 86 ⇓P P 22 10 39.4 0.0
BTM Bintulu 10.94 252 ⇓P P 22 10 40.5 +1.0
BTM Bintulu 10.94 252 ⇓P P 22 10 40.5 +1.0
I39PW PALAU INFRASON11.01 85 P P 22 10 41.5 +1.2
SZP Santa 11.17 345 eP P 22 10 41.0 -0.8
SZP eS S 22 12 45.8 +0.5
SPSI Sidrap Palu 11.24 199 P P 22 10 41.3 -1.2
SPSI S S 22 12 50.7 +4.1
5µm,0.9s,51µm81µm

AAI Ambon 11.35 155 P P 22 10 44.5 +0.8
MTKI Muara Teweh, K 11.46 229 S S 22 12 53.8 +3.1
SBUM Sibu 12.00 250 ⇑P P 22 10 53.6 +3.5
SBUM Sibu 12.00 250 ⇑P P 22 10 53.6 +3.5
SBUM Sibu 12.00 250 eP P 22 10 52.5 +2.5
KAPI Kappang 12.23 198 P P 22 10 52.5 +0.2
KAPI Kappang 12.23 198 P P 22 10 51.5 -0.8
KAPI S S 22 12 59.5 -5.1
KAPI Kappang 12.23 198 eP P 22 10 51.0 -1.3
KAPI S S 22 12 59.5 -5.1
KAPI eS S 22 13 09.0 +4.4
BKSI Bulukumba 12.42 196 P P 22 10 52.8 -1.4
BKSI S S 22 13 10.9 +2.9
2µm,1.3s,21µm108µm

BNDI Bandanaira 12.87 150 P P 22 10 59.0 +0.3
BNDI S S 22 13 19.1 +3.0
104µm,1.1s,961µm

FAKI Fak Fak 12.96 137 P P 22 11 00.2 +0.6
FAKI S S 22 13 19.1 +1.2
58µm,0.8s,632µm896µm

FAKI Fak Fak 12.96 137 ⇓P P 22 10 59.9 +0.2
FAKI Fak Fak 12.96 137 eP P 22 10 59.8 +0.1
FAKI eS S 22 13 14.4 -3.4
BSSI Bau Bau, Buton 13.11 193 P P 22 11 00.1 -1.0
BSSI S S 22 13 22.8 +2.2
5µm,0.9s,44µm148µm

RKPI Ransiki, Papua 13.44 127 P P 22 11 04.6 +0.2
RKPI S S 22 13 28.6 +2.3
40µm,0.8s,368µm746µm

STKI Sintang 13.68 242 P P 22 11 08.1 +1.3
STKI S S 22 13 34.2 +3.7
9µm,1.5s,126µm291µm

KSM Kuching 14.13 249 ⇑P P 22 11 11.8 +0.6
KSM Kuching 14.13 249 ⇑P P 22 11 12.7 +1.5
KSM Kuching 14.13 249 ⇑P P 22 11 12.7 +1.5
KSM Kuching 14.13 249 eP P 22 11 11.1 -0.1
KSM eS S 22 13 40.8 +2.6
PBKI Pangkalan Bun 15.05 232 P P 22 11 20.3 +0.7
MMRI Maumere 15.30 185 P P 22 11 22.9 +1.1
MMRI S S 22 14 01.4 +4.2
30µm,1.2s,418µm522µm

MMRI Maumere 15.30 185 eP P 22 11 23.2 +1.5
MMRI eS S 22 13 56.0 -1.1
DLV T Lat 15.69 290 eP P 22 11 26.3 +0.7
DLV eS S 22 14 06.9 +3.0
TWG Pinlang 16.18 352 eP P 22 11 28.9 -0.9
TWG eS S 22 14 12.4 +0.9
SOEI Soe 16.38 177 P P 22 11 31.7 -0.1
SOEI S S 22 14 14.5 -0.6
30µm,1.1s,237µm597µm

SOEI Soe 16.38 177 ⇑P P 22 11 31.2 -0.6
SOEI Soe 16.38 177 eP P 22 11 32.3 +0.5
SOEI eS S 22 14 16.0 +0.9
BWJI Bawean 16.51 221 P P 22 11 34.7 +1.8
SAUI Saumlaki 16.55 152 P P 22 11 33.0 -0.2
SAUI S S 22 14 17.6 0.0
48µm,0.8s,463µm

SAUI Saumlaki 16.55 152 eP P 22 11 33.8 +0.6
SAUI eS S 22 14 15.9 -1.7
WSI Waingapu 16.58 191 P P 22 11 31.1 -2.4
WSI S S 22 14 18.3 +0.2
15µm,1.2s,164µm280µm

WSI Waingapu 16.58 191 P P 22 11 32.5 -1.1
KMMI Kalianget 16.65 215 P P 22 11 35.2 +1.1
KMMI S S 22 14 23.2 +3.9
9µm,1.2s,74µm340µm

YULB Yu-li 16.72 353 eP P 22 11 34.4 -0.3
YULB eS S 22 14 24.5 +4.3
SRBI Singaraja 16.86 209 P P 22 11 35.5 -0.6
ABJI Asem Bagus 17.11 213 P P 22 11 39.9 +1.5
SSLB Suanglung 17.15 352 eP P 22 11 38.5 -0.2
SSLB eS S 22 14 30.4 +3.1
DNP Denpasar 17.37 208 P P 22 11 43.2 +2.4
DNP S S 22 14 31.8 +0.8
12µm,1.1s,139µm

BLJI Banyuglugur 17.42 215 P P 22 11 41.9 +0.7
GRJI Gresik 17.43 219 P P 22 11 42.3 +1.0
NACB Ninganchiao 17.46 354 eP P 22 11 41.3 -0.1
NACB eS S 22 14 34.5 +2.3
SMPI Sarmi 17.48 119 P P 22 11 42.3 +0.5
SMPI S S 22 14 32.5 -0.4
14µm,1.1s,218µm

IGBI Denpasar 17.52 208 P P 22 11 43.4 +1.2
IGBI S S 22 14 31.8 -1.7
10µm,1.1s,88µm86µm

YOJ Yonaguni jima 17.66 359 eP P 22 11 44.5 +1.3
YOJ pmax pmax 22 45 19.4
comp=Z,3µm,0.7s

YOJ Yonaguni jima 17.66 359 eP P 22 11 44.5 +1.3
comp=Z,3µm,0.7s

TBJI Tambak Boyo 17.76 221 P P 22 11 45.8 +1.5
comp=Z,5µm,1.0s,comp=Z,71µmcomp=Z,248µm

HKC Hong Kong Obse 17.92 331 ⇓ iP P 22 11 47.0 +1.4

YHNB Yeheng 17.97 354 eP P 22 11 46.2 +0.1
comp=Z,2µm,0.7s

YHNB eS S 22 14 41.4 +0.7
QIZ Qiongzhong 18.06 314 P P 22 11 47.3 +0.3
QIZ S S 22 14 44.3 +2.2
QIZ PMZ
comp=Z,9µm,7.9s

QIZ Qiongzhong 18.06 314 eP P 22 11 47.5 +0.5
comp=Z,2µm,1.0s

TATO Taipei 18.26 354 eP P 22 11 48.1 -0.6
comp=Z,1µm,0.8s

TATO eS S 22 14 45.2 0.0
NGJI Ngawi 18.43 221 P P 22 11 53.5 +3.1
comp=Z,5µm,1.3s,comp=Z,71µmcomp=Z,376µm

PWJI Pagerwojo 18.71 219 P P 22 11 53.5 +0.6
comp=Z,3µm,1.0s,comp=Z,41µmcomp=Z,214µm

PWJI S S 22 14 57.2 +4.6
comp=Z,3µm,1.0s,comp=Z,41µmcomp=Z,214µm

QZH Quanzhou 18.73 346 ⇓ iP P
QZH sP sP 22 14 17.0 -6.6
QZH S S 22 14 53.0 +0.4
QZH ScS ScS 22 22 10.0 -0.4
QZH PMZ
comp=Z,2µm,0.8s

SMRI Semarang 18.88 224 P P 22 11 56.1 +1.6
comp=Z,7µm,1.3s,comp=Z,88µmcomp=Z,427µm

SMRI Semarang 18.88 224 ⇑P P 22 11 55.6 +1.1
baz=19,SNR=34

SMRI Semarang 18.88 224 eP P 22 11 55.8 +1.3
comp=Z,9µm,1.2s

GZH Guangzhou 18.99 330 P P 22 11 59.1 +3.8
GZH sP sP 22 14 24.0 -2.5
GZH S S 22 15 02.6 +5.8
GZH PMZ
comp=Z,18µm,5.5s

GENI Genyem 19.04 119 P P 22 11 55.9 -0.1
comp=Z,35µm,1.0s,comp=Z,360µmcomp=Z,767µm

GENI S S 22 14 58.5 +0.5
comp=Z,35µm,1.0s,comp=Z,360µmcomp=Z,767µm

PPBI Pangkal Pinang 19.43 244 P P 22 12 00.2 +0.7
comp=Z,2µm,1.0s,comp=Z,29µmcomp=Z,282µm

UGM Wanagama 19.45 222 P P 22 12 00.7 +1.1
comp=Z,6µm,1.0s,comp=Z,63µmcomp=Z,349µm

UGM Wanagama 19.45 222 ⇑P P 22 12 00.0 +0.3
baz=19,SNR=43

UGM Wanagama 19.45 222 eP P 22 12 00.8 +1.1
comp=Z,5µm,1.0s

JAY Jayapura 19.48 118 P P 22 11 59.4 -0.6
comp=Z,7µm,0.7s,comp=Z,75µm

JAY Jayapura 19.48 118 P P 22 12 00.0 0.0
comp=Z,333nm,0.3s,baz=290,slow=7.0,SNR=1134

JAY ScP ScP 22 18 31.0 +0.6
comp=Z,5.7nm,0.3s,baz=253,slow=3.1,SNR=6.6

JAY Jayapura 19.48 118 ⇑P P 22 11 60.0 0.0
baz=20,SNR=1000

UBPT Khong Chiam 19.61 297 P P 22 12 01.3 +0.2
comp=Z,3µm,1.2s,comp=Z,38µm

JCJI Jatiwangi 20.06 229 P P 22 12 08.3 +3.1
comp=Z,10µm,1.4s,comp=Z,91µmcomp=Z,528µm

DSRI Dabo 20.18 250 P P 22 12 07.5 +1.2
MYKOM Kota Tinggi 20.18 257 ⇓P P 22 12 07.7 +1.4
MYKOM Kota Tinggi 20.18 257 ⇓P P 22 12 07.7 +1.4
MYKOM Kota Tinggi 20.18 257 eP P 22 12 07.0 +0.7
comp=Z,17µm,1.7s

KTGM Kuala Trenggan 20.29 267 ⇓P P 22 12 08.6 +1.3
KTGM Kuala Trenggan 20.29 267 ⇓P P 22 12 08.6 +1.3
BTDF Bukit Timah Da 20.36 256 P P 22 12 08.3 +0.3
baz=20,SNR=212

BTDF P P 22 12 08.3 +0.3
baz=20,SNR=212

JOW Kunigami 20.52 12 eP P 22 12 09.7 +0.6
comp=Z,603nm,0.8s

KGM Kluang 20.64 258 ⇑P P 22 12 11.4 +1.0
KGM Kluang 20.64 258 ⇑P P 22 12 11.4 +1.0
LEM Lembang 20.77 230 P P 22 12 13.2 +1.4
comp=Z,7µm,1.2s,comp=Z,86µmcomp=Z,460µm

LEM S S 22 15 28.6 +2.9
comp=Z,7µm,1.2s,comp=Z,86µmcomp=Z,460µm

LEM Lembang 20.77 230 P P 22 12 11.6 -0.2
comp=Z,1µm,0.9s,baz=73,slow=8.5,SNR=106

LEM S S 22 15 26.5 +0.8
comp=Z,629nm,0.8s,baz=37,slow=20,SNR=1.9

LEM ScP ScP 22 18 34.5 +0.8
comp=Z,734nm,1.0s,baz=120,slow=2.4,SNR=3.1

LEM Lembang 20.77 230 P P 22 12 13.1 +1.3
baz=21,SNR=69

LEM Lembang 20.77 230 ⇓P P 22 12 12.8 +1.0
CMJI Cimerak 20.79 226 P P 22 12 10.1 -1.6
comp=Z,3µm,0.7s,comp=Z,25µmcomp=Z,237µm

CMJI S S 22 15 22.4 -3.2
comp=Z,3µm,0.7s,comp=Z,25µmcomp=Z,237µm

MTN Manton Dam 20.86 159 ⇑P P 22 12 11.3 -1.0
baz=21,SNR=1000

PMBI Palembang 20.99 243 P P 22 12 15.8 +2.2
comp=Z,5µm,1.0s,comp=Z,94µmcomp=Z,483µm

CISI Cisompet, Garu 21.10 228 P P 22 12 14.6 0.0
comp=Z,5µm,1.2s,comp=Z,52µmcomp=Z,367µm

CISI S S 22 15 27.2 -3.4
comp=Z,5µm,1.2s,comp=Z,52µmcomp=Z,367µm

CISI Cisompet, Garu 21.10 228 ⇓P P 22 12 13.2 -1.4
baz=21,SNR=84

CISI Cisompet, Garu 21.10 228 P ScS 22 22 19.2 0.0
baz=16,SNR=6.2

CISI Cisompet, Garu 21.10 228 eP P 22 12 13.5 -1.1
comp=Z,3µm,0.7s

CISI eS S 22 15 24.5 -6.1
CBJI Citeko 21.11 232 P P 22 12 17.2 +2.6
comp=Z,17µm,1.1s,comp=Z,543µmcomp=Z,728µm

TNG Tangerang 21.12 233 P P 22 12 16.9 +2.2
comp=Z,7µm,0.9s,comp=Z,63µmcomp=Z,257µm

TNG Tangerang 21.12 233 P P 22 12 16.9 +2.2
comp=Z,8µm,0.9s,comp=Z,76µmcomp=Z,524µm

KDU Kakadu 21.24 155 ⇑P P 22 12 14.6 -1.1
baz=21,SNR=1000

CNJI Cibinong 21.45 230 P P 22 12 17.3 -0.4
comp=Z,7µm,1.2s,comp=Z,60µmcomp=Z,241µm

JMBI JAMBI 21.47 248 P P 22 12 19.5 +1.6
comp=Z,37µm,1.1s,comp=Z,319µmcomp=Z,396µm

SBJI Serang 21.51 234 P P 22 12 20.0 +1.9
comp=Z,23µm,1.2s,comp=Z,185µm

SKNT Sakolnakorn 21.62 300 P P 22 12 19.3 +0.2
comp=Z,7µm,1.1s,comp=Z,63µm

SKJI Sukabumi 21.70 231 P P 22 12 21.1 +1.2
comp=Z,7µm,0.8s,comp=Z,70µmcomp=Z,226µm

BLSI Bandar Lampung 21.81 237 P P 22 12 22.2 +1.4
comp=Z,15µm,0.9s,comp=Z,152µmcomp=Z,280µm

KLI Kotabumi 21.86 239 P P 22 12 22.0 +0.7
comp=Z,16µm,0.9s,comp=Z,132µm

KLSI 21.88 239 P P 22 12 22.1 +0.6
comp=Z,27µm,1.0s,comp=Z,258µmcomp=Z,487µm

FRIM Kepong 22.05 262 ⇓P P 22 12 23.9 +0.9
FRIM Kepong 22.05 262 ⇓P P 22 12 23.9 +0.9
GUMO Guam 22.12 70 P P 22 12 23.5 0.0
comp=Z,605nm,0.5s,baz=229,slow=3.6,SNR=56

GUMO S S 22 15 43.3 -3.2
comp=Z,667nm,0.8s,baz=252,slow=20,SNR=4.9

GUMO Guam 22.12 70 P P 22 12 23.5 0.0
GUMO S S 22 15 43.3 -3.2
GUMO pmax pmax 22 45 19.4
comp=Z,605nm,0.5s

GUMO smax smax 22 45 19.4
comp=N,667nm,0.8s

GUMO Guam 22.12 70 eP P 22 12 22.6 -1.0
comp=N,1µm,0.8s

GUMO S S 22 15 43.3 -3.2
CGJI Cibinong 22.15 234 P P 22 12 23.5 -0.3
comp=N,11µm,1.1s,comp=N,125µmcomp=N,266µm

RGRI Rengat 22.24 252 P P 22 12 26.9 +2.2
comp=N,2µm,1.4s,comp=N,140µmcomp=N,282µm

MDSI Maura Dua 22.25 241 P P 22 12 25.1 +0.3
comp=N,6µm,1.0s,comp=N,61µmcomp=N,307µm

KHON Khomkaen 22.37 297 P P 22 12 26.2 +0.4
comp=N,2µm,0.8s,comp=N,17µm

IPM Ipoh 22.46 266 eP P 22 12 26.8 +0.1
comp=N,2µm,0.9s

LHSI Lahat 22.51 243 P P 22 12 27.8 +0.7
comp=N,4µm,1.0s,comp=N,51µmcomp=N,307µm

KASI Kota Agung 22.52 238 P P 22 12 26.8 -0.3
comp=N,7µm,1.1s,comp=N,84µmcomp=N,280µm

LWLI Liwa 22.62 239 P P 22 12 28.2 0.0
comp=N,22µm,0.9s,comp=N,372µm

KULM Kulim 22.76 268 eP P 22 12 29.5 +0.2
comp=N,5µm,1.5s

KNRA Kununurra 22.85 167 ⇓P P 22 12 29.8 -0.3
baz=23,SNR=1000

CHAI Chaiyaphum 22.95 295 P P 22 12 31.1 +0.1
comp=N,1µm,0.7s,comp=N,10µm

PATY Pattaya 23.12 287 P P 22 12 33.4 +0.9
comp=N,506nm,0.8s,comp=N,4µm

MNAI Manna 23.26 242 P P 22 12 33.3 -0.5
comp=N,13µm,0.9s,comp=N,133µmcomp=N,390µm

MNAI Manna 23.26 242 ⇓P P 22 12 33.2 -0.6
baz=23,SNR=150

MNAI Manna 23.26 242 P ScS 22 22 37.8 +10
baz=18,SNR=3.7

MNAI Manna 23.26 242 eP P 22 12 33.2 -0.6
comp=N,10µm,0.9s

KSI Kapahiang 23.26 244 P P 22 12 33.6 -0.2
comp=N,9µm,1.0s,comp=N,90µmcomp=N,465µm

BKNI Bangkinang 23.27 255 P P 22 12 33.7 -0.2
comp=N,5µm,1.3s,comp=N,60µmcomp=N,472µm

BKNI Bangkinang 23.27 255 ⇑P P 22 12 33.8 -0.1
baz=23,SNR=27

BKNI Bangkinang 23.27 255 eP P 22 12 33.5 -0.5
comp=N,12µm,1.5s

SDSI Sungai Dareh 23.29 252 P P 22 12 34.3 +0.3
comp=N,3µm,1.7s,comp=N,53µm

TRTT Trang 23.63 274 P P 22 12 37.5 +0.5
comp=N,3µm,1.1s,comp=N,32µm

SLVN Son La 23.88 309 eP P 22 12 40.0 +0.9
comp=N,2µm,1.3s

PPI Padang Panjang 24.12 254 P P 22 12 41.0 -0.3
comp=N,6µm,0.7s,comp=N,75µmcomp=N,489µm

PPI Padang Panjang 24.12 254 P P 22 12 41.0 -0.3
baz=24,SNR=151

KRAB Krabi 24.13 275 P P 22 12 41.6 +0.1
comp=N,4µm,0.7s,comp=N,28µm

SSE Sheshan 24.36 355 P P 22 12 43.9 +0.7
SSE sP sP 22 15 18.6 -6.9
SSE S S 22 16 23.0 +1.8
SSE ScS ScS 22 22 32.1 +0.8
SSE PMZ
comp=N,320nm,0.9s

SSE PMZ
comp=N,3µm,4.7s

MNSI Mandailing Nat 24.56 257 P P 22 12 44.3 -1.0
comp=N,3µm,0.7s,comp=N,27µmcomp=N,317µm

SURT Suratani 24.56 277 P P 22 12 45.7 +0.4
comp=N,1µm,1.2s,comp=N,15µm

XMI Christmas Isla 24.59 226 ⇑P P 22 12 44.2 -1.3
baz=25,SNR=9.1

XMIS Christmas Isla 24.64 226 ⇑P P 22 12 44.6 -1.4
baz=25,SNR=11

XMIS Christmas Isla 24.64 226 eP P 22 12 44.4 -1.6
comp=N,2µm,1.0s

PSI Prapat 24.78 262 P P 22 12 47.1 -0.3
comp=N,2µm,0.8s,baz=77,slow=7.0,SNR=196

PSI PcP PcP 22 16 03.1 +0.9
comp=N,236nm,0.7s,baz=26,slow=5.4,SNR=3.4

PSI S S 22 16 29.2 +0.5
comp=N,87nm,0.8s,baz=75,slow=20,SNR=2.9

PSI ScP ScP 22 18 45.0 +0.6
comp=N,606nm,0.8s,baz=129,slow=2.0,SNR=12

PSI Prapat 24.78 262 ⇑P P 22 12 47.3 0.0
baz=25,SNR=181

PSI Prapat 24.78 262 eP P 22 12 47.2 -0.2
comp=N,17µm,1.7s

PSI PcP PcP 22 16 03.1 +0.9
PSI S S 22 16 29.2 +0.5
PSI ScP ScP 22 18 45.0 +0.6
UTTA Uttaradit 24.92 298 P P 22 12 48.9 +0.6
comp=N,1µm,1.0s,comp=N,9µm

PKDT Phuket 24.98 274 P P 22 12 49.4 +0.5
comp=N,5µm,0.9s,comp=N,54µm

TSI Tuntungan 25.02 264 P P 22 12 50.4 +1.0
comp=N,3µm,1.3s,comp=N,69µm

SRDT SRDT 25.11 290 P P 22 12 51.2 +1.1
comp=N,14µm,1.5s,comp=N,143µm

WHN Wuhan 25.21 341 ⇓P P 22 12 52.4 +1.7
WHN sP sP 22 15 27.3 -7.5
WHN S S 22 16 36.1 +1.4
WHN PMZ
comp=N,730nm,0.7s

WHN PMZ
comp=N,12µm,5.7s

PPSI Pulau Pagai 25.26 249 P P 22 12 51.0 -0.4
comp=N,12µm,1.2s,comp=N,115µmcomp=N,249µm

GYA Guiyang 25.35 323⇑ iP P 22 12 53.1 +0.9
GYA sP sP 22 15 32.0 -4.4
GYA PcP PcP 22 16 04.0 +0.7
GYA S S 22 16 41.0 +3.8
GYA ScP ScP 22 18 47.3 +1.5
GYA ScS ScS 22 22 35.4 -0.6
GYA PMZ
comp=N,1µm,1.1s

MANU Manus Island 25.37 109 P P 22 12 53.8 +1.4
baz=25,SNR=25

NJ2 Nanjing 25.58 351 eP P 22 12 56.8 +2.9
NJ2 S S 22 16 45.0 +4.6
NJ2 ScP ScP 22 18 46.9 +0.8
NJ2 PMZ
comp=N,3µm,1.2s

NJ2 PMZ
comp=N,11µm,11.0s

SISI Saibi 25.63 253 P P 22 12 54.2 -0.5
comp=N,16µm,0.6s,comp=N,141µmcomp=N,236µm

KHLT Khaolaem Dam 25.73 290 P P 22 12 57.0 +1.5
comp=N,2µm,1.2s,comp=N,23µm

UMPA Umpang Tak 25.89 294 P P 22 12 57.6 +0.7
comp=N,2µm,1.1s,comp=N,13µm

LAMP Lampang 26.03 299 P P 22 12 59.1 +1.0
comp=N,2µm,1.0s,comp=N,12µm

PBSI Pulau Batu 26.03 256 P P 22 12 56.8 -1.4
comp=N,2µm,0.6s,comp=N,34µmcomp=N,252µm

CRAI Chiangrai 26.14 303 P P 22 12 56.9 -2.2
comp=N,2µm,1.0s,comp=N,22µm

GSI Gunungsitoli 26.39 259 P P 22 13 01.0 -0.4
comp=N,21µm,0.7s,comp=N,191µmcomp=N,348µm

GSI Gunungsitoli 26.39 259 ⇑P P 22 13 00.4 -1.0
baz=26

GSI Gunungsitoli 26.39 259 eP P 22 13 00.7 -0.7
comp=N,15µm,0.6s

LHMI Lhok Sumawe 26.44 268 P P 22 13 02.6 +0.8
comp=N,6µm,1.3s,comp=N,100µmcomp=N,398µm

LHMI Lhok Sumawe 26.44 268 ⇑P P 22 13 02.8 +1.1
baz=26,SNR=120

LHMI Lhok Sumawe 26.44 268 eP P 22 13 03.5 +1.7
comp=N,7µm,1.1s

KSSGP Seogwipo 26.56 6 P P 22 13 04.2 +1.6
SNR=16

KSGOS Gosan 26.57 5 P P 22 13 05.1 +2.5
SNR=16

CMAR Chiang Mai Arr 26.61 298 P P 22 13 04.0 +0.8
comp=N,944nm,0.8s,baz=118,slow=7.3,SNR=328

CMAR PcP PcP 22 16 06.2 0.0
comp=N,138nm,1.1s,baz=120,slow=1.3,SNR=2.7

CMAR S S 22 16 58.1 +1.2
comp=N,42nm,0.8s,baz=116,slow=4.1,SNR=2.1

CMAR ScP ScP 22 18 49.8 +0.3
comp=N,114nm,0.9s,baz=150,slow=2.6,SNR=5.2

CMAR P3KPbc 22 45 19.7
comp=N,0.5nm,0.4s,baz=291,slow=5.5,SNR=3.5

KSJJU Jeju 26.74 6 P P 22 13 05.3 +1.1
SNR=36

CHTO Chiang Mai 26.74 299 P P 22 13 04.8 +0.4
comp=N,16µm,1.6s,comp=N,158µm

CHTO Chiang Mai 26.74 299 eP P 22 13 04.8 +0.4
CHTO pmax pmax 22 45 19.4
comp=Z,4µm,1.1s

CHTO Chiang Mai 26.74 299 eP P 22 13 04.8 +0.4
comp=Z,4µm,1.1s

ENH Enshi 26.88 332 eP P 22 13 06.2 +0.7
comp=Z,666nm,0.8s

CBIJ Chichi jima 26.96 39 eP P 22 13 06.3 +0.2
comp=Z,2µm,0.7s

CBIJ S S 22 16 56.2 -5.9
JCJ Chichijima 26.96 39 P P 22 13 05.6 -0.5
comp=Z,1µm,0.4s,baz=212,slow=7.0,SNR=120

JCJ S S 22 16 56.2 -5.9
comp=Z,815nm,0.6s,baz=294,slow=19,SNR=16

KMI Kunming 27.00 315 P P 22 13 08.5 +1.7
KMI S S 22 17 07.0 +3.7
KMI ScP ScP 22 18 52.6 +1.7
KMI ScS ScS 22 22 45.9 +2.3
KMI PMZ
comp=Z,3µm,1.2s

KMI PMZ
comp=Z,9µm,5.7s

CMAI Chiengmai2 27.12 301 P P 22 13 08.4 +0.6
comp=Z,3µm,1.2s,comp=Z,42µm

JNU Nakatsue 27.16 14 P P 22 13 07.2 -0.7
comp=Z,150nm,0.8s,baz=174,slow=7.1,SNR=80

JNU P3KPbc 22 45 19.4
comp=Z,2.2nm,0.6s,baz=67,slow=4.6,SNR=2.1

JNU	**Nakatsue**	**27.16**	**14**	*e*P		**P**	**22 13 07.4**	**-0.5**
	comp=Z,267nm,0.8s							
JNU				*e*			22 45 19.4	
MHMT	**Maesarieng**	**27.39**	**297**	P		**P**	**22 13 13.4**	**+3.4**
	comp=Z,3μm,1.1s,comp=Z,24μm							
KSWAN	**Wando**	**27.70**	**6**	P		**P**	**22 13 13.0**	**+0.5**
	SNR=41							
KSJDO	**Jindo**	**27.75**	**5**	⇓P		**P**	**22 13 13.2**	**+0.3**
	SNR=117							
KSHUK	**Heuksando**	**27.90**	**3**	P		**P**	**22 13 15.1**	**+1.0**
	SNR=37							
MBWA	**Marble Bar**	**27.94**	**187**	*e*P		**P**	**22 13 15.3**	**+0.6**
	comp=Z,3μm,1.0s							
KSKOH	**Goheung**	**27.98**	**7**	P		**P**	**22 13 15.7**	**+0.9**
	SNR=65							
KSNAH	**Namhae**	**28.27**	**8**	P		**P**	**22 13 18.4**	**+1.0**
	SNR=64							
COEN	**Coen**	**28.35**	**136**	⇑P		**P**	**22 13 17.0**	**-1.3**
	baz=28,SNR=378							
COEN	**Coen**	**28.35**	**136**	*e*P		**P**	**22 13 17.1**	**-1.3**
	comp=Z,10μm,0.6s							
KSTOY	**TONGYEONG**	**28.37**	**9**	P		**P**	**22 13 18.9**	**+0.7**
	SNR=12							
WB0	**Warramunga Arr**	**28.42**	**158**	⇓P		**P**	**22 13 18.2**	**-0.7**
	baz=28							
KSKWJ	**Gwangju**	**28.50**	**6**	P		**P**	**22 13 20.4**	**+1.1**
	SNR=25							
KSGWJ	**Gwangju-acc**	**28.50**	**6**	P		**P**	**22 13 20.8**	**+1.4**
	SNR=11							
PMG	**Port Moresby**	**28.51**	**124**	P		**P**	**22 13 19.3**	**-0.5**
	comp=Z,7μm,0.8s,baz=320,slow=8.0,SNR=774							
PMG				ScP		**ScP**	**22 18 56.0**	**+0.6**
	comp=Z,569nm,0.9s,baz=360,slow=5.0,SNR=4.9							
PMG				P3KPbc			22 45 14.6	
	comp=Z,4.2nm,0.4s,baz=105,slow=12,SNR=2.6							
PMG	**Port Moresby**	**28.51**	**124**	*c i*P		**P**	**22 13 18.9**	**-0.9**
PMG	**Port Moresby**	**28.51**	**124**	*e*P		**P**	**22 13 19.3**	**-0.5**
	comp=Z,38μm,0.9s							
PMG				ScP		**ScP**	**22 18 56.0**	**+0.6**
PMG				*e*			22 45 14.6	
I07AU	**WARRAMUNGA INT**	**28.55**	**158**	P		**P**	**22 13 18.2**	**-1.8**
	baz=316,slow=10.0,SNR=0.5							
WRAB	**Tennant Creek**	**28.55**	**158**	P		**P**	**22 13 19.0**	**-1.1**
	comp=Z,135μm,0.6s							
WRAB	**Tennant Creek**	**28.55**	**158**	*c i*P		**P**	**22 13 19.5**	**-0.6**
WRAB	**Tennant Creek**	**28.55**	**158**	*e*P		**P**	**22 13 19.3**	**-0.8**
	comp=Z,14μm,0.6s							
WRA	**Warramunga Arr**	**28.56**	**158**	P		**P**	**22 13 19.5**	**-0.7**
	comp=Z,10μm,0.7s,baz=336,slow=10.0,SNR=1049							
WRA				S		**S**	**22 17 24.2**	**-2.9**
	comp=Z,1μm,0.6s,baz=344,slow=14,SNR=8.8							
WRA				ScP		**ScP**	**22 18 55.7**	**+0.2**
	comp=Z,198nm,0.4s,baz=342,slow=3.1,SNR=4.7							
WRA				P3KPbc			22 45 12.4	
	comp=Z,0.5nm,0.2s,baz=154,slow=4.0,SNR=4.6							
KSJIN	**Jinju**	**28.62**	**8**	P		**P**	**22 13 21.2**	**+0.8**
	SNR=47							
KSJEU	**Jeongeup**	**28.82**	**6**	P		**P**	**22 13 23.5**	**+1.3**
	SNR=7.3							
KSBUS	**Busan**	**28.87**	**10**	⇑P		**P**	**22 13 23.0**	**+0.4**
	SNR=89							
KSJEO	**Jeonju**	**29.30**	**6**	P		**P**	**22 13 26.4**	**+0.1**
	SNR=23							
KSDAG	**Daegu**	**29.34**	**9**	P		**P**	**22 13 27.5**	**+0.8**
	SNR=26							
KSGUS	**GUNSAN**	**29.34**	**5**	P		**P**	**22 13 27.9**	**+1.3**
	SNR=19							
KSYOC	**YEONGCHEON**	**29.55**	**9**	P		**P**	**22 13 29.8**	**+1.3**
	SNR=14							
KSCPR	**CHUPUNGNYEONG**	**29.66**	**7**	P		**P**	**22 13 30.1**	**+0.7**
	SNR=62							
KSTEJ	**Daejeon**	**29.73**	**6**	P		**P**	**22 13 31.2**	**+1.2**
	SNR=12							
TJN	**Taejon**	**29.74**	**6**	*d i*P		**P**	**22 13 30.9**	**+0.9**
KSKOJ	**Gongju**	**29.81**	**6**	P		**P**	**22 13 31.3**	**+0.6**
	SNR=11							
KSPHA	**Pohang**	**29.83**	**10**	P		**P**	**22 13 32.0**	**+1.2**
	SNR=22							
KSSAJ	**Sangju**	**29.86**	**8**	P		**P**	**22 13 31.9**	**+0.8**
	SNR=50							
KSEUS	**ULSEONG**	**29.88**	**8**	P		**P**	**22 13 32.2**	**+0.9**
	SNR=36							
KSBON	**Boeun**	**29.91**	**7**	P		**P**	**22 13 33.2**	**+1.7**
	SNR=43							
TIA	**Tai'an**	**29.93**	**350**	⇓P		**P**	**22 13 32.1**	**+0.3**
TIA				S		**S**	**22 17 48.3**	**+0.4**
TIA				ScS		**ScS**	**22 22 56.5**	**-0.1**
TIA				PMZ				
	comp=Z,8μm,5.5s							
KSSES	**Seosan**	**30.06**	**5**	P		**P**	**22 13 33.7**	**+0.9**
	SNR=17							
KSCHJ	**Chungju**	**30.30**	**7**	P		**P**	**22 13 35.5**	**+0.6**
	SNR=36							
JHJ	**Hachijo jima 2**	**30.32**	**28**	P		**P**	**22 13 34.9**	**-0.3**
	comp=Z,201nm,0.4s,baz=204,slow=12,SNR=15							
JHJ				S		**S**	**22 17 50.8**	**-3.1**
	comp=Z,196nm,0.6s,baz=253,slow=19,SNR=4.6							
JHJ2	**Mitsune**	**30.33**	**28**	*e*P		**P**	**22 13 35.7**	**+0.5**
	comp=Z,586nm,0.7s							
KSULJ	**Uljin**	**30.34**	**9**	P		**P**	**22 13 36.1**	**+0.9**
	SNR=19							
XAN	**Xi'an**	**30.35**	**336**	P		**P**	**22 13 35.6**	**+0.2**
XAN				PcP		**PcP**	**22 16 16.3**	**+0.7**
XAN				sP		**sP**	**22 16 20.0**	**-3.3**
CD2	**Chengdu**	**30.36**	**325**	P		**P**	**22 13 36.1**	**+0.6**
CD2				sP		**sP**	**22 16 22.8**	**-0.6**
CD2				S		**S**	**22 17 56.5**	**+1.9**
CD2				SS		**SS**	**22 21 06.6**	**+2.8**
CD2				PMZ				
	comp=Z,2μm,1.0s							
CD2				PMZ				
	comp=Z,14μm,3.7s							
GIRL	**Giralia**	**30.55**	**197**	⇑P		**P**	**22 13 38.2**	**+1.1**
	baz=31,SNR=386							
KSSWO	**Suwon**	**30.58**	**5**	P		**P**	**22 13 38.4**	**+1.2**
	SNR=28							
RABL	**Rabaul**	**30.61**	**110**	⇓P		**P**	**22 13 39.5**	**+1.7**
	baz=31,SNR=144							
KSICN	**Icheon**	**30.65**	**6**	P		**P**	**22 13 39.2**	**+1.4**
	SNR=76							
KSYOW	**Yeongwol**	**30.66**	**8**	P		**P**	**22 13 39.2**	**+1.3**
	SNR=17							
KSTBA	**Taebaek**	**30.68**	**9**	P		**P**	**22 13 39.3**	**+1.1**
	SNR=84							
INCN	**Inchon**	**30.76**	**5**	*e*P		**P**	**22 13 39.2**	**+0.4**
	comp=Z,220nm,0.8s							
KSSEO	**Seoul**	**30.79**	**5**	P		**P**	**22 13 41.8**	**+2.7**
	SNR=22							
KSWJU	**Wonju**	**30.83**	**7**	P		**P**	**22 13 40.7**	**+1.2**
	SNR=32							
KSAR	**Wonju Array Be**	**30.85**	**7**	P		**P**	**22 13 40.4**	**+0.8**
KSAR							22 16 17.1	
KSAR				S		**S**	**22 18 02.4**	**+0.6**
KSAR	**Wonju Array Be**	**30.85**	**7**	P		**P**	**22 13 40.4**	**+0.8**
KSAR				PcP		**PcP**	**22 16 17.1**	**+0.2**
KSAR				S		**S**	**22 18 02.4**	**+0.6**
KSAR				ScP		**ScP**	**22 19 04.2**	**+1.5**
KSAR				*e*			22 45 04.2	
KSRS	**Korea Array**	**30.87**	**7**	P		**P**	**22 13 40.4**	**+0.7**
	comp=Z,138nm,0.9s,baz=187,slow=8.8,SNR=129							
KSRS				PcP		**PcP**	**22 16 17.1**	**+0.2**
	comp=Z,40nm,0.7s,baz=186,slow=3.6,SNR=6.1							
KSRS				S		**S**	**22 18 02.4**	**+0.4**
	comp=Z,29nm,0.7s,baz=180,slow=8.9,SNR=2.4							
KSRS				ScP		**ScP**	**22 19 04.3**	**+1.5**
	comp=Z,54nm,0.8s,baz=176,slow=3.6,SNR=4.6							
KSRS				P3KPbc			22 45 04.2	
	comp=Z,0.7nm,0.5s,baz=2.3,slow=4.8,SNR=3.3							
KSRS	**Korea Array**	**30.87**	**7**	P		**P**	**22 13 40.4**	**+0.7**
KSRS							22 16 17.1	
KSRS				S		**S**	**22 18 02.4**	**+0.4**
KSRS				pmax		pmax		
	comp=Z,138nm,0.9s							
KSRS				pmax		pmax		
	comp=Z,40nm,0.7s							
KSRS				smax		smax		
	comp=N,29nm,0.7s							
KSRS				pmax		pmax		
	comp=N,54nm,0.8s							
KSRS				pmax		pmax		
	comp=Z,1.0nm,0.5s							
KSJES	**JEONGSEON**	**30.94**	**8**	P		**P**	**22 13 42.6**	**+2.2**
	SNR=31							
KSGAH	**Ganghwa**	**30.97**	**5**	P		**P**	**22 13 41.5**	**+1.0**
	SNR=14							
KSBAR	**Backryungdo**	**31.14**	**2**	P		**P**	**22 13 43.7**	**+1.7**
	SNR=177							
KSCHC	**Chuncheon**	**31.17**	**7**	P		**P**	**22 13 43.8**	**+1.5**
	SNR=206							
KSMUS	**Musan**	**31.18**	**5**	P		**P**	**22 13 44.0**	**+1.7**
	SNR=77							
KSDGY	**Daegwallycong**	**31.20**	**8**	P		**P**	**22 13 43.9**	**+1.3**
	SNR=113							
KSDDC	**Dongducheon**	**31.22**	**5**	P		**P**	**22 13 44.4**	**+1.8**
	SNR=67							
YNCB	**YEONCHEON**	**31.34**	**5**	P		**P**	**22 13 44.9**	**+1.2**
	SNR=157							
KSULL	**Ulleungdo**	**31.36**	**11**	P		**P**	**22 13 45.1**	**+1.3**
	SNR=22							
QIS	**Mount Isa**	**31.39**	**150**	P		**P**	**22 13 44.3**	**-0.1**
	baz=32,SNR=1000							
KSJMJ	**Jumunjin**	**31.40**	**8**	P		**P**	**22 13 46.0**	**+1.8**
	SNR=39							
KSIJA	**INJE**	**31.41**	**7**	P		**P**	**22 13 46.1**	**+1.8**
	SNR=112							
KSCWO	**Cheorwon**	**31.44**	**6**	P		**P**	**22 13 46.3**	**+1.7**
	SNR=124							
SEHB	**SEOHWA**	**31.71**	**7**	P		**P**	**22 13 48.6**	**+1.7**
	SNR=60							
ASAR	**Alice Springs**	**31.86**	**162**	P		**P**	**22 13 48.5**	**+0.1**
	comp=Z,5μm,0.5s,baz=339,slow=7.4,SNR=4852							
ASAR				S		**S**	**22 18 16.5**	**-1.2**
	comp=Z,4μm,0.8s,baz=353,slow=23,SNR=26							
ASAR				ScP		**ScP**	**22 19 07.3**	**+0.8**
	comp=Z,800nm,1.0s,baz=340,slow=2.5,SNR=2.2							
ASAR				P3KPbc			22 45 00.3	
	comp=Z,1.1nm,0.5s,baz=154,slow=4.0,SNR=3.0							
ASAR				PKP2ab			22 49 02.7	
	comp=Z,5.9nm,1.1s,baz=140,slow=3.2,SNR=4.2							
WRKA	**Warakurna**	**31.90**	**172**	⇑P		**P**	**22 13 48.7**	**0.0**
	baz=32,SNR=1000							
DL2	**Dalian**	**32.09**	**357**	⇓ *i*P		**P**	**22 13 50.6**	**+0.5**
DL2				sP		**sP**	**22 16 38.6**	**-0.1**
DL2				S		**S**	**22 18 20.1**	**-0.6**
DL2				ScP		**ScP**	**22 19 08.6**	**+1.7**
DL2				ScS		**ScS**	**22 23 08.5**	**+1.1**
DL2				PMZ				
	comp=Z,1μm,0.7s							
DL2				PMZ				
	comp=Z,3μm,5.9s							
MTSU	**Mount Surprise**	**32.13**	**141**	⇓P		**P**	**22 13 50.7**	**0.0**
	baz=32,SNR=728							
TIY	**Taiyuan**	**32.46**	**344**	*e*P		**P**	**22 13 54.1**	**+0.9**
TIY				sP		**sP**	**22 16 44.0**	**+1.9**
TIY				S		**S**	**22 18 30.1**	**+3.7**
TIY				PMZ				
	comp=Z,870nm,0.6s							
TIY				PMZ				
	comp=Z,7μm,4.5s							
COCO	**West Island**	**32.48**	**235**	P		**P**	**22 13 53.8**	**+0.1**
	comp=Z,11μm,1.2s,SNR=13							
COCO	**West Island**	**32.48**	**235**	*e*P		**P**	**22 13 52.5**	**-1.2**
COCO				pmax		pmax		
	comp=Z,6μm,1.1s							
COCO	**West Island**	**32.48**	**235**	*e*P		**P**	**22 13 52.5**	**-1.2**
	comp=Z,6μm,1.1s							
MAJO	**Matsushiro**	**32.60**	**22**	*e*P		**P**	**22 13 53.6**	**-0.8**
MAJO				pmax		pmax		
	comp=Z,644nm,0.9s							
MAJO	**Matsushiro**	**32.60**	**22**	*e*P		**P**	**22 13 53.5**	**-0.8**
	comp=Z,644nm,0.9s							
MJAR	**Matsushiro Arr**	**32.60**	**22**	P		**P**	**22 13 53.7**	**-0.7**
	comp=Z,422nm,0.9s,baz=198,slow=9.6,SNR=292							
MJAR				S		**S**	**22 18 24.1**	**-4.5**
	comp=Z,78nm,0.9s,baz=196,slow=6.2,SNR=3.0							
MJAR				ScP		**ScP**	**22 19 09.4**	**+0.6**
	comp=Z,88nm,1.0s,baz=196,slow=4.0,SNR=4.1							
MJAR				P3KPbc			22 44 57.9	
	comp=Z,2.1nm,0.9s,baz=3.2,slow=2.7,SNR=2.6							
MEEK	**Meekatharra**	**33.49**	**188**	⇑P		**P**	**22 14 01.7**	**-0.3**
	baz=34,SNR=1000							
BJT	**Baijiatuau**	**33.81**	**350**	*e*P		**P**	**22 14 05.0**	**+0.6**
BJT				pmax		pmax		
	comp=Z,971nm,0.8s							
BJT	**Baijiatuau**	**33.81**	**350**	*e*P		**P**	**22 14 05.0**	**+0.6**
	comp=Z,971nm,0.8s							
BJI	**Beijing**	**33.83**	**350**	P		**P**	**22 14 04.5**	**-0.1**
BJI				sP		**sP**	**22 16 56.6**	**+2.6**
BJI				S		**S**	**22 18 46.4**	**-0.5**
BJI				ScS		**ScS**	**22 23 18.8**	**+2.2**
BJI				PMZ				
	comp=Z,1μm,1.5s							
LZH	**Lanzhou**	**34.33**	**331**	⇓P		**P**	**22 14 10.6**	**+1.5**
LZH				pP		**pP**	**22 15 50.0**	**+1.5**
LZH				S		**S**	**22 18 58.5**	**+3.5**
LZH				ScP		**ScP**	**22 19 18.0**	**+2.8**
LZH				ScS		**ScS**	**22 23 21.6**	**+1.7**
LZH				PMZ				
	comp=Z,2μm,1.0s							
LZH				PMZ				
	comp=Z,13μm,5.2s							
PATS	**Pohnpei**	**34.58**	**88**	⇓P		**P**	**22 14 12.0**	**+0.8**
	baz=35,SNR=40							
CTA	**Charters Tower**	**34.80**	**140**	P		**P**	**22 14 13.3**	**+0.3**
	comp=Z,5μm,0.8s,baz=316,slow=10,SNR=1261							
CTA				S		**S**	**22 19 03.3**	**+1.3**
	comp=Z,210nm,0.8s,baz=330,slow=20,SNR=2.4							
CTA				ScP		**ScP**	**22 19 17.4**	**+0.5**
	comp=Z,1μm,1.1s,baz=322,slow=3.6,SNR=5.7							
CTA				P3KPbc			22 44 53.1	
	comp=Z,11nm,0.8s,baz=175,slow=7.6,SNR=2.9							
CTAO	**Charters Tower**	**34.80**	**140**	*e*P		**P**	**22 14 13.3**	**+0.3**
CTAO				pmax		pmax		
	comp=Z,6μm,0.8s							
CTAO	**Charters Tower**	**34.80**	**140**	*e*P		**P**	**22 14 13.3**	**+0.3**
	comp=Z,6μm,0.8s							
SNY	**Shenyang**	**34.97**	**0**	⇓P		**P**	**22 14 14.0**	**0.0**
SNY				pP		**PP**	**22 15 59.3**	**+1.0**
SNY				S		**S**	**22 19 04.3**	**+0.4**
SNY				PMZ				
	comp=Z,380nm,0.8s							
SNY				PMZ				
	comp=Z,7μm,3.5s							
SHL	**Shillong**	**35.52**	**305**	*i* P		**P**	**22 14 19.3**	**+0.1**
SHL				*e*S		**S**	**22 19 11.5**	**-1.6**
HHC	**Hu-ho-hao-te**	**35.62**	**344**	⇓P		**P**	**22 14 20.4**	**+0.8**
HHC				pP		**pP**	**22 16 00.8**	**+0.9**
HHC				sP		**sP**	**22 17 10.4**	**+0.4**
HHC				S		**ScP**	**22 19 17.4**	**-2.3**
HHC				sS		**sS**	**22 22 18.8**	**-0.8**
HHC				SS		**SS**	**22 22 28.6**	**-2.8**
HHC				PMZ				
	comp=Z,440nm,0.8s							
HHC				PMZ				
	comp=Z,9μm,4.2s							
BTO	**Baotou**	**35.84**	**342**	*e*P		**P**	**22 14 22.9**	**+1.5**
MORW	**Morawa**	**36.29**	**191**	P		**P**	**22 14 24.9**	**-0.2**
	baz=36,SNR=860							
MSHR	**Mys Shultsa**	**36.36**	**10**	*i* P		**P**	**22 14 26.7**	**+1.2**
CN2	**Changchun**	**36.98**	**2**	*e*P		**P**	**22 14 29.8**	**-0.8**
CN2				PP		**pP**	**22 16 12.8**	**+1.0**
CN2				*e*S		**S**	**22 19 35.3**	**+1.5**
CN2				ScS		**ScS**	**22 23 35.9**	**+1.8**
CN2				PMZ				
	comp=Z,1μm,4.0s							
VLA	**Vladivostok**	**37.01**	**10**	*d i*P		**P**	**22 14 31.4**	**+0.6**
VLA				pmax		pmax		
	comp=Z,1μm,2.0s							
FORT	**Forrest**	**37.53**	**174**	P		**P**	**22 14 35.3**	**+0.1**
	baz=38,SNR=1000							
FORT	**Forrest**	**37.53**	**174**	*e*P		**P**	**22 14 35.0**	**-0.2**
	comp=Z,17μm,0.7s							
BLDU	**Ballidu**	**37.68**	**190**	⇑P		**P**	**22 14 35.8**	**-0.6**
	baz=38,SNR=643							
KMBL	**Kambalda**	**37.89**	**182**	⇓P		**P**	**22 14 38.0**	**-0.1**
	baz=38,SNR=1000							
LSA	**Lhasa**	**38.06**	**311**	P		**P**	**22 14 41.4**	**+1.3**
LSA				PP		**pP**	**22 16 23.5**	**+1.4**
LSA				S		**S**	**22 19 48.5**	**-2.5**
LSA				SS		**SS**	**22 23 05.5**	**-6.8**
LSA	**Lhasa**	**38.06**	**311**	*e*P		**P**	**22 14 41.1**	**+1.0**
LSA				pmax		pmax		
	comp=Z,7μm,1.6s							
LSA	**Lhasa**	**38.06**	**311**	*e*P		**P**	**22 14 41.1**	**+1.0**
	comp=Z,7μm,1.6s							
USRK	**Ussuriysk Ar.**	**38.08**	**10**	P		**P**	**22 14 39.3**	**-0.1**
	comp=Z,274nm,0.9s,baz=196,slow=7.1,SNR=218							
USRK				S		**S**	**22 19 49.9**	**0.0**
	comp=Z,56nm,0.8s,baz=189,slow=8.0,SNR=2.3							
MDJ	**Mudanjiang**	**38.13**	**7**	P		**P**	**22 14 40.3**	**+0.4**
MDJ				sP		**sP**	**22 17 29.6**	**-1.9**
MDJ				S		**S**	**22 19 52.5**	**+1.8**
MDJ				PcS		**PcS**	**22 20 28.9**	**+0.6**
MDJ				sS		**sS**	**22 22 55.1**	**-3.5**
MDJ				ScS		**ScS**	**22 23 41.6**	**+0.8**
MDJ				PMZ				
	comp=Z,400nm,1.3s							
MDJ				PMZ				
	comp=Z,3μm,5.5s							
MDJ	**Mudanjiang**	**38.13**	**7**	*e*P		**P**	**22 14 40.2**	**+0.3**
	comp=Z,409nm,0.8s							
KLBR	**Kellerberrin**	**38.48**	**188**	⇑P		**P**	**22 14 42.6**	**-0.2**
	baz=39,SNR=1000							
GTA	**Gaotai**	**38.91**	**330**	⇓P		**P**	**22 14 47.4**	**+1.0**
GTA				pP		**pP**	**22 16 31.3**	**+2.3**
GTA				sP		**sP**	**22 17 34.9**	**-3.5**
GTA				ScP		**ScP**	**22 19 33.8**	**+1.5**
GTA				S		**S**	**22 20 05.5**	**+3.0**
GTA				sS		**sS**	**22 23 09.4**	**-1.8**
GTA				SS		**SS**	**22 23 21.0**	**-4.4**
GTA				PMZ				
	comp=Z,630nm,1.0s							
GTA				PMZ				
	comp=Z,10μm,8.1s							
GTK	**Gangtok**	**38.93**	**306**	*e*P		**P**	**22 14 47.5**	**+0.7**
ERM	**Erimo**	**39.25**	**23**	P		**P**	**22 14 50.1**	**+1.2**
	comp=Z,3μm,0.8s,SNR=28							
ERM	**Erimo**	**39.25**	**23**	*c i*P		**P**	**22 14 50.5**	**+1.6**
ERM				pmax		pmax		
	comp=Z,377nm,0.7s							
ERM	**Erimo**	**39.25**	**23**	*e*P		**P**	**22 14 49.6**	**+0.7**
	comp=Z,395nm,0.8s							
TAPN	**Taplejung**	**39.66**	**305**	*e*P		**P**	**22 14 53.4**	**+0.5**
	comp=Z,902nm,0.4s							
HNR	**Honiara**	**39.71**	**113**	*e*P		**P**	**22 14 52.7**	**-0.3**
HNR				pmax		pmax		
	comp=Z,3μm,0.8s							
HNR	**Honiara**	**39.71**	**113**	*e*P		**P**	**22 14 52.7**	**-0.3**
	comp=Z,3μm,0.8s							
ODAN	**Odare**	**39.73**	**305**	*e*P		**P**	**22 14 53.8**	**+0.5**
NWAO	**Narrogin (SRO)**	**39.87**	**188**	P		**P**	**22 14 54.0**	**0.0**
	comp=Z,2μm,0.6s,baz=330,slow=8.8,SNR=311							
NWAO				ScP		**ScP**	**22 19 35.8**	**-0.1**
	comp=Z,783nm,1.2s,baz=329,slow=2.6,SNR=4.9							
NWAO				S		**S**	**22 20 16.5**	**+0.3**
	comp=Z,459nm,1.0s,baz=149,slow=20,SNR=11							
NWAO	**Narrogin (SRO)**	**39.87**	**188**	⇓P		**P**	**22 14 54.0**	**0.0**
	baz=40,SNR=990							
NWAO				⇓P		**P**	**22 14 54.0**	**0.0**
	baz=40,SNR=990							
CHLP	**Challavanipeta**	**40.13**	**291**	*e*P		**P**	**22 14 56.8**	**+0.5**
CHLP				IAmb		IAmb	22 15 05.0	
	comp=Z,5μm,1.0s							
CHLP				*e*pP		**pP**	**22 16 38.0**	**-1.8**
CHLP				*e*PcP		**PcP**	**22 16 44.4**	**-0.8**
CHLP				*e*ScP		**ScP**	**22 19 37.9**	**+0.6**
CHLP				*e*S		**S**	**22 20 21.2**	**+0.7**
CHLP				*e*SS		**SS**	**22 23 41.0**	**-4.6**
RAMN	**Ramite**	**40.41**	**304**	*e*P		**P**	**22 14 59.2**	**+0.5**
	comp=Z,957nm,0.5s							
ASAJ	**Asahikawa**	**40.84**	**21**	*e*P		**P**	**22 15 02.0**	**+0.4**
	comp=Z,673nm,0.9s							
BBOO	**Buckleboo**	**41.08**	**164**	*e*P		**P**	**22 15 03.5**	**-0.1**
	comp=Z,15μm,1.0s							
GUN	**Gumba**	**41.38**	**305**	*e*P		**P**	**22 15 07.0**	**+0.5**
	comp=Z,653nm,0.3s							
PKI	**Pulchoki**	**41.63**	**304**	*e*P		**P**	**22 15 08.4**	**0.0**
PKIN	**Phulchoki**	**41.64**	**304**	*e*P		**P**	**22 15 08.5**	**+0.1**
EIDS	**Eidsvold**	**41.68**	**141**	*e*P		**P**	**22 15 09.0**	**+0.6**
	comp=Z,7μm,0.9s							
KKN	**Kakani**	**41.82**	**305**	*e*P		**P**	**22 15 10.0**	**+0.2**
DMN	**Daman**	**41.89**	**304**	*e*P		**P**	**22 15 10.6**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**42.02**	**24**	*d i*P		**P**	**22 15 12.1**	**+1.3**
YUK				*i*			22 16 51.8	
YUK				*i* *PP		**pP**	**22 16 56.2**	**+0.4**
YUK				*i*			22 17 02.8	
YUK				*i* S		**S**	**22 20 48.7**	**+1.7**
YUK				*i* *SS		**ScS**	**22 24 03.3**	**-1.2**
YUK				*i* SS		**SS**	**22 24 19.2**	**+3.7**
YUK				pmax		pmax		
	comp=Z,2μm,1.9s							
YUK				pmax		pmax		
	comp=N,427nm,1.4s							
YUK				pmax		pmax		
	comp=E,772nm,1.4s							
YUK				pmax		pmax		
	comp=Z,1μm,1.4s							
YUK				MLR		MLR		
	comp=N,6μm,20.0s							
YUK				MLR		MLR		
	comp=E,11μm,20.0s							
YUK				MLR		MLR		
	comp=Z,6μm,20.0s							
STKA	**Stephens Creek**	**42.09**	**157**	P		**P**	**22 15 11.7**	**+0.2**
	comp=Z,5μm,0.7s,baz=340,slow=7.4,SNR=1386							
STKA				ScP		**ScP**	**22 19 45.4**	**+0.5**
	comp=Z,625nm,0.8s,baz=338,slow=6.5,SNR=3.9							
STKA				S		**S**	**22 20 46.9**	**-1.4**
	comp=Z,483nm,0.9s,baz=45,slow=24,SNR=5.8							
STKA				P4KPbc			22 53 00.3	
	comp=Z,3.0nm,0.6s,baz=345,slow=3.0,SNR=7.3							
STKA	**Stephens Creek**	**42.09**	**157**	*e*P		**P**	**22 15 11.7**	**+0.2**
STKA				S		**S**	**22 20 46.9**	**-1.4**
STKA				pmax		pmax		
	comp=Z,1μm,0.7s							
STKA	**Stephens Creek**	**42.09**	**157**	*e*P		**P**	**22 15 11.7**	**+0.2**
	comp=Z,1μm,0.7s							
STKA				ScP		**ScP**	**22 19 45.4**	**+0.5**
STKA				S		**S**	**22 20 46.9**	**-1.4**
STKA				*e*			22 53 00.3

KLR e 22 24 33.5
KLR pmax pmax
comp=E,900nm,9.0s
KLR pmax pmax
comp=Z,7μm,9.0s
MDRS Chennai 43.02 282 *e*P **P** **22 15 20.0 +1.0**
MDRS AMB AMB 22 15 27.0
comp=Z,3μm,0.7s
KOLN Koldanda 43.19 304 *e*P **P** **22 15 21.1 +0.7**
DANN Dangsing 43.27 305 *e*P **P** **22 15 21.6 +0.4**
comp=Z,1μm,0.6s
ULN Ulaanbaatar 43.34 344*d* *i*P **P** **22 15 21.5 +0.3**
ULN pmax pmax
comp=Z,2μm,1.9s
ULN Ulaanbaatar 43.34 344 *e*P **P** **22 15 21.4 +0.3**
comp=Z,2μm,1.5s
YSS Yuzh-Sakhalins 43.38 19*d* *i*P **P** **22 15 21.0 -0.2**
YSS *e* 22 16 53.0
YSS *e**PP **pP** **22 17 04.0 -3.3**
YSS *e* 22 17 12.0
YSS *e**SP sP 22 18 10.0 -5.6
YSS *e*S S 22 20 58.0 -8.1
YSS *e*SS **ScS** **22 24 10.0 -3.0**
YSS pmax pmax
comp=Z,430nm,1.0s
YSS pmax pmax
comp=Z,3μm,8.0s
YSS smax smax
comp=N,15μm,18.0s
YSS smax smax
comp=E,11μm,18.0s
SONM Songino Array 43.50 343 P **P** **22 15 22.3 0.0**
comp=E,575nm,1.0s,baz=160,slow=8.4,SNR=247
SONM PcP **PcP** **22 16 56.2 0.0**
comp=E,219nm,0.8s,baz=157,slow=3.6,SNR=4.4
SONM ScP **ScP** **22 19 50.9 +0.4**
comp=E,61nm,0.8s,baz=142,slow=4.0,SNR=2.9
SONM S **S** **22 21 04.9 -3.2**
comp=E,48nm,1.0s,baz=163,slow=10,SNR=1.7
ADKI Addanki 43.55 286 *e*P **P** **22 15 23.3 +0.1**
ADKI IAmb IAmb 22 15 31.4
comp=Z,4μm,1.3s
ADKI *e*PcP **PcP** **22 16 57.9 +1.0**
ADKI *e*pP **pP** **22 17 07.2 -2.1**
ADKI *e*PP **PP** **22 17 16.4 -0.9**
ADKI *e*sP **sP** **22 18 16.8 -0.7**
ADKI *e*ScP **ScP** **22 19 51.0 -0.2**
ADKI *e*S **S** **22 21 08.7 -0.9**
ADKI *e*SS **SS** **22 24 37.9 -3.2**
SKHT Srikalahasti 43.59 283 *e*P **P** **22 15 23.8 +0.3**
SKHT IAmb IAmb 22 15 31.6
comp=Z,3μm,1.0s
SKHT *e*PcP **PcP** **22 16 59.3 +2.2**
SKHT *e*PP **PP** **22 17 15.8 -1.8**
SKHT *e*sP **sP** **22 18 15.1 -2.7**
SKHT *e*S **S** **22 21 10.1 0.0**
SKHT *e*SS **SS** **22 24 37.0 -4.6**
H11S3 WAKE ISLAND Hy 43.64 70 P **P** **22 15 25.0 +1.4**
baz=244,slow=6.5,SNR=35
H11S1 WAKE ISLAND Hy 43.65 70 P **P** **22 15 25.4 +1.8**
baz=244,slow=6.5,SNR=42
H11S2 WAKE ISLAND Hy 43.65 70 P **P** **22 15 25.4 +1.7**
baz=244,slow=6.5,SNR=32
KUR Kuril'sk 43.83 25*d* *i*P **P** **22 15 26.1 +1.3**
KUR *e* 22 16 55.6
KUR *i* 22 17 18.0
KUR *i*S **S** **22 21 07.1 -5.5**
KUR *e*SS **ScS** **22 24 17.9 +2.0**
KUR pmax pmax
comp=N,152nm,1.0s
KUR pmax pmax
comp=E,216nm,1.0s
KUR pmax pmax
comp=Z,788nm,1.0s
KUR pmax pmax
comp=Z,1μm,1.3s
H11N1 WAKE ISLAND Hy 44.05 69 P **P** **22 15 27.7 +1.1**
baz=250,slow=9.9,SNR=63
H11N2 WAKE ISLAND Hy 44.06 69 P **P** **22 15 27.9 +1.2**
baz=250,slow=9.9,SNR=74
H11N3 WAKE ISLAND Hy 44.06 69 P **P** **22 15 28.0 +1.2**
baz=250,slow=9.9,SNR=178
NJS Nagarjunasagar 44.27 287 *e*P **P** **22 15 28.6 -0.1**
NJS IAmb IAmb 22 15 32.2
comp=Z,2μm,0.7s
NJS *e*PcP **PcP** **22 17 00.1 +0.7**
NJS *e*pP **pP** **22 17 13.7 -1.8**
NJS *e*PP **PP** **22 17 21.9 -2.0**
NJS *e*sP **sP** **22 18 23.8 +0.4**
NJS *e*ScP **ScP** **22 19 52.2 -2.0**
NJS *e*S **S** **22 21 18.8 -1.0**
NJS *e*SS **SS** **22 24 52.0 -0.6**
RCLA Racherla 44.48 285 *e*P **P** **22 15 29.2 -1.1**
RCLA IAmb IAmb 22 15 37.9
comp=Z,4μm,1.1s
RCLA *e*PcP **PcP** **22 17 02.0 +1.9**
RCLA *e*PP **PP** **22 17 23.7 -2.0**
RCLA *e*sP **sP** **22 18 26.6 +1.5**
RCLA *e*ScP **ScP** **22 19 54.6 -0.5**
RCLA *e*S **S** **22 21 21.6 -1.1**
SRLM Srisailam 44.61 286 *e*P **P** **22 15 30.8 -0.6**
SRLM IAmb IAmb 22 15 39.0
comp=Z,3μm,1.0s
SRLM *e*PP **PP** **22 17 26.6 -0.4**
SRLM *e*sP **sP** **22 18 26.9 +0.7**
SRLM *e*ScP **ScP** **22 19 52.1 -3.5**
SRLM *e*S **S** **22 21 23.6 -1.0**
SRLM *e*SS **SS** **22 24 52.7 -5.3**
RPR Rampur 44.63 290 *e*P **P** **22 15 31.4 0.0**
RPR IAmb IAmb 22 15 35.4
comp=Z,3μm,0.8s
RPR *e*PcP **PcP** **22 17 02.6 +2.0**
RPR *e*PP **PP** **22 17 26.9 -0.2**
RPR *e*sP **sP** **22 18 31.3 +5.0**
RPR *e*ScP **ScP** **22 19 56.1 +0.5**
RPR *e*S **S** **22 21 24.2 -0.4**
RPR *e*SS **SS** **22 24 53.2 -4.9**
HYB Hyderabad 45.10 288 *i* P **P** **22 15 36.0 +0.9**
comp=Z,2μm,1.0s
HYB *e*S **S** **22 21 30.0 -1.5**
HYB LR LR 22 29 00.0
comp=Z,128nm,12.0s
HYB Hyderabad 45.10 288 *e*P **P** **22 15 35.4 +0.3**
HYB AMB AMB 22 15 43.5
comp=Z,3μm,1.5s
HYBB Hyderabad (bro 45.10 288 *e*P **P** **22 15 34.9 -0.2**
HYBB IAmb IAmb 22 15 42.7
comp=Z,4μm,1.1s
HYBB *e*PcP **PcP** **22 17 00.6 -1.8**
HYBB *e*PP **PP** **22 17 30.1 -1.4**
HYBB *e*sP **sP** **22 18 29.7 -0.5**
HYBB *e*ScP **ScP** **22 19 57.5 -0.2**
HYBB *e*S **S** **22 21 30.7 -0.8**
HYBB ⇑*e*SS **SS** **22 25 08.9 +3.1**
NGP Nagpur 45.28 293 *e*P **P** **22 15 36.7 +0.4**
NGP *ex* x 22 21 36.4
SRSP Sriramsagar 45.53 290 *e*P **P** **22 15 37.5 -0.7**
SRSP IAmb IAmb 22 15 45.9
comp=Z,5μm,1.1s
SRSP *e*PcP **PcP** **22 17 04.8 +1.0**
SRSP *e*PP **PP** **22 17 32.5 -2.7**
SRSP *e*sP **sP** **22 18 38.8 +5.2**
SRSP *e*ScP **ScP** **22 19 59.1 -0.2**
SRSP *e*S **S** **22 21 36.2 -0.6**
SRSP *e*SS SS 22 25 05.2 -7.2
ARMA Armidale 45.73 145 *e*P **P** **22 15 41.0 +1.3**
comp=Z,10μm,0.9s
CIT Chita 45.91 351 *e*P **P** **22 15 41.4 +0.8**
CIT *e* 22 17 05.6
CIT *e* 22 24 29.4
CIT pmax pmax
comp=Z,3μm,1.7s
URV Uravakonda 46.06 284 *e*P **P** **22 15 41.9 -0.5**
URV IAmb IAmb 22 15 49.6
comp=Z,3μm,1.1s
URV *e*PcP **PcP** **22 17 07.2 +1.4**
URV *e*PP **PP** **22 17 41.4 +1.3**
URV *e*sP **sP** **22 18 37.0 -1.0**
URV *e*S **S** **22 21 42.0 -2.8**
URV *e*SS **SS** **22 25 22.5 +1.6**
TRD Trivandrum 46.13 275 *e*P **P** **22 15 43.5 +0.6**
TRD AMB AMB 22 15 46.9
comp=Z,3μm,0.8s

LGTI Lohaghat 46.54 305 *e*P **P** **22 15 48.1 +2.4**
LGTI *ex* x 22 17 11.4
PTH Pithoragarh 46.60 305 *e*P **P** **22 15 46.1 -0.3**
PTH *ex* x 22 20 03.8
ZAK Zakamensk 46.69 342 *e*P **P** **22 15 46.7 +0.1**
ZAK *e* 22 17 09.0
ZAK *e* 22 22 04.1
ZAK pmax pmax
comp=Z,277nm,1.6s
TYV Tymovskoe 46.82 17 *e*P **P** **22 15 49.0 +1.6**
TYV *e*S **ScS** **22 24 31.0 -4.4**
TYV pmax pmax
comp=Z,7μm,5.0s
TYV smax smax
comp=E,28μm,9.0s
KLRI Killari 47.04 288 *e*P **P** **22 15 48.6 -1.0**
KLRI IAmb IAmb 22 15 53.0
comp=Z,4μm,0.8s
KLRI *e*PcP **PcP** **22 17 09.8 +0.5**
KLRI *e*PP **PP** **22 17 48.1 -0.9**
KLRI *e*sP **sP** **22 18 47.7 +1.9**
KLRI *e*S **S** **22 22 00.1 +1.8**
KLRI *e*SS **SS** **22 25 32.2 -4.1**
AKL Akola 47.06 292 *e*P **P** **22 15 50.5 +0.7**
AKL AMB AMB 22 15 57.9
comp=Z,6μm,0.3s
BHPL Bhopal 47.20 295 *e*P **P** **22 15 51.1 +0.3**
BHPL AMB AMB 22 15 58.7
comp=Z,4μm,0.6s
JOSI Joshimath 47.48 306 *e*P **P** **22 15 50.5 -2.6**
JOSI AMB AMB 22 15 58.4
comp=Z,32μm,1.1s
TLY Talaya 47.74 343 P **P** **22 15 54.2 0.0**
comp=Z,328nm,0.7s,baz=179,slow=3.7,SNR=98
TLY S **S** **22 22 03.7 -3.1**
comp=Z,20nm,0.9s,baz=106,slow=7.4,SNR=1.5
TLY Talaya 47.74 343*d* *i*P **P** **22 15 54.9 +0.6**
TLY *e* 22 17 42.1
TLY *e*PPP PPP 22 17 51.7
TLY *e*S **S** **22 22 07.6 +0.8**
TLY *e* 22 22 19.3
TLY *e* 22 24 40.7
TLY pmax pmax
comp=Z,2μm,1.5s
TLY Talaya 47.74 343 P **P** **22 15 55.5 +1.2**
comp=Z,7μm,0.8s
TLY Talaya 47.74 343 *e*P **P** **22 15 54.9 +0.6**
comp=Z,767nm,0.7s
TLY S **S** **22 22 03.7 -3.1**
AGRA Agra 47.76 301 *e*P **P** **22 15 54.3 -0.5**
AGRA AMB AMB 22 15 59.5
comp=Z,3μm,0.6s
IRK Irkutsk 48.07 344⇓ *i*P **P** **22 15 56.7 0.0**
IRK *e*S **S** **22 22 14.8 +3.5**
IRK *e* 22 24 45.7
IRK pmax pmax
comp=Z,2μm,1.7s
CAN Canberra 48.23 152 ⇓P **P** **22 15 59.2 +1.0**
baz=48
NKL Nikolayevsk 48.38 14 *i* P **P** **22 15 58.0 -0.9**
NKL *e*S **ScS** **22 24 41.0 -4.8**
NKL pmax pmax
comp=Z,7μm,14.0s
NKL smax smax
comp=E,10μm,16.0s
WMQ Urumqi 48.45 326 P **P** **22 16 01.3 +1.5**
WMQ PcP **PcP** **22 17 16.0 +2.0**
WMQ pP **pP** **22 17 50.5 +0.9**
WMQ PP PP 22 18 07.8 +6.6
WMQ sP sP 22 18 51.1 -5.6
WMQ PcS **PcS** **22 21 09.3 -1.8**
WMQ S **S** **22 22 18.5 +1.5**
WMQ ScS **ScS** **22 24 47.3 +0.3**
WMQ SS **SS** **22 25 59.8 +1.9**
WMQ PMZ
comp=E,2μm,0.9s
WMQ PMZ
comp=E,18μm,4.6s
MOY Mondy 48.52 341 *e*P **P** **22 16 01.0 +0.8**
MOY pmax pmax
comp=Z,2μm,2.2s
BISR Bishrakh 48.58 302 *e*P **P** **22 16 00.1 -0.8**
BISR AMB AMB 22 16 05.9
comp=Z,13μm,0.6s
DDI Dehra Dun 48.62 305 *e*P **P** **22 16 01.9 +0.6**
DDI AMB AMB 22 16 10.0
comp=Z,6μm,1.0s
DDI *ex* x 22 22 41.0
NDI New Delhi 48.80 302 *e*P **P** **22 16 00.0 -2.6**
NDI *ex* x 22 22 24.0
AYAN Aya Nagar 48.82 302 *e*P **P** **22 16 01.8 -0.9**
AYAN AMB AMB 22 16 09.9
comp=Z,2μm,1.0s
BHGR Bahadurgarh 49.03 302 *e*P **P** **22 16 03.5 -0.7**
BHGR AMB AMB 22 16 09.3
comp=Z,3μm,0.6s
KUDL Kundal 49.26 302 *e*P **P** **22 16 05.3 -0.6**
KUDL AMB AMB 22 16 11.3
comp=Z,3μm,1.2s
GOA Goa 49.41 285 *e*P **P** **22 16 06.0 -1.2**
GOA AMB AMB 22 16 15.2
comp=Z,2μm,0.9s
KKR Kurukshetra 49.52 304 *e*P **P** **22 16 08.1 +0.3**
KKR AMB AMB 22 16 14.2
comp=Z,3μm,0.9s
TARA Tarawa 49.58 94 *e*P **P** **22 16 09.9 +1.5**
comp=Z,7μm,1.1s
SMLA Simla 49.61 305 *i* P **P** **22 16 09.4 +0.9**
SMLA AMB AMB 22 16 13.2
comp=Z,32μm,0.4s
SMLA *i* x x 22 22 37.0
POO Poona 49.69 289⇓ *i*P **P** **22 16 09.0 -0.3**
comp=E,850nm,1.0s
POO *e*P **P** **22 16 09.0 -0.3**
POO AMB AMB 22 16 15.9
comp=Z,2μm,0.9s
KHET Khetri 49.82 301 *e*P **P** **22 16 09.6 -0.4**
KHET AMB AMB 22 16 15.3
comp=Z,2μm,1.2s
SDNR Sundarnagar 49.90 306 *e*P **P** **22 16 11.0 +0.4**
SDNR *ex* x 22 22 38.8
CLNS Chul'man 50.01 1 *e*P **P** **22 16 11.4 +0.5**
CLNS *e* 22 17 19.7
CLNS *e**PP **pP** **22 17 59.9 -1.9**
CLNS *e* 22 18 18.9
CLNS *e*S **S** **22 22 35.9 -1.6**
CLNS *e* 22 24 48.7
CLNS *e**SS **sS** **22 25 52.6 -5.1**
CLNS pmax pmax
comp=Z,141nm,1.0s
CLNS pmax pmax
comp=E,546nm,0.8s
CLNS pmax pmax
comp=N,363nm,0.9s
CLNS pmax pmax
comp=N,185nm,1.1s
CLNS pmax pmax
comp=Z,202nm,1.0s
CLNS pmax pmax
comp=E,117nm,1.0s
CLNS smax smax
comp=E,7μm,14.1s
CLNS smax smax
comp=N,15μm,16.4s
BHK Bhakra 50.31 306 *ex* P 22 16 19.2 +5.6
DHRM DHARAMSHALA 50.68 307 *e*P **P** **22 16 16.8 +0.3**
DHRM AMB AMB 22 16 25.0
comp=Z,8μm,1.5s
HVS Khovu-Aksy 50.71 336*c* *i*P P 22 16 20.1 +3.9
NOUC Port Laguerre 50.78 126 *e*P **P** **22 16 16.9 -0.2**
PONG Pong 50.87 306 *ex* **P** **22 16 16.0 -1.5**
PONG *ex* x 22 16 30.0
DZM Mont Dzumac 50.88 125 P **P** **22 16 18.7 +0.8**
comp=Z,1μm,0.8s,baz=309,slow=9.3,SNR=394
LHI Lord Howe Isla 50.98 140 P **P** **22 16 19.2 +0.8**
baz=51,SNR=190
NORM Noumea 50.99 126 *e*P **P** **22 16 18.8 +0.3**
DLH Dalhousie 51.05 307 *ex* **P** **22 16 18.0 -1.1**
DLH *ex* x 22 16 50.0
BAYA Yate Dam 51.28 125 *e*P **P** **22 16 22.1 +1.4**
BOD Bodaibo 51.51 354 *e*P **P** **22 16 21.4 -0.3**
BOD pmax pmax
comp=Z,766nm,1.5s
SKR Severo-Kuril's 51.56 26⇓ *i*P **P** **22 16 19.0 -3.1**

SKR *e* 22 17 21.0
SKR *e**PP **pP** **22 18 12.0 -2.1**
SKR *e* 22 18 28.0
SKR *e*PPP PPP 22 19 18.0
SKR *i*S **S** **22 22 54.0 -4.4**
SKR *e* 22 25 02.0
SKR pmax pmax
comp=N,2μm,5.0s
SKR pmax pmax
comp=E,3μm,5.0s
SKR pmax pmax
comp=Z,4μm,5.0s
SKR pmax pmax
comp=E,180nm,0.8s
SKR pmax pmax
comp=Z,520nm,0.8s
SKR pmax pmax
comp=N,340nm,1.0s
SKR pmax pmax
comp=N,3μm,16.0s
SKR pmax pmax
comp=Z,5μm,16.0s
SKR pmax pmax
comp=E,3μm,14.0s
SKR smax smax
comp=N,23μm,16.0s
SKR smax smax
comp=E,15μm,14.0s
SKR smax smax
comp=N,200nm,1.0s
SKR smax smax
comp=E,110nm,1.0s
SKR MLR MLR
comp=Z,8μm,20.0s
SKR MLR MLR
comp=N,4μm,14.0s
SKR MLR MLR
comp=E,5μm,14.0s
BHV Bhavnagar 51.72 292 *e*P **P** **22 16 23.0 -0.8**
BHV *ex* x 22 16 31.0
DGAR Diego Garcia 52.80 255 P **P** **22 16 31.7 0.0**
comp=E,10μm,1.1s,SNR=9.7
DGAR Diego Garcia 52.80 255 *e*P **P** **22 16 31.1 -0.6**
DGAR pmax pmax
comp=Z,3μm,1.1s
DGAR Diego Garcia 52.80 255 *e*P **P** **22 16 31.1 -0.6**
comp=Z,3μm,1.1s
H08S2 Diego Garcia H 52.82 255 P P 22 16 28.2 -3.3
baz=39,slow=9.7,SNR=141
H08S3 Diego Garcia H 52.83 255 P P 22 16 28.2 -3.4
baz=39,slow=9.7,SNR=123
H08S1 Diego Garcia H 52.84 255 P P 22 16 28.2 -3.5
baz=39,slow=9.7,SNR=86
MKAR Makanchi Array 53.28 326 P **P** **22 16 34.9 +0.3**
comp=Z,854nm,0.4s,baz=122,slow=8.6,SNR=2177
MKAR ScP **ScP** **22 20 32.2 +0.1**
comp=Z,367nm,1.0s,baz=127,slow=5.7,SNR=4.9
MKAR S **S** **22 23 17.1 -4.4**
comp=Z,26nm,0.7s,baz=109,slow=7.8,SNR=1.7
MKAR PKPPKP P'P'df 22 46 38.5 -7.3
comp=Z,23nm,1.0s,baz=289,slow=3.7,SNR=12
MKAR P4KPbc 22 53 47.3
comp=Z,7.2nm,0.8s,baz=138,slow=3.8,SNR=9.6
MKAR Makanchi Array 53.28 326 P **P** **22 16 34.9 +0.3**
MKAR S **S** **22 23 17.1 -4.4**
MKAR pmax pmax
comp=E,854nm,0.4s
MKAR pmax pmax
comp=N,367nm,1.0s
MKAR smax smax
comp=N,26nm,0.7s
MKAR pmax pmax
comp=Z,23nm,1.0s
MKAR pmax pmax
comp=Z,7.0nm,0.8s
MOO Moorlands 53.48 158⇓P **P** **22 16 36.4 +0.5**
baz=54,SNR=111
KSH Kashi 53.67 315⇓ *i*P **P** **22 16 39.3 +1.8**
KSH PcP **PcP** **22 17 37.1 +3.3**
KSH pP **pP** **22 18 35.0 +4.1**
KSH PP PP 22 18 53.8 +6.0
KSH S **S** **22 23 25.4 -1.5**
KSH ScS **ScS** **22 25 25.1 +1.2**
KSH sS **sS** **22 26 51.5 +0.6**
KSH SS **SS** **22 27 26.3 +6.0**
KSH PMZ
comp=Z,1μm,0.8s
KSH PMZ
comp=Z,28μm,4.5s
TAU Tasmania Unive 53.93 158 P **P** **22 16 41.9 +2.8**
comp=Z,14μm,1.0s,SNR=73
TAU Tasmania Unive 53.93 158 *e*P **P** **22 16 39.7 +0.6**
TAU pmax pmax
comp=Z,3μm,1.0s
TAU Tasmania Unive 53.93 158 *e*P **P** **22 16 39.7 +0.6**
comp=Z,3μm,1.0s
H08N1 Diego Garcia H 53.94 257 P **P** **22 16 38.8 -0.6**
baz=102,slow=3.6,SNR=87
H08N2 Diego Garcia H 53.95 257 P **P** **22 16 40.6 +1.2**
baz=102,slow=3.6,SNR=76
H08N3 Diego Garcia H 53.96 257 P P 22 16 34.4 -5.1
baz=102,slow=3.6,SNR=67
PETK Petropavlovsk- 54.00 25 P **P** **22 16 39.6 +0.1**
comp=Z,412nm,0.7s,baz=197,slow=4.5,SNR=94
PETK S **S** **22 23 31.5 +1.0**
comp=Z,34nm,1.1s,baz=172,slow=7.4,SNR=2.1
BHJ Bhuj 54.22 294 *e*P **P** **22 16 42.2 +0.6**
BHJ AMB AMB 22 16 50.3
comp=Z,5μm,1.2s
PET Petropavlovsk 54.34 25*d* *i*P **P** **22 16 41.9 +0.1**
PET *e* 22 17 37.8
PET *e**PP **pP** **22 18 37.3 +1.7**
PET *e**SP **sP** **22 19 40.1 -1.4**
PET *i*S **S** **22 23 35.0 +0.1**
PET *e* 22 25 27.0
PET *e**SS **sS** **22 26 58.1 -1.4**
PET *e*SS **SS** **22 27 29.2 -0.8**
PET pmax pmax
comp=Z,6μm,6.9s
PET pmax pmax
comp=Z,379nm,0.7s
PET pmax pmax
comp=Z,2μm,13.9s
PET Petropavlovsk 54.34 25 *e*P **P** **22 16 42.5 +0.7**
comp=Z,2μm,1.5s
ULHL Ulahol 54.66 318 P **P** **22 16 45.4 +0.8**
SNR=66
AAA Alma-Ata 54.67 319 *e*P **P** **22 16 45.5 +1.1**
AAA *e*S **S** **22 23 38.5 -1.2**
AAA pmax pmax
comp=Z,18μm,4.9s
AAA smax smax
comp=E,32μm,13.6s
KRAR Krasnoyarsk 54.82 340*d* *i*P **P** **22 16 46.8 +1.7**
KRAR pmax pmax
comp=Z,1μm,1.6s
KZA Kyzart 55.25 317 P **P** **22 16 50.1 +1.2**
SNR=49
TKM2 Tokmak 2 55.39 319 P **P** **22 16 50.2 +0.6**
SNR=27
TKM2 Tokmak 2 55.39 319 *e*P **P** **22 16 50.0 +0.4**
TKM2 pmax pmax
comp=Z,1μm,0.8s
TKM2 Tokmak 2 55.39 319 *e*P **P** **22 16 50.0 +0.4**
comp=Z,1μm,0.8s
YAK Yakutsk 55.40 4 P **P** **22 16 48.8 -0.1**
comp=Z,215nm,0.8s,baz=190,slow=15,SNR=151
YAK S **S** **22 23 47.9 -0.4**
comp=Z,1.8nm,0.3s,baz=197,slow=19,SNR=4.4
YAK Yakutsk 55.40 4*d* *i*P **P** **22 16 48.5 -0.4**
YAK *e* 22 17 40.8
YAK *e**PP **pP** **22 18 44.7 +1.2**
YAK *e* 22 18 59.4
YAK *e*S **S** **22 23 47.0 -1.3**
YAK *e* 22 25 30.1
YAK *e*SS **SS** **22 27 45.9 -0.3**
YAK pmax pmax
comp=Z,3μm,1.1s
YAK pmax pmax
comp=E,180nm,1.2s
YAK pmax pmax
comp=N,722nm,1.4s
YAK pmax pmax
comp=Z,1μm,1.5s
YAK pmax pmax
comp=N,1μm,1.6s

YAK pmax pmax
comp=E,452nm,1.5s
YAK smax smax
comp=N,2μm,1.9s
YAK smax smax
comp=E,4μm,3.3s
YAK Yakutsk 55.40 4 *e*P **P** **22 16 49.5 +0.6**
comp=E,3μm,0.9s
YAK S **S** **22 23 47.9 -0.4**
NFK Norfolk Island 55.61 132 P **P** **22 16 53.3 +2.2**
baz=56,SNR=30
KBK Karagaybulak 55.70 318 P **P** **22 16 52.7 +1.0**
SNR=193
CHMS Chumysh 55.98 318 P **P** **22 16 53.9 +0.4**
SNR=23
AAK Ala-Archa 55.99 318 P **P** **22 16 54.6 +0.9**
SNR=104
AAK Ala-Archa 55.99 318 *e*P **P** **22 16 54.4 +0.7**
AAK pmax pmax
comp=Z,1μm,1.0s
AAK Ala-Archa 55.99 318 *e*P **P** **22 16 54.4 +0.7**
comp=Z,1μm,1.0s
FRU Bishkek 56.00 318 ⇓*i*P **P** **22 16 54.5 +0.9**
FRU *i* 22 18 53.5
FRU *i*S **S** **22 24 00.0 +3.1**
FRU pmax pmax
comp=Z,4μm,3.3s
FRU smax smax
comp=N,6μm,6.5s
USP Ospenovka 56.26 318 P **P** **22 16 55.7 +0.3**
SNR=523
AML Almayashu 56.32 317 P **P** **22 16 57.3 +1.0**
SNR=438
EKS2 Erkin-Say 56.48 318 P **P** **22 16 57.9 +0.9**
SNR=416
EKS2 Erkin-Say 56.48 318 *e*P **P** **22 16 57.9 +0.9**
EKS2 pmax pmax
comp=Z,1μm,0.8s
EKS2 Erkin-Say 56.48 318 *e*P **P** **22 16 57.9 +0.9**
comp=Z,1μm,0.8s
ZALV Zalesovo Beam 56.49 334 P **P** **22 16 56.2 -0.5**
comp=Z,394nm,0.7s,baz=128,slow=6.9,SNR=244
ZALV S **S** **22 24 00.3 -2.5**
comp=Z,30nm,0.7s,baz=145,slow=5.3,SNR=2.1
MA2 Magadan 56.69 16 *i*P **P** **22 16 59.0 +1.1**
KBL Kabul 57.16 307 *e*P **P** **22 17 01.8 -0.1**
KBL pmax pmax
comp=Z,2μm,0.9s
KBL Kabul 57.16 307 *e*P **P** **22 17 01.8 -0.1**
comp=Z,2μm,0.9s
KURBB Kurchatov Arra 57.51 328 P **P** **22 17 03.6 0.0**
comp=Z,845nm,0.5s,baz=128,slow=6.3,SNR=1802
KURBB PKP2bc 22 46 45.8
comp=Z,20nm,1.0s,baz=280,slow=3.2,SNR=5.3
KURBB P4KPbc 22 54 03.0
comp=Z,0.6nm,0.8s,baz=124,slow=3.5,SNR=3.0
KURK Kurchatov 57.51 328 P **P** **22 17 03.4 -0.2**
comp=Z,48μm,0.7s
KURK Kurchatov 57.51 328 *e*P **P** **22 17 03.7 0.0**
KURK pmax pmax
comp=Z,3μm,0.7s
KURK Kurchatov 57.51 328 *e*P **P** **22 17 03.6 0.0**
comp=Z,3μm,0.7s
KURK ⇑*e* 22 46 45.8
KURK *e* 22 54 03.0
NVS Novosibirsk 57.78 334 ⇓*i*P **P** **22 17 04.7 -0.7**
NVS *i* *PP **pP** **22 19 04.1 +2.7**
NVS *i*S **S** **22 24 18.6 -0.4**
NVS pmax pmax
comp=Z,1μm,0.7s
NVS pmax pmax
comp=N,669nm,0.5s
NVS pmax pmax
comp=E,853nm,0.7s
NVS smax smax
comp=N,933nm,1.6s
NVS smax smax
comp=E,2μm,2.0s
KKAR Karatay Array 58.86 317 *e*P **P** **22 17 13.3 +0.3**
KKAR Karatay Array 58.86 317 *e*P **P** **22 17 13.2 +0.3**
MSVF Nonsavu 59.09 115 P **P** **22 17 16.3 +1.4**
comp=E,12μm,1.0s
MSVF Nonsavu 59.09 115 *e*P **P** **22 17 16.3 +1.4**
MSVF pmax pmax
comp=Z,2μm,1.0s
MSVF Nonsavu 59.09 115 *e*P **P** **22 17 16.3 +1.4**
comp=Z,2μm,1.0s
MIDW Midway 59.72 61 *e*P **P** **22 17 19.4 +0.5**
comp=Z,394nm,0.8s
OTUK Ortayu 59.81 323 *i*P **P** **22 17 18.6 -0.6**
OTUK pmax pmax
comp=Z,1μm,0.9s
SEY Seymchan 59.93 15 *i*P **P** **22 17 19.6 0.0**
comp=Z,341nm,1.0s,baz=222,slow=8.1,SNR=229
SEY S **S** **22 24 47.3 +1.5**
comp=Z,12nm,0.8s,baz=208,slow=18,SNR=2.6
SEY P4KPbc 22 54 13.7
comp=Z,1.1nm,0.2s,baz=327,slow=11,SNR=1.5
SEY Seymchan 59.93 15 *di*P **P** **22 17 20.5 +0.9**
SMY Shemya 61.61 32 *e*P **P** **22 17 31.7 +0.9**
SMY pmax pmax
comp=Z,843nm,1.1s
SMY Shemya 61.61 32 *e*P **P** **22 17 31.6 +0.9**
comp=Z,843nm,1.1s
OUZ Omahuta 62.94 135 PN **P** **22 17 41.6 +2.0**
OUZ Omahuta 62.94 135 *e*P **P** **22 17 41.8 +2.1**
comp=Z,2μm,1.1s
BVAR Borovoye Array 63.08 327 P **P** **22 17 40.1 -0.1**
comp=Z,296nm,0.8s,baz=133,slow=8.1,SNR=293
BVAR PKP2bc 22 46 32.9
comp=Z,7.4nm,0.8s,baz=302,slow=2.7,SNR=2.9
BVAR P4KPbc 22 54 25.9
comp=Z,0.4nm,0.5s,baz=111,slow=3.2,SNR=2.5
BRVK Borovoye 63.15 327 P **P** **22 17 40.2 -0.5**
comp=Z,14μm,0.8s
BRVK Borovoye 63.15 327 *e*P **P** **22 17 40.7 0.0**
BRVK pmax pmax
comp=Z,2μm,0.8s
BRVK Borovoye 63.15 327 *e*P **P** **22 17 40.7 0.0**
comp=Z,2μm,0.8s
WCZ Waipu Caves 63.84 135 *e*PN **P** **22 17 47.4 +2.0**
AMKA Amchitka 63.88 35 *e*P **P** **22 17 45.8 +0.4**
WBK Wadi Bani Khal 63.94 292 P **P** **22 17 48.1 +1.8**
SNR=84
WTAZ Waiatarua 64.50 136 *e*PN **P** **22 17 52.0 +2.4**
IMYA Miami 64.67 307 *e*P **P** **22 17 51.6 +0.7**
JMDO Jabal Madar 64.73 291 P **P** **22 17 50.7 -0.6**
SNR=125
SMDO Samad 64.82 292 P **P** **22 17 51.6 -0.4**
SNR=92
MSZ Milford Sound 64.87 147 PN **P** **22 17 52.2 +0.5**
JCZ Jackson Bay 64.95 146 PN **P** **22 17 52.9 +0.5**
DCZ Deep Cove 64.98 148 PN **P** **22 17 52.3 0.0**
DCZ Deep Cove 64.98 148 *e*P **P** **22 17 52.6 +0.4**
comp=Z,2μm,0.8s
MKAZ Moumakai 65.00 136 ⇑PN **P** **22 17 54.0 +1.4**
MKAZ *e*SN **S** **22 25 52.2 +4.0**
FOZ Fox Glacier 65.17 145 *e*PN **P** **22 17 54.4 +0.9**
FOZ *e*SN **S** **22 25 52.4 +2.5**
ISRO Mashad 65.17 307 *e*P **P** **22 17 54.4 +0.5**
KUZ Kuaotunu 65.20 136 *e*PN **P** **22 17 55.3 +1.4**
IMOG Moghan 65.24 307 *e*P **P** **22 17 54.8 +0.2**
QRZ Quartz Range 65.26 141 PN **P** **22 17 54.8 +0.6**
QRZ pP **pP** **22 19 53.9 -0.7**
PKE Pukeiti 65.30 139 *e*PN **P** **22 17 56.3 +1.8**
DSZ Denniston Nort 65.34 142 PN **P** **22 17 54.5 -0.2**
DSZ *e*SN **S** **22 25 55.5 +3.3**
KNTN Kanton 65.36 96 *e*P **P** **22 17 54.7 -0.7**
comp=Z,885nm,0.8s
KHEZ Kahui Hut 65.37 139 *e*PN **P** **22 17 56.8 +1.8**
MLZ Mavora Lakes 65.44 147 PN **P** **22 17 54.8 -0.5**
MLZ PP **PP** **22 20 30.0 -0.5**
WVZ Waitaha Valley 65.48 144 PN **P** **22 17 55.2 -0.3**
HIZ Hauiti 65.52 138 PN **P** **22 17 57.2 +1.4**
HOQ Hoqain 65.53 293 P **P** **22 17 56.1 -0.2**
SNR=205
TOZ Tahuroa Road 65.55 137 PN **P** **22 17 56.7 +0.7**
IPAY Payeh 65.57 307 *e*P **P** **22 17 57.1 +0.5**
WKZ Wanaka 65.57 146 PN **P** **22 17 56.0 -0.1**
WKZ pP pP 22 20 02.5 +5.8
BSY Bisya 65.58 292 P **P** **22 17 58.4 +1.7**
SNR=79
WHZ Wether Hill Ro 65.67 148 PN **P** **22 17 56.0 -0.7**
WHZ pP **pP** **22 20 02.4 +5.1**
WHZ PP PP 22 20 26.8 -5.6

WHZ Wether Hill Ro 65.67 148 *e*P **P** **22 17 57.2 +0.6**
comp=Z,1μm,1.0s
LREZ Lake Rotokare 65.71 139 *e*PN **P** **22 17 58.9 +1.8**
VRZ Vera Road 65.77 138 PN **P** **22 17 58.3 +0.9**
IAKL Akhelmad 65.79 307 *e*P **P** **22 17 58.3 +0.3**
LBZ Lake Benmore 65.95 145 PN **P** **22 17 58.4 0.0**
LBZ pP **pP** **22 20 01.3 +2.0**
LBZ *e*SN **S** **22 26 00.5 +1.2**
EAZ Earnscleugh 65.99 146 PN **P** **22 17 58.0 -0.6**
IKRD Kardeh 66.01 307 *e*P P 22 17 55.5 -3.8
IEMG Emamgholi 66.01 308 *e*P **P** **22 18 00.0 +0.6**
NNZ Nelson 66.01 141 PN **P** **22 17 58.8 -0.1**
THZ Tophouse 66.02 142 PN **P** **22 17 58.3 +0.7**
THZ *e*SN **S** **22 25 58.9 -1.4**
THZ ScS **SKSac** **22 26 55.8 -0.2**
RPZ Rata Peaks 66.05 144 P **P** **22 17 59.6 +0.6**
comp=Z,4μm,1.0s,baz=330,slow=2.7,SNR=370
RPZ S **S** **22 25 59.0 -1.5**
comp=Z,37nm,1.0s,baz=270,slow=6.1,SNR=2.1
RPZ Rata Peaks 66.05 144 PN **P** **22 17 58.7 -0.3**
RPZ Rata Peaks 66.05 144 *e*P **P** **22 17 59.8 +0.8**
comp=Z,3μm,0.8s
RPZ S **S** **22 25 59.0 -1.5**
TGRZ Tauranga 66.07 136 *e*PN **P** **22 18 00.6 +1.3**
DUWZ D'Urville Isla 66.13 140 *e*PN **P** **22 18 00.5 +0.9**
DUWZ *e*SN **S** **22 26 02.1 +0.6**
KARZ Kaharoa 66.20 137 *e*PN **P** **22 18 01.7 +1.5**
WATZ Wairara 66.20 137 *e*PN **P** **22 18 01.4 +1.3**
WATZ pP **pP** **22 20 00.1 -1.0**
ARQ Araqi 66.24 292 P **P** **22 18 01.8 +1.1**
SNR=75
PKVZ Pokaka 66.25 138 *e*PN **P** **22 18 01.9 +1.5**
WAZ Wanganui 66.25 139 PN **P** **22 18 01.0 +0.6**
GRRZ Galatos Road 66.28 137 *e*PN **P** **22 18 02.0 +1.4**
APZ The Paps 66.30 148 PN **P** **22 18 00.5 -0.1**
APZ pP **pP** **22 19 58.8 -2.7**
APZ PP PP 22 20 28.8 -9.0
OMRZ Omania 66.33 137 *e*PN **P** **22 18 02.2 +1.2**
HSRZ Hossack Road 66.35 137 *e*SN **S** **22 26 08.5 +4.3**
DRZ Dome Shelter 66.38 138 *e*PN **P** **22 18 02.8 +1.2**
HLRZ Highlands Stat 66.39 137 *e*PN **P** **22 18 03.7 +2.4**
OTVZ Oturere 66.39 138 *e*PN **P** **22 18 02.5 +1.0**
OXZ Oxford 66.39 143 PN **P** **22 18 00.6 -0.6**
WHVZ Whangaehu Hut 66.40 138 PN **P** **22 18 01.8 +0.2**
HRRZ Handcock Road 66.41 137 *e*PN **P** **22 18 03.0 +1.5**
WNVZ Wahianoa 66.43 138 PN **P** **22 18 01.9 +0.2**
TUVZ Tukino 66.44 138 *e*PN **P** **22 18 02.4 +0.7**
ISFR Sfrayin 66.46 307 *e*P **P** **22 18 03.0 +0.8**
TUWZ Tuamarina 66.48 141 *e*PN **P** **22 18 01.4 -0.3**
TUWZ pP **pP** **22 20 01.6 -1.2**
TUWZ PP PP 22 20 33.7 -5.8
TUWZ *e*SN **S** **22 26 02.8 -2.8**
IBND Bandar-abas 66.49 297 *e*P **P** **22 18 01.5 -0.7**
IBND *e*P **P** **22 18 03.4 +1.2**
ABKT Ailbek 66.52 308 P **P** **22 18 02.8 +0.6**
comp=Z,9μm,1.2s
GEYT Ailbeck 66.52 308 P **P** **22 18 02.0 -0.2**
comp=Z,236nm,0.8s,baz=116,slow=3.4,SNR=201
GEYT S **S** **22 26 06.9 +0.5**
comp=Z,24nm,1.1s,baz=96,slow=5.1,SNR=1.9
ALRZ Allen Road 66.54 137 *e*PN **P** **22 18 03.2 +1.0**
ALRZ *e*SN **S** **22 26 08.6 +2.2**
RRRZ Republican Roa 66.55 137 PN **P** **22 18 02.0 -0.2**
MOVZ Moawhango 66.58 138 ⇑PN **P** **22 18 02.3 -0.1**
TCW Tory Channel 66.58 140 PN **P** **22 18 01.4 -1.0**
TCW pP **pP** **22 20 02.2 -1.3**
TCW PP PP 22 20 32.0 -8.3
TCW *e*SN **S** **22 26 05.5 -1.2**
TCW ScS **SKiKP** **22 26 58.6 -0.6**
EDRZ Edgecumbe 66.58 136 *e*PN **P** **22 18 04.3 +1.8**
BANOM Banah 66.59 295 P **P** **22 18 05.4 +2.6**
SNR=20
BSWZ Blackbirch Sta 66.60 141 *e*PN **P** **22 18 02.1 -0.4**
ODZ Otahua Downs 66.61 146 *e*PN **P** **22 18 02.9 +0.4**
ODZ PP PP 22 20 30.7 -10
ODZ Otahua Downs 66.61 146 *e*P **P** **22 18 03.1 +0.6**
comp=Z,988nm,1.2s
TUZ Tuapeka 66.62 147 PN **P** **22 18 02.1 -0.3**
TUZ pP **pP** **22 20 02.2 -1.4**
TUZ PP **PP** **22 20 38.7 -1.8**
UOSS Wadi Hilu 66.62 294 P **P** **22 18 04.2 +1.2**
comp=Z,3μm,0.5s,SNR=55
RAO Raoul Island 66.68 126 *e*P **P** **22 18 03.6 +0.4**
RAO *e* 22 20 38.8
RAO pmax pmax
comp=Z,4μm,1.2s
RAO Raoul Island 66.68 126 *e*P **P** **22 18 03.6 +0.4**
comp=Z,4μm,1.2s
RAO *e*PP **PP** **22 20 38.8 -2.6**
SYZ Scrubby Hill 66.72 147 PN **P** **22 18 02.6 -0.5**
ASHO Ashiyiah 66.73 294 P **P** **22 18 05.2 +1.5**
SNR=46
ISHV Shirvan 66.78 308 *e*P **P** **22 18 07.0 +3.0**
KHZ Kahutara 66.78 142 PN **P** **22 18 02.8 -0.7**
KHZ Kahutara 66.78 142 *e*P **P** **22 18 04.2 +0.7**
comp=Z,2μm,1.1s
KIW Kapiti Island 66.79 140 PN **P** **22 18 02.8 -0.9**
KIW *e*SN **S** **22 26 08.0 -1.3**
BHHZ Black Hill Sta 66.82 138 PN **P** **22 18 03.7 -0.2**
GSTR Great Sitkin T 66.83 36 *e*P **P** **22 18 04.3 +0.6**
CMWZ Cape Campbell 66.83 141 *e*PN **P** **22 18 03.7 -0.2**
SNZO South Karori 66.90 140 *e*P **P** **22 18 03.8 -0.5**
comp=Z,3μm,0.7s
SNZO *e*S **S** **22 26 09.8 -0.6**
URZ Urewera 66.91 136 P **P** **22 18 04.1 -0.4**
comp=Z,710nm,0.6s,baz=266,slow=5.4,SNR=211
URZ S **S** **22 26 08.8 -1.9**
comp=Z,192nm,1.2s,baz=24,slow=22,SNR=18
URZ Urewera 66.91 136 PN **P** **22 18 03.7 -0.7**
URZ *e*SN **S** **22 26 10.2 -0.5**
URZ Urewera 66.91 136 *e*P **P** **22 18 04.7 +0.3**
comp=Z,3μm,1.2s
URZ S **S** **22 26 08.8 -1.9**
SHAO Shalim 66.93 287 P **P** **22 18 06.9 +1.9**
SNR=45
OGWZ Otaki Gorge 66.93 140 PN **P** **22 18 03.8 -0.7**
OGWZ pP **pP** **22 20 08.5 +2.6**
OGWZ PP **PP** **22 20 43.6 +0.2**
OGWZ *e*SN **S** **22 26 09.3 -1.6**
OGWZ ScS **ScS** **22 27 04.3 +0.7**
BKZ Black Stump Fm 66.95 138 PN **P** **22 18 04.5 -0.2**
BKZ *e*SN **S** **22 26 10.9 -0.3**
BKZ Black Stump Fm 66.95 138 *e*P **P** **22 18 05.2 +0.5**
comp=Z,8μm,0.8s
MQZ McQueen's Vall 66.98 143 PN **P** **22 18 05.0 +0.3**
MQZ pP **pP** **22 20 04.7 -1.3**
MQZ PP PP 22 20 35.9 -7.7
CAW Cannon Point 67.02 140 PN **P** **22 18 04.3 -0.8**
CAW *e*SN **S** **22 26 10.1 -1.9**
KWHZ Kaweka Forest 67.03 138 PN **P** **22 18 05.3 +0.1**
KWHZ *e*SN **S** **22 26 11.8 -0.5**
POWZ Post Office Ro 67.10 139 PN **P** **22 18 04.8 -0.8**
HHSZ Highcliff Hill 67.10 146 PN **P** **22 18 07.9 +2.4**
KRHZ Kereru 67.11 138 PN **P** **22 18 05.2 -0.2**
MRZ Mangatainoka R 67.12 139 PN **P** **22 18 04.7 -1.0**
NMHZ Naumai 67.12 137 *e*PN **P** **22 18 06.0 +0.2**
NMHZ pP **pP** **22 20 06.9 -0.4**
NMHZ *e*SN **S** **22 26 14.3 +1.0**
HAZ Te Kaha 67.13 136 PN **P** **22 18 05.5 -0.3**
HAZ *e*SN **S** **22 26 13.7 +0.5**
HAZ ScS **ScS** **22 27 04.9 -0.4**
PNHZ Pukenui 67.13 138 PN **P** **22 18 05.2 -0.7**
HOWZ Holdsworth Sta 67.20 140 PN **P** **22 18 05.1 -1.1**
RAHZ Arahi 67.22 137 PN **P** **22 18 06.3 -0.1**
RAHZ pP pP 22 20 13.9 +6.0
MCHZ McNeill Hill 67.22 138 PN **P** **22 18 07.2 +0.9**
MWZ Matawai 67.23 136 PN **P** **22 18 05.9 -0.6**
MSWZ Moikau Station 67.30 140 PN **P** **22 18 06.4 -0.4**
DVHZ Dannevirke 67.31 139 *e*PN **P** **22 18 07.3 +0.4**
PRWZ Pori Road 67.31 139 PN **P** **22 18 06.9 0.0**
PRWZ pP pP 22 20 15.6 +7.1
PRWZ PP PP 22 20 39.9 -6.7
SNGZ Shannon Statio 67.33 137 PN **P** **22 18 06.8 -0.3**
SNGZ pP pP 22 20 14.4 +5.8
MTW Mount Morrison 67.33 140 PN **P** **22 18 06.2 -0.7**
MTW *e*SN **S** **22 26 13.7 -1.8**
PLWZ Palliser 67.39 140 PN **P** **22 18 06.9 -0.5**
PLWZ *e*SN **S** **22 26 15.0 -1.3**
AFI Afiamalu 67.42 108 *e*P **P** **22 18 09.1 +1.0**
AFI *e**PP **pP** **22 20 08.4 -1.3**
AFI pmax pmax
comp=Z,2μm,1.1s

AFI Afiamalu 67.42 108 *e*P **P** **22 18 09.1 +1.0**
comp=Z,2μm,1.1s
AFI *e*pP **pP** **22 20 08.4 -1.3**
TWGZ Tauwhareparae 67.47 136 PN **P** **22 18 07.8 -0.1**
TKGZ Te Karaka 67.50 136 PN **P** **22 18 08.2 +0.1**
KAHZ Kahuranaki 67.52 138 PN **P** **22 18 08.4 +0.2**
TMWZ Te Maipa 67.55 140 PN **P** **22 18 07.9 -0.5**
BFZ Birch Farm 67.56 139 PN **P** **22 18 07.8 -0.5**
BFZ PP PP 22 20 40.6 -8.1
BFZ *e*SN **S** **22 26 18.7 +0.5**
BFZ Birch Farm 67.56 139 *e*P **P** **22 18 08.8 +0.5**
comp=Z,3μm,0.9s
TRWZ Traveller 67.57 140 PN **P** **22 18 08.0 -0.4**
RIGZ Rimuhau 67.58 137 PN **P** **22 18 08.4 -0.2**
ANWZ Angora Road 67.59 139 PN **P** **22 18 07.6 -1.0**
WMGZ Waiomatatini S 67.60 135 PN **P** **22 18 08.9 +0.2**
PUZ Puketiti 67.61 136 PN **P** **22 18 08.6 -0.2**
KNZ Kokohu 67.67 137 PN **P** **22 18 08.7 -0.3**
IBAF Bafgh 67.72 301 *e*P **P** **22 18 09.8 0.0**
PRGZ Paritu Road 67.77 137 *e*PN **P** **22 18 10.7 +1.0**
CNGZ Carnagh Statio 67.77 136 PN **P** **22 18 09.8 +0.1**
ABKAR Akbulak array 67.81 321 *e*P **P** **22 18 09.3 -0.5**
MCQ Macquarie Isla 67.82 159 *e*P **P** **22 18 10.8 +1.2**
MCQ *e* 22 20 46.0
MCQ Macquarie Isla 67.82 159 *e*P **P** **22 18 10.8 +1.2**
comp=Z,52μm,1.1s
MCQ *e*PP **PP** **22 20 46.0 -4.5**
ATKA Atka Island 67.94 36 *e*P **P** **22 18 10.3 -0.2**
comp=Z,162nm,0.8s
RBK Rabkut 68.28 286 P **P** **22 18 14.3 +1.0**
SNR=63
IMEH Mehriz 68.51 301 *e*P **P** **22 18 13.7 -1.0**
ICHK Chekchek 68.77 302 *e*P **P** **22 18 15.8 -0.4**
MSEY Mahe Island 68.82 262 P **P** **22 18 17.1 +0.5**
comp=Z,3μm,0.9s,SNR=19
MSEY Mahe Island 68.82 262 *e*P **P** **22 18 16.3 -0.3**
MSEY pmax pmax
comp=Z,2μm,1.5s
MSEY Mahe Island 68.82 262 *e*P **P** **22 18 16.3 -0.3**
comp=Z,2μm,1.5s
ABTO Aybut 69.15 286 P **P** **22 18 20.2 +1.7**
SNR=61
I31KZ AKTYUBINSK INF 69.31 322 P **P** **22 18 20.0 +1.2**
baz=88,slow=7.6,SNR=0.9
AKTO Aktyubinsk 69.33 322 P **P** **22 18 18.4 -0.5**
comp=Z,200nm,0.3s,baz=101,slow=6.5,SNR=212
AKTO PKP2bc 22 46 18.1
comp=Z,13nm,1.1s,baz=297,slow=1.6,SNR=7.8
ISAD Sadrabad 69.35 301 *e*P **P** **22 18 19.6 -0.1**
ISRV Sarvestan 69.64 299 *e*P **P** **22 18 21.7 +0.1**
SVE Sverdlovsk 69.75 329 *ci*P **P** **22 18 20.7 -0.5**
SVE *e* 22 20 28.5
SVE *e* 22 21 28.9
SVE *e*S **S** **22 26 40.7 -2.1**
SVE *e* 22 27 21.8
SVE *e*SSS SSS 22 34 42.9
SVE pmax pmax
comp=Z,2μm,0.8s
SVE pmax pmax
comp=Z,6μm,12.2s
ISHM Shahmirzad 70.05 306 *e*P **P** **22 18 24.0 +0.1**
MRIV Mauritius Mete 70.17 246 *e*P **P** **22 18 24.2 -0.3**
SHI Shiraz 70.18 299 *e*P **P** **22 18 24.8 +0.2**
ILAS Lasjerd 70.28 305 *e*P **P** **22 18 24.7 -0.5**
NIUE Niue 70.39 113 ⇓P **P** **22 18 28.1 +2.4**
baz=70,SNR=15
IFIR Firoozkooh 70.47 305 *e*P **P** **22 18 26.5 +0.2**
IZEF Zefreh 70.57 302 *e*P **P** **22 18 27.1 +0.1**
ARU Arti 70.71 328 P **P** **22 18 26.6 -0.2**
baz=92,slow=5.9
ARU Arti 70.71 328 *di*P **P** **22 18 25.8 -1.1**
ARU 22 18 42.9
ARU *PP **pP** **22 20 25.7 -4.4**
ARU 22 21 20.0
ARU PPP PPP 22 22 58.9
ARU *e*S **S** **22 26 53.1 -0.5**
ARU 22 27 35.3
ARU SSS SSS 22 34 56.4
ARU pmax pmax
comp=Z,1μm,1.7s
ARU Arti 70.71 328 P **P** **22 18 26.4 -0.5**
comp=Z,13μm,0.6s
ARU Arti 70.71 328 *e*P **P** **22 18 26.0 -0.8**
comp=Z,1μm,0.6s
IKAZ Kazeroun 70.78 299 *e*P **P** **22 18 26.8 -1.5**
IDMV Damavand 71.05 305 *e*P **P** **22 18 28.7 -1.0**
IKLH Kolahrood 71.23 303 *e*P **P** **22 18 31.4 +0.6**
IVRN Varamin 71.25 305 *e*P **P** **22 18 30.4 -0.2**
IAFJ Afjeh 71.33 305 *e*P **P** **22 18 30.9 -0.5**
SPIA Saint Paul Isl 71.64 32 *e*P **P** **22 18 33.1 +0.9**
comp=Z,5μm,2.4s
IPIR Pirpir 71.76 302 *e*P **P** **22 18 32.3 -1.6**
IR3 Iran Long-Peri 71.86 305 *e*P **P** **22 18 34.1 0.0**
IMHD Mahdasht 72.17 305 *e*P **P** **22 18 36.1 +0.2**
IGZV Ghazvin 72.58 306 *e*P **P** **22 18 39.1 +0.6**
IRAZ Razeghan 72.75 305 *e*P **P** **22 18 39.4 0.0**
UNV Unalaska Valle 72.86 36 *e*P **P** **22 18 39.3 -0.1**
comp=Z,444nm,1.0s
MUKL Al Mukalla 73.34 283 *e*P **P** **22 18 44.5 +1.7**
AKUT Akutan 73.34 35 *e*P **P** **22 18 42.0 -0.1**
comp=Z,600nm,0.9s
CASY Casey 73.42 185 *e*P **P** **22 18 42.2 0.0**
comp=Z,487nm,0.8s
FALS False Pass 74.83 35 *e*P **P** **22 18 50.4 0.0**
comp=Z,351nm,0.7s
TNA Tin City 75.14 24 *e*P **P** **22 18 52.7 +0.7**
comp=Z,1μm,2.4s
MAK Makhachkala 75.20 313 *di*P **P** **22 18 53.0 +0.2**
MAK *e* 22 19 03.4
MAK *e* 22 21 48.1
MAK *e*PPP PPP 22 23 47.3
MAK *i*S **S** **22 27 43.8 +0.3**
MAK *e* 22 28 08.9
MAK *e*SS **SS** **22 32 57.0 +6.2**
MAK pmax pmax
comp=Z,3μm,1.7s
MAK pmax pmax
comp=N,716nm,0.5s
MAK pmax pmax
comp=E,2μm,0.9s
MAK pmax pmax
comp=Z,4μm,1.8s
MAK smax smax
comp=E,9μm,15.1s
MAK smax smax
comp=N,7μm,11.9s
MIR Mirnyy 76.34 192 ⇑*e*P P 22 19 07.0 +8.6
MIR pmax pmax
comp=Z,800nm,2.0s
RAYN Ar Rayn 76.36 293 P **P** **22 18 59.0 -0.7**
comp=Z,9μm,0.7s
RAYN Ar Rayn 76.36 293 *e*P **P** **22 18 58.9 -0.7**
comp=Z,1μm,0.9s
SDPT Sand Point 76.57 35 *e*P **P** **22 19 00.3 +0.3**
comp=Z,802nm,0.8s
SDPT *e*S **S** **22 27 59.2 +1.6**
DGRG David-gareji 76.68 311 P **P** **22 19 01.9 +0.8**
DGRG David-gareji 76.68 311 P **P** **22 19 01.9 +0.8**
BDHA Al Bayda' **76.72 283** *e*P **P** **22 19 04.3 +2.3**
OPA Opana 76.89 69 *e*P **P** **22 19 03.8 +1.3**
OPA Opana 76.89 69 *e*P **P** **22 19 03.8 +1.3**
HON Honolulu 76.91 70 *e*P **P** **22 19 02.2 -0.4**
HON Honolulu 76.91 70 *e*P **P** **22 19 02.1 -0.4**
GNI Garni 77.11 310 P **P** **22 19 03.6 0.0**
comp=Z,35nm,0.6s,baz=155,slow=2.3,SNR=59
GNI Garni 77.11 310 *di*P **P** **22 19 03.8 +0.3**
GNI pmax pmax
comp=Z,2μm,2.2s
GNI Garni 77.11 310 *e*P **P** **22 19 04.3 +0.7**
comp=Z,758nm,0.9s
SEAG Tbilisi Sea 77.12 311 P **P** **22 19 03.8 +0.4**
TBLG Delisi 77.17 311 *e*P **P** **22 19 05.9 +2.3**
TBLG Delisi 77.17 311 P **P** **22 19 03.9 +0.2**
TBLG Delisi 77.17 311 P **P** **22 19 03.9 +0.2**
DUS Dusheti 77.21 312 P **P** **22 19 07.0 +3.0**
DUS Dusheti 77.21 312 P **P** **22 19 06.9 +3.0**
KZR Kazreti 77.40 311 P **P** **22 19 07.6 +2.7**
CLDR Caldiran 77.71 308 *e*P **P** **22 19 07.6 +0.7**
HKR Hakkari 77.82 307 *e*P **P** **22 19 09.1 +1.7**
DAMY Dhamar 77.82 283 ⇑P **P** **22 19 09.0 +1.0**
baz=78,SNR=102
DAMY Dhamar 77.82 283 *e*P **P** **22 19 08.2 +0.2**
comp=Z,1μm,0.8s
DHBB Dhamar BB 77.82 283 *e*P **P** **22 19 10.9 +2.9**

CHGN Chignik 77.84 34 eP P 22 19 06.4 -0.5
HAKT HAKKARI 77.85 307 i P P 22 19 07.3 -0.4
DYDN Diyadin 77.90 309 i P P 22 19 07.4 -0.5
CUKT Cukurca 77.92 307 eP P 22 19 08.8 +0.9
SANA San'a 77.95 284 eP P 22 19 11.7 +3.1
AKH Akhalkalaki 78.09 311 eP P 22 19 11.7 +2.9
AKH Akhalkalaki 78.09 311 P P 22 19 09.7 +0.9
AKH Akhalkalaki 78.09 311 ⇑P P 22 19 09.5 +0.7
AKH Akhalkalaki 78.09 311 ⇑iP P 22 19 09.5 +0.7
ONI Oni 78.16 312 P P 22 19 09.9 +0.9
ONI Oni 78.16 312 P P 22 19 09.9 +0.9
DIGO Kars 78.16 310 iP P 22 19 07.3 -2.0
PRGR Permogore 78.36 332 ⇓iP P 22 19 08.4 -1.1
PRGR eS S 22 28 13.2 -2.9
PRGR pmax pmax
comp=Z,2µm,0.8s
GEVA Gevas 78.37 308 iP P 22 19 09.7 -0.7
KARS Kars 78.39 310 eP P 22 19 11.4 +1.0
AGRB Hanur-Agry 78.44 309 eP P 22 19 11.7 +1.0
HAJJ Hajjah 78.51 285 eP P 22 19 13.4 +1.9
GOF Gofitskoye 78.54 315 eP P 22 19 10.5 -0.4
GOF i 22 21 22.0
GOF eS S 22 28 19.2 +0.6
GOF pmax pmax
comp=Z,570nm,0.9s
GOF smax smax
comp=N,350nm,1.2s
HLK Haleakala 78.58 70 eP P 22 19 11.7 -0.2
KBZ Khabaz 78.60 313 P P 22 19 10.9 -0.3
comp=N,218nm,0.9s,baz=102,slow=2.8,SNR=178
KBZ S S 22 28 20.1 +0.8
comp=N,16nm,1.1s,baz=117,slow=2.3,SNR=3.0
NEY Neytrino 78.71 313 diP P 22 19 12.6 +0.5
NEY pmax pmax
comp=Z,365nm,2.0s
KIV Kislovodsk 78.76 313 eP P 22 19 12.6 +0.4
KIV Kislovodsk 78.76 313 diP P 22 19 11.8 -0.4
KIV e 22 19 17.7
KIV i *PP pP 22 22 15.6 -1.6
KIV e*SP sP 22 22 15.7 -5.5
KIV e 22 22 18.4
KIV i S S 22 28 21.2 0.0
KIV pmax pmax
comp=Z,543nm,0.9s
KIV Kislovodsk 78.76 313 P P 22 19 12.9 +0.7
comp=Z,3µm,0.8s,SNR=70
KIV Kislovodsk 78.76 313 eP P 22 19 12.2 0.0
comp=Z,545nm,0.8s
EATA Eleskirt 78.83 309 iP P 22 19 10.9 -2.0
KKH Kailua Kona 78.85 71 eP P 22 19 14.6 +1.6
KKH Kailua Kona 78.85 71 eP P 22 19 14.6 +1.6
SIRT Sirnak 78.86 307 eP P 22 19 12.9 +0.1
XMAS Kiritimati 78.91 89 eP P 22 19 14.8 +1.3
comp=Z,1µm,1.3s
TATV Tatvan 78.99 308 iP P 22 19 11.1 -2.6
EKAR Karacoban 79.15 309 iP P 22 19 14.4 -0.1
CHVG Ch'k'valeri 79.17 312 eP P 22 19 17.0 +2.7
CHVG Ch'k'valeri 79.17 312 P P 22 19 16.1 +1.8
CHVG Ch'k'valeri 79.17 312 ⇓iP P 22 19 15.8 +1.5
OPO Ambohidratompo 79.26 250 P P 22 19 14.6 -0.8
comp=Z,186nm,0.5s,baz=71,slow=5.9,SNR=88
OPO S S 22 28 26.7 -0.7
comp=Z,15nm,1.1s,baz=101,slow=16,SNR=2.6
ARTV Artvin 79.27 311 iP P 22 19 14.9 -0.3
HOMI Horasan 79.28 309 iP P 22 19 12.0 -3.2
POHA Pohakuloa 79.30 71 eP P 22 19 16.4 +0.7
comp=Z,2µm,1.4s
ABPO Ambohimpanom 79.31 249 P P 22 19 17.2 +1.6
comp=Z,697nm,1.0s,SNR=10
ABPO Ambohimpanom 79.31 249 eP P 22 19 14.5 -1.1
ABPO pmax pmax
comp=Z,796nm,0.9s
ABPO Ambohimpanom 79.31 249 eP P 22 19 14.5 -1.1
comp=Z,796nm,0.9s
DDEM Demirkent 79.40 310 iP P 22 19 16.7 +1.0
DBAD Bademkaya 79.44 310 iP P 22 19 15.4 -0.5
DBOC Borcka 79.47 311 iP P 22 19 14.9 -1.0
BCA Borcka 79.50 311 eP P 22 19 15.9 -0.1
BTMT Batman 79.61 308 eP P 22 19 19.4 +2.7
VRTB Varto-Mus 79.63 308 eP P 22 19 18.2 +1.3
ERZM Erzurum 79.69 309 iP P 22 19 15.7 -1.7
EZM Erzurum 79.70 309 eP P 22 19 20.3 +2.9
SVW2 Sparrevohn 79.77 29 eP P 22 19 17.9 +0.9
comp=Z,252nm,1.0s
SVAN Silvan-Diyarba 79.83 307 eP P 22 19 20.6 +2.7
RAR Rarotonga 80.17 113 eP P 22 19 21.0 +1.2
RAR pmax pmax
comp=Z,692nm,1.1s
RAR Rarotonga 80.17 113 eP P 22 19 21.0 +1.2
comp=Z,692nm,1.1s
MARD Mardin 80.18 307 iP P 22 19 13.9 -5.9
BNGB Bing¯ll 80.23 308 eP P 22 19 20.7 +0.7
KOPT Kop Dagi 80.36 309 iP P 22 19 20.5 -0.4
MAZI Mazidag 80.44 307 eP P 22 19 21.1 0.0
BAYT Ayd¯–ntepe-Bay 80.63 310 eP P 22 19 22.8 +0.6
DYBB Diyarbakir 80.67 307 eP P 22 19 23.2 +0.9
DIYA Diyarbakir 80.69 307 iP P 22 19 18.6 -3.8
OHAK Old Harbor 80.73 33 eP P 22 19 22.0 0.0
comp=Z,791nm,1.0s
OHAK eS S 22 28 47.4 +6.9
SFNV Sufian 80.73 306 eP P 22 19 25.1 +2.4
MACK Trabzon 80.90 310 iP P 22 19 18.6 -4.8
KTUT Trabzon 80.90 310 eP P 22 19 22.4 -0.9
SOC Sochi 80.91 313 diP P 22 19 22.2 -1.1
SOC e*PP pP 22 21 31.1 -0.1
SOC e 22 22 33.0
SOC ePPP PPP 22 24 32.3
SOC i S S 22 28 39.0 -3.9
SOC pmax pmax
comp=Z,362nm,0.8s
SOC pmax pmax
comp=Z,7µm,4.3s
IM04 Indian Mountai 80.94 24 eP P 22 19 24.3 +1.3
ERZN Erzincan 80.97 309 eP P 22 19 24.5 +0.6
EUZM Uzumlu 80.98 309 iP P 22 19 24.8 +0.8
RSO Redoubt South 81.12 30 eP P 22 19 24.4 +0.1
comp=Z,20nm,0.4s
KDAK Kodiak Island 81.12 33 P P 22 19 24.4 +0.4
comp=Z,5µm,0.7s,SNR=25
KDAK Kodiak Island 81.12 33 P P 22 19 24.1 0.0
comp=Z,409nm,0.7s,baz=234,slow=4.6,SNR=138
KDAK PKKP PKKPdf 22 37 45.1 -0.7
comp=Z,10nm,1.0s,baz=121,slow=5.9,SNR=1.9
KDAK PKKPbc PKKPbc 22 37 55.5 -2.0
comp=Z,7.4nm,0.6s,baz=144,slow=3.4,SNR=4.1
KDAK Kodiak Island 81.12 33 eP P 22 19 24.6 +0.6
KDAK eS S 22 28 46.7 +2.3
KDAK 22 37 55.6
KDAK pmax pmax
comp=Z,669nm,0.8s
KDAK Kodiak Island 81.12 33 eP P 22 19 24.6 +0.6
comp=Z,669nm,0.8s
KDAK eS S 22 28 46.7 +2.3
KDAK PKKP PKKPdf 22 37 45.1 -0.7
KDAK PKKPbc PKKPbc 22 37 55.5 -2.0
GUMT Gumushane 81.13 310 eP P 22 19 28.0 +3.3
VOR Voronezh 81.23 321 eP P 22 19 24.0 -0.7
VOR eS S 22 28 45.0 -0.8
PTK Pertek 81.24 308 eP P 22 19 25.9 +0.6
VSR Storozhevoye 81.25 321 eP P 22 19 23.7 -1.2
VSR e*PP pP 22 21 29.6 -3.4
VSR e 22 22 38.1
VSR eS S 22 28 42.3 -3.7
VSR pmax pmax
comp=N,70nm,0.6s
VSR pmax pmax
comp=E,260nm,0.6s
VSR pmax pmax
comp=Z,760nm,0.6s
VSR pmax pmax
comp=Z,6µm,2.2s
VSR pmax pmax
comp=N,90nm,1.5s
VSR pmax pmax
comp=E,2µm,2.2s
VSR pmax pmax
comp=N,730nm,2.6s
VSR pmax pmax
comp=Z,1µm,2.6s
VSR pmax pmax
comp=E,660nm,1.4s
VSR smax smax
comp=E,2µm,7.8s
VSR smax smax
comp=Z,530nm,7.8s
VSR smax smax
comp=N,2µm,7.1s
KELT Kelkit 81.31 310 iP P 22 19 24.3 -1.4
MNKR ALMNKUR 81.43 305 eP P 22 19 27.4 +1.2
MNKR ALMNKUR 81.43 305 eP SKSac 22 28 52.4 +3.9
PPLA Purkeypile 81.48 27 eP P 22 19 26.7 +0.8
comp=N,3µm,1.9s
PPLA ePKKPbc PKKPbc 22 37 54.2 -2.9
SPU Mount Spurr 81.49 29 eP P 22 19 25.8 -0.1
CAST Castle Rocks 81.54 27 eP P 22 19 26.6 +0.4
comp=N,317nm,0.8s
CAST ePKKPbc PKKPbc 22 37 54.8 -2.1
ELZG Elazig 81.57 308 iP P 22 19 25.2 -1.8
KSRV Kasrt alli 81.65 305 eP P 22 19 28.2 +0.9
KSRV Kasrt alli 81.65 305 eP SKSac 22 28 56.1 +6.2
URFA Urfa 81.73 307 eP P 22 19 28.2 +0.5
KEMA Kemaliye 81.93 309 iP P 22 19 24.3 -4.4
MALT Malatya 82.01 308 eP P 22 19 30.1 +0.9
MALT Malatya 82.01 308 ⇓P P 22 19 29.6 +0.4
MALT Malatya 82.01 308 ⇓iP P 22 19 29.6 +0.4
TMCR Tamitsa 82.02 334 eP P 22 19 29.7 +1.3
TMCR e 22 22 47.6
TMCR eS S 22 28 53.5 +0.4
TMCR pmax pmax
comp=Z,2µm,0.9s
GRSN GIRESUNGRSN 82.04 310 iP P 22 19 28.3 -0.9
BRLK Bradley Lake 82.04 31 eP P 22 19 28.5 -0.2
comp=Z,690nm,0.9s
BRLK eS S 22 28 54.6 +0.9
BPAW Bear Paw Mtn. 82.05 26 eP P 22 19 29.5 +0.8
comp=Z,146nm,1.0s
BPAW ePKKPbc PKKPbc 22 37 52.6 -3.2
SUSE Susehri 82.11 310 iP P 22 19 25.2 -4.5
SUA Susitna One 82.12 29 eP P 22 19 29.0 -0.2
comp=Z,573nm,1.0s
ATAB Bozova 82.15 307 iP P 22 19 26.1 -3.7
MOS Moscow 82.17 325 ki P P 22 19 26.8 -2.6
MOS i *PP pP 22 21 34.9 -3.0
MOS i 22 22 45.6
MOS i S S 22 28 48.2 -6.7
MOS pmax pmax
comp=Z,2µm,1.0s
MOS pmax pmax
comp=Z,12µm,2.5s
MOS pmax pmax
comp=E,5µm,3.8s
MOS pmax pmax
comp=N,2µm,2.6s
MOS smax smax
comp=N,10µm,4.4s
MOS smax smax
comp=E,7µm,3.5s
MLY Manley 82.17 25 eP P 22 19 29.9 +0.5
comp=E,512nm,0.9s
TRF Thorofare Moun 82.35 27 eP P 22 19 30.6 +0.1
comp=E,706nm,1.0s
TRF ePKKPbc PKKPbc 22 37 54.1 -1.2
CRZF Crozet Islands 82.37 221 P P 22 19 04.0 -27
CRZF PP PP 22 22 19.0 -32
CRZF S S 22 28 13.0 -44
CRZF SS sS 22 32 16.0 -31
CRZF L L 22 41 00.0
CRZF R 22 48 00.0
I43RU DUBNA INFRASON 82.39 326 P P 22 19 31.5 +1.0
baz=68,slow=8.7
AKCD Akcadag 82.41 308 iP P 22 19 29.9 -1.3
COLD Coldfoot 82.43 23 eP P 22 19 31.4 +0.9
comp=E,681nm,0.9s
COLD ePKKPbc PKKPbc 22 37 53.7 -1.2
ANN Anapa 82.52 314 eP P 22 19 30.0 -1.4
ANN e 22 22 53.5
ANN eS S 22 28 50.1 -8.8
ANN pmax pmax
comp=Z,3µm,0.9s
ANN pmax pmax
comp=N,600nm,0.9s
ANN pmax pmax
comp=E,493nm,0.9s
ANN pmax pmax
comp=Z,7µm,2.6s
ANN pmax pmax
comp=N,2µm,2.5s
ANN pmax pmax
comp=E,2µm,2.6s
ANN smax smax
comp=Z,583nm,2.2s
ANN smax smax
comp=N,2µm,2.2s
ANN smax smax
comp=E,976nm,2.2s
RC01 Rabbit Creek A 82.61 29 eP P 22 19 31.5 0.0
comp=E,265nm,0.7s
BWN Browne 82.72 26 eP P 22 19 33.2 +1.2
comp=E,927nm,1.1s
CUKAN kangal_SIVAS 82.72 309 iP P 22 19 29.8 -2.9
GZT Gaziantep 82.74 307 iP P 22 19 33.1 +0.2
DARE Darende-Malaty 82.74 308 eP P 22 19 33.6 +0.8
SEW Seward 82.76 30 eP P 22 19 32.5 +0.3
comp=E,363nm,0.9s
SEW eS S 22 29 01.7 +1.0
RSDY Resadiye-TOKAT 82.78 310 eP P 22 19 33.2 +0.3
OBN Obninsk 82.78 325 diP P 22 19 31.4 -1.0
OBN i *PP pP 22 21 39.3 -1.9
OBN e*SP sP 22 22 39.8 -3.0
OBN i 22 22 49.4
OBN i S SKSac 22 28 55.6 -0.7
OBN pmax pmax
comp=Z,5µm,1.7s
OBN Obninsk 82.78 325 P P 22 19 31.5 -1.0
comp=Z,18µm,0.6s
OBN Obninsk 82.78 325 eP P 22 19 31.8 -0.6
comp=Z,2µm,0.7s
PMR Palmer 82.90 29 eP P 22 19 32.6 -0.3
PMR pmax pmax
comp=Z,296nm,1.0s
PMR Palmer 82.90 29 eP P 22 19 32.5 -0.3
comp=Z,296nm,1.0s
CUGUR Gurin_S¯VAS 82.90 308 iP P 22 19 28.7 -5.0
SCER sogukcermik 82.95 309 iP P 22 19 34.6 +0.7
MCK McKinley 82.95 27 eP P 22 19 33.3 0.0
MCK pmax pmax
comp=Z,1µm,1.3s
MCK McKinley 82.95 27 eP P 22 19 33.3 0.0
comp=Z,1µm,1.3s
MCK ePKKPbc PKKPbc 22 37 52.3 -1.4
RND Reindeer 83.00 27 eP P 22 19 33.4 -0.1
RND pmax pmax
comp=Z,3µm,2.2s
RND Reindeer 83.00 27 eP P 22 19 33.4 -0.1
comp=Z,3µm,2.2s
SVSK Karacayir 83.05 309 eP P 22 19 34.8 +0.6
ROOS tl_alroos 83.14 304 eP P 22 19 37.5 +2.6
KUZU Kuzuini 83.16 306 iP P 22 19 30.8 -4.0
ZALF Zalf 83.17 302 eP P 22 19 37.8 +2.8
RABH Abou Rabah 83.19 304 eP P 22 19 38.1 +3.0
RABH Abou Rabah 83.19 304 eP SKSac 22 29 10.5 +10
ERBA Erbaa 83.20 310 iP P 22 19 31.8 -3.2
MDM Murphy Dome 83.24 25 eP P 22 19 35.1 +0.5
comp=Z,352nm,1.0s
KMRS Kahramanmaras 83.26 307 eP P 22 19 35.4 +0.1
HCB Kahramanmara¯ 83.26 307 iP P 22 19 34.4 -1.0
SML Sawmill 83.27 29 eP P 22 19 34.9 0.0
SML pmax pmax
comp=Z,97nm,0.8s
SML Sawmill 83.27 29 eP P 22 19 34.9 0.0
comp=Z,97nm,0.8s
SML ePKKPbc PKKPbc 22 37 50.0 -2.9
WRH Wood River Hil 83.31 26 eP P 22 19 35.0 +0.1
comp=Z,2µm,2.0s
WRH ePKKPbc PKKPbc 22 37 49.5 -3.3
TOKT Tokat 83.38 310 eP P 22 19 36.0 +0.2
LVZ Lovozero 83.39 338 ceP P 22 19 34.1 -1.2
LVZ pmax pmax
comp=Z,454nm,0.7s
LVZ Lovozero 83.39 338 P P 22 19 34.1 -1.2
comp=Z,4µm,0.8s,SNR=57
LVZ Lovozero 83.39 338 eP P 22 19 34.5 -0.8
comp=Z,464nm,0.8s
COLA College 83.40 25 diP P 22 19 34.4 -0.9
COLA pmax pmax
comp=Z,802nm,1.9s
COLA College 83.40 25 eP P 22 19 35.6 +0.2
comp=Z,152nm,0.9s
COLA ePKKPbc PKKPbc 22 37 53.1 +0.5
CCB Clear Creek Bu 83.43 26 eP P 22 19 35.3 -0.2
comp=Z,1µm,1.8s
PINB Pinarbasi 83.58 308 iP P 22 19 33.7 -3.5
ASF Jabal al Asfar 83.59 302 PKKP 22 37 40.1
comp=Z,4.4nm,0.8s,baz=216,slow=6.1,SNR=3.2
ASF PKKPbc PKKPbc 22 37 51.7 +0.8
comp=Z,5.6nm,0.8s,baz=219,slow=2.3,SNR=3.0
CUSAR Sarkisla-SIVAS 83.66 309 iP P 22 19 36.9 -0.6
SALA Sala 83.69 302 eP P 22 19 40.9 +3.1
SALA Sala 83.69 302 eP SKSac 22 29 16.6 +13
KVT Kavak 83.71 311 eP P 22 19 37.8 +0.3
SCM Sheep Creek Mo 83.75 29 eP P 22 19 38.0 +0.7
SCM pmax pmax
comp=Z,557nm,1.2s
SCM Sheep Creek Mo 83.75 29 eP P 22 19 38.0 +0.7
comp=Z,557nm,1.2s
SCM ePKKPbc PKKPbc 22 37 50.5 -1.4
WRDH Warideh 83.77 305 eP SKSac 22 29 14.2 +10
HDA Harding Lake 83.81 26 eP P 22 19 36.8 -0.7
comp=Z,1µm,2.0s
ILAR Eielson Array 83.82 26 P P 22 19 36.3 -1.2
comp=Z,21nm,0.6s,baz=261,slow=3.8,SNR=117
ILAR pP pP 22 21 46.1 -0.6
comp=Z,34nm,0.8s,baz=254,slow=4.7,SNR=4.2
ILAR S S 22 29 01.7 -9.2
comp=Z,3.0nm,0.8s,baz=283,slow=4.5,SNR=3.5
ILAR PKKPbc PKKPbc 22 37 47.6 -4.0
comp=Z,16nm,1.0s,baz=85,slow=0.6,SNR=8.9
ILAR PKPPKP P'P'df 22 45 49.4 -4.7
comp=Z,12nm,1.1s,baz=53,slow=0.9,SNR=4.4
FURI Furi 83.88 278 eP P 22 19 42.4 +3.2
comp=Z,1µm,1.2s
TAHT Tahtakopru-Hat 83.90 306 eP P 22 19 40.8 +2.3
TOTH TOTAH 83.90 303 eP P 22 19 41.4 +2.7
SLNF Slenfeh 83.92 305 eP P 22 19 41.1 +2.2
HAVZ Havza 83.96 311 iP P 22 19 38.3 -0.5
YAYL Yayladag 83.98 305 iP P 22 19 33.7 -5.4
QASN Qassioun 84.02 303 eP P 22 19 41.1 +1.9
ARNB Al Arnab 84.11 305 eP P 22 19 42.1 +2.5
KOZT Kozan 84.11 307 eP P 22 19 39.3 -0.2
CEYT Ceyhan 84.21 306 eP P 22 19 40.3 +0.3
HWQ Hawqa 84.24 304 eP P 22 19 40.1 -0.2
BRBR Barbar 84.30 303 eP SKSac 22 29 20.7 +13
YURE YUREGIR 84.31 306 iP P 22 19 40.3 -0.3
TCHB Talchebab 84.34 302 eP SKSac 22 29 21.4 +14
YOZ Yozgat 84.36 309 eP P 22 19 42.8 +1.9
RCY Rachaya 84.39 303 eP P 22 19 40.9 -0.3
FYU Fort Yukon 84.40 24 eP P 22 19 41.7 +1.4
comp=Z,1µm,1.5s
KLU Klutina 84.44 29 eP P 22 19 41.0 +0.3
comp=Z,172nm,0.8s
BHL Bhannes 84.51 303 eP P 22 19 42.5 +0.8
DIV Divide 84.53 29 eP P 22 19 41.1 0.0
comp=Z,1µm,1.7s
KRTS Karatas 84.54 306 eP P 22 19 44.4 +2.8
PAX Paxson 84.55 27 eP P 22 19 41.3 +0.1
PAX pmax pmax
comp=Z,715nm,1.8s
PAX Paxson 84.55 27 eP P 22 19 41.2 +0.1
comp=Z,715nm,1.8s
DQRL Deir Qamar 84.59 303 eP P 22 19 42.1 0.0
BEYL Beirut 84.64 303 eP P 22 19 43.8 +1.6
BYBT Boyabat 84.65 311 eP P 22 19 44.1 +2.1
KARA Karaisali 84.74 307 eP P 22 19 42.8 +0.2
AVNT Avonos 84.78 308 iP P 22 19 41.2 -1.8
MMAI Mount Meron Ar 84.79 303 PKKPbc PKKPbc 22 37 48.5 +0.4
comp=Z,4.2nm,0.6s,baz=219,slow=0.4,SNR=4.8
CORM Corum 84.85 310 eP P 22 19 43.1 -0.1
SIM Simferopol' 84.87 315 deP P 22 19 41.7 -1.3
SIM e*PP pP 22 21 52.0 -0.6
SIM e 22 22 55.0
SIM ePPP PPP 22 25 15.0
SIM e 22 29 07.0
SIM eS S 22 29 19.0 -2.8
SIM pmax pmax
comp=Z,294nm,0.7s
SIM pmax pmax
comp=Z,5µm,11.6s
NAQL Naqoura 85.00 303 eP P 22 19 43.3 -0.6
NIG Nigde 85.03 308 eP P 22 19 46.3 +2.0
BMRM Bremner River 85.11 29 eP P 22 19 43.9 0.0
comp=Z,511nm,1.3s
RAGM Ragged Mountai 85.13 30 eP P 22 19 44.5 +0.6
comp=Z,490nm,1.2s
RAGM eS S 22 29 26.5 +2.8
BZK Bozkurt 85.18 312 eP P 22 19 46.1 +1.5
TOS Tosya 85.24 311 eP P 22 19 47.1 +2.0
GULA Gulagac 85.30 308 eP P 22 19 47.4 +2.0
MAW Mawson 85.44 200 P P 22 19 44.9 -0.2
comp=Z,182nm,0.8s,baz=61,slow=5.3,SNR=61
MAW S SKSac 22 29 11.1 -1.3
comp=Z,53nm,1.3s,baz=226,slow=18,SNR=3.0
MAW PKKPbc PKKPbc 22 37 44.7 -3.4
comp=Z,13nm,0.6s,baz=232,slow=3.4,SNR=13
MAW Mawson 85.44 200 P P 22 19 44.9 -0.2
MAW S SKSac 22 29 11.1 -1.3
MAW pmax pmax
comp=Z,182nm,0.8s
MAW smax smax
comp=N,53nm,1.3s
MAW pmax pmax
comp=Z,13nm,0.6s
MAW Mawson 85.44 200 ⇓P P 22 19 44.9 -0.2
baz=85,SNR=150
MAW Mawson 85.44 200 eP P 22 19 45.1 0.0
comp=Z,93nm,1.3s
MAW S SKSac 22 29 11.1 -1.3
MAW PKKPbc PKKPbc 22 37 44.7 -3.4
MAW ePKKPbc PKKPdf 22 37 46.3 +6.5
EIL Elat 85.45 299 PKKPbc PKKPbc 22 37 47.2 +0.9
comp=Z,11nm,0.7s,baz=252,slow=6.4,SNR=8.7
ILGA Ilgaz 85.47 311 iP P 22 19 45.9 -0.4
HOPEN Hopen 85.50 347 eP P 22 19 46.0 +0.6
HOPEN IAmb IAmb 22 20 06.4
comp=Z,817nm,1.2s
YAYX Yaylak 85.58 309 eP P 22 19 45.9 -0.8
CANT Cankiri 85.58 310 eP P 22 19 45.6 -1.0
EREN Erenkoy 85.59 305 eP P 22 19 46.1 -0.6
KAMT Kaman 85.62 309 eP P 22 19 47.3 +0.4
BR131 Keskin Array S 85.65 309 eP P 22 19 45.5 -1.5
comp=Z,654nm,0.4s
BRTR Keskin Array B 85.65 309 P P 22 19 45.9 -1.1
comp=Z,222nm,0.6s,baz=120,slow=4.6,SNR=136
BRTR PP PP 22 23 18.2 +0.6
comp=Z,47nm,0.8s,baz=109,slow=7.7,SNR=3.3
BRTR S SKSac 22 29 10.2 -5.2
comp=Z,12nm,1.1s,baz=154,slow=3.9,SNR=2.5
BRTR PKKP PKKPdf 22 37 37.6 -0.5
comp=Z,8.4nm,1.0s,baz=228,slow=2.8,SNR=5.6
BRTR SKKPbc SKKPbc 22 40 22.8 -3.6
comp=Z,2.1nm,0.7s,baz=192,slow=3.8,SNR=2.3
YESY Yesilyurt 85.74 307 eP P 22 19 46.6 -0.9
ELDT Eldivan 85.74 310 iP P 22 19 45.0 -2.5
PHNC Paralimni 85.75 305 P P 22 19 52.2 +4.7
SERE Serefiikochisa 85.77 309 eP P 22 19 48.4 +0.8
PUL Pulkovo 85.85 330 ceP P 22 19 47.9 +0.6
PUL pmax pmax
comp=Z,1µm,1.0s
SULT Sultanhani-AKS 85.88 308 eP P 22 19 49.3 +1.2
KEV Kevo 86.00 340 eP P 22 19 47.5 -0.3
KEV pmax pmax
comp=Z,218nm,0.8s
KEV Kevo 86.00 340 eP P 22 19 47.5 -0.3
comp=Z,218nm,0.8s
AFSR Af˙ar-Bala (A 86.11 309 eP P 22 19 48.6 -0.6
LFK Lefkose 86.14 305 eP P 22 19 48.6 -0.8
KULU Kulu 86.20 309 eP P 22 19 49.2 -0.4
SAFT Safranbolu 86.23 311 eP P 22 19 51.0 +1.4
EGAK Eagle 86.26 25 eP P 22 19 49.3 +0.1
comp=Z,207nm,1.0s
LOD Lodumlu 86.30 310 eP P 22 19 51.2 +1.1
CHBY Cihanbeyli 86.33 308 eP P 22 19 49.9 -0.3
CSS Prodhromos 86.33 305 eP P 22 19 49.9 -0.3
comp=Z,135nm,0.8s
KMBO Kilima Mbogo 86.39 268 P P 22 19 50.7 -0.5
comp=Z,408nm,0.9s,baz=72,slow=6.1,SNR=158
KMBO pP pP 22 22 00.9 -0.6
comp=Z,36nm,1.1s,baz=68,slow=5.7,SNR=1.2
KMBO S SKSac 22 29 20.0 -1.1
comp=Z,4.9nm,1.1s,baz=90,slow=20,SNR=2.7
KMBO PKKPbc PKKPbc 22 37 46.2 +2.3
comp=Z,0.8nm,0.4s,baz=224,slow=9.4,SNR=1.8

KMBO Kilima Mbogo 86.39 268 *eP* **P** **22 19 51.0 -0.2**
KMBO *PP **pP** **22 22 01.0 -0.6**
KMBO S **SKSac** **22 29 20.0 -1.1**
KMBO pmax pmax
comp=Z,3μm,1.1s
KMBO Kilima Mbogo 86.39 268 ⇑P **P** **22 19 51.2 0.0**
baz=86,SNR=215
KMBO Kilima Mbogo 86.39 268 *eP* **P** **22 19 51.0 -0.2**
comp=Z,3μm,1.1s
KMBO pP **pP** **22 22 00.9 -0.6**
KMBO S **SKSac** **22 29 20.0 -1.1**
KMBO PKKPbc **PKKPbc** **22 37 46.2 +2.3**
MAMC Mammari 86.40 305 P **P** **22 19 52.0 +1.5**
ARCES ARCESS Array B 86.55 340 P **P** **22 19 49.2 -1.3**
comp=Z,342nm,0.7s,baz=79,slow=6.3,SNR=76
ARCES S **SKSac** **22 29 17.8 -1.5**
comp=Z,10nm,0.8s,baz=49,slow=7.3,SNR=3.0
ARCES PKKPbc **PKKPbc** **22 37 41.8 -3.6**
comp=Z,5.8nm,0.5s,baz=266,slow=1.3,SNR=6.8
ARE0 ARCESS Array S 86.55 340 *eP* **P** **22 19 50.8 +0.3**
ARE0 lAmb lAmb 22 19 54.3
comp=Z,430nm,0.6s
ARE0 ARCESS Array S 86.55 340 *eP* **P** **22 19 49.1 -1.3**
LEF Lefka 86.67 305 *eP* **P** **22 19 51.0 -0.7**
SZAC Souni-Zanaja 86.72 304 P **P** **22 19 53.0 +0.9**
VNDA Vanda 86.78 172 P **P** **22 19 50.9 -0.5**
comp=Z,396nm,0.8s,baz=319,slow=6.5,SNR=247
VNDA S **SKSac** **22 29 19.4 -0.8**
comp=Z,39nm,1.1s,baz=110,slow=20,SNR=9.0
VNDA PKKPbc **PKKPbc** **22 37 43.7 -1.5**
comp=Z,4.3nm,0.6s,baz=278,slow=1.4,SNR=8.5
VNDA PKPPKP **P'P'df** **22 45 46.9 -0.3**
comp=Z,4.1nm,1.2s,baz=128,slow=2.1,SNR=4.7
VNDA Vanda 86.78 172 *eP* **P** **22 19 51.3 -0.1**
VNDA S **SKSac** **22 29 19.5 -0.8**
VNDA pmax pmax
comp=Z,735nm,1.1s
VNDA Vanda 86.78 172 *eP* **P** **22 19 51.3 -0.1**
comp=Z,735nm,1.1s
VNDA S **SKSac** **22 29 19.4 -0.8**
VNDA PKKPbc **PKKPbc** **22 37 43.7 -1.5**
VNDA P'P' 22 45 46.9
KONT Konya--Tatoy 86.81 308 *eP* **P** **22 19 53.0 +0.6**
HDMB Hadim 86.81 307 *eP* **P** **22 19 52.2 -0.5**
ALFC Alevga 86.91 305 P **P** **22 19 53.2 +0.2**
KDHN Kadinhani 86.94 308 *i* P **P** **22 19 50.6 -2.5**
SPA0 Spitsbergen Ar 86.94 349 *eP* **P** **22 19 50.8 -1.4**
SPA0 lAmb lAmb 22 19 57.1
comp=Z,514nm,0.5s
SPITS Spitsbergen Ar 86.94 349 PKKP **PKKPdf** **22 37 32.1 -4.2**
comp=Z,9.5nm,0.9s,baz=254,slow=5.4,SNR=2.8
SPITS PKKPbc **PKKPbc** **22 37 42.6 -2.1**
comp=Z,2.8nm,0.5s,baz=164,slow=5.8,SNR=8.4
HAMF Hammerfest 86.96 341 *eP* **P** **22 19 50.0 -2.3**
HAMF lAmb lAmb 22 19 55.4
comp=Z,618nm,0.8s
GAZI Gazipasa 87.03 306 *i* P **P** **22 19 51.9 -1.6**
KIZT Kizilcal 87.09 309 *eP* **P** **22 19 52.5 -1.3**
DAWY Dawson 87.13 26 *eP* **P** **22 19 53.5 +0.1**
comp=Z,269nm,1.3s
DAWY *ePKKPbc **PKKPbc** **22 37 41.9 -2.1**
AKMC Akamas 87.14 305 P **P** **22 19 53.2 -0.8**
PPCY Paphos 87.14 305 P **P** **22 19 53.5 -0.5**
KDZE Karadeniz Ereo 87.15 311 *eP* **P** **22 19 51.9 -2.1**
AUMIH MIHALICIK 87.28 310 *i* P P 22 19 51.5 -3.2
SVRH Sivrihisar-ESK 87.30 309 *eP* **P** **22 19 53.5 -1.2**
BJO Bjornoya 87.37 345 *eP* **P** **22 19 52.0 -2.2**
BJO lAmb lAmb 22 19 58.6
comp=Z,148nm,0.6s
MDUB Mudurnu 87.43 310 *eP* **P** **22 19 54.6 -0.7**
KTK1 Kautokeino 87.44 339 *eP* **P** **22 19 54.6 0.0**
HSPB Hornsund (broa 87.49 348 *eP* **P** **22 19 54.2 -0.5**
HSPB lAmb lAmb 22 19 59.1
comp=Z,593nm,0.9s
KBS Kingsbay 87.51 350 *eP* **P** **22 19 54.4 -0.5**
KBS lAmb lAmb 22 19 59.2
comp=Z,608nm,0.6s
KBS Kingsbay 87.51 350 *eP* **P** **22 19 55.1 +0.3**
KBS pmax pmax
comp=Z,861nm,0.9s
KBS Kingsbay 87.51 350 *eP* **P** **22 19 55.1 +0.3**
comp=Z,861nm,0.9s
AKASG Malin Array Be 87.56 321 P **P** **22 19 54.0 -1.6**
comp=Z,199nm,0.7s,baz=72,slow=4.1,SNR=190
AKASG pP **pP** **22 22 05.5 -0.8**
comp=Z,7.7nm,0.6s,baz=68,slow=4.3,SNR=1.0
AKASG S **SKSac** **22 29 24.5 -1.5**
comp=Z,18nm,1.1s,baz=77,slow=5.4,SNR=4.1
AKASG PKKPbc **PKKPdf** **22 37 38.3 +3.5**
comp=Z,2.2nm,0.5s,baz=259,slow=3.2,SNR=3.6
AKASG SKKPbc **SKKPbc** **22 40 17.6 -4.8**
comp=Z,4.2nm,0.6s,baz=267,slow=3.1,SNR=8.1
AKASG PKPPKP **P'P'df** **22 45 46.1 -1.9**
comp=Z,0.5nm,0.3s,baz=267,slow=3.3,SNR=7.4
AKBB Malin Array Si 87.56 321 *eP* **P** **22 19 53.6 -2.0**
AKBB Malin Array Si 87.56 321 *eP* **P** **22 19 53.6 -2.0**
AK01 Malin Array Si 87.56 321 *eP* **P** **22 19 53.5 -2.1**
KIEV Kiev 87.57 321 *eP* **P** **22 19 53.9 -1.7**
KIEV pmax pmax
comp=Z,304nm,0.9s
KIEV Kiev 87.57 321 *eP* **P** **22 19 53.9 -1.7**
comp=Z,304nm,0.9s
AK02 Malin Array Si 87.57 321 *eP* **P** **22 19 53.6 -2.0**
FIA1 FINESS Array S 87.69 332 *eP* **P** **22 19 54.4 -1.5**
FINES FINESS Array B 87.69 332 P **P** **22 19 54.7 -1.2**
comp=Z,230nm,0.5s,baz=70,slow=4.6,SNR=100
FINES pP **pP** **22 22 06.3 -0.5**
comp=Z,22nm,0.6s,baz=87,slow=8.9,SNR=1.5
FINES S **SKSac** **22 29 23.7 -2.6**
comp=Z,5.3nm,0.6s,baz=117,slow=5.0,SNR=3.4
FINES PKKP **PKKPdf** **22 37 32.9 -1.9**
comp=Z,2.4nm,0.5s,baz=265,slow=1.7,SNR=3.6
FINES PKPPKP **P'P'df** **22 45 47.2 +0.1**
comp=Z,4.6nm,0.8s,baz=325,slow=4.1,SNR=4.2
SBA Scott Base 87.72 172 *eP* **P** **22 19 56.6 +0.9**
SBA pmax pmax
comp=Z,6μm,2.8s
SBA Scott Base 87.72 172 *eP* **P** **22 19 56.6 +0.9**
comp=Z,6μm,2.8s
ESKT Eskisehir 87.81 309 *eP* **P** **22 19 56.9 -0.3**
MICGM Minsk 87.84 324⇓ *eP* **P** **22 19 56.0 -0.8**
MICGM Minsk 87.84 324 SM **S** **22 29 50.0 +0.8**
comp=N,21nm,14.0s
VSU Vasula 87.86 329 *dP* **P** **22 19 54.7 -2.1**
VSU pmax pmax
comp=Z,1μm,0.6s
MNK Minsk 87.87 324 *deP* **P** **22 19 56.0 -0.9**
MNK *e* 22 23 06.0
MNK *e* 22 29 24.0
MNK *eS* **S** **22 29 44.0 -5.5**
MNK pmax pmax
comp=Z,650nm,1.5s
MNK pmax pmax
comp=Z,13μm,5.0s
MNK pmax pmax
comp=N,1μm,1.5s
MNK pmax pmax
comp=E,300nm,1.7s
MNK pmax pmax
comp=Z,29μm,24.0s
MNK smax smax
comp=N,21μm,14.0s
GULT Gulveren 87.95 310 *eP* **P** **22 19 58.5 +0.7**
SPNC Sapanca-Adapaz 88.08 311 *eP* **P** **22 19 56.9 -1.4**
BCK Bucak 88.26 307 *eP* **P** **22 19 57.8 -1.5**
ISP Isparta 88.27 308 *eP* **P** **22 19 58.5 -0.8**
ISP Isparta 88.27 308 *eP* **P** **22 19 57.7 -1.6**
ISP pmax pmax
comp=Z,425nm,0.9s
ISP Isparta 88.27 308⇑ *iP* **P** **22 19 57.4 -1.9**
ISP Isparta 88.27 308 *eP* **P** **22 19 57.7 -1.6**
comp=Z,425nm,0.9s
ANTB Antalya 88.28 307 *eP* **P** **22 19 57.7 -1.5**
KIS Kishinev 88.32 317⇓ *iP* **P** **22 19 58.0 -1.2**
comp=Z,1μm,2.0s
KIS *i* pP **pP** **22 22 14.0 +3.8**
KIS Kishinev 88.32 317 *i* PPP PPP 22 25 50.0
KIS *i* SKS **SKSac** **22 29 26.0 -4.7**
KIS *i* SKKS **SKKSac** **22 29 40.0 -4.1**
KIS *i* S S 22 29 48.0 -6.0
KIS *i* sS sS 22 33 50.0 +2.4
KIS *i* SS SS 22 36 12.0 +10
KIS Kishinev 88.32 317K *iP* **P** **22 19 58.0 -1.2**
KIS *i* *PP **pP** **22 22 14.0 +3.8**
KIS *i* 22 23 08.0
KIS *i* PPP PPP 22 25 50.0
KIS *i* 22 29 26.0
KIS *i* S S 22 29 48.0 -6.0
KIS *i* SS SS 22 36 12.0 +10
KIS pmax pmax
comp=Z,1μm,2.0s
KIS pmax pmax
comp=Z,6μm,13.0s
KIS pmax pmax
comp=Z,9μm,20.0s
IDID Didziasalis 88.36 325 *eP* **P** **22 19 58.4 -0.8**
IDID lAmb lAmb 22 20 14.3
comp=Z,319nm,0.9s
AUKUT KUTAHYA 88.39 310 *i* P **P** **22 20 00.0 +0.1**
NACGM Naroch 88.41 325 *eP* P 22 19 56.0 -3.4
SORM Soroca 88.47 318⇑ *iP* **P** **22 19 59.9 0.0**
CAVI Cavuskoy 88.49 310 *eP* **P** **22 20 01.2 +1.0**
KORT Korkueli 88.51 307 *i* P **P** **22 19 59.1 -1.4**
SILT Sile 88.52 311 *eP* **P** **22 20 01.1 +0.8**
ADVT Abdulvahap 88.54 310 *eP* **P** **22 19 58.1 -2.3**
HRT Hereke 88.55 311 *eP* **P** **22 20 01.1 +0.6**
HYT Haines Junctio 88.57 29 *eP* **P** **22 20 00.8 +0.6**
HYT *epP **pP** **22 22 15.5 +4.1**
HYT *ePKKPdf **PKKPbc** **22 37 39.5 -1.0**
TLCR 88.58 315⇑ *iP* **P** **22 19 59.5 -0.9**
TLCR 88.58 315⇑ *iP* **P** **22 19 59.5 -0.9**
INK Inuvik 88.58 21 P **P** **22 19 59.7 -0.3**
comp=Z,139nm,1.1s,baz=284,slow=4.5,SNR=82
INK pP **pP** **22 22 10.4 -0.6**
comp=Z,14nm,0.8s,baz=297,slow=4.8,SNR=1.3
INK S **SKSac** **22 29 30.1 -1.2**
comp=Z,27nm,1.0s,baz=180,slow=19,SNR=18
INK PKKP **PKKPdf** **22 37 31.6 -1.7**
comp=Z,12nm,0.8s,baz=70,slow=3.9,SNR=5.8
INK SKKPbc **SKKPbc** **22 40 18.0 -2.7**
comp=Z,15nm,0.9s,baz=63,slow=4.0,SNR=3.6
INK PKPPKP **P'P'df** **22 45 45.3 +0.2**
comp=Z,3.6nm,0.7s,baz=94,slow=3.2,SNR=3.7
INK Inuvik 88.58 21 *eP* **P** **22 19 59.8 -0.1**
INK *PP **pP** **22 22 10.5 -0.6**
INK S **SKSac** **22 29 30.1 -1.2**
INK pmax pmax
comp=Z,187nm,1.1s
INK Inuvik 88.58 21 *eP* **P** **22 19 59.8 -0.1**
comp=Z,187nm,1.1s
INK pP **pP** **22 22 10.4 -0.6**
INK S **SKSac** **22 29 30.1 -1.2**
INK PKKP **PKKPdf** **22 37 31.6 -1.7**
INK *ePKKPdf PKKPbc 22 37 32.2 -8.3
INK SKKPbc **SKKPbc** **22 40 18.0 -2.7**
INK P'P' 22 45 45.3
IIGN Ignalina 88.65 325 *eP* **P** **22 19 59.7 -0.8**
IIGN lAmb lAmb 22 20 08.3
comp=Z,295nm,0.9s
ISAL Salakas 88.67 326 *eP* **P** **22 19 59.8 -0.9**
ISAL lAmb lAmb 22 20 15.6
comp=Z,221nm,1.0s
IZI Iznik 88.76 310 *eP* **P** **22 20 02.4 +0.9**
TRO Tromso 88.78 340 *eP* P 22 19 57.4 -3.4
TRO lAmb lAmb 22 20 01.8
comp=Z,233nm,0.8s
TVSB Tavsanli 88.88 309 *eP* **P** **22 20 00.9 -1.2**
ELL Elmali 88.89 307 *eP* **P** **22 20 01.1 -1.2**
MANR Mangalia 88.93 314⇑ *iP* **P** **22 20 01.7 -0.4**
GIUM Giurgiulesti 88.96 316⇓ *iP* **P** **22 20 01.8 -0.4**
KLYT Kilyos 88.96 311 *eP* **P** **22 20 02.9 +0.7**
GEMT Gemlik 88.96 310 *eP* **P** **22 20 02.9 +0.5**
TIRR Tirgusor 88.96 314 *eP* **P** **22 20 01.8 -0.4**
TIRR Tirgusor 88.96 314 *eP* **P** **22 20 01.6 -0.6**
TIRR pmax pmax
comp=Z,185nm,1.0s
TIRR Tirgusor 88.96 314⇑ *iP* **P** **22 20 00.1 -2.1**
TIRR Tirgusor 88.96 314 *eP* **P** **22 20 01.6 -0.6**
comp=Z,185nm,1.0s
ISK Istanbul-Kandi 88.97 311 *eP* **P** **22 20 01.4 -0.9**
KHAL Karahalli 89.00 308 *i* P P 22 19 59.1 -3.7
CFR Carcaliu 89.05 315⇓ *iP* **P** **22 20 00.9 -1.7**
CFR Carcaliu 89.05 315⇓ *iP* **P** **22 20 00.9 -1.7**
PPT Papeete 89.09 108 P **P** **22 20 03.7 +0.3**
comp=Z,245nm,1.0s,baz=180,slow=3.0,SNR=2.2
PPT Papeete 89.09 108 P **P** **22 20 03.7 +0.3**
PPT pmax pmax
comp=Z,245nm,1.0s
PPT Papeete 89.09 108 *eP* **P** **22 20 04.8 +1.4**
PPT2 Papeete2 89.10 108⇑ *eP* P 22 20 07.6 +4.1
comp=Z,763nm,1.5s
PPT2 Papeete2 89.10 108 *ePP* PP 22 23 43.2 -2.2
comp=Z,830nm,1.7s
PPT2 *eS* **S** **22 29 58.0 -4.3**
comp=Z,30μm,27.0s
GOLH Golhisar 89.10 307 *i* P P 22 19 58.6 -4.7
PAE Paea 89.10 108⇑ *eP* P 22 20 07.3 +3.9
comp=Z,90nm,1.2s
PAE *epP* pP 22 22 16.1 +1.4
comp=Z,49nm,1.2s
IAS Iasi 89.14 317⇑ *iP* **P** **22 20 02.2 -0.8**
IAS Iasi 89.14 317⇑ *iP* **P** **22 20 02.2 -0.8**
ARMT Armutlu 89.19 311 *eP* **P** **22 20 02.3 -1.2**
MDNY Mudanya-Bursa 89.20 310 *eP* **P** **22 20 02.6 -0.9**
KSL Kastellorizon 89.23 306 *ePN* **P** **22 20 02.9 -0.8**
PSN Preselentsi 89.24 314 *i* P **P** **22 20 03.0 -0.6**
CVD Cernavoda 89.25 314⇓ *iP* **P** **22 20 04.4 +0.8**
CVD Cernavoda 89.25 314⇓ *iP* **P** **22 20 04.4 +0.8**
HARR Harsova 89.27 315⇑ *iP* **P** **22 20 02.7 -1.0**
HARR Harsova 89.27 315⇑ *iP* **P** **22 20 02.7 -1.0**
TIAR Tiarei 89.31 108⇑ *eP* P 22 20 08.3 +3.9
comp=Z,110nm,1.0s
TIAR *epP* pP 22 22 17.0 +1.2
comp=Z,65nm,1.3s
CTKS Kestanelik-??a 89.36 311 *eP* **P** **22 20 04.5 +0.4**
TVO Taravao 89.43 108⇑ *eP* P 22 20 09.0 +4.0
comp=Z,292nm,1.5s
TVO *epP* pP 22 22 17.5 +1.1
comp=Z,95nm,1.4s
MSAB Monastry St. A 89.43 314⇑ *iP* **P** **22 20 03.5 -0.9**
DENT Denizli 89.45 308 *eP* **P** **22 20 05.6 +0.8**
DST Dursunbey 89.51 310 *eP* **P** **22 20 05.9 +0.9**
DEMI Demirci 89.51 309 *i* P **P** **22 20 02.1 -3.0**
PETR Petresti 89.60 316⇓ *iP* **P** **22 20 05.3 +0.1**
KCTX Karacabey (Bur 89.61 310 *eP* **P** **22 20 06.1 +0.7**
KULA Kula-Manisa 89.63 309 *eP* **P** **22 20 05.2 -0.5**
AMRR Amara 89.70 315⇑ *iP* **P** **22 20 07.1 +1.4**
AMRR Amara 89.70 315⇑ *iP* **P** **22 20 07.1 +1.4**
GRER 89.83 316⇓ *iP* **P** **22 20 08.4 +2.1**
TESR Tescani 89.87 317⇑ *iP* **P** **22 20 05.2 -1.2**
DALY Dalyan (Mu¨la 89.88 307 *eP* **P** **22 20 06.8 +0.2**
PGOR Pogoanele 89.90 315⇑ *iP* **P** **22 20 06.8 +0.2**
SKAG Skagway 89.92 30 *eP* **P** **22 20 07.2 +0.8**
comp=Z,182nm,0.9s
SKAG *ePKKPdf **PKKPbc** **22 37 37.5 +0.6**
VRI Vrincioaia 89.92 316 *eP* **P** **22 20 08.4 +1.7**
VRI Vrincioaia 89.92 316⇓ *iP* **P** **22 20 05.7 -1.0**
VRI Vrincioaia 89.92 316⇓ *iP* **P** **22 20 05.7 -1.0**
TBI Tubuai 89.93 113⇑ *eP* P 22 20 10.7 +3.6
comp=Z,829nm,1.0s
TBI *epP* pP 22 22 19.8 +1.2
comp=Z,591nm,1.2s
TBI *eSKSac **SKSac** **22 29 40.8 0.0**
comp=Z,86μm,16.8s
TBI *eS* **S** **22 30 06.2 -3.2**
comp=Z,20μm,29.0s
CRLT Corlu 89.95 311 *eP* **P** **22 20 08.3 +1.4**
EDC Edincik 89.97 310 *eP* **P** **22 20 06.4 -0.6**
PLOR Plostina 89.98 316⇓ *iP* **P** **22 20 06.7 -0.3**
PLOR Plostina 89.98 316⇓ *iP* **P** **22 20 06.7 -0.3**
PRAR RASCA 90.01 318⇑ *iP* **P** **22 20 07.2 +0.1**
PHSR Pinarhisar 90.03 312 *eP* **P** **22 20 05.6 -1.7**
BALB Balikesir 90.07 310 *eP* **P** **22 20 08.1 +0.7**
TKR Tekirdag 90.12 311 *eP* **P** **22 20 10.6 +2.9**
YER Yerkesik 90.13 307 *eP* **P** **22 20 07.4 -0.6**
MRMT Marmara Adasi 90.14 311 *eP* **P** **22 20 08.2 +0.3**
ISR Istrita 90.17 315⇓ *iP* **P** **22 20 08.2 +0.3**
ISR Istrita 90.17 315⇓ *iP* **P** **22 20 08.1 +0.2**
AKHS Akhisar 90.23 309 *i* P **P** **22 20 05.6 -2.7**
AKS Akhisar 90.23 309 *eP* **P** **22 20 06.0 -2.3**
AYDB Zeytinkoy-Aydi 90.31 308 *eP* **P** **22 20 08.4 -0.4**
AYDN Tasoluk 90.37 308 *i* P P 22 20 04.7 -4.3
PMOR Pomariorio Ree 90.39 105⇑ *eP* P 22 20 13.3 +3.9
comp=Z,749nm,1.0s
PMOR *epP* pP 22 22 22.0 +1.1
comp=Z,612nm,1.3s
ARG Arkhangelos 90.39 306 *ePB* **P** **22 20 09.2 +0.2**
ARG Arkhangelos 90.39 306 P **SKSac** **22 29 42.4 -0.6**
KRBG Karabiga-Canak 90.39 311 *eP* **P** **22 20 09.5 +0.6**
SART Tekirdag 90.44 311 *i* P **P** **22 20 08.5 -0.8**
RKY Sarkoy-Tekirda 90.44 311 *eP* **P** **22 20 09.9 +0.7**
SULR 90.45 315⇑ *iP* **P** **22 20 08.4 -0.7**
SECR 90.52 315⇓ *iP* **P** **22 20 10.5 +1.0**
MLR Muntele Rosu 90.53 316 SKKPbc SKKPbc 22 40 15.0 -0.6
comp=Z,2.7nm,0.7s,baz=243,slow=4.5,SNR=5.8
MLR Muntele Rosu 90.53 316⇓ P **P** **22 20 08.7 -1.0**
MEH Mehetia 90.56 108 *eP* P 22 20 13.4 +3.2
comp=Z,100nm,1.3s
MEH *epP* pP 22 22 22.7 +0.9
comp=Z,164nm,1.3s
EDRB Edirne 90.57 312 *eP* **P** **22 20 09.0 -0.7**
STEI Steigen 90.58 339 *eP* **P** **22 20 07.5 -1.7**
STEI lAmb lAmb 22 20 12.9
comp=Z,694nm,1.1s
JMB Yambol 90.59 313 *i* P P 22 20 04.7 -5.1
SUW Suwalki 90.64 324 *eP* **P** **22 20 08.2 -1.5**
SUW *e* 22 20 10.3
SUW *eSKSac **SKSac** **22 29 41.5 -2.1**
SUW *e* 22 30 30.5
SUW Suwalki 90.64 324 *eP* **P** **22 20 08.3 -1.5**
SUW *e* 22 29 41.5
BURAR Bucovina Array 90.64 318⇓ *iP* **P** **22 20 09.2 -0.9**
BURAR Bucovina Array 90.64 318⇓ *iP* **P** **22 20 09.2 -0.9**
BUR08 Bucovina Ar. S 90.65 318 *eP* **P** **22 20 09.1 -1.0**
VAH Vaihoa 90.67 105⇑ *eP* P 22 20 14.4 +3.7
comp=Z,402nm,1.1s
VAH *epP* pP 22 22 22.9 +0.6
comp=Z,421nm,1.3s
LPK Lapseki 90.80 311 *eP* **P** **22 20 10.6 -0.3**
DOPR Dopca 90.83 316⇑ *iP* **P** **22 20 09.8 -1.1**
ALE Alert 90.84 1 P **P** **22 20 10.9 +0.7**
comp=Z,336nm,0.8s,SNR=13
DKL Dikili 90.90 309 *eP* **P** **22 20 09.7 -1.6**
BLCB Balcova 90.91 309 *eP* **P** **22 20 10.3 -1.1**
BODT Bodrum 90.91 307 *eP* **P** **22 20 10.2 -2.1**
ERIK Erikli-Kesan 90.94 311 *eP* **P** **22 20 12.2 +0.7**
LVV L'vov 90.99 320 *eP* **P** **22 20 11.1 -0.4**
LVV *e**PP **pP** **22 22 22.5 -0.6**
LVV *e* 22 23 23.9
LVV *e* 22 29 45.5
LVV *eS* **S** **22 30 18.3 +0.5**
LVV *eSSS SSS 22 40 23.3
LVV pmax pmax
comp=Z,700nm,2.4s
GELI Tayfur-Gelibol 91.01 311 *eP* **P** **22 20 12.3 +0.5**
AYVA Ayvalik 91.03 310 *i* P P 22 20 08.5 -3.5
NIS1 Nisyros Isl. 91.08 307 P **SKSac** **22 29 44.1 -2.8**
LOF Lofoten 91.11 339 *eP* P 22 20 15.2 +3.5
NISR Nisiros 91.12 307 P SKSac 22 29 54.8 +7.7
VOIR 91.16 316⇓ P **P** **22 20 11.5 -1.0**
VOIR 91.16 316⇓ *iP* **P** **22 20 11.5 -1.0**
ENEZ Enez 91.20 311 *eP* **P** **22 20 10.6 -2.1**
ALN Alexandroupoli 91.25 311 *eP* **P** **22 20 11.4 -1.5**
KARP Karpathos 91.26 306 *ePN* **P** **22 20 13.6 +0.4**
ARCR ARCALIA 91.32 318⇓ *iP* **P** **22 20 13.7 +0.6**
PRK Paraskevi 91.36 310 *ePB* **P** **22 20 13.4 0.0**
PRK Paraskevi 91.36 310 P **SKSac** **22 29 46.8 -1.5**
HUMR Humele 91.37 315⇓ *iP* **P** **22 20 11.8 -1.6**
ARR Arges 91.46 316⇑ *iP* **P** **22 20 13.0 -0.9**
MOR8 Moi Rana 91.47 337 *eP* **P** **22 20 10.3 -3.1**
MOR8 lAmb lAmb 22 20 15.5
comp=Z,179nm,0.5s
GADA Gvkgeada 91.48 311 *eP* **P** **22 20 13.0 -1.0**
MDB Medias 91.48 317⇑ P **P** **22 20 13.8 -0.1**
MDB Medias 91.48 317⇑ *iP* **P** **22 20 13.8 -0.1**
KDZ Kurdzhali 91.58 312 *i* P **P** **22 20 13.6 -0.9**
RDO Rodhopi 91.58 312 *eP* **P** **22 20 13.4 -1.0**
comp=Z,516nm,0.9s
CHOS Chios island 91.67 309 *eP* **P** **22 20 15.1 +0.1**
CHOS Chios island 91.67 309 *ePB* **P** **22 20 15.0 0.0**
CHOS Chios island 91.67 309 P **SKSac** **22 29 53.3 +3.0**
SIGR SIGRI 91.68 310 *eP* **P** **22 20 15.9 +0.9**
SIGR SIGRI 91.68 310 *ePN* **P** **22 20 13.3 -1.6**
SMTH Samothraki Isl 91.71 311 *ePN* **P** **22 20 13.0 -2.1**
BMR Baia Mare 91.77 318⇓ P **P** **22 20 15.2 0.0**
BMR Baia Mare 91.77 318⇓ *iP* **P** **22 20 15.2 0.0**
FLOS Flostrand 91.82 338 *eP* **P** **22 20 12.9 -2.0**
KONS Konsvik 91.85 338 *eP* **P** **22 20 13.3 -1.8**
KWP Kalwaria Pacla 91.87 320 *eP* **P** **22 20 16.6 +1.0**
KWP *eSKSac **SKSac** **22 29 48.0 -2.7**
KWP Kalwaria Pacla 91.87 320⇓ *eP* **P** **22 20 16.7 +1.1**
KWP *e* 22 29 48.1
CJR Cluj-Napoca 91.90 317⇑ P **P** **22 20 15.4 -0.5**
CJR Cluj-Napoca 91.90 317⇑ *iP* **P** **22 20 15.4 -0.5**
STOK Stokkvaagen 91.95 338 *eP* **P** **22 20 14.7 -0.8**
CRAG Craig 92.04 34 *eP* **P** **22 20 17.3 +1.2**
comp=Z,371nm,1.4s
LOT Lotru 92.04 316⇓ *iP* **P** **22 20 15.9 -0.7**
LIA Limnos Island 92.07 310 *ePN* **P** **22 20 15.0 -1.7**
RZN Rozhen 92.09 312 *i* P **P** **22 20 14.9 -2.1**
WRAK Wrangell Islan 92.21 33 *eP* **P** **22 20 17.1 +0.2**
comp=Z,185nm,0.9s
CRAR CRAIOVA 92.24 315⇑ P **P** **22 20 16.5 -0.9**
CRAR CRAIOVA 92.24 315⇑ *iP* **P** **22 20 16.5 -0.9**
KOLS Kolonicke sedl 92.30 320 *eP* **P** **22 20 18.1 +0.5**
KOLS pmax pmax
comp=Z,77nm,1.3s
KOLS Kolonicke sedl 92.30 320 *eP* **P** **22 20 18.1 +0.5**
TRPA Tarpa 92.30 319⇓ *iP* **P** **22 20 16.4 -1.2**
TRPA Tarpa 92.30 319⇓ *e* **P** **22 20 18.4 +0.8**
APE Apeiranthos 92.31 308 ⇓P **P** **22 20 17.5 -0.5**
APE Apeiranthos 92.31 308 *ePN* **P** **22 20 17.4 -0.5**
PGB Panagyurishte 92.33 313 *i* P **P** **22 20 16.2 -1.7**
UZH Uzhgorod 92.35 319 *eP* **P** **22 20 19.0 +1.2**
UZH *e* 22 23 30.0
UZH *eS* **S** **22 30 27.8 -2.0**
MPEP Malo Peshtene 92.48 314 *i* P **P** **22 20 18.6 +0.1**
DRGR 92.48 317⇓ P **P** **22 20 17.4 -1.1**
DRGR 92.48 317⇓ *iP* **P** **22 20 17.4 -1.1**
SANT Santorini 92.49 307 *ePN* **P** **22 20 18.2 -0.6**
THR3 Thira Island, 92.53 307 P **SKSac** **22 29 51.3 -3.5**
THR6 Thira Island, 92.54 307 P **SKSac** **22 29 55.6 +0.7**
DEV Deva 92.54 317⇓ P **P** **22 20 18.4 -0.3**
DEV Deva 92.54 317⇓ *iP* **P** **22 20 18.4 -0.3**
BEL Belsk 92.54 323 *eP* **P** **22 20 19.9 +1.4**
BEL *epP* **pP** **22 22 30.9 +0.5**
BEL *eSKSac **SKSac** **22 29 55.2 +1.0**
BEL *e* 22 30 35.9
BEL Belsk 92.54 323⇓ *eP* **P** **22 20 20.0 +1.4**
BEL *e**PP **pP** **22 22 30.9 +0.5**
BEL *e* 22 29 55.2
BEL *e* 22 30 35.9
NPS Neapolis 92.56 306 *ePN* **P** **22 20 17.1 -2.0**
THR5 Thira Island, 92.57 307 P **SKSac** **22 29 57.8 +2.7**
LAST Lasithi 92.68 306 *ePN* **P** **22 20 19.5 -0.2**
LAST Lasithi 92.68 306 P **SKSac** **22 29 55.0 -0.9**
NVR Nevrokopi 92.79 312 P **SKSac** **22 29 53.4 -2.8**
MBAR Mbarara 92.80 270 P **P** **22 20 21.1 +0.3**
comp=Z,135nm,0.7s,SNR=14
MBAR Mbarara 92.80 270 *eP* **P** **22 20 20.0 -0.8**
MBAR pmax pmax
comp=Z,512nm,1.3s
MBAR Mbarara 92.80 270 *eP* **P** **22 20 20.0 -0.8**
comp=Z,512nm,1.3s
DLBC Dease Lake 92.84 30 P **P** **22 20 20.2 +0.3**
comp=Z,83nm,1.0s,baz=289,slow=4.3,SNR=46
DLBC PKKP **PKKPdf** **22 37 25.1 -0.8**
comp=Z,9.0nm,0.6s,baz=124,slow=1.9,SNR=2.5
DLBC Dease Lake 92.84 30 *eP* **P** **22 20 20.2 +0.3**
comp=Z,878nm,2.1s
DLBC PKKP **PKKPdf** **22 37 25.1 -0.8**
MMB Musomiste 92.84 312 *i* P P 22 20 18.3 -2.0
OUR Ouranopolis 92.90 311 *eP* **P** **22 20 20.9 +0.5**
H02N1 VAN INLET T-PH 92.94 36 P **P** **22 20 21.2 +0.7**
SNR=11
RMGR Halanga-Turnu 92.95 315⇑ *iP* **P** **22 20 19.0 -1.6**
H02S1 DAWSON INLET T 92.99 36 P **P** **22 20 21.3 +0.7**
SNR=19
VTS Vitosha 93.02 313⇓ P **P** **22 20 19.0 -2.2**
VTS Vitosha 93.02 313⇓ *iP* **P** **22 20 19.0 -2.2**
VTS Vitosha 93.02 313 *i* P **P** **22 20 19.6 -1.6**
NSS Namsos 93.03 336 *eP* **P** **22 20 19.1 -1.4**
NSS lAmb lAmb 22 20 24.3
comp=Z,139nm,0.7s
SRS Serrai 93.03 312 P **SKSac** **22 29 54.5 -2.9**
IDI Anoyia 93.14 306 PKKP **PKKPdf** **22 37 24.9 -0.2**
comp=Z,11nm,0.8s,baz=270,slow=6.1,SNR=1.9
IDI SKKPbc SKKPbc 22 40 09.0 -0.1
comp=Z,24nm,0.7s,baz=285,slow=4.7,SNR=7.4
IDI Anoyia 93.14 306 *eP* **P** **22 20 20.1 -1.7**

	comp=Z,236nm,0.9s							
IDI				PKKP	**PKKPdf**	**22 37 24.9**	**-0.2**
IDI				SKKPbc	SKKPbc	22 40 09.0	-0.1
AOS	**Alonnisos**	**93.20 310**	*e*P	**P**		**22 20 21.8**	**-0.1**
PAIG	**Paliouri**	**93.20 311**	*e*PN	**P**		**22 20 19.2**	**-2.7**
SIVA	**Sivas**	**93.25 306**	*e*PN	**P**		**22 20 20.3**	**-1.9**
SIVA	**Sivas**	**93.25 306**	P	**SKSac**		**22 30 02.7**	**+3.9**
KKB	**Krupnik**	**93.25 313**	*i* P	**P**		**22 20 20.0**	**-2.1**
SIRR	**Siria**	**93.30 317**⇑	*i* P	**P**		**22 20 21.6**	**-0.6**
NIE	**Niedzica**	**93.44 320**	*e*P	**P**		**22 20 22.8**	**0.0**
NIE			*e*			22 26 08.9	
NIE			*e*SKS	**SKSac**		**22 30 01.7**	**+2.4**
NIE	**Niedzica**	**93.44 320**	*e*P	**P**		**22 20 22.8**	**0.0**
NIE			*e*			22 30 01.7	
BZS	**Buzias**	**93.48 317**	P	**P**		**22 20 21.9**	**-1.1**
BZS	**Buzias**	**93.48 317**	⇓*i*P	**P**		**22 20 21.5**	**-1.5**
BZS	**Buzias**	**93.48 317**	⇓*i*P	**P**		**22 20 21.5**	**-1.5**
ATHU	**Athens Univers**	**93.51 309**	P	**SKSac**		**22 29 59.5**	**-0.6**
KNT	**Kendrikon**	**93.54 312**	*e*P	**P**		**22 20 21.4**	**-2.1**
KECS	**Kecovo**	**93.56 319**	*e*P	**P**		**22 20 22.6**	**-0.7**
KECS			pmax	pmax			
	comp=Z,5.0nm,0.7s						
KECS	**Kecovo**	**93.56 319**	*e*P	**P**		**22 20 22.6**	**-0.7**
OJC	**Ojcow**	**93.56 321**	*e*P	**P**		**22 20 22.8**	**-0.5**
OJC	**Ojcow**	**93.56 321**	*e*P	**P**		**22 20 23.0**	**-0.3**
OJC			pmax	pmax			
	comp=Z,217nm,0.9s						
OJC	**Ojcow**	**93.56 321**	*e*P	**P**		**22 20 23.0**	**-0.3**
	comp=Z,217nm,0.9s						
THE	**Thessaloniki**	**93.60 311**	P	**SKSac**		**22 30 03.0**	**+2.6**
VAM	**Vamos**	**93.67 306**	*e*PN	**P**		**22 20 22.9**	**-1.2**
VAM	**Vamos**	**93.67 306**	P	**SKSac**		**22 30 06.5**	**+5.4**
XOR	**Xorichti**	**93.69 310**	*e*PN	**P**		**22 20 21.0**	**-3.2**
VAY	**Valandovo**	**93.75 312**	*e*P	**P**		**22 20 22.7**	**-1.7**
SMIA	**Simia**	**93.77 310**	*e*PN	P		22 20 18.3	-6.2
NAIG	**Nisos Aigina**	**93.78 309**	*e*PN	P		22 20 21.1	-3.5
BANR	**Banloc**	**93.86 316**⇓	*i*P	**P**		**22 20 24.7**	**-0.1**
GVD	**Gavdhos**	**93.87 306**	*e*PN	**P**		**22 20 24.8**	**-0.2**
GVD	**Gavdhos**	**93.87 306**	*e*P	**P**		**22 20 25.1**	**+0.1**
	comp=Z,622nm,0.7s						
GVD	**Gavdhos**	**93.87 306**	P	**SKSac**		**22 29 59.2**	**-2.9**
DAG	**Danmarks Havn**	**93.88 352**	*i* P	**P**		**22 20 22.3**	**-1.9**
	comp=Z,248nm,0.8s						
DAG			*e*			22 22 36.3	
DAG	**Danmarks Havn**	**93.88 352**	*i* P	**P**		**22 20 22.3**	**-1.9**
DAG			*e*			22 22 36.3	
DAG			pmax	pmax			
	comp=Z,190nm,0.8s						
LKR	**Lokris**	**93.98 309**	*e*PN	**P**		**22 20 23.3**	**-2.1**
DID	**Didima**	**94.02 308**	P	**SKSac**		**22 29 58.9**	**-4.0**
SYO	**Syowa Base**	**94.03 201**⇓	*e*P	**P**		**22 20 22.8**	**-2.1**
DIDY	**Didyma**	**94.05 308**	P	**SKSac**		**22 29 58.6**	**-4.6**
PSZ	**Piszkesteto**	**94.08 319**	*e*P	**P**		**22 20 25.0**	**-0.8**
PSZ			pmax	pmax			
	comp=Z,2µm,2.3s						
PSZ	**Piszkesteto**	**94.08 319**⇓	*i*P	**P**		**22 20 24.3**	**-1.5**
PSZ	**Piszkesteto**	**94.08 319**	*e*P	**P**		**22 20 24.9**	**-0.8**
	comp=Z,2µm,2.3s						
PSZ	**Piszkesteto**	**94.08 319**⇓	*e*	**P**		**22 20 26.6**	**+0.8**
KRND	**KRANIDI**	**94.12 308**	P	**SKSac**		**22 29 58.3**	**-5.0**
LTK	**Loutraki**	**94.13 309**	P	**SKSac**		**22 29 59.8**	**-3.6**
LOUT	**Loutraki**	**94.13 309**	P	**SKSac**		**22 30 00.1**	**-3.3**
TBLU	**Trondheim**	**94.23 335**	*e*P	**P**		**22 20 23.6**	**-2.4**
TBLU			IAmb	IAmb		22 20 28.8	
	comp=Z,226nm,0.5s						
GKP	**Gorka Klasztor**	**94.25 325**	*e*P	**P**		**22 20 25.2**	**-1.1**
GKP			*e*			22 20 27.1	
GKP			*e*pP	**pP**		**22 22 36.0**	**-2.2**
GKP			*e*SKSac	**SKSac**		**22 30 02.0**	**-1.3**
GKP	**Gorka Klasztor**	**94.25 325**	*e*P	**P**		**22 20 25.2**	**-1.1**
GKP			*e**PP	**pP**		**22 22 36.1**	**-2.2**
GKP			*e*			22 30 02.0	
ANKY	**Antikythira Is**	**94.30 307**	*e*PN	**P**		**22 20 26.2**	**-0.8**
ANKY	**Antikythira Is**	**94.30 307**	P	**SKSac**		**22 30 08.0**	**+3.6**
THAL	**Thalero**	**94.36 309**	P	**SKSac**		**22 30 02.7**	**-1.9**
DSF	**Desfina**	**94.39 309**	P	**SKSac**		**22 30 01.8**	**-3.1**
AGG	**Agios Georgios**	**94.41 310**	*e*P	**P**		**22 20 27.0**	**-0.5**
AGG	**Agios Georgios**	**94.41 310**	*e*P	**P**		**22 20 25.4**	**-2.1**
AGG			pmax	pmax			
	comp=Z,198nm,0.9s						
AGG	**Agios Georgios**	**94.41 310**	*e*P	**P**		**22 20 25.4**	**-2.1**
	comp=Z,198nm,0.9s						
AGG	**Agios Georgios**	**94.41 310**	P	SKSac		22 30 13.0	+8.1
VLI	**Veliai**	**94.42 308**	P	**SKSac**		**22 30 00.2**	**-4.8**
KYTH	**Kithira**	**94.43 307**	*e*PN	**P**		**22 20 25.4**	**-2.2**
SKO	**Skopje**	**94.43 313**	*i* P	**P**		**22 20 28.2**	**+0.7**
THL	**Klokotos Trika**	**94.53 311**	*e*PB	P		22 20 24.6	-3.3
THL	**Klokotos Trika**	**94.53 311**	P	**SKSac**		**22 30 06.7**	**+1.3**
KZN	**Kozani**	**94.56 311**	*e*PB	**P**		**22 20 25.1**	**-3.1**
MAKR	**Makrakomi, Fth**	**94.56 310**	*e*PN	**P**		**22 20 25.9**	**-2.3**
MAKR	**Makrakomi, Fth**	**94.56 310**	P	**SKSac**		**22 30 08.0**	**+2.3**
VYHS	**Vyhne**	**94.61 320**	*e*P	**P**		**22 20 28.7**	**+0.6**
VYHS			pmax	pmax			
	comp=Z,227nm,2.2s						
VYHS	**Vyhne**	**94.61 320**	*e*P	**P**		**22 20 28.7**	**+0.6**
VYHS			*e*sP	**PKKPbc**		**22 37 24.4**	**-0.3**
GUR	**Goura**	**94.63 309**	P	**SKSac**		**22 30 03.0**	**-3.3**
NC602	**NORSAR Array S**	**94.66 333**	*e*P	**P**		**22 20 26.1**	**-1.9**
NC602			IAmb	IAmb		22 20 30.9	
	comp=Z,80nm,0.9s						
OKC	**Ostrava-Krasne**	**94.68 321**	*e*P	**P**		**22 20 27.3**	**-1.1**
OKC			*e*pP	**pP**		**22 22 42.4**	**+2.0**
OKC			*ex*	x		22 26 20.3	
OKC			*ex*	x		22 33 29.3	
OKC			*ex*	x		22 34 53.1	
OKC			*e*SKKS			22 43 27.2	
OKC	**Ostrava-Krasne**	**94.68 321**	*e*P	**P**		**22 20 27.3**	**-1.1**
OKC			*e**PP	**pP**		**22 22 42.4**	**+2.0**
KALE	**Kalithea**	**94.69 309**	*e*PN	**P**		**22 20 26.8**	**-2.0**
KALE	**Kalithea**	**94.69 309**	P	**SKSac**		**22 30 03.6**	**-2.9**
NB2	**NORSAR Subarra**	**94.69 333**	P	**P**		**22 20 26.2**	**-2.0**
	comp=Z,188nm,0.8s,baz=68,slow=4.4						
NB2	**NORSAR Subarra**	**94.69 333**	P	**P**		**22 20 26.2**	**-2.0**
	baz=68,slow=4.4						
NOA	**NORSAR Array B**	**94.69 333**	P	**P**		**22 20 26.8**	**-1.4**
	comp=Z,177nm,0.8s,baz=68,slow=4.5,SNR=107						
NOA			S	**SKSac**		**22 30 02.0**	**-3.5**
	comp=Z,5.0nm,0.9s,baz=69,slow=9.5,SNR=2.5						
NOA			PKKPbc	**PKKPbc**		**22 37 24.3**	**-0.7**
	comp=Z,13nm,0.8s,baz=250,slow=2.3,SNR=19						
VLX	**Vlachokerasia**	**94.72 308**	P	**SKSac**		**22 30 03.7**	**-3.1**
FNA	**Florina**	**94.74 312**	*e*P	P		22 20 25.5	-3.5
TRIZ	**Trizonia**	**94.75 309**	P	**SKSac**		**22 30 05.1**	**-1.5**
KLV	**Kalavryta, Ach**	**94.76 309**	*e*PN	**P**		**22 20 26.6**	**-2.5**
KLV	**Kalavryta, Ach**	**94.76 309**	P	**SKSac**		**22 30 03.6**	**-3.2**
BUD	**Budapest**	**94.76 319**⇓	*e*	**P**		**22 20 29.8**	**+1.0**
PKS7	**Kunszentmiklos**	**94.78 318**	*e*	P		22 20 33.4	+4.5
EVR	**Evrytania**	**94.83 310**	*e*PB	P		22 20 23.9	-5.6
LAKA	**Lakka**	**94.85 309**	*e*PN	**P**		**22 20 27.4**	**-2.1**
EFP	**Efpalio**	**94.86 309**	P	**SKSac**		**22 30 06.0**	**-1.2**
PKS2	**Kecel**	**94.89 318**	*e*	**P**		**22 20 32.5**	**+3.1**
NAO01	**NORSAR Array S**	**94.92 333**	*e*P	**P**		**22 20 27.2**	**-2.0**
	comp=Z,2µm,0.4s						
DIVS	**Divibare**	**94.96 315**⇓	*i*P	**P**		**22 20 28.3**	**-1.6**
BSD	**Bornholm Skovb**	**94.98 327**⇓	*i*P	**P**		**22 20 29.9**	**+0.3**
	comp=Z,254nm,0.9s						
BSD	**Bornholm Skovb**	**94.98 327**⇓	*i*P	**P**		**22 20 29.9**	**+0.3**
BSD			pmax	pmax			
	comp=Z,250nm,0.9s						
UPR	**University Cam**	**94.98 309**	P	**SKSac**		**22 30 08.4**	**+0.5**
MORC	**Moravsky Berou**	**95.08 321**	*e*P	**P**		**22 20 29.7**	**-0.6**
MORC			pmax	pmax			
	comp=Z,395nm,0.9s						
MORC	**Moravsky Berou**	**95.08 321**⇓	*i*P	**P**		**22 20 29.7**	**-0.6**
MORC	**Moravsky Berou**	**95.08 321**	*e*P	**P**		**22 20 29.7**	**-0.6**
	comp=Z,395nm,0.9s						
ITM	**Ithomi**	**95.11 308**	*e*PN	**P**		**22 20 28.8**	**-1.9**
ITM	**Ithomi**	**95.11 308**	P	**SKSac**		**22 30 07.3**	**-1.3**
DRO	**Drossia**	**95.11 309**	P	**SKSac**		**22 30 03.3**	**-5.3**
PKSG		**95.20 319**	*e*Pg	**P**		**22 20 29.9**	**-0.9**
AMT	**Artemida-Makis**	**95.21 309**	P	**SKSac**		**22 30 08.0**	**-1.1**
KBN	**Korca**	**95.22 312**	P	SKSac		22 30 00.1	-9.1
PHP	**Peshkopia**	**95.22 313**	P	**SKSac**		**22 30 10.1**	**+1.0**
DOMB	**Dombas**	**95.23 334**	*e*P	**P**		**22 20 32.7**	**+2.0**
RLS	**Riolos of Patr**	**95.28 309**	P	**SKSac**		**22 30 09.2**	**-0.2**
CSKK	**Cs˙ákako**	**95.29 319**⇓	*e*	**P**		**22 20 29.9**	**-1.3**
PYL	**PYLOS**	**95.32 308**	P	**SKSac**		**22 30 09.0**	**-0.7**
DSL	**Palaion Diasel**	**95.32 310**	P	**SKSac**		**22 30 04.5**	**-5.2**
IVA	**Berane**	**95.33 314**⇓	*i*P	**P**		**22 20 30.6**	**-1.0**
OSL	**Oslo**	**95.35 332**	*e*P	**P**		**22 20 29.4**	**-1.7**
OSL			IAmb	IAmb		22 20 34.7	
	comp=Z,156nm,0.9s						
PKSM	**Moragy**	**95.35 318**	⇓P	**P**		**22 20 30.4**	**-1.1**
PKSM	**Moragy**	**95.35 318**⇓	*i*P	**P**		**22 20 30.4**	**-1.1**
PKSM	**Moragy**	**95.35 318**⇓	*e*	**P**		**22 20 32.2**	**+0.7**
PVY	**Plav**	**95.35 314**	*e*P	**P**		**22 20 30.9**	**-0.9**
PDO	**Prodromos**	**95.38 310**	P	**SKSac**		**22 30 11.6**	**+1.7**
JAN	**Janina**	**95.39 311**	P	**SKSac**		**22 30 03.3**	**-6.7**
KRLC	**Kraliky**	**95.46 322**	*e*P	**P**		**22 20 31.4**	**-0.6**
KRLC			*ex*	x		22 22 51.6	
KRLC			*e*PP	PP		22 24 40.7	+7.4
KRLC			*e*SKKS			22 43 24.7	
KRLC	**Kraliky**	**95.46 322**	*e*P	**P**		**22 20 31.4**	**-0.6**
KRLC			*e*			22 24 40.7	
PKST	**T˜'s**	**95.47 319**	*e*	**P**		**22 20 30.8**	**-1.2**
PKS9	**Tamasi**	**95.49 318**	*e*	**P**		**22 20 35.1**	**+3.0**
VTN	**Vitineika**	**95.53 309**	P	**SKSac**		**22 30 09.1**	**-1.6**
KSP	**Ksiaz**	**95.53 323**	*e*P	**P**		**22 20 31.6**	**-0.6**
KSP			*e*			22 20 33.4	
KSP			*e*pP	**pP**		**22 22 43.4**	**-0.8**
KSP			*e*SKSac	**SKSac**		**22 30 09.5**	**-0.7**
KSP	**Ksiaz**	**95.53 323**	*e*P	**P**		**22 20 31.7**	**-0.5**
KSP			*e**PP	**pP**		**22 22 43.5**	**-0.8**
KSP			*e*			22 30 09.5	
PLE	**Pljevlja**	**95.58 315**	*e*P	**P**		**22 20 32.4**	**-0.3**
MOL	**Molde**	**95.64 335**	*e*P	**P**		**22 20 32.7**	**+0.3**
MOL			IAmb	IAmb		22 20 36.0	
	comp=Z,162nm,0.4s						
DPC	**Dobruska-Polom**	**95.66 322**	*e*P	**P**		**22 20 32.2**	**-0.7**
DPC			*ex*	x		22 22 52.8	
DPC			*e*sP	**sP**		**22 23 41.7**	**-3.8**
DPC			*e*PP	**PP**		**22 24 37.0**	**+2.2**
DPC			*ex*	x		22 26 28.0	
DPC			*ex*	x		22 29 57.1	
DPC			*e*S	**ScS**		**22 30 58.8**	**+0.3**
DPC			*ex*	x		22 43 23.5	
DPC	**Dobruska-Polom**	**95.66 322**	*e*P	**P**		**22 20 32.2**	**-0.7**
DPC			*e*			22 23 41.7	
DPC			*e*			22 24 37.0	
DPC			*e*S	**ScS**		**22 30 58.8**	**+0.3**
TIR	**Tirane**	**95.72 313**	*e*P	**P**		**22 20 32.8**	**-0.5**
TIR			pmax	pmax			
	comp=Z,223nm,0.7s						
TIR	**Tirane**	**95.72 313**	*e*P	**P**		**22 20 32.8**	**-0.5**
	comp=Z,223nm,0.7s						
TIR			*e*PKKPdf	**PKKPbc**		**22 37 26.1**	**+4.7**
UPC	**Upice**	**95.80 322**	*e*P	**P**		**22 20 32.8**	**-0.6**
UPC			*ex*	x		22 22 55.0	
UPC			*e*PP	**PP**		**22 24 38.0**	**+2.2**
UPC			*ex*	x		22 43 21.9	
UPC	**Upice**	**95.80 322**	*e*P	**P**		**22 20 32.8**	**-0.6**
UPC			*e*			22 24 38.0	
VRAC	**Vranov**	**95.81 321**	⇑P	**P**		**22 20 33.4**	**-0.1**
VRAC	**Vranov**	**95.81 321**	⇑*i*P	**P**		**22 20 33.4**	**-0.1**
IGT	**Igoumenitsa**	**95.81 311**	*e*P	**P**		**22 20 33.8**	**+0.1**
IGT	**Igoumenitsa**	**95.81 311**	P	**SKSac**		**22 30 13.3**	**+1.2**
BBB	**Bella Bella**	**95.83 36**	P	**P**		**22 20 34.1**	**+0.7**
	comp=Z,26nm,1.1s,baz=238,slow=7.4,SNR=6.5						
BBB			pP	**pP**		**22 22 44.9**	**-0.6**
	comp=Z,21nm,1.0s,baz=260,slow=5.2,SNR=3.5						
BBB			S	**SKSac**		**22 30 12.3**	**+0.8**
	comp=Z,14nm,1.0s,baz=225,slow=11,SNR=1.9						
SGD	**Sagiada**	**95.86 311**	P	**SKSac**		**22 30 11.3**	**-1.1**
TTG	**Podgorica**	**95.90 314**⇓	*i*P	**P**		**22 20 33.8**	**-0.2**
UPM	**Unac-Piva**	**95.95 315**⇓	*i*P	**P**		**22 20 33.6**	**-0.9**
SRN	**Sarande**	**95.98 311**	P	**SKSac**		**22 30 10.3**	**-2.6**
KONO	**Kongsberg**	**95.98 332**	*e*P	**P**		**22 20 33.4**	**-0.7**
KONO			IAmb	IAmb		22 20 38.9	
	comp=Z,139nm,0.3s						
KONO	**Kongsberg**	**95.98 332**	*e*P	**P**		**22 20 33.0**	**-1.0**
KONO			pmax	pmax			
	comp=Z,77nm,0.8s						
KONO	**Kongsberg**	**95.98 332**	*e*P	**P**		**22 20 33.0**	**-1.0**
	comp=Z,77nm,0.8s						
NKY	**Niksic**	**95.99 314**⇓	*i*P	**P**		**22 20 33.8**	**-0.8**
DRME	**Dracevica, Mon**	**96.01 314**⇓	*i*P	**P**		**22 20 32.9**	**-1.7**
ULC	**Ulcinj**	**96.02 313**⇓	*i*P	**P**		**22 20 34.0**	**-0.7**
NKME	**Niksic**	**96.03 314**⇓	*i*P	**P**		**22 20 34.1**	**-0.6**
RGN	**Rugen**	**96.03 327**	*e*Pdiff	**P**		**22 20 36.1**	**+1.8**
RGN			*e*PP	**PP**		**22 24 42.4**	**+5.1**
RGN			*e*pPP			22 26 31.5	
RGN	**Rugen**	**96.03 327**	*e*P	**P**		**22 20 34.9**	**+0.6**
	comp=Z,2µm,2.4s						
COP	**Copenhagen**	**96.11 328**⇓	*i*P	**P**		**22 20 34.8**	**+0.2**
	comp=Z,49nm,1.0s						
COP	**Copenhagen**	**96.11 328**⇓	*i*P	**P**		**22 20 34.8**	**+0.2**
COP			pmax	pmax			
	comp=Z,49nm,1.0s						
BUM	**Brajici-Budva**	**96.19 314**⇓	*i*P	**P**		**22 20 35.0**	**-0.5**
JMIC	**Jan Mayen**	**96.21 346**	*e*P	**P**		**22 20 34.6**	**-0.2**
JMIC			IAmb	IAmb		22 20 37.7	
	comp=Z,4µm,3.0s						
BRY	**Bratogost**	**96.29 314**⇓	*i*P	**P**		**22 20 35.6**	**-0.4**
SOP	**Sopron**	**96.31 319**⇓	*e*	**P**		**22 20 36.3**	**+0.6**
HCY	**Herceg Novi**	**96.44 314**	*e*P	**P**		**22 20 35.7**	**-0.8**
RUE	**Ruedersdorf**	**96.49 325**	*e*Pdiff	**P**		**22 20 38.4**	**+2.0**
RUE			*e*PP	**PP**		**22 24 45.7**	**+4.9**
RUE			*e*pPP			22 26 34.9	
RUE	**Ruedersdorf**	**96.49 325**	*e*P	**P**		**22 20 36.2**	**-0.2**
	comp=Z,548nm,0.8s						
TREC	**Trest**	**96.50 321**	*e*PDIFF	**P**		**22 20 33.8**	**-2.8**
TREC			*ex*	x		22 22 43.6	
TREC			*ex*	x		22 30 01.1	
TREC			*e*S	**S**		**22 31 03.6**	**-1.9**
TREC			*ex*	x		22 33 31.5	
TREC			*ex*	x		22 43 15.2	
TREC	**Trest**	**96.50 321**	*e*P	**P**		**22 20 33.8**	**-2.8**
TREC			*e**PP	pP		22 22 43.6	-5.2
TREC			*e*S	**S**		**22 31 03.6**	**-1.9**
BEHE	**Becsehely**	**96.52 318**⇓	*e*	**P**		**22 20 38.1**	**+1.4**
QSPA	**South Pole Qui**	**96.60 180**	P	**P**		**22 20 36.8**	**+0.1**
	comp=Z,145nm,1.1s,baz=332,slow=2.2,SNR=26						
QSPA			pP	**pP**		**22 22 46.8**	**-2.1**
	comp=Z,136nm,1.1s,baz=1.7,slow=1.4,SNR=4.4						
QSPA			S	**SKSac**		**22 30 13.1**	**-2.0**
	comp=Z,167nm,1.0s,baz=316,slow=10,SNR=3.5						
QSPA			PKKPbc	**PKKPbc**		**22 37 16.9**	**-3.8**
	comp=Z,12nm,0.6s,baz=216,slow=0.9,SNR=7.1						
QSPA	**South Pole Qui**	**96.60 180**	*e*P	**P**		**22 20 36.5**	**-0.3**
	comp=Z,52nm,0.7s						
QSPA			pP	**pP**		**22 22 46.9**	**-2.1**
QSPA			S	**SKSac**		**22 30 13.1**	**-2.0**
QSPA			PKKPbc	**PKKPbc**		**22 37 16.9**	**-3.8**
PVCC	**Panska Ves**	**96.67 323**	*e*PDIFF	**P**		**22 20 37.2**	**-0.1**
PVCC			*e*pP	**pP**		**22 22 50.2**	**+0.7**
PVCC			*e*SKS	SKSac		22 30 08.7	-7.3
PVCC			*e*S	**S**		**22 31 05.1**	**-1.7**
PVCC	**Panska Ves**	**96.67 323**	*e*P	**P**		**22 20 37.2**	**-0.1**
PVCC			*e**PP	**pP**		**22 22 50.2**	**+0.7**
PVCC			*e*			22 30 08.7	
PVCC			*e*S	**S**		**22 31 05.1**	**-1.7**
CONA	**Conrad Observa**	**96.68 320**⇑	*i*Pdiff	**P**		**22 20 36.7**	**-0.9**
	comp=Z,65nm,1.4s,SNR=35						
GOPC	**GO Pecny, Ondr**	**96.74 322**	*e*PDIFF	**P**		**22 20 37.1**	**-0.6**
GOPC			*e*pP	**pP**		**22 22 45.8**	**-4.1**
GOPC			*ex*	x		22 30 04.5	
GOPC			*e*S	**S**		**22 31 04.8**	**-2.6**
GOPC			*ex*	x		22 43 19.4	
LSZ	**Lusaka**	**96.83 255**	*e*P	**P**		**22 20 37.3**	**-1.6**
LSZ			pmax	pmax			
	comp=Z,238nm,0.9s						
LSZ	**Lusaka**	**96.83 255**	*e*P	**P**		**22 20 37.3**	**-1.6**
	comp=Z,238nm,0.9s						
HYA	**Hoyanger**	**96.85 334**	*e*P	**P**		**22 20 36.6**	**-1.3**
HYA			IAmb	IAmb		22 20 41.6	
	comp=Z,316nm,1.3s						
PRU	**Pruhonice**	**96.86 322**	*e*PDIFF	**P**		**22 20 37.3**	**-0.9**
PRU			*ex*	x		22 22 53.9	
PRU			*ex*	x		22 23 45.3	
PRU			*e*PP	**PP**		**22 24 44.4**	**+0.6**
PRU			*ex*	x		22 26 34.7	
PRU			*ex*	x		22 27 41.0	
PRU			*ex*	x		22 30 01.5	
PRU			*e*S	**S**		**22 31 09.0**	**+0.6**
PRU			*ex*	x		22 43 18.6	
PRU	**Pruhonice**	**96.86 322**	*e*P	**P**		**22 20 37.3**	**-0.9**
PRU			*e**PP	**pP**		**22 22 53.9**	**+3.5**
PRU			*e*			22 23 45.3	
PRU			*e*			22 24 44.4	
PRU			*e*S	**S**		**22 31 09.0**	**+0.6**
KOGS	**Kog**	**96.87 318**	*e*Pdiff	**P**		**22 20 37.3**	**-1.0**
KOGS			*e*pP	**pP**		**22 22 47.5**	**-3.0**
KOGS			*e*sP	**sP**		**22 23 48.1**	**-3.0**
KOGS			*e*SKSac	**SKSac**		**22 30 14.4**	**-2.9**
KOGS			*e*			22 42 56.5	
STON	**Ston**	**96.89 315**	P	**P**		**22 20 38.2**	**-0.3**
PRA	**Prague**	**96.90 322**	*e*PDIFF	**P**		**22 20 39.3**	**+1.0**
PRA			*ex*	x		22 22 55.9	
PRA			*e*PP	**PP**		**22 24 48.5**	**+4.5**
PRA			*ex*	x		22 30 06.5	
PRA			*e*S	**S**		**22 31 08.0**	**-0.7**
PRA			*e*AS			22 33 55.4	
PRA	**Prague**	**96.90 322**	*e*P	**P**		**22 20 39.3**	**+1.0**
PRA			*e**PP	pP		22 22 55.9	+5.3
PRA			*e*			22 24 48.5	
PRA			*e*S	**S**		**22 31 08.0**	**-0.7**
BRG	**Berggiesshubel**	**96.93 323**	*i* PDIF	**P**		**22 20 39.4**	**+0.8**
	comp=Z,204nm,1.2s						
BRG			pP	pP		22 23 01.4	+11
	comp=Z,213nm,1.5s						
BRG			*i*			22 23 20.2	
	comp=Z,222nm,1.5s						
BRG			SKS			22 30 09.0	
BRG			SDIFF	**S**		**22 31 10.0**	**+1.0**
BRG			*e*			22 41 55.0	
BRG	**Berggiesshubel**	**96.93 323**	*e*Pdiff	**P**		**22 20 40.3**	**+1.8**
BRG			*e*PP	**PP**		**22 24 49.3**	**+5.0**
BRG			*e*pPP			22 26 38.4	
BRG	**Berggiesshubel**	**96.93 323**	*i* P	**P**		**22 20 39.3**	**+0.8**
BRG			S	**S**		**22 31 10.0**	**+1.0**
BRG			*e*			22 41 55.0	
BRG			pmax	pmax			
	comp=Z,204nm,1.2s						
BRG			pmax	pmax			
	comp=Z,213nm,1.5s						
HOMB	**Homborsund**	**97.07 331**	*e*P	Pdif		22 20 37.6	-1.3
SISC	**Sisak**	**97.08 317**	P	Pdif		22 20 40.7	+1.5
ARSA	**Arzberg**	**97.11 319**⇑	*i*Pdiff	Pdif		22 20 37.7	-1.6
	comp=Z,112nm,1.8s,SNR=35						
FOO	**Floro**	**97.14 335**	*e*P	Pdif		22 20 38.5	-0.6
FOO			IAmb	IAmb		22 20 39.6	
	comp=Z,632nm,2.3s						
ODD1	**Odda**	**97.23 333**	*e*P	**P**		**22 20 40.1**	**+0.4**
ODD1			IAmb	IAmb		22 20 44.4	
	comp=Z,126nm,0.9s						
FBE	**Freiberg**	**97.27 323**	*e*Pdiff	**P**		**22 20 42.0**	**+2.0**
TAOE	**Nuku Hiva Isla**	**97.27 98**	*e*SKSac	**SKSac**		**22 30 23.3**	**+2.6**
	comp=Z,21µm,32.5s						
TAOE			*e*S	**ScS**		**22 31 09.9**	**-3.5**
	comp=Z,17µm,27.7s						
CLL	**Collm**	**97.34 324**	*e*Pdiff	**P**		**22 20 41.8**	**+1.5**
CLL			*e*PP	**PP**		**22 24 51.8**	**+4.5**
CLL			*e*pPP			22 26 42.0	
CLL	**Collm**	**97.34 324**	*i* P	**P**		**22 20 41.2**	**+0.9**
CLL			*e*			22 30 16.0	
CLL			*e*S	**ScS**		**22 31 12.0**	**-0.4**
CLL			pmax	pmax			
	comp=Z,221nm,1.5s						
CLL	**Collm**	**97.34 324**	*e*Pdif	Pdif		22 20 39.4	-0.9
	comp=Z,938nm,2.2s						
CLL	**Collm**	**97.34 324**⇓	*i*Pdif	**P**		**22 20 41.2**	**+0.9**
	comp=Z,221nm,1.5s						
CLL			*e*Pdiff(2)			22 20 52.0	
CLL			*e*pP(2)			22 23 00.0	
CLL			*e*			22 23 22.0	
CLL			*e*sP	**sP**		**22 23 52.0**	**-1.1**
CLL			*e*PP(2)			22 24 56.0	
CLL			*e*pPP(2)			22 26 45.0	
CLL			*e*sPP			22 27 42.0	
CLL			*e*SKSac	**SKSac**		**22 30 16.0**	**-3.4**
CLL			*e*			22 30 32.0	
CLL			*e*			22 30 56.0	
CLL

YKA SKKPbc SKKPbc 22 39 52.7 -5.1
comp=Z,7.6nm,0.7s,baz=125,slow=2.5,SNR=5.0
LJU Ljubljana 98.13 318 *e*Pdiff Pdif 22 20 43.4 -0.6
LJU *e*pP pP 22 22 54.5 -1.8
LJU *e*sP sP 22 23 51.9 -4.9
LJU *e*PP **PP 22 24 51.0 -2.5**
LJU *e*pPP 22 26 48.8
LJU *e*sPP 22 27 55.9
LJU *e*SKSac **SKSac 22 30 19.3 -4.3**
LJU *e*Sdiff **ScS 22 31 19.2 0.0**
LJU *e* 22 34 03.2
LJU *e* 22 35 24.5
LJU *e* 22 49 16.5
PLN Plauen 98.13 323 *e*Pdiff **P 22 20 45.8 +1.9**
WET Wettzell 98.17 322 *e*Pdiff **P 22 20 46.0 +1.9**
WET *e*PP PP 22 24 59.2 +5.6
WET *e*pPP 22 26 49.2
KMY Karmoy 98.17 333 *e*P **P 22 20 44.3 +0.5**
KMY IAmb IAmb 22 20 48.5
comp=Z,186nm,1.2s
MANZ Manzenberg 98.34 323 *e*Pdiff **P 22 20 46.9 +2.1**
MANZ *e*PP **PP 22 25 00.0 +5.1**
MANZ *e*pPP 22 26 50.3
ROTZ Rotzenmuhle 98.36 322 *e*Pdiff **P 22 20 47.2 +2.3**
ROTZ *e*PP PP 22 25 00.6 +5.6
ROTZ *e*pPP 22 26 51.0
NVLJ Novalja 98.36 317 P Pdif 22 20 44.9 0.0
MOX Moxa 98.40 323 *e*Pdiff **P 22 20 46.9 +1.8**
MOX *e*PP **PP 22 24 59.8 +4.5**
MOX *e*pPP 22 26 50.2
MYKA Terra Mystica 98.53 319⇑ *i*Pdiff Pdif 22 20 44.9 -0.9
comp=Z,32nm,0.7s,SNR=17
KBA Koelnbreinsper 98.57 320⇑ *i*Pdiff Pdif 22 20 46.0 -0.1
comp=Z,81nm,1.1s,SNR=12
TIP Timpagrande 98.58 311 *e*Pdif **P 22 20 46.2 0.0**
comp=Z,57nm,1.0s
TIP *e*PP **PP 22 24 56.8 -0.3**
CLZ Clausthal 98.68 325 *e*Pdiff **P 22 20 48.6 +2.3**
CLZ *e*PP **PP 22 25 01.7 +4.4**
CLZ *e*pPP 22 26 52.0
TRI Trieste 98.75 318 *e*P **P 22 20 46.7 0.0**
TRI *e* 22 25 02.9
TRI pmax pmax
comp=Z,104nm,0.8s
TRI Trieste 98.75 318 *e*Pdif Pdif 22 20 46.7 0.0
comp=Z,104nm,0.8s
TRI *e*PP **PP 22 25 02.9 +4.9**
KULLO Kullorsuaq 98.85 0 *i* P **P 22 20 46.8 +0.3**
GRF Grafenberg Arr 98.98 323 *e*Pdiff **P 22 20 49.7 +2.0**
GRF *e*PP PP 22 25 05.3 +5.6
GRF *e*pPP 22 26 54.9
GRFO Grafenberg 98.98 323 *e*P **P 22 20 48.8 +1.1**
GRFO pmax pmax
comp=Z,658nm,2.2s
GRFO Grafenberg 98.98 323 *e*Pdif **P 22 20 48.8 +1.1**
comp=Z,658nm,2.2s
CUC Castrocucco 99.05 312 *e*Pdif **Pdif 22 20 48.1 -0.1**
comp=Z,54nm,0.7s
HLG Helgoland 99.11 328 *e*PP PP 22 25 05.3 +4.9
HLG *e*pPP 22 26 55.2
ABTA Abfaltersbach 99.22 319⇑ *i*Pdiff **Pdif 22 20 47.7 -1.2**
comp=Z,81nm,0.9s,SNR=40
UBBA Unterbreizbach 99.28 324 *e*Pdiff **Pdif 22 20 50.8 +2.0**
UBBA *e*PP **PP 22 25 06.1 +4.4**
UBBA *e*pPP 22 26 56.9
GRM Grahamstown 99.47 237 *i* P **Pdif 22 20 49.7 -0.5**
GRM **PKiKP 22 25 17.6 +2.0**
FUR Furstenfeldbru 99.50 321 *e*Pdiff **Pdif 22 20 51.8 +1.8**
FUR *e*PP PP 22 25 09.1 +5.5
FUR *e*pPP 22 26 58.2
WTTA Wattenberg 99.60 320⇓ *i*Pdiff **Pdif 22 20 49.2 -1.5**
comp=Z,180nm,0.8s,SNR=65
WATA Walderalm 99.61 320⇓ *i*Pdiff **Pdif 22 20 48.9 -1.8**
comp=Z,84nm,0.8s,SNR=52
PGC Sidney 99.85 38 *e*Pdif **Pdif 22 20 52.7 +1.3**
comp=Z,95nm,1.4s
PGC *e*pP **pP 22 23 05.3 +1.3**
MOTA Moosalm 99.91 320⇑ *i*Pdiff **Pdif 22 20 50.7 -1.3**
comp=Z,147nm,0.8s,SNR=134
LBTB Lobatse 99.94 246 *e*P **Pdif 22 20 52.7 +0.2**
LBTB pmax pmax
comp=Z,771nm,1.8s
LBTB Lobatse 99.94 246 *e*Pdif **Pdif 22 20 52.7 +0.2**
comp=Z,771nm,1.8s
IBBN Ibbenburen 99.97 326 *e*Pdiff **Pdif 22 20 54.2 +2.3**
IBBN *e*pPP 22 27 01.9
SUMG Summit 100.01 355⇓ *i*P **Pdif 22 20 52.7 +0.5**
SUMG *i* 22 23 06.2
SUMG Summit 100.01 355⇓ *i*P **Pdif 22 20 52.7 +0.5**
SUMG Summit 100.01 355 *e*Pdif **Pdif 22 20 51.1 -1.2**
SUMG *e*PKKPbc **PKKPdf 22 37 12.7 -0.9**
NLWA Neilton Lookou 100.06 40 *e*Pdif **Pdif 22 20 53.9 +1.4**
NLWA *e*pP pP 22 23 06.7 +1.6
AQU L'Aquila 100.07 315 *e*P **Pdif 22 20 53.2 +0.4**
AQU *i* 22 25 14.9
AQU L'Aquila 100.07 315 *e*Pdif **Pdif 22 20 53.2 +0.4**
AQU *e*PKiKP **PKiKP 22 25 14.9 -1.6**
RETA Reutte 100.07 321⇑ *i*Pdiff **Pdif 22 20 51.6 -1.0**
comp=Z,30nm,0.8s,SNR=18
FETA Feichten 100.27 320⇑ *i*Pdiff **Pdif 22 20 52.7 -0.9**
comp=Z,99nm,0.8s,SNR=62
BOSA Boshof 100.39 242 P **Pdif 22 20 53.6 -0.9**
comp=Z,20nm,0.8s,baz=95,slow=3.8,SNR=31
BOSA PKiKP **PKiKP 22 25 17.5 0.0**
comp=Z,34nm,0.9s,baz=94,slow=3.5,SNR=4.8
BOSA PKKPbc **PKKPbc 22 37 08.3 -0.1**
comp=Z,5.4nm,0.5s,baz=292,slow=2.6,SNR=12
BOSA SKKPbc SKKPbc 22 39 51.2 -0.8
comp=Z,16nm,0.8s,baz=291,slow=2.3,SNR=6.0
TNS Taunus Mts 100.43 324 *e*Pdiff **Pdif 22 20 56.2 +2.1**
TNS *e*PP **PKiKP 22 25 14.9 -2.0**
TNS *e*pPP 22 27 06.4
A05A Maple Falls 100.55 38 *e*Pdif **Pdif 22 20 55.5 +0.8**
A05A *e*pP pP 22 23 08.3 +1.2
STU Stuttgart 100.56 322 *e*Pdiff **Pdif 22 20 56.5 +1.8**
STU *e*PP **PKiKP 22 25 16.0 -1.1**
STU *e*pPP 22 27 07.3
STU Stuttgart 100.56 322 *e*P **Pdif 22 20 55.4 +0.7**
STU Stuttgart 100.56 322 *e*Pdif **Pdif 22 20 55.4 +0.7**
E03A Lebam 100.56 40 *e*Pdif **Pdif 22 20 56.1 +1.4**
E03A *e*pP pP 22 23 08.6 +1.3
BUG Bochum--Univer 100.61 325 *e*Pdiff **Pdif 22 20 56.9 +2.1**
BUG *e*PP **PKiKP 22 25 16.1 -0.9**
BUG *e*pPP 22 27 06.7
WTSB Winterswijk 100.65 326 *e*P **Pdif 22 20 56.3 +1.3**
comp=Z,736nm,2.2s
WTSB *e*pP pP 22 23 10.8 +3.3
DAVA Damuels 100.70 321⇓ *i*Pdiff **Pdif 22 20 55.5 -0.1**
comp=Z,91nm,1.6s,SNR=15
FUORN Ofenpass-Fuorn 100.71 320 *e*Pdif **Pdif 22 20 54.8 -1.0**
F03A Seaside 100.79 41 *e*Pdif **Pdif 22 20 53.8 -1.9**
F03A *e*pP pP 22 23 13.3 +5.0
DAVOX Davos/Dischmat 100.90 320 PKKPbc PKKPbc 22 37 06.7 -1.1
comp=Z,12nm,0.7s,baz=315,slow=5.7,SNR=2.5
F04D Rainier, OR 101.09 41 Pdiff **Pdif 22 20 57.7 +0.6**
baz=101
F04D SKSac **SKSac 22 30 38.9 +1.0**
baz=101
B06A Marblemount 101.11 38 *e*Pdif **Pdif 22 20 58.5 +1.4**
B06A *e*pP pP 22 23 10.9 +1.2
WDD Wield Dalam 101.21 308 *e*Pdif **Pdif 22 20 57.9 0.0**
WDD *e*PP **PKiKP 22 25 18.1 -0.5**
RVW Rose Valley 101.24 40 P **Pdif 22 20 59.7 +2.0**
G03D McMinnville, O 101.25 41 Pdiff **Pdif 22 20 58.9 +1.1**
baz=101
BFO Black Forest 101.26 322 *e*Pdiff **Pdif 22 20 59.2 +1.3**
BFO *e*PP **PKiKP 22 25 20.7 +2.3**
BFO *e*pPP 22 27 12.2
BFO Black Forest 101.26 322 *i* P **Pdif 22 20 58.9 +1.0**
BFO Black Forest 101.26 322 *e*Pdif **Pdif 22 20 57.9 +0.1**
D05A Enumclaw 101.32 39 *e*Pdif **Pdif 22 20 59.9 +1.8**
D05A *e*pP pP 22 23 12.2 +1.6
TUE Stuetta 101.35 320 *e*Pdif **Pdif 22 20 58.8 +0.3**
F04A Amboy 101.53 41 *e*Pdif **Pdif 22 20 59.5 +0.5**
F04A *e*pP pP 22 23 12.6 +1.0
VLC Villacollemand 101.53 317 *e*Pdif **Pdif 22 20 59.5 +0.4**
VLC *e*PP PKiKP 22 25 24.4 +5.4
LON Longmire 101.60 40 *e*P **Pdif 22 21 00.1 +0.6**
LON Longmire 101.60 40 *e*Pdif **Pdif 22 21 00.1 +0.6**
LON *e*pP pP 22 23 12.8 +0.7
HGN Heimansgroeve 101.66 325 *e*P **Pdif 22 21 00.8 +1.3**
comp=Z,463nm,2.2s
HGN *e*pP pP 22 23 12.3 +0.2
MEM Membach 101.69 325 P **Pdif 22 21 00.9 +1.3**
comp=Z,70nm,2.2s
MEM Membach 101.69 325 *e*P **Pdif 22 21 00.7 +1.1**
MEM Membach 101.69 325 *e*Pdif **Pdif 22 21 00.7 +1.1**
CLTB Caltabellotta 101.71 310 *e*Pdif **Pdif 22 21 00.7 +0.6**
CLTB *e*PP **PP 22 25 25.1 +4.7**
I03D Drain, OR 101.74 43 Pdiff **Pdif 22 21 00.2 +0.2**
baz=102
WLF Walferdange 102.01 324 P **Pdif 22 21 02.7 +1.6**
comp=Z,88nm,2.3s
WLF Walferdange 102.01 324 *e*Pdiff **Pdif 22 21 03.6 +2.5**
WLF *e*PP **PP 22 25 26.2 +4.2**
WLF *e*pPP 22 27 17.5
WLF Walferdange 102.01 324 *e*P **Pdif 22 21 02.3 +1.2**
WLF Walferdange 102.01 324 *e*Pdif **Pdif 22 21 02.2 +1.2**
ECH Echery 102.02 322 *e*P **Pdif 22 21 00.9 -0.4**
ECH pmax pmax
comp=Z,27nm,0.9s
ECH Echery 102.02 322 *e*Pdif **Pdif 22 21 00.9 -0.4**
comp=Z,27nm,0.9s
L02D Cave Junction, 102.11 44 Pdiff **Pdif 22 21 02.5 +0.7**
baz=102
H04A Detroit Lake 102.15 42 *e*Pdif **Pdif 22 21 02.1 +0.2**
H04A *e*PKKPbc **PKKPbc 22 37 05.6 +1.7**
I04A Tendick Farm, 102.34 43 Pdiff **Pdif 22 21 02.6 -0.2**
baz=102
WTV Waterville 102.38 38 P **Pdif 22 21 04.1 +1.2**
HUMO Hull Mountain 102.40 44 *e*Pdif **Pdif 22 21 03.7 +0.7**
B08A Colville Reser 102.48 37 P **Pdif 22 21 04.3 +1.0**
G05D Wamic, OR 102.51 41 Pdiff **Pdif 22 21 03.7 +0.2**
baz=102
SENIN Lac Senin/Sane 102.70 320 *e*Pdif **Pdif 22 21 04.3 -0.2**
SNF Seneffe 102.71 325 P **Pdif 22 21 05.7 +1.5**
DOU Dourbes 102.72 325 P **Pdif 22 21 05.3 +1.0**
comp=Z,64nm,2.5s
J04D Umpqua Nationa 102.75 43 Pdiff **Pdif 22 21 04.7 -0.1**
baz=103
I05D Terrebonne, OR 102.84 42 Pdiff **Pdif 22 21 05.8 +0.8**
baz=103
YBH Yreka Blue Hor 102.89 45 P **Pdif 22 21 05.7 +0.3**
comp=Z,8.2nm,1.1s,baz=236,slow=3.1,SNR=6.4
YBH SKKPbc SKKPbc 22 39 44.9 -0.1
comp=Z,6.0nm,0.8s,baz=184,slow=13,SNR=3.2
YBH Yreka Blue Hor 102.89 45 *e*P **Pdif 22 21 06.4 +1.1**
YBH 22 39 44.9
YBH Yreka Blue Hor 102.89 45 *e*Pdif **Pdif 22 21 06.4 +1.1**
YBH SKKPbc SKKPbc 22 39 44.9 -0.1
M02C Callahan 102.91 45 Pdiff **Pdif 22 21 06.0 +0.6**
baz=103
G06A Carlson Farm, 102.95 41 *e*Pdif **Pdif 22 21 06.6 +1.1**
N02D Trinity Center 103.16 45 Pdiff **Pdif 22 21 06.4 -0.1**
baz=103
RKT Rikitea 103.19 112 *e*Pdif **Pdif 22 21 09.4 +2.5**
comp=Z,2μm,35.0s
RKT *e*SKSac **SKSac 22 30 52.0 +3.5**
comp=Z,28μm,34.2s
RKT *e*SP **SP 22 33 37.3 -6.1**
comp=Z,18μm,35.5s
K04D Chiloquin, OR 103.22 44 Pdiff **Pdif 22 21 06.9 +0.1**
baz=103
OD2 Odessa Site #2 103.27 38 P **Pdif 22 21 08.2 +1.4**
D08A Wollman Farm, 103.29 39 *e*Pdif **Pdif 22 21 07.1 +0.3**
J05D Fort Rock, OR 103.32 43 Pdiff **Pdif 22 21 07.1 -0.2**
baz=103
NVL N'lazarevskaya 103.36 198 *d*/*i*P **Pdif 22 21 09.1 +2.6**
NVL *e*PPP PPP 22 25 37.3
NVL *i* S **SKSac 22 30 47.3 0.0**
NVL *e*SSS SSS 22 39 30.9
NVL pmax pmax
comp=Z,16nm,0.9s
C09A Chrisman Ranch 103.36 38 *e*Pdif **Pdif 22 21 08.3 +1.1**
C09A *e*PKKPbc **PKKPbc 22 36 59.1 -1.4**
WDC Whiskeytown Da 103.42 46 *e*P **Pdif 22 21 08.5 +0.9**
WDC Whiskeytown Da 103.42 46 *e*Pdif **Pdif 22 21 08.5 +0.9**
M04C Macdoel 103.47 44 Pdiff **Pdif 22 21 07.7 -0.3**
baz=103
EDM Edmonton 103.53 31 *e*P **Pdif 22 21 08.8 +1.0**
EDM Edmonton 103.53 31 *e*Pdif **Pdif 22 21 08.8 +1.0**
EDM *e*PKiKP **PKiKP 22 25 25.2 +2.8**
EDI Edinburgh 103.77 332 *e*P **Pdif 22 21 08.5 -0.2**
EDI Edinburgh 103.77 332 *e*Pdif **Pdif 22 21 08.5 -0.2**
EDI *e*PKKPbc **PKKPbc 22 37 01.5 +1.9**
K05A Summer Lake 103.77 43 *e*Pdif **Pdif 22 21 09.2 -0.2**
KAC Achnashellach 103.78 334 *e*P **Pdif 22 21 08.7 -0.1**
NEW Newport 103.85 37 Pdiff **Pdif 22 21 09.5 +0.1**
comp=Z,5.4nm,0.9s,baz=303,slow=4.4,SNR=14
NEW Newport 103.85 37 P **Pdif 22 21 09.5 +0.1**
NEW pmax pmax
comp=Z,5.0nm,0.9s
NEW Newport 103.85 37 Pdiff **Pdif 22 21 09.5 +0.1**
baz=104
NEW Newport 103.85 37 *e*Pdif **Pdif 22 21 10.7 +1.3**
G08A Pilot Rock 104.01 40 *e*Pdif **Pdif 22 21 11.6 +1.3**
G08A *e* 22 23 24.1
EKA Eskdalemuir Ar 104.09 332 SKKPbc SKKPbc 22 39 40.8 -1.3
comp=Z,3.6nm,0.6s,baz=243,slow=1.9,SNR=3.6
NSHM Saint Helena R 104.11 48 *e*Pdif **Pdif 22 21 09.6 -1.1**
NSHM *e*PKKPbc **PKKPbc 22 36 58.9 +0.9**
ESK Eskdalemuir 104.12 332 *e*P **Pdif 22 21 09.8 -0.6**
ESK Eskdalemuir 104.12 332 *e*Pdif **Pdif 22 21 09.8 -0.6**
ILULI Ilulissat 104.16 358⇓ *i*P **Pdif 22 21 10.5 +0.3**
comp=Z,75nm,1.5s
SUR Sutherland 104.26 238 *e*Pdif **Pdif 22 21 11.7 0.0**
PGBU Glenifferbraes 104.43 333 *e*P **Pdif 22 21 10.6 -1.1**
MOD Modoc 104.49 44 *e*Pdif **Pdif 22 21 13.7 +1.1**
comp=Z,6.7nm,0.6s
OHCM Honcut 104.63 47 *e*Pdif **Pdif 22 21 14.3 +1.4**
OHCM *e*PKKPbc **PKKPbc 22 36 57.4 +1.0**
GCD Castle Douglas 104.73 332 *e*P **Pdif 22 21 12.6 -0.4**
SSB Saint Sauveur 104.90 320 *e*P **Pdif 22 21 14.8 +0.7**
SSB pmax pmax
comp=Z,18nm,0.8s
SSB Saint Sauveur 104.90 320 *e*Pdif **Pdif 22 21 14.8 +0.7**
comp=Z,18nm,0.8s
KEST Kesra 105.25 310 Pdiff **Pdif 22 21 17.0 +1.0**
comp=Z,5.5nm,1.0s,baz=93,slow=1.9,SNR=9.7
KEST PKiKP **PKiKP 22 25 26.3 +0.1**
comp=Z,13nm,0.9s,baz=341,slow=2.4,SNR=5.2
KEST PKKPbc **PKKPbc 22 36 53.9 -0.7**
comp=Z,2.7nm,0.7s,baz=233,slow=0.9,SNR=4.3
WALA Waterton Lakes 105.34 35 *e*Pdif **Pdif 22 21 16.5 +0.4**
WALA *e*PKKPbc **PKKPbc 22 36 54.1 -0.8**
WVOR Wild Horse Val 105.41 43 *e*P **Pdif 22 21 17.1 +0.5**
WVOR Wild Horse Val 105.41 43 *e*Pdif **Pdif 22 21 17.1 +0.5**
WVOR *e*PKKPbc **PKKPbc 22 36 54.8 +0.3**
BSMT Bassoo Peak 105.42 36 *e*Pdif **Pdif 22 21 18.1 +1.4**
comp=Z,24nm,0.2s
BLMT Blacktail Moun 105.60 36 *e*Pdif **Pdif 22 21 17.5 +0.1**
BLMT *e* 22 23 31.8
BLMT *e*PKKPdf **PKKPab 22 37 13.8 +0.2**
JTMT Jette 105.77 36 *e*Pdif **Pdif 22 21 18.1 0.0**
JTMT *e* 22 23 32.1
JTMT *e*PKKPbc **PKKPbc 22 36 52.9 -0.7**
WLF1 Llynfaes 105.86 330 *e*P **Pdif 22 21 16.4 -1.7**
YBMT Yellow Bay 105.88 36 *e*Pdif **Pdif 22 21 19.4 +0.9**
YBMT *e*PKKPbc **PKKPbc 22 36 51.8 -1.5**
CMB Columbia Colle 105.91 47 *e*P **Pdif 22 21 19.4 +0.6**
CMB Columbia Colle 105.91 47 *e*Pdif **Pdif 22 21 19.4 +0.6**
CMB *e*PKKPbc **PKKPbc 22 36 53.5 +0.8**
LRV Little Rabbit 106.03 49 *e*PKKPbc PKKPbc 22 36 54.2 +2.0
LRV *e*PKKPab **PKKPab 22 37 11.6 +0.3**
SWMT Swartz Lake 106.06 37 *e*Pdif **Pdif 22 21 20.3 +1.0**
comp=Z,8.6nm,0.9s
SFJD Kangerlussuaq 106.35 358 *i* P **Pdif 22 21 19.6 -0.4**
SFJD Kangerlussuaq 106.35 358 *e*P **Pdif 22 21 19.6 -0.4**
CMAH Djebel Manchou 106.39 311 P **Pdif 22 21 19.4 -1.6**
WAKR Walker 106.42 47 *e*Pdif **Pdif 22 21 22.4 +1.1**
WAKR *e*PKKPbc **PKKPbc 22 36 52.5 +1.1**
MSO Missoula 106.42 37 Pdiff **PKiKP 22 25 28.0 -0.1**
baz=106
MSO Missoula 106.42 37 *e*Pdif **Pdif 22 21 21.6 +0.6**
MSO *e* 22 23 34.5
MSO *e*PKiKP **PKiKP 22 25 28.7 +0.7**
ABSA Djebel Ababsia 106.47 311 P **Pdif 22 21 21.0 -0.4**
SLMT Seeley Lake 106.49 37 *e*Pdif **Pdif 22 21 22.7 +1.4**
comp=Z,11nm,0.8s
CHMT Chamberlain Mo 106.79 37 *e*Pdif **Pdif 22 21 23.2 +0.5**
comp=Z,54nm,0.3s
DSB Dublin 106.85 331 *e*PKKPbc PKKPbc 22 36 52.0 +1.7
MFID Camas Ranch 106.85 41 *e*Pdif **Pdif 22 21 23.2 +0.3**
MFID *e*PKKPab **PKKPab 22 37 08.1 +0.2**
JSA Saint Aubin 106.99 326 *e*P **Pdif 22 21 21.9 -1.3**
CKFL Kef-Lekhel 107.00 311 P **Pdif 22 21 22.5 -1.2**
TSUM Tsumeb 107.17 252 PKKPbc PKKPbc 22 36 48.4 +0.1
comp=Z,1.7nm,0.6s,baz=276,slow=5.4,SNR=3.5
TSUM Tsumeb 107.17 252 *e*Pdif **Pdif 22 21 25.1 +0.3**
TSUM PKKPbc **PKKPbc 22 36 48.4 +0.1**
MLAC Mammoth Lakes 107.20 47 PKiKP **PKiKP 22 25 29.5 -0.4**
baz=107
SMMC Simmler 107.21 50 PKiKP **PKiKP 22 25 28.9 -0.9**
baz=107
BMN Battle Mountai 107.21 44 *e*P **Pdif 22 21 25.9 +1.2**
BMN Battle Mountai 107.21 44 *e*Pdif **Pdif 22 21 25.9 +1.2**
BMN *e*PKKPab **PKKPab 22 37 05.9 -0.3**
CASM Ain Smara 107.22 311 P **Pdif 22 21 23.3 -1.4**
SNAA Sanae 107.23 195 Pdiff **Pdif 22 21 26.2 +2.3**
comp=Z,3.6nm,0.8s,baz=168,slow=5.6,SNR=19
SNAA PKiKP **PKiKP 22 25 28.3 -0.5**
comp=Z,11nm,0.9s,baz=90,slow=4.2,SNR=4.1
SNAA PKKPbc **PKKPbc 22 36 46.4 -3.1**
comp=Z,7.2nm,0.6s,baz=259,slow=3.6,SNR=22
SNAA Sanae 107.23 195 *e*P **Pdif 22 21 26.0 +2.1**
SNAA pmax pmax
comp=Z,7.0nm,0.8s
NVAR Mina Array Bea 107.27 46 Pdiff **Pdif 22 21 26.2 +1.2**
comp=Z,6.2nm,0.9s,baz=273,slow=5.6,SNR=21
NVAR PKiKP **PKiKP 22 25 30.8 +0.8**
comp=Z,10nm,0.7s,baz=274,slow=5.2,SNR=4.7
NVAR PKKPbc **PKKPbc 22 36 48.2 -0.6**
comp=Z,30nm,0.7s,baz=144,slow=4.4,SNR=22
NVAR SKKPbc SKKPbc 22 39 31.1 -2.0
comp=Z,14nm,1.0s,baz=155,slow=4.4,SNR=4.8
CTEI Djebel Teioual 107.36 311 P **Pdif 22 21 25.2 -0.2**
RCTC Rector, Farmer 107.41 49 PKiKP **PKiKP 22 25 29.4 -0.6**
baz=107
PKM Peak Mountain 107.50 50 PKiKP **PKiKP 22 25 30.2 -0.3**
baz=108
MTUM Tungsten Hills 107.51 48 *e*Pdif **Pdif 22 21 32.1 +6.0**
MTUM *e*PKiKP **PKiKP 22 25 32.3 +1.8**
MTUM *e*PKKPab **PKKPab 22 37 04.6 -0.3**
DFRA Djebel Bou Aff 107.57 312 P **Pdif 22 21 25.6 -0.7**
HLID Hailey 107.69 40 PKiKP **PKiKP 22 25 30.2 -0.4**
baz=108
HLID Hailey 107.69 40 *e*Pdif **Pdif 22 21 26.4 -0.4**
HLID *e*PKiKP **PKiKP 22 25 32.5 +1.9**
HLID *e*PKKPbc **PKKPbc 22 36 47.8 +0.2**
HLID *e*PKKPdf **PKKPdf 22 37 01.1 +2.2**
VES Vestal, Richgr 107.70 49 PKiKP **PKiKP 22 25 30.3 -0.3**
baz=108
HRY Holter Researc 107.74 36 *e*Pdif **Pdif 22 21 28.3 +1.5**
comp=Z,7.9nm,0.6s
SBC Santa Barbara 107.74 51 PKiKP **PKiKP 22 25 29.9 -0.8**
baz=108
LRM Limekiln Ridge 107.82 37 *e*Pdif **Pdif 22 21 29.0 +1.6**
TIN Tinemaha 107.87 48 PKiKP **PKiKP 22 25 31.2 +0.2**
baz=108
DLMT Dillon 107.96 38 *e*Pdif **Pdif 22 21 29.3 +1.4**
DLMT *e*PKiKP **PKiKP 22 25 33.7 +2.6**
DLMT *e*PKKPdf **PKKPdf 22 36 57.8 -0.6**
BSC Santa Cruz Isl 107.97 51 PKiKP **PKiKP 22 25 31.4 +0.2**
baz=108
FFC Flin Flon 108.03 26 *e*P **Pdif 22 21 27.8 0.0**
FFC Flin Flon 108.03 26 *e*Pdif **Pdif 22 21 27.8 0.0**
FFC *e*PKiKP **PKiKP 22 25 29.8 -0.9**
FFC *e*PKKPbc **PKKPbc 22 36 45.4 -1.4**
CKHR Kef el Ahmar 108.05 311 P **Pdif 22 21 27.7 -0.7**
SET Setif 108.06 311 P **Pdif 22 21 31.0 +2.6**
MCMT McKenzie Canyo 108.07 39 *e*Pdif **Pdif 22 21 30.2 +1.7**
MCMT *e*PKKPdf **PKKPdf 22 36 59.1 +0.7**
FCC Fort Churchill 108.13 20 *e*P **Pdif 22 21 28.0 -0.1**
FCC Fort Churchill 108.13 20 *e*Pdif **Pdif 22 21 28.0 -0.1**
ARVC Arvin 108.16 50 PKiKP **PKiKP 22 25 32.1 +0.6**
baz=108
TPH Tonopah 108.19 46 *e*P **Pdif 22 21 30.3 +1.2**
TPH Tonopah 108.19 46 *e*Pdif **Pdif 22 21 30.3 +1.2**
TPH *e*PKKPdf **PKKPab 22 37 01.6 -0.3**
CWC Cottonwood Cre 108.22 48 PKiKP **PKiKP 22 25 31.9 +0.1**
baz=108
ISA Isabella 108.23 49 PKiKP **PKiKP 22 25 32.9 +1.2**
baz=108
ISA Isabella 108.23 49 *e*PKKPbc PKKPbc 22 36 46.9 +1.3
EGMT Eagleton 108.24 34 PKiKP **PKiKP 22 25 32.1 +0.8**
baz=108
EGMT Eagleton 108.24 34 *e*Pdif **Pdif 22 21 29.8 +0.8**
EGMT *e*PKiKP **PKiKP 22 25 32.2 +0.8**
BLG Laguna Peak 108.36 51 PKiKP **PKiKP 22 25 32.4 +0.5**
baz=108
BOZ Bozeman (W) 108.40 37 *e*P **Pdif 22 21 31.2 +1.4**
BOZ pmax pmax
comp=Z,1μm,1.8s
BOZ Bozeman (W) 108.40 37 PKiKP **PKiKP 22 25 32.8 +1.0**
baz=108
BOZ Bozeman (W) 108.40 37 *e*Pdif **Pdif 22 21 31.2 +1.4**
comp=Z,1μm,1.8s
ELK Elko 108.44 43 *e*P **Pdif 22 21 30.8 +0.6**
ELK Elko 108.44 43 *e*Pdif **Pdif 22 21 30.8 +0.6**
ELK *e*PKKPbc **PKKPbc 22 36 46.8 +1.5**
OSI Osito Adit 108.44 50 PKiKP **PKiKP 22 25 32.6 +0.5**
baz=108
GRAC Grapevine Rang 108.52 48 PKiKP **PKiKP 22 25 31.5 -0.7**
baz=108
DAC Darwin (Calif) 108.65 48 *e*P **Pdif 22 21 31.9 +0.7**
DAC Darwin (Calif) 108.65 48 *e*Pdif **Pdif 22 21 31.9 +0.7**
DAC *e*PKiKP **PKiKP 22 25 34.5 +1.8**
MPMC Manual Prospec 108.81 48 PKiKP **PKiKP 22 25 32.5 -0.4**
baz=109
DECC Green Verdugo 108.88 51 PKiKP **PKiKP 22 25 32.8 -0.1**
baz=109
EDW2 Edwards Air Fo 108.89 50 PKiKP **PKiKP 22 25 32.1 -0.9**
baz=109
QLMT Earthquake Lak 108.94 38 *e*Pdif **Pdif 22 21 33.2 +0.8**
QLMT *e*PKiKP **PKiKP 22 25 30.3 -2.7**
QLMT *e*PKiKP **PKiKP 22 25 36.4 +3.4**
QLMT *e*PKKPdf **PKKPab 22 36 59.1 +0.4**
PASC Pasadena Art C 109.02 51 *e*PKKPdf PKKPdf 22 36 57.6 +1.4
FMP Fort Macarthur 109.11 51 PKiKP **PKiKP 22 25 32.6 -0.7**
baz=109
FURC Furnace Creek, 109.11 48 PKiKP **PKiKP 22 25 33.9 +0.8**
baz=109
CIS Catalina Islan 109.14 51 PKiKP **PKiKP 22 25 34.6 +1.2**
baz=109
R11A Troy Canyon, C 109.25 46 PKiKP **PKiKP 22 25 33.2 -0.5**
baz=109
R11A Troy Canyon, C 109.25 46 *e*Pdif **Pdif 22 21 34.6 +0.8**
R11A *e*PKKPbc **PKKPbc 22 36 46.1 +3.5**
VNA1 Neumayer--Stat 109.26 195 P **Pdif 22 21 34.8 +2.0**
VNA1 Neumayer--Stat 109.26 195 PKiKP **PKiKP 22 25 34.2 +1.7**
VNA1 Neumayer--Stat 109.26 195 P **PKKPbc 22 36 40.7 -2.3**
VNA1 Neumayer--Stat 109.26 195 P **PKKPab 22 36 55.6 0.0**
YMR Madison River 109.31 38 *e*Pdif **Pdif 22 21 35.9 +1.9**
YMR *e*PKKPdf **PKKPab 22 36 56.7 -0.4**
TPNV Topopah Spring 109.36 47 *e*P **Pdif 22 21 35.7 +1.4**
TPNV Topopah Spring 109.36 47 PKiKP **PKiKP 22 25 33.1 -0.8**
baz=109
TPNV Topopah Spring 109.36 47 *e*Pdif **Pdif 22 21 35.7 +1.4**
TPNV *e*PKKPbc **PKKPbc 22 36 42.6 +0.5**
BFSC Mount Baldy Ra 109.39 50 PKiKP **PKiKP 22 25 33.5 -0.5**
baz=109
GCMT Greycliff 109.50 36 *e*Pdif **Pdif 22 21 35.7 +1.0**
GCMT *e*PKiKP **PKiKP 22 25 34.2 +0.3**
GCMT *e*PKKPdf **PKKPdf 22 36 55.4 -0.1**
VAL Valentia 109.50 332 *e*P **Pdif 22 21 32.5 -1.8**
VAL *e*PP PP 22 26 10.0 -5.9
HVU Hansel Valley 109.60 41 *e*P **Pdif 22 21 37.6 +2.3**
HVU Hansel Valley 109.60 41 *e*Pdif **Pdif 22 21 37.5 +2.3**
HVU *e*PKiKP **PKiKP 22 25 33.6 -0.6**
HVU *e*PKKPab **PKKPdf 22 36 54.9 -0.4**
GSC Goldstone 109.62 49 *e*P **Pdif 22 21 36.0 +0.6**
GSC Goldstone 109.62 49 PKiKP **PKiKP 22 25 34.8 +0.5**
baz=110
GSC Goldstone 109.62 49 *e*Pdif **Pdif 22 21 36.0 +0.6**
GSC *e*PKiKP **PKiKP 22 25 35.9 +1.5**
GSC *e*PKKPbc **PKKPbc 22 36 42.1 +0.9**
RRX Edison Barstow 109.64 49 PKiKP **PKiKP 22 25 34.0 -0.3**
baz=110
LKWY Lake 109.71 38 *e*PKKPab PKKPab 22 36 56.8 +1.4
IMW Indian Meadow 109.72 39 *e*Pdif **Pdif 22 21 38.2 +2.2**
IMW *e*PKKPab **PKKPdf 22 36 53.8 -1.5**
SHOC Shoshone 109.77 48 PKiKP **PKiKP 22 25 34.3 -0.2**
baz=110
FLWY Flagg Ranch 109.78 38 *e*Pdif **Pdif 22 21 39.3 +3.3**
FLWY *e*PKKPab **PKKPab 22 36 54.0 -1.0**
FXWY Fox Creek 109.80 39 *e*Pdif **Pdif 22 21 38.6 +2.3**
FXWY *e*PKiKP **PKiKP 22 25 36.3 +1.7**
FXWY *e*PKKPab **PKKPab 22 36 52.3 -2.6**
BGU Big Grassy Mou 109.84 42 *e*Pdif **Pdif 22 21 38.3 +2.0**

BGU				*e*PKKPbc	**PKKPbc**	22 36 40.0	-0.8
MOOW	**Moose Ponds**	**109.92**	**39**	*e*Pdif	**Pdif**	**22 21 41.3**	**+4.6**
MOOW				*e*PKiKP	**PKiKP**	22 25 36.2	+1.3
MOOW				*e*PKKPbc	**PKKPbc**	22 36 41.6	+0.8
TPAW	**Teton Pass**	**109.92**	**39**	*e*Pdif	**Pdif**	**22 21 38.6**	**+1.8**
TPAW				*e*PKiKP	**PKiKP**	22 25 36.6	+1.7
TPAW				*e*PKKPbc	**PKKPbc**	22 36 41.8	+1.0
BBRC	**Big Bear Solar**	**109.95**	**50**	PKiKP	**PKiKP**	**22 25 34.5**	**-0.7**
	baz=110						
MURC	**Murrieta**	**109.99**	**51**	PKiKP	**PKiKP**	**22 25 35.2**	**+0.2**
	baz=110						
SPUT	**South Promonto**	**110.05**	**42**	*e*Pdif	**Pdif**	**22 21 40.2**	**+2.9**
SPUT				*e*PKKPbc	**PKKPbc**	22 36 39.8	-0.4
REDW	**Red Top Meadow**	**110.05**	**39**	*e*PKP	**PKiKP**	**22 25 35.8**	**+0.7**
SNOW	**Snow King Moun**	**110.06**	**39**	*e*PKiKP	**PKiKP**	**22 25 37.1**	**+1.9**
SNOW				*e*PKKPab	**PKKPab**	22 36 52.4	-1.4
LOHW	**Long Hollow**	**110.08**	**39**	*e*Pdif	**Pdif**	**22 21 40.1**	**+2.7**
LOHW				*e*PKiKP	**PKiKP**	22 25 36.1	+0.9
LOHW				*e*PKKPbc	**PKKPbc**	22 36 41.8	+1.5
RLMT	**Red Lodge**	**110.10**	**37**	PKiKP	**PKiKP**	**22 25 34.7**	**-0.4**
	baz=110						
RLMT	**Red Lodge**	**110.10**	**37**	*e*Pdif	**Pdif**	**22 21 38.9**	**+1.4**
RLMT				*e*PKP	**PKiKP**	22 25 34.6	-0.6
HEC	**Hector,Ludlow**	**110.17**	**49**	PKiKP	**PKiKP**	**22 25 34.9**	**-0.5**
	baz=110						
AHID	**Auburn Hatcher**	**110.20**	**40**	*e*PKiKP	**PKiKP**	**22 25 36.4**	**+1.0**
AHID				*e*PKKPbc	**PKKPbc**	22 36 36.5	-3.4
TUQ	**Turquoise Moun**	**110.23**	**49**	PKiKP	**PKiKP**	**22 25 35.7**	**+0.1**
	baz=110						
DUG	**Dugway**	**110.33**	**43**	*e*P	**Pdif**	**22 21 39.8**	**+1.3**
DUG	**Dugway**	**110.33**	**43**	PKiKP	**PKiKP**	**22 25 36.5**	**+0.8**
	baz=110						
DUG	**Dugway**	**110.33**	**43**	*e*Pdif	**Pdif**	**22 21 39.8**	**+1.3**
DUG				*e*PKiKP	**PKiKP**	22 25 36.5	+0.8
DUG				*e*PKiKP	**PKiKP**	22 25 37.5	+1.8
DUG				*e*PKKPbc	**PKKPbc**	22 36 40.0	+0.7
109C	**Camp Elliot, M**	**110.34**	**51**	PKiKP	**PKiKP**	**22 25 35.3**	**-0.4**
	baz=110						
SHPR	**Sheep Range**	**110.34**	**47**	*e*Pdif	**Pdif**	**22 21 40.6**	**+1.9**
SHPR				*e*PKiKP	**PKiKP**	22 25 37.6	+1.8
SHPR				*e*PKKPbc	**PKKPbc**	22 36 39.9	+0.8
F20A	**Billings**	**110.38**	**36**	PKiKP	**PKiKP**	**22 25 35.4**	**-0.1**
	baz=110						
HWUT	**Hardware Ranch**	**110.48**	**41**	*e*Pdif	**Pdif**	**22 21 40.1**	**+0.9**
HWUT				*e*PKiKP	**PKiKP**	22 25 37.0	+1.1
HWUT				*e*PKKPbc	**PKKPbc**	22 36 38.2	-0.6
H19A	**Powell**	**110.51**	**37**	PKiKP	**PKiKP**	**22 25 37.0**	**+1.2**
	baz=110						
PFO	**Pinyon Flat Ob**	**110.56**	**50**	*e*P	**Pdif**	**22 21 40.5**	**+0.8**
PFO	**Pinyon Flat Ob**	**110.56**	**50**	PKiKP	**PKiKP**	**22 25 37.4**	**+1.1**
	baz=110						
PFO	**Pinyon Flat Ob**	**110.56**	**50**	*e*Pdif	**Pdif**	**22 21 40.5**	**+0.8**
PFO				*e*PKiKP	**PKiKP**	22 25 40.4	+4.2
E21A	**Keefer Ranch,**	**110.58**	**35**	PKiKP	**PKiKP**	**22 25 36.6**	**+0.8**
	baz=110						
G20A	**Bridger**	**110.67**	**36**	PKiKP	**PKiKP**	**22 25 37.3**	**+1.2**
	baz=111						
GMRC	**Granite Mounta**	**110.69**	**49**	PKiKP	**PKiKP**	**22 25 38.3**	**+1.8**
	baz=111						
BELC	**Belle Mtn. Jos**	**110.75**	**50**	PKiKP	**PKiKP**	**22 25 37.9**	**+1.3**
	baz=111						
BAR	**Barrett**	**110.76**	**51**	*e*Pdif	**Pdif**	**22 21 45.2**	**+4.8**
BAR				*e*PKKPbc	**PKKPbc**	22 36 38.3	+0.8
CTU	**Camp Tracy**	**110.81**	**42**	*e*Pdif	**Pdif**	**22 21 41.7**	**+1.0**
CTU				*e*PKKPbc	**PKKPbc**	22 36 40.2	+2.4
TCUT	**Toone Canyon**	**110.82**	**41**	*e*PKP	**PKiKP**	**22 25 37.7**	**+1.0**
I19A	**Meeteetse**	**110.84**	**38**	PKiKP	**PKiKP**	**22 25 37.9**	**+1.3**
	baz=111						
MONP	**Monument Peak**	**110.87**	**51**	PKiKP	**PKiKP**	**22 25 38.0**	**+1.0**
	baz=111						
NLU	**North Lily Min**	**110.95**	**43**	*e*Pdif	**Pdif**	**22 21 42.3**	**+0.9**
NLU				*e*PKiKP	**PKiKP**	22 25 38.4	+1.5
NLU				*e*PKKPbc	**PKKPbc**	22 36 37.5	+0.2
F21A	**Absaloka Mine,**	**110.96**	**35**	PKiKP	**PKiKP**	**22 25 37.7**	**+1.1**
	baz=111						
LAO	**LASA Array**	**110.97**	**34**	PKiKP	**PKiKP**	**22 25 38.0**	**+1.5**
	baz=111						
LAO	**LASA Array**	**110.97**	**34**	*e*PKP	**PKiKP**	**22 25 37.9**	**+1.4**
LDFC	**Landfair**	**110.98**	**49**	*e*PKiKP	**PKiKP**	**22 25 36.3**	**-0.7**
LDFC				*e*PKKPbc	**PKKPbc**	22 36 38.7	+1.8
LDFC				*e*PKKPab	**PKKPab**	22 36 48.1	-1.2
BW06	**Boulder Array**	**111.17**	**39**	*e*Pdif	**Pdif**	**22 21 45.0**	**+2.7**
BW06				*e*PKiKP	**PKiKP**	**22 25 38.2**	**+0.9**
BW06				*e*PKKPbc	**PKKPbc**	22 36 35.7	-1.1
PDAR	**Pinedale Array**	**111.17**	**39**	Pdiff	**Pdif**	**22 21 43.9**	**+1.5**
	comp=Z,3.2nm,1.1s,baz=306,slow=2.8,SNR=10						
PDAR				PKiKP	**PKiKP**	**22 25 37.3**	**0.0**
	comp=Z,10nm,0.7s,baz=340,slow=1.3,SNR=11						
PDAR				SKP		22 28 15.6	
	comp=Z,12nm,0.7s,baz=46,slow=2.6,SNR=3.6						
PDAR				PKKPbc	**PKKPbc**	22 36 35.4	-1.4
	comp=Z,15nm,0.7s,baz=106,slow=5.6,SNR=12						
PDAR				PKKP	**PKKPab**	22 36 46.1	-2.7
	comp=Z,48nm,0.8s,baz=104,slow=6.3,SNR=20						
PDAR				SKKPbc	SKKPbc	22 39 22.4	+0.1
	comp=Z,14nm,0.9s,baz=104,slow=5.3,SNR=3.9						
CCUT	**Cedar City**	**111.17**	**46**	*e*PKiKP	**PKiKP**	**22 25 39.0**	**+1.5**
CCUT				*e*PKKPbc	**PKKPbc**	22 36 34.7	-1.9
H20A	**Greybull**	**111.20**	**37**	PKiKP	**PKiKP**	**22 25 37.9**	**+0.8**
	baz=111						
IBP	**Imperial Bould**	**111.21**	**51**	PKiKP	**PKiKP**	**22 25 38.4**	**+1.0**
	baz=111						
MPU	**Maple Canyon**	**111.21**	**43**	*e*PKiKP	**PKiKP**	**22 25 37.7**	**+0.3**
J19A	**Crowheart**	**111.22**	**38**	PKiKP	**PKiKP**	**22 25 38.3**	**+1.0**
	baz=111						
G21A	**Lodge Grass**	**111.25**	**36**	PKiKP	**PKiKP**	**22 25 37.7**	**+0.5**
	baz=111						
A25A	**Svangstu Ranch**	**111.27**	**31**	PKiKP	**PKiKP**	**22 25 38.4**	**+1.4**
	baz=111						
E22A	**Miles City**	**111.27**	**34**	PKiKP	**PKiKP**	**22 25 38.1**	**+1.0**
	baz=111						
BC3	**Big Chuckawall**	**111.31**	**50**	PKiKP	**PKiKP**	**22 25 39.1**	**+1.5**
	baz=111						
IRM	**Iron Mountain**	**111.33**	**49**	PKiKP	**PKiKP**	**22 25 39.1**	**+1.5**
	baz=111						
SWSC	**Sam W. Stewart**	**111.33**	**51**	PKiKP	**PKiKP**	**22 25 38.7**	**+1.1**
	baz=111						
I20A	**Worland**	**111.42**	**37**	PKiKP	**PKiKP**	**22 25 38.1**	**+0.5**
	baz=111						
C24A	**Savage**	**111.45**	**33**	PKiKP	**PKiKP**	**22 25 38.0**	**+0.6**
	baz=111						
NEE2	**Needles Airpor**	**111.48**	**49**	PKiKP	**PKiKP**	**22 25 38.6**	**+0.9**
	baz=111						
F22A	**Rosebud**	**111.48**	**35**	PKiKP	**PKiKP**	**22 25 37.6**	**+0.1**
	baz=111						
MVU	**Marysvale**	**111.54**	**44**	*e*Pdif	**Pdif**	**22 21 45.2**	**+1.1**
MVU				*e*PKiKP	**PKiKP**	22 25 39.2	+1.1
MVU				*e*PKKPbc	**PKKPbc**	22 36 35.9	+0.4
MSU	**Marysvale**	**111.56**	**44**	*e*P	**Pdif**	**22 21 45.4**	**+1.3**
MSU	**Marysvale**	**111.56**	**44**	*e*Pdif	**Pdif**	**22 21 45.4**	**+1.3**
MSU				*e*PKiKP	**PKiKP**	22 25 40.1	+1.9
MSU				*e*PKKPbc	**PKKPbc**	22 36 35.8	+0.4
E23A	**Ismay**	**111.60**	**34**	PKiKP	**PKiKP**	**22 25 38.4**	**+0.7**
	baz=112						
B25A	**Knox Farm, Ray**	**111.66**	**32**	PKiKP	**PKiKP**	**22 25 39.2**	**+1.4**
	baz=112						
H21A	**Big Horn, Sher**	**111.69**	**36**	PKiKP	**PKiKP**	**22 25 39.0**	**+1.0**
	baz=112						
D24A	**Glendive**	**111.76**	**33**	PKiKP	**PKiKP**	**22 25 39.5**	**+1.4**
	baz=112						
J20A	**Shoshoni**	**111.77**	**38**	PKiKP	**PKiKP**	**22 25 39.3**	**+1.0**
	baz=112						
G22A	**Birney**	**111.79**	**36**	PKiKP	**PKiKP**	**22 25 39.2**	**+1.0**
	baz=112						
KNB	**Kanab**	**111.80**	**46**	*e*P	**Pdif**	**22 21 46.6**	**+1.4**
KNB	**Kanab**	**111.80**	**46**	*e*Pdif	**Pdif**	**22 21 46.6**	**+1.4**
KNB				*e*PKiKP	**PKiKP**	22 25 39.8	+1.2
KNB				*e*PKKPbc	**PKKPbc**	22 36 37.7	+3.2
A26A	**Wade Farm, Ken**	**111.84**	**30**	PKiKP	**PKiKP**	**22 25 39.3**	**+1.2**
	baz=112						
TMUT	**Trail Mountain**	**111.85**	**43**	*e*PKiKP	**PKiKP**	**22 25 39.5**	**+0.7**
TMUT				*e*PKKPbc	**PKKPbc**	22 36 32.6	-2.0
C25A	**Freed Ranch, W**	**111.96**	**32**	PKiKP	**PKiKP**	**22 25 40.1**	**+1.7**
	baz=112						
Y12C	**Blythe**	**111.97**	**50**	PKiKP	**PKiKP**	**22 25 40.1**	**+1.4**
	baz=112						
I21A	**Big Trails, Te**	**112.00**	**37**	PKiKP	**PKiKP**	**22 25 39.3**	**+0.6**
	baz=112						
F23A	**Volborg**	**112.00**	**35**	PKiKP	**PKiKP**	**22 25 39.6**	**+1.1**
	baz=112						
GLA	**Glamis**	**112.03**	**50**	*e*P	**Pdif**	**22 21 47.3**	**+1.2**
GLA	**Glamis**	**112.03**	**50**	PKiKP	**PKiKP**	**22 25 39.6**	**+0.7**
	baz=112						
GLA	**Glamis**	**112.03**	**50**	*e*Pdif	**Pdif**	**22 21 47.3**	**+1.2**
GLA				*e*PKiKP	**PKiKP**	**22 25 40.0**	**+1.1**
GLA				*e*PKKPab	**PKKPab**	22 36 44.8	+0.2
PDMCI	**Parker Dam,Lak**	**112.03**	**49**	PKiKP	**PKiKP**	**22 25 40.0**	**+1.2**
	baz=112						
B26A	**Jensen Ranch,**	**112.07**	**31**	PKiKP	**PKiKP**	**22 25 39.3**	**+0.7**
	baz=112						
E24A	**Baker**	**112.11**	**33**	PKiKP	**PKiKP**	**22 25 40.0**	**+1.2**
	baz=112						
H22A	**Clearmont**	**112.11**	**36**	PKiKP	**PKiKP**	**22 25 38.7**	**-0.1**
	baz=112						
J21A	**Lysite**	**112.16**	**38**	PKiKP	**PKiKP**	**22 25 39.5**	**+0.4**
	baz=112						
A27A	**Ledoux Ranch,**	**112.20**	**30**	PKiKP	**PKiKP**	**22 25 39.4**	**+0.6**
	baz=112						
D25A	**Fairfield**	**112.28**	**33**	PKiKP	**PKiKP**	**22 25 40.7**	**+1.6**
	baz=112						
G23A	**Biddle**	**112.32**	**35**	PKiKP	**PKiKP**	**22 25 40.1**	**+0.9**
	baz=112						
SRU	**San Rafael**	**112.40**	**43**	*e*P	**Pdif**	**22 21 49.3**	**+1.5**
SRU				*i*		22 25 40.3	
SRU				*e*		22 36 32.2	
SRU	**San Rafael**	**112.40**	**43**	*e*Pdif	**Pdif**	**22 21 49.3**	**+1.5**
SRU				*e*PKiKP	**PKiKP**	**22 25 40.2**	**+0.6**
SRU				*e*PKKPbc	**PKKPbc**	22 36 32.2	-0.3
I22A	**9 Mile Ranch,**	**112.44**	**37**	PKiKP	**PKiKP**	**22 25 39.8**	**+0.3**
	baz=112						
F24A	**Ekalaka**	**112.47**	**34**	PKiKP	**PKiKP**	**22 25 40.4**	**+1.0**
	baz=112						
C26A	**Wahner Farm, P**	**112.50**	**31**	PKiKP	**PKiKP**	**22 25 40.4**	**+1.0**
	baz=112						
B27A	**Peters Farms,**	**112.55**	**31**	PKiKP	**PKiKP**	**22 25 40.4**	**+0.9**
	baz=112						
E25A	**Miller Ranch,**	**112.64**	**33**	PKiKP	**PKiKP**	**22 25 41.0**	**+1.2**
	baz=112						
TAM	**Tamanrasset**	**112.65 298**		*e*PKIKP	**PKiKP**	**22 25 41.8**	**+1.3**
TAM	**Tamanrasset**	**112.65 298**		*e*PKP	**PKiKP**	**22 25 41.8**	**+1.3**
H23A	**Clabaugh Cattl**	**112.69**	**36**	PKiKP	**PKiKP**	**22 25 40.6**	**+0.6**
	baz=113						
J22A	**Midwest**	**112.71**	**37**	PKiKP	**PKiKP**	**22 25 40.6**	**+0.5**
	baz=113						
A28A	**Rude Farm, Bot**	**112.71**	**30**	PKiKP	**PKiKP**	**22 25 40.9**	**+1.1**
	baz=113						
G24A	**Alzada**	**112.79**	**35**	PKiKP	**PKiKP**	**22 25 40.6**	**+0.5**
	baz=113						
D26A	**Manning**	**112.83**	**32**	PKiKP	**PKiKP**	**22 25 41.2**	**+1.1**
	baz=113						
C27A	**Sayler Ranch,**	**112.88**	**31**	PKiKP	**PKiKP**	**22 25 41.1**	**+1.0**
	baz=113						
F25A	**Bowman**	**112.97**	**34**	PKiKP	**PKiKP**	**22 25 41.5**	**+1.1**
	baz=113						
B28A	**Dugan Ranch, T**	**112.97**	**30**	PKiKP	**PKiKP**	**22 25 41.3**	**+1.1**
	baz=113						
I23A	**Meade Ranch, G**	**113.00**	**36**	PKiKP	**PKiKP**	**22 25 41.1**	**+0.5**
	baz=113						
H24A	**Dirks Ranch, A**	**113.06**	**35**	PKiKP	**PKiKP**	**22 25 41.3**	**+0.6**
	baz=113						
ESDC	**Sonseca Array**	**113.10 318**		Pdiff	**Pdif**	**22 21 51.1**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=51,slow=4.2,SNR=5.6						
ESDC				PKiKP	**PKiKP**	**22 25 40.4**	**-0.5**
	comp=Z,1.8nm,0.4s,baz=15,slow=2.3,SNR=14						
ESDC				PP	**PP**	**22 26 40.7**	**-1.1**
	comp=Z,50nm,0.9s,baz=58,slow=5.9,SNR=9.8						
ESDC				PKKPbc	**PKKPbc**	**22 36 27.2**	**-2.9**
	comp=Z,5.7nm,0.9s,baz=254,slow=1.8,SNR=4.1						
ESDC				SKKPbc	SKKPbc	22 39 15.4	-0.9
	comp=Z,4.6nm,0.7s,baz=263,slow=2.9,SNR=7.0						
ESLA	**Sonseca Array**	**113.10 318**		*e*PKP	**PKiKP**	**22 25 41.6**	**+0.8**
K22A	**Casper**	**113.11**	**38**	PKiKP	**PKiKP**	**22 25 41.6**	**+0.6**
	baz=113						
K22A	**Casper**	**113.11**	**38**	*e*PKiKP	**PKiKP**	**22 25 40.4**	**-0.6**
K22A				*e*PKKPab	**PKKPab**	22 36 40.6	+0.6
E26A	**Carlson Angus**	**113.17**	**33**	PKiKP	**PKiKP**	**22 25 41.7**	**+1.0**
	baz=113						
A29A	**Manning Farm,**	**113.21**	**29**	PKiKP	**PKiKP**	**22 25 41.4**	**+0.7**
	baz=113						
D27A	**Center**	**113.26**	**32**	PKiKP	**PKiKP**	**22 25 41.0**	**+0.1**
	baz=113						
J23A	**Dilts Ranch, B**	**113.27**	**37**	PKiKP	**PKiKP**	**22 25 41.0**	**-0.1**
	baz=113						
O20A	**White River Ci**	**113.40**	**41**	PKiKP	**PKiKP**	**22 25 42.3**	**+0.7**
	baz=113						
O20A	**White River Ci**	**113.40**	**41**	*e*PKiKP	**PKiKP**	**22 25 42.1**	**+0.6**
PAB	**San Pablo**	**113.42 318**		*e*PKIKP	**PKiKP**	**22 25 42.2**	**+0.7**
PAB	**San Pablo**	**113.42 318**		*e*PKiKP	**PKiKP**	**22 25 42.2**	**+0.7**
G25A	**Newell**	**113.44**	**34**	PKiKP	**PKiKP**	**22 25 42.0**	**+0.7**
	baz=113						
F26A	**Lodgepole**	**113.44**	**33**	PKiKP	**PKiKP**	**22 25 41.9**	**+0.6**
	baz=113						
C28A	**Hausauer Farms**	**113.44**	**31**	PKiKP	**PKiKP**	**22 25 41.8**	**+0.7**
	baz=113						
B29A	**Wagenman Farm,**	**113.46**	**30**	PKiKP	**PKiKP**	**22 25 41.4**	**+0.2**
	baz=113						
WUAZ	**Wupatki**	**113.53**	**47**	PKiKP	**PKiKP**	**22 25 42.5**	**+0.6**
	baz=114						
WUAZ	**Wupatki**	**113.53**	**47**	*e*Pdif	**Pdif**	**22 21 49.8**	**-3.0**
WUAZ				*e*PKiKP	**PKiKP**	**22 25 42.4**	**+0.4**
WUAZ				*e*PKKPbc	**PKKPbc**	22 36 29.9	+1.1
I24A	**Kuemmerle Ranc**	**113.55**	**36**	PKiKP	**PKiKP**	**22 25 41.6**	**0.0**
	baz=113						
K23A	**Bowen Ranch, D**	**113.60**	**37**	PKiKP	**PKiKP**	**22 25 41.7**	**-0.1**
	baz=114						
A30A	**Hoffart Farm,**	**113.64**	**29**	PKiKP	**PKiKP**	**22 25 41.6**	**+0.1**
	baz=114						
PV09	**Paradox Valley**	**113.65**	**43**	*e*Pdif	**Pdif**	**22 21 55.0**	**+1.5**
PV09				*e*PKiKP	**PKiKP**	**22 25 43.4**	**+1.2**
PV09				*e*PKKPbc	**PKKPbc**	22 36 29.0	+0.4
E27A	**Carson**	**113.67**	**32**	PKiKP	**PKiKP**	**22 25 42.5**	**+0.8**
	baz=114						
H25A	**Fruitdale**	**113.68**	**35**	PKiKP	**PKiKP**	**22 25 41.5**	**-0.3**
	baz=114						
D28A	**Regan**	**113.70**	**31**	PKiKP	**PKiKP**	**22 25 42.2**	**+0.5**
	baz=114						
PBRG	**Braganca**	**113.73 321**		*e*Pdif	**Pdif**	**22 21 55.0**	**+1.5**
PBRG	**Braganca**	**113.73 321**		*e*PKPdf	**PKiKP**	**22 25 43.5**	**+1.5**
PBRG	**Braganca**	**113.73 321**		*e*PP	PP	22 26 48.5	+2.4
RSSD	**Black Hills**	**113.73**	**35**	*e*P	**Pdif**	**22 21 53.5**	**-0.2**
RSSD				*i*		22 25 42.5	
RSSD				*e*		22 36 28.0	
RSSD	**Black Hills**	**113.73**	**35**	*e*Pdif	**Pdif**	**22 21 53.5**	**-0.2**
RSSD				*e*PKiKP	**PKiKP**	**22 25 38.1**	**-4.0**
RSSD				*e*PKiKP	PKiKP	22 25 42.5	+0.4
RSSD				*e*PKKPbc	**PKKPbc**	22 36 28.0	-0.4
MDND	**Maddock**	**113.75**	**30**	PKiKP	**PKiKP**	**22 25 42.1**	**+0.3**
	baz=114						
MDND	**Maddock**	**113.75**	**30**	*e*Pdif	**Pdif**	**22 21 58.1**	**+4.7**
MDND				*e*PKiKP	**PKiKP**	**22 25 41.9**	**+0.1**
MDND				*e*PKKPbc	**PKKPbc**	22 36 27.9	-0.4
PV10	**Paradox Valley**	**113.78**	**43**	*e*Pdif	**Pdif**	**22 21 57.6**	**+3.6**
PV10				*e*PKiKP	**PKiKP**	**22 25 43.9**	**+1.5**
PV10				*e*PKKPbc	**PKKPbc**	22 36 28.6	+0.5
F27A	**Lemmon**	**113.78**	**33**	PKiKP	**PKiKP**	**22 25 42.5**	**+0.6**
	baz=114						
ULM	**Lac du Bonnet**	**113.83**	**26**	PKiKP	**PKiKP**	**22 25 41.5**	**-0.3**
	comp=Z,37nm,0.5s,baz=324,slow=1.6,SNR=33						
ULM				SKP		22 28 20.6	
	comp=Z,27nm,0.7s,baz=260,slow=2.8,SNR=3.6						
ULM				PKKPbc	**PKKPbc**	22 36 26.2	-1.8
	comp=Z,18nm,0.6s,baz=126,slow=3.3,SNR=9.6						
ULM	**Lac du Bonnet**	**113.83**	**26**	*i* PKiKP	**PKiKP**	**22 25 41.5**	**-0.3**
ULM				pmax	pmax		
	comp=Z,37nm,0.5s						
ULM				pmax	pmax		
	comp=N,27nm,0.7s						
ULM				pmax	pmax		
	comp=Z,18nm,0.6s						
ULM	**Lac du Bonnet**	**113.83**	**26**	*e*PKiKP	**PKiKP**	**22 25 40.9**	**-0.9**
ULM				SKP	**SKPdf**	**22 28 20.6**	**+0.2**
ULM				PKKPbc	**PKKPbc**	22 36 26.2	-1.8
ULM				*e*PKKPbc	**PKKPbc**	22 36 27.9	-0.1
G26A	**Maurine**	**113.83**	**34**	PKiKP	**PKiKP**	**22 25 42.5**	**+0.4**
	baz=114						
J24A	**Dixon Ranch, L**	**113.84**	**36**	PKiKP	**PKiKP**	**22 25 42.5**	**+0.3**
	baz=114						
PV04	**Paradox Valley**	**113.86**	**43**	*e*Pdif	**Pdif**	**22 21 54.6**	**+0.3**
PV04				*e*PKiKP	**PKiKP**	**22 25 42.9**	**+0.4**
PV04				*e*PKKPbc	**PKKPbc**	22 36 28.5	+0.7
PV05	**Paradox Valley**	**113.89**	**43**	*e*PKiKP	**PKiKP**	**22 25 43.9**	**+1.3**
PV05				*e*PKKPbc	**PKKPbc**	22 36 28.5	+0.8
B30A	**Myrvik Farm, E**	**113.97**	**29**	PKiKP	**PKiKP**	**22 25 42.2**	**0.0**
	baz=114						
214A	**Organ Pipe Nat**	**114.04**	**51**	PKiKP	**PKiKP**	**22 25 44.3**	**+1.5**
	baz=114						
214A	**Organ Pipe Nat**	**114.04**	**51**	*e*PKP	PKPdf	22 25 44.2	+1.4
E28A	**Huff**	**114.04**	**32**	PKiKP	**PKiKP**	**22 25 43.2**	**+0.8**
	baz=114						
K24A	**Anderson Ranch**	**114.10**	**37**	PKiKP	**PKiKP**	**22 25 43.1**	**+0.4**
	baz=114						
G27A	**Dupree**	**114.14**	**33**	PKiKP	**PKiKP**	**22 25 43.3**	**+0.7**
	baz=114						
H26A	**Fairpoint**	**114.15**	**34**	PKiKP	**PKiKP**	**22 25 42.9**	**+0.2**
	baz=114						
PV01	**Paradox Valley**	**114.22**	**43**	*e*Pdif	**Pdif**	**22 22 01.0**	**+5.0**
PV01				*e*PKiKP	**PKiKP**	**22 25 43.8**	**+0.6**
PV01				*e*PKKPbc	**PKKPbc**	22 36 26.9	+0.2
MVO	**Moncorvo**	**114.27 321**		*e*Pdif	**Pdif**	**22 21 57.0**	**+1.1**
MVO	**Moncorvo**	**114.27 321**		*e*PKPdf	PKPdf	22 25 44.0	+1.0
MVO	**Moncorvo**	**114.27 321**		*e*PP	PP	22 26 51.2	+1.4
D29A	**Pettibone, Tap**	**114.28**	**31**	PKiKP	PKPdf	22 25 42.6	-0.2
	baz=114						
J25A	**Sunshine Ranch**	**114.31**	**36**	PKiKP	**PKiKP**	**22 25 43.8**	**+0.7**
	baz=114						
C30A	**Mose, Pekin**	**114.41**	**30**	PKiKP	**PKiKP**	**22 25 43.6**	**+0.6**
	baz=114						
F28A	**McLaughlin**	**114.45**	**32**	PKiKP	**PKiKP**	**22 25 43.4**	**+0.2**
	baz=114						
N23A	**Red Feather La**	**114.45**	**39**	PKiKP	**PKiKP**	**22 25 43.8**	**+0.1**
	baz=114						
N23A	**Red Feather La**	**114.45**	**39**	*e*Pdif	**Pdif**	**22 21 59.0**	**+2.0**
N23A				*e*PKiKP	**PKiKP**	**22 25 44.6**	**+0.9**
N23A				*e*PKKPbc	**PKKPab**	22 36 31.7	-2.5
I26A	**New Underwood**	**114.46**	**35**	PKiKP	**PKiKP**	**22 25 44.1**	**+0.8**
	baz=114						
PHWY	**Pilot Hill**	**114.53**	**39**	*e*PKPdf	PKPdf	22 25 42.0	-1.9
PHWY				*e*PKKPbc	**PKKPbc**	22 36 25.2	-0.5
H27A	**Howes**	**114.53**	**34**	PKiKP	**PKiKP**	**22 25 44.1**	**+0.7**
	baz=114						
PGAV	**Gavieira, Arco**	**114.58 322**		*e*Pdif	**Pdif**	**22 21 58.7**	**+1.4**
PGAV	**Gavieira, Arco**	**114.58 322**		*e*PKPdf	PKPdf	22 25 45.1	+1.5
PGAV	**Gavieira, Arco**	**114.58 322**		*e*PP	PP	22 26 54.1	+2.1
E29A	**Napoleon**	**114.59**	**31**	PKiKP	**PKiKP**	**22 25 43.5**	**+0.1**
	baz=114						
POLO	**Lamas de Olo**	**114.63 322**		*e*Pdif	**Pdif**	**22 21 58.5**	**+0.9**
POLO	**Lamas de Olo**	**114.63 322**		*e*PKPdf	PKPdf	22 25 45.3	+1.5
POLO	**Lamas de Olo**	**114.63 322**		*e*PP	PP	22 26 53.2	+0.9
PVRL	**Vila Real**	**114.64 321**		*e*PKPdf	PKPdf	22 25 46.1	+2.4
PVRL	**Vila Real**	**114.64 321**		*e*PP	PP	22 26 54.2	+1.9
D30A	**Buchanan**	**114.67**	**30**	PKiKP	**PKiKP**	**22 25 44.3**	**+0.8**
	baz=114						
K25A	**Mack Ranch, Ha**	**114.73**	**37**	PKiKP	**PKiKP**	**22 25 44.7**	**+0.7**
	baz=115						
SMCO	**Snowmass**	**114.73**	**41**	*e*Pdif	**Pdif**	**22 21 59.0**	**+0.5**
SMCO				*e*PKPdf	**PKiKP**	**22 25 45.3**	**+0.9**
SMCO				*e*PKKPbc	**PKKPbc**	**22 36 25.7**	**+0.5**
MVCO	**Mesa Verde**	**114.74**	**44**	PKiKP	**PKi

K29A	Lazy Trails An	116.70	35	PKiKP	PKiKP	22 25 48.2	+0.6		
	baz=117								
PACT	Alcochete	116.77	320	ePKPdf	PKPdf	22 25 46.9	-0.9		
PACT	Alcochete	116.77	320	ePP	PP	22 27 05.1	-1.8		
PVAQ	Vaqueiros	116.80	318	ePdif	Pdif	22 22 08.6	+1.5		
PVAQ	Vaqueiros	116.80	318	ePKPdf	PKPdf	22 25 49.9	+2.0		
PVAQ	Vaqueiros	116.80	318	ePP	PP	22 27 09.3	+2.1		
J30A	Dallas	116.80	34	PKiKP	PKiKP	22 25 48.4	+0.5		
	baz=117								
OGNE	Ogallala	116.83	37	PKiKP	PKPdf	22 25 47.9	-0.1		
	baz=117								
P26A	Davis Ranch, A	116.85	39	PKiKP	PKiKP	22 25 48.5	+0.3		
	baz=117								
PCVE	Castro Verde	116.89	318	ePdif	Pdif	22 22 10.5	+3.0		
PCVE	Castro Verde	116.89	318	ePKPdf	PKPdf	22 25 49.2	+1.1		
PCVE	Castro Verde	116.89	318	ePP	PP	22 27 11.0	+3.2		
MESJ	Messejana	116.89	318	eP	PKPdf	22 25 48.0	-0.1		
MESJ				ePP	PP	22 27 08.5	+0.6		
MESJ				AMS	AMS	22 40 55.5			
	comp=Z,8μm,12.7s								
MESJ	Messejana	116.89	318	ePdif	Pdif	22 22 08.4	+0.9		
MESJ	Messejana	116.89	318	ePKPdf	PKPdf	22 25 49.8	+1.7		
MESJ	Messejana	116.89	318	ePP	PP	22 27 07.2	-0.6		
MESJ	Messejana	116.89	318	ePKIKP	PKPdf	22 25 47.9	-0.1		
MESJ				e		22 27 08.4			
PNCL	Nicolau / Gran	116.94	319	ePdif	Pdif	22 22 09.3	+1.5		
PNCL	Nicolau / Gran	116.94	319	ePKPdf	PKPdf	22 25 49.5	+1.4		
PNCL	Nicolau / Gran	116.94	319	ePP	PP	22 27 09.6	+1.4		
M28A	Bar X Bar Ranc	116.95	37	PKiKP	PKPdf	22 25 48.2	0.0		
	baz=117								
MDT	Midelt	116.97	312	PKKPbc	PKKPbc	22 36 17.0	0.0		
	comp=Z,16nm,1.2s,baz=253,slow=5.7,SNR=2.9								
MDT				SKKPbc	SKKPbc	22 39 04.5	-0.1		
	comp=Z,20nm,0.9s,baz=270,slow=5.3,SNR=2.5								
LIS	Lisbon	117.00	320	ePKIKP	PKPdf	22 25 48.5	+0.3		
LIS				e		22 27 09.6			
PMST	Lisbon--Monsan	117.01	320	ePKPdf	PKPdf	22 25 51.4	+3.1		
PMST	Lisbon--Monsan	117.01	320	ePP	PP	22 27 08.8	+0.2		
O27A	Beecher Island	117.02	38	PKiKP	PKiKP	22 25 49.2	+0.8		
	baz=117								
PBDV	Barranco-do-Ve	117.03	318	ePdif	Pdif	22 22 10.5	+2.3		
PBDV	Barranco-do-Ve	117.03	318	ePKPdf	PKPdf	22 25 49.7	+1.3		
PBDV	Barranco-do-Ve	117.03	318	ePP	PP	22 27 11.2	+2.3		
L29A	Maesberg Ranch	117.06	35	PKiKP	PKiKP	22 25 48.8	+0.4		
	baz=117								
Q26A	Hugo	117.11	40	PKiKP	PKiKP	22 25 49.7	+1.0		
	baz=117								
K30A	Basset	117.16	34	PKiKP	PKiKP	22 25 49.4	+0.9		
	baz=117								
N28A	Pribbeno Ranch	117.28	37	PKiKP	PKiKP	22 25 49.4	+0.5		
	baz=117								
ANMO	Albuquerque	117.31	45	PKP	PKPdf	22 25 49.4	+0.1		
	comp=Z,52nm,1.1s,baz=225,slow=1.4,SNR=26								
ANMO	Albuquerque	117.31	45	PKIKP	PKPdf	22 25 49.4	+0.1		
ANMO				pmax	pmax				
	comp=Z,52nm,1.2s								
ANMO	Albuquerque	117.31	45	ePKPdf	PKPdf	22 25 50.3	+1.0		
M29A	Burnside Ranch	117.32	36	PKiKP	PKPdf	22 25 48.8	-0.1		
	baz=117								
P27A	Ficken Ranch,	117.33	39	PKiKP	PKiKP	22 25 50.0	+0.9		
	baz=117								
LENM	Lemitar	117.35	46	ePKPdf	PKPdf	22 25 50.5	+1.2		
PTEO	Sao Teotonio	117.39	318	ePKPdf	PKPdf	22 25 50.7	+1.7		
Y22D	IRIS PASSCAL I	117.43	46	PKiKP	PKiKP	22 25 51.4	+1.9		
	baz=117								
EYMN	Ely	117.46	26	PKiKP	PKiKP	22 25 49.3	+0.4		
	baz=117								
EYMN	Ely	117.46	26	ePKPdf	PKiKP	22 25 49.3	+0.4		
MORF	Marmelete	117.47	318	eP	PKPdf	22 25 49.0	-0.3		
MORF				ePP	PP	22 27 12.7	+0.8		
MORF				AMS	AMS	22 41 17.9			
	comp=E,8μm,28.3s								
MORF	Marmelete	117.47	318	ePKPdf	PKPdf	22 25 50.4	+1.1		
MORF	Marmelete	117.47	318	ePP	PP	22 27 14.1	+2.2		
MORF	Marmelete	117.47	318	ePKIKP	PKPdf	22 25 48.9	-0.3		
MORF				e		22 27 12.7			
O28A	Krutsinger Ran	117.49	38	PKiKP	PKiKP	22 25 50.0	+0.7		
	baz=117								
R26A	Arlington	117.51	40	PKiKP	PKiKP	22 25 50.6	+1.2		
	baz=117								
T25A	Trinidad	117.54	42	PKiKP	PKiKP	22 25 50.9	+1.2		
	baz=118								
T25A	Trinidad	117.54	42	ePKPdf	PKPdf	22 25 50.4	+0.8		
T25A				ePKKPbc	PKKPab	22 36 18.2	-2.3		
L30A	Spencer Herefo	117.56	35	PKiKP	PKPdf	22 25 49.3	0.0		
	baz=117								
121A	Cookes Peak, D	117.56	48	PKiKP	PKiKP	22 25 51.2	+1.4		
	baz=118								
BNM	Barren Site	117.60	46	ePKPdf	PKPdf	22 25 50.5	+0.6		
BNM				ePKKPbc	PKKPbc	22 36 17.0	+2.0		
KSCO	Kaye Shedlock'	117.62	39	PKiKP	PKiKP	22 25 50.3	+0.6		
	baz=118								
KSCO	Kaye Shedlock'	117.62	39	ePKPdf	PKPdf	22 25 49.9	+0.3		
KSCO				ePKPbc	PKKPab	22 36 20.1	+0.1		
M30A	Dale-Ortello V	117.74	36	PKiKP	PKiKP	22 25 49.8	0.0		
	baz=118								
N29A	Votaw Ranch, W	117.75	37	PKiKP	PKiKP	22 25 50.4	+0.6		
	baz=118								
P28A	Saint Francis	117.83	38	PKiKP	PKiKP	22 25 50.6	+0.6		
	baz=118								
L31A	Butterfield Fa	117.92	35	PKiKP	PKiKP	22 25 50.1	+0.1		
	baz=118								
R27A	Eads	117.94	40	PKiKP	PKiKP	22 25 51.6	+1.3		
	baz=118								
T26A	Comanche Natio	118.06	42	PKiKP	PKiKP	22 25 51.8	+1.2		
	baz=118								
N30A	Hueftle Ranch,	118.08	36	PKiKP	PKiKP	22 25 51.3	+0.9		
	baz=118								
SCHQ	Schefferville	118.08	7	PKP	PKPdf	22 25 49.4	-0.5		
	comp=E,45nm,0.6s,baz=341,slow=3.6,SNR=61								
SCHQ				SKP		22 28 28.5			
	comp=E,44nm,0.9s,baz=53,slow=2.8,SNR=2.9								
SCHQ				PKKPbc	PKKPbc	22 36 10.6	-3.1		
	comp=E,14nm,0.6s,baz=203,slow=4.7,SNR=6.3								
SCHQ				SKKPbc	SKKPbc	22 38 58.4	-3.4		
	comp=E,29nm,0.9s,baz=153,slow=1.1,SNR=6.1								
SCHQ	Schefferville	118.08	7	ePKPdf	PKPdf	22 25 49.8	-0.1		
SCHQ				SKP		22 28 28.5			
SCHQ				PKKPbc	PKKPbc	22 36 10.6	-3.1		
SCHQ				SKKPbc	SKKPbc	22 38 58.4	-3.4		
O29A	4D Ranch, Culb	118.08	37	PKiKP	PKiKP	22 25 50.9	+0.4		
	baz=118								
ECSD	EROS Data Cent	118.08	32	PKiKP	PKiKP	22 25 51.1	+0.8		
	baz=118								
ECSD	EROS Data Cent	118.08	32	ePKPdf	PKPdf	22 25 49.9	-0.3		
ECSD				ePKKPbc	PKKPbc	22 36 12.8	-0.6		
Q28A	Sharon Springs	118.09	39	PKiKP	PKiKP	22 25 51.4	+0.9		
	baz=118								
S27A	Las Animas	118.22	41	PKiKP	PKiKP	22 25 52.2	+1.2		
	baz=118								
P29A	Atwood	118.32	38	PKiKP	PKiKP	22 25 51.4	+0.5		
	baz=118								
M31A	Lambtecht Ranc	118.38	35	PKiKP	PKiKP	22 25 51.2	+0.2		
	baz=118								
O30A	MW Ranch, Wils	118.49	37	PKiKP	PKiKP	22 25 51.7	+0.5		
	baz=118								
R28A	Tribune	118.53	40	PKiKP	PKiKP	22 25 52.3	+0.9		
	baz=118								
T27A	Campo	118.70	41	PKiKP	PKiKP	22 25 52.7	+0.9		
	baz=119								
Q29A	Oakley	118.72	39	PKiKP	PKiKP	22 25 52.3	+0.5		
	baz=119								
N31A	Bailey Ranch,	118.73	36	PKiKP	PKiKP	22 25 51.9	+0.2		
	baz=119								
P30A	Selden	118.77	38	PKiKP	PKiKP	22 25 52.6	+0.8		
	baz=119								
L33A	Hoskins	118.80	34	PKiKP	PKiKP	22 25 52.2	+0.4		
	baz=119								
BGNE	Belgrade	118.81	35	PKiKP	PKiKP	22 25 52.1	+0.3		
	baz=119								
BGNE	Belgrade	118.81	35	ePKPdf	PKPdf	22 25 51.1	-0.6		
BGNE				ePKPdf	PKiKP	22 25 51.5	-0.3		
BGNE				ePKKPbc	PKKPab	22 36 15.7	+1.0		
R29A	Marienthal	118.91	39	PKiKP	PKiKP	22 25 52.3	+0.2		
	baz=119								
TOA0	Torodi Ar. Sit	118.92	289	ePKIKP	PKPdf	22 25 52.2	-0.4		
TOA0	Torodi Ar. Sit	118.92	289	ePKPdf	PKPdf	22 25 51.5	-1.0		
TORD	Torodi Ar. Bea	118.92	289	Pdiff	Pdif	22 22 17.2	+0.2		
	comp=E,1.4nm,0.9s,baz=74,slow=3.8,SNR=7.5								
TORD				PKP	PKPdf	22 25 51.2	-1.4		
	comp=E,107nm,0.7s,baz=68,slow=1.5,SNR=14								
TORD				PP	PP	22 27 15.7	-7.1		
	comp=E,124nm,0.9s,baz=69,slow=6.4,SNR=7.1								
TORD				SKP		22 28 29.0			
	comp=E,84nm,0.8s,baz=74,slow=2.2,SNR=3.8								
TORD				PKKPbc	PKKPbc	22 36 09.2	-0.2		
	comp=E,38nm,0.6s,baz=276,slow=3.1,SNR=22								
TORD				SKKPbc	SKKPbc	22 38 57.3	-0.6		
	comp=E,7.8nm,0.9s,baz=295,slow=3.0,SNR=2.7								
S28A	Manter	118.92	40	PKiKP	PKiKP	22 25 52.7	+0.5		
	baz=119								
SPMN	St. Paul	118.92	29	PKiKP	PKiKP	22 25 52.4	+0.5		
	baz=119								
SPMN	St. Paul	118.92	29	ePKPdf	PKPdf	22 25 51.6	-0.1		
SPMN				ePKKPbc	PKKPbc	22 36 08.5	-1.9		
O31A	Woolen Ranch,	118.94	37	PKiKP	PKiKP	22 25 52.1	0.0		
	baz=119								
U27A	Thompson Grove	119.00	42	PKiKP	PKiKP	22 25 53.0	+0.6		
	baz=119								
T28A	Walsh	119.06	41	PKiKP	PKPdf	22 25 52.4	-0.1		
	baz=119								
Q30A	Quinter	119.14	38	PKiKP	PKPdf	22 25 52.0	-0.5		
	baz=119								
N32A	Stulken Farm,	119.15	35	PKiKP	PKiKP	22 25 52.5	+0.1		
	baz=119								
M33A	Taylor Creek F	119.23	34	PKiKP	PKPdf	22 25 52.2	-0.4		
	baz=119								
P31A	Stockton	119.31	37	PKiKP	PKiKP	22 25 52.8	0.0		
	baz=119								
V27A	Dan Oppiter Fa	119.36	42	PKiKP	PKPdf	22 25 53.0	-0.1		
	baz=119								
S29A	Ulysses	119.40	40	PKiKP	PKiKP	22 25 53.3	+0.1		
	baz=119								
U28A	Mallet	119.42	42	PKiKP	PKPdf	22 25 53.2	0.0		
	baz=119								
L34A	Svendsen Farm,	119.42	33	PKiKP	PKiKP	22 25 53.1	+0.1		
	baz=119								
O32A	Brockman Farm,	119.48	36	PKiKP	PKiKP	22 25 53.3	+0.2		
	baz=119								
R30A	Dighton	119.53	39	PKiKP	PKiKP	22 25 53.5	+0.2		
	baz=119								
CBKS	Cedar Bluff	119.53	38	ePKiKP	PKPdf	22 25 52.0	-1.2		
CBKS	Cedar Bluff	119.53	38	PKiKP	PKiKP	22 25 53.5	+0.2		
	baz=119								
CBKS	Cedar Bluff	119.53	38	ePKPdf	PKPdf	22 25 52.0	-1.2		
T29A	Hugoton	119.57	40	PKiKP	PKiKP	22 25 53.6	+0.1		
	baz=120								
M34A	Aspy Farms, Fr	119.62	34	PKiKP	PKPdf	22 25 53.0	-0.2		
	baz=120								
Q31A	Ellis	119.62	38	PKiKP	PKiKP	22 25 53.8	+0.3		
	baz=120								
N33A	J Bar K, Exete	119.65	35	PKiKP	PKiKP	22 25 53.5	+0.1		
	baz=120								
P32A	Huiting Farm,	119.71	37	PKiKP	PKiKP	22 25 53.6	0.0		
	baz=120								
SLBS	Sierra La Lagu	119.74	58	ePKPdf	PKPdf	22 25 55.1	+1.0		
L35A	Bielow Farm, R	119.77	33	PKiKP	PKiKP	22 25 54.2	+0.5		
	baz=120								
V28A	Channing	119.78	42	PKiKP	PKiKP	22 25 55.1	+1.2		
	baz=120								
S30A	Montezuma	119.80	39	PKiKP	PKiKP	22 25 54.9	+1.0		
	baz=120								
R31A	Burdett	119.99	38	PKiKP	PKiKP	22 25 55.0	+0.8		
	baz=120								
U29A	Oasis Ranch, S	120.00	41	PKiKP	PKiKP	22 25 54.4	+0.1		
	baz=120								
O33A	Hebron	120.01	36	PKiKP	PKiKP	22 25 54.3	+0.2		
	baz=120								
W28A	Vega	120.07	43	PKiKP	PKiKP	22 25 54.7	+0.1		
	baz=120								
N34A	Lincoln	120.12	34	PKiKP	PKPdf	22 25 53.7	-0.5		
	baz=120								
T30A	Plains	120.12	40	PKiKP	PKiKP	22 25 55.0	+0.5		
	baz=120								
M35A	Neola	120.13	33	PKiKP	PKPdf	22 25 54.2	0.0		
	baz=120								
Q32A	Meitler Ranch,	120.14	37	PKiKP	PKiKP	22 25 54.8	+0.4		
	baz=120								
V29A	Stinnett	120.17	42	PKiKP	PKiKP	22 25 54.8	+0.1		
	baz=120								
U30A	WK&E Inc. Balk	120.35	41	PKiKP	PKiKP	22 25 55.3	+0.3		
	baz=120								
P33A	Williams Farm,	120.36	36	PKiKP	PKiKP	22 25 54.9	+0.1		
	baz=120								
R32A	Long Quarter,	120.41	38	PKiKP	PKiKP	22 25 55.2	+0.2		
	baz=120								
S31A	Mullinville	120.43	39	PKiKP	PKiKP	22 25 55.4	+0.2		
	baz=120								
O34A	Beatrice	120.45	35	PKiKP	PKPdf	22 25 54.9	0.0		
	baz=120								
X28A	Dimmitt	120.50	43	PKiKP	PKiKP	22 25 55.6	+0.2		
	baz=120								
W29A	Amraillo	120.52	42	PKiKP	PKiKP	22 25 55.6	+0.1		
	baz=120								
Q33A	Connelly Farm,	120.56	37	PKiKP	PKiKP	22 25 55.3	+0.1		
	baz=120								
N35A	Tabor	120.58	34	PKiKP	PKiKP	22 25 55.3	0.0		
	baz=120								
S32A	Newby Ranch, P	120.72	38	PKiKP	PKiKP	22 25 56.2	+0.5		
	baz=121								
V30A	Spur Ranch, Mi	120.78	41	PKiKP	PKiKP	22 25 56.9	+1.0		
	baz=121								
P34A	Walnut Farm, R	120.79	36	PKiKP	PKiKP	22 25 55.8	+0.1		
	baz=121								
Y28A	McKinney Farm,	120.80	44	PKiKP	PKiKP	22 25 56.8	+0.8		
	baz=121								
O35A	Humboldt	120.83	34	PKiKP	PKPdf	22 25 55.3	-0.3		
	baz=121								
X29A	Tulia	120.87	43	PKiKP	PKiKP	22 25 56.7	+0.6		
	baz=121								
R33A	Olander Ranch,	120.92	37	PKiKP	PKiKP	22 25 56.4	+0.4		
	baz=121								
U31A	Nine Bar Ranch	120.96	40	PKiKP	PKiKP	22 25 56.9	+0.7		
	baz=121								
Z28A	Tucker Farm, M	121.05	45	PKiKP	PKiKP	22 25 56.8	+0.3		
	baz=121								
T32A	Huddler Ranch,	121.05	39	PKiKP	PKiKP	22 25 57.3	+1.0		
	baz=121								
Q34A	Chapman	121.14	36	PKiKP	PKiKP	22 25 57.0	+0.6		
	baz=121								
W30A	Crocket Farms	121.20	42	PKiKP	PKiKP	22 25 57.3	+0.6		
	baz=121								
Y29A	Porterfield Fa	121.23	44	PKiKP	PKiKP	22 25 57.8	+0.9		
	baz=121								
P35A	Duane Minner,	121.27	35	PKiKP	PKiKP	22 25 56.9	+0.2		
	baz=121								
V31A	Spring Creek L	121.33	41	PKiKP	PKiKP	22 25 58.4	+1.4		
	baz=121								
128A	Castleberry Fa	121.35	45	PKiKP	PKiKP	22 25 57.5	+0.4		
	baz=121								
S33A	Kaszmaul Farm,	121.36	38	PKiKP	PKiKP	22 25 57.5	+0.6		
	baz=121								
R34A	Isabella, Hill	121.36	37	PKiKP	PKiKP	22 25 57.5	+0.6		
	baz=121								
X30A	Coker Ranch, T	121.43	43	PKiKP	PKiKP	22 25 57.4	+0.2		
	baz=121								
O36A	Bolckow	121.45	34	PKiKP	PKiKP	22 25 57.3	+0.3		
	baz=121								
U32A	Winter Ranch,	121.50	40	PKiKP	PKiKP	22 25 58.3	+1.0		
	baz=121								
T33A	Patterson Ranc	121.54	39	PKiKP	PKiKP	22 25 58.0	+0.8		
	baz=121								
Z29A	Hungry Hill Ra	121.54	44	PKiKP	PKiKP	22 25 57.8	+0.3		
	baz=121								
228A	UT Block 9, Go	121.55	46	PKiKP	PKiKP	22 25 58.3	+0.8		
	baz=122								
W31A	Holland Ranch,	121.61	41	PKiKP	PKiKP	22 25 58.6	+1.1		
	baz=122								
P36A	Good Intent, A	121.67	35	PKiKP	PKiKP	22 25 57.5	+0.1		
	baz=122								
Q35A	Mercer Eighty,	121.71	36	PKiKP	PKiKP	22 25 57.6	+0.1		
	baz=122								
Y30A	Stafford Cattl	121.75	43	PKiKP	PKiKP	22 25 58.7	+0.9		
	baz=122								
PMSA	Palmer Station	121.79	176	PKP	PKPdf	22 25 57.3	+0.7		
	comp=E,48nm,1.0s,baz=356,slow=1.7,SNR=3.1								
S34A	Willow Spring	121.84	37	PKiKP	PKiKP	22 25 57.9	+0.1		
	baz=122								
JFWS	Jewell Farm	121.87	29	ePKIKP	PKPdf	22 25 56.4	-1.1		
JFWS	Jewell Farm	121.87	29	ePKPdf	PKPdf	22 25 56.4	-1.1		
JFWS				ePKPdf	PKiKP	22 25 56.9	-0.8		
JFWS				ePKKPbc	PKKPbc	22 35 58.7	-1.0		
V32A	Arapaho	121.88	40	PKiKP	PKiKP	22 25 58.8	+0.8		
	baz=122								
X31A	McDonald Ranch	121.92	42	PKiKP	PKiKP	22 25 59.1	+1.0		
	baz=122								
Z30A	Sanderson Ranc	121.92	44	PKiKP	PKiKP	22 25 58.6	+0.4		
	baz=122								
R35A	Emporia Munici	121.97	36	PKiKP	PKiKP	22 25 58.7	+0.6		
	baz=122								
Q36A	Arnold C. Orve	121.97	35	PKiKP	PKPdf	22 25 57.9	0.0		
	baz=122								
U33A	Lingo Farm, Me	122.03	39	PKiKP	PKiKP	22 25 59.0	+0.7		
	baz=122								
W32A	Sentinel	122.11	41	PKiKP	PKiKP	22 25 59.1	+0.7		
	baz=122								
Y31A	Rekieta Farm,	122.13	43	PKiKP	PKiKP	22 25 59.3	+0.8		
	baz=122								
229A	Bryant Ranch,	122.19	46	PKiKP	PKiKP	22 25 59.1	+0.4		
	baz=122								
TXAR	Lajitas Array	122.22	49	Pdiff	Pdif	22 22 34.3	+2.7		
	comp=E,0.1nm,0.3s,baz=327,slow=4.3,SNR=2.3								
TXAR				PKP	PKPdf	22 25 58.8	+0.1		
	comp=E,31nm,0.9s,baz=249,slow=1.3,SNR=35								
TXAR				PKKPab	PKKPbc	22 35 58.4	+0.3		
	comp=E,22nm,0.7s,baz=122,slow=5.9,SNR=12								
T34A	McClaskey Farm	122.23	38	PKiKP	PKiKP	22 25 59.1	+0.5		
	baz=122								
V33A	Lossen Ranch,	122.30	40	PKiKP	PKiKP	22 25 58.9	+0.1		
	baz=122								
S35A	Otter Creek Ra	122.32	37	PKiKP	PKiKP	22 25 59.2	+0.4		
	baz=122								
329A	Wagon Wheel Ra	122.33	46	PKiKP	PKiKP	22 25 59.4	+0.4		
	baz=122								
R36A	Gordon, Harris	122.38	36	PKiKP	PKPdf	22 25 58.4	-0.2		
	baz=122								
U34A	Anderson Ranch	122.39	39	PKiKP	PKPdf	22 25 58.7	0.0		
	baz=122								
U34A	Anderson Ranch	122.39	39	ePKPdf	PKPdf	22 25 59.1	+0.3		
U34A				ePKKPbc	PKKPbc	22 35 58.1	+0.6		
130A	Snyder	122.43	44	PKiKP	PKiKP	22 25 59.8	+0.6		
	baz=122								
X32A	Elmer	122.51	42	PKiKP	PKiKP	22 25 59.6	+0.3		
	baz=122								
Z31A	Sharp Cattle R	122.58	43	PKiKP	PKiKP	22 26 00.2	+0.7		
	baz=122								
W33A	Caddo, Fort Co	122.60	41	PKiKP	PKiKP	22 26 00.3	+0.9		
	baz=122								
Q37A	Longview Farm,	122.61	35	PKiKP	PKPdf	22 25 59.1	0.0		
	baz=122								
WMOK	Wichita Mounta	122.65	41	ePKIKP	PKPdf	22 25 59.2	-0.1		
WMOK	Wichita Mounta	122.65	41	ePKPdf	PKPdf	22 25 59.2	-0.1		
WMOK				ePKKPbc	PKKPbc	22 35 56.5	0.0		
Y32A	R-V Farms, Ver	122.65	42	PKiKP	PKiKP	22 26 00.1	+0.5		
	baz=123								
T35A	Sooner Cattle	122.71	38	PKiKP	PKiKP	22 26 00.0	+0.5		
	baz=123								
230A	Sterling City	122.72	45	PKiKP	PKiKP	22 26 00.3	+0.4		
	baz=123								
S36A	Lake Cedric, C	122.73	36	PKiKP	PKiKP	22 25 59.9	+0.3		
	baz=123								
R37A	Teagarden Farm	122.78	35	PKiKP	PKiKP	22 25 59.6	0.0		
	baz=123								
V34A	Guthrie	122.78	39	PKiKP	PKiKP	22 26 00.5	+0.7		
	baz=123								
V34A	Guthrie	122.78	39	ePKPdf	PKPdf	22 25 59.5	0.0		
V34A				ePKPdf	PKiKP	22 25 59.7	0.0		
V34A				ePKKPbc	PKKPab	22 35 56.8	-0.4		
131A	Roby	122.78	44	PKiKP	PKiKP	22 26 00.6	+0.7		
	baz=123								
GLMI	Grayling	122.81	24	ePKPdf	PKPdf	22 25 58.8	-0.5		
429A	Davenport Ranc	122.86	47	PKiKP	PKiKP	22 26 00.7	+0.6		
	baz=123								
U35A	Pawnee	122.93	38	PKiKP	PKiKP	22 26 00.8	+0.8		
	baz=123								
330A	Mertzon	122.95	46	PKiKP	PKiKP	22 26 00.7	+0.4		
	baz=123								
X33A	Lawton	122.95	41	PKiKP	PKiKP	22 26 01.0	+0.8		
	baz=123								
W34A	Bridge Creek,	122.99	40	PKiKP	PKiKP	22 26 01.2	+1.1		
	baz=123								
W34A	Bridge Creek,	122.99	40	ePKPdf	PKPdf	22 26 00.6	+0.7		
W34A				epPKPdf	pPKPdf	22 28 24.6	+4.0		
W34A				ePKPbc	PKKPbc	22 35 55.3	0.0		
T36A	Boggs Farm, Ca	123.00	37	PKiKP	PKiKP	22 26 00.9	+0.8		
	baz=123								
Z32A	Haskell	123.04	43	PKiKP	PKiKP	22 26 00.8	+0.5		
	baz=123								
S37A	Fort Scott	123.15	36	PKiKP	PKiKP	22 26 00.6	+0.2		
	baz=123								
Y33A	Hilltop Ranch,	123.19	42	PKiKP	PKiKP	22 26 01.6	+1.0		

433A	**Art**	**124.79**	**45**	PKiKP	**PKiKP**	**22 26 04.4**	**+0.5**		
	baz=125								
135A	**Vickery Place,**	**124.88**	**42**	PKiKP	**PKiKP**	**22 26 05.1**	**+1.2**		
	baz=125								
X37A	**Clayton**	**124.92**	**39**	PKiKP	**PKiKP**	**22 26 04.7**	**+0.7**		
	baz=125								
632A	**Uvalde**	**124.99**	**47**	PKiKP	**PKiKP**	**22 26 05.4**	**+1.1**		
	baz=125								
334A	**Lometa**	**125.05**	**44**	PKiKP	**PKiKP**	**22 26 04.7**	**+0.3**		
	baz=125								
Z36A	**Blue Ridge**	**125.08**	**41**	PKiKP	**PKiKP**	**22 26 05.2**	**+0.8**		
	baz=125								
SLM	**Saint Louis**	**125.08**	**32**	*e*PKIKP	**PKPdf**	**22 26 03.7**	**-0.1**		
SLM	**Saint Louis**	**125.08**	**32**	*e*PKPdf	**PKPdf**	**22 26 03.7**	**-0.1**		
SLM				*ep*PKPdf	**pPKPdf**	**22 28 24.3**	**-0.2**		
W38A	**Poteau**	**125.14**	**38**	PKiKP	**PKiKP**	**22 26 05.2**	**+0.8**		
	baz=125								
Y37A	**Hugo**	**125.16**	**40**	PKiKP	**PKiKP**	**22 26 05.3**	**+0.8**		
	baz=125								
WHTX	**Lake Whitney**	**125.19**	**43**	PKiKP	**PKiKP**	**22 26 05.6**	**+1.0**		
	baz=125								
WHTX	**Lake Whitney**	**125.19**	**43**	*e*PKPdf	**PKPdf**	**22 26 04.8**	**+0.7**		
WHTX				*e*PKKPbc	**PKKPab**	**22 35 46.9**	**+0.1**		
X38A	**Whitesboro**	**125.21**	**39**	PKiKP	**PKiKP**	**22 26 05.6**	**+1.0**		
	baz=125								
533A	**Kerrville**	**125.22**	**46**	PKiKP	**PKiKP**	**22 26 05.4**	**+0.6**		
	baz=125								
732A	**Laxson Ranch,**	**125.29**	**48**	PKiKP	**PKiKP**	**22 26 05.8**	**+0.9**		
	baz=125								
AAM	**Ann Arbor**	**125.30**	**25**	*e*PKIKP	**PKPdf**	**22 26 04.4**	**+0.3**		
AAM	**Ann Arbor**	**125.30**	**25**	*e*PKPdf	**PKPdf**	**22 26 04.4**	**+0.3**		
AAM				*ep*PKPdf	**pPKPdf**	**22 28 26.0**	**+1.3**		
AAM				*e*PKKPbc	**PKKPbc**	**22 35 47.4**	**+0.8**		
434A	**Burnet**	**125.33**	**45**	PKiKP	**PKiKP**	**22 26 05.2**	**+0.2**		
	baz=125								
SFIN	**Scholer Farm**	**125.33**	**28**	PKiKP	**PKiKP**	**22 26 04.9**	**+0.3**		
	baz=125								
SFIN	**Scholer Farm**	**125.33**	**28**	*e*PKPpre	PKPpre	22 25 57.8			
SFIN				*e*PKPdf	**PKPdf**	**22 26 04.0**	**-0.2**		
633A	**Saathoff Ranch**	**125.46**	**47**	PKiKP	**PKiKP**	**22 26 06.1**	**+0.8**		
	baz=125								
832A	**Faith Ranch, C**	**125.53**	**48**	PKiKP	**PKiKP**	**22 26 06.1**	**+0.7**		
	baz=126								
335A	**Moody**	**125.64**	**44**	PKiKP	**PKiKP**	**22 26 06.1**	**+0.6**		
	baz=126								
534A	**Blanco**	**125.64**	**46**	PKiKP	**PKiKP**	**22 26 06.0**	**+0.3**		
	baz=126								
Z37A	**Pogue Cattle C**	**125.66**	**41**	PKiKP	**PKiKP**	**22 26 06.3**	**+0.8**		
	baz=126								
Y38A	**Idabel**	**125.76**	**39**	PKiKP	**PKiKP**	**22 26 06.1**	**+0.5**		
	baz=126								
PMOZ	**Porto Moniz, M**	**125.76 319**		*e*PKPdf	**PKPdf**	**22 26 07.3**	**+1.9**		
PMOZ	**Porto Moniz, M**	**125.76 319**		*e*PP	PP	22 28 08.8	+1.5		
733A	**Divot King Ran**	**125.79**	**47**	PKiKP	**PKiKP**	**22 26 06.2**	**+0.3**		
	baz=126								
236A	**Katherine and**	**125.81**	**42**	PKiKP	**PKiKP**	**22 26 06.8**	**+0.9**		
	baz=126								
435B	**Jarrell**	**125.82**	**44**	PKiKP	**PKiKP**	**22 26 06.3**	**+0.4**		
	baz=126								
833A	**Chaparral WMA,**	**125.93**	**48**	PKiKP	**PKiKP**	**22 26 07.1**	**+0.9**		
	baz=126								
137A	**Heron Place, G**	**125.95**	**41**	PKiKP	**PKiKP**	**22 26 07.5**	**+1.4**		
	baz=126								
336A	**Riesel**	**125.97**	**43**	PKiKP	**PKiKP**	**22 26 06.6**	**+0.4**		
	baz=126								
RPN	**Rapa Nui**	**125.99 119**		PKP	**PKPdf**	**22 26 06.7**	**+0.9**		
	comp=E,127nm,0.9s,baz=39,slow=2.6,SNR=4.9								
RPN				pPKP	**pPKPdf**	**22 28 26.5**	**0.0**		
	comp=E,86nm,0.6s,baz=248,slow=3.7,SNR=4.0								
RPN	**Rapa Nui**	**125.99 119**		PKiKP	**PKPdf**	**22 26 06.7**	**+0.9**		
RPN				pmax	pmax				
	comp=Z,127nm,1.0s								
RPN				pmax	pmax				
	comp=Z,87nm,0.6s								
RPN	**Rapa Nui**	**125.99 119**		*e*PKPdf	**PKPdf**	**22 26 03.2**	**-2.6**		
RPN				pPKP	**pPKPdf**	**22 28 26.5**	**0.0**		
Z38A	**Mt. Pleasant**	**126.03**	**40**	PKiKP	**PKiKP**	**22 26 06.7**	**+0.4**		
	baz=126								
MIAR	**Mount Ida**	**126.07**	**38**	PKiKP	**PKiKP**	**22 26 07.0**	**+0.7**		
	baz=126								
MIAR	**Mount Ida**	**126.07**	**38**	*e*PKPpre	PKPpre	22 25 58.8			
MIAR				*e*PKPdf	**PKiKP**	**22 26 06.4**	**+0.1**		
634A	**China Grove, S**	**126.10**	**46**	PKiKP	**PKiKP**	**22 26 07.3**	**+0.8**		
	baz=126								
OLIL	**Olney**	**126.11**	**30**	*e*PKPdf	**PKPdf**	**22 26 03.2**	**-2.6**		
OLIL				*e*PKPdf	**PKiKP**	**22 26 06.9**	**+0.6**		
OLIL				*ep*PKPdf	**pPKPdf**	**22 28 27.5**	**+1.1**		
Y39A	**Lockesburg**	**126.15**	**39**	PKiKP	**PKiKP**	**22 26 06.9**	**+0.4**		
	baz=126								
734A	**La Parita Cree**	**126.25**	**47**	PKiKP	**PKiKP**	**22 26 07.4**	**+0.6**		
	baz=126								
535A	**Dale**	**126.28**	**45**	PKiKP	**PKiKP**	**22 26 07.9**	**+1.1**		
	baz=126								
237A	**Washetta, Mont**	**126.29**	**42**	PKiKP	**PKiKP**	**22 26 07.5**	**+0.7**		
	baz=126								
SIUC	**Southern Illin**	**126.31**	**32**	*e*PKPpre	PKPpre	22 25 59.9			
SIUC				*e*PKPdf	**PKiKP**	**22 26 06.5**	**-0.1**		
SIUC				*ep*PKPdf	pPKPdf	22 28 28.1	+1.3		
138A	**Matatall Enter**	**126.34**	**41**	PKiKP	**PKiKP**	**22 26 08.2**	**+1.3**		
	baz=126								
LONY	**Lake Ozonia**	**126.37**	**16**	*e*PKPpre	PKPpre	22 25 59.7			
LONY				*e*PKPdf	**PKPdf**	**22 26 05.5**	**-0.6**		
436A	**Wall Ranch, Ga**	**126.38**	**44**	PKiKP	**PKiKP**	**22 26 08.3**	**+1.3**		
	baz=126								
933A	**Laredo**	**126.41**	**48**	PKiKP	**PKiKP**	**22 26 08.5**	**+1.4**		
	baz=126								
635A	**Leesville**	**126.51**	**46**	PKiKP	**PKiKP**	**22 26 08.5**	**+1.2**		
	baz=126								
Z39A	**Irene McRaven,**	**126.55**	**40**	PKiKP	**PKiKP**	**22 26 08.4**	**+1.1**		
	baz=126								
BLO	**Bloomington**	**126.55**	**29**	*e*PKIKP	**PKPdf**	**22 26 07.5**	**+0.9**		
BLO	**Bloomington**	**126.55**	**29**	*e*PKPdf	**PKPdf**	**22 26 07.5**	**+0.9**		
BLO				*ep*PKPdf	**pPKPdf**	**22 28 29.0**	**+1.8**		
536A	**Bastrop**	**126.60**	**45**	PKiKP	**PKiKP**	**22 26 08.6**	**+1.1**		
	baz=126								
UALR	**University of**	**126.65**	**37**	*e*PKPdf	**PKPdf**	**22 26 07.2**	**+0.3**		
834A	**Tilden**	**126.66**	**48**	PKiKP	**PKiKP**	**22 26 08.4**	**+0.8**		
	baz=127								
238A	**Jacksonville**	**126.74**	**41**	PKiKP	**PKiKP**	**22 26 08.5**	**+0.8**		
	baz=127								
DBIC	**Dimbokro**	**126.78 283**		PKhKP	PKPpre	22 25 50.6			
	comp=Z,4.5nm,0.5s,baz=94,slow=4.0,SNR=6.5								
DBIC				PKP	**PKPdf**	**22 26 07.6**	**0.0**		
	comp=Z,149nm,0.8s,baz=74,slow=2.5,SNR=8.3								
DBIC				pPKP	pPKPdf	22 28 28.6	+0.3		
	comp=Z,100nm,0.8s,baz=46,slow=3.0,SNR=3.7								
DBIC				PKKPab	**PKKPab**	**22 35 40.2**	**+0.5**		
	comp=Z,32nm,0.7s,baz=238,slow=3.6,SNR=10								
DBIC	**Dimbokro**	**126.78 283**		PKHKP	PKPpre	22 25 50.6			
DBIC						22 26 07.6			
DBIC				pmax	pmax				
	comp=Z,5.0nm,0.5s								
DBIC				pmax	pmax				
	comp=Z,149nm,0.8s								
DBIC				pmax	pmax				
	comp=Z,100nm,0.8s								
DBIC				pmax	pmax				
	comp=Z,32nm,0.7s								
DBIC	**Dimbokro**	**126.78 283**		*e*PKPpre	PKPpre	22 25 59.7			
DBIC				*e*PKPdf	**PKiKP**	**22 26 08.0**	**-0.2**		
DBIC				PKKPab	**PKKPab**	**22 35 40.2**	**+0.5**		
139A	**Bunkhouse Ranc**	**126.78**	**40**	PKiKP	**PKiKP**	**22 26 08.4**	**+0.7**		
	baz=127								
735A	**Kenedy**	**126.79**	**46**	PKiKP	**PKiKP**	**22 26 09.3**	**+1.4**		
	baz=127								
437A	**Phantom Ranch,**	**126.79**	**43**	PKiKP	**PKiKP**	**22 26 08.9**	**+1.0**		
	baz=127								
PARMO	**Parma**	**126.79**	**33**	*e*PKPdf	**PKPdf**	**22 26 08.0**	**+0.9**		
PARMO				*ep*PKPdf	**pPKPdf**	**22 28 29.4**	**+1.6**		
USIN	**University of**	**126.92**	**31**	*e*PKPdf	**PKPdf**	**22 26 07.6**	**+0.3**		
USIN				*ep*PKPdf	**pPKPdf**	**22 28 29.6**	**+1.6**		
636A	**Smothers Creek**	**126.96**	**45**	PKiKP	**PKiKP**	**22 26 09.6**	**+1.4**		
	baz=127								
BART	**Pico Bartolome**	**126.97 329**		*e*PKPdf	**PKPdf**	**22 26 06.8**	**-0.7**		
BART				*ep*PKPdf	**PP**	**22 28 10.9**	**-3.8**		
BART	**Pico Bartolome**	**126.97 329**		*i* PP	PP	22 28 29.4	+15		
934A	**Benavides**	**126.98**	**48**	PKiKP	**PKiKP**	**22 26 09.1**	**+0.8**		
	baz=127								
PKME	**Peaks-Kenny Pk**	**127.00**	**11**	*e*PKPpre	PKPpre	22 26 02.9			
PKME				*e*PKPdf	**PKiKP**	**22 26 08.0**	**+0.2**		
PVMO	**Portageville**	**127.01**	**34**	*e*PKPdf	**PKPdf**	**22 26 08.5**	**+1.0**		
338A	**Crockett**	**127.02**	**42**	PKiKP	**PKiKP**	**22 26 09.1**	**+0.8**		
	baz=127								
NCB	**Newcomb**	**127.07**	**16**	*e*PKPpre	PKPpre	22 25 56.8			
NCB				*e*PKPdf	**PKPdf**	**22 26 07.4**	**-0.1**		
MMNY	**Mt. Morris Dam**	**127.08**	**20**	*e*PKPpre	PKPpre	22 25 59.6			
MMNY				*e*PKPdf	**PKPdf**	**22 26 07.5**	**0.0**		
HBAR	**Harrisburg**	**127.09**	**35**	*e*PKPdf	**PKPdf**	**22 26 09.1**	**+1.4**		
HBAR				*ep*PKPdf	**pPKPdf**	**22 28 30.3**	**+1.9**		
835A	**Beeville**	**127.10**	**47**	PKiKP	**PKiKP**	**22 26 09.5**	**+1.0**		
	baz=127								
537A	**Green Hill Far**	**127.12**	**44**	PKiKP	**PKiKP**	**22 26 09.4**	**+0.9**		
	baz=127								
034A	**Hebbronville**	**127.15**	**49**	PKiKP	**PKiKP**	**22 26 09.6**	**+0.9**		
	baz=127								
GNAR	**Gosnell**	**127.16**	**34**	*e*PKPdf	**PKPdf**	**22 26 08.9**	**+1.1**		
GNAR				*ep*PKPdf	**pPKPdf**	**22 28 30.9**	**+2.4**		
239A	**Gary**	**127.16**	**41**	PKiKP	**PKiKP**	**22 26 08.9**	**+0.4**		
	baz=127								
NATX	**Nacogdoches**	**127.20**	**41**	PKiKP	**PKiKP**	**22 26 09.4**	**+0.8**		
	baz=127								
NATX	**Nacogdoches**	**127.20**	**41**	*e*PKPdf	**PKPdf**	**22 26 08.5**	**+0.5**		
PSET	**Sete Cidades**	**127.21 329**		*e*PKPdf	**PKPdf**	**22 26 07.7**	**-0.2**		
PSET				*ep*PKPdf	**PP**	**22 28 16.7**	**+0.5**		
PSET	**Sete Cidades**	**127.21 329**		*i* PP	PP	22 28 26.4	+10		
PDA	**Ponta Delgada**	**127.24 329**		*e*PKPdf	**PKPdf**	**22 26 09.9**	**+2.0**		
PDA				*ep*PKPdf	**PP**	**22 28 18.1**	**+1.8**		
736A	**Circle Diamond**	**127.26**	**46**	PKiKP	**PKiKP**	**22 26 09.8**	**+1.0**		
	baz=127								
438A	**Sam Houston St**	**127.29**	**43**	PKiKP	**PKiKP**	**22 26 09.9**	**+1.0**		
	baz=127								
ACSO	**Alum Creek Sta**	**127.30**	**25**	*e*PKPpre	PKPpre	22 25 57.7			
ACSO				*e*PKPdf	**PKiKP**	**22 26 08.6**	**0.0**		
ADH	**Angra Heroismo**	**127.31 331**		*e*PKPdf	**PKPdf**	**22 26 10.1**	**+2.1**		
ADH				*ep*PKPdf	**PP**	**22 28 19.7**	**+3.0**		
MDV	**Middlebury**	**127.32**	**15**	*e*PKPdf	**PKPdf**	**22 26 08.6**	**+0.7**		
PGRA	**Graciosa**	**127.36 332**		*e*PKPdf	**PKPdf**	**22 26 10.5**	**+2.4**		
PGRA				*ep*PKPdf	**PP**	**22 28 14.2**	**-2.8**		
PGRA	**Graciosa**	**127.36 332**		*i* PP	PP	22 28 28.5	+11		
637A	**Eagle Lake**	**127.49**	**45**	PKiKP	**PKiKP**	**22 26 10.1**	**+0.9**		
	baz=127								
PSMN	**Pico do Norte,**	**127.50 328**		*e*PKPdf	**PKPdf**	**22 26 09.9**	**+1.4**		
PSMN				*ep*PKPdf	**PP**	**22 28 16.1**	**-2.0**		
PSMN	**Pico do Norte,**	**127.50 328**		*i* PP	PP	22 28 28.7	+11		
UTMT	**University of**	**127.51**	**33**	*e*PKPdf	**PKPdf**	**22 26 09.2**	**+0.7**		
HKT	**Hockley**	**127.53**	**44**	*e*PKIKP	**PKPdf**	**22 26 10.0**	**+1.4**		
HKT	**Hockley**	**127.53**	**44**	*e*PKPdf	**PKPdf**	**22 26 10.0**	**+1.4**		
HKT				*ep*PKPdf	**pPKPdf**	**22 28 32.6**	**+3.4**		
339A	**Huntington**	**127.54**	**42**	PKiKP	**PKiKP**	**22 26 10.0**	**+0.7**		
	baz=127								
PSMA	**Santa Maria**	**127.54 328**		*e*PKPdf	**PKPdf**	**22 26 08.9**	**+0.4**		
PSMA				*ep*PKPdf	**PP**	**22 28 22.1**	**+3.8**		
PSMA	**Santa Maria**	**127.54 328**		*i* PP	PP	22 28 28.7	+10		
HALT	**Halls**	**127.57**	**34**	*e*PKPdf	**PKPdf**	**22 26 09.5**	**+0.9**		
538A	**Harpers Horsep**	**127.60**	**43**	PKiKP	**PKiKP**	**22 26 10.8**	**+1.4**		
	baz=128								
WVL	**Waterville**	**127.60**	**12**	*e*PKPdf	**PKPdf**	**22 26 08.3**	**-0.1**		
WVL				*ep*PKPdf	**pPKPdf**	**22 28 31.5**	**+2.5**		
035A	**Encino**	**127.65**	**48**	PKiKP	**PKiKP**	**22 26 10.6**	**+1.0**		
	baz=128								
PMAN	**Manadas**	**127.73 332**		*e*PKPdf	**PKPdf**	**22 26 10.8**	**+2.0**		
PMAN				*ep*PKPdf	**PP**	**22 28 19.0**	**-0.4**		
PMAN	**Manadas**	**127.73 332**		*i* PP	PP	22 28 25.7	+6.3		
ROSA	**Rosais**	**127.73 332**		*e*PKPdf	**PKPdf**	**22 26 08.7**	**-0.2**		
ROSA				*ep*PKPdf	**PP**	**22 28 20.1**	**+0.7**		
ROSA	**Rosais**	**127.73 332**		*i* PP	PP	22 28 28.7	+9.3		
439A	**Center Grove,**	**127.74**	**42**	PKiKP	**PKiKP**	**22 26 10.1**	**+0.4**		
	baz=128								
ACCN	**Adirondack Com**	**127.77**	**16**	*e*PKPdf	**PKPdf**	**22 26 09.5**	**+0.7**		
MET	**Memphis--Engin**	**127.81**	**35**	*e*PKPdf	**PKPdf**	**22 26 08.6**	**-0.5**		
MET				*ep*PKPdf	**pPKPdf**	**22 28 33.4**	**+3.6**		
737A	**Port Lavaca**	**127.82**	**46**	PKiKP	**PKiKP**	**22 26 10.7**	**+0.7**		
	baz=128								
HNH	**Hanover**	**127.83**	**14**	*e*PKPpre	PKPpre	22 26 00.7			
HNH				*e*PKPdf	**PKiKP**	**22 26 09.5**	**-0.1**		
HNH				*ep*PKPdf	pPKPdf	22 28 30.9	+1.3		
EMMW	**East Machias**	**127.87**	**10**	*e*PKPdf	**PKPdf**	**22 26 09.1**	**+0.2**		
EMMW				*e*PP	**PP**	**22 28 21.1**	**+1.3**		
340A	**Bronson**	**127.92**	**41**	PKiKP	**PKiKP**	**22 26 10.5**	**+0.4**		
	baz=128								
035Z	**Hargill**	**127.94**	**49**	PKiKP	**PKPdf**	**22 26 09.9**	**+0.3**		
	baz=128								
PPNO	**Prainha do Nor**	**127.94 332**		*e*PKPdf	pPKPdf	22 28 23.7	-6.3		
PCED	**Cedros**	**128.02 332**		*e*PKPdf	**PKPdf**	**22 26 11.3**	**+1.9**		
PCED				*ep*PKPdf	**PP**	**22 28 24.2**	**+3.0**		
PCAN	**Candelaria**	**128.05 332**		*e*PKPdf	**PKPdf**	**22 26 10.4**	**+0.9**		
PCAN				*ep*PKPdf	**PP**	**22 28 22.7**	**+1.2**		
BINY	**Binghamton**	**128.18**	**18**	*e*PKPpre	PKPpre	22 25 55.8			
BINY				*e*PKPdf	**PKPdf**	**22 26 09.3**	**-0.4**		
539A	**Cross D Ranch,**	**128.19**	**43**	PKiKP	**PKiKP**	**22 26 11.7**	**+1.0**		
	baz=128								
FFD	**Franklin Falls**	**128.20**	**14**	*e*PKPdf	**PKPdf**	**22 26 10.8**	**+1.2**		
H07N1	**FLORES T-PHASE**	**128.21 335**		*e*PKPdf	**PKPdf**	**22 26 09.6**	**-0.2**		
H07N1				*ep*PKPdf	**PP**	**22 28 25.8**	**+3.4**		
WVT	**Waverly**	**128.23**	**32**	*e*PKIKP	**PKPdf**	**22 26 09.6**	**-0.3**		
WVT	**Waverly**	**128.23**	**32**	*e*PKPdf	**PKPdf**	**22 26 09.6**	**-0.3**		
440A	**Kirbyville**	**128.31**	**42**	PKiKP	**PKiKP**	**22 26 11.6**	**+0.7**		
	baz=128								
738A	**Farr-Stevens R**	**128.33**	**45**	PKiKP	**PKiKP**	**22 26 11.3**	**+0.3**		
	baz=128								
TRY	**Troy**	**128.37**	**16**	*e*PKPdf	**PKPdf**	**22 26 10.6**	**+0.7**		
TRY				*ep*PKPdf	**pPKPdf**	**22 28 33.9**	**+3.3**		
H07S1	**FLORES T-PHASE**	**128.50 335**		*e*PKPdf	**PKPdf**	**22 26 09.2**	**-1.1**		
H07S1				*ep*PKPdf	**PP**	**22 28 25.1**	**+0.8**		
H07S1	**FLORES T-PHASE**	**128.50 335**		*i* PP	PP	22 28 32.0	+7.7		
540A	**Vidor**	**128.63**	**42**	PKiKP	**PKPdf**	**22 26 10.4**	**-0.4**		
	baz=128								
KSPA	**Keystone Colle**	**128.83**	**19**	*e*PKPpre	PKPpre	22 25 58.2			
KSPA				*e*PKPdf	**PKiKP**	**22 26 11.7**	**0.0**		
SSPA	**Standing Stone**	**128.94**	**21**	*e*PKPpre	PKPpre	22 25 56.8			
SSPA				*e*PKPdf	**PKiKP**	**22 26 11.8**	**-0.1**		
HRV	**Adam Dziewonsk**	**129.13**	**14**	*e*PKPpre	PKPpre	22 26 04.7			
HRV				*e*PKPdf	**PKiKP**	**22 26 11.8**	**-0.4**		
HRV				*e*PP	PP	22 28 35.1	+7.1		
SHEL	**Horse Pasture**	**129.50 255**		*e*PKIKP	**PKPdf**	**22 26 12.2**	**-0.6**		
SHEL				*e*		22 28 41.0			
SHEL	**Horse Pasture**	**129.50 255**		*e*PKPdf	**PKPdf**	**22 26 12.2**	**-0.6**		
SHEL				*e*PKPdf	**PKiKP**	**22 26 16.2**	**+2.5**		
SHEL				*e*PP	PP	22 28 41.0	+8.4		
VBMS	**Vicksburg**	**129.52**	**38**	PKiKP	**PKPdf**	**22 26 12.7**	**+0.3**		
	baz=129								
VBMS	**Vicksburg**	**129.52**	**38**	*e*PKPdf	**PKPdf**	**22 26 12.6**	**+0.2**		
ODNJ	**Ogdensburg**	**129.62**	**18**	*e*PKPpre	PKPpre	22 25 58.6			
ODNJ				*e*PKPdf	**PKPdf**	**22 26 12.3**	**-0.1**		
BRYW	**Bryant College**	**129.69**	**15**	*e*PKPdf	**PKPdf**	**22 26 13.1**	**+0.6**		
BRYW				*e*PP	PP	22 28 40.7	+9.1		
TRIS	**Tristan da Cun**	**129.74 226**		*e*PKPdf	**PKPdf**	**22 26 13.3**	**+0.7**		
LUPA	**Lehigh Univers**	**129.82**	**19**	*e*PKPdf	**PKPdf**	**22 26 11.8**	**-0.9**		
LUPA				*ep*PKPdf	**PP**	**22 28 31.5**	**-1.0**		
HOPE	**Hope Point**	**129.88 195**		*e*PKPdf	**PKPdf**	**22 26 13.0**	**+0.6**		
HOPE				*e*PKPdf	**PKiKP**	**22 26 16.2**	**+3.0**		
HOPE				*e*PP	PP	22 28 38.3	+5.4		
YLE	**Yale**	**129.89**	**16**	*e*PKPdf	**PKPdf**	**22 26 13.1**	**+0.3**		
PAL	**Palisades**	**129.90**	**17**	*e*PKHKP	PKPpre	22 26 01.4			
PAL				*e*		22 26 12.7			
PAL				*e*		22 28 33.0			
PAL	**Palisades**	**129.90**	**17**	*e*PKPpre	PKPpre	22 26 01.4			
PAL				*e*PKPdf	**PKPdf**	**22 26 12.7**	**-0.2**		
PAL				*ep*PKPdf	**PP**	**22 28 33.0**	**0.0**		
SWET	**Sewanee**	**129.92**	**32**	*e*PKPpre	PKPpre	22 25 56.8			
SWET				*e*PKPdf	**PKPdf**	**22 26 13.2**	**0.0**		
BRNJ	**Basking Ridge**	**130.00**	**18**	*e*PKPdf	**PKPdf**	**22 26 10.1**	**-3.0**		
BRNJ				*e*PKPdf	**PKiKP**	**22 26 13.7**	**-0.3**		
BRNJ				*ep*PKPdf	**pPKPdf**	**22 28 36.6**	**+2.9**		
MVL	**Millersville**	**130.04**	**20**	*e*PKPpre	PKPpre	22 26 00.1			
MVL				*e*PKPdf	**PKPdf**	**22 26 12.3**	**-0.9**		
TZTN	**Tazewell**	**130.06**	**29**	*e*PKPpre	PKPpre	22 25 58.6			
TZTN				*e*PKPdf	**PKPdf**	**22 26 13.7**	**+0.3**		
CPNY	**Central Park**	**130.08**	**17**	*e*PKPdf	**PKPdf**	**22 26 13.3**	**+0.1**		
CPNY				*ep*PKPdf	**PP**	**22 28 37.0**	**+2.8**		
SDMD	**Soldier's Deli**	**130.40**	**21**	*e*PKPdf	**PKPdf**	**22 26 09.9**	**-4.0**		
SDMD				*e*PKPdf	**PKiKP**	**22 26 13.4**	**-1.4**		
SDMD				*e*PP	**PP**	**22 28 39.9**	**+3.6**		
CPCT	**Cooper Cave**	**130.46**	**30**	*e*PKPpre	PKPpre	22 25 58.9			
CPCT				*e*PKPdf	**PKPdf**	**22 26 13.1**	**-1.0**		
TKL	**Tuckaleechee C**	**130.66**	**29**	*e*PKHKP	PKPpre	22 25 59.8			
TKL				*e*		22 26 15.2			
TKL	**Tuckaleechee C**	**130.66**	**29**	*e*PKPpre	PKPpre	22 25 59.8			
TKL				*e*PKPdf	**PKiKP**	**22 26 15.2**	**-0.3**		
BLA	**Blacksburg**	**130.92**	**25**	*e*PKHKP	PKPpre	22 26 01.7			
BLA				*e*		22 26 14.4			
BLA	**Blacksburg**	**130.92**	**25**	*e*PKPpre	PKPpre	22 26 01.7			
BLA				*e*PKPdf	**PKPdf**	**22 26 14.4**	**-0.6**		
LRAL	**Lakeview Retre**	**131.00**	**34**	*e*PKPpre	PKPpre	22 26 00.7			
LRAL				*e*PKPdf	**PKPdf**	**22 26 14.0**	**-1.2**		
USHA	**Ushuaia**	**131.07 171**		PKhKP	PKPpre	22 26 03.4			
	comp=Z,12nm,0.7s,baz=136,slow=2.2,SNR=8.5								
USHA				PKP	**PKPdf**	**22 26 15.0**	**+0.4**		
	comp=Z,60nm,0.8s,baz=157,slow=1.8,SNR=11								
USHA				pPKP	pPKPdf	22 28 34.6	-0.7		
	comp=Z,37nm,1.0s,baz=177,slow=3.8,SNR=3.4								
USHA				PP	**PP**	**22 28 42.1**	**+1.7**		
	comp=Z,442nm,1.0s,baz=170,slow=7.1,SNR=34								
VWCC	**Virginia Weste**	**131.08**	**25**	*e*PKPpre	PKPpre	22 26 06.8			
VWCC				*e*PKPdf	**PKPdf**	**22 26 15.1**	**-0.2**		
VWCC				*e*PP	**PP**	**22 28 40.5**	**-1.9**		
CBN	**Corbin**	**131.28**	**22**	*e*PKPpre	PKPpre	22 26 06.3			
CBN				*e*PKPdf	**PKPdf**	**22 26 15.5**	**-0.1**		
CBN				*e*PP	**PP**	**22 28 40.5**	**-1.4**		
JSRW	**J. Sargeant Re**	**131.53**	**23**	*e*PKPpre	PKPpre	22 26 03.5			
JSRW				*e*PKPdf	**PKPdf**	**22 26 15.8**	**-0.3**		
URVA	**University of**	**131.77**	**22**	*e*PKPpre	PKPpre	22 26 02.6			
URVA				*e*PKPdf	**PKPdf**	**22 26 16.1**	**-0.4**		
BRAL	**Brewton**	**132.45**	**36**	*e*PKPpre	PKPpre	22 26 09.3			
BRAL				*e*PKPdf	**PKPdf**	**22 26 18.4**	**+0.4**		
BRAL				*e*PP	PP	22 28 43.6	-6.2		
GOGA	**Godfrey**	**132.60**	**31**	*e*PKHKP	PKPpre	22 26 02.6			
GOGA				*e*		22 26 17.8			
GOGA	**Godfrey**	**132.60**	**31**	*e*PKPpre	PKPpre	22 26 02.6			
GOGA				*e*PKPdf	**PKPdf**	**22 26 17.8**	**-0.4**		
JSC	**Jenkinsville**	**132.99**	**28**	*ep*PKPdf	pPKPdf	22 28

NNA	**Nana**	**159.27**	**106**	PKP	**PKPdf**	**22 27 02.2**	**+0.3**
	comp=Z,41nm,0.9s,baz=254,slow=1.1,SNR=9.9						
NNA				PKPab	**PKPab**	**22 27 44.6**	**+1.1**
	comp=Z,66nm,0.7s,baz=271,slow=5.7,SNR=7.0						
NNA	**Nana**	**159.27**	**106**	PKIKP	**PKPdf**	**22 27 02.2**	**+0.3**
NNA						22 27 44.6	
NNA				pmax	pmax		
	comp=Z,41nm,0.9s						
NNA				pmax	pmax		
	comp=Z,66nm,0.7s						
NNA	**Nana**	**159.27**	**106**	*e*PKPdf	**PKPdf**	**22 27 02.9**	**+0.9**
NNA				*e*PKPab	**PKPab**	**22 27 44.4**	**+0.9**
RCBR	**Riachuelo**	**159.49**	**271**	PKP	**PKPdf**	**22 27 02.1**	**-0.1**
	comp=Z,80nm,0.9s,baz=69,slow=1.7,SNR=16						
RCBR				PKPab	**PKPab**	**22 27 46.1**	**+1.5**
	comp=Z,301nm,0.8s,baz=84,slow=4.5,SNR=17						
RCBR	**Riachuelo**	**159.49**	**271**	*e*PKPdf	**PKPdf**	**22 27 02.9**	**+0.6**
RCBR				*e*PKPab	**PKPab**	**22 27 43.5**	**-1.0**
SVB	**Belmont**	**159.60**	**13**	*e*	**PKPab**	**22 27 44.1**	**-0.4**
BBGH	**Gun Hill**	**160.04**	**9**	*e*P	**PKPdf**	**22 27 04.9**	**+2.1**
LVC	**Limon Verde**	**160.18**	**144**	PKP	**PKPdf**	**22 27 03.2**	**+0.2**
	comp=Z,105nm,1.0s,baz=206,slow=1.6,SNR=12						
LVC				PKPab	**PKPab**	**22 27 49.4**	**+2.0**
	comp=Z,577nm,0.7s,baz=269,slow=6.1,SNR=16						
LVC	**Limon Verde**	**160.18**	**144**	*e*PKPdf	**PKPdf**	**22 27 04.7**	**+1.7**
LVC				*e*PKPab	**PKPab**	**22 27 47.7**	**+0.3**
CPUP	**Villa Florida**	**160.47**	**178**	PKP	**PKPdf**	**22 27 02.9**	**0.0**
	comp=Z,68nm,1.1s,baz=89,slow=0.8,SNR=54						
CPUP				PKPab	**PKPab**	**22 27 49.4**	**+1.3**
	comp=Z,133nm,0.9s,baz=160,slow=3.9,SNR=9.5						
CPUP	**Villa Florida**	**160.47**	**178**	PKIKP	**PKPdf**	**22 27 02.9**	**0.0**
CPUP						22 27 49.4	
CPUP				pmax	pmax		
	comp=Z,68nm,1.1s						
CPUP				pmax	pmax		
	comp=Z,133nm,0.9s						
CPUP	**Villa Florida**	**160.47**	**178**	*e*PKPdf	**PKPdf**	**22 27 03.1**	**+0.3**
CPUP				*e*PKPab	**PKPab**	**22 27 48.3**	**+0.3**
GRGR	**Grenville**	**160.59**	**15**	*e*	**PKPab**	**22 27 49.0**	**+0.1**
GRGR	**Grenville**	**160.59**	**15**	*e*PKPdf	**PKPdf**	**22 27 01.4**	**-1.9**
GRGR				*e*PKPab	**PKPab**	**22 27 48.3**	**-0.6**
PCRV	**Puerto La Cruz**	**161.38**	**26**	PKP	**PKPdf**	**22 27 04.0**	**-0.2**
	comp=Z,33nm,1.0s,baz=349,slow=5.2						
TOSP	**Speyside**	**161.67**	**13**	*e*P	**PKPdf**	**22 27 05.8**	**+1.4**
TOSP	**Speyside**	**161.67**	**13**	*e*	**PKPab**	**22 27 54.7**	**+1.1**
TRN	**Trinidad (W)**	**162.08**	**16**	*e*P	**PKPdf**	**22 27 05.5**	**+0.7**
TRN	**Trinidad (W)**	**162.08**	**16**	*e*	**PKPab**	**22 27 55.0**	**-0.4**
TBH	**Brigand Hill**	**162.33**	**15**	*e*P	**PKPdf**	**22 27 07.0**	**+1.9**
TBH	**Brigand Hill**	**162.33**	**15**	*e*	**PKPab**	**22 27 58.7**	**+2.2**
TPP	**Pointe-a-Pierr**	**162.38**	**16**	*e*P	**PKPdf**	**22 27 05.3**	**+0.2**
TPP	**Pointe-a-Pierr**	**162.38**	**16**	*e*	**PKPab**	**22 27 53.3**	**-3.5**
TPP	**Pointe-a-Pierr**	**162.38**	**16**	*e*	**PKPab**	**22 27 57.0**	**+0.3**
LPAZ	**La Paz**	**165.17**	**131**	PKP	**PKPdf**	**22 27 08.3**	**0.0**
	comp=Z,102nm,1.0s,baz=40,slow=1.4,SNR=169						
LPAZ				PKPab	**PKPab**	**22 28 11.3**	**+1.3**
	comp=Z,259nm,0.8s,baz=224,slow=4.4,SNR=18						
LPAZ	**La Paz**	**165.17**	**131**	PKIKP	**PKPdf**	**22 27 08.4**	**0.0**
LPAZ						22 28 11.3	
LPAZ				pmax	pmax		
	comp=Z,102nm,1.0s						
LPAZ				pmax	pmax		
	comp=Z,259nm,0.8s						
LPAZ	**La Paz**	**165.17**	**131**	*e*PKPdf	**PKPdf**	**22 27 08.6**	**+0.2**
LPAZ				*e*PKPab	**PKPab**	**22 28 11.0**	**+1.0**
BDFB	**Brasilia**	**167.83**	**222**	PKP	**PKPdf**	**22 27 09.7**	**-0.1**
	comp=Z,100nm,1.1s,baz=12,slow=1.5,SNR=41						
BDFB				PKPab	**PKPab**	**22 28 21.5**	**+0.4**
	comp=Z,153nm,0.8s,baz=138,slow=4.5,SNR=13						
BDFB	**Brasilia**	**167.83**	**222**	PKIKP	**PKPdf**	**22 27 09.7**	**-0.1**
BDFB						22 28 21.5	
BDFB				pmax	pmax		
	comp=Z,100nm,1.1s						
BDFB				pmax	pmax		
	comp=Z,153nm,0.8s						
BDFB	**Brasilia**	**167.83**	**222**	*e*PKPdf	**PKPdf**	**22 27 09.6**	**-0.1**
BDFB				*e*PKPab	**PKPab**	**22 28 20.1**	**-1.0**
SIV	**San Ignacio**	**169.75**	**155**	PKP	**PKPdf**	**22 27 10.9**	**0.0**
	comp=Z,90nm,1.1s,baz=202,slow=1.0,SNR=92						
SIV				PKPab	**PKPab**	**22 28 29.6**	**+0.3**
	comp=Z,65nm,0.6s,baz=213,slow=3.8,SNR=15						
SIV				pPKPab	**pPKPab**	**22 30 42.3**	**+0.2**
	comp=Z,17nm,0.8s,baz=198,slow=3.2,SNR=1.5						
SAML	**Samuel**	**173.03**	**109**	*e*PKPdf	**PKPdf**	**22 27 12.5**	**0.0**
SAML				*e*PKPab	**PKPab**	**22 28 43.8**	**-0.5**
PTGA	**Pitinga**	**173.13**	**30**	PKP	**PKPdf**	**22 27 12.6**	**+0.1**
	comp=Z,71nm,1.1s,baz=329,slow=1.4,SNR=57						
PTGA				PKPab	**PKPab**	**22 28 44.2**	**-0.2**
	comp=Z,76nm,0.6s,baz=327,slow=6.1,SNR=16						
PTGA				pPKPab	**pPKPab**	**22 30 56.3**	**-0.8**
	comp=Z,46nm,1.1s,baz=324,slow=5.2,SNR=2.4						
PTGA	**Pitinga**	**173.13**	**30**	*e*PKPdf	**PKPdf**	**22 27 12.2**	**-0.3**
PTGA				*e*PKPab	**PKPab**	**22 28 43.4**	**-1.0**
PTGA				pPKPab	**pPKPab**	**22 30 56.3**	**-0.8**

IDC 23 22:18:40.9±3.0, 6°09'N×122°23'E, h512km±46km, mb3.9/5, mb1 4.1/6, mb1mx3.6/49, mbtmp4.9/6, Error ellipse: s-maj=118.8km s-min=13.8km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**8.06**	**351**	P	P	22 20 38.2	-0.1
	25nm,0.3s,baz=187,slow=16,SNR=2.3						
WRA	**Warramunga Arr**	**28.48**	**156**	P	P	22 23 53.9	-0.6
	42nm,0.9s,baz=333,slow=10,SNR=6.1						
ASAR	**Alice Springs**	**31.70**	**159**	P	P	22 24 22.5	+0.3
	16nm,0.5s,baz=338,slow=7.2,SNR=5.2						
SONM	**Songino Array**	**43.74**	**345**	P	P	22 26 00.4	-0.1
	3.9nm,0.9s,baz=166,slow=6.8,SNR=2.0						
MKAR	**Makanchi Array**	**53.10**	**327**	P	P	22 27 10.5	+0.4
	4.1nm,0.4s,baz=121,slow=6.9,SNR=6.7						
KURBB	**Kurchatov Arra**	**57.37**	**329**	P	P	22 27 39.2	-0.6
	7.8nm,0.8s,baz=130,slow=7.6,SNR=8.4						

*BJI **23** 22:19:28.1, 6°04'N×123°01'E, h592km, mb5.7/56, mB6.1/16*
*ISCJB **23** 22:19:34.8±0.2, 6°72'N±0°02'×123°58'E±0°03, h612km±2km, mb5.4/107, Error ellipse: s-maj=4.1km s-min=3.1km az=150.0*
*MOS **23** 22:19:34.7±0.8, 6°68'N×123°57'E, h617km, mb5.4/55, Error ellipse: s-maj=9.2km s-min=5.7km az=111.4*
*MAN **23** 22:19:35, 6°75'N×123°60'E, h595km, mb5.9, ML4.9, MS5.5*
*IDC **23** 22:19:35.6±0.6, 6°67'N×123°54'E, h611km±8km, mb4.6/38, mb1 4.6/41, mb1mx4.6/48, mbtmp5.6/41, Error ellipse: s-maj=7.9km s-min=5.1km az=63.0*
*NEIC **23** 22:19:35.2±0.3, 6°68'N×123°57'E, h605km±4km, mb5.5/41, Error ellipse: s-maj=5.1km s-min=3.6km az=57.0*
*KLM **23** 22:19:36.8, 6°66'N×123°59'E, h567km, mb5.6, MS6.9*
*DJA **23** 22:19:37.0±0.4, 7°N±6°×12°4E±°, h592km±4km, M6.0/32, mb5.8/32, mB6.4/1, MLv6.1/11, Mw(mB)6.1/1*

ISC 23 22:19:35.7±0.3, 6.70N±0°03×123.63E±0°04, h608km±3km, h609km:pP-P, n390, σ1939/485, mb5.5/117, 10C-21D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.80**	**50**	⇓*i*P	**P**	**22 20 46.6**	**-0.8**
GSPH	**General Santos**	**1.45**	**115**	⇓*e*P	**P**	**22 20 47.6**	**-1.4**
DMPH	**Davao City--Mi**	**1.91**	**78**	⇓*e*P	**P**	**22 20 49.6**	**-0.8**
DMPH				*e*S	**S**	**22 21 53.0**	**+1.9**
DAV	**Davao City (W)**	**1.97**	**79**	*e*P	**P**	**22 20 49.7**	**-1.0**
TBP	**Tagbilaran**	**2.98**	**4**	*e*P	**P**	**22 20 53.8**	**-1.6**
TBP				*i* S	**S**	**22 21 57.2**	**-3.2**
BIPH	**Bislig**	**3.09**	**61**	⇓*e*P	**P**	22 20 59.5	+3.5
BIPH				*i* S	**S**	**22 22 03.2**	**+1.8**
SGSI	**Sangihe**	**3.54**	**148**	P	**P**	**22 20 57.2**	**-1.6**
PLP	**Palo**	**4.63**	**17**	⇓*e*P	**P**	**22 21 05.5**	**-0.8**
PLP				*e*S	**S**	**22 22 16.5**	**-3.7**
PPR	**Puerto Princes**	**5.73**	**303**	⇓*e*P	**P**	**22 21 15.1**	**+0.2**
KMSI	**Cibinong**	**6.10**	**177**	P	**P**	**22 21 16.2**	**-1.9**
	2μm,1.4s,73μm23nm						
TSM	**Tawau**	**6.21**	**248**	⇑P	**P**	**22 21 17.8**	**-1.3**
TSM	**Tawau**	**6.21**	**248**	⇑P	**P**	**22 21 17.8**	**-1.3**
MRSI	**Marisa**	**6.41**	**195**	P	**P**	**22 21 20.6**	**-0.2**
	534nm,0.8s,2.5nm						
SDKM	**Sandakan**	**6.48**	**261**	⇑P	**P**	**22 21 20.1**	**-1.4**
SDKM	**Sandakan**	**6.48**	**261**	⇑P	**P**	**22 21 20.1**	**-1.4**
TNTI	**Ternate**	**6.97**	**147**	P	**P**	**22 21 25.6**	**-0.3**
	1μm,1.0s,16nm						
TNTI	**Ternate**	**6.97**	**147**	*e*P	**P**	**22 21 24.0**	**-1.9**
KKM	**Kota Kinabalu**	**7.39**	**265**	P	**P**	**22 21 28.5**	**-1.3**
	baz=7.3,SNR=97						
KKM	**Kota Kinabalu**	**7.39**	**265**	*e*P	**P**	**22 21 28.1**	**-1.7**
LUWI	**Luwuk**	**7.74**	**186**	P	**P**	**22 21 32.1**	**-0.8**
	1μm,1.0s,8.5nm						
LUWI	**Luwuk**	**7.74**	**186**	P	**P**	**22 21 34.0**	**+1.1**
	baz=7.6,SNR=5.5						
LUWI	**Luwuk**	**7.74**	**186**	*e*P	**P**	**22 21 31.4**	**-1.5**
APSI	**Ampana**	**7.81**	**195**	P	**P**	**22 21 32.7**	**-0.9**
	2μm,1.7s,7.5nm						
TGY	**Tagaytay City**	**7.82**	**340**	P	**P**	**22 21 33.0**	**-0.6**
	585nm,0.3s,baz=196,slow=2.8,SNR=31						
TGY				S	**S**	**22 23 10.1**	**-0.1**
	59nm,0.3s,baz=150,slow=20,SNR=4.5						
TGY	**Tagaytay City**	**7.82**	**340**	P	**P**	**22 21 33.0**	**-0.6**
TGY				S	**S**	**22 23 10.1**	**-0.1**
TGY				pmax	pmax		
	comp=Z,585nm,0.3s						
TGY				smax	smax		
	comp=N,59nm,0.3s						
TGY	**Tagaytay City**	**7.82**	**340**	P	**P**	**22 21 33.0**	**-0.6**
TGY				S	**S**	**22 23 10.1**	**-0.2**
LBMI	**Labuha**	**8.25**	**152**	P	**P**	**22 21 37.5**	**-0.3**
	comp=N,1μm,0.9s						
BKB	**Balikpapan**	**10.38**	**221**	P	P	22 21 53.8	-4.6
	comp=N,701nm,2.4s						
NLAI	**Namlea**	**10.46**	**161**	P	**P**	**22 21 58.4**	**-0.9**
	comp=N,2μm,1.2s						
SWI	**Sorong**	**10.70**	**134**	P	**P**	**22 22 01.7**	**+0.1**
SWI	**Sorong**	**10.70**	**134**	P	**P**	**22 22 02.3**	**+0.7**
	baz=14,SNR=13						
SWI	**Sorong**	**10.70**	**134**	P	**P**	**22 22 02.3**	**+0.7**
	baz=11,SNR=13						
SIJI	**Sorong**	**10.71**	**134**	P	**P**	**22 22 02.1**	**+0.4**
	comp=N,38nm,0.3s,baz=336,slow=14,SNR=41						
SIJI				S	**S**	**22 24 03.1**	**+1.6**
	baz=288,slow=19,SNR=5.3						
SZP	**Santa**	**11.22**	**344**	*e*P	**P**	**22 22 05.0**	**-1.6**
AAI	**Ambon**	**11.28**	**156**	P	**P**	**22 22 08.3**	**+0.9**
	baz=13,SNR=3.8						
AAI	**Ambon**	**11.28**	**156**	P	**P**	**22 22 08.3**	**+0.9**
	baz=11,SNR=3.8						
SBUM	**Sibu**	**12.13**	**250**	⇓P	**P**	**22 22 16.7**	**+1.0**
SBUM	**Sibu**	**12.13**	**250**	⇓P	**P**	**22 22 16.7**	**+1.0**
KAPI	**Kappang**	**12.26**	**198**	P	**P**	**22 22 16.7**	**-0.4**
	comp=N,0.7nm,0.3s,baz=54,slow=19,SNR=3.5						
KAPI	**Kappang**	**12.26**	**198**	P	**P**	**22 22 16.7**	**-0.4**
FAKI	**Fak Fak**	**12.86**	**138**	P	**P**	**22 22 23.4**	**+0.3**
	comp=N,1μm,1.1s						
FAKI	**Fak Fak**	**12.86**	**138**	P	**P**	**22 22 23.6**	**+0.5**
	baz=16,SNR=14						
FAKI	**Fak Fak**	**12.86**	**138**	P	**P**	**22 22 23.6**	**+0.5**
	baz=13,SNR=14						
FAKI	**Fak Fak**	**12.86**	**138**	*e*P	**P**	**22 22 23.1**	**0.0**
	comp=N,790nm,0.8s						
STKI	**Sintang**	**13.80**	**242**	P	**P**	**22 22 32.2**	**-0.3**
	comp=N,350nm,1.1s						
KSM	**Kuching**	**14.26**	**249**	P	**P**	**22 22 36.8**	**-0.1**
	baz=14,SNR=11						
PBKI	**Pangkalan Bun**	**15.16**	**232**	P	**P**	**22 22 45.8**	**+0.7**
	comp=N,4μm,1.1s						
DLV	**T Lat**	**15.82**	**290**	*e*P	**P**	**22 22 50.8**	**-0.5**
SMPI	**Sarmi**	**17.36**	**119**	P	**P**	**22 23 08.4**	**+3.2**
	comp=N,632nm,0.7s						
QIZ	**Qiongzhong**	**18.17**	**314**	P	**P**	**22 23 12.8**	**+0.3**
QIZ				sP	**sP**	**22 25 38.8**	**-2.8**
QIZ				S	**S**	**22 26 09.9**	**+1.5**
QIZ				PMZ			
	comp=N,88nm,1.0s						
QIZ	**Qiongzhong**	**18.17**	**314**	*e*P	**P**	**22 23 11.9**	**-0.6**
	comp=N,121nm,1.1s						
QZH	**Quanzhou**	**18.77**	**346**	⇑*i*P	**P**	**22 23 19.0**	**+1.1**
QZH				S	**S**	**22 26 23.4**	**+5.5**
QZH				PMZ			
	comp=N,260nm,1.0s						
GENI	**Genyem**	**18.92**	**119**	P	**P**	**22 23 21.8**	**+2.4**
	comp=N,1μm,1.2s						
GZH	**Guangzhou**	**19.06**	**330**	⇓*i*P	**P**	**22 23 24.4**	**+3.8**
GZH				S	**S**	**22 26 27.3**	**+4.6**
GZH				PMZ			
	comp=N,310nm,0.7s						
JAY	**Jayapura**	**19.35**	**118**	P	**P**	**22 23 23.9**	**+0.5**
	comp=N,5.8nm,0.3s,baz=262,slow=7.1,SNR=9.9						
JAY				ScP	**ScP**	**22 29 54.1**	**-0.8**
	comp=N,0.5nm,0.3s,baz=207,slow=2.3,SNR=4.6						
JAY	**Jayapura**	**19.35**	**118**	P	**P**	**22 23 23.9**	**+0.5**
JAY				pmax	pmax		
	comp=Z,6.0nm,0.3s						
JAY				pmax	pmax		
	comp=N,1.0nm,0.3s						
JAY	**Jayapura**	**19.35**	**118**	P	**P**	**22 23 23.9**	**+0.5**
JAY				ScP	**ScP**	**22 29 54.1**	**-0.8**
UGM	**Wanagama**	**19.53**	**222**	P	**P**	**22 23 27.5**	**+2.5**
	baz=19,SNR=3.2						
UBPT	**Khong Chiam**	**19.74**	**297**	P	**P**	**22 23 27.5**	**+0.7**
	comp=N,1μm,1.2s						
BTDF	**Bukit Timah Da**	**20.50**	**256**	P	**P**	**22 23 33.3**	**-0.3**
	baz=20,SNR=18						
BTDF				P	**P**	**22 23 33.3**	**-0.3**
	baz=20,SNR=18						
LEM	**Lembang**	**20.87**	**230**	P	**P**	**22 23 36.3**	**-0.9**
	comp=N,306nm,0.9s,baz=336,slow=20,SNR=3.5						
LEM	**Lembang**	**20.87**	**230**	P	**P**	**22 23 36.3**	**-0.9**
LEM				pmax	pmax		
	comp=Z,306nm,0.9s						
LEM	**Lembang**	**20.87**	**230**	P	**P**	**22 23 36.3**	**-0.9**
CISI	**Cisompet, Garu**	**21.20**	**228**	P	**P**	**22 23 40.5**	**+0.5**
	baz=21,SNR=3.4						
JMBI	**JAMBI**	**21.60**	**248**	P	**P**	**22 23 45.5**	**+2.0**
	comp=Z,2μm,1.8s						
SBJI	**Serang**	**21.61**	**234**	P	**P**	**22 23 45.1**	**+1.5**
	comp=Z,1μm,1.2s						
BLSI	**Bandar Lampung**	**21.92**	**237**	P	**P**	**22 23 47.0**	**+0.6**
	comp=Z,872nm,1.2s						
KLI	**Kotabumi**	**21.98**	**239**	P	**P**	**22 23 47.3**	**+0.4**
	comp=Z,642nm,1.0s						
GUMO	**Guam**	**21.99**	**70**	P	**P**	**22 23 47.5**	**+0.5**
	comp=Z,304nm,1.1s,baz=196,slow=7.4,SNR=8.4						
GUMO				S	**S**	**22 27 07.9**	**-1.2**
	comp=Z,74nm,0.8s,baz=211,slow=19,SNR=8.9						
GUMO	**Guam**	**21.99**	**70**	P	**P**	**22 23 47.5**	**+0.5**
GUMO				S	**S**	**22 27 07.9**	**-1.2**
GUMO				pmax	pmax		
	comp=Z,304nm,1.1s						
GUMO				smax	smax		
	comp=N,74nm,0.8s						
GUMO	**Guam**	**21.99**	**70**	P	**P**	**22 23 47.5**	**+0.5**
GUMO				S	**S**	**22 27 07.9**	**-1.2**
KLSI		**22.00**	**240**	P	**P**	**22 23 47.5**	**+0.4**
	comp=N,1μm,1.2s						
MDSI	**Maura Dua**	**22.37**	**241**	P	**P**	**22 23 51.0**	**+0.6**
	comp=N,1μm,1.3s						
KHON	**Khomkaen**	**22.50**	**297**	P	**P**	**22 23 52.0**	**+0.5**
	comp=N,164nm,0.7s,comp=N,2μm						
IPM	**Ipoh**	**22.60**	**266**	*e*P	**P**	**22 23 51.8**	**-0.7**
	comp=N,325nm,1.3s						
LWLI	**Liwa**	**22.74**	**240**	P	**P**	**22 23 54.5**	**+0.7**
	comp=N,1μm,0.8s						
KULM	**Kulim**	**22.89**	**268**	*e*P	**P**	**22 23 54.6**	**-0.5**
	comp=N,361nm,1.3s						
PATY	**Pattaya**	**23.25**	**287**	P	**P**	**22 23 58.9**	**+0.7**
	comp=N,30nm,0.9s,comp=N,1μm						
MNAI	**Manna**	**23.38**	**243**	P	**P**	**22 23 58.7**	**-0.7**
	baz=23,SNR=3.4						
MNAI	**Manna**	**23.38**	**243**	*e*P	**P**	**22 23 57.7**	**-1.7**
	comp=N,420nm,0.9s						
SLVN	**Son La**	**23.99**	**309**	*e*P	**P**	**22 24 05.0**	**+0.3**
	comp=N,128nm,1.1s						
PPI	**Padang Panjang**	**24.25**	**254**	P	**P**	**22 24 06.0**	**-1.0**
	baz=24,SNR=10						
KRAB	**Krabi**	**24.27**	**275**	P	**P**	**22 24 07.6**	**+0.4**
	comp=N,203nm,0.8s,comp=N,2μm						
PSI	**Prapat**	**24.92**	**262**	P	**P**	**22 24 12.7**	**-0.4**
	comp=N,235nm,0.9s,baz=73,slow=8.9,SNR=24						
PSI				ScP	**ScP**	**22 30 08.6**	**-1.0**
	comp=N,53nm,0.9s,baz=122,slow=3.7,SNR=11						
PSI	**Prapat**	**24.92**	**262**	P	**P**	**22 24 12.7**	**-0.4**
PSI				pmax	pmax		
	comp=Z,235nm,0.9s						
PSI				pmax	pmax		
	comp=N,53nm,0.9s						
PSI	**Prapat**	**24.92**	**262**	P	**P**	**22 24 13.2**	**+0.1**
	baz=25,SNR=13						
PSI	**Prapat**	**24.92**	**262**	P	**P**	**22 24 12.7**	**-0.4**
PSI				ScP	**ScP**	**22 30 08.6**	**-1.0**
UTTA	**Uttaradit**	**25.04**	**298**	P	**P**	**22 24 14.7**	**+0.7**
	comp=N,65nm,1.1s,comp=N,625nm						
WHN	**Wuhan**	**25.27**	**341**	⇑*i*P	**P**	**22 24 17.8**	**+2.0**
WHN				PMZ			
	comp=N,270nm,0.8s						
GYA	**Guiyang**	**25.44**	**322**	P	**P**	**22 24 17.9**	**+0.4**
GYA				sP	**sP**	**22 26 58.8**	**-2.7**
GYA				PcP	**PcP**	**22 27 30.0**	**+1.9**
GYA				S	**S**	**22 28 06.0**	**+2.7**
GYA				ScP	**ScP**	**22 30 13.4**	**+2.5**
GYA				ScS	**ScS**	**22 34 02.8**	**+1.6**
GYA				PMZ			
	comp=N,30nm,0.8s						
NJ2	**Nanjing**	**25.61**	**351**	*e*P	**P**	**22 24 19.0**	**+0.2**
NJ2				S	**S**	**22 28 09.5**	**+3.9**
NJ2				PMZ			
	comp=N,250nm,0.8s						
NJ2				PMZ			
	comp=N,9μm,9.4s						
SISI	**Saibi**	**25.75**	**253**	P	**P**	**22 24 19.5**	**-0.8**
LAMP	**Lampang**	**26.16**	**299**	P	**P**	**22 24 24.9**	**+1.1**
	comp=N,70nm,1.1s,comp=N,513nm						
CRAI	**Chiangrai**	**26.26**	**303**	P	**P**	**22 24 22.4**	**-2.3**
	comp=N,425nm,1.1s						
LHMI	**Lhok Sumawe**	**26.57**	**268**	P	**P**	**22 24 28.1**	**+0.6**
	baz=26,SNR=10						
CM31	**Chiang Mai Arr**	**26.73**	**298**	*e*P	**P**	**22 24 29.6**	**+0.7**
	comp=N,27nm,0.4s						
CMAR	**Chiang Mai Arr**	**26.73**	**298**	P	**P**	**22 24 28.5**	**-0.3**
	comp=N,92nm,0.8s,baz=125,slow=7.4,SNR=48						
CMAR				S	**S**	**22 28 22.9**	**-0.6**
	comp=N,4.6nm,0.9s,baz=118,slow=12,SNR=4.1						
CMAR				ScP	**ScP**	**22 30 13.9**	**-0.8**
	comp=N,19nm,1.0s,baz=146,slow=1.5,SNR=9.5						
CMAR	**Chiang Mai Arr**	**26.73**	**298**	P	**P**	**22 24 28.5**	**-0.3**
CMAR				S	**S**	**22 28 22.9**	**-0.6**
CMAR				pmax	pmax		
	comp=Z,92nm,0.8s						
CMAR				smax	smax		
	comp=N,5.0nm,1.0s						
CMAR				pmax	pmax		
	comp=N,19nm,1.0s						
CMAR	**Chiang Mai Arr**	**26.73**	**298**	P	**P**	**22 24 28.5**	**-0.3**
CMAR				S	**S**	**22 28 22.9**	**-0.6**
CMAR				ScP	**ScP**	**22 30 13.9**	**-0.8**
CMMT	**Chiang Mai**	**26.86**	**299**	P	**P**	**22 24 30.6**	**+0.6**
	comp=N,870nm,1.4s						
CHTO	**Chiang Mai**	**26.87**	**299**	P	**P**	**22 24 30.9**	**+0.9**
	comp=N,5μm,2.9s						
CHTO	**Chiang Mai**	**26.87**	**299**	*e*P	**P**	**22 24 30.2**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,165nm,0.7s						
CHTO	**Chiang Mai**	**26.87**	**299**	*e*P	**P**	**22 24 30.2**	**+0.2**
	comp=Z,165nm,0.7s						
CBIJ	**Chichi jima**	**26.88**	**39**	P	**P**	**22 24 29.3**	**-0.7**
CBIJ				S	**S**	**22 28 22.1**	**-3.5**
JCJ	**Chichijima**	**26.88**	**39**	P	**P**	**22 24 29.3**	**-0.7**
	comp=Z,135nm,0.4s,baz=294,slow=20,SNR=20						
JCJ				S	**S**	**22 28 22.1**	**-3.5**
	comp=Z,600nm,0.8s,baz=287,slow=19,SNR=32						
ENH	**Enshi**	**26.95**	**332**	*e*P	**P**	**22 24 31.7**	**+1.1**
	comp=Z,89nm,0.8s						
KMI	**Kunming**	**27.11**	**315**	P	**P**	**22 24 34.0**	**+1.7**
KMI				S	**S**	**22 28 32.5**	**+2.9**
KMI				ScP	**ScP**	**22 30 16.1**	**+0.1**
KMI				ScS	**ScS**	**22 34 09.1**	**+0.2**
KMI				PMZ			
	comp=Z,210nm,1.2s						
JNU	**Nakatsue**	**27.14**	**13**	P	**P**	**22 24 32.1**	**-0.1**
	comp=Z,19nm,0.9s,baz=194,slow=4.2,SNR=3.7						
JNU	**Nakatsue**	**27.14**	**13**	P	**P**	**22 24 32.1**	**-0.1**
CMAI	**Chiengmai2**	**27.24**	**301**	P	**P**	**22 24 34.6**	**+1.1**
	comp=Z,739nm,1.4s						
COEN	**Coen**	**28.24**	**137**	P	**P**	**22 24 41.7**	**-0.4**
	baz=28,SNR=14						
COEN	**Coen**	**28.24**	**137**	*e*P	**P**	**22 24 41.2**	**-0.8**
PMG	**Port Moresby**	**28.39**	**124**	P	**P**	**22 24 43.2**	**-0.1**
	comp=Z,231nm,1.0s,baz=285,slow=7.6,SNR=7.4						
PMG				ScP	**ScP**	**22 30 19.5**	**-0.4**
	comp=Z,52nm,1.0s,baz=40,slow=3.6,SNR=5.1						
PMG	**Port Moresby**	**28.39**	**124**	*e*P	**P**	**22 24 42.8**	**-0.5**
PMG				pmax	pmax		
	comp=Z,537nm,1.2s						
PMG	**Port Moresby**	**28.39**	**124**	*e*P	**P**	**22 24 42.8**	**-0.5**
	comp=Z,537nm,1.2s						
PMG				ScP	**ScP**	**22 30 19.5**	**-0.4**
WRAB	**Tennant Creek**	**28.49**	**158**	*i* P	**P**	**22 24 43.9**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,

MAT Matsushiro 32.56 22 P P 22 25 18.4 -0.2
MJAR Matsushiro Arr 32.56 22 P P 22 25 18.4 -0.2
comp=Z,32nm,0.7s,baz=195,slow=10,SNR=21
MJAR S S 22 29 49.9 -2.6
comp=Z,5.6nm,0.9s,baz=183,slow=14,SNR=5.1
MJAR Matsushiro Arr 32.56 22 P P 22 25 18.4 -0.2
MJAR S S 22 29 49.9 -2.6
MJAR pmax pmax
comp=Z,29nm,0.8s
MJAR smax smax
comp=N,6.0nm,0.9s
MJAR Matsushiro Arr 32.56 22 P P 22 25 18.4 -0.3
MJAR S S 22 29 49.9 -2.6
COCO West Island 32.59 235 *i* P P 22 25 18.5 -0.6
BJT Baijiatuau 33.84 350 *e*P P 22 25 29.6 +0.3
BJT pmax pmax
comp=Z,203nm,0.9s
BJT Baijiatuau 33.84 350 *e*P P 22 25 29.6 +0.3
comp=Z,203nm,0.9s
BJI Beijing 33.86 350 P P 22 25 30.1 +0.7
BJI ScS ScS 22 34 42.3 +0.7
BJI PMZ
comp=Z,210nm,0.9s
LZH Lanzhou 34.41 331 ⇓P P 22 25 36.0 +1.7
LZH PcP PcP 22 27 52.8 +0.9
LZH S S 22 30 22.5 +1.7
LZH ScP ScP 22 30 40.8 +0.5
LZH ScS ScS 22 34 44.0 -1.1
LZH PMZ
comp=Z,460nm,1.2s
LZH PMZ
comp=Z,3μm,6.3s
CTA Charters Tower 34.70 141 P P 22 25 37.5 +0.8
comp=Z,95nm,0.8s,baz=326,slow=9.3,SNR=6.8
CTA Charters Tower 34.70 141 P P 22 25 37.6 +0.8
CTA pmax pmax
comp=Z,95nm,0.8s
CTA Charters Tower 34.70 141 P P 22 25 37.5 +0.8
CTAO Charters Tower 34.70 141 *e*P P 22 25 37.5 +0.8
CTAO pmax pmax
comp=Z,106nm,0.8s
CTAO Charters Tower 34.70 141 *e*P P 22 25 37.5 +0.8
comp=Z,106nm,0.8s
SNY Shenyang 34.98 360 ⇓P P 22 25 39.3 +0.6
SNY pP PP 22 27 26.1 +3.2
SNY S S 22 30 41.5 +13
SNY PMZ
comp=Z,100nm,0.6s
HHC Hu-ho-hao-te 35.67 344 *e*P P 22 25 45.6 +1.0
HHC PMZ
comp=Z,140nm,0.8s
HHC PMZ
comp=Z,2μm,5.1s
MSHR Mys Shultsa 36.35 9 *e*P P 22 25 50.9 +0.9
FORT Forrest 37.51 174 *e*P P 22 25 59.8 +0.2
comp=Z,239nm,0.7s
USRK Ussuriysk Ar. 38.06 10 P P 22 26 04.5 +0.6
comp=Z,24nm,0.8s,baz=190,slow=7.2,SNR=16
MDJ Mudanjiang 38.13 7 P P 22 26 05.3 +0.9
MDJ PMZ
comp=Z,40nm,0.9s
MDJ PMZ
comp=Z,3μm,8.7s
LSA Lhasa 38.17 311 P P 22 26 05.4 -0.2
LSA Lhasa 38.17 311 *e*P P 22 26 06.9 +1.3
LSA pmax pmax
comp=Z,171nm,0.8s
LSA Lhasa 38.17 311 *e*P P 22 26 06.9 +1.4
comp=Z,172nm,0.8s
KLBR Kellerberrin 38.49 188 P P 22 26 07.3 -0.2
baz=38,SNR=11
QLP Quilpie 38.65 150 P P 22 26 09.5 +0.6
baz=39,SNR=5.1
GTA Gaotai 38.99 330 *e*P P 22 26 12.8 +1.2
GTA pP pP 22 27 56.8 +2.8
GTA sP sP 22 29 02.5 -0.7
GTA ScP ScP 22 30 57.9 +0.5
GTA S S 22 31 30.3 +1.9
GTA sS sS 22 34 33.3 -3.4
GTA SS SS 22 34 46.5 -4.8
GTA PMZ
comp=Z,170nm,0.9s
GTA PMZ
comp=Z,10μm,8.2s
ERM Erimo 39.20 23⇑ *i*P P 22 26 14.7 +1.6
ERM pmax pmax
comp=Z,35nm,0.8s
HNR Honiara 39.58 113 *e*P P 22 26 17.0 +0.4
HNR pmax pmax
comp=Z,374nm,0.8s
HNR Honiara 39.58 113 *e*P P 22 26 16.9 +0.4
comp=Z,374nm,0.8s
TAPN Taplejung 39.78 305 *e*P P 22 26 18.9 +0.5
comp=Z,356nm,0.7s
ODAN Odare 39.84 304 *e*P P 22 26 19.3 +0.5
comp=Z,862nm,1.1s
NWAO Narrogin (SRO) 39.87 188 P P 22 26 18.4 -0.2
comp=Z,110nm,0.9s,baz=337,slow=1.4,SNR=13
NWAO Narrogin (SRO) 39.87 188 P P 22 26 18.4 -0.2
NWAO pmax pmax
comp=Z,110nm,0.9s
NWAO Narrogin (SRO) 39.87 188 P P 22 26 18.4 -0.2
CHLP Challavanipeta 40.26 291 *e*P P 22 26 22.0 +0.1
CHLP IAmb IAmb 22 26 23.7
comp=Z,333nm,1.2s
RAMN Ramite 40.53 304 *e*P P 22 26 24.8 +0.6
BBOO Buckleboo 41.03 164 P P 22 26 28.2 +0.4
baz=41,SNR=13
GUN Gumba 41.49 305 *e*P P 22 26 32.5 +0.5
EIDS Eidsvold 41.58 141 P P 22 26 32.8 +0.6
baz=42,SNR=11
PKI Pulchoki 41.74 304 *e*P P 22 26 33.8 -0.1
KKN Kakani 41.94 305 *e*P P 22 26 35.3 0.0
YUK Yuzh-Kuril'sk 41.98 24 P P 22 26 34.7 -0.3
YUK *i* *PP PcP 22 28 11.6 -3.9
YUK *e*S S 22 32 12.0 +1.0
YUK *i* *SS sS 22 35 21.6 -0.7
YUK pmax pmax
comp=Z,3μm,8.9s
YUK pmax pmax
comp=Z,3μm,12.6s
YUK pmax pmax
comp=N,175nm,1.8s
YUK pmax pmax
comp=E,72nm,0.9s
DMN Daman 42.01 304 *e*P P 22 26 35.4 -0.5
comp=E,868nm,1.2s
STKA Stephens Creek 42.02 157 P P 22 26 35.4 -0.2
comp=E,94nm,0.5s,baz=345,slow=7.9,SNR=22
STKA Stephens Creek 42.02 157 P P 22 26 35.4 -0.2
STKA pmax pmax
comp=Z,94nm,0.5s
STKA Stephens Creek 42.02 157 P P 22 26 35.4 -0.2
PVM Polavaram 42.31 288 *e*P P 22 26 38.0 -0.1
PVM IAmb IAmb 22 26 39.4
comp=Z,255nm,1.3s
HTT Hallett 42.47 161 P P 22 26 40.3 +1.2
baz=42,SNR=5.2
GKN Gorkha 42.54 305 *e*P P 22 26 39.8 -0.1
HIA Hailar 42.55 356 *e*P P 22 26 39.4 0.0
HIA Hailar 42.55 356 *e*P P 22 26 39.4 0.0
PALK Pallekele 42.60 273 P P 22 26 40.6 +0.2
comp=Z,557nm,1.3s,SNR=6.6
PALK Pallekele 42.60 273 P P 22 26 38.9 -1.5
comp=Z,70nm,1.0s,baz=153,slow=7.6,SNR=14
PALK ScP ScP 22 31 10.7 -1.5
comp=Z,42nm,1.0s,baz=89,slow=2.3,SNR=4.3
PALK Pallekele 42.60 273 *e*P P 22 26 40.4 0.0
PALK pmax pmax
comp=Z,369nm,1.6s
PALK Pallekele 42.60 273 *e*P P 22 26 40.4 0.0
comp=Z,369nm,1.6s
PALK ScP ScP 22 31 10.7 -1.5
KOLN Koldanda 43.31 304 *e*P P 22 26 46.5 +0.6
comp=Z,541nm,0.6s
ULN Ulaanbaatar 43.39 344*d* *i*P P 22 26 47.0 +0.9
ULN pmax pmax
comp=Z,268nm,1.2s
ULN Ulaanbaatar 43.39 344 *e*P P 22 26 46.6 +0.5
comp=Z,187nm,0.9s
DANN Dangsing 43.39 305 *e*P P 22 26 47.0 +0.3
comp=Z,79nm,0.6s
CMSA Cobar Meteorol 43.48 152 P P 22 26 48.5 +1.7
baz=44,SNR=7.8
SONM Songino Array 43.55 343 P P 22 26 47.7 +0.4
comp=Z,126nm,0.9s,baz=158,slow=8.9,SNR=32
SONM ScP ScP 22 31 14.3 -1.2
comp=Z,8.3nm,0.8s,baz=160,slow=4.6,SNR=5.0
SONM Songino Array 43.55 343 P P 22 26 47.7 +0.4
SONM pmax pmax
comp=Z,126nm,0.9s
SONM pmax pmax
comp=N,8.0nm,0.8s
SONM Songino Array 43.55 343 P P 22 26 47.7 +0.4
SONM ScP ScP 22 31 14.3 -1.2
ADKI Addanki 43.69 286 *e*P P 22 26 48.6 -0.2
ADKI IAmb IAmb 22 26 50.3
comp=Z,243nm,1.2s
SKHT Srikalahasti 43.73 283 *e*P P 22 26 48.1 -1.0
SKHT IAmb IAmb 22 26 50.4
comp=Z,334nm,1.3s
KUR Kuril'sk 43.78 25⇑ *i*P P 22 26 49.8 +0.8
KUR *e*PP pP 22 28 33.7 -1.4
KUR *i* 22 28 48.1
KUR S S 22 32 41.6 +5.0
KUR *e* 22 35 40.4
KUR *e*SS sS 22 35 49.1 -0.7
KUR pmax pmax
comp=Z,98nm,1.4s
KUR pmax pmax
comp=N,43nm,1.5s
KUR pmax pmax
comp=E,54nm,1.5s
NJS Nagarjunasagar 44.41 287 *e*P P 22 26 53.6 -0.7
NJS IAmb IAmb 22 26 54.8
comp=Z,147nm,0.8s
RCLA Racherla 44.62 285 *e*P P 22 26 55.0 -0.9
RCLA IAmb IAmb 22 26 56.8
comp=Z,313nm,1.2s
SRLM Srisailam 44.75 286 *e*P P 22 26 56.1 -0.8
SRLM IAmb IAmb 22 26 57.8
comp=Z,289nm,1.3s
RPR Rampur 44.76 290 *e*P P 22 26 56.0 -1.0
RPR IAmb IAmb 22 26 58.1
comp=Z,313nm,1.0s
HYB Hyderabad 45.24 288 *i*P P 22 27 00.0 -0.7
HYBB Hyderabad (bro 45.24 288 *e*P P 22 26 59.7 -1.0
HYBB IAmb IAmb 22 27 01.5
comp=Z,346nm,1.2s
ARMA Armidale 45.64 145 P P 22 27 05.6 +2.0
baz=46,SNR=12
ARMA Armidale 45.64 145 P P 22 27 05.3 +1.8
comp=Z,449nm,1.3s
SRSP Sriramsagar 45.66 290 *e*P P 22 27 02.5 -1.3
SRSP IAmb IAmb 22 27 04.7
comp=Z,455nm,1.1s
URV Uravakonda 46.20 284 *e*P P 22 27 06.7 -1.2
URV IAmb IAmb 22 27 08.5
comp=Z,293nm,1.2s
ARPS Mount Arapiles 46.49 160 P P 22 27 10.7 +1.0
baz=46,SNR=18
ZAK Zakamensk 46.74 342 *e*P P 22 27 12.0 +0.4
ZAK pmax pmax
comp=Z,37nm,1.2s
KLRI Killari 47.17 288 *e*P P 22 27 13.7 -1.6
KLRI IAmb IAmb 22 27 15.8
comp=Z,630nm,1.2s
MGCD Mangrove Creek 47.50 148 P P 22 27 19.9 +2.5
baz=48,SNR=5.9
TLY Talaya 47.79 343 P P 22 27 20.0 +0.8
comp=Z,110nm,0.7s,baz=166,slow=7.8,SNR=43
TLY Talaya 47.79 343 *e*P P 22 27 21.1 +1.9
TLY pmax pmax
comp=Z,125nm,0.6s
TLY Talaya 47.79 343 P P 22 27 20.3 +1.1
comp=Z,1μm,0.8s,SNR=15
TLY Talaya 47.79 343 P P 22 27 20.0 +0.8
IRK Irkutsk 48.12 344 *e*P P 22 27 20.8 -0.8
IRK pmax pmax
comp=Z,190nm,1.8s
CNB Canberra Magne 48.32 152 P P 22 27 25.1 +1.6
baz=48,SNR=8.7
WMQ Urumqi 48.54 325 P P 22 27 25.3 +0.3
WMQ PcP PcP 22 28 36.6 -2.3
WMQ pP pP 22 29 14.5 -0.1
WMQ PMZ
comp=Z,380nm,0.9s
TOO Toolangi 48.54 157 P P 22 27 26.7 +1.7
baz=49,SNR=8.6
DZM Mont Dzumac 50.76 126 P P 22 27 43.0 +1.4
comp=Z,65nm,0.7s,baz=270,slow=20,SNR=50
DZM Mont Dzumac 50.76 126 *e*P P 22 27 42.4 +0.7
DZM Mont Dzumac 50.76 126 *e*P P 22 27 42.9 +1.2
comp=Z,435nm,1.7s
LHI Lord Howe Isla 50.89 140 P P 22 27 43.4 +1.2
baz=51,SNR=4.6
BOD Bodaibo 51.54 353 *e*P P 22 27 47.2 +0.7
BOD pmax pmax
comp=Z,93nm,1.0s
MK31 Makanchi Array 53.37 326 *e*P P 22 28 00.6 +0.8
MK31 Makanchi Array 53.37 326 *e*P P 22 28 00.6 +0.8
MKAR Makanchi Array 53.37 326 P P 22 27 59.7 -0.1
comp=Z,176nm,0.5s,baz=120,slow=7.3,SNR=219
MKAR ScP ScP 22 31 56.5 -0.8
comp=Z,42nm,0.9s,baz=116,slow=5.5,SNR=9.8
MKAR S S 22 34 47.9 +0.6
comp=Z,8.0nm,0.9s,baz=122,slow=16,SNR=5.8
MKAR Makanchi Array 53.37 326 P P 22 27 59.7 -0.1
MKAR S S 22 34 47.9 +0.6
MKAR pmax pmax
comp=Z,170nm,0.5s
MKAR pmax pmax
comp=N,42nm,0.9s
MKAR smax smax
comp=N,8.0nm,0.9s
MKAR Makanchi Array 53.37 326 P P 22 27 59.7 -0.1
MKAR ScP ScP 22 31 56.5 -0.8
MKAR S S 22 34 47.9 +0.5
KSH Kashi 53.77 315 P P 22 28 04.6 +1.7
KSH PcP PcP 22 29 01.3 +2.4
KSH pP pP 22 29 58.1 +2.0
KSH PP PP 22 30 18.3 +5.1
KSH S S 22 34 56.3 +3.3
KSH sS sS 22 38 16.4 -0.2
KSH SS SS 22 38 51.5 +4.9
KSH PMZ
comp=N,500nm,1.1s
PETK Petropavlovsk- 53.95 25 P P 22 28 03.7 0.0
comp=N,21nm,0.7s,baz=207,slow=3.9,SNR=14
PETK Petropavlovsk- 53.95 25 P P 22 28 03.7 0.0
PETK pmax pmax
comp=Z,21nm,0.7s
PETK Petropavlovsk- 53.95 25 P P 22 28 03.7 0.0
PET Petropavlovsk 54.29 25 *i*P P 22 28 07.4 +1.4
PET pmax pmax
comp=Z,45nm,1.3s
ULHL Ulahol 54.76 318 P P 22 28 10.7 +0.8
SNR=20
KZA Kyzart 55.35 317 P P 22 28 15.6 +1.4
SNR=47
YAK Yakutsk 55.40 3 P P 22 28 13.4 -0.1
comp=Z,9.2nm,0.4s,baz=180,slow=10,SNR=9.7
YAK Yakutsk 55.40 3 *i*P P 22 28 13.7 +0.1
YAK pmax pmax
comp=Z,226nm,0.8s
YAK Yakutsk 55.40 3 *e*P P 22 28 13.7 +0.1
TKM2 Tokmak 2 55.49 318 P P 22 28 15.2 +0.4
SNR=14
TKM2 Tokmak 2 55.49 318 *e*P P 22 28 15.4 +0.5
TKM2 pmax pmax
comp=Z,271nm,1.0s
TKM2 Tokmak 2 55.49 318 *e*P P 22 28 15.4 +0.5
comp=Z,271nm,1.0s
KBK Karagaybulak 55.80 318 P P 22 28 18.0 +1.0
SNR=5.9
CHMS Chunysh 56.08 318 P P 22 28 19.2 +0.5
SNR=12
AAK Ala-Archa 56.09 318 P P 22 28 21.2 +2.2
SNR=6.1
AAK Ala-Archa 56.09 318 *i*P P 22 28 18.8 -0.2
AAK pmax pmax
comp=Z,125nm,1.1s
USP Ospenovka 56.36 318 P P 22 28 21.3 +0.6
SNR=13
AML Almayashu 56.42 317 P P 22 28 22.6 +1.1
SNR=16
ZALV Zalesovo Beam 56.56 334 P P 22 28 21.2 -0.5
comp=Z,110nm,0.9s,baz=116,slow=6.8,SNR=16
ZALV S S 22 35 23.1 -5.2
comp=Z,9.4nm,0.9s,baz=128,slow=12,SNR=8.3
ZALV Zalesovo Beam 56.56 334 P P 22 28 21.3 -0.5
ZALV S S 22 35 23.1 -5.2
ZALV pmax pmax
comp=Z,110nm,0.9s
ZALV smax smax
comp=N,9.0nm,0.9s
ZALV Zalesovo Beam 56.56 334 P P 22 28 21.2 -0.5
ZALV S S 22 35 23.1 -5.2
EKS2 Erkin-Say 56.59 318 P P 22 28 23.4 +1.1
SNR=10
EKS2 Erkin-Say 56.59 318 *e*P P 22 28 23.2 +0.9
EKS2 pmax pmax
comp=Z,403nm,1.3s
EKS2 Erkin-Say 56.59 318 *e*P P 22 28 23.2 +0.9
comp=Z,403nm,1.3s
MA2 Magadan 56.66 16 *i*P P 22 28 23.8 +1.5
KBL Kabul 57.28 307 *e*P P 22 28 27.1 -0.2
KBL pmax pmax
comp=Z,312nm,1.3s
KBL Kabul 57.28 307 *e*P P 22 28 27.1 -0.2
comp=Z,312nm,1.3s
KURBB Kurchatov Arra 57.59 328 P P 22 28 28.9 +0.2
comp=Z,397nm,0.9s,baz=130,slow=7.8,SNR=272
KURK Kurchatov 57.59 328 P P 22 28 29.1 +0.3
comp=Z,6μm,0.9s,SNR=85
KURK Kurchatov 57.59 328 P P 22 28 29.0 +0.3
KURK pmax pmax
comp=Z,397nm,0.9s
KURK Kurchatov 57.59 328 *e*P P 22 28 29.0 +0.2
comp=Z,658nm,0.8s
NVS Novosibirsk 57.85 334⇓ *i*P P 22 28 29.8 -0.6
NVS *i*S S 22 35 42.7 -1.9
NVS pmax pmax
comp=Z,267nm,1.1s
NVS pmax pmax
comp=N,95nm,0.7s
NVS pmax pmax
comp=E,111nm,0.8s
NVS smax smax
comp=N,136nm,1.6s
NVS smax smax
comp=E,261nm,1.7s
MSVF Nonsavu 58.96 115 P P 22 28 40.3 +1.6
comp=E,634nm,1.0s,SNR=6.5
KKAR Karatay Array 58.97 317 *e*P P 22 28 38.2 0.0
KKAR pmax pmax
comp=Z,191nm,0.9s
KKAR Karatay Array 58.97 317 *e*P P 22 28 38.2 0.0
comp=Z,191nm,0.9s
OTUK Ortayu 59.91 323 *i*P P 22 28 41.9 -2.5
OTUK pmax pmax
comp=Z,316nm,1.1s
SEY Seymchan 59.91 15 P P 22 28 44.6 +0.6
comp=Z,20nm,0.9s,baz=209,slow=7.7,SNR=5.9
SEY Seymchan 59.91 15⇓ *i*P P 22 28 45.3 +1.3
SEY Seymchan 59.91 15 P P 22 28 44.6 +0.6
BRVK Borovoye 63.23 327 P P 22 29 05.7 -0.1
comp=Z,2μm,1.0s,SNR=18
BRVK Borovoye 63.23 327 *e*P P 22 29 05.8 -0.1
BRVK pmax pmax
comp=Z,417nm,1.1s
BRVK Borovoye 63.23 327 *e*P P 22 29 05.8 -0.1
comp=Z,417nm,1.1s
RPZ Rata Peaks 65.96 144 P P 22 29 23.3 +0.1
comp=Z,57nm,0.8s,baz=331,slow=4.7,SNR=25
RPZ Rata Peaks 65.96 144 *e*P P 22 29 23.6 +0.5
comp=Z,72nm,0.9s
WHVZ Whangaehu Hut 66.30 138 *e*PN P 22 29 27.1 +1.5
WNVZ Wahianoa 66.33 138 *e*PN P 22 29 26.9 +1.2
ABKT Ailbek 66.64 308 P P 22 29 28.1 +0.6
comp=Z,928nm,1.1s,SNR=8.9
GEYT Ailbek 66.64 308 P P 22 29 27.0 -0.5
comp=Z,119nm,1.0s,baz=123,slow=5.5,SNR=18
BHHZ Black Hill Sta 66.72 138 *e*PN P 22 29 28.6 +0.6
HATD Hatta, Dubai 66.81 294 ⇑P P 22 29 28.0 -0.7
URZ Urewera 66.81 137 P P 22 29 28.5 +0.1
comp=Z,31nm,0.5s,baz=279,slow=4.2,SNR=16
URZ Urewera 66.81 137 P P 22 29 28.5 +0.1
BKZ Black Stump Fm 66.85 138 *e*PN P 22 29 29.6 +0.9
KWHZ Kaweka Forest 66.93 138 *e*PN P 22 29 30.3 +1.0
KRHZ Kereru 67.01 138 *e*PN P 22 29 30.1 +0.5
MCHZ McNeill Hill 67.12 138 *e*PN P 22 29 31.5 +1.1
NAZ Nazwa, Dubai 67.24 294 ⇓P P 22 29 30.3 -1.1
FAQ Al Faqa, Dubai 67.29 294 ⇓P P 22 29 30.6 -1.1
KAHZ Kahuranaki 67.42 138 *e*PN P 22 29 33.4 +1.2
ASUD Al Ashush, Dub 67.52 294 ⇓P P 22 29 33.2 +0.1
ABKAR Akbulak array 67.91 321 *e*P P 22 29 34.3 -0.7
comp=Z,64nm,0.7s
MSEY Mahe Island 68.95 262 *i*P P 22 29 42.6 +0.6
SVE Sverdlovsk 69.83 329 *e*P P 22 29 46.3 0.0
SVE pmax pmax
comp=Z,302nm,1.5s
ARU Arti 70.79 328*d* *i*P P 22 29 51.2 -0.8
ARU 22 32 41.0
ARU S S 22 38 19.9 +0.6
ARU pmax pmax
comp=Z,151nm,1.0s
ARU Arti 70.79 328 P P 22 29 51.5 -0.5
comp=Z,993nm,1.0s,SNR=12
ARU Arti 70.79 328 *e*P P 22 29 50.8 -1.2
comp=Z,199nm,1.0s
RAYN Ar Rayn 76.49 293 P P 22 30 24.6 -0.4
comp=Z,775nm,1.2s,SNR=9.4
RAYN Ar Rayn 76.49 293 *e*P P 22 30 24.4 -0.6
comp=Z,239nm,1.3s
GNI Garni 77.22 310 *e*P P 22 30 29.6 +0.8
GNI pmax pmax
comp=Z,140nm,1.4s
GNI Garni 77.22 310 *e*P P 22 30 28.6 -0.2
comp=Z,192nm,1.5s
DAMY Dhamar 77.96 283 *e*P P 22 30 33.9 +0.6
comp=Z,264nm,1.7s
PRGR Permogore 78.44 332 P P 22 30 32.8 -1.7
PRGR pmax pmax
comp=Z,155nm,0.9s
KBZ Khabaz 78.71 313 P P 22 30 36.0 -0.3
comp=Z,40nm,1.1s,baz=71,slow=1.3,SNR=3.8
KBZ Khabaz 78.71 313 P P 22 30 36.1 -0.3
KBZ pmax pmax
comp=Z,40nm,1.1s
KBZ Khabaz 78.71 313 P P 22 30 36.0 -0.3
KIV Kislovodsk 78.86 313 *e*P P 22 30 36.4 -1.0
KIV *e* 22 30 43.5
KIV *e**PP pP 22 32 45.3 +1.2
KIV *e* 22 33 45.7
KIV pmax pmax
comp=Z,65nm,1.0s
OPO Ambohidratompo 79.38 250 P P 22 30 39.6 -1.1
comp=Z,15nm,0.5s,baz=69,slow=5.9,SNR=24
OPO Ambohidratompo 79.38 250 P P 22 30 39.6 -1.1
OHAK Old Harbor 80.66 33 *e*P P 22 30 47.2 +0.9
comp=Z,28nm,0.7s
KDAK Kodiak Island 81.06 33 P P 22 30 48.5 +0.2
baz=270,slow=5.0
KDAK Kodiak Island 81.06 33 *i*P P 22 30 49.5 +1.2
KDAK Kodiak Island 81.06 33 P P 22 30 48.5 +0.2
VSR Storozhevoye 81.35 321 *e*P P 22 30 49.0 -1.0
VSR pmax pmax
comp=N,100nm,1.2s
VSR pmax pmax
comp=E,110nm,1.2s
VSR pmax pmax
comp=Z,180nm,1.2s
BPAW Bear Paw Mtn. 82.00 26 *e*P P 22 30 54.0 +1.0
comp=Z,11nm,0.8s
TMCR Tamitsa 82.09 334 *e*P P 22 30 53.3 -0.1
TMCR pmax pmax
comp=Z,212nm,1.1s
TRF Thorofare Moun 82.30 27 *e*P P 22 30 54.4 -0.3
comp=Z,93nm,1.2s
OBN Obninsk 82.87 325*d* *i*P P 22 30 57.0 -0.5
OBN *e**PP pP 22 33 08.0 +2.0
OBN *e**SP sP 22 34 08.5 +1.2
OBN *e* 22 34 22.4
OBN *e*S SKSac 22 40 18.4 -3.3
OBN *e*SS SS 22 46 10.4 +2.5
OBN pmax pmax
comp=Z,445nm,1.5s
OBN Obninsk 82.87 325 P P 22 30 57.5 0.0
comp=Z,1μm,1.1s,SNR=5.6
MCK McKinley 82.90 27 *e*P P 22 30 58.2 +0.6
MCK pmax pmax
comp=Z,65nm,0.9s
MCK McKinley 82.90 27 *e*P P 22 30 58.2 +0.6
comp=Z,65nm,0.9s
ILAR Eielson Array 83.77 26 P P 22 31 01.6 -0.2

comp=Z,1.7nm,0.6s,baz=256,slow=4.1,SNR=6.1
ILAR Eielson Array 83.77 26 P **P 22 31 01.6 -0.2**
ILAR pmax pmax
comp=Z,2.0nm,0.6s
ILAR Eielson Array 83.77 26 P **P 22 31 01.6 -0.2**
SIM Simferopol' 84.97 315 *eP* **P 22 31 07.0 -1.1**
SIM pmax pmax
comp=Z,28nm,1.1s
MAW Mawson 85.48 200 P P 22 31 01.6 -8.4
baz=85,SNR=17
EIL Elat 85.58 299 P **P 22 31 11.6 +0.2**
baz=86,SNR=5.3
BR131 Keskin Array S 85.76 309 *eP* **P 22 31 10.8 -1.4**
comp=Z,18nm,0.7s
BRTR Keskin Array B 85.76 309 P **P 22 31 11.0 -1.2**
comp=Z,14nm,0.5s,baz=116,slow=5.1,SNR=38
BRTR Keskin Array B 85.76 309 P **P 22 31 11.0 -1.2**
BRTR pmax pmax
comp=Z,14nm,0.5s
BRTR Keskin Array B 85.76 309 P **P 22 31 11.0 -1.2**
CSS Prodhromos 86.45 305 *eP* **P 22 31 14.6 -0.8**
comp=Z,6.2nm,0.7s
KMBO Kilima Mbogo 86.53 268 P **P 22 31 15.1 -1.4**
comp=Z,41nm,1.1s,baz=56,slow=5.9,SNR=12
KMBO Kilima Mbogo 86.53 268 *eP* **P 22 31 16.3 -0.2**
KMBO pmax pmax
comp=Z,97nm,1.3s
KMBO Kilima Mbogo 86.53 268 P **P 22 31 16.6 +0.2**
baz=86,SNR=11
KMBO Kilima Mbogo 86.53 268 *eP* **P 22 31 16.3 -0.2**
comp=Z,97nm,1.3s
ARCES ARCESS Array B 86.61 340 P **P 22 31 14.2 -1.2**
comp=Z,36nm,0.8s,baz=91,slow=6.5,SNR=14
ARCES ARCESS Array B 86.61 340 P **P 22 31 14.2 -1.2**
ARCES pmax pmax
comp=Z,36nm,0.8s
ARCES ARCESS Array B 86.61 340 P **P 22 31 14.2 -1.2**
VNDA Vanda 86.75 172 P **P 22 31 15.4 -0.4**
comp=Z,16nm,0.8s,baz=309,slow=4.4,SNR=5.1
VNDA Vanda 86.75 172 P **P 22 31 15.4 -0.4**
VNDA pmax pmax
comp=Z,16nm,0.8s
VNDA Vanda 86.75 172 P **P 22 31 15.4 -0.4**
AKASG Malin Array Be 87.65 321 P **P 22 31 19.1 -1.5**
comp=Z,15nm,0.7s,baz=68,slow=5.0,SNR=8.1
AKASG Malin Array Be 87.65 321 P **P 22 31 19.2 -1.5**
AKASG pmax pmax
comp=Z,15nm,0.7s
AKASG Malin Array Be 87.65 321 P **P 22 31 19.1 -1.5**
AKBB Malin Array Si 87.65 321 *eP* **P 22 31 19.3 -1.3**
AKBB Malin Array Si 87.65 321 *eP* **P 22 31 19.3 -1.3**
KIEV Kiev 87.66 321 *eP* **P 22 31 19.5 -1.2**
KIEV pmax pmax
comp=Z,78nm,1.2s
KIEV Kiev 87.66 321 *eP* **P 22 31 19.5 -1.2**
comp=Z,78nm,1.2s
FIA1 FINESS Array S 87.77 332 *eP* **P 22 31 19.6 -1.3**
FINES FINESS Array B 87.77 332 P **P 22 31 19.3 -1.6**
comp=Z,13nm,0.5s,baz=77,slow=4.8,SNR=15
FINES FINESS Array B 87.77 332 P **P 22 31 19.3 -1.6**
FINES pmax pmax
comp=Z,13nm,0.5s
FINES FINESS Array B 87.77 332 P **P 22 31 19.3 -1.6**
ISP Isparta 88.39 308 *eP* **P 22 31 22.1 -2.4**
ISP pmax pmax
comp=Z,29nm,0.9s
ISP Isparta 88.39 308 *eP* **P 22 31 22.1 -2.4**
comp=Z,29nm,0.9s
BUR08 Bucovina Ar. S 90.75 318 *eP* **P 22 31 34.5 -0.7**
KECS Kecovo 93.65 320 *eP* **P 22 31 47.6 -0.8**
KECS pmax pmax
comp=Z,14nm,1.2s
KECS Kecovo 93.65 320 *eP* **P 22 31 47.6 -0.8**
NB2 NORSAR Subarra 94.76 333 P **P 22 31 51.0 -2.2**
comp=Z,18nm,0.9s,baz=71,slow=4.6
NB2 NORSAR Subarra 94.76 333 P **P 22 31 51.0 -2.2**
baz=71,slow=4.6
NOA NORSAR Array B 94.76 333 P **P 22 31 51.5 -1.7**
comp=Z,12nm,0.8s,baz=68,slow=4.6,SNR=6.8
NOA PP **PP 22 35 50.4 -1.8**
comp=Z,3.4nm,0.9s,baz=76,slow=8.2,SNR=3.7
NOA NORSAR Array B 94.76 333 P **P 22 31 51.5 -1.7**
NOA 22 35 50.4
NOA pmax pmax
comp=Z,12nm,0.8s
NOA pmax pmax
comp=Z,3.0nm,0.9s
NOA NORSAR Array B 94.76 333 P **P 22 31 51.5 -1.7**
NOA PP **PP 22 35 50.4 -1.8**
NAO01 NORSAR Array S 94.99 333 *eP* **P 22 31 52.8 -1.4**
comp=Z,34nm,1.0s
GERES GERESS Array B 97.85 321 P Pdif 22 32 06.9 -0.5
comp=Z,7.8nm,0.9s,baz=61,slow=3.9,SNR=4.6
GERES SKKPbc SKKPbc 22 51 21.4 -1.6
comp=Z,0.9nm,0.9s,baz=222,slow=1.3,SNR=3.7
GERES GERESS Array B 97.85 321 P Pdif 22 32 06.9 -0.5
GERES pmax pmax
comp=Z,8.0nm,0.9s
GERES pmax pmax
comp=N,1.0nm,0.9s
GERES GERESS Array B 97.85 321 P Pdif 22 32 06.9 -0.5
GERES GERESS Array B 97.85 321 SKKPbc SKKPbc 22 51 21.4 -1.6
YKA Yellowknife Ar 98.06 23 P Pdif 22 32 07.4 -0.4
comp=N,1.6nm,0.6s,baz=309,slow=4.5,SNR=2.5
YKA Yellowknife Ar 98.06 23 P Pdif 22 32 07.4 -0.4
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 98.06 23 P Pdif 22 32 07.5 -0.4
EKA Eskdalemuir Ar 104.17 332 PKKPbc PKKPbc 22 48 19.7 -3.4
comp=Z,0.5nm,0.4s,baz=235,slow=2.9,SNR=5.4
NVAR Mina Array Bea 107.18 46 PKKPbc PKKPbc 22 48 12.7 -1.0
comp=Z,0.7nm,0.6s,baz=143,slow=3.3,SNR=2.7
NVAR PKKPab **PKKPdf 22 48 25.5 +1.0**
comp=Z,3.8nm,0.9s,baz=136,slow=5.6,SNR=6.2
PDAR Pinedale Array 111.09 39 PKKPbc PKKPbc 22 48 03.4 +1.7
comp=Z,0.7nm,0.8s,baz=111,slow=4.0,SNR=2.0
ESDC Sonseca Array 113.20 318 PP PP 22 38 03.5 -3.5
comp=Z,3.8nm,0.9s,baz=41,slow=6.3,SNR=4.8
TOA0 Torodi Ar. Sit 119.05 289 *e*PKPdf **PKPdf 22 37 16.9 -0.6**
TORD Torodi Ar. Bea 119.05 289 PKP **PKPdf 22 37 15.9 -1.6**
comp=Z,7.7nm,0.4s,baz=87,slow=1.6,SNR=12
TORD PKKPbc **PKKPbc 22 47 33.0 -0.6**
comp=Z,2.4nm,0.7s,baz=279,slow=3.2,SNR=8.7
TORD Torodi Ar. Bea 119.05 289 PKP **PKPdf 22 37 15.9 -1.6**
TORD PKKPbc **PKKPbc 22 47 33.0 -0.6**
DBIC Dimbokro 126.91 283 PKP **PKPdf 22 37 31.8 -0.8**
comp=Z,30nm,1.1s,baz=74,slow=4.0,SNR=6.8
DBIC Dimbokro 126.91 283 PKIKP **PKPdf 22 37 31.8 -0.8**
DBIC pmax pmax
comp=Z,30nm,1.1s
DBIC Dimbokro 126.91 283 PKP **PKPdf 22 37 31.8 -0.8**
DBIC *e*PKPdf **PKiKP 22 37 32.6 -0.5**
USHA Ushuaia 131.03 171 SKPbc **SKPbc 22 40 06.8 -1.2**
comp=Z,28nm,0.9s,baz=161,slow=6.2,SNR=7.6
TRQA Tornquist 148.37 172 *e*PKPbc **PKPbc 22 38 15.1 -0.1**
RCBR Riachuelo 159.63 271 PKPab **PKPab 22 39 09.0 -0.8**
comp=Z,32nm,0.9s,baz=40,slow=2.6,SNR=3.8
RCBR Riachuelo 159.63 271 PKPab **PKPab 22 39 09.0 -0.8**

*ISCJB **23** 22:20:45.2±0.2, 6˚.91N±0˚.03×123˚.64E±0˚.04, h600km, mb5.0/73, Error ellipse: s-maj=5.1km s-min=3.9km az=147.1*
*NEIC **23** 22:20:47.4±0.3, 6˚.87N×123˚.62E, h617km±4km, mb5.2/41, Error ellipse: s-maj=5.2km s-min=3.9km az=67.0*
*MOS **23** 22:20:47.0±0.8, 6˚.89N×123˚.64E, h634km, mb5.1/17, Error ellipse: s-maj=13.6km s-min=7.2km az=115.5*
*IDC **23** 22:20:48.2±0.8, 6˚.89N×123˚.67E, h631km±10km, mb4.3/31, mb1 4.4/34, mb1mx4.2/51, mbtmp5.4/34, Error ellipse: s-maj=10.6km s-min=7.0km az=66.0*

ISC 23 22:20:46.1±0.3, 6˚.90N±0˚.05×123˚.63E±0˚.06, h600km, n166, σ1˚22/173, mb5.1/85, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
DAV	**Davao City (W)**	**1.94**	**85**	*eP*		**P**	**22 22 01.3**	**+1.1**
PPR	**Puerto Princes**	**5.63**	**301**	*eP*		**P**	**22 22 27.1**	**+2.9**
TNTI	**Ternate**	**7.13**	**148**	*eP*		**P**	**22 22 39.4**	**+1.9**
	2µm,0.5s							
KKM	**Kota Kinabalu**	**7.42**	**264**	*eP*		**P**	**22 22 41.3**	**+1.1**
	704nm,0.6s							
TGY	**Tagaytay City**	**7.63**	**340**	P		P	22 22 45.8	+3.7
	66nm,0.3s,baz=160,slow=12,SNR=2.0							
SWI	**Sorong**	**10.83**	**135**	P		**P**	**22 23 15.2**	**+1.9**
	baz=11,SNR=8.7							
SIJI	**Sorong**	**10.84**	**135**	P		**P**	**22 23 15.2**	**+1.8**
	31nm,0.3s,baz=139,slow=23,SNR=21							
AAI	**Ambon**	**11.46**	**156**	P		**P**	**22 23 21.4**	**+1.9**
	baz=11,SNR=3.7							
FAKI	**Fak Fak**	**13.00**	**138**	P		**P**	**22 23 36.7**	**+1.6**
	baz=13,SNR=5.1							
FAKI	**Fak Fak**	**13.00**	**138**	*eP*		**P**	**22 23 35.8**	**+0.7**
	258nm,0.7s							
KSM	**Kuching**	**14.34**	**249**	P		**P**	**22 23 49.6**	**+1.3**
	baz=14,SNR=8.0							
KSM	**Kuching**	**14.34**	**249**	*eP*		**P**	**22 23 48.8**	**+0.4**
	185nm,0.6s							
MMRI	**Maumere**	**15.49**	**185**	*eP*		**P**	**22 24 01.9**	**+3.0**
	203nm,0.6s							
DLV	**T Lat**	**15.76**	**290**	*eP*		**P**	**22 24 02.8**	**+1.2**
	133nm,0.7s							
TWG	**Pinlang**	**16.02**	**351**	*eP*		**P**	**22 24 03.9**	**+0.3**
YULB	**Yu-li**	**16.55**	**352**	*eP*		**P**	**22 24 08.0**	**-0.5**
SOEI	**Soe**	**16.56**	**178**	P		**P**	**22 24 09.6**	**+0.8**
	baz=16,SNR=3.9							
SOEI	**Soe**	**16.56**	**178**	*eP*		**P**	**22 24 08.1**	**-0.7**
	324nm,1.0s							
SSLB	**Suanglung**	**16.99**	**352**	*eP*		**P**	**22 24 14.7**	**+2.1**
	114nm,0.9s							
JAY	**Jayapura**	**19.44**	**118**	P		**P**	**22 24 35.6**	**+0.6**
	2.9nm,0.3s,baz=335,slow=5.4,SNR=4.4							
SKNT	**Sakolnakorn**	**21.65**	**299**	P		**P**	**22 24 56.7**	**+1.9**
	399nm,1.1s							
GUMO	**Guam**	**21.92**	**71**	P		**P**	**22 24 57.4**	**+0.2**
	47nm,0.3s,baz=45,slow=1.4,SNR=6.0							
KHON	**Khomkaen**	**22.42**	**297**	P		**P**	**22 25 03.4**	**+1.8**
	106nm,0.6s							
IPM	**Ipoh**	**22.62**	**265**	*eP*		**P**	**22 25 03.5**	**-0.1**
	68nm,0.9s							
KULM	**Kulim**	**22.91**	**267**	*eP*		**P**	**22 25 06.3**	**+0.3**
	56nm,0.9s							
MNAI	**Manna**	**23.48**	**242**	*eP*		**P**	**22 25 10.2**	**-0.9**
SLVN	**Son La**	**23.87**	**309**	*eP*		**P**	**22 25 15.9**	**+1.4**
	48nm,0.8s							
PBKT	**Sadao Pong**	**24.16**	**295**	P		**P**	**22 25 19.9**	**+2.9**
	804nm,0.7s							
PPI	**Padang Panjang**	**24.31**	**253**	P		**P**	**22 25 18.6**	**+0.2**
	baz=24,SNR=5.7							
PSI	**Prapat**	**24.95**	**262**	P		**P**	**22 25 25.3**	**+1.1**
	44nm,0.6s,baz=68,slow=7.1,SNR=7.7							
PSI	**Prapat**	**24.95**	**262**	P		**P**	**22 25 25.4**	**+1.1**
	baz=25,SNR=4.2							
UTTA	**Uttaradit**	**24.96**	**298**	P		**P**	**22 25 25.8**	**+1.7**
	42nm,0.9s							
UMPA	**Umpang Tak**	**25.95**	**293**	P		**P**	**22 25 35.2**	**+2.3**
	72nm,1.0s							
LAMP	**Lampang**	**26.07**	**299**	P		**P**	**22 25 36.4**	**+2.5**
	48nm,1.0s							
CRAI	**Chiangrai**	**26.16**	**303**	P		**P**	**22 25 33.6**	**-1.1**
	442nm,1.0s							
GSI	**Gunungsitoli**	**26.57**	**259**	*eP*		**P**	**22 25 37.8**	**-0.6**
	327nm,0.9s							
CMAR	**Chiang Mai Arr**	**26.64**	**298**	P		**P**	**22 25 40.2**	**+1.2**
	64nm,0.7s,baz=114,slow=7.3,SNR=22							
CMAR					ScP	**ScP**	**22 31 22.6**	**-3.8**
	7.5nm,0.9s,baz=123,slow=1.0,SNR=4.6							
CBIJ	**Chichi jima**	**26.73**	**39**	*eP*		**P**	**22 25 39.1**	**-0.4**
JCJ	**Chichijima**	**26.73**	**39**	P		**P**	**22 25 39.7**	**+0.2**
	184nm,0.5s,baz=201,slow=8.6,SNR=14							
CHTO	**Chiang Mai**	**26.78**	**299**	P		**P**	**22 25 42.0**	**+1.9**
CHTO	**Chiang Mai**	**26.78**	**299**	*eP*		**P**	**22 25 40.9**	**+0.8**
CHTO				pmax	pmax			
	comp=Z,147nm,0.8s							
CHTO	**Chiang Mai**	**26.78**	**299**	*eP*		**P**	**22 25 40.9**	**+0.8**
	comp=Z,146nm,0.8s							
MBWA	**Marble Bar**	**28.14**	**188**	*eP*		**P**	**22 25 51.9**	**-0.1**
	comp=Z,179nm,1.2s							
COEN	**Coen**	**28.38**	**137**	*eP*		**P**	**22 25 55.0**	**+0.8**
	comp=Z,157nm,1.0s							
WRAB	**Tennant Creek**	**28.67**	**159**	*eP*		**P**	**22 25 56.2**	**-0.4**
WRAB				pmax	pmax			
	comp=Z,164nm,0.6s							
WRAB	**Tennant Creek**	**28.67**	**159**	*eP*		**P**	**22 25 56.2**	**-0.4**
	comp=Z,164nm,0.6s							
WRA	**Warramunga Arr**	**28.68**	**159**	P		**P**	**22 25 56.5**	**-0.2**
	comp=Z,64nm,0.3s,baz=332,slow=11,SNR=27							
WRA					ScP	**ScP**	**22 31 29.6**	**-3.1**
	comp=Z,12nm,0.7s,baz=344,slow=3.2,SNR=5.3							
JHJ	**Hachijo jima 2**	**30.09**	**28**	P		**P**	**22 26 09.0**	**+0.4**
	comp=Z,32nm,0.3s,baz=338,slow=5.4,SNR=3.4							
KSAR	**Wonju Array Be**	**30.65**	**7**	P		**P**	**22 26 13.7**	**+0.4**
KSAR	**Wonju Array Be**	**30.65**	**7**	P		**P**	**22 26 13.7**	**+0.4**
KSRS	**Korea Array**	**30.66**	**7**	P		**P**	**22 26 13.7**	**+0.3**
	comp=Z,3.8nm,0.6s,baz=178,slow=8.9,SNR=2.3							
GIRL	**Giralia**	**30.77**	**197**	P		**P**	**22 26 16.1**	**+1.6**
	baz=31,SNR=3.8							
ASAR	**Alice Springs**	**31.99**	**162**	P		**P**	**22 26 25.2**	**+0.2**
	comp=Z,49nm,0.3s,baz=340,slow=7.4,SNR=18							
ASAR					ScP	**ScP**	**22 31 40.2**	**-3.5**
	comp=Z,6.5nm,0.6s,baz=343,slow=3.0,SNR=3.9							
MAJO	**Matsushiro**	**32.37**	**22**	*eP*		**P**	**22 26 27.9**	**-0.1**
MAJO				pmax	pmax			
	comp=Z,31nm,1.0s							
MAJO	**Matsushiro**	**32.37**	**22**	*eP*		**P**	**22 26 27.9**	**-0.1**
	comp=Z,31nm,1.0s							
MAT	**Matsushiro**	**32.37**	**22**	P		**P**	**22 26 28.0**	**0.0**
MJAR	**Matsushiro Arr**	**32.37**	**22**	P		**P**	**22 26 27.9**	**0.0**
	comp=Z,12nm,0.6s,baz=196,slow=10,SNR=6.8							
MJAR	**Matsushiro Arr**	**32.37**	**22**	P		**P**	**22 26 28.0**	**0.0**
BJT	**Baijiatuau**	**33.65**	**350**	*eP*		**P**	**22 26 39.3**	**+0.7**
BJT				pmax	pmax			
	comp=Z,132nm,1.2s							
BJT	**Baijiatuau**	**33.65**	**350**	*eP*		**P**	**22 26 39.3**	**+0.7**
	comp=Z,132nm,1.2s							
MEEK	**Meekatharra**	**33.69**	**188**	P		**P**	**22 26 39.5**	**+0.3**
	baz=34,SNR=3.4							
CTAO	**Charters Tower**	**34.85**	**141**	*eP*		**P**	**22 26 49.6**	**+0.7**
CTAO				pmax	pmax			
	comp=Z,314nm,1.5s							
CTAO	**Charters Tower**	**34.85**	**141**	*eP*		**P**	**22 26 49.6**	**+0.7**
	comp=Z,314nm,1.5s							
MORW	**Mowa**	**36.50**	**191**	P		**P**	**22 27 02.7**	**+0.3**
	baz=37,SNR=4.8							
FORT	**Forrest**	**37.70**	**174**	*eP*		**P**	**22 27 12.3**	**+0.1**
	comp=Z,196nm,0.6s							
MDJ	**Mudanjiang**	**37.93**	**7**	*eP*		**P**	**22 27 13.8**	**+0.1**
LSA	**Lhasa**	**38.05**	**311**	*eP*		**P**	**22 27 17.7**	**+2.1**
LSA				pmax	pmax			
	comp=Z,118nm,0.8s							
LSA	**Lhasa**	**38.05**	**311**	*eP*		**P**	**22 27 17.7**	**+2.1**
	comp=Z,118nm,0.8s							
KLBR	**Kellerberrin**	**38.68**	**188**	P		**P**	**22 27 20.2**	**+0.1**
	baz=39,SNR=8.2							
TAPN	**Taplejung**	**39.67**	**305**	*eP*		**P**	**22 27 29.5**	**+1.0**
	comp=Z,282nm,0.8s							
ODAN	**Odare**	**39.74**	**304**	*eP*		**P**	**22 27 30.0**	**+1.1**
	comp=Z,301nm,0.7s							
NWAO	**Narrogin (SRO)**	**40.07**	**188**	P		**P**	**22 27 31.4**	**+0.3**
	comp=Z,32nm,0.4s,baz=330,slow=3.8,SNR=6.6							
CHLP	**Challavanipeta**	**40.20**	**290**	*eP*		**P**	**22 27 33.1**	**+0.7**
CHLP				IAmb	IAmb		22 27 33.2	
	comp=Z,170nm,0.9s							
RAMN	**Ramite**	**40.42**	**304**	*eP*		**P**	**22 27 35.5**	**+1.1**
	comp=Z,423nm,0.9s							
BBOO	**Buckleboo**	**41.22**	**164**	P		**P**	**22 27 40.8**	**+0.6**
	baz=41,SNR=11							
GUN	**Gumba**	**41.39**	**305**	*eP*		**P**	**22 27 42.8**	**+0.7**
	comp=Z,243nm,0.8s							
PKI	**Pulchoki**	**41.64**	**304**	*eP*		**P**	**22 27 44.6**	**+0.5**
PKIN	**Phulchoki**	**41.65**	**304**	*eP*		**P**	**22 27 44.7**	**+0.6**
	comp=Z,198nm,1.2s							
RKGY	**Rocky Gully**	**41.76**	**188**	P		**P**	**22 27 45.7**	**+1.2**
	baz=42,SNR=9.7							
KKN	**Kakani**	**41.83**	**304**	*eP*		**P**	**22 27 46.2**	**+0.8**
	comp=Z,91nm,0.4s							
DMN	**Daman**	**41.90**	**304**	*eP*		**P**	**22 27 46.9**	**+0.8**
STKA	**Stephens Creek**	**42.20**	**157**	P		**P**	**22 27 48.3**	**+0.3**
	comp=Z,29nm,0.4s,baz=333,slow=8.9,SNR=7.5							
STKA					ScP	**ScP**	**22 32 18.3**	**-3.8**
	comp=Z,40nm,1.1s,baz=306,slow=7.1,SNR=3.2							
STKA	**Stephens Creek**	**42.20**	**157**	*eP*		**P**	**22 27 48.6**	**+0.7**
STKA				pmax	pmax			
	comp=Z,51nm,1.3s							
STKA	**Stephens Creek**	**42.20**	**157**	*eP*		**P**	**22 27 48.6**	**+0.7**
	comp=Z,51nm,1.3s							
STKA					ScP	**ScP**	**22 32 18.3**	**-3.8**
PVM	**Polavaram**	**42.26**	**288**	*eP*		**P**	**22 27 48.9**	**+0.3**
PVM				IAmb	IAmb		22 27 50.2	
	comp=Z,73nm,0.8s							
GKN	**Gorkha**	**42.44**	**304**	*eP*		**P**	**22 27 50.6**	**+0.5**
STKA	**Ulaanbaatar**	**43.20**	**344**	*eP*		**P**	**22 27 55.8**	**+0.1**
ULN				pmax	pmax			
	comp=Z,98nm,1.0s							
ULN	**Ulaanbaatar**	**43.20**	**344**	*eP*		**P**	**22 27 55.8**	**+0.1**
	comp=Z,98nm,1.0s							
KOLN	**Koldanda**	**43.20**	**304**	*eP*		**P**	**22 27 57.2**	**+1.1**
DANN	**Dangsing**	**43.28**	**304**	*eP*		**P**	**22 27 57.8**	**+1.0**
SONM	**Songino Array**	**43.36**	**343**	P		**P**	**22 27 57.7**	**+0.8**
	comp=Z,4.1nm,0.3s,baz=171,slow=6.8,SNR=7.5							
SONM					ScP	**ScP**	**22 32 22.7**	**-4.0**
	comp=Z,4.2nm,1.0s,baz=142,slow=4.9,SNR=2.1							
ADKI	**Addanki**	**43.64**	**286**	*eP*		**P**	**22 27 59.8**	**+0.4**
ADKI				IAmb	IAmb		22 28 01.0	
	comp=Z,69nm,0.9s							
SKHT	**Srikalahasti**	**43.69**	**283**	*eP*		**P**	**22 27 59.7**	**-0.1**
SKHT				IAmb	IAmb		22 28 01.6	
	comp=Z,188nm,1.3s							
NJS	**Nagarjunasagar**	**44.36**	**287**	*eP*		**P**	**22 28 04.9**	**-0.1**
NJS				IAmb	IAmb		22 28 05.6	
	comp=Z,94nm,0.8s							
RCLA	**Racherla**	**44.57**	**285**	IAmb	IAmb		22 28 06.1	
	comp=Z,140nm,0.8s							
RCLA				*eP*		**P**	**22 28 06.3**	**-0.3**
RPR	**Rampur**	**44.70**	**290**	IAmb	IAmb		22 28 07.3	
	comp=Z,298nm,0.9s							
RPR				*eP*		**P**	**22 28 07.5**	**0.0**
SRLM	**Srisailam**	**44.70**	**286**	*eP*		**P**	**22 28 07.4**	**-0.2**
SRLM				IAmb	IAmb		22 28 07.7	
	comp=Z,109nm,0.9s							
HYB	**Hyderabad**	**45.18**	**288**	*i* P		**P**	**22 28 11.0**	**-0.3**
HYBB	**Hyderabad (bro**	**45.19**	**288**	*eP*		**P**	**22 28 11.2**	**0.0**
HYBB				IAmb	IAmb		22 28 12.6	
	comp=Z,122nm,1.0s							
SRSP	**Sriramsagar**	**45.60**	**290**	*eP*		**P**	**22 28 14.1**	**-0.3**
SRSP				IAmb	IAmb		22 28 15.8	
	comp=Z,160nm,0.9s							
URV	**Uravakonda**	**46.15**	**284**	*eP*		**P**	**22 28 18.7**	**0.0**
URV				IAmb	IAmb		22 28 19.7	
	comp=Z,76nm,1.0s							
KLRI	**Killari**	**47.12**	**288**	*eP*		**P**	**22 28 25.2**	**-0.6**
KLRI				IAmb	IAmb		22 28 26.8	
	comp=Z,183nm,0.8s							
TLY	**Talaya**	**47.60**	**343**	P		**P**	**22 28 29.8**	**+0.9**
	comp=Z,33nm,0.7s,baz=171,slow=5.2,SNR=5.5							
DZM	**Mont Dzumac**	**50.87**	**126**	P		**P**	**22 28 53.7**	**+0.2**
	comp=Z,14nm,0.4s,baz=270,slow=24,SNR=7.5							
MK31	**Makanchi Array**	**53.21**	**325**	*eP*		**P**	**22 29 10.1**	**+0.4**
MK31	**Makanchi Array**	**53.21**	**325**	*eP*		**P**	**22 29 10.1**	**+0.4**
MKAR	**Makanchi Array**	**53.21**	**325**	P		**P**	**22 29 10.0**	**+0.3**
	comp=Z,60nm,0.5s,baz=121,slow=7.2,SNR=17							
MKAR					ScP	**ScP**	**22 33 04.7**	**-3.9**
	comp=Z,10nm,0.8s,baz=126,slow=4.5,SNR=4.0							
PEA0B	**Petropavlovsk-**	**53.77**	**25**	*eP*		**P**	**22 29 14.4**	**+0.9**
PETK	**Petropavlovsk-**	**53.77**	**25**	P		**P**	**22 29 13.9**	**+0.4**
	comp=Z,10nm,0.6s,baz=185,slow=3.9,SNR=5.6							
YAK	**Yakutsk**	**55.20**	**3**	P		**P**	**22 29 23.5**	**+0.2**
	comp=Z,1.5nm,0.2s,baz=155,slow=17,SNR=2.1							
YAK	**Yakutsk**	**55.20**	**3**	*eP*		**P**	**22 29 23.3**	**+0.1**
YAK				pmax	pmax			
	comp=Z,49nm,0.7s							
YAK	**Yakutsk**	**55.20**	**3**	*eP*		**P**	**22 29 23.3**	**+0.1**
	comp=Z,49nm,0.7s							
TKM2	**Tokmak 2**	**55.34**	**318**	*eP*		**P**	**22 29 25.7**	**+0.7**
TKM2				pmax	pmax			
	comp=Z,66nm,0.7s							
TKM2	**Tokmak 2**	**55.34**	**318**	*eP*		**P**	**22 29 25.7**	**+0.7**
	comp=Z,66nm,0.7s							
ZALV	**Zalesovo Beam**	**56.39**	**334**	P		**P**	**22 29 31.7**	**+0.1**
	comp=Z,41nm,0.9s,baz=132,slow=6.3,SNR=5.4							
EKS2	**Erkin-Say**	**56.45**	**317**	*eP*		**P**	**22 29 33.5**	**+1.1**
EKS2				pmax	pmax			
	comp=Z,108nm,0.9s							
EKS2	**Erkin-Say**	**56.45**	**317**	*eP*		**P**	**22 29 33.5**	**+1.1**
	comp=Z,108nm,0.9s							
KBL	**Kabul**	**57.16**	**307**	*eP*		**P**	**22 29 37.3**	**-0.3**
KBL				pmax	pmax			
	comp=Z,101nm,0.8s							
KBL	**Kabul**	**57.16**	**307**	*eP*		**P**	**22 29 37.3**	**-0.3**
	comp=Z,101nm,0.8s							
KURBB	**Kurchatov Arra**	**57.43**	**328**	P		**P**	**22 29 39.0**	**+0.2**
	comp=Z,91nm,0.6s,baz=130,slow=7.5,SNR=15							
KURK	**Kurchatov**	**57.43**	**328**	*eP*		**P**	**22 29 39.1**	**+0.3**
KURK				pmax	pmax			
	comp=Z,258nm,0.8s							
KURK	**Kurchatov**	**57.43**	**328**	*eP*		**P**	**22 29 39.1**	**+0.3**
	comp=Z,258nm,0.8s							
KKAR	**Karatay Array**	**58.83**	**317**	*eP*		**P**	**22 29 48.8**	**+0.4**
KKAR				pmax	pmax			
	comp=Z,163nm,1.4s							
KKAR	**Karatay Array**	**58.83**	**317**	*eP*		**P**	**22 29 48.8**	**+0.4**
	comp=Z,163nm,1.4s							
MSVF	**Nonsavu**	**59.04**	**115**	*eP*		**P**	**22 29 51.2**	**+0.9**
MSVF				pmax	pmax			
	comp=Z,40nm,1.0s							
MSVF	**Nonsavu**	**59.04**	**115**	*eP*		**P**	**22 29 51.2**	**+0.9**
	comp=Z,40nm,1.0s							
BRVK	**Borovoye**	**63.07**	**327**	*eP*		**P**	**22 30 16.1**	**+0.2**
BRVK				pmax	pmax			
	comp=Z,164nm,1.2s							
BRVK	**Borovoye**	**63.07**	**327**	*eP*		**P**	**22 30 16.1**	**+0.2**
	comp=Z,164nm,1.2s							
RPZ	**Rata Peaks**	**66.11**	**144**	P		**P**	**22 30 34.7**	**-0.5**
	comp=Z,36nm,0.8s,baz=344,slow=5.1,SNR=4.3							
GEYT	**Aibech**	**66.52**	**308**	P		**P**	**22 30 38.1**	**+0.2**
	comp=Z,44nm,0.9s,baz=158,slow=4.2,SNR=5.4							
URZ	**Urewera**	**66.95**	**137**	P		**P**	**22 30 40.2**	**-0.2**
	comp=Z,7.4nm,0.5s,baz=261,slow=6.3,SNR=4.2							
ABKAR	**Akbulak array**	**67

comp=Z,4.0nm,0.5s,baz=67,slow=5.0,SNR=2.8
FINES **FINESS Array B** 87.60 332 P **P** 22 32 30.7 -0.6
comp=Z,7.0nm,0.6s,baz=72,slow=4.5,SNR=7.3
HYT **Haines Junctio** 88.33 29 *eP* **P** 22 32 35.1 +0.2
comp=Z,10nm,0.8s
NOA **NORSAR Array B** 94.59 333 P **P** 22 33 02.0 -1.6
comp=Z,4.0nm,0.8s,baz=68,slow=4.7,SNR=2.8
NOA **NORSAR Array B** 94.59 333 P **P** 22 33 02.0 -1.6
TOA0 **Torodi Ar. Sit** 118.99 289 *e*PKPdf **PKPdf** 22 38 27.1 -1.6
TORD **Torodi Ar. Bea** 118.99 289 PKP **PKPdf** 22 38 27.4 -1.2
comp=Z,5.4nm,0.7s,baz=45,slow=2.0,SNR=4.1
TORD PKKPbc **PKKPbc** 22 48 44.2 -0.9
comp=Z,1.8nm,0.9s,baz=280,slow=2.6,SNR=3.4

ISCJB ***23*** *22:21:52.2±0.2, 6.69N±0.05×123.69E±0.05, h600km, mb4.8/43, Error ellipse: s-maj=7.8km s-min=4.6km az=140.4*
NEIC ***23*** *22:21:54.1±0.4, 6.65N×123.69E, h614km±5km, mb5.0/30, Error ellipse: s-maj=7.5km s-min=4.5km az=60.0*
IDC ***23*** *22:21:54.4±0.9, 6.66N×123.69E, h619km±12km, mb4.1/25, mb1 4.2/28, mb1mx4.0/55, mbtmp5.2/28, Error ellipse: s-maj=16.3km s-min=7.0km az=55.0*

ISC 23 22:21:53.3±0.3, 6.66N±0.07×123.68E±0.08, h600km, n86, σ1s09/90, mb4.8/43, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	1.93	78	*eP*	**P**	22 23 08.2	+0.8
PPR	**Puerto Princes**	5.79	303	*eP*	**P**	22 23 34.9	+2.2
KKM	**Kota Kinabalu**	7.44	266	*eP*	**P**	22 23 48.3	+0.8
	265nm,0.8s						
TGY	**Tagaytay City**	7.87	340	P	**P**	22 23 52.9	+1.4
	110nm,0.3s,baz=162,slow=9.6,SNR=3.2						
SIJI	**Sorong**	10.64	134	P	**P**	22 24 19.6	+1.1
	16nm,0.3s,baz=330,slow=13,SNR=7.0						
FAKI	**Fak Fak**	12.79	138	*eP*	**P**	22 24 41.0	+0.9
	249nm,0.7s						
KSM	**Kuching**	14.29	249	*eP*	**P**	22 24 55.2	+0.1
	122nm,0.9s						
MMRI	**Maumere**	15.26	185	*eP*	**P**	22 25 04.1	+0.2
	107nm,0.6s						
DLV	**T Lat**	15.88	290	*eP*	**P**	22 25 11.2	+1.3
	30nm,0.5s						
TWG	**Pinlang**	16.26	351	*eP*	**P**	22 25 12.6	-0.5
	1um,0.8s						
SOEI	**Soe**	16.32	178	*eP*	**P**	22 25 15.8	+2.1
	362nm,1.0s						
YULB	**Yu-li**	16.80	352	*eP*	**P**	22 25 17.2	-0.7
	31nm,0.6s						
SSLB	**Suanglung**	17.23	352	*eP*	**P**	22 25 21.9	-0.1
	98nm,0.8s						
YOJ	**Yonaguni jima**	17.71	358	*eP*	**P**	22 25 29.6	+3.3
	39nm,0.6s						
YHNB	**Yeheng**	18.05	353	*eP*	**P**	22 25 30.4	+1.0
	29nm,0.6s						
JAY	**Jayapura**	19.29	118	P	**P**	22 25 40.7	-0.1
	6.3nm,0.3s,baz=343,slow=7.4,SNR=6.6						
IPM	**Ipoh**	22.65	266	*eP*	**P**	22 26 10.7	-0.3
	27nm,0.8s						
PSI	**Prapat**	24.96	262	P	**P**	22 26 32.3	+0.8
	34nm,0.7s,baz=56,slow=8.2,SNR=3.9						
GSI	**Gunungsitoli**	26.57	260	*eP*	**P**	22 26 44.8	-0.7
	151nm,0.8s						
CMAR	**Chiang Mai Arr**	26.80	298	P	**P**	22 26 48.1	+0.7
	18nm,0.7s,baz=122,slow=7.8,SNR=5.5						
CMAR				ScP	**ScP**	22 32 32.0	-2.0
	1.2nm,0.5s,baz=140,slow=2.2,SNR=2.7						
CHTO	**Chiang Mai**	26.93	299	*eP*	**P**	22 26 49.0	+0.3
	44nm,0.9s						
COEN	**Coen**	28.18	137	P	**P**	22 26 59.3	-0.2
	baz=28,SNR=14						
COEN	**Coen**	28.18	137	*eP*	**P**	22 26 58.7	-0.8
PMG	**Port Moresby**	28.32	124	P	**P**	22 27 00.8	+0.1
	34nm,0.8s,baz=306,slow=8.7,SNR=3.4						
WRA	**Warramunga Arr**	28.44	159	P	**P**	22 27 01.6	-0.1
	98nm,0.5s,baz=339,slow=9.3,SNR=17						
WRA				ScP	**ScP**	22 32 36.4	-2.7
	7.7nm,0.5s,baz=341,slow=3.1,SNR=7.5						
QIS	**Mount Isa**	31.25	150	P	**P**	22 27 26.4	+0.6
	baz=31,SNR=3.2						
ASAR	**Alice Springs**	31.75	162	P	**P**	22 27 30.7	+0.6
	72nm,0.5s,baz=341,slow=6.8,SNR=18						
ASAR				ScP	**ScP**	22 32 47.1	-2.8
	5.3nm,0.6s,baz=352,slow=3.0,SNR=5.5						
MJAR	**Matsushiro Arr**	32.58	22	P	**P**	22 27 36.0	-0.8
	3.2nm,0.7s,baz=206,slow=9.2,SNR=2.6						
BJT	**Baijiatuan**	33.89	350	*eP*	**P**	22 27 50.5	+2.7
	116nm,1.3s						
CTA	**Charters Tower**	34.64	141	P	**P**	22 27 54.4	0.0
	34nm,0.6s,baz=333,slow=10,SNR=6.6						
CTAO	**Charters Tower**	34.64	141	*eP*	**P**	22 27 54.8	+0.5
	39nm,0.6s						
FORT	**Forrest**	37.46	174	*eP*	**P**	22 28 17.3	0.0
	168nm,0.6s						
LSA	**Lhasa**	38.24	311	*eP*	**P**	22 28 25.9	+1.7
	24nm,0.7s						
CHLP	**Challavanipeta**	40.32	291	*eP*	**P**	22 28 41.1	+0.6
EIDS	**Eidsvold**	41.52	141	P	**P**	22 28 50.4	+0.5
	baz=42,SNR=6.9						
STKA	**Stephens Creek**	41.96	157	P	**P**	22 28 53.1	-0.1
	52nm,0.5s,baz=329,slow=7.5,SNR=6.2						
PVM	**Polavaram**	42.38	289	*eP*	**P**	22 28 57.5	+0.9
SONM	**Songino Array**	43.60	343	P	**P**	22 29 05.6	-0.2
	7.6nm,0.8s,baz=160,slow=7.8,SNR=2.5						
SONM				PcP	**PcP**	22 30 39.1	-0.5
	5.1nm,0.8s,baz=147,slow=3.4,SNR=2.8						
ADKI	**Addanki**	43.75	286	*eP*	**P**	22 29 08.4	+1.0
SKHT	**Srikalahasti**	43.79	283	*eP*	**P**	22 29 08.4	+0.8
NJS	**Nagarjunasagar**	44.47	287	*eP*	**P**	22 29 13.2	+0.2
RCLA	**Racherla**	44.68	285	*eP*	**P**	22 29 14.7	+0.2
SRLM	**Srisailam**	44.81	286	*eP*	**P**	22 29 15.9	+0.3
RPR	**Rampur**	44.82	290	*eP*	**P**	22 29 16.1	+0.5
HYB	**Hyderabad**	45.30	288	*i P*	**P**	22 29 19.0	-0.3
HYBB	**Hyderabad (bro**	45.30	288	*eP*	**P**	22 29 19.0	-0.3
ARMA	**Armidale**	45.58	145	P	**P**	22 29 23.5	+2.2
	baz=46,SNR=6.0						
SRSP	**Sriramsagar**	45.72	290	*eP*	**P**	22 29 22.7	+0.2
URV	**Uravakonda**	46.26	284	*eP*	**P**	22 29 26.3	-0.3
KLRI	**Killari**	47.23	288	*eP*	**P**	22 29 33.6	-0.3
TLY	**Talaya**	47.84	343	P	**P**	22 29 37.9	+0.1
	6.6nm,0.3s,baz=181,slow=8.7,SNR=3.4						
CNB	**Canberra Magne**	48.26	152	P	**P**	22 29 42.8	+1.6
	baz=48,SNR=6.4						
DZM	**Mont Dzumac**	50.70	126	P	**P**	22 29 59.3	0.0
	23nm,0.5s,baz=90,slow=20,SNR=14						
MK31	**Makanchi Array**	53.44	326	*eP*	**P**	22 30 19.4	+0.9
MKAR	**Makanchi Array**	53.44	326	P	**P**	22 30 18.9	+0.5
	30nm,0.4s,baz=120,slow=7.9,SNR=13						
MKAR				ScP	**ScP**	22 34 13.4	-3.2
	3.1nm,0.7s,baz=102,slow=5.9,SNR=3.3						
TKM2	**Tokmak 2**	55.55	318	*eP*	**P**	22 30 34.2	+0.7
	24nm,0.7s						
ZALV	**Zalesovo Beam**	56.62	334	P	**P**	22 30 40.3	0.0
	4.5nm,0.4s,baz=145,slow=7.1,SNR=3.6						
EKS2	**Erkin-Say**	56.65	318	*eP*	**P**	22 30 42.1	+1.2
	36nm,0.9s						
KBL	**Kabul**	57.34	307	*eP*	**P**	22 30 45.8	-0.1
	44nm,0.8s						
KURBB	**Kurchatov Arra**	57.65	328	P	**P**	22 30 47.8	+0.4
	52nm,0.7s,baz=130,slow=6.7,SNR=14						
KURK	**Kurchatov**	57.66	328	*eP*	**P**	22 30 47.7	+0.2
	123nm,0.8s						
KKAR	**Karatay Array**	59.03	317	*eP*	**P**	22 30 57.0	+0.1
	34nm,0.9s						
BRVK	**Borovoye**	63.30	327	*eP*	**P**	22 31 24.5	+0.1
	33nm,0.9s						
RPZ	**Rata Peaks**	65.89	144	P	**P**	22 31 41.3	+0.3
	18nm,0.6s,baz=347,slow=3.8,SNR=6.8						
GEYT	**Alibeck**	66.70	308	P	**P**	22 31 45.2	-1.0
	13nm,0.9s,baz=119,slow=5.1,SNR=3.3						
URZ	**Urewera**	66.74	137	P	**P**	22 31 46.1	-0.2
	11nm,0.5s,baz=268,slow=5.4,SNR=6.2						
ABKAR	**Akbulak array**	67.97	321	*eP*	**P**	22 31 53.4	-0.2
ARU	**Arti**	70.85	328	*eP*	**P**	22 32 09.8	-0.8
	30nm,0.7s						
CASY	**Casey**	73.38	186	*eP*	**P**	22 32 25.2	+0.3
	57nm,1.4s						
KIV	**Kislovodsk**	78.93	313	*eP*	**P**	22 32 55.3	-0.7
OPO	**Ambohidratompo**	79.42	250	P	**P**	22 32 57.6	-1.5
	9.2nm,0.8s,baz=82,slow=4.7,SNR=5.4						
ABPO	**Ambohimpanom**	79.46	249	*eP*	**P**	22 32 58.1	-1.3
	16nm,0.9s						
BPAW	**Bear Paw Mtn.**	82.01	26	*eP*	**P**	22 33 10.7	-0.7
	16nm,1.7s						
TRF	**Thorofare Moun**	82.31	27	*eP*	P	22 33 10.9	-2.2
	24nm,1.2s						
COLD	**Coldfoot**	82.40	23	*eP*	**P**	22 33 12.9	-0.4
	25nm,1.3s						
BR131	**Keskin Array S**	85.83	309	*eP*	**P**	22 33 29.6	-1.3
	8.3nm,0.9s						
BRTR	**Keskin Array B**	85.83	309	P	**P**	22 33 29.9	-1.0
	6.6nm,0.8s,baz=112,slow=4.7,SNR=7.5						
KMBO	**Kilima Mbogo**	86.58	268	P	**P**	22 33 34.5	-0.5
	22nm,1.2s,baz=44,slow=6.5,SNR=5.2						
KMBO	**Kilima Mbogo**	86.58	268	P	P	22 33 31.1	-4.0
	baz=86,SNR=5.1						
ARCES	**ARCESS Array B**	86.67	340	P	**P**	22 33 33.5	-0.5
	10.0nm,1.0s,baz=72,slow=3.9,SNR=2.7						
VNDA	**Vanda**	86.71	172	P	**P**	22 33 33.2	-0.7
	23nm,1.3s,baz=307,slow=5.1,SNR=2.5						
SPITS	**Spitsbergen Ar**	87.03	349	P	**P**	22 33 34.9	-0.7
	5.0nm,0.5s,baz=80,slow=7.9,SNR=6.9						
FINES	**FINESS Array B**	87.83	332	P	**P**	22 33 38.8	-0.8
	4.2nm,0.5s,baz=79,slow=4.5,SNR=4.5						
NOA	**NORSAR Array B**	94.82	333	P	**P**	22 34 10.5	-1.3
	2.0nm,0.7s,baz=69,slow=4.8,SNR=2.6						
TOA0	**Torodi Ar. Sit**	119.11	289	*e*PKPdf	**PKPdf**	22 39 35.2	-0.8
TORD	**Torodi Ar. Bea**	119.11	289	PKP	**PKPdf**	22 39 34.9	-1.1
	6.0nm,0.7s,baz=68,slow=2.1,SNR=5.8						
TORD				PKKPbc	**PKKPbc**	22 49 51.5	-0.3
	1.6nm,1.0s,baz=257,slow=3.5,SNR=4.3						

IDC 23 22:27:21.9±1.8, 6.35N×122.04E, h0km, mb4.5/3, mb1 4.7/3, mb1mx3.9/54, mbtmp4.5/3, Error ellipse: s-maj=226.6km s-min=24.8km az=62.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	28.79	155	P	P	22 33 21.3	-0.5
	3.9nm,0.5s,baz=332,slow=10,SNR=4.5						
ASAR	**Alice Springs**	32.00	159	P	P	22 33 50.5	+0.4
	2.0nm,0.4s,baz=339,slow=7.8,SNR=7.9						
MKAR	**Makanchi Array**	52.78	327	P	P	22 36 38.8	-0.1
	4.0nm,0.5s,baz=120,slow=8.2,SNR=22						

IDC ***23*** *22:30:06.7±3.8, 6.44N×123.17E, h605km±65km, mb3.3/4, mb1 3.5/5, mb1mx2.9/63, mbtmp4.4/5, Error ellipse: s-maj=109.0km s-min=15.5km az=70.0*

ISC 23 22:30:06.3±1.0, 6.4N±0.2×123.2E±0.4, h600km, n7, σ0s72/7, mb4.2/4, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	1.31	54	⇓*iP*	**P**	22 31 18.9	+0.7
SIJI	**Sorong**	10.86	132	P	**P**	22 32 33.2	-0.4
	2.0nm,0.3s,baz=310,slow=22,SNR=5.0						
WRA	**Warramunga Arr**	28.42	158	P	**P**	22 35 14.5	-0.1
	4.3nm,0.4s,baz=332,slow=10,SNR=30						
ASAR	**Alice Springs**	31.70	161	P	**P**	22 35 43.3	+0.6
	3.3nm,0.4s,baz=340,slow=7.1,SNR=25						
SONM	**Songino Array**	43.67	344	P	**P**	22 37 19.2	-0.2
	1.2nm,0.7s,baz=158,slow=6.3,SNR=2.5						
MKAR	**Makanchi Array**	53.34	326	P	**P**	22 38 30.9	+0.2
	3.2nm,0.5s,baz=120,slow=7.6,SNR=20						
TORD	**Torodi Ar. Bea**	118.71	289	PKP	**PKPdf**	22 47 47.2	-1.0
	2.2nm,1.1s,baz=63,slow=0.7,SNR=2.6						

IDC 23 22:32:31.1±2.2, 6.80N×123.09E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/61, mbtmp3.9/3, Error ellipse: s-maj=237.9km s-min=27.5km az=63.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	28.79	158	P	P	22 38 31.0	0.0
	0.8nm,0.4s,baz=336,slow=10,SNR=3.5						
ASAR	**Alice Springs**	32.07	161	P	P	22 38 59.9	-0.1
	0.7nm,0.3s,baz=339,slow=7.7,SNR=5.8						
MKAR	**Makanchi Array**	52.99	326	P	P	22 41 49.5	-0.1
	0.5nm,0.4s,baz=124,slow=7.5,SNR=4.6						

ISCJB ***23*** *22:34:15.6±0.3, 6.62N±0.06×123.67E±0.08, h600km, mb4.2/21, Error ellipse: s-maj=11.5km s-min=4.8km az=148.4*
IDC ***23*** *22:34:18.4±1.6, 6.59N×123.65E, h625km±24km, mb3.6/20, mb1 3.7/21, mb1mx3.4/62, mbtmp4.6/21, Error ellipse: s-maj=20.8km s-min=8.5km az=62.0*

ISC 23 22:34:16.9±0.5, 6.61N±0.08×123.6E±0.1, h600km, n71, σ0s60/70, mb4.2/21, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	0.86	45	⇓*iP*	P	22 35 38.9	+11
TBP	**Tagbilaran**	3.07	4	*eP*	**P**	22 35 36.9	+0.5
LUWI	**Luwuk**	7.65	186	P	**P**	22 36 14.0	+1.1
	baz=7.7,SNR=3.3						
SIJI	**Sorong**	10.64	134	P	**P**	22 36 42.9	+0.7
	1.3nm,0.3s,baz=330,slow=20,SNR=4.0						
FAKI	**Fak Fak**	12.79	137	P	**P**	22 37 04.3	+0.6
	baz=13,SNR=13						
KSM	**Kuching**	14.23	250	P	**P**	22 37 18.0	0.0
	baz=14,SNR=5.5						
SOEI	**Soe**	16.27	178	P	**P**	22 37 36.2	-0.7
	baz=16,SNR=4.4						
MTN	**Maton Dam**	20.71	159	P	**P**	22 38 17.3	+0.1
	baz=21,SNR=8.1						
KDU	**Kakadu**	21.09	155	P	**P**	22 38 19.6	-0.9
	baz=21,SNR=3.5						
CISI	**Cisompet, Garu**	21.14	229	P	**P**	22 38 21.7	+0.7
	baz=21,SNR=5.8						
CMAR	**Chiang Mai Arr**	26.77	298	P	**P**	22 39 11.9	+1.1
	4.7nm,0.6s,baz=119,slow=7.6,SNR=15						
COEN	**Coen**	28.18	137	P	**P**	22 39 22.2	-0.8
	baz=28,SNR=8.8						
WRA	**Warramunga Arr**	28.41	158	P	**P**	22 39 24.2	-0.8
	31nm,0.4s,baz=340,slow=9.3,SNR=108						
QIS	**Mount Isa**	31.23	150	P	**P**	22 39 49.2	0.0
	baz=31,SNR=14						
ASAR	**Alice Springs**	31.72	162	P	**P**	22 39 53.4	0.0
	23nm,0.3s,baz=339,slow=7.4,SNR=238						
WRKA	**Warakurna**	31.78	172	P	**P**	22 39 53.8	0.0
	baz=32,SNR=18						
MTSU	**Mount Surprise**	31.96	141	P	**P**	22 39 55.8	+0.4
	baz=32,SNR=3.9						
MJAR	**Matsushiro Arr**	32.64	22	P	**P**	22 40 00.9	-0.1
	1.8nm,0.8s,baz=201,slow=8.3,SNR=3.5						
MEEK	**Meekatharra**	33.40	188	P	**P**	22 40 06.7	-0.8
	baz=34,SNR=9.2						
CTA	**Charters Tower**	34.63	140	P	**P**	22 40 18.2	+0.4
	4.6nm,0.5s,baz=339,slow=8.5,SNR=5.7						
MORW	**Morawa**	36.22	191	P	**P**	22 40 30.2	-0.6
	baz=36,SNR=6.0						
FORT	**Forrest**	37.42	174	P	**P**	22 40 40.4	-0.2
	baz=38,SNR=13						
KMBL	**Kambalda**	37.80	182	P	**P**	22 40 43.1	-0.5
	baz=38,SNR=19						
KLBR	**Kellerberrin**	38.40	188	P	**P**	22 40 47.8	-0.7
	baz=39,SNR=18						
NWAO	**Narrogin (SRO)**	39.78	188	P	**P**	22 40 59.4	-0.2
	7.3nm,0.5s,baz=326,slow=6.4,SNR=9.0						
TAPN	**Taplejung**	39.84	305	*eP*	**P**	22 41 01.2	+0.7
	24nm,0.6s						
TAPN	**Taplejung**	39.84	305	*eP*	**P**	22 41 01.2	+0.7
	24nm,0.6s						
ODAN	**Odare**	39.90	305	*eP*	**P**	22 41 01.5	+0.6
	33nm,0.7s						
ODAN	**Odare**	39.90	305	*eP*	**P**	22 41 01.5	+0.6
	33nm,0.7s						
RAMN	**Ramite**	40.58	304	*eP*	**P**	22 41 07.1	+0.7
	14nm,0.5s						
RAMN	**Ramite**	40.58	304	*eP*	**P**	22 41 07.1	+0.7
	14nm,0.5s						
BBOO	**Buckleboo**	40.95	164	P	**P**	22 41 08.8	0.0
	baz=41,SNR=66						
EIDS	**Eidsvold**	41.51	141	P	**P**	22 41 13.3	-0.1
	baz=42,SNR=5.3						
GUN	**Gumba**	41.55	305	*eP*	**P**	22 41 14.7	+0.6
	26nm,0.3s						
GUN	**Gumba**	41.55	305	*eP*	**P**	22 41 14.7	+0.6
	26nm,0.3s						
PKI	**Pulchoki**	41.80	305	*eP*	**P**	22 41 16.1	+0.1
	6.2nm,0.3s						
PKI	**Pulchoki**	41.80	305	*eP*	**P**	22 41 16.2	+0.2
	6.2nm,0.3s						
STKA	**Stephens Creek**	41.94	157	P	**P**	22 41 16.6	0.0
	17nm,0.5s,baz=340,slow=7.5,SNR=32						
KKN	**Kakani**	41.99	305	*eP*	**P**	22 41 17.6	+0.2
	11nm,0.3s						
KKN	**Kakani**	41.99	305	*eP*	**P**	22 41 17.5	+0.2
	16nm,0.5s						
DMN	**Daman**	42.06	304	*eP*	**P**	22 41 18.3	+0.3
DMN	**Daman**	42.06	304	*eP*	**P**	22 41 18.3	+0.3
HTT	**Hallett**	42.38	161	P	**P**	22 41 20.5	+0.4
	baz=43,SNR=25						
GKN	**Gorkha**	42.59	305	*eP*	**P**	22 41 22.2	+0.1
	10nm,0.4s						
GKN	**Gorkha**	42.59	305	*eP*	**P**	22 41 22.2	+0.1
	10nm,0.4s						
KOLN	**Koldanda**	43.36	304	*eP*	**P**	22 41 28.7	+0.6
	34nm,0.3s						
KOLN	**Koldanda**	43.36	304	*eP*	**P**	22 41 28.7	+0.6
	34nm,0.3s						
CMSA	**Cobar Meteorol**	43.40	152	P	**P**	22 41 29.3	+1.3
	baz=44,SNR=7.1						
DANN	**Dangsing**	43.44	305	*eP*	**P**	22 41 29.3	+0.5
	9.4nm,0.6s						
DANN	**Dangsing**	43.44	305	*eP*	**P**	22 41 29.2	+0.5
	9.4nm,0.6s						
SONM	**Songino Array**	43.63	343	P	**P**	22 41 30.2	+0.5
	3.3nm,0.9s,baz=158,slow=7.2,SNR=5.2						
SONM				PcP	**PcP**	22 43 03.0	-0.3
	1.2nm,0.7s,baz=162,slow=2.3,SNR=3.0						
ARPS	**Mount Arapiles**	46.40	160	P	**P**	22 41 50.9	+0.1
	baz=47,SNR=15						
CNB	**Canberra Magne**	48.24	152	P	**P**	22 42 05.7	+1.1
	baz=48,SNR=6.0						
TOO	**Toolangi**	48.46	157	P	**P**	22 42 07.3	+1.1
	baz=49,SNR=5.1						
HMDM	**Hanimaadhoo**	50.08	273	P	P	22 42 28.1	+10
	baz=50,SNR=3.4						
DZM	**Mont Dzumac**	50.71	125	P	**P**	22 42 23.3	+0.3
	3.9nm,0.5s,baz=90,slow=20,SNR=9.6						
MKAR	**Makanchi Array**	53.45	326	P	**P**	22 42 42.6	+0.5
	7.9nm,0.4s,baz=120,slow=7.9,SNR=97						
MKAR				PcP	**PcP**	22 43 38.7	-0.6
	1.6nm,0.5s,baz=117,slow=4.2,SNR=4.4						
ZALV	**Zalesovo Beam**	56.65	334	P	**P**	22 43 03.8	-0.3
	1.9nm,0.5s,baz=138,slow=6.3,SNR=4.4						
KURBB	**Kurchatov Arra**	57.67	328	P	**P**	22 43 11.3	+0.2
	9.4nm,0.6s,baz=129,slow=7.4,SNR=78						
BVAR	**Borovoye Array**	63.24	327	P	**P**	22 43 47.3	-0.4
	1.6nm,0.6s,baz=150,slow=6.0,SNR=6.1						
AKTO	**Aktyubinsk**	69.50	322	P	**P**	22 44 26.1	-0.2
	3.9nm,0.5s,baz=98,slow=8.2,SNR=6.7						
ARU	**Arti**	70.87	328	P	**P**	22 44 33.8	-0.5
	baz=112,slow=6.7						
ASF	**Jabal al Asfar**	83.76	302	P	**P**	22 45 44.3	-0.3
	2.8nm,0.7s,baz=27,slow=6.8,SNR=3.1						
MMAI	**Mount Meron Ar**	84.96	303	P	**P**	22 45 50.5	+0.1
	0.7nm,0.5s,baz=96,slow=8.5,SNR=4.8						
MAW	**Mawson**	85.39	200	P	**P**	22 45 51.4	0.0
	8.5nm,0.7s,baz=248,slow=3.6,SNR=7.1						
MAW	**Mawson**	85.39	200	P	**P**	22 45 51.1	-0.4
	baz=86,SNR=7.0						
BRTR	**Keskin Array B**	85.82	309	P	**P**	22 45 53.2	-1.2
	4.9nm,1.1s,baz=131,slow=3.5,SNR=7.0						
VNDA	**Vanda**	86.67	172	P	**P**	22 45 56.5	-0.8
	2.9nm,0.9s,baz=308,slow=3.6,SNR=3.6						
ARCES	**ARCESS Array B**	86.69	340	P	**P**	22 45 56.8	-0.9
	3.4nm,0.7s,baz=60,slow=5.3,SNR=3.6						
FINES	**FINESS Array B**	87.85	332	P	P	22 46 00.8	-2.4
	2.3nm,0.8s,baz=90,slow=3.8,SNR=4.6						
TORD	**Torodi Ar. Bea**	119.08	289	PKP	**PKPdf**	22 51 58.4	-1.1
	0.7nm,0.7s,baz=61,slow=1.3,SNR=6.6						

ISCJB ***23*** *22:36:34.6±0.7, 6.73N±0.1×123.76E±0.2, h600km, mb3.9/8, Error ellipse: s-maj=27.1km s-min=11.8km az=155.1*
IDC ***23*** *22:36:37.3±1.9, 6.26N×123.73E, h623km±32km, mb3.1/8, mb1 3.3/9, mb1mx3.0/64, mbtmp4.3/9, Error ellipse: s-maj=28.0km s-min=11.6km az=69.0*

ISC 23 22:36:35.9±0.8, 6.3N±0.1×123.7E±0.2, h600km, n10, σ0s71/11, mb3.8/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	10.40	133	P	**P**	22 38 59.7	+0.9
	2.0nm,0.3s,baz=326,slow=15,SNR=5.0						
CMAR	**Chiang Mai Arr**	26.95	299	P	**P**	22 41 32.3	+0.8
	0.9nm,0.4s,baz=118,slow=7.6,SNR=4.2						
WRA	**Warramunga Arr**	28.10	158	P	**P**	22 41 41.0	-0.5
	7.2nm,0.4s,baz=340,slow=9.3,SNR=16						
KSRS	**Korea Array**	31.27	7	P	**P**	22 42 08.9	+0.5
	0.8nm,0.7s,baz=173,slow=8.2,SNR=3.4						
ASAR	**Alice Springs**	31.40	162	P	**P**	22 42 09.7	-0.1
	4.5nm,0.3s,baz=340,slow=7.3,SNR=18						
MJAR	**Matsushiro Arr**	32.93	22	P	**P**	22 42 22.0	-0.5
	1.9nm,0.8s,

KSM	Kuching	14.26 249	P	P	22 41 03.0	+0.5
	baz=14,SNR=8.0						
SOEI	Soe	16.33 178	P	P	22 41 21.3	-0.4
	baz=17,SNR=9.7						
JAY	Jayapura	19.32 118	P	P	22 41 49.1	+0.2
	1.2nm,0.3s,baz=199,slow=14,SNR=4.5						
MYKOM	Kota Tinggi	20.32 257	⇑P	P	22 41 56.1	-1.7
MYKOM	Kota Tinggi	20.32 257	⇑P	P	22 41 56.1	-1.7
KTGM	Kuala Trenggan	20.44 267	⇓P	P	22 41 59.6	+0.7
KTGM	Kuala Trenggan	20.44 267	⇓P	P	22 41 59.6	+0.7
MTN	Manton Dam	20.77 159	P	P	22 42 01.9	+0.1
	baz=21,SNR=8.0						
KDU	Kakadu	21.14 155	P	P	22 42 04.2	-1.0
	baz=22,SNR=5.8						
KNRA	Kununurra	22.77 167	P	P	22 42 19.4	-0.3
	baz=23,SNR=4.7						
PSI	Prapat	24.93 262	P	P	22 42 39.8	+0.8
	11nm,0.6s,baz=84,slow=1.0,SNR=6.4						
CMAR	Chiang Mai Arr	26.76 298	P	P	22 42 56.1	+1.2
	4.4nm,0.6s,baz=114,slow=7.0,SNR=16						
KMI	Kunming	27.14 315	P	P	22 42 58.3	-0.1
KMI			PMZ				
	10.0nm,0.8s						
COEN	Coen	28.21 137	P	P	22 43 06.4	-1.1
	baz=29,SNR=19						
WRA	Warramunga Arr	28.46 159	P	P	22 43 08.8	-0.8
	23nm,0.3s,baz=332,slow=11,SNR=98						
QIS	Mount Isa	31.28 150	P	P	22 43 33.5	-0.3
	baz=32,SNR=28						
ASAR	Alice Springs	31.77 162	P	P	22 43 38.0	-0.1
	23nm,0.3s,baz=338,slow=8.0,SNR=179						
WRKA	Warakurna	31.84 172	P	P	22 43 38.7	+0.2
	baz=32,SNR=21						
MTSU	Mount Surprise	32.00 141	P	P	22 43 40.4	+0.5
	baz=32,SNR=4.8						
MJAR	Matsushiro Arr	32.58 22	P	P	22 43 44.0	-0.7
	1.5nm,0.9s,baz=199,slow=10.0,SNR=5.1						
MEEK	Meekatharra	33.47 188	P	P	22 43 51.7	-0.6
	baz=34,SNR=7.1						
HHC	Hu-ho-hao-te	35.71 344	eP	P	22 44 13.9	+3.2
HHC			PMZ				
	17nm,1.0s						
MORW	Morawa	36.28 191	P	P	22 44 15.0	-0.5
	baz=37,SNR=5.9						
FORT	Forrest	37.48 174	P	P	22 44 25.1	0.0
	baz=38,SNR=22						
BLDU	Balliduu	37.66 190	P	P	22 44 26.4	-0.3
	baz=38,SNR=5.2						
KMBL	Kambalda	37.86 182	P	P	22 44 27.9	-0.4
	baz=38,SNR=36						
KLBR	Kellerberrin	38.46 188	P	P	22 44 32.7	-0.5
	baz=39,SNR=20						
GTA	Gaotai	39.02 330	eP	P	22 44 38.1	+0.3
GTA			PMZ				
	12nm,1.1s						
NWAO	Narrogin (SRO)	39.85 188	P	P	22 44 44.1	-0.1
	4.7nm,0.4s,baz=330,slow=5.3,SNR=13						
NWAO	Narrogin (SRO)	39.85 188	P	P	22 44 44.2	-0.1
	baz=40,SNR=9.5						
NWAO			P	P	22 44 44.2	-0.1
	baz=40,SNR=9.5						
BBOO	Buckleboo	41.00 164	P	P	22 44 53.3	-0.1
	baz=42,SNR=35						
RKGY	Rocky Gully	41.54 188	P	P	22 44 58.4	+0.8
	baz=42,SNR=9.6						
EIDS	Eidsvold	41.55 141	P	P	22 44 57.6	-0.2
	baz=42,SNR=3.5						
STKA	Stephens Creek	41.98 157	P	P	22 45 00.8	-0.4
	6.3nm,0.3s,baz=339,slow=7.0,SNR=47						
HTT	Hallett	42.44 161	P	P	22 45 05.0	+0.2
	baz=43,SNR=9.6						
CMSA	Cobar Meteorol	43.44 152	P	P	22 45 13.5	+1.0
	baz=44,SNR=8.5						
SONM	Songino Array	43.58 343	P	P	22 45 14.3	+0.8
	3.6nm,0.9s,baz=155,slow=7.9,SNR=7.4						
ARPS	Mount Arapiles	46.45 160	P	P	22 45 35.4	+0.1
	baz=47,SNR=7.1						
DZM	Mont Dzumac	50.73 126	P	P	22 46 07.5	+0.2
	9.1nm,1.0s,baz=90,slow=20,SNR=6.8						
MKAR	Makanchi Array	53.41 326	P	P	22 46 26.4	+0.4
	8.2nm,0.3s,baz=120,slow=7.2,SNR=148						
KSH	Kashi	53.80 315	P	P	22 46 24.9	-4.2
PETK	Petropavlovsk-	53.97 25	P	P	22 46 29.5	-0.3
	13nm,1.1s,baz=64,slow=6.9,SNR=4.6						
ZALV	Zalesovo Beam	56.60 334	P	P	22 46 47.6	-0.3
	30nm,1.1s,baz=123,slow=8.2,SNR=5.3						
KURBB	Kurchatov Arra	57.62 328	P	P	22 46 55.0	0.0
	11nm,0.6s,baz=128,slow=7.0,SNR=10						
BVAR	Borovoye Array	63.20 327	P	P	22 47 31.8	+0.1
	1.0nm,0.3s,baz=136,slow=8.0,SNR=7.2						
AKTO	Aktyubinsk	69.46 322	P	P	22 48 09.5	-0.8
	4.1nm,0.5s,baz=108,slow=7.8,SNR=6.4						
ARU	Arti	70.83 328	P	P	22 48 17.3	-0.9
	baz=100,slow=12						
ASF	Jabal al Asfar	83.75 302	P	P	22 49 28.8	+0.1
	3.5nm,0.8s,baz=342,slow=3.2,SNR=3.1						
MMAI	Mount Meron Ar	84.94 303	P	P	22 49 34.0	-0.4
	12nm,1.3s,baz=84,slow=7.6,SNR=4.5						
BRTR	Keskin Array B	85.79 309	P	P	22 49 36.8	-1.7
	1.2nm,0.6s,baz=128,slow=3.0,SNR=7.8						
VNDA	Vanda	86.72 172	P	P	22 49 41.1	-0.7
	1.8nm,0.9s,baz=9.8,slow=5.6,SNR=3.9						
AKASG	Malin Array Be	87.69 321	P	P	22 49 45.2	-1.7
	0.8nm,0.5s,baz=70,slow=4.4,SNR=3.4						
FINES	FINESS Array B	87.80 332	P	P	22 49 45.7	-1.5
	1.9nm,0.8s,baz=106,slow=4.6,SNR=6.8						
HFS	Hagfors	94.00 332	P	P	22 50 13.3	-2.5
	1.3nm,0.8s,baz=134,slow=4.2,SNR=3.8						
NOA	NORSAR Array B	94.80 333	P	P	22 50 17.1	-2.3
	1.4nm,0.9s,baz=66,slow=5.0,SNR=3.7						
TORD	Torodi Ar. Bea	119.08 289	PKP	PKPdf	22 55 42.0	-1.7
	0.3nm,0.3s,baz=68,slow=1.7,SNR=17						

IDC 23 22:40:42.9±1.9, 6.25N×121.76E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.6/62, mbtmp4.1/3, Error ellipse: s-maj=246.8km s-min=25.9km az=62.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WRA	Warramunga Arr	28.82 155		P		P	22 46 42.7	-0.3
	1.6nm,0.3s,baz=331,slow=10,SNR=4.1							
ASAR	Alice Springs	32.01 159		P		P	22 47 11.6	+0.4
	1.0nm,0.3s,baz=338,slow=7.7,SNR=5.2							
MKAR	Makanchi Array	52.71 327		P		P	22 49 59.3	-0.1
	1.2nm,0.7s,baz=123,slow=7.0,SNR=3.8							

*ISCJB **23** 22:43:05.5±0.4, 6.81N±0.08×123.60E±0.08, h650km, mb3.9/19, Error ellipse: s-maj=11.8km s-min=8.9km az=143.9*

*IDC **23** 22:43:06.8±1.1, 6.88N×123.73E, h642km±16km, mb3.4/19, mb1 3.4/21, mb1mx3.2/62, mbtmp4.4/21, Error ellipse: s-maj=20.3km s-min=8.5km az=60.0*

*KLM **23** 22:43:09.9, 6.82N×123.14E, h597km, mb4.7, MS5.5*

ISC 23 22:43:07.3±0.6, 6.8N±0.1×123.7E±0.1, h650km, n28, σθ60/29, mb3.9/19, 2C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MYLDM	Lahad Datu	5.38 252		⇓P		P	22 44 42.3	-3.9
SDKM	Sandakan	6.53 260		⇓P		P	22 44 51.3	-4.3
KKM	Kota Kinabalu	7.43 264		⇑P		P	22 44 59.1	-4.4
SIJI	Sorong	10.79 135		P		P	22 45 33.2	-1.7
	1.2nm,0.3s,baz=336,slow=20,SNR=3.3							
SBUM	Sibu	12.20 250		⇑P		P	22 45 47.0	-0.9
KSM	Kuching	14.33 249		⇓P		P	22 46 07.0	-0.5
JAY	Jayapura	19.40 118		P		P	22 46 53.2	-0.5
	0.7nm,0.3s,baz=267,slow=13,SNR=3.3							
CMAR	Chiang Mai Arr	26.69 298		P		P	22 47 58.5	+0.4
	1.2nm,0.5s,baz=122,slow=7.8,SNR=3.8							
JCJ	Chichijima	26.76 39		P		P	22 47 57.7	-0.9
	20nm,0.4s,baz=258,slow=20,SNR=6.6							
WRA	Warramunga Arr	28.62 159		P		P	22 48 14.4	-0.4
	4.1nm,0.3s,baz=340,slow=9.3,SNR=13							
WRA				PcP		PcP	22 51 04.1	+0.6
	0.7nm,0.4s,baz=336,slow=2.4,SNR=3.5							
WRA				ScP		ScP	22 53 45.3	+0.6
	1.6nm,1.0s,baz=342,slow=2.9,SNR=2.1							
ASAR	Alice Springs	31.93 162		P		P	22 48 43.0	0.0
	1.5nm,0.3s,baz=341,slow=6.9,SNR=17							
ASAR				PcP		PcP	22 51 13.1	+0.7
	0.8nm,0.5s,baz=344,slow=2.6,SNR=5.8							
ASAR				ScP		ScP	22 53 56.9	+1.1
	0.9nm,0.6s,baz=338,slow=3.5,SNR=3.8							
STKA	Stephens Creek	42.14 157		P		P	22 50 06.1	+0.6
	0.5nm,0.3s,baz=346,slow=8.3,SNR=3.8							

SONM	Songino Array	43.42 343	P	P	22 50 15.8	+0.4
	1.6nm,0.6s,baz=156,slow=7.8,SNR=7.1						
TLY	Talaya	47.66 343	P	P	22 50 47.6	+0.4
	4.0nm,0.6s,baz=107,slow=17,SNR=3.5						
MKAR	Makanchi Array	53.27 325	P	P	22 51 28.4	+0.6
	9.6nm,0.5s,baz=121,slow=7.9,SNR=96						
MKAR			PcP	PcP	22 52 24.5	0.0
	2.4nm,0.7s,baz=129,slow=3.3,SNR=4.2						
ZALV	Zalesovo Beam	56.45 334	P	P	22 51 49.4	-0.2
	2.6nm,0.5s,baz=134,slow=6.6,SNR=5.8						
KURBB	Kurchatov Arra	57.48 328	P	P	22 51 57.1	+0.5
	12nm,0.7s,baz=128,slow=7.2,SNR=90						
BVAR	Borovoye Array	63.06 327	P	P	22 52 33.6	+0.5
	1.8nm,0.5s,baz=132,slow=8.0,SNR=6.2						
GEYT	Alibeck	66.57 308	P	P	22 52 56.0	+0.5
	1.8nm,0.5s,baz=130,slow=4.3,SNR=3.6						
AKTO	Aktyubinsk	69.33 321	P	P	22 53 12.3	+0.5
	3.2nm,0.7s,baz=98,slow=6.7,SNR=6.3						
ARU	Arti	70.69 328	P	P	22 53 19.4	-0.2
	baz=108,slow=6.4						
ILAR	Eielson Array	83.64 26	P	P	22 54 29.6	+0.4
	0.3nm,0.4s,baz=251,slow=4.1,SNR=4.5						
BRTR	Keskin Array B	85.69 309	P	P	22 54 39.4	-0.5
	0.8nm,0.5s,baz=127,slow=4.0,SNR=5.2						
ARCES	ARCESS Array B	86.49 340	P	P	22 54 41.7	-1.1
	2.2nm,0.9s,baz=83,slow=7.6,SNR=3.3						
SPITS	Spitsbergen Ar	86.85 349	P	P	22 54 44.1	-0.3
	3.4nm,0.6s,baz=67,slow=8.0,SNR=9.1						
FINES	FINESS Array B	87.66 332	P	P	22 54 48.0	-0.4
	2.8nm,0.9s,baz=127,slow=5.0,SNR=7.3						
HFS	Hagfors	93.85 332	P	P	22 55 16.2	-0.8
	2.3nm,1.0s,baz=101,slow=3.1,SNR=4.6						
TORD	Torodi Ar. Bea	119.03 289	PKP	PKPdf	23 00 44.9	-0.1
	0.4nm,0.3s,baz=65,slow=1.6,SNR=17						

IDC 23 22:50:05.5±7.0, 6.56N×123.93E, h540km±75km, mb3.3/4, mb1 3.6/4, mb1mx2.9/25, mbtmp4.1/4, Error ellipse: s-maj=124.9km s-min=21.2km az=50.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CMAR	Chiang Mai Arr	27.06 298		P		P	22 55 05.0	-0.1
	5.3nm,1.1s,baz=125,slow=3.4,SNR=8.0							
WRA	Warramunga Arr	28.26 159		P		P	22 55 15.4	-0.1
	1.4nm,1.0s,baz=324,slow=4.9,SNR=5.1							
BRTR	Keskin Array B	86.08 309		P		P	23 01 49.8	+0.1
	0.8nm,0.8s,baz=76,slow=5.2,SNR=4.0							
GERES	GERESS Array B	98.15 321		P		P	23 02 44.8	+0.1
	1.1nm,0.7s,baz=62,slow=3.2,SNR=6.0							
LBTB	Lobatse	100.27 246		P		Pdif	23 02 54.3	-0.4
	4.1nm,0.9s,baz=90,slow=7.1,SNR=4.7							
DAVOX	Davos/Dischmat	101.29 320		P		Pdif	23 02 57.6	-1.3
	3.3nm,0.7s,baz=125,slow=9.8,SNR=4.5							

*BJI **23** 22:51:06.9, 5.98N×123.86E, h594km, mb6.6/79, mB7.1/60*

*IDC **23** 22:51:11.7±0.5, 6.49N×123.51E, h579km±4km, mb5.4/55, mb1 5.4/58, mb1mx5.4/60, mbtmp6.3/58, Error ellipse: s-maj=5.2km s-min=3.9km az=76.0*

*KLM **23** 22:51:11.7, 6.33N×123.98E, h520km, mb7.6, MS8.2*

*NEIC **23** 22:51:11.8±0.1, 6.50N×123.48E, h578km, mb6.9/173, ME7.4, MW7.6, MW7.6, MW7.6, Error ellipse: s-maj=3.3km s-min=2.9km az=83.0, Moment Tensor Solution. s27 Moment tensor: Scale 10²⁰Nm; Mrr=1.17; Mθθ 0.22; Mφφ 0.95; Mrθ 0.50; Mθφ 0.74; Mφr-2.69; Best double couple: M☉3.00000×10²⁰ NP1:φs356.00000°, δ80.00000°, λ-106.00000°. NP2:φs233.00000°, δ19.00000°, λ-34.00000°. Principal axes: T 2.8300, Plg32.0000°, Azm98.0000°; N 0.3700, Plg15.0000°, Azm358.0000°; P -3.2000, Plg52.0000°, Azm247.0000°; Complex earthquake observed on broadband displacement seismograms. A small event is followed about 5 seconds later by a much larger event. Depth from broadband displacement seismograms based on first event. Energy computed from CMT mechanism.*

NEIC Felt [IV PIVS] at General Santos; [III PIVS] at Davao, Malita, Padada and Santa Maria; [II PIVS] at Ayala, Butuan, Cagayan de Oro, Dipolog, Matanao, Socorro and Surigao; [I PIVS] at Calinan and Midsayap. Felt in much of Mindanao. Felt [II PIVS] at Cebu City, Cebu and at Palo and Tacloban, Leyte. Felt [II PIVS] at Makati and Palanan, Luzon. Also felt at Manila. Felt [II PIVS] at Bayawan, Negros. Also felt at Bacolod. Felt [I PIVS] at Makato, Panay. Also felt at Iloilo. Felt on Pulau Ternate, Indonesia and by people in tall buildings at T'ai-nan, Taiwan.

*MOS **23** 22:51:11.3±0.9, 6.50N×123.44E, h587km, mb6.8/73 Error ellipse: s-maj=6.5km s-min=3.9km az=113.5*

*NEIC **23** 22:51:11.0±0.0, 6.48N×123.53E, h575km, Moment Tensor Solution. s51 Moment tensor: Scale 10²⁰Nm; Mrr-1.45; Mθθ 0.53; Mφφ 0.92; Mrθ 0.38; Mθφ 0.85; Mφr-2.87; Best double couple: M☉3.20000×10²⁰ NP1:θs0.00000°, δ78.00000°, λ-105.00000°. NP2:φs236.00000°, δ19.00000°, λ-35.00000°. Principal axes: T 2.9400, Plg31.0000°, Azm104.0000°; N 0.5800, Plg15.0000°, Azm4.0000°; P -3.5300, Plg53.0000°, Azm250.0000°;*

*GCMT **23** 22:51:12.4±0.1, 6.62N×123.90E, h577km±1km, MW7.7/140, Moment Tensor Solution. s140,c395; s136,c360; Duration: 16±2 Moment tensor: Scale 10²⁰ Nm; Mrr-1.55±.02; Mθθ 0.46±.02; Mφφ 1.09±.02; Mrθ 0.40±.01; Mθφ 0.85±.02; Mφr-3.27±.02; Best double couple: M☉3.64300×10²⁰ NP1:φs359.00000°, δ79.00000°, λ-105.00000°. NP2:φs233.00000°, δ18.00000°, λ-38.00000°. Principal axes: T 3.3800, Plg32.0000°, Azm102.0000°; N 0.5230, Plg14.0000°, Azm2.0000°; P -3.9070, Plg54.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to mantle waves, cutoff=150s.*

*DJA **23** 22:51:12.2±0.2, 7.7N±2.2×12.4E±*, h581km±2km, M7.5/162, mb7.1/162, mB7.5/162, MLv8.0/13, Mw(mB)7.5/162, Mwp7.1/124*

*ISCJB **23** 22:51:12.1±0.1, 6.47N±0.01×123.51E±0.01, h596km±1km, mb6.7/311, Error ellipse: s-maj=2.2km s-min=1.8km az=156.6*

*MAN **23** 22:51:13, 6.68N×123.58E, h568km, MS7.1*

MAN INTENSITY IV - GENERAL SANTOS CITY; INTENSITY III - DAVAO CITY STA MARIA DAVAO DEL SUR; MALITA DAVAO DEL SUR; PADADA DAVAO DEL SUR; INTENSITY II- BUTUAN CITY; SURIGAO CITY.

*NEIC **23** 22:51:32.8±0.0, 6.58N×123.68E, h585km, Moment Tensor Solution. s119 Moment tensor: Scale 10²⁰Nm; Mrr-1.54; Mθθ 0.58; Mφφ 0.95; Mrθ 0.38; Mθφ 0.95; Mφr-3.23; Best double couple: M☉3.60000×10²⁰ NP1:θs238.00000°, δ20.00000°, λ-34.00000°. NP2:φs1.00000°, δ79.00000°, λ-105.00000°. Principal axes: T 3.2900, Plg32.0000°, Azm104.0000°; N 0.6300, Plg15.0000°, Azm4.0000°; P -3.9200, Plg53.0000°, Azm251.0000°;*

ISC 23 22:51:13.0±0.2, 6.42N±0.02×123.58E±0.02, h585km±1km, h586km:pP-P, n2493, σ2s07/2910, mb6.8/321, 116C-134D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CTBH	Cotabato--PC H	1.03	40	⇓eP		P	22 52 22.4	-0.4
GSPH	General Santos	1.40	104	eP		P	22 52 23.0	-0.9
IPIL	Ipil	1.69	324	⇑eP		P	22 52 23.8	-0.9
DMPH	Davao City--Mi	2.02	71	⇓iP		P	22 52 25.3	-0.7
DMPH				eS		S	22 53 30.8	+5.4
DAV	Davao City (W)	2.09	72	⇓eP		P	22 52 25.8	-0.5
DAV	Davao City (W)	2.09	72	⇑iS		S	22 53 36.9	+11
DAV	Davao City (W)	2.09	72	eP		P	22 52 25.0	-1.3
DCPH	Dipolog City	2.16	354	⇑eP		P	22 52 25.7	-0.8
TBP	Tagbilaran	3.26	5	⇓eP		P	22 52 30.4	-2.0
TBP				iS		S	22 53 38.9	+1.7
BIPH	Bislig	3.27	57	⇓iP		P	22 52 35.5	+3.0
BIPH				iS		S	22 53 41.3	+4.1
SGSI	Sangihe	3.34	144	P		P	22 52 31.9	-1.1
SGSI				S		S	22 53 40.1	+2.0
JAP	San Jose, Anti	4.59	340	⇑eP		P	22 52 41.5	-0.2
PLP	Palo	4.91	16	⇓eP		P	22 52 42.5	-1.7
PLP				eS		S	22 53 54.4	-4.2
MYLDM	Lahad Datu	5.20	257	⇑P		P	22 52 47.7	+1.1
MYLDM	Lahad Datu	5.20	257	eP		P	22 52 42.5	-4.2
KALP	Kalibo	5.36	347	eP		P	22 52 43.0	-4.9
KMSI	Cibinong	5.82	176	P		P	22 52 53.2	+1.3
	115μm,0.9s,934μm2μm							
KMSI				S		S	22 54 11.3	-1.3
	115μm,0.9s,934μm2μm							
PPR	Puerto Princes	5.84	305	eP		P	22 52 52.7	+0.7
MMPH	Masbate	5.90	0	eP		P	22 52 53.0	+0.6
TOLI	Toli-Toli	5.96	208	eP		P	22 52 53.2	+0.2
TSM	Tawau	6.06	250	⇑P		P	22 52 54.3	+0.3
MRSI	Marisa	6.13	196	P		P	22 52 55.7	+1.1
	50μm,0.9s,895μm230nm							
MRSI				S		S	22 54 20.0	+2.5
	50μm,0.9s,895μm230nm							
SDKM	Sandakan	6.40	263	⇑P		P	22 52 56.1	-0.9
KDM	Kudat	6.72	275	⇑P		P	22 52 59.4	-0.5
KDM	Kudat	6.72	275	⇑P		P	22 52 59.4	-0.5
TNTI	Ternate	6.77	146	P		P	22 52 59.8	-0.5
	81μm,1.5s,3μm							
TNTI				S		S	22 54 26.4	-1.6
	81μm,1.5s,3μm							
TNTI	Ternate	6.77	146	eP		P	22 53 00.1	-0.2
TNTI				eS		S	22 54 26.1	-1.9
MPSI	Mapaga	7.07	211	P		P	22 53 03.2	+0.1
	33μm,2.2s,833μm213nm							
MPSI				S		S	22 54 32.6	-0.6
	33μm,2.2s,833μm213nm							
PVCP	Virac	7.15	4	⇑eP		P	22 53 01.5	-2.2
PVCP				iS		S	22 54 35.6	+1.2
KKM	Kota Kinabalu	7.33	267	P		P	22 53 04.5	-1.1
	baz=7.3,SNR=1000							
KKM	Kota Kinabalu	7.33	267	⇑P		P	22 53 05.5	-0.2
KKM	Kota Kinabalu	7.33	267	⇑P		P	22 53 05.5	-0.2
KKM	Kota Kinabalu	7.33	267	eP		P	22 53 04.8	-0.8
LUWI	Luwuk	7.46	186	P		P	22 53 06.3	-0.4
	85μm,0.9s,1μm							
LUWI				S		S	22 54 39.9	+0.1
	85μm,0.9s,1μm							
LUWI	Luwuk	7.46	186	⇓P		P	22 53 05.8	-0.9
	baz=7.5,SNR=619							
LUWI	Luwuk	7.46	186	eP		P	22 53 06.1	-0.6
GQP	Guinayangan	7.52	352	eP		P	22 53 05.5	-1.7
APSI	Ampana	7.54	195	P		P	22 53 07.3	-0.2
	85μm,1.1s,616nm							
APSI				S		S	22 54 41.6	+0.5
	85μm,1.1s,616nm							
LQP	Lukban	7.90	345	⇓eP		P	22 53 09.7	-1.4
LBMI	Labuha	8.03	151	P		P	22 53 12.2	0.0
	84μm,0.9s							
LBMI				S		S	22 54 48.5	-1.3
	84μm,0.9s							
TGY	Tagaytay City	8.06	341	P		P	22 53 10.5	-2.0
	3μm,0.3s,baz=168,slow=8.0,SNR=165							
TGY				S		S	22 54 52.4	+2.0
	baz=153,slow=18,SNR=1.9							
TGY	Tagaytay City	8.06	341	⇓eP		P	22 53 11.1	-1.4
TGY				eS		S	22 54 55.4	+5.0
PCI	Palu	8.18	207	P		P	22 53 13.7	0.0
	105μm,1.4s							
PCI				S		S	22 54 53.4	+0.9
	105μm,1.4s							
SANI	Sanana	8.75	164	P		P	22 53 17.5	-1.7
	54μm,0.8s,465μm							
SANI				S		S	22 54 57.2	-5.4
	54μm,0.8s,465μm							
TTSI	Tana Toraja	10.13	202	P		P	22 53 33.1	+0.3
	94μm,1.1s,979μm728μm							
BKB	Balikpapan	10.14	221	P		P	22 53 33.6	+0.7
	74μm,1.2s							
NLAI	Namlea	10.22	160	P		P	22 53 35.2	+1.4
	28μm,0.7s,524μm							
BCPH	Baguio City Da	10.32	344	⇑iP		P	22 53 38.4	+3.5
BCPH				iS		S	22 55 31.9	+0.4
KDI	Kendari	10.36	185	P		P	22 53 34.5	-0.6
	30μm,1.5s,669μm							
SWI	Sorong	10.54	133	P		P	22 53 37.1	+0.1
	31μm,1.3s,697μm							
SWI	Sorong	10.54	133	P		P	22 53 37.6	+0.6
	baz=11,SNR=274							
SIJI	Sorong	10.55	133	P		P	22 53 37.3	+0.2
	550nm,0.3s,baz=318,slow=12,SNR=671							
SIJI				S		S	22 55 35.0	-0.5
	118nm,0.3s,baz=319,slow=20,SNR=2.4							
PALP	Palanan	10.63	354	⇓eP		P	22 53 37.9	+0.1
PALU	Palau	10.86	85	⇓P		P	22 53 40.1	0.0
	baz=11,SNR=198							
BTM	Bintulu	10.94	253	⇑P		P	22 53 41.7	+0.7
BTM	Bintulu	10.94	253	⇑P		P	22 53 41.7	+0.7
I39PW	PALAU INFRASON	10.94	84	P		P	22 53 45.0	+4.0
	baz=255,slow=10,SNR=66							
SPSI	Sidrap Palu	11.00	200	P		P	22 53 41.0	-0.6
	58μm,0.9s,714μm627μm							
SPSI				S		S	22 55 46.7	+3.0
	58μm,0.9s,714μm627μm							
AAI	Ambon	11.05	155	P		P	22 53 43.0	+0.9
	baz=11,SNR=506							
MSAI	Masohi	11.08	151	P		P	22 53 43.5	+1.1
	13μm,1.1s,179μm427μm							
MSAI				S		S	22 55 49.5	+4.4
	13μm,1.1s,179μm427μm							
SIPP	Brgy, Tapao	11.83	345	⇑eP		P	22 53 46.9	-3.0
SIPP				eS		P	22 53 49.5	-0.4
KAPI	Kappang	11.99	199	P		P	22 54 01.1	+9.5
	86μm,1.4s							
KAPI	Kappang	11.99	199	P		P	22 53 50.9	-0.8
	8.3nm,0.3s,baz=23,slow=8.3,SNR=38							
KAPI				S		S	22 56 03.5	+1.5
	78nm,0.3s,baz=224,slow=19,SNR=3.0							
KAPI	Kappang	11.99	199	eP		P	22 53 50.4	-1.2
KAPI				S		S	22 56 03.5	+1.5
SBUM	Sibu	11.99	251	⇑P		P	22 53 53.6	+1.9
SBUM	Sibu	11.99	251	⇑P		P	22 53 53.6	+1.9
SBUM	Sibu	11.99	251	eP		P	22 53 52.1	+0.4
BKSI	Bulukumba	12.17	197	P		P	22 53 52.6	-0.9
	8μm,0.8s,118μm479μm							
BNDI	Bandanaira	12.57	150	P		P	22 53 57.7	+0.1
	70μm,1.3s							
BNDI				S		S	22 56 17.9	+4.9
	70μm,1.3s							
FAKI	Fak Fak	12.69	137	P		P	22 53 59.0	+0.2
	44μm,1.5s,783μm							
FAKI				S		S	22 56 16.8	+1.5
	44μm,1.5s

baz=16,SNR=18
BWJI Bawean 16.36 222 P **P** **22 54 34.9 +0.5**
23µm,1.6s,289µm
KMMI Kalianget 16.46 216 P **P** **22 54 35.7 +0.3**
27µm,1.5s,313µm
KMMI S **S** **22 57 23.0 +2.7**
27µm,1.5s,313µm
TWG Pinlang 16.48 352 *eP* **P** **22 54 33.3 -2.2**
38µm,0.7s
SRBI Singaraja 16.65 210 P **P** **22 54 36.7 -0.4**
14µm,2.0s,220µm
ABJI Asem Bagus 16.92 214 P **P** **22 54 39.8 +0.2**
15µm,1.9s,302µm
YULB Yu-li 17.01 353 *eP* **P** **22 54 37.7 -2.6**
15µm,1.0s
DNP Denpasar 17.16 209 P **P** **22 54 42.5 +0.7**
57µm,1.2s,912µm
DNP S **S** **22 57 36.1 +4.4**
57µm,1.2s,912µm
BLJI Banyuglugur 17.24 215 P **P** **22 54 42.0 -0.5**
12µm,1.2s,153µm
BLJI S S 22 57 42.7 +10
12µm,1.2s,153µm
SMPI Sarmi 17.26 118 P **P** **22 54 43.4 +0.7**
41µm,1.2s,681µm
SMPI S **S** **22 57 35.1 +1.8**
41µm,1.2s,681µm
GRJI Gresik 17.27 220 P **P** **22 54 43.3 +0.6**
14µm,1.4s,112µm254µm
IGBI Denpasar 17.32 209 P **P** **22 54 43.0 -0.2**
33µm,1.4s,429µm
IGBI S **S** **22 57 40.0 +5.8**
33µm,1.4s,429µm
SSLB Suanglung 17.45 352 *eP* **P** **22 54 42.8 -1.4**
19µm,0.9s
TBJI Tambak Boyo 17.61 222 P **P** **22 54 46.5 +0.7**
24µm,1.9s,412µm
NACB Ninganchiao 17.75 354 *eP* **P** **22 54 45.4 -1.6**
8µm,1.0s
GMJI Gumukmas 17.76 215 P **P** **22 54 49.4 +2.2**
17µm,2.3s,352µm
YOJ Yonaguni jima 17.95 358 *eP* **P** **22 54 48.3 -0.5**
YOJ Yonaguni jima 17.95 358 *eP* **P** **22 54 48.2 -0.5**
36µm,1.1s
YHNB Yeheng 18.27 354 *eP* **P** **22 54 50.3 -1.5**
43µm,1.4s
NGJI Ngawi 18.27 222 P **P** **22 54 53.3 +1.4**
18µm,1.3s,341µm
QIZ Qiongzhong 18.32 314 P **P** **22 54 51.8 -0.5**
QIZ sP **sP** **22 57 14.0 -3.2**
QIZ S **S** **22 57 50.6 +0.2**
QIZ PMZ
112µm,13.6s
QIZ Qiongzhong 18.32 314 *eP* **P** **22 54 51.5 -0.8**
3µm,0.8s
PWJI Pagerwojo 18.54 219 P **P** **22 54 54.3 0.0**
13µm,2.1s,267µm
TATO Taipei 18.56 354 *eP* **P** **22 54 52.3 -2.0**
20µm,1.0s
SMRI Semarang 18.73 225 P **P** **22 54 56.9 +0.8**
22µm,1.2s,298µm
SMRI S **S** **22 58 01.1 +3.9**
22µm,1.2s,298µm
SMRI Semarang 18.73 225 ⇓P **P** **22 54 57.1 +1.0**
baz=19,SNR=62
SMRI Semarang 18.73 225 *eP* **P** **22 54 56.3 +0.2**
18µm,1.0s
GENI Genyem 18.83 118 P **P** **22 54 57.0 0.0**
55µm,1.1s,688µm
GENI S **S** **22 57 59.0 +0.3**
55µm,1.1s,688µm
QZH Quanzhou 19.03 346 ⇓*iP* **P** **22 54 57.3 -1.3**
QZH S **S** **22 58 06.8 +5.3**
QZH PMZ
197µm,7.8s
JAY Jayapura 19.27 117 P **P** **22 55 00.6 -0.4**
11µm,0.7s,199µm
JAY Jayapura 19.27 117 P **P** **22 55 00.8 -0.2**
126nm,0.3s,baz=279,slow=5.4,SNR=264
JAY S **S** **22 58 07.7 +1.9**
baz=293,slow=15,SNR=1.3
JAY Jayapura 19.27 117 ⇑P **P** **22 55 00.8 -0.2**
baz=19
GZH Guangzhou 19.28 330 ⇓*iP* **P** **22 55 02.9 +2.0**
GZH S S 22 58 15.5 +10
GZH PMZ
204µm,7.3s
UGM Wanagama 19.30 223 P **P** **22 55 01.7 +0.5**
15µm,1.3s,261µm
UGM S **S** **22 58 08.7 +2.5**
15µm,1.3s,261µm
UGM Wanagama 19.30 223 P **P** **22 55 01.2 0.0**
baz=19,SNR=34
PPBI Pangkal Pinang 19.39 244 P **P** **22 55 02.0 -0.1**
5µm,2.0s,142µm
UBPT Khong Chiam 19.83 298 P **P** **22 55 05.2 -0.8**
7µm,1.2s,114µm
JCJI Jatiwangi 19.95 230 P **P** **22 55 09.5 +2.4**
34µm,1.6s,561µm
DSRI Dabo 20.17 251 P **P** **22 55 09.4 +0.3**
20µm,2.2s,524µm
MYKOM Kota Tinggi 20.20 258 ⇑P **P** **22 55 10.0 +0.6**
MYKOM Kota Tinggi 20.20 258 ⇑P **P** **22 55 10.0 +0.6**
MYKOM Kota Tinggi 20.20 258 *eP* **P** **22 55 09.0 -0.4**
7µm,0.9s
KTGM Kuala Trenggan 20.37 268 ⇑P **P** **22 55 11.0 +0.1**
KTGM Kuala Trenggan 20.37 268 ⇑P **P** **22 55 11.0 +0.1**
BTDF Bukit Timah Da 20.39 257 P **P** **22 55 10.5 -0.6**
baz=20,SNR=90
BTDF P **P** **22 55 10.5 -0.6**
baz=20,SNR=90
MTN Manton Dam 20.56 159 ⇓P **P** **22 55 11.7 -0.9**
baz=21,SNR=357
CMJI Cimerak 20.66 227 P **P** **22 55 11.8 -1.7**
8µm,0.6s,101µm
CMJI S **S** **22 58 30.2 +2.4**
8µm,0.6s,101µm
LEM Lembang 20.66 231 P **P** **22 55 14.8 +1.1**
24µm,2.2s,487µm
LEM S **S** **22 58 31.6 +3.5**
24µm,2.2s,487µm
LEM Lembang 20.66 231 P **P** **22 55 12.6 -1.1**
3µm,1.1s,baz=55,slow=7.6,SNR=84
LEM S **S** **22 58 29.1 +1.0**
2µm,1.0s,baz=107,slow=14,SNR=1.2
KGM Kluang 20.67 259 ⇑P **P** **22 55 13.4 -0.2**
KGM Kluang 20.67 259 ⇑P **P** **22 55 13.4 -0.2**
JOW Kunigami 20.78 12 *eP* **P** **22 55 13.7 -0.8**
12µm,1.0s
KDU Kakadu 20.94 155 P **P** **22 55 15.1 -1.0**
baz=21,SNR=418
PMBI Palembang 20.95 244 P **P** **22 55 17.0 +0.8**
15µm,1.1s,239µm
PMBI Palembang 20.95 244 ⇑P **P** **22 55 18.2 +2.0**
baz=21,SNR=7.4
CISI Cisompet, Garu 20.98 229 P **P** **22 55 15.6 -0.9**
11µm,1.1s,166µm
CISI S **S** **22 58 36.1 +3.2**
11µm,1.1s,166µm
CISI Cisompet, Garu 20.98 229 ⇑P **P** **22 55 15.1 -1.3**
baz=21,SNR=57
CISI Cisompet, Garu 20.98 229 *eP* **P** **22 55 15.2 -1.2**
16µm,1.3s
CBJI Citeko 21.01 233 P **P** **22 55 18.0 +1.3**
8µm,0.8s
TNG Tangerang 21.03 234 P **P** **22 55 17.1 +0.2**
21µm,1.1s,341µm
TNG Tangerang 21.03 234 P **P** **22 55 17.0 +0.2**
17µm,1.1s,271µm
CNJI Cibinong 21.34 231 P **P** **22 55 18.3 -1.3**
23µm,1.0s,203µm
CNJI S **S** **22 58 38.5 0.0**
23µm,1.0s,203µm
SBJI Serang 21.41 235 P **P** **22 55 20.7 +0.4**
53µm,1.1s,664µm
JMBI JAMBI 21.45 249 P **P** **22 55 21.8 +1.1**
56µm,1.5s,636µm
SKJI Sukabumi 21.60 232 P **P** **22 55 21.5 -0.4**
22µm,1.2s,257µm934µm
SKJI S **S** **22 58 43.7 +1.1**
22µm,1.2s,257µm934µm
BLSI Bandar Lampung 21.73 238 P **P** **22 55 23.9 +0.8**
32µm,1.1s,329µm
KLI Kotabumi 21.80 239 P **P** **22 55 23.8 +0.1**
33µm,1.1s,333µm
KLSI 21.82 240 P **P** **22 55 24.2 +0.3**
53µm,1.6s,782µm
SKNT Sakolnakorn 21.84 300 P **P** **22 55 23.2 -0.9**

15µm,1.0s,139µm
CGJI Cibinong 22.05 234 P **P** **22 55 25.3 -0.7**
28µm,1.0s,321µm
CGJI S **S** **22 58 47.5 -2.2**
28µm,1.0s,321µm
FRIM Kepong 22.10 263 ⇑P **P** **22 55 26.0 -0.5**
FRIM Kepong 22.10 263 ⇑P **P** **22 55 26.0 -0.5**
GUMO Guam 22.13 70 P **P** **22 55 26.4 -0.3**
894nm,0.5s,baz=202,slow=5.7,SNR=37
GUMO S **S** **22 58 50.9 0.0**
758nm,0.8s,baz=221,slow=20,SNR=3.9
GUMO ScP **ScP** **23 01 42.6 -0.7**
1µm,1.0s,baz=208,slow=3.3,SNR=3.7
GUMO Guam 22.13 70 *eP* **P** **22 55 25.5 -1.2**
GUMO S **S** **22 58 50.9 0.0**
GUMO pmax pmax
comp=Z,7µm,1.1s
GUMO Guam 22.13 70 *eP* **P** **22 55 25.5 -1.2**
comp=Z,7µm,1.1s
GUMO S **S** **22 58 50.9 0.0**
GUMO ScP **ScP** **23 01 42.6 -0.7**
MDSI Maura Dua 22.20 241 P **P** **22 55 27.1 -0.2**
comp=Z,11µm,1.1s,comp=Z,193µm
RGRI Rengat 22.25 253 P **P** **22 55 27.5 -0.3**
comp=Z,5µm,1.9s,comp=Z,171µmcomp=Z,949µm
KASI Kota Agung 22.44 238 P **P** **22 55 29.4 -0.1**
comp=Z,24µm,1.3s,comp=Z,264µm
KASI S **S** **22 58 56.1 +0.2**
comp=Z,24µm,1.3s,comp=Z,264µm
LHSI Lahat 22.46 244 P **P** **22 55 29.4 -0.3**
comp=Z,11µm,2.4s,comp=Z,240µm
IPM Ipoh 22.53 266 ⇑P **P** **22 55 30.9 +0.5**
IPM Ipoh 22.53 266 *eP* **P** **22 55 29.6 -0.7**
comp=Z,9µm,1.2s
KNRA Kununurra 22.55 167 P **P** **22 55 30.1 -0.2**
baz=23,SNR=260
LWLI Liwa 22.56 240 P **P** **22 55 30.1 -0.6**
comp=Z,70µm,0.9s
KHON Khaen 22.58 298 P **P** **22 55 29.9 -0.8**
comp=Z,6µm,0.9s,comp=Z,42µm
KULM Kulim 22.84 268 ⇑P **P** **22 55 33.6 +0.6**
KULM Kulim 22.84 268 *eP* **P** **22 55 31.9 -1.1**
comp=Z,16µm,1.6s
MNAI Manna 23.21 243 P **P** **22 55 36.1 -0.2**
comp=Z,22µm,1.6s,comp=Z,392µm
MNAI S **S** **22 59 12.8 +4.8**
comp=Z,22µm,1.6s,comp=Z,392µm
MNAI Manna 23.21 243 ⇓P **P** **22 55 35.1 -1.2**
baz=23,SNR=94
MNAI Manna 23.21 243 *eP* **P** **22 55 35.1 -1.2**
KSI Kapahiang 23.22 245 P **P** **22 55 35.0 -1.5**
comp=Z,18µm,1.0s,comp=Z,347µm
SDSI Sungai Dareh 23.29 252 P **P** **22 55 36.6 -0.4**
comp=Z,7µm,1.9s,comp=Z,154µm
BKNI Bangkinang 23.29 256 P **P** **22 55 36.1 -1.0**
comp=Z,13µm,1.4s,comp=Z,178µm
BKNI Bangkinang 23.29 256 ⇑P **P** **22 55 35.8 -1.2**
baz=23,SNR=15
BKNI Bangkinang 23.29 256 *eP* **P** **22 55 35.7 -1.4**
comp=Z,21µm,1.3s
PATY Pattaya 23.29 288 P **P** **22 55 36.5 -0.5**
comp=Z,1µm,0.9s,comp=Z,8µm
TRTT Trang 23.74 275 P **P** **22 55 40.9 -0.2**
comp=Z,5µm,0.9s,comp=Z,122µm
PPI Padang Panjang 24.13 254 P **P** **22 55 43.3 -1.1**
baz=24,SNR=140
SLVN Son La 24.13 310 *eP* **P** **22 55 44.5 0.0**
comp=Z,5µm,1.2s
KRAB Krabi 24.25 276 P **P** **22 55 44.6 -0.9**
comp=Z,11µm,0.7s,comp=Z,88µm
PBKT Sadao Pong 24.31 296 P **P** **22 55 45.6 -0.4**
comp=Z,11µm,1.0s,comp=Z,113µm
XMI Christmas Isla 24.46 227 ⇓P **P** **22 55 46.4 -1.0**
baz=24,SNR=8.3
XMIS Christmas Isla 24.51 227 ⇑P **P** **22 55 46.3 -1.6**
baz=24,SNR=6.2
XMIS Christmas Isla 24.51 227 *eP* **P** **22 55 46.2 -1.6**
comp=Z,3µm,0.8s
MNSI Mandailing Nat 24.59 258 P **P** **22 55 47.6 -0.9**
comp=Z,5µm,0.8s,comp=Z,111µm
SSE Sheshan 24.65 355 P **P** **22 55 48.9 +0.1**
SSE sP **sP** **22 58 25.3 -1.3**
SSE S **S** **22 59 35.4 +5.3**
SSE PcS **PcS** **23 02 43.5 -2.9**
SSE PMZ
comp=Z,2µm,1.4s
SSE PMZ
comp=Z,36µm,7.6s
SURT Suratani 24.69 277 P **P** **22 55 49.0 -0.4**
comp=Z,3µm,1.0s,comp=Z,55µm
PSI Prapat 24.83 263 P **P** **22 55 49.9 -1.0**
comp=Z,3µm,1.1s,baz=89,slow=5.3,SNR=97
PSI S **S** **22 59 32.8 -1.0**
comp=Z,417nm,1.0s,baz=261,slow=15,SNR=1.7
PSI ScP **ScP** **23 01 49.5 -1.5**
comp=Z,681nm,1.2s,baz=90,slow=4.0,SNR=2.8
PSI Prapat 24.83 263 ⇓P **P** **22 55 49.9 -1.0**
baz=25,SNR=23
TSI Tuntungan 25.09 265 P **P** **22 55 52.9 0.0**
comp=Z,9µm,1.2s,comp=Z,240µm
PKDT Phuket 25.09 275 P **P** **22 55 52.7 -0.3**
comp=Z,9µm,1.0s,comp=Z,153µm
UTTA Uttaradit 25.13 299 P **P** **22 55 52.9 -0.4**
comp=Z,2µm,1.0s,comp=Z,15µm
MANU Manus Island 25.19 109 ⇓P **P** **22 55 54.9 +1.0**
baz=25,SNR=27
PPSI Pulau Pagai 25.24 250 P **P** **22 55 52.4 -1.9**
comp=Z,20µm,1.4s,comp=Z,313µmcomp=Z,952µm
SRDT SRDT 25.29 290 P **P** **22 55 54.6 -0.1**
comp=Z,31µm,1.0s,comp=Z,317µm
WHN Wuhan 25.51 341 ⇓P **P** **22 55 56.3 -0.1**
WHN sP **sP** **22 58 35.0 -1.0**
WHN S S 22 59 51.6 +7.9
GYA Guiyang 25.63 323 ⇑*iP* **P** **22 55 57.3 -0.4**
GYA sP **sP** **22 58 36.8 -0.6**
GYA S S **22 59 50.4 +4.5**
GYA ScS **ScS** **23 05 42.9 -0.7**
GYA PMZ
comp=Z,2µm,1.2s
SISI Saibi 25.63 253 P **P** **22 55 56.5 -1.2**
comp=Z,23µm,0.7s,comp=Z,286µmcomp=Z,983µm
NJ2 Nanjing 25.88 351 *eP* **P** **22 56 01.1 +1.5**
NJ2 sP **sP** **22 58 38.1 -1.7**
NJ2 S **S** **22 59 55.0 +5.7**
NJ2 PMZ
comp=Z,1µm,0.7s
NJ2 PMZ
comp=Z,67µm,10.9s
KHLT Khaolaem Dam 25.91 291 P **P** **22 56 00.5 +0.3**
comp=Z,4µm,0.9s,comp=Z,44µm
PBSI Pulau Batu 26.05 257 P **P** **22 55 59.7 -1.8**
comp=Z,6µm,1.8s,comp=Z,107µmcomp=Z,889µm
PBSI S **S** **22 59 51.6 -1.0**
comp=Z,6µm,1.8s,comp=Z,107µmcomp=Z,889µm
LAMP Lampang 26.25 299 P **P** **22 56 03.0 -0.1**
comp=Z,3µm,1.1s,comp=Z,21µm
CRAI Chiangrai 26.37 304 P **P** **22 56 00.7 -3.5**
comp=Z,5µm,0.9s,comp=Z,48µm
GSI Gunungsitoli 26.43 260 P **P** **22 56 03.8 -1.0**
comp=Z,38µm,0.9s,comp=Z,433µm
GSI Gunungsitoli 26.43 260 ⇑P **P** **22 56 02.5 -2.3**
baz=26
GSI Gunungsitoli 26.43 260 *eP* **P** **22 56 03.2 -1.6**
comp=Z,23µm,0.7s
LHMI Lhok Sumawe 26.52 269 P **P** **22 56 06.7 +1.1**
comp=Z,16µm,1.6s,comp=Z,328µm
LHMI Lhok Sumawe 26.52 269 ⇓P **P** **22 56 05.6 0.0**
baz=26,SNR=127
LHMI Lhok Sumawe 26.52 269 *eP* **P** **22 56 05.5 0.0**
comp=Z,32µm,1.5s
CMAR Chiang Mai Arr 26.82 299 P **P** **22 56 07.5 -0.6**
comp=Z,228nm,0.6s,baz=115,slow=7.1,SNR=437
CMAR S **S** **23 00 08.3 +3.8**
comp=Z,81nm,0.9s,baz=99,slow=16,SNR=2.2
CMAR ScP **ScP** **23 01 55.0 -1.6**
comp=Z,89nm,0.9s,baz=66,slow=2.3,SNR=2.5
KSSGP Seogwipo 26.84 5 P **P** **22 56 08.5 +0.5**
SNR=104
KSSGP Seogwipo 26.84 5 P **P** **22 56 08.5 +0.5**
SNR=104
KSGOS Gosan 26.84 5 P **P** **22 56 07.9 -0.2**
SNR=30
KSGOS Gosan 26.84 5 P **P** **22 56 07.9 -0.2**
SNR=30
CHTO Chiang Mai 26.96 299 P **P** **22 56 08.7 -0.7**
comp=Z,42µm,0.8s,comp=Z,481µm
CHTO Chiang Mai 26.96 299 *eP* **P** **22 56 09.2 -0.2**

CHTO pmax pmax
comp=Z,6µm,0.8s
CHTO Chiang Mai 26.96 299 *eP* **P** **22 56 09.2 -0.2**
comp=Z,6µm,0.8s
KSJJU Jeju 27.01 5 P **P** **22 56 09.9 +0.2**
SNR=165
KSJJU Jeju 27.01 5 P **P** **22 56 09.9 +0.2**
SNR=165
JCJ Chichijima 27.12 39 P **P** **22 56 08.8 -1.9**
comp=Z,805nm,0.4s,baz=243,slow=4.1,SNR=96
JCJ S **S** **23 00 04.5 -4.5**
comp=Z,5µm,0.7s,baz=262,slow=23,SNR=14
CBIJ Chichi jima 27.13 39 *eP* **P** **22 56 09.1 -1.6**
comp=Z,57µm,1.3s
CBIJ S **S** **23 00 04.5 -4.5**
ENH Enshi 27.18 333 *eP* **P** **22 56 10.4 -0.7**
comp=Z,4µm,1.4s
KMI Kunming 27.27 315 P **P** **22 56 12.3 +0.1**
KMI sP **sP** **22 58 49.1 -4.4**
KMI S **S** **23 00 16.9 +5.1**
KMI PMZ
comp=Z,5µm,1.6s
CMAI Chiengmai2 27.35 302 P **P** **22 56 12.2 -0.7**
comp=Z,6µm,1.1s,comp=Z,77µm
JNU Nakatsue 27.42 13 P **P** **22 56 11.1 -2.1**
comp=Z,105nm,0.7s,baz=210,slow=3.6,SNR=46
JNU S **S** **23 00 12.4 -1.0**
comp=Z,248nm,0.9s,baz=210,slow=10,SNR=1.4
JNU Nakatsue 27.42 13 *eP* **P** **22 56 11.0 -2.2**
comp=Z,3µm,1.0s
JNU S **S** **23 00 12.4 -1.0**
MHMT Maesarieng 27.60 297 P **P** **22 56 14.6 -0.4**
comp=Z,11µm,1.0s,comp=Z,69µm
MBWA Marble Bar 27.67 188 *eP* **P** **22 56 14.6 -0.9**
comp=Z,31µm,2.1s
KSWAN Wando 27.98 6 P **P** **22 56 17.6 -0.3**
SNR=120
KSWAN Wando 27.98 6 P **P** **22 56 17.6 -0.3**
SNR=120
KSJDO Jindo 28.02 5 P **P** **22 56 18.2 -0.3**
SNR=39
KSJDO Jindo 28.02 5 P **P** **22 56 18.2 -0.3**
SNR=39
COEN Coen 28.08 136 ⇓P **P** **22 56 17.5 -1.6**
baz=28,SNR=1000
COEN Coen 28.08 136 *eP* **P** **22 56 18.3 -0.8**
comp=Z,5µm,0.8s
WB0 Warramunga Arr 28.12 158 ⇓P **P** **22 56 18.6 -0.9**
baz=28
KSHUK Heuksando 28.18 3 P **P** **22 56 20.3 +0.6**
SNR=65
KSHUK Heuksando 28.18 3 P **P** **22 56 19.9 +0.2**
SNR=18
WB5 Warramunga Arr 28.21 158 ⇓P **P** **22 56 19.5 -0.7**
baz=28
WRAB Tennant Creek 28.25 158 P **P** **22 56 20.6 0.0**
comp=Z,46µm,0.4s
WRAB Tennant Creek 28.25 158*c iP* **P** **22 56 19.8 -0.8**
WRAB Tennant Creek 28.25 158 *eP* **P** **22 56 20.0 -0.6**
comp=Z,5µm,0.6s
KSKOH Goheung 28.26 6 P **P** **22 56 19.7 -0.7**
SNR=60
KSKOH Goheung 28.26 6 P **P** **22 56 20.1 -0.3**
SNR=275
WRA Warramunga Arr 28.26 158 P **P** **22 56 19.9 -0.8**
comp=Z,2µm,0.5s,baz=338,slow=9.4,SNR=2804
WRA S **S** **23 00 22.0 -4.8**
comp=Z,770nm,0.8s,baz=329,slow=16,SNR=4.9
WRA ScP **ScP** **23 02 00.0 -0.9**
comp=Z,224nm,0.6s,baz=348,slow=3.4,SNR=2.5
WR2 Warramunga Arr 28.27 158 ⇑P **P** **22 56 20.1 -0.6**
baz=28
PMG Port Moresby 28.27 124 P **P** **22 56 19.8 -1.0**
comp=Z,2µm,1.0s,baz=320,slow=8.7,SNR=125
PMG ScP **ScP** **23 02 00.1 -1.0**
comp=Z,639nm,1.1s,baz=315,slow=5.7,SNR=2.2
PMG Port Moresby 28.27 124 *eP* **P** **22 56 20.3 -0.5**
PMG Port Moresby 28.27 124 *eP* **P** **22 56 20.3 -0.5**
comp=Z,21µm,1.0s
PMG ScP **ScP** **23 02 00.1 -1.0**
KSNAH Namhae 28.54 8 P **P** **22 56 22.6 -0.2**
SNR=65
KSNAH Namhae 28.54 8 P **P** **22 56 22.6 -0.2**
SNR=65
KSTOY TONGYONG 28.64 8 P **P** **22 56 24.7 +1.0**
SNR=49
KSKWJ Gwangju 28.77 6 P **P** **22 56 25.2 +0.3**
SNR=45
KSKWJ Gwangju 28.77 6 P **P** **22 56 24.8 -0.1**
SNR=99
KSGWJ Gwangju-acc 28.77 6 P **P** **22 56 24.7 -0.2**
SNR=43
KSJIN Jinju 28.89 8 P **P** **22 56 25.6 -0.3**
SNR=196
KSJEU Jeongeup 29.09 6 P **P** **22 56 27.4 -0.2**
SNR=63
KSJEU Jeongeup 29.09 6 P **P** **22 56 27.4 -0.2**
SNR=63
KSBUS Busan 29.14 9 P **P** **22 56 27.2 -0.8**
SNR=77
KSBUS Busan 29.14 9 P **P** **22 56 29.4 +1.4**
SNR=22
CMBY CAMPBELL BAY 29.45 273 *eP* **P** **22 56 29.7 -1.4**
KSJEO Jeonju 29.57 6 P **P** **22 56 32.0 +0.3**
SNR=42
KSDAG Daegu 29.61 9 P **P** **22 56 32.2 +0.1**
SNR=19
KSGUS GUNSAN 29.62 5 P **P** **22 56 31.6 -0.5**
SNR=74
KSCPR CHUPUNGNYEONG 29.93 7 P **P** **22 56 35.2 +0.4**
SNR=26
KSTEJ Daejeon 30.01 6 P **P** **22 56 35.7 +0.2**
SNR=43
TJN Taejon 30.01 6*c iP* **P** **22 56 35.2 -0.3**
KSKOJ Gongju 30.08 6 P **P** **22 56 35.6 -0.5**
SNR=54
KSPHA Pohang 30.10 9 P **P** **22 56 37.1 +0.8**
SNR=120
KSSAJ Sangju 30.14 7 P **P** **22 56 36.9 +0.3**
SNR=41
KSEUS ULSEONG 30.15 8 P **P** **22 56 38.0 +1.3**
SNR=25
KSBON Boeun 30.18 7 P **P** **22 56 37.9 +0.8**
SNR=26
TIA Tai'an 30.23 350 ⇓P **P** **22 56 35.9 -1.6**
TIA S **S** **23 00 58.3 +1.5**
GIRL Giralia 30.30 197 P **P** **22 56 38.8 +0.6**
baz=30,SNR=447
KSSES Seosan 30.34 5 P **P** **22 56 38.3 0.0**
SNR=23
RABL Rabaul 30.42 110 ⇑P **P** **22 56 40.6 +1.1**
baz=30,SNR=63
JHJ Hachijo jima 2 30.54 27 P **P** **22 56 39.7 -0.4**
comp=Z,803nm,0.7s,baz=155,slow=5.5,SNR=27
JHJ S **S** **23 00 56.9 -4.6**
comp=Z,2µm,0.9s,baz=267,slow=19,SNR=3.0
JHJ2 Mitsune 30.55 28 *eP* **P** **22 56 39.0 -1.1**
comp=Z,9µm,0.8s
KSCHJ Chungju 30.57 7 P **P** **22 56 41.1 +0.8**
SNR=82
KSULJ Uljin 30.61 9 P **P** **22 56 41.5 +0.9**
SNR=33
CD2 Chengdu 30.64 325 P **P** **22 56 39.5 -1.6**
CD2 sP **sP** **22 59 20.3 -3.4**
CD2 S **S** **23 01 02.8 -0.6**
CD2 SS **SS** **23 04 12.4 +0.1**
CD2 PMZ
comp=Z,6µm,1.4s
CD2 PMZ
comp=Z,4µm,4.3s
XAN Xi'an 30.65 336 P **P** **22 56 39.6 -1.5**
XAN sP **sP** **22 59 24.3 +0.6**
XAN S **S** **23 01 02.4 -1.0**
XAN ScS **ScS** **23 06 03.0 -3.7**
XAN PMZ
comp=Z,370nm,0.7s
XAN PMZ
comp=Z,4µm,5.6s
KSSWO Suwon 30.86 5 P **P** **22 56 43.0 +0.2**
SNR=102
PBA Port Blair 30.88 282 *eP* P 22 56 42.5 -0.8
DGPR DIGLIPUR 30.92 285 *eP* **P** **22 56 42.2 -1.3**
KSICN Icheon 30.92 6 P **P** **22 56 44.0 +0.7**
SNR=52
KSYOW Yeongwol 30.93 8 P **P** **22 56 44.1 +0.7**
SNR=102
KSTBA Taebaek 30.95 8 P **P** **22 56 43.3 -0.3**

SNR=128
INCN Inchon 31.04 5 *e*P P 22 56 45.0 +0.6
comp=Z,2µm,1.3s
QIS Mount Isa 31.10 150 P P 22 56 44.9 -0.2
baz=31,SNR=804
KSWJU Wonju 31.11 7 P P 22 56 45.6 +0.7
SNR=94
KSAR Wonju Array Be 31.12 7 P P 22 56 43.9 -1.1
KSAR S S 23 01 11.0 +0.6
KSAR Wonju Array Be 31.12 7 P P 22 56 43.9 -1.1
KSAR S S 23 01 11.0 +0.6
KSAR ScP ScP 23 02 10.2 +0.2
KSRS Korea Array 31.14 7 P P 22 56 43.9 -1.2
comp=Z,29nm,0.5s,baz=184,slow=8.5,SNR=101
KSRS S S 23 01 11.0 +0.3
comp=Z,100nm,1.0s,baz=183,slow=6.1,SNR=2.5
KSRS ScP ScP 23 02 10.2 +0.2
comp=Z,74nm,0.8s,baz=185,slow=2.8,SNR=2.5
KSJES JEONGSEON 31.21 8 P P 22 56 46.3 +0.5
SNR=152
KSGAH Ganghwa 31.25 4 P P 22 56 45.8 -0.3
SNR=39
KSBAR Backryungdo 31.43 2 P P 22 56 47.8 +0.2
SNR=217
KSCHC Chuncheon 31.45 6 P P 22 56 47.8 0.0
SNR=15
KSMUS Musan 31.45 5 P P 22 56 48.5 +0.6
SNR=234
KSDGY Daegwallycong 31.47 8 P P 22 56 48.6 +0.6
SNR=125
KSDDC Dongducheon 31.49 5 P P 22 56 48.8 +0.6
SNR=184
ASAR Alice Springs 31.56 162 P P 22 56 49.0 0.0
comp=Z,1µm,0.4s,baz=337,slow=7.6,SNR=3814
ASAR S S 23 01 14.1 -3.4
comp=Z,883nm,0.9s,baz=342,slow=12,SNR=3.4
ASAR ScP ScP 23 02 11.7 -0.1
comp=Z,253nm,0.6s,baz=358,slow=2.8,SNR=1.6
WRKA Warakurna 31.61 172 P P 22 56 49.4 0.0
baz=32,SNR=1000
KSULL Ulleungdo 31.62 11 P P 22 56 51.1 +1.8
SNR=32
YNCB YEONCHEON 31.62 5 P P 22 56 49.2 0.0
SNR=133
KSJMJ Jumunjin 31.67 8 P P 22 56 50.7 +1.0
SNR=22
KSIJA INJE 31.69 7 P P 22 56 51.3 +1.4
SNR=44
KSCWO Cheorwon 31.72 6 P P 22 56 50.3 +0.1
SNR=92
MTSU Mount Surprise 31.85 140 ⇑P P 22 56 51.2 -0.3
baz=32,SNR=456
SEHB SEOHWA 31.98 7 P P 22 56 53.4 +1.0
SNR=21
DL2 Dalian 32.39 357 ⇓*i*P P 22 56 54.6 -1.1
DL2 sP **sP** 22 59 43.5 +4.5
DL2 S S 23 01 27.3 -2.3
DL2 ScP ScP 23 02 09.3 -5.0
DL2 PMZ
comp=Z,6µm,0.9s
DL2 PMZ
comp=Z,25µm,5.4s
COCO West Island 32.39 235 P P 22 56 58.2 +2.1
comp=Z,39µm,0.8s,SNR=32
COCO West Island 32.39 235 *e*P P 22 56 55.1 -1.0
COCO pmax pmax
comp=Z,7µm,0.9s
COCO West Island 32.39 235 *e*P P 22 56 55.1 -1.0
comp=Z,7µm,0.9s
COCO *e*ScP ScP 23 02 20.2 +5.5
I30JP ISUMI INFRASON 32.61 26 P P 22 57 02.9 +5.3
baz=217,slow=14
I30JP S S 23 01 23.7 -9.4
baz=208,slow=16
TIY Taiyuan 32.76 344 *e*P P 22 56 58.3 -0.7
TIY sP **sP** 22 59 40.5 -1.9
TIY S S 23 01 36.3 +0.9
TIY PMZ
comp=Z,530nm,0.6s
TIY PMZ
comp=Z,22µm,6.0s
MAJO Matsushiro 32.83 22 *e*P P 22 56 58.4 -1.2
MAJO pmax pmax
comp=Z,6µm,0.8s
MAJO Matsushiro 32.83 22 *e*P P 22 56 58.4 -1.2
comp=Z,6µm,0.8s
MAT Matsushiro 32.83 22 P P 22 56 57.5 -2.1
MAT S S 23 01 36.8 +0.3
MJAR Matsushiro Arr 32.83 22 P P 22 56 58.3 -1.3
comp=Z,447nm,0.9s,baz=195,slow=9.6,SNR=225
MJAR S S 23 01 35.7 -0.8
comp=Z,910nm,1.0s,baz=201,slow=17,SNR=14
MJAR ScP ScP 23 02 16.3 +0.3
comp=Z,172nm,1.1s,baz=215,slow=3.7,SNR=2.2
MEEK Meekatharra 33.22 188 P P 22 57 02.5 -0.5
baz=33,SNR=661
BJT Baijiatuau 34.10 350 *e*P P 22 57 09.1 -1.1
BJT pmax pmax
comp=Z,4µm,0.9s
BJT Baijiatuau 34.10 350 *e*P P 22 57 09.1 -1.1
comp=Z,4µm,0.9s
BJI Beijing 34.13 350 P P 22 57 09.0 -1.3
BJI S S 23 01 57.8 +2.0
BJI PMZ
comp=Z,3µm,1.4s
BJI PMZ
comp=Z,37µm,6.3s
PATS Pohnpei 34.50 87 ⇑P P 22 57 14.0 +0.1
baz=35,SNR=31
CTA Charters Tower 34.52 140 P P 22 57 14.1 +0.1
comp=Z,2µm,0.7s,baz=321,slow=11,SNR=605
CTA S S 23 02 03.8 +1.5
comp=Z,146nm,0.9s,baz=319,slow=20,SNR=1.9
CTA ScP ScP 23 02 22.8 +0.5
comp=Z,1µm,1.1s,baz=34,slow=3.6,SNR=2.2
CTA Charters Tower 34.52 140 ⇓P P 22 57 14.4 +0.5
baz=35
CTAO Charters Tower 34.52 140 *e*P P 22 57 13.9 0.0
CTAO pmax pmax
comp=Z,6µm,1.0s
CTAO Charters Tower 34.52 140 *e*P P 22 57 13.9 0.0
comp=Z,6µm,1.0s
LZH Lanzhou 34.63 331 ⇓P P 22 57 14.8 0.0
LZH S S 23 02 04.5 +0.6
LZH ScS ScS 23 06 25.5 -2.3
LZH PMZ
comp=Z,11µm,1.0s
LZH PMZ
comp=Z,49µm,5.3s
SNY Shenyang 35.26 360 ⇓P P 22 57 18.0 -1.7
SNY pP **PP** 22 59 06.3 +2.1
SNY sP **sP** 23 00 02.0 -2.2
SNY S S 23 02 10.6 -2.1
SNY PMZ
comp=Z,420nm,1.8s
SNY PMZ
comp=Z,15µm,3.5s
SHL Shillong 35.76 306 *i*P P 22 57 22.5 -1.9
SHL *ex* x 23 02 17.0
HHC Hu-ho-hao-te 35.92 344 *e*P P 22 57 24.8 -0.6
HHC pP **PP** 22 59 08.4 -2.0
HHC S S 23 02 26.8 +3.8
HHC sS **sS** 23 05 24.5 +0.8
HHC SS **SS** 23 05 33.5 -5.6
HHC PMZ
comp=Z,340nm,0.7s
HHC PMZ
comp=Z,27µm,5.4s
MORW Morawa 36.02 191 P P 22 57 25.9 -0.3
baz=36,SNR=369
BTO Baotou 36.14 342 *e*P P 22 57 25.6 -1.5
MSHR Mys Shultsa 36.63 9 *e*P P 22 57 30.7 -0.3
FORT Forrest 37.24 174 P P 22 57 36.1 0.0
baz=37,SNR=1000
FORT Forrest 37.24 174 *e*P P 22 57 36.4 +0.3
comp=Z,9µm,0.9s
CN2 Changchun 37.27 2 *e*P P 22 57 34.1 -2.1
CN2 *es*P **sP** 23 00 21.8 +0.1
CN2 *e*S S 23 02 45.3 +2.7
CN2 PMZ
comp=Z,3µm,4.0s
VLA Vladivostok 37.27 10 *d i*P P 22 57 35.9 -0.3
VLA pmax pmax
comp=Z,634nm,1.4s
BLDU Balliduu 37.41 190 P P 22 57 36.9 -0.7
baz=38,SNR=333

KMBL Kambalda 37.61 182 P P 22 57 39.0 -0.2
baz=38,SNR=869
KLBR Kellerberrin 38.21 188 P P 22 57 43.6 -0.4
baz=38,SNR=844
LSA Lhasa 38.32 311 P P 22 57 46.3 +0.8
LSA PP **PP** 22 59 34.1 +1.6
LSA S S 23 03 07.3 +7.9
LSA Lhasa 38.32 311 *e*P P 22 57 45.6 +0.1
LSA pmax pmax
comp=Z,6µm,0.7s
LSA Lhasa 38.32 311 *e*P P 22 57 45.6 +0.1
comp=Z,6µm,0.7s
I45RU USSURIYSK INFR 38.34 10 P P 22 57 52.6 +7.7
baz=181,slow=6.8
USRK Ussuriysk Ar. 38.34 10 P P 22 57 43.8 -1.1
comp=Z,137nm,0.6s,baz=198,slow=5.4,SNR=116
USRK S S 23 02 56.8 -1.6
comp=Z,159nm,0.9s,baz=209,slow=12,SNR=1.5
MDJ Mudanjiang 38.41 7 P P 22 57 45.9 +0.5
MDJ sP **sP** 23 00 27.4 -4.1
MDJ S S 23 03 01.8 +2.5
MDJ sS **sS** 23 06 03.8 +1.7
MDJ PMZ
comp=Z,2µm,0.9s
MDJ PMZ
comp=Z,40µm,9.3s
MDJ Mudanjiang 38.41 7 *e*P P 22 57 45.2 -0.2
comp=Z,4µm,1.1s
QLP Quilpie 38.44 149 ⇓P P 22 57 45.8 -0.2
baz=39,SNR=292
SLGI Shiliguri 39.06 305 *e*P P 22 57 47.7 -3.3
GTK Gangtok 39.17 306 *e*P P 22 57 49.0 -3.1
GTA Gaotai 39.20 330 ⇓P P 22 57 51.4 -0.7
GTA S S 23 03 14.3 +2.8
GTA SS **SS** 23 06 27.3 -6.9
GTA PMZ
comp=Z,600nm,0.9s
GTA PMZ
comp=Z,37µm,9.0s
ERM Erimo 39.48 23 P P 22 57 56.5 +2.4
comp=Z,22µm,1.0s,SNR=32
ERM Erimo 39.48 23 *e*P P 22 57 53.8 -0.2
ERM pmax pmax
comp=Z,3µm,0.8s
ERM Erimo 39.48 23 *e*P P 22 57 53.8 -0.2
comp=Z,3µm,0.8s
NWAO Narrogin (SRO) 39.59 188 P P 22 57 55.2 +0.1
comp=Z,563nm,0.4s,baz=329,slow=7.7,SNR=654
NWAO ScP **ScP** 23 02 41.1 -0.1
comp=Z,956nm,1.1s,baz=329,slow=2.6,SNR=4.5
NWAO S S 23 03 18.5 +1.5
comp=Z,596nm,0.8s,baz=150,slow=20,SNR=6.8
NWAO Narrogin (SRO) 39.59 188 P P 22 57 55.1 0.0
baz=40,SNR=730
NWAO P P 22 57 55.1 0.0
baz=40,SNR=730
TAPN Taplejung 39.91 306 *e*P P 22 57 57.2 -0.9
ODAN Odare 39.96 305 *e*P P 22 57 57.8 -0.7
comp=Z,10µm,0.6s
BOK Bokaro 40.10 300 *e*P P 22 57 59.0 -0.4
CHLP Challavanipeta 40.31 291 *e*P P 22 57 60.0 -1.2
CHLP IAmb IAmb 22 58 16.2
comp=Z,11µm,1.1s
CHLP *e*PP **PcP** 22 59 49.3 -0.7
CHLP *es*P **sP** 23 00 46.7 -1.4
CHLP *e*ScP **ScP** 23 02 46.2 +1.9
CHLP *e*S S 23 03 30.1 +2.2
CHLP *e*SS **SS** 23 06 51.1 -1.5
RAMN Ramite 40.65 304 *e*P P 22 58 03.1 -0.9
RAMN Ramite 40.65 304 *e*P P 22 58 03.6 -0.4
comp=Z,8µm,0.6s
BBOO Buckleboo 40.78 164 P P 22 58 04.6 0.0
baz=41,SNR=1000
BBOO Buckleboo 40.78 164 *e*P P 22 58 04.9 +0.3
comp=Z,5µm,0.8s
RMQ Roma 40.82 144 ⇑P P 22 58 05.1 +0.1
baz=41,SNR=243
VIS Vishakhapatnam 40.84 290 *e*P P 22 58 03.8 -1.5
ASAJ Asahikawa 41.08 21 P P 22 58 05.8 -1.0
comp=Z,493nm,0.6s,baz=210,slow=9.7,SNR=23
ASAJ S S 23 03 41.0 +2.8
comp=Z,2µm,1.2s,baz=357,slow=18,SNR=3.0
ASAJ Asahikawa 41.08 21 P P 22 58 05.8 -1.0
ASAJ S S 23 03 41.0 +2.8
ASAJ pmax pmax
comp=Z,261nm,0.8s
ASAJ Asahikawa 41.08 21 *e*P P 22 58 06.2 -0.5
comp=Z,7µm,0.8s
ASAJ S S 23 03 41.0 +2.8
RKGY Rocky Gully 41.28 188 P P 22 58 09.1 +0.6
baz=42,SNR=508
EIDS Eidsvold 41.40 141 P P 22 58 09.2 -0.4
baz=42,SNR=447
EIDS Eidsvold 41.40 141 *e*P P 22 58 09.7 +0.1
comp=Z,10µm,1.1s
GUN Gumba 41.62 305 *e*P P 22 58 10.7 -1.0
GUN Gumba 41.62 305 *e*P P 22 58 10.8 -1.0
STKA Stephens Creek 41.79 157 P P 22 58 12.6 +0.1
comp=Z,2µm,0.6s,baz=332,slow=7.4,SNR=1510
STKA ScP **ScP** 23 02 50.3 +0.4
comp=Z,413nm,0.9s,baz=5.1,slow=8.0,SNR=2.8
STKA S S 23 03 49.0 +0.3
comp=Z,511nm,1.0s,baz=18,slow=19,SNR=5.9
STKA Stephens Creek 41.79 157 *e*P P 22 58 12.9 +0.3
STKA S S 23 03 49.0 +0.3
STKA pmax pmax
comp=Z,641nm,0.7s
STKA Stephens Creek 41.79 157 P P 22 58 12.8 +0.2
baz=42
STKA Stephens Creek 41.79 157 *e*P P 22 58 12.8 +0.3
comp=Z,641nm,0.7s
STKA ScP **ScP** 23 02 50.3 +0.4
STKA S S 23 03 49.0 +0.3
PKI Pulchoki 41.86 305 *e*P P 22 58 12.1 -1.6
H01W3 Cape Leeuwin H 42.04 192 P P 22 58 15.8 +1.6
baz=27,slow=5.5,SNR=325
H01W1 Cape Leeuwin H 42.05 192 P P 22 58 15.8 +1.6
baz=27,slow=5.5,SNR=283
KKN Kakani 42.05 305 *e*P P 22 58 13.7 -1.3
H01W2 Cape Leeuwin H 42.05 192 P P 22 58 16.2 +1.9
baz=27,slow=5.5,SNR=475
DMN Daman 42.13 305 *e*P P 22 58 14.3 -1.3
DMN Daman 42.13 305 *e*P P 22 58 15.0 -0.6
comp=Z,9µm,0.8s
HTT Hallett 42.23 161 ⇑P P 22 58 16.4 +0.4
baz=42,SNR=901
YUK Yuzh-Kuril'sk 42.25 24 *c i*P P 22 58 16.7 +0.8
YUK *i* *PP **pP** 22 59 58.2 +0.1
YUK *i* 23 00 14.2
YUK *i* S S 23 03 57.8 +2.9
YUK *i* *SS **SS** 23 07 19.6 -3.6
YUK pmax pmax
comp=Z,20µm,5.0s
YUK pmax pmax
comp=N,3µm,1.3s
YUK pmax pmax
comp=E,7µm,1.3s
YUK pmax pmax
comp=Z,11µm,1.3s
YUK MLR MLR
comp=N,23µm,21.0s
YUK MLR MLR
comp=E,35µm,21.0s
YUK MLR MLR
comp=Z,77µm,21.0s
PVM Polavaram 42.35 289 *e*P P 22 58 15.2 -2.0
PVM IAmb IAmb 22 58 35.1
comp=Z,5µm,0.8s
PVM *ep*P **PcP** 22 59 57.1 +0.2
PVM *e*PP **PP** 23 00 07.4 -1.9
PVM *e*ScP **ScP** 23 02 55.0 +2.3
PVM *e*S S 23 03 57.7 +0.4
PALK Pallekele 42.57 274 P P 22 58 23.6 +4.6
comp=Z,23µm,1.3s,SNR=54
PALK Pallekele 42.57 274 P P 22 58 17.3 -1.8
comp=Z,217nm,0.7s,baz=93,slow=18,SNR=28
PALK ScP **ScP** 23 02 53.0 -0.6
comp=Z,646nm,1.2s,baz=104,slow=2.4,SNR=4.4
PALK S S 23 03 58.4 -2.2
comp=Z,151nm,1.0s,baz=110,slow=15,SNR=1.9
PALK Pallekele 42.57 274 P P 22 58 17.3 -1.8
PALK S S 23 03 58.4 -2.2
PALK pmax pmax
comp=Z,217nm,0.7s
PALK pmax pmax
comp=N,646nm,1.2s

PALK smax smax
comp=N,151nm,1.0s
PALK Pallekele 42.57 274 ⇓*i*P P 22 58 18.4 -0.6
SNR=27
PALK Pallekele 42.57 274 ⇓*i*P P 22 58 18.4 -0.6
SNR=27
PALK Pallekele 42.57 274 *e*P P 22 58 18.5 -0.5
comp=N,14µm,1.6s
PALK ScP **ScP** 23 02 53.0 -0.6
PALK S S 23 03 58.4 -2.2
GKN Gorkha 42.66 305 *e*P P 22 58 19.0 -0.7
comp=N,4µm,0.6s
HIA Hailar 42.82 356 *e*P P 22 58 19.5 -0.9
HIA pmax pmax
comp=Z,5µm,1.1s
HIA Hailar 42.82 356 *e*P P 22 58 19.5 -0.9
comp=Z,5µm,1.1s
HABR Khabarovsk 43.02 11 *d i*P P 22 58 20.6 -1.3
HABR *e* 23 59 56.3
HABR *e**PP **pP** 23 00 05.1 +0.5
HABR *e* 23 00 13.9
HABR *e**SP **sP** 23 01 12.0 +1.8
HABR *es* S 23 04 04.6 -1.2
HABR *e* 23 07 13.3
HABR *es*S **SS** 23 07 35.5 0.0
HABR pmax pmax
comp=Z,15µm,4.2s
HABR pmax pmax
comp=Z,2µm,0.9s
HABR MLR MLR
comp=Z,50µm,18.0s
MDRS Chennai 43.17 282 *e*P P 22 58 22.0 -1.6
MDRS Chennai 43.17 282 *ex* P 22 58 20.7 -2.9
MDRS *ex* x 23 00 12.2
MDRS *ex* x 23 01 20.2
MDRS *ex* S 23 04 14.2 +5.3
MDRS *ex* x 23 07 20.2
MDRS *ex* x 23 12 02.2
MDRS *ex* x 23 27 52.2
KLR Kul'dur 43.22 8 *e*P P 22 58 18.8 -4.6
KLR *es* S 23 04 03.5 -5.1
CMSA Cobar Meteorol 43.26 152 ⇑P P 22 58 24.6 +0.6
baz=43,SNR=1000
KOLN Koldanda 43.42 304 *e*P P 22 58 25.4 -0.3
comp=Z,9µm,0.5s
DANN Dangsing 43.51 305 *e*P P 22 58 25.4 -1.0
YSS Yuzh-Sakhalins 43.62 19 *c i*P P 22 58 27.0 +0.5
YSS *e**PP **pP** 23 00 10.0 +0.3
YSS *e**SP **sP** 23 01 20.0 +4.8
YSS *es* S 23 04 16.0 +1.7
YSS *e* 23 07 14.0
YSS *e**SS **sS** 23 07 26.0 +3.9
YSS pmax pmax
comp=Z,440nm,1.3s
YSS pmax pmax
comp=N,26µm,8.0s
YSS pmax pmax
comp=Z,51µm,8.0s
YSS pmax pmax
comp=E,15µm,6.0s
YSS smax smax
comp=N,154µm,12.0s
YSS smax smax
comp=E,117µm,12.0s
YSS MLR MLR
comp=Z,53µm,18.0s
YSS MLR MLR
comp=N,62µm,16.0s
YSS Yuzh-Sakhalins 43.62 19 *e*P P 22 58 25.4 -1.1
comp=N,4µm,1.0s
ULN Ulaanbaatar 43.64 344 *d i*P P 22 58 25.8 -1.1
ULN pmax pmax
comp=Z,4µm,1.2s
ULN Ulaanbaatar 43.64 344 *e*P P 22 58 25.9 -1.1
comp=Z,4µm,1.2s
H11S3 WAKE ISLAND Hy 43.65 70 P P 22 58 27.4 +0.3
baz=245,slow=5.8,SNR=245
H11S1 WAKE ISLAND Hy 43.66 70 P P 22 58 28.2 +1.0
baz=245,slow=5.8,SNR=287
H11S2 WAKE ISLAND Hy 43.66 70 P P 22 58 28.6 +1.4
baz=245,slow=5.8,SNR=220
ADKI Addanki 43.72 286 *e*P P 22 58 27.4 -0.4
ADKI IAmb IAmb 22 58 44.5
comp=Z,15µm,1.5s
ADKI *ep*P **pP** 23 00 07.0 -4.1
ADKI *e*PP PP 23 00 16.5 -5.2
ADKI *es*P sP 23 01 21.9 +5.4
ADKI *e*ScP **ScP** 23 03 03.0 +4.8
ADKI *e*S S 23 04 22.7 +6.0
ADKI *e* 23 07 26.9
SKHT Srikalahasti 43.74 283 *e*P P 22 58 26.7 -1.4
SKHT IAmb IAmb 22 58 34.5
comp=Z,4µm,0.8s
SKHT *ep*P **PcP** 23 00 06.0 +4.3
SKHT *e*PP **PP** 23 00 22.1 +0.2
SKHT *es*P **sP** 23 01 17.5 +0.9
SKHT *e*ScP **ScP** 23 02 56.3 -2.1
SKHT *e*S **S** 23 04 22.4 +5.3
SKHT *e* 23 07 28.0
SONM Songino Array 43.80 343 P P 22 58 26.6 -1.5
comp=Z,563nm,1.0s,baz=160,slow=8.8,SNR=262
SONM ScP **ScP** 23 02 57.3 -0.8
comp=Z,39nm,0.5s,baz=151,slow=5.1,SNR=2.0
SONM S S 23 04 16.7 -0.5
comp=Z,58nm,0.8s,baz=149,slow=6.7,SNR=2.2
KUR Kuril'sk 44.05 25 *c i*P P 22 58 30.7 +0.8
KUR *i* *PP **pP** 23 00 14.3 +0.9
KUR *i* 23 00 26.1
KUR *i* S S 23 04 26.9 +6.4
KUR *i* *SS **sS** 23 07 27.8 -0.9
KUR *i* SS **SS** 23 07 49.2 -3.0
KUR pmax pmax
comp=Z,28µm,6.1s
KUR pmax pmax
comp=N,1µm,1.3s
KUR pmax pmax
comp=E,2µm,1.3s
KUR pmax pmax
comp=Z,6µm,1.3s
H11N1 WAKE ISLAND Hy 44.07 68 P P 22 58 31.4 +1.2
baz=251,slow=10,SNR=200
H11N2 WAKE ISLAND Hy 44.08 68 P P 22 58 31.1 +0.8
baz=251,slow=10,SNR=250
H11N3 WAKE ISLAND Hy 44.09 68 P P 22 58 32.2 +1.8
baz=251,slow=10,SNR=468
NJS Nagarjunasagar 44.45 287 *e*P P 22 58 32.1 -1.4
NJS IAmb IAmb 22 58 50.9
comp=Z,6µm,0.8s
NJS *e*PcP **PcP** 23 00 06.7 +2.5
NJS *e*PP **PP** 23 00 27.8 -0.5
NJS *es*P **sP** 23 01 23.0 +0.6
NJS *e*ScP **ScP** 23 03 04.2 +3.0
NJS *e*S **S** 23 04 30.9 +3.9
NJS *e* 23 07 29.9
RCLA Racherla 44.64 285 *e*P P 22 58 33.3 -1.7
RCLA IAmb IAmb 22 58 50.5
comp=Z,6µm,0.8s
RCLA *e*PP **PP** 23 00 28.7 -1.4
RCLA *es*P **sP** 23 01 25.9 +1.8
RCLA *e*ScP **ScP** 23 03 05.1 +3.0
RCLA *e*S **S** 23 04 34.8 +4.9
RCLA *e* 23 07 32.8
RCLA *e*SS **SS** 23 08 04.7 +2.1
SRLM Srisailam 44.78 286 *e*P P 22 58 33.6 -2.5
SRLM IAmb IAmb 22 58 50.8
comp=Z,9µm,1.3s
SRLM *e*ScP **ScP** 23 03 02.9 +0.3
SRLM *e*S **S** 23 04 32.7 +1.0
SRLM *e* 23 07 33.7
RPR Rampur 44.81 290 *e*P P 22 58 34.1 -2.2
RPR IAmb IAmb 22 58 53.7
comp=Z,9µm,0.7s
RPR *e*PcP **PcP** 23 00 09.2 +3.8
RPR *ep*P **pP** 23 00 18.2 -2.0
RPR *e*PP **PP** 23 00 33.4 +1.7
RPR *es*P sP 23 01 32.5 +7.2
RPR *e*S **S** 23 04 37.7 +5.6
RPR *e* 23 07 33.5
HYB Hyderabad 45.28 288 *i*P P 22 58 39.0 -0.9
comp=Z,2µm,1.0s
HYB *e*S **S** 23 04 42.0 +3.3
HYB Hyderabad 45.28 288 *e*P P 22 58 39.6 -0.3
HYBB Hyderabad (bro 45.28 288 *e*P P 22 58 38.0 -1.9
HYBB IAmb IAmb 22 58 57.0

	comp=Z,7µm,0.9s						
HYBB				ePcP	PcP	23 00 06.0	-1.2
HYBB				epP	pP	23 00 20.8	-3.4
HYBB				ePP	PP	23 00 37.0	+1.0
HYBB				esP	sP	23 01 35.6	+6.3
HYBB				eScP	ScP	23 03 06.8	+2.0
HYBB				eS	S	23 04 43.7	+4.9
HYBB				e		23 07 39.8	
HYBB				eSS	SS	23 08 17.4	+4.6
ARMA	Armidale	45.44	145	⇓P	P	22 58 42.2	+1.3
	baz=46,SNR=214						
ARMA	Armidale	45.44	145	eP	P	22 58 42.5	+1.6
	comp=Z,10µm,1.2s						
NGP	Nagpur	45.48	293	eP	P	22 58 41.0	-0.4
NGP				ex	x	23 04 45.9	
SRSP	Sriramsagar	45.71	290	eP	P	22 58 40.6	-2.5
SRSP				IAmb	IAmb	22 59 00.3	
	comp=Z,9µm,0.8s						
SRSP				ePcP	PcP	23 00 11.0	+2.4
SRSP				ePP	PP	23 00 36.4	-3.4
SRSP				esP	sP	23 01 36.3	+3.6
SRSP				eScP	ScP	23 03 09.1	+2.6
SRSP				eS	S	23 04 49.5	+4.8
SRSP				e		23 07 37.8	
SRSP				eSS	SS	23 08 17.5	-2.0
CIT	Chita	46.20	351	eP	P	22 58 45.9	-0.4
CIT				e		23 00 14.4	
CIT				e		23 00 40.1	
CIT				eS	S	23 04 58.9	+8.3
CIT				e		23 07 42.0	
CIT				pmax	pmax		
	comp=Z,7µm,2.6s						
URV	Uravakonda	46.22	284	eP	P	22 58 44.5	-2.6
URV				IAmb	IAmb	22 59 04.6	
	comp=Z,6µm,1.0s						
URV				ePcP	PcP	23 00 12.5	+2.0
URV				epP	pP	23 00 28.9	-3.1
URV				ePP	PP	23 00 41.8	-2.7
URV				eScP	ScP	23 03 10.5	+1.8
URV				eS	S	23 04 55.6	+3.7
URV				e		23 07 35.0	
ARPS	Mount Arapiles	46.24	160	P	P	22 58 46.8	0.0
	baz=46,SNR=962						
TRD	Trivandrum	46.25	276	eP	P	22 58 45.9	-1.4
TRD				AMB	AMB	22 58 52.5	
	comp=Z,9µm,0.6s						
LGTI	Lohaghat	46.78	305	eP	P	22 58 52.1	+1.1
LGTI				ex	S	23 05 02.2	+3.1
YNG	Young	46.81	152	⇓P	P	22 58 51.8	+0.7
	baz=47,SNR=249						
PTH	Pithoragarh	46.84	305	eP	P	22 58 48.2	-3.5
PTH				ex	S	23 05 01.2	+0.8
ZAK	Zakamensk	46.99	342	eP	P	22 58 51.1	-1.3
ZAK				e		23 00 17.1	
ZAK				e		23 05 06.4	
ZAK				pmax	pmax		
	comp=Z,876nm,1.4s						
KLRI	Killari	47.22	289	eP	P	22 58 52.0	-2.6
KLRI				IAmb	IAmb	22 59 11.3	
	comp=Z,11µm,0.8s						
KLRI				ePcP	PcP	23 00 16.6	+2.5
KLRI				ePP	PP	23 00 51.0	-2.5
KLRI				esP	sP	23 01 43.3	-1.5
KLRI				eScP	ScP	23 03 13.4	+0.6
KLRI				eScP	ScP	23 03 14.5	+1.6
KLRI				eS	S	23 05 09.9	+4.2
KLRI				eSS	SS	23 08 49.2	+5.8
AKL	Akola	47.25	292	eP	P	22 58 54.6	-0.1
AKL				AMB	AMB	22 59 00.1	
	comp=Z,12µm,0.3s						
MGCD	Mangrove Creek	47.29	148	⇓P	P	22 58 56.2	+1.4
	baz=48,SNR=119						
BHPL	Bhopal	47.41	296	eP	P	22 58 55.3	-0.5
JOSI	Joshimath	47.73	306	eP	P	22 58 55.2	-3.2
JOSI				ex	x	22 59 01.5	
JOSI				AMB	AMB	22 59 09.3	
	comp=Z,94µm,1.5s						
RIV	Riverview	47.80	149	⇑P	P	22 59 00.8	+2.3
	baz=48						
CAN	Canberra	47.93	152	⇑P	P	22 58 59.7	+0.2
	baz=48						
AGRA	Agra	47.98	301	eP	P	22 58 58.6	-1.4
AGRA				AMB	AMB	22 59 05.0	
	comp=Z,7µm,0.9s						
TLY	Talaya	48.04	343	P	P	22 58 59.3	-0.8
	comp=Z,392nm,0.6s,baz=201,slow=4.6,SNR=219						
TLY				S	S	23 05 14.1	-1.8
	comp=Z,60nm,0.9s,baz=297,slow=6.8,SNR=2.2						
TLY	Talaya	48.04	343d	iP	P	22 58 59.5	-0.6
TLY				e		23 00 57.1	
TLY				eS	S	23 05 18.3	+2.4
TLY				pmax	pmax		
	comp=Z,3µm,1.2s						
TLY	Talaya	48.04	343	P	P	22 58 59.4	-0.6
	comp=Z,12µm,0.8s						
TLY	Talaya	48.04	343	eP	P	22 58 59.9	-0.2
	comp=Z,5µm,1.5s						
TLY				S	S	23 05 14.1	-1.8
CNB	Canberra Magne	48.10	151	⇓P	P	22 59 01.4	+0.6
	baz=48,SNR=236						
TOO	Toolangi	48.31	157	P	P	22 59 03.1	+0.8
	baz=48,SNR=290						
IRK	Irkutsk	48.37	344⇓	iP	P	22 59 01.0	-1.5
IRK				e		23 01 01.1	
IRK				eS	S	23 05 22.4	+2.1
IRK				e		23 07 46.0	
IRK				pmax	pmax		
	comp=Z,5µm,1.8s						
NKL	Nikolayevsk	48.64	14	eP	P	22 59 03.0	-1.4
NKL				pmax	pmax		
	comp=Z,3µm,1.0s						
WMQ	Urumqi	48.74	326	P	P	22 59 05.4	0.0
WMQ				PcP	PcP	23 00 19.0	-0.2
WMQ				pP	pP	23 00 54.8	+2.6
WMQ				PP	PP	23 01 12.4	+5.6
WMQ				sP	sP	23 01 59.5	+3.0
WMQ				S	S	23 05 27.8	+2.0
WMQ				ScS	ScS	23 07 51.1	-3.9
WMQ				sS	sS	23 08 38.6	-0.1
WMQ				PMZ			
	comp=Z,7µm,1.0s						
WMQ				PMZ			
	comp=Z,44µm,3.8s						
BISR	Bishrakh	48.81	303	eP	P	22 59 04.8	-1.4
BISR				AMB	AMB	22 59 11.0	
	comp=Z,16µm,0.7s						
MOY	Mondy	48.82	341	eP	P	22 59 05.5	-0.5
MOY				e		23 05 29.9	
MOY				pmax	pmax		
	comp=Z,9µm,2.7s						
DDI	Dehra Dun	48.86	305	eP	P	22 59 06.3	-0.2
DDI				AMB	AMB	22 59 12.9	
	comp=Z,13µm,1.6s						
NDI	New Delhi	49.03	303	eP	P	22 59 04.0	-3.8
NDI				ex	x	23 05 32.0	
AYAN	Aya Nagar	49.05	302	eP	P	22 59 06.0	-1.8
AYAN				AMB	AMB	22 59 12.8	
	comp=Z,5µm,1.3s						
BHGR	Bahadurgarh	49.27	303	eP	P	22 59 08.3	-1.2
BHGR				AMB	AMB	22 59 14.5	
	comp=Z,6µm,0.5s						
MILA	Mila	49.42	153	⇑P	P	22 59 10.9	+0.4
	baz=50,SNR=122						
TARA	Tarawa	49.46	94	eP	P	22 59 11.7	+0.5
	comp=Z,29µm,1.6s						
KUDL	Kundal	49.48	302	eP	P	22 59 09.6	-1.5
KUDL				AMB	AMB	22 59 16.4	
	comp=Z,8µm,1.6s						
GOA	Goa	49.57	285	eP	P	22 59 11.7	-0.2
GOA				AMB	AMB	22 59 17.6	
	comp=Z,5µm,2.2s						
KKR	Kurukshetra	49.76	304	eP	P	22 59 12.1	-1.0
KKR				AMB	AMB	22 59 19.2	
	comp=Z,10µm,0.9s						
SMLA	Simla	49.85	306	i P	P	22 59 13.3	-0.4
SMLA				AMB	AMB	22 59 21.1	
	comp=Z,34µm,0.5s						
SMLA				i x	x	23 05 41.6	
POO	Poona	49.87	289	eP	P	22 59 13.2	-0.9
POO				AMB	AMB	22 59 18.0	
	comp=Z,6µm,1.3s						
KHET	Khetri	50.04	301	eP	P	22 59 14.0	-1.2
KHET				AMB	AMB	22 59 20.8	
	comp=Z,12µm,0.7s						
HMDM	Hanimaadhoo	50.05	273	⇑P	P	22 59 14.9	-0.6
	baz=50,SNR=6.6						
SDNR	Sundarnagar	50.14	306	eP	P	22 59 16.0	+0.1
SDNR				ex	x	23 05 14.0	
CLNS	Chul'man	50.29	1	eP	P	22 59 16.1	-0.4
CLNS				e		23 00 19.5	
CLNS				e		23 01 19.9	
CLNS				eS	S	23 05 39.9	-6.4
CLNS				e		23 07 56.5	
CLNS				pmax	pmax		
	comp=Z,1µm,0.9s						
CLNS				pmax	pmax		
	comp=N,1µm,0.9s						
CLNS				pmax	pmax		
	comp=E,461nm,1.0s						
CLNS				pmax	pmax		
	comp=N,382nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,450nm,1.0s						
CLNS				pmax	pmax		
	comp=E,352nm,0.9s						
CLNS				smax	smax		
	comp=E,79µm,14.0s						
CLNS				smax	smax		
	comp=N,88µm,13.6s						
NOUC	Port Laguerre	50.54	125	eP	P	22 59 18.2	-0.7
BHK	Bhakra	50.55	306	ex	P	22 59 24.0	+5.1
DZM	Mont Dzumac	50.64	125	eP	P	22 59 20.7	+1.0
LHI	Lord Howe Isla	50.71	140	⇑P	P	22 59 20.9	+1.0
	baz=51,SNR=78						
DHRM	DHARAMSHALA	50.93	307	eP	P	22 59 21.4	-0.4
DHRM				AMB	AMB	22 59 27.5	
	comp=Z,17µm,1.4s						
HVS	Khovu-Aksy	51.01	336c	iP	P	22 59 24.5	+2.6
HVS				pmax	pmax		
	comp=Z,5µm,0.8s						
PONG	Pong	51.11	306	eP	P	22 59 20.0	-2.8
PONG				ex	x	22 59 50.0	
DLH	Dalhousie	51.29	307	eP	P	22 59 22.0	-2.5
SKR	Severo-Kuril's	51.78	26	eP	P	22 59 25.0	-2.3
SKR				e*PP	pP	23 01 12.0	-4.0
SKR				i S	S	23 06 06.0	-0.3
SKR				e		23 08 18.0	
SKR				pmax	pmax		
	comp=Z,51µm,14.0s						
SKR				pmax	pmax		
	comp=N,27µm,12.0s						
SKR				pmax	pmax		
	comp=E,31µm,12.0s						
SKR				pmax	pmax		
	comp=E,2µm,1.0s						
SKR				pmax	pmax		
	comp=Z,4µm,1.0s						
SKR				pmax	pmax		
	comp=N,2µm,1.1s						
SKR				smax	smax		
	comp=N,13µm,2.0s						
SKR				smax	smax		
	comp=E,5µm,2.0s						
SKR				smax	smax		
	comp=N,245µm,10.0s						
SKR				smax	smax		
	comp=E,216µm,10.0s						
SKR				MLR	MLR		
	comp=N,53µm,16.0s						
SKR				MLR	MLR		
	comp=Z,72µm,16.0s						
SKR				MLR	MLR		
	comp=E,54µm,14.0s						
BOD	Bodaibo	51.81	353⇓	iP	P	22 59 26.4	-1.0
BOD				eS	S	23 06 15.3	+8.8
BOD				pmax	pmax		
	comp=Z,2µm,1.0s						
BHV	Bhavnagar	51.91	293	eP	P	22 59 26.0	-2.8
DGAR	Diego Garcia	52.82	256	P	P	22 59 37.5	+2.1
	comp=Z,26µm,1.4s,SNR=32						
DGAR	Diego Garcia	52.82	256	eP	P	22 59 33.1	-2.3
DGAR	Diego Garcia	52.82	256	eP	P	22 59 33.1	-2.3
	comp=Z,13µm,1.4s						
H08S2	Diego Garcia H	52.84	255	P	P	22 59 30.9	-4.3
	baz=42,slow=8.9,SNR=520						
H08S3	Diego Garcia H	52.84	255	P	P	22 59 30.8	-4.5
	baz=42,slow=8.9,SNR=460						
H08S1	Diego Carcia H	52.85	255	P	P	22 59 30.9	-4.4
	baz=42,slow=8.9,SNR=331						
MOO	Moorlands	53.18	158	⇓P	P	22 59 38.4	+1.0
	baz=53,SNR=25						
MKAR	Makanchi Array	53.57	326	P	P	22 59 39.0	-1.2
	comp=Z,932nm,0.4s,baz=123,slow=5.7,SNR=2575						
MKAR				ScP	ScP	23 03 37.7	-2.0
	comp=Z,160nm,0.7s,baz=121,slow=5.1,SNR=2.6						
MKAR				S	S	23 06 28.9	-1.4
	comp=Z,77nm,1.1s,baz=116,slow=16,SNR=2.2						
MKAR	Makanchi Array	53.57	326	P	P	22 59 39.0	-1.2
MKAR				S	S	23 06 28.9	-1.4
MKAR				pmax	pmax		
	comp=Z,991nm,0.4s						
MKAR				pmax	pmax		
	comp=N,160nm,0.7s						
MKAR				smax	smax		
	comp=N,77nm,1.1s						
MKAR	Makanchi Array	53.57	326	⇑P	P	22 59 39.4	-0.8
	baz=54						
MKAR	Makanchi Array	53.57	326	eP	P	22 59 39.5	-0.8
MKAR				ScP	ScP	23 03 37.7	-2.0
MKAR				S	S	23 06 28.9	-1.4
TAU	Tasmania Unive	53.63	158	P	P	22 59 41.3	+0.7
	comp=N,6µm,1.3s,SNR=48						
TAU	Tasmania Unive	53.63	158	eP	P	22 59 41.5	+0.9
TAU				pmax	pmax		
	comp=Z,5µm,1.8s						
TAU	Tasmania Unive	53.63	158	eP	P	22 59 41.5	+0.9
	comp=Z,5µm,1.8s						
KSH	Kashi	53.93	315⇓	iP	P	22 59 43.1	+0.1
KSH				PcP	PcP	23 00 38.1	-0.9
KSH				pP	pP	23 01 37.3	+4.2
KSH				PP	PP	23 01 56.1	+3.0
KSH				sP	sP	23 02 40.3	+3.9
KSH				S	S	23 06 32.1	-3.4
KSH				sS	sS	23 09 54.3	+0.9
KSH				SS	SS	23 10 30.3	+1.6
KSH				PMZ			
	comp=Z,16µm,1.3s						
KSH				PMZ			
	comp=Z,100µm,4.8s						
H08N1	Diego Carcia H	53.97	257	P	P	22 59 42.1	-1.1
	baz=104,slow=3.8,SNR=266						
H08N2	Diego Garcia H	53.98	257	P	P	22 59 42.7	-0.6
	baz=104,slow=3.8,SNR=328						
H08N3	Diego Garcia H	53.99	257	P	P	22 59 42.8	-0.5
	baz=104,slow=3.8,SNR=202						
PETK	Petropavlovsk-	54.22	25	P	P	22 59 43.8	-0.8
	comp=Z,142nm,0.7s,baz=199,slow=6.8,SNR=72						
PETK				S	S	23 06 42.5	+4.0
	comp=Z,23nm,0.8s,baz=226,slow=5.8,SNR=1.7						
BHJ	Bhuj	54.42	294	eP	P	22 59 44.9	-1.7
BHJ				AMB	AMB	22 59 52.9	
	comp=Z,11µm,1.2s						
PET	Petropavlovsk	54.56	25d	iP	P	22 59 46.9	0.0
PET				e*PP	pP	23 01 38.9	+1.5
PET				e*SP	sP	23 02 41.2	+0.6
PET				eS	S	23 06 43.1	+0.3
PET				e		23 08 33.7	
PET				e*SS	sS	23 10 00.2	-1.2
PET				eSS	SS	23 10 39.4	+1.7
PET				pmax	pmax		
	comp=Z,58µm,6.6s						
PET				pmax	pmax		
	comp=Z,57µm,14.2s						
PET				pmax	pmax		
	comp=Z,9µm,1.3s						
PET				smax	smax		
	comp=E,208µm,17.9s						
PET				smax	smax		
	comp=N,308µm,18.9s						
PET	Petropavlovsk	54.56	25	eP	P	22 59 46.9	0.0
	comp=N,14µm,1.3s						
ULHL	Ulahol	54.94	318	P	P	22 59 49.7	-0.4
	SNR=73						
AAA	Alma-Ata	54.95	320	eP	P	22 59 55.1	+5.1
AAA				eS	S	23 06 54.9	+6.4
AAA				pmax	pmax		
	comp=Z,102µm,8.6s						
AAA				smax	smax		
	comp=E,370µm,12.8s						
AAA				MLR	MLR		
	comp=Z,141µm,22.0s						
KRAR	Krasnoyarsk	55.12	340⇑	iP	P	22 59 49.8	-1.0
KRAR				pmax	pmax		
	comp=Z,3µm,1.6s						
NFK	Norfolk Island	55.35	132	P	P	22 59 54.2	+1.3
	baz=56,SNR=13						
KZA	Kyzart	55.52	318	P	P	22 59 54.1	-0.3
	SNR=290						
TKM2	Tokmak 2	55.66	319	P	P	22 59 54.3	-0.8
	SNR=570						
TKM2	Tokmak 2	55.66	319	eP	P	22 59 54.3	-0.8
TKM2				pmax	pmax		
	comp=Z,4µm,0.9s						
TKM2	Tokmak 2	55.66	319	eP	P	22 59 54.3	-0.8
	comp=Z,4µm,0.9s						
YAK	Yakutsk	55.67	3	P	P	22 59 53.0	-1.5
	comp=Z,64nm,0.6s,baz=182,slow=18,SNR=67						
YAK				S	S	23 06 56.0	-1.0
	comp=Z,19nm,0.8s,baz=197,slow=20,SNR=3.6						
YAK	Yakutsk	55.67	3	eP	P	22 59 52.8	-1.7
YAK				e*PP	pP	23 01 42.6	-3.1
YAK				e		23 02 10.5	
YAK				eS	S	23 07 00.0	+3.0
YAK				e		23 08 44.7	
YAK				eSS	SS	23 10 55.9	+1.0
YAK				pmax	pmax		
	comp=Z,3µm,1.1s						
YAK				pmax	pmax		
	comp=N,1µm,1.1s						
YAK				pmax	pmax		
	comp=Z,6µm,1.5s						
YAK				pmax	pmax		
	comp=N,5µm,2.0s						
YAK				pmax	pmax		
	comp=E,1µm,2.0s						
YAK				smax	smax		
	comp=E,140µm,4.0s						
YAK				smax	smax		
	comp=N,125µm,2.7s						
YAK	Yakutsk	55.67	3	eP	P	22 59 54.0	-0.5
	comp=N,7µm,0.9s						
YAK				S	S	23 06 56.0	-1.0
SFK	Sufi-Kurgan	55.88	315	i P	P	22 59 55.4	-1.3
KBK	Karagaybulak	55.98	318	P	P	22 59 56.6	-0.7
	SNR=213						
CHMS	Chumysh	56.26	318	P	P	22 59 57.8	-1.2
	SNR=264						
AAK	Ala-Archa	56.27	318	P	P	22 59 58.4	-0.8
	SNR=113						
AAK	Ala-Archa	56.27	318	i P	P	22 59 59.6	+0.4
AAK				pmax	pmax		
	comp=Z,8µm,1.5s						
AAK	Ala-Archa	56.27	318	eP	P	22 59 58.7	-0.5
	comp=Z,11µm,1.5s						
FRU	Bishkek	56.27	318⇓	iP	P	22 59 58.5	-0.6
FRU				i S	S	23 07 10.5	+4.9
FRU				pmax	pmax		
	comp=Z,15µm,2.8s						
FRU				smax	smax		
	comp=E,86µm,6.0s						
USP	Ospenovka	56.54	319	P	P	22 59 60.0	-1.0
	SNR=473						
AML	Almayashu	56.59	317	P	P	23 00 01.4	-0.4
	SNR=548						
EKS2	Erkin-Say	56.76	318	P	P	23 00 02.0	-0.5
	SNR=516						
EKS2	Erkin-Say	56.76	318	eP	P	23 00 02.6	0.0
EKS2				pmax	pmax		
	comp=Z,4µm,0.8s						
EKS2	Erkin-Say	56.76	318	eP	P	23 00 02.6	0.0
	comp=Z,4µm,0.8s						
ZALV	Zalesovo Beam	56.79	334	P	P	23 00 00.4	-1.9
	comp=Z,443nm,0.8s,baz=127,slow=6.8,SNR=372						
ZALV				S	S	23 07 08.4	-3.3
	comp=Z,155nm,1.0s,baz=148,slow=8.5,SNR=3.8						
I46RU	ZALESOVO INFRA	56.79	334	P	P	23 00 09.8	+7.4
	baz=128,slow=7.0						
MA2	Magadan	56.94	16	i P	P	23 00 02.5	-0.8
KBL	Kabul	57.41	307	eP	P	23 00 06.3	-0.9
KBL				pmax	pmax		
	comp=Z,5µm,0.7s						
KBL	Kabul	57.41	307	eP	P	23 00 06.3	-0.9
	comp=Z,5µm,0.7s						
KURBB	Kurchatov Arra	57.80	328	P	P	23 00 07.7	-1.5
	comp=Z,1µm,0.6s,baz=131,slow=6.4,SNR=2388						
KURBB				S	S	23 07 24.0	-0.6
	comp=Z,34nm,0.9s,baz=118,slow=12,SNR=3.5						
KURK	Kurchatov	57.80	328	P	P	23 00 08.4	-0.9
	comp=Z,62µm,1.0s						
KURK	Kurchatov	57.80	328	eP	P	23 00 08.1	-1.2
KURK				S	S	23 07 24.0	-0.7
KURK				pmax	pmax		
	comp=Z,7µm,1.0s						
KURK	Kurchatov	57.80	328	eP	P	23 00 08.1	-1.2
	comp=Z,7µm,1.0s						
KURK				S	S	23 07 24.0	-0.7
NVS	Novosibirsk	58.08	334⇓	iP	P	23 00 09.4	-1.7
NVS				i *PP	pP	23 01 58.7	-4.9
NVS				i S	S	23 07 26.5	-1.5
NVS				pmax	pmax		
	comp=N,2µm,1.0s						
NVS				pmax	pmax		
	comp=Z,5µm,1.0s						
NVS				pmax	pmax		
	comp=E,2µm,1.1s						
MSVF	Nonsavu	58.88	115	P	P	23 00 18.7	+1.4
	comp=E,14µm,0.9s						
MSVF	Nonsavu	58.88	115	eP	P	23 00 18.5	+1.2
MSVF				pmax	pmax		
	comp=Z,2µm,0.9s						
MSVF	Nonsavu	58.88	115	eP	P	23 00 18.4	+1.2
	comp=Z,2µm,0.9s						
KKAR	Karatay Array	59.13	317	eP	P	23 00 17.4	-1.1
KKAR	Karatay Array	59.13	317	eP	P	23 00 17.4	-1.1
MIDW	Midway	59.78	61	eP	P	23 00 22.2	-0.7
	comp=Z,5µm,1.3s						
OTUK	Ortayu	60.10	323	i P	P	23 00 22.6	-2.2
SEY	Seymchan	60.19	15	P	P	23 00 23.9	-1.1
	comp=Z,71nm,0.5s,baz=204,slow=5.5,SNR=84						
SEY				S	S	23 07 59.5	+5.4
	comp=Z,180nm,1.2s,baz=162,slow=19,SNR=5.3						
SEY	Seymchan	60.19	15d	iP	P	23 00 24.8	-0.2
AIS	Amsterdam Isla	61.38	220	P	P	23 00 15.0	-18
AIS				PP	pP	23 02 35.0	+7.3
AIS				S	S	23 08 06.0	-3.8
AIS				SS	SS	23 11 34.0	-51
AIS				L	L	23 15 00.0	
AIS				R		23 20 00.0	
SMY	Shemya	61.80	32	eP	P	23 00 36.1	+0.4
SMY	Shemya	61.80	32	eP	P	23 00 36.1	+0.4
	comp=Z,10µm,1.1s						
OUZ	Omahuta	62.67	135	PN	P	23 00 42.9	+1.2
OUZ	Omahuta	62.67	135	eP	P	23 00 42.8	+1.2
	comp=Z,3µm,1.5s						
BVAR	Borovoye Array	63.37	327	P	P	23 00 44.4	-1.4
	comp=Z,408nm,0.8s,baz=125,slow=7.8,SNR=447						
BVAR				S	S	23 08 32.5	-1.1
	comp=Z,96nm,1.0s,baz=66,slow=4.9,SNR=2.3						
BRVK	Borovoye	63.44	327	P	P	23 00 44.8	-1.6
	comp=Z,28µm,1.1s						
BRVK	Borovoye	63.44	327d	iP	P	23 00 44.7	-1.6
BRVK				pmax	pmax		
	comp=Z,8µm,1.2s						
BRVK	Borovoye	63.44	327	eP	P	23 00 45.3	-1.0
	comp=Z,9µm,1.1s						
WCZ	Waipu Caves	63.57	135	PN	P	23 00 48.6	+1.2
WCZ				pP	pP	23 02 43.9	+0.9
WCZ				PP	PP	23 03 19.0	+1.4
AMKA	Amchitka	64.06	35	eP	P	23 00 49.7	-0.6
WBK	Wadi Bani Khal	64.14	292	P	P	23 00 50.2	-1.1
	SNR=179						
WBK				P	P	23 00 50.7	-0.6
	SNR=9.3						
IDAH	Dahanechah	64.48	303	eP	P	23 00 53.4	-0.3
MSZ	Milford Sound	64.58	146	PN	P	23 00 54.0	+0.3
JCZ	Jackson Bay	64.67	146	PN	P	23 00 54.7	+0.3
DCZ	Deep Cove	64.69	148	PN	P	23 00 54.1	-0.2
DCZ	Deep Cove	64.69	148	eP	P	23 00 54.7	+0.5
	comp=Z,3µm,1.0s						
MKAZ	Moumakai	64.73	136	PN	P	23 00 55.8	+1.0
MKAZ				eSN	S	23 08 56.8	+6.3
MKAZ				ScS	SKiKP	23 10 03.7	+0.5
FOZ	Fox Glacier	64.88	145	PN	P	23 00 55.4	-0.1
JMDO	Jabal Madar	64.92	292	P	P	23 00 54.9	-1.4
	SNR=266						
JMDO				P	P	23 00 56.1	-0.2

SNR=15
KUZ Kuaotunu 64.93 136 PN P 23 00 56.4 +0.4
QRZ Quartz Range 64.98 141 PN P 23 00 56.7 +0.4
SMDO Samad 65.01 292 P P 23 00 55.1 -1.9
SNR=212
SMDO P P 23 00 55.8 -1.2
SNR=7.0
DSZ Denniston Nort 65.06 142 eSN S 23 09 00.4 +6.2
DSZ ScS ScS 23 09 58.2 +3.2
MLZ Mavora Lakes 65.15 147 PN P 23 00 57.1 -0.1
MLZ PP PP 23 03 26.5 -4.7
IKOO Kooshah 65.16 303 eP P 23 00 57.4 -0.5
WVZ Waitaha Valley 65.19 144 PN P 23 00 57.2 -0.3
KNTN Kanton 65.24 96 eP P 23 00 58.7 +0.3
comp=Z,9μm,1.5s
HIZ Hauiti 65.24 138 PN P 23 00 59.3 +1.4
TOZ Tahuroa Road 65.28 137 PN P 23 00 59.1 +1.0
WHZ Wether Hill Ro 65.38 148 PN P 23 00 57.7 -0.9
WHZ pP x 23 02 29.5
WHZ PP PP 23 03 13.5 -20
WHZ Wether Hill Ro 65.38 148 eP P 23 00 58.5 -0.1
comp=Z,1μm,1.1s
LREZ Lake Rotokare 65.44 139 ePN P 23 01 00.2 +1.1
ITEQ Tejag 65.44 303 eP P 23 00 59.3 -0.3
VRZ Vera Road 65.50 138 ePN P 23 01 00.2 +0.7
TLZ Tolley Road 65.61 137 PN P 23 01 01.4 +1.1
LBZ Lake Benmore 65.67 145 PN P 23 01 00.3 -0.2
LBZ eSN S 23 09 03.4 +2.2
EAZ Earnscleugh 65.70 146 PN P 23 01 00.4 -0.2
HOQ Hoqain 65.72 293 P P 23 00 59.6 -1.7
SNR=324
NNZ Nelson 65.73 141 PN P 23 00 59.9 -1.0
NNZ eSN S 23 09 03.5 +1.4
THZ Tophouse 65.74 142 PN P 23 00 60.0 -1.1
THZ eSN S 23 09 03.6 +1.2
THZ ScS ScS 23 10 01.5 +1.1
RPZ Rata Peaks 65.76 144 P P 23 01 00.1 -1.0
comp=Z,871nm,0.7s,baz=298,slow=2.7,SNR=227
RPZ S S 23 09 07.5 +5.1
comp=Z,52nm,0.9s,baz=29,slow=10,SNR=2.9
RPZ Rata Peaks 65.76 144 PN P 23 01 00.6 -0.5
RPZ Rata Peaks 65.76 144 eP P 23 01 01.7 +0.6
comp=Z,2μm,0.8s
RPZ S S 23 09 07.5 +5.1
BSY Bisya 65.78 292 P P 23 01 00.1 -1.6
SNR=255
TGRZ Tauranga 65.80 136 ePN P 23 01 01.7 +0.3
DUWZ D'Urville Isla 65.85 140 ePN P 23 01 00.9 -0.8
DUWZ eSN S 23 09 05.2 +1.5
DUWZ ScS ScS 23 10 02.3 +1.1
WATZ Wairara 65.93 137 ePN P 23 01 03.4 +1.1
LTZ Lake Taylor 65.94 143 PN P 23 01 01.6 -0.6
APZ The Paps 66.01 148 pP pP 23 03 07.2 +7.7
APZ PP PP 23 03 38.0 -0.5
WTVZ West Tongariro 66.04 138 ePN P 23 01 03.1 0.0
OPRZ Ohinepanea 66.06 136 pP pP 23 02 56.1 -3.8
OMRZ Omania 66.06 137 ePN P 23 01 04.1 +1.0
OTVZ Oturere 66.12 138 ePN P 23 01 03.4 -0.2
HLRZ Highlands Stat 66.12 137 ePN P 23 01 04.9 +1.4
WHVZ Whangaehu Hut 66.13 138 PN P 23 01 03.8 +0.1
MKRZ Makatiti 66.14 137 ePN P 23 01 04.7 +1.2
HRRZ Handcock Road 66.14 137 PN P 23 01 04.3 +0.7
WNVZ Wahianoa 66.16 138 PN P 23 01 03.7 -0.1
TUWZ Tuamarina 66.21 141 ePN P 23 01 02.6 -1.2
RRRZ Republican Roa 66.27 137 PN P 23 01 04.5 +0.2
TCW Tory Channel 66.30 140 PN P 23 01 03.6 -0.8
TCW eSN S 23 09 06.7 -2.1
TCW ScS SKiKP 23 10 07.0 +1.7
MOVZ Moawhango 66.30 138 ePN P 23 01 04.2 -0.4
BSWZ Blackbirch Sta 66.32 141 PN P 23 01 04.0 -0.6
BSWZ eSN S 23 09 09.3 +0.2
ODZ Otahua Downs 66.33 145 ePN P 23 01 04.4 -0.1
ODZ Otahua Downs 66.33 145 eP P 23 01 04.8 +0.3
comp=Z,584nm,0.9s
TUZ Tuapeka 66.33 147 PN P 23 01 04.0 -0.5
SYZ Scrubby Hill 66.43 147 PN P 23 01 04.3 -0.7
ARQ Araqi 66.43 293 P P 23 01 04.5 -1.2
SNR=166
ARQ P P 23 01 04.5 -1.2
SNR=22
RAO Raoul Island 66.44 126 eP P 23 01 06.1 +0.5
RAO e 23 03 48.0
RAO pmax pmax
comp=Z,3μm,0.9s
RAO Raoul Island 66.44 126 eP P 23 01 06.1 +0.5
comp=Z,3μm,0.9s
RAO ePP PP 23 03 48.0 +5.5
KHZ Kahutara 66.50 142 eP P 23 01 05.2 -0.5
comp=Z,3μm,1.4s
KIW Kapiti Island 66.51 140 ePN P 23 01 04.6 -1.2
KIW PP PP 23 03 45.6 +2.7
KIW eSN S 23 09 09.9 -1.5
KIW ScS ScS 23 10 10.8 +4.5
BHHZ Black Hill Sta 66.55 138 ePN P 23 01 05.6 -0.5
SNZO South Karori 66.62 140 eP P 23 01 05.7 -0.7
comp=Z,7μm,1.3s
URZ Urewera 66.64 136 S S 23 09 14.2 +1.2
comp=Z,70nm,0.9s,baz=318,slow=19,SNR=4.6
URZ Urewera 66.64 136 eP P 23 01 06.5 -0.1
comp=Z,8μm,1.6s
URZ S S 23 09 14.2 +1.2
OGWZ Otaki Gorge 66.66 140 ePN P 23 01 05.7 -1.0
BKZ Black Stump Fm 66.67 138 PN P 23 01 06.5 -0.3
BKZ Black Stump Fm 66.67 138 eP P 23 01 07.7 +0.8
comp=Z,9μm,1.1s
MQZ McQueen's Vall 66.70 143 PN P 23 01 06.4 -0.4
MQZ eSN S 23 09 16.5 +3.2
MQZ ScS ScS 23 10 13.2 +5.7
IBND Bandar-abas 66.70 297 eP P 23 01 07.1 -0.2
IBND eP P 23 01 08.0 +0.7
CAW Cannon Point 66.75 140 PN P 23 01 06.2 -1.0
KWHZ Kaweka Forest 66.76 138 ePN P 23 01 07.4 0.0
ABKT Ailbek 66.77 308 P P 23 01 06.6 -1.0
comp=Z,21μm,1.2s
GEYT Ailbeck 66.77 308 P P 23 01 06.1 -1.5
comp=Z,383nm,0.8s,baz=106,slow=3.3,SNR=280
GEYT S S 23 09 20.3 +5.6
comp=Z,16nm,0.7s,baz=287,slow=5.9,SNR=2.0
BANOM Banah 66.80 295 P P 23 01 06.5 -1.5
SNR=116
BANOM P P 23 01 07.5 -0.4
SNR=102
UOSS Wadi Hilu 66.82 294 P P 23 01 06.9 -1.1
comp=Z,4μm,0.5s,SNR=98
POWZ Post Office Ro 66.82 139 PN P 23 01 07.2 -0.5
KRHZ Kereru 66.83 138 ePN P 23 01 07.4 -0.5
MRZ Mangatainoka R 66.84 139 PN P 23 01 06.3 -1.5
NMHZ Naumai 66.85 137 ePN P 23 01 08.3 +0.3
NMHZ eSN S 23 09 17.5 +1.9
HAZ Te Kaha 66.86 136 PN P 23 01 06.6 -1.3
HATD Hatta, Dubai 66.88 294 iP P 23 01 06.7 -1.7
SNR=128
HATD Hatta, Dubai 66.88 294 i P P 23 01 06.7 -1.7
SNR=128
HOWZ Holdsworth Sta 66.92 140 ePN P 23 01 07.3 -1.0
ASHO Ashiyiah 66.93 294 P P 23 01 07.1 -1.7
SNR=160
ASHO P P 23 01 07.5 -1.3
SNR=199
RAHZ Arahi 66.95 137 ePN P 23 01 08.5 0.0
RAHZ eSN S 23 09 18.3 +1.7
MCHZ McNeill Hill 66.95 138 ePN P 23 01 09.2 +0.7
MWZ Matawai 66.96 136 PN P 23 01 08.2 -0.4
GSTR Great Sitkin T 67.00 36 eP P 23 01 08.8 +0.1
MSWZ Moikau Station 67.03 140 PN P 23 01 08.3 -0.6
DVHZ Dannevirke 67.03 139 ePN P 23 01 08.1 -1.0
SNGZ Shannon Statio 67.05 137 PN P 23 01 09.4 +0.2
WPHZ Waipukurau 67.09 138 ePN P 23 01 09.0 -0.4
SHAO Shalim 67.10 287 P P 23 01 09.7 -0.2
SNR=125
PLWZ Palliser 67.11 140 PN P 23 01 08.4 -1.1
PLWZ eSN S 23 09 18.1 -0.3
PAWZ Paruwai Farm 67.12 140 PN P 23 01 08.5 -1.0
MXZ Matakaoa Point 67.13 135 PN P 23 01 09.0 -0.7
KAHZ Kahuranaki 67.25 138 PN P 23 01 10.8 +0.4
AFI Afiamalu 67.25 108 S S 23 09 21.2 +0.2
comp=Z,50nm,1.0s,baz=263,slow=17,SNR=1.6
AFI Afiamalu 67.25 108 eP P 23 01 11.8 +0.9
AFI S S 23 09 21.2 +0.2
AFI pmax pmax
comp=Z,2μm,0.8s
AFI Afiamalu 67.25 108 eP P 23 01 11.8 +0.9
comp=Z,2μm,0.8s
AFI S S 23 09 21.2 +0.2
TMWZ Te Maipa 67.27 140 PN P 23 01 10.0 -0.4
BFZ Birch Farm 67.28 139 PN P 23 01 09.4 -1.1
BFZ Birch Farm 67.28 139 eP P 23 01 10.8 +0.3
comp=Z,6μm,1.3s
RIGZ Rimuhau 67.31 137 eSN S 23 09 22.4 +1.6
NAZ Nazwa, Dubai 67.31 294 ⇑iP P 23 01 09.3 -1.7
SNR=123
NAZ Nazwa, Dubai 67.31 294 ⇑iP P 23 01 09.3 -1.7
SNR=123
ANWZ Angora Road 67.32 139 PN P 23 01 10.2 -0.6
WMGZ Waiomatatini S 67.33 135 PN P 23 01 10.2 -0.6
FAQ Al Faqa, Dubai 67.36 294 ⇓iP P 23 01 09.3 -2.1
SNR=94
FAQ Al Faqa, Dubai 67.36 294 ⇓iP P 23 01 09.3 -2.1
SNR=94
CNGZ Carnagh Statio 67.50 136 PN P 23 01 11.8 -0.1
MCQ Macquarie Isla 67.52 159 eP P 23 01 12.4 +0.8
MCQ Macquarie Isla 67.52 159 ⇑P P 23 01 12.6 +1.1
baz=68,SNR=13
MCQ Macquarie Isla 67.52 159 eP P 23 01 12.4 +0.8
comp=Z,22μm,1.0s
ASUD Al Ashush, Dub 67.59 294 ⇓iP P 23 01 11.4 -1.3
SNR=133
ASUD Al Ashush, Dub 67.59 294 ⇓iP P 23 01 11.4 -1.3
SNR=133
BILL Bilibino 67.81 16 diP P 23 01 11.2 -2.0
BILL e 23 01 32.4
BILL e*PP pP 23 03 11.4 +0.4
BILL i 23 03 51.9
BILL e*SP sP 23 04 14.0 +2.0
BILL iS S 23 09 23.0 -2.6
BILL iSS SS 23 14 06.0 +3.4
BILL pmax pmax
comp=Z,902nm,1.4s
BILL Bilibino 67.81 16 eP P 23 01 13.5 +0.3
ABKAR Akbulak array 68.09 321 ⇓P P 23 01 13.5 -1.8
baz=68
ABKAR Akbulak array 68.09 321 eP P 23 01 13.7 -1.6
ATKA Atka Island 68.12 36 eP P 23 01 14.6 -0.8
comp=Z,3μm,1.4s
RBK Rabkut 68.45 286 P P 23 01 17.0 -1.1
SNR=220
MSEY Mahe Island 68.87 262 P P 23 01 24.6 +3.9
comp=Z,10μm,1.6s,SNR=53
MSEY Mahe Island 68.87 262 eP P 23 01 19.7 -1.1
MSEY Mahe Island 68.87 262 iP P 23 01 19.6 -1.1
SNR=70
MSEY Mahe Island 68.87 262 i P P 23 01 19.6 -1.1
SNR=70
MSEY Mahe Island 68.87 262 eP P 23 01 19.7 -1.1
comp=Z,13μm,2.0s
ABTO Aybut 69.32 286 P P 23 01 22.2 -1.2
SNR=216
I31KZ AKTYUBINSK INF 69.59 322 P P 23 01 25.0 +0.7
baz=102,slow=7.1,SNR=6.1
AKTO Aktyubinsk 69.61 322 P P 23 01 23.1 -1.3
comp=Z,170nm,0.3s,baz=107,slow=6.4,SNR=333
AKTO S S 23 09 47.5 +0.6
comp=Z,56nm,1.0s,baz=233,slow=20,SNR=5.1
IANJ Anjilo 69.75 305 eP P 23 01 24.4 -1.4
ISRV Sarvestan 69.86 299 eP P 23 01 25.4 -1.4
IGLO Ghaloghah 69.94 306 eP P 23 01 26.5 -0.4
SVE Sverdlovsk 70.04 329 eiP P 23 01 25.0 -1.8
SVE e 23 04 14.2
SVE ePPP PPP 23 05 59.4
SVE eS S 23 09 49.2 -2.3
SVE e 23 10 26.4
SVE eSS SS 23 14 34.7 -2.3
SVE pmax pmax
comp=Z,7μm,1.1s
SVE pmax pmax
comp=Z,27μm,9.6s
MRIV Mauritius Mete 70.13 246 eP P 23 01 26.7 -1.4
NIUE Niue 70.20 113 ⇑P P 23 01 29.7 +1.3
baz=70,SNR=28
ISHM Shahmirzad 70.29 306 eP P 23 01 28.0 -1.2
ISHM eP P 23 01 28.5 -0.6
ILAS Lasjerd 70.52 305 eP P 23 01 29.1 -1.3
IFIR Firoozkooh 70.71 305 eP P 23 01 31.2 -0.4
IALA Alasht 70.71 306 eP P 23 01 31.1 -0.5
IKAZ Kazeroun 71.00 299 eP P 23 01 31.4 -2.1
ARU Arti 71.00 328 P P 23 01 30.9 -1.5
baz=103,slow=6.5
ARU Arti 71.00 328 diP P 23 01 30.1 -2.4
ARU 23 01 44.0
ARU 23 04 22.3
ARU PPP PPP 23 06 11.2
ARU S S 23 09 59.6 -2.8
ARU 23 10 40.1
ARU SSS SSS 23 18 05.6
ARU pmax pmax
comp=Z,2μm,0.7s
ARU Arti 71.00 328 P P 23 01 30.0 -2.4
comp=Z,17μm,0.7s
ARU Arti 71.00 328 eP P 23 01 30.7 -1.7
comp=Z,3μm,0.6s
IPRN Peran 71.11 306 eP P 23 01 32.8 -0.9
IDMV Damavand 71.29 305 eP P 23 01 34.0 -0.9
IVRN Varamin 71.48 305 eP P 23 01 34.9 -1.0
IAFJ Afjeh 71.58 306 eP P 23 01 34.8 -1.8
SPIA Saint Paul Isl 71.83 32 eP P 23 01 37.8 +0.6
comp=Z,8μm,1.3s
PAF Port-aux-Franc 72.32 213 P P 23 01 26.0 -14
PAF S SKiKP 23 10 04.0 -10
PAF SS sS 23 13 35.0 -16
PAF SS x 23 20 55.0
PAF R 23 21 00.0
PAF R 23 33 00.0
PAF S x 23 33 49.0
PAF SS x 23 38 28.0
IMHD Mahdasht 72.41 305 eP P 23 01 40.9 -0.4
IR5 Iran Long-Peri 72.44 305 eP P 23 01 40.2 -1.3
IGZV Ghazvin 72.83 306 eP P 23 01 43.2 -0.6
IRAZ Razeghan 72.98 305 eP P 23 01 44.0 -0.7
UNV Unalaska Valle 73.04 36 eP P 23 01 44.0 -0.2
comp=Z,4μm,1.0s
CASY Casey 73.14 185 eP P 23 01 44.0 -0.5
comp=Z,2μm,0.9s
MUKL Al Mukalla 73.49 283 eP P 23 01 50.3 +2.7
AKUT Akutan 73.52 35 eP P 23 01 46.5 -0.5
comp=Z,10μm,1.3s
DRV Dumont d'Urvil 73.87 173 P P 23 01 46.0 -2.6
DRV PP PP 23 04 38.0 -6.5
DRV S SKiKP 23 10 18.0 +2.4
DRV SS x 23 14 01.0
DRV L L 23 20 00.0
DRV R 23 26 00.0
FALS False Pass 75.01 35 eP P 23 01 55.0 -0.4
comp=Z,2μm,0.7s
TNA Tin City 75.37 24 eP P 23 01 57.3 +0.2
comp=Z,905nm,1.2s
MAK Makhachkala 75.46 313 diP P 23 01 57.4 -0.7
MAK e 23 02 10.4
MAK e 23 04 57.3
MAK ePPP PPP 23 06 45.5
MAK iS S 23 10 49.9 -2.0
MAK eSS SS 23 16 05.8 +6.6
MAK eSSS SSS 23 19 21.6
MAK pmax pmax
comp=Z,31μm,3.5s
MAK pmax pmax
comp=Z,6μm,2.2s
MAK pmax pmax
comp=E,7μm,1.5s
MAK pmax pmax
comp=N,3μm,1.2s
MAK smax smax
comp=N,111μm,13.1s
MAK smax smax
comp=E,54μm,7.3s
MIR Mirnyy 76.08 192 ⇑eP P 23 02 09.0 +8.1
MIR pmax pmax
comp=Z,2μm,1.5s
RAYN Ar Rayn 76.55 293 P P 23 02 03.9 -0.7
comp=Z,20μm,0.9s
RAYN Ar Rayn 76.55 293 eP P 23 02 03.5 -1.2
comp=Z,6μm,0.8s
SDPT Sand Point 76.76 35 eP P 23 02 04.0 -0.9
comp=Z,20μm,1.6s
BDHA Al Bayda' 76.88 283 eP P 23 02 05.5 -1.2
OPA Opana 76.91 69 eP P 23 02 07.0 +0.5
OPA Opana 76.91 69 eP P 23 02 07.0 +0.5
HON Honolulu 76.93 70 eP P 23 02 06.4 -0.2
HON Honolulu 76.93 70 eP P 23 02 06.4 -0.2
DGRG David-gareji 76.94 311 P P 23 02 08.0 +1.6
DGRG S S 23 11 17.3 +9.4
GNI Garni 77.36 310 P P 23 02 08.2 -0.7
comp=Z,148nm,1.1s,baz=164,slow=8.3,SNR=17
GNI S S 23 11 13.5 +0.9
comp=Z,80nm,0.9s,baz=166,slow=12,SNR=2.5
GNI Garni 77.36 310 diP P 23 02 08.1 -0.7
GNI pmax pmax
comp=Z,6μm,1.7s
GNI Garni 77.36 310 ⇓iP P 23 02 08.0 -0.9
SNR=201
GNI Garni 77.36 310 ⇓iP P 23 02 08.0 -0.9
SNR=201
GNI Garni 77.36 310 eP P 23 02 08.8 0.0
comp=Z,5μm,1.3s
GNI S S 23 11 13.5 +0.9
SEAG Tbilisi Sea 77.38 311 P P 23 02 10.9 +2.2
SEAG S S 23 11 21.1 +8.6
TBLG Delisi 77.43 311 eP P 23 02 12.7 +3.6
TBLG Delisi 77.43 311 P P 23 02 08.4 -0.6
TBLG S S 23 11 21.4 +8.4
TBLG Delisi 77.43 311 P P 23 02 08.4 -0.6
TBLG S S 23 11 21.4 +8.4
DUS Dusheti 77.47 312 P P 23 02 09.9 +0.6
DUS S S 23 11 43.6 +30
KZR Kazreti 77.66 311 P P 23 02 14.7 +4.4
KZR S S 23 11 26.0 +11
CLDR Caldiran 77.96 309 eP P 23 02 17.6 +5.4
DAMY Dhamar 77.98 283 ⇓P P 23 02 13.4 +0.6
baz=78,SNR=12
DAMY Dhamar 77.98 283 eP P 23 02 12.1 -0.7
comp=Z,4μm,1.0s
DHBB Dhamar BB 77.98 283 eP P 23 02 12.8 0.0
CHGN Chignik 78.03 34 eP P 23 02 11.1 -0.8
HKR Hakkari 78.07 307 eP P 23 02 14.1 +1.3
HAKT HAKKARI 78.09 307 iP P 23 02 11.7 -1.3
SANA San'a 78.11 284 eP P 23 02 13.8 +0.3
DYDN Diyadin 78.15 309 iP P 23 02 12.6 -0.6
CUKT Cukurca 78.17 307 eP P 23 02 12.9 -0.3
TVAN Van 78.35 308 iP P 23 02 08.8 -5.4
AKH Akhalkalaki 78.35 311 eP P 23 02 20.2 +6.1
AKH Akhalkalaki 78.35 311 P P 23 02 19.1 +4.9
AKH S S 23 11 34.4 +11
AKH Akhalkalaki 78.35 311 ⇑P P 23 02 14.1 -0.1
AKH Akhalkalaki 78.35 311 ⇑iP P 23 02 14.1 -0.1
DIGO Kars 78.41 310 iP P 23 02 16.4 +1.8
ONI Oni 78.42 312 P P 23 02 19.2 +4.9
ONI S S 23 11 31.2 +7.9
HLK Haleakala 78.59 70 eP P 23 02 15.5 -0.4
GEVA Gevas 78.62 308 iP P 23 02 16.4 +0.7
KARS Kars 78.64 310 eP P 23 02 21.2 +5.5
PRGR Permogore 78.66 332 ⇓iP P 23 02 12.5 -2.5
PRGR e 23 02 18.4
PRGR eS S 23 11 20.2 -4.6
PRGR e 23 11 37.6
PRGR e 23 12 15.3
PRGR pmax pmax
comp=Z,5μm,0.8s
HAJJ Hajjah 78.67 285 eP P 23 02 15.9 -0.4
AGRB Hanur-Agry 78.69 309 eP P 23 02 19.2 +3.2
GOF Gofitskoye 78.80 315 ⇓iP P 23 02 14.6 -1.6
GOF eS S 23 11 27.3 +0.2
GOF pmax pmax
comp=Z,2μm,1.3s
GOF smax smax
comp=N,1μm,1.3s
GOF smax smax
comp=E,1μm,1.3s
XMAS Kiritimati 78.82 89 eP P 23 02 18.0 +1.1
comp=E,4μm,1.0s
KKH Kailua Kona 78.85 71 eP P 23 02 18.0 +1.0
KKH Kailua Kona 78.85 71 eP P 23 02 17.9 +1.0
KBZ Khabaz 78.86 313 P P 23 02 14.8 -1.8
comp=E,96nm,1.0s,baz=126,slow=2.6,SNR=46
KBZ S S 23 11 27.0 -0.6
comp=E,45nm,0.9s,baz=90,slow=7.6,SNR=2.3
NEY Neytrino 78.97 313 deP P 23 02 16.6 -0.8
NEY pmax pmax
comp=Z,3μm,2.6s
KIV Kislovodsk 79.02 313 eP P 23 02 22.3 +4.8
KIV Kislovodsk 79.02 313 diP P 23 02 15.9 -1.6
KIV iS S 23 11 31.6 +2.0
KIV pmax pmax
comp=Z,6μm,2.5s
KIV Kislovodsk 79.02 313 P P 23 02 16.8 -0.7
comp=Z,8μm,0.9s
KIV Kislovodsk 79.02 313 iP P 23 02 16.1 -1.4
SNR=529
KIV Kislovodsk 79.02 313 iP P 23 02 16.1 -1.4
SNR=529
KIV Kislovodsk 79.02 313 eP P 23 02 17.9 +0.4
comp=Z,2μm,0.9s
EATA Eleskirt 79.08 309 iP P 23 02 16.4 -1.9
SIRT Sirnak 79.10 307 eP P 23 02 22.0 +3.9
TATV Tatvan 79.24 308 iP P 23 02 17.3 -1.7
OPO Ambohidratompo 79.24 250 P P 23 02 17.5 -1.8
comp=Z,98nm,0.5s,baz=72,slow=4.8,SNR=197
ABPO Ambohimpanom 79.29 249 P P 23 02 23.6 +4.1
comp=Z,3μm,1.0s,SNR=13
ABPO Ambohimpanom 79.29 249 eP P 23 02 17.3 -2.2
ABPO pmax pmax
comp=Z,2μm,0.9s
ABPO Ambohimpanom 79.29 249 eP P 23 02 17.3 -2.2
comp=Z,2μm,0.9s
POHA Pohakuloa 79.31 71 eP P 23 02 20.2 +0.5
comp=Z,2μm,0.9s
EKAR Karacoban 79.40 309 iP P 23 02 20.1 +0.3
CHVG Ch'k'valeri 79.43 312 eP P 23 02 19.5 -0.1
CHVG Ch'k'valeri 79.43 312 P P 23 02 23.8 +4.1
CHVG S S 23 11 43.6 +10
CHVG Ch'k'valeri 79.43 312 iP P 23 02 19.2 -0.4
ARTV Artvin 79.53 311 iP P 23 02 12.6 -7.8
HOMI Horasan 79.53 309 iP P 23 02 19.2 -1.3
UWE Uwekahuna 79.55 71 eP P 23 02 21.1 +0.3
UWE ePcP PcP 23 02 26.2 -0.2
DDEM Demirkent 79.66 310 iP P 23 02 17.3 -3.7
DBAD Bademkaya 79.70 310 iP P 23 02 14.5 -6.7
DBOC Borcka 79.72 311 iP P 23 02 15.4 -5.8
BCA Borcka 79.76 311 eP P 23 02 25.1 +3.8
BTMT Batman 79.85 308 eP P 23 02 24.5 +2.5
VRTB Varto-Mus 79.88 309 eP P 23 02 27.1 +4.9
ERZM Erzurum 79.95 309 iP P 23 02 21.1 -1.6
EZM Erzurum 79.95 309 eP P 23 02 22.8 +0.1
RAR Rarotonga 79.97 113 eP P 23 02 24.1 +1.3
RAR pmax pmax
comp=Z,2μm,1.4s
RAR Rarotonga 79.97 113 eP P 23 02 24.1 +1.3
comp=Z,2μm,1.4s
RAR ePKKPbc PKKPbc 23 21 07.8 +4.9
SVW2 Sparrevohn 79.98 29 eP P 23 02 22.9 +0.8
comp=Z,2μm,1.1s
SVAN Silvan-Diyarba 80.08 308 eP P 23 02 25.9 +2.8
BNGL BINGOL 80.11 308 iP P 23 02 22.0 -1.5
MARD Mardin 80.42 307 iP P 23 02 24.8 -0.2
BNGB Bing ¶ll 80.48 308 eP P 23 02 29.9 +4.6
MZRK Al-Mazaregh 80.55 305 eP P 23 02 30.5 +4.9
KOPT Kop Dagi 80.61 309 iP P 23 02 24.8 -1.4
KBSD Kabsdagh 80.62 306 eP P 23 02 29.5 +3.5
MAZI Mazidag 80.69 307 eP P 23 02 28.3 +1.9
BAYT Ayd¨–ntepe-Bay 80.88 310 eP P 23 02 32.6 +5.2
OHAK Old Harbor 80.92 33 eP P 23 02 27.4 +0.5
comp=Z,5μm,1.2s
OHAK ePKKPbc PKKPbc 23 21 03.9 +1.7
DYBB Diyarbakir 80.92 307 eP P 23 02 31.3 +3.7
SFNV Sufian 80.97 306 eP P 23 02 32.1 +4.3
MACK Trabzon 81.16 310 iP P 23 02 25.8 -2.9
KTUT Trabzon 81.16 310 eP P 23 02 31.7 +3.1
SOC Sochi 81.17 313 diP P 23 02 31.4 +2.8
SOC e*PP pP 23 04 37.7 +5.4
SOC e 23 05 37.1
SOC ePPP PPP 23 07 38.5
SOC eS S 23 11 51.7 +0.5
SOC iSSS SSS 23 20 57.7
SOC pmax pmax
comp=Z,2μm,1.1s
IM04 Indian Mountai 81.17 24 eP P 23 02 28.2 +0.1
IM04 ePKKPbc PKKPbc 23 21 03.6 +1.5
ERZN Erzincan 81.22 309 eP P 23 02 34.5 +5.4
EUZM Uzumlu 81.23 309 iP P 23 02 30.5 +1.3
KDAK Kodiak Island 81.31 33 P P 23 02 30.0 +1.0
comp=Z,37μm,0.6s,SNR=47
KDAK Kodiak Island 81.31 33 P P 23 02 27.8 -1.2

comp=Z,195nm,0.6s,baz=270,slow=4.6,SNR=90
KDAK PP **PP** **23 05 44.1 -1.4**
comp=Z,130nm,0.7s,baz=288,slow=9.4,SNR=1.8
KDAK Kodiak Island 81.31 33 P **P** **23 02 27.8 -1.2**
KDAK 23 05 44.2
KDAK pmax pmax
comp=Z,195nm,0.6s
KDAK pmax pmax
comp=Z,130nm,0.7s
KDAK Kodiak Island 81.31 33 *e*P **P** **23 02 28.3 -0.7**
comp=Z,4μm,0.8s
KDAK PP **PP** **23 05 44.1 -1.4**
RSO Redoubt South 81.32 30 *e*P **P** **23 02 28.7 -0.6**
comp=Z,1μm,1.1s
GUMT Gumushane 81.39 310 *e*P **P** **23 02 30.0 0.0**
VOR Voronezh 81.52 321 *e*P **P** **23 02 28.0 -2.2**
VOR *e*S **S** **23 11 50.0 -4.3**
VSR Storozhevoye 81.53 321 *e*P **P** **23 02 27.9 -2.4**
VSR *e**SP **sP** **23 05 35.2 +1.7**
VSR *e* 23 05 41.3
VSR *e*S **S** **23 11 49.9 -4.6**
VSR pmax pmax
comp=Z,15μm,2.8s
VSR pmax pmax
comp=N,2μm,1.7s
VSR pmax pmax
comp=E,7μm,2.7s
VSR pmax pmax
comp=N,410nm,0.9s
VSR pmax pmax
comp=E,2μm,0.9s
VSR pmax pmax
comp=Z,7μm,0.9s
VSR pmax pmax
comp=Z,4μm,2.8s
VSR pmax pmax
comp=N,1μm,2.1s
VSR pmax pmax
comp=E,2μm,2.0s
VSR smax smax
comp=N,29μm,9.1s
VSR smax smax
comp=E,21μm,9.1s
VSR smax smax
comp=Z,6μm,9.1s
PPLA Purkeypile 81.69 27 *e*P **P** **23 02 31.3 +0.2**
comp=Z,12μm,1.7s
PPLA *e*PKKPbc **PKKPbc** **23 21 02.3 +1.3**
SPU Mount Spurr 81.69 29 *e*P **P** **23 02 29.0 -2.0**
CAST Castle Rocks 81.76 27 *e*P **P** **23 02 30.8 -0.4**
comp=Z,4μm,1.3s
ELZG Elazig 81.82 308 *i*P **P** **23 02 34.2 +2.0**
KSRV Kasrt alli 81.89 305 *e*P P 23 02 37.0 +4.6
URFA Urfa 81.98 307 *e*P P 23 02 37.3 +4.3
KEMA Kemaliye 82.18 309 *i*P **P** **23 02 31.4 -2.5**
CRZF Crozet Islands 82.22 222 P P 23 02 14.0 -20
CRZF S S 23 11 23.0 -39
CRZF SS x 23 15 31.0
CRZF R 23 30 00.0
CRZF Crozet Islands 82.22 222 P P 23 02 14.0 -20
CRZF S SKiKP 23 11 05.0 +36
BRLK Bradley Lake 82.24 31 *e*P **P** **23 02 33.4 -0.4**
comp=Z,5μm,1.0s
MALT Malatya 82.26 308 *e*P P 23 02 39.4 +5.0
MALT Malatya 82.26 308 ||*i*P **P** **23 02 33.5 -0.9**
MALT Malatya 82.26 308 ||*i*P **P** **23 02 33.5 -0.9**
BPAW Bear Paw Mtn. 82.27 26 *e*P **P** **23 02 33.5 -0.3**
comp=Z,792nm,0.8s
BPAW *e*PKKPbc **PKKPbc** **23 20 56.8 -2.8**
GRSN GIRESUNGRSN 82.30 310 *i*P **P** **23 02 33.3 -1.2**
TMCR Tamitsa 82.31 334 *e*P **P** **23 02 32.8 -1.1**
TMCR *e*S **S** **23 11 57.9 -3.9**
TMCR pmax pmax
comp=Z,5μm,1.1s
SUA Susitna One 82.33 29 *e*P **P** **23 02 33.4 -0.8**
comp=Z,3μm,0.8s
SUA *e*PKKPbc **PKKPbc** **23 21 02.3 +2.9**
SUSE Susehri 82.37 310 *i*P **P** **23 02 33.3 -1.7**
MLY Manley 82.39 25 *e*P **P** **23 02 34.3 -0.2**
comp=Z,6μm,1.3s
MLY *e*PKKPbc **PKKPbc** **23 21 03.7 +4.3**
ATAB Bozova 82.40 307 *i*P **P** **23 02 38.0 +3.0**
MOS Moscow 82.45 325 *e*P **P** **23 02 32.1 -2.7**
MOS *e**PP **pP** **23 04 41.8 +2.7**
MOS *e* 23 05 52.7
MOS *i*S S 23 11 53.6 -10
MOS *i*SS **SS** **23 17 42.8 +0.9**
MOS pmax pmax
comp=N,4μm,1.8s
MOS pmax pmax
comp=Z,11μm,1.4s
MOS pmax pmax
comp=Z,32μm,2.5s
MOS pmax pmax
comp=E,6μm,1.9s
MOS pmax pmax
comp=N,2μm,1.4s
MOS pmax pmax
comp=E,2μm,1.3s
MOS smax smax
comp=N,26μm,3.4s
MOS smax smax
comp=E,24μm,3.4s
TRF Thorofare Moun 82.56 27 *e*P **P** **23 02 34.8 -0.7**
comp=E,4μm,1.2s
TRF *e*PKKPbc **PKKPbc** **23 20 56.5 -2.6**
COLD Coldfoot 82.65 23 *e*P **P** **23 02 35.9 +0.3**
comp=E,5μm,1.2s
COLD *e*PKKPbc **PKKPbc** **23 20 58.8 0.0**
AKCD Akcadag 82.66 308 *i*P **P** **23 02 35.2 -1.3**
I43RU DUBNA INFRASON 82.68 326 P **P** **23 02 38.8 +2.9**
baz=80,slow=9.5,SNR=3.8
ANN Anapa 82.78 314 *e*P **P** **23 02 34.0 -2.7**
ANN *e* 23 05 53.1
ANN *e*PPP PPP 23 07 55.1
ANN *e*S **S** **23 12 02.0 -5.2**
ANN *e*SS **SS** **23 17 42.5 -4.8**
ANN *e*SSS SSS 23 21 20.3
ANN pmax pmax
comp=Z,1μm,1.8s
ANN pmax pmax
comp=Z,8μm,1.1s
ANN pmax pmax
comp=N,2μm,1.1s
ANN pmax pmax
comp=E,1μm,1.1s
ANN smax smax
comp=E,17μm,3.1s
ANN smax smax
comp=N,27μm,3.2s
ANN smax smax
comp=Z,11μm,3.2s
RC01 Rabbit Creek A 82.81 29 *e*P **P** **23 02 36.2 -0.3**
comp=Z,2μm,0.7s
BWN Browne 82.93 26 *e*P **P** **23 02 37.6 +0.5**
comp=Z,4μm,1.0s
BWN *e*PKKPbc **PKKPbc** **23 20 58.6 +0.6**
SEW Seward 82.96 30 *e*P **P** **23 02 37.4 +0.1**
comp=Z,2μm,0.8s
CUKAN kangal_SIVAS 82.97 309 *i*P **P** **23 02 35.2 -2.9**
GZT Gaziantep 82.98 307 *i*P **P** **23 02 36.1 -2.0**
DARE Darende-Malaty 82.99 308 *e*P P 23 02 42.5 +4.4
RSDY Resadiye-TOKAT 83.03 310 *e*P P 23 02 41.7 +3.5
OBN Obninsk 83.07 325 P **P** **23 02 36.3 -1.5**
comp=Z,808nm,1.0s,baz=356,slow=0.9,SNR=119
OBN S S 23 12 03.1 -6.5
comp=Z,119nm,0.9s,baz=128,slow=23,SNR=10
OBN Obninsk 83.07 325*d* *i*P **P** **23 02 35.6 -2.3**
OBN *e**PP **pP** **23 04 45.1 +2.7**
OBN *e**SP **sP** **23 05 43.8 +2.2**
OBN *i*S **SKSac** **23 12 03.2 -1.1**
OBN Obninsk 83.07 325 P **P** **23 02 36.2 -1.7**
comp=Z,41μm,0.9s
OBN Obninsk 83.07 325 *e*P **P** **23 02 36.4 -1.5**
comp=Z,24μm,1.5s
OBN S S 23 12 03.1 -6.5
PMR Palmer 83.10 29 *e*P **P** **23 02 37.2 -0.7**
PMR pmax pmax
comp=Z,2μm,1.0s
PMR Palmer 83.10 29 *e*P **P** **23 02 37.2 -0.7**
comp=Z,2μm,1.0s
MCK McKinley 83.17 27 *e*P **P** **23 02 37.9 -0.4**
MCK McKinley 83.17 27 *e*P **P** **23 02 37.9 -0.4**
comp=Z,12μm,1.5s
MCK *e*PKKPbc **PKKPbc** **23 20 59.0 +1.5**

SCER sogukcermik 83.21 309 *i*P **P** **23 02 40.8 +1.6**
RND Reindeer 83.21 27 *e*P **P** **23 02 37.8 -0.8**
RND pmax pmax
comp=Z,2μm,0.7s
RND Reindeer 83.21 27 *e*P **P** **23 02 37.8 -0.8**
comp=Z,2μm,0.7s
RND *e*PKKPbc **PKKPbc** **23 20 59.2 +1.7**
SVSK Karacayir 83.30 309 *e*P P 23 02 43.7 +4.3
ROOS tl_alroos 83.37 304 *e*P P 23 02 44.1 +4.0
ZALF Zalf 83.41 302 *e*P P 23 02 44.5 +4.3
RABH Abou Rabah 83.42 304 *e*P P 23 02 45.4 +5.1
ERBA Erbaa 83.45 310 *i*P P 23 02 37.1 -3.2
MDM Murphy Dome 83.46 25 *e*P **P** **23 02 39.4 -0.3**
comp=Z,3μm,1.3s
SML Sawmill 83.48 29 *e*P **P** **23 02 39.4 -0.5**
SML pmax pmax
comp=Z,694nm,1.1s
SML Sawmill 83.48 29 *e*P **P** **23 02 39.4 -0.5**
comp=Z,694nm,1.1s
SML *e*PKKPbc **PKKPbc** **23 20 58.0 +1.3**
KMRS Kahramanmaras 83.50 307 *e*P **P** **23 02 42.9 +2.3**
HCB Kahramanmara˘ 83.50 307 *i*P **P** **23 02 43.6 +3.1**
WRH Wood River Hil 83.53 26 *e*P **P** **23 02 39.5 -0.6**
comp=Z,5μm,1.5s
WRH *e*PKKPbc **PKKPbc** **23 20 54.1 -2.6**
COLA College 83.62 25 *e*P **P** **23 02 40.2 -0.2**
COLA pmax pmax
comp=Z,1μm,1.4s
COLA College 83.62 25 *e*P **P** **23 02 40.2 -0.2**
comp=Z,1μm,1.4s
COLA *e*PKKPbc **PKKPbc** **23 20 58.2 +1.8**
TOKT Tokat 83.63 310 *e*P **P** **23 02 40.5 -0.7**
CCB Clear Creek Bu 83.65 26 *e*P **P** **23 02 39.9 -0.7**
comp=Z,4μm,1.5s
TOKA Tokat 83.68 310 *i*P **P** **23 02 40.8 -0.6**
LVZ Lovozero 83.69 338*ce*P **P** **23 02 38.2 -2.6**
LVZ pmax pmax
comp=Z,575nm,0.8s
LVZ Lovozero 83.69 338 P **P** **23 02 40.5 -0.3**
comp=Z,5μm,1.5s,SNR=29
LVZ Lovozero 83.69 338 *e*P **P** **23 02 40.1 -0.7**
comp=Z,2μm,0.8s
ASF Jabal al Asfar 83.82 302 P **P** **23 02 41.6 -0.7**
comp=Z,259nm,0.8s,baz=41,slow=1.8,SNR=225
ASF S **S** **23 12 14.0 -4.2**
comp=Z,47nm,1.2s,baz=45,slow=17,SNR=2.2
ASF PKKPbc **PKKPbc** **23 20 54.5 -0.2**
comp=Z,7.4nm,1.0s,baz=287,slow=2.4,SNR=3.6
PINB Pinarbasi 83.83 308 *i*P **P** **23 02 39.9 -2.6**
SALA Sala 83.92 302 *e*P P 23 02 47.6 +4.7
ANDN Andirin 83.94 307 *i*P **P** **23 02 41.8 -1.1**
SCM Sheep Creek Mo 83.96 28 *e*P **P** **23 02 42.1 -0.2**
SCM pmax pmax
comp=Z,7μm,2.0s
SCM Sheep Creek Mo 83.96 28 *e*P **P** **23 02 42.1 -0.2**
comp=Z,7μm,2.0s
SCM *e*PKKPbc **PKKPbc** **23 20 57.3 +1.6**
KVT Kavak 83.97 311 *e*P **P** **23 02 41.9 -0.9**
FURI Furi 84.01 278 *e*P **P** **23 02 44.9 +1.0**
comp=Z,4μm,1.0s
HDA Harding Lake 84.02 26 *e*P **P** **23 02 41.1 -1.4**
comp=Z,618nm,0.7s
HDA *e*PKKPbc **PKKPbc** **23 20 56.4 +0.9**
ILAR Eielson Array 84.04 26 P **P** **23 02 40.7 -1.9**
comp=Z,12nm,0.5s,baz=241,slow=4.8,SNR=78
ILAR PP **PP** **23 06 04.8 -2.5**
comp=Z,100nm,1.0s,baz=261,slow=5.1,SNR=3.1
ILAR S S 23 12 11.3 -7.4
comp=Z,21nm,1.0s,baz=234,slow=3.4,SNR=3.0
ILAR PKKPbc **PKKPbc** **23 20 51.7 -3.8**
comp=Z,9.9nm,0.8s,baz=90,slow=1.6,SNR=4.3
TOTH TOTAH 84.14 303 *e*P P 23 02 48.5 +4.7
TAHT Tahtakopru-Hat 84.14 306 *e*P **P** **23 02 46.1 +2.4**
QASN Qassioun 84.25 303 *e*P P 23 02 48.5 +4.1
ARNB Al Arnab 84.35 305 *e*P P 23 02 49.0 +4.2
KOZT Kozan 84.36 307 *e*P P 23 02 48.1 +3.3
CEYT Ceyhan 84.45 307 *e*P P **23 02 46.1 +0.9**
HWQ Hawqa 84.47 304 *e*P P 23 02 48.8 +3.3
YURE YUREGIR 84.56 306 *i*P P **23 02 47.4 +1.7**
MID Middleton Isla 84.56 31 *e*P **P** **23 02 44.7 -0.5**
MID pmax pmax
comp=Z,873nm,0.9s
MID Middleton Isla 84.56 31 *e*P **P** **23 02 44.7 -0.5**
comp=Z,873nm,0.9s
YOZ Yozgat 84.61 309 *e*P **P** **23 02 45.3 -0.8**
RCY Rachaya 84.62 303 *e*P P 23 02 45.2 -1.1
FYU Fort Yukon 84.63 24 *e*P **P** **23 02 45.0 -0.4**
comp=Z,1μm,1.2s
KLU Klutina 84.64 29 *e*P **P** **23 02 45.2 -0.5**
comp=Z,707nm,0.7s
KLU *e*PKKPbc **PKKPbc** **23 20 56.5 +2.4**
DIV Divide 84.74 29 *e*P **P** **23 02 46.0 -0.1**
comp=Z,851nm,0.7s
BHL Bhannes 84.74 303 *e*P P 23 02 50.3 +3.5
PAX Paxson 84.76 27 *e*P **P** **23 02 45.7 -0.6**
PAX pmax pmax
comp=Z,2μm,1.3s
PAX Paxson 84.76 27 *e*P **P** **23 02 45.7 -0.6**
comp=Z,2μm,1.3s
KRTS Karatas 84.78 306 *e*P **P** **23 02 47.7 +0.9**
DQRL Deir Qamar 84.83 303 *e*P **P** **23 02 46.5 -0.7**
BEYL Beirut 84.88 303 *e*P P 23 02 50.9 +3.6
BYBT Boyabat 84.91 311 *e*P **P** **23 02 46.5 -0.8**
KARA Karaisali 84.99 307 *e*P **P** **23 02 50.5 +2.7**
MMAI Mount Meron Ar 85.02 303 P P **23 02 46.6 -1.5**
baz=83,slow=4.8
MMAI S **SKSac** **23 12 16.8 -1.0**
comp=Z,21nm,1.0s,baz=75,slow=1.6,SNR=1.9
MMAI PKKPbc **PKKPbc** **23 20 48.5 -3.5**
comp=Z,2.2nm,0.5s,baz=210,slow=0.3,SNR=3.8
AVNT Avonos 85.03 308 *i*P **P** **23 02 46.5 -1.7**
CORM Corum 85.10 310 *e*P **P** **23 02 47.2 -1.2**
SIM Simferopol' 85.13 315*de*P **P** **23 02 46.3 -2.0**
SIM *e*PPP PPP 23 08 13.0
SIM *e* 23 12 19.0
SIM *e*S S 23 12 24.0 -6.1
SIM pmax pmax
comp=Z,981nm,1.1s
SIM pmax pmax
comp=Z,24μm,10.5s
MAW Mawson 85.20 200 P **P** **23 02 47.0 -1.0**
comp=Z,104nm,0.8s,baz=59,slow=5.4,SNR=78
MAW S **SKSac** **23 12 15.8 -1.3**
comp=Z,119nm,1.3s,baz=265,slow=11,SNR=2.5
MAW PKKPbc **PKKPbc** **23 20 49.8 -3.2**
comp=Z,19nm,0.7s,baz=262,slow=3.4,SNR=3.9
MAW Mawson 85.20 200 *e*P **P** **23 02 47.0 -1.0**
MAW S **SKSac** **23 12 15.8 -1.3**
MAW pmax pmax
comp=Z,1μm,1.5s
MAW Mawson 85.20 200 P **P** **23 02 46.9 -1.0**
baz=85,SNR=112
MAW Mawson 85.20 200 *e*P **P** **23 02 47.0 -1.0**
comp=Z,1μm,1.5s
MAW S **SKSac** **23 12 15.8 -1.3**
MAW PKKPbc **PKKPbc** **23 20 49.8 -3.2**
MAW *e*PKKPbc PKKPdf 23 20 54.0 +9.5
NAQL Naqoura 85.23 303 *e*P **P** **23 02 47.8 -1.3**
NIG Nigde 85.27 308 *e*P **P** **23 02 48.6 -0.9**
BMRM Bremner River 85.32 29 *e*P **P** **23 02 48.6 -0.3**
comp=Z,962nm,1.0s
RAGM Ragged Mountai 85.33 30 *e*P **P** **23 02 48.9 0.0**
comp=Z,1μm,1.3s
CDAG Cicekdag 85.34 309 *i*P P 23 02 44.6 -5.0
BZK Bozkurt 85.44 312 *e*P **P** **23 02 52.9 +3.1**
TOS Tosya 85.50 311 *e*P **P** **23 02 50.1 -0.2**
KAST KASTAMONU 85.53 311 *i*P **P** **23 02 48.3 -2.0**
GULA Gulagac 85.55 308 *e*P **P** **23 02 52.8 +2.2**
MENT Mentasta 85.56 27 *e*P **P** **23 02 50.6 +0.6**
EIL Elat 85.67 299 P P 23 02 55.7 +4.5
EIL Elat 85.67 299 P **P** **23 02 50.0 -1.3**
comp=Z,83nm,0.6s,baz=43,slow=1.6,SNR=123
EIL S **SKSac** **23 12 23.7 +1.9**
comp=Z,31nm,1.0s,baz=312,slow=10,SNR=1.8
EIL PKKPbc **PKKPbc** **23 20 50.5 +0.3**
comp=Z,12nm,0.8s,baz=243,slow=1.5,SNR=3.2
EIL Elat 85.67 299 P **P** **23 02 50.0 -1.3**
baz=86,SNR=107
ILGA Ilgaz 85.73 311 *i*P **P** **23 02 53.0 +1.5**
HOPEN Hopen 85.80 347 *e*P **P** **23 02 50.0 -0.9**
EREN Erenkoy 85.83 305 *e*P **P** **23 02 50.5 -1.3**
CANT Cankiri 85.84 310 *e*P P 23 02 55.6 +3.7
KAMT Kaman 85.87 309 *e*P **P** **23 02 50.2 -1.9**
BR131 Keskin Array S 85.90 309 *e*P **P** **23 02 49.8 -2.5**

comp=Z,168nm,0.6s
BRTR Keskin Array B 85.90 309 P **P** **23 02 50.7 -1.6**
comp=Z,111nm,0.7s,baz=129,slow=3.6,SNR=298
BRTR PP **PP** **23 06 22.7 -0.3**
comp=Z,136nm,1.1s,baz=96,slow=5.9,SNR=3.2
BRTR S **SKSac** **23 12 20.2 -2.8**
comp=Z,26nm,1.0s,baz=113,slow=3.7,SNR=2.0
BRTR PKKPbc **PKKPbc** **23 20 49.7 -0.6**
comp=Z,6.1nm,0.8s,baz=220,slow=1.4,SNR=3.8
BRTR SKKPbc **SKKPbc** **23 23 29.4 -2.9**
comp=Z,7.6nm,1.1s,baz=194,slow=3.3,SNR=2.3
YESY Yesilyurt 85.98 307 *e*P P 23 02 56.9 +4.2
ELDT Eldivan 85.99 310 *i*P **P** **23 02 52.1 -0.6**
SERE Sereflikochisa 86.02 309 *e*P **P** **23 02 53.0 +0.1**
SULT Sultanhani-AKS 86.13 308 *e*P **P** **23 02 56.0 +2.7**
PUL Pulkovo 86.14 330 ||*i*P **P** **23 02 51.5 -1.3**
PUL pmax pmax
comp=Z,3μm,1.2s
KEV Kevo 86.30 340 *e*P **P** **23 02 52.5 -0.8**
KEV pmax pmax
comp=Z,1μm,1.1s
KEV Kevo 86.30 340 *e*P **P** **23 02 52.5 -0.8**
comp=Z,1μm,1.1s
BBAL Bala 86.31 309 *i*P **P** **23 02 52.1 -2.1**
AFSR Af˘ar-Bala (A 86.36 309 *e*P P 23 02 58.1 +3.7
LFK Lefkose 86.38 305 *e*P **P** **23 02 54.1 -0.4**
KULU Kulu 86.45 309 *e*P **P** **23 02 56.9 +2.0**
KMBO Kilima Mbogo 86.47 268 P **P** **23 02 54.3 -1.3**
comp=Z,248nm,1.2s,baz=45,slow=7.2,SNR=100
KMBO S **SKSac** **23 12 29.6 +1.9**
comp=Z,11nm,0.9s,baz=338,slow=19,SNR=4.7
KMBO Kilima Mbogo 86.47 268 P **P** **23 02 54.3 -1.3**
KMBO S **SKSac** **23 12 29.6 +1.9**
KMBO pmax pmax
comp=Z,248nm,1.2s
KMBO smax smax
comp=N,11nm,0.9s
KMBO Kilima Mbogo 86.47 268 P **P** **23 02 54.6 -1.0**
baz=86,SNR=62
KMBO Kilima Mbogo 86.47 268 *e*P **P** **23 02 54.8 -0.9**
comp=N,12μm,1.2s
KMBO S **SKSac** **23 12 29.6 +1.9**
EGAK Eagle 86.48 25 *e*P **P** **23 02 52.8 -1.5**
comp=N,733nm,1.0s
EGAK *e*PKKPbc **PKKPbc** **23 20 50.3 +0.6**
SAFT Safranbolu 86.48 311 *e*P **P** **23 02 54.1 -0.8**
VNDA Vanda 86.49 172 P **P** **23 02 53.4 -0.6**
comp=N,223nm,0.9s,baz=320,slow=6.1,SNR=269
VNDA S **SKSac** **23 12 23.9 -0.8**
comp=N,23nm,1.0s,baz=104,slow=23,SNR=6.7
VNDA PKKPbc **PKKPbc** **23 20 54.3 +4.1**
comp=N,36nm,1.1s,baz=177,slow=0.6,SNR=6.4
VNDA Vanda 86.49 172 P **P** **23 02 53.4 -0.6**
VNDA S **SKSac** **23 12 23.9 -0.8**
VNDA pmax pmax
comp=Z,223nm,0.9s
VNDA smax smax
comp=N,23nm,1.0s
VNDA Vanda 86.49 172 *e*P **P** **23 02 53.6 -0.4**
comp=N,1μm,1.1s
VNDA S **SKSac** **23 12 23.9 -0.8**
VNDA PKKPbc **PKKPbc** **23 20 54.3 +4.1**
LOD Lodumlu 86.55 310 *e*P **P** **23 02 56.4 +1.1**
CSS Prodhromos 86.57 305 P **P** **23 02 54.7 -0.7**
CSS Prodhromos 86.57 305 *e*P **P** **23 02 57.5 +2.1**
CSS Prodhromos 86.57 305 *e*P **P** **23 02 53.6 -1.8**
comp=N,449nm,0.8s
CHBY Cihanbeyli 86.58 308 *e*P **P** **23 02 58.3 +2.8**
MAMC Mammari 86.64 305 P **P** **23 02 56.0 +0.3**
ERMK Ermenek 86.75 306 *i*P **P** **23 02 56.8 +0.4**
ARCES ARCESS Array B 86.85 340 P **P** **23 02 53.8 -2.2**
comp=N,249nm,1.1s,baz=82,slow=6.5,SNR=87
ARCES S **SKSac** **23 12 24.7 -2.6**
comp=N,30nm,0.9s,baz=147,slow=1.8,SNR=2.1
ARCES ScS **ScS** **23 12 48.7 -1.6**
comp=N,147nm,1.0s,baz=92,slow=7.3,SNR=6.4
ARCES PKKPbc **PKKPbc** **23 20 48.2 -0.8**
comp=N,22nm,0.8s,baz=253,slow=3.0,SNR=5.8
ARE0 ARCESS Array S 86.85 340 *e*P **P** **23 02 53.8 -2.2**
ARE0 lAmb lAmb 23 03 06.3
comp=Z,2μm,0.9s
ARE0 *e*pP **pP** **23 05 01.2 -0.7**
ARE0 ARCESS Array S 86.85 340 *e*P **P** **23 02 53.5 -2.4**
LEF Lefka 86.91 305 *e*P **P** **23 02 57.7 +0.7**
SZAC Souni-Zanaja 86.95 304 P **P** **23 02 58.4 +1.2**
HDMB Hadim 87.06 307 *e*P **P** **23 02 55.7 -2.2**
KONT Konya--Tatoy 87.06 308 *e*P **P** **23 02 58.9 +1.2**
ALFC Alevga 87.15 305 P **P** **23 02 57.1 -1.0**
KDHN Kadinhani 87.19 308 *i*P P 23 02 54.0 -4.4
SPA0 Spitsbergen Ar 87.24 349 *e*P **P** **23 02 55.2 -2.5**
SPA0 lAmb lAmb 23 03 09.7
comp=Z,6μm,1.3s
SPITS Spitsbergen Ar 87.24 349 P **P** **23 02 55.7 -2.0**
comp=Z,196nm,0.5s,baz=93,slow=8.7,SNR=269
SPITS S **SKSac** **23 12 28.9 -0.6**
comp=Z,58nm,1.0s,baz=72,slow=4.7,SNR=1.6
SPITS PKKPbc **PKKPbc** **23 20 47.0 -1.3**
comp=Z,1.8nm,0.3s,baz=178,slow=4.3,SNR=4.2
SPITS SKKPbc **SKKPbc** **23 23 30.3 -0.2**
comp=Z,30nm,1.1s,baz=151,slow=3.3,SNR=2.7
HAMF Hammerfest 87.26 341 *e*P **P** **23 02 55.1 -2.7**
HAMF lAmb lAmb 23 03 07.6
comp=Z,2μm,0.8s
GAZI Gazipasa 87.27 306 *i*P P 23 02 54.0 -4.7
KIZT Kizilcal 87.34 309 *e*P P 23 02 55.7 -3.3
DAWY Dawson 87.34 26 *e*P **P** **23 02 57.8 -0.6**
comp=Z,1μm,1.3s
DAWY *e*PKKPbc **PKKPbc** **23 20 47.3 -0.4**
AKMC Akamas 87.38 305 P **P** **23 02 58.1 -1.1**
PPCY Paphos 87.38 305 P **P** **23 02 57.6 -1.6**
KDZE Karadeniz Ereo 87.41 311 *e*P **P** **23 03 01.6 +2.4**
SBA Scott Base 87.43 172 *e*P **P** **23 02 59.3 +0.9**
SBA pmax pmax
comp=Z,7μm,2.3s
SBA Scott Base 87.43 172 *e*P **P** **23 02 59.3 +0.9**
comp=Z,7μm,2.3s
AUMIH MIHALICIK 87.54 310 *i*P **P** **23 03 00.6 +0.6**
AUSIV SIVRIHISAR 87.54 309 *i*P **P** **23 02 57.7 -2.2**
SVRH Sivrihisar-ESK 87.55 309 *e*P **P** **23 03 02.1 +2.1**
BJO Bjornoya 87.67 345 *e*P **P** **23 02 57.5 -2.2**
BJO lAmb lAmb 23 03 08.4
comp=Z,4μm,1.9s
MDUB Mudurnu 87.69 310 *e*P **P** **23 03 03.7 +3.1**
KTK1 Kautokeino 87.74 339 *e*P **P** **23 02 57.4 -2.7**
HSPB Hornsund (broa 87.79 348 *e*P **P** **23 02 58.6 -1.6**
HSPB *e*pP **pP** **23 05 06.4 -0.1**
HSPB *e*SKSac **SKSac** **23 12 29.2 -3.4**
KBS Kingsbay 87.81 350 *e*P **P** **23 02 59.3 -1.0**
KBS *e*SKSac **SKSac** **23 12 33.6 +0.8**
KBS Kingsbay 87.81 350 *e*P **P** **23 02 58.5 -1.8**
KBS pmax pmax
comp=Z,3μm,1.0s
KBS Kingsbay 87.81 350 *e*P **P** **23 02 58.5 -1.8**
comp=Z,3μm,1.0s
BTAS Taskesti 87.83 310 *i*P P **23 03 01.5 +0.3**
AKASG Malin Array Be 87.83 321 P **P** **23 02 59.0 -1.9**
comp=Z,21nm,0.3s,baz=67,slow=4.9,SNR=113
AKASG PP **PP** **23 06 35.2 -2.6**
comp=Z,26nm,0.6s,baz=74,slow=7.9,SNR=2.0
AKASG S **SKSac** **23 12 32.6 -1.2**
comp=Z,23nm,0.9s,baz=78,slow=5.2,SNR=2.4
AKASG ScS **ScS** **23 12 57.6 -1.5**
comp=Z,86nm,0.9s,baz=75,slow=9.5,SNR=8.1
AKASG PKKPbc **PKKPbc** **23 20 45.1 -0.8**
comp=Z,1.9nm,0.3s,baz=272,slow=2.9,SNR=5.0
AKASG SKKPbc **SKKPbc** **23 23 27.1 -1.1**
comp=Z,6.5nm,0.8s,baz=271,slow=3.0,SNR=3.4
AKBB Malin Array Si 87.83 321 *e*P **P** **23 02 58.3 -2.6**
AKBB Malin Array Si 87.83 321 *e*P **P** **23 02 58.3 -2.6**
AK01 Malin Array Si 87.84 321 *e*P **P** **23 02 58.1 -2.8**
KIEV Kiev 87.85 321 *e*P **P** **23 02 58.4 -2.5**
KIEV pmax pmax
comp=Z,1μm,1.0s
KIEV Kiev 87.85 321 *e*P **P** **23 02 58.4 -2.5**
comp=Z,1μm,1.0s
AK02 Malin Array Si 87.85 321 *e*P **P** **23 02 58.2 -2.8**
FINES FINESS Array B 87.99 332 P **P** **23 02 59.5 -1.9**
comp=Z,65nm,0.4s,baz=74,slow=4.3,SNR=375
FINES S **SKSac** **23 12 34.6 +0.3**
comp=Z,64nm,0.8s,baz=99,slow=8.7,SNR=3.5
FINES PKKPbc **PKKPbc** **23 20 45.3 -0.7**
comp=Z,23nm,1.0s,baz=215,slow=1.7,SNR=4.8
FINES SKKPbc **SKKPbc** **23 23 27.3 -1.0**
comp=Z,16nm,0.9s,baz=197,slow=1.5,SNR=2.9
ESKT Eskisehir 88.06 309 *e*P **P** **23 03 01.0 -1.5**

BOLV **Bolvadin** 88.08 309 *i* P **P** 23 03 01.5 **-1.0**
MICGM **Minsk** 88.12 325‖ *e*P **P** 23 03 00.0 **-2.2**
MICGM **Minsk** 88.12 325 PM 23 03 06.0
comp=Z,3.3nm,1.1s
MICGM **Minsk** 88.12 325 PM 23 03 06.0
comp=E,1.0nm,1.5s
MICGM **Minsk** 88.12 325 PM 23 03 06.0
comp=E,3.0nm,1.5s
MICGM **Minsk** 88.12 325 *e*PP PP 23 06 36.0 -3.9
MICGM **Minsk** 88.12 325 *e*SKS **SKSac** 23 12 34.0 **-1.4**
MICGM **Minsk** 88.12 325 *e*S **S** 23 12 58.0 **+0.3**
MICGM **Minsk** 88.12 325 *e*SP SP 23 14 08.0 +3.2
MICGM **Minsk** 88.12 325 *e*SS SS 23 19 00.0 -4.0
VSU Vasula 88.15 329⇑ *i*P **P** **23 02 59.9 -2.3**
VSU pmax pmax
comp=Z,7μm,1.5s
MNK Minsk 88.15 325‖ *e*P **P** **23 03 00.0 -2.3**
MNK *e**PP **pP** **23 05 12.0 +3.2**
MNK *e* 23 06 36.0
MNK *e* 23 12 34.0
MNK *e*S **S** **23 12 58.0 0.0**
MNK *e*SP **SPn** **23 14 08.0 +2.3**
MNK *e*SS **SS** **23 19 00.0 -4.4**
MNK pmax pmax
comp=N,2μm,1.5s
MNK pmax pmax
comp=E,3μm,1.5s
MNK pmax pmax
comp=Z,3μm,1.1s
GULT Gulveren 88.21 310 *e*P **P** **23 03 06.1 +3.1**
BAGO Egridir - ISPA 88.29 308 *i*P **P** **23 03 00.6 -2.9**
BORA Eskisehir 88.32 310 *i*P **P** **23 03 02.4 -1.1**
AUKIR K¨¨rka- Seyitg 88.34 309 *i*P **P** **23 03 03.4 -0.3**
SPNC Sapanca-Adapaz 88.34 311 *e*P **P** **23 03 06.7 +3.2**
GPA Golpazari 88.38 310 *e*P P 23 03 07.7 +3.9
BCK Bucak 88.51 307 *e*P **P** **23 03 06.5 +2.0**
ISP Isparta 88.52 308 *e*P **P** **23 03 06.9 +2.3**
ISP Isparta 88.52 308 *e*P **P** **23 03 01.6 -2.9**
ISP pmax pmax
comp=Z,970nm,0.9s
ISP Isparta 88.52 308‖ *i*P P 23 03 01.2 -3.4
ISP Isparta 88.52 308 *e*P **P** **23 03 01.6 -2.9**
comp=Z,970nm,0.9s
ANTB Antalya 88.52 307 *e*P **P** **23 03 06.6 +2.2**
KIS Kishinev 88.59 317‖ *i*P **P** **23 03 07.0 +2.5**
comp=Z,5μm,2.6s
KIS *i* pP **pP** **23 05 15.0 +3.9**
KIS Kishinev 88.59 317 *i* PP PP 23 06 43.0 -0.8
KIS *i* S **S** **23 13 02.0 -0.3**
KIS Kishinev 88.59 317‖ *i*P **P** **23 03 07.0 +2.5**
KIS *i* *PP **pP** **23 05 15.0 +3.9**
KIS *i* 23 06 43.0
KIS *i* S **S** **23 13 02.0 -0.3**
KIS pmax pmax
comp=Z,5μm,2.6s
AUKUT KUTAHYA 88.64 310 *i*P **P** **23 03 03.4 -1.7**
NACGM **Naroch** 88.69 325 *e*P **P** **23 03 02.0 -2.8**
NACGM **Naroch** 88.69 325 *e*P **P** **23 03 02.0 -2.8**
NACGM **Naroch** 88.69 325 *e*PP PP 23 06 36.0 -8.3
NACGM **Naroch** 88.69 325 *e*SKS SKSac 23 12 16.0 -23
NACGM **Naroch** 88.69 325 *e*S **S** **23 12 58.0 -4.9**
NACGM **Naroch** 88.69 325 *e*SP SP 23 14 12.0 +0.9
NACGM **Naroch** 88.69 325 *e*SS SS 23 19 10.0 -2.1
CAVI Cavuskoy 88.75 310 *e*P **P** **23 03 04.3 -1.1**
SORM Soroca 88.75 318⇑ *i*P **P** **23 03 03.5 -1.9**
SORM Soroca 88.75 318⇑ *i*P **P** **23 03 03.3 -1.9**
KORT Korkueli 88.75 307 *i*P P 23 03 02.4 -3.3
HYT Haines Junctio 88.77 29 *e*P **P** **23 03 05.0 -0.3**
SILT Sile 88.78 311 *e*P **P** **23 03 08.5 +3.0**
ADVT Abdulvahap 88.80 310 *e*P **P** **23 03 04.3 -1.3**
HRT Hereke 88.80 311 *e*P **P** **23 03 06.9 +1.2**
INK Inuvik 88.81 21 P **P** **23 03 03.1 -2.0**
comp=Z,41nm,0.9s,baz=281,slow=5.3,SNR=24
INK Inuvik 88.81 21 *e*P **P** **23 03 04.0 -1.1**
INK pmax pmax
comp=Z,1μm,1.1s
INK Inuvik 88.81 21 *e*P **P** **23 03 04.0 -1.1**
comp=Z,1μm,1.1s
TLCR 88.84 315⇑ *i*P **P** **23 03 03.7 -2.0**
TLCR 88.84 315⇑ *i*P **P** **23 03 03.7 -2.0**
PPT Papeete 88.92 108 P **P** **23 03 06.1 -0.5**
comp=Z,125nm,1.0s,baz=188,slow=0.9,SNR=3.3
PPT2 Papeete2 88.92 108 *e*P **P** **23 03 09.2 +2.5**
comp=Z,2μm,1.1s
PPT2 *e*SKSac **SKSac** **23 12 41.6 0.0**
comp=Z,249μm,24.6s
PPT2 *e*S **S** **23 13 05.9 -0.7**
comp=Z,193μm,27.0s
PAE Paea 88.93 108 *e*P **P** **23 03 08.8 +2.2**
comp=Z,475nm,1.4s
IIGN Ignalina 88.94 325 *e*P **P** **23 03 04.0 -2.0**
IIGN IAmb IAmb 23 03 20.6
comp=Z,594nm,0.9s
IIGN *e*S **S** **23 13 05.3 +0.1**
ISAL Salakas 88.95 326 *e*P **P** **23 03 04.0 -2.1**
ISAL IAmb IAmb 23 03 20.6
comp=Z,414nm,0.9s
ISAL *e*S **S** **23 13 04.0 -1.3**
IZI Iznik 89.01 310 *e*P **P** **23 03 05.4 -1.4**
TRO Tromso 89.08 340 *e*P P 23 03 01.8 -4.4
TRO IAmb IAmb 23 03 11.0
comp=Z,5μm,1.9s
TRO *e*SKSac **SKSac** **23 12 37.9 -2.4**
EFOR EFORIE 89.12 314‖ *i*P **P** **23 03 06.5 -0.6**
ELL Elmali 89.14 307 *e*P **P** **23 03 10.6 +3.1**
TVSB Tavsanli 89.14 309 *e*P **P** **23 03 09.7 +2.3**
TIAR Tiarei 89.14 108 *e*P **P** **23 03 09.8 +2.1**
comp=Z,389nm,1.0s
BUY Buyukada 89.21 311 *i*P **P** **23 03 06.2 -1.3**
GEMT Gemlik 89.21 310 *e*P **P** **23 03 08.9 +1.3**
KLYT Kilyos 89.21 311 *e*P **P** **23 03 10.4 +2.9**
GIUM Giurgiulesti 89.22 316⇑ *i*P **P** **23 03 05.6 -1.9**
ISK Istanbul-Kandi 89.23 311 *e*P **P** **23 03 10.6 +3.0**
TIRR Tirgusor 89.23 314 *e*P P 23 03 11.2 +3.7
TIRR Tirgusor 89.23 314 *e*P **P** **23 03 05.3 -2.2**
TIRR pmax pmax
comp=Z,703nm,1.0s
TIRR Tirgusor 89.23 314‖ *i*P P 23 03 01.9 -5.6
TIRR Tirgusor 89.23 314 *e*P **P** **23 03 05.3 -2.2**
comp=Z,703nm,1.0s
TVO Taravao 89.25 108 *e*P **P** **23 03 10.4 +2.1**
comp=Z,432nm,1.1s
KHAL Karahalli 89.25 308 *i*P **P** **23 03 05.3 -2.7**
CFR Carcaliu 89.32 315‖ *i*P **P** **23 03 05.8 -2.1**
CFR Carcaliu 89.32 315‖ *i*P **P** **23 03 05.8 -2.1**
GOLH Golhisar 89.35 307 *i*P **P** **23 03 08.1 -0.3**
IAS Iasi 89.41 317⇑ *i*P **P** **23 03 06.4 -1.9**
IAS Iasi 89.41 317⇑ *i*P **P** **23 03 06.4 -1.9**
ARMT Armutlu 89.44 311 *e*P **P** **23 03 08.9 +0.2**
AKAS Kas 89.44 306 *i*P **P** **23 03 08.1 -0.8**
MDNY Mudanya-Bursa 89.45 310 *e*P **P** **23 03 11.7 +3.0**
ORLT Orhaneli 89.49 310 *e*P P 23 03 13.1 +4.1
PSN Preselentsi 89.50 314 *i*P P 23 03 12.1 +3.3
HARR Harsova 89.53 315‖ *i*P **P** **23 03 07.6 -1.4**
HARR Harsova 89.53 315‖ *i*P **P** **23 03 07.6 -1.4**
CTKS Kestanelik-??a 89.62 311 *e*P **P** **23 03 12.1 +2.7**
DENT Denizli 89.70 308 *e*P **P** **23 03 11.3 +1.4**
MSAB Monastry St. A 89.70 314‖ *i*P **P** **23 03 07.6 -2.1**
TBI Tubuai 89.73 113 *e*P **P** **23 03 12.0 +1.7**
comp=Z,4μm,1.2s
TBI Tubuai 89.73 113 *e*PP PP 23 06 55.2 +1.6
comp=Z,53μm,29.8s
TBI *e*SKSac **SKSac** **23 12 42.3 -3.6**
comp=Z,316μm,25.0s
TBI *e*S **S** **23 13 13.3 -0.2**
comp=Z,204μm,27.8s
TBI *e*SS **SS** **23 19 28.5 -0.4**
comp=Z,136μm,27.8s
CTYL Yal??k??y-??at 89.74 312 *e*P **P** **23 03 13.0 +3.0**
DST Dursunbey 89.76 310 *e*P P 23 03 13.5 +3.3
DEMI Demirci 89.77 309 *i*P **P** **23 03 09.0 -1.3**
KCTX Karacabey (Bur 89.87 310 *e*P **P** **23 03 13.6 +2.9**
PETR Petresti 89.87 316‖ *i*P **P** **23 03 09.4 -1.1**
DURS Dursunbey 89.87 310 *i*P P 23 03 06.2 -4.6
KULA Kula-Manisa 89.88 309 *e*P **P** **23 03 12.9 +2.1**
MANT Manisa 89.97 309 *i*P **P** **23 03 11.8 +0.4**
AMRR Amara 89.97 315⇑ *i*P **P** **23 03 14.0 +3.1**
AMRR Amara 89.97 315⇑ *i*P **P** **23 03 14.0 +3.1**
GRER 90.10 316⇑ *i*P **P** **23 03 11.3 -0.3**
SKAG Skagway 90.12 30 *e*P **P** **23 03 11.1 -0.2**
comp=Z,1μm,1.1s
DALY Dalyan (Mu¨la 90.12 307 *e*P **P** **23 03 14.1 +2.3**
PRD Provadia 90.14 313 *i*P P 23 03 15.0 +3.2

TESR Tescani 90.14 317‖ *i*P **P** **23 03 09.2 -2.5**
VRI Vrincioaia 90.19 316 *e*P P 23 03 16.0 +4.0
VRI Vrincioaia 90.19 316 ‖P **P** **23 03 10.3 -1.7**
VRI Vrincioaia 90.19 316‖ *i*P **P** **23 03 10.3 -1.7**
CRLT Corlu 90.21 311 *e*P P 23 03 15.6 +3.5
PMOR Pomariorio Ree 90.22 105 *e*P **P** **23 03 14.9 +2.2**
comp=Z,3μm,1.0s
EDC Edincik 90.23 310 *e*P **P** **23 03 15.2 +3.0**
PLOR Plostina 90.25 316 ‖P **P** **23 03 10.2 -2.1**
PLOR Plostina 90.25 316‖ *i*P **P** **23 03 10.2 -2.1**
PHSR Pinarhisar 90.29 312 *e*P **P** **23 03 13.7 +1.2**
BALB Balikesir 90.32 310 *e*P **P** **23 03 14.5 +1.8**
YER Yerkesik 90.37 307 *e*P P 23 03 16.3 +3.2
TKR Tekirdag 90.38 311 *e*P P 23 03 18.2 +5.2
MEH Mehetia 90.39 108 *e*P **P** **23 03 15.1 +1.7**
comp=Z,331nm,1.1s
MEH *e*pP **pP** **23 05 20.2 -0.3**
comp=Z,232nm,1.5s
MRMT Marmara Adasi 90.39 311 *e*P **P** **23 03 15.7 +2.6**
ISR Istrita 90.44 315 ‖P **P** **23 03 12.9 -0.3**
ISR Istrita 90.44 315‖ *i*P **P** **23 03 12.9 -0.3**
AKHS Akhisar 90.48 309 *i*P P 23 03 08.1 -5.4
AKS Akhisar 90.48 309 *e*P P 23 03 17.1 +3.5
VAH Vaihoa 90.50 105 *e*P **P** **23 03 16.0 +2.0**
comp=Z,1μm,1.0s
BESE Bessie Mountai 90.56 31 *e*P **P** **23 03 13.8 +0.4**
comp=Z,625nm,1.2s
AYDB Zeytinkoy-Aydi 90.56 308 *e*P P 23 03 17.7 +3.6
AYDN Tasoluk 90.61 308 *i*P P 23 03 09.0 -5.2
ARG Arkhangelos 90.63 306 *e*P **P** **23 03 12.1 -2.1**
KRBG Karabiga-Canak 90.65 311 *e*P **P** **23 03 17.0 +2.8**
RKY Sarkoy-Tekirda 90.69 311 *e*P **P** **23 03 16.5 +2.0**
SULR 90.72 315⇑ *i*P **P** **23 03 12.3 -2.1**
SECR 90.79 315⇑ *i*P **P** **23 03 14.5 -0.3**
MLR Muntele Rosu 90.80 316 P **P** **23 03 13.4 -1.6**
comp=Z,16nm,0.7s,baz=21,slow=1.5,SNR=86
MLR PP **PP** **23 07 00.5 -0.7**
comp=Z,166nm,1.2s,baz=72,slow=16,SNR=2.0
MLR S **SKSac** **23 12 49.6 -1.9**
comp=Z,14nm,0.9s,baz=158,slow=16,SNR=2.3
MLR PKKPbc **PKKPbc** **23 20 37.2 -1.5**
comp=Z,3.5nm,0.7s,baz=181,slow=5.6,SNR=4.5
MLR SKKPbc **SKKPbc** **23 23 19.8 -1.6**
comp=Z,2.2nm,0.7s,baz=257,slow=5.6,SNR=3.0
MLR Muntele Rosu 90.80 316‖ *i*P **P** **23 03 12.5 -2.5**
EDRB Edirne 90.83 312 *e*P **P** **23 03 18.2 +3.2**
JMB Yambol 90.85 313 *i*P **P** **23 03 18.1 +3.0**
BTMR Bucharest-Geot 90.86 315⇑ *i*P **P** **23 03 17.9 +2.8**
BVCR Bucharest-Old 90.87 315‖ *i*P **P** **23 03 18.3 +3.2**
BUC Bucharest 90.87 315 ‖P **P** 23 03 18.9 +3.8
BUC Bucharest 90.87 315⇑ *i*P **P** **23 03 18.3 +3.2**
STEI Steigen 90.88 339 *e*P **P** **23 03 11.5 -3.1**
BURAR **Bucovina Array** 90.91 318 ‖P **P** **23 03 13.4 -2.0**
BURAR **Bucovina Array** 90.91 318‖ *i*P **P** **23 03 13.4 -2.0**
BUR08 **Bucovina Ar. S** 90.92 318 *e*P **P** **23 03 13.5 -1.9**
SUW Suwalki 90.93 325 *e*P **P** **23 03 12.7 -2.5**
SUW *e*PcP **PcP** **23 03 18.1 +2.3**
SUW *e*PP sP 23 06 27.5 +6.8
SUW *e*PPP PPP 23 08 55.6
SUW *e*SKS **SKSac** **23 12 51.8 +0.3**
SUW *e*S **ScS** **23 13 27.4 +2.7**
SUW *e* 23 14 42.5
SUW Suwalki 90.93 325 *e*P **P** **23 03 12.7 -2.5**
SUW *e* 23 12 51.8
SUW *e*S **ScS** **23 13 27.4 +2.7**
BUC1 Bucharest 90.93 315 ‖P **P** **23 03 18.5 +2.9**
BUC1 Bucharest 90.93 315‖ *i*P P 23 03 18.9 +3.5
BDRM Kayabasi 91.05 307 *i*P P 23 03 11.8 -4.3
LPK Lapseki 91.06 311 *e*P **P** **23 03 19.2 +3.1**
DOPR Dopca 91.09 316‖ *i*P **P** **23 03 13.0 -3.2**
GCAM G?zelcaml? 91.11 308 *i*P **P** **23 03 17.5 +1.1**
ALE Alert 91.13 1 P P 23 03 18.8 +3.2
comp=Z,1μm,1.0s,SNR=23
BODT Bodrum 91.15 307 *e*P **P** **23 03 19.5 +2.8**
DKL Dikili 91.16 309 *e*P **P** **23 03 15.7 -0.9**
BLCB Balcova 91.16 309 *e*P **P** **23 03 19.3 +2.7**
SZH Strazhica 91.19 314 *i*P **P** **23 03 19.0 +2.4**
ERIK Erikli-Kesan 91.19 311 *e*P **P** **23 03 19.3 +2.6**
LVV L'vov 91.27 320 *e*P **P** **23 03 19.1 +2.2**
LVV *e**PP **pP** **23 05 27.1 +3.1**
LVV *e* 23 06 28.3
LVV *e*S **S** **23 13 27.1 +0.9**
LVV pmax pmax
comp=Z,2μm,2.0s
GELI Tayfur-Gelibol 91.27 311 *e*P **P** **23 03 19.9 +2.8**
AYVA Ayvalik 91.28 310 *i*P **P** **23 03 15.6 -1.5**
NIS1 Nisyros Isl. 91.33 307 *e*P **P** **23 03 16.9 -0.5**
LOF Lofoten 91.41 339 *e*P **P** **23 03 14.9 -2.1**
SMG Samos 91.42 308 *e*P **P** **23 03 15.4 -2.5**
VOIR 91.42 316 ⇑P **P** **23 03 15.4 -2.4**
VOIR 91.42 316⇑ *i*P **P** **23 03 15.4 -2.4**
ENEZ Enez 91.45 311 *e*P **P** **23 03 20.8 +2.9**
EZN Ezine 91.47 310 *e*P **P** **23 03 20.1 +2.1**
KARP Karpathos 91.51 306 *e*P **P** **23 03 21.4 +3.1**
ALN Alexandroupoli 91.51 311 *e*P **P** **23 03 21.1 +3.0**
ARCR ARCALIA 91.59 318⇑ *i*P **P** **23 03 18.3 -0.1**
ZEY ¨zmir 91.60 309 *i*P **P** **23 03 19.4 +0.7**
PRK Paraskevi 91.61 310 *e*P **P** **23 03 18.6 -3.1**
PVL Pavlikeni 91.63 314 *i*P P 23 03 22.4 +3.8
HUMR Humele 91.64 315‖ *i*P **P** **23 03 15.8 -2.9**
BOZC Bozcaada 91.68 310 *i*P **P** **23 03 17.5 -1.5**
DIM Dimitrovgrad 91.69 312 *i*P **P** **23 03 21.1 +2.1**
ARR Arges 91.73 316‖ *i*P **P** **23 03 16.7 -2.5**
GADA Gvkgeada 91.74 311 *e*P **P** **23 03 21.3 +2.1**
MDB Medias 91.75 317 ‖P **P** **23 03 18.5 -0.7**
MDB Medias 91.75 317‖ *i*P **P** **23 03 18.5 -0.7**
MOR8 Moi Rana 91.77 337 *e*P P 23 03 14.8 -4.0
MOR8 IAmb IAmb 23 03 27.6
comp=Z,488nm,0.8s
RDO Rodhopi 91.84 312 *e*P P 23 03 16.3 -3.4
RDO Rodhopi 91.84 312 *e*P P 23 03 16.1 -3.6
comp=Z,1μm,1.0s
KDZ Kurdzhali 91.84 312 *i*P **P** **23 03 22.8 +3.1**
CHOS Chios island 91.92 309 *e*P **P** **23 03 23.2 +2.9**
CHOS Chios island 91.92 309 *e*P **P** **23 03 22.3 +2.1**
SIGR SIGRI 91.94 310 *e*P **P** **23 03 22.5 +2.4**
SIGR SIGRI 91.94 310 *e*P P 23 03 16.2 -4.0
SMTH Samothraki Isl 91.97 311 *e*P P 23 03 16.7 -3.6
BMR Baia Mare 92.05 318 ‖P **P** **23 03 19.4 -1.1**
BMR Baia Mare 92.05 318‖ *i*P **P** **23 03 19.4 -1.1**
FLOS Flostrand 92.12 338 *e*P **P** **23 03 17.7 -2.7**
KWP Kalwaria Pacla 92.15 320 *e*P **P** **23 03 19.9 -1.0**
KWP *e*PcP **PcP** **23 03 24.3 +3.0**
KWP *e*PP **PP** **23 07 10.8 -0.6**
KWP *e*PPP PPP 23 09 05.6
KWP *e*SKSac **SKSac** **23 13 04.7 +6.2**
KWP *e*S **ScS** **23 13 38.6 +3.5**
KWP *e* 23 15 03.8
KWP Kalwaria Pacla 92.15 320 *e*P **P** **23 03 20.0 -1.0**
KWP *e* 23 07 11.9
KWP *e*S **ScS** **23 13 38.6 +3.5**
KONS Konsvik 92.15 338 *e*P **P** **23 03 19.2 -1.3**
KONS IAmb IAmb 23 03 27.5
comp=Z,615nm,0.8s
CJR Cluj-Napoca 92.17 317 ‖P **P** **23 03 19.6 -1.6**
CJR Cluj-Napoca 92.17 317‖ *i*P **P** **23 03 19.6 -1.6**
CRAG Craig 92.22 34 *e*P **P** **23 03 20.7 -0.4**
comp=Z,1μm,1.0s
STOK Stokkvaagen 92.25 338 *e*P **P** **23 03 18.9 -2.1**
PLD Plovdiv 92.28 313 *i*P **P** **23 03 24.1 +2.4**
LOT Lotru 92.31 316 *e*P P 23 03 25.9 +3.9
LOT Lotru 92.31 316‖ *i*P **P** **23 03 19.6 -2.3**
LIA Limnos Island 92.33 316 *e*P P 23 03 18.6 -3.3
RZN Rozhen 92.35 312 *i*P **P** **23 03 24.9 +2.6**
WRAK Wrangell Islan 92.40 33 *e*P **P** **23 03 22.8 +1.0**
comp=Z,1μm,0.9s
CRAR CRAIOVA 92.51 315 ‖P **P** **23 03 20.8 -1.9**
CRAR CRAIOVA 92.51 315‖ *i*P **P** **23 03 20.8 -1.9**
APE Apeiranthos 92.56 308 *e*P **P** **23 03 22.6 -0.6**
APE Apeiranthos 92.56 308 ⇑P **P** **23 03 20.4 -2.7**
APE Apeiranthos 92.56 308⇑ *i*P **P** **23 03 20.4 -2.7**
KOLS Kolonicke sedl 92.58 320 *e*P **P** **23 03 21.5 -1.4**
KOLS pmax pmax
comp=Z,35nm,1.0s
KOLS Kolonicke sedl 92.58 320 *e*P **P** **23 03 21.5 -1.4**
TRPA Tarpa 92.58 319⇑ *i*P **P** **23 03 20.5 -2.4**
TRPA Tarpa 92.58 319‖ *e* P 23 03 26.2 +3.3
PGB Panagyurishte 92.59 313 *i*P **P** **23 03 25.8 +2.6**
UZH Uzhgorod 92.63 319 *e*P **P** **23 03 22.4 -0.7**
UZH *e* 23 06 26.2
UZH *e* 23 13 04.6

UZH *e*S S 23 13 30.4 -7.7
UZH *e* 23 15 00.4
UZH *e* 23 20 08.8
KAVA Kavala 92.63 312 *e*P **P** **23 03 20.3 -3.0**
SANT Santorini 92.73 307 *e*P **P** **23 03 25.6 +1.6**
THR1 Thera Island 92.73 307 *e*P **P** **23 03 23.5 -0.5**
MPEP Malo Peshtene 92.74 314 *i*P **P** **23 03 26.6 +2.8**
DRGR 92.75 318⇑ P **P** **23 03 21.5 -2.4**
DRGR 92.75 318⇑ *i*P **P** **23 03 21.5 -2.4**
DEV Deva 92.81 317 ‖P **P** **23 03 22.2 -1.8**
DEV Deva 92.81 317‖ *i*P **P** **23 03 22.2 -1.8**
THR5 Thira Island, 92.81 307 *e*P **P** **23 03 25.8 +1.5**
BEL Belsk 92.83 323 *e*P **P** **23 03 23.3 -0.7**
BEL *e*PcP **PcP** **23 07 27.7 +3.4**
BEL *e* 23 06 36.9
BEL *e*PPP PPP 23 09 16.3
BEL *e*SKSac **SKSac** **23 13 06.4 +4.4**
BEL *e*S **ScS** **23 13 45.3 +4.7**
BEL *e* 23 15 01.7
BEL Belsk 92.83 323 *e*P **P** **23 03 23.3 -0.7**
BEL *e* 23 13 06.4
BEL *e* 23 15 01.7
MBAR Mbarara 92.89 270 P P 23 03 28.9 +3.6
comp=Z,347nm,1.4s,SNR=8.7
MBAR Mbarara 92.89 270 *e*P **P** **23 03 22.7 -2.6**
MBAR pmax pmax
comp=Z,1μm,1.4s
MBAR Mbarara 92.89 270 *e*P **P** **23 03 22.7 -2.6**
comp=Z,1μm,1.4s
LAST Lasithi 92.92 306 *e*P **P** **23 03 22.9 -2.0**
DLBC Dease Lake 93.04 30 P **P** **23 03 24.2 -0.7**
comp=Z,21nm,0.8s,baz=296,slow=3.3,SNR=26
DLBC PP **PP** **23 07 17.5 -0.5**
comp=Z,47nm,0.8s,baz=278,slow=6.4,SNR=1.8
MMB Musomiste 93.10 312 *i*P **P** **23 03 27.9 +2.4**
OUR Ouranopolis 93.15 311 *e*P **P** **23 03 22.9 -2.8**
OUR Ouranopolis 93.15 311 *e*P P 23 03 21.8 -3.9
RMGR Halanga-Turnu 93.22 315‖ *i*P **P** **23 03 25.3 -0.6**
VTS Vitosha 93.28 313 ‖P **P** **23 03 23.5 -3.0**
VTS Vitosha 93.28 313‖ *i*P **P** **23 03 23.5 -3.0**
VTS Vitosha 93.28 313 *i*P **P** **23 03 29.2 +2.7**
NSS Namsos 93.33 336 *e*P **P** **23 03 22.9 -3.1**
IDI Anoyia 93.38 306 P **P** **23 03 25.2 -1.8**
comp=Z,21nm,0.4s,baz=130,slow=6.4,SNR=48
IDI S **SKSac** **23 13 03.8 -2.1**
comp=Z,104nm,1.0s,baz=67,slow=17,SNR=7.7
IDI PKKPbc **PKKPbc** **23 20 30.4 -1.2**
comp=Z,10.0nm,0.4s,baz=270,slow=3.1,SNR=2.4
IDI SKKPbc **SKKPbc** **23 23 14.0 -0.9**
comp=Z,20nm,0.8s,baz=270,slow=1.0,SNR=3.0
IDI Anoyia 93.38 306 *e*P **P** **23 03 24.9 -2.0**
comp=Z,1μm,1.0s
IDI S **SKSac** **23 13 03.8 -2.1**
IDI PKKPbc **PKKPbc** **23 20 30.4 -1.2**
IDI SKKPbc **SKKPbc** **23 23 14.0 -0.9**
AOS Alonnisos 93.45 310 *e*P **P** **23 03 29.3 +2.2**
SIVA Sivas 93.49 306 *e*P **P** **23 03 25.6 -1.8**
KKB Krupnik 93.52 313 *i*P **P** **23 03 29.6 +2.2**
SOH Sokhos 93.53 312 *e*P P 23 03 23.8 -3.7
SIRR Siria 93.58 317⇑ *i*P **P** **23 03 25.5 -2.1**
PTL Penteli 93.68 309 *e*P **P** **23 03 29.7 +1.5**
NIE Niedzica 93.72 320 *e*P **P** **23 03 26.6 -1.6**
NIE *e*PcP **PcP** **23 03 32.1 +3.7**
NIE *e*PPP PPP 23 09 20.5
NIE *e*SKSac **SKSac** **23 13 12.7 +5.6**
NIE *e*S **ScS** **23 13 54.0 +5.7**
NIE *e* 23 16 39.6
NIE *e* 23 16 35.7
NIE Niedzica 93.72 320 *e*P **P** **23 03 26.6 -1.6**
BZS Buzias 93.75 317 ‖P **P** **23 03 25.5 -2.8**
BZS Buzias 93.75 317‖ *i*P **P** **23 03 25.5 -2.8**
HORT Hortiatis 93.76 311 *e*P **P** **23 03 30.9 +2.2**
HORT Hortiatis 93.76 311 *e*P P 23 03 25.3 -3.3
SYO Syowa Base 93.79 201⇑ *i*P **P** **23 03 26.2 -1.7**
KNT Kendrikon 93.80 312 *e*P **P** **23 03 26.5 -2.1**
ATH Athens Observa 93.81 309 *e*P **P** **23 03 25.8 -3.0**
KECS Kecovo 93.83 319 *e*P **P** **23 03 26.8 -1.8**
KECS pmax pmax
comp=Z,27nm,0.8s
KECS Kecovo 93.83 319 *e*P **P** **23 03 26.8 -1.8**
OJC Ojcow 93.84 321 *e*P **P** **23 03 27.5 -1.1**
OJC *e*PcP **PcP** **23 03 32.1 +3.3**
OJC *e*PP **PP** **23 07 26.0 +1.7**
OJC *e*PPP PPP 23 09 21.3
OJC *e*SKSac **SKSac** **23 13 09.9 +2.3**
OJC *e*S **ScS** **23 13 53.3 +4.1**
OJC Ojcow 93.84 321 *e*P **P** **23 03 27.6 -1.1**
OJC *e* 23 07 26.0
OJC *e* 23 13 09.9
OJC *e*S **ScS** **23 13 53.3 +4.1**
OJC Ojcow 93.84 321 *e*P **P** **23 03 26.7 -1.9**
comp=Z,874nm,1.1s
TIM Timisoara 93.99 317 ‖P **P** **23 03 32.5 +3.1**
TIM Timisoara 93.99 317‖ *i*P **P** **23 03 32.5 +3.1**
VAY Valandovo 94.01 312 *e*P **P** **23 03 26.9 -2.6**
GVD Gavdhos 94.11 306 *e*P **P** **23 03 28.2 -2.0**
comp=Z,1μm,0.7s
DAG Danmarks Havn 94.17 352 *i*P **P** **23 03 27.5 -2.1**
comp=Z,1μm,1.2s
DAG *i* 23 05 43.7
DAG *i*S **SKSac** **23 13 10.5 +2.2**
DAG *i* 23 13 51.1
DAG Danmarks Havn 94.17 352 *i*P **P** **23 03 27.5 -2.1**
DAG *i*S **SKSac** **23 13 10.5 +2.2**
DAG *i* 23 13 51.1
DAG pmax pmax
comp=Z,2μm,1.2s
HFS Hagfors 94.19 332 P **P** **23 03 28.2 -1.8**
comp=Z,30nm,0.4s,baz=76,slow=6.1,SNR=72
HFS PP **PP** **23 07 24.9 -1.7**
comp=Z,138nm,0.8s,baz=86,slow=7.8,SNR=3.2
HFS PKKPbc **PKKPbc** **23 20 29.3 -1.1**
comp=Z,13nm,0.6s,baz=194,slow=3.0,SNR=11
HFS SKKPbc SKKPbc 23 23 13.3 -0.5
comp=Z,12nm,0.9s,baz=222,slow=1.9,SNR=2.1
LKR Lokris 94.23 309 *e*P P 23 03 26.1 -4.6
PSZ Piszkesteto 94.35 319 *e*P **P** **23 03 29.1 -2.0**
PSZ pmax pmax
comp=Z,942nm,1.2s
PSZ Piszkesteto 94.35 319‖ *i*P **P** **23 03 28.5 -2.6**
PSZ Piszkesteto 94.35 319 *e*P **P** **23 03 29.1 -2.0**
comp=Z,942nm,1.2s
PSZ Piszkesteto 94.35 319‖ *e* P 23 03 34.5 +3.4
TBLU Trondheim 94.53 335 *e*P **P** **23 03 29.0 -2.4**
GKP Gorka Klasztor 94.54 325 *e*P **P** **23 03 30.5 -1.2**
GKP *e* 23 06 41.9
GKP *e*PP **PP** **23 07 29.7 +0.2**
GKP *e*PPP PPP 23 09 26.2
GKP *e*SKSac SKSac 23 13 19.5 +8.4
GKP *e*S **ScS** **23 14 00.9 +6.1**
GKP *e* 23 15 15.8
GKP Gorka Klasztor 94.54 325 *e*P **P** **23 03 30.5 -1.2**
GKP *e* 23 07 29.8
ANKY Antikythira Is 94.54 307 *e*P **P** **23 03 30.1 -2.0**
AGG Agios Georgios 94.67 310 *e*P **P** **23 03 34.4 +1.7**
AGG Agios Georgios 94.67 310 *e*P P 23 03 28.8 -3.9
AGG Agios Georgios 94.67 310 *e*P P 23 03 28.8 -3.9
AGG *e*PP PP 23 07 39.1 +8.0
SKO Skopje 94.69 313 *e*P **P** **23 03 30.6 -2.1**
RAC Raciborz 94.87 321 *e*P P 23 03 30.0 -3.3
VYHS Vyhne 94.89 320 *e*P **P** **23 03 35.7 +2.2**
VYHS pmax pmax
comp=Z,299nm,1.4s
VYHS Vyhne 94.89 320 *e* P **P** **23 03 35.7 +2.2**
NC602 NORSAR Array S 94.96 333 *e*P **P** **23 03 34.1 +0.6**
NC602 IAmb IAmb 23 03 43.4
comp=Z,753nm,1.2s
OKC Ostrava-Krasne 94.96 321 *e*P **P** **23 03 31.8 -1.9**
OKC *ex* x 23 03 37.1
OKC *ex* x 23 13 22.4
OKC *e*S S 23 14 05.8 +7.5
OKC *ex* x 23 16 47.7
OKC Ostrava-Krasne 94.96 321 *e*P **P** **23 03 31.8 -1.9**
NB2 NORSAR Subarra 94.99 333 P **P** **23 03 30.9 -2.8**
comp=Z,762nm,0.9s,baz=70,slow=4.4
NB2 NORSAR Subarra 94.99 333 P **P** **23 03 30.9 -2.8**
baz=70,slow=4.4
NOA NORSAR Array B 94.99 333 P **P** **23 03 32.1 -1.6**
comp=Z,455nm,1.1s,baz=68,slow=4.6,SNR=91
NOA PP **PP** **23 07 30.4 -2.3**
comp=Z,124nm,1.1s,baz=69,slow=7.6,SNR=3.6
NOA PKKPbc **PKKPdf** **23 20 27.4 +0.9**

comp=Z,2.7nm,0.5s,baz=286,slow=3.3,SNR=3.7
NOA SKKPbc SKKPbc 23 23 10.7 -1.3
comp=Z,15nm,1.1s,baz=239,slow=2.3,SNR=3.1
KLV Kalavryta, Ach 95.01 309 *eP* P 23 03 30.0 -4.3
BUD Budapest 95.03 319⇓*e* P 23 03 37.4 +3.3
PKS7 Kunszentmiklos 95.06 318 *e* P 23 03 39.2 +5.0
LAKA Lakka 95.10 309 *eP* **P 23 03 31.9 -2.8**
PKS2 Kecel 95.17 318 *e* P 23 03 39.9 +5.2
NAO01 NORSAR Array S 95.21 333 *eP* **P 23 03 32.0 -2.6**
comp=Z,81nm,1.1s
DIVS Divibare 95.23 315⇓*iP* **P 23 03 32.2 -3.0**
BSD Bornholm Skovb 95.27 327 *i* P **P 23 03 32.8 -2.1**
comp=Z,751nm,1.0s
BSD *i* 23 06 07.4
BSD *i* S **SKSac 23 13 17.3 +2.5**
BSD *i* 23 14 05.0
comp=Z,66µm,20.0s
BSD Bornholm Skovb 95.27 327 *i* P **P 23 03 32.8 -2.1**
BSD *i* S **SKSac 23 13 17.3 +2.5**
BSD *i* 23 14 05.0
BSD pmax pmax
comp=Z,750nm,1.0s
BSD MLR MLR
comp=Z,66µm,20.0s
MORC Moravsky Berou 95.36 321 *eP* **P 23 03 33.8 -1.8**
MORC pmax pmax
comp=Z,2µm,1.0s
MORC Moravsky Berou 95.36 321⇑*iP* **P 23 03 34.7 -0.9**
MORC Moravsky Berou 95.36 321 *eP* **P 23 03 33.8 -1.8**
comp=Z,2µm,1.0s
ITM Ithomi 95.36 308 *eP* **P 23 03 32.8 -3.1**
PKSG 95.47 319⇑*e* P 23 03 39.7 +3.6
CSKK Cs˘ˇkako 95.57 319⇑*e* **P 23 03 38.2 +1.7**
IVA Berane 95.60 314 *eP* **P 23 03 34.7 -2.2**
PVY Plav 95.62 314⇑*iP* **P 23 03 37.2 +0.2**
PKSM Moragy 95.62 318 ⇓*P* **P 23 03 34.1 -2.7**
PKSM Moragy 95.62 318⇓*iP* **P 23 03 34.1 -2.7**
PKSM Moragy 95.62 318⇓*e* P 23 03 40.0 +3.2
OSL Oslo 95.64 332 *eP* **P 23 03 34.5 -2.0**
PKST T˜˜s 95.74 319⇑*e* **P 23 03 35.3 -2.0**
KRLC Kraliky 95.74 322 *eP* **P 23 03 35.4 -1.9**
KRLC *ex* x 23 03 40.7
KRLC Kraliky 95.74 322 *eP* **P 23 03 35.4 -1.9**
KSP Ksiaz 95.81 323 *eP* **P 23 03 36.5 -1.1**
KSP *e*PcP **PcP 23 03 41.4 +3.8**
KSP *e*SKSac **SKSac 23 13 21.2 +3.3**
KSP *eS* **ScS 23 14 11.4 +5.8**
KSP *e* 23 15 35.4
KSP Ksiaz 95.81 323 *eP* **P 23 03 36.5 -1.1**
KSP *e* 23 13 21.3
KSP *e* 23 15 35.4
PLE Pljevlja 95.84 315⇑*iP* **P 23 03 36.6 -1.4**
MOL Molde 95.94 335 *eP* P 23 03 42.9 +5.1
DPC Dobruska-Polom 95.94 322 *eP* **P 23 03 36.6 -1.6**
DPC *ex* x 23 03 41.9
DPC *ex* x 23 07 50.2
DPC *eS* S 23 14 13.2 +6.5
DPC *eSP* **SP 23 15 37.4 +6.7**
DPC Dobruska-Polom 95.94 322 *eP* **P 23 03 36.6 -1.6**
DPC *eSP* SP 23 15 37.4 +6.6
TIR Tirane 95.98 313 *eP* **P 23 03 36.1 -2.4**
TIR pmax pmax
comp=Z,1µm,1.2s
TIR Tirane 95.98 313 *eP* **P 23 03 36.1 -2.4**
comp=Z,1µm,1.2s
BBB Bella Bella 96.01 36 P **P 23 03 36.6 -1.7**
comp=Z,17nm,0.8s,baz=270,slow=5.2,SNR=7.0
UPC Upice 96.08 322 *eP* **P 23 03 37.2 -1.6**
UPC *ex* x 23 03 42.1
UPC *ex* x 23 06 54.7
UPC *e*PP PP 23 07 49.4 +8.0
UPC *ex* x 23 13 27.7
UPC *eS* S 23 14 15.0 +7.2
UPC *eSP* **SP 23 15 38.4 +6.2**
UPC *ex* x 23 16 56.9
UPC Upice 96.08 322 *eP* **P 23 03 37.2 -1.6**
UPC *e* 23 07 49.4
UPC *eSP* SP 23 15 38.4 +6.2
VRAC Vranov 96.08 321 PKKPbc PKKPbc 23 20 23.4 -1.7
comp=Z,16nm,1.1s,baz=194,slow=2.8,SNR=2.8
VRAC Vranov 96.08 321⇑*P* **P 23 03 37.0 -1.8**
VRAC Vranov 96.08 321⇑*iP* **P 23 03 37.0 -1.8**
TTG Podgorica 96.16 314⇑*iP* **P 23 03 36.6 -2.7**
UPM Unac-Piva 96.22 315⇑*iP* **P 23 03 36.9 -2.9**
NKY Niksic 96.25 314⇑*iP* **P 23 03 37.3 -2.6**
KONO Kongsberg 96.28 332 *eP* P 23 03 36.1 -3.3
KONO IAmb IAmb 23 03 48.6
comp=Z,244nm,0.7s
KONO *e* 23 14 08.4
KONO Kongsberg 96.28 332 *eP* **P 23 03 36.8 -2.6**
KONO pmax pmax
comp=Z,270nm,0.9s
KONO Kongsberg 96.28 332 *eP* **P 23 03 36.8 -2.6**
comp=Z,270nm,0.9s
ULC Ulcinj 96.28 313⇑*iP* **P 23 03 36.8 -3.1**
QSPA South Pole Qui 96.31 180 P **P 23 03 38.6 -1.0**
comp=Z,62nm,1.1s,baz=306,slow=2.0,SNR=38
QSPA PP **PP 23 07 41.4 -1.6**
comp=Z,106nm,0.8s,baz=347,slow=5.9,SNR=2.3
QSPA SKKPbc SKKPbc 23 23 11.3 -0.2
comp=Z,40nm,0.8s,baz=194,slow=3.9,SNR=2.2
QSPA South Pole Qui 96.31 180 *eP* **P 23 03 39.5 -0.1**
comp=Z,188nm,0.8s
QSPA PP **PP 23 07 41.5 -1.6**
QSPA SKKPbc SKKPbc 23 23 11.3 -0.2
RGN Rugen 96.32 327 *e*Pdiff P 23 03 44.0 +4.3
RGN *e*PP PP 23 07 51.7 +8.7
RGN *e*SP SP 23 15 37.3 +2.8
RGN Rugen 96.32 327 *eP* **P 23 03 38.5 -1.2**
comp=Z,757nm,1.0s
AKN Aaknes 96.34 335 *eP* **P 23 03 37.6 -2.1**
COP Copenhagen 96.40 328 *i* P **P 23 03 39.5 -0.5**
comp=Z,200nm,1.1s
comp=Z,32µm,22.0s
COP Copenhagen 96.40 328 *i* P **P 23 03 39.5 -0.5**
COP pmax pmax
comp=Z,200nm,1.1s
COP MLR MLR
comp=Z,32µm,22.0s
BUM Brajici-Budva 96.45 314⇑*iP* P 23 03 36.8 -3.9
JNW Jan Mayen West 96.46 346 *eP* P 23 03 44.5 +4.5
JMIC Jan Mayen 96.51 346 *eP* P 23 03 44.5 +4.3
JMIC IAmb IAmb 23 03 50.6
comp=Z,633nm,0.9s
JMIC Jan Mayen 96.51 346 P **P 23 03 38.9 -1.3**
comp=Z,64nm,0.7s,baz=122,slow=13,SNR=2.6
BRY Bratogost 96.55 314⇓*iP* **P 23 03 38.5 -2.7**
SOP Sopron 96.58 319⇓*e* **P 23 03 44.2 +3.1**
HCY Herceg Novi 96.70 314⇑*iP* **P 23 03 39.2 -2.5**
RUE Ruedersdorf 96.78 325 *e*Pdiff P 23 03 46.2 +4.4
RUE *e*PP PP 23 07 55.3 +8.8
RUE *e*PP 23 09 42.9
RUE *e*SP SP 23 15 42.6 +3.2
RUE Ruedersdorf 96.78 325 *eP* **P 23 03 40.0 -1.8**
comp=Z,2µm,1.0s
TREC Trest 96.78 321 *eP* P 23 03 38.5 -3.5
TREC *ex* x 23 03 43.4
TREC *e*PP PP 23 07 53.3 +6.6
TREC *e*SKS **SKSac 23 13 29.6 +6.6**
TREC *eS* **ScS 23 14 18.5 +4.7**
TREC *eSP* **SP 23 15 45.4 +5.6**
TREC Trest 96.78 321 *eP* P 23 03 38.5 -3.5
TREC *e* 23 07 53.3
TREC *eS* **ScS 23 14 18.5 +4.7**
TREC *eSP* **SP 23 15 45.4 +5.6**
BEHE Becsehely 96.79 318⇓*e* P 23 03 45.7 +3.7
LSZ Lusaka 96.85 255 P **P 23 03 41.1 -1.9**
comp=Z,82nm,1.0s,baz=75,slow=6.4,SNR=70
LSZ PP **PP 23 07 47.0 -1.5**
comp=Z,122nm,1.1s,baz=67,slow=12,SNR=3.1
LSZ Lusaka 96.85 255 P **P 23 03 41.1 -1.9**
LSZ 23 07 47.0
LSZ pmax pmax
comp=Z,82nm,1.0s
LSZ pmax pmax
comp=Z,123nm,1.1s
LSZ Lusaka 96.85 255 *eP* **P 23 03 40.9 -2.1**
comp=Z,5µm,2.2s
LSZ PP **PP 23 07 47.0 -1.5**
PVCC Panska Ves 96.95 323 *eP* **P 23 03 41.4 -1.3**
PVCC *ex* x 23 03 46.2
PVCC *ex* x 23 06 59.0
PVCC *ex* x 23 13 31.9
PVCC *eS* S 23 14 22.8 +7.7
PVCC *eSP* **SP 23 15 46.2 +4.7**
PVCC *ex* x 23 17 06.0
PVCC Panska Ves 96.95 323 *eP* **P 23 03 41.4 -1.3**
PVCC *eSP* SP 23 15 46.2 +4.7
MATP Matopo 96.95 250 P **P 23 03 41.5 -1.9**
comp=Z,292nm,1.1s,baz=87,slow=3.9,SNR=110
MATP PP **PP 23 07 48.1 -1.2**
comp=Z,401nm,1.2s,baz=94,slow=5.8,SNR=5.3
CONA Conrad Observa 96.96 320⇑*iPdiff* **P 23 03 41.4 -1.5**
comp=Z,612nm,1.6s,SNR=45
GOPC GO Pecny, Ondr 97.02 322 *eP* **P 23 03 41.3 -1.7**
GOPC *ex* x 23 03 46.4
GOPC *ex* x 23 06 59.4
GOPC *eS* S 23 14 22.6 +6.9
TAOE Nuku Hiva Isla 97.14 98 *e*SKSac **SKSac 23 13 26.5 +0.2**
comp=Z,224µm,27.6s
PRU Pruhonice 97.14 322 *eP* Pdif 23 03 41.6 -1.9
PRU *ex* x 23 03 46.9
PRU *ex* x 23 06 58.4
PRU *e*PP **PP 23 07 52.3 +2.9**
PRU *e*SKS **SKSac 23 13 30.6 +5.9**
PRU *eS* **ScS 23 14 16.5 -0.2**
PRU *eSP* **SP 23 15 48.9 +5.3**
PRU Pruhonice 97.14 322 *eP* Pdif 23 03 41.6 -1.9
PRU *e* 23 07 52.3
PRU *eS* **ScS 23 14 16.5 -0.2**
PRU *eSP* **SP 23 15 48.9 +5.3**
KOGS Kog 97.15 318 *e*Pdiff Pdif 23 03 40.9 -2.7
KOGS *e* 23 03 46.0
KOGS *e*SKSac **SKSac 23 13 25.5 +0.6**
KOGS *e* 23 15 45.3
HYA Hoyanger 97.15 334 *eP* Pdif 23 03 40.7 -2.5
STON Ston 97.16 315 P Pdif 23 03 40.1 -3.6
PRA Prague 97.18 322 *eP* Pdif 23 03 41.8 -1.9
PRA *ex* x 23 03 46.9
PRA *e*PP PP 23 07 55.0 +5.3
PRA *e*SKS **SKSac 23 13 30.4 +5.5**
PRA *eS* S 23 14 24.0 +6.9
PRA *eSP* **SP 23 15 51.2 +7.2**
PRA Prague 97.18 322 *eP* Pdif 23 03 41.8 -1.9
PRA *e* 23 07 55.0
PRA *eSP* SP 23 15 51.2 +7.2
BRG Berggiesshubel 97.22 323 *e*PDIF Pdif 23 03 42.5 -1.4
comp=Z,70nm,0.9s
BRG *i* 23 03 47.5
comp=Z,895nm,1.1s
BRG SDIFF S 23 14 26.0 +8.7
BRG Berggiesshubel 97.22 323 *e*Pdiff P 23 03 48.0 +4.2
BRG Berggiesshubel 97.22 323 *eP* Pdif 23 03 42.5 -1.3
BRG pmax pmax
comp=Z,70nm,0.9s
SISC Sisak 97.35 317 P Pdif 23 03 42.6 -1.9
HOMB Homborsund 97.37 331 *eP* Pdif 23 03 42.4 -1.9
HOMB IAmb IAmb 23 03 51.5
comp=Z,498nm,1.8s
ARSA Arzberg 97.38 319 *i* Pdiff Pdif 23 03 42.4 -2.3
comp=Z,400nm,1.8s,SNR=83
FOO Floro 97.43 335 *eP* Pdif 23 03 44.2 -0.3
ODD1 Odda 97.53 333 *eP* Pdif 23 03 43.5 -1.6
FBE Freiberg 97.55 323 *e*Pdiff P 23 03 49.8 +4.5
CLL Collm 97.63 324 *e*Pdiff P 23 03 49.6 +4.0
CLL *e*PP PP 23 08 02.3 +9.3
CLL *e*pPP 23 09 48.9
CLL *e*SP SP 23 15 52.7 +4.0
CLL Collm 97.63 324 *eP* Pdif 23 03 44.0 -1.6
CLL *e* 23 13 27.0
CLL *eS* **S 23 14 21.0 +0.3**
CLL pmax pmax
comp=Z,792nm,1.4s
CLL Collm 97.63 324 *e*Pdif Pdif 23 03 43.7 -2.0
comp=Z,429nm,0.9s
CLL Collm 97.63 324 *e*Pdif Pdif 23 03 44.0 -1.6
CLL ⇓*i*Pdiffmax 23 03 48.8
comp=Z,792nm,1.4s
CLL *e*Pmax 23 03 52.0
CLL *i* 23 03 53.2
comp=Z,605nm,1.1s
CLL *e*pPmax 23 06 00.0
CLL *e*sP sP 23 06 54.0 +2.4
CLL *e*PP **PP 23 07 50.0 -3.0**
CLL *e*PPmax 23 07 59.0
comp=Z,2µm,1.9s
CLL *e*PPP PPP 23 09 54.0
CLL *e*sPP 23 10 48.0
CLL *e*PPPP 23 11 54.0
CLL *e*SKSac **SKSac 23 13 27.0 -0.1**
CLL *e* 23 13 40.0
CLL *e*Sdif **S 23 14 21.0 +0.3**
CLL *e*SP **SP 23 15 45.0 -3.7**
CLL *e*pSKKSac 23 16 45.0
CLL *e*PS **PS 23 17 07.0 +1.2**
CLL *e*sS sS 23 18 12.0 +1.0
CLL *e*SS **SS 23 21 24.0 +6.1**
CLL *e*sSS 23 24 18.0
CLL *e*SSS SSS 23 25 24.0
CLL *e*SKKSacre 23 26 42.0
CLL *e*SSSS 23 28 48.0
CLL *e*sSSSS 23 31 36.0
MUD Monsted U'grnd 97.79 329 *i* P **P 23 03 47.9 +1.7**
comp=Z,821nm,1.2s
comp=Z,81µm,19.0s
MUD Monsted U'grnd 97.79 329 *i* P **P 23 03 47.9 +1.7**
MUD pmax pmax
comp=Z,820nm,1.2s
MUD MLR MLR
comp=Z,81µm,19.0s
SUE Sulen 97.81 335 *eP* Pdif 23 03 44.6 -1.6
BLS5 Blasjo 97.82 333 *eP* Pdif 23 03 45.0 -1.4
BLS5 IAmb IAmb 23 04 00.5
comp=Z,1µm,1.1s
RUND Rundenannen 97.86 334 *eP* Pdif 23 03 43.8 -2.7
SOKA Soboth 97.88 319 *i* Pdiff Pdif 23 03 45.1 -1.9
comp=Z,213nm,1.0s,SNR=136
BER Bergen 97.88 334 *eP* Pdif 23 03 44.6 -1.9
LEGS Legarje 97.91 318 *e*Pdiff Pdif 23 03 45.5 -1.6
MOA Molln 98.00 320 *i* Pdiff Pdif 23 03 45.6 -1.8
comp=Z,628nm,1.0s,SNR=119
KHC Kasperske Hory 98.02 321 *eP* Pdif 23 03 45.4 -2.1
KHC *ex* x 23 03 51.5
KHC *ex* x 23 13 38.5
KHC *ex* x 23 14 32.6
KHC Kasperske Hory 98.02 321 *eP* Pdif 23 03 45.4 -2.1
GEC2 GERESS Array S 98.04 321 *e*Pdiff P 23 03 51.7 +4.0
GEC2 *e*PP PP 23 08 05.8 +10
GEC2 *e*pPP 23 09 53.2
GEC2 *e*SP SP 23 15 59.1 +5.8
GEC2 GERESS Array S 98.04 321 *eP* Pdif 23 03 45.8 -1.9
GEC2 GERESS Array S 98.04 321 *e*Pdif Pdif 23 03 45.8 -1.9
GEC2 *e*PKKPbc **PKKPdf 23 20 26.0 +5.1**
GERES GERESS Array B 98.04 321 P Pdif 23 03 46.0 -1.6
comp=Z,19nm,0.7s,baz=76,slow=5.6,SNR=40
GERES PP **PP 23 07 51.9 -4.4**
comp=Z,33nm,0.8s,baz=73,slow=6.6,SNR=3.5
GERES PKKPbc **PKKPbc 23 20 17.9 -2.0**
comp=Z,5.9nm,0.8s,baz=215,slow=1.2,SNR=3.6
GERES SKKPbc SKKPbc 23 23 02.7 -1.4
comp=Z,6.8nm,0.9s,baz=177,slow=2.0,SNR=2.6
UDBI Udbina 98.04 317 P Pdif 23 03 44.5 -3.2
BOJS Bojanci 98.09 318 *e*Pdiff Pdif 23 03 46.1 -1.7
BOJS *e* 23 03 50.7
BSEG Bad Segeberg 98.19 327 *e*Pdiff P 23 03 52.5 +4.4
BSEG *e*PP PP 23 08 06.2 +9.2
BSEG *e*pPP 23 09 53.4
BSEG *e*SP SP 23 15 57.5 +3.0
OBKA Obir 98.25 319 *i* Pdiff Pdif 23 03 46.8 -1.9
comp=Z,256nm,1.0s,SNR=66
TANN Tannenbergstha 98.26 323 *e*Pdiff P 23 03 52.7 +4.1
TANN *e*PP PKiKP 23 08 07.8 -9.5
TANN *e*pPP 23 09 54.7
TANN *e*SP SP 23 15 59.6 +4.0
YKA Yellowknife Ar 98.33 24 P Pdif 23 03 46.5 -1.9
comp=Z,10nm,0.9s,baz=302,slow=4.5,SNR=14
YKA pP pP 23 05 57.0 +0.7
comp=Z,16nm,0.7s,baz=301,slow=4.1,SNR=2.5
YKA PP **PP 23 07 56.2 -1.6**
comp=Z,51nm,1.0s,baz=294,slow=6.0,SNR=2.7
YKA PKKPbc **PKKPbc 23 20 17.6 -1.8**
comp=Z,23nm,0.6s,baz=124,slow=3.1,SNR=13
YKA SKKPbc SKKPbc 23 23 01.0 -2.7
comp=Z,25nm,1.0s,baz=119,slow=2.6,SNR=3.9
NKC Novy Kostel 98.33 323 *eP* Pdif 23 03 46.7 -2.1
NKC *ex* x 23 03 52.4
NKC Novy Kostel 98.33 323 *eP* Pdif 23 03 46.7 -2.1
WERD Werda 98.34 323 *e*Pdiff P 23 03 53.0 +4.1
GUNZ Gunzen 98.36 323 *e*Pdiff P 23 03 53.2 +4.2
WERN Wernitzgruen 98.36 323 *e*Pdiff P 23 03 53.3 +4.3
NEUB Neuenburg 98.38 324 *e*Pdiff P 23 03 53.2 +4.2
NEUB *e*PP PKiKP 23 08 08.0 -9.4
NEUB *e*pPP 23 09 55.6
NEUB *e*SP SP 23 15 59.6 +2.9
LJU Ljubljana 98.41 318 *e*Pdiff Pdif 23 03 47.1 -2.1
LJU *e* 23 03 51.9
LJU *e*pP pP 23 05 55.1 -2.0
LJU *e* 23 06 14.4
LJU *e*sP sP 23 06 51.4 -4.0
LJU *e* 23 08 05.5
LJU *e* 23 08 18.8
LJU *e* 23 09 51.9
LJU *e* 23 10 56.5
LJU *e*SKSac **SKSac 23 13 32.0 +0.8**
LJU *e*Sdiff **S 23 14 31.4 +3.7**
LJU *e*sS sS 23 18 26.7 +8.6
LJU *e* 23 21 44.4
LJU *e* 23 24 57.1
LJU *e* 23 26 33.5
PLN Plauen 98.42 323 *e*Pdiff P 23 03 53.5 +4.3
WET Wettzell 98.45 322 *e*Pdiff P 23 03 53.8 +4.4
WET *e*PP PP 23 08 08.4 +9.2
WET *e*pPP 23 09 56.8
WET *e*SP SP 23 16 02.8 +5.2
KMY Karmoy 98.47 333 *eP* Pdif 23 03 48.8 -0.4
MANZ Manzenberg 98.62 323 *e*Pdiff P 23 03 54.7 +4.5
MANZ *e*PP PKiKP 23 08 10.3 -7.6
MANZ *e*pPP 23 09 57.3
MANZ *e*SP SP 23 16 03.8 +4.4
NVLJ Novalja 98.64 317 P Pdif 23 03 47.7 -2.6
ROTZ Rotzenmuhle 98.64 322 *e*Pdiff P 23 03 54.9 +4.6
ROTZ *e*PP PKiKP 23 08 10.9 -7.0
ROTZ *e*pPP 23 09 58.9
ROTZ *e*SP SP 23 16 03.3 +3.7
MOX Moxa 98.68 323 *e*Pdiff P 23 03 54.7 +4.3
MOX *e*PP PKiKP 23 08 10.0 -8.0
MOX *e*pPP 23 09 57.6
MOX *e*SP SP 23 16 03.8 +3.8
MYKA Terra Mystica 98.80 319⇓*i*Pdiff Pdif 23 03 49.0 -2.1
comp=Z,272nm,1.6s,SNR=36
TIP Timpagrande 98.84 311 *e*Pdif Pdif 23 03 48.8 -2.6
comp=Z,374nm,1.3s
KBA Koelnbreinsper 98.85 320⇑*i*Pdiff Pdif 23 03 49.3 -2.1
comp=Z,285nm,1.2s,SNR=28
CLZ Clausthal 98.96 325 *e*Pdiff P 23 03 56.3 +4.6
CLZ *e*PP PKiKP 23 08 11.9 -6.6
CLZ *e*pPP 23 09 59.2
CLZ *e*SP SP 23 16 06.5 +3.6
TRI Trieste 99.02 318 *eP* **Pdif 23 03 54.0 +2.0**
TRI *e* 23 08 02.3
TRI pmax pmax
comp=Z,383nm,1.0s
TRI Trieste 99.02 318 *e*Pdif **Pdif 23 03 54.0 +2.0**
comp=Z,383nm,1.0s
TRI *e*PP **PP 23 08 02.2 -1.3**
KULLO Kullorsuaq 99.14 0 *i* P **Pdif 23 03 52.2 +0.4**
comp=Z,417nm,1.2s
KULLO *i* 23 06 06.0
KULLO *i* S **SKSac 23 13 38.2 +4.5**
GRF Grafenberg Arr 99.27 323 *e*Pdiff **Pdif 23 03 57.5 +4.5**
GRF *e*PP **PKiKP 23 08 14.3 -4.7**
GRF *e*pPP 23 10 03.2
GRF *e*SP SP 23 16 09.6 +3.4
GRFO Grafenberg 99.27 323 *eP* **Pdif 23 03 52.1 -0.9**
GRFO pmax pmax
comp=Z,409nm,1.1s
GRFO Grafenberg 99.27 323 *e*Pdif **Pdif 23 03 52.1 -0.9**
comp=Z,409nm,1.1s
CUC Castrocucco 99.31 312 *e*Pdif **Pdif 23 03 50.5 -2.9**
comp=Z,477nm,2.3s
HLG Helgoland 99.40 328 *e*Pdiff **Pdif 23 03 57.6 +4.2**
HLG *e*SP SP 23 16 10.7 +3.4
ABTA Abfaltersbach 99.50 319 *i* Pdiff **Pdif 23 03 52.0 -2.2**
comp=Z,320nm,1.1s,SNR=95
UBBA Unterbreizbach 99.57 324 *e*Pdiff **Pdif 23 03 58.5 +4.3**
UBBA *e*PP **PKiKP 23 08 16.1 -3.3**
UBBA *e*pPP 23 10 04.7
UBBA *e*SP SP 23 16 12.8 +3.6
FUR Furstenfeldbru 99.78 321 *e*Pdiff **Pdif 23 03 59.5 +4.1**
FUR *e*PP **PKiKP 23 08 17.9 -2.1**
FUR *e*pPP 23 10 07.2
FUR *e*SP SP 23 16 17.1 +5.3
WTTA Wattenberg 99.88 320 *i* Pdiff **Pdif 23 03 53.9 -2.1**
comp=Z,596nm,0.9s,SNR=146
WATA Walderalm 99.89 320⇑*i*Pdiff **Pdif 23 03 53.6 -2.4**
comp=Z,318nm,1.0s,SNR=125
LBTB Lobatse 99.90 246 P **Pdif 23 03 55.1 -1.4**
comp=Z,214nm,1.1s,baz=117,slow=3.8,SNR=19
LBTB PP **PP 23 08 10.1 -1.1**
comp=Z,419nm,1.2s,baz=95,slow=5.5,SNR=3.7
LBTB Lobatse 99.90 246 P **Pdif 23 03 55.1 -1.4**
LBTB 23 08 10.1
LBTB pmax pmax
comp=Z,214nm,1.1s
LBTB pmax pmax
comp=Z,419nm,1.2s
LBTB Lobatse 99.90 246 *e*Pdif **Pdif 23 03 55.3 -1.2**
comp=Z,390nm,1.0s
LBTB PP **PP 23 08 10.1 -1.1**
PGC Sidney 100.02 38 *e*Pdif **Pdif 23 03 57.8 +1.5**
MOTA Moosalm 100.19 320⇑*i*Pdiff **Pdif 23 03 55.0 -2.4**
comp=Z,322nm,0.9s,SNR=116
NLWA Neilton Lookou 100.22 40 *e*Pdif **Pdif 23 03 57.6 +0.3**
IBBN Ibbenburen 100.26 326 *e*Pdiff **Pdif 23 04 01.9 +4.6**
IBBN *e*SP SP 23 16 19.2 +2.7
SUMG Summit 100.30 355 *i* P **Pdif 23 03 57.8 +0.2**
comp=Z,427nm,1.1s
SUMG *i* 23 06 12.3
SUMG *i* S SKSac 23 13 48.5 +8.2
SUMG Summit 100.30 355 *eP* **Pdif 23 03 57.8 +0.2**
SUMG pmax pmax
comp=Z,430nm,1.1s
SUMG Summit 100.30 355 *e*Pdif **Pdif 23 03 56.2 -1.4**
BOSA Boshof 100.34 242 P **Pdif 23 03 58.5 +0.1**
comp=Z,50nm,1.1s,baz=88,slow=3.7,SNR=19
BOSA PP **PP 23 08 13.3 -1.1**
comp=Z,72nm,1.0s,baz=100,slow=9.5,SNR=2.2
BOSA PKKPbc **PKKPbc 23 20 10.7 -2.1**
comp=Z,8.2nm,0.7s,baz=253,slow=3.2,SNR=3.0
BOSA SKKPbc SKKPbc 23 22 57.4 -1.1
comp=Z,93nm,1.2s,baz=245,slow=1.7,SNR=2.8
BOSA Boshof 100.34 242 *e*Pdif **Pdif 23 03 59.5 +1.2**
BOSA PP **PP 23 08 13.3 -1.1**
BOSA PKKPbc **PKKPbc 23 20 10.7 -2.1**
BOSA SKKPbc SKKPbc 23 22 57.4 -1.1
AQU L'Aquila 100.34 315 *eP* **Pdif 23 03 56.0 -2.0**
AQU L'Aquila 100.34 315 *e*Pdif **Pdif 23 03 56.0 -2.0**
RETA Reutte 100.35 321⇑*i*Pdiff **Pdif 23 03 56.0 -2.0**
comp=Z,269nm,1.2s,SNR=25
FETA Feichten 100.54 320 *i* Pdiff **Pdif 23 03 57.2 -1.7**
comp=Z,376nm,1.0s,SNR=109
TNS Taunus Mts 100.72 324 *e*Pdiff **Pdif 23 04 04.0 +4.5**
TNS *e*PP **PKiKP 23 08 24.8 +3.1**
TNS *e*pPP 23 10 13.8
TNS *e*SP SP 23 16 25.0 +3.5
E03A Lebam 100.72 40 *e*Pdif **Pdif 23 04 04.0 +4.5**
A05A Maple Falls 100.72 38 *e*Pdif **Pdif 23 04 01.0 +1.5**
A05A *e*PKKPdf **PKKPdf 23 20 16.2 +0.3**
STU Stuttgart 100.84 322 *e*Pdiff **Pdif 23 04 04.2 +4.2**
STU *e*PP **PKiKP 23 08 25.5 +3.6**
STU *e*pPP 23 10 14.7
STU *e*SP SP 23 16 27.1 +4.2
STU Stuttgart 100.84 322 *eP* **Pdif 23 03 58.7 -1.3**
STU Stuttgart 100.84 322 *e*Pdif **Pdif 23 03 58.6 -1.3**
BUG Bochum--Univer 100.90 325 *e*Pdiff **Pdif 23 04 04.7 +4.6**
BUG *e*SP SP 23 16 26.6 +3.4
WTSB Winterswijk 100.94 326 *eP* **Pdif 23 03 59.2 -1.1**
comp=Z,1µm,1.3s
WTSB *e*pP pP 23 06 13.7 +5.5
F03A Seaside 100.95 41 *e*Pdif **Pdif 23 04 05.1 +4.5**
DAVA Damuels 100.98 321⇑*i*Pdiff **Pdif 23 03 59.2 -1.7**
comp=Z,332nm,1.3s,SNR=30
FUORN Ofenpass-Fuorn 100.99 320 *e*Pdif **Pdif 23 03 59.5 -1.5**
DAVOX Davos/Dischmat 101.17 320 P **Pdif 23 04 00.5 -1.3**
comp=Z,38nm,1.0s,baz=100,slow=5.3,SNR=18
DAVOX SKKPbc SKKPbc 23 22 55.0 -1.1
comp=Z,25nm,1.0s,baz=188,slow=7.1,SNR=2.8
F04D Rainier, OR 101.25 41 PKiKP **PKiKP 23 08 18.4 -4.2**
baz=101

F04D SKSac **SKSac** 23 13 47.6 +2.6
baz=101
HTW Haystack Looko 101.38 39 P **Pdif** 23 04 04.4 +1.9
G03D McMinnville, O 101.40 42 PKiKP **PKiKP** 23 08 20.7 -2.2
baz=101
WDD Wield Dalam 101.46 308 *e*Pdif **Pdif** 23 04 04.2 +1.1
WDD *e*PP **PKiKP** 23 08 25.6 +2.3
D05A Enumclaw 101.48 39 *e*Pdif **Pdif** 23 04 04.0 +1.1
KEBM Edson Butte 101.50 44 *e*Pdif **Pdif** 23 04 03.5 +0.4
comp=Z,433nm,1.2s
BFO Black Forest 101.55 322 *e*Pdiff **Pdif** 23 04 06.9 +3.7
BFO *e*PP PKiKP 23 08 31.3 +8.1
BFO *e*pPP 23 10 19.8
BFO *e*SP SP 23 16 34.6 +4.3
BFO Black Forest 101.55 322 *i* P **Pdif** 23 04 01.8 -1.4
BFO Black Forest 101.55 322 *e*Pdif **Pdif** 23 04 02.2 -1.0
COR Corvallis 101.60 42 *e*P **Pdif** 23 04 06.5 +3.1
COR Corvallis 101.60 42 *e*Pdif **Pdif** 23 04 06.5 +3.1
TUE Stuetta 101.63 320 *e*Pdif **Pdif** 23 04 05.1 +1.3
FL2 Flat Top 2 101.63 40 P **Pdif** 23 04 04.6 +0.8
TDL Tradedollar La 101.66 40 P **Pdif** 23 04 06.0 +2.1
LON Longmire 101.77 40 *e*P **Pdif** 23 04 05.7 +1.4
LON Longmire 101.77 40 *e*Pdif **Pdif** 23 04 05.7 +1.4
comp=Z,15µm,1.5s
RCS Mount Rainier- 101.77 40 P **Pdif** 23 04 07.5 +2.9
KBO Bosley Butte 101.80 45 *e*Pdif **Pdif** 23 04 04.2 -0.3
comp=Z,173nm,1.1s
KBO *e*PKiKP **PP** 23 08 29.0 +4.5
VLC Villacollemand 101.80 317 *e*Pdif **Pdif** 23 04 06.5 +2.1
VLC *e*PP PP 23 08 30.4 +6.0
I03D Drain, OR 101.89 43 PKiKP **PKiKP** 23 08 22.4 -1.5
baz=102
HGN Heimansgroeve 101.95 325 *e*P **Pdif** 23 04 03.0 -1.8
comp=Z,870nm,1.9s
HGN *e*pP pP 23 06 15.5 +2.7
CLTB Caltabellotta 101.96 310 *e*Pdif **Pdif** 23 04 05.5 +0.1
CLTB *e*PKKPdf **PKKPdf** 23 20 18.4 +4.8
MEM Membach 101.97 325 P **Pdif** 23 04 08.5 +3.5
comp=Z,227nm,1.8s
MEM Membach 101.97 325 *e*P **Pdif** 23 04 04.4 -0.6
MEM Membach 101.97 325 *e*Pdif **Pdif** 23 04 04.4 -0.6
BEBN Eben Emael 102.08 325 P **Pdif** 23 04 09.1 +3.7
comp=Z,110nm,2.0s
L02D Cave Junction, 102.25 45 PKiKP **PKiKP** 23 08 24.3 -0.3
baz=102
WLF Walferdange 102.30 324 P **Pdif** 23 04 10.3 +3.9
comp=Z,294nm,1.8s
WLF Walferdange 102.30 324 *e*Pdiff **Pdif** 23 04 11.3 +4.8
WLF *e*PP PP 23 08 36.6 +8.9
WLF *e*pPP 23 10 26.5
WLF *e*SP SP 23 16 41.4 +3.4
WLF Walferdange 102.30 324 *e*P **Pdif** 23 04 06.3 -0.2
WLF Walferdange 102.30 324 *e*Pdif **Pdif** 23 04 06.2 -0.2
H04A Detroit Lake 102.31 42 *e*Pdif **Pdif** 23 04 07.3 +0.7
H04A *e*PKKPbc **PKKPbc** 23 20 09.9 +2.2
ECH Echery 102.31 322 *e*P **Pdif** 23 04 04.8 -1.8
ECH pmax pmax
comp=Z,165nm,1.3s
ECH Echery 102.31 322 *e*Pdif **Pdif** 23 04 04.8 -1.8
comp=Z,165nm,1.3s
VLL Laurance Lake 102.34 41 P **Pdif** 23 04 11.0 +4.1
I04A Tendick Farm, 102.48 43 PKiKP **PKiKP** 23 08 26.1 +1.0
baz=102
HUMO Hull Mountain 102.54 44 *e*Pdif **Pdif** 23 04 09.9 +2.2
KHMM Horse Mountain 102.61 46 *e*Pdif **Pdif** 23 04 08.6 +0.3
comp=Z,126nm,1.0s
B08A Colville Reser 102.65 37 *e*Pdif **Pdif** 23 04 09.2 +1.1
G05D Wamic, OR 102.66 41 PKiKP **PKiKP** 23 08 26.1 +0.7
baz=103
KMRM Mail Ridge 102.84 46 *e*Pdif **Pdif** 23 04 13.5 +4.3
KMRM *e*PP PP 23 08 37.6 +5.4
SAW Saint Andrews 102.89 38 P **Pdif** 23 04 11.8 +2.6
J04D Umpqua Nationa 102.89 43 PKiKP **PKiKP** 23 08 27.2 +1.1
baz=103
SENIN Lac Senin/Sane 102.98 320 *e*Pdif **Pdif** 23 04 09.6 -0.2
I05D Terrebonne, OR 103.00 42 PKiKP **PKiKP** 23 08 28.4 +2.4
baz=103
RKT Rikitea 103.00 112 *e*PP PP 23 08 25.2 -8.8
comp=Z,40µm,30.5s
RKT *e*SKSac **SKSac** 23 13 54.2 +0.3
comp=Z,235µm,28.2s
RKT *e*SP **SP** 23 16 45.2 -1.8
comp=Z,113µm,31.5s
RKT *e*SS **SS** 23 22 31.8 -1.8
comp=Z,72µm,31.8s
SNF Seneffe 103.00 325 P **Pdif** 23 04 13.3 +3.7
DOU Dourbes 103.01 325 P **Pdif** 23 04 09.6 0.0
comp=Z,166nm,1.7s
YBH Yreka Blue Hor 103.03 45 Pdiff **Pdif** 23 04 09.7 -0.3
comp=Z,16nm,1.1s,baz=62,slow=4.8,SNR=8.0
YBH PP **PP** 23 08 33.0 -0.5
comp=Z,56nm,1.0s,baz=278,slow=7.0,SNR=2.8
YBH Yreka Blue Hor 103.03 45 P **Pdif** 23 04 09.7 -0.3
YBH 23 08 33.0
YBH pmax pmax
comp=Z,16nm,1.1s
YBH pmax pmax
comp=Z,56nm,1.0s
YBH Yreka Blue Hor 103.03 45 *e*Pdif **Pdif** 23 04 13.3 +3.3
YBH PP **PP** 23 08 33.0 -0.5
M02C Callahan 103.05 45 PKiKP **PKiKP** 23 08 28.3 +2.0
baz=103
G06A Carlson Farm, 103.11 41 *e*Pdif **Pdif** 23 04 12.2 +2.0
NVL N'Iazarevskaya 103.11 198 *d* iP **Pdif** 23 04 14.0 +4.5
NVL *e*S **SKSac** 23 13 53.6 +1.1
KCPM Cahto Peak 103.12 47 *e*Pdif **Pdif** 23 04 11.4 +0.9
comp=Z,91nm,1.1s
KIPM Iron Peak 103.15 47 *e*Pdif **Pdif** 23 04 12.8 +2.1
KIPM *e*PP **PP** 23 08 37.5 +3.0
N02D Trinity Center 103.30 45 PKiKP **PKiKP** 23 08 29.4 +2.7
baz=103
K04D Chiloquin, OR 103.36 44 PKiKP **PKiKP** 23 08 26.9 0.0
baz=103
D08A Wollman Farm, 103.45 39 *e*Pdif **Pdif** 23 04 13.3 +1.6
J05D Fort Rock, OR 103.47 43 PKiKP **PKiKP** 23 08 28.1 +1.1
baz=103
C09A Chrisman Ranch 103.53 38 *e*Pdif **Pdif** 23 04 12.8 +0.7
C09A *e*PKKPbc **PKKPbc** 23 20 05.8 +1.6
WDC Whiskeytown Da 103.56 46 *e*P **Pdif** 23 04 09.5 -2.8
WDC Whiskeytown Da 103.56 46 *e*Pdif **Pdif** 23 04 09.5 -2.8
M04C Macdoel 103.62 44 PKiKP **PKiKP** 23 08 27.2 -0.1
baz=104
EDM Edmonton 103.73 31 *e*P **Pdif** 23 04 14.7 +1.9
EDM Edmonton 103.73 31 *e*Pdif **Pdif** 23 04 14.7 +1.9
EDM *e*PKKPbc **PKKPbc** 23 20 05.0 +1.0
K05A Summer Lake 103.91 43 *e*Pdif **Pdif** 23 04 14.9 +0.8
NEW Newport 104.02 37 Pdiff **Pdif** 23 04 14.6 +0.3
comp=Z,8.3nm,0.9s,baz=287,slow=3.3,SNR=11
NEW PP **PP** 23 08 39.4 -1.0
comp=Z,111nm,0.9s,baz=296,slow=6.0,SNR=3.8
NEW PKKPbc **PKKPbc** 23 20 00.9 -2.0
comp=Z,7.9nm,0.7s,baz=112,slow=2.5,SNR=3.3
NEW Newport 104.02 37 P **Pdif** 23 04 14.6 +0.3
NEW 23 08 39.4
NEW pmax pmax
comp=Z,8.0nm,0.9s
NEW pmax pmax
comp=Z,111nm,0.9s
NEW Newport 104.02 37 PKiKP **PKiKP** 23 08 28.9 +1.1
baz=104
NEW Newport 104.02 37 *e*Pdif **Pdif** 23 04 15.3 +1.1
NEW PP **PP** 23 08 39.4 -1.0
NEW PKKPbc **PKKPbc** 23 20 00.9 -2.0
MCCM Marconi Confer 104.16 48 *e*Pdif **Pdif** 23 04 16.9 +1.9
comp=Z,64nm,0.9s
G08A Pilot Rock 104.17 40 *e*Pdif **Pdif** 23 04 17.0 +1.9
SUR Sutherland 104.19 238 *e*Pdif **Pdif** 23 04 16.9 +1.5
NSHM Saint Helena R 104.23 48 *e*Pdif **Pdif** 23 04 16.6 +1.3
NSHM *e*PKKPbc **PKKPbc** 23 20 00.4 -1.5
BORG Borgarnes 104.38 345 *e*P **Pdif** 23 04 16.1 +0.8
BORG Borgarnes 104.38 345 *e*Pdif **Pdif** 23 04 16.1 +0.8
BORG *e*PKKPbc **PKKPbc** 23 20 04.3 +2.0
EKA Eskdalemuir Ar 104.39 332 PKKPbc PKKPbc 23 20 00.2 -1.8
comp=Z,7.0nm,0.5s,baz=244,slow=2.9,SNR=9.2
EKA SKKPbc SKKPbc 23 22 47.0 -0.7
comp=Z,5.4nm,0.5s,baz=238,slow=2.4,SNR=4.0
ESK Eskdalemuir 104.42 332 *e*P **Pdif** 23 04 18.4 +2.6
ESK Eskdalemuir 104.42 332 *e*Pdif **Pdif** 23 04 18.4 +2.6
ILULI Ilulissat 104.44 358 *i* P **Pdif** 23 04 17.7 +2.1
comp=Z,313nm,1.4s
comp=Z,73µm,21.0s
OHCM Honcut 104.76 47 *e*Pdif **Pdif** 23 04 19.6 +1.9
OHCM *e*PP PP 23 08 39.0 -7.1
OHCM *e*PKKPbc **PKKPbc** 23 20 03.5 +3.2

SSB Saint Sauveur 105.18 320 *e*P **Pdif** 23 04 21.2 +1.7
SSB pmax pmax
comp=Z,97nm,1.3s
SSB Saint Sauveur 105.18 320 *e*Pdif **Pdif** 23 04 21.2 +1.7
comp=Z,96nm,1.3s
KEST Kesra 105.50 310 Pdiff **Pdif** 23 04 21.7 +0.6
comp=Z,10nm,1.0s,baz=148,slow=0.2,SNR=19
KEST PKiKP **PKiKP** 23 08 28.6 -2.3
comp=Z,42nm,1.1s,baz=124,slow=6.6,SNR=3.8
KEST PP **PP** 23 08 50.0 -1.8
comp=Z,135nm,1.1s,baz=28,slow=5.1,SNR=5.4
KEST PKKPbc **PKKPbc** 23 19 56.6 -1.4
comp=Z,7.6nm,1.0s,baz=202,slow=5.4,SNR=2.6
KEST Kesra 105.50 310 *e*Pdif **Pdif** 23 04 22.2 +1.1
KEST PKiKP **PKiKP** 23 08 28.6 -2.3
KEST PP **PP** 23 08 50.0 -1.8
KEST PKKPbc **PKKPbc** 23 19 56.6 -1.4
WALA Waterton Lakes 105.52 35 *e*Pdif **Pdif** 23 04 23.5 +2.5
WALA *e*PKKPdf **PKKPdf** 23 20 06.3 -1.0
WALA *e*PKKPab **PKKPab** 23 20 20.4 +2.5
WVOR Wild Horse Val 105.56 43 *e*P **Pdif** 23 04 24.2 +2.9
WVOR Wild Horse Val 105.56 43 *e*Pdif **Pdif** 23 04 24.2 +2.9
BLMT Blacktail Moun 105.77 36 *e*Pdif **Pdif** 23 04 24.5 +2.2
BLMT *e*PKKPab PKKPab 23 20 22.3 +5.4
JTMT Jette 105.95 36 *e*Pdif **Pdif** 23 04 25.8 +2.9
CMB Columbia Colle 106.04 48 *e*P **Pdif** 23 04 26.2 +2.8
CMB Columbia Colle 106.04 48 *e*Pdif **Pdif** 23 04 26.2 +2.8
YBMT Yellow Bay 106.05 36 *e*Pdif **Pdif** 23 04 27.0 +3.6
YBMT *e*PKKPbc **PKKPbc** 23 19 58.4 +1.4
SWMT Swartz Lake 106.23 37 *e*Pdif **Pdif** 23 04 27.2 +3.1
SWMT *e*PKKPdf **PKKPdf** 23 20 07.6 +1.7
WAKR Walker 106.55 47 *e*Pdif **Pdif** 23 04 28.2 +2.3
WAKR *e*PKKPdf **PKKPdf** 23 20 02.2 -3.2
MSO Missoula 106.60 37 PKiKP **PKiKP** 23 08 28.0 -4.7
baz=106
MSO Missoula 106.60 37 *e*Pdif **Pdif** 23 04 27.7 +1.9
SFJD Kangerlussuaq 106.64 358 *i* P **Pdif** 23 04 28.4 +3.0
SFJD pmax pmax
comp=Z,110nm,1.2s
SFJD Kangerlussuaq 106.64 358 *i* P **Pdif** 23 04 28.4 +3.0
SFJD pmax pmax
comp=Z,110nm,1.2s
SFJD Kangerlussuaq 106.64 358 *e*Pdif **Pdif** 23 04 27.9 +2.5
CMAH Djebel Manchou 106.65 311 P **Pdif** 23 04 29.1 +2.9
ABSA Djebel Ababsia 106.73 311 P **Pdif** 23 04 29.9 +3.3
SNAA Sanae 106.98 195 Pdiff **Pdif** 23 04 26.7 -0.2
comp=Z,3.8nm,1.0s,baz=105,slow=5.7,SNR=8.5
SNAA PKiKP **PKiKP** 23 08 32.7 +0.1
comp=Z,32nm,1.1s,baz=146,slow=5.5,SNR=3.0
SNAA PKKPbc **PKKPbc** 23 19 52.4 -2.2
comp=Z,27nm,1.1s,baz=258,slow=3.4,SNR=9.6
SNAA SKKPbc SKKPbc 23 22 41.0 -1.8
comp=Z,7.3nm,1.0s,baz=307,slow=5.1,SNR=2.9
SNAA Sanae 106.98 195 *e*P **Pdif** 23 04 28.2 +1.3
SNAA Sanae 106.98 195 *e*Pdif **Pdif** 23 04 28.2 +1.3
SNAA PKiKP **PKiKP** 23 08 32.7 +0.1
SNAA PKKPbc **PKKPbc** 23 19 52.4 -2.2
SNAA SKKPbc SKKPbc 23 22 41.0 -1.7
MFID Camas Ranch 107.00 41 *e*Pdif **Pdif** 23 04 29.2 +1.5
DSB Dublin 107.14 331 *e*Pdif **Pdif** 23 04 30.6 +2.7
TSUM Tsumeb 107.17 252 *e*Pdif **Pdif** 23 04 29.9 +1.0
CKFL Kef-Lekhel 107.25 311 P **Pdif** 23 04 32.0 +3.0
SMMC Simmler 107.32 50 PKiKP **PKiKP** 23 08 29.4 -4.9
baz=107
MLAC Mammoth Lakes 107.33 47 PKiKP **PKiKP** 23 08 29.8 -4.7
baz=107
BMN Battle Mountai 107.35 44 *e*P **Pdif** 23 04 32.6 +3.2
BMN Battle Mountai 107.35 44 *e*Pdif **Pdif** 23 04 32.6 +3.2
NVAR Mina Array Bea 107.40 47 *e*Pdif **Pdif** 23 04 27.8 -1.9
comp=Z,0.5nm,0.4s,baz=294,slow=6.8,SNR=5.0
NVAR PKiKP **PKiKP** 23 08 33.7 -0.9
comp=Z,25nm,0.8s,baz=270,slow=5.4,SNR=3.5
NVAR PKKPbc **PKKPbc** 23 19 51.6 -1.0
comp=Z,3.7nm,0.5s,baz=124,slow=4.5,SNR=7.6
NVAR SKKPbc SKKPbc 23 22 36.6 -2.6
comp=Z,26nm,1.1s,baz=121,slow=4.3,SNR=4.2
CASM Ain Smara 107.48 311 P **Pdif** 23 04 33.5 +3.6
RCTC Rector, Farmer 107.53 49 PKiKP PKiKP 23 08 29.0 -5.6
baz=107
DYA Yadsworthy 107.55 328 *e*Pdif **Pdif** 23 04 31.8 +2.0
PKM Peak Mountain 107.61 50 PKiKP **PKiKP** 23 08 30.0 -5.1
baz=108
CTEI Djebel Teioual 107.61 311 P **Pdif** 23 04 34.4 +3.8
MTUM Tungsten Hills 107.63 48 *e*Pdif **Pdif** 23 04 35.5 +4.7
MTUM *e*PKiKP PKiKP 23 08 43.9 +8.9
VES Vestal, Richgr 107.82 49 PKiKP **PKiKP** 23 08 32.7 -2.4
baz=108
SBC Santa Barbara 107.85 51 PKiKP **PKiKP** 23 08 32.0 -3.2
baz=108
HLID Hailey 107.85 40 PKiKP **PKiKP** 23 08 30.5 -4.7
baz=108
HLID Hailey 107.85 40 *e*Pdif **Pdif** 23 04 33.4 +1.9
HLID *e*PKKPab **PKKPab** 23 20 09.8 +2.3
HRY Holter Researc 107.91 37 *e*Pdif **Pdif** 23 04 33.5 +1.8
HRY PKKPab **PKKPab** 23 20 10.0 +2.7
LRM Limekiln Ridge 107.99 38 *e*Pdif **Pdif** 23 04 34.5 +2.3
TIN Tinemaha 107.99 48 PKiKP **PKiKP** 23 08 32.2 -3.4
baz=108
BSC Santa Cruz Isl 108.08 51 PKiKP **PKiKP** 23 08 32.4 -3.3
baz=108
MCMT McKenzie Canyo 108.24 39 *e*Pdif **Pdif** 23 04 35.4 +2.1
MCMT *e*PKKPdf **PKKPab** 23 20 04.7 -1.2
FFC Flin Flon 108.25 26 *e*P **Pdif** 23 04 35.2 +2.4
FFC Flin Flon 108.25 26 *e*Pdif **Pdif** 23 04 35.2 +2.4
FFC *e*PKKPbc **PKKPbc** 23 19 54.8 +4.5
ARVC Arvin 108.28 50 PKiKP **PKiKP** 23 08 33.2 -2.8
baz=108
CKHR Kef el Ahmar 108.30 311 P **Pdif** 23 04 35.3 +1.6
SET Setif 108.32 311 P **Pdif** 23 04 37.0 +3.3
TPH Tonopah 108.32 47 *e*P **Pdif** 23 04 35.5 +1.7
TPH Tonopah 108.32 47 *e*Pdif **Pdif** 23 04 35.5 +1.7
CWC Cottonwood Cre 108.34 48 PKiKP **PKiKP** 23 08 33.7 -2.6
baz=108
ISA Isabella 108.35 49 *e*P **Pdif** 23 04 34.8 +1.0
ISA Isabella 108.35 49 PKiKP **PKiKP** 23 08 33.3 -2.9
baz=108
ISA Isabella 108.35 49 *e*Pdif **Pdif** 23 04 34.8 +1.0
ISA *e*PKKPbc **PKKPbc** 23 19 53.5 +4.1
FCC Fort Churchill 108.37 20 *e*P **Pdif** 23 04 35.1 +1.9
FCC Fort Churchill 108.37 20 *e*Pdif **Pdif** 23 04 35.1 +1.9
EGMT Eagleton 108.42 35 PKiKP **PKiKP** 23 08 34.5 -1.5
baz=108
EGMT Eagleton 108.42 35 *e*Pdif **Pdif** 23 04 39.2 +5.4
BLG Laguna Peak 108.47 51 PKiKP **PKiKP** 23 08 34.3 -2.1
baz=108
OSI Osito Adit 108.55 50 PKiKP **PKiKP** 23 08 33.7 -2.9
baz=108
BOZ Bozeman (W) 108.58 37 *e*P **Pdif** 23 04 36.9 +2.2
BOZ pmax pmax
comp=Z,995nm,1.4s
BOZ Bozeman (W) 108.58 37 PKiKP **PKiKP** 23 08 34.8 -1.7
baz=108
BOZ Bozeman (W) 108.58 37 *e*Pdif **Pdif** 23 04 36.9 +2.2
comp=Z,995nm,1.4s
ELK Elko 108.58 43 *e*P **Pdif** 23 04 36.6 +1.6
ELK Elko 108.58 43 *e*Pdif **Pdif** 23 04 36.6 +1.6
GRAC Grapevine Rang 108.65 48 PKiKP **PKiKP** 23 08 35.4 -1.3
baz=109
MPMC Manuel Prospec 108.93 49 PKiKP **PKiKP** 23 08 34.8 -2.7
baz=109
DECC Green Verdugo 108.99 51 PKiKP **PKiKP** 23 08 34.9 -2.5
baz=109
EDW2 Edwards Air Fo 109.01 50 PKiKP **PKiKP** 23 08 35.7 -1.8
baz=109
VNA1 Neumayer--Stat 109.01 195 P **Pdif** 23 04 40.4 +4.7
QLMT Earthquake Lak 109.11 38 *e*Pdif **Pdif** 23 04 38.6 +1.4
QLMT *e*PP **PP** 23 09 22.2 +4.9
PASC Pasadena Art C 109.13 51 *e*Pdif **Pdif** 23 04 41.5 +4.2
PASC *e*PKiKP **PKiKP** 23 08 41.3 +3.6
PASC *e*PKKPdf **PKKPab** 23 20 03.8 +2.3
MWC Mount Wilson 109.21 51 *e*P **Pdif** 23 04 37.8 0.0
MWC Mount Wilson 109.21 51 *e*Pdif **Pdif** 23 04 37.8 0.0
FMP Fort Macarthur 109.22 51 PKiKP **PKiKP** 23 08 36.1 -1.7
baz=109
FURC Furnace Creek, 109.23 48 PKiKP **PKiKP** 23 08 36.9 -0.8
baz=109
CIS Catalina Islan 109.24 51 PKiKP **PKiKP** 23 08 37.0 -1.0
baz=109
SCI San Clemente I 109.29 52 PKiKP **PKiKP** 23 08 37.1 -0.9
baz=109
R11A Troy Canyon, C 109.38 46 PKiKP **PKiKP** 23 08 38.0 -0.3
baz=109
R11A Troy Canyon, C 109.38 46 *e*Pdif **Pdif** 23 04 40.2 +1.7
YMR Madison River 109.48 38 *e*PKP **PKiKP** 23 08 38.0 -0.4
TPNV Topopah Spring 109.49 47 *e*P **Pdif** 23 04 40.6 +1.6

TPNV Topopah Spring 109.49 47 PKiKP **PKiKP** 23 08 37.0 -1.5
baz=109
TPNV Topopah Spring 109.49 47 *e*Pdif **Pdif** 23 04 40.6 +1.6
TPNV *e*PKKPbc **PKKPbc** 23 19 49.9 +3.9
BFSC Mount Baldy Ra 109.51 50 PKiKP **PKiKP** 23 08 37.1 -1.5
baz=109
YNR Norris Junctio 109.63 38 *e*Pdif **Pdif** 23 04 44.5 +5.0
YNR *e*PKKPab **PKKPab** 23 20 02.4 +2.7
GSC Goldstone 109.74 49 *e*P **Pdif** 23 04 43.8 +3.8
GSC Goldstone 109.74 49 PKiKP **PKiKP** 23 08 37.5 -1.4
baz=110
GSC Goldstone 109.74 49 *e*Pdif **Pdif** 23 04 43.8 +3.8
GSC *e*PKKPbc **PKKPbc** 23 19 48.6 +3.5
HVU Hansel Valley 109.76 41 *e*P **Pdif** 23 04 42.2 +2.2
HVU Hansel Valley 109.76 41 *e*Pdif **Pdif** 23 04 42.2 +2.2
RRX Edison Barstow 109.76 50 PKiKP **PKiKP** 23 08 39.1 +0.3
baz=110
ADJB Djebel Djouab 109.79 312 P **Pdif** 23 04 44.5 +4.3
VAL Valentia 109.80 332 *e*P **Pdif** 23 04 47.3 +7.6
VAL *e*PP **PP** 23 09 20.4 -1.2
VAL *e*SP SP 23 17 50.3 -1.7
ABA Alger-Bouzarea 109.82 313 P **Pdif** 23 04 45.3 +5.1
LKWY Lake 109.88 38 *e*P **Pdif** 23 04 42.0 +1.4
LKWY Lake 109.88 38 *e*Pdif **Pdif** 23 04 42.0 +1.4
LKWY *e*PKKPab **PKKPdf** 23 20 01.2 +1.9
IMW Indian Meadow 109.89 39 *e*Pdif **Pdif** 23 04 42.5 +1.8
IMW *e*PKKPab **PKKPdf** 23 19 59.9 +0.6
SHOC Shoshone 109.89 48 PKiKP **PKiKP** 23 08 39.0 -0.1
baz=110
FXWY Fox Creek 109.97 39 *e*Pdif **Pdif** 23 04 43.1 +2.1
FXWY *e*PKKPab **PKKPab** 23 19 56.9 -1.3
BGU Big Grassy Mou 109.99 42 *e*Pdif **Pdif** 23 04 43.2 +2.1
BGU *e*PKKPbc **PKKPbc** 23 19 46.6 +2.0
BBRC Big Bear Solar 110.06 50 PKiKP **PKiKP** 23 08 39.3 -0.4
baz=110
MOOW Moose Ponds 110.09 39 *e*Pdif **Pdif** 23 04 45.2 +3.7
MOOW *e*PKKPbc PKKPbc 23 19 50.6 +6.2
TPAW Teton Pass 110.09 39 *e*Pdif **Pdif** 23 04 43.5 +1.9
TPAW *e*PKKPab **PKKPab** 23 19 53.3 -4.0
MURC Murrieta 110.10 51 PKiKP **PKiKP** 23 08 39.0 -0.6
baz=110
SPUT South Promonto 110.20 42 *e*PKKPbc PKKPbc 23 19 46.9 +3.0
SNOW Snow King Moun 110.23 39 *e*Pdif **Pdif** 23 04 46.2 +4.0
SNOW *e*PKKPab **PKKPdf** 23 19 58.0 -0.7
LOHW Long Hollow 110.24 39 *e*Pdif **Pdif** 23 04 46.0 +3.7
LOHW *e*PKKPab **PKKPab** 23 19 54.8 -2.2
RLMT Red Lodge 110.27 37 PKiKP **PKiKP** 23 08 39.2 -0.6
baz=110
HEC Hector,Ludlow 110.29 49 PKiKP **PKiKP** 23 08 39.3 -0.6
baz=110
TUQ Turquoise Moun 110.35 49 PKiKP **PKiKP** 23 08 40.6 +0.5
baz=110
AHID Auburn Hatcher 110.36 40 *e*PKP **PKiKP** 23 08 40.4 +0.3
109C Camp Elliot, M 110.45 52 PKiKP **PKiKP** 23 08 40.0 -0.1
baz=110
SHPR Sheep Range 110.47 47 *e*Pdif **Pdif** 23 04 44.7 +1.4
SHPR *e*PKKPbc **PKKPbc** 23 19 46.4 +3.5
DUG Dugway 110.48 43 *e*P **Pdif** 23 04 44.7 +1.4
DUG Dugway 110.48 43 PKiKP **PKiKP** 23 08 40.4 +0.2
baz=110
DUG Dugway 110.48 43 *e*Pdif **Pdif** 23 04 44.7 +1.4
DUG *e*PKKPbc **PKKPbc** 23 19 46.4 +3.4
F20A Billings 110.56 36 PKiKP **PKiKP** 23 08 40.1 0.0
baz=110
HWUT Hardware Ranch 110.64 41 *e*Pdif **Pdif** 23 04 46.5 +2.5
HWUT *e*PKKPbc **PKKPbc** 23 19 44.7 +2.1
PFO Pinyon Flat Ob 110.67 51 Pdiff **Pdif** 23 04 42.6 -1.7
comp=Z,1.1nm,0.5s,baz=302,slow=8.6,SNR=2.4
PFO PKiKP **PKiKP** 23 08 39.9 -0.9
comp=Z,16nm,1.0s,baz=291,slow=1.4,SNR=2.9
PFO Pinyon Flat Ob 110.67 51 PKiKP **PKiKP** 23 08 39.3 -1.5
baz=111
PFO Pinyon Flat Ob 110.67 51 Pdif **Pdif** 23 04 42.6 -1.7
PFO *e*PKP **PKiKP** 23 08 42.5 +1.8
PFO *e*PKKPbc PKKPbc 23 19 48.1 +6.0
H19A Powell 110.68 37 PKiKP **PKiKP** 23 08 39.2 -1.3
baz=110
E21A Keefer Ranch, 110.76 35 PKiKP **PKiKP** 23 08 39.7 -0.7
baz=111
GMRC Granite Mounta 110.81 49 PKiKP **PKiKP** 23 08 39.9 -1.1
baz=111
G20A Bridger 110.84 36 PKiKP **PKiKP** 23 08 39.9 -0.9
baz=111
BAR Barrett 110.86 52 *e*Pdif **Pdif** 23 04 48.0 +3.0
BAR *e*PKKPbc **PKKPbc** 23 19 44.5 +3.2
BELC Belle Mtn. Jos 110.87 50 PKiKP **PKiKP** 23 08 39.2 -1.9
baz=111
CTU Camp Tracy 110.96 42 *e*Pdif **Pdif** 23 04 46.4 +1.0
CTU *e*PP **PP** 23 09 30.1 -0.4
CTU *e*PKKPbc **PKKPbc** 23 19 44.5 +3.0
MONP Monument Peak 110.98 51 PKiKP **PKiKP** 23 08 38.7 -2.8
baz=111
I19A Meeteetse 111.02 38 PKiKP **PKiKP** 23 08 38.6 -2.6
baz=111
NLU North Lily Min 111.09 43 *e*Pdif **Pdif** 23 04 47.8 +1.7
NLU *e*PKKPbc **PKKPbc** 23 19 43.1 +2.0
LDFC Landfair 111.10 49 *e*Pdif **Pdif** 23 04 46.7 +0.6
LDFC *e*PKKPbc **PKKPbc** 23 19 45.0 +4.2
LAO LASA Array 111.16 34 PKiKP **PKiKP** 23 08 41.3 0.0
baz=111
CCUT Cedar City 111.31 46 *e*Pdif **Pdif** 23 04 50.1 +3.0
CCUT *e*PKP **PKiKP** 23 08 43.2 +1.2
CCUT *e*PKKPbc **PKKPbc** 23 19 41.4 +1.1
IBP Imperial Bould 111.32 51 PKiKP **PKiKP** 23 08 42.9 +0.9
baz=111
BW06 Boulder Array 111.34 39 *e*Pdif **Pdif** 23 04 47.1 -0.1
PDAR Pinedale Array 111.34 39 Pdiff **Pdif** 23 04 45.7 -1.5
comp=Z,0.2nm,0.4s,baz=292,slow=5.6,SNR=2.6
PDAR PKiKP **PKiKP** 23 08 41.1 -0.8
comp=Z,10nm,0.9s,baz=20,slow=1.1,SNR=3.1
PDAR SKP 23 11 22.4
comp=Z,20nm,0.9s,baz=348,slow=4.0,SNR=2.6
PDAR PKKPbc **PKKPbc** 23 19 38.1 -2.3
comp=Z,12nm,0.7s,baz=97,slow=4.5,SNR=5.8
MPU Maple Canyon 111.36 43 *e*Pdif **Pdif** 23 04 50.3 +3.0
H20A Greybull 111.37 37 PKiKP **PKiKP** 23 08 43.3 +1.5
baz=111
J19A Crowheart 111.39 39 PKiKP **PKiKP** 23 08 41.7 -0.2
baz=111
E22A Miles City 111.46 34 PKiKP **PKiKP** 23 08 43.8 +2.0
baz=111
A25A Svangstu Ranch 111.46 31 PKiKP **PKiKP** 23 08 43.8 +2.1
baz=111
I20A Worland 111.59 38 PKiKP **PKiKP** 23 08 44.9 +2.7
baz=111
NEE2 Needles Airpor 111.60 49 PKiKP **PKiKP** 23 08 44.2 +1.9
baz=112
C24A Savage 111.65 33 PKiKP **PKiKP** 23 08 44.9 +2.9
baz=112
F22A Rosebud 111.67 35 PKiKP **PKiKP** 23 08 44.2 +2.0
baz=112
MVU Marysvale 111.68 44 *e*Pdif **Pdif** 23 04 51.7 +2.9
ETRT Tiaret 111.69 312 P **Pdif** 23 04 46.0 -2.7
MSU Marysvale 111.70 44 *e*P **Pdif** 23 04 52.5 +3.6
MSU Marysvale 111.70 44 *e*Pdif **Pdif** 23 04 52.5 +3.6
E23A Ismay 111.78 34 PKiKP **PKiKP** 23 08 44.0 +1.6
baz=112
B25A Knox Farm, Ray 111.86 32 PKiKP **PKiKP** 23 08 44.5 +2.1
baz=112
H21A Big Horn, Sher 111.86 36 PKiKP **PKiKP** 23 08 45.0 +2.3
baz=112
KNB Kanab 111.94 46 *e*P **Pdif** 23 04 52.4 +2.5
KNB Kanab 111.94 46 *e*Pdif **Pdif** 23 04 52.4 +2.5
KNB *e*PKKPab **PKKPab** 23 19 49.6 +0.3
J20A Shoshoni 111.94 38 PKiKP **PKiKP** 23 08 45.5 +2.6
baz=112
D24A Glendive 111.95 33 PKiKP **PKiKP** 23 08 45.1 +2.4
baz=112
G22A Birney 111.97 36 PKiKP **PKiKP** 23 08 45.2 +2.3
baz=112
TMUT Trail Mountain 112.00 43 *e*Pdif **Pdif** 23 04 53.8 +3.5
A26A Wade Farm, Ken 112.04 31 PKiKP **PKiKP** 23 08 46.5 +3.7
baz=112
Y12C Blythe 112.09 50 PKiKP **PKiKP** 23 08 47.5 +4.2
baz=112
GLA Glamis 112.14 51 *e*P **Pdif** 23 04 51.2 +0.5
GLA *e* 23 08 40.6

GLA	Glamis	112.14	51	PKiKP	PKiKP	23 08 46.8	+3.4	
	baz=112							
GLA	Glamis	112.14	51	*e*Pdif	Pdif	23 04 51.2	+0.5	
GLA				*e*PKP	PKiKP	23 08 40.6	-2.8	
PDMCI	Parker Dam,Lak	112.15	49	PKiKP	PKiKP	23 08 47.2	+3.9	
	baz=112							
C25A	Freed Ranch, W	112.16	32	PKiKP	PKiKP	23 08 47.5	+4.4	
	baz=112							
I21A	Big Trails, Te	112.17	37	PKiKP	PKiKP	23 08 48.3	+5.0	
	baz=112							
F23A	Volborg	112.18	35	PKiKP	PKiKP	23 08 45.1	+1.9	
	baz=112							
B26A	Jensen Ranch,	112.27	31	PKiKP	PKiKP	23 08 46.9	+3.7	
	baz=112							
H22A	Clearmont	112.29	36	PKiKP	PKiKP	23 08 45.4	+1.9	
	baz=112							
E24A	Baker	112.30	34	PKiKP	PKiKP	23 08 47.0	+3.6	
	baz=112							
J21A	Lysite	112.33	38	PKiKP	PKiKP	23 08 45.1	+1.4	
	baz=112							
A27A	Ledoux Ranch,	112.40	30	PKiKP	PKiKP	23 08 43.2	-0.2	
	baz=112							
D25A	Fairfield	112.47	33	PKiKP	PKiKP	23 08 44.1	+0.4	
	baz=112							
G23A	Biddle	112.50	35	PKiKP	PKiKP	23 08 45.0	+1.2	
	baz=112							
I22A	9 Mile Ranch,	112.61	37	PKiKP	PKiKP	23 08 45.2	+1.1	
	baz=112							
F24A	Ekalaka	112.65	34	PKiKP	PKiKP	23 08 45.3	+1.2	
	baz=112							
C26A	Wahner Farm, P	112.69	32	PKiKP	PKiKP	23 08 46.5	+2.5	
	baz=112							
B27A	Peters Farms,	112.75	31	PKiKP	PKiKP	23 08 45.8	+1.7	
	baz=113							
E25A	Miller Ranch,	112.83	33	PKiKP	PKiKP	23 08 46.4	+2.0	
	baz=113							
H23A	Clabaugh Cattl	112.86	36	PKiKP	PKiKP	23 08 45.7	+1.1	
	baz=113							
TAM	Tamanrasset	112.86	298	*e*P	Pdif	23 04 57.6	+3.4	
TAM	Tamanrasset	112.86	298	*e*Pdif	Pdif	23 04 57.6	+3.4	
J22A	Midwest	112.88	37	PKiKP	PKiKP	23 08 45.3	+0.6	
	baz=113							
A28A	Rude Farm, Bot	112.91	30	PKiKP	PKiKP	23 08 45.4	+0.9	
	baz=113							
G24A	Alzada	112.98	35	PKiKP	PKiKP	23 08 45.9	+1.1	
	baz=113							
D26A	Manning	113.02	32	PKiKP	PKiKP	23 08 47.5	+2.8	
	baz=113							
C27A	Sayler Ranch,	113.07	31	PKiKP	PKiKP	23 08 48.4	+3.7	
	baz=113							
F25A	Bowman	113.15	34	PKiKP	PKiKP	23 08 46.2	+1.2	
	baz=113							
B28A	Dugan Ranch, T	113.17	30	PKiKP	PKiKP	23 08 46.2	+1.3	
	baz=113							
I23A	Meade Ranch, G	113.18	36	PKiKP	PKiKP	23 08 46.3	+1.1	
	baz=113							
H24A	Dirks Ranch, A	113.25	35	PKiKP	PKiKP	23 08 46.4	+1.1	
	baz=113							
K22A	Casper	113.28	38	PKiKP	PKiKP	23 08 47.3	+1.8	
	baz=113							
K22A	Casper	113.28	38	*e*Pdif	Pdif	23 05 01.2	+5.5	
E26A	Carlson Angus	113.36	33	PKiKP	PKiKP	23 08 48.2	+2.8	
	baz=113							
ESDC	Sonseca Array	113.37	318	Pdiff	Pdif	23 04 56.0	0.0	
	comp=Z,11nm,1.2s,baz=53,slow=4.4,SNR=21							
ESDC				PKiKP	PKiKP	23 08 45.1	-0.5	
	comp=Z,78nm,1.3s,baz=16,slow=2.2,SNR=5.7							
ESDC				PP	PP	23 09 39.7	-7.6	
	comp=Z,32nm,0.9s,baz=52,slow=8.0,SNR=4.5							
ESDC				PKKPbc	PKKPbc	23 19 31.7	-1.8	
	comp=Z,4.8nm,1.0s,baz=271,slow=2.1,SNR=3.2							
ESDC				SKKPbc	SKKPbc	23 22 20.8	-1.1	
	comp=Z,6.0nm,0.8s,baz=262,slow=2.6,SNR=3.0							
ESLA	Sonseca Array	113.37	318	*e*Pdif	Pdif	23 04 58.3	+2.3	
A29A	Manning Farm,	113.41	29	PKiKP	PKiKP	23 08 47.5	+2.1	
	baz=113							
J23A	Dilts Ranch, B	113.44	37	PKiKP	PKiKP	23 08 47.2	+1.4	
	baz=113							
D27A	Center	113.45	32	PKiKP	PKiKP	23 08 47.6	+2.0	
	baz=113							
O20A	White River Ci	113.55	41	PKiKP	PKiKP	23 08 47.5	+1.3	
	baz=113							
O20A	White River Ci	113.55	41	*e*Pdif	Pdif	23 05 01.4	+4.3	
O20A				*e*PKiKP	PKiKP	23 08 46.4	+0.2	
O20A				*e*PKKPab	PKKPab	23 19 39.7	-2.5	
G25A	Newell	113.62	34	PKiKP	PKiKP	23 08 47.5	+1.6	
	baz=114							
F26A	Lodgepole	113.63	33	PKiKP	PKiKP	23 08 47.5	+1.6	
	baz=114							
C28A	Hausauer Farms	113.64	31	PKiKP	PKiKP	23 08 47.1	+1.3	
	baz=114							
WUAZ	Wupatki	113.66	47	PKiKP	PKiKP	23 08 46.9	+0.5	
	baz=114							
WUAZ	Wupatki	113.66	47	*e*Pdif	Pdif	23 04 59.8	+2.3	
WUAZ				*e*PKiKP	PKiKP	23 08 46.0	-0.4	
WUAZ				*e*PKKPbc	PKKPbc	23 19 36.4	+3.9	
B29A	Wagenman Farm,	113.66	30	PKiKP	PKiKP	23 08 47.2	+1.3	
	baz=114							
PAB	San Pablo	113.69	318	*e*P	Pdif	23 04 59.4	+1.9	
PAB	San Pablo	113.69	318	*e*Pdif	Pdif	23 04 59.4	+1.9	
PAB				*e*PKiKP	PKiKP	23 08 48.5	+2.3	
I24A	Kuemmerle Ranc	113.73	36	PKiKP	PKiKP	23 08 47.0	+0.7	
	baz=114							
K23A	Bowen Ranch, D	113.77	38	PKiKP	PKiKP	23 08 46.7	+0.2	
	baz=114							
PV09	Paradox Valley	113.80	43	*e*Pdif	Pdif	23 05 01.8	+3.5	
PV09				*e*PKiKP	PKiKP	23 08 46.4	-0.4	
PV09				*e*PKKPbc	PKKPbc	23 19 36.0	+3.7	
A30A	Hoffart Farm,	113.85	29	PKiKP	PKiKP	23 08 47.1	+0.9	
	baz=114							
E27A	Carson	113.86	32	PKiKP	PKiKP	23 08 47.2	+0.8	
	baz=114							
H25A	Fruitdale	113.87	35	PKiKP	PKiKP	23 08 48.0	+1.5	
	baz=114							
D28A	Regan	113.89	31	PKiKP	PKiKP	23 08 47.2	+0.9	
	baz=114							
RSSD	Black Hills	113.92	36	*e*P	Pdif	23 05 04.1	+5.5	
RSSD				*e*		23 19 38.3		
RSSD	Black Hills	113.92	36	*e*Pdif	Pdif	23 05 04.1	+5.5	
RSSD				*e*PKiKP	PKiKP	23 08 48.2	+1.5	
RSSD				*e*PKKPab	PKKPab	23 19 38.3	-2.4	
MDND	Maddock	113.95	30	PKiKP	PKiKP	23 08 46.5	+0.1	
	baz=114							
MDND	Maddock	113.95	30	*e*PKiKP	PKiKP	23 08 50.5	+4.1	
MDND				*e*PKKPbc	PKKPbc	23 19 34.3	+2.5	
F27A	Lemmon	113.97	33	PKiKP	PKiKP	23 08 47.0	+0.4	
	baz=114							
PV04	Paradox Valley	114.01	43	*e*Pdif	Pdif	23 05 03.4	+4.3	
PV04				*e*PKiKP	PKPdf	23 08 46.1	-0.9	
PV04				*e*PKKPbc	PKKPbc	23 19 34.2	+2.8	
PBRG	Braganca	114.02	321	*e*Pdif	Pdif	23 05 06.4	+7.6	
PBRG	Braganca	114.02	321	*e*PKPdf	PKiKP	23 08 46.9	+3.1	
PBRG	Braganca	114.02	321	*e*PP	PP	23 09 52.8	+1.1	
G26A	Maurine	114.02	34	PKiKP	PKPdf	23 08 46.3	-0.4	
	baz=114							
J24A	Dixon Ranch, L	114.02	37	PKiKP	PKiKP	23 08 47.9	+1.1	
	baz=114							
PV05	Paradox Valley	114.03	43	*e*Pdif	Pdif	23 05 02.7	+3.5	
PV05				*e*PKiKP	PKiKP	23 08 48.4	+1.2	
PV05				*e*PKKPab	PKKPab	23 19 41.3	+1.2	
ULM	Lac du Bonnet	114.04	27	PKiKP	PKPdf	23 08 46.2	-0.3	
	comp=Z,51nm,0.6s,baz=310,slow=1.0,SNR=15							
ULM				SKP		23 11 27.1		
	comp=Z,238nm,1.2s,baz=320,slow=1.6,SNR=3.9							
ULM				PKKPbc	PKKPbc	23 19 30.1	-1.4	
	comp=Z,29nm,0.8s,baz=91,slow=3.1,SNR=4.6							
ULM				PKKPab	PKKPab	23 19 36.7	-3.2	
	comp=Z,92nm,0.9s,baz=127,slow=4.5,SNR=9.1							
ULM				SKKPbc	SKKPbc	23 22 18.3	-1.9	
	comp=Z,42nm,1.1s,baz=101,slow=4.7,SNR=2.7							
ULM	Lac du Bonnet	114.04	27	*e*Pdif	Pdif	23 05 02.3	+3.6	
ULM				*e*PKiKP	PKiKP	23 08 47.2	+0.7	
ULM				SKP		23 11 27.1		
ULM				PKKPbc	PKKPbc	23 19 30.1	-1.4	
ULM				*e*PKKPbc	PKKPab	23 19 36.3	-3.6	
ULM				PKKPab	PKKPab	23 19 36.7	-3.2	
ULM				SKKPbc	SKKPbc	23 22 18.3	-1.9	
214A	Organ Pipe Nat	114.15	51	PKiKP	PKiKP	23 08 48.7	+1.4	
	baz=114							
B30A	Myrvik Farm, E	114.17	29	PKiKP	PKiKP	23 08 48.5	+1.7	
	baz=114							
E28A	Huff	114.23	32	PKiKP	PKiKP	23 08 48.7	+1.6	
	baz=114							
K24A	Anderson Ranch	114.28	37	PKiKP	PKiKP	23 08 49.6	+2.2	
	baz=114							
G27A	Dupree	114.33	33	PKiKP	PKiKP	23 08 48.1	+0.8	
	baz=114							
H26A	Fairpoint	114.34	35	PKiKP	PKiKP	23 08 49.3	+1.9	
	baz=114							
PV01	Paradox Valley	114.36	43	*e*Pdif	Pdif	23 05 03.4	+2.7	
PV01				*e*PKiKP	PKiKP	23 08 50.0	+2.2	
PV01				*e*PKKPbc	PKKPbc	23 19 33.3	+2.9	
D29A	Pettibone, Tap	114.48	31	PKiKP	PKiKP	23 08 49.9	+2.4	
	baz=114							
J25A	Sunshine Ranch	114.49	36	PKiKP	PKiKP	23 08 49.6	+1.9	
	baz=114							
MVO	Moncorvo	114.55	321	*e*Pdif	Pdif	23 05 06.0	+4.7	
MVO	Moncorvo	114.55	321	*e*PKPdf	PKPdf	23 08 51.9	+4.0	
MVO	Moncorvo	114.55	321	*e*PP	PP	23 09 56.2	+0.8	
C30A	Mose, Pekin	114.61	30	PKiKP	PKiKP	23 08 49.8	+2.1	
	baz=114							
N23A	Red Feather La	114.62	39	PKiKP	PKiKP	23 08 50.3	+2.0	
	baz=114							
N23A	Red Feather La	114.62	39	*e*Pdif	Pdif	23 05 07.0	+5.2	
N23A				*e*PKPdf	PKiKP	23 08 48.9	+0.6	
N23A				*e*PKKPab	PKKPab	23 19 39.8	+2.2	
F28A	McLaughlin	114.64	33	PKiKP	PKiKP	23 08 49.9	+2.0	
	baz=114							
I26A	New Underwood	114.65	35	PKiKP	PKiKP	23 08 49.5	+1.5	
	baz=114							
PHWY	Pilot Hill	114.70	39	*e*PKPdf	PKPdf	23 08 49.6	+1.1	
PHWY				*e*PKKPab	PKKPab	23 19 36.5	-0.8	
H27A	Howes	114.72	34	PKiKP	PKiKP	23 08 49.6	+1.6	
	baz=114							
E29A	Napoleon	114.78	31	PKiKP	PKiKP	23 08 48.5	+0.4	
	baz=115							
PGAV	Gavieira, Arco	114.86	322	*e*Pdif	Pdif	23 05 05.8	+3.1	
PGAV	Gavieira, Arco	114.86	322	*e*PKPdf	PKPdf	23 08 52.0	+3.5	
PGAV	Gavieira, Arco	114.86	322	*e*PP	PP	23 09 55.7	-1.9	
D30A	Buchanan	114.87	30	PKiKP	PKiKP	23 08 48.3	+0.1	
	baz=115							
MVCO	Mesa Verde	114.88	44	PKiKP	PKiKP	23 08 50.4	+1.6	
	baz=115							
MVCO	Mesa Verde	114.88	44	*e*Pdif	Pdif	23 05 05.9	+2.8	
MVCO				*e*PKPdf	PKPdf	23 08 47.5	-1.4	
MVCO				*e*PKKPbc	PKKPbc	23 19 32.0	+3.4	
SMCO	Snowmass	114.89	41	*e*Pdif	Pdif	23 05 05.8	+2.5	
SMCO				*e*PKPdf	PKPdf	23 08 48.0	-1.0	
SMCO				*e*PKKPbc	PKKPbc	23 19 31.2	+2.4	
K25A	Mack Ranch, Ha	114.91	37	PKiKP	PKiKP	23 08 50.0	+1.4	
	baz=115							
POLO	Lamas de Olo	114.91	321	*e*Pdif	Pdif	23 05 06.1	+3.2	
POLO	Lamas de Olo	114.91	321	*e*PKPdf	PKPdf	23 08 48.8	+0.2	
POLO	Lamas de Olo	114.91	321	*e*PP	PP	23 09 59.6	+1.7	
PVRL	Vila Real	114.92	321	*e*Pdif	Pdif	23 05 07.3	+4.4	
PVRL	Vila Real	114.92	321	*e*PKPdf	PKPdf	23 08 52.0	+3.5	
PVRL	Vila Real	114.92	321	*e*PP	PP	23 10 00.6	+2.7	
J26A	Sides Ranch, S	114.96	36	PKiKP	PKiKP	23 08 50.1	+1.5	
	baz=115							
W18A	Petrified Fore	115.03	47	PKiKP	PKiKP	23 08 49.1	0.0	
	baz=115							
W18A	Petrified Fore	115.03	47	*e*PKPdf	PKPdf	23 08 48.5	-0.6	
W18A				*e*PKKPbc	PKKPab	23 19 33.2	-2.3	
G28A	Parade	115.08	33	PKiKP	PKiKP	23 08 50.7	+2.0	
	baz=115							
I27A	Quinn	115.08	35	PKiKP	PKiKP	23 08 49.5	+0.7	
	baz=115							
L25A	Engebretsen Ra	115.12	37	PKiKP	PKPdf	23 08 48.4	-0.6	
	baz=115							
F29A	Eureka	115.17	32	PKiKP	PKiKP	23 08 50.1	+1.2	
	baz=115							
E30A	Jud	115.20	31	PKiKP	PKiKP	23 08 50.1	+1.2	
	baz=115							
K26A	Motz Farm, Whi	115.26	36	PKiKP	PKiKP	23 08 49.9	+0.6	
	baz=115							
H28A	Mission Ridge	115.28	34	PKiKP	PKiKP	23 08 49.9	+0.8	
	baz=115							
MTE	Manteigas	115.30	320	*e*Pdif	Pdif	23 05 05.5	+0.9	
MTE	Manteigas	115.30	320	*e*PKPdf	PKPdf	23 08 53.1	+3.8	
MTE	Manteigas	115.30	320	*e*PP	PP	23 10 01.6	+1.0	
MTE	Manteigas	115.30	320	*e*PKPdf	PKPdf	23 08 49.7	+0.3	
PVIS	Viseu	115.35	321	*e*Pdif	Pdif	23 05 09.0	+4.2	
PVIS	Viseu	115.35	321	*e*PKPdf	PKPdf	23 08 50.9	+1.5	
PVIS	Viseu	115.35	321	*e*PP	PP	23 10 02.0	+1.1	
ISCO	Idaho Springs	115.44	40	*e*PKiKP	PKPdf	23 08 50.1	+0.1	
ISCO	Idaho Springs	115.44	40	PKiKP	PKPdf	23 08 49.5	-0.5	
	baz=115							
ISCO	Idaho Springs	115.44	40	*e*PKPdf	PKPdf	23 08 50.1	+0.1	
ISCO				*e*PKKPab	PKKPab	23 19 32.8	-1.2	
AGMN	Agassiz Nation	115.45	28	PKiKP	PKiKP	23 08 50.6	+1.3	
	baz=115							
AGMN	Agassiz Nation	115.45	28	*e*PKPdf	PKPdf	23 08 45.1	-4.2	
AGMN				*e*PKPdf	PKiKP	23 08 48.5	-0.8	
AGMN				*e*PKKPbc	PKKPab	23 19 31.4	-2.2	
M25A	Palm-Egli Farm	115.48	38	PKiKP	PKPdf	23 08 49.5	-0.3	
	baz=115							
G29A	Hoven	115.54	33	PKiKP	PKPdf	23 08 48.8	-0.8	
	baz=115							
TUC	Tucson	115.54	50	*e*P	Pdif	23 05 05.7	-0.2	
TUC				*e*		23 08 50.4		
TUC	Tucson	115.54	50	*e*Pdif	Pdif	23 05 05.7	-0.2	
TUC				*e*PKPdf	PKiKP	23 08 50.4	+0.4	
TUC				*e*PKPdf	PKPdf	23 08 55.0	+5.0	
TUC				*e*PKKPab	PKKPab	23 19 35.4	+2.3	
PTO	Porto	115.54	322	*e*PKPdf	PKPdf	23 08 53.4	+3.7	
PCBR	Castelo Branco	115.57	320	*e*Pdif	Pdif	23 05 13.6	+7.9	
PCBR	Castelo Branco	115.57	320	*e*PKPdf	PKPdf	23 08 50.7	+0.9	
PCBR	Castelo Branco	115.57	320	*e*PP	PP	23 10 03.9	+1.5	
F30A	Leola	115.59	32	PKiKP	PKiKP	23 08 50.5	+0.8	
	baz=115							
J27A	Elkhorn Farm,	115.61	35	PKiKP	PKiKP	23 08 50.5	+0.7	
	baz=115							
I28A	Midland	115.62	34	PKiKP	PKPdf	23 08 49.8	0.0	
	baz=116							
L26A	Underwood Farm	115.72	37	PKiKP	PKiKP	23 08 50.8	+0.6	
	baz=116							
S22A	4UR Ranch, Cre	115.74	43	PKiKP	PKiKP	23 08 50.9	+0.3	
	baz=116							
S22A	4UR Ranch, Cre	115.74	43	*e*PKPdf	PKPdf	23 08 49.7	-0.9	
S22A				*e*PKKPbc	PKKPab	23 19 29.3	-3.3	
PMRV	Marv??o	115.75	320	*e*Pdif	Pdif	23 05 12.7	+6.2	
PMRV	Marv??o	115.75	320	*e*PKPdf	PKPdf	23 08 53.7	+3.5	
PMRV	Marv??o	115.75	320	*e*PP	PP	23 09 59.7	-4.0	
H29A	Onida	115.75	33	PKiKP	PKPdf	23 08 50.0	0.0	
	baz=116							
K27A	Flueckinger Fa	115.82	36	PKiKP	PKPdf	23 08 50.2	-0.2	
	baz=116							
J28A	Allard Ranch,	115.95	35	PKiKP	PKiKP	23 08 50.8	+0.3	
	baz=116							
G30A	Faulkton	116.00	32	PKiKP	PKiKP	23 08 52.0	+1.6	
	baz=116							
M26A	McRoberts Ranc	116.02	38	PKiKP	PKiKP	23 08 51.7	+1.0	
	baz=116							
I29A	Vivian Onida	116.09	34	PKiKP	PKiKP	23 08 52.6	+1.9	
	baz=116							
PCAS	Casmilo, Conde	116.10	321	*e*Pdif	Pdif	23 05 10.1	+2.0	
PCAS	Casmilo, Conde	116.10	321	*e*PKPdf	PKPdf	23 08 54.4	+3.6	
PCAS	Casmilo, Conde	116.10	321	*e*PP	PP	23 10 03.7	-2.4	
L27A	T5 Ranch, Ells	116.15	37	PKiKP	PKiKP	23 08 52.4	+1.4	
	baz=116							
PESTR	Estremoz	116.19	319	*e*Pdif	Pdif	23 05 15.8	+7.3	
PESTR	Estremoz	116.19	319	*e*PKPdf	PKPdf	23 08 54.6	+3.6	
PESTR	Estremoz	116.19	319	*e*PP	PP	23 10 02.1	-4.6	
Q24A	Divide	116.20	41	PKiKP	PKiKP	23 08 52.1	+0.7	
	baz=116							
PBAR	Barrancos	116.20	318	*e*Pdif	Pdif	23 05 13.4	+4.8	
PBAR	Barrancos	116.20	318	*e*PKPdf	PKPdf	23 08 54.1	+3.1	
PBAR	Barrancos	116.20	318	*e*PP	PP	23 10 10.2	+3.4	
PTOM	Tomar	116.29	320	*e*Pdif	Pdif	23 05 16.4	+7.5	
PTOM	Tomar	116.29	320	*e*PKPdf	PKPdf	23 08 54.6	+3.4	
PTOM	Tomar	116.29	320	*e*PP	PP	23 10 04.6	-2.8	
K28A	Ten Mile Ranch	116.31	36	PKiKP	PKiKP	23 08 53.1	+1.8	
	baz=116							
N26A	Koester Ranch,	116.35	38	PKiKP	PKiKP	23 08 53.2	+1.7	
	baz=116							
M27A	Reverse DX Ran	116.44	37	PKiKP	PKiKP	23 08 53.7	+2.2	
	baz=116							
J29A	Okreek	116.47	34	PKiKP	PKiKP	23 08 53.0	+1.5	
	baz=116							
PMTG	Montargil	116.48	320	*e*Pdif	Pdif	23 05 17.7	+7.9	
PMTG	Montargil	116.48	320	*e*PKPdf	PKPdf	23 08 55.0	+3.5	
PMTG	Montargil	116.48	320	*e*PP	PP	23 10 04.3	-4.4	
SDCO	Great Sand Dun	116.63	42	PKiKP	PKiKP	23 08 54.9	+2.6	
	baz=116							
SDCO	Great Sand Dun	116.63	42	*e*PKPdf	PKPdf	23 08 52.8	+0.5	
SDCO				*e*PKKPbc	PKKPbc	23 19 25.2	+2.5	
O26A	Horse Wrangler	116.64	39	PKiKP	PKiKP	23 08 54.1	+2.1	
	baz=116							
I30A	Oacoma	116.64	33	PKiKP	PKiKP	23 08 53.7	+1.9	
	baz=116							
EVO	Evora	116.64	319	*e*Pdif	Pdif	23 05 17.0	+6.5	
EVO	Evora	116.64	319	*e*PKPdf	PKPdf	23 08 55.2	+3.3	
EVO	Evora	116.64	319	*e*PP	PP	23 10 13.0	+3.2	
L28A	Connealy Angus	116.66	36	PKiKP	PKiKP	23 08 54.1	+2.2	
	baz=116							
N27A	Anderson Farm,	116.78	38	PKiKP	PKiKP	23 08 53.2	+0.9	
	baz=117							
K29A	Lazy Trails An	116.89	35	PKiKP	PKiKP	23 08 54.6	+2.2	
	baz=117							
J30A	Dallas	116.99	34	PKiKP	PKiKP	23 08 55.1	+2.7	
	baz=117							
OGNE	Ogallala	117.00	37	*e*PKPdf	PKPdf	23 08 54.8	+2.1	
	baz=117							
OGNE	Ogallala	117.00	37	*e*PKPdf	PKPdf	23 08 52.5	-0.2	
P26A	Davis Ranch, A	117.01	39	PKiKP	PKiKP	23 08 54.1	+1.2	
	baz=117							
PACT	Alcochete	117.05	320	*e*Pdif	Pdif	23 05 21.1	+8.8	
PACT	Alcochete	117.05	320	*e*PKPdf	PKPdf	23 08 54.8	+2.2	
PACT	Alcochete	117.05	320	*e*PP	PP	23 10 13.4	+0.9	
PVAQ	Vaqueiros	117.07	318	*e*Pdif	Pdif	23 05 20.3	+7.9	
PVAQ	Vaqueiros	117.07	318	*e*PKPdf	PKPdf	23 08 56.5	+3.8	
PVAQ	Vaqueiros	117.07	318	*e*PP	PP	23 10 14.8	+2.0	
M28A	Bar X Bar Ranc	117.13	37	PKiKP	PKiKP	23 08 53.8	+1.0	
	baz=117							
PCVE	Castro Verde	117.16	318	*e*Pdif	Pdif	23 05 20.8	+8.0	
PCVE	Castro Verde	117.16	318	*e*PKPdf	PKPdf	23 08 55.6	+2.7	
PCVE	Castro Verde	117.16	318	*e*PP	PP	23 10 14.9	+1.5	
MESJ	Messejana	117.16	318	*e*P	PKPdf	23 08 52.5	-0.4	
MESJ				*e*PP	PP	23 10 13.4	0.0	
MESJ				*e*SS	SS	23 25 39.7	+1.1	
MESJ	Messejana	117.16	318	*e*Pdif	Pdif	23 05 23.1	+10	
MESJ	Messejana	117.16	318	*e*PKPdf	PKPdf	23 08 56.6	+3.7	
MESJ	Messejana	117.16	318	*e*PP	PP	23 10 09.5	-3.9	
O27A	Beecher Island	117.18	38	PKiKP	PKiKP	23 08 54.0	+0.9	
	baz=117							
PNCL	Nicolau / Gran	117.22	319	*e*Pdif	Pdif	23 05 16.9	+3.8	
PNCL	Nicolau / Gran	117.22	319	*e*PKPdf	PKPdf	23 08 56.9	+3.9	
PNCL	Nicolau / Gran	117.22	319	*e*PP	PP	23 10 06.9	-6.8	
MDT	Midelt	117.22	312	PKKPbc	PKKPbc	23 19 20.1	-0.2	
	comp=Z,6.1nm,0.9s,baz=251,slow=6.3,SNR=2.2							
MDT				SKKPbc	SKKPbc	23 22 08.6	-1.6	
	comp=Z,26nm,1.1s,baz=264,slow=5.4,SNR=2.2							
PMAFR	Mafra	117.23	320	*e*Pdif	Pdif	23 05 21.8	+8.7	
PMAFR	Mafra	117.23	320	*e*PKPdf	PKPdf	23 08 56.1	+3.1	
PMAFR	Mafra	117.23	320	*e*PP	PP	23 10 15.3	+1.5	
L29A	Maesberg Ranch	117.23	36	PKiKP	PKiKP	23 08 54.0	+1.0	
	baz=117							
Q26A	Hugo	117.27	40	PKiKP	PKiKP	23 08 54.9	+1.6	
	baz=117							
LIS	Lisbon	117.28	320	*e*P	PKPdf	23 08 52.3	-0.7	
LIS				*e*PP	PP	23 10 13.7	-0.5	
LIS				*e*SS	SS	23 25 40.3	+0.4	
PMST	Lisbon--Monsan	117.29	320	*e*Pdif	Pdif	23 05 25.1	+12	
PMST	Lisbon--Monsan	117.29	320	*e*PKPdf	PKPdf	23 08 56.9	+3.8	
PMST	Lisbon--Monsan	117.29	320	*e*PP	PP	23 10 15.8	+1.6	
PBDV	Barranco-do-Ve	117.30	318	*e*Pdif	Pdif	23 05 15.1	+1.6	
PBDV	Barranco-do-Ve	117.30	318	*e*PKPdf	PKPdf	23 08 57.2	+4.0	
PBDV	Barranco-do-Ve	117.30	318	*e*PP	PP	23 10 13.2	-1.2	
K30A	Basset	117.34	35	PKiKP	PKiKP	23 08 55.0	+1.8	
	baz=117							
ANMO	Albuquerque	117.45	45	Pdiff	Pdif	23 05 15.2	+0.7	
	com

P30A Selden 118.94 38 PKiKP PKiKP 23 08 56.9 +0.5
baz=119
L33A Hoskins 118.98 34 PKiKP PKiKP 23 08 56.6 +0.2
baz=119
BGNE Belgrade 118.99 35 PKiKP PKiKP 23 08 57.0 +0.6
baz=119
BGNE Belgrade 118.99 35 ePKPdf PKPdf 23 08 55.2 -1.2
R29A Marienthal 119.07 39 PKiKP PKPdf 23 08 56.4 -0.3
baz=119
S28A Manter 119.08 40 PKiKP PKiKP 23 08 57.2 +0.4
baz=119
TORD Torodi Ar. Bea 119.09 289 Pdiff Pdif 23 05 21.3 -0.6
comp=Z,2.3nm,1.0s,baz=99,slow=2.7,SNR=5.2
TORD PKP PKPdf 23 08 56.2 -1.0
comp=Z,354nm,1.0s,baz=30,slow=2.0,SNR=79
TORD PP PP 23 10 19.9 -7.7
comp=Z,129nm,0.9s,baz=59,slow=5.6,SNR=4.3
TORD SKP 23 11 36.8
comp=Z,155nm,1.0s,baz=78,slow=2.2,SNR=2.4
TORD PKKPbc PKKPbc 23 19 12.6 -0.4
comp=Z,16nm,0.5s,baz=278,slow=3.0,SNR=7.6
TORD SKKPbc SKKPbc 23 22 02.6 -1.2
comp=Z,14nm,1.1s,baz=252,slow=2.2,SNR=2.1
TOB4 Torodi Ar. Sit 119.11 289 ePKIKP PKPdf 23 08 55.8 -1.4
O31A Woolen Ranch, 119.11 37 PKiKP PKiKP 23 08 56.9 +0.1
baz=119
SPMN St. Paul 119.13 29 PKiKP PKiKP 23 08 57.6 +1.1
baz=119
SPMN St. Paul 119.13 29 ePKPdf PKPdf 23 08 55.7 -0.7
SPMN ePKKPbc PKKPab 23 19 16.2 -1.2
U27A Thompson Grove 119.15 42 PKiKP PKPdf 23 08 57.0 0.0
baz=119
T28A Walsh 119.22 41 PKiKP PKiKP 23 08 57.5 +0.4
baz=119
Q30A Quinter 119.31 38 PKiKP PKiKP 23 08 57.6 +0.5
baz=119
N32A Stulken Farm, 119.33 36 PKiKP PKiKP 23 08 57.3 +0.1
baz=119
M33A Taylor Creek F 119.42 34 PKiKP PKPdf 23 08 56.6 -0.5
baz=119
P31A Stockton 119.48 37 PKiKP PKPdf 23 08 56.8 -0.6
baz=119
V27A Dan Oppiter Fa 119.51 43 PKiKP PKiKP 23 08 59.3 +1.5
baz=119
S29A Ulysses 119.56 40 PKiKP PKiKP 23 08 58.9 +1.2
baz=119
U28A Mallet 119.57 42 PKiKP PKPdf 23 08 57.8 0.0
baz=119
L34A Svendsen Farm, 119.61 33 PKiKP PKPdf 23 08 57.4 -0.1
baz=119
O32A Brockman Farm, 119.66 36 PKiKP PKPdf 23 08 56.7 -1.0
baz=120
R30A Dighton 119.69 39 PKiKP PKiKP 23 08 58.4 +0.4
baz=120
CBKS Cedar Bluff 119.70 38 ePKIKP PKPdf 23 08 58.3 +0.5
CBKS Cedar Bluff 119.70 38 PKiKP PKPdf 23 08 57.6 -0.2
baz=120
CBKS Cedar Bluff 119.70 38 ePKPdf PKPdf 23 08 58.3 +0.5
T29A Hugoton 119.72 40 PKiKP PKPdf 23 08 57.7 -0.3
baz=120
Q31A Ellis 119.79 38 PKiKP PKPdf 23 08 57.4 -0.6
baz=120
M34A Aspy Farms, Fr 119.81 34 PKiKP PKPdf 23 08 57.4 -0.5
baz=120
SLBS Sierra La Lagu 119.82 58 ePKPdf PKPdf 23 08 58.0 -0.5
SLBS ePKPdf PKiKP 23 09 02.8 +4.2
SLBS eSP SP 23 19 14.0 -11
N33A J Bar K, Exete 119.83 35 PKiKP PKPdf 23 08 57.8 -0.2
baz=120
P32A Huiting Farm, 119.88 37 PKiKP PKiKP 23 08 58.3 +0.1
baz=120
V28A Channing 119.93 42 PKiKP PKiKP 23 09 00.4 +1.9
baz=120
L35A Bielow Farm, R 119.96 33 PKiKP PKiKP 23 08 58.8 +0.5
baz=120
S30A Montezuma 119.97 40 PKiKP PKiKP 23 09 01.7 +3.2
baz=120
U29A Oasis Ranch, S 120.15 41 PKiKP PKiKP 23 09 00.1 +1.1
baz=120
R31A Burdett 120.16 38 PKiKP PKiKP 23 09 01.2 +2.4
baz=120
O33A Hebron 120.19 36 PKiKP PKiKP 23 08 59.3 +0.5
baz=120
W28A Vega 120.22 43 PKiKP PKiKP 23 09 01.0 +1.9
baz=120
T30A Plains 120.28 40 PKiKP PKiKP 23 09 01.9 +2.7
baz=120
N34A Lincoln 120.30 34 PKiKP PKiKP 23 09 01.9 +2.9
baz=120
Q32A Meitler Ranch, 120.31 37 PKiKP PKiKP 23 09 01.1 +2.0
baz=120
M35A Neola 120.32 33 PKiKP PKiKP 23 09 00.7 +1.7
baz=120
V29A Stinnett 120.33 42 PKiKP PKiKP 23 09 00.4 +1.1
baz=120
U30A WK&E Inc. Balk 120.51 41 PKiKP PKiKP 23 09 01.5 +1.9
baz=120
P33A Williams Farm, 120.54 36 PKiKP PKiKP 23 09 01.9 +2.4
baz=120
R32A Long Quarter, 120.58 38 PKiKP PKiKP 23 09 02.4 +2.8
baz=120
S31A Mullinville 120.60 39 PKiKP PKiKP 23 09 02.1 +2.4
baz=120
O34A Beatrice 120.63 35 PKiKP PKiKP 23 09 01.7 +2.0
baz=120
X28A Dimmitt 120.64 43 PKiKP PKiKP 23 09 01.4 +1.4
baz=120
W29A Amraillo 120.67 43 PKiKP PKiKP 23 09 02.3 +2.2
baz=120
Q33A Connelly Farm, 120.74 37 PKiKP PKiKP 23 09 01.1 +1.2
baz=121
N35A Tabor 120.77 34 PKiKP PKiKP 23 09 00.4 +0.5
baz=121
S32A Newby Ranch, P 120.89 39 PKiKP PKiKP 23 09 01.1 +0.8
baz=121
V30A Spur Ranch, Mi 120.94 41 PKiKP PKiKP 23 09 01.2 +0.7
baz=121
Y28A McKinney Farm, 120.94 44 PKiKP PKPdf 23 09 00.4 0.0
baz=121
P34A Walnut Farm, R 120.97 36 PKiKP PKiKP 23 09 00.8 +0.4
baz=121
O35A Humboldt 121.02 35 PKiKP PKiKP 23 09 02.1 +1.6
baz=121
X29A Tulia 121.02 43 PKiKP PKiKP 23 09 01.7 +1.0
baz=121
R33A Olander Ranch, 121.09 38 PKiKP PKiKP 23 09 02.2 +1.6
baz=121
U31A Nine Bar Ranch 121.12 40 PKiKP PKiKP 23 09 01.9 +1.1
baz=121
Z28A Tucker Farm, M 121.19 45 PKiKP PKiKP 23 09 02.1 +1.0
baz=121
T32A Huddler Ranch, 121.22 39 PKiKP PKiKP 23 09 01.7 +0.7
baz=121
Q34A Chapman 121.32 36 PKiKP PKiKP 23 09 02.2 +1.2
baz=121
W30A Crocket Farms 121.35 42 PKiKP PKiKP 23 09 02.8 +1.4
baz=121
Y29A Porterfield Fa 121.37 44 PKiKP PKiKP 23 09 02.4 +1.0
baz=121
P35A Duane Minner, 121.45 35 PKiKP PKiKP 23 09 02.1 +0.8
baz=121
128A Castleberry Fa 121.48 45 PKiKP PKiKP 23 09 02.3 +0.6
baz=121
V31A Spring Creek L 121.49 41 PKiKP PKiKP 23 09 01.8 +0.3
baz=121
PMSA Palmer Station 121.50 176 PKP PKPdf 23 08 59.8 -0.5
comp=Z,94nm,1.0s,baz=90,slow=2.0,SNR=5.6
PMSA Palmer Station 121.50 176 ePKPdf PKPdf 23 09 01.1 +0.8
S33A Kaszmaul Farm, 121.53 38 PKiKP PKiKP 23 09 02.3 +0.7
baz=121
R34A Isabella, Hill 121.54 37 PKiKP PKPdf 23 08 59.5 -1.8
baz=121
X30A Coker Ranch, T 121.58 43 PKiKP PKPdf 23 09 00.4 -1.1
baz=121
O36A Bolckow 121.64 34 PKiKP PKPdf 23 09 01.3 -0.2
baz=122
U32A Winter Ranch, 121.66 40 PKiKP PKPdf 23 09 01.4 -0.3
baz=122
228A UT Block 9, Go 121.68 46 PKiKP PKPdf 23 09 01.1 -0.8
baz=122
Z29A Hungry Hill Ra 121.68 44 PKiKP PKPdf 23 09 00.6 -1.2
baz=122
T33A Patterson Ranc 121.70 39 PKiKP PKiKP 23 09 01.8 -0.1
baz=122
W31A Holland Ranch, 121.77 42 PKiKP PKPdf 23 09 00.8 -1.1
baz=122
P36A Good Intent, A 121.85 35 PKiKP PKPdf 23 09 01.7 -0.2
baz=122

Q35A Mercer Eighty, 121.89 36 PKiKP PKPdf 23 09 01.0 -1.0
baz=122
Y30A Stafford Cattl 121.89 43 PKiKP PKPdf 23 09 01.4 -0.8
baz=122
S34A Willow Spring 122.01 38 PKiKP PKPdf 23 09 01.2 -1.0
baz=122
V32A Arapaho 122.04 41 PKiKP PKPdf 23 09 01.7 -0.7
baz=122
Z30A Sanderson Ranc 122.07 44 PKiKP PKPdf 23 09 01.8 -0.8
baz=122
X31A McDonald Ranch 122.07 42 PKiKP PKPdf 23 09 01.8 -0.7
baz=122
JFWS Jewell Farm 122.08 29 ePKIKP PKPdf 23 09 00.7 -1.5
JFWS Jewell Farm 122.08 29 ePKPdf PKPdf 23 09 00.7 -1.5
JFWS ePKKPbc PKKPbc 23 19 03.4 +0.3
R35A Emporia Munici 122.15 36 PKiKP PKPdf 23 09 02.2 -0.2
baz=122
Q36A Arnold C. Orve 122.15 35 PKiKP PKiKP 23 09 02.6 0.0
baz=122
U33A Lingo Farm, Me 122.19 39 PKiKP PKPdf 23 09 01.2 -1.5
baz=122
W32A Sentinel 122.27 41 PKiKP PKPdf 23 09 02.9 +0.1
baz=122
Y31A Rekieta Farm, 122.27 43 PKiKP PKPdf 23 09 01.4 -1.5
baz=122
229A Bryant Ranch, 122.32 46 PKiKP PKPdf 23 09 02.3 -0.8
baz=122
TXAR Lajitas Array 122.34 49 Pdiff Pdif 23 05 37.2 +1.0
comp=Z,0.2nm,0.6s,baz=336,slow=2.0,SNR=3.1
TXAR PKP PKPdf 23 09 02.4 -0.8
comp=Z,11nm,0.8s,baz=289,slow=1.8,SNR=7.3
TXAR PP PP 23 10 48.4 -0.4
comp=Z,75nm,1.1s,baz=298,slow=1.9,SNR=3.4
TXAR PKKPbc PKKPbc 23 19 00.1 -1.6
comp=Z,144nm,1.2s,baz=125,slow=5.4,SNR=10
T34A McClaskey Farm 122.40 38 PKiKP PKPdf 23 09 01.6 -1.5
baz=122
329A Wagon Wheel Ra 122.46 46 PKiKP PKPdf 23 09 01.7 -1.6
baz=122
V33A Lossen Ranch, 122.46 40 PKiKP PKPdf 23 09 01.7 -1.5
baz=122
S35A Otter Creek Ra 122.50 37 PKiKP PKPdf 23 09 01.3 -1.8
baz=122
U34A Anderson Ranch 122.55 39 PKiKP PKPdf 23 09 02.6 -0.7
baz=122
U34A Anderson Ranch 122.55 39 ePKPdf PKPdf 23 09 02.5 -0.8
U34A ePKKPbc PKKPbc 23 19 00.8 -0.3
R36A Gordon, Harris 122.56 36 PKiKP PKPdf 23 09 02.6 -0.7
baz=122
130A Snyder 122.57 45 PKiKP PKPdf 23 09 02.7 -0.8
baz=122
X32A Elmer 122.66 42 PKiKP PKPdf 23 09 02.1 -1.5
baz=122
Z31A Sharp Cattle R 122.73 43 PKiKP PKPdf 23 09 02.6 -1.2
baz=123
W33A Caddo, Fort Co 122.75 41 PKiKP PKPdf 23 09 02.7 -1.1
baz=123
Q37A Longview Farm, 122.79 35 PKiKP PKiKP 23 09 03.9 -0.1
baz=123
Y32A R-V Farms, Ver 122.80 42 PKiKP PKPdf 23 09 02.8 -1.1
baz=123
WMOK Wichita Mounta 122.80 41 ePKIKP PKPdf 23 09 03.4 -0.5
WMOK Wichita Mounta 122.80 41 ePKPdf PKPdf 23 09 03.4 -0.5
WMOK ePKKPbc PKKPab 23 19 01.6 +0.3
230A Sterling City 122.86 45 PKiKP PKPdf 23 09 03.7 -0.4
baz=123
T35A Sooner Cattle 122.88 38 PKiKP PKiKP 23 09 04.8 +0.6
baz=123
S36A Lake Cedric, C 122.90 37 PKiKP PKPdf 23 09 03.3 -0.7
baz=123
131A Roby 122.92 44 PKiKP PKPdf 23 09 03.8 -0.4
baz=123
V34A Guthrie 122.94 40 PKiKP PKPdf 23 09 03.8 -0.3
baz=123
V34A Guthrie 122.94 40 ePKPdf PKPdf 23 09 03.1 -1.0
R37A Teagarden Farm 122.95 36 PKiKP PKPdf 23 09 03.8 -0.3
baz=123
429A Davenport Ranc 122.98 47 PKiKP PKiKP 23 09 05.1 +0.5
baz=123
529A Stev Forest Ra 123.01 48 PKiKP PKPdf 23 09 02.9 -1.5
baz=123
GLMI Grayling 123.04 24 ePKPdf PKPdf 23 09 03.1 -0.9
330A Mertzon 123.08 46 PKiKP PKPdf 23 09 03.5 -1.1
baz=123
U35A Pawnee 123.09 39 PKiKP PKPdf 23 09 03.1 -1.2
baz=123
X33A Lawton 123.11 41 PKiKP PKPdf 23 09 03.8 -0.6
baz=123
W34A Bridge Creek, 123.15 40 PKiKP PKPdf 23 09 03.9 -0.6
baz=123
W34A Bridge Creek, 123.15 40 ePKPdf PKPdf 23 09 03.9 -0.6
T36A Boggs Farm, Ca 123.17 37 PKiKP PKPdf 23 09 03.9 -0.6
baz=123
Z32A Haskell 123.19 43 PKiKP PKPdf 23 09 04.0 -0.6
baz=123
S37A Fort Scott 123.33 36 PKiKP PKPdf 23 09 03.9 -0.9
baz=123
Y33A Hilltop Ranch, 123.34 42 PKiKP PKPdf 23 09 04.0 -1.0
baz=123
430A Baggett Ranch, 123.37 47 PKiKP PKPdf 23 09 04.3 -0.9
baz=123
231A Bronte 123.39 45 PKiKP PKPdf 23 09 04.5 -0.6
baz=123
V35A Meyer Ranch, C 123.42 39 PKiKP PKPdf 23 09 04.4 -0.6
baz=123
ABTX Abilene, Hawle 123.47 44 PKiKP PKPdf 23 09 04.7 -0.6
baz=123
ABTX Abilene, Hawle 123.47 44 ePKPdf PKPdf 23 09 05.2 0.0
ABTX ePKKPbc PKKPab 23 19 01.0 +2.7
X34A Smith Ranch, M 123.50 41 PKiKP PKPdf 23 09 04.7 -0.5
baz=123
530A J-C Ranch, Com 123.64 47 PKiKP PKPdf 23 09 04.8 -0.8
baz=124
331A San Angelo 123.67 46 PKiKP PKPdf 23 09 04.9 -0.7
baz=124
Z33A Whitaker Ranch 123.68 43 PKiKP PKPdf 23 09 05.0 -0.5
baz=124
U36A Oologah 123.69 38 PKiKP PKPdf 23 09 04.9 -0.6
baz=124
T37A Cheneyville 18 123.70 37 PKiKP PKPdf 23 09 04.9 -0.6
baz=124
W35A Tecumseh 123.78 40 PKiKP PKPdf 23 09 04.9 -0.8
baz=124
431A Sonora 123.88 46 PKiKP PKPdf 23 09 05.1 -1.0
baz=124
232A Coleman 123.89 45 PKiKP PKPdf 23 09 05.2 -0.8
baz=124
Y34A Reagan Ranch, 123.95 41 PKiKP PKPdf 23 09 05.1 -1.0
baz=124
V36A Jenks 123.96 39 PKiKP PKPdf 23 09 05.1 -0.9
baz=124
TUL1 Tulsa 123.97 38 PKiKP PKPdf 23 09 04.8 -1.3
baz=124
TUL1 Tulsa 123.97 38 ePKPdf PKPdf 23 09 05.3 -0.7
133A Hamilton Ranch 123.98 43 PKiKP PKPdf 23 09 05.2 -1.0
baz=124
U37A Salina 124.06 38 PKiKP PKPdf 23 09 05.3 -0.9
baz=124
332A Millersview 124.11 45 PKiKP PKPdf 23 09 04.8 -1.7
baz=124
X35A Drake 124.19 41 PKiKP PKPdf 23 09 05.4 -1.1
baz=124
W36A Watumka 124.20 39 PKiKP PKPdf 23 09 05.4 -1.1
baz=124
Z34A Collier Ranch, 124.20 42 PKiKP PKPdf 23 09 06.0 -0.5
baz=124
531A Rocksprings 124.21 47 PKiKP PKPdf 23 09 05.5 -1.2
baz=124
HDIL Hopedale 124.33 30 PKiKP PKPdf 23 09 06.1 -0.5
baz=124
HDIL Hopedale 124.33 30 ePKPpre PKPpre 23 09 02.1
HDIL ePKPdf PKPdf 23 09 05.2 -1.3
432A Menard 124.36 46 PKiKP PKPdf 23 09 06.1 -0.9
baz=124
V37A Hulbert 124.39 38 PKiKP PKPdf 23 09 06.2 -0.6
baz=124
Y35A Marietta 124.45 41 PKiKP PKPdf 23 09 05.9 -1.1
baz=124
U38A Gravette 124.48 37 PKiKP PKPdf 23 09 06.0 -1.1
baz=124
X36A Centrahoma 124.48 40 PKiKP PKPdf 23 09 06.1 -0.9
baz=124
DRLN Deer Lake 124.55 1 ePKPdf PKPdf 23 09 05.5 -1.3
134A White-Moore Ra 124.57 43 PKiKP PKPdf 23 09 06.4 -0.9
baz=124
JCT Junction City 124.57 46 ePKIKP PKPdf 23 09 06.2 -1.2
JCT Junction City 124.57 46 PKiKP PKPdf 23 09 03.8 -3.6
baz=124
JCT Junction City 124.57 46 ePKPdf PKPdf 23 09 06.2 -1.2
631A Perdido Creek 124.60 48 PKiKP PKPdf 23 09 03.9 -3.6
baz=124
Z35A Perchaven, San 124.66 42 PKiKP PKPdf 23 09 04.7 -2.7
baz=124
333A Richland Sprin 124.67 45 PKiKP PKPdf 23 09 05.1 -2.5
baz=124
532A Rocksprings 124.69 46 PKiKP PKPdf 23 09 05.7 -2.0
baz=125
W37A Quinton 124.70 39 PKiKP PKPdf 23 09 04.8 -2.7
baz=124
V38A Canehill 124.85 38 PKiKP PKPdf 23 09 05.5 -2.3
baz=125
234A Clairette 124.86 44 PKiKP PKPdf 23 09 05.7 -2.2
baz=125
433A Art 124.92 45 PKiKP PKPdf 23 09 05.9 -2.2
baz=125
Y36A Durant 124.94 41 PKiKP PKPdf 23 09 06.1 -1.8
baz=125
135A Vickery Place, 125.03 43 PKiKP PKPdf 23 09 06.5 -1.7
baz=125
X37A Clayton 125.09 39 PKiKP PKPdf 23 09 06.5 -1.7
baz=125
632A Uvalde 125.12 47 PKiKP PKPdf 23 09 07.3 -1.2
baz=125
334A Lometa 125.19 44 PKiKP PKPdf 23 09 06.8 -1.7
baz=125
Z36A Blue Ridge 125.24 41 PKiKP PKPdf 23 09 06.8 -1.8
baz=125
SLM Saint Louis 125.28 32 ePKIKP PKPdf 23 09 08.5 +0.1
SLM Saint Louis 125.28 32 ePKPdf PKPdf 23 09 08.5 +0.1
W38A Poteau 125.31 38 PKiKP PKPdf 23 09 06.8 -1.8
baz=125
PMPST Porto Santo, M 125.31 319 ePKPdf PKPdf 23 09 12.4 +3.7
PMPST Porto Santo, M 125.31 319 ePP PP 23 11 11.5 +3.6
Y37A Hugo 125.32 40 PKiKP PKPdf 23 09 07.0 -1.6
baz=125
PMPS Porto Santo 125.32 318 ePKPdf PKPdf 23 09 12.5 +3.8
PMPS Porto Santo 125.32 318 ePP PP 23 11 11.9 +3.9
WHTX Lake Whitney 125.34 43 PKiKP PKPdf 23 09 06.8 -2.0
baz=125
WHTX Lake Whitney 125.34 43 ePKPdf PKPdf 23 09 07.5 -1.3
533A Kerrville 125.35 46 PKiKP PKPdf 23 09 06.9 -2.0
baz=125
X38A Whitesboro 125.38 39 PKiKP PKPdf 23 09 06.6 -2.2
baz=125
732A Laxson Ranch, 125.41 48 PKiKP PKPdf 23 09 07.3 -1.7
baz=125
434A Burnet 125.47 45 PKiKP PKPdf 23 09 07.5 -1.6
baz=125
AAM Ann Arbor 125.52 25 ePKIKP PKPdf 23 09 07.2 -1.6
AAM Ann Arbor 125.52 25 ePKPdf PKPdf 23 09 07.2 -1.6
AAM epPKPdf pPKPdf 23 11 22.7 -1.8
SFIN Scholer Farm 125.54 29 PKiKP PKPdf 23 09 07.1 -1.8
baz=125
SFIN Scholer Farm 125.54 29 ePKPdf PKPdf 23 09 07.4 -1.5
633A Saathoff Ranch 125.59 47 PKiKP PKPdf 23 09 07.5 -1.8
baz=126
832A Faith Ranch, C 125.65 48 PKiKP PKPdf 23 09 07.9 -1.6
baz=126
RPN Rapa Nui 125.77 119 PKP PKPdf 23 09 10.5 +0.8
comp=Z,53nm,0.8s,baz=263,slow=8.7,SNR=2.8
RPN PP PP 23 11 12.1 +0.3
comp=Z,78nm,1.0s,baz=288,slow=9.6,SNR=2.4
RPN Rapa Nui 125.77 119 PKIKP PKPdf 23 09 10.5 +0.8
RPN 23 11 12.1
RPN pmax pmax
comp=Z,53nm,0.8s
RPN pmax pmax
comp=Z,78nm,1.0s
RPN Rapa Nui 125.77 119 ePKPdf PKPdf 23 09 09.7 0.0
RPN PP PP 23 11 12.1 +0.3
534A Blanco 125.78 46 PKiKP PKPdf 23 09 08.4 -1.3
baz=126
335A Moody 125.78 44 PKiKP PKPdf 23 09 08.8 -0.8
baz=126
Z37A Pogue Cattle C 125.81 41 PKiKP PKPdf 23 09 08.9 -0.8
baz=126
PMAR Madeira 125.91 319 ePKPdf PKPdf 23 09 13.8 +3.7
PMAR Madeira 125.91 319 ePP PP 23 11 12.3 +0.2
733A Divot King Ran 125.92 48 PKiKP PKPdf 23 09 09.1 -0.8
baz=126
Y38A Idabel 125.92 40 PKiKP PKPdf 23 09 09.1 -0.8
baz=126
FUL Funchal 125.94 318 ePKPdf PKPdf 23 09 13.5 +3.6
FUL Funchal 125.94 318 ePP PP 23 11 07.4 -4.7
236A Katherine and 125.96 43 PKiKP PKPdf 23 09 09.4 -0.6
baz=126
435B Jarrell 125.97 44 PKiKP PKPdf 23 09 09.2 -0.8
baz=126
PMOZ Porto Moniz, M 126.04 319 ePdif Pdif 23 06 02.6 +10
PMOZ Porto Moniz, M 126.04 319 ePKPdf PKPdf 23 09 14.7 +4.5
PMOZ Porto Moniz, M 126.04 319 ePP PP 23 11 14.3 +1.5
833A Chaparral WMA, 126.06 48 PKiKP PKPdf 23 09 09.4 -0.8
baz=126
137A Heron Place, G 126.10 41 PKiKP PKPdf 23 09 09.5 -0.7
baz=126
336A Riesel 126.12 43 PKiKP PKPdf 23 09 09.7 -0.6
baz=126
Z38A Mt. Pleasant 126.19 40 PKiKP PKPdf 23 09 09.8 -0.6
baz=126
634A China Grove, S 126.23 46 PKiKP PKPdf 23 09 09.8 -0.7
baz=126
MIAR Mount Ida 126.23 38 PKiKP PKPdf 23 09 09.7 -0.7
baz=126
MIAR Mount Ida 126.23 38 ePKPpre PKPpre 23 09 03.5
MIAR ePKPdf PKPdf 23 09 10.5 +0.1
OLIL Olney 126.31 31 ePKPpre PKPpre 23 08 59.9
OLIL ePKPdf PKPdf 23 09 10.2 -0.2
Y39A Lockesburg 126.31 39 PKiKP PKPdf 23 09 09.1 -1.4
baz=126
734A La Parita Cree 126.38 47 PKiKP PKPdf 23 09 09.9 -0.9
baz=126
535A Dale 126.41 45 PKiKP PKPdf 23 09 09.5 -1.4
baz=126
237A Washetta, Mont 126.44 42 PKiKP PKPdf 23 09 09.6 -1.2
baz=126
SIUC Southern Illin 126.50 32 ePKPpre PKPpre 23 09 00.5
SIUC ePKPdf PKPdf 23 09 10.2 -0.7
138A Matatall Enter 126.50 41 PKiKP PKPdf 23 09 10.2 -0.8
baz=126
436A Wall Ranch, Ga 126.52 44 PKiKP PKPdf 23 09 09.7 -1.4
baz=126
PBMO Poplar Bluff 126.53 34 ePKPpre PKPpre 23 08 59.6
PBMO ePKPdf PKPdf 23 09 09.2 -1.7
933A Laredo 126.53 49 PKiKP PKPdf 23 09 10.6 -0.5
baz=126
LONY Lake Ozonia 126.62 16 ePKPdf PKPdf 23 09 06.5 -4.4
LONY ePKPdf PKiKP 23 09 09.8 -1.6
635A Leesville 126.64 46 PKiKP PKPdf 23 09 10.6 -0.7
baz=126
Z39A Irene McRaven, 126.71 40 PKiKP PKPdf 23 09 10.4 -0.9
baz=127
536A Bastrop 126.74 45 PKiKP PKPdf 23 09 10.4 -1.0
baz=127
834A Tilden 126.79 48 PKiKP PKPdf 23 09 10.8 -0.9
baz=127
KIC Kosan Boka 126.89 283 ePKIKP PKPdf 23 09 12.1 -0.1
comp=Z,935nm,0.8s
238A Jacksonville 126.89 42 PKiKP PKPdf 23 09 10.7 -1.0
baz=127
735A Kenedy 126.92 47 PKiKP PKPdf 23 09 10.9 -1.0
baz=127
DBIC Dimbokro 126.93 283 PKhKP PKPpre 23 09 00.6
comp=Z,14nm,0.6s,baz=73,slow=3.8,SNR=8.6
DBIC PKP PKPdf 23 09 10.9 -1.4
comp=Z,90nm,0.5s,baz=26,slow=2.2,SNR=13
DBIC PP PP 23 11 19.4 -0.3
comp=Z,124nm,1.0s,baz=84,slow=10,SNR=2.0
DBIC SKKPbc SKKPbc 23 21 36.8 -1.3
comp=Z,30nm,1.1s,baz=234,slow=5.9,SNR=2.2
DBIC Dimbokro 126.93 283 PKPpre PKPpre 23 09 00.6
DBIC ePKPdf PKPdf 23 09 10.2 -2.1
DBIC PP PP 23 11 19.4 -0.3
DBIC SKKPbc SKKPbc 23 21 36.8 -1.3
437A Phantom Ranch, 126.93 43 PKiKP PKPdf 23 09 11.6 -0.3
baz=127
139A Bunkhouse Ranc 126.94 40 PKiKP PKPdf 23 09 11.1 -0.7
baz=127
PARMO Parma 126.98 34 ePKPdf PKPdf 23 09 10.6 -1.2
TIC Toumodi 127.09 283 ePKIKP PKPdf 23 09 12.3 -0.3
636A Smothers Creek 127.10 45 PKiKP PKPdf 23 09 11.2 -0.9
baz=127
934A Benavides 127.10 48 PKiKP PKPdf 23 09 11.7 -0.5
baz=127

USIN	**University of**	**127.12**	**31**	*e*PKPdf	**PKPdf**	**23 09 11.4**	**-0.6**
USIN				*ep*PKPdf	**pPKPdf**	**23 11 26.8**	**-0.8**
338A	**Crockett**	**127.17**	**42**	PKiKP	**PKPdf**	**23 09 11.6**	**-0.7**
	baz=127						
LIC	**Lamto**	**127.20**	**283**	*e*PKIKP	**PKPdf**	**23 09 12.5**	**-0.3**
	comp=Z,4μm,1.6s						
835A	**Beeville**	**127.22**	**47**	PKiKP	**PKPdf**	**23 09 11.9**	**-0.5**
	baz=127						
BART	**Pico Bartolome**	**127.26**	**329**	*e*PKPdf	**PKPdf**	**23 09 16.0**	**+3.6**
BART				*ep*PKPdf	**PP**	**23 11 20.1**	**-0.2**
537A	**Green Hill Far**	**127.26**	**44**	PKiKP	**PKPdf**	**23 09 11.8**	**-0.7**
	baz=127						
PKME	**Peaks-Kenny Pk**	**127.27**	**11**	*e*PKPdf	**PKPdf**	**23 09 08.8**	**-3.3**
PKME				*e*PKPdf	**PKiKP**	**23 09 11.9**	**-0.7**
034A	**Hebbronville**	**127.27**	**49**	PKiKP	**PKPdf**	**23 09 11.5**	**-1.1**
	baz=127						
239A	**Gary**	**127.31**	**41**	PKiKP	**PKPdf**	**23 09 11.7**	**-0.8**
	baz=127						
MMNY	**Mt. Morris Dam**	**127.32**	**20**	*e*PKPpre	PKPpre	23 09 01.8	
NCB	**Newcomb**	**127.32**	**16**	*e*PKPpre	PKPpre	23 09 06.2	
NCB				*e*PKPdf	**PKPdf**	**23 09 12.2**	**-0.1**
GNAR	**Gosnell**	**127.34**	**34**	*e*PKPdf	**PKPdf**	**23 09 12.8**	**+0.3**
GNAR				*e*PP	PP	23 11 28.2	+7.4
NATX	**Nacogdoches**	**127.35**	**42**	PKiKP	**PKPdf**	**23 09 11.8**	**-0.8**
	baz=127						
NATX	**Nacogdoches**	**127.35**	**42**	*e*PKPdf	**PKPdf**	**23 09 12.2**	**-0.4**
736A	**Circle Diamond**	**127.39**	**46**	PKiKP	**PKPdf**	**23 09 11.9**	**-0.8**
	baz=127						
438A	**Sam Houston St**	**127.44**	**43**	PKiKP	**PKPdf**	**23 09 12.3**	**-0.5**
	baz=127						
PSET	**Sete Cidades**	**127.50**	**329**	*e*PKPdf	**PKPdf**	**23 09 17.0**	**+4.2**
PSET				*ep*PKPdf	**PP**	**23 11 18.4**	**-3.4**
ACSO	**Alum Creek Sta**	**127.52**	**26**	*e*PKPdf	PKPpre	23 09 02.2	
GLAT	**Glass**	**127.53**	**34**	*e*PKPdf	**PKPdf**	**23 09 13.0**	**+0.2**
PDA	**Ponta Delgada**	**127.53**	**329**	*e*PKPdf	**PKPdf**	**23 09 17.7**	**+4.9**
PDA				*ep*PKPdf	**PP**	**23 11 23.4**	**+1.4**
ADH	**Angra Heroismo**	**127.60**	**331**	*e*PKPdf	**PKPdf**	**23 09 17.1**	**+4.2**
ADH				*ep*PKPdf	**pPKPdf**	**23 11 26.0**	**-2.5**
637A	**Eagle Lake**	**127.63**	**45**	PKiKP	**PKPdf**	**23 09 12.2**	**-1.0**
	baz=128						
PGRA	**Graciosa**	**127.66**	**332**	*e*PKPdf	**PKPdf**	**23 09 17.8**	**+4.8**
PGRA				*ep*PKPdf	**PP**	**23 11 18.1**	**-4.6**
HKT	**Hockley**	**127.67**	**44**	*e*PKIKP	**PKPdf**	**23 09 10.9**	**-2.3**
HKT	**Hockley**	**127.67**	**44**	*e*PKPdf	**PKPdf**	**23 09 10.9**	**-2.3**
339A	**Huntington**	**127.69**	**42**	PKiKP	**PKPdf**	**23 09 12.3**	**-0.9**
	baz=128						
UTMT	**University of**	**127.70**	**33**	*e*PKPdf	**PKPdf**	**23 09 13.2**	**0.0**
538A	**Harpers Horsep**	**127.75**	**44**	PKiKP	**PKPdf**	**23 09 12.1**	**-1.3**
	baz=128						
HALT	**Halls**	**127.76**	**34**	*e*PKPdf	**PKPdf**	**23 09 14.1**	**+0.8**
035A	**Encino**	**127.77**	**49**	PKiKP	**PKPdf**	**23 09 13.0**	**-0.5**
	baz=128						
PSMN	**Pico do Norte,**	**127.79**	**328**	*e*PKPdf	**PKPdf**	**23 09 17.2**	**+3.9**
PSMN				*ep*PKPdf	**PP**	**23 11 25.8**	**+2.1**
PSMA	**Santa Maria**	**127.83**	**328**	*e*PKPdf	**PKPdf**	**23 09 17.4**	**+4.0**
PSMA				*ep*PKPdf	**PP**	**23 11 26.3**	**+2.4**
WVL	**Waterville**	**127.86**	**12**	*e*PKPpre	PKPpre	23 09 04.5	
WVL				*e*PKPdf	**PKPdf**	**23 09 12.4**	**-0.8**
439A	**Center Grove,**	**127.89**	**43**	PKiKP	**PKPdf**	**23 09 12.6**	**-1.1**
	baz=128						
737A	**Port Lavaca**	**127.95**	**46**	PKiKP	**PKPdf**	**23 09 12.6**	**-1.2**
	baz=128						
PMAN	**Manadas**	**128.03**	**332**	*e*PKPdf	**PKPdf**	**23 09 18.2**	**+4.5**
PMAN				*ep*PKPdf	**pPKPdf**	**23 11 28.2**	**-1.1**
ROSA	**Rosais**	**128.03**	**332**	*e*PKPdf	**PKPdf**	**23 09 18.2**	**+4.5**
ROSA				*ep*PKPdf	**pPKPdf**	**23 11 27.8**	**-1.6**
035Z	**Hargill**	**128.06**	**49**	PKiKP	**PKPdf**	**23 09 13.2**	**-0.9**
	baz=128						
340A	**Bronson**	**128.08**	**41**	PKiKP	**PKPdf**	**23 09 13.4**	**-0.6**
	baz=128						
HNH	**Hanover**	**128.08**	**15**	*e*PKPpre	PKPpre	23 09 05.6	
HNH				*e*PKPdf	**PKPdf**	**23 09 13.6**	**0.0**
936A	**North Padre Is**	**128.09**	**48**	PKiKP	**PKPdf**	**23 09 14.0**	**-0.1**
	baz=128						
EMMW	**East Machias**	**128.14**	**10**	*e*PKPdf	**PKPdf**	**23 09 09.8**	**-3.9**
EMMW				*e*PKPdf	**PKiKP**	**23 09 15.0**	**+0.6**
PPNO	**Prainha do Nor**	**128.24**	**332**	*e*PKPdf	**PKPdf**	**23 09 18.3**	**+4.1**
PPNO				*ep*PKPdf	**PP**	**23 11 21.8**	**-4.7**
PCED	**Cedros**	**128.31**	**332**	*e*PKPdf	**PKPdf**	**23 09 18.3**	**+4.0**
PCED				*ep*PKPdf	PP	23 11 20.4	-6.5
539A	**Cross D Ranch,**	**128.34**	**43**	PKiKP	**PKPdf**	**23 09 14.1**	**-0.4**
	baz=128						
PCAN	**Candelaria**	**128.35**	**332**	*e*PKPdf	**PKPdf**	**23 09 18.6**	**+4.2**
PCAN				*ep*PKPdf	**pPKPdf**	**23 11 30.9**	**+0.9**
WVT	**Waverly**	**128.42**	**33**	*e*PKHKP	PKPpre	23 09 02.0	
WVT				*e*		23 09 14.4	
WVT	**Waverly**	**128.42**	**33**	*e*PKPpre	PKPpre	23 09 02.0	
WVT				*e*PKPdf	**PKPdf**	**23 09 14.4**	**-0.1**
BINY	**Binghamton**	**128.42**	**19**	*e*PKPpre	PKPpre	23 09 05.1	
BINY				*e*PKPdf	**PKPdf**	**23 09 14.5**	**+0.1**
440A	**Kirbyville**	**128.46**	**42**	PKiKP	**PKPdf**	**23 09 14.5**	**-0.2**
	baz=128						
738A	**Farr-Stevens R**	**128.47**	**45**	PKiKP	**PKPdf**	**23 09 13.9**	**-0.9**
	baz=128						
H07N1	**FLORES T-PHASE**	**128.50**	**335**	*e*PKPdf	**PKPdf**	**23 09 18.4**	**+3.8**
H07N1				*ep*PKPdf	**pPKPdf**	**23 11 30.6**	**+0.3**
TRY	**Troy**	**128.62**	**16**	*e*PKPpre	PKPpre	23 09 07.6	
TRY				*e*PKPdf	**PKiKP**	**23 09 15.8**	**+0.4**
540A	**Vidor**	**128.78**	**43**	PKiKP	**PKPdf**	**23 09 14.6**	**-0.7**
	baz=129						
H07S1	**FLORES T-PHASE**	**128.80**	**335**	*e*PKPdf	**PKPdf**	**23 09 19.4**	**+4.2**
H07S1				*ep*PKPdf	**PP**	**23 11 29.2**	**-0.8**
SSPA	**Standing Stone**	**129.18**	**21**	*e*PKPpre	PKPpre	23 09 03.5	
SSPA				*e*PKPdf	**PKPdf**	**23 09 14.8**	**-1.0**
HRV	**Adam Dziewonsk**	**129.39**	**14**	*e*PKPpre	PKPpre	23 09 06.1	
HRV				*e*PKPdf	**PKPdf**	**23 09 15.7**	**-0.5**
SHEL	**Horse Pasture**	**129.51**	**255**	*e*PKIKP	**PKPdf**	**23 09 14.4**	**-2.7**
SHEL	**Horse Pasture**	**129.51**	**255**	*e*PKPdf	**PKPdf**	**23 09 14.4**	**-2.7**
SHEL				*e*SKPbc	SKPbc	23 11 49.6	+4.3
TRIS	**Tristan da Cun**	**129.60**	**226**	*e*PKPdf	**PKPdf**	**23 09 17.2**	**+0.5**
HOPE	**Hope Point**	**129.63**	**195**	*e*PKPdf	**PKPdf**	**23 09 13.7**	**-2.5**
HOPE				*e*PKPdf	**PKiKP**	**23 09 16.8**	**-0.2**
HOPE				*e*PP	PP	23 11 40.8	+5.7
VBMS	**Vicksburg**	**129.69**	**38**	PKiKP	**PKPdf**	**23 09 16.5**	**-0.5**
	baz=130						
ODNJ	**Ogdensburg**	**129.87**	**18**	*e*PKPpre	PKPpre	23 09 09.7	
ODNJ				*e*PKPdf	**PKPdf**	**23 09 15.5**	**-1.6**
BRYW	**Bryant College**	**129.95**	**15**	*e*PKPpre	PKPpre	23 09 08.1	
BRYW				*e*PKPdf	**PKPdf**	**23 09 16.9**	**-0.4**
LUPA	**Lehigh Univers**	**130.07**	**19**	*e*PKPpre	PKPpre	23 09 08.2	
LUPA				*e*PKPdf	**PKPdf**	**23 09 15.4**	**-2.1**
SWET	**Sewanee**	**130.12**	**32**	*e*PKPpre	PKPpre	23 09 03.8	
SWET				*e*PKPdf	**PKPdf**	**23 09 17.0**	**-0.8**
YLE	**Yale**	**130.14**	**16**	*e*PKPdf	**PKPdf**	**23 09 18.0**	**+0.4**
YLE				*e*PP	**PP**	**23 11 39.4**	**+1.1**
PAL	**Palisades**	**130.15**	**17**	*e*PKIKP	**PKPdf**	**23 09 14.7**	**-2.9**
PAL	**Palisades**	**130.15**	**17**	*e*PKPdf	**PKPdf**	**23 09 14.7**	**-2.9**
PAL				*e*PKPdf	**PKiKP**	**23 09 17.9**	**-0.6**
BRNJ	**Basking Ridge**	**130.24**	**18**	*e*PKPpre	PKPpre	23 09 11.1	
BRNJ				*e*PKPdf	**PKPdf**	**23 09 15.7**	**-2.1**
TZTN	**Tazewell**	**130.27**	**29**	*e*PKPpre	PKPpre	23 09 02.5	
CPNY	**Central Park**	**130.33**	**17**	*e*PKPdf	**PKPdf**	**23 09 17.4**	**-0.6**
CPNY				*e*PP	**PP**	**23 11 42.5**	**+3.0**
SDMD	**Soldier's Deli**	**130.64**	**21**	*e*PKPpre	PKPpre	23 09 11.9	
SDMD				*e*PKPdf	**PKPdf**	**23 09 17.9**	**-0.7**
CPCT	**Cooper Cave**	**130.66**	**30**	*e*PKPpre	PKPpre	23 09 03.3	
CPCT				*e*PKPdf	**PKPdf**	**23 09 18.9**	**+0.1**
USHA	**Ushuaia**	**130.77**	**171**	PKhKP	PKPpre	23 09 03.9	
	comp=Z,4.1nm,0.6s,baz=174,slow=4.4,SNR=5.0						
USHA				PKP	**PKPdf**	**23 09 16.6**	**-1.8**
	comp=Z,14nm,0.7s,baz=186,slow=3.6,SNR=12						
USHA				SKPbc	**SKPbc**	**23 11 47.3**	**-1.3**
	comp=Z,98nm,0.6s,baz=169,slow=3.1,SNR=5.2						
TKL	**Tuckaleechee C**	**130.87**	**30**	*e*PKPhKP	PKPpre	23 09 07.9	
TKL				*e*		23 09 19.7	
TKL	**Tuckaleechee C**	**130.87**	**30**	*e*PKPpre	PKPpre	23 09 07.8	
TKL				*e*PKPdf	**PKPdf**	**23 09 19.7**	**+0.4**
BLA	**Blacksburg**	**131.14**	**26**	*e*PKHKP	PKPpre	23 09 06.5	
BLA	**Blacksburg**	**131.14**	**26**	*e*PKPdf	PKPpre	23 09 06.5	
LRAL	**Lakeview Retre**	**131.18**	**35**	*e*PKPpre	PKPpre	23 09 06.3	
CBN	**Corbin**	**131.51**	**22**	*e*PKPdf	PKPpre	23 09 09.6	
URVA	**University of**	**132.00**	**23**	*e*PKPpre	PKPpre	23 09 07.4	
BRAL	**Brewton**	**132.62**	**36**	*e*PKPdf	PKPpre	23 09 10.4	
GOGA	**Godfrey**	**132.80**	**31**	*e*PKHKP	PKPpre	23 09 10.7	
GOGA	**Godfrey**	**132.80**	**31**	*e*PKPdf	PKPpre	23 09 10.7	
JSC	**Jenkinsville**	**133.19**	**28**	*e*PKHKP	PKPpre	23 09 13.1	
JSC	**Jenkinsville**	**133.19**	**28**	*e*PKPdf	PKPpre	23 09 13.1	
CNNC	**Cliffs of the**	**133.88**	**25**	*e*PKPdf	**PKPdf**	**23 09 24.8**	**0.0**
TIGA	**Tifton**	**134.27**	**33**	PKiKP	**PKPdf**	**23 09 25.1**	**-0.6**
	baz=134						
TIGA	**Tifton**	**134.27**	**33**	*e*PKPpre	PKPpre	23 09 17.8	
TIGA				*e*PKPdf	**PKPdf**	**23 09 22.2**	**-3.5**
NHSC	**New Hope**	**134.67**	**28**	*e*PKPpre	PKPpre	23 09 17.9	
NHSC				*e*PKPdf	**PKPdf**	**23 09 26.2**	**-0.1**
RGRS	**Roger Stewart**	**134.83**	**29**	*e*PKPdf	**PKPdf**	**23 09 22.2**	**-4.5**
RGRS				*e*PKPdf	**PKiKP**	**23 09 26.6**	**-1.7**
RGRS				*e*SKPbc	**SKPbc**	**23 12 03.3**	**+0.4**
EFI	**East Falkland**	**134.87**	**179**	*e*PKIKP	**PKPdf**	**23 09 26.0**	**-0.1**
EFI	**East Falkland**	**134.87**	**179**	*e*PKPdf	**PKPdf**	**23 09 26.0**	**-0.1**
DWPF	**Disney**	**138.03**	**34**	*e*PKPdf	**PKPdf**	**23 09 31.7**	**-1.0**
ASCN	**Ascension**	**138.25**	**265**	*e*PKPpre	PKPpre	23 09 24.8	
ASCN				*e*SKPbc	**SKiKP**	**23 12 17.6**	**+0.6**
TEIG	**Tepich**	**138.98**	**49**	*e*PKPpre	PKPpre	23 09 28.1	
TEIG				*e*PKPdf	**PKPdf**	**23 09 34.9**	**+0.2**
IXG	**Ixpaco**	**140.51**	**59**	*e*P	**PKPdf**	**23 09 37.4**	**-0.4**
BBSR	**BB Station**	**140.62**	**11**	*e*PKPdf	**PKPdf**	**23 09 35.6**	**-1.7**
MRL	**Marmol**	**140.72**	**57**	*e*P	**PKPdf**	**23 09 40.6**	**+2.5**
SACV	**Santiago Islan**	**141.15**	**303**	*e*PKPdf	**PKPdf**	**23 09 36.1**	**-2.6**
RBDL	**Robledal**	**141.19**	**58**	*e*P	**PKPdf**	**23 09 41.8**	**+2.8**
RTR	**El Retiro**	**141.33**	**58**	*e*P	**PKPdf**	**23 09 42.2**	**+2.9**
SBLS	**San Blas**	**141.38**	**58**	*e*P	**PKPdf**	**23 09 44.0**	**+4.6**
BOQS	**Boqueron**	**141.72**	**58**	*e*P	**PKPdf**	**23 09 44.9**	**+4.8**
LFU	**La Fuente**	**141.86**	**58**	*e*P	**PKPdf**	**23 09 41.5**	**+1.4**
LFRS	**El Faro**	**141.96**	**58**	*e*P	**PKPdf**	**23 09 44.1**	**+3.8**
CAHU	**Cacacuatique**	**142.60**	**57**	*e*P	PKPdf	23 09 50.1	+8.6
CNCH	**Conchagua**	**143.17**	**58**	*e*P	**PKPdf**	**23 09 47.3**	**+4.8**
COPN	**Copaltepe**	**144.76**	**58**	*e*P	**PKPab**	**23 09 47.9**	**+1.5**
PAYG	**Puerto Ayora**	**145.74**	**82**	*e*PKPbc	**PKPab**	**23 09 49.6**	**-0.7**
U14B	**Concepcin**	**146.10**	**156**	*e*PKPbc	**PKPbc**	**23 09 49.5**	**+0.7**
JTS	**JuntasAbangare**	**147.09**	**60**	PKP	**PKPdf**	**23 09 47.5**	**-1.5**
JTS	comp=Z,17nm,0.4s,baz=303,slow=3.8			PKPbc	**PKPbc**	**23 09 50.8**	**-1.3**
	baz=302,slow=4.2						
JTS	**JuntasAbangare**	**147.09**	**60**	*e*PKPdf	**PKPdf**	**23 09 47.4**	**-1.7**
MBJ	**Montego Bay**	**147.50**	**40**	*i* P	**PKPbc**	**23 09 53.6**	**+0.4**
MBJ				*i* P	**PKPab**	**23 09 58.5**	**+1.3**
CVJ	**Coleyville**	**147.84**	**40**	*i* P	**PKPbc**	**23 09 53.8**	**-0.3**
MTDJ	**Mount Denham**	**147.84**	**40**	*e*PKPdf	**PKPdf**	**23 09 48.5**	**-1.7**
MTDJ				*e*PKPbc	**PKPbc**	**23 09 53.9**	**-0.2**
BBJ	**Bamboo Saint A**	**147.90**	**39**	*i* P	**PKPbc**	**23 09 54.3**	**+0.1**
MCJ	**Malvern**	**147.97**	**41**	*i* P	**PKPbc**	**23 09 54.0**	**-0.3**
GTBY	**Guantanamo Bay**	**148.00**	**35**	*e*PKPbc	**PKPbc**	**23 09 53.6**	**-0.7**
TRQA	**Tornquist**	**148.11**	**172**	*e*PKPdf	**PKPdf**	**23 09 49.9**	**-0.1**
TRQA				*e*PKPbc	**PKPbc**	**23 09 54.1**	**0.0**
BNJ	**Bonny Gate**	**148.14**	**39**	*i* P	**PKPbc**	**23 09 55.6**	**+0.8**
STH	**Stony Hill**	**148.41**	**39**	*i* P	**PKPbc**	**23 09 56.2**	**+0.8**
PCJ	**Portland Cotta**	**148.44**	**40**	*i* P	**PKPbc**	**23 09 55.9**	**+0.5**
GWI	**Greenwich**	**148.47**	**39**	*i* P	**PKPbc**	**23 09 56.1**	**+0.4**
HOJ	**Hoj**	**148.51**	**39**	*i* P	**PKPbc**	**23 09 56.1**	**+0.5**
CMJ	**Castle Mountai**	**148.64**	**39**	*i* P	**PKPbc**	**23 09 57.2**	**+1.3**
GRTK	**Grand Turk**	**148.71**	**27**	*e*PKPbc	**PKPbc**	**23 09 55.7**	**-0.3**
YHJ	**Yallahs**	**148.75**	**39**	*i* P	**PKPbc**	**23 09 57.6**	**+1.3**
U73B	**San Pedro**	**149.32**	**155**	*e*PKPdf	**PKPbc**	**23 09 55.8**	**-1.4**
U73B				*e*PKPbc	**PKPab**	**23 10 01.2**	**-3.0**
WSYH	**La Gonave Hosp**	**150.12**	**33**	*e*PKPdf	**PKPdf**	**23 09 54.0**	**+0.3**
LGNH	**LØogne**	**150.53**	**33**	*e*PKPbc	**PKPbc**	**23 09 58.2**	**-2.2**
PAPH	**Port-au-Prince**	**150.68**	**32**	*e*PKPbc	**PKPbc**	**23 09 59.7**	**-1.0**
SDDR	**Presa de Saban**	**150.81**	**30**	*e*PKPdf	**PKPbc**	**23 09 58.0**	**-3.1**
SDDR				*e*PKPbc	**PKiKP**	**23 10 04.2**	**+2.7**
SMN1	**Samana, DR**	**151.57**	**26**	*e*PKPdf	**PKPdf**	**23 09 56.0**	**0.0**
SDD	**Santo Domingo**	**151.92**	**28**	*e*PKPdf	**PKPdf**	**23 09 56.5**	**+0.1**
SDD				*e*PKPbc	**PKPbc**	**23 10 03.0**	**-0.5**
BCIP	**Isla Barro Col**	**151.99**	**57**	*e*PKPdf	**PKPdf**	**23 09 55.3**	**-1.3**
CFAA	**Coronel Fontan**	**152.62**	**158**	PKP	**PKPdf**	**23 09 55.8**	**-1.4**
	comp=Z,15nm,0.9s,baz=243,slow=2.4,SNR=25						
CFAA				PKPbc	**PKiKP**	**23 10 04.8**	**-0.1**
	comp=Z,30nm,0.7s,baz=239,slow=2.7,SNR=27						
CELP	**Cerrillos**	**153.67**	**22**	*e*PKPdf	**PKPdf**	**23 09 58.8**	**-0.2**
OBIP	**Obispado Ponce**	**153.69**	**22**	*e*PKPdf	**PKPdf**	**23 09 57.6**	**-1.4**
LCO	**Las Campanas**	**153.79**	**151**	*e*PKPdf	**PKPdf**	**23 09 59.0**	**-0.3**
SJG	**San Juan**	**153.80**	**21**	PKP	**PKPdf**	**23 09 57.5**	**-1.6**
	comp=Z,70nm,1.0s,baz=152,slow=6.7,SNR=4.2						
SJG	**San Juan**	**153.80**	**21**	PKIKP	**PKPdf**	**23 09 57.5**	**-1.6**
SJG				pmax	pmax		
	comp=Z,70nm,1.0s						
SJG	**San Juan**	**153.80**	**21**	*e*PKPdf	**PKPdf**	**23 09 59.0**	**-0.1**
ICMP	**Isla Caja de M**	**153.87**	**22**	*e*PKPdf	**PKPdf**	**23 09 59.8**	**+0.6**
STVI	**Saint Thomas**	**153.98**	**19**	*e*PKPdf	**PKPdf**	**23 09 59.1**	**-0.3**
SMRT	**St. Maarten**	**154.81**	**15**	*e*PKPdf	**PKPdf**	**23 09 59.6**	**-1.0**
ANWB	**Willy Bob**	**155.48**	**12**	*e*P	**PKPdf**	**23 10 02.2**	**+0.8**
ANWB	**Willy Bob**	**155.48**	**12**	*e*PKPdf	**PKPdf**	**23 10 01.4**	**0.0**
ANWB				*e*PKPdf	**PKPdf**	**23 10 05.2**	**+3.8**
BSK	**Brimstone Hill**	**155.54**	**15**	*e*	**PKPab**	**23 10 36.0**	**+5.1**
SKI	**Saint Kitts**	**155.58**	**15**	*e*	**PKPdf**	**23 10 05.0**	**+3.4**
SKI	**Saint Kitts**	**155.58**	**15**	*e*	PKPab	23 10 39.3	+8.2
SKI	**Saint Kitts**	**155.58**	**15**	*e*	SKPdf	23 12 32.1	-7.6
NVBH	**Bath Hotel, Ne**	**155.82**	**15**	*e*P	**PKPdf**	**23 10 05.8**	**+3.9**
DEG	**La Desirade**	**156.95**	**11**	*e*P	**PKPdf**	**23 10 04.3**	**+0.9**
DEG	**La Desirade**	**156.95**	**11**	*e*P	PKPdf	23 10 10.4	+7.0
DEG	**La Desirade**	**156.95**	**11**	*e*	**PKPab**	**23 10 40.5**	**+3.5**
OTAV	**Otavalo**	**157.04**	**74**	*e*PKPdf	**PKPdf**	**23 10 05.0**	**+0.8**
MLG	**Mont-d'or**	**157.06**	**13**	*e*P	**PKPdf**	**23 10 07.0**	**+3.4**
TBG	**Guadaloupe-3**	**157.27**	**13**	*e*	**PKPdf**	**23 10 06.5**	**+2.8**
TBG	**Guadaloupe-3**	**157.27**	**13**	*e*P	**PKPdf**	**23 10 07.3**	**+3.6**
TBG	**Guadaloupe-3**	**157.27**	**13**	*e*	**PKPab**	**23 10 41.9**	**+3.5**
MGG	**Marie-Galante**	**157.28**	**12**	*e*P	**PKPdf**	**23 10 06.0**	**+2.3**
MGG	**Marie-Galante**	**157.28**	**12**	*e*	**PKPdf**	**23 10 06.6**	**+2.9**
MGG	**Marie-Galante**	**157.28**	**12**	*e*P	**PKPdf**	**23 10 07.5**	**+3.8**
MGG	**Marie-Galante**	**157.28**	**12**	*e*	PKPab	23 10 46.2	+7.7
DWS	**Wesley**	**157.62**	**12**	*e*P	**PKPdf**	**23 10 04.0**	**-0.1**
DWS	**Wesley**	**157.62**	**12**	*e*	**PKPab**	**23 10 43.0**	**+3.1**
BBL	**Barber's Block**	**157.63**	**13**	*e*P	**PKPdf**	**23 10 05.6**	**+1.4**
MDN	**Morne-Daniel**	**157.84**	**13**	*e*P	**PKPdf**	**23 10 09.3**	**+4.9**
MDN	**Morne-Daniel**	**157.84**	**13**	*e*	PKPab	23 10 48.7	+7.8
DBCT	**Belle View Cho**	**157.90**	**13**	*e*P	**PKPdf**	**23 10 09.3**	**+4.7**
DBCT	**Belle View Cho**	**157.90**	**13**	*e*	PKPab	23 10 46.5	+5.3
DSHT	**Scott's Head**	**157.95**	**13**	*e*P	**PKPdf**	**23 10 08.4**	**+3.8**
DSHT	**Scott's Head**	**157.95**	**13**	*e*	**PKPab**	**23 10 44.3**	**+2.9**
ATAH	**Atahualpa**	**158.17**	**93**	PKP	**PKPdf**	**23 10 04.0**	**-1.5**
	comp=Z,92nm,1.0s,baz=342,slow=3.1,SNR=20						
FDF	**Fort de France**	**158.46**	**13**	*e*P	**PKPdf**	**23 10 05.5**	**+0.2**
FDF	**Fort de France**	**158.46**	**13**	*e*	**PKPdf**	**23 10 08.7**	**+3.5**
FDF	**Fort de France**	**158.46**	**13**	*e*P	**PKPdf**	**23 10 09.1**	**+3.8**
FDF	**Fort de France**	**158.46**	**13**	*e*	**PKPab**	**23 10 47.0**	**+3.4**
FDF	**Fort de France**	**158.46**	**13**	*e*PKIKP	**PKPdf**	**23 10 04.6**	**-0.7**
FDF				*e*		23 10 43.7	
FDF	**Fort de France**	**158.46**	**13**	*e*PKPdf	**PKPdf**	**23 10 04.6**	**-0.7**
FDF				*e*PKPab	**PKPab**	**23 10 43.7**	**+0.1**
BIM	**Bigot**	**158.69**	**12**	*e*P	**PKPdf**	**23 10 08.8**	**+3.2**
ROSC	**El Rosal**	**158.90**	**58**	PKP	**PKPdf**	**23 10 05.0**	**-1.4**
	comp=Z,32nm,0.8s,baz=242,slow=4.3,SNR=16						
ROSC	**El Rosal**	**158.90**	**58**	*e*PKPdf	**PKPdf**	**23 10 05.1**	**-1.2**
NNA	**Nana**	**159.10**	**107**	PKP	**PKPdf**	**23 10 04.4**	**-1.7**
	comp=Z,18nm,0.7s,baz=313,slow=3.7,SNR=2.4						
NNA				PKPab	**PKPab**	**23 10 46.6**	**-0.3**
	comp=Z,72nm,0.8s,baz=267,slow=8.2,SNR=2.8						
NNA	**Nana**	**159.10**	**107**	PKIKP	**PKPdf**	**23 10 04.4**	**-1.7**
NNA						23 10 46.6	
NNA				pmax	pmax		
	comp=Z,18nm,0.7s						
NNA				pmax	pmax		
	comp=Z,72nm,0.8s						
NNA	**Nana**	**159.10**	**107**	*e*PKPdf	**PKPdf**	**23 10 06.7**	**+0.6**
NNA				PKPab	**PKPab**	**23 10 46.6**	**-0.3**
SDV	**Santo Domingo**	**159.22**	**43**	*e*PKPdf	**PKPdf**	**23 10 05.0**	**-1.5**
MCLT	**Moule a Chique**	**159.50**	**13**	*e*P	**PKPdf**	**23 10 08.1**	**+1.7**
MCLT	**Moule a Chique**	**159.50**	**13**	*e*	**PKPdf**	**23 10 09.3**	**+2.8**
MCLT	**Moule a Chique**	**159.50**	**13**	*e*	PKPab	23 10 54.3	+6.1
RCBR	**Riachuelo**	**159.59**	**271**	PKP	**PKPdf**	**23 10 05.1**	**-1.5**
	comp=Z,522nm,1.2s,baz=47,slow=1.5,SNR=12						
RCBR				PKPab	**PKPab**	**23 10 47.7**	**-1.4**
	comp=Z,75nm,0.6s,baz=80,slow=2.3,SNR=5.8						
RCBR	**Riachuelo**	**159.59**	**271**	*e*PKPdf	**PKPdf**	**23 10 05.9**	**-0.8**
RCBR				PKPab	**PKPab**	**23 10 47.7**	**-1.4**
SVV	**Soufriere Volc**	**159.82**	**14**	*e*P	**PKPab**	**23 10 52.3**	**+2.8**
SVB	**Belmont**	**159.85**	**14**	*e*P	**PKPdf**	**23 10 07.8**	**+1.0**
SVB	**Belmont**	**159.85**	**14**	*e*P	**PKPdf**	**23 10 09.8**	**+3.0**
SVB	**Belmont**	**159.85**	**14**	*e*	**PKPab**	**23 10 52.2**	**+2.5**
LVC	**Limon Verde**	**159.90**	**144**	PKP	**PKPdf**	**23 10 05.6**	**-1.4**
	comp=Z,54nm,0.9s,baz=249,slow=1.1,SNR=5.3						
LVC				PKPab	**PKPab**	**23 10 50.1**	**-0.1**
	comp=Z,230nm,0.8s,baz=241,slow=3.3,SNR=5.0						
LVC	**Limon Verde**	**159.90**	**144**	*e*PKPdf	**PKPdf**	**23 10 07.5**	**+0.4**
LVC				PKPab	**PKPab**	**23 10 50.1**	**-0.1**
FCV	**Fort Charlotte**	**159.97**	**14**	*e*P	**PKPab**	**23 10 54.4**	**+4.2**
CPUP	**Villa Florida**	**160.18**	**178**	PKP	**PKPdf**	**23 10 05.5**	**-1.4**
	comp=Z,48nm,1.0s,baz=97,slow=1.2,SNR=30						
CPUP				PKPab	**PKPab**	**23 10 49.5**	**-1.3**
	comp=Z,81nm,0.9s,baz=165,slow=2.8,SNR=5.8						
CPUP	**Villa Florida**	**160.18**	**178**	PKIKP	**PKPdf**	**23 10 05.5**	**-1.4**
CPUP						23 10 49.5	
CPUP				pmax	pmax		
	comp=Z,48nm,1.0s						
CPUP				pmax	pmax		
	comp=Z,81nm,0.9s						
**CP

BVAR	**Borovoye Array**	**63.16**	**327**	P	**P**	**23 07 11.2**	**+0.9**
	57nm,0.9s,baz=116,slow=9.9,SNR=9.3						
RPZ	**Rata Peaks**	**65.97**	**144**	P	**P**	**23 07 28.6**	**+0.6**
	120nm,0.9s,baz=323,slow=2.2,SNR=6.5						
GEYT	**Alibeck**	**66.55**	**308**	P	**P**	**23 07 33.3**	**+1.5**
	87nm,1.0s,baz=139,slow=7.1,SNR=4.9						
URZ	**Urewera**	**66.86**	**136**	P	**P**	**23 07 33.7**	**+0.1**
	65nm,0.9s,baz=261,slow=5.3,SNR=5.6						
ABKAR	**Akbulak array**	**67.88**	**321**	*e*P	**P**	**23 07 40.0**	**+0.3**
AKTO	**Aktyubinsk**	**69.40**	**322**	P	**P**	**23 07 49.1**	**+0.3**
	44nm,0.4s,baz=92,slow=7.8,SNR=7.0						
ARU	**Arti**	**70.79**	**328**	P	**P**	**23 07 56.8**	**-0.1**
	baz=100,slow=6.1						
OPO	**Ambohidratompo**	**79.11**	**250**	P	**P**	**23 08 44.1**	**-0.1**
	20nm,0.6s,baz=44,slow=5.9,SNR=5.5						
KDAK	**Kodiak Island**	**81.31**	**33**	P	**P**	**23 08 54.6**	**0.0**
	92nm,0.7s,baz=253,slow=4.3,SNR=5.4						
BPAW	**Bear Paw Mtn.**	**82.24**	**26**	*e*P	**P**	**23 08 59.5**	**+0.3**
	53nm,1.4s						
COLD	**Coldfoot**	**82.61**	**23**	*e*P	**P**	**23 09 01.6**	**+0.6**
	87nm,1.0s						
OBN	**Obninsk**	**82.86**	**325**	P	**P**	**23 09 02.4**	**0.0**
	115nm,0.5s,baz=306,slow=3.1,SNR=4.6						
ILAR	**Eielson Array**	**84.01**	**26**	P	**P**	**23 09 07.2**	**-0.8**
	5.5nm,0.4s,baz=254,slow=4.6,SNR=4.0						
MMAI	**Mount Meron Ar**	**84.79**	**303**	P	**P**	**23 09 12.3**	**-0.3**
	13nm,0.5s,baz=74,slow=6.2,SNR=4.5						
EIL	**Elat**	**85.45**	**299**	P	**P**	**23 09 15.9**	**+0.2**
	56nm,0.9s,baz=137,slow=5.5,SNR=3.7						
BR131	**Keskin Array S**	**85.67**	**309**	*e*P	**P**	**23 09 15.5**	**-1.2**
	14nm,0.4s						
BRTR	**Keskin Array B**	**85.67**	**309**	P	**P**	**23 09 15.9**	**-0.8**
	26nm,0.7s,baz=116,slow=3.3,SNR=13						
EGAK	**Eagle**	**86.45**	**25**	*e*P	**P**	**23 09 18.7**	**-0.9**
	152nm,1.1s						
VNDA	**Vanda**	**86.64**	**172**	P	**P**	**23 09 18.9**	**-1.3**
	19nm,0.6s,baz=314,slow=3.8,SNR=1.9						
ARCES	**ARCESS Array B**	**86.67**	**340**	P	**P**	**23 09 19.9**	**-0.7**
	61nm,0.9s,baz=75,slow=4.8,SNR=2.6						
SPITS	**Spitsbergen Ar**	**87.08**	**349**	P	**P**	**23 09 22.0**	**-0.4**
	51nm,0.6s,baz=104,slow=9.5,SNR=7.8						
AKASG	**Malin Array Be**	**87.62**	**321**	P	**P**	**23 09 24.3**	**-1.1**
	29nm,0.7s,baz=64,slow=5.0,SNR=3.4						
FINES	**FINESS Array B**	**87.79**	**332**	P	**P**	**23 09 25.3**	**-0.7**
	465nm,1.4s,baz=72,slow=4.5,SNR=3.1						
HFS	**Hagfors**	**93.99**	**332**	P	**P**	**23 09 53.4**	**-1.2**
	177nm,1.2s,baz=78,slow=7.5,SNR=4.2						
GERES	**GERESS Array B**	**97.82**	**321**	P	Pdif	23 10 12.1	-0.1
	33nm,1.0s,baz=72,slow=4.3,SNR=2.5						
YKA	**Yellowknife Ar**	**98.29**	**23**	P	Pdif	23 10 13.8	0.0
	24nm,1.0s,baz=292,slow=4.7,SNR=3.0						
MDT	**Midelt**	**117.00**	**312**	PKP	**PKPdf**	**23 15 18.2**	**-0.1**
	36nm,1.1s,baz=9.5,slow=1.3,SNR=4.4						
SCHQ	**Schefferville**	**118.25**	**7**	PKP	**PKPdf**	**23 15 19.4**	**-0.5**
	31nm,0.9s,baz=124,slow=3.6,SNR=1.8						
TORD	**Torodi Ar. Bea**	**118.87**	**289**	PKP	**PKPdf**	**23 15 21.5**	**-0.7**
	21nm,0.7s,baz=75,slow=2.0,SNR=6.3						
TXAR	**Lajitas Array**	**122.40**	**49**	PKP	**PKPdf**	**23 15 28.7**	**0.0**
	32nm,0.9s,baz=289,slow=2.8,SNR=3.5						
DBIC	**Dimbokro**	**126.72**	**283**	*e*PKPdf	**PKPdf**	**23 15 35.1**	**-2.1**
USHA	**Ushuaia**	**130.92**	**171**	SKPbc	**SKPbc**	**23 18 11.3**	**-2.0**
	12nm,0.7s,baz=167,slow=6.6,SNR=5.4						
TRQA	**Tornquist**	**148.26**	**172**	*e*PKPdf	**PKPdf**	**23 16 15.0**	**-0.7**
CFAA	**Coronel Fontan**	**152.80**	**158**	PKPbc	**PKPbc**	**23 16 30.4**	**-0.2**
	4.2nm,0.9s,baz=212,slow=3.3,SNR=4.3						

*ISCJB **23** 22:59:47.8±0.2, 7°.33N±0°.04 × 123°.78E±0°.05, h600km, mb5.4/52, Error ellipse: s-maj=6.9km s-min=4.8km az=145.8*
*NEIC **23** 22:59:48.9±0.3, 7°.32N × 123°.77E, h602km±3km, mb5.8/23, Error ellipse: s-maj=5.4km s-min=3.7km az=60.0*
*IDC **23** 22:59:49.2±0.9, 7°.31N × 123°.75E, h604km±12km, mb4.8/40, mb1 4.8/42, mb1mx4.7/67, mbtmp5.8/42, Error ellipse: s-maj=11.5km s-min=6.4km az=56.0*

ISC 23 22:59:48.9±0.3, 7°.34N±0°.06 × 123°.77E±0°.07, h600km, n125, σ0s75/132, mb5.4/52, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.49**	**104**	*ip*	P	**P**		**23 00 58.9**	**-0.4**
DMPH	**Davao City--Mi**	**1.75**	**98**	*ep*	P	**P**		**23 01 02.1**	**-0.2**
DAV	**Davao City (W)**	**1.82**	**98**	*ep*	P	**P**		**23 01 01.7**	**-0.9**
TBP	**Tagbilaran**	**2.34**	**2**	*ip*	P	**P**		**23 01 03.7**	**-1.0**
TBP					eS	**S**		**23 02 04.0**	**-2.4**
BIPH	**Bislig**	**2.71**	**72**	*ip*	P			23 01 11.4	+4.9
BIPH					iS	**S**		**23 02 10.3**	**+0.7**
PPR	**Puerto Princes**	**5.54**	**296**	*ip*	P	**P**		**23 01 27.3**	**+1.1**
TGY	**Tagaytay City**	**7.27**	**338**	P	P	**P**		**23 01 41.7**	**+0.1**
	533nm,0.3s,baz=175,slow=7.4,SNR=9.6								
TGY					S	**S**		**23 03 13.9**	**+0.3**
	116nm,0.3s,baz=158,slow=19,SNR=4.9								
TNTI	**Ternate**	**7.45**	**151**	*ep*	P	**P**		**23 01 44.6**	**+1.5**
KKM	**Kota Kinabalu**	**7.61**	**261**	*ep*	P	**P**		**23 01 44.0**	**-0.8**
	2µm,0.5s								
SIJI	**Sorong**	**11.07**	**137**	P	P	**P**		**23 02 18.7**	**+0.3**
	39nm,0.3s,baz=332,slow=17,SNR=11								
SIJI					S	**S**		**23 04 23.3**	**+2.1**
	5.0nm,0.3s,baz=338,slow=19,SNR=2.4								
FAKI	**Fak Fak**	**13.25**	**140**	*ep*	P	**P**		**23 02 40.1**	**-0.3**
	629nm,0.7s								
KSM	**Kuching**	**14.62**	**247**	*ep*	P	**P**		**23 02 53.3**	**-0.5**
	516nm,0.7s								
TWG	**Pinlang**	**15.61**	**351**	*ep*	P	**P**		**23 03 00.9**	**-1.8**
	2µm,0.7s								
DLV	**T Lat**	**15.74**	**288**	*ep*	P	**P**		**23 03 04.3**	**+0.1**
	421nm,0.9s								
YULB	**Yu-li**	**16.14**	**352**	*ep*	P	**P**		**23 03 06.2**	**-1.3**
SSLB	**Suanglung**	**16.58**	**351**	*ep*	P	**P**		**23 03 11.3**	**-0.2**
	600nm,1.0s								
NACB	**Ninganchiao**	**16.87**	**353**	*ep*	P	**P**		**23 03 14.1**	**-0.1**
	343nm,1.0s								
YOJ	**Yonaguni jima**	**17.04**	**358**	*ep*	P	**P**		**23 03 17.2**	**+1.4**
	308nm,0.7s								
YHNB	**Yeheng**	**17.39**	**353**	*ep*	P	**P**		**23 03 19.2**	**+0.2**
	477nm,0.6s								
JAY	**Jayapura**	**19.53**	**119**	P	P	**P**		**23 03 38.5**	**-0.1**
	15nm,0.3s,baz=288,slow=9.6,SNR=11								
GUMO	**Guam**	**21.65**	**72**	P	P	**P**		**23 03 57.5**	**-0.2**
	122nm,0.3s,baz=297,slow=2.3,SNR=6.3								
KULM	**Kulim**	**23.06**	**266**	*ep*	P	**P**		**23 04 10.2**	**0.0**
	777nm,1.4s								
PSI	**Prapat**	**25.14**	**261**	P	P	**P**		**23 04 28.6**	**-0.2**
	91nm,0.9s,baz=24,slow=12,SNR=5.6								
CBIJ	**Chichi jima**	**26.30**	**39**	*ep*	P	**P**		**23 04 38.4**	**-0.2**
	355nm,1.1s								
JNU	**Nakatsue**	**26.49**	**13**	P	P	**P**		**23 04 39.9**	**-0.4**
	53nm,0.8s,baz=253,slow=4.3,SNR=6.5								
JNU	**Nakatsue**	**26.49**	**13**	*ep*	P	**P**		**23 04 39.7**	**-0.6**
	84nm,1.0s								
CMAR	**Chiang Mai Arr**	**26.56**	**297**	P	P	**P**		**23 04 41.3**	**+0.2**
	43nm,0.7s,baz=81,slow=7.1,SNR=6.4								
CHTO	**Chiang Mai**	**26.69**	**298**	*ep*	P	**P**		**23 04 42.2**	**0.0**
	269nm,1.1s								
GSI	**Gunungsitoli**	**26.78**	**258**	*ep*	P	**P**		**23 04 42.7**	**-0.3**
	381nm,0.9s								
COEN	**Coen**	**28.61**	**138**	*ep*	P	**P**		**23 04 58.1**	**-0.8**
WRA	**Warramunga Arr**	**29.04**	**159**	P	P	**P**		**23 05 01.8**	**-0.8**
	67nm,0.4s,baz=330,slow=11,SNR=10								
KSAR	**Wonju Array Be**	**30.20**	**7**	P	P	**P**		**23 05 12.9**	**+0.6**
KSAR					PcP	**PcP**		**23 07 53.5**	**-0.2**
KSRS	**Korea Array**	**30.22**	**7**	P	P	**P**		**23 05 12.9**	**+0.5**
	42nm,0.7s,baz=181,slow=9.5,SNR=11								
KSRS					PcP	**PcP**		**23 07 53.5**	**-0.3**
	14nm,0.6s,baz=183,slow=2.4,SNR=9								
MJAR	**Matsushiro Arr**	**31.92**	**22**	P	P	**P**		**23 05 26.4**	**-0.5**
	110nm,0.9s,baz=195,slow=10.0,SNR=7.4								
MJAR					PcP	**PcP**		**23 07 58.4**	**-0.1**
	17nm,0.7s,baz=188,slow=4.5,SNR=8.0								
AS31	**Alice Springs**	**32.37**	**162**	*ep*	P	**P**		**23 05 30.7**	**-0.2**
ASAR	**Alice Springs**	**32.37**	**162**	P	P	**P**		**23 05 30.6**	**-0.3**
	74nm,0.3s,baz=339,slow=7.3,SNR=6.4								
BJT	**Baijiatuan**	**33.24**	**349**	*ep*	P	**P**		**23 05 38.8**	**+0.8**
	239nm,0.7s								
CTA	**Charters Tower**	**35.11**	**141**	P	P	**P**		**23 05 54.5**	**+0.6**
	145nm,0.8s,baz=305,slow=5.2,SNR=6.2								
USRK	**Ussuriysk Ar.**	**37.41**	**10**	P	P	**P**		**23 06 13.3**	**+0.9**
	52nm,0.5s,baz=190,slow=7.4,SNR=8.4								
MDJ	**Mudanjiang**	**37.48**	**7**	*ep*	P	**P**		**23 06 13.7**	**+0.8**
	128nm,0.7s								
LSA	**Lhasa**	**37.86**	**310**	*ep*	P	**P**		**23 06 18.4**	**+1.5**
	119nm,0.6s								
HNR	**Honiara**	**39.71**	**114**	P	P	**P**		**23 06 31.4**	**0.0**
	190nm,0.5s,baz=212,slow=6.5,SNR=4.4								
ASAJ	**Asahikawa**	**40.16**	**21**	*ep*	P	**P**		**23 06 35.2**	**+0.7**
	111nm,1.0s								
ULN	**Ulaanbaatar**	**42.82**	**343**	*ep*	P	**P**		**23 06 56.5**	**+0.9**
	147nm,0.4s								
SONM	**Songino Array**	**42.98**	**343**	P	P	**P**		**23 06 56.3**	**-0.5**
	129nm,0.7s,baz=168,slow=9.2,SNR=26								
TLY	**Talaya**	**47.22**	**343**	P	P	**P**		**23 07 29.3**	**+0.4**
	156nm,0.7s,baz=162,slow=6.0,SNR=14								
DZM	**Mont Dzumac**	**51.02**	**126**	P	P	**P**		**23 07 57.7**	**+0.3**
	40nm,0.5s,baz=360,slow=13,SNR=15								
MK31	**Makanchi Array**	**52.93**	**325**	*ep*	P	**P**		**23 08 11.6**	**+1.0**
MKAR	**Makanchi Array**	**52.93**	**325**	P	P	**P**		**23 08 11.3**	**+0.8**
	296nm,0.4s,baz=121,slow=7.2,SNR=90								
MKAR					ScP	**ScP**		**23 12 09.2**	**-0.9**
	22nm,0.9s,baz=119,slow=6.2,SNR=4.1								
PETK	**Petropavlovsk-**	**53.32**	**25**	P	P	**P**		**23 08 13.9**	**+0.8**
	54nm,0.8s,baz=198,slow=5.4,SNR=9.5								
ULHL	**Ulahol**	**54.38**	**318**	P	P	**P**		**23 08 22.5**	**+1.4**
	SNR=9.9								
YAK	**Yakutsk**	**54.76**	**3**	P	P	**P**		**23 08 23.5**	**+0.6**
	29nm,0.5s,baz=188,slow=16,SNR=7.5								
YAK	**Yakutsk**	**54.76**	**3**	*ep*	P	**P**		**23 08 23.3**	**+0.4**
	551nm,0.8s								
KZA	**Kyzart**	**54.98**	**317**	P	P	**P**		**23 08 27.2**	**+1.7**
	SNR=21								
TKM2	**Tokmak 2**	**55.11**	**318**	*ep*	P	**P**		**23 08 26.9**	**+0.8**
	143nm,0.6s								
KBK	**Karagaybulak**	**55.42**	**318**	P	P	**P**		**23 08 29.7**	**+1.5**
	SNR=10.0								
CHMS	**Chumysh**	**55.70**	**318**	P	P	**P**		**23 08 30.7**	**+0.7**
	SNR=12								
AAK	**Ala-Archa**	**55.72**	**317**	P	P	**P**		**23 08 31.7**	**+1.4**
	SNR=5.3								
USP	**Ospenovka**	**55.98**	**318**	P	P	**P**		**23 08 32.9**	**+1.0**
	SNR=18								
AML	**Almayashu**	**56.06**	**317**	P	P	**P**		**23 08 34.4**	**+1.5**
	SNR=9.8								
ZALV	**Zalesovo Beam**	**56.06**	**333**	P	P	**P**		**23 08 31.9**	**-0.2**
	78nm,0.5s,baz=139,slow=7.2,SNR=11								
EKS2	**Erkin-Say**	**56.21**	**317**	P	P	**P**		**23 08 35.0**	**+1.4**
	SNR=8.6								
EKS2	**Erkin-Say**	**56.21**	**317**	*ep*	P	**P**		**23 08 34.7**	**+1.1**
	232nm,0.8s								
KURBB	**Kurchatov Arra**	**57.13**	**327**	P	P	**P**		**23 08 39.6**	**0.0**
	476nm,0.8s,baz=128,slow=6.3,SNR=83								
KURK	**Kurchatov**	**57.13**	**328**	P	P	**P**		**23 08 39.6**	**0.0**
KKAR	**Karatay Array**	**58.60**	**317**	*ep*	P	**P**		**23 08 50.2**	**+0.6**
	106nm,0.6s								
BVAR	**Bovoye Array**	**62.71**	**327**	P	P	**P**		**23 09 17.0**	**+0.6**
	119nm,0.6s,baz=132,slow=10,SNR=42								
GEYT	**Alibeck**	**66.35**	**308**	P	P	**P**		**23 09 40.2**	**+0.5**
	135nm,0.8s,baz=103,slow=1.6,SNR=9.5								
RPZ	**Rata Peaks**	**66.39**	**144**	P	P	**P**		**23 09 39.4**	**-0.3**
	62nm,0.8s,baz=357,slow=6.2,SNR=5.9								
URZ	**Urewera**	**67.17**	**137**	P	P	**P**		**23 09 44.6**	**0.0**
	542nm,1.2s,baz=320,slow=9.9,SNR=4.2								
AKTO	**Aktyubinsk**	**69.02**	**321**	P	P	**P**		**23 09 55.2**	**-0.3**
	231nm,0.7s,baz=92,slow=5.8,SNR=13								
ARU	**Arti**	**70.33**	**328**	P	P	**P**		**23 10 03.0**	**-0.2**
	baz=97,slow=5.0								
ARU	**Arti**	**70.33**	**328**	P	P	**P**		**23 10 03.0**	**-0.2**
GNI	**Garni**	**76.92**	**309**	P	P	**P**		**23 10 41.3**	**+0.2**
	47nm,0.8s,baz=76,slow=4.2,SNR=2.2								
KBZ	**Khabaz**	**78.37**	**313**	P	P	**P**		**23 10 48.9**	**+0.3**
	70nm,1.0s,baz=304,slow=2.1,SNR=5.7								
OBN	**Obninsk**	**82.43**	**325**	P	P	**P**		**23 11 09.1**	**-0.2**
	185nm,0.7s,baz=266,slow=2.5,SNR=7.3								
ILAR	**Eielson Array**	**83.14**	**26**	P	P	**P**		**23 11 12.0**	**-0.7**
	10nm,0.5s,baz=261,slow=4.0,SNR=6.2								
ASF	**Jabal al Asfar**	**83.50**	**302**	P	P	**P**		**23 11 15.5**	**+0.1**
	79nm,0.9s,baz=60,slow=5.2,SNR=11								
MMAI	**Mount Meron Ar**	**84.69**	**302**	P	P	**P**		**23 11 21.0**	**-0.1**
	51nm,0.8s,baz=84,slow=9.1,SNR=18								
EIL	**Elat**	**85.39**	**299**	P	P	**P**		**23 11 24.6**	**+0.1**
	60nm,0.8s,baz=93,slow=6.2,SNR=4.9								
BRTR	**Keskin Array B**	**85.46**	**309**	P	P	**P**		**23 11 24.2**	**-0.6**
	32nm,0.7s,baz=110,slow=4.7,SNR=14								
ARCES	**ARCESS Array B**	**86.06**	**340**	P	P	**P**		**23 11 26.2**	**-0.6**
	38nm,0.6s,baz=85,slow=5.2,SNR=10								
SPITS	**Spitsbergen Ar**	**86.39**	**349**	P	P	**P**		**23 11 27.8**	**-0.4**
	52nm,0.6s,baz=97,slow=6.9,SNR=27								
KMBO	**Kilima Mbogo**	**86.68**	**268**	P	P	**P**		**23 11 31.3**	**+0.1**
	20nm,1.0s,baz=78,slow=8.1,SNR=6.0								
AKASG	**Malin Array Be**	**87.25**	**321**	P	P	**P**		**23 11 31.6**	**-1.2**
	29nm,0.8s,baz=74,slow=5.3,SNR=4.6								
FINES	**FINESS Array B**	**87.28**	**332**	P	P	**P**		**23 11 32.1**	**-0.5**
	46nm,0.6s,baz=77,slow=6.0,SNR=13								
VNDA	**Vanda**	**87.36**	**172**	P	P	**P**		**23 11 32.7**	**0.0**
	18nm,0.6s,baz=313,slow=7.0,SNR=7.8								
HFS	**Hagfors**	**93.47**	**332**	P	P	**P**		**23 11 59.7**	**-1.6**
	23nm,0.7s,baz=104,slow=4.4,SNR=8.9								
NOA	**NORSAR Array B**	**94.26**	**333**	P	P	**P**		**23 12 03.5**	**-1.5**
	38nm,0.9s,baz=68,slow=4.6,SNR=3.5								
MDT	**Midelt**	**116.75**	**312**	PKP		**PKPdf**		**23 17 26.3**	**-0.5**
	11nm,0.7s,baz=284,slow=1.7,SNR=4.7								
SCHQ	**Schefferville**	**117.43**	**7**	PKP		**PKPdf**		**23 17 27.1**	**-0.2**
	15nm,0.4s,baz=339,slow=1.9,SNR=7.0								
T27A	**Campo**	**118.05**	**41**	P		**PKPdf**		**23 17 30.0**	**+0.7**
	baz=118								
T28A	**Walsh**	**118.41**	**41**	P		**PKPdf**		**23 17 30.2**	**+0.3**
	baz=118								
P31A	**Stockton**	**118.64**	**37**	P		**PKPdf**		**23 17 30.2**	**-0.1**
	baz=118								
S29A	**Ulysses**	**118.75**	**40**	P		**PKPdf**		**23 17 30.4**	**-0.1**
	baz=119								
TORD	**Torodi Ar. Bea**	**118.97**	**289**	PKP		**PKPdf**		**23 17 30.7**	**-0.7**
	12nm,0.4s,baz=75,slow=2.1,SNR=19								
N33A	**J Bar K, Exete**	**118.98**	**35**	P		**PKPdf**		**23 17 30.3**	**-0.4**
	baz=119								
P32A	**Huiting Farm,**	**119.04**	**37**	P		**PKPdf**		**23 17 30.7**	**-0.3**
	baz=119								
V29A	**Stinnett**	**119.52**	**42**	P		**PKPdf**		**23 17 32.4**	**+0.3**
	baz=119								
Q35A	**Mercer Eighty,**	**121.04**	**36**	P		**PKPdf**		**23 17 34.7**	**-0.1**
	baz=121								
Z30A	**Sanderson Ranc**	**121.28**	**44**	P		**PKPdf**		**23 17 35.6**	**+0.1**
	baz=121								
S35A	**Otter Creek Ra**	**121.66**	**37**	P		**PKPdf**		**23 17 36.2**	**+0.2**
	baz=122								
Z32A	**Haskell**	**122.39**	**43**	P		**PKPdf**		**23 17 38.2**	**+0.6**
	baz=122								
S37A	**Fort Scott**	**122.49**	**36**	P		**PKPdf**		**23 17 37.6**	**0.0**
	baz=122								
Y33A	**Hilltop Ranch,**	**122.54**	**42**	P		**PKPdf**		**23 17 38.2**	**+0.4**
	baz=122								
331A	**San Angelo**	**122.90**	**45**	P		**PKPdf**		**23 17 38.7**	**+0.1**
	baz=123								
W35A	**Tecumseh**	**122.96**	**39**	P		**PKPdf**		**23 17 38.7**	**+0.1**
	baz=123								
Y34A	**Reagan Ranch,**	**123.14**	**41**	P		**PKPdf**		**23 17 39.5**	**+0.6**
	baz=123								
Y35A	**Marietta**	**123.64**	**41**	P		**PKPdf**		**23 17 40.3**	**+0.4**
	baz=124								
X36A	**Centrahoma**	**123.66**	**40**	P		**PKPdf**		**23 17 40.3**	**+0.4**
	baz=124								
134A	**White-Moore Ra**	**123.78**	**43**	P		**PKPdf**		**23 17 41.0**	**+0.8**
	baz=124								
JCT	**Junction City**	**123.81**	**46**	P		**PKPdf**		**23 17 41.0**	**+0.6**
	baz=124								
Y36A	**Durant**	**124.13**	**40**	P		**PKPdf**		**23 17 41.4**	**+0.6**
	baz=124								
135A	**Vickery Place,**	**124.23**	**42**	P		**PKPdf**		**23 17 42.0**	**+0.9**
	baz=124								
Z36A	**Blue Ridge**	**124.43**	**41**	P		**PKPdf**		**23 17 42.3**	**+0.9**
	baz=124								
136A	**Ennis**	**124.87**	**42**	P		**PKPdf**		**23 17 43.4**	**+1.2**
	baz=125								
335A	**Moody**	**125.00**	**43**	P		**PKPdf**		**23 17 43.2**	**+0.6**
	baz=125								
Z37A	**Pogue Cattle C**	**125.00**	**41**	P		**PKPdf**		**23 17 43.2**	**+0.7**
	baz=125								
534A	**Blanco**	**125.01**	**45**	P		**PKPdf**		**23 17 42.6**	**0.0**
	baz=125								
Y38A	**Idabel**	**125.10**	**39**	P		**PKPdf**		**23 17 43.0**	**+0.3**
	baz=125								
237A	**Washetta, Mont**	**125.64**	**42**	P		**PKPdf**		**23 17 44.3**	**+0.6**
	baz=126								
BINY	**Binghamton**	**127.50**	**18**	*e*PKPdf		**PKPdf**		**23 17 47.2**	**+0.1**
USHA	**Ushuaia**	**131.64**	**171**	SKPbc		**SKPbc**		**23 20 23.9**	**-1.0**
	35nm,1.0s,baz=137,slow=5.2,SNR=3.4								
TRQA	**Tornquist**	**148.98**	**171**	*e*PKPbc		**PKPbc**		**23 18 30.5**	**-0.2**
CFAA	**Coronel Fontan**	**153.38**	**157**	PKPbc		**PKPbc**		**23 18 40.7**	**-0.2**
	2.7nm,0.5s,baz=209,slow=1.5,SNR=7.0								

PRU 23 23:01:49.3, 50°.38N × 18°.81E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.15**	**127**	*ep*		Pg	Pg	23 01 50.7	-1.4
CHZP							eSg		
OKC	**Ostrava-Krasne**	**0.69**	**218**	*ep*		Pg	Pg	23 02 01.9	-0.7
OKC							eSG	23 02 12.3	+0.8
	comp=Z,5.4nm,0.4s								
DPC	**Dobruska-Polom**	**1.59**	**270**	*ep*		Pg	Pn	23 02 18.1	-0.7
DPC							*e*SG	23 02 40.9	+0.2

*ISCJB **23** 23:02:58.0±0.6, 6°.73N±0°.08 × 124°.0E±0°.1, h600km, mb5.4/5, Error ellipse: s-maj=14.4km s-min=9.8km az=159.9*
*NEIC **23** 23:02:58.6±0.5, 6°.73N × 124°.03E, h591km±8km, mb5.4/8, Error ellipse: s-maj=14.0km s-min=9.6km az=80.0*
*IDC **23** 23:02:58.8±1.8, 6°.69N × 124°.01E, h590km±33km, mb4.4/2, Error ellipse: s-maj=94.9km s-min=13.9km az=67.0*

ISC 23 23:02:59.1±0.8, 6°.72N±0°.10 × 124°.0E±0°.1, h600km, n17, σ0s97/16, mb5.3/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.63**	**78**	*ep*	P	**P**		**23 04 10.0**	**-2.0**
KKM	**Kota Kinabalu**	**7.74**	**265**	*ep*	P	**P**		**23 04 56.3**	**+0.2**
	350nm,1.0s								
LUWI	**Luwuk**	**7.81**	**189**	*ep*	P	**P**		**23 04 57.0**	**+0.3**
TGY	**Tagaytay City**	**7.92**	**338**	P	P	**P**		**23 04 56.4**	**-1.3**
	baz=214,slow=3.6								
SIJI	**Sorong**	**10.48**	**136**	P	P	**P**		**23 05 23.7**	**+1.0**
	14nm,0.3s,baz=318,slow=18,SNR=5.6								
KSM	**Kuching**	**14.59**	**250**	*ep*	P			23 05 59.0	-4.6
	164nm,0.8s								
DLV	**T Lat**	**16.13**	**290**	*ep*	P	**P**		**23 06 17.7**	**-0.3**
	58nm,0.8s								
YOJ	**Yonaguni jima**	**17.66**	**357**	*ep*	P	**P**		**23 06 31.2**	**-0.4**
	227nm,1.3s								
YHNB	**Yeheng**	**18.02**	**352**	*ep*	P	**P**		**23 06 36.0**	**+1.1**
	99nm,0.5s								
IPM	**Ipoh**	**22.94**	**266**	*ep*	P	**P**		**23 07 18.7**	**-0.7**
	161nm,1.2s								
KULM	**Kulim**	**23.24**	**268**	*ep*	P	**P**		**23 07 22.9**	**+0.9**
	80nm,1.0s								
WRA	**Warramunga Arr**	**28.39**	**159**	P	P	**P**		**23 08 06.3**	**-0.8**
	29nm,0.4s,baz=345,slow=9.4,SNR=5.3								
ASAR	**Alice Springs**	**31.72**	**162**	P	P	**P**		**23 08 35.4**	**-0.2**
	29nm,0.3s,baz=339,slow=7.5,SNR=8.7								
SONM	**Songino Array**	**43.62**	**343**	P	P	**P**		**23 10 13.2**	**+1.3**
	baz=161,slow=7.5								
MK31	**Makanchi Array**	**53.55**	**325**	*ep*	P	**P**		**23 11 24.8**	**-0.3**
MKAR	**Makanchi Array**	**53.55**	**325**	P	P	**P**		**23 11 25.4**	**+0.3**
	baz=125,slow=6.3								
YAK	**Yakutsk**	**55.35**	**3**	*ep*	P	**P**		**23 11 37.4**	**+0.1**
	144nm,0.9s								

IDC 23 23:10:10.7±1.4, 6°.32N × 121°.62E, h0km, mb4.6/4, mb1 4.8/4, mb1mx4.0/57, mbtmp4.6/4, MS6.3/4, Ms1 6.3/4, ms1mx5.4/70, Error ellipse: s-maj=209.8km s-min=19.7km az=63.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**24.00**	**71**	LR

PSI	Prapat	25.04	262	P		P	23 16 25.8	+0.1	
	7.2nm,0.4s,baz=72,slow=3.5,SNR=5.3								
CBIJ	Chichi jima	26.73	39	eP		P	23 16 39.7	-0.4	
	15nm,0.4s								
JCJ	Chichijima	26.73	39	P		P	23 16 38.8	-1.4	
	39nm,0.4s,baz=287,slow=22,SNR=8.3								
CMAR	Chiang Mai Arr	26.78	298	P		P	23 16 41.6	+0.9	
	3.3nm,0.4s,baz=112,slow=6.6,SNR=5.0								
JNU	Nakatsue	27.01	13	P		P	23 16 41.9	-0.7	
	4.1nm,0.6s,baz=251,slow=13,SNR=3.1								
MBWA	Marble Bar	28.07	188	eP		P	23 16 50.7	-1.1	
	20nm,0.5s								
WRAB	Tennant Creek	28.55	159	eP		P	23 16 55.2	-0.9	
	28nm,0.6s								
WRA	Warramunga Arr	28.55	159	P		P	23 16 55.5	-0.6	
	17nm,0.4s,baz=340,slow=9.3,SNR=28								
KSAR	Wonju Array Be	30.73	6	P		P	23 17 15.4	+0.9	
KSRS	Korea Array	30.74	7	P		P	23 17 15.4	+0.8	
	3.3nm,0.6s,baz=178,slow=8.9,SNR=5.6								
AS31	Alice Springs	31.87	162	eP		P	23 17 24.6	0.0	
ASAR	Alice Springs	31.87	162	P		P	23 17 24.8	+0.2	
	18nm,0.3s,baz=338,slow=7.5,SNR=47								
MAJO	Matsushiro	32.42	22	eP		P	23 17 27.7	-1.2	
	9.0nm,0.6s								
MJAR	Matsushiro Arr	32.42	22	P		P	23 17 27.9	-1.0	
	8.2nm,0.7s,baz=197,slow=10,SNR=12								
FORT	Forrest	37.60	174	eP		P	23 18 11.8	-0.1	
	79nm,0.7s								
USRK	Ussuriysk Ar.	37.94	10	P		P	23 18 14.6	+0.1	
	5.4nm,0.5s,baz=192,slow=6.8,SNR=8.8								
NWAO	Narrogin (SRO)	39.99	189	P		P	23 18 31.1	-0.1	
	26nm,0.6s,baz=329,slow=4.1,SNR=14								
ASAJ	Asahikawa	40.66	21	P		P	23 18 36.1	-0.2	
	16nm,0.5s,baz=270,slow=20								
STKA	Stephens Creek	42.07	157	P		P	23 18 48.0	+0.5	
	12nm,0.5s,baz=347,slow=9.2,SNR=13								
STKA	Stephens Creek	42.07	157	eP		P	23 18 47.5	0.0	
	2.5nm,0.6s								
SONM	Songino Array	43.48	343	P		P	23 18 59.0	+0.6	
	1.4nm,0.4s,baz=163,slow=10.0,SNR=3.3								
MK31	Makanchi Array	53.35	325	eP		P	23 20 11.3	+0.1	
MKAR	Makanchi Array	53.35	325	P		P	23 20 11.7	+0.4	
	2.8nm,0.4s,baz=120,slow=7.6,SNR=9.2								
PEA0B	Petropavlovsk-	53.81	25	eP		P	23 20 15.1	+0.8	
PETK	Petropavlovsk-	53.81	25	P		P	23 20 14.8	+0.5	
	8.7nm,0.6s,baz=192,slow=3.6,SNR=9.1								
KBL	Kabul	57.30	307	eP		P	23 20 38.6	-0.5	
	6.2nm,0.6s								
KURBB	Kurchatov Arra	57.56	328	P		P	23 20 40.4	+0.1	
	3.6nm,0.5s,baz=128,slow=6.0,SNR=9.9								
KURK	Kurchatov	57.57	328	eP		P	23 20 39.9	-0.4	
	11nm,0.7s								
KKAR	Karatay Array	58.97	317	eP		P	23 20 50.9	+1.0	
	10nm,0.9s								
CASY	Casey	73.53	186	eP		P	23 22 18.9	-0.3	
	12nm,0.8s								
ABPO	Ambohimpanom	79.57	249	eP		P	23 22 53.5	0.0	
	64nm,1.5s								
KDAK	Kodiak Island	80.91	33	eP		P	23 22 59.8	+0.5	
	13nm,0.7s								
PPLA	Purkeypile	81.28	27	eP		P	23 23 01.9	+0.6	
	65nm,1.3s								
MCK	McKinley	82.76	27	eP		P	23 23 08.2	-0.4	
	35nm,0.9s								
ILAR	Eielson Array	83.62	26	P		P	23 23 11.9	-1.0	
	8.8nm,1.0s,baz=258,slow=5.3,SNR=2.5								
BR131	Keskin Array S	85.78	309	eP		P	23 23 23.2	-0.8	
	18nm,1.1s								
CLL	Collm	97.42	324	e(pP)		pP	23 26 28.0	+0.5	
	comp=Z,338nm,2.0s								
TORD	Torodi Ar. Bea	119.12	289	PKP		PKPdf	23 29 31.1	+1.6	
	comp=Z,5.4nm,0.7s,baz=87,slow=3.9,SNR=5.6								
TXAR	Lajitas Array	121.97	49	PKP		PKPdf	23 29 35.4	+0.6	
	comp=Z,1.8nm,0.7s,baz=299,slow=2.3,SNR=6.1								
TRQA	Tornquist	148.46	171	ePKPbc		PKPbc	23 30 27.0	-0.2	

*ISCJB **23** 23:12:56.7±0.2, 6.34N±0.03×123.64E±0.05, h600km, mb4.5/57, Error ellipse: s-maj=6.6km s-min=3.8km az=153.0*

*NEIC **23** 23:12:58.3±0.3, 6.32N×123.66E, h610km±4km, mb4.6/37, Error ellipse: s-maj=5.3km s-min=3.5km az=59.0*

*IDC **23** 23:12:59.0±1.1, 6.32N×123.66E, h616km±17km, mb3.9/31, mb1 4.0/33, mb1mx3.8/57, mbtmp4.9/33, Error ellipse: s-maj=12.3km s-min=7.1km az=57.0*

ISC 23 23:12:57.8±0.3, **6.35N**±0.05×**123.66E**±0.07, **h600**km, **n109, s078/110, mb4.5/57, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	1.04	34	↓iP	P	23 14 10.3	+1.1
DAV	Davao City (W)	2.04	69	eP	P	23 14 12.8	+0.5
TBP	Tagbilaran	3.33	3	eP	P	23 14 19.1	+0.1
TBP				eS	S	23 15 23.3	-1.7
TNTI	Ternate	6.66	146	eP	P	23 14 45.6	+0.7
LUWI	Luwuk	7.39	187	eP	P	23 14 53.8	+2.2
KKM	Kota Kinabalu	7.41	268	P	P	23 14 52.0	+0.2
	baz=7.4,SNR=53						
KKM	Kota Kinabalu	7.41	268	eP	P	23 14 51.7	-0.1
	409nm,0.4s						
TGY	Tagaytay City	8.16	341	P	P	23 14 59.7	+1.0
	122nm,0.3s,baz=178,slow=2.2,SNR=8.4						
SWI	Sorong	10.44	133	P	P	23 15 21.6	+0.6
	baz=10,SNR=8.0						
SIJI	Sorong	10.44	133	P	P	23 15 21.8	+0.6
	26nm,0.3s,baz=324,slow=13,SNR=36						
AAI	Ambon	10.95	155	P	P	23 15 27.1	+0.9
	baz=11,SNR=6.0						
FAKI	Fak Fak	12.58	137	P	P	23 15 42.8	+0.3
	baz=12,SNR=39						
FAKI	Fak Fak	12.58	137	eP	P	23 15 42.5	-0.1
KSM	Kuching	14.17	251	P	P	23 15 59.0	+0.5
	baz=14,SNR=5.1						
KSM	Kuching	14.17	251	eP	P	23 15 58.5	0.0
	25nm,0.5s						
MMRI	Maumere	14.95	185	eP	P	23 16 05.3	-0.4
	47nm,0.8s						
DLV	T Lat	15.97	291	eP	P	23 16 16.5	+1.2
	31nm,0.6s						
SOEI	Soe	16.01	178	P	P	23 16 16.2	+0.7
	baz=16,SNR=4.7						
SOEI	Soe	16.01	178	eP	P	23 16 14.9	-0.6
	41nm,0.7s						
YULB	Yu-li	17.10	353	eP	P	23 16 24.9	-0.3
	13nm,0.5s						
SSLB	Suamglung	17.53	352	eP	P	23 16 30.2	+0.9
	19nm,0.6s						
YHNB	Yeheng	18.35	353	eP	P	23 16 36.5	-0.2
	11nm,0.5s						
JAY	Jayapura	19.16	117	P	P	23 16 44.2	0.0
	3.3nm,0.3s,baz=79,slow=17,SNR=5.5						
MTN	Manton Dam	20.46	159	P	P	23 16 55.2	-0.7
	baz=20,SNR=4.6						
LEM	Lembang	20.68	231	P	P	23 16 58.8	+0.8
	16nm,0.4s,baz=319,slow=20,SNR=3.0						
KDU	Kakadu	20.84	155	P	P	23 16 58.1	-1.1
	baz=21,SNR=4.6						
KNRA	Kununurra	22.46	167	P	P	23 17 13.5	-0.2
	baz=22,SNR=3.6						
IPM	Ipoh	22.61	266	eP	P	23 17 15.1	-0.1
	10.0nm,0.7s						
KULM	Kulim	22.91	269	eP	P	23 17 17.8	-0.1
	14nm,0.9s						
MNAI	Manna	23.25	243	eP	P	23 17 19.7	-1.0
	432nm,1.3s						
PSI	Prapat	24.90	263	P	P	23 17 35.5	0.0
	8.1nm,0.5s,baz=40,slow=3.5,SNR=5.1						
GSI	Gunungsitoli	26.50	260	eP	P	23 17 48.3	-1.1
	76nm,1.0s						
CMAR	Chiang Mai Arr	26.93	299	P	P	23 17 53.9	+0.7
	4.6nm,0.6s,baz=110,slow=7.3,SNR=9.1						
CHTO	Chiang Mai	27.07	300	eP	P	23 17 55.3	+0.9
	9.8nm,0.7s						
CBIJ	Chichi jima	27.13	38	eP	P	23 17 55.4	+0.6
	20nm,0.9s						
COEN	Coen	27.97	136	P	P	23 18 01.0	-1.2
	baz=28,SNR=36						
COEN	Coen	27.97	136	eP	P	23 18 00.8	-1.5
WRAB	Tennant Creek	28.16	158	eP	P	23 18 02.7	-1.1
	106nm,0.5s						
WRA	Warramunga Arr	28.16	158	P	P	23 18 03.0	-0.9
	69nm,0.5s,baz=340,slow=9.3,SNR=94						
PMG	Port Moresby	28.17	124	P	P	23 18 03.2	-0.8
	33nm,0.9s,baz=9.9,slow=5.3,SNR=4.8						
GIRL	Giralia	30.25	197	P	P	23 18 22.8	+0.9
	baz=30,SNR=3.1						
QIS	Mount Isa	30.99	150	P	P	23 18 28.1	-0.1
	baz=31,SNR=12						
AS31	Alice Springs	31.46	162	eP	P	23 18 31.8	-0.4
ASAR	Alice Springs	31.46	162	P	P	23 18 32.2	0.0
	51nm,0.3s,baz=339,slow=7.4,SNR=70						
WRKA	Warakurna	31.52	172	P	P	23 18 32.9	+0.2
	baz=32,SNR=4.5						
MTSU	Mount Surprise	31.74	140	P	P	23 18 34.6	0.0
	baz=32,SNR=10.0						
MJAR	Matsushiro Arr	32.87	22	P	P	23 18 43.4	-0.5
	2.9nm,0.8s,baz=199,slow=9.7,SNR=4.4						
CTA	Charters Tower	34.41	140	P	P	23 18 57.4	+0.3
	12nm,0.4s,baz=318,slow=9.5,SNR=24						
CTAO	Charters Tower	34.41	140	eP	P	23 18 57.0	0.0
	26nm,0.6s						
MORW	Morawa	35.97	191	P	P	23 19 09.4	-0.3
	baz=36,SNR=5.9						
FORT	Forrest	37.16	174	P	P	23 19 19.5	+0.1
	baz=37,SNR=12						
FORT	Forrest	37.16	174	eP	P	23 19 19.2	-0.2
	41nm,0.6s						
KLBR	Kellerberrin	38.15	188	P	P	23 19 27.1	-0.3
	baz=38,SNR=7.7						
USRK	Ussuriysk Ar.	38.40	10	P	P	23 19 30.3	+1.0
	3.2nm,0.8s,baz=201,slow=7.4,SNR=3.4						
LSA	Lhasa	38.42	311	eP	P	23 19 31.6	+1.3
	11nm,0.6s						
NWAO	Narrogin (SRO)	39.53	189	P	P	23 19 38.2	-0.3
	8.8nm,0.4s,baz=150,slow=14,SNR=4.4						
BBOO	Buckleboo	40.69	164	P	P	23 19 47.8	0.0
	baz=41,SNR=21						
ASAJ	Asahikawa	41.12	21	eP	P	23 19 51.3	+0.3
	5.5nm,0.9s						
EIDS	Eidsvold	41.29	141	P	P	23 19 52.4	-0.3
	baz=41,SNR=6.3						
STKA	Stephens Creek	41.69	157	P	P	23 19 55.7	+0.1
	42nm,0.6s,baz=342,slow=8.8,SNR=20						
STKA	Stephens Creek	41.69	157	eP	P	23 19 55.4	-0.3
	6.3nm,0.5s						
HTT	Hallett	42.13	161	P	P	23 19 59.6	+0.4
	baz=42,SNR=4.1						
PALK	Pallekele	42.65	274	P	P	23 20 03.9	+0.4
	8.2nm,0.5s,baz=91,slow=6.7,SNR=7.1						
CMSA	Cobar Meteorol	43.15	152	P	P	23 20 08.1	+1.0
	baz=43,SNR=10						
ULN	Ulaanbaatar	43.73	344	eP	P	23 20 12.2	+0.7
	15nm,0.7s						
SONM	Songino Array	43.89	343	P	P	23 20 13.0	+0.3
	6.0nm,0.8s,baz=163,slow=7.3,SNR=4.1						
ARMA	Armidale	45.33	145	P	P	23 20 25.6	+1.6
	baz=45,SNR=6.7						
ARPS	Mount Arapiles	46.15	160	P	P	23 20 30.1	+0.2
	baz=46,SNR=9.5						
CNB	Canberra Magne	47.99	151	P	P	23 20 44.7	+0.9
	baz=48,SNR=9.2						
TLY	Talaya	48.13	343	P	P	23 20 45.7	+1.1
	7.2nm,0.6s,baz=331,slow=6.2,SNR=3.8						
DZM	Mont Dzumac	50.53	125	P	P	23 21 03.7	+0.9
	11nm,0.5s,baz=183,slow=3.9,SNR=16						
MK31	Makanchi Array	53.68	326	eP	P	23 21 25.1	+0.4
MKAR	Makanchi Array	53.68	326	P	P	23 21 25.5	+0.8
	12nm,0.4s,baz=120,slow=8.3,SNR=25						
YAK	Yakutsk	55.74	3	P	P	23 21 39.3	+0.6
	2.3nm,0.3s,baz=187,slow=21,SNR=4.1						
YAK	Yakutsk	55.74	3	eP	P	23 21 38.5	-0.2
	47nm,0.8s						
TKM2	Tokmak 2	55.77	319	eP	P	23 21 40.3	+0.7
	16nm,0.8s						
EKS2	Erkin-Say	56.87	318	eP	P	23 21 47.8	+0.8
	12nm,0.6s						
ZALV	Zalesovo Beam	56.89	334	P	P	23 21 45.9	-0.8
	4.6nm,0.5s,baz=126,slow=6.1,SNR=4.2						
KBL	Kabul	57.51	307	eP	P	23 21 51.4	-0.3
	18nm,0.8s						
KURBB	Kurchatov Arra	57.90	328	P	P	23 21 54.1	+0.4
	24nm,0.7s,baz=130,slow=6.3,SNR=39						
KURK	Kurchatov	57.91	328	eP	P	23 21 53.9	+0.1
	58nm,0.8s						
MSVF	Nonsavu	58.78	115	eP	P	23 22 01.2	+1.0
	14nm,0.9s						
KKAR	Karatay Array	59.24	317	eP	P	23 22 02.4	-0.5
	12nm,0.8s						
BVAR	Borovoye Array	63.47	327	P	P	23 22 29.8	-0.4
	11nm,0.8s,baz=44,slow=5.5,SNR=5.8						
BRVK	Borovoye	63.55	327	eP	P	23 22 30.4	-0.2
	31nm,1.0s						
RPZ	Rata Peaks	65.66	144	P	P	23 22 44.1	0.0
	11nm,0.6s,baz=344,slow=0.8,SNR=5.1						
GEYT	Alibeck	66.88	308	P	P	23 22 52.6	+0.7
	8.1nm,0.6s,baz=186,slow=2.7,SNR=4.7						
ABKAR	Akbulak array	68.20	321	eP	P	23 22 59.2	-0.4
	16nm,0.7s						
ARU	Arti	71.10	328	eP	P	23 23 15.4	-1.2
	18nm,0.6s						
CASY	Casey	73.07	186	eP	P	23 23 26.9	-0.8
	6.4nm,0.7s						
GNI	Garni	77.47	310	eP	P	23 23 52.3	-0.6
	26nm,1.1s						
KIV	Kislovodsk	79.13	313	eP	P	23 24 02.0	+0.3
	24nm,1.1s						
ABPO	Ambohimpanom	79.34	249	eP	P	23 24 02.7	-0.6
	16nm,0.9s						
KDAK	Kodiak Island	81.33	33	eP	P	23 24 12.5	-0.1
	16nm,0.7s						
COLD	Coldfoot	82.69	23	eP	P	23 24 19.0	-0.4
	26nm,1.2s						
ASF	Jabal al Asfar	83.92	302	P	P	23 24 26.2	-0.1
	8.5nm,0.8s,baz=39,slow=8.2,SNR=5.7						
MMAI	Mount Meron Ar	85.12	303	P	P	23 24 32.5	+0.4
	6.0nm,0.7s,baz=62,slow=6.0,SNR=3.7						
BR131	Keskin Array S	86.00	309	eP	P	23 24 34.7	-1.6
	2.6nm,0.5s						
BRTR	Keskin Array B	86.00	309	P	P	23 24 35.0	-1.3
	5.6nm,0.8s,baz=135,slow=4.1,SNR=8.9						
KMBO	Kilima Mbogo	86.55	268	P	P	23 24 39.5	0.0
	2.8nm,0.6s,baz=72,slow=11,SNR=4.8						
KMBO	Kilima Mbogo	86.55	268	eP	P	23 24 38.8	-0.7
	56nm,1.8s						
CSS	Prodhromos	86.68	305	eP	P	23 24 39.1	-0.3
	12nm,1.3s						
SPITS	Spitsbergen Ar	87.33	349	P	P	23 24 41.1	-0.4
	7.1nm,0.6s,baz=131,slow=18,SNR=3.8						
FINES	FINESS Array B	88.09	332	P	P	23 24 44.3	-1.0
	5.3nm,0.5s,baz=53,slow=2.9,SNR=5.3						
MLR	Muntele Rosu	90.90	316	P	P	23 24 58.5	-0.4
	3.9nm,1.0s,baz=277,slow=12,SNR=2.5						
HFS	Hagfors	94.29	332	P	P	23 25 12.2	-1.7
	4.4nm,0.9s,baz=133,slow=8.1,SNR=3.8						
NOA	NORSAR Array B	95.09	333	P	P	23 25 15.7	-1.9
	3.8nm,1.1s,baz=73,slow=5.9,SNR=3.4						
TORD	Torodi Ar. Bea	119.19	289	PKP	PKPdf	23 30 39.6	-1.1
	4.8nm,0.4s,baz=78,slow=3.3,SNR=6.5						
TRQA	Tornquist	148.02	172	ePKPbc	PKPbc	23 31 36.6	-0.7

*BJI **23** 23:15:00.9, 5.96N×123.62E, h611km, mb6.7/80, mB7.3/55*

*MAN **23** 23:15:07, 6.57N×123.34E, h638km, MS7.1*

MAN INTENSITY IV - TANJAY CITY & SAN JOSE CITY NEGROS ORIENTAL; INTENSITY III - GENERAL SANTOS CITY; LINGIG SURIGAO DEL SUR; SAN JOSE & HAMTIC ANTIQUE; SORSOGON CITY; IROSIN SORSOGON; INTENSITY II - COTABATO CITY.

*MOS **23** 23:15:08.9±0.9, 6.77N×123.23E, h638km, mb6.8/82, Error ellipse: s-maj=6.6km s-min=4.1km az=112.1*

*NEIC **23** 23:15:08.0±0.0, 6.75N×123.27E, h616km, Moment Tensor Solution. s17 Moment tensor: Scale 10^20 Nm; Mrr-1.18; Mθθ 0.99; Mϕϕ 0.19; Mrθ-0.43; Mθϕ 0.04; Mϕr-1.26; Best double couple: M0 1.60000×10^20 NP1:ϕs41.00000°, δ71.00000°, λ-108.00000°. NP2:ϕs269.00000°, δ27.00000°, λ-44.00000°. Principal axes: T 1.2500, Plg23.0000°, Azm146.0000°; N 0.7300, Plg18.0000°, Azm47.0000°; P -1.9700, Plg59.0000°, Azm283.0000°;*

*ISCJB **23** 23:15:09.8±0.1, 6.75N±0.01×123.25E±0.01, h652km±1km, mb6.8/295 Error ellipse: s-maj=2.2km s-min=1.7km az=157.2*

*IDC **23** 23:15:09.7±0.4, 6.80N×123.36E, h635km±4km, mb5.9/49, mb1 5.9/53, mb1mx5.9/54, mbtmp6.9/53, Error ellipse: s-maj=7.0km s-min=5.1km az=66.0*

*GCMT **23** 23:15:10.2±0.3, 6.83N×123.48E, h641km±4km, MW7.5/135, Moment Tensor Solution. s135, c332; s128, c285; Duration: 12s9 Moment tensor: Scale 10^20 Nm; Mrr-1.38±.02; Mθθ 1.04±.03; Mϕϕ 0.33±.03; Mrθ-0.51±.02; Mθϕ 0.03±.03; Mϕr-1.50±.02; Best double couple: M0 1.86800×10^20 NP1:ϕs34.00000°, δ73.00000°, λ-104.00000°. NP2:ϕs254.00000°, δ22.00000°, λ-52.00000°. Principal axes: T 1.4300, Plg27.0000°, Azm135.0000°; N 0.8670, Plg13.0000°, Azm38.0000°; P -2.3060, Plg60.0000°, Azm285.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to mantle waves, cutoff=150s.*

*NEIC **23** 23:15:10.2±0.1, 6.78N×123.26E, mb6.8/180, MW7.4, MW7.4 Error ellipse: s-maj=3.0km s-min=2.6km az=82.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^20 Nm; Mrr-1.23; Mθθ 0.87; Mϕϕ 0.35; Mrθ-0.48; Mθϕ-0.14; Mϕr-1.14; Best double couple: M0 1.70000×10^20 NP1: ϕs42.00000°, δ72.00000°, λ-104.00000°. NP2: ϕs260.00000°, δ23.00000°, λ-54.00000°. Principal axes: T 1.0600, Plg25.0000°, Azm142.0000°; N 0.8500, Plg13.0000°, Azm46.0000°; P -1.9100, Plg61.0000°, Azm291.0000°;*

NEIC Felt [III PIVS] at General Santos and Lingig; [II PIVS] at Cagayan de Oro, Cotabato, Davao, Dipolog and Kidapawan. Felt [IV PIVS] at San Jose and Tanjay; [II PIVS] at Dumaguete, Negros. Felt [III PIVS] at Hamtic and San Jose, Panay. Felt [III PIVS] at Irosin and Sorsogon; [II PIVS] at Antipolo, Legaspi and Manila, Luzon. Felt [II PIVS] at Cebu City, Cebu and at Tacloban, Leyte. Felt in much of Cebu, Leyte, Luzon, Mindanao, Mindoro, Negros, Panay and Samar. Felt on Pulau Ternate, Indonesia and at Bandar Seri Begawan, Brunei.

*DJA **23** 23:15:11.0±0.1, 7.1N±2.2×12.3E±.1, h660km±2km, M7.4/165, mb7.2/165, mB7.3/154, MLv7.8/12, Mw(mB)7.4/154, Mwp7.5/6*

*KLM **23** 23:15:13.4, 6.51N×123.24E, h626km, mb7.4, ML7.1, MS8.3*

ISC 23 23:15:09.8±0.2, **6.74N**±0.02×**123.33E**±0.02, **h634**km±1km, **h635**km:**pP-P, n2436,** σ1ŝ**47**/2975, **mb6.8**/302, **78C-129D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	1.03	62	↓iP	P	23 16 25.0	+0.5
IPIL	Ipil	1.28	324	↓eP	P	23 16 25.5	+0.5
GSPH	General Santos	1.74	112	eP	P	23 16 25.6	-0.9
DCPH	Dipolog City	1.83	1	↑eP	P	23 16 27.1	+0.5
DCPH				eS	S	23 17 29.4	+0.3
DMPH	Davao City--Mi	2.19	81	↑eP	P	23 16 29.1	+1.1
DAV	Davao City (W)	2.26	82	↓eP	P	23 16 30.0	+1.7
DAV	Davao City (W)	2.26	82	↓iS	S	23 17 35.8	+3.7
DAV	Davao City (W)	2.26	82	eP	P	23 16 28.9	+0.6
TBP	Tagbilaran	2.98	10	eP	P	23 16 31.3	-0.4
TBP				iS	S	23 17 41.1	+2.7
BIPH	Bislig	3.33	64	↓iP	P	23 16 40.5	+6.9
BIPH				iS	S	23 17 45.0	+3.0
SGSI	Sangihe	3.74	144	P	P	23 16 35.7	-0.5
SGSI				S	S	23 17 50.3	+3.8
JAP	San Jose, Anti	4.21	341	↓iP	P	23 16 43.0	+3.8
PLP	Palo	4.69	20	↓iP	P	23 16 42.3	-0.3
PLP				eS	S	23 17 58.1	-0.2
KALP	Kalibo	5.00	349	↓eP	P	23 16 44.5	-0.4
MYLDM	Lahad Datu	5.04	252	↓P	P	23 16 48.9	+3.6
MYLDM	Lahad Datu	5.04	252	↓P	P	23 16 48.9	+3.6
MYLDM	Lahad Datu	5.04	252	eP	P	23 16 47.3	+2.0
PPR	Puerto Princes	5.46	304	↑iP	P	23 16 51.0	+2.6
MMPH	Masbate	5.59	3	eP	P	23 16 51.1	+1.7
TSM	Tawau	5.95	246	↓P	P	23 16 53.6	+1.1
TSM	Tawau	5.95	246	↓P	P	23 16 53.6	+1.1
TOLI	Toli-Toli	6.13	204	eP	P	23 16 54.8	+0.8
KMSI	Cibinong	6.16	174	P	P	23 16 56.1	+1.9
	152μm,1.1s,810nm						
KMSI				S	S	23 18 25.1	+5.7
	152μm,1.1s,810nm						
SDKM	Sandakan	6.19	260	↑P	P	23 16 56.4	+1.8
SDKM	Sandakan	6.19	260	↑P	P	23 16 56.4	+1.8
MRSI	Marisa	6.37	193	P	P	23 16 57.3	+1.3
	54μm,1.1s,545μm190nm						
MRSI				S	S	23 18 24.8	+2.1
	54μm,1.1s,545μm190nm						
KDM	Kudat	6.45	272	↓P	P	23 16 58.5	+1.9
KDM	Kudat	6.45	272	↓P	P	23 16 58.5	+1.9
PVCP	Virac	6.86	7	↓eP	P	23 16 59.1	-1.0
PVCP				iS	S	23 18 34.2	+3.9
KKM	Kota Kinabalu	7.10	265	↓P	P	23 17 02.4	0.0
	baz=7.1,SNR=511						
KKM	Kota Kinabalu	7.10	265	↑P	P	23 17 04.3	+1.9
KKM	Kota Kinabalu	7.10	265	↑P	P	23 17 04.3	+1.9
KKM	Kota Kinabalu	7.10	265	eP	P	23 17 02.9	+0.5
TNTI	Ternate	7.17	146	P	P	23 17 03.9	+1.0
	138μm,0.8s,871nm						
TNTI				S	S	23 18 36.7	+1.3
	138μm,0.8s,871nm						
TNTI	Ternate	7.17	146	eP	P	23 17 02.7	-0.3
GQP	Guinayangan	7.17	353	↑eP	P	23 17 03.3	+0.4
MPSI	Mapaga	7.22	208	P	P	23 17 04.7	+1.3
	28μm,1.5s,531μm162nm						
MPSI				S	S	23 18 36.5	+0.3
	28μm,1.5s,531μm162nm						
LQP	Lukban	7.53	347	↓eP	P	23 17 06.2	-0.1
TGY	Tagaytay City	7.68	342	P	P	23 17 07.3	-0.3
	5μm,0.3s,baz=254,slow=0.9,SNR=156						
TGY				S	S	23 18 45.4	+1.4
	699nm,0.3s,baz=180,slow=20,SNR=1.4						
TGY				ScS	ScS	23 28 37.9	-1.0
	42nm,0.3s,baz=180,slow=16,SNR=2.4						
TGY	Tagaytay City	7.68	342	↑eP	P	23 17 07.2	-0.3
TGY				eS	S	23 18 46.1	+2.2
LUWI	Luwuk	7.75	184	P	P	23 17 07.9	-0.3
	65μm,1.4s,866μm862nm						
LUWI				S	S	23 18 44.2	-0.8
	65μm,1.4s,866μm862nm						
LUWI	Luwuk	7.75	184	↑P	P	23 17

400µm,0.7s
AAI Ambon 11.44 155 P P 23 17 44.2 +0.8
baz=12,SNR=883
SIPP Brgy, Tapao 11.46 346⇑ eP P 23 17 41.5 -2.0
SIPP eS P 23 17 46.1 +2.6
MSAI Masohi 11.47 151 P P 23 17 45.6 +1.9
27µm,0.8s,220µm
MSAI S S 23 19 54.4 +4.7
27µm,0.8s,220µm
SBUM Sibu 11.86 249 ⇓P P 23 17 50.0 +2.6
SBUM Sibu 11.86 249 ⇓P P 23 17 50.0 +2.6
SBUM Sibu 11.86 249 eP P 23 17 48.2 +0.8
BBSI Bau Bau 12.17 184 P P 23 17 50.9 +0.6
30µm,1.5s,333µm
KAPI Kappang 12.21 197 P P 23 17 50.5 -0.1
46µm,1.2s
KAPI Kappang 12.21 197 P P 23 17 50.7 +0.1
425nm,0.3s,baz=6.7,slow=6.2,SNR=134
KAPI S S 23 20 02.7 +0.4
16nm,0.3s,baz=38,slow=19,SNR=2.9
KAPI ScP ScP 23 25 10.1 -0.4
15nm,0.3s,baz=274,slow=3.2,SNR=4.3
KAPI ScS ScS 23 28 47.3 +0.2
0.7nm,0.3s,baz=324,slow=23,SNR=6.6
KAPI Kappang 12.21 197 eP P 23 17 49.5 -1.1
KAPI S S 23 20 02.7 +0.4
KAPI ScP ScP 23 25 10.1 -0.4
BKSI Bulukumba 12.40 195 P P 23 17 51.2 -1.2
10µm,0.8s,133µm
BNDI Bandanaira 12.97 149 P P 23 17 59.0 +1.1
138µm,1.1s
BNDI S S 23 20 17.2 +1.9
138µm,1.1s
FAKI Fak Fak 13.09 137 P P 23 18 00.9 +1.9
40µm,0.8s,322µm
FAKI S S 23 20 20.4 +3.0
40µm,0.8s,322µm
FAKI Fak Fak 13.09 137 P P 23 17 59.4 +0.4
baz=13,SNR=1000
FAKI Fak Fak 13.09 137 eP P 23 17 59.5 +0.5
FAKI eS S 23 20 21.0 +3.6
BSSI Bau Bau, Buton 13.11 193 P P 23 17 58.1 -1.0
21µm,1.0s,264µm929µm
BSSI S S 23 20 19.9 +2.3
21µm,1.0s,264µm929µm
STKI Sintang 13.55 241 P P 23 18 04.7 +1.3
18µm,1.4s,323µm
RKPI Ransiki, Papua 13.58 127 P P 23 18 05.3 +1.6
41µm,1.1s,364µm
KSM Kuching 14.00 249 ⇓P P 23 18 07.8 +0.2
baz=14,SNR=1000
KSM Kuching 14.00 249 ⇑P P 23 18 09.4 +1.8
KSM Kuching 14.00 249 ⇑P P 23 18 09.4 +1.8
KSM Kuching 14.00 249 eP P 23 18 08.4 +0.8
PBKI Pangkalan Bun 14.95 231 P P 23 18 17.1 +0.8
118µm,1.0s,794µm
MMRI Maumere 15.31 184 P P 23 18 20.7 +1.1
141µm,1.3s
MMRI Maumere 15.31 184 eP P 23 18 20.8 +1.1
SRPI Serui, Papua 15.47 123 P P 23 18 22.3 +1.2
30µm,0.7s,224µm
DLV T Lat 15.53 291 eP P 23 18 22.2 +0.4
DLV eS S 23 21 00.4 +2.4
TWG Pinlang 16.14 352 eP P 23 18 25.9 -1.0
40µm,0.6s
TWG eS S 23 21 07.1 -0.3
SOEI Soe 16.41 177 P P 23 18 30.1 +0.3
63µm,1.0s,516µm
SOEI S S 23 21 13.7 +1.4
63µm,1.0s,516µm
SOEI Soe 16.41 177 P P 23 18 29.6 -0.2
baz=16,SNR=502
SOEI Soe 16.41 177 eP P 23 18 30.0 +0.3
47µm,0.9s
SOEI eS S 23 21 14.7 +2.4
BWJI Bawean 16.43 221 P P 23 18 31.6 +1.8
15µm,0.8s,168µm
WSI Waingapu 16.58 191 P P 23 18 29.9 -1.2
106µm,0.8s
WSI S S 23 21 17.2 +2.4
106µm,0.8s
WSI Waingapu 16.58 191 P P 23 18 30.7 -0.4
baz=17,SNR=40
KMMI Kalianget 16.58 214 P P 23 18 32.7 +1.5
24µm,0.9s,247µm
SAUI Saumlaki 16.65 151 P P 23 18 32.7 +0.9
32µm,0.8s,366µm
SAUI S S 23 21 17.0 +1.1
32µm,0.8s,366µm
SAUI Saumlaki 16.65 151 eP P 23 18 32.4 +0.6
23µm,0.7s
SAUI eS S 23 21 11.1 -4.8
YULB Yu-li 16.67 353 eP P 23 18 30.6 -1.3
6µm,1.0s
YULB eS S 23 21 15.4 -0.7
SRBI Singaraja 16.80 209 P P 23 18 33.9 +0.7
19µm,1.1s,283µm
ABJI Asem Bagus 17.05 212 P P 23 18 36.7 +1.2
15µm,1.4s,215µm
SSLB Suanglung 17.10 353 eP P 23 18 35.1 -0.7
5µm,0.6s
SSLB eS S 23 21 20.8 -2.3
DNP Denpasar 17.32 208 P P 23 18 39.1 +1.2
76µm,0.8s,752µm
GRJI Gresik 17.35 219 P P 23 18 39.6 +1.4
10µm,0.8s,98µm
BLJI Banyuglugur 17.36 214 P P 23 18 39.3 +1.0
14µm,0.9s,186µm
NACB Ninganchiao 17.41 355 eP P 23 18 38.0 -0.6
2µm,1.0s
NACB eS S 23 21 28.6 +0.5
IGBI Denpasar 17.48 208 P P 23 18 40.4 +1.1
46µm,0.8s,368µm
IGBI S S 23 21 29.6 +0.3
46µm,0.8s,368µm
YOJ Yonaguni jima 17.62 359 eP P 23 18 41.7 +1.2
YOJ eS S 23 21 29.2 -2.3
YOJ Yonaguni jima 17.62 359 eP P 23 18 41.7 +1.2
12µm,0.8s
YOJ eS S 23 21 29.2 -2.3
SMPI Sarmi 17.64 119 P P 23 18 41.9 +1.1
10µm,1.5s,192µm
SMPI S S 23 21 33.7 +1.7
10µm,1.5s,192µm
TBJI Tambak Boyo 17.68 221 P P 23 18 42.4 +1.2
12µm,1.2s,221µm
GMJI Gumukmas 17.88 214 P P 23 18 43.7 +0.7
13µm,1.0s,242µm
QIZ Qiongzhong 17.93 314 P P 23 18 43.3 -0.1
QIZ S S 23 21 40.4 +3.9
QIZ Qiongzhong 17.93 314 eP P 23 18 43.1 -0.3
6µm,0.9s
YHNB Yeheng 17.93 354 eP P 23 18 42.1 -1.3
4µm,0.6s
YHNB eS S 23 21 34.5 -2.0
TATO Taipei 18.22 355 eP P 23 18 45.2 -0.7
5µm,0.6s
TATO eS S 23 21 36.8 -4.2
NGJI Ngawi 18.34 220 P P 23 18 47.5 +0.3
12µm,1.0s
PWJI Pagerwojo 18.63 218 P P 23 18 47.6 -2.2
4µm,0.7s,70µm
QZH Quanzhou 18.66 346⇑ iP P 23 18 50.3 +0.4
QZH S S 23 21 48.0 0.0
QZH ScP ScP 23 25 23.5 +0.9
QZH ScS ScS 23 29 05.1 +0.5
QZH PMZ
8µm,0.7s
QZH PMZ
108µm,10.2s
SMRI Semarang 18.79 223 P P 23 18 52.7 +1.4
11µm,1.9s,217µm
SMRI Semarang 18.79 223 ⇑P P 23 18 52.8 +1.6
baz=19,SNR=132
SMRI Semarang 18.79 223 eP P 23 18 52.1 +0.8
11µm,1.1s
GZH Guangzhou 18.88 330 ⇓ iP P 23 18 55.3 +3.3
GZH sP sP 23 21 19.8 -7.5
GZH S S 23 21 58.0 +6.4
GZH PMZ
201µm,11.4s
GENI Genyem 19.20 118 P P 23 18 55.2 +0.2
25µm,1.1s,271µm
GENI S S 23 21 56.5 -0.4
25µm,1.1s,271µm
PPBI Pangkal Pinang 19.30 243 P P 23 18 55.6 -0.4
4µm,0.7s,77µm
UGM Wanagama 19.36 221 P P 23 18 56.4 -0.1
9µm,1.2s,149µm
UGM S S 23 22 01.6 +2.0
9µm,1.2s,149µm
UGM Wanagama 19.36 221 ⇓P P 23 18 56.4 -0.1
baz=19,SNR=473
UGM Wanagama 19.36 221 eP P 23 18 57.0 +0.5
6µm,0.9s
UBPT Khong Chiam 19.46 297 P P 23 18 54.6 -2.7
7µm,0.9s,121µm
JAY Jayapura 19.63 117 P P 23 18 59.8 +0.8
6µm,0.8s,95µm
JAY Jayapura 19.63 117 P P 23 18 58.8 -0.2
388nm,0.3s,baz=270,slow=4.5,SNR=429
JAY S S 23 22 02.6 -1.3
baz=270,slow=19,SNR=3.6
JAY ScP ScP 23 25 24.4 -0.7
11nm,0.3s,baz=298,slow=2.4,SNR=5.9
JAY ScS ScS 23 29 06.3 -2.1
1.3nm,0.3s,baz=265,slow=18,SNR=2.9
JAY Jayapura 19.63 117 ⇓P P 23 18 58.7 -0.2
baz=20
JCJI Jatiwangi 19.96 229 P P 23 19 03.8 +1.9
16µm,1.7s,286µm
MYKOM Kota Tinggi 20.03 257 eP P 23 19 02.9 +0.4
11µm,0.8s
DSRI Dabo 20.04 250 P P 23 19 05.0 +2.4
24µm,0.9s,314µm
KTGM Kuala Trenggan 20.13 267 ⇑P P 23 19 05.7 +2.3
KTGM Kuala Trenggan 20.13 267 ⇑P P 23 19 05.7 +2.3
BTDF Bukit Timah Da 20.22 256 ⇑P P 23 19 02.6 -1.6
baz=20,SNR=226
BTDF ⇑P P 23 19 02.6 -1.6
baz=20,SNR=226
KGM Kluang 20.49 258 ⇓P P 23 19 08.7 +2.1
KGM Kluang 20.49 258 ⇓P P 23 19 08.7 +2.1
JOW Kunigami 20.53 13 eP P 23 19 07.6 +0.8
12µm,0.5s
LEM Lembang 20.67 230 P P 23 19 08.7 +0.3
21µm,1.0s,256µm
LEM Lembang 20.67 230 P P 23 19 10.1 +1.7
6µm,0.8s,baz=11,slow=9.6,SNR=489
LEM S S 23 22 20.6 +0.2
780nm,0.7s,baz=324,slow=19,SNR=1.8
LEM ScS ScS 23 29 10.3 -2.0
192nm,0.8s,baz=139,slow=19,SNR=3.8
LEM Lembang 20.67 230 P P 23 19 10.1 +1.7
baz=21,SNR=261
CMJI Cimerak 20.70 226 P P 23 19 06.5 -1.9
7µm,0.6s,64µm
CMJI S S 23 22 19.4 -1.1
7µm,0.6s,64µm
PMBI Palembang 20.86 243 P P 23 19 11.0 +1.0
10µm,1.1s,118µm
MTN Manton Dam 20.95 158 ⇓P P 23 19 10.2 -0.4
baz=21,SNR=385
CISI Cisompet, Garu 21.00 228 P P 23 19 10.4 -0.9
11µm,0.6s,188µm
CISI S S 23 22 23.9 -1.6
11µm,0.6s,188µm
CISI Cisompet, Garu 21.00 228 ⇑P P 23 19 10.6 -0.7
baz=21,SNR=113
CISI Cisompet, Garu 21.00 228 eP P 23 19 10.3 -0.9
8µm,0.5s
CBJI Citeko 21.00 232 P P 23 19 13.6 +2.4
46µm,1.4s
TNG Tangerang 21.01 233 P P 23 19 11.8 +0.5
16µm,0.7s,199µm
TNG Tangerang 21.01 233 P P 23 19 12.2 +0.9
13µm,0.7s,162µm
KDU Kakadu 21.33 155 P P 23 19 13.2 -0.8
baz=21,SNR=585
JMBI JAMBI 21.34 248 P P 23 19 16.1 +1.9
116µm,0.8s
CNJI Cibinong 21.35 229 P P 23 19 13.6 -0.7
17µm,1.1s,128µm
CNJI S S 23 22 30.4 -0.5
17µm,1.1s,128µm
SBJI Serang 21.39 234 P P 23 19 15.8 +1.1
21µm,1.2s,328µm
SBJI S S 23 22 33.5 +1.9
21µm,1.2s,328µm
SKNT Sakolnakorn 21.47 300 P P 23 19 15.5 +0.2
15µm,0.8s,180µm
SKJI Sukabumi 21.60 231 P P 23 19 16.1 -0.4
20µm,0.7s,207µm
SKJI S S 23 22 33.2 -1.6
20µm,0.7s,207µm
BLSI Bandar Lampung 21.69 237 P P 23 19 17.8 +0.5
58µm,0.5s,505µm
KLI Kotabumi 21.74 238 P P 23 19 18.2 +0.4
25µm,0.8s,223µm
KLSI 21.76 239 P P 23 19 18.6 +0.6
52µm,0.9s,559µm
FRIM Kepong 21.89 262 ⇓P P 23 19 20.7 +1.6
FRIM Kepong 21.89 262 ⇓P P 23 19 20.7 +1.6
CGJI Cibinong 22.04 233 P P 23 19 19.7 -0.7
23µm,0.4s,397µm
CGJI S S 23 22 38.0 -3.7
23µm,0.4s,397µm
RGRI Rengat 22.10 252 P P 23 19 21.8 +0.8
8µm,1.1s,71µm
MDSI Maura Dua 22.13 240 P P 23 19 21.0 -0.2
11µm,0.8s,122µm
KHON Khomkaen 22.22 297 P P 23 19 22.1 +0.2
7µm,0.5s,84µm
GUMO Guam 22.26 71 P P 23 19 22.6 +0.3
3µm,0.3s,baz=199,slow=4.7,SNR=67
GUMO S S 23 22 42.8 -2.3
758nm,0.7s,baz=43,slow=21,SNR=5.8
GUMO ScP ScP 23 25 28.9 -2.7
868nm,0.9s,baz=215,slow=3.2,SNR=3.6
GUMO ScS ScS 23 29 18.1 +0.2
294nm,0.9s,baz=52,slow=20,SNR=7.9
IPM Ipoh 22.31 265 ⇓P P 23 19 24.9 +2.1
IPM Ipoh 22.31 265 ⇓P P 23 19 24.9 +2.1
IPM Ipoh 22.31 265 eP P 23 19 23.0 +0.2
7µm,1.0s
LHSI Lahat 22.38 243 P P 23 19 23.4 -0.1
9µm,1.0s,104µm
KASI Kota Agung 22.40 237 P P 23 19 22.1 -1.5
20µm,0.7s,205µm
KASI S S 23 22 48.4 +1.0
20µm,0.7s,205µm
LWLI Liwa 22.50 239 P P 23 19 25.0 +0.3
56µm,0.7s
KULM Kulim 22.60 268 ⇑P P 23 19 27.3 +1.9
KULM Kulim 22.60 268 ⇑P P 23 19 27.3 +1.9
KULM Kulim 22.60 268 eP P 23 19 25.6 +0.2
6µm,0.9s
KNRA Kunumurra 22.91 166 ⇓P P 23 19 27.9 -0.2
baz=23,SNR=511
PATY Pattaya 22.96 287 P P 23 19 29.9 +1.4
1µm,0.7s,8µm
BKNI Bangkinang 23.13 255 P P 23 19 30.5 +0.4
15µm,1.1s,123µm
BKNI Bangkinang 23.13 255 ⇓P P 23 19 31.1 +1.0
baz=23,SNR=66
BKNI Bangkinang 23.13 255 eP P 23 19 30.6 +0.4
9µm,0.8s
KSI Sapahiang 23.13 244 P P 23 19 30.0 -0.2
21µm,0.6s,246µm
KSI S S 23 22 59.4 +0.3
21µm,0.6s,246µm
MNAI Manna 23.13 242 P P 23 19 29.6 -0.6
23µm,0.8s,197µm
MNAI S S 23 23 00.4 +1.4
23µm,0.8s,197µm
MNAI Manna 23.13 242 ⇑P P 23 19 29.2 -0.9
baz=23,SNR=128
MNAI Manna 23.13 242 eP P 23 19 29.6 -0.6
16µm,0.8s
SDSI Sungai Dareh 23.14 252 P P 23 19 30.5 +0.3
6µm,1.1s,81µm
TRTT Trang 23.47 274 P P 23 19 34.4 +1.3
8µm,1.0s,76µm
SLVN Son La 23.73 310 eP P 23 19 35.7 +0.2
2µm,0.8s
PBKT Sadao Pong 23.95 296 P P 23 19 37.8 +0.5
11µm,0.9s,129µm
KRAB Krabi 23.97 275 P P 23 19 38.8 +1.3
12µm,0.6s,106µm
PPI Padang Panjang 23.97 254 P P 23 19 37.3 -0.2
12µm,1.2s,118µm
PPI Padang Panjang 23.97 254 P P 23 19 37.3 -0.2
baz=24,SNR=339
SSE Sheshan 24.31 356 P P 23 19 42.8 +2.5
SSE S S 23 23 19.8 +2.8
SSE PcS PcS 23 26 32.6 -5.0
SSE ScS ScS 23 29 26.4 +0.8
SSE PMZ
920nm,0.8s
SSE PMZ
53µm,12.0s
SURT Suratani 24.40 277 P P 23 19 42.5 +1.2
3µm,1.0s,30µm
MNSI Mandailing Nat 24.41 257 P P 23 19 41.6 +0.2
8µm,0.9s,94µm
XMI Christmas Isla 24.50 226 P P 23 19 41.7 -0.5
baz=24,SNR=13
XMIS Christmas Isla 24.54 226 P P 23 19 41.3 -1.3
baz=25,SNR=42
XMIS Christmas Isla 24.54 226 eP P 23 19 41.2 -1.3
2µm,0.8s
PSI Prapat 24.63 262 P P 23 19 44.2 +0.7
3µm,0.6s,baz=76,slow=8.4,SNR=208
PSI PcP PcP 23 22 58.0 -0.2
1µm,0.8s,baz=60,slow=1.7,SNR=5.0
PSI S S 23 23 23.4 +0.7
531nm,1.0s,baz=164,slow=21,SNR=9.1
PSI ScP ScP 23 25 38.3 0.0
859nm,0.8s,baz=131,slow=6.9,SNR=9.2
PSI Prapat 24.63 262 ⇑P P 23 19 42.6 -0.8
baz=25,SNR=461
PSI Prapat 24.63 262 eP P 23 19 43.5 0.0
17µm,1.1s
PSI PcP PcP 23 22 58.0 -0.2
PSI S S 23 23 23.4 +0.7
PSI ScP ScP 23 25 38.3 0.0
UTTA Uttaradit 24.76 298 P P 23 19 44.7 +0.3
4µm,0.9s,23µm
FITZ Fitzroy Crossi 24.79 175 ⇑P P 23 19 44.6 -0.1
baz=25
PKDT Phuket 24.81 274 P P 23 19 46.3 +1.3
14µm,0.9s,107µm
TSI Tuntungan 24.87 264 P P 23 19 46.0 +0.5
8µm,1.0s,154µm
SRDT SRDT 24.95 290 P P 23 19 48.1 +2.0
26µm,0.9s,270µm
PPSI Pulau Pagai 25.12 249 P P 23 19 46.8 -0.9
28µm,0.8s,319µm
PPSI S S 23 23 30.8 +0.7
28µm,0.8s,319µm
WHN Wuhan 25.14 342 ⇑P P 23 19 48.6 +1.1
WHN sP sP 23 22 27.8 -8.2
WHN S S 23 23 35.6 +5.7
WHN PMZ
1µm,0.8s
WHN PMZ
65µm,5.7s
GYA Guiyang 25.23 323⇑ iP P 23 19 49.6 +1.0
GYA sP sP 23 22 33.3 -3.9
GYA S S 23 23 35.4 +3.6
GYA ScP ScP 23 25 43.0 +3.2
GYA ScS ScS 23 29 32.8 +2.8
GYA PMZ
4µm,0.9s
SISI Saibi 25.48 253 P P 23 19 49.6 -1.3
31µm,0.7s,284µm
SISI S S 23 23 36.6 +0.8
31µm,0.7s,284µm
NJ2 Nanjing 25.53 351 eP P 23 19 51.8 +0.9
NJ2 sP sP 23 22 35.4 -4.8
NJ2 S S 23 23 38.0 +2.0
NJ2 PMZ
4µm,0.8s
NJ2 PMZ
96µm,10.5s
KHLT Khaolaem Dam 25.57 290 P P 23 19 53.5 +2.0
2µm,1.4s,38µm
UMPA Umpang Tak 25.73 294 P P 23 19 54.1 +1.1
5µm,0.9s,28µm
LAMP Lampang 25.88 299 P P 23 19 54.9 +0.7
2µm,0.9s,17µm
PBSI Pulau Batu 25.89 256 P P 23 19 53.3 -1.1
5µm,0.4s,89µm
PBSI S S 23 23 37.0 -5.1
5µm,0.4s,89µm
CRAI Chiangrai 25.99 303 P P 23 19 52.7 -2.5
3µm,0.8s,68µm
GSI Gunungsitoli 26.24 259 P P 23 19 56.3 -1.2
42µm,1.0s,311µm
GSI S S 23 23 44.2 -3.5
42µm,1.0s,311µm
GSI Gunungsitoli 26.24 259 ⇓P P 23 19 56.9 -0.7
baz=26
GSI Gunungsitoli 26.24 259 eP P 23 19 56.5 -1.1
30µm,0.7s
LHMI Lhok Sumawe 26.28 268 P P 23 19 58.8 +1.0
27µm,1.0s,274µm
LHMI Lhok Sumawe 26.28 268 P P 23 19 59.9 +2.0
baz=26,SNR=141
LHMI Lhok Sumawe 26.28 268 eP P 23 19 59.2 +1.4
18µm,0.8s
CMAR Chiang Mai Arr 26.45 298 P P 23 20 00.1 +0.8
1µm,0.7s,baz=122,slow=8.4,SNR=130
CMAR PcP PcP 23 23 01.7 -0.5
259nm,0.8s,baz=102,slow=3.6,SNR=2.7
CMAR S S 23 23 55.7 +4.9
454nm,1.2s,baz=112,slow=13,SNR=5.8
CMAR ScP ScP 23 25 43.5 +0.1
813nm,1.1s,baz=144,slow=1.3,SNR=12
CMAR PKiKP PKiKP 23 30 39.8 -0.2
51nm,0.8s,baz=290,slow=0.9,SNR=7.7
CMAR P3KPbc 23 52 23.9
1.7nm,0.6s,baz=289,slow=5.2,SNR=5.0
CMAR P3KP 23 53 24.6
10.0nm,1.0s,baz=272,slow=2.3,SNR=7.0
KSSGP Seogwipo 26.55 6 P P 23 20 01.9 +2.0
SNR=269
KSSGP Seogwipo 26.55 6 P P 23 20 01.9 +2.0
SNR=269
KSGOS Gosan 26.55 5 P P 23 20 01.8 +1.9
SNR=223
KSGOS Gosan 26.55 5 P P 23 20 01.8 +1.9
SNR=223
CHTO Chiang Mai 26.59 299 P P 23 20 00.8 +0.3
43µm,0.8s,527µm
CHTO Chiang Mai 26.59 299 eP P 23 20 00.9 +0.4
CHTO pmax pmax
comp=Z,6µm,0.8s
CHTO Chiang Mai 26.59 299 eP P 23 20 00.9 +0.4
comp=Z,6µm,0.8s
KSJJU Jeju 26.73 6 P P 23 20 03.4 +1.9
SNR=200
KSJJU Jeju 26.73 6 P P 23 20 03.4 +1.9
SNR=200
ENH Enshi 26.78 333 eP P 23 20 02.1 +0.1
comp=Z,4µm,1.1s
ENH eS S 23 23 56.0 +0.3
KMI Kunming 26.87 315 P P 23 20 04.3 +1.2
KMI S S 23 23 59.9 +2.3
KMI ScP ScP 23 25 45.9 +1.0
KMI ScS ScS 23 29 38.5 +1.0
KMI PMZ
comp=Z,4µm,1.9s
KMI PMZ
comp=Z,58µm,6.2s
CMAI Chiengmai2 26.97 301 P P 23 20 04.6 +0.6
comp=Z,3µm,1.2s
CBIJ Chichi jima 27.04 39 eP P 23 20 02.8 -1.5
comp=Z,48µm,1.1s
CBIJ S S 23 23 54.7 -5.0
JCJ Chichijima 27.04 39 P P 23 20 03.9 -0.3
comp=Z,11µm,0.3s,baz=260,slow=4.4,SNR=431
JCJ S S 23 23 54.7 -5.0
comp=Z,12µm,0.7s,baz=303,slow=22,SNR=15
JCJ ScS ScS 23 29 34.8 -2.9
comp=Z,195nm,0.6s,baz=319,slow=19,SNR=6.1
JNU Nakatsue 27.17 14 P P 23 20 04.2 -1.2
comp=Z,2µm,0.9s,baz=217,slow=3.4,SNR=287
JNU ScS ScS 23 29 38.4 +0.2
comp=Z,122nm,1.1s,baz=29,slow=24,SNR=8.8
JNU P3KPbc 23 52 22.6
comp=Z,32nm,0.9s,baz=32,slow=4.4,SNR=13
JNU Nakatsue 27.17 14 eP P 23 20 05.3 -0.1
comp=Z,6µm,1.0s
JNU e 23 52 22.6
MHMT Maesarieng 27.23 297 P P 23 20 06.7 +0.6
comp=Z,9µm,0.8s,comp=Z,74µm
KSWAN Wando 27.69 6 P P 23 20 11.1 +1.3
SNR=286
KSWAN Wando 27.69 6 P P 23 20 11.1 +1.3
SNR=286

KSJDO **Jindo** 27.73 5 P P 23 20 11.6 +1.4
SNR=34
KSJDO **Jindo** 27.73 5 P P 23 20 11.6 +1.4
SNR=34
KSHUK **Heuksando** 27.88 4 P P 23 20 13.1 +1.7
SNR=32
KSHUK **Heuksando** 27.88 4 P P 23 20 13.1 +1.7
SNR=32
MBWA **Marble Bar** 27.95 187 *e*P P 23 20 12.0 -0.3
comp=Z,6μm,0.8s
KSKOH **Goheung** 27.97 7 P P 23 20 13.9 +1.7
SNR=591
KSKOH **Goheung** 27.97 7 P P 23 20 13.9 +1.7
SNR=591
KSNAH **Namhae** 28.26 8 P P 23 20 16.6 +1.9
SNR=800
KSNAH **Namhae** 28.26 8 P P 23 20 16.3 +1.6
SNR=246
KSTOY **TONGYEONG** 28.36 9 P P 23 20 17.0 +1.4
SNR=179
KSTOY **TONGYEONG** 28.36 9 P P 23 20 17.0 +1.4
SNR=179
COEN **Coen** 28.48 136 *e*P P 23 20 16.3 -0.6
comp=Z,5μm,0.6s
KSKWJ **Gwangju** 28.48 6 P P 23 20 17.7 +1.1
SNR=36
KSKWJ **Gwangju** 28.48 6 P P 23 20 18.0 +1.4
SNR=231
KSGWJ **Gwangju-acc** 28.49 6 P P 23 20 18.6 +2.0
SNR=34
WB8 **Warramunga Arr** 28.54 158 ⇑P P 23 20 16.6 -0.8
baz=29
KSJIN **Jinju** 28.61 8 P P 23 20 19.5 +1.7
SNR=234
I07AU **WARRAMUNGA INF** 28.63 158 P P 23 20 15.0 -3.2
baz=317,slow=11,SNR=0.8
WRAB **Tennant Creek** 28.64 158 P P 23 20 18.4 +0.1
comp=Z,234μm,0.4s
WRAB **Tennant Creek** 28.64 158 *e*P P 23 20 18.0 -0.3
WRAB **Tennant Creek** 28.64 158 *e*P P 23 20 18.0 -0.3
comp=Z,20μm,0.9s
WRA **Warramunga Arr** 28.64 158 P P 23 20 17.6 -0.7
comp=Z,8μm,0.5s,baz=340,slow=9.3,SNR=614
WRA S S 23 24 21.2 -3.5
comp=Z,2μm,0.9s,baz=330,slow=16,SNR=13
WRA ScS ScS 23 29 43.1 -2.3
comp=Z,397nm,1.1s,baz=323,slow=5.2,SNR=5.5
WRA P3KPbc 23 52 15.4
comp=Z,41nm,0.6s,baz=154,slow=4.0,SNR=24
WRA PKP2ab 23 56 16.1
comp=Z,5.5nm,0.9s,baz=123,slow=2.7,SNR=5.8
PMG **Port Moresby** 28.66 124 P P 23 20 17.6 -0.9
comp=Z,4μm,0.9s,baz=347,slow=4.6,SNR=222
PMG ScP ScP 23 25 49.8 -0.6
comp=Z,2μm,1.1s,baz=288,slow=3.2,SNR=3.6
PMG P3KPbc 23 52 18.6
comp=Z,52nm,0.8s,baz=80,slow=1.2,SNR=5.3
PMG **Port Moresby** 28.66 124 *e*P P 23 20 17.8 -0.7
KSJEU **Jeongeup** 28.81 6 P P 23 20 20.6 +1.2
SNR=28
KSJEU **Jeongeup** 28.81 6 P P 23 20 20.6 +1.2
SNR=203
KSBUS **Busan** 28.87 10 P P 23 20 21.6 +1.7
SNR=40
KSBUS **Busan** 28.87 10 P P 23 20 21.5 +1.5
SNR=1001
CMBY **CAMPBELL BAY** 29.19 272 *e*P P 23 20 24.2 +1.2
KSJEO **Jeonju** 29.29 7 P P 23 20 24.4 +0.9
SNR=110
KSGUS **GUNSAN** 29.33 6 P P 23 20 25.2 +1.3
SNR=46
KSDAG **Daegu** 29.34 9 P P 23 20 25.4 +1.3
SNR=191
KSYOC **YEONGCHEON** 29.55 9 P P 23 20 27.4 +1.6
SNR=96
KSCPR **CHUPUNGNYEONG** 29.65 8 P P 23 20 28.3 +1.7
SNR=30
KSTEJ **Daejeon** 29.72 7 P P 23 20 28.8 +1.5
SNR=48
TJN **Taejon** 29.73 7 *i* P P 23 20 28.2 +0.9
KSKOJ **Gongju** 29.80 6 P P 23 20 30.3 +2.4
SNR=35
KSPHA **Pohang** 29.83 10 P P 23 20 29.6 +1.4
SNR=106
KSSAJ **Sangju** 29.86 8 P P 23 20 30.0 +1.5
SNR=381
KSEUS **ULSEONG** 29.88 9 P P 23 20 30.1 +1.5
SNR=515
TIA **Tai'an** 29.88 350 ⇑P P 23 20 28.4 -0.3
TIA sP sP 23 23 11.9 -9.5
TIA S S 23 24 43.0 -0.3
TIA ScP ScP 23 25 54.9 +1.0
TIA ScS ScS 23 29 53.9 +3.1
TIA PMZ
comp=Z,2μm,0.9s
KSBON **Boeun** 29.90 7 P P 23 20 30.6 +1.7
SNR=1237
KSSES **Seosan** 30.05 5 P P 23 20 31.6 +1.5
SNR=78
CD2 **Chengdu** 30.24 325 P P 23 20 31.6 -0.3
CD2 sP sP 23 23 21.1 -3.6
CD2 S S 23 24 50.4 +1.3
CD2 PMZ
comp=Z,2μm,1.2s
CD2 PMZ
comp=Z,21μm,11.6s
XAN **Xi'an** 30.26 336 P P 23 20 31.3 -0.7
XAN sP sP 23 23 18.5 -6.4
XAN S S 23 24 48.8 -0.5
XAN PMZ
comp=Z,590nm,1.1s
XAN PMZ
comp=Z,16μm,14.9s
KSCHJ **Chungju** 30.29 7 P P 23 20 33.8 +1.6
SNR=160
KSULJ **Ulju** 30.34 10 P P 23 20 34.1 +1.5
SNR=31
JHJ **Hachijo jima 2** 30.37 28 P P 23 20 32.1 -0.8
comp=Z,2μm,0.4s,baz=103,slow=3.7,SNR=36
JHJ S S 23 24 48.6 -2.3
comp=Z,2μm,0.8s,baz=253,slow=24,SNR=6.3
JHJ2 **Mitsune** 30.38 28 *e*P P 23 20 31.2 -1.8
comp=Z,6μm,0.9s
GIRL **Giralia** 30.53 197 P P 23 20 35.3 +1.0
baz=31,SNR=1000
KSSWO **Suwon** 30.57 6 P P 23 20 36.4 +1.9
SNR=139
PBA **Port Blair** 30.57 281 *e*P P 23 20 32.9 -2.0
DGPR **DIGLIPUR** 30.59 284 *e*P P 23 20 34.2 -0.8
KSICN **Icheon** 30.64 6 P P 23 20 37.1 +2.0
SNR=195
KSYOW **Yeongwol** 30.65 8 P P 23 20 37.1 +1.8
SNR=157
KSTBA **Taebaek** 30.67 9 P P 23 20 37.6 +2.1
SNR=293
INCN **Inchon** 30.75 5 *e*P P 23 20 36.8 +0.7
comp=Z,1μm,0.7s
RABL **Rabaul** 30.77 110 ⇑P P 23 20 37.5 +0.9
baz=31,SNR=123
KSSEO **Seoul** 30.78 6 P P 23 20 38.4 +2.1
SNR=95
KSWJU **Wonju** 30.82 7 P P 23 20 38.6 +1.9
SNR=384
KSAR **Wonju Array Be** 30.84 7 P P 23 20 37.2 +0.4
KSAR 23 23 12.3
KSAR **Wonju Array Be** 30.84 7 P P 23 20 37.1 +0.4
KSAR PcP PcP 23 23 12.3 -0.9
KSAR ScP ScP 23 25 56.0 -1.0
KSAR PKiKP PKiKP 23 30 41.1 -1.1
KSAR *e* 23 52 05.2
KSAR PKKKP 23 53 14.2
KSRS **Korea Array** 30.86 7 P P 23 20 37.1 +0.2
comp=Z,915nm,0.9s,baz=183,slow=9.7,SNR=292
KSRS PcP PcP 23 23 12.3 -0.9
comp=Z,335nm,0.7s,baz=189,slow=2.7,SNR=5.3
KSRS ScP ScP 23 25 56.0 -1.1
comp=Z,122nm,0.8s,baz=174,slow=2.5,SNR=6.1
KSRS PKiKP PKiKP 23 30 41.1 -1.1
comp=Z,23nm,0.7s,baz=251,slow=2.0,SNR=4.3
KSRS P3KPbc 23 52 05.2
comp=Z,8.0nm,0.8s,baz=4.3,slow=5.2,SNR=12
KSRS P3KP 23 53 14.2
comp=Z,13nm,1.2s,baz=308,slow=1.7,SNR=4.8
KSRS **Korea Array** 30.86 7 P P 23 20 37.2 +0.2
KSRS 23 23 12.3
KSRS pmax pmax
comp=Z,903nm,0.9s

KSJES **JEONGSEON** 30.93 8 P P 23 20 39.6 +1.9
SNR=273
KSGAH **Ganghwa** 30.96 5 P P 23 20 39.5 +1.7
SNR=40
KSBAR **Backryungdo** 31.12 2 P P 23 20 41.9 +2.7
SNR=40
KSMUS **Musan** 31.16 5 P P 23 20 41.8 +2.3
SNR=136
KSCHC **Chuncheon** 31.16 7 P P 23 20 41.9 +2.3
SNR=66
KSDGY **Daegwallycong** 31.19 8 P P 23 20 41.4 +1.5
SNR=891
KSDDC **Dongducheon** 31.20 6 P P 23 20 42.5 +2.6
SNR=112
YNCB **YEONCHEON** 31.33 5 P P 23 20 43.5 +2.6
SNR=34
KSULL **Ulleungdo** 31.36 12 P P 23 20 43.1 +1.9
SNR=456
KSJMJ **Jumunjin** 31.39 8 P P 23 20 43.5 +2.1
SNR=1103
KSIJA **INJE** 31.41 7 P P 23 20 43.6 +2.0
SNR=265
KSCWO **Cheorwon** 31.43 6 P P 23 20 44.2 +2.4
SNR=162
QIS **Mount Isa** 31.50 150 ⇑P P 23 20 42.6 -0.1
baz=32,SNR=458
SEHB **SEOHWA** 31.70 7 P P 23 20 46.1 +2.0
SNR=50
ASAR **Alice Springs** 31.94 161 P P 23 20 46.3 -0.1
comp=Z,5μm,0.5s,baz=340,slow=6.6,SNR=931
ASAR PcP PcP 23 23 17.7 +1.2
comp=Z,783nm,0.6s,baz=351,slow=3.4,SNR=5.6
ASAR S S 23 25 15.7 +0.6
comp=Z,4μm,1.0s,baz=353,slow=23,SNR=19
ASAR ScP ScP 23 25 60.0 -1.2
comp=Z,1μm,0.8s,baz=312,slow=1.1,SNR=4.6
ASAR P3KPbc 23 52 00.1
comp=Z,20nm,0.9s,baz=154,slow=3.5,SNR=14
WRKA **Warakurna** 31.95 171 ⇑P P 23 20 46.6 +0.1
baz=32,SNR=876
DL2 **Dalian** 32.06 358 ⇓*i*P P 23 20 46.6 -0.5
DL2 S S 23 25 16.0 -0.4
DL2 ScP ScP 23 26 01.4 +0.2
DL2 ScS ScS 23 30 01.5 -0.2
DL2 PMZ
comp=Z,4μm,0.7s
MTSU **Mount Surprise** 32.25 140 ⇑P P 23 20 49.2 +0.1
baz=32,SNR=218
COCO **West Island** 32.37 235 P P 23 20 49.1 -0.9
comp=Z,29μm,0.8s,SNR=31
COCO **West Island** 32.37 235 *e*P P 23 20 48.9 -1.1
COCO pmax pmax
comp=Z,5μm,0.8s
COCO **West Island** 32.37 235 *e*P P 23 20 48.9 -1.1
comp=Z,5μm,0.8s
COCO *e*ScP ScP 23 26 05.4 +2.7
TIY **Taiyuan** 32.38 344 *e*P P 23 20 51.5 +1.5
TIY sP sP 23 23 44.5 +0.7
TIY S S 23 25 24.1 +2.6
TIY ScS ScS 23 30 04.3 +0.6
TIY PMZ
comp=Z,4μm,0.6s
TIY PMZ
comp=Z,59μm,11.2s
MAJO **Matsushiro** 32.63 23 *c i*P P 23 20 51.8 -0.2
MAJO **Matsushiro** 32.63 23 *e*P P 23 20 50.6 -1.5
comp=Z,8μm,0.9s
MAT **Matsushiro** 32.63 23 P P 23 20 51.7 -0.3
MAT S S 23 25 23.0 -2.3
MJAR **Matsushiro Arr** 32.63 23 P P 23 20 50.4 -1.7
comp=Z,4μm,1.0s,baz=198,slow=9.8,SNR=977
MJAR S S 23 25 22.5 -2.8
comp=Z,220nm,0.9s,baz=200,slow=13,SNR=7.5
MJAR ScP ScP 23 26 04.5 +1.2
comp=Z,144nm,0.8s,baz=196,slow=4.3,SNR=4.5
MJAR P3KPbc 23 51 58.4
comp=Z,9.7nm,1.0s,baz=358,slow=4.0,SNR=10
LKP **Lekhapani** 33.00 312 *ex* P 23 20 49.0 -6.2
LKP *ex* P 23 20 55.0 -0.2
IMP **Imphal** 33.37 306 *e*P P 23 20 57.0 -1.4
IMP *ex* x 23 23 17.0
BJT **Baijiatuan** 33.75 350 *e*P P 23 21 01.2 -0.1
BJT pmax pmax
comp=Z,3μm,0.8s
BJT **Baijiatuan** 33.75 350 *e*P P 23 21 01.2 -0.1
comp=Z,3μm,0.8s
BJI **Beijing** 33.77 350 P P 23 21 02.8 +1.4
BJI pP pP 23 22 41.9 -0.8
BJI S S 23 25 42.6 +0.4
BJI sS sS 23 28 50.8 -0.2
BJI ScS ScS 23 30 11.9 +1.1
BJI PMZ
comp=Z,2μm,0.9s
BJI PMZ
comp=Z,53μm,10.8s
LZH **Lanzhou** 34.23 331 ⇓P P 23 21 08.3 +2.8
LZH PcP PcP 23 23 24.3 +1.2
LZH S S 23 25 55.0 +5.4
LZH ScP ScP 23 26 11.8 +2.6
LZH sS sS 23 28 57.1 -1.6
LZH SS SS 23 29 00.0 -5.1
LZH ScS ScS 23 30 15.0 +1.1
LZH PMZ
comp=Z,9μm,1.0s
LZH PMZ
comp=Z,56μm,4.9s
PATS **Pohnpei** 34.74 88 ⇑P P 23 21 11.3 +1.5
baz=35,SNR=40
CTA **Charters Tower** 34.92 140 P P 23 21 10.6 -0.8
comp=Z,3μm,0.8s,baz=315,slow=11,SNR=462
CTA S S 23 25 59.8 -0.2
comp=Z,159nm,0.8s,baz=22,slow=23,SNR=3.4
CTA ScP ScP 23 26 11.0 -0.8
comp=Z,962nm,0.8s,baz=308,slow=7.6,SNR=8.0
CTA P3KPbc 23 51 48.1
comp=Z,19nm,0.8s,baz=140,slow=3.4,SNR=9.8
CTA **Charters Tower** 34.92 140 ⇑P P 23 21 11.8 +0.5
baz=35
CTAO **Charters Tower** 34.92 140 *e*P P 23 21 12.1 +0.8
CTAO pmax pmax
comp=Z,4μm,0.8s
CTAO **Charters Tower** 34.92 140 *e*P P 23 21 12.1 +0.8
comp=Z,4μm,0.8s
SNY **Shenyang** 34.94 0 ⇓P P 23 21 12.1 +1.0
SNY S S 23 26 00.0 +0.4
SNY PMZ
comp=Z,1μm,0.7s
SNY PMZ
comp=Z,67μm,12.0s
SHL **Shillong** 35.38 306 *i* P P 23 21 16.3 +1.1
SHL *e*S S 23 26 04.8 -2.3
HHC **Hu-ho-hao-te** 35.55 345 *e*P P 23 21 18.1 +1.8
HHC PP pP 23 22 58.8 -0.1
HHC S S 23 26 08.8 -0.3
HHC SS SS 23 29 24.8 -2.1
HHC PMZ
comp=Z,1μm,0.7s
HHC PMZ
comp=Z,19μm,3.7s
MSHR **Mys Shultsa** 36.36 10 *e*P P 23 21 25.0 +2.3
CN2 **Changchun** 36.96 3 *e*P P 23 21 27.8 +0.2
CN2 *ep*P pP 23 23 09.8 -1.5
CN2 *e*S S 23 26 36.6 +7.0
CN2 SS SS 23 29 53.3 +3.5
CN2 PMZ
comp=Z,30μm,12.0s
VLA **Vladivostok** 37.01 10 *d i*P P 23 21 29.5 +1.5
VLA pmax pmax
comp=Z,2μm,0.9s
FORT **Forrest** 37.58 173 *e*P P 23 21 32.8 -0.1
comp=Z,23μm,0.8s
LSA **Lhasa** 37.92 311 P P 23 21 38.8 +2.6
LSA S S 23 26 42.4 -2.6
LSA SS SS 23 30 01.8 -5.0
LSA **Lhasa** 37.92 311 *e*P P 23 21 36.9 +0.7
LSA pmax pmax
comp=Z,6μm,0.7s
LSA **Lhasa** 37.92 311 *e*P P 23 21 36.9 +0.7
comp=Z,6μm,0.7s
I45RU **USSURIYSK INFR** 38.07 10 P P 23 21 45.0 +8.4
baz=200,slow=9.8,SNR=0.8
USRK **Ussuriysk Ar.** 38.08 10 P P 23 21 36.1 -0.5
comp=Z,712nm,0.7s,baz=197,slow=9.2,SNR=174
USRK PP PP 23 23 26.1 +1.6
comp=Z,736nm,1.0s,baz=194,slow=8.3,SNR=4.7
USRK ScS ScS 23 30 36.1 +1.1
comp=Z,82nm,1.1s,baz=220,slow=3.8,SNR=3.9

MDJ **Mudanjiang** 38.12 7 P P 23 21 38.8 +1.8
MDJ pP pP 23 23 20.3 -1.2
MDJ PcP PcP 23 23 34.6 0.0
MDJ sP sP 23 24 30.8 -3.0
MDJ S S 23 26 51.0 +4.4
MDJ PcS PcS 23 27 24.6 -0.1
MDJ sS SS 23 30 04.1 -4.6
MDJ ScS ScS 23 30 36.8 +1.5
MDJ PMZ
comp=Z,2μm,0.9s
MDJ PMZ
comp=Z,57μm,9.2s
MDJ **Mudanjiang** 38.12 7 *e*P P 23 21 37.5 +0.5
comp=Z,3μm,1.0s
GTK **Gangtok** 38.78 306 *e*P P 23 21 42.0 -0.9
GTA **Gaotai** 38.81 330 ⇓P P 23 21 42.9 +0.1
GTA ScP ScP 23 26 27.4 +1.1
GTA S S 23 27 00.1 +3.0
GTA ScS ScS 23 30 39.8 -0.1
GTA PMZ
comp=Z,11μm,8.0s
QLP **Quilpie** 38.84 149 ⇑P P 23 21 42.6 -0.4
baz=39,SNR=184
ERM **Erimo** 39.29 24 P P 23 21 47.5 +1.1
comp=Z,16μm,0.9s
ERM **Erimo** 39.29 24 ⇓*i*P P 23 21 47.8 +1.4
ERM pmax pmax
comp=Z,4μm,1.1s
ERM **Erimo** 39.29 24 *e*P P 23 21 47.4 +1.0
comp=Z,3μm,0.9s
TAPN **Taplejung** 39.52 306 *e*P P 23 21 49.0 +0.1
ODAN **Odare** 39.58 305 *e*P P 23 21 49.3 0.0
BOK **Bokaro** 39.73 299 *e*P P 23 21 49.6 -0.6
BOK AMB AMB 23 21 57.9
comp=Z,7μm,1.4s
HNR **Honiara** 39.87 113 *e*P P 23 21 52.2 +0.8
HNR pmax pmax
comp=Z,2μm,0.8s
HNR **Honiara** 39.87 113 *e*P P 23 21 52.2 +0.8
comp=Z,2μm,0.8s
NWAO **Narrogin (SRO)** 39.87 188 P P 23 21 51.1 -0.1
comp=Z,5μm,0.9s,baz=329,slow=6.4,SNR=617
CHLP **Challavanipeta** 39.97 291 *e*P P 23 21 52.1 -0.1
CHLP IAmb IAmb 23 22 01.1
comp=Z,7μm,0.8s
CHLP *ep*P pP 23 23 38.2 0.0
CHLP *ep*P PP 23 23 45.1 +3.0
CHLP *es*P sP 23 24 52.4 +2.5
CHLP *e*ScP ScP 23 26 29.0 -2.1
CHLP *e*S S 23 27 15.2 +1.0
CHLP *e*SS SS 23 30 42.6 +3.0
RAMN **Ramite** 40.26 304 *e*P P 23 21 54.9 +0.2
VIS **Vishakhapatnam** 40.49 289 *e*P P 23 21 56.9 +0.5
VIS AMB AMB 23 22 03.6
comp=Z,6μm,0.0s
ASAJ **Asahikawa** 40.87 21 *e*P P 23 21 59.3 +0.3
comp=Z,5μm,0.7s
BBOO **Buckleboo** 41.16 164 ⇑P P 23 22 01.0 -0.3
baz=41,SNR=1000
BBOO **Buckleboo** 41.16 164 *e*P P 23 22 01.4 +0.1
comp=Z,15μm,1.0s
RMQ **Roma** 41.22 144 ⇓P P 23 22 02.6 +0.6
baz=41,SNR=112
GUN **Gumba** 41.23 305 *e*P P 23 22 02.5 +0.1
PKI **Pulchoki** 41.48 305 *e*P P 23 22 03.9 -0.5
DMN **Daman** 41.74 304 *e*P P 23 22 06.1 -0.3
DMN **Daman** 41.74 304 *e*P P 23 22 08.0 +1.6
comp=Z,30μm,0.9s
EIDS **Eidsvold** 41.80 141 ⇓P P 23 22 06.1 -0.4
baz=42,SNR=570
EIDS **Eidsvold** 41.80 141 *e*P P 23 22 06.7 +0.2
comp=Z,6μm,1.2s
PVM **Polavaram** 42.02 288 *e*P P 23 22 07.4 -0.9
PVM IAmb IAmb 23 22 15.0
comp=Z,4μm,0.6s
PVM *e*PcP PcP 23 23 48.1 +0.1
PVM *e*ScP ScP 23 26 38.6 -0.7
PVM *e*S S 23 27 44.7 +1.1
PVM *e* 23 30 53.2
YUK **Yuzh-Kuril'sk** 42.06 24 *d i*P P 23 22 09.4 +1.2
YUK *i* *PP PcP 23 23 51.6 +4.0
YUK *i* 23 24 00.8
YUK *i* S S 23 27 43.2 -0.3
YUK *i* *SS ScS 23 30 58.9 -0.4
YUK *i* 23 31 02.0
YUK *i* SS SS 23 31 14.0 +1.2
YUK pmax pmax
comp=Z,13μm,2.5s
YUK pmax pmax
comp=E,2μm,1.3s
YUK pmax pmax
comp=Z,8μm,1.3s
YUK pmax pmax
comp=N,799nm,0.7s
STKA **Stephens Creek** 42.17 157 P P 23 22 09.2 -0.1
comp=N,3μm,0.7s,baz=333,slow=7.6,SNR=397
STKA ScP ScP 23 26 38.2 -1.4
comp=N,814nm,0.8s,baz=326,slow=7.0,SNR=3.9
STKA S S 23 27 45.3 -0.2
comp=N,950nm,1.1s,baz=157,slow=17,SNR=4.2
STKA PKP2ab 23 55 12.1
comp=N,10.0nm,0.8s,baz=254,slow=1.7,SNR=2.9
STKA **Stephens Creek** 42.17 157 *e*P P 23 22 09.8 +0.5
STKA S S 23 27 45.3 -0.2
STKA pmax pmax
comp=Z,1μm,0.8s
STKA **Stephens Creek** 42.17 157 P P 23 22 09.5 +0.2
baz=42
STKA **Stephens Creek** 42.17 157 *e*P P 23 22 09.8 +0.5
comp=Z,1μm,0.8s
STKA ScP ScP 23 26 38.2 -1.4
STKA S S 23 27 45.3 -0.2
STKA P'P'ab P'P'ab 23 55 12.1 +0.2
GKN **Gorkha** 42.27 305 *e*P P 23 22 09.9 -0.5
H01W3 **Cape Leeuwin H** 42.30 191 P P 23 22 12.5 +2.5
baz=14,slow=5.7,SNR=1148
PALK **Pallekele** 42.30 273 P P 23 22 12.2 +1.6
comp=Z,15μm,1.1s,SNR=88
PALK **Pallekele** 42.30 273 P P 23 22 10.7 0.0
comp=Z,1μm,0.7s,baz=91,slow=7.5,SNR=102
PALK **Pallekele** 42.30 273 *e*P P 23 22 11.5 +0.8
PALK pmax pmax
comp=Z,3μm,0.9s
PALK **Pallekele** 42.30 273 *i* P P 23 22 12.2 +1.6
SNR=208
PALK **Pallekele** 42.30 273 *e*P P 23 22 11.5 +0.8
comp=Z,3μm,0.9s
H01W1 **Cape Leeuwin H** 42.30 191 P P 23 22 12.2 +2.2
baz=14,slow=5.7,SNR=1398
H01W2 **Cape Leeuwin H** 42.31 191 P P 23 22 12.6 +2.5
baz=14,slow=5.7,SNR=1329
HIA **Hailar** 42.49 357 *e*P P 23 22 11.2 -0.3
HIA pmax pmax
comp=Z,2μm,0.9s
HIA **Hailar** 42.49 357 *e*P P 23 22 11.2 -0.3
comp=Z,2μm,0.9s
HTT **Hallett** 42.60 161 ⇑P P 23 22 13.0 +0.3
baz=43,SNR=1000
HABR **Khabarovsk** 42.76 11 *e*P P 23 22 13.1 -0.5
HABR *e* 23 23 49.3
HABR *e* 23 24 05.2
HABR *e*S S 23 27 55.0 +1.7
HABR *e* 23 31 05.5
HABR *e*SS SS 23 31 26.2 +2.3
HABR pmax pmax
comp=Z,30μm,5.8s
HABR pmax pmax
comp=Z,3μm,1.2s
HABR MLR MLR
comp=Z,26μm,17.0s
MDRS **Chennai** 42.86 282 *e*P P 23 22 15.1 +0.2
KOLN **Koldanda** 43.04 304 *e*P P 23 22 16.5 +0.1
DANN **Dangsing** 43.12 305 *e*P P 23 22 16.9 -0.2
ULN **Ulaanbaatar** 43.27 344 *d i*P P 23 22 18.5 +0.8
ULN pmax pmax
comp=Z,7μm,1.7s
ULN **Ulaanbaatar** 43.27 344 *e*P P 23 22 17.6 -0.2
comp=Z,9μm,1.5s
ADKI **Addanki** 43.39 286 *e*P P 23 22 18.6 -0.4
ADKI IAmb IAmb 23 22 25.8
comp=Z,3μm,0.7s
ADKI *e*PcP PcP 23 23 53.0 +0.3
ADKI *e*PP PP 23 24 11.9 -1.5
ADKI *es*P sP 23 25 18.6 0.0

ADKI eScP ScP 23 26 43.9 -1.1
ADKI eS S 23 27 59.4 -3.8
ADKI e 23 31 06.6
ADKI eSS SS 23 31 39.1 +4.2
YSS Yuzh-Sakhalins 43.40 19 *i* P **P 23 22 19.4 +0.9**
YSS Yuzh-Sakhalins 43.40 19 *e*P **P 23 22 19.0 +0.5**
comp=Z,3μm,1.0s
SONM Songino Array 43.42 343 P **P 23 22 18.5 -0.4**
comp=Z,2μm,0.9s,baz=158,slow=7.5,SNR=398
SONM PcP **PcP 23 23 52.4 0.0**
comp=Z,604nm,0.8s,baz=158,slow=5.0,SNR=5.3
SONM ScP **ScP 23 26 44.5 -0.2**
comp=Z,341nm,0.7s,baz=148,slow=4.1,SNR=6.7
SONM PKiKP **PKiKP 23 30 52.0 -0.3**
comp=Z,32nm,0.8s,baz=187,slow=2.8,SNR=5.5
SONM P3KP 23 52 56.0
comp=Z,4.6nm,1.0s,baz=302,slow=3.2,SNR=3.8
SONM P4KPbc 00 00 05.5
comp=Z,7.9nm,1.0s,baz=147,slow=4.0,SNR=6.2
SKHT Srikalahasti 43.43 283 *e*P **P 23 22 18.8 -0.5**
SKHT IAmb IAmb 23 22 26.3
comp=Z,9μm,1.2s
SKHT *e*PcP **PcP 23 23 53.5 +0.6**
SKHT *e*pP **pP 23 24 08.5 +0.3**
SKHT *e*PP PP 23 24 19.1 +5.3
SKHT *e*sP sP 23 25 27.1 +8.2
SKHT *e*ScP **ScP 23 26 45.9 +0.7**
SKHT *e*S **S 23 28 04.6 +0.9**
SKHT *e* 23 31 04.4
SKHT *e*SS **SS 23 31 41.5 +5.9**
CMSA Cobar Meteorol 43.65 152 ⇓P **P 23 22 21.5 +0.8**
baz=44,SNR=1000
KUR Kuril'sk 43.87 25 *c i* P **P 23 22 23.0 +0.8**
KUR *i* 23 23 50.0
KUR *i* 23 24 18.3
KUR *i* S **S 23 28 09.9 +0.9**
KUR *i* 23 31 11.1
KUR *i* *SS **sS 23 31 24.4 -3.5**
KUR pmax pmax
comp=N,1μm,1.4s
KUR pmax pmax
comp=Z,5μm,1.4s
KUR pmax pmax
comp=E,638nm,0.7s
KUR pmax pmax
comp=Z,11μm,2.4s
KUR MLR MLR
comp=N,34μm,20.0s
KUR MLR MLR
comp=E,29μm,20.0s
KUR MLR MLR
comp=Z,28μm,20.0s
NJS Nagarjunasagar 44.11 287 *e*P **P 23 22 24.1 -0.5**
NJS IAmb IAmb 23 22 31.1
comp=Z,5μm,0.7s
NJS *e*PcP **PcP 23 23 55.1 -0.1**
NJS *e*PP **PP 23 24 20.2 +0.2**
NJS *e*ScP **ScP 23 26 47.4 -0.5**
NJS *e*S **S 23 28 10.6 -2.7**
NJS *e* 23 31 11.5
RCLA Racherla 44.32 285 *e*P **P 23 22 25.1 -1.1**
RCLA IAmb IAmb 23 22 32.6
comp=Z,4μm,0.8s
RCLA *e*PcP **PcP 23 23 56.5 +0.5**
RCLA *e*pP **pP 23 24 14.2 -1.5**
RCLA *e*sP **sP 23 25 24.9 -1.3**
RCLA *e*ScP **ScP 23 26 49.0 +0.2**
RCLA *e*S **S 23 28 15.0 -1.3**
RCLA *e* 23 31 07.8
RCLA *e*SS **SS 23 31 50.5 +0.7**
SRLM Srisailam 44.45 286 *e*P **P 23 22 25.4 -1.8**
SRLM IAmb IAmb 23 22 33.6
comp=Z,6μm,1.1s
SRLM *e*PcP **PcP 23 23 57.5 +1.1**
SRLM *e*PP PP 23 24 30.4 +7.2
SRLM *e*sP **sP 23 25 31.3 +4.0**
SRLM *e*ScP **ScP 23 26 49.2 -0.2**
SRLM *e*S **S 23 28 15.9 -2.3**
SRLM *e* 23 31 08.7
SRLM *e*SS **SS 23 31 51.7 -0.3**
RPR Rampur 44.47 290 *e*P **P 23 22 25.9 -1.3**
RPR IAmb IAmb 23 22 33.9
comp=Z,7μm,0.6s
RPR *e*PcP **PcP 23 23 59.2 +2.7**
RPR *e*pP **pP 23 24 15.8 -1.0**
RPR *e*PP **PP 23 24 28.3 +5.1**
RPR *e*sP **sP 23 25 25.7 -1.7**
RPR *e*ScP **ScP 23 26 47.0 -2.4**
RPR *e*S **S 23 28 18.4 +0.1**
RPR *e*SS **SS 23 31 52.9 +0.8**
HYB Hyderabad 44.94 288 *i* P **P 23 22 30.0 -0.9**
HYB Hyderabad 44.94 288 *e*P **P 23 22 30.9 -0.1**
HYBB Hyderabad (bro 44.94 288 *e*P **P 23 22 29.9 -1.1**
HYBB IAmb IAmb 23 22 37.2
comp=Z,11μm,1.2s
HYBB *e*PcP **PcP 23 23 58.0 -0.2**
HYBB *e*PP **PP 23 24 29.8 +2.2**
HYBB *e*ScP **ScP 23 26 50.5 -1.0**
HYBB *e*S **S 23 28 24.3 -0.7**
HYBB *e* 23 31 16.5
HYBB *e*SS **SS 23 32 02.0 +2.3**
NGP Nagpur 45.12 293 *e*P **P 23 22 30.8 -1.4**
NGP *ex* x 23 28 28.4
SRSP Sriramsagar 45.37 290 *e*P **P 23 22 32.9 -1.2**
SRSP IAmb IAmb 23 22 40.4
comp=Z,9μm,1.0s
SRSP *e*PcP **PcP 23 23 59.3 -0.3**
SRSP *e*pP **pP 23 24 24.0 -0.4**
SRSP *e*PP **PP 23 24 31.7 +0.3**
SRSP *e*sP **sP 23 25 38.5 +3.8**
SRSP *e*ScP **ScP 23 26 52.2 -0.9**
SRSP *e*S **S 23 28 31.2 +0.4**
SRSP *e* 23 31 08.3
SRSP *e*SS **SS 23 32 06.5 +0.2**
ARMA Armidale 45.84 145 *e*P **P 23 22 38.8 +1.2**
comp=Z,9μm,1.1s
CIT Chita 45.85 352 *e*P **P 23 22 39.0 +1.7**
CIT *e* 23 24 02.1
CIT *e* 23 24 33.4
CIT *e*S **S 23 28 39.9 +3.2**
CIT *e* 23 31 24.3
CIT pmax pmax
comp=Z,10μm,1.7s
URV Uravakonda 45.90 284 *e*P **P 23 22 36.7 -1.5**
URV IAmb IAmb 23 22 44.3
comp=Z,5μm,0.9s
URV *e*PcP **PcP 23 24 01.4 -0.2**
URV *e*PP **PP 23 24 34.6 -1.6**
URV *e*sP **sP 23 25 43.2 +4.0**
URV *e*ScP **ScP 23 26 54.1 -1.3**
URV *e*S **S 23 28 37.4 -1.0**
URV *e* 23 31 19.1
URV *e*SS **SS 23 32 15.6 +0.8**
TRD Trivandrum 45.97 275 *e*P **P 23 22 39.4 +0.6**
LGTI Lohaghat 46.39 305 *e*P **P 23 22 42.3 +0.7**
LGTI *ex* x 23 26 58.8
PTH Pithoragarh 46.45 305 *e*P **P 23 22 39.9 -2.4**
PTH *ex* x 23 26 52.2
JHNI Jhansi 46.60 299 *ex* P 23 22 37.0 -6.3
JHNI *ex* x 23 23 55.0
ZAK Zakamensk 46.62 342 ⇓*i*P **P 23 22 44.2 +1.1**
ZAK *e* 23 24 03.4
ZAK *e* 23 28 51.4
ZAK *e* 23 31 29.3
ZAK pmax pmax
comp=Z,1μm,1.5s
KLRI Killari 46.88 288 *e*P **P 23 22 44.5 -1.0**
KLRI IAmb IAmb 23 22 51.5
comp=Z,8μm,0.7s
KLRI *e*PcP **PcP 23 24 06.2 +1.1**
KLRI *e*pP **pP 23 24 36.4 -0.7**
KLRI *e*sP **sP 23 25 49.7 +2.7**
KLRI *e*ScP **ScP 23 27 00.2 +0.7**
KLRI *e*S **S 23 28 48.4 -3.5**
KLRI *e* 23 31 26.6
KLRI *e*SS **SS 23 32 23.4 -6.9**
BHPL Bhopal 47.04 295 *e*P **P 23 22 47.2 +0.6**
JOSI Joshimath 47.34 306 *e*P **P 23 22 47.3 -1.7**
AGRA Agra 47.61 301 *e*P **P 23 22 49.7 -1.1**
TLY Talaya 47.66 344 P **P 23 22 50.7 -0.1**
comp=Z,1μm,0.7s,baz=198,slow=4.4,SNR=526
TLY Talaya 47.66 344 *d i*P **P 23 22 52.7 +1.9**
TLY *e*S **S** 23 29 04.8 +3.2
TLY *e* 23 31 32.9
TLY *e*SS SS 23 32 48.9 +7.3
TLY pmax pmax
comp=Z,1μm,0.6s
TLY Talaya 47.66 344 P **P 23 22 52.4 +1.6**
comp=Z,19μm,0.6s
TLY Talaya 47.66 344 *e*P **P 23 22 51.0 +0.2**
comp=Z,8μm,1.5s
IRK Irkutsk 48.00 344 ⇓*i*P **P 23 22 54.2 +1.0**
IRK *e* 23 29 02.6
IRK *e* 23 31 31.2
IRK pmax pmax
comp=Z,7μm,1.8s
CAN Canberra 48.33 152 ⇓P **P 23 22 56.9 +0.9**
baz=48
WMQ Urumqi 48.34 326 P **P 23 22 57.5 +1.5**
WMQ PcP **PcP 23 24 12.4 +2.4**
WMQ PP **PP 23 25 00.5 +2.8**
WMQ S **S 23 29 14.1 +2.9**
WMQ PMZ
comp=Z,6μm,1.0s
WMQ PMZ
comp=Z,60μm,5.5s
BISR Bishrakh 48.43 302 *e*P **P 23 22 56.6 -0.2**
MOY Mondy 48.44 342 *e*P **P 23 22 58.5 +1.9**
MOY pmax pmax
comp=Z,12μm,1.8s
DDI Dehra Dun 48.48 305 *e*P **P 23 22 56.7 -0.5**
DDI AMB AMB 23 23 04.1
comp=Z,18μm,1.9s
DDI *ex* x 23 28 18.0
NDI New Delhi 48.65 302 *e*P **P 23 22 56.0 -2.5**
NDI *e*S **S 23 29 13.0 -2.8**
AYAN Aya Nagar 48.67 302 *e*P **P 23 22 58.0 -0.6**
BHGR Bahadurgarh 48.88 302 *e*P **P 23 23 00.1 0.0**
KUDL Kundal 49.10 302 *e*P **P 23 23 00.7 -1.1**
GOA Goa 49.25 285 *e*P **P 23 23 02.1 -0.9**
KKR Kurukshetra 49.37 304 *e*P **P 23 23 04.1 +0.3**
SMLA Simla 49.47 306 *i* P **P 23 23 04.6 +0.3**
SMLA AMB AMB 23 23 10.8
comp=Z,57μm,0.3s
SMLA *i* S **S 23 29 25.6 -1.1**
SMLA *i* S S 23 29 27.8 +1.1
POO Poona 49.53 289 *e*P **P 23 23 03.1 -2.0**
KHET Khetri 49.66 301 *e*P **P 23 23 05.7 -0.3**
TARA Tarawa 49.74 94 *e*P **P 23 23 08.1 +1.4**
comp=Z,9μm,1.2s
SDNR Sundarnagar 49.75 306 *ex* **P 23 23 06.0 -0.5**
CLNS Chul'man 49.98 1 *e*P **P 23 23 08.8 +1.1**
CLNS *e* 23 24 16.7
CLNS *e**PP **PP 23 25 08.1 -4.0**
CLNS *e* 23 25 12.4
CLNS *e*S **S 23 29 30.2 -2.7**
CLNS *e* 23 31 44.2
CLNS *e**SS **sS 23 32 57.5 -1.0**
CLNS pmax pmax
comp=Z,884nm,1.1s
CLNS pmax pmax
comp=E,572nm,0.8s
CLNS pmax pmax
comp=N,609nm,0.7s
CLNS pmax pmax
comp=E,256nm,1.0s
CLNS pmax pmax
comp=Z,577nm,0.9s
CLNS pmax pmax
comp=N,375nm,0.9s
CLNS smax smax
comp=E,47μm,11.7s
CLNS smax smax
comp=N,63μm,14.3s
BHK Bhakra 50.17 306 *ex* P 23 23 15.0 +5.5
BHK *ex* x 23 23 58.6
DHRM DHARAMSHALA 50.54 307 *e*P **P 23 23 11.3 -1.1**
DHRM AMB AMB 23 23 18.5
comp=Z,19μm,1.5s
PONG Pong 50.72 306 *e*P **P 23 23 12.0 -1.4**
PONG *ex* x 23 24 16.0
DLH Dalhousie 50.90 307 *e*P **P 23 23 12.0 -3.1**
NOUC Port Laguerre 50.93 125 *e*P **P 23 23 14.3 -0.8**
DZM Mont Dzumac 51.03 125 P **P 23 23 15.8 -0.1**
comp=Z,636nm,0.5s,baz=180,slow=3.2,SNR=221
DZM ScP **ScP 23 27 17.1 -0.2**
comp=Z,279nm,1.0s,baz=0.0,slow=6.4,SNR=3.9
DZM S **S 23 29 50.6 +2.5**
comp=Z,89nm,1.0s,baz=180,slow=22,SNR=11
LHI Lord Howe Isla 51.11 140 P **P 23 23 18.0 +1.8**
baz=51,SNR=97
NORM Noumea 51.14 126 *e*P **P 23 23 17.7 +1.1**
PLUM Mont Dore 51.29 125 *e*P **P 23 23 17.2 -0.4**
BAYA Yate Dam 51.43 125 *e*P **P 23 23 20.7 +2.0**
BOD Bodaibo 51.47 354 *e*P **P 23 23 17.8 -0.5**
BOD *e*S **S 23 29 53.8 +1.2**
BOD pmax pmax
comp=Z,2μm,1.3s
BHV Bhavnagar 51.56 292 *e*P **P 23 23 18.0 -1.6**
BHV *ex* x 23 23 26.0
SKR Severo-Kuril's 51.60 26 *i* P **P 23 23 17.2 -2.2**
SKR *e*S **S 23 29 50.0 -4.6**
SKR *e* 23 31 56.0
SKR *e**SS sS 23 33 12.0 -10
SKR pmax pmax
comp=Z,5μm,1.0s
SKR pmax pmax
comp=N,5μm,1.5s
SKR pmax pmax
comp=E,3μm,1.5s
SKR smax smax
comp=N,146μm,17.0s
SKR smax smax
comp=E,23μm,12.0s
SKR smax smax
comp=N,21μm,3.0s
SKR smax smax
comp=E,14μm,3.0s
SKR MLR MLR
comp=N,9μm,16.0s
SKR MLR MLR
comp=Z,28μm,16.0s
SKR MLR MLR
comp=E,19μm,14.0s
JMU Jammu 51.81 307 *ex* P 23 23 15.0 -6.2
JMU *ex* **P 23 23 20.5 -0.7**
DGAR Diego Garcia 52.66 255 P **P 23 23 28.4 +0.8**
comp=E,23μm,1.1s,SNR=30
DGAR Diego Garcia 52.66 255 *e*P **P 23 23 26.5 -1.1**
DGAR pmax pmax
comp=Z,6μm,1.1s
DGAR Diego Garcia 52.66 255 *e*P **P 23 23 26.5 -1.1**
comp=Z,6μm,1.1s
H08S2 Diego Garcia H 52.67 255 P **P 23 23 24.4 -3.0**
baz=39,slow=9.5,SNR=768
H08S3 Diego Garcia H 52.68 255 P **P 23 23 24.3 -3.1**
baz=39,slow=9.5,SNR=350
H08S1 Diego Garcia H 52.69 255 P **P 23 23 24.5 -3.1**
baz=39,slow=9.5,SNR=352
MK31 Makanchi Array 53.17 326 *e*P **P 23 23 30.5 -0.2**
MK31 Makanchi Array 53.17 326 *e*P **P 23 23 30.5 -0.2**
MKAR Makanchi Array 53.17 326 P **P 23 23 30.4 -0.3**
comp=Z,2μm,0.5s,baz=123,slow=6.9,SNR=772
MKAR PcP **PcP 23 24 28.2 +0.1**
comp=Z,731nm,0.5s,baz=115,slow=4.2,SNR=3.6
MKAR ScP **ScP 23 27 25.0 -1.1**
comp=Z,2μm,0.9s,baz=129,slow=5.2,SNR=9.4
MKAR S **S 23 30 14.5 -1.1**
comp=Z,105nm,1.0s,baz=121,slow=8.3,SNR=2.8
MKAR P3KP 23 52 35.3
comp=Z,2.7nm,0.8s,baz=306,slow=1.0,SNR=4.1
MKAR P4KPbc 00 00 45.8
comp=Z,38nm,0.6s,baz=124,slow=4.2,SNR=31
KSH Kashi 53.53 315 P **P 23 23 34.5 +1.0**
KSH PcP **PcP 23 24 33.3 +3.5**
KSH pP **pP 23 25 30.1 +0.1**
KSH sS SKiKP 23 33 46.1 +9.1
KSH SS **SS 23 34 21.3 +6.7**
KSH PMZ
comp=Z,2μm,0.7s
KSH PMZ
comp=Z,110μm,3.6s
MOO Moorlands 53.56 158 P **P 23 23 35.3 +1.9**
baz=54,SNR=138
TAU Tasmania Unive 54.02 158 P **P 23 23 38.0 +1.4**
comp=Z,13μm,0.7s,SNR=86
TAU Tasmania Unive 54.02 158 *e*P **P 23 23 37.2 +0.6**
TAU pmax pmax
comp=Z,2μm,0.8s
TAU Tasmania Unive 54.02 158 *e*P **P 23 23 37.2 +0.6**
comp=Z,2μm,0.8s
PETK Petropavlovsk- 54.04 25 P **P 23 23 36.3 -0.4**
comp=Z,182nm,0.6s,baz=201,slow=4.7,SNR=182
PETK P4KPbc 00 00 49.5
comp=Z,4.9nm,0.9s,baz=216,slow=4.6,SNR=4.6
BHJ Bhuj 54.06 294 *e*P **P 23 23 36.7 -0.6**
BHJ AMB AMB 23 23 44.0
comp=Z,12μm,1.6s
PET Petropavlovsk 54.38 25 *e*P **P 23 23 38.6 -0.4**
PET *e**PP **pP 23 25 33.4 -2.7**
PET *i* S **S 23 30 31.6 +0.6**
PET *e**SS **sS 23 33 56.8 -4.7**
PET *e*SS **SS 23 34 30.0 +2.9**
PET pmax pmax
comp=Z,5μm,1.3s
PET pmax pmax
comp=Z,56μm,14.1s
PET Petropavlovsk 54.38 25 *e*P **P 23 23 39.2 +0.2**
comp=Z,7μm,1.3s
ULHL Ulahol 54.53 318 P **P 23 23 40.6 0.0**
SNR=73
AAA Alma-Ata 54.54 320 *e*P **P 23 23 39.3 -1.1**
AAA *e*S **S 23 30 28.8 -4.9**
AAA pmax pmax
comp=Z,102μm,7.7s
AAA smax smax
comp=E,185μm,12.8s
KRAR Krasnoyarsk 54.74 340 *d i*P **P 23 23 42.1 +0.7**
KRAR pmax pmax
comp=Z,5μm,1.8s
KZA Kyzart 55.12 318 P **P 23 23 45.4 +0.5**
SNR=121
TKM2 Tokmak 2 55.26 319 P **P 23 23 45.5 -0.1**
SNR=87
TKM2 Tokmak 2 55.26 319 *e*P **P 23 23 45.3 -0.3**
TKM2 pmax pmax
comp=Z,6μm,1.4s
TKM2 Tokmak 2 55.26 319 *e*P **P 23 23 45.2 -0.3**
comp=Z,6μm,1.4s
YAK Yakutsk 55.38 4 P **P 23 23 44.8 -0.9**
comp=Z,403nm,0.6s,baz=9.2,slow=23,SNR=133
YAK S **S 23 30 46.5 +2.9**
comp=Z,21nm,0.8s,baz=354,slow=23,SNR=18
YAK Yakutsk 55.38 4 *d i*P **P 23 23 46.3 +0.6**
YAK *e* 23 24 39.4
YAK *e* 23 26 02.5
YAK *e*S **S 23 30 42.8 -0.8**
YAK *e* 23 32 26.1
YAK *e*SS **SS 23 34 44.4 +2.1**
YAK pmax pmax
comp=Z,6μm,0.8s
YAK pmax pmax
comp=N,843nm,1.0s
YAK pmax pmax
comp=E,365nm,1.0s
YAK pmax pmax
comp=Z,9μm,2.8s
YAK pmax pmax
comp=N,8μm,2.7s
YAK pmax pmax
comp=E,2μm,2.2s
YAK smax smax
comp=E,76μm,4.3s
YAK smax smax
comp=N,80μm,3.5s
YAK Yakutsk 55.38 4 *e*P **P 23 23 44.9 -0.9**
comp=N,9μm,0.7s
YAK S **S 23 30 46.5 +2.9**
KBK Karagaybulak 55.57 318 P **P 23 23 47.8 +0.1**
SNR=158
NFK Norfolk Island 55.75 132 ⇑P **P 23 23 51.0 +2.0**
baz=56,SNR=16
CHMS Chumysh 55.85 318 P **P 23 23 49.0 -0.4**
SNR=44
AAK Ala-Archa 55.87 318 P **P 23 23 50.9 +1.2**
SNR=93
AAK Ala-Archa 55.87 318 *i* P **P 23 23 51.0 +1.2**
AAK pmax pmax
comp=Z,8μm,1.6s
AAK Ala-Archa 55.87 318 *e*P **P 23 23 49.8 +0.1**
comp=Z,5μm,1.2s
FRU Bishkek 55.87 318 ⇓*i*P **P 23 23 50.0 +0.4**
FRU *i* S **S 23 30 54.0 +3.2**
FRU pmax pmax
comp=Z,22μm,3.4s
FRU smax smax
comp=N,36μm,5.8s
USP Ospenovka 56.13 319 P **P 23 23 51.2 -0.2**
SNR=391
AML Almayashu 56.19 317 P **P 23 23 54.0 +1.8**
SNR=338
EKS2 Erkin-Say 56.36 318 P **P 23 23 54.8 +1.8**
SNR=83
EKS2 Erkin-Say 56.36 318 *e*P **P 23 23 52.9 -0.1**
EKS2 pmax pmax
comp=Z,3μm,0.8s
EKS2 Erkin-Say 56.36 318 *e*P **P 23 23 52.9 -0.1**
comp=Z,3μm,0.8s
I46RU ZALESOVO INFRA 56.40 334 P **P 23 23 55.0 +2.1**
baz=151,slow=13,SNR=1.5
ZALV Zalesovo Beam 56.40 334 P **P 23 23 51.3 -1.6**
comp=Z,1μm,0.8s,baz=128,slow=5.5,SNR=417
ZALV S **S 23 30 59.7 +2.7**
comp=Z,198nm,1.0s,baz=128,slow=9.7,SNR=5.3
ZALV PKP2bc 23 53 50.3
comp=Z,30nm,0.7s,baz=314,slow=2.6,SNR=5.7
ZALV P4KPbc 00 00 58.5
comp=Z,9.7nm,0.8s,baz=172,slow=3.6,SNR=7.0
MA2 Magadan 56.70 16 *i* P **P 23 23 55.8 +0.9**
KBL Kabul 57.02 307 *e*P **P 23 23 56.9 -0.9**
KBL pmax pmax
comp=Z,5μm,0.8s
KBL Kabul 57.02 307 *e*P **P 23 23 56.9 -0.9**
comp=Z,5μm,0.8s
KURBB Kurchatov Arra 57.40 328 P **P 23 23 58.9 -0.9**
comp=Z,4μm,0.8s,baz=126,slow=6.3,SNR=1178
KURBB PKP2bc 23 53 43.4
comp=Z,61nm,1.1s,baz=290,slow=2.8,SNR=6.5
KURBB P4KPbc 00 01 03.1
comp=Z,7.8nm,0.7s,baz=124,slow=3.5,SNR=11
KURK Kurchatov 57.40 328 P **P 23 23 59.0 -0.8**
comp=Z,183μm,0.5s
KURK Kurchatov 57.40 328 *e*P **P 23 23 59.0 -0.8**
KURK pmax pmax
comp=Z,8μm,0.5s
KURK Kurchatov 57.40 328 *e*P **P 23 23 59.0 -0.8**
comp=Z,8μm,0.5s
KURK ⇑*e* 23 53 43.4
KURK *e* 00 01 03.1
NVS Novosibirsk 57.68 334 ⇓*i*P **P 23 24 01.6 0.0**
NVS *i* 23 24 47.8
NVS *i* S **S 23 31 13.3 0.0**
NVS *i* 23 32 42.0
NVS *i* SS **SS 23 35 20.3 +1.6**
NVS pmax pmax
comp=Z,2μm,0.5s
NVS pmax pmax
comp=N,2μm,0.4s
NVS pmax pmax
comp=E,2μm,0.4s
NVS smax smax
comp=N,2μm,0.8s
NVS smax smax
comp=E,5μm,1.7s
KKAR Karatay Array 58.73 317 *e*P **P 23 24 08.3 -0.6**
KKAR Karatay Array 58.73 317 *e*P **P 23 24 08.3 -0.6**
MSVF Nonsavu 59.24 115 P **P 23 24 15.7 +2.9**
comp=E,10μm,1.0s
MSVF Nonsavu 59.24 115 *e*P **P 23 24 14.0 +1.2**
MSVF pmax pmax
comp=Z,1μm,0.9s
MSVF Nonsavu 59.24 115 *e*P **P 23 24 14.0 +1.2**
comp=Z,1μm,0.9s
OTUK Ortayu 59.70 323 *i* P **P 23 24 15.3 +0.1**
MIDW Midway 59.85 61 *e*P **P 23 24 17.4 +0.9**
comp=Z,2μm,0.9s
SEY Seymchan 59.94 15 P **P 23 24 16.6 +0.1**
comp=Z,197nm,0.5s,baz=205,slow=5.3,SNR=143
SEY S **S 23 31 44.8 +3.4**
comp=Z,99nm,1.0s,baz=33,slow=20,SNR=11
SEY PKP2bc 23 53 43.8
comp=Z,101nm,1.1s,baz=55,slow=3.1,SNR=8.0
SEY Seymchan 59.94 15 *d i*P **P 23 24 18.1 +1.6**

SMY	**Shemya**	61.67	32	*e*P		**P**		**23 24 28.8**	**+0.8**
SMY	comp=Z,2µm,0.7s			pmax		pmax				
SMY	**Shemya**	**61.67**	**32**	*e*P		**P**		**23 24 28.8**	**+0.8**
	comp=Z,2µm,0.7s									
BVAR	**Borovoye Array**	**62.97**	**327**	P		**P**		**23 24 35.3**	**-1.0**
	comp=Z,2µm,0.9s,baz=124,slow=7.4,SNR=468									
BVAR				S		**S**		**23 32 20.9**	**+2.1**
	comp=Z,420nm,1.1s,baz=135,slow=15,SNR=13									
BVAR				PKP2bc				23 53 35.0		
	comp=Z,17nm,0.7s,baz=259,slow=1.5,SNR=4.2									
BVAR				P4KPbc				00 01 28.5		
	comp=Z,18nm,1.0s,baz=108,slow=4.8,SNR=12									
BRVK	**Borovoye**	**63.04**	**327**	P		**P**		**23 24 37.3**	**+0.5**
	comp=Z,43µm,1.0s									
BRVK	**Borovoye**	**63.04**	**327**	*d* *i*P		**P**		**23 24 36.7**	**-0.1**
BRVK				pmax		pmax				
	comp=Z,6µm,1.1s									
BRVK	**Borovoye**	**63.04**	**327**	*e*P		**P**		**23 24 35.8**	**-1.0**
	comp=Z,6µm,1.0s									
OUZ	**Omahuta**	**63.08**	**135**	⇓PN		**P**		**23 24 39.5**	**+2.2**
OUZ				pP		PP		23 26 54.8	-13	
OUZ	**Omahuta**	**63.08**	**135**	*e*P		**P**		**23 24 39.1**	**+1.9**
	comp=Z,1µm,1.0s									
WBK	**Wadi Bani Khal**	**63.78**	**292**	P		**P**		**23 24 42.5**	**+0.3**
	SNR=19									
WBK				P		**P**		**23 24 42.8**	**+0.7**
	SNR=133									
AMKA	**Amchitka**	**63.95**	**35**	*e*P		**P**		**23 24 42.6**	**0.0**
AMKA				⇑*e*				23 53 32.3		
WCZ	**Waipu Caves**	**63.97**	**135**	⇓PN		**P**		**23 24 45.1**	**+2.2**
IDAH	**Dahanechah**	**64.10**	**303**	*e*P		**P**		**23 24 44.5**	**+0.3**
IMYA	**Miami**	**64.53**	**307**	*e*P		**P**		**23 24 46.9**	**+0.1**
JMDO	**Jabal Madar**	**64.57**	**291**	P		**P**		**23 24 47.2**	**+0.1**
	SNR=209									
JMDO				P		**P**		**23 24 47.3**	**+0.2**
	SNR=278									
JMDO				P		**P**		**23 24 47.7**	**+0.6**
	SNR=31									
SMDO	**Samad**	**64.66**	**292**	P		**P**		**23 24 47.2**	**-0.6**
	SNR=91									
SMDO				P		**P**		**23 24 47.9**	**+0.1**
	SNR=182									
SMDO				P		**P**		**23 24 48.6**	**+0.8**
	SNR=24									
IKOO	**Kooshah**	**64.78**	**303**	*e*P		**P**		**23 24 49.6**	**+1.1**
GRZ	**Great Barrier**	**64.90**	**135**	PN		**P**		**23 24 50.8**	**+1.9**
ITEG	**Tejag**	**65.06**	**303**	*e*P		**P**		**23 24 51.3**	**+1.2**
JCZ	**Jackson Bay**	**65.07**	**146**	PN		**P**		**23 24 51.3**	**+1.5**
JCZ	**Jackson Bay**	**65.07**	**146**	PKPPKP		**P'P'bc**		**23 53 31.6**	**+2.1**
DCZ	**Deep Cove**	**65.09**	**148**	PN		**P**		**23 24 50.1**	**+0.3**
DCZ				*e*SN		**S**		**23 32 46.1**	**+1.9**
DCZ	**Deep Cove**	**65.09**	**148**	*e*P		**P**		**23 24 50.5**	**+0.8**
	comp=Z,2µm,0.9s									
IMOG	**Moghan**	**65.09**	**307**	*e*P		**P**		**23 24 51.0**	**+0.5**
MKAZ	**Moumakai**	**65.13**	**136**	⇓PN		**P**		**23 24 52.6**	**+2.4**
FOZ	**Fox Glacier**	**65.28**	**145**	PN		**P**		**23 24 52.4**	**+1.5**
FOZ				pP		pP		23 27 01.2	+6.2	
KUZ	**Kuaotunu**	**65.33**	**136**	PN		**P**		**23 24 53.2**	**+1.8**
HOQ	**Hoqain**	**65.37**	**293**	P		**P**		**23 24 51.7**	**-0.4**
	SNR=198									
QRZ	**Quartz Range**	**65.39**	**141**	⇑PN		**P**		**23 24 53.5**	**+1.8**
QRZ				pP		pP		23 27 03.5	+7.6	
QRZ				*e*SN		**S**		**23 32 50.7**	**+2.6**
QRZ				ScS		**ScS**		**23 33 46.6**	**+0.4**
BSY	**Bisya**	**65.42**	**292**	P		**P**		**23 24 53.0**	**+0.6**
	SNR=127									
IPAY	**Payeh**	**65.43**	**307**	*e*P		**P**		**23 24 52.6**	**+0.2**
KHEZ	**Kahui Hut**	**65.50**	**139**	*e*PN		**P**		**23 24 55.0**	**+2.4**
KNTN	**Kanton**	**65.52**	**96**	*e*P		**P**		**23 24 54.4**	**+1.3**
	comp=Z,2µm,0.9s									
NEZ	**North Egmont**	**65.54**	**139**	PN		**P**		**23 24 55.3**	**+2.5**
MLZ	**Mavora Lakes**	**65.55**	**147**	⇓PN		**P**		**23 24 53.2**	**+0.5**
MLZ				pP		pP		23 27 06.5	+10	
MLZ				PP		**PP**		**23 27 29.0**	**+0.2**
MLZ	**Mavora Lakes**	**65.55**	**147**	PKPPKP		**P'P'df**		**23 53 24.0**	**+1.7**
WVZ	**Waitaha Valley**	**65.60**	**144**	PN		**P**		**23 24 53.5**	**+0.5**
WVZ				*e*SN		**S**		**23 32 52.7**	**+2.3**
WVZ				ScS		**SKSac**		**23 33 45.5**	**-1.6**
WVZ	**Waitaha Valley**	**65.60**	**144**	PKPPKP		**P'P'df**		**23 53 24.3**	**+2.0**
HIZ	**Hauiti**	**65.64**	**138**	PN		**P**		**23 24 55.5**	**+2.1**
TOZ	**Tahuroa Road**	**65.68**	**137**	PN		**P**		**23 24 55.8**	**+2.2**
WKZ	**Wanaka**	**65.69**	**146**	PN		**P**		**23 24 54.5**	**+0.9**
WHZ	**Wether Hill Ro**	**65.78**	**147**	PN		**P**		**23 24 54.6**	**+0.5**
WHZ				pP		pP		23 27 06.9	+8.5	
WHZ	**Wether Hill Ro**	**65.78**	**147**	*e*P		**P**		**23 24 54.4**	**+0.3**
	comp=Z,2µm,1.1s									
LREZ	**Lake Rotokare**	**65.84**	**139**	PN		**P**		**23 24 56.7**	**+2.1**
IKRD	**Kardeh**	**65.87**	**307**	*e*P		P		23 24 51.5	-3.6	
TLZ	**Tolley Road**	**66.01**	**137**	PN		**P**		**23 24 57.8**	**+2.1**
LBZ	**Lake Benmore**	**66.07**	**145**	PN		**P**		**23 24 56.0**	**+0.1**
LBZ				*e*SN		**S**		**23 32 55.7**	**-0.3**
ARQ	**Araqi**	**66.08**	**292**	P		**P**		**23 24 57.1**	**+0.6**
	SNR=101									
ARQ				S		**P**		**23 24 57.3**	**+0.8**
	SNR=193									
EAZ	**Earnscleugh**	**66.10**	**146**	PN		**P**		**23 24 56.6**	**+0.6**
EAZ				pP		pP		23 27 08.9	+8.3	
EAZ				PP		**PP**		**23 27 31.6**	**-1.9**
NNZ	**Nelson**	**66.14**	**141**	PN		**P**		**23 24 55.6**	**-0.8**
NNZ				*e*SN		**S**		**23 32 56.2**	**-0.6**
NNZ	**Nelson**	**66.14**	**141**	PKPPKP		**P'P'df**		**23 53 21.8**	**+0.2**
THZ	**Tophouse**	**66.14**	**141**	PN		**P**		**23 24 55.9**	**-0.6**
THZ				*e*SN		**S**		**23 32 56.9**	**-0.2**
THZ				ScS		**SKSac**		**23 33 50.9**	**-0.7**
THZ	**Tophouse**	**66.14**	**141**	PKPPKP		**P'P'df**		**23 53 21.7**	**0.0**
RPZ	**Rata Peaks**	**66.16**	**144**	P		**P**		**23 24 56.2**	**-0.3**
	comp=Z,756nm,0.5s,baz=291,slow=2.9,SNR=378									
RPZ				PKP2bc				23 53 27.7		
	comp=Z,78nm,1.0s,baz=95,slow=6.8,SNR=3.6									
RPZ	**Rata Peaks**	**66.16**	**144**	*e*PN		**P**		**23 24 56.4**	**-0.2**
RPZ	**Rata Peaks**	**66.16**	**144**	*e*P		**P**		**23 24 57.0**	**+0.4**
	comp=Z,4µm,0.7s									
RPZ				⇑*e*				23 53 27.7		
DUWZ	**D'Urville Isla**	**66.25**	**140**	*e*PN		**P**		**23 24 57.9**	**+0.8**
DUWZ				*e*SN		**S**		**23 32 57.9**	**-0.4**
TWVZ	**Taurewa**	**66.32**	**138**	PN		**P**		**23 24 59.2**	**+1.5**
WATZ	**Wairara**	**66.33**	**137**	*e*PN		**P**		**23 24 59.9**	**+2.2**
WATZ				pP		**pP**		**23 27 04.2**	**+1.9**
LTZ	**Lake Taylor**	**66.34**	**143**	PN		**P**		**23 24 57.2**	**-0.4**
IBND	**Bandar-abas**	**66.34**	**297**	*e*P		**P**		**23 24 58.8**	**+0.8**
ABKT	**Ailbek**	**66.38**	**308**	P		**P**		**23 24 59.5**	**+1.4**
	comp=Z,31µm,1.0s									
GEYT	**Alibeck**	**66.38**	**308**	P		**P**		**23 24 57.8**	**-0.2**
	comp=Z,1µm,1.0s,baz=318,slow=2.0,SNR=266									
GEYT				PKP2bc				23 53 25.2		
	comp=Z,17nm,0.8s,baz=289,slow=4.5,SNR=6.8									
APZ	**The Paps**	**66.41**	**148**	PN		**P**		**23 24 57.4**	**-0.6**
APZ				pP		**pP**		**23 26 59.7**	**-3.0**
APZ				PP		**PP**		**23 27 32.4**	**-3.8**
APZ				*e*SN		**S**		**23 33 00.7**	**+0.8**
BANOM	**Banah**	**66.44**	**295**	P		**P**		**23 24 57.7**	**-0.9**
	SNR=52									
BANOM				P		**P**		**23 24 59.2**	**+0.5**
	SNR=192									
BANOM				P		**P**		**23 24 59.5**	**+0.8**
	SNR=89									
RATZ	**Rangitukua**	**66.44**	**138**	PN		**P**		**23 25 00.3**	**+2.0**
WTVZ	**West Tongariro**	**66.45**	**138**	*e*PN		**P**		**23 25 00.3**	**+1.9**
COVZ	**Chateau Observ**	**66.46**	**138**	PN		**P**		**23 24 59.7**	**+1.2**
UOSS	**Wadi Hilu**	**66.46**	**294**	P		**P**		**23 24 58.8**	**0.0**
	comp=Z,11µm,0.5s,SNR=76									
OMRZ	**Omania**	**66.46**	**137**	*e*PN		**P**		**23 25 00.4**	**+1.9**
KRVZ	**Karewarewa**	**66.47**	**138**	PN		**P**		**23 25 00.6**	**+1.9**
HSRZ	**Hossack Road**	**66.48**	**137**	*e*PN		**P**		**23 25 01.1**	**+2.5**
NGZ	**Ngauruhoe**	**66.48**	**138**	*e*PN		**P**		**23 25 00.6**	**+1.9**
FWVZ	**Far West T-bar**	**66.49**	**138**	PN		**P**		**23 25 00.5**	**+1.6**
DRZ	**Dome Shelter**	**66.51**	**138**	*e*PN		**P**		**23 25 00.7**	**+1.6**
OXZ	**Oxford**	**66.51**	**143**	PN		**P**		**23 24 58.3**	**-0.4**
HATD	**Hatta, Dubai**	**66.52**	**294**	⇑*i*P		**P**		**23 24 59.1**	**0.0**
	SNR=16									
HLRZ	**Highlands Stat**	**66.52**	**137**	PN		**P**		**23 25 01.5**	**+2.7**
WNVZ	**Wahianoa**	**66.56**	**138**	PN		**P**		**23 25 00.4**	**+1.2**
ASHO	**Ashiyiah**	**66.58**	**294**	P		**P**		**23 24 59.6**	**+0.1**
	SNR=144									
MARZ	**Manawahe**	**66.61**	**136**	PN		**P**		**23 25 01.3**	**+1.9**
TUWZ	**Tuamarina**	**66.61**	**141**	*e*PN		**P**		**23 24 59.2**	**-0.1**
TUWZ				*e*SN		**S**		**23 32 59.5**	**-2.8**
ALRZ	**Allen Road**	**66.67**	**137**	*e*PN		**P**		**23 25 01.0**	**+1.3**
ALRZ				*e*SN		**S**		**23 33 04.5**	**+1.3**
PRRZ	**Plateau Road**	**66.67**	**137**	*e*PN		**P**		**23 25 01.2**	**+1.5**
TCW	**Tory Channel**	**66.70**	**140**	PN		**P**		**23 24 59.9**	**0.0**
TCW				*e*SN		**S**		**23 33 00.2**	**-3.2**
MOVZ	**Moawhango**	**66.70**	**138**	PN		**P**		**23 25 00.9**	**+0.9**
BSWZ	**Blackbirch Sta**	**66.72**	**141**	*e*PN		**P**		**23 24 59.9**	**-0.1**
TUZ	**Tuapeka**	**66.73**	**147**	PN		**P**		**23 25 00.1**	**+0.2**
ODZ	**Otahua Downs**	**66.73**	**145**	PN		**P**		**23 25 00.7**	**+0.7**
ODZ				pP		pP		23 27 12.7	+7.9	
ODZ	**Otahua Downs**	**66.73**	**145**	*e*P		**P**		**23 25 00.8**	**+0.9**
	comp=Z,959nm,0.8s									
SHAO	**Shalim**	**66.77**	**287**	P		**P**		**23 25 01.9**	**+1.2**
	SNR=211									
SHAO				P		**P**		**23 25 02.3**	**+1.5**
	SNR=118									
RAO	**Raoul Island**	**66.83**	**126**	*e*P		**P**		**23 25 01.3**	**+0.4**
RAO				*e*				23 27 42.1		
RAO				pmax		pmax				
	comp=Z,2µm,0.8s									
RAO	**Raoul Island**	**66.83**	**126**	*e*P		**P**		**23 25 01.3**	**+0.4**
	comp=Z,2µm,0.8s									
RAO				*e*PP		**PP**		**23 27 42.1**	**+2.1**
SYZ	**Scrubby Hill**	**66.83**	**147**	PN		**P**		**23 25 00.9**	**+0.4**
GSTR	**Great Sitkin T**	**66.89**	**36**	*e*P		**P**		**23 25 01.4**	**+0.5**
GSTR				*e*S		**S**		**23 33 09.7**	**+4.2**
KHZ	**Kahutara**	**66.90**	**142**	⇓PN		**P**		**23 25 01.2**	**+0.2**
KHZ	**Kahutara**	**66.90**	**142**	*e*P		**P**		**23 25 01.0**	**0.0**
	comp=Z,1µm,0.6s									
KHZ				⇑*e*				23 53 30.6		
KIW	**Kapiti Island**	**66.92**	**140**	PN		**P**		**23 25 01.3**	**+0.1**
BHHZ	**Black Hill Sta**	**66.95**	**138**	PN		**P**		**23 25 02.2**	**+0.6**
CMWZ	**Cape Campbell**	**66.95**	**141**	PN		**P**		**23 25 01.9**	**+0.5**
CMWZ				*e*SN		**S**		**23 33 05.3**	**-1.1**
NAZ	**Nazwa, Dubai**	**66.95**	**294**	⇑*i*P		**P**		**23 25 01.8**	**0.0**
	SNR=186									
FAQ	**Al Faqa, Dubai**	**67.00**	**294**	⇓*i*P		**P**		**23 25 02.4**	**+0.3**
	SNR=223									
SNZO	**South Karori**	**67.03**	**140**	*e*P		**P**		**23 25 01.4**	**-0.4**
	comp=Z,4µm,0.6s									
SNZO				⇑*e*				23 53 23.9		
URZ	**Urewera**	**67.04**	**136**	S		**S**		**23 33 06.3**	**-1.2**
	comp=Z,126nm,0.9s,baz=217,slow=18,SNR=14									
URZ				PKP2bc				23 53 21.5		
	comp=Z,104nm,1.0s,baz=27,slow=4.5,SNR=10									
URZ	**Urewera**	**67.04**	**136**	*e*SN		**S**		**23 33 07.7**	**+0.1**
URZ	**Urewera**	**67.04**	**136**	*e*P		**P**		**23 25 02.3**	**+0.3**
	comp=Z,1µm,0.8s									
URZ				S		**S**		**23 33 06.3**	**-1.2**
URZ				⇑*e*				23 53 21.4		
OGWZ	**Otaki Gorge**	**67.06**	**140**	⇓PN		**P**		**23 25 02.4**	**+0.3**
BKZ	**Black Stump Fm**	**67.08**	**138**	PN		**P**		**23 25 01.9**	**-0.4**
BKZ				*e*SN		**S**		**23 33 06.7**	**-1.3**
BKZ	**Black Stump Fm**	**67.08**	**138**	*e*P		**P**		**23 25 02.8**	**+0.5**
	comp=Z,9µm,0.9s									
BKZ				*e*P'P'df		**P'P'df**		**23 53 19.6**	**-0.7**
MQZ	**McQueen's Vall**	**67.10**	**143**	PN		**P**		**23 25 03.0**	**+0.8**
CAW	**Cannon Point**	**67.15**	**140**	PN		**P**		**23 25 02.7**	**+0.1**
KWHZ	**Kaweka Forest**	**67.16**	**138**	*e*PN		**P**		**23 25 03.2**	**+0.4**
TSZ	**Takapari Road**	**67.18**	**139**	PN		**P**		**23 25 03.2**	**+0.4**
BHW	**Baring Head**	**67.18**	**140**	PN		**P**		**23 25 02.6**	**-0.1**
HHSZ	**Highcliff Hill**	**67.21**	**146**	⇑PN		**P**		**23 25 04.7**	**+1.8**
POWZ	**Post Office Ro**	**67.22**	**139**	PN		**P**		**23 25 03.3**	**+0.2**
ASUD	**Al Ashush, Dub**	**67.23**	**294**	*i* P		**P**		**23 25 04.3**	**+0.8**
	SNR=83									
KRHZ	**Kereru**	**67.23**	**138**	PN		**P**		**23 25 02.5**	**-0.7**
MRZ	**Mangatainoka R**	**67.24**	**139**	PN		**P**		**23 25 02.8**	**-0.4**
MRZ				*e*SN		**S**		**23 33 07.5**	**-2.4**
NMHZ	**Naumai**	**67.25**	**137**	*e*PN		**P**		**23 25 04.3**	**+1.0**
NMHZ				*e*SN		**S**		**23 33 09.3**	**-0.9**
PNHZ	**Pukenui**	**67.26**	**138**	PN		**P**		**23 25 03.7**	**+0.3**
HAZ	**Te Kaha**	**67.26**	**136**	PN		**P**		**23 25 03.6**	**+0.3**
HOWZ	**Holdsworth Sta**	**67.32**	**140**	*e*PN		**P**		**23 25 03.6**	**-0.1**
RAHZ	**Arahi**	**67.35**	**137**	*e*PN		**P**		**23 25 04.8**	**+0.9**
MCHZ	**McNeill Hill**	**67.35**	**138**	PN		**P**		**23 25 05.1**	**+1.2**
MWZ	**Matawai**	**67.36**	**136**	PN		**P**		**23 25 03.8**	**-0.2**
MWZ				*e*SN		**S**		**23 33 10.7**	**-0.8**
MSWZ	**Moikau Station**	**67.43**	**140**	*e*PN		**P**		**23 25 03.6**	**-0.7**
DVHZ	**Dannevirke**	**67.44**	**139**	*e*PN		**P**		**23 25 04.7**	**+0.3**
PRWZ	**Pori Road**	**67.44**	**139**	PN		**P**		**23 25 04.7**	**+0.3**
MTW	**Mount Morrison**	**67.45**	**140**	*e*PN		**P**		**23 25 04.5**	**0.0**
SNGZ	**Shannon Statio**	**67.46**	**137**	PN		**P**		**23 25 05.2**	**+0.7**
SNGZ				*e*SN		**S**		**23 33 09.9**	**-2.5**
WPHZ	**Waipukurau**	**67.50**	**138**	*e*PN		**P**		**23 25 05.2**	**+0.5**
WPHZ				*e*SN		**S**		**23 33 11.0**	**-1.8**
PLWZ	**Palliser**	**67.51**	**140**	PN		**P**		**23 25 05.0**	**+0.1**
PAWZ	**Paruwai Farm**	**67.52**	**140**	PN		**P**		**23 25 05.0**	**+0.2**
MXZ	**Matakaoa Point**	**67.53**	**135**	PN		**P**		**23 25 05.9**	**+0.9**
IBAF	**Bafgh**	**67.57**	**301**	*e*P		**P**		**23 25 06.5**	**+0.9**
BILL	**Bilibino**	**67.57**	**16**	*d* *i*P		**P**		**23 25 04.7**	**0.0**
BILL				*e*				23 25 24.0		
BILL				*e**PP		pP		23 27 15.6	+5.7	
BILL				*i**SP		**sP**		**23 28 16.9**	**+1.2**
BILL				*i* S		**S**		**23 33 10.5**	**-2.2**
BILL				pmax		pmax				
	comp=Z,1µm,1.6s									
BILL	**Bilibino**	**67.57**	**16**	*e*P		**P**		**23 25 04.3**	**-0.4**
	comp=Z,879nm,0.7s									
AFI	**Afiamalu**	**67.58**	**108**	*e*P		**P**		**23 25 07.2**	**+1.4**
AFI				pmax		pmax				
	comp=Z,2µm,0.9s									
AFI	**Afiamalu**	**67.58**	**108**	*e*P		**P**		**23 25 07.2**	**+1.4**
	comp=Z,2µm,0.9s									
AFI				⇑*e*				23 53 25.0		
TWGZ	**Tauwhareparae**	**67.60**	**136**	PN		**P**		**23 25 05.9**	**+0.5**
TKGZ	**Te Karaka**	**67.64**	**136**	*e*PN		**P**		**23 25 06.1**	**+0.5**
KAHZ	**Kahuranaki**	**67.65**	**138**	PN		**P**		**23 25 06.7**	**+1.0**
KAHZ				*e*SN		**S**		**23 33 12.8**	**-1.9**
TMWZ	**Te Maipa**	**67.68**	**140**	PN		**P**		**23 25 06.1**	**+0.3**
BFZ	**Birch Farm**	**67.69**	**139**	PN		**P**		**23 25 05.4**	**-0.5**
BFZ	**Birch Farm**	**67.69**	**139**	*e*P		**P**		**23 25 06.3**	**+0.4**
	comp=Z,4µm,0.8s									
ABKAR	**Akbulak array**	**67.69**	**321**	*e*P		**P**		**23 25 04.7**	**-1.1**
ABKAR				*e*P'P'df		**P'P'df**		**23 53 18.3**	**-1.4**
TRWZ	**Traveller**	**67.70**	**140**	PN		**P**		**23 25 06.2**	**+0.2**
RIGZ	**Rimuhau**	**67.71**	**137**	*e*PN		**P**		**23 25 06.3**	**+0.2**
RIGZ				*e*SN		**S**		**23 33 13.5**	**-1.8**
PRHZ	**Porangahau**	**67.73**	**138**	*e*PN		**P**		**23 25 06.8**	**+0.7**
WMGZ	**Waiomatatini S**	**67.73**	**135**	PN		**P**		**23 25 06.5**	**+0.3**
PUZ	**Puketiti**	**67.74**	**136**	PN		**P**		**23 25 06.6**	**+0.3**
KNZ	**Kokohu**	**67.80**	**137**	PN		**P**		**23 25 07.2**	**+0.6**
PRGZ	**Paritu Road**	**67.89**	**137**	*e*PN		**P**		**23 25 07.9**	**+0.7**
MCQ	**Macquarie Isla**	**67.90**	**158**	*e*P		**P**		**23 25 08.4**	**+1.6**
MCQ	**Macquarie Isla**	**67.90**	**158**	*e*P		**P**		**23 25 08.4**	**+1.6**
	comp=Z,54µm,1.0s									
CNGZ	**Carnagh Statio**	**67.91**	**136**	PN		**P**		**23 25 08.4**	**+1.2**
ATKA	**Atka Island**	**68.02**	**36**	*e*P		**P**		**23 25 07.0**	**-0.6**
	comp=Z,2µm,0.7s									
ATKA				*e*S		**S**		**23 33 24.3**	**+5.9**
ATKA				⇑*e*				23 53 20.0		
RBK	**Rabkut**	**68.12**	**286**	P		**P**		**23 25 08.9**	**-0.2**
	SNR=194									
IMEH	**Mehriz**	**68.36**	**301**	*e*P		**P**		**23 25 10.1**	**-0.4**
ICHK	**Chekchek**	**68.62**	**302**	*e*P		**P**		**23 25 11.6**	**-0.4**
MSEY	**Mahe Island**	**68.66**	**262**	P		**P**		**23 25 13.8**	**+1.4**
	comp=Z,12µm,1.4s,SNR=66									
MSEY	**Mahe Island**	**68.66**	**262**	*e*P		**P**		**23 25 12.9**	**+0.5**
MSEY				pmax		pmax				
	comp=Z,2µm,1.0s									
MSEY	**Mahe Island**	**68.66**	**262**	*e*P		**P**		**23 25 12.9**	**+0.5**
	comp=Z,2µm,1.0s									
ABTO	**Aybut**	**68.99**	**286**	P		**P**		**23 25 13.3**	**-1.0**
	SNR=207									
I31KZ	**AKTYUBINSK INF**	**69.19**	**322**	P		**P**		**23 25 15.0**	**+0.2**
	baz=102,slow=7.3,SNR=4.4									
ISAD	**Sadrabad**	**69.19**	**301**	*e*P		**P**		**23 25 12.6**	**-3.0**
AKTO	**Aktyubinsk**	**69.21**	**322**	PKP2bc		**P'P'bc**		**23 53 18.7**	**+0.1**
	comp=Z,19nm,0.9s,baz=291,slow=4.9,SNR=5.2									
IANJ	**Anjilo**	**69.36**	**305**	*e*P		**P**		**23 25 16.5**	**+0.1**
ISRV	**Sarvestan**	**69.49**	**299**	*e*P		**P**		**23 25 17.0**	**-0.4**
SVE	**Sverdlovsk**	**69.64**	**329**	*c* *i*P		**P**		**23 25 16.1**	**-1.2**
SVE				*e*S		**S**		**23 33 36.1**	**-0.7**
SVE				pmax		pmax				
	comp=Z,7µm,1.1s									
SVE				pmax		pmax				
	comp=Z,63µm,16.9s									
ISHM	**Shahmirzad**	**69.91**	**306**	*e*P		**P**		**23 25 19.9**	**+0.2**
MRIV	**Mauritius Mete**	**70.03**	**246**	*e*P		**P**		**23 25 19.9**	**-0.4**
ILAS	**Lasjerd**	**70.13**	**305**	*e*P		**P**		**23 25 20.8**	**-0.1**
IFIR	**Firoozkooh**	**70.32**	**305**	*e*P		**P**		**23 25 21.8**	**-0.3**
IZEF	**Zefreh**	**70.42**	**302**	*e*P		**P**		**23 25 21.3**	**-1.4**
ARU	**Arti**	**70.60**	**328**	*d* *i*P		**P**		**23 25 21.1**	**-1.8**
ARU								23 25 39.2		
ARU								23 28 10.2		
ARU				S		**S**		**23 33 45.7**	**-1.9**
ARU								23 34 20.5		
ARU				pmax		pmax				
	comp=Z,2µm,0.8s									
ARU	**Arti**	**70.60**	**328**	P		**P**		**23 25 21.8**	**-1.1**
	comp=Z,51µm,0.6s									
ARU	**Arti**	**70.60**	**328**	*e*P		**P**		**23 25 21.2**	**-1.7**
	comp=Z,5µm,0.5s									
ARU				*e*P'P'df		**P'P'df**		**23 53 09.9**	**-4.5**
IKAZ	**Kazeroun**	**70.62**	**299**	*e*P		**P**		**23 25 23.9**	**-0.1**
IDMV	**Damavand**	**70.90**	**305**	*e*P		**P**		**23 25 25.6**	**+0.1**
IKLH	**Kolahrood**	**71.08**	**303**	*e*P		**P**		**23 25 27.4**	**+0.8**
IVRN	**Varamin**	**71.10**	**305**	*e*P		**P**		**23 25 26.8**	**+0.4**
IAFJ	**Afjeh**	**71.19**	**305**	*e*P		**P**		**23 25 27.2**	**0.0**
IPIR	**Pirpir**	**71.61**	**302**	*e*P		**P**		**23 25 28.6**	**-1.1**
SPIA	**Saint Paul Isl**	**71.69**	**32**	*e*P		**P**		**23 25 29.6**	**+0.4**
	comp=Z,3µm,0.6s									
IMHD	**Mahdasht**	**72.02**	**305**	*e*P		**P**		**23 25 32.8**	**+1.0**
IR5	**Iran Long-Peri**	**72.05**	**305**	*e*P		**P**		**23 25 32.2**	**+0.1**
IGZV	**Ghazvin**	**72.44**	**306**	*e*P		**P**		**23 25 34.7**	**+0.4**
IRAZ	**Razeghan**	**72.60**	**305**	*e*P		**P**		**23 25 35.6**	**+0.3**
UNV	**Unalaska Valle**	**72.93**	**36**	*e*P		**P**		**23 25 36.1**	**-0.3**
	comp=Z,3µm,0.8s									
UNV				*e*S		**S**		**23 34 14.6**	**+1.0**
MUKL	**Al Mukalla**	**73.18**	**283**	*e*P		**P**		**23 25 38.9**	**+0.3**
AKUT	**Akutan**	**73.41**	**35**	*e*P		**P**		**23 25 39.2**	**+0.1**
	comp=Z,6µm,0.9s									
CASY	**Casey**	**73.43**	**185**	*e*P		**P**		**23 25 38.2**	**-0.8**
	comp=Z,2µm,0.8s									
IBZA	**Bozab**	**74.24**	**304**	*e*P		**P**		**23 25 43.9**	**-0.8**
IKOM	**Komasi**	**74.52**	**303**	*e*P		**P**		**23 25 45.6**	**-0.4**
ISRB	**Sarab**	**74.57**	**307**	*e*P		**P**		**23 25 47.5**	**+1.1**
FALS	**False Pass**	**74.90**	**35**	*e*P		**P**		**23 25 46.6**	**-0.9**
	comp=Z,4µm,0.6s							

EZM **Erzurum** 79.56 309 *e*P **P** **23 26 13.5 +0.2**
UWE **Uwekahuna** 79.69 72 *e*P **P** **23 26 15.6 +1.4**
SVAN **Silvan-Diyarba** 79.69 307 *e*P **P** **23 26 15.0 +1.3**
SVW2 **Sparrevohn** 79.83 29 *e*P **P** **23 26 14.2 +0.2**
comp=Z,2µm,0.8s
BNGB **Bing¨ll** 80.09 308 *e*P **P** **23 26 16.1 +0.2**
MZRK **Al-Mazaregh** 80.16 305 *e*P P 23 26 20.2 +4.0
KBSD **Kabsdagh** 80.23 306 *e*P **P** **23 26 14.1 -2.5**
MAZI **Mazidag** 80.30 307 *e*P **P** **23 26 17.8 +0.8**
RAR **Rarotonga** 80.32 113 PKKPbc PKKPbc 23 44 53.8 -0.4
comp=Z,73nm,0.8s,baz=214,slow=5.9,SNR=7.8
RAR **Rarotonga** 80.32 113 *e*P **P** **23 26 18.7 +1.4**
RAR pmax pmax
comp=Z,770nm,1.0s
RAR **Rarotonga** 80.32 113 *e*P **P** **23 26 18.7 +1.4**
comp=Z,770nm,1.0s
RAR PKKPbc **PKKPbc** **23 44 53.8 -0.4**
RAR *e*P'P'df P'P'df 23 53 04.2 +5.5
BAYT **Ayd¨ntepe-Bay** 80.49 310 *e*P **P** **23 26 19.4 +1.4**
KTUT **Trabzon** 80.76 310 *e*P **P** **23 26 19.8 +0.6**
SOC **Sochi** 80.77 313 *d* iP **P** **23 26 18.6 -0.5**
SOC *e* 23 29 38.1
SOC *e*PPP PPP 23 31 29.6
SOC *e*S **S** **23 35 31.3 -5.2**
SOC *e*SSS SSS 23 44 47.7
SOC pmax pmax
comp=Z,1µm,0.7s
OHAK **Old Harbor** 80.79 33 *e*P **P** **23 26 19.4 +0.5**
comp=Z,5µm,0.8s
OHAK *e*S **S** **23 35 35.2 -0.9**
OHAK *e*PKKPbc **PKKPbc** **23 44 55.4 +0.8**
ERZN **Erzincan** 80.82 309 *e*P **P** **23 26 20.4 +0.7**
IM04 **Indian Mountai** 80.98 24 *e*P **P** **23 26 20.4 +0.5**
IM04 *e*S **S** **23 35 40.9 +3.0**
IM04 *e*PKKPbc **PKKPbc** **23 44 51.9 -2.7**
IM04 *e*P'P'df P'P'df 23 53 03.0 +7.4
GUMT **Gumushane** 80.99 310 *e*P **P** **23 26 21.2 +0.7**
VOR **Voronezh** 81.11 321 ||*i*P **P** **23 26 20.0 -0.7**
VOR *e*S **S** **23 35 38.0 -1.6**
VOR pmax pmax
comp=Z,25µm,1.2s
VSR **Storozhevoye** 81.13 321 *e*P **P** **23 26 19.2 -1.6**
VSR *e*S **S** **23 35 37.2 -2.6**
VSR pmax pmax
comp=N,170nm,0.6s
VSR pmax pmax
comp=E,590nm,0.6s
VSR pmax pmax
comp=Z,4µm,0.6s
VSR smax smax
comp=N,20µm,6.8s
VSR smax smax
comp=E,7µm,6.8s
VSR smax smax
comp=Z,6µm,6.8s
RSO **Redoubt South** 81.18 30 *e*P **P** **23 26 20.7 -0.4**
KDAK **Kodiak Island** 81.19 33 P **P** **23 26 22.0 +1.1**
comp=Z,33µm,0.8s
KDAK **Kodiak Island** 81.19 33 S **S** **23 35 38.5 -1.5**
comp=Z,317nm,1.1s,baz=287,slow=6.6,SNR=26
KDAK PKKPbc **PKKPbc** **23 44 54.3 +0.6**
comp=Z,27nm,0.6s,baz=135,slow=3.6,SNR=9.2
KDAK **Kodiak Island** 81.19 33 *e*P **P** **23 26 21.8 +0.9**
KDAK S **S** **23 35 38.6 -1.5**
KDAK 23 44 54.3
KDAK pmax pmax
comp=Z,4µm,0.8s
KDAK **Kodiak Island** 81.19 33 *e*P **P** **23 26 21.8 +0.9**
comp=Z,4µm,0.8s
KDAK S **S** **23 35 38.5 -1.5**
KDAK PKKPbc **PKKPbc** **23 44 54.3 +0.6**
MNKR **ALMNKUR** 81.28 305 *e*P **P** **23 26 20.6 -1.4**
KSRV **Kasrt alli** 81.50 305 *e*P **P** **23 26 22.8 -0.3**
PPLA **Purkeypile** 81.53 27 *e*P **P** **23 26 23.2 +0.4**
comp=Z,6µm,1.6s
PPLA *e*PKKPbc **PKKPbc** **23 44 50.6 -2.8**
SPU **Mount Spurr** 81.54 29 *e*P **P** **23 26 23.0 +0.2**
SPU *e*S **S** **23 35 45.5 +1.8**
SPU *e*P'P'df **P'P'df** **23 52 50.6 -4.3**
URFA **Urfa** 81.59 307 *e*P **P** **23 26 24.6 +1.0**
CAST **Castle Rocks** 81.59 27 *e*P **P** **23 26 23.7 +0.7**
comp=Z,2µm,0.7s
MALT **Malatya** 81.87 308 *e*P **P** **23 26 25.8 +0.8**
MALT **Malatya** 81.87 308 ||*i*P **P** **23 26 25.8 +0.8**
TMCR **Tamitsa** 81.92 334 *e*P **P** **23 26 23.4 -1.1**
TMCR *e*S **S** **23 35 45.0 -2.2**
TMCR pmax pmax
comp=Z,8µm,1.3s
MOS **Moscow** 82.05 325 *e*P **P** **23 26 22.7 -2.7**
MOS *e* 23 29 35.1
MOS *i* PPP PPP 23 31 38.0
MOS *i* S S 23 35 42.3 -6.5
MOS *i* SS **SS** **23 41 30.1 +2.7**
MOS pmax pmax
comp=Z,71µm,2.8s
MOS pmax pmax
comp=Z,8µm,0.9s
MOS pmax pmax
comp=N,26µm,3.7s
MOS pmax pmax
comp=E,29µm,3.9s
MOS pmax pmax
comp=N,4µm,1.0s
MOS pmax pmax
comp=E,3µm,0.9s
MOS smax smax
comp=E,28µm,5.0s
BPAW **Bear Paw Mtn.** 82.09 26 *e*P **P** **23 26 25.1 -0.4**
comp=E,742nm,0.7s
BPAW *e*PKKPdf **PKKPdf** **23 44 42.2 +1.5**
BRLK **Bradley Lake** 82.10 31 *e*P **P** **23 26 25.2 -0.3**
comp=E,5µm,1.0s
SUA **Susitna One** 82.18 29 *e*P **P** **23 26 25.9 -0.2**
comp=E,2µm,0.7s
MLY **Manley** 82.22 25 *e*P **P** **23 26 25.9 -0.2**
comp=E,2µm,0.7s
I43RU **DUBNA INFRASON** 82.27 326 P P 23 26 20.0 -6.5
baz=84,slow=9.9,SNR=3.1
ANN **Anapa** 82.39 314 *i* P **P** **23 26 26.0 -1.3**
ANN *e*S **S** **23 35 46.8 -5.8**
ANN pmax pmax
comp=N,757nm,0.6s
ANN pmax pmax
comp=E,270nm,0.6s
ANN pmax pmax
comp=N,9µm,2.3s
ANN pmax pmax
comp=Z,27µm,2.3s
ANN pmax pmax
comp=Z,3µm,0.7s
ANN pmax pmax
comp=E,6µm,2.3s
ANN smax smax
comp=Z,20µm,8.0s
ANN smax smax
comp=N,82µm,8.0s
ANN smax smax
comp=E,5µm,1.6s
TRF **Thorofare Moun** 82.40 27 *e*P **P** **23 26 26.3 -0.9**
comp=E,2µm,0.9s
TRF *e*P'P'df **P'P'df** **23 52 53.1 -0.2**
COLD **Coldfoot** 82.46 23 *e*P **P** **23 26 27.8 +0.5**
comp=E,3µm,0.9s
COLD *e*PKKPbc **PKKPbc** **23 44 48.9 -2.4**
COLD *e*P'P'df **P'P'df** **23 52 49.3 -3.5**
DARE **Darende-Malaty** 82.60 308 *e*P **P** **23 26 28.6 0.0**
RSDY **Resadiye-TOKAT** 82.64 310 *e*P **P** **23 26 29.9 +1.1**
OBN **Obninsk** 82.66 325 *d* iP **P** **23 26 27.5 -0.9**
OBN *e* 23 29 46.6
OBN *i* S S 23 35 48.0 -6.8
OBN *e*SS **SS** **23 41 41.6 +5.3**
OBN pmax pmax
comp=Z,7µm,1.3s
OBN **Obninsk** 82.66 325 P **P** **23 26 28.2 -0.2**
comp=Z,74µm,0.6s
OBN **Obninsk** 82.66 325 *e*P **P** **23 26 26.8 -1.6**
comp=Z,7µm,0.6s
RC01 **Rabbit Creek A** 82.66 29 *e*P **P** **23 26 27.4 -0.9**
comp=Z,1µm,0.6s
RC01 *e*PKKPbc **PKKPbc** **23 44 53.4 +2.9**
RC01 *e*P'P'df **P'P'df** **23 52 55.0 +2.2**
BWN **Browne** 82.76 26 *e*P **P** **23 26 29.5 +0.7**
comp=Z,1µm,0.7s
BWN *e*P'P'df **P'P'df** **23 52 49.8 -2.6**
SEW **Seward** 82.82 30 *e*P **P** **23 26 29.0 -0.1**
comp=Z,2µm,1.2s
SEW *e*P'P'df P'P'df 23 52 59.7 +7.2
SVSK **Karacayir** 82.91 309 *e*P **P** **23 26 31.5 +1.5**
PMR **Palmer** 82.95 29 *e*P **P** **23 26 29.5 -0.2**
PMR pmax pmax
comp=Z,1µm,0.9s
PMR **Palmer** 82.95 29 *e*P **P** **23 26 29.5 -0.2**
comp=Z,1µm,0.9s
ROOS **tl_alroos** 82.99 304 *e*P **P** **23 26 31.8 +1.2**
MCK **McKinley** 83.00 27 *e*P **P** **23 26 29.7 -0.3**
MCK pmax pmax
comp=Z,2µm,0.6s
MCK **McKinley** 83.00 27 *e*P **P** **23 26 29.7 -0.3**
comp=Z,2µm,0.6s
MCK *e*P'P'df **P'P'df** **23 52 52.0 0.0**
RND **Reindeer** 83.04 27 *e*P **P** **23 26 30.2 -0.1**
RND pmax pmax
comp=Z,1µm,1.0s
RND **Reindeer** 83.04 27 *e*P **P** **23 26 30.2 -0.1**
comp=Z,1µm,1.0s
RND *e*PKKPbc **PKKPbc** **23 44 47.9 -1.9**
KMRS **Kahramanmaras** 83.11 307 *e*P **P** **23 26 32.1 +1.0**
TOKT **Tokat** 83.24 310 *e*P **P** **23 26 31.3 -0.5**
MDM **Murphy Dome** 83.28 25 *e*P **P** **23 26 31.2 -0.2**
comp=Z,811nm,0.7s
MDM *e*P'P'df P'P'df 23 52 42.5 -9.0
LVZ **Lovozero** 83.30 338 *ce*P **P** **23 26 30.4 -1.1**
LVZ pmax pmax
comp=Z,2µm,0.9s
LVZ **Lovozero** 83.30 338 P **P** **23 26 30.7 -0.8**
comp=Z,15µm,0.8s,SNR=86
LVZ **Lovozero** 83.30 338 *e*P **P** **23 26 31.0 -0.5**
comp=Z,2µm,0.7s
SML **Sawmill** 83.32 29 *e*P **P** **23 26 32.1 +0.4**
SML pmax pmax
comp=Z,299nm,0.7s
SML **Sawmill** 83.32 29 *e*P **P** **23 26 32.1 +0.4**
comp=Z,299nm,0.7s
SML *e*PKKPbc **PKKPbc** **23 44 47.0 -2.1**
WRH **Wood River Hil** 83.36 26 *e*P **P** **23 26 31.3 -0.4**
comp=Z,3µm,1.8s
WRH *e*P'P'df P'P'df 23 52 43.8 -7.5
ASF **Jabal al Asfar** 83.44 302 P **P** **23 26 32.1 -0.9**
comp=Z,774nm,0.8s,baz=51,slow=4.6,SNR=419
ASF PKPPKP **P'P'df** **23 52 53.0 -0.1**
comp=Z,10nm,1.0s,baz=268,slow=3.4,SNR=3.8
COLA **College** 83.44 25 *e*P **P** **23 26 31.7 -0.4**
COLA pmax pmax
comp=Z,802nm,0.8s
COLA **College** 83.44 25 *e*P **P** **23 26 31.7 -0.4**
comp=Z,802nm,0.8s
COLA *e*PKKPbc **PKKPbc** **23 44 48.6 -0.2**
COLA *e*P'P'df **P'P'df** **23 52 55.7 +4.6**
CCB **Clear Creek Bu** 83.47 26 *e*P **P** **23 26 31.4 -0.9**
comp=Z,772nm,0.6s
CCB *e*P'P'df P'P'df 23 52 43.3 -7.8
KVT **Kavak** 83.57 311 *e*P **P** **23 26 34.4 +1.0**
FURI **Furi** 83.72 278 *e*P **P** **23 26 36.2 +1.2**
comp=Z,6µm,1.4s
BIDA **Albida** 83.73 304 *e*P P 23 26 25.2 -9.1
TAHT **Tahtakopru-Hat** 83.75 306 *e*P **P** **23 26 35.2 +0.9**
TOTH **TOTAH** 83.75 303 *e*P **P** **23 26 35.7 +1.3**
SCM **Sheep Creek Mo** 83.80 29 *e*P **P** **23 26 33.7 -0.4**
SCM pmax pmax
comp=Z,1µm,1.0s
SCM **Sheep Creek Mo** 83.80 29 *e*P **P** **23 26 33.7 -0.4**
comp=Z,1µm,1.0s
SCM *e*PKKPbc **PKKPbc** **23 44 47.4 -0.7**
SCM *e*P'P'df **P'P'df** **23 52 51.6 +0.8**
HDA **Harding Lake** 83.85 26 *e*P **P** **23 26 33.3 -0.9**
comp=Z,1µm,0.6s
ILAR **Eielson Array** 83.86 26 P **P** **23 26 32.7 -1.5**
comp=Z,148nm,0.5s,baz=258,slow=3.6,SNR=499
ILAR pP **pP** **23 28 48.4 +0.9**
comp=Z,23nm,0.9s,baz=203,slow=32,SNR=2.1
ILAR PP **PP** **23 30 01.9 +2.2**
comp=Z,150nm,1.1s,baz=280,slow=8.3,SNR=4.4
ILAR S **SKSac** **23 35 53.7 -3.8**
comp=Z,7.3nm,0.9s,baz=211,slow=5.1,SNR=2.8
ILAR PKKPbc **PKKPdf** **23 44 41.6 +3.9**
comp=Z,25nm,0.9s,baz=59,slow=1.5,SNR=4.4
ILAR PKP2bc 23 52 37.6
comp=Z,8.7nm,1.1s,baz=142,slow=0.6,SNR=4.5
ILAR PKPPKP **P'P'df** **23 52 45.9 -4.5**
comp=Z,19nm,1.1s,baz=353,slow=3.2,SNR=5.0
QASN **Qassioun** 83.87 303 *e*P **P** **23 26 33.6 -1.5**
KOZT **Kozan** 83.97 307 *e*P **P** **23 26 36.2 +0.9**
CEYT **Ceyhan** 84.06 306 *e*P **P** **23 26 37.0 +1.2**
HWQ **Hawqa** 84.09 304 *e*P **P** **23 26 36.8 +0.6**
DIKM **Dikmen** 84.13 311 *e*P **P** **23 26 36.2 +0.2**
BRBR **Barbar** 84.15 303 *e*P **P** **23 26 33.7 -2.9**
YOZ **Yozgat** 84.22 309 *e*P **P** **23 26 37.3 +0.6**
RCY **Rachaya** 84.24 303 *e*P **P** **23 26 37.9 +1.0**
BHL **Bhannes** 84.36 303 *e*P **P** **23 26 38.3 +0.8**
KRTS **Karatas** 84.39 306 *e*P **P** **23 26 38.7 +1.3**
MID **Middleton Isla** 84.42 31 *e*P **P** **23 26 36.4 -0.6**
MID pmax pmax
comp=Z,456nm,0.8s
MID **Middleton Isla** 84.42 31 *e*P **P** **23 26 36.4 -0.6**
comp=Z,456nm,0.8s
FYU **Fort Yukon** 84.44 24 *e*P **P** **23 26 37.5 +0.5**
comp=Z,906nm,0.9s
FYU *e*PKKPbc **PKKPbc** **23 44 45.4 -1.2**
FYU *e*P'P'df **P'P'df** **23 52 52.5 +3.3**
DQRL **Deir Qamar** 84.44 303 *e*P **P** **23 26 38.8 +0.9**
KLU **Klutina** 84.49 29 *e*P **P** **23 26 37.7 +0.3**
comp=Z,1µm,0.8s
KLU *e*PKKPbc **PKKPbc** **23 44 47.0 +0.5**
BEYL **Beirut** 84.50 303 *e*P **P** **23 26 38.2 +0.2**
BYBT **Boyabat** 84.51 311 *e*P **P** **23 26 36.5 -1.4**
DIV **Divide** 84.58 29 *e*P **P** **23 26 38.1 +0.1**
comp=Z,1µm,0.7s
DIV *e*PKKPbc **PKKPbc** **23 44 47.3 +1.2**
DIV *e*P'P'df P'P'df 23 52 40.8 -8.5
KARA **Karaisali** 84.60 307 *e*P **P** **23 26 38.9 +0.5**
PAX **Paxson** 84.60 27 *e*P **P** **23 26 37.9 -0.1**
PAX **Paxson** 84.60 27 *e*P **P** **23 26 37.9 -0.1**
comp=Z,41nm,0.3s
MMAI **Mount Meron Ar** 84.64 303 P **P** **23 26 38.2 -0.6**
comp=Z,325nm,0.6s,baz=83,slow=8.5,SNR=222
MMAI pP **pP** **23 28 52.1 -0.3**
comp=Z,172nm,1.2s,baz=33,slow=20,SNR=2.6
MMAI PKPPKP **P'P'df** **23 52 48.9 -2.0**
comp=Z,6.6nm,0.9s,baz=319,slow=2.4,SNR=4.3
CORM **Corum** 84.71 310 *e*P **P** **23 26 39.9 +0.8**
NAQL **Naqoura** 84.85 303 *e*P **P** **23 26 40.2 +0.5**
NIG **Nigde** 84.88 308 *e*P **P** **23 26 40.7 +0.6**
BZK **Bozkurt** 85.04 312 *e*P **P** **23 26 39.6 -0.8**
TOS **Tosya** 85.10 311 *e*P **P** **23 26 41.1 +0.2**
GULA **Gulagac** 85.16 308 *e*P **P** **23 26 41.0 -0.3**
BMRM **Bremner River** 85.17 29 *e*P **P** **23 26 40.9 +0.2**
comp=Z,1µm,1.0s
BMRM *e*PKKPbc PKKPbc 23 44 50.5 +5.7
BMRM *e*P'P'df **P'P'df** **23 52 46.7 -1.5**
RAGM **Ragged Mountai** 85.18 30 *e*P **P** **23 26 40.7 -0.1**
comp=Z,1µm,1.0s
EIL **Elat** 85.30 299 *e*P P 23 26 46.6 +4.7
EIL **Elat** 85.30 299 P **P** **23 26 41.2 -0.7**
comp=Z,558nm,0.8s,baz=25,slow=2.0,SNR=225
EIL pP **pP** **23 28 56.8 +0.9**
comp=Z,136nm,1.0s,baz=173,slow=23,SNR=1.2
MAW **Mawson** 85.41 200 P **P** **23 26 41.5 -0.1**
comp=Z,283nm,0.8s,baz=59,slow=5.4,SNR=53
MAW PKKPbc **PKKPbc** **23 44 41.5 -2.9**
comp=Z,94nm,0.7s,baz=199,slow=4.3,SNR=28
MAW **Mawson** 85.41 200 *e*P **P** **23 26 42.1 +0.6**
MAW pmax pmax
comp=Z,644nm,1.6s
MAW **Mawson** 85.41 200 *e*P **P** **23 26 42.1 +0.6**
comp=Z,644nm,1.6s
MAW PKKPbc **PKKPbc** **23 44 41.5 -2.9**
HOPEN **Hopen** 85.43 347 *e*P **P** **23 26 40.1 -1.5**
HOPEN lAmb lAmb 23 26 46.3
comp=Z,4µm,1.2s
YAYX **Yaylak** 85.44 309 *e*P **P** **23 26 42.5 0.0**
CANT **Cankiri** 85.44 310 *e*P **P** **23 26 42.7 +0.2**
EREN **Erenkoy** 85.45 305 *e*P **P** **23 26 44.7 +2.2**
KAMT **Kaman** 85.48 309 *e*P **P** **23 26 42.0 -0.8**
BR131 **Keskin Array S** 85.50 309 *e*P **P** **23 26 40.5 -2.4**
comp=Z,40nm,0.4s
BRTR **Keskin Array B** 85.50 309 P **P** **23 26 42.1 -0.8**
comp=Z,443nm,0.7s,baz=125,slow=3.5,SNR=285
BRTR pP **pP** **23 28 56.8 -0.1**
comp=Z,16nm,0.7s,baz=39,slow=40,SNR=1.3
BRTR S **SKSac** **23 36 06.2 -2.9**
comp=Z,25nm,1.0s,baz=77,slow=6.5,SNR=2.6
BRTR PKKPbc **PKKPbc** **23 44 40.8 -2.5**
comp=Z,10nm,0.6s,baz=199,slow=3.8,SNR=11
BRTR PKPPKP **P'P'df** **23 52 47.3 -1.7**
comp=Z,7.7nm,1.1s,baz=172,slow=2.5,SNR=4.8
YESY **Yesilyurt** 85.59 307 *e*P **P** **23 26 43.1 -0.2**
SERE **Sereflikochisa** 85.63 309 *e*P **P** **23 26 43.1 -0.4**
SULT **Sultanhani-AKS** 85.73 308 *e*P **P** **23 26 43.2 -0.8**
PUL **Pulkovo** 85.75 330 *d* iP **P** **23 26 42.8 -0.6**
PUL pmax pmax
comp=Z,4µm,0.9s
KEV **Kevo** 85.91 340 *e*P **P** **23 26 42.8 -1.2**
KEV pmax pmax
comp=Z,8µm,2.1s
KEV **Kevo** 85.91 340 *e*P **P** **23 26 42.8 -1.2**
comp=Z,8µm,2.1s
AFSR **Af¨ar-Bala (A** 85.97 309 *e*P **P** **23 26 45.2 +0.1**
LFK **Lefkose** 85.99 305 *e*P **P** **23 26 47.1 +1.9**
KULU **Kulu** 86.06 309 *e*P **P** **23 26 45.4 -0.1**
SAFT **Safranbolu** 86.09 311 *e*P **P** **23 26 43.9 -1.5**
LOD **Lodumlu** 86.16 310 *e*P **P** **23 26 45.5 -0.4**
CSS **Prodhromos** 86.18 305 P **P** **23 26 46.1 0.0**
CSS **Prodhromos** 86.18 305 *e*P **P** **23 26 46.9 +0.8**
CSS **Prodhromos** 86.18 305 *e*P **P** **23 26 45.1 -1.0**
comp=Z,532nm,0.8s
CSS **Prodhromos** 86.18 305 P **P** **23 26 46.2 +0.1**
CHBY **Cihanbeyli** 86.19 308 *e*P **P** **23 26 44.4 -1.7**
KMBO **Kilima Mbogo** 86.23 268 P **P** **23 26 46.4 -0.6**
comp=Z,692nm,1.1s,baz=60,slow=6.7,SNR=210
KMBO pP **pP** **23 29 02.2 +0.9**
comp=Z,61nm,1.0s,baz=9.8,slow=6.8,SNR=1.4
KMBO **Kilima Mbogo** 86.23 268 *e*P **P** **23 26 46.7 -0.3**
KMBO *PP **pP** **23 29 02.2 +0.9**
KMBO pmax pmax
comp=Z,8µm,1.3s
KMBO **Kilima Mbogo** 86.23 268 *e*P **P** **23 26 46.7 -0.3**
comp=Z,8µm,1.3s
KMBO pP **pP** **23 29 02.2 +0.9**
MAMC **Mammari** 86.25 305 P **P** **23 26 46.4 0.0**
EGAK **Eagle** 86.31 25 *e*P **P** **23 26 46.0 0.0**
comp=Z,838nm,0.8s
EGAK *e*PKKPbc **PKKPbc** **23 44 38.9 -3.3**
EGAK *e*P'P'df **P'P'df** **23 52 46.6 +0.8**
ARCES **ARCESS Array B** 86.47 340 P **P** **23 26 45.4 -1.3**
comp=Z,452nm,0.7s,baz=78,slow=5.6,SNR=205
ARCES PKiKP **PKiKP** **23 31 48.5 0.0**
comp=Z,52nm,0.7s,baz=130,slow=1.2,SNR=8.9
ARCES ScS **S** **23 36 33.8 +2.8**
comp=Z,60nm,1.0s,baz=87,slow=5.0,SNR=6.2
ARCES PKKPbc **PKKPbc** **23 44 38.9 -3.1**
comp=Z,16nm,0.6s,baz=263,slow=1.3,SNR=5.3
ARCES PKPPKP **P'P'df** **23 52 42.6 -2.7**
comp=Z,9.9nm,0.9s,baz=199,slow=3.3,SNR=4.3
ARE0 **ARCESS Array S** 86.47 340 *e*P **P** **23 26 44.5 -2.2**
ARE0 lAmb lAmb 23 26 50.8
comp=Z,2µm,0.9s
ARE0 **ARCESS Array S** 86.47 340 *e*P **P** **23 26 45.5 -1.1**
LEF **Lefka** 86.53 305 *e*P **P** **23 26 47.6 0.0**
SZAC **Souni-Zanaja** 86.57 304 P **P** **23 26 47.3 -0.6**
KONT **Konya--Tatoy** 86.67 308 *e*P **P** **23 26 47.1 -1.2**
HDMB **Hadim** 86.67 307 *e*P **P** **23 26 48.4 -0.2**
ALFC **Alevga** 86.76 305 P **P** **23 26 48.2 -0.6**
VNDA **Vanda** 86.83 172 P **P** **23 26 47.4 -0.7**
comp=Z,135nm,0.7s,baz=317,slow=6.1,SNR=159
VNDA PKKPbc **PKKPbc** **23 44 39.2 -2.1**
comp=Z,59nm,0.8s,baz=235,slow=1.1,SNR=19
VNDA PKPPKP **P'P'df** **23 52 42.5 -0.8**
comp=Z,7.4nm,0.9s,baz=184,slow=2.7,SNR=4.6
VNDA **Vanda** 86.83 172 *e*P **P** **23 26 48.4 +0.3**
VNDA pmax pmax
comp=Z,966nm,0.6s
VNDA **Vanda** 86.83 172 *e*P **P** **23 26 48.4 +0.3**
comp=Z,966nm,0.6s
VNDA *e*PKKPbc **PKKPbc** **23 44 39.0 -2.3**
VNDA PKKPbc **PKKPbc** **23 44 39.2 -2.1**
VNDA *e*P'P'df P'P'df 23 52 37.6 -5.7
VNDA P'P' 23 52 42.5
HAMF **Hammerfest** 86.88 341 *e*P **P** **23 26 46.2 -2.3**
SPA0 **Spitsbergen Ar** 86.88 349 *e*P **P** **23 26 46.9 -1.6**
SPA0 lAmb lAmb 23 26 53.0
comp=Z,4µm,1.1s
SPITS **Spitsbergen Ar** 86.88 349 P **P** **23 26 47.2 -1.2**
comp=Z,691nm,0.6s,baz=100,slow=8.6,SNR=460
SPITS ScS **S** **23 36 36.2 +1.6**
comp=Z,133nm,1.0s,baz=97,slow=4.5,SNR=4.5
SPITS PKKPbc **PKKPbc** **23 44 39.1 -2.0**
comp=Z,9.2nm,0.4s,baz=140,slow=4.4,SNR=9.7
KIZT **Kizilcal** 86.94 309 *e*P **P** **23 26 47.9 -1.7**
AKMC **Akamas** 86.99 305 P **P** **23 26 49.0 -0.9**
PPCY **Paphos** 87.00 305 P **P** **23 26 49.1 -0.7**
KDZE **Karadeniz Ereo** 87.02 311 *e*P **P** **23 26 49.0 -0.8**
SVRH **Sivrihisar-ESK** 87.16 309 *e*P **P** **23 26 49.0 -1.6**
DAWY **Dawson** 87.17 26 *e*PKKPbc PKKPbc 23 44 37.9 -2.3
DAWY *e*P'P'df **P'P'df** **23 52 42.5 -1.8**
MDUB **Mudurnu** 87.29 310 *e*P **P** **23 26 50.7 -0.5**
BJO **Bjornoya** 87.30 345 *e*P **P** **23 26 49.7 -0.7**
KTK1 **Kautokeino** 87.36 339 *e*P **P** **23 26 49.0 -1.8**
HSPB **Hornsund (broa** 87.43 348 *e*P **P** **23 26 48.8 -2.2**
AKASG **Malin Array Be** 87.43 321 P **P** **23 26 49.6 -1.9**
comp=Z,346nm,0.7s,baz=67,slow=4.8,SNR=410
AKASG pP **pP** **23 29 06.5 +0.2**
comp=Z,15nm,0.5s,baz=327,slow=19,SNR=1.6
AKASG PKKPbc **PKKPbc** **23 44 36.7 -2.2**
comp=Z,12nm,0.6s,baz=270,slow=2.9,SNR=13
AKASG SKKPbc SKKPbc 23 47 14.6 -2.5
comp=Z,12nm,0.6s,baz=266,slow=3.2,SNR=8.3
AKASG PKPPKP **P'P'df** **23 52 41.4 -3.1**
comp=Z,6.6nm,0.8s,baz=265,slow=3.7,SNR=5.1
AK01 **Malin Array Si** 87.44 321 *e*P **P** **23 26 50.0 -1.5**
KIEV **Kiev** 87.44 321 *e*P **P** **23 26 50.4 -1.1**
KIEV pmax pmax
comp=Z,652nm,0.7s
KIEV **Kiev** 87.44 321 *e*P **P** **23 26 50.4 -1.1**
comp=Z,652nm,0.7s
AK02 **Malin Array Si** 87.45 321 *e*P **P** **23 26 49.9 -1.6**
KBS **Kingsbay** 87.46 350 *e*P **P** **23 26 49.7 -1.4**
KBS **Kingsbay** 87.46 350 *e*P **P** **23 26 50.4 -0.7**
KBS pmax pmax
comp=Z,3µm,0.8s
KBS **Kingsbay** 87.46 350 *e*P **P** **23 26 50.4 -0.7**
comp=Z,3µm,0.8s
KBS *e*PKKPbc **PKKPbc** **23 44 37.6 -2.1**
FIA1 **FINESS Array S** 87.59 332 *e*P **P** **23 26 50.8 -1.2**
FINES **FINESS Array B** 87.59 332 P **P** **23 26 50.8 -1.3**
comp=Z,694nm,0.5s,baz=94,slow=3.2,SNR=274
FINES ScS **S** **23 36 46.6 +5.0**
comp=Z,91nm,1.1s,baz=62,slow=8.9,SNR=5.0
FINES PKKPbc **PKKPbc** **23 44 37.0 -1.9**
comp=Z,34nm,0.5s,baz=215,slow=2.2,SNR=16
FINES PKPPKP **P'P'df** **23 52 43.4 -0.2**
comp=Z,14nm,1.1s,baz=178,slow=5.7,SNR=4.8
ESKT **Eskisehir** 87.67 309 *e*P **P** **23 26 52.2 -0.8**
MICGM **Minsk** 87.72 324 *e*P **P** **23 26 52.0 -0.8**
VSU **Vasula** 87.75 328 *d* iP **P** **23 26 51.8 -1.0**
VSU pmax pmax
comp=Z,2µm,0.8s
MNK **Minsk** 87.75 324 *e*P **P** **23 26 52.0 -0.9**
MNK *e* 23 30 12.0
MNK *e* 23 36 18.0
MNK *e*S **S** **23 36 38.0 -5.4**
SBA **Scott Base** 87.78 172 *e*P **P** **23 26 53.8 +1.3**
SBA pmax pmax
comp=Z,2µm,1.6s
SBA **Scott Base** 87.78 172 *e*P **P** **23 26 53.8 +1.3**
comp=Z,2µm,1.6s
GULT **Gulveren** 87.81 310 *e*P **P** **23 26 53.0 -0.7**
SPNC **Sapanca-Adapaz** 87.94 311 *e*P **P** **23 26 53.8 -0.4**
BCK **Bucak** 88.12 307 *e*P **P** **23 26 52.2 -3.0**
ISP **Isparta** 88.12 308 *e*P **P** **23 26 55.1 -0.1**
ISP **Isparta** 88.12 308 *e*P **P** **23 26 53.8 -1.4**
ISP pmax pmax
comp=Z,1µm,0.6s
ISP **Isparta** 88.12 308 ||*i*P **P** **23 26 53.6 -1.6**
ISP **Isparta** 88.12 308 *e*P **P** **23 26 53.8 -1.4**
comp=Z,1µm,0.6s
ISP **Isparta** 88.12 308 P **P** **23 26 53.6 -1.6**
ANTB **Antalya** 88.13 307 *e*P **P** **23 26 57.3 +2.2**
KIS **Kishinev** 88.19 317 ||*i*P **P** **23 26 52.0 -3.1**
comp=Z,6µm,2.6s
KIS *i* pP **pP** **23 29 14.0 +3.8**
KIS *i* S **S** **23 36 46.0 -1.7**
KIS **Kishinev** 88.19 317 ||*i*P **P** **23 26 52.0 -3.1**
KIS *i* 23 36 24.0
KIS *i* S **S** **23 36 46.0 -1.7**

KIS pmax pmax
comp=Z,6µm,2.6s
IDID Didziasalis 88.25 325 *e*P **P** 23 26 53.6 -1.6
IDID IAmb IAmb 23 26 59.4
comp=Z,820nm,0.7s
NACGM **Naroch 88.29 325** *e*P P 23 26 52.0 -3.4
SORM Soroca 88.35 318⇑*i*P **P** 23 26 54.5 -1.3
CAVI Cavuskoy 88.35 310 *e*P **P** 23 26 55.7 -0.4
SILT Sile 88.38 311 *e*P **P** 23 26 55.6 -0.6
ADJT Abdulvahap 88.40 310 *e*P **P** 23 26 55.8 -0.5
HRT Hereke 88.41 311 *e*P **P** 23 26 54.1 -2.2
TLCR 88.44 315⇑*i*P **P** 23 26 55.7 -0.6
IIGN Ignalina 88.54 325 *e*P **P** 23 26 54.9 -1.6
IIGN IAmb IAmb 23 27 07.0
comp=Z,750nm,0.9s
ISAL Salakas 88.55 326 *e*P **P** 23 26 54.9 -1.7
ISAL IAmb IAmb 23 27 07.0
comp=Z,417nm,0.9s
INK Inuvik 88.61 21 PKiKP **PKiKP** 23 31 50.7 -1.2
comp=Z,48nm,1.0s,baz=288,slow=3.2,SNR=1.6
INK S **SKSac** 23 36 24.8 -1.2
comp=Z,115nm,1.0s,baz=270,slow=9.0,SNR=24
INK PKKPbc **PKKPbc** 23 44 33.6 -3.1
comp=Z,25nm,0.6s,baz=122,slow=1.2,SNR=5.4
INK SKKPbc **SKKPbc** 23 47 09.2 -5.8
comp=Z,29nm,1.0s,baz=63,slow=6.1,SNR=3.2
INK Inuvik 88.61 21 *e*P **P** 23 26 56.6 0.0
INK S **SKSac** 23 36 24.8 -1.2
INK pmax pmax
comp=Z,875nm,1.0s
INK Inuvik 88.61 21 *e*P **P** 23 26 56.6 0.0
comp=Z,875nm,1.0s
INK PKiKP **PKiKP** 23 31 50.7 -1.2
INK S **SKSac** 23 36 24.8 -1.2
INK PKKPbc **PKKPbc** 23 44 33.6 -3.1
INK *e*PKKPdf **PKKPdf** 23 44 34.2 +4.6
INK SKKPbc **SKKPbc** 23 47 09.2 -5.8
INK *e*P'P'df **P'P'df** 23 52 41.8 +0.5
IZI Iznik 88.62 310 *e*P **P** 23 26 56.8 -0.6
HYT Haines Junctio 88.62 29 *e*P **P** 23 26 57.1 +0.1
HYT *e*PP **PP** 23 30 39.9 +2.4
HYT *e*S **S** 23 36 57.1 +5.8
HYT *e*PKKPdf **PKKPbc** 23 44 35.3 -1.4
HYT *e*P'P'df **P'P'df** 23 52 39.3 -2.7
TRO Tromso 88.70 340 *e*P P 23 26 52.4 -4.6
TVSB Tavsanli 88.74 309 *e*P P 23 27 01.4 +3.4
ELL Elmali 88.75 307 *e*P **P** 23 26 57.6 -0.5
MANR Mangalia 88.79 314⇑*i*P **P** 23 26 57.5 -0.5
GEMT Gemlik 88.82 310 *e*P **P** 23 26 56.5 -1.7
KLYT Kilyos 88.82 311 *e*P **P** 23 26 57.3 -0.9
GIUM Giurgiulesti 88.82 316⇓*i*P **P** 23 26 57.0 -1.1
TIRR Tirgusor 88.83 314 *e*P **P** 23 26 57.1 -1.0
TIRR Tirgusor 88.83 314 *e*P **P** 23 26 57.5 -0.7
TIRR pmax pmax
comp=Z,6µm,2.5s
TIRR Tirgusor 88.83 314⇓*i*P **P** 23 26 56.9 -1.2
TIRR Tirgusor 88.83 314 *e*P **P** 23 26 57.5 -0.7
comp=Z,6µm,2.5s
ISK Istanbul-Kandi 88.83 311 *e*P **P** 23 26 56.9 -1.4
ISK Istanbul-Kandi 88.83 311 P **P** 23 26 57.7 -0.5
KHL Karahalli 88.84 308 *e*P **P** 23 26 58.1 -0.4
CFR Carcaliu 88.92 315⇑*i*P **P** 23 26 57.3 -1.2
IAS Iasi 89.01 317⇑*i*P **P** 23 26 57.6 -1.3
ARMT Armutlu 89.05 311 *e*P **P** 23 26 58.4 -0.9
MDNY Mudanya-Bursa 89.06 310 *e*P **P** 23 26 57.7 -1.6
ORLT Orhaneli 89.09 310 *e*P **P** 23 26 59.3 -0.3
PSN Preselentsi 89.10 314 *i*P **P** 23 27 00.3 +0.8
CTKS Kestanelik-??a 89.22 311 *e*P **P** 23 26 58.1 -2.0
PPT Papeete 89.25 108 P **P** 23 26 59.0 -1.6
comp=Z,131nm,1.1s,baz=274,slow=0.7,SNR=1.6
PPT PKPPKP **P'P'df** 23 52 44.1 +1.5
comp=Z,72nm,1.0s,baz=189,slow=2.6,SNR=3.7
PPT Papeete 89.25 108 *e*P **P** 23 27 01.1 +0.4
PPT P'P' 23 52 44.1
PPT2 Papeete2 89.26 108 *e*P **P** 23 27 03.8 +3.0
comp=Z,612nm,1.3s
PPT2 *e*pP **pP** 23 29 20.3 +4.1
comp=Z,672nm,1.7s
PAE Paea 89.26 108 *e*P **P** 23 27 03.7 +3.0
comp=Z,67nm,0.8s
MSAB Monastry St. A 89.30 314⇓*i*P **P** 23 26 59.6 -0.7
DENT Denizli 89.30 308 *e*P **P** 23 26 59.2 -1.4
CTYL Yal??k??y-??at 89.35 312 *e*P **P** 23 26 58.9 -1.8
DST Dursunbey 89.37 310 *e*P **P** 23 27 00.4 -0.4
PETR Petresti 89.47 316⇓*i*P **P** 23 27 01.6 +0.5
TIAR Tiarei 89.47 108 *e*P **P** 23 27 04.5 +2.8
comp=Z,93nm,0.8s
KCTX Karacabey (Bur 89.47 310 *e*P **P** 23 27 00.0 -1.3
KULA Kula-Manisa 89.49 309 *e*P **P** 23 27 00.0 -1.5
KULA Kula-Manisa 89.49 309 P **P** 23 27 00.8 -0.7
AMRR Amara 89.57 315⇓*i*P **P** 23 27 01.7 +0.1
TVO Taravao 89.59 108 *e*P **P** 23 27 05.4 +3.1
comp=Z,136nm,0.8s
GRER 89.70 316⇑*i*P **P** 23 27 02.9 +0.7
DALY Dalyan (Mu¨la 89.73 307 *e*P **P** 23 27 01.2 -1.3
TESR Tescani 89.74 317⇓*i*P **P** 23 27 01.4 -1.0
PRD Provadia 89.74 313 *i*P **P** 23 27 02.9 +0.5
PGOR Pogoanele 89.77 315⇓*i*P **P** 23 27 03.1 +0.6
BNT Bandirma 89.79 310 *e*P **P** 23 27 04.8 +2.0
VRI Vrincioaia 89.79 316 *e*P **P** 23 27 02.9 +0.3
VRI Vrincioaia 89.79 316⇓*i*P **P** 23 27 02.2 -0.4
CRLT Corlu 89.81 311 *e*P **P** 23 27 01.2 -1.6
EDC Edincik 89.83 310 *e*P **P** 23 27 01.7 -1.7
PLOR Plostina 89.85 316⇓*i*P **P** 23 27 02.7 -0.2
PHSR Pinarhisar 89.89 312 *e*P **P** 23 27 02.8 -0.4
SKAG Skagway 89.97 30 *e*P **P** 23 27 03.5 +0.4
comp=Z,726nm,0.8s
TKR Tekirdag 89.98 311 *e*P **P** 23 27 04.0 +0.4
YER Yerkesik 89.98 307 *e*P **P** 23 27 02.0 -1.8
MRMT Marmara Adasi 90.00 311 *e*P **P** 23 27 02.0 -1.8
ISR Istrita 90.04 315⇓*i*P **P** 23 27 04.0 +0.1
TBI Tubuai 90.09 113 *e*P **P** 23 27 06.9 +2.5
comp=Z,1µm,1.1s
TBI *e*pP **pP** 23 29 24.5 +4.4
comp=Z,2µm,1.6s
AKS Akhisar 90.09 309 *e*P **P** 23 27 03.6 -0.6
AYDB Zeytinkoy-Aydi 90.17 308 *e*P **P** 23 27 04.7 0.0
ARG Arkhangelos 90.24 306 *e*P **P** 23 27 03.2 -1.7
ARG Arkhangelos 90.24 306 P **P** 23 27 04.3 -0.6
KRBG Karabiga-Canak 90.25 311 *e*P **P** 23 27 02.0 -2.8
RKY Sarkoy-Tekirda 90.30 311 *e*P **P** 23 27 04.5 -0.7
SULR 90.32 315⇓*i*P **P** 23 27 05.0 0.0
SECR 90.39 315⇑*i*P **P** 23 27 05.4 0.0
MLR Muntele Rosu 90.39 316⇓*i*P **P** 23 27 05.0 -0.6
BESE Bessie Mountai 90.42 31 *e*P **P** 23 27 05.9 +0.6
comp=Z,420nm,1.0s
BESE *e*PKKPdf **PKKPbc** 23 44 32.5 +0.4
BESE *e*P'P'df **P'P'df** 23 52 36.2 -2.4
EDRB Edirne 90.43 312 *e*P **P** 23 27 04.7 -0.9
EDRB Edirne 90.43 312 P **P** 23 27 04.8 -0.9
BVCR Bucharest-Old 90.47 315⇑*i*P **P** 23 27 06.6 +0.9
STEI Steigen 90.49 339 *e*P **P** 23 27 03.4 -1.9
BURAR **Bucovina Array 90.51 318**⇑*i*P **P** 23 27 06.1 +0.1
BUR08 **Bucovina Ar. S 90.52 318** *e*P **P** 23 27 06.0 0.0
SUW Suwalki 90.52 324 *e*P **P** 23 27 05.2 -0.6
SUW *e*PcP **PcP** 23 27 08.5 +2.1
SUW *e*SKS **SKSac** 23 36 37.9 +0.4
SUW *e*S **S** 23 37 05.1 -3.3
SUW Suwalki 90.52 324 *e*P **P** 23 27 05.2 -0.6
SUW *e* 23 36 38.0
SUW *e*S **S** 23 37 05.2 -3.2
PMOR Pomariorio Ree 90.55 105 *e*P **P** 23 27 09.8 +3.2
comp=Z,1µm,0.9s
CIOR Ciorogarla 90.62 315⇑*i*P **P** 23 27 05.9 -0.5
LPK Lapseki 90.66 311 *e*P **P** 23 27 06.2 -0.5
DOPR Dopca 90.69 316⇑*i*P **P** 23 27 06.2 -0.6
MEH Mehetia 90.72 108 *e*P **P** 23 27 09.8 +2.3
comp=Z,97nm,0.9s
MEH *e*pP **pP** 23 29 27.9 +4.7
comp=Z,160nm,1.4s
DKL Dikili 90.76 309 *e*P **P** 23 27 06.4 -0.8
BODT Bodrum 90.76 307 *e*P **P** 23 27 05.9 -1.4
BLCB Balcova 90.77 309 *e*P **P** 23 27 06.6 -0.7
SZH Strazhica 90.79 314 *i*P **P** 23 27 07.2 -0.1
ERIK Erikli-Kesan 90.80 311 *e*P **P** 23 27 06.9 -0.5
ALE Alert 90.81 1 P **P** 23 27 06.5 -0.1
comp=Z,1µm,1.2s,SNR=23
VAH Vaihoa 90.83 105 *e*P **P** 23 27 10.8 +2.9
comp=Z,792nm,1.1s
LVV L'vov 90.86 320 *e*P **P** 23 27 05.9 -1.6
LVV *e**PP **pP** 23 29 20.5 -2.7
LVV *e*PPP PPP 23 32 55.3
LVV *e*S S 23 37 02.9 -8.7
LVV *e*SS SS 23 43 44.7 +10
LVV pmax pmax
comp=Z,1µm,1.6s
GELI Tayfur-Gelibol 90.87 311 *e*P **P** 23 27 05.9 -1.8
NIS1 Nisyros Isl. 90.94 307 *e*P **P** 23 27 07.5 -0.6
NIS1 Nisyros Isl. 90.94 307 P **P** 23 27 06.7 -1.4
LOF Lofoten 91.02 339 *e*P **P** 23 27 05.2 -2.6
VOIR 91.02 316⇓*i*P **P** 23 27 07.2 -1.2
SMG Samos 91.03 308 *e*P **P** 23 27 07.7 -0.8
SMG Samos 91.03 308 P **P** 23 27 07.8 -0.8
ENEZ Enez 91.06 311 *e*P **P** 23 27 07.6 -0.6
EZN Ezine 91.08 310 *e*P **P** 23 27 08.1 -0.6
ALN Alexandroupoli 91.11 311 *e*P **P** 23 27 07.6 -1.2
ALN Alexandroupoli 91.11 311 P **P** 23 27 07.2 -1.6
KARP Karpathos 91.12 306 *e*P **P** 23 27 08.5 -0.5
KARP Karpathos 91.12 306 P **P** 23 27 08.7 -0.3
ARCR ARCALIA 91.19 318⇑*i*P **P** 23 27 09.3 +0.3
GOLR 91.19 315⇑*i*P **P** 23 27 07.8 -1.3
PRK Paraskevi 91.22 310 *e*P **P** 23 27 07.8 -1.5
PRK Paraskevi 91.22 310 P **P** 23 27 08.3 -1.0
PVL Pavlikeni 91.23 314 *i*P **P** 23 27 09.0 -0.3
HUMR Humele 91.24 315⇓*i*P **P** 23 27 07.2 -2.1
ARR Arges 91.33 316⇑*i*P **P** 23 27 09.3 -0.5
GADA Gvkgeada 91.34 311 *e*P **P** 23 27 09.0 -0.8
MDB Medias 91.35 317⇓*i*P **P** 23 27 09.9 +0.1
MOR8 Moi Rana 91.38 337 *e*P **P** 23 27 07.1 -2.4
MOR8 IAmb IAmb 23 27 11.7
comp=Z,568nm,0.6s
KDZ Kurdzhali 91.45 312 *i*P **P** 23 27 10.1 -0.3
RDO Rodhopi 91.45 312 *e*P **P** 23 27 09.0 -1.3
comp=Z,1µm,1.1s
RDO Rodhopi 91.45 312 P **P** 23 27 09.3 -1.0
CHOS Chios island 91.53 309 *e*P **P** 23 27 10.0 -0.9
CHOS Chios island 91.53 309 P **P** 23 27 10.2 -0.7
SIGR SIGRI 91.54 310 *e*P **P** 23 27 09.1 -1.7
SIGR SIGRI 91.54 310 P **P** 23 27 09.9 -0.9
SMTH Samothraki Isl 91.57 311 *e*P **P** 23 27 09.2 -1.7
SMTH Samothraki Isl 91.57 311 P **P** 23 27 09.4 -1.5
BMR Baia Mare 91.64 318⇓*i*P **P** 23 27 10.9 -0.2
FLOS Flostrand 91.73 338 *e*P **P** 23 27 09.4 -1.7
KWP Kalwaria Pacla 91.74 320 *e*P **P** 23 27 11.2 -0.3
KWP *e*PcP **PcP** 23 27 14.6 +2.6
KWP *e*PP PP 23 37 07.5 +5.6
KWP *e*SKS **SKSac** 23 36 43.2 -1.4
KWP *e*S **S** 23 37 17.6 -1.7
KWP Kalwaria Pacla 91.74 320 *e*P **P** 23 27 11.3 -0.3
KWP *e* 23 31 07.6
KWP *e* 23 36 43.3
KWP *e*S **S** 23 37 17.7 -1.6
KONS Konsvik 91.76 338 *e*P **P** 23 27 09.2 -2.0
CJR Cluj-Napoca 91.77 317⇓*i*P **P** 23 27 09.5 -2.3
LOT Lotru 91.91 316 *e*P **P** 23 27 11.4 -1.1
LOT Lotru 91.91 316⇓*i*P **P** 23 27 12.0 -0.5
LIA Limnos Island 91.93 310 P **P** 23 27 10.9 -1.7
ZKR Zakros 91.95 306 P **P** 23 27 12.0 -0.8
RZN Rozhen 91.96 312 *i*P **P** 23 27 11.4 -1.5
CRAG Craig 92.10 34 *e*P **P** 23 27 13.8 +0.8
comp=Z,552nm,0.9s
CRAR CRAIOVA 92.11 315⇑*i*P **P** 23 27 12.7 -0.6
APE Apeiranthos 92.17 308 *e*P **P** 23 27 10.7 -3.1
APE Apeiranthos 92.17 308⇓*i*P **P** 23 27 11.7 -2.1
APE Apeiranthos 92.17 308 *e*P **P** 23 27 11.5 -2.3
APE Apeiranthos 92.17 308 P **P** 23 27 11.8 -2.1
KOLS Kolonicke sedl 92.17 320 *e*P **P** 23 27 13.5 0.0
KOLS Kolonicke sedl 92.17 320 *e*P **P** 23 27 13.5 0.0
KOLS *e* 00 04 44.0
TRPA Tarpa 92.18 319⇓*i*P **P** 23 27 13.1 -0.4
TRPA Tarpa 92.18 319⇓*e*S P 23 27 16.8 +3.3
PGB Panagyurishte 92.19 313 *i*P **P** 23 27 13.1 -0.7
UZH Uzhgorod 92.23 319 *e*P **P** 23 27 14.0 +0.3
UZH *e* 23 29 28.2
UZH *e*S **S** 23 37 26.0 +2.5
KAVA Kavala 92.23 312 P **P** 23 27 12.5 -1.4
WRAK Wrangell Islan 92.27 33 *e*P **P** 23 27 14.6 +0.9
WRAK *e*PKKPdf PKKPbc 23 44 33.3 +6.0
MPEP Malo Peshtene 92.34 314 *i*P **P** 23 27 13.6 -0.8
SANT Santorini 92.34 307 *e*P **P** 23 27 16.2 +1.6
DRGR 92.35 317⇓*i*P **P** 23 27 14.3 -0.2
DEV Deva 92.41 317⇓*i*P **P** 23 27 14.8 +0.1
THR5 Thira Island, 92.42 307 *e*P **P** 23 27 14.0 -0.9
BEL Belsk 92.42 323 *e*P **P** 23 27 14.6 0.0
BEL *e*PcP **PcP** 23 27 18.0 +3.1
BEL *e*PP **PP** 23 31 07.1 +0.1
BEL *e*SKS **SKSac** 23 36 48.5 +0.4
BEL *e*S **S** 23 37 23.4 -1.7
BEL Belsk 92.42 323 *e*P **P** 23 27 14.6 0.0
BEL *e* 23 31 07.1
BEL *e* 23 36 48.6
BEL *e*S **S** 23 37 23.4 -1.7
LAST Lasithi 92.54 306 P **P** 23 27 13.6 -2.0
MBAR Mbarara 92.64 270 P **P** 23 27 17.2 +0.6
comp=Z,375nm,0.8s,SNR=14
MBAR Mbarara 92.64 270 *e*P **P** 23 27 15.6 -1.0
MBAR pmax pmax
comp=Z,613nm,1.1s
MBAR Mbarara 92.64 270 *e*P **P** 23 27 15.6 -1.0
comp=Z,612nm,1.1s
MBAR *e*PKKPdf **PKKPbc** 23 44 26.8 +1.9
NVR Nevrokopi 92.65 312 P **P** 23 27 14.3 -1.6
MMB Musomiste 92.70 312 *i*P **P** 23 27 15.2 -0.9
OUR Ouranopolis 92.76 311 *e*P **P** 23 27 15.0 -1.3
OUR Ouranopolis 92.76 311 P **P** 23 27 14.9 -1.4
RMGR Halanga-Turnu 92.81 315⇓*i*P **P** 23 27 16.6 +0.1
VTS Vitosha 92.88 313⇓*i*P **P** 23 27 16.2 -0.9
VTS Vitosha 92.88 313 *i*P **P** 23 27 16.7 -0.4
VTS Vitosha 92.88 313 P **P** 23 27 16.1 -1.0
DLBC Dease Lake 92.89 30 PKKPbc PKKPbc 23 44 24.9 -1.0
comp=Z,27nm,0.6s,baz=147,slow=0.2,SNR=17
DLBC PKPPKP **P'P'df** 23 52 34.6 +0.7
comp=Z,7.3nm,0.7s,baz=66,slow=2.1,SNR=4.7
DLBC Dease Lake 92.89 30 *e*P **P** 23 27 17.6 +0.9
comp=Z,465nm,0.9s
DLBC PKKPbc **PKKPbc** 23 44 24.9 -1.0
DLBC *e*PKKPdf **PKKPdf** 23 44 25.3 +3.1
DLBC P'P' 23 52 34.6
SRS Serrai 92.89 312 P **P** 23 27 15.2 -1.8
NSS Namsos 92.94 336 *e*P **P** 23 27 15.0 -1.7
IDI Anoyia 92.99 306 P **P** 23 27 16.0 -1.6
comp=Z,291nm,0.7s,baz=123,slow=5.4,SNR=38
IDI Anoyia 92.99 306 *e*P **P** 23 27 16.2 -1.5
comp=Z,719nm,1.0s
IDI Anoyia 92.99 306 P **P** 23 27 15.9 -1.7
AOS Alonnisos 93.06 310 P **P** 23 27 16.2 -1.6
PAIG Paliouri 93.06 311 P **P** 23 27 16.1 -1.7
SIVA Sivas 93.10 306 P **P** 23 27 17.9 -0.2
KKB Krupnik 93.12 313 *i*P **P** 23 27 17.0 -1.0
SOH Sokhos 93.13 312 P **P** 23 27 16.4 -1.7
EREA Eretria 93.16 309 P **P** 23 27 16.4 -1.9
SIRR Siria 93.17 317⇑*i*P **P** 23 27 17.9 -0.3
NIE Niedzica 93.32 320 *e*P **P** 23 27 19.1 +0.3
NIE *e*PcP **PcP** 23 27 22.6 +3.6
NIE *e*PP **PP** 23 31 18.3 +4.3
NIE *e*SKS **SKSac** 23 36 54.1 +0.9
NIE *e*S **ScS** 23 37 38.5 +4.7
NIE Niedzica 93.32 320 *e*P **P** 23 27 19.1 +0.3
NIE *e* 23 31 18.3
NIE *e* 23 36 54.2
NIE *e*S **ScS** 23 37 38.5 +4.7
BZS Buzias 93.35 316⇓*i*P **P** 23 27 17.8 -1.2
ATHU Athens Univers 93.36 309 P **P** 23 27 16.9 -2.3
HORT Hortiatis 93.36 311 *e*P **P** 23 27 16.1 -3.1
HORT Hortiatis 93.36 311 P **P** 23 27 16.8 -2.5
KNT Kendrikon 93.40 312 *e*P **P** 23 27 17.5 -1.8
KNT Kendrikon 93.40 312 P **P** 23 27 16.3 -3.0
ATH Athens Observa 93.42 309 P **P** 23 27 17.5 -1.9
KECS Kecovo 93.43 319 *e*P **P** 23 27 19.0 -0.3
KECS pmax pmax
comp=Z,183nm,0.9s
KECS Kecovo 93.43 319 *e*P **P** 23 27 19.0 -0.3
KECS *e* 23 44 21.9
KECS *e* 23 47 00.5
OJC Ojcow 93.43 321 *e*P **P** 23 27 18.9 -0.3
OJC *e*PcP **PcP** 23 27 22.2 +2.7
OJC *e*PP **PP** 23 31 16.4 +1.6
OJC *e*SKS **SKSac** 23 36 53.8 +0.1
OJC *e*S **S** 23 37 35.0 +1.1
OJC Ojcow 93.43 321 *e*P **P** 23 27 19.0 -0.3
OJC *e* 23 31 16.5
OJC *e* **SKSac** 23 36 53.8 +0.1
OJC *e*S **S** 23 37 35.1 +1.1
OJC Ojcow 93.43 321 *e*P **P** 23 27 18.6 -0.6
comp=Z,2µm,1.7s
THE Thessaloniki 93.46 311 P **P** 23 27 17.6 -1.9
VAM Vamos 93.52 306 P **P** 23 27 19.9 -0.1
NEO Neokhori 93.53 310 P **P** 23 27 18.1 -1.9
XOR Xorichti 93.55 310 P **P** 23 27 17.8 -2.2
TIM Timisoara 93.59 317⇓*i*P **P** 23 27 20.0 0.0
VAY Valandovo 93.61 312 *i*P **P** 23 27 19.1 -1.1
VAY Valandovo 93.61 312 P **P** 23 27 18.5 -1.7
SMIA Simia 93.63 310 P **P** 23 27 19.4 -1.0
VILL Villia 93.69 309 P **P** 23 27 17.8 -3.0
GVD Gavdhos 93.72 306 *e*P **P** 23 27 19.6 -1.3
comp=Z,2µm,0.7s
GVD Gavdhos 93.72 306 P **P** 23 27 20.0 -0.9
FYTO Fytoko, Volos 93.73 310 P **P** 23 27 19.3 -1.5
BANR Banloc 93.73 316⇑*i*P **P** 23 27 19.8 -0.9
HFS Hagfors 93.79 332 PKPPKP **P'P'df** 23 52 33.4 +1.3
comp=Z,4.1nm,0.6s,baz=145,slow=5.4,SNR=4.4
ATAL Atalanti 93.81 309 P **P** 23 27 18.7 -2.5
DAG Danmarks Havn 93.83 352⇓*i*P **P** 23 27 19.6 -0.9
comp=Z,507nm,0.7s
DAG Danmarks Havn 93.83 352⇓*i*P **P** 23 27 19.6 -0.9
DAG pmax pmax
comp=Z,350nm,0.7s
LKR Lokris 93.84 309 P **P** 23 27 19.0 -2.3
DID Didima 93.88 308 P **P** 23 27 19.0 -2.6
DIDY Didyma 93.91 308 P **P** 23 27 18.2 -3.6
LIT Litokhoron 93.92 311 P **P** 23 27 18.8 -2.9
PSZ Piszkesteto 93.95 319 *e*P **P** 23 27 21.1 -0.6
PSZ pmax pmax
comp=Z,2µm,1.7s
PSZ Piszkesteto 93.95 319⇓*i*P **P** 23 27 21.2 -0.6
PSZ Piszkesteto 93.95 319 *e*P **P** 23 27 21.1 -0.6
comp=Z,2µm,1.7s
PSZ Piszkesteto 93.95 319⇓*e*S **P** 23 27 24.6 +2.9
KRND KRANIDI 93.97 308 P **P** 23 27 18.2 -3.8
LTK Loutraki 93.99 309 P **P** 23 27 19.2 -2.9
LOUT Loutraki 93.99 309 P **P** 23 27 19.4 -2.7
AXAR Agios Charalam 94.07 310 P **P** 23 27 21.5 -0.9
TBLU Trondheim 94.13 335 *e*P **P** 23 27 20.6 -1.5
GKP Gorka Klasztor 94.14 325 *e*P **P** 23 27 21.9 -0.4
GKP *e*PcP **PcP** 23 27 25.2 +2.8
GKP *e*PP **PP** 23 31 24.7 +4.7
GKP *e*SKS **SKSac** 23 36 56.4 -0.8
GKP *e*S **S** 23 37 36.9 -2.9
GKP Gorka Klasztor 94.14 325 *e*P **P** 23 27 22.0 -0.4
GKP *e* 23 31 24.7
GKP *e* 23 36 56.4
GKP *e*S **S** 23 37 36.9 -2.9
ANKY Antikythira Is 94.15 307 P **P** 23 27 22.3 -0.5
THAL Thalero 94.22 309 P **P** 23 27 20.4 -2.7
DSF Desfina 94.25 309 P **P** 23 27 20.4 -2.9
AGG Agios Georgios 94.27 310 *e*P **P** 23 27 21.5 -1.8
AGG Agios Georgios 94.27 310 *e*P **P** 23 27 20.8 -2.5
AGG *e* 23 44 23.9
AGG pmax pmax
comp=Z,2µm,1.5s
AGG Agios Georgios 94.27 310 *e*P **P** 23 27 20.8 -2.5
comp=Z,2µm,1.5s
AGG *e*PKKPdf **PKKPbc** 23 44 23.9 +2.4
AGG *e*P'P'df **P'P'df** 23 52 32.7 +0.3
AGG Agios Georgios 94.27 310 P **P** 23 27 20.5 -2.8
VLI Veliai 94.27 308 *e*P **P** 23 27 20.7 -2.7
VLI Veliai 94.27 308 P **P** 23 27 21.0 -2.4
KYTH Kithira 94.28 307 P **P** 23 27 22.4 -1.1
SKO Skopje 94.29 313 *i*P **P** 23 27 22.4 -0.9
THL Klokotos Trika 94.39 311 P **P** 23 27 20.9 -2.9
KZN Kozani 94.42 311 P **P** 23 27 21.8 -2.2
MAKR Makrakomi, Fth 94.42 310 P **P** 23 27 22.0 -2.0
RAC Raciborz 94.47 321 *e*P **P** 23 27 24.3 +0.4
GUR Goura 94.49 309 P **P** 23 27 22.5 -1.9
VYHS Vyhne 94.49 320 *e*P **P** 23 27 23.8 -0.3
VYHS pmax pmax
comp=Z,147nm,1.4s
VYHS Vyhne 94.49 320 *e*P **P** 23 27 23.8 -0.3
VYHS *e* 23 44 20.1
VYHS *e* 23 46 58.5
KALE Kalithea 94.55 309 P **P** 23 27 22.3 -2.4
OKC Ostrava-Krasne 94.56 321 *e*P **P** 23 27 24.4 0.0
OKC *ex* x 23 27 28.3
OKC Ostrava-Krasne 94.56 321 *e*P **P** 23 27 24.4 0.0
NC602 NORSAR Array S 94.56 333 *e*P **P** 23 27 22.7 -1.4
VLX Vlachokerasia 94.58 308 P **P** 23 27 23.2 -1.7
NB2 NORSAR Subarra 94.59 333 P **P** 23 27 22.6 -1.7
comp=Z,2µm,1.4s,baz=64,slow=4.8
NB2 NORSAR Subarra 94.59 333 P **P** 23 27 22.6 -1.7
baz=64,slow=4.8
NOA NORSAR Array B 94.59 333 P **P** 23 27 22.2 -2.1
comp=Z,144nm,0.7s,baz=200,slow=18,SNR=317
NOA PKKPbc **PKKPdf** 23 44 19.8 +0.7
comp=Z,21nm,0.5s,baz=249,slow=2.3,SNR=16
NOA PKPPKP **P'P'df** 23 52 30.3 -0.3
comp=Z,4.2nm,0.8s,baz=217,slow=1.6,SNR=6.6
FNA Florina 94.61 312 *e*P **P** 23 27 22.9 -1.9
FNA Florina 94.61 312 P **P** 23 27 22.3 -2.6
TRIZ Trizonia 94.61 309 P **P** 23 27 21.6 -3.2
KLV Kalavryta, Ach 94.61 309 P **P** 23 27 21.9 -3.1
BUD Budapest 94.63 319⇓*e*S **P** 23 27 27.8 +3.1
PKS7 Kunszentmiklos 94.66 318 *e*S P 23 27 29.0 +4.2
EVR Evrytania 94.69 310 P **P** 23 27 22.0 -3.3
LAKA Lakka 94.70 309 P **P** 23 27 24.4 -0.9
EFP Efpalio 94.72 309 P **P** 23 27 23.5 -1.8
PKS2 Kecel 94.76 318 *e*S P 23 27 29.8 +4.5
NAO01 NORSAR Array S 94.82 333 *e*P **P** 23 27 23.8 -1.5
comp=Z,470nm,0.8s
DIVS Divibare 94.83 315⇓*i*P **P** 23 27 25.3 -0.5
DIVS Divibare 94.83 315 P **P** 23 27 25.1 -0.7
UPR University Cam 94.84 309 P **P** 23 27 28.4 +2.3
BSD Bornholm Skovb 94.86 327 *i*P **P** 23 27 24.6 -1.0
comp=Z,434nm,1.0s
BSD Bornholm Skovb 94.86 327 *i*P **P** 23 27 24.6 -1.0
BSD pmax pmax
comp=Z,430nm,1.0s
NEST Nestorio 94.93 312 P **P** 23 27 23.9 -2.5
MEV Metsovon 94.94 311 P **P** 23 27 24.8 -1.7
MORC Moravsky Berou 94.95 321 *e*P **P** 23 27 25.8 -0.4
MORC pmax pmax
comp=Z,9µm,2.0s
MORC Moravsky Berou 94.95 321⇑*i*P **P** 23 27 26.2 0.0
MORC Moravsky Berou 94.95 321 *e*P **P** 23 27 25.8 -0.4
comp=Z,9µm,2.0s
ITM Ithomi 94.97 308 *e*P **P** 23 27 24.3 -2.2
ITM Ithomi 94.97 308 P **P** 23 27 23.5 -3.0
DRO Drossia 94.97 309 P **P** 23 27 25.7 -0.8
AMT Artemida-Makis 95.06 309 P **P** 23 27 25.8 -1.2
PKSG 95.07 319⇓*e*S **P** 23 27 26.3 -0.4
KBN Korca 95.08 312 P **P** 23 27 25.0 -2.0
PHP Peshkopia 95.09 313 P **P** 23 27 25.4 -1.6
DOMB Dombas 95.14 334 *e*P **P** 23 27 25.9 -0.8
RLS Riolos of Patr 95.14 309 P **P** 23 27 26.6 -0.6
CSKK Cs˘´ákako 95.16 319⇓*e*S **P** 23 27 24.8 -2.3
PYL PYLOS 95.17 308 P P 23 27 23.8 -3.6
DSL Palaion Diasel 95.18 310 P **P** 23 27 26.1 -1.4
PKSM Moragy 95.22 318⇓*i*P **P** 23 27 26.8 -0.6
PKSM Moragy 95.22 318⇓*e*S **P** 23 27 30.3 +2.9
PDO Prodromos 95.24 310 P **P** 23 27 26.4 -1.3
OSL Oslo 95.25 332 *e*P **P** 23 27 25.3 -1.9
JAN Janina 95.25 311 P **P** 23 27 26.6 -1.2
KRLC Kraliky 95.34 322 *e*P **P** 23 27 27.9 0.0
KRLC *e*PP **PP** 23 31 29.3 -0.1
KRLC *e*SKS **SKSac** 23 37 04.0 +0.1
KRLC Kraliky 95.34 322 *e*P **P** 23 27 27.9 0.0
KRLC *e* 23 31 29.3
KRLC *e* 23 37 04.0
PKST T˜'s 95.34 319⇓*e*S **P** 23 27 27.4 -0.6
KSP Ksiaz 95.41 322 *e*P **P** 23 27 28.3 +0.1
KSP *e*PcP **PcP** 23 27 31.7 +3.5
KSP *e*PP PP 23 31 35.5 +5.7
KSP *e*SKS **SKSac** 23 37 05.4 +1.3
KSP *e*S **S** 23 37 49.7 -1.2
KSP Ksiaz 95.41 322 *e*P **P** 23 27 28.3 +0.1
KSP *e* 23 31 35.5
KSP *e* 23 37 05.4
KSP *e*S **S** 23 37 49.7 -1.2
RES Resolute Bay 95.45 10 P **P** 23 27 26.0 -1.8
comp=Z,104nm,0.7s,baz=293,slow=5.4,SNR=48
RES PKKPbc **PKKPbc** 23 44 19.4 -0.2
comp=Z,30nm,0.9s,baz=80,slow=3.9,SNR=10
RES SKKPbc SKKPbc 23 46 58.5 -0.5
comp=Z,22nm,0.9s,baz=132,slow=4.0,SNR=4.3
DPC Dobruska-Polom 95.54 322 *e*P **P** 23 27 29.2 +0.4
DPC *ex* x 23 27 33.0

DPC ePP **PP** **23 31 34.4 +3.5**
DPC eSKS **SKSac** **23 37 06.2 +1.3**
DPC Dobruska-Polom 95.54 322 eP **P** **23 27 29.2 +0.4**
DPC e 23 31 34.4
DPC e 23 37 06.2
MOL Molde 95.55 335 eP P 23 27 36.0 +7.5
TIR Tirane 95.59 313 eP **P** **23 27 27.7 -1.5**
TIR pmax pmax
comp=Z,1μm,1.3s
TIR Tirane 95.59 313 eP **P** **23 27 27.7 -1.5**
comp=Z,1μm,1.3s
TIR ePKKPdf **PKKPbc** **23 44 18.4 +0.2**
TIR eP'P'df **P'P'df** **23 52 34.8 +5.0**
TIR Tirane 95.59 313 P **P** **23 27 30.7 +1.5**
KFL Anninata 95.65 309 P **P** **23 27 27.9 -1.6**
IGT Igoumenitsa 95.67 311 eP **P** **23 27 28.9 -0.8**
IGT Igoumenitsa 95.67 311 P P 23 27 26.3 -3.3
UPC Upice 95.68 322 eP **P** **23 27 29.5 +0.1**
UPC ePP **PP** **23 31 35.3 +3.4**
UPC Upice 95.68 322 eP **P** **23 27 29.5 +0.1**
UPC e 23 31 35.3
VRAC Vranov 95.68 321 ⇓ iP **P** **23 27 29.7 +0.2**
EXG Exogi 95.69 310 P **P** **23 27 31.4 +1.7**
SGD Sagiada 95.72 311 P **P** **23 27 26.8 -3.0**
PDG Podgorica 95.76 314 P **P** **23 27 29.6 -0.3**
VLS Valsamata 95.79 309 P **P** **23 27 28.7 -1.5**
SRN Sarande 95.84 311 P **P** **23 27 28.6 -1.7**
KONO Kongsberg 95.88 332 eP **P** **23 27 28.1 -1.9**
KONO Kongsberg 95.88 332 eP **P** **23 27 28.5 -1.6**
KONO pmax pmax
comp=Z,332nm,0.8s
KONO Kongsberg 95.88 332 eP **P** **23 27 28.5 -1.6**
comp=Z,332nm,0.8s
BBB Bella Bella 95.90 36 PKKPbc PKKPbc 23 44 15.1 -2.6
comp=Z,20nm,1.0s,baz=294,slow=22,SNR=6.9
RGN Rugen 95.92 327 ePdiff **P** **23 27 30.7 +0.4**
RGN Rugen 95.92 327 eP **P** **23 27 29.9 -0.5**
comp=Z,2μm,1.5s
AKN Aaknes 95.95 335 eP **P** **23 27 29.6 -0.8**
AKN IAmb IAmb 23 27 34.6
comp=Z,1μm,0.7s
COP Copenhagen 96.00 328 i P **P** **23 27 30.1 -0.5**
comp=Z,333nm,1.2s
COP Copenhagen 96.00 328 i P **P** **23 27 30.1 -0.5**
COP pmax pmax
comp=Z,330nm,1.2s
VLO Vlora 96.07 312 P P 23 27 35.0 +3.7
JNW Jan Mayen West 96.09 346 eP **P** **23 27 31.5 +0.7**
JMIC Jan Mayen 96.14 346 eP **P** **23 27 31.2 +0.2**
JMIC Jan Mayen 96.14 346 P **P** **23 27 31.0 +0.1**
comp=Z,439nm,0.8s,baz=109,slow=6.8,SNR=17
JMIC PKKPbc **PKKPdf** **23 44 16.7 +0.3**
comp=Z,38nm,0.5s,baz=178,slow=4.2,SNR=5.1
RUE Ruedersdorf 96.37 325 ePdiff **P** **23 27 32.8 +0.4**
RUE Ruedersdorf 96.37 325 eP **P** **23 27 32.4 0.0**
comp=Z,1μm,0.7s
TREC Trest 96.38 321 eP **P** **23 27 30.6 -2.0**
TREC ex x 23 27 34.6
TREC Trest 96.38 321 eP **P** **23 27 30.6 -2.0**
BEHE Becsehely 96.39 318 ⇓ eS **P** **23 27 35.7 +3.0**
PVCC Panska Ves 96.55 323 eP **P** **23 27 33.6 +0.3**
PVCC ePP PP 23 31 46.7 +8.2
PVCC eSKS **SKSac** **23 37 10.6 +0.7**
PVCC Panska Ves 96.55 323 eP **P** **23 27 33.6 +0.3**
PVCC e 23 31 46.7
PVCC e 23 37 10.6
CONA Conrad Observa 96.56 320 i Pdiff **P** **23 27 33.8 +0.3**
comp=Z,537nm,2.1s,SNR=24
GOPC GO Pecny, Ondr 96.61 322 eP **P** **23 27 33.7 +0.1**
GOPC ex x 23 27 37.7
GOPC eSKS **SKSac** **23 37 09.5 -0.9**
QSPA South Pole Qui 96.63 180 P **P** **23 27 33.7 +0.4**
comp=Z,23nm,0.6s,baz=173,slow=1.0,SNR=19
QSPA pP **pP** **23 29 50.0 +0.2**
comp=Z,90nm,1.0s,baz=30,slow=1.8,SNR=1.4
QSPA S **SKSac** **23 37 06.9 -2.9**
comp=Z,153nm,0.8s,baz=112,slow=22,SNR=36
LSZ Lusaka 96.68 255 eP **P** **23 27 33.9 -0.9**
LSZ pmax pmax
comp=Z,438nm,0.8s
LSZ Lusaka 96.68 255 eP **P** **23 27 33.9 -0.9**
comp=Z,438nm,0.8s
PRU Pruhonice 96.74 322 eP **P** **23 27 34.2 +0.1**
PRU ex x 23 27 38.1
PRU ex x 23 29 59.5
PRU ePP **PP** **23 31 36.8 -3.1**
PRU eSKS **SKSac** **23 37 10.2 -0.7**
PRU Pruhonice 96.74 322 eP **P** **23 27 34.2 +0.1**
PRU e 23 31 36.8
PRU e 23 37 10.2
KOGS Kog 96.74 318 ePdiff **P** **23 27 33.7 -0.5**
KOGS eSKSac **SKSac** **23 37 05.0 -6.0**
HYA Hoyanger 96.76 334 eP **P** **23 27 31.7 -2.2**
STON Ston 96.76 315 P **P** **23 27 33.0 -1.3**
PRA Prague 96.78 322 eP **P** **23 27 34.4 +0.1**
PRA Prague 96.78 322 eP **P** **23 27 34.4 +0.1**
BRG Berggiesshubel 96.81 323 i PDIF **P** **23 27 34.6 +0.2**
comp=Z,373nm,0.9s
BRG SDIFF **S** **23 38 00.0 -2.8**
BRG Berggiesshubel 96.81 323 i P **PP** **23 31 44.3 +3.8**
comp=Z,390nm,1.4s
BRG Berggiesshubel 96.81 323 i P **P** **23 27 34.6 +0.2**
BRG S **S** **23 38 00.0 -2.8**
BRG pmax pmax
comp=Z,373nm,0.9s
HOMB Homborsund 96.97 331 eP **P** **23 27 33.2 -1.7**
ARSA Arzberg 96.98 319 i Pdiff **P** **23 27 35.0 -0.3**
comp=Z,432nm,1.5s,SNR=27
FOO Floro 97.04 335 eP **P** **23 27 33.3 -1.8**
ODD1 Odda 97.13 333 eP Pdif 23 27 34.2 -1.5
FBE Freiberg 97.15 323 ePdiff Pdif 23 27 36.4 +0.5
CLL Collm 97.22 324 ePdiff **P** **23 27 36.3 0.0**
CLL Collm 97.22 324 eP Pdif 23 27 36.0 -0.3
CLL pmax pmax
comp=Z,4μm,2.1s
CLL Collm 97.22 324 eP Pdif 23 27 36.0 -0.2
comp=Z,4μm,2.1s
CLL Collm 97.22 324 ⇓ iPdif Pdif 23 27 36.0 -0.3
comp=Z,870nm,1.9s
CLL i Pdiffmax 23 27 39.2
comp=Z,2μm,2.2s
CLL e 23 30 03.0
CLL e 23 30 43.0
CLL ePP PP 23 31 38.0 -5.5
CLL e 23 33 52.0
CLL e 23 33 43.0
CLL eSKSac **SKSac** **23 37 12.0 -1.3**
CLL eSdif **ScS** **23 38 05.0 -1.2**
CLL eSS sS 23 42 24.0 +12
CLL e 23 42 42.0
CLL ePPS 23 44 06.0
CLL eSKKPdf **SKKPdf** **23 46 51.0 +1.1**
CLL e 23 47 24.0
CLL ePKPPKPdf **P'P'df** **23 52 29.0 +3.0**
CLL eSSSS 23 52 42.0
MUD Monsted U'grnd 97.39 329 i P Pdif 23 27 35.3 -1.5
comp=Z,540nm,1.0s
MUD Monsted U'grnd 97.39 329 i P Pdif 23 27 35.3 -1.5
MUD pmax pmax
comp=Z,540nm,1.0s
SUE Sulen 97.42 334 eP Pdif 23 27 35.8 -1.1
BLS5 Blasjo 97.43 333 eP Pdif 23 27 35.0 -2.0
RUND Rundenannen 97.46 334 eP Pdif 23 27 34.8 -2.4
SOKA Soboth 97.47 319 i Pdiff Pdif 23 27 37.3 -0.4
comp=Z,250nm,1.2s,SNR=31
BER Bergen 97.49 334 eP Pdif 23 27 36.1 -1.1
LEGS Legarje 97.51 318 ePdiff Pdif 23 27 37.4 -0.3
MOA Molln 97.60 320 i Pdiff **P** **23 27 38.2 +0.1**
comp=Z,411nm,0.7s,SNR=43
KHC Kasperske Hory 97.61 321 eP Pdif 23 27 37.9 -0.2
KHC ex x 23 27 42.0
KHC eSKS **SKSac** **23 37 15.2 -0.3**
KHC eS **S** **23 38 08.5 -1.2**
KHC Kasperske Hory 97.61 321 eP Pdif 23 27 37.9 -0.2
KHC e 23 37 15.2
KHC eS **S** **23 38 08.5 -1.2**
GEC2 GERESS Array S 97.63 321 ePdiff **P** **23 27 38.3 0.0**
GEC2 ePP PP 23 31 53.6 +6.8
GEC2 GERESS Array S 97.63 321 eP Pdif 23 27 38.2 -0.1
GEC2 GERESS Array S 97.63 321 ePdif Pdif 23 27 38.2 -0.1
GEC2 ePKKPbc **PKKPbc** **23 44 11.6 -1.6**
GERES GERESS Array B 97.63 321 P Pdif 23 27 37.4 -0.9
comp=Z,134nm,0.6s,baz=71,slow=4.9,SNR=100
GERES PP **PP** **23 31 46.2 -0.5**
comp=Z,65nm,0.9s,baz=60,slow=8.0,SNR=3.7
GERES PKiKP **PKiKP** **23 32 08.8 +0.5**
comp=Z,56nm,0.9s,baz=75,slow=5.2,SNR=5.0
GERES PKKPbc **PKKPdf** **23 44 15.9 +2.3**
comp=Z,20nm,0.5s,baz=246,slow=1.5,SNR=21
GERES SKKPbc SKKPbc 23 46 52.7 -0.4
comp=Z,11nm,0.8s,baz=222,slow=1.8,SNR=4.7
UDBI Udbina 97.64 317 P Pdif 23 27 37.3 -1.1
BOJS Bojanci 97.69 318 ePdiff Pdif 23 27 38.4 -0.1
BSEG Bad Segeberg 97.79 327 ePdiff **P** **23 27 39.1 +0.4**
OBKA Obir 97.84 319 i Pdiff Pdif 23 27 38.8 -0.5
comp=Z,187nm,0.9s,SNR=15
TANN Tannenbergstha 97.86 323 ePdiff **P** **23 27 39.3 +0.1**
NKC Novy Kostel 97.93 323 eP **P** **23 27 39.7 +0.2**
NKC ex x 23 27 43.5
NKC eSKS **SKSac** **23 37 16.8 -0.2**
NKC Novy Kostel 97.93 323 eP **P** **23 27 39.7 +0.2**
NKC e 23 37 16.8
WERD Werda 97.94 323 ePdiff **P** **23 27 39.8 +0.3**
GUNZ Gunzen 97.95 323 ePdiff **P** **23 27 40.0 +0.4**
WERN Wernitzgruen 97.95 323 ePdiff **P** **23 27 39.9 +0.3**
NEUB Neuenburg 97.98 324 ePdiff **P** **23 27 39.8 +0.2**
LJU Ljubljana 98.01 318 ePdiff Pdif 23 27 39.1 -0.8
LJU eSKSac **SKSac** **23 37 15.1 -2.4**
PLN Plauen 98.01 323 ePdiff **P** **23 27 40.2 +0.4**
WET Wettzell 98.04 322 ePdiff **P** **23 27 40.5 +0.5**
WET ePP PP 23 31 57.3 +7.5
KMY Karmoy 98.08 333 eP Pdif 23 27 39.0 -0.8
KMY IAmb IAmb 23 27 42.5
comp=Z,2μm,1.6s
YKA Yellowknife Ar 98.14 23 P Pdif 23 27 39.1 -0.9
comp=Z,38nm,0.7s,baz=303,slow=4.1,SNR=55
YKA pP pP 23 29 56.7 0.0
comp=Z,15nm,0.8s,baz=307,slow=5.0,SNR=1.1
YKA PKiKP **PKiKP** **23 32 07.7 -0.9**
comp=Z,31nm,0.8s,baz=304,slow=2.1,SNR=9.7
YKA SKKPbc SKKPbc 23 46 50.0 -2.0
comp=Z,16nm,0.7s,baz=123,slow=2.3,SNR=6.3
YKA PKPPKP **P'P'df** **23 52 20.3 -3.3**
comp=Z,4.9nm,0.9s,baz=106,slow=2.7,SNR=4.8
MANZ Manzenberg 98.22 323 ePdiff **P** **23 27 41.4 +0.6**
MANZ ePP PP 23 31 59.4 +8.4
NVLJ Novalja 98.23 317 P Pdif 23 27 39.4 -1.5
ROTZ Rotzenmuhle 98.24 322 ePdiff **P** **23 27 41.5 +0.6**
ROTZ ePP PP 23 31 58.1 +6.9
MOX Moxa 98.28 323 ePdiff **P** **23 27 41.2 +0.2**
MOX ePP PP 23 31 58.4 +7.0
MYKA Terra Mystica 98.40 319 ⇑ iPdiff Pdif 23 27 40.6 -1.1
comp=Z,152nm,0.7s,SNR=9.2
TIP Timpagrande 98.44 311 ePdif Pdif 23 27 41.5 -0.6
comp=Z,2μm,2.3s
TIP ePKKPbc **PKKPbc** **23 44 06.0 -4.5**
TIP Timpagrande 98.44 311 P Pdif 23 27 41.7 -0.4
KBA Koelnbreinsper 98.44 320 i Pdiff Pdif 23 27 41.1 -0.9
comp=Z,245nm,0.9s,SNR=20
CLZ Clausthal 98.56 325 ePdiff **P** **23 27 43.0 +0.7**
KULLO Kullorsuaq 98.82 0 ⇓ iP Pdif 23 27 42.5 -0.4
comp=Z,465nm,1.1s
GRF Grafenberg Arr 98.86 322 ePdiff **P** **23 27 44.2 +0.5**
GRF ePP PKiKP 23 32 03.1 -7.2
GRFO Grafenberg 98.86 322 eP Pdif 23 27 42.9 -0.7
GRFO pmax pmax
comp=Z,597nm,1.4s
GRFO Grafenberg 98.86 322 ePdif Pdif 23 27 42.9 -0.8
comp=Z,597nm,1.4s
CUC Castrocucco 98.91 312 ePdif Pdif 23 27 42.5 -1.6
comp=Z,347nm,1.7s
CUC ePKKPbc **PKKPbc** **23 44 05.6 -3.6**
ABTA Abfaltersbach 99.09 319 i Pdiff **Pdif** **23 27 43.7 -1.1**
comp=Z,196nm,0.9s,SNR=25
UBBA Unterbreizbach 99.17 324 ePdiff **Pdif** **23 27 45.1 +0.3**
FUR Furstenfeldbru 99.38 321 ePP PP 23 32 07.7 +7.9
WTTA Wattenberg 99.48 320 i Pdiff **Pdif** **23 27 46.1 -0.5**
comp=Z,372nm,0.6s,SNR=36
WATA Walderalm 99.49 320 ⇓ iPdiff **Pdif** **23 27 45.8 -0.8**
comp=Z,294nm,0.7s,SNR=54
MOTA Moosalm 99.79 320 ⇓ iPdiff **Pdif** **23 27 47.0 -1.0**
comp=Z,188nm,0.6s,SNR=60
LBTB Lobatse 99.80 246 PKKPbc PKKPbc 23 44 07.7 +1.4
comp=Z,13nm,0.6s,baz=261,slow=6.0,SNR=5.6
LBTB Lobatse 99.80 246 eP **Pdif** **23 27 48.0 -0.4**
LBTB pmax pmax
comp=Z,26nm,0.6s
LBTB Lobatse 99.80 246 ePdif **Pdif** **23 27 48.0 -0.4**
comp=Z,26nm,0.6s
LBTB PKKPbc **PKKPbc** **23 44 07.7 +1.4**
IBBN Ibbenburen 99.86 326 ePdiff **Pdif** **23 27 48.5 +0.6**
PGC Sidney 99.93 38 ePdif **Pdif** **23 27 48.7 +0.4**
comp=Z,241nm,1.5s
AQU L'Aquila 99.94 315 eP **Pdif** **23 27 48.4 -0.3**
AQU e 23 32 08.9
AQU pmax pmax
comp=Z,1μm,1.8s
AQU L'Aquila 99.94 315 ePdif **Pdif** **23 27 48.4 -0.3**
comp=Z,1μm,1.8s
AQU ePP **PKiKP** **23 32 08.9 -3.6**
RETA Reutte 99.95 321 ⇑ iPdiff **Pdif** **23 27 47.9 -0.7**
comp=Z,101nm,0.7s,SNR=5.1
SUMG Summit 99.96 355 i P **Pdif** **23 27 50.1 +1.6**
comp=Z,439nm,1.2s
SUMG Summit 99.96 355 i P **Pdif** **23 27 50.1 +1.6**
SUMG pmax pmax
comp=Z,440nm,1.2s
SUMG Summit 99.96 355 ePdif **Pdif** **23 27 48.1 -0.4**
comp=Z,272nm,1.0s
NLWA Neilton Lookou 100.14 40 ePdif **Pdif** **23 27 50.2 +0.8**
comp=Z,17μm,0.8s
FETA Feichten 100.14 320 i Pdiff **Pdif** **23 27 49.3 -0.3**
comp=Z,229nm,0.8s,SNR=25
BOSA Boshof 100.26 242 P **Pdif** **23 27 50.3 -0.2**
comp=Z,25nm,0.6s,baz=96,slow=3.3,SNR=24
BOSA PKiKP **PKiKP** **23 32 14.3 +0.7**
comp=Z,67nm,0.8s,baz=88,slow=4.9,SNR=4.3
BOSA PKKPbc **PKKPbc** **23 44 05.8 +0.8**
comp=Z,21nm,0.4s,baz=264,slow=2.4,SNR=16
BOSA SKKPbc SKKPbc 23 46 47.0 +0.3
comp=Z,17nm,0.8s,baz=277,slow=3.0,SNR=3.7
BOSA Boshof 100.26 242 eP **Pdif** **23 27 49.3 -1.1**
BOSA i 23 32 14.3
BOSA Boshof 100.26 242 ePdif **Pdif** **23 27 49.3 -1.1**
BOSA PKiKP **PKiKP** **23 32 14.3 +0.7**
BOSA PKKPbc **PKKPbc** **23 44 05.8 +0.8**
BOSA SKKPbc SKKPbc 23 46 47.0 +0.3
TNS Taunus Mts 100.31 324 ePdiff **Pdif** **23 27 50.8 +0.7**
TNS ePP **PKiKP** **23 32 13.7 +0.7**
LRW Lerwick 100.41 335 eP **Pdif** **23 27 48.9 -1.3**
STU Stuttgart 100.44 322 ePdiff **Pdif** **23 27 50.9 +0.3**
BUG Bochum--Univer 100.49 325 ePdiff **Pdif** **23 27 51.3 +0.5**
BUG ePP **PKiKP** **23 32 15.4 +2.3**
SAN1 Sandwick 100.50 335 eP **Pdif** **23 27 49.3 -1.3**
WAL1 Walls 100.52 335 eP **Pdif** **23 27 49.5 -1.2**
WTSB Winterswijk 100.53 326 eP **Pdif** **23 27 51.1 +0.2**
comp=Z,4μm,2.1s
WTSB epP pP 23 30 19.3 +12
DAVA Damuels 100.58 321 i Pdiff **Pdif** **23 27 51.7 +0.2**
comp=Z,194nm,1.1s,SNR=12
FUORN Ofenpass-Fuorn 100.59 320 ePdif **Pdif** **23 27 51.9 +0.2**
FUORN ePKKPbc **PKKPbc** **23 44 01.8 -3.3**
A05A Maple Falls 100.63 38 ePdif **Pdif** **23 27 52.0 +0.6**
A05A ePKKPbc **PKKPbc** **23 44 05.1 +0.4**
E03A Lebam 100.64 40 ePdif **Pdif** **23 27 51.5 -0.1**
E03A ePKKPdf **PKKPdf** **23 44 07.7 -0.3**
DAVOX Davos/Dischmat 100.77 320 P **Pdif** **23 27 52.2 -0.2**
comp=Z,169nm,0.7s,baz=77,slow=2.5,SNR=54
DAVOX PKiKP **PKiKP** **23 32 14.0 -0.1**
comp=Z,147nm,0.7s,baz=138,slow=4.5,SNR=5.8
JCW Jim Creek 101.04 38 P **Pdif** **23 27 54.2 +0.8**
WDD Wield Dalam 101.07 308 ePdif **Pdif** **23 27 52.6 -1.2**
WDD ePP **PKiKP** **23 32 16.6 +1.9**
WDD ePKKPdf **PKKPdf** **23 44 06.0 -1.0**
BFO Black Forest 101.14 322 ePdiff **Pdif** **23 27 53.6 -0.2**
BFO ePP PKiKP 23 32 19.9 +5.4
BFO Black Forest 101.14 322 i P **Pdif** **23 27 53.7 -0.1**
BFO Black Forest 101.14 322 ePdif **Pdif** **23 27 52.6 -1.2**
F04D Rainier, OR 101.17 41 Pdiff **Pdif** **23 27 53.3 -0.6**
baz=101
TUE Stuetta 101.23 320 ePdif **Pdif** **23 27 53.5 -0.9**
TUE ePP **PKiKP** **23 32 19.4 +4.5**
G03D McMinnville, O 101.33 41 Pdiff **Pdif** **23 27 55.2 +0.5**
baz=101
VLC Villacollemand 101.40 317 ePdif **Pdif** **23 27 54.4 -0.6**
VLC ePP **PKiKP** **23 32 17.9 +2.8**
KEBM Edson Butte 101.45 44 ePdif **Pdif** **23 27 56.2 +0.8**
comp=Z,176nm,0.9s
COR Corvallis 101.53 42 eP **Pdif** **23 27 56.1 +0.5**
COR pmax pmax
comp=Z,280nm,1.1s
COR Corvallis 101.53 42 ePdif **Pdif** **23 27 56.1 +0.5**
comp=Z,280nm,1.1s
HGN Heimansgroeve 101.55 325 eP **Pdif** **23 27 55.6 +0.1**
comp=Z,3μm,2.5s
HGN epP pP 23 30 27.9 +16
CLTB Caltabellotta 101.57 310 ePdif **Pdif** **23 27 55.6 -0.4**
CLTB ePKKPbc **PKKPbc** **23 44 00.9 -0.9**
MEM Membach 101.57 325 P **Pdif** **23 27 55.8 +0.1**
comp=Z,312nm,2.4s
TDL Tradedollar La 101.58 40 P **Pdif** **23 27 56.5 +0.6**
BEBN Eben Emael 101.68 325 P **Pdif** **23 27 56.2 +0.2**
comp=Z,194nm,2.7s
WRW Wenatchee Ridg 101.82 38 P **Pdif** **23 27 57.5 +0.6**
I03D Drain, OR 101.83 43 Pdiff **Pdif** **23 27 57.4 +0.5**
baz=102
WLF Walferdange 101.89 324 P **Pdif** **23 27 56.8 -0.3**
comp=Z,418nm,2.6s
WLF Walferdange 101.89 324 ePdiff **Pdif** **23 27 57.9 +0.8**
WLF ePP PP 23 32 25.0 +6.8
WLF Walferdange 101.89 324 eP **Pdif** **23 27 57.8 +0.7**
WLF pmax pmax
comp=Z,332nm,2.8s
WLF Walferdange 101.89 324 ePdif **Pdif** **23 27 57.8 +0.7**
comp=Z,332nm,2.8s
ECH Echery 101.90 322 eP **Pdif** **23 27 56.3 -0.9**
ECH pmax pmax
comp=Z,67nm,1.0s
ECH Echery 101.90 322 ePdif **Pdif** **23 27 56.3 -0.9**
comp=Z,67nm,1.0s
L02D Cave Junction, 102.20 44 Pdiff **Pdif** **23 27 58.7 0.0**
baz=102
H04A Detroit Lake 102.24 42 ePdif **Pdif** **23 27 58.9 +0.2**
H04A ePP **PP** **23 32 22.4 +1.4**
H04A eP'P'df **P'P'df** **23 52 21.1 +4.2**
VLL Laurance Lake 102.27 41 P **Pdif** **23 28 00.1 +1.1**
MLA1 Latheron 102.37 334 eP **Pdif** **23 27 57.2 -1.8**
I04A Tendick Farm, 102.42 43 Pdiff **Pdif** **23 27 59.9 +0.2**
baz=102
I04A SKSac **SKSac** **23 37 38.0 -0.9**
baz=102
HUMO Hull Mountain 102.49 44 ePdif **Pdif** **23 28 00.2 +0.2**
HUMO ePP **PP** **23 32 22.1 -0.8**
HUMO ePKKPbc **PKKPbc** **23 43 59.9 +0.7**
B08A Colville Reser 102.55 37 ePdif **Pdif** **23 28 00.8 +0.6**
B08A ePKKPbc **PKKPbc** **23 43 58.4 -0.9**
KHMM Horse Mountain 102.57 46 ePdif **Pdif** **23 28 01.3 +0.8**
KHMM ePKiKP **PKiKP** **23 32 17.0 -0.4**
G05D Wamic, OR 102.59 41 Pdiff **Pdif** **23 28 00.5 +0.1**
baz=102
SNF Seneffe 102.60 325 P **Pdif** **23 28 00.2 +0.1**
DOU Dourbes 102.61 325 P **Pdif** **23 28 00.1 -0.2**
comp=Z,298nm,2.7s
MCD Coleburn Disti 102.74 334 eP **Pdif** **23 27 57.7 -3.0**
MME1 Meikle Cairn 102.77 333 eP **Pdif** **23 27 59.4 -1.4**
SAW Saint Andrews 102.79 38 P **Pdif** **23 28 01.6 +0.4**
J04D Umpqua Nationa 102.83 43 Pdiff **Pdif** **23 28 02.3 +0.6**
baz=103
I05D Terrebonne, OR 102.93 42 Pdiff **Pdif** **23 28 01.9 0.0**
baz=103
MVH1 Achvaich 102.95 334 eP **Pdif** **23 28 00.9 -0.7**
YBH Yreka Blue Hor 102.98 45 PKKPbc PKKPbc 23 44 00.6 +2.7
comp=Z,8.0nm,0.7s,baz=110,slow=3.1,SNR=5.9
M02C Callahan 103.00 45 Pdiff **Pdif** **23 28 02.8 +0.4**
baz=103
KCPM Cahto Peak 103.09 47 ePdif **Pdif** **23 28 03.3 +0.5**
comp=Z,53nm,0.9s
KIPM Iron Peak 103.12 47 ePdif **Pdif** **23 28 03.6 +0.6**
comp=Z,225nm,1.5s
N02D Trinity Center 103.26 45 Pdiff **Pdif** **23 28 03.5 +0.1**
baz=103
HAWA Hanford 103.26 39 ePdif **Pdif** **23 28 03.9 +0.6**
HAWA ePP **PKiKP** **23 32 22.9 +4.5**
K04D Chiloquin, OR 103.31 43 Pdiff **Pdif** **23 28 03.8 +0.1**
baz=103
MDO Dochfour 103.31 334 eP **Pdif** **23 28 01.9 -1.3**
J05D Fort Rock, OR 103.41 43 Pdiff **Pdif** **23 28 04.5 +0.3**
baz=103
C09A Chrisman Ranch 103.44 38 ePdif **Pdif** **23 28 03.4 -0.6**
C09A ePKiKP **PKiKP** **23 32 19.7 +1.1**
C09A ePKKPbc **PKKPbc** **23 43 55.9 -0.8**
WDC Whiskeytown Da 103.52 46 eP **Pdif** **23 28 05.1 +0.6**
WDC Whiskeytown Da 103.52 46 ePdif **Pdif** **23 28 05.1 +0.6**
WDC ePP PP 23 32 25.0 -5.5
M04C Macdoel 103.57 44 Pdiff **Pdif** **23 28 05.0 +0.1**
baz=104
EDM Edmonton 103.59 31 eP **Pdif** **23 28 05.4 +0.8**
EDM Edmonton 103.59 31 ePdif **Pdif** **23 28 05.4 +0.8**
EDM ePKKPbc **PKKPbc** **23 43 54.5 -1.9**
EDI Edinburgh 103.67 332 eP **Pdif** **23 28 03.9 -0.9**
EDI Edinburgh 103.67 332 ePdif **Pdif** **23 28 03.9 -0.9**
EDI ePKKPbc **PKKPbc** **23 43 57.3 +1.1**
KAC Achnashellach 103.68 334 eP **Pdif** **23 28 03.9 -0.9**
KSB Sheil Bridge 103.91 334 eP **Pdif** **23 28 03.9 -2.0**
NEW Newport 103.92 37 eP **Pdif** **23 28 07.0 +0.8**
NEW Newport 103.92 37 Pdiff **Pdif** **23 28 06.3 +0.1**
baz=104
NEW Newport 103.92 37 ePdif **Pdif** **23 28 07.0 +0.8**
KPL Plockton 103.93 334 eP **Pdif** **23 28 05.5 -0.4**
EKA Eskdalemuir Ar 103.99 332 Pdiff **Pdif** **23 28 06.1 -0.1**
comp=Z,29nm,0.7s,baz=57,slow=5.7,SNR=28
EKA PKiKP **PKiKP** **23 32 19.9 +0.5**
comp=Z,89nm,0.9s,baz=49,slow=3.5,SNR=6.6
EKA PKKPbc **PKKPbc** **23 43 50.5 -4.8**
comp=Z,3.2nm,0.5s,baz=204,slow=1.8,SNR=5.9
HPK Haverah Park 104.02 330 eP **Pdif** **23 28 05.8 -0.6**
ESK Eskdalemuir 104.02 332 eP **Pdif** **23 28 06.0 -0.4**
ESK Eskdalemuir 104.02 332 eP **Pdif** **23 28 05.8 -0.6**
ESK Eskdalemuir 104.02 332 ePdif **Pdif** **23 28 05.8 -0.6**
ESK ePKKPbc **PKKPbc** **23 43 53.6 -1.6**
ECK Cauldkaine Hil 104.06 332 eP **Pdif** **23 28 03.4 -3.2**
G08A Pilot Rock 104.09 40 ePdif **Pdif** **23 28 07.6 +0.5**
G08A ePP PP 23 32 27.6 -7.0
G08A eP'P'df **P'P'df** **23 52 12.1 -1.3**
ILULI Ilulissat 104.12 358 i P **Pdif** **23 28 06.3 -0.2**
SUR Sutherland 104.14 238 ePdif **Pdif** **23 28 08.0 +0.3**
SUR ePKKPbc **PKKPdf** **23 43 58.7 -3.4**
PGBU Glenifferbraes 104.33 333 eP **Pdif** **23 28 07.3 -0.5**
KBI1 Birley Grange 104.35 329 eP **Pdif** **23 28 06.1 -1.8**
LHO Holmfirth 104.36 330 eP **Pdif** **23 28 07.4 -0.6**
KESW Keswick, Cumbr 104.39 331 eP **Pdif** **23 28 07.6 -0.4**
MOD Modoc 104.58 44 ePdif **Pdif** **23 28 09.6 +0.2**
comp=Z,99nm,1.3s
GCD Castle Douglas 104.63 332 eP **Pdif** **23 28 07.9 -1.2**
OHCM Honcut 104.73 47 ePdif **Pdif** **23 28 10.6 +0.7**
OHCM ePP PP 23 32 40.7 +1.4
OHCM ePKKPbc **PKKPbc** **23 43 52.7 +0.2**
SSB Saint Sauveur 104.78 320 eP **Pdif** **23 28 09.4 -0.7**
SSB pmax pmax
comp=Z,43nm,0.9s
SSB Saint Sauveur 104.78 320 ePdif **Pdif** **23 28 09.4 -0.7**
comp=Z,43nm,0.9s
GAL1 Galloway 104.99 332 eP **Pdif** **23 28 10.1 -0.6**
KEST Kesra 105.11 310 Pdiff **Pdif** **23 28 12.2 +0.3**
comp=Z,17nm,1.1s,baz=358,slow=2.9,SNR=11
KEST PKiKP **PKiKP** **23 32 22.3 +0.1**
comp=Z,12nm,0.7s,baz=55,slow=2.7,SNR=5.5
KEST Kesra 105.11 310 Pdif **Pdif** **23 28 12.2 +0.3**
KEST ePKP **PKiKP** **23 32 21.6 -0.6**
KEST PKiKP **PKiKP** **23 32 22.3 +0.1**
FOEL Foel Wylfa 105.39 330 eP **Pdif** **23 28 12.1 -0.5**
WALA Waterton Lakes 105.41 35 ePdif **Pdif** **23 28 13.8 +0.9**
comp=Z,315nm,1.7s
HLM1 Long Mynd 105.44 329 eP **Pdif** **23 28 09.5 -3.3**
BSMT Bassoo Peak 105.50 36 ePdif **Pdif** **23 28 13.5 0.0**
comp=Z,55nm,0.9s
WVOR Wild Horse Val 105.50 43 ePKKPdf PKKPdf 23 44 10.7 +11
WPM1 Penmaenmawr 105.53 330 eP **Pdif** **23 28 11.7 -1.5**
WME Myndd Eilian 105.65 330 eP **Pdif** **23 28 12.2 -1.5**
WLF1 Llynfaes 105.76 330 eP **Pdif** **23 28 13.8 -0.4**
MONM Monmouth 105.78 329 eP **Pdif** **23 28 16.3 +2.0**
MCH1 Michaelchurch 105.79 329 eP **Pdif** **23 28 13.6 -0.7**
JTMT Jette 105.84 36 ePKKPbc PKKPbc 23 43 47.5 -2.2
YRC Rhoscolyn 105.87 330 eP **Pdif** **23 28 13.8 -0.8**
GMM Mts of Mourne 105.94 332 eP **Pdif** **23 28 12.9 -2.1**
YBMT Yellow Bay 105.95 36 ePdif **Pdif** **23 28 16.8 +1.5**
YBMT ePKKPbc **PKKPbc** **23 43 48.7 -0.7**
YRE Yr Eifl 105.95 330 eP **Pdif** **23 28 13.6 -1.5**
CMB Columbia Colle 106.01 47 ePP PP 23 32 50.6 +2.0
CMB ePKKPbc **PKKPbc** **23 43 48.2 -0.5**

SWMT	**Swartz Lake**	**106.13**	**36**	*e*PKP	**PKiKP**	**23 32 23.6**	**-0.2**
SWMT				*e*PKKPbc	**PKKPbc**	**23 43 52.1**	**+3.3**
SFJD	**Kangerlussuaq**	**106.32**	**358**	*i* P	**Pdif**	**23 28 18.0**	**+1.7**
	comp=Z,249nm,1.6s						
SFJD	**Kangerlussuaq**	**106.32**	**358**	Pdiff	**Pdif**	**23 28 16.0**	**-0.4**
	comp=Z,52nm,0.7s,baz=6.1,slow=6.3,SNR=7.0						
SFJD				PKiKP	**PKiKP**	**23 32 22.7**	**-0.7**
	comp=Z,71nm,0.7s,baz=9.5,slow=1.9,SNR=7.5						
SFJD	**Kangerlussuaq**	**106.32**	**358**	*i* P	**Pdif**	**23 28 18.0**	**+1.7**
SFJD				pmax	pmax		
	comp=Z,250nm,1.6s						
SFJD	**Kangerlussuaq**	**106.32**	**358**	Pdif	**Pdif**	**23 28 16.0**	**-0.4**
SFJD				*e*PKP	**PKiKP**	**23 32 22.5**	**-0.9**
SFJD				PKiKP	**PKiKP**	**23 32 22.7**	**-0.7**
MSO	**Missoula**	**106.50**	**37**	PKiKP	**PKiKP**	**23 32 25.5**	**+1.0**
	baz=106						
MSO	**Missoula**	**106.50**	**37**	*e*PKiKP	**PKiKP**	**23 32 26.6**	**+2.1**
WAKR	**Walker**	**106.52**	**47**	*e*Pdif	**Pdif**	**23 28 18.9**	**+0.7**
WAKR				*e*PKiKP	**PKiKP**	**23 32 22.9**	**-2.0**
WAKR				*e*PP	**PP**	**23 32 55.0**	**+2.5**
WAKR				*e*PKKPbc	**PKKPbc**	**23 43 48.0**	**+0.6**
SLMT	**Seeley Lake**	**106.56**	**37**	*e*PKP	**PKiKP**	**23 32 24.8**	**+0.1**
DSB	**Dublin**	**106.74**	**331**	*e*Pdif	**Pdif**	**23 28 18.3**	**-0.3**
DSB				*e*PKiKPbc	**PKKPbc**	**23 43 45.6**	**-1.4**
JQE	**Queens East**	**106.80**	**326**	*e*P	**Pdif**	**23 28 20.6**	**+1.7**
CHMT	**Chamberlain Mo**	**106.86**	**37**	*e*PKP	**PKiKP**	**23 32 23.0**	**-2.3**
MFID	**Camas Ranch**	**106.93**	**41**	*e*PKiKP	**PKiKP**	**23 32 23.2**	**-2.2**
MFID				*e*PKKPab	**PKKPab**	**23 44 02.8**	**-1.2**
TSUM	**Tsumeb**	**107.03**	**252**	PKKPbc	PKKPbc	23 43 43.8	-1.2
	comp=Z,9.3nm,0.6s,baz=278,slow=3.2,SNR=8.8						
TSUM	**Tsumeb**	**107.03**	**252**	*e*Pdif	**Pdif**	**23 28 20.7**	**0.0**
TSUM				*e*PKiKP	**PKiKP**	**23 32 30.8**	**+4.6**
TSUM				PKKPbc	**PKKPbc**	**23 43 43.8**	**-1.2**
DYA	**Yadsworthy**	**107.15**	**328**	*e*PP	PP	23 32 55.5	-0.7
SNAA	**Sanae**	**107.22**	**196**	Pdiff	**Pdif**	**23 28 20.5**	**+0.2**
	comp=Z,11nm,0.9s,baz=158,slow=4.3,SNR=14						
SNAA				PKiKP	**PKiKP**	**23 32 25.8**	**+0.8**
	comp=Z,30nm,0.8s,baz=128,slow=2.0,SNR=7.7						
SNAA				PKKPbc	**PKKPbc**	**23 43 42.6**	**-3.3**
	comp=Z,58nm,0.7s,baz=267,slow=4.9,SNR=29						
SNAA				PKPPKP	**P'P'df**	**23 52 08.0**	**+2.8**
	comp=Z,5.8nm,0.8s,baz=1.0,slow=1.5,SNR=7.1						
SNAA	**Sanae**	**107.22**	**196**	*e*P	**Pdif**	**23 28 18.5**	**-1.8**
SNAA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SNAA	**Sanae**	**107.22**	**196**	*e*Pdif	**Pdif**	**23 28 18.5**	**-1.8**
	comp=Z,10.0nm,0.8s						
SNAA				PKiKP	**PKiKP**	**23 32 25.8**	**+0.8**
SNAA				PKKPbc	**PKKPbc**	**23 43 42.6**	**-3.3**
SNAA				P'P'		23 52 08.0	
MLAC	**Mammoth Lakes**	**107.30**	**47**	PKiKP	**PKiKP**	**23 32 27.4**	**+1.0**
	baz=107						
BMN	**Battle Mountai**	**107.30**	**44**	*e*PKP	**PKiKP**	**23 32 24.2**	**-2.0**
BMN				*e*PP	**PP**	**23 32 58.4**	**+0.4**
BMN				*e*PKKPab	**PKKPab**	**23 44 01.3**	**-1.0**
SMMC	**Simmler**	**107.31**	**50**	PKiKP	**PKiKP**	**23 32 28.2**	**+2.0**
	baz=107						
NVAR	**Mina Array Bea**	**107.37**	**46**	Pdiff	**Pdif**	**23 28 22.6**	**+0.6**
	comp=Z,5.2nm,0.6s,baz=2.3,slow=26,SNR=18						
NVAR				PKiKP	**PKiKP**	**23 32 26.9**	**+0.4**
	comp=Z,64nm,0.8s,baz=255,slow=3.4,SNR=8.3						
NVAR				PKKPbc	**PKKPbc**	**23 43 46.2**	**+1.4**
	comp=Z,63nm,0.6s,baz=136,slow=4.4,SNR=21						
NVAR				SKKPbc	SKKPbc	23 46 30.2	+2.9
	comp=Z,25nm,0.9s,baz=144,slow=4.0,SNR=4.1						
RCTC	**Rector, Farmer**	**107.51**	**49**	PKiKP	**PKiKP**	**23 32 28.3**	**+1.8**
	baz=107						
PKM	**Peak Mountain**	**107.60**	**50**	PKiKP	**PKiKP**	**23 32 28.4**	**+1.4**
	baz=108						
MTUM	**Tungsten Hills**	**107.60**	**48**	*e*PKiKP	**PKiKP**	**23 32 26.8**	**-0.2**
HLID	**Hailey**	**107.78**	**40**	PKiKP	**PKiKP**	**23 32 26.2**	**-0.9**
	baz=108						
HLID	**Hailey**	**107.78**	**40**	*e*PKiKP	**PKiKP**	**23 32 28.5**	**+1.4**
HLID				*e*PKKPbc	**PKKPbc**	**23 43 47.3**	**+3.6**
HRY	**Holter Researc**	**107.81**	**36**	*e*PKP	**PKiKP**	**23 32 25.4**	**-1.6**
SBC	**Santa Barbara**	**107.85**	**51**	PKiKP	**PKiKP**	**23 32 26.3**	**-0.9**
	baz=108						
LRM	**Limekiln Ridge**	**107.89**	**37**	*e*Pdif	**Pdif**	**23 28 25.3**	**+1.1**
	comp=Z,660nm,1.1s						
LRM				*e*PKiKP	**PKiKP**	**23 32 26.9**	**-0.4**
SET	**Setif**	**107.92**	**311**	P	**PKiKP**	**23 32 29.0**	**+1.6**
TIN	**Tinemaha**	**107.97**	**48**	PKiKP	**PKiKP**	**23 32 26.0**	**-1.6**
	baz=108						
DLMT	**Dillon**	**108.04**	**38**	*e*Pdif	**Pdif**	**23 28 26.3**	**+1.6**
	comp=Z,225nm,1.8s						
BSC	**Santa Cruz Isl**	**108.07**	**51**	PKiKP	**PKiKP**	**23 32 27.2**	**-0.5**
	baz=108						
FFC	**Flin Flon**	**108.07**	**26**	*e*PKP	**PKiKP**	**23 32 26.8**	**-0.2**
FFC				*e*PKKPbc	**PKKPbc**	**23 43 45.1**	**+2.1**
MCMT	**McKenzie Canyo**	**108.15**	**38**	*e*PKiKP	**PKiKP**	**23 32 26.9**	**-1.0**
MCMT				*e*PKKPdf	**PKKPab**	**23 43 58.1**	**-0.7**
FCC	**Fort Churchill**	**108.16**	**19**	*e*PKiKP	**PKiKP**	**23 32 25.1**	**-1.9**
ARVC	**Arvin**	**108.27**	**50**	PKiKP	**PKiKP**	**23 32 27.5**	**-0.5**
	baz=108						
TPH	**Tonopah**	**108.29**	**46**	*e*PKiKP	**PKiKP**	**23 32 26.7**	**-1.5**
TPH				*e*PKKPbc	**PKKPbc**	**23 43 45.3**	**+3.3**
EGMT	**Eagleton**	**108.30**	**34**	PKiKP	**PKiKP**	**23 32 28.1**	**+0.3**
	baz=108						
EGMT	**Eagleton**	**108.30**	**34**	*e*PKiKP	**PKiKP**	**23 32 27.5**	**-0.3**
CWC	**Cottonwood Cre**	**108.32**	**48**	PKiKP	**PKiKP**	**23 32 27.5**	**-0.8**
	baz=108						
ISA	**Isabella**	**108.33**	**49**	PKiKP	**PKiKP**	**23 32 28.0**	**-0.2**
	baz=108						
BLG	**Laguna Peak**	**108.47**	**51**	PKiKP	**PKiKP**	**23 32 28.8**	**+0.4**
	baz=108						
BOZ	**Bozeman (W)**	**108.48**	**37**	*e*P	**Pdif**	**23 28 26.5**	**-0.2**
BOZ				pmax	pmax		
	comp=Z,17nm,0.7s						
BOZ	**Bozeman (W)**	**108.48**	**37**	PKiKP	**PKiKP**	**23 32 28.7**	**+0.4**
	baz=108						
BOZ	**Bozeman (W)**	**108.48**	**37**	*e*Pdif	**Pdif**	**23 28 26.5**	**-0.2**
	comp=Z,17nm,0.7s						
BOZ				*e*PKP	**PKiKP**	**23 32 28.0**	**-0.3**
ELK	**Elko**	**108.53**	**43**	PKKPbc	PKKPbc	23 43 42.1	+0.7
	comp=Z,20nm,0.8s,baz=136,slow=4.8,SNR=6.7						
ELK				SKKPbc	SKKPbc	23 46 22.9	-1.2
	comp=Z,24nm,0.9s,baz=133,slow=2.4,SNR=4.8						
ELK	**Elko**	**108.53**	**43**	*e*PKiKP	**PKiKP**	**23 32 27.9**	**-0.8**
ELK				*e*PKKPbc	**PKKPbc**	**23 43 40.7**	**-0.7**
ELK				PKKPbc	**PKKPbc**	**23 43 42.1**	**+0.7**
ELK				SKKPbc	SKKPbc	23 46 22.9	-1.2
OSI	**Osito Adit**	**108.54**	**50**	PKiKP	**PKiKP**	**23 32 28.4**	**-0.2**
	baz=108						
GRAC	**Grapevine Rang**	**108.62**	**47**	PKiKP	**PKiKP**	**23 32 28.2**	**-0.5**
	baz=108						
DAC	**Darwin (Calif)**	**108.75**	**48**	*e*PKP	**PKiKP**	**23 32 29.5**	**+0.4**
MPMC	**Manual Prospec**	**108.91**	**48**	PKiKP	**PKiKP**	**23 32 29.0**	**-0.5**
	baz=109						
DECC	**Green Verdugo**	**108.98**	**50**	PKiKP	**PKiKP**	**23 32 28.3**	**-1.2**
	baz=109						
EDW2	**Edwards Air Fo**	**109.00**	**50**	PKiKP	**PKiKP**	**23 32 28.5**	**-0.9**
	baz=109						
QLMT	**Earthquake Lak**	**109.02**	**38**	*e*PKiKP	**PKiKP**	**23 32 32.9**	**+3.5**
PASC	**Pasadena Art C**	**109.12**	**50**	*e*PKiKP	**PKiKP**	**23 32 29.8**	**+0.1**
PASC				*e*PKKPdf	**PKKPab**	**23 43 58.1**	**+4.2**
FRB	**Frobisher Bay**	**109.14**	**6**	Pdiff	**Pdif**	**23 28 28.5**	**-0.4**
	comp=Z,11nm,0.7s,baz=4.6,slow=6.0,SNR=7.1						
FRB				PKiKP	**PKiKP**	**23 32 28.2**	**-0.6**
	comp=Z,77nm,0.7s,baz=1.0,slow=4.6,SNR=12						
FRB				PP	**PP**	**23 33 09.3**	**-0.4**
	comp=Z,141nm,1.1s,baz=325,slow=6.8,SNR=4.1						
FRB				PKKPbc	**PKKPbc**	**23 43 38.5**	**-1.4**
	comp=Z,28nm,0.5s,baz=162,slow=6.0,SNR=5.4						
MWC	**Mount Wilson**	**109.20**	**50**	*e*PKiKP	**PKiKP**	**23 32 29.8**	**-0.3**
FURC	**Furnace Creek,**	**109.21**	**48**	PKiKP	**PKiKP**	**23 32 29.3**	**-0.4**
	baz=109						
FMP	**Fort Macarthur**	**109.21**	**51**	PKiKP	**PKiKP**	**23 32 28.6**	**-1.2**
	baz=109						
CIS	**Catalina Islan**	**109.24**	**51**	PKiKP	**PKiKP**	**23 32 29.6**	**-0.3**
	baz=109						
VNA1	**Neumayer--Stat**	**109.25**	**195**	P	**Pdif**	**23 28 34.6**	**+5.3**
VNA1	**Neumayer--Stat**	**109.25**	**195**	P	**PKKPbc**	**23 43 40.8**	**+1.4**
SCI	**San Clemente I**	**109.29**	**52**	PKiKP	**PKiKP**	**23 32 29.1**	**-0.9**
	baz=109						
R11A	**Troy Canyon, C**	**109.34**	**46**	PKiKP	**PKiKP**	**23 32 29.0**	**-1.2**
	baz=109						
R11A	**Troy Canyon, C**	**109.34**	**46**	*e*PKiKP	**PKiKP**	**23 32 27.0**	**-3.2**
R11A				*e*PKKPbc	**PKKPbc**	**23 43 42.6**	**+3.9**
YMR	**Madison River**	**109.39**	**38**	*e*PKP	**PKiKP**	**23 32 29.2**	**-0.9**
TPNV	**Topopah Spring**	**109.46**	**47**	PKiKP	**PKiKP**	**23 32 30.6**	**+0.2**
	baz=109						
TPNV	**Topopah Spring**	**109.46**	**47**	*e*PKiKP	**PKiKP**	**23 32 27.7**	**-2.7**
TPNV				*e*PKKPbc	**PKKPbc**	**23 43 39.6**	**+1.4**
BFSC	**Mount Baldy Ra**	**109.50**	**50**	PKiKP	**PKiKP**	**23 32 30.7**	**+0.2**
	baz=109						
YNR	**Norris Junctio**	**109.54**	**38**	*e*PKP	**PKiKP**	**23 32 28.6**	**-1.9**
GCMT	**Greycliff**	**109.57**	**36**	*e*PKiKP	**PKiKP**	**23 32 30.9**	**+0.6**
YFT	**Old Faithful**	**109.58**	**38**	*e*PKP	**PKiKP**	**23 32 30.6**	**0.0**
HVU	**Hansel Valley**	**109.69**	**41**	*e*PKiKP	**PKiKP**	**23 32 29.8**	**-0.9**
HVU				*e*PKKPab	**PKKPdf**	**23 43 51.1**	**-0.3**
GSC	**Goldstone**	**109.72**	**49**	PKiKP	**PKiKP**	**23 32 32.0**	**+1.1**
	baz=110						
GSC	**Goldstone**	**109.72**	**49**	*e*PKiKP	**PKiKP**	**23 32 30.6**	**-0.2**
GSC				*e*PKKPbc	**PKKPbc**	**23 43 40.6**	**+3.3**
EMHD	**Djebel Mahouad**	**109.73**	**312**	P	**PKiKP**	**23 32 31.0**	**+0.1**
RRX	**Edison Barstow**	**109.75**	**49**	PKiKP	**PKiKP**	**23 32 31.7**	**+0.9**
	baz=110						
IMW	**Indian Meadow**	**109.80**	**39**	*e*PKP	**PKiKP**	**23 32 28.6**	**-2.4**
SHOC	**Shoshone**	**109.87**	**48**	PKiKP	**PKiKP**	**23 32 32.0**	**+1.0**
	baz=110						
FXWY	**Fox Creek**	**109.88**	**39**	*e*PKiKP	**PKiKP**	**23 32 31.8**	**+0.7**
FXWY				*e*PKKPbc	**PKKPbc**	**23 43 40.9**	**+3.6**
BGU	**Big Grassy Mou**	**109.93**	**42**	*e*PKiKP	**PKiKP**	**23 32 31.6**	**+0.4**
BGU				*e*PKKPbc	**PKKPbc**	**23 43 37.1**	**+0.2**
MOOW	**Moose Ponds**	**110.00**	**39**	*e*PKiKP	**PKiKP**	**23 32 33.5**	**+2.2**
TPAW	**Teton Pass**	**110.00**	**39**	*e*PKiKP	**PKiKP**	**23 32 30.5**	**-0.9**
BBRC	**Big Bear Solar**	**110.05**	**50**	PKiKP	**PKiKP**	**23 32 31.9**	**+0.2**
	baz=110						
MURC	**Murrieta**	**110.10**	**51**	PKiKP	**PKiKP**	**23 32 32.0**	**+0.4**
	baz=110						
REDW	**Red Top Meadow**	**110.13**	**39**	*e*PKP	**PKiKP**	**23 32 32.0**	**+0.4**
SPUT	**South Promonto**	**110.13**	**42**	*e*PKiKP	**PKiKP**	**23 32 27.5**	**-4.0**
SPUT				*e*PKKPbc	PKKPbc	23 43 42.3	+6.0
SNOW	**Snow King Moun**	**110.14**	**39**	*e*PKiKP	**PKiKP**	**23 32 32.6**	**+0.9**
SNOW				*e*PKKPab	**PKKPab**	**23 43 48.3**	**-1.6**
LOHW	**Long Hollow**	**110.16**	**39**	*e*PKP	**PKiKP**	**23 32 32.3**	**+0.7**
RLMT	**Red Lodge**	**110.17**	**37**	PKiKP	**PKiKP**	**23 32 31.6**	**0.0**
	baz=110						
RLMT	**Red Lodge**	**110.17**	**37**	*e*PKP	**PKiKP**	**23 32 31.0**	**-0.6**
HEC	**Hector,Ludlow**	**110.27**	**49**	PKiKP	**PKiKP**	**23 32 32.5**	**+0.6**
	baz=110						
AHID	**Auburn Hatcher**	**110.28**	**40**	*e*PKiKP	**PKiKP**	**23 32 31.0**	**-0.8**
AHID				*e*PKKPbc	**PKKPbc**	**23 43 39.0**	**+3.1**
TUQ	**Turquoise Moun**	**110.33**	**48**	PKiKP	**PKiKP**	**23 32 32.0**	**0.0**
	baz=110						
DUG	**Dugway**	**110.42**	**43**	*e*PKiKP	**PKiKP**	**23 32 31.2**	**-0.9**
DUG	**Dugway**	**110.42**	**43**	PKiKP	**PKiKP**	**23 32 31.8**	**-0.3**
	baz=110						
DUG	**Dugway**	**110.42**	**43**	*e*PKiKP	**PKiKP**	**23 32 31.2**	**-0.9**
DUG				*e*PKKPbc	**PKKPbc**	**23 43 36.3**	**+1.0**
SHPR	**Sheep Range**	**110.44**	**47**	*e*PKiKP	**PKiKP**	**23 32 32.8**	**+0.6**
SHPR				*e*PKKPbc	**PKKPbc**	**23 43 35.0**	**-0.1**
109C	**Camp Elliot, M**	**110.45**	**51**	PKiKP	**PKiKP**	**23 32 31.8**	**-0.4**
	baz=110						
F20A	**Billings**	**110.45**	**36**	PKiKP	**PKiKP**	**23 32 32.0**	**+0.1**
	baz=110						
HWUT	**Hardware Ranch**	**110.56**	**41**	*e*PKiKP	**PKiKP**	**23 32 33.0**	**+0.6**
HWUT				*e*PKKPbc	**PKKPbc**	**23 43 34.3**	**-0.7**
H19A	**Powell**	**110.58**	**37**	PKiKP	**PKiKP**	**23 32 33.3**	**+1.0**
	baz=110						
E21A	**Keefer Ranch,**	**110.65**	**35**	PKiKP	**PKiKP**	**23 32 33.1**	**+0.9**
	baz=110						
PFO	**Pinyon Flat Ob**	**110.67**	**50**	PKKPbc	PKKPbc	23 43 35.5	+1.2
	comp=Z,36nm,0.9s,baz=105,slow=3.6,SNR=10						
PFO				SKKPbc	SKKPbc	23 46 17.4	-0.4
	comp=Z,37nm,1.2s,baz=120,slow=6.1,SNR=3.9						
PFO	**Pinyon Flat Ob**	**110.67**	**50**	*e*PKiKP	**PKiKP**	**23 32 30.9**	**-1.9**
PFO	**Pinyon Flat Ob**	**110.67**	**50**	PKiKP	**PKiKP**	**23 32 32.2**	**-0.6**
	baz=111						
PFO	**Pinyon Flat Ob**	**110.67**	**50**	*e*PKP	**PKiKP**	**23 32 30.9**	**-1.9**
PFO				PKKPbc	**PKKPbc**	**23 43 35.5**	**+1.3**
PFO				*e*PKKPab	**PKKPab**	**23 43 48.3**	**+1.1**
PFO				SKKPbc	SKKPbc	23 46 17.4	-0.4
EBNR	**Beni Rached**	**110.74**	**313**	P	PKiKP	23 32 40.0	+7.3
G20A	**Bridger**	**110.74**	**36**	PKiKP	**PKiKP**	**23 32 33.2**	**+0.6**
	baz=111						
GMRC	**Granite Mounta**	**110.79**	**49**	PKiKP	**PKiKP**	**23 32 34.0**	**+1.1**
	baz=111						
BELC	**Belle Mtn. Jos**	**110.86**	**50**	PKiKP	**PKiKP**	**23 32 34.5**	**+1.4**
	baz=111						
BAR	**Barrett**	**110.86**	**51**	*e*PKiKP	**PKiKP**	**23 32 32.4**	**-0.7**
BAR				*e*PKKPbc	**PKKPbc**	**23 43 37.7**	**+4.2**
CTU	**Camp Tracy**	**110.89**	**42**	*e*PKiKP	**PKiKP**	**23 32 33.8**	**+0.7**
CTU				*e*PKKPbc	**PKKPbc**	**23 43 32.9**	**-1.0**
TCUT	**Toone Canyon**	**110.91**	**41**	*e*PKP	**PKiKP**	**23 32 33.5**	**+0.4**
I19A	**Meeteetse**	**110.92**	**38**	PKiKP	**PKiKP**	**23 32 32.2**	**-0.8**
	baz=111						
MONP	**Monument Peak**	**110.98**	**51**	PKiKP	**PKiKP**	**23 32 33.9**	**+0.4**
	baz=111						
F21A	**Absaloka Mine,**	**111.03**	**35**	PKiKP	**PKiKP**	**23 32 33.6**	**+0.6**
	baz=111						
NLU	**North Lily Min**	**111.03**	**43**	*e*PKiKP	**PKiKP**	**23 32 33.6**	**+0.2**
NLU				*e*PKKPbc	**PKKPbc**	**23 43 34.0**	**+0.6**
LAO	**LASA Array**	**111.04**	**34**	PKiKP	**PKiKP**	**23 32 34.1**	**+1.1**
	baz=111						
LAO	**LASA Array**	**111.04**	**34**	*e*PKP	**PKiKP**	**23 32 33.7**	**+0.7**
LDFC	**Landfair**	**111.08**	**49**	*e*PKiKP	**PKiKP**	**23 32 33.2**	**-0.2**
LDFC				*e*PKKPbc	**PKKPbc**	**23 43 32.4**	**-0.6**
EANR	**'Ain N'Sour**	**111.20**	**313**	P	**PKiKP**	**23 32 35.0**	**+1.4**
BW06	**Boulder Array**	**111.25**	**39**	*e*PKiKP	**PKiKP**	**23 32 33.7**	**-0.8**
BW06				*e*PKKPbc	**PKKPbc**	**23 43 33.7**	**+0.8**
PDAR	**Pinedale Array**	**111.25**	**39**	Pdiff	**Pdif**	**23 28 40.5**	**+1.3**
	comp=Z,3.6nm,0.9s,baz=156,slow=0.9,SNR=4.6						
PDAR				PKiKP	**PKiKP**	**23 32 34.0**	**+0.2**
	comp=Z,22nm,0.6s,baz=300,slow=2.0,SNR=12						
PDAR				PP	**PP**	**23 33 25.7**	**-0.2**
	comp=Z,50nm,0.8s,baz=306,slow=3.5,SNR=4.8						
PDAR				PKKPbc	**PKKPbc**	**23 43 34.5**	**+1.7**
	comp=Z,25nm,0.6s,baz=99,slow=4.7,SNR=17						
CCUT	**Cedar City**	**111.27**	**45**	*e*PKiKP	**PKiKP**	**23 32 33.9**	**0.0**
CCUT				*e*PKKPbc	**PKKPbc**	**23 43 32.9**	**+0.3**
H20A	**Greybull**	**111.27**	**37**	PKiKP	**PKiKP**	**23 32 33.5**	**-0.1**
	baz=111						
ETRT	**Tiaret**	**111.29**	**312**	P	**PKiKP**	**23 32 34.0**	**+0.1**
J19A	**Crowheart**	**111.30**	**38**	PKiKP	**PKiKP**	**23 32 33.5**	**-0.2**
	baz=111						
MPU	**Maple Canyon**	**111.30**	**42**	*e*PKiKP	**PKiKP**	**23 32 34.8**	**+1.0**
MPU				*e*PKKPbc	**PKKPbc**	**23 43 31.5**	**-1.1**
IBP	**Imperial Bould**	**111.32**	**51**	PKiKP	**PKiKP**	**23 32 33.6**	**-0.4**
	baz=111						
A25A	**Svangstu Ranch**	**111.32**	**31**	PKiKP	**PKiKP**	**23 32 33.9**	**+0.5**
	baz=111						
G21A	**Lodge Grass**	**111.32**	**36**	PKiKP	**PKiKP**	**23 32 33.7**	**0.0**
	baz=111						
E22A	**Miles City**	**111.34**	**34**	PKiKP	**PKiKP**	**23 32 34.3**	**+0.8**
	baz=111						
BC3	**Big Chuckawall**	**111.41**	**50**	PKiKP	**PKiKP**	**23 32 34.1**	**0.0**
	baz=111						
IRM	**Iron Mountain**	**111.43**	**49**	PKiKP	**PKiKP**	**23 32 34.8**	**+0.7**
	baz=111						
SWSC	**Sam W. Stewart**	**111.44**	**51**	PKiKP	**PKiKP**	**23 32 34.8**	**+0.7**
	baz=111						
I20A	**Worland**	**111.49**	**37**	PKiKP	**PKiKP**	**23 32 34.4**	**+0.4**
	baz=111						
C24A	**Savage**	**111.52**	**33**	PKiKP	**PKiKP**	**23 32 34.3**	**+0.4**
	baz=111						
F22A	**Rosebud**	**111.55**	**35**	PKiKP	**PKiKP**	**23 32 34.2**	**+0.2**
	baz=111						
NEE2	**Needles Airpor**	**111.58**	**49**	PKiKP	**PKiKP**	**23 32 33.8**	**-0.5**
	baz=112						
MVU	**Marysvale**	**111.63**	**44**	*e*PKiKP	**PKiKP**	**23 32 33.7**	**-0.9**
MVU				*e*PKKPbc	**PKKPbc**	**23 43 31.5**	**0.0**
MSU	**Marysvale**	**111.65**	**44**	*e*PKiKP	**PKiKP**	**23 32 34.9**	**+0.3**
MSU	**Marysvale**	**111.65**	**44**	*e*PKiKP	**PKiKP**	**23 32 34.9**	**+0.3**
MSU				*e*PKKPbc	**PKKPbc**	**23 43 31.8**	**+0.4**
E23A	**Ismay**	**111.66**	**34**	PKiKP	**PKiKP**	**23 32 34.9**	**+0.8**
	baz=112						
B25A	**Knox Farm, Ray**	**111.72**	**31**	PKiKP	**PKiKP**	**23 32 35.0**	**+0.8**
	baz=112						
H21A	**Big Horn, Sher**	**111.76**	**36**	PKiKP	**PKiKP**	**23 32 34.8**	**+0.2**
	baz=112						
D24A	**Glendive**	**111.82**	**33**	PKiKP	**PKiKP**	**23 32 35.1**	**+0.7**
	baz=112						
J20A	**Shoshoni**	**111.85**	**38**	PKiKP	**PKiKP**	**23 32 35.2**	**+0.5**
	baz=112						
G22A	**Birney**	**111.86**	**35**	PKiKP	**PKiKP**	**23 32 34.9**	**+0.3**
	baz=112						
A26A	**Wade Farm, Ken**	**111.89**	**30**	PKiKP	**PKiKP**	**23 32 35.0**	**+0.5**
	baz=112						
KNB	**Kanab**	**111.89**	**46**	*e*PKiKP	**PKiKP**	**23 32 36.6**	**+1.5**
KNB	**Kanab**	**111.89**	**46**	*e*PKiKP	**PKiKP**	**23 32 36.6**	**+1.5**
KNB				*e*PKKPbc	**PKKPab**	**23 43 38.2**	**-3.7**
TMUT	**Trail Mountain**	**111.94**	**43**	*e*PKiKP	**PKiKP**	**23 32 36.1**	**+0.8**
TMUT				*e*PKKPbc	**PKKPbc**	**23 43 31.1**	**+0.5**
C25A	**Freed Ranch, W**	**112.02**	**32**	PKiKP	**PKiKP**	**23 32 35.6**	**+0.8**
	baz=112						
F23A	**Volborg**	**112.07**	**35**	PKiKP	**PKiKP**	**23 32 35.3**	**+0.3**
	baz=112						
I21A	**Big Trails, Te**	**112.07**	**37**	PKiKP	**PKiKP**	**23 32 35.5**	**+0.3**
	baz=112						
Y12C	**Blythe**	**112.08**	**50**	PKiKP	**PKiKP**	**23 32 36.2**	**+1.0**
	baz=112						
B26A	**Jensen Ranch,**	**112.13**	**31**	PKiKP	**PKiKP**	**23 32 35.5**	**+0.6**
	baz=112						
PDMCI	**Parker Dam,Lak**	**112.13**	**49**	PKiKP	**PKiKP**	**23 32 35.2**	**-0.1**
	baz=112						
GLA	**Glamis**	**112.14**	**50**	*e*P	**Pdif**	**23 28 43.3**	**+0.2**
GLA				*i*		23 32 36.2	
GLA	**Glamis**	**112.14**	**50**	PKiKP	**PKiKP**	**23 32 36.2**	**+0.8**
	baz=112						
GLA	**Glamis**	**112.14**	**50**	*e*Pdif	**Pdif**	**23 28 43.3**	**+0.2**
GLA				*e*PKiKP	**PKiKP**	**23 32 36.2**	**+0.8**
GLA				*e*PKKPbc	**PKKPbc**	**23 43 34.6**	**+5.2**
E24A	**Baker**	**112.17**	**33**	PKiKP	**PKiKP**	**23 32 35.8**	**+0.6**
	baz=112						
H22A	**Clearmont**	**112.18**	**36**	PKiKP	**PKiKP**	**23 32 35.2**	**-0.1**
	baz=112						
J21A	**Lysite**	**112.24**	**38**	PKiKP	**PKiKP**	**23 32 35.8**	**+0.3**
	baz=112						
A27A	**Ledoux Ranch,**	**112.25**	**30**	PKiKP	**PKiKP**	**23 32 36.0**	**+0.9**
	baz=112						
D25A	**Fairfield**	**112.34**	**32**	PKiKP	**PKiKP**	**23 32 36.0**	**+0.5**
	baz=112						
G23A	**Biddle**	**112.38**	**35**	PKiKP	**PKiKP**	**23 32 35.4**	**-0.2**
	baz=112						
SRU	**San Rafael**	**112.49**	**43**	*e*PKiKP	**PKiKP**	**23 32 36.4**	**+0.2**
SRU	**San Rafael**	**112.49**	**43**	*e*PKiKP	**PKiKP**	**23 32 36.4**	**+0.2**
SRU				*e*PKKPbc	**PKKPbc**	**23 43 32.2**	**+3.6**
TAM	**Tamanrasset**	**112.50**	**298**	*e*PKiKP	**PKiKP**	**23 32 34.6**	**-2.0**
TAM	**Tamanrasset**	**112.50**	**298**	*e*PKP	**PKiKP**	**23 32 34.5**	**-2.0**
I22A	**9 Mile Ranch,**	**112.51**	**37**	PKiKP

J25A	Sunshine Ranch baz=114	114.38	36	PKiKP	PKPdf	23 32 39.4	-0.2	
PGAV	Gavieira, Arco	114.46	322	*e*PKPdf	PKPdf	23 32 39.9	+0.2	
PGAV	Gavieira, Arco	114.46	322	*e*PP	PP	23 33 44.4	-3.6	
C30A	Mose, Pekin baz=114	114.46	30	PKiKP	PKPdf	23 32 39.4	-0.1	
POLO	Lamas de Olo	114.51	321	*e*PKPdf	PKPdf	23 32 40.4	+0.6	
POLO	Lamas de Olo	114.51	321	*e*PP	PP	23 33 52.4	+4.0	
F28A	McLaughlin baz=114	114.51	32	PKiKP	PKPdf	23 32 39.5	-0.1	
PVRL	Vila Real	114.52	321	*e*PKPdf	PKPdf	23 32 40.2	+0.4	
PVRL	Vila Real	114.52	321	*e*PP	PP	23 33 50.8	+2.4	
I26A	New Underwood baz=114	114.53	35	PKiKP	**PKiKP**	**23 32 40.0**	**+0.3**	
N23A	Red Feather La baz=114	114.53	39	PKiKP	**PKiKP**	**23 32 40.2**	**+0.1**	
N23A	Red Feather La	114.53	39	*e*PKPdf	PKPdf	23 32 40.7	+0.5	
H27A	Howes baz=114	114.60	34	PKiKP	PKPdf	23 32 39.7	-0.2	
PHWY	Pilot Hill	114.61	39	*e*PKPdf	PKPdf	23 32 39.6	-0.7	
PHWY				*e*PKKPbc	**PKKPbc**	**23 43 24.3**	**+2.4**	
E29A	Napoleon baz=114	114.64	31	PKiKP	PKPdf	23 32 39.0	-0.9	
D30A	Buchanan baz=115	114.73	30	PKiKP	PKPdf	23 32 39.8	-0.2	
K25A	Mack Ranch, Ha baz=115	114.81	37	PKiKP	PKPdf	23 32 40.3	-0.1	
SMCO	Snowmass	114.82	41	*e*PKPdf	PKPdf	23 32 39.5	-1.3	
SMCO				*e*PKKPbc	**PKKPbc**	**23 43 21.3**	**+0.1**	
MVCO	Mesa Verde baz=115	114.83	44	PKiKP	**PKiKP**	**23 32 41.3**	**+0.5**	
MVCO	Mesa Verde	114.83	44	*e*PKPdf	PKPdf	23 32 40.1	-0.6	
MVCO				*e*PKKPbc	**PKKPbc**	**23 43 20.9**	**-0.1**	
J26A	Sides Ranch, S baz=115	114.85	36	PKiKP	PKPdf	23 32 39.8	-0.6	
MTE	Manteigas	114.90	320	*e*PKPdf	PKPdf	23 32 40.7	+0.1	
MTE	Manteigas	114.90	320	*e*PP	PP	23 33 52.4	+1.3	
MTE	Manteigas	114.90	320	*e*PKPdf	PKPdf	23 32 40.7	+0.1	
PVIS	Viseu	114.94	321	*e*PKPdf	PKPdf	23 32 40.9	+0.3	
PVIS	Viseu	114.94	321	*e*PP	PP	23 33 43.8	-7.6	
G28A	Parade baz=115	114.95	33	PKiKP	PKPdf	23 32 40.5	0.0	
I27A	Quinn baz=115	114.96	34	PKiKP	PKPdf	23 32 40.2	-0.3	
W18A	Petrified Fore baz=115	114.99	46	PKiKP	**PKiKP**	**23 32 42.1**	**+1.1**	
W18A	Petrified Fore	114.99	46	*e*PKPdf	PKPdf	23 32 41.9	+0.8	
W18A				*e*PKKPab	**PKKPab**	**23 43 27.0**	**-1.1**	
L25A	Engebretsen Ra baz=115	115.02	37	PKiKP	**PKiKP**	**23 32 40.9**	**0.0**	
F29A	Eureka baz=115	115.04	32	PKiKP	**PKPdf**	**23 32 40.4**	**-0.3**	
E30A	Jud baz=115	115.06	31	PKiKP	**PKPdf**	**23 32 40.5**	**-0.1**	
PTO	Porto	115.14	322	*e*PKPdf	**PKPdf**	**23 32 41.4**	**+0.5**	
H28A	Mission Ridge baz=115	115.15	33	PKiKP	**PKPdf**	**23 32 40.7**	**-0.2**	
K26A	Motz Farm, Whi baz=115	115.16	36	PKiKP	**PKPdf**	**23 32 40.4**	**-0.7**	
PCBR	Castelo Branco	115.17	320	*e*PKPdf	**PKPdf**	**23 32 41.2**	**+0.2**	
PCBR	Castelo Branco	115.17	320	*e*PP	PP	23 33 55.3	+2.4	
AGMN	Agassiz Nation baz=115	115.29	28	PKiKP	**PKPdf**	**23 32 40.3**	**-0.7**	
AGMN	Agassiz Nation	115.29	28	*e*PKPdf	**PKPdf**	**23 32 39.6**	**-1.4**	
AGMN				*e*PKKPbc	**PKKPbc**	**23 43 19.2**	**-0.3**	
PMRV	Marv??o	115.34	319	*e*PKPdf	**PKPdf**	**23 32 41.9**	**+0.5**	
PMRV	Marv??o	115.34	319	*e*PP	PP	23 33 54.9	+0.8	
ISCO	Idaho Springs	115.36	40	*e*PKIKP	**PKPdf**	**23 32 41.4**	**-0.4**	
ISCO	Idaho Springs baz=115	115.36	40	PKiKP	**PKPdf**	**23 32 41.3**	**-0.5**	
ISCO	Idaho Springs	115.36	40	*e*PKPdf	**PKPdf**	**23 32 41.4**	**-0.4**	
ISCO				*e*PKKPbc	**PKKPbc**	**23 43 20.8**	**+1.4**	
M25A	Palm-Egli Farm baz=115	115.39	38	PKiKP	**PKiKP**	**23 32 42.1**	**+0.5**	
G29A	Hoven baz=115	115.41	32	PKiKP	**PKPdf**	**23 32 40.8**	**-0.5**	
F30A	Leola baz=115	115.45	31	PKiKP	**PKPdf**	**23 32 40.9**	**-0.5**	
J27A	Elkhorn Farm, baz=115	115.50	35	PKiKP	**PKPdf**	**23 32 41.3**	**-0.4**	
I28A	Midland baz=115	115.50	34	PKiKP	**PKPdf**	**23 32 41.0**	**-0.6**	
TUC	Tucson	115.53	49	*e*PKIKP	**PKPdf**	**23 32 41.9**	**-0.1**	
TUC	Tucson	115.53	49	*e*PKPdf	**PKPdf**	**23 32 41.9**	**-0.1**	
L26A	Underwood Farm baz=116	115.62	37	PKiKP	**PKiKP**	**23 32 42.3**	**+0.3**	
H29A	Onida baz=116	115.62	33	PKiKP	**PKPdf**	**23 32 41.1**	**-0.7**	
S22A	4UR Ranch, Cre baz=116	115.68	42	PKiKP	**PKPdf**	**23 32 41.8**	**-0.7**	
S22A	4UR Ranch, Cre	115.68	42	*e*PKPdf	**PKPdf**	**23 32 42.4**	**-0.1**	
S22A				*e*PKKPbc	**PKKPbc**	**23 43 19.8**	**+1.6**	
PCAS	Casmilo, Conde	115.70	321	*e*PKPdf	**PKPdf**	**23 32 42.6**	**+0.6**	
PCAS	Casmilo, Conde	115.70	321	*e*PP	PP	23 34 00.7	+4.2	
K27A	Fluecking er Fa baz=116	115.71	36	PKiKP	**PKPdf**	**23 32 41.7**	**-0.4**	
PESTR	Estremoz	115.78	319	*e*PKPdf	**PKPdf**	**23 32 42.4**	**+0.2**	
PESTR	Estremoz	115.78	319	*e*PP	PP	23 34 00.7	+3.5	
PBAR	Barrancos	115.80	318	*e*PKPdf	**PKPdf**	**23 32 42.5**	**+0.2**	
PBAR	Barrancos	115.80	318	*e*PP	PP	23 33 57.4	+0.1	
J28A	Allard Ranch, baz=116	115.83	35	PKiKP	**PKPdf**	**23 32 42.0**	**-0.2**	
G30A	Faulkton baz=116	115.86	32	PKiKP	**PKPdf**	**23 32 42.1**	**-0.2**	
PTOM	Tomar	115.89	320	*e*PKPdf	**PKPdf**	**23 32 43.0**	**+0.6**	
PTOM	Tomar	115.89	320	*e*PP	PP	23 34 01.9	+4.1	
M26A	McRoberts Ranc baz=116	115.92	37	PKiKP	**PKiKP**	**23 32 42.6**	**0.0**	
I29A	Vivian Onida baz=116	115.97	34	PKiKP	**PKPdf**	**23 32 42.2**	**-0.3**	
L27A	T5 Ranch, Ells baz=116	116.04	36	PKiKP	**PKPdf**	**23 32 42.6**	**-0.2**	
PMTG	Montargil	116.08	320	*e*PKPdf	**PKPdf**	**23 32 42.8**	**0.0**	
PMTG	Montargil	116.08	320	*e*PP	PP	23 34 00.0	+0.8	
Q24A	Divide baz=116	116.12	41	PKiKP	**PKPdf**	**23 32 43.3**	**0.0**	
Q24A	Divide	116.12	41	*e*PKPdf	**PKPdf**	**23 32 43.1**	**-0.2**	
K28A	Ten Mile Ranch baz=116	116.20	35	PKiKP	**PKPdf**	**23 32 42.6**	**-0.4**	
EVO	Evora	116.24	319	*e*PKPdf	**PKPdf**	**23 32 44.0**	**+0.9**	
EVO	Evora	116.24	319	*e*PP	PP	23 34 05.2	+4.9	
N26A	Koester Ranch, baz=116	116.26	38	PKiKP	**PKPdf**	**23 32 42.7**	**-0.5**	
M27A	Reverse DX Ran baz=116	116.34	37	PKiKP	**PKPdf**	**23 32 43.0**	**-0.3**	
J29A	Okreek baz=116	116.35	34	PKiKP	**PKPdf**	**23 32 42.8**	**-0.5**	
I30A	Oacoma baz=116	116.52	33	PKiKP	**PKPdf**	**23 32 43.0**	**-0.6**	
O26A	Horse Wrangler baz=116	116.55	38	PKiKP	**PKPdf**	**23 32 43.4**	**-0.4**	
L28A	Connealy Angus baz=116	116.56	36	PKiKP	**PKPdf**	**23 32 43.1**	**-0.7**	
SDCO	Great Sand Dun baz=116	116.57	42	PKiKP	**PKiKP**	**23 32 44.7**	**+0.6**	
SDCO	Great Sand Dun	116.57	42	*e*PKPdf	**PKPdf**	**23 32 43.8**	**-0.4**	
SDCO				*e*PKKPab	**PKKPab**	**23 43 20.9**	**-0.4**	
PACT	Alcochete	116.64	320	*e*PKPdf	**PKPdf**	**23 32 43.2**	**-0.6**	
PACT	Alcochete	116.64	320	*e*PP	PP	23 33 52.3	-11	
PVAQ	Vaqueiros	116.67	318	*e*PKPdf	**PKPdf**	**23 32 44.6**	**+0.6**	
PVAQ	Vaqueiros	116.67	318	*e*PP	PP	23 34 05.1	+1.8	
N27A	Anderson Farm, baz=116	116.69	38	PKiKP	**PKPdf**	**23 32 44.1**	**0.0**	
PCVE	Castro Verde	116.76	318	*e*PKPdf	**PKPdf**	**23 32 44.9**	**+0.8**	
PCVE	Castro Verde	116.76	318	*e*PP	PP	23 34 04.6	+0.7	
MESJ	Messejana	116.76	318	*e*P	**PKPdf**	**23 32 44.4**	**+0.3**	
MESJ	Messejana	116.76	318	*e*PKPdf	**PKPdf**	**23 32 44.8**	**+0.7**	
MESJ	Messejana	116.76	318	*e*PP	PP	23 34 06.4	+2.5	
K29A	Lazy Trails An baz=117	116.77	35	PKiKP	**PKPdf**	**23 32 43.7**	**-0.4**	
PNCL	Nicolau / Gran	116.81	319	*e*PKPdf	**PKPdf**	**23 32 44.7**	**+0.5**	
PNCL	Nicolau / Gran	116.81	319	*e*PP	PP	23 34 05.6	+1.4	
PMAFR	Mafra	116.82	320	*e*PKPdf	**PKPdf**	**23 32 44.5**	**+0.3**	
PMAFR	Mafra	116.82	320	*e*PP	PP	23 34 06.5	+2.2	
J30A	Dallas baz=117	116.87	34	PKiKP	**PKPdf**	**23 32 43.8**	**-0.5**	
LIS	Liebon	116.88	320	*e*P	**PKPdf**	**23 32 44.1**	**-0.2**	
PMST	Lisbon--Monsan	116.89	320	*e*PKPdf	**PKPdf**	**23 32 44.8**	**+0.5**	
PMST	Lisbon--Monsan	116.89	320	*e*PP	PP	23 33 59.5	-5.2	
PBDV	Barranco-do-Ve	116.90	318	*e*PKPdf	**PKPdf**	**23 32 45.6**	**+1.1**	
PBDV	Barranco-do-Ve	116.90	318	*e*PP	PP	23 34 05.3	+0.4	
OGNE	Ogallala baz=117	116.91	37	PKiKP	**PKPdf**	**23 32 43.9**	**-0.6**	
OGNE	Ogallala	116.91	37	*e*PKPdf	**PKPdf**	**23 32 43.9**	**-0.6**	
P26A	Davis Ranch, A baz=117	116.93	39	PKiKP	**PKPdf**	**23 32 44.5**	**-0.1**	
M28A	Bar X Bar Ranc baz=117	117.02	36	PKiKP	**PKPdf**	**23 32 44.1**	**-0.6**	
O27A	Beecher Island baz=117	117.09	38	PKiKP	**PKPdf**	**23 32 44.5**	**-0.4**	
L29A	Maesberg Ranch baz=117	117.12	35	PKiKP	**PKPdf**	**23 32 44.1**	**-0.7**	
Q26A	Hugo baz=117	117.19	40	PKiKP	**PKiKP**	**23 32 45.5**	**+0.4**	
LAZ	Ladron	117.20	46	*e*PKPdf	**PKPdf**	**23 32 45.8**	**+0.4**	
K30A	Basset baz=117	117.22	34	PKiKP	**PKPdf**	**23 32 44.9**	**0.0**	
PTEO	Sao Teotonio	117.26	318	*e*PKPdf	**PKPdf**	**23 32 45.4**	**+0.3**	
PTEO	Sao Teotonio	117.26	318	*e*PP	PP	23 34 02.3	-5.0	
MORF	Marmelete	117.34	318	*e*P	**PKPdf**	**23 32 45.2**	**-0.2**	
MORF	Marmelete	117.34	318	*e*PKPdf	**PKPdf**	**23 32 45.8**	**+0.5**	
MORF	Marmelete	117.34	318	*e*PP	PP	23 34 09.1	+1.2	
N28A	Pribbeno Ranch baz=117	117.36	37	PKiKP	**PKPdf**	**23 32 44.8**	**-0.5**	
M29A	Burnside Ranch baz=117	117.39	36	PKiKP	**PKPdf**	**23 32 44.5**	**-0.8**	
ANMO	Albuquerque	117.41	45	PKKPbc	PKKPbc	23 43 12.2	+0.2	
	comp=Z,18nm,0.8s,baz=122,slow=5.7,SNR=3.7							
ANMO	Albuquerque	117.41	45	*e*PKIKP	**PKPdf**	**23 32 46.3**	**+0.6**	
ANMO	Albuquerque	117.41	45	*e*PKPdf	**PKPdf**	**23 32 46.3**	**+0.6**	
ANMO				PKKPbc	**PKKPbc**	**23 43 12.2**	**+0.2**	
P27A	Ficken Ranch, baz=117	117.41	39	PKiKP	**PKiKP**	**23 32 45.6**	**0.0**	
LENM	Lemitar	117.44	46	*e*PKPdf	**PKPdf**	**23 32 46.2**	**+0.4**	
LENM				*e*PKKPbc	**PKKPab**	**23 43 16.8**	**-0.6**	
EYMN	Ely baz=117	117.51	26	PKiKP	**PKPdf**	**23 32 45.2**	**-0.1**	
EYMN	Ely	117.51	26	*e*PKPdf	**PKPdf**	**23 32 44.5**	**-0.7**	
Y22D	IRIS PASSCAL I baz=117	117.53	46	PKiKP	**PKiKP**	**23 32 47.0**	**+1.0**	
O28A	Krutsinger Ran baz=117	117.56	38	PKiKP	**PKPdf**	**23 32 45.6**	**-0.1**	
R26A	Arlington baz=118	117.59	40	PKiKP	**PKiKP**	**23 32 46.3**	**+0.4**	
LPM	Los Pinos Moun	117.61	46	*e*PKPdf	**PKPdf**	**23 32 46.7**	**+0.5**	
LPM				*e*PKKPbc	**PKKPbc**	**23 43 11.5**	**+0.3**	
T25A	Trinidad baz=118	117.62	42	PKiKP	**PKiKP**	**23 32 46.5**	**+0.4**	
T25A	Trinidad	117.62	42	*e*PKPdf	**PKiKP**	**23 32 46.6**	**+0.4**	
T25A				*e*PKKPbc	**PKKPbc**	**23 43 11.6**	**+0.2**	
L30A	Spencer Herefo baz=118	117.63	35	PKiKP	**PKPdf**	**23 32 45.1**	**-0.7**	
121A	Cookes Peak, D baz=118	117.67	48	PKiKP	**PKiKP**	**23 32 47.4**	**+1.1**	
121A	Cookes Peak, D	117.67	48	*e*PKPdf	**PKiKP**	**23 32 47.5**	**+1.1**	
BNM	Barren Site	117.70	46	*e*PKPdf	**PKPdf**	**23 32 46.8**	**+0.5**	
BNM				*e*PKKPbc	**PKKPbc**	**23 43 11.0**	**-0.1**	
KSCO	Kaye Shedlock' baz=118	117.70	39	PKiKP	**PKiKP**	**23 32 46.1**	**0.0**	
KSCO	Kaye Shedlock'	117.70	39	*e*PKPdf	**PKPdf**	**23 32 45.2**	**-0.9**	
KSCO				*e*PKKPbc	**PKKPab**	**23 43 15.7**	**-0.5**	
M30A	Dale-Ortello V baz=118	117.81	36	PKiKP	**PKPdf**	**23 32 45.7**	**-0.4**	
N29A	Votaw Ranch, W baz=118	117.82	37	PKiKP	**PKPdf**	**23 32 45.9**	**-0.3**	
RTC	Rabat Centre	117.88	314	*e*PKPdf	**PKPdf**	**23 32 46.1**	**-0.3**	
P28A	Saint Francis baz=118	117.91	38	PKiKP	**PKPdf**	**23 32 46.0**	**-0.4**	
L31A	Butterfield Fa baz=118	117.98	34	PKiKP	**PKPdf**	**23 32 45.9**	**-0.5**	
R27A	Eads baz=118	118.02	40	PKiKP	**PKPdf**	**23 32 46.9**	**+0.1**	
SCHQ	Schefferville	118.07	7	PKP	**PKPdf**	**23 32 46.3**	**+0.1**	
	comp=Z,265nm,0.5s,baz=336,slow=1.4,SNR=74							
SCHQ				PKKPbc	**PKKPbc**	**23 43 09.7**	**-0.5**	
	comp=Z,43nm,0.6s,baz=159,slow=2.9,SNR=8.8							
SCHQ				SKKPbc	SKKPbc	23 45 50.8	-5.3	
	comp=Z,35nm,0.7s,baz=156,slow=2.5,SNR=4.9							
SCHQ	Schefferville	118.07	7	*e*PKPdf	**PKPdf**	**23 32 45.7**	**-0.5**	
SCHQ				PKKPbc	**PKKPbc**	**23 43 09.7**	**-0.5**	
SCHQ				SKKPbc	SKKPbc	23 45 50.8	-5.3	
ECSD	EROS Data Cent baz=118	118.14	32	PKiKP	**PKPdf**	**23 32 46.5**	**-0.1**	
ECSD	EROS Data Cent	118.14	32	*e*PKPdf	**PKPdf**	**23 32 46.3**	**-0.3**	
ECSD				*e*PKKPbc	**PKKPbc**	**23 43 08.5**	**-1.0**	
T26A	Comanche Natio baz=118	118.14	41	PKiKP	**PKiKP**	**23 32 47.4**	**+0.2**	
N30A	Hueftle Ranch, baz=118	118.15	36	PKiKP	**PKPdf**	**23 32 46.3**	**-0.5**	
O29A	4D Ranch, Culb baz=118	118.15	37	PKiKP	**PKPdf**	**23 32 46.2**	**-0.6**	
Q28A	Sharon Springs baz=118	118.17	39	PKiKP	**PKiKP**	**23 32 47.2**	**+0.1**	
S27A	Las Animas baz=118	118.31	41	PKiKP	**PKiKP**	**23 32 47.8**	**+0.4**	
P29A	Atwood baz=118	118.39	38	PKiKP	**PKPdf**	**23 32 47.1**	**-0.3**	
M31A	Lambtecht Ranc baz=118	118.45	35	PKiKP	**PKPdf**	**23 32 46.7**	**-0.7**	
O30A	MW Ranch, Wils baz=118	118.56	37	PKiKP	**PKPdf**	**23 32 47.3**	**-0.3**	
R28A	Tribune baz=118	118.61	39	PKiKP	**PKPdf**	**23 32 47.6**	**-0.2**	
TOA0	Torodi Ar. Sit	118.75	289	*e*PKPdf	**PKPdf**	**23 32 47.6**	**-1.0**	
TORD	Torodi Ar. Bea	118.75	289	PKP	**PKPdf**	**23 32 47.4**	**-1.2**	
	comp=Z,283nm,0.5s,baz=45,slow=1.9,SNR=75							
TORD				PP	PP	23 34 13.2	-5.4	
	comp=Z,385nm,0.9s,baz=65,slow=6.0,SNR=12							
TORD				PKKPbc	**PKKPbc**	**23 43 05.9**	**-0.5**	
	comp=Z,18nm,0.5s,baz=280,slow=2.9,SNR=18							
TORD				SKKPbc	SKKPbc	23 45 51.9	-1.0	
	comp=Z,24nm,0.8s,baz=282,slow=3.2,SNR=5.3							
TOB5	Torodi Ar. Sit	118.77	289	*e*PKP1	**PKPdf**	**23 32 47.3**	**-1.3**	
T27A	Campo baz=119	118.78	41	PKiKP	**PKiKP**	**23 32 48.6**	**+0.3**	
N31A	Bailey Ranch, baz=119	118.80	36	PKiKP	**PKPdf**	**23 32 47.6**	**-0.5**	
Q29A	Oakley baz=119	118.80	38	PKiKP	**PKiKP**	**23 32 48.2**	**0.0**	
P30A	Selden baz=119	118.84	37	PKiKP	**PKPdf**	**23 32 47.9**	**-0.2**	
L33A	Hoskins baz=119	118.86	34	PKiKP	**PKPdf**	**23 32 47.7**	**-0.4**	
BGNE	Belgrade baz=119	118.88	35	PKiKP	**PKPdf**	**23 32 47.2**	**-0.9**	
BGNE	Belgrade	118.88	35	*e*PKPdf	**PKPdf**	**23 32 47.7**	**-0.4**	
BGNE				*e*PKKPbc	**PKKPab**	**23 43 12.4**	**+1.5**	
SPMN	St. Paul baz=119	118.97	28	PKiKP	**PKPdf**	**23 32 47.9**	**-0.3**	
SPMN	St. Paul	118.97	28	*e*PKPdf	**PKPdf**	**23 32 47.5**	**-0.7**	
SPMN				*e*PKKPbc	**PKKPbc**	**23 43 04.7**	**-2.0**	
R29A	Marienthal baz=119	118.98	39	PKiKP	**PKiKP**	**23 32 48.6**	**0.0**	
S28A	Manter baz=119	119.00	40	PKiKP	**PKiKP**	**23 32 48.9**	**+0.2**	
O31A	Woolen Ranch, baz=119	119.01	36	PKiKP	**PKPdf**	**23 32 47.6**	**-0.8**	
U27A	Thompson Grove baz=119	119.08	42	PKiKP	**PKiKP**	**23 32 48.9**	**0.0**	
T28A	Walsh baz=119	119.14	41	PKiKP	**PKPdf**	**23 32 49.0**	**+0.1**	
Q30A	Quinter baz=119	119.21	38	PKiKP	**PKPdf**	**23 32 48.9**	**0.0**	
N32A	Stulken Farm, baz=119	119.22	35	PKiKP	**PKPdf**	**23 32 48.5**	**-0.3**	
M33A	Taylor Creek F baz=119	119.30	34	PKiKP	**PKPdf**	**23 32 47.9**	**-1.0**	
P31A	Stockton baz=119	119.38	37	PKiKP	**PKPdf**	**23 32 49.0**	**-0.2**	
LPIG	La Paz	119.39	58	PKKPbc	PKKPbc	23 43 04.3	-0.1	
	comp=Z,23nm,0.5s,baz=170,slow=2.1,SNR=1.8							
V27A	Dan Oppiter Fa baz=119	119.45	42	PKiKP	**PKiKP**	**23 32 50.0**	**+0.4**	
S29A	Ulysses baz=119	119.48	40	PKiKP	**PKiKP**	**23 32 49.9**	**+0.3**	
L34A	Svendsen Farm, baz=119	119.48	33	PKiKP	**PKPdf**	**23 32 48.7**	**-0.5**	
U28A	Mallet baz=119	119.50	41	PKiKP	**PKPdf**	**23 32 49.3**	**-0.3**	
O32A	Brockman Farm, baz=119	119.56	36	PKiKP	**PKPdf**	**23 32 49.0**	**-0.5**	
R30A	Dighton baz=120	119.61	39	PKiKP	**PKPdf**	**23 32 49.6**	**0.0**	
CBKS	Cedar Bluff	119.61	38	*e*PKIKP	**PKPdf**	**23 32 49.4**	**-0.3**	
CBKS	Cedar Bluff baz=120	119.61	38	PKiKP	**PKPdf**	**23 32 49.4**	**-0.3**	
CBKS	Cedar Bluff	119.61	38	*e*PKPdf	**PKPdf**	**23 32 49.4**	**-0.3**	
T29A	Hugoton baz=120	119.65	40	PKiKP	**PKiKP**	**23 32 50.0**	**+0.1**	
M34A	Aspy Farms, Fr	119.69	34	PKiKP	**PKPdf**	**23 32 49.0**	**-0.7**	
Q31A	Ellis baz=120	119.70	37	PKiKP	**PKPdf**	**23 32 49.8**	**0.0**	
N33A	J Bar K, Exete baz=120	119.72	35	PKiKP	**PKPdf**	**23 32 49.1**	**-0.7**	
P32A	Huiting Farm, baz=120	119.78	36	PKiKP	**PKPdf**	**23 32 49.8**	**-0.1**	
L35A	Bielow Farm, R baz=120	119.83	33	PKiKP	**PKPdf**	**23 32 49.5**	**-0.4**	
V28A	Channing baz=120	119.86	42	PKiKP	**PKiKP**	**23 32 50.9**	**+0.5**	
SLBS	Sierra La Lagu	119.86	58	*e*PKPdf	**PKPdf**	**23 32 50.8**	**+0.2**	
SLBS				*e*SP	SP	23 43 06.5	-7.6	
S30A	Montezuma baz=120	119.88	39	PKiKP	**PKiKP**	**23 32 50.4**	**+0.1**	
R31A	Burdett baz=120	120.07	38	PKiKP	**PKiKP**	**23 32 50.8**	**+0.1**	
O33A	Hebron baz=120	120.08	36	PKiKP	**PKPdf**	**23 32 49.8**	**-0.7**	
U29A	Oasis Ranch, S baz=120	120.08	41	PKiKP	**PKiKP**	**23 32 50.9**	**+0.1**	
W28A	Vega baz=120	120.16	42	PKiKP	**PKiKP**	**23 32 51.6**	**+0.6**	
N34A	Lincoln baz=120	120.18	34	PKiKP	**PKPdf**	**23 32 50.3**	**-0.3**	
M35A	Neola baz=120	120.20	33	PKiKP	**PKPdf**	**23 32 50.4**	**-0.3**	
T30A	Plains baz=120	120.20	40	PKiKP	**PKiKP**	**23 32 51.3**	**+0.3**	
Q32A	Meitler Ranch, baz=120	120.21	37	PKiKP	**PKPdf**	**23 32 50.5**	**-0.2**	
CPRX	Cap Rock	120.24	46	*e*PKPdf	**PKPdf**	**23 32 50.9**	**-0.2**	
V29A	Stinnett baz=120	120.26	42	PKiKP	**PKiKP**	**23 32 51.4**	**+0.2**	
P33A	Williams Farm, baz=120	120.43	36	PKiKP	**PKPdf**	**23 32 50.8**	**-0.4**	
U30A	WK&E Inc. Balk baz=120	120.43	40	PKiKP	**PKPdf**	**23 32 51.4**	**0.0**	
R32A	Long Quarter, baz=120	120.48	38	PKiKP	**PKPdf**	**23 32 51.3**	**0.0**	
S31A	Mullinville baz=120	120.51	39	PKiKP	**PKiKP**	**23 32 51.7**	**+0.2**	
O34A	Beatrice baz=120	120.52	35	PKiKP	**PKPdf**	**23 32 50.5**	**-0.8**	
X28A	Dimmitt baz=120	120.58	43	PKiKP	**PKiKP**	**23 32 52.2**	**+0.3**	
W29A	Amraillo baz=120	120.61	42	PKiKP	**PKiKP**	**23 32 51.8**	**-0.1**	
Q33A	Connelly Farm, baz=120	120.64	37	PKiKP	**PKPdf**	**23 32 51.3**	**-0.2**	
N35A	Tabor baz=120	120.64	34	PKiKP	**PKPdf**	**23 32 50.7**	**-0.8**	
CLNB	Carlsbad	120.64	46	*e*PKPdf	**PKPdf**	**23 32 52.3**	**+0.4**	
S32A	Newby Ranch, P baz=121	120.80	38	PKiKP	**PKiKP**	**23 32 52.0**	**-0.1**	
P34A	Walnut Farm, R baz=121	120.86	36	PKiKP	**PKPdf**	**23 32 51.5**	**-0.5**	
V30A	Spur Ranch, Mi baz=121	120.87	41	PKiKP	**PKiKP**	**23 32 53.2**	**+0.8**	
Y28A	McKinney Farm, baz=121	120.89	44	PKiKP	**PKiKP**	**23 32 52.6**	**+0.2**	
O35A	Humboldt baz=121	120.90	34	PKiKP	**PKPdf**	**23 32 51.3**	**-0.7**	
X29A	Tulia baz=121	120.96	43	PKiKP	**PKiKP**	**23 32 52.6**	**0.0**	
R33A	Olander Ranch, baz=121	120.99	37	PKiKP	**PKPdf**	**23 32 51.9**	**-0.4**	
U31A	Nine Bar Ranch baz=121	121.05	40	PKiKP	**PKiKP**	**23 32 53.3**	**+0.6**	
T32A	Huddler Ranch, baz=121	121.13	39	PKiKP	**PKiKP**	**23 32 52.8**	**0.0**	
Z28A	Tucker Farm, M baz=121	121.14	44	PKiKP	**PKPdf**	**23 32 52.8**	**-0.1**	
Q34A	Chapman baz=121	121.21	36	PKiKP	**PKiKP**	**23 32 53.1**	**+0.2**	
W30A	Crocket Farms baz=121	121.28	42	PKiKP	**PKiKP**	**23 32 53.6**	**+0.4**	
Y29A	Porterfield Fa baz=121	121.31	44	PKiKP	**PKiKP**	**23 32 53.6**	**+0.3**	
P35A	Duane Minner, baz=121	121.34	35	PKiKP	**PKPdf**	**23 32 52.3**	**-0.6**	
V31A	Spring Creek L baz=121	121.41	41	PKiKP	**PKiKP**	**23 32 54.1**	**+0.7**	
R34A	Arabella, Hill baz=121	121.44	37	PKiKP	**PKPdf**	**23 32 53.1**	**0.0**	
S33A	Kaszmaul Farm, baz=121	121.44	38	PKiKP	**PKPdf**	**23 32 53.1**	**0.0**	
128A	Castleberry Fa baz=121	121.44	45	PKiKP	**PKPdf**	**23 32 53.6**	**0.0**	
X30A	Coker Ranch, T baz=121	121.52	43	PKiKP	**PKiKP**	**23 32 53.7**	**+0.1**	
O36A	Bolckow baz=121	121.52	34	PKiKP	**PKPdf**	**23 32 52.5**	**-0.7**	
U32A	Winter Ranch, baz=121	121.58	40	PKiKP	**PKiKP**	**23 32 53.8**	**+0.1**	
T33A	Patterson Ranc baz=122	121.61	39	PKiKP	**PKPdf**	**23 32 53.5**	**0.0**	
Z29A	Hungry Hill Ra baz=122	121.63	44	PKiKP	**PKiKP**	**23 32 53.9**	**0.0**	
228A	UT Block 9, Go baz=122	121.64	46	PKiKP	**PKiKP**	**23 32 54.1**	**+0.1**	
W31A	Holland Ranch, baz=122	121.70

W33A	Caddo, Fort Co	122.68	40	PKiKP	PKiKP	23 32 56.1	+0.3		
	baz=122								
WMOK	Wichita Mounta	122.73	41	ePKiKP	PKPdf	23 32 55.5	-0.2		
WMOK	Wichita Mounta	122.73	41	ePKPdf	PKPdf	23 32 55.5	-0.2		
WMOK				ePKKPbc	PKKPbc	23 42 52.1	-0.6		
Y32A	R-V Farms, Ver	122.74	42	PKiKP	PKPdf	23 32 55.8	0.0		
	baz=123								
T35A	Sooner Cattle	122.78	38	PKiKP	PKPdf	23 32 55.8	+0.1		
	baz=123								
S36A	Lake Cedric, C	122.80	36	PKiKP	PKPdf	23 32 55.3	-0.4		
	baz=123								
230A	Sterling City	122.81	45	PKiKP	PKPdf	23 32 56.1	0.0		
	baz=123								
R37A	Teagarden Farm	122.84	35	PKiKP	PKPdf	23 32 55.2	-0.7		
	baz=123								
GLMI	Grayling	122.85	23	ePKPdf	PKPdf	23 32 55.9	+0.2		
V34A	Guthrie	122.86	39	PKiKP	PKiKP	23 32 56.1	0.0		
	baz=123								
V34A	Guthrie	122.86	39	ePKPdf	PKiKP	23 32 56.2	0.0		
V34A				ePKKPbc	PKKPbc	23 42 52.4	+0.2		
131A	Roby	122.87	44	PKiKP	PKiKP	23 32 56.3	-0.1		
	baz=123								
429A	Davenport Ranc	122.95	47	PKiKP	PKiKP	23 32 56.5	-0.1		
	baz=123								
529A	Stev Forest Ra	122.98	48	PKiKP	PKiKP	23 32 56.8	+0.1		
	baz=123								
U35A	Pawnee	123.00	38	PKiKP	PKiKP	23 32 56.6	+0.2		
	baz=123								
X33A	Lawton	123.03	41	PKiKP	PKPdf	23 32 56.1	-0.2		
	baz=123								
330A	Mertzon	123.04	46	PKiKP	PKPdf	23 32 56.4	-0.1		
	baz=123								
T36A	Boggs Farm, Ca	123.07	37	PKiKP	PKPdf	23 32 56.2	0.0		
	baz=123								
W34A	Bridge Creek,	123.07	40	PKiKP	PKiKP	23 32 56.6	0.0		
	baz=123								
W34A	Bridge Creek,	123.07	40	ePKPdf	PKPdf	23 32 56.4	0.0		
W34A				ePKKPbc	PKKPbc	23 42 50.7	-0.7		
Z32A	Haskell	123.13	43	PKiKP	PKiKP	23 32 57.3	+0.5		
	baz=123								
S37A	Fort Scott	123.22	36	PKiKP	PKPdf	23 32 56.3	-0.3		
	baz=123								
Y33A	Hilltop Ranch,	123.28	42	PKiKP	PKPdf	23 32 56.6	-0.2		
	baz=123								
V35A	Meyer Ranch, C	123.33	39	PKiKP	PKPdf	23 32 56.6	-0.2		
	baz=123								
430A	Baggett Ranch,	123.34	46	PKiKP	PKPdf	23 32 57.0	-0.1		
	baz=123								
231A	Bronte	123.35	45	PKiKP	PKPdf	23 32 56.7	-0.3		
	baz=123								
ABTX	Abilene, Hawle	123.42	44	PKiKP	PKPdf	23 32 57.2	+0.1		
	baz=123								
ABTX	Abilene, Hawle	123.42	44	ePKPdf	PKPdf	23 32 57.1	0.0		
ABTX				ePKKPbc	PKKPbc	23 42 50.0	0.0		
X34A	Smith Ranch, M	123.43	41	PKiKP	PKiKP	23 32 57.5	+0.1		
	baz=123								
U36A	Oologah	123.60	38	PKiKP	PKPdf	23 32 57.1	-0.2		
	baz=124								
T37A	Chenoyville 18	123.60	36	PKiKP	PKPdf	23 32 57.0	-0.3		
	baz=124								
530A	J-C Ranch, Com	123.61	47	PKiKP	PKPdf	23 32 58.2	+0.3		
	baz=124								
Z33A	Whitaker Ranch	123.62	42	PKiKP	PKiKP	23 32 57.8	0.0		
	baz=124								
331A	San Angelo	123.62	45	PKiKP	PKPdf	23 32 57.5	-0.1		
	baz=124								
W35A	Tecumseh	123.69	39	PKiKP	PKPdf	23 32 57.5	-0.1		
	baz=124								
232A	Coleman	123.84	44	PKiKP	PKPdf	23 32 57.9	-0.1		
	baz=124								
431A	Sonora	123.85	46	PKiKP	PKPdf	23 32 57.8	-0.2		
	baz=124								
V36A	Jenks	123.87	38	PKiKP	PKPdf	23 32 57.9	0.0		
	baz=124								
Y34A	Reagan Ranch,	123.88	41	PKiKP	PKPdf	23 32 57.8	-0.1		
	baz=124								
TUL1	Tulsa	123.88	38	PKiKP	PKiKP	23 32 58.2	0.0		
	baz=124								
TUL1	Tulsa	123.88	38	ePKPdf	PKPdf	23 32 57.9	0.0		
TUL1				ePKKPbc	PKKPbc	23 42 46.9	-1.5		
133A	Hamilton Ranch	123.92	43	PKiKP	PKPdf	23 32 58.2	+0.1		
	baz=124								
U37A	Salina	123.96	37	PKiKP	PKPdf	23 32 57.8	-0.2		
	baz=124								
332A	Millersview	124.06	45	PKiKP	PKPdf	23 32 58.5	+0.1		
	baz=124								
X35A	Drake	124.11	40	PKiKP	PKPdf	23 32 58.2	-0.1		
	baz=124								
W36A	Wetumka	124.11	39	PKiKP	PKiKP	23 32 58.6	-0.1		
	baz=124								
Z34A	Collier Ranch,	124.13	42	PKiKP	PKPdf	23 32 58.6	+0.1		
	baz=124								
531A	Rocksprings	124.18	47	PKiKP	PKPdf	23 32 58.8	+0.1		
	baz=124								
HDIL	Hopedale	124.18	30	PKiKP	PKPdf	23 32 57.7	-0.7		
	baz=124								
HDIL	Hopedale	124.18	30	eP	PKPpre	23 32 46.6			
HDIL				ePKPdf	PKPdf	23 32 57.6	-0.7		
HDIL				ePKKPbc	PKKPbc	23 42 46.3	-1.0		
DRLN	Deer Lake	124.23	1	ePKPdf	PKPdf	23 32 57.0	-1.1		
V37A	Hulbert	124.29	38	PKiKP	PKPdf	23 32 58.7	0.0		
	baz=124								
432A	Menard	124.32	45	PKiKP	PKPdf	23 32 58.6	-0.4		
	baz=124								
U38A	Gravette	124.38	37	PKiKP	PKPdf	23 32 58.2	-0.6		
	baz=124								
Y35A	Marietta	124.38	41	PKiKP	PKPdf	23 32 59.0	+0.1		
	baz=124								
X36A	Centrahoma	124.40	40	PKiKP	PKPdf	23 32 59.0	+0.1		
	baz=124								
134A	White-Moore Ra	124.51	43	PKiKP	PKiKP	23 32 59.5	0.0		
	baz=124								
JCT	Junction City	124.53	46	ePKIKP	PKPdf	23 32 58.7	-0.7		
JCT	Junction City	124.53	46	PKiKP	PKPdf	23 32 59.5	+0.1		
	baz=124								
JCT	Junction City	124.53	46	ePKPdf	PKPdf	23 32 58.7	-0.7		
631A	Perdido Creek	124.57	47	PKiKP	PKPdf	23 32 59.4	0.0		
	baz=124								
Z35A	Perchaven, San	124.59	41	PKiKP	PKPdf	23 32 59.3	0.0		
	baz=124								
W37A	Quinton	124.61	39	PKiKP	PKPdf	23 32 59.3	0.0		
	baz=124								
333A	Richland Sprin	124.63	44	PKiKP	PKPdf	23 32 59.4	-0.1		
	baz=124								
532A	Rocksprings	124.66	46	PKiKP	PKPdf	23 32 59.4	-0.3		
	baz=125								
V38A	Canehill	124.75	37	PKiKP	PKPdf	23 32 59.3	-0.3		
	baz=125								
234A	Clairette	124.81	43	PKiKP	PKiKP	23 33 00.1	-0.1		
	baz=125								
Y36A	Durant	124.87	40	PKiKP	PKiKP	23 33 00.2	0.0		
	baz=125								
433A	Art	124.88	45	PKiKP	PKPdf	23 32 59.8	-0.2		
	baz=125								
SADO	Sadowa	124.88	19	PKP	PKPdf	23 32 59.1	-0.4		
	comp=Z,630nm,0.8s,baz=334,slow=2.9,SNR=83								
SADO				PKKPbc	PKKPab	23 42 41.0	-3.8		
	comp=Z,37nm,0.5s,baz=171,slow=4.1,SNR=7.5								
PMPST	Porto Santo, M	124.91	318	ePKPdf	PKPdf	23 33 00.4	+0.5		
PMPST	Porto Santo, M	124.91	318	ePP	PP	23 34 59.8	+1.4		
PMPS	Porto Santo	124.92	318	ePKPdf	PKPdf	23 32 59.7	-0.2		
PMPS	Porto Santo	124.92	318	ePP	PP	23 34 59.3	+0.9		
135A	Vickery Place,	124.97	42	PKiKP	PKiKP	23 33 00.8	+0.3		
	baz=125								
X37A	Clayton	125.00	39	PKiKP	PKiKP	23 33 00.8	+0.3		
	baz=125								
632A	Uvalde	125.09	47	PKiKP	PKiKP	23 33 00.9	+0.1		
	baz=125								
334A	Lometa	125.14	44	PKiKP	PKPdf	23 33 00.5	0.0		
	baz=125								
SLM	Saint Louis	125.14	32	ePKIKP	PKPdf	23 32 59.3	-0.9		
SLM	Saint Louis	125.14	32	ePKPdf	PKPdf	23 32 59.3	-0.9		
Z36A	Blue Ridge	125.17	41	PKiKP	PKiKP	23 33 01.0	+0.2		
	baz=125								
W38A	Poteau	125.21	38	PKiKP	PKiKP	23 33 00.7	-0.2		
	baz=125								
Y37A	Hugo	125.24	40	PKiKP	PKiKP	23 33 00.8	-0.2		
	baz=125								
WHTX	Lake Whitney	125.28	43	PKiKP	PKiKP	23 33 00.9	-0.2		
	baz=125								
WHTX	Lake Whitney	125.28	43	ePKPdf	PKPdf	23 33 00.5	-0.2		
WHTX				ePKKPbc	PKKPbc	23 42 42.2	-0.6		
X38A	Whitesboro	125.29	39	PKiKP	PKiKP	23 33 01.1	0.0		
	baz=125								
533A	Kerrville	125.31	46	PKiKP	PKPdf	23 33 00.8	0.0		
	baz=125								
AAM	Ann Arbor	125.34	24	ePKPpre	PKPpre	23 32 50.4			
AAM				ePKPdf	PKPdf	23 32 59.8	-0.6		
AAM				ePKKPbc	PKKPab	23 42 40.5	-2.3		
SFIN	Scholer Farm	125.38	28	PKiKP	PKPdf	23 33 00.5	-0.1		
	baz=125								
SFIN	Scholer Farm	125.38	28	ePKPdf	PKPdf	23 33 00.1	-0.5		
732A	Laxson Ranch,	125.39	48	PKiKP	PKiKP	23 33 01.2	-0.1		
	baz=125								
434A	Burnet	125.42	44	PKiKP	PKPdf	23 33 01.0	0.0		
	baz=125								
PMAR	Madeira	125.51	319	ePKPdf	PKPdf	23 33 01.7	+0.4		
PMAR	Madeira	125.51	319	ePP	PP	23 35 03.4	+0.8		
FUL	Funchal	125.54	318	ePKPdf	PKPdf	23 33 01.8	+0.7		
FUL	Funchal	125.54	318	ePP	PP	23 35 04.4	+1.9		
633A	Saathoff Ranch	125.56	46	PKiKP	PKiKP	23 33 01.7	-0.1		
	baz=126								
136A	Ennis	125.60	42	PKiKP	PKiKP	23 33 01.7	0.0		
	baz=126								
832A	Faith Ranch, C	125.63	48	PKiKP	PKiKP	23 33 02.1	+0.2		
	baz=126								
PMOZ	Porto Moniz, M	125.63	319	ePKPdf	PKPdf	23 33 02.2	+0.7		
PMOZ	Porto Moniz, M	125.63	319	ePP	PP	23 35 04.5	+1.2		
335A	Moody	125.72	44	PKiKP	PKPdf	23 33 01.7	+0.2		
	baz=126								
534A	Blanco	125.73	45	PKiKP	PKPdf	23 33 01.8	+0.1		
	baz=126								
Z37A	Pogue Cattle C	125.74	40	PKiKP	PKiKP	23 33 01.8	-0.1		
	baz=126								
Y38A	Idabel	125.83	39	PKiKP	PKPdf	23 33 01.4	-0.3		
	baz=126								
PQI	Presque Isle	125.88	10	ePKPdf	PKPdf	23 33 01.1	-0.2		
733A	Divot King Ran	125.89	47	PKiKP	PKiKP	23 33 02.6	+0.2		
	baz=126								
236A	Katherine and	125.89	42	PKiKP	PKiKP	23 33 02.5	+0.2		
	baz=126								
435B	Jarrell	125.91	44	PKiKP	PKiKP	23 33 02.5	+0.1		
	baz=126								
833A	Chaparral WMA,	126.03	48	PKiKP	PKiKP	23 33 02.6	-0.1		
	baz=126								
137A	Heron Place, G	126.03	41	PKiKP	PKiKP	23 33 03.1	+0.6		
	baz=126								
336A	Riesel	126.06	43	PKiKP	PKPdf	23 33 02.1	-0.1		
	baz=126								
Z38A	Mt. Pleasant	126.11	40	PKiKP	PKPdf	23 33 01.6	-0.6		
	baz=126								
RPN	Rapa Nui	126.14	119	PKP	PKPdf	23 33 02.8	+0.4		
	comp=Z,234nm,0.7s,baz=322,slow=2.3,SNR=18								
RPN				SKPab	SKiKP	23 35 19.9	-20		
	comp=Z,324nm,0.9s,baz=265,slow=4.5,SNR=7.3								
RPN	Rapa Nui	126.14	119	PKIKP	PKPdf	23 33 02.8	+0.4		
RPN						23 35 19.9			
RPN				pmax	pmax				
	comp=Z,234nm,0.7s								
RPN	Rapa Nui	126.14	119	ePKPdf	PKPdf	23 33 02.4	0.0		
RPN				SKPab	SKiKP	23 35 19.9	-20		
MIAR	Mount Ida	126.14	38	ePKIKP	PKPdf	23 33 02.5	+0.2		
MIAR	Mount Ida	126.14	38	PKiKP	PKPdf	23 33 01.9	-0.4		
	baz=126								
MIAR	Mount Ida	126.14	38	ePKPdf	PKPdf	23 33 02.5	+0.2		
OLIL	Olney	126.17	30	ePKPdf	PKPdf	23 33 02.2	0.0		
634A	China Grove, S	126.19	46	PKiKP	PKiKP	23 33 03.2	+0.2		
	baz=126								
Y39A	Lockesburg	126.23	39	PKiKP	PKPdf	23 33 03.2	-0.1		
	baz=126								
734A	La Parita Cree	126.35	47	PKiKP	PKiKP	23 33 03.2	-0.1		
	baz=126								
SIUC	Southern Illin	126.36	32	ePKPdf	PKPdf	23 33 02.6	0.0		
535A	Dale	126.37	45	PKiKP	PKiKP	23 33 03.5	+0.2		
	baz=126								
237A	Washetta, Mont	126.37	42	PKiKP	PKiKP	23 33 03.5	+0.2		
	baz=126								
LONY	Lake Ozonia	126.39	16	ePKPpre	PKPpre	23 32 51.9			
LONY				ePKPdf	PKPdf	23 33 02.1	-0.3		
138A	Matatall Enter	126.43	41	PKiKP	PKiKP	23 33 04.2	+0.8		
	baz=126								
436A	Wall Ranch, Ga	126.47	44	PKiKP	PKiKP	23 33 03.7	+0.2		
	baz=126								
933A	Laredo	126.51	48	PKiKP	PKPdf	23 33 02.9	-0.2		
	baz=126								
KIC	Kosan Boka	126.57	283	ePKP1	PKPdf	23 33 03.0	-0.6		
	comp=Z,1μm,0.8s								
635A	Leesville	126.60	46	PKiKP	PKiKP	23 33 03.7	-0.1		
	baz=126								
DBIC	Dimbokro	126.61	283	PKP	PKPdf	23 33 03.4	-0.3		
	comp=Z,688nm,0.6s,baz=55,slow=2.1,SNR=38								
DBIC				PKKPbc	PKKPab	23 42 37.0	+0.1		
	comp=Z,82nm,0.7s,baz=252,slow=4.1,SNR=20								
Z39A	Irene McRaven,	126.63	39	PKiKP	PKiKP	23 33 03.7	-0.1		
	baz=126								
536A	Bastrop	126.69	44	PKiKP	PKiKP	23 33 03.9	-0.1		
	baz=127								
UALR	University of	126.73	37	ePKPdf	PKPdf	23 33 03.7	+0.4		
337A	Centerville	126.75	42	PKiKP	PKiKP	23 33 04.5	+0.5		
	baz=127								
834A	Tilden	126.76	47	PKiKP	PKiKP	23 33 04.6	+0.4		
	baz=127								
TIC	Toumodi	126.78	283	ePKP1	PKPdf	23 33 04.3	+0.3		
238A	Jacksonville	126.83	41	PKiKP	PKiKP	23 33 04.4	+0.2		
	baz=127								
PARMO	Parma	126.86	33	ePKPdf	PKPdf	23 33 03.7	+0.2		
BART	Pico Bartolome	126.86	329	ePKPdf	PKPdf	23 33 04.2	+0.6		
BART	Pico Bartolome	126.86	329	ePP	PP	23 35 08.9	-1.9		
139A	Bunkhouse Ranc	126.86	40	PKiKP	PKiKP	23 33 04.4	+0.2		
	baz=127								
437A	Phantom Ranch,	126.88	43	PKiKP	PKPdf	23 33 03.3	-0.4		
	baz=127								
735A	Kenedy	126.88	46	PKiKP	PKiKP	23 33 05.1	+0.7		
	baz=127								
USIN	University of	126.98	31	ePKPpre	PKPpre	23 32 50.3			
USIN				ePKPdf	PKPdf	23 33 02.6	-1.1		
PKME	Peaks-Kenny Pk	127.01	11	ePKPpre	PKPpre	23 32 51.8			
PKME				ePKPdf	PKPdf	23 33 03.0	-0.6		
636A	Smothers Creek	127.05	45	PKiKP	PKiKP	23 33 05.4	+0.7		
	baz=127								
PVMO	Portageville	127.07	33	ePKPdf	PKPdf	23 33 04.1	+0.2		
PVMO				epPKPdf	pPKPdf	23 35 24.2	-5.0		
934A	Benavides	127.08	48	PKiKP	PKiKP	23 33 05.2	+0.4		
	baz=127								
NCB	Newcomb	127.09	16	ePKPdf	PKPdf	23 33 03.6	-0.2		
MMNY	Mt. Morris Dam	127.10	20	ePKPpre	PKPpre	23 32 51.0			
MMNY				ePKPdf	PKPdf	23 33 03.1	-0.7		
PSET	Sete Cidades	127.11	329	ePKPdf	PKPdf	23 33 04.5	+0.5		
PSET	Sete Cidades	127.11	329	ePP	PP	23 35 13.6	+1.3		
PSET				eP	x	23 42 51.1			
PSET				eSS	SS	23 51 35.3	+2.6		
338A	Crockett	127.11	42	PKiKP	PKiKP	23 33 04.9	+0.2		
	baz=127								
PDA	Ponta Delgada	127.14	329	ePKPdf	PKPdf	23 33 04.8	+0.8		
PDA	Ponta Delgada	127.14	329	ePP	PP	23 35 11.6	-0.8		
HBAR	Harrisburg	127.16	35	ePKPdf	PKPdf	23 33 04.4	+0.3		
835A	Beeville	127.19	47	PKiKP	PKiKP	23 33 05.7	+0.7		
	baz=127								
ADH	Angra Heroismo	127.21	331	ePKPdf	PKPdf	23 33 04.6	+0.5		
ADH	Angra Heroismo	127.21	331	ePP	PP	23 35 14.8	+2.0		
537A	Green Hill Far	127.21	44	PKiKP	PKiKP	23 33 05.1	+0.1		
	baz=127								
GNAR	Gosnell	127.22	34	ePKPdf	PKPdf	23 33 03.8	-0.5		
GNAR				epPKPdf	pPKPdf	23 35 24.8	-4.8		
239A	Gary	127.24	41	PKiKP	PKiKP	23 33 04.9	-0.1		
	baz=127								
034A	Hebbronville	127.25	49	PKiKP	PKiKP	23 33 05.5	+0.4		
	baz=127								
PGRA	Graciosa	127.26	332	ePKPdf	PKPdf	23 33 05.1	+0.8		
PGRA	Graciosa	127.26	332	ePP	PP	23 35 14.8	+1.6		
PGRA				eP	x	23 42 47.0			
NATX	Nacogdoches	127.28	41	PKiKP	PKPdf	23 33 04.7	+0.2		
	baz=127								
NATX	Nacogdoches	127.28	41	ePKPpre	PKPpre	23 32 55.6			
NATX				ePKPdf	PKiKP	23 33 05.0	-0.1		
MDV	Middlebury	127.34	15	ePKPdf	PKPdf	23 33 04.0	-0.3		
ACSO	Alum Creek Sta	127.34	25	ePKPpre	PKPpre	23 32 48.5			
ACSO				ePKPdf	PKPdf	23 33 03.9	-0.5		
736A	Circle Diamond	127.35	46	PKiKP	PKiKP	23 33 06.0	+0.7		
	baz=127								
438A	Sam Houston St	127.38	43	PKiKP	PKiKP	23 33 05.7	+0.4		
	baz=127								
PSMN	Pico do Norte,	127.39	328	ePKPdf	PKPdf	23 33 04.8	+0.2		
PSMN	Pico do Norte,	127.39	328	ePP	PP	23 35 11.7	-2.5		
PSMN				eP	x	23 42 36.9			
PSMN				eSS	SS	23 51 34.9	-1.3		
GLAT	Glass	127.40	33	ePKPpre	PKPpre	23 32 52.8			
GLAT				ePKPdf	PKiKP	23 33 04.9	-0.3		
GLAT				epPKPdf	pPKPdf	23 35 25.5	-4.3		
PSMA	Santa Maria	127.43	328	ePKPdf	PKPdf	23 33 05.3	+0.7		
PSMA	Santa Maria	127.43	328	ePP	PP	23 35 12.4	-2.0		
UTMT	University of	127.58	33	ePKPpre	PKPpre	23 32 57.8			
UTMT				ePKPdf	PKPdf	23 33 04.7	-0.2		
637A	Eagle Lake	127.58	45	PKiKP	PKiKP	23 33 06.4	+0.6		
	baz=128								
WVL	Waterville	127.61	12	ePKPpre	PKPpre	23 32 49.1			
WVL				ePKPdf	PKPdf	23 33 04.0	-0.8		
339A	Huntington	127.62	42	PKiKP	PKiKP	23 33 05.6	-0.2		
	baz=128								
HKT	Hockley	127.62	44	ePKIKP	PKPdf	23 33 05.5	+0.4		
HKT				e		23 35 26.4			
HKT	Hockley	127.62	44	ePKPdf	PKPdf	23 33 05.5	+0.4		
HKT				epPKPdf	pPKPdf	23 35 26.4	-4.0		
PMAN	Manadas	127.63	332	ePKPdf	PKPdf	23 33 05.3	+0.3		
PMAN	Manadas	127.63	332	ePP	PP	23 35 13.3	-2.3		
ROSA	Rosais	127.63	332	ePKPdf	PKPdf	23 33 06.0	+1.0		
ROSA	Rosais	127.63	332	ePP	PP	23 35 18.1	+2.5		
ROSA				eP	x	23 43 01.3			
HALT	Halls	127.64	34	ePKPdf	PKPdf	23 33 04.8	-0.2		
SFTN	Shelby Forest	127.66	35	ePKIKP	PKPdf	23 33 06.0	+0.9		
SFTN	Shelby Forest	127.66	35	ePKPdf	PKPdf	23 33 06.0	+0.9		
538A	Harpers Horsep	127.69	43	PKiKP	PKiKP	23 33 06.3	+0.4		
	baz=128								
035A	Encino	127.75	48	PKiKP	PKiKP	23 33 06.8	+0.6		
	baz=128								
ACCN	Adirondack Com	127.78	16	ePKPpre	PKPpre	23 32 52.5			
ACCN				ePKPdf	PKPdf	23 33 04.6	-0.5		
439A	Center Grove,	127.82	42	PKiKP	PKiKP	23 33 06.0	-0.2		
	baz=128								
HNH	Hanover	127.84	14	ePKPpre	PKPpre	23 32 53.3			
HNH				ePKPdf	PKPdf	23 33 05.1	-0.1		
PPNO	Prainha do Nor	127.84	332	ePKPdf	PKPdf	23 33 06.2	+0.7		
PPNO	Prainha do Nor	127.84	332	ePP	PP	23 35 13.6	-3.4		
EMMW	East Machias	127.87	10	ePKPpre	PKPpre	23 32 55.2			
EMMW				ePKPdf	PKPdf	23 33 04.8	-0.5		
MET	Memphis--Engin	127.88	35	ePKPdf	PKPdf	23 33 05.6	+0.1		
MET				epPKPdf	pPKPdf	23 35 26.4	-4.4		
737A	Port Lavaca	127.91	45	PKiKP	PKPdf	23 33 05.9	+0.1		
	baz=128								
PCED	Cedros	127.92	332	ePKPdf	PKPdf	23 33 06.3	+0.8		
PCED	Cedros	127.92	332	ePP	PP	23 35 19.6	+2.2		
PCAN	Candelaria	127.95	332	ePKPdf	PKPdf	23 33 06.4	+0.8		
PCAN	Candelaria	127.95	332	ePP	PP	23 35 16.0	-1.7		
340A	Bronson	128.00	41	PKiKP	PKPdf	23 33 05.7	-0.1		
	baz=128								
035Z	Hargill	128.04	49	PKiKP	PKiKP	23 33 07.0	+0.3		
	baz=128								
936A	North Padre Is	128.06	47	PKiKP	PKPdf	23 33 05.9	-0.2		
	baz=128								
H07N1	FLORES T-PHASE	128.11	335	ePKPdf	PKPdf	23 33 06.5	+0.6		
H07N1	FLORES T-PHASE	128.11	335	ePP	PP	23 35 20.7	+2.1		
BINY	Binghamton	128.20	18	ePKPdf	PKPdf	23 33 06.3	+0.3		
539A	Cross D Ranch,	128.28	43	PKiKP	PKiKP	23 33 07.7	+0.6		
	baz=128								
WVT	Waverly	128.29	32	ePKIKP	PKPdf	23 33 06.1	-0.2		
WVT	Waverly	128.29	32	ePKPdf	PKPdf	23 33 06.1	-0.2		
440A	Kirbyville	128.39	42	PKiKP	PKiKP	23 33 07.3	0.0		
	baz=128								
TRY	Troy	128.39	16	ePKPpre	PKPpre	23 32 59.3			
TRY				ePKPdf	PKPdf	23 33 06.0	-0.3		
H07S1	FLORES T-PHASE	128.41	335	ePKPdf	PKPdf	23 33 06.3	-0.2		
H07S1	FLORES T-PHASE	128.41	335	ePP	PP	23 35 23.0	+2.5		
H07S1				eP	x	23 42 55.2			
H07S1				eSS	SS	23 51 53.7	+5.5		
738A	Farr-Stevens R	128.42	45	PKiKP	PKPdf	23 33 06.6	-0.2		
	baz=128								
540A	Vidor	128.72	42	PKiKP	PKiKP	23 33 08.2	+0.2		
	baz=129								
SSPA	Standing Stone	128.97	21	ePKPpre	PKPpre	23 32 56.1			
SSPA				ePKPdf	PKPdf	23 33 07.7	+0.3		
HRV	Adam Dziewonsk	129.14	14	ePKHKP	P

CAHU	**Cacacuatique**	**142.64**	**57**	*e*P		**PKPdf**	**23 33 31.2**	**-2.4**
VSM	**San Miguel**	**142.77**	**57**	*e*P		**PKPdf**	**23 33 31.6**	**-2.3**
CNCH	**Conchagua**	**143.21**	**57**	*e*P		PKPab	23 33 32.7	-0.1
CNGN	**Cerro Negro**	**144.56**	**57**	*e*P		**PKPdf**	**23 33 36.1**	**-0.6**
COPN	**Copaltepe**	**144.81**	**58**	*e*P		PKPbc	23 33 37.5	-0.4
PAYG	**Puerto Ayora**	**145.94**	**81**	*e*PKPbc		**PKPbc**	**23 33 40.8**	**-0.4**
U14B	**Concepcin**	**146.49**	**156**	*e*PKPdf		**PKPdf**	**23 33 38.9**	**-0.4**
U14B				*e*PKPbc		**PKPbc**	**23 33 42.4**	**+0.4**
U14B				*e*PKPab		**PKPab**	**23 33 45.2**	**+0.4**
JTS	**JuntasAbangare**	**147.15**	**59**	*e*PKIKP		**PKPdf**	**23 33 40.9**	**-0.2**
JTS	**JuntasAbangare**	**147.15**	**59**	*e*PKPdf		**PKPdf**	**23 33 40.9**	**-0.2**
MBJ	**Montego Bay**	**147.42**	**40**	*i* P		**PKPbc**	**23 33 45.4**	**+0.4**
MBJ				*i* P		**PKiKP**	**23 33 45.6**	**-0.9**
CVJ	**Coleyville**	**147.76**	**39**	*i* P		**PKPbc**	**23 33 46.0**	**0.0**
MTDJ	**Mount Denham**	**147.76**	**39**	*e*PKPdf		**PKPdf**	**23 33 41.6**	**-0.5**
BBJ	**Bamboo Saint A**	**147.81**	**39**	*i* PA			23 33 43.1	
GTBY	**Guantanamo Bay**	**147.88**	**34**	*e*PKPdf		**PKPdf**	**23 33 42.2**	**+0.1**
GTBY				*e*PKPdf		**PKPbc**	**23 33 42.9**	**-3.2**
MCJ	**Malvern**	**147.89**	**40**	*i* P		**PKPbc**	**23 33 46.2**	**-0.1**
LNCH	**Linares**	**147.96**	**157**	*i* P		**PKPbc**	**23 33 46.6**	**+0.8**
BNJ	**Bonny Gate**	**148.06**	**38**	*i* P		**PKPbc**	**23 33 47.0**	**+0.5**
STH	**Stony Hill**	**148.33**	**39**	*i* P		**PKPbc**	**23 33 47.1**	**-0.2**
TALC	**Talca**	**148.34**	**156**	*e*P		**PKPbc**	**23 33 47.2**	**+0.5**
PCJ	**Portland Cotta**	**148.36**	**39**	*i* P		**PKPbc**	**23 33 46.6**	**-0.7**
GWJ	**Greenwich**	**148.38**	**38**	*i* P		**PKPbc**	**23 33 47.6**	**+0.1**
HOJ	**Hope**	**148.42**	**39**	*i* PA			23 33 47.3	
TRQA	**Tornquist**	**148.46**	**172**	*e*PKPdf		**PKPdf**	**23 33 42.2**	**-0.4**
TRQA				*e*PKPbc		**PKPbc**	**23 33 46.9**	**-0.1**
GRTK	**Grand Turk**	**148.54**	**26**	*e*PKPdf		**PKPdf**	**23 33 42.9**	**-0.2**
GRTK				*e*PKPbc		**PKPbc**	**23 33 47.5**	**-0.2**
CMJ	**Castle Mountai**	**148.55**	**38**	*i* P		**PKPbc**	**23 33 48.7**	**+0.9**
U65B	**HualaæØ**	**148.65**	**156**	*e*PKPdf		**PKPdf**	**23 33 42.8**	**-0.2**
U65B				*e*PKPbc		**PKPbc**	**23 33 47.3**	**-0.3**
U65B				*e*PKPab		**PKPab**	**23 33 53.2**	**-0.5**
YHJ	**Yallahs**	**148.66**	**38**	*i* P		**PKPbc**	**23 33 47.9**	**-0.3**
U73B	**San Pedro**	**149.71**	**155**	*e*PKPdf		**PKPdf**	**23 33 44.4**	**-0.2**
U73B				*e*PKPbc		**PKPbc**	**23 33 50.2**	**+0.1**
U73B				*e*PKPab		**PKPab**	**23 33 57.5**	**-0.7**
WSYH	**La Gonave Hosp**	**149.99**	**32**	*e*PKPdf		**PKPdf**	**23 33 46.5**	**+1.0**
LGNH	**LØogne**	**150.39**	**32**	*e*PKPdf		**PKPdf**	**23 33 45.9**	**-0.2**
CLCH	**Cerro Calan**	**150.52**	**156**	⇓*i*P		**PKPbc**	**23 33 52.5**	**+0.3**
PAPH	**Port-au-Prince**	**150.54**	**31**	*e*PKPdf		**PKPdf**	**23 33 46.9**	**+0.5**
SDDR	**Presa de Saban**	**150.66**	**29**	*e*PKPdf		**PKPdf**	**23 33 46.2**	**-0.4**
PEL	**Peldehue**	**150.68**	**155**	⇑*i*P		**PKPbc**	**23 33 52.9**	**+0.4**
SMN1	**Samana, DR**	**151.40**	**26**	*e*PKPdf		**PKPdf**	**23 33 48.0**	**+0.3**
SDD	**Santo Domingo**	**151.76**	**27**	*e*PKPdf		**PKPdf**	**23 33 49.1**	**+0.9**
BCIP	**Isla Barro Col**	**152.03**	**56**	*e*PKPdf		**PKPdf**	**23 33 47.7**	**-1.0**
AGPR	**Aguadilla, PR**	**152.92**	**22**	*e*PKPdf		**PKPdf**	**23 33 49.5**	**-0.4**
AGPR				*e*PKPbc		**PKPbc**	**23 33 57.6**	**-0.1**
AGP	**Aguadilla**	**152.96**	**22**	*e*PKPdf		**PKPdf**	**23 33 48.9**	**-1.1**
CFAA	**Coronel Fontan**	**153.00**	**158**	PKP		**PKPdf**	**23 33 49.7**	**0.0**
	comp=Z,20nm,0.9s,baz=228,slow=1.7,SNR=129							
CFAA				PKPbc		**PKiKP**	**23 33 57.7**	**0.0**
	comp=Z,43nm,0.6s,baz=223,slow=3.1,SNR=48							
CFAA				SKP			23 36 23.7	
	comp=Z,21nm,0.9s,baz=199,slow=3.8,SNR=3.4							
MPR	**Mayaguez**	**153.14**	**22**	*e*PKPdf		**PKPdf**	**23 33 49.3**	**-0.8**
AOPR	**Arecibo Observ**	**153.16**	**22**	*e*PKPdf		**PKPdf**	**23 33 49.1**	**-1.2**
LSP	**Las Mesas**	**153.19**	**22**	*e*PKPdf		**PKPdf**	**23 33 49.6**	**-0.7**
CRPR	**Cabo Rojo, PR**	**153.34**	**23**	*e*PKPdf		**PKPdf**	**23 33 49.3**	**-1.1**
CELP	**Cerrillos**	**153.47**	**21**	*e*PKPdf		**PKPdf**	**23 33 49.6**	**-1.1**
OBIP	**Obispado Ponce**	**153.49**	**22**	*e*PKPdf		**PKPdf**	**23 33 49.8**	**-0.9**
SJG	**San Juan**	**153.59**	**21**	PKP		**PKPdf**	**23 33 50.2**	**-0.6**
	comp=Z,154nm,0.7s,baz=30,slow=2.2,SNR=18							
SJG				PKPbc		**PKiKP**	**23 33 59.5**	**+0.3**
	comp=Z,242nm,0.6s,baz=330,slow=1.6,SNR=18							
SJG	**San Juan**	**153.59**	**21**	*e*PKPdf		**PKPdf**	**23 33 49.7**	**-1.1**
SJG				PKPbc		**PKiKP**	**23 33 59.5**	**+0.3**
ICMP	**Isla Caja de M**	**153.67**	**22**	*e*PKPdf		**PKPdf**	**23 33 50.3**	**-0.6**
STVI	**Saint Thomas**	**153.76**	**18**	*e*PKPdf		**PKPdf**	**23 33 50.2**	**-0.8**
LCO	**Las Campanas**	**154.19**	**151**	*e*PKPdf		**PKPdf**	**23 33 51.6**	**-0.1**
CDVI	**St. Croix**	**154.38**	**18**	*e*PKPdf		**PKPdf**	**23 33 51.5**	**-0.4**
SMRT	**St. Maarten**	**154.57**	**14**	*e*PKPdf		**PKPdf**	**23 33 51.3**	**-0.9**
SMRT				*e*PKPab		**PKPab**	**23 34 18.6**	**-0.5**
SEUS	**St. Eustatius**	**155.13**	**14**	*e*PKPdf		**PKPdf**	**23 33 52.2**	**-0.7**
SEUS				*e*PKPdf		**PKPdf**	**23 33 56.4**	**+3.4**
SEUS				*e*PKPab		**PKPab**	**23 34 21.0**	**-0.5**
ANWB	**Willy Bob**	**155.23**	**12**	*e*P		**PKPdf**	**23 33 52.4**	**-0.6**
ANWB	**Willy Bob**	**155.23**	**12**	*e*PKPdf		**PKPdf**	**23 33 52.4**	**-0.6**
ANWB				*e*PKPab		**PKPab**	**23 34 21.7**	**-0.2**
SKI	**Saint Kitts**	**155.34**	**14**	*e*P		**PKPdf**	**23 33 52.8**	**-0.5**
SEG	**Port Louis**	**156.51**	**12**	*e*P		**PKPdf**	**23 33 54.5**	**-0.3**
MLG	**Mont-d'or**	**156.80**	**12**	*e*P		**PKPdf**	**23 33 54.8**	**-0.4**
SCG	**Saint Claude**	**156.84**	**12**	*e*P		**PKPdf**	**23 33 55.1**	**-0.2**
OTAV	**Otavalo**	**157.19**	**73**	*e*PKPdf		**PKPdf**	**23 33 56.1**	**-0.3**
BBL	**Barber's Block**	**157.37**	**12**	*e*P		**PKPdf**	**23 33 55.5**	**-0.4**
MDN	**Morne-Daniel**	**157.59**	**12**	*e*P		**PKPdf**	**23 33 56.3**	**+0.2**
MDN	**Morne-Daniel**	**157.59**	**12**	*e*		**PKPab**	**23 34 35.6**	**+3.4**
DBCT	**Belle View Cho**	**157.65**	**12**	*e*P		**PKPdf**	**23 33 57.4**	**+1.2**
DBCT	**Belle View Cho**	**157.65**	**12**	*e*		**PKPab**	**23 34 37.0**	**+4.6**
DSTT	**Stowe**	**157.68**	**12**	*e*P		**PKPdf**	**23 33 57.6**	**+1.4**
DSTT	**Stowe**	**157.68**	**12**	*e*		**PKPab**	**23 34 37.5**	**+5.0**
DSHT	**Scott's Head**	**157.70**	**12**	*e*P		**PKPdf**	**23 33 57.7**	**+1.5**
DSHT	**Scott's Head**	**157.70**	**12**	*e*		**PKPab**	**23 34 36.8**	**+4.1**
FDF	**Fort de France**	**158.21**	**12**	*e*P		**PKPdf**	**23 33 57.0**	**0.0**
FDF	**Fort de France**	**158.21**	**12**	*e*P		**PKPdf**	**23 33 57.5**	**+0.5**
FDF	**Fort de France**	**158.21**	**12**	*e*PKIKP		**PKPdf**	**23 33 56.3**	**-0.6**
FDF				*e*			23 34 34.7	
FDF	**Fort de France**	**158.21**	**12**	*e*PKPdf		**PKPdf**	**23 33 56.3**	**-0.6**
FDF				*e*PKPab		**PKPab**	**23 34 34.7**	**-0.2**
ATAH	**Atahualpa**	**158.43**	**92**	PKP		**PKPdf**	**23 33 57.6**	**-0.1**
	comp=Z,693nm,1.0s,baz=287,slow=1.3,SNR=90							
BIM	**Bigot**	**158.44**	**12**	*e*P		**PKPdf**	**23 33 57.8**	**+0.6**
ROSC	**El Rosal**	**158.94**	**57**	PKP		**PKPdf**	**23 33 58.4**	**0.0**
	comp=Z,276nm,0.8s,baz=111,slow=2.7,SNR=40							
ROSC	**El Rosal**	**158.94**	**57**	*e*PKPdf		**PKPdf**	**23 33 57.8**	**-0.6**
SDV	**Santo Domingo**	**159.15**	**42**	*e*PKPdf		**PKPdf**	**23 33 57.6**	**-0.6**
RCBR	**Riachuelo**	**159.33**	**271**	PKP		**PKPdf**	**23 33 58.6**	**+0.3**
	comp=Z,530nm,0.8s,baz=38,slow=1.8,SNR=43							
RCBR				PKPab		**PKPab**	**23 34 40.7**	**+0.3**
	comp=Z,620nm,1.1s,baz=73,slow=7.0,SNR=6.4							
RCBR	**Riachuelo**	**159.33**	**271**	*e*PKPdf		**PKPdf**	**23 33 58.3**	**0.0**
RCBR				*e*PKPab		**PKPab**	**23 34 39.0**	**-1.4**
NNA	**Nana**	**159.43**	**106**	PKP		**PKPdf**	**23 33 57.9**	**-0.5**
	comp=Z,174nm,0.9s,baz=287,slow=3.4,SNR=29							
NNA				PKPab		**PKPab**	**23 34 41.8**	**+1.0**
	comp=Z,246nm,0.9s,baz=280,slow=7.9,SNR=3.6							
NNA	**Nana**	**159.43**	**106**	PKIKP		**PKPdf**	**23 33 57.9**	**-0.5**
NNA							23 34 41.8	
NNA				pmax	pmax			
	comp=Z,174nm,0.9s							
NNA				pmax	pmax			
	comp=Z,246nm,0.9s							
NNA	**Nana**	**159.43**	**106**	*e*PKPdf		**PKPdf**	**23 33 58.3**	**-0.1**
NNA				*e*PKPab		**PKPab**	**23 34 41.9**	**+1.1**
BBGH	**Gun Hill**	**160.04**	**8**	*e*PKPdf		**PKPdf**	**23 33 58.1**	**-0.9**
LVC	**Limon Verde**	**160.30**	**144**	PKP		**PKPdf**	**23 34 00.6**	**+1.2**
	comp=Z,261nm,0.9s,baz=270,slow=2.2,SNR=30							
LVC				PKPab		**PKPab**	**23 34 44.6**	**+0.3**
	comp=Z,675nm,0.8s,baz=236,slow=3.6,SNR=5.9							
LVC	**Limon Verde**	**160.30**	**144**	*e*PKPdf		**PKPdf**	**23 34 00.1**	**+0.7**
LVC				PKPab		**PKPab**	**23 34 44.6**	**+0.3**
CPUP	**Villa Florida**	**160.51**	**178**	PKP		**PKPdf**	**23 33 59.0**	**-0.1**
	comp=Z,209nm,0.9s,baz=182,slow=0.6,SNR=122							
CPUP	**Villa Florida**	**160.51**	**178**	PKIKP		**PKPdf**	**23 33 59.1**	**-0.1**
CPUP				pmax	pmax			
	comp=Z,209nm,0.9s							
CPUP	**Villa Florida**	**160.51**	**178**	*e*PKPdf		**PKPdf**	**23 33 59.0**	**-0.1**
CPUP				*e*PKPab		**PKPab**	**23 34 46.4**	**+1.7**
GRGR	**Grenville**	**160.61**	**15**	*e*PKPdf		**PKPdf**	**23 33 58.0**	**-1.6**
GRGR				*e*PKPab		**PKPab**	**23 34 44.6**	**-0.8**
PCRV	**Puerto La Cruz**	**161.42**	**25**	PKP		**PKPdf**	**23 33 58.9**	**-1.6**
	comp=Z,159nm,1.0s,baz=315,slow=1.4							
TRN	**Trinidad (W)**	**162.10**	**15**	*e*P		**PKPdf**	**23 34 02.1**	**+1.0**
TRN	**Trinidad (W)**	**162.10**	**15**	*e*		**PKPab**	**23 34 51.1**	**-0.9**
TBH	**Brigand Hill**	**162.34**	**14**	*e*P		**PKPdf**	**23 34 03.1**	**+1.7**
TBH	**Brigand Hill**	**162.34**	**14**	*e*		**PKPab**	**23 34 54.5**	**+1.4**
TPP	**Pointe-a-Pierr**	**162.40**	**16**	*e*P		**PKPdf**	**23 34 03.0**	**+1.5**
TPP	**Pointe-a-Pierr**	**162.40**	**16**	*e*		**PKPab**	**23 34 53.4**	**+0.1**
TPP	**Pointe-a-Pierr**	**162.40**	**16**	*e*		PP	23 38 50.6	+12
LPAZ	**La Paz**	**165.31**	**131**	PKP		**PKPdf**	**23 34 04.5**	**-0.2**
	comp=Z,288nm,1.0s,baz=21,slow=0.7,SNR=217							
LPAZ				PKPab		**PKPab**	**23 35 06.9**	**-0.2**
	comp=Z,166nm,0.7s,baz=212,slow=2.0,SNR=3.0							
LPAZ	**La Paz**	**165.31**	**131**	*e*PKIKP		**PKPdf**	**23 34 04.6**	**-0.2**
LPAZ				*e*			23 35 05.2	
LPAZ	**La Paz**	**165.31**	**131**	*e*PKPdf		**PKPdf**	**23 34 04.6**	**-0.2**
LPAZ				*e*PKPab		**PKPab**	**23 35 05.2**	**-1.9**
BDFB	**Brasilia**	**167.74**	**223**	PKP		**PKPdf**	**23 34 05.5**	**-0.4**
	comp=Z,225nm,1.0s,baz=100,slow=0.9,SNR=40							
BDFB				PKPab		**PKPab**	**23 35 17.2**	**0.0**
	comp=Z,325nm,0.9s,baz=101,slow=3.9,SNR=7.3							
BDFB	**Brasilia**	**167.74**	**223**	PKIKP		**PKPdf**	**23 34 05.5**	**-0.4**
BDFB							23 35 17.2	
BDFB				pmax	pmax			
	comp=Z,225nm,1.0s							
BDFB				pmax	pmax			
	comp=Z,325nm,1.0s							
BDFB	**Brasilia**	**167.74**	**223**	*e*PKPdf		**PKPdf**	**23 34 04.8**	**-1.1**
BDFB				*e*PKPab		**PKPab**	**23 35 16.5**	**-0.7**
SIV	**San Ignacio**	**169.85**	**155**	PKP		**PKPdf**	**23 34 07.3**	**+0.1**
	comp=Z,122nm,0.9s,baz=207,slow=1.3,SNR=88							
PTGA	**Pitinga**	**173.19**	**29**	PKP		**PKPdf**	**23 34 08.3**	**-0.6**
	comp=Z,157nm,0.8s,baz=342,slow=0.8,SNR=73							
PTGA				PKPab		**PKPab**	**23 35 41.0**	**-0.1**
	comp=Z,217nm,0.8s,baz=332,slow=8.3,SNR=12							
PTGA	**Pitinga**	**173.19**	**29**	*e*PKPdf		**PKPdf**	**23 34 07.9**	**-1.0**
PTGA				*e*PKPab		**PKPab**	**23 35 40.5**	**-0.6**
SAML	**Samuel**	**173.19**	**109**	*e*PKPdf		**PKPdf**	**23 34 08.0**	**-0.8**
SAML				*e*PKPab		**PKPab**	**23 35 42.7**	**+1.2**

PRU 23 23:26:53.8,51.40N×16.20E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
UPC	**Upice**	**0.90**	**188**	*e*PG	Pg	23	27 10.5	-0.6
UPC				*e*SG	Sg	23	27 22.8	0.0
DPC	**Dobruska-Polom**	**1.05**	**176**	*e*PG	Pg	23	27 13.4	-0.7
DPC				*e*SG	Sg	23	27 27.2	-0.6
PVCC	**Panska Ves**	**1.35**	**230**	*e*PG	Pg	23	27 19.0	-0.7

*ISCJB **23** 23:35:16.8±0.6, 6.85N±0.09×123.9E±0.2, h600km, mb4.2/10, Error ellipse: s-maj=20.8km s-min=11.2km az=165.5*
*IDC **23** 23:35:19.4±2.1, 6.83N×123.95E, h621km±36km, mb3.5/10, mb1 3.6/11, mb1mx3.3/53, mbtmp4.6/11, Error ellipse: s-maj=21.8km s-min=10.3km az=81.0*
ISC 23 23:35:18.2±0.7, 6.84N±0.10×123.9E±0.2, h600km, n12, σ0s86/12, mb4.3/10, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
SIJI	**Sorong**	**10.65**	**136**	P	**P**	**23**	**37 44.7**	**+1.1**
	3.4nm,0.3s,baz=321,slow=9.3,SNR=5.9							
JCJ	**Chichijima**	**26.64**	**39**	P	**P**	**23**	**40 09.8**	**-1.1**
	40nm,0.6s,baz=167,slow=24,SNR=12							
CMAR	**Chiang Mai Arr**	**26.86**	**298**	P	**P**	**23**	**40 13.6**	**+0.7**
	3.1nm,0.6s,baz=104,slow=5.2,SNR=5.2							
WRA	**Warramunga Arr**	**28.54**	**159**	P	**P**	**23**	**40 26.8**	**-0.8**
	9.3nm,0.6s,baz=337,slow=10,SNR=68							
ASAR	**Alice Springs**	**31.87**	**162**	P	**P**	**23**	**40 56.0**	**0.0**
	4.8nm,0.3s,baz=338,slow=7.6,SNR=49							
MJAR	**Matsushiro Arr**	**32.35**	**22**	P	**P**	**23**	**40 59.6**	**-0.3**
	6.9nm,1.0s,baz=198,slow=8.7,SNR=5.8							
USRK	**Usuriysk Ar.**	**37.89**	**10**	P	**P**	**23**	**41 46.4**	**+0.8**
	4.0nm,0.7s,baz=192,slow=7.6,SNR=4.8							
NWAO	**Narrogin (SRO)**	**40.04**	**189**	P	**P**	**23**	**42 02.5**	**-0.5**
	12nm,0.6s,baz=334,slow=1.3,SNR=7.4							
STKA	**Stephens Creek**	**42.06**	**157**	P	**P**	**23**	**42 19.2**	**+0.3**
	8.3nm,0.8s,baz=336,slow=5.5,SNR=8.4							
MKAR	**Makanchi Array**	**53.38**	**325**	P	**P**	**23**	**43 43.4**	**+0.4**
	0.8nm,0.3s,baz=121,slow=6.1,SNR=11							
KURBB	**Kurchatov Arra**	**57.59**	**328**	P	**P**	**23**	**44 12.1**	**+0.1**
	1.3nm,0.7s,baz=1.5,slow=2.4,SNR=6.8							
TORD	**Torodi Ar. Bea**	**119.21**	**289**	PKP	**PKPdf**	**23**	**52 59.8**	**-1.4**
	8.1nm,1.2s,baz=44,slow=2.1,SNR=5.4							

IDC 23 23:36:01.9±1.5, 6.44N×121.84E, h0km, mb4.4/4, mb1 4.6/4, mb1mx4.0/55, mbtmp4.4/4, Error ellipse: s-maj=207.6km s-min=21.1km az=63.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
WRA	**Warramunga Arr**	**28.96**	**155**	P	P	23	42 02.9	-0.4
	3.4nm,0.5s,baz=332,slow=11,SNR=8.7							
ASAR	**Alice Springs**	**32.16**	**159**	P	P	23	42 32.0	+0.4
	2.2nm,0.3s,baz=340,slow=7.4,SNR=9.4							
MKAR	**Makanchi Array**	**52.59**	**327**	P	P	23	45 18.6	+1.0
	1.6nm,0.4s,baz=121,slow=9.1,SNR=3.1							
KURBB	**Kurchatov Arra**	**56.87**	**329**	P	P	23	45 47.4	-1.1
	1.7nm,0.5s,baz=126,slow=7.4,SNR=3.0							

*ISCJB **23** 23:36:25.0±0.7, 6.6N±0.1×123.7E±0.2, h600km, mb4.2/8, Error ellipse: s-maj=25.5km s-min=11.4km az=159.9*
*IDC **23** 23:36:27.3±2.7, 6.61N×123.83E, h612km±44km, mb3.4/8, mb1 3.6/10, mb1mx3.2/57, mbtmp4.6/10, Error ellipse: s-maj=30.6km s-min=11.6km az=80.0*
ISC 23 23:36:26.3±0.8, 6.6N±0.1×123.8E±0.2, h600km, n12, σ0s81/12, mb4.2/8, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
CTBH	**Cotabato--PC H**	**0.75**	**37**	⇓*i*P	**P**	**23**	**37 35.5**	**-1.5**
SIJI	**Sorong**	**10.54**	**135**	P	**P**	**23**	**38 50.5**	**0.0**
	5.3nm,0.3s,baz=332,slow=12,SNR=7.3							
JAY	**Jayapura**	**19.17**	**118**	P	**P**	**23**	**40 12.7**	**-0.1**
	3.0nm,0.3s,baz=3.0,slow=5.0,SNR=3.7							
WRA	**Warramunga Arr**	**28.37**	**159**	P	**P**	**23**	**41 33.6**	**-0.5**
	4.4nm,0.5s,baz=340,slow=9.2,SNR=6.4							
KSRS	**Korea Array**	**30.92**	**6**	P	**P**	**23**	**41 56.6**	**+0.9**
	7.8nm,1.1s,baz=4.3,slow=2.4,SNR=5.1							
ASAR	**Alice Springs**	**31.68**	**162**	P	**P**	**23**	**42 03.1**	**+0.6**
	1.8nm,0.3s,baz=338,slow=7.7,SNR=7.5							
MJAR	**Matsushiro Arr**	**32.57**	**22**	P	**P**	**23**	**42 09.5**	**-0.3**
	1.8nm,0.8s,baz=203,slow=9.1,SNR=3.0							
CTA	**Charters Tower**	**34.54**	**141**	P	**P**	**23**	**42 27.5**	**+1.0**
	4.4nm,0.5s,baz=314,slow=11,SNR=5.2							
NWAO	**Narrogin (SRO)**	**39.82**	**189**	P	**P**	**23**	**43 09.2**	**-0.1**
	13nm,0.6s,baz=326,slow=4.9,SNR=12							
MKAR	**Makanchi Array**	**53.53**	**326**	P	**P**	**23**	**44 52.8**	**+0.7**
	6.0nm,0.5s,baz=119,slow=8.1,SNR=16							
KURBB	**Kurchatov Arra**	**57.74**	**328**	P	**P**	**23**	**45 21.4**	**+0.3**
	5.7nm,0.6s,baz=130,slow=7.3,SNR=14							
TORD	**Torodi Ar. Bea**	**119.23**	**289**	PKP	**PKPdf**	**23**	**54 08.4**	**-0.8**
	11nm,1.1s,baz=72,slow=0.8,SNR=9.5							

*IDC **23** 23:48:44.6±6.0, 6.70N×123.75E, h621km±92km, mb3.4/8, mb1 3.5/8, mb1mx3.1/67, mbtmp4.5/8, Error ellipse: s-maj=51.5km s-min=14.3km az=54.0*
*KLM **23** 23:48:47.5, 6.21N×122.84E, h644km, mb4.7, ML4.2, MS5.9*
ISC 23 23:48:43.0±0.9, 6.7N±0.1×123.5E±0.1, h600km, n18, σ2s65/17, mb4.2/10, 5C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
MYLDM	**Lahad Datu**	**5.18**	**254**	⇑P	P	23	50 20.7	+3.4
TSM	**Tawau**	**6.07**	**248**	⇓P	**P**	**23**	**50 26.5**	**+1.7**
SDKM	**Sandakan**	**6.34**	**261**	⇓P	**P**	**23**	**50 28.7**	**+1.5**
KKM	**Kota Kinabalu**	**7.26**	**266**	⇓P	**P**	**23**	**50 36.9**	**+1.3**
SBUM	**Sibu**	**11.99**	**250**	⇑P	**P**	**23**	**51 21.9**	**+0.2**
KSM	**Kuching**	**14.12**	**249**	⇑P	**P**	**23**	**51 40.5**	**-2.6**
MYKOM	**Kota Tinggi**	**20.17**	**257**	⇑P	**P**	**23**	**52 34.0**	**-4.5**
KGM	**Kluang**	**20.64**	**258**	⇑P	**P**	**23**	**52 38.3**	**-4.3**
UTTA	**Uttaradit**	**24.95**	**298**	P	**P**	**23**	**53 25.4**	**+4.5**
	5.8nm,1.1s							
LAMP	**Lampang**	**26.07**	**299**	P	**P**	**23**	**53 27.1**	**-3.6**
	8.6nm,1.3s							
CMAR	**Chiang Mai Arr**	**26.64**	**298**	P	**P**	**23**	**53 38.5**	**+2.7**
	2.0nm,0.7s,baz=118,slow=7.0,SNR=5.5							
WRA	**Warramunga Arr**	**28.50**	**159**	P	**P**	**23**	**53 51.5**	**-0.5**
	5.5nm,0.5s,baz=330,slow=11,SNR=10							
ASAR	**Alice Springs**	**31.80**	**162**	P	**P**	**23**	**54 20.6**	**+0.4**
	5.0nm,0.4s,baz=340,slow=7.0,SNR=30							
NWAO	**Narrogin (SRO)**	**39.81**	**188**	P	**P**	**23**	**55 27.2**	**+1.3**
	12nm,0.7s,baz=332,slow=3.5,SNR=6.3							
MKAR	**Makanchi Array**	**53.34**	**326**	P	**P**	**23**	**57 08.2**	**+0.8**
	1.6nm,0.4s,baz=121,slow=6.6,SNR=13							
KURBB	**Kurchatov Arra**	**57.56**	**328**	P	**P**	**23**	**57 37.0**	**+0.4**
	2.2nm,0.9s,baz=131,slow=6.4,SNR=7.2							
KDAK	**Kodiak Island**	**81.17**	**33**	P	**P**	**23**	**59 56.4**	**-0.6**
	11nm,0.8s,baz=345,slow=8.5,SNR=4.4							
ILAR	**Eielson Array**	**83.87**	**26**	P	**P**	**00**	**00 09.0**	**-1.4**
	0.8nm,0.9s,baz=281,slow=5.5,SNR=5.1							

*DJA **23** 23:49:32.7±1.8, 7.7N±21.7×12.7E±5.7, h595km±5km, M5.2/26, mb5.0/26, MLv5.3/7*
*MAN **23** 23:49:34, 6.72N×123.52E, h605km, mb4.9, ML3.8, MS3.9*
*ISCJB **23** 23:49:35.7±0.2, 6.63N±0.02×123.63E±0.04, h600km, mb4.6/70, Error ellipse: s-maj=5.7km s-min=3.0km az=165.2*
*NEIC **23** 23:49:36.5±0.4, 6.59N×123.61E, h596km±5km, mb4.7/42, Error ellipse: s-maj=6.0km s-min=4.0km az=71.0*
*IDC **23** 23:49:37.1±0.8, 6.60N×123.63E, h601km±11km, mb3.9/37, mb1 4.0/40, mb1mx3.8/70, mbtmp4.9/40, Error ellipse: s-maj=11.5km s-min=6.6km az=69.0*
ISC 23 23:49:36.8±0.3, 6.62N±0.05×123.64E±0.07, h600km, n175, σ1s00/183, mb4.6/69, 12C-15D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
CTBH	**Cotabato--PC H**	**0.85**	**45**	⇓*i*P	**P**	**23**	**50 46.6**	**-1.1**
TBP	**Tagbilaran**	**3.06**	**4**	*e*P	**P**	**23**	**50 54.3**	**-2.1**
TBP				*e*S	**S**	**23**	**51 56.8**	**-4.4**
SGSI	**Sangihe**	**3.47**	**147**	P	**P**	**23**	**50 56.3**	**-2.5**
PPR	**Puerto Princes**	**5.78**	**303**	*e*P	**P**	**23**	**51 16.1**	**-0.1**
KMSI	**Cibinong**	**6.01**	**177**	P	**P**	**23**	**51 18.3**	**+0.2**
	373nm,0.8s,2.1nm							
MRSI	**Marisa**	**6.33**	**196**	P	**P**	**23**	**51 20.5**	**-0.4**
	84nm,0.9s,0.5nm							
TNTI	**Ternate**	**6.89**	**147**	P	**P**	**23**	**51 23.9**	**-2.1**
	379nm,0.7s,3.2nm							
TNTI	**Ternate**	**6.89**	**147**

KMBL **Kambalda** 37.80 182 ⇑P P 23 56 03.7 +0.1
baz=38,SNR=56
USRK **Ussuriysk Ar.** 38.15 10 P P 23 56 07.0 +0.7
comp=Z,3.5nm,0.4s,baz=193,slow=7.3,SNR=17
USRK PcP PcP 23 58 04.8 -0.1
comp=Z,1.9nm,0.5s,baz=21,slow=2.7,SNR=4.7
LSA **Lhasa** 38.23 311 *e*P P 23 56 09.4 +1.6
comp=Z,19nm,0.6s
KLBR **Kellerberrin** 38.40 188 P P 23 56 08.3 -0.2
baz=38,SNR=39
QLP **Quilpie** 38.58 150 ⇑P P 23 56 10.4 +0.5
baz=39,SNR=5.5
ERM **Erimo** 39.28 23 *e*P P 23 56 16.4 +1.0
comp=Z,30nm,0.9s
NWAO **Narrogin (SRO)** 39.79 188 P P 23 56 19.5 -0.1
comp=Z,23nm,0.5s,baz=330,slow=4.2,SNR=26
NWAO **Narrogin (SRO)** 39.79 188 ⇓P P 23 56 19.9 +0.3
baz=40,SNR=10
NWAO ⇓P P 23 56 19.9 +0.3
baz=40,SNR=10
ASAJ **Asahikawa** 40.88 21 *e*P P 23 56 29.0 +0.9
comp=Z,9.3nm,0.7s
BBOO **Buckleboo** 40.95 164 P P 23 56 29.2 +0.4
baz=41,SNR=91
RKGY **Rocky Gully** 41.48 188 P P 23 56 33.9 +1.0
baz=42,SNR=16
EIDS **Eidsvold** 41.51 141 P P 23 56 33.6 +0.2
baz=42,SNR=4.8
STKA **Stephens Creek** 41.94 157 P P 23 56 37.2 +0.7
comp=Z,40nm,0.5s,baz=340,slow=7.6,SNR=47
STKA ScP ScP 00 01 11.7 0.0
comp=Z,6.9nm,0.7s,baz=334,slow=2.8,SNR=5.3
HTT **Hallett** 42.39 161 P P 23 56 41.0 +0.9
baz=42,SNR=14
CMSA **Cobar Meteorol** 43.40 152 P P 23 56 49.3 +1.4
baz=44,SNR=21
ULN **Ulaanbaatar** 43.47 344 *e*P P 23 56 49.0 +0.5
comp=Z,14nm,0.5s
SONM **Songino Array** 43.63 343 P P 23 56 50.6 +0.9
comp=Z,11nm,0.6s,baz=163,slow=8.0,SNR=22
SONM PcP PcP 23 58 23.6 +0.3
comp=Z,6.1nm,1.0s,baz=181,slow=2.0,SNR=5.1
ARMA **Armidale** 45.56 145 ⇑P P 23 57 06.4 +1.6
baz=46,SNR=8.2
ARPS **Mount Arapiles** 46.40 160 ⇓P P 23 57 11.3 +0.5
baz=47,SNR=33
MGCD **Mangrove Creek** 47.43 148 ⇓P P 23 57 20.6 +2.0
baz=48
TLY **Talaya** 47.87 343 P P 23 57 22.0 +0.4
comp=Z,19nm,0.6s,baz=196,slow=16,SNR=15
CAN **Canberra** 48.07 152 ⇑P P 23 57 25.0 +1.6
baz=48
CNB **Canberra Magne** 48.24 152 ⇑P P 23 57 26.0 +1.3
baz=48,SNR=9.8
TOO **Toolangi** 48.46 157 P P 23 57 27.7 +1.5
baz=49,SNR=5.3
MILA **Mila** 49.57 153 ⇓P P 23 57 35.5 +1.1
baz=50
MK31 **Makanchi Array** 53.45 326 *e*P P 23 58 02.7 +0.7
MKAR **Makanchi Array** 53.45 326 P P 23 58 03.0 +1.0
comp=Z,37nm,0.5s,baz=120,slow=8.0,SNR=205
MKAR PcP PcP 23 58 59.1 -0.2
comp=Z,7.1nm,0.6s,baz=122,slow=3.9,SNR=5.6
MKAR **Makanchi Array** 53.45 326 P P 23 58 03.1 +1.0
baz=54
PEA0B **Petropavlovsk-** 54.02 25 *e*P P 23 58 07.0 +1.1
PETK **Petropavlovsk-** 54.02 25 P P 23 58 06.9 +0.9
comp=Z,15nm,0.8s,baz=181,slow=5.1,SNR=18
PET **Petropavlovsk** 54.36 25 *e*P P 23 58 08.8 +0.6
comp=Z,12nm,0.4s
YAK **Yakutsk** 55.48 3 *e*P P 23 58 16.0 +0.1
comp=Z,49nm,0.7s
TKM2 **Tokmak 2** 55.56 319 *e*P P 23 58 17.8 +0.7
comp=Z,19nm,0.5s
ZAB3 **Zalesovo Array** 56.63 334 P P 23 58 23.9 -0.1
baz=57
ZALV **Zalesovo Beam** 56.64 334 P P 23 58 23.7 -0.4
comp=Z,4.9nm,0.4s,baz=127,slow=6.3,SNR=14
ZAA1 **Zalesovo Array** 56.65 334 ⇑P P 23 58 23.9 -0.1
baz=57
ZAB1 **Zalesovo Array** 56.65 334 ⇓P P 23 58 23.9 -0.1
baz=57
EKS2 **Erkin-Say** 56.66 318 *e*P P 23 58 25.6 +1.0
comp=Z,20nm,0.7s
KBL **Kabul** 57.34 307 *e*P P 23 58 29.6 +0.1
comp=Z,21nm,0.7s
KURBB **Kurchatov Arra** 57.67 328 P P 23 58 31.6 +0.5
comp=Z,42nm,0.7s,baz=130,slow=7.0,SNR=164
KURK **Kurchatov** 57.67 328 *e*P P 23 58 31.3 +0.3
comp=Z,85nm,0.6s
MSVF **Nonsavu** 58.91 115 *e*P P 23 58 42.5 +2.4
comp=Z,34nm,1.5s
KKAR **Karatay Array** 59.03 317 *e*P P 23 58 40.9 +0.4
comp=Z,13nm,0.7s
SEY **Seymchan** 59.99 15 P P 23 58 47.7 +1.4
comp=Z,4.8nm,0.5s,baz=205,slow=18,SNR=7.4
BVAR **Borovoye Array** 63.24 327 P P 23 59 08.0 +0.3
comp=Z,5.2nm,0.4s,baz=117,slow=6.6,SNR=20
BRVK **Borovoye** 63.31 327 *e*P P 23 59 08.4 +0.3
comp=Z,28nm,0.9s
GEYT **Ailbeck** 66.70 308 P P 23 59 30.2 +0.5
comp=Z,2.3nm,0.6s,baz=130,slow=14,SNR=4.5
ABKAR **Akbulak array** 67.98 321 ⇑P P 23 59 37.5 +0.3
baz=68
AKTO **Aktyubinsk** 69.50 322 P P 23 59 46.8 +0.5
comp=Z,11nm,0.7s,baz=101,slow=6.8,SNR=23
ARU **Arti** 70.87 328 P P 23 59 53.9 -0.4
baz=97,slow=6.8
ARU **Arti** 70.87 328 *e*P P 23 59 53.8 -0.4
comp=Z,15nm,0.6s
CASY **Casey** 73.33 185 *e*P P 00 00 08.0 -0.2
comp=Z,1.3nm,0.4s
GNI **Garni** 77.28 310 *e*P P 00 00 32.2 +1.2
comp=Z,58nm,1.7s
IM04 **Indian Mountai** 80.97 24 *e*P P 00 00 50.2 +0.6
KDAK **Kodiak Island** 81.12 33 P P 00 00 51.4 +0.8
comp=Z,28nm,0.7s,baz=257,slow=5.3,SNR=19
KDAK **Kodiak Island** 81.12 33 *e*P P 00 00 51.3 +0.8
comp=Z,22nm,0.7s
BPAW **Bear Paw Mtn.** 82.07 26 *e*P P 00 00 56.3 +1.0
comp=Z,8.1nm,1.0s
TRF **Thorofare Moun** 82.37 27 *e*P P 00 00 57.2 +0.2
comp=Z,18nm,0.9s
COLD **Coldfoot** 82.46 23 *e*P P 00 00 58.8 +1.7
comp=Z,18nm,1.0s
OBN **Obninsk** 82.94 325 P P 00 00 58.9 -0.8
comp=Z,20nm,0.5s,baz=137,slow=23,SNR=5.6
MCK **McKinley** 82.97 27 *e*P P 00 01 00.6 +0.8
comp=Z,24nm,0.6s
ASF **Jabal al Asfar** 83.77 302 P P 00 01 04.6 +0.1
comp=Z,5.1nm,0.7s,baz=41,slow=5.2,SNR=9.4
ILAR **Eielson Array** 83.84 26 P P 00 01 03.3 -0.7
comp=Z,1.7nm,0.5s,baz=238,slow=5.1,SNR=21
MMAI **Mount Meron Ar** 84.96 303 P P 00 01 11.0 +0.7
comp=Z,1.4nm,0.5s,baz=82,slow=6.9,SNR=11
EIL **Elat** 85.63 299 P P 00 01 14.1 +0.6
comp=Z,3.1nm,0.6s,baz=136,slow=3.1,SNR=6.9
EIL **Elat** 85.63 299 ⇓P P 00 01 14.2 +0.7
baz=86,SNR=4.4
BR131 **Keskin Array S** 85.82 309 *e*P P 00 01 12.9 -1.4
comp=Z,1.4nm,0.3s
BRTR **Keskin Array B** 85.82 309 P P 00 01 13.4 -0.9
comp=Z,2.8nm,0.5s,baz=130,slow=3.6,SNR=34
EGAK **Eagle** 86.29 25 *e*P P 00 01 16.0 +0.2
comp=Z,6.0nm,0.9s
CSS **Prodhromos** 86.51 305 *e*P P 00 01 15.8 -1.8
comp=Z,2.4nm,0.9s
KMBO **Kilima Mbogo** 86.54 268 P P 00 01 17.9 -0.5
comp=Z,1.6nm,0.6s,baz=135,slow=4.1,SNR=5.6
ARCES **ARCESS Array B** 86.69 340 P P 00 01 16.7 -0.9
comp=Z,2.8nm,0.5s,baz=78,slow=6.5,SNR=12
SPA0 **Spitsbergen Ar** 87.07 349 *e*P P 00 01 19.1 -0.2
SPITS **Spitsbergen Ar** 87.07 349 P P 00 01 19.1 -0.2
comp=Z,9.0nm,0.5s,baz=94,slow=9.3,SNR=47
AKASG **Malin Array Be** 87.72 321 P P 00 01 21.2 -1.7
comp=Z,1.7nm,0.6s,baz=67,slow=4.8,SNR=7.6
FINES **FINESS Array B** 87.85 332 P P 00 01 22.3 -0.9
comp=Z,4.9nm,0.6s,baz=66,slow=4.6,SNR=32
HYT **Haines Junctio** 88.58 29 *e*P P 00 01 27.4 +0.6
comp=Z,10nm,1.2s
INK **Inuvik** 88.62 21 P P 00 01 26.1 -0.5
comp=Z,2.0nm,0.7s,baz=283,slow=5.2,SNR=4.5
INK **Inuvik** 88.62 21 *e*P P 00 01 26.5 -0.1
comp=Z,3.9nm,0.9s
MLR **Muntele Rosu** 90.70 316 P P 00 01 36.9 -0.1
comp=Z,0.6nm,0.5s,baz=333,slow=6.2,SNR=6.3
IDI **Anoyia** 93.31 306 P P 00 01 48.3 -0.8
comp=Z,6.3nm,0.9s,baz=354,slow=12,SNR=3.3

HFS **Hagfors** 94.04 332 P P 00 01 50.3 -1.5
comp=Z,1.4nm,0.4s,baz=106,slow=4.8,SNR=18
NB2 **NORSAR Subarra** 94.84 333 P P 00 01 53.8 -1.7
comp=Z,1.3nm,0.6s,baz=66,slow=4.8
NB2 **NORSAR Subarra** 94.84 333 P P 00 01 53.8 -1.7
baz=66,slow=4.8
NOA **NORSAR Array B** 94.84 333 P P 00 01 54.1 -1.4
comp=Z,1.8nm,0.7s,baz=68,slow=4.6,SNR=7.6
GERES **GERESS Array B** 97.92 321 P Pdif 00 02 09.4 -0.2
comp=Z,0.5nm,0.5s,baz=208,slow=33,SNR=4.1
SCHQ **Schefferville** 118.16 7 PKP PKPdf 00 07 16.8 +0.2
comp=Z,1.5nm,0.4s,baz=271,slow=10,SNR=9.0
TOA0 **Torodi Ar. Sit** 119.08 289 *e*PKPdf PKPdf 00 07 18.9 -0.6
TORD **Torodi Ar. Bea** 119.08 289 PKP PKPdf 00 07 19.0 -0.5
comp=Z,1.3nm,0.3s,baz=66,slow=1.6,SNR=41
TXAR **Lajitas Array** 122.17 49 PKP PKPdf 00 07 25.3 0.0
comp=Z,0.3nm,0.6s,baz=17,slow=2.0,SNR=4.6
DBIC **Dimbokro** 126.94 283 PKP PKPdf 00 07 35.3 +0.7
comp=Z,6.0nm,1.0s,baz=343,slow=2.6,SNR=5.8
DBIC **Dimbokro** 126.94 283 *e*PKPdf PKPdf 00 07 35.0 +0.4
TRQA **Tornquist** 148.29 172 *e*PKPbc PKPbc 00 08 17.2 +0.3
LPAZ **La Paz** 165.00 131 *e*PKPdf PKPdf 00 08 35.6 +0.7
SAML **Samuel** 172.86 109 *e*PKPdf PKPdf 00 08 39.2 +0.2

IDC 23 23:53:07.9±1.8, 6°28N×122°72E, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.8/66, mbtmp4.2/4, MS5.3/1, Ms1 5.3/1, ms1mx4.0/59, Error ellipse: s-maj=236.0km s-min=22.7km az=63.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	11.10	129	LR	LR	00 00 00.3	
	comp=Z,16μm,20.0s,baz=9.5,slow=37						
WRA	**Warramunga Arr**	28.46	157	P	P	23 59 04.6	-0.2
	2.7nm,0.3s,baz=335,slow=10,SNR=6.7						
ASAR	**Alice Springs**	31.71	160	P	P	23 59 33.8	+0.2
	1.4nm,0.3s,baz=342,slow=5.9,SNR=4.5						
MKAR	**Makanchi Array**	53.21	326	P	P	00 02 29.1	+1.0
	2.0nm,0.5s,baz=120,slow=7.4,SNR=5.5						
KURBB	**Kurchatov Arra**	57.46	328	P	P	00 02 57.5	-1.2
	0.6nm,0.4s,baz=135,slow=7.8,SNR=4.7						

*ISCJB **23** 23:59:07.7±0.6, 6°71N±0°09×123°8E±0°2, h600km, mb4.2/8, Error ellipse: s-maj=21.0km s-min=11.2km az=163.2*
*IDC **23** 23:59:09.6±3.9, 6°62N×123°83E, h600km±60km, mb3.4/8, mb1 3.6/8, mb1mx3.0/57, mbtmp4.5/8, Error ellipse: s-maj=36.7km s-min=13.3km az=78.0*
ISC 23 23:59:09.2±0.8, 6°69N±0°10×123°8E±0°1, h600km, n14, σ1§01/13, mb4.3/8, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	0.71	41	⇓*i*P	P	00 00 18.6	-1.3
TBP	**Tagbilaran**	2.99	2	*e*P	P	00 00 25.2	-3.1
KKM	**Kota Kinabalu**	7.54	266	P	P	00 01 02.6	-1.8
	baz=7.3,SNR=14						
LUWI	**Luwuk**	7.74	187	P	P	00 01 07.1	+0.9
	baz=7.6,SNR=4.1						
WRA	**Warramunga Arr**	28.43	159	P	P	00 04 16.5	-1.0
	7.5nm,0.4s,baz=341,slow=9.2,SNR=26						
ASAR	**Alice Springs**	31.75	162	P	P	00 04 46.0	0.0
	10nm,0.3s,baz=338,slow=7.7,SNR=105						
MJAR	**Matsushiro Arr**	32.52	22	P	P	00 04 52.5	+0.2
	1.4nm,0.5s,baz=191,slow=11,SNR=4.2						
CTA	**Charters Tower**	34.60	141	P	P	00 05 09.9	0.0
	6.3nm,0.9s,baz=80,slow=15,SNR=3.0						
NWAO	**Narrogin (SRO)**	39.88	189	P	P	00 05 52.3	-0.4
	10nm,0.4s,baz=332,slow=5.0,SNR=21						
STKA	**Stephens Creek**	41.95	157	P	P	00 06 09.2	+0.2
	6.9nm,0.7s,baz=335,slow=7.7,SNR=13						
HTT	**Hallett**	42.41	161	P	P	00 06 13.1	+0.4
	baz=42,SNR=10						
MKAR	**Makanchi Array**	53.47	326	P	P	00 07 36.1	+1.5
	1.5nm,0.5s,baz=119,slow=8.3,SNR=11						
KURBB	**Kurchatov Arra**	57.68	328	P	P	00 08 04.3	+0.7
	1.2nm,0.6s,baz=132,slow=6.6,SNR=5.9						
TORD	**Torodi Ar. Bea**	119.19	289	PKP	PKPdf	00 16 52.0	0.0
	1.0nm,1.1s,baz=55,slow=1.8,SNR=4.6						

*ISCJB **24** 00:00:49.4±0.4, 4°42S±0°07×36°0E±0°1, h10km, mb4.3/24, Error ellipse: s-maj=15.2km s-min=9.1km az=19.0*
*IDC **24** 00:00:49.8±0.6, 4°45S×36°03E, h0km, mb4.3/19, mb1 4.4/20, mb1mx4.2/32, mbtmp4.3/20, ML4.8/1, Error ellipse: s-maj=22.8km s-min=12.3km az=107.0*
*NEIC **24** 00:00:51.0±0.4, 4°52S×35°97E, h10km, mb4.6/9, Error ellipse: s-maj=15.3km s-min=7.8km az=111.0*
ISC 24 00:00:51.0±0.5, 4°50S±0°07×36°0E±0°1, h10km, n40, σ1§14/38, mb4.4/24, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I32KE	**NAIROBI INFRAS**	3.35	15	Pg	Pb	00 01 50.0	-0.6
	baz=205,slow=18,SNR=0.3						
KMBO	**Kilima Mbogo**	3.58	21	Pn	Pn	00 01 44.8	-2.1
	82nm,0.3s,baz=196,slow=15,SNR=209						
KMBO				Lg	Lg	00 02 33.9	
	265nm,0.3s,baz=136,slow=23,SNR=6.6						
LSZ	**Lusaka**	13.17	215	Pn	Pn	00 03 55.8	-2.6
	1.1nm,0.3s,baz=40,slow=9.9,SNR=18						
LSZ				Lg	Lg	00 07 42.6	
	8.5nm,0.3s,baz=302,slow=19,SNR=10						
MATP	**Matopo**	17.42	204	P	Pn	00 04 51.6	-2.9
	0.5nm,0.3s,baz=14,slow=14,SNR=9.7						
MATP				Lg	Lg	00 09 58.5	
	0.8nm,0.3s,baz=106,slow=17,SNR=7.4						
LBTB	**Lobatse**	22.71	205	P	P	00 05 52.4	-0.8
	28nm,0.8s,baz=31,slow=12,SNR=22						
LBTB	**Lobatse**	22.71	205	*e*P	P	00 05 52.4	-0.8
	40nm,1.0s						
TSUM	**Tsumeb**	23.15	229	P	P	00 05 58.4	+0.5
	5.3nm,0.9s,baz=1.2,slow=13,SNR=6.0						
TSUM	**Tsumeb**	23.15	229	*e*P	P	00 05 57.5	-0.4
	12nm,0.9s						
BOSA	**Boshof**	26.06	202	P	P	00 06 26.5	+1.6
	7.1nm,0.8s,baz=25,slow=11,SNR=11						
TOA0	**Torodi Ar. Sit**	38.30	298	*e*P	P	00 08 07.2	-5.0
TAM	**Tamanrasset**	40.27	314	*e*P	P	00 08 29.7	+1.0
	8.1nm,1.3s						
DBIC	**Dimbokro**	42.25	285	P	P	00 08 45.4	+0.4
	5.5nm,0.8s,baz=20,slow=5.2,SNR=5.9						
DBIC	**Dimbokro**	42.25	285	*e*P	P	00 08 45.0	0.0
	7.2nm,0.8s						
AQU	**L'Aquila**	50.95	338	*e*P	P	00 09 48.3	-4.5
	21nm,1.0s						
BUR08	**Bucovina Ar. S**	52.79	351	*e*P	P	00 10 06.7	+0.2
PSZ	**Piszkesteto**	54.08	347	*e*P	P	00 10 15.7	-0.2
	5.7nm,0.9s						
AKASG	**Malin Array Be**	55.29	355	P	P	00 10 24.5	0.0
	1.9nm,0.6s,baz=173,slow=6.2,SNR=5.8						
GERES	**GERESS Array B**	56.57	343	P	P	00 10 33.8	-0.1
	3.4nm,0.9s,baz=161,slow=6.2,SNR=5.6						
ESDC	**Sonseca Array**	57.30	324	P	P	00 10 39.9	+0.7
	3.3nm,0.9s,baz=132,slow=6.9,SNR=16						
AKTO	**Aktyubinsk**	57.92	16	P	P	00 10 43.1	-0.2
	1.2nm,0.6s,baz=234,slow=4.3,SNR=2.6						
BVAR	**Borovoye Array**	64.23	22	P	P	00 11 27.0	+0.9
	1.1nm,0.8s,baz=140,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	65.39	33	P	P	00 11 33.3	-0.6
	3.3nm,1.0s,baz=232,slow=9.5,SNR=4.2						
MAW	**Mawson**	65.62	169	P	P	00 11 35.8	+0.9
	4.0nm,0.6s,baz=307,slow=9.1,SNR=6.6						
KURBB	**Kurchatov Arra**	65.94	28	P	P	00 11 36.3	-0.9
	1.6nm,1.0s,baz=233,slow=7.5,SNR=2.8						
KURK	**Kurchatov**	66.04	28	P	P	00 11 36.3	-1.6
CMAR	**Chiang Mai Arr**	66.07	68	P	P	00 11 39.0	+0.2
	1.5nm,0.6s,baz=263,slow=8.9,SNR=3.1						
FINES	**FINESS Array B**	66.20	355	P	P	00 11 38.3	-0.4
	9.7nm,1.1s,baz=145,slow=11,SNR=4.7						
NOA	**NORSAR Array B**	68.13	347	P	P	00 11 50.9	-0.2
	1.3nm,0.8s,baz=152,slow=6.0,SNR=3.8						
ZALV	**Zalesovo Beam**	71.03	28	P	P	00 12 08.0	-1.1
	2.7nm,1.0s,baz=251,slow=9.0,SNR=2.8						
ZALV	**Zalesovo Beam**	71.03	28	P	P	00 12 08.0	-1.1
SNAA	**Sanae**	71.35	192	P	P	00 12 11.9	+1.1
	1.0nm,0.9s,baz=64,slow=4.7,SNR=4.3						
SNAA	**Sanae**	71.35	192	*e*P	P	00 12 11.7	+0.8
	4.2nm,1.3s						
SONM	**Songino Array**	80.35	40	P	P	00 13 04.4	+1.6
	3.1nm,0.9s,baz=262,slow=2.5,SNR=7.9						
ULN	**Ulaanbaatar**	80.78	40	*e*P	P	00 13 06.2	+1.1
	5.5nm,1.0s						
KAPI	**Kappang**	83.42	95	*e*P	P	00 13 20.0	+0.6
	16nm,1.0s						
ASAR	**Alice Springs**	95.44	114	P	P	00 14 16.0	-0.7
	0.4nm,0.6s,baz=282,slow=4.6,SNR=3.0						
BOZ	**Bozeman (W)**	130.25	331	*e*PKPdf	PKPdf	00 20 03.2	+1.1
PDAR	**Pinedale Array**	131.16	326	PKP	PKPdf	00 20 05.9	+1.9
	0.7nm,1.0s,baz=66,slow=3.1,SNR=3.2						
TXAR	**Lajitas Array**	134.54	308	PKP	PKPdf	00 20 11.2	+0.7
	0.5nm,0.8s,baz=106,slow=4.6,SNR=3.6						
PPT	**Papeete**	157.39	166	PKPab	PKPab	00 21 19.5	0.0
	32nm,0.4s,baz=180,slow=19,SNR=3.2						

*ISCJB **24** 00:06:16.4±0.4, 6°85N±0°05×123°6E±0°1, h600km, mb4.0/19, Error ellipse: s-maj=15.4km s-min=6.3km az=168.9*
*IDC **24** 00:06:19.5±1.3, 6°80N×123°82E, h626km±17km, mb3.4/19, mb1 3.4/20, mb1mx3.2/54, mbtmp4.4/20, Error ellipse: s-maj=18.8km s-min=7.6km az=78.0*
ISC 24 00:06:17.5±0.6, 6°81N±0°07×123°6E±0°2, h600km, n35, σ1§01/38, mb4.0/19, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	10.77	135	P	P	00 08 45.5	+1.5
	baz=8.9,SNR=3.2						
SIJI	**Sorong**	10.78	135	P	P	00 08 45.1	+1.0
	3.4nm,0.3s,baz=328,slow=12,SNR=7.8						
FAKI	**Fak Fak**	12.93	138	P	P	00 09 06.6	+0.8
	baz=11,SNR=16						
MTN	**Manton Dam**	20.90	159	P	P	00 10 19.9	+0.5
	baz=18,SNR=3.1						
KDU	**Kakadu**	21.27	156	P	P	00 10 24.9	+2.1
	baz=19,SNR=4.9						
JCJ	**Chichijima**	26.79	39	P	P	00 11 11.1	-0.3
	58nm,0.9s,baz=228,slow=16,SNR=4.0						
COEN	**Coen**	28.31	137	P	P	00 11 24.1	-0.8
	baz=26,SNR=5.8						
WRA	**Warramunga Arr**	28.59	159	P	P	00 11 26.9	-0.4
	11nm,0.5s,baz=341,slow=9.2,SNR=58						
WRA				S	S	00 15 28.2	-6.8
	0.3nm,0.3s,baz=335,slow=17,SNR=5.6						
WRA				ScP	ScP	00 17 01.1	-2.7
	0.4nm,0.3s,baz=348,slow=3.1,SNR=6.9						
KSRS	**Korea Array**	30.75	7	P	P	00 11 46.3	+0.8
	0.4nm,0.4s,baz=182,slow=9.7,SNR=2.9						
QIS	**Mount Isa**	31.40	150	P	P	00 11 51.4	+0.1
	baz=29,SNR=5.4						
ASAR	**Alice Springs**	31.91	162	P	P	00 11 56.2	+0.6
	7.8nm,0.3s,baz=339,slow=7.4,SNR=6.0						
ASAR				PcP	PcP	00 14 26.9	-0.5
	0.3nm,0.3s,baz=352,slow=3.0,SNR=4.0						
ASAR				S	S	00 16 24.4	-1.4
	1.9nm,0.8s,baz=345,slow=17,SNR=8.0						
ASAR				ScP	ScP	00 17 12.6	-2.2
	0.8nm,0.5s,baz=344,slow=3.2,SNR=5.4						
WRKA	**Warakurna**	31.98	172	P	P	00 11 56.9	+0.6
	baz=30,SNR=6.8						
MJAR	**Matsushiro Arr**	32.45	22	P	P	00 11 59.8	-0.2
	1.7nm,0.6s,baz=198,slow=9.7,SNR=6.1						
MEEK	**Meekatharra**	33.61	188	P	P	00 12 10.0	+0.1
	baz=31,SNR=6.6						
FORT	**Forrest**	37.62	174	P	P	00 12 43.5	+0.7
	baz=35,SNR=8.1						
KMBL	**Kambalda**	38.00	182	P	P	00 12 46.3	+0.4
	baz=36,SNR=6.2						
KLBR	**Kellerberrin**	38.60	188	P	P	00 12 51.0	+0.2
	baz=36,SNR=5.3						
NWAO	**Narrogin (SRO)**	39.99	188	P	P	00 13 02.1	+0.3
	5.5nm,0.6s,baz=329,slow=1.6,SNR=6.1						
ASAJ	**Asahikawa**	40.69	21	P	P	00 13 07.6	+0.3
	3.5nm,0.3s,baz=282,slow=20						
BBOO	**Buckleboo**	41.14	164	P	P	00 13 11.3	+0.3
	baz=39,SNR=24						
STKA	**Stephens Creek**	42.12	157	P	P	00 13 18.9	+0.2
	3.4nm,0.4s,baz=340,slow=9.5,SNR=14						
HTT	**Hallett**	42.57	161	P	P	00 13 23.0	+0.7
	baz=40,SNR=3.3						
SONM	**Songino Array**	43.45	343	P	P	00 13 29.9	+0.9
	0.7nm,0.6s,baz=155,slow=8.6,SNR=2.6						
LHI	**Lord Howe Isla**	50.96	140	P	P	00 14 32.0	+6.8
	baz=49,SNR=3.0						
MKAR	**Makanchi Array**	53.29	326	P	P	00 14 43.3	+1.6
	3.2nm,0.4s,baz=120,slow=8.0,SNR=58						
MKAR				PcP	PcP	00 15 39.1	-0.3
	0.7nm,0.5s,baz=111,slow=4.8,SNR=4.3						
PETK	**Petropavlovsk-**	53.84	25	P	P	00 14 44.7	-0.7
	2.1nm,0.6s,baz=180,slow=2.9,SNR=3.1						
ZALV	**Zalesovo Beam**	56.47	334	P	P	00 15 03.8	+0.2
	0.9nm,0.5s,baz=144,slow=5.2,SNR=3.1						
KURBB	**Kurchatov Arra**	57.51	328	P	P	00 15 11.7	+1.1
	3.7nm,0.6s,baz=130,slow=6.1,SNR=54						
BVAR	**Borovoye Array**	63.08	327	P	P	00 15 48.0	+0.7
	0.8nm,0.4s,baz=134,slow=10,SNR=4.1						
KDAK	**Kodiak Island**	80.96	33	P	P	00 17 30.2	-0.1
	5.0nm,0.6s,baz=283,slow=3.7,SNR=4.6						
ILAR	**Eielson Array**	83.66	26	P	P	00 17 43.5	-0.4
	0.3nm,0.4s,baz=244,slow=5.9,SNR=5.6						
ARCES	**ARCESS Array B**	86.51	340	P	P	00 17 56.4	-1.1
	2.6nm,0.7s,baz=46,slow=5.2,SNR=2.8						
FINES	**FINESS Array B**	87.68	332	P	P	00 18 02.4	-0.7
	2.0nm,0.8s,baz=57,slow=7.0,SNR=6.8						
QSPA	**South Pole Qui**	96.70	180	P	P	00 18 43.7	-0.7
	0.8nm,0.9s,baz=320,slow=7.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	119.03	289	PKP	PKPdf	00 23 58.7	-1.4
	0.6nm,0.9s,baz=60,slow=1.7,SNR=7.7						

*ISCJB **24** 00:13:37.3±0.3, 6°18N±0°04×123°65E±0°07, h574km, mb4.1/25, Error ellipse: s-maj=10.0km s-min=5.0km az=167.1*
*DJA **24** 00:13:39.2±0.9, 6°N±11°×12°4E±°, h606km±6km, M4.8/21, mb4.5/21, mB6.2/1, MLv5.0/8, Mw(mB)6.0/1*
*IDC **24** 00:13:40.8±1.1, 6°07N×123°58E, h612km±15km, mb3.5/25, mb1 3.5/26, mb1mx3.4/58, mbtmp4.5/26, Error ellipse: s-maj=14.6km s-min=7.0km az=76.0*
*MAN **24** 00:13:43, 6°44N×123°74E, h556km, mb4.7, ML3.6, MS3.5*
ISC 24 00:13:38.1±0.4, 6°09N±0°05×123°6E±0°1, h574km, n59, σ1§51/60, mb4.2/25, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBP	**Tagbilaran**	3.59	5	*e*P	P	00 15 00.9	+2.1
MRSI	**Marisa**	5.80	196	P	P	00 15 20.0	+3.8
	93nm,0.9s,0.4nm						
TNTI	**Ternate**	6.50	144	P	P	00 15 26.9	+4.4
	301nm,0.7s,1.2nm						
MPSI	**Mapaga**	6.78	213	P	P	00 15 27.5	+2.4
	13nm,3.3s,0.2nm						
LUWI	**Luwuk**	7.12	186	P	P	00 15 30.1	+1.8
	76n

KSRS	Korea Array	31.48	7	P		P	00 19 15.3	+1.6
	1.4nm,0.6s,baz=187,slow=8.9,SNR=8.2							
MEEK	Meekatharra	32.88	188	P		P	00 19 25.7	-0.1
	baz=33,SNR=8.7							
MJAR	Matsushiro Arr	33.15	22	P		P	00 19 27.7	-0.2
	5.6nm,0.8s,baz=199,slow=10,SNR=14							
MORW	Morawa	35.69	191	P		P	00 19 49.4	+0.2
	baz=36,SNR=5.8							
FORT	Forrest	36.91	174	P		P	00 19 59.8	+0.6
	baz=38,SNR=20							
KMBL	Kambalda	37.28	182	P		P	00 20 02.4	+0.2
	baz=38,SNR=13							
KLBR	Kellerberrin	37.87	188	P		P	00 20 07.0	0.0
	baz=38,SNR=18							
USRK	Ussuriysk Ar.	38.68	10	P		P	00 20 13.7	+0.3
	4.0nm,0.8s,baz=189,slow=4.6,SNR=7.6							
NWAO	Narrogin (SRO)	39.26	188	P		P	00 20 18.8	+0.5
	11nm,0.6s,baz=330,slow=4.8,SNR=12							
TAPN	Taplejung	40.09	306	*eP*		P	00 20 26.2	+0.8
ODAN	Odare	40.14	305	*eP*		P	00 20 26.5	+0.8
	23nm,0.7s							
BBOO	Buckleboo	40.47	164	P		P	00 20 28.3	+0.4
	baz=41,SNR=21							
RAMN	Ramite	40.82	305	*eP*		P	00 20 32.3	+1.2
	22nm,0.7s							
ASAJ	Asahikawa	41.40	21	P		P	00 20 36.3	+1.2
	4.6nm,0.4s,baz=180,slow=20							
STKA	Stephens Creek	41.48	157	P		P	00 20 36.7	+0.7
	5.9nm,0.7s,baz=332,slow=8.0,SNR=15							
GUN	Gumba	41.80	306	*eP*		P	00 20 39.7	+0.8
	31nm,0.6s							
HTT	Hallett	41.91	161	P		P	00 20 40.4	+1.0
	baz=43,SNR=7.9							
PKI	Pulchoki	42.04	305	*eP*		P	00 20 41.1	+0.2
	7.5nm,0.5s							
PKIN	Phulchoki	42.05	305	*eP*		P	00 20 41.1	+0.2
	7.4nm,0.5s							
KKN	Kakani	42.23	305	*eP*		P	00 20 42.8	+0.6
	13nm,0.4s							
DMN	Daman	42.30	305	*eP*		P	00 20 43.4	+0.6
	32nm,1.0s							
GKN	Gorkha	42.84	305	*eP*		P	00 20 47.3	+0.4
	14nm,0.5s							
DANN	Dangsing	43.69	305	*eP*		P	00 20 54.4	+0.8
SONM	Songino Array	44.11	343	P		P	00 20 57.1	+0.7
	3.9nm,0.8s,baz=160,slow=8.1,SNR=17							
MKAR	Makanchi Array	53.84	326	P		P	00 22 08.6	+0.6
	5.5nm,0.4s,baz=121,slow=8.1,SNR=85							
MKAR				PcP		PcP	00 23 03.7	-0.8
	1.1nm,0.5s,baz=103,slow=5.5,SNR=6.0							
PETK	Petropavlovsk-	54.53	25	P		P	00 22 13.2	+0.5
	4.0nm,0.7s,baz=203,slow=7.1,SNR=4.4							
ZALV	Zalesovo Beam	57.08	334	P		P	00 22 29.3	-1.0
	1.5nm,0.5s,baz=119,slow=5.3,SNR=5.7							
KURBB	Kurchatov Arra	58.07	328	P		P	00 22 37.1	+0.1
	9.0nm,0.7s,baz=131,slow=6.3,SNR=107							
SEY	Seymchan	60.51	15	P		P	00 22 53.4	+0.4
	1.0nm,0.5s,baz=155,slow=13,SNR=4.3							
BVAR	Borovoye Array	63.64	327	P		P	00 23 13.3	-0.2
	1.5nm,0.4s,baz=125,slow=7.4,SNR=11							
AKTO	Aktyubinsk	69.86	322	P		P	00 23 51.6	-0.3
	6.4nm,0.7s,baz=97,slow=8.2,SNR=20							
ARU	Arti	71.27	328	P		P	00 23 58.9	-1.1
	baz=96,slow=5.0							
KDAK	Kodiak Island	81.61	33	P		P	00 24 56.6	+0.1
	6.6nm,0.7s,baz=237,slow=8.9,SNR=4.2							
ILAR	Eielson Array	84.35	26	P		P	00 25 08.8	-1.3
	0.6nm,0.6s,baz=241,slow=5.2,SNR=9.4							
BRTR	Keskin Array B	86.10	309	P		P	00 25 17.4	-1.9
	0.6nm,0.4s,baz=123,slow=4.4,SNR=5.8							
VNDA	Vanda	86.16	172	P		P	00 25 18.1	-0.5
	1.2nm,0.8s,baz=297,slow=6.5,SNR=6.7							
ARCES	ARCESS Array B	87.16	340	P		P	00 25 22.2	-1.3
	4.7nm,0.9s,baz=79,slow=4.7,SNR=4.0							
SPITS	Spitsbergen Ar	87.57	349	P		P	00 25 23.9	-1.3
	12nm,1.1s,baz=86,slow=11,SNR=7.7							
FINES	FINESS Array B	88.27	332	P		P	00 25 27.0	-1.7
	1.5nm,0.7s,baz=111,slow=4.3,SNR=6.3							
TORD	Torodi Ar. Bea	119.18	289	PKP		PKPdf	00 31 21.7	-1.8
	0.3nm,0.6s,baz=38,slow=4.0,SNR=4.7							

IDC ***24*** *00:15:10.0±1.7, 52.˚58N×169.˚79W, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.6/71, mbtmp3.8/5, ML3.6/1, Error ellipse: s-maj=54.7km s-min=29.5km az=147.0*

ISCJB ***24*** *00:15:11.5±1.5, 52.˚7N±0.˚1×169.˚6W±0.˚1, h15km±9km, mb3.8/4, Error ellipse: s-maj=22.3km s-min=10.2km az=152.0*

NEIC ***24*** *00:15:13.3, 52.˚80N×169.˚49W, h4km, mb3.7/1, ML3.6(AEIC), After AEIC.*

ISC 24 00:15:10.5±1.8, 52.˚7N±0.˚1×169.˚65W±0.˚07, h2km±11km, n22, σ0°99/27, mb3.8/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.55	62	P		P	Pg	00 15 21.9	+0.9
NIKH				S		S	Sb	00 15 30.0	-1.1
OKWR	Okmok West Rim	1.13	50	P		P	Pn	00 15 33.3	-0.1
OKAK	Okmok	1.16	42	P		P	Pg	00 15 31.4	-1.3
OKTU	Okmok Mt. Tuli	1.18	55	P		P	Pg	00 15 33.1	0.0
OKFG	Magazine Ridge	1.26	56	P		P	Pg	00 15 33.9	-0.7
OKFG				S		S	Sg	00 15 51.0	+0.1
MCIR	Makushin Cirqu	2.06	52	P		P	Pn	00 15 47.6	+1.3
MSW	Makushin Switc	2.10	54	P		P	Pn	00 15 47.0	+0.3
MSW				S		S	Sn	00 16 14.2	+0.8
MTBL	Makushin Table	2.18	54	P		P	Pn	00 15 49.1	+1.3
UNV	Unalaska Valle	2.20	58	P		P	Pn	00 15 48.5	+0.4
UNV				S		S	Sn	00 16 14.2	-1.7
ZRO	Akutan Zero	2.59	57	P		P	Pn	00 15 54.7	+1.2
AKGG	Akutan Green G	2.64	54	P		P	Pn	00 15 54.6	+0.5
AKUT	Akutan	2.72	57	*e*Pn		P	Pn	00 15 55.6	+0.4
AKUT				*e*Sg		S	Sb	00 16 33.6	0.0
ATKA	Atka Island	2.83	261	P		P	Pb	00 16 01.1	-0.5
SPIA	Saint Paul Isl	4.48	356	P		P	Pn	00 16 21.2	+1.9
TRF	Thorofare Moun	14.77	36	*eP*		P		00 18 46.6	0.0
BPAW	Bear Paw Mtn.	14.95	33	*eP*		P		00 18 48.2	-0.2
	1.2nm,0.7s								
ILAR	Eielson Array	16.76	35	Pn		Pn		00 19 05.7	-0.4
	0.1nm,0.3s,baz=225,slow=11,SNR=4.1								
HYT	Haines Junctio	19.22	52	*eP*		Pn		00 19 37.6	+1.0
	2.0nm,0.8s								
NVAR	Mina Array Bea	37.84	91	P		P		00 22 30.3	+1.7
	0.6nm,0.7s,baz=308,slow=7.8,SNR=4.6								
PDAR	Pinedale Array	40.51	79	P		P		00 22 50.5	-0.4
	1.3nm,0.8s,baz=316,slow=5.0,SNR=9.0								
TXAR	Lajitas Array	52.91	89	P		P		00 24 28.1	0.0
	1.0nm,0.7s,baz=302,slow=5.2,SNR=10								
ASAR	Alice Springs	90.49	230	P		P		00 28 12.7	-1.0
	0.9nm,0.8s,baz=36,slow=4.9,SNR=7.1								

ISCJB ***24*** *00:20:27.2±0.5, 6.˚69N±0.˚08×123.˚70E±0.˚10, h600km, mb3.9/11, Error ellipse: s-maj=13.8km s-min=8.3km az=149.9*

IDC ***24*** *00:20:28.3±1.3, 6.˚64N×123.˚70E, h588km±18km, mb3.3/11, mb1 3.4/12, mb1mx2.9/54, mbtmp4.3/12, Error ellipse: s-maj=18.7km s-min=8.7km az=67.0*

ISC 24 00:20:28.6±0.6, 6.˚65N±0.˚09×123.˚7E±0.˚1, h600km, n22, σ1°19/26, mb3.9/11, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	0.75	41	⇓*i*P		P		00 21 37.0	-2.3
KKM	Kota Kinabalu	7.51	266	P		P		00 22 21.9	-1.5
	baz=7.3,SNR=7.2								
SIJI	Sorong	10.59	135	P		P		00 22 52.8	-0.5
	1.3nm,0.3s,baz=300,slow=20,SNR=3.0								
FAKI	Fak Fak	12.75	138	P		P		00 23 15.0	0.0
	baz=13,SNR=9.4								
PSI	Prapat	25.02	262	P		P		00 25 06.6	-0.8
	3.1nm,0.4s,baz=21,slow=3.2,SNR=4.2								
CMAR	Chiang Mai Arr	26.86	298	P		P		00 25 23.2	0.0
	0.9nm,0.3s,baz=109,slow=6.7,SNR=5.1								
COEN	Coen	28.13	137	P		P		00 25 33.9	-0.5
	baz=28,SNR=9.0								
WRA	Warramunga Arr	28.41	159	P		P		00 25 36.3	-0.5
	3.0nm,0.5s,baz=343,slow=9.5,SNR=11								
WRA				S		S		00 29 39.6	-3.6
	1.4nm,0.5s,baz=335,slow=15,SNR=6.9								
WRA				ScP		ScP		00 31 15.3	+1.0
	0.4nm,0.3s,baz=342,slow=3.3,SNR=5.3								
QIS	Mount Isa	31.21	150	P		P		00 26 01.4	+0.6
	baz=31,SNR=3.7								
ASAR	Alice Springs	31.73	162	P		P		00 26 05.8	+0.7
	2.8nm,0.3s,baz=338,slow=7.7,SNR=43								
ASAR				S		S		00 30 34.7	+0.7
	4.4nm,0.8s,baz=352,slow=25,SNR=18								
ASAR				ScP		ScP		00 31 26.0	+0.8
	0.9nm,0.5s,baz=348,slow=3.1,SNR=4.9								
WRKA	Warakurna	31.81	172	P		P		00 26 06.6	+0.8
	baz=32,SNR=4.0								
MJAR	Matsushiro Arr	32.56	22	P		P		00 26 11.1	-0.9
	0.9nm,0.6s,baz=192,slow=10.0,SNR=4.0								
MEEK	Meekatharra	33.46	188	P		P		00 26 19.8	+0.1
	baz=34,SNR=4.5								
CTA	Charters Tower	34.59	141	P		P		00 26 29.9	+0.7
	4.4nm,0.8s,baz=339,slow=8.6,SNR=3.5								
MORW	Morawa	36.28	191	P		P		00 26 43.3	+0.3
	baz=36,SNR=3.8								
KMBL	Kambalda	37.85	183	P		P		00 26 56.3	+0.6
	baz=38,SNR=6.2								
NWAO	Narrogin (SRO)	39.84	189	P		P		00 27 12.1	+0.4
	4.6nm,0.5s,baz=332,slow=5.1,SNR=8.2								
STKA	Stephens Creek	41.93	157	P		P		00 27 29.3	+1.0
	1.5nm,0.4s,baz=336,slow=9.9,SNR=8.1								
HTT	Hallett	42.39	161	P		P		00 27 33.3	+1.5
	baz=42,SNR=3.5								
MKAR	Makanchi Array	53.48	326	P		P		00 28 55.0	+1.0
	1.5nm,0.5s,baz=121,slow=8.5,SNR=14								
PETK	Petropavlovsk-	53.95	25	P		P		00 28 58.2	+1.0
	1.9nm,0.6s,baz=236,slow=1.6,SNR=2.9								
KURBB	Kurchatov Arra	57.69	328	P		P		00 29 23.5	+0.5
	1.1nm,0.4s,baz=128,slow=6.7,SNR=9.1								

IDC 24 00:26:36.9±6.1, 7.˚34N×124.˚52E, h468km±81km, mb3.3/4, mb1 3.5/4, mb1mx2.8/59, mbtmp4.2/4, Error ellipse: s-maj=201.4km s-min=18.4km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	28.78	161	P		P		00 31 55.6	-0.2
	2.3nm,0.4s,baz=341,slow=9.2,SNR=8.0								
ASAR	Alice Springs	32.15	164	P		P		00 32 24.9	-0.1
	1.6nm,0.3s,baz=341,slow=7.2,SNR=23								
MKAR	Makanchi Array	53.36	325	P		P		00 35 11.5	0.0
	1.0nm,0.5s,baz=120,slow=7.8,SNR=14								
KURBB	Kurchatov Arra	57.53	327	P		P		00 35 40.3	-0.2
	0.9nm,0.6s,baz=131,slow=5.5,SNR=11								
TORD	Torodi Ar. Bea	119.68	290	PKP		PKPdf		00 44 33.9	-0.2
	1.3nm,1.0s,baz=62,slow=4.1,SNR=4.5								

IDC 24 00:27:42.6±1.9, 3.˚88N×122.˚37E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.4/55, mbtmp3.8/3, Error ellipse: s-maj=218.0km s-min=27.4km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.44	154	P		P		00 33 20.9	-0.5
	0.8nm,0.4s,baz=331,slow=10,SNR=4.8								
ASAR	Alice Springs	29.60	158	P		P		00 33 50.1	+0.5
	0.7nm,0.3s,baz=340,slow=7.6,SNR=11								
MKAR	Makanchi Array	55.01	327	P		P		00 37 15.8	-0.1
	0.4nm,0.7s,baz=112,slow=6.4,SNR=4.3								

IDC 24 00:29:59.9±1.6, 6.˚78N×123.˚47E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/26, mbtmp3.7/5, 1D, Error ellipse: s-maj=226.1km s-min=21.2km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	0.88	61	⇓*i*P		Pn		00 30 31.1	+12
WRA	Warramunga Arr	28.63	158	P		P		00 35 58.3	-0.1
	0.6nm,0.4s,baz=340,slow=9.4,SNR=2.8								
ASAR	Alice Springs	31.93	162	P		P		00 36 27.6	0.0
	0.5nm,0.3s,baz=341,slow=7.4,SNR=8.4								
MKAR	Makanchi Array	53.22	326	P		P		00 39 19.9	-0.2
	0.2nm,0.5s,baz=130,slow=7.6,SNR=4.1								
ZALV	Zalesovo Beam	56.42	334	P		P		00 39 44.6	+1.4
	0.6nm,0.5s,baz=90,slow=4.3,SNR=3.9								
KURBB	Kurchatov Arra	57.44	328	P		P		00 39 48.5	-1.9
	0.1nm,0.2s,baz=131,slow=6.2,SNR=4.0								

IDC 24 00:32:53.6±1.1, 1.˚91N×123.˚47E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.6/52, mbtmp3.9/4, Error ellipse: s-maj=145.5km s-min=20.3km az=66.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.19	154	P		P		00 38 11.8	-0.3
	0.3nm,0.5s,baz=331,slow=10,SNR=2.5								
ASAR	Alice Springs	27.37	159	P		P		00 38 41.4	+0.5
	1.0nm,0.3s,baz=337,slow=7.6,SNR=17								
SONM	Songino Array	48.08	348	P		P		00 41 34.8	-0.3
	0.4nm,0.6s,baz=142,slow=7.3,SNR=2.8								
MKAR	Makanchi Array	57.26	327	P		P		00 42 42.9	-0.2
	9.2nm,0.9s,baz=122,slow=5.4,SNR=12								

ISCJB ***24*** *00:33:16.0±0.2, 6.˚54N±0.˚03×123.˚73E±0.˚04, h550km, mb4.3/34, Error ellipse: s-maj=5.6km s-min=3.9km az=149.6*

MAN ***24*** *00:33:17, 6.˚55N×123.˚77E, h554km, mb5.0, ML3.9, MS4.0*

IDC ***24*** *00:33:17.8±0.8, 6.˚51N×123.˚78E, h566km±10km, mb3.6/29, mb1 3.7/32, mb1mx3.5/59, mbtmp4.6/32, Error ellipse: s-maj=11.7km s-min=6.5km az=67.0*

KLM ***24*** *00:33:18.4, 6.˚78N×123.˚54E, h572km, mb4.8, ML4.5, MS6.0*

DJA ***24*** *00:33:18.2±0.5, 7.˚1N±6.˚4E±˚, h573km±6km, M4.9/36, mb4.6/36, MLv5.0/6*

ISC 24 00:33:16.7±0.4, 6.˚49N±0.˚05×123.˚73E±0.˚07, h550km, n112, σ1°09/115, mb4.2/34, 12C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	0.89	35	⇓*i*P		P		00 34 24.5	+1.7
DCPH	Dipolog City	2.11	350	*eP*		P		00 34 27.9	+1.0
TBP	Tagbilaran	3.18	2	*eP*		P		00 34 33.0	+0.1
TBP				*eS*		S		00 35 34.5	-0.4
MYLDM	Lahad Datu	5.37	256	⇑P		P		00 34 52.2	+2.5
MYLDM	Lahad Datu	5.37	256	⇑P		P		00 34 52.2	+2.5
TSM	Tawau	6.23	250	⇑P		P		00 34 58.6	+1.1
TSM	Tawau	6.23	250	⇑P		P		00 34 58.6	+1.1
MRSI	Marisa	6.24	197	P		P		00 35 01.0	+3.4
	34nm,0.9s,0.2nm								
SDKM	Sandakan	6.56	263	⇑P		P		00 35 01.1	+0.5
SDKM	Sandakan	6.56	263	⇑P		P		00 35 01.1	+0.5
KDM	Kudat	6.87	274	⇑P		P		00 35 04.8	+1.3
KDM	Kudat	6.87	274	⇑P		P		00 35 04.8	+1.3
MPSI	Mapaga	7.21	212	P		P		00 35 07.7	+0.9
	25nm,1.0s,0.2nm								
KKM	Kota Kinabalu	7.49	267	P		P		00 35 10.3	+0.7
	baz=7.4,SNR=26								
KKM	Kota Kinabalu	7.49	267	⇑P		P		00 35 10.2	+0.7
KKM	Kota Kinabalu	7.49	267	⇑P		P		00 35 10.2	+0.7
LUWI	Luwuk	7.54	187	P		P		00 35 11.1	+1.1
	86nm,1.1s,0.6nm								
APSI	Ampana	7.64	196	P		P		00 35 12.1	+1.1
	87nm,1.0s,0.3nm								
LBMI	Labuha	8.02	152	P		P		00 35 19.0	+4.3
	56nm,0.9s								
TGY	Tagaytay City	8.05	340	P		P		00 35 16.3	+1.4
	49nm,0.3s,baz=168,slow=7.0,SNR=5.3								
TGY				S		S		00 36 52.3	+0.4
	42nm,0.3s,baz=156,slow=10.0,SNR=3.6								
PCI	Palu	8.31	208	P		P		00 35 18.4	+0.8
	112nm,1.1s								
NLAI	Namlea	10.23	161	P		P		00 35 39.4	+2.3
	70nm,0.9s								
TTSI	Tana Toraja	10.25	203	P		P		00 35 40.1	+2.9
	107nm,0.9s								
SWI	Sorong	10.48	134	P		P		00 35 41.8	+2.2
SIJI	Sorong	10.49	134	P		P		00 35 40.1	+0.4
	2.2nm,0.3s,baz=330,slow=14,SNR=9.9								
SIJI				S		S		00 37 37.9	+0.6
	0.8nm,0.3s,baz=107,slow=19,SNR=5.0								
PALU	Palu	10.70	85	P		P		00 35 43.8	+2.0
	baz=11,SNR=8.2								
SPSI	Sidrap Palu	11.12	201	P		P		00 35 47.4	+1.2
	66nm,1.2s								
KAPI	Kappang	12.10	199	P		P		00 35 57.2	+0.8
	0.6nm,0.3s,baz=10,slow=5.1,SNR=8.8								
SBUM	Sibu	12.16	251	⇑P		P		00 35 58.5	+1.6
SBUM	Sibu	12.16	251	⇑P		P		00 35 58.5	+1.6
FAKI	Fak Fak	12.63	137	P		P		00 36 02.6	+0.7
	103nm,1.1s								
FAKI	Fak Fak	12.63	137	P		P		00 36 02.7	+0.8
	baz=13,SNR=11								
STKI	Sintang	13.80	243	P		P		00 36 17.6	+3.7
KSM	Kuching	14.29	250	P		P		00 36 19.4	+0.5
	baz=14,SNR=7.4								
KSM	Kuching	14.29	250	⇓P		P		00 36 19.6	+0.7
KSM	Kuching	14.29	250	⇓P		P		00 36 19.6	+0.7
BAKI	Biak	14.52	121	P		P		00 36 22.3	+1.0
	195nm,1.3s								
MMRI	Maumere	15.10	186	P		P		00 36 29.3	+2.0
	118nm,1.1s								
SOEI	Soe	16.15	178	P		P		00 36 38.1	+0.2
	59nm,0.8s								
SOEI	Soe	16.15	178	P		P		00 36 38.0	+0.1
	baz=16,SNR=4.1								
SMPI	Sarmi	17.16	119	P		P		00 36 48.2	+1.2
	122nm,1.6s								
GENI	Genyem	18.73	118	P		P		00 37 02.6	+1.3
	213nm,1.3s								
JAY	Jayapura	19.16	117	P		P		00 37 05.8	+0.4
	2.5nm,0.3s,baz=281,slow=4.4,SNR=10.0								
JAY	Jayapura	19.16	117	P		P		00 37 05.7	+0.4
	baz=19,SNR=7.3								
LEM	Lembang	20.82	231	P		P		00 37 21.2	+0.6
	63nm,1.2s								
LEM	Lembang	20.82	231	P		P		00 37 21.1	+0.6
	18nm,0.4s,baz=47,slow=22,SNR=5.4								
KDU	Kakadu	20.94	155	P		P		00 37 20.6	-0.7
	baz=21,SNR=3.5								
CBJI	Citeko	21.18	233	P		P		00 37 29.8	+6.3
KLSI		21.98	240	P		P		00 37 30.7	-0.1
	73nm,1.2s								
CGJI	Cibinong	22.22	234	P		P		00 37 31.6	-1.3
	64nm,0.8s								
LWLI	Liwa	22.73	240	P		P		00 37 38.9	+1.3
PPI	Padang Panjang	24.29	254	P		P		00 37 50.9	-0.5
	28nm,1.0s								
PSI	Prapat	25.00	263	P		P		00 37 58.2	+0.4
	3.4nm,0.4s,baz=65,slow=2.4,SNR=10.0								
SISI	Saibi	25.80	253	P		P		00 38 03.6	-1.1
	62nm,0.9s								
GSI	Gunungsitoli	26.59	260	P		P		00 38 10.7	-1.0
	97nm,0.9s								
CMAR	Chiang Mai Arr	26.92	298	P		P		00 38 15.2	+0.6
	2.0nm,0.3s,baz=124,slow=7.9,SNR=13								
CMAR				ScP		ScP		00 44 04.7	-2.2
	1.0nm,0.3s,baz=106,slow=2.0,SNR=4.2								
CHTO	Chiang Mai	27.06	299	P		P		00 38 17.6	+1.8
	702nm,0.8s								
COEN	Coen	28.02	137	P		P		00 38 23.1	-1.1
	baz=28,SNR=6.3								
WRA	Warramunga Arr	28.27	159	P		P		00 38 25.4	-0.8
	6.9nm,0.5s,baz=340,slow=9.3,SNR=32								
WRA				ScP		ScP		00 44 08.0	-3.0
	3.0nm,0.8s,baz=344,slow=3.6,SNR=8.5								
KSRS	Korea Array	31.06	6	P		P		00 38 50.3	+0.3
	0.5nm,0.3s,baz=177,slow=9.8,SNR=3.6								
QIS	Mount Isa	31.08	150	P		P		00 38 50.4	-0.2
	baz=31,SNR=4.5								
ASAR	Alice Springs	31.58	162	P		P		00 38 54.9	+0.1
	5.9nm,0.5s,baz=340,slow=7.1,SNR=70								
ASAR				PcP		PcP		00 41 29.6	-0.8
	1.0nm,0.5s,baz=349,slow=2.7,SNR=5.7								
ASAR				S		S		00 43 22.2	-3.0
	7.6nm,0.8s,baz=350,slow=23,SNR=23								
WRKA	Warakurna	31.65	172	P		P		00 38 55.7	+0.3
	baz=32,SNR=16								
MJAR	Matsushiro Arr	32.71	22	P		P		00 39 03.0	-1.2
	4.6nm,0.9s,baz=197,slow=9.9,SNR=12								
MEEK	Meekatharra	33.30	188	P		P		00 39 08.9	-0.4
	baz=33,SNR=13								
CTA	Charters Tower	34.47	141	P		P		00 39 19.7	+0.4
	3.5nm,0.8s,baz=337,slow=9.9,SNR=3.8								
MORW	Morawa	36.12	191	P		P		00 39 32.5	-0.3
	baz=36,SNR=6.8								
FORT	Forrest	37.29	174	P		P		00 39 42.5	+0.2
	baz=37,SNR=18								
BLDU	Ballidu	37.50	190	P		P		00 39 43.7	-0.4
	baz=38,SNR=9.8								
KMBL	Kambalda	37.69	183	P		P		00 39 45.5	-0.1
	baz=38,SNR=21								
KLBR	Kellerberrin	38.30	188	P		P		00 39 50.4	-0.2
	baz=38,SNR=25								
NWAO	Narrogin (SRO)	39.68	189	P		P		00 40 02.0	+0.3
	21nm,0.5s,baz=327,slow=4.1,SNR=29								
NWAO	Narrogin (SRO)	39.68	189	P		P		00 40 02.1	+0.3
	baz=40,SNR=10								
NWAO				P		P		00 40 02.1	+0.3
	baz=40,SNR=10								
TAPN	Taplejung	39.99	306	*eP*		P		00 40 04.6	-0.1
ODAN	Odare	40.05	305	*eP*		P		00 40 05.6	+0.5
RAMN	Ramite	40.

*ISCJB **24** 00:37:03.6±0.2,6˚.64N±0˚.04×123˚.73E±0˚.04, h600km, mb4.2/26, Error ellipse: s-maj=6.3km s-min=4.3km az=141.9*
*KLM **24** 00:37:03.1,6˚.87N×123˚.52E, h650km, mb4.6, ML4.3, MS5.8*
*MAN **24** 00:37:04,6˚.54N×123˚.75E, h566km, mb4.5, ML3.3, MS3.2*
*DJA **24** 00:37:04.8±0.6,7˚N±9˚×12˚4E±˚, h601km±8km, M4.9/24, mb4.7/24, mB5.7/2, MLv5.0/6, Mw(mB)5.2/2*
*IDC **24** 00:37:04.8±0.9,6˚.62N×123˚.77E, h599km±12km, mb3.5/24, mb1 3.6/27, mb1mx3.4/49, mbtmp4.5/27, Error ellipse: s-maj=12.1km s-min=6.6km az=60.0*

ISC 24 00:37:04.6±0.4,**6˚.62N**±0˚.06×**123˚.76E**±0˚.07,**h600**km,**n90,** σ1§**10/97,mb4.3/26,6C-4D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**3.05**	**2**	*eP*		**P**	**00 38 22.0**	**-2.0**
TBP				*eS*		**S**	**00 39 24.2**	**-4.6**
MYLDM	**Lahad Datu**	**5.42**	**255**	⇓P		**P**	**00 38 41.5**	**+0.6**
MYLDM	**Lahad Datu**	**5.42**	**255**	⇓P		**P**	**00 38 41.5**	**+0.6**
TSM	**Tawau**	**6.30**	**249**	⇑P		**P**	**00 38 47.4**	**-0.9**
TSM	**Tawau**	**6.30**	**249**	⇑P		**P**	**00 38 47.4**	**-0.9**
MRSI	**Marisa** 21nm,0.5s,0.3nm	**6.37**	**197**	P		**P**	**00 38 49.2**	**+0.2**
SDKM	**Sandakan**	**6.60**	**262**	⇓P		**P**	**00 38 49.4**	**-1.7**
SDKM	**Sandakan**	**6.60**	**262**	⇓P		**P**	**00 38 49.4**	**-1.7**
KDM	**Kudat**	**6.88**	**273**	⇑P		**P**	**00 38 51.9**	**-1.6**
KDM	**Kudat**	**6.88**	**273**	⇑P		**P**	**00 38 51.9**	**-1.6**
MPSI	**Mapaga** 12nm,0.7s,0.2nm	**7.33**	**212**	P		**P**	**00 38 56.2**	**-1.6**
KKM	**Kota Kinabalu** baz=7.3,SNR=15	**7.52**	**266**	P		**P**	**00 38 58.3**	**-1.2**
KKM	**Kota Kinabalu**	**7.52**	**266**	⇑P		**P**	**00 38 58.8**	**-0.8**
KKM	**Kota Kinabalu**	**7.52**	**266**	⇑P		**P**	**00 38 58.8**	**-0.8**
LUWI	**Luwuk** 71nm,0.8s,0.7nm	**7.68**	**187**	P		**P**	**00 39 01.5**	**+0.5**
APSI	**Ampana** 40nm,0.5s,0.3nm	**7.77**	**196**	P		**P**	**00 39 03.0**	**+1.1**
TGY	**Tagaytay City** 59nm,0.3s,baz=240,slow=1.3,SNR=8.9	**7.93**	**340**	P		**P**	**00 39 02.5**	**-0.9**
SANI	**Sanana**	**8.90**	**165**	P		**P**	**00 39 10.6**	**-2.0**
TTSI	**Tana Toraja** 56nm,0.8s	**10.38**	**202**	P		**P**	**00 39 26.6**	**-0.6**
SWI	**Sorong** 32nm,0.8s	**10.55**	**135**	P		**P**	**00 39 28.4**	**-0.5**
SIJI	**Sorong** 3.9nm,0.3s,baz=308,slow=9.8,SNR=9.6	**10.56**	**135**	P		**P**	**00 39 28.9**	**-0.1**
PALU	**Palau** baz=11,SNR=4.1	**10.66**	**86**	P		**P**	**00 39 30.4**	**+0.3**
AAI	**Ambon** baz=11,SNR=9.6	**11.16**	**156**	P		**P**	**00 39 35.7**	**+0.7**
SPSI	**Sidrap Palu** 62nm,0.7s	**11.24**	**201**	P		**P**	**00 39 34.6**	**-1.3**
KAPI	**Kappang** 1.0nm,0.3s,baz=148,slow=19,SNR=2.6	**12.23**	**199**	P		**P**	**00 39 46.6**	**+0.8**
FAKI	**Fak Fak** 91nm,0.7s	**12.72**	**138**	P		**P**	**00 39 50.4**	**-0.3**
FAKI	**Fak Fak** baz=13,SNR=16	**12.72**	**138**	P		**P**	**00 39 50.6**	**-0.1**
STKI	**Sintang** 32nm,0.9s	**13.88**	**242**	P		**P**	**00 40 01.8**	**-0.6**
KSM	**Kuching** baz=14,SNR=14	**14.35**	**250**	P		**P**	**00 40 06.5**	**-0.5**
SMPI	**Sarmi** 78nm,0.6s	**17.21**	**119**	P		**P**	**00 40 34.7**	**+1.6**
GENI	**Genyem** 67nm,1.0s,6μm	**18.77**	**119**	P		**P**	**00 40 48.6**	**+1.2**
JAY	**Jayapura** 3.0nm,0.3s,baz=256,slow=6.3,SNR=11	**19.20**	**118**	P		**P**	**00 40 52.0**	**+0.7**
JAY	**Jayapura** baz=19,SNR=4.9	**19.20**	**118**	P		**P**	**00 40 52.1**	**+0.7**
LEM	**Lembang** 13nm,0.4s,baz=330,slow=20,SNR=3.3	**20.92**	**231**	P		**P**	**00 41 07.5**	**+0.5**
KLSI	91nm,1.4s	**22.07**	**240**	P		**P**	**00 41 16.4**	**-0.7**
MDSI	**Maura Dua** 20nm,1.1s	**22.44**	**241**	P		**P**	**00 41 19.5**	**-0.9**
LWLI	**Liwa**	**22.81**	**240**	P		**P**	**00 41 20.9**	**-2.9**
PPI	**Padang Panjang** 50nm,0.7s	**24.35**	**254**	P		**P**	**00 41 36.4**	**-0.9**
PSI	**Prapat** 19nm,0.7s,baz=75,slow=6.1,SNR=12	**25.03**	**262**	P		**P**	**00 41 43.5**	**0.0**
PSI	**Prapat** baz=25,SNR=3.7	**25.03**	**262**	P		**P**	**00 41 43.9**	**+0.4**
SISI	**Saibi**	**25.86**	**253**	P		**P**	**00 41 49.5**	**-1.1**
JCJ	**Chichijima** 9.1nm,0.4s,baz=288,slow=20,SNR=4.1	**26.86**	**39**	P		**P**	**00 41 58.6**	**-0.5**
CMAR	**Chiang Mai Arr** 3.7nm,0.4s,baz=115,slow=7.6,SNR=13	**26.88**	**298**	P		**P**	**00 42 00.4**	**+0.9**
COEN	**Coen** baz=28,SNR=29	**28.10**	**137**	P		**P**	**00 42 09.2**	**-0.9**
PMG	**Port Moresby** 12nm,0.7s,baz=291,slow=11,SNR=3.8	**28.24**	**124**	P		**P**	**00 42 09.7**	**-1.7**
WRA	**Warramunga Arr** 16nm,0.5s,baz=340,slow=9.2,SNR=56	**28.38**	**159**	P		**P**	**00 42 12.0**	**-0.5**
WRA	2.8nm,0.5s,baz=334,slow=15,SNR=9.1			S		**S**	**00 46 15.3**	**-3.4**
WRA	3.9nm,0.5s,baz=343,slow=3.5,SNR=13			ScP		**ScP**	**00 47 50.8**	**+0.6**
QIS	**Mount Isa** baz=31,SNR=14	**31.18**	**150**	P		**P**	**00 42 36.8**	**+0.2**
ASAR	**Alice Springs** 9.5nm,0.3s,baz=339,slow=7.3,SNR=106	**31.69**	**162**	P		**P**	**00 42 41.2**	**+0.3**
ASAR	8.7nm,0.8s,baz=352,slow=24,SNR=25			S		**S**	**00 47 08.5**	**-1.1**
ASAR	2.4nm,0.5s,baz=340,slow=2.9,SNR=6.4			ScP		**ScP**	**00 48 01.6**	**+0.5**
WRKA	**Warakurna** baz=32,SNR=6.1	**31.78**	**172**	P		**P**	**00 42 42.1**	**+0.5**
MEEK	**Meekatharra** baz=34,SNR=5.9	**33.44**	**188**	P		**P**	**00 42 55.3**	**-0.2**
CTA	**Charters Tower** 9.0nm,0.5s,baz=333,slow=11,SNR=13	**34.56**	**141**	P		**P**	**00 43 05.6**	**+0.6**
MORW	**Morawa** baz=36,SNR=6.8	**36.25**	**191**	P		**P**	**00 43 18.8**	**0.0**
FORT	**Forrest** baz=38,SNR=9.7	**37.42**	**174**	P		**P**	**00 43 28.7**	**+0.4**
BLDU	**Ballidu** baz=38,SNR=5.0	**37.64**	**190**	P		**P**	**00 43 29.9**	**-0.2**
KLBR	**Kellerberrin** baz=38,SNR=19	**38.43**	**188**	P		**P**	**00 43 36.4**	**-0.1**
NWAO	**Narrogin (SRO)** 6.6nm,0.4s,baz=327,slow=4.3,SNR=13	**39.82**	**189**	P		**P**	**00 43 48.0**	**+0.4**
TAPN	**Taplejung** 18nm,0.6s	**39.93**	**305**	*eP*		**P**	**00 43 49.6**	**+0.6**
ODAN	**Odare** 25nm,0.6s	**39.99**	**304**	*eP*		**P**	**00 43 50.1**	**+0.7**
RAMN	**Ramite** 20nm,0.6s	**40.68**	**304**	*eP*		**P**	**00 43 55.7**	**+0.8**
BBOO	**Buckleboo** baz=41,SNR=30	**40.92**	**164**	P		**P**	**00 43 56.8**	**+0.4**
EIDS	**Eidsvold** baz=42,SNR=4.5	**41.44**	**141**	P		**P**	**00 44 00.9**	**+0.3**
GUN	**Gumba** 22nm,0.4s	**41.64**	**305**	*eP*		**P**	**00 44 03.1**	**+0.5**
PKI	**Pulchoki**	**41.90**	**304**	*eP*		**P**	**00 44 04.6**	**0.0**
STKA	**Stephens Creek** 12nm,0.6s,baz=333,slow=7.5,SNR=32	**41.90**	**157**	P		**P**	**00 44 04.6**	**+0.5**
PKIN	**Phulchoki** 7.6nm,0.5s	**41.91**	**304**	*eP*		**P**	**00 44 04.5**	**-0.1**
KKN	**Kakani** 8.2nm,0.4s	**42.09**	**305**	*eP*		**P**	**00 44 06.1**	**+0.2**
DMN	**Daman**	**42.16**	**304**	*eP*		**P**	**00 44 06.8**	**+0.3**
HTT	**Hallett** baz=42,SNR=7.4	**42.35**	**161**	P		**P**	**00 44 08.6**	**+1.0**
GKN	**Gorkha** 9.0nm,0.4s	**42.69**	**305**	*eP*		**P**	**00 44 10.8**	**+0.2**
CMSA	**Cobar Meteorol** baz=44,SNR=14	**43.35**	**152**	P		**P**	**00 44 16.7**	**+1.4**
DANN	**Dangsing**	**43.54**	**305**	*eP*		**P**	**00 44 17.8**	**+0.5**
SONM	**Songino Array** 0.7nm,0.6s,baz=168,slow=9.7,SNR=3.7	**43.66**	**343**	P		**P**	**00 44 18.9**	**+1.3**
ARMA	**Armidale** baz=46,SNR=5.1	**45.50**	**146**	P		**P**	**00 44 34.0**	**+2.0**
ARPS	**Mount Arapiles** baz=46,SNR=11	**46.37**	**160**	P		**P**	**00 44 39.1**	**+0.8**
MKAR	**Makanchi Array** 7.1nm,0.5s,baz=121,slow=7.9,SNR=70	**53.51**	**326**	P		**P**	**00 45 31.1**	**+0.8**
MKAR	1.5nm,0.6s,baz=121,slow=5.2,SNR=4.4			PcP		**PcP**	**00 46 27.1**	**-0.2**
MKAR	1.2nm,0.7s,baz=122,slow=4.6,SNR=6.4			ScP		**ScP**	**00 49 28.0**	**-0.3**
PETK	**Petropavlovsk-** 2.0nm,0.6s,baz=177,slow=2.8,SNR=4.8	**53.97**	**25**	P		**P**	**00 45 34.3**	**+1.0**
ZALV	**Zalesovo Beam**	**56.69**	**334**	P		**P**	**00 45 51.1**	**-1.0**
	1.1nm,0.6s,baz=116,slow=4.0,SNR=3.9							
RPZ	**Rata Peaks** 11nm,0.9s,baz=111,slow=8.6,SNR=4.3	**65.82**	**144**	P		**P**	**00 46 52.6**	**+0.7**
GEYT	**Alibeck** 0.9nm,0.5s,baz=108,slow=9.3,SNR=3.5	**66.79**	**308**	P		**P**	**00 46 59.1**	**+1.1**
AKTO	**Aktyubinsk** 3.4nm,0.7s,baz=125,slow=7.2,SNR=11	**69.57**	**322**	P		**P**	**00 47 14.7**	**+0.2**
ARU	**Arti** baz=90,slow=12	**70.92**	**328**	P		**P**	**00 47 22.1**	**-0.3**
ILAR	**Eielson Array** 0.3nm,0.4s,baz=247,slow=5.1,SNR=5.1	**83.78**	**26**	P		**P**	**00 48 31.3**	**-0.2**
ASF	**Jabal al Asfar** 2.2nm,0.7s,baz=69,slow=6.5,SNR=4.9	**83.86**	**302**	P		**P**	**00 48 33.6**	**+0.8**
MMAI	**Mount Meron Ar** 2.3nm,1.0s,baz=66,slow=8.3,SNR=4.1	**85.06**	**303**	P		**P**	**00 48 39.3**	**+0.8**
EIL	**Elat** 1.5nm,0.6s,baz=356,slow=14,SNR=3.1	**85.73**	**299**	P		**P**	**00 48 41.8**	**+0.1**
BRTR	**Keskin Array B** 1.9nm,0.3s,baz=184,slow=30,SNR=12	**85.91**	**309**	P		**P**	**00 48 42.0**	**-0.5**
VNDA	**Vanda** 0.4nm,0.5s,baz=321,slow=5.9,SNR=5.6	**86.66**	**172**	P		**P**	**00 48 44.5**	**-0.5**
FINES	**FINESS Array B** 0.9nm,0.5s,baz=79,slow=4.1,SNR=8.7	**87.90**	**332**	P		**P**	**00 48 50.4**	**-0.8**
TORD	**Torodi Ar. Bea** 0.3nm,0.3s,baz=59,slow=1.7,SNR=11	**119.20**	**289**	PKP		**PKPdf**	**00 54 47.1**	**-0.4**
LPAZ	**La Paz** 1.1nm,0.7s,baz=209,slow=6.3,SNR=5.6	**164.91**	**131**	PKPab		**PKPab**	**00 57 05.2**	**+2.1**

*ISCJB **24** 00:41:36.3±0.2,6˚.26N±0˚.04×123˚.79E±0˚.06, h550km, mb4.1/26, Error ellipse: s-maj=7.4km s-min=4.5km az=164.9*
*DJA **24** 00:41:36.6±0.8,6˚N±10˚×12˚4E±˚, h531km±10km, M5.0/17, mb4.5/17, MLv5.2/7*
*MAN **24** 00:41:38,6˚.45N×123˚.66E, h528km, mb4.7, ML3.6, MS3.6*
*IDC **24** 00:41:38.7±1.1,6˚.21N×123˚.76E, h566km±13km, mb3.7/25, mb1 3.7/27, mb1mx3.6/43, mbtmp4.6/27, Error ellipse: s-maj=12.1km s-min=6.8km az=73.0*
*KLM **24** 00:41:40.8,6˚.26N×123˚.49E, h515km, mb4.8, MS5.6*

ISC 24 00:41:37.1±0.4,**6˚.23N**±0˚.05×**123˚.80E**±0˚.08,**h550**km,**n84,** σ1§**12/91,mb4.2/26,2C-10D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**1.08**	**24**	*iP*		**P**	**00 42 43.0**	**-0.6**
DCPH	**Dipolog City**	**2.38**	**349**	*eP*		**P**	**00 42 47.7**	**-0.9**
TBP	**Tagbilaran**	**3.44**	**1**	*eP*		**P**	**00 42 53.5**	**-1.4**
TBP				*eS*		**S**	**00 43 54.9**	**-3.5**
MRSI	**Marisa** 39nm,0.6s,0.2nm	**6.01**	**198**	P		**P**	**00 43 16.3**	**+0.5**
TSM	**Tawau**	**6.20**	**252**	⇓P		**P**	**00 43 17.1**	**-0.5**
TSM	**Tawau**	**6.20**	**252**	⇓P		**P**	**00 43 17.1**	**-0.5**
TNTI	**Ternate** 105nm,0.3s,4.9nm	**6.49**	**147**	P		**P**	**00 43 19.5**	**-0.8**
SDKM	**Sandakan**	**6.59**	**265**	⇓P		**P**	**00 43 20.4**	**-0.9**
SDKM	**Sandakan**	**6.59**	**265**	⇓P		**P**	**00 43 20.4**	**-0.9**
KDM	**Kudat**	**6.95**	**276**	⇓P		**P**	**00 43 24.0**	**-0.6**
KDM	**Kudat**	**6.95**	**276**	⇓P		**P**	**00 43 24.0**	**-0.6**
MPSI	**Mapaga** 50nm,0.7s,0.3nm	**7.03**	**214**	P		**P**	**00 43 25.1**	**-0.3**
LUWI	**Luwuk** baz=7.4,SNR=3.1	**7.29**	**188**	P		**P**	**00 43 28.3**	**+0.3**
APSI	**Ampana** 50nm,0.5s,0.2nm	**7.41**	**197**	P		**P**	**00 43 29.0**	**-0.1**
KKM	**Kota Kinabalu** baz=7.6,SNR=63	**7.54**	**269**	P		**P**	**00 43 29.9**	**-0.6**
KKM	**Kota Kinabalu**	**7.54**	**269**	⇑P		**P**	**00 43 30.0**	**-0.5**
KKM	**Kota Kinabalu**	**7.54**	**269**	⇑P		**P**	**00 43 30.0**	**-0.5**
PCI	**Palu** 80nm,0.8s	**8.12**	**209**	P		**P**	**00 43 35.6**	**-0.5**
SANI	**Sanana**	**8.51**	**165**	P		**P**	**00 43 37.2**	**-2.8**
NLAI	**Namlea** 53nm,0.8s	**9.97**	**161**	P		**P**	**00 43 56.1**	**+1.3**
TTSI	**Tana Toraja** 32nm,0.8s	**10.03**	**203**	P		P	00 43 58.0	+2.6
SWI	**Sorong** 53nm,1.1s	**10.26**	**133**	P		**P**	**00 43 57.7**	**0.0**
SIJI	**Sorong** 6.3nm,0.3s,baz=322,slow=15,SNR=11	**10.26**	**133**	P		**P**	**00 43 58.9**	**+1.0**
PALU	**Palau** baz=11,SNR=5.3	**10.66**	**83**	P		P	00 43 55.6	-6.3
SBUM	**Sibu**	**12.14**	**252**	⇓P		**P**	**00 44 18.0**	**+0.8**
SBUM	**Sibu**	**12.14**	**252**	⇓P		**P**	**00 44 18.0**	**+0.8**
FAKI	**Fak Fak** 103nm,0.9s	**12.40**	**137**	P		**P**	**00 44 20.3**	**+0.4**
FAKI	**Fak Fak** baz=12,SNR=29	**12.40**	**137**	P		**P**	**00 44 20.4**	**+0.4**
JAY	**Jayapura** 3.7nm,0.3s,baz=344,slow=0.3,SNR=13	**18.99**	**117**	P		**P**	**00 45 25.1**	**+0.9**
JAY	**Jayapura** baz=19,SNR=7.5	**18.99**	**117**	P		**P**	**00 45 25.1**	**+0.9**
MTN	**Manton Dam** baz=23,SNR=3.5	**20.30**	**159**	P		P	00 45 41.3	+5.2
KDU	**Kakadu** baz=21,SNR=4.3	**20.68**	**155**	P		**P**	**00 45 39.5**	**0.0**
LEM	**Lembang** 17nm,0.6s,baz=139,slow=19,SNR=2.6	**20.71**	**231**	P		**P**	**00 45 40.7**	**+0.8**
PSI	**Prapat** 6.9nm,0.4s,baz=259,slow=10,SNR=3.5	**25.02**	**263**	P		**P**	**00 46 19.5**	**+1.1**
CMAR	**Chiang Mai Arr** 1.2nm,0.3s,baz=117,slow=3.5,SNR=5.1	**27.10**	**299**	P		**P**	**00 46 37.5**	**+1.0**
WRA	**Warramunga Arr** 4.1nm,0.5s,baz=341,slow=9.3,SNR=8.7	**28.00**	**158**	P		**P**	**00 46 44.2**	**-0.1**
WRA	1.3nm,0.9s,baz=336,slow=2.9,SNR=5.9			PcP		**PcP**	**00 49 41.4**	**0.0**
WRA	1.8nm,0.6s,baz=333,slow=16,SNR=4.6			S		**S**	**00 50 46.0**	**-4.5**
WRA	1.1nm,0.5s,baz=341,slow=3.1,SNR=4.9			ScP		**ScP**	**00 52 30.1**	**-0.5**
GIRL	**Giralia** baz=30,SNR=3.1	**30.18**	**198**	P		**P**	**00 47 04.3**	**+1.2**
JHJ	**Hachijo jima 2** 59nm,0.5s,baz=57,slow=17,SNR=2.4	**30.61**	**27**	P		**P**	**00 47 08.0**	**+1.3**
KSRS	**Korea Array** 0.3nm,0.3s,baz=178,slow=11,SNR=3.2	**31.31**	**6**	P		**P**	**00 47 13.4**	**+0.8**
ASAR	**Alice Springs** 4.4nm,0.4s,baz=348,slow=7.0,SNR=36	**31.31**	**162**	P		**P**	**00 47 13.7**	**+0.8**
ASAR	2.0nm,0.5s,baz=346,slow=2.6,SNR=8.6			PcP		**PcP**	**00 49 50.3**	**+0.2**
ASAR	11nm,0.9s,baz=349,slow=22,SNR=34			S		**S**	**00 51 40.5**	**-1.0**
ASAR	1.3nm,0.6s,baz=334,slow=2.7,SNR=4.7			ScP		**ScP**	**00 52 41.2**	**-0.1**
WRKA	**Warakurna** baz=32,SNR=21	**31.39**	**172**	P		**P**	**00 47 14.1**	**+0.5**
MEEK	**Meekatharra** baz=33,SNR=11	**33.06**	**189**	P		**P**	**00 47 27.6**	**-0.1**
MORW	**Morawa** baz=36,SNR=9.9	**35.88**	**192**	P		**P**	**00 47 51.4**	**+0.2**
FORT	**Forrest** baz=37,SNR=7.6	**37.02**	**174**	P		**P**	**00 48 01.1**	**+0.6**
BLDU	**Ballidu** baz=38,SNR=8.3	**37.26**	**190**	P		**P**	**00 48 02.4**	**-0.1**
KMBL	**Kambalda** baz=38,SNR=26	**37.43**	**183**	P		**P**	**00 48 04.2**	**+0.3**
KLBR	**Kellerberrin** baz=38,SNR=28	**38.05**	**188**	P		**P**	**00 48 09.0**	**0.0**
USRK	**Ussuriysk Ar.** 1.9nm,0.6s,baz=195,slow=8.3,SNR=5.1	**38.50**	**9**	P		**P**	**00 48 13.3**	**+0.9**
NWAO	**Narrogin (SRO)** 19nm,0.5s,baz=327,slow=4.5,SNR=23	**39.44**	**189**	P		**P**	**00 48 20.6**	**+0.4**
NWAO	**Narrogin (SRO)** baz=40,SNR=18	**39.44**	**189**	P		**P**	**00 48 20.8**	**+0.6**
NWAO	baz=40,SNR=18			P		**P**	**00 48 20.8**	**+0.6**
BBOO	**Buckleboo** baz=41,SNR=14	**40.54**	**164**	P		**P**	**00 48 29.5**	**+0.5**
RKGY	**Rocky Gully** baz=41,SNR=16	**41.13**	**189**	P		**P**	**00 48 34.8**	**+1.2**
STKA	**Stephens Creek** 4.1nm,0.4s,baz=333,slow=8.0,SNR=14	**41.52**	**157**	P		**P**	**00 48 37.8**	**+1.0**
HTT	**Hallett** baz=42,SNR=20	**41.97**	**161**	P		**P**	**00 48 41.5**	**+1.1**
SONM	**Songino Array** 5.4nm,0.9s,baz=160,slow=8.1,SNR=21	**44.04**	**343**	P		**P**	**00 48 57.4**	**+1.0**
SONM	2.1nm,0.7s,baz=183,slow=2.7,SNR=7.9			PcP		**PcP**	**00 50 30.1**	**+0.3**
ARPS	**Mount Arapiles** baz=46,SNR=9.4	**45.99**	**160**	P		**P**	**00 49 12.3**	**+1.0**
TOO	**Toolangi** baz=48,SNR=4.3	**48.05**	**157**	P		P	00 49 28.8	+2.0
MKAR	**Makanchi Array** 19nm,0.6s,baz=120,slow=7.9,SNR=148	**53.85**	**326**	P		**P**	**00 50 09.6**	**+0.8**
MKAR	4.4nm,0.5s,baz=122,slow=3.8,SNR=13			PcP		**PcP**	**00 51 05.5**	**-0.2**
MKAR				ScP		**ScP**	**00 54 10.6**	**-0.7**
	0.9nm,0.6s,baz=125,slow=3.8,SNR=6.1							
PETK	**Petropavlovsk-** 2.9nm,0.9s,baz=294,slow=18,SNR=5.3	**54.30**	**24**	P		**P**	**00 50 13.6**	**+1.7**
KZA	**Kyzart** SNR=7.4	**55.81**	**318**	P		**P**	**00 50 24.7**	**+1.6**
TKM2	**Tokmak 2** SNR=8.2	**55.95**	**319**	P		**P**	**00 50 24.8**	**+1.0**
USP	**Ospenovka** SNR=15	**56.82**	**319**	P		**P**	**00 50 30.5**	**+0.9**
AML	**Almayashu** SNR=6.3	**56.88**	**317**	P		**P**	**00 50 31.9**	**+1.4**
EKS2	**Erkin-Say** SNR=8.2	**57.04**	**318**	P		**P**	**00 50 32.5**	**+1.2**
ZALV	**Zalesovo Beam** 7.2nm,0.9s,baz=121,slow=6.2,SNR=19	**57.06**	**334**	P		**P**	**00 50 30.5**	**-0.4**
SEY	**Seymchan** 0.8nm,0.3s,baz=219,slow=6.2,SNR=6.7	**60.32**	**15**	P		**P**	**00 50 53.7**	**+1.1**
GEYT	**Alibeck** 7.5nm,0.9s,baz=128,slow=17,SNR=11	**67.06**	**309**	P		**P**	**00 51 37.2**	**+1.0**
AKTO	**Aktyubinsk** 5.3nm,0.6s,baz=107,slow=5.6,SNR=20	**69.90**	**322**	P		**P**	**00 51 53.2**	**+0.1**
ARU	**Arti** baz=97,slow=9.8	**71.28**	**328**	P		**P**	**00 52 00.4**	**-0.6**
ILAR	**Eielson Array** 0.5nm,0.6s,baz=240,slow=5.6,SNR=8.5	**84.12**	**26**	P		**P**	**00 53 09.5**	**-0.7**
MAW	**Mawson** 2.7nm,0.7s,baz=60,slow=6.4,SNR=4.7	**85.09**	**200**	P		**P**	**00 53 14.6**	**-0.1**
BRTR	**Keskin Array B** 2.0nm,0.7s,baz=107,slow=5.3,SNR=11	**86.19**	**309**	P		**P**	**00 53 19.8**	**-1.1**
VNDA	**Vanda** 2.9nm,0.8s,baz=301,slow=7.4,SNR=13	**86.27**	**172**	P		**P**	**00 53 20.5**	**+0.3**
ARCES	**ARCESS Array B** 4.1nm,0.8s,baz=68,slow=4.5,SNR=8.8	**87.11**	**340**	P		**P**	**00 53 23.4**	**-0.9**
SPITS	**Spitsbergen Ar** 5.8nm,0.6s,baz=91,slow=8.7,SNR=19	**87.47**	**349**	P		**P**	**00 53 25.7**	**-0.3**
AKASG	**Malin Array Be** 0.8nm,0.4s,baz=65,slow=5.1,SNR=4.2	**88.12**	**321**	P		**P**	**00 53 28.3**	**-1.2**
FINES	**FINESS Array B** 3.2nm,0.5s,baz=68,slow=5.2,SNR=25	**88.26**	**332**	P		**P**	**00 53 29.2**	**-0.7**
NB2	**NORSAR Subarra** comp=Z,1.6nm,1.0s,baz=69,slow=4.4	**95.26**	**333**	P		**P**	**00 54 00.6**	**-1.5**
NOA	**NORSAR Array B** comp=Z,0.7nm,0.7s,baz=113,slow=0.9,SNR=4.0	**95.26**	**333**	P		**P**	**00 54 00.4**	**-1.7**
BRG	**Berggiesshubel** comp=Z,3.7nm,0.9s	**97.50**	**323**	*e*(P)		**P**	**00 54 12.0**	**-0.4**
PDAR	**Pinedale Array** comp=Z,0.0nm,100.0s,baz=95,slow=6.4,SNR=5.3	**111.35**	**39**	PKKP		**PKKPab**	**01 10 15.6**	**-3.7**
TORD	**Torodi Ar. Bea** comp=Z,2.0nm,0.6s,baz=65,slow=1.6,SNR=27	**119.36**	**289**	PKP		**PKPdf**	**00 59 24.5**	**-0.7**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.6s,baz=304,slow=2.3,SNR=4.3	**122.30**	**50**	PKP		**PKPdf**	**00 59 31.0**	**+0.2**
TXAR	comp=Z,0.5nm,0.8s,baz=104,slow=3.8,SNR=4.9			PKKP		PKKPdf	01 09 57.4	-5.6
DBIC	**Dimbokro** comp=Z,2.5nm,0.6s,baz=120,slow=6.6,SNR=5.0	**127.18**	**283**	PKP		**PKPdf**	**00 59 40.4**	**+0.1**

*BJI **24** 00:50:06.7,5˚.90N×124˚.03E, h585km, mb4.8/45, mB5.4/9*
*MAN **24** 00:50:11,6˚.70N×123˚.72E, h592km, mb5.3, ML4.2, MS4.5*
*NEIC **24** 00:50:13.7±0.2,6˚.55N×123˚.63E, h590km±3km, mb4.8/28, Error ellipse: s-maj=5.3km s-min=3.5km az=65.0*
*KLM **24** 00:50:13.4,6˚.56N×123˚.74E, h594km, mb4.9, ML4.7, MS6.0*
*ISCJB **24** 00:50:13.2±0.2,6˚.57N±0˚.02×123˚.67E±0˚.03, h599km±3km, mb4.6/95, Error ellipse: s-maj=4.7km s-min=3.0km az=156.5*
*MOS **24** 00:50:13.6±0.8,6˚.57N×123˚.63E, h607km, mb4.7/29, Error ellipse: s-maj=10.7km s-min=5.5km az=113.9*
*DJA **24** 00:50:14.5±0.3,7˚N±3˚×12˚4E±˚, h596km±4km, M5.3/57, mb4.8/57, mB6.0/4, MLv5.4/10, Mw(mB)5.6/4, Mwp7.8/1*
*IDC **24** 00:50:14.7±0.8,6˚.56N×123˚.64E, h600km±10km, mb3.8/35, mb1 3.8/37, mb1mx3.8/39, mbtmp4.8/37, Error ellipse: s-maj=9.8km s-min=5.6km az=68.0*

ISC 24 00:50:13.7±0.3,**6˚.57N**±0˚.03×**123.72E**±0˚.05,**h590**km±3km, **h592**km:**pP-P,n284,**σ1**915/328,mb4.6/94,33C-16D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.84**	**39**	‖*eP*		**P**	**00 51 23.7**	**0.0**
DAV	**Davao City (W)**	**1.92**	**75**	*eP*		**P**	**00 51 26.5**	**-0.4**
DCPH	**Dipolog City**	**2.04**	**350**	*eP*		**P**	**00 51 26.6**	**-0.7**
TBP	**Tagbilaran**	**3.11**	**3**	*eP*		**P**	**00 51 31.7**	**-1.1**
TBP				*eS*		**S**	**00 52 35.4**	**-1.7**
MYLDM	**Lahad Datu**	**5.37**	**255**	⇑P		**P**	**00 51 50.7**	**+1.6**
MYLDM	**Lahad Datu**	**5.37**	**255**	⇑P		**P**	**00 51 50.7**	**+1.6**
MYLDM	**Lahad Datu**	**5.37**	**255**	*eP*		**P**	**00 51 49.6**	**+0.5**
MYLDM				*eS*		**S**	**00 53 07.8**	**+0.9**
KMSI	**Cibinong** 430nm,1.3s,2.6nm	**5.96**	**177**	P		**P**	**00 51 54.2**	**+0.1**
TOLI	**Toli-Toli**	**6.14**	**208**	*eP*		**P**	**00 51 54.4**	**-1.4**
TSM	**Tawau**	**6.24**	**249**	⇑P		**P**	**00 51 56.9**	**+0.3**
TSM	**Tawau**	**6.24**	**249**	⇑P		**P**	**00 51 56.9**	**+0.3**
MRSI	**Marisa** 109nm,1.2s,0.5nm	**6.30**	**196**	P		**P**	**00 51 56.8**	**-0.3**
SDKM	**Sandakan**	**6.55**	**262**	⇓P		**P**	**00 51 58.8**	**-0.6**
SDKM	**Sandakan**	**6.55**	**262**	⇓P		**P**	**00 51 58.8**	**-0.6**
TNTI	**Ternate** 479nm,0.4s,3.9nm	**6.81**	**148**	P		**P**	**00 52 01.7**	**0.0**
**TNT

FAKI Fak Fak 12.70 138 P P 00 53 00.4 +0.7
baz=13,SNR=41
FAKI Fak Fak 12.70 138 eP P 00 53 00.3 +0.7
KSM Kuching 14.29 250 P P 00 53 15.4 -0.3
baz=14,SNR=5.6
KSM Kuching 14.29 250 ⇑P P 00 53 16.2 +0.4
KSM Kuching 14.29 250 ⇑P P 00 53 16.2 +0.4
KSM Kuching 14.29 250 eP P 00 53 14.7 -1.1
BAKI Biak 14.57 121 P P 00 53 19.3 +0.9
100nm,0.7s
MMRI Maumere 15.17 186 P P 00 53 24.2 +0.3
118nm,0.7s
MMRI Maumere 15.17 186 eP P 00 53 23.3 -0.6
84nm,0.7s
SOEI Soe 16.22 178 P P 00 53 33.0 -0.8
85nm,1.0s
SOEI Soe 16.22 178 ⇓P P 00 53 33.5 -0.3
baz=16,SNR=6.0
SOEI Soe 16.22 178 eP P 00 53 32.8 -1.0
57nm,0.7s
SOEI eS S 00 56 18.3 +1.4
YULB Yu-li 16.89 352 eP P 00 53 40.4 +0.7
79nm,1.7s
SMPI Sarmi 17.21 119 P P 00 53 44.4 +1.7
194nm,0.5s
SSLB Suanglung 17.33 351 eP P 00 53 42.8 -0.9
14nm,0.6s
SSLB eS S 00 56 36.2 +1.8
QIZ Qiongzhong 18.32 314 P P 00 53 53.1 +0.3
QIZ sP sP 00 56 17.4 -1.4
QIZ S S 00 56 52.1 +1.5
QIZ PMZ
24nm,2.5s
GENI Genyem 18.78 118 P P 00 53 58.5 +1.5
136nm,0.7s
JAY Jayapura 19.21 117 P P 00 54 02.0 +1.0
3.9nm,0.3s,baz=249,slow=7.5,SNR=15
JAY Jayapura 19.21 117 ⇑P P 00 54 02.0 +1.0
baz=19,SNR=6.1
MTN Manton Dam 20.64 159 P P 00 54 13.6 -0.2
baz=21,SNR=31
LEM Lembang 20.86 231 P P 00 54 16.1 +0.1
31nm,0.7s,baz=311,slow=19,SNR=3.8
KDU Kakadu 21.01 156 P P 00 54 16.9 -0.3
baz=21,SNR=8.1
SKNT Sakolnakorn 21.89 300 P P 00 54 25.5 +0.5
48nm,1.2s
KLSI 22.00 240 P P 00 54 25.6 -0.5
104nm,1.1s
MDSI Maura Dua 22.38 241 P P 00 54 29.2 -0.2
20nm,1.5s
KHON Khomkaen 22.64 297 P P 00 54 32.6 +0.9
16nm,0.5s,493nm
KNRA Kununurra 22.66 167 P P 00 54 31.8 0.0
baz=23,SNR=5.6
LWLI Liwa 22.75 240 P P 00 54 31.8 -1.0
188nm,0.8s,114μm
CHAI Chaiyaphum 23.22 295 P P 00 54 37.3 +0.4
8.0nm,0.7s,162nm
PPI Padang Panjang 24.29 254 P P 00 54 45.2 -1.2
34nm,0.9s
PBKT Sadao Pong 24.37 296 P P 00 54 47.9 +0.9
28nm,1.5s,4μm
PSI Prapat 24.99 263 P P 00 54 52.8 +0.1
21nm,0.8s,baz=122,slow=2.9,SNR=11
UTTA Uttaradit 25.18 298 P P 00 54 55.0 +0.8
5.9nm,1.1s,51nm
WHN Wuhan 25.42 341 P P 00 54 58.3 +2.2
GYA Guiyang 25.60 323 P P 00 55 00.1 +2.2
GYA sP sP 00 57 35.8 -2.9
GYA S S 00 58 47.3 +1.6
GYA ScP ScP 01 00 54.5 +1.9
GYA ScS ScS 01 04 43.9 +0.7
GYA PMZ
10.0nm,0.8s
GYA PMZ
110nm,4.8s
NJ2 Nanjing 25.76 350 eP P 00 54 57.8 -1.2
NJ2 S S 00 58 45.8 -1.9
SISI Saibi 25.80 253 P P 00 54 57.9 -1.8
76nm,0.7s,6μm
LAMP Lampang 26.30 299 P P 00 55 05.4 +1.4
7.8nm,1.1s,229nm
CRAI Chiangrai 26.41 303 P P 00 55 02.5 -2.4
63nm,0.8s
GSI Gunungsitoli 26.59 260 P P 00 55 05.1 -1.5
102nm,1.2s
GSI Gunungsitoli 26.59 260 eP P 00 55 04.9 -1.7
167nm,1.3s
CMAR Chiang Mai Arr 26.87 298 P P 00 55 09.9 +0.8
11nm,1.0s,baz=120,slow=7.4,SNR=29
CMAR PcP PcP 00 58 12.4 +1.1
1.3nm,0.5s,baz=144,slow=2.1,SNR=5.9
CBIJ Chichi jima 26.93 39 P P 00 55 09.5 +0.1
CBIJ S S 00 59 02.8 -3.4
JCJ Chichijima 26.93 39 P P 00 55 09.5 +0.1
15nm,0.3s,baz=14,slow=15,SNR=16
JCJ S S 00 59 02.8 -3.4
32nm,0.7s,baz=292,slow=23,SNR=5.9
CMMT Chiang Mai 27.01 299 P P 00 55 10.6 +0.4
108nm,0.8s
CHTO Chiang Mai 27.01 299 P P 00 55 10.6 +0.3
1μm,1.6s
CHTO Chiang Mai 27.01 299 eP P 00 55 09.8 -0.5
CHTO pmax pmax
comp=Z,46nm,1.3s
CHTO Chiang Mai 27.01 299 eP P 00 55 09.8 -0.5
comp=Z,46nm,1.3s
JNU Nakatsue 27.25 13 P P 00 55 11.9 -0.3
comp=Z,3.5nm,0.6s,baz=174,slow=4.8,SNR=3.5
KMI Kunming 27.27 315 P P 00 55 14.3 +1.7
KMI PMZ
comp=Z,25nm,1.0s
CMAI Chiengmai2 27.39 301 P P 00 55 14.7 +1.0
comp=Z,430nm,0.9s,comp=Z,14μm
MHMT Maesarieng 27.66 297 P P 00 55 17.1 +1.2
comp=Z,29nm,1.4s
COEN Coen 28.09 137 P P 00 55 19.3 -0.3
baz=28,SNR=38
COEN Coen 28.09 137 eP P 00 55 18.9 -0.7
comp=Z,37nm,0.4s
PMG Port Moresby 28.24 124 P P 00 55 21.0 0.0
comp=Z,9.0nm,0.5s,baz=279,slow=13,SNR=2.3
WRAB Tennant Creek 28.34 159c iP P 00 55 21.6 -0.2
WRAB pmax pmax
comp=Z,226nm,1.1s
WRA Warramunga Arr 28.34 159 P P 00 55 21.5 -0.3
comp=Z,56nm,0.4s,baz=341,slow=9.2,SNR=188
WRA S S 00 59 24.2 -4.0
comp=Z,4.3nm,0.5s,baz=334,slow=15,SNR=8.2
WRA ScP ScP 01 01 00.6 -0.4
comp=Z,4.9nm,0.4s,baz=342,slow=3.2,SNR=12
TIA Tai'an 30.12 349 ⇓P P 00 55 37.3 +0.4
TIA PMZ
comp=Z,20nm,1.0s
CD2 Chengdu 30.60 325 P P 00 55 41.0 -0.2
CD2 sP sP 00 58 23.0 -2.0
CD2 S S 01 00 03.9 +0.9
CD2 SS SS 01 03 13.8 +1.9
CD2 PMZ
comp=Z,30nm,0.7s
CD2 PMZ
comp=Z,2μm,11.3s
KSAR Wonju Array Be 30.97 6 P P 00 55 45.3 +1.2
KSAR Wonju Array Be 30.97 6 P P 00 55 45.3 +1.2
KSRS Korea Array 30.98 7 P P 00 55 45.3 +1.1
comp=Z,1.8nm,0.5s,baz=182,slow=11,SNR=10.0
KSRS Korea Array 30.98 7 P P 00 55 45.3 +1.1
KSRS pmax pmax
comp=Z,2.0nm,0.5s
QIS Mount Isa 31.15 150 P P 00 55 46.3 +0.4
baz=31,SNR=57
ASAR Alice Springs 31.65 162 P P 00 55 50.7 +0.5
comp=Z,62nm,0.3s,baz=340,slow=7.3,SNR=709
ASAR S S 01 00 18.1 -1.1
comp=Z,7.6nm,1.0s,baz=342,slow=15,SNR=24
ASAR ScP ScP 01 01 11.8 0.0
comp=Z,3.3nm,0.4s,baz=337,slow=3.2,SNR=9.1
WRKA Warakurna 31.73 172 P P 00 55 51.2 +0.4
baz=32,SNR=40
MTSU Mount Surprise 31.87 141 P P 00 55 52.8 +0.7
baz=32,SNR=27
DL2 Dalian 32.25 357 ⇓P P 00 55 55.5 +0.5
DL2 PMZ
comp=Z,39nm,0.8s
MAJO Matsushiro 32.65 22 ⇑iP P 00 55 58.5 0.0
MAJO pmax pmax
comp=Z,113nm,1.1s
MAT Matsushiro 32.65 22 P P 00 55 57.8 -0.7
MJAR Matsushiro Arr 32.65 22 P P 00 55 57.8 -0.7
comp=Z,15nm,1.0s,baz=199,slow=9.8,SNR=27
MEEK Meekatharra 33.38 188 P P 00 56 04.4 -0.3
baz=33,SNR=27
BJT Baijiatuau 33.99 350 eP P 00 56 10.2 +0.6
BJT pmax pmax
comp=Z,60nm,1.4s
BJT Baijiatuau 33.99 350 eP P 00 56 10.2 +0.6
comp=Z,60nm,1.4s
BJI Beijing 34.01 350 P P 00 56 09.8 0.0
BJI PMZ
comp=Z,28nm,1.1s
CTA Charters Tower 34.54 141 P P 00 56 15.7 +1.2
comp=Z,16nm,0.5s,baz=314,slow=9.2,SNR=40
CTAO Charters Tower 34.54 141 eP P 00 56 15.4 +0.9
CTAO pmax pmax
comp=Z,96nm,1.5s
CTAO Charters Tower 34.54 141 eP P 00 56 15.4 +0.9
comp=Z,96nm,1.5s
LZH Lanzhou 34.57 331 ⇓P P 00 56 16.1 +1.4
LZH PMZ
comp=Z,52nm,1.3s
LZH PMZ
comp=Z,180nm,5.0s
HHC Hu-ho-hao-te 35.82 344 eP P 00 56 28.5 +3.5
HHC sP sP 00 59 11.6 +0.6
HHC S ScP 01 01 26.0 -0.6
HHC sS sS 01 04 28.6 +5.2
HHC PMZ
comp=Z,18nm,0.9s
MORW Morawa 36.19 191 P P 00 56 27.9 -0.1
baz=36,SNR=8.8
MSHR Mys Shultsa 36.47 9 iP P 00 56 31.1 +1.1
CN2 Changchun 37.12 2 eP P 00 56 35.3 -0.1
FORT Forrest 37.37 174 P P 00 56 38.0 +0.4
baz=37,SNR=98
FORT Forrest 37.37 174 eP P 00 56 37.7 +0.1
comp=Z,92nm,0.5s
BLDU Balildu 37.57 190 P P 00 56 38.9 -0.4
baz=38,SNR=7.4
KMBL Kambalda 37.76 183 P P 00 56 40.7 -0.1
baz=38,SNR=27
USRK Ussuriysk Ar. 38.18 10 P P 00 56 44.7 +0.7
comp=Z,3.0nm,0.5s,baz=200,slow=6.6,SNR=12
USRK PcP PcP 00 58 42.7 -0.1
comp=Z,1.5nm,0.5s,baz=202,slow=3.8,SNR=4.8
MDJ Mudanjiang 38.25 7 P P 00 56 44.9 +0.4
MDJ sP sP 00 59 29.5 -2.3
MDJ S S 01 01 57.8 +0.7
MDJ sS sS 01 05 00.5 -0.5
MDJ PMZ
comp=Z,9.0nm,0.9s
MDJ PMZ
comp=Z,5μm,13.2s
LSA Lhasa 38.32 311 P P 00 56 46.0 0.0
LSA Lhasa 38.32 311 eP P 00 56 46.6 +0.6
LSA pmax pmax
comp=Z,63nm,1.6s
LSA Lhasa 38.32 311 eP P 00 56 46.6 +0.6
comp=Z,64nm,1.6s
KLBR Kellerberrin 38.37 188 P P 00 56 45.3 -0.4
baz=38,SNR=24
GTA Gaotai 39.15 330 eP P 00 56 53.0 +0.9
GTA PMZ
comp=Z,24nm,1.0s
NWAO Narrogin (SRO) 39.76 189 P P 00 56 57.1 +0.3
comp=Z,22nm,0.6s,baz=329,slow=4.7,SNR=34
NWAO Narrogin (SRO) 39.76 189 P P 00 56 57.1 +0.3
baz=40,SNR=25
NWAO P P 00 56 57.1 +0.3
baz=40,SNR=25
TAPN Taplejung 39.93 305 eP P 00 56 59.1 +0.4
comp=Z,20nm,0.4s
ODAN Odare 39.99 305 eP P 00 56 59.5 +0.3
comp=Z,30nm,0.5s
RAMN Ramite 40.68 304 eP P 00 57 05.1 +0.5
comp=Z,38nm,0.6s
BBOO Buckleboo 40.88 164 P P 00 57 06.3 +0.5
baz=41,SNR=218
BBOO Buckleboo 40.88 164 eP P 00 57 05.8 +0.1
comp=Z,49nm,0.6s
EIDS Eidsvold 41.42 141 P P 00 57 10.7 +0.5
baz=42,SNR=7.4
EIDS Eidsvold 41.42 141 eP P 00 57 10.7 +0.5
comp=Z,108nm,1.7s
RKGY Rocky Gully 41.45 188 ⇑P P 00 57 10.8 +0.6
baz=42,SNR=12
GUN Gumba 41.64 305 eP P 00 57 12.6 +0.3
comp=Z,43nm,0.4s
STKA Stephens Creek 41.86 157 P P 00 57 14.3 +0.8
comp=Z,35nm,0.5s,baz=336,slow=7.5,SNR=119
STKA Stephens Creek 41.86 157 P P 00 57 14.3 +0.8
STKA pmax pmax
comp=Z,35nm,0.5s
STKA Stephens Creek 41.86 157 eP P 00 57 14.1 +0.6
comp=Z,6.7nm,0.5s
PKI Puchoki 41.89 305 eP P 00 57 14.0 -0.3
PKIN Phulchoki 41.91 305 eP P 00 57 13.9 -0.4
KKN Kakani 42.08 305 eP P 00 57 15.5 -0.1
comp=Z,35nm,0.5s
DMN Daman 42.16 304 eP P 00 57 16.3 0.0
HTT Hallett 42.31 161 P P 00 57 18.1 +1.0
baz=42,SNR=24
GKN Gorkha 42.69 305 eP P 00 57 20.1 -0.2
comp=Z,30nm,0.5s
KLR Kul'dur 43.06 8 eP P 00 57 17.9 -4.7
CMSA Cobar Meteorol 43.32 152 P P 00 57 26.5 +1.7
baz=44,SNR=42
YSS Yuzh-Sakhalins 43.44 19 eP P 00 57 26.3 +0.8
YSS pmax pmax
comp=Z,44nm,2.3s
KOLN Koldanda 43.45 304 eP P 00 57 26.8 +0.5
DANN Dangsing 43.54 305 eP P 00 57 27.3 +0.2
ULN Ulaanbaatar 43.54 344 eP P 00 57 26.8 +0.2
ULN e 00 59 00.9
ULN pmax pmax
comp=Z,45nm,1.3s
ULN Ulaanbaatar 43.54 344 eP P 00 57 26.8 +0.2
comp=Z,45nm,1.3s
ULN ePcP PcP 00 59 00.9 +0.1
SONM Songino Array 43.70 343 P P 00 57 28.3 +0.6
comp=Z,8.8nm,0.6s,baz=162,slow=8.2,SNR=61
SONM PcP PcP 00 59 01.4 +0.1
comp=Z,1.7nm,0.5s,baz=149,slow=3.8,SNR=6.3
HYB Hyderabad 45.36 288 iP P 00 57 40.0 -0.9
ARMA Armidale 45.48 145 P P 00 57 43.7 +2.1
baz=46,SNR=14
ARMA Armidale 45.48 145 eP P 00 57 42.1 +0.4
comp=Z,20nm,0.9s
ARPS Mount Arapiles 46.33 160 P P 00 57 48.5 +0.7
baz=46,SNR=44
YNG Young 46.87 152 P P 00 57 53.5 +1.6
baz=47,SNR=4.7
ZAK Zakamensk 46.90 342 eP P 00 57 51.4 -0.6
ZAK e 00 59 12.6
ZAK pmax pmax
comp=Z,5.0nm,1.3s
MGCD Mangrove Creek 47.34 148 P P 00 57 57.9 +2.4
baz=48,SNR=7.3
TLY Talaya 47.94 343 P P 00 58 01.1 +1.4
comp=Z,12nm,0.5s,baz=172,slow=4.2,SNR=14
TLY Talaya 47.94 343 eP P 00 58 00.8 +1.1
TLY pmax pmax
comp=Z,22nm,1.0s
TLY Talaya 47.94 343 eP P 00 58 00.6 +1.0
comp=Z,15nm,0.6s
CNB Canberra Magne 48.16 152 P P 00 58 03.1 +1.5
baz=48,SNR=8.0
TOO Toolangi 48.38 157 P P 00 58 04.8 +1.6
baz=48,SNR=13
WMQ Urumqi 48.70 325 P P 00 58 06.3 +0.8
WMQ PMZ
comp=Z,38nm,1.2s
WMQ PMZ
comp=Z,1μm,10.0s
MOY Mondy 48.73 341 eP P 00 58 07.0 +1.4
MOY pmax pmax
comp=Z,42nm,1.6s
DZM Mont Dzumac 50.61 125 P P 00 58 21.9 +2.0
comp=Z,13nm,0.5s,baz=90,slow=24,SNR=36
BOD Bodaibo 51.68 353 eP P 00 58 27.0 +0.2
BOD pmax pmax
comp=Z,12nm,1.1s
MK31 Makanchi Array 53.53 326 eP P 00 58 40.7 +0.4
MK31 pmax pmax
comp=Z,13nm,0.3s
MKAR Makanchi Array 53.53 326 P P 00 58 40.7 +0.4
comp=Z,29nm,0.4s,baz=120,slow=8.1,SNR=546
MKAR PcP PcP 00 59 37.0 -0.4
comp=Z,5.2nm,0.6s,baz=104,slow=5.1,SNR=6.8
MKAR ScP ScP 01 02 37.9 -1.4
comp=Z,3.0nm,1.0s,baz=109,slow=7.0,SNR=6.3
MKAR Makanchi Array 53.53 326 P P 00 58 40.7 +0.4
MKAR 00 59 37.0
MKAR pmax pmax
comp=Z,29nm,0.4s
MKAR pmax pmax
comp=Z,5.0nm,0.6s
MKAR pmax pmax
comp=N,3.0nm,1.0s
KSH Kashi 53.93 315 P P 00 58 44.6 +1.3
KSH pP pP 01 00 38.1 +3.9
KSH PP PP 01 00 58.1 +4.5
KSH S S 01 05 33.0 -2.5
KSH sS sS 01 08 56.1 +1.3
KSH SS SS 01 09 32.1 +3.3
KSH PMZ
comp=N,32nm,0.8s
KSH PMZ
comp=N,5μm,13.5s
PETK Petropavlovsk- 54.03 25 P P 00 58 44.7 +1.0
comp=N,7.8nm,0.6s,baz=198,slow=5.6,SNR=8.0
PETK PcP PcP 00 59 39.4 +0.2
comp=N,2.4nm,0.7s,baz=199,slow=3.1,SNR=2.5
PET Petropavlovsk 54.37 25 iP P 00 58 47.1 +1.1
PET pmax pmax
comp=Z,47nm,1.5s
KZA Kyzart 55.51 317 P P 00 58 55.9 +1.2
SNR=23
YAK Yakutsk 55.52 3 eP P 00 58 53.0 -0.8
YAK pmax pmax
comp=Z,30nm,0.9s
YAK pmax pmax
comp=N,12nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.1s
TKM2 Tokmak 2 55.65 319 P P 00 58 56.0 +0.6
SNR=24
TKM2 Tokmak 2 55.65 319 eP P 00 58 55.6 +0.2
TKM2 pmax pmax
comp=Z,41nm,1.3s
TKM2 Tokmak 2 55.65 319 eP P 00 58 55.6 +0.2
comp=Z,41nm,1.3s
SFK Sufi-Kurgan 55.87 315 P P 00 58 57.7 +0.7
SFK pmax pmax
comp=Z,15nm,0.5s
KBK Karagaybulak 55.96 318 P P 00 58 58.2 +0.7
SNR=8.0
CHMS Chumysh 56.24 318 P P 00 58 59.5 +0.3
SNR=6.0
AAK Ala-Archa 56.25 318 eP P 00 59 00.0 +0.5
AAK pmax pmax
comp=Z,22nm,1.4s
AAK Ala-Archa 56.25 318 eP P 00 59 00.0 +0.5
comp=Z,22nm,1.4s
USP Ospenovka 56.52 318 P P 00 59 01.6 +0.4
SNR=26
AML Almayashu 56.58 317 P P 00 59 03.1 +1.1
SNR=12
ZALV Zalesovo Beam 56.72 334 P P 00 59 01.6 -0.6
comp=Z,8.1nm,0.7s,baz=116,slow=6.8,SNR=32
EKS2 Erkin-Say 56.74 318 P P 00 59 03.9 +1.1
SNR=15
EKS2 Erkin-Say 56.74 318 eP P 00 59 02.6 -0.2
EKS2 pmax pmax
comp=Z,51nm,1.4s
EKS2 Erkin-Say 56.74 318 eP P 00 59 02.6 -0.2
comp=Z,51nm,1.4s
MA2 Magadan 56.76 16 iP P 00 59 03.4 +1.0
KBL Kabul 57.43 307 eP P 00 59 06.7 -1.0
KBL pmax pmax
comp=Z,49nm,1.4s
KBL Kabul 57.43 307 eP P 00 59 06.7 -1.0
comp=Z,49nm,1.4s
KURK Kurchatov 57.75 328 P P 00 59 08.7 -0.6
KURK pmax pmax
comp=Z,131nm,1.5s
NVS Novosibirsk 58.01 334 iP P 00 59 09.9 -1.0
DZET Dzherino 58.84 312 P P 00 59 16.8 -0.2
DZET pmax pmax
comp=Z,25nm,0.6s
KK31 Karatay Array 59.12 317 iP P 00 59 18.5 -0.2
KK31 pmax pmax
comp=Z,7.0nm,0.5s
KKAR Karatay Array 59.12 317 eP P 00 59 18.1 -0.6
KKAR Karatay Array 59.12 317 eP P 00 59 18.1 -0.6
SEY Seymchan 60.01 15 P P 00 59 25.5 +1.3
comp=Z,2.6nm,0.5s,baz=214,slow=5.8,SNR=13
BVA0 Borovoye Array 63.32 327 iP P 00 59 45.4 -0.5
BVA0 pmax pmax
comp=Z,40nm,1.3s
BRVK Borovoye 63.40 327ce P P 00 59 46.3 -0.1
BRVK pmax pmax
comp=Z,49nm,1.3s
BRVK Borovoye 63.40 327 eP P 00 59 46.2 -0.1
comp=Z,38nm,1.1s
RPZ Rata Peaks 65.80 144 P P 01 00 02.5 +0.9
comp=Z,7.3nm,0.5s,baz=322,slow=3.5,SNR=6.6
URZ Urewera 66.65 137 P P 01 00 07.2 +0.2
comp=Z,4.8nm,0.4s,baz=309,slow=14,SNR=5.2
GEYT Alibeck 66.79 308 P P 01 00 08.1 +0.2
comp=Z,12nm,0.9s,baz=318,slow=2.0,SNR=18
BILL Bilibino 67.63 16⇓ eP P 01 00 11.7 -0.7
BILL i 01 00 34.6
BILL pmax pmax
comp=Z,10.0nm,1.3s
AB31 Akbulak array 68.07 321 iP P 01 00 14.6 -0.8
AB31 pmax pmax
comp=Z,2.0nm,0.3s
ABKAR Akbulak array 68.07 321 eP P 01 00 14.9 -0.5
AKTO Aktyubinsk 69.59 322 P P 01 00 23.9 -0.6
AKTO pmax pmax
comp=Z,29nm,1.3s
SVE Sverdlovsk 69.99 329 eP P 01 00 26.6 -0.2
SVE pmax pmax
comp=Z,29nm,1.4s
ARU Arti 70.95 328d iP P 01 00 31.5 -0.9
ARU *PP pP 01 02 33.9 +1.3
ARU 01 03 33.0
ARU S S 01 09 01.7 -0.1
ARU pmax pmax
comp=Z,40nm,1.7s
ARU Arti 70.95 328 eP P 01 00 31.3 -1.1
comp=Z,12nm,0.6s
PRGR Permogore 78.60 332 P P 01 01 12.8 -2.2
PRGR pmax pmax
comp=Z,15nm,0.7s
GOF Gofitskoye 78.80 315 eP P 01 01 16.5 0.0
KBZ Khabaz 78.86 313 P P 01 01 16.5 -0.3
comp=Z,2.3nm,0.7s,baz=128,slow=3.1,SNR=4.9
KIV Kislovodsk 79.02 313ce P P 01 01 16.0 -1.8
KIV e*PP pP 01 03 26.7 +5.1
KIV e 01 04 23.9
KIV pmax pmax
comp=Z,9.0nm,1.1s
IM04 Indian Mountai 80.98 24 eP P 01 01 28.1 +0.7
KDAK Kodiak Island 81.12 33 iP P 01 01 29.2 +0.9
VSR Storozhevoye 81.51 321 eP P 01 01 29.1 -1.3
VSR pmax pmax
comp=N,4.0nm,0.5s
VSR pmax pmax
comp=E,4.0nm,0.5s
VSR pmax pmax
comp=Z,9.0nm,0.5s
CAST Castle Rocks 81.57 27 eP P 01 01 31.0 +0.5
comp=Z,30nm,1.5s
BPAW Bear Paw Mtn. 82.08 26 eP P 01 01 34.0 +0.9
comp=Z,3.3nm,0.8s
MLY Manley 82.21 25 eP P 01 01 34.0 +0.2
comp=Z,34nm,1.2s
TRF Thorofare Moun 82.38 27 eP P 01 01 35.0 +0.2
comp=Z,12nm,1.0s
MOS Moscow 82.42 325 eP P 01 01 33.2 -1.7
MCK McKinley 82.98 27 eP P 01 01 37.6 -0.1
MCK pmax pmax
comp=Z,18nm,0.8s
MCK McKinley 82.98 27 eP P 01 01 37.5 -0.1
comp=Z,18nm,0.8s
OBN Obninsk 83.03 325d iP P 01 01 37.0 -0.9

OBN					*e**PP	**pP**	**01 03 42.4**	**-1.0**
OBN					*e*		01 05 01.4	
OBN					*e*S	**S**	**01 11 08.5**	**-0.5**
OBN					pmax	pmax		
	comp=Z,64nm,1.5s							
ILAR	**Eielson Array**	**83.85**	**26**	P		**P**	**01 01 41.2**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=237,slow=5.3,SNR=16							
MAW	**Mawson**	**85.38**	**200**	P		**P**	**01 01 48.7**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=40,slow=15,SNR=3.5							
EIL	**Elat**	**85.72**	**299**	P		**P**	**01 01 52.0**	**+0.3**
	baz=86,SNR=4.3							
BRTR	**Keskin Array B**	**85.91**	**309**	P		**P**	**01 01 51.2**	**-1.3**
	comp=Z,2.5nm,0.4s,baz=129,slow=3.7,SNR=46							
VNDA	**Vanda**	**86.61**	**172**	P		**P**	**01 01 55.1**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=335,slow=6.5,SNR=9.0							
KMBO	**Kilima Mbogo**	**86.61**	**268**	P		**P**	**01 01 55.6**	**-1.0**
	comp=Z,1.4nm,0.3s,baz=32,slow=4.4,SNR=6.2							
ARCES	**ARCESS Array B**	**86.77**	**340**	P		**P**	**01 01 54.8**	**-1.0**
	comp=Z,8.0nm,0.9s,baz=77,slow=6.0,SNR=12							
SPITS	**Spitsbergen Ar**	**87.13**	**349**	P		**P**	**01 01 56.9**	**-0.5**
	comp=Z,4.0nm,0.4s,baz=91,slow=8.3,SNR=40							
AKASG	**Malin Array Be**	**87.81**	**321**	P		**P**	**01 01 59.5**	**-1.5**
	comp=Z,1.1nm,0.4s,baz=70,slow=3.9,SNR=11							
FINES	**FINESS Array B**	**87.93**	**332**	P		**P**	**01 02 00.3**	**-1.1**
	comp=Z,3.5nm,0.5s,baz=64,slow=4.2,SNR=50							
INK	**Inuvik**	**88.63**	**21**	P		**P**	**01 02 04.4**	**-0.1**
	comp=Z,3.6nm,0.9s,baz=225,slow=4.4,SNR=4.2							
INK	**Inuvik**	**88.63**	**21**	P		**P**	**01 02 04.4**	**-0.1**
INK					pmax	pmax		
	comp=Z,4.0nm,1.0s							
CFR	**Carcaliu**	**89.31**	**315**	⇑P		P	01 02 17.8	+10
CFR	**Carcaliu**	**89.31**	**315**	⇑*i*P		P	01 02 17.8	+10
PETR	**Petresti**	**89.86**	**316**	⇑*i*P		P	01 02 20.2	+10
TESR	**Tescani**	**90.13**	**317**	⇑*i*P		**P**	**01 02 11.1**	**-0.8**
VRI	**Vrincioaia**	**90.18**	**316**	⇓P		**P**	**01 02 12.3**	**+0.1**
VRI	**Vrincioaia**	**90.18**	**316**	⇓*i*P		**P**	**01 02 12.3**	**+0.1**
PLOR	**Plostina**	**90.24**	**316**	⇑P		**P**	**01 02 11.9**	**-0.6**
PLOR	**Plostina**	**90.24**	**316**	⇑*i*P		**P**	**01 02 11.9**	**-0.6**
MLR	**Muntele Rosu**	**90.79**	**316**	⇑P		**P**	**01 02 14.6**	**-0.6**
MLR	**Muntele Rosu**	**90.79**	**316**	⇑*i*P		**P**	**01 02 14.6**	**-0.6**
BURAR	**Bucovina Array**	**90.90**	**318**	⇓P		**P**	**01 02 15.0**	**-0.6**
BURAR	**Bucovina Array**	**90.90**	**318**	⇓*i*P		**P**	**01 02 15.0**	**-0.6**
DOPR	**Dopca**	**91.09**	**316**	⇓*i*P		**P**	**01 02 14.6**	**-1.8**
ARR	**Arges**	**91.72**	**316**	⇑P		**P**	**01 02 19.5**	**+0.1**
DRGR		**92.74**	**318**	⇑P		**P**	**01 02 23.5**	**-0.5**
DRGR		**92.74**	**318**	⇑*i*P		**P**	**01 02 23.5**	**-0.5**
VTS	**Vitosha**	**93.28**	**313**	⇑P		**P**	**01 02 25.6**	**-1.1**
VTS	**Vitosha**	**93.28**	**313**	⇑*i*P		**P**	**01 02 25.6**	**-1.1**
NB2	**NORSAR Subarra**	**94.92**	**333**	P		**P**	**01 02 31.6**	**-2.0**
	comp=Z,0.1nm,0.6s,baz=70,slow=5.3							
NOA	**NORSAR Array B**	**94.92**	**333**	P		**P**	**01 02 31.5**	**-2.1**
	comp=Z,1.6nm,0.7s,baz=68,slow=4.5,SNR=5.5							
DIVS	**Divibare**	**95.22**	**315**	⇑*i*P		**P**	**01 02 33.3**	**-2.1**
BRG	**Berggiesshubel**	**97.19**	**323**	*e*PKP		Pdif	01 02 43.6	-0.3
	comp=Z,7.4nm,1.1s							
BRG	**Berggiesshubel**	**97.19**	**323**	*e*P		Pdif	01 02 43.6	-0.3
BRG					pmax	pmax		
	comp=Z,7.0nm,1.1s							
GERES	**GERESS Array B**	**98.01**	**321**	P		Pdif	01 02 47.2	-0.6
	comp=Z,0.9nm,0.7s,baz=178,slow=3.7,SNR=3.6							
SCHQ	**Schefferville**	**118.19**	**7**	PKP		**PKPdf**	**01 07 54.3**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=329,slow=0.7,SNR=8.6							
TORD	**Torodi Ar. Bea**	**119.18**	**289**	PKP		**PKPdf**	**01 07 56.8**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=63,slow=1.6,SNR=59							
TXAR	**Lajitas Array**	**122.14**	**40**	PKP		**PKPdf**	**01 08 03.6**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=216,slow=6.2,SNR=6.8							
DBIC	**Dimbokro**	**127.03**	**283**	PKP		**PKPdf**	**01 08 11.9**	**-0.7**
	comp=Z,5.9nm,0.8s,baz=10,slow=1.6,SNR=7.2							

ISCJB ***24*** *00:55:47.8±0.8,26°.2S±0°.1×179°.1E±0°.2,h500km,mb3.9/9, Error ellipse: s-maj=19.2km s-min=14.0km az=148.6*
IDC ***24*** *00:55:48.5±1.8,26°.09S×179°.21E,h499km±22km,mb3.4/9, mb1 3.6/11,mb1mx3.5/20,mbtmp4.4/11, Error ellipse: s-maj=21.6km s-min=17.8km az=15.0*

ISC 24 00:55:48.7±0.9,26.1S±0.1×179.2E±0.1,h500km,n14, σ0.85/14,mb4.2/9,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.04**	**141**	P		**P**		**00 57 07.9**	**+0.6**
	530nm,0.3s,baz=87,slow=8.0,SNR=54								
URZ	**Urewera**	**12.21**	**188**	P		**P**		**00 58 27.8**	**-1.5**
	4.0nm,0.3s,baz=11,slow=1.0,SNR=24								
RPZ	**Rata Peaks**	**18.74**	**199**	P		**P**		**00 59 34.7**	**-0.9**
	2.4nm,0.3s,baz=35,slow=3.4,SNR=14								
CTA	**Charters Tower**	**30.81**	**274**	P		**P**		**01 01 22.5**	**-0.6**
	7.4nm,0.4s,baz=99,slow=11,SNR=12								
STKA	**Stephens Creek**	**33.23**	**251**	P		**P**		**01 01 44.3**	**+0.6**
	5.4nm,0.7s,baz=86,slow=9.5,SNR=3.0								
ASAR	**Alice Springs**	**40.97**	**263**	P		**P**		**01 02 48.2**	**+0.6**
	6.0nm,0.8s,baz=105,slow=8.4,SNR=21								
WRA	**Warramunga Arr**	**41.55**	**269**	P		**P**		**01 02 52.3**	**+0.1**
	7.8nm,0.7s,baz=104,slow=8.1,SNR=17								
JAY	**Jayapura**	**43.76**	**296**	P		**P**		**01 03 09.4**	**-0.1**
	7.8nm,0.6s,baz=115,slow=2.0,SNR=7.7								
VNDA	**Vanda**	**52.09**	**185**	P		**P**		**01 04 12.2**	**+1.1**
	0.3nm,0.3s,baz=299,slow=13,SNR=4.9								
KSRS	**Korea Array**	**79.48**	**326**	P		**P**		**01 07 03.2**	**+0.4**
	1.0nm,0.5s,baz=140,slow=6.3,SNR=5.3								
USRK	**Ussuriysk Ar.**	**82.24**	**328**	P		**P**		**01 07 16.8**	**-0.2**
	1.0nm,0.6s,baz=118,slow=1.3,SNR=4.6								
NVAR	**Mina Array Bea**	**86.88**	**44**	P		**P**		**01 07 39.4**	**-0.7**
	1.0nm,0.7s,baz=221,slow=8.2,SNR=9.6								
AKASG	**Malin Array Be**	**146.40**	**325**	PKPbc		**PKPdf**		**01 14 31.5**	**+0.9**
	0.2nm,0.3s,baz=49,slow=5.3,SNR=4.5								
BRTR	**Keskin Array B**	**148.26**	**304**	PKPbc		**PKPbc**		**01 14 37.6**	**-0.8**
	0.8nm,0.6s,baz=42,slow=2.0,SNR=3.9								

IDC 24 00:56:55.4±4.9,5°.55N×122°.41E,h584km±74km,mb3.1/4, mb1 3.2/4,mb1mx2.7/40,mbtmp4.2/4,Error ellipse: s-maj=208.2km s-min=19.1km az=63.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.92**	**155**	P		P		01 01 59.5	-0.6
	0.8nm,0.3s,baz=332,slow=10,SNR=3.9								
ASAR	**Alice Springs**	**31.13**	**159**	P		P		01 02 29.1	+1.3
	0.9nm,0.3s,baz=338,slow=7.3,SNR=4.9								
STKA	**Stephens Creek**	**41.47**	**155**	P		P		01 03 51.4	-1.0
	1.0nm,0.2s,baz=340,slow=12,SNR=4.6								
MKAR	**Makanchi Array**	**53.64**	**327**	P		P		01 05 23.0	-0.1
	1.4nm,0.3s,baz=121,slow=7.7,SNR=26								
TORD	**Torodi Ar. Bea**	**118.26**	**288**	PKP		PKPdf		01 14 38.0	0.0
	0.3nm,0.9s,baz=72,slow=2.1,SNR=3.0								

MDD ***24*** *01:06:10.4±1.0,36°.90N×11°.11W,h30km,mbLg3.2/39, Error ellipse: s-maj=9.6km s-min=6.7km az=81.0,PRXIMO*
LDG ***24*** *01:06:11.7,36°.94N×11°.10W,h30km*
CSEM ***24*** *01:06:11.2±0.3,36°.94N×10°.91W,h30km,ML3.2, Error ellipse: s-maj=6.1km s-min=4.2km az=78.0*
IGIL ***24*** *01:06:12.1,36°.90N×11°.02W,h31km,ML3.1*
INMG ***24*** *01:06:12.3±1.0,36°.90N×11°.03W,h31km,ML3.1, Error ellipse: s-maj=4.0km s-min=2.5km az=76.0*
CNRM ***24*** *01:06:14.4,36°.70N×10°.68W,h30km,MD3.6*

ISC 24 01:06:08.4±2.5,37°.02N±0°.07×10°.9W±0°.1,h10km,n146, σ1.56/245,1C-2D,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.84**	**73**	*e*Pn		**Pn**		**01 06 41.7**	**+1.6**
PTEO				*e*Sn		**Sn**		**01 07 03.5**	**0.0**
PTEO				A		A		01 07 05.2	
	76nm,0.4s								
PTEO	**Sao Teotonio**	**1.84**	**73**	P		**Pn**		**01 06 41.7**	**+1.6**
PTEO				S		**Sn**		**01 07 03.5**	**0.0**
	38nm,0.4s								
PTEO	**Sao Teotonio**	**1.84**	**73**	P		**Pn**		**01 06 41.7**	**+1.6**
PTEO				S		**Sn**		**01 07 03.5**	**0.0**
	38nm,0.4s								
MORF	**Marmelete**	**1.85**	**80**	*e*P		**Pn**		**01 06 41.5**	**+1.2**
MORF				*e*S		**Sn**		**01 07 03.1**	**-0.6**
MORF				AML		AML		01 07 03.4	
	comp=N,100nm,0.3s								
MORF	**Marmelete**	**1.85**	**80**	*e*Pn		**Pn**		**01 06 41.5**	**+1.2**
MORF				*e*Sn		**Sn**		**01 07 03.8**	**+0.1**
MORF				A		A		01 07 07.0	
	comp=N,114nm,0.1s								
MORF	**Marmelete**	**1.85**	**80**	P		**Pn**		**01 06 41.5**	**+1.2**
MORF				S		**Sn**		**01 07 03.1**	**-0.6**
	comp=N,100nm,0.3s								
MORF	**Marmelete**	**1.85**	**80**	P		**Pn**		**01 06 41.5**	**+1.2**
MORF				S		**Sn**		**01 07 03.1**	**-0.6**
	comp=N,100nm,0.3s								
PNCL	**Nicolau / Gran**	**2.21**	**60**	*e*Pn		**Pn**		**01 06 47.0**	**+2.0**
PNCL				*e*Sn		**Sn**		**01 07 12.8**	**+0.4**
PNCL				A		A		01 07 17.4	
	comp=N,60nm,0.4s								
PMST	**Lisbon--Monsan**	**2.21**	**38**	*e*Pn		**Pn**		**01 06 46.9**	**+1.8**
PMST				*e*Sn		**Sn**		**01 07 13.0**	**+0.5**
PMST				A		A		01 07 16.6	
	comp=N,136nm,0.4s								
LIS	**Lisbon**	**2.21**	**39**	*e*P		**Pn**		**01 06 47.1**	**+2.0**
LIS				*e*S		**Sn**		**01 07 13.0**	**+0.5**
LIS				AML		AML		01 07 13.1	
	comp=E,222nm,0.1s								
LIS	**Lisbon**	**2.21**	**39**	*e*Pn		**Pn**		**01 06 47.8**	**+2.7**
LIS				*e*Sn		**Sn**		**01 07 13.7**	**+1.2**
LIS	**Lisbon**	**2.21**	**39**	P		**Pn**		**01 06 47.8**	**+2.7**
LIS				S		**Sn**		**01 07 13.7**	**+1.2**
MESJ	**Messejana**	**2.32**	**68**	*e*P		**Pn**		**01 06 48.3**	**+1.7**
MESJ				*e*S		**Sn**		**01 07 14.6**	**-0.5**
MESJ				AML		AML		01 07 17.3	
	comp=N,54nm,0.4s								
MESJ	**Messejana**	**2.32**	**68**	*e*Pn		**Pn**		**01 06 48.3**	**+1.7**
MESJ				*e*Sn		**Sn**		**01 07 15.4**	**+0.3**
MESJ				A		A		01 07 21.7	
	comp=N,49nm,0.3s								
MESJ	**Messejana**	**2.32**	**68**	P		**Pn**		**01 06 48.3**	**+1.7**
MESJ				S		**Sn**		**01 07 15.4**	**+0.3**
	comp=N,49nm,0.3s								
MESJ	**Messejana**	**2.32**	**68**	P		**Pn**		**01 06 48.3**	**+1.7**
MESJ				S		**Sn**		**01 07 15.4**	**+0.3**
	comp=N,49nm,0.3s								
PMAFR	**Mafra**	**2.34**	**34**	*e*Pn		**Pn**		**01 06 48.6**	**+1.7**
PMAFR				*e*Sn		**Sn**		**01 07 16.2**	**+0.6**
PMAFR				A		A		01 07 17.6	
	comp=N,192nm,0.2s								
PMAFR	**Mafra**	**2.34**	**34**	⇓P		**Pn**		**01 06 48.6**	**+1.7**
	comp=N,21nm,0.1s,SNR=18								
PMAFR				S		**Sn**		**01 07 15.6**	**0.0**
	comp=N,76nm,0.1s,SNR=7.9								
PMAFR	**Mafra**	**2.34**	**34**	P		**Pn**		**01 06 48.6**	**+1.7**
	comp=N,21nm,0.1s,SNR=18								
PMAFR				S		**Sn**		**01 07 15.6**	**0.0**
	comp=N,76nm,0.1s,SNR=7.9								
PCVE	**Castro Verde**	**2.39**	**74**	*e*Pn		**Pn**		**01 06 49.2**	**+1.6**
PCVE				*e*Sn		**Sn**		**01 07 16.5**	**-0.5**
PCVE				A		A		01 07 18.7	
	comp=N,41nm,0.4s								
PCVE	**Castro Verde**	**2.39**	**74**	P		**Pn**		**01 06 49.2**	**+1.6**
PCVE				S		**Sn**		**01 07 16.5**	**-0.5**
	comp=N,41nm,0.4s								
PCVE	**Castro Verde**	**2.39**	**74**	P		**Pn**		**01 06 49.2**	**+1.6**
PCVE				S		**Sn**		**01 07 16.5**	**-0.5**
	comp=N,41nm,0.4s								
PACT	**Alcochete**	**2.42**	**43**	*e*Pn		**Pn**		**01 06 48.6**	**+0.7**
PACT				*e*Sn		**Sn**		**01 07 17.8**	**+0.3**
PACT				A		A		01 07 21.5	
	comp=N,136nm,0.3s								
PBDV	**Barranco-do-Ve**	**2.42**	**84**	*e*Pn		**Pn**		**01 06 49.4**	**+1.4**
PBDV				*e*Sn		**Sn**		**01 07 17.0**	**-0.6**
PBDV				A		A		01 07 25.6	
	comp=N,30nm,0.4s								
PBDV	**Barranco-do-Ve**	**2.42**	**84**	P		**Pn**		**01 06 49.4**	**+1.4**
PBDV				S		**Sn**		**01 07 17.0**	**-0.6**
	comp=N,30nm,0.4s								
PBDV	**Barranco-do-Ve**	**2.42**	**84**	P		**Pn**		**01 06 49.4**	**+1.4**
PBDV				S		**Sn**		**01 07 17.0**	**-0.6**
	comp=N,30nm,0.4s								
PVAQ	**Vaqueiros**	**2.60**	**81**	*e*Pn		**Pn**		**01 06 52.1**	**+1.6**
PVAQ				*e*Sn		**Sn**		**01 07 21.2**	**-1.0**
PVAQ				A		A		01 07 25.3	
	comp=N,49nm,0.1s								
PVAQ	**Vaqueiros**	**2.60**	**81**	P		**Pn**		**01 06 52.1**	**+1.6**
PVAQ				S		**Sn**		**01 07 21.2**	**-1.0**
	comp=N,49nm,0.1s								
PVAQ	**Vaqueiros**	**2.60**	**81**	P		**Pn**		**01 06 52.1**	**+1.6**
PVAQ				S		**Sn**		**01 07 21.2**	**-1.0**
	comp=N,49nm,0.1s								
EVOP	**Sao Brissos**	**2.69**	**55**	*e*Pn		**Pn**		**01 06 53.1**	**+1.4**
EVOP				*e*Sg		**Sn**		**01 07 24.1**	**-0.3**
	comp=N,48nm,0.3s								
EVO	**Evora**	**2.77**	**56**	*e*Pn		**Pn**		**01 06 53.1**	**+0.3**
EVO				*e*Sg		**Sn**		**01 07 24.1**	**-2.2**
	comp=N,96nm,0.3s								
EVO	**Evora**	**2.77**	**56**	*e*Pn		**Pn**		**01 06 54.4**	**+1.6**
EVO				*e*Sn		**Sn**		**01 07 26.4**	**+0.1**
EVO				A		A		01 07 31.5	
	comp=N,54nm,0.1s								
EVO	**Evora**	**2.77**	**56**	P		**Pn**		**01 06 54.4**	**+1.6**
EVO				S		**Sn**		**01 07 26.4**	**+0.1**
	comp=N,54nm,0.1s								
EVO	**Evora**	**2.77**	**56**	P		**Pn**		**01 06 54.4**	**+1.6**
EVO				S		**Sn**		**01 07 26.4**	**+0.1**
	comp=N,54nm,0.1s								
EGRO	**El Granado**	**2.81**	**78**	P		**Pn**		**01 06 54.6**	**+1.3**
	comp=N,2.0nm,0.1s,SNR=7.9								
EGRO				S		**Sn**		**01 07 25.8**	**-1.4**
	comp=N,9.2nm,0.2s,SNR=7.9								
EGRO	**El Granado**	**2.81**	**78**	P		**Pn**		**01 06 54.6**	**+1.3**
	comp=N,2.0nm,0.1s,SNR=7.9								
EGRO				S		**Sn**		**01 07 25.8**	**-1.4**
	comp=N,9.2nm,0.2s,SNR=7.9								
PMTG	**Montargil**	**2.96**	**45**	*e*Pn		**Pn**		**01 06 56.9**	**+1.4**
PMTG				*e*Sn		**Sn**		**01 07 30.6**	**-0.5**
PMTG				A		A		01 07 36.0	
	comp=N,26nm,0.1s								
PESTR	**Estremoz**	**3.23**	**54**	*e*Pn		**Pn**		**01 07 01.1**	**+2.0**
PESTR				*e*Sn		**Sn**		**01 07 37.4**	**-0.3**
PESTR				A		A		01 07 42.5	
	comp=N,21nm,1.7s								
PTOM	**Tomar**	**3.27**	**37**	*e*Pn		**Pn**		**01 07 01.7**	**+2.0**
PTOM				*e*Sn		**Sn**		**01 07 39.1**	**+0.4**
PTOM				A		A		01 07 43.9	
	comp=N,57nm,0.2s								
PTOM	**Tomar**	**3.27**	**37**	P		**Pn**		**01 07 01.7**	**+2.0**
PTOM				S		**Sn**		**01 07 39.1**	**+0.4**
	comp=N,28nm,0.2s								
PTOM	**Tomar**	**3.27**	**37**	P		**Pn**		**01 07 01.7**	**+2.0**
PTOM				S		**Sn**		**01 07 39.1**	**+0.4**
	comp=N,28nm,0.2s								
PBAR	**Barrancos**	**3.31**	**68**	*e*Pn		**Pn**		**01 07 01.8**	**+1.6**
PBAR				*e*Sn		**Sn**		**01 07 38.6**	**-1.0**
PBAR				A		A		01 07 41.4	
	comp=N,26nm,0.1s								
PBAR	**Barrancos**	**3.31**	**68**	P		**Pn**		**01 07 01.8**	**+1.6**
PBAR				S		**Sn**		**01 07 38.6**	**-1.0**
	comp=N,26nm,0.1s								
PBAR	**Barrancos**	**3.31**	**68**	P		**Pn**		**01 07 01.8**	**+1.6**
PBAR				S		**Sn**		**01 07 38.6**	**-1.0**
	comp=N,26nm,0.1s								
EMIN	**Mina Concepcio**	**3.48**	**76**	P		**Pn**		**01 07 03.7**	**+1.1**
	comp=N,3.5nm,0.2s,SNR=7.9								
EMIN				S		**Sn**		**01 07 42.7**	**-1.2**
	comp=N,12nm,0.1s,SNR=7.9								
EMIN	**Mina Concepcio**	**3.48**	**76**	P		**Pn**		**01 07 03.7**	**+1.1**
	comp=N,3.5nm,0.2s,SNR=7.9								
EMIN				S		**Sn**		**01 07 42.7**	**-1.2**
	comp=N,12nm,0.1s,SNR=7.9								
EBAD	**Badajoz**	**3.56**	**60**	P		**Pn**		**01 07 05.0**	**+1.3**
	comp=N,3.8nm,0.2s,SNR=7.9								
EBAD				S		**Sn**		**01 07 45.1**	**-0.7**
	comp=N,51nm,0.2s,SNR=7.9								
EBAD	**Badajoz**	**3.56**	**60**	P		**Pn**		**01 07 05.0**	**+1.3**
	comp=N,3.8nm,0.2s,SNR=7.9								
EBAD				S		**Sn**		**01 07 45.1**	**-0.7**
	comp=N,51nm,0.2s,SNR=7.9								
PCAS	**Casmilo, Conde**	**3.58**	**32**	*e*Pn		**Pn**		**01 07 05.9**	**+1.9**
PCAS				*e*Sn		**Sn**		**01 07 46.4**	**0.0**
PCAS				A		A		01 07 49.2	
	comp=N,26nm,0.3s								
PMRV	**Marv??o**	**3.69**	**48**	*e*Pn		**Pn**		**01 07 06.8**	**+1.3**
PMRV				*e*Sn		**Sn**		**01 07 48.1**	**-0.9**
PMRV				A		A		01 07 49.8	
	comp=N,28nm,0.2s								
PMRV	**Marv??o**	**3.69**	**48**	P		**Pn**		**01 07 06.8**	**+1.3**
PMRV				S		**Sn**		**01 07 48.1**	**-0.9**
	comp=N,28nm,0.2s								
PMRV	**Marv??o**	**3.69**	**48**	P		**Pn**		**01 07 06.8**	**+1.3**
PMRV				S		**Sn**		**01 07 48.1**	**-0.9**
	comp=N,28nm,0.2s								
PCBR	**Castelo Branco**	**3.92**	**43**	*e*Pn		**Pn**		**01 07 10.1**	**+1.5**
PCBR				*e*Sn		**Sn**		**01 07 53.8**	**-0.8**
PCBR				A		A		01 07 56.3	
	comp=N,18nm,0.2s								
PCBR	**Castelo Branco**	**3.92**	**43**	P		**Pn**		**01 07 10.1**	**+1.5**
PCBR				S		**Sn**		**01 07 53.8**	**-0.8**
	comp=N,9.1nm,0.2s								
PCBR	**Castelo Branco**	**3.92**	**43**	P		**Pn**		**01 07 10.1**	**+1.5**
PCBR				S		**Sn**		**01 07 53.8**	**-0.8**
	comp=N,9.1nm,0.2s								
ESPR	**Espera**	**4.08**	**91**	P		**Pn**		**01 07 12.1**	**+1.4**
	comp=N,4.9nm,0.1s,SNR=7.9								
ESPR				S		**Sn**		**01 07 57.6**	**-0.9**
	comp=N,52nm,0.3s,SNR=7.9								
ESPR	**Espera**	**4.08**	**91**	P		**Pn**		**01 07 12.1**	**+1.4**
	comp=N,4.9nm,0.1s,SNR=7.9								
ESPR				S		**Sn**		**01 07 57.6**	**-0.9**
	comp=N,52nm,0.3s,SNR=7.9								
MTE	**Manteigas**	**4.30**	**37**	*e*Pn		**Pn**		**01 07 15.3**	**+1.4**
MTE				*e*Sn		**Sn**		**01 08 03.0**	**-1.1**
MTE				A		A		01 08 05.3	
	comp=N,23nm,0.3s								
MTE	**Manteigas**	**4.30**	**37**	P		**Pn**		**01 07 15.3**	**+1.4**
MTE				S		**Sn**		**01 08 03.0**	**-1.1**
	comp=N,12nm,0.3s								
MTE	**Manteigas**	**4.30**	**37**	P		**Pn**		**01 07 15.3**	**+1.4**
MTE				S		**Sn**		**01 08 03.0**	**-1.1**
	comp=N,12nm,0.3s								
PVIS	**Viseu**	**4.39**	**32**	*e*Pn		**Pn**		**01 07 16.9**	**+1.7**
PVIS				*e*Sn		**Sn**		**01 08 05.6**	**-0.8**
PVIS				A		A		01 08 07.1	
	comp=N,24nm,0.1s								
PVIS	**Viseu**	**4.39**	**32**	P		**Pn**		**01 07 16.9**	**+1.7**
PVIS				S		**Sn**		**01 08 05.6**	**-0.8**
	comp=N,12nm,0.1s								
PVIS	**Viseu**	**4.39**	**32**	P		**Pn**		**01 07 16.9**	**+1.7**
PVIS				S		**Sn**		**01 08 05.6**	**-0.8**
	comp=N,12nm,0.1s								
ECAB	**El Cabril**	**4.51**	**75**	P		**Pn**		**01 07 18.1**	**+1.3**
	comp=N,1.8nm,0.1s,SNR=7.9								
ECAB				S		**Sn**		**01 08 05.8**	**-3.6**
	comp=N,10nm,0.2s,SNR=7.9								
ECAB	**El Cabril**	**4.51**	**75**	P		**Pn**		**01 07 18.1**	**+1.3**
	comp=N,1.8nm,0.1s,SNR=7.9								
ECAB				S		**Sn**		**01 08 05.8**	**-3.6**
	comp=N,10nm,0.2s,SNR=7.9								
ECEU	**Ceuta**	**4.62**	**102**	P		**Pn**		**01 07 19.1**	**+0.8**
	comp=N,1.8nm,0.1s,SNR=7.9								
ECEU				S		**Sn**		**01 08 10.5**	**-1.5**
	comp=N,3.1nm,0.3s,SNR=7.9								
ECEU	**Ceuta**	**4.62**	**102**	P		**Pn**		**01 07 19.1**	**+0.8**
	comp=N,1.8nm,0.1s,SNR=7.9								
ECEU				S		**Sn**		**01 08 10.5**	**-1.5**
	comp=N,3.1nm,0.3s,SNR=7.9								
EPLA	**Plasencia**	**4.88**	**50**	P		**Pn**		**01 07 23.3**	**+1.5**
	comp=N,2.8nm,0.2s,SNR=7.9								
EPLA				S		**Sn**		**01 08 17.3**	**-1.0**
	comp=N,14nm,0.1s,SNR=7.9								
EPLA	**Plasencia**	**4.88**	**50**	P		**Pn**		**01 07 23.3**	**+1.5**
	comp=N,2.8nm,0.2s,SNR=7.9								
EPLA				S		**Sn**		**01 08 17.3**	**-1.0**
	comp=N,14nm,0.1s,SNR=7.9								
PVRL	**Vila Real**	**4.94**	**30**	*e*Pn		**Pn**		**01 07 24.0**	**+1.4**
PVRL				*e*Sn		**Sn**		**01 08 18.1**	**-1.7**
PVRL				A		A		01 08 21.8	
	comp=N,26nm,0.2s								
PVRL	**Vila Real**	**4.94**	**30**	P		**Pn**		**01 07 24.0**	**+1.4**
PVRL				S		**Sn**		**01 08 18.1**	**-1.

EQUE S **Sn** **01 08 43.5 -2.5**
comp=N,1.3nm,0.2s,SNR=7.9
TZC Tazercounte 6.09 142 P Pn 01 07 36.0 -2.6
TZC S Sn 01 08 38.0 -11
TZC Tazercounte 6.09 142 *i* P Pn 01 07 36.0 -2.6
TZC *i* S Sn 01 08 38.0 -11
ESDC Sonseca Array 6.09 62 P **Pn** **01 07 39.9 +1.4**
comp=N,5.3nm,0.2s,baz=249,slow=13,SNR=25
ESDC S **Sn** **01 08 45.9 -2.4**
comp=N,4.1nm,0.3s,baz=248,slow=23,SNR=16
ESDC Sonseca Array 6.09 62 P **Pn** **01 07 39.9 +1.4**
comp=N,5.3nm,0.2s,SNR=25
ESDC S **Sn** **01 08 45.9 -2.4**
comp=N,4.1nm,0.3s,SNR=16
EMAZ Mazaricos 6.11 14 P **Pn** **01 07 39.2 +0.5**
comp=N,3.8nm,0.1s,SNR=7.9
EMAZ S Sn 01 08 44.0 -4.8
comp=N,1.4nm,0.2s,SNR=7.9
EMAZ Mazaricos 6.11 14 P **Pn** **01 07 39.2 +0.5**
comp=N,3.8nm,0.1s,SNR=7.9
EAGO Agolada(Pontev 6.18 20 P **Pn** **01 07 40.1 +0.4**
comp=N,2.8nm,0.2s,SNR=7.9
EAGO S Sn 01 08 46.0 -4.4
comp=N,4.9nm,0.1s,SNR=7.9
EAGO Agolada(Pontev 6.18 20 P **Pn** **01 07 40.1 +0.4**
comp=N,2.8nm,0.2s,SNR=7.9
TZK Tazeka 6.24 116 P Pn 01 07 39.5 -1.1
TZK S Sn 01 08 41.0 -11
TZK Tazeka 6.24 116 *i* P Pn 01 07 39.5 -1.1
TZK *i* S Sn 01 08 41.0 -11
CZD Col de Zad 6.26 128 P Pn 01 07 40.0 -1.1
CZD S Sn 01 08 42.0 -11
CZD Col de Zad 6.26 128 *i* P Pn 01 07 40.0 -1.1
CZD *i* S Sn 01 08 42.0 -11
EQES Quesada 6.31 80 P **Pn** **01 07 42.3 +0.7**
comp=N,0.3nm,0.2s,SNR=7.9
EQES S **Sn** **01 08 51.8 -2.1**
comp=N,3.2nm,0.2s,SNR=7.9
EQES Quesada 6.31 80 P **Pn** **01 07 42.3 +0.7**
comp=N,0.3nm,0.2s,SNR=7.9
EQES S **Sn** **01 08 51.8 -2.1**
comp=N,3.2nm,0.2s,SNR=7.9
GUD Guadarrama 6.42 54 P **Pn** **01 07 44.1 +1.1**
comp=N,0.7nm,0.2s,SNR=7.9
GUD S **Sn** **01 08 54.5 -1.9**
comp=N,5.2nm,0.2s,SNR=7.9
GUD Guadarrama 6.42 54 P **Pn** **01 07 44.1 +1.1**
comp=N,0.7nm,0.2s,SNR=7.9
GUD S **Sn** **01 08 54.5 -1.9**
comp=N,5.2nm,0.2s,SNR=7.9
EBER Berja 6.45 89 P **Pn** **01 07 45.0 +1.5**
comp=N,0.5nm,0.1s,SNR=7.9
EBER S **Sn** **01 08 57.8 +0.5**
comp=N,0.3nm,0.1s,SNR=7.9
EBER Berja 6.45 89 P **Pn** **01 07 45.0 +1.5**
comp=N,0.5nm,0.1s,SNR=7.9
SESP Santiago Espad 6.76 78 P **Pn** **01 07 49.1 +1.3**
comp=N,0.5nm,0.1s,SNR=7.9
SESP S **Sn** **01 09 01.8 -3.1**
comp=N,2.9nm,0.2s,SNR=7.9
SESP Santiago Espad 6.76 78 P **Pn** **01 07 49.1 +1.3**
comp=N,0.5nm,0.1s,SNR=7.9
SESP S **Sn** **01 09 01.8 -3.1**
comp=N,2.9nm,0.2s,SNR=7.9
EPON Pontenova 6.94 24 ⇑P **Pn** **01 07 51.0 +0.9**
comp=N,14nm,0.3s,SNR=18
EPON S **Sn** **01 09 05.7 -3.3**
comp=N,7.9nm,0.2s,SNR=7.9
EPON Pontenova 6.94 24 P **Pn** **01 07 51.0 +0.9**
comp=N,14nm,0.3s,SNR=18
EPON S **Sn** **01 09 05.7 -3.3**
comp=N,7.9nm,0.2s,SNR=7.9
ZFT Errachidia 7.37 131 P Pn 01 07 55.0 -1.2
ZFT S Sn 01 09 10.0 -10
ZFT Errachidia 7.37 131 *i* P Pn 01 07 55.0 -1.2
ZFT *i* S Sn 01 09 10.0 -10
ETOB Tobarra 7.61 75 P **Pn** **01 08 00.1 +0.8**
comp=N,0.5nm,0.1s,SNR=7.9
ETOB S **Sn** **01 09 23.3 -2.4**
comp=N,0.7nm,0.1s,SNR=7.9
ETOB Tobarra 7.61 75 P **Pn** **01 08 00.1 +0.8**
comp=N,0.5nm,0.1s,SNR=7.9
ETOB S **Sn** **01 09 23.3 -2.4**
comp=N,0.7nm,0.1s,SNR=7.9
EARI Arriondas 7.66 33 P **Pn** **01 08 01.4 +1.4**
comp=N,0.2nm,0.3s,SNR=7.9
EARI S **Sn** **01 09 23.4 -3.4**
comp=N,0.5nm,0.4s,SNR=7.9
EARI Arriondas 7.66 33 P **Pn** **01 08 01.4 +1.4**
comp=N,0.2nm,0.3s,SNR=7.9
EARI S **Sn** **01 09 23.4 -3.4**
comp=N,0.5nm,0.4s,SNR=7.9
ETOR Torete 7.90 59 P **Pn** **01 08 04.6 +1.3**
comp=N,9.5nm,0.2s,SNR=7.9
ETOR S Sn 01 09 28.0 -4.8
comp=N,9.5nm,0.1s,SNR=7.9
ETOR Torete 7.90 59 P **Pn** **01 08 04.6 +1.3**
comp=N,9.5nm,0.2s,SNR=7.9
ETOR S Sn 01 09 28.0 -4.8
comp=N,9.5nm,0.1s,SNR=7.9
ELAN Lanestosa 8.46 40 P **Pn** **01 08 13.7 +2.8**
comp=N,0.4nm,0.2s,SNR=7.9
ELAN S Sn 01 09 42.4 -3.9
comp=N,0.8nm,0.2s,SNR=7.9
ELAN Lanestosa 8.46 40 P **Pn** **01 08 13.7 +2.8**
comp=N,0.4nm,0.2s,SNR=7.9
ELAN S Sn 01 09 42.4 -3.9
comp=N,0.8nm,0.2s,SNR=7.9
EMOS Mosqueruela 8.84 65 P **Pn** **01 08 18.1 +1.8**
comp=N,0.2nm,0.1s,SNR=7.9
EMOS S Sn 01 09 51.4 -4.7
comp=N,0.5nm,0.2s,SNR=7.9
EMOS Mosqueruela 8.84 65 P **Pn** **01 08 18.1 +1.8**
comp=N,0.2nm,0.1s,SNR=7.9
EMOS S Sn 01 09 51.4 -4.7
comp=N,0.5nm,0.2s,SNR=7.9
IELO Elcoad 9.45 49 P **Pn** **01 08 26.4 +1.8**
comp=N,0.4nm,0.2s,SNR=7.9
IELO S Sn 01 10 05.7 -5.3
comp=N,0.4nm,0.2s,SNR=7.9
IELO Elcoad 9.45 49 P **Pn** **01 08 26.4 +1.8**
comp=N,0.4nm,0.2s,SNR=7.9
IELO S Sn 01 10 05.7 -5.3
comp=N,0.4nm,0.2s,SNR=7.9
EALK Alkurruntz 9.51 46 P **Pn** **01 08 26.9 +1.5**
comp=N,0.4nm,0.2s,SNR=7.9
EALK S Sn 01 10 07.4 -4.9
comp=N,1.4nm,0.4s,SNR=7.9
EALK Alkurruntz 9.51 46 P **Pn** **01 08 26.9 +1.5**
comp=N,0.4nm,0.2s,SNR=7.9
EALK S Sn 01 10 07.4 -4.9
comp=N,1.4nm,0.4s,SNR=7.9
SJPF Ste Jean 9.62 48 *e*Pn **Pn** **01 08 27.6 +0.8**
SJPF *e*Sn Sn 01 10 09.8 -5.1
comp=N,2.5nm,0.3s
SJPF Ste Jean 9.62 48 P **Pn** **01 08 27.6 +0.8**
SJPF S Sn 01 10 09.8 -5.1
comp=N,1.2nm,0.3s
SJPF Ste Jean 9.62 48 P **Pn** **01 08 27.6 +0.8**
SJPF S Sn 01 10 09.8 -5.1
comp=N,1.2nm,0.3s
ATE Arette 9.91 49 P **Pn** **01 08 32.9 +2.0**
comp=N,0.2nm,0.1s,SNR=7.9
ATE S Sn 01 10 15.5 -6.7
comp=N,0.3nm,0.2s,SNR=7.9
ATE Arette 9.91 49 P **Pn** **01 08 32.9 +2.0**
comp=N,0.2nm,0.1s,SNR=7.9
EPF Esparros 10.53 52 *e*Pn **Pn** **01 08 40.1 +0.8**
EPF *e*Sn Sn 01 10 31.8 -5.5
comp=N,2.4nm,0.3s
EPF Esparros 10.53 52 P **Pn** **01 08 40.1 +0.8**
EPF S Sn 01 10 31.8 -5.5
comp=N,1.2nm,0.3s
EPF Esparros 10.53 52 P **Pn** **01 08 40.1 +0.8**
EPF S Sn 01 10 31.8 -5.5
comp=N,1.2nm,0.3s

IDC 24 01:08:42.4±1.9, 6.18S×130.89E, h0km, mb3.3/1, mb1 4.0/4, mb1mx3.6/37, mbtmp3.8/4, ML3.8/3, Error ellipse: s-maj=90.8km s-min=27.4km az=80.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**3.51**	**23**	P	Pn	01 09 41.2	+2.9
	baz=3.4,SNR=7.3						
SIJI	**Sorong**	**5.29**	**4**	Pn	Pn	01 10 02.7	0.0
	2.6nm,0.3s,baz=270,slow=20,SNR=14						
SIJI				Sn	Sn	01 10 57.2	-7.3
	7.1nm,0.3s,baz=184,slow=23,SNR=10						
MTN	**Manton Dam**	**6.63**	**178**	P	Pn	01 10 25.1	+4.0
	baz=6.7,SNR=18						
KDU	**Kakadu**	**6.65**	**167**	P	Pn	01 10 25.9	+4.5
	baz=6.7,SNR=46						
KNRA	**Kununurra**	**9.67**	**192**	P	Pn	01 11 03.0	+0.2
	baz=9.8,SNR=7.7						
WRA	**Warramunga Arr**	**14.09**	**167**	Pn	Pn	01 12 02.7	-0.7
	0.5nm,0.3s,baz=350,slow=13,SNR=7.2						
WRA				Sn	Sn	01 14 33.8	-6.8
	0.6nm,0.3s,baz=328,slow=22,SNR=5.1						
ASAR	**Alice Springs**	**17.63**	**171**	P	Pn	01 12 50.0	+0.3
	0.5nm,0.3s,baz=349,slow=11,SNR=28						
MKAR	**Makanchi Array**	**68.03**	**326**	P	P	01 19 43.8	0.0
	0.1nm,0.4s,baz=120,slow=7.0,SNR=2.6						

KRSC 24 01:17:14.4±0.5, 55.11N×160.29E, h4km±2km, ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZV	**Kizimen**	**0.01**	**16**	*i* P	Pg	01 17 15.7	+0.4
KZV				*e*S	Sg	01 17 16.6	+0.7
TUMR	**Tumrok**	**0.20**	**335**	*i* P	Pg	01 17 19.0	+0.6
TUMR				*e*S	Sg	01 17 21.6	+0.5
KMNR	**Kamenistaya**	**0.65**	**357**	*e*P	Pb	01 17 27.9	-0.6
KMNR				*e*S	Sb	01 17 37.7	-0.4
BZMR	**Bezymyannaya**	**0.84**	**8**	*e*P	Pb	01 17 32.1	+0.3
BZMR				*e*S	Sb	01 17 44.8	+1.2
KIRR	**Kirishev**	**0.85**	**2**	P	Pg	01 17 31.1	+0.2
KIRR				S	Sg	01 17 42.6	+0.5
BZWR	**Bezymyannyi-We**	**0.87**	**8**	*e*S	Sb	01 17 44.6	+0.1
KOZ	**Kozyrevsk**	**0.98**	**346**	P	Pb	01 17 34.4	+0.3
KOZ				*e*S	Sn	01 17 48.8	-0.7
MKZ	**Mys Kozlova**	**1.00**	**123**	*e*P	Pb	01 17 34.2	0.0
MKZ				*e*S	Sb	01 17 48.7	+1.0
LGNR	**Loginova**	**1.00**	**13**	*e*S	Sg	01 17 45.2	-2.2
CIRR	**Tsirk**	**1.04**	**14**	*e*P	Pn	01 17 36.4	+0.3
ESO	**Esso**	**1.22**	**313**	*e*P	Pg	01 17 36.8	-1.1
ESO				*e*S	Sg	01 17 53.1	-0.6
KLY	**Klyuchi**	**1.23**	**9**	P	Pg	01 17 36.9	-1.0
KLY				S	Sg	01 17 53.1	-0.7
SRDR	**Sredinnyy**	**1.26**	**345**	*e*P	Pb	01 17 38.8	0.0
SRDR				*e*S	Sn	01 17 57.1	+0.8
BDR	**Baidarnaya**	**1.55**	**19**	*e*P	Pn	01 17 43.4	+0.4
SMKR	**Semkarok**	**1.62**	**24**	*e*P	Pb	01 17 44.7	-0.3
SMKR				*e*S	Sg	01 18 07.5	+0.8
SRKR	**Sorokina**	**1.63**	**17**	*e*P	Pb	01 17 44.6	-0.5
SRKR				*e*S	Sg	01 18 07.3	+0.4
KBTR	**Krutoberegovo**	**1.81**	**51**	*e*P	Pn	01 17 46.5	+0.1
KBTR				S	Sn	01 18 10.0	+0.3
GNL	**Ganaly**	**1.97**	**225**	*e*P	Pn	01 17 49.5	+0.8
GNL				*e*S	Sn	01 18 14.6	+0.6
KRX	**Arik**	**2.00**	**209**	*e*P	Pb	01 17 50.8	-0.7
SDLR	**Sedlovina**	**2.01**	**205**	*e*P	Pb	01 17 50.9	-0.8
SDLR				*e*S	Sb	01 18 17.7	+0.5
NLC	**Nalytchevo**	**2.02**	**196**	*e*S	Sg	01 18 18.7	-0.4
SPN	**Mys Shipunski**	**2.02**	**185**	*e*P	Pn	01 17 49.3	+0.1
SPN				*e*S	Sn	01 18 14.7	-0.2
KRER	**Koryakskii**	**2.02**	**207**	P	Pb	01 17 51.9	-0.1
SMAR	**Somma**	**2.04**	**206**	*e*P	Pb	01 17 51.3	-1.1
SMAR				*e*S	Sb	01 18 18.7	+0.3
AVH	**Avacha**	**2.06**	**207**	*e*P	Pn	01 17 50.6	+0.7
KOK	**Koryaka**	**2.06**	**209**	P	Pb	01 17 52.1	-0.4
UGLR	**Uglovaya**	**2.09**	**205**	*e*P	Pb	01 17 52.0	-1.0
APC	**Apacha**	**2.86**	**221**	*e*P	Pn	01 18 02.3	+1.5
APC				*e*S	Sn	01 18 37.2	+1.5
RUS	**Russkaya**	**2.88**	**202**	*e*P	Pn	01 18 03.0	+2.0
RUS				*e*S	Sb	01 18 39.0	-2.8

*ISCJB **24** 01:18:58.4±0.7, 6.2N±0.2×123.7E±0.4, h600km, mb3.7/9, Error ellipse: s-maj=52.8km s-min=12.5km az=153.4*
*IDC **24** 01:18:59.5±1.8, 6.23N×123.72E, h594km±21km, mb3.1/9, mb1 3.3/9, mb1mx2.9/41, mbtmp4.1/9, Error ellipse: s-maj=52.1km s-min=11.0km az=63.0*
ISC 24 01:18:59.9±0.8, 6.2N±0.2×123.7E±0.4, h600km, n10, σ0.74/13, mb3.7/9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**27.01**	**299**	P	**P**	**01 23 56.1**	**+0.1**
	0.7nm,0.5s,baz=109,slow=7.9,SNR=3.6						
WRA	**Warramunga Arr**	**28.04**	**158**	P	**P**	**01 24 04.1**	**-0.8**
	2.4nm,0.5s,baz=340,slow=9.3,SNR=19						
WRA				ScP	**ScP**	**01 29 45.4**	**+0.9**
	0.4nm,0.3s,baz=346,slow=3.2,SNR=7.6						
ASAR	**Alice Springs**	**31.35**	**162**	P	**P**	**01 24 33.4**	**+0.1**
	1.4nm,0.3s,baz=340,slow=6.7,SNR=24						
ASAR				ScP	**ScP**	**01 29 56.2**	**+0.9**
	0.3nm,0.5s,baz=357,slow=3.6,SNR=5.3						
STKA	**Stephens Creek**	**41.57**	**157**	P	**P**	**01 25 57.3**	**+0.5**
	1.1nm,0.4s,baz=327,slow=6.8,SNR=3.4						
SONM	**Songino Array**	**44.01**	**343**	P	**P**	**01 26 16.0**	**+0.3**
	0.9nm,0.8s,baz=145,slow=5.4,SNR=4.7						
MKAR	**Makanchi Array**	**53.79**	**326**	P	**P**	**01 27 28.3**	**+0.8**
	1.4nm,0.5s,baz=119,slow=7.7,SNR=19						
MKAR				PcP	**PcP**	**01 28 23.5**	**-0.2**
	0.3nm,0.4s,baz=116,slow=6.5,SNR=3.9						
ZALV	**Zalesovo Beam**	**57.01**	**334**	P	**P**	**01 27 49.4**	**-0.2**
	0.4nm,0.4s,baz=116,slow=3.4,SNR=2.9						
ARCES	**ARCESS Array B**	**87.06**	**340**	P	**P**	**01 30 42.5**	**0.0**
	8.0nm,1.2s,baz=102,slow=7.7,SNR=2.5						
FINES	**FINESS Array B**	**88.20**	**332**	P	**P**	**01 30 47.1**	**-0.8**
	2.6nm,1.0s,baz=65,slow=7.8,SNR=3.7						
TORD	**Torodi Ar. Bea**	**119.26**	**289**	PKP	**PKPdf**	**01 36 41.8**	**-1.1**
	0.1nm,0.5s,baz=37,slow=1.1,SNR=3.7						

IDC 24 01:29:58.6±2.3, 0.15S×127.90E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/32, mbtmp3.6/3, Error ellipse: s-maj=173.5km s-min=27.2km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.66**	**163**	P	P	01 34 39.1	-1.0
	0.5nm,0.3s,baz=341,slow=12,SNR=3.8						
ASAR	**Alice Springs**	**24.09**	**166**	P	P	01 35 16.9	+0.7
	1.7nm,0.6s,baz=346,slow=11,SNR=12						
MKAR	**Makanchi Array**	**61.40**	**326**	P	P	01 40 16.5	-0.2
	0.4nm,0.4s,baz=122,slow=8.4,SNR=4.3						

*ISCJB **24** 01:33:43.7±0.6, 7.0N±0.2×123.9E±0.4, h600km, mb3.5/10, Error ellipse: s-maj=53.7km s-min=11.7km az=159.6*
*IDC **24** 01:33:46.7±1.8, 7.00N×124.03E, h619km±21km, mb3.0/10, mb1 3.2/10, mb1mx2.9/35, mbtmp4.0/10, Error ellipse: s-maj=50.8km s-min=10.2km az=69.0*
ISC 24 01:33:44.7±0.7, 7.0N±0.2×124.1E±0.4, h600km, n12, σ1.21/18, mb3.5/10, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.60**	**159**	P	**P**	**01 38 55.5**	**+1.0**
	0.4nm,0.4s,baz=340,slow=9.3,SNR=4.9						
WRA				S	**S**	**01 42 59.4**	**-2.9**
	0.9nm,0.5s,baz=333,slow=16,SNR=3.5						
WRA				ScP	**ScP**	**01 44 30.3**	**-0.7**
	0.3nm,0.3s,baz=342,slow=3.2,SNR=5.2						
ASAR	**Alice Springs**	**31.94**	**163**	P	**P**	**01 39 24.7**	**+1.6**
	0.6nm,0.3s,baz=338,slow=7.3,SNR=12						
ASAR				PcP	**PcP**	**01 41 55.5**	**+0.9**
	0.7nm,0.4s,baz=342,slow=2.9,SNR=8.9						
ASAR				S	**S**	**01 43 53.7**	**+0.3**
	1.8nm,0.7s,baz=353,slow=23,SNR=9.0						
ASAR				ScP	**ScP**	**01 44 41.7**	**-0.4**
	0.2nm,0.3s,baz=344,slow=2.5,SNR=4.3						
SONM	**Songino Array**	**43.41**	**343**	P	**P**	**01 40 57.3**	**+1.4**
	0.4nm,0.4s,baz=158,slow=8.3,SNR=5.5						
MKAR	**Makanchi Array**	**53.39**	**325**	P	**P**	**01 42 10.6**	**+1.0**
	4.9nm,0.4s,baz=120,slow=7.8,SNR=68						
MKAR				PcP	**PcP**	**01 43 07.0**	**0.0**
	0.8nm,0.6s,baz=119,slow=4.8,SNR=4.0						
ZALV	**Zalesovo Beam**	**56.51**	**333**	P	**P**	**01 42 30.6**	**-0.5**
	0.7nm,0.3s,baz=123,slow=5.5,SNR=4.2						
ILAR	**Eielson Array**	**83.34**	**26**	P	**P**	**01 45 09.7**	**+0.1**
	0.2nm,0.5s,baz=253,slow=4.0,SNR=3.6						
BRTR	**Keskin Array B**	**85.91**	**309**	P	**P**	**01 45 21.8**	**-1.0**
	0.6nm,0.7s,baz=127,slow=4.5,SNR=4.1						
VNDA	**Vanda**	**86.97**	**172**	P	**P**	**01 45 27.3**	**+0.7**
	0.5nm,0.5s,baz=309,slow=6.5,SNR=6.5						
FINES	**FINESS Array B**	**87.73**	**332**	P	**P**	**01 45 29.1**	**-1.4**
	1.2nm,0.7s,baz=103,slow=6.0,SNR=6.1						
NOA	**NORSAR Array B**	**94.71**	**333**	P	**P**	**01 46 01.9**	**-0.9**
	0.9nm,0.8s,baz=74,slow=4.7,SNR=2.9						
SCHQ	**Schefferville**	**117.75**	**7**	PKP	**PKPdf**	**01 51 22.7**	**-1.1**
	2.1nm,0.7s,baz=315,slow=7.1,SNR=3.3						
TORD	**Torodi Ar. Bea**	**119.36**	**289**	PKP	**PKPdf**	**01 51 27.6**	**-0.3**
	0.2nm,0.3s,baz=68,slow=1.6,SNR=11						

*SJA **24** 01:33:54.7±1.0, 34.66S×73.07W, h33km, ML3.4, MW3.4*
*GUC **24** 01:34:03.2±0.7, 34.39S×71.94W, h5km±3km, ML3.8*
*ISCJB **24** 01:34:04.5±1.0, 34.41S±0.03×72.0W±0.1, h10km, Error ellipse: s-maj=12.5km s-min=4.4km az=6.5*
ISC 24 01:34:03.3±1.4, 34.38S±0.03×71.98W±0.08, h10km, n25, σ1.40/30, 6C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.63**	**48**	⇑*i* P	**Pb**	**01 34 15.9**	**-0.5**
NICH	**Los Niches**	**0.88**	**136**	⇑*i* P	**Pg**	**01 34 19.7**	**-0.5**
NICH				AMPG		01 34 20.0	
	comp=Z,436nm,0.1s						
NICH				*i* S	**Sb**	**01 34 31.6**	**-0.8**
NICH				AMSG		01 34 31.8	
	comp=Z,3μm,0.3s						
TALC	**Talca**	**1.06**	**165**	*e*P	**Pb**	**01 34 22.9**	**-0.7**
TALC				*i* S	**Sg**	**01 34 36.2**	**-1.1**
TACH	**Talagante**	**1.12**	**50**	⇑*i* P	**Pb**	**01 34 23.8**	**-1.0**
CHCH	**Chadas Angostu**	**1.18**	**68**	⇓*i* P	**Pb**	**01 34 25.0**	**-0.9**
CHCH				*e*S	**Sb**	**01 34 40.7**	**-0.6**
IHA	**Instituto Hidr**	**1.38**	**12**	⇑*i* P	**Pb**	**01 34 28.1**	**-1.0**
IHA				*e*S	**Sg**	**01 34 46.9**	**-0.7**
PCH	**Pirque**	**1.43**	**59**	⇑*i* P	**Pb**	**01 34 29.4**	**-0.7**
PCH				*i* S	**Sb**	**01 34 47.9**	**-0.5**
SAN	**Santiago**	**1.43**	**50**	*e*P	**Pb**	**01 34 29.1**	**-0.9**
SAN				*e*S	**Sb**	**01 34 48.0**	**-0.4**
LNCH	**Linares**	**1.50**	**168**	⇑*i* P	**Pb**	**01 34 30.5**	**-0.7**
LNCH				*i* S	**Sb**	**01 34 50.1**	**-0.2**
CLCH	**Cerro Calan**	**1.54**	**51**	*e*P	**Pb**	**01 34 30.7**	**-1.4**
CLCH				*e*S	**Sb**	**01 34 51.1**	**-0.6**
CLCH				AML	AML	01 34 59.8	
	comp=E,1μm,0.9s						
PEL	**Peldehue**	**1.63**	**41**	*e*P	**Pb**	**01 34 32.3**	**-1.3**
PEL				*e*S	**Sb**	**01 34 54.0**	**-0.2**
PEL				AML	AML	01 34 57.9	
	comp=N,3μm,0.5s						
AAGR	**Agrelo**	**2.92**	**65**	*e*P	**Pb**	**01 34 55.1**	**-0.5**
ARCO	**CERRO ARCO**	**2.96**	**60**	*e*P	**Pb**	**01 34 56.3**	**-0.1**
ASAL	**Salagasta**	**3.17**	**57**	*e*P	**Pb**	**01 34 59.5**	**-0.3**
RTLS	**Leoncito**	**3.42**	**42**	*e*P	**Pb**	**01 35 01.7**	**-2.3**
RTLS				*e*S	**Sg**	**01 35 51.1**	**-1.9**
RTCV	**Cerro Valdivia**	**3.82**	**50**	*e*P	Pb	01 35 07.1	-3.8
RTCV				*e*S	**Sb**	**01 35 57.0**	**-0.2**
CFAA	**Coronel Fontan**	**4.18**	**50**	*e*P	Pn	01 35 10.7	+3.5
CFAA				*e*S	**Sb**	**01 36 04.6**	**-3.0**
RTLL	**Cerro Villicun**	**4.23**	**45**	*e*P	Pb	01 35 13.1	-4.7
RTLL				*e*S	**Sn**	**01 36 01.5**	**+4.1**
AMOG	**MOGNA**	**4.51**	**42**	*e*P	Pn	01 35 15.3	+3.5
ACAN	**Cantantal**	**4.52**	**64**	*e*P	Pb	01 35 17.1	-5.7
ACAN				*e*S	**Sb**	**01 36 18.0**	**+0.6**
AVFE	**Valle Fertil**	**5.32**	**47**	*e*P	Pn	01 35 26.8	+3.9
AVFE				AML	AML	01 36 42.0	
	comp=Z,11nm,0.5s						
MRA	**San Martin**	**5.59**	**71**	*e*P	Pn	01 35 30.4	+3.8
VCA	**Vinchina**	**6.48**	**31**	*e*P	Pn	01 35 42.5	+3.6
ACLC	**CERRO LA CRUZ**	**6.53**	**42**	*e*P	**Pn**	**01 35 41.6**	**+2.1**
TCA	**Tanti**	**6.91**	**66**	*e*P	Pn	01 35 48.4	+3.6

IDC 24 01:34:16.6±15.0, 5.89N×127.33E, h250km±161km, mb3.4/5, mb1 3.5/5, mb1mx3.1/24, mbtmp3.9/5, Error ellipse: s-maj=117.0km s-min=27.5km az=69.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.58**	**165**	P	P	01 39 32.1	0.0
	0.5nm,0.5s,baz=345,slow=10,SNR=4.9						
SONM	**Songino Array**	**45.47**	**340**	P	P	01 42 11.2	0.0
	0.8nm,0.7s,baz=157,slow=9.1,SNR=5.5						
MKAR	**Makanchi Array**	**56.15**	**324**	P	P	01 43 30.6	+0.1
	0.9nm,0.5s,baz=122,slow=7.9,SNR=7.1						
ZALV	**Zalesovo Beam**	**58.96**	**332**	P	P	01 43 49.1	-0.7
	0.6nm,0.3s,baz=128,slow=6.2,SNR=4.0						
ARCES	**ARCESS Array B**	**88.64**	**340**	P	P	01 46 41.2	+0.1
	2.3nm,0.8s,baz=90,slow=6.5,SNR=2.9						

IDC 24 01:40:50.7±4.3, 6.14N×122.44E, h622km±73km, mb2.6/4, mb1 2.8/4, mb1mx2.4/51, mbtmp3.8/4, Error ellipse: s-maj=234.1km s-min=19.6km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.44**	**156**	P	P	01 45 57.0	-1.0
	0.2nm,0.3s,baz=332,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**31.67**	**160**	P	P	01 46 26.5	+0.9
	0.7nm,0.3s,baz=338,slow=7.5,SNR=13						
MKAR	**Makanchi Array**	**53.17**	**326**	P	P	01 49 12.9	+0.5
	0.7nm,0.4s,baz=122,slow=8.1,SNR=11						
KURBB	**Kurchatov Arra**	**57.44**	**328**	P	P	01 49 41.1	-0.7
	0.4nm,0.5s,baz=132,slow=6.0,SNR=4.5						
TORD	**Torodi Ar. Bea**	**118.11**	**288**	PKP	PKPdf	01 58 29.0	-0.3
	0.4nm,0.9s,baz=72,slow=1.4,SNR=2.9						

IDC 24 01:43:37.4±3.2, 6.64S×150.07E, h0km, mb3.7/2, mb1 4.1/3, mb1mx3.6/39, mbtmp4.0/3, ML1.9/1, Error ellipse: s-maj=122.6km s-min=38.5km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.99**	**226**	Pn	Pn	01 44 42.1	+2.2
	5.8nm,0.3s,baz=44,slow=9.2,SNR=11						
PMG				Sn	Sn	01 45 27.7	+0.3
	13nm,0.3s,baz=141,slow=18,SNR=8.7						
WRA	**Warramunga Arr**	**20.21**	**228**	P	P	01 48 13.6	-0.6
	5.3nm,0.7s,baz=52,slow=11,SNR=19						
ASAR	**Alice Springs**	**22.98**	**221**	P	P	01 48 42.9	-1.0
	1.8nm,0.8s,baz=56,slow=9.2,SNR=12						
TORD	**Torodi Ar. Bea**	**148.21**	**284**	PKPbc	PKPbc	02 03 26.4	-0.1
	1.0nm,0.6s,baz=65,slow=1.7,SNR=4.1						

*BJI **24** 01:44:42.6, 6.42N×123.82E, h609km, mb4.9/40, mB5.2/14*
*ISCJB **24** 01:44:43.8±0.2, 6.65N±0.02×123.68E±0.02, h599km±2km, mb4.9/151, Error ellipse: s-maj=3.5km s-min=2

951nm,0.9s,7µm2.7nm
TOLI Toli-Toli 6.20 208 *e*P **P 01 46 26.5 -1.0**
666nm,0.6s
TSM Tawau 6.28 249 ⇓P **P 01 46 26.9 -1.2**
TSM Tawau 6.28 249 ⇓P **P 01 46 26.9 -1.2**
MRSI Marisa 6.36 196 P **P 01 46 28.4 -0.5**
237nm,1.1s,3µm0.7nm
SDKM Sandakan 6.58 262 ⇓P **P 01 46 29.2 -1.6**
SDKM Sandakan 6.58 262 ⇓P **P 01 46 29.2 -1.6**
TNTI Ternate 6.85 148 P **P 01 46 33.2 0.0**
206nm,0.7s,2.5nm
TNTI Ternate 6.85 148 *e*P **P 01 46 33.0 -0.2**
127nm,0.6s
KDM Kudat 6.86 273 ⇑P **P 01 46 31.7 -1.6**
KDM Kudat 6.86 273 ⇑P **P 01 46 31.7 -1.6**
PVCP Virac 6.94 3⇓*e*P **P 01 46 32.6 -1.4**
MPSI Mapaga 7.33 212 P **P 01 46 36.3 -1.3**
113nm,1.2s,5µm0.7nm
KKM Kota Kinabalu 7.50 266 P **P 01 46 37.9 -1.4**
baz=7.4,SNR=141
KKM Kota Kinabalu 7.50 266 ⇑P **P 01 46 38.0 -1.4**
KKM Kota Kinabalu 7.50 266 ⇑P **P 01 46 38.0 -1.4**
KKM Kota Kinabalu 7.50 266 *e*P **P 01 46 37.7 -1.6**
591nm,0.6s
LUWI Luwuk 7.67 187 P **P 01 46 39.9 -1.0**
238nm,1.1s,5µm3.5nm
LUWI Luwuk 7.67 187 P **P 01 46 39.5 -1.3**
baz=7.6,SNR=14
LUWI Luwuk 7.67 187 *e*P **P 01 46 39.5 -1.3**
APSI Ampana 7.77 196 P **P 01 46 40.6 -1.2**
242nm,1.0s,3µm1.1nm
TGY Tagaytay City 7.92 340 P **P 01 46 43.3 +0.1**
32nm,0.3s,baz=181,slow=2.9,SNR=7.3
TGY S **S 01 48 20.9 +0.5**
60nm,0.3s,baz=167,slow=16,SNR=8.3
LBMI Labuha 8.13 152 P **P 01 46 45.3 +0.1**
285nm,0.8s
SANI Sanana 8.90 165 P **P 01 46 50.0 -2.7**
NLAI Namlea 10.36 161 P **P 01 47 08.0 +1.0**
70nm,1.0s
TTSI Tana Toraja 10.37 202 P **P 01 47 06.7 -0.4**
113nm,0.8s
SWI Sorong 10.57 134 P **P 01 47 10.1 +1.0**
94nm,1.0s,4µm
KDI Kendari 10.57 186 P **P 01 47 10.3 +1.2**
72nm,1.0s
SIJI Sorong 10.58 134 P **P 01 47 09.9 +0.7**
8.3nm,0.3s,baz=328,slow=7.5,SNR=22
BTM Bintulu 11.14 253 ⇓P **P 01 47 13.9 -0.9**
BTM Bintulu 11.14 253 ⇓P **P 01 47 13.9 -0.9**
MSAI Masohi 11.18 152 P **P 01 47 16.8 +1.6**
30nm,0.8s,1µm
SPSI Sidrap Palu 11.24 201 P **P 01 47 15.0 -0.8**
133nm,0.8s
BBSI Bau Bau 12.09 186 P **P 01 47 24.5 +0.2**
82nm,1.1s
SBUM Sibu 12.20 251 ⇓P **P 01 47 25.4 -0.1**
SBUM Sibu 12.20 251 ⇓P **P 01 47 25.4 -0.1**
SBUM Sibu 12.20 251 *e*P **P 01 47 25.5 -0.1**
KAPI Kappang 12.22 199 P **P 01 47 26.7 +0.9**
2.9nm,0.3s,baz=17,slow=11,SNR=6.9
KAPI Kappang 12.22 199 *e*P **P 01 47 24.4 -1.3**
29nm,0.9s
BKSI Bulukumba 12.40 197 P **P 01 47 28.8 +1.3**
24nm,0.7s
FAKI Fak Fak 12.73 138 P **P 01 47 31.0 +0.1**
247nm,0.7s,4µm
FAKI Fak Fak 12.73 138 P **P 01 47 31.3 +0.5**
baz=13,SNR=38
FAKI Fak Fak 12.73 138 *e*P **P 01 47 31.4 +0.5**
154nm,0.6s
BSSI Bau Bau, Buton 13.09 194 P **P 01 47 35.2 +0.7**
64nm,1.2s
RKPI Ransiki, Papua 13.19 127 P **P 01 47 37.4 +1.9**
235nm,0.7s
BBKI Banjar Baru 13.39 222 P **P 01 47 37.6 0.0**
94nm,0.9s
STKI Sintang 13.86 242 P **P 01 47 41.7 -0.6**
127nm,0.9s,8µm
KSM Kuching 14.33 250 P **P 01 47 46.4 -0.4**
baz=14,SNR=32
KSM Kuching 14.33 250 ⇓P **P 01 47 46.5 -0.4**
KSM Kuching 14.33 250 ⇓P **P 01 47 46.5 -0.4**
KSM Kuching 14.33 250 *e*P **P 01 47 46.1 -0.7**
181nm,0.8s
BAKI Biak 14.59 122 P **P 01 47 50.4 +1.2**
400nm,0.7s,5µm
SRPI Serui, Papua 15.07 124 P **P 01 47 55.3 +1.7**
309nm,0.6s,14µm
PBKI Pangkalan Bun 15.20 233 P **P 01 47 54.7 -0.1**
559nm,0.8s
MMRI Maumere 15.23 186 P **P 01 47 56.4 +1.3**
393nm,0.7s
MMRI Maumere 15.23 186 *e*P **P 01 47 55.2 +0.1**
238nm,0.7s
DLV T Lat 15.95 290 *e*P **P 01 48 01.9 -0.1**
SOEI Soe 16.28 178 P **P 01 48 04.5 -0.4**
136nm,0.9s
SOEI Soe 16.28 178 P **P 01 48 04.6 -0.3**
baz=16,SNR=16
SOEI Soe 16.28 178 *e*P **P 01 48 03.6 -1.3**
89nm,0.7s
TWG Pinlang 16.31 351 *e*P **P 01 48 03.6 -1.3**
256nm,0.6s
SAUI Saumlaki 16.35 152 P **P 01 48 07.3 +1.9**
606nm,0.7s
BWJI Bawean 16.61 222 P **P 01 48 08.6 +0.8**
238nm,1.0s
KMMI Kalianget 16.72 216 P **P 01 48 08.8 0.0**
206nm,1.0s
YULB Yu-li 16.84 352 *e*P **P 01 48 08.2 -1.6**
40nm,0.6s
SRBI Singaraja 16.90 210 P **P 01 48 11.3 +0.8**
102nm,1.3s
BASI Baing, Sumba 17.02 191 P **P 01 48 12.4 +0.8**
296nm,0.8s,4µm
SMPI Sarmi 17.22 119 P **P 01 48 15.6 +2.2**
194nm,0.7s
SSLB Suanglung 17.27 351 *e*P **P 01 48 13.3 -0.5**
79nm,0.6s
DNP Denpasar 17.41 209 P **P 01 48 16.2 +1.1**
380nm,0.3s
BLJI Banyuglugur 17.49 215 P **P 01 48 16.5 +0.6**
75nm,0.9s
GRJI Gresik 17.52 220 P **P 01 48 16.9 +0.8**
154nm,0.8s
IGBI Denpasar 17.57 209 P **P 01 48 16.5 0.0**
243nm,0.8s
NACB Ninganchiao 17.57 354 *e*P **P 01 48 16.1 -0.4**
YOJ Yonaguni jima 17.75 358 *e*P **P 01 48 18.9 +0.8**
YOJ pmax pmax
comp=Z,74nm,0.9s
YOJ Yonaguni jima 17.75 358 *e*P **P 01 48 18.9 +0.8**
comp=Z,74nm,0.9s
TBJI Tambak Boyo 17.86 222 P **P 01 48 20.1 +0.9**
comp=Z,253nm,1.1s
YHNB Yeheng 18.09 353 *e*P **P 01 48 21.0 -0.2**
comp=Z,62nm,0.6s
UWJI Ujung Watu 18.18 225 P **P 01 48 22.5 +0.3**
comp=Z,326nm,1.0s
QIZ Qiongzhong 18.30 314 P **P 01 48 22.6 -0.6**
QIZ sP **sP 01 50 48.8 -1.6**
QIZ S **S 01 51 21.1 +0.6**
QIZ PMZ
comp=Z,14nm,1.6s
NGJI Ngawi 18.52 222 P **P 01 48 26.1 +0.9**
comp=Z,86nm,1.0s
TPI Tanjungpandan 18.56 240 P **P 01 48 25.6 0.0**
comp=Z,69nm,0.8s,comp=Z,8µm
GENI Genyem 18.79 119 P **P 01 48 29.3 +1.6**
comp=Z,221nm,0.9s,comp=Z,5µm
SMRI Semarang 18.98 225 P **P 01 48 30.2 +0.7**
comp=Z,137nm,1.0s
SMRI Semarang 18.98 225 P **P 01 48 31.1 +1.6**
baz=19,SNR=3.2
SMRI Semarang 18.98 225 *e*P **P 01 48 29.2 -0.3**
comp=Z,70nm,0.8s
JAY Jayapura 19.22 118 P **P 01 48 33.1 +1.4**
comp=Z,49nm,0.8s
JAY Jayapura 19.22 118 P **P 01 48 32.5 +0.9**
comp=Z,5.6nm,0.3s,baz=283,slow=4.5,SNR=26
JAY Jayapura 19.22 118 P **P 01 48 32.6 +0.9**
baz=19,SNR=14
WOJI Wonogiri, Jawa 19.23 222 P **P 01 48 32.3 +0.7**
comp=Z,161nm,0.9s
UGM Wanagama 19.55 223 P **P 01 48 34.7 +0.1**
comp=Z,176nm,1.9s
UGM Wanagama 19.55 223 ⇓P **P 01 48 34.3 -0.3**
baz=20,SNR=9.4
PPBI Pangkal Pinang 19.62 244 P **P 01 48 35.0 -0.2**
comp=Z,32nm,0.7s
UBPT Khong Chiam 19.87 297 P **P 01 48 37.9 +0.4**
comp=Z,29nm,1.3s,comp=Z,2µm
DSRI Dabo 20.38 250 P **P 01 48 42.1 0.0**
comp=Z,14nm,0.6s,comp=Z,4µm
BTDF Bukit Timah Da 20.58 256 P **P 01 48 43.9 0.0**
baz=20,SNR=4.7
BTDF P **P 01 48 43.9 0.0**
baz=20,SNR=4.7
LEM Lembang 20.91 231 P **P 01 48 47.3 +0.3**
comp=Z,144nm,1.0s
LEM Lembang 20.91 231 P **P 01 48 47.5 +0.5**
comp=Z,140nm,0.9s,baz=14,slow=7.3,SNR=14
LEM Lembang 20.91 231 P **P 01 48 47.8 +0.7**
baz=21,SNR=4.5
CMJI Cimerak 20.91 227 P **P 01 48 47.6 +0.8**
comp=Z,99nm,1.2s
PMBI Palembang 21.18 244 P **P 01 48 49.8 +0.6**
comp=Z,462nm,0.4s
CISI Cisompet, Garu 21.23 229 P **P 01 48 49.1 -0.6**
comp=Z,72nm,1.2s,comp=Z,5µm
CISI Cisompet, Garu 21.23 229 P **P 01 48 49.1 -0.6**
baz=21,SNR=4.6
CBJI Citeko 21.26 233 P **P 01 48 51.7 +1.8**
comp=Z,841nm,0.9s
TNG Tangerang 21.27 234 P **P 01 48 50.5 +0.4**
comp=Z,381nm,0.5s
TNG Tangerang 21.27 234 P **P 01 48 50.8 +0.7**
comp=Z,465nm,0.5s
CNJI Cibinong 21.59 230 P **P 01 48 51.5 -1.4**
comp=Z,120nm,1.1s,comp=Z,2µm
SBJI Serang 21.66 235 P **P 01 48 54.1 +0.6**
comp=Z,304nm,1.0s
JMBI JAMBI 21.67 248 P **P 01 48 53.9 +0.2**
comp=Z,832nm,0.7s
SKJI Sukabumi 21.84 232 P **P 01 48 55.1 -0.1**
comp=Z,178nm,0.9s,comp=Z,9µm
SKNT Sakolnakorn 21.88 300 P **P 01 48 55.7 +0.2**
comp=Z,85nm,1.0s
GUMO Guam 21.91 70 P **P 01 48 56.5 +0.7**
comp=Z,46nm,0.4s,baz=99,slow=0.6,SNR=8.7
BLSI Bandar Lampung 21.97 238 P **P 01 48 56.6 +0.3**
comp=Z,406nm,0.8s,comp=Z,7µm
KLI Kotabumi 22.03 239 P **P 01 48 57.1 +0.2**
comp=Z,626nm,1.0s,comp=Z,15µm
KLSI 22.05 240 P **P 01 48 57.1 0.0**
comp=Z,384nm,0.9s,comp=Z,6µm
CGJI Cibinong 22.29 234 P **P 01 48 57.5 -1.7**
comp=Z,232nm,0.8s,comp=Z,3µm
MDSI Maura Dua 22.43 241 P **P 01 48 59.4 -1.0**
comp=Z,94nm,0.8s
RGRI Rengat 22.45 253 P **P 01 49 00.7 +0.1**
comp=Z,882nm,0.2s,comp=Z,270µm
KHON Khomkaen 22.63 297 P **P 01 49 02.5 +0.3**
comp=Z,38nm,0.5s,comp=Z,640nm
KASI Kota Agung 22.68 238 P **P 01 49 01.7 -0.9**
comp=Z,155nm,1.0s
LHSI Lahat 22.69 243 P **P 01 49 03.0 +0.2**
comp=Z,62nm,0.9s
IPM Ipoh 22.70 266 *e*P **P 01 49 02.1 -0.8**
comp=Z,29nm,0.8s
KNRA Kununurra 22.71 167 P **P 01 49 03.0 +0.2**
baz=23,SNR=5.3
LWLI Liwa 22.79 240 P **P 01 49 03.2 -0.6**
comp=Z,320nm,0.8s,comp=Z,7µm
KULM Kulim 23.00 268 *e*P **P 01 49 05.0 -0.5**
comp=Z,64nm,1.3s
CHAI Chaiyaphum 23.21 295 P **P 01 49 07.1 -0.3**
comp=Z,25nm,0.6s,comp=Z,213nm
MNAI Mana 23.44 243 P **P 01 49 08.7 -0.7**
comp=Z,284nm,0.8s
MNAI Manna 23.44 243 P **P 01 49 08.4 -1.0**
baz=23,SNR=6.2
MNAI Manna 23.44 243 *e*P **P 01 49 08.2 -1.2**
comp=Z,244nm,0.8s
KSI Kapahiang 23.45 245 P **P 01 49 08.8 -0.7**
comp=Z,180nm,0.9s,comp=Z,9µm
BKNI Bangkinang 23.49 255 P **P 01 49 08.6 -1.3**
comp=Z,104nm,0.8s,comp=Z,3µm
SDSI Sungai Dareh 23.50 252 P **P 01 49 09.7 -0.2**
comp=Z,118nm,0.8s
KRJI Kerinci 23.86 249 P **P 01 49 13.3 +0.1**
comp=Z,47nm,0.8s
TRTT Trang 23.88 274 P **P 01 49 13.8 +0.5**
comp=Z,47nm,1.1s
SLVN Son La 24.12 309 *e*P **P 01 49 15.9 +0.5**
comp=Z,3.7nm,0.7s
PPI Padang Panjang 24.33 254 P **P 01 49 15.7 -1.6**
comp=Z,217nm,0.7s
PPI Padang Panjang 24.33 254 P **P 01 49 16.6 -0.7**
baz=24,SNR=13
PBKT Sadao Pong 24.36 296 P **P 01 49 18.0 +0.5**
comp=Z,62nm,0.7s
KRAB Krabi 24.38 275 P **P 01 49 17.6 -0.1**
comp=Z,109nm,0.6s
MNSI Mandailing Nat 24.78 257 P **P 01 49 21.3 0.0**
comp=Z,125nm,0.3s
PSI Prapat 25.01 262 P **P 01 49 23.3 -0.2**
comp=Z,93nm,0.7s,baz=75,slow=4.0,SNR=48
PSI PcP **PcP 01 52 36.7 -0.7**
comp=Z,14nm,0.7s,baz=330,slow=2.7,SNR=5.3
PSI ScP **ScP 01 55 20.3 -0.5**
comp=Z,14nm,0.7s,baz=62,slow=4.6,SNR=7.6
PSI Prapat 25.01 262 P **P 01 49 23.3 -0.2**
PSI 01 52 36.7
PSI pmax pmax
comp=Z,93nm,0.7s
PSI pmax pmax
comp=Z,14nm,0.7s
PSI pmax pmax
comp=N,14nm,0.7s
PSI Prapat 25.01 262 P **P 01 49 23.1 -0.4**
baz=25,SNR=31
PSI Prapat 25.01 262 *e*P **P 01 49 22.2 -1.2**
comp=N,92nm,0.7s
PSI PcP **PcP 01 52 36.8 -0.7**
PSI ScP **ScP 01 55 20.3 -0.5**
UTTA Uttaradit 25.18 298 P **P 01 49 25.2 +0.5**
comp=N,8.2nm,0.7s,comp=N,152nm
TSI Tuntungan 25.26 264 P **P 01 49 25.3 -0.2**
comp=N,103nm,1.1s
SRDT SRDT 25.37 290 P **P 01 49 27.5 +1.1**
comp=N,243nm,0.7s,comp=N,20µm
WHN Wuhan 25.38 341 P **P 01 49 28.3 +2.1**
PPSI Pulau Pagai 25.46 249 P **P 01 49 27.4 +0.2**
comp=N,176nm,0.8s
GYA Guiyang 25.57 322 P **P 01 49 29.0 +0.8**
GYA sP **sP 01 52 09.6 -0.7**
GYA PcP **PcP 01 52 40.3 +1.8**
GYA S **S 01 53 18.0 +2.6**
GYA ScP **ScP 01 55 23.4 +1.2**
GYA PcS **PcS 01 56 20.9 +0.8**
GYA ScS **ScS 01 59 11.4 -1.3**
GYA PMZ
comp=N,30nm,0.8s
GYA PMZ
comp=N,140nm,4.9s
NJ2 Nanjing 25.71 350 *e*P **P 01 49 29.1 0.0**
NJ2 S S 01 53 25.0 +7.9
SISI Saibi 25.84 253 P **P 01 49 28.9 -1.7**
comp=N,514nm,0.6s,comp=N,6µm
UMPA Umpang Tak 26.15 293 P **P 01 49 33.8 +0.5**
comp=N,21nm,0.8s,comp=N,1µm
PBSI Pulau Batu 26.25 256 P **P 01 49 32.0 -2.2**
comp=N,75nm,1.5s
LAMP Lampang 26.29 299 P **P 01 49 35.4 +0.9**
comp=N,12nm,0.7s,comp=N,132nm
CRAI Chiangrai 26.39 303 P **P 01 49 32.8 -2.6**
comp=N,177nm,1.4s,comp=N,4µm
GSI Gunungsitoli 26.62 260 P **P 01 49 36.2 -1.2**
comp=N,689nm,0.7s,comp=N,6µm
GSI Gunungsitoli 26.62 260 *e*P **P 01 49 35.6 -1.8**
comp=N,408nm,0.6s
LHMI Lhok Sumawe 26.68 268 P **P 01 49 36.0 -2.0**
comp=N,140nm,1.0s
CM31 Chiang Mai Arr 26.86 298 *e*P **P 01 49 40.4 +0.8**
comp=N,13nm,0.5s
CMAR Chiang Mai Arr 26.86 298 P **P 01 49 40.5 +0.9**
comp=N,20nm,0.7s,baz=114,slow=7.1,SNR=60
CMAR PcP **PcP 01 52 41.6 0.0**
comp=N,1.9nm,0.4s,baz=128,slow=1.4,SNR=5.7
CMAR S **S 01 53 36.1 +0.6**
comp=N,1.3nm,0.4s,baz=102,slow=15,SNR=4.0
CMAR ScP **ScP 01 55 26.9 +0.8**
comp=N,3.0nm,0.5s,baz=136,slow=1.8,SNR=14
CBIJ Chichi jima 26.87 39 *e*P **P 01 49 39.0 -0.4**
comp=N,58nm,0.9s
CBIJ S **S 01 53 34.2 -1.3**
JCJ Chichijima 26.87 39 P **P 01 49 38.8 -0.6**
comp=N,113nm,0.4s,baz=280,slow=23,SNR=34
JCJ S **S 01 53 34.2 -1.3**
comp=N,90nm,0.7s,baz=284,slow=24,SNR=12
CMMT Chiang Mai 27.00 299 P **P 01 49 41.0 +0.3**
comp=N,77nm,0.8s
CHTO Chiang Mai 27.00 299 P **P 01 49 41.1 +0.4**
comp=N,253nm,0.8s,comp=N,8µm
CHTO Chiang Mai 27.00 299 *e*P **P 01 49 40.7 0.0**
CHTO pmax pmax
comp=Z,34nm,0.6s
CHTO Chiang Mai 27.00 299 *e*P **P 01 49 40.6 0.0**
comp=Z,34nm,0.6s
JNU Nakatsue 27.19 13 P **P 01 49 41.9 -0.3**
comp=Z,11nm,0.6s,baz=211,slow=2.9,SNR=12
JNU S **S 01 53 37.9 -2.4**
comp=Z,3.5nm,0.4s,baz=68,slow=18,SNR=7.5
JNU Nakatsue 27.19 13 *e*P **P 01 49 42.0 -0.2**
comp=Z,7.9nm,1.0s
JNU S **S 01 53 37.9 -2.4**
KMI Kunming 27.24 315 P **P 01 49 43.9 +0.9**
KMI sP **sP 01 52 29.0 +2.1**
KMI S **S 01 53 44.8 +3.1**
KMI ScP **ScP 01 55 27.8 +0.4**
KMI PcS **PcS 01 56 23.9 -1.6**
KMI PMZ
comp=Z,11nm,0.5s
CMAI Chiengmai2 27.38 301 P **P 01 49 44.7 +0.5**
comp=Z,203nm,0.9s
SNSI Sinabang, Aceh 27.64 263 P **P 01 49 46.3 0.0**
comp=Z,3µm,0.6s
MHMT Maesarieng 27.65 297 P **P 01 49 47.1 +0.7**
comp=Z,57nm,0.8s
MBWA Marble Bar 27.89 188 *e*P **P 01 49 47.3 -1.0**
comp=Z,59nm,0.7s
COEN Coen 28.11 137 P **P 01 49 50.0 -0.5**
baz=28,SNR=61
COEN Coen 28.11 137 *e*P **P 01 49 49.6 -0.8**
PMG Port Moresby 28.25 124 P **P 01 49 51.7 0.0**
comp=Z,32nm,0.8s,baz=332,slow=5.5,SNR=6.3
PMG Port Moresby 28.25 124 *e*P **P 01 49 52.3 +0.7**
PMG pmax pmax
comp=Z,48nm,0.9s
PMG Port Moresby 28.25 124 *e*P **P 01 49 52.3 +0.7**
comp=Z,48nm,0.9s
WRAB Tennant Creek 28.38 159⇓*i*P **P 01 49 52.5 -0.2**
WRAB pmax pmax
comp=Z,73nm,1.1s
WRAB Tennant Creek 28.38 159 *e*P **P 01 49 52.1 -0.6**
comp=Z,20nm,0.7s
WRA Warramunga Arr 28.39 159 P **P 01 49 52.5 -0.3**
comp=Z,19nm,0.7s,baz=333,slow=10.0,SNR=53
WRA PcP **PcP 01 52 45.4 +0.1**
comp=Z,2.9nm,0.5s,baz=346,slow=3.1,SNR=5.8
WRA S **S 01 53 54.6 -4.6**
comp=Z,16nm,0.6s,baz=334,slow=15,SNR=18
WRA ScP **ScP 01 55 30.7 0.0**
comp=Z,31nm,0.7s,baz=343,slow=3.4,SNR=32
WRA ScS **ScS 01 59 22.4 -3.0**
comp=Z,0.8nm,0.4s,baz=328,slow=4.8,SNR=5.5
KSJEU Jeongeup 28.88 5 P **P 01 49 56.9 +0.1**
SNR=5.2
KSBON Boeun 29.97 7 P **P 01 50 07.3 +1.1**
SNR=22
TIA Tai'an 30.07 349 ⇑P **P 01 50 07.5 +0.5**
TIA PMZ
comp=Z,20nm,0.7s
JHJ Hachijo jima 2 30.29 27 P **P 01 50 09.3 +0.4**
comp=Z,52nm,0.3s,baz=61,slow=19
KSCHJ Chungju 30.36 7 P **P 01 50 10.5 +1.0**
SNR=8.4
GIRL Giralia 30.54 197 P **P 01 50 11.9 +0.8**
baz=31,SNR=18
CD2 Chengdu 30.57 325 P **P 01 50 11.4 0.0**
CD2 sP **sP 01 52 55.8 -0.9**
CD2 S **S 01 54 33.8 +1.2**
CD2 SS **SS 01 57 43.8 +2.1**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,260nm,10.8s
KSTBA Taebaek 30.73 8 P **P 01 50 14.0 +1.3**
SNR=6.5
KSAR Wonju Array Be 30.91 6 P **P 01 50 15.3 +1.1**
KSAR Wonju Array Be 30.91 6 P **P 01 50 15.3 +1.1**
KSAR ScP **ScP 01 55 39.4 +0.8**
KSRS Korea Array 30.93 6 P **P 01 50 15.3 +1.0**
comp=Z,5.6nm,0.4s,baz=187,slow=9.9,SNR=35
KSRS ScP **ScP 01 55 39.4 +0.7**
comp=Z,1.7nm,0.5s,baz=174,slow=2.9,SNR=7.1
KSRS Korea Array 30.93 6 P **P 01 50 15.3 +1.0**
KSRS pmax pmax
comp=Z,5.0nm,0.4s
KSRS pmax pmax
comp=N,2.0nm,0.5s
QIS Mount Isa 31.19 150 P **P 01 50 17.3 +0.5**
baz=31,SNR=17
KSBAR Backryungdo 31.22 1 P **P 01 50 19.1 +2.3**
SNR=9.1
KSCHC Chuncheon 31.23 6 P **P 01 50 18.8 +1.8**
SNR=8.3
KSDGY Daegwallycong 31.25 8 P **P 01 50 18.9 +1.8**
SNR=9.2
KSIJA INJE 31.47 7 P **P 01 50 21.3 +2.3**
SNR=7.3
AS31 Alice Springs 31.70 162 *e*P **P 01 50 21.5 +0.4**
ASAR Alice Springs 31.70 162 P **P 01 50 21.8 +0.6**
comp=N,18nm,0.3s,baz=341,slow=6.6,SNR=234
ASAR PcP **PcP 01 52 54.4 +0.2**
comp=N,5.7nm,0.6s,baz=341,slow=2.7,SNR=11
ASAR S **S 01 54 48.9 -1.1**
comp=N,39nm,0.7s,baz=352,slow=24,SNR=38
ASAR ScP **ScP 01 55 41.5 -0.1**
comp=N,13nm,0.5s,baz=340,slow=3.4,SNR=14
WRKA Warakurna 31.78 172 P **P 01 50 22.1 +0.3**
baz=32,SNR=67
MTSU Mount Surprise 31.90 141 P **P 01 50 23.6 +0.7**
baz=32,SNR=17
DL2 Dalian 32.20 357 P **P 01 50 25.5 +0.5**
DL2 PMZ
comp=N,66nm,0.7s
MAJO Matsushiro 32.59 22*c i*P **P 01 50 27.7 -0.8**
MAJO pmax pmax
comp=Z,389nm,1.2s
MAJO Matsushiro 32.59 22 *e*P **P 01 50 27.5 -0.9**
comp=Z,33nm,0.8s
MAT Matsushiro 32.59 22 P **P 01 50 27.6 -0.9**
MJAR Matsushiro Arr 32.59 22 P **P 01 50 28.1 -0.3**
comp=Z,40nm,0.9s,baz=197,slow=10.0,SNR=90
MJAR ScP **ScP 01 55 45.5 +1.0**
comp=Z,7.1nm,1.2s,baz=210,slow=4.5,SNR=8.4
MEEK Meekatharra 33.43 188 P **P 01 50 35.5 -0.2**
baz=34,SNR=57
BJT Baijiatuau 33.94 350 *e*P **P 01 50 39.8 +0.1**
BJT pmax pmax
comp=Z,9.0nm,0.4s
BJT Baijiatuau 33.94 350 *e*P **P 01 50 39.8 +0.1**
comp=Z,9.4nm,0.4s
BJI Beijing 33.96 350 P **P 01 50 40.0 +0.2**
BJI PMZ
comp=Z,27nm,1.2s
LZH Lanzhou 34.53 331 *e*P **P 01 50 45.8 +0.9**
LZH PcP **PcP 01 53 06.0 +3.7**
LZH PMZ
comp=Z,29nm,1.0s
LZH PMZ
comp=Z,110nm,5.2s
CTA Charters Tower 34.57 141 P **P 01 50 46.6 +1.3**
comp=Z,14nm,0.5s,baz=318,slow=11,SNR=22
CTA ScP **ScP 01 55 52.9 +1.0**
comp=Z,15nm,0.8s,baz=314,slow=6.5,SNR=7.9
CTAO Charters Tower 34.57 141 *e*P **P 01 50 45.9 +0.6**
CTAO pmax pmax
comp=Z,20nm,0.7s
CTAO Charters Tower 34.57 141 *e*P **P 01 50 45.9 +0.6**
comp=Z,20nm,0.7s
SNY Shenyang 35.06 360 ⇑P **P 01 50 49.4 +0.5**
SNY PMZ
comp=Z,40nm,0.5s
HHC Hu-ho-hao-te 35.77 344 *e*P P 01 50 59.3 +4.2
HHC pP pP 01 52 34.0 -0.1
HHC sP sP 01 53 44.3 +1.7
HHC S **ScP 01 55 57.5 +1.5**

HHC sS sS 01 58 57.6 +3.4
HHC PMZ
comp=Z,19nm,0.7s
HHC PMZ
comp=Z,3µm,9.1s
MORW Morawa 36.25 191 P **P 01 50 58.9 -0.1**
baz=36,SNR=32
MSHR Mys Shultsa 36.41 9 *i* P **P 01 51 01.4 +1.4**
CN2 Changchun 37.06 2 *e*P **P 01 51 05.5 +0.1**
FORT Forrest 37.42 174 P **P 01 51 09.0 +0.5**
baz=38,SNR=144
FORT Forrest 37.42 174 *e*P **P 01 51 08.8 +0.3**
comp=Z,174nm,0.6s
BLDU Ballidu 37.63 190 P **P 01 51 09.8 -0.4**
baz=38,SNR=26
KMBL Kambalda 37.82 183 P **P 01 51 11.9 +0.1**
baz=38,SNR=144
USRK Ussuriysk Ar. 38.12 10 P **P 01 51 14.7 +0.8**
comp=Z,14nm,0.6s,baz=200,slow=7.3,SNR=41
USRK ScP **ScP 01 56 05.5 +0.9**
comp=Z,1.9nm,0.9s,baz=222,slow=1.9,SNR=4.7
MDJ Mudanjiang 38.19 7 P **P 01 51 15.3 +0.8**
MDJ pP **pP 01 52 54.8 -0.4**
MDJ sP **sP 01 54 02.3 -1.0**
MDJ S **S 01 56 23.0 -3.4**
MDJ sS **sS 01 59 33.9 +2.3**
MDJ PMZ
comp=Z,26nm,0.8s
MDJ Mudanjiang 38.19 7 *e*P **P 01 51 15.5 +1.0**
comp=Z,14nm,0.5s
LSA Lhasa 38.30 311 P **P 01 51 17.5 +1.2**
LSA Lhasa 38.30 311 *e*P **P 01 51 17.7 +1.4**
LSA pmax pmax
comp=Z,22nm,0.6s
LSA Lhasa 38.30 311 *e*P **P 01 51 17.7 +1.4**
comp=Z,22nm,0.6s
KLBR Kellerberrin 38.43 188 P **P 01 51 16.5 -0.1**
baz=38,SNR=70
ERM Erimo 39.23 23*d i*P **P 01 51 24.0 +1.1**
ERM pmax pmax
comp=Z,43nm,1.2s
ERM Erimo 39.23 23 *e*P **P 01 51 24.1 +1.1**
comp=Z,28nm,0.8s
NWAO Narrogin (SRO) 39.81 189 P **P 01 51 27.9 +0.2**
comp=Z,97nm,0.6s,baz=329,slow=4.6,SNR=96
NWAO Narrogin (SRO) 39.81 189 P **P 01 51 28.0 +0.2**
baz=40,SNR=69
NWAO P **P 01 51 28.0 +0.2**
baz=40,SNR=69
TAPN Taplejung 39.92 305 *e*P **P 01 51 29.6 +0.5**
comp=Z,60nm,0.5s
TAPN Taplejung 39.92 305 *e*P **PcP 01 53 20.5 +1.0**
ODAN Odare 39.98 305 *e*P **P 01 51 29.9 +0.4**
comp=Z,101nm,0.6s
ODAN Odare 39.98 305 *e*P **PcP 01 53 20.0 +0.4**
comp=Z,29nm,0.7s
RAMN Ramite 40.66 304 *e*P **P 01 51 35.6 +0.7**
comp=Z,61nm,0.6s
RAMN Ramite 40.66 304 *e*P **PcP 01 53 22.2 +0.3**
comp=Z,20nm,0.6s
ASAJ Asahikawa 40.84 21 P **P 01 51 36.9 +1.2**
comp=Z,29nm,0.4s,baz=237,slow=11,SNR=46
ASAJ Asahikawa 40.84 21 P **P 01 51 36.9 +1.2**
ASAJ pmax pmax
comp=Z,29nm,0.4s
ASAJ Asahikawa 40.84 21 *e*P **P 01 51 36.6 +0.9**
comp=Z,22nm,0.8s
BBOO Buckleboo 40.93 164 P **P 01 51 37.2 +0.5**
baz=41,SNR=68
BBOO Buckleboo 40.93 164 *e*P **P 01 51 37.1 +0.5**
EIDS Eidsvold 41.46 141 P **P 01 51 41.4 +0.6**
baz=42,SNR=6.1
RKGY Rocky Gully 41.50 188 P **P 01 51 42.0 +0.9**
baz=42,SNR=47
GUN Gumba 41.63 305 *e*P **P 01 51 43.2 +0.5**
comp=Z,89nm,0.4s
GUN Gumba 41.63 305 *e*P **PcP 01 53 25.3 +0.1**
comp=Z,32nm,0.4s
PKI Pulchoki 41.88 304 *e*P **P 01 51 44.5 -0.1**
PKI Pulchoki 41.88 304 *e*P **PcP 01 53 26.0 0.0**
comp=Z,46nm,0.6s
PKIN Phulchoki 41.89 304 *e*P **P 01 51 44.5 -0.1**
comp=Z,19nm,0.4s
PKIN Phulchoki 41.89 304 *e*P **PcP 01 53 25.9 -0.1**
comp=Z,33nm,0.5s
PKIN Phulchoki 41.89 304 *e*P **ScP 01 56 19.8 -0.5**
comp=Z,24nm,0.8s
STKA Stephens Creek 41.91 157 P **P 01 51 45.3 +1.0**
comp=Z,13nm,0.6s,baz=334,slow=7.9,SNR=40
STKA ScP **ScP 01 56 19.8 -0.1**
comp=Z,11nm,0.8s,baz=320,slow=5.5,SNR=11
STKA S **S 01 57 20.6 0.0**
comp=Z,7.6nm,0.8s,baz=59,slow=23,SNR=14
STKA Stephens Creek 41.91 157 P **P 01 51 45.3 +1.0**
STKA S **S 01 57 20.6 0.0**
STKA pmax pmax
comp=Z,13nm,0.6s
STKA pmax pmax
comp=N,11nm,0.8s
STKA smax smax
comp=N,8.0nm,0.9s
STKA Stephens Creek 41.91 157 *e*P **P 01 51 45.0 +0.7**
comp=N,2.5nm,0.7s
STKA ScP **ScP 01 56 19.8 -0.1**
STKA S **S 01 57 20.6 0.0**
YUK Yuzh-Kuril'sk 42.00 24 *e*P **P 01 51 45.6 +0.7**
YUK pmax pmax
comp=Z,37nm,0.5s
YUK pmax pmax
comp=N,85nm,0.9s
YUK pmax pmax
comp=E,59nm,0.9s
KKN Kakani 42.07 305 *e*P **P 01 51 46.1 +0.1**
comp=E,41nm,0.4s
KKN Kakani 42.07 305 *e*P **PcP 01 53 26.5 0.0**
comp=E,33nm,0.8s
DMN Daman 42.14 304 *e*P **P 01 51 46.7 +0.1**
comp=E,36nm,0.6s
DMN Daman 42.14 304 *e*P **PcP 01 53 27.0 +0.2**
comp=E,15nm,0.4s
HTT Hallett 42.36 161 P **P 01 51 49.0 +1.1**
baz=42,SNR=18
GKN Gorkha 42.67 305 *e*P **P 01 51 50.6 0.0**
comp=E,38nm,0.4s
PALK Pallekele 42.71 274 P **P 01 51 51.0 0.0**
comp=E,12nm,0.6s,baz=91,slow=5.4,SNR=12
PALK ScP **ScP 01 56 23.8 +0.2**
comp=E,5.1nm,0.5s,baz=170,slow=7.4,SNR=3.7
PALK Pallekele 42.71 274 P **P 01 51 51.0 0.0**
PALK pmax pmax
comp=Z,12nm,0.6s
PALK pmax pmax
comp=N,5.0nm,0.5s
PALK Pallekele 42.71 274 *e*P **P 01 51 50.5 -0.5**
PALK ScP **ScP 01 56 23.8 +0.2**
HABR Khabarovsk 42.80 11 *e*P **P 01 51 49.9 -1.1**
HABR *e* 01 53 26.3
HABR *e**PP **pP 01 53 34.0 -1.0**
HABR 01 53 42.9
HABR *e**SP **sP 01 54 41.5 -0.6**
HABR *e* 02 00 42.6
HABR pmax pmax
comp=Z,26nm,1.2s
HABR pmax pmax
comp=N,8.0nm,1.0s
HABR pmax pmax
comp=E,13nm,0.8s
HABR MLR MLR
comp=Z,2µm,20.0s
KLR Kul'dur 43.00 8 *e*P **P 01 51 50.2 -2.3**
YSS Yuzh-Sakhalins 43.38 19 *e*P **P 01 51 57.0 +1.5**
YSS pmax pmax
comp=Z,40nm,1.0s
YSS Yuzh-Sakhalins 43.38 19 *e*P **P 01 51 56.2 +0.7**
comp=Z,20nm,0.8s
KÖLN Koldanda 43.44 304 *e*P **P 01 51 57.2 +0.6**
comp=Z,92nm,0.3s
ULN Ulaanbaatar 43.49 344 *e*P **P 01 51 57.2 +0.6**
ULN pmax pmax
comp=Z,12nm,0.7s
ULN Ulaanbaatar 43.49 344 *e*P **P 01 51 57.2 +0.6**
comp=Z,12nm,0.7s
DANN Dangsing 43.52 305 *e*P **P 01 51 57.7 +0.3**
SONM Songino Array 43.65 343 P **P 01 51 58.5 +0.7**
comp=Z,6.7nm,0.6s,baz=158,slow=8.0,SNR=40
SONM ScP **ScP 01 56 26.9 +0.1**
comp=Z,2.6nm,0.6s,baz=158,slow=4.2,SNR=10.0

KUR Kuril'sk 43.81 25 *e*P P 01 51 52.5 -6.3
KUR *e*S **S 01 57 42.9 -4.3**
KUR *e**SS sS 02 00 57.1 -0.9
KUR pmax pmax
comp=Z,324nm,2.9s
HYB Hyderabad 45.37 288 *i* P **P 01 52 10.0 -1.3**
ARPS Mount Arapiles 46.38 160 P **P 01 52 19.4 +0.8**
baz=46,SNR=12
ZAK Zakamensk 46.85 342 *e*P **P 01 52 22.0 -0.1**
ZAK pmax pmax
comp=Z,2.0nm,0.9s
TLY Talaya 47.89 343 P **P 01 52 31.3 +1.6**
comp=Z,10nm,0.6s,baz=200,slow=4.4,SNR=14
TLY Talaya 47.89 343 *e*P **P 01 52 31.1 +1.4**
TLY pmax pmax
comp=Z,9.0nm,0.6s
TLY Talaya 47.89 343 P **P 01 52 31.1 +1.4**
comp=Z,122nm,0.5s,SNR=5.2
TOO Toolangi 48.43 157 ⇓P **P 01 52 34.3 +0.4**
baz=48,SNR=5.6
WMQ Urumqi 48.66 325 P **P 01 52 36.5 +0.9**
WMQ PMZ
comp=Z,12nm,0.7s
DZM Mont Dzumac 50.63 126 P **P 01 52 51.9 +1.5**
comp=Z,21nm,0.5s,baz=90,slow=24,SNR=184
BOD Bodaibo 51.63 353 ⇓*i*P **P 01 52 57.3 +0.5**
BOD pmax pmax
comp=Z,14nm,0.7s
MK31 Makanchi Array 53.50 326 *e*P **P 01 53 11.1 +0.7**
MK31 pmax pmax
comp=Z,10.0nm,0.3s
MK31 Makanchi Array 53.50 326 *e*P **P 01 53 10.9 +0.5**
MKAR Makanchi Array 53.50 326 P **P 01 53 11.2 +0.8**
comp=Z,19nm,0.5s,baz=121,slow=7.7,SNR=174
MKAR PcP **PcP 01 54 07.3 -0.1**
comp=Z,5.4nm,0.5s,baz=118,slow=4.8,SNR=9.2
MKAR ScP **ScP 01 57 08.0 -0.8**
comp=Z,3.5nm,0.7s,baz=120,slow=4.6,SNR=7.6
MKAR S **S 02 00 00.8 +1.4**
comp=Z,1.5nm,0.7s,baz=119,slow=16,SNR=7.3
KSH Kashi 53.90 315 P **P 01 53 15.3 +1.8**
KSH PcP **PcP 01 54 10.0 +0.6**
KSH pP **pP 01 55 08.3 +3.0**
KSH PP **PP 01 55 28.1 +4.2**
KSH S **S 02 00 03.6 -1.5**
KSH ScS **ScS 02 01 59.3 -1.8**
KSH sS **sS 02 03 26.1 0.0**
KSH SS **SS 02 04 02.3 +3.6**
KSH PMZ
comp=Z,25nm,0.4s
KSH PMZ
comp=Z,350nm,5.3s
PEA0B Petropavlovsk- 53.97 25 *e*P **P 01 53 14.8 +1.2**
PETK Petropavlovsk- 53.97 25 P **P 01 53 14.9 +1.3**
comp=Z,29nm,0.6s,baz=195,slow=4.4,SNR=37
PET Petropavlovsk 54.31 25 *i* P **P 01 53 17.0 +1.1**
PET pmax pmax
comp=Z,35nm,0.6s
PET Petropavlovsk 54.31 25 *e*P **P 01 53 16.8 +0.9**
comp=Z,55nm,1.0s
YAK Yakutsk 55.47 3 P **P 01 53 24.6 +0.8**
comp=Z,4.7nm,0.5s,baz=0.0,slow=20,SNR=4.4
YAK Yakutsk 55.47 3 *e*P **P 01 53 23.4 -0.4**
YAK *e* 01 54 16.1
YAK *e**PP **pP 01 55 17.7 +1.1**
YAK *e**S **S 02 00 23.2 -1.1**
YAK *e* 02 02 09.0
YAK pmax pmax
comp=Z,40nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK smax smax
comp=N,28nm,1.7s
YAK smax smax
comp=E,32nm,1.8s
YAK Yakutsk 55.47 3 *e*P **P 01 53 24.6 +0.8**
comp=E,82nm,0.8s
KZA Kyzart 55.48 317 P **P 01 53 26.3 +1.5**
SNR=14
TKM2 Tokmak 2 55.62 318 P **P 01 53 26.4 +0.8**
SNR=16
TKM2 Tokmak 2 55.62 318 *e*P **P 01 53 25.9 +0.4**
TKM2 pmax pmax
comp=Z,18nm,0.6s
TKM2 Tokmak 2 55.62 318 *e*P **P 01 53 25.9 +0.4**
comp=Z,18nm,0.6s
SFK Sufi-Kurgan 55.85 314 P **P 01 53 28.3 +1.1**
SFK pmax pmax
comp=Z,15nm,0.5s
KBK Karagaybulak 55.93 318 P **P 01 53 28.7 +1.0**
SNR=6.7
USP Ospenovka 56.49 318 P **P 01 53 32.0 +0.7**
SNR=18
AML Almayashu 56.55 317 P **P 01 53 33.5 +1.2**
SNR=15
ZALV Zalesovo Beam 56.68 334 P **P 01 53 31.7 -0.6**
comp=Z,1.5nm,0.4s,baz=164,slow=4.8,SNR=5.6
ZALV S **S 02 00 37.9 -2.3**
comp=Z,0.9nm,0.6s,baz=123,slow=16,SNR=4.1
MA2 Magadan 56.70 16 *i* P **P 01 53 33.8 +1.4**
EKS2 Erkin-Say 56.72 318 P **P 01 53 34.1 +1.2**
SNR=18
EKS2 Erkin-Say 56.72 318 *e*P **P 01 53 33.8 +0.8**
EKS2 pmax pmax
comp=Z,17nm,0.7s
EKS2 Erkin-Say 56.72 318 *e*P **P 01 53 33.8 +0.8**
comp=Z,17nm,0.7s
KBL Kabul 57.41 307 *e*P **P 01 53 37.7 -0.2**
KBL pmax pmax
comp=Z,34nm,0.7s
KBL Kabul 57.41 307 *e*P **P 01 53 37.7 -0.2**
comp=Z,34nm,0.7s
KURBB Kurchatov Arra 57.71 328 P **P 01 53 39.8 +0.4**
comp=Z,12nm,0.5s,baz=129,slow=6.3,SNR=84
KURK Kurchatov 57.72 328 P **P 01 53 39.8 +0.4**
KURK pmax pmax
comp=Z,12nm,0.5s
KURK Kurchatov 57.72 328 *e*P **P 01 53 39.6 +0.2**
comp=Z,36nm,0.4s
DZET Dzherino 58.82 312 P **P 01 53 46.9 -0.3**
DZET pmax pmax
comp=Z,29nm,0.5s
MSVF Nonsavu 58.83 115 *e*P **P 01 53 49.2 +1.6**
MSVF pmax pmax
comp=Z,16nm,0.8s
MSVF Nonsavu 58.83 115 *e*P **P 01 53 49.2 +1.6**
comp=Z,16nm,0.8s
KK31 Karatay Array 59.10 317 *i* P **P 01 53 49.1 +0.2**
KK31 pmax pmax
comp=Z,13nm,0.7s
KKAR Karatay Array 59.10 317 *e*P **P 01 53 49.2 +0.3**
KKAR pmax pmax
comp=Z,10.0nm,0.6s
KKAR Karatay Array 59.10 317 *e*P **P 01 53 49.2 +0.3**
comp=Z,10nm,0.6s
SEY Seymchan 59.95 15 P **P 01 53 55.4 +1.3**
comp=Z,4.5nm,0.4s,baz=227,slow=7.0,SNR=26
SEY ScP **ScP 01 57 38.9 +2.0**
comp=Z,2.0nm,0.7s,baz=201,slow=4.6,SNR=5.3
SEY Seymchan 59.95 15 ⇓*i*P **P 01 53 55.1 +1.0**
OTUK Ortayu 60.03 323 P **P 01 53 55.0 0.0**
OTUK pmax pmax
comp=Z,7.0nm,0.5s
BVA0 Borovoye Array 63.29 327 *e*P **P 01 54 16.0 0.0**
BVA0 pmax pmax
comp=Z,5.0nm,0.9s
BVAR Borovoye Array 63.29 327 P **P 01 54 16.1 +0.1**
comp=Z,1.7nm,0.3s,baz=123,slow=7.2,SNR=24
BRVK Borovoye 63.36 327*d i*P **P 01 54 16.5 0.0**
BRVK pmax pmax
comp=Z,10.0nm,1.1s
BRVK Borovoye 63.36 327 *e*P **P 01 54 16.4 0.0**
comp=Z,15nm,1.2s
IDAH Dahanechah 64.50 303 *e*P **P 01 54 25.4 +0.9**
IKOO Kooshah 65.18 303 *e*P **P 01 54 29.4 +0.7**
RPZ Rata Peaks 65.83 144 P **P 01 54 32.8 +0.6**
comp=Z,3.9nm,0.4s,baz=221,slow=11,SNR=4.2
GEYT Alibeck 66.77 308 P **P 01 54 38.7 +0.6**
comp=Z,7.6nm,0.7s,baz=117,slow=1.7,SNR=16
BILL Bilibino 67.57 16 ⇓*i*P **P 01 54 43.1 +0.7**
BILL *e* 01 55 03.7
BILL *e**SS SS 02 07 26.9 -2.5
BILL pmax pmax
comp=Z,15nm,1.1s

BILL Bilibino 67.57 16 *e*P **P 01 54 42.7 +0.3**
AB31 Akbulak array 68.04 321 *i* P **P 01 54 45.6 0.0**
AB31 pmax pmax
comp=Z,3.0nm,0.3s
ABKAR Akbulak array 68.04 321 *e*P **P 01 54 45.3 -0.3**
comp=Z,5.5nm,0.4s
AKTO Aktyubinsk 69.55 322 P **P 01 54 54.8 +0.2**
comp=Z,5.4nm,0.3s,baz=102,slow=8.4,SNR=28
AKTO Aktyubinsk 69.55 322 P **P 01 54 54.0 -0.7**
AKTO pmax pmax
comp=Z,6.0nm,0.5s
ISHM Shahmirzad 70.30 306 *e*P **P 01 55 00.1 +0.4**
ARU Arti 70.91 328*d i*P **P 01 55 02.0 -0.5**
ARU 01 57 46.2
ARU S **S 02 03 30.8 -0.4**
ARU SS **SS 02 08 16.6 -3.9**
ARU pmax pmax
comp=Z,28nm,2.5s
ARU Arti 70.91 328 *e*P **P 01 55 01.8 -0.8**
comp=Z,9.0nm,0.5s
IKAZ Kazeroun 71.03 299 *e*P **P 01 55 03.1 -1.2**
IPIR Pirpir 72.02 302 *e*P **P 01 55 08.3 -1.5**
CASY Casey 73.35 186 *e*P **P 01 55 16.2 -0.1**
comp=Z,26nm,0.7s
GNI Garni 77.35 310 P **P 01 55 39.0 -0.4**
comp=Z,1.5nm,0.3s,baz=343,slow=14,SNR=2.2
GNI Garni 77.35 310 *e*P **P 01 55 40.0 +0.6**
GNI pmax pmax
comp=Z,4.0nm,0.6s
GNI Garni 77.35 310 *e*P **P 01 55 40.0 +0.6**
comp=Z,3.8nm,0.6s
KBZ Khabaz 78.84 313 P **P 01 55 46.8 -0.2**
comp=Z,1.4nm,0.5s,baz=198,slow=6.4,SNR=3.3
KIV Kislovodsk 79.00 313⇑ *e*P **P 01 55 46.2 -1.8**
KIV *e**PP **pP 01 57 53.8 +0.9**
KIV *e* 01 58 57.4
KIV *e*SS SS 02 10 18.7 -3.5
KIV pmax pmax
comp=Z,4.0nm,0.6s
KIV Kislovodsk 79.00 313 *e*P **P 01 55 47.5 -0.5**
comp=Z,6.2nm,0.8s
OPO Ambohidratompo 79.46 250 P **P 01 55 50.4 -0.6**
comp=Z,14nm,0.6s,baz=71,slow=5.1,SNR=26
ABPO Ambohimpanom 79.50 249 *e*P **P 01 55 49.8 -1.4**
ABPO pmax pmax
comp=Z,12nm,0.7s
ABPO Ambohimpanom 79.50 249 *e*P **P 01 55 49.8 -1.4**
comp=Z,12nm,0.7s
IM04 Indian Mountai 80.92 24 *e*P **P 01 55 58.6 +1.2**
KDAK Kodiak Island 81.06 33 *e*P **P 01 56 00.2 +2.0**
KDAK pmax pmax
comp=Z,32nm,0.7s
KDAK Kodiak Island 81.06 33 *e*P **P 01 56 00.2 +2.0**
comp=Z,32nm,0.7s
PPLA Purkeypile 81.44 27 *e*P **P 01 56 01.0 +0.6**
comp=Z,9.9nm,0.5s
VSR Storozhevoye 81.48 321 *e*P **P 01 55 59.5 -1.0**
VSR pmax pmax
comp=N,1.0nm,0.4s
VSR pmax pmax
comp=E,5.0nm,0.4s
VSR pmax pmax
comp=Z,10.0nm,0.4s
BPAW Bear Paw Mtn. 82.02 26 *e*P **P 01 56 04.2 +1.1**
comp=Z,9.7nm,1.0s
MALT Malatya 82.26 308⇑ *i*P **P 01 56 03.8 -1.2**
TRF Thorofare Moun 82.32 27 *e*P **P 01 56 05.3 +0.5**
comp=Z,21nm,0.9s
COLD Coldfoot 82.41 23 *e*P **P 01 56 06.7 +1.8**
comp=Z,24nm,1.0s
RC01 Rabbit Creek A 82.57 29 *e*P **P 01 56 06.2 +0.3**
MCK McKinley 82.92 27 *e*P **P 01 56 07.3 -0.3**
MCK pmax pmax
comp=Z,31nm,0.6s
MCK McKinley 82.92 27 *e*P **P 01 56 07.3 -0.3**
comp=Z,31nm,0.6s
OBN Obninsk 82.99 325 P **P 01 56 07.7 -0.3**
comp=Z,20nm,0.6s,baz=192,slow=22,SNR=6.6
OBN Obninsk 82.99 325⇑ *i*P **P 01 56 07.7 -0.3**
OBN *e**PP **pP 01 58 14.2 -0.5**
OBN *e* 01 59 30.8
OBN pmax pmax
comp=Z,19nm,0.6s
ILAR Eielson Array 83.79 26 P **P 01 56 11.5 -0.4**
comp=Z,2.0nm,0.5s,baz=239,slow=5.2,SNR=36
ILAR PP **PP 01 59 34.1 -2.1**
comp=Z,0.5nm,0.7s,baz=285,slow=7.2,SNR=4.2
ASF Jabal al Asfar 83.85 302 P **P 01 56 13.5 +0.5**
comp=Z,8.3nm,0.7s,baz=46,slow=3.4,SNR=20
MMAI Mount Meron Ar 85.04 303 P **P 01 56 19.2 +0.5**
comp=Z,3.3nm,0.5s,baz=75,slow=7.8,SNR=15
MAW Mawson 85.44 200 P **P 01 56 19.5 -0.1**
comp=Z,6.2nm,0.7s,baz=68,slow=4.7,SNR=15
MAW Mawson 85.44 200 P **P 01 56 19.5 -0.1**
MAW pmax pmax
comp=Z,6.0nm,0.7s
MAW Mawson 85.44 200 P **P 01 56 19.6 -0.1**
baz=85,SNR=8.2
MAW Mawson 85.44 200 *e*P **P 01 56 19.2 -0.5**
comp=Z,5.5nm,1.3s
EIL Elat 85.71 299 P **P 01 56 22.2 +0.2**
comp=Z,6.5nm,0.7s,baz=359,slow=2.9,SNR=9.7
EIL Elat 85.71 299 ⇓P **P 01 56 22.3 +0.4**
baz=86,SNR=6.2
BR131 Keskin Array S 85.89 309 *e*P **P 01 56 21.4 -1.4**
comp=Z,3.6nm,0.5s
BRTR Keskin Array B 85.89 309 P **P 01 56 21.6 -1.1**
comp=Z,3.5nm,0.4s,baz=130,slow=3.5,SNR=41
EGAK Eagle 86.24 25 *e*P **P 01 56 23.7 +0.1**
comp=Z,7.8nm,1.2s
CSS Prodhromos 86.58 305 *e*P **P 01 56 25.3 -0.7**
KMBO Kilima Mbogo 86.64 268 P **P 01 56 27.2 +0.3**
comp=Z,7.3nm,0.8s,baz=56,slow=7.9,SNR=20
KMBO Kilima Mbogo 86.64 268 *e*P **P 01 56 26.8 -0.1**
KMBO pmax pmax
comp=Z,13nm,1.0s
KMBO Kilima Mbogo 86.64 268 *e*P **P 01 56 26.8 -0.1**
comp=Z,13nm,1.0s
VNDA Vanda 86.67 172 P **P 01 56 25.7 +0.4**
comp=Z,7.7nm,0.5s,baz=318,slow=6.4,SNR=81
ARCES ARCESS Array B 86.72 340 P **P 01 56 24.9 -0.9**
comp=Z,4.0nm,0.8s,baz=79,slow=6.3,SNR=6.9
AKASG Malin Array Be 87.78 321 P **P 01 56 29.9 -1.3**
comp=Z,1.4nm,0.4s,baz=68,slow=4.5,SNR=13
FINES FINESS Array B 87.89 332 P **P 01 56 30.5 -0.9**
comp=Z,2.6nm,0.5s,baz=71,slow=4.0,SNR=31
HYT Haines Junctio 88.52 29 *e*P **P 01 56 35.5 +0.9**
comp=Z,6.8nm,0.9s
INK Inuvik 88.57 21 P **P 01 56 34.8 +0.3**
comp=Z,2.3nm,0.8s,baz=288,slow=3.8,SNR=4.1
INK Inuvik 88.57 21 P **P 01 56 34.8 +0.3**
INK pmax pmax
comp=Z,2.0nm,0.8s
INK Inuvik 88.57 21 *e*P **P 01 56 34.5 0.0**
comp=Z,3.8nm,0.9s
TIRR Tirgusor 89.20 315⇓ *i*P **P 01 56 36.6 -1.3**
TESR Tescani 90.10 317⇑ *i*P **P 01 56 41.8 -0.3**
VRI Vrincioaia 90.16 316⇑ *i*P **P 01 56 42.3 -0.1**
PLOR Plostina 90.21 316⇑ *i*P **P 01 56 42.5 -0.1**
MLR Muntele Rosu 90.76 316 P **P 01 56 45.1 -0.1**
comp=Z,0.5nm,0.5s,baz=331,slow=6.6,SNR=10
MLR Muntele Rosu 90.76 316⇑ *i*P **P 01 56 45.2 -0.1**
BURAR Bucovina Array 90.87 318⇑ *i*P **P 01 56 45.7 0.0**
BUR08 Bucovina Ar. S 90.88 318 *e*P **P 01 56 45.4 -0.4**
ARR Arges 91.69 316⇑ *i*P **P 01 56 48.3 -1.2**
LOT Lotru 92.27 316⇓ *i*P **P 01 56 51.9 -0.3**
KOLS Kolonicke sedl 92.53 320 *e*P P 01 57 02.3 +9.1
KOLS pmax pmax
comp=Z,59nm,2.4s
KOLS Kolonicke sedl 92.53 320 *e* P 01 57 02.3 +9.1
TRPA Tarpa 92.53 319⇓ *i*P **P 01 56 53.1 -0.1**
UZH Uzhgorod 92.58 319 *e*P **P 01 56 53.0 -0.4**
UZH *e* 01 59 02.8
DRGR 92.71 318⇓ *i*P **P 01 56 53.3 -0.9**
VTS Vitosha 93.25 313⇓ *i*P **P 01 56 55.7 -1.2**
IDI Anoyia 93.39 306 P **P 01 56 56.1 -1.4**
comp=Z,5.1nm,0.8s,baz=125,slow=21,SNR=5.7
BZS Buzias 93.71 317⇓ *i*P **P 01 56 58.1 -0.6**
HFS Hagfors 94.08 332 P **P 01 56 58.8 -1.2**
comp=Z,2.4nm,0.7s,baz=108,slow=4.8,SNR=12
HFS Hagfors 94.08 332 P **P 01 56 58.8 -1.2**
HFS pmax pmax
comp=Z,2.0nm,0.7s
NB2 NORSAR Subarra 94.88 333 P **P 01 57 02.0 -1.7**
comp=Z,1.0nm,0.6s,baz=68,slow=4.4
NOA NORSAR Array B 94.88 333 P **P 01 57 02.2 -1.4**

comp=Z,1.2nm,0.7s,baz=70,slow=4.3,SNR=5.3
PKSM Moragy 95.58 318 ||*i*P **P 01 57 06.0 -1.1**
QSPA South Pole Qui 96.51 180 P **P 01 57 10.8 -0.2**
comp=Z,1.9nm,0.6s,baz=302,slow=1.8,SNR=15
MATP Matopo 97.17 250 P Pdif 01 57 13.5 -1.5
comp=Z,6.1nm,0.7s,baz=94,slow=4.1,SNR=22
GERES GERESS Array B 97.98 321 P Pdif 01 57 17.4 -0.5
comp=Z,0.5nm,0.5s,baz=144,slow=3.1,SNR=4.8
YKA Yellowknife Ar 98.08 24 P **P 01 57 18.1 +0.2**
comp=Z,0.7nm,0.6s,baz=296,slow=4.3,SNR=3.0
NVAR Mina Array Bea 107.15 47 Pdiff **Pdif 01 57 58.2 -0.9**
comp=Z,0.1nm,0.3s,baz=353,slow=32,SNR=3.4
NVAR PP PP 02 02 23.2 -11
comp=Z,0.2nm,0.7s,baz=302,slow=8.4,SNR=3.7
NVAR PKKPbc **PKKPbc 02 13 22.9 -0.9**
comp=Z,0.6nm,0.6s,baz=140,slow=4.4,SNR=7.1
NVAR PKKPab **PKKPab 02 13 38.3 -2.9**
comp=Z,1.0nm,0.7s,baz=139,slow=5.3,SNR=6.9
PDAR Pinedale Array 111.08 39 PP PP 02 02 49.6 -13
comp=Z,0.3nm,0.7s,baz=343,slow=2.8,SNR=2.4
PDAR PKKPbc **PKKPbc 02 13 09.2 -2.5**
comp=Z,0.4nm,0.6s,baz=79,slow=4.7,SNR=4.3
PDAR PKKPab **PKKPab 02 13 20.2 -3.6**
comp=Z,1.6nm,0.8s,baz=106,slow=6.1,SNR=13
SCHQ Schefferville 118.13 7 SKP **SKPdf 02 05 03.0 -1.3**
comp=Z,2.0nm,0.7s,baz=42,slow=3.0,SNR=3.7
TOA0 Torodi Ar. Sit 119.18 289 *e*PKPdf **PKPdf 02 02 27.2 -0.6**
TORD Torodi Ar. Bea 119.18 289 PKP **PKPdf 02 02 27.2 -0.6**
comp=Z,4.0nm,0.7s,baz=61,slow=1.8,SNR=68
TORD SKP 02 05 06.8
comp=Z,1.9nm,0.7s,baz=81,slow=2.0,SNR=7.6
TORD PKKPbc **PKKPbc 02 12 44.2 +1.0**
comp=Z,0.7nm,0.8s,baz=277,slow=3.3,SNR=8.8
TXAR Lajitas Array 122.09 49 PP PP 02 04 12.1 -5.7
comp=Z,0.5nm,0.9s,baz=308,slow=4.5,SNR=2.8
TXAR SKP 02 05 13.8
comp=Z,0.3nm,0.7s,baz=284,slow=0.9,SNR=5.9
TXAR PKKPbc **PKKPbc 02 12 30.7 -2.4**
comp=Z,0.6nm,0.7s,baz=135,slow=5.6,SNR=6.9
DBIC Dimbokro 127.03 283 PKP **PKPdf 02 02 42.6 -0.2**
comp=Z,3.3nm,0.5s,baz=167,slow=1.2,SNR=8.2
DBIC SKPbc SKiKP 02 05 04.7 -19
comp=Z,4.3nm,0.8s,baz=53,slow=3.2,SNR=7.0
DBIC Dimbokro 127.03 283 PKIKP **PKPdf 02 02 42.6 -0.2**
DBIC pmax pmax
comp=Z,3.0nm,0.5s
DBIC pmax pmax
comp=N,4.0nm,0.8s
USHA Ushuaia 130.94 171 PKP **PKPdf 02 02 49.0 -0.1**
comp=N,5.9nm,0.8s,baz=22,slow=3.2,SNR=3.8
USHA SKPbc **SKPab 02 05 19.3 0.0**
comp=N,8.7nm,0.6s,baz=154,slow=6.7,SNR=19
TRQA Tornquist 148.28 171 *e*PKPbc **PKPbc 02 03 25.1 +0.1**
TRQA *e*PKPab **PKPab 02 03 30.3 +0.1**
CFAA Coronel Fontan 152.74 157 PKPbc **PKPbc 02 03 35.6 +0.1**
comp=N,0.7nm,0.6s,baz=206,slow=3.2,SNR=6.5
ROSC El Rosal 158.66 58 *e*PKPdf **PKPdf 02 03 35.9 -0.5**
CPUP Villa Florida 160.38 177 PKP **PKPdf 02 03 37.5 +0.1**
comp=N,1.4nm,0.8s,baz=8.3,slow=2.9,SNR=3.3
CPUP PKPab **PKPab 02 04 22.6 +0.4**
comp=N,2.4nm,0.7s,baz=167,slow=4.3,SNR=6.1
LPAZ La Paz 164.93 131 PKP **PKPdf 02 03 41.9 -1.0**
comp=N,1.4nm,0.8s,baz=356,slow=2.9,SNR=5.0
LPAZ PKPab **PKPab 02 04 44.8 +1.3**
comp=N,1.1nm,0.7s,baz=215,slow=6.4,SNR=4.8
LPAZ La Paz 164.93 131 PKIKP **PKPdf 02 03 41.9 -1.0**
LPAZ pmax pmax
comp=Z,1.0nm,0.8s
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
LPAZ La Paz 164.93 131 *e*PKPdf **PKPdf 02 03 43.6 +0.7**
LPAZ *e*PKPab **PKPab 02 04 46.1 +2.6**
BDFB Brasilia 167.93 221 PKPab **PKPab 02 04 54.7 -1.3**
comp=Z,5.3nm,0.8s,baz=254,slow=2.2,SNR=5.6
SIV San Ignacio 169.57 154 PKP **PKPdf 02 03 44.9 -0.6**
comp=Z,1.0nm,0.7s,baz=58,slow=8.3,SNR=3.2
SIV PKPab **PKPab 02 05 01.3 -1.8**
comp=Z,1.3nm,0.9s,baz=214,slow=3.9,SNR=3.7
SAML Samuel 172.77 109 *e*PKPab **PKPab 02 05 16.3 -1.4**
PTGA Pitinga 173.08 32 PKPab **PKPab 02 05 18.8 0.0**
comp=Z,4.9nm,0.7s,baz=358,slow=7.2,SNR=9.6

*ISCJB **24** 01:48:19.9±0.7, 6.4°N±0.1°×123.1°E±0.3°, h650km, mb3.9/8, Error ellipse: s-maj=35.4km s-min=11.5km az=155.7*
*IDC **24** 01:48:21.5±2.2, 6.39°N×123.10°E, h646km±35km, mb3.2/8, mb1 3.3/8, mb1mx2.8/61, mbtmp4.4/8, Error ellipse: s-maj=31.8km s-min=10.2km az=66.0*
ISC 24 01:48:21.9±0.9, 6.4°N±0.2°×123.1°E±0.3°, h650km, n9, σ1§38/10, mb3.9/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**26.45**	**299**	P		**P**		**01 53 11.6**	**+0.9**
	1.5nm,0.4s,baz=104,slow=6.6,SNR=3.6								
JNU	**Nakatsue**	**27.54**	**14**	P		**P**		**01 53 21.1**	**+1.1**
	4.1nm,0.4s,baz=189,slow=18,SNR=9.5								
WRA	**Warramunga Arr**	**28.41**	**157**	P		**P**		**01 53 25.8**	**-1.8**
	3.2nm,0.4s,baz=336,slow=9.6,SNR=5.6								
ASAR	**Alice Springs**	**31.69**	**161**	P		**P**		**01 53 55.2**	**-0.4**
	3.1nm,0.3s,baz=345,slow=7.8,SNR=7.1								
ASAR				S		**S**		**01 58 24.4**	**+2.6**
	1.9nm,0.7s,baz=352,slow=24,SNR=4.9								
STKA	**Stephens Creek**	**41.95**	**156**	P		**P**		**01 55 18.2**	**-0.4**
	1.9nm,0.4s,baz=337,slow=11,SNR=2.8								
MKAR	**Makanchi Array**	**53.34**	**326**	P		**P**		**01 56 42.5**	**-0.4**
	2.8nm,0.5s,baz=122,slow=7.9,SNR=7.0								
KURBB	**Kurchatov Arra**	**57.58**	**328**	P		**P**		**01 57 11.0**	**-0.9**
	2.1nm,0.5s,baz=128,slow=6.1,SNR=5.0								
BVAR	**Borovoye Array**	**63.15**	**327**	P		**P**		**01 57 48.1**	**-0.3**
	1.4nm,0.8s,baz=148,slow=6.8,SNR=3.5								
TORD	**Torodi Ar. Bea**	**118.68**	**289**	PKP		**PKPdf**		**02 05 58.6**	**-0.3**
	0.2nm,0.5s,baz=50,slow=0.9,SNR=2.4								

*ISCJB **24** 01:57:39.3±0.6, 24.26°S±0.04°×67.11°W±0.06, h192km±6km, mb3.1/1, Error ellipse: s-maj=9.3km s-min=5.8km az=169.0*
*SJA **24** 01:57:39.4±1.0, 24.19°S×67.14°W, h182km±23km, ML3.3, MW3.4*
*IDC **24** 01:57:40.2±1.1, 24.18°S×67.08°W, h187km±18km, mb3.0/1, mb1 3.4/5, mb1mx3.1/26, mbtmp3.8/5, Error ellipse: s-maj=22.3km s-min=16.9km az=85.0*
ISC 24 01:57:39.2±1.0, 24.27°S±0.05°×67.14°W±0.07, h189km±10km, n16, σ1§57/25, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.56**	**107**	*e*P		**P**	**Pn**	**01 58 13.9**	**+1.4**
SLA				*e*S		**S**	**Sn**	**01 58 38.7**	**+0.3**
AZAP	**Zapla**	**1.89**	**89**	*e*P		**P**	**Pn**	**01 58 16.6**	**+0.6**
AZAP				*e*S		**S**	**Sn**	**01 58 44.8**	**+0.3**
HJA	**Humahuaca**	**1.90**	**57**	*e*P		**P**	**Pn**	**01 58 17.0**	**+0.7**
HJA				*e*S		**S**	**Sn**	**01 58 44.3**	**-0.7**
FSA	**Cafayete**	**2.08**	**151**	*e*P		**P**	**Pn**	**01 58 19.6**	**+1.7**
FSA				*e*S		**S**	**Sn**	**01 58 45.8**	**-2.4**
LVC	**Limon Verde**	**2.31**	**315**	P		**P**	**Pn**	**01 58 22.6**	**+2.0**
	747nm,0.3s,baz=133,slow=7.9,SNR=293								
LVC				S		**S**	**Sn**	**01 58 53.5**	**+0.7**
	3µm,0.3s,baz=255,slow=19,SNR=71								
ASTB	**Santa Barbara**	**2.44**	**83**	*e*P		**P**	**Pn**	**01 58 22.7**	**+0.8**
YJA	**Yavi**	**2.56**	**36**	*e*P		**P**	**Pn**	**01 58 24.4**	**+0.8**
YJA				*e*S		**S**	**Sn**	**01 58 56.6**	**-1.4**
AHML	**Horco Molle**	**2.99**	**147**	*e*P		**P**	**Pn**	**01 58 29.1**	**+1.0**
AHML				*e*S		**S**	**Sn**	**01 59 06.4**	**-0.2**
CYA	**Choya**	**4.33**	**164**	*e*S		**S**	**Sn**	**01 59 36.9**	**+0.6**
AVFE	**Valle Fertil**	**6.38**	**182**	AML		AML		02 00 26.7	
	comp=Z,6.0nm,0.3s								
CFAA	**Coronel Fontan**	**7.38**	**187**	P		**P**	**Pn**	**01 59 24.7**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=8.1,slow=13,SNR=12								
CFAA				S		**S**	**Sn**	**02 00 44.0**	**-3.7**
	comp=Z,0.1nm,0.3s,baz=283,slow=22,SNR=7.7								
LPAZ	**La Paz**	**7.99**	**353**	P		**P**	**Pn**	**01 59 33.9**	**+0.9**
	comp=Z,2.0nm,0.3s,baz=164,slow=5.4,SNR=23								
LPAZ				S		**S**	**Sn**	**02 01 00.4**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=259,slow=18,SNR=5.0								
CPUP	**Villa Florida**	**9.11**	**105**	P		**P**	**Pn**	**01 59 49.0**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=213,slow=17,SNR=2.3								
SIV	**San Ignacio**	**10.01**	**36**	P		**P**	**Pn**	**01 59 57.2**	**-1.6**
	comp=Z,1.1nm,0.3s,baz=232,slow=13,SNR=18								
SIV				S		**S**	**Sn**	**02 01 50.4**	**0.0**
	comp=Z,0.1nm,0.3s,baz=208,slow=17,SNR=2.8								
BDFB	**Brasilia**	**19.90**	**68**	P		**P**		**02 01 56.3**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=241,slow=11,SNR=7.8								
TORD	**Torodi Ar. Bea**	**76.78**	**69**	P		**P**		**02 09 11.4**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=256,slow=5.6,SNR=11								

*ISCJB **24** 02:06:46.1±0.2, 6.62°N±0.04°×123.68°E±0.05, h600km, mb4.0/25, Error ellipse: s-maj=7.1km s-min=4.8km az=167.7*
*MAN **24** 02:06:46, 6.63°N×123.78°E, h582km, mb5.1, ML4.0, MS4.1*
*DJA **24** 02:06:47.7±0.6, 7.7°N±9.9°×12.4°E±1.1°, h587km±8km, M4.8/17, mb4.8/17, mB5.5/8, MLv4.8/4, Mw(mB)4.9/8*
*IDC **24** 02:06:47.8±1.0, 6.57°N×123.72°E, h603km±12km, mb3.5/25, mb1 3.6/27, mb1mx3.4/44, mbtmp4.5/27, Error ellipse: s-maj=13.2km s-min=7.1km az=65.0*
ISC 24 02:06:47.3±0.4, 6.59N±0.05×123.71E±0.07, h600km, n67, σ1§16/81, mb4.0/25, 1C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.82**	**41**	||*i*P	**P**		**02 07 56.7**	**-1.5**
DCPH	**Dipolog City**	**2.01**	**350**	*e*P		**P**		**02 07 59.5**	**-2.2**
TBP	**Tagbilaran**	**3.08**	**3**	*e*P		**P**		**02 08 04.2**	**-2.7**
PLP	**Palo**	**4.72**	**15**	||*e*P	**P**		**02 08 16.3**	**-1.7**
PLP				*e*S		**S**		**02 09 27.4**	**-4.6**
MRSI	**Marisa**	**6.32**	**196**	P		**P**		**02 08 30.6**	**-0.7**
	26nm,0.9s,2µm0.1nm								
MPSI	**Mapaga**	**7.28**	**212**	P		**P**		**02 08 38.2**	**-1.8**
	29nm,1.3s,0.1nm								
KKM	**Kota Kinabalu**	**7.46**	**266**	P		**P**		**02 08 40.2**	**-1.6**
	baz=7.4,SNR=29								
APSI	**Ampana**	**7.73**	**195**	P		P		02 08 51.6	+7.4
TGY	**Tagaytay City**	**7.95**	**340**	P		**P**		**02 08 45.0**	**-1.2**
	49nm,0.3s,baz=131,slow=9.3,SNR=4.0								
TGY				S		**S**		**02 10 23.2**	**-0.4**
	baz=176,slow=18,SNR=3.4								
TTSI	**Tana Toraja**	**10.33**	**202**	P		**P**		**02 09 09.2**	**-0.2**
	40nm,0.8s								
SWI	**Sorong**	**10.57**	**134**	P		**P**		**02 09 11.5**	**-0.3**
	47nm,0.9s,4µm								
SIJI	**Sorong**	**10.58**	**134**	P		**P**		**02 09 11.8**	**-0.1**
	5.5nm,0.3s,baz=329,slow=8.7,SNR=18								
SIJI				S		**S**		**02 11 11.8**	**+1.2**
	0.7nm,0.3s,baz=218,slow=19,SNR=3.2								
PALU	**Palau**	**10.72**	**85**	||P	**P**		**02 09 13.1**	**-0.2**
	baz=11,SNR=5.8								
SPSI	**Sidrap Palu**	**11.20**	**201**	P		**P**		**02 09 17.5**	**-0.6**
	35nm,0.7s								
FAKI	**Fak Fak**	**12.73**	**138**	P		**P**		**02 09 33.0**	**-0.5**
	99nm,0.7s,2µm								
FAKI	**Fak Fak**	**12.73**	**138**	P		**P**		**02 09 33.3**	**-0.2**
	baz=13,SNR=16								
KSM	**Kuching**	**14.29**	**250**	P		**P**		**02 09 48.5**	**-0.7**
	baz=14,SNR=13								
MMRI	**Maumere**	**15.20**	**186**	P		**P**		**02 09 58.4**	**+1.0**
	114nm,0.6s,6µm								
SOEI	**Soe**	**16.25**	**178**	||P	**P**		**02 10 05.5**	**-1.7**
	baz=16,SNR=4.3								
SMPI	**Sarmi**	**17.23**	**119**	P		**P**		**02 10 19.0**	**+2.9**
	88nm,0.8s								
GENI	**Genyem**	**18.80**	**119**	P		**P**		**02 10 31.5**	**+1.2**
	62nm,0.7s,4µm								
JAY	**Jayapura**	**19.23**	**118**	P		**P**		**02 10 35.5**	**+1.2**
	73nm,0.6s,8µm								
JAY	**Jayapura**	**19.23**	**118**	P		**P**		**02 10 35.0**	**+0.7**
	2.2nm,0.3s,baz=355,slow=4.4,SNR=8.8								
JAY	**Jayapura**	**19.23**	**118**	P		**P**		**02 10 34.8**	**+0.5**
	baz=19,SNR=6.6								
MTN	**Manton Dam**	**20.67**	**159**	P		**P**		**02 10 47.5**	**+0.4**
	baz=21,SNR=7.7								
GUMO	**Guam**	**21.95**	**70**	P		**P**		**02 10 59.3**	**+0.6**
	21nm,0.6s,baz=254,slow=18,SNR=3.3								
PSI	**Prapat**	**24.98**	**262**	P		**P**		**02 11 26.7**	**+1.0**
	3.9nm,0.3s,baz=103,slow=2.7,SNR=4.3								
GSI	**Gunungsitoli**	**26.58**	**260**	P		**P**		**02 11 39.2**	**-0.5**
CMAR	**Chiang Mai Arr**	**26.85**	**298**	P		**P**		**02 11 43.6**	**+1.7**
	0.7nm,0.3s,baz=113,slow=6.9,SNR=4.3								
JCJ	**Chichijima**	**26.92**	**39**	P		**P**		**02 11 42.1**	**-0.2**
	23nm,0.4s,baz=240,slow=16,SNR=5.9								
WRA	**Warramunga Arr**	**28.37**	**159**	P		**P**		**02 11 54.5**	**-0.6**
	12nm,0.5s,baz=340,slow=9.2,SNR=78								
WRA				PcP		**PcP**		**02 14 48.2**	**+0.5**
	2.1nm,0.5s,baz=337,slow=2.8,SNR=7.4								
WRA				S		**S**		**02 15 57.4**	**-3.8**
	3.7nm,0.6s,baz=334,slow=15,SNR=11								
WRA				ScP		**ScP**		**02 17 33.4**	**+0.5**
	4.8nm,0.7s,baz=344,slow=3.6,SNR=17								
QIS	**Mount Isa**	**31.18**	**150**	P		**P**		**02 12 19.6**	**+0.3**
	baz=31,SNR=5.1								
ASAR	**Alice Springs**	**31.68**	**162**	P		**P**		**02 12 23.8**	**+0.3**
	14nm,0.3s,baz=341,slow=6.7,SNR=252								
ASAR				PcP		**PcP**		**02 14 56.9**	**+0.4**
	2.7nm,0.6s,baz=339,slow=2.3,SNR=14								
ASAR				S		**S**		**02 16 51.1**	**-1.0**
	12nm,0.8s,baz=352,slow=24,SNR=31								
ASAR				ScP		**ScP**		**02 17 44.4**	**+0.6**
	2.1nm,0.5s,baz=342,slow=3.4,SNR=7.6								
WRKA	**Waraknma**	**31.75**	**172**	P		**P**		**02 12 24.2**	**+0.1**
	baz=32,SNR=28								
MJAR	**Matsushiro Arr**	**32.63**	**22**	P		**P**		**02 12 31.1**	**-0.2**
	3.6nm,0.7s,baz=199,slow=9.9,SNR=10								
MEEK	**Meekatharra**	**33.40**	**188**	P		**P**		**02 12 37.4**	**-0.5**
	baz=33,SNR=21								
MORW	**Morawa**	**36.21**	**191**	P		**P**		**02 13 00.9**	**-0.3**
	baz=36,SNR=8.7								
FORT	**Forrest**	**37.39**	**174**	P		**P**		**02 13 11.1**	**+0.3**
	baz=37,SNR=42								
BLDU	**Balidu**	**37.60**	**190**	P		**P**		**02 13 12.0**	**-0.5**
	baz=38,SNR=7.0								
KMBL	**Kambalda**	**37.78**	**183**	P		**P**		**02 13 13.9**	**-0.1**
	baz=38,SNR=31								
KLBR	**Kellerberrin**	**38.39**	**188**	P		**P**		**02 13 18.4**	**-0.4**
	baz=38,SNR=47								
NWAO	**Narrogin (SRO)**	**39.78**	**189**	P		**P**		**02 13 30.1**	**+0.1**
	baz=40,SNR=24								
NWAO				P		**P**		**02 13 30.1**	**+0.1**
	baz=40,SNR=24								
BBOO	**Buckleboo**	**40.91**	**164**	P		**P**		**02 13 39.2**	**+0.3**
	baz=41,SNR=54								
RKGY	**Rocky Gully**	**41.47**	**188**	P		**P**		**02 13 44.2**	**+0.9**
	baz=42,SNR=12								
STKA	**Stephens Creek**	**41.89**	**157**	P		**P**		**02 13 47.4**	**+0.7**
	10nm,0.5s,baz=335,slow=7.9,SNR=46								
HTT	**Hallett**	**42.34**	**161**	P		**P**		**02 13 51.1**	**+0.8**
	baz=42,SNR=19								
CMSA	**Cobar Meteorol**	**43.34**	**152**	P		**P**		**02 13 59.5**	**+1.5**
	baz=43,SNR=5.1								
SONM	**Songino Array**	**43.67**	**343**	P		**P**		**02 14 01.8**	**+1.3**
	1.0nm,0.8s,baz=165,slow=7.7,SNR=6.9								
SONM				PcP		**PcP**		**02 15 34.4**	**+0.5**
	0.7nm,0.8s,baz=152,slow=3.6,SNR=4.5								
SONM				ScP		**ScP**		**02 18 30.0**	**+0.9**
	0.3nm,0.6s,baz=129,slow=2.1,SNR=3.5								
ARPS	**Mount Arapiles**	**46.36**	**160**	P		**P**		**02 14 21.6**	**+0.7**
	baz=46,SNR=13								
MKAR	**Makanchi Array**	**53.51**	**326**	P		**P**		**02 15 14.1**	**+1.1**
	5.3nm,0.5s,baz=122,slow=8.4,SNR=60								
MKAR				PcP		**PcP**		**02 16 10.0**	**+0.1**
	1.6nm,0.6s,baz=124,slow=4.4,SNR=7.3								
MKAR				ScP		**ScP**		**02 19 11.1**	**+0.1**
	0.3nm,0.5s,baz=106,slow=4.3,SNR=3.6								
PETK	**Petropavlovsk-**	**54.02**	**25**	P		**P**		**02 15 18.1**	**+1.7**
	2.8nm,0.6s,baz=191,slow=5.3,SNR=4.5								
ZALV	**Zalesovo Beam**	**56.70**	**334**	P		**P**		**02 15 35.0**	**+0.1**
	0.8nm,0.3s,baz=132,slow=6.2,SNR=5.2								
KURBB	**Kurchatov Arra**	**57.73**	**328**	P		**P**		**02 15 42.6**	**+0.7**
	7.1nm,0.7s,baz=127,slow=6.3,SNR=65								
BVAR	**Borovoye Array**	**63.30**	**327**	P		**P**		**02 16 18.2**	**-0.3**
	1.8nm,0.7s,baz=134,slow=8.5,SNR=9.8								
BVAR				PcP		**PcP**		**02 16 49.0**	**0.0**
	0.7nm,0.7s,baz=111,slow=6.3,SNR=3.1								
GEYT	**Alibeck**	**66.77**	**308**	P		**P**		**02 16 41.6**	**+1.0**
	0.8nm,0.3s,baz=205,slow=3.1,SNR=4.5								
AKTO	**Aktyubinsk**	**69.56**	**322**	P		**P**		**02 16 57.6**	**+0.4**
	2.8nm,0.7s,baz=103,slow=8.5,SNR=11								
ILAR	**Eielson Array**	**83.83**	**26**	P		**P**		**02 18 13.3**	**-1.2**
	0.2nm,0.7s,baz=272,slow=6.0,SNR=3.2								
MAW	**Mawson**	**85.40**	**200**	P		**P**		**02 18 22.1**	**+0.1**
	1.3nm,0.4s,baz=82,slow=7.1,SNR=4.2								
BRTR	**Keskin Array B**	**85.89**	**309**	P		**P**		**02 18 24.6**	**-0.6**
	1.4nm,0.7s,baz=110,slow=5.0,SNR=8.9								
KMBO	**Kilima Mbogo**	**86.61**	**268**	P		**P**		**02 18 28.5**	**-0.7**
	0.8nm,0.3s,baz=38,slow=7.0,SNR=5.4								
VNDA	**Vanda**	**86.64**	**172**	P		**P**		**02 18 28.2**	**+0.6**
	3.5nm,0.6s,baz=318,slow=6.5,SNR=28								
ARCES	**ARCESS Array B**	**86.74**	**340**	P		**P**		**02 18 28.9**	**+0.5**
	4.2nm,0.9s,baz=81,slow=5.6,SNR=2.8								
SPITS	**Spitsbergen Ar**	**87.10**	**349**	P		**P**		**02 18 29.8**	**-0.1**
	6.9nm,1.0s,baz=108,slow=13,SNR=5.2								
AKASG	**Malin Array Be**	**87.79**	**321**	P		**P**		**02 18 32.8**	**-0.8**
	0.8nm,0.7s,baz=79,slow=3.0,SNR=2.5								
FINES	**FINESS Array B**	**87.90**	**332**	P		**P**		**02 18 33.4**	**-0.5**
	5.9nm,1.1s,baz=72,slow=8.8,SNR=9.8								
TORD	**Torodi Ar. Bea**	**119.16**	**289**	PKP		**PKPdf**		**02 24 29.9**	**-0.3**
	1.1nm,0.6s,baz=60,slow=1.7,SNR=24								
DBIC	**Dimbokro**	**127.01**	**283**	PKP		**PKPdf**		**02 24 45.6**	**+0.4**
	2.7nm,0.9s,baz=295,slow=3.8,SNR=3.4								

*MOS **24** 02:11:23.2±1.0, 1.06°N×99.63°E, h33km, mb5.6/59, MS5.3/7, Error ellipse: s-maj=8.7km s-min=4.2km az=120.7*
*DJA **24** 02:11:23.7±0.5, 1.1°N±2.2°×9.9°E±1.1°, h11km±4km, M5.8/69, mb5.7/69, mB6.1/54, MLv6.3/32, Mw(mB)5.7/54, Mwp6.2/1*
*ISCJB **24** 02:11:24.2±0.3, 0.99°N±0.02°×99.54°E±0.02, h42km±2km, mb5.3/163, MS5.2/15, Error ellipse: s-maj=3.6km s-min=2.3km az=135.2*
*IDC **24** 02:11:25.0±1.6, 1.08°N×99.63°E, h33km±11km, mb4.8/41, mb1 4.8/44, mb1mx4.8/46, mbtmp5.0/44, ML4.8/3, MS5.0/8, Ms1 5.0/8, ms1mx4.4/47, Error ellipse: s-maj=11.9km s-min=7.9km az=48.0*
*NEIC **24** 02:11:25.6±0.5, 1.00°N×99.54°E, h42km±4km, mb5.3/71, Error ellipse: s-maj=5.0km s-min=3.3km az=224.0*
NEIC Felt [V] at Mandailing, Natal and Panyabungan; [IV] at Padangsidempuan and Sibolga; [III] at Lubuksikaping and Riau; [II] at Painan. Felt [II] in Singapore and at Klang, Kuala Lumpur and Petaling Jaya, Malaysia.
*KLM **24** 02:11:26.8, 1.03°N×99.73°E, h55km, mb5.4, ML6.0*
*SZGRF **24** 02:11:31.9, 1.55°N×99.25°E, h33km, mb5.4, Northern Sumatera, Indonesia*
ISC 24 02:11:26.0±0.3, 1.02N±0.03×99.53E±0.03, h40km±2km, h40km:pP-P, n750, σ1§33/786, mb5.3/176, MS5.3/16, 40C-33D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.23**	**168**	P		P	Pn	02 11 27.4	-6.3
MNSI				S		S	Sn	02 11 29.7	-10
PBSI	**Pulau Batu**	**1.65**	**230**	P		**P**	**Pn**	**02 11 51.5**	**-1.0**
PBSI				S		S	**Sn**	**02 12 13.1**	**+0.7**
BKNI	**Bangkinang**	**1.66**	**115**	P		**P**	**Pn**	**02 11 53.0**	**+0.4**
BKNI				S		S	**Sn**	**02 12 14.8**	**+2.2**
BKNI	**Bangkinang**	**1.66**	**115**	P		**P**	**Pn**	**02 11 50.5**	**-2.1**
	baz=1.6,SNR=690								
BKNI	**Bangkinang**	**1.66**	**115**	*e*Pn		**Pn**		**02 11 50.5**	**-2.1**
BKNI				*e*Sn		**Sn**		**02 12 11.5**	**-1.2**
PPI	**Padang Panjang**	**1.70**	**150**	P		**P**	**Pn**	**02 11 53.1**	**-0.1**
PPI				S		S	**Sn**	**02 12 16.3**	**+2.5**
PPI	**Padang Panjang**	**1.70**	**150**	P		**P**	**Pn**	**02 11 52.8**	**-0.4**
	baz=1.7,SNR=987								
PSI	**Prapat**	**1.87**	**341**	Pn		**Pn**		**02 11 53.4**	**-2.4**
	2µm,0.3s,baz=154,slow=8.1,SNR=799								
PSI				Lg		Lg		02 12 20.5	
	559nm,0.3s,baz=280,slow=23,SNR=15								
PSI	**Prapat**	**1.87**	**341**	P		**Pn**		**02 11 53.2**	**-2.5**
	baz=1.8,SNR=1000								
GSI	**Gunungsitoli**	**1.98**	**278**	P		**Pn**		**02 11 56.1**	**-0.9**
GSI	**Gunungsitoli**	**1.98**	**278**	*e*Pn		**Pn**		**02 11 55.5**	**-1.6**
GSI				*e*Sn		**Sn**		**02 12 19.6**	**-1.0**
GSI	**Gunungsitoli**	**1.98**	**278**	P		**Pn**		**02 11 55.3**	**-1.7**
SISI	**Saibi**	**2.37**	**191**	P		**Pn**		**02 12 02.1**	**-0.4**
SISI				S		**Pn**		**02 12 02.1**	**-0.4**
TSI	**Tuntungan**	**2.65**	**339**	P		**Pn**		**02 12 06.2**	**-0.1**
SDSI	**Sungai Dareh**	**2.71**	**136**	P		**Pn**		**02 12 07.4**	**+0.3**
RGRI	**Rengat**	**3.11**	**116**	P		**Pn**		**02 12 13.0**	**+0.4**
SNSI	**Sinabang, Aceh**	**3.49**	**293**	P		**Pn**		**02 12 17.1**	**-0.7**
KRJI	**Kerinci**	**3.64**	**148**	P		**Pn**		**02 12 20.1**	**+0.1**
IPM	**Ipoh**	**3.75**	**23**	||P	**Pn**		**02 12 21.2**	**-0.2**
IPM	**Ipoh**

LEM Sn **Sn** **02 16 12.4 +4.1**
comp=Z,3.2nm,0.3s,baz=315,slow=20,SNR=2.0
LEM Lg Lg 02 17 36.0
comp=Z,3.8nm,0.3s,baz=42,slow=16,SNR=4.2
CNJI Cibinong 11.22 138 P **Pn** **02 14 04.7 +0.8**
comp=Z,369nm,1.1s,comp=Z,6μm
CISI Cisompet, Garu 11.87 136 P **Pn** **02 14 10.6 -2.2**
comp=Z,447nm,1.3s
CISI Cisompet, Garu 11.87 136 *e*Pn **Pn** **02 14 09.9 -3.0**
comp=Z,652nm,1.3s
PATY Pattaya 11.90 6 P **Pn** **02 14 15.8 +2.5**
comp=Z,42nm,0.8s,comp=Z,952nm
STKI Sintang 11.98 94 P **Pn** **02 14 14.9 +0.5**
comp=Z,130nm,1.5s,comp=Z,15μm
CMJI Cimerak 12.47 135 P **Pn** **02 14 18.8 -2.2**
comp=Z,230nm,1.7s,comp=Z,4μm
PBA Port Blair 12.54 328 *e*P Pn 02 14 20.0 -1.9
PBKI Pangkalan Bun 12.68 107 P **Pn** **02 14 24.8 +0.8**
comp=Z,493nm,1.2s
SBUM Sibu 12.76 83 *e*Pn **Pn** **02 14 27.2 +2.2**
SRDT SRDT 13.25 358 P **Pn** **02 14 34.9 +3.2**
comp=Z,636nm,1.5s,comp=Z,21μm
SMRI Semarang 13.52 127 P **Pn** **02 14 37.2 +1.8**
SMRI Semarang 13.52 127 *e*Pn **Pn** **02 14 35.5 +0.2**
comp=Z,1μm,1.1s
KHLT Khaolaem Dam 13.72 356 P **Pn** **02 14 40.7 +2.5**
comp=Z,144nm,1.5s,comp=Z,3μm
DGPR DIGLIPUR 13.74 332 *e*P **Pn** **02 14 39.5 +1.1**
DLV T Lat 14.03 39 *e*Pn **Pn** **02 14 43.5 +1.1**
comp=Z,39nm,0.8s
UGM Wanagama 14.10 129 P **Pn** **02 14 41.4 -1.9**
comp=Z,522nm,1.6s
TBJI Tambak Boyo 14.55 123 P **Pn** **02 14 50.3 +0.9**
comp=Z,426nm,1.6s,comp=Z,7μm
CHAI Chaiyaphum 14.98 9 P **Pn** **02 14 56.5 +1.3**
comp=Z,50nm,0.9s,comp=Z,426m
UMPA Umpang Tak 15.11 358 P **Pn** **02 14 56.4 -0.4**
comp=Z,48nm,1.2s,comp=Z,2μm
UBPT Khong Chiam 15.34 22 P **Pn** **02 15 01.0 +1.2**
comp=Z,322nm,1.0s,comp=Z,4μm
PBKT Sadao Pong 15.52 5 P **Pn** **02 15 03.1 +1.0**
comp=Z,213nm,1.0s,comp=Z,3μm
KHON Khomkaen 15.56 12 P **Pn** **02 15 04.3 +1.6**
comp=Z,101nm,1.0s,comp=Z,919nm
BBKI Banjar Baru 15.93 106 P **Pn** **02 15 08.9 +1.4**
comp=Z,814nm,1.1s,comp=Z,11μm
SKNT Sakolnakorn 16.45 15 P **Pn** **02 15 14.9 +0.9**
comp=Z,184nm,1.0s,comp=Z,5μm
KMMI Kalianget 16.48 119 P **Pn** **02 15 15.0 +0.5**
comp=Z,603nm,1.3s,comp=Z,8μm
BLJI Banyuglugur 16.51 122 P **P** **02 15 16.0 -1.0**
comp=Z,321nm,1.2s,comp=Z,6μm
UTTA Uttaradit 16.65 3 P **P** **02 15 18.2 -0.4**
comp=Z,53nm,1.1s,comp=Z,462nm
ABJI Asem Bagus 17.08 121 P **Pn** **02 15 22.3 +0.4**
comp=Z,696nm,1.4s,comp=Z,11μm
MHMT Maesarieng 17.12 355 P **P** **02 15 24.3 +0.5**
comp=Z,141nm,0.9s,comp=Z,3μm
CM31 Chiang Mai Arr 17.34 358 *e*Pn **P** **02 15 26.5 +0.3**
comp=Z,55nm,0.6s
CMAR Chiang Mai Arr 17.34 358 P **P** **02 15 25.8 -0.5**
comp=Z,3.6nm,0.3s,baz=192,slow=12,SNR=182
JAGI Jajag, Banyuwa 17.35 123 *e*Pn **Pn** **02 15 24.8 -0.6**
comp=Z,174nm,1.0s
KKM Kota Kinabalu 17.38 73 *e*Pn **Pn** **02 15 25.9 +0.1**
comp=Z,257nm,1.3s
LAMP Lampang 17.39 0 P **P** **02 15 27.4 +0.6**
comp=Z,85nm,1.0s,comp=Z,716nm
CMMT Chiang Mai 17.69 358 P **P** **02 15 30.5 +0.4**
comp=Z,230nm,1.2s,comp=Z,5μm
CHTO Chiang Mai 17.69 358 P **P** **02 15 30.5 +0.4**
comp=Z,792nm,1.2s,comp=Z,23μm
CHTO Chiang Mai 17.69 358 *e*P **Pn** **02 15 29.4 -0.2**
CHTO pmax pmax
comp=Z,132nm,0.9s
CHTO Chiang Mai 17.69 358 *e*Pn **Pn** **02 15 29.4 -0.2**
comp=Z,132nm,0.9s
SRBI Singaraja 18.06 120 P **P** **02 15 35.1 +0.9**
comp=Z,732nm,1.4s,comp=Z,13μm
CMAI Chiengmai2 18.80 359 P **P** **02 15 42.9 +0.4**
comp=Z,100nm,1.1s,comp=Z,17μm
CRAI Chiangrai 19.11 2 P **P** **02 15 43.7 -2.0**
comp=Z,98nm,1.2s
MYLDM Lahad Datu 19.38 77 *e*Pn **Pn** **02 15 50.6 +0.5**
comp=Z,732nm,1.3s
PALK Pallekele 19.77 289 Pn **Pn** **02 15 55.4 +0.6**
comp=Z,565nm,1.1s,SNR=5.2
PALK Pallekele 19.77 289 P **Pn** **02 15 55.0 +0.2**
comp=Z,1.4nm,0.3s,baz=101,slow=10,SNR=10
PALK S S 02 19 22.1 -12
comp=Z,1.2nm,0.3s,baz=206,slow=11,SNR=7.3
PALK LR LR 02 22 17.7
comp=Z,2μm,18.8s,baz=96,slow=33
PALK Pallekele 19.77 289 *e*P **Pn** **02 15 55.4 +0.6**
PALK S S 02 19 22.1 -12
PALK pmax pmax
comp=Z,186nm,1.2s
PALK Pallekele 19.77 289 *i* P **Pn** **02 15 55.9 +1.1**
SNR=7.1
PALK Pallekele 19.77 289 *e*P **Pn** **02 15 55.4 +0.6**
comp=Z,186nm,1.2s
PALK S S 02 19 22.1 -12
MPSI Mapaga 20.37 92 P **P** **02 16 00.3 +0.8**
comp=Z,374nm,1.1s
QIZ Qiongzhong 20.56 29 P Pn 02 16 03.9 0.0
QIZ S Sn 02 19 53.0 -1.9
QIZ PMZ
comp=Z,87nm,1.8s
QIZ LN
comp=Z,11μm,12.8s
QIZ LE
comp=Z,7μm,14.3s
QIZ LZ
comp=Z,8μm,18.1s
QIZ Qiongzhong 20.56 29 *e*P Pn 02 16 02.9 -1.0
comp=Z,228nm,1.5s
SLVN Son La 20.64 12 *e*P **P** **02 16 02.6 +0.3**
comp=Z,131nm,1.2s
TTSI Tana Toraja 20.68 101 P Pn 02 16 04.8 -0.5
comp=Z,332nm,1.5s,comp=Z,4μm
SPSI Sidrap Palu 20.81 104 P **P** **02 16 04.8 +0.4**
comp=Z,143nm,1.3s,comp=Z,2μm
KAPI Kappang 21.07 107 Pn **P** **02 16 07.5 +0.5**
comp=Z,979nm,1.0s,SNR=10.0
KAPI Kappang 21.07 107 P **P** **02 16 07.2 +0.2**
comp=Z,88nm,0.7s,baz=291,slow=9.3,SNR=14
KAPI S **S** **02 20 02.8 +3.2**
comp=Z,7.0nm,0.9s,baz=41,slow=20,SNR=1.5
KAPI Kappang 21.07 107 *e*P **P** **02 16 06.4 -0.6**
comp=Z,185nm,1.0s
KAPI S **S** **02 20 02.8 +3.2**
TOLI Toli-Toli 21.26 90 *e*P **P** **02 16 09.0 -0.1**
comp=Z,495nm,0.8s
BKSI Bulukumba 21.51 107 P **P** **02 16 12.4 +0.7**
comp=Z,197nm,1.2s,comp=Z,3μm
BSSI Bau Bau, Buton 22.10 109 P **P** **02 16 17.4 -0.7**
comp=Z,293nm,1.5s,comp=Z,4μm
APSI Ampana 22.20 95 P **P** **02 16 19.7 +0.5**
comp=Z,683nm,1.5s,comp=Z,8μm
MRSI Marisa 22.41 91 P **P** **02 16 21.9 +0.4**
comp=Z,406nm,1.0s,comp=Z,7μm
VIS Vishakhapatnam 23.00 317 *e*P **P** **02 16 27.1 -0.6**
VIS AMB AMB 02 16 33.7
comp=Z,157nm,1.1s
CHLP Challavanipeta 23.08 320 *e*P **P** **02 16 29.0 +0.6**
CHLP IAmb IAmb 02 16 33.1
comp=Z,79nm,0.9s
CHLP IVMs_BB IVMs_BB 02 25 52.1
comp=Z,2μm,14.4s
LUWI Luwuk 23.33 95 P **P** **02 16 32.5 +1.6**
comp=Z,804nm,1.1s,comp=Z,12μm
LUWI Luwuk 23.33 95 *e*P **P** **02 16 32.0 +1.1**
comp=Z,1μm,1.2s
SKHT Srikalahasti 23.34 304 *e*P **P** **02 16 32.5 +1.5**
SKHT IAmb IAmb 02 16 40.5
comp=Z,66nm,0.8s
SKHT IVMs_BB IVMs_BB 02 32 51.7
comp=Z,1μm,17.9s
PVM Polavaram 23.89 313 *e*P **P** **02 16 36.4 +0.2**
PVM IAmb IAmb 02 16 38.4
comp=Z,106nm,0.7s
PVM IVMs_BB IVMs_BB 02 26 26.3
comp=Z,1μm,21.3s
BBSI Bau Bau 23.90 106 P **P** **02 16 37.8 +1.4**
comp=Z,515nm,0.7s,comp=Z,4μm
KMI Kunming 24.16 7 P **P** **02 16 42.3 +3.4**
KMI pP **pP** **02 16 54.1 +4.3**
KMI sP **sP** **02 16 59.0 +4.4**
KMI PP **PnPn** **02 17 16.3 +6.7**
KMI S **S** **02 20 55.6 +1.0**
KMI sS **sS** **02 21 10.3 -2.4**
KMI SS SnSn 02 21 50.6 +12
KMI LN
comp=Z,5μm,12.1s
KMI LE
comp=Z,8μm,11.2s
KMI LZ
comp=Z,9μm,15.2s
ADKI Addanki 24.28 308 *e*P **P** **02 16 40.6 +0.8**
ADKI IAmb IAmb 02 16 42.6
comp=Z,103nm,0.8s
ADKI IVMs_BB IVMs_BB 02 29 30.7
comp=Z,2μm,20.0s
KMSI Cibinong 24.45 91 P **P** **02 16 42.8 +1.4**
comp=Z,2μm,1.3s,comp=Z,17μm
MMRI Maumere 24.57 113 *e*P **P** **02 16 39.7 -2.8**
comp=Z,346nm,1.3s
TGY Tagaytay City 24.84 57 P **P** **02 16 44.9 -0.2**
comp=Z,99nm,0.3s,baz=278,slow=1.7,SNR=6.9
RCLA Racherla 24.87 306 *e*P **P** **02 16 45.1 -0.1**
RCLA IAmb IAmb 02 16 56.7
comp=Z,58nm,0.9s
RCLA IVMs_BB IVMs_BB 02 30 31.4
comp=Z,1μm,5.9s
NJS Nagarjunasagar 25.21 309 *e*P **P** **02 16 48.7 +0.4**
NJS IAmb IAmb 02 16 51.5
comp=Z,101nm,0.7s
NJS IVMs_BB IVMs_BB 02 26 52.3
comp=Z,1μm,6.3s
SRLM Srisailam 25.27 307 *e*P **P** **02 16 48.7 -0.2**
SRLM IAmb IAmb 02 16 56.1
comp=Z,80nm,0.9s
SRLM IVMs_BB IVMs_BB 02 32 23.7
comp=Z,1μm,7.4s
LQP Lukban 25.36 58 *e*P **P** **02 16 50.9 +1.0**
CTBH Cotabato--PC H 25.39 75 ⇓ *i*P **P** **02 16 51.2 +1.2**
SHL Shillong 25.50 344 *i* P **P** **02 16 50.0 -1.0**
SHL AMB AMB 02 17 06.0
comp=Z,135nm,0.5s
SHL *i* S **S** **02 21 18.0 +2.1**
URV Uravakonda 25.99 303 *e*P **P** **02 16 54.9 -0.5**
URV IAmb IAmb 02 16 60.0
comp=Z,103nm,1.4s
URV IVMs_BB IVMs_BB 02 25 20.0
comp=Z,2μm,29.0s
GYA Guiyang 26.21 15 ⇑ *i*P **P** **02 16 56.3 -1.1**
GYA pP **pP** **02 17 09.3 +1.0**
GYA PP **PnPn** **02 17 44.0 +6.6**
GYA PcP **PcP** **02 20 25.6 +1.9**
GYA S **S** **02 21 28.8 +1.8**
GYA sS **sS** **02 21 47.3 +2.1**
GYA SS SnSn 02 22 39.3 +11
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,130nm,5.0s
GYA LN
comp=Z,7μm,12.1s
GYA LE
comp=Z,8μm,12.4s
GYA LZ
comp=Z,9μm,13.9s
BOK Bokaro 26.22 331 *e*P **P** **02 16 58.1 +0.7**
BOK AMB AMB 02 16 58.8
comp=Z,208nm,1.2s
HYB Hyderabad 26.29 309 *i* P **P** **02 16 58.0 -0.1**
HYB Hyderabad 26.29 309 *e*P **P** **02 16 59.1 +0.9**
HYB AMB AMB 02 17 03.6
comp=Z,62nm,1.2s
HYBB Hyderabad (bro 26.30 309 *e*P **P** **02 16 58.1 0.0**
HYBB IAmb IAmb 02 17 01.7
comp=Z,58nm,0.8s
HYBB IVMs_BB IVMs_BB 02 27 47.2
comp=Z,2μm,18.3s
SZP Santa 26.33 50 *e*P **P** **02 16 59.5 +1.1**
comp=Z,277nm,1.0s
RPR Rampur 26.61 313 *e*P **P** **02 17 00.9 -0.1**
RPR IAmb IAmb 02 17 12.8
comp=Z,149nm,1.1s
RPR IVMs_BB IVMs_BB 02 28 43.1
comp=Z,1μm,5.7s
SANI Sanana 26.62 97 P **P** **02 17 01.5 +0.3**
comp=Z,97nm,1.6s
SOEI Soe 26.85 114 P **P** **02 17 00.8 -2.5**
baz=27,SNR=4.7
SOEI Soe 26.85 114 *e*P **P** **02 16 59.5 -3.8**
comp=Z,119nm,0.8s
SRSP Sriramsagar 27.36 312 *e*P **P** **02 17 07.5 -0.2**
SRSP IAmb IAmb 02 17 14.5
comp=Z,68nm,0.8s
SRSP IVMs_BB IVMs_BB 02 26 31.1
comp=Z,1μm,5.3s
TNTI Ternate 27.83 90 *e*P **P** **02 17 12.6 +0.6**
comp=Z,552nm,1.4s
KLRI Killari 28.19 308 *e*P **P** **02 17 14.6 -0.6**
KLRI IAmb IAmb 02 17 21.8
comp=Z,52nm,0.9s
KLRI IVMs_BB IVMs_BB 02 28 31.2
comp=Z,2μm,17.7s
ODAN Odare 28.22 337 *e*P **P** **02 17 15.7 +0.1**
comp=Z,360nm,0.8s
TAPN Tapejung 28.53 338 *e*P **P** **02 17 19.1 +0.7**
comp=Z,846nm,0.9s
RAMN Ramite 28.62 335 *e*P **P** **02 17 19.6 +0.5**
comp=Z,81nm,0.6s
GOA Goa 29.16 301 *e*P **P** **02 17 25.6 +1.8**
GOA AMB AMB 02 17 26.8
comp=Z,80nm,1.3s
MBWA Marble Bar 29.60 139 *e*P **P** **02 17 26.5 -1.1**
LSA Lhasa 29.62 345 P **P** **02 17 28.1 -0.1**
LSA PMZ
comp=Z,110nm,0.9s
LSA Lhasa 29.62 345 *e*P **P** **02 17 28.1 -0.1**
LSA pmax pmax
comp=Z,75nm,0.7s
LSA Lhasa 29.62 345 *e*P **P** **02 17 28.1 -0.1**
comp=Z,75nm,0.7s
PKI Pulchoki 29.67 334 *e*P **P** **02 17 28.3 -0.3**
comp=Z,31nm,0.6s
PKIN Phulchoki 29.68 334 *e*P **P** **02 17 28.1 -0.5**
comp=Z,22nm,0.5s
GUN Gumba 29.77 335 *e*P **P** **02 17 29.6 +0.2**
comp=Z,359nm,0.6s
DMN Daman 29.84 334 *e*P **P** **02 17 29.7 -0.3**
comp=Z,79nm,0.8s
KKN Kakani 29.92 334 *e*P **P** **02 17 30.5 -0.1**
comp=Z,69nm,0.6s
CD2 Chengdu 30.00 7 P P 02 17 36.3 +5.2
CD2 pP pP 02 17 46.9 +4.8
CD2 sP sP 02 17 51.8 +5.0
CD2 S S 02 22 33.8 +7.3
CD2 PMZ
comp=Z,20nm,0.7s
CD2 PMZ
comp=Z,4μm,11.6s
CD2 LN
comp=Z,7μm,15.6s
CD2 LZ
comp=Z,9μm,16.2s
QZH Quanzhou 30.08 36 ⇓ *i*P **P** **02 17 32.0 +0.2**
QZH *e*S **S** **02 22 29.3 +1.5**
QZH PMZ
comp=Z,160nm,0.8s
QZH LN
comp=Z,10μm,12.4s
QZH LE
comp=Z,16μm,12.8s
QZH LZ
comp=Z,18μm,13.6s
GKN Gorkha 30.39 333 *e*P **P** **02 17 34.5 -0.2**
comp=Z,141nm,1.0s
POO Poona 30.63 306 *e*P **P** **02 17 37.0 +0.2**
POO AMB AMB 02 17 42.3
comp=Z,61nm,2.4s
YULB Yu-li 30.67 42 *e*P **P** **02 17 37.8 +0.7**
comp=Z,43nm,1.0s
KOLN Koldanda 30.67 332 *e*P **P** **02 17 37.3 0.0**
comp=Z,234nm,0.7s
SSLB Suanglung 30.71 41 *e*P **P** **02 17 38.0 +0.5**
comp=Z,78nm,0.9s
BHPL Bhopal 30.80 317 *e*P **P** **02 17 38.8 +0.5**
BHPL AMB AMB 02 17 44.1
comp=Z,60nm,2.8s
DANN Dangsing 31.08 332 *e*P **P** **02 17 41.0 0.0**
NACB Ninganchiao 31.40 41 *e*P **P** **02 17 43.8 +0.3**
comp=Z,57nm,0.9s
SIJI Sorong 31.79 93 P **P** **02 17 46.7 -0.4**
comp=Z,20nm,0.6s,baz=304,slow=8.6,SNR=25
TATO Taipei 31.89 40 *e*P **P** **02 17 46.0 -1.8**
WHN Wuhan 32.56 24 P P 02 17 57.1 +3.6
WHN S S 02 23 14.5 +8.1
WHN LN
comp=Z,29μm,22.8s
WHN LE
comp=Z,18μm,14.6s
WHN LZ
comp=Z,13μm,22.4s
FAKI Fak Fak 32.94 97 P **P** **02 17 56.9 -0.2**
comp=Z,55nm,1.4s
FAKI Fak Fak 32.94 97 P **P** **02 17 56.7 -0.5**
baz=33,SNR=4.8
FAKI Fak Fak 32.94 97 *e*P **P** **02 17 56.0 -1.1**
comp=Z,33nm,0.7s
MEEK Meekatharra 33.08 148 P **P** **02 17 57.7 -0.6**
baz=33,SNR=23
KNRA Kununurra 33.31 121 P **P** **02 17 58.4 -1.9**
baz=33,SNR=5.2
MORW Morawa 33.83 153 P **P** **02 18 05.2 +0.5**
baz=34,SNR=14
XAN Xi'an 34.01 14 P **P** **02 18 04.8 -1.4**
XAN S **S** **02 23 32.6 +3.7**
XAN PMZ
comp=Z,21nm,0.9s
XAN LN
comp=Z,3μm,15.9s
XAN LE
comp=Z,14μm,17.3s
XAN LZ
comp=Z,7μm,11.4s
MTN Manton Dam 34.24 115 P **P** **02 18 06.5 -1.9**
baz=34,SNR=3.7
NDI New Delhi 34.80 324 *e*P **P** **02 18 12.0 -1.1**
NDI *e*S **S** **02 23 43.0 +1.7**
LZH Lanzhou 35.12 6 *e*P **P** **02 18 17.9 +1.9**
LZH pP **pP** **02 18 29.5 +2.5**
LZH sP **sP** **02 18 32.6 +0.8**
LZH PP **PP** **02 19 38.0 +1.8**
LZH *e*S **S** **02 23 49.3 +3.0**
LZH sS **sS** **02 24 06.0 +1.3**
LZH SS **SnSn** **02 26 07.1 +1.8**
LZH PMZ
comp=Z,53nm,1.3s
LZH PMZ
comp=Z,210nm,5.2s
LZH LN
comp=Z,5μm,13.4s
LZH LE
comp=Z,6μm,12.5s
LZH LZ
comp=Z,7μm,15.0s
KDU Kakadu 35.41 114 P **P** **02 18 17.2 -1.3**
baz=35,SNR=5.0
BLDU Ballidu 35.45 154 P **P** **02 18 18.9 +0.2**
baz=36,SNR=15
DDI Dehra Dun 35.57 327 *e*P **P** **02 18 20.3 +0.5**
DDI AMB AMB 02 18 24.6
comp=Z,129nm,2.3s
NJ2 Nanjing 35.85 29 *e*P **P** **02 18 22.0 -0.1**
NJ2 S **S** **02 24 00.0 +2.8**
NJ2 PMZ
comp=Z,40nm,0.8s
NJ2 LN
comp=Z,18μm,12.8s
NJ2 LE
comp=Z,9μm,14.9s
NJ2 LZ
comp=Z,9μm,15.1s
SSE Sheshan 36.27 32 P **P** **02 18 26.6 +0.9**
SSE S **S** **02 24 02.5 -1.2**
SSE PMZ
comp=Z,25nm,0.7s
SSE PMZ
comp=Z,3μm,12.0s
SSE LN
comp=Z,15μm,17.5s
SSE LE
comp=Z,17μm,17.5s
SSE LZ
comp=Z,5μm,14.7s
BHJ Bhuj 36.46 310 *e*P **P** **02 18 29.2 +1.8**
BHJ AMB AMB 02 18 49.2
comp=Z,161nm,1.5s
SMLA Simla 36.68 327 *e*P **P** **02 18 28.8 -0.3**
SMLA AMB AMB 02 18 33.8
comp=Z,114nm,1.5s
KLBR Kellerberrin 36.75 154 P **P** **02 18 30.2 +0.4**
baz=37,SNR=23
NWAO Narrogin (SRO) 37.67 155 P **P** **02 18 38.6 +1.0**
baz=38,SNR=15
NWAO P **P** **02 18 38.6 +1.0**
baz=38,SNR=15
DHRM DHARAMSHALA 38.01 327 *e*P **P** **02 18 40.6 -0.1**
WRKA Warakurna 38.03 135 P **P** **02 18 38.5 -2.3**
baz=38,SNR=16
GTA Gaotai 38.21 0 *e*P **P** **02 18 42.1 -0.1**
GTA pP **pP** **02 18 51.4 -2.0**
GTA sP **sP** **02 18 56.0 -2.1**
GTA S **S** **02 24 35.5 +2.2**
GTA ScP **ScP** **02 24 41.5 +0.5**
GTA sS **sS** **02 24 50.8 -1.0**
GTA SS **SnSn** **02 27 14.8 -5.1**
GTA PMZ
comp=Z,11nm,0.9s
GTA PMZ
comp=Z,1μm,8.3s
GTA LN
comp=Z,3μm,13.1s
GTA LE
comp=Z,7μm,17.6s
GTA LZ
comp=Z,3μm,13.8s
KMBL Kambalda 38.57 149 P **P** **02 18 44.5 -0.7**
baz=39,SNR=50
TIA Tai'an 38.63 23 ⇓ *i*P **P** **02 18 45.3 -0.3**
TIA LN
comp=Z,6μm,18.1s
TIA LE
comp=Z,9μm,17.5s
TIA LZ
comp=Z,3μm,19.6s
RKGY Rocky Gully 39.03 157 P **P** **02 18 50.5 +1.5**
baz=39,SNR=6.1
WRA Warramunga Arr 39.97 123 P **P** **02 18 54.5 -2.7**
comp=Z,17nm,0.6s,baz=302,slow=9.0,SNR=38
WRA PcP **PcP** **02 21 01.2 -0.8**
comp=Z,7.9nm,0.9s,baz=312,slow=2.4,SNR=3.3
WRA ScP **ScP** **02 24 48.4 +0.3**
comp=Z,1.7nm,0.8s,baz=297,slow=3.2,SNR=5.3
WRAB Tennant Creek 39.98 123 P **P** **02 18 54.4 -2.7**
comp=Z,196nm,1.0s,SNR=14
WRAB Tennant Creek 39.98 123 *e*P **P** **02 18 54.9 -2.3**
WRAB pmax pmax
comp=Z,34nm,1.0s
WRAB Tennant Creek 39.98 123 *e*P **P** **02 18 54.9 -2.3**
comp=Z,34nm,1.0s
HHC Hu-ho-hao-te 41.12 14 *e*P **P** **02 19 07.8 +1.4**
HHC pP **pP** **02 19 20.3 +2.7**
HHC sP **sP** **02 19 23.9 +1.6**
HHC S **S** **02 25 19.0 +2.2**
HHC sS **sS** **02 25 37.6 +2.1**
HHC PMZ
comp=Z,21nm,0.7s
HHC LN
comp=Z,3μm,17.3s
HHC LE
comp=Z,8μm,18.2s
HHC LZ
comp=Z,4μm,19.7s
JAY Jayapura 41.31 95 P **P** **02 19 06.3 -2.0**
comp=Z,17nm,0.7s,baz=259,slow=11,SNR=9.2
JAY Jayapura 41.31 95 P **P** **02 19 05.9 -2.4**
baz=41,SNR=3.5
AS31 Alice Springs 41.44 129 *e*P **P** **02 19 06.3 -2.9**
ASAR Alice Springs 41.44 129 P **P** **02 19 06.6 -2.6**
comp=Z,9.3nm,0.6s,baz=299,slow=7.7,SNR=50
ASAR PcP **PcP** **02 21 05.9 -0.8**
comp=Z,8.3nm,0.8s,baz=301,slow=2.6,SNR=6.1
ASAR ScP **ScP** **02 24 53.5 -0.3**
comp=Z,3.5nm,0.7s,baz=304,slow=4.0,SNR=12

ASAR ScS **ScS** 02 29 09.7 -0.7
comp=Z,2.8nm,1.0s,baz=291,slow=5.6,SNR=8.1
FORT Forrest 41.66 142 P **P** 02 19 10.1 -0.8
baz=42,SNR=15
FORT Forrest 41.66 142 *e*P **P** 02 19 09.3 -1.6
comp=Z,98nm,0.7s
BJT Baijiatuau 41.67 19 *e*P **P** 02 19 11.1 +0.4
BJT pmax pmax
comp=Z,35nm,1.0s
BJT Baijiatuau 41.67 19 *e*P **P** 02 19 11.1 +0.4
comp=Z,36nm,1.0s
BJI Beijing 41.69 19 P **P** 02 19 11.1 +0.2
BJI S S 02 25 31.1 +6.1
BJI PMZ
comp=Z,21nm,0.8s
BJI LN
comp=Z,3μm,18.5s
BJI LE
comp=Z,5μm,16.1s
BJI LZ
comp=Z,6μm,28.0s
DL2 Dalian 42.79 26 P **P** 02 19 20.0 +0.1
DL2 S **S** 02 25 42.8 +1.5
DL2 PMZ
comp=Z,28nm,0.9s
DL2 LE
comp=Z,4μm,14.7s
DL2 LZ
comp=Z,3μm,14.7s
JNU Nakatsue 43.43 39 P **P** 02 19 24.4 -0.8
comp=Z,13nm,1.1s,baz=211,slow=8.9,SNR=11
JNU Nakatsue 43.43 39 *e*P **P** 02 19 24.7 -0.5
KBL Kabul 43.85 323 *e*P **P** 02 19 27.9 -0.9
KBL pmax pmax
comp=Z,32nm,0.7s
KBL Kabul 43.85 323 *e*P **P** 02 19 27.9 -0.9
comp=Z,32nm,0.7s
WMQ Urumqi 43.90 348 P **P** 02 19 30.3 +1.4
WMQ pP **pP** 02 19 39.3 -0.9
WMQ sP **sP** 02 19 44.3 -0.6
WMQ PMZ
comp=Z,52nm,1.0s
WMQ PMZ
comp=Z,770nm,3.8s
WMQ LN
comp=Z,2μm,18.8s
WMQ LE
comp=Z,2μm,18.1s
WMQ LZ
comp=Z,3μm,26.0s
KSH Kashi 43.94 334⇓ *i*P **P** 02 19 27.9 -1.4
KSH pP **pP** 02 19 42.1 +1.5
KSH PcP **PcP** 02 21 19.0 +4.2
KSH PcS **PcS** 02 25 09.3 +1.4
KSH S **S** 02 25 53.1 -5.3
KSH sS **sS** 02 26 18.3 +1.2
KSH SS **SS** 02 29 09.3 -6.8
KSH PMZ
comp=Z,100nm,0.6s
KSH PMZ
comp=Z,880nm,2.9s
KSH LN
comp=Z,2μm,12.6s
KSH LE
comp=Z,870nm,14.0s
KSH LZ
comp=Z,3μm,16.7s
KSAR Wonju Array Be 44.68 33 P **P** 02 19 34.6 -0.5
KSAR Wonju Array Be 44.68 33 P **P** 02 19 34.6 -0.5
QIS Mount Isa 44.70 121 P **P** 02 19 33.8 -1.7
baz=45,SNR=6.1
KSRS Korea Array 44.71 33 P **P** 02 19 34.6 -0.7
comp=Z,10nm,0.8s,baz=225,slow=8.7,SNR=38
SFK Sufi-Kurgan 45.47 332 P **P** 02 19 42.2 +0.5
SFK pmax pmax
comp=Z,98nm,0.9s
COEN Coen 45.71 111 P **P** 02 19 42.2 -1.5
baz=46,SNR=13
COEN Coen 45.71 111 *e*P **P** 02 19 41.8 -1.9
SNY Shenyang 46.04 25 ⇑P **P** 02 19 45.0 -0.8
SNY PMZ
comp=Z,9.0nm,1.1s
ULHL Ulahol 46.08 336 P **P** 02 19 47.1 +0.8
SNR=9.4
KZA Kyzart 46.35 335 P **P** 02 19 49.4 +0.6
SNR=21
AAA Alma-Ata 46.66 337 *e*P **P** 02 19 51.8 +1.0
AAA *e*S **S** 02 26 38.8 +1.3
AAA pmax pmax
comp=Z,2μm,3.8s
AAA smax smax
comp=E,1μm,5.3s
AAA MLR MLR
comp=Z,2μm,16.0s
TKM2 Tokmak 2 46.90 336 P **P** 02 19 53.4 +0.5
SNR=47
TKM2 Tokmak 2 46.90 336 *e*P **P** 02 19 53.0 +0.2
TKM2 pmax pmax
comp=Z,165nm,1.4s
TKM2 Tokmak 2 46.90 336 *e*P **P** 02 19 53.0 +0.2
comp=Z,165nm,1.4s
DZET Dzherino 46.95 327 P **P** 02 19 51.7 -1.5
DZET pmax pmax
comp=Z,45nm,0.7s
KBK Karagaybulak 46.95 335 P **P** 02 19 54.2 +1.0
SNR=32
SONM Songino Array 47.01 6 P **P** 02 19 53.1 -0.4
comp=Z,10nm,0.7s,baz=189,slow=9.5,SNR=71
SONM PcP **PcP** 02 21 24.9 -0.4
comp=Z,12nm,0.9s,baz=194,slow=5.0,SNR=5.1
SONM ScP **ScP** 02 25 14.6 -1.6
comp=Z,4.1nm,0.9s,baz=184,slow=3.4,SNR=4.9
SONM LR LR 02 42 32.2
comp=Z,3μm,18.3s,baz=209,slow=40
AML Almayashu 47.06 334 P **P** 02 19 55.1 +0.7
SNR=30
ULN Ulaanbaatar 47.12 7 *e*P **P** 02 19 54.1 -0.3
ULN pmax pmax
comp=Z,13nm,0.8s
ULN Ulaanbaatar 47.12 7 *e*P **P** 02 19 54.1 -0.3
comp=Z,13nm,0.8s
AAK Ala-Archa 47.12 335 P **P** 02 19 55.5 +1.0
SNR=15
AAK Ala-Archa 47.12 335 P **P** 02 19 54.5 0.0
AAK pmax pmax
comp=Z,177nm,1.7s
FRU Bishkek 47.23 335 *e*P **P** 02 19 55.0 -0.2
FRU pmax pmax
comp=Z,200nm,2.0s
FRU MLR MLR
comp=E,2μm,20.0s
CHMS Chumysh 47.31 335 P **P** 02 19 56.2 +0.3
SNR=16
EKS2 Erkin-Say 47.45 334 P **P** 02 19 57.9 +0.8
SNR=37
EKS2 Erkin-Say 47.45 334 *e*P **P** 02 19 57.9 +0.8
EKS2 pmax pmax
comp=Z,73nm,1.0s
EKS2 Erkin-Say 47.45 334 *e*P **P** 02 19 57.9 +0.8
comp=Z,73nm,1.0s
USP Ospenovka 47.64 335 P **P** 02 19 58.8 +0.4
SNR=37
MTSU Mount Surprise 47.98 116 P **P** 02 20 00.6 -0.8
baz=48,SNR=9.7
MK31 Makanchi Array 48.02 344 *i* P **P** 02 20 00.6 -0.6
MK31 pmax pmax
comp=Z,63nm,0.6s
MK31 Makanchi Array 48.02 344 *e*P **P** 02 20 00.8 -0.4
MKAR Makanchi Array 48.02 344 P **P** 02 20 01.0 -0.2
comp=Z,97nm,0.7s,baz=151,slow=7.4,SNR=391
HATD Hatta, Dubai 48.13 303 ⇑P **P** 02 20 03.6 +1.1
BBOO Buckleboo 48.16 138 P **P** 02 20 00.3 -2.2
baz=48,SNR=31
BBOO Buckleboo 48.16 138 *e*P **P** 02 20 00.3 -2.2
JCJ Chichijima 48.43 54 LR LR 02 40 23.4
comp=Z,950nm,20.9s,baz=81,slow=36
CN2 Changchun 48.45 25 *e*P **P** 02 20 03.0 -1.5
CN2 *e*pP **pP** 02 20 12.9 -3.1
CN2 *e*S **S** 02 27 01.3 -1.4
CN2 SS SS 02 30 25.3 -7.7
CN2 PMZ
comp=Z,10.0nm,0.9s
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,5μm,16.0s
CN2 LE
comp=Z,8μm,16.0s
CN2 LZ
comp=Z,1μm,16.0s
PMG Port Moresby 48.54 103 P **P** 02 20 05.6 -0.2
comp=Z,21nm,0.7s,baz=282,slow=9.3,SNR=4.9
PMG Port Moresby 48.54 103 *e*P **P** 02 20 05.5 -0.2
PMG pmax pmax
comp=Z,47nm,1.0s
PMG Port Moresby 48.54 103 *e*P **P** 02 20 05.5 -0.2
comp=Z,47nm,1.0s
FAQ Al Faqa, Dubai 48.55 303 ⇑P **P** 02 20 06.5 +0.8
NAZ Nazwa, Dubai 48.59 303 ⇓P **P** 02 20 06.8 +0.8
ASUD Al Ashush, Dub 48.73 302⇑ *i*P **P** 02 20 08.1 +1.0
SNR=8.5
KK31 Karatay Array 49.28 332 *i* P **P** 02 20 10.8 -0.2
KK31 pmax pmax
comp=Z,7.0nm,0.4s
KKAR Karatay Array 49.28 332 *e*P **P** 02 20 10.4 -0.6
KKAR pmax pmax
comp=Z,27nm,0.8s
KKAR Karatay Array 49.28 332 *e*P **P** 02 20 10.4 -0.6
comp=Z,27nm,0.8s
ZAK Zakamensk 49.28 3 *e*P **P** 02 20 11.0 0.0
ZAK pmax pmax
comp=Z,8.0nm,1.7s
MAJO Matsushiro 50.27 41 *e*P **P** 02 20 17.6 -1.1
MAJO pmax pmax
comp=Z,10.0nm,0.8s
MAJO Matsushiro 50.27 41 *e*P **P** 02 20 17.6 -1.1
comp=Z,9.6nm,0.8s
MJAR Matsushiro Arr 50.27 41 P **P** 02 20 17.8 -0.9
comp=Z,1.6nm,0.4s,baz=222,slow=8.1,SNR=14
MJAR ScP **ScP** 02 25 30.3 +0.1
comp=Z,0.9nm,0.6s,baz=233,slow=6.5,SNR=5.0
CTAO Charters Tower 50.34 117 *e*P **P** 02 20 17.9 -1.5
CTAO pmax pmax
comp=Z,37nm,1.1s
CTAO Charters Tower 50.34 117 *e*P **P** 02 20 17.9 -1.5
comp=Z,37nm,1.1s
HTT Hallett 50.47 137 P **P** 02 20 18.5 -1.8
baz=50,SNR=24
MOY Mondy 50.48 1 *e*P P 02 20 28.3 +8.2
TLY Talaya 50.60 3 *e*P **P** 02 20 21.5 +0.6
TLY pmax pmax
comp=Z,25nm,1.4s
TLY MLR MLR
comp=Z,3μm,17.0s
MDJ Mudanjiang 50.92 27 P **P** 02 20 24.3 +0.9
MDJ pP **pP** 02 20 33.3 -1.6
MDJ sP **sP** 02 20 37.1 -2.4
MDJ ScP **ScP** 02 25 34.0 +1.2
MDJ PcS **PcS** 02 25 37.5 +0.7
MDJ S **S** 02 27 38.8 +1.5
MDJ PMZ
comp=Z,7.0nm,0.8s
MDJ LN
comp=Z,8μm,19.9s
MDJ LE
comp=Z,9μm,20.9s
MDJ LZ
comp=Z,4μm,19.0s
QLP Quilpie 51.06 126 P **P** 02 20 23.4 -1.3
baz=51,SNR=15
IRK Irkutsk 51.20 4 *e*P **P** 02 20 25.2 -0.1
IRK pmax pmax
comp=Z,47nm,2.2s
STKA Stephens Creek 51.52 133 P **P** 02 20 26.1 -2.1
comp=Z,29nm,0.7s,baz=310,slow=7.2,SNR=52
STKA LR LR 02 44 38.3
comp=Z,2μm,19.4s,baz=317,slow=39
STKA Stephens Creek 51.52 133 *e*P **P** 02 20 26.0 -2.1
STKA pmax pmax
comp=Z,7.0nm,0.8s
STKA Stephens Creek 51.52 133 *e*P **P** 02 20 26.0 -2.1
comp=Z,6.8nm,0.8s
USRK Ussuriysk Ar. 51.75 29 P **P** 02 20 28.5 -1.1
comp=Z,5.9nm,0.8s,baz=220,slow=5.0,SNR=13
USRK LR LR 02 42 36.3
comp=Z,3μm,18.4s,baz=241,slow=36
KURBB Kurchatov Arra 52.54 343 P **P** 02 20 34.9 -0.4
comp=Z,66nm,0.7s,baz=163,slow=7.2,SNR=440
OTUK Ortayu 52.59 337 P **P** 02 20 34.9 -0.9
OTUK pmax pmax
comp=Z,94nm,1.0s
KURK Kurchatov 52.60 343 P **P** 02 20 35.7 -0.1
comp=Z,811nm,0.8s,SNR=53
KURK Kurchatov 52.60 343 *e*P **P** 02 20 35.1 -0.7
KURK pmax pmax
comp=Z,110nm,0.8s
KURK Kurchatov 52.60 343 *e*P **P** 02 20 35.1 -0.7
comp=Z,110nm,0.8s
ABKT Ailbek 52.86 319 P **P** 02 20 37.2 -0.8
comp=Z,458nm,1.0s,SNR=18
GEYT Alibeck 52.86 319 P **P** 02 20 38.1 +0.1
comp=Z,28nm,0.6s,baz=160,slow=4.7,SNR=44
ZAA0 Zalesovo Array 54.14 349 *e*P **P** 02 20 46.1 -0.9
ZALV Zalesovo Beam 54.14 349 P **P** 02 20 46.4 -0.6
comp=Z,136nm,0.8s,baz=174,slow=6.3,SNR=387
ARPS Mount Arapiles 54.32 138 P **P** 02 20 47.6 -1.0
baz=54,SNR=14
CMSA Cobar Meteorol 54.40 131 P **P** 02 20 47.9 -1.4
baz=54,SNR=19
RMQ Roma 54.73 124 P **P** 02 20 51.7 -0.2
baz=55,SNR=9.1
NVS Novosibirsk 55.28 349⇑ *i*P **P** 02 20 53.8 -1.5
NVS *i* S **S** 02 28 37.1 +0.8
NVS pmax pmax
comp=N,33nm,0.9s
NVS pmax pmax
comp=Z,46nm,0.9s
NVS pmax pmax
comp=E,9.0nm,0.4s
NVS smax smax
comp=N,76nm,1.9s
NVS smax smax
comp=E,71nm,1.9s
KLR Kul'dur 55.40 25 *e*P P 02 20 52.7 -3.6
IALA Alasht 55.56 314 *e*Pn **P** 02 20 57.9 -0.1
DAMY Dhamar 56.10 287 *e*P **P** 02 21 01.9 -0.4
comp=E,118nm,1.0s
EIDS Eidsvold 56.29 122 P **P** 02 21 02.0 -1.1
baz=56,SNR=5.1
HABR Khabarovsk 56.31 28 *e*P P 02 21 14.5 +12
HABR *e* 02 21 56.3
HABR *e* 02 23 06.5
HABR *e*PPP PPP 02 24 21.9
HABR *e*S **S** **02 28 50.5 +0.4**
HABR *e**SS sS 02 29 07.9 -1.5
HABR *e* 02 30 46.6
HABR *e*SS **SS** **02 32 40.0 +2.5**
HABR pmax pmax
comp=Z,15nm,1.5s
HABR MLR MLR
comp=Z,3μm,20.0s
RAYN Ar Rayn 56.90 298 P **P** 02 21 07.8 +0.2
comp=Z,128nm,1.1s,SNR=9.3
TOO Toolangi 57.21 137 P **P** 02 21 09.3 -0.2
baz=57,SNR=7.9
BVA0 Borovoye Array 57.21 340 *i* P **P** 02 21 08.1 -1.0
BVA0 pmax pmax
comp=Z,59nm,1.2s
BVAR Borovoye Array 57.21 340 P **P** 02 21 08.0 -1.1
comp=Z,16nm,0.6s,baz=143,slow=9.1,SNR=97
BRVK Borovoye 57.27 339 P **P** 02 21 08.2 -1.3
comp=Z,255nm,1.2s,SNR=20
BRVK Borovoye 57.27 339 *e*P **P** 02 21 08.4 -1.2
BRVK pmax pmax
comp=Z,46nm,0.9s
BRVK Borovoye 57.27 339 *e*P **P** 02 21 08.4 -1.2
comp=Z,46nm,0.9s
ASAJ Asahikawa 57.42 36 *e*P **P** 02 21 10.7 -0.1
comp=Z,6.0nm,0.8s
YNG Young 57.68 132 ⇓P **P** 02 21 11.0 -1.8
baz=58,SNR=12
ARMA Armidale 58.55 127 P **P** 02 21 19.1 0.0
baz=58,SNR=11
CAN Canberra 58.59 133 *e*P **P** 02 21 17.9 -1.3
CAN pmax pmax
comp=Z,35nm,0.9s
CAN Canberra 58.59 133 *e*P **P** 02 21 17.9 -1.3
comp=Z,36nm,0.9s
AB31 Akbulak array 58.79 331 *i* P **P** 02 21 19.1 -1.1
AB31 pmax pmax
comp=Z,33nm,0.7s
ABKAR Akbulak array 58.79 331 *e*P **P** 02 21 19.1 -1.1
comp=Z,32nm,0.7s
CNB Canberra Magne 58.85 133 P **P** 02 21 19.8 -1.2
baz=59,SNR=6.5
YSS Yuzh-Sakhalins 59.20 33 *e*P **P** 02 21 22.0 -1.1
YSS *e* 02 21 27.0
YSS pmax pmax
comp=Z,30nm,0.9s
YSS Yuzh-Sakhalins 59.20 33 *e*P **P** 02 21 22.6 -0.5
comp=Z,24nm,0.9s
CLNS Chul'man 59.25 16 *e*P **P** 02 21 26.1 +2.8
CLNS pmax pmax
comp=Z,11nm,1.1s
CLNS pmax pmax
comp=E,6.0nm,1.0s
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS MLR MLR
comp=Z,2μm,15.0s
CLNS MLR MLR
comp=E,1μm,17.0s
CLNS MLR MLR
comp=N,2μm,15.0s
AKTO Aktyubinsk 60.51 331 P **P** 02 21 31.1 -1.0
comp=N,20nm,0.9s,baz=124,slow=7.6,SNR=38
AKTO Aktyubinsk 60.51 331 P **P** 02 21 30.0 -2.1
AKTO pmax pmax
comp=Z,32nm,1.0s
KMBO Kilima Mbogo 62.31 268 P **P** 02 21 46.2 +1.0
comp=Z,4.7nm,0.9s,baz=56,slow=7.6,SNR=10
KMBO Kilima Mbogo 62.31 268 *e*P **P** 02 21 46.6 +1.4
KMBO pmax pmax
comp=Z,16nm,1.1s
KMBO Kilima Mbogo 62.31 268 *e*P **P** 02 21 46.6 +1.4
comp=Z,16nm,1.1s
GNI Garni 63.05 315 P **P** 02 21 49.7 +0.1
comp=Z,12nm,0.7s,baz=26,slow=5.2,SNR=7.5
GNI Garni 63.05 315⇓ *i*P **P** 02 21 49.9 +0.3
GNI pmax pmax
comp=Z,89nm,1.7s
GNI Garni 63.05 315⇑ *i*P **P** 02 21 50.5 +0.9
SNR=13
GNI Garni 63.05 315 *e*P **P** 02 21 49.2 -0.4
comp=Z,104nm,1.1s
DGRG David-gareji 63.15 317 P **P** 02 21 50.7 +0.6
DGRG David-gareji 63.15 317 *e*P **P** 02 21 50.6 +0.6
SEAG Tbilisi Sea 63.66 317 P **P** 02 21 51.7 -1.8
TBLG Delisi 63.70 317 P **P** 02 21 53.6 -0.1
TBLG Delisi 63.70 317 P **P** 02 21 53.6 -0.1
SVE Sverdlovsk 63.73 337⇑ *e*P **P** 02 21 53.0 -0.5
SVE pmax pmax
comp=Z,66nm,1.0s
SVE MLR MLR
comp=Z,2μm,23.0s
ARU Arti 64.27 336 P **P** 02 21 55.9 -1.2
baz=126,slow=1.7
ARU Arti 64.27 336 *d* *i*P **P** 02 21 56.1 -1.0
ARU 02 24 15.8
ARU S **S** 02 30 34.2 +2.2
ARU pmax pmax
comp=Z,29nm,1.2s
ARU Arti 64.27 336 P **P** 02 21 55.7 -1.4
comp=Z,116nm,1.1s,SNR=6.2
ARU Arti 64.27 336 *e*P **P** 02 21 55.8 -1.2
comp=Z,27nm,0.9s
AKH Akhalkalaki 64.42 316 P P 02 22 02.7 +4.0
AKH Akhalkalaki 64.42 316 *e*P P 02 22 02.6 +4.0
MZRK Al-Mazaregh 64.52 310 *e*P P 02 22 06.0 +6.9
ONI Oni 64.92 317 P P 02 22 05.9 +4.1
ONI Oni 64.92 317 *e*P P 02 22 05.8 +4.1
YAK Yakutsk 64.96 15 P **P** 02 21 59.8 -1.7
comp=Z,2.3nm,0.3s,baz=224,slow=17,SNR=3.4
YAK **Yakutsk** 64.96 15 *e*P **P** 02 22 01.6 +0.1
YAK *e**PP **pP** **02 22 11.7 -1.6**
YAK *e* 02 22 35.6
YAK *e* 02 24 23.5
YAK *e*PPP PPP 02 25 54.7
YAK *e*S **S** **02 30 39.6 -0.6**
YAK *e**SS **sS** **02 30 57.4 -2.4**
YAK *e* 02 31 47.7
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=Z,39nm,1.4s
YAK pmax pmax
comp=E,22nm,1.7s
YAK pmax pmax
comp=N,26nm,2.1s
YAK smax smax
comp=N,35nm,2.3s
YAK smax smax
comp=E,52nm,2.3s
YAK MLR MLR
comp=Z,3μm,16.0s
YAK MLR MLR
comp=N,2μm,15.0s
YAK MLR MLR
comp=E,1μm,15.0s
KBZ Khabaz 65.75 318 P **P** 02 22 06.9 0.0
comp=E,24nm,0.8s,baz=118,slow=5.9,SNR=38
KSRV Kasrt alli 65.81 309 *e*P **P** 02 22 10.3 +2.8
KIV Kislovodsk 65.98 319⇑ *i*P **P** 02 22 07.6 -1.0
KIV *e* 02 22 39.1
KIV *e* 02 24 35.2
KIV *e*SS SS 02 35 05.4 -4.0
KIV pmax pmax
comp=Z,69nm,1.2s
KIV Kislovodsk 65.98 319 P **P** 02 22 08.9 +0.3
comp=Z,339nm,0.9s,SNR=7.8
KIV Kislovodsk 65.98 319 *i* P **P** 02 22 08.2 -0.4
SNR=13
KIV Kislovodsk 65.98 319 *e*P **P** 02 22 07.9 -0.7
comp=Z,70nm,1.0s
GOF Gofitskoye 66.19 320 *e*P **P** 02 22 09.8 0.0
GOF pmax pmax
comp=Z,40nm,1.0s
ZALF Zalf 66.31 306 *e*P **P** 02 22 12.4 +1.5
ZALF Zalf 66.31 306 *e*P **P** 02 22 11.3 +0.4
ROOS tl_alroos 66.68 307 *e*P **P** 02 22 15.3 +2.1
ROOS tl_alroos 66.68 307 *e*P **P** 02 22 14.5 +1.2
SALA Sala 66.75 305 *e*P **P** 02 22 14.1 +0.2
SALA Sala 66.75 305 *e*P **P** 02 22 15.6 +1.7
TOTH TOTAH 67.16 306 *e*P **P** 02 22 17.9 +1.7
TOTH TOTAH 67.16 306 *e*P **P** 02 22 18.2 +1.9
EIL Elat 67.53 302 P **P** 02 22 19.3 +0.7
baz=68,SNR=17
BRBR Barbar 67.56 306 *e*P **P** 02 22 19.3 +0.3
BRBR Barbar 67.56 306 *e*P **P** 02 22 21.3 +2.3
CASY Casey 67.61 175 *e*P **P** 02 22 18.6 +0.2
comp=Z,48nm,1.5s
SOC Sochi 67.83 317 *e*P **P** 02 22 19.3 -0.9
SOC *e**SP sP 02 22 29.8 -6.8
SOC *e* 02 22 42.5
SOC *e*S **S** **02 31 15.5 -0.2**
SOC *e*SS **SS** **02 35 36.7 -1.2**
SOC pmax pmax
comp=Z,47nm,0.7s
SLNF Slenfeh 67.90 308 *e*P **P** 02 22 20.2 -0.8
ARNB Al Arnab 68.17 308 *e*P **P** 02 22 25.3 +2.6
ARNB Al Arnab 68.17 308 *e*P **P** 02 22 23.4 +0.8
DZM Mont Dzumac 69.08 114 P **P** 02 22 28.1 -0.4
comp=Z,13nm,0.8s
CSS Prodhromos 70.04 307 *e*P **P** 02 22 33.7 -0.5
comp=Z,22nm,1.0s
BR131 Keskin Array S 70.96 312 *e*P **P** 02 22 38.9 -1.0
comp=Z,37nm,0.9s
BRTR Keskin Array B 70.96 312 P **P** 02 22 38.6 -1.2
comp=Z,15nm,0.6s,baz=133,slow=6.9,SNR=109
VSR Storozhevoye 71.06 325 *e*P **P** 02 22 38.6 -1.4
VSR *e*S **S** **02 31 52.8 -0.6**
VSR pmax pmax
comp=N,20nm,0.9s
VSR pmax pmax
comp=E,30nm,0.9s
VSR pmax pmax
comp=Z,50nm,0.9s
VSR smax smax
comp=N,50nm,2.5s
VSR smax smax
comp=E,170nm,2.5s
VSR smax smax
comp=Z,60nm,2.5s

SIM	**Simferopol'**	**72.07 317**	*e*P	**P**	**02 22 45.4**	**-0.9**
SIM			*e*		02 27 15.0	
SIM			pmax	pmax		
	comp=Z,48nm,0.9s					
SIM			MLR	MLR		
	comp=Z,400nm,21.0s					
LSZ	**Lusaka**	**72.30 254**	*e*P	**P**	**02 22 49.1**	**+0.7**
LSZ			pmax	pmax		
	comp=Z,17nm,1.0s					
LSZ	**Lusaka**	**72.30 254**	*e*P	**P**	**02 22 49.0**	**+0.7**
	comp=Z,17nm,1.0s					
PRGR	**Permogore**	**72.73 336**	*e*P	**P**	**02 22 48.6**	**-1.2**
PRGR			*e*S	**S**	**02 32 11.4**	**-0.9**
PRGR			pmax	pmax		
	comp=Z,45nm,0.6s					
SEY	**Seymchan**	**73.03 22**	P	**P**	**02 22 51.4**	**-0.2**
	comp=Z,1.8nm,0.2s,baz=230,slow=0.8,SNR=5.2					
MAW	**Mawson**	**73.08 194**	P	**P**	**02 22 52.8**	**+1.1**
	comp=Z,8.3nm,0.9s,baz=37,slow=7.5,SNR=12					
MAW	**Mawson**	**73.08 194**	*e*P	**P**	**02 22 53.2**	**+1.4**
MAW			pmax	pmax		
	comp=Z,4.0nm,1.0s					
MAW	**Mawson**	**73.08 194**	P	**P**	**02 22 53.5**	**+1.8**
	baz=73,SNR=11					
MAW	**Mawson**	**73.08 194**	*e*P	**P**	**02 22 53.1**	**+1.4**
	comp=Z,3.9nm,1.0s					
MOS	**Moscow**	**73.69 329**	*e*P	**P**	**02 22 56.7**	**+1.1**
MOS			*e*		02 23 11.4	
MOS			pmax	pmax		
	comp=Z,89nm,1.2s					
MOS			pmax	pmax		
	comp=Z,268nm,1.9s					
OBN	**Obninsk**	**74.00 328**	P	**P**	**02 22 56.8**	**-0.6**
	comp=Z,24nm,0.7s,baz=82,slow=7.3,SNR=8.2					
OBN	**Obninsk**	**74.00 328**	*d* *i*P	**P**	**02 22 56.7**	**-0.7**
OBN			*e*		02 23 11.5	
OBN			*e*		02 25 39.8	
OBN			*e*S	S	02 32 35.0	+8.1
OBN			pmax	pmax		
	comp=Z,103nm,1.2s					
OBN			MLR	MLR		
	comp=Z,1µm,20.0s					
OBN	**Obninsk**	**74.00 328**	P	**P**	**02 22 56.1**	**-1.3**
	comp=Z,317nm,1.1s,SNR=5.3					
OBN	**Obninsk**	**74.00 328**	*e*P	**P**	**02 22 56.3**	**-1.2**
	comp=Z,74nm,1.0s					
TLCR		**75.76 316**	⇑P	**P**	**02 23 07.7**	**-0.1**
TLCR		**75.76 316**	⇑*i*P	**P**	**02 23 07.7**	**-0.1**
TIRR	**Tirgusor**	**75.88 316**	*e*P	**P**	**02 23 07.5**	**-1.0**
TIRR			pmax	pmax		
	comp=Z,33nm,1.0s					
TIRR	**Tirgusor**	**75.88 316**	⇓*i*P	**P**	**02 23 08.1**	**-0.4**
TIRR	**Tirgusor**	**75.88 316**	*e*P	**P**	**02 23 07.5**	**-1.0**
	comp=Z,33nm,1.0s					
LBTB	**Lobatse**	**75.90 244**	*e*P	**P**	**02 23 09.3**	**+0.1**
LBTB			pmax	pmax		
	comp=Z,14nm,1.0s					
LBTB	**Lobatse**	**75.90 244**	*e*P	**P**	**02 23 09.3**	**+0.1**
	comp=Z,14nm,1.0s					
MSAB	**Monastry St. A**	**76.21 315**	⇓⇓*i*P	**P**	**02 23 10.3**	**-0.1**
CFR	**Carcaliu**	**76.23 316**	⇑⇑P	**P**	**02 23 10.4**	**-0.1**
CFR	**Carcaliu**	**76.23 316**	⇑*i*P	**P**	**02 23 10.4**	**-0.1**
HARR	**Harsova**	**76.26 316**	⇑⇑P	**P**	**02 23 10.2**	**-0.5**
HARR	**Harsova**	**76.26 316**	⇑*i*P	**P**	**02 23 10.2**	**-0.5**
PRD	**Provadia**	**76.33 314**	P	**P**	**02 23 11.9**	**+0.8**
PRK	**Paraskevi**	**76.42 310**	P	**P**	**02 23 10.7**	**-1.0**
PRK	**Paraskevi**	**76.42 310**	P	**P**	**02 23 10.7**	**-1.0**
PRK	**Paraskevi**	**76.42 310**	P	**P**	**02 23 10.7**	**-1.0**
BOSA	**Boshof**	**76.72 240**	P	**P**	**02 23 14.3**	**+0.6**
	comp=Z,3.8nm,0.7s,baz=93,slow=4.2,SNR=8.4					
SORM	**Soroca**	**76.75 319**	⇓⇓P	**P**	**02 23 16.0**	**+2.6**
SORM	**Soroca**	**76.75 319**	⇓⇓*i*P	**P**	**02 23 16.0**	**+2.6**
AK02	**Malin Array Si**	**76.83 322**	*e*P	**P**	**02 23 12.4**	**-1.3**
AKASG	**Malin Array Be**	**76.83 322**	P	**P**	**02 23 12.5**	**-1.2**
	comp=Z,8.2nm,0.9s,baz=86,slow=4.5,SNR=24					
AKBB	**Malin Array Si**	**76.83 322**	*e*P	**P**	**02 23 12.5**	**-1.3**
AKBB	**Malin Array Si**	**76.83 322**	*e*P	**P**	**02 23 12.4**	**-1.3**
AK01	**Malin Array Si**	**76.83 322**	*e*P	**P**	**02 23 12.5**	**-1.2**
KIEV	**Kiev**	**76.84 322**	*e*P	**P**	**02 23 11.7**	**-2.1**
KIEV			pmax	pmax		
	comp=Z,17nm,0.8s					
KIEV	**Kiev**	**76.84 322**	*e*P	**P**	**02 23 11.7**	**-2.1**
	comp=Z,17nm,0.8s					
ALN	**Alexandroupoli**	**76.88 312**	P	**P**	**02 23 14.2**	**-0.1**
ALN	**Alexandroupoli**	**76.88 312**	P	**P**	**02 23 14.2**	**-0.1**
ALN	**Alexandroupoli**	**76.88 312**	P	**P**	**02 23 14.2**	**-0.1**
IDI	**Anoyia**	**76.89 306**	P	**P**	**02 23 14.1**	**-0.4**
	comp=Z,21nm,1.0s,baz=84,slow=7.8,SNR=9.9					
IDI	**Anoyia**	**76.89 306**	*e*P	**P**	**02 23 14.0**	**-0.6**
	comp=Z,42nm,0.9s					
TMCR	**Tamitsa**	**77.00 337**	*e*P	**P**	**02 23 14.3**	**-0.1**
TMCR			pmax	pmax		
	comp=Z,33nm,0.7s					
SMTH	**Samothraki Isl**	**77.20 311**	P	**P**	**02 23 14.7**	**-1.4**
SMTH	**Samothraki Isl**	**77.20 311**	P	**P**	**02 23 14.7**	**-1.4**
ISR	**Istrita**	**77.32 316**	⇑⇑P	**P**	**02 23 17.8**	**+1.1**
ISR	**Istrita**	**77.32 316**	⇑⇑*i*P	**P**	**02 23 17.8**	**+1.1**
VRI	**Vrincioaia**	**77.34 317**	⇑⇑P	**P**	**02 23 17.2**	**+0.4**
VRI	**Vrincioaia**	**77.34 317**	⇑⇑*i*P	**P**	**02 23 17.2**	**+0.4**
LIA	**Limnos Island**	**77.36 311**	P	**P**	**02 23 15.6**	**-1.4**
LIA	**Limnos Island**	**77.36 311**	P	**P**	**02 23 15.6**	**-1.4**
PLOR	**Plostina**	**77.39 317**	⇑⇑P	**P**	**02 23 17.8**	**+0.7**
PLOR	**Plostina**	**77.39 317**	⇑⇑*i*P	**P**	**02 23 17.8**	**+0.7**
DIM	**Dimitrovgrad**	**77.47 313**	*i* P	**P**	**02 23 17.0**	**-0.5**
VAM	**Vamos**	**77.47 306**	P	**P**	**02 23 18.1**	**+0.4**
VAM	**Vamos**	**77.47 306**	P	**P**	**02 23 18.1**	**+0.4**
VAM	**Vamos**	**77.47 306**	P	**P**	**02 23 18.1**	**+0.4**
TESR	**Tescani**	**77.53 317**	⇓⇓*i*P	**P**	**02 23 17.7**	**-0.1**
MLR	**Muntele Rosu**	**77.80 316**	⇑⇑P	**P**	**02 23 19.4**	**-0.1**
MLR	**Muntele Rosu**	**77.80 316**	⇑⇑*i*P	**P**	**02 23 19.4**	**-0.1**
PRAR	**RASCA**	**77.98 318**	⇑⇑*i*P	**P**	**02 23 20.5**	**+0.2**
RZN	**Rozhen**	**78.00 312**	P	**P**	**02 23 22.5**	**+1.7**
DOPR	**Dopca**	**78.28 317**	⇑*i*P	**P**	**02 23 22.1**	**+0.1**
VOIR		**78.41 316**	⇑⇑P	**P**	**02 23 22.2**	**-0.7**
VOIR		**78.41 316**	⇑⇑*i*P	**P**	**02 23 22.2**	**-0.7**
PAIG	**Paliouri**	**78.51 310**	P	**P**	**02 23 22.1**	**-1.3**
PAIG	**Paliouri**	**78.51 310**	P	**P**	**02 23 22.1**	**-1.3**
PAIG	**Paliouri**	**78.51 310**	P	**P**	**02 23 22.1**	**-1.3**
DID	**Didima**	**78.52 308**	P	**P**	**02 23 20.6**	**-2.9**
DID	**Didima**	**78.52 308**	P	**P**	**02 23 20.6**	**-2.9**
DIDY	**Didyma**	**78.53 308**	P	**P**	**02 23 21.5**	**-2.2**
VILL	**Villia**	**78.55 309**	P	**P**	**02 23 21.9**	**-1.8**
KRND	**KRANIDI**	**78.57 308**	P	**P**	**02 23 21.5**	**-2.3**
MICGM	**Minsk**	**78.58 326**	*e*	**P**	**02 23 23.0**	**-0.5**
NVR	**Nevrokopi**	**78.58 312**	P	**P**	**02 23 21.9**	**-1.9**
NVR	**Nevrokopi**	**78.58 312**	P	**P**	**02 23 21.9**	**-1.9**
MNK	**Minsk**	**78.61 326**	*e*P	**P**	**02 23 23.0**	**-0.6**
ARR	**Arges**	**78.69 316**	⇓*i*P	**P**	**02 23 23.7**	**-0.7**
BURAR	**Bucovina Array**	**78.70 318**	⇓⇓P	**P**	**02 23 24.8**	**+0.4**
BURAR	**Bucovina Array**	**78.70 318**	⇓⇓*i*P	**P**	**02 23 24.8**	**+0.4**
MMB	**Musomiste**	**78.72 312**	P	**P**	**02 23 23.2**	**-1.4**
BUR08	**Bucovina Ar. S**	**78.72 318**	*e*P	**P**	**02 23 25.0**	**+0.4**
SRS	**Serrai**	**78.75 312**	P	**P**	**02 23 22.9**	**-1.8**
SRS	**Serrai**	**78.75 312**	P	**P**	**02 23 22.9**	**-1.8**
SRS	**Serrai**	**78.75 312**	P	**P**	**02 23 22.9**	**-1.8**
MPEP	**Malo Peshtene**	**78.99 314**	*i* P	**P**	**02 23 25.1**	**-0.8**
VLX	**Vlachokerasia**	**79.18 308**	P	**P**	**02 23 26.1**	**-1.2**
VLX	**Vlachokerasia**	**79.18 308**	P	**P**	**02 23 26.1**	**-1.2**
DSF	**Desfina**	**79.19 309**	P	**P**	**02 23 24.6**	**-2.6**
DSF	**Desfina**	**79.19 309**	P	**P**	**02 23 24.6**	**-2.6**
VTS	**Vitosha**	**79.25 313**	P	**P**	**02 23 26.7**	**-0.9**
VTS	**Vitosha**	**79.25 313**	⇑*i*P	**P**	**02 23 26.6**	**-1.0**
VTS	**Vitosha**	**79.25 313**	P	**P**	**02 23 26.4**	**-1.2**
VTS	**Vitosha**	**79.25 313**	P	**P**	**02 23 26.7**	**-0.9**
VTS	**Vitosha**	**79.25 313**	P	**P**	**02 23 26.7**	**-0.9**
GUR	**Goura**	**79.28 308**	P	**P**	**02 23 26.1**	**-1.7**
GUR	**Goura**	**79.28 308**	P	**P**	**02 23 26.1**	**-1.7**
KNT	**Kendrikon**	**79.28 312**	P	**P**	**02 23 26.3**	**-1.3**
KNT	**Kendrikon**	**79.28 312**	P	**P**	**02 23 26.3**	**-1.3**
KNT	**Kendrikon**	**79.28 312**	P	**P**	**02 23 26.3**	**-1.3**
NACGM	**Naroch**	**79.30 326**	*e*	**P**	**02 23 25.0**	**-2.4**
LOT	**Lotru**	**79.30 316**	⇑*i*P	**P**	**02 23 27.5**	**-0.3**
LIT	**Litokhoron**	**79.44 311**	P	**P**	**02 23 27.0**	**-1.5**
LIT	**Litokhoron**	**79.44 311**	P	**P**	**02 23 27.0**	**-1.5**
LIT	**Litokhoron**	**79.44 311**	P	**P**	**02 23 27.0**	**-1.5**
KLV	**Kalavryta, Ach**	**79.44 308**	P	**P**	**02 23 27.1**	**-1.5**
KLV	**Kalavryta, Ach**	**79.44 308**	P	**P**	**02 23 27.1**	**-1.5**
KALE	**Kalithea**	**79.49 309**	P	**P**	**02 23 27.0**	**-1.9**
KALE	**Kalithea**	**79.49 309**	P	**P**	**02 23 27.0**	**-1.9**
ITM	**Ithomi**	**79.51 308**	P	**P**	**02 23 27.9**	**-1.1**
ITM	**Ithomi**	**79.51 308**	P	**P**	**02 23 27.9**	**-1.1**
VAY	**Valandovo**	**79.54 312**	*i* P	**P**	**02 23 28.3**	**-0.8**
LAKA	**Lakka**	**79.60 309**	P	**P**	**02 23 28.0**	**-1.4**
LAKA	**Lakka**	**79.60 309**	P	**P**	**02 23 28.0**	**-1.4**
CJR	**Cluj-Napoca**	**79.63 317**	⇓⇓P	**P**	**02 23 30.4**	**+0.9**
CJR	**Cluj-Napoca**	**79.63 317**	⇓⇓*i*P	**P**	**02 23 30.4**	**+0.9**
EFP	**Efpalio**	**79.68 309**	P	**P**	**02 23 28.3**	**-1.5**
DRO	**Drossia**	**79.77 308**	P	**P**	**02 23 30.5**	**+0.1**
EVR	**Evrytania**	**79.81 309**	P	**P**	**02 23 30.2**	**-0.5**
EVR	**Evrytania**	**79.81 309**	P	**P**	**02 23 30.2**	**-0.5**
LVV	**L'vov**	**79.89 320**	*e*P	**P**	**02 23 32.3**	**+1.6**
RLS	**Riolos of Patr**	**79.98 308**	P	**P**	**02 23 32.7**	**+1.3**
RLS	**Riolos of Patr**	**79.98 308**	P	**P**	**02 23 32.7**	**+1.3**
DRGR		**80.25 317**	⇓⇓P	**P**	**02 23 33.1**	**+0.3**
DRGR		**80.25 317**	⇓⇓*i*P	**P**	**02 23 33.1**	**+0.3**
SKO	**Skopje**	**80.47 312**	*i* P	**P**	**02 23 36.9**	**+2.9**
ZKS	**Zakynthos**	**80.47 308**	P	**P**	**02 23 32.9**	**-1.3**
SYO	**Syowa Base**	**80.56 198**	*e*P	**P**	**02 23 33.8**	**-0.1**
SYO	**Syowa Base**	**80.56 198**	⇓⇓*e*PcP	**PcP**	**02 23 39.4**	**-1.3**
TRPA	**Tarpa**	**80.57 319**	⇓*i*P	**P**	**02 23 34.6**	**+0.2**
NEST	**Nestorio**	**80.57 311**	P	**P**	**02 23 33.0**	**-1.7**
VLS	**Valsamata**	**80.68 308**	P	**P**	**02 23 34.0**	**-1.2**
VLS	**Valsamata**	**80.68 308**	P	**P**	**02 23 34.0**	**-1.2**
VLS	**Valsamata**	**80.68 308**	P	**P**	**02 23 34.0**	**-1.2**
UZH	**Uzhgorod**	**80.81 319**	*e*P	**P**	**02 23 35.4**	**-0.3**
UZH			*e*		02 23 46.2	
BZS	**Buzias**	**80.82 316**	⇓⇓P	**P**	**02 23 35.5**	**-0.3**
BZS	**Buzias**	**80.82 316**	⇓⇓*i*P	**P**	**02 23 35.5**	**-0.3**
KOLS	**Kolonicke sedl**	**80.87 319**	*e*P	**P**	**02 23 36.1**	**+0.1**
KOLS			pmax	pmax		
	comp=Z,8.0nm,1.1s					
KOLS	**Kolonicke sedl**	**80.87 319**	*e*P	**P**	**02 23 36.1**	**+0.1**
SIRR	**Siria**	**80.89 317**	⇑*i*P	**P**	**02 23 36.9**	**+0.7**
IGT	**Igoumenitsa**	**81.02 310**	P	**P**	**02 23 35.8**	**-1.2**
IGT	**Igoumenitsa**	**81.02 310**	P	**P**	**02 23 35.8**	**-1.2**
IGT	**Igoumenitsa**	**81.02 310**	P	**P**	**02 23 35.8**	**-1.2**
SGD	**Sagiada**	**81.11 310**	P	**P**	**02 23 35.7**	**-1.8**
SUW	**Suwalki**	**81.17 325**	*e*P	**P**	**02 23 36.8**	**-0.7**
SUW	**Suwalki**	**81.17 325**	*e*P	**P**	**02 23 36.9**	**-0.6**
PHP	**Peshkopia**	**81.18 312**	P	**P**	**02 23 36.3**	**-1.6**
PHP	**Peshkopia**	**81.18 312**	P	**P**	**02 23 36.3**	**-1.6**
PHP	**Peshkopia**	**81.18 312**	P	**P**	**02 23 36.3**	**-1.6**
FINES	**FINESS Array B**	**81.24 332**	P	**P**	**02 23 37.2**	**-0.5**
	comp=Z,11nm,0.6s,baz=118,slow=6.0,SNR=64					
TIR	**Tirane**	**81.57 312**	*e*P	**P**	**02 23 40.3**	**+0.4**
TIR			pmax	pmax		
	comp=Z,22nm,0.8s					
TIR	**Tirane**	**81.57 312**	*e*P	**P**	**02 23 40.3**	**+0.4**
	comp=Z,22nm,0.8s					
DIVS	**Divibare**	**81.78 314**	⇓*i*P	**P**	**02 23 41.2**	**+0.1**
DIVS	**Divibare**	**81.78 314**	P	**P**	**02 23 40.4**	**-0.7**
KECS	**Kecovo**	**81.98 319**	*e*P	**P**	**02 23 41.7**	**-0.2**
KECS			pmax	pmax		
	comp=Z,3.0nm,0.9s					
KECS	**Kecovo**	**81.98 319**	*e*P	**P**	**02 23 41.7**	**-0.2**
NIE	**Niedzica**	**82.21 320**	*e*P	**P**	**02 23 43.3**	**+0.1**
NIE	**Niedzica**	**82.21 320**	*e*P	**P**	**02 23 43.4**	**+0.2**
BEL	**Belsk**	**82.24 322**	*e*P	P	02 23 46.9	+3.7
BEL	**Belsk**	**82.24 322**	*e*P	P	02 23 46.9	+3.7
PSZ	**Piszkesteto**	**82.30 318**	*e*P	**P**	**02 23 43.1**	**-0.6**
PSZ			pmax	pmax		
	comp=Z,12nm,0.8s					
PSZ	**Piszkesteto**	**82.30 318**	⇑*i*P	**P**	**02 23 43.5**	**-0.2**
PSZ	**Piszkesteto**	**82.30 318**	*e*P	**P**	**02 23 43.1**	**-0.6**
	comp=Z,12nm,0.8s					
OJC	**Ojcow**	**82.65 320**	*e*P	**P**	**02 23 45.2**	**-0.1**
OJC	**Ojcow**	**82.65 320**	*e*P	**P**	**02 23 45.3**	**-0.1**
TSUM	**Tsumeb**	**82.73 251**	*e*P	**P**	**02 23 47.3**	**+0.7**
	comp=Z,18nm,1.1s					
PKSM	**Moragy**	**82.96 316**	⇑⇑P	**P**	**02 23 46.7**	**-0.3**
PKSM	**Moragy**	**82.96 316**	⇑⇑*i*P	**P**	**02 23 46.7**	**-0.3**
PKSM	**Moragy**	**82.96 316**	⇓*e*	**P**	**02 23 46.7**	**-0.3**
VYHS	**Vyhne**	**83.07 319**	*e*P	**P**	**02 23 46.9**	**-0.7**
VYHS			pmax	pmax		
	comp=Z,37nm,3.5s					
VYHS	**Vyhne**	**83.07 319**	*e*P	**P**	**02 23 46.8**	**-0.8**
ARCES	**ARCESS Array B**	**83.50 340**	P	**P**	**02 23 49.3**	**-0.1**
	comp=Z,7.1nm,0.4s,baz=98,slow=4.7,SNR=81					
ARCES			LR	LR	03 03 43.9	
	comp=Z,2µm,22.0s,baz=118,slow=38					
OKC	**Ostrava-Krasne**	**83.66 320**	*e*P	**P**	**02 23 50.4**	**-0.2**
OKC	**Ostrava-Krasne**	**83.66 320**	*e*P	**P**	**02 23 50.4**	**-0.2**
TIP	**Timpagrande**	**83.75 309**	*e*P	**P**	**02 23 51.5**	**+0.1**
	comp=Z,9.5nm,0.9s					
MORC	**Moravsky Berou**	**84.05 320**	*e*P	**P**	**02 23 52.1**	**-0.5**
MORC			pmax	pmax		
	comp=Z,54nm,1.1s					
MORC	**Moravsky Berou**	**84.05 320**	⇑*i*P	**P**	**02 23 52.6**	**0.0**
MORC	**Moravsky Berou**	**84.05 320**	*e*P	**P**	**02 23 52.1**	**-0.5**
	comp=Z,54nm,1.1s					
CUC	**Castrocucco**	**84.53 310**	*e*P	**P**	**02 23 54.6**	**-0.7**
	comp=Z,10nm,0.8s					
KRLC	**Kraliky**	**84.56 320**	*e*P	**P**	**02 23 55.6**	**+0.4**
KRLC			*e*PCP	**PcP**	**02 23 59.1**	**+0.4**
KRLC	**Kraliky**	**84.56 320**	*e*P	**P**	**02 23 55.6**	**+0.4**
DPC	**Dobruska-Polom**	**84.88 320**	*e*P	**P**	**02 23 56.9**	**+0.1**
DPC			*e*PCP	**PcP**	**02 24 00.3**	**+0.2**
DPC	**Dobruska-Polom**	**84.88 320**	*e*P	**P**	**02 23 56.9**	**+0.1**
ARSA	**Arzberg**	**85.18 317**	*i* P	**P**	**02 23 58.5**	**+0.1**
	comp=Z,25nm,1.4s,SNR=6.9					
VNDA	**Vanda**	**85.19 169**	P	**P**	**02 23 57.7**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=289,slow=6.2,SNR=15					
VNDA			LR	LR	03 01 15.5	
	comp=Z,405nm,18.4s,baz=316,slow=35					
BOJS	**Bojanci**	**85.26 315**	*i* P	**P**	**02 23 58.7**	**-0.1**
PERS	**Pernice**	**85.42 317**	*i* P	**P**	**02 23 59.4**	**-0.2**
SOKA	**Soboth**	**85.48 317**	⇑*i*P	**P**	**02 24 00.0**	**+0.1**
	comp=Z,36nm,1.4s,SNR=10					
VISS	**Visnje**	**85.57 316**	*i* P	**P**	**02 24 00.1**	**-0.2**
GOPC	**GO Pecny, Ondr**	**85.83 320**	*e*P	**P**	**02 24 04.3**	**+2.7**
PRU	**Pruhonice**	**86.00 320**	*e*P	**P**	**02 24 05.2**	**+2.9**
PRU			*ex*	x	02 24 09.9	
PRU	**Pruhonice**	**86.00 320**	*e*P	**P**	**02 24 05.2**	**+2.9**
PVCC	**Panska Ves**	**86.01 320**	*e*P	P	02 23 58.5	-3.9
PVCC			*ex*	x	02 24 02.7	
PVCC	**Panska Ves**	**86.01 320**	*e*P	P	02 23 58.5	-3.9
GORS	**Gorjuse**	**86.18 316**	*i* P	**P**	**02 24 03.0**	**-0.4**
SBA	**Scott Base**	**86.29 169**	*e*P	**P**	**02 24 03.9**	**+0.7**
SBA			pmax	pmax		
	comp=Z,14nm,0.9s					
SBA	**Scott Base**	**86.29 169**	*e*P	**P**	**02 24 03.9**	**+0.7**
	comp=Z,14nm,0.9s					
BRG	**Berggiesshubel**	**86.42 321**	*e*P	**P**	**02 24 04.3**	**-0.1**
	comp=Z,3.8nm,1.0s					
BRG			*i*		02 24 06.3	
	comp=Z,18nm,1.3s					
BRG	**Berggiesshubel**	**86.42 321**	*e*P	P	02 24 08.3	+3.9
	comp=Z,25nm,1.4s					
BRG	**Berggiesshubel**	**86.42 321**	*e*P	**P**	**02 24 04.3**	**-0.1**
BRG			pmax	pmax		
	comp=Z,4.0nm,1.0s					
AQU	**L'Aquila**	**86.45 312**	*e*P	**P**	**02 24 04.4**	**-0.4**
AQU			pmax	pmax		
	comp=Z,46nm,1.0s					
AQU	**L'Aquila**	**86.45 312**	*e*P	**P**	**02 24 04.4**	**-0.4**
	comp=Z,46nm,1.0s					
GEC2	**GERESS Array S**	**86.49 319**	*e*P	P	02 24 08.6	+3.7
	comp=Z,37nm,1.3s					
GERES	**GERESS Array B**	**86.49 319**	P	**P**	**02 24 05.0**	**+0.1**
	comp=Z,12nm,1.1s,baz=104,slow=5.6,SNR=18					
KHC	**Kasperske Hory**	**86.58 319**	*e*P	**P**	**02 24 05.0**	**-0.3**
KHC	**Kasperske Hory**	**86.58 319**	*e*P	**P**	**02 24 05.0**	**-0.3**
RUE	**Ruedersdorf**	**86.60 322**	*e*P	P	02 24 09.2	+4.0
	comp=Z,53nm,1.0s					
RUE	**Ruedersdorf**	**86.60 322**	*e*P	**P**	**02 24 05.9**	**+0.7**
	comp=Z,40nm,0.8s					
FBE	**Freiberg**	**86.80 321**	*e*P	P	02 24 10.3	+4.1
	comp=Z,29nm,1.3s					
CLL	**Collm**	**87.03 321**	*e*P	P	02 24 10.9	+3.5
	comp=Z,30nm,1.6s					
CLL	**Collm**	**87.03 321**	⇓*i*P	**P**	**02 24 07.3**	**-0.1**
CLL			pmax	pmax		
	comp=Z,30nm,1.6s					
CLL	**Collm**	**87.03 321**	⇓*i*P	**P**	**02 24 07.3**	**-0.1**
	comp=Z,30nm,1.6s					
CLL			*e*		02 24 52.0	
WET	**Wettzell**	**87.04 319**	*e*P	P	02 24 11.3	+3.8
	comp=Z,23nm,1.4s					
TANN	**Tannenbergstha**	**87.35 320**	*e*P	P	02 24 12.7	+3.7
	comp=Z,26nm,1.6s					
NKC	**Novy Kostel**	**87.35 320**	*e*P	**P**	**02 24 11.4**	**+2.4**
NKC	**Novy Kostel**	**87.35 320**	*e*P	**P**	**02 24 11.4**	**+2.4**
WERN	**Wernitzgruen**	**87.40 320**	*e*P	P	02 24 13.1	+3.8
	comp=Z,14nm,1.3s					
GUNZ	**Gunzen**	**87.43 320**	*e*P	P	02 24 13.3	+3.9
	comp=Z,19nm,1.3s					
WERD	**Werda**	**87.45 320**	*e*P	P	02 24 13.3	+3.8
	comp=Z,34nm,1.6s					
ROTZ	**Rotzenmuhle**	**87.50 320**	*e*P	P	02 24 14.0	+4.3
	comp=Z,13nm,1.1s					
PLN	**Plauen**	**87.55 320**	*e*P	P	02 24 13.7	+3.8
	comp=Z,31nm,1.5s					
MANZ	**Manzenberg**	**87.57 320**	*e*P	P	02 24 14.4	+4.4
	comp=Z,36nm,1.4s					
SPITS	**Spitsbergen Ar**	**87.60 348**	P	**P**	**02 24 08.6**	**-1.0**
	comp=Z,17nm,0.6s,baz=96,slow=8.7,SNR=23					
NEUB	**Neuenburg**	**87.80 321**	*e*P	P	02 24 14.9	+3.8
	comp=Z,82nm,1.6s					
MOX	**Moxa**	**87.89 320**	*e*P	P	02 24 15.4	+3.8
	comp=Z,33nm,1.5s					
GRF	**Grafenberg Arr**	**88.14 319**	*e*P	P	02 24 16.9	+4.2
	comp=Z,38nm,1.3s					
GRFO	**Grafenberg**	**88.14 319**	*e*P	**P**	**02 24 13.1**	**+0.4**
GRFO			pmax	pmax		
	comp=Z,20nm,0.9s					
GRFO	**Grafenberg**	**88.14 319**	*e*P	**P**	**02 24 13.1**	**+0.4**
	comp=Z,20nm,0.9s					
MOTA	**Moosalm**	**88.19 317**	⇑*i*P	**P**	**02 24 12.2**	**-1.1**
	comp=Z,19nm,1.1s					
NB2	**NORSAR Subarra**	**88.30 331**	P	**P**	**02 24 12.4**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=95,slow=4.6					
NOA	**NORSAR Array B**	**88.30 331**	P	**P**	**02 24 12.6**	**-0.7**
	comp=Z,2.9nm,0.8s,baz=92,slow=4.8,SNR=11					
NOA			PP	**PP**	**02 27 43.4**	**+2.5**
	comp=Z,1.7nm,0.8s,baz=90,slow=8.3,SNR=4.5					
NAO01	**NORSAR Array S**	**88.45 331**	*e*P	**P**	**02 24 14.1**	**+0.1**
	comp=Z,6.9nm,0.8s					
CLZ	**Clausthal**	**88.69 322**	*e*P	P	02 24 19.4	+4.1
	comp=Z,70nm,1.4s					
BSEG	**Bad Segeberg**	**88.72 324**	*e*P	P	02 24 19.5	+4.2
	comp=Z,50nm,1.3s					
UBBA	**Unterbreizbach**	**88.92 321**	*e*P	P	02 24 20.2	+3.9
	comp=Z,30nm,1.5s					
DAVA	**Damuels**	**89.02 317**	⇓*i*PcP	**P**	**02 24 17.3**	**+0.2**
	comp=Z,38nm,1.4s,SNR=7.7					
KEST	**Kesra**	**89.56 306**	P	**P**	**02 24 20.2**	**+0.3**
	comp=Z,5.6nm,1.0s,baz=176,slow=0.3,SNR=9.8					
KEST	**Kesra**	**89.56 306**	*e*P	**P**	**02 24 20.5**	**+0.6**
TNS	**Taunus Mts**	**89.92 320**	*e*P	P	02 24 25.4	+4.2
	comp=Z,51nm,1.3s					
BFO	**Black Forest**	**90.05 318**	*e*P	P	02 24 25.0	+3.2
	comp=Z,22nm,1.4s					
BFO	**Black Forest**	**90.05 318**	*e*P	**P**	**02 24 20.8**	**-1.0**
BFO			pmax	pmax		
	comp=Z,10.0nm,0.9s					
BFO	**Black Forest**	**90.05 318**	*e*P	**P**	**02 24 20.8**	**-1.0**
	comp=Z,10nm,0.9s					
NVL	**N'lazarevskaya**	**90.19 199**	*e*P	P	02 24 29.8	+7.9
NVL			pmax	pmax		
	comp=Z,26nm,0.9s					
IBBN	**Ibbenburen**	**90.29 322**	*e*P	P	02 24 27.0	+4.3
	comp=Z,52nm,1.3s					
BUG	**

R11A	Troy Canyon, C	129.21	36	ePKPdf	PKPdf	02 30 30.4	-0.4
I21A	Big Trails, Te	129.33	25	P	PKPdf	02 30 30.5	-0.3
	baz=129						
DAC	Darwin (Calif)	129.33	39	ePKIKP	PKPdf	02 30 31.3	+0.2
DAC	Darwin (Calif)	129.33	39	ePKPdf	PKPdf	02 30 31.3	+0.2
D30A	Buchanan	129.46	16	P	PKPdf	02 30 30.7	-0.1
	baz=129						
DUG	Dugway	129.47	32	P	PKPdf	02 30 30.9	-0.2
	baz=129						
RSSD	Black Hills	130.37	22	ePKIKP	PKPdf	02 30 31.9	-0.9
RSSD	Black Hills	130.37	22	ePKPdf	PKPdf	02 30 31.9	-0.9
SHPR	Sheep Range	130.68	37	ePKPdf	PKPdf	02 30 32.6	-1.0
CCUT	Cedar City	131.03	35	ePKPdf	PKPdf	02 30 33.0	-1.3
O20A	White River Ci	131.83	29	ePKPdf	PKPdf	02 30 36.0	+0.3
ECSD	EROS Data Cent	133.16	16	ePKPdf	PKPdf	02 30 37.3	-0.6
PV01	Paradox Valley	133.21	31	ePKPdf	PKPdf	02 30 38.4	0.0
WUAZ	Wupatki	133.60	35	ePKPdf	PKPdf	02 30 38.6	-0.5
MVCO	Mesa Verde	133.94	31	ePKPdf	PKPdf	02 30 40.1	+0.3
W18A	Petrified Fore	134.82	34	ePKPdf	PKPdf	02 30 41.9	+0.5
T25A	Trinidad	136.02	28	P	PKPdf	02 30 43.0	-0.7
	baz=136						
Q29A	Oakley	136.03	23	P	PKPdf	02 30 43.3	-0.1
	baz=136						
T26A	Comanche Natio	136.37	27	P	PKPdf	02 30 44.7	+0.4
	baz=136						
R32A	Long Quarter,	137.30	21	P	PKPdf	02 30 45.2	-0.5
	baz=137						
TRQA	Tornquist	139.41	203	ePKPdf	PKPdf	02 30 49.2	-0.5
Z32A	Haskell	141.44	26	P	PKPdf	02 30 53.1	-0.4
	baz=141						
ABTX	Abilene, Hawle	141.95	27	ePKPdf	PKPdf	02 30 54.4	0.0
X38A	Whitesboro	142.03	19	P	PKPdf	02 30 50.3	-4.2
	baz=142						
TXAR	Lajitas Array	142.54	34	PKhKP	PKPpre	02 30 50.8	
	comp=Z,1.7nm,0.6s,baz=249,slow=0.5,SNR=17						
TXAR				PKP	PKPdf	02 30 54.3	-1.4
	comp=Z,1.5nm,0.5s,baz=263,slow=0.7,SNR=17						
TXAR				SKPbc	SKPbc	02 34 30.7	+0.1
	comp=Z,2.1nm,0.9s,baz=304,slow=2.9,SNR=3.8						
MIAR	Mount Ida	142.55	18	ePKHKP	PKPpre	02 30 49.4	
MIAR				e		02 30 55.3	
MIAR	Mount Ida	142.55	18	P	PKPpre	02 30 50.0	
	baz=142						
MIAR	Mount Ida	142.55	18	ePKPpre	PKPpre	02 30 49.4	
MIAR				ePKPdf	PKPdf	02 30 55.3	-0.1
430A	Baggett Ranch,	142.71	30	P	PKPdf	02 30 53.3	-2.6
	baz=143						
332A	Millersview	142.94	28	P	PKPdf	02 30 52.3	-3.9
	baz=143						
431A	Sonora	143.10	30	P	PKPbc	02 30 54.7	+1.3
	baz=143						
432A	Menard	143.34	28	P	PKPdf	02 30 55.8	-1.2
	baz=143						
CPCT	Cooper Cave	143.52	6	ePKPpre	PKPpre	02 30 53.0	
CPCT				ePKPdf	PKPdf	02 30 56.1	-1.0
531A	Rocksprings	143.56	30	P	PKPbc	02 30 54.5	-0.2
	baz=143						
JCT	Junction City	143.66	29	ePKIKP	PKPdf	02 30 56.3	-1.2
JCT	Junction City	143.66	29	ePKPdf	PKPdf	02 30 56.3	-1.2
632A	Uvalde	144.47	30	P	PKPab	02 30 57.1	0.0
	baz=144						
NATX	Nacogdoches	144.73	21	ePKPdf	PKPab	02 30 57.0	-1.1
633A	Saathoff Ranch	144.81	29	P	PKPab	02 30 57.6	-0.8
	baz=145						
BDFB	Brasilia	144.84	244	PKP	PKPbc	02 30 59.4	+0.3
	comp=Z,4.9nm,0.5s,baz=116,slow=3.9,SNR=14						
732A	Laxson Ranch,	145.01	31	P	PKPbc	02 30 57.9	-1.2
	baz=145						
U65B	HualaæØ	145.27	193	ePKPbc	PKPab	02 30 59.8	-0.1
340A	Bronson	145.32	20	P	PKPbc	02 30 59.0	-1.0
	baz=145						
832A	Faith Ranch, C	145.37	31	P	PKPbc	02 30 59.6	-0.7
	baz=145						
LRAL	Lakeview Retre	145.57	10	ePKPbc	PKPdf	02 30 58.8	-1.9
VBMS	Vicksburg	145.60	15	P	PKPdf	02 31 00.1	-0.7
	baz=145						
833A	Chaparral WMA,	145.64	30	P	PKPdf	02 31 00.5	-0.4
	baz=146						
GOGA	Godfrey	145.64	4	ePKP2	PKPdf	02 30 59.4	-1.4
GOGA	Godfrey	145.64	4	ePKPbc	PKPdf	02 30 59.4	-1.4
HKT	Hockley	145.89	24	ePKP2	PKPdf	02 31 00.4	-0.8
HKT	Hockley	145.89	24	ePKPbc	PKPdf	02 31 00.4	-0.8
735A	Kenedy	145.97	28	P	PKPbc	02 31 02.0	-0.2
	baz=146						
834A	Tilden	146.22	30	P	PKPbc	02 31 02.6	-0.4
	baz=146						
736A	Circle Diamond	146.22	27	P	PKPbc	02 31 03.2	+0.3
	baz=146						
933A	Laredo	146.28	31	P	PKPbc	02 31 02.9	-0.3
	baz=146						
CPUP	Villa Florida	146.40	220	PKPbc	PKPbc	02 31 03.5	0.0
	comp=Z,11nm,0.7s,baz=118,slow=2.1,SNR=15						
CPUP	Villa Florida	146.40	220	ePKP2	PKPbc	02 31 03.3	-0.2
CPUP	Villa Florida	146.40	220	ePKPbc	PKPbc	02 31 03.3	-0.2
CFAA	Coronel Fontan	147.46	200	PKPbc	PKPbc	02 31 06.5	0.0
	comp=Z,2.1nm,0.8s,baz=164,slow=2.5,SNR=28						
TIGA	Tifton	147.58	5	ePKPbc	PKPbc	02 31 06.9	+0.2
LCO	Las Campanas	150.65	198	ePKPbc	PKPbc	02 31 14.9	-0.1
SIV	San Ignacio	155.77	231	PKP	PKPdf	02 31 16.6	-0.3
	comp=Z,1.2nm,0.8s,baz=13,slow=2.5,SNR=3.0						
LVC	Limon Verde	155.77	207	PKPab	PKPab	02 31 43.9	+0.5
	comp=Z,16nm,0.8s,baz=148,slow=1.6,SNR=3.6						
LPAZ	La Paz	160.56	218	PKP	PKPdf	02 31 22.8	-0.6
	comp=Z,1.7nm,0.9s,baz=9.6,slow=6.3,SNR=5.4						
LPAZ	La Paz	160.56	218	ePKIKP	PKPdf	02 31 23.1	-0.3
LPAZ	La Paz	160.56	218	ePKPdf	PKPdf	02 31 23.1	-0.3
ROSC	El Rosal	171.54	314	ePKPdf	PKPdf	02 31 31.4	-0.6
OTAV	Otavalo	177.63	302	ePKPdf	PKPdf	02 31 33.2	-0.7
OTAV				ePKPab	PKPab	02 33 19.5	-0.8

*ISCJB **24** 02:29:40.0±0.3,32°.75N±0°.02×115°.95W±0°.02,h10km±2km, Error ellipse: s-maj=2.6km s-min=2.6km az=159.9*
*NEIC **24** 02:29:41.0,32°.73N×115°.98W,h3km,ML4.0(PAS),After PAS.*
NEIC Felt at El Centro, Mission Viejo, Poway, Rialto and Tustin.
*ECX **24** 02:29:41.1±0.7,32°.73N×115°.98W,h2km,MD3.8,ML4.0*

ISC 24 02:29:40.4±0.8,32°.72N±0°.02×115°.95W±0°.02,h14km±5km, n59,σ1§22/99,7C-4D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUH	Yuha Desert	0.08	160	⇓iP	Pg	02 29 42.8	-0.5
IBP	Imperial Bould	0.13	244	P	Pg	02 29 43.6	-0.4
	baz=0.1						
IBP				S	Sg	02 29 45.8	-0.6
	baz=0.1						
RMX	La Rumorosa	0.16	222	⇑eP	Pg	02 29 44.1	-0.3
RMX				eS	Sg	02 29 46.7	-0.4
CRR	Carrizo Plain	0.17	356	⇓iP	Pg	02 29 44.0	-0.4
WESC	Westside Schoo	0.19	78	iP	Pg	02 29 45.2	+0.5
WESC				eS	Sb	02 29 48.8	-0.5
SGL	Mount Signal	0.21	110	⇑iP	Pg	02 29 45.3	+0.3
COK	Cook Ranch	0.23	56	⇑iP	Pb	02 29 46.0	-0.5
ERPC	Ernies Place	0.25	84	⇑iP	Pb	02 29 46.5	-0.2
SWSC	Sam W. Stewart	0.26	31	P	Pg	02 29 45.9	0.0
	baz=0.3						
SWSC				S	Sg	02 29 49.7	+0.1
	baz=0.3						
SWSC	Sam W. Stewart	0.26	31	⇑iP	Pg	02 29 46.0	0.0
MONP	Monument Peak	0.43	294	P	Pg	02 29 48.6	-0.5
	baz=0.4						
MONP				S	Sg	02 29 54.5	-0.3
	baz=0.4						
BAR	Barrett	0.61	266	ePg	Pg	02 29 52.0	-0.3
BAR				eSg	Sg	02 29 59.6	-0.7
BAR	Barrett	0.61	266	⇑iP	Pg	02 29 52.1	-0.3
BAR				eS	Sg	02 29 59.8	-0.6
CPBX	Cerro Prieto	0.63	119	eP	Pb	02 29 53.2	+0.1
CPBX				eP	Pb	02 29 53.3	+0.1
CPBX				eS	Sb	02 30 02.6	+0.8
CPBX				IAML		02 30 09.9	
	comp=E,28µm,0.5s						
CPBX				⇓e		02 30 09.9	
RDX	Rancho Dawling	0.79	179	iP	Pg	02 29 55.4	-0.4
RDX				eS	Sg	02 30 06.2	0.0
RDX				IAML		02 30 09.3	
	comp=N,3µm,0.3s						
RDX				⇓e		02 30 09.3	
SDRC	San Diego Road	0.83	271	⇑iP	Pg	02 29 55.7	-0.8
PFO	Pinyon Flat Ob	0.98	335	P	Pb	02 29 58.5	-0.8
	baz=1.0						
PFO				S	Sb	02 30 11.8	-0.4
	baz=1.0						
PFO	Pinyon Flat Ob	0.98	335	ePg	Pb	02 29 58.4	-1.0
PFO				eSg	Sb	02 30 11.5	-0.7
109C	Camp Elliot, M	0.98	280	P	Pb	02 29 58.3	-0.9
	baz=1.0						
109C				S	Sb	02 30 11.1	-1.1
	baz=1.0						
GLA	Glamis	1.00	70	P	Pb	02 29 58.8	-0.9
	baz=1.0						
GLA				S	Sb	02 30 11.7	-1.1
	baz=1.0						
GLA	Glamis	1.00	70	ePg	Pb	02 29 58.6	-1.0
GLA				eSg	Sb	02 30 12.4	-0.4
BC3	Big Chuckawall	1.02	24	P	Pb	02 29 59.0	-1.1
	baz=1.0						
PBX	Punta Banda	1.17	214	eP	Pb	02 30 02.4	-0.1
PBX				eS	Sg	02 30 17.9	-0.4
ECNX	Esteban Cantu	1.19	207	eP	Pn	02 30 02.6	-0.2
ECNX				eS	Sb	02 30 18.1	-0.1
ZAX	El Zacaton	1.23	193	eP	Pb	02 30 03.5	-0.1
ZAX				eS	Sb	02 30 19.6	+0.2
BELC	Belle Mtn. Jos	1.28	358	P	Pn	02 30 02.8	-1.3
	baz=1.3						
MURC	Murrieta	1.36	310	Pb	Pn	02 30 04.6	-0.6
	baz=1.3						
MURC				Sb	Sb	02 30 23.1	-0.1
	baz=1.3						
Y12C	Blythe	1.58	49	P	Pn	02 30 07.1	-1.0
	baz=1.6						
IRM	Iron Mountain	1.59	25	Pb	Pn	02 30 08.5	+0.3
	baz=1.6						
SPX	San Pedro Mart	1.72	166	eP	Pn	02 30 10.9	+0.6
BBRC	Big Bear Solar	1.74	333	Pb	Pn	02 30 10.4	-0.1
	baz=1.7						
BFSC	Mount Baldy Ra	2.08	317	Pb	Pb	02 30 17.9	-0.2
	baz=2.1						
BFSC				Sb	Sb	02 30 44.1	+0.3
	baz=2.1						
SCI	San Clemente I	2.20	277	P	Pn	02 30 17.0	+0.5
	baz=2.2						
MWC	Mount Wilson	2.31	311	ePn	Pn	02 30 19.6	+1.3
MWC				eSg	Sb	02 30 51.2	+0.7
RRX	Edison Barstow	2.32	338	Pg	Pb	02 30 23.4	+1.2
	baz=2.3						
NEE2	Needles Airpor	2.33	28	Sb	Sb	02 30 52.9	+2.1
	baz=2.3						
PASC	Pasadena Art C	2.36	308	ePn	Pb	02 30 21.5	-1.2
PASC				eSg	Sb	02 30 52.5	+0.7
LDFC	Landfair	2.46	16	ePg	Pg	02 30 28.1	+0.6
DECC	Green Verdugo	2.50	308	Pb	Pb	02 30 24.8	-0.5
	baz=2.5						
DECC				Sb	Sb	02 30 56.9	+1.0
	baz=2.5						
GSC	Goldstone	2.67	345	ePn	Pn	02 30 23.1	-0.1
GSC				ePg	Pb	02 30 29.4	+1.3
GSC				eSn	Sn	02 30 56.7	+1.3
GSC				eSg	Sg	02 31 05.0	-1.3
EDW2	Edwards Air Fo	2.74	322	Pb	Pb	02 30 29.8	+0.5
	baz=2.7						
EDW2				Sb	Sb	02 31 04.0	+1.2
	baz=2.7						
214A	Organ Pipe Nat	2.77	105	P	Pn	02 30 23.3	-1.2
	baz=2.8						
214A	Organ Pipe Nat	2.77	105	ePn	Pn	02 30 23.0	-1.4
OSI	Osito Adit	2.98	310	ePn	Pn	02 30 28.2	+0.8
OSI				ePg	Pb	02 30 34.6	+1.1
OSI				eSn	Sn	02 31 02.3	-0.8
OSI				eSg	Sg	02 31 13.3	-3.0
ISA	Isabella	3.60	325	ePn	Pn	02 30 36.7	+0.7
ISA				ePg	Pb	02 30 46.0	+2.0
ISA				eSg	Sb	02 31 31.5	+3.9
SHPR	Sheep Range	3.83	10	ePn	Pn	02 30 40.1	+0.9
SHPR				ePg	Pg	02 30 53.5	-0.3
SHPR				eSn	Sn	02 31 25.7	+1.5
SHPR				eSg	Sg	02 31 40.4	-3.2
PKM	Peak Mountain	3.88	305	P	Pn	02 30 41.7	+1.8
	baz=3.9						
TUC	Tucson	4.39	94	ePn	Pn	02 30 46.8	+0.1
TUC				ePg	Pg	02 31 01.9	-2.6
TUC				eSg	Sb	02 31 54.0	+3.8
WUAZ	Wupatki	4.71	52	P	Pn	02 30 52.5	+1.2
	baz=4.7						
WUAZ	Wupatki	4.71	52	ePn	Pn	02 30 52.8	+1.5
WUAZ				eSg	Sg	02 32 11.8	0.0
CCUT	Cedar City	5.27	23	ePn	Pn	02 31 00.7	+1.7
CCUT				ePg	Pg	02 31 20.1	-1.2
CCUT				eSg	Sg	02 32 26.6	-2.9
TPH	Tonopah	5.44	349	ePn	Pn	02 31 00.6	-0.8
TPH				ePg	Pb	02 31 19.6	+4.2
TPH				eSg	Sg	02 32 28.8	-6.3
W18A	Petrified Fore	5.70	63	P	Pn	02 31 06.2	+1.3
	baz=5.7						
W18A	Petrified Fore	5.70	63	ePn	Pn	02 31 06.9	+2.1
WAKR	Walker	6.43	335	ePn	Pn	02 31 15.5	+0.6
WAKR				ePg	Pb	02 31 37.1	+4.9
WAKR				eSg	Sg	02 32 59.5	-7.3
MVU	Marysvale	6.53	27	ePn	Pn	02 31 18.2	+2.0
121A	Cookes Peak, D	6.89	89	P	Pn	02 31 21.4	+0.1
	baz=6.9						
121A	Cookes Peak, D	6.89	89	ePn	Pn	02 31 22.2	+1.0
MVCO	Mesa Verde	7.58	52	ePg	Pg	02 32 02.0	-3.6
MVCO				eSg	Sg	02 33 41.8	-1.9

*ISCJB **24** 02:31:33.6±1.2,16°.47S±0°.08×69°.9W±0°.1,h189km, mb3.4/3,Error ellipse: s-maj=17.2km s-min=11.3km az=13.1*
*IDC **24** 02:31:36.0±1.3,16°.56S×69°.63W,h201km±10km,mb3.2/3, mb1 3.3/5,mb1mx3.0/30,mbtmp3.7/5,Error ellipse: s-maj=23.6km s-min=16.2km az=104.0*

ISC 24 02:31:35.0±1.2,16°.51S±0°.09×69°.8W±0°.1,h189km,n6, σ1§50/8,mb3.4/3,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	1.60	82	P	Pn	02 32 10.8	+1.5
	9.9nm,0.3s,baz=309,slow=6.4,SNR=405						
LPAZ				S	Sn	02 32 36.2	+0.4
	2.3nm,0.3s,baz=301,slow=5.8,SNR=3.6						
LVC	Limon Verde	6.13	172	P	Pn	02 33 05.8	+1.8
	36nm,0.3s,baz=357,slow=12,SNR=18						
LVC				S	Sn	02 34 13.1	-1.3
	115nm,0.3s,baz=254,slow=20,SNR=10						
SIV	San Ignacio	8.38	88	P	Pn	02 33 33.8	+0.5
	0.6nm,0.3s,baz=278,slow=14,SNR=7.1						
TXAR	Lajitas Array	56.10	324	P	P	02 40 55.4	+0.5
	0.1nm,0.4s,baz=126,slow=12,SNR=2.2						
DBIC	Dimbokro	68.21	76	P	P	02 42 15.1	-0.6
	3.0nm,0.9s,baz=248,slow=5.4,SNR=4.1						
TORD	Torodi Ar. Bea	76.52	72	P	P	02 43 03.0	-1.8
	0.8nm,1.1s,baz=261,slow=5.5,SNR=7.8						

IDC 24 02:35:22.4±28.0,4°.45N×125°.65E,h658km±73km,mb3.1/3, mb1 3.3/4,mb1mx2.6/44,mbtmp4.3/4,Error ellipse: s-maj=438.8km s-min=146.1km az=148.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	Sorong	7.71	133	P	P	02 37 21.2	-0.1
	1.4nm,0.3s,baz=342,slow=17,SNR=4.2						
FAKI	Fak Fak	9.85	138	P	P	02 37 43.2	+2.2
	baz=7.8,SNR=4.8						
WRA	Warramunga Arr	25.70	161	P	P	02 40 04.4	+0.1
	2.6nm,0.6s,baz=341,slow=9.2,SNR=26						
ASAR	Alice Springs	29.08	164	P	P	02 40 33.6	+0.1
	3.5nm,0.3s,baz=339,slow=7.5,SNR=68						
WRKA	Warakurna	29.42	175	P	P	02 40 34.2	-2.2
	baz=24,SNR=4.1						
MEEK	Mekatharra	31.64	192	P	P	02 40 47.8	-7.5
	baz=26,SNR=5.6						
KMBL	Kambalda	35.79	186	P	P	02 41 24.1	-5.6
	baz=30,SNR=6.0						
BBOO	Buckleboo	38.35	166	P	P	02 41 49.1	-1.2
	baz=34,SNR=10						
STKA	Stephens Creek	39.18	158	P	P	02 41 57.1	+0.2
	1.2nm,0.5s,baz=346,slow=8.6,SNR=4.6						
HTT	Hallett	39.71	163	P	P	02 42 00.9	-0.4
	baz=35,SNR=3.8						

IDC 24 02:41:08.9±3.8,3°.69S×151°.73E,h0km,mb3.2/2, mb1 3.5/2,mb1mx3.3/31,mbtmp3.3/2,Error ellipse: s-maj=181.1km s-min=45.5km az=118.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.42	225	P	P	02 46 20.7	+0.8
	0.4nm,0.6s,baz=51,slow=10.0,SNR=2.6						
ASAR	Alice Springs	26.28	219	P	P	02 46 46.0	-0.4
	0.3nm,0.5s,baz=58,slow=8.7,SNR=4.6						
TORD	Torodi Ar. Bea	148.94	289	PKPbc	PKPbc	03 00 59.1	-0.8
	0.2nm,0.5s,baz=63,slow=3.9,SNR=3.5						

DJA 24 02:48:20.1±0.2,1°.N±2°.×9°.9E±°,h10km,M4.5/24,mb4.8/2, mB5.3/1,MLv4.2/24,Mw(mB)4.7/1,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNSI	Mandailing Nat	0.25	154	P	Pg	02 48 23.9	-1.3
PBSI	Pulau Batu	1.60	228	P	Pn	02 48 48.3	-0.1
PBSI				S	Sg	02 49 12.2	+0.6
BKNI	Bangkinang	1.71	114	P	Pn	02 48 49.7	-0.3
BKNI				S	Sb	02 49 12.8	-0.6
PPI	Padang Panjang	1.73	148	P	Pn	02 48 50.1	-0.2
PPI				S	Sn	02 49 12.9	+0.4
GSI	Gunungsitoli	1.92	278	P	Pn	02 48 52.6	-0.2
SISI	Saibi	2.36	189	P	Pn	02 48 58.7	-0.3
TSI	Tuntungan	2.62	340	P	Pn	02 49 02.4	-0.2
SDSI	Sungai Dareh	2.76	135	P	Pn	02 49 04.0	-0.4
RGRI	Rengat	3.17	115	P	Pn	02 49 09.9	-0.2
SNSI	Sinabang, Aceh	3.43	294	P	Pn	02 49 13.4	-0.3
KRJI	Kerinci	3.68	147	P	Pn	02 49 16.9	-0.3
PPSI	Pulau Pagai	3.80	172	P	Pn	02 49 18.6	-0.1
LHMI	Lhok Sumawe	4.88	329	P	Pn	02 49 33.4	-0.2
JMBI	JAMBI	4.93	122	P	Pn	02 49 34.2	-0.2
DSRI	Dabo	5.32	106	P	Pn	02 49 39.4	-0.3
	12nm,0.3s,3µm0.3nm						

IDC 24 02:51:36.5±2.2,3°.76S×151°.46E,h0km,mb3.3/3, mb1 3.6/3,mb1mx3.3/28,mbtmp3.3/3,Error ellipse: s-maj=156.0km s-min=28.3km az=124.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.18	225	P	P	02 56 44.3	-0.8
	0.6nm,0.7s,baz=50,slow=10.0,SNR=3.2						
ASAR	Alice Springs	26.06	219	P	P	02 57 12.2	+0.2
	0.2nm,0.7s,baz=58,slow=8.8,SNR=3.5						
ILAR	Eielson Array	81.71	22	P	P	03 03 56.0	-0.7
	0.3nm,0.9s,baz=260,slow=5.4,SNR=4.3						
TORD	Torodi Ar. Bea	148.71	289	PKPbc	PKPbc	03 11 27.3	+0.3
	0.5nm,0.9s,baz=92,slow=2.6,SNR=7.9						

IDC 24 02:54:35.6±2.4,6°.49N×123°.52E,h609km±40km,mb2.8/6, mb1 3.0/7,mb1mx2.7/26,mbtmp4.0/7,Error ellipse: s-maj=34.1km s-min=15.8km az=61.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	Sorong	10.64	133	P	P	02 57 00.1	-0.8
	1.0nm,0.3s,baz=237,slow=22,SNR=2.7						
CMAR	Chiang Mai Arr	26.74	299	P	P	02 59 29.3	+0.5
	1.0nm,0.3s,baz=110,slow=7.0,SNR=5.3						
WRA	Warramunga Arr	28.34	158	P	P	02 59 42.1	-0.6
	0.4nm,0.4s,baz=331,slow=10,SNR=3.0						
ASAR	Alice Springs	31.64	162	P	P	03 00 11.4	+0.5
	0.4nm,0.3s,baz=338,slow=7.9,SNR=9.4						
SONM	Songino Array	43.72	343	P	P	03 01 47.8	-0.7
	0.2nm,0.4s,baz=131,slow=4.0,SNR=2.6						
MKAR	Makanchi Array	53.49	326	P	P	03 03 00.3	-0.2
	2.1nm,0.5s,baz=118,slow=8.6,SNR=22						
PETK	Petropavlovsk-	54.18	25	P	P	03 03 05.9	+0.7
	1.4nm,0.5s,baz=209,slow=12,SNR=3.4						
TORD	Torodi Ar. Bea	119.02	289	PKP	PKPdf	03 12 16.5	-0.8
	0.5nm,0.9s,baz=61,slow=2.0,SNR=2.4						

*ISCJB **24** 02:59:21.0±0.5,6°.04N±0°.07×123°.8E±0°.1,h600km, mb3.8/14,Error ellipse: s-maj=15.0km s-min=8.6km az=177.8*
*IDC **24** 02:59:22.6±1.3,6°.03N×123°.87E,h599km±17km,mb3.0/13, mb1 3.1/14,mb1mx3.0/37,mbtmp4.1/14,Error ellipse: s-maj=17.3km s-min=8.7km az=81.0*
*DJA **24** 02:59:37.6±0.9,4°.N±8°.×12°.4E±°,h316km±14km,M4.5/17, mb4.4/17,mB5.0/5,MLv4.7/11,Mw(mB)4.4/5*

ISC 24 02:59:22.4±0.6,6°.02N±0°.08×123°.8E±0°.1,h600km,n23, σ0§75/23,mb3.7/14,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TTSI	Tana Toraja	9.85	204	P	P	03 01 32.3	-7.5
	74nm,0.8s,4µm						
BKB	Balikpapan	10.00	224	P	P	03 01 40.6	-0.7
	110nm,0.8s						
SWI	Sorong	10.11	132	P	P	03 01 34.7	-7.6
	12nm,0.7s						
SIJI	Sorong	10.12	132	P	P	03 01 42.4	-0.1
	1.9nm,0.3s,baz=239,slow=7.1,SNR=4.1						
SPSI	Sidrap Palu	10.71	202	P	P	03 01 41.5	-6.8
	84nm,0.7s						
BBSI	Bau Bau	11.50	186	P	P	03 01 46.6	-10
	38nm,1.3s						
BKSI	Bulukumba	11.86	198	P	P	03 01 54.4	-5.4
CMAR	Chiang Mai Arr	27.21	299	P	P	03 04 20.5	+0.3
	2.9nm,0.7s,baz=115,slow=7.2,SNR=9.0						
JCJ	Chichijima	27.30	38	P	P	03 04 19.9	-0.9
	23nm,0.4s,baz=338,slow=22,SNR=10						
WRA	Warramunga Arr	27.81	158	P	P	03 04 25.4	0.0
	0.6nm,0.7s,baz=334,slow=10,SNR=4.7						
WRA				S	S	03 08 26.6	-1.1
	0.4nm,0.8s,baz=336,slow=15,SNR=3.2						
ASAR	Alice Springs	31.11	162	P	P	03 04 54.5	+0.7
	0.4nm,0.3s,baz=339,slow=7.5,SNR=14						
ASAR				PcP	PcP	03 07 30.6	+0.6
	0.3nm,0.4s,

TBP	Tagbilaran	2.89	2	*e*P	P	03 04 56.2	-1.5
PLP	Palo	4.52	16	*e*P	P	03 05 08.2	-0.2
PLP				*e*S	S	03 06 18.5	-2.7
KKM	Kota Kinabalu baz=7.4,SNR=18	7.51	265	P	P	03 05 33.8	-0.3
APSI	Ampana 80nm,0.6s	7.92	195	P	P	03 05 38.5	+0.7
TTSI	Tana Toraja 53nm,0.8s,941nm	10.52	202	P	P	03 06 03.1	0.0
PALU	Palau baz=11,SNR=3.6	10.67	86	P	P	03 06 06.1	+1.4
SWI	Sorong 25nm,0.7s	10.68	135	P	P	03 06 04.4	-0.3
SIJI	Sorong 3.2nm,0.3s,baz=333,slow=10,SNR=14	10.69	135	P	P	03 06 04.6	-0.3
SPSI	Sidrap Palu 40nm,0.8s	11.39	200	P	P	03 06 11.4	-0.4
FAKI	Fak Fak 76nm,1.2s	12.85	138	P	P	03 06 27.3	+0.8
FAKI	Fak Fak baz=13,SNR=21	12.85	138	P	P	03 06 26.7	+0.2
SOEI	Soe baz=16,SNR=4.5	16.44	178	P	P	03 07 00.2	-0.5
GENI	Genyem 64nm,1.0s	18.86	119	P	P	03 07 23.5	+0.7
JAY	Jayapura 1.3nm,0.3s,baz=276,slow=6.4,SNR=4.7	19.29	118	P	P	03 07 27.1	+0.3
DSRI	Dabo	20.43	250	P	P	03 07 31.3	-5.6
MTN	Manton Dam baz=21,SNR=6.1	20.84	159	P	P	03 07 40.2	-0.3
KDU	Kakadu baz=21,SNR=3.3	21.20	156	P	P	03 07 44.9	+1.1
GUMO	Guam 34nm,0.7s,baz=270,slow=18,SNR=2.4	21.86	70	P	P	03 07 49.6	-0.1
KLSI		22.13	239	P	P	03 07 52.2	+0.1
PSI	Prapat 5.6nm,0.7s,baz=109,slow=6.2,SNR=3.9	25.03	262	P	P	03 08 19.1	+1.0
JCJ	Chichijima 20nm,0.6s,baz=217,slow=18,SNR=4.0	26.75	39	P	P	03 08 31.8	-0.9
CMAR	Chiang Mai Arr 1.4nm,0.5s,baz=122,slow=7.9,SNR=3.6	26.79	298	P	P	03 08 34.3	+1.1
WRA	Warramunga Arr 6.5nm,0.5s,baz=341,slow=9.2,SNR=40	28.54	159	P	P	03 08 47.9	-0.5
WRA				PcP	PcP	03 11 40.1	+0.1
	0.5nm,0.4s,baz=344,slow=2.6,SNR=3.1						
WRA				S	S	03 12 51.5	-4.1
	2.6nm,0.8s,baz=344,slow=14,SNR=11						
WRA				ScP	ScP	03 14 25.2	0.0
	4.8nm,0.6s,baz=342,slow=3.3,SNR=18						
GIRL	Giralia baz=31,SNR=4.6	30.69	197	P	P	03 09 08.1	+1.2
QIS	Mount Isa baz=31,SNR=6.4	31.33	150	P	P	03 09 12.6	+0.3
ASAR	Alice Springs 11nm,0.3s,baz=339,slow=7.6,SNR=324	31.85	162	P	P	03 09 17.1	+0.4
ASAR				PcP	PcP	03 11 49.0	+0.2
	0.8nm,0.4s,baz=340,slow=2.7,SNR=5.2						
ASAR				S	S	03 13 44.5	-2.1
	8.0nm,0.8s,baz=347,slow=22,SNR=31						
ASAR				ScP	ScP	03 14 36.0	-0.2
	1.5nm,0.5s,baz=343,slow=3.4,SNR=6.3						
WRKA	Warakurna baz=32,SNR=15	31.94	172	P	P	03 09 17.8	+0.3
MEEK	Meekatharra baz=34,SNR=19	33.59	188	P	P	03 09 31.2	-0.2
MORW	Morawa baz=36,SNR=8.9	36.41	191	P	P	03 09 54.7	+0.1
FORT	Forrest baz=38,SNR=39	37.58	174	P	P	03 10 04.5	+0.3
BLDU	Ballidu baz=38,SNR=8.4	37.79	190	P	P	03 10 05.7	-0.1
KMBL	Kambalda baz=38,SNR=37	37.98	183	P	P	03 10 07.5	+0.1
KLBR	Kellerberrin baz=39,SNR=14	38.58	188	P	P	03 10 12.2	0.0
NWAO	Narrogin (SRO) baz=40,SNR=11	39.97	189	P	P	03 10 23.9	+0.5
NWAO				P	P	03 10 23.9	+0.5
	baz=40,SNR=11						
BBOO	Buckleboo baz=41,SNR=37	41.08	164	P	P	03 10 32.6	+0.4
RKGY	Rocky Gully baz=42,SNR=10	41.66	188	P	P	03 10 37.8	+1.2
STKA	Stephens Creek 3.5nm,0.4s,baz=324,slow=7.6,SNR=14	42.05	157	P	P	03 10 40.5	+0.7
HTT	Hallett baz=43,SNR=5.5	42.51	161	P	P	03 10 44.3	+0.9
SONM	Songino Array 1.1nm,0.8s,baz=158,slow=8.0,SNR=6.8	43.50	343	P	P	03 10 51.9	+0.9
LHI	Lord Howe Isla baz=51,SNR=3.9	50.88	140	P	P	03 11 45.8	-0.4
MKAR	Makanchi Array 4.6nm,0.5s,baz=120,slow=8.4,SNR=39	53.37	325	P	P	03 12 05.2	+1.4
MKAR				PcP	PcP	03 13 01.8	+0.5
	0.7nm,0.5s,baz=114,slow=4.1,SNR=3.8						
MKAR				ScP	ScP	03 16 01.8	-0.4
	0.5nm,0.6s,baz=142,slow=1.9,SNR=3.6						
PETK	Petropavlovsk- 2.0nm,0.7s,baz=236,slow=1.6,SNR=3.3	53.83	25	P	P	03 12 08.5	+1.6
ZALV	Zalesovo Beam 0.6nm,0.4s,baz=111,slow=6.6,SNR=3.3	56.54	334	P	P	03 12 25.9	+0.2
ILAR	Eielson Array 0.2nm,0.6s,baz=260,slow=4.7,SNR=4.1	83.65	26	P	P	03 15 06.1	+0.7
BRTR	Keskin Array B 0.6nm,0.8s,baz=90,slow=4.3,SNR=3.5	85.79	309	P	P	03 15 16.6	+0.1
VNDA	Vanda 1.0nm,0.5s,baz=338,slow=7.5,SNR=8.9	86.82	172	P	P	03 15 20.7	+0.4
FINES	FINESS Array B 2.5nm,0.9s,baz=101,slow=6.0,SNR=5.8	87.75	332	P	P	03 15 24.3	-0.7
VRI	Vrincioaia	90.04	316	S	S	03 25 34.1	-5.1
TORD	Torodi Ar. Bea 0.2nm,0.3s,baz=70,slow=2.0,SNR=9.1	119.12	289	PKP	PKPdf	03 21 21.6	-0.3

*ISCJB **24** 03:21:46.5±0.2,6°.41N±0°.04×123°.55E±0°.05,h600km, mb4.2/50, Error ellipse: s-maj=6.8km s-min=4.0km az=144.4*

*NEIC **24** 03:21:48.4±0.5,6°.33N×123°.48E,h610km±7km,mb4.4/34, Error ellipse: s-maj=8.2km s-min=5.5km az=53.0*

*IDC **24** 03:21:48.7±0.9,6°.38N×123°.59E,h620km±12km,mb3.6/21, mb1 3.6/23,mb1mx3.4/48,mbtmp4.6/23, Error ellipse: s-maj=12.8km s-min=7.1km az=60.0*

ISC 24 03:21:47.5±0.3,6°.36N±0°.06×123°.53E±0°.07,h600km,n107, σ1s08/113,mb4.3/50,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	Cotabato--PC H	1.11	40	∥ *i*P	P	03 22 59.8	+0.8
MYLDM	Lahad Datu	5.14	257	*e*P	P	03 23 24.0	+2.4
TNTI	Ternate	6.75	145	*e*P	P	03 23 36.0	+0.6
KKM	Kota Kinabalu baz=7.2,SNR=42	7.28	268	P	P	03 23 40.5	+0.2
KKM	Kota Kinabalu 168nm,0.5s	7.28	268	*e*P	P	03 23 40.1	-0.1
TGY	Tagaytay City baz=191,slow=16,SNR=3.1	8.10	342	P	P	03 23 50.2	+2.3
SIJI	Sorong 4.9nm,0.3s,baz=332,slow=9.3,SNR=12	10.55	133	P	P	03 24 13.1	+1.3
SIJI				S	S	03 26 12.3	+2.0
	baz=0.0,slow=20,SNR=4.4						
PALU	Palau baz=11,SNR=4.6	10.91	84	P	P	03 24 16.3	+0.8
KAPI	Kappang	11.91	199	*e*P	P	03 24 26.0	+0.5
SBUM	Sibu	11.93	251	*e*P	P	03 24 27.0	+1.3
FAKI	Fak Fak baz=12,SNR=16	12.68	136	P	P	03 24 34.1	+0.9
FAKI	Fak Fak 72nm,0.6s	12.68	136	*e*P	P	03 24 34.0	+0.8
KSM	Kuching baz=14,SNR=11	14.05	250	P	P	03 24 47.8	+0.7
KSM	Kuching 96nm,0.6s	14.05	250	*e*P	P	03 24 47.1	0.0
YULB	Yu-li 7.9nm,0.6s	17.07	353	*e*P	P	03 25 16.2	+1.5
JAGI	Jajag, Banyuwa 32nm,0.8s	17.45	213	*e*P	P	03 25 19.1	+0.8
SSLB	Suanglung 8.2nm,0.6s	17.50	352	*e*P	P	03 25 20.9	+2.3
JAY	Jayapura 2.4nm,0.3s,baz=157,slow=4.8,SNR=7.2	19.28	117	P	P	03 25 34.5	-0.5
MTN	Manton Dam baz=20,SNR=3.3	20.52	158	P	P	03 25 41.8	-4.2
LEM	Lembang 16nm,0.5s,baz=118,slow=18,SNR=3.4	20.58	231	P	P	03 25 47.1	+0.2
KDU	Kakadu baz=21,SNR=3.4	20.91	155	P	P	03 25 49.5	-0.1
SKNT	Sakolnakorn	21.83	301	P	P	03 25 58.7	+0.9
KULM	Kulim 33nm,1.4s	22.79	269	*e*P	P	03 26 06.5	+0.2
CHAI	Chaiyaphum 9.0nm,0.6s	23.14	296	P	P	03 26 09.8	+0.3
PBKT	Sadao Pong 13nm,0.9s	24.30	297	P	P	03 26 20.9	+1.2
PSI	Prapat 18nm,0.8s,baz=71,slow=6.1,SNR=10	24.78	263	P	P	03 26 24.6	+0.5
PSI	Prapat 19nm,0.7s	24.78	263	*e*P	P	03 26 24.7	+0.5
LAMP	Lampang 4.7nm,1.0s	26.23	300	P	P	03 26 39.5	+2.7
GSI	Gunungsitoli 72nm,0.6s	26.37	260	*e*P	P	03 26 36.8	-1.2
CMAR	Chiang Mai Arr 4.4nm,0.6s,baz=112,slow=7.2,SNR=17	26.81	299	P	P	03 26 42.7	+0.9
CHTO	Chiang Mai 98nm,1.1s	26.95	300	P	P	03 26 44.5	+1.5
CHTO	Chiang Mai 9.1nm,0.7s	26.95	300	*e*P	P	03 26 43.8	+0.7
JCJ	Chichijima 19nm,0.4s,baz=263,slow=4.8,SNR=5.7	27.20	39	P	P	03 26 43.8	-1.3
MBWA	Marble Bar 7.6nm,0.6s	27.60	188	*e*P	P	03 26 48.0	-0.6
COEN	Coen baz=28,SNR=21	28.07	136	P	P	03 26 52.1	-0.7
COEN	Coen 23nm,0.7s	28.07	136	*e*P	P	03 26 51.8	-1.0
WRAB	Tennant Creek 30nm,0.5s	28.22	158	*e*P	P	03 26 54.1	+0.1
WRA	Warramunga Arr 25nm,0.4s,baz=340,slow=9.3,SNR=97	28.22	158	P	P	03 26 54.0	0.0
WRA				S	S	03 30 55.8	-3.4
	5.0nm,0.6s,baz=338,slow=15,SNR=16						
WRA				ScP	ScP	03 32 31.0	-1.6
	2.4nm,0.6s,baz=340,slow=3.2,SNR=7.4						
QIS	Mount Isa baz=31,SNR=26	31.07	150	P	P	03 27 19.1	+0.5
KSRS	Korea Array 0.9nm,0.7s,baz=197,slow=2.9,SNR=4.3	31.21	7	ScP	ScP	03 32 41.0	-1.1
AS31	Alice Springs	31.52	162	*e*P	P	03 27 22.8	+0.4
ASAR	Alice Springs 11nm,0.4s,baz=341,slow=6.7,SNR=294	31.52	162	P	P	03 27 23.1	+0.8
ASAR				S	S	03 31 48.8	-1.1
	14nm,0.8s,baz=354,slow=23,SNR=41						
ASAR				ScP	ScP	03 32 41.7	-1.8
	2.2nm,0.7s,baz=340,slow=3.4,SNR=4.9						
WRKA	Warakurna baz=31,SNR=11	31.55	172	P	P	03 27 23.5	+0.9
MTSU	Mount Surprise baz=32,SNR=5.5	31.83	140	P	P	03 27 25.7	+0.6
MEEK	Meekatharra baz=33,SNR=8.8	33.15	188	P	P	03 27 36.3	+0.3
CTAO	Charters Tower 14nm,0.7s	34.50	140	*e*P	P	03 27 48.1	+0.6
FORT	Forrest 9.8nm,0.8s	37.18	174	*e*P	P	03 28 09.8	+0.4
KLBR	Kellerberrin baz=38,SNR=7.3	38.14	188	P	P	03 28 17.4	+0.3
LSA	Lhasa 12nm,0.7s	38.32	311	*e*P	P	03 28 20.5	+1.3
QLP	Quilpie baz=38,SNR=3.9	38.41	149	P	P	03 28 19.9	+0.6
GTA	Gaotai	39.23	330	*e*P	P	03 28 26.9	+1.0
GTA				PMZ			
	8.0nm,0.6s						
TAPN	Taplejung 20nm,0.7s	39.90	306	*e*P	P	03 28 32.2	+0.5
ODAN	Odare 35nm,0.8s	39.96	305	*e*P	P	03 28 32.5	+0.4
RAMN	Ramite 32nm,0.8s	40.64	305	*e*P	P	03 28 38.1	+0.6
BBOO	Buckleboo baz=41,SNR=30	40.74	164	P	P	03 28 38.6	+0.8
BBOO	Buckleboo 21nm,1.0s	40.74	164	*e*P	P	03 28 38.6	+0.8
EIDS	Eidsvold baz=41,SNR=5.1	41.38	141	P	P	03 28 43.4	+0.3
GUN	Gumba	41.61	306	*e*P	P	03 28 45.7	+0.4
STKA	Stephens Creek 15nm,0.6s,baz=333,slow=7.7,SNR=76	41.75	157	P	P	03 28 46.7	+0.9
STKA	Stephens Creek 2.6nm,0.6s	41.75	157	*e*P	P	03 28 46.7	+0.9
PKI	Pulchoki	41.86	305	*e*P	P	03 28 47.0	-0.2
PKIN	Phulchoki	41.87	305	*e*P	P	03 28 47.1	-0.1
KKN	Kakani	42.05	305	*e*P	P	03 28 48.7	+0.2
DMN	Daman	42.12	305	*e*P	P	03 28 49.5	+0.3
HTT	Hallett baz=42,SNR=14	42.18	161	P	P	03 28 50.4	+1.1
CMSA	Cobar Meteorol baz=43,SNR=12	43.23	152	P	P	03 28 59.2	+1.9
DANN	Dangsing	43.50	305	*e*P	P	03 29 00.2	+0.3
SONM	Songino Array 1.9nm,0.8s,baz=163,slow=8.6,SNR=10	43.84	343	P	P	03 29 02.2	+0.2
ARMA	Armidale baz=45,SNR=7.2	45.42	145	P	P	03 29 16.4	+2.1
ARPS	Mount Arapiles baz=46,SNR=11	46.21	160	P	P	03 29 20.9	+0.9
CNB	Canberra Magne baz=48,SNR=7.8	48.07	151	P	P	03 29 35.7	+1.6
MK31	Makanchi Array	53.59	326	*e*P	P	03 30 13.8	-0.1
MKAR	Makanchi Array 6.1nm,0.5s,baz=122,slow=8.5,SNR=69	53.59	326	P	P	03 30 14.1	+0.3
MKAR				PcP	PcP	03 31 09.8	-0.7
	1.7nm,0.5s,baz=103,slow=5.2,SNR=8.0						
MKAR				ScP	ScP	03 34 09.7	-1.9
	2.3nm,0.8s,baz=115,slow=5.5,SNR=10.0						
PETK	Petropavlovsk- 4.1nm,0.9s,baz=248,slow=2.3,SNR=3.5	54.30	25	P	P	03 30 19.3	+0.7
PET	Petropavlovsk 20nm,0.8s	54.63	25	*e*P	P	03 30 19.6	-1.3
TKM2	Tokmak 2 3.3nm,0.8s	55.68	319	*e*P	P	03 30 28.7	+0.1
EKS2	Erkin-Say 5.9nm,0.8s	56.77	318	*e*P	P	03 30 36.6	+0.6
ZALV	Zalesovo Beam 1.3nm,0.5s,baz=125,slow=3.8,SNR=7.3	56.82	334	P	P	03 30 35.0	-1.0
KBL	Kabul 13nm,0.9s	57.40	307	*e*P	P	03 30 40.6	0.0
KURBB	Kurchatov Arra 9.3nm,0.8s,baz=127,slow=6.3,SNR=69	57.82	328	P	P	03 30 42.7	-0.2
KURK	Kurchatov 17nm,0.8s	57.83	328	*e*P	P	03 30 42.7	-0.2
KKAR	Karatay Array 5.3nm,0.8s	59.15	317	*e*P	P	03 30 51.8	-0.1
BVAR	Borovoye Array 1.8nm,0.7s,baz=134,slow=8.5,SNR=10.0	63.39	327	P	P	03 31 19.3	-0.1
BRVK	Borovoye 11nm,1.3s	63.47	327	*e*P	P	03 31 19.0	-0.8
GEYT	Alibeck 2.1nm,0.5s,baz=158,slow=12,SNR=3.3	66.77	309	P	P	03 31 41.5	+0.6
ABKAR	Akbulak array	68.11	321	*e*P	P	03 31 47.8	-0.9
AKTO	Aktyubinsk 4.1nm,0.6s,baz=104,slow=9.0,SNR=17	69.63	322	P	P	03 31 57.8	-0.1
ARU	Arti baz=100,slow=6.1	71.02	328	P	P	03 32 05.0	-0.9
ARU	Arti 8.3nm,0.7s	71.02	328	*e*P	P	03 32 04.7	-1.2
CASY	Casey 2.5nm,0.8s	73.08	185	*e*P	P	03 32 17.3	-0.1
RAYN	Ar Rayn 8.0nm,0.8s	76.53	293	*e*P	P	03 32 37.2	-0.5
ABPO	Ambohimpanom 34nm,1.4s	79.22	249	*e*P	P	03 32 51.2	-1.2
RAR	Rarotonga 6.0nm,0.5s,baz=297,slow=11,SNR=2.5	79.99	113	P	P	03 32 54.4	-1.8
KDAK	Kodiak Island 34nm,1.2s	81.39	33	*e*P	P	03 33 03.9	+1.3
PPLA	Purkeypile 16nm,1.4s	81.77	27	*e*P	P	03 33 04.8	+0.1
BPAW	Bear Paw Mtn. 0.3nm,0.8s	82.34	26	*e*P	P	03 33 07.7	+0.3
TRF	Thorofare Moun 9.0nm,1.4s	82.64	27	*e*P	P	03 33 09.8	+0.7
MCK	McKinley 2.2nm,0.5s	83.25	27	*e*P	P	03 33 12.1	+0.2
ILAR	Eielson Array 0.2nm,0.6s,baz=246,slow=6.0,SNR=5.6	84.11	26	P	P	03 33 13.9	-2.2
BR131	Keskin Array S 2.2nm,0.8s	85.90	309	*e*P	P	03 33 23.8	-1.7
BRTR	Keskin Array B 2.0nm,0.8s,baz=114,slow=4.2,SNR=11	85.90	309	P	P	03 33 23.9	-1.5
KMBO	Kilima Mbogo 1.5nm,0.7s,baz=51,slow=6.5,SNR=4.4	86.42	268	P	P	03 33 28.2	-0.4
KMBO	Kilima Mbogo 3.2nm,0.9s	86.42	268	*e*P	P	03 33 28.7	+0.1
AKASG	Malin Array Be	87.85	321	P	P	03 33 32.7	-1.5
	0.4nm,0.2s,baz=64,slow=5.3,SNR=4.2						
FINES	FINESS Array B 1.8nm,0.6s,baz=72,slow=6.6,SNR=11	88.02	332	P	P	03 33 33.2	-1.5
TORD	Torodi Ar. Bea 0.7nm,0.6s,baz=68,slow=1.5,SNR=18	119.07	289	PKP	PKPdf	03 39 29.0	-1.2
LPAZ	La Paz	164.91	132	*e*PKPab	PKPab	03 41 47.2	+1.2

*ISCJB **24** 03:23:58.9±0.5,6°.2N±0°.1×123°.9E±0°.2,h550km,mb3.8/15, Error ellipse: s-maj=35.5km s-min=8.6km az=150.6*

*IDC **24** 03:24:01.0±1.4,6°.21N×123°.92E,h560km±16km,mb3.3/15, mb1 3.4/16,mb1mx3.1/49,mbtmp4.2/16, Error ellipse: s-maj=41.6km s-min=7.7km az=64.0*

ISC 24 03:24:00.1±0.6,6°.3N±0°.2×123°.9E±0°.3,h550km,n18, σ0s92/24,mb3.8/15,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	Cotabato--PC H	1.00	18	∥ *i*P	P	03 25 04.7	-1.7
SIJI	Sorong 3.4nm,0.3s,baz=299,slow=10.0,SNR=8.0	10.19	134	P	P	03 26 21.2	+1.1
CMAR	Chiang Mai Arr 1.7nm,0.3s,baz=113,slow=6.9,SNR=3.2	27.20	299	P	P	03 29 01.2	+0.8
WRA	Warramunga Arr 4.0nm,0.5s,baz=342,slow=9.1,SNR=13	27.99	159	P	P	03 29 07.0	-0.2
WRA				S	S	03 33 11.1	-2.2
	2.6nm,1.1s,baz=333,slow=16,SNR=3.4						
WRA				ScP	ScP	03 34 54.3	+0.8
	0.3nm,0.5s,baz=331,slow=2.8,SNR=3.4						
ASAR	Alice Springs 1.3nm,0.4s,baz=342,slow=7.4,SNR=6.7	31.31	162	P	P	03 29 36.6	+0.7
ASAR				S	S	03 34 03.9	-0.6
	7.0nm,0.9s,baz=351,slow=23,SNR=17						
STKA	Stephens Creek 5.1nm,1.1s,baz=324,slow=6.9,SNR=2.9	41.51	157	P	P	03 31 00.7	+0.9
SONM	Songino Array 0.9nm,0.6s,baz=161,slow=8.8,SNR=5.1	44.04	343	P	P	03 31 19.4	-0.1
SONM				PcP	PcP	03 32 53.5	+0.8
	0.6nm,0.7s,baz=166,slow=5.1,SNR=3.6						
MKAR	Makanchi Array 4.1nm,0.5s,baz=120,slow=8.5,SNR=21	53.90	326	P	P	03 32 32.9	+0.7
MKAR				PcP	PcP	03 33 29.0	+0.1
	1.4nm,0.5s,baz=123,slow=3.9,SNR=6.7						
MKAR				ScP	ScP	03 36 33.9	-0.6
	0.4nm,0.6s,baz=98,slow=6.0,SNR=3.6						
ZALV	Zalesovo Beam 0.8nm,0.5s,baz=110,slow=6.5,SNR=5.1	57.08	334	P	P	03 32 53.6	-0.5
KURBB	Kurchatov Arra 8.0nm,0.8s,baz=127,slow=6.4,SNR=32	58.11	328	P	P	03 33 01.8	+0.6
BVAR	Borovoye Array 2.2nm,0.7s,baz=131,slow=6.7,SNR=11	63.69	327	P	P	03 33 38.2	+0.5
GEYT	Alibeck 1.3nm,0.5s,baz=293,slow=7.6,SNR=3.7	67.14	308	P	P	03 34 00.2	+0.4
AKTO	Aktyubinsk 2.1nm,0.6s,baz=126,slow=5.8,SNR=8.6	69.95	322	P	P	03 34 16.4	0.0
BRTR	Keskin Array B 0.7nm,0.7s,baz=111,slow=6.8,SNR=4.3	86.27	309	P	P	03 35 43.1	-1.1
VNDA	Vanda 0.8nm,0.8s,baz=317,slow=6.7,SNR=3.5	86.29	172	P	P	03 35 42.4	-0.9
AKASG	Malin Array Be 0.3nm,0.3s,baz=61,slow=37,SNR=4.7	88.17	321	P	P	03 35 53.6	+0.9
FINES	FINESS Array B 2.7nm,0.9s,baz=46,slow=5.5,SNR=7.5	88.29	332	P	P	03 35 52.3	-0.7
TORD	Torodi Ar. Bea 0.7nm,0.8s,baz=74,slow=1.4,SNR=8.6	119.47	289	PKP	PKPdf	03 41 48.0	-0.5

IDC 24 03:37:27.0±4.4,5°.60S×149°.50E,h0km,mb3.3/2, mb1 3.7/3,mb1mx3.4/28,mbtmp3.5/3,ML1.4/1,Error ellipse: s-maj=186.3km s-min=36.6km az=113.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby 1.4nm,0.3s,baz=49,slow=11,SNR=3.1	4.43	211	Pn	Pn	03 38 36.5	+0.9
PMG				Sn	Sn	03 39 28.8	+0.9
	2.7nm,0.3s,baz=202,slow=19,SNR=3.3						
WRA	Warramunga Arr 1.6nm,0.8s,baz=51,slow=11,SNR=7.4	20.51	225	P	P	03 42 07.2	+0.3
ASAR	Alice Springs 0.8nm,0.8s,baz=48,slow=8.8,SNR=6.7	23.41	218	P	P	03 42 37.3	-0.7
TORD	Torodi Ar. Bea 0.9nm,1.1s,baz=72,slow=2.3,SNR=6.3	147.39	286	PKPbc	PKPbc	03 57 13.2	-0.7

DJA 24 03:40:53.4±0.2,1°.N±2°×10°.0E±°,h10km,M5.0/32, mb4.9/24,mB6.1/8,MLv4.3/32,Mw(mB)5.7/8,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNSI	Mandailing Nat	0.23	167	P	Pg	03 40 55.6	-2.5
MNSI				S	Sg	03 40 59.6	-1.7
PBSI	Pulau Batu	1.64	230	P	Pn	03 41 21.6	-0.8
PBSI				S	Sb	03 41 44.8	+0.2
BKNI	Bangkinang	1.66	115	P	Pn	03 41 22.0	-0.6
BKNI				S	Sb	03 41 44.7	-0.4
PPI	Padang Panjang	1.70	149	P	Pn	03 41 22.1	-1.1
GSI	Gunungsitoli	1.97	278	P	Pn	03 41 26.9	0.0
SISI	Saibi	2.37	191	P	Pn	03 41 32.2	-0.2
TSI	Tuntungan	2.65	339	P	Pn	03 41 36.1	-0.1
SDSI	Sungai Dareh	2.71	136	P	Pn	03 41 36.8	-0.3
RGRI	Rengat	3.12	116	P	Pn	03 41 42.1	-0.5
SNSI	Sinabang, Aceh	3.49	293	P	Pn	03 41 47.7	0.0
KRJI	Kerinci	3.64	148	P	Pn	03 41 49.5	-0.5
PPSI	Pulau Pagai	3.79	173	P	Pn	03 41 51.6	-0.3
JMBI	JAMBI	4.88	123	P	Pn	03 42 06.3	-0.7
LHMI	Lhok Sumawe	4.91	328	P	Pn	03 42 07.2	-0.1
DSRI	Dabo 10nm,0.7s,2μm0.3nm	5.26	106	P	Pn	03 42 11.8	-0.4
KSI	Kapahiang 101nm,0.3s,10μm1.5nm	5.56	147	P	Pn	03 42 15.8	-0.5
LHSI	Lahat 28nm,0.7s,0.2nm	6.25	140	P	Pn	03 42 25.5	-0.3
MNAI	Manna 212nm,1.6s,1.0nm	6.35	147	P	Pn	03 42 26.7	-0.4
PMBI	Palembang 266nm,0.5s,1.9nm	6.54	127	P	Pn	03 42 28.4	-1.4
MDSI	Maura Dua 9.4nm,1.6s,0.1nm	7.17	140	P	Pn	03 42 37.8	-0.7
PPBI	Pangkal Pinang 12nm,1.5s,4μm0.4nm	7.32	116	P	Pn	03 42 40.2	-0.3
LWLI	Liwa 28nm,0.6s,9μm0.6nm	7.51	143	P	Pn	03 42 42.5	-0.8
KLI	Kotabumi 112nm,0.6s,0.7nm	7.90	138	P	Pn	03 42 47.9	-0.6
KASI	Kota Agung 30nm,1.6s	8.18	143	P	Pn	03 42 51.8	-0.4
BLSI	Bandar Lampung 144nm,0.4s	8.54	138	P	Pn	03 42 56.8	-0.4
TPI	Tanjungpandan 21nm,1.1s	8.95	115	P	Pn	03 43 02.1	-0.7
SBJI	Serang 100nm,0.5s,6μm	9.68	137	P	Pn	03 43 12.2	-0.7
CGJI	Cibinong 31nm,1.4s	9.76	141	P	Pn	03 43 13.5	-0.5
TNG	Tangerang 494nm,0.4s,34μm	10.07	135	P	Pn	03 43 17.8	-0.5
TNG	Tangerang 400nm,0.4s,14μm	10.07	135	P	Pn	03 43 17.8	-0.5
SKJI	Sukabumi 100nm,0.5

TGIG				*i* S	Sn	03 55 25.8	-3.2
PCIG		**2.05**	**120**	*e*P	Pn	03 55 06.1	-2.7
PCIG				*e*S	Sn	03 55 29.8	-4.0
PNIG	**Pinotepa**	**2.97**	**263**	*i* P	Pn	03 55 19.6	-1.8
PNIG				*i* S	Sn	03 55 53.5	-3.0

IDC ***24*** *03:56:58.8±1.3,2.7′79N×84.7′37W, h0km, mb3.5/6, mb1 3.9/6, mb1mx3.7/20, mbtmp3.5/6, Error ellipse: s-maj=95.2km s-min=23.0km az=50.0*

ISCJB ***24*** *03:57:01.4±1.3,2.7′7N±0.7′4×84.5′W±0.7′4, h28km, mb3.5/6, Error ellipse: s-maj=83.3km s-min=17.6km az=139.6*

ISC 24 03:57:03.2±1.1,2.7′7N±0.7′3×84.7′3W±0.7′4, h28km, n8, σ1°19/10, mb3.6/6, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**17.63**	**325**	P	**P**	**04 01 09.8**	**+2.1**
	0.0nm,0.3s,baz=128,slow=15,SNR=4.0						
LPAZ	**La Paz**	**24.78**	**140**	P	**P**	**04 02 23.6**	**-0.1**
	1.5nm,0.6s,baz=314,slow=10,SNR=7.3						
TXAR	**Lajitas Array**	**32.20**	**327**	P	**P**	**04 03 29.4**	**+0.2**
	0.4nm,0.9s,baz=152,slow=11,SNR=4.1						
TXAR				PcP	**PcP**	**04 06 18.3**	**+0.7**
	0.1nm,0.6s,baz=141,slow=3.0,SNR=2.8						
PDAR	**Pinedale Array**	**45.77**	**334**	P	**P**	**04 05 20.9**	**-1.8**
	0.6nm,0.9s,baz=125,slow=9.4,SNR=4.6						
PDAR				PcP	**PcP**	**04 06 59.3**	**-0.8**
	0.4nm,0.8s,baz=133,slow=5.0,SNR=3.3						
NVAR	**Mina Array Bea**	**47.15**	**323**	P	**P**	**04 05 33.0**	**-0.6**
	0.8nm,0.7s,baz=125,slow=7.8,SNR=7.2						
ILAR	**Eielson Array**	**76.10**	**337**	P	**P**	**04 08 47.5**	**-0.7**
	0.6nm,0.9s,baz=98,slow=4.8,SNR=6.2						
TORD	**Torodi Ar. Bea**	**85.53**	**77**	P	**P**	**04 09 40.3**	**+0.7**
	0.2nm,0.6s,baz=278,slow=7.1,SNR=2.7						
WRA	**Warramunga Arr**	**138.56**	**243**	PKP	**PKPdf**	**04 16 27.4**	**0.0**
	0.5nm,0.9s,baz=106,slow=2.4,SNR=2.6						

BEO ***24*** *04:07:49.6±1.2,40.′06N×23.′95E, h0km, ML2.8/5*

ISCJB ***24*** *04:07:50.8±0.4,40.′17N±0.′01×23.′94E±0.′02, h10km±3km, Error ellipse: s-maj=2.3km s-min=1.9km az=25.5*

ATH ***24*** *04:07:50.0,40.′18N×24.′02E, h23km, MD3.2/21, ML2.7*

SOF ***24*** *04:07:51.1,40.′18N×24.′09E, h13km, MD3.4*

THE ***24*** *04:07:51.0,40.′17N×23.′99E, h9km, ML2.9/18, Error ellipse: s-maj=0.9km s-min=0.5km az=318.0*

CSEM ***24*** *04:07:51.2±0.1,40.′16N×23.′90E, h8km, MD3.2, Error ellipse: s-maj=2.7km s-min=2.4km az=127.0*

ISC 24 04:07:51.2±0.8, 40.′18N±0.′01×23.′98E±0.′01, h13km±5km, n232, σ0°99/294, 6C-3D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.16**	**360**	*e*PB	**Pg**	**04 07 55.0**	**0.0**
OUR				*e*SB	**Sg**	**04 07 57.6**	**0.0**
OUR	**Ouranopolis**	**0.16**	**360**	P	**Pg**	**04 07 55.0**	**0.0**
OUR				S	**Sg**	**04 07 57.8**	**+0.2**
OUR	**Ouranopolis**	**0.16**	**360**	P	**Pg**	**04 07 55.0**	**0.0**
OUR				S	**Sg**	**04 07 57.8**	**+0.2**
PAIG	**Paliouri**	**0.34**	**223**	*e*PB	**Pg**	**04 07 57.8**	**-0.4**
PAIG				*e*SB	**Sg**	**04 08 03.5**	**+0.7**
PAIG	**Paliouri**	**0.34**	**223**	P	**Pg**	**04 07 57.8**	**-0.4**
PAIG				S	**Sg**	**04 08 02.5**	**-0.3**
PAIG				*e*Sb	**Sg**	**04 08 03.5**	**+0.7**
PAIG	**Paliouri**	**0.34**	**223**	P	**Pg**	**04 07 57.8**	**-0.4**
PAIG				S	**Sg**	**04 08 02.5**	**-0.3**
HORT	**Hortiatis**	**0.79**	**302**	*e*PG	**Pg**	**04 08 05.9**	**-0.7**
HORT				*e*SG	**Sg**	**04 08 16.1**	**-1.0**
HORT	**Hortiatis**	**0.79**	**302**	*e*PN	**Pg**	**04 08 05.9**	**-0.7**
HORT				*e*SN	**Sg**	**04 08 17.4**	**+0.3**
HORT	**Hortiatis**	**0.79**	**302**	P	**Pg**	**04 08 05.9**	**-0.7**
HORT				*e*Sg	**Sg**	**04 08 16.1**	**-1.0**
HORT	**Hortiatis**	**0.79**	**302**	P	**Pg**	**04 08 05.9**	**-0.7**
HORT				S	**Sg**	**04 08 16.7**	**-0.4**
SOH	**Sokhos**	**0.80**	**323**	*e*PN	**Pg**	**04 08 06.4**	**-0.4**
SOH				*e*SN	**Sg**	**04 08 17.3**	**0.0**
SOH	**Sokhos**	**0.80**	**323**	P	**Pg**	**04 08 06.4**	**-0.4**
SOH				S	**Sg**	**04 08 17.5**	**+0.2**
SOH	**Sokhos**	**0.80**	**323**	P	**Pg**	**04 08 06.4**	**-0.4**
SOH				S	**Sg**	**04 08 17.5**	**+0.2**
THE	**Thessaloniki**	**0.90**	**301**	*e*PN	**Pg**	**04 08 07.6**	**-1.0**
THE				*e*SN	**Sb**	**04 08 20.7**	**+0.1**
THE	**Thessaloniki**	**0.90**	**301**	*e*Pn	**Pg**	**04 08 07.6**	**-1.0**
THE	**Thessaloniki**	**0.90**	**301**	P	**Pg**	**04 08 08.1**	**-0.5**
THE				S	**Sg**	**04 08 20.0**	**-0.4**
THE	**Thessaloniki**	**0.90**	**301**	P	**Pg**	**04 08 08.1**	**-0.5**
THE				S	**Sg**	**04 08 20.0**	**-0.4**
KAVA	**Kavala**	**0.91**	**26**	*e*PN	**Pg**	**04 08 07.7**	**-1.2**
KAVA				*e*SN	**Sg**	**04 08 19.6**	**-1.2**
KAVA	**Kavala**	**0.91**	**26**	*e*Pn	**Pg**	**04 08 07.7**	**-1.2**
KAVA	**Kavala**	**0.91**	**26**	P	**Pg**	**04 08 08.3**	**-0.6**
KAVA				S	**Sg**	**04 08 20.5**	**-0.3**
KAVA	**Kavala**	**0.91**	**26**	P	**Pg**	**04 08 08.3**	**-0.6**
KAVA				S	**Sg**	**04 08 20.5**	**-0.3**
LIA	**Limnos Island**	**0.96**	**107**	P	**Pb**	**04 08 09.3**	**-0.4**
LIA				S	**Sb**	**04 08 22.9**	**+0.6**
LIA	**Limnos Island**	**0.96**	**107**	P	**Pb**	**04 08 09.3**	**-0.4**
LIA				S	**Sb**	**04 08 22.9**	**+0.6**
SRS	**Serrai**	**0.98**	**343**	*e*PN	**Pb**	**04 08 09.7**	**-0.4**
SRS	**Serrai**	**0.98**	**343**	P	**Pb**	**04 08 09.7**	**-0.4**
SRS				S	**Sg**	**04 08 23.9**	**+0.8**
SRS	**Serrai**	**0.98**	**343**	P	**Pb**	**04 08 09.7**	**-0.4**
SRS				S	**Sg**	**04 08 23.9**	**+0.8**
AOS	**Alonnisos**	**1.01**	**185**	*e*PG	**Pb**	**04 08 09.5**	**-1.0**
AOS	**Alonnisos**	**1.01**	**185**	*e*PN	**Pb**	**04 08 09.8**	**-0.8**
AOS				*e*SN	**Sg**	**04 08 24.2**	**+0.3**
AOS	**Alonnisos**	**1.01**	**185**	P	**Pb**	**04 08 09.7**	**-0.8**
AOS				S	**Sg**	**04 08 24.2**	**+0.3**
AOS	**Alonnisos**	**1.01**	**185**	P	**Pb**	**04 08 09.7**	**-0.8**
AOS				S	**Sg**	**04 08 24.2**	**+0.3**
XOR	**Xorichti**	**1.01**	**217**	*e*PN	**Pb**	**04 08 10.0**	**-0.7**
XOR	**Xorichti**	**1.01**	**217**	*e*Pn	**Pb**	**04 08 10.0**	**-0.7**
XOR	**Xorichti**	**1.01**	**217**	P	**Pb**	**04 08 10.3**	**-0.3**
XOR				S	**Sb**	**04 08 23.9**	**0.0**
XOR	**Xorichti**	**1.01**	**217**	P	**Pb**	**04 08 10.3**	**-0.3**
XOR				S	**Sb**	**04 08 23.9**	**0.0**
NEO	**Neokhori**	**1.05**	**214**	*e*PN	**Pb**	**04 08 10.6**	**-0.6**
NEO				*e*SN	**Sb**	**04 08 24.9**	**0.0**
NEO	**Neokhori**	**1.05**	**214**	P	**Pb**	**04 08 10.7**	**-0.5**
NEO				*e*Sn	**Sb**	**04 08 24.9**	**0.0**
NEO				S	**Sg**	**04 08 25.2**	**+0.1**
NEO	**Neokhori**	**1.05**	**214**	P	**Pb**	**04 08 10.7**	**-0.5**
NEO				S	**Sg**	**04 08 25.2**	**+0.1**
FYTO	**Fytoko, Volos**	**1.11**	**227**	P	**Pb**	**04 08 11.9**	**-0.4**
FYTO				S	**Sg**	**04 08 27.0**	**-0.1**
FYTO	**Fytoko, Volos**	**1.11**	**227**	P	**Pb**	**04 08 11.9**	**-0.4**
FYTO				S	**Sg**	**04 08 27.0**	**-0.1**
LIT	**Litokhoron**	**1.15**	**267**	*e*PN	**Pb**	**04 08 12.2**	**-0.7**
LIT	**Litokhoron**	**1.15**	**267**	*e*Pn	**Pb**	**04 08 12.2**	**-0.7**
LIT	**Litokhoron**	**1.15**	**267**	P	**Pb**	**04 08 12.7**	**-0.2**
LIT				S	**Sg**	**04 08 28.3**	**0.0**
LIT	**Litokhoron**	**1.15**	**267**	P	**Pb**	**04 08 12.7**	**-0.2**
LIT				S	**Sg**	**04 08 28.3**	**0.0**
NVR	**Nevrokopi**	**1.17**	**356**	*e*PN	**Pn**	**04 08 12.9**	**-0.4**
NVR				*e*SN	**Sb**	**04 08 28.4**	**-0.1**
NVR	**Nevrokopi**	**1.17**	**356**	P	**Pn**	**04 08 13.0**	**-0.4**
NVR				*e*Sn	**Sb**	**04 08 28.4**	**-0.1**
NVR				S	**Sg**	**04 08 29.4**	**+0.2**
NVR	**Nevrokopi**	**1.17**	**356**	P	**Pn**	**04 08 13.0**	**-0.4**
NVR				S	**Sg**	**04 08 29.4**	**+0.2**
SMTH	**Samothraki Isl**	**1.22**	**76**	*e*PN	**Pn**	**04 08 12.6**	**-1.4**
SMTH				*e*SN	**Sb**	**04 08 29.0**	**-0.8**
SMTH	**Samothraki Isl**	**1.22**	**76**	P	**Pn**	**04 08 12.6**	**-1.4**
SMTH				*e*Sn	**Sb**	**04 08 29.0**	**-0.8**
SMTH	**Samothraki Isl**	**1.22**	**76**	P	**Pn**	**04 08 12.6**	**-1.4**
SMTH				S	**Sb**	**04 08 29.3**	**-0.5**
KNT	**Kendrikon**	**1.28**	**320**	*e*PN	**Pn**	**04 08 15.0**	**+0.1**
KNT	**Kendrikon**	**1.28**	**320**	*e*PN	**Pn**	**04 08 14.8**	**-0.1**
KNT	**Kendrikon**	**1.28**	**320**	P	**Pn**	**04 08 14.9**	**+0.1**
KNT				S	**Sg**	**04 08 33.3**	**+0.7**
KNT	**Kendrikon**	**1.28**	**320**	P	**Pn**	**04 08 14.9**	**+0.1**
KNT				S	**Sg**	**04 08 33.3**	**+0.7**
MMB	**Musomiste**	**1.42**	**352**	P	**Pn**	**04 08 16.3**	**-0.5**
MMB	**Musomiste**	**1.42**	**352**	*i* P	**Pn**	**04 08 16.2**	**-0.5**
MMB	**Musomiste**	**1.42**	**352**	P	**Pn**	**04 08 16.3**	**-0.5**
SMIA	**Simia**	**1.43**	**205**	*e*PN	**Pn**	**04 08 16.6**	**-0.3**
SMIA	**Simia**	**1.43**	**205**	P	**Pn**	**04 08 16.6**	**-0.3**
SMIA				S	**Sn**	**04 08 35.3**	**-0.2**
SMIA	**Simia**	**1.43**	**205**	P	**Pn**	**04 08 16.6**	**-0.3**
SMIA				S	**Sn**	**04 08 35.3**	**-0.2**
GADA	**Gvkgeada**	**1.47**	**89**	*e*PN	**Pg**	**04 08 19.1**	**-0.3**
GADA	**Gvkgeada**	**1.47**	**89**	*e*Pn	**Pg**	**04 08 19.1**	**-0.3**
MRKA	**Markates**	**1.50**	**192**	P	**Pn**	**04 08 17.1**	**-0.8**
MRKA	**Markates**	**1.50**	**192**	P	**Pn**	**04 08 17.1**	**-0.8**
RDO	**Rodhopi**	**1.53**	**50**	*e*PN	**Pn**	**04 08 17.5**	**-0.7**
RDO	**Rodhopi**	**1.53**	**50**	P	**Pn**	**04 08 17.5**	**-0.7**
RDO	**Rodhopi**	**1.53**	**50**	P	**Pn**	**04 08 17.5**	**-0.7**
VAY	**Valandovo**	**1.57**	**317**	*e*Pn	**Pg**	**04 08 20.9**	**-0.5**
VAY				*e*Sn	**Sg**	**04 08 43.1**	**+1.4**
VAY	**Valandovo**	**1.57**	**317**	*e*Pg	**Pb**	**04 08 19.7**	**-0.4**
VAY	**Valandovo**	**1.57**	**317**	*e*Pg	**Pb**	**04 08 19.7**	**-0.4**
VAY	**Valandovo**	**1.57**	**317**	P	**Pb**	**04 08 20.1**	**0.0**
VAY	**Valandovo**	**1.57**	**317**	*e*Pn	**Pg**	**04 08 20.8**	**-0.5**
VAY				S	**Sn**	**04 08 39.1**	**+0.2**
VAY				*e*Sn	**Sg**	**04 08 43.1**	**+1.4**
VAY	**Valandovo**	**1.57**	**317**	P	**Pb**	**04 08 20.1**	**0.0**
VAY				S	**Sn**	**04 08 39.1**	**+0.2**
RZN	**Rozhen**	**1.61**	**20**	P	**Pn**	**04 08 19.5**	**0.0**
RZN	**Rozhen**	**1.61**	**20**	*i* P	**Pn**	**04 08 19.5**	**0.0**
RZN	**Rozhen**	**1.61**	**20**	P	**Pn**	**04 08 19.5**	**0.0**
THL	**Klokotos Trika**	**1.63**	**249**	*e*PN	**Pn**	**04 08 19.7**	**+0.1**
THL	**Klokotos Trika**	**1.63**	**249**	P	**Pn**	**04 08 19.7**	**+0.1**
THL				S	**Sb**	**04 08 41.6**	**-0.1**
THL	**Klokotos Trika**	**1.63**	**249**	P	**Pn**	**04 08 19.7**	**+0.1**
THL				S	**Sb**	**04 08 41.6**	**-0.1**
ATAL	**Atalanti**	**1.66**	**207**	P	**Pn**	**04 08 19.4**	**-0.6**
ATAL				S	**Sn**	**04 08 40.6**	**-0.6**
ATAL	**Atalanti**	**1.66**	**207**	P	**Pn**	**04 08 19.4**	**-0.6**
ATAL				S	**Sn**	**04 08 40.6**	**-0.6**
KZN	**Kozani**	**1.70**	**275**	*e*PN	**Pb**	**04 08 22.0**	**-0.3**
KZN	**Kozani**	**1.70**	**275**	*e*Pn	**Pb**	**04 08 22.0**	**-0.3**
LKR	**Lokris**	**1.71**	**207**	*e*PB	**Pn**	**04 08 20.2**	**-0.4**
LKR	**Lokris**	**1.71**	**207**	P	**Pn**	**04 08 20.2**	**-0.4**
LKR	**Lokris**	**1.71**	**207**	P	**Pn**	**04 08 20.2**	**-0.4**
AGG	**Agios Georgios**	**1.72**	**228**	*e*PN	**Pn**	**04 08 20.3**	**-0.5**
AGG	**Agios Georgios**	**1.72**	**228**	*e*PN	**Pn**	**04 08 20.7**	**-0.2**
AGG	**Agios Georgios**	**1.72**	**228**	P	**Pn**	**04 08 20.7**	**-0.2**
AGG				S	**Sn**	**04 08 43.4**	**+0.7**
AGG	**Agios Georgios**	**1.72**	**228**	P	**Pn**	**04 08 20.7**	**-0.2**
AGG				S	**Sn**	**04 08 43.4**	**+0.7**
ALN	**Alexandroupoli**	**1.73**	**65**	*e*PN	**Pb**	**04 08 22.6**	**-0.2**
ALN	**Alexandroupoli**	**1.73**	**65**	*e*PN	**Pn**	**04 08 20.0**	**-0.9**
ALN	**Alexandroupoli**	**1.73**	**65**	P	**Pn**	**04 08 20.1**	**-0.9**
ALN				S	**Sn**	**04 08 42.1**	**-0.7**
ALN	**Alexandroupoli**	**1.73**	**65**	P	**Pn**	**04 08 20.1**	**-0.9**
ALN				S	**Sn**	**04 08 42.1**	**-0.7**
SIGR	**SIGRI**	**1.74**	**123**	*e*PN	**Pn**	**04 08 21.6**	**+0.5**
SIGR	**SIGRI**	**1.74**	**123**	*e*PN	**Pn**	**04 08 20.9**	**-0.2**
SIGR	**SIGRI**	**1.74**	**123**	P	**Pn**	**04 08 20.9**	**-0.3**
SIGR	**SIGRI**	**1.74**	**123**	P	**Pn**	**04 08 20.8**	**-0.3**
AXAR	**Agios Charalam**	**1.74**	**216**	*e*PN	**Pn**	**04 08 21.9**	**+0.7**
AXAR	**Agios Charalam**	**1.74**	**216**	*e*Pn	**Pn**	**04 08 21.9**	**+0.7**
ENEZ	**Enez**	**1.75**	**71**	*e*PN	**Pb**	**04 08 23.0**	**-0.1**
ENEZ	**Enez**	**1.75**	**71**	*e*Pn	**Pb**	**04 08 23.0**	**-0.1**
EREA	**Eretria**	**1.76**	**181**	*e*PN	**Pn**	**04 08 21.0**	**-0.4**
EREA	**Eretria**	**1.76**	**181**	*e*Pn	**Pn**	**04 08 21.0**	**-0.4**
EREA	**Eretria**	**1.76**	**181**	P	**Pn**	**04 08 21.2**	**-0.2**
KKB	**Krupnik**	**1.82**	**338**	P	**Pn**	**04 08 22.6**	**+0.4**
KKB	**Krupnik**	**1.82**	**338**	*i* P	**Pn**	**04 08 22.6**	**+0.4**
KKB	**Krupnik**	**1.82**	**338**	P	**Pn**	**04 08 22.6**	**+0.4**
KDZ	**Kurdzhali**	**1.83**	**36**	*i* P	**Pn**	**04 08 21.2**	**-1.1**
EZN	**Ezine**	**1.83**	**100**	*e*PN	**Pb**	**04 08 24.4**	**-0.2**
EZN	**Ezine**	**1.83**	**100**	*e*Pn	**Pb**	**04 08 24.4**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.84**	**231**	*e*PN	**Pn**	**04 08 23.0**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.84**	**231**	*e*Pn	**Pn**	**04 08 23.0**	**+0.4**
GELI	**Tayfur-Gelibol**	**1.92**	**83**	*e*PN	**Pb**	**04 08 25.7**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.92**	**83**	*e*Pn	**Pb**	**04 08 25.7**	**-0.3**
ERIK	**Erikli-Kesan**	**1.99**	**75**	*e*PN	**Pb**	**04 08 26.7**	**-0.6**
ERIK	**Erikli-Kesan**	**1.99**	**75**	*e*Pn	**Pb**	**04 08 26.7**	**-0.6**
PRK	**Paraskevi**	**2.00**	**117**	*e*PN	**Pn**	**04 08 24.7**	**+0.1**
PRK	**Paraskevi**	**2.00**	**117**	*e*Pn	**Pn**	**04 08 24.7**	**+0.1**
PLD	**Plovdiv**	**2.00**	**16**	P	**Pn**	**04 08 25.5**	**+0.8**
VIL2	**Platees**	**2.04**	**196**	*e*PB	**Pn**	**04 08 25.6**	**+0.3**
FNA	**Florina**	**2.08**	**288**	*e*PN	**Pn**	**04 08 26.1**	**+0.3**
FNA	**Florina**	**2.08**	**288**	*e*Pn	**Pn**	**04 08 26.1**	**+0.3**
VILL	**Villia**	**2.08**	**195**	*e*Pb	**Pn**	**04 08 25.6**	**-0.2**
DESF	**Desfina**	**2.09**	**213**	*e*PB	**Pn**	**04 08 25.3**	**-0.7**
DESF	**Desfina**	**2.09**	**213**	*e*Pb	**Pn**	**04 08 25.3**	**-0.7**
DSF	**Desfina**	**2.10**	**213**	*e*PB	**Pn**	**04 08 25.4**	**-0.6**
DSF	**Desfina**	**2.10**	**213**	P	**Pn**	**04 08 25.5**	**-0.6**
DSF	**Desfina**	**2.10**	**213**	P	**Pn**	**04 08 25.5**	**-0.6**
EVR	**Evrytania**	**2.10**	**234**	*e*PN	**Pn**	**04 08 26.2**	**0.0**
EVR	**Evrytania**	**2.10**	**234**	*e*Pn	**Pn**	**04 08 26.2**	**0.0**
LPK	**Lapseki**	**2.13**	**84**	*e*PN	**Pb**	**04 08 28.8**	**-0.9**
LPK	**Lapseki**	**2.13**	**84**	*e*Pn	**Pb**	**04 08 28.8**	**-0.9**
ATH	**Athens Observa**	**2.21**	**185**	*e*PN	**Pn**	**04 08 27.0**	**-0.6**
ATH	**Athens Observa**	**2.21**	**185**	*e*Pn	**Pn**	**04 08 27.0**	**-0.6**
NEST	**Nestorio**	**2.26**	**277**	*e*PB	**Pn**	**04 08 29.1**	**+0.8**
NEST	**Nestorio**	**2.26**	**277**	*e*Pb	**Pn**	**04 08 29.1**	**+0.8**
KALE	**Kalithea**	**2.29**	**219**	*e*PN	**Pn**	**04 08 28.5**	**-0.2**
KALE	**Kalithea**	**2.29**	**219**	*e*Pn	**Pn**	**04 08 28.5**	**-0.2**
KALE				S	**Sn**	**04 08 56.9**	**+0.2**
KALE	**Kalithea**	**2.29**	**219**	P	**Pn**	**04 08 28.6**	**-0.2**
KALE				S	**Sn**	**04 08 56.9**	**+0.2**
LTK	**Loutraki**	**2.29**	**200**	*e*PN	**Pn**	**04 08 28.5**	**-0.2**
LTK	**Loutraki**	**2.29**	**200**	*e*Pn	**Pn**	**04 08 28.5**	**-0.2**
PGB	**Panagyurishte**	**2.37**	**3**	P	**Pn**	**04 08 30.2**	**+0.3**
PGB	**Panagyurishte**	**2.37**	**3**	P	**Pn**	**04 08 30.6**	**+0.7**
PGB	**Panagyurishte**	**2.37**	**3**	P	**Pn**	**04 08 30.2**	**+0.3**
EFP	**Efpalio**	**2.38**	**223**	*e*PB	**Pn**	**04 08 30.6**	**+0.7**
EFP	**Efpalio**	**2.38**	**223**	*e*Pb	**Pn**	**04 08 30.6**	**+0.7**
CHOS	**Chios island**	**2.41**	**137**	*e*PN	**Pn**	**04 08 31.1**	**+0.8**
CHOS	**Chios island**	**2.41**	**137**	*e*PB	**Pn**	**04 08 30.4**	**+0.1**
CHOS	**Chios island**	**2.41**	**137**	*e*Pb	**Pn**	**04 08 30.4**	**+0.1**
CHOS	**Chios island**	**2.41**	**137**	*e*Pn	**Pn**	**04 08 31.1**	**+0.8**
CHOS	**Chios island**	**2.41**	**137**	P	**Pn**	**04 08 30.5**	**+0.1**
DSL	**Palaion Diasel**	**2.46**	**246**	*e*PB	**Pn**	**04 08 32.2**	**+1.1**
DSL	**Palaion Diasel**	**2.46**	**246**	*e*Pb	**Pn**	**04 08 32.2**	**+1.1**
JAN	**Janina**	**2.46**	**259**	*e*PN	**Pn**	**04 08 31.7**	**+0.6**
JAN	**Janina**	**2.46**	**259**	*e*Pn	**Pn**	**04 08 31.7**	**+0.6**
VTS	**Vitosha**	**2.48**	**347**	*e*Pn	**Pn**	**04 08 32.3**	**+0.9**
VTS	**Vitosha**	**2.48**	**347**	*i* P	**Pn**	**04 08 32.4**	**+1.0**
VTS	**Vitosha**	**2.48**	**347**	*i* P	**Pn**	**04 08 32.3**	**+0.9**
VTS	**Vitosha**	**2.48**	**347**	*e*Pn	**Pn**	**04 08 32.3**	**+0.9**
VTS				S	**Sn**	**04 09 02.7**	**+1.0**
VTS	**Vitosha**	**2.48**	**347**	P	**Pn**	**04 08 32.4**	**+1.0**
VTS				S	**Sn**	**04 09 02.7**	**+1.0**
LAKA	**Lakka**	**2.48**	**219**	*e*PN	**Pn**	**04 08 31.8**	**+0.4**
LAKA	**Lakka**	**2.48**	**219**	*e*Pn	**Pn**	**04 08 31.8**	**+0.4**
RKY	**Sarkoy-Tekirda**	**2.49**	**77**	*e*PN	**Pb**	**04 08 33.9**	**-2.0**
RKY	**Sarkoy-Tekirda**	**2.49**	**77**	*e*Pn	**Pb**	**04 08 33.9**	**-2.0**
DKL	**Dikili**	**2.51**	**115**	*e*PN	**Pn**	**04 08 33.9**	**+2.2**
DKL	**Dikili**	**2.51**	**115**	*e*Pn	**Pn**	**04 08 33.9**	**+2.2**
KRBG	**Karabiga-Canak**	**2.54**	**84**	*e*PN	**Pb**	**04 08 34.6**	**-2.0**
KRBG	**Karabiga-Canak**	**2.54**	**84**	*e*Pn	**Pb**	**04 08 34.7**	**-2.0**
KLV	**Kalavryta, Ach**	**2.56**	**214**	*e*PN	**Pn**	**04 08 32.5**	**-0.1**
KLV	**Kalavryta, Ach**	**2.56**	**214**	P	**Pn**	**04 08 32.4**	**-0.1**
KLV	**Kalavryta, Ach**	**2.56**	**214**	P	**Pn**	**04 08 32.4**	**-0.1**
GUR	**Goura**	**2.58**	**210**	P	**Pn**	**04 08 32.6**	**-0.1**
GUR	**Goura**	**2.58**	**210**	P	**Pn**	**04 08 32.6**	**-0.1**
SKO	**Skopje**	**2.63**	**314**	*e*Pn	**Pb**	**04 08 36.9**	**-1.2**
SKO	**Skopje**	**2.63**	**314**	*e*Pg	**Pb**	**04 08 36.7**	**-1.5**
SKO	**Skopje**	**2.63**	**314**	*e*Pg	**Pb**	**04 08 36.7**	**-1.5**
EDRB	**Edirne**	**2.67**	**51**	*e*PN	**Pb**	**04 08 37.0**	**-1.9**
EDRB	**Edirne**	**2.67**	**51**	*e*Pn	**Pb**	**04 08 37.0**	**-1.9**
PDO	**Prodromos**	**2.68**	**235**	*e*PN	**Pn**	**04 08 35.0**	**+0.9**
PDO	**Prodromos**	**2.68**	**235**	*e*Pn	**Pn**	**04 08 35.0**	**+0.9**
DID	**Didima**	**2.73**	**193**	*e*PN	**Pn**	**04 08 34.6**	**-0.2**
DID	**Didima**	**2.73**	**193**	*e*Pn	**Pn**	**04 08 34.6**	**-0.2**
MRMT	**Marmara Adasi**	**2.79**	**80**	*e*PN	**Pn**	**04 08 38.0**	**+2.4**
MRMT	**Marmara Adasi**	**2.79**	**80**	*e*Pn	**Pn**	**04 08 38.0**	**+2.4**
DRO	**Drossia**	**2.84**	**219**	*e*PN	**Pn**	**04 08 37.1**	**+0.8**
DRO	**Drossia**	**2.84**	**219**	*e*Pn	**Pn**	**04 08 37.1**	**+0.8**
EDC	**Edincik**	**2.97**	**86**	*e*PN	**Pn**	**04 08 40.9**	**+2.8**
EDC	**Edincik**	**2.97**	**86**	*e*Pn	**Pn**	**04 08 40.9**	**+2.8**
BALB	**Balikesir**	**3.04**	**99**	*e*PN	**Pn**	**04 08 41.6**	**+2.6**
BALB	**Balikesir**	**3.04**	**99**	*e*Pn	**Pn**	**04 08 41.6**	**+2.6**
PHSR	**Pinarhisar**	**3.05**	**60**	*e*PN	**Pn**	**04 08 42.0**	**+2.9**
PHSR	**Pinarhisar**	**3.05**	**60**	*e*Pn	**Pn**	**04 08 42.0**	**+2.9**
VLX	**Vlachokerasia**	**3.07**	**205**	P	**Pn**	**04 08 39.9**	**+0.4**
VLX	**Vlachokerasia**	**3.07**	**205**	P	**Pn**	**04 08 39.9**	**+0.4**
BARS	**Barje**	**3.10**	**329**	*e*Pn	**Pn**	**04 08 40.4**	**+0.6**
BARS	**Barje**	**3.10**	**329**	*e*Pn	**Pn**	**04 08 40.4**	**+0.6**
MPEP	**Malo Peshtene**	**3.18**	**357**	P	**Pn**	**04 08 42.2**	**+1.3**
MPEP	**Malo Peshtene**	**3.18**	**357**	P	**Pn**	**04 08 42.5**	**+1.6**
ZAPS	**Zavoj**	**3.25**	**342**	*e*Pn	**Pn**	**04 08 43.5**	**+1.5**
KCTX	**Karacabey (Bur**	**3.35**	**87**	*e*PN	**Pn**	**04 08 45.9**	**+2.6**
KCTX	**Karacabey (Bur**	**3.35**	**87**	*e*Pn	**Pn**	**04 08 45.9**	**+2.6**
SZH	**Strazhica**	**3.41**	**25**	P	**Pn**	**04 08 44.5**	**+0.4**
SZH	**Strazhica**	**3.41**	**25**	P	**Pn**	**04 08 44.2**	**+0.1**
SZH	**Strazhica**	**3.41**	**25**	P	**Pn**	**04 08 44.5**	**+0.4**
CTYL	**Yal??k??y-??at**	**3.52**	**67**	*e*PN	**Pn**	04 08 49.0	+3.5
CTYL	**Yal??k??y-??at**	**3.52**	**67**	*e*Pn	**Pn**	04 08 49.0	+3.5
CTKS	**Kestanelik-??a**	**3.60**	**71**	*e*PN	**Pn**	**04 08 49.4**	**+2.8**
CTKS	**Kestanelik-??a**	**3.60**	**71**	*e*Pn	**Pn**	**04 08 49.4**	**+2.8**
SELS	**Selova**	**3.72**	**326**	*e*Pn	**Pn**	**04 08 48.7**	**+0.3**
ARMT	**Armutlu**	**3.75**	**83**	*e*PN	**Pn**	**04 08 51.7**	**+3.0**
ARMT	**Armutlu**	**3.75**	**83**	*e*Pn	**Pn**	**04 08 51.7**	**+3.0**
AYDB	**Zeytinkoy-Aydi**	**3.77**	**125**	*e*PN	**Pn**	**04 08 51.6**	**+2.4**
AYDB	**Zeytinkoy-Aydi**	**3.77**	**125**	*e*Pn	**Pn**	**04 08 51.6**	**+2.4**
KULA	**Kula-Manisa**	**3.99**	**113**	*e*PN	**

KNDC ⇑Lg Lg 04 21 20.8
330nm,0.8s
DZET Dzherino 4.13 231 ⇑Pn **Pn 04 20 39.5 +2.9**
25nm,0.5s
DZET ⇓Sn **Sn 04 21 28.1 +2.9**
68nm,0.4s
PDGK Podgornoye 5.18 67 ⇓Pg Pb 04 21 07.4 +3.5
8.8nm,0.5s
PDGK ⇑Lg Lg 04 22 14.8
59nm,1.0s
MK31 Makanchi Array 8.57 48 ⇑Pn **Pn 04 21 40.3 +2.8**
2.9nm,0.7s
MK31 ⇑Sn **Sn 04 23 17.3 +2.8**
1.6nm,0.6s,baz=228,slow=27,SNR=4.6
MK31 ⇑Lg Lg 04 24 07.3
13nm,1.1s,baz=228,slow=27,SNR=4.6
MKAR Makanchi Array 8.57 48 Pn **Pn 04 21 39.3 +1.8**
0.3nm,0.3s,baz=230,slow=13,SNR=9.1
MKAR Lg Lg 04 24 00.7
0.6nm,0.3s,baz=228,slow=27,SNR=3.6
KURBB Kurchatov Arra 9.95 21 ⇑Lg Lg 04 24 52.0
26nm,0.7s
KURBB Kurchatov Arra 9.95 21 Pn **Pn 04 21 55.8 -0.5**
0.1nm,0.3s,baz=211,slow=13,SNR=5.2
KURBB Lg Lg 04 24 47.8
0.2nm,0.3s,baz=214,slow=29,SNR=5.5
KURK Kurchatov 10.05 21 ⇑Lg Lg 04 24 50.8
24nm,1.0s
BVA0 Borovoye Array 11.70 352 ⇓Lg Lg 04 25 49.0
9.3nm,0.8s,baz=159,slow=27,SNR=4.5
BVAR Borovoye Array 11.70 352 Pn **Pn 04 22 20.7 +0.4**
0.3nm,0.3s,baz=169,slow=10,SNR=3.2
BVAR Sn **Sn 04 24 28.1 -3.0**
0.1nm,0.3s,baz=163,slow=26,SNR=2.5
BVAR Lg Lg 04 25 43.4
0.5nm,0.3s,baz=185,slow=29,SNR=2.7
BRVK Borovoye 11.74 352 ⇓Lg Lg 04 25 48.5
20nm,1.5s
GEYT Alibeck 11.96 258 Pn Pn 04 22 20.4 -3.6
0.2nm,0.3s,baz=66,slow=9.8,SNR=2.1
AB31 Akbulak array 12.01 315 Pn **Pn 04 22 25.6 +1.2**
1.3nm,0.5s,baz=118,slow=14,SNR=39
AKTO Aktyubinsk 13.71 316 ⇓Pn **Pn 04 22 49.7 +2.0**
4.6nm,1.1s
AKTO Aktyubinsk 13.71 316 Pn **Pn 04 22 44.6 -3.1**
0.1nm,0.3s,baz=146,slow=18,SNR=1.9
AKTO Sn **Sn 04 25 14.3 -6.0**
0.1nm,0.3s,baz=344,slow=19,SNR=2.1
ZALV Zalesovo Beam 14.80 28 Pn **Pn 04 23 02.8 +0.2**
baz=224,slow=11,SNR=2.3
HHC Hu-ho-hao-te 28.92 78 *eP* **P 04 25 34.8 +2.0**
HHC PP **PnPn 04 26 26.6 +2.8**
HHC S **S 04 30 22.8 -1.0**
HHC SS **SnSn 04 31 47.6 +2.1**
FINES FINESS Array B 34.38 322 P **P 04 26 20.7 +0.3**
3.5nm,1.0s,baz=111,slow=11,SNR=3.3
NOA NORSAR Array B 41.46 320 P **P 04 27 19.9 -0.3**
0.3nm,0.7s,baz=96,slow=7.1,SNR=2.7
GERES GERESS Array B 41.49 301 P **P 04 27 21.4 +0.7**
0.6nm,0.4s,baz=62,slow=9.2,SNR=5.7
TORD Torodi Ar. Bea 67.40 268 P **P 04 30 27.9 -1.5**
0.4nm,0.8s,baz=54,slow=5.4,SNR=7.3
ILAR Eielson Array 69.60 17 P **P 04 30 41.0 -1.4**
0.2nm,0.6s,baz=339,slow=2.5,SNR=3.7
WRA Warramunga Arr 83.40 124 P P 04 31 58.2 -3.0
0.8nm,1.1s,baz=337,slow=5.1,SNR=3.5

*IDC **24** 04:25:51.6±2.8, 32.°50S×71.°71W, h0km, mb3.6/1, mb1 3.8/2, mb1mx3.5/19, mbtmp3.7/2, ML3.8/1, Error ellipse: s-maj=116.7km s-min=72.2km az=87.0*
*SJA **24** 04:26:01.2±0.7, 32.°24S×68.°17W, h22km±2km, ML3.4, MW3.5*
*ISCJB **24** 04:26:02.0±0.6, 32.°27S±0.°03×68.°20W±0.°05, h22km±7km, mb3.4/1, Error ellipse: s-maj=6.6km s-min=5.7km az=159.2*

ISC 24 04:26:01.8±1.4, 32.°25S±0.°04×68.°17W±0.°04, h25km±12km, n21, σ1s20/28, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTCV	**Cerro Valdivia**	**0.50**	**320**	*eP*	**Pb**	**04 26 11.9**	**-0.1**
CFAA	**Coronel Fontan**	**0.64**	**355**	*eP*	**Pb**	**04 26 14.0**	**-0.5**
CFAA				*eS*	**Sn**	**04 26 23.8**	**-1.1**
ASAL	**Salagasta**	**0.66**	**239**	*eP*	**Pb**	**04 26 14.6**	**-0.2**
SJA	**San Juan**	**0.79**	**335**	*eP*	**Pn**	**04 26 16.9**	**-0.5**
SJA				*eS*	**Sn**	**04 26 27.9**	**-0.6**
ACAN	**Cantantal**	**0.83**	**92**	*eP*	**Pn**	**04 26 17.8**	**-0.2**
ACAN				*eS*	**Sn**	**04 26 29.4**	**0.0**
ARCO	**CERRO ARCO**	**0.88**	**227**	*eP*	**Pn**	**04 26 18.4**	**-0.3**
ARCO				AML	AML	04 26 34.4	
	comp=Z,1μm,0.2s						
RTLL	**Cerro Villicun**	**0.95**	**344**	*eP*	**Pn**	**04 26 19.3**	**-0.4**
RTLL				*eS*	**Sn**	**04 26 32.6**	**+0.2**
AAGR	**Agrelo**	**1.00**	**214**	*eP*	**Pn**	**04 26 20.9**	**+0.5**
AUSP	**Uspallata**	**1.03**	**271**	*eP*	**Pn**	**04 26 20.6**	**-0.4**
RTLS	**Leoncito**	**1.06**	**295**	*eP*	**Pn**	**04 26 21.0**	**-0.3**
AMOG	**MOGNA**	**1.33**	**348**	*eP*	**Pb**	**04 26 26.1**	**-0.1**
AMOG				*eS*	**Sb**	**04 26 43.4**	**+0.5**
ACHE	**Chepes**	**1.68**	**50**	*eP*	**Pb**	**04 26 31.6**	**-0.5**
AVFE	**Valle Fertil**	**1.70**	**21**	*eP*	**Pb**	**04 26 31.3**	**-1.1**
AVFE				*eS*	**Sb**	**04 26 54.4**	**+1.1**
MRA	**San Martin**	**2.08**	**95**	*eP*	**Pn**	**04 26 35.8**	**+0.6**
APLL	**PUNTA DE LOS L**	**2.32**	**38**	*eP*	**Pb**	**04 26 40.8**	**-2.2**
VCA	**Vinchina**	**3.50**	**359**	*eP*	**Pn**	**04 26 56.9**	**+2.1**
CYA	**Choya**	**4.31**	**29**	*eP*	**Pn**	**04 27 06.7**	**+0.9**
LPAZ	**La Paz**	**15.89**	**0**	Pn	**Pn**	**04 29 44.0**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=216,slow=10,SNR=11						
TORD	**Torodi Ar. Bea**	**80.55**	**68**	P	P	04 38 21.3	+9.0
	comp=Z,0.4nm,0.8s,baz=222,slow=5.5,SNR=2.7						
KURBB	**Kurchatov Arra**	**149.37**	**43**	PKPbc	**PKPbc**	**04 45 46.8**	**-1.3**
KURBB	comp=Z,0.1nm,0.3s,baz=297,slow=2.9,SNR=4.0			PKPab	**PKPab**	**04 45 55.0**	**+2.2**
	comp=Z,0.3nm,0.7s,baz=318,slow=4.0,SNR=3.1						
ZALV	**Zalesovo Beam**	**150.99**	**34**	PKPbc	**PKPbc**	**04 45 49.5**	**-2.3**
	comp=Z,0.9nm,0.4s,baz=313,slow=3.5,SNR=4.5						
ZALV				PKPab	**PKPab**	**04 46 02.0**	**+2.6**
	comp=Z,0.8nm,0.5s,baz=289,slow=3.5,SNR=4.0						

*IDC **24** 04:27:35.8±1.5, 30.°22S×177.°48W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/17, mbtmp3.8/3, Error ellipse: s-maj=38.1km s-min=27.8km az=92.0*

ISC 24 04:27:41.4±1.5, 30.°1S±0.°1×177.°6W±0.°3, h35km, n8, σ1s20/9, mb3.9/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.87**	**340**	Pn	**Pn**	**04 27 58.6**	**+1.5**
	846nm,0.3s,baz=281,slow=16,SNR=71						
RAO				Sn	**Sn**	**04 28 07.2**	**-1.2**
	4μm,0.3s,baz=287,slow=20,SNR=136						
STKA	**Stephens Creek**	**34.91**	**256**	P	**P**	**04 34 29.5**	**-0.2**
	0.6nm,0.4s,baz=104,slow=11,SNR=2.6						
ASAR	**Alice Springs**	**43.49**	**266**	P	**P**	**04 35 41.6**	**0.0**
	0.5nm,0.5s,baz=106,slow=7.2,SNR=9.7						
WRA	**Warramunga Arr**	**44.45**	**272**	P	**P**	**04 35 49.6**	**+0.3**
	1.0nm,0.4s,baz=110,slow=7.4,SNR=8.0						
KURBB	**Kurchatov Arra**	**121.12**	**314**	PKP	**PKPdf**	**04 46 29.5**	**-0.4**
	0.2nm,0.5s,baz=108,slow=1.9,SNR=4.8						
FINES	**FINESS Array B**	**144.96**	**340**	PKPbc	**PKPdf**	**04 47 12.3**	**-1.8**
	1.7nm,0.8s,baz=101,slow=2.8,SNR=8.4						
AKASG	**Malin Array Be**	**151.26**	**323**	PKPbc	**PKPbc**	**04 47 30.6**	**-0.1**
	0.6nm,0.4s,baz=46,slow=3.1,SNR=6.7						
TORD	**Torodi Ar. Bea**	**163.15**	**178**	PKPab	**PKPab**	**04 48 31.7**	**+1.0**
	0.5nm,0.9s,baz=179,slow=3.5,SNR=2.8						

NNC 24 04:29:35.0±3.1, 36.°20N×69.°52E, h0km, mb3.6, mpv3.2, 3C-2D, Error ellipse: s-maj=24.7km s-min=16.6km az=25.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.66**	**348**	⇑Pn	Pn	04 30 19.8	+0.6
	2.7nm,0.3s						
DZET				⇓Sn	Sn	04 30 53.4	+1.1
	26nm,0.5s						
SFK	**Sufi-Kurgan**	**4.93**	**38**	⇓Pn	Pn	04 30 50.6	-0.1
	2.4nm,0.3s						
SFK				⇑Sn	Sn	04 31 49.9	+1.3
	4.1nm,0.2s						
KK31	**Karatay Array**	**6.93**	**6**	Pn	Pn	04 31 17.3	-0.6
	0.4nm,0.2s,baz=204,slow=14,SNR=13						
KK31				⇑Sn	Sn	04 32 37.5	0.0
	4.9nm,0.6s,baz=189,slow=20,SNR=9.8						
AB31	**Akbulak array**	**14.81**	**335**	Pn	Pn	04 33 01.5	-4.1
	0.3nm,0.5s,baz=157,slow=14,SNR=7.1						

IDC 24 04:40:32.3±1.7, 6.°75N×123.°35E, h686km±24km, mb2.6/6, mb1 2.8/7, mb1mx2.5/50, mbtmp3.9/7, Error ellipse: s-maj=52.9km s-min=12.3km az=58.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**10.94**	**133**	P	P	04 43 00.4	-0.7
	1.9nm,0.3s,baz=357,slow=17,SNR=8.8						
CMAR	**Chiang Mai Arr**	**26.47**	**298**	P	P	04 45 20.6	+0.6
	1.1nm,0.3s,baz=110,slow=8.0,SNR=2.8						
WRA	**Warramunga Arr**	**28.64**	**158**	P	P	04 45 38.4	-0.3
	0.5nm,0.3s,baz=333,slow=11,SNR=10						
WRA				ScP	ScP	04 51 03.5	-0.2
	0.5nm,1.0s,baz=326,slow=2.8,SNR=3.2						
ASAR	**Alice Springs**	**31.93**	**161**	P	P	04 46 07.1	+0.6
	0.1nm,0.3s,baz=337,slow=7.4,SNR=3.3						
ASAR				PcP	PcP	04 48 33.7	-0.5
	0.2nm,0.5s,baz=351,slow=3.0,SNR=3.9						
MKAR	**Makanchi Array**	**53.18**	**326**	P	P	04 48 49.1	-0.8
	0.7nm,0.4s,baz=122,slow=7.4,SNR=6.4						
ZALV	**Zalesovo Beam**	**56.40**	**334**	P	P	04 49 13.0	+1.1
	0.4nm,0.3s,baz=134,slow=8.3,SNR=3.2						
KURBB	**Kurchatov Arra**	**57.41**	**328**	P	P	04 49 18.0	-0.7
	0.5nm,0.5s,baz=131,slow=6.1,SNR=7.2						

IDC 24 04:44:00.5±2.2, 6.°91N×123.°02E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/26, mbtmp3.9/4, Error ellipse: s-maj=317.6km s-min=21.4km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.92**	**158**	P	P	04 50 01.5	-0.1
	1.1nm,0.3s,baz=335,slow=10.0,SNR=16						
ASAR	**Alice Springs**	**32.20**	**161**	P	P	04 50 30.6	+0.1
	0.8nm,0.3s,baz=342,slow=6.7,SNR=27						
MKAR	**Makanchi Array**	**52.86**	**326**	P	P	04 53 19.2	+1.1
	0.4nm,0.4s,baz=132,slow=6.7,SNR=4.1						
KURBB	**Kurchatov Arra**	**57.09**	**328**	P	P	04 53 47.5	-1.1
	0.4nm,0.6s,baz=128,slow=6.1,SNR=6.0						

*BJI **24** 05:01:30.2, 5.°98N×124.°10E, h595km, mb4.4/25, mB4.6/14*
*MAN **24** 05:01:35, 6.°82N×123.°68E, h608km, mb5.0, ML3.9, MS4.4*
*ISCJB **24** 05:01:37.7±0.2, 6.°91N±0.°03×123.°83E±0.°04, h605km±3km, mb4.2/69, Error ellipse: s-maj=6.8km s-min=3.8km az=158.3*
*MOS **24** 05:01:37.7±0.8, 6.°91N×123.°81E, h609km, mb4.3/43, Error ellipse: s-maj=13.7km s-min=6.4km az=114.0*
*NEIC **24** 05:01:38.3±0.4, 6.°88N×123.°84E, h595km±5km, mb4.4/28, Error ellipse: s-maj=8.6km s-min=5.3km az=61.0*
*IDC **24** 05:01:38.8±0.8, 6.°85N×123.°83E, h607km±9km, mb3.7/29, mb1 3.8/30, mb1mx3.7/40, mbtmp4.6/30, Error ellipse: s-maj=12.1km s-min=5.7km az=68.0*
*KLM **24** 05:01:38.6, 6.°93N×123.°73E, h597km, mb4.8*
*DJA **24** 05:01:40.0±0.3, 7.°N±4.°×12.°4E±.°, h598km±4km, M4.5/34, mb4.7/34, mB4.9/23, MLv5.2/10, Mw(mB)4.2/23*

ISC 24 05:01:38.4±0.4, 6.°91N±0.°04×123.°88E±0.°06, h602km±4km, h603kmpP-P, n225, σ1s17/272, mb4.3/67, 10C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.48**	**49**	⇓*iP*	**P**	**05 02 48.1**	**-0.9**
GSPH	**General Santos**	**1.34**	**127**	⇓*eP*	**P**	**05 02 49.5**	**-1.3**
DAV	**Davao City (W)**	**1.69**	**84**	*ePn*	**P**	**05 02 51.0**	**-0.7**
CGP	**Cagayan de Oro**	**1.74**	**28**	⇓*eP*	**P**	**05 02 50.8**	**-1.1**
DCPH	**Dipolog City**	**1.75**	**343**	⇑*eP*	**P**	**05 02 50.2**	**-1.8**
DCPH				*eS*	**S**	**05 03 49.4**	**-2.3**
TBP	**Tagbilaran**	**2.77**	**360**	*eP*	**P**	**05 02 55.0**	**-1.5**
MYLDM	**Lahad Datu**	**5.62**	**253**	⇑P	**P**	**05 03 16.4**	**-0.1**
MYLDM	**Lahad Datu**	**5.62**	**253**	⇑P	**P**	**05 03 16.4**	**-0.1**
MYLDM	**Lahad Datu**	**5.62**	**253**	*eP*	**P**	**05 03 16.7**	**+0.2**
KMSI	**Cibinong**	**6.29**	**179**	P	**P**	**05 03 22.4**	**+0.2**
	192nm,1.0s,1.9nm						
TSM	**Tawau**	**6.52**	**247**	⇑P	**P**	**05 03 22.6**	**-1.6**
TSM	**Tawau**	**6.52**	**247**	⇑P	**P**	**05 03 22.6**	**-1.6**
MRSI	**Marisa**	**6.67**	**197**	P	**P**	**05 03 28.2**	**+2.6**
	32nm,0.8s,0.1nm						
KDM	**Kudat**	**7.00**	**271**	⇑P	**P**	**05 03 26.8**	**-1.7**
KDM	**Kudat**	**7.00**	**271**	⇑P	**P**	**05 03 26.8**	**-1.7**
TNTI	**Ternate**	**7.01**	**150**	P	**P**	**05 03 31.7**	**+3.0**
	244nm,0.3s,14μm3.7nm						
MPSI	**Mapaga**	**7.64**	**212**	P	**P**	**05 03 33.2**	**-1.3**
	32nm,1.1s,713nm0.1nm						
KKM	**Kota Kinabalu**	**7.67**	**264**	P	**P**	**05 03 33.5**	**-1.4**
	baz=7.4,SNR=40						
KKM	**Kota Kinabalu**	**7.67**	**264**	*ePn*	**P**	**05 03 33.3**	**-1.5**
	117nm,0.4s						
TGY	**Tagaytay City**	**7.72**	**338**	P	**P**	**05 03 34.8**	**-0.4**
	76nm,0.3s,baz=167,slow=7.1,SNR=8.2						
TGY				S	**S**	**05 05 10.4**	**-0.4**
	baz=208,slow=14,SNR=5.9						
TGY	**Tagaytay City**	**7.72**	**338**	P	**P**	**05 03 34.8**	**-0.4**
TGY				S	**S**	**05 05 10.4**	**-0.4**
TGY				pmax	pmax		
	comp=Z,76nm,0.3s						
APSI	**Ampana**	**8.08**	**196**	P	**P**	**05 03 39.6**	**+1.0**
	comp=Z,53nm,0.6s,comp=Z,923nm						
LBMI	**Labuha**	**8.32**	**154**	P	P	05 03 46.0	+5.1
	comp=Z,152nm,0.4s,comp=Z,2μmcomp=Z,2.8nm						
SANI	**Sanana**	**9.14**	**167**	P	**P**	**05 03 47.0**	**-1.8**
	comp=Z,74nm,0.7s,comp=Z,1μm						
PALU	**Palau**	**10.52**	**87**	P	**P**	**05 04 03.1**	**+0.6**
	baz=11,SNR=12						
NLAI	**Namlea**	**10.58**	**162**	P	**P**	**05 04 04.4**	**+1.4**
	comp=Z,117nm,0.7s,comp=Z,2μm						
SWI	**Sorong**	**10.66**	**136**	P	**P**	**05 04 04.3**	**+0.4**
	comp=Z,88nm,0.8s						
SWI	**Sorong**	**10.66**	**136**	P	**P**	**05 04 04.5**	**+0.6**
	baz=11,SNR=5.3						
TTSI	**Tana Toraja**	**10.68**	**202**	P	**P**	**05 04 05.0**	**+0.9**
	comp=Z,25nm,0.8s,comp=Z,1μm						
MSAI	**Masohi**	**11.36**	**154**	P	**P**	**05 04 12.5**	**+1.6**
	comp=Z,50nm,0.7s,comp=Z,710nm						
SPSI	**Sidrap Palu**	**11.55**	**201**	P	**P**	**05 04 13.4**	**+0.7**
	comp=Z,32nm,0.7s,comp=Z,1μm						
SBUM	**Sibu**	**12.43**	**250**	*eP*	**P**	**05 04 21.6**	**-0.1**
FAKI	**Fak Fak**	**12.85**	**139**	P	**P**	**05 04 25.7**	**-0.1**
	comp=Z,224nm,0.7s,comp=Z,2μm						
FAKI	**Fak Fak**	**12.85**	**139**	P	**P**	**05 04 25.8**	**+0.1**
	baz=13,SNR=37						
FAKI	**Fak Fak**	**12.85**	**139**	*ePn*	**P**	**05 04 25.5**	**-0.2**
KSM	**Kuching**	**14.57**	**249**	P	**P**	**05 04 42.3**	**-0.4**
	baz=14,SNR=30						
KSM	**Kuching**	**14.57**	**249**	*ePn*	**P**	**05 04 42.0**	**-0.7**
	comp=Z,125nm,0.6s						
BAKI	**Biak**	**14.61**	**123**	P	**P**	**05 04 44.8**	**+1.7**
	comp=Z,175nm,0.9s,comp=Z,2μm						
DLV	**T Lat**	**15.99**	**289**	*eP*	**P**	**05 04 55.3**	**-0.6**
YULB	**Yu-li**	**16.58**	**352**	*eP*	**P**	**05 05 00.2**	**-0.8**
	comp=Z,5.3nm,0.5s						
WSI	**Waingapu**	**16.85**	**192**	P	**P**	**05 05 04.3**	**+0.8**
	comp=Z,1μm,0.4s,comp=Z,27μm						
SMPI	**Sarmi**	**17.24**	**120**	P	**P**	**05 05 09.7**	**+2.6**
	comp=Z,77nm,0.7s,comp=Z,2μm						
GENI	**Genyem**	**18.80**	**120**	P	**P**	**05 05 23.3**	**+2.0**
	comp=Z,121nm,1.0s						
JAY	**Jayapura**	**19.22**	**119**	P	**P**	**05 05 25.9**	**+0.6**
	comp=Z,3.5nm,0.3s,baz=282,slow=9.9,SNR=9.8						
JAY	**Jayapura**	**19.22**	**119**	P	**P**	**05 05 25.9**	**+0.6**
JAY				pmax	pmax		
	comp=Z,4.0nm,0.3s						
JAY	**Jayapura**	**19.22**	**119**	P	**P**	**05 05 26.1**	**+0.8**
	baz=19,SNR=4.1						
MTN	**Manton Dam**	**20.90**	**160**	P	**P**	**05 05 43.4**	**+3.1**
	baz=21,SNR=3.1						
KDU	**Kakadu**	**21.25**	**156**	P	**P**	**05 05 42.7**	**-0.8**
	baz=21,SNR=4.3						
PMBI	**Palembang**	**21.43**	**243**	P	P	05 05 50.5	+5.4
	baz=21,SNR=4.7						
GUMO	**Guam**	**21.68**	**70**	P	**P**	**05 05 47.8**	**+0.5**
	comp=Z,64nm,0.8s,baz=217,slow=20,SNR=2.8						
GUMO	**Guam**	**21.68**	**70**	P	**P**	**05 05 47.8**	**+0.5**
GUMO				pmax	pmax		
	comp=Z,64nm,0.8s						
MNSI	**Mandailing Nat**	**24.98**	**257**	P	P	05 06 09.2	-7.4
XMIS	**Christmas Isla**	**25.05**	**227**	P	P	05 06 09.1	-8.2
	baz=25,SNR=3.5						
PSI	**Prapat**	**25.19**	**262**	PcP	**PcP**	**05 09 30.8**	**-0.5**
	comp=Z,6.3nm,0.9s,baz=149,slow=19,SNR=4.2						
GYA	**Guiyang**	**25.44**	**322**	*eP*	**P**	**05 06 21.0**	**+0.4**
GYA				sP	**sP**	**05 09 01.8**	**-1.4**
GYA				PcP	**PcP**	**05 09 32.3**	**+0.8**
GYA				S	**S**	**05 10 08.4**	**+1.7**
GYA				ScP	**ScP**	**05 12 14.0**	**-0.8**
GYA				ScS	**ScS**	**05 16 04.3**	**-0.9**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
JCJ	**Chichijima**	**26.57**	**39**	S	**S**	**05 10 17.4**	**-6.6**
	comp=Z,53nm,0.9s,baz=287,slow=19,SNR=2.2						
CMAR	**Chiang Mai Arr**	**26.86**	**298**	P	**P**	**05 06 33.9**	**+0.8**
	comp=Z,2.5nm,0.3s,baz=114,slow=7.9,SNR=8.1						
CMAR				PcP	**PcP**	**05 09 34.4**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=186,slow=0.6,SNR=6.5						
CMAR	**Chiang Mai Arr**	**26.86**	**298**	P	**P**	**05 06 33.9**	**+0.8**
CMAR						05 09 34.4	
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KMI	**Kunming**	**27.15**	**314**	P	**P**	**05 06 37.1**	**+1.4**
KMI				sP	**sP**	**05 09 19.3**	**-1.2**
KMI				PcP	**PcP**	**05 09 37.1**	**+1.3**
KMI				S	**S**	**05 10 36.3**	**+2.7**
KMI				ScP	**ScP**	**05 12 21.6**	**+1.5**
KMI				ScS	**ScS**	**05 16 12.9**	**-0.1**
KMI				PMZ			
	comp=Z,6.0nm,0.7s						
KMI				PMZ			
	comp=Z,94nm,4.8s						
COEN	**Coen**	**28.22**	**137**	P	**P**	**05 06 44.2**	**-0.7**
	baz=28,SNR=28						
COEN	**Coen**	**28.22**	**137**	*eP*	**P**	**05 06 44.2**	**-0.7**
	comp=Z,21nm,0.6s						
WRAB	**Tennant Creek**	**28.59**	**159**	*eP*	**P**	**05 06 47.5**	**-0.5**
WRAB				*eS*	**S**	**05 10 52.3**	**-3.4**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.4s						
WRAB	**Tennant Creek**	**28.59**	**159**	*eP*	**P**	**05 06 47.5**	**-0.5**
	comp=Z,10nm,0.4s						
WRAB				*eS*	**S**	**05 10 52.2**	**-3.4**
WRA	**Warramunga Arr**	**28.59**	**159**	P	**P**	**05 06 47.5**	**-0.6**
	comp=Z,8.1nm,0.4s,baz=342,slow=9.2,SNR=50						
WRA				PcP	**PcP**	**05 09 38.8**	**-0.4**
	comp=Z,3.3nm,0.5s,baz=341,slow=3.0,SNR=15						
WRA				S	**S**	**05 10 51.6**	**-4.1**
	comp=Z,7.1nm,0.6s,baz=334,slow=15,SNR=14						
WRA				ScP	**ScP**	**05 12 24.3**	**-0.1**
	comp=Z,3.4nm,0.6s,baz=342,slow=3.2,SNR=11						
WRA	**Warramunga Arr**	**28.59**	**159**	P	**P**	**05 06 47.5**	**-0.6**
WRA						05 09 38.8	
WRA				S	**S**	**05 10 51.6**	**-4.1**
WRA				pmax	pmax		
	comp=Z,8.0nm,0.4s						
WRA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
WRA				smax	smax		
	comp=N,7.0nm,0.6s						
WRA				pmax	pmax		
	comp=N,3.0nm,0.6s						
CD2	**Chengdu**	**30.43**	**324**	P	**P**	**05 07 04.0**	**+0.2**
CD2				sP	**sP**	**05 09 49.3**	**-0.5**
CD2				S	**S**	**05 11 25.1**	**+1.3**
CD2				SS	**SS**	**05 14 35.1**	**+2.3**
CD2				PMZ			
	comp=N,10.0nm,0.5s						
CD2				PMZ			
	comp=N,380nm,6.6s						
KSRS	**Korea Array**	**30.63**	**6**	P	**P**	**05 07 05.3**	**0.0**
	comp=N,0.7nm,0.5s,baz=194,slow=10,SNR=4.1						
KSRS				PcP	**PcP**	**05 09 43.3**	**-0.9**
	comp=N,0.8nm,0.6s,baz=222,slow=3.3,SNR=4.6						
KSRS				ScP	**ScP**	**05 12 31.0**	**+0.3**
	comp=N,0.6nm,0.5s,baz=205,slow=2.6,SNR=3.6						
KSRS	**Korea Array**	**30.63**	**6**	P	**P**	**05 07 05.3**	**0.0**
KSRS						05 09 43.3	
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KSRS				pmax	pmax		
	comp=N,1.0nm,0.5s						
GIRL	**Giralia**	**30.85**	**198**	P	**P**	**05 07 08.2**	**+0.8**
	baz=31,SNR=5.5						
QIS	**Mount Isa**	**31.36**	**151**	P	**P**	**05 07 12.0**	**+0.1**
	baz=31,SNR=12						
AS31	**Alice Springs**	**31.92**	**162**	*eP*	**P**	**05 07 16.9**	**+0.3**
AS31				*ePcP*	**PcP**	**05 09 47.9**	**-0.3**
AS31				*eS*	**S**	**05 11 44.4**	**-2.4**
ASAR	**Alice Springs**	**31.92**	**162**	P	**P**	**05 07 16.9**	**+0.4**
	comp=N,2.2nm,0.3s,baz=340,slow=7.9,SNR=62						
ASAR				PcP	**PcP**	**05 09 48.2**	**+0.1**
	comp=N,4.7nm,0.5s,baz=344,slow=2.8,SNR=28						
ASAR				S	**S**	**05 11 44.4**	**-2.3**
	comp=N,18nm,0.8s,baz=352,slow=24,SNR=37						
ASAR				ScP	**ScP**	**05 12 35.3**	**-0.1**
	comp=N,1.6nm,0.6s,baz=347,slow=3.1,SNR=5.4						
ASAR	**Alice Springs**	**31.92**	**162**	P	**P**	**05 07 17.0**	**+0.4**
ASAR						05 09 48.3	
ASAR				S	**S**	**05 11 44.4**	**-2.3**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ASAR				smax	smax		
	comp=N,18nm,0.8s						
ASAR				pmax	pmax		
	comp=N,2.0nm,0.6s						
MTSU	**Mount Surprise**	**32.03**	**141**	P	**P**	**05 07 17.7**	**+0.2**
	baz=32,SNR=6.8						
WRKA	**Warakurna**	**32.04**	**172**	P	**P**	**05 07 17.8**	**+0.2**
	baz=32,S

baz=38,SNR=42
QLP Quilpie 38.70 150 P P 05 08 12.9 +0.5
baz=39,SNR=3.2
KLBR Kellerberrin 38.72 188 P P 05 08 12.1 -0.4
baz=39,SNR=11
GTA Gaotai 38.94 330 *e*P **P 05 08 14.3 -0.1**
GTA PMZ
comp=Z,3.0nm,0.8s
NWAO Narrogin (SRO) 40.11 189 P P 05 08 23.6 0.0
comp=Z,14nm,0.4s,baz=329,slow=4.3,SNR=26
NWAO Narrogin (SRO) 40.11 189 P P 05 08 23.6 0.0
NWAO pmax pmax
comp=Z,14nm,0.4s
NWAO Narrogin (SRO) 40.11 189 P P 05 08 23.8 +0.1
baz=40,SNR=20
NWAO P P **05 08 23.8 +0.1**
baz=40,SNR=20
BBOO Buckleboo 41.16 164 P P 05 08 32.3 +0.4
baz=41,SNR=34
BBOO Buckleboo 41.16 164 *e*P **P 05 08 32.3 +0.4**
comp=Z,12nm,0.8s
RKGY Rocky Gully 41.80 189 P P 05 08 37.7 +0.7
baz=42,SNR=17
STKA Stephens Creek 42.11 157 P P 05 08 39.6 +0.3
comp=Z,2.7nm,0.5s,baz=333,slow=8.1,SNR=11
STKA PcP **PcP 05 10 19.8 +0.2**
comp=Z,1.1nm,0.5s,baz=318,slow=5.7,SNR=3.3
STKA Stephens Creek 42.11 157 P P 05 08 39.7 +0.3
STKA 05 10 19.8
STKA pmax pmax
comp=Z,3.0nm,0.5s
STKA pmax pmax
comp=Z,1.0nm,0.5s
STKA Stephens Creek 42.11 157 *e*P **P 05 08 40.0 +0.6**
comp=Z,0.5nm,0.5s
HTT Hallett 42.58 161 P P 05 08 43.7 +0.5
baz=43,SNR=9.1
ULN Ulaanbaatar 43.27 343 *e*P **P 05 08 49.7 +1.3**
ULN *e* 05 10 23.9
ULN pmax pmax
comp=Z,9.0nm,1.1s
ULN Ulaanbaatar 43.27 343 *e*P **P 05 08 49.7 +1.3**
comp=Z,8.5nm,1.1s
ULN *e*PcP **PcP 05 10 23.9 +0.4**
SONM Songino Array 43.43 343 P P 05 08 50.4 +0.8
comp=Z,3.8nm,0.8s,baz=155,slow=8.0,SNR=24
SONM PcP **PcP 05 10 23.8 -0.2**
comp=Z,2.0nm,0.7s,baz=150,slow=3.1,SNR=8.2
SONM ScP **ScP 05 13 17.7 -1.3**
comp=Z,0.4nm,0.7s,baz=160,slow=4.6,SNR=3.0
SONM Songino Array 43.43 343 P P 05 08 50.4 +0.8
SONM 05 10 23.8
SONM pmax pmax
comp=Z,4.0nm,0.9s
SONM pmax pmax
comp=Z,2.0nm,0.7s
TLY Talaya 47.67 343 *e*P **P 05 09 21.6 +0.1**
TLY pmax pmax
comp=Z,7.0nm,0.9s
MOY Mondy 48.46 341 *e*P **P 05 09 29.1 +1.5**
WMQ Urumqi 48.52 325 *e*P **P 05 09 29.0 +0.9**
WMQ PMZ
comp=Z,9.0nm,0.8s
DZM Mont Dzumac 50.68 126 P P 05 09 45.0 +0.8
comp=Z,14nm,1.1s,baz=360,slow=19,SNR=6.9
BOD Bodaibo 51.37 353 *e*P **P 05 09 49.0 +0.6**
BOD pmax pmax
comp=Z,7.0nm,0.7s
MK31 Makanchi Array 53.35 325 *e*P **P 05 10 03.5 +0.7**
MK31 pmax pmax
comp=Z,10.0nm,0.4s
MK31 Makanchi Array 53.35 325 *e*P **P 05 10 03.5 +0.7**
MK31 *e*PcP **PcP 05 11 00.1 -0.2**
MKAR Makanchi Array 53.35 325 P P 05 10 03.7 +0.8
comp=Z,19nm,0.4s,baz=121,slow=8.2,SNR=200
MKAR PcP **PcP 05 11 00.1 -0.3**
comp=Z,4.3nm,0.6s,baz=106,slow=4.3,SNR=10
MKAR ScP **ScP 05 13 59.7 -1.5**
comp=Z,0.3nm,0.5s,baz=134,slow=4.2,SNR=2.7
MKAR Makanchi Array 53.35 325 P P 05 10 03.7 +0.8
MKAR 05 11 00.1
MKAR pmax pmax
comp=Z,19nm,0.4s
MKAR pmax pmax
comp=Z,4.0nm,0.6s
PETK Petropavlovsk- 53.66 25 P P 05 10 05.9 +1.0
comp=Z,2.9nm,0.6s,baz=198,slow=7.0,SNR=8.2
PETK Petropavlovsk- 53.66 25 P P 05 10 05.9 +1.0
PETK pmax pmax
comp=Z,3.0nm,0.6s
KSH Kashi 53.81 315 P P 05 10 08.4 +2.0
KSH PMZ
comp=Z,220nm,3.5s
YAK Yakutsk 55.18 3 *e*P **P 05 10 16.5 +1.2**
YAK pmax pmax
comp=Z,22nm,0.4s
YAK Yakutsk 55.18 3 *e*P **P 05 10 16.5 +1.2**
comp=Z,22nm,0.4s
KZA Kyzart 55.37 317 P P 05 10 18.7 +1.1
SNR=11
TKM2 Tokmak 2 55.51 318 P P 05 10 19.1 +0.8
SNR=11
TKM2 Tokmak 2 55.51 318 *e*P **P 05 10 19.0 +0.8**
TKM2 pmax pmax
comp=Z,4.0nm,0.3s
TKM2 Tokmak 2 55.51 318 *e*P **P 05 10 18.9 +0.7**
comp=Z,4.4nm,0.3s
USP Ospenovka 56.38 318 P P 05 10 24.8 +0.7
SNR=11
AML Almayashu 56.45 317 P P 05 10 26.3 +1.4
SNR=8.3
ZAA0 Zalesovo Array 56.49 333 *e*P **P 05 10 24.1 -0.4**
ZAA0 *e*PcP **PcP 05 11 11.2 -1.2**
ZALV Zalesovo Beam 56.49 333 P P 05 10 24.1 -0.4
comp=Z,5.1nm,0.5s,baz=128,slow=6.2,SNR=19
ZALV PcP **PcP 05 11 11.1 -1.3**
comp=Z,1.2nm,0.5s,baz=122,slow=1.9,SNR=3.6
ZALV Zalesovo Beam 56.49 333 P P 05 10 24.1 -0.4
ZALV 05 11 11.1
ZALV pmax pmax
comp=Z,5.0nm,0.5s
ZALV pmax pmax
comp=Z,1.0nm,0.5s
EKS2 Erkin-Say 56.61 317 P P 05 10 27.0 +1.3
SNR=13
EKS2 Erkin-Say 56.61 317 *e*P **P 05 10 26.8 +1.1**
EKS2 *e* 05 11 13.5
EKS2 pmax pmax
comp=Z,10.0nm,0.7s
EKS2 Erkin-Say 56.61 317 *e*P **P 05 10 26.8 +1.1**
comp=Z,10.0nm,0.7s
EKS2 *e*PcP **PcP 05 11 13.5 +0.2**
KBL Kabul 57.36 307 *e*P **P 05 10 31.4 +0.3**
KBL pmax pmax
comp=Z,6.0nm,0.5s
KBL Kabul 57.36 307 *e*P **P 05 10 31.4 +0.3**
comp=Z,5.8nm,0.5s
KURK Kurchatov 57.56 328 *e*P **P 05 10 32.2 +0.4**
KURK pmax pmax
comp=Z,41nm,0.7s
KURK Kurchatov 57.56 328 *e*P **P 05 10 32.1 +0.4**
comp=Z,41nm,0.7s
NVS Novosibirsk 57.78 334 ⇓*i*P **P 05 10 32.7 -0.5**
NVS pmax pmax
comp=Z,10.0nm,0.8s
NVS pmax pmax
comp=N,5.0nm,0.6s
NVS pmax pmax
comp=E,4.0nm,0.5s
KK31 Karatay Array 58.99 317 *i* P **P 05 10 41.9 +0.2**
KK31 pmax pmax
comp=Z,4.0nm,0.4s
KKAR Karatay Array 58.99 317 *e*P **P 05 10 42.0 +0.3**
KKAR pmax pmax
comp=Z,4.0nm,0.5s
KKAR Karatay Array 58.99 317 *e*P **P 05 10 42.0 +0.3**
comp=Z,4.4nm,0.5s
SEY Seymchan 59.65 15 P P 05 10 45.6 +0.1
comp=Z,1.6nm,0.6s,baz=227,slow=8.8,SNR=6.3
SEY PcP **PcP 05 11 24.9 +0.1**
comp=Z,0.6nm,0.4s,baz=216,slow=7.3,SNR=4.0
SEY Seymchan 59.65 15 *e*P **P 05 10 46.4 +0.9**
BVA0 Borovoye Array 63.13 327 *i* P **P 05 11 08.5 +0.1**
BVA0 pmax pmax
comp=Z,15nm,1.1s
BVAR Borovoye Array 63.13 327 P P 05 11 08.7 +0.3
comp=Z,6.0nm,0.6s,baz=133,slow=8.3,SNR=37
BVAR Borovoye Array 63.13 327 P P 05 11 08.7 +0.3
BVAR pmax pmax
comp=Z,12nm,0.9s
BRVK Borovoye 63.20 327 *e*P **P 05 11 09.4 +0.5**
BRVK pmax pmax
comp=Z,17nm,0.8s
BRVK Borovoye 63.20 327 *e*P **P 05 11 09.3 +0.5**
comp=Z,17nm,0.8s
IMYA Miami 64.87 307 *e*P **P 05 11 19.8 -0.2**
RPZ Rata Peaks 65.97 144 P P 05 11 27.1 +0.6
comp=Z,6.7nm,0.8s,baz=317,slow=16,SNR=2.5
GEYT Alibeck 66.71 308 P P 05 11 31.1 -0.2
comp=Z,2.8nm,0.4s,baz=129,slow=4.0,SNR=6.6
BILL Bilibino 67.26 16⇑*e*P **P 05 11 34.3 +0.3**
BILL *e* 05 11 55.7
BILL *e**PP **pP 05 13 35.1 +1.0**
BILL *e* 05 14 15.8
BILL pmax pmax
comp=Z,6.0nm,1.1s
AB31 Akbulak array 67.91 321 *i* P **P 05 11 38.1 -0.2**
AB31 pmax pmax
comp=Z,3.0nm,0.4s
ABKAR Akbulak array 67.91 321 *e*P **P 05 11 38.4 +0.1**
comp=Z,7.9nm,0.6s
AKTO Aktyubinsk 69.43 321 P P 05 11 47.1 -0.2
AKTO pmax pmax
comp=Z,13nm,0.9s
SVE Sverdlovsk 69.79 328⇑*e*P **P 05 11 49.3 -0.1**
SVE pmax pmax
comp=Z,17nm,0.6s
NIUE Niue 70.11 113 P P 05 11 56.7 +4.8
baz=70,SNR=3.5
ARU Arti 70.75 328*d i*P **P 05 11 54.5 -0.5**
ARU S **S 05 20 23.4 +0.8**
ARU pmax pmax
comp=Z,17nm,1.0s
ARU Arti 70.75 328 *e*P **P 05 11 54.6 -0.5**
comp=Z,14nm,0.5s
CASY Casey 73.64 186 *e*P **P 05 12 11.3 -0.1**
comp=Z,9.6nm,0.9s
PRGR Permogore 78.38 331 P P 05 12 35.8 -1.8
PRGR pmax pmax
comp=Z,8.0nm,0.5s
NEY Neytrino 78.87 313 *e*P **P 05 12 38.9 -1.9**
KIV Kislovodsk 78.91 313⇑*e*P **P 05 12 41.9 +1.0**
KIV *e* 05 12 45.8
KIV *e**PP **pP 05 14 46.8 +0.3**
KIV *e* 05 15 56.1
KIV pmax pmax
comp=Z,5.0nm,0.6s
KDAK Kodiak Island 80.75 33 *i* P **P 05 12 51.4 +1.3**
PPLA Purkeypile 81.13 27 *e*P **P 05 12 53.3 +1.1**
comp=Z,6.1nm,0.6s
CAST Castle Rocks 81.19 27 *e*P **P 05 12 53.9 +1.6**
comp=Z,7.8nm,0.8s
VSR Storozhevoye 81.35 321 *e*P **P 05 12 52.4 -0.9**
VSR pmax pmax
comp=N,3.0nm,0.5s
VSR pmax pmax
comp=E,3.0nm,0.5s
VSR pmax pmax
comp=Z,9.0nm,0.5s
TRF Thorofare Moun 82.00 27 *e*P **P 05 12 57.5 +0.9**
comp=Z,6.7nm,0.8s
COLD Coldfoot 82.09 23 *e*P **P 05 12 59.1 +2.3**
comp=Z,10nm,1.0s
PMR Palmer 82.54 29 *e*P **P 05 12 59.1 0.0**
PMR pmax pmax
comp=Z,14nm,1.3s
PMR Palmer 82.54 29 *e*P **P 05 12 59.1 0.0**
comp=Z,14nm,1.3s
MCK McKinley 82.61 27 *e*P **P 05 13 00.1 +0.6**
MCK pmax pmax
comp=Z,19nm,0.8s
MCK McKinley 82.61 27 *e*P **P 05 13 00.1 +0.6**
comp=Z,19nm,0.8s
OBN Obninsk 82.85 325*de*P **P 05 13 00.2 -0.5**
OBN *e**PP **pP 05 15 06.9 -1.1**
OBN *e**SP **sP 05 16 09.9 +1.1**
OBN *e* 05 16 23.9
OBN pmax pmax
comp=Z,37nm,1.7s
CCB Clear Creek Bu 83.09 26 *e*P **P 05 13 01.9 +0.1**
comp=Z,2.9nm,0.7s
ILAR Eielson Array 83.48 26 P P 05 13 03.6 -0.1
comp=Z,1.1nm,0.5s,baz=242,slow=5.2,SNR=37
ILAR Eielson Array 83.48 26 P P 05 13 03.7 -0.1
ILAR pmax pmax
comp=Z,1.0nm,0.5s
MAW Mawson 85.75 200 P P 05 13 14.0 -0.6
comp=Z,2.1nm,0.6s,baz=73,slow=5.8,SNR=7.0
MAW Mawson 85.75 200 P P 05 13 14.0 -0.6
MAW pmax pmax
comp=Z,2.0nm,0.6s
MAW Mawson 85.75 200 *e*P **P 05 13 14.2 -0.3**
BR131 Keskin Array S 85.83 309 *e*P **P 05 13 14.7 -1.2**
comp=Z,3.2nm,0.8s
BRTR Keskin Array B 85.83 309 P P 05 13 14.7 -1.2
comp=Z,2.3nm,0.5s,baz=127,slow=4.6,SNR=15
BRTR Keskin Array B 85.83 309 P P 05 13 14.7 -1.2
BRTR pmax pmax
comp=Z,2.0nm,0.5s
ARCES ARCESS Array B 86.51 340 P P 05 13 16.5 -1.7
comp=Z,3.7nm,0.7s,baz=71,slow=5.3,SNR=7.0
ARCES ARCESS Array B 86.51 340 P P 05 13 16.5 -1.7
ARCES pmax pmax
comp=Z,4.0nm,0.7s
KMBO Kilima Mbogo 86.79 268 P P 05 13 20.6 -0.4
comp=Z,1.5nm,0.2s,baz=38,slow=6.3,SNR=4.6
KMBO Kilima Mbogo 86.79 268 P P 05 13 20.6 -0.4
KMBO pmax pmax
comp=Z,1.0nm,0.3s
VNDA Vanda 86.92 172 P P 05 13 20.2 +0.2
comp=Z,4.6nm,0.6s,baz=317,slow=6.9,SNR=39
VNDA Vanda 86.92 172 P P 05 13 20.2 +0.2
VNDA pmax pmax
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 87.66 321 P P 05 13 22.5 -1.5
comp=Z,0.9nm,0.4s,baz=71,slow=4.1,SNR=9.5
AKASG Malin Array Be 87.66 321 P P 05 13 22.5 -1.5
AKASG pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 87.71 332 P P 05 13 22.9 -1.1
comp=Z,3.2nm,0.6s,baz=270,slow=1.9,SNR=34
FINES FINESS Array B 87.71 332 P P 05 13 22.9 -1.1
FINES pmax pmax
comp=Z,3.0nm,0.6s
SBA Scott Base 87.86 172 *e*P **P 05 13 25.8 +1.5**
SBA pmax pmax
comp=Z,4.0nm,1.2s
SBA Scott Base 87.86 172 *e*P **P 05 13 25.8 +1.5**
comp=Z,3.7nm,1.2s
INK Inuvik 88.26 21 P P 05 13 25.4 -0.9
comp=Z,2.5nm,0.8s,baz=234,slow=5.7,SNR=4.1
INK Inuvik 88.26 21 P P 05 13 25.5 -0.9
INK pmax pmax
comp=Z,3.0nm,0.8s
NB2 NORSAR Subarra 94.70 333 P P 05 13 54.6 -1.6
comp=Z,1.3nm,0.6s,baz=66,slow=4.8
NOA NORSAR Array B 94.70 333 P P 05 13 54.9 -1.3
comp=Z,1.8nm,0.7s,baz=68,slow=4.7,SNR=8.0
NOA NORSAR Array B 94.70 333 P P 05 13 54.9 -1.3
NOA pmax pmax
comp=Z,2.0nm,0.7s
QSPA South Pole Qui 96.79 180 *e*P **P 05 14 07.5 +2.0**
comp=Z,2.4nm,1.0s
MATP Matopo 97.40 250 P Pdif 05 14 07.4 -1.9
comp=Z,1.1nm,0.7s,baz=120,slow=6.8
GERES GERESS Array B 97.85 321 P Pdif 05 14 09.8 -1.0
comp=Z,0.5nm,0.6s,baz=62,slow=6.8,SNR=2.2
GERES GERESS Array B 97.85 321 P Pdif 05 14 09.8 -0.9
GERES pmax pmax
comp=Z,1.0nm,0.6s
NVAR Mina Array Bea 106.85 47 PKKPbc PKKPbc 05 30 17.2 -0.8
comp=Z,0.4nm,0.5s,baz=134,slow=4.3,SNR=3.7
NVAR PKKPab **PKKPab 05 30 34.1 -1.8**
comp=Z,0.2nm,0.5s,baz=180,slow=3.5,SNR=3.5
PDAR Pinedale Array 110.78 39 PKKPbc PKKPbc 05 30 14.4 +8.3
comp=Z,0.6nm,0.8s,baz=104,slow=6.1,SNR=5.8
SCHQ Schefferville 117.84 7 PKP **PKPdf 05 19 17.0 -0.5**
comp=Z,1.9nm,0.4s,baz=349,slow=2.6,SNR=10
SCHQ Schefferville 117.84 7 *e*PKPdf **PKPdf 05 19 17.9 +0.4**
TORD Torodi Ar. Bea 119.22 289 PKP **PKPdf 05 19 20.6 -0.5**
comp=Z,1.7nm,0.5s,baz=66,slow=1.8,SNR=53
TORD PKKPbc **PKKPbc 05 29 37.5 +1.1**
comp=Z,0.2nm,0.5s,baz=290,slow=3.7,SNR=4.9
TXAR Lajitas Array 121.80 49 PKP **PKPdf 05 19 26.1 +0.2**
comp=Z,0.6nm,0.8s,baz=327,slow=2.1,SNR=6.1
TXAR Lajitas Array 121.80 49 PKIKP **PKPdf 05 19 26.1 +0.2**
TXAR pmax pmax
comp=Z,1.0nm,0.8s
WMOK Wichita Mounta 122.24 41 *e*PKIKP **PKPdf 05 19 26.7 +0.1**
WMOK Wichita Mounta 122.24 41 *e*PKPdf **PKPdf 05 19 26.7 +0.1**
DBIC Dimbokro 127.11 284 PKP **PKPdf 05 19 36.1 -0.2**
comp=Z,1.9nm,0.6s,baz=8.5,slow=5.0,SNR=4.7
DBIC Dimbokro 127.11 284 PKIKP **PKPdf 05 19 36.2 -0.2**
DBIC pmax pmax
comp=Z,2.0nm,0.6s
JTS JuntasAbangare 146.59 60 PKPbc **PKPbc 05 20 14.0 -0.6**
comp=Z,5.1nm,0.4s,baz=1.0,slow=15,SNR=9.3
JTS JuntasAbangare 146.59 60 PKP2 **PKPbc 05 20 14.0 -0.6**
JTS pmax pmax
comp=Z,5.0nm,0.4s
TRQA Tornquist 148.54 171 *e*PKPbc **PKPbc 05 20 18.8 -0.2**
CPUP Villa Florida 160.65 177 PKP **PKPdf 05 20 30.6 -0.5**
comp=Z,1.4nm,0.7s,baz=241,slow=10,SNR=4.5
CPUP PKPab **PKPab 05 21 16.8 0.0**
comp=Z,1.1nm,0.6s,baz=184,slow=4.3,SNR=3.6
CPUP Villa Florida 160.65 177 PKIKP **PKPdf 05 20 30.6 -0.5**
CPUP 05 21 16.8
CPUP pmax pmax
comp=Z,1.0nm,0.7s
CPUP pmax pmax
comp=Z,1.0nm,0.6s
LPAZ La Paz 165.00 129 PKP **PKPdf 05 20 35.6 -0.7**
comp=Z,2.0nm,0.9s,baz=27,slow=2.2,SNR=7.8
LPAZ PKPab **PKPab 05 21 37.5 +0.3**
comp=Z,1.2nm,0.7s,baz=184,slow=2.3,SNR=6.0
LPAZ La Paz 165.00 129 PKIKP **PKPdf 05 20 35.6 -0.7**
LPAZ 05 21 37.5
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
LPAZ La Paz 165.00 129 *e*PKPdf **PKPdf 05 20 36.4 +0.1**
LPAZ *e*PKPab **PKPab 05 21 39.6 +2.4**

*ISCJB **24** 05:27:20.3±0.4,52˚.27N±0˚.10×178˚.69E±0˚.06,h200km, mb3.1/8, Error ellipse: s-maj=13.9km s-min=5.4km az=4.2*
*NEIC **24** 05:27:20.9,52˚.21N×178˚.63E,h206km,MG3.1(AEIC), After AEIC.*
*IDC **24** 05:27:21.3±5.2,52˚.41N×178˚.71E,h182km±51km,mb3.0/8, mb1 3.4/10,mb1mx3.1/54,mbtmpg3.6/10,Error ellipse: s-maj=34.5km s-min=14.7km az=166.0*
ISC 24 05:27:21.8±0.7,52˚.3N±0˚.1×178˚.68E±0˚.05,h200km,n29, σ1§40/34,mb3.2/8,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSNW	**Little Sitkin**	**0.31**	**199**	P	**Pn**	**05 27 47.0**	**-1.3**
LSPA	**Little Sitkin**	**0.31**	**192**	P	**Pn**	**05 27 47.4**	**-1.0**
LSPA				S	**Sn**	**05 28 08.7**	**-0.2**
LSSA	**Little Sitkin**	**0.33**	**198**	P	**Pn**	**05 27 47.2**	**-1.3**
CEAP	**Semis' Anvil P**	**0.61**	**115**	P	**Pn**	**05 27 48.7**	**-0.7**
CESW	**Semis' Southwe**	**0.65**	**123**	P	**Pn**	**05 27 48.4**	**-1.2**
CERAA	**Semis' Rag'd T**	**0.71**	**119**	P	**Pn**	**05 27 48.7**	**-1.1**
AMKA	**Amchitka**	**0.96**	**156**	P	**Pn**	**05 27 50.1**	**-1.2**
AMKA				S	**Sn**	**05 28 11.1**	**-3.0**
GALAA	**Gareloi Lava P**	**1.65**	**107**	P	**Pn**	**05 27 56.1**	**-0.7**
TANO	**Tanaga North**	**2.00**	**99**	P	**Pn**	**05 27 59.5**	**-0.8**
TASE	**Tanaga Southea**	**2.07**	**101**	P	**Pn**	**05 27 60.0**	**-1.1**
TAFP	**Tanaga Falls P**	**2.09**	**99**	P	**Pn**	**05 28 00.1**	**-1.1**
TAFP				S	**Sn**	**05 28 29.9**	**-2.0**
KIKV	**Kanaga Island**	**2.59**	**97**	P	**Pn**	**05 28 05.4**	**-1.2**
KIRH	**Kanaga Island**	**2.63**	**96**	P	**Pn**	**05 28 06.1**	**-1.0**
SMY	**Shemya**	**2.84**	**281**	P	**Pn**	**05 28 08.1**	**-1.4**
SMY				S	**Sn**	**05 28 44.3**	**-2.4**
ADAG	**Mount Adagdak**	**2.92**	**94**	P	**Pn**	**05 28 08.8**	**-1.7**
ETKA	**Kagalaska Isla**	**3.06**	**96**	P	**Pn**	**05 28 10.9**	**-1.2**
GSTD	**Great Sitkin T**	**3.19**	**92**	P	**Pn**	**05 28 11.8**	**-1.9**
GSTD				S	**Sn**	**05 28 54.3**	**-0.1**
GSMY	**Great Sitkin M**	**3.25**	**92**	P	**Pn**	**05 28 13.0**	**-1.4**
ATKA	**Atka Island**	**4.38**	**88**	P	**Pn**	**05 28 26.9**	**-1.3**
PETK	**Petropavlovsk-**	**12.76**	**282**	P	**Pn**	**05 30 15.9**	**-0.2**
	0.3nm,0.3s,baz=93,slow=18,SNR=3.1						
KDAK	**Kodiak Island**	**17.30**	**60**	P	**P**	**05 31 08.9**	**-0.7**
	1.2nm,0.3s,baz=267,slow=3.5,SNR=8.3						
ILAR	**Eielson Array**	**21.57**	**41**	P	**P**	**05 31 54.8**	**-0.5**
	0.4nm,0.5s,baz=248,slow=9.4,SNR=12						
YKA	**Yellowknife Ar**	**35.77**	**47**	P	**P**	**05 34 02.1**	**+0.9**
	0.6nm,0.7s,baz=288,slow=7.7,SNR=3.0						
NVAR	**Mina Array Bea**	**44.99**	**82**	P	**P**	**05 35 17.9**	**+0.6**
	0.5nm,0.5s,baz=288,slow=8.1,SNR=5.4						
PDAR	**Pinedale Array**	**47.52**	**71**	P	**P**	**05 35 37.4**	**+0.4**
	0.2nm,0.6s,baz=316,slow=6.2,SNR=3.6						
MKAR	**Makanchi Array**	**58.26**	**307**	P	**P**	**05 36 55.3**	**+0.3**
	0.2nm,0.3s,baz=27,slow=6.3,SNR=2.9						
TXAR	**Lajitas Array**	**60.05**	**80**	P	**P**	**05 37 07.7**	**0.0**
	0.2nm,0.5s,baz=308,slow=4.7,SNR=3.8						
WRA	**Warramunga Arr**	**81.60**	**222**	P	**P**	**05 39 19.1**	**+1.9**
	0.6nm,0.7s,baz=37,slow=6.1,SNR=4.9						
ASAR	**Alice Springs**	**85.11**	**220**	P	**P**	**05 39 37.8**	**+2.8**
	0.2nm,0.4s,baz=21,slow=4.5,SNR=2.7						

*CSEM **24** 05:30:29.4,40˚.27N×33˚.41E,h7km,MD3.1*
DDA 24 05:30:29.4,40˚.27N×33˚.41E,h7km,MD3.1,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELDT	**Eldivan**	**0.22**	**4**	*i* P	Pg	05 30 34.1	0.0
ELDT				*i* S	Sg	05 30 37.7	+0.5
ELDT	**Eldivan**	**0.22**	**4**	*i* P	Pg	05 30 34.1	0.0
ELDT				*i* S	Sg	05 30 37.7	+0.5
ILGA	**Ilgaz**	**0.81**	**17**	*i* P	Pg	05 30 45.2	-0.2
ILGA				*i* S	Sb	05 30 57.1	-0.6
ILGA	**Ilgaz**	**0.81**	**17**	*i* P	Pg	05 30 45.2	-0.2
ILGA				*i* S	Sb	05 30 57.1	-0.6
CDAG	**Cicekdag**	**0.98**	**131**	*i* P	Pg	05 30 48.4	-0.2
CDAG				*i* S	Sg	05 31 01.6	+0.2
CDAG	**Cicekdag**	**0.98**	**131**	*i* P	Pg	05 30 48.4	-0.1
CDAG				*i* S	Sg	05 31 01.6	+0.1
BCAM	**Yenicaga**	**1.16**	**298**	*i* P	Pg	05 30 51.9	0.0
BCAM				*i* S	Sn	05 31 09.4	+1.0
BCAM	**Yenicaga**	**1.16**	**298**	*i* P	Pg	05 30 51.9	+0.1
BCAM				*i* S	Sn	05 31 09.4	+0.9
AUMIH	**MIHALICIK**	**1.53**	**255**	*i* P	Pb	05 30 58.4	0.0
AUMIH				*i* S	Sg	05 31 20.5	+1.5
AVNT	**Avonos**	**1.86**	**143**	*i* P	Pb	05 31 04.4	+0.3
AVNT				*i* S	Sg	05 31 30.7	+0.9
AVNT	**Avonos**	**1.86**	**143**	*i* P	Pb	05 31 04.4	+0.3
AVNT				*i* S	Sg	05 31 30.7	+0.9
HAVZ	**Havza**	**1.93**	**65**	*i* P	Pb	05 31 04.5	-0.6
HAVZ				*i* S	Sg	05 31 31.1	-0.6
HAVZ	**Havza**	**1.93**	**65**	*i* P	Pb	05 31 04.5	-0.6
HAVZ				*i* S	Sg	05 31 31.1	-0.6

*BJI **24** 05:34:55.9,5˚.64N×123˚.81E,h562km,mb6.0/85,mB6.0/58*
*NEIC **24** 05:35:01.1±0.1,6˚.22N×123˚.52E,h553km,mb5.9/151, ME5.8,MW6.5,MW6.5,Error ellipse: s-maj=4.1km s-min=3.5km az=73.0,Moment Tensor Solution. s33 Moment tensor: Scale 10¹⁸Nm; Mrr-2.90; Mθθ1.08; Mϕϕ1.82; Mrθ-1.87; Mθϕ2.22; Mϕr-7.18; Best double couple: M₀8.10000×10¹⁸ NP1:ϕs17.00000˚,δ79.00000˚, λ-102.00000˚. NP2:ϕs245.00000˚,δ16.00000˚, λ-43.00000˚. Principal axes: T 8.2000, Plg33.0000˚, Azm116.0000˚; N -0.0900, Plg11.0000˚, Azm19.0000˚; P -8.1000, Plg54.0000˚, Azm272.0000˚; Depth from broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt [II PIVS] at General Santos, Malita and San Marcelino. Also felt at Cogon. Felt at Manado, Sulawesi, Indonesia.
*MAN **24** 05:35:01,6˚.21N×123˚.67E,h563km,mb6.1,ML5.2,MS6.0*
MAN INTENSITY II - MALITA DAVAO DEL SUR; SAN MARCELINO DAVAO DEL SUR; GENERAL SANTOS CITY.
*ISCJB **24** 05:35:01.8±0.1,6˚.18N±0˚.01×123˚.55E±0˚.01,h578km±1km, mb6.0/283,Error ellipse: s-maj=2.3km s-min=1.8km az=158.4*
*GCMT **24** 05:35:01.1±0.2,6˚.23N×123˚.56E,h556km±1km, MW6.6/124,Moment Tensor Solution. s124,c253;*

s17,c18; Duration: 4s7 Moment tensor: Scale 10^{18}Nm; M_{rr}-4.31±.12; $M_{\theta\theta}$1.94±.17; $M_{\phi\phi}$2.37±.17; $M_{r\theta}$-0.73±.18; $M_{\theta\phi}$2.31±.16; $M_{\phi r}$-7.72±.17; Best double couple: M_o8.86000×10^{18} NP1:ϕ_s12.00000°,δ77.00000°, λ-104.00000°. NP2:ϕ_s240.00000°,δ19.00000°, λ-44.00000°. Principal axes: T 8.3000, Plg30.0000°, Azm114.0000°; N 1.1210, Plg14.0000°, Azm15.0000°; P -9.4210, Plg56.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to mantle waves, cutoff=125s.

MOS ***24*** *05:35:01.1±1.0,6˙25N×123˙49E,h566km,mb6.0/79 Error ellipse: s-maj=6.7km s-min=3.9km az=116.3*

NEIC ***24*** *05:35:02.0±0.0,6˙23N×123˙52E,h555km,Moment Tensor Solution. s34 Moment tensor: Scale 10^{18}Nm; M_{rr}-3.40; $M_{\theta\theta}$2.25; $M_{\phi\phi}$1.15; $M_{r\theta}$-0.28; $M_{\theta\phi}$1.60; $M_{\phi r}$-6.02; Best double couple: M_o6.80000×10^{18} NP1:ϕ_s12.00000°, δ77.00000°,λ-105.00000°. NP2:ϕ_s246.00000°, δ20.00000°,λ-37.00000°. Principal axes: T 5.9100, Plg30.0000°, Azm116.0000°; N 1.6900, Plg15.0000°, Azm16.0000°; P -7.6100, Plg54.0000°, Azm263.0000°;*

KLM ***24*** *05:35:02.4,6˙18N×123˙64E,h556km,mb6.6,MS8.2*

IDC ***24*** *05:35:02.2±0.4,6˙23N×123˙60E,h567km±3km,mb5.3/42, mb1 5.3/46,mb1mx5.3/48,mbtmp6.2/46,Error ellipse: s-maj=5.1km s-min=4.0km az=69.0*

DJA ***24*** *05:35:02.4±0.2,6˚N±3˙×12˙4E±˙,h577km±2km,M6.3/148, mb6.4/148,mB6.5/142,MLv7.0/15,Mw(mB)6.3/142*

SZGRF ***24*** *05:35:05.1,6˙80N×124˙22E,h579km,Mindanao, Philippine Islands*

ISC 24 05:35:01.8±0.1,6˙17N±0˙02×123˙56E±0˙02,h565km±1km, h566km:pP-P,n1914,σ1°59/2868,mb6.0/293,57C-102D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**1.24**	**33**	*e*P	**P**		**05 36 10.2**	**0.0**
CTBH	**Cotabato--PC H**	**1.24**	**33**	*i*P	**ScS**		**05 48 35.6**	**-2.5**
GSPH	**General Santos**	**1.38**	**93**	*e*P	**P**		**05 36 10.1**	**-0.7**
GSPH				*e*S	**S**		**05 37 10.8**	**+4.1**
DMPH	**Davao City--Mi**	**2.13**	**65**	*e*P	**P**		**05 36 13.0**	**-0.5**
DMPH				*e*S	**S**		**05 37 14.2**	**+2.5**
DAV	**Davao City (W)**	**2.19**	**66**	*e*P	**P**		**05 36 12.8**	**-1.0**
DAV	**Davao City (W)**	**2.19**	**66**	*e*Pn	**P**		**05 36 13.5**	**-0.3**
DCPH	**Dipolog City**	**2.41**	**355**	*e*P	**P**		**05 36 14.2**	**-0.5**
DCPH				*e*S	**S**		**05 37 12.1**	**-2.0**
CGP	**Cagayan de Oro**	**2.53**	**26**	*e*P	**P**		**05 36 16.1**	**+0.7**
SGSI	**Sangihe**	**3.15**	**141**	P	**P**		**05 36 18.3**	**-0.8**
BIPH	**Bislig**	**3.42**	**54**	*i*P	P		05 36 24.1	+3.4
BIPH				*i* S	**S**		**05 37 29.2**	**+4.2**
TBP	**Tagbilaran**	**3.51**	**5**	*e*P	**P**		**05 36 19.9**	**-1.5**
TBP				*e*S	**S**		**05 37 24.1**	**-2.0**
MYLDM	**Lahad Datu**	**5.13**	**259**	*e*P	**P**		**05 36 35.2**	**+1.5**
PLP	**Palo**	**5.16**	**16**	*e*P	**P**		**05 36 32.4**	**-1.4**
PLP				*e*S	**S**		**05 37 46.9**	**-2.1**
GTOI	**Gorontalo** 0.9nm,0.8s,105nm0.0nm	**5.53**	**186**	P	**P**		**05 36 37.5**	**+0.4**
KMSI	**Cibinong**	**5.58**	**176**	P	**ScS**		**05 48 34.7**	**-6.2**
KMSI	**Cibinong** 12µm,1.0s,110µm118nm	**5.58**	**176**	P	**P**		**05 36 38.8**	**+1.3**
TOLI	**Toli-Toli**	**5.73**	**209**	*e*Pn	**P**		**05 36 39.5**	**+0.7**
TOLI				*e*Sn	**S**		**05 37 58.4**	**+0.4**
MRSI	**Marisa**	**5.88**	**196**	P	**ScS**		**05 48 38.0**	**-3.2**
MRSI	**Marisa** 3µm,1.2s,42µm22nm	**5.88**	**196**	P	**P**		**05 36 41.7**	**+1.5**
TSM	**Tawau**	**5.97**	**252**	↑P	**P**		**05 36 42.0**	**+1.1**
TSM	**Tawau**	**5.97**	**252**	↑P	**P**		**05 36 42.0**	**+1.1**
PPR	**Puerto Princes**	**5.98**	**307**	*e*P	**P**		**05 36 42.3**	**+1.4**
MMPH	**Masbate**	**6.15**	**1**	*e*P	P		05 36 47.2	+4.7
SDKM	**Sandakan**	**6.36**	**266**	↑P	**P**		**05 36 44.6**	**+0.1**
SDKM	**Sandakan**	**6.36**	**266**	↑P	**P**		**05 36 44.6**	**+0.1**
TNTI	**Ternate**	**6.57**	**145**	P	**ScS**		**05 48 36.4**	**-5.6**
TNTI	**Ternate** 17µm,0.9s,285µm322nm	**6.57**	**145**	P	**P**		**05 36 46.2**	**-0.3**
TNTI	**Ternate**	**6.57**	**145**	*e*Pn	**P**		**05 36 46.1**	**-0.3**
TNTI				*e*Sn	S		05 37 57.3	-15
KDM	**Kudat**	**6.73**	**277**	↑P	**P**		**05 36 48.7**	**+0.8**
KDM	**Kudat**	**6.73**	**277**	↑P	**P**		**05 36 48.7**	**+0.8**
MPSI	**Mapaga** 2µm,1.3s,38µm24nm	**6.85**	**212**	P	**P**		**05 36 49.8**	**+0.7**
LUWI	**Luwuk** 5µm,1.3s,52µm66nm	**7.21**	**186**	P	**P**		**05 36 53.6**	**+1.2**
LUWI	**Luwuk** baz=7.2,SNR=96	**7.21**	**186**	P	**P**		**05 36 53.1**	**+0.7**
LUWI	**Luwuk**	**7.21**	**186**	*e*Pn	**P**		**05 36 52.8**	**+0.3**
LUWI				*e*Sn	**S**		**05 38 22.4**	**-0.5**
APSI	**Ampana**	**7.29**	**195**	P	**ScS**		**05 48 38.5**	**-4.4**
APSI	**Ampana** 6µm,1.3s,73µm42nm	**7.29**	**195**	P	**P**		**05 36 54.8**	**+1.6**
KKM	**Kota Kinabalu** baz=7.3,SNR=1000	**7.31**	**269**	P	**P**		**05 36 53.8**	**+0.3**
KKM	**Kota Kinabalu** 26µm,0.8s	**7.31**	**269**	*e*Pn	**P**		**05 36 53.5**	**+0.1**
KKM				*e*Sn	**S**		**05 38 22.0**	**-2.9**
KKM				*e*ScP	**ScP**		**05 45 08.5**	**-0.8**
GQP	**Guinayangan**	**7.76**	**352**	↑*e*P	**P**		**05 36 58.1**	**+0.4**
LBMI	**Labuha** 12µm,1.1s,145µm379nm	**7.82**	**150**	P	**P**		**05 36 58.9**	**+0.5**
LQP	**Lukban**	**8.14**	**346**	*e*P	**P**		**05 37 02.2**	**+0.6**
TGY	**Tagaytay City** 798nm,0.3s,baz=197,slow=3.3,SNR=226	**8.29**	**342**	P	**P**		**05 37 03.4**	**+0.4**
TGY	**Tagaytay City**	**8.29**	**342**	*i*P	**P**		**05 37 04.2**	**+1.3**
SANI	**Sanana** 4µm,0.6s,57µm	**8.52**	**163**	P	**P**		**05 37 04.3**	**-0.9**
TTSI	**Tana Toraja**	**9.89**	**202**	P	**ScS**		**05 48 48.1**	**+1.1**
TTSI	**Tana Toraja** 3µm,1.2s,33µm	**9.89**	**202**	P	**P**		**05 37 20.1**	**+1.2**
BKB	**Balikpapan** 5µm,1.0s,34µm	**9.94**	**222**	P	**P**		**05 37 21.0**	**+1.6**
NLAI	**Namlea** 11µm,0.7s,90µm	**9.99**	**159**	P	**P**		**05 37 20.9**	**+0.9**
KDI	**Kendari** 2µm,1.8s,29µm	**10.11**	**185**	P	**P**		**05 37 22.0**	**+0.9**
SWI	**Sorong**	**10.39**	**132**	P	**ScS**		**05 48 49.7**	**+1.8**
SWI	**Sorong** 4µm,1.4s,70µm	**10.39**	**132**	P	**P**		**05 37 24.4**	**+0.4**
SIJI	**Sorong** 438nm,0.3s,baz=329,slow=6.5,SNR=424	**10.39**	**132**	P	**P**		**05 37 24.7**	**+0.6**
SIJI	baz=38,slow=20,SNR=10			S	**S**		**05 39 21.6**	**+0.6**
SIJI	2.0nm,0.3s,baz=324,slow=3.5,SNR=5.5			ScP	**ScP**		**05 45 12.2**	**-0.4**
SIJI	1.0nm,0.3s,baz=200,slow=22,SNR=29			ScS	**ScS**		**05 48 47.0**	**-1.0**
BCPH	**Baguio City Da**	**10.56**	**344**	*i*P	**P**		**05 37 26.3**	**+0.5**
BCPH				*i* S	**S**		**05 39 20.1**	**-4.1**
SPSI	**Sidrap Palu**	**10.76**	**201**	P	**ScS**		**05 48 47.5**	**-1.1**
SPSI	**Sidrap Palu** 3µm,0.9s,30µm	**10.76**	**201**	P	**P**		**05 37 28.2**	**+0.4**
AAI	**Ambon** baz=11,SNR=216	**10.83**	**155**	P	**P**		**05 37 29.8**	**+1.3**
BTM	**Bintulu**	**10.85**	**255**	↑P	**P**		**05 37 30.6**	**+1.8**
BTM	**Bintulu**	**10.85**	**255**	↑P	**P**		**05 37 30.6**	**+1.8**
MSAI	**Masohi** 4µm,0.7s,37µm	**10.87**	**150**	P	**P**		**05 37 30.9**	**+2.0**
PALU	**Palau** baz=11,SNR=178	**10.90**	**83**	P	**P**		**05 37 28.7**	**-0.5**
CVP	**Callao Caves**	**11.59**	**352**	*e*P	**P**		**05 37 35.8**	**-0.4**
BBSI	**Bau Bau** 2µm,0.9s,24µm	**11.62**	**185**	P	**P**		**05 37 38.1**	**+1.5**
SZP	**Santa** 2µm,0.6s	**11.71**	**345**	*e*Pn	**P**		**05 37 38.1**	**+0.7**
SZP				*e*Sn	**S**		**05 39 44.5**	**-0.9**
SZP				*e*ScP	**ScP**		**05 45 15.2**	**+1.0**
KAPI	**Kappang** 9.2nm,0.3s,baz=17,slow=3.9,SNR=59	**11.74**	**199**	P	**P**		**05 37 37.6**	**-0.2**
KAPI	12nm,0.3s,baz=103,slow=3.8,SNR=26			S	**S**		**05 39 48.3**	**+2.1**
KAPI	0.7nm,0.3s,baz=338,slow=8.9,SNR=4.7			ScP	**ScP**		**05 45 13.9**	**-0.5**
KAPI	0.8nm,0.3s,baz=351,slow=23,SNR=6.0			ScS	**ScS**		**05 48 51.0**	**+0.4**
KAPI	**Kappang**	**11.74**	**199**	*e*Pn	**P**		**05 37 37.5**	**-0.4**
KAPI				*e*Sn	**S**		**05 39 47.9**	**+1.7**
KAPI				ScP	**ScP**		**05 45 13.9**	**-0.5**
KAPI				*e*ScP	ScP		05 45 14.8	+0.4
KAPI				ScS	**ScS**		**05 48 51.0**	**+0.4**
SBUM	**Sibu**	**11.90**	**252**	*e*P	**P**		**05 37 40.9**	**+1.4**
BKSI	**Bulukumba**	**11.92**	**197**	P	**ScS**		**05 48 49.9**	**-1.1**
BKSI	**Bulukumba** 632nm,1.2s,9µm	**11.92**	**197**	P	**P**		**05 37 39.1**	**-0.6**
KBKI	**Kotabaru**	**11.96**	**218**	P	**P**		**05 37 41.3**	**+1.2**
	2µm,1.2s,30µm							
SIPP	**Brgy, Tapao**	**12.07**	**346**	*e*P	**P**		**05 37 40.3**	**-0.8**
SIPP				*i* S	**P**		**05 37 43.2**	**+2.1**
BNDI	**Bandanaira** 14µm,0.9s,183µm	**12.37**	**149**	P	**P**		**05 37 45.1**	**+0.8**
FAKI	**Fak Fak**	**12.52**	**136**	P	**ScS**		**05 48 55.0**	**+2.6**
FAKI	**Fak Fak** 11µm,0.7s,136µm	**12.52**	**136**	P	**P**		**05 37 46.3**	**+0.4**
FAKI	**Fak Fak** baz=12,SNR=1000	**12.52**	**136**	P	**P**		**05 37 46.2**	**+0.4**
FAKI	**Fak Fak** baz=18,SNR=9.6	**12.52**	**136**	P	**ScP**		**05 45 16.0**	**+0.4**
FAKI	**Fak Fak**	**12.52**	**136**	*e*Pn	**P**		**05 37 45.9**	**+0.1**
FAKI				*e*Sn	**S**		**05 40 00.6**	**-0.3**
FAKI				*e*ScP	**ScP**		**05 45 16.0**	**+0.4**
BSSI	**Bau Bau, Buton**	**12.61**	**194**	P	**ScS**		**05 48 50.6**	**-2.0**
BSSI	**Bau Bau, Buton** 1µm,1.2s,12µm	**12.61**	**194**	P	**P**		**05 37 45.6**	**-1.2**
BBKI	**Banjar Baru** 2µm,1.0s,31µm	**12.94**	**223**	P	**P**		**05 37 50.9**	**+0.7**
RKPI	**Ransiki, Papua** 3µm,1.3s,65µm	**13.06**	**125**	P	**P**		**05 37 52.3**	**+0.9**
STKI	**Sintang** 3µm,1.0s,28µm	**13.50**	**244**	P	**P**		**05 37 56.6**	**+0.6**
KSM	**Kuching** baz=14,SNR=358	**14.02**	**251**	P	**P**		**05 38 02.0**	**+0.7**
KSM	**Kuching** 4µm,1.0s	**14.02**	**251**	*e*P	**P**		**05 38 01.8**	**+0.4**
KSM				*e*Sn	**S**		**05 40 29.3**	**+0.4**
KSM				*e*ScP	**ScP**		**05 45 17.6**	**-0.5**
BAKI	**Biak** 13µm,1.0s,178µm	**14.50**	**120**	P	**P**		**05 38 06.3**	**+0.1**
MMRI	**Maumere**	**14.77**	**185**	P	**ScS**		**05 48 55.5**	**-2.4**
MMRI	**Maumere** 4µm,1.0s,38µm	**14.77**	**185**	P	**P**		**05 38 09.7**	**+0.9**
MMRI	**Maumere**	**14.77**	**185**	*e*Pn	**P**		**05 38 09.5**	**+0.7**
MMRI				*e*Sn	**S**		**05 40 48.2**	**+5.7**
PBKI	**Pangkalan Bun** 12µm,1.1s,93µm	**14.79**	**234**	P	**P**		**05 38 09.7**	**+0.7**
SRPI	**Serui, Papua** 11µm,0.9s,144µm	**14.97**	**122**	P	**P**		**05 38 10.5**	**-0.3**
SOEI	**Soe**	**15.84**	**177**	P	**ScS**		**05 48 58.4**	**-2.6**
SOEI	**Soe** 5µm,0.8s,47µm	**15.84**	**177**	P	**P**		**05 38 19.9**	**+0.4**
SOEI	**Soe** baz=16,SNR=88	**15.84**	**177**	↓P	**P**		**05 38 19.8**	**+0.4**
SOEI	**Soe** 4µm,0.9s	**15.84**	**177**	*e*P	**P**		**05 38 19.7**	**+0.2**
SOEI				*e*S	**S**		**05 41 03.4**	**+2.6**
DLV	**T Lat** 1µm,0.8s	**15.95**	**292**	*e*P	**P**		**05 38 21.2**	**+0.5**
DLV				*e*S	**S**		**05 41 08.0**	**+5.2**
DLV				*e*ScP	**ScP**		**05 45 21.8**	**-0.1**
SAUI	**Saumlaki**	**16.04**	**151**	P	**ScS**		**05 49 04.1**	**+2.7**
SAUI	**Saumlaki** 19µm,0.7s,185µm	**16.04**	**151**	P	**P**		**05 38 21.4**	**+0.1**
WSI	**Waingapu** 3µm,1.0s,42µm	**16.07**	**192**	P	**P**		**05 38 20.4**	**-1.1**
BWJI	**Bawean** 1µm,0.9s,19µm	**16.16**	**223**	P	**P**		**05 38 23.5**	**+1.1**
TWSI	**Taliwang, Sumb** 4µm,0.9s	**16.24**	**204**	P	**P**		**05 38 23.4**	**+0.3**
KMMI	**Kalianget** 2µm,0.9s,26µm	**16.25**	**216**	P	**P**		**05 38 23.9**	**+0.7**
SRBI	**Singaraja** 3µm,1.0s,20µm	**16.43**	**211**	P	**P**		**05 38 25.3**	**+0.5**
BASI	**Baing, Sumba** 3µm,1.2s,46µm	**16.55**	**190**	P	**P**		**05 38 24.2**	**-1.7**
ABJI	**Asem Bagus** 2µm,0.8s,19µm	**16.70**	**214**	P	**P**		**05 38 27.7**	**+0.4**
TWG	**Pinlang** 2µm,0.5s	**16.73**	**352**	*e*P	**P**		**05 38 26.5**	**-0.9**
TWG				*e*S	**S**		**05 41 15.0**	**+0.1**
DNP	**Denpasar** 6µm,1.3s,103µm	**16.94**	**210**	P	**P**		**05 38 30.1**	**+0.7**
BLJI	**Banyuglugur** 2µm,0.9s,15µm	**17.03**	**216**	P	**P**		**05 38 30.5**	**+0.3**
GRJI	**Gresik** 1µm,0.9s,14µm	**17.07**	**221**	P	**P**		**05 38 31.7**	**+1.1**
IGBI	**Denpasar** 4µm,1.1s,48µm	**17.09**	**209**	P	**P**		**05 38 31.5**	**+0.7**
SMPI	**Sarmi** 6µm,0.8s,166µm	**17.16**	**118**	P	**P**		**05 38 31.5**	**0.0**
YULB	**Yu-li** 358nm,0.6s	**17.26**	**353**	*e*P	**P**		**05 38 31.6**	**-0.7**
YULB				*e*S	**S**		**05 41 24.0**	**+0.3**
JAGI	**Jajag, Banyuwa** 5µm,1.0s	**17.31**	**213**	*e*P	**P**		**05 38 32.9**	**+0.1**
JAGI				*e*ScP	**ScP**		**05 45 22.3**	**-2.1**
TBJI	**Tambak Boyo** 2µm,1.0s,41µm	**17.41**	**222**	P	**P**		**05 38 34.5**	**+0.8**
SSLB	**Suanglung** 645nm,0.9s	**17.70**	**352**	*e*P	**P**		**05 38 36.3**	**+0.1**
SSLB				*e*S	**S**		**05 41 30.5**	**-0.3**
SSLB				*e*ScP	**ScP**		**05 45 24.4**	**-0.7**
UWJI	**Ujung Watu** 11µm,1.1s,135µm	**17.75**	**225**	P	**P**		**05 38 37.7**	**+0.9**
NACB	**Ninganchiao** 211nm,0.3s	**18.00**	**354**	*e*P	**P**		**05 38 39.7**	**+0.7**
NACB				*e*S	**S**		**05 41 35.2**	**-0.5**
NACB				*e*ScP	**ScP**		**05 45 24.2**	**-1.5**
NGJI	**Ngawi** 4µm,1.1s,53µm	**18.07**	**222**	P	**P**		**05 38 40.9**	**+1.1**
TPI	**Tanjungpandan** 2µm,1.0s,29µm	**18.19**	**241**	P	**P**		**05 38 41.9**	**+1.0**
YOJ	**Yonaguni jima** comp=Z,438nm,0.8s	**18.20**	**358**	*e*P	**P**		**05 38 42.9**	**+2.2**
YOJ				pmax	pmax			
YOJ	**Yonaguni jima** comp=Z,438nm,0.8s	**18.20**	**358**	*e*P	**P**		**05 38 42.9**	**+2.2**
HKC	**Hong Kong Obse**	**18.42**	**331**	*i*P	**P**		**05 38 44.0**	**+1.1**
QIZ	**Qiongzhong**	**18.49**	**315**	P	**P**		**05 38 44.4**	**+0.9**
QIZ				sP	**sP**		**05 41 02.6**	**-2.3**
QIZ				S	**S**		**05 41 45.4**	**+1.7**
QIZ	comp=Z,450nm,1.0s			PMZ				
QIZ	comp=Z,4µm,10.4s			PMZ				
QIZ	**Qiongzhong** comp=Z,357nm,0.8s	**18.49**	**315**	*e*P	**P**		**05 38 44.0**	**+0.5**
QIZ				*e*ScP	**ScP**		**05 45 27.6**	**+0.7**
YHNB	**Yeheng** comp=Z,796nm,0.5s	**18.51**	**354**	*e*P	**P**		**05 38 44.7**	**+0.9**
YHNB				*e*S	**S**		**05 41 43.7**	**-0.4**
SMRI	**Semarang** comp=Z,4µm,1.0s,comp=Z,67µm	**18.54**	**225**	P	**P**		**05 38 45.2**	**+1.1**
SMRI	**Semarang** baz=19,SNR=64	**18.54**	**225**	P	**P**		**05 38 46.3**	**+2.2**
SMRI	**Semarang** comp=Z,2µm,0.8s	**18.54**	**225**	*e*P	**P**		**05 38 45.6**	**+1.5**
GENI	**Genyem** comp=Z,9µm,1.1s,comp=Z,126µm	**18.73**	**117**	P	**P**		**05 38 45.9**	**+0.1**
WOJI	**Wonogiri, Jawa** comp=Z,6µm,1.4s,comp=Z,65µm	**18.78**	**222**	P	**P**		**05 38 47.9**	**+1.7**
UGM	**Wanagama** comp=Z,3µm,1.0s,comp=Z,43µm	**19.10**	**223**	P	**P**		**05 38 50.4**	**+1.2**
UGM	**Wanagama** baz=19,SNR=45	**19.10**	**223**	P	**P**		**05 38 51.4**	**+2.1**
JAY	**Jayapura** comp=Z,2µm,1.0s,comp=Z,32µm	**19.17**	**116**	P	**P**		**05 38 50.0**	**+0.2**
JAY	**Jayapura** comp=Z,201nm,0.3s,baz=308,slow=6.2,SNR=195	**19.17**	**116**	P	**P**		**05 38 50.1**	**+0.2**
JAY	comp=Z,2.3nm,0.3s,baz=199,slow=3.7,SNR=5.7			ScP	**ScP**		**05 45 27.9**	**-0.7**
JAY	comp=Z,0.5nm,0.3s,baz=246,slow=20,SNR=2.6			ScS	**ScS**		**05 49 10.7**	**-0.6**
JAY	**Jayapura** baz=19,SNR=122	**19.17**	**116**	P	**P**		**05 38 49.8**	**-0.1**
QZH	**Quanzhou** comp=Z,990nm,1.0s	**19.27**	**346**	*i*P	**P**		**05 38 51.9**	**+1.4**
QZH				sP	**sP**		**05 41 08.8**	**-4.7**
QZH				S	**S**		**05 41 55.8**	**-0.2**
QZH				ScP	**ScP**		**05 45 28.9**	**+0.4**
QZH				ScS	**ScS**		**05 49 10.5**	**-0.6**
QZH	comp=Z,7µm,3.8s			PMZ				
PPBI	**Pangkal Pinang** comp=Z,2µm,0.9s,comp=Z,18µm	**19.27**	**245**	P	**P**		**05 38 51.5**	**+0.8**
GZH	**Guangzhou**	**19.49**	**331**	*e*P	**P**		**05 38 56.0**	**+3.4**
GZH				sP	**sP**		**05 41 18.3**	**+2.3**
GZH				S	**S**		**05 42 06.6**	**+6.9**
GZH	comp=Z,1µm,0.9s			PMZ				
JCJI	**Jatiwangi** comp=Z,7µm,1.1s,comp=Z,76µm	**19.78**	**231**	P	**P**		**05 38 57.5**	**+2.2**
UBPT	**Khong Chiam** comp=Z,1µm,1.1s,comp=Z,14µm	**19.93**	**298**	P	**P**		**05 38 57.4**	**+0.7**
DSRI	**Dabo** comp=Z,6µm,1.2s,comp=Z,79µm	**20.07**	**251**	P	**P**		**05 38 58.8**	**+0.8**
MYKOM	**Kota Tinggi** comp=Z,2µm,1.0s	**20.14**	**258**	*e*P	**P**		**05 38 59.3**	**+0.7**
BTDF	**Bukit Timah Da** baz=20,SNR=127	**20.31**	**257**	P	**P**		**05 39 01.6**	**+1.4**
BTDF	baz=20,SNR=127			P	**P**		**05 39 01.6**	**+1.4**
MTN	**Manton Dam** baz=20,SNR=184	**20.33**	**158**	P	**P**		**05 38 59.9**	**-0.4**
MTN	**Manton Dam** comp=Z,1µm,1.0s	**20.33**	**158**	*e*P	**P**		**05 38 59.8**	**-0.5**
CMJI	**Cimerak** comp=Z,2µm,0.8s,comp=Z,12µm	**20.48**	**228**	P	**P**		**05 39 00.5**	**-1.2**
LEM	**Lembang** comp=Z,5µm,1.1s,comp=Z,60µm	**20.49**	**231**	P	**P**		**05 39 03.0**	**+1.0**
LEM	**Lembang** comp=Z,3µm,0.9s,baz=54,slow=7.1,SNR=260	**20.49**	**231**	P	**P**		**05 39 03.5**	**+1.5**
LEM	comp=Z,178nm,0.9s,baz=150,slow=20,SNR=2.8			S	**S**		**05 42 19.1**	**+2.9**
LEM	comp=Z,207nm,0.9s,baz=76,slow=2.5,SNR=3.9			ScP	**ScP**		**05 45 31.8**	**-0.1**
LEM	comp=Z,24nm,0.6s,baz=292,slow=23,SNR=3.7			ScS	**ScS**		**05 49 16.7**	**+0.6**
LEM	**Lembang** baz=20,SNR=108	**20.49**	**231**	P	**P**		**05 39 03.5**	**+1.5**
KGM	**Kluang**	**20.61**	**259**	⇑P	**P**		**05 39 04.1**	**+1.3**
KGM	**Kluang**	**20.61**	**259**	⇑P	**P**		**05 39 04.1**	**+1.3**
KDU	**Kakadu** baz=21,SNR=532	**20.72**	**155**	P	**P**		**05 39 03.3**	**-0.5**
CISI	**Cisompet, Garu** comp=Z,2µm,1.1s,comp=Z,21µm	**20.80**	**229**	P	**P**		**05 39 04.5**	**-0.2**
CISI	**Cisompet, Garu** baz=21,SNR=23	**20.80**	**229**	⇑P	**P**		**05 39 04.0**	**-0.6**
CISI	**Cisompet, Garu** comp=Z,2µm,1.1s	**20.80**	**229**	*e*P	**P**		**05 39 04.0**	**-0.6**
CISI				*e*S	**S**		**05 42 26.5**	**+5.6**
CISI				*e*ScP	**ScP**		**05 45 31.6**	**-0.9**
PMBI	**Palembang** comp=Z,4µm,0.9s,comp=Z,45µm	**20.83**	**245**	P	**P**		**05 39 06.7**	**+1.9**
CBJI	**Citeko** comp=Z,14µm,1.0s,comp=Z,149µm	**20.85**	**233**	P	**P**		**05 39 07.1**	**+2.1**
TNG	**Tangerang** comp=Z,4µm,1.0s,comp=Z,42µm	**20.87**	**234**	P	**P**		**05 39 06.8**	**+1.6**
TNG	**Tangerang** comp=Z,5µm,1.0s,comp=Z,52µm	**20.87**	**234**	P	**P**		**05 39 06.9**	**+1.7**
JOW	**Kunigami** comp=Z,111nm,0.5s	**21.03**	**12**	*e*P	**P**		**05 39 07.4**	**+0.9**
JOW				*e*PcP	PcP		05 42 55.8	+7.0
JOW				*e*ScP	**ScP**		**05 45 33.0**	**+0.3**
CNJI	**Cibinong** comp=Z,3µm,1.1s,comp=Z,27µm	**21.17**	**231**	P	**P**		**05 39 07.1**	**-0.8**
SBJI	**Serang** comp=Z,8µm,1.3s,comp=Z,90µm	**21.26**	**235**	P	**P**		**05 39 09.9**	**+1.2**
JMBI	**JAMBI** comp=Z,11µm,0.9s,comp=Z,90µm	**21.35**	**249**	P	**P**		**05 39 10.6**	**+1.1**
SKJI	**Sukabumi** comp=Z,3µm,0.8s,comp=Z,32µm	**21.43**	**233**	P	**P**		**05 39 10.7**	**+0.5**
BLSI	**Bandar Lampung** comp=Z,6µm,0.8s,comp=Z,62µm	**21.58**	**238**	P	**P**		**05 39 12.2**	**+0.6**
KLI	**Kotabumi** comp=Z,3µm,1.0s,comp=Z,34µm	**21.66**	**240**	P	**P**		**05 39 12.8**	**+0.5**
CGJI	**Cibinong** comp=Z,7µm,0.8s,comp=Z,53µm	**21.89**	**235**	P	**P**		**05 39 14.2**	**-0.2**
SKNT	**Sakolnakorn** comp=Z,2µm,0.9s,comp=Z,19µm	**21.96**	**301**	P	**P**		**05 39 15.6**	**+0.7**
MDSI	**Maura Dua** comp=Z,2µm,1.0s,comp=Z,28µm	**22.06**	**242**	P	**P**		**05 39 16.3**	**+0.4**
GUMO	**Guam** comp=Z,238nm,0.3s,baz=203,slow=5.6,SNR=35	**22.23**	**69**	P	**P**		**05 39 16.4**	**-1.0**
GUMO	comp=Z,229nm,1.1s,baz=241,slow=2.0,SNR=6.6			ScP	**ScP**		**05 45 34.4**	**-1.6**
GUMO	**Guam** comp=Z,417nm,1.1s	**22.23**	**69**	*e*P	**P**		**05 39 16.2**	**-1.2**
GUMO				pmax	pmax			
GUMO	**Guam** comp=Z,417nm,1.1s	**22.23**	**69**	*e*P	**P**		**05 39 16.1**	**-1.2**
GUMO				ScP	**ScP**		**05 45 34.4**	**-1.6**
KASI	**Kota Agung** comp=Z,2µm,0.9s,comp=Z,27µm	**22.30**	**239**	P	**P**		**05 39 18.4**	**+0.4**
KNRA	**Kununurra** baz=22,SNR=141	**22.31**	**167**	P	**P**		**05 39 18.0**	**0.0**
LHSI	**Lahat** comp=Z,1µm,0.9s,comp=Z,26µm	**22.34**	**244**	P	**P**		**05 39 19.1**	**+0.7**
LWLI	**Liwa** comp=Z,7µm,0.9s,comp=Z,58µm	**22.42**	**241**	P	**P**		**05 39 20.4**	**+1.1**
IPM	**Ipoh** comp=Z,2µm,1.2s	**22.50**	**267**	*e*P	**P**		**05 39 20.0**	**+0.1**
IPM				*e*PcP	**PcP**		**05 42 53.4**	**+1.3**
IPM				*e*ScP	**ScP**		**05 45 36.6**	**-0.2**
KHON	**Khomkaen** comp=Z,521nm,0.7s,comp=Z,6µm	**22.69**	**298**	P	**P**		**05 39 22.3**	**+0.9**
KULM	**Kulim** comp=Z,2µm,1.2s	**22.82**	**269**	*e*P	**P**		**05 39 23.7**	**+1.0**
KULM				*e*S	**S**		**05 42 53.9**	**+1.3**
KULM				*e*ScP	**ScP**		**05 45 37.7**	**+0.1**
MNAI	**Manna** comp=Z,5µm,0.9s,comp=Z,49µm	**23.08**	**244**	P	**P**		**05 39 25.3**	**+0.2**
MNAI	**Manna** baz=23,SNR=52	**23.08**	**244**	P	**P**		**05 39 25.2**	**+0.2**
MNAI	**Manna** comp=Z,4µm,0.9s	**23.08**	**244**	*e*P	**P**		**05 39 25.3**	**+0.2**
MNAI				*e*ScP	**ScP**		**05 45 36.4**	**-2.0**
KSI	**Kapahiang** comp=Z,3µm,0.9s,comp=Z,30µm	**23.10**	**246**	P	**P**		**05 39 25.5**	**+0.2**
SDSI

SSE ScS **ScS** **05 49 33.5 +1.2**
SSE PMZ
comp=Z,97nm,0.8s
SSE PMZ
comp=Z,570nm,3.9s
TSI Tuntungan 25.05 265 P **P** **05 39 44.0 +1.6**
comp=Z,2µm,1.0s,comp=Z,23µm
PKDT Phuket 25.09 275 P **P** **05 39 44.1 +1.3**
comp=Z,2µm,0.9s,comp=Z,24µm
MANU Manus Island 25.13 108 ⇓P **P** **05 39 43.8 +0.7**
baz=25,SNR=5.7
PPSI Pulau Pagai 25.14 250 P **P** **05 39 43.5 +0.3**
comp=Z,3µm,1.0s,comp=Z,24µm
UTTA Uttaradit 25.24 299 P **P** **05 39 45.1 +1.1**
comp=Z,290nm,0.9s,comp=Z,2µm
SRDT SRDT 25.36 291 P **P** **05 39 46.8 +1.6**
comp=Z,6µm,0.9s,comp=Z,58µm
SISI Saibi 25.54 254 P **P** **05 39 46.8 0.0**
comp=Z,9µm,0.8s,comp=Z,60µm
WHN Wuhan 25.75 341 ⇑*i*P **P** **05 39 49.4 +1.1**
WHN S **S** **05 43 39.9 +1.7**
WHN PMZ
comp=Z,750nm,0.9s
WHN PMZ
comp=Z,3µm,4.6s
GYA Guiyang 25.82 323 ⇑*i*P **P** **05 39 50.8 +1.6**
GYA sP **sP** **05 42 22.4 -2.8**
GYA PcP **PcP** **05 43 01.8 +2.3**
GYA S **S** **05 43 42.0 +2.3**
GYA ScS **ScS** **05 49 38.8 +2.0**
GYA PMZ
comp=Z,300nm,1.0s
GYA PMZ
comp=Z,2µm,10.9s
PBSI Pulau Batu 25.98 257 P **P** **05 39 50.3 -0.4**
comp=Z,742nm,0.8s,comp=Z,14µm
KHLT Khaolaem Dam 25.98 291 P **P** **05 39 52.6 +1.9**
comp=Z,845nm,0.9s,comp=Z,8µm
NJ2 Nanjing 26.12 351 *e*P **P** **05 39 54.9 +3.3**
NJ2 S **S** **05 43 44.0 0.0**
NJ2 PMZ
comp=Z,510nm,0.8s
NJ2 PMZ
comp=Z,2µm,10.5s
UMPA Umpang Tak 26.17 294 P **P** **05 39 53.6 +1.3**
comp=Z,501nm,0.9s,comp=Z,4µm
LAMP Lampang 26.36 300 P **P** **05 39 55.3 +1.4**
comp=Z,409nm,1.0s,comp=Z,3µm
GSI Gunungsitoli 26.37 260 P **P** **05 39 53.7 -0.4**
comp=Z,12µm,0.9s,comp=Z,84µm
GSI Gunungsitoli 26.37 260 *e*P **P** **05 39 53.9 -0.3**
comp=Z,9µm,0.9s
GSI *e*PcP **PcP** **05 43 01.1 +0.3**
GSI *e*S **S** **05 43 46.5 -2.0**
GSI *e*ScP **ScP** **05 45 48.1 +0.3**
CRAI Chiangrai 26.50 304 P **P** **05 39 53.7 -1.4**
comp=Z,538nm,1.0s,comp=Z,6µm
LHMI Lhok Sumawe 26.50 269 P **P** **05 39 56.8 +1.6**
comp=Z,3µm,1.1s,comp=Z,31µm
LHMI Lhok Sumawe 26.50 269 P **P** **05 39 57.1 +1.8**
baz=26,SNR=38
LHMI Lhok Sumawe 26.50 269 *e*P **P** **05 39 57.0 +1.8**
comp=Z,3µm,1.0s
CM31 Chiang Mai Arr 26.93 299 *e*P **P** **05 40 00.5 +1.6**
comp=Z,437nm,0.7s
CM31 *e*ScP **ScP** **05 45 50.0 +0.7**
CMAR Chiang Mai Arr 26.93 299 P **P** **05 39 59.9 +0.9**
comp=Z,544nm,0.8s,baz=118,slow=7.3,SNR=514
CMAR PcP **PcP** **05 43 02.9 +0.7**
comp=Z,51nm,0.9s,baz=91,slow=1.3,SNR=5.7
CMAR S **S** **05 43 58.0 +1.0**
comp=Z,15nm,0.9s,baz=124,slow=5.6,SNR=2.4
CMAR ScP **ScP** **05 45 49.8 +0.4**
comp=Z,73nm,0.9s,baz=139,slow=1.7,SNR=13
CMAR PKiKP **PKiKP** **05 50 38.2 -1.0**
comp=Z,2.8nm,0.3s,baz=232,slow=2.0,SNR=4.6
CMAR P3KPbc 06 12 20.9
comp=Z,1.6nm,0.3s,baz=25,slow=18,SNR=4.7
CMMT Chiang Mai 27.07 300 P **P** **05 40 00.8 +0.6**
comp=Z,2µm,1.0s,comp=Z,21µm
CHTO Chiang Mai 27.07 300 P **P** **05 40 00.9 +0.7**
comp=Z,7µm,1.0s,comp=Z,75µm
CHTO Chiang Mai 27.07 300 *e*P **P** **05 40 01.2 +1.0**
CHTO *e* 05 43 03.5
CHTO pmax pmax
comp=Z,1µm,0.9s
CHTO Chiang Mai 27.07 300 *e*P **P** **05 40 01.2 +1.0**
comp=Z,1µm,0.9s
CHTO *e* 05 41 34.4
CHTO *e*PcP **PcP** **05 43 03.5 +1.0**
CHTO *e*ScP **ScP** **05 45 50.0 +0.2**
KSJJU Jeju 27.27 5 P **P** **05 40 03.9 +2.2**
SNR=8.5
KSJJU Jeju 27.27 5 P **P** **05 40 03.9 +2.2**
SNR=8.5
CBIJ Chichi jima 27.33 38 *e*P **P** **05 40 00.4 -1.9**
comp=Z,406nm,1.0s
CBIJ *e* 05 41 24.9
CBIJ S **S** **05 43 57.3 -5.8**
CBIJ *e*S S 05 43 59.5 -3.6
CBIJ ScS **ScS** **05 49 41.2 -2.0**
JCJ Chichijima 27.33 38 P **P** **05 40 00.3 -2.1**
comp=Z,595nm,0.4s,baz=248,slow=4.6,SNR=63
JCJ S **S** **05 43 57.3 -5.8**
comp=Z,484nm,0.6s,baz=225,slow=22,SNR=16
JCJ ScS **ScS** **05 49 41.2 -2.0**
comp=Z,70nm,1.0s,baz=192,slow=23,SNR=7.0
ENH Enshi 27.39 333 *e*P **P** **05 40 04.0 +1.2**
comp=Z,251nm,0.9s
ENH *e*S **S** **05 44 04.8 +0.8**
ENH *e*ScP **ScP** **05 45 50.5 -0.1**
SNSI Sinabang, Aceh 27.41 263 P **P** **05 40 03.8 +0.6**
comp=Z,2µm,0.8s
MBWA Marble Bar 27.42 188 *e*P **P** **05 40 02.9 -0.3**
comp=Z,418nm,0.8s
MBWA *e*ScP **ScP** **05 45 49.5 -1.2**
KMI Kunming 27.44 316 P **P** **05 40 05.0 +1.4**
KMI PcP **PcP** **05 43 04.8 +1.3**
KMI S **S** **05 44 07.9 +2.7**
KMI ScP **ScP** **05 45 51.3 +0.2**
KMI ScS **ScS** **05 49 45.3 +1.0**
KMI PMZ
comp=Z,670nm,1.1s
KMI PMZ
comp=Z,4µm,7.5s
CMAI Chiengmai2 27.46 302 P **P** **05 40 04.9 +1.1**
comp=Z,910nm,1.2s
JNU Nakatsue 27.67 13 P **P** **05 40 04.0 -1.3**
comp=Z,21nm,0.5s,baz=242,slow=7.4,SNR=16
JNU PcP **PcP** **05 43 04.4 +0.7**
comp=Z,57nm,0.9s,baz=106,slow=3.7,SNR=3.5
JNU ScP **ScP** **05 45 50.6 -0.8**
comp=Z,39nm,0.8s,baz=161,slow=2.4,SNR=4.0
JNU ScS **ScS** **05 49 42.8 -1.9**
comp=Z,36nm,1.0s,baz=65,slow=23,SNR=27
JNU P3KPbc 06 12 17.2
comp=Z,6.0nm,0.9s,baz=354,slow=5.7,SNR=4.3
JNU Nakatsue 27.67 13 *e*P **P** **05 40 04.3 -0.9**
comp=Z,20nm,0.8s
JNU *e* 05 41 37.5
JNU PcP **PcP** **05 43 04.4 +0.7**
JNU *e*PcP PcP 05 43 04.7 +1.0
JNU ScP **ScP** **05 45 50.6 -0.8**
JNU *e*ScP ScP 05 45 50.9 -0.4
JNU ScS **ScS** **05 49 42.8 -1.9**
JNU *e* 06 12 17.2
MHMT Maesarieng 27.70 298 P **P** **05 40 07.2 +1.5**
comp=Z,2µm,0.9s,comp=Z,13µm
COEN Coen 27.91 136 P **P** **05 40 06.3 -1.3**
baz=28,SNR=577
COEN Coen 27.91 136 *e*P **P** **05 40 06.3 -1.3**
comp=Z,859nm,0.7s
COEN *e*ScP **ScP** **05 45 52.7 +0.3**
WRAB Tennant Creek 28.03 158 *e*P **P** **05 40 08.2 -0.3**
WRAB *e*S **S** **05 44 10.6 -3.5**
WRAB pmax pmax
comp=Z,2µm,1.0s
WRAB Tennant Creek 28.03 158 *e*P **P** **05 40 08.2 -0.3**
comp=Z,2µm,1.0s
WRAB *e* 05 41 42.0
WRAB *e*S **S** **05 44 10.6 -3.5**
WRA Warramunga Arr 28.03 158 P **P** **05 40 08.2 -0.4**
comp=Z,1µm,0.5s,baz=336,slow=9.7,SNR=1238
WRA S **S** **05 44 09.7 -4.5**
comp=Z,602nm,1.0s,baz=329,slow=16,SNR=14
WRA ScP **ScP** **05 45 51.4 -1.3**
comp=Z,109nm,0.9s,baz=349,slow=4.0,SNR=7.3
WRA ScS **ScS** **05 49 42.7 -4.0**
comp=Z,103nm,1.3s,baz=321,slow=4.8,SNR=5.7
WRA P3KPbc 06 12 16.1
comp=Z,3.9nm,0.6s,baz=154,slow=4.1,SNR=15
PMG Port Moresby 28.15 123 P **P** **05 40 08.6 -1.1**
comp=Z,2µm,1.1s,baz=75,slow=5.3,SNR=61
PMG S **S** **05 44 12.2 -3.9**
comp=Z,28nm,0.7s,baz=270,slow=19,SNR=1.7
PMG ScP **ScP** **05 45 53.5 +0.3**
comp=Z,298nm,1.1s,baz=340,slow=5.8,SNR=10
PMG Port Moresby 28.15 123 *e*P **P** **05 40 08.5 -1.1**
PMG S **S** **05 44 12.2 -3.9**
PMG pmax pmax
comp=Z,1µm,1.0s
PMG Port Moresby 28.15 123 *e*P **P** **05 40 08.5 -1.1**
comp=Z,1µm,1.0s
PMG S **S** **05 44 12.2 -3.9**
PMG *e*ScP **ScP** **05 45 53.4 +0.3**
KSWAN Wando 28.23 5 P P 05 40 13.3 +3.3
SNR=7.0
KSJDO Jindo 28.28 5 P **P** **05 40 13.7 +3.2**
SNR=7.4
KSJDO Jindo 28.28 5 P **P** **05 40 10.8 +0.3**
SNR=19
KSHUK Heuksando 28.43 3 P **P** **05 40 14.8 +3.0**
SNR=13
KSKOH Goheung 28.51 6 P **P** **05 40 13.5 +1.1**
SNR=17
KSKOH Goheung 28.51 6 P **P** **05 40 13.5 +1.1**
SNR=17
KSNAH Namhae 28.79 7 P **P** **05 40 16.8 +2.0**
SNR=11
KSNAH Namhae 28.79 7 P **P** **05 40 16.8 +2.0**
SNR=11
KSKWJ Gwangju 29.02 6 P **P** **05 40 18.0 +1.1**
SNR=7.7
KSKWJ Gwangju 29.02 6 P **P** **05 40 17.8 +0.9**
SNR=10
KSJIN Jinju 29.14 8 P **P** **05 40 20.4 +2.5**
SNR=6.5
KSJEU Jeongeup 29.35 6 P **P** **05 40 21.0 +1.3**
SNR=5.4
KSJEU Jeongeup 29.35 6 P **P** **05 40 19.6 -0.1**
SNR=19
KSBUS Busan 29.39 9 P **P** **05 40 21.6 +1.5**
SNR=12
KSBUS Busan 29.39 9 P **P** **05 40 21.6 +1.5**
SNR=12
CMBY CAMPBELL BAY 29.45 273 *e*P **P** **05 40 20.9 0.0**
CMBY AMB AMB 05 40 22.8
comp=Z,2µm,0.3s
KSDAG Daegu 29.86 9 P **P** **05 40 26.0 +1.9**
SNR=8.3
KSDAG Daegu 29.86 9 P **P** **05 40 25.7 +1.5**
SNR=12
GIRL Giralia 30.06 197 P **P** **05 40 27.2 +1.2**
baz=30,SNR=102
KSCPR CHUPUNGNYEONG 30.18 7 P **P** **05 40 27.8 +0.8**
SNR=19
KSCPR CHUPUNGNYEONG 30.18 7 P **P** **05 40 27.8 +0.8**
SNR=19
TJN Taejon 30.27 6 *e*P **P** **05 40 27.1 -0.5**
RABL Rabaul 30.36 109 P **P** **05 40 29.9 +1.1**
baz=30,SNR=55
KSSAJ Sangju 30.39 7 P **P** **05 40 30.4 +1.7**
SNR=6.7
KSEUS ULSEONG 30.40 8 P **P** **05 40 30.9 +2.1**
SNR=11
KSBON Boeun 30.43 7 P **P** **05 40 31.7 +2.6**
SNR=18
TIA Tai'an 30.48 350 ⇑P **P** **05 40 29.3 -0.2**
TIA sP **sP** **05 43 03.8 -3.9**
TIA S **S** **05 44 51.4 -0.1**
TIA ScP **ScP** **05 46 00.5 +0.2**
TIA ScS **ScS** **05 49 57.5 -0.5**
TIA PMZ
comp=Z,290nm,1.1s
TIA PMZ
comp=Z,2µm,3.9s
JHJ Hachijo jima 2 30.77 27 P **P** **05 40 29.9 -2.1**
comp=Z,160nm,0.3s,baz=138,slow=1.2,SNR=6.7
JHJ S **S** **05 44 50.9 -5.2**
comp=Z,98nm,0.4s,baz=252,slow=19,SNR=4.3
JHJ2 Mitsune 30.77 27 *e*P **P** **05 40 33.5 +1.5**
comp=Z,78nm,0.6s
KSCHJ Chungju 30.82 7 P **P** **05 40 34.5 +2.1**
SNR=7.6
CD2 Chengdu 30.84 325 P **P** **05 40 32.5 -0.2**
CD2 PP **PP** **05 42 12.8 -0.1**
CD2 sP **sP** **05 43 10.8 -0.2**
CD2 S **S** **05 44 58.3 +1.0**
CD2 PMZ
comp=Z,920nm,1.0s
CD2 PMZ
comp=Z,5µm,8.7s
KSULJ Uljin 30.86 9 P **P** **05 40 34.8 +2.2**
SNR=6.3
XAN Xi'an 30.87 336 P **P** **05 40 32.5 -0.4**
XAN S **S** **05 44 54.6 -3.1**
XAN PMZ
comp=Z,740nm,1.0s
XAN PMZ
comp=Z,5µm,9.6s
QIS Mount Isa 30.89 150 P **P** **05 40 33.3 +0.1**
baz=31,SNR=1000
PBA Port Blair 30.91 282 *e*P P 05 40 34.6 +1.1
PBA AMB AMB 05 40 46.1
comp=Z,631nm,1.0s
DGPR DIGLIPUR 30.96 285 *e*P **P** **05 40 33.7 -0.2**
DGPR AMB AMB 05 40 35.1
comp=Z,387nm,0.7s
KSSWO Suwon 31.11 5 P P 05 40 38.7 +3.9
SNR=6.3
KSICN Icheon 31.17 6 P **P** **05 40 37.8 +2.4**
SNR=10
KSYOW Yeongwol 31.18 8 P **P** **05 40 37.7 +2.3**
SNR=7.9
KSTBA Taebaek 31.20 8 P **P** **05 40 37.9 +2.2**
SNR=17
INCN Inchon 31.29 5 *e*P **P** **05 40 37.7 +1.2**
comp=Z,23nm,0.5s
INCN *e*PP **PP** **05 42 19.4 +2.4**
INCN *e*PcP **PcP** **05 43 14.4 +1.3**
INCN *e*ScP **ScP** **05 46 03.1 0.0**
AS31 Alice Springs 31.33 162 *e*P **P** **05 40 37.4 +0.4**
AS31 *e*S **S** **05 45 04.1 -0.8**
ASAR Alice Springs 31.33 162 P **P** **05 40 37.5 +0.6**
comp=Z,507nm,0.5s,baz=340,slow=7.2,SNR=2304
ASAR S **S** **05 45 02.9 -2.1**
comp=Z,506nm,0.9s,baz=339,slow=13,SNR=30
ASAR ScP **ScP** **05 46 02.6 -0.9**
comp=Z,44nm,0.5s,baz=342,slow=3.6,SNR=3.1
ASAR P3KPbc 06 11 59.2
comp=Z,1.7nm,0.8s,baz=151,slow=4.0,SNR=9.5
ASAR P3KP 06 13 19.4
comp=Z,0.8nm,0.7s,baz=220,slow=3.2,SNR=4.4
ASAR P4KP 06 22 17.0
comp=Z,0.9nm,0.8s,baz=328,slow=4.8,SNR=6.5
WRKA Warakurna 31.36 172 P **P** **05 40 37.6 +0.4**
baz=32,SNR=1000
KSAR Wonju Array Be 31.38 7 P **P** **05 40 37.4 +0.3**
KSAR 05 43 14.1
KSAR Wonju Array Be 31.38 7 P **P** **05 40 37.4 +0.3**
KSAR PcP **PcP** **05 43 14.1 +0.8**
KSAR ScP **ScP** **05 46 03.2 -0.1**
KSAR *e* 06 12 02.4
KSRS Korea Array 31.39 7 P **P** **05 40 37.4 +0.2**
comp=Z,27nm,0.7s,baz=183,slow=9.6,SNR=41
KSRS PcP **PcP** **05 43 14.1 +0.8**
comp=Z,32nm,0.8s,baz=186,slow=2.4,SNR=15
KSRS ScP **ScP** **05 46 03.2 -0.1**
comp=Z,62nm,0.8s,baz=193,slow=3.4,SNR=24
KSRS P3KPbc 06 12 02.4
comp=Z,3.5nm,1.0s,baz=12,slow=5.5,SNR=11
KSRS Korea Array 31.39 7 P **P** **05 40 37.4 +0.2**
KSRS 05 43 14.1
KSRS pmax pmax
comp=Z,27nm,0.7s
KSRS pmax pmax
comp=Z,32nm,0.8s
KSRS pmax pmax
comp=N,63nm,0.8s
KSJES JEONGSEON 31.46 8 P **P** **05 40 40.7 +2.8**
SNR=11
KSGAH Ganghwa 31.50 4 P **P** **05 40 40.8 +2.7**
SNR=11
MTSU Mount Surprise 31.67 140 P **P** **05 40 39.7 -0.2**
baz=32,SNR=289
KSBAR Backryungdo 31.68 2 P **P** **05 40 42.3 +2.6**
SNR=15
KSCHC Chuncheon 31.70 6 P **P** **05 40 42.4 +2.6**
SNR=18
KSMUS Musan 31.70 5 P **P** **05 40 42.3 +2.4**
SNR=15
KSDGY Daegwallyeong 31.72 8 P **P** **05 40 42.8 +2.7**
SNR=12
KSDDC Dongducheon 31.74 5 P **P** **05 40 43.1 +2.8**
SNR=13
YNCB YEONCHEON 31.87 5 P **P** **05 40 43.4 +2.1**
SNR=26
KSJMJ Jumunjin 31.92 8 P **P** **05 40 43.7 +2.0**
SNR=28
KSIJA INJE 31.94 7 P **P** **05 40 44.5 +2.6**
SNR=22
KSCWO Cheorwon 31.97 6 P **P** **05 40 44.7 +2.5**
SNR=20
COCO West Island 32.23 236 P **P** **05 40 44.5 -0.2**
COCO pmax pmax
comp=Z,2µm,1.2s
COCO West Island 32.23 236 *e*P **P** **05 40 44.3 -0.4**
comp=Z,1µm,1.2s
SEHB SEOHWA 32.23 7 P **P** **05 40 47.6 +3.1**
SNR=21
KSSKC Sokcho 32.29 7 P **P** **05 40 47.8 +3.0**
SNR=23
DL2 Dalian 32.63 357 ⇓*i*P **P** **05 40 47.8 0.0**
DL2 sP sP 05 43 20.8 -6.0
DL2 S **S** **05 45 22.3 -2.0**
DL2 ScP **ScP** **05 46 08.3 +0.7**
DL2 ScS **ScS** **05 50 08.9 0.0**
DL2 PMZ
comp=Z,410nm,1.2s
MEEK Meekatharra 32.97 188 P **P** **05 40 50.8 0.0**
baz=33,SNR=612
TIY Taiyuan 32.99 344 *e*P **P** **05 40 52.9 +2.0**
TIY sP **sP** **05 43 33.3 +3.3**
TIY S **S** **05 45 33.1 +3.1**
TIY ScS **ScS** **05 50 12.6 +1.6**
TIY PMZ
comp=Z,430nm,1.0s
TIY PMZ
comp=Z,2µm,7.1s
MAJO Matsushiro 33.07 22 *e*P **P** **05 40 49.7 -1.8**
MAJO *e*S **S** **05 45 30.1 -1.0**
MAJO pmax pmax
comp=Z,106nm,0.8s
MAJO Matsushiro 33.07 22 *e*P **P** **05 40 49.7 -1.8**
comp=Z,106nm,0.8s
MAJO *e*pP **pP** **05 42 22.9 -2.5**
MAJO *e*S **S** **05 45 30.1 -1.0**
MAJO *e*ScP **ScP** **05 46 10.4 +1.1**
MAT Matsushiro 33.07 22 P **P** **05 40 49.2 -2.3**
MAT S S 05 45 24.3 -6.8
MJAR Matsushiro Arr 33.07 22 P **P** **05 40 50.1 -1.5**
comp=Z,98nm,0.8s,baz=196,slow=9.9,SNR=60
MJAR PcP **PcP** **05 43 19.5 +1.3**
comp=Z,26nm,0.7s,baz=185,slow=3.8,SNR=6.4
MJAR S **S** **05 45 26.1 -5.0**
comp=Z,4.9nm,0.7s,baz=245,slow=7.8,SNR=4.2
MJAR ScP **ScP** **05 46 09.0 -0.2**
comp=Z,44nm,1.0s,baz=205,slow=5.7,SNR=6.4
MJAR ScS **ScS** **05 50 12.4 +1.0**
comp=Z,8.1nm,1.2s,baz=198,slow=12,SNR=6.1
MJAR P3KPbc 06 11 52.3
comp=Z,5.7nm,1.1s,baz=344,slow=5.1,SNR=11
CTA Charters Tower 34.34 140 P **P** **05 41 03.0 +0.6**
comp=Z,1µm,0.8s,baz=321,slow=11,SNR=299
CTA S **S** **05 45 49.8 -0.9**
comp=Z,58nm,1.0s,baz=38,slow=19,SNR=5.7
CTA ScP **ScP** **05 46 14.9 +0.8**
comp=Z,270nm,1.1s,baz=281,slow=4.2,SNR=11
CTAO Charters Tower 34.34 140 *e*P **P** **05 41 02.7 +0.3**
CTAO pmax pmax
comp=Z,2µm,0.9s
CTAO Charters Tower 34.34 140 *e*P **P** **05 41 02.7 +0.3**
comp=Z,2µm,0.9s
CTAO *e*ScP **ScP** **05 46 14.3 +0.2**
BJT Baijiatuau 34.35 350 *e*P **P** **05 41 02.6 +0.4**
BJT *e* 05 42 42.3
BJT *e* 05 43 22.7
BJT pmax pmax
comp=Z,723nm,1.1s
BJT Baijiatuau 34.35 350 *e*P **P** **05 41 02.6 +0.4**
comp=Z,723nm,1.1s
BJT *e* 05 42 42.3
BJT *e*PcP **PcP** **05 43 22.7 +0.9**
BJT *e*ScP **ScP** **05 46 14.4 +0.7**
BJI Beijing 34.37 350 P **P** **05 41 02.8 +0.5**
BJI PcP **PcP** **05 43 23.3 +1.5**
BJI sP **sP** **05 43 49.0 -1.1**
BJI S **S** **05 45 48.8 -1.7**
BJI ScP **ScP** **05 46 14.3 +0.5**
BJI ScS **ScS** **05 50 17.8 -0.3**
BJI PMZ
comp=Z,590nm,1.2s
BJI PMZ
comp=Z,3µm,5.9s
PATS Pohnpei 34.53 87 P **P** **05 41 04.0 -0.1**
baz=34,SNR=12
LZH Lanzhou 34.84 331 ⇓P **P** **05 41 07.4 +0.8**
LZH pP **pP** **05 42 42.0 +0.5**
LZH PcP **PcP** **05 43 22.1 -1.4**
LZH sP **sP** **05 43 49.5 +3.1**
LZH S **S** **05 46 01.3 +3.2**
LZH ScP **ScP** **05 46 15.8 0.0**
LZH sS **sS** **05 48 54.3 +0.6**
LZH SS SS 05 49 02.1 -12
LZH ScS **ScS** **05 50 20.3 -1.0**
LZH PMZ
comp=Z,2µm,1.4s
LZH PMZ
comp=Z,5µm,4.9s
SNY Shenyang 35.51 0 ⇓P **P** **05 41 11.8 0.0**
SNY pP **pP** **05 42 45.9 -1.2**
SNY PMZ
comp=Z,1µm,12.0s
MORW Morawa 35.78 191 P **P** **05 41 14.5 +0.3**
baz=36,SNR=368
SHL Shillong 35.90 306 *i*P **P** **05 41 15.0 -0.5**
SHL AMB AMB 05 41 18.0
comp=Z,2µm,0.2s
SHL *i*S **S** **05 46 15.0 +0.7**
HHC Hu-ho-hao-te 36.16 344 *e*P **P** **05 41 18.3 +0.9**
HHC pP **pP** **05 42 53.9 +0.8**
HHC sP sP 05 43 51.9 -6.0
HHC S **S** **05 46 16.3 -1.3**
HHC PMZ
comp=Z,290nm,1.1s
HHC PMZ
comp=Z,3µm,6.4s
BTO Baotou 36.37 343 *e*P **P** **05 41 19.8 +0.7**
FORT Forrest 36.99 174 P **P** **05 41 24.7 +0.5**
baz=37,SNR=1000
FORT Forrest 36.99 174 *e*P **P** **05 41 24.6 +0.5**
comp=Z,1µm,0.6s
FORT *e*ScP **ScP** **05 46 24.0 +0.3**
FORT *e*S **S** **05 46 30.6 +0.6**
BLDU Ballidu 37.16 190 P **P** **05 41 25.5 -0.1**
baz=37,SNR=330
KMBL Kambalda 37.36 182 P **P** **05 41 27.5 +0.3**
baz=38,SNR=932
CN2 Changchun 37.52 2 *e*P **P** **05 41 28.8 +0.5**
CN2 *e*pP **pP** **05 43 05.1 +0.3**
CN2 PcP **PcP** **05 43 32.3 +1.0**
CN2 ScP **ScP** **05 46 24.8 -0.6**
CN2 *e*S **S** **05 46 40.9 +3.6**
CN2 ScS **ScS** **05 50 35.3 -0.5**
CN2 PMZ
comp=Z,60nm,1.4s
CN2 PMZ
comp=Z,500nm,3.0s
VLA Vladivostok 37.52 10 *d*iP **P** **05 41 28.8 +0.5**
VLA pmax pmax
comp=Z,38nm,1.2s
KLBR Kellerberrin 37.96 188 P **P** **05 41 32.2 +0.2**
baz=38,SNR=757
QLP Quilpie 38.23 149 P **P** **05 41 34.6 +0.2**
baz=38,SNR=654
LSA Lhasa 38.47 311 P **P** **05 41 40.0 +3.2**
LSA SS SS 05 50 04.5 -9.5
LSA Lhasa 38.47 311 *e*P **P** **05 41 38.6 +1.8**

LSA e 05 43 36.1
LSA eS S 05 46 54.7 +2.0
LSA pmax pmax
comp=Z,806nm,0.8s
LSA Lhasa 38.47 311 eP P **05 41 38.6 +1.8**
comp=Z,806nm,0.8s
LSA ePcP PcP **05 43 36.1 +0.8**
LSA eScP ScP **05 46 30.6 +0.6**
LSA eS S **05 46 54.7 +2.0**
USRK Ussuriysk Ar. 38.59 10 P P **05 41 36.6 -0.3**
comp=Z,25nm,0.4s,baz=188,slow=7.0,SNR=66
USRK PP pP **05 43 16.8 +2.5**
comp=Z,8.8nm,0.5s,baz=179,slow=7.6,SNR=6.1
USRK PcP PcP **05 43 35.0 +0.3**
comp=Z,20nm,0.5s,baz=214,slow=3.6,SNR=6.6
USRK ScP ScP **05 46 30.5 +1.0**
comp=Z,11nm,0.6s,baz=246,slow=1.9,SNR=4.4
USRK S S **05 46 51.3 -1.8**
comp=Z,6.2nm,0.8s,baz=201,slow=7.7,SNR=2.0
USRK ScS ScS **05 50 41.2 -0.8**
comp=Z,5.8nm,1.0s,baz=226,slow=7.1,SNR=5.3
USRK PKPPKP P'P'df 06 13 40.1 -18
comp=Z,0.6nm,0.6s,baz=29,slow=4.4,SNR=4.1
USRK PKP2ab 06 15 27.9
comp=Z,0.7nm,0.6s,baz=55,slow=7.2,SNR=4.3
MDJ Mudanjiang 38.66 7 P P **05 41 38.4 +0.9**
MDJ pP pP **05 43 11.5 -3.3**
MDJ sP sP **05 44 16.9 -2.3**
MDJ ScP ScP **05 46 31.5 +1.7**
MDJ S S **05 46 56.3 +2.2**
MDJ sS sS **05 49 52.5 -0.3**
MDJ PMZ
comp=Z,390nm,2.7s
MDJ Mudanjiang 38.66 7 eP P **05 41 38.2 +0.7**
comp=Z,148nm,1.1s
BWNR Bhubaneshwar 39.22 295 ex P 05 41 35.0 -7.4
NWAO Narrogin (SRO) 39.34 188 P P **05 41 43.8 +0.6**
comp=Z,458nm,0.6s,baz=329,slow=4.3,SNR=327
NWAO ScP ScP **05 46 32.4 -0.3**
comp=Z,122nm,1.0s,baz=329,slow=6.4,SNR=7.0
NWAO S S **05 47 04.2 -0.3**
comp=Z,108nm,0.7s,baz=149,slow=18,SNR=17
NWAO Narrogin (SRO) 39.34 188 P P **05 41 43.8 +0.6**
baz=40,SNR=460
NWAO P P **05 41 43.8 +0.6**
baz=40,SNR=460
GTA Gaotai 39.41 331 ⇓P P **05 41 44.3 +0.4**
GTA pP pP **05 43 23.8 +2.1**
GTA sP sP **05 44 21.5 -4.4**
GTA ScP ScP **05 46 33.5 +0.5**
GTA S S **05 47 04.3 -1.4**
GTA ScS ScS **05 50 45.9 -1.6**
GTA PMZ
comp=Z,560nm,1.5s
GTA PMZ
comp=Z,4μm,7.8s
HNR Honiara 39.43 113 eP P **05 41 43.8 -0.4**
HNR pmax pmax
comp=Z,2μm,0.6s
HNR Honiara 39.43 113 *i* P P 05 41 49.0 +4.8
HNR Honiara 39.43 113 eP P **05 41 43.8 -0.4**
comp=Z,2μm,0.6s
ERM Erimo 39.71 23 eP P **05 41 46.2 +0.2**
ERM eS S **05 47 12.5 +2.9**
ERM pmax pmax
comp=Z,97nm,1.0s
ERM Erimo 39.71 23 eP P **05 41 46.2 +0.2**
comp=Z,97nm,1.0s
ERM eScP ScP **05 46 35.2 +1.2**
ERM eS S **05 47 12.5 +2.9**
TAPN Taplejung 40.04 306 eP P **05 41 49.6 +0.3**
comp=Z,3μm,1.0s
ODAN Odare 40.09 305 eP P **05 41 49.9 +0.3**
comp=Z,2μm,0.9s
BOK Bokaro 40.21 300 eP P **05 41 50.2 -0.2**
BOK AMB AMB 05 41 53.8
comp=Z,746nm,1.2s
CHLP Challavanipeta 40.39 291 eP P **05 41 52.4 +0.6**
CHLP IAmb IAmb 05 41 55.4
comp=Z,1μm,0.9s
CHLP ePP PP **05 43 36.5 -4.5**
CHLP esP sP **05 44 30.5 -3.7**
CHLP eScP ScP **05 46 37.0 -0.2**
CHLP eS S **05 47 19.7 -0.5**
CHLP eSS SS **05 50 45.5 +1.1**
BBOO Buckleboo 40.55 164 P P **05 41 53.3 +0.5**
baz=41,SNR=1000
BBOO Buckleboo 40.55 164 eP P **05 41 53.3 +0.5**
comp=Z,816nm,0.8s
BBOO ePcP PcP **05 43 41.2 -0.1**
BBOO eScP ScP **05 46 35.5 -1.9**
BBOO eS S **05 47 26.9 +4.9**
RMQ Roma 40.63 144 P P **05 41 54.0 +0.4**
baz=41,SNR=191
RAMN Ramite 40.77 305 eP P **05 41 55.5 +0.4**
VIS Vishakhapatnam 40.91 290 eP P **05 41 56.1 +0.2**
VIS AMB AMB 05 41 59.2
comp=Z,1μm,0.3s
RKGY Rocky Gully 41.03 188 P P **05 41 57.8 +1.2**
baz=41,SNR=309
EIDS Eidsvold 41.22 141 P P **05 41 58.1 -0.1**
baz=41,SNR=465
EIDS Eidsvold 41.22 141 eP P **05 41 57.9 -0.4**
comp=Z,2μm,0.9s
EIDS ePP PP **05 43 50.6 +2.1**
EIDS eScP ScP **05 46 40.7 +0.5**
ASAJ Asahikawa 41.32 21 P P **05 41 58.8 0.0**
comp=Z,78nm,0.3s,baz=241,slow=8.1
ASAJ PcP PcP **05 43 44.9 +1.3**
comp=Z,44nm,0.7s,baz=244,slow=11,SNR=5.9
ASAJ ScP ScP **05 46 39.9 -0.4**
comp=Z,45nm,1.0s,baz=237,slow=15,SNR=4.7
ASAJ S S **05 47 31.4 -1.3**
comp=Z,60nm,1.2s,baz=270,slow=20,SNR=4.9
ASAJ Asahikawa 41.32 21 P P **05 41 58.8 0.0**
ASAJ 05 43 44.9
ASAJ S S **05 47 31.5 -1.3**
ASAJ pmax pmax
comp=Z,78nm,0.4s
ASAJ pmax pmax
comp=Z,44nm,0.7s
ASAJ pmax pmax
comp=N,45nm,1.0s
ASAJ smax smax
comp=N,60nm,1.2s
ASAJ Asahikawa 41.32 21 eP P **05 41 59.0 +0.2**
comp=N,65nm,0.8s
ASAJ e 05 43 41.5
ASAJ PcP PcP **05 43 44.9 +1.3**
ASAJ ScP ScP **05 46 39.9 -0.4**
ASAJ eScP ScP **05 46 41.0 +0.7**
ASAJ S S **05 47 31.4 -1.3**
ASAJ eS S 05 47 32.8 -0.1
STKA Stephens Creek 41.56 157 P P **05 42 01.6 +0.7**
comp=N,847nm,0.7s,baz=331,slow=7.4,SNR=950
STKA PP PP **05 43 50.6 -1.0**
comp=N,223nm,0.7s,baz=328,slow=11,SNR=5.5
STKA S S **05 47 36.2 -0.4**
comp=N,886nm,1.3s,baz=63,slow=22,SNR=18
STKA Stephens Creek 41.56 157 eP P **05 42 01.6 +0.7**
STKA 05 43 50.6
STKA e 05 43 52.6
STKA S S **05 47 36.3 -0.4**
STKA eS S **05 47 37.8 +1.1**
STKA Stephens Creek 41.56 157 eP P **05 42 01.6 +0.7**
STKA PP PP **05 43 50.6 -1.0**
STKA ePP PcP 05 43 52.5 +7.9
STKA eScP ScP **05 46 41.3 -0.2**
STKA S S **05 47 36.2 -0.4**
STKA eS S 05 47 37.8 +1.1
GUN Gumba 41.75 306 eP P **05 42 03.2 +0.3**
H01W3 Cape Leeuwin H 41.79 192 P P **05 42 04.5 +2.1**
baz=22,slow=6.4,SNR=14
H01W1 Cape Leeuwin H 41.80 192 P P **05 42 04.1 +1.7**
baz=22,slow=6.4,SNR=10.0
H01W2 Cape Leeuwin H 41.81 192 P P **05 42 04.7 +2.3**
baz=22,slow=6.4,SNR=14
PKI Pulchoki 41.99 305 eP P **05 42 04.5 -0.3**
HTT Hallett 41.99 161 P P **05 42 05.2 +0.9**
baz=42,SNR=817
PKIN Phulchoki 42.01 305 eP P **05 42 04.6 -0.2**
KKN Kakani 42.18 305 eP P **05 42 06.1 -0.1**
DMN Daman 42.26 305 eP P **05 42 06.6 -0.2**
comp=N,3μm,1.0s
PVM Polavaram 42.42 289 eP P **05 42 08.5 +0.7**
PVM IAmb IAmb 05 42 10.7
comp=Z,649nm,0.8s
PVM ePcP PcP **05 43 48.7 +0.8**
PVM esP sP **05 44 48.9 -2.4**
PVM eScP ScP **05 46 43.2 -2.1**
PVM e 05 51 04.1
YUK Yuzh-Kuril'sk 42.48 24*c* iP P **05 42 09.0 +1.1**
YUK *i* 05 43 48.2
YUK *i* 05 44 00.4
YUK *i* S S **05 47 48.9 -0.6**
YUK *i* *SS sS **05 50 51.3 -0.4**
YUK *i* 05 51 05.9
YUK *i* SS SS **05 51 20.9 +3.2**
YUK pmax pmax
comp=Z,704nm,2.3s
YUK pmax pmax
comp=N,143nm,2.0s
YUK pmax pmax
comp=E,91nm,2.0s
YUK pmax pmax
comp=Z,266nm,2.0s
PALK Pallekele 42.57 274 P P **05 42 10.9 +1.7**
comp=Z,4μm,1.3s,SNR=38
PALK Pallekele 42.57 274 P P **05 42 09.4 +0.2**
comp=Z,697nm,1.1s,baz=87,slow=7.6,SNR=64
PALK PcP pP **05 43 49.2 +0.1**
comp=Z,73nm,0.6s,baz=74,slow=2.5,SNR=5.0
PALK ScP ScP **05 46 46.2 +0.1**
comp=Z,122nm,1.2s,baz=76,slow=4.2,SNR=4.6
PALK S S **05 47 52.2 +0.5**
comp=Z,15nm,1.1s,baz=166,slow=17,SNR=1.5
PALK Pallekele 42.57 274 eP P **05 42 09.9 +0.7**
PALK 05 43 49.2
PALK S S **05 47 52.2 +0.5**
PALK pmax pmax
comp=Z,1μm,1.2s
PALK Pallekele 42.57 274⇓*i*P P **05 42 10.0 +0.8**
SNR=66
PALK Pallekele 42.57 274 eP P **05 42 09.9 +0.8**
comp=Z,1μm,1.2s
PALK PcP pP **05 43 49.2 +0.1**
PALK eScP ScP **05 46 46.2 +0.1**
PALK S S **05 47 52.2 +0.5**
GKN Gorkha 42.79 305 eP P **05 42 10.7 -0.1**
comp=Z,2μm,1.1s
CMSA Cobar Meteorol 43.04 152 P P **05 42 13.7 +1.2**
baz=43,SNR=970
HIA Hailar 43.07 356 eP P **05 42 12.8 +0.3**
HIA e 05 43 51.2
HIA eS S **05 47 58.3 +0.5**
HIA pmax pmax
comp=Z,343nm,0.9s
HIA Hailar 43.07 356 eP P **05 42 12.8 +0.3**
comp=Z,343nm,0.9s
HIA e 05 43 51.2
HIA eScP ScP **05 46 48.4 +1.1**
HIA eS S **05 47 58.3 +0.5**
MDRS Chennai 43.20 282 eP P **05 42 14.1 +0.1**
MDRS AMB AMB 05 42 17.2
comp=Z,1μm,0.1s
HABR Khabarovsk 43.27 11*d* iP P **05 42 12.4 -1.6**
HABR e*PP PcP **05 43 51.9 +1.8**
HABR e 05 44 05.2
HABR e*SP sP **05 44 55.0 -2.8**
HABR eS S **05 48 00.1 -0.5**
HABR e*SS sS **05 51 01.7 -1.8**
HABR e 05 51 09.5
HABR eSS SS **05 51 30.8 +0.6**
HABR pmax pmax
comp=E,19nm,1.1s
HABR pmax pmax
comp=Z,101nm,1.1s
HABR pmax pmax
comp=N,17nm,0.7s
HABR pmax pmax
comp=Z,1μm,2.5s
HABR MLR MLR
comp=Z,3μm,16.0s
KLR Kul'dur 43.47 8 eP P 05 42 12.0 -3.5
KLR e 05 43 46.7
KLR pmax pmax
comp=N,130nm,2.2s
KLR pmax pmax
comp=Z,630nm,2.2s
KLR pmax pmax
comp=Z,1μm,9.5s
KOLN Koldanda 43.55 304 eP P **05 42 17.2 +0.4**
DANN Dangsing 43.64 305 eP P **05 42 17.9 +0.3**
comp=Z,633nm,0.8s
H11S3 WAKE ISLAND Hy 43.75 70 P P **05 42 19.8 +1.7**
baz=245,slow=5.8,SNR=9.9
H11S1 WAKE ISLAND Hy 43.77 70 P P **05 42 19.4 +1.2**
baz=245,slow=5.8,SNR=10.0
H11S2 WAKE ISLAND Hy 43.77 70 P P **05 42 19.7 +1.6**
baz=245,slow=5.8,SNR=22
ADKI Addanki 43.77 286 eP P **05 42 18.8 +0.4**
ADKI IAmb IAmb 05 42 21.3
comp=Z,722nm,0.9s
ADKI ePcP PcP **05 43 52.0 -0.5**
ADKI esP sP **05 45 05.5 +3.1**
ADKI eScP ScP **05 46 48.0 -2.9**
ADKI eS S **05 48 08.5 -0.3**
ADKI e 05 51 13.6
SKHT Srikalahasti 43.78 283 eP P **05 42 19.0 +0.5**
SKHT IAmb IAmb 05 42 21.7
comp=Z,1μm,1.0s
SKHT ePcP PcP **05 43 53.9 +1.3**
SKHT esP sP **05 45 00.5 -2.0**
SKHT eScP ScP **05 46 51.0 +0.1**
SKHT eS S **05 48 10.4 +1.5**
SKHT e 05 51 14.0
SKHT eSS SS 05 51 49.3 +10
YSS Yuzh-Sakhalins 43.86 19 eP P **05 42 17.5 -1.1**
YSS e 05 43 53.0
YSS e*PP pP **05 43 59.0 -0.4**
YSS e 05 44 08.0
YSS eS S **05 48 04.0 -5.0**
YSS *i* *SS sS **05 51 12.0 -0.4**
YSS pmax pmax
comp=Z,120nm,1.3s
YSS pmax pmax
comp=Z,800nm,2.0s
YSS smax smax
comp=N,4μm,12.0s
YSS MLR MLR
comp=Z,2μm,14.0s
YSS MLR MLR
comp=N,1μm,12.0s
YSS Yuzh-Sakhalins 43.86 19 eP P **05 42 18.2 -0.3**
comp=N,57nm,0.4s
YSS ePcP PcP **05 43 53.0 +0.8**
YSS eScP ScP **05 46 51.2 +0.7**
WAKE Wake Island 43.87 69 eP P **05 42 18.3 -0.9**
comp=N,2μm,1.5s
ULN Ulaanbaatar 43.88 344 eP P **05 42 19.7 +0.8**
ULN e 05 43 53.2
ULN pmax pmax
comp=Z,634nm,1.0s
ULN Ulaanbaatar 43.88 344 eP P **05 42 19.6 +0.8**
comp=Z,634nm,1.0s
ULN ePcP PcP **05 43 53.2 +0.7**
ULN eScP ScP **05 46 51.6 +0.7**
SONM Songino Array 44.03 343 P P **05 42 20.6 +0.5**
comp=Z,386nm,1.0s,baz=162,slow=6.6,SNR=420
SONM PcP PcP **05 43 53.3 +0.3**
comp=Z,59nm,0.7s,baz=158,slow=2.8,SNR=7.8
SONM ScP ScP **05 46 51.6 +0.2**
comp=Z,22nm,0.8s,baz=160,slow=4.3,SNR=3.9
SONM S S **05 48 11.8 0.0**
comp=Z,7.1nm,0.8s,baz=163,slow=7.5,SNR=3.0
H11N1 WAKE ISLAND Hy 44.18 68 P P **05 42 21.6 +0.4**
baz=247,slow=9.6,SNR=30
H11N2 WAKE ISLAND Hy 44.18 68 P P **05 42 21.8 +0.5**
baz=247,slow=9.6,SNR=35
H11N3 WAKE ISLAND Hy 44.19 68 P P **05 42 21.9 +0.5**
baz=247,slow=9.6,SNR=29
KUR Kuril'sk 44.29 25*c* iP P **05 42 22.8 +0.9**
KUR *i* 05 43 54.4
KUR *i* 05 44 15.5
KUR *i* S S **05 48 14.3 -0.8**
KUR *i* 05 51 17.7
KUR *i* *SS sS **05 51 21.0 +2.1**
KUR pmax pmax
comp=Z,627nm,2.3s
KUR pmax pmax
comp=N,87nm,1.8s
KUR pmax pmax
comp=E,36nm,1.8s
KUR pmax pmax
comp=Z,176nm,1.8s
KUR MLR MLR
comp=N,456nm,17.0s
KUR MLR MLR
comp=Z,1μm,17.0s
NJS Nagarjunasagar 44.50 287 eP P **05 42 24.2 +0.1**
NJS IAmb IAmb 05 42 26.8
comp=Z,755nm,0.8s
NJS ePcP PcP **05 43 55.9 +0.8**
NJS ePP pP 05 44 11.3 +6.0
NJS esP sP **05 45 07.6 -0.8**
NJS eScP ScP **05 46 53.4 -0.4**
NJS eS S **05 48 18.7 -0.3**
NJS e 05 51 18.6
NJS eSS SS **05 51 52.0 +0.9**
RCLA Racherla 44.70 286 eP P **05 42 24.5 -1.1**
RCLA IAmb IAmb 05 42 28.2
comp=Z,1μm,1.0s
RCLA ePcP PcP **05 43 55.8 0.0**
RCLA e 05 44 09.6
RCLA esP sP **05 45 06.3 -3.7**
RCLA eScP ScP **05 46 54.0 -0.7**
RCLA eS S **05 48 21.8 0.0**
RCLA e 05 51 19.7
RCLA eSS SS **05 51 57.4 +3.3**
SRLM Srisailam 44.84 287 eP P **05 42 25.7 -1.0**
SRLM IAmb IAmb 05 42 28.9
comp=Z,822nm,0.9s
SRLM ePcP PcP **05 43 56.9 +0.6**
SRLM esP sP **05 45 12.5 +1.3**
SRLM eScP ScP **05 46 55.5 -0.3**
SRLM eS S **05 48 23.8 0.0**
SRLM e 05 51 16.3
SRLM eSS SS **05 51 58.8 +2.3**
RPR Rampur 44.88 290 eP P **05 42 27.3 +0.3**
RPR IAmb IAmb 05 42 29.8
comp=Z,1μm,0.9s
RPR ePcP PcP **05 43 56.7 +0.3**
RPR epP pP **05 44 09.9 +1.4**
RPR esP sP **05 45 11.5 0.0**
RPR eScP ScP **05 46 55.1 -0.3**
RPR eS S **05 48 23.2 -1.1**
RPR e 05 51 18.9
RPR eSS SS **05 52 00.4 +3.3**
ARMA Armidale 45.24 145 P P **05 42 31.2 +1.6**
baz=45,SNR=674
ARMA Armidale 45.24 145 eP P **05 42 31.2 +1.6**
comp=Z,2μm,0.9s
ARMA ePP PP **05 44 27.6 +2.3**
ARMA eScP ScP **05 46 57.7 +1.0**
HYB Hyderabad 45.34 288 *i* P P **05 42 29.0 -1.5**
comp=Z,800nm,1.0s
HYB e 05 43 18.0
HYB e 05 43 43.0
HYB epP pP **05 44 16.0 +3.6**
HYB e 05 44 30.5
HYB e 05 44 49.5
HYB ePcP x 05 44 58.0
HYB esP sP 05 45 10.0 -5.2
HYB eScP ScP **05 46 56.5 -0.9**
HYB eS S **05 48 32.0 +1.1**
HYB eScS ScS **05 51 22.0 -3.4**
HYB eSS SS **05 52 04.0 -0.5**
HYB Hyderabad 45.34 288 eP P **05 42 31.2 +0.7**
HYB AMB AMB 05 42 33.6
comp=Z,1μm,1.8s
HYBB Hyderabad (bro 45.34 288 eP P **05 42 30.6 +0.1**
HYBB IAmb IAmb 05 42 33.1
comp=Z,2μm,1.2s
HYBB ePcP PcP **05 43 57.6 -0.5**
HYBB epP pP **05 44 11.3 -1.1**
HYBB esP sP **05 45 14.7 -0.6**
HYBB eScP ScP **05 46 55.6 -1.8**
HYBB eS S **05 48 30.9 0.0**
HYBB e 05 51 20.1
HYBB eSS SS **05 52 06.0 +1.5**
NGP Nagpur 45.56 294 eP P **05 42 31.9 -0.2**
NGP ex x 05 42 35.6
comp=Z,1μm,1.5s
NGP eS S **05 48 33.2 -0.7**
SRSP Sriramsagar 45.78 290 eP P **05 42 33.8 -0.1**
SRSP IAmb IAmb 05 42 36.5
comp=Z,1μm,0.9s
SRSP ePcP PcP **05 43 59.6 0.0**
SRSP epP pP **05 44 17.5 +1.5**
SRSP esP sP **05 45 17.6 -1.2**
SRSP eScP ScP **05 46 58.6 -0.6**
SRSP eS S **05 48 36.2 -0.8**
SRSP e 05 51 23.4
SRSP eSS SS **05 52 13.0 +1.6**
ARPS Mount Arapiles 46.02 160 P P **05 42 35.8 +0.5**
baz=46,SNR=405
TRD Trivandrum 46.26 276 eP P **05 42 37.8 +0.3**
TRD AMB AMB 05 42 40.1
comp=Z,2μm,0.6s
URV Uravakonda 46.27 285 eP P **05 42 37.3 -0.3**
URV IAmb IAmb 05 42 40.0
comp=Z,1μm,1.0s
URV ePcP PcP **05 44 01.7 +0.3**
URV epP pP **05 44 16.2 -3.8**
URV esP sP **05 45 21.3 -1.4**
URV eScP ScP **05 47 01.2 -0.1**
URV eS S **05 48 43.5 -0.3**
URV eSS SS **05 52 23.3 +4.1**
CIT Chita 46.45 351 eP P **05 42 40.0 +1.7**
CIT e 05 44 03.4
CIT e 05 44 25.0
CIT e 05 44 41.0
CIT e 05 48 48.3
CIT e 05 51 31.8
CIT pmax pmax
comp=Z,1μm,1.6s
YNG Young 46.60 151 P P **05 42 41.0 +1.3**
baz=47,SNR=155
LGTI Lohaghat 46.91 305 eP P **05 42 44.8 +2.7**
LGTI ex x 05 47 05.5
JHNI Jhansi 47.08 299 ex P 05 42 39.0 -4.6
JHNI ex x 05 43 59.0
MGCD Mangrove Creek 47.09 148 ⇑P P **05 42 44.9 +1.5**
baz=47,SNR=140
ZAK Zakamensk 47.23 342⇓*i*P P **05 42 43.8 -0.5**
ZAK e 05 44 05.3
ZAK pmax pmax
comp=Z,155nm,1.6s
KLRI Killari 47.28 289 eP P **05 42 44.3 -0.9**
KLRI IAmb IAmb 05 42 47.5
comp=Z,2μm,1.1s
KLRI ePcP PcP **05 44 05.7 +0.7**
KLRI epP pP **05 44 26.4 -2.0**
KLRI eScP ScP **05 47 04.8 -0.7**
KLRI eS S **05 48 52.3 -5.6**
KLRI e 05 51 22.0
KLRI ⇑eSS SS **05 52 35.7 +0.5**
AKL Akola 47.33 292 eP P **05 42 45.3 -0.2**
AKL AMB AMB 05 42 48.2
comp=Z,2μm,1.2s
BHPL Bhopal 47.50 296 eP P **05 42 46.9 +0.2**
BHPL AMB AMB 05 42 49.1
comp=Z,1μm,0.6s
CAN Canberra 47.72 152 eP P **05 42 49.5 +1.4**
CAN eS S **05 49 05.7 +2.4**
CAN S S 05 49 11.4 +8.1
CAN pmax pmax
comp=Z,1μm,1.0s
CAN Canberra 47.72 152 eP P **05 42 49.5 +1.4**
comp=Z,1μm,1.0s
CAN eScP ScP **05 47 07.8 +0.8**
CAN eS S **05 49 05.7 +2.4**
JOSI Joshimath 47.86 306 eP P **05 42 47.4 -2.1**
CNB Canberra Magne 47.88 151 P P **05 42 50.6 +1.1**
baz=48,SNR=408
TOO Toolangi 48.09 156 P P **05 42 52.2 +1.4**
baz=48,SNR=322
AGRA Agra 48.10 301 eP P **05 42 51.1 0.0**
TLY Talaya 48.27 343 P P **05 42 52.4 +0.4**
comp=Z,224nm,0.8s,baz=179,slow=5.5,SNR=162
TLY PcP PcP **05 44 08.7 +0.8**
comp=Z,26nm,0.7s,baz=208,slow=4.9,SNR=3.1
TLY S S **05 49 11.4 +1.0**

comp=Z,4.8nm,0.7s,baz=139,slow=20,SNR=2.1
TLY Talaya 48.27 343 *d* iP **P** 05 42 52.2 +0.2
TLY *e* 05 44 08.4
TLY *e* 05 44 39.9
TLY *e*S **S** 05 49 08.9 -1.5
TLY *e* 05 51 41.8
TLY *e*SS SS 05 52 15.5 -34
TLY *e*SSS SSS 05 52 45.3
TLY pmax pmax
comp=Z,623nm,1.1s
TLY Talaya 48.27 343 P **P** 05 42 53.8 +1.8
comp=Z,2μm,1.1s,SNR=74
TLY Talaya 48.27 343 *e*P **P** 05 42 52.4 +0.4
comp=Z,435nm,1.0s
TLY *e*PcP **PcP** 05 44 08.2 +0.2
TLY PcP **PcP** 05 44 08.7 +0.8
TLY *S* **S** 05 49 11.4 +1.0
IRK Irkutsk 48.60 344 *e*P **P** 05 42 54.2 -0.2
IRK *e*S **S** 05 49 13.5 -1.4
IRK *e* 05 51 44.4
IRK pmax pmax
comp=Z,793nm,1.6s
NKL Nikolayevsk 48.88 14 *e*P **P** 05 42 56.5 +0.1
NKL *e* 05 44 38.0
NKL *e* 05 45 44.0
NKL *e*S S 05 49 10.0 -8.6
NKL *e* 05 51 46.0
NKL pmax pmax
comp=Z,800nm,2.0s
NKL pmax pmax
comp=Z,800nm,13.0s
NKL smax smax
comp=N,5μm,14.0s
NKL smax smax
comp=E,6μm,14.0s
NKL MLR MLR
comp=N,2μm,14.0s
NKL MLR MLR
comp=Z,4μm,14.0s
BISR Bishrakh 48.93 303 *e*P **P** 05 42 57.6 +0.4
WMQ Urumqi 48.94 326 P **P** 05 42 57.6 +0.5
WMQ PcP **PcP** 05 44 10.3 -0.3
WMQ pP **pP** 05 44 39.0 -2.3
WMQ PP **PP** 05 44 59.8 +1.5
WMQ sP sP 05 45 37.4 -6.1
WMQ ScP **ScP** 05 47 12.6 +0.5
WMQ S **S** 05 49 21.3 +1.5
WMQ ScS **ScS** 05 51 49.6 +1.0
WMQ SS **SS** 05 53 01.6 +1.0
WMQ PMZ
comp=Z,1μm,1.1s
WMQ PMZ
comp=Z,6μm,8.4s
DDI Dehra Dun 48.99 305 *e*P **P** 05 42 57.5 -0.3
DDI AMB AMB 05 43 00.2
comp=Z,2μm,1.1s
MOY Mondy 49.05 342 *e*P **P** 05 42 58.0 +0.1
MOY pmax pmax
comp=Z,1μm,1.8s
SONA Sohna 49.13 302 *e*P **P** 05 42 58.4 -0.3
NDI New Delhi 49.15 303 *e*P **P** 05 42 57.0 -1.9
NDI *ex* x 05 49 20.0
AYAN Aya Nagar 49.17 303 *e*P **P** 05 42 58.5 -0.4
MILA Mila 49.21 153 ⇓P **P** 05 42 59.9 +0.7
baz=49,SNR=44
TARA Tarawa 49.47 93 *e*P **P** 05 43 02.8 +1.3
comp=Z,2μm,1.1s
KUDL Kundal 49.60 302 *e*P **P** 05 43 01.0 -1.2
GOA Goa 49.62 285 *e*P **P** 05 43 03.7 +1.2
GOA AMB AMB 05 43 05.1
comp=Z,984nm,1.1s
POO Poona 49.93 289 ⇑ *i*P **P** 05 43 04.0 -0.8
comp=Z,100nm,1.0s
POO *e*P P 05 43 05.0 +0.2
POO AMB AMB 05 43 06.4
comp=Z,1μm,0.0s
SMLA Simla 49.99 306 *i* P **P** 05 43 05.8 +0.8
SMLA AMB AMB 05 43 10.6
comp=Z,9μm,0.4s
SMLA *i* S **S** 05 49 33.3 -1.0
KHET Khetri 50.16 302 *e*P **P** 05 43 06.4 +0.1
SDNR Sundarnagar 50.27 306 *e*P **P** 05 43 08.0 +0.9
NOUC Port Laguerre 50.41 125 *e*P **P** 05 43 06.8 -1.3
DZM Mont Dzumac 50.51 125 P **P** 05 43 09.6 +0.6
comp=Z,567nm,0.8s,baz=90,slow=24,SNR=283
DZM PP **pP** 05 44 53.5 -0.7
comp=Z,131nm,1.0s,baz=270,slow=20,SNR=2.7
DZM ScP **ScP** 05 47 20.0 +0.6
comp=Z,65nm,1.1s,baz=274,slow=19,SNR=7.8
DZM S **S** 05 49 43.1 +1.2
comp=Z,22nm,1.1s,baz=270,slow=20,SNR=6.0
DZM Mont Dzumac 50.51 125 *e*P **P** 05 43 09.7 +0.6
comp=Z,860nm,1.0s
DZM *e*pP **pP** 05 44 53.2 -1.1
DZM PP **pP** 05 44 53.5 -0.7
DZM ScP **ScP** 05 47 20.0 +0.6
DZM *e*ScP ScP 05 47 22.4 +3.0
DZM *S* **S** 05 49 43.1 +1.2
DZM *e*S S 05 49 45.1 +3.2
LHI Lord Howe Isla 50.53 140 P **P** 05 43 10.1 +1.3
baz=51,SNR=38
CLNS Chul'man 50.54 1 *e*P **P** 05 43 09.7 +1.1
CLNS *e* 05 44 16.7
CLNS *e* 05 45 13.0
CLNS *e*S S 05 49 32.4 -8.7
CLNS *e**SS sS 05 52 37.6 -13
CLNS pmax pmax
comp=Z,126nm,0.8s
CLNS pmax pmax
comp=E,57nm,0.8s
CLNS pmax pmax
comp=N,46nm,0.6s
CLNS pmax pmax
comp=E,31nm,0.8s
CLNS pmax pmax
comp=N,45nm,1.1s
CLNS pmax pmax
comp=Z,51nm,1.2s
CLNS smax smax
comp=E,2μm,11.5s
CLNS smax smax
comp=N,3μm,13.1s
BHK Bhakra 50.69 306 *ex* P 05 43 17.0 +6.9
DHRM DHARAMSHALA 51.06 307 *e*P **P** 05 43 13.3 +0.3
DHRM AMB AMB 05 43 15.8
comp=Z,3μm,0.6s
HVS Khovu-Aksy 51.23 336 *e*P **P** 05 43 14.5 +0.7
HVS pmax pmax
comp=Z,5μm,0.9s
DLH Dalhousie 51.43 307 *e*P **P** 05 43 14.0 -1.7
BHV Bhavnagar 51.99 293 *e*P **P** 05 43 19.0 -0.6
BHV *ex* x 05 43 24.5
SKR Severo-Kuril's 52.01 26 *e*P P 05 43 16.0 -3.2
SKR *e* 05 44 17.0
SKR *e**PP pP 05 44 58.0 -7.3
SKR *e* 05 46 06.0
SKR *i* S **S** 05 49 56.0 -4.8
SKR *e* 05 52 04.0
SKR pmax pmax
comp=Z,1μm,4.0s
SKR pmax pmax
comp=E,1μm,3.0s
SKR pmax pmax
comp=Z,110nm,1.0s
SKR pmax pmax
comp=N,320nm,1.5s
SKR pmax pmax
comp=E,320nm,1.5s
SKR smax smax
comp=N,8μm,10.0s
SKR smax smax
comp=E,7μm,10.0s
SKR MLR MLR
comp=N,1μm,16.0s
SKR MLR MLR
comp=E,1μm,16.0s
SKR MLR MLR
comp=Z,2μm,16.0s
BOD Bodaibo 52.05 354 *e*P **P** 05 43 18.6 -0.8
BOD *e*S **ScS** 05 52 06.4 -3.2
BOD pmax pmax
comp=Z,249nm,1.5s
DGAR Diego Garcia 52.74 256 P **P** 05 43 24.8 -0.3
comp=Z,7μm,0.9s,SNR=8.1
DGAR Diego Garcia 52.74 256 P **P** 05 43 24.3 -0.8
DGAR pmax pmax
comp=Z,2μm,1.1s
DGAR Diego Garcia 52.74 256 *e*P **P** 05 43 23.9 -1.2
comp=Z,2μm,1.1s
H08S2 Diego Garcia H 52.76 256 P P 05 43 21.5 -3.5
baz=44,slow=8.7,SNR=42
H08S3 Diego Garcia H 52.76 256 P **P** 05 43 22.0 -3.0
baz=44,slow=8.7,SNR=32
H08S1 Diego Garcia H 52.78 256 P **P** 05 43 21.9 -3.1
baz=44,slow=8.7,SNR=50
MOO Moorlands 52.95 158 P **P** 05 43 27.2 +1.1
baz=53,SNR=13
TAU Tasmania Unive 53.41 158 *e*P **P** 05 43 30.6 +1.3
TAU pmax pmax
comp=Z,331nm,1.0s
TAU Tasmania Unive 53.41 158 *e*P **P** 05 43 30.6 +1.3
comp=Z,331nm,1.0s
TAU *e*ScP **ScP** 05 47 31.6 +0.3
MK31 Makanchi Array 53.77 326 *e*P **P** 05 43 31.9 0.0
MK31 *e* 05 44 29.2
MK31 *e*S **S** 05 50 28.8 +4.4
MK31 Makanchi Array 53.77 326 *e*P **P** 05 43 31.9 0.0
MK31 *e*PcP **PcP** 05 44 29.2 +0.4
MK31 *e*ScP **ScP** 05 47 32.5 -0.5
MK31 *e*S **S** 05 50 28.8 +4.4
MKAR Makanchi Array 53.77 326 P **P** 05 43 31.9 0.0
comp=Z,355nm,0.5s,baz=121,slow=9.0,SNR=439
MKAR PcP **PcP** 05 44 29.2 +0.4
comp=Z,123nm,0.5s,baz=116,slow=5.5,SNR=8.5
MKAR ScP **ScP** 05 47 32.6 -0.3
comp=Z,105nm,0.8s,baz=122,slow=5.9,SNR=8.6
MKAR S **S** 05 50 24.7 +0.4
comp=Z,13nm,1.1s,baz=126,slow=9.7,SNR=2.5
MKAR PKPPKP P'P'df 06 13 31.1 -9.1
comp=Z,5.5nm,1.1s,baz=259,slow=2.5,SNR=11
MKAR P4KPbc 06 20 46.0
comp=Z,6.8nm,0.8s,baz=124,slow=6.0,SNR=27
H08N1 Diego Garcia H 53.90 258 P **P** 05 43 33.5 +0.6
baz=105,slow=3.6,SNR=18
H08N2 Diego Garcia H 53.91 258 P **P** 05 43 33.9 +0.9
baz=105,slow=3.6,SNR=15
H08N3 Diego Garcia H 53.92 258 P **P** 05 43 34.0 +0.9
baz=105,slow=3.6,SNR=21
JASL Jaisalmer 54.09 299 *e*P **P** 05 43 34.6 +0.1
KSH Kashi 54.10 315 P **P** 05 43 35.8 +1.3
KSH PcP **PcP** 05 44 34.1 +3.7
KSH pP **pP** 05 45 23.0 +1.1
KSH sP **sP** 05 46 23.5 +0.4
KSH S **S** 05 50 27.5 -1.6
KSH sS **sS** 05 53 40.0 -2.1
KSH PMZ
comp=Z,4μm,1.7s
PEA0B Petropavlovsk- 54.45 25 *e*P **P** 05 43 36.9 +0.3
PEA0B *e*ScP **ScP** 05 47 36.1 +0.3
PETK Petropavlovsk- 54.45 25 P **P** 05 43 36.7 +0.2
comp=Z,41nm,0.6s,baz=199,slow=5.0,SNR=43
PETK PcP **PcP** 05 44 32.7 +1.4
comp=Z,20nm,0.6s,baz=230,slow=10,SNR=6.3
PETK PP **pP** 05 45 28.4 +4.3
comp=Z,22nm,0.7s,baz=198,slow=7.8,SNR=4.3
PETK ScP **ScP** 05 47 35.8 0.0
comp=Z,67nm,1.0s,baz=176,slow=3.9,SNR=5.9
BHJ Bhuj 54.51 294 *e*P **P** 05 43 38.0 +0.5
BHJ AMB AMB 05 43 38.6
comp=Z,2μm,2.4s
PET Petropavlovsk 54.79 25 *c* iP **P** 05 43 38.9 0.0
PET *e* 05 44 33.3
PET *e**PP **pP** 05 45 26.1 -0.5
PET *e**SP **sP** 05 46 26.1 -1.6
PET *i* S **S** 05 50 37.4 +0.1
PET *e* 05 52 22.8
PET *e**SS **sS** 05 53 47.0 -4.0
PET *e*SS **SS** 05 54 33.3 +1.1
PET pmax pmax
comp=Z,1μm,2.5s
PET pmax pmax
comp=Z,400nm,8.0s
PET pmax pmax
comp=Z,239nm,0.9s
PET MLR MLR
comp=Z,2μm,17.0s
PET Petropavlovsk 54.79 25 *e*P **P** 05 43 39.1 +0.2
comp=Z,127nm,0.8s
PET *e*pP **pP** 05 45 26.1 -0.5
PET *e*ScP **ScP** 05 47 37.5 +0.2
PET *e*S **S** 05 50 37.4 +0.1
ULHL Ulahol 55.11 318 P **P** 05 43 43.9 +2.3
SNR=20
AAA Alma-Ata 55.13 320 *e*P **P** 05 43 41.9 +0.4
AAA *e*S S 05 50 35.0 -7.3
AAA pmax pmax
comp=Z,5μm,2.8s
AAA MLR MLR
comp=Z,4μm,15.0s
NFK Norfolk Island 55.20 132 ⇑P **P** 05 43 43.1 +0.9
baz=55,SNR=4.1
KRAR Krasnoyarsk 55.35 340 *d* iP **P** 05 43 43.6 +0.9
KRAR pmax pmax
comp=Z,254nm,1.3s
KZA Kyzart 55.70 318 P **P** 05 43 47.1 +1.1
SNR=41
TKM2 Tokmak 2 55.84 319 P **P** 05 43 48.9 +2.2
SNR=20
TKM2 Tokmak 2 55.84 319 *e*P **P** 05 43 46.8 +0.1
TKM2 *e*S **S** 05 50 57.5 +5.6
TKM2 pmax pmax
comp=Z,719nm,1.0s
TKM2 Tokmak 2 55.84 319 *e*P **P** 05 43 46.8 +0.1
comp=Z,719nm,1.0s
TKM2 *e*S **S** 05 50 57.5 +5.6
YAK Yakutsk 55.93 3 P **P** 05 43 46.1 -0.5
comp=Z,24nm,0.4s,baz=186,slow=23,SNR=38
YAK Yakutsk 55.93 3 *e*P **P** 05 43 46.5 -0.1
YAK *e* 05 44 36.5
YAK *e**PP **pP** 05 45 35.8 +0.8
YAK *e* 05 46 00.1
YAK *e*S **S** 05 50 49.1 -2.6
YAK *e* 05 52 34.1
YAK *e*SS **SS** 05 54 51.5 +1.9
YAK pmax pmax
comp=Z,323nm,0.9s
YAK pmax pmax
comp=E,30nm,1.2s
YAK pmax pmax
comp=N,107nm,1.0s
YAK pmax pmax
comp=Z,100nm,1.0s
YAK pmax pmax
comp=N,131nm,1.1s
YAK pmax pmax
comp=E,58nm,1.3s
YAK smax smax
comp=E,2μm,2.7s
YAK smax smax
comp=N,1μm,2.2s
YAK Yakutsk 55.93 3 *e*P **P** 05 43 47.0 +0.4
comp=N,395nm,0.8s
YAK *e*PcP **PcP** 05 44 37.1 +0.3
YAK *e*pP **pP** 05 45 36.1 +1.1
YAK *e*S **S** 05 50 52.6 +0.9
SFK Sufi-Kurgan 56.04 315 P **P** 05 43 48.7 +0.6
SFK pmax pmax
comp=Z,353nm,0.8s
KBK Karagaybulak 56.15 318 P **P** 05 43 50.3 +1.5
SNR=155
CHMS Chumysh 56.43 318 P **P** 05 43 50.2 -0.3
SNR=137
AAK Ala-Archa 56.44 318 P **P** 05 43 52.1 +1.3
SNR=123
AAK Ala-Archa 56.44 318 P **P** 05 43 51.1 +0.3
AAK pmax pmax
comp=Z,575nm,1.3s
FRU Bishkek 56.45 318 *i* P **P** 05 43 48.0 -2.6
FRU *i* S **S** 05 51 00.0 +0.7
FRU pmax pmax
comp=Z,800nm,1.8s
FRU smax smax
comp=E,7μm,10.0s
FRU MLR MLR
comp=Z,5μm,18.0s
USP Ospenovka 56.71 319 P **P** 05 43 54.2 +1.8
SNR=5.2
AML Almayashu 56.77 317 P **P** 05 43 54.0 +0.7
SNR=406
EKS2 Erkin-Say 56.93 318 P **P** 05 43 54.7 +0.6
SNR=624
EKS2 Erkin-Say 56.93 318 *e*P **P** 05 43 54.8 +0.7
EKS2 *e*S **S** 05 51 07.4 +1.7
EKS2 pmax pmax
comp=Z,63nm,0.8s
EKS2 Erkin-Say 56.93 318 *e*P **P** 05 43 54.8 +0.7
comp=Z,63nm,0.8s
EKS2 *e*S **S** 05 51 07.4 +1.7
ZAA0 Zalesovo Array 57.01 334 *e*P **P** 05 43 53.1 -1.1
ZAA0 *e*PcP **PcP** 05 44 40.6 -0.6
ZAA0 *e*S **S** 05 51 04.8 -1.2
ZALV Zalesovo Beam 57.01 334 P **P** 05 43 53.3 -0.9
comp=Z,319nm,0.9s,baz=125,slow=5.8,SNR=381
ZALV S **S** 05 51 04.3 -1.6
comp=Z,14nm,0.9s,baz=152,slow=6.5,SNR=6.0
ZALV PKPPKP P'P'df 06 13 20.3 -15
comp=Z,7.8nm,0.8s,baz=299,slow=6.1,SNR=25
ZALV P4KPbc 06 20 59.4
comp=Z,0.3nm,0.5s,baz=168,slow=2.7,SNR=4.1
MA2 Magadan 57.18 16 *i* P **P** 05 43 55.4 +0.1
KBL Kabul 57.54 307 *e*P **P** 05 43 58.3 -0.2
KBL pmax pmax
comp=Z,1μm,0.8s
KBL Kabul 57.54 307 *e*P **P** 05 43 58.3 -0.2
comp=Z,1μm,0.8s
KURBB Kurchatov Arra 58.00 328 PKPPKP P'P'df 06 13 16.4 -17
comp=Z,6.0nm,1.1s,baz=309,slow=5.2,SNR=18
KURBB P4KPbc 06 21 04.4
comp=Z,1.8nm,1.0s,baz=126,slow=4.3,SNR=6.5
KURK Kurchatov 58.01 328 P **P** 05 44 00.1 -0.9
comp=Z,15μm,0.8s
KURK Kurchatov 58.01 328 *e*P **P** 05 44 00.7 -0.3
KURK pmax pmax
comp=Z,3μm,0.9s
KURK Kurchatov 58.01 328 *e*P **P** 05 44 00.7 -0.3
comp=Z,3μm,0.9s
KURK P'P' 06 13 16.4
KURK *e* 06 21 04.4
NVS Novosibirsk 58.29 334 ⇑ *i*P **P** 05 44 02.1 -0.8
NVS *i* 05 44 44.6
NVS *i **PP **pP** 05 45 52.4 -0.2
NVS *i* S **S** 05 51 17.1 -5.2
NVS pmax pmax
comp=Z,546nm,0.9s
NVS pmax pmax
comp=N,254nm,0.7s
NVS pmax pmax
comp=E,262nm,0.7s
NVS smax smax
comp=N,1μm,2.2s
NVS smax smax
comp=E,1μm,2.2s
MSVF Nonsavu 58.79 115 P **P** 05 44 08.7 +1.7
comp=E,4μm,0.9s,SNR=88
MSVF Nonsavu 58.79 115 *e*P **P** 05 44 08.2 +1.2
MSVF *e* 05 47 57.1
MSVF *e*S **S** 05 51 32.2 +2.2
MSVF pmax pmax
comp=Z,632nm,0.9s
MSVF Nonsavu 58.79 115 *e*P **P** 05 44 08.2 +1.2
comp=Z,632nm,0.9s
MSVF *e*ScP **ScP** 05 47 57.0 +1.3
MSVF *e*S **S** 05 51 32.2 +2.2
DZET Dzherino 58.99 312 P **P** 05 44 08.1 0.0
DZET pmax pmax
comp=Z,1μm,0.8s
KK31 Karatay Array 59.31 317 *i* P **P** 05 44 09.6 -0.4
KK31 pmax pmax
comp=Z,925nm,1.0s
KKAR Karatay Array 59.31 317 *e*P **P** 05 44 09.8 -0.2
KKAR pmax pmax
comp=Z,828nm,0.9s
KKAR Karatay Array 59.31 317 *e*P **P** 05 44 09.8 -0.2
comp=Z,828nm,0.9s
MIDW Midway 59.92 61 *e*P **P** 05 44 14.3 +0.1
comp=Z,691nm,1.4s
OTUK Ortayu 60.29 323 P **P** 05 44 16.1 -0.3
OTUK pmax pmax
comp=Z,1μm,1.1s
SEY Seymchan 60.43 15 P **P** 05 44 17.7 +0.7
comp=Z,72nm,1.0s,baz=226,slow=6.4,SNR=90
SEY ScP **ScP** 05 48 01.5 -0.5
comp=Z,39nm,0.9s,baz=201,slow=6.8,SNR=4.1
SEY S **S** 05 51 52.1 +3.3
comp=Z,3.6nm,0.8s,baz=149,slow=22,SNR=9.0
SEY P3KPbc 06 13 35.3
comp=Z,20nm,1.1s,baz=94,slow=2.5,SNR=7.1
SEY Seymchan 60.43 15 *d* iP **P** 05 44 17.8 +0.8
AIS Amsterdam Isla 61.18 221 P P 05 44 01.0 -21
AIS PP PP 05 46 54.0 +7.3
AIS S S 05 52 07.0 +8.1
AIS R 06 04 00.0
SMY Shemya 62.02 32 *e*P **P** 05 44 28.2 +0.7
SMY *e**PP **pP** 05 46 17.2 -2.1
SMY pmax pmax
comp=Z,395nm,1.2s
SMY Shemya 62.02 32 *e*P **P** 05 44 28.2 +0.7
comp=Z,395nm,1.2s
SMY *e*pP **pP** 05 46 17.2 -2.1
SMY *e*ScP **ScP** 05 48 10.6 +1.3
OUZ Omahuta 62.51 135 *e*P **P** 05 44 32.8 +1.8
comp=Z,372nm,1.1s
WCZ Waipu Caves 63.40 135 PN **P** 05 44 38.4 +1.7
BVA0 Borovoye Array 63.57 327 *i* P **P** 05 44 36.6 -1.0
BVA0 pmax pmax
comp=Z,1μm,1.2s
BVAR Borovoye Array 63.57 327 P3KP 06 12 51.5
comp=Z,3.2nm,0.7s,baz=273,slow=2.8,SNR=17
BVAR P4KPbc 06 21 30.2
comp=Z,2.9nm,0.8s,baz=138,slow=5.4,SNR=8.9
BRVK Borovoye 63.64 327 *e*P **P** 05 44 37.7 -0.3
BRVK *e**PP **pP** 05 46 34.7 +4.1
BRVK *e*S **S** 05 52 28.7 +0.2
BRVK pmax pmax
comp=Z,1μm,1.0s
BRVK Borovoye 63.64 327 *e*P **P** 05 44 37.7 -0.3
comp=Z,1μm,1.0s
BRVK *e*pP **pP** 05 46 34.7 +4.1
BRVK *e*S **S** 05 52 28.7 +0.2
WBK Wadi Bani Khal 64.21 292 P **P** 05 44 43.0 +0.7
SNR=36
AMKA Amchitka 64.28 35 *e*P **P** 05 44 41.0 -1.1
comp=Z,274nm,0.9s
AMKA *e*pP **pP** 05 46 35.3 +0.4
MSZ Milford Sound 64.39 146 PN **P** 05 44 43.7 +0.9
JCZ Jackson Bay 64.47 145 PN **P** 05 44 44.3 +0.8
JCZ PP PP 05 47 08.6 -6.7
DCZ Deep Cove 64.48 147 PN **P** 05 44 43.7 +0.3
DCZ PP PP 05 47 09.2 -6.0
MKAZ Moumakai 64.56 136 PN **P** 05 44 45.5 +1.4
IDAH Dahanechah 64.61 303 *e*P **P** 05 44 45.4 +0.6
FOZ Fox Glacier 64.69 145 *e*PN **P** 05 44 45.4 +0.7
QRZ Quartz Range 64.80 141 PN **P** 05 44 46.3 +0.8
QRZ pP pP 05 46 46.3 +7.6
QRZ PP **PP** 05 47 14.6 -3.5
DSZ Denniston Nort 64.87 142 PN **P** 05 44 46.6 +0.6
MLZ Mavora Lakes 64.95 147 PN **P** 05 44 46.5 +0.1
MLZ PP **PP** 05 47 16.0 -3.3
JMDO Jabal Madar 65.00 292 P **P** 05 44 47.5 +0.3
SNR=64
WVZ Waitaha Valley 65.00 144 PN **P** 05 44 46.8 +0.1
IMYA Miami 65.06 307 *e*P **P** 05 44 47.9 +0.4
HIZ Hauiti 65.07 138 PN **P** 05 44 49.0 +1.8
WKZ Wanaka 65.08 146 PN **P** 05 44 47.9 +0.6
WKZ PP PP 05 47 13.2 -7.3
SMDO Samad 65.09 292 P **P** 05 44 47.5 -0.3
SNR=36
WHZ Wether Hill Ro 65.18 147 PN **P** 05 44 47.5 -0.3
WHZ PP PP 05 47 12.3 -8.9
WHZ Wether Hill Ro 65.18 147 *e*P **P** 05 44 47.3 -0.5
comp=Z,280nm,1.0s
IKOO Kooshah 65.28 303 *e*P **P** 05 44 49.4 +0.3
VRZ Vera Road 65.32 138 PN **P** 05 44 50.3 +1.4
TLZ Tolley Road 65.43 137 PN **P** 05 44 51.1 +1.4
LBZ Lake Benmore 65.47 145 PN **P** 05 44 49.9 +0.2
LBZ pP **pP** 05 46 42.6 -0.6
LBZ PP PP 05 47 16.6 -7.2
EAZ Earnscleugh 65.50 146 PN **P** 05 44 49.9 +0.1
NNZ Nelson 65.55 141 *e*PN **P** 05 44 50.4 +0.2
ISRO Mashad 65.55 307 *e*P **P** 05 44 51.1 +0.5
THZ Tophouse 65.56 141 *e*PN **P** 05 44 50.2 -0.1
ITEG Tejag 65.56 303 *e*P **P** 05 44 51.3 +0.6
RPZ Rata Peaks 65.57 144 P **P** 05 44 50.5 +0.2
comp=Z,495nm,0.7s,baz=297,slow=1.4,SNR=143
RPZ Rata Peaks 65.57 144 *e*PN **P** 05 44 50.4 +0.2

RPZ **Rata Peaks** 65.57 144 *e*P P 05 44 50.4 +0.1
comp=Z,511nm,0.7s
IMOG **Moghan** 65.62 307 *e*P P 05 44 50.6 -0.6
TGRZ **Tauranga** 65.63 136 *e*PN P 05 44 52.0 +1.2
LTZ **Lake Taylor** 65.75 143 PN P 05 44 52.2 +0.7
KARZ **Kaharoa** 65.76 136 PN P 05 44 53.7 +2.1
HOQ **Hoqain** 65.81 293 P P 05 44 51.9 -0.3
SNR=66
BSY **Bisya** 65.85 292 P P 05 44 52.5 -0.1
SNR=34
KATZ **Kakaramea** 65.87 138 *e*PN P 05 44 54.1 +1.6
WPVZ **Whakapapa** 65.89 138 PN P 05 44 54.2 +1.7
OMRZ **Omania** 65.89 136 *e*PN P 05 44 54.2 +1.8
KRVZ **Karewarewa** 65.89 138 *e*PN P 05 44 53.9 +1.4
FWVZ **Far West T-bar** 65.92 138 PN P 05 44 54.4 +1.5
OXZ **Oxford** 65.92 143 PN P 05 44 52.2 -0.3
TRVZ **Turoa** 65.94 138 PN P 05 44 54.3 +1.4
WHVZ **Whangaehu Hut** 65.95 138 *e*PN P 05 44 53.8 +0.7
IPAY **Payeh** 65.95 307 *e*P P 05 44 53.6 +0.4
WNVZ **Wahianoa** 65.98 138 PN P 05 44 53.7 +0.6
TUWZ **Tuamarina** 66.02 141 *e*PN P 05 44 52.8 -0.3
TCW **Tory Channel** 66.11 140 PN P 05 44 53.4 -0.3
TUZ **Tuapeka** 66.13 147 PN P 05 44 54.0 +0.4
ODZ **Otahua Downs** 66.13 145 *e*P P 05 44 54.2 +0.4
comp=Z,128nm,0.8s
ODZ *e*PP PP 05 47 19.7 -10
IAKL **Akhelmad** 66.17 307 *e*P P 05 44 54.6 0.0
KHZ **Kahutara** 66.31 142 *e*P P 05 44 54.5 -0.5
comp=Z,398nm,1.2s
KIW **Kapiti Island** 66.33 140 PN P 05 44 54.5 -0.6
CMWZ **Cape Campbell** 66.37 141 PN P 05 44 55.0 -0.3
BHHZ **Black Hill Sta** 66.38 138 *e*PN P 05 44 55.4 0.0
IKRD **Kardeh** 66.39 307 *e*P P 05 44 51.7 -4.2
IEMG **Emamgholi** 66.40 308 *e*P P 05 44 57.0 +0.9
SNZO **South Karori** 66.44 140 *e*P P 05 44 54.9 -0.8
comp=Z,918nm,0.8s
URZ **Urewera** 66.47 136 P P 05 44 55.2 -0.8
comp=Z,334nm,0.8s,baz=265,slow=3.7,SNR=148
URZ **Urewera** 66.47 136 PN P 05 44 55.9 -0.1
URZ **Urewera** 66.47 136 *e*P P 05 44 55.7 -0.3
comp=Z,628nm,1.0s
BKZ **Black Stump Fm** 66.50 137 PN P 05 44 56.4 +0.2
ARQ **Araqi** 66.51 293 P P 05 44 57.3 +0.7
SNR=23
KWHZ **Kaweka Forest** 66.58 138 PN P 05 44 57.1 +0.3
MRZ **Mangatainoka R** 66.66 139 PN P 05 44 56.3 -0.8
MCHZ **McNeill Hill** 66.78 138 PN P 05 44 58.8 +0.9
RAHZ **Arahi** 66.78 137 *e*PN P 05 44 58.4 +0.5
MWZ **Matawai** 66.80 136 PN P 05 44 58.1 +0.1
ISFR **Sfrayin** 66.85 308 *e*P P 05 44 59.7 +1.0
UOSS **Wadi Hilu** 66.91 294 P P 05 44 59.5 +0.5
comp=Z,766nm,0.8s,SNR=21
ABKT **Ailbek** 66.91 309 P P 05 45 00.0 +1.1
comp=Z,5μm,1.0s,SNR=84
GEYT **Alibeck** 66.92 309 P P 05 44 59.2 +0.3
comp=Z,540nm,1.0s,baz=96,slow=1.5,SNR=169
GEYT S S 05 53 12.1 +4.0
comp=Z,4.2nm,0.3s,baz=130,slow=4.5,SNR=2.3
HATD **Hatta, Dubai** 66.96 294 *i* P P 05 44 60.0 +0.6
SNR=36
MXZ **Matakaoa Point** 66.97 135 PN P 05 44 59.4 +0.3
ASHO **Ashiyiah** 67.02 294 P P 05 45 00.1 +0.3
SNR=25
TMWZ **Te Maipa** 67.09 140 PN P 05 44 59.6 -0.3
SHAO **Shalim** 67.16 287 P P 05 45 02.0 +1.3
SNR=20
WMGZ **Waiomatatini S** 67.16 135 *e*PN P 05 45 00.6 +0.3
ISHV **Shirvan** 67.17 308 *e*P P 05 45 00.7 +0.1
PUZ **Puketiti** 67.17 136 PN P 05 45 00.9 +0.6
AFI **Afiamalu** 67.19 108 P P 05 45 01.3 +0.4
comp=Z,284nm,0.8s,baz=243,slow=3.4,SNR=20
AFI S S 05 53 13.6 +1.6
comp=Z,20nm,0.8s,baz=201,slow=8.6,SNR=1.9
AFI **Afiamalu** 67.19 108 *e*P P 05 45 01.9 +1.0
AFI S S 05 53 13.6 +1.6
AFI pmax pmax
comp=Z,653nm,1.1s
AFI **Afiamalu** 67.19 108 *e*P P 05 45 01.9 +1.0
comp=Z,653nm,1.1s
AFI S S 05 53 13.6 +1.6
MCQ **Macquarie Isla** 67.29 159 ⇑P P 05 45 01.6 +0.9
baz=67,SNR=4.3
NAZ **Nazwa, Dubai** 67.40 294 ⇓*i* P P 05 45 02.3 +0.3
SNR=28
FAQ **Al Faqa, Dubai** 67.45 294 ⇓*i* P P 05 45 02.5 +0.2
SNR=16
ASUD **Al Ashush, Dub** 67.68 294 ⇓*i* P P 05 45 04.1 +0.4
SNR=24
BILL **Bilibino** 68.05 16 *d* P P 05 45 04.7 -0.4
BILL *e* 05 45 28.5
BILL *e*PP **pP** 05 47 00.0 +0.2
BILL *e* 05 47 42.3
BILL pmax pmax
comp=Z,157nm,1.2s
BILL **Bilibino** 68.05 16 *e*P P 05 45 05.9 +0.8
comp=Z,420nm,0.4s
IBAF **Bafgh** 68.06 301 *e*P P 05 45 06.3 +0.2
AB31 **Akbulak array** 68.28 321 *i* P P 05 45 06.2 -0.7
AB31 pmax pmax
comp=Z,149nm,0.5s
ABKAR **Akbulak array** 68.28 321 *e*P P 05 45 06.4 -0.5
comp=Z,4.9nm,1.3s
RBK **Rabkut** 68.51 286 P P 05 45 09.6 +0.7
SNR=23
MSEY **Mahe Island** 68.82 263 *e*P P 05 45 09.8 -1.1
MSEY pmax pmax
comp=Z,493nm,1.4s
MSEY **Mahe Island** 68.82 263 *i* P P 05 45 11.2 +0.3
SNR=13
MSEY **Mahe Island** 68.82 263 *e*P P 05 45 09.8 -1.1
comp=Z,493nm,1.4s
IMEH **Mehriz** 68.85 301 *e*P P 05 45 09.8 -1.2
ICHK **Chekchek** 69.11 302 *e*P P 05 45 11.8 -0.8
ABTO **Aybut** 69.37 286 P P 05 45 14.8 +0.6
SNR=27
ISAD **Sadrabad** 69.69 302 *e*P P 05 45 15.4 -0.7
AKTO **Aktyubinsk** 69.80 322 P4KPbc 06 21 58.6
comp=Z,1.5nm,0.8s,baz=286,slow=17,SNR=3.9
IANJ **Anjilo** 69.88 305 *e*P P 05 45 15.7 -1.4
ISRV **Sarvestan** 69.97 299 *e*P P 05 45 17.6 -0.3
MRIV **Mauritius Mete** 70.01 246 *e*P P 05 45 17.1 -0.8
IPAR **Pars** 70.06 299 *e*P P 05 45 17.9 -0.5
IGLO **Ghaloghah** 70.08 306 *e*P P 05 45 18.0 -0.2
NIUE **Niue** 70.12 113 P P 05 45 19.5 +1.0
baz=70,SNR=17
IKIA **Kiasar** 70.16 306 *e*P P 05 45 17.9 -0.8
SVE **Sverdlovsk** 70.25 329 *ce*P P 05 45 17.6 -0.9
SVE *e* 05 48 10.7
SVE *e*S S 05 53 43.5 -2.1
SVE *e* 05 54 16.9
SVE pmax pmax
comp=Z,1μm,1.5s
SVE pmax pmax
comp=Z,2μm,10.2s
ISHM **Shahmirzad** 70.42 306 *e*P P 05 45 20.9 +0.5
SHI **Shiraz** 70.51 299 *e*P P 05 45 19.7 -1.2
ILAS **Lasjerd** 70.65 305 *e*P P 05 45 21.3 -0.4
IFIR **Firoozkooh** 70.84 305 *e*P P 05 45 22.7 -0.1
IALA **Alasht** 70.85 306 *e*P P 05 45 23.4 +0.5
IZEF **Zefreh** 70.92 303 *e*P P 05 45 22.4 -1.0
IKAZ **Kazeroun** 71.10 299 *e*P P 05 45 23.2 -1.3
ARU **Arti** 71.20 328 *d* P P 05 45 22.6 -1.5
ARU 05 45 37.3
ARU 05 48 06.1
ARU S S 05 53 53.4 -3.0
ARU 05 54 28.8
ARU pmax pmax
comp=Z,885nm,1.7s
ARU **Arti** 71.20 328 P P 05 45 23.1 -1.1
comp=Z,3μm,0.5s,SNR=80
ARU **Arti** 71.20 328 *e*P P 05 45 23.0 -1.1
comp=Z,222nm,0.6s
IPRN **Peran** 71.24 306 *e*P P 05 45 24.5 -0.5
IDMV **Damavand** 71.42 305 *e*P P 05 45 25.3 -0.9
IKLH **Kolahrood** 71.59 303 *e*P P 05 45 27.6 +0.4
IVRN **Varamin** 71.61 305 *e*P P 05 45 26.4 -0.7
IAFJ **Afjeh** 71.71 306 *e*P P 05 45 27.9 0.0
RER **Riviere de l'E** 71.81 245 *e*P P 05 45 28.7 +0.2
comp=Z,521nm,0.9s
PAF **Port-aux-Franc** 72.10 213 *e*P P 05 45 30.9 +1.5
PAF pmax pmax
comp=Z,2μm,1.6s
PAF **Port-aux-Franc** 72.10 213 P P 05 45 06.0 -23
PAF S SKiKP 05 53 47.0 -19
PAF SS SS 05 57 05.0 -115
PAF L L 06 04 00.0
PAF R 06 07 00.0
PAF **Port-aux-Franc** 72.10 213 *e*P P 05 45 30.9 +1.5
comp=Z,2μm,1.6s
IPIR **Pirpir** 72.11 302 *e*P P 05 45 28.4 -1.9
IR3 **Iran Long-Peri** 72.23 305 *e*P P 05 45 30.2 -0.4
IMHD **Mahdasht** 72.54 305 *e*P P 05 45 32.3 -0.2
IR5 **Iran Long-Peri** 72.57 305 *e*P P 05 45 33.4 +0.7
CASY **Casey** 72.89 185 *e*P P 05 45 33.5 0.0
comp=Z,336nm,1.2s
UNV **Unalaska Valle** 73.25 36 *e*P P 05 45 35.8 -0.2
comp=Z,132nm,0.7s
UNV *epP* **pP** 05 47 37.9 +4.9
MUKL **Al Mukalla** 73.53 283 ⇑*e*P P 05 45 39.0 +0.7
DRV **Dumont d'Urvil** 73.62 173 S SKiKP 05 53 49.0 -19
DRV SS SS 05 57 33.0 -109
DRV L L 06 04 00.0
DRV R 06 10 00.0
AKUT **Akutan** 73.74 35 *e*P P 05 45 38.2 -0.5
comp=Z,241nm,0.8s
AKUT *epP* **pP** 05 47 39.6 +3.7
IBZA **Bozab** 74.75 304 *e*P P 05 45 42.6 -2.6
IKOM **Komasi** 75.03 304 *e*P P 05 45 44.4 -2.3
ISRB **Sarab** 75.10 307 *e*P P 05 45 47.1 +0.1
FALS **False Pass** 75.23 35 *e*P P 05 45 46.4 -0.7
comp=Z,102nm,0.6s
FALS *epP* **pP** 05 47 44.6 -0.3
ILIN **Lien** 75.51 304 *e*P P 05 45 48.1 -1.4
IVIS **Veis** 75.59 304 *e*P P 05 45 48.6 -1.1
TNA **Tin City** 75.60 24 *e*P P 05 45 51.1 +2.2
comp=Z,38nm,0.8s
MAK **Makhachkala** 75.62 313 *d* P P 05 45 49.6 +0.1
MAK *e* 05 46 00.3
MAK *e*PP **pP** 05 47 47.8 +0.2
MAK *e*SP **sP** 05 48 44.7 -1.0
MAK *e* 05 48 46.2
MAK *e*PPP PPP 05 50 35.3
MAK *e*S **S** 05 54 45.4 0.0
MAK *e*SS **SS** 05 59 56.3 +3.7
MAK *e*SSS SSS 06 03 21.5
MAK pmax pmax
comp=Z,566nm,1.5s
IHRS **Heris** 75.63 308 *e*P P 05 45 50.1 +0.1
IBST **Bostanabad** 75.71 307 *e*P P 05 45 49.8 -0.7
MIR **Mirnyy** 75.83 192 ⇑*e*P P 05 45 59.0 +8.9
MIR pmax pmax
comp=Z,1.0nm,1.0s
IDHR **Dehrash** 75.97 304 *e*P P 05 45 50.7 -1.2
ITBZ **Tabriz** 76.33 308 *e*P P 05 45 54.0 +0.2
IAZR **Azarshahr** 76.43 307 *e*P P 05 45 54.4 -0.1
RAYN **Ar Rayn** 76.63 293 P P 05 45 55.0 -0.6
comp=Z,3μm,1.1s
RAYN **Ar Rayn** 76.63 293 *e*P P 05 45 55.4 -0.2
comp=Z,616nm,1.1s
RAYN *e* 05 48 19.1
RAYN *e* 05 49 23.8
IMRD **Marand** 76.70 308 *e*P P 05 45 56.1 +0.3
BDHA **Al Bayda'** 76.92 283 ⇑*e*P P 05 45 58.2 +0.7
SDPT **Sand Point** 76.97 35 *e*P P 05 45 55.6 -1.1
comp=Z,187nm,0.6s
SDPT *epP* **pP** 05 47 54.8 -0.5
KIP **Kipapa** 77.02 70 *e*P P 05 45 58.5 +0.9
KIP pmax pmax
comp=Z,503nm,1.4s
KIP **Kipapa** 77.02 70 *e*P P 05 45 58.5 +0.9
comp=Z,503nm,1.4s
HON **Honolulu** 77.03 70 *e*P P 05 45 59.6 +1.9
HON **Honolulu** 77.03 70 *e*P P 05 45 59.6 +1.9
DGRG **David-gareji** 77.09 311 P P 05 45 58.0 +0.3
DGRG **David-gareji** 77.09 311 *e*P P 05 45 58.0 +0.3
GNI **Garni** 77.51 310 *e*P P 05 46 01.2 +1.1
GNI *e*PP **pP** 05 47 59.2 +0.2
GNI pmax pmax
comp=Z,229nm,0.9s
GNI **Garni** 77.51 310 ⇓*i* P P 05 46 00.8 +0.6
SNR=69
GNI **Garni** 77.51 310 *e*P P 05 46 01.2 +1.1
comp=Z,229nm,0.9s
GNI *epP* **pP** 05 47 59.2 +0.2
SEAG **Tbilisi Sea** 77.53 311 P P 05 45 59.8 -0.3
TBLG **Delisi** 77.58 311 P P 05 46 00.8 +0.5
TBLG **Delisi** 77.58 311 *e*P P 05 46 00.8 +0.5
DUS **Dusheti** 77.63 312 P P 05 46 02.0 +1.3
DUS **Dusheti** 77.63 312 *e*P P 05 46 02.0 +1.3
DAMY **Dhamar** 78.02 284 ⇑P P 05 46 04.7 +1.2
baz=78,SNR=11
DAMY **Dhamar** 78.02 284 *e*P P 05 46 04.8 +1.3
comp=Z,785nm,1.4s
DAMY *epP* pP 05 48 09.1 +6.5
DHBB **Dhamar BB** 78.02 284 ⇑*e*P P 05 46 04.3 +0.8
DHBB AMb AMB 05 46 06.3
comp=Z,3μm,1.6s
DHBB *i* S S 05 55 17.4 +4.9
SANA **San'a** 78.15 284 ⇑*e*P P 05 46 05.0 +0.8
CHGN **Chignik** 78.25 34 *e*P P 05 46 02.6 -0.9
CHGN *epP* **pP** 05 48 02.1 -0.6
AKH **Akhalkalaki** 78.50 311 P P 05 46 05.8 +0.2
AKH **Akhalkalaki** 78.50 311 *e*P P 05 46 05.7 +0.2
ONI **Oni** 78.57 312 P P 05 46 05.8 0.0
ONI **Oni** 78.57 312 *e*P P 05 46 05.7 0.0
HAJJ **Hajjah** 78.72 285 ⇑*e*P P 05 46 07.9 +0.8
HAJJ AMb AMB 05 46 09.9
comp=Z,3μm,1.4s
PRGR **Permogore** 78.87 332 ⇓*i* P P 05 46 05.3 -1.4
PRGR 05 46 12.3
PRGR *e*S S 05 55 15.2 -3.7
PRGR pmax pmax
comp=Z,296nm,0.6s
GOF **Gofitskoye** 78.97 315 ⇑*i* P P 05 46 07.6 0.0
GOF *i* 05 48 10.9
GOF *e*S S 05 55 20.0 -0.6
GOF pmax pmax
comp=Z,340nm,1.3s
GOF smax smax
comp=N,70nm,1.3s
GOF smax smax
comp=E,50nm,0.8s
KBZ **Khabaz** 79.02 313 P P 05 46 08.1 +0.1
comp=E,109nm,1.0s,baz=92,slow=3.2,SNR=104
KBZ S S 05 55 19.9 -1.2
comp=E,3.2nm,0.8s,baz=132,slow=14,SNR=5.1
NEY **Neytrino** 79.13 313 *d* P P 05 46 10.0 +1.2
KIV **Kislovodsk** 79.18 313 *d* P P 05 46 08.0 -0.9
KIV *e* 05 49 19.0
KIV *e*S S 05 55 18.1 -5.0
KIV pmax pmax
comp=Z,339nm,1.2s
KIV **Kislovodsk** 79.18 313 P P 05 46 09.4 +0.5
comp=Z,2μm,0.8s,SNR=33
KIV **Kislovodsk** 79.18 313 ⇑*i* P P 05 46 08.4 -0.5
SNR=35
KIV **Kislovodsk** 79.18 313 *e*P P 05 46 09.6 +0.7
comp=Z,205nm,0.8s
KIV *epP* pP 05 48 15.0 +6.6
ABPO **Ambohimpanom** 79.19 249 *e*P P 05 46 08.7 -0.8
ABPO pmax pmax
comp=Z,235nm,0.8s
ABPO **Ambohimpanom** 79.19 249 *e*P P 05 46 08.7 -0.8
comp=Z,235nm,0.8s
POHA **Pohakuloa** 79.40 71 *e*P P 05 46 12.5 +1.8
comp=Z,717nm,1.4s
STCH **Steam Cracks** 79.81 71 *e*P P 05 46 13.9 +1.3
comp=Z,808nm,1.1s
MZRK **Al-Mazaregh** 80.68 305 *e*P P 05 46 19.9 +3.1
SFNV **Sufian** 81.11 306 *i* P P 05 46 19.6 +0.5
OHAK **Old Harbor** 81.14 33 *e*P P 05 46 18.8 +0.1
comp=Z,130nm,0.8s
OHAK *epP* **pP** 05 48 17.3 -1.6
SOC **Sochi** 81.33 313 *d* P P 05 46 18.2 -1.8
SOC *i* *PP **pP** 05 48 18.0 -2.3
SOC *e*SP **sP** 05 49 12.9 -5.0
SOC *e* 05 49 32.8
SOC *i* S S 05 55 40.6 -4.1
SOC *e*SS **SS** 06 01 23.8 +6.7
SOC *i* SSS SSS 06 04 52.1
SOC pmax pmax
comp=Z,140nm,1.1s
IM04 **Indian Mountai** 81.40 24 *e*P P 05 46 20.2 +0.3
IM04 *epP* **pP** 05 48 21.4 +1.1
IM04 *e*S S 05 55 50.0 +5.2
KDAK **Kodiak Island** 81.53 33 *e*P P 05 46 21.7 +1.0
KDAK *e*PP **pP** 05 48 20.9 -0.2
KDAK *e*S S 05 55 46.6 +0.4
KDAK pmax pmax
comp=Z,268nm,0.7s
KDAK **Kodiak Island** 81.53 33 *e*P P 05 46 21.7 +1.0
comp=Z,268nm,0.7s
KDAK *epP* **pP** 05 48 20.9 -0.2
KDAK *e*S S 05 55 46.6 +0.4
RSO **Redoubt South** 81.55 30 *e*P P 05 46 20.6 -0.4
comp=Z,227nm,0.7s
VOR **Voronezh** 81.70 321 ⇑*i* P P 05 46 20.0 -1.7
VOR *e*S S 05 55 47.0 -1.1
VOR pmax pmax
comp=Z,2μm,1.6s
VSR **Storozhevoye** 81.72 321 *e*P P 05 46 20.5 -1.3
VSR *e**PP **pP** 05 48 26.9 +4.6
VSR *e* 05 49 38.2
VSR *e*S S 05 55 42.8 -5.5
VSR *e*SS **SS** 06 01 24.6 +2.1
VSR pmax pmax
comp=Z,640nm,1.1s
VSR pmax pmax
comp=N,30nm,0.9s
VSR pmax pmax
comp=E,430nm,1.1s
VSR pmax pmax
comp=Z,240nm,1.7s
VSR pmax pmax
comp=N,50nm,1.4s
VSR pmax pmax
comp=E,260nm,1.7s
VSR smax smax
comp=N,610nm,1.4s
VSR smax smax
comp=E,340nm,1.4s
VSR smax smax
comp=Z,50nm,1.4s
MNKR **ALMNKUR** 81.80 305 *e*P P 05 46 23.3 +0.7
PPLA **Purkeypile** 81.92 27 *e*P P 05 46 23.1 +0.3
comp=Z,140nm,0.8s
JHLN **Al Jahlan** 82.48 305 *e*P P 05 46 20.7 -5.4
BPAW **Bear Paw Mtn.** 82.50 26 *e*P P 05 46 25.4 -0.1
comp=Z,41nm,1.7s
BPAW *epP* **pP** 05 48 25.3 -1.0
TMCR **Tamitsa** 82.53 334 *e*P P 05 46 25.0 -0.6
TMCR *e* 05 49 46.6
TMCR *e*S S 05 55 52.1 -3.8
TMCR pmax pmax
comp=Z,833nm,1.3s
MOS **Moscow** 82.65 325 *k i*P P 05 46 25.0 -1.4
MOS *e**PP **pP** 05 48 27.2 -0.1
MOS *e* 05 49 49.6
MOS *i* S S 05 55 53.0 -4.4
MOS *e* 05 56 52.1
MOS pmax pmax
comp=Z,2μm,1.5s
MOS pmax pmax
comp=Z,3μm,1.8s
MOS smax smax
comp=N,3μm,2.8s
TRF **Thorofare Moun** 82.80 27 *e*P P 05 46 26.4 -0.8
comp=N,245nm,1.1s
TRF *epP* **pP** 05 48 28.0 -0.1
SLMH **Al Salmeh** 82.88 306 *e*P P 05 46 24.4 -3.7
COLD **Coldfoot** 82.89 23 *e*P P 05 46 28.2 +0.8
comp=N,245nm,0.9s
COLD *epP* **pP** 05 48 29.7 +1.4
ANN **Anapa** 82.95 314 *c i*P P 05 46 27.4 -0.7
ANN *e**PP **pP** 05 48 27.4 -1.7
ANN *e*PPP PPP 05 51 43.8
ANN *e*S S 05 55 55.0 -5.8
ANN *e*SSS SSS 06 05 13.0
ANN pmax pmax
comp=N,412nm,1.3s
ANN pmax pmax
comp=E,322nm,1.3s
ANN pmax pmax
comp=Z,1μm,1.3s
ANN pmax pmax
comp=Z,2μm,1.4s
ANN pmax pmax
comp=N,541nm,1.4s
ANN pmax pmax
comp=E,423nm,1.4s
ANN smax smax
comp=E,1μm,8.9s
ANN smax smax
comp=N,5μm,8.9s
RC01 **Rabbit Creek A** 83.04 29 *e*P P 05 46 28.0 -0.3
comp=N,103nm,0.5s
RC01 *epP* **pP** 05 48 28.1 -1.2
SEW **Seward** 83.19 30 *e*P P 05 46 28.7 -0.2
comp=N,66nm,0.7s
SEW *epP* **pP** 05 48 30.2 +0.1
OBN **Obninsk** 83.26 325 *d* P P 05 46 28.0 -1.4
OBN *e**PP **pP** 05 48 33.9 +3.4
OBN *e* 05 49 49.4
OBN *i* S SKSac 05 55 49.6 -8.2
OBN *e*SS **SS** 06 01 42.1 -2.7
OBN pmax pmax
comp=Z,1μm,1.6s
OBN **Obninsk** 83.26 325 P P 05 46 29.3 -0.1
comp=Z,6μm,1.2s,SNR=35
OBN **Obninsk** 83.26 325 *e*P P 05 46 28.5 -0.9
comp=Z,754nm,0.8s
OBN *e*S S 05 56 03.0 -0.4
PMR **Palmer** 83.33 29 *e*P P 05 46 29.1 -0.6
PMR *e**PP **pP** 05 48 29.7 -1.1
PMR *e*S S 05 55 57.8 -6.1
PMR pmax pmax
comp=Z,154nm,1.1s
PMR **Palmer** 83.33 29 *e*P P 05 46 29.1 -0.6
comp=Z,154nm,1.1s
PMR *epP* **pP** 05 48 29.7 -1.1
PMR *e*S S 05 55 57.8 -6.1
MCK **McKinley** 83.40 27 *e*P P 05 46 29.6 -0.4
MCK *e**PP **pP** 05 48 31.6 +0.4
MCK pmax pmax
comp=Z,246nm,0.9s
MCK **McKinley** 83.40 27 *e*P P 05 46 29.6 -0.4
comp=Z,246nm,0.9s
MCK *epP* **pP** 05 48 31.6 +0.4
ROOS **tl_alroos** 83.50 304 *e*P P 05 46 32.0 +0.7
ZALF **Zalf** 83.53 302 *i* P P 05 46 28.4 -2.9
RABH **Abou Rabah** 83.55 304 *i* P P 05 46 32.7 +1.2
SML **Sawmill** 83.71 29 *e*P P 05 46 31.7 +0.1
SML *e**PP **pP** 05 48 32.4 -0.5
SML pmax pmax
comp=Z,28nm,0.8s
SML **Sawmill** 83.71 29 *e*P P 05 46 31.7 +0.1
comp=Z,28nm,0.8s
SML *epP* **pP** 05 48 32.4 -0.5
COLA **College** 83.86 25 *e*P P 05 46 32.4 +0.2
COLA *e**PP **pP** 05 48 32.7 -0.8
COLA pmax pmax
comp=Z,43nm,1.0s
COLA **College** 83.86 25 *e*P P 05 46 32.4 +0.2
comp=Z,43nm,1.0s
COLA *epP* **pP** 05 48 32.6 -0.8
LVZ **Lovozero** 83.92 338 *i* P P 05 46 30.7 -1.8
LVZ pmax pmax
comp=Z,114nm,0.8s
LVZ **Lovozero** 83.92 338 P P 05 46 32.3 -0.2
comp=Z,1μm,0.9s,SNR=22
LVZ **Lovozero** 83.92 338 *e*P P 05 46 32.2 -0.2
comp=Z,164nm,0.8s
LVZ *epP* **pP** 05 48 34.4 +0.5
SALA **Sala** 84.04 302 *i* P P 05 46 31.8 -2.3
TOTH **TOTAH** 84.26 303 *i* P P 05 46 27.9 -7.1
ILAR **Eielson Array** 84.27 26 P P 05 46 32.2 -2.0
comp=Z,18nm,0.6s,baz=249,slow=4.6,SNR=56
ILAR *e**PP **pP** 05 48 36.4 +0.6
comp=Z,18nm,1.0s,baz=246,slow=4.8,SNR=6.3
ILAR S **SKSac** 05 56 00.8 -3.2
comp=Z,0.7nm,0.8s,baz=256,slow=3.6,SNR=3.3
ILAR PKKP **PKKPdf** 06 04 39.5 +3.6
comp=Z,4.0nm,0.6s,baz=34,slow=0.9,SNR=8.8
ILAR SKKPbc **SKKPbc** 06 07 24.4 -4.9
comp=Z,1.9nm,1.0s,baz=73,slow=1.4,SNR=4.5
ILAR PKPPKP **P'P'df** 06 12 44.9 -3.5
comp=Z,3.0nm,1.1s,baz=132,slow=2.2,SNR=9.4
QASN **Qassioun** 84.37 303 *e*P P 05 46 29.4 -6.2
APA **Apatity** 84.40 337 ⇓*i*P P 05 46 35.0 +0.2
APA *i* 05 56 04.0
APA *i* S S 05 56 15.0 +0.9
APA pmax pmax

comp=Z,94nm,0.8s
ARNB Al Arnab 84.48 305 *e*P **P** **05 46 36.9 +0.8**
HWQ Hawqa 84.60 304 *e*P **P** **05 46 35.9 -0.8**
BRBR Barbar 84.65 303 *i* P **P** **05 46 34.3 -2.8**
TCHB Talchebab 84.69 302 *i* P **P** **05 46 37.6 +0.5**
RCY Rachaya 84.74 303 *e*P **P** **05 46 37.0 -0.5**
BHL Bhannes 84.87 303 *e*P **P** **05 46 36.8 -1.2**
DQRL Deir Qamar 84.95 303 *e*P **P** **05 46 38.5 +0.1**
MAW Mawson 84.96 200 P **P** **05 46 36.9 -0.5**
comp=Z,113nm,0.9s,baz=55,slow=6.2,SNR=108
MAW S **SKSac** **05 56 07.2 -0.7**
comp=Z,14nm,1.1s,baz=240,slow=22,SNR=8.1
MAW PKKP **PKKPdf** **06 04 38.1 +2.3**
comp=Z,7.3nm,0.5s,baz=228,slow=3.7,SNR=17
MAW PKPPKP **P'P'df** **06 12 43.7 -2.3**
comp=Z,3.4nm,0.8s,baz=320,slow=4.3,SNR=5.7
MAW Mawson 84.96 200 *e*P **P** **05 46 36.9 -0.5**
MAW *e**PP **pP** **05 48 39.0 -0.3**
MAW S **SKSac** **05 56 07.2 -0.7**
MAW pmax pmax
comp=Z,87nm,1.4s
MAW Mawson 84.96 200 P **P** **05 46 37.3 -0.2**
baz=85,SNR=66
MAW Mawson 84.96 200 *e*P **P** **05 46 36.9 -0.5**
comp=Z,87nm,1.4s
MAW *e*pP **pP** **05 48 39.0 -0.3**
MAW S **SKSac** **05 56 07.2 -0.7**
MAW PKKP **PKKPdf** **06 04 38.1 +2.3**
MAW P'P' 06 12 43.7
DIV Divide 84.97 29 *e*P **P** **05 46 38.1 +0.2**
comp=Z,59nm,0.6s
PAX Paxson 84.99 27 *e*P **P** **05 46 37.5 -0.5**
PAX *e**PP **pP** **05 48 39.0 -0.3**
PAX pmax pmax
comp=Z,123nm,1.3s
PAX Paxson 84.99 27 *e*P **P** **05 46 37.5 -0.5**
comp=Z,123nm,1.3s
PAX *e*pP **pP** **05 48 39.0 +0.2**
SIM Simferopol' 85.30 315*d* *i*P **P** **05 46 39.5 -0.2**
SIM *e**PP **pP** **05 48 39.0 -2.6**
SIM *e* 05 49 37.0
SIM *i* S **SKSac** **05 56 10.0 -1.2**
SIM pmax pmax
comp=Z,1μm,10.7s
BMRM Bremner River 85.54 29 *e*P **P** **05 46 40.9 +0.3**
comp=Z,62nm,0.8s
BMRM *e*pP **pP** **05 48 43.7 +1.2**
EIL Elat 85.78 299 PKKP **PKKPbc** **06 04 39.2 -1.5**
comp=Z,2.9nm,0.5s,baz=158,slow=2.8,SNR=5.0
EIL Elat 85.78 299 P **P** **05 46 42.1 -0.3**
baz=86,SNR=124
MENT Mentasta 85.79 27 *e*P **P** **05 46 41.4 -0.3**
MENT *e*pP **pP** **05 48 43.5 -0.3**
MENT *e*S **S** **05 56 29.7 +2.0**
HOPEN Hopen 86.04 347 *e*P **P** **05 46 42.7 +0.2**
BR131 Keskin Array S 86.04 309 *e*P **P** **05 46 42.4 -1.2**
comp=Z,150nm,0.8s
BRTR Keskin Array B 86.04 309 P **P** **05 46 42.1 -1.4**
comp=Z,170nm,0.9s,baz=121,slow=3.8,SNR=177
BRTR pP **pP** **05 48 46.6 +0.9**
comp=Z,13nm,1.1s,baz=93,slow=5.8,SNR=2.1
BRTR PKKP **PKKPdf** **06 04 32.4 -0.3**
comp=Z,1.0nm,0.8s,baz=193,slow=4.4,SNR=2.9
BRTR SKKPbc SKKPbc 06 07 23.9 -0.6
comp=Z,1.2nm,0.9s,baz=184,slow=5.0,SNR=4.0
VNDA Vanda 86.24 172 P **P** **05 46 43.3 -0.2**
comp=Z,94nm,1.0s,baz=311,slow=5.8,SNR=94
VNDA S **SKSac** **05 56 14.2 -1.3**
comp=Z,5.1nm,1.0s,baz=102,slow=19,SNR=8.8
VNDA PKKP **PKKPdf** **06 04 36.1 +2.4**
comp=Z,4.2nm,1.0s,baz=298,slow=1.5,SNR=8.3
VNDA PKPPKP **P'P'df** **06 12 42.3 -1.0**
comp=Z,1.5nm,0.9s,baz=132,slow=1.0,SNR=5.1
PUL Pulkovo 86.35 330*d* *i*P **P** **05 46 44.3 0.0**
PUL pmax pmax
comp=Z,446nm,1.2s
KMBO Kilima Mbogo 86.45 268 P **P** **05 46 46.2 0.0**
comp=Z,258nm,1.1s,baz=53,slow=6.5,SNR=181
KMBO S **SKSac** **05 56 19.9 0.0**
comp=Z,0.7nm,0.2s,baz=319,slow=23,SNR=6.9
KMBO Kilima Mbogo 86.45 268 *e*P **P** **05 46 46.1 0.0**
KMBO *e**PP **pP** **05 48 48.5 0.0**
KMBO *e* 05 50 19.7
KMBO S **SKSac** **05 56 20.0 0.0**
KMBO pmax pmax
comp=Z,405nm,1.1s
KMBO Kilima Mbogo 86.45 268 *e*P **P** **05 46 46.1 0.0**
comp=Z,405nm,1.1s
KMBO *e*pP **pP** **05 48 48.5 0.0**
KMBO *e*PP **PP** **05 50 19.6 +1.3**
KMBO S **SKSac** **05 56 19.9 0.0**
KEV Kevo 86.53 340 *e*P **P** **05 46 43.3 -1.7**
KEV pmax pmax
comp=Z,288nm,1.5s
KEV Kevo 86.53 340 *e*P **P** **05 46 43.3 -1.7**
comp=Z,288nm,1.5s
CSS Prodhromos 86.70 305 P **P** **05 46 46.7 +0.1**
CSS Prodhromos 86.70 305 *e*P **P** **05 46 46.8 +0.1**
comp=Z,40nm,0.8s
CSS *e*pP **pP** **05 48 51.5 +2.4**
CSS Prodhromos 86.70 305 P **P** **05 46 45.0 -1.6**
EGAK Eagle 86.72 25 *e*P **P** **05 46 44.8 -1.2**
comp=Z,46nm,0.9s
EGAK *e*pP **pP** **05 48 49.6 +1.1**
ARCES ARCESS Array B 87.08 340 P **P** **05 46 46.0 -1.6**
comp=Z,109nm,0.8s,baz=83,slow=6.1,SNR=72
ARCES PKiKP **PKiKP** **05 51 48.4 +0.1**
comp=Z,14nm,0.9s,baz=86,slow=0.6,SNR=6.6
ARCES PKKP **PKKPdf** **06 04 33.5 +2.3**
comp=Z,4.1nm,0.7s,baz=247,slow=4.2,SNR=7.1
ARE0 ARCESS Array S 87.08 340 *e*P **P** **05 46 46.7 -0.9**
ARE0 *e*sP **sP** **05 49 45.2 -2.0**
ARE0 *e*SKSac **SKSac** **05 56 20.3 -0.7**
ARE0 ARCESS Array S 87.08 340 *e*P **P** **05 46 47.6 -0.1**
SZAC Souni-Zanaja 87.08 304 P **P** **05 46 48.8 +0.4**
SBA Scott Base 87.18 172 *e*P **P** **05 46 48.7 +0.9**
SBA pmax pmax
comp=Z,535nm,2.0s
SBA Scott Base 87.18 172 *e*P **P** **05 46 48.7 +0.9**
comp=Z,534nm,2.0s
ALFC Alevga 87.28 305 P **P** **05 46 47.9 -1.4**
SPA0 Spitsbergen Ar 87.48 349 *e*P **P** **05 46 48.3 -1.1**
SPITS Spitsbergen Ar 87.48 349 PKKP PKKPbc 06 04 31.1 -7.4
comp=Z,9.6nm,0.9s,baz=130,slow=4.5,SNR=6.6
HAMF Hammerfest 87.49 341 *e*P **P** **05 46 48.2 -1.3**
AKMC Akamas 87.51 305 P **P** **05 46 49.0 -1.4**
BJO Bjornoya 87.91 345 *e*P **P** **05 46 52.3 +0.9**
KTK1 Kautokeino 87.97 339 *e*P **P** **05 46 50.9 -0.9**
AKASG Malin Array Be 88.02 321 P **P** **05 46 50.5 -1.9**
comp=Z,59nm,0.7s,baz=68,slow=4.5,SNR=201
AKASG pP **pP** **05 48 52.9 -2.4**
comp=Z,7.5nm,0.9s,baz=72,slow=4.3,SNR=1.9
AKASG PP **PP** **05 50 29.1 -0.2**
comp=Z,26nm,0.9s,baz=67,slow=8.1,SNR=4.7
AKASG S **SKSac** **05 56 24.6 -2.7**
comp=Z,5.2nm,1.0s,baz=80,slow=6.1,SNR=3.8
AKASG ScS **S** **05 56 44.9 -4.0**
comp=Z,6.4nm,1.0s,baz=80,slow=7.8,SNR=5.2
AKASG PKKP **PKKPdf** **06 04 31.6 +2.4**
comp=Z,1.0nm,0.6s,baz=261,slow=3.4,SNR=4.4
AKASG SKKPbc **SKKPbc** **06 07 16.5 -3.8**
comp=Z,0.5nm,0.3s,baz=261,slow=3.2,SNR=4.6
AKBB Malin Array Si 88.02 321 *e*P **P** **05 46 50.9 -1.5**
AKBB *e**PP **pP** **05 48 57.1 +1.8**
AKBB *e* 05 50 30.8
AKBB Malin Array Si 88.02 321 *e*P **P** **05 46 50.9 -1.5**
AKBB *e*pP **pP** **05 48 57.1 +1.8**
AKBB *e*PP **PP** **05 50 30.8 +1.5**
AK01 Malin Array Si 88.03 321 *e*P **P** **05 46 50.8 -1.6**
AK01 *e*PP **PP** **05 50 30.9 +1.5**
KIEV Kiev 88.03 321 *e*P **P** **05 46 50.3 -2.1**
KIEV *e**PP **pP** **05 48 57.7 +2.4**
KIEV *e* 05 50 30.6
KIEV *e*S **S** **05 56 48.6 -0.4**
KIEV pmax pmax
comp=Z,148nm,1.1s
KIEV Kiev 88.03 321 *e*P **P** **05 46 50.3 -2.1**
comp=Z,148nm,1.1s
KIEV *e*pP **pP** **05 48 57.7 +2.4**
KIEV *e*PP **PP** **05 50 30.6 +1.3**
KIEV *e*S **S** **05 56 48.6 -0.4**
HSPB Hornsund (broa 88.03 348 *e*P **P** **05 46 52.4 +0.5**
AK02 Malin Array Si 88.03 321 *e*P **P** **05 46 50.5 -2.0**
AK02 *e*PP **PP** **05 50 30.3 +0.8**

KBS Kingsbay 88.06 350 *e*P **P** **05 46 52.1 +0.1**
KBS *e*pP **pP** **05 48 56.7 +1.7**
KBS *e*sP **sP** **05 49 55.8 +3.9**
KBS Kingsbay 88.06 350 *e*P **P** **05 46 51.9 -0.1**
KBS pmax pmax
comp=Z,66nm,0.9s
KBS Kingsbay 88.06 350 *e*P **P** **05 46 51.9 -0.1**
comp=Z,66nm,0.9s
FINES FINESS Array B 88.20 332 P **P** **05 46 51.3 -1.7**
comp=Z,79nm,0.5s,baz=91,slow=3.2,SNR=137
FINES PKiKP **PKiKP** **05 51 50.8 +0.5**
comp=Z,3.5nm,0.5s,baz=114,slow=3.5,SNR=4.2
FINES S **SKSac** **05 56 24.8 -3.0**
comp=Z,8.4nm,1.0s,baz=104,slow=8.0,SNR=4.0
FINES ScS **S** **05 56 48.8 -1.4**
comp=Z,15nm,1.1s,baz=38,slow=9.6,SNR=5.1
FINES PKKP **PKKPdf** **06 04 29.3 +0.1**
comp=Z,6.9nm,1.0s,baz=181,slow=2.7,SNR=7.5
MICGM Minsk 88.32 325‖ *e*P **P** **05 46 53.0 -0.7**
MNK Minsk 88.35 325‖ *e*P **P** **05 46 53.0 -0.8**
MNK *e**PP **pP** **05 48 58.0 +1.2**
MNK *e**SP **sP** **05 49 52.0 -1.7**
MNK *e* 05 50 34.0
MNK *e*PPP PPP 05 52 40.0
MNK *e* 05 56 26.0
MNK *e*S **S** **05 56 50.0 -1.8**
MNK *e*SP **SP** **05 57 56.0 -3.0**
MNK pmax pmax
comp=E,840nm,1.0s
MNK pmax pmax
comp=Z,740nm,1.0s
MNK pmax pmax
comp=Z,4μm,6.0s
MNK smax smax
comp=N,9μm,10.0s
VSU Vasula 88.36 329*d* *i*P **P** **05 46 53.0 -0.8**
VSU pmax pmax
comp=Z,750nm,1.3s
KIS Kishinev 88.77 317‖ *i*P **P** **05 46 53.0 -3.0**
comp=Z,500nm,1.5s
KIS *e*pP pP 05 48 50.0 -9.0
KIS Kishinev 88.77 317 *i* PP PP 05 49 54.0 -41
comp=Z,4μm,16.0s
KIS *e*SKS **SKSac** **05 56 30.0 -1.8**
KIS *i* S **SKKSac** **05 56 50.0 +4.3**
comp=Z,1μm,10.0s
KIS *i* sS sS 06 00 30.0 -5.4
KIS *e*SS **SS** **06 03 06.0 +1.2**
KIS *e*SSS SSS 06 06 24.0
KIS LRM MLR 06 31 06.0
comp=Z,3μm,22.0s
KIS Kishinev 88.77 317k *i*P **P** **05 46 53.0 -3.0**
KIS *i* 05 49 54.0
KIS *i* 05 50 38.0
KIS *e* 05 56 30.0
KIS *i* S **SKKSac** **05 56 50.0 +4.3**
KIS *e*SS **SS** **06 03 06.0 +1.2**
KIS pmax pmax
comp=Z,500nm,1.5s
KIS pmax pmax
comp=Z,2μm,6.0s
KIS pmax pmax
comp=Z,3μm,13.0s
KIS pmax pmax
comp=Z,4μm,16.0s
KIS smax smax
comp=N,4μm,13.0s
KIS smax smax
comp=E,1μm,10.0s
KIS MLR MLR
comp=E,2μm,20.0s
KIS MLR MLR
comp=Z,3μm,20.0s
KIS MLR MLR
comp=Z,3μm,22.0s
IDID Didziasalis 88.85 325 *e*P **P** **05 46 56.1 0.0**
IDID IAmb IAmb 05 46 57.4
comp=Z,82nm,0.9s
PPT Papeete 88.86 108 P **P** **05 46 57.3 +0.3**
comp=Z,42nm,1.0s,baz=218,slow=0.4,SNR=3.2
PPT2 Papeete2 88.86 108 *e*P P 05 47 00.3 +3.2
comp=Z,397nm,1.5s
PPT2 Papeete2 88.86 108 *e*S **S** **05 57 01.3 +3.3**
comp=Z,7μm,26.0s
PAE Paea 88.87 108 *e*P **P** **05 46 59.9 +2.9**
comp=Z,74nm,1.3s
NACGM Naroch 88.89 325 *e*P **P** **05 46 54.0 -2.3**
SORM Soroca 88.92 318‖ *i*P **P** **05 46 57.0 +0.4**
SORM Soroca 88.92 318‖ *i*P **P** **05 46 57.0 +0.4**
TLCR 89.01 315⇑ *i*P **P** **05 46 57.4 +0.3**
TLCR 89.01 315⇑ *i*P **P** **05 46 57.4 +0.3**
INK Inuvik 89.06 21 PKKP **PKKPdf** **06 04 24.1 -3.6**
comp=Z,4.3nm,0.7s,baz=62,slow=2.5,SNR=4.4
INK SKKPbc SKKPbc 06 07 14.7 -3.9
comp=Z,5.2nm,1.1s,baz=123,slow=12,SNR=3.4
INK PKPPKP **P'P'df** **06 12 35.9 -3.4**
comp=Z,7.2nm,1.1s,baz=90,slow=1.8,SNR=4.9
INK Inuvik 89.06 21 *e*P **P** **05 46 56.6 -0.2**
INK *e**PP **pP** **05 49 01.6 +1.6**
INK pmax pmax
comp=Z,152nm,1.4s
INK Inuvik 89.06 21 *e*P **P** **05 46 56.5 -0.2**
comp=Z,152nm,1.4s
INK *e*pP **pP** **05 49 01.6 +1.6**
INK PKKP **PKKPdf** **06 04 24.1 -3.6**
INK SKKPbc SKKPbc 06 07 14.7 -3.9
INK P'P' 06 12 35.9
TIAR Tiarei 89.08 108 *e*P **P** **05 47 01.1 +3.1**
comp=Z,50nm,1.1s
IIGN Ignalina 89.14 325 *e*P **P** **05 46 57.4 -0.1**
IIGN IAmb IAmb 05 46 58.7
comp=Z,66nm,0.9s
ISAL Salakas 89.15 326 *e*P **P** **05 46 57.5 0.0**
ISAL IAmb IAmb 05 46 58.7
comp=Z,49nm,0.9s
TVO Taravao 89.19 108 *e*P **P** **05 47 01.6 +3.0**
comp=Z,82nm,1.2s
TRO Tromso 89.31 340 *e*P P 05 46 54.5 -3.4
TIRR Tirgusor 89.39 314 *e*P **P** **05 46 58.7 -0.2**
TIRR *e**PP **pP** **05 49 05.3 +3.1**
TIRR *e**SP **sP** **05 49 58.1 -0.8**
TIRR *e* 05 50 47.1
TIRR pmax pmax
comp=Z,102nm,1.0s
TIRR Tirgusor 89.39 314‖ *i*P **P** **05 46 58.8 -0.2**
TIRR Tirgusor 89.39 314 *e*P **P** **05 46 58.7 -0.2**
comp=Z,102nm,1.0s
TIRR *e*pP **pP** **05 49 05.3 +3.1**
TIRR *e*sP **sP** **05 49 58.1 -0.8**
TIRR *e*PP PP 05 50 47.1 +6.9
CFR Carcaliu 89.48 315‖ *i*P **P** **05 46 59.3 0.0**
CFR Carcaliu 89.48 315‖ *i*P **P** **05 46 59.3 0.0**
TBI Tubuai 89.65 113 *e*P **P** **05 47 03.2 +2.7**
comp=Z,626nm,1.2s
TBI *e*SKSac **SKSac** **05 56 35.8 -1.9**
comp=Z,10μm,23.9s
TBI *e*S **ScS** **05 57 08.6 +1.2**
comp=Z,3μm,24.5s
PSN Preselentsi 89.66 314 *i* P **P** **05 46 59.9 -0.3**
HARR Harsova 89.70 315‖ *i*P **P** **05 47 00.8 +0.5**
HARR Harsova 89.70 315‖ *i*P **P** **05 47 00.8 +0.5**
MSAB Monastry St. A 89.86 314‖ *i*P **P** **05 47 01.3 +0.2**
PMOR Pomariorio Ree 90.17 105 *e*P **P** **05 47 06.2 +3.1**
comp=Z,486nm,1.2s
PMOR *e*pP **pP** **05 49 06.9 +0.4**
comp=Z,414nm,1.5s
PRD Provadia 90.30 313 *i* P **P** **05 47 03.3 +0.2**
PRD Provadia 90.30 313 *i* P **P** **05 47 03.0 -0.1**
TESR Tescani 90.31 317‖ *i*P **P** **05 47 03.4 +0.2**
MEH Mehetia 90.33 108 *e*P **P** **05 47 06.3 +2.5**
comp=Z,65nm,1.3s
SKAG Skagway 90.34 30 *e*P **P** **05 47 05.2 +2.3**
comp=Z,52nm,0.8s
SKAG *e*pP **pP** **05 49 10.1 +3.7**
VRI Vrincioaia 90.36 316‖ *i*P **P** **05 47 03.9 +0.5**
VRI Vrincioaia 90.36 316‖ *i*P **P** **05 47 03.9 +0.5**
PLOR Plostina 90.42 316‖ *i*P **P** **05 47 04.1 +0.4**
PLOR Plostina 90.42 316‖ *i*P **P** **05 47 04.1 +0.4**
VAH Vaihoa 90.46 105 *e*P **P** **05 47 07.2 +2.8**
comp=Z,238nm,1.2s
VAH *e*pP **pP** **05 49 08.2 +0.4**
comp=Z,249nm,1.4s
ISR Istrita 90.61 315⇑ *i*P **P** **05 47 04.7 +0.1**
ISR Istrita 90.61 315⇑ *i*P **P** **05 47 04.7 +0.1**
ARG Arkhangelos 90.77 306 P **P** **05 47 05.0 -0.5**

ARG Arkhangelos 90.77 306 *e*P **P** **05 47 05.2 -0.3**
ARG Arkhangelos 90.77 306 P **P** **05 47 05.0 -0.5**
ARG Arkhangelos 90.77 306 P **P** **05 47 05.0 -0.5**
MLR Muntele Rosu 90.96 316 S **SKSac** **05 56 43.3 -1.5**
comp=Z,1.5nm,0.9s,baz=179,slow=22,SNR=5.6
MLR ScS **ScS** **05 57 17.5 -0.4**
comp=Z,3.3nm,1.1s,baz=215,slow=20,SNR=3.4
MLR PKKP **PKKPdf** **06 04 24.0 -0.3**
comp=Z,0.7nm,0.7s,baz=306,slow=6.0,SNR=5.4
MLR SKKPbc **SKKPbc** **06 07 12.1 -1.5**
comp=Z,1.0nm,0.7s,baz=223,slow=6.4,SNR=5.5
MLR Muntele Rosu 90.96 316‖ *e*P **P** **05 47 06.5 +0.1**
MLR Muntele Rosu 90.96 316‖ *i*P **P** **05 47 06.5 +0.1**
JMB Yambol 91.01 313 *i* P **P** **05 47 06.4 0.0**
BURAR Bucovina Array 91.09 318⇑ *e*P **P** **05 47 06.8 -0.1**
BURAR Bucovina Array 91.09 318⇑ *i*P **P** **05 47 06.8 -0.1**
BUR08 Bucovina Ar. S 91.09 318 *e*P **P** **05 47 06.1 -0.8**
STEI Steigen 91.10 339 *e*P **P** **05 47 04.7 -1.6**
SUW Suwalki 91.12 325 *e*P **P** **05 47 05.0 -1.7**
SUW *e*PcP **PcP** **05 47 06.4 -0.9**
SUW *e*SKSac **SKSac** **05 56 44.1 -0.8**
SUW *e*S **S** **05 57 17.3 +0.6**
SUW *e* 06 00 54.5
SUW Suwalki 91.12 325 *e*P **P** **05 47 05.0 -1.7**
SUW *e* 05 56 44.1
SUW *e*S **S** **05 57 17.3 +0.6**
DOPR Dopca 91.27 316‖ *i*P **P** **05 47 08.1 +0.5**
SZH Strazhica 91.35 314 *i* P **P** **05 47 07.9 -0.1**
ALE Alert 91.38 1 P **P** **05 47 08.6 +1.2**
comp=Z,108nm,0.9s,SNR=5.1
LVV L'vov 91.45 320*c* *i*P **P** **05 47 08.3 0.0**
LVV *e**PP **pP** **05 49 08.5 -3.4**
LVV *e* 05 50 07.1
LVV *e* 05 56 45.9
LVV *e*S **S** **05 57 18.3 -1.5**
LVV pmax pmax
comp=Z,400nm,1.7s
SMG Samos 91.56 308 *e*P **P** **05 47 07.5 -1.7**
SMG Samos 91.56 308 P **P** **05 47 08.2 -1.0**
SMG Samos 91.56 308 P **P** **05 47 08.2 -1.0**
VOIR 91.59 316‖ *e*P **P** **05 47 08.7 -0.5**
VOIR 91.59 316‖ *i*P **P** **05 47 08.7 -0.5**
LOF Lofoten 91.63 339 *e*P **P** **05 47 07.4 -1.4**
KARP Karpathos 91.64 306 P **P** **05 47 09.2 -0.4**
KARP Karpathos 91.64 306 P **P** **05 47 09.2 -0.4**
ALN Alexandroupoli 91.66 311 P **P** **05 47 07.1 -2.4**
ALN Alexandroupoli 91.66 311 P **P** **05 47 07.1 -2.4**
ALN Alexandroupoli 91.66 311 P **P** **05 47 07.1 -2.4**
PRK Paraskevi 91.76 310 P **P** **05 47 08.8 -1.2**
PRK Paraskevi 91.76 310 *e*P **P** **05 47 08.8 -1.2**
PRK Paraskevi 91.76 310 P **P** **05 47 08.8 -1.2**
PRK Paraskevi 91.76 310 P **P** **05 47 08.8 -1.2**
GOLR 91.76 315‖ *i*P **P** **05 47 10.1 +0.2**
HUMR Humele 91.81 315‖ *i*P **P** **05 47 09.9 -0.2**
DIM Dimitrovgrad 91.84 312 *i* P **P** **05 47 10.1 -0.2**
ARR Arges 91.89 316⇑ *i*P **P** **05 47 10.7 +0.1**
MOR8 Moi Rana 91.99 337 *e*P **P** **05 47 08.9 -1.6**
MOR8 IAmb IAmb 05 47 11.4
comp=Z,59nm,0.7s
RDO Rodhopi 92.00 312 P **P** **05 47 09.3 -1.7**
RDO Rodhopi 92.00 312 P **P** **05 47 09.3 -1.7**
KDZ Kurdzhali 92.00 312 *i* P **P** **05 47 10.5 -0.6**
CHOS Chios island 92.07 309 *e*P **P** **05 47 11.0 -0.5**
CHOS Chios island 92.07 309 P **P** **05 47 10.2 -1.3**
CHOS Chios island 92.07 309 P **P** **05 47 10.2 -1.3**
SIGR SIGRI 92.08 310 *e*P **P** **05 47 09.6 -1.9**
SIGR SIGRI 92.08 310 P **P** **05 47 10.2 -1.3**
SIGR SIGRI 92.08 310 P **P** **05 47 10.2 -1.3**
SMTH Samothraki Isl 92.12 311 *e*P **P** **05 47 09.7 -1.9**
SMTH Samothraki Isl 92.12 311 P **P** **05 47 09.8 -1.9**
SMTH Samothraki Isl 92.12 311 P **P** **05 47 09.8 -1.9**
KWP Kalwaria Pacla 92.33 320 *e*P **P** **05 47 11.2 -1.2**
KWP *e*PcP **PcP** **05 47 12.6 -0.2**
KWP *e* 05 50 16.5
KWP *e* 05 53 50.0
KWP *e*S **S** **05 57 29.8 +2.2**
KWP Kalwaria Pacla 92.33 320 *e*P **P** **05 47 11.2 -1.2**
KWP *e*S **S** **05 57 29.9 +2.3**
FLOS Flostrand 92.34 338 *e*P **P** **05 47 11.1 -0.9**
CJR Cluj-Napoca 92.34 317⇑ *e*P **P** **05 47 12.8 +0.2**
CJR Cluj-Napoca 92.34 317⇑ *i*P **P** **05 47 12.8 +0.2**
KONS Konsvik 92.38 338 *e*P **P** **05 47 10.8 -1.3**
LIA Limnos Island 92.48 310 *e*P **P** **05 47 12.1 -1.2**
RZN Rozhen 92.51 312 *i* P **P** **05 47 12.7 -0.9**
RZN Rozhen 92.51 312 *i* P **P** **05 47 13.0 -0.6**
WRAK Wrangell Islan 92.62 33 *e*P **P** **05 47 15.2 +1.7**
comp=Z,64nm,0.8s
APE Apeiranthos 92.70 308 *e*P **P** **05 47 14.7 +0.3**
APE pmax pmax
comp=Z,42nm,0.9s
APE Apeiranthos 92.70 308⇑ *i*P **P** **05 47 13.2 -1.2**
PGB Panagyurishte 92.75 313 *i* P **P** **05 47 14.1 -0.5**
KOLS Kolonicke sedl 92.76 320 *e*P **P** **05 47 14.2 -0.2**
KOLS pmax pmax
comp=Z,60nm,1.3s
KOLS Kolonicke sedl 92.76 320 *e*P **P** **05 47 14.2 -0.2**
TRPA Tarpa 92.76 319‖ *i*P **P** **05 47 14.9 +0.6**
TRPA Tarpa 92.76 319‖ *e* **P** **05 47 14.6 +0.3**
KAVA Kavala 92.78 312 P **P** **05 47 13.2 -1.4**
KAVA Kavala 92.78 312 P **P** **05 47 13.2 -1.4**
UZH Uzhgorod 92.81 319‖ *i*P **P** **05 47 15.0 +0.4**
UZH *e* 05 49 16.4
UZH *e*S **S** **05 57 30.6 -1.1**
UZH *e* 05 59 27.4
UZH *e* 06 04 16.4
MPEP Malo Peshtene 92.90 314 *i* P **P** **05 47 14.4 -0.8**
MPEP Malo Peshtene 92.90 314 *i* P **P** **05 47 15.2 0.0**
DRGR 92.92 317⇑ *e*P **P** **05 47 15.5 +0.2**
DRGR 92.92 317⇑ *i*P **P** **05 47 15.5 +0.2**
DEV Deva 92.98 317‖ *e*P **P** **05 47 15.6 +0.1**
DEV Deva 92.98 317‖ *i*P **P** **05 47 15.6 +0.1**
BEL Belsk 93.02 323 *e*P **P** **05 47 15.8 +0.4**
BEL *e*S **S** **05 57 35.5 +2.1**
BEL Belsk 93.02 323 *e*P **P** **05 47 15.9 +0.5**
BEL *e*S **S** **05 57 35.5 +2.1**
LAST Lasithi 93.06 306 P P 05 47 12.1 -4.1
LAST Lasithi 93.06 306 P P 05 47 12.1 -4.1
NVR Nevrokopi 93.20 312 P **P** **05 47 14.9 -1.7**
NVR Nevrokopi 93.20 312 P **P** **05 47 14.9 -1.7**
MMB Musomiste 93.25 312 *i* P **P** **05 47 16.1 -0.8**
MMB Musomiste 93.25 312 *i* P **P** **05 47 15.8 -1.1**
DLBC Dease Lake 93.26 30 P **P** **05 47 16.8 +0.3**
comp=Z,22nm,0.7s,baz=300,slow=4.3,SNR=20
DLBC Dease Lake 93.26 30 *e*P **P** **05 47 18.6 +2.1**
comp=Z,42nm,0.9s
OUR Ouranopolis 93.31 311 P **P** **05 47 15.5 -1.5**
OUR Ouranopolis 93.31 311 P **P** **05 47 15.5 -1.5**
OUR Ouranopolis 93.31 311 P **P** **05 47 15.5 -1.5**
VTS Vitosha 93.44 313 P **P** **05 47 16.7 -1.1**
VTS Vitosha 93.44 313⇑ *i*P **P** **05 47 16.8 -1.1**
VTS Vitosha 93.44 313 *i* P **P** **05 47 17.8 0.0**
VTS Vitosha 93.44 313 *i* P **P** **05 47 17.1 -0.7**
VTS Vitosha 93.44 313 P **P** **05 47 16.7 -1.1**
VTS Vitosha 93.44 313 P **P** **05 47 16.7 -1.1**
SRS Serrai 93.45 312 P **P** **05 47 15.6 -2.1**
SRS Serrai 93.45 312 P **P** **05 47 15.6 -2.1**
SRS Serrai 93.45 312 P **P** **05 47 15.6 -2.1**
IDI Anoyia 93.51 306 S **SKSac** **05 56 55.9 -3.1**
comp=Z,23nm,1.1s,baz=196,slow=23,SNR=6.8
IDI PKKP **PKKPdf** **06 04 20.1 +0.5**
comp=Z,7.9nm,0.6s,baz=327,slow=6.2,SNR=7.1
IDI Anoyia 93.51 306 *e*P **P** **05 47 17.9 -0.3**
comp=Z,84nm,0.9s
IDI S **SKSac** **05 56 55.9 -3.1**
IDI PKKP **PKKPdf** **06 04 20.1 +0.5**
IDI Anoyia 93.51 306 P P 05 47 14.2 -4.0
NSS Namsos 93.55 336 *e*P **P** **05 47 16.6 -1.0**
AOS Alonnisos 93.60 310 *e*P **P** **05 47 15.7 -2.7**
AOS Alonnisos 93.60 310 P **P** **05 47 16.4 -2.0**
AOS Alonnisos 93.60 310 P **P** **05 47 16.4 -2.0**
PAIG Paliouri 93.61 311 P **P** **05 47 16.4 -2.0**
PAIG Paliouri 93.61 311 *e*P **P** **05 47 16.4 -2.0**
PAIG Paliouri 93.61 311 P **P** **05 47 16.4 -2.0**
PAIG Paliouri 93.61 311 P **P** **05 47 16.4 -2.0**
KKB Krupnik 93.67 313 *i* P **P** **05 47 17.9 -0.8**
KKB Krupnik 93.67 313 *i* P **P** **05 47 17.7 -1.0**
SIRR Siria 93.75 317⇑ *i*P **P** **05 47 18.7 -0.3**
NIE Niedzica 93.91 320 *e*P **P** **05 47 20.2 +0.6**
NIE *e*PcP **PcP** **05 47 23.0 +3.2**
NIE *e* 05 50 22.7
NIE *e*PP **PP** **05 51 19.1 +4.0**

NIE e 05 54 02.6
NIE eSKSac **SKSac** **05 57 04.8 +4.4**
NIE eS **S** **05 57 41.2 -0.1**
NIE e 06 00 19.6
NIE e 06 01 20.7
NIE Niedzica 93.91 320 eP **P** **05 47 20.2 +0.6**
NIE e 05 50 22.8
NIE e 05 51 19.1
NIE e 05 57 04.8
NIE eS **S** **05 57 41.2 -0.1**
HORT Hortiatis 93.92 311 P **P** **05 47 17.6 -2.3**
HORT Hortiatis 93.92 311 P **P** **05 47 17.6 -2.3**
BZS Buzias 93.92 317 ||P **P** **05 47 19.8 +0.1**
BZS Buzias 93.92 317 i/P **P** **05 47 19.8 +0.1**
KNT Kendrikon 93.95 312 P **P** **05 47 18.1 -1.9**
KNT Kendrikon 93.95 312 P **P** **05 47 18.1 -1.9**
KNT Kendrikon 93.95 312 P **P** **05 47 18.1 -1.9**
KECS Kecovo 94.01 319 eP **P** **05 47 19.5 -0.6**
KECS pmax pmax
comp=Z,56nm,1.1s
KECS Kecovo 94.01 319 eP **P** **05 47 19.5 -0.6**
OJC Ojcow 94.02 321 eP **P** **05 47 20.0 -0.1**
OJC ePcP **PcP** **05 47 23.0 +2.7**
OJC e 05 50 23.3
OJC ePP **PP** **05 51 19.7 +3.8**
OJC e 05 54 04.2
OJC eS **S** **05 57 40.0 -2.2**
OJC e 06 00 19.4
OJC e 06 01 26.5
OJC Ojcow 94.02 321 eP **P** **05 47 20.1 -0.1**
OJC e 05 50 23.3
OJC e 05 51 19.7
OJC eS **S** **05 57 40.0 -2.2**
VAM Vamos 94.05 306 eP **P** **05 47 20.6 +0.1**
XOR Xorichti 94.09 310 eP P 05 47 13.8 -6.9
XOR Xorichti 94.09 310 P P 05 47 17.1 -3.6
XOR Xorichti 94.09 310 P P 05 47 17.1 -3.6
VAY Valandovo 94.16 312 eP **P** **05 47 19.0 -1.9**
VAY Valandovo 94.16 312 P **P** **05 47 18.1 -2.8**
VAY Valandovo 94.16 312 P **P** **05 47 18.1 -2.8**
VAY Valandovo 94.16 312 P **P** **05 47 18.1 -2.8**
ATAL Atalanti 94.35 310 P **P** **05 47 19.1 -2.8**
ATAL Atalanti 94.35 310 P **P** **05 47 19.1 -2.8**
LKR Lokris 94.38 309 eP **P** **05 47 19.6 -2.4**
HFS Hagfors 94.40 332 PKKP **PKKPdf** **06 04 16.3 -2.0**
comp=Z,4.8nm,0.6s,baz=208,slow=2.9,SNR=16
HFS SKKPbc SKKPbc 06 07 02.3 -3.5
comp=Z,0.7nm,0.4s,baz=197,slow=4.5,SNR=5.5
DID Didima 94.42 308 P P 05 47 17.4 -4.8
DID Didima 94.42 308 P P 05 47 17.4 -4.8
DAG Danmarks Havn 94.42 352 i P **P** **05 47 20.6 -0.7**
comp=Z,113nm,1.0s
DAG Danmarks Havn 94.42 352 i P **P** **05 47 20.6 -0.7**
DAG pmax pmax
comp=Z,110nm,1.0s
DIDY Didyma 94.44 308 P P 05 47 19.1 -3.3
LIT Litokhoron 94.47 311 P **P** **05 47 19.7 -2.7**
LIT Litokhoron 94.47 311 P **P** **05 47 19.7 -2.7**
LIT Litokhoron 94.47 311 P **P** **05 47 19.7 -2.7**
KRND KRANIDI 94.51 308 eP **P** **05 47 20.4 -2.2**
KRND KRANIDI 94.51 308 P **P** **05 47 19.7 -2.9**
LTK Loutraki 94.53 309 P P 05 47 19.4 -3.3
LTK Loutraki 94.53 309 P P 05 47 19.4 -3.3
PSZ Piszkesteto 94.53 319 eP **P** **05 47 21.5 -1.1**
PSZ pmax pmax
comp=Z,83nm,1.0s
PSZ Piszkesteto 94.53 319 ||i/P **P** **05 47 22.2 -0.4**
PSZ Piszkesteto 94.53 319 eP **P** **05 47 21.4 -1.1**
comp=Z,83nm,1.0s
PSZ Piszkesteto 94.53 319 ||e **P** **05 47 22.5 -0.1**
ANKY Antikythira Is 94.68 307 eP **P** **05 47 22.5 -0.9**
GKP Gorka Klasztor 94.73 325 eP **P** **05 47 23.3 +0.1**
GKP ePP **PP** **05 51 23.0 +1.9**
GKP eSKSac **SKSac** **05 57 06.7 +2.2**
GKP eS **ScS** **05 57 50.3 +1.8**
GKP Gorka Klasztor 94.73 325 eP **P** **05 47 23.3 +0.1**
GKP e 05 51 23.1
GKP e 05 57 06.7
GKP eS **S** **05 57 50.4 +2.2**
TBLU Trondheim 94.75 335 eP **P** **05 47 22.4 -0.7**
TBLU IAmb IAmb 05 47 23.5
comp=Z,158nm,1.1s
DSF Desfina 94.79 309 P P 05 47 20.7 -3.2
DSF Desfina 94.79 309 P P 05 47 20.7 -3.2
VLI Veliai 94.80 308 eP **P** **05 47 21.2 -2.8**
VLI Veliai 94.80 308 P P 05 47 19.6 -4.4
VLI Veliai 94.80 308 P P 05 47 19.6 -4.4
AGG Agios Georgios 94.81 310 P **P** **05 47 21.0 -3.0**
AGG Agios Georgios 94.81 310 P **P** **05 47 21.0 -3.0**
AGG Agios Georgios 94.81 310 P **P** **05 47 21.0 -3.0**
SKO Skopje 94.85 313 eP **P** **05 47 23.7 -0.3**
MAKR Makrakomi, Fth 94.97 310 P **P** **05 47 22.4 -2.3**
MAKR Makrakomi, Fth 94.97 310 P **P** **05 47 22.4 -2.3**
GUR Goura 95.03 309 P P 05 47 21.2 -3.9
GUR Goura 95.03 309 P P 05 47 21.2 -3.9
VYHS Vyhne 95.07 320 eP **P** **05 47 24.3 -0.6**
VYHS pmax pmax
comp=Z,42nm,1.4s
VYHS Vyhne 95.07 320 eP **P** **05 47 24.3 -0.6**
KALE Kalithea 95.09 309 P **P** **05 47 22.8 -2.5**
KALE Kalithea 95.09 309 P **P** **05 47 22.8 -2.5**
TRIZ Trizonia 95.14 309 P **P** **05 47 22.8 -2.6**
OKC Ostrava-Krasne 95.15 321 eP **P** **05 47 24.9 -0.3**
OKC ex x 05 49 36.2
OKC ex x 05 50 26.6
OKC ePP **PP** **05 51 26.7 +2.2**
OKC eSKS **SKSac** **05 57 07.1 +0.2**
OKC eS **S** **05 57 50.4 -1.5**
OKC ePS **PS** **06 00 29.6 +0.1**
OKC eXS **sS** **06 01 30.2 -4.8**
OKC Ostrava-Krasne 95.15 321 eP **P** **05 47 24.9 -0.3**
OKC e 05 50 26.6
OKC e 05 51 26.7
OKC e 05 57 07.1
OKC eS **S** **05 57 50.4 -1.5**
OKC e 06 00 29.6
KLV Kalavryta, Ach 95.15 309 P **P** **05 47 22.5 -3.1**
KLV Kalavryta, Ach 95.15 309 P **P** **05 47 22.5 -3.1**
FNA Florina 95.16 312 P P 05 47 22.1 -3.4
FNA Florina 95.16 312 P P 05 47 22.1 -3.4
FNA Florina 95.16 312 P P 05 47 22.1 -3.4
NC602 NORSAR Array S 95.17 333 eP **P** **05 47 22.9 -2.2**
NB2 NORSAR Subarra 95.20 333 P **P** **05 47 23.3 -2.0**
comp=Z,97nm,1.1s,baz=68,slow=4.6
NB2 NORSAR Subarra 95.20 333 P **P** **05 47 23.3 -2.0**
baz=68,slow=4.6
NOA NORSAR Array B 95.20 333 P **P** **05 47 23.1 -2.1**
comp=Z,48nm,0.8s,baz=69,slow=4.6,SNR=94
NOA PP **PP** **05 51 22.1 -2.5**
comp=Z,9.0nm,0.8s,baz=66,slow=7.7,SNR=4.5
NOA PKKP **PKKPdf** **06 04 15.9 -1.0**
comp=Z,2.5nm,0.8s,baz=67,slow=2.6,SNR=7.7
BUD Budapest 95.21 319 ||e **P** **05 47 25.7 +0.2**
EVR Evrytania 95.23 310 P **P** **05 47 23.7 -2.3**
EVR Evrytania 95.23 310 P **P** **05 47 23.7 -2.3**
LAKA Lakka 95.24 309 P **P** **05 47 24.0 -2.0**
LAKA Lakka 95.24 309 P **P** **05 47 24.0 -2.0**
EFP Efpalio 95.26 309 P **P** **05 47 23.8 -2.2**
DIVS Divibare 95.40 315 P **P** **05 47 24.7 -1.9**
NAO01 NORSAR Array S 95.43 333 eP **P** **05 47 25.3 -1.0**
comp=Z,42nm,0.8s
NAO01 epP **pP** **05 49 31.8 +1.7**
NAO01 ePP **PP** **05 51 26.2 -0.1**
BSD Bornholm Skovb 95.47 327 i P **P** **05 47 26.0 -0.5**
comp=Z,133nm,1.1s
BSD Bornholm Skovb 95.47 327 i P **P** **05 47 26.0 -0.5**
BSD pmax pmax
comp=Z,130nm,1.1s
ITM Ithomi 95.50 308 eP **P** **05 47 25.3 -1.8**
ITM Ithomi 95.50 308 P **P** **05 47 25.1 -2.0**
ITM Ithomi 95.50 308 P **P** **05 47 25.1 -2.0**
DRO Drossia 95.51 309 P **P** **05 47 25.9 -1.3**
MORC Moravsky Berou 95.54 321 eP **P** **05 47 27.0 -0.1**
MORC e*PP **pP** **05 49 32.3 +1.4**
MORC e 05 51 29.5
MORC pmax pmax
comp=Z,130nm,0.8s
MORC Moravsky Berou 95.54 321 ||i/P **P** **05 47 27.2 +0.1**
MORC Moravsky Berou 95.54 321 eP **P** **05 47 27.0 -0.1**
comp=Z,130nm,0.8s
MORC epP **pP** **05 49 32.3 +1.4**
MORC ePP **PP** **05 51 29.4 +1.9**
PHP Peshkopia 95.64 313 P **P** **05 47 25.6 -2.1**
PHP Peshkopia 95.64 313 P **P** **05 47 25.6 -2.1**
PHP Peshkopia 95.64 313 P **P** **05 47 25.6 -2.1**
PKSG 95.65 319 ||e **P** **05 47 27.6 +0.1**
RLS Riolos of Patr 95.68 309 P **P** **05 47 26.7 -1.1**
RLS Riolos of Patr 95.68 309 P **P** **05 47 26.7 -1.1**
PYL PYLOS 95.71 308 P **P** **05 47 24.9 -3.1**
PYL PYLOS 95.71 308 P **P** **05 47 24.9 -3.1**
DSL Palaion Diasel 95.73 310 P **P** **05 47 26.2 -1.9**
DSL Palaion Diasel 95.73 310 P **P** **05 47 26.2 -1.9**
CSKK Cs˙‡kako 95.74 319 ||e **P** **05 47 26.5 -1.5**
PDO Prodromos 95.78 310 P **P** **05 47 26.1 -2.2**
PKSM Moragy 95.79 318 ||P **P** **05 47 28.5 +0.3**
PKSM Moragy 95.79 318 ||P **P** **05 47 28.5 +0.3**
PKSM Moragy 95.79 318 i/P **P** **05 47 28.5 +0.3**
PKSM Moragy 95.79 318 ||e **P** **05 47 28.0 -0.2**
OSL Oslo 95.86 332 eP **P** **05 47 27.9 -0.2**
PKST T˜˜s 95.92 319 ||e **P** **05 47 28.3 -0.5**
KRLC Kraliky 95.93 322 eP **P** **05 47 28.5 -0.3**
KRLC ex x 05 49 40.1
KRLC ePP **PP** **05 51 33.0 +2.5**
KRLC Kraliky 95.93 322 eP **P** **05 47 28.5 -0.3**
KRLC e 05 51 33.0
RES Resolute Bay 95.97 10 eP **P** **05 47 28.3 0.0**
RES e*PP **pP** **05 49 36.4 +4.1**
RES pmax pmax
comp=Z,22nm,0.8s
RES Resolute Bay 95.97 10 eP **P** **05 47 28.3 0.0**
comp=Z,22nm,0.8s
RES epP **pP** **05 49 36.4 +4.1**
KSP Ksiaz 96.00 323 eP **P** **05 47 28.9 -0.1**
KSP e 05 54 19.0
KSP eS **S** **05 58 02.8 +3.6**
KSP e 06 00 39.3
KSP e 06 01 45.3
KSP Ksiaz 96.00 323 eP **P** **05 47 28.9 -0.1**
KSP eS **S** **05 58 02.9 +3.7**
KSP e 06 00 39.3
QSPA South Pole Qui 96.06 180 P **P** **05 47 27.8 -1.3**
comp=Z,20nm,1.1s,baz=306,slow=2.3,SNR=38
QSPA S **SKSac** **05 57 07.6 -3.4**
comp=Z,36nm,1.0s,baz=130,slow=3.0,SNR=28
QSPA PKKP **PKKPdf** **06 04 14.5 -2.3**
comp=Z,8.7nm,0.7s,baz=139,slow=0.7,SNR=12
QSPA South Pole Qui 96.06 180 eP **P** **05 47 28.8 -0.2**
comp=Z,17nm,1.3s
QSPA epP **pP** **05 49 30.3 -2.7**
QSPA S **SKSac** **05 57 07.7 -3.4**
QSPA PKKP **PKKPdf** **06 04 14.5 -2.3**
DPC Dobruska-Polom 96.13 322 eP **P** **05 47 29.5 -0.2**
DPC ex x 05 50 31.9
DPC ePP **PP** **05 51 33.4 +1.4**
DPC eSKS **SKSac** **05 57 09.7 -2.4**
DPC eS **S** **05 57 59.1 -1.3**
DPC ePS **PS** **06 00 36.5 -3.1**
DPC ex x 06 01 48.5
DPC Dobruska-Polom 96.13 322 eP **P** **05 47 29.5 -0.2**
DPC e 05 50 31.9
DPC e 05 51 33.4
DPC e 05 57 09.7
DPC eS **S** **05 57 59.1 -1.3**
DPC e 06 00 36.5
TIR Tirane 96.14 313 eP **P** **05 47 29.1 -0.8**
TIR pmax pmax
comp=Z,171nm,1.3s
TIR Tirane 96.14 313 eP **P** **05 47 29.1 -0.8**
comp=Z,171nm,1.3s
IGT Igoumenitsa 96.22 311 P **P** **05 47 28.0 -2.3**
IGT Igoumenitsa 96.22 311 P **P** **05 47 28.0 -2.3**
IGT Igoumenitsa 96.22 311 P **P** **05 47 28.0 -2.3**
EXG Exogi 96.23 310 P P 05 47 25.4 -5.0
VRAC Vranov 96.27 321 ||P **P** **05 47 30.5 +0.2**
VRAC Vranov 96.27 321 i/P **P** **05 47 30.5 +0.2**
SGD Sagiada 96.27 311 P **P** **05 47 28.6 -1.9**
UPC Upice 96.27 322 eP **P** **05 47 30.3 0.0**
UPC esP **sP** **05 50 31.0 +0.3**
UPC ePP **PP** **05 51 33.9 +0.9**
UPC eSKS **SKSac** **05 57 12.4 -0.3**
UPC eS **S** **05 58 00.7 -0.8**
UPC ex x 06 00 37.5
UPC Upice 96.27 322 eP **P** **05 47 30.3 0.0**
UPC e 05 50 31.0
UPC e 05 51 33.9
UPC e 05 57 12.4
UPC eS **S** **05 58 00.7 -0.8**
UPC e 06 00 37.5
VLS Valsamata 96.33 309 P **P** **05 47 28.9 -1.9**
VLS Valsamata 96.33 309 P **P** **05 47 28.9 -1.9**
VLS Valsamata 96.33 309 P **P** **05 47 28.9 -1.9**
KONO Kongsberg 96.49 332 eP **P** **05 47 29.5 -1.5**
KONO esP sP 05 50 22.7 -8.9
KONO Kongsberg 96.49 332 eP **P** **05 47 30.1 -0.9**
KONO pmax pmax
comp=Z,53nm,1.2s
KONO Kongsberg 96.49 332 eP **P** **05 47 30.1 -0.9**
comp=Z,53nm,1.2s
AKN Aaknes 96.56 335 eP **P** **05 47 31.1 -0.2**
AKN IAmb IAmb 05 47 32.5
comp=Z,112nm,0.6s
JMIC Jan Mayen 96.75 346 eP **P** **05 47 31.0 -0.9**
SOP Sopron 96.76 319 ||e **P** **05 47 32.4 -0.1**
LSZ Lusaka 96.77 255 SKKPbc SKKPbc 06 06 58.6 -0.8
comp=Z,2.9nm,0.9s,baz=41,slow=3.9,SNR=5.2
LSZ Lusaka 96.77 255 eP **P** **05 47 31.9 -1.5**
LSZ e*PP **pP** **05 49 36.9 -0.5**
LSZ e 05 51 34.1
LSZ pmax pmax
comp=Z,108nm,0.9s
LSZ Lusaka 96.77 255 eP **P** **05 47 31.9 -1.5**
comp=Z,108nm,0.9s
LSZ epP **pP** **05 49 36.9 -0.5**
LSZ ePP **PP** **05 51 34.1 -4.0**
LSZ SKKPbc SKKPbc 06 06 58.6 -0.8
TREC Trest 96.96 321 eP **P** **05 47 32.9 -0.5**
TREC ex x 05 50 35.5
TREC ePP **PP** **05 51 37.3 -1.0**
TREC Trest 96.96 321 eP **P** **05 47 32.9 -0.5**
TREC e 05 50 35.5
TREC e 05 51 37.3
BEHE Becsehely 96.97 318 ||e **P** **05 47 34.1 +0.6**
RUE Ruedersdorf 96.97 325 ePdiff **P** **05 47 34.6 +1.3**
RUE ePP **PP** **05 51 39.8 +1.7**
RUE epPP 05 53 25.9
RUE Ruedersdorf 96.97 325 eP **P** **05 47 33.9 +0.7**
comp=Z,215nm,0.8s
RUE epP **pP** **05 49 41.8 +4.5**
RUE ePP **PP** **05 51 40.1 +2.0**
CONA Conrad Observa 97.14 320 ||i/Pdiff **P** **05 47 32.5 -1.8**
comp=Z,64nm,2.0s,SNR=20
PVCC Panska Ves 97.14 323 eP Pdif 05 47 33.7 -0.4
PVCC esP sP 05 50 33.9 -0.8
PVCC ePP **PP** **05 51 38.9 -0.6**
PVCC eS **ScS** **05 58 07.1 -1.7**
PVCC Panska Ves 97.14 323 eP Pdif 05 47 33.7 -0.4
PVCC e 05 50 33.9
PVCC e 05 51 38.9
PVCC eS **ScS** **05 58 07.1 -1.7**
GOPC GO Pecny, Ondr 97.20 322 eP Pdif 05 47 34.4 -0.1
GOPC ex x 05 50 37.8
GOPC ePP **PP** **05 51 41.1 +1.0**
GOPC eSKS **SKSac** **05 57 15.9 -1.6**
GOPC eS **ScS** **05 58 06.4 -3.0**
PRU Pruhonice 97.33 322 eP Pdif 05 47 34.6 -0.4
PRU ex x 05 49 43.2
PRU esP sP 05 50 35.6 0.0
PRU ePP **PP** **05 51 40.3 -0.7**
PRU eSKS **SKSac** **05 57 15.0 -3.1**
PRU eS **ScS** **05 58 09.6 -0.8**
PRU ex x 06 00 42.1
PRU eXS sS 06 01 51.7 -2.4
PRU Pruhonice 97.33 322 eP Pdif 05 47 34.6 -0.4
PRU e*PP pP 05 49 43.2 +4.1
PRU e 05 50 35.6
PRU e 05 51 40.3
PRU e 05 57 15.0
PRU eS **ScS** **05 58 09.6 -0.8**
HYA Hoyanger 97.37 334 eP **P** **05 47 35.0 +0.1**
PRA Prague 97.37 322 eP **P** **05 47 35.4 +0.2**
PRA esP **sP** **05 50 34.0 -1.7**
PRA ePP **PP** **05 51 41.2 -0.1**
PRA eSKS **SKSac** **05 57 15.9 -2.3**
PRA eS **ScS** **05 58 10.5 -0.2**
PRA ex x 06 00 44.5
PRA Prague 97.37 322 eP **P** **05 47 35.4 +0.2**
PRA e 05 50 34.0
PRA e 05 51 41.2
PRA e 05 57 15.9
PRA eS **ScS** **05 58 10.5 -0.2**
PRA e 06 00 44.5
BRG Berggiesshubel 97.41 323 i PDIF Pdif 05 47 35.2 -0.1
comp=Z,134nm,1.1s
BRG i 05 47 38.6
comp=Z,90nm,0.9s
BRG pP pP 05 49 39.5 +0.1
comp=Z,17nm,1.4s
BRG i PP **PP** **05 51 43.7 +2.2**
comp=Z,42nm,1.2s
BRG SDIFF **S** **05 58 14.0 +3.0**
BRG Berggiesshubel 97.41 323 ePdiff **P** **05 47 36.3 +1.0**
BRG ePP **PP** **05 51 43.3 +1.8**
BRG epPP 05 53 29.5
BRG Berggiesshubel 97.41 323 i P Pdif 05 47 35.2 -0.1
BRG *PP pP 05 49 39.5 +0.1
BRG i 05 51 43.7
BRG S **S** **05 58 14.0 +3.0**
BRG pmax pmax
comp=Z,134nm,1.1s
BRG pmax pmax
comp=Z,17nm,1.5s
BRG pmax pmax
comp=Z,42nm,1.2s
ARSA Arzberg 97.56 319 ||i/Pdiff Pdif 05 47 34.0 -2.1
comp=Z,47nm,1.3s,SNR=19
HOMB Homborsund 97.58 331 eP Pdif 05 47 35.8 -0.1
FOO Floro 97.65 335 eP Pdif 05 47 35.9 -0.2
FOO IAmb IAmb 05 47 37.6
comp=Z,120nm,1.6s
FBE Freiberg 97.74 323 ePdiff **P** **05 47 38.0 +1.2**
CLL Collm 97.82 324 ePdiff **P** **05 47 37.8 +0.7**
CLL ePP **PP** **05 51 45.7 +1.1**
CLL epPP 05 53 32.7
CLL Collm 97.82 324 i P Pdif 05 47 36.5 -0.6
CLL e*PP pP 05 49 46.0 +4.7
CLL i 05 57 17.8
CLL eS **ScS** **05 58 12.0 -2.4**
CLL pmax pmax
comp=Z,144nm,1.6s
CLL Collm 97.82 324 i Pdif Pdif 05 47 36.5 -0.6
comp=Z,144nm,1.6s
CLL epP pP 05 49 41.0 -0.3
CLL epPmax 05 49 46.0
CLL esP sP 05 50 43.0 +5.3
CLL e 05 51 06.0
CLL ePP **PP** **05 51 41.0 -3.6**
CLL i PPmax 05 51 48.7
comp=Z,97nm,1.5s
CLL epPPmax 05 53 37.0
CLL esPP 05 54 28.0
CLL i SKSac **SKSac** **05 57 17.8 -2.6**
CLL eSdif **ScS** **05 58 12.0 -2.4**
CLL ePS **PS** **06 00 52.0 -4.7**
CLL esS sS 06 01 52.0 -6.3
CLL eSS **SS** **06 05 12.0 +0.2**
CLL esSS 06 09 18.0
CLL esSSS SSS 06 09 18.0
CLL esSSS 06 12 00.0
CLL eSSSS 06 12 36.0
CLL e 06 13 54.0
MUD Monsted U'grnd 98.00 329 i P **P** **05 47 37.9 +0.1**
comp=Z,99nm,1.1s
MUD Monsted U'grnd 98.00 329 eP **P** **05 47 37.9 +0.1**
MUD pmax pmax
comp=Z,99nm,1.1s
PERS Pernice 98.01 319 i Pdiff Pdif 05 47 37.9 -0.3
PERS eSKSac **SKSac** **05 57 17.0 -4.8**
SUE Sulen 98.03 335 eP **P** **05 47 38.3 +0.4**
BLS5 Blasjo 98.04 333 eP Pdif 05 47 37.2 -0.8
SOKA Soboth 98.06 319 ||i/Pdiff Pdif 05 47 36.6 -1.8
comp=Z,32nm,0.9s,SNR=18
RUND Rundenannen 98.07 334 eP Pdif 05 47 37.1 -1.0
BER Bergen 98.10 334 eP Pdif 05 47 35.1 -3.1
BER IAmb IAmb 05 47 39.4
comp=Z,71nm,1.3s
MOA Molln 98.19 320 i Pdiff Pdif 05 47 38.7 -0.2
comp=Z,82nm,1.1s,SNR=32
KHC Kasperske Hory 98.20 321 eP Pdif 05 47 38.0 -1.0
KHC ex x 05 47 41.5
KHC ex x 05 49 49.0
KHC ePP **PP** **05 51 51.0 +3.4**
KHC Kasperske Hory 98.20 321 eP Pdif 05 47 38.0 -1.0
KHC e 05 51 51.0
GEC2 GERESS Array S 98.22 321 ePdiff **P** **05 47 39.9 +0.7**
GEC2 ePP **PP** **05 51 48.8 +1.0**
GEC2 epPP 05 53 37.0
GERES GERESS Array B 98.22 321 P Pdif 05 47 38.2 -0.9
comp=Z,22nm,0.9s,baz=56,slow=3.4,SNR=67
GERES PP **PP** **05 51 45.0 -2.8**
comp=Z,18nm,0.9s,baz=69,slow=8.7,SNR=4.0
GERES PKKP **PKKPbc** **06 04 06.5 -3.7**
comp=Z,2.1nm,0.7s,baz=197,slow=1.4,SNR=7.4
GERES SKKPbc SKKPbc 06 06 51.8 -4.4
comp=Z,1.5nm,0.8s,baz=205,slow=4.3,SNR=3.2
BOJS Bojanci 98.27 318 i Pdiff **P** **05 47 39.6 +0.3**
BOJS i pP pP 05 49 49.3 +5.9
BOJS ePP **PP** **05 51 51.4 +3.3**
BOJS e 05 54 35.7
BOJS eSKSac **SKSac** **05 57 20.3 -2.6**
BOJS eSdiff **ScS** **05 58 15.2 -3.2**
BOJS ePS **PS** **06 00 59.3 -2.1**
BOJS esS **sS** **06 01 59.0 -3.4**
BSEG Bad Segeberg 98.39 327 ePdiff **P** **05 47 40.8 +1.2**
BSEG ePP **PP** **05 51 50.2 +1.5**
BSEG epPP 05 53 37.1
OBKA Obir 98.42 319 ||i/Pdiff Pdif 05 47 38.8 -1.3
comp=Z,41nm,0.9s,SNR=11
TANN Tannenbergstha 98.45 323 ePdiff **P** **05 47 40.9 +0.8**
TANN ePP **PP** **05 51 51.1 +1.7**
TANN epPP 05 53 37.5
VISS Visnje 98.45 318 i Pdiff **P** **05 47 40.3 +0.2**
VISS eSKSac **SKSac** **05 57 21.1 -2.7**
NKC Novy Kostel 98.52 323 eP Pdif 05 47 39.7 -0.6
NKC ex x 05 50 42.0
NKC ePP **PP** **05 51 48.1 -1.8**
NKC Novy Kostel 98.52 323 eP Pdif 05 47 39.7 -0.6
NKC e 05 50 42.0
NKC e 05 51 48.1
YKW3 Yellowknife Ar 98.52 23 ePdif **P** **05 47 40.4 +0.4**
comp=Z,3.0nm,2.0s
YKW3 epP **pP** **05 49 44.5 +0.2**
WERD Werda 98.53 323 ePdiff **P** **05 47 41.3 +0.9**
GUNZ Gunzen 98.55 323 ePdiff **P** **05 47 41.5 +1.0**
WERN Wernitzgruen 98.55 323 ePdiff **P** **05 47 41.5 +1.0**
YKA Yellowknife Ar 98.56 24 P Pdif 05 47 39.6 -0.6
comp=Z,6.4nm,0.7s,baz=300,slow=4.6,SNR=18
YKA pP pP 05 49 44.8 +0.4
comp=Z,29nm,1.1s,baz=299,slow=4.7,SNR=18
YKA PKiKP **PKiKP** **05 52 08.4 +0.3**
comp=Z,2.4nm,0.5s,baz=309,slow=1.6,SNR=14
YKA SKP 05 54 49.4
comp=Z,1.7nm,0.6s,baz=300,slow=1.9,SNR=5.5
YKA PKKP PKKPbc 06 04 02.7 -6.9
comp=Z,1.3nm,0.4s,baz=115,slow=3.0,SNR=13
YKA SKKPbc SKKPbc 06 06 51.7 -3.9
comp=Z,4.1nm,0.8s,baz=120,slow=2.3,SNR=7.1
NEUB Neuenburg 98.58 324 ePdiff **P** **05 47 41.5 +1.0**
NEUB ePP **PP** **05 51 51.4 +1.1**
NEUB epPP 05 53 38.4
PLN Plauen 98.61 323 ePdiff **P** **05 47 41.7 +1.0**
WET Wettzell 98.63 322 ePdiff **P** **05 47 41.9 +1.0**
WET ePP **PP** **05 51 52.5 +1.7**
WET epPP 05 53 40.1
KMY Karmoy 98.69 333 eP **P** **05 47 41.8 +1.0**
MANZ Manzenberg 98.81 323 ePdiff **P** **05 47 42.9 +1.2**
MANZ ePP **PP** **05 51 53.6 +1.5**
MANZ epPP 05 53 40.8
ROTZ Rotzenmuhle 98.83 322 ePdiff **P** **05 47 43.1 +1.3**
ROTZ ePP **PP** **05 51 54.2 +2.0**
ROTZ epPP 05 53 42.0
GORS Gorjuse 98.85 319 i Pdiff Pdif 05 47 42.0 0.0
GORS eSKSac **SKSac** **05 57 21.2 -4.8**
MOX Moxa 98.87 323 ePdiff **P** **05 47 42.8 +0.9**
MOX ePP **PP** **05 51 54.1 +1.6**
MOX epPP 05 53 41.3

MYKA Terra Mystica 98.98 319 ⇓ i Pdiff Pdiff 05 47 40.0 -2.5
comp=Z,16nm,1.1s,SNR=6.2
TIP Timpagrande 98.99 311 ePdif Pdif 05 47 42.4 -0.4
comp=Z,45nm,1.5s
TIP Timpagrande 98.99 311 P Pdif 05 47 39.4 -3.3
CLZ Clausthal 99.16 325 ePdiff Pdif 05 47 44.5 +1.4
CLZ ePP PP 05 51 56.6 +1.9
CLZ epPP 05 53 43.5
GRF Grafenberg Arr 99.45 322 ePdiff Pdif 05 47 45.7 +1.2
GRF ePP PP 05 51 58.5 +1.6
GRF epPP 05 53 46.4
GRFO Grafenberg 99.45 322 eP Pdif 05 47 45.4 +0.9
GRFO e 05 52 01.3
GRFO pmax pmax
comp=Z,106nm,1.6s
GRFO Grafenberg 99.45 322 ePdif Pdif 05 47 45.4 +0.9
comp=Z,106nm,1.6s
GRFO e 05 52 01.3
CUC Castrocucco 99.47 312 ePdif Pdif 05 47 43.6 -1.2
comp=Z,11nm,1.0s
CUC ePP PP 05 51 59.3 +1.9
ABTA Abfaltersbach 99.67 319 ⇑ i Pdiff Pdif 05 47 39.8 -5.8
comp=Z,43nm,1.2s,SNR=10
UBBA Unterbreizbach 99.76 324 ePdiff Pdif 05 47 46.8 +1.1
UBBA ePP PP 05 52 00.1 +1.1
UBBA epPP 05 53 48.1
LBTB Lobatse 99.78 246 eP Pdif 05 47 45.9 -0.7
LBTB e*PP pP 05 49 55.4 +4.5
LBTB e 05 51 57.3
LBTB pmax pmax
comp=Z,40nm,1.1s
LBTB Lobatse 99.78 246 ePdif Pdif 05 47 45.9 -0.7
comp=Z,40nm,1.1s
LBTB epP pP 05 49 55.4 +4.5
LBTB ePP PP 05 51 57.3 -3.3
FUR Furstenfeldbru 99.97 321 ePdiff Pdif 05 47 47.7 +0.9
FUR ePP PP 05 52 02.2 +1.4
WTTA Wattenberg 100.06 320 ⇓ i Pdiff Pdif 05 47 45.5 -1.9
comp=Z,84nm,1.1s,SNR=28
WATA Walderalm 100.07 320 ⇓ i Pdiff Pdif 05 47 46.3 -1.2
comp=Z,40nm,1.0s,SNR=8.8
BOSA Boshof 100.20 242 P Pdif 05 47 48.5 +0.1
comp=Z,11nm,1.1s,baz=66,slow=5.0,SNR=8.5
BOSA PP PP 05 51 49.6 -14
comp=Z,26nm,1.2s,baz=114,slow=8.2,SNR=4.2
BOSA PKKPbc PKKPbc 06 04 03.2 -0.7
comp=Z,3.5nm,0.6s,baz=278,slow=3.5,SNR=8.4
BOSA SKKPbc SKKPbc 06 06 49.8 -1.5
comp=Z,5.0nm,1.0s,baz=212,slow=6.8,SNR=3.9
MOTA Moosalm 100.37 320 ⇓ i Pdiff Pdif 05 47 48.3 -0.5
comp=Z,62nm,0.8s,SNR=30
NLWA Neilton Lookou 100.42 40 ePdif Pdif 05 47 49.6 +0.8
comp=Z,15nm,1.0s
IBBN Ibbenburen 100.46 326 ePdiff Pdif 05 47 50.2 +1.4
IBBN ePP PP 05 52 05.0 +0.8
IBBN epPP 05 53 52.2
AQU L'Aquila 100.51 315 eP Pdif 05 47 49.5 +0.1
AQU pmax pmax
comp=Z,34nm,1.0s
AQU L'Aquila 100.51 315 ePdif Pdif 05 47 49.5 +0.1
comp=Z,34nm,1.0s
SUMG Summit 100.55 355 ⇓ i P Pdif 05 47 49.6 +0.3
comp=Z,13nm,0.7s
SUMG i 05 48 58.6
SUMG Summit 100.55 355 ⇓ i P Pdif 05 47 49.6 +0.3
SUMG pmax pmax
comp=Z,13nm,0.7s
SUMG Summit 100.55 355 ePdif Pdif 05 47 49.9 +0.5
comp=Z,46nm,1.1s
SUMG epP pP 05 50 00.6 +6.9
FETA Feichten 100.72 320 ⇑ i Pdiff Pdif 05 47 49.2 -1.1
comp=Z,52nm,1.1s,SNR=20
TNS Taunus Mts 100.91 324 ePdiff Pdif 05 47 52.1 +1.1
TNS ePP PP 05 52 09.0 +1.3
STU Stuttgart 101.03 322 ePdiff Pdif 05 47 52.4 +0.9
STU ePP PP 05 52 10.1 +1.5
STU epPP 05 53 58.6
STU Stuttgart 101.03 322 eP Pdif 05 47 52.1 +0.6
STU Stuttgart 101.03 322 ePdif Pdif 05 47 52.1 +0.6
BUG Bochum--Univer 101.09 325 ePdiff Pdif 05 47 52.8 +1.1
BUG ePP PP 05 52 09.7 +0.8
BUG epPP 05 53 58.4
WTSB Winterswijk 101.14 326 eP Pdif 05 47 51.9 +0.1
comp=Z,132nm,1.2s
WTSB epP pP 05 50 00.8 +4.6
DAVA Damuels 101.17 321 ⇑ i Pdiff Pdif 05 47 51.7 -0.7
comp=Z,28nm,1.1s,SNR=7.3
DAVOX Davos/Dischmat 101.36 320 S SKSac 05 57 37.0 -1.3
comp=Z,14nm,1.0s,baz=19,slow=11,SNR=5.5
DAVOX PKKPbc PKKPbc 06 04 00.8 -0.7
comp=Z,2.0nm,0.7s,baz=273,slow=8.6,SNR=4.5
BFO Black Forest 101.73 322 ePdiff Pdif 05 47 55.1 +0.4
BFO ePP PKiKP 05 52 14.7 +0.3
BFO epPP 05 54 02.6
BFO Black Forest 101.73 322 eP Pdif 05 47 54.1 -0.6
BFO e 05 52 10.7
BFO pmax pmax
comp=Z,37nm,1.5s
BFO Black Forest 101.73 322 ePdif Pdif 05 47 54.1 -0.6
comp=Z,37nm,1.5s
BFO epP pP 05 49 58.9 -0.2
BFO ePP PP 05 52 10.7 -3.2
HGN Heimansgroeve 102.14 325 eP Pdif 05 47 56.8 +0.5
comp=Z,128nm,1.9s
HGN epP 05 50 04.9
WLF Walferdange 102.49 324 ePdiff Pdif 05 47 59.6 +1.7
WLF ePP PP 05 52 20.9 +1.6
WLF epPP 05 54 10.1
WLF Walferdange 102.49 324 eP Pdif 05 47 59.4 +1.4
WLF e 05 52 17.8
WLF pmax pmax
comp=Z,21nm,0.8s
WLF Walferdange 102.49 324 ePdif Pdif 05 47 59.4 +1.4
comp=Z,21nm,0.8s
WLF ePP PP 05 52 17.8 -1.5
ECH Echery 102.49 322 eP Pdif 05 47 57.9 -0.2
ECH pmax pmax
comp=Z,11nm,1.0s
ECH Echery 102.49 322 ePdif Pdif 05 47 57.9 -0.2
comp=Z,11nm,1.0s
RKT Rikitea 102.92 112 ePP PP 05 52 20.6 -3.1
comp=Z,1μm,34.2s
RKT eSKSac SKSac 05 57 47.5 +1.5
comp=Z,7μm,26.2s
RKT eSP SP 06 00 28.0 -10
comp=Z,4μm,32.0s
SNF Seneffe 103.20 325 P Pdif 05 48 01.8 +0.8
DOU Dourbes 103.20 325 P Pdif 05 48 01.8 +0.7
comp=Z,23nm,2.1s
EDM Edmonton 103.95 31 eP Pdif 05 48 06.4 +2.0
EDM pmax pmax
comp=Z,6.0nm,0.8s
EDM Edmonton 103.95 31 ePdif Pdif 05 48 06.4 +2.0
comp=Z,5.7nm,0.8s
EDM e 05 50 09.8
EDM ePKPdf PKiKP 05 52 19.2 +0.9
NEW Newport 104.23 37 eP Pdif 05 48 06.2 +0.4
NEW e 05 52 30.7
NEW pmax pmax
comp=Z,45nm,2.1s
NEW Newport 104.23 37 ePdif Pdif 05 48 06.2 +0.4
comp=Z,45nm,2.1s
NEW ePP PP 05 52 30.7 -1.5
EKA Eskdalemuir Ar 104.60 332 PKKPbc PKKPbc 06 03 50.7 -1.5
comp=Z,1.6nm,0.4s,baz=245,slow=3.0,SNR=18
EKA SKKPbc SKKPbc 06 06 36.3 -3.4
comp=Z,0.4nm,0.3s,baz=242,slow=2.9,SNR=4.9
ESK Eskdalemuir 104.63 332 eP Pdif 05 48 07.5 +0.2
ESK pmax pmax
comp=Z,45nm,1.5s
ESK Eskdalemuir 104.63 332 ePdif Pdif 05 48 07.5 +0.2
comp=Z,45nm,1.5s
KEST Kesra 105.65 310 PKiKP PKiKP 05 52 22.9 +0.8
comp=Z,5.7nm,1.0s,baz=24,slow=3.4,SNR=4.3
KEST PP PP 05 52 38.8 -4.2
comp=Z,14nm,0.9s,baz=305,slow=6.7,SNR=7.9
KEST Kesra 105.65 310 ePKPdf PP PiKP 05 52 20.9 -1.2
KEST PP PP 05 52 38.8 -4.2
WALA Waterton Lakes 105.74 35 ePdif Pdif 05 48 14.1 +1.5
WVOR Wild Horse Val 105.75 43 eP Pdif 05 48 14.7 +1.9
WVOR pmax pmax
comp=Z,2.0nm,1.0s
WVOR Wild Horse Val 105.75 43 ePdif Pdif 05 48 14.7 +1.9
comp=Z,2.2nm,1.0s
BSMT Bassoo Peak 105.81 37 ePdif Pdif 05 48 14.4 +1.4
comp=Z,27nm,1.9s
BSMT e 05 50 18.1
SNAA Sanae 106.74 195 Sdiff SKSac 05 58 00.3 -0.8
comp=Z,2.6nm,1.1s,baz=230,slow=19,SNR=7.6
SNAA PKKPbc PKKPbc 06 03 43.3 -2.8
comp=Z,2.6nm,0.6s,baz=261,slow=3.5,SNR=33
SNAA PKKPab PKKPab 06 03 59.6 -2.2
comp=Z,3.1nm,0.8s,baz=340,slow=4.4,SNR=7.6
CMAH Djebel Manchou 106.80 311 P PKiKP 05 52 16.9 -7.2
MSO Missoula 106.81 37 P PKiKP 05 52 25.1 +1.2
baz=107
SLMT Seeley Lake 106.87 37 ePdif Pdif 05 48 18.0 +0.3
SLMT e 05 50 21.7
SLMT ePKPdf PKiKP 05 52 24.9 +0.8
ABSA Djebel Ababsia 106.88 311 P PKiKP 05 52 16.9 -7.4
TSUM Tsumeb 107.07 252 PKKPab PKKPab 06 03 59.8 -0.8
comp=Z,1.5nm,0.3s,baz=246,slow=5.3,SNR=4.3
CHMT Chamberlain Mo 107.18 37 ePKPdf PKiKP 05 52 24.8 +0.1
MFID Camas Ranch 107.20 41 ePdif Pdif 05 48 20.6 +1.4
comp=Z,9.0nm,1.4s
MFID e 05 50 24.1
MFID ePKPdf PKiKP 05 52 23.7 -1.0
CKFL Kef-Lekhel 107.41 311 P PKiKP 05 52 17.1 -8.2
NVAR Mina Array Bea 107.58 47 Pdiff Pdif 05 48 21.7 +0.5
comp=Z,1.3nm,0.6s,baz=292,slow=5.1,SNR=7.0
NVAR PKiKP PKiKP 05 52 27.1 +1.4
comp=Z,2.4nm,0.7s,baz=267,slow=2.0,SNR=6.9
NVAR SKP 05 55 07.5
comp=Z,3.2nm,0.7s,baz=262,slow=3.9,SNR=4.9
NVAR Sdiff 05 58 08.6
comp=Z,0.2nm,0.2s,baz=298,slow=18,SNR=8.6
NVAR PKKPbc PKKPbc 06 03 41.0 -1.8
comp=Z,9.6nm,0.7s,baz=135,slow=4.1,SNR=20
NVAR PKKPab PKKPab 06 03 57.5 -1.9
comp=Z,22nm,1.0s,baz=134,slow=5.3,SNR=18
CASM Ain Smara 107.63 311 P PKiKP 05 52 17.1 -8.5
DFRA Djebel Bou Aff 107.98 311 P PKiKP 05 52 18.0 -8.4
HLID Hailey 108.06 40 P PKiKP 05 52 28.7 +2.3
baz=108
HLID Hailey 108.06 40 ePdif Pdif 05 48 24.1 +1.0
comp=Z,24nm,2.1s
HLID ePKPdf PKiKP 05 52 27.8 +1.4
HLID e 05 55 09.5
HRY Holter Researc 108.12 37 ePdif Pdif 05 48 25.5 +2.2
comp=Z,1.9nm,0.8s
LRM Limekiln Ridge 108.20 38 ePdif Pdif 05 48 24.6 +0.8
comp=Z,15nm,1.0s
LRM e 05 50 29.1
LRM ePKPdf PKiKP 05 52 27.5 +0.8
LRM ePP PP 05 53 00.8 -0.4
VNA2 Neumayer--Watz 108.37 195 PKiKP PKiKP 05 52 25.8 -0.1
baz=69,slow=1.2
FFC Flin Flon 108.48 26 eP Pdif 05 48 26.7 +2.2
FFC Flin Flon 108.48 26 ePdif Pdif 05 48 26.7 +2.2
FFC ePKPdf PKiKP 05 52 27.1 +0.5
FFC ePKKPbc PKKPbc 06 03 37.2 -3.2
FCC Fort Churchill 108.61 20 ePKPdf PKiKP 05 52 27.7 +1.0
EGMT Eagleton 108.64 35 P PKiKP 05 52 29.0 +1.8
baz=108,SNR=13
EGMT Eagleton 108.64 35 ePKPdf PKiKP 05 52 28.2 +1.0
EGMT ePP PP 05 53 01.4 -2.6
VNA1 Neumayer--Stat 108.77 195 PKiKP PKiKP 05 52 25.0 -1.6
BOZ Bozeman (W) 108.78 37 P PKiKP 05 52 30.3 +2.7
baz=109
BOZ Bozeman (W) 108.78 37 ePKPdf PKiKP 05 52 29.1 +1.4
BOZ ePP PP 05 53 03.4 -1.8
GRAC Grapevine Rang 108.83 48 P PKiKP 05 52 30.4 +2.5
baz=109
DAC Darwin (Calif) 108.95 48 ePKPdf PKiKP 05 52 29.9 +1.6
DAC ePP PP 05 53 07.2 +0.4
MPMC Manual Prospec 109.11 49 P PKiKP 05 52 31.2 +2.5
baz=109
EDW2 Edwards Air Fo 109.18 50 P PKiKP 05 52 30.2 +1.6
baz=109
R11A Troy Canyon, C 109.57 46 P PKiKP 05 52 31.6 +2.2
baz=110
R11A Troy Canyon, C 109.57 46 ePKPdf PKiKP 05 52 30.4 +1.0
R11A e 05 55 11.1
TPNV Topopah Spring 109.67 47 P PKiKP 05 52 32.1 +2.5
baz=110
YFT Old Faithful 109.88 38 ePKPdf PKiKP 05 52 32.4 +2.5
GCMT Greycliff 109.89 37 ePKPdf PKiKP 05 52 31.7 +2.0
GCMT ePP PP 05 53 11.6 -1.4
GCMT eSKPdf SKiKP 05 55 14.3 +2.3
GSC Goldstone 109.92 49 P PKiKP 05 52 32.7 +2.7
baz=110
GSC Goldstone 109.92 49 ePKPdf PKiKP 05 52 31.0 +0.9
GSC ePP PP 05 53 12.1 -1.6
GSC eSKPdf SKiKP 05 55 12.1 -0.2
HVU Hansel Valley 109.96 41 ePKPdf PKiKP 05 52 32.4 +2.3
HVU eSKPdf SKiKP 05 55 11.5 -0.8
SHOC Shoshone 110.07 48 P PKiKP 05 52 32.9 +2.6
baz=110
BGU Big Grassy Mou 110.19 42 ePKPdf PKiKP 05 52 33.0 +2.6
BGU eSKPdf SKiKP 05 55 13.1 +0.3
MOOW Moose Ponds 110.29 39 ePKPdf PKiKP 05 52 31.6 +0.9
TPAW Teton Pass 110.29 39 ePKPdf PKiKP 05 52 32.1 +1.4
TPAW eSKPdf SKiKP 05 55 14.3 +1.2
REDW Red Top Meadow 110.42 39 ePKPdf PKiKP 05 52 32.0 +1.1
REDW eSKPdf SKiKP 05 55 13.6 +0.3
SNOW Snow King Moun 110.43 39 ePKPdf PKiKP 05 52 32.4 +1.4
SNOW ePP PP 05 53 17.7 +0.5
SNOW eSKPdf SKiKP 05 55 14.9 +1.6
LOHW Long Hollow 110.45 39 ePKPdf PKiKP 05 52 32.1 +1.1
LOHW eSKPdf SKiKP 05 55 13.6 +0.3
RLMT Red Lodge 110.48 37 P PKiKP 05 52 32.3 +1.3
baz=110
TUQ Turquoise Moun 110.53 49 P PKiKP 05 52 33.3 +2.1
baz=110
AHID Auburn Hatcher 110.56 40 ePKPdf PKiKP 05 52 32.1 +0.9
AHID ePP PP 05 53 16.8 -1.2
AHID eSKPdf SKiKP 05 55 13.7 +0.2
SHPR Sheep Range 110.65 47 ePKPdf PKiKP 05 52 34.0 +2.5
SHPR ePP PP 05 53 16.6 -2.2
SHPR eSKPdf SKiKP 05 55 14.3 +0.5
DUG Dugway 110.68 43 eP Pdif 05 48 35.7 +0.9
DUG Dugway 110.68 43 P PKiKP 05 52 33.8 +2.4
baz=111
DUG Dugway 110.68 43 ePdif Pdif 05 48 35.7 +0.9
DUG ePKPdf PKiKP 05 52 33.8 +2.4
HWUT Hardware Ranch 110.83 41 ePKPdf PKiKP 05 52 32.9 +1.2
HWUT ePP PP 05 53 19.8 -0.1
HWUT eSKPdf SKiKP 05 55 14.9 +0.8
PFO Pinyon Flat Ob 110.84 51 ePKIKP PKiKP 05 52 33.4 +1.5
PFO Pinyon Flat Ob 110.84 51 P PKiKP 05 52 33.6 +1.7
baz=111
PFO Pinyon Flat Ob 110.84 51 ePKPdf PKiKP 05 52 33.4 +1.5
PFO eSKPdf SKiKP 05 55 14.9 +0.7
H19A Powell 110.89 37 P PKiKP 05 52 34.0 +2.4
baz=111
GMRC Granite Mounta 110.99 49 P PKiKP 05 52 34.7 +2.6
baz=111
BELC Belle Mtn. Jos 111.04 50 P PKiKP 05 52 34.3 +2.1
baz=111
G20A Bridger 111.05 37 P PKiKP 05 52 33.8 +1.9
baz=111,SNR=8.3
MONP Monument Peak 111.15 51 P PKiKP 05 52 34.5 +1.9
baz=111
TCUT Toone Canyon 111.18 42 ePKPdf PKiKP 05 52 33.7 +1.3
TCUT ePP PP 05 53 22.5 +0.1
TCUT eSKPdf SKPdf 05 55 14.8 0.0
I19A Meeteetse 111.22 38 P PKiKP 05 52 32.9 +0.5
baz=111
NLU North Lily Min 111.29 43 ePKPdf PKiKP 05 52 34.7 +2.0
NLU ePP PP 05 53 24.1 +0.8
NLU eSKPdf SKiKP 05 55 16.2 +1.2
LAO LASA Array 111.38 34 P PKiKP 05 52 33.8 +1.4
baz=111,SNR=18
LAO LASA Array 111.38 34 ePKPdf PKiKP 05 52 34.2 +1.8
LAO eSKPdf SKPdf 05 55 14.3 -0.5
BW06 Boulder Array 111.54 39 ePKPdf PKiKP 05 52 33.7 +0.6
BW06 eSKPdf SKPdf 05 55 14.9 -0.5
PDAR Pinedale Array 111.54 39 PKiKP PKiKP 05 52 34.1 +1.0
comp=Z,3.1nm,0.6s,baz=42,slow=1.8,SNR=19
PDAR PP PP 05 53 19.7 -5.2
comp=Z,4.4nm,1.1s,baz=348,slow=6.4,SNR=4.3
PDAR SKP 05 55 15.1
comp=Z,1.7nm,0.5s,baz=51,slow=2.3,SNR=6.8
PDAR Sdiff 05 58 22.8
comp=Z,0.9nm,0.7s,baz=12,slow=4.7,SNR=2.5
PDAR PKKPbc PKKPbc 06 03 28.1 -2.4
comp=Z,5.1nm,0.7s,baz=113,slow=4.5,SNR=17
PDAR PKKPab PKKPab 06 03 39.2 -2.6
comp=Z,34nm,0.9s,baz=105,slow=4.4,SNR=44
MPU Maple Canyon 111.56 43 ePKPdf PKiKP 05 52 35.0 +1.8
MPU eSKPdf SKPdf 05 55 14.5 -1.0
H20A Greybull 111.58 37 P PKiKP 05 52 34.6 +1.7
baz=111,SNR=12
BC3 Big Chuckawall 111.59 50 P PKiKP 05 52 35.0 +1.7
baz=112
J19A Crowheart 111.60 39 P PKiKP 05 52 34.8 +1.7
baz=112
SWSC Sam W. Stewart 111.61 51 P PKiKP 05 52 35.8 +2.6
baz=112
IRM Iron Mountain 111.62 50 P PKiKP 05 52 36.5 +3.2
baz=112
G21A Lodge Grass 111.64 36 P PKiKP 05 52 34.6 +1.5
baz=112
E22A Miles City 111.67 34 P PKiKP 05 52 34.9 +1.9
baz=112,SNR=18
A25A Svangstu Ranch 111.69 31 P PKiKP 05 52 35.1 +2.2
baz=112
I20A Worland 111.80 38 P PKiKP 05 52 34.9 +1.5
baz=112,SNR=13
C24A Savage 111.87 33 P PKiKP 05 52 35.1 +1.8
baz=112,SNR=9.8
MVU Marysvale 111.87 44 ePKPdf PKiKP 05 52 36.1 +2.2
MVU ePP PP 05 53 30.9 +3.5
MVU eSKPdf SKiKP 05 55 16.2 0.0
F22A Rosebud 111.88 35 P PKiKP 05 52 34.5 +1.0
baz=112
MSU Marysvale 111.89 44 ePKIKP PKiKP 05 52 35.7 +1.8
MSU Marysvale 111.89 44 ePKPdf PKiKP 05 52 35.7 +1.8
MSU eSKPdf SKiKP 05 55 17.5 +1.3
E23A Ismay 112.00 34 P PKiKP 05 52 35.1 +1.5
baz=112,SNR=19
H21A Big Horn, Sher 112.08 37 P PKiKP 05 52 35.4 +1.5
baz=112
J20A Shoshoni 112.15 38 P PKiKP 05 52 36.0 +1.9
baz=112,SNR=7.1
D24A Glendive 112.17 33 P PKiKP 05 52 35.8 +1.9
baz=112
G22A Birney 112.18 36 P PKiKP 05 52 35.9 +1.8
baz=112,SNR=5.2
TMUT Trail Mountain 112.19 43 ePKPdf PKiKP 05 52 35.9 +1.4
TMUT eSKPdf SKiKP 05 55 17.1 +0.2
A26A Wade Farm, Ken 112.26 31 P PKiKP 05 52 35.6 +1.6
baz=112,SNR=7.5
GLA Glamis 112.32 51 ePKIKP PKiKP 05 52 36.0 +1.4
GLA Glamis 112.32 51 P PKiKP 05 52 36.8 +2.2
baz=112
GLA Glamis 112.32 51 ePKPdf PKiKP 05 52 36.0 +1.4
GLA eSKPdf SKiKP 05 55 17.2 +0.2
I21A Big Trails, Te 112.38 37 P PKiKP 05 52 35.4 +0.9
baz=112,SNR=7.7
F23A Volborg 112.40 35 P PKiKP 05 52 35.8 +1.4
baz=112,SNR=12
B26A Jensen Ranch, 112.50 31 P PKiKP 05 52 35.9 +1.4
baz=112
E24A Baker 112.52 34 P PKiKP 05 52 35.7 +1.1
baz=112
J21A Lysite 112.54 38 P PKiKP 05 52 35.8 +0.9
baz=112
A27A Ledoux Ranch, 112.63 30 P PKiKP 05 52 36.3 +1.7
baz=112
D25A Fairfield 112.69 33 P PKiKP 05 52 37.1 +2.2
baz=112,SNR=5.7
G23A Biddle 112.71 35 P PKiKP 05 52 36.3 +1.3
baz=113,SNR=6.4
G23A P PKKPbc 06 03 24.2 -2.4
baz=113,SNR=7.6
SRU San Rafael 112.75 43 ePKIKP PKiKP 05 52 36.8 +1.3
SRU e 05 53 37.2
SRU San Rafael 112.75 43 ePKPdf PKiKP 05 52 36.8 +1.3
SRU ePP PP 05 53 37.2 +3.8
SRU eSKPdf SKPdf 05 55 16.8 -0.9
I22A 9 Mile Ranch, 112.82 37 P PKiKP 05 52 36.1 +0.7
baz=113
F24A Ekalaka 112.87 34 P PKiKP 05 52 36.6 +1.3
baz=113,SNR=13
F24A P PKKPbc 06 03 24.5 -1.6
baz=113,SNR=6.0
C26A Wahner Farm, P 112.92 32 P PKiKP 05 52 37.1 +1.8
baz=113,SNR=7.7
TAM Tamanrasset 112.97 298 ePKIKP PKiKP 05 52 37.8 +1.6
TAM e 05 53 32.0
TAM Tamanrasset 112.97 298 ePKPdf PKiKP 05 52 37.8 +1.6
TAM ePP PP 05 53 31.9 -3.7
B27A Peters Farms, 112.97 31 P PKiKP 05 52 37.2 +1.9
baz=113
E25A Miller Ranch, 113.05 33 P PKiKP 05 52 37.6 +1.9
baz=113,SNR=7.4
E25A P PKKPbc 06 03 24.4 -1.2
baz=113,SNR=5.9
J22A Midwest 113.09 37 P PKiKP 05 52 36.6 +0.7
baz=113,SNR=23
A28A Rude Farm, Bot 113.14 30 P PKiKP 05 52 37.1 +1.4
baz=113,SNR=9.7
A28A P PKKPbc 06 03 23.4 -1.9
baz=113,SNR=12
G24A Alzada 113.19 35 P PKiKP 05 52 37.0 +1.0
baz=113,SNR=6.2
D26A Manning 113.24 32 P PKiKP 05 52 37.6 +1.6
baz=113,SNR=5.3
C27A Sayler Ranch, 113.30 31 P PKiKP 05 52 37.9 +1.9
baz=113,SNR=6.4
C27A P PKKPbc 06 03 23.4 -1.3
baz=113,SNR=7.2
F25A Bowman 113.37 34 P PKiKP 05 52 38.1 +1.8
baz=113
B28A Dugan Ranch, T 113.40 30 P PKiKP 05 52 37.7 +1.6
baz=113,SNR=8.9
B28A P PKKPbc 06 03 22.3 -2.0
baz=113,SNR=5.8
H24A Dirks Ranch, A 113.46 35 P PKiKP 05 52 37.6 +1.1
baz=113,SNR=14
H24A P PKKPbc 06 03 21.6 -2.5
baz=113,SNR=6.0
K22A Casper 113.49 38 P PKiKP 05 52 37.7 +1.0
baz=113,SNR=8.1
K22A Casper 113.49 38 ePKPdf PKiKP 05 52 37.3 +0.6
K22A ePP PP 05 53 35.9 -2.6
K22A eSKPdf SKPdf 05 55 18.7 -0.4
ESDC Sonseca Array 113.55 318 Pdiff Pdif 05 48 47.5 +0.1
comp=Z,0.1nm,0.3s,baz=72,slow=4.8,SNR=4.5
ESDC PKiKP PKiKP 05 52 37.6 +0.9
comp=Z,0.8nm,0.4s,baz=34,slow=2.7,SNR=10
ESDC PP PP 05 53 33.0 -5.9
comp=Z,14nm,0.9s,baz=58,slow=7.0,SNR=7.1
ESDC PKKPbc PKKPbc 06 03 22.5 -1.1
comp=Z,0.4nm,0.3s,baz=268,slow=3.8,SNR=5.8
ESDC PKKPab PKKPab 06 03 32.1 -0.5
comp=Z,2.0nm,0.8s,baz=261,slow=3.7,SNR=6.1
ESDC SKKPbc SKKPbc 06 06 13.2 -0.7
comp=Z,8.6nm,1.1s,baz=263,slow=2.9,SNR=7.8
E26A Carlson Angus 113.58 33 P PKiKP 05 52 38.3 +1.6
baz=113,SNR=10.0
E26A P PKKPbc 06 03 22.4 -1.4
baz=113,SNR=12
A29A Manning Farm, 113.64 29 P PKiKP 05 52 38.0 +1.4
baz=114
A29A P PKKPbc 06 03 21.5 -2.1
baz=114,SNR=6.8
D27A Center 113.67 32 P PKiKP 05 52 38.9 +2.1
baz=114
O20A White River Ci 113.75 41 P PKiKP 05 52 39.2 +1.8
baz=114
O20A White River Ci 113.75 41 ePKPdf PKiKP 05 52 38.5 +1.2
O20A eSKPdf SKiKP 05 55 19.9 +0.2
G25A Newell 113.84 34 P PKiKP 05 52 38.2 +1.1
baz=114,SNR=8.4
WUAZ Wupatki 113.84 47 P PKiKP 05 52 38.6 +1.0
baz=114
WUAZ Wupatki 113.84 47 ePKPdf PKiKP 05 52 38.7 +1.0
WUAZ ePP PP 05 53 39.4 -1.9
WUAZ eSKPdf SKiKP 05 55 20.3 +0.3
F26A Lodgepole 113.85 33 P PKiKP 05 52 38.6 +1.4
baz=114,SNR=8.5
C28A Hausauer Farms 113.87 31 P PKiKP 05 52 38.8 +1.7
baz=114,SNR=6.5
C28A P PKKPbc 06 03 21.6 -1.2
baz=114,SNR=7.9
PAB San Pablo 113.87 318 ePKIKP PKiKP 05 52 37.4 -0.1
PAB San Pablo 113.87 318 ePKPdf PKiKP 05 52 37.4 -0.1
B29A Wagenman Farm, 113.89 30 P PKiKP 05 52 38.4 +1.3
baz=114,SNR=6.9
B29A P PKKPbc 06 03 21.1 -1.7
baz=114,SNR=5.1
I24A Kuemmerle Ranc 113.94 36 P PKiKP 05 52 38.3 +0.8
baz=114
K23A Bowen Ranch, D 113.98 38 P PKiKP 05 52 38.5 +0.8

baz=114
A30A Hoffart Farm, 114.08 29 P **PKiKP 05 52 38.4 +0.9**
baz=114
A30A P **PKKPbc 06 03 19.6 -2.6**
baz=114,SNR=7.7
H25A Fruitdale 114.08 35 P PKPdf 05 52 39.0 +1.3
baz=114,SNR=6.6
E27A Carson 114.08 32 P PKPdf 05 52 39.6 +2.0
baz=114
D28A Regan 114.12 31 P PKPdf 05 52 39.1 +1.5
baz=114
PV10 Paradox Valley 114.12 43 *e*PKPdf PKPdf 05 52 39.2 +1.0
PV10 *e*PP **PP 05 53 43.2 0.0**
PV10 *e*SKPdf **SKiKP 05 55 21.6 +1.0**
RSSD Black Hills 114.13 36 *e*PKIKP PKPdf 05 52 38.4 +0.4
RSSD *e* 06 03 28.2
RSSD Black Hills 114.13 36 *e*PKPdf PKPdf 05 52 38.4 +0.4
RSSD *e*SKPdf **SKPdf 05 55 19.5 -0.8**
RSSD *e*PKKPbc **PKKPbc 06 03 20.6 -1.4**
RSSD *e*PKKPab **PKKPab 06 03 28.2 -2.2**
F27A Lemmon 114.19 33 P PKPdf 05 52 39.5 +1.7
baz=114,SNR=7.2
PBRG Braganca 114.20 321 *e*PP PP 05 53 45.3 +2.0
PV04 Paradox Valley 114.20 43 *e*PKPdf PKPdf 05 52 39.9 +1.7
PV04 *e*PP **PP 05 53 40.2 -3.4**
PV04 *e*SKPdf **SKiKP 05 55 20.7 0.0**
J24A Dixon Ranch, L 114.23 37 P PKPdf 05 52 39.3 +1.2
baz=114
G26A Maurine 114.23 34 P PKPdf 05 52 39.1 +1.1
baz=114,SNR=6.7
ULM Lac du Bonnet 114.27 27 PKP PKPdf 05 52 36.4 -1.4
comp=Z,15nm,0.5s,baz=352,slow=0.5,SNR=22
ULM SKP 05 55 19.6
comp=Z,15nm,0.9s,baz=346,slow=1.9,SNR=7.7
ULM PKKPbc **PKKPbc 06 03 19.2 -2.3**
comp=Z,5.7nm,0.5s,baz=146,slow=4.2,SNR=7.3
ULM PKKPab **PKKPab 06 03 25.9 -3.6**
comp=Z,23nm,0.9s,baz=139,slow=3.2,SNR=13
ULM SKKPbc SKKPbc 06 06 08.6 -3.5
comp=Z,16nm,1.1s,baz=172,slow=2.6,SNR=5.5
ULM Lac du Bonnet 114.27 27 PKIKP PKPdf 05 52 36.4 -1.4
ULM 06 03 25.9
ULM pmax pmax
comp=Z,15nm,0.5s
ULM pmax pmax
comp=N,15nm,0.9s
ULM pmax pmax
comp=Z,6.0nm,0.5s
ULM pmax pmax
comp=Z,23nm,0.9s
ULM pmax pmax
comp=N,16nm,1.1s
ULM Lac du Bonnet 114.27 27 *e*PKPdf PKPdf 05 52 37.9 +0.1
ULM *e*SKPdf **SKPdf 05 55 19.0 -1.2**
ULM SKP 05 55 19.6
ULM PKKPbc **PKKPbc 06 03 19.2 -2.3**
ULM PKKPab **PKKPab 06 03 25.9 -3.6**
ULM SKKPbc **SKKPbc 06 06 08.6 -3.5**
214A Organ Pipe Nat 114.32 51 *e*PKPdf PKPdf 05 52 39.4 +1.0
214A *e*PP **PP 05 53 45.4 +0.9**
214A *e*SKPdf **SKPdf 05 55 20.8 0.0**
B30A Myrvik Farm, E 114.40 29 P PKPdf 05 52 39.1 +1.0
baz=114
B30A P **PKKPbc 06 03 18.6 -2.4**
baz=114,SNR=8.9
E28A Huff 114.45 32 P PKPdf 05 52 39.5 +1.2
baz=114,SNR=9.7
E28A P **PKKPbc 06 03 18.9 -1.9**
baz=114,SNR=9.4
K24A Anderson Ranch 114.49 37 P PKPdf 05 52 39.5 +0.9
baz=114
G27A Dupree 114.55 34 P PKPdf 05 52 39.7 +1.2
baz=114,SNR=42
H26A Fairpoint 114.55 35 P PKPdf 05 52 39.6 +1.0
baz=114,SNR=19
PV01 Paradox Valley 114.56 43 *e*PKPdf PKPdf 05 52 40.4 +1.4
PV01 *e*SKPdf **SKiKP 05 55 21.8 +0.3**
J25A Sunshine Ranch 114.70 36 P PKPdf 05 52 39.9 +1.0
baz=114
D29A Pettibone, Tap 114.70 31 P PKPdf 05 52 39.7 +1.0
baz=114
D29A P **PKKPbc 06 03 18.4 -1.6**
baz=114,SNR=8.9
MVO Moncorvo 114.73 321 *e*PKPdf PKPdf 05 52 39.6 +0.6
MVO Moncorvo 114.73 321 *e*PP PP 05 53 48.2 +1.2
N23A Red Feather La 114.82 39 P PKPdf 05 52 40.2 +0.8
baz=115
C30A Mose, Pekin 114.84 30 P PKPdf 05 52 40.1 +1.1
baz=115,SNR=13
C30A P **PKKPbc 06 03 17.8 -1.8**
baz=115,SNR=7.9
I26A New Underwood 114.86 35 P PKPdf 05 52 40.4 +1.2
baz=115
F28A McLaughlin 114.86 33 P PKPdf 05 52 40.3 +1.2
baz=115,SNR=11
F28A P **PKKPbc 06 03 18.8 -0.6**
baz=115,SNR=7.2
H27A Howes 114.93 34 P PKPdf 05 52 40.3 +1.1
baz=115,SNR=23
E29A Napoleon 115.01 31 P **PKPdf 05 52 40.0 +0.7**
baz=115
PGAV Gavieira, Arco 115.05 322 *e*PKPdf **PKPdf 05 52 40.3 +0.6**
PGAV Gavieira, Arco 115.05 322 *e*PP PP 05 53 40.8 -8.4
MVCO Mesa Verde 115.07 44 P **PKPdf 05 52 41.6 +1.5**
baz=115
MVCO Mesa Verde 115.07 44 *e*PKPdf **PKPdf 05 52 41.6 +1.5**
MVCO *e*PP **PP 05 53 54.7 +4.9**
MVCO *e*SKPdf **SKiKP 05 55 23.1 +0.6**
SMCO Snowmass 115.09 41 *e*PKPdf **PKPdf 05 52 42.0 +1.8**
SMCO *e*PP PP 05 53 43.1 -6.9
SMCO *e*SKPdf **SKiKP 05 55 23.6 +0.9**
POLO Lamas de Olo 115.09 321 *e*PKPdf **PKPdf 05 52 40.8 +1.0**
POLO Lamas de Olo 115.09 321 *e*PP PP 05 53 50.1 +0.6
D30A Buchanan 115.10 31 P **PKPdf 05 52 40.6 +1.1**
baz=115,SNR=17
D30A P **PKKPbc 06 03 16.5 -2.1**
baz=115,SNR=10
PVRL Vila Real 115.10 321 *e*PKPdf **PKPdf 05 52 41.1 +1.4**
K25A Mack Ranch, Ha 115.12 37 P **PKKPbc 06 03 17.2 -1.4**
baz=115,SNR=5.9
J26A Sides Ranch, S 115.17 36 P **PKPdf 05 52 40.6 +0.8**
baz=115,SNR=8.7
G28A Parade 115.30 33 P **PKPdf 05 52 41.3 +1.4**
baz=115,SNR=22
G28A P **PKKPbc 06 03 17.2 -0.7**
baz=115,SNR=6.8
I27A Quinn 115.30 35 P **PKPdf 05 52 41.2 +1.2**
baz=115,SNR=16
L25A Engebretsen Ra 115.33 37 P **PKPdf 05 52 41.6 +1.4**
baz=115
F29A Eureka 115.39 32 P **PKPdf 05 52 41.1 +1.0**
baz=115,SNR=7.9
E30A Jud 115.43 31 P **PKPdf 05 52 41.3 +1.2**
baz=115,SNR=12
E30A P **PKKPbc 06 03 16.6 -1.0**
baz=115,SNR=7.6
K26A Motz Farm, Whi 115.48 36 P **PKPdf 05 52 41.2 +0.8**
baz=115
MTE Manteigas 115.49 320 *e*PKPdf **PKPdf 05 52 41.0 +0.5**
MTE Manteigas 115.49 320 *e*PP PP 05 53 51.0 -1.2
MTE Manteigas 115.49 320 *e*PKPdf **PKPdf 05 52 41.4 +0.9**
MTE *e*PP **PP 05 53 51.5 -0.8**
H28A Mission Ridge 115.49 34 P **PKPdf 05 52 41.3 +1.0**
baz=115,SNR=15
H28A P **PKKPbc 06 03 15.8 -1.4**
baz=115,SNR=9.3
PVIS Viseu 115.53 321 *e*PKPdf **PKPdf 05 52 41.9 +1.3**
PVIS Viseu 115.53 321 *e*PP PP 05 53 54.0 +1.5
ISCO Idaho Springs 115.64 40 *e*PKIKP **PKPdf 05 52 42.2 +1.1**
ISCO Idaho Springs 115.64 40 P **PKPdf 05 52 42.6 +1.4**
baz=116,SNR=12
ISCO Idaho Springs 115.64 40 *e*PKPdf **PKPdf 05 52 42.2 +1.1**
ISCO *e*SKPdf **SKiKP 05 55 23.6 0.0**
ISCO *e*PKKPbc **PKKPbc 06 03 15.4 -1.5**
ISCO *e*PKKPab **PKKPab 06 03 22.4 -1.3**
AGMN Agassiz Nation 115.68 28 P **PKPdf 05 52 42.0 +1.5**
baz=116
AGMN P **PKKPbc 06 03 14.6 -2.1**
baz=116,SNR=5.0
AGMN Agassiz Nation 115.68 28 *e*PKPdf **PKPdf 05 52 40.0 -0.6**
AGMN *e*SKPdf **SKPdf 05 55 20.6 -2.3**
AGMN *e*PKKPbc **PKKPbc 06 03 14.6 -2.1**
M25A Palm-Egli Farm 115.69 38 P **PKPdf 05 52 42.6 +1.6**
baz=116
TUC Tucson 115.72 50 *e*PKIKP **PKPdf 05 52 42.2 +1.0**
TUC *e* 05 53 55.1
TUC Tucson 115.72 50 *e*PKPdf **PKPdf 05 52 42.2 +1.0**
TUC *e*PP **PP 05 53 55.1 +0.9**
TUC *e*SKPdf **SKiKP 05 55 25.5 +1.8**
TUC *e*PKKPbc **PKKPbc 06 03 15.6 -0.5**
TUC *e*PKKPab **PKKPab 06 03 21.5 -1.5**
PCBR Castelo Branco 115.75 320 *e*PKPdf **PKPdf 05 52 41.3 +0.4**
G29A Hoven 115.76 33 P **PKPdf 05 52 41.8 +1.0**
baz=116,SNR=6.0
F30A Leola 115.81 32 P **PKPdf 05 52 42.0 +1.1**
baz=116,SNR=6.8
F30A P **PKKPbc 06 03 14.7 -1.5**
baz=116,SNR=5.8
J27A Elkhorn Farm, 115.83 35 P **PKPdf 05 52 42.4 +1.3**
baz=116,SNR=15
I28A Midland 115.84 34 P **PKPdf 05 52 41.9 +0.9**
baz=116,SNR=21
I28A P **PKKPbc 06 03 14.9 -1.1**
baz=116,SNR=9.5
PMRV Marv??o 115.93 319 *e*PKPdf **PKPdf 05 52 42.5 +1.2**
PMRV Marv??o 115.93 319 *e*PP PP 05 53 52.9 -2.3
L26A Underwood Farm 115.93 37 P **PKPdf 05 52 41.8 +0.4**
baz=116
H29A Onida 115.97 33 P **PKPdf 05 52 42.1 +0.8**
baz=116,SNR=5.4
H29A P **PKKPbc 06 03 14.6 -1.0**
baz=116,SNR=5.5
K27A Flueckinger Fa 116.03 36 P **PKPdf 05 52 42.1 +0.6**
baz=116
J28A Allard Ranch, 116.16 35 P **PKPdf 05 52 42.6 +0.9**
baz=116,SNR=13
G30A Faulkton 116.22 32 P **PKPdf 05 52 42.3 +0.6**
baz=116,SNR=14
M26A McRoberts Ranc 116.23 38 P **PKPdf 05 52 42.8 +0.8**
baz=116
PCAS Casmilo, Conde 116.28 321 *e*PKPdf **PKPdf 05 52 43.1 +1.1**
PCAS Casmilo, Conde 116.28 321 *e*PP PP 05 53 57.9 +0.3
I29A Vivian Onida 116.31 34 P **PKPdf 05 52 42.6 +0.7**
baz=116,SNR=10
I29A P **PKKPbc 06 03 12.8 -1.6**
baz=116,SNR=8.1
L27A T5 Ranch, Ells 116.36 37 P **PKPdf 05 52 42.9 +0.7**
baz=116
PESTR Estremoz 116.36 319 *e*PKPdf **PKPdf 05 52 43.2 +1.0**
PESTR Estremoz 116.36 319 *e*PP PP 05 54 00.9 +2.6
PBAR Barrancos 116.38 318 *e*PKPdf **PKPdf 05 52 42.8 +0.6**
PBAR Barrancos 116.38 318 *e*PP PP 05 53 47.3 -11
Q24A Divide 116.40 41 P **PKPdf 05 52 43.0 +0.3**
baz=116
PTOM Tomar 116.47 320 *e*PKPdf **PKPdf 05 52 43.6 +1.3**
K28A Ten Mile Ranch 116.53 36 P **PKPdf 05 52 43.1 +0.6**
baz=116
PMTG Montargil 116.66 319 *e*PKPdf **PKPdf 05 52 43.6 +0.9**
PMTG Montargil 116.66 319 *e*PP PP 05 54 01.4 +1.1
J29A Okreek 116.69 34 P **PKPdf 05 52 43.5 +0.8**
baz=116,SNR=14
J29A P **PKKPbc 06 03 11.5 -1.6**
baz=116,SNR=5.9
EVO Evora 116.82 319 *e*PKPdf **PKPdf 05 52 43.7 +0.7**
EVO Evora 116.82 319 *e*PP PP 05 54 02.4 +1.0
SDCO Great Sand Dun 116.83 42 *e*PKPdf **PKPdf 05 52 44.6 +1.2**
SDCO *e*SKPdf **SKPdf 05 55 24.8 -1.0**
O26A Horse Wrangler 116.84 39 P **PKKPbc 06 03 11.4 -1.2**
baz=117,SNR=5.5
I30A Oacoma 116.86 34 P **PKPdf 05 52 44.0 +1.0**
baz=117,SNR=5.8
N27A Anderson Farm, 116.99 38 P **PKPdf 05 52 44.9 +1.4**
baz=117
N27A P **PKKPbc 06 03 11.2 -0.9**
baz=117,SNR=6.0
K29A Lazy Trails An 117.10 35 P **PKPdf 05 52 44.8 +1.2**
baz=117,SNR=5.9
J30A Dallas 117.21 34 P **PKPdf 05 52 44.5 +0.9**
baz=117,SNR=15
OGNE Ogallala 117.21 37 P **PKPdf 05 52 44.8 +1.0**
baz=117
P26A Davis Ranch, A 117.22 39 P **PKKPbc 06 03 07.5 -3.8**
baz=117,SNR=10
PVAQ Vaqueiros 117.24 318 *e*PKPdf **PKPdf 05 52 44.9 +1.0**
PVAQ Vaqueiros 117.24 318 *e*PP PP 05 54 02.0 -2.3
PCVE Castro Verde 117.33 318 *e*PKPdf **PKPdf 05 52 45.7 +1.7**
PCVE Castro Verde 117.33 318 *e*PP PP 05 54 02.8 -2.1
M28A Bar X Bar Ranc 117.34 37 P **PKPdf 05 52 44.9 +0.8**
baz=117
MESJ Messejana 117.34 318 *e*P **PKPdf 05 52 44.3 +0.3**
MESJ *e*PP **PP 05 54 05.2 +0.3**
MESJ AMS AMS 06 07 40.9
comp=Z,3μm,23.0s
MESJ Messejana 117.34 318 *e*PKPdf **PKPdf 05 52 44.4 +0.3**
MESJ Messejana 117.34 318 *e*PP PP 05 54 06.1 +1.2
MESJ Messejana 117.34 318 *e*PKIKP **PKPdf 05 52 44.3 +0.3**
MESJ *e* 05 54 05.2
MDT Midelt 117.38 312 PKKPbc PKKPbc 06 03 12.3 +1.9
comp=Z,6.0nm,1.0s,baz=203,slow=2.1,SNR=4.6
MDT SKKPbc SKKPbc 06 06 02.3 +0.1
comp=Z,7.3nm,1.1s,baz=210,slow=0.6,SNR=5.5
O27A Beeches Island 117.39 38 P **PKPdf 05 52 44.3 0.0**
baz=117
PNCL Nicolau / Gran 117.39 319 *e*PKPdf **PKPdf 05 52 44.3 +0.2**
PNCL Nicolau / Gran 117.39 319 *e*PP PP 05 54 07.1 +1.8
LAZ Ladron 117.43 46 *e*PKPdf **PKPdf 05 52 45.9 +1.3**
LAZ *e*PP **PP 05 54 05.7 -0.3**
LAZ *e*SKPdf **SKiKP 05 55 27.4 +0.2**
L29A Maesberg Ranch 117.45 36 P **PKPdf 05 52 45.3 +1.0**
baz=117
LIS Lisbon 117.46 320 *e*PP PP 05 54 06.6 +0.9
LIS AMS AMS 06 41 52.3
comp=E,2μm,32.5s
Q26A Hugo 117.47 40 P **PKPdf 05 52 45.5 +1.0**
baz=117,SNR=5.6
Q26A P **PKKPbc 06 03 08.7 -1.7**
baz=117,SNR=7.5
PBDV Barranco-do-Ve 117.47 318 *e*PKPdf **PKPdf 05 52 44.5 +0.1**
PBDV Barranco-do-Ve 117.47 318 *e*PP PP 05 54 06.7 +0.8
K30A Basset 117.56 35 P **PKPdf 05 52 45.8 +1.4**
baz=117,SNR=12
ANMO Albuquerque 117.64 45 *e*PKIKP **PKPdf 05 52 46.4 +1.4**
ANMO *e* 05 54 05.1
ANMO Albuquerque 117.64 45 *e*PKPdf **PKPdf 05 52 46.4 +1.4**
ANMO *e*PP **PP 05 54 05.1 -2.3**
ANMO *e* 05 55 00.3
ANMO *e*SKPdf **SKPdf 05 55 27.4 +0.1**
N28A Pribbeno Ranch 117.67 37 P **PKPdf 05 52 45.7 +1.0**
baz=118,SNR=6.6
P27A Ficken Ranch, 117.70 39 P **PKPdf 05 52 46.2 +1.3**
baz=118,SNR=13
PTEO Sao Teotonio 117.84 318 *e*PKPdf **PKPdf 05 52 46.5 +1.5**
121A Cookes Peak, D 117.87 48 P **PKPdf 05 52 47.6 +2.2**
baz=118
121A Cookes Peak, D 117.87 48 *e*PKPdf **PKPdf 05 52 47.0 +1.5**
121A *e*SKPdf **SKiKP 05 55 28.3 +0.3**
121A *e*PKKPab **PKKPab 06 03 12.5 -1.1**
R26A Arlington 117.87 41 P **PKPdf 05 52 46.8 +1.6**
baz=118,SNR=14
R26A P **PKKPbc 06 03 07.3 -1.7**
baz=118,SNR=10
T25A Trinidad 117.89 42 P **PKPdf 05 52 47.5 +2.0**
baz=118,SNR=15
T25A P **PKKPbc 06 03 06.8 -2.2**
baz=118,SNR=12
EYMN Ely 117.91 26 P **PKPdf 05 52 46.1 +1.3**
baz=118
EYMN Ely 117.91 26 *e*PKPdf **PKPdf 05 52 44.7 -0.1**
EYMN *e*SKPdf **SKPdf 05 55 25.6 -1.6**
MORF Marmelete 117.92 318 *e*P **PKPdf 05 52 45.1 -0.1**
MORF *e*PP **PP 05 54 09.5 +0.6**
MORF AMS AMS 06 39 52.3
comp=N,1μm,39.2s
MORF Marmelete 117.92 318 *e*PKPdf **PKPdf 05 52 45.6 +0.4**
MORF Marmelete 117.92 318 *e*PP PP 05 54 10.3 +1.3
MORF Marmelete 117.92 318 *e*PKIKP **PKPdf 05 52 45.1 -0.1**
MORF *e* 05 54 09.5
L30A Spencer Herefo 117.96 35 P **PKPdf 05 52 45.8 +0.6**
baz=118
KSCO Kaye Shedlock' 117.99 40 P **PKPdf 05 52 47.3 +1.8**
baz=118,SNR=5.6
KSCO Kaye Shedlock' 117.99 40 *e*PKPdf **PKPdf 05 52 46.4 +1.0**
KSCO *e*SKPdf **SKPdf 05 55 27.6 -0.2**
N29A Votaw Ranch, W 118.14 37 P **PKPdf 05 52 47.3 +1.7**
baz=118
P28A Saint Francis 118.20 39 P **PKPdf 05 52 47.3 +1.5**
baz=118,SNR=6.0
R27A Eads 118.30 40 P **PKPdf 05 52 47.4 +1.3**
baz=118,SNR=14
L31A Butterfield Fa 118.32 35 P **PKPdf 05 52 46.7 +0.8**
baz=118
L31A P **PKKPbc 06 03 04.8 -2.6**
baz=118,SNR=8.8
T26A Comanche Natio 118.41 42 P **PKPdf 05 52 48.0 +1.6**
baz=118,SNR=28
O29A 4D Ranch, Culb 118.46 38 P **PKPdf 05 52 47.8 +1.6**
baz=118
O29A P **PKKPbc 06 03 05.9 -1.0**
baz=118,SNR=8.7
Q28A Sharon Springs 118.46 39 P **PKPdf 05 52 47.8 +1.5**
baz=118,SNR=11
Q28A P **PKKPbc 06 03 04.2 -2.6**
baz=118,SNR=9.9
N30A Hueftle Ranch, 118.46 37 P **PKPdf 05 52 48.1 +1.9**
baz=118
ECSD EROS Data Cent 118.50 32 P **PKPdf 05 52 47.2 +1.0**
baz=118,SNR=29
ECSD P **PKKPbc 06 03 05.0 -1.8**
baz=118,SNR=29
ECSD EROS Data Cent 118.50 32 *e*PKPdf **PKPdf 05 52 46.0 -0.1**
ECSD *e*SKPdf **SKPdf 05 55 27.5 -1.0**
SCHQ Schefferville 118.60 7 PKP **PKPdf 05 52 45.2 -0.8**
comp=N,16nm,0.5s,baz=3.0,slow=2.1,SNR=48
SCHQ PP **PP 05 54 11.4 -1.2**
comp=N,15nm,0.9s,baz=0.7,slow=9.0,SNR=4.1
SCHQ SKP 05 55 27.4
comp=N,20nm,0.8s,baz=1.8,slow=0.5,SNR=6.4
SCHQ PKKPbc **PKKPbc 06 03 04.0 -2.9**
comp=N,10.0nm,1.0s,baz=163,slow=3.1,SNR=9.0
SCHQ PKKP **PKKPdf 06 03 32.7 -0.8**
comp=N,2.8nm,0.6s,baz=208,slow=2.6,SNR=3.7
SCHQ SKKPbc SKKPbc 06 05 53.6 -5.4
comp=N,8.2nm,0.9s,baz=173,slow=1.2,SNR=5.1
SCHQ Schefferville 118.60 7 PKP **PKPdf 05 52 45.2 -0.8**
SCHQ *e*PKPdf **PKiKP 05 52 45.7 -0.4**
SCHQ *e*PP **PP 05 54 10.2 -2.4**
SCHQ PP PP 05 54 11.4 -1.2
SCHQ SKP 05 55 27.4
SCHQ *e*SKPdf **SKiKP 05 55 28.5 -0.1**
SCHQ PKKPbc **PKKPbc 06 03 04.0 -2.9**
SCHQ PKKP **PKKPdf 06 03 32.7 -0.8**
SCHQ SKKPbc **SKKPbc 06 05 53.6 -5.4**
P29A Atwood 118.69 38 P **PKPdf 05 52 47.5 +0.7**
baz=118
P29A P **PKKPbc 06 03 03.9 -2.1**
baz=118,SNR=11
M31A Lambtecht Ranc 118.77 36 P **PKPdf 05 52 47.4 +0.6**
baz=119,SNR=6.0
O30A MW Ranch, Wils 118.87 37 P **PKPdf 05 52 48.0 +1.0**
baz=119,SNR=7.7
O30A P **PKKPbc 06 03 04.0 -1.4**
baz=119,SNR=8.8
R28A Tribune 118.90 40 P **PKPdf 05 52 48.8 +1.6**
baz=119,SNR=19
R28A P **PKKPbc 06 03 03.8 -1.5**
baz=119,SNR=11
T27A Campo 119.05 41 P **PKPdf 05 52 49.4 +1.8**
baz=119,SNR=18
T27A P **PKKPbc 06 03 02.4 -2.3**
baz=119,SNR=6.1
Q29A Oakley 119.10 39 P **PKPdf 05 52 49.1 +1.5**
baz=119,SNR=33
Q29A P **PKKPbc 06 03 01.6 -3.0**
baz=119,SNR=19
TOB2 Torodi Ar. Sit 119.14 289 *e*PKP1 **PKPdf 05 52 47.2 -0.9**
P30A Selden 119.15 38 P **PKPdf 05 52 49.0 +1.4**
baz=119,SNR=7.5
TOA0 Torodi Ar. Sit 119.16 289 *e*PKPdf **PKPdf 05 52 47.4 -0.8**
TOA0 *e*SKPdf **SKPdf 05 55 30.2 -0.2**
TORD Torodi Ar. Bea 119.16 289 Pdiff **Pdif 05 49 15.3 +2.5**
comp=N,0.4nm,0.7s,baz=62,slow=4.0,SNR=2.8
TORD PKP **PKPdf 05 52 47.2 -0.9**
comp=N,85nm,0.6s,baz=58,slow=1.3,SNR=179
TORD PP PP 05 54 10.0 -8.4
comp=N,19nm,0.9s,baz=67,slow=4.9,SNR=6.1
TORD SKP **SKPdf 05 55 30.0 -0.4**
comp=N,30nm,0.8s,baz=56,slow=2.6,SNR=6.3
TORD S **SKSac 05 58 49.1 -2.7**
comp=N,2.2nm,0.8s,baz=48,slow=2.1,SNR=2.0
TORD PKKPbc **PKKPbc 06 03 04.5 +1.0**
comp=N,11nm,0.9s,baz=286,slow=2.7,SNR=26
TORD SKKPbc **SKKPbc 06 05 55.5 -0.6**
comp=N,2.5nm,0.8s,baz=287,slow=3.3,SNR=7.4
L33A Hoskins 119.20 34 P **PKPdf 05 52 48.7 +1.2**
baz=119
BGNE Belgrade 119.21 35 P **PKPdf 05 52 48.8 +1.2**
baz=119,SNR=12
BGNE Belgrade 119.21 35 *e*PKPdf **PKPdf 05 52 47.5 0.0**
BGNE *e*SKPdf **SKPdf 05 55 29.1 -0.8**
R29A Marienthal 119.28 39 P **PKPdf 05 52 49.4 +1.5**
baz=119
S28A Manter 119.28 40 P **PKPdf 05 52 49.3 +1.3**
baz=119,SNR=21
S28A P **PKKPbc 06 03 02.0 -1.9**
baz=119,SNR=16
O31A Woolen Ranch, 119.33 37 P **PKPdf 05 52 48.9 +1.0**
baz=119
U27A Thompson Grove 119.34 42 P **PKPdf 05 52 49.8 +1.7**
baz=119,SNR=11
U27A P **PKKPbc 06 03 01.1 -2.6**
baz=119,SNR=22
SPMN St. Paul 119.36 29 P **PKPdf 05 52 48.8 +1.1**
baz=119
SPMN P **PKKPbc 06 03 01.2 -2.5**
baz=119,SNR=10.0
SPMN St. Paul 119.36 29 *e*PKPdf **PKPdf 05 52 47.4 -0.3**
SPMN *e*SKPdf **SKPdf 05 55 28.6 -1.5**
T28A Walsh 119.42 41 P **PKPdf 05 52 49.8 +1.5**
baz=119,SNR=27
Q30A Quinter 119.51 38 P **PKPdf 05 52 49.6 +1.3**
baz=119,SNR=16
N32A Stulken Farm, 119.54 36 P **PKPdf 05 52 49.1 +0.8**
baz=119
M33A Taylor Creek F 119.64 34 P **PKPdf 05 52 48.9 +0.5**
baz=120,SNR=7.5
P31A Stockton 119.69 37 P **PKPdf 05 52 49.9 +1.3**
baz=120,SNR=15
P31A P **PKKPbc 06 03 00.9 -1.5**
baz=120,SNR=8.8
V27A Dan Oppiter Fa 119.71 43 P **PKPdf 05 52 50.6 +1.8**
baz=120,SNR=12
V27A P **PKKPbc 06 03 00.5 -1.8**
baz=120,SNR=12
S29A Ulysses 119.77 40 P **PKPdf 05 52 50.3 +1.5**
baz=120,SNR=14
S29A P **PKKPbc 06 02 59.6 -2.5**
baz=120,SNR=16
U28A Mallet 119.77 42 P **PKPdf 05 52 50.4 +1.4**
baz=120
U28A P **PKKPbc 06 02 59.6 -2.5**
baz=120,SNR=10
L34A Svendsen Farm, 119.83 33 P **PKPdf 05 52 49.5 +0.8**
baz=120,SNR=9.0
O32A Brockman Farm, 119.88 36 P **PKPdf 05 52 49.9 +1.0**
baz=120,SNR=6.3
R30A Dighton 119.90 39 P **PKPdf 05 52 50.4 +1.3**
baz=120,SNR=6.6
CBKS Cedar Bluff 119.91 38 *e*PKIKP **PKPdf 05 52 49.6 +0.6**
CBKS Cedar Bluff 119.91 38 P **PKPdf 05 52 50.2 +1.2**
baz=120,SNR=6.6
CBKS P **PKKPbc 06 02 59.4 -2.2**
baz=120,SNR=9.3
CBKS Cedar Bluff 119.91 38 *e*PKPdf **PKPdf 05 52 49.6 +0.6**
CBKS *e*PP **PP 05 54 17.6 -4.8**
CBKS *e*SKPdf **SKPdf 05 55 30.8 -0.5**
CBKS *e*PKKPbc **PKKPbc 06 03 02.2 +0.6**
T29A Hugoton 119.93 41 P **PKPdf 05 52 51.0 +1.8**
baz=120,SNR=5.1
T29A P **PKKPbc 06 02 58.6 -2.9**
baz=120,SNR=17
Q31A Ellis 120.00 38 P **PKPdf 05 52 50.6 +1.4**
baz=120
Q31A P **PKKPbc 06 02 59.2 -2.1**
baz=120,SNR=17
M34A Aspy Farms, Fr 120.03 34 P **PKPdf 05 52 49.8 +0.6**
baz=120,SNR=5.5
N33A J Bar K, Exete 120.04 35 P **PKPdf 05 52 49.8 +0.6**
baz=120,SNR=5.1
P32A Huiting Farm, 120.09 37 P **PKPdf 05 52 50.5 +1.1**
baz=120,SNR=14
P32A P **PKKPbc 06 02 58.9 -2.1**
baz=120,SNR=6.1
V28A Channing 120.12 42 P **PKPdf 05 52 51.3 +1.7**
baz=120,SNR=16
V28A P **PKKPbc 06 02 58.8 -2.0**
baz=120,SNR=17
S30A Montezuma 120.17 40 P **PKPdf 05 52 51.2 +1.6**

	baz=120,SNR=12							
S30A				P	PKKPbc	06 02 57.7	-2.9	
	baz=120,SNR=9.5							
R31A	**Burdett**	**120.36**	**39**	P	**PKPdf**	**05 52 50.7**	**+0.8**	
	baz=120,SNR=14							
R31A				P	PKKPbc	06 02 57.2	-2.7	
	baz=120,SNR=10							
O33A	**Hebron**	**120.40**	**36**	P	**PKPdf**	**05 52 50.6**	**+0.7**	
	baz=120,SNR=22							
O33A				P	PKKPbc	06 02 58.0	-1.9	
	baz=120,SNR=17							
W28A	**Vega**	**120.41**	**43**	P	**PKPdf**	**05 52 52.1**	**+1.9**	
	baz=120							
W28A				P	PKKPbc	06 02 59.2	-0.6	
	baz=120,SNR=5.5							
T30A	**Plains**	**120.48**	**40**	P	**PKPdf**	**05 52 52.1**	**+1.9**	
	baz=120							
N34A	**Lincoln**	**120.52**	**35**	P	**PKPdf**	**05 52 50.9**	**+0.8**	
	baz=120,SNR=7.2							
N34A				P	PKKPbc	06 02 58.8	-0.7	
	baz=120,SNR=8.9							
Q32A	**Meitler Ranch,**	**120.52**	**37**	P	**PKPdf**	**05 52 51.3**	**+1.2**	
	baz=120,SNR=6.2							
V29A	**Stinnett**	**120.52**	**42**	P	**PKPdf**	**05 52 51.9**	**+1.5**	
	baz=120,SNR=10							
V29A				P	PKKPbc	06 02 58.5	-0.9	
	baz=120,SNR=7.5							
M35A	**Neola**	**120.54**	**34**	P	**PKPdf**	**05 52 51.2**	**+1.1**	
	baz=120,SNR=8.3							
U30A	**WK&E Inc. Balk**	**120.71**	**41**	P	**PKPdf**	**05 52 52.2**	**+1.5**	
	baz=121,SNR=17							
U30A				P	PKKPbc	06 02 57.1	-1.5	
	baz=121,SNR=5.9							
P33A	**Williams Farm,**	**120.75**	**36**	P	**PKPdf**	**05 52 51.9**	**+1.3**	
	baz=121,SNR=8.4							
R32A	**Long Quarter,**	**120.78**	**38**	P	**PKPdf**	**05 52 52.0**	**+1.2**	
	baz=121,SNR=22							
R32A				P	PKKPbc	06 02 56.8	-1.6	
	baz=121,SNR=9.2							
S31A	**Mullinville**	**120.80**	**39**	P	**PKPdf**	**05 52 52.3**	**+1.5**	
	baz=121							
X28A	**Dimmitt**	**120.83**	**44**	P	**PKPdf**	**05 52 52.6**	**+1.5**	
	baz=121,SNR=15							
X28A				P	PKKPbc	06 02 57.4	-0.8	
	baz=121,SNR=8.9							
O34A	**Beatrice**	**120.84**	**35**	P	**PKPdf**	**05 52 51.3**	**+0.5**	
	baz=121,SNR=21							
O34A				P	PKKPbc	06 02 56.1	-2.1	
	baz=121,SNR=17							
CLNB	**Carlsbad**	**120.86**	**47**	*e*PKPdf	**PKPdf**	**05 52 52.7**	**+1.6**	
CLNB				*e*SKPdf	**SKPdf**	**05 55 33.3**	**-0.2**	
W29A	**Amraillo**	**120.87**	**43**	P	**PKPdf**	**05 52 52.5**	**+1.4**	
	baz=121							
W29A				P	PKKPbc	06 02 55.9	-2.2	
	baz=121,SNR=6.9							
Q33A	**Connelly Farm,**	**120.95**	**37**	P	**PKPdf**	**05 52 51.9**	**+0.9**	
	baz=121,SNR=12							
Q33A				P	PKKPbc	06 02 55.9	-1.9	
	baz=121,SNR=6.5							
N35A	**Tabor**	**120.98**	**34**	P	**PKPdf**	**05 52 52.3**	**+1.3**	
	baz=121							
N35A				P	PKKPbc	06 02 55.7	-2.0	
	baz=121,SNR=8.6							
T31A	**Randall Ranch,**	**121.00**	**40**	P	**PKPdf**	**05 52 52.8**	**+1.6**	
	baz=121							
S32A	**Newby Ranch, P**	**121.09**	**39**	P	**PKPdf**	**05 52 52.8**	**+1.5**	
	baz=121,SNR=6.5							
S32A				P	PKKPbc	06 02 55.3	-1.9	
	baz=121,SNR=9.1							
V30A	**Spur Ranch, Mi**	**121.14**	**42**	P	**PKPdf**	**05 52 53.5**	**+2.0**	
	baz=121							
Y28A	**McKinney Farm,**	**121.14**	**44**	P	**PKPdf**	**05 52 53.3**	**+1.7**	
	baz=121							
P34A	**Walnut Farm, R**	**121.19**	**36**	P	**PKPdf**	**05 52 52.5**	**+1.1**	
	baz=121,SNR=12							
P34A				P	PKKPbc	06 02 53.7	-3.2	
	baz=121,SNR=13							
X29A	**Tulia**	**121.21**	**43**	P	**PKPdf**	**05 52 53.1**	**+1.3**	
	baz=121,SNR=8.3							
X29A				P	PKKPbc	06 02 54.3	-2.5	
	baz=121,SNR=7.9							
O35A	**Humboldt**	**121.23**	**35**	P	**PKPdf**	**05 52 52.1**	**+0.6**	
	baz=121,SNR=5.7							
PMSA	**Palmer Station**	**121.25**	**176**	PKP	**PKPdf**	**05 52 50.1**	**-0.6**	
	comp=N,35nm,1.1s,baz=181,slow=6.4							
R33A	**Olander Ranch,**	**121.30**	**38**	P	**PKPdf**	**05 52 53.2**	**+1.5**	
	baz=121,SNR=12							
R33A				P	PKKPbc	06 02 55.6	-0.9	
	baz=121,SNR=7.9							
U31A	**Nine Bar Ranch**	**121.33**	**40**	P	**PKPdf**	**05 52 53.4**	**+1.6**	
	baz=121,SNR=10							
U31A				P	PKKPbc	06 02 54.8	-1.6	
	baz=121,SNR=6.5							
Z28A	**Tucker Farm, M**	**121.38**	**45**	P	**PKPdf**	**05 52 52.9**	**+0.8**	
	baz=121							
Z28A				P	PKKPbc	06 02 54.7	-1.4	
	baz=121,SNR=13							
T32A	**Huddler Ranch,**	**121.42**	**39**	P	**PKPdf**	**05 52 53.3**	**+1.4**	
	baz=121,SNR=14							
T32A				P	PKKPbc	06 02 55.2	-0.8	
	baz=121,SNR=11							
Q34A	**Chapman**	**121.53**	**36**	P	**PKPdf**	**05 52 53.5**	**+1.4**	
	baz=121,SNR=11							
Y29A	**Porterfield Fa**	**121.56**	**44**	P	**PKPdf**	**05 52 53.9**	**+1.5**	
	baz=121,SNR=5.8							
Y29A				P	PKKPbc	06 02 54.2	-1.2	
	baz=121,SNR=13							
P35A	**Duane Minner,**	**121.67**	**35**	P	**PKPdf**	**05 52 53.2**	**+0.8**	
	baz=122,SNR=13							
P35A				P	PKKPbc	06 02 53.2	-2.0	
	baz=122,SNR=12							
128A	**Castleberry Fa**	**121.67**	**46**	P	**PKPdf**	**05 52 53.6**	**+1.0**	
	baz=122,SNR=12							
128A				P	PKKPbc	06 02 51.5	-3.5	
	baz=122,SNR=19							
V31A	**Spring Creek L**	**121.69**	**41**	P	**PKPdf**	**05 52 54.6**	**+2.0**	
	baz=122,SNR=13							
V31A				P	PKKPbc	06 02 54.1	-0.9	
	baz=122,SNR=9.4							
S33A	**Kaszmaul Farm,**	**121.74**	**38**	P	**PKPdf**	**05 52 54.3**	**+1.8**	
	baz=122							
S33A				P	PKKPbc	06 02 53.9	-1.0	
	baz=122,SNR=6.8							
R34A	**Isabella, Hill**	**121.75**	**37**	P	**PKPdf**	**05 52 53.5**	**+0.9**	
	baz=122,SNR=15							
R34A				P	PKKPbc	06 02 53.4	-1.4	
	baz=122,SNR=18							
X30A	**Coker Ranch, T**	**121.78**	**43**	P	**PKPdf**	**05 52 54.3**	**-0.4**	
	baz=122,SNR=15							
O36A	**Bolckow**	**121.86**	**34**	P	**PKPdf**	**05 52 53.7**	**+1.0**	
	baz=122							
O36A				P	PKKPbc	06 02 53.4	-1.1	
	baz=122,SNR=9.5							
U32A	**Winter Ranch,**	**121.86**	**40**	P	**PKPdf**	**05 52 53.6**	**+0.8**	
	baz=122,SNR=6.3							
U32A				P	PKKPbc	06 02 53.3	-1.1	
	baz=122,SNR=8.5							
228A	**UT Block 9, Go**	**121.87**	**46**	P	**PKPdf**	**05 52 54.5**	**+1.4**	
	baz=122							
228A				P	PKKPbc	06 02 51.7	-2.6	
	baz=122,SNR=7.7							
Z29A	**Hungry Hill Ra**	**121.87**	**45**	P	**PKPdf**	**05 52 53.9**	**+0.9**	
	baz=122,SNR=19							
Z29A				P	PKKPbc	06 02 53.2	-1.1	
	baz=122,SNR=7.1							
T33A	**Patterson Ranc**	**121.91**	**39**	P	**PKPdf**	**05 52 54.6**	**+1.7**	
	baz=122							
W31A	**Holland Ranch,**	**121.97**	**42**	P	**PKPdf**	**05 52 54.7**	**+1.6**	
	baz=122,SNR=17							
W31A				P	PKKPbc	06 02 51.2	-2.7	
	baz=122,SNR=9.5							
P36A	**Good Intent, A**	**122.07**	**35**	P	**PKPdf**	**05 52 53.7**	**+0.6**	
	baz=122,SNR=6.2							
Y30A	**Stafford Cattl**	**122.08**	**43**	P	**PKPdf**	**05 52 54.8**	**+1.4**	
	baz=122,SNR=11							
Y30A				P	PKKPbc	06 02 49.7	-3.8	
	baz=122,SNR=11							
Q35A	**Mercer Eighty,**	**122.10**	**36**	P	**PKPdf**	**05 52 54.1**	**+0.9**	
	baz=122,SNR=23							
Q35A				P	PKKPbc	06 02 51.1	-2.5	
	baz=122,SNR=6.3							
129A	**Stewart Farms,**	**122.11**	**45**	P	**PKPdf**	**05 52 54.5**	**+1.0**	
	baz=122,SNR=20							
129A				P	PKKPbc	06 02 50.3	-3.1	
	baz=122,SNR=14							
S34A	**Willow Spring**	**122.22**	**38**	P	**PKPdf**	**05 52 54.8**	**+1.4**	
	baz=122,SNR=6.1							
V32A	**Arapaho**	**122.24**	**41**	P	**PKPdf**	**05 52 55.4**	**+1.9**	
	baz=122,SNR=9.1							
V32A				P	PKKPbc	06 02 51.9	-1.1	
	baz=122,SNR=48							
Z30A	**Sanderson Ranc**	**122.26**	**44**	P	**PKPdf**	**05 52 54.8**	**+1.1**	
	baz=122,SNR=28							
Z30A				P	PKKPbc	06 02 51.8	-1.1	
	baz=122,SNR=8.9							
X31A	**McDonald Ranch**	**122.27**	**42**	P	**PKPdf**	**05 52 54.7**	**+1.0**	
	baz=122,SNR=19							
X31A				P	PKKPbc	06 02 52.0	-0.8	
	baz=122,SNR=27							
JFWS	**Jewell Farm**	**122.31**	**29**	*e*PKIKP	**PKPdf**	**05 52 52.9**	**-0.6**	
JFWS				*e*		05 55 03.7		
JFWS	**Jewell Farm**	**122.31**	**29**	*e*PKPdf	**PKPdf**	**05 52 52.9**	**-0.6**	
JFWS				*ep*PKPdf	**pPKPdf**	**05 55 03.7**	**-1.4**	
JFWS				*e*SKPdf	**SKPdf**	**05 55 34.8**	**-0.9**	
R35A	**Emporia Munici**	**122.36**	**37**	P	**PKPdf**	**05 52 55.2**	**+1.5**	
	baz=122							
Q36A	**Arnold C. Orve**	**122.37**	**36**	P	**PKPdf**	**05 52 54.3**	**+0.6**	
	baz=122,SNR=7.7							
U33A	**Lingo Farm, Me**	**122.40**	**39**	P	**PKPdf**	**05 52 55.2**	**+1.4**	
	baz=122,SNR=12							
U33A				P	PKKPbc	06 02 51.7	-0.7	
	baz=122,SNR=24							
W32A	**Sentinel**	**122.46**	**41**	P	**PKPdf**	**05 52 55.1**	**+1.1**	
	baz=122							
W32A				P	PKKPbc	06 02 51.0	-1.1	
	baz=122,SNR=11							
Y31A	**Rekieta Farm,**	**122.47**	**43**	P	**PKPdf**	**05 52 55.2**	**+1.1**	
	baz=122,SNR=15							
Y31A				P	PKKPbc	06 02 52.0	-0.1	
	baz=122,SNR=24							
229A	**Bryant Ranch,**	**122.51**	**46**	P	**PKPdf**	**05 52 55.3**	**+1.0**	
	baz=122							
229A				P	PKKPbc	06 02 51.5	-0.4	
	baz=122,SNR=21							
TXAR	**Lajitas Array**	**122.51**	**49**	PKP	**PKPdf**	**05 52 53.7**	**-0.6**	
	comp=N,5.2nm,0.6s,baz=224,slow=0.7,SNR=30							
TXAR				PP	**PP**	**05 54 38.0**	**-2.3**	
	comp=N,2.8nm,0.9s,baz=236,slow=1.4,SNR=4.5							
TXAR				SKPbc	SKiKP	05 55 09.4	-28	
	comp=N,5.7nm,0.9s,baz=288,slow=1.2,SNR=5.0							
TXAR				SKP		05 55 38.2		
	comp=N,4.2nm,0.5s,baz=329,slow=1.0,SNR=8.3							
TXAR				PKKPbc	**PKKPbc**	**06 02 51.6**	**-0.2**	
	comp=N,15nm,0.9s,baz=140,slow=5.7,SNR=24							
TXAR				SKKP		06 06 02.5		
	comp=N,3.4nm,1.0s,baz=125,slow=3.7,SNR=4.1							
T34A	**McClaskey Farm**	**122.60**	**38**	P	**PKPdf**	**05 52 55.2**	**+1.0**	
	baz=122,SNR=8.9							
T34A				P	PKKPbc	06 02 50.4	-1.2	
	baz=122,SNR=8.3							
329A	**Wagon Wheel Ra**	**122.64**	**46**	P	**PKPdf**	**05 52 55.6**	**+1.0**	
	baz=122,SNR=8.0							
329A				P	PKKPbc	06 02 49.9	-1.4	
	baz=122,SNR=9.3							
V33A	**Lossen Ranch,**	**122.66**	**40**	P	**PKPdf**	**05 52 55.5**	**+1.1**	
	baz=122,SNR=11							
V33A				P	PKKPbc	06 02 50.3	-1.1	
	baz=122,SNR=20							
S35A	**Otter Creek Ra**	**122.71**	**37**	P	**PKPdf**	**05 52 55.5**	**+1.1**	
	baz=122,SNR=33							
S35A				P	PKKPbc	06 02 50.3	-1.0	
	baz=122,SNR=25							
U34A	**Anderson Ranch**	**122.76**	**39**	P	**PKPdf**	**05 52 55.8**	**+1.3**	
	baz=123,SNR=10							
U34A				P	PKKPbc	06 02 50.5	-0.5	
	baz=123,SNR=15							
U34A	**Anderson Ranch**	**122.76**	**39**	*e*PKPdf	**PKPdf**	**05 52 55.2**	**+0.7**	
U34A				*e*SKPdf	**SKPdf**	**05 55 35.9**	**-1.0**	
130A	**Snyder**	**122.76**	**45**	P	**PKPdf**	**05 52 55.9**	**+1.2**	
	baz=123							
130A				P	PKKPbc	06 02 50.7	-0.3	
	baz=123,SNR=5.8							
R36A	**Gordon, Harris**	**122.77**	**36**	P	**PKPdf**	**05 52 55.0**	**+0.5**	
	baz=123,SNR=19							
R36A				P	PKKPbc	06 02 49.8	-1.3	
	baz=123,SNR=7.3							
X32A	**Elmer**	**122.86**	**42**	P	**PKPdf**	**05 52 55.8**	**+1.0**	
	baz=123,SNR=12							
X32A				P	PKKPbc	06 02 49.7	-0.9	
	baz=123,SNR=24							
Z31A	**Sharp Cattle R**	**122.92**	**44**	P	**PKPdf**	**05 52 56.5**	**+1.5**	
	baz=123,SNR=11							
Z31A				P	PKKPbc	06 02 49.4	-0.9	
	baz=123,SNR=9.5							
W33A	**Caddo, Fort Co**	**122.95**	**41**	P	**PKPdf**	**05 52 56.7**	**+1.7**	
	baz=123,SNR=7.4							
W33A				P	PKKPbc	06 02 49.0	-1.3	
	baz=123,SNR=22							
Y32A	**R-V Farms, Ver**	**123.00**	**42**	P	**PKPdf**	**05 52 56.1**	**+1.0**	
	baz=123							
Y32A				P	PKKPbc	06 02 48.6	-1.4	
	baz=123,SNR=18							
WMOK	**Wichita Mounta**	**123.00**	**41**	*e*PKIKP	**PKPdf**	**05 52 54.9**	**-0.2**	
WMOK				*e*		05 54 41.9		
WMOK	**Wichita Mounta**	**123.00**	**41**	*e*PKPdf	**PKPdf**	**05 52 54.9**	**-0.2**	
WMOK				*e*PP	**PP**	**05 54 41.9**	**-1.2**	
WMOK				*e*SKPdf	**SKPdf**	**05 55 37.4**	**0.0**	
WMOK				*e*PKKPbc	**PKKPbc**	**06 02 48.0**	**-2.1**	
Q37A	**Longview Farm,**	**123.00**	**35**	P	**PKPdf**	**05 52 55.4**	**+0.5**	
	baz=123							
230A	**Sterling City**	**123.05**	**46**	P	**PKPdf**	**05 52 56.5**	**+1.2**	
	baz=123,SNR=8.6							
230A				P	PKKPbc	06 02 49.2	-0.7	
	baz=123,SNR=13							
T35A	**Sooner Cattle**	**123.09**	**38**	P	**PKPdf**	**05 52 56.3**	**+1.2**	
	baz=123,SNR=18							
T35A				P	PKKPbc	06 02 48.7	-1.1	
	baz=123,SNR=18							
S36A	**Lake Cedric, C**	**123.11**	**37**	P	**PKPdf**	**05 52 55.9**	**+0.7**	
	baz=123,SNR=28							
S36A				P	PKKPbc	06 02 48.1	-1.6	
	baz=123,SNR=24							
131A	**Roby**	**123.12**	**44**	P	**PKPdf**	**05 52 56.5**	**+1.2**	
	baz=123							
V34A	**Guthrie**	**123.14**	**40**	P	**PKPdf**	**05 52 56.6**	**+1.3**	
	baz=123,SNR=22							
V34A				P	PKKPbc	06 02 48.6	-1.0	
	baz=123,SNR=16							
V34A	**Guthrie**	**123.14**	**40**	*e*PKPdf	**PKPdf**	**05 52 55.4**	**+0.2**	
V34A				*ep*PKPdf	**pPKPdf**	**05 55 04.9**	**-2.0**	
V34A				*e*SKPdf	**SKPdf**	**05 55 37.1**	**-0.5**	
429A	**Davenport Ranc**	**123.17**	**47**	P	**PKPdf**	**05 52 57.0**	**+1.5**	
	baz=123,SNR=23							
429A				P	PKKPbc	06 02 48.0	-1.4	
	baz=123,SNR=18							
R37A	**Teagarden Farm**	**123.17**	**36**	P	**PKPdf**	**05 52 56.0**	**+0.7**	
	baz=123,SNR=8.1							
529A	**Stev Forest Ra**	**123.19**	**48**	P	**PKPdf**	**05 52 57.1**	**+1.5**	
	baz=123,SNR=23							
330A	**Mertzon**	**123.27**	**46**	P	**PKPdf**	**05 52 57.6**	**+1.9**	
	baz=123,SNR=5.1							
330A				P	PKKPbc	06 02 48.1	-0.8	
	baz=123,SNR=29							
GLMI	**Grayling**	**123.28**	**24**	*e*PKPdf	**PKPdf**	**05 52 56.3**	**+1.0**	
U35A	**Pawnee**	**123.30**	**39**	P	**PKPdf**	**05 52 57.1**	**+1.5**	
	baz=123,SNR=9.5							
U35A				P	PKKPbc	06 02 47.7	-1.3	
	baz=123,SNR=22							
X33A	**Lawton**	**123.30**	**41**	P	**PKPdf**	**05 52 57.2**	**+1.5**	
	baz=123,SNR=8.6							
X33A				P	PKKPbc	06 02 47.2	-1.7	
	baz=123,SNR=15							
W34A	**Bridge Creek,**	**123.35**	**40**	P	**PKPdf**	**05 52 57.3**	**+1.6**	
	baz=123,SNR=10							
W34A				P	PKKPbc	06 02 47.4	-1.4	
	baz=123,SNR=14							
W34A	**Bridge Creek,**	**123.35**	**40**	*e*PKPdf	**PKPdf**	**05 52 57.1**	**+1.4**	
W34A				*e*PP	**PP**	**05 54 44.0**	**-1.4**	
W34A				*e*SKPdf	**SKPdf**	**05 55 38.1**	**+0.1**	
T36A	**Boggs Farm, Ca**	**123.38**	**37**	P	**PKPdf**	**05 52 56.9**	**+1.2**	
	baz=123,SNR=23							
T36A				P	PKKPbc	06 02 47.2	-1.5	
	baz=123,SNR=21							
Z32A	**Haskell**	**123.38**	**43**	P	**PKPdf**	**05 52 57.7**	**+1.9**	
	baz=123,SNR=23							
Y33A	**Hilltop Ranch,**	**123.54**	**42**	P	**PKPdf**	**05 52 57.5**	**+1.4**	
	baz=123,SNR=9.7							
Y33A				P	PKKPbc	06 02 45.5	-2.4	
	baz=123,SNR=5.7							
S37A	**Fort Scott**	**123.54**	**36**	P	**PKPdf**	**05 52 57.0**	**+1.0**	
	baz=123,SNR=26							
430A	**Baggett Ranch,**	**123.56**	**47**	P	**PKPdf**	**05 52 57.6**	**+1.3**	
	baz=123,SNR=19							
231A	**Bronte**	**123.58**	**45**	P	**PKPdf**	**05 52 57.6**	**+1.3**	
	baz=124,SNR=6.9							
231A				P	PKKPbc	06 02 46.0	-1.8	
	baz=124,SNR=16							
V35A	**Meyer Ranch, C**	**123.62**	**39**	P	**PKPdf**	**05 52 57.7**	**+1.5**	
	baz=124,SNR=15							
V35A				P	PKKPbc	06 02 46.1	-1.7	
	baz=124,SNR=13							
ABTX	**Abilene, Hawle**	**123.66**	**44**	P	**PKPdf**	**05 52 58.1**	**+1.7**	
	baz=124							
ABTX				P	PKKPbc	06 02 45.8	-1.7	
	baz=124,SNR=11							
ABTX	**Abilene, Hawle**	**123.66**	**44**	*e*PKPdf	**PKPdf**	**05 52 56.6**	**+0.3**	
ABTX				*e*PP	**PP**	**05 54 45.1**	**-2.5**	
ABTX				*e*SKPdf	**SKPdf**	**05 55 38.5**	**-0.2**	
X34A	**Smith Ranch, M**	**123.70**	**41**	P	**PKPdf**	**05 52 58.2**	**+1.8**	
	baz=124,SNR=21							
X34A				P	PKKPbc	06 02 45.9	-1.4	
	baz=124,SNR=19							
530A	**J-C Ranch, Com**	**123.83**	**47**	P	**PKPdf**	**05 52 58.1**	**+1.3**	
	baz=124,SNR=16							
530A				P	PKKPbc	06 02 45.9	-0.9	
	baz=124,SNR=19							
331A	**San Angelo**	**123.85**	**46**	P	**PKPdf**	**05 52 58.1**	**+1.3**	
	baz=124,SNR=19							
331A				P	PKKPbc	06 02 45.3	-1.4	
	baz=124,SNR=22							
Z33A	**Whitaker Ranch**	**123.88**	**43**	P	**PKPdf**	**05 52 58.6**	**+1.8**	
	baz=124,SNR=13							
Z33A				P	PKKPbc	06 02 45.1	-1.6	
	baz=124,SNR=12							
U36A	**Oologah**	**123.90**	**38**	P	**PKPdf**	**05 52 58.3**	**+1.6**	
	baz=124							
T37A	**Cheneyville 18**	**123.91**	**37**	P	**PKPdf**	**05 52 57.8**	**+1.1**	
	baz=124,SNR=18							
W35A	**Tecumseh**	**123.98**	**40**	P	**PKPdf**	**05 52 58.4**	**+1.5**	
	baz=124,SNR=22							
431A	**Sonora**	**124.07**	**46**	P	**PKPdf**	**05 52 58.7**	**+1.4**	
	baz=124,SNR=14							
232A	**Coleman**	**124.08**	**45**	P	**PKPdf**	**05 52 58.8**	**+1.5**	
	baz=124,SNR=8.9							
Y34A	**Reagan Ranch,**	**124.15**	**42**	P	**PKPdf**	**05 52 58.9**	**+1.7**	
	baz=124,SNR=17							
V36A	**Jenks**	**124.17**	**39**	P	**PKPdf**	**05 52 58.8**	**+1.6**	
	baz=124,SNR=9.6							
133A	**Hamilton Ranch**	**124.17**	**44**	P	**PKPdf**	**05 52 59.1**	**+1.7**	
	baz=124,SNR=6.4							
TUL1	**Tulsa**	**124.18**	**38**	P	**PKPdf**	**05 52 58.9**	**+1.6**	
	baz=124,SNR=11							
TUL1	**Tulsa**	**124.18**	**38**	*e*PKPdf	**PKPdf**	**05 52 57.5**	**+0.2**	
TUL1				*ep*PKPdf	**pPKPdf**	**05 55 08.0**	**-0.9**	
TUL1				*e*SKPdf	**SKPdf**	**05 55 38.3**	**-1.3**	
U37A	**Salina**	**124.27**	**38**	P	**PKPdf**	**05 52 58.9**	**+1.5**	
	baz=124,SNR=15							
332A	**Millersview**	**124.30**	**45**	P	**PKPdf**	**05 52 59.2**	**+1.5**	
	baz=124,SNR=14							
X35A	**Drake**	**124.39**	**41**	P	**PKPdf**	**05 52 58.8**	**+1.1**	
	baz=124,SNR=20							
531A	**Rocksprings**	**124.39**	**47**	P	**PKPdf**	**05 52 59.1**	**+1.3**	
	baz=124,SNR=12							
Z34A	**Collier Ranch,**	**124.39**	**42**	P	**PKPdf**	**05 52 59.2**	**+1.4**	
	baz=124,SNR=6.3							
W36A	**Wetumka**	**124.40**	**39**	P	**PKPdf**	**05 52 58.8**	**+1.1**	
	baz=124							
432A	**Menard**	**124.55**	**46**	P	**PKPdf**	**05 52 59.4**	**+1.2**	
	baz=124,SNR=5.7							
HDIL	**Hopedale**	**124.56**	**30**	P	**PKPdf**	**05 52 58.9**	**+1.1**	
	baz=124							
HDIL	**Hopedale**	**124.56**	**30**	*e*PKPdf	**PKPdf**	**05 52 57.3**	**-0.5**	
V37A	**Hulbert**	**124.60**	**38**	P	**PKPdf**	**05 52 59.3**	**+1.3**	
	baz=124,SNR=26							
Y35A	**Marietta**	**124.65**	**41**	P	**PKPdf**	**05 52 59.6**	**+1.4**	
	baz=124,SNR=7.8							
X36A	**Centrahoma**	**124.68**	**40**	P	**PKPdf**	**05 52 59.8**	**+1.5**	
	baz=124,SNR=21							
U38A	**Gravette**	**124.69**	**37**	P	**PKPdf**	**05 52 59.2**	**+1.0**	
	baz=124,SNR=43							
JCT	**Junction City**	**124.76**	**46**	*e*PKIKP	**PKPdf**	**05 52 59.4**	**+0.8**	
JCT	**Junction City**	**124.76**	**46**	P	**PKPdf**	**05 52 59.9**	**+1.3**	
	baz=125,SNR=18							
JCT	**Junction City**	**124.76**	**46**	*e*PKPdf	**PKPdf**	**05 52 59.4**	**+0.8**	
JCT				*ep*PKPdf	**pPKPdf**	**05 55 12.7**	**+2.5**	
JCT				*e*SKPdf	**SKiKP**	**05 55 42.3**	**+0.6**	
JCT				*e*PKKPbc	**PKKPbc**	**06 02 42.5**	**-0.7**	
134A	**White-Moore Ra**	**124.76**	**43**	P	**PKPdf**	**05 53 00.3**	**+1.8**	
	baz=125,SNR=21							
134A				P	PKKPbc	06 02 42.2	-1.0	
	baz=125,SNR=14							
631A	**Perdido Creek**	**124.78**	**48**	P	**PKPdf**	**05 52 59.8**	**+1.2**	
	baz=125,SNR=16							
631A				P	PKKPbc	06 02 42.1	-0.9	
	baz=125,SNR=12							
Z35A	**Perchaven, San**	**124.86**	**42**	P	**PKPdf**	**05 53 00.3**	**+1.7**	
	baz=125							
333A	**Richland Sprin**	**124.86**	**45**	P	**PKPdf**	**05 52 59.9**	**+1.1**	
	baz=125,SNR=12							
333A				P	PKKPbc	06 02 41.5	-1.3	
	baz=125,SNR=6.5							
532A	**Rocksprings**	**124.88**	**47**	P	**PKPdf**	**05 53 00.1**	**+1.3**	
	baz=125,SNR=9.9							
W37A	**Quinton**	**124.90**	**39**	P	**PKPdf**	**05 53 00.3**	**+1.6**	
	baz=125,SNR=25							
234A	**Clairette**	**125.06**	**44**	P	**PKPdf**	**05 53 00.7**	**+1.6**	
	baz=125,SNR=19							

baz=126,SNR=9.8
336A Riesel 126.31 43 P **PKPdf** 05 53 03.2 +1.8
baz=126,SNR=7.0
PQI Presque Isle 126.39 10 ePKPdf **PKPdf** 05 53 00.9 -0.2
Z38A Mt. Pleasant 126.39 40 P **PKPdf** 05 53 03.3 +1.8
baz=126
MIAR Mount Ida 126.44 38 ePKIKP **PKPdf** 05 53 01.5 -0.1
MIAR Mount Ida 126.44 38 P **PKPdf** 05 53 03.1 +1.4
baz=126
MIAR Mount Ida 126.44 38 ePKPdf **PKPdf** 05 53 01.5 -0.1
Y39A Lockesburg 126.52 39 P **PKPdf** 05 53 03.3 +1.6
baz=126
OLIL Olney 126.54 31 ePKPdf **PKPdf** 05 53 01.6 -0.1
OLIL epPKPdf **pPKPdf** 05 55 13.1 -0.2
OLIL eSKPdf **SKiKP** 05 55 45.0 0.0
734A La Parita Cree 126.56 47 P **PKPdf** 05 53 04.2 +2.2
baz=126,SNR=5.6
535A Dale 126.60 45 P **PKPdf** 05 53 04.4 +2.4
baz=126
237A Washetta, Mont 126.64 42 P **PKPdf** 05 53 04.2 +2.2
baz=126
138A Matatall Enter 126.70 41 P **PKPdf** 05 53 04.5 +2.3
baz=127,SNR=5.5
933A Laredo 126.71 49 P **PKPdf** 05 53 04.8 +2.5
baz=127,SNR=9.4
436A Wall Ranch, Ga 126.71 44 P **PKPdf** 05 53 03.6 +1.4
baz=127
SIUC Southern Illin 126.72 32 ePKPdf **PKPdf** 05 53 03.2 +1.2
SIUC ePP **PP** 05 55 06.6 -0.5
SIUC eSKPdf **SKiKP** 05 55 45.3 -0.1
635A Leesville 126.83 46 P **PKPdf** 05 53 05.1 +2.6
baz=127,SNR=5.3
LONY Lake Ozonia 126.87 16 ePKPdf **PKPdf** 05 53 02.2 +0.1
LONY ePP **PP** 05 55 08.0 +0.3
Z39A Irene McRaven, 126.92 40 P **PKPdf** 05 53 04.6 +2.0
baz=127
KIC Kosan Boka 126.93 283 ePKP1 **PKPdf** 05 53 03.4 +0.3
comp=N,846nm,1.2s
536A Bastrop 126.93 45 P **PKPdf** 05 53 05.3 +2.6
baz=127,SNR=6.6
834A Tilden 126.97 48 P **PKPdf** 05 53 05.7 +3.0
baz=127
DBIC Dimbokro 126.97 283 PKP **PKPdf** 05 53 02.7 -0.4
comp=N,168nm,1.1s,baz=66,slow=2.3,SNR=25
DBIC PP **PP** 05 55 09.3 -1.1
comp=N,30nm,1.1s,baz=40,slow=8.1,SNR=3.7
DBIC SKPbc SKiKP 05 55 27.3 -19
comp=N,92nm,1.0s,baz=49,slow=5.1,SNR=6.2
DBIC PKKPbc **PKKPab** 06 02 34.8 +1.1
comp=N,3.7nm,0.4s,baz=259,slow=3.5,SNR=13
DBIC SKKPbc **SKKPbc** 06 05 29.0 -1.4
comp=N,2.3nm,0.4s,baz=152,slow=6.8,SNR=3.5
DBIC Dimbokro 126.97 283 PKIKP **PKPdf** 05 53 02.7 -0.4
DBIC 05 55 09.3
DBIC e 05 55 10.7
DBIC Dimbokro 126.97 283 PKP **PKPdf** 05 53 02.7 -0.4
DBIC ePKPdf **PKiKP** 05 53 03.3 -0.4
DBIC PP **PP** 05 55 09.3 -1.1
DBIC ePP PP 05 55 10.7 +0.3
BLO Bloomington 126.98 29 ePKIKP **PKPdf** 05 53 02.9 +0.4
BLO e 05 55 13.4
BLO Bloomington 126.98 29 ePKPdf **PKPdf** 05 53 02.9 +0.4
BLO epPKPdf **pPKPdf** 05 55 13.4 -0.7
337A Centerville 127.00 43 P **PKPdf** 05 53 04.8 +2.1
baz=127
UALR University of 127.04 37 ePKPdf **PKPdf** 05 53 03.2 +0.5
UALR ePP **PP** 05 55 11.0 +1.6
238A Jacksonville 127.09 42 P **PKPdf** 05 53 04.1 +1.2
baz=127
735A Kenedy 127.10 47 P **PKPdf** 05 53 06.3 +3.3
baz=127
TIC Toumodi 127.14 283 ePKP1 **PKPdf** 05 53 03.7 +0.2
PARMO Parma 127.20 34 ePKPdf **PKPdf** 05 53 04.7 +1.7
LIC Lamto 127.23 283 ePKP1 **PKPdf** 05 53 03.9 +0.2
comp=N,648nm,1.3s
934A Benavides 127.28 48 P **PKPdf** 05 53 05.0 +1.6
baz=127
636A Smothers Creek 127.28 46 P **PKPdf** 05 53 05.7 +2.3
baz=127,SNR=7.2
USIN University of 127.34 31 ePKPdf **PKPdf** 05 53 03.9 +0.6
USIN ePP **PP** 05 55 12.3 +1.1
338A Crockett 127.37 42 P **PKPdf** 05 53 05.7 +2.2
baz=127,SNR=8.0
835A Beeville 127.41 47 P **PKPdf** 05 53 05.5 +1.9
baz=127
034A Hebbronville 127.45 49 P **PKPdf** 05 53 05.0 +1.3
baz=127
537A Green Hill Far 127.45 44 P **PKPdf** 05 53 05.8 +2.1
baz=127,SNR=7.7
BART Pico Bartolome 127.47 329 ePKPdf **PKPdf** 05 53 05.3 +1.7
BART epPKPdf PP 05 55 04.8 -7.2
HBAR Harrisburg 127.49 35 ePKPdf **PKPdf** 05 53 04.3 +0.8
HBAR epPKPdf **pPKPdf** 05 55 15.3 +0.1
HBAR e 05 55 29.3
239A Gary 127.51 41 P **PKPdf** 05 53 05.9 +2.1
baz=127
PKME Peaks-Kenny Pk 127.52 11 ePKPdf **PKPdf** 05 53 03.7 +0.4
NATX Nacogdoches 127.55 42 P **PKPdf** 05 53 05.8 +2.0
baz=127
NATX Nacogdoches 127.55 42 ePKPdf **PKPdf** 05 53 04.9 +1.1
NATX ePP **PP** 05 55 10.2 -2.8
NATX e 05 55 30.3
GNAR Gosnell 127.56 34 ePKPdf **PKPdf** 05 53 04.5 +0.8
GNAR e 05 55 30.1
GNAR eSKPdf **SKiKP** 05 55 47.8 +0.7
NCB Newcomb 127.57 16 ePKPdf **PKPdf** 05 53 03.9 +0.4
NCB ePP **PP** 05 55 13.3 +1.1
736A Circle Diamond 127.58 46 P **PKPdf** 05 53 07.6 +3.7
baz=128,SNR=6.9
PSET Sete Cidades 127.71 329 ePKPdf **PKPdf** 05 53 04.9 +0.9
PSET epPKPdf PP 05 55 07.4 -6.2
PDA Ponta Delgada 127.74 329 ePKPdf **PKPdf** 05 53 05.8 +1.8
PDA epPKPdf **pPKPdf** 05 55 16.3 +0.7
GLAT Glass 127.74 34 ePKPdf **PKPdf** 05 53 05.8 +1.7
GLAT e 05 55 29.6
ACSO Alum Creek Sta 127.75 26 ePKPdf **PKPdf** 05 53 04.5 +0.5
ACSO ePP **PP** 05 55 15.1 +1.5
MDV Middlebury 127.82 15 ePKPdf **PKPdf** 05 53 04.0 0.0
MDV ePP **PP** 05 55 14.8 +1.1
HKT Hockley 127.87 44 ePKIKP **PKPdf** 05 53 06.0 +1.6
HKT e 05 55 13.2
HKT Hockley 127.87 44 ePKPdf **PKPdf** 05 53 06.0 +1.6
HKT epPKPdf **PP** 05 55 13.2 -1.8
HKT eSKPdf SKPdf 05 55 32.1 -15
PGRA Graciosa 127.87 332 ePKPdf **PKPdf** 05 53 05.5 +1.3
PGRA epPKPdf **PP** 05 55 11.8 -2.7
339A Huntington 127.89 42 P **PKPdf** 05 53 06.5 +2.0
baz=128,SNR=5.7
UTMT University of 127.92 33 ePKPdf **PKPdf** 05 53 05.8 +1.4
UTMT epPKPdf **PP** 05 55 12.7 -2.3
UTMT e 05 55 30.5
538A Harpers Horsep 127.94 44 P **PKPdf** 05 53 09.0 +4.4
baz=128
HALT Halls 127.98 34 ePKPdf **PKPdf** 05 53 05.8 +1.3
HALT epPKPdf **PP** 05 55 14.3 -1.0
HALT e 05 55 30.3
PSMN Pico do Norte, 128.00 328 ePKPdf **PKPdf** 05 53 04.5 0.0
PSMN epPKPdf PP 05 55 10.2 -5.2
PSMA Santa Maria 128.03 328 ePKPdf **PKPdf** 05 53 04.7 +0.1
PSMA epPKPdf PP 05 55 10.0 -5.6
439A Center Grove, 128.08 43 P **PKPdf** 05 53 07.8 +3.0
baz=128
WVL Waterville 128.11 12 ePKPdf **PKPdf** 05 53 04.7 +0.3
PMAN Manadas 128.24 332 ePKPdf **PKPdf** 05 53 06.2 +1.3
PMAN epPKPdf **pPKPdf** 05 55 10.8 -5.8
ROSA Rosais 128.24 332 ePKPdf **PKPdf** 05 53 06.8 +1.9
ROSA epPKPdf **PP** 05 55 17.3 +0.4
ACCN Adirondack Com 128.26 16 ePKPdf **PKPdf** 05 53 05.1 +0.3
ACCN epPKPdf **pPKPdf** 05 55 14.8 -1.7
340A Bronson 128.28 41 P **PKPdf** 05 53 07.9 +2.7
baz=128
HNH Hanover 128.33 15 ePKPdf **PKPdf** 05 53 06.1 +1.1
HNH e 05 55 32.2
EMMW East Machias 128.39 10 ePKPdf **PKPdf** 05 53 05.4 +0.5
EMMW epPKPdf **pPKPdf** 05 55 15.8 -0.8
EMMW e 05 55 32.8
PCED Cedros 128.53 332 ePKPdf **PKPdf** 05 53 07.1 +1.6
PCED epPKPdf **PP** 05 55 18.6 -0.1
PCAN Candelaria 128.56 332 ePKPdf **PKPdf** 05 53 07.1 +1.5
PCAN epPKPdf **PP** 05 55 20.7 +1.8
WVT Waverly 128.64 33 ePKHKP PKPpre 05 52 44.6
WVT e 05 53 05.9
WVT e 05 55 17.7
WVT Waverly 128.64 33 ePKPpre PKPpre 05 52 44.6
WVT ePKPdf **PKPdf** **05 53 05.9 +0.1**
WVT epPKPdf pPKPdf 05 55 17.6 +0.2
WVT e 05 55 32.8
WVT eSKPdf **SKPdf** **05 55 48.3 +0.3**
BINY Binghamton 128.66 19 ePKPdf **PKPdf** **05 53 05.5 -0.1**
BINY epPKPdf **pPKPdf** **05 55 16.6 -0.8**
BINY e 05 55 33.6
FFD Franklin Falls 128.70 14 ePKPdf **PKPdf** **05 53 06.9 +1.3**
FFD epPKPdf **pPKPdf** **05 55 16.0 -1.3**
FFD e 05 55 34.5
H07N1 FLORES T-PHASB 28.72 335 ePKPdf **PKPdf** **05 53 06.0 +0.1**
H07N1 epPKPdf **PP** **05 55 22.8 +2.9**
TRY Troy 128.87 16 ePKPdf **PKPdf** **05 53 06.8 +0.8**
TRY e 05 55 35.4
H07S1 FLORES T-PHASB 29.02 335 ePKPdf **PKPdf** **05 53 06.6 +0.2**
H07S1 epPKPdf **PP** **05 55 27.0 +5.2**
SSPA Standing Stone 129.42 21 ePKPdf **PKPdf** **05 53 07.3 +0.2**
SSPA ePP **PP** **05 55 25.2 +1.0**
SSPA eSKPab SKPbc 05 55 36.7 +0.1
HRV Adam Dziewonsk 129.63 15 ePKIKP **PKPdf** **05 53 06.6 -0.8**
HRV Adam Dziewonsk 129.63 15 ePKPdf **PKPdf** **05 53 06.6 -0.8**
HRV eSKPbc SKPbc 05 55 37.6 +0.3
SWET Sewanee 130.34 32 ePKPpre PKPpre 05 52 52.2
SWET ePKPdf **PKPdf** **05 53 09.0 -0.1**
SWET epPKPdf pPKPdf 05 55 19.4 -1.3
SWET eSKPbc **SKPbc** **05 55 39.9 -0.3**
USHA Ushuaia 130.53 171 PKP **PKPdf** **05 53 09.8 +1.2**
comp=N,32nm,0.8s,baz=156,slow=2.1,SNR=27
USHA SKPbc **SKPbc** **05 55 40.0 -0.1**
comp=N,195nm,0.8s,baz=192,slow=4.8,SNR=38
SDMD Soldier's Deli 130.88 21 ePKPdf **PKPdf** **05 53 11.5 +1.6**
SDMD eSKPbc **SKPbc** **05 55 42.1 +0.1**
CPCT Cooper Cave 130.88 31 ePKPpre PKPpre 05 52 56.2
CPCT ePKPdf **PKPdf** **05 53 10.4 +0.4**
CPCT epPKPdf pPKPdf 05 55 21.2 -0.5
CPCT eSKPbc **SKPbc** **05 55 42.3 +0.1**
TKL Tuckaleechee C 131.09 30 SKPbc **SKPbc** **05 55 42.8 -0.2**
comp=N,231nm,0.9s,baz=168,slow=1.8,SNR=40
BLA Blacksburg 131.37 26 ePKHKP PKPpre 05 53 00.5
BLA e 05 53 10.3
BLA e 05 55 44.1
BLA Blacksburg 131.37 26 ePKPpre PKPpre 05 53 00.5
BLA ePKPdf **PKPdf** **05 53 10.3 -0.7**
BLA epPKPdf pPKPdf 05 55 22.7 0.0
BLA eSKPbc **SKPbc** **05 55 44.1 +0.2**
LRAL Lakeview Retre 131.40 35 ePKPpre PKPpre 05 52 56.5
LRAL ePKPdf **PKiKP** **05 53 12.8 +0.6**
LRAL epPKPdf pPKPdf 05 55 23.4 +0.7
LRAL eSKPbc **SKPbc** **05 55 44.0 -0.1**
VWCC Virginia Weste 131.53 25 ePKPdf **PKPdf** **05 53 11.4 +0.1**
VWCC eSKPbc **SKPab** **05 55 45.6 0.0**
CBN Corbin 131.75 22 ePKPdf **PKPdf** **05 53 12.6 +1.1**
CBN e 05 55 29.4
CBN eSKPbc **SKPab** **05 55 46.5 +0.1**
JSRW J. Sargeant Re 132.00 23 ePKPpre PKPpre 05 53 00.8
JSRW ePKPdf **PKiKP** **05 53 13.5 +0.3**
JSRW eSKPbc **SKPbc** **05 55 46.6 +0.6**
BRAL Brewton 132.84 37 ePKPpre PKPpre 05 53 04.2
BRAL ePKPdf **PKiKP** **05 53 15.3 +0.2**
BRAL epPKPdf pPKPdf 05 55 25.4 -0.1
BRAL eSKPbc **SKPbc** **05 55 49.1 +0.1**
GOGA Godfrey 133.02 31 ePKHKP PKPpre 05 53 00.6
GOGA e 05 53 14.7
GOGA e 05 55 24.8
GOGA e 05 55 49.2
GOGA Godfrey 133.02 31 ePKPpre PKPpre 05 53 00.6
GOGA ePKPdf **PKPdf** **05 53 14.7 +0.6**
GOGA epPKPdf pPKPdf 05 55 24.8 -1.0
GOGA eSKPbc **SKPbc** **05 55 49.2 -0.4**
CNNC Cliffs of the 134.12 25 ePKPpre PKPpre 05 53 08.5
CNNC ePKPdf **PKiKP** **05 53 18.2 +0.6**
CNNC epPKPdf pPKPdf 05 55 31.9 +4.1
CNNC ePP **PP** **05 55 52.6 -1.4**
CNNC eSKPab **SKPab** **05 55 58.0 +1.2**
TIGA Tifton 134.49 33 P **PKPdf** **05 53 19.6 +2.7**
baz=134
TIGA Tifton 134.49 33 ePKPpre PKPpre 05 53 05.7
TIGA ePKPdf **PKPdf** **05 53 19.6 +2.7**
TIGA eSKPbc **SKPbc** **05 55 54.6 +0.2**
TIGA eSKPab **SKiKP** **05 56 00.4 -1.0**
CMIG Matias Romero 135.53 58 PKhKP PKPpre 05 53 08.5
comp=N,1.2nm,0.5s,baz=27,slow=2.3,SNR=1.4
CMIG PKP **PKPdf** **05 53 19.2 0.0**
comp=N,16nm,0.7s,baz=261,slow=1.2,SNR=4.5
CMIG SKPbc **SKPbc** **05 55 57.3 -0.7**
comp=N,145nm,1.0s,baz=278,slow=1.9,SNR=53
TEIG Tepich 139.16 49 PKhKP PKPpre 05 53 17.9
comp=N,0.2nm,0.4s,baz=270,slow=20,SNR=4.8
TEIG SKPbc **SKPbc** **05 56 07.8 -0.6**
comp=N,1.5nm,0.7s,baz=358,slow=22,SNR=12
TEIG Tepich 139.16 49 PKPpre PKPpre 05 53 17.9
TEIG ePKPdf **PKPdf** **05 53 23.5 -2.3**
TEIG eSKPdf **SKPdf** **05 56 07.6 +0.1**
TEIG SKPbc **SKPbc** **05 56 07.8 -0.6**
BBSR BB Station 140.87 11 ePKPdf **PKPdf** **05 53 29.2 +0.6**
BBSR eSKPbc **SKPbc** **05 56 12.6 +0.1**
SACV Santiago Islan 141.27 303 ePKP **PKPdf** **05 53 24.9 -4.8**
SACV e 05 54 00.3
SACV eSKPdf **SKPbc** **05 56 13.4 -0.6**
JTS JuntasAbangare 147.23 60 PKPbc **PKPdf** **05 53 41.0 +0.9**
comp=N,36nm,0.7s,baz=2.2,slow=9.7,SNR=22
JTS pPKPbc **pPKPbc** **05 55 53.1 +0.1**
comp=N,25nm,1.0s,baz=355,slow=1.9,SNR=3.7
TRQA Tornquist 147.86 172 ePKPdf **PKPdf** **05 53 41.4 +0.9**
TRQA ePKPbc **PKPbc** **05 53 44.7 +0.4**
TRQA epPKPdf **pPKPdf** **05 55 52.1 -0.5**
U65B HualaæØ 148.04 156 ePKPdf **PKPdf** **05 53 41.6 +0.8**
U65B ePKPbc **PKiKP** **05 53 45.9 -0.2**
U65B e 05 55 09.9
U65B epPKPdf **pPKPdf** **05 55 52.9 +0.1**
U65B eSKPdf **SKPdf** **05 56 19.3 -2.3**
U65B esPKPdf **sPKPdf** **05 56 47.7 +0.3**
CVJ Coleyville 148.05 40 *i* P **PKPbc** **05 53 47.0 +1.6**
MTDJ Mount Denham 148.05 40 ePKPdf **PKPdf** **05 53 42.0 +0.6**
MTDJ ePKPbc **PKiKP** **05 53 46.6 0.0**
MTDJ epPKPdf **pPKPdf** **05 55 53.7 +0.3**
BBJ Bamboo Saint A 148.10 40 *i* P **PKPbc** **05 53 47.1 +1.7**
MCJ Malvern 148.17 41 *i* P **PKPbc** **05 53 45.5 -0.1**
GTBY Guantanamo Bay 148.22 35 ePKPdf **PKPdf** **05 53 43.0 +1.5**
GTBY ePKPbc **PKiKP** **05 53 47.2 +0.4**
GTBY epPKPdf **pPKPdf** **05 55 53.2 -0.4**
STH Stony Hill 148.62 39 *i* P **PKPbc** **05 53 47.9 +1.2**
PCJ Portland Cotta 148.64 40 *i* P **PKPbc** **05 53 48.2 +1.5**
GWJ Greenwich 148.67 39 *i* P **PKPbc** **05 53 47.0 +0.1**
HOJ Hope 148.71 39 *i* P **PKPbc** **05 53 48.3 +1.4**
GRTK Grand Turk 148.94 27 ePKPbc **PKPbc** **05 53 48.5 +1.1**
YHJ Yallahs 148.96 39 *i* P **PKPbc** **05 53 48.8 +1.2**
U73B San Pedro 149.10 155 ePKPbc **PKPbc** **05 53 47.2 -0.2**
U73B e 05 56 01.4
SDDR Presa de Saban 151.04 30 ePKPbc **PKPbc** **05 53 53.4 +1.0**
SMN1 Samana, DR 151.81 26 ePKPdf **PKPdf** **05 53 48.3 +1.2**
SMN1 ePKPbc **PKiKP** **05 53 55.3 +0.9**
SMN1 epPKPdf **pPKPdf** **05 56 03.2 +3.8**
BCIP Isla Barro Col 152.14 57 ePKPdf **PKPdf** **05 53 47.8 +0.1**
BCIP ePKPbc **PKiKP** **05 53 55.6 +0.5**
CFAA Coronel Fontan 152.39 158 PKP **PKPdf** **05 53 46.8 -0.9**
comp=N,3.5nm,0.8s,baz=207,slow=1.6,SNR=34
CFAA PKPbc **PKiKP** **05 53 55.5 +0.3**
comp=N,8.6nm,0.7s,baz=135,slow=3.7,SNR=38
CFAA SKKPbc 06 03 48.4
comp=N,1.1nm,1.0s,baz=10,slow=4.0,SNR=3.7
LCO Las Campanas 153.58 151 ePKPdf **PKPdf** **05 53 50.8 +1.0**
LCO ePKPbc **PKiKP** **05 53 59.3 +1.3**
LCO ePKPab **PKPab** **05 54 16.1 +2.8**
LCO e 05 56 12.2
LSP Las Mesas 153.62 23 ePKPdf **PKPdf** **05 53 50.2 +0.5**
CELP Cerrillos 153.91 22 ePKPdf **PKPdf** **05 53 51.0 +0.9**
CELP ePKPbc **PKiKP** **05 53 59.8 +1.2**
CELP ePKPab **PKPab** **05 54 15.7 +1.2**
CELP e 05 56 15.3
OBIP Obispado Ponce 153.93 22 ePKPdf **PKPdf** **05 53 50.8 +0.6**
OBIP ePKPbc **PKiKP** **05 53 59.2 +0.5**
OBIP ePKPab **PKPab** **05 54 17.1 +2.4**
OBIP e 05 56 15.7
SJG San Juan 154.04 22 PKP **PKPdf** **05 53 50.9 +0.6**
comp=N,11nm,0.6s,baz=334,slow=2.8,SNR=6.1
SJG PKPbc **PKiKP** **05 53 59.9 +1.1**
comp=N,21nm,0.6s,baz=24,slow=17,SNR=5.7
SJG PKPab **PKPab** **05 54 14.8 -0.3**
comp=N,18nm,0.6s,baz=32,slow=13,SNR=3.4
SJG pPKPab **pPKPab** **05 56 17.6 -2.7**
comp=N,25nm,0.8s,baz=277,slow=3.9,SNR=2.6
SJG San Juan 154.04 22 PKIKP **PKPdf** **05 53 50.9 +0.6**
SJG 05 54 14.8
SJG pmax pmax
comp=Z,11nm,0.6s
SJG pmax pmax
comp=Z,21nm,0.6s
SJG pmax pmax
comp=Z,18nm,0.6s
SJG pmax pmax
comp=Z,25nm,0.8s
SJG San Juan 154.04 22 ePKPdf **PKPdf** **05 53 50.5 +0.2**
SJG PKP **PKPdf** **05 53 50.9 +0.6**
SJG ePKPbc **PKPbc** **05 53 59.1 +0.2**
SJG PKPbc **PKiKP** **05 53 59.9 +1.1**
SJG PKPab **PKPab** **05 54 14.8 -0.3**
SJG pPKPab **pPKPab** **05 56 17.6 -2.7**
SJG e 05 56 22.2
STVI Saint Thomas 154.22 19 ePKPdf **PKPdf** **05 53 50.8 +0.2**
STVI ePKPbc **PKiKP** **05 54 00.0 +0.7**
STVI ePKPab **PKPab** **05 54 16.4 +0.5**
ANWB Willy Bob 155.73 12 ePKPab **PKPab** **05 54 22.2 -0.1**
OTAV Otavalo 157.12 75 ePKPdf **PKPdf** **05 53 55.9 +0.8**
OTAV ePKPab **PKPab** **05 54 31.2 +1.8**
OTAV epPKPdf **pPKPdf** **05 56 07.0 -0.6**
OTAV eSKPdf **SKPdf** **05 56 35.2 +0.5**
OTAV ePP PP 05 58 16.2 +5.4
OTAV e 05 59 24.5
ATAH Atahualpa 158.17 94 PKP **PKPdf** **05 53 57.1 +0.8**
comp=Z,56nm,1.1s,baz=232,slow=1.8,SNR=26
ATAH PKPab **PKPab** **05 54 33.9 -0.1**
comp=Z,36nm,0.8s,baz=283,slow=2.3,SNR=7.9
FDF Fort de France 158.71 13 ePKIKP **PKPdf** **05 53 57.2 +0.8**
FDF e 05 54 35.9
FDF e 05 56 08.5
FDF Fort de France 158.71 13 ePKPdf **PKPdf** **05 53 57.1 +0.8**
FDF ePKPab **PKPab** **05 54 35.9 +0.5**
FDF epPKPdf **pPKPdf** **05 56 08.5 -0.6**
FDF eSKPdf **SKPdf** **05 56 42.6 +6.7**
ROSC El Rosal 159.04 59 PKP **PKPdf** **05 53 57.4 +0.1**
comp=Z,21nm,1.0s,baz=74,slow=4.2,SNR=28
ROSC El Rosal 159.04 59 PKP **PKPdf** **05 53 57.4 +0.1**
ROSC ePKPdf **PKPdf** **05 53 58.1 +0.8**
ROSC eSKPdf **SKPdf** **05 56 36.6 -0.1**
NNA Nana 159.05 107 PKP **PKPdf** **05 53 57.4 +0.6**
comp=Z,14nm,0.8s,baz=241,slow=6.6,SNR=4.9
NNA PKPab **PKPab** **05 54 37.2 -0.1**
comp=Z,20nm,0.6s,baz=273,slow=9.8,SNR=5.6
NNA Nana 159.05 107 PKIKP **PKPdf** **05 53 57.4 +0.6**
NNA 05 54 37.2
NNA e 05 56 10.3
NNA e 05 57 02.7
NNA Nana 159.05 107 PKP **PKPdf** **05 53 57.4 +0.6**
NNA ePKPdf **PKPdf** **05 53 57.6 +0.8**
NNA PKPab **PKPab** **05 54 37.2 -0.1**
NNA ePKPab PKPab 05 54 39.4 +2.1
NNA epPKPdf **pPKPdf** **05 56 10.3 +0.8**
NNA eSKPdf **SKPdf** **05 56 36.5 +0.3**
NNA esPKPdf **sPKPdf** **05 57 02.7 -1.2**
SDV Santo Domingo 159.41 44 ePKPdf **PKPdf** **05 53 57.6 +0.1**
SDV epPKPdf **pPKPdf** **05 56 10.1 0.0**
SDV eSKPdf **SKPdf** **05 56 36.2 -0.6**
SDV e 06 04 14.2
RCBR Riachuelo 159.57 270 PKP **PKPdf** **05 53 57.4 0.0**
comp=Z,73nm,1.1s,baz=351,slow=2.6,SNR=9.8
RCBR PKPab **PKPab** **05 54 39.4 -0.2**
comp=Z,123nm,1.1s,baz=71,slow=4.4,SNR=9.3
RCBR Riachuelo 159.57 270 PKP **PKPdf** **05 53 57.4 0.0**
RCBR ePKPdf **PKPdf** **05 53 58.9 +1.4**
RCBR PKPab **PKPab** **05 54 39.4 -0.2**
RCBR ePKPab PKPab 05 54 39.7 +0.1
RCBR e 05 56 58.3
LVC Limon Verde 159.70 145 PKP **PKPdf** **05 53 58.1 +0.5**
comp=Z,33nm,0.7s,baz=283,slow=0.7,SNR=13
LVC PKPab **PKPab** **05 54 40.7 +0.7**
comp=Z,117nm,0.8s,baz=269,slow=4.2,SNR=10.0
LVC Limon Verde 159.70 145 PKP **PKPdf** **05 53 58.1 +0.5**
LVC ePKPdf **PKPdf** **05 53 59.3 +1.7**
LVC PKPab **PKPab** **05 54 40.7 +0.7**
LVC ePKPab PKPab 05 54 42.1 +2.1
LVC epPKPdf **pPKPdf** **05 56 11.1 +0.8**
CPUP Villa Florida 159.93 178 PKP **PKPdf** **05 53 57.0 -0.5**
comp=Z,49nm,1.1s,baz=74,slow=0.3,SNR=40
CPUP PKPab **PKPab** **05 54 40.6 +0.2**
comp=Z,39nm,1.0s,baz=186,slow=3.6,SNR=8.2
CPUP PP **PP** **05 58 22.9 0.0**
comp=Z,60nm,1.2s,baz=186,slow=5.2,SNR=4.2
CPUP Villa Florida 159.93 178 PKIKP **PKPdf** **05 53 57.0 -0.5**
CPUP 05 54 40.7
CPUP e 05 58 24.1
CPUP Villa Florida 159.93 178 PKP **PKPdf** **05 53 57.0 -0.5**
CPUP ePKPdf **PKPdf** **05 53 57.3 -0.1**
CPUP PKPab **PKPab** **05 54 40.6 +0.2**
CPUP ePKPab PKPab 05 54 40.8 +0.4
CPUP eSKPdf **SKPdf** **05 56 42.2 +5.5**
CPUP e 05 58 05.3
CPUP PP **PP** **05 58 22.9 0.0**
CPUP ePP PP 05 58 24.1 +1.2
PCRV Puerto La Cruz 161.82 27 PKP **PKPdf** **05 53 59.3 -0.6**
comp=Z,17nm,0.9s,baz=117,slow=2.9,SNR=4.0
PCRV PKPab **PKPab** **05 54 49.1 0.0**
comp=Z,6.1nm,0.5s,baz=335,slow=8.0,SNR=3.7
BB16B Bebedouro 163.38 207 *i* P **PKPdf** **05 54 01.5 +0.3**
BB16B *i* 05 54 08.2
BB16B *i* 05 54 25.2
BB16B *i* 05 54 33.8
BB16B *i* 05 54 40.7
BB16B *i* 05 54 53.9
LPAZ La Paz 164.76 132 PKP **PKPdf** **05 54 03.4 +0.2**
comp=Z,68nm,1.1s,baz=7.2,slow=1.2,SNR=98
LPAZ PKPab **PKPab** **05 55 04.0 +1.2**
comp=Z,58nm,0.9s,baz=275,slow=0.7,SNR=12
LPAZ SKKP 06 04 43.4
comp=Z,48nm,1.2s,baz=154,slow=24,SNR=17
LPAZ La Paz 164.76 132 PKIKP **PKPdf** **05 54 03.4 +0.2**
LPAZ 05 55 04.0
LPAZ e 05 56 14.8
LPAZ e 05 57 14.4
LPAZ La Paz 164.76 132 PKP **PKPdf** **05 54 03.4 +0.2**
LPAZ ePKPdf **PKPdf** **05 54 03.5 +0.3**
LPAZ PKPab **PKPab** **05 55 04.0 +1.2**
LPAZ ePKPab PKPab 05 55 04.5 +1.7
LPAZ epPKPdf **pPKPdf** **05 56 14.8 -1.3**
LPAZ esPKPdf **sPKPdf** **05 57 14.4 +3.9**
LPAZ e 05 58 16.9
LPAZ SKKP 06 04 43.4
BDFB Brasilia 167.48 221 PKP **PKPdf** **05 54 03.8 -0.9**
comp=Z,40nm,1.0s,baz=156,slow=0.5,SNR=32
BDFB PKPab **PKPab** **05 55 14.4 +0.2**
comp=Z,73nm,1.0s,baz=101,slow=3.4,SNR=20
BDFB PP **PP** **05 59 02.0 -1.2**
comp=Z,26nm,1.2s,baz=124,slow=6.9,SNR=3.7
SIV San Ignacio 169.24 155 PKP **PKPdf** **05 54 05.8 +0.1**
comp=Z,35nm,1.0s,baz=217,slow=0.9,SNR=71
SIV PKPab **PKPab** **05 55 21.7 -0.1**
comp=Z,8.4nm,0.6s,baz=219,slow=6.8,SNR=9.0
SAML Samuel 172.77 113 ePKPdf **PKPdf** **05 54 07.0 -0.6**
SAML ePKPab **PKPab** **05 55 38.5 +0.7**
SAML epPKPdf **pPKPdf** **05 56 22.7 +2.0**
SAML eSKPdf **SKPdf** **05 56 44.2 -1.6**
SAML ePP **PP** **05 59 30.6 +0.2**
PTGA Pitinga 173.55 33 PKP **PKPdf** **05 54 07.5 -0.4**
comp=Z,28nm,1.0s,baz=0.5,slow=1.4,SNR=32
PTGA PKPab **PKPab** **05 55 39.9 -1.1**
comp=Z,47nm,0.7s,baz=347,slow=5.8,SNR=32
PTGA pPKPab **pPKPab** **05 57 44.7 -0.7**
comp=Z,18nm,1.0s,baz=360,slow=3.9,SNR=4.6

IDC 24 05:52:12.7±2.1, 6.96N×123.23E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/54, mbtmp3.7/3, Error ellipse: s-maj=226.0km s-min=25.8km az=63.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.89**	**158**	P	P	05 58 13.4	-0.1
	1.5nm,1.2s,baz=336,slow=10,SNR=6.5						
ASAR	**Alice Springs**	**32.18**	**161**	P	P	05 58 42.6	+0.1
	0.4nm,0.3s,baz=339,slow=7.4,SNR=8.0						
MKAR	**Makanchi Array**	**52.93**	**326**	P	P	06 01 30.8	-0.1
	0.2nm,0.4s,baz=125,slow=8.6,SNR=2.2						

*CSEM **24** 05:55:56.3, 38.30N×28.40W, h4km, ML1.6*
PDA 24 05:55:56.3±0.8, 38.30N×28.40W, h4km±5km, MD3.5, ML1.6, Error ellipse: s-maj=4.7km s-min=4.1km az=170.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCAN	**Candelaria**	**0.17**	**337**	*e*P		Pg	05 55 59.4	-0.4
PCAN				*e*S		Sg	05 56 02.1	0.0
PCAN				A		A	05 56 12.9	
	167nm,0.3s							
PCAN	**Candelaria**	**0.17**	**337**	*e*P		Pg	05 55 59.4	-0.4
PCAN				*e*S		Sg	05 56 02.1	0.0
HOR	**Horta**	**0.29**	**321**	*e*P		Pg	05 56 01.6	-0.3
HOR				*e*S		Sg	05 56 05.7	0.0
HOR	**Horta**	**0.29**	**321**	*e*P		Pg	05 56 01.6	-0.3
HOR				*e*S		Sg	05 56 05.7	0.0
PCED	**Cedros**	**0.40**	**324**	*i* P		Pg	05 56 03.4	-0.7
PCED				*e*S		Sg	05 56 09.0	-0.4
PCED				A		A	05 56 11.1	
	10nm,0.2s							
PMAN	**Manadas**	**0.41**	**36**	*e*P		Pg	05 56 03.9	-0.3
PMAN				*e*S		Sg	05 56 09.3	-0.3
PMAN				A		A	05 56 10.7	
	11nm,0.1s							
PMAN	**Manadas**	**0.41**	**36**	*e*P		Pg	05 56 03.9	-0.3
PMAN				*e*S		Sg	05 56 09.3	-0.3
ROSA	**Rosais**	**0.43**	**16**	*e*P		Pg	05 56 03.8	-0.9
ROSA				*e*S		Sg	05 56 09.5	-0.9
ROSA				A		A	05 56 14.8	
	20nm,0.3s							
ROSA	**Rosais**	**0.43**	**16**	*e*P		Pg	05 56 03.8	-0.9
ROSA				*e*S		Sg	05 56 09.5	-0.9

IDC 24 05:59:24.0±3.1, 53.55N×87.29E, h0km, mb1 2.7/2, mb1mx2.7/65, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=31.3km s-min=16.2km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.52**	**286**	*i*			06 08 30.0	
	baz=104,slow=311,SNR=0.8							
ZALV	**Zalesovo Beam**	**1.52**	**286**	Pg		Pn	05 59 51.8	-0.7
	0.8nm,0.3s,baz=107,slow=15,SNR=8.4							
ZALV				Lg		Lg	06 00 11.3	
	0.8nm,0.3s,baz=104,slow=28,SNR=7.2							
KURBB	**Kurchatov Arra**	**6.14**	**245**	Pn		Pn	06 00 57.7	+1.8
	0.1nm,0.3s,baz=61,slow=14,SNR=4.1							
MKAR	**Makanchi Array**	**7.48**	**207**	Pn		Pn	06 01 14.9	+0.5
	0.1nm,0.3s,baz=24,slow=11,SNR=2.3							

IDC 24 06:03:41.4±17.0, 6.81N×123.53E, h570km±258km, mb3.0/5, mb1 3.2/5, mb1mx2.7/58, mbtmp4.1/5, Error ellipse: s-maj=200.2km s-min=39.8km az=61.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**28.63**	**158**	P		P	06 08 52.7	-0.4
	2.0nm,0.4s,baz=336,slow=10.0,SNR=44							
ASAR	**Alice Springs**	**31.94**	**162**	P		P	06 09 21.8	+0.3
	1.3nm,0.3s,baz=341,slow=7.1,SNR=33							
STKA	**Stephens Creek**	**42.16**	**157**	P		P	06 10 44.2	-0.6
	0.7nm,0.3s,baz=341,slow=6.7,SNR=3.5							
MKAR	**Makanchi Array**	**53.23**	**326**	P		P	06 12 07.7	+0.4
	0.8nm,0.5s,baz=124,slow=8.2,SNR=6.0							
KURBB	**Kurchatov Arra**	**57.45**	**328**	P		P	06 12 36.0	-0.4
	0.6nm,0.5s,baz=130,slow=6.0,SNR=11							

DJA 24 06:07:04.7±0.5, 1.7N±3.7×12.7E±.7, h13km±4km, M3.9/19, mb4.2/5, MLv3.8/19, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MRSI	**Marisa**	**1.19**	**136**	P		Pb	06 07 27.2	+0.1
MRSI				S		Sb	06 07 40.8	-1.6
MPSI	**Mapaga**	**1.58**	**231**	P		Pn	06 07 30.1	-2.3
APSI	**Ampana**	**2.30**	**167**	P		Pn	06 07 41.8	-0.5
PCI	**Palu**	**2.57**	**210**	P		Pn	06 07 45.9	-0.2
LUWI	**Luwuk**	**2.88**	**145**	P		Pn	06 07 49.8	-0.6
KMSI	**Cibinong**	**2.96**	**105**	P		Pn	06 07 50.6	-0.8
TTSI	**Tana Toraja**	**4.55**	**197**	P		Pn	06 08 13.3	0.0
BKB	**Balikpapan**	**4.95**	**239**	P		Pn	06 08 17.6	-1.2
SGSI	**Sangihe**	**4.98**	**62**	P		Pn	06 08 19.5	+0.2
SPSI	**Sidrap Palu**	**5.44**	**194**	P		Pn	06 08 25.5	0.0
	11nm,0.9s,0.1nm							
KDI	**Kendari**	**5.47**	**164**	P		Pn	06 08 26.3	+0.3
	33nm,0.6s,0.2nm							
SANI	**Sanana**	**5.92**	**125**	P		Pn	06 08 31.5	-0.6

*IDC **24** 06:09:50.5±0.9, 43.00N×46.92E, h0km, mb3.7/5, mb1 3.7/9, mb1mx3.5/51, mbtmp3.7/9, ML0.7/1, MS4.5/2, Ms1 4.5/2, ms1mx3.5/53, Error ellipse: s-maj=15.9km s-min=10.1km az=165.0*
*AZER **24** 06:09:52.3±4.1, 43.16N×46.59E, h20km, Error ellipse: s-maj=4.6km s-min=2.6km az=331.0*
*MOS **24** 06:09:52.3±1.4, 43.11N×47.18E, h10km, mb3.9/5, Error ellipse: s-maj=6.3km s-min=6.1km az=149.4*
*CSEM **24** 06:09:53.5±0.2, 43.21N×47.21E, h2km, mb3.9, Error ellipse: s-maj=5.6km s-min=4.3km az=30.0*
ISC 24 06:09:52.7±1.1, 43.13N±0.02×47.15E±0.02, h8km±8km, n114, σ1§38/174, mb3.7/6, 14C-16D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DBC	**Dubki**	**0.26**	**245**	⇑*i*PG		**Pg**	**06 09 57.0**	**-0.9**
BUJR	**Buynaksk**	**0.31**	**186**	*e*PG		**Pg**	**06 09 59.0**	**+0.2**
BUJR	**Buynaksk**	**0.31**	**186**	*e*Pg		**Pg**	**06 09 59.0**	**+0.2**
MAK	**Makhachkala**	**0.31**	**123**	*e*PG		**Pb**	**06 10 01.0**	**+0.5**
MAK				*e*			06 10 05.9	
MAK				pmax	pmax			
	comp=Z,164nm,0.8s							
MAK				smax	smax			
	comp=E,1μm,0.5s							
MAK				smax	smax			
	comp=N,2μm,0.5s							
MAK	**Makhachkala**	**0.31**	**123**	*e*Pg		**Pb**	**06 10 01.0**	**+0.5**
	comp=N,164nm,0.8s							
MAK				*e*Sg		**Sb**	**06 10 05.9**	**+0.2**
	comp=N,2μm,0.5s							
KRNR	**Karanay**	**0.35**	**211**	⇑*i*PG		**Pg**	**06 09 57.2**	**-2.5**
KRNR				*e*S		**Sg**	**06 10 05.0**	**+0.6**
DLMR	**Dylym**	**0.39**	**261**	*e*PG		**Pg**	**06 09 58.0**	**-2.3**
UNCR	**Uncukul**	**0.49**	**212**	*e*PG		**Pg**	**06 10 00.0**	**-2.3**
UNCR				pmax	pmax			
	comp=Z,1μm,0.5s							
XNZR	**Khunzakh**	**0.68**	**209**	*e*PG		**Pg**	**06 10 03.5**	**-2.3**
XNZR				*e*S		**Sg**	**06 10 12.0**	**-2.6**
XNZR				pmax	pmax			
	comp=Z,439nm,0.2s							
URKR	**Urkarakh**	**1.03**	**160**	*e*PG		**Pg**	**06 10 12.0**	**-0.5**
URKR				*e*S		**Sb**	**06 10 27.0**	**+0.4**
URKR	**Urkarakh**	**1.03**	**160**	*e*Sg		**Sb**	**06 10 27.0**	**+0.4**
GRO	**Groznyy**	**1.04**	**281**	*e*PG		**Pn**	**06 10 13.7**	**+0.1**
GRO				*e*S		**Sn**	**06 10 29.5**	**+1.1**
GRO	**Groznyy**	**1.04**	**281**	*e*Pg		**Pn**	**06 10 13.7**	**+0.1**
GRO				*e*Sg		**Sn**	**06 10 29.5**	**+1.1**
ZKTA	**Zakatala**	**1.54**	**195**	⇑P		**Pn**	**06 10 20.6**	**0.0**
	SNR=87							
ZKTA				⇓S		**Sg**	**06 10 45.1**	**+2.8**
KSMR	**Kasumkent**	**1.69**	**154**	*e*PN		**Pb**	**06 10 23.5**	**-0.6**
KSMR				*e*S		**Sg**	**06 10 47.0**	**0.0**
KSMR				pmax	pmax			
	comp=Z,200nm,0.3s							
KSMR	**Kasumkent**	**1.69**	**154**	*e*Pn		**Pb**	**06 10 23.5**	**-0.6**
	comp=Z,200nm,0.3s							
AKT	**Akhty**	**1.71**	**165**	*e*PN		**Pn**	**06 10 23.0**	**+0.1**
AKT				*i* S		**Sg**	**06 10 51.0**	**+3.5**
AKT				pmax	pmax			
	comp=Z,122nm,0.2s							
AKT	**Akhty**	**1.71**	**165**	*i* Sg		**Sg**	**06 10 51.0**	**+3.5**
VLKR	**Vladikavkaz**	**1.81**	**268**	*e*PN		**Pb**	**06 10 27.0**	**+0.8**
VLKR				*e*S		**Sg**	**06 10 52.5**	**+1.5**
VLKR	**Vladikavkaz**	**1.81**	**268**	*e*Pn		**Pb**	**06 10 27.0**	**+0.8**
VLKR				*e*Sg		**Sg**	**06 10 52.5**	**+1.5**
TRKR	**Terskaya**	**1.86**	**289**	*e*PN		**Pb**	**06 10 27.4**	**+0.5**
TRKR				*e*S		**Sg**	**06 10 54.5**	**+2.0**
TRKR	**Terskaya**	**1.86**	**289**	*e*Pn		**Pb**	**06 10 27.4**	**+0.5**
TRKR				*e*Sg		**Sg**	**06 10 54.5**	**+2.0**
BTKR	**Batakoyurt**	**1.92**	**278**	*e*PN		**Pg**	**06 10 29.0**	**-0.5**
BTKR				*e*S		**Sg**	**06 10 56.2**	**+1.7**
BTKR	**Batakoyurt**	**1.92**	**278**	*e*Pn		**Pg**	**06 10 29.0**	**-0.5**
BTKR				*e*Sg		**Sg**	**06 10 56.2**	**+1.7**
SEKA	**Sheki**	**1.92**	**179**	⇓P		**Pb**	**06 10 28.3**	**+0.3**
	SNR=127							
SEKA				⇓S		**Sg**	**06 10 55.1**	**+0.6**
SEKA	**Sheki**	**1.92**	**179**	P		**Pb**	**06 10 28.3**	**+0.3**
	SNR=127							
SEKA				S		**Sg**	**06 10 55.1**	**+0.6**
QUBA	**Quba, Azerbaij**	**2.04**	**150**	⇓P		**Pb**	**06 10 30.1**	**+0.1**
	SNR=7.4							
QUBA				⇓S		**Sg**	**06 11 01.5**	**+3.4**
QUBA	**Quba, Azerbaij**	**2.04**	**150**	P		**Pb**	**06 10 30.1**	**+0.1**
	SNR=7.4							
QUBA				S		**Sg**	**06 11 01.5**	**+3.4**
DUS	**Dusheti**	**2.09**	**241**	P		**Pg**	**06 10 32.4**	**-0.3**
DUS				S		**Sg**	**06 10 59.7**	**-0.1**
DUS	**Dusheti**	**2.09**	**241**	*e*PN		**Pg**	**06 10 32.4**	**-0.3**
DUS				*e*S		**Sg**	**06 10 59.7**	**-0.1**
DUS	**Dusheti**	**2.09**	**241**	P		**Pg**	**06 10 32.4**	**-0.3**
DUS				S		**Sg**	**06 10 59.7**	**-0.1**
ARNR	**Ardon**	**2.10**	**272**	*e*PN		**Pb**	**06 10 30.3**	**-0.7**
ARNR				*e*S		**Sg**	**06 10 59.7**	**-0.5**
ARNR	**Ardon**	**2.10**	**272**	*e*Pn		**Pb**	**06 10 30.3**	**-0.7**
ARNR				*e*Sb		**Sg**	**06 10 59.7**	**-0.5**
LACR	**Lac**	**2.12**	**263**	*e*PN		**Pn**	**06 10 28.7**	**+0.2**
LACR				*e*S		**Sb**	**06 10 57.5**	**-0.4**
LACR	**Lac**	**2.12**	**263**	*e*Pn		**Pn**	**06 10 28.7**	**+0.2**
DGRG	**David-gareji**	**2.14**	**219**	P		**Pb**	**06 10 31.4**	**-0.3**
DGRG				S		**Sg**	**06 11 01.9**	**+0.5**
DGRG	**David-gareji**	**2.14**	**219**	*e*PN		**Pb**	**06 10 31.3**	**-0.3**
DGRG				*e*S		**Sg**	**06 11 01.8**	**+0.5**
DGRG	**David-gareji**	**2.14**	**219**	P		**Pb**	**06 10 31.4**	**-0.3**
DGRG				S		**Sg**	**06 11 01.9**	**+0.5**
PRTR	**Priterechnaya**	**2.18**	**287**	*e*PN		**Pb**	**06 10 33.4**	**+1.0**
PRTR				*e*S		**Sg**	**06 11 03.9**	**+1.2**
PRTR	**Priterechnaya**	**2.18**	**287**	*e*Pn		**Pb**	**06 10 33.4**	**+1.0**
PRTR				*e*Sb		**Sg**	**06 11 03.9**	**+1.2**
SEAG	**Tbilisi Sea**	**2.21**	**233**	P		**Pb**	**06 10 32.2**	**-0.8**
SEAG				S		**Sb**	**06 11 00.8**	**+0.3**
SEAG	**Tbilisi Sea**	**2.21**	**233**	P		**Pb**	**06 10 32.2**	**-0.8**
SEAG				S		**Sb**	**06 11 00.8**	**+0.3**
KORR	**Kora**	**2.26**	**270**	*e*PN		**Pb**	**06 10 33.0**	**-0.8**
KORR				*e*S		**Sg**	**06 11 04.0**	**-1.3**
KORR	**Kora**	**2.26**	**270**	*e*Pn		**Pb**	**06 10 33.0**	**-0.8**
STDR	**Stavd-Durt**	**2.27**	**277**	*e*PN		**Pb**	**06 10 34.9**	**+1.0**
STDR				*e*S		**Sg**	**06 11 06.2**	**+0.6**
STDR	**Stavd-Durt**	**2.27**	**277**	*e*Pn		**Pb**	**06 10 34.9**	**+1.0**
STDR				*e*Sb		**Sg**	**06 11 06.2**	**+0.6**
TBLG	**Delisi**	**2.27**	**233**	P		**Pb**	**06 10 32.9**	**-1.1**
TBLG				S		**Sb**	**06 11 03.2**	**+1.0**
TBLG	**Delisi**	**2.27**	**233**	PN		**Pb**	**06 10 32.9**	**-1.1**
TBLG				S		**Sb**	**06 11 03.2**	**+1.0**
TBLG	**Delisi**	**2.27**	**233**	P		**Pb**	**06 10 32.9**	**-1.1**
TBLG				S		**Sb**	**06 11 03.2**	**+1.0**
MNGR	**Mingechevir, A**	**2.36**	**181**	⇑P		**Pb**	**06 10 33.8**	**-1.6**
	SNR=7.0							
MNGR				⇑S		**Sb**	**06 11 05.5**	**+0.8**
MNGR	**Mingechevir, A**	**2.36**	**181**	P		**Pb**	**06 10 33.8**	**-1.6**
	SNR=7.0							
MNGR				S		**Sb**	**06 11 05.5**	**+0.8**
SIZA	**Siyzn**	**2.43**	**147**	⇑P		**Pg**	**06 10 38.3**	**-1.0**
SIZA				⇓S		**Sg**	**06 11 11.3**	**+0.5**
SIZA	**Siyzn**	**2.43**	**147**	P		**Pg**	**06 10 38.3**	**-1.0**
LSNR	**Lesken**	**2.44**	**275**	*e*PN		**Pb**	**06 10 35.1**	**-1.7**
LSNR				*e*S		**Sb**	**06 11 08.2**	**+1.2**
LSNR	**Lesken**	**2.44**	**275**	*e*Pn		**Pb**	**06 10 35.1**	**-1.7**
QZX	**Qazax, Azerbai**	**2.46**	**213**	⇓P		**Pn**	**06 10 32.2**	**-1.0**
	SNR=22							
QZX				⇑S		**Sn**	**06 11 03.6**	**+0.2**
QZX	**Qazax, Azerbai**	**2.46**	**213**	P		**Pn**	**06 10 32.2**	**-1.0**
	SNR=22							
QZX				S		**Sn**	**06 11 03.6**	**+0.2**
IML	**Ismayilli**	**2.46**	**161**	⇓P		**Pb**	**06 10 37.0**	**-0.2**
	SNR=5.2							
IML				⇓S		**Sg**	**06 11 10.8**	**-1.0**
IML	**Ismayilli**	**2.46**	**161**	P		**Pb**	**06 10 37.0**	**-0.2**
	SNR=5.2							
IML				S		**Sg**	**06 11 10.8**	**-1.0**
GANJ	**Ganja**	**2.56**	**194**	P		**Pn**	**06 10 35.1**	**+0.6**
	SNR=14							
GANJ				⇑S		**Sn**	**06 11 07.4**	**+1.5**
GANJ	**Ganja**	**2.56**	**194**	P		**Pn**	**06 10 35.1**	**+0.6**
	SNR=14							
GANJ				S		**Sn**	**06 11 07.4**	**+1.5**
PQL	**Pirkuli**	**2.58**	**155**	⇑P		**Pb**	**06 10 38.7**	**-0.5**
	SNR=5.7							
PQL				⇓S		**Sg**	**06 11 15.1**	**-0.4**
PQL	**Pirkuli**	**2.58**	**155**	P		**Pb**	**06 10 38.7**	**-0.5**
	SNR=5.7							
DIGR	**Digorskoe uzhe**	**2.63**	**266**	*e*PN		**Pn**	**06 10 36.9**	**+1.3**
DIGR				*e*S		**Sb**	**06 11 11.7**	**-1.0**
DIGR	**Digorskoe uzhe**	**2.63**	**266**	*e*Pn		**Pn**	**06 10 36.9**	**+1.3**
DIGR				*e*Sn		**Sb**	**06 11 11.7**	**-1.0**
ATGJ	**Altiaghaj**	**2.63**	**149**	⇑P		**Pb**	**06 10 40.6**	**+0.4**
	SNR=4.4							
ATGJ	**Altiaghaj**	**2.63**	**149**	P		**Pb**	**06 10 40.6**	**+0.4**
	SNR=4.4							
ONI	**Oni**	**2.77**	**260**	P		**Pn**	**06 10 39.6**	**+2.1**
ONI				S		**Sb**	**06 11 18.9**	**+2.2**
ONI	**Oni**	**2.77**	**260**	*e*PN		**Pn**	**06 10 39.5**	**+2.1**
ONI				*e*S		**Sb**	**06 11 18.9**	**+2.2**
ONI	**Oni**	**2.77**	**260**	P		**Pn**	**06 10 39.6**	**+2.1**
ONI				S		**Sb**	**06 11 18.9**	**+2.2**
BRDA	**Brd**	**2.87**	**180**	⇑P		**Pn**	**06 10 41.1**	**+2.4**
	SNR=8.9							
BRDA				⇓S		**Sb**	**06 11 18.6**	**-0.7**
BRDA	**Brd**	**2.87**	**180**	P		**Pn**	**06 10 41.1**	**+2.4**
	SNR=8.9							
BRDA				S		**Sb**	**06 11 18.6**	**-0.7**
KBZ	**Khabaz**	**3.16**	**282**	Pn		**Pn**	**06 10 42.0**	**-0.7**
	comp=Z,2.3nm,0.3s,baz=142,slow=5.3,SNR=31							
KBZ				Sn		**Sn**	**06 11 18.3**	**-2.2**
	comp=Z,8.0nm,0.3s,baz=142,slow=13,SNR=4.7							
KBZ				Lg		Lg	06 11 29.0	
	comp=Z,11nm,0.3s,baz=9.0,slow=19,SNR=8.2							
KBZ	**Khabaz**	**3.16**	**282**	PN		**Pn**	**06 10 42.0**	**-0.7**
KBZ							06 11 18.3	
KBZ				pmax	pmax			
	comp=Z,2.0nm,0.3s							
KBZ				smax	smax			
	comp=N,8.0nm,0.3s							
KBZ	**Khabaz**	**3.16**	**282**	Pn		**Pn**	**06 10 42.0**	**-0.7**
	comp=N,2.0nm,0.3s							
NEY	**Neytrino**	**3.24**	**274**	⇑*e*PN		**Pn**	**06 10 46.5**	**+2.5**
NEY	**Neytrino**	**3.24**	**274**	*e*Pn		**Pn**	**06 10 46.5**	**+2.5**
NDR	**Nardaran**	**3.31**	**139**	⇓P		**Pb**	**06 10 50.2**	**-1.5**
NDR	**Nardaran**	**3.31**	**139**	P		**Pb**	**06 10 50.2**	**-1.5**
KIV	**Kislovodsk**	**3.35**	**286**	*ce*PN		**Pn**	**06 10 45.1**	**-0.3**
KIV				*i*			06 10 55.7	
KIV				*e*S		**Sn**	**06 11 25.7**	**+0.3**
KIV				pmax	pmax			
	comp=Z,18nm,0.7s							
KIV				MLR	MLR			
	comp=Z,129nm,1.0s							
KIV	**Kislovodsk**	**3.35**	**286**	*e*Pn		**Pn**	**06 10 45.1**	**-0.3**
	comp=Z,18nm,0.7s							
KIV	**Kislovodsk**	**3.35**	**286**	*i* Pb		**Pg**	**06 10 55.7**	**-1.2**
	comp=Z,129nm,1.0s							
KIV				*e*Sn		**Sn**	**06 11 25.7**	**+0.3**
GNI	**Garni**	**3.48**	**212**	Pn		**Pn**	**06 10 46.9**	**-0.5**
	comp=Z,2.2nm,0.3s,baz=75,slow=19,SNR=2.1							
GNI				Sn		**Sn**	**06 11 32.2**	**+3.3**
	comp=Z,3.1nm,0.3s,baz=63,slow=14,SNR=3.9							
GNI	**Garni**	**3.48**	**212**	PN		**Pn**	**06 10 46.9**	**-0.5**
GNI							06 11 32.2	
GNI				pmax	pmax			
	comp=Z,2.0nm,0.3s							
GNI				smax	smax			
	comp=N,3.0nm,0.3s							
GALA	**Gala**	**3.53**	**139**	⇑P		**Pb**	**06 10 52.8**	**-2.5**
GALA	**Gala**	**3.53**	**139**	P		**Pb**	**06 10 52.8**	**-2.5**
GOF	**Gofitskoye**	**3.53**	**304**	*e*PN		Pg	06 11 05.7	+5.4
GOF				*e*S		**Sg**	**06 11 46.4**	**+0.3**
GOF				pmax	pmax			
	comp=Z,30nm,0.8s							
GOF				smax	smax			
	comp=N,640nm,1.2s							
GOF				smax	smax			
	comp=E,390nm,1.2s							
GOF	**Gofitskoye**	**3.53**	**304**	*e*Sb		**Sg**	**06 11 46.4**	**+0.3**
ANN	**Anapa**	**7.21**	**287**	*e*P		**Pn**	**06 11 39.3**	**+1.0**
ANN				*e*S		**Sn**	**06 13 03.0**	**+2.7**
ANN				pmax	pmax			
	comp=Z,40nm,1.2s							
ANN	**Anapa**	**7.21**	**287**	*e*P		**Pn**	**06 11 39.3**	**+1.0**
	comp=Z,40nm,1.2s							
ANN				*e*S		**Sn**	**06 13 03.0**	**+2.7**
VSR	**Storozhevoye**	**9.74**	**329**	*e*P		Pn	06 12 28.7	+16
VSR				pmax	pmax			
	comp=N,8.0nm,0.6s							
VSR				pmax	pmax			
	comp=E,5.0nm,0.6s							
VSR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
AKTK	**Aktyubinsk**	**10.43**	**42**	P		**Pn**	**06 12 23.4**	**+1.0**
	comp=Z,1.0nm,0.3s							
AKTO	**Aktyubinsk**	**10.43**	**42**	⇓Pn		**Pn**	**06 12 23.6**	**+1.2**
	comp=Z,7.2nm,1.0s							
AKTO				⇓Sn		**Sn**	**06 14 14.4**	**-5.0**
	comp=Z,10.0nm,0.8s							
AKTO	**Aktyubinsk**	**10.43**	**42**	Pn		**Pn**	**06 12 23.4**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=231,slow=5.9,SNR=7.6							
AKTO	**Aktyubinsk**	**10.43**	**42**	P		**Pn**	**06 12 23.4**	**+1.0**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.3s							
AKTO	**Aktyubinsk**	**10.43**	**42**	Pn		**Pn**	**06 12 23.6**	**+1.2**
	comp=Z,7.2nm,1.0s							
AB31	**Akbulak array**	**10.77**	**51**	Pn		**Pn**	**06 12 28.1**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=239,slow=11,SNR=34							
AB31				⇓Sn		**Sn**	**06 14 24.1**	**-3.7**
	comp=Z,4.7nm,0.6s,baz=241,slow=22,SNR=5.9							
AB31	**Akbulak array**	**10.77**	**51**	Pn		**Pn**	**06 12 28.1**	**+1.0**
	comp=Z,0.9nm,0.3s,SNR=34							
ARU	**Arti**	**15.18**	**25**	LR		LR	06 20 54.8	
	comp=Z,1μm,18.3s,baz=103,slow=43							
BVAR	**Borovoye Array**	**18.33**	**49**	P		**Pn**	**06 14 06.5**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=253,slow=14,SNR=8.7							
BVAR	**Borovoye Array**	**18.33**	**49**	P		**Pn**	**06 14 06.5**	**-0.7**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
VSU	**Vasula**	**19.92**	**327**	⇓*e*P		**Pn**	**06 14 26.1**	**-0.1**
VSU				pmax	pmax			
	comp=Z,41nm,1.3s							
VSU	**Vasula**	**19.92**	**327**	*e*P		**Pn**	**06 14 26.1**	**-0.1**
	comp=Z,41nm,1.3s							
FINES	**FINESS Array B**	**22.23**	**333**	P		**P**	**06 14 49.1**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=141,slow=14,SNR=8.0							
FINES	**FINESS Array B**	**22.23**	**333**	P		**P**	**06 14 49.1**	**-0.4**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.7s							
KURBB	**Kurchatov Arra**	**22.59**	**60**	P		**P**	**06 14 55.2**	**+1.7**
	comp=Z,1.4nm,0.5s,baz=270,slow=12,SNR=17							
KURK	**Kurchatov**	**22.66**	**59**	P		**P**	**06 14 55.2**	**+1.0**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
KURK	**Kurchatov**	**22.66**	**59**	P		**P**	**06 14 55.2**	**+1.0**
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**25.00**	**69**	P		**P**	**06 15 16.7**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=277,slow=7.4,SNR=3.7							
MKAR	**Makanchi Array**	**25.00**	**69**	P		**P**	**06 15 16.7**	**-0.2**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
HFS	**Hagfors**	**26.43**	**322**	P		**P**	**06 15 28.9**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=130,slow=10,SNR=5.0							
HFS	**Hagfors**	**26.43**	**322**	P		**P**	**06 15 28.9**	**-0.8**
HFS				pmax	pmax			
	comp=Z,2.0nm,0.7s							
TORD	**Torodi Ar. Bea**	**49.14**	**247**	P		P	06 18 37.5	-3.6
	comp=Z,0.9nm,0.8s,baz=42,slow=7.7,SNR=3.8							
ELK	**Elko**	**95.00**	**347**	LR		LR	07 07 17.0	
	comp=Z,247nm,19.4s,baz=34,slow=36							

*SJA **24** 06:14:25.2±0.6, 33.75S×73.06W, h33km, ML3.4, MW3.8*
*GUC **24** 06:14:32.7±0.8, 33.95S×72.06W, h25km±26km, ML3.3*
ISC 24 06:14:31.1±2.0, 33.94S±0.05×72.1W±0.1, h5km±15km, n21, σ1§47/24, 4C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LNV	**Longovilo**	**0.58**	**92**	⇓*i*P		**Pb**	**06 14 44.6**	**+0.8**
IHA	**Instituto Hidr**	**0.99**	**23**	⇑*i*P		**Pg**	**06 14 50.4**	**+0.3**
TACH	**Talagante**	**1.01**	**74**	*i* P		**Pg**	**06 14 50.8**	**+0.3**
CHCH	**Chadas Angostu**	**1.21**	**90**	*i* P		**Pn**	**06 14 54.3**	**-0.5**
NICH	**Los Niches**	**1.28**	**146**	⇑*i*P		**Pn**	**06 14 55.6**	**

WRA	Warramunga Arr	28.41	158	P		P	06 23 23.9	-0.1
	0.4nm,0.4s,baz=336,slow=11,SNR=17							
ASAR	Alice Springs	31.70	161	P		P	06 23 53.2	+0.1
	0.5nm,0.9s,baz=343,slow=7.5,SNR=5.2							
MKAR	Makanchi Array	53.38	326	P		P	06 26 49.6	+0.7
	0.4nm,0.4s,baz=134,slow=7.4,SNR=4.2							
KURBB	Kurchatov Arra	57.61	328	P		P	06 27 18.5	-0.7
	0.4nm,0.7s,baz=129,slow=6.1,SNR=4.9							

*ISCJB **24** 06:20:25.9±0.3,16°.98N±0°.04×95°.12W±0°.03,h126km±3km, mb3.5/6,Error ellipse: s-maj=7.0km s-min=5.1km az=3.4*
*MEX **24** 06:20:27.7±1.0,17°.05N×95°.14W,h122km±7km,MD4.4*
*NEIC **24** 06:20:28.2,17°.06N×95°.13W,h119km,MD4.5(MEX),After MEX.*
NEIC Felt at Tuxtepec.
*IDC **24** 06:20:32.8±5.8,17°.33N×94°.78W,h166km±56km,mb3.3/6, mb1 3.5/7,mb1mx3.3/24,mbtmp3.6/7,Error ellipse: s-maj=34.4km s-min=18.4km az=58.0*

ISC 24 06:20:27.0±0.6,17°.07N±0°.05×95°.15W±0°.03,h119km±5km, n132,σ1§46/144,mb3.5/6,Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.26	84	*i* P	Pn	06 20 43.6	0.0
CMIG				*i* S	Sn	06 20 55.3	-1.0
CMIG	Matias Romero	0.26	84	*i* P	Pn	06 20 43.6	0.0
CMIG				*i* S	Sn	06 20 55.3	-1.0
TUIG	Tuzandepetl	1.19	36	*e*P	Pn	06 20 50.5	-0.4
TUIG				*i* S	Sn	06 21 08.2	-0.8
TUIG	Tuzandepetl	1.19	36	*e*P	Pn	06 20 50.5	-0.4
TUIG				*i* S	Sn	06 21 08.2	-0.8
VHO	Vista Hermosa	1.51	270	*i* P	Pn	06 20 55.0	+0.3
VHO				*i* S	Sn	06 21 15.8	+0.1
VHO	Vista Hermosa	1.51	270	*i* P	Pn	06 20 55.0	+0.3
VHO				*i* S	Sn	06 21 15.8	+0.1
HUIG	Huatulco	1.58	216	*i* P	Pn	06 20 54.6	-0.8
HUIG				*e*S	Sn	06 21 16.6	-0.4
HUIG	Huatulco	1.58	216	*i* P	Pn	06 20 54.6	-0.8
HUIG				*e*S	Sn	06 21 16.6	-0.4
TGIG		1.96	98	*e*P	Pn	06 21 00.2	+0.2
TGIG				*e*S	Sn	06 21 24.0	-1.2
TGIG		1.96	98	*e*P	Pn	06 21 00.6	+0.6
TGIG				*e*S	Sn	06 21 24.0	-1.2
TGBT	Tuxtla Gutierr	1.99	98	*e*P	Pn	06 21 00.2	-0.1
TGBT				*e*S	Sn	06 21 24.9	-0.9
PCIG		2.30	126	*e*P	Pn	06 21 04.4	+0.2
PCIG				*e*S	Sn	06 21 31.6	-1.0
PCIG		2.30	126	*e*P	Pn	06 21 05.4	+1.3
PCIG				*e*S	Sn	06 21 31.6	-1.0
PNIG	Pinotepa	2.93	257	*e*P	Pn	06 21 10.7	-1.6
PNIG				*i* S	Sn	06 21 46.6	-0.7
PNIG	Pinotepa	2.93	257	*e*P	Pn	06 21 10.7	-1.6
PNIG				*e*S	Sn	06 21 41.8	-5.5
TLIG	Tlapa	3.30	279	*e*P	Pn	06 21 17.5	+0.1
TLIG				*i* S	Sn	06 21 55.3	-0.9
537A	Green Hill Far	13.00	356	P	Pn	06 23 31.2	+4.0
	baz=13,SNR=5.7						
JCT	Junction City	14.01	343	P	P	06 23 46.0	+1.6
	baz=14,SNR=6.6						
530A	J-C Ranch, Com	14.20	338	P	P	06 23 50.5	+4.0
	baz=14						
338A	Crockett	14.23	359	P	Pn	06 23 44.7	+1.7
	baz=14						
336A	Riesel	14.34	354	P	P	06 23 48.7	+0.7
	baz=14						
432A	Menard	14.38	344	P	P	06 23 50.0	+1.5
	baz=14,SNR=7.3						
431A	Sonora	14.44	341	P	P	06 23 51.4	+2.2
	baz=14						
TXAR	Lajitas Array	14.50	329	P	Pn	06 23 48.5	+2.0
	0.1nm,0.3s,baz=147,slow=12,SNR=4.9						
333A	Richland Sprin	14.62	347	P	P	06 23 52.9	+1.8
	baz=15						
430A	Baggett Ranch,	14.74	339	P	P	06 23 54.8	+2.3
	baz=15,SNR=8.5						
429A	Davenport Ranc	14.83	337	P	P	06 23 56.8	+3.3
	baz=15,SNR=7.6						
332A	Millersview	14.85	345	P	P	06 23 55.3	+1.6
	baz=15						
238A	Jacksonville	14.87	0	P	P	06 23 54.0	+0.1
	baz=15						
237A	Washetta, Mont	14.88	358	P	P	06 23 54.1	+0.2
	baz=15						
236A	Katherine and	14.92	355	P	P	06 23 55.0	+0.6
	baz=15						
331A	San Angelo	14.97	342	P	P	06 23 57.1	+2.0
	baz=15						
WHTX	Lake Whitney	15.01	352	P	P	06 23 55.9	+0.5
	baz=15,SNR=6.0						
234A	Clairette	15.12	350	P	P	06 23 57.9	+1.3
	baz=15,SNR=15						
330A	Mertzon	15.29	340	P	P	06 24 01.0	+2.4
	baz=15,SNR=6.1						
232A	Coleman	15.31	345	P	P	06 23 60.0	+1.2
	baz=15,SNR=5.8						
138A	Matatall Enter	15.53	0	P	P	06 24 01.9	+0.8
	baz=16						
231A	Bronte	15.53	343	P	P	06 24 02.7	+1.5
	baz=16,SNR=6.2						
134A	White-Moore Ra	15.66	351	P	P	06 24 03.9	+1.1
	baz=16,SNR=8.1						
230A	Sterling City	15.72	341	P	P	06 24 05.3	+2.0
	baz=16,SNR=8.9						
133A	Hamilton Ranch	15.85	348	P	P	06 24 06.5	+1.8
	baz=16,SNR=6.8						
ABTX	Abilene, Hawle	16.01	346	P	P	06 24 08.4	+1.8
	baz=16						
229A	Bryant Ranch,	16.02	339	P	P	06 24 09.4	+2.7
	baz=16						
Z37A	Pogue Cattle C	16.07	359	P	Pn	06 24 06.4	+0.4
	baz=16						
Z38A	Mt. Pleasant	16.12	0	P	Pn	06 24 06.9	+0.2
	baz=16						
Z36A	Blue Ridge	16.18	356	P	Pn	06 24 09.0	+1.5
	baz=16,SNR=5.8						
Z34A	Collier Ranch,	16.43	352	P	P	06 24 12.3	+1.2
	baz=16						
Z33A	Whitaker Ranch	16.48	349	P	P	06 24 13.1	+1.4
	baz=17						
Z32A	Haskell	16.64	347	P	P	06 24 15.1	+1.6
	baz=17,SNR=9.9						
129A	Stewart Farms,	16.64	340	P	P	06 24 16.4	+2.8
	baz=17						
Y36A	Durant	16.79	357	P	Pn	06 24 16.0	+1.0
	baz=17						
Y38A	Idabel	16.80	1	P	Pn	06 24 15.2	+0.2
	baz=17,SNR=7.0						
Z31A	Sharp Cattle R	16.80	345	P	P	06 24 16.6	+1.4
	baz=17,SNR=5.3						
Y39A	Lockesburg	16.83	3	P	Pn	06 24 15.8	+0.5
	baz=17						
128A	Castleberry Fa	16.85	338	P	P	06 24 20.0	+4.2
	baz=17						
Y37A	Hugo	16.85	359	P	Pn	06 24 15.4	-0.3
	baz=17						
Y35A	Marietta	16.86	355	P	Pn	06 24 16.8	+1.1
	baz=17						
Y34A	Reagan Ranch,	16.98	353	P	P	06 24 18.2	+1.0
	baz=17,SNR=13						
Y33A	Hilltop Ranch,	17.16	350	P	P	06 24 20.2	+1.0
	baz=17						
Z29A	Hungry Hill Ra	17.17	341	P	Pn	06 24 21.6	+1.9
	baz=17						
Y32A	R-V Farms, Ver	17.30	348	P	P	06 24 21.9	+1.2
	baz=17						
X35A	Drake	17.34	355	P	P	06 24 22.0	+0.8
	baz=17,SNR=6.9						
Z28A	Tucker Farm, M	17.42	339	P	Pn	06 24 25.1	+2.4
	baz=18						
Y31A	Rekieta Farm,	17.44	346	P	P	06 24 23.6	+1.3
	baz=18						
X37A	Clayton	17.45	359	P	P	06 24 23.5	+1.1
	baz=18,SNR=7.1						
MIAR	Mount Ida	17.46	4	P	P	06 24 22.6	+0.1
	baz=18,SNR=11						
X36A	Centrahoma	17.46	357	P	P	06 24 23.2	+0.6
	baz=18,SNR=8.5						
X38A	Whitesboro	17.53	1	P	P	06 24 24.2	+0.9
	baz=18,SNR=16						
X34A	Smith Ranch, M	17.63	353	P	P	06 24 26.0	+1.7
	baz=18,SNR=5.8						
X33A	Lawton	17.66	351	P	P	06 24 25.6	+0.9
	baz=18						
X32A	Elmer	17.68	349	P	P	06 24 26.1	+1.2
	baz=18						
Y29A	Porterfield Fa	17.72	342	P	Pn	06 24 28.0	+1.7
	baz=18						
W38A	Poteau	17.94	2	P	P	06 24 28.7	+0.9
	baz=18,SNR=9.4						
W37A	Quinton	18.00	359	P	P	06 24 29.7	+1.3
	baz=18,SNR=19						
X31A	McDonald Ranch	18.02	347	P	Pn	06 24 31.1	+1.3
	baz=18						
W36A	Wetumka	18.02	357	P	P	06 24 29.2	+0.5
	baz=18						
X30A	Coker Ranch, T	18.05	345	P	Pn	06 24 31.4	+1.2
	baz=18						
W35A	Tecumseh	18.08	355	P	P	06 24 30.1	+0.9
	baz=18,SNR=6.1						
W34A	Bridge Creek,	18.25	353	P	P	06 24 32.7	+1.5
	baz=18						
W33A	Caddo, Fort Co	18.25	351	P	P	06 24 32.5	+1.2
	baz=18						
W32A	Sentinel	18.35	349	P	P	06 24 33.7	+1.4
	baz=18						
V36A	Jenks	18.66	358	P	P	06 24 35.6	0.0
	baz=19,SNR=12						
V35A	Meyer Ranch, C	18.68	356	P	P	06 24 36.0	+0.1
	baz=19,SNR=15						
V38A	Canehill	18.73	2	P	P	06 24 36.4	0.0
	baz=19,SNR=32						
V37A	Hulbert	18.74	0	P	P	06 24 36.6	0.0
	baz=19,SNR=35						
TUL1	Tulsa	18.78	358	P	P	06 24 36.9	0.0
	baz=19,SNR=9.4						
V34A	Guthrie	18.81	354	P	P	06 24 38.1	+0.8
	baz=19,SNR=5.5						
V33A	Lossen Ranch,	18.89	352	P	P	06 24 38.9	+0.8
	baz=19,SNR=13						
V32A	Arapaho	18.90	350	P	P	06 24 39.9	+1.6
	baz=19						
V31A	Spring Creek L	19.09	348	P	P	06 24 42.3	+1.8
	baz=19						
V30A	Spur Ranch, Mi	19.26	346	P	Pn	06 24 45.5	+1.0
	baz=19,SNR=5.9						
U37A	Salina	19.26	0	P	P	06 24 41.8	-0.4
	baz=19,SNR=5.6						
U35A	Pawnee	19.28	356	P	P	06 24 42.3	-0.1
	baz=19,SNR=10						
U38A	Gravette	19.31	2	P	P	06 24 42.6	-0.1
	baz=19,SNR=14						
U33A	Lingo Farm, Me	19.47	353	P	P	06 24 44.3	-0.1
	baz=20,SNR=5.6						
T35A	Sooner Cattle	19.81	357	P	P	06 24 48.0	-0.1
	baz=20,SNR=19						
T36A	Boggs Farm, Ca	19.93	358	P	P	06 24 49.3	0.0
	baz=20,SNR=5.6						
T34A	McClaskey Farm	19.96	355	P	P	06 24 49.5	-0.3
	baz=20,SNR=6.0						
T37A	Cheneyville 18	19.98	1	P	P	06 24 49.7	-0.2
	baz=20,SNR=21						
U30A	WK&E Inc. Balk	19.99	347	P	P	06 24 52.9	+2.8
	baz=20						
T33A	Patterson Ranc	20.12	353	P	P	06 24 51.5	-0.1
	baz=20						
T32A	Huddler Ranch,	20.31	351	P	P	06 24 54.3	+0.7
	baz=20						
T31A	Randall Ranch,	20.35	350	P	P	06 24 54.8	+0.8
	baz=20						
U27A	Thompson Grove	20.44	342	P	P	06 24 56.7	+1.6
	baz=20						
S35A	Otter Creek Ra	20.56	357	P	P	06 24 55.8	-0.4
	baz=21,SNR=19						
S36A	Lake Cedric, C	20.58	359	P	P	06 24 58.3	+1.9
	baz=21,SNR=5.5						
S37A	Fort Scott	20.62	1	P	P	06 24 56.5	-0.3
	baz=21,SNR=7.4						
S34A	Willow Spring	20.63	356	P	P	06 24 57.5	+0.5
	baz=21						
S30A	Montezuma	21.02	348	P	P	06 25 01.8	+0.6
	baz=21,SNR=8.0						
S29A	Ulysses	21.14	347	P	P	06 25 07.6	+5.1
	baz=21,SNR=5.4						
R36A	Gordon, Harris	21.18	359	P	P	06 25 02.3	-0.5
	baz=21						
R34A	Isabella, Hill	21.23	355	P	P	06 25 05.1	+1.7
	baz=21						
T25A	Trinidad	21.60	340	P	P	06 25 12.3	+4.7
	baz=22						
Q35A	Mercer Eighty,	21.73	358	P	P	06 25 09.9	+1.2
	baz=22						
Q33A	Connelly Farm,	21.98	354	P	P	06 25 12.2	+1.0
	baz=22						
Q30A	Quinter	22.28	350	P	P	06 25 17.6	+3.2
	baz=22						
Q29A	Oakley	22.33	348	P	P	06 25 16.3	+1.3
	baz=22						
R26A	Arlington	22.37	343	P	P	06 25 18.9	+3.4
	baz=22						
P35A	Duane Minner,	22.39	358	P	P	06 25 14.9	-0.7
	baz=22						
SDCO	Great Sand Dun	22.52	338	P	P	06 25 21.1	+3.9
	baz=23						
O36A	Bolckow	22.98	0	P	P	06 25 20.8	-0.5
	baz=23						
O34A	Beatrice	23.07	357	P	P	06 25 22.1	0.0
	baz=23						
HDIL	Hopedale	23.95	11	P	P	06 25 29.7	-0.4
	baz=24,SNR=5.6						
SFIN	Scholer Farm	24.26	15	P	P	06 25 32.6	-0.2
	baz=24						
PDAR	Pinedale Array	28.41	337	P	P	06 26 12.5	+2.0
	0.2nm,0.5s,baz=121,slow=6.8,SNR=2.5						
NVAR	Mina Array Bea	29.39	321	P	P	06 26 20.4	+1.2
	0.8nm,0.6s,baz=135,slow=9.4,SNR=8.4						
LPAZ	La Paz	42.52	140	P	P	06 28 12.7	+1.1
	1.4nm,0.7s,baz=314,slow=3.0,SNR=10						
SCHQ	Schefferville	43.52	23	P	P	06 28 16.5	-2.0
	0.9nm,0.4s,baz=192,slow=5.7,SNR=6.5						
YKA	Yellowknife Ar	47.38	348	P	P	06 28 48.2	-0.6
	0.5nm,0.6s,baz=155,slow=7.4,SNR=2.5						
ESDC	Sonseca Array	80.20	52	P	P	06 32 22.5	-2.1
	0.3nm,0.4s,baz=277,slow=5.1,SNR=3.5						
STKA	Stephens Creek	126.84	243	PKP	PKPdf	06 39 17.6	+0.4
	1.1nm,0.7s,baz=63,slow=9.0,SNR=3.7						
ASAR	Alice Springs	133.72	253	PKP	PKPdf	06 39 30.8	+0.4
	0.2nm,0.6s,baz=72,slow=3.0,SNR=3.5						

IDC 24 06:34:17.5±2.5,6°.90N×123°.08E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.3/37,mbtmp3.5/3,Error ellipse: s-maj=304.5km s-min=27.7km az=63.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	28.89	158	P	P	06 40 17.9	-0.3
	0.3nm,0.4s,baz=336,slow=10,SNR=4.0						
ASAR	Alice Springs	32.17	161	P	P	06 40 47.5	+0.3
	0.2nm,0.4s,baz=343,slow=7.5,SNR=5.1						
MKAR	Makanchi Array	52.90	326	P	P	06 43 35.2	-0.1
	0.4nm,0.5s,baz=128,slow=8.7,SNR=4.5						

*ISCJB **24** 06:52:31.5±0.5,17°.25N±0°.05×95°.97W±0°.05,h103km, mb3.6/10,Error ellipse: s-maj=8.4km s-min=5.9km az=40.4*
*NEIC **24** 06:52:33.2,17°.32N×96°.01W,h89km,MD4.4(MEX),After MEX.*
*MEX **24** 06:52:33.2±0.4,17°.32N×96°.01W,h89km±5km,MD4.4*
*IDC **24** 06:52:33.9±0.7,17°.55N×95°.74W,h89km±6km,mb3.5/10, mb1 3.8/13,mb1mx3.6/34,mbtmp3.9/13,Error ellipse: s-maj=19.6km s-min=9.7km az=43.0*

ISC 24 06:52:33.0±0.6,17°.27N±0°.06×96°.02W±0°.05,h103km,n28, σ1§91/35,mb3.8/10,Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	Vista Hermosa	0.71	254	*i* P	Pn	06 52 49.0	-2.0
VHO				*i* S	Sn	06 53 01.3	-3.2
VHO	Vista Hermosa	0.71	254	*i* P	Pn	06 52 49.0	-2.0
VHO				*i* S	Sn	06 53 01.3	-3.2
CMIG	Matias Romero	1.10	99	*i* P	Pn	06 52 52.7	-2.1
CMIG				*i* S	Sn	06 53 07.9	-3.3
CMIG	Matias Romero	1.10	99	P	Pn	06 52 52.7	-2.1
	227nm,0.3s,baz=254,slow=12,SNR=2828						
CMIG				S	Sn	06 53 07.7	-3.5
	2μm,0.3s,baz=248,slow=7.2,SNR=256						
HUIG	Huatulco	1.50	183	*e*P	Pn	06 52 58.2	-1.2
HUIG				*i* S	Sn	06 53 17.5	-1.9
HUIG	Huatulco	1.50	183	*e*P	Pn	06 52 58.2	-1.2
HUIG				*i* S	Sn	06 53 17.5	-1.9
PCIG		3.11	120	*e*P	Pn	06 53 19.6	-0.6
PCIG				*i* S	Sn	06 53 55.7	-1.0
PCIG		3.11	120	*e*P	Pn	06 53 19.6	-0.6
PCIG				*i* S	Sn	06 53 55.7	-1.0
TEIG	Tepich	7.90	67	P	Pn	06 54 21.5	-3.7
	0.8nm,0.3s,baz=269,slow=24,SNR=47						
TEIG				S	Sn	06 55 44.3	-8.8
	6.4nm,0.3s,baz=180,slow=20,SNR=38						
JTS	JuntasAbangare	12.79	121	P	Pn	06 55 31.5	+0.3
	6.4nm,0.3s,baz=319,slow=19,SNR=21						
TXAR	Lajitas Array	13.90	331	P	Pn	06 55 45.9	+0.2
	0.1nm,0.3s,baz=151,slow=14,SNR=24						
ANMO	Albuquerque	19.92	334	P	P	06 56 57.6	+0.9
	0.2nm,0.3s,baz=149,slow=13,SNR=16						
ANMO				pP	pP	06 57 15.3	-0.9
	0.1nm,0.3s,baz=158,slow=15,SNR=3.3						
TKL	Tuckaleechee C	21.31	28	P	P	06 57 10.1	-1.4
	1.5nm,0.4s,baz=181,slow=11,SNR=6.0						
PFO	Pinyon Flat Ob	24.53	315	P	P	06 57 46.0	+2.9
	2.7nm,0.7s,baz=125,slow=7.4,SNR=4.6						
PDAR	Pinedale Array	27.91	338	P	P	06 58 14.5	+0.9
	0.1nm,0.4s,baz=123,slow=9.8,SNR=2.5						
ELK	Elko	28.68	329	pP	pP	06 58 40.8	-2.6
	0.8nm,0.6s,baz=133,slow=14,SNR=3.4						
NVAR	Mina Array Bea	28.71	322	P	P	06 58 23.4	+2.6
	0.7nm,0.7s,baz=135,slow=9.4,SNR=7.6						
NVAR				pP	pP	06 58 42.4	-1.4
	1.3nm,0.7s,baz=141,slow=9.7,SNR=7.1						
ULM	Lac du Bonnet	32.90	0	P	P	06 58 56.2	-1.0
	2.1nm,0.6s,baz=160,slow=6.8,SNR=3.9						
LPAZ	La Paz	43.22	139	P	P	07 00 28.2	+3.3
	0.9nm,1.1s,baz=52,slow=6.8,SNR=2.4						
SCHQ	Schefferville	43.67	24	P	P	07 00 26.7	-0.7
	1.5nm,0.5s,baz=227,slow=7.9,SNR=7.8						
CPUP	Villa Florida	57.38	138	pP	pP	07 02 33.4	-2.5
	1.4nm,0.8s,baz=244,slow=8.1,SNR=2.6						
ILAR	Eielson Array	58.33	337	P	P	07 02 18.1	+1.1
	0.8nm,0.8s,baz=134,slow=4.3,SNR=10						
ILAR				pP	pP	07 02 40.2	-2.0
	0.4nm,0.8s,baz=121,slow=8.5,SNR=3.1						
NB2	NORSAR Subarra	83.11	28	P	P	07 04 49.3	+2.1
	comp=Z,1.0nm,0.8s,baz=292,slow=5.3						
NOA	NORSAR Array B	83.11	28	P	P	07 04 48.5	+1.3
	comp=Z,1.9nm,0.9s,baz=292,slow=5.1,SNR=5.0						
SEY	Seymchan	84.17	335	P	P	07 04 53.9	+1.4
	comp=Z,0.5nm,0.3s,baz=74,slow=19,SNR=4.0						
MAW	Mawson	127.89	170	PKP	PKPdf	07 11 28.1	+2.1
	comp=Z,1.7nm,0.7s,baz=278,slow=4.3,SNR=3.2						
WRA	Warramunga Arr	132.34	259	PKP	PKPdf	07 11 37.3	+1.3
	comp=Z,0.5nm,0.5s,baz=87,slow=2.8,SNR=9.5						
ASAR	Alice Springs	132.98	254	PKP	PKPdf	07 11 38.5	+1.4
	comp=Z,0.2nm,0.8s,baz=85,slow=2.7,SNR=4.1						

*NNC **24** 07:00:45.8±4.4,54°.18N×86°.06E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=43.0km s-min=27.2km az=87.0*

IDC 24 07:00:44.7±2.3,54°.29N×85°.95E,h0km,mb1 3.2/2, mb1mx3.0/31,mbtmp3.2/2,ML2.8/2,5C-1D,Error ellipse: s-maj=17.3km s-min=10.4km az=53.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.75	243	*i*		07 04 50.0	
	baz=61,slow=317,SNR=1.7						
ZALV	Zalesovo Beam	0.75	243	Pg	Pg	07 00 57.8	-1.4
	0.8nm,0.3s,baz=60,slow=17,SNR=12						
ZALV				Lg	Lg	07 01 10.0	
	9.5nm,0.3s,baz=65,slow=30,SNR=66						
KURK	Kurchatov	5.73	234	⇑Pn	Pn	07 02 11.8	+0.8
	1.3nm,0.7s						
KURK				⇑Lg	Lg	07 03 47.1	
	4.1nm,0.9s						
KURBB	Kurchatov Arra	5.84	234	⇑Pn	Pn	07 02 13.4	+0.9
	1.8nm,0.6s						
KURBB				⇑Lg	Lg	07 03 50.7	
	4.0nm,0.8s						
KURBB	Kurchatov Arra	5.84	234	Pn	Pn	07 02 13.5	+1.0
	0.1nm,0.3s,baz=51,slow=14,SNR=19						
KURBB				Lg	Lg	07 03 51.3	
	0.0nm,0.3s,baz=53,slow=30,SNR=4.4						
MK31	Makanchi Array	7.86	199	⇓Sn	Sn	07 04 10.3	+0.4
	0.5nm,0.7s,baz=174,slow=39,SNR=5.8						
MK31				⇑Lg	Lg	07 04 52.1	
	1.3nm,0.8s,baz=29,slow=30,SNR=3.9						
MKAR	Makanchi Array	7.86	199	Pn	Pn	07 02 40.9	+0.6
	0.3nm,0.3s,baz=26,slow=13,SNR=12						
MKAR				Sn	Sn	07 04 10.4	+0.4
	0.1nm,0.3s,baz=31,slow=28,SNR=4.4						
MKAR				Lg	Lg	07 04 52.3	
	0.0nm,0.3s,baz=25,slow=27,SNR=3.0						

*IDC **24** 07:18:40.1±1.0,52°.50N×169°.43W,h0km,mb3.6/6, mb1 3.9/8,mb1mx3.6/45,mbtmp3.6/8,ML3.3/2,Error ellipse: s-maj=38.4km s-min=19.9km az=158.0*
*ISCJB **24** 07:18:42.0±1.1,52°.7N±0°.1×169°.4W±0°.1,h20km±7km, mb3.5/6,Error ellipse: s-maj=19.9km s-min=7.1km az=153.6*
*NEIC **24** 07:18:42.6,52°.70N×169°.31W,h10km,ML3.6(AEIC),After AEIC.*

ISC 24 07:18:41.0±2.1,52°.7N±0°.1×169°.31W±0°.07,h2km±13km, n31,σ0§87/28,mb3.5/6,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.37	48	P	Pb	07 18 50.4	+0.1
NIKH				S	Sb	07 18 56.8	+0.3
OKWR	Okmok West Rim	0.97	43	P	Pn	07 19 01.8	0.0
OKCE	Okmok Cone E	0.99	44	P	Pn	07 19 01.8	-0.1
OKTU	Okmok Mt. Tuli	1.01	49	P	Pb	07 19 01.6	+0.3
OKAK	Okmok	1.03	33	P	Pg	07 18 59.8	-1.0
OKFG	Magazine Ridge	1.09	50	P	Pg	07 19 02.3	+0.5
OKFG				S	Sb	07 19 17.2	+0.1
MSOM	Makushin Julie	1.79	51	P	Pn	07 19 13.8	+0.9
MSOM				S	Sn	07 19 35.7	-0.4
MCIR	Makushin Cirqu	1.90	49	P	Pn	07 19 15.6	+1.2
MSW	Makushin Switc	1.93	51	P	Pb	07 19 16.2	-0.6
MSW				S	Sn	07 19 40.4	+0.8
MTBL	Makushin Table	2.01	51	P	Pb	07 19 17.5	-0.8
UNV	Unalaska Valle	2.03	55	P	Pn	07 19 16.6	+0.5
UNV				S	Sn	07 19 41.8	-0.1
ZRO	Akutan Zero	2.42	54	P	Pn	07 19 22.9	+1.4
AKUT	Akutan	2.54	55	P	Pn	07 19 23.4	+0.2
ATKA	Atka Island	3.04	262	P	Pn	07 19 31.2	+1.3
SPIA	Saint Paul Isl	4.50	353	P	Pn	07 19 50.9	+0.8
ILAR	Eielson Array	16.64	35	Pn	Pn	07 22 35.0	0.0
	0.1nm,0.3s,baz=233,slow=11,SNR=6.3						
PETK	Petropavlovsk-	19.81

NICH	**Los Niches**	**0.34**	**239**	⇓	*i*P	Pn	07 19 27.8	+0.7
NICH					*i*S	Sn	07 19 39.4	+1.0
TALC	**Talca**	**0.84**	**227**	⇑	*i*P	Pn	07 19 31.3	+0.3
TALC					*i*S	Sn	07 19 45.6	+0.4
LNCH	**Linares**	**1.18**	**210**	⇑	*i*P	Pn	07 19 35.0	+0.4
LNCH					*i*S	Sn	07 19 52.3	+0.6
SAN	**Santiago**	**1.38**	**7**		*e*P	Pn	07 19 37.0	-0.1
SAN					*i*S	Sn	07 19 57.4	+1.3
LACH	**Col Las Americ**	**1.40**	**12**		*e*S	Sn	07 19 57.8	+1.2
STL	**Santa Lucia**	**1.40**	**8**	⇑	*i*P	Pn	07 19 37.2	-0.2
STL					*i*S	Sn	07 19 56.7	+0.2
CLCH	**Cerro Calan**	**1.46**	**11**	⇑	*i*P	Pn	07 19 39.0	+0.9
CLCH					*i*S	Sn	07 19 59.3	+1.6
CLCH					AML	AML	07 20 00.5	
	comp=E,917nm,0.5s							
PEL	**Peldehue**	**1.69**	**5**	⇓	*i*P	Pn	07 19 42.2	+1.3
PEL					*i*S	Sn	07 20 04.1	+1.4
PEL					AML	AML	07 20 05.5	
	comp=N,1μm,0.4s							

*IDC **24** 07:31:47.5±1.9,29.09N×139.39E,h347km±71km,mb2.8/3, mb1 3.0/5,mb1mx2.8/39,mbtmp3.6/5,Error ellipse: s-maj=180.9km s-min=15.9km az=68.0*
*JMA **24** 07:31:48.9±0.1,29.38N×140.24E,h379km,M3.3*
*ISCJB **24** 07:31:50.6±0.8,29.41N±0.09×140.1E±0.2,h350km, mb2.9/3,Error ellipse: s-maj=26.0km s-min=7.9km az=156.8*

ISC 24 07:31:51.0±1.6,**29.4N**±0.1×**140.1E**±0.3,**h350**km,**n11,** σ0§**99**/10,**mb3.0/3,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.96**	**141**	P		**Pn**	**07 32 49.4**	**-0.7**
JCJ	**Chichijima**	**2.96**	**141**	P		**Pn**	**07 32 49.3**	**-0.8**
	23nm,0.3s,baz=6.7,slow=22,SNR=46							
JCJ					S	**S**	**07 33 37.2**	**-0.3**
	18nm,0.3s,baz=224,slow=23,SNR=9.3							
TTO1	**TONANKAI O.B.S**	**5.05**	**327**	P		**Pn**	**07 33 12.4**	**+1.6**
JIE	**Ise**	**5.73**	**331**	P		**Pn**	**07 33 19.7**	**+1.1**
JKN2	**Miekihoku**	**5.80**	**327**	P		**Pn**	**07 33 20.0**	**+0.6**
JRY	**Ryogami san**	**6.66**	**352**	P		**Pn**	**07 33 29.1**	**-0.2**
JHO	**Hitachi**	**7.19**	**3**	P		**Pn**	**07 33 35.3**	**-0.1**
JHO					*e*S	**S**	**07 34 59.9**	**-0.5**
MJAR	**Matsushiro Arr**	**7.28**	**348**	P		**Pn**	**07 33 35.4**	**-1.1**
	0.5nm,0.3s,baz=167,slow=20,SNR=3.1							
MKAR	**Makanchi Array**	**47.58**	**308**	P		P	07 39 47.0	-5.6
	0.4nm,0.4s,baz=91,slow=9.1,SNR=8.2							
WRA	**Warramunga Arr**	**49.38**	**187**	P		P	07 39 59.6	-6.9
	0.5nm,0.4s,baz=3.6,slow=7.8,SNR=18							
ASAR	**Alice Springs**	**53.11**	**187**	P		P	07 40 28.4	-5.4
	0.2nm,0.7s,baz=12,slow=11,SNR=5.6							

*KRSC **24** 07:40:01.7±2.0,49.40N×156.96E,h42km±19km,ML4.6*
*MOS **24** 07:40:01.6±2.7,49.40N×156.96E,h42km,mb4.6/1,Error ellipse: s-maj=46.5km s-min=7.2km az=81.8*

ISC 24 07:40:01.4±4.2,**49.3N**±0.2×**156.5E**±0.1,**h57**km,**n34,** σ1§**84**/50,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.44**	**351**	P		**Pn**	**07 40 25.1**	**0.0**
SKR					S	**Sn**	**07 40 41.8**	**-1.2**
SKR	**Severo-Kuril's**	**1.44**	**351**	*e*PN		Pn	07 40 21.5	-3.6
SKR					*e*S	**Sn**	**07 40 37.5**	**-5.5**
SKR					pmax	pmax		
	comp=N,100nm,0.5s							
SKR					pmax	pmax		
	comp=E,30nm,0.5s							
SKR					pmax	pmax		
	comp=Z,110nm,0.5s							
SKR					smax	smax		
	comp=N,530nm,0.2s							
SKR					smax	smax		
	comp=E,770nm,0.2s							
PAU	**Pauzhetka**	**2.22**	**5**	P		**Pn**	**07 40 36.5**	**+0.8**
PAU				S		**Sn**	**07 41 01.4**	**-0.5**
PAU	**Pauzhetka**	**2.22**	**5**	PN		**Pn**	**07 40 36.5**	**+0.8**
PAU				S		**Sn**	**07 41 01.4**	**-0.5**
MIPR	**Malaya Ipel'ka**	**3.02**	**3**	P		**Pn**	**07 40 46.9**	**+0.2**
MIPR				S		**Sn**	**07 41 21.2**	**-0.5**
ASAK	**Asacha**	**3.25**	**16**	P		**Pn**	**07 40 51.8**	**+1.9**
ASAK				S		**Sn**	**07 41 27.9**	**+0.5**
MTVR	**Mutnovka**	**3.40**	**18**	P		**Pn**	**07 40 53.7**	**+1.7**
MTVR				S		**Sn**	**07 41 31.7**	**+0.6**
RUS	**Russkaya**	**3.43**	**21**	P		**Pn**	**07 40 53.2**	**+1.0**
RUS				S		**Sn**	**07 41 30.5**	**-1.0**
RUS	**Russkaya**	**3.43**	**21**	PN		**Pn**	**07 40 53.2**	**+1.0**
RUS				S		**Sn**	**07 41 30.5**	**-1.0**
APC	**Apacha**	**3.69**	**6**	P		**Pn**	**07 40 57.4**	**+1.6**
APC	**Apacha**	**3.69**	**6**	PN		**Pn**	**07 40 57.4**	**+1.6**
PET	**Petropavlovsk**	**4.01**	**19**	S		**Sn**	**07 41 46.6**	**+0.8**
UGLR	**Uglovaya**	**4.22**	**20**	P		**Pn**	**07 41 04.8**	**+1.6**
AVH	**Avacha**	**4.25**	**19**	P		**Pn**	**07 41 06.2**	**+2.6**
AVH				S		**Sn**	**07 41 52.8**	**+0.9**
AVH	**Avacha**	**4.25**	**19**	PN		**Pn**	**07 41 06.2**	**+2.6**
AVH				S		**Sn**	**07 41 52.8**	**+0.9**
KOK	**Koryaka**	**4.26**	**18**	P		**Pn**	**07 41 06.2**	**+2.5**
KOK				S		**Sn**	**07 41 53.2**	**+1.1**
KOK	**Koryaka**	**4.26**	**18**	PN		**Pn**	**07 41 06.2**	**+2.5**
KOK				S		**Sn**	**07 41 53.2**	**+1.1**
SMAR	**Somma**	**4.26**	**19**	P		**Pn**	**07 41 05.6**	**+1.7**
SMAR	**Somma**	**4.26**	**19**	PN		**Pn**	**07 41 05.6**	**+1.7**
KRER	**Koryakskii**	**4.29**	**19**	P		**Pn**	**07 41 06.3**	**+2.1**
SDLR	**Sedlovina**	**4.30**	**20**	P		**Pn**	**07 41 05.6**	**+1.4**
SDLR	**Sedlovina**	**4.30**	**20**	PN		**Pn**	**07 41 05.6**	**+1.4**
KRX	**Arik**	**4.32**	**18**	P		**Pn**	**07 41 06.5**	**+1.9**
SPN	**Mys Shipunski**	**4.44**	**29**	P		**Pn**	**07 41 07.5**	**+1.4**
SPN				S		**Sn**	**07 41 55.4**	**-1.0**
SPN	**Mys Shipunski**	**4.44**	**29**	PN		**Pn**	**07 41 07.5**	**+1.4**
SPN				S		**Sn**	**07 41 55.4**	**-1.0**
GNL	**Ganaly**	**4.53**	**11**	P		**Pn**	**07 41 08.7**	**+1.2**
GNL	**Ganaly**	**4.53**	**11**	PN		**Pn**	**07 41 08.7**	**+1.2**
MKZ	**Mys Kozlova**	**6.22**	**30**	P		**Pn**	**07 41 30.8**	**+0.4**
MKZ				S		**Sn**	**07 42 37.2**	**-2.8**
MKZ	**Mys Kozlova**	**6.22**	**30**	PN		**Pn**	**07 41 30.8**	**+0.4**
MKZ				S		**Sn**	**07 42 37.2**	**-2.8**
TUMR	**Tumrok**	**6.44**	**19**	P		**Pn**	**07 41 35.7**	**+2.2**
TUMR	**Tumrok**	**6.44**	**19**	PN		**Pn**	**07 41 35.7**	**+2.2**
KBTR	**Krutoberegovo**	**7.95**	**27**	P		**Pn**	**07 41 54.5**	**+0.4**
KBTR	**Krutoberegovo**	**7.95**	**27**	PN		**Pn**	**07 41 54.5**	**+0.4**
BKI	**Bering**	**8.32**	**41**	S		**Sn**	**07 43 26.9**	**-4.8**

*ISCJB **24** 07:44:43.3±0.9,23.90N±0.02×122.54E±0.02,h11km±6km, Error ellipse: s-maj=3.7km s-min=2.3km az=162.5*
*JMA **24** 07:44:43.9±0.2,23.95N×122.51E,h21km±4km,M3.1*
*TAP **24** 07:44:44.2,23.90N×122.46E,h15km±1km,ML3.6,D*

ISC 24 07:44:42.8±1.1,**23.89N**±0.03×**122.52E**±0.02,**h12**km±9km, **n47,** σ0§**58**/83,**2C-1D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.68**	**34**	P		**Pg**	**07 44 56.3**	**+0.2**
JYNG				S		**Sg**	**07 45 04.3**	**-0.8**
YOJ	**Yonaguni jima**	**0.73**	**38**	P		**Pg**	**07 44 57.1**	**+0.2**
YOJ				S		**Sg**	**07 45 05.8**	**-0.7**
HWA	**Hwalien**	**0.85**	**276**	*e*P		**Pb**	**07 44 59.7**	**+0.2**
	baz=275							
TWD	**Chiawan**	**0.87**	**283**	*e*P		**Pb**	**07 45 00.0**	**+0.2**
	baz=282							
TWD				*e*S		**Sb**	**07 45 11.5**	**0.0**
	baz=282							
ENA	**Nanau**	**0.90**	**307**	*e*P		**Pn**	**07 45 00.8**	**-0.5**
	baz=308							
ENA				*e*S		**Sb**	**07 45 12.3**	**0.0**
	baz=308							
TWC	**Suao**	**0.95**	**320**	⇑P		**Pb**	**07 45 00.7**	**-0.5**
	baz=322							
TWC				S		**Sb**	**07 45 13.3**	**-0.5**
	baz=322							
ESL	**Shilin**	**1.00**	**266**	*e*P		**Pg**	**07 45 02.3**	**+0.1**
	baz=264							
EGS		**1.10**	**331**	*e*P		**Pg**	**07 45 04.4**	**+0.4**
	baz=333							
TWE	**Neicheng**	**1.14**	**317**	*e*P		**Pg**	**07 45 04.9**	**0.0**
	baz=318							
TWE				*e*S		**Sn**	**07 45 20.2**	**0.0**
	baz=318							
ENTT	**Nioudou**	**1.15**	**311**	P		**Pn**	**07 45 04.9**	**+0.1**
	baz=312							
ENTT				*e*S		**Sn**	**07 45 20.4**	**-0.2**
	baz=312							
EHY	**Hungye**	**1.17**	**251**	P		**Pn**	**07 45 04.8**	**-0.1**
	baz=248							
EHY				S		**Sn**	**07 45 20.5**	**-0.3**
	baz=248							
WHF	**Hehuan Shan**	**1.18**	**283**	⇓P		**Pn**	**07 45 04.9**	**-0.6**
	baz=282							
WHF				S		**Sb**	**07 45 20.4**	**-0.4**
	baz=282							
HATJ	**Hateruma jima**	**1.18**	**81**	P		**Pb**	**07 45 05.5**	**+0.3**
HATJ				S		**Sb**	**07 45 20.5**	**0.0**
NNS	**Nan Shan**	**1.19**	**298**	P		**Pn**	**07 45 05.3**	**-0.1**
	baz=298							
NNS				*e*S		**Sb**	**07 45 20.4**	**-0.4**
	baz=298							
IRIF	**Iriomote-Funau**	**1.19**	**68**	P		**Pb**	**07 45 05.4**	**+0.1**
IRIF				S		**Sn**	**07 45 21.2**	**-0.2**
TWB1	**Santiao Chiao**	**1.22**	**337**	*e*P		**Pb**	**07 45 06.0**	**+0.1**
	baz=339							
TWF1	**Yuli**	**1.24**	**245**	P		**Pb**	**07 45 06.4**	**+0.1**
	baz=242							
TWF1				S		**Sn**	**07 45 22.5**	**-0.2**
	baz=242							
TWT	**Tachien**	**1.29**	**287**	⇑P		**Pb**	**07 45 07.2**	**+0.1**
	baz=286							
TWT				*e*S		**Sn**	**07 45 23.9**	**-0.1**
	baz=286							
CHKT	**Chengkung**	**1.32**	**234**	*e*P		**Pb**	**07 45 07.4**	**-0.2**
	baz=231							
CHKT				*e*S		**Sb**	**07 45 23.2**	**-1.2**
	baz=231							
NSK	**Sanguang**	**1.32**	**307**	P		**Pn**	**07 45 07.2**	**0.0**
	baz=307							
NSK				*e*S		**Sb**	**07 45 24.2**	**-0.4**
	baz=307							
NWF	**Wu-fen Shan**	**1.36**	**330**	P		**Pb**	**07 45 08.3**	**0.0**
	baz=332							
NWF				S		**Sn**	**07 45 25.6**	**-0.1**
	baz=332							
TWA	**Mucha**	**1.39**	**322**	P		**Pb**	**07 45 09.1**	**+0.4**
	baz=323							
TWA				*e*S		**Sb**	**07 45 26.7**	**+0.3**
	baz=323							
JKRS	**Kuro-shima**	**1.40**	**75**	P		**Pb**	**07 45 09.3**	**+0.4**
JKRS				S		**Sg**	**07 45 27.9**	**-0.1**
SMLT	**Sun Moon Lake**	**1.49**	**270**	*e*P		**Pn**	**07 45 10.0**	**+0.6**
	baz=269							
SMLT				*e*S		**Sn**	**07 45 28.7**	**-0.2**
	baz=269							
TYC	**Yuchr**	**1.53**	**271**	P		**Pb**	**07 45 10.5**	**-0.6**
	baz=270							
TYC				*e*S		**Sn**	**07 45 29.2**	**-0.4**
	baz=270							
ELDTW	**Lidau**	**1.55**	**244**	*e*P		**Pn**	**07 45 10.4**	**+0.1**
	baz=241							
ELDTW				S		**Sn**	**07 45 30.3**	**0.0**
	baz=241							
JIJ	**Ishigaki jima**	**1.55**	**72**	P		**Pn**	**07 45 10.1**	**-0.2**
JIJ				S		**Sn**	**07 45 29.4**	**-1.0**
TWS1	**Kuangyinshan**	**1.57**	**320**	*e*P		**Pn**	**07 45 10.3**	**-0.2**
	baz=321							
NSTT	**Nanjuang**	**1.58**	**298**	*e*P		**Pb**	**07 45 11.9**	**0.0**
	baz=298							
TWY	**Chenhua**	**1.62**	**329**	*e*P		**Pb**	**07 45 13.2**	**+0.5**
	baz=330							
TWQ1	**Liyutan**	**1.67**	**286**	*e*P		**Pb**	**07 45 13.6**	**+0.2**
	baz=286							
TWQ1				*e*S		**Sb**	**07 45 34.9**	**+0.6**
	baz=286							
WNT	**Mingjian**	**1.68**	**270**	*e*P		**Pb**	**07 45 14.4**	**+0.6**
	baz=269							
NSY	**Sanyi**	**1.69**	**289**	*e*P		**Pb**	**07 45 14.2**	**+0.2**
	baz=288							
TWG	**Pinlang**	**1.70**	**232**	*e*P		**Pn**	**07 45 12.6**	**+0.2**
	baz=229							
TWG				*e*S		**Sn**	**07 45 33.6**	**-0.4**
	baz=229							
TCU	**Taichung**	**1.71**	**279**	*e*P		**Pb**	**07 45 14.7**	**+0.5**
	baz=278							
TCU				*e*S		**Sb**	**07 45 36.8**	**+1.1**
	baz=278							
CHN5	**Tsauling**	**1.72**	**261**	P		**Pb**	**07 45 14.2**	**-0.1**
	baz=259							
CHN5				*e*S		**Sb**	**07 45 36.1**	**+0.2**
	baz=259							
JISG	**Ishigakijimahi**	**1.77**	**66**	P		**Pn**	**07 45 13.6**	**+0.3**
JISG				S		**Sn**	**07 45 35.1**	**-0.7**
STYT	**Tauyuan**	**1.77**	**246**	*e*P		**Pb**	**07 45 14.9**	**-0.4**
	baz=244							
STYT				*e*S		**Sn**	**07 45 36.4**	**+0.5**
	baz=244							
SGST	**Jiashian**	**1.95**	**246**	*e*P		**Pb**	**07 45 19.3**	**+1.0**
	baz=244							
SGST				*e*S		**Sb**	**07 45 43.7**	**+1.0**
	baz=244							
CHN1	**Nanshi**	**1.96**	**250**	*e*P		**Pb**	**07 45 18.6**	**+0.1**
	baz=247							
CHN1				*e*S		**Sb**	**07 45 43.6**	**+0.7**
	baz=247							
TWK	**Hsinying**	**1.97**	**252**	*e*P		**Pn**	**07 45 17.3**	**+1.3**
	baz=250							
TWK				*e*S		**Sb**	**07 45 43.0**	**-0.1**
	baz=250							
LAY	**Lan-yu**	**2.04**	**206**	*e*P		**Pn**	**07 45 16.5**	**-0.6**
	baz=203							
LAY				*e*S		**Sn**	**07 45 40.3**	**-2.3**
	baz=203							
SSD	**Sandimen**	**2.08**	**237**	*e*P		**Pb**	**07 45 20.8**	**+0.4**
	baz=235							
SSD				*e*S		**Sb**	**07 45 45.0**	**-1.2**
	baz=235							
JTJ	**Tarama**	**2.12**	**69**	P		**Pn**	**07 45 19.3**	**+1.2**
JTJ				S		**Sn**	**07 45 44.9**	**+0.4**
EAST	**Anshuo**	**2.15**	**226**	*e*P		**Pn**	**07 45 19.0**	**+0.5**
	baz=224							
SCZT	**Fangliau**	**2.31**	**230**	*e*P		**Pb**	**07 45 24.8**	**+0.3**
	baz=227							
SCZT				*e*S		**Sb**	**07 45 53.1**	**+0.1**
	baz=227							
TWK1	**Hengchun**	**2.50**	**220**	*e*P		**Pn**	**07 45 24.9**	**+1.6**
	baz=217							

*IDC **24** 07:46:12.5±0.5,6.45S×149.90E,h0km,mb4.3/20, mb1 4.4/24,mb1mx4.4/28,mbtmp4.3/24,ML3.6/3,MS4.1/5, Ms1 4.1/5,ms1mx3.8/31,Error ellipse: s-maj=18.2km s-min=12.0km az=89.0*
*ISCJB **24** 07:46:17.6±0.3,6.58S±0.03×149.82E±0.05,h43km, mb4.6/34,MS4.0/3,Error ellipse: s-maj=7.1km s-min=4.7km az=8.8*
*NEIC **24** 07:46:18.9±1.1,6.50S×149.82E,h42km±9km,mb5.1/17, Error ellipse: s-maj=9.7km s-min=6.1km az=67.0*
*BJI **24** 07:46:25.2,6.54S×149.23E,h64km,mb4.9/22,mB5.0/19, Ms4.9/16,Ms7 4.6/16*
*DJA **24** 07:46:59.8±1.9,8°S±13'×14°9E±1°3,h318km±15km, M4.8/20,mb4.7/20,mB5.5/3,Mw(mB)5.0/3*

ISC 24 07:46:19.5±0.4,**6.59S**±0.05×**149.86E**±0.06,**h43**km,**n104,** σ1§**57**/110,**mb4.6**/34,**MS4.0**/3,**5C-7D,New Britain region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.30**	**44**	P		**Pn**	**07 47 09.2**	**+0.5**
	baz=3.4,SNR=15							
PMG	**Port Moresby**	**3.88**	**223**	Pn		**Pn**	**07 47 17.0**	**+0.3**
	82nm,0.3s,baz=51,slow=6.5,SNR=101							
PMG					Sn	**Sn**	**07 48 02.7**	**+1.8**
	103nm,0.3s,baz=217,slow=21,SNR=10							
PMG					LR	LR	07 48 34.3	
	comp=Z,1μm,19.4s,baz=48,slow=35							
PMG	**Port Moresby**	**3.88**	**223**	*e*Pn		**Pn**	**07 47 17.5**	**+0.9**
PMG				*e*Sn		**Sn**	**07 48 03.0**	**+2.1**
COEN	**Coen**	**9.84**	**221**	⇓P		**Pn**	**07 48 38.3**	**-0.2**
	baz=9.8,SNR=10.0							
COEN	**Coen**	**9.84**	**221**	*e*Pn		**Pn**	**07 48 38.0**	**-0.6**
COEN				*e*Sn		**Sn**	**07 50 28.8**	**+0.9**
JAY	**Jayapura**	**9.98**	**293**	Pn		**Pn**	**07 48 38.8**	**-1.8**
	1.0nm,0.3s,baz=131,slow=20,SNR=3.9							
MTSU	**Mount Surprise**	**12.69**	**205**	⇓P		**Pn**	**07 49 17.7**	**+0.2**
	baz=13,SNR=22							
CTA	**Charters Tower**	**13.87**	**194**	Pn		**Pn**	**07 49 34.3**	**+0.6**
	0.5nm,0.3s,baz=27,slow=13,SNR=5.7							
CTA					LR	LR	07 54 45.8	
	comp=Z,942nm,19.6s,baz=344,slow=37							
CTAO	**Charters Tower**	**13.87**	**194**	*e*Pn		**Pn**	**07 49 34.5**	**+0.9**
	81nm,1.3s							
FAKI	**Fak Fak**	**17.92**	**281**	P		P	07 50 43.3	+17
	40nm,1.2s							
FAKI	**Fak Fak**	**17.92**	**281**	*e*P		**P**	**07 50 29.8**	**+3.9**
	98nm,1.5s							
KDU	**Kakadu**	**18.18**	**249**	⇓P		**P**	**07 50 28.0**	**-0.8**
	baz=18,SNR=4.0							
EIDS	**Eidsvold**	**18.72**	**177**	*e*P		**P**	**07 50 34.4**	**-0.2**
	28nm,1.0s							
SIJI	**Sorong**	**19.40**	**286**	P		**P**	**07 50 41.9**	**-0.2**
	baz=111,slow=6.0,SNR=3.6							
MTN	**Manton Dam**	**19.47**	**250**	P		**P**	**07 50 42.4**	**-0.5**
	baz=20,SNR=9.8							
MTN	**Manton Dam**	**19.47**	**250**	*e*P		**P**	**07 50 42.3**	**-0.7**
	80nm,1.0s							
WRAB	**Tennant Creek**	**20.07**	**227**	P		**P**	**07 50 49.0**	**-0.5**
	1μm,1.0s,SNR=55							
WRAB	**Tennant Creek**	**20.07**	**227**	*e*P		**P**	**07 50 49.0**	**-0.5**
	162nm,0.8s							
WRA	**Warramunga Arr**	**20.09**	**227**	P		**P**	**07 50 49.5**	**-0.1**
	143nm,0.9s,baz=50,slow=11,SNR=164							
WRA					S	**S**	**07 54 32.5**	**-0.7**
	7.9nm,1.0s,baz=49,slow=22,SNR=5.4							
WRA					ScP	**ScP**	**07 58 40.4**	**+3.3**
	2.0nm,1.1s,baz=54,slow=2.5,SNR=3.8							
WRA					LR	LR	07 58 59.9	
	comp=Z,682nm,20.9s,baz=55,slow=38							
GUMO	**Guam**				**20.65**	**346**	LR	LR	07 58 03.6
	comp=Z,532nm,19.4s,baz=134,slow=35							
DZM	**Mont Dzumac**				**22.21**	**136**	P	**P**	**07 51 11.9**	**-0.7**
	31nm,1.0s,baz=86,slow=23,SNR=6.3							
KNRA	**Kununurra**				**22.57**	**245**	⇑P	**P**	**07 51 14.9**	**-1.4**
	baz=23,SNR=9.9							
AS31	**Alice Springs**				**22.88**	**220**	*e*P	**P**	**07 51 18.6**	**-1.1**
ASAR	**Alice Springs**				**22.89**	**220**	P	**P**	**07 51 18.9**	**-0.7**
	16nm,0.7s,baz=56,slow=9.1,SNR=97							
ASAR						S	**S**	**07 55 26.9**	**+0.4**
	3.8nm,0.8s,baz=39,slow=23,SNR=5.8							
ASAR						ScP	**ScP**	**07 58 47.5**	**+3.5**
	2.8nm,1.1s,baz=56,slow=3.8,SNR=3.3							
ASAR						LR	LR	08 00 35.2	
	comp=Z,602nm,19.6s,baz=30,slow=38							
ARMA	**Armidale**				**23.77**	**176**	⇑P	**P**	**07 51 27.6**	**-0.7**
	baz=24,SNR=12							
ARMA	**Armidale**				**23.77**	**176**	*e*P	**P**	**07 51 28.0**	**-0.3**
	109nm,1.0s							
SANI	**Sanana**				**24.22**	**280**	P	P	07 51 38.3	+5.8
CMSA	**Cobar Meteorol**				**25.13**	**188**	⇓P	**P**	**07 51 40.1**	**-0.5**
	baz=25,SNR=16							
SOEI	**Soe**				**25.52**	**261**	P	**P**	**07 51 48.2**	**+3.7**
	107nm,1.0s							
STKA	**Stephens Creek**				**26.32**	**196**	P	**P**	**07 51 50.4**	**-1.0**
	30nm,0.8s,baz=344,slow=8.1,SNR=53							
STKA	**Stephens Creek**				**26.32**	**196**	*e*P	**P**	**07 51 50.8**	**-0.6**
	9.2nm,0.9s							
MMRI	**Maumere**				**27.45**	**264**	P	**P**	**07 52 05.4**	**+3.6**
	107nm,0.8s,8μm							
MMRI	**Maumere**				**27.45**	**264**	*e*P	**P**	**07 52 02.3**	**+0.5**
	74nm,0.8s							
YNG	**Young**				**27.61**	**183**	⇑P	**P**	**07 52 03.0**	**+0.1**
	baz=28,SNR=5.5							
WRKA	**Warakurna**				**27.62**	**226**	P	**P**	**07 52 02.6**	**-0.6**
	baz=28,SNR=98							
HTT	**Hallett**				**28.58**	**199**	P	**P**	**07 52 11.3**	**-0.4**
	baz=29,SNR=7.6							
CNB	**Canberra Magne**				**28.60**	**181**	P	**P**	**07 52 12.2**	**+0.4**
	baz=29,SNR=4.3							
BBOO	**Buckleboo**				**29.08**	**204**	P	**P**	**07 52 15.4**	**-0.7**
	baz=29,SNR=18							
BBOO	**Buckleboo**				**29.08**	**204**	*e*P	**P**	**07 52 15.4**	**-0.7**
	20nm,0.8s							
KAPI	**Kappang**				**29.99**	**271**	P	**P**	**07 52 22.7**	**-1.7**
	7.6nm,0.8s,baz=173,slow=8.1,SNR=3.0							
TTSI	**Tana Toraja**				**30.14**	**275**	P	P	07 52 32.2	+6.5
	20nm,0.9s							
ARPS	**Mount Arapiles**				**30.93**	**193**	P	**P**	**07 52 32.5**	**+0.2**
	baz=31,SNR=18							
TOO	**Toolangi**				**31.10**	**187**	⇑P	**P**	**07 52 33.9**	**0.0**
	baz=31,SNR=4.4							
FORT	**Forrest**				**31.58**	**218**	P	**P**	**07 52 38.4**	**+0.2**
	baz=32,SNR=8.7							
FORT	**Forrest**				**31.58**	**218**	*e*P	**P**	**07 52 38.0**	**-0.2**
	37nm,0.8s							
MBWA	**Marble Bar**				**32.55**	**241**	*e*P	**P**	**07 52 46.3**	**-0.5**
	48nm,1.1s							
MOO	**Moorlands**				**35.79**	**183**	⇓P	**P**	**07 53 15.4**	**+0.8**
	baz=36,SNR=3.4							
MEEK	**Meekatharra**				**35.80**	**233**	P	**P**	**07 53 14.7**	**-0.3**
	baz=36,SNR=14							
KMBL	**Kambalda**				**35.95**	**223**	⇑P	**P**	**07 53 15.5**	**-0.7**
	baz=36,SNR=8.4							
TAU	**Tasmania Unive**				**36.25**	**183**	*e*P	**P**	**07 53 19.1**	**+0.6**
	57nm,1.1s							
MORW	**Morawa**				**38.96**	**231**	⇓P	**P**	**07 53 41.2**	**-0.5**
	baz=39,SNR=3.3							
KLBR	**Kellerberrin**				**38.96**	**226**	⇓P	**P**	**07 53 40.6**	**-1.1**
	baz=39,SNR=17							
NWAO	**Narrogin (SRO)**				**40.06**	**225**	P	**P**	**07 53 50.0**	**-0.8**
	11nm,0.8s,baz=333,slow=2.8,SNR=5.3							
NWAO	**Narrogin (SRO)**				**40.06**	**225**	P	**P**	**07 53 50.7**	**-0.2**
	baz=40,SNR=4.0							
NWAO						P	**P**	**07 53 50.7**	**-0.2**
	baz=40,SNR=4.0							
RKGY	**Rocky Gully**

KMI	**Kunming**	**55.62 306**	P	P	07 55 55.1	+3.4		
KMI			pP	pP	07 56 11.8	+7.8		
KMI			PMZ					
	8.0nm,0.5s							
KMI			PMZ					
	130nm,6.3s							
BJI	**Beijing**	**55.83 329**	P	P	07 55 55.9	+3.3		
BJI			PMZ					
	5.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**56.04 297**	P	**P**	**07 55 54.1**	**-0.4**		
	0.8nm,0.4s,baz=125,slow=4.8,SNR=2.5							
CD2	**Chengdu**	**57.74 313**	P	**P**	**07 56 07.9**	**+1.5**		
CD2			pP	pP	07 56 24.5	+5.8		
CD2			sP	sP	07 56 33.3	+10		
CD2			PP	**PP**	**07 58 16.9**	**+2.0**		
CD2			S	**S**	**08 04 03.3**	**+0.8**		
CD2			PMZ					
	10.0nm,0.5s							
CD2			PMZ					
	270nm,10.3s							
CD2			LN					
	320nm,13.1s							
CD2			LZ					
	530nm,12.0s							
HHC	**Hu-ho-hao-te**	**58.85 327**	*e*P	P	07 56 19.3	+5.2		
HHC			pP	pP	07 56 33.8	+7.3		
HHC			sP	sP	07 56 42.4	+11		
HHC			PMZ					
	19nm,0.7s							
HHC			PMZ					
	78nm,4.9s							
HHC			LN					
	160nm,17.3s							
HHC			LE					
	290nm,18.5s							
HHC			LZ					
	330nm,21.0s							
LZH	**Lanzhou**	**60.53 318**	*e*P	P	07 56 31.0	+5.2		
LZH			pP	pP	07 56 48.6	+10		
LZH			sP	sP	07 56 56.5	+13		
LZH			*e*PP	PP	07 58 46.0	+6.3		
LZH			*e*S	**S**	**08 04 36.5**	**-2.2**		
LZH			sS	sS	08 05 07.0	+7.6		
LZH			*e*SS	**SS**	**08 08 35.1**	**-2.5**		
LZH			PMZ					
	28nm,1.2s							
LZH			PMZ					
	110nm,7.6s							
LZH			LN					
	470nm,15.0s							
LZH			LE					
	330nm,16.5s							
LZH			LZ					
	690nm,19.2s							
CASY	**Casey**	**65.47 196**	*e*P	**P**	**07 56 56.8**	**-1.1**		
	74nm,1.9s							
SONM	**Songino Array**	**66.32 330**	P	**P**	**07 57 03.1**	**-0.7**		
	0.8nm,0.8s,baz=142,slow=5.4,SNR=2.7							
VNDA	**Vanda**	**71.18 177**	P	**P**	**07 57 34.2**	**+0.8**		
	9.3nm,0.8s,baz=330,slow=6.6,SNR=50							
SBA	**Scott Base**	**71.78 176**	*e*P	**P**	**07 57 38.9**	**+1.9**		
	16nm,1.4s							
WMQ	**Urumqi**	**75.10 319**	P	P	07 58 00.8	+3.6		
WMQ			pP	PcP	07 58 16.8	+6.1		
WMQ			sP	sP	07 58 24.8	+10		
WMQ			PMZ					
	17nm,0.8s							
WMQ			PMZ					
	140nm,4.5s							
WMQ			LN					
	160nm,28.4s							
WMQ			LE					
	140nm,25.4s							
WMQ			LZ					
	220nm,25.4s							
MKAR	**Makanchi Array**	**79.77 320**	P	**P**	**07 58 23.1**	**-0.2**		
	0.7nm,0.8s,baz=94,slow=8.6,SNR=5.3							
ZALV	**Zalesovo Beam**	**81.03 327**	P	**P**	**07 58 27.3**	**-2.5**		
	0.7nm,0.5s,baz=99,slow=4.8,SNR=2.8							
KSH	**Kashi**	**81.89 311**	P	P	07 58 39.6	+4.7		
KSH			PMZ					
	170nm,4.1s							
MAW	**Mawson**	**82.81 203**	P	**P**	**07 58 38.5**	**-0.4**		
	3.5nm,0.8s,baz=69,slow=8.8,SNR=4.7							
MAW	**Mawson**	**82.81 203**	*e*P	**P**	**07 58 39.0**	**0.0**		
	1.9nm,1.1s							
KURK	**Kurchatov**	**83.39 323**	P	**P**	**07 58 40.5**	**-1.6**		
QSPA	**South Pole Qui**	**83.39 180**	*e*P	**P**	**07 58 42.3**	**+0.2**		
	15nm,0.9s							
KURBB	**Kurchatov Arra**	**83.41 323**	P	**P**	**07 58 40.5**	**-1.8**		
	0.6nm,0.5s,baz=108,slow=3.5,SNR=3.9							
ILAR	**Eielson Array**	**84.91 23**	P	**P**	**07 58 47.8**	**-1.9**		
	0.8nm,0.8s,baz=254,slow=5.1,SNR=10							
BVAR	**Borovoye Array**	**88.92 324**	P	**P**	**07 59 07.6**	**-1.8**		
	0.5nm,0.6s,baz=88,slow=10,SNR=3.7							
NVAR	**Mina Array Bea**	**95.48 52**	P	**P**	**07 59 40.4**	**-0.1**		
	0.4nm,0.6s,baz=242,slow=5.8,SNR=4.4							
CLL	**Collm**	**122.94 329**	*e*PKPdf	**PKPdf**	**08 05 11.0**	**-0.1**		
CLL			*ep*PKPdf	**pPKPdf**	**08 05 20.0**	**-4.6**		
GERES	**GERESS Array B**	**123.98 327**	PKP	**PKPdf**	**08 05 12.8**	**-0.5**		
	1.5nm,0.7s,baz=48,slow=2.0,SNR=10							
LPAZ	**La Paz**	**136.07 122**	PKP	**PKPdf**	**08 05 37.5**	**-0.4**		
	1.1nm,1.0s,baz=292,slow=5.4,SNR=4.1							
CPUP	**Villa Florida**	**137.97 142**	PKP	**PKPdf**	**08 05 41.2**	**+0.9**		
	2.4nm,1.1s,baz=238,slow=2.8,SNR=3.0							
SDV	**Santo Domingo**	**139.82 84**	*e*PKPdf	**PKPdf**	**08 05 45.0**	**+0.7**		
SAML	**Samuel**	**143.63 115**	*e*PKPdf	**PKPdf**	**08 05 51.5**	**+0.6**		
TOA0	**Torodi Ar. Sit**	**147.99 284**	*e*PKPbc	**PKPbc**	**08 06 01.2**	**-0.2**		
TORD	**Torodi Ar. Bea**	**147.99 284**	PKPbc	**PKPbc**	**08 06 01.4**	**0.0**		
	7.6nm,0.7s,baz=80,slow=2.3,SNR=23							
BDFB	**Brasilia**	**151.69 141**	PKPbc	**PKPbc**	**08 06 10.7**	**+0.1**		
	10nm,0.9s,baz=210,slow=1.4,SNR=12							
DBIC	**Dimbokro**	**154.89 272**	PKPab	**PKPab**	**08 06 30.0**	**-2.9**		
	2.9nm,0.6s,baz=91,slow=7.7,SNR=4.0							

MEX 24 07:51:25.3±0.6, 17°.46N×101°.83W, h6km±4km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.38**	**66**	*i* P	Pg	07 51 32.2	-0.4
ZIIG				*i* S	Sg	07 51 37.8	+0.2
CAIG	**El Cayaco**	**1.54**	**105**	*i* P	Pn	07 51 49.5	-3.9
CAIG				*i* S	Sn	07 52 09.0	-4.7
ARIG	**Puente Sto Nin**	**1.63**	**60**	*e*P	Pn	07 51 51.7	-2.9
ARIG				*i* S	Sn	07 52 10.7	-5.2
MMIG	**Aquila**	**1.67**	**300**	*e*P	Pn	07 51 46.9	-8.2

IDC ***24*** *07:55:37.0±0.5, 10°.84S×165°.58E, h25km±3km, mb4.8/29, mb1 4.9/30, mb1mx4.9/33, mbtmp5.0/30, ML4.9/1, MS4.9/25, Ms1 4.9/25, ms1mx4.7/36, Error ellipse: s-maj=13.0km s-min=10.7km az=69.0*

MOS ***24*** *07:55:38.4±1.0, 10°.80S×165°.47E, h45km, mb5.2/60, MS4.8/12, Error ellipse: s-maj=8.3km s-min=7.5km az=177.2*

NEIC ***24*** *07:55:40.4±0.7, 10°.83S×165°.52E, h50km±6km, mb5.1/104, Error ellipse: s-maj=4.4km s-min=3.7km az=158.0*

ISCJB ***24*** *07:55:41.4±0.1, 10°.89S±0°.03×165°.41E±0°.03, h70km, mb5.0/141, Error ellipse: s-maj=4.2km s-min=3.3km az=137.9*

BJI ***24*** *07:55:41.0, 10°.45S×165°.42E, h54km, mb5.0/48, mB5.2/42, Ms5.1/45, Ms7 5.0/46*

ISC 24 07:55:41.9±0.4, 10°.90S±0°.04×165°.54E±0°.04, h65km±3km, h64km:pP-P, n444, σ1§26/460, mb5.1/141, 10C-12D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.69**	**284**	LR	LR	07 59 23.7	
	comp=Z,36μm,20.1s,baz=136,slow=40						
HNR	**Honiara**	**5.69**	**284**	*e*P	**Pn**	**07 57 02.6**	**-1.3**
HNR				*e*		07 58 13.9	
HNR				pmax	pmax		
	comp=Z,2μm,0.8s						
HNR	**Honiara**	**5.69**	**284**	*i* P	Pn	07 57 08.0	+4.1
HNR				*i* S	Sn	07 58 19.0	+11
HNR	**Honiara**	**5.69**	**284**	*e*Pn	**Pn**	**07 57 02.6**	**-1.3**
	comp=Z,2μm,0.8s						
HNR				*e*Sn	Sn	07 58 13.9	+5.9
DZM	**Mont Dzumac**	**11.14**	**176**	Pn	**Pn**	**07 58 16.4**	**-2.2**
	comp=Z,7.8nm,0.3s,baz=270,slow=24,SNR=48						
DZM				Sn	**Sn**	**08 00 16.5**	**-5.1**
	comp=Z,1.9nm,0.3s,baz=270,slow=20,SNR=7.1						
DZM				LR	LR	08 01 43.2	
	comp=Z,4μm,22.0s,baz=0.0,slow=33						
NOUC	**Port Laguerre**	**11.16**	**176**	*e*P	**Pn**	**07 58 16.4**	**-2.3**
NOUC				*e*S	**Sn**	**08 00 17.4**	**-4.5**
PLUM	**Mont Dore**	**11.36**	**175**	*e*P	**Pn**	**07 58 19.0**	**-2.4**
MSVF	**Nonsavu**	**13.89**	**121**	P	**P**	**07 59 03.2**	**+1.2**
	comp=Z,731nm,1.2s,SNR=5.5						
MSVF	**Nonsavu**	**13.89**	**121**	*e*P	**Pn**	**07 58 57.2**	**+1.3**
MSVF	**Nonsavu**	**13.89**	**121**	*e*Pn	**Pn**	**07 58 57.2**	**+1.3**
TARA	**Tarawa**	**14.22**	**32**	*e*Pn	**Pn**	**07 58 57.2**	**-2.9**
TARA				*e*Sn	**Sn**	**08 01 32.5**	**-3.9**
PMG	**Port Moresby**	**18.15**	**273**	P	**Pn**	**07 59 51.8**	**+2.2**
	comp=Z,0.8nm,0.3s,baz=151,slow=10,SNR=3.3						
PMG				LR	LR	08 06 40.0	
	comp=Z,14μm,19.6s,baz=125,slow=36						
PMG	**Port Moresby**	**18.15**	**273**	*e*P	**P**	**07 59 48.4**	**-0.8**
PMG				pmax	pmax		
	comp=Z,70nm,1.0s						
PMG	**Port Moresby**	**18.15**	**273**	*e*P	**P**	**07 59 48.4**	**-0.8**
	comp=Z,70nm,1.0s						
EIDS	**Eidsvold**	**19.87**	**222**	P	**Pn**	**08 00 09.5**	**-0.5**
	baz=20,SNR=5.3						
EIDS	**Eidsvold**	**19.87**	**222**	*e*P	**Pn**	**08 00 09.6**	**-0.5**
	comp=Z,265nm,1.6s						
MANU	**Manus Island**	**20.07**	**295**	⇓P	Pn	08 00 11.3	-1.2
	baz=20,SNR=8.2						
CTA	**Charters Tower**	**20.69**	**241**	P	**P**	**08 00 17.5**	**+0.6**
	comp=Z,181nm,0.9s,baz=71,slow=13,SNR=23						
CTA				LR	LR	08 07 30.1	
	comp=Z,6μm,18.4s,baz=74,slow=34						
CTA	**Charters Tower**	**20.69**	**241**	P	**P**	**08 00 17.5**	**+0.6**
CTA				pmax	pmax		
	comp=Z,181nm,0.9s						
CTA				MLR	MLR		
	comp=Z,6μm,18.4s						
CTAO	**Charters Tower**	**20.69**	**241**	*e*P	**P**	**08 00 17.2**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,191nm,0.8s						
CTAO	**Charters Tower**	**20.69**	**241**	*e*P	**P**	**08 00 17.2**	**+0.4**
	comp=Z,191nm,0.8s						
LHI	**Lord Howe Isla**	**21.38**	**195**	⇑P	**P**	**08 00 25.1**	**+1.0**
	baz=22,SNR=4.3						
MTSU	**Mount Surprise**	**21.75**	**248**	P	**P**	**08 00 28.6**	**+0.3**
	baz=22,SNR=57						
COEN	**Coen**	**22.05**	**260**	P	**P**	**08 00 31.3**	**-0.1**
	baz=22,SNR=8.7						
COEN	**Coen**	**22.05**	**260**	*e*P	**P**	**08 00 31.4**	**-0.1**
	comp=Z,107nm,1.2s						
RMQ	**Roma**	**22.16**	**223**	P	**P**	**08 00 33.4**	**+0.8**
	baz=22,SNR=30						
AFI	**Afiamalu**	**22.35**	**100**	P	**P**	**08 00 32.9**	**-1.9**
	comp=Z,26nm,0.8s,baz=252,slow=20,SNR=3.1						
AFI	**Afiamalu**	**22.35**	**100**	P	**P**	**08 00 32.9**	**-1.9**
AFI				pmax	pmax		
	comp=Z,26nm,0.8s						
ARMA	**Armidale**	**23.34**	**212**	P	**P**	**08 00 44.9**	**+0.2**
	baz=24,SNR=39						
ARMA	**Armidale**	**23.34**	**212**	*e*P	**P**	**08 00 45.4**	**+0.7**
	comp=Z,76nm,0.9s						
RAO	**Raoul Island**	**23.92**	**142**	LR	LR	08 08 13.9	
	comp=Z,3μm,18.9s,baz=316,slow=32						
OUZ	**Omahuta**	**25.30**	**164**	*e*P	**P**	**08 01 04.4**	**+2.1**
	comp=Z,100nm,0.9s						
QLP	**Quilpie**	**25.44**	**229**	P	**P**	**08 01 04.5**	**+0.7**
	baz=26,SNR=9.4						
MGCD	**Mangrove Creek**	**25.86**	**209**	⇓P	**P**	**08 01 08.2**	**+0.7**
	baz=26,SNR=8.2						
JAY	**Jayapura**	**26.01**	**287**	P	**P**	**08 01 09.4**	**+0.3**
	comp=Z,38nm,1.0s						
JAY	**Jayapura**	**26.01**	**287**	P	**P**	**08 01 07.5**	**-1.6**
	comp=Z,15nm,0.8s,baz=76,slow=2.2,SNR=3.7						
JAY				LR	LR	08 12 53.1	
	comp=Z,3μm,18.1s,baz=108,slow=40						
JAY	**Jayapura**	**26.01**	**287**	P	**P**	**08 01 07.5**	**-1.6**
JAY				pmax	pmax		
	comp=Z,30nm,0.8s						
JAY				MLR	MLR		
	comp=Z,3μm,18.1s						
GENI	**Genyem**	**26.49**	**286**	P	**P**	**08 01 14.6**	**+1.2**
	comp=Z,78nm,1.1s,comp=Z,7μm						
QIS	**Mount Isa**	**26.71**	**246**	⇓P	**P**	**08 01 14.9**	**-0.4**
	baz=27,SNR=17						
CMSA	**Cobar Meteorol**	**27.55**	**219**	P	**P**	**08 01 22.7**	**0.0**
	baz=28,SNR=27						
SMPI	**Sarmi**	**28.06**	**287**	P	**P**	**08 01 26.6**	**-0.9**
	comp=Z,154nm,1.1s,comp=Z,2μm						
YNG	**Young**	**28.07**	**211**	P	**P**	**08 01 28.6**	**+1.3**
	baz=28,SNR=8.9						
CNB	**Canberra Magne**	**28.41**	**209**	P	**P**	**08 01 31.4**	**+0.9**
	baz=29,SNR=10.0						
URZ	**Urewera**	**29.15**	**161**	P	**P**	**08 01 36.0**	**-0.9**
	comp=Z,58nm,1.0s,baz=6.5,slow=5.8,SNR=15						
URZ				LR	LR	08 11 26.0	
	comp=Z,3μm,21.1s,baz=346,slow=32						
URZ	**Urewera**	**29.15**	**161**	*e*P	**P**	**08 01 37.3**	**+0.4**
	comp=Z,74nm,1.0s						
H11S2	**WAKE ISLAND Hy**	**29.22**	**2**	T	T	08 32 04.2	
	baz=181,slow=76,SNR=170						
H11S3	**WAKE ISLAND Hy**	**29.23**	**2**	T	T	08 32 07.7	
	baz=181,slow=76,SNR=605						
H11S1	**WAKE ISLAND Hy**	**29.24**	**2**	T	T	08 32 05.6	
	baz=181,slow=76,SNR=83						
MWZ	**Matawai**	**29.36**	**161**	PN	**P**	**08 01 38.6**	**-0.1**
BKZ	**Black Stump Fm**	**29.80**	**163**	*e*P	**P**	**08 01 43.3**	**+0.6**
	comp=Z,368nm,1.7s						
MILA	**Mila**	**29.94**	**207**	⇑P	**P**	**08 01 44.4**	**+0.4**
	baz=30,SNR=7.3						
BHHZ	**Black Hill Sta**	**29.98**	**164**	PN	**P**	**08 01 44.8**	**+0.5**
MCHZ	**McNeill Hill**	**30.11**	**163**	PN	**P**	**08 01 46.3**	**+0.8**
STKA	**Stephens Creek**	**30.41**	**223**	P	**P**	**08 01 48.3**	**+0.2**
	comp=Z,14nm,0.7s,baz=44,slow=9.0,SNR=42						
STKA				PcP	**PcP**	**08 04 47.8**	**+1.2**
	comp=Z,4.7nm,0.7s,baz=24,slow=4.1,SNR=3.2						
STKA				LR	LR	08 13 36.9	
	comp=Z,7μm,18.5s,baz=36,slow=35						
STKA	**Stephens Creek**	**30.41**	**223**	*e*P	**P**	**08 01 48.8**	**+0.6**
STKA						08 04 47.8	
STKA				pmax	pmax		
	comp=Z,47nm,2.4s						
STKA	**Stephens Creek**	**30.41**	**223**	*e*P	**P**	**08 01 48.8**	**+0.6**
	comp=Z,47nm,2.4s						
STKA				PcP	**PcP**	**08 04 47.8**	**+1.2**
H11N1	**WAKE ISLAND Hy**	**30.45**	**3**	T	T	08 33 35.9	
	baz=182,slow=76,SNR=322						
H11N3	**WAKE ISLAND Hy**	**30.45**	**3**	T	T	08 33 35.6	
	baz=182,slow=76,SNR=207						
H11N2	**WAKE ISLAND Hy**	**30.46**	**3**	T	T	08 33 48.5	
	baz=182,slow=76,SNR=196						
BFZ	**Birch Farm**	**31.14**	**164**	*e*P	**P**	**08 01 54.4**	**0.0**
	comp=Z,1μm,2.2s						
WRAB	**Tennant Creek**	**31.33**	**250**	P	**P**	**08 01 55.2**	**-1.2**
	comp=Z,226nm,0.9s,SNR=22						
WRAB	**Tennant Creek**	**31.33**	**250**	*ce*P	**P**	**08 01 55.9**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,68nm,0.9s						
WRAB	**Tennant Creek**	**31.33**	**250**	*e*P	**P**	**08 01 55.8**	**-0.7**
	comp=Z,36nm,0.9s						
WRA	**Warramunga Arr**	**31.34**	**250**	P	**P**	**08 01 55.3**	**-1.3**
	comp=Z,33nm,0.8s,baz=79,slow=9.3,SNR=108						
WRA				PcP	**PcP**	**08 04 50.1**	**+0.8**
	comp=Z,4.0nm,0.8s,baz=75,slow=3.6,SNR=8.1						
WRA				LR	LR	08 14 51.5	
	comp=Z,7μm,18.0s,baz=65,slow=37						
WRA	**Warramunga Arr**	**31.34**	**250**	P	**P**	**08 01 55.3**	**-1.3**
WRA						08 04 50.1	
WRA				pmax	pmax		
	comp=Z,33nm,0.8s						
WRA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WRA				MLR	MLR		
	comp=Z,7μm,18.0s						
SNZO	**South Karori**	**31.35**	**167**	*e*P	**P**	**08 01 58.6**	**+2.4**
	comp=Z,194nm,1.4s						
THZ	**Tophouse**	**31.42**	**169**	PN	**P**	**08 01 57.3**	**+0.4**
GUMO	**Guam**	**31.82**	**319**	P	**P**	**08 01 58.7**	**-2.0**
	comp=Z,144nm,1.2s,baz=221,slow=11,SNR=3.0						
GUMO	**Guam**	**31.82**	**319**	P	**P**	**08 01 58.7**	**-2.0**
GUMO				pmax	pmax		
	comp=Z,144nm,1.2s						
TOO	**Toolangi**	**32.09**	**211**	P	**P**	**08 02 03.8**	**+0.9**
	baz=32,SNR=20						
KHZ	**Kahutara**	**32.17**	**169**	*e*P	**P**	**08 02 03.9**	**+0.5**
	comp=Z,55nm,1.0s						
LTZ	**Lake Taylor**	**32.30**	**171**	PN	**P**	**08 02 05.8**	**+1.1**
WVZ	**Waitaha Valley**	**32.38**	**173**	PN	**P**	**08 02 05.8**	**+0.6**
AS31	**Alice Springs**	**32.68**	**243**	*e*P	**P**	**08 02 07.0**	**-1.2**
ASAR	**Alice Springs**	**32.68**	**243**	P	**P**	**08 02 07.0**	**-1.3**
	comp=Z,57nm,0.8s,baz=63,slow=10,SNR=611						
ASAR				PcP	**PcP**	**08 04 53.0**	**+0.1**
	comp=Z,8.0nm,0.9s,baz=84,slow=3.1,SNR=8.9						
ASAR				LR	LR	08 14 27.4	
	comp=Z,4μm,20.0s,baz=72,slow=34						
ASAR	**Alice Springs**	**32.68**	**243**	P	**P**	**08 02 07.0**	**-1.3**
ASAR						08 04 53.1	
ASAR				pmax	pmax		
	comp=Z,57nm,0.8s						
ASAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ASAR				MLR	MLR		
	comp=Z,4μm,20.0s						
FOZ	**Fox Glacier**	**32.74**	**174**	PN	**P**	**08 02 08.9**	**+0.4**
OXZ	**Oxford**	**32.80**	**171**	PN	**P**	**08 02 09.8**	**+0.8**
RPZ	**Rata Peaks**	**33.05**	**173**	P	**P**	**08 02 09.9**	**-1.3**
	comp=Z,21nm,0.7s,baz=350,slow=3.1,SNR=9.0						
RPZ	**Rata Peaks**	**33.05**	**173**	*e*P	**P**	**08 02 11.6**	**+0.5**
	comp=Z,53nm,0.8s						
HTT	**Hallett**	**33.14**	**223**	⇓P	**P**	**08 02 12.5**	**+0.3**
	baz=33,SNR=21						
JCZ	**Jackson Bay**	**33.17**	**176**	PN	**P**	**08 02 15.2**	**+2.9**
ARPS	**Mount Arapiles**	**33.48**	**216**	P	**P**	**08 02 15.7**	**+0.7**
	baz=34,SNR=9.9						
BBOO	**Buckleboo**	**34.78**	**227**	⇑P	**P**	**08 02 25.8**	**-0.6**
	baz=35,SNR=21						
BBOO	**Buckleboo**	**34.78**	**227**	*e*P	**P**	**08 02 26.5**	**+0.1**
	comp=Z,37nm,0.9s						
RAR	**Rarotonga**	**34.80**	**112**	P	**P**	**08 02 25.8**	**-0.9**
	comp=Z,12nm,0.7s,baz=238,slow=19,SNR=2.1						
RAR	**Rarotonga**	**34.80**	**112**	P	**P**	**08 02 25.8**	**-0.9**
RAR				pmax	pmax		
	comp=Z,12nm,0.7s						
SIJI	**Sorong**	**35.47**	**284**	P	**P**	**08 02 31.5**	**-1.1**
	comp=Z,27nm,1.0s,baz=69,slow=7.1,SNR=9.4						
SIJI				LR	LR	08 19 24.1	
	comp=Z,3μm,18.4s,slow=40						
KNRA	**Kunumurra**	**36.07**	**258**	⇑P	**P**	**08 02 36.6**	**-1.0**
	baz=36,SNR=4.2						
WRKA	**Warakurna**	**37.97**	**243**	P	**P**	**08 02 52.8**	**-0.9**
	baz=38,SNR=75						
FORT	**Forrest**	**39.96**	**235**	P	**P**	**08 03 10.7**	**+0.4**
	baz=40,SNR=11						
FORT	**Forrest**	**39.96**	**235**	*e*P	**P**	**08 03 09.6**	**-0.6**
	comp=Z,49nm,0.9s						
PPT2	**Papeete2**	**43.93**	**104**	*e*S	S	08 10 18.5	+8.4
PPT2	comp=Z,864nm,27.2s						
				*e*LR	LR	08 16 10.1	
	comp=Z,4μm,22.0s,baz=277						
TBI	**Tubuai**	**44.58**	**112**	*e*S	S	08 10 28.1	+8.9
	comp=Z,502nm,39.5s						
TBI				*e*LR	LR	08 16 23.8	
	comp=Z,6μm,27.2s,baz=282						
MBWA	**Marble Bar**	**45.05**	**251**	*e*P	**P**	**08 03 52.0**	**+0.3**
	comp=Z,23nm,0.8s						
KMBL	**Kambalda**	**45.16**	**236**	P	**P**	**08 03 52.4**	**0.0**
	baz=45,SNR=6.2						
KAPI	**Kappang**	**45.68**	**274**	LR	LR	08 24 47.1	
	comp=Z,656nm,21.0s,baz=92,slow=38						
KAPI	**Kappang**	**45.68**	**274**	*e*P	**P**	**08 03 56.8**	**+0.1**
	comp=Z,40nm,1.1s						
MEEK	**Meekatharra**	**46.83**	**244**	P	**P**	**08 04 06.0**	**+0.4**
	baz=47,SNR=85						
KLBR	**Kellerberrin**	**48.62**	**237**	P	**P**	**08 04 19.2**	**-0.2**
	baz=49,SNR=13						
BLDU	**Balliduu**	**49.26**	**239**	P	**P**	**08 04 25.0**	**+0.7**
	baz=49,SNR=9.0						
NWAO	**Narrogin (SRO)**	**49.38**	**236**	⇓P	**P**	**08 04 25.4**	**+0.2**
	baz=50,SNR=4.5						
NWAO				⇓P	**P**	**08 04 25.4**	**+0.2**
	baz=50,SNR=4.5						
MYLDM	**Lahad Datu**	**49.47**	**286**	*e*P	**P**	**08 04 26.7**	**+0.6**
	comp=Z,80nm,1.2s						
MORW	**Morawa**	**49.52**	**241**	P	**P**	**08 04 27.2**	**+0.9**
	baz=50,SNR=24						
JHJ	**Hachijo jima 2**	**50.19**	**332**	P	**P**	**08 04 31.8**	**+0.6**
	comp=Z,90nm,0.9s,baz=121,slow=5.9,SNR=2.8						
JHJ				LR	LR	08 25 55.4	
	comp=Z,316nm,19.0s,baz=122,slow=36						
KKM	**Kota Kinabalu**	**51.90**	**287**	⇓P	**P**	**08 04 44.4**	**-0.1**
	baz=52,SNR=4.3						
KKM	**Kota Kinabalu**	**51.90**	**287**	*e*P	**P**	**08 04 44.6**	**+0.1**
	comp=Z,61nm,1.0s						
JOW	**Kunigami**	**52.11**	**317**	*e*P	**P**	**08 04 46.8**	**+1.0**
	comp=Z,24nm,1.0s						
MJAR	**Matsushiro Arr**	**53.75**	**333**	P	**P**	**08 04 56.1**	**-1.6**
	comp=Z,120nm,0.9s,baz=167,slow=7.9,SNR=29						
MJAR				LR	LR	08 25 32.6	
	comp=Z,367nm,21.3s,baz=145,slow=33						
MJAR	**Matsushiro Arr**	**53.75**	**333**	P	**P**	**08 04 56.1**	**-1.6**
MJAR				pmax	pmax		
	comp=Z,13nm,0.9s						
MAJO	**Matsushiro**	**53.75**	**333**	*e*P	**P**	**08 04 57.0**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,20nm,0.8s						
MAJO	**Matsushiro**	**53.75**	**333**	*e*P	**P**	**08 04 57.0**	**-0.7**
	comp=Z,20nm,0.8s						
MAT	**Matsushiro**	**53.75**	**333**	P	**P**	**08 04 56.7**	**-1.0**
SBUM	**Sibu**	**54.67**	**281**	*e*P	**P**	**08 05 05.1**	**+0.2**
	comp=Z,23nm,1.4s						
JNU	**Nakatsue**	**54.84**	**324**	P	**P**	**08 05 04.9**	**-0.8**
	comp=Z,25nm,0.9s,baz=116,slow=2.9,SNR=18						
JNU				LR	LR	08 26 23.2	
	comp=Z,385nm,20.0s,baz=124,slow=34						
JNU	**Nakatsue**	**54.84**	**324**	*e*P	**P**	**08 05 05.4**	**-0.3**
	comp=Z,14nm,1.0s						
KSM	**Kuching**	**56.28**	**279**	*e*P	**P**	**08 05 15.6**	**-0.8**
	comp=Z,5.7nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**57.52**	**343**	*e*P	P	08 05 20.0	-4.5
YUK				*e*S	**S**	**08 13 15.9**	**-1.3**

NJ2 LE
comp=Z,920nm,14.8s
NJ2 LZ
comp=Z,2µm,18.8s
NJ2 LZ
comp=Z,2µm,18.9s
QIZ Qiongzhong 62.43 298 P **P** **08 05 57.5 -1.2**
QIZ S **S** **08 14 20.8 -0.4**
QIZ PMZ
comp=Z,15nm,2.3s
QIZ LN
comp=Z,510nm,22.2s
QIZ LE
comp=Z,420nm,23.9s
QIZ LZ
comp=Z,1µm,23.3s
USRK Ussuriysk Ar. 62.73 333 P **P** **08 06 00.8 +0.7**
comp=Z,9.9nm,1.0s,baz=138,slow=6.3,SNR=22
USRK pP pP 08 06 07.0 -10
comp=Z,5.8nm,0.8s,baz=127,slow=6.2,SNR=8.6
USRK LR LR 08 31 09.9
comp=Z,434nm,20.3s,baz=131,slow=34
PETK Petropavlovsk- 64.10 355 P **P** **08 06 10.1 +1.0**
comp=Z,4.3nm,0.7s,baz=125,slow=9.3,SNR=5.3
PETK LR LR 08 29 43.5
comp=Z,266nm,20.0s,baz=162,slow=32
MDJ Mudanjiang 64.12 332 P **P** **08 06 09.0 -0.4**
MDJ pP **pP** **08 06 27.3 +0.6**
MDJ S **S** **08 14 41.3 -0.1**
MDJ PMZ
comp=Z,13nm,1.4s
MDJ PMZ
comp=Z,77nm,3.4s
MDJ LN
comp=Z,390nm,20.6s
MDJ LE
comp=Z,410nm,25.5s
MDJ LZ
comp=Z,400nm,27.4s
MDJ Mudanjiang 64.12 332 *e*P **P** **08 06 09.3 -0.1**
comp=Z,13nm,0.8s
WHN Wuhan 64.14 312 P **P** **08 06 07.9 -1.9**
WHN S **S** **08 14 42.8 +0.7**
WHN LN
comp=Z,3µm,18.8s
WHN LE
comp=Z,1µm,19.8s
WHN LZ
comp=Z,2µm,17.2s
HABR Khabarovsk 64.97 338 *e*P **P** **08 06 14.2 -0.6**
HABR *e**PP **pP** **08 06 32.7 +0.6**
HABR *e**SP **sP** **08 06 40.7 +1.4**
HABR *e* 08 08 38.3
HABR *e*S **S** **08 14 51.2 -0.5**
HABR *e*S x 08 15 13.1
HABR *e**SS **sS** **08 15 22.3 +1.3**
HABR *e* 08 16 01.5
HABR *e*SS **SS** **08 19 04.5 -0.4**
HABR pmax pmax
comp=E,28nm,2.3s
HABR pmax pmax
comp=N,32nm,2.3s
HABR pmax pmax
comp=Z,51nm,2.3s
HABR MLR MLR
comp=Z,421nm,19.0s
CN2 Changchun 65.51 329 *e*P **P** **08 06 18.8 +0.4**
CN2 *e*S **S** **08 15 02.0 +3.5**
CN2 PMZ
comp=Z,10.0nm,0.6s
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,600nm,18.0s
CN2 LE
comp=Z,500nm,18.0s
CN2 LZ
comp=Z,300nm,18.0s
IPM Ipoh 66.00 280 *e*P **P** **08 06 22.1 -0.1**
comp=Z,19nm,0.8s
CASY Casey 66.44 201 *e*P **P** **08 06 24.5 +0.5**
comp=Z,25nm,1.2s
VNDA Vanda 66.64 181 P **P** **08 06 26.2 +1.1**
comp=Z,6.6nm,0.9s,baz=3.3,slow=6.9,SNR=22
VNDA Vanda 66.64 181 P **P** **08 06 26.2 +1.1**
VNDA pmax pmax
comp=Z,7.0nm,0.9s
KLR Kul'dur 66.84 337 *e*P P 08 06 17.3 -10
SKNT Sakolnakorn 66.85 294 P **P** **08 06 28.1 +0.6**
comp=Z,29nm,1.3s,comp=Z,3µm
SBA Scott Base 66.95 180 *e*P **P** **08 06 28.4 +1.3**
SBA pmax pmax
comp=Z,18nm,1.0s
SBA Scott Base 66.95 180 *e*P **P** **08 06 28.4 +1.3**
comp=Z,18nm,1.0s
GYA Guiyang 68.17 304 P **P** **08 06 36.8 +1.0**
GYA pP **pP** **08 06 55.4 +2.1**
GYA PP **PP** **08 09 10.3 +3.2**
GYA S **S** **08 15 31.0 -0.5**
GYA SKS **SKiKP** **08 16 25.3 -0.1**
GYA SS **SS** **08 19 55.8 +0.2**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,140nm,5.2s
GYA LN
comp=Z,590nm,19.5s
GYA LE
comp=Z,560nm,20.2s
GYA LZ
comp=Z,610nm,19.7s
BJI Beijing 68.24 321 P **P** **08 06 35.8 0.0**
BJI PP **PP** **08 09 05.0 -2.3**
BJI S **S** **08 15 33.4 +1.9**
BJI PMZ
comp=Z,13nm,0.8s
BJI PMZ
comp=Z,240nm,6.0s
BJI LN
comp=Z,360nm,22.0s
BJI LE
comp=Z,350nm,24.4s
BJI LZ
comp=Z,690nm,24.2s
XAN Xi'an 69.87 312 P **P** **08 06 46.0 -0.2**
XAN PMZ
comp=Z,16nm,1.1s
XAN PMZ
comp=Z,120nm,6.0s
XAN LN
comp=Z,220nm,18.5s
XAN LE
comp=Z,610nm,18.5s
XAN LZ
comp=Z,930nm,21.4s
KMI Kunming 70.87 301 P **P** **08 06 53.8 +1.1**
KMI PP **PP** **08 09 34.9 +4.3**
KMI S **S** **08 16 02.9 -0.6**
KMI PMZ
comp=Z,15nm,0.5s
KMI PMZ
comp=Z,260nm,7.1s
KMI LN
comp=Z,280nm,21.8s
KMI LE
comp=Z,680nm,18.1s
KMI LZ
comp=Z,810nm,18.7s
CRAI Chiangrai 71.17 296 P **P** **08 06 53.4 -0.9**
comp=Z,23nm,1.2s,comp=Z,529nm
LAMP Lampang 71.27 294 P **P** **08 06 57.3 +2.4**
comp=Z,5.6nm,0.7s
HHC Hu-ho-hao-te 71.59 320 *e*P P 08 06 53.3 -3.2
HHC pP pP 08 07 14.3 +0.2
HHC S **S** **08 16 06.4 -4.6**
HHC PMZ
comp=Z,11nm,0.7s
HHC PMZ
comp=Z,190nm,4.2s
HHC LN
comp=Z,700nm,16.0s
HHC LE
comp=Z,580nm,14.8s
HHC LZ
comp=Z,880nm,19.7s
CMAR Chiang Mai Arr 71.87 294 P **P** **08 06 59.2 +0.7**
comp=Z,7.9nm,0.9s,baz=118,slow=4.2,SNR=24

CMAR PP **PP** **08 09 37.4 -1.7**
comp=Z,1.0nm,0.4s,baz=115,slow=6.4,SNR=4.4
CMAR LR LR 08 39 59.3
comp=Z,286nm,18.7s,baz=93,slow=37
CMAR Chiang Mai Arr 71.87 294 P **P** **08 06 59.2 +0.7**
CMAR 08 09 37.4
CMAR pmax pmax
comp=Z,8.0nm,0.9s
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR MLR MLR
comp=Z,286nm,18.7s
CMMT Chiang Mai 71.97 294 P P 08 07 12.8 +14
CHTO Chiang Mai 71.98 294 P P 08 07 12.9 +14
CD2 Chengdu 72.35 307 P **P** **08 07 01.6 +0.4**
CD2 pP **PcP** **08 07 20.3 +1.4**
CD2 PP **PP** **08 09 43.3 +0.3**
CD2 S **S** **08 16 20.8 +0.8**
CD2 PMZ
comp=Z,20nm,1.0s
CD2 PMZ
comp=Z,210nm,5.5s
CD2 LN
comp=Z,710nm,18.6s
CD2 LZ
comp=Z,990nm,27.6s
SEY Seymchan 74.31 354 P **P** **08 07 12.1 +0.1**
comp=Z,4.7nm,0.9s,baz=155,slow=6.6,SNR=9.9
SEY Seymchan 74.31 354 ⇓*i*P **P** **08 07 14.2 +2.2**
LZH Lanzhou 74.51 312 *e*P **P** **08 07 14.6 +0.6**
LZH pP **pP** **08 07 33.3 +1.7**
LZH *e*PP **PP** **08 10 04.8 +3.4**
LZH *e*S **S** **08 16 43.0 -1.5**
LZH *e*SS **SS** **08 21 31.5 -1.1**
LZH PMZ
comp=Z,74nm,1.5s
LZH PMZ
comp=Z,220nm,7.0s
LZH LN
comp=Z,490nm,17.0s
LZH LE
comp=Z,990nm,17.5s
LZH LZ
comp=Z,1µm,19.6s
OHAK Old Harbor 75.85 22 *e*P **P** **08 07 21.0 +0.1**
comp=Z,22nm,0.9s
YAK Yakutsk 77.90 344 P **P** **08 07 32.1 -0.3**
comp=Z,1.5nm,0.3s,baz=348,slow=20,SNR=1.9
YAK LR LR 08 43 14.2
comp=Z,463nm,18.1s,baz=153,slow=37
YAK Yakutsk 77.90 344 *e*P **P** **08 07 31.4 -1.0**
YAK *e* 08 07 40.0
YAK *e**PP **PcP** **08 07 43.1 +1.1**
YAK *e* 08 10 32.8
YAK *e*S **S** **08 17 22.2 +2.0**
YAK *e**SS **SKSac** **08 17 40.4 +0.1**
YAK *e* 08 17 48.7
YAK *e*SSS SSS 08 25 37.7
YAK pmax pmax
comp=Z,12nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,28nm,1.9s
YAK pmax pmax
comp=E,9.0nm,1.5s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK smax smax
comp=E,55nm,2.7s
YAK smax smax
comp=N,34nm,2.2s
YAK MLR MLR
comp=Z,577nm,18.0s
YAK MLR MLR
comp=N,282nm,17.0s
YAK MLR MLR
comp=E,211nm,17.0s
ULN Ulaanbaatar 78.06 324 *c i*P **P** **08 07 34.5 +0.7**
ULN pmax pmax
comp=Z,20nm,1.0s
ULN Ulaanbaatar 78.06 324 *e*P **P** **08 07 34.4 +0.5**
comp=Z,20nm,0.9s
SONM Songino Array 78.43 324 P **P** **08 07 35.5 -0.3**
comp=Z,7.2nm,0.9s,baz=138,slow=4.6,SNR=33
SONM Songino Array 78.43 324 P **P** **08 07 35.5 -0.3**
SONM pmax pmax
comp=Z,7.0nm,0.9s
BILL Bilibino 78.73 0 *de*P **P** **08 07 36.8 -0.1**
BILL *e* 08 07 44.8
BILL *e* 08 10 41.4
BILL pmax pmax
comp=Z,33nm,1.2s
BILL MLR MLR
comp=Z,212nm,18.0s
GTA Gaotai 78.81 314 *e*P **P** **08 07 38.9 +0.8**
GTA pP **pP** **08 07 57.6 +1.7**
GTA S **S** **08 17 28.9 -2.3**
GTA SKS **SKSac** **08 17 42.8 -5.4**
GTA SS **SS** **08 22 36.8 -0.7**
GTA PMZ
comp=Z,11nm,1.0s
GTA PMZ
comp=Z,200nm,5.7s
GTA LN
comp=Z,560nm,20.7s
GTA LE
comp=Z,810nm,21.6s
GTA LZ
comp=Z,940nm,20.4s
QSPA South Pole Qui 79.11 180 LR LR 08 40 14.6
comp=Z,739nm,18.1s,baz=20,slow=34
QSPA South Pole Qui 79.11 180 *e*P **P** **08 07 39.7 +0.4**
comp=Z,36nm,1.0s
BOD Bodaibo 80.31 335 *e*P **P** **08 07 45.1 -0.6**
BOD pmax pmax
comp=Z,6.0nm,1.3s
PMR Palmer 80.49 20 *e*P **P** **08 07 45.6 -0.9**
PMR pmax pmax
comp=Z,22nm,1.3s
PMR Palmer 80.49 20 *e*P **P** **08 07 45.6 -0.9**
comp=Z,22nm,1.3s
SML Sawmill 80.91 20 *e*P **P** **08 07 49.2 +0.3**
SML pmax pmax
comp=Z,5.0nm,1.2s
SML Sawmill 80.91 20 *e*P **P** **08 07 49.2 +0.3**
comp=Z,5.4nm,1.2s
DIV Divide 81.35 22 *e*P **P** **08 07 51.5 +0.2**
comp=Z,25nm,0.9s
TRF Thorofare Moun 81.44 18 *e*P **P** **08 07 50.5 -1.3**
comp=Z,8.8nm,0.8s
ZAK Zakamensk 81.47 325 ⇑*i*P **P** **08 07 51.8 -0.3**
ZAK pmax pmax
comp=Z,8.0nm,1.2s
BMRM Bremner River 81.67 22 *e*P **P** **08 07 53.5 +0.6**
comp=Z,24nm,1.0s
BPAW Bear Paw Mtn. 81.70 18 *e*P **P** **08 07 52.8 -0.2**
comp=Z,1.4nm,1.1s
TLY Talaya 81.89 326 LR LR 08 43 48.0
comp=Z,261nm,19.6s,baz=111,slow=35
TLY Talaya 81.89 326 *e*P **P** **08 07 53.6 -0.6**
TLY *e*S S 08 18 12.2 +9.5
TLY pmax pmax
comp=Z,9.0nm,0.9s
TLY MLR MLR
comp=Z,288nm,17.0s
TLY Talaya 81.89 326 P **P** **08 07 54.9 +0.7**
comp=Z,60nm,1.0s,SNR=6.1
TLY Talaya 81.89 326 *e*P **P** **08 07 54.1 -0.1**
comp=Z,11nm,0.9s
MCK McKinley 82.07 19 *e*P **P** **08 07 55.3 +0.4**
MCK pmax pmax
comp=Z,30nm,1.1s
MCK McKinley 82.07 19 *e*P **P** **08 07 55.3 +0.4**
comp=Z,30nm,1.1s
IM04 Indian Mountai 82.32 16 *e*P **P** **08 07 56.3 +0.1**
COLA College 83.21 18 *e*P **P** **08 08 00.6 -0.2**
COLA pmax pmax
comp=Z,22nm,0.8s
COLA College 83.21 18 *e*P **P** **08 08 00.6 -0.2**
comp=Z,22nm,0.8s
MENT Mentasta 83.27 21 *e*P **P** **08 08 02.1 +0.9**
ILAR Eielson Array 83.44 19 P **P** **08 08 01.4 -0.5**
comp=Z,9.8nm,0.6s,baz=237,slow=4.6,SNR=100

ILAR LR LR 08 38 59.7
comp=Z,347nm,21.6s,baz=244,slow=31
N02D Trinity Center 83.68 46 P **P** **08 08 05.3 +1.5**
baz=84,SNR=6.6
M02C Callahan 83.72 46 P **P** **08 08 03.2 -0.9**
baz=84
SMMC Simmler 83.85 52 P **P** **08 08 06.9 +2.1**
baz=84
PKM Peak Mountain 83.87 53 P **P** **08 08 05.8 +0.7**
baz=84
YBH Yreka Blue Hor 83.94 46 *e*P **P** **08 08 06.1 +1.0**
YBH pmax pmax
comp=Z,17nm,1.1s
YBH Yreka Blue Hor 83.94 46 *e*P **P** **08 08 06.1 +1.0**
comp=Z,17nm,1.1s
HUMO Hull Mountain 84.07 45 *e*P **P** **08 08 05.0 -0.7**
comp=Z,17nm,1.2s
I03D Drain, OR 84.19 44 P **P** **08 08 07.0 +0.8**
baz=84
HYT Haines Junctio 84.34 24 *e*P **P** **08 08 07.6 +0.8**
comp=Z,15nm,1.0s
CMB Columbia Colle 84.40 50 *e*P **P** **08 08 06.7 -0.8**
CMB pmax pmax
comp=Z,8.0nm,0.9s
CMB Columbia Colle 84.40 50 *e*P **P** **08 08 06.7 -0.8**
comp=Z,8.4nm,0.9s
M04C Macdoel 84.56 46 P **P** **08 08 09.9 +1.5**
baz=85,SNR=6.9
ARVC Arvin 84.71 53 P **P** **08 08 10.0 +0.9**
baz=85
MAW Mawson 84.78 202 P **P** **08 08 10.0 +1.2**
comp=Z,10nm,1.0s,baz=120,slow=5.6,SNR=9.4
MAW Mawson 84.78 202 *e*P **P** **08 08 09.8 +0.9**
MAW pmax pmax
comp=Z,18nm,1.6s
MAW Mawson 84.78 202 ⇑P **P** **08 08 10.2 +1.4**
baz=85,SNR=8.6
MAW Mawson 84.78 202 *e*P **P** **08 08 09.8 +0.9**
comp=Z,18nm,1.6s
I04A Tendick Farm, 84.86 44 P **P** **08 08 10.4 +0.6**
baz=85
J04D Umpqua Nationa 84.87 44 P **P** **08 08 09.9 -0.1**
baz=85
K04D Chiloquin, OR 84.91 45 P **P** **08 08 10.0 -0.1**
baz=85
MWC Mount Wilson 85.06 54 *e*P **P** **08 08 10.8 -0.3**
MWC pmax pmax
comp=Z,42nm,1.4s
MWC Mount Wilson 85.06 54 *e*P **P** **08 08 10.8 -0.3**
comp=Z,42nm,1.4s
ISA Isabella 85.14 52 *e*P **P** **08 08 11.0 -0.4**
ISA pmax pmax
comp=Z,23nm,1.4s
ISA Isabella 85.14 52 P **P** **08 08 12.0 +0.6**
baz=85,SNR=13
ISA Isabella 85.14 52 *e*P **P** **08 08 11.0 -0.4**
comp=Z,23nm,1.4s
WAKR Walker 85.26 50 *e*P **P** **08 08 12.0 0.0**
comp=Z,49nm,1.5s
EDW2 Edwards Air Fo 85.30 53 P **P** **08 08 12.2 +0.1**
baz=85,SNR=14
EGAK Eagle 85.31 20 *e*P **P** **08 08 11.8 +0.4**
comp=Z,71nm,1.2s
BFSC Mount Baldy Ra 85.38 54 P **P** **08 08 12.5 -0.2**
baz=85,SNR=8.4
MLAC Mammoth Lakes 85.45 50 P **P** **08 08 13.9 +0.8**
baz=86
109C Camp Elliot, M 85.45 55 P **P** **08 08 13.3 +0.5**
baz=86
J05D Fort Rock, OR 85.49 45 P **P** **08 08 13.7 +0.7**
baz=86
DAWY Dawson 85.49 21 *e*P **P** **08 08 13.3 +0.9**
comp=Z,16nm,0.9s
MURC Murrieta 85.57 55 P **P** **08 08 14.1 +0.6**
baz=86
MOD Modoc 85.69 46 *e*P **P** **08 08 13.7 -0.4**
comp=Z,23nm,1.4s
I05D Terrebonne, OR 85.77 44 P **P** **08 08 15.4 +1.1**
baz=86
TDL Tradedollar La 85.87 41 P **P** **08 08 16.3 +1.4**
BBRC Big Bear Solar 85.97 54 P **P** **08 08 16.1 +0.4**
baz=86
MONP Monument Peak 86.00 56 P **P** **08 08 16.2 +0.3**
baz=86,SNR=11
DAC Darwin (Calif) 86.00 52 *e*P **P** **08 08 15.4 -0.4**
DAC pmax pmax
comp=Z,19nm,1.4s
DAC Darwin (Calif) 86.00 52 *e*P **P** **08 08 15.4 -0.4**
comp=Z,19nm,1.4s
MPMC Manual Prospec 86.02 52 P **P** **08 08 16.2 +0.3**
baz=86,SNR=16
NVAR Mina Array Bea 86.08 50 P **P** **08 08 15.5 -0.7**
comp=Z,6.3nm,0.9s,baz=235,slow=7.3,SNR=32
G05D Wamic, OR 86.08 43 P **P** **08 08 16.9 +1.2**
baz=86
PFO Pinyon Flat Ob 86.17 55 *e*P **P** **08 08 15.8 -0.8**
PFO pmax pmax
comp=Z,19nm,1.4s
PFO Pinyon Flat Ob 86.17 55 P **P** **08 08 16.5 -0.1**
baz=86
PFO Pinyon Flat Ob 86.17 55 *e*P **P** **08 08 15.8 -0.8**
comp=Z,19nm,1.4s
IBP Imperial Bould 86.21 56 P **P** **08 08 17.4 +0.7**
baz=86
MCW Mount Constitu 86.30 39 P **P** **08 08 18.2 +1.4**
MCW Mount Constitu 86.30 39 P **P** **08 08 18.2 +1.4**
GSC Goldstone 86.35 53 *e*P **P** **08 08 17.2 -0.2**
GSC pmax pmax
comp=Z,12nm,1.2s
GSC Goldstone 86.35 53 P **P** **08 08 17.7 +0.3**
baz=86,SNR=6.3
GSC Goldstone 86.35 53 *e*P **P** **08 08 17.2 -0.2**
comp=Z,12nm,1.2s
GRAC Grapevine Rang 86.38 51 P **P** **08 08 18.1 +0.6**
baz=86,SNR=15
SWSC Sam W. Stewart 86.52 56 P **P** **08 08 18.6 +0.5**
baz=87
FURC Furnace Creek, 86.63 52 P **P** **08 08 19.0 +0.5**
baz=87
BELC Belle Mtn. Jos 86.64 55 P **P** **08 08 19.7 +0.8**
baz=87,SNR=19
TPH Tonopah 86.80 50 *e*P **P** **08 08 19.1 -0.6**
TPH pmax pmax
comp=Z,11nm,1.3s
TPH Tonopah 86.80 50 *e*P **P** **08 08 19.1 -0.6**
comp=Z,11nm,1.3s
SHOC Shoshone 86.92 53 P **P** **08 08 20.8 +0.7**
baz=87
TRW Toppenish Ridg 86.94 42 P **P** **08 08 21.1 +1.1**
BC3 Big Chuckawall 86.98 55 P **P** **08 08 21.6 +1.1**
baz=87,SNR=9.2
WVOR Wild Horse Val 87.03 46 *e*P **P** **08 08 20.2 -0.4**
WVOR pmax pmax
comp=Z,23nm,1.4s
WVOR Wild Horse Val 87.03 46 *e*P **P** **08 08 20.2 -0.4**
comp=Z,23nm,1.4s
RPW Rockport 87.04 40 P **P** **08 08 21.1 +0.7**
TUQ Turquoise Moun 87.08 53 P **P** **08 08 21.8 +0.8**
baz=87
GMRC Granite Mounta 87.11 54 P **P** **08 08 21.4 +0.2**
baz=87,SNR=7.1
TPNV Topopah Spring 87.23 52 P **P** **08 08 22.2 +0.5**
baz=87,SNR=8.5
GLA Glamis 87.34 56 *e*P **P** **08 08 22.4 +0.2**
GLA pmax pmax
comp=Z,60nm,1.4s
GLA Glamis 87.34 56 P **P** **08 08 22.9 +0.8**
baz=87,SNR=7.1
GLA Glamis 87.34 56 *e*P **P** **08 08 22.4 +0.2**
comp=Z,60nm,1.4s
IRM Iron Mountain 87.36 55 P **P** **08 08 22.6 +0.3**
baz=87,SNR=17
BMN Battle Mountai 87.46 48 *e*P **P** **08 08 23.2 +0.4**
BMN pmax pmax
comp=Z,3.0nm,0.6s
BMN Battle Mountai 87.46 48 *e*P **P** **08 08 23.2 +0.4**
comp=Z,3.1nm,0.6s
SNIWA Snively Ranch 87.58 42 P **P** **08 08 24.3 +1.4**
LDFC Landfair 87.63 54 *e*P **P** **08 08 24.0 +0.3**
comp=Z,60nm,1.4s
HAWA Hanford 87.64 42 *e*P **P** **08 08 22.9 -0.3**
comp=Z,21nm,1.3s
NLW Nelson Butte 87.66 40 P **P** **08 08 24.3 +0.8**
H2OWA Water 87.71 42 P **P** **08 08 24.9 +1.3**
Y12C Blythe 87.76 55 P **P** **08 08 25.2 +1.1**
baz=88
SHPR Sheep Range 87.96 52 *e*P **P** **08 08 25.3 +0.1**

	comp=Z,28nm,1.5s							
R11A	**Troy Canyon, C**	**88.11**	**51**	P		**P**	**08 08 26.1**	**+0.2**
	baz=88,SNR=15							
R11A	**Troy Canyon, C**	**88.11**	**51**	*e*P		**P**	**08 08 25.9**	**0.0**
	comp=Z,14nm,1.5s							
PDMCI	**Parker Dam,Lak**	**88.20**	**55**	P		**P**	**08 08 26.9**	**+0.7**
	baz=88,SNR=7.2							
214A	**Organ Pipe Nat**	**88.72**	**57**	P		**P**	**08 08 29.6**	**+0.8**
	baz=89,SNR=13							
214A	**Organ Pipe Nat**	**88.72**	**57**	*e*P		**P**	**08 08 28.2**	**-0.6**
	comp=Z,15nm,1.1s							
WMQ	**Urumqi**	**88.85**	**315**	P		**P**	**08 08 28.8**	**-0.3**
WMQ				pP		**pP**	**08 08 48.5**	**+1.2**
WMQ				PMZ				
	comp=Z,13nm,1.0s							
WMQ				PMZ				
	comp=Z,160nm,4.7s							
WMQ				LN				
	comp=Z,280nm,26.5s							
WMQ				LE				
	comp=Z,590nm,26.0s							
WMQ				LZ				
	comp=Z,460nm,23.0s							
MFID	**Camas Ranch**	**89.29**	**46**	*e*P		**P**	**08 08 31.2**	**-0.1**
	comp=Z,20nm,1.4s							
CCUT	**Cedar City**	**89.61**	**52**	*e*P		**P**	**08 08 33.5**	**+0.4**
	comp=Z,10.0nm,0.9s							
NEW	**Newport**	**89.77**	**41**	*e*P		**P**	**08 08 33.3**	**0.0**
NEW				pmax	pmax			
	comp=Z,9.0nm,1.3s							
NEW	**Newport**	**89.77**	**41**	P		**P**	**08 08 33.9**	**+0.6**
	baz=90							
NEW	**Newport**	**89.77**	**41**	*e*P		**P**	**08 08 33.3**	**0.0**
	comp=Z,9.2nm,1.3s							
INK	**Inuvik**	**89.83**	**19**	P		**P**	**08 08 33.5**	**+0.5**
	comp=Z,4.5nm,1.0s,baz=233,slow=4.3,SNR=5.5							
INK	**Inuvik**	**89.83**	**19**	P		**P**	**08 08 33.5**	**+0.5**
INK				pmax	pmax			
	comp=Z,5.0nm,1.0s							
HLID	**Hailey**	**90.32**	**46**	P		**P**	**08 08 37.0**	**+0.8**
	baz=90							
HLID	**Hailey**	**90.32**	**46**	*e*P		**P**	**08 08 36.3**	**+0.1**
	comp=Z,11nm,1.2s							
TUC	**Tucson**	**90.48**	**57**	*e*P		**P**	**08 08 37.6**	**+0.5**
TUC				pmax	pmax			
	comp=Z,9.0nm,1.1s							
TUC	**Tucson**	**90.48**	**57**	*e*P		**P**	**08 08 37.5**	**+0.5**
	comp=Z,8.5nm,1.1s							
DUG	**Dugway**	**90.66**	**49**	*e*P		**P**	**08 08 37.6**	**-0.2**
DUG				pmax	pmax			
	comp=Z,8.0nm,0.9s							
DUG	**Dugway**	**90.66**	**49**	P		**P**	**08 08 38.4**	**+0.6**
	baz=91							
DUG	**Dugway**	**90.66**	**49**	*e*P		**P**	**08 08 37.6**	**-0.2**
	comp=Z,7.7nm,0.9s							
BGU	**Big Grassy Mou**	**90.67**	**49**	*e*P		**P**	**08 08 37.6**	**-0.2**
	comp=Z,19nm,1.4s							
WUAZ	**Wupatki**	**90.70**	**54**	P		**P**	**08 08 38.9**	**+0.8**
	baz=91							
WUAZ	**Wupatki**	**90.70**	**54**	*e*P		**P**	**08 08 38.3**	**+0.2**
	comp=Z,12nm,0.9s							
MVU	**Marysvale**	**90.72**	**51**	*e*P		**P**	**08 08 39.0**	**+0.7**
	comp=Z,10nm,0.9s							
MSU	**Marysvale**	**90.75**	**51**	*e*P		**P**	**08 08 39.1**	**+0.7**
MSU				pmax	pmax			
	comp=Z,15nm,1.0s							
MSU	**Marysvale**	**90.75**	**51**	*e*P		**P**	**08 08 39.0**	**+0.7**
	comp=Z,15nm,1.0s							
HVU	**Hansel Valley**	**91.06**	**48**	*e*P		**P**	**08 08 40.0**	**+0.3**
HVU				pmax	pmax			
	comp=Z,16nm,1.0s							
HVU	**Hansel Valley**	**91.06**	**48**	*e*P		**P**	**08 08 40.0**	**+0.3**
	comp=Z,16nm,1.0s							
NLU	**North Lily Min**	**91.15**	**50**	*e*P		**P**	**08 08 40.3**	**+0.1**
	comp=Z,6.7nm,0.9s							
BSMT	**Basso Peak**	**91.16**	**42**	*e*P		**P**	**08 08 39.9**	**-0.2**
	comp=Z,6.9nm,0.9s							
MSO	**Missoula**	**91.46**	**43**	P		**P**	**08 08 41.7**	**+0.4**
	baz=92							
JTMT	**Jette**	**91.46**	**42**	*e*P		**P**	**08 08 40.3**	**-1.0**
	comp=Z,5.5nm,1.3s							
MPU	**Maple Canyon**	**91.50**	**50**	*e*P		**P**	**08 08 42.0**	**+0.2**
	comp=Z,121nm,1.8s							
CTU	**Camp Tracy**	**91.56**	**49**	*e*P		**P**	**08 08 42.9**	**+0.9**
	comp=Z,13nm,1.0s							
SWMT	**Swartz Lake**	**91.59**	**42**	*e*P		**P**	**08 08 41.5**	**-0.4**
	comp=Z,3.3nm,0.9s							
TMUT	**Trail Mountain**	**91.66**	**50**	*e*P		**P**	**08 08 43.8**	**+1.2**
	comp=Z,8.6nm,0.9s							
MCMT	**McKenzie Canyo**	**91.72**	**45**	*e*P		**P**	**08 08 42.8**	**0.0**
	comp=Z,2.8nm,0.8s							
SLMT	**Seeley Lake**	**91.86**	**42**	*e*P		**P**	**08 08 42.5**	**-0.7**
	comp=Z,1.8nm,0.7s							
HWUT	**Hardware Ranch**	**91.90**	**48**	*e*P		**P**	**08 08 44.1**	**+0.6**
	comp=Z,3.6nm,0.7s							
TCUT	**Toone Canyon**	**91.91**	**49**	*e*P		**P**	**08 08 43.7**	**0.0**
	comp=Z,10.0nm,0.8s							
W18A	**Petrified Fore**	**91.92**	**55**	P		**P**	**08 08 44.9**	**+1.0**
	baz=92							
DLMT	**Dillon**	**92.02**	**44**	*e*P		**P**	**08 08 44.1**	**+0.2**
	comp=Z,15nm,1.0s							
WALA	**Waterton Lakes**	**92.03**	**40**	*e*P		**P**	**08 08 44.5**	**+0.6**
	comp=Z,8nm,1.3s							
LRM	**Limekiln Ridge**	**92.22**	**44**	*e*P		**P**	**08 08 44.7**	**-0.4**
	comp=Z,119nm,1.2s							
BOZ	**Bozeman (W)**	**92.75**	**44**	*e*P		**P**	**08 08 47.0**	**-0.3**
BOZ				pmax	pmax			
	comp=Z,11nm,1.0s							
BOZ	**Bozeman (W)**	**92.75**	**44**	P		**P**	**08 08 48.1**	**+0.8**
	baz=93							
BOZ	**Bozeman (W)**	**92.75**	**44**	*e*P		**P**	**08 08 47.0**	**-0.3**
	comp=Z,11nm,1.0s							
REDW	**Red Top Meadow**	**92.80**	**47**	*e*P		**P**	**08 08 48.1**	**+0.3**
	comp=Z,4.2nm,1.0s							
HRY	**Holter Researc**	**92.84**	**43**	*e*P		**P**	**08 08 47.7**	**0.0**
	comp=Z,7.2nm,0.6s							
IMW	**Indian Meadow**	**92.85**	**46**	*e*P		**P**	**08 08 48.5**	**+0.5**
	comp=Z,3.3nm,0.7s							
SNOW	**Snow King Moun**	**92.89**	**46**	*e*P		**P**	**08 08 48.1**	**-0.1**
	comp=Z,14nm,1.5s							
MOOW	**Moose Ponds**	**92.95**	**46**	*e*P		**P**	**08 08 47.9**	**-0.5**
	comp=Z,1.5nm,0.7s							
121A	**Cookes Peak, D**	**93.00**	**58**	P		**P**	**08 08 50.2**	**+1.3**
	baz=93							
LOHW	**Long Hollow**	**93.03**	**46**	*e*P		**P**	**08 08 48.3**	**-0.4**
	comp=Z,2.2nm,0.7s							
FLWY	**Flagg Ranch**	**93.06**	**46**	*e*P		**P**	**08 08 49.6**	**+0.7**
	comp=Z,3.8nm,0.7s							
PV10	**Paradox Valley**	**93.12**	**52**	*e*P		**P**	**08 08 51.4**	**+2.0**
	comp=Z,120nm,0.8s							
PV04	**Paradox Valley**	**93.23**	**52**	*e*P		**P**	**08 08 50.8**	**+1.0**
MK31	**Makanchi Array**	**93.28**	**317**	*e*P		**P**	**08 08 49.5**	**-0.1**
MK31	**Makanchi Array**	**93.28**	**317**	*e*P		**P**	**08 08 49.5**	**-0.1**
MKAR	**Makanchi Array**	**93.28**	**317**	P		**P**	**08 08 49.0**	**-0.5**
	comp=Z,6.4nm,0.9s,baz=94,slow=6.0,SNR=37							
MKAR				pP		PcP	08 08 57.4	+7.3
	comp=Z,3.8nm,0.9s,baz=92,slow=7.8,SNR=7.1							
MKAR				PP		**PP**	**08 12 29.8**	**-4.4**
	comp=Z,2.3nm,1.1s,baz=108,slow=8.2,SNR=4.0							
MKAR				PKKPbc		**PKKPdf**	**08 25 57.2**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=282,slow=2.2,SNR=11							
MKAR	**Makanchi Array**	**93.28**	**317**	P		**P**	**08 08 49.1**	**-0.5**
MKAR							08 12 29.8	
MKAR				pmax	pmax			
	comp=Z,6.0nm,0.9s							
MKAR				pmax	pmax			
	comp=Z,4.0nm,0.9s							
MKAR				pmax	pmax			
	comp=Z,2.0nm,1.1s							
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ZAA0	**Zalesovo Array**	**93.32**	**324**	*e*P		**P**	**08 08 48.1**	**-1.4**
ZALV	**Zalesovo Beam**	**93.32**	**324**	P		**P**	**08 08 47.9**	**-1.7**
	comp=Z,5.9nm,0.8s,baz=111,slow=4.3,SNR=18							
ZALV				LR		LR	08 49 58.5	
	comp=Z,242nm,21.1s,baz=70,slow=35							
ZALV	**Zalesovo Beam**	**93.32**	**324**	P		**P**	**08 08 47.9**	**-1.7**
ZALV				pmax	pmax			
	comp=Z,6.0nm,0.8s							
ZALV				MLR		MLR		
	comp=Z,242nm,21.1s							
PV01	**Paradox Valley**	**93.44**	**52**	*e*P		**P**	**08 08 50.3**	**-0.6**
	comp=Z,288nm,0.9s							
BW06	**Boulder Array**	**93.60**	**47**	*e*P		**P**	**08 08 51.3**	**-0.1**
	comp=Z,3.8nm,0.9s							
PDAR	**Pinedale Array**	**93.60**	**47**	P		**P**	**08 08 49.9**	**-1.5**
	comp=Z,2.9nm,0.8s,baz=288,slow=1.4,SNR=12							
PDAR				PKKP		**PKKPdf**	**08 25 56.4**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=3.6,slow=2.9,SNR=3.6							
PDAR				LR		LR	08 47 09.4	
	comp=Z,391nm,18.5s,baz=259,slow=33							
J19A	**Crowheart**	**94.06**	**47**	P		**P**	**08 08 54.1**	**+0.6**
	baz=94							
O20A	**White River Ci**	**94.07**	**50**	P		**P**	**08 08 54.6**	**+1.0**
	baz=94							
O20A	**White River Ci**	**94.07**	**50**	*e*P		**P**	**08 08 54.6**	**+1.0**
	comp=Z,2.4nm,0.8s							
GCMT	**Greycliff**	**94.12**	**44**	*e*P		**P**	**08 08 55.0**	**+1.3**
	comp=Z,1.8nm,0.8s							
RLMT	**Red Lodge**	**94.27**	**45**	P		**P**	**08 08 54.9**	**+0.5**
	baz=94							
H19A	**Powell**	**94.38**	**46**	P		**P**	**08 08 55.6**	**+0.8**
	baz=94							
NVS	**Novosibirsk**	**94.42**	**325**	*i* P		**P**	**08 08 53.7**	**-0.9**
EGMT	**Eagleton**	**94.50**	**42**	P		**P**	**08 08 56.1**	**+0.8**
	baz=94							
EGMT	**Eagleton**	**94.50**	**42**	*e*P		**P**	**08 08 55.8**	**+0.5**
	comp=Z,5.1nm,0.8s							
ANMO	**Albuquerque**	**94.53**	**55**	⇓ *i* P		**P**	**08 08 56.7**	**+0.8**
ANMO				pmax	pmax			
	comp=Z,17nm,1.7s							
ANMO	**Albuquerque**	**94.53**	**55**	*e*P		**P**	**08 08 56.5**	**+0.6**
	comp=Z,2.3nm,0.9s							
S22A	**4UR Ranch, Cre**	**94.72**	**53**	P		**P**	**08 08 57.4**	**+0.6**
	baz=95							
J20A	**Shoshoni**	**94.77**	**47**	P		**P**	**08 08 57.2**	**+0.5**
	baz=95							
YKA	**Yellowknife Ar**	**94.94**	**27**	P		**P**	**08 08 55.2**	**-1.6**
	comp=Z,1.5nm,0.6s,baz=256,slow=4.6,SNR=6.4							
YKA	**Yellowknife Ar**	**94.94**	**27**	P		**P**	**08 08 55.2**	**-1.6**
YKA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
G20A	**Bridger**	**95.02**	**45**	P		**P**	**08 08 58.4**	**+0.7**
	baz=95							
F20A	**Billings**	**95.17**	**45**	P		**P**	**08 08 59.4**	**+1.0**
	baz=95							
J21A	**Lysite**	**95.23**	**47**	P		**P**	**08 08 59.7**	**+0.8**
	baz=95							
I21A	**Big Trails, Te**	**95.42**	**47**	P		**P**	**08 08 59.9**	**+0.3**
	baz=96							
SDCO	**Great Sand Dun**	**95.76**	**53**	P		**P**	**08 09 01.7**	**+0.1**
	baz=96							
SDCO	**Great Sand Dun**	**95.76**	**53**	*e*P		**P**	**08 09 02.5**	**+1.0**
	comp=Z,1.5nm,1.0s							
K22A	**Casper**	**95.78**	**48**	P		**P**	**08 09 02.6**	**+1.2**
	baz=96							
N23A	**Red Feather La**	**95.92**	**50**	P		**P**	**08 09 03.1**	**+0.9**
	baz=96							
J22A	**Midwest**	**95.94**	**47**	P		**P**	**08 09 02.8**	**+0.7**
	baz=96							
TXAR	**Lajitas Array**	**95.94**	**61**	P		**P**	**08 09 01.0**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=258,slow=6.3,SNR=5.6							
TXAR				PP		**PP**	**08 12 54.5**	**-0.9**
	comp=Z,2.4nm,1.1s,baz=242,slow=5.7,SNR=11							
TXAR				LR		LR	08 43 12.7	
	comp=Z,1μm,21.9s,baz=0.0,slow=30							
ISCO	**Idaho Springs**	**96.00**	**51**	P		**P**	**08 09 03.0**	**+0.4**
	baz=96							
E21A	**Keefer Ranch,**	**96.03**	**44**	P		**P**	**08 09 03.5**	**+1.3**
	baz=96							
H22A	**Clearmont**	**96.22**	**46**	P		**P**	**08 09 04.8**	**+1.6**
	baz=96							
Q24A	**Divide**	**96.23**	**52**	P		**P**	**08 09 04.7**	**+1.1**
	baz=96							
KURK	**Kurchatov**	**96.40**	**320**	*e*P		**P**	**08 09 04.7**	**+1.0**
KURK				pmax	pmax			
	comp=Z,10.0nm,1.2s							
KURK	**Kurchatov**	**96.40**	**320**	*e*P		**P**	**08 09 04.7**	**+1.0**
	comp=Z,9.6nm,1.2s							
529A	**Stev Forest Ra**	**97.30**	**61**	P		Pdif	08 09 09.6	+1.1
	baz=97							
R26A	**Arlington**	**97.45**	**52**	P		Pdif	08 09 09.7	+0.7
	baz=98							
H24A	**Dirks Ranch, A**	**97.51**	**46**	P		Pdif	08 09 09.5	+0.4
	baz=98							
329A	**Wagon Wheel Ra**	**97.70**	**59**	P		Pdif	08 09 12.5	+2.2
	baz=98							
D24A	**Glendive**	**97.98**	**44**	P		Pdif	08 09 12.5	+1.4
	baz=98							
VNA2	**Neumayer--Watz**	**98.23**	**182**	P		Pdif	08 09 18.0	+6.3
	baz=176,slow=3.8							
VNA1	**Neumayer--Stat**	**98.53**	**182**	P		Pdif	08 09 14.5	+1.5
C25A	**Freed Ranch, W**	**98.77**	**43**	P		Pdif	08 09 16.3	+1.7
	baz=99							
FFC	**Flin Flon**	**100.23**	**36**	*e*P		**Pdif**	**08 09 20.6**	**-0.2**
FFC				pmax	pmax			
	comp=Z,4.0nm,1.1s							
FFC	**Flin Flon**	**100.23**	**36**	*e*Pdif		**Pdif**	**08 09 20.6**	**-0.2**
	comp=Z,4.0nm,1.1s							
ULM	**Lac du Bonnet**	**103.78**	**41**	Pdiff		**Pdif**	**08 09 36.3**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=139,slow=2.8,SNR=2.9							
ULM	**Lac du Bonnet**	**103.78**	**41**	P		**Pdif**	**08 09 36.3**	**-0.4**
ULM				pmax	pmax			
	comp=Z,2.0nm,0.5s							
ARCES	**ARCESS Array B**	**116.14**	**345**	PKP		**PKPdf**	**08 14 15.2**	**-2.0**
	comp=Z,1.7nm,0.5s,baz=90,slow=1.2,SNR=12							
ARCES				PKKPbc		**PKKPbc**	**08 24 50.8**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=352,slow=4.9,SNR=5.0							
ARCES	**ARCESS Array B**	**116.14**	**345**	PKIKP		**PKPdf**	**08 14 15.2**	**-2.0**
ARCES							08 24 50.8	
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.5s							
ARCES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
LPAZ	**La Paz**	**120.43**	**116**	PKP		**PKPdf**	**08 14 28.4**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=331,slow=2.5,SNR=7.3							
LPAZ	**La Paz**	**120.43**	**116**	PKIKP		**PKPdf**	**08 14 28.4**	**+0.6**
LPAZ				pmax	pmax			
	comp=Z,1.0nm,0.6s							
OBN	**Obninsk**	**120.57**	**329**	⇑ *i* PKIKP		**PKPdf**	**08 14 26.3**	**+0.3**
OBN				*e*			08 15 56.2	
OBN				*e*SS		SS	08 32 29.6	+11
OBN				pmax	pmax			
	comp=Z,15nm,0.5s							
FINES	**FINESS Array B**	**121.56**	**338**	PKP		**PKPdf**	**08 14 27.3**	**-0.5**
	comp=Z,2.3nm,0.9s,baz=126,slow=2.6,SNR=5.2							
FINES	**FINESS Array B**	**121.56**	**338**	PKIKP		**PKPdf**	**08 14 27.3**	**-0.5**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.9s							
CPUP	**Villa Florida**	**124.28**	**132**	PKP		**PKPdf**	**08 14 34.0**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=10,slow=0.9,SNR=5.9							
CPUP	**Villa Florida**	**124.28**	**132**	PKIKP		**PKPdf**	**08 14 34.0**	**-0.1**
CPUP				pmax	pmax			
	comp=Z,2.0nm,0.7s							
CPUP	**Villa Florida**	**124.28**	**132**	*e*PKPdf		**PKPdf**	**08 14 34.0**	**-0.1**
SDV	**Santo Domingo**	**124.69**	**87**	*e*PKPdf		**PKPdf**	**08 14 35.4**	**0.0**
BOSA	**Boshof**	**125.08**	**223**	PKP		**PKPdf**	**08 14 35.9**	**+0.1**
	comp=Z,4.1nm,0.6s,baz=135,slow=4.3,SNR=4.1							
BOSA	**Boshof**	**125.08**	**223**	PKIKP		**PKPdf**	**08 14 35.9**	**+0.1**
BOSA				pmax	pmax			
	comp=Z,4.0nm,0.6s							
NB2	**NORSAR Subarra**	**126.51**	**345**	PKPdf		**PKPdf**	**08 14 36.9**	**-0.5**
	comp=Z,5.2nm,1.1s,baz=31,slow=1.9							
NOA	**NORSAR Array B**	**126.51**	**345**	PKP		**PKPdf**	**08 14 36.2**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=33,slow=2.0,SNR=5.8							
NOA				pPKP	PKiKP		08 14 45.3	+7.5
	comp=Z,3.2nm,0.9s,baz=36,slow=2.2,SNR=7.4							
NOA	**NORSAR Array B**	**126.51**	**345**	PKIKP		**PKPdf**	**08 14 36.2**	**-1.2**
NOA							08 14 45.3	
NOA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
NOA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
AKASG	**Malin Array Be**	**126.63**	**327**	PKP		**PKPdf**	**08 14 37.1**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=53,slow=1.7,SNR=4.9							
AKASG				pPKP	PKiKP		08 14 45.9	+7.5
	comp=Z,1.0nm,0.5s,baz=54,slow=1.8,SNR=3.9							
KMBO	**Kilima Mbogo**	**127.21**	**260**	PKP		**PKPdf**	**08 14 41.4**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=37,slow=20,SNR=3.3							
KMBO	**Kilima Mbogo**	**127.21**	**260**	PKIKP		**PKPdf**	**08 14 41.4**	**+1.0**
KMBO				pmax	pmax			
	comp=Z,1.0nm,0.3s							
SAML	**Samuel**	**127.67**	**110**	*e*PKPdf		**PKPdf**	**08 14 40.1**	**-0.9**
BRTR	**Keskin Array B**	**128.72**	**313**	PKP		**PKPdf**	**08 14 42.9**	**+0.5**
	comp=Z,1.2nm,1.0s,baz=45,slow=2.4,SNR=4.9							
BRTR				pPKP	PKiKP		08 14 49.5	+6.4
	comp=Z,1.5nm,0.8s,baz=20,slow=1.4,SNR=5.1							
BRTR	**Keskin Array B**	**128.72**	**313**	PKIKP		**PKPdf**	**08 14 42.9**	**+0.5**
BRTR				pmax	pmax			
	comp=Z,1.0nm,1.0s							
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KRLC	**Kraliky**	**133.21**	**333**	*e*PKIKP		PKPdf	08 14 59.3	+8.8
BRG	**Berggiesshubel**	**133.84**	**335**	*e*(P)		PKPdf	08 15 02.4	+11
	comp=Z,3.2nm,0.7s							
BRG	**Berggiesshubel**	**133.84**	**335**	*e*PKIKP		PKPdf	08 15 02.4	+11
BRG				pmax	pmax			
	comp=Z,3.0nm,0.7s							
CLL	**Collm**	**133.89**	**336**	*e*PKIKP		PKPdf	08 15 00.0	+8.4
CLL				MLR	MLR			
	comp=Z,500nm,19.8s							
CLL	**Collm**	**133.89**	**336**	*e*(pPKPdf)			08 15 02.0	
CLL				*e*SS		SS	08 35 24.0	+21
CLL				*e*SSS		SSS	08 40 24.0	
CLL				Lm		MLR	09 18 00.0	
	comp=Z,500nm,19.8s							
PRU	**Pruhonice**	**134.26**	**334**	*e*PKIKP		PKPdf	08 15 02.7	+10
KHC	**Kasperske Hory**	**135.32**	**334**	*e*PKPdf		**PKPdf**	**08 14 58.1**	**+3.7**
KHC				*ex*		x	08 15 03.2	
KHC	**Kasperske Hory**	**135.32**	**334**	*e*PKIKP		**PKPdf**	**08 14 58.1**	**+3.7**
KHC	**Kasperske Hory**	**135.32**	**334**	*e*PKPdf		**PKPdf**	**08 14 54.6**	**+0.2**
GEC2	**GERESS Array S**	**135.48**	**334**	*e*PKIKP		**PKPdf**	**08 14 56.2**	**+1.3**
GEC2	**GERESS Array S**	**135.48**	**334**	*e*PKPdf		**PKPdf**	**08 14 56.2**	**+1.4**
GERES	**GERESS Array B**	**135.48**	**334**	PKP		**PKPdf**	**08 14 56.1**	**+1.3**
	comp=Z,1.5nm,0.9s,baz=0.0,slow=0.4,SNR=5.4							
GERES				pPKP	PKiKP		08 15 03.6	+7.2
	comp=Z,3.2nm,1.0s,baz=46,slow=3.9,SNR=6.5							
GERES	**GERESS Array B**	**135.48**	**334**	PKIKP		**PKPdf**	**08 14 56.1**	**+1.3**
GERES				pmax	pmax			
	comp=Z,2.0nm,1.0s							
GERES				pmax	pmax			
	comp=Z,3.0nm,1.0s							
BDFB	**Brasilia**	**137.59**	**128**	PKP		**PKPdf**	**08 14 58.3**	**-1.4**
	comp=Z,2.0nm,0.6s,baz=306,slow=8.7,SNR=3.1							
BDFB				pPKP	PKiKP		08 15 08.4	+6.8
	comp=Z,6.4nm,0.9s,baz=162,slow=3.2,SNR=4.8							
BDFB	**Brasilia**	**137.59**	**128**	PKIKP		**PKPdf**	**08 14 58.3**	**-1.4**
BDFB							08 15 08.4	
BDFB				pmax	pmax			
	comp=Z,2.0nm,0.6s							
BDFB				pmax	pmax			
	comp=Z,6.0nm,0.9s							
KEST	**Kesra**	**147.18**	**323**	PKPbc		**PKPdf**	**08 15 16.5**	**+0.4**
	comp=Z,5.1nm,0.9s,baz=341,slow=6.2,SNR=9.2							
KEST				pPKPbc	PKiKP		08 15 27.6	+6.9
	comp=Z,7.8nm,0.9s,baz=7.3,slow=3.1,SNR=8.3							
KEST	**Kesra**	**147.18**	**323**	*e*PKPbc		**PKPbc**	**08 15 18.6**	**+0.3**
KEST				pPKPbc	PKiKP		08 15 27.6	+6.9
PGAV	**Gavieira, Arco**	**148.58**	**351**	*e*PKPdf		**PKPdf**	**08 15 18.8**	**+0.6**
PGAV	**Gavieira, Arco**	**148.58**	**351**	*e*LR		LR	09 14 21.7	
	comp=Z,483nm,18.0s							
POLO	**Lamas de Olo**	**149.08**	**350**	*e*PKPbc		**PKPbc**	**08 15 24.0**	**+0.8**
MVO	**Moncorvo**	**149.15**	**349**	*e*PKPab		**PKPab**	**08 15 28.1**	**+0.3**
MVO	**Moncorvo**	**149.15**	**349**	*e*LR		LR	09 11 51.5	
	comp=Z,490nm,18.0s							
PVRL	**Vila Real**	**149.16**	**350**	*e*PKPab		**PKPab**	**08 15 25.6**	**-2.2**
ESDC	**Sonseca Array**	**149.86**	**344**	PKPbc		**PKPbc**	**08 15 25.4**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=14,slow=2.5,SNR=10.0							
ESLA	**Sonseca Array**	**149.86**	**344**	*e*PKPbc		**PKPbc**	**08 15 25.8**	**+0.7**
MTE	**Manteigas**	**149.99**	**349**	*e*PKPbc		**PKPbc**	**08 15 25.6**	**+0.2**
MTE	**Manteigas**	**149.99**	**349**	*e*LR		LR	09 15 17.2	
	comp=Z,496nm,20.0s							
MTE	**Manteigas**	**149.99**	**349**	*e*PKPbc		**PKPbc**	**08 15 24.9**	**-0.5**
PAB	**San Pablo**	**150.09**	**344**	*e*PKPdf		**PKPdf**	**08 15 21.9**	**+1.2**
PMRV	**Marv??o**	**150.90**	**349**	*e*PKPbc		**PKPdf**	**08 15 24.3**	**+2.4**
PMRV	**Marv??o**	**150.90**	**349**	*e*LR		LR	09 15 49.8	
	comp=Z,488nm,18.0s							
PMTG	**Montargil**	**151.40**	**350**	*e*PKPbc		**PKPbc**	**08 15 29.6**	**+0.9**
PMTG	**Montargil**	**151.40**	**350**	*e*PKPab		**PKPab**	**08 15 37.7**	**+0.7**
PESTR	**Estremoz**	**151.48**	**349**	*e*PKPab		**PKPab**	**08 15 37.8**	**+0.5**
PBAR	**Barrancos**	**152.03**	**347**	*e*PKPab		**PKPab**	**08 15 38.4**	**-1.2**
MESJ	**Messejana**	**152.59**	**349**	*e*PKPbc		**PKPdf**	**08 15 27.8**	**+3.4**
PVAQ	**Vaqueiros**	**152.92**	**348**	*e*LR		LR	09 16 02.6	
	comp=Z,434nm,20.0s							
TORD	**Torodi Ar. Bea**	**164.04**	**280**	PKP

JMA ***24*** *09:01:42.8±0.1, 24°.54N×122°.28E, h87km±2km, M2.8*
ISCJB ***24*** *09:01:43.6±0.5, 24°.61N±0°.03×122°.32E±0°.02, h77km±5km, Error ellipse: s-maj=5.5km s-min=2.7km az=172.6*
TAP ***24*** *09:01:43.5, 24°.64N×122°.31E, h78km, ML3.7, D*

ISC 24 09:01:44.4±1.4, 24°.59N±0°.04×122°.32E±0°.02, h72km±9km, n48, σ0s83/85, 6D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.43**	**273**	⇓P	**Pn**	**09 01 56.5**	**-0.3**
	baz=265						
TWC				S	**Sn**	**09 02 06.0**	**+0.1**
	baz=265						
EGS		**0.44**	**306**	*e*P	**Pn**	**09 01 56.8**	**-0.1**
	baz=300						
TWB1	**Santiao Chiao**	**0.52**	**324**	*e*S	**Sn**	**09 02 06.9**	**-0.3**
	baz=321						
ILA	**Ilan**	**0.55**	**289**	*e*P	**Pn**	**09 01 57.6**	**-0.2**
	baz=283						
ILA				*e*S	**Sn**	**09 02 08.4**	**+0.6**
	baz=283						
ENA	**Nanau**	**0.55**	**253**	⇓*i*P	**Pn**	**09 01 58.0**	**0.0**
	baz=246						
ENA				S	**Sn**	**09 02 08.8**	**+1.0**
	baz=246						
JYNG	**Yonaguni jima**	**0.58**	**103**	P	**Pn**	**09 01 58.4**	**+0.2**
JYNG				S	**Sn**	**09 02 09.4**	**+1.0**
TWE	**Neicheng**	**0.61**	**283**	⇓P	**Pn**	**09 01 58.5**	**0.0**
	baz=277						
TWE				S	**Sn**	**09 02 08.8**	**-0.1**
	baz=277						
YOJ	**Yonaguni jima**	**0.64**	**101**	P	**Pn**	**09 01 58.9**	**+0.1**
YOJ				S	**Sn**	**09 02 10.3**	**+0.8**
NWF	**Wu-fen Shan**	**0.69**	**315**	P	**Pn**	**09 01 58.9**	**-0.5**
	baz=311						
NWF				S	**Sn**	**09 02 10.1**	**-0.4**
	baz=311						
ENTT	**Nioudou**	**0.69**	**274**	P	**Pn**	**09 01 59.5**	**+0.1**
	baz=269						
ENTT				*e*S	**Sn**	**09 02 11.2**	**+0.8**
	baz=269						
TWA	**Mucha**	**0.78**	**300**	P	**Pn**	**09 01 59.8**	**-0.6**
	baz=297						
TWA				S	**Sn**	**09 02 11.2**	**-1.0**
	baz=297						
TWD	**Chiawan**	**0.83**	**233**	*e*P	**Pn**	**09 02 00.4**	**-0.5**
	baz=228						
TWD				*e*S	**Sn**	**09 02 14.0**	**+0.8**
	baz=228						
NNS	**Nan Shan**	**0.88**	**261**	P	**Pn**	**09 02 01.3**	**-0.3**
	baz=256						
NNS				*e*S	**Sn**	**09 02 14.4**	**0.0**
	baz=256						
NSK	**Sanguang**	**0.88**	**276**	⇓*i*P	**Pn**	**09 02 01.4**	**-0.2**
	baz=272						
NSK				S	**Sn**	**09 02 14.1**	**-0.3**
	baz=272						
TWY	**Chenhua**	**0.95**	**316**	*e*P	**Pn**	**09 02 01.9**	**-0.4**
	baz=314						
TWY				*e*S	**Sn**	**09 02 15.3**	**-0.4**
	baz=314						
TWS1	**Kuangyinshan**	**0.97**	**302**	⇓*e*P	**Pn**	**09 02 01.9**	**-0.7**
	baz=299						
TWS1				*e*S	**Sn**	**09 02 15.5**	**-0.6**
	baz=299						
WHF	**Hehuan Shan**	**1.06**	**246**	⇓*i*P	**Pn**	**09 02 03.7**	**-0.4**
	baz=242						
WHF				S	**Sn**	**09 02 18.9**	**0.0**
	baz=242						
TWT	**Tachien**	**1.09**	**253**	*e*P	**Pn**	**09 02 04.6**	**+0.2**
	baz=249						
TWT				S	**Sn**	**09 02 19.9**	**+0.6**
	baz=249						
NCU	**National Centr**	**1.10**	**291**	*e*S	**Sn**	**09 02 19.5**	**+0.5**
	baz=287						
ESL	**Shilin**	**1.12**	**227**	*e*P	**Pn**	**09 02 03.4**	**-1.1**
	baz=223						
ESL				*e*S	**Sn**	**09 02 18.8**	**-0.7**
	baz=223						
NSTT	**Nanjuang**	**1.20**	**272**	*e*P	**Pn**	**09 02 05.2**	**-0.4**
	baz=269						
NSTT				*e*S	**Sn**	**09 02 21.2**	**-0.2**
	baz=269						
HSN	**Hsinchu**	**1.25**	**280**	*e*S	**Sn**	**09 02 21.4**	**-1.0**
	baz=278						
IRIF	**Iriomote-Funau**	**1.31**	**101**	P	**Pn**	**09 02 06.4**	**-0.5**
IRIF				S	**Sn**	**09 02 23.9**	**+0.1**
EHY	**Hungye**	**1.41**	**220**	*e*P	**Pn**	**09 02 07.0**	**-1.3**
	baz=218						
EHY				*e*S	**Sn**	**09 02 24.9**	**-1.4**
	baz=218						
TWQ1	**Liyutan**	**1.43**	**261**	*e*P	**Pn**	**09 02 08.3**	**-0.2**
	baz=257						
TWQ1				*e*S	**Sn**	**09 02 26.7**	**0.0**
	baz=257						
NSY	**Sanyi**	**1.43**	**263**	*e*P	**Pn**	**09 02 08.6**	**0.0**
	baz=260						
NSY				*e*S	**Sn**	**09 02 27.1**	**+0.4**
	baz=260						
HATJ	**Hateruma jima**	**1.45**	**111**	P	**Pn**	**09 02 08.8**	**0.0**
HATJ				S	**Sn**	**09 02 27.8**	**+0.6**
SMLT	**Sun Moon Lake**	**1.47**	**242**	*e*P	**Pn**	**09 02 09.4**	**+0.2**
	baz=239						
SMLT				*e*S	**Sn**	**09 02 29.4**	**+1.5**
	baz=239						
TYC	**Yuchr**	**1.50**	**243**	*e*P	**Pn**	**09 02 09.7**	**+0.3**
	baz=240						
TYC				*e*S	**Sn**	**09 02 29.6**	**+1.3**
	baz=240						
TWF1	**Yuli**	**1.55**	**217**	*e*P	**Pn**	**09 02 08.7**	**-1.4**
	baz=215						
TWF1				*e*S	**Sn**	**09 02 29.4**	**0.0**
	baz=215						
JKRS	**Kuro-shima**	**1.58**	**102**	P	**Pn**	**09 02 10.6**	**+0.1**
JKRS				S	**Sn**	**09 02 30.7**	**+0.5**
WNT	**Mingjian**	**1.65**	**245**	*e*P	**Pn**	**09 02 12.4**	**+0.9**
	baz=242						
WNT				*e*S	**Sn**	**09 02 32.6**	**+0.6**
	baz=242						
JIJ	**Ishigaki jima**	**1.68**	**97**	P	**Pn**	**09 02 11.4**	**-0.3**
JIJ				S	**Sn**	**09 02 31.8**	**-0.7**
CHKT	**Chengkung**	**1.72**	**211**	*e*P	**Pn**	**09 02 11.0**	**-1.4**
	baz=209						
CHKT				*e*S	**Sn**	**09 02 31.1**	**-2.5**
	baz=209						
CHN5	**Tsauling**	**1.80**	**237**	*e*P	**Pn**	**09 02 14.0**	**+0.6**
	baz=235						
CHN5				*e*S	**Sn**	**09 02 36.8**	**+1.3**
	baz=235						
JISG	**Ishigakijimahi**	**1.81**	**90**	P	**Pn**	**09 02 13.2**	**-0.4**
JISG				S	**Sn**	**09 02 35.9**	**+0.2**
ELDTW	**Lidau**	**1.83**	**221**	*e*P	**Pn**	**09 02 12.9**	**-1.1**
	baz=218						
WGK	**Gukeng**	**1.84**	**241**	*e*S	**Sn**	**09 02 38.9**	**+2.4**
	baz=238						
STYT	**Tauyuan**	**2.02**	**226**	P	**Pn**	**09 02 16.8**	**+0.4**
	baz=223						
STYT				*e*S	**Sn**	**09 02 41.8**	**+1.1**
	baz=223						
TWG	**Pinlang**	**2.10**	**213**	*e*P	**Pn**	**09 02 16.2**	**-1.2**
	baz=211						
TWG				*e*S	**Sn**	**09 02 41.1**	**-1.5**
	baz=211						
TWK	**Hsinying**	**2.13**	**232**	*e*P	**Pn**	**09 02 18.3**	**+0.3**
	baz=230						
TWK				*e*S	**Sn**	**09 02 45.2**	**+1.7**
	baz=230						
WSF	**Szhu**	**2.14**	**244**	*e*S	**Sn**	**09 02 43.8**	**+0.2**
	baz=242						
CHN1	**Nanshi**	**2.15**	**230**	*e*P	**Pn**	**09 02 19.3**	**+1.1**
	baz=228						
CHN1				*e*S	**Sn**	**09 02 45.0**	**+0.9**
	baz=228						
JTJ	**Tarama**	**2.17**	**88**	P	**Pn**	**09 02 18.6**	**+0.3**
JTJ				S	**Sn**	**09 02 44.5**	**+0.2**
SGST	**Jiashian**	**2.19**	**227**	*e*P	**Pn**	**09 02 19.6**	**+0.9**
	baz=225						
SSD	**Sandimen**	**2.40**	**221**	*e*P	**Pn**	**09 02 22.8**	**+1.3**
	baz=218						
EAST	**Anshuo**	**2.58**	**212**	*e*P	**Pn**	**09 02 23.2**	**-0.8**
	baz=210						
LAY	**Lan-yu**	**2.63**	**196**	*e*P	**Pn**	**09 02 23.8**	**-0.9**
	baz=194						

IGQ 24 09:08:49±1.5, 0°.84S×81°.54W, h6km±12km, Mb4.1, 2C-2D,
Error ellipse: s-maj=9.9km s-min=5.8km az=12.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHIS	**Cerro-Chispas-**	**0.84**	**105**	⇓P	**Pb**	**09 09 05.7**	**-0.4**
JAMA	**Jama**	**1.45**	**67**	P	**Pg**	**09 09 16.9**	**-0.1**
MAG1	**Magdalena**	**1.92**	**67**	P	**Pb**	**09 09 24.3**	**-0.2**
MAG1	**Magdalena**	**1.92**	**67**	S	**Sb**	**09 09 48.1**	**-0.7**
IGUA	**Igualata**	**2.97**	**103**	P	**Pn**	**09 09 39.8**	**+2.3**
PINO	**Pino**	**3.01**	**77**	P	**Pn**	**09 09 39.8**	**+1.8**
TERV	**Terraza Guagua**	**3.01**	**77**	P	**Pn**	**09 09 39.6**	**+1.7**
GGP	**Refugio Guagua**	**3.02**	**77**	P	**Pn**	**09 09 39.6**	**+1.6**
YANA	**Yana**	**3.05**	**77**	P	**Pn**	**09 09 39.8**	**+1.4**
BNAS	**Cotopaxi Volca**	**3.06**	**87**	P	**Pn**	**09 09 40.4**	**+1.8**
BREF	**Cotopaxi Volca**	**3.10**	**87**	P	**Pn**	**09 09 42.0**	**+2.7**
BBIL	**Ulba Tungurahu**	**3.11**	**101**	P	**Pn**	**09 09 39.4**	**+0.3**
PITA	**Cotopaxi Volc**	**3.12**	**85**	P	**Pb**	**09 09 42.6**	**-2.9**
BVC2	**Cotopaxi Volca**	**3.13**	**87**	⇑P	**Pb**	**09 09 42.9**	**-3.0**
VC1	**Cotopaxi 1**	**3.14**	**87**	P	**Pn**	**09 09 42.0**	**+2.3**
BTAM	**Cotopaxi Volca**	**3.15**	**87**	⇓P	**Pn**	**09 09 42.5**	**+2.7**
RUN5	**Runtun**	**3.17**	**101**	P	**Pn**	**09 09 38.5**	**-1.4**
TAMB	**Tambo**	**3.17**	**87**	P	**Pn**	**09 09 43.1**	**+2.9**
BRUN	**Tungurahua Vol**	**3.18**	**101**	P	**Pn**	**09 09 39.6**	**-0.5**
BULB	**Ulba Tungurahu**	**3.19**	**101**	P	**Pn**	**09 09 38.8**	**-1.4**
COV1	**Cotopaxi Volc**	**3.20**	**87**	P	**Pn**	**09 09 41.5**	**+0.8**
ANTI	**Antisana**	**3.40**	**84**	P	**Pn**	**09 09 46.8**	**+3.4**
COTA	**Cotacachi**	**3.41**	**70**	P	**Pn**	**09 09 45.1**	**+1.8**
URCU	**Urcuqui**	**3.52**	**69**	⇑P	**Pn**	**09 09 47.8**	**+3.0**
LITE	**Lita**	**3.57**	**63**	P	**Pn**	**09 09 47.9**	**+2.7**
CAYR	**Refugio Cayamb**	**3.63**	**77**	P	**Pb**	**09 09 50.9**	**-3.5**

ISCJB ***24*** *09:42:15.1±1.3, 52°.64N±0°.10×169°.5W±0°.1, h10km±7km, mb3.5/5, Error ellipse: s-maj=20.2km s-min=8.1km az=141.2*
NEIC ***24*** *09:42:16.5, 52°.69N×169°.24W, h2km, ML3.5(AEIC), After AEIC.*
IDC ***24*** *09:42:18.0±1.9, 52°.70N×168°.92W, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.5/55, mbtmp3.5/6, ML3.7/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/38, Error ellipse: s-maj=50.1km s-min=31.6km az=133.0*

ISC 24 09:42:16.9±2.0, 52°.8N±0°.1×169°.32W±0°.07, h1km±13km, n32, σ0s82/32, mb3.5/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.34**	**57**	P	**Pb**	**09 42 25.2**	**-0.5**
NIKH				S	**Sb**	**09 42 32.6**	**+1.0**
OKWR	**Okmok West Rim**	**0.93**	**46**	P	**Pn**	**09 42 36.9**	**-0.3**
OKCE	**Okmok Cone E**	**0.94**	**47**	P	**Pg**	**09 42 35.8**	**+0.8**
OKCE				S	**Sn**	**09 42 52.4**	**+0.9**
OKTU	**Okmok Mt. Tuli**	**0.97**	**52**	P	**Pb**	**09 42 36.6**	**0.0**
OKAK	**Okmok**	**0.98**	**36**	P	**Pg**	**09 42 34.8**	**-0.8**
OKFG	**Magazine Ridge**	**1.05**	**53**	P	**Pg**	**09 42 37.3**	**+0.2**
OKFG				S	**Sn**	**09 42 53.8**	**-0.3**
MSOM	**Makushin Julie**	**1.75**	**53**	P	**Pn**	**09 42 48.4**	**0.0**
MSOM				S	**Sb**	**09 43 12.7**	**+0.3**
MCIR	**Makushin Cirqu**	**1.86**	**50**	P	**Pn**	**09 42 50.7**	**+0.7**
MSW	**Makushin Switc**	**1.89**	**53**	P	**Pn**	**09 42 50.0**	**-0.4**
MSW				S	**Sb**	**09 43 16.4**	**0.0**
MTBL	**Makushin Table**	**1.98**	**52**	P	**Pn**	**09 42 51.7**	**+0.1**
UNV	**Unalaska Valle**	**1.99**	**57**	P	**Pn**	**09 42 51.1**	**-0.6**
UNV				S	**Sn**	**09 43 17.0**	**-0.3**
ZRO	**Akutan Zero**	**2.39**	**56**	P	**Pn**	**09 42 58.3**	**+1.1**
AKUT	**Akutan**	**2.51**	**56**	*e*Pn	**Pn**	**09 42 59.1**	**+0.3**
AKUT				*e*Sn	**Sb**	**09 43 34.4**	**+0.2**
ATKA	**Atka Island**	**3.04**	**261**	P	**Pn**	**09 43 06.0**	**-0.1**
WECS	**Westdahl Cape**	**3.22**	**55**	P	**Pn**	**09 43 08.8**	**+0.2**
FALS	**False Pass**	**4.07**	**57**	P	**Pn**	**09 43 21.7**	**+1.5**
SPIA	**Saint Paul Isl**	**4.43**	**353**	P	**Pn**	**09 43 25.8**	**+0.7**
RSO	**Redoubt South**	**11.90**	**43**	*e*Pn	**Pn**	**09 45 09.2**	**+1.5**
	28nm,0.5s						
ILAR	**Eielson Array**	**16.59**	**35**	Pn	**Pn**	**09 46 09.2**	**-1.2**
	0.1nm,0.3s,baz=230,slow=11,SNR=8.9						
HYT	**Haines Junctio**	**19.02**	**52**	*e*P	**Pn**	**09 46 41.1**	**+0.4**
	4.6nm,0.6s						
PETK	**Petropavlovsk-**	**19.78**	**284**	LR	LR	09 55 18.2	
	comp=Z,21nm,18.0s,baz=69,slow=39						
YKA	**Yellowknife Ar**	**29.94**	**49**	P	**P**	**09 48 25.3**	**-0.8**
	0.6nm,0.8s,baz=272,slow=7.0,SNR=2.6						
NVAR	**Mina Array Bea**	**37.64**	**92**	P	**P**	**09 49 33.2**	**-0.4**
	0.3nm,0.7s,baz=297,slow=7.9,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**37.80**	**218**	T	T	10 29 21.7	
	baz=23,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**37.81**	**218**	T	T	10 29 40.9	
	baz=23,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**37.82**	**218**	T	T	10 29 23.0	
	baz=23,slow=76,SNR=9.7						
H11S1	**WAKE ISLAND Hy**	**38.99**	**218**	T	T	10 31 02.7	
	baz=23,slow=76,SNR=168						
H11S2	**WAKE ISLAND Hy**	**39.01**	**218**	T	T	10 30 55.0	
	baz=23,slow=76,SNR=117						
H11S3	**WAKE ISLAND Hy**	**39.01**	**218**	T	T	10 31 10.0	
	baz=23,slow=76,SNR=103						
PDAR	**Pinedale Array**	**40.30**	**80**	P	**P**	**09 49 54.5**	**-1.3**
	0.7nm,0.8s,baz=330,slow=5.2,SNR=6.6						
TXAR	**Lajitas Array**	**52.71**	**89**	P	**P**	**09 51 32.5**	**-0.6**
	0.5nm,0.6s,baz=302,slow=6.0,SNR=7.2						
ASAR	**Alice Springs**	**90.69**	**230**	P	**P**	**09 55 22.9**	**+1.8**
	0.5nm,0.9s,baz=21,slow=8.2,SNR=2.3						

MAN ***24*** *09:46:44, 6°.69N×123°.37E, h619km, mb5.0, ML4.0, MS4.1*
ISCJB ***24*** *09:46:48.0±0.2, 6°.93N±0°.03×123°.85E±0°.03, h602km±4km, mb4.6/51, Error ellipse: s-maj=5.1km s-min=4.0km az=5.4*
NEIC ***24*** *09:46:48.7±0.5, 6°.77N×123°.70E, h602km±7km, mb4.6/14, Error ellipse: s-maj=9.5km s-min=8.8km az=68.0*
BJI ***24*** *09:46:48.1, 6°.85N×123°.86E, h609km, mb4.6/22, mB4.6/12*
IDC ***24*** *09:46:48.7±0.9, 6°.76N×123°.77E, h607km±11km, mb3.3/21, mb1 3.4/21, mb1mx3.3/41, mbtmp4.4/21, Error ellipse: s-maj=13.4km s-min=6.5km az=76.0*
KLM ***24*** *09:46:49.2, 6°.70N×123°.41E, h646km, mb4.7, ML4.3, MS6.4*
DJA ***24*** *09:46:49.0±0.3, 7°.N±3°×12°.4E±°, h577km±3km, M4.7/109, mb4.6/109, mB5.3/31, MLv5.1/12, Mw(mB)4.7/31*

ISC 24 09:46:49.0±0.4, 6°.84N±0°.04×123°.86E±0°.07, h608km±4km, n168, σ1s61/200, mb4.5/51, 5C-10D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.54**	**45**	⇓*i*P	**P**	**09 47 57.4**	**-2.8**
DAV	**Davao City (W)**	**1.72**	**82**	*e*P	**P**	**09 48 02.2**	**-0.8**
DCPH	**Dipolog City**	**1.80**	**344**	*e*P	**P**	**09 48 01.0**	**-2.3**
TBP	**Tagbilaran**	**2.83**	**0**	*e*P	**P**	**09 48 06.0**	**-1.9**
SGSI	**Sangihe**	**3.55**	**152**	P	**P**	**09 48 09.5**	**-2.6**
PLP	**Palo**	**4.44**	**14**	⇑*e*P	**P**	**09 48 16.9**	**-1.2**
PLP				*e*S	**S**	**09 49 26.5**	**-4.3**
MYLDM	**Lahad Datu**	**5.58**	**253**	⇓P	**P**	**09 48 26.7**	**-0.4**
MYLDM	**Lahad Datu**	**5.58**	**253**	⇓P	**P**	**09 48 26.7**	**-0.4**
MYLDM	**Lahad Datu**	**5.58**	**253**	*e*P	**P**	**09 48 26.6**	**-0.4**
GTOI	**Gorontalo**	**6.22**	**188**	P	**P**	**09 48 30.7**	**-1.8**
	0.9nm,1.2s,6μm						
KMSI	**Cibinong**	**6.23**	**179**	P	**P**	**09 48 31.7**	**-0.9**
	279nm,1.0s,0.9nm						
TSM	**Tawau**	**6.48**	**247**	⇑P	**P**	**09 48 32.2**	**-2.6**
TSM	**Tawau**	**6.48**	**247**	⇑P	**P**	**09 48 32.2**	**-2.6**
MRSI	**Marisa**	**6.61**	**197**	P	**P**	**09 48 34.4**	**-1.5**
	45nm,0.9s,648nm0.1nm						
SDKM	**Sandakan**	**6.73**	**260**	⇓P	**P**	**09 48 34.8**	**-2.3**
SDKM	**Sandakan**	**6.73**	**260**	⇓P	**P**	**09 48 34.8**	**-2.3**
TNTI	**Ternate**	**6.97**	**150**	P	**P**	**09 48 38.0**	**-1.1**
	102nm,0.9s,2μm0.5nm						
TNTI	**Ternate**	**6.97**	**150**	*e*P	**P**	**09 48 38.5**	**-0.7**
MPSI	**Mapaga**	**7.57**	**212**	P	**P**	**09 48 42.8**	**-1.9**
	98nm,0.2s,9μm1.3nm						
KKM	**Kota Kinabalu**	**7.64**	**264**	P	**P**	**09 48 43.5**	**-1.9**
	baz=7.5,SNR=6.2						
KKM	**Kota Kinabalu**	**7.64**	**264**	⇓P	P	09 48 41.3	-4.1
KKM	**Kota Kinabalu**	**7.64**	**264**	⇓P	P	09 48 41.3	-4.1
LUWI	**Luwuk**	**7.91**	**188**	P	**P**	**09 48 46.9**	**-0.9**
	63nm,0.7s,3μm						
LUWI				S	**S**	**09 50 27.0**	**+2.0**
	63nm,0.7s,3μm						
LUWI	**Luwuk**	**7.91**	**188**	P	**P**	**09 48 46.8**	**-1.0**
	baz=7.8,SNR=10						
APSI	**Ampana**	**8.01**	**196**	P	**P**	**09 48 48.3**	**-0.5**
	44nm,1.1s,792nm						
LBMI	**Labuha**	**8.27**	**154**	P	**P**	**09 48 52.0**	**+0.8**
	195nm,0.8s,3μm						
LBMI				S	**S**	**09 50 32.0**	**+0.7**
	195nm,0.8s,3μm						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCI	**Palu**	**8.68**	**208**	P	**P**	**09 48 54.9**	**-0.3**
	58nm,0.9s						
SANI	**Sanana**	**9.08**	**166**	P	**P**	**09 48 56.2**	**-2.8**
NLAI	**Namlea**	**10.52**	**162**	P	**P**	**09 49 13.1**	**-0.1**
	59nm,0.7s,789nm						
TTSI	**Tana Toraja**	**10.62**	**202**	P	**P**	**09 49 13.6**	**-0.5**
	23nm,1.1s,602nm						
SWI	**Sorong**	**10.63**	**136**	P	**P**	**09 49 14.9**	**+0.6**
	32nm,0.8s						
SWI	**Sorong**	**10.63**	**136**	P	**P**	**09 49 15.4**	**+1.1**
	baz=11,SNR=3.9						
BKB	**Balikpapan**	**10.63**	**221**	P	**P**	**09 49 13.3**	**-1.0**
	65nm,1.1s						
KDI	**Kendari**	**10.80**	**187**	P	**P**	**09 49 16.3**	**+0.4**
	30nm,0.7s,1μm						
MSAI	**Masohi**	**11.31**	**153**	P	**P**	**09 49 21.6**	**+0.6**
	28nm,0.7s,2μm						
BTM	**Bintulu**	**11.33**	**252**	⇓P	**P**	**09 49 19.1**	**-2.1**
BTM	**Bintulu**	**11.33**	**252**	⇓P	**P**	**09 49 19.1**	**-2.1**
SPSI	**Sidrap Palu**	**11.48**	**201**	P	**P**	**09 49 23.2**	**+0.5**
	17nm,0.8s						
SBUM	**Sibu**	**12.39**	**250**	*e*P	**P**	**09 49 29.9**	**-1.9**
BKSI	**Bulukumba**	**12.64**	**197**	P	**P**	**09 49 35.1**	**+0.9**
	11nm,1.1s						
KBKI	**Kotabaru**	**12.67**	**218**	P	**P**	**09 49 35.2**	**+0.7**
	24nm,0.9s						
BNDI	**Bandanaira**	**12.80**	**152**	P	**P**	**09 49 36.4**	**+0.6**
	144nm,1.3s						
FAKI	**Fak Fak**	**12.81**	**139**	P	**P**	**09 49 36.5**	**+0.6**
	88nm,0.8s,760nm						
FAKI	**Fak Fak**	**12.81**	**139**	P	**P**	**09 49 36.4**	**+0.6**
	baz=13,SNR=39						
FAKI	**Fak Fak**	**12.81**	**139**	*e*P	**P**	**09 49 36.5**	**+0.6**
BSSI	**Bau Bau, Buton**	**13.33**	**195**	P	**P**	**09 49 41.7**	**+0.6**
	31nm,1.1s						
BBKI	**Banjar Baru**	**13.63**	**222**	P	**P**	**09 49 44.8**	**+0.6**
	40nm,1.7s						
STKI	**Sintang**	**14.07**	**242**	P	**P**	**09 49 49.1**	**+0.7**
	26nm,0.8s						
KSM	**Kuching**	**14.53**	**249**	P	**P**	**09 49 51.2**	**-1.5**
	baz=14,SNR=17						
KSM	**Kuching**	**14.53**	**249**	*e*P	**P**	**09 49 51.0**	**-1.7**
	35nm,0.6s						
BAKI	**Biak**	**14.60**	**123**	P	**P**	**09 49 55.3**	**+2.0**
	109nm,1.1s						
SRPI	**Serui, Papua**	**15.08**	**125**	P	**P**	**09 49 59.3**	**+1.5**
	414nm,0.5s						
PBKI	**Pangkalan Bun**	**15.43**	**232**	P	**P**	**09 49 59.8**	**-1.1**
	224nm,1.0s						
MMRI	**Maumere**	**15.46**	**186**	P	**P**	**09 50 02.0**	**+0.8**
	73nm,0.6s						
SAUI	**Saumlaki**	**16.49**	**153**	P	**P**	**09 50 13.0**	**+2.4**
	502nm,1.5s						
SOEI	**Soe**	**16.49**	**179**	P	**P**	**09 50 13.2**	**+2.5**
	30nm,1.2s						
WSI	**Waingapu**	**16.78**	**192**	P	**P**	**09 50 15.6**	**+2.4**
	906nm,0.5s						
BWJI	**Bawean**	**16.85**	**222**	P	**P**	**09 50 14.8**	**+0.9**
	137nm,0.9s						
KMMI	**Kalianget**	**16.97**	**216**	P	**P**	**09 50 16.4**	**+1.4**
	42nm,1.7s						
SRBI	**Singaraja**	**17.15**	**210**	P	**P**	**09 50 18.2**	**+1.5**
	69nm,1.8s						
SMPI	**Sarmi**	**17.22**	**120**	P	**P**	**09 50 20.0**	**+2.7**
	50nm,1.1s						
ABJI	**Aeer Bagus**	**17.42**	**214**	P	**P**	**09 50 21.3**	**+2.2**
	50nm,1.3s						
DNP	**Denpasar**	**17.66**	**209**	P	**P**	**09 50 23.0**	**+1.7**
	330nm,0.8s,30μm						
BLJI	**Banyuglugur**	**17.74**	**215**	P	**P**	**09 50 24.0**	**+2.0**
	32nm,1.0s,3μm						
GRJI	**Gresik**	**17.77**	**220**	P	**P**	**09 50 25.3**	**+3.0**
	63nm,0.5s						
IGBI	**Denpasar**	**17.82**	**209**	P	**P**	**09 50 25.8**	**+3.1**
	120nm,1.0s						
TBJI	**Tambak Boyo**	**18.10**	**222**	P	**P**	**09 50 27.3**	**+2.0**
	98nm,1.1s						
UWJI	**Ujung Watu**	**18.43**	**225**	P	**P**	**09 50 30.2**	**+1.9**
	108nm,0.9s						
NGJI	**Ngawi**	**18.77**	**221**	P	**P**	**09 50 34.6**	**+3.2**
	53nm,2.5s						
TPI	**Tanjungpandan**	**18.78**	**240**	P	**P**	**09 50 32.4**	**+0.9**
	20nm,1.6s						
GENI	**Genyem**	**18.78**	**119**	P	**P**	**09 50 34.8**	**+3.3**
	61nm,0.9s,4μm						
JAY	**Jayapura**	**19.21**	**118**	P	**P**	**09 50 38.1**	**+2.6**
	36nm,1.0s						
SMRI	**Semarang**	**19.23**	**224**	P	**P**	**09 50 37.5**	**+1.9**
	56nm,1.1s						
WOJI	**Wonogiri, Jawa**	**19.47**	**222**	P	**P**	**09 50 39.8**	**+2.1**
	75nm,2.4s						
UGM	**Wanagama**	**19.79**	**222**	P	**P**	**09 50 44.8**	**+4.1**
	93nm,2.1s						
PPBI	**Pangkal Pinang**	**19.82**	**244**	P	**P**	**09 50 44.1**	**+3.1**
	14nm,0.8s,12μm						
JOW	**Kunigami**	**20.32**	**11**	*e*P	**P**	**09 50 46.6**	**+1.4**
	34nm,0.6s						
JCJI	**Jatiwangi**	**20.43**	**230**	P	**P**	**09 50 49.0**	**+2.6**
	113nm,0.4s,41μm						
DSRI	**Dabo**	**20.57**	**250**	P	**P**	**09 50 48.1**	**+0.4**
	11nm,1.1s,3μm						
MYKOM	**Kota Tin

GSI	**Gunungsitoli**	**26.78**	**259**	*e*P		**P**	**09 51 39.2 -3.5**
	61nm,0.7s						
LHMI	**Lhok Sumawe**	**26.81**	**268**	P		**P**	**09 51 44.4 +1.5**
	97nm,0.6s						
CMAR	**Chiang Mai Arr**	**26.87**	**298**	P		**P**	**09 51 41.7 -1.7**
	1.2nm,0.5s,baz=119,slow=7.3,SNR=3.8						
JNU	**Nakatsue**	**26.95**	**13**	P		**P**	**09 51 43.8 -0.1**
	2.1nm,0.5s,baz=117,slow=2.3,SNR=3.8						
KMI	**Kunming**	**27.18**	**314**	P		**P**	**09 51 47.4 +1.2**
KMI				PMZ			
	7.0nm,0.5s						
KMI				PMZ			
	90nm,4.6s						
COEN	**Coen**	**28.19**	**137**	P		**P**	**09 51 54.6 -0.2**
	baz=28,SNR=7.1						
WRAB	**Tennant Creek**	**28.54**	**159**	*e*P		**P**	**09 51 57.6 -0.2**
	2.6nm,0.4s						
WRA	**Warramunga Arr**	**28.54**	**159**	P		**P**	**09 51 57.5 -0.4**
	2.1nm,0.6s,baz=340,slow=9.2,SNR=46						
WRA				PcP		**PcP**	**09 54 48.8 -0.3**
	0.5nm,0.5s,baz=326,slow=2.5,SNR=4.5						
WRA				S		**S**	**09 56 01.7 -3.2**
	2.8nm,0.6s,baz=338,slow=15,SNR=11						
WRA				ScP		**ScP**	**09 57 33.6 -0.1**
	5.3nm,0.5s,baz=341,slow=3.1,SNR=25						
XAN	**Xi'an**	**30.39**	**335**	P		**P**	**09 52 12.0 -1.7**
XAN				PMZ			
	10.0nm,0.7s						
CD2	**Chengdu**	**30.46**	**324**	P		**P**	**09 52 14.8 +0.4**
CD2				sP		**sP**	**09 55 02.8 +1.0**
CD2				S		**S**	**09 56 35.6 +1.3**
CD2				SS		**SS**	**09 59 46.1 +2.5**
CD2				PMZ			
	20nm,0.5s						
CD2				PMZ			
	120nm,6.0s						
KSRS	**Korea Array**	**30.70**	**6**	P		**P**	**09 52 16.7 +0.6**
	1.2nm,0.4s,baz=188,slow=10,SNR=8.8						
KSRS				ScP		**ScP**	**09 57 41.3 +0.9**
	0.9nm,0.8s,baz=205,slow=1.8,SNR=5.6						
GIRL	**Giralia**	**30.78**	**198**	P		**P**	**09 52 17.4 +0.4**
	baz=31,SNR=7.8						
QIS	**Mount Isa**	**31.32**	**151**	P		**P**	**09 52 22.4 +0.7**
	baz=31,SNR=4.4						
AS31	**Alice Springs**	**31.87**	**162**	*e*P		**P**	**09 52 26.5 +0.1**
AS31				*e*ScP		**ScP**	**09 57 44.5 -0.3**
ASAR	**Alice Springs**	**31.87**	**162**	P		**P**	**09 52 26.8 +0.4**
	4.1nm,0.3s,baz=340,slow=7.1,SNR=174						
ASAR				PcP		**PcP**	**09 54 57.5 -0.4**
	0.9nm,0.4s,baz=343,slow=3.2,SNR=8.9						
ASAR				S		**S**	**09 56 54.1 -1.7**
	7.8nm,0.8s,baz=350,slow=22,SNR=16						
ASAR				ScP		**ScP**	**09 57 44.5 -0.3**
	2.5nm,0.6s,baz=341,slow=3.3,SNR=10						
WRKA	**Warakurna**	**31.98**	**172**	P		**P**	**09 52 27.3 +0.1**
	baz=32,SNR=13						
MAJO	**Matsushiro**	**32.34**	**22**	*e*P		**P**	**09 52 29.4 -0.8**
	6.8nm,0.9s						
MAT	**Matsushiro**	**32.34**	**22**	P		**P**	**09 52 29.2 -1.0**
MJAR	**Matsushiro Arr**	**32.34**	**22**	P		**P**	**09 52 29.8 -0.3**
	5.5nm,0.8s,baz=197,slow=10.0,SNR=20						
MJAR				ScP		**ScP**	**09 57 47.2 +1.0**
	0.5nm,0.8s,baz=220,slow=7.3,SNR=4.5						
MEEK	**Meekatharra**	**33.67**	**188**	P		**P**	**09 52 40.6 -0.8**
	baz=34,SNR=13						
LZH	**Lanzhou**	**34.40**	**331**	⇓P		**P**	**09 52 48.5 +0.9**
LZH				PcP		**PcP**	**09 55 06.5 +1.2**
LZH				PMZ			
	23nm,1.0s						
LZH				PMZ			
	85nm,4.9s						
HHC	**Hu-ho-hao-te**	**35.60**	**344**	*e*P		**P**	**09 53 00.3 +2.9**
HHC				pP		**PP**	**09 54 41.6 -0.6**
HHC				sP		**sP**	**09 55 48.3 +1.2**
HHC				S		**ScP**	**09 57 57.6 -0.3**
HHC				sS		**sS**	**10 00 57.8 +1.0**
HHC				PMZ			
	16nm,1.0s						
HHC				PMZ			
	51nm,5.8s						
MORW	**Morawa**	**36.49**	**192**	P		**P**	**09 53 04.0 -0.7**
	baz=36,SNR=40						
FORT	**Forrest**	**37.62**	**174**	P		**P**	**09 53 14.0 +0.1**
	baz=38,SNR=32						
FORT	**Forrest**	**37.62**	**174**	*e*P		**P**	**09 53 14.0 +0.1**
	34nm,0.6s						
BLDU	**Ballidu**	**37.87**	**190**	P		**P**	**09 53 14.9 -0.9**
	baz=38,SNR=9.6						
USRK	**Uasuriysk Ar.**	**37.89**	**10**	P		**P**	**09 53 16.4 +0.6**
	3.4nm,0.6s,baz=196,slow=6.8,SNR=20						
MDJ	**Mudanjiang**	**37.96**	**7**	P		**P**	**09 53 17.1 +0.7**
MDJ				pP		**pP**	**09 54 57.8 -0.2**
MDJ				ScP		**ScP**	**09 58 07.3 +0.7**
MDJ				S		**S**	**09 58 22.0 -4.2**
MDJ				PMZ			
	11nm,0.9s						
KMBL	**Kambalda**	**38.04**	**183**	P		**P**	**09 53 16.8 -0.4**
	baz=38,SNR=38						
KLBR	**Kellerberrin**	**38.66**	**188**	P		**P**	**09 53 21.6 -0.7**
	baz=39,SNR=23						
NWAO	**Narrogin (SRO)**	**40.05**	**189**	P		**P**	**09 53 33.2 -0.1**
	baz=40,SNR=16						
NWAO				P		**P**	**09 53 33.2 -0.1**
	baz=40,SNR=16						
BBOO	**Buckleboo**	**41.10**	**164**	P		**P**	**09 53 42.1 +0.4**
	baz=41,SNR=20						
BBOO	**Buckleboo**	**41.10**	**164**	*e*P		**P**	**09 53 42.0 +0.3**
	14nm,0.9s						
RKGY	**Rocky Gully**	**41.74**	**189**	P		**P**	**09 53 47.1 +0.5**
	baz=42,SNR=14						
STKA	**Stephens Creek**	**42.06**	**157**	P		**P**	**09 53 50.0 +0.8**
	2.7nm,0.5s,baz=334,slow=7.6,SNR=11						
STKA				ScP		**ScP**	**09 58 23.0 +0.1**
	2.6nm,0.7s,baz=318,slow=5.5,SNR=7.9						
STKA				S		**S**	**09 59 24.9 -1.0**
	1.1nm,0.8s,baz=15,slow=19,SNR=4.0						
HTT	**Hallett**	**42.53**	**161**	P		**P**	**09 53 53.7 +0.8**
	baz=43,SNR=6.2						
SONM	**Songino Array**	**43.48**	**343**	P		**P**	**09 54 00.4 +0.2**
	2.4nm,0.6s,baz=159,slow=8.6,SNR=16						
SONM				ScP		**ScP**	**09 58 27.1 -1.6**
	0.2nm,0.4s,baz=145,slow=5.3,SNR=2.7						
WMQ	**Urumqi**	**48.56**	**325**	P		**P**	**09 54 40.8 +2.3**
WMQ				PMZ			
	11nm,0.8s						
MK31	**Makanchi Array**	**53.39**	**325**	*e*P		**P**	**09 55 13.5 +0.2**
MKAR	**Makanchi Array**	**53.39**	**325**	P		**P**	**09 55 13.5 +0.2**
	5.4nm,0.5s,baz=120,slow=8.3,SNR=59						
MKAR				ScP		**ScP**	**09 59 08.9 -2.0**
	0.4nm,0.7s,baz=117,slow=4.5,SNR=4.1						
PETK	**Petropavlovsk-**	**53.73**	**25**	P		**P**	**09 55 16.4 +1.0**
	5.7nm,0.7s,baz=197,slow=5.1,SNR=6.7						
PETK				PcP		**PcP**	**09 56 12.1 +0.5**
	1.8nm,0.8s,baz=256,slow=5.8,SNR=2.1						
ZALV	**Zalesovo Beam**	**56.54**	**333**	P		**P**	**09 55 34.3 -0.6**
	1.3nm,0.4s,baz=125,slow=8.0,SNR=5.7						
KURBB	**Kurchatov Arra**	**57.60**	**328**	P		**P**	**09 55 42.0 -0.3**
	5.0nm,0.6s,baz=129,slow=6.3,SNR=18						
KURK	**Kurchatov**	**57.60**	**328**	*e*P		**P**	**09 55 42.0 -0.2**
	9.3nm,0.6s						
SEY	**Seymchan**	**59.71**	**15**	P		**P**	**09 55 57.8 +1.7**
	1.4nm,0.7s,baz=198,slow=20,SNR=3.0						
BVAR	**Borovoye Array**	**63.17**	**327**	P		**P**	**09 56 18.6 -0.2**
	0.5nm,0.4s,baz=106,slow=9.2						
CASY	**Casey**	**73.58**	**186**	*e*P		**P**	**09 57 20.2 -0.9**
	138nm,2.8s						
BPAW	**Bear Paw Mtn.**	**81.77**	**26**	*e*P		**P**	**09 58 06.7 +1.4**
	5.8nm,0.9s						
COLD	**Coldfoot**	**82.16**	**23**	*e*P		**P**	**09 58 09.3 +2.2**
	4.9nm,1.1s						
RC01	**Rabbit Creek A**	**82.32**	**29**	*e*P		**P**	**09 58 09.0 +0.9**
MCK	**McKinley**	**82.67**	**27**	*e*P		**P**	**09 58 10.8 +1.0**
	5.4nm,0.7s						
ILAR	**Eielson Array**	**83.54**	**26**	P		**P**	**09 58 13.8 -0.3**
	0.5nm,0.5s,baz=246,slow=4.8,SNR=13						
MAW	**Mawson**	**85.69**	**200**	P		**P**	**09 58 23.3 -1.0**
	0.6nm,0.3s,baz=309,slow=6.5,SNR=3.3						
BRTR	**Keskin Array B**	**85.85**	**309**	P		**P**	**09 58 24.2 -1.8**
	0.6nm,0.8s,baz=34,slow=10,SNR=2.3						
VNDA	**Vanda**	**86.86**	**172**	P		**P**	**09 58 29.8 0.0**
	1.4nm,0.5s,baz=319,slow=6.3,SNR=11						
CHMT	**Chamberlain Mo**	**106.47**	**37**	*e*PKPdf		**PKiKP**	**10 04 03.0 -3.3**
SCHQ	**Schefferville**	**117.91**	**7**	PKP		**PKPdf**	**10 04 27.6 +0.1**
	0.8nm,0.6s,baz=22,slow=13,SNR=2.5						
TORD	**Torodi Ar. Bea**	**119.22**	**289**	PKP		**PKPdf**	**10 04 30.4 -0.8**
	0.3nm,0.5s,baz=41,slow=2.3,SNR=2.8						

*ISCJB **24** 09:48:13.0±0.5, 23°.87N±0°.02×122°.52E±0°.02, h0km±3km, Error ellipse: s-maj=2.8km s-min=2.3km az=157.7*
*TAP **24** 09:48:14.2, 23°.93N×122°.41E, h1km, ML3.7, D*
*JMA **24** 09:48:15.0±0.3, 23°.95N×122°.50E, h21km±5km, M3.1*

ISC 24 09:48:13.4±1.1, 23°.89N±0°.02×122°.51E±0°.02, h9km±9km, n66, σ0s65/120, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.68**	**35**	P		P	**Pb**	**09 48 27.3**	**-0.2**
JYNG				S		S	**Sg**	**09 48 35.2**	**-0.3**
YOJ	**Yonaguni jima**	**0.73**	**39**	P		P	**Pb**	**09 48 28.2**	**-0.1**
YOJ				S		S	**Sg**	**09 48 36.7**	**-0.2**
TWD	**Chiawan**	**0.86**	**283**	*e*P		P	**Pb**	**09 48 30.7**	**+0.2**
	baz=281								
TWD				*e*S		S	**Sb**	**09 48 42.6**	**+0.4**
	baz=281								
ENA	**Nanau**	**0.88**	**307**	*e*P		P	**Pb**	**09 48 31.3**	**+0.3**
	baz=309								
ENA				*e*S		S	**Sb**	**09 48 43.0**	**+0.2**
	baz=309								
TWC	**Suao**	**0.94**	**320**	*e*P		P	**Pb**	**09 48 31.8**	**-0.1**
	baz=323								
TWC				*e*S		S	**Sg**	**09 48 43.3**	**-0.4**
	baz=323								
ESL	**Shilin**	**0.99**	**266**	*e*P		P	**Pg**	**09 48 32.6**	**+0.1**
	baz=262								
ESL				*e*S		S	**Sg**	**09 48 45.4**	**0.0**
	baz=262								
EGS		**1.08**	**331**	*e*P		P	**Pb**	**09 48 34.1**	**-0.3**
	baz=334								
EGS				*e*S		S	**Sn**	**09 48 49.8**	**-0.2**
	baz=334								
ILA	**Ilan**	**1.11**	**321**	*e*P		P	**Pb**	**09 48 33.4**	**-1.5**
	baz=324								
ILA				*e*S		S	**Sn**	**09 48 50.9**	**+0.2**
	baz=324								
TWE	**Neicheng**	**1.13**	**317**	*e*P		P	**Pn**	**09 48 35.7**	**+0.2**
	baz=319								
TWE				*e*S		S	**Sn**	**09 48 50.8**	**-0.3**
	baz=319								
ENTT	**Nioudou**	**1.14**	**311**	*e*P		P	**Pg**	**09 48 35.4**	**+0.1**
	baz=312								
ENTT				*e*S		S	**Sn**	**09 48 50.9**	**-0.5**
	baz=312								
EHY	**Hungye**	**1.16**	**251**	*e*P		P	**Pb**	**09 48 35.8**	**+0.1**
	baz=246								
EHY				*e*S		S	**Sb**	**09 48 50.5**	**-0.3**
	baz=246								
WHF	**Hehuan Shan**	**1.17**	**283**	*e*P		P	**Pb**	**09 48 36.0**	**-0.1**
	baz=281								
WHF				*e*S		S	**Sb**	**09 48 51.1**	**-0.4**
	baz=281								
NNS	**Nan Shan**	**1.17**	**298**	*e*P		P	**Pg**	**09 48 36.1**	**0.0**
	baz=298								
NNS				*e*S		S	**Sg**	**09 48 51.5**	**+0.2**
	baz=298								
HATJ	**Hateruma jima**	**1.19**	**82**	P		P	**Pb**	**09 48 36.7**	**+0.5**
HATJ				S		S	**Sb**	**09 48 52.2**	**+0.4**
IRIF	**Iriomote-Funau**	**1.20**	**68**	P		P	**Pg**	**09 48 36.8**	**+0.4**
IRIF				S		S	**Sg**	**09 48 52.4**	**+0.4**
TWB1	**Santiao Chiao**	**1.21**	**337**	*e*P		P	**Pb**	**09 48 36.3**	**-0.2**
	baz=340								
TWB1				*e*S		S	**Sn**	**09 48 53.1**	**0.0**
	baz=340								
TWF1	**Yuli**	**1.24**	**244**	*e*P		P	**Pb**	**09 48 37.3**	**+0.3**
	baz=240								
TWF1				*e*S		S	**Sb**	**09 48 53.3**	**+0.2**
	baz=240								
TWT	**Tachien**	**1.27**	**287**	*e*P		P	**Pg**	**09 48 38.0**	**0.0**
	baz=285								
TWT				*e*S		S	**Sg**	**09 48 54.9**	**+0.4**
	baz=285								
NSK	**Sanguang**	**1.31**	**307**	P		P	**Pb**	**09 48 38.1**	**-0.2**
	baz=307								
NSK				*e*S		S	**Sb**	**09 48 54.1**	**-1.1**
	baz=307								
CHKT	**Chengkung**	**1.32**	**233**	*e*P		P	**Pn**	**09 48 37.6**	**-0.4**
	baz=228								
CHKT				*e*S		S	**Sb**	**09 48 53.8**	**-1.6**
	baz=228								
NWF	**Wu-fen Shan**	**1.35**	**331**	*e*P		P	**Pn**	**09 48 38.3**	**-0.2**
	baz=333								
NWF				*e*S		S	**Sg**	**09 48 56.6**	**-0.3**
	baz=333								
TWA	**Mucha**	**1.37**	**322**	*e*P		P	**Pg**	**09 48 40.0**	**+0.1**
	baz=324								
TWA				*e*S		S	**Sg**	**09 48 57.8**	**+0.1**
	baz=324								
JKRS	**Kuro-shima**	**1.41**	**76**	P		P	**Pb**	**09 48 40.0**	**+0.1**
JKRS				S		S	**Sb**	**09 48 58.5**	**+0.5**
TAP1	**Taipei**	**1.45**	**322**	*e*P		P	**Pg**	**09 48 41.7**	**+0.4**
	baz=323								
TAP1				*e*S		S	**Sg**	**09 49 00.2**	**0.0**
	baz=323								
TAP	**Taipei**	**1.46**	**321**	*e*P		P	**Pg**	**09 48 41.6**	**+0.1**
	baz=323								
TAP				*e*S		S	**Sg**	**09 49 01.2**	**+0.7**
	baz=323								
SMLT	**Sun Moon Lake**	**1.48**	**270**	*e*P		P	**Pb**	**09 48 40.9**	**-0.2**
	baz=267								
SMLT				*e*S		S	**Sn**	**09 48 59.5**	**-0.4**
	baz=267								
TYC	**Yuchr**	**1.52**	**271**	*e*P		P	**Pn**	**09 48 41.2**	**+0.5**
	baz=268								
TYC				*e*S		S	**Sn**	**09 49 00.2**	**-0.4**
	baz=268								
ELDTW	**Lidau**	**1.54**	**243**	*e*P		P	**Pn**	**09 48 41.0**	**-0.3**
	baz=239								
ELDTW				*e*S		S	**Sn**	**09 49 00.3**	**-1.2**
	baz=239								
JIJ	**Ishigaki jima**	**1.56**	**72**	P		P	**Pn**	**09 48 41.6**	**+0.2**
JIJ				S		S	**Sn**	**09 49 00.5**	**-1.3**
NSTT	**Nanjuang**	**1.56**	**298**	*e*P		P	**Pb**	**09 48 42.7**	**+0.1**
	baz=298								
NSTT				*e*S		S	**Sn**	**09 49 01.6**	**-0.2**
	baz=298								
TWS1	**Kuangyinshan**	**1.56**	**321**	*e*P		P	**Pn**	**09 48 41.7**	**+0.3**
	baz=322								
TWS1				*e*S		S	**Sg**	**09 49 03.8**	**+0.1**
	baz=322								
TWY	**Chenhua**	**1.61**	**329**	*e*P		P	**Pg**	**09 48 43.9**	**-0.4**
	baz=331								
TWY				*e*S		S	**Sb**	**09 49 03.9**	**+0.2**
	baz=331								
NCU	**National Centr**	**1.61**	**312**	*e*S		S	**Sg**	**09 49 05.7**	**+0.3**
	baz=312								
TWQ1	**Liyutan**	**1.65**	**286**	*e*P		P	**Pb**	**09 48 44.4**	**+0.3**
	baz=285								
TWQ1				*e*S		S	**Sg**	**09 49 05.9**	**-0.7**
	baz=285								
WNT	**Mingjian**	**1.67**	**270**	*e*P		P	**Pg**	**09 48 45.1**	**-0.4**
	baz=267								
WNT				*e*S		S	**Sg**	**09 49 07.2**	**-0.1**
	baz=267								
NSY	**Sanyi**	**1.68**	**288**	*e*P		P	**Pb**	**09 48 45.1**	**+0.5**
	baz=287								
NSY				*e*S		S	**Sg**	**09 49 06.8**	**-0.8**
	baz=287								
TTN	**Taitung**	**1.69**	**228**	*e*P		P	**Pn**	**09 48 42.5**	**-0.7**
	baz=224								
TTN				*e*S		S	**Sn**	**09 49 05.5**	**+0.6**
	baz=224								
TCU	**Taichung**	**1.70**	**279**	*e*P		P	**Pb**	**09 48 45.4**	**+0.6**
	baz=277								
TCU				*e*S		S	**Sg**	**09 49 07.2**	**-0.9**
	baz=277								
TWG	**Pinlang**	**1.70**	**231**	*e*P		P	**Pn**	**09 48 43.5**	**+0.1**
	baz=227								
TWG				*e*S		S	**Sn**	**09 49 03.5**	**-1.8**
	baz=227								
CHN5	**Tsauling**	**1.71**	**260**	*e*P		P	**Pb**	**09 48 45.1**	**+0.1**
	baz=258								
CHN5				*e*S		S	**Sb**	**09 49 06.8**	**+0.2**
	baz=258								
STYT	**Tauyuan**	**1.77**	**246**	*e*P		P	**Pb**	**09 48 45.4**	**-0.7**
	baz=243								
STYT				*e*S		S	**Sn**	**09 49 07.2**	**+0.2**
	baz=243								
JISG	**Ishigakijimahi**	**1.78**	**67**	P		P	**Pn**	**09 48 44.5**	**+0.1**
JISG				S		S	**Sn**	**09 49 05.8**	**-1.4**
WGK	**Gukeng**	**1.80**	**264**	*e*S		S	**Sb**	**09 49 10.1**	**+0.8**
	baz=261								
CHN2	**Minshiung**	**1.90**	**259**	*e*S		S	**Sg**	**09 49 13.7**	**-1.0**
	baz=257								
ECL	**Taimali**	**1.93**	**228**	*e*P		P	**Pn**	**09 48 46.5**	**+0.1**
	baz=225								
ECL				*e*S		S	**Sn**	**09 49 09.5**	**-1.3**
	baz=225								
SGST	**Jiashian**	**1.95**	**246**	*e*P		P	**Pb**	**09 48 49.3**	**+0.2**
	baz=243								
SGST				*e*S		S	**Sb**	**09 49 13.2**	**-0.3**
	baz=243								
CHN1	**Nanshi**	**1.95**	**249**	*e*P		P	**Pb**	**09 48 49.0**	**-0.2**
	baz=246								
CHN1				*e*S		S	**Sb**	**09 49 14.6**	**+0.9**
	baz=246								
CHY	**Chiayi**	**1.95**	**259**	*e*S		S	**Sb**	**09 49 13.9**	**+0.2**
	baz=256								
TWK	**Hsinying**	**1.96**	**252**	*e*P		P	**Pb**	**09 48 49.0**	**-0.3**
	baz=249								
TWK				*e*S		S	**Sb**	**09 49 14.1**	**+0.1**
	baz=249								
WTCT	**Ta-ch'eng**	**2.04**	**270**	*e*P		P	**Pn**	**09 48 48.9**	**+0.9**
	baz=267								
WTCT				*e*S		S	**Sb**	**09 49 16.5**	**+0.3**
	baz=267								
LAY	**Lan-yu**	**2.05**	**206**	*e*P		P	**Pn**	**09 48 47.1**	**-1.0**
	baz=202								
SSD	**Sandimen**	**2.07**	**237**	*e*P		P	**Pb**	**09 48 50.3**	**-0.9**
	baz=233								
SSD				*e*S		S	**Sn**	**09 49 15.6**	**+1.2**
	baz=233								
WSF	**Szhu**	**2.11**	**264**	*e*P		P	**Pb**	**09 48 51.4**	**-0.5**
	baz=261								
WSF				*e*S		S	**Sb**	**09 49 18.6**	**+0.3**
	baz=261								
CHN3	**Shinhua**	**2.13**	**248**	*e*S		S	**Sb**	**09 49 20.3**	**+1.5**
	baz=245								
TAW	**Tawu**	**2.13**	**225**	*e*S		S	**Sn**	**09 49 15.2**	**-0.7**
	baz=221								
EAST	**Anshuo**	**2.15**	**226**	*e*P		P	**Pn**	**09 48 50.0**	**+0.5**
	baz=222								
EAST				*e*S		S	**Sb**	**09 49 18.9**	**-0.5**
	baz=222								
CHN8	**Yiju**	**2.18**	**256**	*e*S		S	**Sb**	**09 49 19.1**	**-1.1**
	baz=253								
SGLT	**Jiouru**	**2.19**	**238**	*e*S		S	**Sb**	**09 49 20.9**	**+0.4**
	baz=235								
TWM1	**Shoushan**	**2.20**	**241**	*e*S		S	**Sg**	**09 49 24.0**	**-0.1**
	baz=238								
TAI1	**Yung-k'ang**	**2.26**	**248**	*e*S		S	**Sb**	**09 49 22.5**	**-0.1**
	baz=245								
SCZT	**Fangliau**	**2.31**	**229**	*e*P		P	**Pb**	**09 48 55.7**	**+0.4**
	baz=226								
SCZT				*e*S		S	**Sb**	**09 49 24.3**	**+0.4**
	baz=226								
TSEB	**Hengchuen, Pin**	**2.48**	**217**	*e*P		P	**Pb**	**09 48 57.5**	**-0.7**
	baz=215								
TSEB				*e*S		S	**Sn**	**09 49 26.0**	**+1.6**
	baz=215								
HEN	**Hengchun**	**2.49**	**221**	*e*S		S	**Sn**	**09 49 25.6**	**+0.9**
	baz=218								
TWK1	**Hengchun**	**2.50**	**219**	*e*P		P	**Pn**	**09 48 56.3**	**+2.0**
	baz=216								
TWK1				*e*S		S	**Sn**	**09 49 25.1**	**+0.2**
	baz=216								
WDGT	**Dungji**	**2.69**	**257**	*e*P		P	**Pn**	**09 48 58.3**	**+1.4**
	baz=255								
WDGT				*e*S		S	**Sn**	**09 49 29.4**	**-0.2**
	baz=255								
PNG	**Penghu**	**2.73**	**264**	*e*P		P	**Pn**	**09 48 58.6**	**+1.2**
	baz=262								
PNG				*e*S		S	**Sn**	**09 49 31.3**	**+0.7**
	baz=262								

*ISCJB **24** 09:52:42.3±0.7, 12°.96S±0°.10×76°.0W±0°.1, h70km, mb3.0/3, Error ellipse: s-maj=19.6km s-min=7.3km az=139.3*
*NEIC **24** 09:52:43.8±0.8, 12°.94S×76°.08W, h84km±9km, mb4.1/1, Error ellipse: s-maj=16.2km s-min=8.0km az=54.0*
NEIC Felt [III] at Lunahuana. Also felt at Barranca.
*IDC **24** 09:52:44.3±5.5, 12°.83S×76°.13W, h82km±50km, mb3.2/2, mb1 3.6/3, mb1mx3.3/20, mbtmp3.7/3, ML4.1/1, Error ellipse: s-maj=102.7km s-min=33.3km az=34.0*

ISC 24 09:52:42.9±0.8, 12°.93S±0°.09×75°.91W±0°.09, h70km, n13, σ1s72/12, mb3.6/3, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.30**	**316**	*e*Pn		P	**Pn**	**09 53 05.7**	**+0.2**
NNA				*e*Sn		S	**Sn**	**09 53 21.6**	**-0.7**
LPAZ	**La Paz**	**8.24**	**115**	P		P	Pn	09 54 43.9	+3.5
	1.1nm,0.3s,baz=301,slow=8.7,SNR=30								
LPAZ				S		S	Sn	09 56 21.8	+10
	baz=216,slow=19,SNR=1.7								
LVC	**Limon Verde**	**11.71**	**146**	*e*Pn		P	**Pn**	**09 55 29.7**	**+2.3**
LVC				*e*Sn		S	**Sn**	**09 57 33.7**	**-2.9**
SAML	**Samuel**	**13.11**	**74**	*e*Pn		P	**Pn**	**09 55 47.9**	**+1.6**
	4.2nm,0.9s								
SAML				*e*Sn		S	**Sn**	**09 58 07.8**	**-2.6**
OTAV	**Otavalo**	**13.32**	**349**	Pn		P	**Pn**	**09 55 49.9**	**+0.3**
	7.3nm,0.9s								
LCO	**Las Campanas**	**16.72**	**164**	*e*Pn		P	**Pn**	**09 56 32.5**	**-0.5**
	4.8nm,0.3s								
CPUP	**Villa Florida**	**21.96**	**130**	*e*P		P	**P**	**09 57 31.9**	**+0.9**
	0.1nm,1.0s								
TXAR	**Lajitas Array**	**49.83**	**328**	P		P	**P**	**10 01 28.1**	**-1.2**
	0.3nm,0.5s,baz=143,slow=7.0,SNR=5.1								
TORD	**Torodi Ar. Bea**	**81.17**	**74**	P		P	**P**	**10 04 52.2**	**+0.6**
	0.7nm,0.9s,baz=228,slow=5.5,SNR=2.6								
H11N3	**WAKE ISLAND Hyl**	**19.61**	**285**	T		T		12 22 07.1	
	baz=96								
H11N2	**WAKE ISLAND Hyl**	**19.62**	**285**	T		T		12 22 01.0	
	baz=96								
H11N1	**WAKE ISLAND Hyl**	**19.63**	**285**	T		T		12 22 09.5	
	baz=96								
WRA	**Warramunga Arr**	**135.80**	**223**	PKP			**PKPdf**	**10 11 55.9**	**-0.7**
	0.2nm,0.3s

CMAR	**Chiang Mai Arr**	**17.21**	**145**	Pn		Pn	10 00 44.9	-7.6	
	0.7nm,0.3s,baz=193,slow=32,SNR=4.3								
KURBB	**Kurchatov Arra**	**19.11**	**340**	P		**P**	**10 01 15.0**	**+0.4**	
	0.0nm,0.3s,baz=154,slow=11,SNR=11								
KURK	**Kurchatov**	**19.17**	**340**	P		**P**	**10 01 15.0**	**-0.2**	
SONM	**Songino Array**	**20.04**	**37**	P		Pn	10 01 26.0	-0.9	
	3.6nm,1.0s,baz=226,slow=12,SNR=20								
ULN	**Ulaanbaatar**	**20.40**	**38**	*e*P		Pn	10 01 30.5	-0.6	
	20nm,1.4s								
ZAA0	**Zalesovo Array**	**21.13**	**354**	*e*P		**P**	**10 01 37.4**	**+1.0**	
ZALV	**Zalesovo Beam**	**21.13**	**354**	P		**P**	**10 01 36.3**	**-0.1**	
	3.5nm,0.8s,baz=153,slow=11,SNR=11								
BVAR	**Borovoye Array**	**23.91**	**332**	P		**P**	**10 02 06.5**	**+1.2**	
	1.1nm,0.7s,baz=153,slow=10.0,SNR=7.1								
GEYT	**Alibeck**	**25.22**	**290**	LR		LR	10 14 07.3		
	comp=Z,89nm,19.1s,baz=315,slow=41								
KSAR	**Wonju Array Be**	**32.28**	**71**	P		**P**	**10 03 19.8**	**-0.4**	
KSRS	**Korea Array**	**32.31**	**71**	P		**P**	**10 03 19.8**	**-0.7**	
	1.4nm,0.6s,baz=272,slow=8.8,SNR=10								
TGY	**Tagaytay City**	**34.93**	**115**	LR		LR	10 17 37.8		
	comp=Z,33nm,21.5s,baz=14,slow=36								
JNU	**Nakatsue**	**35.30**	**78**	LR		LR	10 18 59.5		
	comp=Z,592nm,21.6s,baz=21,slow=38								
USRK	**Ussuriysk Ar.**	**35.37**	**59**	P		**P**	**10 03 46.8**	**-0.2**	
	1.1nm,0.8s,baz=256,slow=5.8,SNR=3.8								
MJAR	**Matsushiro Arr**	**40.59**	**71**	P		**P**	**10 04 31.3**	**+0.1**	
	1.3nm,0.9s,baz=272,slow=10,SNR=7.1								
BRTR	**Keskin Array B**	**44.16**	**295**	P		**P**	**10 04 60.0**	**-0.4**	
	1.4nm,0.8s,baz=89,slow=8.9,SNR=6.3								
BRTR				LR		LR	10 26 41.4		
	comp=Z,42nm,19.3s,baz=261,slow=40								
AKASG	**Malin Array Be**	**46.31**	**311**	P		**P**	**10 05 17.6**	**+0.6**	
	0.3nm,0.3s,baz=78,slow=7.8,SNR=4.7								
FINES	**FINESS Array B**	**48.56**	**325**	P		**P**	**10 05 35.0**	**+0.6**	
	4.1nm,1.0s,baz=112,slow=15,SNR=5.3								
SEY	**Seymchan**	**49.35**	**33**	P		**P**	**10 05 40.6**	**+0.2**	
	1.4nm,0.7s,baz=267,slow=9.7,SNR=4.4								
HFS	**Hagfors**	**54.62**	**324**	LR		LR	10 32 08.4		
	comp=Z,32nm,19.3s,baz=134,slow=39								
NB2	**NORSAR Subarra**	**55.74**	**325**	P		**P**	**10 06 28.9**	**+1.1**	
	comp=Z,0.2nm,0.6s,baz=84,slow=7.9								
NOA	**NORSAR Array B**	**55.74**	**325**	P		**P**	**10 06 27.0**	**-0.8**	
	comp=Z,1.5nm,0.8s,baz=83,slow=7.4,SNR=5.8								
GERES	**GERESS Array B**	**56.51**	**310**	P		**P**	**10 06 35.6**	**+2.1**	
	comp=Z,1.8nm,0.7s,baz=77,slow=5.8,SNR=10.0								
WRA	**Warramunga Arr**	**68.42**	**134**	P		**P**	**10 07 51.8**	**-1.6**	
	comp=Z,1.0nm,1.0s,baz=326,slow=6.4,SNR=6.5								
ASAR	**Alice Springs**	**71.01**	**136**	P		**P**	**10 08 08.2**	**-1.0**	
	comp=Z,0.9nm,0.8s,baz=325,slow=6.2,SNR=7.7								
ILAR	**Eielson Array**	**73.43**	**22**	P		**P**	**10 08 23.4**	**+0.2**	
	comp=Z,0.9nm,0.9s,baz=297,slow=4.1,SNR=9.2								
LSZ	**Lusaka**	**74.98**	**240**	P		**P**	**10 08 33.2**	**+0.3**	
	comp=Z,0.6nm,0.3s,baz=60,slow=10,SNR=3.6								
TORD	**Torodi Ar. Bea**	**80.37**	**279**	P		**P**	**10 09 02.6**	**-0.5**	
	comp=Z,1.4nm,0.9s,baz=44,slow=4.1,SNR=6.8								
YKA	**Yellowknife Ar**	**83.05**	**11**	P		**P**	**10 09 16.5**	**+0.2**	
	comp=Z,1.5nm,0.8s,baz=339,slow=5.2,SNR=5.3								
NVAR	**Mina Array Bea**	**104.69**	**22**	PKiKP		**PKiKP**	**10 15 12.8**	**-0.3**	
	comp=Z,0.1nm,0.5s,baz=248,slow=6.6,SNR=2.1								
QSPA	**South Pole Qui**	**122.77**	**180**	PKP		**PKPdf**	**10 15 45.7**	**-0.5**	
	comp=Z,0.9nm,0.8s,baz=344,slow=2.0,SNR=3.8								
SAML	**Samuel**	**144.60**	**306**	*e*PKPdf		**PKPdf**	**10 16 28.2**	**-0.1**	
SIV	**San Ignacio**	**147.76**	**294**	PKPbc		**PKPbc**	**10 16 36.6**	**0.0**	
	comp=Z,1.3nm,0.6s,baz=79,slow=6.4,SNR=6.3								
CPUP	**Villa Florida**	**149.71**	**274**	PKPbc		**PKPbc**	**10 16 39.9**	**-1.3**	
	comp=Z,1.3nm,0.7s,baz=25,slow=5.7,SNR=4.8								

*CSEM **24** 10:16:45.3±0.2, 45.47N×21.25E, h12km, ML1.9, Error ellipse: s-maj=5.3km s-min=3.8km az=114.0*
*BUC **24** 10:16:46.0±0.6, 45.53N×21.29E, h8km±6km, MD1.9/4, Error ellipse: s-maj=7.8km s-min=4.4km az=121.0*
BEO 24 10:16:44.8±0.3, 45.53N×21.36E, h21km±3km, ML1.9/8, 18C-6D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZS	**Buzias**	**0.20**	**64**	*e*Pg	Pb	10 16 50.9	+0.3
BZS				*e*Sg	Sb	10 16 55.1	+0.4
BZS	**Buzias**	**0.20**	**64**	⇓*i*P	Pb	10 16 51.3	+0.7
BZS	**Buzias**	**0.20**	**64**	S	Sb	10 16 55.4	+0.7
BZS	**Buzias**	**0.20**	**64**	⇓*i*P	Pb	10 16 51.3	+0.7
BZS				*i* S	Sb	10 16 55.4	+0.7
BZS	**Buzias**	**0.20**	**64**	*e*Pg	Pb	10 16 50.9	+0.3
BZS	**Buzias**	**0.20**	**64**	⇓*i*P	Pb	10 16 51.3	+0.7
BZS				S	Sb	10 16 55.4	+0.7
BANR	**Banloc**	**0.22**	**227**	⇓*i*P	Pb	10 16 49.6	-1.0
BANR	**Banloc**	**0.22**	**227**	S	Sb	10 16 53.3	-1.4
BANR	**Banloc**	**0.22**	**227**	⇓*i*P	Pb	10 16 49.6	-1.0
BANR				*i* S	Sb	10 16 53.3	-1.4
BANR	**Banloc**	**0.22**	**227**	⇓*i*P	Pb	10 16 49.6	-1.0
BANR				S	Sb	10 16 53.3	-1.4
TIM	**Timisoara**	**0.23**	**335**	⇑*i*P	Pb	10 16 50.7	0.0
TIM	**Timisoara**	**0.23**	**335**	S	Sb	10 16 54.4	-0.4
TIM	**Timisoara**	**0.23**	**335**	⇑*i*P	Pb	10 16 50.7	0.0
TIM				*i* S	Sb	10 16 54.4	-0.4
TIM	**Timisoara**	**0.23**	**335**	⇑*i*P	Pb	10 16 50.7	0.0
TIM				S	Sb	10 16 54.4	-0.4
SIRR	**Siria**	**0.77**	**16**	⇑*i*P	Pn	10 17 01.1	+0.6
SIRR	**Siria**	**0.77**	**16**	⇑*i*P	Pn	10 17 01.1	+0.6
SIRR				*i* S	Sn	10 17 13.2	+1.7
SIRR	**Siria**	**0.77**	**16**	⇑*i*P	Pn	10 17 01.1	+0.6
KUBS	**Kucevo**	**1.14**	**169**	*e*Pg	Pn	10 17 05.6	0.0
KUBS				*e*Sg	Sn	10 17 20.9	+0.3
KUBS	**Kucevo**	**1.14**	**169**	*e*Pg	Pn	10 17 05.6	0.0
KUBS				*e*Sg	Sn	10 17 20.9	+0.3
FGSL	**Fruska Gora**	**1.16**	**252**	*e*Pg	Pb	10 17 06.6	+0.5
FGSL				*e*Sg	Sb	10 17 20.7	0.0
FRGS	**Fruska Gora**	**1.16**	**252**	*e*Pg	Pb	10 17 06.6	+0.5
FRGS				*e*Sg	Sb	10 17 20.7	0.0
DRGR		**1.57**	**36**	*e*Pg	Pb	10 17 13.8	+0.5
DRGR				*e*Sg	Sb	10 17 33.8	+1.0
DRGR		**1.57**	**36**	⇑*i*P	Pb	10 17 14.7	+1.4
DRGR		**1.57**	**36**	⇑*i*P	Pb	10 17 14.7	+1.4
DRGR		**1.57**	**36**	⇑*i*P	Pb	10 17 14.7	+1.4
DRGR				S	Sb	10 17 35.5	+2.7
LOT	**Lotru**	**1.70**	**92**	⇑*i*P	Pb	10 17 17.6	+2.1
LOT	**Lotru**	**1.70**	**92**	⇑*i*P	Pb	10 17 17.6	+2.1
LOT				*i* S	Sb	10 17 42.0	+5.5
LOT	**Lotru**	**1.70**	**92**	⇑*i*P	Pb	10 17 17.6	+2.1
GRUS	**Gruza**	**1.70**	**196**	*e*Pg	Pb	10 17 16.0	+0.6
GRUS				*e*Sg	Sb	10 17 38.9	+2.5
GRUS	**Gruza**	**1.70**	**196**	*e*Pg	Pb	10 17 16.0	+0.6
GRUS				*e*Sg	Sb	10 17 38.9	+2.5
DIVS	**Divibare**	**1.73**	**215**	*e*Pn	Pn	10 17 13.6	-0.2
DIVS				*e*Sg	Sb	10 17 39.8	+2.4
DIVS	**Divibare**	**1.73**	**215**	⇑*i*P	Pb	10 17 17.9	+1.9
DIVS	**Divibare**	**1.73**	**215**	⇑*i*P	Pb	10 17 17.9	+1.9
DIVS				*i* S	Sb	10 17 39.3	+1.9
DIVS	**Divibare**	**1.73**	**215**	*e*Pn	Pn	10 17 13.6	-0.2
DIVS	**Divibare**	**1.73**	**215**	⇑*i*P	Pb	10 17 17.9	+1.9
DIVS				S	Sb	10 17 39.3	+1.9
BOLS	**Boljevac**	**1.75**	**166**	*e*Pn	Pn	10 17 13.6	-0.4
BOLS				*e*Sg	Sb	10 17 40.0	+2.2
BOLS	**Boljevac**	**1.75**	**166**	*e*Pn	Pn	10 17 13.6	-0.4
BOLS				*e*Sg	Sb	10 17 40.0	+2.2
PKSM	**Moragy**	**2.02**	**291**	*e*Pn	Pn	10 17 18.3	+0.7
PKSM				*e*Sg	Sb	10 17 48.5	+3.1
PKSM	**Moragy**	**2.02**	**291**	*e*Pn	Pn	10 17 18.3	+0.7
PKSM				*e*Sg	Sb	10 17 48.5	+3.1
SELS	**Selova**	**2.32**	**184**	*e*Pn	Pn	10 17 22.2	+0.4
VOIR		**2.60**	**91**	⇑*i*P	Pb	10 17 30.5	-0.3
VOIR		**2.60**	**91**	⇑*i*P	Pb	10 17 30.5	-0.3
VOIR				*i* S	Sb	10 18 03.8	+1.5
VOIR		**2.60**	**91**	⇑*i*P	Pb	10 17 30.5	-0.3
BARS	**Barje**	**2.73**	**173**	*e*Pn	Pn	10 17 28.2	+0.7
BARS				*e*Sg	Sb	10 18 11.7	+5.7
BARS	**Barje**	**2.73**	**173**	*e*Pn	Pn	10 17 28.2	+0.7
BARS				*e*Sg	Sb	10 18 11.7	+5.7

IDC 24 10:17:25.1±3.1, 12.35N×142.04E, h97km±32km, mb3.6/7, mb1 3.7/8, mb1mx3.3/63, mbtmp3.9/8, Error ellipse: s-maj=29.7km s-min=18.2km az=95.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.02**	**66**	P	Pn	10 18 12.2	+1.1
	6.6nm,0.3s,baz=281,slow=1.8,SNR=4.1						
GUMO				S	Sn	10 18 46.7	+0.1
	11nm,0.3s,baz=113,slow=21,SNR=5.5						
JNU	**Nakatsue**	**23.07**	**336**	P	P	10 22 23.3	+0.8
	6.5nm,0.9s,baz=174,slow=10,SNR=3.8						
WRA	**Warramunga Arr**	**32.97**	**193**	P	P	10 23 50.3	-0.6
	0.7nm,0.7s,baz=15,slow=9.7,SNR=8.3						
ASAR	**Alice Springs**	**36.66**	**193**	P	P	10 24 22.9	+0.2
	0.3nm,0.6s,baz=22,slow=11,SNR=5.9						
KURBB	**Kurchatov Arra**	**63.80**	**321**	P	P	10 27 47.2	+0.2
	0.9nm,0.7s,baz=105,slow=6.8,SNR=8.4						
BVAR	**Borovoye Array**	**69.20**	**322**	P	P	10 28 21.3	-0.1
	0.7nm,0.5s,baz=107,slow=12,SNR=4.1						
NVAR	**Mina Array Bea**	**89.84**	**51**	P	P	10 30 13.8	+0.1
	0.4nm,0.6s,baz=275,slow=5.3,SNR=3.9						
FINES	**FINESS Array B**	**91.10**	**334**	P	P	10 30 16.8	-2.0
	3.8nm,1.0s,baz=65,slow=11,SNR=4.3						
LPAZ	**La Paz**	**150.52**	**101**	PKPbc	PKPbc	10 37 08.0	+0.6
	0.6nm,0.6s,baz=301,slow=5.9,SNR=4.1						

*IDC **24** 10:19:41.8±1.6, 32.74N×39.81W, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/31, mbtmp3.7/7, MS3.5/11, Ms1 3.5/11, ms1mx3.2/27, Error ellipse: s-maj=61.3km s-min=22.5km az=12.0*
*ISCJB **24** 10:19:42.0±1.3, 32.8N±0.3×39.8W±0.2, h13km, mb3.7/7, MS3.5/11, Error ellipse: s-maj=50.6km s-min=17.9km az=11.4*
ISC 24 10:19:43.9±1.7, 32.7N±0.4×39.8W±0.2, h13km, n21, σ1§19/7, mb3.8/7, MS3.4/11, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**29.16**	**327**	LR	LR	10 36 14.0	
	comp=Z,102nm,20.5s,baz=107,slow=34						
SFJD	**Kangerlussuaq**	**34.90**	**353**	LR	LR	10 38 24.5	
	comp=Z,52nm,21.6s,baz=157,slow=32						
TKL	**Tuckaleechee C**	**36.28**	**287**	LR	LR	10 39 16.7	
	comp=Z,174nm,21.8s,baz=279,slow=32						
DBIC	**Dimbokro**	**41.54**	**121**	LR	LR	10 42 53.5	
	comp=Z,48nm,20.9s,baz=314,slow=34						
ROSC	**El Rosal**	**42.52**	**237**	LR	LR	10 44 19.7	
	comp=Z,39nm,21.9s,baz=271,slow=35						
TORD	**Torodi Ar. Bea**	**42.55**	**107**	P	**P**	**10 27 39.2**	**-0.3**
	0.8nm,0.6s,baz=302,slow=6.9,SNR=7.8						
TORD				LR	LR	10 44 07.4	
	comp=Z,75nm,19.1s,baz=295,slow=34						
ULM	**Lac du Bonnet**	**44.40**	**310**	LR	LR	10 45 00.3	
	comp=Z,72nm,21.3s,baz=87,slow=34						
H10N2	**ASCENSION HYDR**	**46.98**	**145**	T	T	11 18 32.3	
	baz=330,slow=75,SNR=61						
H10N3	**ASCENSION HYDR**	**46.99**	**145**	T	T	11 18 27.2	
	baz=330,slow=75,SNR=60						
H10N1	**ASCENSION HYDR**	**47.00**	**145**	T	T	11 18 28.3	
	baz=330,slow=75,SNR=63						
H10S1	**ASCENSION HYDR**	**47.87**	**146**	T	T	11 19 40.9	
	baz=331,slow=75,SNR=30						
H10S3	**ASCENSION HYDR**	**47.87**	**146**	T	T	11 19 41.1	
	baz=331,slow=75,SNR=32						
H10S2	**ASCENSION HYDR**	**47.89**	**146**	T	T	11 19 42.2	
	baz=331,slow=75,SNR=34						
AKASG	**Malin Array Be**	**52.61**	**48**	P	**P**	**10 28 57.0**	**-0.3**
	2.7nm,0.8s,baz=276,slow=6.7,SNR=8.9						
TXAR	**Lajitas Array**	**54.10**	**285**	LR	LR	10 50 23.8	
	comp=Z,68nm,20.9s,baz=0.0,slow=34						
PDAR	**Pinedale Array**	**54.64**	**302**	P	**P**	**10 29 11.9**	**-0.7**
	0.9nm,1.0s,baz=68,slow=9.8,SNR=5.2						
PDAR				LR	LR	10 51 45.8	
	comp=Z,55nm,19.4s,baz=82,slow=35						
LPAZ	**La Paz**	**55.77**	**213**	LR	LR	10 51 10.1	
	comp=Z,34nm,20.4s,baz=358,slow=34						
BRTR	**Keskin Array B**	**58.13**	**61**	P	**P**	**10 29 39.0**	**+1.6**
	0.9nm,0.8s,baz=309,slow=2.8,SNR=4.2						
BRTR				LR	LR	10 53 09.9	
	comp=Z,20nm,19.1s,baz=254,slow=34						
NEW	**Newport**	**58.41**	**310**	P	**P**	**10 29 39.4**	**+0.2**
	0.5nm,0.3s,baz=95,slow=7.3,SNR=3.6						
NVAR	**Mina Array Bea**	**62.30**	**300**	P	**P**	**10 30 06.5**	**+0.4**
	0.4nm,0.8s,baz=103,slow=1.2,SNR=3.1						
KURBB	**Kurchatov Arra**	**80.79**	**35**	P	**P**	**10 31 55.5**	**-1.5**
	0.1nm,0.3s,baz=307,slow=6.5,SNR=3.4						

*BJI **24** 10:21:48.1, 4.50S×147.90E, h70km, mb4.8/15, mB5.0/12, Ms4.6/6, Ms7 4.5/4*
*ISCJB **24** 10:22:05.4±0.7, 5.51S±0.03×147.60E±0.05, h178km±7km, mb4.4/30, Error ellipse: s-maj=8.3km s-min=5.6km az=173.7*
*IDC **24** 10:22:05.9±0.6, 5.57S×147.58E, h168km±4km, mb4.1/19, mb1 4.2/23, mb1mx4.0/46, mbtmp4.6/23, Error ellipse: s-maj=13.0km s-min=7.4km az=95.0*
*NEIC **24** 10:22:06.1±0.9, 5.51S×147.67E, h171km±8km, mb5.0/7, Error ellipse: s-maj=9.3km s-min=5.5km az=76.0*
*DJA **24** 10:22:10.3±1.1, 5°S±7°×14°7E±°, h198km±8km, M5.0/16, mb4.5/16, MLv5.3/2*
ISC 24 10:22:06.2±0.5, 5.48S±0.05×147.55E±0.06, h173km±5km, h173km:pP-P, n98, σ1§45/111, mb4.4/30, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.92**	**186**	*e*Pn	**Pn**	**10 23 04.2**	**-1.9**
PMG				*e*Sn	**Sn**	**10 23 47.8**	**-5.2**
RABL	**Rabaul**	**4.77**	**75**	P	**Pn**	**10 23 16.7**	**-0.4**
	baz=4.7,SNR=65						
JAY	**Jayapura**	**7.44**	**293**	P	**Pn**	**10 23 52.4**	**+0.2**
	6.4nm,0.3s,baz=165,slow=9.6,SNR=20						
JAY	**Jayapura**	**7.44**	**293**	P	**Pn**	**10 23 53.5**	**+1.3**
	baz=7.4,SNR=5.2						
GENI	**Genyem**	**7.91**	**291**	P	**Pn**	**10 23 58.9**	**+0.6**
	93nm,1.3s,0.4nm						
COEN	**Coen**	**9.46**	**207**	P	**Pn**	**10 24 20.4**	**+1.5**
	baz=9.7,SNR=5.3						
COEN	**Coen**	**9.46**	**207**	*e*Pn	**Pn**	**10 24 19.9**	**+1.0**
HNR	**Honiara**	**12.90**	**108**	*e*Pn	Pn	10 24 52.1	-11
MTSU	**Mount Surprise**	**12.97**	**194**	P	**P**	**10 25 10.5**	**+2.1**
	baz=13,SNR=13						
CTA	**Charters Tower**	**14.57**	**185**	P	**Pn**	**10 25 24.9**	**+0.6**
	0.4nm,0.3s,baz=352,slow=14,SNR=8.7						
CTAO	**Charters Tower**	**14.57**	**185**	*e*Pn	**Pn**	**10 25 25.0**	**+0.6**
CTAO				*e*Sn	S	10 28 18.0	+7.6
FAKI	**Fak Fak**	**15.47**	**279**	P	**Pn**	**10 25 35.7**	**+0.2**
	baz=16,SNR=5.1						
KDU	**Kakadu**	**16.51**	**243**	P	**Pn**	**10 25 48.2**	**+0.1**
	baz=17,SNR=52						
QIS	**Mount Isa**	**16.86**	**207**	P	**Pn**	**10 25 52.9**	**+0.6**
	baz=17,SNR=20						
SIJI	**Sorong**	**16.89**	**285**	P	**Pn**	**10 25 53.1**	**+0.4**
	1.7nm,0.3s,baz=95,slow=7.4,SNR=6.0						
SIJI				S	**Sn**	**10 29 02.2**	**-0.1**
	1.0nm,0.3s,baz=195,slow=20,SNR=2.5						
SWI	**Sorong**	**16.90**	**285**	P	**Pn**	**10 25 53.9**	**+1.1**
	22nm,0.8s						
MTN	**Manton Dam**	**17.77**	**245**	P	**Pn**	**10 26 02.9**	**-0.2**
	baz=18,SNR=47						
MTN	**Manton Dam**	**17.77**	**245**	*e*P	**Pn**	**10 26 02.9**	**-0.2**
	66nm,0.9s						
WRAB	**Tennant Creek**	**19.27**	**221**	P	**P**	**10 26 18.0**	**+0.3**
	343nm,0.6s,SNR=71						
WRAB	**Tennant Creek**	**19.27**	**221**	*e*P	**P**	**10 26 18.6**	**+0.8**
	38nm,0.7s						
WRA	**Warramunga Arr**	**19.28**	**221**	P	**P**	**10 26 18.7**	**+0.8**
	4.2nm,0.3s,baz=48,slow=12,SNR=242						
WRA				S	**S**	**10 29 45.4**	**-1.6**
	0.1nm,0.3s,baz=43,slow=21,SNR=5.8						
WRA				PcP	**PcP**	**10 30 33.9**	**+0.7**
	0.1nm,0.3s,baz=14,slow=1.6,SNR=5.1						
EIDS	**Eidsvold**	**20.06**	**171**	P	**P**	**10 26 26.8**	**+0.7**
	baz=20,SNR=9.8						
EIDS	**Eidsvold**	**20.06**	**171**	*e*P	**P**	**10 26 26.9**	**+0.7**
	126nm,1.6s						
RMQ	**Roma**	**20.92**	**177**	P	**P**	**10 26 36.0**	**+0.7**
	baz=21,SNR=62						
KNRA	**Kununurra**	**21.04**	**240**	P	**P**	**10 26 37.0**	**+0.3**
	baz=21,SNR=43						
QLP	**Quilpie**	**21.22**	**188**	P	**P**	**10 26 39.0**	**+0.5**
	baz=22,SNR=35						
AS31	**Alice Springs**	**22.35**	**215**	*e*P	**P**	**10 26 50.9**	**+0.8**
ASAR	**Alice Springs**	**22.35**	**215**	P	**P**	**10 26 51.0**	**+0.8**
	22nm,0.6s,baz=48,slow=8.6,SNR=391						
ASAR				PcP	**PcP**	**10 30 40.0**	**+1.0**
	2.1nm,0.9s,baz=45,slow=4.1,SNR=7.7						
ASAR				S	**S**	**10 30 43.4**	**+0.4**
	36nm,0.8s,baz=29,slow=22,SNR=39						
SOEI	**Soe**	**23.46**	**258**	P	**P**	**10 27 03.5**	**+3.1**
	68nm,1.0s						
DZM	**Mont Dzumac**	**24.62**	**134**	P	**P**	**10 27 10.3**	**-0.6**
	26nm,0.9s,baz=270,slow=24,SNR=8.3						
ARMA	**Armidale**	**25.10**	**172**	P	**P**	**10 27 15.6**	**+0.5**
	baz=25,SNR=27						
ARMA	**Armidale**	**25.10**	**172**	*e*P	**P**	**10 27 15.5**	**+0.4**
	32nm,0.8s						
CMSA	**Cobar Meteorol**	**25.98**	**184**	P	**P**	**10 27 23.1**	**+0.2**
	baz=26,SNR=5.0						
MRSI	**Marisa**	**26.25**	**282**	P	**P**	**10 27 23.3**	**-2.3**
	16nm,1.0s						
WRKA	**Warakurna**	**26.82**	**222**	P	**P**	**10 27 30.9**	**+0.4**
	baz=27,SNR=96						
STKA	**Stephens Creek**	**26.84**	**191**	P	**P**	**10 27 30.2**	**-0.5**
	5.9nm,0.6s,baz=356,slow=7.2,SNR=20						
STKA	**Stephens Creek**	**26.84**	**191**	*e*P	**P**	**10 27 30.5**	**-0.2**
	4.7nm,1.4s						
YNG	**Young**	**28.68**	**179**	P	**P**	**10 27 47.9**	**+0.8**
	baz=29,SNR=6.6						
HTT	**Hallett**	**28.94**	**195**	P	**P**	**10 27 49.5**	**+0.2**
	baz=29,SNR=7.5						
BBOO	**Buckleboo**	**29.23**	**200**	P	**P**	**10 27 51.8**	**0.0**
	baz=30,SNR=6.6						
CNB	**Canberra Magne**	**29.73**	**177**	P	**P**	**10 27 57.0**	**+0.7**
	baz=30,SNR=6.1						
FORT	**Forrest**	**31.13**	**214**	P	**P**	**10 28 09.1**	**+0.4**
	baz=31,SNR=14						
FORT	**Forrest**	**31.13**	**214**	*e*P	**P**	**10 28 08.9**	**+0.3**
	36nm,0.9s						
MBWA	**Marble Bar**	**31.15**	**237**	*e*P	**P**	**10 28 09.2**	**+0.3**
	4.2nm,0.4s						
MILA	**Mila**	**31.46**	**178**	P	**P**	**10 28 11.9**	**+0.5**
	baz=32,SNR=5.7						
ARPS	**Mount Arapiles**	**31.58**	**189**	P	**P**	**10 28 13.0**	**+0.6**
	baz=32,SNR=9.2						
TOO	**Toolangi**	**32.00**	**183**	P	**P**	**10 28 16.9**	**+0.8**
	baz=32,SNR=6.2						
CBIJ	**Chichi jima**	**32.80**	**351**	P	**P**	**10 28 23.1**	**-0.1**
JCJ	**Chichijima**	**32.80**	**351**	P	**P**	**10 28 23.1**	**-0.1**
	36nm,0.7s,baz=270,slow=20,SNR=4.4						
MEEK	**Meekatharra**	**34.71**	**230**	P	**P**	**10 28 40.3**	**+0.5**
	baz=35,SNR=13						
KMBL	**Kambalda**	**35.25**	**220**	P	**P**	**10 28 44.8**	**+0.5**
	baz=36,SNR=8.3						
MORW	**Morawa**	**37.92**	**228**	P	**P**	**10 29 07.4**	**+0.4**
	baz=38,SNR=4.2						
KLBR	**Kellerberrin**	**38.12**	**223**	P	**P**	**10 29 08.6**	**0.0**
	baz=38,SNR=19						
BLDU	**Balliduu**	**38.29**	**226**	P	**P**	**10 29 10.2**	**+0.2**
	baz=38,SNR=13						
NWAO	**Narrogin (SRO)**	**39.28**	**222**	P	**P**	**10 29 18.5**	**+0.2**
	7.0nm,0.9s,baz=335,slow=2.8,SNR=3.0						
RKGY	**Rocky Gully**	**40.48**	**220**	P	**P**	**10 29 29.4**	**+1.2**
	baz=41,SNR=4.8						
AFI	**Afiamalu**	**40.90**	**105**	*e*P	**P**	**10 29 30.1**	**-1.8**
JNU	**Nakatsue**	**41.53**	**339**	P	**P**	**10 29 38.1**	**+1.4**
	13nm,1.0s,baz=199,slow=1.4,SNR=6.4						
MJAR	**Matsushiro Arr**	**42.71**	**349**	P	**P**	**10 29 47.4**	**+1.2**
	7.6nm,0.9s,baz=173,slow=8.2,SNR=20						
MJAR				PcP	**PcP**	**10 31 34.7**	**+0.1**
	1.5nm,1.0s,baz=129,slow=4.8,SNR=3.0						
MAJO	**Matsushiro**	**42.71**	**349**	*e*P	**P**	**10 29 47.9**	**+1.7**
	8.5nm,0.9s						
MAT	**Matsushiro**	**42.71**	**349**	P	**P**	**10 29 47.7**	**+1.5**
RPZ	**Rata Peaks**	**43.34**	**155**	P	**P**	**10 29 51.0**	**-0.1**
	12nm,0.7s,baz=318,slow=3.0,SNR=4.7						
NJ2	**Nanjing**	**46.26**	**326**	*e*P	P	10 30 00.9	-13
NJ2				PMZ			
	20nm,0.8s						
**KSRS

MK31	**Makanchi Array**	**77.45**	**320**	*eP*	**P**	**10 33 43.1**	**+0.7**
MKAR	**Makanchi Array**	**77.45**	**320**	P	**P**	**10 33 43.4**	**+0.9**
	comp=Z,4.2nm,0.8s,baz=103,slow=7.0,SNR=29						
MKAR				pP	**pP**	**10 34 22.8**	**-1.9**
	comp=Z,1.1nm,0.8s,baz=122,slow=6.0,SNR=1.9						
ZALV	**Zalesovo Beam**	**78.87**	**328**	P	**P**	**10 33 50.0**	**0.0**
	comp=Z,3.8nm,0.7s,baz=114,slow=5.7,SNR=13						
KURK	**Kurchatov**	**81.13**	**323**	P	**P**	**10 34 02.7**	**+0.5**
KURK				pP	**pP**	**10 34 44.3**	**-0.5**
KURBB	**Kurchatov Arra**	**81.15**	**323**	P	**P**	**10 34 02.7**	**+0.4**
	comp=Z,1.5nm,0.9s,baz=111,slow=4.1,SNR=13						
KURBB				pP	**pP**	**10 34 44.3**	**-0.6**
	comp=Z,1.5nm,1.1s,baz=109,slow=5.6,SNR=3.5						
MAW	**Mawson**	**82.93**	**203**	P	**P**	**10 34 10.6**	**-0.7**
	comp=Z,2.8nm,0.5s,baz=106,slow=7.3,SNR=10						
KKAR	**Karatay Array**	**84.33**	**314**	*eP*	**P**	**10 34 19.0**	**+0.1**
	comp=Z,1.9nm,0.7s						
QSPA	**South Pole Qui**	**84.48**	**180**	*eP*	**P**	**10 34 17.6**	**-1.8**
	comp=Z,24nm,1.1s						
ILAR	**Eielson Array**	**84.79**	**23**	P	**P**	**10 34 20.5**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=256,slow=4.8,SNR=21						
ILAR				pP	**pP**	**10 35 02.2**	**-1.5**
	comp=Z,1.2nm,0.9s,baz=261,slow=5.9,SNR=4.8						
BVAR	**Borovoye Array**	**86.68**	**324**	P	**P**	**10 34 29.9**	**-0.4**
	comp=Z,2.3nm,0.6s,baz=104,slow=6.3,SNR=12						
BVAR				pP	**pP**	**10 35 13.3**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=116,slow=10,SNR=3.4						
GEYT	**Alibeck**	**92.89**	**308**	P	**P**	**10 34 59.0**	**-0.8**
	comp=Z,2.0nm,0.4s,baz=174,slow=4.3,SNR=2.5						
NVAR	**Mina Array Bea**	**96.62**	**52**	PKKPbc	PKKPbc	10 51 57.3	-3.9
	comp=Z,0.2nm,0.4s,baz=90,slow=2.3,SNR=3.5						
NOA	**NORSAR Array B**	**115.68**	**338**	PKP	**PKPdf**	**10 40 27.5**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=45,slow=6.9,SNR=2.5						
GERES	**GERESS Array B**	**121.79**	**326**	PKP	**PKPdf**	**10 40 39.9**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=347,slow=3.0,SNR=2.9						
SCHQ	**Schefferville**	**123.55**	**23**	PKP	**PKPdf**	**10 40 43.1**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=204,slow=7.3,SNR=2.5						
LPAZ	**La Paz**	**138.60**	**122**	PKhKP	PKPpre	10 41 09.8	
	comp=Z,0.6nm,0.4s,baz=238,slow=1.7,SNR=3.2						
LPAZ				PKP	**PKPdf**	**10 41 13.2**	**0.0**
	comp=Z,0.6nm,0.4s,baz=270,slow=1.0,SNR=3.9						
TORD	**Torodi Ar. Bea**	**145.49**	**285**	PKPbc	**PKPdf**	**10 41 24.4**	**-0.3**
	comp=Z,3.6nm,0.8s,baz=72,slow=3.2,SNR=28						
TORD				pPKPbc	pPKPbc	10 42 06.8	-3.1
	comp=Z,2.2nm,1.0s,baz=58,slow=1.4,SNR=4.4						
TORD				sPKPbc	sPKPbc	10 42 25.0	-2.8
	comp=Z,0.9nm,0.8s,baz=85,slow=3.6,SNR=2.5						
SAML	**Samuel**	**146.17**	**115**	*e*PKPbc	**PKPdf**	**10 41 26.4**	**+0.5**
BDFB	**Brasilia**	**153.96**	**144**	PKPbc	**PKPbc**	**10 41 46.2**	**-0.1**
	comp=Z,2.4nm,0.4s,baz=168,slow=11,SNR=4.6						
BDFB				PKPab	**PKPab**	**10 41 58.9**	**-1.2**
	comp=Z,4.9nm,0.7s,baz=166,slow=5.7,SNR=4.7						

IDC 24 10:23:03.0±11.0, 7°.47S×128°.56E, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.8/45, mbtmp4.1/5, Error ellipse: s-maj=258.0km s-min=62.3km az=161.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**38.96**	**312**	P	P	10 30 31.6	+0.5
	0.5nm,0.3s,baz=114,slow=7.5,SNR=5.7						
MJAR	**Matsushiro Arr**	**44.70**	**11**	P	P	10 31 17.9	0.0
	1.5nm,0.7s,baz=196,slow=9.9,SNR=4.2						
MKAR	**Makanchi Array**	**67.84**	**328**	P	P	10 34 01.7	-1.4
	2.6nm,0.5s,baz=121,slow=7.9,SNR=18						
ZALV	**Zalesovo Beam**	**71.38**	**334**	P	P	10 34 25.9	+1.2
	0.3nm,0.3s,baz=131,slow=4.4,SNR=2.2						
KURBB	**Kurchatov Arra**	**72.17**	**329**	P	P	10 34 29.6	+0.1
	1.7nm,0.6s,baz=130,slow=6.5,SNR=22						

IDC 24 10:26:03.9±5.2, 2°.93N×123°.91E, h542km±48km, mb3.6/4, mb1 3.7/5, mb1mx2.9/26, mbtmp4.6/5, Error ellipse: s-maj=62.0km s-min=37.3km az=116.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**8.27**	**117**	P	P	10 28 03.6	-0.6
	2.7nm,0.3s,baz=318,slow=9.6,SNR=6.7						
WRA	**Warramunga Arr**	**24.94**	**156**	P	P	10 30 45.3	+0.6
	4.2nm,0.4s,baz=331,slow=11,SNR=16						
ASAR	**Alice Springs**	**28.18**	**160**	P	P	10 31 14.7	+1.5
	5.3nm,0.3s,baz=339,slow=7.4,SNR=62						
NWAO	**Narrogin (SRO)**	**36.22**	**190**	P	P	10 32 21.0	-0.4
	5.4nm,0.5s,baz=330,slow=7.8,SNR=8.0						
STKA	**Stephens Creek**	**38.48**	**155**	P	P	10 32 37.9	-2.0
	3.4nm,0.4s,baz=334,slow=12,SNR=14						
TXAR	**Lajitas Array**	**124.30**	**51**	PKP	PKPdf	10 44 02.4	+0.1
	0.5nm,1.0s,baz=272,slow=2.3,SNR=2.9						

*ISCJB **24** 10:30:04.7±0.1, 18°.35S±0°.05×177°.81W±0°.03, h550km, mb4.3/108, Error ellipse: s-maj=7.1km s-min=3.0km az=151.8*

*BJI **24** 10:30:06.6, 18°.30S×177°.80W, h571km, mb4.8/11, mB4.7/5*

*IDC **24** 10:30:07.1±1.3, 18°.35S×177°.72W, h571km±15km, mb3.9/31, mb1 4.0/33, mb1mx4.0/40, mbtmp4.8/33, Error ellipse: s-maj=12.4km s-min=8.3km az=147.0*

*NEIC **24** 10:30:08.7±0.6, 18°.38S×177°.80W, h589km±7km, mb4.5/60, Error ellipse: s-maj=7.0km s-min=4.2km az=147.0*

ISC 24 10:30:05.5±0.3, 18°.39S±0°.07×177°.73W±0°.06, h550km, n430, σ0s80/445, mb4.4/108, 4C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.07**	**279**	*eP*	P	10 31 33.3	+5.3
AFI	**Afiamalu**	**7.25**	**53**	P	**P**	**10 31 56.5**	**+0.5**
	14nm,0.3s,baz=199,slow=3.3,SNR=26						
AFI				S	**S**	**10 33 24.8**	**-1.8**
	8.8nm,0.3s,baz=164,slow=22,SNR=3.5						
NIUE	**Niue**	**7.42**	**96**	P	**P**	**10 31 59.5**	**+2.0**
	baz=8.2,SNR=7.2						
DZM	**Mont Dzumac**	**15.30**	**254**	P	**P**	**10 33 19.0**	**+0.8**
	1.6nm,0.3s,baz=270,slow=24,SNR=15						
URZ	**Urewera**	**20.30**	**192**	P	**P**	**10 34 01.9**	**-2.2**
	15nm,0.5s,baz=290,slow=1.2,SNR=18						
URZ				S	S	10 37 07.8	-10
	10nm,1.1s,baz=18,slow=20,SNR=1.9						
URZ	**Urewera**	**20.30**	**192**	*eP*	**P**	**10 34 03.5**	**-0.6**
URZ				S	S	10 37 07.8	-10
THZ	**Tophouse**	**24.63**	**197**	PN	**P**	**10 34 42.9**	**+0.1**
THZ				*e*SN	**S**	**10 38 21.9**	**-3.9**
WVZ	**Waitaha Valley**	**26.47**	**199**	PN	**P**	**10 34 58.6**	**-0.4**
RPZ	**Rata Peaks**	**26.96**	**198**	P	**P**	**10 35 03.0**	**-0.3**
	9.1nm,0.6s,baz=349,slow=2.2,SNR=5.6						
JCZ	**Jackson Bay**	**28.01**	**201**	PN	**P**	**10 35 12.6**	**0.0**
EIDS	**Eidsvold**	**29.71**	**251**	P	**P**	**10 35 28.2**	**+0.6**
	baz=29,SNR=4.8						
WHZ	**Wether Hill Ro**	**29.89**	**200**	*eP*	**P**	**10 35 30.4**	**+1.6**
	360nm,2.6s						
ARMA	**Armidale**	**30.26**	**241**	P	**P**	**10 35 33.7**	**+1.4**
	baz=30,SNR=11						
ARMA	**Armidale**	**30.26**	**241**	*eP*	**P**	**10 35 34.0**	**+1.6**
	12nm,0.8s						
RMQ	**Roma**	**31.93**	**249**	P	**P**	**10 35 48.0**	**+1.4**
	baz=31,SNR=7.5						
CNB	**Canberra Magne**	**33.65**	**233**	P	**P**	**10 36 02.6**	**+1.5**
	baz=33,SNR=7.2						
CTA	**Charters Tower**	**34.01**	**261**	P	**P**	**10 36 04.4**	**+0.2**
	34nm,0.8s,baz=95,slow=10,SNR=32						
PMG	**Port Moresby**	**35.18**	**280**	*eP*	**P**	**10 36 15.5**	**+1.5**
	88nm,0.9s						
CMSA	**Cobar Meteorol**	**35.48**	**241**	P	**P**	**10 36 17.0**	**+0.8**
	baz=35,SNR=31						
QLP	**Quilpie**	**35.97**	**250**	P	**P**	**10 36 20.9**	**+0.4**
	baz=35,SNR=24						
MTSU	**Mount Surprise**	**36.00**	**264**	P	**P**	**10 36 21.5**	**+0.7**
	baz=35,SNR=6.7						
TOO	**Toolangi**	**37.37**	**232**	P	**P**	**10 36 32.5**	**+0.7**
	baz=37,SNR=10						
COEN	**Coen**	**37.76**	**271**	P	**P**	**10 36 36.2**	**+1.0**
	baz=37,SNR=21						
COEN	**Coen**	**37.76**	**271**	*eP*	**P**	**10 36 36.5**	**+1.3**
	60nm,0.8s						
STKA	**Stephens Creek**	**38.97**	**242**	P	**P**	**10 36 45.8**	**+1.0**
	24nm,0.8s,baz=78,slow=8.1,SNR=54						
STKA	**Stephens Creek**	**38.97**	**242**	*eP*	**P**	**10 36 45.8**	**+1.0**
	5.8nm,0.9s						
ARPS	**Mount Arapiles**	**39.89**	**234**	P	**P**	**10 36 52.7**	**+0.5**
	baz=40,SNR=6.5						
QIS	**Mount Isa**	**40.20**	**260**	P	**P**	**10 36 55.0**	**+0.1**
	baz=40,SNR=4.3						
HTT	**Hallett**	**41.46**	**240**	P	**P**	**10 37 05.4**	**+0.6**
	baz=41,SNR=16						

JAY	**Jayapura**	**43.66**	**286**	P	**P**	**10 37 22.9**	**+0.7**
	40nm,0.7s,baz=114,slow=2.9,SNR=16						
BBOO	**Buckleboo**	**43.74**	**242**	P	**P**	**10 37 22.9**	**+0.3**
	baz=43,SNR=30						
BBOO	**Buckleboo**	**43.74**	**242**	*eP*	**P**	**10 37 22.9**	**+0.3**
	20nm,0.8s						
WRAB	**Tennant Creek**	**45.17**	**260**	*eP*	**P**	**10 37 33.1**	**-0.6**
	28nm,0.6s						
WRA	**Warramunga Arr**	**45.18**	**260**	P	**P**	**10 37 33.6**	**-0.3**
	19nm,0.5s,baz=98,slow=6.9,SNR=313						
WRA				PcP	**PcP**	**10 39 01.4**	**-1.1**
	0.6nm,0.4s,baz=89,slow=3.6,SNR=2.3						
WRA				S	**S**	**10 43 30.1**	**-3.9**
	2.6nm,1.1s,baz=98,slow=13,SNR=4.1						
AS31	**Alice Springs**	**45.28**	**255**	*eP*	**P**	**10 37 34.7**	**0.0**
AS31				*e*PcP	**PcP**	**10 39 01.9**	**-0.9**
ASAR	**Alice Springs**	**45.28**	**255**	P	**P**	**10 37 35.0**	**+0.4**
	48nm,0.7s,baz=92,slow=7.8,SNR=360						
ASAR				ScP	**ScP**	**10 42 01.6**	**-1.7**
	1.5nm,0.9s,baz=103,slow=4.1,SNR=5.0						
ASAR				S	**S**	**10 43 33.0**	**-2.3**
	5.1nm,0.7s,baz=91,slow=16,SNR=27						
KDU	**Kakadu**	**48.20**	**269**	P	**P**	**10 37 56.5**	**-0.2**
	baz=48,SNR=15						
GUMO	**Guam**	**48.68**	**308**	P	**P**	**10 38 00.5**	**+0.3**
	64nm,0.8s,baz=119,slow=10,SNR=4.1						
MTN	**Marton Dam**	**49.43**	**269**	*eP*	**P**	**10 38 05.4**	**-0.4**
	34nm,1.8s						
WRKA	**Warakurna**	**50.31**	**252**	P	**P**	**10 38 12.1**	**-0.1**
	baz=50,SNR=170						
FORT	**Forrest**	**50.39**	**245**	P	**P**	**10 38 12.3**	**-0.2**
	baz=50,SNR=24						
FORT	**Forrest**	**50.39**	**245**	*eP*	**P**	**10 38 12.3**	**-0.2**
	30nm,0.6s						
KNRA	**Kununurra**	**51.08**	**264**	P	**P**	**10 38 17.5**	**-0.3**
	baz=50,SNR=14						
FAKI	**Fak Fak**	**51.30**	**281**	P	**P**	**10 38 19.7**	**+0.2**
	baz=51,SNR=5.3						
SIJI	**Sorong**	**52.97**	**283**	P	**P**	**10 38 31.6**	**+0.2**
	117nm,1.0s,baz=78,slow=6.6,SNR=21						
SWI	**Sorong**	**52.98**	**283**	P	**P**	**10 38 32.0**	**+0.4**
	baz=52,SNR=6.0						
SOEI	**Soe**	**56.72**	**270**	P	**P**	**10 38 59.4**	**+1.6**
	baz=56,SNR=7.6						
SOEI	**Soe**	**56.72**	**270**	*eP*	**P**	**10 38 59.0**	**+1.2**
	55nm,0.7s						
TNTI	**Ternate**	**57.20**	**283**	*eP*	**P**	**10 39 01.0**	**+0.1**
	76nm,0.9s						
MBWA	**Marble Bar**	**58.58**	**256**	*eP*	**P**	**10 39 09.9**	**-0.3**
MEEK	**Meekatharra**	**58.87**	**250**	P	**P**	**10 39 11.5**	**-0.6**
	baz=58,SNR=14						
KLBR	**Kellerberrin**	**59.19**	**244**	P	**P**	**10 39 13.9**	**-0.2**
	baz=59,SNR=9.5						
SBA	**Scott Base**	**59.98**	**184**	*eP*	**P**	**10 39 21.0**	**+2.5**
	11nm,0.9s						
VNDA	**Vanda**	**60.02**	**185**	P	**P**	**10 39 19.9**	**+1.0**
	3.6nm,0.8s,baz=350,slow=6.6,SNR=14						
BLDU	**Ballidu**	**60.16**	**245**	P	**P**	**10 39 19.9**	**-0.7**
	baz=60,SNR=9.1						
MORW	**Morawa**	**60.88**	**247**	P	**P**	**10 39 25.1**	**-0.3**
	baz=60,SNR=5.6						
KAPI	**Kappang**	**62.37**	**274**	P	**P**	**10 39 35.3**	**0.0**
	9.5nm,0.8s,baz=146,slow=7.3,SNR=3.6						
JHJ	**Hachijo jima 2**	**65.35**	**321**	P	**P**	**10 39 53.0**	**-0.9**
	88nm,1.1s,baz=60,slow=17,SNR=4.8						
MJAR	**Matsushiro Arr**	**68.68**	**323**	P	**P**	**10 40 13.4**	**-0.9**
	4.7nm,0.6s,baz=155,slow=6.4,SNR=21						
MAT	**Matsushiro**	**68.68**	**323**	P	**P**	**10 40 13.8**	**-0.5**
UGM	**Wanagama**	**70.28**	**268**	P	**P**	**10 40 24.0**	**-0.4**
	baz=70,SNR=4.1						
QSPA	**South Pole Qui**	**71.67**	**180**	*eP*	**P**	**10 40 32.0**	**+0.4**
	32nm,1.1s						
SBUM	**Sibu**	**71.92**	**279**	*eP*	**P**	**10 40 34.0**	**+0.1**
	14nm,0.3s						
ASAJ	**Asahikawa**	**72.01**	**331**	P	**P**	**10 40 34.4**	**+0.6**
	3.4nm,0.9s,baz=142,slow=18						
LEM	**Lembang**	**73.35**	**268**	P	**P**	**10 40 42.8**	**+0.4**
	9.8nm,0.3s,baz=292,slow=18,SNR=3.9						
KSM	**Kuching**	**73.39**	**277**	P	**P**	**10 40 43.2**	**+0.8**
	baz=73,SNR=6.5						
KSM	**Kuching**	**73.39**	**277**	*eP*	**P**	**10 40 42.4**	**0.0**
	20nm,0.9s						
PETK	**Petropavlovsk-**	**74.31**	**345**	P	**P**	**10 40 46.3**	**-0.4**
	4.2nm,1.1s,baz=170,slow=9.4,SNR=3.1						
KSRS	**Korea Array**	**75.49**	**318**	P	**P**	**10 40 53.9**	**+0.2**
	0.8nm,0.5s,baz=142,slow=6.3,SNR=4.8						
KSAR	**Wonju Array Be**	**75.51**	**318**	P	**P**	**10 40 53.9**	**+0.1**
PASC	**Pasadena Art C**	**77.07**	**47**	*eP*	**P**	**10 41 02.5**	**0.0**
	3.8nm,0.6s						
109C	**Camp Elliot, M**	**77.15**	**49**	P	**P**	**10 41 03.5**	**+0.6**
	baz=77						
MWC	**Mount Wilson**	**77.19**	**47**	*eP*	**P**	**10 41 03.2**	**-0.2**
	12nm,0.9s						
BAR	**Barrett**	**77.35**	**49**	*eP*	**P**	**10 41 04.4**	**+0.4**
	4.5nm,1.0s						
USRK	**Ussuriysk Ar.**	**77.38**	**325**	P	**P**	**10 41 03.9**	**+0.1**
	0.9nm,0.6s,baz=157,slow=4.1,SNR=2.7						
MURC	**Murrieta**	**77.46**	**48**	P	**P**	**10 41 04.9**	**+0.3**
	baz=78						
BFSC	**Mount Baldy Ra**	**77.48**	**47**	P	**P**	**10 41 04.7**	**-0.1**
	baz=78,SNR=5.4						
EDW2	**Edwards Air Fo**	**77.59**	**47**	P	**P**	**10 41 05.5**	**+0.1**
	baz=78,SNR=9.9						
MONP	**Monument Peak**	**77.64**	**49**	P	**P**	**10 41 06.1**	**+0.3**
	baz=78,SNR=17						
ISA	**Isabella**	**77.69**	**46**	P	**P**	**10 41 06.2**	**+0.3**
	baz=78,SNR=11						
ISA	**Isabella**	**77.69**	**46**	*eP*	**P**	**10 41 06.2**	**+0.3**
	12nm,0.9s						
CMB	**Columbia Colle**	**77.75**	**43**	*eP*	**P**	**10 41 06.1**	**0.0**
	7.4nm,0.8s						
IBP	**Imperial Bould**	**77.76**	**49**	P	**P**	**10 41 06.8**	**+0.5**
	baz=78						
PFO	**Pinyon Flat Ob**	**77.99**	**48**	P	**P**	**10 41 08.1**	**+0.5**
	baz=78						
PFO	**Pinyon Flat Ob**	**77.99**	**48**	*eP*	**P**	**10 41 08.2**	**+0.5**
	2.1nm,0.8s						
BBRC	**Big Bear Solar**	**78.01**	**48**	P	**P**	**10 41 08.1**	**+0.3**
	baz=78						
N02D	**Trinity Center**	**78.04**	**39**	P	**P**	**10 41 08.5**	**+0.8**
	baz=78						
SWSC	**Sam W. Stewart**	**78.12**	**49**	P	**P**	**10 41 08.7**	**+0.6**
	baz=78						
M02C	**Callahan**	**78.20**	**39**	P	**P**	**10 41 09.6**	**+1.1**
	baz=78						
YBH	**Yreka Blue Hor**	**78.49**	**39**	*eP*	**P**	**10 41 10.8**	**+0.8**
	15nm,1.1s						
BELC	**Belle Mtn. Jos**	**78.52**	**48**	P	**P**	**10 41 10.9**	**+0.4**
	baz=79,SNR=9.1						
MLAC	**Mammoth Lakes**	**78.53**	**44**	P	**P**	**10 41 11.2**	**+0.6**
	baz=79						
MPMC	**Manual Prospec**	**78.57**	**46**	P	**P**	**10 41 10.8**	**+0.1**
	baz=79,SNR=8.9						
WAKR	**Walker**	**78.63**	**43**	*eP*	**P**	**10 41 11.3**	**+0.3**
GSC	**Goldstone**	**78.64**	**47**	P	**P**	**10 41 11.3**	**+0.4**
	baz=79						
GSC	**Goldstone**	**78.64**	**47**	*eP*	**P**	**10 41 11.1**	**+0.1**
	33nm,2.1s						
HEC	**Hector,Ludlow**	**78.72**	**47**	P	**P**	**10 41 11.7**	**+0.3**
	baz=79,SNR=5.3						
BC3	**Big Chuckawall**	**78.73**	**49**	P	**P**	**10 41 12.0**	**+0.4**
	baz=79						
NJ2	**Nanjing**	**78.74**	**309**	*eP*	**P**	**10 41 12.0**	**+0.5**
NJ2				PMZ			
	20nm,0.6s						
GLA	**Glamis**	**78.87**	**50**	P	**P**	**10 41 12.6**	**+0.4**
	baz=79,SNR=5.5						
GLA	**Glamis**	**78.87**	**50**	*eP*	**P**	**10 41 11.8**	**-0.5**
	29nm,1.4s						
GLA				*e*PcP	**PcP**	**10 41 19.2**	**+0.6**
HUMO	**Hull Mountain**	**78.88**	**38**	*eP*	**P**	**10 41 12.9**	**+0.9**
	14nm,1.3s						
MDJ	**Mudanjiang**	**78.95**	**325**	P	**P**	**10 41 13.0**	**+0.7**
MDJ				PMZ			
	5.0nm,0.7s						
M04C	**Macdoel**	**79.04**	**39**	P	**P**	**10 41 13.5**	**+0.4**
	baz=79						
GMRC	**Granite Mounta**	**79.16**	**48**	P	**P**	**10 41 14.2**	**+0.3**
	baz=79						
GRAC	**Grapevine Rang**	**79.16**	**45**	P	**P**	**10 41 14.2**	**+0.5**
	baz=79,SNR=11						
IRM	**Iron Mountain**	**79.20**	**49**	P	**P**	**10 41 14.5**	**+0.5**
	baz=79,SNR=7.7						
FURC	**Furnace Creek,**	**79.22**	**46**	P	**P**	**10 41 14.2**	**+0.3**
	baz=79						
SHOC	**Shoshone**	**79.32**	**47**	P	**P**	**10 41 14.8**	**+0.3**
	baz=80						
TUQ	**Turquoise Moun**	**79.32**	**47**	P	**P**	**10 41 15.1**	**+0.4**
	baz=80						
NVAR	**Mina Array Bea**	**79.33**	**43**	P	**P**	**10 41 14.9**	**+0.2**
	6.4nm,0.7s,baz=223,slow=9.0,SNR=84						
Y12C	**Blythe**	**79.44**	**49**	P	**P**	**10 41 15.7**	**+0.5**
	baz=80						
LDFC	**Landfair**	**79.70**	**48**	*eP*	**P**	**10 41 17.3**	**+0.6**
	16nm,0.9s						
J04D	**Umpqua Nationa**	**79.76**	**38**	P	**P**	**10 41 17.6**	**+0.7**
	baz=80,SNR=7.9						
214A	**Organ Pipe Nat**	**79.81**	**51**	P	**P**	**10 41 17.7**	**+0.6**
	baz=80						
214A	**Organ Pipe Nat**	**79.81**	**51**	*eP*	**P**	**10 41 17.7**	**+0.6**
	9.0nm,1.1s						
TPH	**Tonopah**	**79.84**	**44**	*eP*	**P**	**10 41 17.2**	**-0.2**
	12nm,1.3s						
NEE2	**Needles Airpor**	**79.89**	**48**	P	**P**	**10 41 18.2**	**+0.7**
	baz=80						
TPNV	**Topopah Spring**	**79.89**	**46**	P	**P**	**10 41 18.2**	**+0.5**
	baz=80,SNR=7.2						
PDMCI	**Parker Dam,Lak**	**80.00**	**49**	P	**P**	**10 41 18.8**	**+0.7**
	baz=80						
MOD	**Modoc**	**80.04**	**40**	*eP*	**P**	**10 41 18.8**	**+0.5**
	9.2nm,0.7s						
K05A	**Summer Lake**	**80.17**	**39**	*eP*	**P**	**10 41 19.4**	**+0.3**
	30nm,1.3s						
J05D	**Fort Rock, OR**	**80.30**	**38**	P	**P**	**10 41 20.5**	**+0.9**
	baz=80,SNR=12						
SHPR	**Sheep Range**	**80.41**	**46**	*eP*	**P**	**10 41 21.0**	**+0.7**
I05D	**Terrebonne, OR**	**80.87**	**37**	P	**P**	**10 41 23.2**	**+0.8**
	baz=81						
F04D	**Rainier, OR**	**80.99**	**35**	P	**P**	**10 41 24.0**	**+1.0**
	baz=81						
R11A	**Troy Canyon, C**	**81.08**	**45**	P	**P**	**10 41 24.2**	**+0.4**
	baz=81,SNR=9.9						
BMN	**Battle Mountai**	**81.13**	**42**	*eP*	**P**	**10 41 24.4**	**+0.4**
	13nm,1.0s						
LVP	**Lakeview Peak**	**81.31**	**35**	P	**P**	**10 41 25.0**	**+0.2**
WVOR	**Wild Horse Val**	**81.36**	**40**	*eP*	**P**	**10 41 25.1**	**0.0**
	12nm,1.0s						
TUC	**Tucson**	**81.49**	**52**	*eP*	**P**	**10 41 26.9**	**+1.0**
	12nm,0.9s						
TDL	**Tradedollar La**	**81.59**	**35**	P	**P**	**10 41 26.6**	**+0.4**
GULW	**Guler Mountain**	**81.68**	**36**	P	**P**	**10 41 26.9**	**+0.2**
CCUT	**Cedar City**	**82.17**	**46**	*eP*	**P**	**10 41 29.9**	**+0.4**
	13nm,1.1s						
D05A	**Enumclaw**	**82.23**	**35**	*eP*	**P**	**10 41 30.1**	**+0.8**
	17nm,1.0s						
TRW	**Toppenish Ridg**	**82.48**	**36**	P	**P**	**10 41 30.9**	**+0.3**
ELK	**Elko**	**82.57**	**43**	P	**P**	**10 41 31.0**	**-0.5**
	7.4nm,0.9s,baz=244,slow=3.9,SNR=32						
WUAZ	**Wupatki**	**82.57**	**49**	P	**P**	**10 41 32.3**	**+0.8**
	baz=83						
WUAZ	**Wupatki**	**82.57**	**49**	*eP*	**P**	**10 41 32.0**	**+0.5**
	8.0nm,1.0s						
G08A	**Pilot Rock**	**82.80**	**37**	*eP*	**P**	**10 41 32.4**	**0.0**
	17nm,1.3s						
RSW	**Rattlesnake Hi**	**83.08**	**36**	P	**P**	**10 41 34.0**	**+0.4**
HAWA	**Hanford**	**83.11**	**36**	*eP*	**P**	**10 41 33.6**	**-0.1**
	22nm,1.4s						
IPM	**Ipoh**	**83.12**	**277**	*eP*	**P**	**10 41 35.0**	**+0.5**
	12nm,0.7s						
H2OWA	**Water**	**83.17**	**36**	P	**P**	**10 41 34.3**	**+0.3**
MVU	**Marysvale**	**83.44**	**46**	*eP*	**P**	**10 41 35.8**	**0.0**
	7.5nm,1.3s						
MSU	**Marysvale**	**83.47**	**46**	*eP*	**P**	**10 41 36.0**	**+0.1**
	21nm,1.3s						
MFID	**Camas Ranch**	**83.62**	**40**	*eP*	**P**	**10 41 36.6**	**+0.1**
	7.7nm,0.9s						
MAW	**Mawson**	**83.62**	**200**	P	**P**	**10 41 35.9**	**0.0**
	1.6nm,0.4s,baz=198,slow=2.9,SNR=6.5						
WTV	**Waterville**	**83.64**	**35**	P	**P**	**10 41 35.9**	**-0.5**
D08A	**Wollman Farm,**	**83.84**	**36**	*eP*	**P**	**10 41 37.3**	**0.0**
	7.6nm,1.0s						
121A	**Cookes Peak, D**	**83.85**	**53**	P	**P**	**10 41 38.5**	**+0.6**
	baz=84						
121A	**Cookes Peak, D**	**83.85**	**53**	*eP*	**P**	**10 41 38.5**	**+0.6**
	4.7nm,0.8s						
DUG	**Dugway**	**83.87**	**44**	P	**P**	**10 41 38.5**	**+0.6**
	baz=84						
CAST	**

	5.7nm,0.7s								
BOZ	**Bozeman (W)**	87.34	40	P		P	10 41 54.6	+0.2	
	baz=88,SNR=9.8								
BOZ	**Bozeman (W)**	87.34	40	*e*P		P	10 41 54.6	+0.2	
	11nm,1.1s								
DAWY	**Dawson**	87.37	16	*e*P		P	10 41 53.4	-0.5	
H17A	**Grant Village**	87.38	41	P		P	10 41 55.8	+1.1	
	baz=88								
H17A	**Grant Village**	87.38	41	*e*P		P	10 41 55.8	+1.1	
	8.4nm,0.9s								
EGAK	**Eagle**	87.51	15	*e*P		P	10 41 53.5	-0.9	
	5.8nm,0.9s								
LKWY	**Lake**	87.58	41	*e*P		P	10 41 57.5	+1.8	
	7.2nm,0.8s								
429A	**Davenport Ranc**	87.63	57	P		P	10 41 56.2	+0.2	
	baz=88								
HRY	**Holter Researc**	87.75	39	*e*P		P	10 41 56.0	-0.2	
	2.0nm,0.6s								
COLD	**Coldfoot**	87.77	10	*e*P		P	10 41 55.6	0.0	
	4.1nm,0.8s								
SDCO	**Great Sand Dun**	87.79	49	P		P	10 41 56.6	-0.2	
	baz=88								
SDCO	**Great Sand Dun**	87.79	49	*e*P		P	10 41 56.7	-0.1	
	2.7nm,0.9s								
J19A	**Crowheart**	87.82	43	P		P	10 41 56.7	0.0	
	baz=88,SNR=7.5								
530A	**J-C Ranch, Com**	87.89	57	P		P	10 41 57.0	-0.2	
	baz=88,SNR=6.2								
329A	**Wagon Wheel Ra**	87.90	56	P		P	10 41 57.3	+0.1	
	baz=88								
128A	**Castleberry Fa**	87.95	55	P		P	10 41 57.7	+0.3	
	baz=88								
HHC	**Hu-ho-hao-te**	88.07	314	*e*P		P	10 41 56.8	-1.0	
HHC				PMZ					
	29nm,0.8s								
HHC				PMZ					
	66nm,4.8s								
I19A	**Meeteetse**	88.22	42	P		P	10 41 58.5	0.0	
	baz=88,SNR=6.1								
229A	**Bryant Ranch,**	88.22	56	P		P	10 41 58.4	-0.3	
	baz=88								
430A	**Baggett Ranch,**	88.22	57	P		P	10 41 58.4	-0.3	
	baz=88								
631A	**Perdido Creek**	88.22	58	P		P	10 41 58.7	0.0	
	baz=88,SNR=16								
Z28A	**Tucker Farm, M**	88.28	54	P		P	10 41 58.6	-0.4	
	baz=88								
832A	**Faith Ranch, C**	88.29	60	P		P	10 41 59.0	0.0	
	baz=88,SNR=6.4								
T25A	**Trinidad**	88.32	50	P		P	10 41 59.1	-0.2	
	baz=88								
129A	**Stewart Farms,**	88.43	55	P		P	10 41 59.4	-0.3	
	baz=89,SNR=5.6								
732A	**Laxson Ranch,**	88.46	59	P		P	10 42 00.3	+0.5	
	baz=89								
J20A	**Shoshoni**	88.49	43	P		P	10 41 59.8	0.0	
	baz=89,SNR=13								
330A	**Mertzon**	88.50	56	P		P	10 41 59.7	-0.3	
	baz=89								
H19A	**Powell**	88.52	42	P		P	10 42 00.2	+0.3	
	baz=89,SNR=6.6								
531A	**Rocksprings**	88.53	58	P		P	10 42 00.1	-0.1	
	baz=89,SNR=11								
RLMT	**Red Lodge**	88.55	41	P		P	10 42 00.2	+0.1	
	baz=89,SNR=6.9								
RLMT	**Red Lodge**	88.55	41	*e*P		P	10 42 00.7	+0.6	
	6.1nm,0.8s								
Q24A	**Divide**	88.56	48	P		P	10 42 00.0	-0.4	
	baz=89								
ISCO	**Idaho Springs**	88.58	47	P		P	10 42 00.9	+0.3	
	baz=89								
933A	**Laredo**	88.62	60	P		P	10 42 00.2	-0.3	
	baz=89								
KMI	**Kunming**	88.62	297	P		P	10 42 01.8	+0.9	
KMI				PMZ					
	8.0nm,0.5s								
KMI				PMZ					
	34nm,3.1s								
Y28A	**McKinney Farm,**	88.64	54	P		P	10 42 00.5	-0.1	
	baz=89								
431A	**Sonora**	88.68	57	P		P	10 42 01.0	+0.2	
	baz=89								
I20A	**Worland**	88.73	43	P		P	10 42 00.6	-0.2	
	baz=89,SNR=7.6								
230A	**Sterling City**	88.73	56	P		P	10 42 00.9	-0.1	
	baz=89								
833A	**Chaparral WMA,**	88.78	60	P		P	10 42 01.2	0.0	
	baz=89								
Z29A	**Hungry Hill Ra**	88.80	54	P		P	10 42 01.4	0.0	
	baz=89								
N23A	**Red Feather La**	88.83	46	P		P	10 42 02.4	+0.8	
	baz=89								
632A	**Uvalde**	88.90	58	P		P	10 42 02.9	+1.0	
	baz=89,SNR=7.5								
J21A	**Lysite**	88.90	43	P		P	10 42 01.9	+0.2	
	baz=89,SNR=15								
X28A	**Dimmitt**	88.91	53	P		P	10 42 02.0	+0.1	
	baz=89								
V27A	**Dan Oppiter Fa**	88.92	52	P		P	10 42 02.5	+0.6	
	baz=89								
733A	**Divot King Ran**	89.01	59	P		P	10 42 03.6	+1.3	
	baz=89								
532A	**Rocksprings**	89.03	58	P		P	10 42 03.1	+0.6	
	baz=89,SNR=6.6								
331A	**San Angelo**	89.06	57	P		P	10 42 03.1	+0.5	
	baz=89,SNR=5.7								
H20A	**Greybull**	89.06	42	P		P	10 42 02.3	-0.1	
	baz=89,SNR=6.5								
Y29A	**Porterfield Fa**	89.06	54	P		P	10 42 02.4	-0.1	
	baz=89,SNR=8.9								
130A	**Snyder**	89.12	55	P		P	10 42 03.4	+0.6	
	baz=89								
U27A	**Thompson Grove**	89.19	51	P		P	10 42 03.1	-0.1	
	baz=89								
K22A	**Casper**	89.20	44	P		P	10 42 02.9	-0.2	
	baz=89								
I21A	**Big Trails, Te**	89.21	43	P		P	10 42 02.8	-0.3	
	baz=89,SNR=10								
934A	**Benavides**	89.24	61	P		P	10 42 04.2	+0.7	
	baz=89								
JCT	**Junction City**	89.25	58	P		P	10 42 03.3	-0.2	
	baz=89								
G20A	**Bridger**	89.26	41	P		P	10 42 02.9	-0.3	
	baz=90								
Z30A	**Sanderson Ranc**	89.26	55	P		P	10 42 02.8	-0.6	
	baz=89								
X29A	**Tulia**	89.26	53	P		P	10 42 03.4	-0.1	
	baz=89								
633A	**Saathoff Ranch**	89.38	59	P		P	10 42 04.8	+0.7	
	baz=90,SNR=7.8								
231A	**Bronte**	89.38	56	P		P	10 42 03.9	-0.1	
	baz=90,SNR=17								
432A	**Menard**	89.40	57	P		P	10 42 04.3	+0.1	
	baz=90,SNR=16								
F20A	**Billings**	89.56	41	P		P	10 42 05.0	+0.4	
	baz=90								
J22A	**Midwest**	89.56	44	P		P	10 42 04.6	-0.1	
	baz=90,SNR=8.0								
W29A	**Amarillo**	89.56	53	P		P	10 42 05.0	+0.1	
	baz=90								
131A	**Roby**	89.60	55	P		P	10 42 04.7	-0.3	
	baz=90								
332A	**Millersview**	89.63	57	P		P	10 42 05.0	-0.2	
	baz=90,SNR=21								
CMAR	**Chiang Mai Arr**	89.65	289	P		P	10 42 06.1	+0.6	
	1.6nm,0.7s,baz=124,slow=3.0,SNR=7.4								
Y30A	**Stafford Cattl**	89.66	54	P		P	10 42 05.3	0.0	
	baz=90								
533A	**Kerrville**	89.71	58	P		P	10 42 05.7	0.0	
	baz=90,SNR=8.5								
H21A	**Big Horn, Sher**	89.73	42	P		P	10 42 05.9	+0.4	
	baz=90								
I22A	**9 Mile Ranch,**	89.77	43	P		P	10 42 05.7	0.0	
	baz=90,SNR=6.3								
CD2	**Chengdu**	89.87	303	P		P	10 42 05.9	-0.5	
CD2				PMZ					
	10.0nm,0.5s								
232A	**Coleman**	89.89	56	P		P	10 42 06.5	+0.1	
	baz=90,SNR=12								
G21A	**Lodge Grass**	89.89	42	P		P	10 42 06.8	+0.6	
	baz=90								
X30A	**Coker Ranch, T**	89.89	54	P		P	10 42 06.1	-0.3	
	baz=90								
433A	**Art**	89.92	58	P		P	10 42 06.5	0.0	
	baz=90,SNR=15								
R27A	**Eads**	89.96	49	P		P	10 42 06.7	+0.1	
	baz=90								
T28A	**Walsh**	90.00	51	P		P	10 42 06.9	0.0	
	baz=90								
634A	**China Grove, S**	90.02	59	P		P	10 42 07.1	+0.1	
	baz=90								
Z31A	**Sharp Cattle R**	90.03	55	P		P	10 42 06.5	-0.5	
	baz=90,SNR=5.5								
P26A	**Davis Ranch, A**	90.08	48	P		P	10 42 08.3	+1.0	
	baz=90								
SNAA	**Sanae**	90.10	178	*e*P		P	10 42 05.9	-0.8	
	5.0nm,1.3s								
534A	**Blanco**	90.15	58	P		P	10 42 07.9	+0.2	
	baz=90,SNR=13								
H22A	**Clearmont**	90.16	43	P		P	10 42 07.9	+0.4	
	baz=90								
ABTX	**Abilene, Hawle**	90.16	56	P		P	10 42 07.5	-0.1	
	baz=90,SNR=5.8								
ABTX	**Abilene, Hawle**	90.16	56	*e*P		P	10 42 07.8	+0.1	
	12nm,0.8s								
Y31A	**Rekieta Farm,**	90.18	54	P		P	10 42 07.9	+0.2	
	baz=90								
333A	**Richland Sprin**	90.21	57	P		P	10 42 07.8	-0.1	
	baz=90								
735A	**Kenedy**	90.28	60	P		P	10 42 09.2	+1.0	
	baz=90								
S28A	**Manter**	90.34	50	P		P	10 42 08.9	+0.5	
	baz=90								
U29A	**Oasis Ranch, S**	90.36	52	P		P	10 42 08.8	+0.3	
	baz=90								
KSCO	**Kaye Shedlock'**	90.37	49	P		P	10 42 09.2	+0.6	
	baz=91								
G22A	**Birney**	90.47	42	P		P	10 42 09.7	+0.8	
	baz=91								
635A	**Leesville**	90.49	59	P		P	10 42 09.9	+0.7	
	baz=91								
233A	**Rising Star**	90.53	56	P		P	10 42 09.6	+0.2	
	baz=91								
Z32A	**Haskell**	90.54	55	P		P	10 42 09.6	+0.3	
	baz=91,SNR=10								
434A	**Burnet**	90.60	58	P		P	10 42 09.6	-0.1	
	baz=91,SNR=6.7								
X31A	**McDonald Ranch**	90.65	54	P		P	10 42 09.8	0.0	
	baz=91								
VNA2	**Neumayer--Watz**	90.66	177	P		P	10 42 08.7	-0.6	
	baz=188,slow=4.0								
R28A	**Tribune**	90.69	50	P		P	10 42 10.7	+0.7	
	baz=91,SNR=7.0								
133A	**Hamilton Ranch**	90.73	56	P		P	10 42 10.6	+0.3	
	baz=91								
334A	**Lometa**	90.81	57	P		P	10 42 10.8	+0.2	
	baz=91,SNR=5.6								
Y32A	**R-V Farms, Ver**	90.83	54	P		P	10 42 10.6	0.0	
	baz=91								
W31A	**Holland Ranch,**	90.88	53	P		P	10 42 10.9	0.0	
	baz=91,SNR=5.3								
VNA1	**Neumayer--Stat**	90.89	177	P		P	10 42 10.6	+0.4	
O27A	**Beecher Island**	90.94	48	P		P	10 42 11.8	+0.7	
	baz=91								
Q28A	**Sharon Springs**	90.96	49	P		P	10 42 12.1	+0.9	
	baz=91								
G23A	**Biddle**	91.04	42	P		P	10 42 11.5	0.0	
	baz=91								
Z33A	**Whitaker Ranch**	91.09	55	P		P	10 42 11.8	-0.1	
	baz=91,SNR=5.6								
X32A	**Elmer**	91.10	54	P		P	10 42 11.7	-0.2	
	baz=91								
636A	**Smothers Creek**	91.11	59	P		P	10 42 12.4	+0.4	
	baz=91								
234A	**Clairette**	91.13	57	P		P	10 42 12.1	0.0	
	baz=91								
N27A	**Anderson Farm,**	91.14	47	P		P	10 42 12.8	+0.7	
	baz=91								
LAO	**LASA Array**	91.15	41	P		P	10 42 12.8	+0.9	
	baz=91								
V31A	**Spring Creek L**	91.17	53	P		P	10 42 13.1	+0.9	
	baz=91								
P28A	**Saint Francis**	91.21	49	P		P	10 42 13.5	+1.1	
	baz=91								
F23A	**Volborg**	91.25	42	P		P	10 42 12.7	+0.3	
	baz=91								
134A	**White-Moore Ra**	91.38	56	P		P	10 42 13.5	+0.3	
	baz=92								
H24A	**Dirks Ranch, A**	91.39	43	P		P	10 42 13.0	-0.1	
	baz=92								
W32A	**Sentinel**	91.39	53	P		P	10 42 13.5	+0.2	
	baz=92								
S30A	**Montezuma**	91.41	51	P		P	10 42 13.4	+0.1	
	baz=92								
K26A	**Motz Farm, Whi**	91.46	45	P		P	10 42 13.9	+0.4	
	baz=92								
RSSD	**Black Hills**	91.47	44	*e*P		P	10 42 13.3	-0.3	
	8.6nm,1.1s								
Q29A	**Oakley**	91.50	49	P		P	10 42 14.2	+0.5	
	baz=92								
OGNE	**Ogallala**	91.55	47	P		P	10 42 14.4	+0.5	
	baz=92								
LZH	**Lanzhou**	91.70	307	⇑P		P	10 42 12.3	-2.5	
LZH				pP		pP	10 44 19.0	+3.3	
LZH				sP		sP	10 45 15.3	+4.5	
LZH				PP		PP	10 46 04.1	+0.5	
LZH				PMZ					
	19nm,1.5s								
LZH				PMZ					
	65nm,8.9s								
X33A	**Lawton**	91.75	54	P		P	10 42 14.6	-0.3	
	baz=92								
V32A	**Arapaho**	91.76	53	P		P	10 42 15.5	+0.6	
	baz=92								
436A	**Wall Ranch, Ga**	91.77	58	P		P	10 42 15.2	+0.2	
	baz=92								
J26A	**Sides Ranch, S**	91.77	45	P		P	10 42 15.2	+0.3	
	baz=92								
R30A	**Dighton**	91.79	50	P		P	10 42 15.6	+0.6	
	baz=92								
Z34A	**Collier Ranch,**	91.79	55	P		P	10 42 15.3	+0.2	
	baz=92								
T31A	**Randall Ranch,**	91.79	52	P		P	10 42 15.1	+0.1	
	baz=92								
P29A	**Atwood**	91.81	49	P		P	10 42 15.8	+0.6	
	baz=92								
135A	**Vickery Place,**	91.90	56	P		P	10 42 16.0	+0.4	
	baz=92								
F24A	**Ekalaka**	91.91	42	P		P	10 42 15.6	+0.1	
	baz=92								
U32A	**Winter Ranch,**	92.03	52	P		P	10 42 16.4	+0.2	
	baz=92								
Q30A	**Quinter**	92.09	50	P		P	10 42 16.9	+0.5	
	baz=92,SNR=7.7								
K27A	**Flueckinger Fa**	92.10	46	P		P	10 42 16.8	+0.4	
	baz=92								
Y34A	**Reagan Ranch,**	92.12	55	P		P	10 42 16.8	+0.2	
	baz=92								
INK	**Inuvik**	92.18	15	P		P	10 42 14.4	-1.6	
	4.3nm,0.9s,baz=218,slow=4.4,SNR=6.9								
P30A	**Selden**	92.28	49	P		P	10 42 18.1	+0.9	
	baz=92								
X34A	**Smith Ranch, M**	92.29	54	P		P	10 42 17.7	+0.3	
	baz=92								
Z35A	**Perchaven, San**	92.29	56	P		P	10 42 17.3	-0.1	
	baz=92								
G25A	**Newell**	92.31	43	P		P	10 42 17.0	-0.2	
	baz=92								
R31A	**Burdett**	92.34	50	P		P	10 42 17.6	+0.1	
	baz=92								
J27A	**Elkhorn Farm,**	92.47	45	P		P	10 42 18.9	+0.8	
	baz=93,SNR=6.2								
H26A	**Fairpoint**	92.49	44	P		P	10 42 18.3	+0.2	
	baz=93								
D24A	**Glendive**	92.51	41	P		P	10 42 18.8	+0.7	
	baz=93								
136A	**Ennis**	92.57	57	P		P	10 42 18.8	+0.2	
	baz=93								
F25A	**Bowman**	92.58	42	P		P	10 42 19.2	+0.7	
	baz=93								
C24A	**Savage**	92.62	41	P		P	10 42 19.0	+0.4	
	baz=93								
I27A	**Quinn**	92.75	44	P		P	10 42 19.3	0.0	
	baz=93								
438A	**Sam Houston St**	92.83	59	P		P	10 42 20.7	+0.8	
	baz=93								
E25A	**Miller Ranch,**	92.84	42	P		P	10 42 20.1	+0.4	
	baz=93								
X35A	**Drake**	92.88	55	P		P	10 42 19.7	-0.4	
	baz=93								
F26A	**Lodgepole**	93.05	43	P		P	10 42 20.9	+0.3	
	baz=93								
W35A	**Tecumseh**	93.22	54	P		P	10 42 21.8	+0.2	
	baz=93								
Y36A	**Durant**	93.25	55	P		P	10 42 22.4	+0.6	
	baz=93								
Q32A	**Meitler Ranch,**	93.30	50	P		P	10 42 22.4	+0.5	
	baz=94								
I28A	**Midland**	93.31	45	P		P	10 42 22.1	+0.2	
	baz=94								
G27A	**Dupree**	93.34	43	P		P	10 42 21.8	-0.1	
	baz=94								
C25A	**Freed Ranch, W**	93.42	41	P		P	10 42 22.9	+0.7	
	baz=94								
X36A	**Centrahoma**	93.42	55	P		P	10 42 22.4	-0.1	
	baz=94								
K29A	**Lazy Trails An**	93.42	46	P		P	10 42 23.2	+0.7	
	baz=94								
E26A	**Carlson Angus**	93.43	42	P		P	10 42 22.5	+0.1	
	baz=94								
F27A	**Lemmon**	93.48	43	P		P	10 42 22.7	+0.1	
	baz=94								
R33A	**Olander Ranch,**	93.48	51	P		P	10 42 23.0	+0.2	
	baz=94								
J29A	**Okreek**	93.66	45	P		P	10 42 23.6	+0.1	
	baz=94								
K30A	**Basset**	93.88	46	P		P	10 42 25.1	+0.6	
	baz=94								
W37A	**Quinton**	94.33	55	P		P	10 42 26.6	-0.1	
	baz=94								
O33A	**Hebron**	94.38	49	P		P	10 42 26.9	+0.1	
	baz=95								
YKA	**Yellowknife Ar**	94.50	25	P		P	10 42 25.3	-1.4	
	1.5nm,0.6s,baz=238,slow=4.2,SNR=6.6								
P34A	**Walnut Farm, R**	94.75	50	P		P	10 42 28.8	+0.4	
	baz=95								
O34A	**Beatrice**	95.06	49	P		P	10 42 29.9	0.0	
	baz=95								
P35A	**Duane Minner,**	95.33	50	P		P	10 42 32.0	+0.8	
	baz=96								
ECSD	**EROS Data Cent**	96.30	46	P		P	10 42 34.8	-0.6	
	baz=96								
A29A	**Manning Farm,**	96.36	41	P		P	10 42 35.4	-0.2	
	baz=96								
MKAR	**Makanchi Array**	109.93	314	PKKPbc		PKKPbc	10 58 38.0	-1.7	
	0.7nm,0.7s,baz=270,slow=4.2,SNR=6.2								
ARCES	**ARCESS Array B**	126.90	350	PKP		PKPdf	10 48 05.1	-1.3	
	3.6nm,0.8s,baz=343,slow=2.8,SNR=9.6								
FINES	**FINESS Array B**	133.83	344	PKP		PKPdf	10 48 18.5	-1.1	
	2.3nm,0.7s,baz=60,slow=4.6,SNR=5.7								
NB2	**NORSAR Array B**	136.93	354	PKP		PKPdf	10 48 26.0	+0.5	
	comp=Z,0.5nm,0.5s,baz=11,slow=4.1								
NOA	**NORSAR Array B**	136.93	354	PKP		PKPdf	10 48 24.2	-1.3	
	comp=Z,0.8nm,0.8s,baz=14,slow=4.1,SNR=4.6								
KWP	**Kalwaria Pacla**	144.77	337	*e*PKP		PKPdf	10 48 39.5	-0.4	
OJC	**Ojcow**	145.29	340	*e*PKP		PKPdf	10 48 41.4	+0.7	
BR131	**Keskin Array S**	145.58	315	*e*PKPbc		PKPdf	10 48 42.3	+0.6	
BRTR	**Keskin Array B**	145.58	315	PKPbc		PKPdf	10 48 42.0	+0.2	
	comp=Z,2.3nm,0.8s,baz=135,slow=3.3,SNR=10								
KSP	**Ksiaz**	145.75	344	*e*PKP		PKPdf	10 48 42.7	+1.2	
NIE	**Niedzica**	145.80	339	*e*PKP		PKPbc	10 48 43.6	+0.2	
IBBN	**Ibbenburen**	145.88	354	*e*PKPbc		PKPdf	10 48 42.9	+1.3	
CLZ	**Clausthal**	146.01	351	*e*PKPbc		PKPdf	10 48 43.4	+1.5	
CLL	**Collm**	146.07	348	*e*PKPbc		PKPdf	10 48 43.2	+1.3	
CLL	**Collm**	146.07	348	⇓*i*PKPbc		PKPdf	10 48 43.3	+1.3	
	comp=Z,25nm,0.8s								
UPC	**Upice**	146.13	344	*e*PKP		PKPbc	10 48 43.7	-0.5	
OKC	**Ostrava-Krasne**	146.14	341	*e*PKP		PKPdf	10 48 43.6	+1.5	
DPC	**Dobruska-Polom**	146.19	344	*e*PKP		PKPdf	10 48 43.8	+1.5	
DPC				*ex*		x	10 48 46.5		
BRG	**Berggiesshubel**	146.28	347	*i* P		PKPdf	10 48 43.9	+1.6	
	comp=Z,11nm,0.8s								
BRG	**Berggiesshubel**	146.28	347	*e*PKPbc		PKPbc	10 48 44.1	-0.5	
KRLC	**Kraliky**	146.32	343	*e*PKP		PKPbc	10 48 44.2	-0.6	
FBE	**Freiberg**	146.37	347	*e*PKPbc		PKPbc	10 48 44.5	-0.3	
NEUB	**Neuenburg**	146.40	349	*e*PKPbc		PKPbc	10 48 44.3	-0.6	
PVCC	**Panska Ves**	146.47	346	*e*PKP		PKPbc	10 48 44.9	-0.2	
BUG	**Bochum--Univer**	146.79	354	*e*PKPbc		PKPbc	10 48 45.1	-0.8	
MOX	**Moxa**	146.97	349	*e*PKPbc		PKPbc	10 48 45.9	-0.6	
PRU	**Pruhonice**	146.97	345	*e*PKP		PKPbc	10 48 46.0	-0.5	
GOPC	**GO Pecny, Ondr**	146.99	345	*e*PKP		PKPbc	10 48 46.2	-0.4	
PLN	**Plauen**	147.02	348	*e*PKPbc		PKPbc	10 48 46.1	-0.5	
WERD	**Werda**	147.03	348	*e*PKPbc		PKPbc	10 48 46.1	-0.6	
TANN	**Tannenbergstha**	147.03	348	*e*PKPbc		PKPbc	10 48 46.1	-0.6	
GUNZ	**Gunzen**	147.10	348	*e*PKPbc		PKPbc	10 48 46.5	-0.4	
WERN	**Wernitzgruen**	147.17	348	*e*PKPbc		PKPbc	10 48 46.8	-0.3	
MANZ	**Manzenberg**	147.51	348	*e*PKPbc		PKPbc	10 48 47.5	-0.4	
ROTZ	**Rotzenmuhle**	147.70	348	*e*PKPbc		PKPbc	10 48 48.1	-0.3	
MEM	**Membach**	147.72	356	PKPbc		PKPbc	10 48 47.9	-0.5	
TNS	**Taunus Mts**	147.86	353	*e*PKPbc		PKPbc	10 48 48.2	-0.7	
KHC	**Kasperske Hory**	148.00	346	*e*PKP		PKPbc	10 48 48.7	-0.5	
KHC	**Kasperske Hory**	148.00	346	*e*PKPdf		PKPdf	10 48 44.8	-0.5	
KHC				*e*PKPbc		PKPbc	10 48 48.8	-0.5	
KHC				*e*PKPab		PKPab	10 48 53.8	-0.2	
GEC2	**GERESS Array S**	148.24	346	*e*PKPbc		PKPbc	10 48 49.2	-0.7	
GERES	**GERESS Array B**	148.24	346	PKPbc		PKPbc	10 48 49.4	-0.6	
	comp=Z,4.0nm,0.7s,baz=24,slow=3.6,SNR=22								
DOU	**Dourbes**	148.32	357	PKPbc		PKPbc	10 48 49.4	-0.5	
CONA	**Conrad Observa**	148.52	342	⇓*i*PKiKP		PKPbc	10 48 50.4	-0.2	
	comp=Z,15nm,1.2s								
WLF	**Walferdange**	148.65	355	PKPbc		PKPbc	10 48 50.5	-0.3	
WLF	**Walferdange**	148.65	355	*e*PKPbc		PKPbc	10 48 50.7	-0.1	
FUR	**Furstenfeldbru**	149.41	348	*e*PKPbc		PKPbc	10 48 52.1	-0.6	
BFO	**Black Forest**	149.73	352	*e*PKPbc		PKPbc	10 48 52.8	-0.7	
WTTA	**Wattenberg**	150.20	347	⇑*i*PKiKP		PKPbc	10 48 54.0	-0.7	
	comp=Z,14nm,0.6s								
ABTA	**Abfaltersbach**	150.49	346	⇑*i*PKPbc		PKPbc	10 48 54.1	-1.3	
	comp=Z,16nm,0.7s								
FETA	**Feichten**	150.61	348	⇑*i*PKiKP		PKPbc	10 48 55.2	-0.5	
	comp=Z,11nm,1

	baz=7.3,SNR=6.7							
KKM	**Kota Kinabalu**	**7.41**	**265**	⇓P	**P**	**11**	**03**	**33.1**	**-0.1**
KKM	**Kota Kinabalu**	**7.41**	**265**	⇓P	**P**	**11**	**03**	**33.1**	**-0.1**
TGY	**Tagaytay City**	**7.76**	**340**	P	**P**	**11**	**03**	**36.6**	**+0.2**
	48nm,0.3s,baz=178,slow=4.0,SNR=10.0							
LUWI	**Luwuk**	**7.80**	**186**	P	**P**	**11**	**03**	**36.9**	**0.0**
	baz=7.7,SNR=5.7							
APSI	**Ampana**	**7.88**	**195**	P	**P**	**11**	**03**	**37.5**	**0.0**
	24nm,1.1s,0.1nm							
LBMI	**Labuha**	**8.30**	**152**	P	**P**	**11**	**03**	**41.5**	**-0.1**
	67nm,0.7s,1μm							
SANI	**Sanana**	**9.07**	**165**	P	**P**	**11**	**03**	**46.7**	**-2.3**
	99nm,0.7s,2μm							
SWI	**Sorong**	**10.74**	**135**	P	**P**	**11**	**04**	**06.0**	**+0.5**
	34nm,0.9s,834nm							
SIJI	**Sorong**	**10.75**	**135**	P	**P**	**11**	**04**	**05.6**	**0.0**
	1.9nm,0.3s,baz=312,slow=9.2,SNR=8.5							
BTM	**Bintulu**	**11.09**	**252**	⇓P	**P**	**11**	**04**	**09.1**	**+0.1**
BTM	**Bintulu**	**11.09**	**252**	⇓P	**P**	**11**	**04**	**09.1**	**+0.1**
SBUM	**Sibu**	**12.16**	**250**	⇑P	**P**	**11**	**04**	**20.2**	**+0.5**
SBUM	**Sibu**	**12.16**	**250**	⇑P	**P**	**11**	**04**	**20.2**	**+0.5**
FAKI	**Fak Fak**	**12.90**	**138**	P	**P**	**11**	**04**	**27.4**	**+0.2**
	90nm,0.8s,941nm							
FAKI	**Fak Fak**	**12.90**	**138**	P	**P**	**11**	**04**	**27.3**	**0.0**
	baz=13,SNR=34							
KSM	**Kuching**	**14.29**	**249**	P	**P**	**11**	**04**	**41.0**	**-0.1**
	baz=14,SNR=13							
KSM	**Kuching**	**14.29**	**249**	⇓P	**P**	**11**	**04**	**41.0**	**-0.1**
KSM	**Kuching**	**14.29**	**249**	⇓P	**P**	**11**	**04**	**41.0**	**-0.1**
SOEI	**Soe**	**16.42**	**178**	P	**P**	**11**	**05**	**00.4**	**-0.3**
	baz=16,SNR=4.9							
GENI	**Genyem**	**18.94**	**119**	P	**P**	**11**	**05**	**24.9**	**+1.3**
	66nm,1.1s							
JAY	**Jayapura**	**19.37**	**118**	P	**P**	**11**	**05**	**26.6**	**-1.0**
	0.8nm,0.3s,baz=318,slow=11,SNR=3.9							
MTN	**Manton Dam**	**20.86**	**159**	P	**P**	**11**	**05**	**40.1**	**-0.7**
	baz=21,SNR=14							
KDU	**Kakadu**	**21.23**	**156**	P	**P**	**11**	**05**	**43.5**	**-0.7**
	baz=21,SNR=3.5							
KLSI		**22.04**	**239**	P	**P**	**11**	**05**	**52.1**	**+0.6**
	46nm,1.2s,1μm							
MDSI	**Maura Dua**	**22.41**	**241**	P	**P**	**11**	**05**	**55.0**	**+0.2**
	13nm,1.0s,904nm							
KNRA	**Kununurra**	**22.87**	**167**	P	**P**	**11**	**05**	**58.3**	**-0.4**
	baz=23,SNR=11							
PPI	**Padang Panjang**	**24.27**	**254**	P	**P**	**11**	**06**	**10.8**	**-0.5**
	26nm,0.8s							
PSI	**Prapat**	**24.93**	**262**	P	**P**	**11**	**06**	**17.7**	**+0.4**
	5.0nm,0.4s,baz=67,slow=7.7,SNR=3.7							
CMAR	**Chiang Mai Arr**	**26.71**	**298**	P	**P**	**11**	**06**	**34.0**	**+1.4**
	3.9nm,0.6s,baz=114,slow=7.4,SNR=16							
COEN	**Coen**	**28.28**	**137**	P	**P**	**11**	**06**	**45.8**	**-0.7**
	baz=28,SNR=16							
WRA	**Warramunga Arr**	**28.55**	**159**	P	**P**	**11**	**06**	**47.9**	**-0.8**
	14nm,0.4s,baz=332,slow=10,SNR=223							
WRA				PcP	**PcP**	**11**	**09**	**39.6**	**-0.6**
	0.5nm,0.5s,baz=341,slow=2.4,SNR=3.3							
WRA				ScP	**ScP**	**11**	**12**	**24.6**	**-0.9**
	2.5nm,0.7s,baz=343,slow=3.2,SNR=19							
QIS	**Mount Isa**	**31.36**	**150**	P	**P**	**11**	**07**	**12.8**	**0.0**
	baz=31,SNR=12							
ASAR	**Alice Springs**	**31.87**	**162**	P	**P**	**11**	**07**	**17.1**	**0.0**
	14nm,0.3s,baz=342,slow=6.7,SNR=439							
ASAR				PcP	**PcP**	**11**	**09**	**48.9**	**-0.2**
	0.6nm,0.5s,baz=345,slow=3.3,SNR=5.1							
ASAR				ScP	**ScP**	**11**	**12**	**35.5**	**-0.9**
	1.4nm,0.6s,baz=338,slow=2.8,SNR=12							
WRKA	**Warakurna**	**31.93**	**172**	P	**P**	**11**	**07**	**17.8**	**+0.2**
	baz=32,SNR=43							
MJAR	**Matsushiro Arr**	**32.49**	**22**	P	**P**	**11**	**07**	**21.7**	**-0.5**
	1.2nm,0.7s,baz=201,slow=12,SNR=6.7							
MEEK	**Meekatharra**	**33.56**	**188**	P	**P**	**11**	**07**	**30.7**	**-0.6**
	baz=34,SNR=9.3							
MORW	**Morawa**	**36.37**	**191**	P	**P**	**11**	**07**	**54.0**	**-0.4**
	baz=36,SNR=12							
FORT	**Forrest**	**37.57**	**174**	P	**P**	**11**	**08**	**04.3**	**+0.1**
	baz=38,SNR=28							
KMBL	**Kambalda**	**37.95**	**182**	P	**P**	**11**	**08**	**07.1**	**-0.3**
	baz=38,SNR=6.5							
QLP	**Quilpie**	**38.70**	**150**	P	**P**	**11**	**08**	**13.6**	**+0.2**
	baz=39,SNR=5.3							
NWAO	**Narrogin (SRO)**	**39.94**	**188**	P	**P**	**11**	**08**	**23.1**	**-0.1**
	4.0nm,0.5s,baz=333,slow=4.2,SNR=8.5							
BBOO	**Buckleboo**	**41.09**	**164**	P	**P**	**11**	**08**	**32.4**	**0.0**
	baz=41,SNR=33							
STKA	**Stephens Creek**	**42.08**	**157**	P	**P**	**11**	**08**	**40.5**	**+0.3**
	9.0nm,0.5s,baz=335,slow=7.5,SNR=61							
HTT	**Hallett**	**42.53**	**161**	P	**P**	**11**	**08**	**44.1**	**+0.4**
	baz=43,SNR=9.7							
SONM	**Songino Array**	**43.49**	**343**	P	**P**	**11**	**08**	**51.9**	**+0.9**
	1.7nm,0.6s,baz=157,slow=8.6,SNR=7.8							
CMSA	**Cobar Meteorol**	**43.53**	**152**	P	**P**	**11**	**08**	**52.4**	**+1.0**
	baz=44,SNR=14							
ARMA	**Armidale**	**45.69**	**145**	P	**P**	**11**	**09**	**10.1**	**+2.0**
	baz=46,SNR=4.8							
ARPS	**Mount Arapiles**	**46.54**	**160**	P	**P**	**11**	**09**	**14.7**	**+0.4**
	baz=47,SNR=11							
TLY	**Talaya**	**47.73**	**343**	P	**P**	**11**	**09**	**24.4**	**+1.4**
	3.3nm,0.6s,baz=209,slow=4.9,SNR=5.4							
TOO	**Toolangi**	**48.60**	**157**	P	**P**	**11**	**09**	**31.0**	**+1.3**
	baz=49,SNR=7.0							
DZM	**Mont Dzumac**	**50.79**	**126**	P	**P**	**11**	**09**	**46.9**	**+0.8**
	3.8nm,0.6s,baz=270,slow=6.24,SNR=7.5							
MKAR	**Makanchi Array**	**53.32**	**326**	P	**P**	**11**	**10**	**04.5**	**+0.8**
	8.8nm,0.5s,baz=121,slow=8.4,SNR=77							
MKAR				PcP	**PcP**	**11**	**11**	**01.1**	**-0.2**
	1.1nm,0.5s,baz=121,slow=4.2,SNR=5.5							
MKAR				ScP	**ScP**	**11**	**14**	**01.1**	**-1.1**
	0.5nm,0.6s,baz=122,slow=6.0,SNR=3.4							
ZALV	**Zalesovo Beam**	**56.51**	**334**	P	**P**	**11**	**10**	**25.3**	**-0.3**
	1.7nm,0.5s,baz=128,slow=6.2,SNR=12							
KURBB	**Kurchatov Arra**	**57.54**	**328**	P	**P**	**11**	**10**	**33.1**	**+0.4**
	9.6nm,0.6s,baz=127,slow=6.2,SNR=88							
BVAR	**Borovoye Array**	**63.11**	**327**	P	**P**	**11**	**11**	**09.6**	**+0.2**
	4.8nm,0.8s,baz=126,slow=7.5,SNR=17							
GEYT	**Alibeck**	**66.61**	**308**	P	**P**	**11**	**11**	**32.5**	**+1.0**
	2.5nm,0.4s,baz=111,slow=7.9,SNR=5.1							
AKTO	**Aktyubinsk**	**69.38**	**322**	P	**P**	**11**	**11**	**48.2**	**+0.1**
	5.1nm,0.8s,baz=106,slow=5.6,SNR=17							
ARU	**Arti**	**70.74**	**328**	P	**P**	**11**	**11**	**55.6**	**-0.4**
	baz=131,slow=11							
BRTR	**Keskin Array B**	**85.72**	**309**	P	**P**	**11**	**13**	**15.4**	**-1.0**
	1.2nm,0.8s,baz=98,slow=4.4,SNR=5.3							
VNDA	**Vanda**	**86.82**	**172**	P	**P**	**11**	**13**	**20.4**	**0.0**
	0.5nm,0.3s,baz=306,slow=7.9,SNR=6.1							
SPITS	**Spitsbergen Ar**	**86.92**	**349**	P	**P**	**11**	**13**	**20.6**	**-0.4**
	2.7nm,0.6s,baz=76,slow=6.1,SNR=7.5							
FINES	**FINESS Array B**	**87.72**	**332**	P	**P**	**11**	**13**	**24.1**	**-0.9**
	3.7nm,1.0s,baz=46,slow=9.9,SNR=4.2							
TORD	**Torodi Ar. Bea**	**119.04**	**289**	PKP	**PKPdf**	**11**	**19**	**20.9**	**-0.9**
	0.9nm,0.7s,baz=49,slow=1.6,SNR=6.0							

*BJI **24** 11:10:38.3,5.°79N×123.°88E,h608km,mb4.5/15,mB4.5/9*
*MAN **24** 11:10:42,6.°60N×123.°49E,h606km,mb4.7,ML3.6,MS3.6*
*ISCJB **24** 11:10:44.6±0.2,6.°74N±0.°04×123.°63E±0.°05,h600km, mb4.4/27,Error ellipse: s-maj=7.4km s-min=3.6km az=146.4*
*NEIC **24** 11:10:46.0±0.4,6.°76N×123.°69E,h602km±6km,mb4.6/10, Error ellipse: s-maj=10.9km s-min=6.4km az=55.0*
*IDC **24** 11:10:46.3±1.0,6.°77N×123.°63E,h609km±13km,mb3.6/17, mb1 3.7/19,mb1mx3.4/33,mbtmp4.6/19,Error ellipse: s-maj=19.4km s-min=7.6km az=54.0*
*KLM **24** 11:10:46.2,6.°76N×123.°67E,h586km,mb4.7,ML4.2, MS6.0*
*DJA **24** 11:10:47.4±0.5,7.°1N±8.°×12.°4E±.°,h621km±9km,M4.4/21, mb4.6/21,mB5.0/11,MLv4.6/2,Mw(mB)4.3/11*

ISC 24 11:10:45.7±0.4,6.°74N±0.°06×123.°67E±0.°08,h600km,n108, σ1°902/121,mb4.5/27,9C-5D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.74**	**50**	⇓*i*P		**P**		**11 11 56.0**	**-0.4**
DAV	**Davao City (W)**	**1.93**	**80**	*e*P		**P**		**11 11 59.5**	**-0.2**
TBP	**Tagbilaran**	**2.93**	**4**	*e*P		**P**		**11 12 02.9**	**-1.6**
TBP				*e*S		**S**		**11 13 07.5**	**-1.2**
MYLDM	**Lahad Datu**	**5.37**	**253**	⇑P		**P**		**11 12 22.9**	**+1.3**
MYLDM	**Lahad Datu**	**5.37**	**253**	⇑P		**P**		**11 12 22.9**	**+1.3**
MYLDM	**Lahad Datu**	**5.37**	**253**	*e*P		**P**		**11 12 22.7**	**+1.1**
TSM	**Tawau**	**6.26**	**247**	⇑P		**P**		**11 12 29.1**	**0.0**
TSM	**Tawau**	**6.26**	**247**	⇑P		**P**		**11 12 29.1**	**0.0**
MRSI	**Marisa**	**6.46**	**196**	P		**P**		**11 12 31.9**	**+1.0**
	18nm,0.8s,0.2nm								
SDKM	**Sandakan**	**6.53**	**261**	⇑P		**P**		**11 12 30.8**	**-0.8**
SDKM	**Sandakan**	**6.53**	**261**	⇑P		**P**		**11 12 30.8**	**-0.8**
KKM	**Kota Kinabalu**	**7.44**	**265**	P		**P**		**11 12 38.9**	**-1.1**
	baz=7.3,SNR=9.4								
KKM	**Kota Kinabalu**	**7.44**	**265**	⇓P		**P**		**11 12 38.9**	**-1.1**
KKM	**Kota Kinabalu**	**7.44**	**265**	⇓P		**P**		**11 12 38.9**	**-1.1**
LUWI	**Luwuk**	**7.79**	**187**	P		**P**		**11 12 43.0**	**-0.1**
	baz=7.6,SNR=4.2								
TGY	**Tagaytay City**	**7.79**	**340**	P		**P**		**11 12 42.5**	**-0.6**
	91nm,0.3s,baz=184,slow=5.4,SNR=7.4								
LBMI	**Labuha**	**8.27**	**152**	P		**P**		**11 12 46.9**	**-0.8**
	62nm,1.0s,925nm								
SANI	**Sanana**	**9.04**	**165**	P		**P**		**11 12 53.2**	**-1.9**
	110nm,0.8s,2μm								
NLAI	**Namlea**	**10.49**	**161**	P		**P**		**11 13 09.5**	**+0.1**
	100nm,0.7s								
SWI	**Sorong**	**10.70**	**135**	P		**P**		**11 13 11.7**	**+0.2**
	56nm,0.6s,922nm								
SWI	**Sorong**	**10.70**	**135**	P		**P**		**11 13 12.4**	**+0.9**
	baz=11,SNR=7.4								
SIJI	**Sorong**	**10.71**	**135**	P		**P**		**11 13 12.4**	**+0.7**
	7.8nm,0.3s,baz=324,slow=14,SNR=27								
AAI	**Ambon**	**11.30**	**156**	P		**P**		**11 13 18.4**	**+0.8**
	baz=11,SNR=3.2								
SBUM	**Sibu**	**12.18**	**250**	⇑P		**P**		**11 13 28.2**	**+1.8**
SBUM	**Sibu**	**12.18**	**250**	⇑P		**P**		**11 13 28.2**	**+1.8**
SBUM	**Sibu**	**12.18**	**250**	*e*P		**P**		**11 13 27.8**	**+1.4**
FAKI	**Fak Fak**	**12.87**	**138**	P		**P**		**11 13 33.4**	**+0.1**
	155nm,0.6s,1μm								
FAKI	**Fak Fak**	**12.87**	**138**	P		**P**		**11 13 33.6**	**+0.3**
	baz=13,SNR=92								
FAKI	**Fak Fak**	**12.87**	**138**	*e*P		**P**		**11 13 33.7**	**+0.4**
STKI	**Sintang**	**13.85**	**242**	P		**P**		**11 13 43.7**	**+0.4**
KSM	**Kuching**	**14.31**	**249**	P		**P**		**11 13 47.3**	**-0.4**
	baz=14,SNR=13								
KSM	**Kuching**	**14.31**	**249**	⇓P		**P**		**11 13 47.3**	**-0.4**
KSM	**Kuching**	**14.31**	**249**	⇓P		**P**		**11 13 47.3**	**-0.4**
KSM	**Kuching**	**14.31**	**249**	*e*P		**P**		**11 13 47.0**	**-0.7**
	33nm,0.7s								
SSLB	**Suanglung**	**17.15**	**352**	*e*P		**P**		**11 14 13.7**	**+0.2**
	15nm,0.6s								
JAY	**Jayapura**	**19.34**	**118**	P		**P**		**11 14 33.6**	**-0.1**
	1.8nm,0.3s,baz=127,slow=10,SNR=6.7								
MYKOM	**Kota Tinggi**	**20.36**	**257**	*e*P		**P**		**11 14 42.7**	**-0.1**
	14nm,0.7s								
MTN	**Manton Dam**	**20.83**	**159**	P		**P**		**11 14 46.3**	**-0.7**
	baz=21,SNR=24								
KDU	**Kakadu**	**21.20**	**156**	P		**P**		**11 14 49.6**	**-0.7**
	baz=21,SNR=7.0								
MDSI	**Maura Dua**	**22.43**	**241**	P		**P**		**11 15 00.6**	**-0.7**
	17nm,0.8s								
LWLI	**Liwa**	**22.79**	**240**	P		**P**		**11 15 04.2**	**-0.5**
	66nm,0.7s,6μm								
KNRA	**Kununurra**	**22.84**	**167**	P		**P**		**11 15 04.8**	**-0.1**
	baz=23,SNR=13								
PPI	**Padang Panjang**	**24.30**	**254**	P		**P**		**11 15 16.9**	**-1.0**
	40nm,0.7s,740nm								
PSI	**Prapat**	**24.96**	**262**	P		**P**		**11 15 23.9**	**-0.1**
	14nm,0.7s,baz=150,slow=20,SNR=7.8								
GYA	**Guiyang**	**25.43**	**322**	*e*P		**P**		**11 15 28.9**	**+1.0**
GYA				sP		**sP**		**11 18 11.0**	**+0.7**
GYA				S		**S**		**11 19 17.6**	**+3.6**
GYA				ScP		**ScP**		**11 21 22.4**	**0.0**
GYA				ScS		**ScS**		**11 25 11.9**	**-0.8**
GYA				PMZ					
	20nm,0.8s								
NJ2	**Nanjing**	**25.58**	**351**	*e*P		**P**		**11 15 29.8**	**+0.9**
NJ2				PMZ					
	30nm,0.9s								
SISI	**Saibi**	**25.81**	**253**	P		**P**		**11 15 29.6**	**-1.6**
	99nm,0.6s								
CMAR	**Chiang Mai Arr**	**26.75**	**298**	P		**P**		**11 15 40.4**	**+1.0**
	3.8nm,0.6s,baz=115,slow=7.4,SNR=18								
CHTO	**Chiang Mai**	**26.88**	**299**	*e*P		**P**		**11 15 41.2**	**+0.5**
	7.7nm,0.6s								
KMI	**Kunming**	**27.11**	**315**	P		**P**		**11 15 45.6**	**+2.9**
KMI				PMZ					
	6.0nm,0.7s								
KMI				PMZ					
	79nm,5.0s								
COEN	**Coen**	**28.25**	**137**	P		**P**		**11 15 51.6**	**-0.9**
	baz=28,SNR=39								
WRAB	**Tennant Creek**	**28.52**	**159**	*e*P		**P**		**11 15 54.5**	**-0.4**
	50nm,0.3s								
WRA	**Warramunga Arr**	**28.52**	**159**	P		**P**		**11 15 54.3**	**-0.5**
	25nm,0.5s,baz=332,slow=10,SNR=294								
WRA				ScP		**ScP**		**11 21 30.7**	**-1.0**
	2.3nm,0.5s,baz=343,slow=3.2,SNR=14								
CD2	**Chengdu**	**30.43**	**325**	P		**P**		**11 16 11.8**	**+0.6**
CD2				sP		**sP**		**11 18 59.0**	**+2.1**
CD2				S		**S**		**11 20 32.6**	**+1.3**
CD2				PMZ					
	10.0nm,0.5s								
CD2				PMZ					
	160nm,5.4s								
QIS	**Mount Isa**	**31.33**	**150**	P		**P**		**11 16 19.0**	**0.0**
	baz=31,SNR=18								
AS31	**Alice Springs**	**31.84**	**162**	*e*P		**P**		**11 16 23.5**	**+0.3**
ASAR	**Alice Springs**	**31.84**	**162**	P		**P**		**11 16 23.5**	**+0.3**
	17nm,0.3s,baz=340,slow=7.3,SNR=585								
ASAR				PcP		**PcP**		**11 18 55.0**	**-0.4**
	0.9nm,0.5s,baz=338,slow=3.1,SNR=5.1								
ASAR				ScP		**ScP**		**11 21 41.6**	**-1.1**
	1.1nm,0.6s,baz=347,slow=3.5,SNR=5.3								
WRKA	**Warakurna**	**31.91**	**172**	P		**P**		**11 16 23.9**	**+0.1**
	baz=32,SNR=11								
MTSU	**Mount Surprise**	**32.04**	**141**	P		**P**		**11 16 25.4**	**+0.4**
	baz=32,SNR=10								
MEEK	**Meekatharra**	**33.54**	**188**	P		**P**		**11 16 37.1**	**-0.5**
	baz=34,SNR=4.7								
BJI	**Beijing**	**33.83**	**350**	P		**P**		**11 16 41.6**	**+1.9**
BJI				PMZ					
	5.0nm,0.9s								
LZH	**Lanzhou**	**34.39**	**331**	⇑P		P		11 16 48.3	+3.6
LZH				PMZ					
	21nm,1.0s								
LZH				PMZ					
	79nm,5.2s								
CTA	**Charters Tower**	**34.71**	**141**	P		**P**		**11 16 48.3**	**+0.9**
	7.9nm,0.5s,baz=321,slow=10,SNR=10								
HHC	**Hu-ho-hao-te**	**35.64**	**344**	*e*P		P		11 16 58.8	+3.9
HHC				PP		**PP**		**11 18 40.6**	**+1.0**
HHC				S		S		11 21 56.3	+6.4
HHC				SS		**SS**		**11 25 02.8**	**-4.0**
HHC				PMZ					
	23nm,1.1s								
HHC				PMZ					
	62nm,5.2s								
MORW	**Morawa**	**36.35**	**191**	P		**P**		**11 16 60.0**	**-0.8**
	baz=36,SNR=8.7								
FORT	**Forrest**	**37.55**	**174**	P		**P**		**11 17 10.7**	**+0.2**
	baz=38,SNR=16								
FORT	**Forrest**	**37.55**	**174**	*e*P		**P**		**11 17 10.6**	**+0.2**
	14nm,0.6s								
QLP	**Quilpie**	**38.67**	**150**	P		**P**		**11 17 19.7**	**+0.1**
	baz=39,SNR=9.2								
TAPN	**Taplejung**	**39.79**	**305**	*e*P		**P**		**11 17 28.3**	**-0.7**
	14nm,0.5s								
ODAN	**Odare**	**39.85**	**304**	*e*P		**P**		**11 17 29.7**	**+0.3**
	32nm,0.6s								
NWAO	**Narrogin (SRO)**	**39.92**	**188**	P		**P**		**11 17 29.6**	**+0.1**
	4.5nm,0.7s,baz=331,slow=8.1,SNR=4.5								
RAMN	**Ramnite**	**40.54**	**304**	*e*P		**P**		**11 17 35.4**	**+0.5**
	16nm,0.7s								
BBOO	**Buckleboo**	**41.06**	**164**	P		**P**		**11 17 38.9**	**+0.3**
	baz=41,SNR=16								
BBOO	**Buckleboo**	**41.06**	**164**	*e*P		**P**		**11 17 38.8**	**+0.3**
	13nm,0.5s								
GUN	**Gumba**	**41.50**	**305**	*e*P		**P**		**11 17 41.8**	**-0.8**
	3.2nm,0.2s								
EIDS	**Eidsvold**	**41.59**	**141**	P		**P**		**11 17 42.8**	**0.0**
	baz=42,SNR=3.4								
PKI	**Pulchoki**	**41.75**	**304**	*e*P		**P**		**11 17 43.8**	**-0.8**
	11nm,0.4s								
PKIN	**Phulchoki**	**41.77**	**304**	*e*P		**P**		**11 17 43.8**	**-0.8**
	5.3nm,0.4s								
KKN	**Kakani**	**41.94**	**305**	*e*P		**P**		**11 17 45.8**	**-0.1**
	8.1nm,0.3s								
DMN	**Daman**	**42.02**	**304**	*e*P		**P**		**11 17 46.4**	**-0.1**
STKA	**Stephens Creek**	**42.05**	**157**	P		**P**		**11 17 46.8**	**+0.5**
	12nm,0.5s,baz=335,slow=9.5,SNR=2.8								
STKA	**Stephens Creek**	**42.05**	**157**	*e*P		**P**		**11 17 47.0**	**+0.6**
	2.2nm,0.5s								
HTT	**Hallett**	**42.50**	**161**	P		**P**		**11 17 50.5**	**+0.6**
	baz=42,SNR=18								
GKN	**Gorkha**	**42.55**	**305**	*e*P		**P**		**11 17 50.3**	**-0.3**
	8.8nm,0.5s								
KOLN	**Koldanda**	**43.32**	**304**	*e*P		**P**		**11 17 56.6**	**0.0**
	23nm,0.3s								
CMSA	**Cobar Meteorol**	**43.50**	**152**	P		**P**		**11 17 58.9**	**+1.3**
	baz=44,SNR=16								
SONM	**Songino Array**	**43.52**	**343**	P		**P**		**11 17 58.0**	**+0.3**
	1.3nm,0.5s,baz=160,slow=8.1,SNR=7.4								
ARMA	**Armidale**	**45.65**	**146**	P		**P**		**11 18 16.1**	**+1.9**
	baz=46,SNR=6.5								
ARPS	**Mount Arapiles**	**46.51**	**160**	P		**P**		**11 18 21.0**	**+0.5**
	baz=46,SNR=12								
CNB	**Canberra Magne**	**48.34**	**152**	P		**P**		**11 18 35.8**	**+1.6**
	baz=48,SNR=6.3								
WMQ	**Urumqi**	**48.52**	**325**	P		**P**		**11 18 36.8**	**+1.3**
WMQ				PMZ					
	12nm,0.8s								
DZM	**Mont Dzumac**	**50.76**	**126**	P		**P**		**11 18 53.4**	**+1.2**
	5.1nm,0.4s,baz=90,slow=24,SNR=14								
MK31	**Makanchi Array**	**53.36**	**326**	*e*P		**P**		**11 19 10.7**	**+0.4**
MK31				*e*PcP		**PcP**		**11 20 07.3**	**-0.5**
MKAR	**Makanchi Array**	**53.36**	**326**	P		**P**		**11 19 10.7**	**+0.3**
	9.4nm,0.5s,baz=121,slow=8.3,SNR=97								
MKAR				PcP		**PcP**		**11 20 07.0**	**-0.8**
	1.2nm,0.5s,baz=126,slow=3.3,SNR=5.5								
MKAR				ScP		**ScP**		**11 23 07.1**	**-1.6**
	0.6nm,0.6s,baz=111,slow=6.6,SNR=3.8								
MKAR	**Makanchi Array**	**53.36**	**326**	*e*P		**P**		**11 19 10.9**	**+0.6**
ZALV	**Zalesovo Beam**	**56.54**	**334**	P		**P**		**11 19 31.6**	**-0.7**
	1.9nm,0.5s,baz=144,slow=6.0,SNR=8.7								
KBL	**Kabul**	**57.28**	**307**	*e*P		**P**		**11 19 37.9**	**-0.1**
	6.9nm,0.6s								
KURK	**Kurchatov**	**57.58**	**328**	*e*P		**P**		**11 19 39.4**	**0.0**
	24nm,0.6s								
KKAR	**Karatay Array**	**58.96**	**317**	*e*P		**P**		**11 19 49.1**	**+0.2**
BVAR	**Borovoye Array**	**63.15**	**327**	P		**P**		**11 20 15.8**	**-0.2**
	3.1nm,0.8s,baz=140,slow=7.7,SNR=12								
GEYT	**Alibeck**	**66.64**	**308**	P		**P**		**11 20 37.7**	**-0.5**
	3.3nm,0.6s,baz=113,slow=3.3,SNR=3.9								
ABKAR	**Akbulak array**	**67.90**	**321**	*e*P		**P**		**11 20 45.4**	**-0.2**
AKTO	**Aktyubinsk**	**69.42**	**322**	P		**P**		**11 20 54.5**	**-0.2**
	3.7nm,0.7s,baz=98,slow=7.6,SNR=14								
ARU	**Arti**	**70.78**	**328**	P		**P**		**11 21 01.4**	**-1.2**
	baz=108,slow=6.4								
BRTR	**Keskin Array B**	**85.76**	**309**	P		**P**		**11 22 21.6**	**-1.4**
	0.9nm,0.5s,baz=126,slow=4.4,SNR=5.3								
ARCES	**ARCESS Array B**	**86.58**	**340**	P		**P**		**11 22 24.9**	**-1.2**
	1.5nm,0.7s,baz=76,slow=5.1,SNR=5.1								
FINES	**FINESS Array B**	**87.75**	**332**	P		**P**		**11 22 30.3**	**-1.3**
	0.7nm,0.5s,baz=74,slow=4.9,SNR=8.0								
TORD	**Torodi Ar. Bea**	**119.07**	**289**	PKP		**PKPdf**		**11 28 27.2**	**-1.1**
	0.7nm,0.4s,baz=68,slow=1.4,SNR=12								

IDC 24 11:15:43.4±1.5,28.°85N×141.°10E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.6/24,mbtmp3.6/4,MS2.8/2,Ms1 2.8/2, ms1mx2.4/35,Error ellipse: s-maj=50.8km s-min=23.6km az=64.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.00**	**151**	Pn		Pn		**11 16 18.5**	**+0.2**
	13nm,0.3s,baz=8.3,slow=13,SNR=98								
JCJ				Sn		Sb		**11 16

MSOM				S	Sb	11 44 15.7	-0.4		
MCIR	**Makushin Cirqu**	**1.95**	**45**	P	Pn	**11 43 53.6**	**+0.9**		
MSW	**Makushin Switc**	**1.97**	**47**	P	Pn	**11 43 53.0**	**+0.1**		
MTBL	**Makushin Table**	**2.06**	**47**	P	Pn	**11 43 54.6**	**+0.5**		
UNV	**Unalaska Valle**	**2.06**	**52**	P	Pn	**11 43 54.1**	**0.0**		
UNV				S	Sn	**11 44 20.2**	**+0.4**		
ZRO	**Akutan Zero**	**2.46**	**51**	P	Pn	**11 43 59.7**	**+0.1**		
ATKA	**Atka Island**	**3.07**	**264**	P	Pn	**11 44 09.0**	**+1.1**		
SPIA	**Saint Paul Isl**	**4.62**	**353**	P	Pn	**11 44 30.4**	**+1.1**		
ILAR	**Eielson Array**	**16.71**	**35**	Pn	P	**11 47 16.2**	**+0.5**		
	0.1nm,0.3s,baz=224,slow=8.5,SNR=3.6								
PETK	**Petropavlovsk-**	**19.88**	**285**	P	P	**11 47 49.7**	**-0.9**		
	0.1nm,0.3s,baz=101,slow=13,SNR=3.6								
BBB	**Bella Bella**	**24.86**	**74**	LR	LR	11 55 44.5			
	comp=Z,29nm,22.0s,baz=264,slow=30								
H11N2	**WAKE ISLAND Hy**	**37.69**	**219**	T	T	12 30 27.0			
	baz=23								
H11N3	**WAKE ISLAND Hy**	**37.69**	**219**	T	T	12 30 30.5			
	baz=23								
H11N1	**WAKE ISLAND Hy**	**37.70**	**219**	T	T	12 30 33.2			
	baz=23								
H11S1	**WAKE ISLAND Hy**	**38.88**	**218**	T	T	12 31 59.9			
	baz=23								
H11S2	**WAKE ISLAND Hy**	**38.89**	**218**	T	T	12 32 01.0			
	baz=23								
H11S3	**WAKE ISLAND Hy**	**38.89**	**218**	T	T	12 32 02.2			
	baz=23								
PDAR	**Pinedale Array**	**40.28**	**79**	P	P	**11 50 57.5**	**+0.8**		
	0.6nm,0.6s,baz=336,slow=3.3,SNR=5.3								
TXAR	**Lajitas Array**	**52.66**	**89**	P	P	**11 52 34.7**	**+0.8**		
	1.0nm,0.7s,baz=300,slow=5.5,SNR=16								
TKL	**Tuckaleechee C**	**60.05**	**70**	LR	LR	12 17 50.3			
	comp=Z,26nm,19.4s,slow=34								
ASAR	**Alice Springs**	**90.61**	**230**	P	P	**11 56 20.2**	**-1.6**		
	0.5nm,0.7s,baz=36,slow=4.9,SNR=9.6								

*ISCJB **24** 11:44:00.1±0.7,52.˙63N±0.˙09×169.˙6W±0.˙1,h10km, mb3.9/7,Error ellipse: s-maj=17.0km s-min=6.1km az=140.2*

*IDC **24** 11:44:00.1±0.9,52.˙27N×169.˙56W,h0km,mb3.9/7, mb1 4.1/9,mb1mx3.6/58,mbtmp3.8/9,ML3.4/2,Error ellipse: s-maj=32.2km s-min=19.3km az=169.0*

*NEIC **24** 11:44:02.9,52.˙58N×169.˙07W,h6km,mb3.8/1, ML3.6(AEIC),After AEIC.*

ISC 24 11:44:02.8±0.9,52.7N±0.˙1×169.˙25W±0.˙09,h10km,n23, σ1°37/19,mb3.8/7,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.37**	**39**	P	**Pg**	**11 44 11.5**	**+1.3**
NIKH				S	**Sb**	**11 44 19.4**	**+2.0**
OKWR	**Okmok West Rim**	**0.98**	**39**	P	**Pn**	**11 44 22.8**	**+0.2**
OKWE	**Okmok W'ng Wal**	**0.99**	**37**	P	**Pg**	**11 44 22.2**	**+0.3**
OKAK	**Okmok**	**1.04**	**31**	P	**Pb**	**11 44 21.4**	**-1.6**
OKAK				S	**Sg**	**11 44 35.4**	**-1.0**
OKFG	**Magazine Ridge**	**1.08**	**47**	P	**Pb**	**11 44 23.3**	**-0.3**
OKFG				S	**Sn**	**11 44 39.6**	**+0.5**
ATKA	**Atka Island**	**3.07**	**263**	P	**Pn**	**11 44 53.4**	**+2.1**
BPAW	**Bear Paw Mtn.**	**14.84**	**32**	*eP*	**P**	**11 47 37.8**	**-0.6**
	1.5nm,1.0s						
ILAR	**Eielson Array**	**16.65**	**35**	Pn	**P**	**11 47 58.5**	**+0.2**
	0.1nm,0.3s,baz=227,slow=11,SNR=4.7						
HYT	**Haines Junctio**	**19.05**	**52**	*eP*	**Pn**	**11 48 25.3**	**-0.4**
	4.5nm,0.7s						
PETK	**Petropavlovsk-**	**19.85**	**284**	P	**P**	**11 48 31.8**	**-1.9**
	0.3nm,0.3s,baz=83,slow=13,SNR=5.7						
NVAR	**Mina Array Bea**	**37.59**	**91**	P	**P**	**11 51 18.6**	**+1.0**
	0.3nm,0.5s,baz=302,slow=7.3,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**37.75**	**218**	T	T	12 31 10.4	
	baz=23,slow=75						
H11N3	**WAKE ISLAND Hy**	**37.76**	**218**	T	T	12 31 10.8	
	baz=23						
H11N1	**WAKE ISLAND Hy**	**37.77**	**218**	T	T	12 31 13.9	
	baz=23,slow=75						
ELK	**Elko**	**38.03**	**86**	P	**P**	**11 51 22.2**	**+0.9**
	0.5nm,0.3s,baz=286,slow=9.9,SNR=3.0						
H11S1	**WAKE ISLAND Hy**	**38.94**	**218**	T	T	12 32 44.4	
	baz=22,slow=76						
H11S2	**WAKE ISLAND Hy**	**38.95**	**218**	T	T	12 32 42.0	
	baz=22,slow=76						
H11S3	**WAKE ISLAND Hy**	**38.95**	**218**	T	T	12 32 41.9	
	baz=22,slow=76						
PDAR	**Pinedale Array**	**40.27**	**80**	P	**P**	**11 51 40.0**	**+0.1**
	0.8nm,0.7s,baz=323,slow=7.0,SNR=4.5						
TXAR	**Lajitas Array**	**52.67**	**89**	P	**P**	**11 53 17.1**	**-0.2**
	1.5nm,0.6s,baz=302,slow=5.3,SNR=15						
ARCES	**ARCESS Array B**	**57.61**	**354**	P	**P**	**11 53 53.9**	**+1.6**
	7.2nm,1.0s,baz=349,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**87.26**	**232**	P	P	11 56 45.9	-3.5
	0.5nm,0.9s,baz=36,slow=7,SNR=2.9						
ASAR	**Alice Springs**	**90.66**	**230**	P	**P**	**11 57 02.7**	**-2.7**
	0.8nm,0.8s,baz=25,slow=5.0,SNR=7.1						

*ISCJB **24** 11:56:24.3±0.2,6.˙74N±0.˙02×123.˙61E±0.˙03,h603km±2km, mb4.8/99,Error ellipse: s-maj=4.1km s-min=3.0km az=158.5*

*NEIC **24** 11:56:25.0±0.3,6.˙72N×123.˙65E,h598km±4km,mb5.1/26, Error ellipse: s-maj=5.7km s-min=3.7km az=63.0*

NEIC Felt at Dumaguete, Negros.

*MAN **24** 11:56:24,6.˙75N×123.˙75E,h587km,mb5.2,ML4.1,MS4.3*

*MOS **24** 11:56:24.7±0.8,6.˙72N×123.˙61E,h613km,mb4.4/40,Error ellipse: s-maj=11.9km s-min=6.5km az=115.5*

*IDC **24** 11:56:25.7±0.8,6.˙71N×123.˙63E,h605km±9km,mb3.8/32, mb1 3.8/34,mb1mx3.8/36,mbtmp4.8/34,Error ellipse: s-maj=10.5km s-min=6.5km az=65.0*

*DJA **24** 11:56:26.1±0.3,7.˚N±3.˚×12.˚4E±.˚,h603km±4km,M4.7/92, mb5.0/92,mB5.3/38,MLv5.1/11,Mw(mB)4.7/38*

*KLM **24** 11:56:26.7,6.˙58N×123.˙49E,h570km,mb5.1,MS6.6*

ISC 24 11:56:25.5±0.3,6.˙68N±0.˙04×123.˙67E±0.˙05,h605km±3km, h606km:pP-P,n359,σ1°19/414,mb4.7/109,15C-20D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.78**	**47**	⇓*iP*	**P**	**11 57 35.4**	**-1.4**
GSPH	**General Santos**	**1.40**	**115**	*eP*	**P**	**11 57 36.6**	**-1.7**
DMPH	**Davao City--Mi**	**1.87**	**78**	⇑*eP*	**P**	**11 57 38.6**	**-1.1**
DCPH	**Dipolog City**	**1.92**	**351**	⇑*eP*	**P**	**11 57 37.7**	**-2.3**
DCPH				*eS*	**S**	**11 58 36.5**	**-4.0**
DAV	**Davao City (W)**	**1.93**	**78**	*eP*	**P**	**11 57 38.6**	**-1.4**
TBP	**Tagbilaran**	**3.00**	**4**	*eP*	**P**	**11 57 42.7**	**-2.3**
TBP				*eS*	**S**	**11 58 44.9**	**-4.9**
BIPH	**Bislig**	**3.06**	**61**	⇑*iP*	P	11 57 49.4	+4.0
BIPH				*i*	**S**	**11 58 51.6**	**+1.2**
SGSI	**Sangihe**	**3.50**	**148**	P	**P**	**11 57 45.4**	**-2.7**
PLP	**Palo**	**4.64**	**16**	⇓*eP*	**P**	**11 57 53.9**	**-2.0**
PLP				*eS*	**S**	**11 59 04.5**	**-5.2**
MYLDM	**Lahad Datu**	**5.36**	**254**	*eP*	**P**	**11 58 01.9**	**+0.4**
PPR	**Puerto Princes**	**5.78**	**302**	⇓*iP*	**P**	**11 58 04.4**	**-0.6**
KMSI	**Cibinong**	**6.07**	**177**	P	**P**	**11 58 07.6**	**0.0**
	397nm,0.8s,6μm1.6nm						
TSM	**Tawau**	**6.24**	**248**	⇓P	**P**	**11 58 07.4**	**-1.6**
TSM	**Tawau**	**6.24**	**248**	⇓P	**P**	**11 58 07.4**	**-1.6**
MRSI	**Marisa**	**6.40**	**196**	P	**P**	**11 58 10.6**	**+0.2**
	76nm,0.6s,1μm0.4nm						
SDKM	**Sandakan**	**6.52**	**261**	⇓P	**P**	**11 58 09.1**	**-2.5**
SDKM	**Sandakan**	**6.52**	**261**	⇓P	**P**	**11 58 09.1**	**-2.5**
KDM	**Kudat**	**6.79**	**272**	⇓P	**P**	**11 58 11.6**	**-2.3**
KDM	**Kudat**	**6.79**	**272**	⇓P	**P**	**11 58 11.6**	**-2.3**
TNTI	**Ternate**	**6.93**	**148**	P	**P**	**11 58 15.1**	**-0.1**
	194nm,0.5s,4μm3.7nm						
TNTI	**Ternate**	**6.93**	**148**	*eP*	**P**	**11 58 14.7**	**-0.5**
MPSI	**Mapaga**	**7.34**	**211**	P	**P**	**11 58 18.4**	**-0.5**
	20nm,1.0s,687nm0.1nm						
KKM	**Kota Kinabalu**	**7.44**	**266**	P	**P**	**11 58 18.3**	**-1.6**
	baz=7.3,SNR=23						
KKM	**Kota Kinabalu**	**7.44**	**266**	⇑P	**P**	**11 58 18.0**	**-2.0**
KKM	**Kota Kinabalu**	**7.44**	**266**	⇑P	**P**	**11 58 18.0**	**-2.0**
KKM	**Kota Kinabalu**	**7.44**	**266**	*eP*	**P**	**11 58 18.2**	**-1.6**
	205nm,0.8s						
LUWI	**Luwuk**	**7.72**	**187**	P	**P**	**11 58 21.1**	**-1.4**
	237nm,0.6s,3μm1.8nm						
LUWI				S	**S**	**11 59 56.9**	**-1.3**
	237nm,0.6s,3μm1.8nm						
LUWI	**Luwuk**	**7.72**	**187**	P	**P**	**11 58 21.1**	**-1.4**
	baz=7.6,SNR=24						
LUWI	**Luwuk**	**7.72**	**187**	*eP*	**P**	**11 58 20.6**	**-1.9**
APSI	**Ampana**	**7.81**	**195**	P	**P**	**11 58 23.4**	**+0.2**
	111nm,0.5s,1μm0.4nm						
TGY	**Tagaytay City**	**7.85**	**340**	P	**P**	**11 58 22.1**	**-1.6**
	263nm,0.3s,baz=188,slow=2.9,SNR=51						
TGY				S	**S**	**11 59 57.3**	**-3.1**
	41nm,0.3s,baz=100,slow=18,SNR=1.9						
TGY	**Tagaytay City**	**7.85**	**340**	P	**P**	**11 58 22.1**	**-1.6**
TGY				S	**S**	**11 59 57.3**	**-3.1**
TGY				pmax	pmax		
	comp=Z,263nm,0.3s						
TGY				smax	smax		
	comp=N,41nm,0.3s						
TGY	**Tagaytay City**	**7.85**	**340**	⇓*iP*	**P**	**11 58 22.3**	**-1.3**
LBMI	**Labuha**	**8.21**	**152**	P	**P**	**11 58 26.7**	**-0.4**
	comp=N,358nm,1.0s,comp=N,4μm						
LBMI				S	**S**	**12 00 05.5**	**-1.1**
	comp=N,358nm,1.0s,comp=N,4μm						
PCI	**Palu**	**8.45**	**207**	P	**P**	**11 58 28.3**	**-1.1**
	comp=N,62nm,1.0s,comp=N,926nm						
SANI	**Sanana**	**8.97**	**165**	P	**P**	**11 58 31.9**	**-2.5**
BKB	**Balikpapan**	**10.39**	**221**	P	**P**	**11 58 46.7**	**-1.6**
	comp=N,103nm,0.8s						
TTSI	**Tana Toraja**	**10.40**	**202**	P	**P**	**11 58 47.2**	**-1.2**
	comp=N,26nm,1.1s,comp=N,2μm						
NLAI	**Namlea**	**10.43**	**161**	P	**P**	**11 58 49.5**	**+0.8**
	comp=N,421nm,0.7s,comp=N,4μm						
KDI	**Kendari**	**10.62**	**186**	P	**P**	**11 58 50.6**	**0.0**
	comp=N,40nm,0.8s						
SWI	**Sorong**	**10.65**	**134**	P	**P**	**11 58 51.3**	**+0.4**
	comp=N,212nm,0.8s,comp=N,3μm						
SWI	**Sorong**	**10.65**	**134**	P	**P**	**11 58 51.4**	**+0.5**
	baz=11,SNR=17						
SIJI	**Sorong**	**10.66**	**134**	P	**P**	**11 58 51.5**	**+0.5**
	comp=N,30nm,0.3s,baz=312,slow=11,SNR=128						
SIJI				S	**S**	**12 00 51.3**	**+0.9**
	baz=176,slow=19,SNR=9.6						
PALU	**Palau**	**10.74**	**86**	P	**P**	**11 58 52.1**	**+0.3**
	baz=11,SNR=6.7						
AAI	**Ambon**	**11.24**	**156**	P	**P**	**11 58 57.5**	**+0.7**
	baz=11,SNR=13						
SZP	**Santa**	**11.25**	**344**	*eP*	**P**	**11 58 55.0**	**-1.8**
	comp=N,199nm,0.8s						
SPSI	**Sidrap Palu**	**11.27**	**200**	P	**P**	**11 58 57.2**	**+0.2**
	comp=N,27nm,0.7s						
SBUM	**Sibu**	**12.16**	**250**	⇓P	**P**	**11 59 05.9**	**-0.1**
SBUM	**Sibu**	**12.16**	**250**	⇓P	**P**	**11 59 05.9**	**-0.1**
SBUM	**Sibu**	**12.16**	**250**	*eP*	**P**	**11 59 06.0**	**-0.1**
BKSI	**Bulukumba**	**12.44**	**197**	P	**P**	**11 59 09.1**	**+0.4**
	comp=N,10.0nm,0.9s						
BNDI	**Bandanaira**	**12.75**	**151**	P	**P**	**11 59 12.1**	**+0.3**
	comp=N,539nm,0.8s,comp=N,6μm						
FAKI	**Fak Fak**	**12.82**	**138**	P	**P**	**11 59 12.9**	**+0.4**
	comp=N,626nm,0.8s,comp=N,6μm						
FAKI	**Fak Fak**	**12.82**	**138**	P	**P**	**11 59 12.9**	**+0.4**
	baz=13,SNR=138						
FAKI	**Fak Fak**	**12.82**	**138**	*eP*	**P**	**11 59 12.8**	**+0.3**
STKI	**Sintang**	**13.83**	**242**	P	**P**	**11 59 22.6**	**-0.1**
	comp=N,60nm,1.0s,comp=N,11μm						
KSM	**Kuching**	**14.29**	**249**	P	**P**	**11 59 26.7**	**-0.5**
	baz=14,SNR=48						
KSM	**Kuching**	**14.29**	**249**	⇑P	**P**	**11 59 26.5**	**-0.7**
KSM	**Kuching**	**14.29**	**249**	⇑P	**P**	**11 59 26.5**	**-0.7**
KSM	**Kuching**	**14.29**	**249**	*eP*	**P**	**11 59 26.5**	**-0.7**
	comp=N,113nm,0.6s						
BAKI	**Biak**	**14.67**	**122**	P	**P**	**11 59 31.7**	**+1.1**
	comp=N,320nm,0.7s,comp=N,5μm						
SRPI	**Serui, Papua**	**15.15**	**124**	P	**P**	**11 59 36.1**	**+1.1**
	comp=N,568nm,0.8s,comp=N,8μm						
PBKI	**Pangkalan Bun**	**15.18**	**232**	P	**P**	**11 59 35.3**	**0.0**
	comp=N,446nm,1.1s,comp=N,3μm						
DLV	**T Lat**	**15.87**	**290**	*eP*	**P**	**11 59 42.2**	**+0.5**
TWG	**Pinlang**	**16.24**	**351**	*eP*	**P**	**11 59 43.3**	**-1.6**
	comp=N,232nm,0.4s						
SOEI	**Soe**	**16.34**	**178**	P	**P**	**11 59 45.5**	**-0.5**
	comp=N,69nm,1.1s						
SOEI	**Soe**	**16.34**	**178**	P	**P**	**11 59 45.9**	**-0.1**
	baz=16,SNR=21						
SOEI	**Soe**	**16.34**	**178**	*eP*	**P**	**11 59 44.9**	**-1.1**
	comp=N,61nm,0.9s						
SAUI	**Saumlaki**	**16.43**	**152**	P	**P**	**11 59 47.8**	**+1.1**
	comp=N,688nm,0.6s						
YULB	**Yu-li**	**16.77**	**352**	*eP*	**P**	**11 59 47.3**	**-2.4**
	comp=N,46nm,0.6s						
SRBI	**Singaraja**	**16.92**	**210**	P	**P**	**11 59 51.6**	**+0.4**
	comp=N,65nm,2.0s						
SSLB	**Suanglung**	**17.21**	**352**	*eP*	**P**	**11 59 53.2**	**-0.5**
	comp=N,67nm,0.6s						
SMPI	**Sarmi**	**17.31**	**119**	P	**P**	**11 59 56.4**	**+1.7**
	comp=N,137nm,0.7s,comp=N,5μm						
JAGI	**Jajag, Banyuwa**	**17.79**	**212**	P	**P**	**12 00 00.6**	**+1.5**
	baz=18,SNR=3.9						
TBJI	**Tambak Boyo**	**17.86**	**222**	P	**P**	**12 00 00.1**	**+0.3**
	comp=N,99nm,1.9s						
YHNB	**Yeheng**	**18.02**	**353**	*eP*	**P**	**12 00 01.3**	**+0.1**
	comp=N,60nm,0.6s						
UWJI	**Ujung Watu**	**18.18**	**225**	P	**P**	**12 00 03.0**	**+0.3**
	comp=N,166nm,0.9s						
NGJI	**Ngawi**	**18.52**	**221**	P	**P**	**12 00 06.1**	**+0.3**
	comp=N,46nm,1.7s						
TPI	**Tanjungpandan**	**18.54**	**240**	P	**P**	**12 00 06.1**	**+0.2**
	comp=N,32nm,0.9s						
PWJI	**Pagerwojo**	**18.80**	**219**	P	**P**	**12 00 10.0**	**+1.7**
	comp=N,44nm,1.3s						
GENI	**Genyem**	**18.87**	**119**	P	**P**	**12 00 10.3**	**+1.3**
	comp=N,180nm,1.0s,comp=N,2μm						
SMRI	**Semarang**	**18.98**	**224**	P	**P**	**12 00 10.2**	**+0.2**
	comp=N,99nm,0.9s						
JAY	**Jayapura**	**19.30**	**118**	P	**P**	**12 00 13.6**	**+0.6**
	comp=N,4.7nm,0.3s,baz=232,slow=7.6,SNR=16						
JAY	**Jayapura**	**19.30**	**118**	P	**P**	**12 00 13.6**	**+0.6**
JAY				pmax	pmax		
	comp=Z,5.0nm,0.3s						
JAY	**Jayapura**	**19.30**	**118**	P	**P**	**12 00 13.8**	**+0.8**
	baz=19,SNR=4.9						
UGM	**Wanagama**	**19.55**	**222**	P	**P**	**12 00 15.3**	**+0.2**
	comp=Z,135nm,1.8s						
UGM	**Wanagama**	**19.55**	**222**	P	**P**	**12 00 16.1**	**+0.9**
	baz=19,SNR=7.0						
DSRI	**Dabo**	**20.34**	**250**	P	**P**	**12 00 21.9**	**-0.4**
	comp=Z,122nm,0.8s						
MYKOM	**Kota Tinggi**	**20.35**	**257**	⇑P	**P**	**12 00 22.5**	**+0.2**
MYKOM	**Kota Tinggi**	**20.35**	**257**	⇑P	**P**	**12 00 22.5**	**+0.2**
MYKOM	**Kota Tinggi**	**20.35**	**257**	*eP*	**P**	**12 00 22.3**	**0.0**
	comp=Z,60nm,0.8s						
KTGM	**Kuala Trenggan**	**20.47**	**267**	⇓P	**P**	**12 00 23.0**	**-0.5**
KTGM	**Kuala Trenggan**	**20.47**	**267**	⇓P	**P**	**12 00 23.0**	**-0.5**
BTDF	**Bukit Timah Da**	**20.53**	**256**	P	**P**	**12 00 23.8**	**-0.2**
	baz=20,SNR=5.5						
BTDF				P	**P**	**12 00 23.8**	**-0.2**
	baz=20,SNR=5.5						
MTN	**Manton Dam**	**20.77**	**159**	P	**P**	**12 00 25.5**	**-0.5**
	baz=21,SNR=16						
MTN	**Manton Dam**	**20.77**	**159**	*eP*	**P**	**12 00 25.7**	**-0.3**
	comp=Z,32nm,0.8s						
KGM	**Kluang**	**20.81**	**258**	⇓P	**P**	**12 00 26.6**	**+0.1**
KGM	**Kluang**	**20.81**	**258**	⇓P	**P**	**12 00 26.6**	**+0.1**
LEM	**Lembang**	**20.89**	**230**	P	**P**	**12 00 27.4**	**0.0**
	comp=Z,72nm,0.9s						
LEM	**Lembang**	**20.89**	**230**	P	**P**	**12 00 27.9**	**+0.6**
	comp=Z,50nm,0.6s,baz=148,slow=23,SNR=8.4						
LEM	**Lembang**	**20.89**	**230**	P	**P**	**12 00 28.0**	**+0.6**
LEM				pmax	pmax		
	comp=Z,50nm,0.6s						
CMJI	**Cimerak**	**20.90**	**227**	P	**P**	**12 00 27.5**	**+0.2**
	comp=Z,105nm,1.1s						
KDU	**Kakadu**	**21.14**	**156**	P	**P**	**12 00 28.9**	**-0.5**
	baz=21,SNR=17						
CISI	**Cisompet, Garu**	**21.22**	**228**	P	**P**	**12 00 30.4**	**+0.2**
	comp=Z,56nm,1.6s						
CBJI	**Citeko**	**21.24**	**233**	P	**P**	**12 00 31.5**	**+1.2**
	comp=Z,548nm,0.4s,comp=Z,65μm						
TNG	**Tangerang**	**21.25**	**233**	P	**P**	**12 00 30.7**	**+0.3**
	comp=Z,766nm,0.5s						
TNG	**Tangerang**	**21.25**	**233**	P	**P**	**12 00 30.7**	**+0.3**
	comp=Z,479nm,0.5s						
CNJI	**Cibinong**	**21.57**	**230**	P	**P**	**12 00 33.5**	**+0.2**
	comp=Z,113nm,1.0s						
SKNT	**Sanankorn**	**21.80**	**300**	P	**P**	**12 00 35.4**	**+0.1**
	comp=Z,33nm,0.9s,comp=Z,2μm						
BLSI	**Bandar Lampung**	**21.94**	**237**	P	**P**	**12 00 36.9**	**+0.3**
	comp=Z,152nm,0.7s						
KLI	**Kotabumi**	**22.00**	**239**	P	**P**	**12 00 37.4**	**+0.2**
FRIM	**Kepong**	**22.23**	**262**	⇑P	**P**	**12 00 38.8**	**-0.4**
FRIM	**Kepong**	**22.23**	**262**	⇑P	**P**	**12 00 38.8**	**-0.4**
CGJI	**Cibinong**	**22.27**	**234**	P	**P**	**12 00 38.3**	**-1.2**
	comp=Z,208nm,0.5s,comp=Z,3μm						
MDSI	**Maura Dua**	**22.40**	**241**	P	**P**	**12 00 39.8**	**-0.9**
	comp=Z,52nm,0.8s,comp=Z,656nm						
KHON	**Khomkaen**	**22.55**	**297**	P	**P**	**12 00 42.1**	**+0.2**
	comp=Z,18nm,0.6s,comp=Z,1μm						
IPM	**Ipoh**	**22.64**	**266**	⇓P	**P**	**12 00 42.3**	**-0.6**
IPM	**Ipoh**	**22.64**	**266**	⇓P	**P**	**12 00 42.3**	**-0.6**
IPM	**Ipoh**	**22.64**	**266**	*eP*	**P**	**12 00 42.2**	**-0.6**
	comp=Z,34nm,1.2s						
KASI	**Kota Agung**	**22.65**	**238**	P	**P**	**12 00 42.2**	**-0.7**
	comp=Z,103nm,0.9s						
LHSI	**Lahat**	**22.66**	**243**	P	**P**	**12 00 43.1**	**+0.1**
	comp=Z,45nm,0.9s						
LWLI	**Liwa**	**22.77**	**240**	P	**P**	**12 00 43.7**	**-0.4**
	comp=Z,192nm,0.8s						
KNRA	**Kununurra**	**22.78**	**167**	P	**P**	**12 00 44.0**	**0.0**
	baz=23,SNR=13						
KULM	**Kulim**	**22.94**	**268**	⇑P	**P**	**12 00 45.2**	**-0.3**
KULM	**Kulim**	**22.94**	**268**	⇑P	**P**	**12 00 45.2**	**-0.3**
KULM	**Kulim**	**22.94**	**268**	*eP*	**P**	**12 00 44.5**	**-1.0**
	comp=Z,62nm,1.4s						
KULM				*e*		12 04 13.4	
MNAI	**Manna**	**23.41**	**243**	P	**P**	**12 00 50.0**	**+0.4**
	comp=Z,429nm,1.2s						
KSI	**Kapahiang**	**23.41**	**245**	P	**P**	**12 00 50.2**	**+0.5**
	comp=Z,78nm,0.7s						
BKNI	**Bangkinang**	**23.44**	**255**	P	**P**	**12 00 49.5**	**-0.5**
	comp=Z,90nm,0.7s						
PPI	**Padang Panjang**	**24.28**	**254**	P	**P**	**12 00 56.2**	**-1.2**
	comp=Z,126nm,0.7s,comp=Z,1μm						
PPI	**Padang Panjang**	**24.28**	**254**	P	**P**	**12 00 56.9**	**-0.5**
	baz=24,SNR=8.6						
PBKT	**Sadao Pong**	**24.28**	**296**	P	**P**	**12 00 57.8**	**+0.5**
	comp=Z,33nm,0.8s						
KRAB	**Krabi**	**24.32**	**275**	P	**P**	**12 00 57.5**	**-0.2**
	comp=Z,70nm,0.6s						
MNSI	**Mandailing Nat**	**24.73**	**257**	P	**P**	**12 01 02.1**	**+0.8**
	comp=Z,62nm,0.6s						
PSI	**Prapat**	**24.96**	**262**	P	**P**	**12 01 03.5**	**+0.1**
	comp=Z,48nm,0.7s,baz=75,slow=7.7,SNR=23						
PSI	**Prapat**	**24.96**	**262**	P	**P**	**12 01 03.6**	**+0.1**
PSI				pmax	pmax		
	comp=Z,48nm,0.7s						
PSI	**Prapat**	**24.96**	**262**	P	**P**	**12 01 03.8**	**+0.3**
	baz=25,SNR=6.8						
UTTA	**Uttaradit**	**25.09**	**298**	P	**P**	**12 01 04.8**	**+0.4**
	comp=Z,5.5nm,0.9s						
PPSI	**Pulau Pagai**	**25.42**	**249**	P	**P**	**12 01 08.1**	**+0.7**
	comp=Z,89nm,0.8s						
NJ2	**Nanjing**	**25.64**	**351**	*eP*	**P**	**12 01 10.5**	**+1.5**
NJ2				PMZ			
	comp=Z,20nm,1.5s						
SISI	**Saibi**	**25.79**	**253**	P	**P**	**12 01 08.9**	**-1.8**
	comp=Z,307nm,0.6s,comp=Z,3μm						
UMPA	**Umpang Tak**	**26.07**	**293**	P	**P**	**12 01 13.9**	**+0.8**
	comp=Z,16nm,0.9s						
PBSI	**Pulau Batu**	**26.20**	**256**	P	**P**	**12 01 14.4**	**+0.1**
	comp=Z,68nm,0.9s						
LAMP	**Lampang**	**26.20**	**299**	P	**P**	**12 01 14.9**	**+0.7**
	comp=Z,6.4nm,0.8s						
CRAI	**Chiangrai**	**26.31**	**303**	P	**P**	**12 01 12.4**	**-2.7**
	comp=Z,28nm,0.7s						
GSI	**Gunungsitoli**	**26.57**	**260**	P	**P**	**12 01 16.3**	**-1.2**
	comp=Z,359nm,0.7s,comp=Z,4μm						
GSI	**Gunungsitoli**	**26.57**	**260**	*eP*	**P**	**12 01 16.0**	**-1.5**
	comp=Z,227nm,0.7s						
LHMI	**Lhok Sumawe**	**26.62**	**268**	P	**P**	**12 01 17.9**	**0.0**
	comp=Z,110nm,1.0s						
CM31	**Chiang Mai Arr**	**26.78**	**298**	*eP*	**P**	**12 01 19.8**	**+0.5**
	comp=Z,8.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**26.78**	**298**	P	**P**	**12 01 19.8**	**+0.5**
	comp=Z,10nm,0.6s,baz=112,slow=7.0,SNR=52						
CMAR				PcP	**PcP**	**12 04 22.4**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=127,slow=1.0,SNR=6.7						
CMAR				ScP	**ScP**	**12 07 05.7**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=71,slow=3.3,SNR=5.8						
CMAR	**Chiang Mai Arr**	**26.78**	**298**	P	**P**	**12 01 19.8**	**+0.5**
CMAR						12 04 22.5	
CMAR	

comp=Z,2.6nm,0.5s,baz=347,slow=2.5,SNR=4.7
ASAR S **S** **12 06 29.9 -1.3**
comp=Z,28nm,0.8s,baz=352,slow=24,SNR=36
ASAR ScP **ScP** **12 07 21.4 0.0**
comp=Z,3.8nm,0.6s,baz=354,slow=2.8,SNR=5.1
ASAR Alice Springs 31.77 162 P **P** **12 02 02.9 +0.7**
ASAR 12 04 35.0
ASAR S **S** **12 06 29.9 -1.3**
ASAR pmax pmax
comp=Z,71nm,0.3s
ASAR pmax pmax
comp=Z,3.0nm,0.5s
ASAR smax smax
comp=N,28nm,0.8s
ASAR pmax pmax
comp=N,4.0nm,0.6s
WRKA Warakurna 31.84 172 P **P** **12 02 03.1 +0.3**
baz=32,SNR=166
MTSU Mount Surprise 31.99 141 P **P** **12 02 04.5 +0.4**
baz=32,SNR=8.3
MJAR Matsushiro Arr 32.56 22 PcP **PcP** **12 04 36.9 +0.4**
comp=N,1.3nm,0.7s,baz=184,slow=4.5,SNR=4.1
MEEK Meekatharra 33.48 188 P **P** **12 02 16.4 -0.1**
baz=34,SNR=11
BJI Beijing 33.89 350 P **P** **12 02 20.0 +0.3**
LZH Lanzhou 34.45 331 ⇑P **P** **12 02 26.3 +1.6**
LZH PcP **PcP** **12 04 43.0 +0.8**
LZH S **S** **12 07 14.3 +2.7**
LZH ScS **ScS** **12 11 35.8 0.0**
LZH PMZ
comp=N,39nm,1.0s
LZH PMZ
comp=N,170nm,4.3s
HHC Hu-ho-hao-te 35.70 344 *e*P **P** **12 02 36.6 +1.7**
HHC sP **sP** **12 05 24.3 +0.3**
HHC S **ScP** **12 07 35.0 -0.3**
HHC sS **sS** **12 10 37.5 +2.9**
HHC PMZ
comp=N,17nm,0.7s
HHC PMZ
comp=N,76nm,5.8s
MORW Morawa 36.29 191 P **P** **12 02 39.8 +0.1**
baz=36,SNR=18
FORT Forrest 37.48 174 P **P** **12 02 50.0 +0.6**
baz=38,SNR=21
FORT Forrest 37.48 174 *e*P **P** **12 02 49.8 +0.4**
comp=N,80nm,0.6s
FORT *e*ScP **ScP** **12 07 42.0 0.0**
KMBL Kambalda 37.87 182 P **P** **12 02 52.7 +0.1**
baz=38,SNR=13
USRK Ussuriysk Ar. 38.08 10 P **P** **12 02 54.6 +0.6**
comp=N,1.4nm,0.7s,baz=202,slow=9.0,SNR=4.4
USRK PcP **PcP** **12 04 52.9 0.0**
comp=N,1.3nm,0.5s,baz=186,slow=0.5,SNR=5.4
MDJ Mudanjiang 38.14 7 P **P** **12 02 54.8 +0.2**
MDJ sP **sP** **12 05 46.3 +1.4**
MDJ S **S** **12 08 02.9 -2.8**
MDJ PMZ
comp=N,54nm,7.3s
LSA Lhasa 38.22 311 P **P** **12 02 56.8 +0.8**
QLP Quilpie 38.61 150 P **P** **12 02 59.3 +0.6**
baz=39,SNR=9.6
ERM Erimo 39.21 23⇓ *e*P **P** **12 03 04.6 +1.4**
ERM pmax pmax
comp=Z,19nm,1.5s
NWAO Narrogin (SRO) 39.86 188 P **P** **12 03 09.1 +0.5**
comp=Z,4.6nm,0.7s,baz=332,slow=6.6,SNR=5.9
NWAO Narrogin (SRO) 39.86 188 P **P** **12 03 09.1 +0.5**
NWAO pmax pmax
comp=Z,5.0nm,0.7s
NWAO Narrogin (SRO) 39.86 188 P **P** **12 03 09.2 +0.7**
baz=40,SNR=4.3
NWAO P **P** **12 03 09.2 +0.7**
baz=40,SNR=4.3
CHLP Challavanipeta 40.31 291 *e*P **P** **12 03 11.6 -0.8**
CHLP IAmb IAmb 12 03 13.8
comp=Z,19nm,0.9s
ASAJ Asahikawa 40.81 21 P **P** **12 03 16.5 +0.6**
comp=Z,1.6nm,0.3s,baz=242,slow=8.3
ASAJ Asahikawa 40.81 21 P **P** **12 03 16.5 +0.6**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
BBOO Buckleboo 41.00 164 P **P** **12 03 18.2 +0.6**
baz=41,SNR=66
BBOO Buckleboo 41.00 164 *e*P **P** **12 03 17.9 +0.3**
comp=Z,79nm,0.8s
EIDS Eidsvold 41.54 141 P **P** **12 03 22.4 +0.5**
baz=42,SNR=12
EIDS Eidsvold 41.54 141 *e*P **P** **12 03 22.3 +0.4**
comp=Z,20nm,0.7s
RKGY Rocky Gully 41.55 188 P **P** **12 03 23.3 +1.4**
baz=42,SNR=4.9
STKA Stephens Creek 41.98 157 P **P** **12 03 26.2 +0.9**
comp=Z,49nm,0.5s,baz=334,slow=7.7,SNR=184
STKA ScP **ScP** **12 08 00.2 +0.5**
comp=Z,4.7nm,0.8s,baz=334,slow=9.1,SNR=4.9
STKA Stephens Creek 41.98 157 P **P** **12 03 26.2 +0.9**
STKA pmax pmax
comp=Z,49nm,0.5s
STKA pmax pmax
comp=N,5.0nm,0.8s
PVM Polavaram 42.36 288 *e*P **P** **12 03 28.7 +0.1**
PVM IAmb IAmb 12 03 29.2
comp=Z,18nm,0.6s
HTT Hallett 42.44 161 P **P** **12 03 30.0 +1.1**
baz=42,SNR=36
PALK Pallekele 42.64 273 P **P** **12 03 30.9 0.0**
comp=Z,8.5nm,0.7s,baz=101,slow=5.2,SNR=4.2
PALK Pallekele 42.64 273 P **P** **12 03 30.9 0.0**
PALK pmax pmax
comp=Z,9.0nm,0.7s
ULN Ulaanbaatar 43.42 344 *e*P **P** **12 03 36.3 -0.2**
ULN *e* 12 05 10.9
ULN pmax pmax
comp=Z,7.0nm,0.6s
ULN Ulaanbaatar 43.42 344 *e*P **P** **12 03 36.3 -0.2**
comp=Z,7.3nm,0.6s
ULN *e*PcP **PcP** **12 05 10.8 0.0**
CMSA Cobar Meteorol 43.44 152 P **P** **12 03 38.3 +1.6**
baz=44,SNR=33
SONM Songino Array 43.58 343 P **P** **12 03 37.9 +0.2**
comp=Z,8.9nm,0.9s,baz=159,slow=8.3,SNR=27
SONM PcP **PcP** **12 05 11.1 -0.2**
comp=Z,1.3nm,0.6s,baz=166,slow=4.2,SNR=6.1
SONM Songino Array 43.58 343 P **P** **12 03 37.9 +0.2**
SONM 12 05 11.1
SONM pmax pmax
comp=Z,9.0nm,0.9s
SONM pmax pmax
comp=Z,1.0nm,0.6s
ADKI Addanki 43.74 286 *e*P **P** **12 03 38.5 -0.7**
ADKI IAmb IAmb 12 03 40.4
comp=Z,16nm,1.0s
SKHT Srikalahasti 43.78 283 *e*P **P** **12 03 39.5 -0.1**
SKHT IAmb IAmb 12 03 40.2
comp=Z,15nm,0.7s
NJS Nagarjunasagar 44.46 287 *e*P **P** **12 03 44.4 -0.4**
NJS IAmb IAmb 12 03 45.3
comp=Z,22nm,0.9s
RCLA Racherla 44.66 285 *e*P **P** **12 03 45.5 -0.9**
RCLA IAmb IAmb 12 03 46.9
comp=Z,18nm,0.8s
SRLM Srisailam 44.80 286 *e*P **P** **12 03 46.9 -0.6**
SRLM IAmb IAmb 12 03 47.5
comp=Z,20nm,0.7s
RPR Rampur 44.81 290 *e*P **P** **12 03 47.1 -0.3**
RPR IAmb IAmb 12 03 48.2
comp=Z,38nm,0.8s
HYB Hyderabad 45.29 288 *i* P **P** **12 03 50.0 -1.1**
HYBB Hyderabad (bro 45.29 288 *e*P **P** **12 03 50.8 -0.3**
HYBB IAmb IAmb 12 03 51.5
comp=Z,27nm,0.9s
ARMA Armidale 45.60 145 P **P** **12 03 55.5 +2.1**
baz=46,SNR=22
ARMA Armidale 45.60 145 *e*P **P** **12 03 55.5 +2.1**
comp=Z,32nm,0.9s
SRSP Sriramsagar 45.71 290 *e*P **P** **12 03 53.8 -0.5**
SRSP IAmb IAmb 12 03 54.8
comp=Z,39nm,0.8s
URV Uravakonda 46.24 284 *e*P **P** **12 03 58.0 -0.4**
ARPS Mount Arapiles 46.45 160 P **P** **12 04 00.2 +0.7**
baz=46,SNR=20
KLRI Killari 47.22 288 *e*P **P** **12 04 04.8 -0.9**
KLRI IAmb IAmb 12 04 05.9
comp=Z,45nm,0.8s
MGCD Mangrove Creek 47.46 148 P **P** **12 04 09.6 +2.4**
baz=48,SNR=5.7
TLY Talaya 47.82 343 P **P** **12 04 10.1 +0.5**
comp=Z,9.3nm,0.5s,baz=218,slow=6.5,SNR=6.3
TLY Talaya 47.82 343 *e*P **P** **12 04 10.7 +1.1**
TLY pmax pmax
comp=Z,12nm,0.6s
CAN Canberra 48.11 152 *e*P **P** **12 04 13.4 +1.4**
CAN pmax pmax
comp=Z,17nm,0.7s
CAN Canberra 48.11 152 *e*P **P** **12 04 13.4 +1.4**
comp=Z,17nm,0.7s
CNB Canberra Magne 48.28 152 P **P** **12 04 14.7 +1.4**
baz=48,SNR=27
TOO Toolangi 48.51 157 P **P** **12 04 16.4 +1.6**
baz=49,SNR=20
WMQ Urumqi 48.58 325 P **P** **12 04 16.5 +1.1**
WMQ PcP **PcP** **12 05 29.3 0.0**
WMQ pP **pP** **12 06 04.3 -0.3**
WMQ sP **sP** **12 07 10.5 -0.5**
WMQ PMZ
comp=Z,25nm,0.9s
WMQ PMZ
comp=Z,130nm,4.5s
BOD Bodaibo 51.56 353 *e*P **P** **12 04 36.6 -0.1**
BOD pmax pmax
comp=Z,4.0nm,0.8s
MK31 Makanchi Array 53.41 326 *e*P **P** **12 04 50.4 +0.2**
MK31 pmax pmax
comp=Z,13nm,0.3s
MK31 Makanchi Array 53.41 326 *e*P **P** **12 04 50.5 +0.3**
MK31 *e*PcP **PcP** **12 05 47.0 -0.4**
MKAR Makanchi Array 53.41 326 P **P** **12 04 50.5 +0.3**
comp=Z,30nm,0.5s,baz=121,slow=8.4,SNR=378
MKAR PcP **PcP** **12 05 46.8 -0.6**
comp=Z,3.7nm,0.4s,baz=111,slow=4.9,SNR=7.0
MKAR ScP **ScP** **12 08 47.2 -0.8**
comp=Z,2.0nm,0.8s,baz=116,slow=5.5,SNR=5.4
MKAR Makanchi Array 53.41 326 P **P** **12 04 50.5 +0.3**
MKAR 12 05 46.8
MKAR pmax pmax
comp=Z,31nm,0.5s
MKAR pmax pmax
comp=Z,4.0nm,0.4s
MKAR pmax pmax
comp=N,2.0nm,0.8s
KSH Kashi 53.82 315 P **P** **12 04 54.8 +1.5**
KSH PcP **PcP** **12 05 52.3 +3.1**
KSH pP **pP** **12 06 50.0 +4.0**
KSH PP PP 12 07 10.3 +6.6
KSH S **S** **12 11 42.3 -1.7**
KSH sS **sS** **12 15 08.1 +1.4**
KSH SS **SS** **12 15 44.1 +6.6**
KSH PMZ
comp=N,26nm,0.4s
KSH PMZ
comp=N,350nm,5.1s
PETK Petropavlovsk- 53.95 25 P **P** **12 04 54.3 +0.5**
comp=N,3.5nm,0.7s,baz=193,slow=1.8,SNR=6.1
PETK Petropavlovsk- 53.95 25 P **P** **12 04 54.3 +0.5**
PETK pmax pmax
comp=Z,4.0nm,0.7s
KZA Kyzart 55.40 317 P **P** **12 05 05.8 +1.2**
SNR=26
YAK Yakutsk 55.41 3 P **P** **12 05 03.3 -0.5**
comp=Z,3.7nm,0.3s,baz=94,slow=3.3,SNR=2.1
YAK Yakutsk 55.41 3 *e*P **P** **12 05 02.8 -1.0**
YAK pmax pmax
comp=Z,10.0nm,1.0s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.0s
TKM2 Tokmak 2 55.53 318 P **P** **12 05 05.8 +0.5**
SNR=22
TKM2 Tokmak 2 55.53 318 *e*P **P** **12 05 05.7 +0.4**
TKM2 pmax pmax
comp=Z,22nm,0.5s
TKM2 Tokmak 2 55.53 318 *e*P **P** **12 05 05.7 +0.4**
comp=Z,22nm,0.5s
KBK Karagaybulak 55.85 318 P **P** **12 05 08.3 +0.9**
SNR=8.0
CHMS Chumysh 56.12 318 P **P** **12 05 09.3 +0.2**
SNR=5.2
AAK Ala-Archa 56.14 318 P **P** **12 05 09.5 +0.1**
AAK pmax pmax
comp=Z,7.0nm,0.7s
USP Ospenovka 56.41 318 P **P** **12 05 11.5 +0.4**
SNR=21
AML Almayashu 56.47 317 P **P** **12 05 12.9 +0.9**
SNR=9.3
ZAA0 Zalesovo Array 56.60 334 *e*P **P** **12 05 11.2 -0.9**
ZAA0 *e*PcP **PcP** **12 05 58.4 -1.2**
ZALV Zalesovo Beam 56.60 334 P **P** **12 05 11.2 -0.9**
comp=Z,6.9nm,0.5s,baz=129,slow=5.3,SNR=30
ZALV Zalesovo Beam 56.60 334 P **P** **12 05 11.2 -0.9**
ZALV pmax pmax
comp=Z,7.0nm,0.6s
EKS2 Erkin-Say 56.63 318 P **P** **12 05 13.6 +0.8**
SNR=24
EKS2 Erkin-Say 56.63 318 *e*P **P** **12 05 13.5 +0.8**
EKS2 pmax pmax
comp=Z,22nm,0.7s
EKS2 Erkin-Say 56.63 318 *e*P **P** **12 05 13.4 +0.7**
comp=Z,22nm,0.7s
KBL Kabul 57.33 307 *e*P **P** **12 05 17.4 -0.3**
KBL *e**PP **pP** **12 07 12.3 -0.3**
KBL pmax pmax
comp=Z,28nm,0.6s
KBL Kabul 57.33 307 *e*P **P** **12 05 17.4 -0.3**
comp=Z,28nm,0.6s
KBL *e*pP **pP** **12 07 12.3 -0.3**
KURBB Kurchatov Arra 57.63 328 P **P** **12 05 19.1 -0.1**
comp=Z,37nm,0.7s,baz=129,slow=6.3,SNR=380
KURK Kurchatov 57.63 328 P **P** **12 05 19.7 +0.5**
comp=Z,874nm,0.5s,SNR=61
KURK Kurchatov 57.63 328 P **P** **12 05 19.1 -0.1**
KURK pmax pmax
comp=Z,37nm,0.7s
KURK Kurchatov 57.63 328 *e*P **P** **12 05 19.1 -0.1**
NVS Novosibirsk 57.89 334 *e*P **P** **12 05 19.8 -1.0**
NVS *e*S **S** **12 12 33.6 -1.8**
NVS pmax pmax
comp=Z,14nm,0.7s
NVS pmax pmax
comp=N,9.0nm,0.8s
NVS pmax pmax
comp=E,5.0nm,0.6s
NVS smax smax
comp=E,20nm,1.7s
NVS smax smax
comp=N,5.0nm,1.3s
KK31 Karatay Array 59.01 317 *i* P **P** **12 05 28.3 -0.3**
KK31 pmax pmax
comp=Z,19nm,0.7s
KKAR Karatay Array 59.01 317 *e*P **P** **12 05 28.6 -0.1**
KKAR pmax pmax
comp=Z,17nm,0.6s
KKAR Karatay Array 59.01 317 *e*P **P** **12 05 28.6 -0.1**
comp=Z,17nm,0.6s
SEY Seymchan 59.91 15 P **P** **12 05 34.5 +0.3**
comp=Z,1.9nm,0.5s,baz=222,slow=23,SNR=5.9
SEY Seymchan 59.91 15 P **P** **12 05 34.5 +0.3**
SEY pmax pmax
comp=Z,1.0nm,0.5s
BVA0 Borovoye Array 63.20 327 *i* P **P** **12 05 55.2 -0.6**
BVA0 pmax pmax
comp=Z,24nm,1.2s
BVAR Borovoye Array 63.20 327 P **P** **12 05 55.4 -0.4**
comp=Z,11nm,0.8s,baz=134,slow=8.3,SNR=45
BVAR Borovoye Array 63.20 327 P **P** **12 05 55.4 -0.4**
BVAR pmax pmax
comp=Z,11nm,0.8s
BRVK Borovoye 63.28 327 P **P** **12 05 56.0 -0.2**
comp=Z,163nm,1.0s,SNR=8.7
BRVK Borovoye 63.28 327 *e*P **P** **12 05 56.0 -0.2**
BRVK pmax pmax
comp=Z,33nm,1.0s
BRVK Borovoye 63.28 327 *e*P **P** **12 05 56.0 -0.2**
comp=Z,33nm,1.0s
GEYT Alibeck 66.69 308 P **P** **12 06 18.5 +0.5**
comp=Z,11nm,0.8s,baz=308,slow=7.3,SNR=12
AB31 Akbulak array 67.95 321 *i* P **P** **12 06 24.7 -0.7**
AB31 pmax pmax
comp=Z,4.0nm,0.4s
ABKAR Akbulak array 67.95 321 *e*P **P** **12 06 25.0 -0.4**
comp=Z,10nm,0.6s
ABKAR *e*PcP **PcP** **12 06 45.2 -1.2**
AKTO Aktyubinsk 69.47 322 P **P** **12 06 34.2 -0.2**
comp=Z,12nm,0.7s,baz=103,slow=7.6,SNR=46
AKTO Aktyubinsk 69.47 322 P **P** **12 06 34.3 -0.2**
AKTO pmax pmax
comp=Z,12nm,0.7s
SVE Sverdlovsk 69.87 329 *e*P **P** **12 06 36.4 -0.3**
SVE pmax pmax
comp=Z,26nm,0.8s
ARU Arti 70.83 328 P **P** **12 06 41.5 -0.9**
baz=108,slow=6.5
ARU Arti 70.83 328 *d* *i*P **P** **12 06 41.2 -1.1**
ARU S **S** **12 15 09.3 -0.8**
ARU pmax pmax
comp=Z,19nm,1.0s
ARU Arti 70.83 328 P **P** **12 06 41.9 -0.4**
comp=Z,154nm,0.6s,SNR=6.2
RAYN Ar Rayn 76.54 293 P **P** **12 07 14.0 -1.4**
comp=Z,109nm,0.8s,SNR=5.6
RAYN Ar Rayn 76.54 293 *e*P **P** **12 07 14.8 -0.5**
comp=Z,9.3nm,0.8s
PRGR Permogore 78.48 332 *e*P P 12 07 17.0 -7.9
PRGR pmax pmax
comp=Z,15nm,0.6s
KBZ Khabaz 78.75 313 P **P** **12 07 26.6 -0.1**
comp=Z,2.2nm,0.7s,baz=318,slow=4.4,SNR=4.0
KBZ Khabaz 78.75 313 P **P** **12 07 26.6 -0.1**
KBZ pmax pmax
comp=Z,2.0nm,0.7s
KDAK Kodiak Island 81.05 33 *i* P **P** **12 07 39.2 +0.8**
BPAW Bear Paw Mtn. 82.00 26 *e*P **P** **12 07 43.7 +0.5**
comp=Z,1.9nm,0.8s
TRF Thorofare Moun 82.30 27 *e*P **P** **12 07 45.0 +0.1**
comp=Z,4.2nm,0.9s
MCK McKinley 82.90 27 *e*P **P** **12 07 48.1 +0.3**
MCK pmax pmax
comp=Z,12nm,1.2s
MCK McKinley 82.90 27 *e*P **P** **12 07 48.1 +0.3**
comp=Z,12nm,1.2s
OBN Obninsk 82.91 325 P **P** **12 07 46.8 -1.1**
comp=Z,20nm,0.6s,baz=125,slow=20,SNR=4.9
ILAR Eielson Array 83.77 26 P **P** **12 07 50.8 -1.2**
comp=Z,0.4nm,0.4s,baz=238,slow=5.0,SNR=16
MAW Mawson 85.47 200 P **P** **12 07 59.9 -0.2**
comp=Z,1.3nm,0.5s,baz=136,slow=3.5,SNR=7.1
MAW Mawson 85.47 200 P **P** **12 07 59.9 -0.2**
MAW pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 85.81 309 P **P** **12 08 01.3 -1.3**
comp=Z,2.4nm,0.4s,baz=104,slow=4.5,SNR=8.0
BRTR Keskin Array B 85.81 309 P **P** **12 08 01.3 -1.3**
BRTR pmax pmax
comp=Z,2.0nm,0.4s
KMBO Kilima Mbogo 86.57 268 P **P** **12 08 06.6 -0.2**
comp=Z,2.5nm,0.5s,baz=50,slow=8.0,SNR=8.6
KMBO Kilima Mbogo 86.57 268 P **P** **12 08 06.6 -0.2**
KMBO pmax pmax
comp=Z,2.0nm,0.3s
ARCES ARCESS Array B 86.64 340 P **P** **12 08 04.4 -1.3**
comp=Z,2.3nm,0.5s,baz=87,slow=6.4,SNR=13
ARCES ARCESS Array B 86.64 340 P **P** **12 08 04.4 -1.3**
ARCES pmax pmax
comp=Z,2.0nm,0.5s
VNDA Vanda 86.73 172 P **P** **12 08 06.3 +0.4**
comp=Z,1.3nm,0.5s,baz=320,slow=6.5,SNR=11
VNDA Vanda 86.73 172 P **P** **12 08 06.3 +0.4**
VNDA pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 87.70 321 P **P** **12 08 09.2 -1.7**
comp=Z,1.7nm,0.4s,baz=66,slow=5.1,SNR=8.5
AKASG Malin Array Be 87.70 321 P **P** **12 08 09.3 -1.7**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 87.81 332 P **P** **12 08 09.9 -1.4**
comp=Z,3.4nm,0.5s,baz=68,slow=4.5,SNR=27
FINES FINESS Array B 87.81 332 P **P** **12 08 09.9 -1.4**
FINES pmax pmax
comp=Z,4.0nm,0.5s
BUR08 Bucovina Ar. S 90.79 318 *e*P **P** **12 08 25.2 -0.4**
NB2 NORSAR Subarra 94.80 333 P **P** **12 08 41.5 -2.0**
comp=Z,0.9nm,0.6s,baz=66,slow=4.8
NOA NORSAR Array B 94.80 333 P **P** **12 08 41.3 -2.2**
comp=Z,1.5nm,0.7s,baz=68,slow=4.6,SNR=6.2
NOA NORSAR Array B 94.80 333 P **P** **12 08 41.3 -2.2**
NOA pmax pmax
comp=Z,2.0nm,0.7s
CLL Collm 97.48 324 *e*P Pdif 12 08 54.0 -1.7
CLL Collm 97.48 324 *e*Pdif Pdif 12 08 54.0 -1.7
GERES GERESS Array B 97.89 321 P Pdif 12 08 56.6 -1.1
comp=Z,0.7nm,0.7s,baz=80,slow=3.0,SNR=3.6
GERES GERESS Array B 97.89 321 P Pdif 12 08 56.7 -1.1
GERES pmax pmax
comp=Z,1.0nm,0.7s
VNA2 Neumayer--Watz 108.88 195 P **PKiKP** **12 13 47.2 +0.6**
baz=60,slow=1.2
PDAR Pinedale Array 111.08 39 PKiKP **PKiKP** **12 13 53.2 +1.2**
comp=Z,0.3nm,0.5s,baz=332,slow=5.4,SNR=3.2
J22A Midwest 112.62 37 P **PKiKP** **12 13 54.2 -0.5**
baz=112
T26A Comanche Natio 117.96 42 P **PKPdf** **12 14 05.7 +0.4**
baz=118
SCHQ Schefferville 118.09 7 PKP **PKPdf** **12 14 04.2 -0.6**
comp=Z,1.2nm,0.3s,baz=326,slow=3.9,SNR=5.7
SPMN St. Paul 118.86 29 P **PKPdf** **12 14 06.5 0.0**
baz=119
TORD Torodi Ar. Bea 119.10 289 PKP **PKPdf** **12 14 07.0 -0.8**
comp=Z,2.6nm,0.5s,baz=61,slow=1.5,SNR=30
P32A Huiting Farm, 119.62 37 P **PKPdf** **12 14 07.9 -0.3**
baz=120
Z30A Sanderson Ranc 121.82 44 P **PKPdf** **12 14 12.3 -0.3**
baz=122
TXAR Lajitas Array 122.10 49 PKP **PKPdf** **12 14 13.7 +0.4**
comp=Z,0.3nm,0.6s,baz=356,slow=1.8,SNR=4.8
T36A Boggs Farm, Ca 122.91 37 P **PKPdf** **12 14 14.6 +0.1**
baz=123
Z32A Haskell 122.94 43 P **PKPdf** **12 14 14.9 +0.2**
baz=123
S37A Fort Scott 123.07 36 P **PKPdf** **12 14 14.6 -0.2**
baz=123
Y33A Hilltop Ranch, 123.09 42 P **PKPdf** **12 14 14.8 -0.2**
baz=123
331A San Angelo 123.42 46 P **PKPdf** **12 14 15.7 0.0**
baz=123
T37A Cheneyville 18 123.44 37 P **PKPdf** **12 14 16.1 +0.5**
baz=123
W35A Tecumseh 123.52 40 P **PKPdf** **12 14 16.0 +0.2**
baz=123
X35A Drake 123.93 40 P **PKPdf** **12 14 16.4 -0.2**
baz=124
W36A Wetumka 123.94 39 P **PKPdf** **12 14 16.4 -0.1**
baz=124
V37A Hulbert 124.13 38 P **PKPdf** **12 14 16.5 -0.4**
baz=124
U38A Gravette 124.22 37 P **PKPdf** **12 14 16.9 -0.2**
baz=124
X36A Centrahoma 124.22 40 P **PKPdf** **12 14 17.1 0.0**
baz=124
JCT Junction City 124.33 46 P **PKPdf** **12 14 17.9 +0.4**
baz=124
V38A Canehill 124.59 37 P **PKPdf** **12 14 17.8 -0.1**
baz=124
WHTX Lake Whitney 125.09 43 P **PKPdf** **12 14 18.9 +0.1**
baz=125
Z38A Mt. Pleasant 125.94 40 P **PKPdf** **12 14 20.1 -0.4**
baz=126
MIAR Mount Ida 125.98 38 P **PKPdf** **12 14 21.2 +0.7**
baz=126
DBIC Dimbokro 126.96 283 PKP **PKPdf** **12 14 22.6 -0.3**
comp=Z,3.0nm,0.5s,baz=130,slow=1.3,SNR=5.8
DBIC Dimbokro 126.96 283 PKIKP **PKPdf** **12 14 22.6 -0.3**
DBIC pmax pmax
comp=Z,3.0nm,0.5s
HALT Halls 127.50 34 *e*PKPdf **PKPdf** **12 14 18.2 -5.1**
TKL Tuckaleechee C 130.60 30 PKP **PKPdf** **12 14 30.5 +1.2**
comp=Z,2.9nm,0.5s,baz=236,slow=3.6,SNR=8.0
TKL Tuckaleechee C 130.60 30 PKIKP **PKPdf** **12 14 30.5 +1.2**
TKL pmax pmax
comp=Z,3.0nm,0.5s
TRQA Tornquist 148.35 171 *e*PKPbc **PKPbc** **12 15 05.8 +0.5**
LPAZ La Paz 165.01 131 PKP **PKPdf** **12 15 22.5 -0.6**
comp=Z,1.0nm,1.0s,baz=30,slow=15,SNR=4.5
LPAZ PKPab **PKPab** **12 16 25.1 +1.0**
comp=Z,1.0nm,0.7s,baz=215,slow=7.1,SNR=5.1
LPAZ La Paz 165.01 131 PKIKP **PKPdf** **12 15 22.5 -0.6**
LPAZ pmax pmax
comp=Z,1.0nm,1.0s
LPAZ pmax pmax

comp=Z,1.0nm,0.7s

*IDC **24** 12:04:35.7±6.0, 13°.21N×91°.62W, h0km, mb3.5/2, mb1 3.7/5, mb1mx3.5/32, mbtmp3.4/5, ML3.3/3, Error ellipse: s-maj=98.5km s-min=55.5km az=167.0*

*ISCJB **24** 12:04:46.9±1.0, 14°.00N±0°.09×91°.87W±0°.07, h61km, mb3.5/2, Error ellipse: s-maj=15.2km s-min=5.3km az=32.4*

*NEIC **24** 12:04:48.7, 13°.95N×91°.94W, h20km, MD4.2(MEX), After MEX.*

*MEX **24** 12:04:48.7±0.5, 13°.95N×91°.94W, h20km, MD4.0*

*CASC **24** 12:04:50.2±1.6, 14°.14N×91°.64W, h48km±11km, MD3.7*

ISC 24 12:04:47.4±1.4, **13°.9N**±0°.1×**91°.86W**±0°.06, **h61**km, **n19, σ1§07/25, 2C, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.43**	**30**⇑	*iP*	**Pn**	**12 04 59.1**	**+0.3**
JAT				*eS*	**Sn**	**12 05 04.0**	**-3.1**
FUG	**Fuego 3**	**1.11**	**63**⇑	*eP*	**Pn**	**12 05 06.3**	**-0.8**
RBDL	**Robledal**	**2.12**	**95**	*eP*	**Pn**	**12 05 20.7**	**0.0**
RTR	**El Retiro**	**2.15**	**91**	*eP*	**Pn**	**12 05 21.4**	**+0.3**
SBLS	**San Blas**	**2.18**	**92**	*eP*	**Pn**	**12 05 21.1**	**-0.4**
PCIG		**2.19**	**323**	*eP*	**Pn**	**12 05 21.0**	**-0.4**
PCIG				*eS*	**Sn**	**12 05 45.8**	**-1.6**
PCIG		**2.19**	**323**	*eP*	**Pn**	**12 05 21.0**	**-0.4**
PCIG				*eS*	**Sn**	**12 05 45.8**	**-1.6**
CCIG	**Comitan**	**2.34**	**353**	*i* P	**Pn**	**12 05 24.3**	**+0.6**
CCIG				*i* S	**Sn**	**12 05 51.3**	**-0.1**
CCIG	**Comitan**	**2.34**	**353**	*i* P	**Pn**	**12 05 24.3**	**+0.6**
CCIG				*i* S	**Sn**	**12 05 51.3**	**-0.1**
MRL	**Marmol**	**2.38**	**62**	*eP*	**Pn**	**12 05 24.1**	**-0.1**
BOQS	**Boqueron**	**2.52**	**94**	*eP*	**Pn**	**12 05 26.8**	**+0.6**
LFRS	**El Faro**	**2.74**	**96**	*eP*	**Pn**	**12 05 29.7**	**+0.6**
CMIG	**Matias Romero**	**4.28**	**317**	*eP*	**Pn**	**12 05 50.5**	**+0.5**
CMIG				*i* S	**Sn**	**12 06 37.3**	**-1.3**
CMIG	**Matias Romero** 2.1nm,0.3s,baz=126,slow=12,SNR=14	**4.28**	**317**	Pn	**Pn**	**12 05 50.4**	**+0.4**
CMIG	4.7nm,0.3s,baz=91,slow=18,SNR=4.6			Sn	**Sn**	**12 06 37.4**	**-1.3**
TEIG	**Tepich** 0.1nm,0.3s,baz=267,slow=24,SNR=6.3	**7.12**	**28**	Pn	**Pn**	**12 06 29.2**	**+0.2**
TEIG	**Tepich**	**7.12**	**28**	*e*Pn	**Pn**	**12 06 30.4**	**+1.3**
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=156,slow=11,SNR=11	**18.82**	**326**	P	**Pn**	**12 09 04.8**	**+1.4**
NVAR	**Mina Array Bea** 0.5nm,0.6s,baz=133,slow=9.2,SNR=6.4	**33.80**	**321**	P	P	12 11 27.7	+3.7
ILAR	**Eielson Array** 0.3nm,0.8s,baz=168,slow=4.5,SNR=4.4	**62.94**	**337**	P	**P**	**12 15 07.7**	**+0.4**

MAN 24 12:07:52, 17°.74N×121°.50E, h33km**, mb3.8, ML2.5, MS2.1, 1D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**0.31**	**97**⇓	*iP*	Pn	12 08 00.8	+0.6
CVP				*i* S	Sn	12 08 07.0	+1.7

*ISCJB **24** 12:09:09.6±0.6, 6°.35S±0°.05×130°.1E±0°.2, h90km, mb3.9/3, Error ellipse: s-maj=22.0km s-min=7.5km az=178.6*

*IDC **24** 12:09:11.8±3.5, 6°.37S×130°.33E, h111km±41km, mb3.7/3, mb1 4.0/6, mb1mx3.4/31, mbtmp4.2/6, MS3.3/1, Ms1 3.5/1, ms1mx2.5/30, Error ellipse: s-maj=73.2km s-min=23.2km az=78.0*

ISC 24 12:09:10.9±0.9, **6°.28S**±0°.07×**130°.3E**±0°.2, **h90**km, **n12, σ1§90/12, mb3.8/3, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak** baz=3.9,SNR=247	**3.88**	**31**	P	**Pn**	**12 10 10.2**	**+1.9**
SIJI	**Sorong** 19nm,0.3s,baz=183,slow=17,SNR=96	**5.46**	**11**	P	**Pn**	**12 10 32.0**	**+2.1**
SIJI	15nm,0.3s,baz=232,slow=19,SNR=14			S	**Sn**	**12 11 29.1**	**-2.4**
SWI	**Sorong** baz=5.7,SNR=36	**5.47**	**11**	P	**Pn**	**12 10 32.0**	**+2.1**
MTN	**Manton Dam** baz=6.4,SNR=190	**6.58**	**173**	P	**Pn**	**12 10 46.8**	**+1.7**
KDU	**Kakadu** baz=6.5,SNR=182	**6.73**	**161**	P	**Pn**	**12 10 48.1**	**+1.0**
SOEI	**Soe** baz=7.0,SNR=3.6	**6.87**	**239**	P	Pn	12 10 55.1	+6.0
KNRA	**Kununurra** baz=9.4,SNR=118	**9.46**	**189**	P	**Pn**	**12 11 24.6**	**+0.3**
WRA	**Warramunga Arr** 1.4nm,0.3s,baz=344,slow=13,SNR=34	**14.15**	**164**	P	**Pn**	**12 12 24.5**	**-2.7**
WRA	1.9nm,0.3s,baz=353,slow=22,SNR=7.6			S	Sn	12 14 53.0	-10
ASAR	**Alice Springs** 1.0nm,0.3s,baz=347,slow=10,SNR=56	**17.64**	**169**	P	**P**	**12 13 10.2**	**-0.5**
ASAR	0.3nm,0.3s,baz=353,slow=26,SNR=6.2			S	Sn	12 16 17.2	-10
CMAR	**Chiang Mai Arr** 0.8nm,0.5s,baz=140,slow=7.6,SNR=5.8	**39.48**	**309**	P	**P**	**12 16 33.0**	**+0.2**
CMAR	comp=Z,35nm,18.7s,baz=176,slow=37			LR	LR	12 33 51.0	
MKAR	**Makanchi Array** 1.5nm,0.4s,baz=125,slow=7.5,SNR=17	**67.77**	**327**	P	**P**	**12 19 58.8**	**-0.3**
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=138,slow=6.8,SNR=2.8	**71.06**	**334**	P	**P**	**12 20 17.4**	**-1.7**

CASC 24 12:23:08.8±1.4, **14°.14N×90°.30W, h13**km±10km, **MD3.5, 2C, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBG	**Las Nubes**	**0.44**	**355**⇑	*eP*	Pb	12 23 18.5	-0.4
NBG				*eS*	Sg	12 23 24.9	+0.7
RBDL	**Robledal**	**0.60**	**93**	*eP*	Pg	12 23 20.4	-0.4
RBDL				*eS*	Sg	12 23 28.6	-0.3
FUG	**Fuego 3**	**0.60**	**300**⇑	*eP*	Pg	12 23 20.2	-0.6
RTR	**El Retiro**	**0.68**	**111**	*eP*	Pg	12 23 22.3	-0.1
RTR				*eS*	Sg	12 23 31.4	-0.1
SBLS	**San Blas**	**0.73**	**114**	*eP*	Pg	12 23 22.9	-0.3
SBLS				*eS*	Sb	12 23 33.5	-0.2
SNJE	**San Jose**	**0.73**	**112**	*eP*	Pg	12 23 22.6	-0.7
SNJE				*eS*	Sg	12 23 32.7	-0.4
MTO2	**Montecristo 2**	**0.95**	**74**	*eP*	Pb	12 23 25.8	-1.6
MTO2				*eS*	Sg	12 23 39.5	-0.5
BOQS	**Boqueron**	**1.07**	**112**	*eP*	Pb	12 23 28.4	-1.1
MRL	**Marmol**	**1.09**	**33**	*eP*	Pb	12 23 29.4	-0.4
MRL				*eS*	Sb	12 23 44.1	0.0
LFU	**La Fuente**	**1.22**	**109**	*eP*	Pn	12 23 31.1	-0.6
LBRS	**Las Brisas**	**1.29**	**108**	*eP*	Pn	12 23 31.7	-0.9
LFRS	**El Faro**	**1.31**	**113**	*eP*	Pn	12 23 32.4	-0.6

*ISN **24** 12:33:58.4±2.2, 26°.85N×54°.89E, h0km±35km, ML4.1*

*TEH **24** 12:34:10.2, 26°.65N×53°.57E, h10km, ML4.7*

*THR **24** 12:34:11.9±0.4, 26°.93N×53°.72E, h14km±5km, ML4.5*

*IDC **24** 12:34:12.4±0.7, 27°.12N×53°.68E, h0km, mb4.3/26, mb1 4.4/31, mb1mx4.3/38, mbtmp4.3/31, ML4.0/4, MS4.0/32, Ms1 4.0/32, ms1mx3.8/52, Error ellipse: s-maj=16.1km s-min=11.7km az=178.0*

*BJI **24** 12:34:14.2, 26°.80N×53°.90E, h20km, mb4.7/24, mB5.0/15, Ms4.6/15, Ms7 4.5/7*

*NEIC **24** 12:34:14.2±0.3, 27°.15N×53°.68E, h10km, mb4.8/11, MN4.7(TEH), Error ellipse: s-maj=7.3km s-min=5.0km az=173.0*

*ISCJB **24** 12:34:14.5±0.2, 27°.14N±0°.03×53°.62E±0°.03, h19km, mb4.6/72, MS4.0/33, Error ellipse: s-maj=4.4km s-min=3.1km az=33.8*

*MOS **24** 12:34:17.4±1.2, 27°.10N×53°.65E, h45km, mb4.8/25, Error ellipse: s-maj=7.5km s-min=4.4km az=112.4*

*CSEM **24** 12:34:18.0±0.1, 27°.19N×53°.65E, h30km, mb4.6/25, Ms4.3, Error ellipse: s-maj=6.3km s-min=4.1km az=42.0*

*DSN **24** 12:34:18.1±0.5, 27°.17N×53°.69E, h15km, mb4.1/8, ML5.2/5, Ms4.3/2, Error ellipse: s-maj=10.8km s-min=4.1km az=68.0*

*OMAN **24** 12:34:51.0±1.0, 25°.61N×56°.30E, h15km±708km, Error ellipse: s-maj=142.6km s-min=40.1km az=309.0*

ISC 24 12:34:15.7±0.5, **27°.04N**±0°.04×**53°.68E**±0°.03, **h20**km±3km, **h20**km**:pP-P, n353**, σ1§**40**/346, **mb4.6**/72, **MS4.0**/34, **33C-18D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.38**	**334**	*e*Pg	**Pn**	**12 34 39.6**	**-0.3**
GHIR				*e*Sg	**Sb**	**12 34 59.7**	**+1.5**
GHIR				AML	AML	12 35 05.8	
GHIR	comp=N,11μm,0.7s			AML	AML	12 35 07.1	
GHIR	comp=E,10μm,0.9s **Ghir-Karzin**	**1.38**	**334**	*e*Pg	**Pn**	**12 34 39.6**	**-0.3**
GHIR				*e*Sg	**Sb**	**12 34 59.7**	**+1.5**
BNDS	comp=E,10μm,0.9s **Bandar-Abbas**	**2.25**	**80**	*e*Pg	**Pn**	**12 34 52.5**	**+0.5**
BNDS				AML	AML	12 35 39.5	
BNDS	comp=N,1μm,0.1s **Bandar-Abbas** comp=N,1μm,0.1s	**2.25**	**80**	*e*Pg	**Pn**	**12 34 52.5**	**+0.5**
ISRV	**Sarvestan**	**2.38**	**348**	*e*Pn	**Pn**	**12 34 54.2**	**+0.3**
ISRV				*e*Sg	Sb	12 35 36.0	+8.8
ISRV				*e*		12 35 42.1	
ISRV	comp=Z,12μm,0.6s **Sarvestan**	**2.38**	**348**	*e*Pn	**Pn**	**12 34 54.2**	**+0.3**
ISRV				*e*Sg	Sb	12 35 36.0	+8.8
IBND	**Bandar-abas**	**2.58**	**80**	*e*Pg	**Pb**	**12 35 00.0**	**-1.3**
IBND	comp=Z,52μm,0.7s			*e*		12 36 40.7	
IBND	**Bandar-abas**	**2.58**	**80**	*e*Pg	**Pb**	**12 35 00.0**	**-1.3**
BANOM	**Banah** SNR=8.8	**2.60**	**115**	P	**Pn**	**12 34 58.6**	**+1.9**
BANOM	**Banah** SNR=8.8	**2.60**	**115**	P	**Pn**	**12 34 58.6**	**+1.9**
NAZ	**Nazwa, Dubai** SNR=43	**2.72**	**138**	P	**Pb**	**12 35 02.6**	**-1.0**
NAZ	**Nazwa, Dubai** SNR=43	**2.72**	**138**⇓	*e*P	**Pb**	**12 35 02.6**	**-1.0**
SHI	**Shiraz**	**2.79**	**339**	*e*Pn	**Pn**	**12 34 59.3**	**0.0**
SHI	comp=Z,26μm,0.4s			*e*		12 36 07.0	
SHI	**Shiraz**	**2.79**	**339**	*e*Pn	**Pn**	**12 34 59.3**	**0.0**
ASUD	**Al Ashush, Dub** SNR=22	**2.83**	**148**	P	**Pb**	**12 35 05.0**	**-0.6**
ASUD	**Al Ashush, Dub** SNR=22	**2.83**	**148**	*e*P	**Pb**	**12 35 05.0**	**-0.6**
IPAR	**Pars**	**2.84**	**349**	*e*Pn	**Pn**	**12 34 59.7**	**-0.5**
IPAR	comp=Z,23μm,0.4s			*e*		12 35 59.9	
IPAR	**Pars**	**2.84**	**349**	*e*Pn	**Pn**	**12 34 59.7**	**-0.5**
FAQ	**Al Faqa, Dubai** SNR=16	**2.87**	**143**	P	**Pb**	**12 35 04.5**	**-1.7**
FAQ	**Al Faqa, Dubai** SNR=16	**2.87**	**143**⇓	*e*P	**Pb**	**12 35 04.5**	**-1.7**
HATD	**Hatta, Dubai** SNR=18	**3.12**	**134**	P	**Pb**	**12 35 07.7**	**-2.9**
HATD	**Hatta, Dubai** SNR=18	**3.12**	**134**⇑	*iP*	**Pb**	**12 35 07.7**	**-2.9**
IKAZ	**Kazeroun**	**3.17**	**330**	*e*Pn	**Pn**	**12 35 03.5**	**-1.2**
IKAZ	comp=Z,39μm,0.4s			*e*		12 36 26.9	
IKAZ	**Kazeroun**	**3.17**	**330**	*e*Pn	**Pn**	**12 35 03.5**	**-1.2**
ASHO	**Ashiyiah** SNR=50	**3.18**	**137**	P	**Pb**	**12 35 09.2**	**-2.4**
ASHO	**Ashiyiah** SNR=50	**3.18**	**137**	P	**Pb**	**12 35 09.2**	**-2.4**
KRBR	**Kerman**	**3.99**	**42**	*e*Pn	**Pn**	**12 35 16.1**	**0.0**
KRBR	comp=E,371nm,1.0s			AML	AML	12 36 21.9	
KRBR	**Kerman** comp=E,371nm,1.0s	**3.99**	**42**	*e*Pn	**Pn**	**12 35 16.1**	**0.0**
IMEH	**Mehriz**	**4.41**	**10**	*e*Pn	**Pn**	**12 35 21.9**	**+0.2**
IMEH	comp=Z,7μm,0.5s			*e*		12 36 20.4	
IMEH	**Mehriz**	**4.41**	**10**	*e*Pn	**Pn**	**12 35 21.9**	**+0.2**
ARQ	**Araqi** SNR=20	**4.50**	**144**	P	Pn	12 35 26.5	+3.7
ARQ	**Araqi** SNR=20	**4.50**	**144**	P	Pn	12 35 26.5	+3.7
HOQ	**Hoqain** SNR=8.9	**4.76**	**136**	⇓P	Pn	12 35 29.9	+3.5
HOQ	**Hoqain** SNR=8.9	**4.76**	**136**	P	Pn	12 35 29.9	+3.5
IBAF	**Bafgh** comp=Z,2μm,0.3s	**4.82**	**20**	*e*	**Sn**	**12 36 24.9**	**+2.2**
ISAD	**Sadrabad**	**4.85**	**0**	*e*Pn	**Pn**	**12 35 28.2**	**+0.4**
ISAD	comp=Z,4μm,0.3s			*e*		12 37 01.5	
ISAD	**Sadrabad**	**4.85**	**0**	*e*Pn	**Pn**	**12 35 28.2**	**+0.4**
ICHK	**Chekchek**	**5.22**	**7**	*e*Pn	**Pn**	**12 35 33.7**	**+0.8**
ICHK	comp=Z,3μm,0.2s			*e*		12 35 42.0	
ICHK	**Chekchek**	**5.22**	**7**	*e*Pn	**Pn**	**12 35 33.7**	**+0.8**
BSY	**Bisya** SNR=31	**5.34**	**142**	P	Pn	12 35 37.8	+3.4
BSYO	**Bisya** SNR=31	**5.38**	**142**	P	**Pn**	**12 35 37.8**	**+3.0**
SMDO	**Samad**	**5.61**	**134**	⇓P	**Pn**	**12 35 41.1**	**+3.0**
SMDO	**Samad**	**5.61**	**134**	P	**Pn**	**12 35 41.1**	**+3.0**
IZEF	**Zefreh**	**5.95**	**349**	*e*Pn	**Pn**	**12 35 41.3**	**-1.6**
IZEF	comp=Z,925nm,0.3s			*e*		12 36 55.3	
IZEF	**Zefreh**	**5.95**	**349**	*e*Pn	**Pn**	**12 35 41.3**	**-1.6**
IPIR	**Pirpir**	**6.12**	**337**	*e*Pn	**Pn**	**12 35 42.7**	**-2.6**
IPIR	comp=Z,5μm,0.7s			*e*		12 37 45.0	
IPIR	**Pirpir**	**6.12**	**337**	*e*Pn	**Pn**	**12 35 42.7**	**-2.6**
JMDO	**Jabal Madar**	**6.15**	**138**	⇓P	Pn	12 35 49.0	+3.5
JMDO	**Jabal Madar**	**6.15**	**138**	P	Pn	12 35 49.0	+3.5
CHBR	**Chabahar**	**6.28**	**102**	*e*Pn	**Pn**	**12 35 45.3**	**-1.8**
CHBR	**Chabahar**	**6.28**	**102**	*e*Pn	**Pn**	**12 35 45.3**	**-1.8**
IKLH	**Kolahrood**	**6.51**	**344**	*e*Pn	**Pn**	**12 35 51.1**	**+0.5**
IKLH	comp=N,2μm,0.5s			*e*		12 38 21.9	
IKLH	**Kolahrood**	**6.51**	**344**	*e*Pn	**Pn**	**12 35 51.1**	**+0.5**
WBK	**Wadi Bani Khal**	**6.53**	**131**	⇓P	**Pn**	**12 35 52.0**	**+1.4**
WBK	**Wadi Bani Khal**	**6.53**	**131**	P	**Pn**	**12 35 52.0**	**+1.4**
NSR	**Nassriya**	**7.69**	**303**	*e*Pn	x	12 36 07.0	
NSR				*i* Sn	x	12 37 38.0	
RAYN	**Ar Rayn** comp=N,2.3nm,0.8s	**8.19**	**246**	*e*Pn	**Pn**	**12 36 13.9**	**+0.5**
RAYN				*e*Sn	**Sn**	**12 37 42.4**	**-3.0**
RAYN	**Ar Rayn** comp=N,2.3nm,0.8s	**8.19**	**246**	*e*Pn	**Pn**	**12 36 13.9**	**+0.5**
RAYN				*e*Sn	**Sn**	**12 37 42.4**	**-3.0**
IBDR	**Badra**	**9.03**	**314**	*e*Pn	x	12 36 24.2	
IBDR				*e*Sn	x	12 38 15.3	
GEYT	**Alibeck** comp=N,0.6nm,0.3s,baz=182,slow=11,SNR=4.2	**11.48**	**18**	Pn	**Pn**	**12 37 00.2**	**+1.6**
GEYT	comp=N,0.9nm,0.3s,baz=219,slow=39,SNR=2.8			Lg	Lg	12 40 24.4	
GEYT	comp=N,2μm,19.8s,baz=195,slow=42			LR	LR	12 42 06.0	
IKRK	**Kirkuk**	**11.54**	**318**	*e*Pn	x	12 37 00.0	
IKRK				*i* Sn	x	12 39 08.0	
RTB	**Rutbah**	**13.02**	**300**	*e*Pn	x	12 37 17.9	
RTB				*e*Pn	x	12 37 17.9	
MZRK	**Al-Mazaregh**	**14.14**	**311**	*e*P	**Pn**	**12 37 33.6**	**-1.3**
SFNV	**Sufian**	**14.84**	**312**	*e*P	Pn	12 37 41.0	-3.5
KBSD	**Kabsdagh**	**14.91**	**315**	*e*P	Pn	12 37 36.7	-8.6
GNI	**Garni** baz=342,slow=20,SNR=1.9	**15.03**	**333**	Pn	**Pn**	**12 37 46.7**	**-0.4**
GNI	comp=N,4.9nm,0.3s,baz=278,slow=18,SNR=3.6			Lg	Lg	12 41 56.4	
KBL	**Kabul**	**15.16**	**57**	*e*P	**P**	**12 37 52.8**	**-1.1**
KBL	comp=Z,21nm,1.1s			pmax	pmax		
KBL	**Kabul** comp=Z,21nm,1.1s	**15.16**	**57**	*e*P	**P**	**12 37 52.8**	**-1.1**
KBL	**Kabul** comp=Z,21nm,1.1s	**15.16**	**57**	*e*P	**P**	**12 37 52.8**	**-1.1**
ZALF	**Zalf**	**15.32**	**296**	*e*P	**Pn**	**12 37 51.1**	**+0.2**
ASF	**Jabal al Asfar** comp=Z,0.4nm,0.3s,baz=124,slow=7.3,SNR=3.4	**15.46**	**293**	Pn	**Pn**	**12 37 52.1**	**-0.6**
ASF	comp=Z,0.3nm,0.3s,baz=180,slow=15,SNR=2.9			Sn	Sn	12 40 34.0	-10
SALA	**Sala**	**15.74**	**295**	*e*P	**P**	**12 38 04.0**	**+3.7**
ROOS	**tl_alroos**	**15.79**	**301**	*e*P	**P**	**12 38 03.5**	**+2.8**
DGRG	**David-gareji**	**15.91**	**337**	P	**Pn**	**12 37 59.0**	**+0.5**
DGRG	**David-gareji**	**15.91**	**337**	*e*P	**Pn**	**12 37 59.0**	**+0.5**
DGRG	**David-gareji**	**15.91**	**337**	*e*P	**Pn**	**12 37 59.0**	**+0.5**
TCHB	**Talchebab**	**16.35**	**294**	*e*P	**P**	**12 38 07.7**	**+0.9**
TBLG	**Delisi**	**16.39**	**336**	P	**Pn**	**12 38 05.2**	**+0.7**
TBLG	**Delisi**	**16.39**	**336**	P	**Pn**	**12 38 05.2**	**+0.7**
TBLG	**Delisi**	**16.39**	**336**	P	**Pn**	**12 38 05.2**	**+0.7**
BRBR	**Barbar**	**16.57**	**297**	*e*P	**P**	**12 38 09.9**	**+0.3**
EIL	**Elat** comp=Z,0.6nm,0.3s,baz=138,slow=9.9,SNR=11	**16.69**	**283**	Pn	**Pn**	**12 38 08.6**	**+0.1**
EIL				Lg	Lg	12 43 03.8	
EIL	comp=Z,0.1nm,0.3s,baz=228,slow=10,SNR=4.1			LR	LR	12 45 49.2	
MMAI	**Mount Meron Ar** comp=Z,1.1nm,0.3s,baz=102,slow=13,SNR=8.9	**16.90**	**295**	Pn	**Pn**	**12 38 11.5**	**+0.4**
MMAI				Lg	Lg	12 43 08.7	
ONI	comp=Z,0.2nm,0.3s,baz=45,slow=57,SNR=2.3 **Oni**	**17.61**	**334**	P	**Pn**	**12 38 20.4**	**+0.4**
ONI	**Oni**	**17.61**	**334**	*e*P	**Pn**	**12 38 20.3**	**+0.4**
ONI	**Oni**	**17.61**	**334**	*e*P	**Pn**	**12 38 20.3**	**+0.4**
NEY	**Neytrino**	**18.46**	**334**⇑	*e*P	**Pn**	**12 38 32.6**	**+2.2**
NEY	**Neytrino**	**18.46**	**334**	*e*P	**Pn**	**12 38 32.6**	**+2.2**
KBZ	**Khabaz** comp=Z,0.3nm,0.3s,baz=142,slow=7.1,SNR=11	**18.80**	**335**	P	**P**	**12 38 33.8**	**0.0**
KBZ	comp=Z,159nm,21.6s,baz=149,slow=42			LR	LR	12 47 21.7	
KIV	**Kislovodsk**	**19.07**	**335**	*d* iP	**Pn**	**12 38 38.2**	**+0.5**
KIV				*e*S	**S**	**12 42 14.6**	**+2.1**
KIV	comp=Z,59nm,1.0s			pmax	pmax		
KIV	comp=Z,414nm,25.0s			MLR	MLR		
KIV	**Kislovodsk** comp=Z,414nm,25.0s	**19.07**	**335**	*i* P	**Pn**	**12 38 38.2**	**+0.5**
KIV				*e*S	**S**	**12 42 14.6**	**+2.1**
KIV	**Kislovodsk** SNR=8.5	**19.07**	**335**	*i* P	**Pn**	**12 38 38.9**	**+1.1**
CSS	**Prodhromos** comp=Z,6.7nm,1.0s	**19.12**	**299**	*e*P	**Pn**	**12 38 38.0**	**-0.4**
CSS	**Prodhromos** comp=Z,6.7nm,1.0s	**19.12**	**299**	*e*P	**Pn**	**12 38 38.0**	**-0.4**
SOC	**Sochi**	**20.01**	**329**	*e*P	**P**	**12 38 42.4**	**-4.6**
SOC				*e*S	S	12 42 23.0	-8.1
SOC				*e*S	Sn	12 42 29.2	-4.0
SOC	comp=Z,63nm,1.1s			pmax	pmax		
SOC	comp=Z,549nm,14.0s			MLR	MLR		
SOC	**Sochi** comp=Z,63nm,1.1s	**20.01**	**329**	*e*P	**P**	**12 38 42.4**	**-4.6**
SOC				*e*S	S	12 42 23.0	-8.1
BR131	**Keskin Array S** comp=Z,22nm,0.9s	**20.92**	**312**	*e*P	**P**	**12 38 56.5**	**-0.6**
BR131	**Keskin Array S** comp=Z,22nm,0.9s	**20.92**	**312**	*e*P	**P**	**12 38 56.5**	**-0.6**
BRTR	**Keskin Array B** comp=Z,9.8nm,0.7s,baz=130,slow=12,SNR=42	**20.92**	**312**	P	**P**	**12 38 56.7**	**-0.4**
BRTR	comp=Z,227nm,20.3s,baz=118,slow=44			LR	LR	12 49 24.6	
KK31	**Karatay Array**	**21.07**	**36**	*i* P	**P**	**12 38 58.8**	**+0.2**
KK31	comp=Z,8.0nm,0.6s			pmax	pmax		
KK31	**Karatay Array** comp=Z,8.0nm,0.6s	**21.07**	**36**	*i* P	**P**	**12 38 58.8**	**+0.2**
ANN	**Anapa**	**22.00**	**328**	*e*	**P**	**12 39 09.3**	**+0.8**
ANN	comp=Z,48nm,1.1s			pmax	pmax		
ANN	comp=Z,495nm,15.0s			MLR	MLR		
ANN	comp=E,287nm,15.0s			MLR	MLR		
ANN	comp=N,327nm,15.0s			MLR	MLR		
KSH	**Kashi**	**22.34**	**51**	P	P	12 39 07.5	-4.9
KSH				pP	pP	12 39 13.0	-5.1
KSH				PP	**PnPn**	**12 39 34.3**	**-1.0**
KSH				S	S	12 43 05.1	-12
KSH				PcP	**PcP**	**12 43 07.3**	**-0.2**
KSH				sS	sS	12 43 14.4	-12
KSH				SS	**SnSn**	**12 43 43.3**	**-2.0**
KSH	comp=N,230nm,3.6s			PMZ			
KSH	comp=N,890nm,8.7s			LN			
KSH	comp=N,790nm,7.7s			LE			
KSH	comp=N,800nm,11.3s			LZ			
EKS2	**Erkin-Say**	**22.61**	**41**	*e*P	**P**	**12 39 15.4**	**+0.2**
EKS2	comp=Z,124nm,1.8s			pmax	pmax		
EKS2	**Erkin-Say** comp=Z,124nm,1.8s	**22.61**	**41**	*e*P	**P**	**12 39 15.4**	**+0.2**
EKS2	**Erkin-Say** comp=Z,124nm,1.8s	**22.61**	**41**	*e*P	**P**	**12 39 15.4**	**+0.2**
AB31	**Akbulak array**	**22.70**	**11**	*e*P	**P**	**12 39 15.5**	**-0.5**
AB31	comp=Z,4.0nm,0.4s			pmax	pmax		
AB31	**Akbulak array** comp=Z,4.0nm,0.4s	**22.70**	**11**	*e*P	**P**	**12 39 15.5**	**-0.5**
AAK	**Ala-Archa**	**23.02**	**42**	P	**P**	**12 39 21.5**	**+2.0**
AAK	comp=Z,20nm,1.1s			pmax	pmax		
AAK	**Ala-Archa** comp=Z,20nm,1.1s	**23.02**	**42**	P	**P**	**12 39 21.5**	**+2.0**
FRU	**Bishkek**	**23.20**	**42**	*e*P	**P**	**12 39 24.0**	**+2.7**
FRU				*e*		12 39 40.0	
FRU	comp=E,2μm,12.0s			pmax	pmax		
FRU	**Bishkek**	**23.20**	**42**	*e*P	**P**	**12 39 24.0**	**+2.7**
AKTK	**Aktyubinsk** comp=E,37nm,1.4s	**23.59**	**7**	P	**P**	**12 39 25.1**	**+0.1**
AKTO	**Aktyubinsk** comp=E,5.6nm,0.6s,baz=180,slow=11,SNR=18	**23.59**	**7**	P	**P**	**12 39 24.8**	**-0.2**
AKTO	comp=E,894nm,19.9s,baz=180,slow=42			LR	LR	12 50 38.6	
AKTO	**Aktyubinsk**	**23.59**	**7**	P	**P**	**12 39 25.1**	**+0.1**
AKTO	comp=Z,37nm,1.4s			pmax	pmax		
SIM	**Simferopol'**	**23.77**	**324**	*d* iP	**P**	**12 39 27.1**	**+0.4**
SIM				*e*S	**S**	**12 43 43.0**	**+1.9**
SIM	comp=Z,28nm,0.9s			pmax	pmax		
SIM	comp=Z,300nm,14.0s			MLR	MLR		
SIM	**Simferopol'** comp=Z,28nm,0.9s	**23.77**	**324**	*i* P	**P**	**12 39 27.1**	**+0.4**
SIM	comp=Z,300nm,14.0s			*e*S	**S**	**12 43 43.0**	**+1.9**
TKM2	**Tokmak 2**	**23.84**	**43**	*e*P	**P**	**12 39 27.7**	**-0.1**
TKM2	comp=Z,9.0nm,0.8s			pmax	pmax		
TKM2	**Tokmak 2** comp=Z,9.4nm,0.8s	**23.84**	**43**	*e*P	**P**	**12 39 27.6**	**-0.1**
TKM2	**Tokmak 2** comp=Z,9.4nm,0.8s	**23.84**	**43**	*e*P	**P**	**12 39 27.6**	**-0.1**
IDI	**Anoyia** comp=Z,24nm,0.8s,baz=100,slow=8.1,SNR=13	**25.90**	**296**	P	**P**	**12 39 46.5**	**0.0**
VSR	**Storozhevoye**	**26.54**	**339**	*e*P	**P**	**12 39 53.8**	**+1.9**
VSR	comp=N,10.0nm,0.9s			pmax	pmax		
VSR	comp=Z,20nm,0.9s			pmax	pmax		
VSR	comp=E,5.0nm,0.8s			pmax	pmax		
VSR	**Storozhevoye**	**26.54**	**339**	*e*P	**P**	**12 39 53.8**	**+1.9**
TIRR	**Tirgusor**	**26.71**	**317**	⇑P	**P**	**12 39 54.6**

BVAR LR LR 12 53 24.1
comp=Z,806nm,18.8s,baz=236,slow=40
TESR Tescani 28.86 319 ⇓ i P P 12 40 12.7 -0.1
VTS Vitosha 29.23 310 ⇓ P P 12 40 17.8 +1.4
VTS Vitosha 29.23 310 ⇓ i P P 12 40 17.8 +1.4
VTS Vitosha 29.23 310 P P 12 40 17.8 +1.4
VOIR 29.27 316 ⇑ P P 12 40 18.5 +2.0
VOIR 29.27 316 ⇑ i P P 12 40 18.5 +2.0
VOIR 29.27 316 P P 12 40 18.5 +2.0
DOPR Dopca 29.32 318 ⇑ i P P 12 40 17.3 +0.3
ARR Arges 29.49 316 ⇑ i P P 12 40 22.5 +4.0
ARU Arti 29.57 6 LR LR 12 54 41.8
comp=Z,614nm,21.0s,baz=200,slow=42
MK31 Makanchi Array 29.94 41 i P P 12 40 22.4 0.0
MK31 pmax pmax
comp=Z,3.0nm,0.5s
MK31 Makanchi Array 29.94 41 eP P 12 40 21.9 -0.5
MK31 Makanchi Array 29.94 41 eP P 12 40 21.9 -0.5
MKAR Makanchi Array 29.94 41 P P 12 40 21.9 -0.4
comp=Z,2.5nm,0.7s,baz=223,slow=8.1,SNR=20
MKAR LR LR 12 54 25.2
comp=Z,464nm,18.2s,baz=250,slow=41
MKAR Makanchi Array 29.94 41 P P 12 40 22.0 -0.4
MKAR Makanchi Array 29.94 41 P P 12 40 22.0 -0.4
AK02 Malin Array Si 30.06 328 eP P 12 40 22.2 -1.2
AK02 Malin Array Si 30.06 328 eP P 12 40 22.2 -1.2
AK01 Malin Array Si 30.08 328 eP P 12 40 21.9 -1.6
AK01 Malin Array Si 30.08 328 eP P 12 40 21.9 -1.6
AKASG Malin Array Be 30.08 328 P P 12 40 22.0 -1.5
comp=Z,1.9nm,0.4s,baz=134,slow=8.2,SNR=16
AKASG LR LR 12 53 50.3
comp=Z,284nm,21.1s,baz=145,slow=39
AKBB Malin Array Si 30.08 328 eP P 12 40 21.3 -2.3
AKBB Malin Array Si 30.08 328 eP P 12 40 21.3 -2.3
AKBB Malin Array Si 30.08 328 eP P 12 40 21.3 -2.3
KIEV Kiev 30.08 328 ⇓ eP P 12 40 23.6 0.0
KIEV Kiev 30.08 328 eP P 12 40 23.6 0.0
SVE Sverdlovsk 30.18 8 eP P 12 40 25.9 +1.6
SVE Sverdlovsk 30.18 8 eP P 12 40 25.9 +1.6
KURBB Kurchatov Arra 30.22 32 P P 12 40 24.3 -0.5
comp=Z,2.9nm,1.0s,baz=233,slow=8.8,SNR=9.0
BURAR Bucovina Array 30.29 320 ⇑ P P 12 40 25.7 +0.2
BURAR Bucovina Array 30.29 320 ⇑ i P P 12 40 25.7 +0.2
BUR08 Bucovina Ar. S 30.31 320 eP P 12 40 25.2 -0.6
BUR08 Bucovina Ar. S 30.31 320 eP P 12 40 25.2 -0.6
KURK Kurchatov 30.32 32 P P 12 40 24.3 -1.4
KURK Kurchatov 30.32 32 P P 12 40 24.3 -1.4
KURK Kurchatov 30.32 32 P P 12 40 24.3 -1.4
OBN Obninsk 30.70 341 ⇑ eP P 12 40 29.9 +1.0
OBN e 12 41 28.1
OBN eSS SS 12 47 14.0 -28
OBN pmax pmax
comp=Z,32nm,1.7s
OBN MLR MLR
comp=Z,240nm,20.0s
OBN Obninsk 30.70 341 eP P 12 40 29.9 +1.0
comp=Z,32nm,1.7s
DRGR 31.34 317 ⇓ P P 12 40 36.5 +1.6
DRGR 31.34 317 ⇓ i P P 12 40 36.5 +1.6
DRGR 31.34 317 P P 12 40 36.5 +1.6
BZS Buzias 31.50 315 ⇑ P P 12 40 36.3 +0.2
BZS Buzias 31.50 315 ⇑ i P P 12 40 36.3 +0.2
BZS Buzias 31.50 315 P P 12 40 36.3 +0.2
WMQ Urumqi 32.10 50 P P 12 40 41.8 +0.3
WMQ pP **pP 12 40 46.3 -1.4**
WMQ sP **sP 12 40 50.8 +0.6**
WMQ S **S 12 45 53.4 +0.5**
WMQ SS **SnSn 12 47 48.3 +5.0**
WMQ PMZ
comp=Z,11nm,0.8s
WMQ LN
comp=Z,1μm,25.8s
WMQ LE
comp=Z,400nm,28.0s
KMBO Kilima Mbogo 32.17 212 LR LR 12 55 00.7
comp=Z,542nm,19.6s,baz=27,slow=39
UZH Uzhgorod 32.49 320 eP P 12 40 46.6 +1.8
UZH e 12 40 57.6
UZH Uzhgorod 32.49 320 eP P 12 40 46.6 +1.8
KOLS Kolonicke sedl 32.65 320 eP P 12 40 47.5 +1.3
KOLS pmax pmax
comp=Z,20nm,1.1s
KOLS Kolonicke sedl 32.65 320 eP P 12 40 47.5 +1.3
comp=Z,20nm,1.1s
KOLS Kolonicke sedl 32.65 320 eP P 12 40 47.5 +1.3
KECS Kecovo 33.47 319 eP P 12 40 53.2 -0.2
KECS pmax pmax
comp=Z,2.0nm,0.6s
KECS Kecovo 33.47 319 eP P 12 40 53.2 -0.2
comp=Z,2.0nm,0.6s
KECS Kecovo 33.47 319 eP P 12 40 53.2 -0.2
PKSM Moragy 33.64 314 ⇑ P P 12 40 53.8 -1.1
PKSM Moragy 33.64 314 ⇑ i P P 12 40 53.8 -1.1
PKSM Moragy 33.64 314 P P 12 40 53.8 -1.1
NIE Niedzica 34.01 320 eP P 12 40 59.0 +0.9
NIE Niedzica 34.01 320 eP P 12 40 59.0 +0.9
NIE Niedzica 34.01 320 eP P 12 40 59.0 +0.9
VYHS Vyhne 34.45 318 eP P 12 41 01.9 0.0
VYHS pmax pmax
comp=Z,62nm,3.5s
VYHS Vyhne 34.45 318 eP P 12 41 01.9 0.0
comp=Z,62nm,3.5s
VYHS Vyhne 34.45 318 eP P 12 41 01.9 0.0
OJC Ojcow 34.69 321 eP P 12 41 03.2 -0.7
OJC Ojcow 34.69 321 eP P 12 41 03.3 -0.7
OJC Ojcow 34.69 321 eP P 12 41 03.3 -0.7
NVS Novosibirsk 35.15 30 eP P 12 41 09.1 +1.3
NVS Novosibirsk 35.15 30 eP P 12 41 09.1 +1.3
ZAA0 Zalesovo Array 35.31 32 eP P 12 41 08.0 -1.3
ZAA0 Zalesovo Array 35.31 32 eP P 12 41 08.0 -1.3
ZALV Zalesovo Beam 35.31 32 P P 12 41 08.1 -1.2
comp=Z,2.0nm,0.5s,baz=240,slow=8.7,SNR=17
ZALV LR LR 12 57 44.9
comp=Z,767nm,18.2s,baz=250,slow=40
OKC Ostrava-Krasne 35.45 320 eP P 12 41 11.3 +0.8
OKC Ostrava-Krasne 35.45 320 eP P 12 41 11.3 +0.8
OKC Ostrava-Krasne 35.45 320 eP P 12 41 11.3 +0.8
MORC Moravsky Berou 35.77 319 ⇓ P P 12 41 12.8 -0.6
MORC Moravsky Berou 35.77 319 ⇓ i P P 12 41 12.8 -0.6
MORC Moravsky Berou 35.77 319 P P 12 41 12.8 -0.6
VRAC Vranov 36.14 318 ⇑ P P 12 41 16.5 +0.1
VRAC Vranov 36.14 318 ⇑ i P P 12 41 16.5 +0.1
VRAC Vranov 36.14 318 P P 12 41 16.5 +0.1
DPC Dobruska-Polom 36.73 319 eP P 12 41 21.6 +0.1
DPC ex x 12 41 38.4
DPC Dobruska-Polom 36.73 319 eP P 12 41 21.6 +0.1
DPC e 12 41 38.4
DPC Dobruska-Polom 36.73 319 eP P 12 41 21.6 +0.1
KSP Ksiaz 36.96 320 eP P 12 41 23.7 +0.3
KSP Ksiaz 36.96 320 eP P 12 41 23.8 +0.3
KSP Ksiaz 36.96 320 eP P 12 41 23.8 +0.3
UPC Upice 36.98 320 eP P 12 41 24.4 +0.8
UPC Upice 36.98 320 eP P 12 41 24.4 +0.8
UPC Upice 36.98 320 eP P 12 41 24.4 +0.8
PRU Pruhonice 37.63 318 eP P 12 41 29.3 +0.2
PRU epP **pP 12 41 34.3 -1.0**
PRU Pruhonice 37.63 318 eP P 12 41 29.3 +0.2
PRU Pruhonice 37.63 318 eP P 12 41 29.3 +0.2
GERES GERESS Array B 37.72 316 P P 12 41 28.1 -1.9
comp=Z,0.7nm,0.7s,baz=113,slow=7.6,SNR=4.4
ABTA Abfaltersbach 37.81 312 ⇓ i P P 12 41 30.4 -0.4
comp=Z,12nm,1.0s
KHC Kasperske Hory 37.90 316 eP P 12 41 30.4 -1.0
KHC Kasperske Hory 37.90 316 eP P 12 41 30.4 -1.0
KHC Kasperske Hory 37.90 316 eP P 12 41 30.4 -1.0
BRG Berggiesshubel 38.33 319 eP P 12 41 35.0 0.0
comp=Z,4.8nm,0.8s
BRG Berggiesshubel 38.33 319 eP P 12 41 35.0 0.0
BRG pmax pmax
comp=Z,5.0nm,0.8s
BRG Berggiesshubel 38.33 319 eP P 12 41 35.0 0.0
comp=Z,5.0nm,0.8s
WTTA Wattenberg 38.53 313 ⇑ i P P 12 41 35.4 -1.6
comp=Z,24nm,1.1s
WATA Walderalm 38.59 313 ⇑ i P P 12 41 36.2 -1.2
comp=Z,9.7nm,0.5s
MOTA Moosalm 38.90 313 ⇑ i P P 12 41 38.2 -1.8
comp=Z,12nm,0.9s
CLL Collm 39.05 320 eP P 12 41 42.0 +1.0
CLL e 12 41 50.0
CLL pmax pmax
comp=Z,14nm,1.3s
CLL Collm 39.05 320 eP P 12 41 42.0 +1.0
comp=Z,14nm,1.3s
CLL Collm 39.05 320 eP P 12 41 42.0 +1.0
comp=Z,14nm,1.3s
CLL e 12 41 50.0
FETA Feichten 39.06 312 ⇑ i P P 12 41 40.3 -1.1
comp=Z,18nm,1.1s
FIA1 FINESS Array S 39.07 339 eP P 12 41 39.5 -1.5
FIA1 FINESS Array S 39.07 339 eP P 12 41 39.5 -1.5
FINES FINESS Array B 39.07 339 P P 12 41 39.2 -1.8
comp=Z,4.0nm,0.5s,baz=136,slow=8.8,SNR=14
FINES LR LR 13 00 18.3
comp=Z,153nm,21.4s,baz=158,slow=40
DAVA Damuels 39.69 312 ⇑ i P P 12 41 44.7 -1.9
comp=Z,26nm,0.5s
GTA Gaotai 40.12 60 eP P 12 41 50.9 +0.6
GTA pP **pP 12 41 55.1 -1.4**
GTA sP **sP 12 41 58.3 -0.7**
GTA PMZ
comp=Z,4.0nm,1.0s
ECH Echery 41.70 313 eP P 12 42 02.7 -0.3
ECH pmax pmax
comp=Z,18nm,1.3s
ECH Echery 41.70 313 eP P 12 42 02.7 -0.3
comp=Z,18nm,1.3s
ECH Echery 41.70 313 eP P 12 42 02.6 -0.3
comp=Z,18nm,1.3s
CHTO Chiang Mai 42.31 91 eP P 12 42 10.2 +1.8
CHTO pmax pmax
comp=Z,17nm,1.3s
CHTO Chiang Mai 42.31 91 eP P 12 42 10.2 +1.8
comp=Z,17nm,1.3s
CHTO Chiang Mai 42.31 91 eP P 12 42 10.2 +1.8
comp=Z,17nm,1.3s
CMAR Chiang Mai Arr 42.43 92 P P 12 42 09.4 +0.1
comp=Z,1.9nm,0.6s,baz=291,slow=7.6,SNR=10
CMAR LR LR 13 02 09.4
comp=Z,80nm,19.9s,baz=250,slow=40
WLF Walferdange 42.68 315 P P 12 42 13.2 +2.2
MEM Membach 43.01 316 P P 12 42 21.0 +7.4
comp=Z,11nm,1.5s
LZH Lanzhou 43.28 65 eP P 12 42 16.5 +0.2
LZH pP **pP 12 42 22.6 0.0**
LZH sP **sP 12 42 25.4 +0.4**
LZH PP **PP 12 43 59.8 +2.9**
LZH PMZ
comp=Z,24nm,1.3s
LZH PMZ
comp=Z,78nm,6.0s
LZH LN
comp=Z,400nm,13.8s
LZH LE
comp=Z,420nm,14.0s
LZH LZ
comp=Z,540nm,18.1s
TAM Tamanrasset 43.67 275 eP P 12 42 20.7 +1.2
TAM pmax pmax
comp=Z,16nm,1.2s
TAM Tamanrasset 43.67 275 eP P 12 42 20.7 +1.2
comp=Z,16nm,1.2s
TAM Tamanrasset 43.67 275 eP P 12 42 20.7 +1.2
comp=Z,16nm,1.2s
CD2 Chengdu 43.69 73 P P 12 42 14.9 -4.6
CD2 PP **PP 12 43 56.8 -4.4**
CD2 S **S 12 48 44.3 -4.3**
CD2 sS sS 12 48 54.8 -4.2
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,3.9s
CD2 LN
comp=Z,180nm,13.2s
KMI Kunming 43.89 81 P P 12 42 21.0 -0.3
KMI PMZ
comp=Z,9.0nm,0.5s
KMI PMZ
comp=Z,91nm,3.8s
SNF Seneffe 44.05 316 P P 12 42 23.5 +1.5
ZAK Zakamensk 44.16 44 eP P 12 42 12.7 -10
ZAK pmax pmax
comp=Z,3.0nm,1.9s
ZAK Zakamensk 44.16 44 eP P 12 42 12.7 -10
comp=Z,3.0nm,1.9s
NB2 NORSAR Subarra 44.33 332 P P 12 42 22.0 -2.2
comp=Z,1.9nm,0.6s,baz=122,slow=7.9
NOA NORSAR Array B 44.33 332 P P 12 42 22.3 -1.9
comp=Z,2.0nm,0.7s,baz=121,slow=8.2,SNR=10
NOA LR LR 13 03 44.4
comp=Z,114nm,18.7s,baz=115,slow=40
TLY Talaya 44.68 43 LR LR 13 03 11.9
comp=Z,396nm,19.5s,baz=262,slow=39
TLY Talaya 44.68 43 eP P 12 42 30.8 +3.7
TLY pmax pmax
comp=Z,6.0nm,1.2s
TLY MLR MLR
comp=Z,461nm,15.0s
ARCES ARCESS Array B 45.58 347 P P 12 42 34.0 0.0
comp=Z,3.9nm,0.9s,baz=155,slow=8.8,SNR=3.5
ARCES LR LR 13 04 30.5
comp=Z,182nm,22.0s,baz=106,slow=40
SONM Songino Array 45.72 48 P P 12 42 35.7 +0.1
comp=Z,1.6nm,1.0s,baz=253,slow=9.9,SNR=5.5
SONM LR LR 13 02 34.9
comp=Z,347nm,20.3s,baz=260,slow=37
ULN Ulaanbaatar 46.16 49 ⇑ i P P 12 42 38.0 -1.1
ULN pmax pmax
comp=Z,9.0nm,1.7s
ULN Ulaanbaatar 46.16 49 i P P 12 42 38.0 -1.1
comp=Z,9.0nm,1.7s
GYA Guiyang 47.02 78 eP P 12 42 43.0 -3.0
GYA PMZ
comp=Z,10.0nm,1.0s
XAN Xi'an 47.61 67 P P 12 42 56.5 +6.1
XAN pmax pmax
comp=Z,9.0nm,1.2s
TSI Tuntungan 48.84 111 P P 12 43 06.4 +6.3
comp=Z,70nm,0.8s
ESDC Sonseca Array 49.00 300 P P 12 43 00.3 -0.8
comp=Z,2.6nm,0.9s,baz=63,slow=8.3,SNR=10.0
ESDC LR LR 13 07 22.0
comp=Z,48nm,19.1s,baz=300,slow=41
HHC Hu-ho-hao-te 49.13 58 eP P 12 43 01.8 -0.4
HHC sP **sP 12 43 10.3 -0.7**
HHC PP **PP 12 44 55.8 0.0**
HHC S **S 12 50 05.5 -1.0**
HHC PMZ
comp=Z,25nm,0.7s
HHC PMZ
comp=Z,87nm,6.3s
HHC LN
comp=Z,270nm,17.3s
HHC LE
comp=Z,120nm,17.3s
TOA0 Torodi Ar. Sit 50.41 265 eP P 12 43 11.3 -0.8
TOA0 Torodi Ar. Sit 50.41 265 ePcP PcP 12 44 32.7 +2.3
TOA0 Torodi Ar. Sit 50.41 265 eP P 12 43 11.3 -0.8
TOA0 ePcP **PcP 12 44 32.7 +2.3**
TORD Torodi Ar. Bea 50.41 265 P P 12 43 11.3 -0.7
comp=Z,22nm,1.1s,baz=60,slow=6.8,SNR=27
TOB4 Torodi Ar. Sit 50.42 265 eP P 12 43 13.8 +1.7
MVO Moncorvo 51.24 302 eP P 12 43 17.0 -1.1
comp=Z,19nm,1.5s
PBAR Barrancos 51.52 299 eP P 12 43 19.5 -0.7
comp=Z,38nm,1.3s
PMRV Marv??o 51.67 300 eP P 12 43 20.8 -0.4
comp=Z,20nm,1.6s
POLO Lamas de Olo 51.80 303 eP P 12 43 23.7 +1.4
comp=Z,14nm,1.2s
BOD Bodaibo 51.81 36 eP P 12 43 20.8 -1.2
BOD pmax pmax
comp=Z,16nm,1.8s
BOD Bodaibo 51.81 36 eP P 12 43 20.8 -1.2
comp=Z,16nm,1.8s
PGAV Gavieira, Arco 52.11 303 eP P 12 43 24.5 -0.1
comp=Z,27nm,1.6s
BJI Beijing 52.70 59 P P 12 43 28.3 -0.6
BJI PP **PP 12 45 27.0 -1.0**
BJI PMZ
comp=Z,4.0nm,0.4s
BJI LN
comp=Z,340nm,20.2s
BJI LE
comp=Z,220nm,21.2s
MORF Marmelete 52.90 298 eP P 12 43 32.3 +1.8
comp=Z,37nm,1.3s
SPITS Spitsbergen Ar 53.93 351 LR LR 13 10 49.5
comp=Z,116nm,19.1s,baz=55,slow=41
RGRI Rengat 54.10 112 P P 12 43 45.2 +5.7
comp=Z,509nm,0.4s,comp=Z,137μm
JMIC Jan Mayen 55.69 339 LR LR 13 09 53.6
comp=Z,62nm,20.0s,baz=90,slow=38
NJ2 Nanjing 56.17 68 eP P 12 43 53.3 -0.9
NJ2 PMZ
comp=Z,30nm,0.8s
LBTB Lobatse 58.41 210 eP P 12 44 12.2 +2.1
LBTB pmax pmax
comp=Z,7.0nm,0.7s
LBTB Lobatse 58.41 210 eP P 12 44 12.2 +2.1
comp=Z,6.9nm,0.7s
LBTB Lobatse 58.41 210 eP P 12 44 12.2 +2.1
comp=Z,6.9nm,0.7s
DBIC Dimbokro 59.03 261 P P 12 44 14.3 -0.2
comp=Z,20nm,0.8s,baz=41,slow=9.2,SNR=13
DBIC Dimbokro 59.03 261 eP P 12 44 14.3 -0.2
DBIC pmax pmax
comp=Z,29nm,1.0s
DBIC Dimbokro 59.03 261 eP P 12 44 14.3 -0.2
comp=Z,29nm,1.0s
DBIC Dimbokro 59.03 261 eP P 12 44 14.3 -0.2
comp=Z,29nm,1.0s
KIC Kosan Boka 59.07 261 eP P 12 44 16.3 +1.4
comp=Z,57nm,1.1s
CN2 Changchun 59.07 53 eP P 12 44 13.8 -0.7
CN2 eS **S 12 52 18.3 -2.2**
CN2 PMZ
comp=Z,10.0nm,0.5s
CN2 PMZ
comp=Z,200nm,4.0s
CN2 LN
comp=Z,300nm,18.0s
CN2 LE
comp=Z,200nm,18.0s
TIC Toumodi 59.18 261 eP P 12 44 17.0 +1.3
LIC Lamto 59.38 261 eP P 12 44 17.7 +0.7
comp=Z,44nm,0.9s
YAK Yakutsk 59.97 32 eP P 12 44 20.7 +0.4
YAK e*PP **pP 12 44 30.4 +3.6**
YAK e 12 45 06.8
YAK eS **S 12 52 31.4 0.0**
YAK e*SS sS 12 52 47.9 +5.9
YAK pmax pmax
comp=Z,10.0nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.2s
YAK smax smax
comp=E,35nm,3.3s
YAK MLR MLR
comp=Z,376nm,17.0s
YAK MLR MLR
comp=E,291nm,18.0s
YAK Yakutsk 59.97 32 eP P 12 44 20.7 +0.4
comp=E,3.0nm,1.0s
YAK Yakutsk 59.97 32 ePcP PcP 12 45 06.8 +0.5
YAK eS **S 12 52 31.4 0.0**
BOSA Boshof 61.69 208 P P 12 44 33.3 +0.7
comp=E,3.0nm,0.6s,baz=31,slow=8.0,SNR=8.7
BOSA LR LR 13 11 43.8
comp=E,267nm,18.2s,baz=16,slow=36
MDJ Mudanjiang 61.87 52 P P 12 44 32.3 -1.3
MDJ PMZ
comp=E,3.0nm,0.5s
MDJ PMZ
comp=E,15nm,3.3s
LEM Lemberg 62.10 115 LR LR 13 11 28.0
comp=E,59nm,18.1s,baz=10.0,slow=36
KSAR Wonju Array Be 62.16 60 P P 12 44 34.4 -1.3
KSAR Wonju Array Be 62.16 60 P P 12 44 34.3 -1.3
KSAR Wonju Array Be 62.16 60 P P 12 44 34.4 -1.3
KSRS Korea Array 62.19 60 P P 12 44 34.4 -1.5
comp=E,0.9nm,0.7s,baz=281,slow=6.5,SNR=7.3
KSRS LR LR 13 15 50.5
comp=E,80nm,19.0s,baz=292,slow=40
KSRS Korea Array 62.19 60 P P 12 44 34.4 -1.5
KSRS pmax pmax
comp=Z,1.0nm,0.7s
KSRS MLR MLR
comp=Z,80nm,19.0s
KLR Kul'dur 62.46 46 eP P 12 44 34.2 -3.3
USRK Ussuriysk Ar. 63.63 52 LR LR 13 15 25.1
comp=Z,190nm,19.3s,baz=293,slow=39
JNU Nakatsue 65.69 64 LR LR 13 18 14.6
comp=Z,122nm,18.3s,baz=301,slow=40
SEY Seymchan 70.10 29 P P 12 45 26.0 -0.2
comp=Z,4.7nm,0.9s,baz=249,slow=8.4,SNR=6.5
YSS Yuzh-Sakhalins 70.17 47 eP P 12 45 29.0 +2.1
YSS Yuzh-Sakhalins 70.17 47 eP P 12 45 29.0 +2.1
MJAR Matsuiro Arr 70.33 58 LR LR 13 20 23.1
comp=Z,84nm,19.8s,baz=290,slow=39
JHJ Hachijo jima 2 72.74 61 LR LR 13 19 52.2
comp=Z,113nm,21.0s,baz=4.0,slow=38
PETK Petropavlovsk- 76.67 37 LR LR 13 22 57.9
comp=Z,118nm,21.5s,baz=297,slow=38
SCHQ Schefferville 83.86 330 P P 12 46 43.2 -0.7
comp=Z,9.2nm,0.8s,baz=37,slow=5.1,SNR=11
SCHQ LR LR 13 26 02.2
comp=Z,48nm,19.5s,baz=44,slow=37
SCHQ Schefferville 83.86 330 eP P 12 46 43.3 -0.5
IM04 Indian Mountai 84.92 11 eP P 12 46 48.8 -0.2
IM04 Indian Mountai 84.92 11 eP P 12 46 48.8 -0.2
ILAR Eielson Array 87.09 9 P P 12 46 58.9 -0.9
comp=Z,0.8nm,0.7s,baz=323,slow=3.7,SNR=12
ILAR LR LR 13 32 39.7
comp=Z,52nm,18.0s,baz=322,slow=40
BPAW Bear Paw Mtn. 87.12 11 eP P 12 46 59.4 -0.5
comp=Z,4.4nm,1.3s
BPAW Bear Paw Mtn. 87.12 11 eP P 12 46 59.4 -0.5
comp=Z,4.4nm,1.3s
EGAK Eagle 87.75 6 eP P 12 47 02.6 -0.3
comp=Z,11nm,1.2s
EGAK Eagle 87.75 6 eP P 12 47 02.6 -0.3
comp=Z,11nm,1.2s
PAX Paxson 89.01 9 P P 12 47 13.2 +4.2
PAX pmax pmax
comp=Z,13nm,0.4s
PAX Paxson 89.01 9 P P 12 47 13.2 +4.2
comp=Z,13nm,0.4s
YKA Yellowknife Ar 90.28 355 P P 12 47 14.1 -0.7
comp=Z,1.4nm,0.7s,baz=9.9,slow=4.2,SNR=5.0
WRA Warramunga Arr 90.98 112 P P 12 47 18.4 -0.4
comp=Z,0.4nm,0.8s,baz=314,slow=3.9,SNR=3.2
ASAR Alice Springs 92.39 115 P P 12 47 26.1 +0.9
comp=Z,0.5nm,0.7s,baz=298,slow=4.4,SNR=7.0
MAW Mawson 94.61 176 LR LR 13 23 22.8
comp=Z,134nm,21.2s,baz=59,slow=31
ULM Lac du Bonnet 98.45 341 LR LR 13 34 26.7
comp=Z,72nm,20.7s,baz=350,slow=37

IDC 24 12:45:31.2 -3.0, 6.36 S -151.19 E, h0 km, mb 3.1/2, mb1 3.5/3, mb1mx3.2/39, mbtmp3.3/3, ML1.5/1, Error ellipse: s-maj=121.1km s-min=40.7km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.01**	**233**	Pn		Pn		12 46 49.0	+1.3
	1.4nm,0.3s,baz=24,slow=10.0,SNR=5.7								
PMG				Sn		Sn		12 47 39.3	-7.0
	7.1nm,0.3s,baz=79,slow=12,SNR=9.2								
WRA	**Warramunga Arr**	**21.22**	**229**	P		P		12 50 18.2	-0.6
	0.5nm,0.5s,baz=54,slow=11,SNR=6.4								
ASAR	**Alice Springs**	**23.93**	**222**	P		P		12 50 47.1	0.0
	0.4nm,0.9s,baz=55,slow=9.4,SNR=7.3								
TORD	**Torodi Ar. Bea**	**149.21**	**285**	PKPbc		PKPbc		13 05 22.3	-0.5
	0.5nm,0.3s,baz=89,slow=2.3,SNR=11								

IDC 24 12:49:59.3 ±1.5, 6.55 N, 121.87 E, h0 km, mb 3.8/4, mb1 4.0/4, mb1mx3.5/49, mbtmp3.8/4, Error ellipse: s-maj=205.9km s-min=21.2km az=63.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**29.04**	**155**	P		P		12 56 00.9	-0.5
	1.0nm,0.3s,baz=332,slow=11,SNR=18								
ASAR	**Alice Springs**	**32.24**	**159**	P		P		12 56 30.2	+0.5
	0.7nm,0.3s,baz=340,slow=7.2,SNR=24								
MKAR	**Makanchi Array**	**52.52**	**327**	P		P		12 59 15.5	+1.1
	0.4nm,0.4s,baz=123,slow=8.0,SNR=5.4								
KURBB	**Kurchatov Arra**	**56.80**	**329**	P		P		12 59 44.0	-1.2
	0.5nm,0.5s,baz=127,slow=6.0,SNR=5.5								

IDC 24 13:02:57.1±1.9,5.74S×150.40E,h0km,mb3.2/3, mb1 3.5/4,mb1mx3.3/33,mbtmp3.3/4,ML1.3/1,Error ellipse: s-maj=124.9km s-min=23.5km az=125.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.86**	**221**	Pn	Pn	13 04 13.5	+2.0
	0.8nm,0.3s,baz=40,slow=7.9,SNR=3.4						
PMG				Sn	Sn	13 05 08.1	-0.5
	1.2nm,0.3s,baz=336,slow=20,SNR=4.8						
WRA	**Warramunga Arr**	**21.06**	**226**	P	P	13 07 42.4	-0.6
	0.6nm,0.5s,baz=52,slow=10,SNR=8.8						
ASAR	**Alice Springs**	**23.88**	**220**	P	P	13 08 12.0	-0.6
	0.4nm,0.5s,baz=56,slow=9.3,SNR=9.5						
ILAR	**Eielson Array**	**83.93**	**23**	P	P	13 15 28.3	-0.4
	0.2nm,0.7s,baz=260,slow=5.0,SNR=2.8						
TORD	**Torodi Ar. Bea**	**148.29**	**286**	PKPbc	PKPbc	13 22 46.6	+0.2
	0.3nm,0.3s,baz=90,slow=2.9,SNR=6.7						

MEX 24 13:03:36.8±0.6,16.66N×100.56W,h5km±8km,MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.48**	**36**	*i* P	Pg	13 03 45.4	-0.6
CAIG				*i* S	Sg	13 03 52.9	+0.5
ACP2	**Acapulco**	**0.68**	**71**	*e*P	Pg	13 03 47.9	-2.1
ZIIG	**Zihuatanejo**	**1.28**	**318**	*i* P	Pn	13 03 57.7	-3.7
ZIIG				*i* S	Sg	13 04 13.8	-4.3
MEIG	**Mezcala**	**1.55**	**35**	*e*P	Pn	13 04 01.8	-3.5
MEIG				*i* S	Sn	13 04 20.9	-4.9
ARIG	**Puente Sto Nin**	**1.63**	**7**	*e*P	Pn	13 04 03.5	-2.7
ARIG				*i* S	Sn	13 04 22.3	-5.3

IDC ***24*** *13:12:15.4±4.1,7.23S×154.94E,h0km,mb3.6/5, mb1 3.7/5,mb1mx3.5/30,mbtmp3.6/5,MS2.7/1,Ms1 2.7/1, ms1mx2.3/24,Error ellipse: s-maj=137.1km s-min=30.2km az=112.0*

ISC 24 13:12:22.9±4.5,7.2S±0.4×154.6E±0.9,h41km,n7,σ1s06/7, mb3.6/5,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**22.74**	**335**	LR	LR	13 25 49.5	
	comp=Z,22nm,21.4s,baz=58,slow=35						
WRA	**Warramunga Arr**	**23.38**	**235**	P	**P**	**13 17 28.3**	**0.0**
	1.1nm,0.8s,baz=59,slow=9.7,SNR=5.8						
ASAR	**Alice Springs**	**25.76**	**228**	P	**P**	**13 17 50.6**	**+0.6**
	0.6nm,0.3s,baz=67,slow=7.2,SNR=4.6						
SONM	**Songino Array**	**69.24**	**328**	P	**P**	**13 23 25.5**	**-0.3**
	0.4nm,0.5s,baz=132,slow=4.3,SNR=2.8						
MKAR	**Makanchi Array**	**83.24**	**319**	P	**P**	**13 24 44.8**	**-0.5**
	0.2nm,0.4s,baz=123,slow=5.1,SNR=3.9						
ZALV	**Zalesovo Beam**	**84.07**	**326**	P	**P**	**13 24 51.0**	**+1.7**
	0.3nm,0.3s,baz=90,slow=4.3,SNR=2.4						
TORD	**Torodi Ar. Bea**	**152.66**	**285**	PKPbc	**PKPbc**	**13 32 15.4**	**-0.9**
	0.3nm,0.8s,baz=79,slow=2.7,SNR=2.5						
TORD				PKPab	**PKPab**	**13 32 26.5**	**-0.5**
	0.3nm,0.6s,baz=84,slow=2.5,SNR=2.5						

IDC ***24*** *13:33:39.6±0.8,52.69N×169.66W,h0km,mb3.7/7, mb1 3.9/10,mb1mx3.6/44,mbtmp3.7/10,ML3.2/3,MS3.2/2, Ms1 3.2/2,ms1mx2.5/44,Error ellipse: s-maj=32.6km s-min=15.5km az=159.0*

ISCJB ***24*** *13:33:40.3±0.6,52.51N±0.08×169.4W±0.1,h10km, mb3.6/7,MS3.1/2,Error ellipse: s-maj=13.7km s-min=5.2km az=141.0*

NEIC ***24*** *13:33:42.5,52.63N×169.29W,h4km,mb3.6/2, ML3.5(AEIC),After AEIC.*

ISC 24 13:33:41.9±0.8,52.7N±0.1×169.39W±0.07,h10km,n34, σ1s39/30,mb3.5/7,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.45**	**47**	P	**Pb**	**13 33 51.7**	**-0.1**
NIKH				S	**Sb**	**13 34 00.5**	**+1.9**
OKWR	**Okmok West Rim**	**1.05**	**43**	P	**Pn**	**13 34 03.0**	**+0.3**
OKCE	**Okmok Cone E**	**1.06**	**44**	P	**Pg**	**13 34 02.7**	**+0.5**
OKAK	**Okmok**	**1.10**	**34**	P	**Pb**	**13 34 01.3**	**-1.8**
OKRE	**Okmok R'deer P**	**1.13**	**41**	P	**Pn**	**13 34 04.4**	**+0.6**
MSOM	**Makushin Julie**	**1.86**	**51**	P	**Pn**	**13 34 14.2**	**+0.4**
MSOM				S	**Sb**	**13 34 38.7**	**-0.6**
MCIR	**Makushin Cirqu**	**1.97**	**48**	P	**Pn**	**13 34 16.3**	**+0.9**
MSW	**Makushin Switc**	**2.00**	**50**	P	**Pn**	**13 34 16.5**	**+0.7**
MSW				S	**Sn**	**13 34 42.2**	**+1.3**
MTBL	**Makushin Table**	**2.08**	**50**	P	**Pn**	**13 34 18.2**	**+1.3**
UNV	**Unalaska Valle**	**2.10**	**55**	P	**Pn**	**13 34 16.7**	**-0.4**
UNV				S	**Sn**	**13 34 44.1**	**+0.9**
AKUT	**Akutan**	**2.62**	**54**	P	**Pn**	**13 34 25.5**	**+1.3**
ATKA	**Atka Island**	**2.98**	**263**	P	**Pn**	**13 34 31.2**	**+2.1**
SPIA	**Saint Paul Isl**	**4.54**	**354**	P	**Pn**	**13 34 52.6**	**+2.0**
AMKA	**Amchitka**	**7.10**	**264**	*e*Pn	**Pn**	**13 35 27.2**	**+1.5**
	25nm,0.6s						
KDAK	**Kodiak Island**	**10.87**	**55**	Pn	**Pn**	**13 36 19.4**	**+2.1**
	0.5nm,0.3s,baz=247,slow=7.7,SNR=2.8						
BPAW	**Bear Paw Mtn.**	**14.90**	**33**	Pn	**P**	**13 37 16.6**	**-1.6**
	1.6nm,1.1s						
ILAR	**Eielson Array**	**16.71**	**35**	Pn	**Pn**	**13 37 33.4**	**-2.4**
	0.0nm,0.3s,baz=227,slow=10.0,SNR=3.7						
EGAK	**Eagle**	**18.81**	**39**	*e*P	**Pn**	**13 38 02.8**	**+1.0**
	1.6nm,0.6s						
HYT	**Haines Junctio**	**19.12**	**52**	*e*P	**Pn**	**13 38 06.7**	**+1.0**
	5.9nm,0.9s						
PETK	**Petropavlovsk-**	**19.77**	**284**	P	**P**	**13 38 09.7**	**-2.2**
	0.1nm,0.3s,baz=82,slow=13,SNR=2.3						
INK	**Inuvik**	**23.10**	**34**	P	**P**	**13 38 47.8**	**+0.4**
	1.2nm,0.8s,baz=229,slow=8.3,SNR=3.1						
INK				LR	LR	13 48 00.7	
	comp=Z,50nm,20.7s,baz=242,slow=37						
RES	**Resolute Bay**	**36.10**	**26**	LR	LR	13 57 55.7	
	comp=Z,44nm,18.4s,baz=333,slow=40						
H11N2	**WAKE ISLAND Hy**	**37.68**	**218**	T	T	14 20 51.9	
	baz=23,slow=76,SNR=35						
NVAR	**Mina Array Bea**	**37.68**	**91**	P	**P**	**13 40 58.3**	**+0.8**
	0.3nm,0.8s,baz=297,slow=6.0,SNR=2.1						
H11N3	**WAKE ISLAND Hy**	**37.69**	**218**	T	T	14 20 51.3	
	baz=23,slow=76,SNR=28						
H11N1	**WAKE ISLAND Hy**	**37.70**	**218**	T	T	14 20 53.5	
	baz=23,slow=76,SNR=30						
H11S1	**WAKE ISLAND Hy**	**38.87**	**218**	T	T	14 22 21.3	
	baz=22,slow=76,SNR=74						
H11S2	**WAKE ISLAND Hy**	**38.89**	**218**	T	T	14 22 22.4	
	baz=22,slow=76,SNR=66						
H11S3	**WAKE ISLAND Hy**	**38.89**	**218**	T	T	14 22 22.5	
	baz=22,slow=76,SNR=824						
MJAR	**Matsushiro Arr**	**39.70**	**267**	P	P	13 41 11.6	-2.5
	0.7nm,0.6s,baz=58,slow=5.8,SNR=3.7						
PDAR	**Pinedale Array**	**40.36**	**79**	P	**P**	**13 41 20.7**	**+0.9**
	0.6nm,0.6s,baz=296,slow=5.8,SNR=4.2						
TXAR	**Lajitas Array**	**52.76**	**89**	P	**P**	**13 42 57.4**	**+0.4**
	1.5nm,0.7s,baz=302,slow=5.2,SNR=14						
WRA	**Warramunga Arr**	**87.18**	**232**	P	**P**	**13 46 26.3**	**-1.8**
	0.4nm,0.7s,baz=35,slow=5.7,SNR=5.6						
ASAR	**Alice Springs**	**90.58**	**230**	P	**P**	**13 46 43.0**	**-1.1**
	0.8nm,0.6s,baz=23,slow=4.8,SNR=18						

MAN 24 13:36:03,17.61N×121.49E,h10km,mb4.3,ML3.2,MS3.0, 1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**1.03**	**288**	⇓*e*P	Pn	13 36 24.0	+0.4
SIPP				*i* S	Sn	13 36 38.6	+0.6

IDC ***24*** *13:59:59.8±1.2,53.04N×169.97W,h0km,mb3.6/5, mb1 3.9/7,mb1mx3.5/46,mbtmp3.5/7,ML3.3/2,Error ellipse: s-maj=49.5km s-min=20.3km az=147.0*

NEIC ***24*** *14:00:03.6,52.56N×169.22W,h12km,mb3.6/1, ML3.4(AEIC),After AEIC.*

ISC 24 14:00:02.3±1.6,52.9N±0.1×169.74W±0.08,h15km±10km, n33,σ1s16/32,mb3.6/5,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.55**	**77**	P	**Pg**	**14 00 12.9**	**-0.2**
NIKH				S	**Sb**	**14 00 20.9**	**-0.3**
OKWR	**Okmok West Rim**	**1.09**	**57**	P	**Pg**	**14 00 24.3**	**+0.9**
OKAK	**Okmok**	**1.10**	**48**	P	**Pb**	**14 00 22.2**	**-0.8**
OKCE	**Okmok Cone E**	**1.11**	**58**	P	**Pb**	**14 00 23.1**	**-0.1**
OKCE				S	**Sn**	**14 00 38.6**	**+0.3**
OKTU	**Okmok Mt. Tuli**	**1.15**	**62**	P	**Pn**	**14 00 24.0**	**+0.1**
OKRE	**Okmok R'deer P**	**1.16**	**54**	P	**Pg**	**14 00 25.0**	**+0.4**
OKFG	**Magazine Ridge**	**1.23**	**63**	P	**Pn**	**14 00 24.4**	**-0.5**
OKFG				S	**Sb**	**14 00 40.7**	**-0.2**
MSOM	**Makushin Julie**	**1.93**	**59**	P	**Pn**	**14 00 34.7**	**+0.2**
MSOM				S	**Sn**	**14 00 59.3**	**+0.8**
MCIR	**Makushin Cirqu**	**2.02**	**56**	P	**Pb**	**14 00 37.7**	**-1.2**
MSW	**Makushin Switc**	**2.06**	**58**	P	**Pn**	**14 00 36.6**	**+0.2**
MSW				S	**Sn**	**14 01 01.3**	**-0.5**
MTBL	**Makushin Table**	**2.14**	**57**	P	**Pn**	**14 00 38.2**	**+0.7**
UNV	**Unalaska Valle**	**2.18**	**62**	P	**Pn**	**14 00 37.6**	**-0.4**
UNV				S	**Sn**	**14 01 03.1**	**-1.5**
AKRB	**Akutan Reef Bi**	**2.54**	**58**	P	**Pn**	**14 00 44.1**	**+1.2**
AKUT	**Akutan**	**2.69**	**60**	P	**Pn**	**14 00 45.2**	**+0.2**
ATKA	**Atka Island**	**2.80**	**258**	P	**Pb**	**14 00 51.4**	**-0.6**
FALS	**False Pass**	**4.25**	**59**	*e*Pn	**Pn**	**14 01 07.3**	**+0.9**
SPIA	**Saint Paul Isl**	**4.34**	**356**	P	Pb	14 01 13.8	-4.4
KDAK	**Kodiak Island**	**10.94**	**56**	Pn	**Pn**	**14 02 38.6**	**+0.6**
	0.4nm,0.3s,baz=230,slow=7.9,SNR=2.8						
BPAW	**Bear Paw Mtn.**	**14.86**	**33**	Pn	**Pn**	**14 03 33.6**	**+1.9**
	0.4nm,0.6s						
ILAR	**Eielson Array**	**16.68**	**35**	Pn	**Pn**	**14 03 51.3**	**-3.9**
	0.0nm,0.3s,baz=237,slow=11,SNR=3.0						
HYT	**Haines Junctio**	**19.18**	**53**	*e*P	**Pn**	**14 04 27.0**	**+0.9**
	2.1nm,0.5s						
DLBC	**Dease Lake**	**22.83**	**60**	*e*P	**P**	**14 05 02.4**	**-2.1**
H11N2	**WAKE ISLAND Hy**	**37.70**	**218**	T	T	14 47 46.3	
	baz=24,slow=76,SNR=10						
H11N3	**WAKE ISLAND Hy**	**37.71**	**218**	T	T	14 47 43.2	
	baz=24,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**37.72**	**218**	T	T	14 47 49.0	
	baz=24,slow=76,SNR=14						
NVAR	**Mina Array Bea**	**37.90**	**91**	P	**P**	**14 07 20.0**	**+1.1**
	0.1nm,0.4s,baz=308,slow=7.4,SNR=2.5						
H11S1	**WAKE ISLAND Hy**	**38.89**	**217**	T	T	14 49 12.1	
	baz=22,slow=76,SNR=306						
H11S2	**WAKE ISLAND Hy**	**38.91**	**217**	T	T	14 49 09.2	
	baz=22,slow=76,SNR=293						
H11S3	**WAKE ISLAND Hy**	**38.91**	**217**	T	T	14 49 07.5	
	baz=22,slow=76,SNR=154						
PDAR	**Pinedale Array**	**40.53**	**79**	P	**P**	**14 07 41.9**	**+1.0**
	0.3nm,0.5s,baz=316,slow=7.5,SNR=4.2						
TXAR	**Lajitas Array**	**52.96**	**89**	P	**P**	**14 09 18.8**	**+0.6**
	1.1nm,0.7s,baz=305,slow=5.1,SNR=12						
WRA	**Warramunga Arr**	**87.13**	**231**	P	**P**	**14 12 47.1**	**-0.4**
	0.4nm,1.0s,baz=35,slow=5.9,SNR=3.4						
ASAR	**Alice Springs**	**90.54**	**230**	P	**P**	**14 13 03.6**	**+0.1**
	0.6nm,0.8s,baz=29,slow=4.5,SNR=10						

WEL 24 14:18:48.1±0.5,38.21S×176.01E,h172km±4km,ML3.5/13, 9C,Error ellipse: s-maj=2.7km s-min=2.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATZ	**Hinemaiaia**	**0.69**	**175**	⇑PN	Pn	14 19 13.0	0.0
URZ	**Urewera**	**0.87**	**94**	⇑PN	Pn	14 19 13.9	-0.2
URZ				AML	AML	14 19 32.8	
URZ				SN	Sn	14 19 32.8	-1.3
KRVZ	**Karewarewa**	**0.93**	**198**	PN	Pn	14 19 14.7	0.0
WTVZ	**West Tongariro**	**0.96**	**200**	PN	Pn	14 19 15.1	+0.1
TWVZ	**Taurewa**	**0.97**	**207**	PN	Pn	14 19 15.2	+0.2
OTVZ	**Oturere**	**0.99**	**196**	PN	Pn	14 19 15.6	+0.4
BKZ	**Black Stump Fm**	**1.03**	**159**	⇑PN	Pn	14 19 15.2	-0.1
COVZ	**Chateau Observ**	**1.05**	**200**	⇑PN	Pn	14 19 15.7	0.0
WPVZ	**Whakapapa**	**1.06**	**200**	⇑PN	Pn	14 19 15.8	+0.1
NMHZ	**Naumai**	**1.09**	**145**	PN	Pn	14 19 16.7	+0.9
NMHZ				*e*SN	Sn	14 19 36.6	-0.8
TUVZ	**Tukino**	**1.09**	**195**	PN	Pn	14 19 16.1	+0.1
RAHZ	**Arahi**	**1.10**	**130**	PN	Pn	14 19 16.3	+0.4
RAHZ				SN	Sn	14 19 36.6	-0.8
FWVZ	**Far West T-bar**	**1.10**	**199**	PN	Pn	14 19 16.1	0.0
WHVZ	**Whangaehu Hut**	**1.12**	**197**	⇑PN	Pn	14 19 16.3	-0.1
WNVZ	**Wahianoa**	**1.16**	**196**	PN	Pn	14 19 16.5	-0.1
SNGZ	**Shannon Statio**	**1.19**	**119**	PN	Pn	14 19 17.0	+0.4
SNGZ				SN	Sn	14 19 37.8	-0.9
PKVZ	**Pokaka**	**1.20**	**205**	PN	Pn	14 19 16.7	0.0
MWZ	**Matawai**	**1.20**	**97**	*e*PN	Pn	14 19 16.9	+0.1
MWZ				AML	AML	14 19 38.4	
MWZ				AML	AML	14 19 38.8	
MOVZ	**Moawhango**	**1.21**	**189**	PN	Pn	14 19 16.5	-0.5
MTVZ	**Mangateitei**	**1.25**	**200**	PN	Pn	14 19 17.1	-0.1
KWHZ	**Kaweka Forest**	**1.26**	**165**	PN	Pn	14 19 17.2	-0.1
BHHZ	**Black Hill Sta**	**1.28**	**178**	PN	Pn	14 19 17.1	-0.4
MCHZ	**McNeill Hill**	**1.35**	**157**	PN	Pn	14 19 18.5	+0.6
KRHZ	**Kereru**	**1.46**	**169**	⇑PN	Pn	14 19 18.9	-0.2
HAZ	**Te Kaha**	**1.47**	**73**	PN	Pn	14 19 18.7	-0.5
KNZ	**Kokohu**	**1.54**	**122**	*e*PN	Pn	14 19 19.8	0.0
TWGZ	**Tauwhareparae**	**1.55**	**89**	PN	Pn	14 19 20.5	+0.5
PNHZ	**Pukenui**	**1.71**	**175**	PN	Pn	14 19 20.9	-0.7
KAHZ	**Kahuranaki**	**1.72**	**157**	PN	Pn	14 19 21.9	+0.1
WAZ	**Wanganui**	**1.74**	**207**	PN	Pn	14 19 21.6	-0.3
TSZ	**Takapari Road**	**1.85**	**181**	⇑PN	Pn	14 19 22.3	-0.7
WPHZ	**Waipukurau**	**1.89**	**170**	PN	Pn	14 19 22.8	-0.6
MXZ	**Matakaoa Point**	**1.93**	**71**	PN	Pn	14 19 24.1	+0.2
PXZ	**Pawanui**	**1.94**	**160**	⇑PN	Pn	14 19 23.5	-0.4
WMGZ	**Waiomatatini S**	**1.94**	**79**	PN	Pn	14 19 24.0	0.0
DVHZ	**Dannevirke**	**2.09**	**177**	PN	Pn	14 19 24.6	-1.1
POWZ	**Post Office Ro**	**2.19**	**185**	PN	Pn	14 19 25.0	-1.3
ANWZ	**Angora Road**	**2.28**	**171**	PN	Pn	14 19 27.0	-0.8
PRWZ	**Pori Road**	**2.34**	**181**	PN	Pn	14 19 27.5	-1.1
MRZ	**Mangatainoka R**	**2.47**	**188**	PN	Pn	14 19 28.3	-1.7
MRZ				AML	AML	14 20 01.0	
BFZ	**Birch Farm**	**2.48**	**176**	PN	Pn	14 19 28.6	-1.5
TIWZ	**Tintock**	**2.57**	**182**	PN	Pn	14 19 29.4	-1.8
OGWZ	**Otaki Gorge**	**2.69**	**194**	PN	Pn	14 19 30.9	-1.7
HOWZ	**Holdsworth Sta**	**2.71**	**188**	PN	Pn	14 19 30.9	-2.1
KIW	**Kapiti Island**	**2.78**	**197**	PN	Pn	14 19 31.6	-2.2
TMWZ	**Te Maipa**	**2.90**	**182**	PN	Pn	14 19 33.1	-2.1
MTW	**Mount Morrison**	**2.97**	**187**	PN	Pn	14 19 33.5	-2.5
CAW	**Cannon Point**	**2.99**	**194**	PN	Pn	14 19 34.0	-2.2
TCW	**Tory Channel**	**3.29**	**203**	PN	Pn	14 19 37.4	-2.5
PLWZ	**Palliser**	**3.41**	**190**	PN	Pn	14 19 38.5	-3.0
TUWZ	**Tuamarina**	**3.59**	**206**	*e*PN	Pn	14 19 41.0	-2.7

IDC ***24*** *14:20:59.7±3.3,38.17N×73.45E,h99km±28km,mb3.7/13, mb1 3.9/19,mb1mx3.6/50,mbtmp4.1/19,MS4.7/1, Ms1 4.7/1,ms1mx2.6/41,Error ellipse: s-maj=21.6km s-min=15.9km az=179.0*

ISCJB ***24*** *14:21:01.6±0.2,38.22N±0.02×73.42E±0.04,h150km, mb3.8/13,Error ellipse: s-maj=4.7km s-min=2.6km az=170.2*

MOS ***24*** *14:21:02.1±1.0,38.25N×73.30E,h133km,mb4.1/2,Error ellipse: s-maj=12.8km s-min=5.9km az=92.3*

NEIC ***24*** *14:21:02.2±1.1,38.26N×73.43E,h121km±9km,mb4.1/6, Error ellipse: s-maj=12.9km s-min=9.6km az=132.0*

BJI ***24*** *14:21:04.7,38.36N×73.64E,h159km,mb4.6/3,mB4.5/4*

NNC ***24*** *14:21:05.5±1.4,38.58N×73.16E,h159km±8km,mb3.7, mpv4.7,Error ellipse: s-maj=15.0km s-min=7.3km az=149.0*

ISC 24 14:21:01.1±0.5,38.25N±0.04×73.40E±0.05,h150km,n102, σ2s27/99,mb3.9/13,10C-10D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.76**	**3**	⇑P	**Pn**	**14 21 35.7**	**+1.9**
	526nm,0.3s						
SFK				⇓S	**Sn**	**14 21 58.8**	**-0.1**
	1μm,0.4s						
SFK	**Sufi-Kurgan**	**1.76**	**3**	PN	**Pn**	**14 21 35.7**	**+1.9**
SFK				S	**Sn**	**14 21 58.7**	**-0.1**
SFK				pmax	pmax		
	comp=Z,350nm,0.3s						
SFK				smax	smax		
	comp=N,1μm,0.4s						
KSH	**Kashi**	**2.37**	**57**	P	**Pn**	**14 21 38.3**	**-2.5**
KSH				S	Sn	14 22 01.8	-10
KSH				SMN			
	comp=N,8μm,0.5s						
KSH				SME			
	comp=N,16μm,0.8s						
DZET	**Dzherino**	**3.63**	**280**	⇓P	**Pn**	**14 21 57.4**	**+0.8**
	comp=N,58nm,0.4s						
DZET				⇑S	**Sn**	**14 22 38.9**	**-0.8**
	comp=N,558nm,0.8s						
DZET	**Dzherino**	**3.63**	**280**	PN	**Pn**	**14 21 57.2**	**+0.6**
DZET						14 22 38.6	
DZET				pmax	pmax		
	comp=Z,59nm,0.4s						
DZET				smax	smax		
	comp=N,253nm,0.4s						
AML	**Almayashu**	**3.88**	**3**	P	**Pn**	**14 22 02.0**	**+1.9**
	SNR=150						
KZA	**Kyzart**	**4.08**	**20**	P	**Pn**	**14 22 04.6**	**+1.8**
	SNR=93						
EKS2	**Erkin-Say**	**4.41**	**4**	P	**Pn**	**14 22 09.4**	**+2.6**
	SNR=94						
EKS2	**Erkin-Say**	**4.41**	**4**	*e*PN	**Pn**	**14 22 09.3**	**+2.4**
EKS2	**Erkin-Say**	**4.41**	**4**	*e*Pn	**Pn**	**14 22 09.3**	**+2.4**
EKS2				*e*Sn	**Sn**	**14 22 56.9**	**-1.2**
AAK	**Ala-Archa**	**4.46**	**10**	P	**Pn**	**14 22 10.1**	**+2.6**
	SNR=26						
AAK	**Ala-Archa**	**4.46**	**10**	⇑P	**Pn**	**14 22 09.5**	**+2.0**
	comp=N,87nm,0.7s						
AAK				⇓S	**Sn**	**14 22 56.1**	**-3.1**
	comp=N,161nm,0.8s						
AAK	**Ala-Archa**	**4.46**	**10**	PN	**Pn**	**14 22 09.5**	**+2.0**
AAK				pmax	pmax		
	comp=Z,45nm,0.7s						
ULHL	**Ulahol**	**4.54**	**28**	P	**Pn**	**14 22 10.7**	**+2.0**
	SNR=39						
KBK	**Karagaybulak**	**4.55**	**15**	P	**Pn**	**14 22 11.4**	**+2.6**
	SNR=28						
CEP	**Cherat**	**4.58**	**196**	P	Pn	14 22 12.5	+3.3
CHCP	**Chirah Chowk**	**4.59**	**181**	P	Pn	14 22 13.3	+4.1
CHMS	**Chumysh**	**4.85**	**12**	P	**Pn**	**14 22 15.0**	**+2.4**
	SNR=23						
TKM2	**Tokmak 2**	**4.95**	**19**	P	**Pn**	**14 22 16.5**	**+2.4**
	SNR=64						
TKM2	**Tokmak 2**	**4.95**	**19**	*e*PN	**Pn**	**14 22 16.4**	**+2.3**
TKM2	**Tokmak 2**	**4.95**	**19**	*e*Pn	**Pn**	**14 22 16.4**	**+2.3**
TKM2				*e*Sn	**Sn**	**14 23 10.2**	**-0.8**
USP	**Ospenovka**	**5.08**	**9**	P	**Pn**	**14 22 17.9**	**+2.3**
	SNR=8.2						
KBL	**Kabul**	**5.11**	**225**	*e*PN	**Pn**	**14 22 15.8**	**-0.4**
KBL				*e*		14 23 17.8	
KBL				pmax	pmax		
	comp=Z,46nm,0.6s						
KBL	**Kabul**	**5.11**	**225**	*e*Pn	**Pn**	**14 22 15.8**	**-0.4**
	comp=Z,46nm,0.6s						
KBL				*e*Sn	**Sn**	**14 23 17.8**	**+3.2**
KK31	**Karatay Array**	**5.32**	**337**	⇓P	**Pn**	**14 22 20.5**	**+1.8**
	comp=Z,8.3nm,0.2s,baz=148,slow=12,SNR=329						
KK31				⇓S	**Sn**	**14 23 16.5**	**-2.8**
	comp=Z,237nm,0.5s,baz=153,slow=22,SNR=5.0						
KK31	**Karatay Array**	**5.32**	**337**	PN	**Pn**	**14 22 20.5**	**+1.8**
KK31				pmax	pmax		
	comp=Z,42nm,0.3s						
KKAR	**Karatay Array**	**5.32**	**337**	*e*PN	**Pn**	**14 22 20.5**	**+1.8**
KKAR				pmax	pmax		
	comp=Z,459nm,0.5s						
KKAR	**Karatay Array**	**5.32**	**337**	*e*Pn	**Pn**	**14 22 20.5**	**+1.8**
	comp=Z,460nm,0.5s						
KKAR				*e*Sn	**Sn**	**14 23 16.6**	**-2.8**
THW	**Thamme Wali**	**5.61**	**194**	P	Pn	14 22 25.4	+2.7
DLH	**Dalhousie**	**6.07**	**159**	*e*P	Pn	14 22 31.0	+2.0
DLH				*e*S	**Sn**	**14 23 35.0**	**-2.7**
SARP	**Sargodha**	**6.34**	**186**	P	Pn	14 22 34.6	+2.1
SARP				S	**Sn**	**14 23 43.0**	**-0.9**
DHRM	**DHARAMSHALA**	**6.44**	**158**	*e*P	**Pn**	**14 22 34.5**	**+0.5**
DHRM				*e*S	**Sn**	**14 23 43.1**	**-3.5**
DHRM				AML	AML	14 23 52.7	
	comp=N,315nm,0.5s						
DHRM				AML	AML	14 23 53.1	
	comp=E,452nm,0.3s						
PONG	**Pong**	**6.62**	**161**	*e*P	**Pn**	**14 22 35.5**	**-0.6**
PONG				*ex*	**Sn**	**14 23 50.0**	**-0.6**
PDGK	**Podgornoye**	**6.86**	**40**	⇓P	**Pn**	**14 22 40.5**	**+1.4**
	comp=E,110nm,0.9s						
BHK	**Bhakra**	**7.26**	**159**	*ex*	**Sn**	**14 24 09.5**	**+3.6**
SDNR	**Sundarnagar**	**7.35**	**155**	*e*P	Pn	14 22 48.0	+2.1
SDNR				*e*S	Sn	14 24 01.0	-7.0
SMLA	**Simla**	**7.75**	**155**	*e*P	**Pn**	**14 22 52.9**	**+1.6**
SMLA				*i* S	**Sn**	**14 24 12.5**	**-5.2**
SMLA				AML	AML	14 24 13.3	
	comp=N,248nm,0.6s						
SMLA				AML	AML	14 24 14.4	
	comp=E,204nm,0.3s						
KKR	**Kurukshetra**	**8.74**	**160**	*e*P	**Pn**	**14 23 05.3**	**+0.9**
JOSI	**Joshimath**	**9.21**	**145**	*e*P	**Pn**	**14 23 10.2**	**-0.6**
JOSI				*e*P	**Pn**	**14 23 10.2**	**-0.6**
NDI	**New Delhi**	**10.06**	**160**	*e*P	**Pn**	**14 23 23.0**	**+1.0**
N

BVAR				S		**Sn**	**14 27 04.9**	**-5.0**
	comp=N,0.3nm,0.3s,baz=165,slow=26,SNR=5.1							
BRVK	**Borovoye**	**14.96**	**353**	⇑P		**Pn**	**14 24 25.1**	**+0.2**
	comp=N,17nm,1.3s							
BRVK				⇓S		**Sn**	**14 27 06.0**	**-5.0**
	comp=N,11nm,1.0s							
BRVK	**Borovoye**	**14.96**	**353**	*e*P		**P**	**14 24 26.4**	**-0.3**
BRVK				pmax	pmax			
	comp=Z,8.0nm,0.9s							
BRVK	**Borovoye**	**14.96**	**353**	*e*Pn		**P**	**14 24 26.4**	**-0.3**
	comp=Z,8.3nm,0.9s							
RAMN	**Ramite**	**15.81**	**132**	*e*P		**P**	**14 24 35.5**	**-1.1**
TAPN	**Taplejung**	**16.20**	**128**	*e*P		**P**	**14 24 40.8**	**-0.1**
	comp=Z,26nm,0.9s							
ODAN	**Odare**	**16.35**	**130**	*e*P		**P**	**14 24 42.7**	**+0.1**
	comp=Z,18nm,0.6s							
AKTO	**Aktyubinsk**	**16.37**	**323**	⇑P		**P**	**14 24 43.8**	**+1.5**
	comp=Z,20nm,0.8s							
AKTO				⇓S		**S**	**14 27 39.7**	**-4.2**
	comp=Z,18nm,0.8s							
AKTO	**Aktyubinsk**	**16.37**	**323**	P		**P**	**14 24 44.7**	**+2.4**
	comp=Z,1.1nm,0.3s,baz=124,slow=12,SNR=19							
AKTO				S		S	14 27 35.2	-8.8
	comp=Z,0.4nm,0.3s,baz=130,slow=18,SNR=5.2							
ZAA0	**Zalesovo Array**	**17.55**	**23**	*e*P		**Pn**	**14 24 57.5**	**+1.2**
ZALV	**Zalesovo Beam**	**17.55**	**23**	P		**Pn**	**14 24 58.0**	**+1.8**
	comp=Z,1.2nm,0.3s,baz=211,slow=11,SNR=40							
ZALV				S		**S**	**14 28 09.9**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=206,slow=22,SNR=4.9							
NVS	**Novosibirsk**	**17.89**	**19**	*e*P		**Pn**	**14 25 02.0**	**+1.7**
NVS				pmax	pmax			
	comp=Z,10.0nm,1.2s							
NVS				pmax	pmax			
	comp=N,6.0nm,1.1s							
SVE	**Sverdlovsk**	**20.42**	**340**	*e*P		Pn	14 25 30.2	+0.1
SVE				pmax	pmax			
	comp=Z,15nm,1.1s							
GTA	**Gaotai**	**20.59**	**79**	*e*P		Pn	14 25 37.9	+5.4
GTA				pP		pP	14 25 42.3	-13
GTA				sP		sP	14 25 45.5	-28
GTA				pmax	pmax			
	comp=Z,6.0nm,1.0s							
ARU	**Arti**	**20.70**	**336**	P		Pn	14 25 32.7	-0.7
	baz=146,slow=7.3							
ARU	**Arti**	**20.70**	**336**	*c i*P		Pn	14 25 33.1	-0.3
ARU				S		**S**	**14 29 17.6**	**+5.7**
ARU				SS		Sn	14 29 36.2	+8.4
ARU				pmax	pmax			
	comp=Z,12nm,1.2s							
ARU	**Arti**	**20.70**	**336**	*e*P		Pn	14 25 31.7	-1.7
	comp=Z,22nm,1.4s							
LZH	**Lanzhou**	**24.31**	**86**	*e*P		**P**	**14 26 07.6**	**+2.7**
LZH				pP		**pP**	**14 26 38.5**	**+3.3**
LZH				PP		**PnPn**	**14 26 50.3**	**+5.0**
LZH				sP		**sP**	**14 26 57.8**	**+4.4**
LZH				PMZ				
	comp=Z,20nm,1.0s							
LZH				PMZ				
	comp=Z,72nm,5.2s							
ZAK	**Zakamensk**	**24.40**	**51**	*e*P		P	14 26 12.0	+6.5
BR131	**Keskin Array S**	**30.77**	**285**	*e*P		P	14 27 08.0	+5.5
	comp=Z,0.7nm,0.4s							
BRTR	**Keskin Array B**	**30.77**	**285**	P		P	14 27 07.9	+5.5
	comp=Z,1.7nm,0.5s,baz=99,slow=8.7,SNR=12							
AKASG	**Malin Array Be**	**33.39**	**306**	P		P	14 27 28.9	+3.9
	comp=Z,0.9nm,0.3s,baz=78,slow=8.2,SNR=7.7							
FINES	**FINESS Array B**	**37.14**	**324**	P		P	14 28 00.9	+4.0
	comp=Z,2.1nm,0.6s,baz=124,slow=10,SNR=10							
ARCES	**ARCESS Array B**	**40.28**	**336**	P		P	14 28 27.7	+4.6
	comp=Z,3.9nm,0.6s,baz=112,slow=9.2,SNR=25							
YAK	**Yakutsk**	**41.43**	**36**	LR		LR	14 46 53.8	
	comp=Z,975nm,20.6s,baz=98,slow=38							
GERES	**GERESS Array B**	**43.51**	**304**	P		P	14 28 54.2	+4.7
	comp=Z,0.5nm,0.7s,baz=62,slow=6.2,SNR=4.2							
NB2	**NORSAR Subarra**	**44.16**	**322**	P		P	14 28 58.6	+4.0
	comp=Z,4.5nm,0.6s,baz=92,slow=8.6							
NOA	**NORSAR Array B**	**44.16**	**322**	P		P	14 28 58.7	+4.1
	comp=Z,3.0nm,0.6s,baz=92,slow=7.7,SNR=16							
ESDC	**Sonseca Array**	**58.33**	**298**	P		P	14 30 44.5	+4.1
	comp=Z,0.6nm,0.6s,baz=62,slow=7.9,SNR=7.2							
TORD	**Torodi Ar. Bea**	**67.66**	**269**	P		P	14 31 46.0	+3.7
	comp=Z,1.8nm,0.5s,baz=48,slow=5.4,SNR=36							
INK	**Inuvik**	**71.86**	**10**	P		P	14 32 12.0	+5.0
	comp=Z,2.1nm,0.5s,baz=340,slow=6.6,SNR=7.6							
ILAR	**Eielson Array**	**72.56**	**17**	P		P	14 32 15.5	+4.1
	comp=Z,1.0nm,1.0s,baz=320,slow=5.6,SNR=9.3							
YKA	**Yellowknife Ar**	**79.39**	**4**	P		P	14 32 54.7	+4.7
	comp=Z,0.9nm,0.5s,baz=349,slow=5.4,SNR=7.6							
WRA	**Warramunga Arr**	**81.33**	**124**	P		P	14 33 04.6	+3.6
	comp=Z,0.5nm,0.8s,baz=325,slow=4.9,SNR=6.5							
ASAR	**Alice Springs**	**83.72**	**127**	P		P	14 33 18.3	+4.9
	comp=Z,0.2nm,0.5s,baz=327,slow=4.2,SNR=5.8							

*ISCJB **24** 14:27:10.0±0.8,52.°44N±0.°08×169.°3W±0.°1, h10km, mb3.5/3, Error ellipse: s-maj=15.1km s-min=6.0km az=43.7*
*IDC **24** 14:27:10.0±1.5,52.°27N×169.°54W, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/47, mbtmp3.4/4, ML2.8/1, Error ellipse: s-maj=86.5km s-min=32.7km az=150.0*
*NEIC **24** 14:27:12.3,52.°56N×169.°25W, h13km, ML3.0(AEIC), After AEIC.*

ISC 24 14:27:11.5±1.1,52.°5N±0.°1×169.°21W±0.°09, h10km, n20, σ1°04/17, mb3.4/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.53**	**24**	P	**Pg**	**14 27 22.1**	**+0.3**
NIKH				S	**Sb**	**14 27 30.0**	**-0.6**
OKTU	**Okmok Mt. Tuli**	**1.14**	**38**	P	**Pb**	**14 27 32.8**	**-0.5**
OKWE	**Okmok W'ng Wal**	**1.15**	**30**	P	**Pb**	**14 27 32.9**	**-0.4**
OKAK	**Okmok**	**1.21**	**25**	P	Pb	14 27 31.1	-3.3
OKFG	**Magazine Ridge**	**1.21**	**40**	P	**Pb**	**14 27 33.2**	**-1.2**
OKFG				S	**Sb**	**14 27 50.0**	**-0.2**
MSOM	**Makushin Julie**	**1.90**	**45**	P	**Pn**	**14 27 44.6**	**+0.7**
MSOM				S	**Sn**	**14 28 09.1**	**+1.2**
MSW	**Makushin Switc**	**2.04**	**45**	P	**Pn**	**14 27 45.8**	**-0.1**
UNV	**Unalaska Valle**	**2.12**	**49**	P	**Pn**	**14 27 46.2**	**-0.8**
UNV				S	**Sn**	**14 28 11.9**	**-1.4**
ATKA	**Atka Island**	**3.07**	**267**	P	**Pn**	**14 28 00.2**	**+0.2**
SPIA	**Saint Paul Isl**	**4.74**	**353**	P	**Pn**	**14 28 22.9**	**+0.1**
ILAR	**Eielson Array**	**16.80**	**34**	P	**P**	**14 31 10.4**	**+1.7**
	0.0nm,0.3s,baz=231,slow=11,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**37.61**	**219**	T	T	15 14 21.8	
	baz=24,slow=76,SNR=9.0						
H11N3	**WAKE ISLAND Hy**	**37.62**	**219**	T	T	15 14 22.2	
	baz=24,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**37.63**	**219**	T	T	15 14 23.7	
	baz=24,slow=76,SNR=7.3						
H11S1	**WAKE ISLAND Hy**	**38.80**	**218**	T	T	15 15 51.0	
	baz=23,slow=76,SNR=197						
H11S2	**WAKE ISLAND Hy**	**38.81**	**218**	T	T	15 15 52.1	
	baz=23,slow=76,SNR=112						
H11S3	**WAKE ISLAND Hy**	**38.81**	**218**	T	T	15 15 52.3	
	baz=23,slow=76,SNR=70						
TXAR	**Lajitas Array**	**52.65**	**89**	P	**P**	**14 36 27.1**	**+1.3**
	0.3nm,0.7s,baz=294,slow=5.1,SNR=3.8						
WRA	**Warramunga Arr**	**87.16**	**232**	P	**P**	**14 39 55.7**	**-1.8**
	0.2nm,0.8s,baz=34,slow=6.2,SNR=2.5						
ASAR	**Alice Springs**	**90.55**	**230**	P	**P**	**14 40 13.1**	**-0.4**
	0.3nm,0.6s,baz=27,slow=5.8,SNR=5.8						

IDC 24 14:38:29.4±3.5,6.°13S×149.°56E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.4/26, mbtmp3.7/3, ML1.5/1, Error ellipse: s-maj=130.7km s-min=35.9km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.03**	**216**	Pn	Pn	14 39 34.0	+1.6
	2.2nm,0.3s,baz=32,slow=7.7,SNR=9.4						
PMG				Sn	Sn	14 40 21.6	+1.2
	3.1nm,0.3s,baz=104,slow=19,SNR=6.6						
WRA	**Warramunga Arr**	**20.18**	**226**	P	P	14 43 05.3	-0.4
	4.1nm,1.0s,baz=52,slow=11,SNR=17						
ASAR	**Alice Springs**	**23.04**	**219**	P	P	14 43 35.8	-0.7
	0.4nm,0.5s,baz=48,slow=8.9,SNR=12						
TORD	**Torodi Ar. Bea**	**147.59**	**285**	PKPbc	PKPbc	14 58 16.3	-0.5
	0.2nm,0.5s,baz=60,slow=1.9,SNR=3.1						

MEX 24 14:48:18.4±0.4,18.°28N×101.°15W, h90km±6km, MD4.2, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.73**	**204**	*e*P	Pn	14 48 33.6	-1.6
ZIIG				*i* S	Sn	14 48 46.1	-1.6
ARIG	**Puente Sto Nin**	**0.77**	**89**	*e*P	Pn	14 48 34.4	-1.1
ARIG				*e*S	Sn	14 48 46.6	-1.9
CAIG	**El Cayaco**	**1.48**	**145**	*e*P	Pn	14 48 43.0	-1.0
CAIG				*i* S	Sn	14 49 01.4	-1.8
MMIG	**Aquila**	**2.08**	**271**	*i* P	Pn	14 48 50.2	-1.4
MMIG				*i* S	Sn	14 49 15.7	-1.4

*ISCJB **24** 14:59:00.9±1.8,52.°49N±0.°09×169.°4W±0.°1, h13km±12km, mb3.7/3, Error ellipse: s-maj=20.2km s-min=6.7km az=138.1*
*IDC **24** 14:59:00.1±1.5,52.°41N×169.°63W, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.4/60, mbtmp3.4/4, ML3.1/1, Error ellipse: s-maj=83.6km s-min=31.0km az=153.0*
*NEIC **24** 14:59:01.8,52.°53N×169.°24W, h7km, ML3.2(AEIC), After AEIC.*

ISC 24 14:59:00.4±2.2,52.°5N±0.°1×169.°29W±0.°08, h1km±13km, n27, σ0°84/27, mb3.7/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.54**	**29**	P	**Pb**	**14 59 12.3**	**-0.4**
NIKH				S	**Sg**	**14 59 19.8**	**+1.9**
OKSP	**Okmok Steeple**	**0.97**	**38**	P	**Pb**	**14 59 20.1**	**+0.1**
OKSP				S	**Sg**	**14 59 32.4**	**+0.9**
OKWR	**Okmok West Rim**	**1.14**	**35**	P	**Pb**	**14 59 23.1**	**+0.1**
OKCE	**Okmok Cone E**	**1.15**	**36**	P	**Pg**	**14 59 22.4**	**-0.1**
OKTU	**Okmok Mt. Tuli**	**1.17**	**40**	P	**Pb**	**14 59 23.1**	**-0.2**
OKAK	**Okmok**	**1.22**	**27**	P	**Pg**	**14 59 21.6**	**-2.2**
OKRE	**Okmok R'deer P**	**1.23**	**33**	P	**Pg**	**14 59 23.9**	**0.0**
OKFG	**Magazine Ridge**	**1.24**	**42**	P	**Pg**	**14 59 23.7**	**-0.4**
OKFG				S	**Sg**	**14 59 40.0**	**-0.2**
MSOM	**Makushin Julie**	**1.93**	**46**	P	**Pn**	**14 59 34.6**	**+0.3**
MSOM				S	**Sn**	**14 59 59.9**	**+0.7**
MCIR	**Makushin Cirqu**	**2.05**	**44**	P	**Pn**	**14 59 36.2**	**+0.1**
MSW	**Makushin Switc**	**2.07**	**46**	P	**Pn**	**14 59 35.7**	**-0.5**
MTBL	**Makushin Table**	**2.15**	**46**	P	**Pn**	**14 59 37.7**	**+0.3**
UNV	**Unalaska Valle**	**2.15**	**50**	P	**Pn**	**14 59 37.0**	**-0.3**
UNV				S	**Sn**	**15 00 05.0**	**+0.3**
AKRB	**Akutan Reef Bi**	**2.53**	**49**	P	**Pn**	**14 59 42.8**	**+0.2**
AKUT	**Akutan**	**2.67**	**51**	*e*Pn	**Pn**	**14 59 44.5**	**+0.1**
AKUT				*e*Sn	**Sn**	**15 00 16.5**	**-1.0**
ATKA	**Atka Island**	**3.02**	**266**	P	**Pn**	**14 59 50.0**	**+0.8**
SPIA	**Saint Paul Isl**	**4.72**	**354**	P	**Pn**	**15 00 12.7**	**+0.1**
ILAR	**Eielson Array**	**16.82**	**34**	P	**P**	**15 02 59.4**	**+0.4**
	0.0nm,0.3s,baz=229,slow=12,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**37.59**	**219**	T	T	15 46 15.0	
	baz=22						
H11N3	**WAKE ISLAND Hy**	**37.59**	**219**	T	T	15 46 14.8	
	baz=22						
H11N1	**WAKE ISLAND Hy**	**37.60**	**219**	T	T	15 46 19.4	
	baz=22						
H11S1	**WAKE ISLAND Hy**	**38.77**	**218**	T	T	15 47 45.7	
	baz=22						
H11S2	**WAKE ISLAND Hy**	**38.79**	**218**	T	T	15 47 44.7	
	baz=22						
H11S3	**WAKE ISLAND Hy**	**38.79**	**218**	T	T	15 47 44.9	
	baz=22						
TXAR	**Lajitas Array**	**52.70**	**89**	P	**P**	**15 08 17.6**	**+1.2**
	0.6nm,0.6s,baz=290,slow=4.8,SNR=9.5						
WRA	**Warramunga Arr**	**87.12**	**232**	P	**P**	**15 11 46.4**	**-1.3**
	0.4nm,0.8s,baz=33,slow=5.6,SNR=2.5						
ASAR	**Alice Springs**	**90.51**	**230**	P	**P**	**15 12 03.0**	**-0.8**
	0.2nm,0.5s,baz=20,slow=5.5,SNR=4.7						

*BJI **24** 14:59:16.3,0.°36N×99.°28E, h35km, mb4.7/40, mB4.8/29, Ms4.7/32, Ms7 4.5/31*
*IDC **24** 14:59:20.0±3.0,0.°88N×99.°57E, h21km±19km, mb4.4/35, mb1 4.5/38, mb1mx4.4/56, mbtmp4.5/38, ML4.4/3, MS3.8/19, Ms1 3.8/19, ms1mx3.6/41, Error ellipse: s-maj=14.0km s-min=8.4km az=52.0*
*KLM **24** 14:59:20.3,0.°97N×99.°41E, h7km, mb5.0, ML5.4, MS5.2*
*MOS **24** 14:59:20.3±0.9,0.°92N×99.°60E, h38km, mb5.1/23, Error ellipse: s-maj=12.1km s-min=5.4km az=115.1*
*ISCJB **24** 14:59:21.2±0.1,0.°98N±0.°02×99.°41E±0.°02, h33km, mb4.7/71, MS3.9/18, Error ellipse: s-maj=3.7km s-min=2.0km az=141.4*
*NEIC **24** 14:59:21.9±0.2,0.°94N×99.°58E, h35km, mb4.7/18, Error ellipse: s-maj=5.8km s-min=3.7km az=50.0*
NEIC Felt [III] at Bukittinggi and [II] at Padangpanjang. Also felt at Rantauprapat. Felt at Kuala Lumpur, Malaysia.
*DJA **24** 14:59:22.7±0.2,1.°N±2.°×9.°9E±.°, h13km, MS1.1/70, mb5.1/70, mB5.5/31, MLv5.6/30, Mw(mB)5.0/31*

ISC 24 14:59:22.0±0.3,0.°87N±0.°02×99.°47E±0.°02, h33km±1km, n299, σ1°50/314, mb4.9/82, MS3.9/18, 19C-18D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.13**	**122**	P	**Pn**	**14 59 24.9**	**-1.2**
MNSI				S	**Sb**	**14 59 29.7**	**-2.4**
PBSI	**Pulau Batu**	**1.50**	**232**	P	**Pn**	**14 59 48.8**	**+2.3**
PBSI				S	**Sb**	**15 00 05.8**	**+0.9**
PPI	**Padang Panjang**	**1.61**	**145**	P	**Pb**	**14 59 50.8**	**-0.3**
PPI				S	**Sb**	**15 00 13.9**	**+2.8**
PPI	**Padang Panjang**	**1.61**	**145**	P	**Pn**	**14 59 50.0**	**+2.0**
	baz=1.7,SNR=418						
BKNI	**Bangkinang**	**1.66**	**109**	P	**Pb**	**14 59 52.5**	**+0.5**
BKNI				S	**Sb**	**15 00 12.9**	**+0.3**
BKNI	**Bangkinang**	**1.66**	**109**	P	**Pn**	**14 59 48.1**	**-0.7**
	baz=1.6,SNR=798						
BKNI	**Bangkinang**	**1.66**	**109**	*e*Pn	**Pn**	**14 59 48.3**	**-0.5**
BKNI				*e*Sn	**Sn**	**15 00 06.2**	**-2.8**
GSI	**Gunungsitoli**	**1.94**	**283**	P	**Pn**	**14 59 53.2**	**+0.6**
GSI	**Gunungsitoli**	**1.94**	**283**	*e*Pn	**Pn**	**14 59 53.3**	**+0.6**
GSI				*e*Sn	**Sn**	**15 00 17.8**	**+1.9**
PSI	**Prapat**	**2.00**	**344**	Pn	**Pn**	**14 59 51.2**	**-2.3**
	141nm,0.3s,baz=158,slow=10,SNR=183						
PSI				Sn	**Sn**	**15 00 17.7**	**+0.3**
	137nm,0.3s,baz=221,slow=15,SNR=20						
PSI				LR	LR	15 00 48.4	
	comp=Z,7μm,19.2s,baz=158,slow=46						
PSI	**Prapat**	**2.00**	**344**	P	**Pn**	**14 59 51.4**	**-2.2**
	baz=1.8,SNR=205						
SISI	**Saibi**	**2.21**	**190**	P	**Pn**	**14 59 59.0**	**+2.7**
SDSI	**Sungai Dareh**	**2.65**	**132**	P	Pn	15 00 06.2	+3.8
TSI	**Tuntungan**	**2.77**	**341**	P	**Pn**	**15 00 04.3**	**+0.3**
RGRI	**Rengat**	**3.11**	**113**	P	Pn	15 00 12.2	+3.5
FRIM	**Kepong**	**3.19**	**42**	⇑P	**Pn**	**15 00 09.9**	**+0.1**
FRIM	**Kepong**	**3.19**	**42**	⇑P	**Pn**	**15 00 09.9**	**+0.1**
SNSI	**Sinabang, Aceh**	**3.49**	**296**	P	**Pn**	**15 00 14.9**	**+0.9**
KRJI	**Kerinci**	**3.55**	**146**	P	Pn	15 00 18.5	+3.6
PPSI	**Pulau Pagai**	**3.65**	**171**	P	**Pn**	**15 00 18.7**	**+2.6**
IPM	**Ipoh**	**3.91**	**23**	⇓P	**Pn**	**15 00 19.6**	**-0.2**
IPM	**Ipoh**	**3.91**	**23**	⇓P	**Pn**	**15 00 19.6**	**-0.2**
IPM	**Ipoh**	**3.91**	**23**	*e*Pn	**Pn**	**15 00 19.1**	**-0.7**
IPM				*e*Sn	**Sn**	**15 01 04.7**	**+0.1**
KGM	**Kluang**	**4.02**	**73**	⇓P	**Pn**	**15 00 22.4**	**+1.2**
KGM	**Kluang**	**4.02**	**73**	⇓P	**Pn**	**15 00 22.4**	**+1.2**
BTDF	**Bukit Timah Da**	**4.33**	**83**	P	**Pn**	**15 00 28.1**	**+2.6**
	baz=4.2,SNR=3.2						
BTDF				P	**Pn**	**15 00 28.1**	**+2.6**
	baz=4.2,SNR=3.2						
MYKOM	**Kota Tinggi**	**4.48**	**78**	⇓P	**Pn**	**15 00 28.8**	**+1.3**
MYKOM	**Kota Tinggi**	**4.48**	**78**	⇓P	**Pn**	**15 00 28.8**	**+1.3**
MYKOM	**Kota Tinggi**	**4.48**	**78**	*e*Pn	**Pn**	**15 00 25.8**	**-1.7**
KULM	**Kulim**	**4.55**	**15**	*e*Pn	**Pn**	**15 00 26.9**	**-1.7**
KULM				*e*Sn	**Sn**	**15 01 18.1**	**-2.2**
JMBI	**JAMBI**	**4.86**	**121**	P	Pn	15 00 36.2	+3.5
LHMI	**Lhok Sumawe**	**5.01**	**330**	P	**Pn**	**15 00 36.2**	**+1.3**
LHMI	**Lhok Sumawe**	**5.01**	**330**	P	**Pn**	**15 00 37.0**	**+2.1**
	baz=5.0,SNR=9.1						
LHMI	**Lhok Sumawe**	**5.01**	**330**	Pn	**Pn**	**15 00 32.8**	**-2.1**
	350nm,0.8s						
LHMI				*e*Sn	**Sn**	**15 01 32.2**	**+0.5**
DSRI	**Dabo**	**5.28**	**105**	P	Pn	15 00 41.9	+3.3
	22nm,0.8s,8μm9.0nm						
KSI	**Kapahiang**	**5.47**	**145**	P	Pn	15 00 44.8	+3.6
	883nm,0.7s,11μm5.8nm						
KTGM	**Kuala Trenggan**	**5.75**	**39**	⇓P	**Pn**	**15 00 43.9**	**-1.2**
KTGM	**Kuala Trenggan**	**5.75**	**39**	⇓P	**Pn**	**15 00 43.9**	**-1.2**
LHSI	**Lahat**	**6.18**	**139**	P	Pn	15 00 54.6	+3.7
	308nm,0.9s,3μm3.8nm						
MNAI	**Manna**	**6.25**	**146**	P	Pn	15 00 55.6	+3.6
	408nm,1.0s,4.6nm						
MNAI	**Manna**	**6.25**	**146**	P	**Pn**	**15 00 54.9**	**+2.9**
	baz=6.3,SNR=4.4						
MNAI	**Manna**	**6.25**	**146**	Pn	**Pn**	**15 00 53.5**	**+1.6**
	286nm,0.6s						
MNAI				*e*Sn	**Sn**	**15 02 00.9**	**-1.4**
PMBI	**Palembang**	**6.50**	**125**	P	**Pn**	**15 00 57.9**	**+2.5**
	446nm,1.1s,7μm8.6nm						
PKDT	**Phuket**	**7.07**	**351**	P	Pn	**15 01 06.2**	**+3.0**
	189nm,0.7s,3μm2.0nm						
MDSI	**Maura Dua**	**7.10**	**139**	P	Pn	15 01 07.2	+3.6
	228nm,1.3s,3μm1.0nm						
KRAB	**Krabi**	**7.31**	**358**	P	**Pn**	**15 01 08.7**	**+2.2**
	211nm,0.8s,2μm2.3nm						
PPBI	**Pangkal Pinang**	**7.31**	**114**	P	Pn	15 01 10.2	+3.6
	182nm,0.9s,7μm1.7nm						
LWLI	**Liwa**	**7.43**	**142**	P	Pn	15 01 11.8	+3.6
	183nm,0.8s,9μm1.1nm						
KLSI		**7.62**	**136**	P	Pn	15 01 14.4	+3.6
	204nm,1.2s,3μm1.6nm						
KLI	**Kotabumi**	**7.83**	**137**	P	Pn	15 01 17.4	+3.7
	196nm,1.1s,3μm2.6nm						
SURT	**Suratani**	**8.07**	**355**	P	**Pn**	**15 01 19.6**	**+2.7**
	52nm,0.9s,0.5nm						
KASI	**Kota Agung**	**8.09**	**142**	P	Pn	15 01 20.8	+3.6
	124nm,0.7s,1μm						
BLSI	**Bandar Lampung**	**8.46**	**137**	P	Pn	15 01 26.0	+3.7
	126nm,0.8s						
TPI	**Tanjungpandan**	**8.94**	**114**	P	Pn	15 01 32.0	+3.1
	40nm,0.8s,750nm						
CGJI	**Cibinong**	**9.69**	**140**	P	Pn	15 01 43.1	+4.0
	72nm,1.2s						
TNG	**Tangerang**	**10.01**	**134**	P	Pn	15 01 47.4	+3.8
	1μm,0.4s,28μm						
SKJI	**Sukabumi**	**10.54**	**138**	P	Pn	15 01 54.7	+3.8
	195nm,1.8s						
CNJI	**Cibinong**	**11.15**	**137**	P	Pn	15 02 02.6	+3.4
	184nm,1.1s						
LEM	**Lembang**	**11.16**	**133**	P	Pn	15 02 03.0	+3.6
	120nm,1.6s,2μm						
LEM	**Lembang**	**11.16**	**133**	Pn	**Pn**	**15 01 59.2**	**-0.2**
	1.6nm,0.3s,baz=313,slow=19,SNR=1.9						
LEM				LR	LR	15 07 18.4	
	comp=Z,1μm,19.2s,baz=280,slow=43						
CISI	**Cisompet, Garu**	**11.80**	**135**	P	Pn	15 02 11.6	+3.4
	116nm,1.3s,3μm						
CISI	**Cisompet, Garu**	**11.80**	**135**	P	**Pn**	**15 02 08.2**	**+0.1**
	baz=12,SNR=6.1						
CISI	**Cisompet, Garu**	**11.80**	**135**	*e*Pn	**Pn**	**15 02 06.6**	**-1.6**
	129nm,1.1s						
CISI				*e*Sn	**Sn**	**15 04 16.9**	**-2.0**
STKI	**Sintang**	**12.04**	**94**	P	P	15 02 28.4	+4.6
PBKI	**Pangkalan Bun**	**12.70**	**106**	P	Pn	15 02 23.9	+3.5
	106nm,1.2s						
SBUM	**Sibu**	**12.84**	**83**	⇑P	Pn	15 02 25.9	+3.6
SBUM	**Sibu**	**12.84**	**83**	⇑P	Pn	15 02 25.9	+3.6
SMRI	**Semarang**	**13.48**	**126**	P	Pn	15 02 35.4	+4.4
	184nm,1.4s						
SMRI	**Semarang**	**13.48**	**126**	*e*Pn	Pn	15 02 35.9	+4.8
	211nm,1.1s						
SMRI				*e*Sn	**Sn**	**15 04 58.0**	**-1.8**
UWJI	**Ujung Watu**	**13.55**	**122**	P	Pn	15 02 35.6	+3.6
	158nm,1.5s						
KHLT	**Khaolaem Dam**	**13.87**	**356**	P	Pn	15 02 40.1	+3.7
	61nm,1.2s,715nm						
UGM	**Wanagama**	**14.06**	**129**	P	Pn	15 02 42.6	+3.7
	241nm,1.4s						
UGM	**Wanagama**	**14.06**	**129**	P	**Pn**	**15 02 38.9**	**0.0**
	baz=14,SNR=7.3						
NGJI	**Ngawi**	**14.49**	**125**	P	**Pn**	**15 02 47.8**	**+2.9**
	123nm,1.2s						
TBJI	**Tambak Boyo**	**14.52**	**122**	P	**P**	**15 02 49.4**	**-2.0**
	155nm,1.4s						
BWJI	**Bawean**	**14.76**	**117**	P	**P**	**15 02 52.7**	**-1.4**
	114nm,1.3s						
GRJI	**Gresik**	**15.11**	**121**	P	**P**	**15 02 56.5**	**-1.5**
	70nm,1.3s						
PWJI	**Pagerwojo**	**15.14**	**126**	P	**P**	**15 02 59.5**	**+1.2**
	56nm,1.6s						
UBPT	**Khong Chiam**	**15.50**	**22**	P	**P**	**15 03 02.9**	**+0.6**
PBKT	**Sadao Pong**	**15.68**	**5**	P	**P**	**15 03 04.4**	**+0.2**
	64nm,1.0s,1μm						
KHON	**Khomkaen**	**15.73**	**12**	P	**P**	**15 03 03.6**	**-1.2**
	28nm,1.2s,279nm						
BBKI	**Banjar Baru**	**15.96**

APSI	**Ampana**	**22.25**	**94**	P		**P**		**15 04 19.4**	**+3.1**		
	comp=Z,88nm,1.4s,comp=Z,869nm										
MRSI	**Marisa**	**22.48**	**91**	P		P		15 04 23.3	+4.6		
	comp=Z,78nm,1.1s,comp=Z,890nm										
CHLP	**Challavanipeta**	**23.16**	**320**	*e*P		**P**		**15 04 26.8**	**+1.1**		
CHLP				IAmb		IAmb		15 04 27.4			
	comp=Z,38nm,0.9s										
CHLP				IVMs_BB		IVMs_BB		15 17 21.8			
	comp=Z,508nm,4.1s										
SKHT	**Srikalahasti**	**23.37**	**304**	*e*P		**P**		**15 04 29.8**	**+1.9**		
SKHT				IAmb		IAmb		15 04 31.3			
	comp=Z,50nm,1.1s										
SKHT				IVMs_BB		IVMs_BB		15 17 49.3			
	comp=Z,970nm,5.7s										
LUWI	**Luwuk**	**23.38**	**95**	P		**P**		**15 04 31.9**	**+3.9**		
	comp=Z,112nm,1.2s										
LUWI	**Luwuk**	**23.38**	**95**	*e*P		**P**		**15 04 26.9**	**-1.1**		
	comp=Z,82nm,0.8s										
PVM	**Polavaram**	**23.95**	**314**	*e*P		**P**		**15 04 33.8**	**+0.5**		
PVM				IAmb		IAmb		15 04 35.8			
	comp=Z,66nm,0.9s										
PVM				IVMs_BB		IVMs_BB		15 16 04.4			
	comp=Z,605nm,4.9s										
ADKI	**Addanki**	**24.32**	**309**	*e*P		**P**		**15 04 38.5**	**+1.6**		
ADKI				IAmb		IAmb		15 04 40.4			
	comp=Z,75nm,1.1s										
ADKI				IVMs_BB		IVMs_BB		15 15 31.0			
	comp=Z,934nm,4.7s										
KMI	**Kunming**	**24.32**	**7**	P		**P**		**15 04 40.4**	**+3.4**		
KMI				pP		**pP**		**15 04 50.3**	**+3.7**		
KMI				sP		**sP**		**15 04 55.3**	**+4.7**		
KMI				S		**S**		**15 08 54.0**	**-0.3**		
KMI				PMZ							
	comp=Z,6.0nm,0.7s										
KMI				PMZ							
	comp=Z,130nm,5.7s										
KMI				LN							
	comp=Z,660nm,11.6s										
KMI				LE							
	comp=Z,370nm,8.9s										
KMI				LZ							
	comp=Z,660nm,12.1s										
RCLA	**Racherla**	**24.90**	**307**	*e*P		**P**		**15 04 42.9**	**+0.8**		
RCLA				IAmb		IAmb		15 04 44.3			
	comp=Z,37nm,1.0s										
RCLA				IVMs_BB		IVMs_BB		15 14 09.5			
	comp=Z,2μm,6.4s										
NJS	**Nagarjunasagar**	**25.25**	**309**	*e*P		**P**		**15 04 46.4**	**+1.2**		
NJS				IAmb		IAmb		15 04 48.8			
	comp=Z,35nm,0.7s										
NJS				IVMs_BB		IVMs_BB		15 14 29.5			
	comp=Z,952nm,4.6s										
SRLM	**Srisailam**	**25.31**	**308**	*e*P		**P**		**15 04 46.9**	**+1.0**		
SRLM				IAmb		IAmb		15 04 50.8			
	comp=Z,41nm,1.1s										
SRLM				IVMs_BB		IVMs_BB		15 22 15.1			
	comp=Z,2μm,6.1s										
URV	**Uravakonda**	**26.02**	**304**	*e*P		**P**		**15 04 53.8**	**+1.4**		
URV				IAmb		IAmb		15 05 00.3			
	comp=Z,18nm,0.9s										
URV				IVMs_BB		IVMs_BB		15 21 36.0			
	comp=Z,1μm,4.8s										
HYB	**Hyderabad**	**26.34**	**310**	*i* P		**P**		**15 04 55.5**	**+0.3**		
HYBB	**Hyderabad (bro**	**26.34**	**310**	*e*P		**P**		**15 04 55.8**	**+0.6**		
HYBB				IAmb		IAmb		15 04 59.1			
	comp=Z,31nm,0.9s										
HYBB				IVMs_BB		IVMs_BB		15 20 58.7			
	comp=Z,979nm,4.6s										
GYA	**Guiyang**	**26.37**	**15**	*e*P		**P**		**15 04 56.8**	**+1.3**		
GYA				PP		**PnPn**		**15 05 40.0**	**+4.2**		
GYA				S		**S**		**15 09 26.8**	**0.0**		
GYA				PMZ							
	comp=Z,10.0nm,0.8s										
GYA				PMZ							
	comp=Z,110nm,4.8s										
GYA				LN							
	comp=Z,440nm,17.2s										
GYA				LE							
	comp=Z,410nm,16.6s										
GYA				LZ							
	comp=Z,390nm,17.8s										
RPR	**Rampur**	**26.67**	**313**	*e*P		**P**		**15 04 59.0**	**+0.9**		
RPR				IAmb		IAmb		15 05 00.1			
	comp=Z,41nm,0.8s										
RPR				IVMs_BB		IVMs_BB		15 15 29.3			
	comp=Z,1μm,5.8s										
SRSP	**Sriramsagar**	**27.41**	**312**	*e*P		**P**		**15 05 05.4**	**+0.6**		
SRSP				IAmb		IAmb		15 05 06.8			
	comp=Z,47nm,0.8s										
SRSP				IVMs_BB		IVMs_BB		15 16 45.7			
	comp=Z,964nm,4.6s										
TNTI	**Ternate**	**27.90**	**90**	P		**P**		**15 05 13.7**	**+4.5**		
	comp=Z,35nm,1.2s										
NLAI	**Namlea**	**27.92**	**99**	P		**P**		**15 05 13.3**	**+3.9**		
	comp=Z,28nm,0.7s										
LBMI	**Labuha**	**28.07**	**93**	P		P		15 05 14.3	+3.5		
	comp=Z,42nm,1.1s										
KLRI	**Killari**	**28.23**	**309**	*e*P		**P**		**15 05 12.6**	**+0.4**		
KLRI				IAmb		IAmb		15 05 13.6			
	comp=Z,19nm,0.9s										
KLRI				IVMs_BB		IVMs_BB		15 19 00.1			
	comp=Z,2μm,5.7s										
ODAN	**Odare**	**28.33**	**337**	*e*P		**P**		**15 05 13.0**	**-0.2**		
	comp=Z,157nm,1.0s										
TAPN	**Taplejung**	**28.65**	**338**	*e*P		**P**		**15 05 16.4**	**+0.3**		
	comp=Z,251nm,0.9s										
LSA	**Lhasa**	**29.75**	**345**	P		**P**		**15 05 24.6**	**-1.4**		
LSA	**Lhasa**	**29.75**	**345**	*e*P		**P**		**15 05 25.2**	**-0.8**		
LSA				pmax		pmax					
	comp=Z,30nm,0.9s										
LSA	**Lhasa**	**29.75**	**345**	*e*P		**P**		**15 05 25.2**	**-0.8**		
	comp=Z,30nm,0.9s										
PKI	**Pulchoki**	**29.78**	**334**	*e*P		**P**		**15 05 25.7**	**-0.5**		
	comp=Z,13nm,0.7s										
GUN	**Gumba**	**29.88**	**335**	*e*P		**P**		**15 05 27.1**	**+0.1**		
	comp=Z,138nm,0.9s										
KKN	**Kakani**	**30.03**	**334**	*e*P		**P**		**15 05 27.9**	**-0.3**		
	comp=Z,47nm,1.1s										
CD2	**Chengdu**	**30.16**	**7**	P		**P**		**15 05 28.8**	**-0.3**		
CD2				pP		**pP**		**15 05 38.6**	**-0.1**		
CD2				sP		**sP**		**15 05 43.1**	**+0.3**		
CD2				S		**S**		**15 10 27.1**	**+1.0**		
CD2				sS		**sS**		**15 10 44.1**	**+2.1**		
CD2				PMZ							
	comp=Z,10.0nm,0.5s										
CD2				PMZ							
	comp=Z,80nm,4.3s										
CD2				LN							
	comp=Z,840nm,10.2s										
CD2				LZ							
	comp=Z,1μm,12.6s										
GKN	**Gorkha**	**30.49**	**334**	*e*P		**P**		**15 05 32.0**	**-0.3**		
	comp=Z,45nm,1.0s										
KOLN	**Koldanda**	**30.77**	**332**	*e*P		**P**		**15 05 34.9**	**+0.1**		
	comp=Z,67nm,0.7s										
SSLB	**Suanglung**	**30.87**	**41**	*e*P		**P**		**15 05 34.6**	**-0.9**		
	comp=Z,31nm,1.0s										
DANN	**Dangsing**	**31.19**	**333**	*e*P		**P**		**15 05 38.3**	**-0.3**		
SIJI	**Sorong**	**31.84**	**93**	P		**P**		**15 05 43.1**	**-1.1**		
	comp=Z,4.4nm,0.5s,baz=251,slow=17,SNR=3.0										
WHN	**Wuhan**	**32.72**	**24**	P		**P**		**15 05 54.0**	**+2.4**		
WHN				S		**S**		**15 11 06.3**	**+0.2**		
WHN				LN							
	comp=Z,2μm,13.8s										
WHN				LE							
	comp=Z,820nm,4.6s										
WHN				LZ							
	comp=Z,1μm,11.9s										
FAKI	**Fak Fak**	**32.98**	**97**	P		**P**		**15 05 54.2**	**0.0**		
	baz=33,SNR=7.7										
MEEK	**Meekatharra**	**32.99**	**147**	P		**P**		**15 05 54.7**	**+0.6**		
	baz=33,SNR=8.9										
MORW	**Morawa**	**33.73**	**153**	P		**P**		**15 06 02.0**	**+1.6**		
	baz=34,SNR=8.0										
XAN	**Xi'an**	**34.17**	**14**	P		**P**		**15 06 01.9**	**-2.4**		
XAN				S		**S**		**15 11 31.4**	**+2.8**		
XAN				PMZ							
	comp=Z,8.0nm,1.0s										
XAN				LN							
	comp=Z,570nm,11.9s										
XAN				LE							
	comp=Z,270nm,10.1s										
XAN				LZ							
	comp=Z,890nm,14.2s										
NDI	**New Delhi**	**34.89**	**324**	*e*P		**P**		**15 06 09.0**	**-1.5**		
LZH	**Lanzhou**	**35.28**	**6**	*e*P		**P**		**15 06 13.8**	**-0.2**		
LZH				pP		**pP**		**15 06 24.3**	**+0.6**		
LZH				sP		**sP**		**15 06 28.3**	**+0.6**		
LZH				PP		**PP**		**15 07 34.0**	**-0.5**		
LZH				*e*S		**S**		**15 11 46.0**	**+0.1**		
LZH				sS		**sS**		**15 12 02.0**	**+0.1**		
LZH				PMZ							
	comp=Z,21nm,1.3s										
LZH				PMZ							
	comp=Z,75nm,4.8s										
LZH				LN							
	comp=Z,500nm,11.5s										
LZH				LE							
	comp=Z,500nm,12.3s										
LZH				LZ							
	comp=Z,570nm,14.0s										
BLDU	**Ballidu**	**35.35**	**154**	P		**P**		**15 06 15.8**	**+1.3**		
	baz=36,SNR=6.5										
NJ2	**Nanjing**	**36.02**	**29**	*e*P		**P**		**15 06 18.6**	**-1.5**		
NJ2				S		**S**		**15 11 56.8**	**-0.1**		
NJ2				PMZ							
	comp=Z,20nm,0.7s										
NJ2				LN							
	comp=Z,940nm,17.8s										
NJ2				LE							
	comp=Z,740nm,19.3s										
NJ2				LZ							
	comp=Z,860nm,10.2s										
KLBR	**Kellerberrin**	**36.64**	**153**	P		**P**		**15 06 27.0**	**+1.4**		
	baz=37,SNR=9.0										
NWAO	**Narrogin (SRO)**	**37.56**	**155**	P		**P**		**15 06 32.0**	**-1.3**		
	comp=Z,14nm,0.7s,baz=332,slow=11,SNR=14										
NWAO	**Narrogin (SRO)**	**37.56**	**155**	P		**P**		**15 06 32.0**	**-1.3**		
NWAO	**Narrogin (SRO)**	**37.56**	**155**	P		**P**		**15 06 35.3**	**+2.0**		
	baz=38,SNR=9.5										
NWAO				P		**P**		**15 06 35.3**	**+2.0**		
	baz=38,SNR=9.5										
WRKA	**Warakurna**	**37.97**	**135**	P		**P**		**15 06 35.2**	**-1.7**		
	baz=38,SNR=10										
GTA	**Gaotai**	**38.36**	**0**	*e*P		**P**		**15 06 41.9**	**+1.8**		
GTA				pP		**pP**		**15 06 46.3**	**-3.6**		
GTA				sP		**sP**		**15 06 49.4**	**-4.5**		
GTA				PMZ							
	comp=Z,5.0nm,1.0s										
KMBL	**Kambalda**	**38.47**	**148**	P		**P**		**15 06 41.8**	**+0.8**		
	baz=39,SNR=7.4										
RKGY	**Rocky Gully**	**38.92**	**157**	P		**P**		**15 06 47.3**	**+2.6**		
	baz=39,SNR=6.6										
WRA	**Warramunga Arr**	**39.95**	**123**	P		**P**		**15 06 51.5**	**-2.0**		
	comp=Z,2.8nm,0.6s,baz=300,slow=9.1,SNR=25										
WRA				PcP		**PcP**		**15 08 58.1**	**-0.6**		
	comp=Z,1.5nm,0.7s,baz=306,slow=2.3,SNR=5.3										
WRA				ScP		**ScP**		**15 12 45.9**	**+0.4**		
	comp=Z,1.0nm,0.8s,baz=307,slow=3.7,SNR=5.2										
WRA				LR		LR		15 26 41.6			
	comp=Z,149nm,19.3s,baz=275,slow=41										
HHC	**Hu-ho-hao-te**	**41.28**	**14**	*e*P		**P**		**15 07 02.4**	**-2.0**		
HHC				pP		**pP**		**15 07 12.9**	**-1.3**		
HHC				sP		**sP**		**15 07 16.9**	**-1.3**		
HHC				S		**S**		**15 13 15.4**	**-1.1**		
HHC				PMZ							
	comp=Z,21nm,0.8s										
HHC				PMZ							
	comp=Z,62nm,6.4s										
HHC				LN							
	comp=Z,580nm,12.6s										
HHC				LE							
	comp=Z,310nm,13.2s										
HHC				LZ							
	comp=Z,560nm,13.2s										
JAY	**Jayapura**	**41.36**	**95**	P		**P**		**15 07 04.2**	**-1.2**		
	comp=Z,15nm,1.0s,baz=267,slow=19,SNR=3.1										
ASAR	**Alice Springs**	**41.40**	**128**	P		**P**		**15 07 03.1**	**-2.4**		
	comp=Z,1.9nm,0.6s,baz=297,slow=7.7,SNR=34										
ASAR				PcP		**PcP**		**15 09 03.1**	**-0.3**		
	comp=Z,2.8nm,0.8s,baz=299,slow=3.3,SNR=9.4										
ASAR				ScP		**ScP**		**15 12 51.0**	**-0.2**		
	comp=Z,0.8nm,0.6s,baz=303,slow=4.2,SNR=9.8										
ASAR				LR		LR		15 24 46.1			
	comp=Z,104nm,20.7s,baz=310,slow=37										
FORT	**Forest**	**41.59**	**142**	P		**P**		**15 07 07.0**	**+0.1**		
	baz=42,SNR=13										
FORT	**Forrest**	**41.59**	**142**	*e*P		**P**		**15 07 05.4**	**-1.4**		
	comp=Z,23nm,0.6s										
BJI	**Beijing**	**41.85**	**19**	P		**P**		**15 07 08.8**	**-0.1**		
BJI				PMZ							
	comp=Z,6.0nm,1.2s										
BJI				LN							
	comp=Z,320nm,14.4s										
BJI				LE							
	comp=Z,240nm,14.8s										
BJI				LZ							
	comp=Z,180nm,17.8s										
JNU	**Nakatsue**	**43.59**	**39**	P		**P**		**15 07 22.7**	**-0.5**		
	comp=Z,17nm,1.1s,baz=243,slow=6.0,SNR=6.1										
JNU	**Nakatsue**	**43.59**	**39**	*e*P		**P**		**15 07 21.3**	**-1.9**		
	comp=Z,9.3nm,1.1s										
KBL	**Kabul**	**43.93**	**323**	*e*P		**P**		**15 07 25.9**	**-0.2**		
KBL				pmax		pmax					
	comp=Z,16nm,0.7s										
KBL	**Kabul**	**43.93**	**323**	*e*P		**P**		**15 07 25.9**	**-0.2**		
	comp=Z,16nm,0.7s										
WMQ	**Urumqi**	**44.04**	**348**	P		**P**		**15 07 27.0**	**+0.3**		
WMQ				pP		**pP**		**15 07 37.5**	**+1.0**		
WMQ				sP		**sP**		**15 07 41.0**	**+0.5**		
WMQ				S		**S**		**15 13 56.3**	**-0.5**		
WMQ				ScS		**ScS**		**15 17 20.8**	**-2.3**		
WMQ				PMZ							
	comp=Z,18nm,1.0s										
WMQ				PMZ							
	comp=Z,110nm,4.9s										
WMQ				LN							
	comp=Z,86nm,28.2s										
WMQ				LE							
	comp=Z,120nm,22.8s										
WMQ				LZ							
	comp=Z,130nm,24.9s										
KSH	**Kashi**	**44.04**	**334**	P		**P**		**15 07 25.5**	**-1.3**		
KSH				pP		**pP**		**15 07 36.3**	**-0.4**		
KSH				PP		**PcP**		**15 09 14.1**	**+2.1**		
KSH				S		**S**		**15 13 52.9**	**-4.2**		
KSH				sS		**sS**		**15 14 10.3**	**-3.1**		
KSH				PMZ							
	comp=Z,27nm,0.5s										
KSH				PMZ							
	comp=Z,180nm,4.4s										
KSH				LN							
	comp=Z,130nm,6.0s										
KSH				LE							
	comp=Z,95nm,5.3s										
KSH				LZ							
	comp=Z,170nm,6.4s										
KSAR	**Wonju Array Be**	**44.84**	**32**	P		**P**		**15 07 32.5**	**-0.6**		
KSAR	**Wonju Array Be**	**44.84**	**32**	P		**P**		**15 07 32.5**	**-0.6**		
KSRS	**Korea Array**	**44.87**	**33**	P		**P**		**15 07 32.5**	**-0.8**		
	comp=Z,5.8nm,0.9s,baz=225,slow=8.5,SNR=14										
KSRS				LR		LR		15 28 26.2			
	comp=Z,136nm,18.3s,baz=224,slow=39										
KSRS	**Korea Array**	**44.87**	**33**	P		**P**		**15 07 32.5**	**-0.8**		
KSRS				pmax		pmax					
	comp=Z,6.0nm,1.0s										
KSRS				MLR		MLR					
	comp=Z,136nm,18.3s										
TKM2	**Tokmak 2**	**47.01**	**336**	P		**P**		**15 07 50.8**	**+0.4**		
	SNR=16										
TKM2	**Tokmak 2**	**47.01**	**336**	*e*P		**P**		**15 07 49.6**	**-0.8**		
TKM2				pmax		pmax					
	comp=Z,14nm,0.9s										
TKM2	**Tokmak 2**	**47.01**	**336**	*e*P		**P**		**15 07 49.6**	**-0.8**		
	comp=Z,14nm,0.9s										
KBK	**Karagaybulak**	**47.06**	**335**	P		**P**		**15 07 52.3**	**+1.5**		
	SNR=10										
SONM	**Songino Array**	**47.17**	**6**	P		**P**		**15 07 50.4**	**-1.0**		
	comp=Z,4.2nm,0.6s,baz=178,slow=10,SNR=4.2										
AML	**Almayashu**	**47.17**	**334**	P		**P**		**15 07 52.9**	**+1.0**		
	SNR=10.0										
AAK	**Ala-Archa**	**47.23**	**335**	P		**P**		**15 07 52.3**	**+0.2**		
AAK				pmax		pmax					
	comp=Z,22nm,1.4s										
ULN	**Ulaanbaatar**	**47.27**	**7**	*d i*P		**P**		**15 07 52.2**	**-0.1**		
ULN				pmax		pmax					
	comp=Z,3.0nm,0.8s										
FRU	**Bishkek**	**47.34**	**335**	*e*P		**P**		**15 07 52.0**	**-0.8**		
EKS2	**Erkin-Say**	**47.56**	**334**	P		**P**		**15 07 55.4**	**+0.8**		
	SNR=17										
EKS2	**Erkin-Say**	**47.56**	**334**	*e*P		**P**		**15 07 53.9**	**-0.7**		
EKS2				pmax		pmax					
	comp=Z,9.0nm,0.6s										
EKS2	**Erkin-Say**	**47.56**	**334**	*e*P		**P**		**15 07 53.9**	**-0.7**		
	comp=Z,9.1nm,0.6s										
USP	**Ospenovka**	**47.75**	**335**	P		**P**		**15 07 56.3**	**+0.4**		
	SNR=19										
BBOO	**Buckleboo**	**48.09**	**138**	P		**P**		**15 07 57.5**	**-1.1**		
	baz=48,SNR=5.9										
MK31	**Makanchi Array**	**48.15**	**344**	*i* P		**P**		**15 07 58.1**	**-0.8**		
MK31				pmax		pmax					
	comp=Z,16nm,0.6s										
MK31	**Makanchi Array**	**48.15**	**344**	*e*P		**P**		**15 07 58.5**	**-0.4**		
MKAR	**Makanchi Array**	**48.15**	**344**	P		**P**		**15 07 58.5**	**-0.4**		
	comp=Z,22nm,0.7s,baz=151,slow=7.4,SNR=242										
MKAR				LR		LR		15 34 01.7			
	comp=Z,81nm,19.0s,baz=168,slow=43										
CN2	**Changchun**	**48.61**	**25**	*e*P		**P**		**15 08 04.8**	**+2.3**		
CN2				*e*S		**S**		**15 15 03.4**	**+1.2**		
CN2				PMZ							
	comp=Z,10.0nm,0.9s										
CN2				PMZ							
	comp=Z,200nm,4.0s										
CN2				LN							
	comp=Z,200nm,16.0s										
CN2				LE							
	comp=Z,200nm,16.0s										
CN2				LZ							
	comp=Z,200nm,17.0s										
KK31	**Karatay Array**	**49.38**	**332**	*i* P		**P**		**15 08 07.9**	**-0.6**		
KK31				pmax		pmax					
	comp=Z,3.0nm,0.5s										
KKAR	**Karatay Array**	**49.38**	**332**	*e*P		**P**		**15 08 07.5**	**-1.0**		
KKAR	**Karatay Array**	**49.38**	**332**	*e*P		**P**		**15 08 07.5**	**-1.0**		
ZAK	**Zakamensk**	**49.44**	**3**	*e*P		**P**		**15 08 07.7**	**-1.2**		
ZAK				pmax		pmax					
	comp=Z,3.0nm,1.8s										
CTA	**Charters Tower**	**50.33**	**117**	P		**P**		**15 08 15.6**	**-0.5**		
	comp=Z,4.9nm,0.7s,baz=288,slow=9.6,SNR=3.8										
HTT	**Hallett**	**50.40**	**136**	P		**P**		**15 08 15.7**	**-0.8**		
	baz=50,SNR=6.0										
MJAR	**Matsushiro Arr**	**50.43**	**41**	P		**P**		**15 08 16.5**	**-0.1**		
	comp=Z,4.4nm,1.0s,baz=226,slow=9.0,SNR=12										
IMYA	**Miami**	**50.73**	**319**	*e*P		**P**		**15 08 17.3**	**-1.7**		
QLP	**Quilpie**	**51.02**	**126**	P		**P**		**15 08 20.4**	**-0.7**		
	baz=51,SNR=5.1										
MDJ	**Mudanjiang**	**51.09**	**27**	P		**P**		**15 08 21.6**	**+0.3**		
MDJ				PMZ							
	comp=Z,3.0nm,0.5s										
MDJ				PMZ							
	comp=Z,60nm,3.9s										
STKA	**Stephens Creek**	**51.46**	**133**	P		**P**		**15 08 23.3**	**-1.0**		
	comp=Z,7.3nm,0.7s,baz=306,slow=6.6,SNR=20										
STKA				LR		LR		15 30 35.5			
	comp=Z,118nm,21.4s,baz=282,slow=36										
STKA	**Stephens Creek**	**51.46**	**133**	*e*P		**P**		**15 08 22.5**	**-1.9**		
STKA				pmax		pmax					
	comp=Z,2.0nm,0.6s										
STKA	**Stephens Creek**	**51.46**	**133**	*e*P		**P**		**15 08 22.5**	**-1.9**		
	comp=Z,1.5nm,0.6s										
IAKL	**Akhelmad**	**51.77**	**318**	*e*P		**P**		**15 08 26.2**	**-0.8**		
USRK	**Ussuriysk Ar.**	**51.91**	**29**	P		**P**		**15 08 26.8**	**-0.7**		
	comp=Z,1.5nm,0.8s,baz=205,slow=6.4,SNR=3.5										
USRK				LR		LR		15 31 15.7			
	comp=Z,152nm,18.4s,baz=219,slow=37										
KURBB	**Kurchatov Arra**	**52.67**	**343**	P		**P**		**15 08 32.6**	**-0.4**		
	comp=Z,22nm,0.8s,baz=164,slow=7.1,SNR=170										
KURBB				PcP		**PcP**		**15 09 43.1**	**+0.5**		
	comp=Z,2.0nm,0.6s,baz=157,slow=2.9,SNR=4.4										
KURK	**Kurchatov**	**52.73**	**343**	P		**P**		**15 08 32.4**	**-1.0**		
KURK				pmax		pmax					
	comp=Z,44nm,1.0s										
KURK	**Kurchatov**	**52.73**	**343**	P		**P**		**15 08 32.6**	**-0.8**		
KURK				PcP		**PcP**		**15 09 43.1**	**+0.3**		
GEYT	**Alibeck**	**52.93**	**319**	P		**P**		**15 08 35.6**	**+0.3**		
	comp=Z,8.4nm,0.6s,baz=122,slow=5.2,SNR=14										
GEYT				LR		LR		15 34 11.6			
	comp=Z,99nm,18.3s,baz=40,slow=40										
ZAA0	**Zalesovo Array**	**54.27**	**349**	*e*P		**P**		**15 08 43.9**	**-0.8**		
ZALV	**Zalesovo Beam**	**54.27**	**349**	P		**P**		**15 08 44.1**	**-0.6**		
	comp=Z,43nm,0.8s,baz=176,slow=6.3,SNR=153										
ZALV				LR		LR		15 33 52.4			
	comp=Z,96nm,18.2s,baz=250,slow=38										
CMSA	**Cobar Meteorol**	**54.35**	**131**	P		**P**		**15 08 45.0**	**-0.7**		
	baz=54,SNR=19										
NVS	**Novosibirsk**	**55.42**	**349**	⇑ *i*P		**P**		**15 08 51.8**	**-1.2**		
NVS				*e*S		**S**		**15 16 35.5**	**+0.2**		
NVS				pmax		pmax					
	comp=Z,21nm,1.1s										
NVS				pmax		pmax					
	comp=N,12nm,1.0s										
NVS				pmax		pmax					
	comp=E,6.0nm,0.8s										
NVS				smax		smax					
	comp=N,18nm,2.0s										
KLR	**Kul'dur**	**55.56**	**25**	*e*P		P		15 08 49.9	-4.2		
RAYN	**Ar Rayn**	**56.92**	**298**	*e*P		**P**		**15 09 03.6**	**-0.8**		
	comp=N,9.1nm,1.1s										
BVA0	**Borovoye Array**	**57.33**	**340**	*i* P		**P**		**15 09 04.9**	**-1.8**		
BVA0				pmax		pmax					
	comp=Z,11nm,1.0s							

PRGR	**Permogore**	**72.85**	**336**	*e*P	**P**	**15**	**10**	**44.6 -2.6**
PRGR				pmax	pmax			
	comp=Z,26nm,0.8s							
MAW	**Mawson**	**72.92**	**194**	P	**P**	**15**	**10**	**47.5 0.0**
	comp=Z,7.4nm,0.9s,baz=23,slow=6.5,SNR=13							
MAW				LR	LR	15	35	58.2
	comp=Z,100nm,20.9s,baz=60,slow=30							
MAW	**Mawson**	**72.92**	**194**	P	P	15	10	50.8 +3.3
	baz=73,SNR=8.2							
MAW	**Mawson**	**72.92**	**194**	*e*P	**P**	**15**	**10**	**48.0 +0.5**
SEY	**Seymchan**	**73.19**	**22**	P	**P**	**15**	**10**	**48.9 -0.3**
	comp=Z,0.7nm,0.6s,baz=208,slow=3.4,SNR=3.7							
OBN	**Obninsk**	**74.10**	**328**↑	*e*P	**P**	**15**	**10**	**54.1 -0.6**
OBN				*e*		15	11	12.2
OBN				*i*		15	13	39.9
OBN				*e*S	S	15	20	32.6 +7.3
OBN				pmax	pmax			
	comp=Z,22nm,1.2s							
OBN				MLR	MLR			
	comp=Z,58nm,20.0s							
MSAB	**Monastry St. A**	**76.27**	**315**↓	*i*P	**P**	**15**	**11**	**08.1 +0.6**
BOSA	**Boshof**	**76.58**	**240**	P	**P**	**15**	**11**	**10.2 +0.5**
	comp=Z,1.8nm,0.7s,baz=103,slow=6.0,SNR=3.3							
AKASG	**Malin Array Be**	**76.91**	**322**	P	**P**	**15**	**11**	**10.0 -0.9**
	comp=Z,1.7nm,0.7s,baz=88,slow=4.8,SNR=14							
KIEV	**Kiev**	**76.92**	**322**↓	*i*P	**P**	**15**	**11**	**10.5 -0.5**
TMCR	**Tamitsa**	**77.11**	**337**	*e*P	**P**	**15**	**11**	**11.6 -0.2**
TMCR				*e*		15	11	21.2
TMCR				pmax	pmax			
	comp=Z,15nm,0.4s							
VRI	**Vrincioaia**	**77.41**	**317**↑	P	**P**	**15**	**11**	**14.5 +0.6**
VRI	**Vrincioaia**	**77.41**	**317**↑	*i*P	**P**	**15**	**11**	**14.5 +0.6**
PLOR	**Plostina**	**77.46**	**317**↑	P	**P**	**15**	**11**	**14.8 +0.6**
PLOR	**Plostina**	**77.46**	**317**↑	*i*P	**P**	**15**	**11**	**14.8 +0.6**
TESR	**Tescani**	**77.59**	**318**↓	*i*P	**P**	**15**	**11**	**15.5 +0.6**
MLR	**Muntele Rosu**	**77.87**	**316**↓	P	**P**	**15**	**11**	**16.7 +0.1**
MLR	**Muntele Rosu**	**77.87**	**316**↓	*i*P	**P**	**15**	**11**	**16.7 +0.1**
VOIR		**78.48**	**316**↑	P	**P**	**15**	**11**	**19.3 -0.6**
VOIR		**78.48**	**316**↑	*i*P	**P**	**15**	**11**	**19.3 -0.6**
BURAR	**Bucovina Array**	**78.78**	**318**↑	P	**P**	**15**	**11**	**22.4 +0.8**
BURAR	**Bucovina Array**	**78.78**	**318**↑	*i*P	**P**	**15**	**11**	**22.4 +0.8**
BUR08	**Bucovina Ar. S**	**78.79**	**318**	*e*P	**P**	**15**	**11**	**21.6 -0.1**
BILL	**Bilibino**	**80.67**	**21**	*ce*P	**P**	**15**	**11**	**30.7 -0.6**
BILL				*e*		15	11	39.5
BILL				pmax	pmax			
	comp=Z,7.0nm,1.3s							
BILL				MLR	MLR			
	comp=Z,70nm,17.0s							
BZS	**Buzias**	**80.89**	**316**↓	P	**P**	**15**	**11**	**33.2 +0.3**
BZS	**Buzias**	**80.89**	**316**↓	*i*P	**P**	**15**	**11**	**33.2 +0.3**
FINES	**FINESS Array B**	**81.34**	**332**	P	**P**	**15**	**11**	**34.9 -0.1**
	comp=Z,7.9nm,0.9s,baz=121,slow=6.0,SNR=18							
PKSM	**Moragy**	**83.02**	**316**↑	P	**P**	**15**	**11**	**44.1 0.0**
PKSM	**Moragy**	**83.02**	**316**↑	*i*P	**P**	**15**	**11**	**44.1 0.0**
ARCES	**ARCESS Array B**	**83.61**	**340**	P	**P**	**15**	**11**	**46.6 -0.2**
	comp=Z,2.5nm,0.5s,baz=98,slow=4.9,SNR=25							
ARCES				LR	LR	15	51	59.9
	comp=Z,88nm,22.0s,baz=98,slow=38							
VNDA	**Vanda**	**85.06**	**169**	P	**P**	**15**	**11**	**53.4 -0.5**
	comp=Z,1.2nm,0.7s,baz=306,slow=6.0,SNR=9.2							
VNDA				LR	LR	15	44	10.2
	comp=Z,63nm,21.9s,baz=312,slow=32							
GERES	**GERESS Array B**	**86.56**	**319**	P	**P**	**15**	**12**	**02.3 +0.3**
	comp=Z,0.7nm,0.6s,baz=103,slow=4.2,SNR=6.0							
GERES				LR	LR	15	55	37.3
	comp=Z,36nm,20.4s,baz=70,slow=39							
NB2	**NORSAR Subarra**	**88.40**	**331**	P	**P**	**15**	**12**	**10.1 -0.4**
	comp=Z,2.3nm,0.8s,baz=91,slow=4.8							
NOA	**NORSAR Array B**	**88.40**	**331**	P	**P**	**15**	**12**	**10.9 +0.4**
	comp=Z,1.6nm,0.9s,baz=90,slow=5.2,SNR=3.9							
NOA				LR	LR	15	56	40.3
	comp=Z,44nm,19.4s,baz=70,slow=39							
KEST	**Kesra**	**89.60**	**306**	P	**P**	**15**	**12**	**17.7 +0.9**
	comp=Z,1.8nm,0.9s,baz=90,slow=4.0,SNR=2.0							
BFO	**Black Forest**	**90.12**	**318**	*e*P	**P**	**15**	**12**	**20.2 +1.3**
QSPA	**South Pole Qui**	**90.81**	**180**	P	**P**	**15**	**12**	**22.3 +0.5**
	comp=Z,1.7nm,0.8s,baz=285,slow=1.1,SNR=13							
TORD	**Torodi Ar. Bea**	**97.37**	**283**	P	Pdif	15	12	53.7 +0.8
	comp=Z,0.5nm,1.0s,baz=90,slow=2.9,SNR=2.2							
NVAR	**Mina Array Bea**	**127.70**	**37**	PKP	**PKPdf**	**15**	**18**	**25.0 +0.2**
	comp=Z,0.5nm,0.7s,baz=336,slow=2.0,SNR=5.0							
R11A	**Troy Canyon, C**	**129.37**	**36**	*e*PKPdf	**PKPdf**	**15**	**18**	**28.2 +0.3**
TXAR	**Lajitas Array**	**142.71**	**34**	PKP	**PKPdf**	**15**	**18**	**50.6 -2.1**
	comp=Z,0.7nm,0.6s,baz=263,slow=1.5,SNR=11							
BDFB	**Brasilia**	**144.72**	**244**	PKP	**PKPdf**	**15**	**18**	**56.9 +0.3**
	comp=Z,1.7nm,0.4s,baz=90,slow=1.0,SNR=2.7							
GOGA	**Godfrey**	**145.79**	**4**	*e*PKP2	**PKPdf**	**15**	**18**	**57.4 -0.4**
GOGA	**Godfrey**	**145.79**	**4**	*e*PKPdf	**PKPdf**	**15**	**18**	**57.4 -0.4**
CPUP	**Villa Florida**	**146.24**	**220**	PKPbc	**PKPab**	**15**	**19**	**01.0 +0.4**
	comp=Z,3.8nm,0.7s,baz=148,slow=3.1,SNR=8.9							

MAN 24 15:00:17.6 68N×125.95E, h1km, mb4.7, ML3.5, MS3.5, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.15**	**239**↓	*e*P	Pg	15 00 35.0	-4.3
CTBH	**Cotabato--PC H**	**1.77**	**288**↑	*i*P	Pb	15 00 50.2	-0.2
CGP	**Cagayan de Oro**	**2.16**	**325**↑	*e*P	Pb	15 00 55.8	-1.1
CGP				*e*S	Sg	15 01 28.4	+1.9

*KLM **24** 15:10:24.9, 0.92N×99.02E, h10km, mb3.7, ML3.9*
*DJA **24** 15:10:25.8±0.3, 1.1N±2.1×10.0E±1.1°, h29km±3km, M3.7/16, MLv3.7/16*
*ISCJB **24** 15:10:26.2±0.5, 0.67N±0.03×99.83E±0.04, h37km±12km, Error ellipse: s-maj=7.0km s-min=4.8km az=141.4*
ISC 24 15:10:26.9±1.1, **0.64N**±0.04×**99.82E**±0.04, **h30**km±9km, **n17**, σ0.74/**24**, **3C-2D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.29**	**303**	P	**Pb**	**15 10 34.2**	**+0.1**
MNSI				S	**Sb**	**15 10 39.0**	**0.0**
PPI	**Padang Panjang**	**1.23**	**152**	P	**Pn**	**15 10 47.7**	**-0.4**
PPI				S	**Sn**	**15 11 04.4**	**+0.7**
BKNI	**Bangkinang**	**1.26**	**104**	P	**Pn**	**15 10 48.3**	**-0.2**
PBSI	**Pulau Batu**	**1.69**	**246**	P	**Pn**	**15 10 54.5**	**+0.2**
PBSI				S	**Sn**	**15 11 15.8**	**+0.8**
SISI	**Saibi**	**2.08**	**201**	P	**Pn**	**15 11 00.0**	**+0.2**
SISI				S	**Sn**	**15 11 25.3**	**+0.5**
SDSI	**Sungai Dareh**	**2.24**	**134**	P	**Pn**	**15 11 01.8**	**-0.2**
SDSI				S	**Sn**	**15 11 28.5**	**-0.2**
GSI	**Gunungsitoli**	**2.34**	**286**	P	**Pn**	**15 11 03.6**	**+0.3**
GSI				S	**Sn**	**15 11 31.2**	**+0.1**
RGRI	**Rengat**	**2.70**	**111**	P	**Pn**	**15 11 07.4**	**-0.9**
TSI	**Tuntungan**	**3.11**	**336**	P	**Pn**	**15 11 12.9**	**-1.0**
TSI				S	**Sn**	**15 11 49.5**	**-0.5**
FRIM	**Kepong**	**3.15**	**35**	P	**Pn**	**15 11 16.5**	**+2.0**
KRJI	**Kerinci**	**3.17**	**149**	P	**Pn**	**15 11 14.4**	**-0.5**
KRJI				S	**Sn**	**15 11 52.0**	**+0.2**
PPSI	**Pulau Pagai**	**3.38**	**177**	P	**Pn**	**15 11 17.9**	**+0.2**
KGM	**Kluang**	**3.76**	**69**	P	**Pb**	**15 11 32.2**	**-0.3**
SNSI	**Sinabang, Aceh**	**3.91**	**297**	P	**Pn**	**15 11 23.9**	**-1.0**
IPM	**Ipoh**	**4.00**	**17**	P	**Pn**	**15 11 27.3**	**+1.1**
KULM	**Kulim**	**4.69**	**10**	P	**Pn**	**15 11 35.2**	**-0.6**
KTGM	**Kuala Trenggan**	**5.71**	**35**	P	Pn	15 11 55.7	+6.0

*BJI **24** 15:17:39.8, 2.27S×99.57E, h18km, mb4.7/45, mB5.0/33, Ms4.6/32, Ms7 4.4/23*
*ISCJB **24** 15:17:46.1±0.2, 1.33S±0.02×99.33E±0.03, h10km, mb4.8/56, MS3.7/16, Error ellipse: s-maj=4.5km s-min=2.7km az=140.1*
*MOS **24** 15:17:49.5±1.0, 1.25S×99.65E, h38km, mb4.9/29, Error ellipse: s-maj=11.3km s-min=6.5km az=109.2*
*KLM **24** 15:17:50.4, 1.48S×99.44E, h41km, mb4.9, ML4.9, MS5.6*
*DJA **24** 15:17:50.0±0.4, 1°S±2°×9°E±°, h10km±4km, M4.8/55, mb5.0/55, mB5.3/26, MLv5.0/32, Mw(mB)4.7/26*
*NEIC **24** 15:17:50.6±0.2, 1.35S×99.53E, h35km, mb5.0/23, Error ellipse: s-maj=5.7km s-min=3.8km az=51.0*
NEIC Felt [III] at Padangpanjang and Pekanbaru, Sumatra. Also felt in Singapore.
*IDC **24** 15:17:51.5±1.6, 1.35S×99.61E, h41km±13km, mb4.3/29, mb1 4.4/32, mb1mx4.3/36, mbtmp4.5/32, ML4.1/3, MS3.7/16, Ms1 3.7/16, ms1mx3.4/52, Error ellipse: s-maj=12.6km s-min=9.0km az=43.0*
ISC 24 15:17:48.8±0.3, **1.40S**±0.03×**99.45E**±0.03, **h22**km±2km, **h21**km:**pP-P, n319**, σ1.58/318, **mb4.9**/55, **MS3.8**/16,

32C-12D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**0.36**	**281**	P	**Pb**	**15 17 54.7**	**-1.8**
PPI	**Padang Panjang**	**1.33**	**46**	P	**Pb**	**15 18 14.6**	**+1.5**
PPI				S	**Sb**	**15 18 33.9**	**+4.1**
PPI	**Padang Panjang**	**1.33**	**46**	P	**Pn**	**15 18 12.2**	**+0.1**
	baz=1.3,SNR=394						
PPSI	**Pulau Pagai**	**1.47**	**157**	P	**Pb**	**15 18 15.1**	**-0.4**
PPSI				S	**Sb**	**15 18 36.9**	**+3.1**
PBSI	**Pulau Batu**	**1.77**	**319**	P	**Pn**	**15 18 18.7**	**+0.5**
PBSI				S	**Sb**	**15 18 41.9**	**-0.5**
SDSI	**Sungai Dareh**	**2.04**	**77**	P	**Pb**	**15 18 25.4**	**+0.3**
SDSI				S	**Sb**	**15 18 53.4**	**+3.4**
KRJI	**Kerinci**	**2.13**	**109**	P	**Pb**	**15 18 27.6**	**+0.8**
KRJI				S	**Sb**	**15 18 56.2**	**+3.3**
MNSI	**Mandailing Nat**	**2.18**	**4**	P	**Pn**	**15 18 25.3**	**+1.4**
MNSI				S	**Sb**	**15 18 55.0**	**+0.8**
BKNI	**Bangkinang**	**2.34**	**43**	P	**Pb**	**15 18 28.7**	**-1.6**
BKNI				S	**Sb**	**15 18 59.8**	**+1.0**
BKNI	**Bangkinang**	**2.34**	**43**	P	**Pn**	**15 18 27.5**	**+1.4**
	baz=2.3,SNR=9.1						
BKNI	**Bangkinang**	**2.34**	**43**	*e*Pn	**Pn**	**15 18 26.3**	**+0.2**
BKNI				*e*Sn	**Sn**	**15 18 50.5**	**-3.7**
RGRI	**Rengat**	**3.07**	**70**	P	**Pb**	**15 18 39.9**	**-2.9**
RGRI				S	**Sb**	**15 19 19.2**	**-0.6**
GSI	**Gunungsitoli**	**3.27**	**325**	P	**Pn**	**15 18 39.7**	**+0.8**
GSI				S	**Sn**	**15 19 19.9**	**+2.8**
GSI	**Gunungsitoli**	**3.27**	**325**	*e*Pn	**Pn**	**15 18 38.8**	**-0.1**
GSI				*e*Sn	**Sn**	**15 19 17.8**	**+0.7**
KSI	**Kapahiang**	**3.86**	**126**	P	**Pn**	**15 18 50.2**	**+3.1**
KSI				S	**Sb**	**15 19 38.8**	**-3.9**
JMBI	**JAMBI**	**4.20**	**93**	P	Pn	15 18 55.7	+4.0
PSI	**Prapat**	**4.20**	**353**	P	**Pn**	**15 18 51.1**	**-0.7**
	4.3nm,0.3s,baz=172,slow=13,SNR=7.7						
PSI	**Prapat**	**4.20**	**353**	P	**Pn**	**15 18 51.1**	**-0.7**
PSI				pmax	pmax		
	comp=Z,4.0nm,0.3s						
PSI	**Prapat**	**4.20**	**353**	P	**Pn**	**15 18 51.5**	**-0.3**
	baz=4.1,SNR=7.2						
PSI	**Prapat**	**4.20**	**353**	*e*Pn	**Pn**	**15 18 49.9**	**-1.9**
MNAI	**Manna**	**4.58**	**130**	P	**Pn**	**15 18 59.9**	**+3.0**
MNAI	**Manna**	**4.58**	**130**	P	**Pn**	**15 18 57.9**	**+1.0**
	baz=4.5,SNR=55						
MNAI	**Manna**	**4.58**	**130**	*e*Pn	**Pn**	**15 18 57.8**	**+0.9**
MNAI				*e*Sn	**Sn**	**15 19 49.5**	**0.0**
LHSI	**Lahat**	**4.74**	**121**	P	Pn	15 19 02.4	+3.4
SNSI	**Sinabang, Aceh**	**4.90**	**320**	P	**Pn**	**15 19 02.1**	**+0.8**
TSI	**Tuntungan**	**4.94**	**350**	P	**Pn**	**15 19 03.6**	**+1.7**
FRIM	**Kepong**	**5.09**	**25**↑	P	**Pn**	**15 19 05.0**	**+1.1**
FRIM	**Kepong**	**5.09**	**25**↑	P	**Pn**	**15 19 05.0**	**+1.1**
BTDF	**Bukit Timah Da**	**5.12**	**58**	P	**Pn**	**15 19 04.9**	**+0.6**
	baz=5.1,SNR=6.5						
BTDF				P	**Pn**	**15 19 04.9**	**+0.6**
	baz=5.1,SNR=6.5						
KGM	**Kluang**	**5.15**	**49**↑	P	**Pn**	**15 19 05.4**	**+0.8**
KGM	**Kluang**	**5.15**	**49**↑	P	**Pn**	**15 19 05.4**	**+0.8**
DSRI	**Dabo**	**5.21**	**80**	P	Pn	15 19 10.2	+4.6
	comp=Z,12nm,0.8s,comp=Z,4μmcomp=Z,0.2nm						
MYKOM	**Kota Tinggi**	**5.42**	**54**↑	P	**Pn**	**15 19 09.4**	**+0.9**
MYKOM	**Kota Tinggi**	**5.42**	**54**↑	P	**Pn**	**15 19 09.4**	**+0.9**
MYKOM	**Kota Tinggi**	**5.42**	**54**	*e*Pn	**Pn**	**15 19 09.2**	**+0.7**
MDSI	**Maura Dua**	**5.63**	**123**	P	**Pn**	**15 19 13.9**	**+2.5**
	comp=Z,160nm,1.0s,comp=Z,1μmcomp=Z,0.5nm						
LWLI	**Liwa**	**5.84**	**128**	P	Pn	15 19 17.8	+3.4
	comp=Z,525nm,0.7s,comp=Z,7μmcomp=Z,1.8nm						
IPM	**Ipoh**	**6.05**	**15**↑	P	**Pn**	**15 19 19.1**	**+2.0**
IPM	**Ipoh**	**6.05**	**15**↑	P	**Pn**	**15 19 19.1**	**+2.0**
IPM	**Ipoh**	**6.05**	**15**	*e*Pn	**Pn**	**15 19 17.9**	**+0.8**
IPM				*e*Sn	**Sn**	**15 20 26.9**	**+1.2**
KLSI		**6.21**	**122**	P	**Pn**	**15 19 21.5**	**+2.2**
	comp=Z,312nm,0.7s,comp=Z,3μmcomp=Z,0.9nm						
KLI	**Kotabumi**	**6.41**	**123**	P	Pn	15 19 25.7	+3.7
	comp=Z,248nm,0.8s,comp=Z,4μmcomp=Z,0.9nm						
KASI	**Kota Agung**	**6.50**	**129**	P	**Pn**	**15 19 25.8**	**+2.5**
	comp=Z,164nm,0.8s,comp=Z,2μmcomp=Z,1.0nm						
PPBI	**Pangkal Pinang**	**6.73**	**97**	P	Pn	15 19 30.3	+3.8
	comp=Z,32nm,0.9s,comp=Z,0.7nm						
KULM	**Kulim**	**6.75**	**10**↑	P	**Pn**	**15 19 28.3**	**+1.6**
KULM	**Kulim**	**6.75**	**10**↑	P	**Pn**	**15 19 28.3**	**+1.6**
KULM	**Kulim**	**6.75**	**10**	*e*Pn	**Pn**	**15 19 27.4**	**+0.7**
KULM				*e*Sn	**Sn**	**15 20 40.3**	**-2.7**
LHMI	**Lhok Sumawe**	**7.04**	**339**	P	**Pn**	**15 19 29.3**	**-1.4**
	baz=7.1,SNR=3.3						
LHMI	**Lhok Sumawe**	**7.04**	**339**	*e*Pn	**Pn**	**15 19 31.6**	**+1.0**
KTGM	**Kuala Trenggan**	**7.63**	**29**↑	P	**Pn**	**15 19 40.3**	**+1.5**
KTGM	**Kuala Trenggan**	**7.63**	**29**↑	P	**Pn**	**15 19 40.3**	**+1.5**
CGJI	**Cibinong**	**8.10**	**130**	P	**Pn**	**15 19 48.0**	**+2.7**
	comp=Z,87nm,0.8s						
TPI	**Tanjungpandan**	**8.31**	**99**	P	Pn	15 19 52.8	+4.6
	comp=Z,62nm,0.9s						
LEM	**Lembang**	**9.77**	**124**	P	**Pn**	**15 20 11.5**	**+3.1**
	comp=Z,114nm,0.8s						
LEM	**Lembang**	**9.77**	**124**	P	**Pn**	**15 20 08.9**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=333,slow=22,SNR=2.4						
LEM				LR	LR	15 24 22.6	
	comp=Z,708nm,19.3s,baz=265,slow=40						
LEM	**Lembang**	**9.77**	**124**	P	**Pn**	**15 20 08.9**	**+0.5**
LEM				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LEM				MLR	MLR		
	comp=Z,708nm,19.3s						
LEM	**Lembang**	**9.77**	**124**	P	Pn	15 20 16.6	+8.2
	baz=9.7,SNR=3.7						
LEM	**Lembang**	**9.77**	**124**↑	P	**Pn**	**15 20 07.0**	**-1.3**
CISI	**Cisompet, Garu**	**10.34**	**127**	P	Pn	15 20 19.7	+3.6
	comp=Z,104nm,0.9s,comp=Z,2μm						
CISI	**Cisompet, Garu**	**10.34**	**127**	P	**Pn**	**15 20 13.8**	**-2.3**
	baz=10,SNR=20						
CMJI	**Cimerak**	**10.99**	**126**	P	Pn	15 20 29.1	+4.2
	comp=Z,111nm,1.1s						
KSM	**Kuching**	**11.23**	**75**↑	P	**Pn**	**15 20 27.9**	**-0.4**
KSM	**Kuching**	**11.23**	**75**↑	P	**Pn**	**15 20 27.9**	**-0.4**
STKI	**Sintang**	**12.12**	**83**	P	Pn	15 20 44.6	+4.2
	comp=Z,29nm,1.3s						
PBKI	**Pangkalan Bun**	**12.29**	**96**	P	Pn	15 20 47.0	+4.3
	comp=Z,82nm,1.1s						
SMRI	**Semarang**	**12.32**	**117**	P	Pn	15 20 46.5	+3.4
	comp=Z,115nm,1.0s						
SMRI	**Semarang**	**12.32**	**117**	Pn	**Pn**	**15 20 43.4**	**+0.3**
UGM	**Wanagama**	**12.79**	**121**	P	**Pn**	**15 20 50.8**	**+1.2**
	baz=13,SNR=8.8						
SBUM	**Sibu**	**13.33**	**73**↑	P	**Pn**	**15 20 56.4**	**-0.6**
SBUM	**Sibu**	**13.33**	**73**↑	P	**Pn**	**15 20 56.4**	**-0.6**
NGJI	**Ngawi**	**13.36**	**117**	P	**Pn**	**15 21 00.2**	**+2.8**
	comp=Z,81nm,1.1s						
TBJI	**Tambak Boyo**	**13.49**	**114**	P	Pn	15 21 03.2	+4.1
	comp=Z,159nm,1.3s						
BWJI	**Bawean**	**13.91**	**109**	P	Pn	15 21 08.8	+4.0
	comp=Z,107nm,1.5s						
PWJI	**Pagerwojo**	**13.96**	**119**	P	P	15 21 10.3	-3.1
	comp=Z,47nm,1.1s						
BTM	**Bintulu**	**14.38**	**71**↑	P	**Pn**	**15 21 10.9**	**-0.4**
BTM	**Bintulu**	**14.38**	**71**↑	P	**Pn**	**15 21 10.9**	**-0.4**
BBKI	**Banjar Baru**	**15.52**	**98**	P	**P**	**15 21 30.4**	**-0.4**
	comp=Z,86nm,0.8s						
KMMI	**Kalianget**	**15.53**	**112**	P	**P**	**15 21 29.5**	**-1.4**
	comp=Z,91nm,1.3s						
JAGI	**Jajag, Banyuwa**	**16.24**	**116**	P	**Pn**	**15 21 33.4**	**-2.5**
	baz=16,SNR=11						
KBKI	**Kotabaru**	**16.81**	**97**	P	**P**	**15 21 46.7**	**+1.5**
	comp=Z,53nm,1.2s						
SRBI	**Singaraja**	**17.05**	**113**	P	**P**	**15 21 49.8**	**+2.0**
	comp=Z,76nm,1.3s						
BKB	**Balikpapan**	**17.45**	**90**	P	**P**	**15 21 55.1**	**+2.9**
	comp=Z,119nm,1.3s						
KKM	**Kota Kinabalu**	**18.30**	**66**	P	**P**	**15 22 02.9**	**+1.1**
	baz=18,SNR=3.1						
KKM	**Kota Kinabalu**	**18.30**	**66**↑	P	**Pn**	**15 22 00.7**	**-1.0**
KKM	**Kota Kinabalu**	**18.30**	**66**↑	P	**Pn**	**15 22 00.7**	**-1.0**
UTTA	**Uttaradit**	**19.05**	**3**	P	Pn	15 22 25.3	+15
SDKM	**Sandakan**	**19.05**	**68**↑	P	**Pn**	**15 22 10.5**	**-0.3**
SDKM	**Sandakan**	**19.05**	**68**↑	P	**Pn**	**15 22 10.5**	**-0.3**
TSM	**Tawau**	**19.26**	**73**↑	P	**P**	**15 22 12.3**	**+0.1**
TSM	**Tawau**	**19.26**	**73**↑	P	**P**	**15 22 12.3**	**+0.1**
CM31	**Chiang Mai Arr**	**19.73**	**359**	*e*P	**P**	**15 22 17.0**	**-0.3**
	comp=Z,10nm,0.8s						
CMAR	**Chiang Mai Arr**	**19.73**	**359**	P	**P**	**15 22 16.9**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=186,slow=9.4,SNR=36						
LAMP	**Lampang**	**19.80**	**1**	P	**Pn**	**15 22 24.1**	**+4.6**
	comp=Z,9.5nm,0.9s,comp=Z,76nm						
CMMT	**Chiang Mai**	**20.09**	**359**	P	Pn	15 22 26.7	+3.6
	comp=Z,16nm,1.0s						
CHTO	**Chiang Mai**	**20.09**	**359**	P	Pn	15 22 26.8	+3.7
	comp=Z,66nm,1.2s						
CHTO	**Chiang Mai**	**20.09**	**359**	*e*P	**P**	**15 22 18.8**	**-2.4**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CHTO	**Chiang Mai**	**20.09**	**359**	*e*P	**P**	**15 22 18.8**	**-2.4**
	comp=Z,9.3nm,0.8s						
MYLDM	**Lahad Datu**	**20.12**	**71**↑	P	**P**	**15 22 21.3**	**-0.3**
MYLDM	**Lahad Datu**	**20.12**	**71**↑	P	**P**	**15 22 21.3**	**-0.3**
MYLDM	**Lahad Datu**	**20.12**	**71**	*e*P	**P**	**15 22 21.0**	**-0.6**
	comp=Z,48nm,0.8s						
PCI	**Palu**	**20.39**	**89**	P	Pn	15 22 28.8	+2.1
	comp=Z,80nm,1.1s,comp=Z,1μm						
TTSI	**Tana Toraja**	**20.42**	**95**	P	Pn	15 22 28.2	+1.2
	comp=Z,69nm,0.8s,comp=Z,755nm						
SPSI	**Sidrap Palu**	**20.46**	**98**	P	Pn	15 22 29.4	+1.9
	comp=Z,40nm,0.9s,comp=Z,517nm						
MPSI	**Mapaga**	**20.52**	**85**	P	Pn	15 22 29.7	+1.5
	comp=Z,59nm,1.0s,comp=Z,654nm						
KAPI	**Kappang**	**20.59**	**101**	P	Pn	15 22 29.5	+0.5
	comp=Z,351nm,1.4s,SNR=7.7						
KAPI	**Kappang**	**20.59**	**101**	P	**P**	**15 22 25.5**	**-1.1**
	comp=Z,38nm,0.9s,baz=281,slow=11,SNR=9.2						
KAPI				LR	LR	15 31 17.3	
	comp=Z,333nm,18.8s,baz=273,slow=39						
KAPI	**Kappang**	**20.59**	**101**	*e*P	**P**	**15 22 25.4**	**-1.3**
	comp=Z,89nm,1.3s						
PALK	**Pallekele**	**20.59**	**295**	P	Pn	15 22 28.7	-0.3
	comp=Z,21nm,0.8s,baz=130,slow=11,SNR=6.9						
PALK				LR	LR	15 29 36.9	
	comp=Z,270nm,19.1s,baz=112,slow=34						
PALK	**Pallekele**	**20.59**	**295**	P	Pn	15 22 28.7	-0.3
PALK				pmax	pmax		
	comp=Z,21nm,0.8s						
PALK				MLR	MLR		
	comp=Z,270nm,19.1s						
PALK	**Pallekele**	**20.59**	**295**	*e*P	Pn	15 22 28.3	-0.7
	comp=Z,52nm,1.2s						
BKSI	**Bulukumba**	**21.00**	**101**	P	**P**	**15 22 35.1**	**+4.0**
	comp=Z,55nm,1.0s,comp=Z,581nm						
TOLI	**Toli-Toli**	**21.49**	**83**	*e*P	**P**	**15 22 36.3**	**-0.1**
	comp=Z,98nm,0.7s						
CRAI	**Chiangrai**	**21.51**	**2**	P	**P**	**15 22 36.2**	**-0.3**
	comp=Z,44nm,0.8s						
APSI	**Ampana**	**22.20**	**89**	P	**P**	**15 22 47.1**	**+3.0**
	comp=Z,108nm,1.3s,comp=Z,1μm						
MRSI	**Marisa**	**22.57**	**85**	P	**P**	**15 22 51.9**	**+3.9**
	comp=Z,56nm,1.0s						
QIZ	**Qiongzhong**	**22.73**	**26**	P	**P**	**15 22 50.8**	**+1.3**
QIZ				S	**S**	**15 27 00.5**	**+3.4**
QIZ				PMZ			
	comp=Z,22nm,1.8s						
QIZ				LN			
	comp=Z,170nm,11.3s						
QIZ				LE			
	comp=Z,210nm,13.6s						
KDI	**Kendari**	**23.29**	**97**	P	**P**	**15 22 59.1**	**+3.7**
	comp=Z,72nm,0.8s						
LUWI	**Luwuk**	**23.32**	**89**	P	**P**	**15 22 58.3**	**+2.5**
	comp=Z,119nm,0.8s,comp=Z,1μm						
LUWI	**Luwuk**	**23.32

	comp=Z,400nm,13.8s									
NJ2	**Nanjing**	**38.01**	**27**	*e*P		**P**		**15 25 05.4**	**-0.1**
NJ2				S		**S**		**15 30 57.0**	**+0.2**
NJ2				PMZ					
	comp=Z,70nm,0.9s								
NJ2				LN					
	comp=Z,1μm,10.6s								
NJ2				LE					
	comp=Z,750nm,13.3s								
NJ2				LZ					
	comp=Z,750nm,12.8s								
WRA	**Warramunga Arr**	**38.77**	**121**	P		**P**		**15 25 10.4**	**-1.8**
	comp=Z,8.7nm,0.6s,baz=303,slow=9.1,SNR=86								
WRA				PcP		**PcP**		**15 27 24.1**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=314,slow=2.2,SNR=5.7								
WRA				S		**S**		**15 31 03.6**	**-5.1**
	comp=Z,2.5nm,1.1s,baz=294,slow=15,SNR=4.9								
WRA	**Warramunga Arr**	**38.77**	**121**	P		**P**		**15 25 10.4**	**-1.8**
WRA								15 27 24.2	
WRA				S		**S**		**15 31 03.7**	**-5.1**
WRA				pmax		pmax			
	comp=Z,9.0nm,0.6s								
WRA				pmax		pmax			
	comp=Z,2.0nm,0.7s								
WRA				smax		smax			
	comp=N,3.0nm,1.1s								
WRAB	**Tennant Creek**	**38.78**	**121**	P		**P**		**15 25 11.0**	**-1.3**
	comp=N,151nm,0.6s,SNR=15								
WRAB	**Tennant Creek**	**38.78**	**121**	*c i*P		**P**		**15 25 10.8**	**-1.5**
WRAB				pmax		pmax			
	comp=Z,126nm,2.5s								
WRAB	**Tennant Creek**	**38.78**	**121**	*e*P		**P**		**15 25 10.7**	**-1.6**
	comp=Z,16nm,0.6s								
FORT	**Forrest**	**39.86**	**140**	P		**P**		**15 25 22.9**	**+1.8**
	baz=40,SNR=7.0								
FORT	**Forrest**	**39.86**	**140**	P		**P**		**15 25 20.2**	**-0.8**
	comp=Z,36nm,0.9s								
AS31	**Alice Springs**	**40.05**	**126**	*e*P		**P**		**15 25 22.4**	**-0.4**
ASAR	**Alice Springs**	**40.05**	**126**	P		**P**		**15 25 22.4**	**-0.5**
	comp=Z,10.0nm,0.7s,baz=300,slow=7.6,SNR=115								
ASAR				PcP		**PcP**		**15 27 28.4**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=297,slow=2.9,SNR=4.8								
ASAR				ScP		**ScP**		**15 31 12.5**	**-3.2**
	comp=Z,1.0nm,1.0s,baz=305,slow=3.3,SNR=3.2								
ASAR				S		**S**		**15 31 25.0**	**-3.0**
	comp=Z,3.7nm,1.1s,baz=296,slow=15,SNR=13								
ASAR	**Alice Springs**	**40.05**	**126**	P		**P**		**15 25 22.4**	**-0.5**
ASAR								15 27 28.4	
ASAR				S		**S**		**15 31 25.0**	**-3.0**
ASAR				pmax		pmax			
	comp=Z,10.0nm,0.7s								
ASAR				pmax		pmax			
	comp=Z,2.0nm,0.8s								
ASAR				pmax		pmax			
	comp=N,1.0nm,1.0s								
ASAR				smax		smax			
	comp=N,4.0nm,1.1s								
GTA	**Gaotai**	**40.61**	**0**	*e*P		**P**		**15 25 28.1**	**+0.8**
GTA				pP		**pP**		**15 25 32.5**	**-1.5**
GTA				sP		**sP**		**15 25 35.5**	**-1.1**
GTA				PMZ					
	comp=N,5.0nm,0.9s								
HHC	**Hu-ho-hao-te**	**43.47**	**13**	*e*P		**P**		**15 25 52.3**	**+1.7**
HHC				sP		**sP**		**15 25 58.4**	**-1.6**
HHC				S		**S**		**15 32 20.8**	**+2.6**
HHC				SS		**SS**		**15 35 28.3**	**-4.7**
HHC				PMZ					
	comp=N,15nm,0.7s								
HHC				PMZ					
	comp=N,590nm,7.9s								
HHC				LN					
	comp=N,480nm,13.6s								
HHC				LE					
	comp=N,160nm,13.6s								
HHC				LZ					
	comp=N,340nm,14.8s								
QIS	**Mount Isa**	**43.58**	**119**	P		**P**		**15 25 50.7**	**-1.0**
	baz=44,SNR=8.8								
BJI	**Beijing**	**43.99**	**19**	P		**P**		**15 25 54.3**	**-0.3**
BJI				PMZ					
	comp=N,17nm,1.1s								
BJI				PMZ					
	comp=N,180nm,7.0s								
BJI				LN					
	comp=N,210nm,13.0s								
BJI				LE					
	comp=N,150nm,14.9s								
JNU	**Nakatsue**	**45.36**	**38**	P		**P**		**15 26 05.2**	**-0.5**
	comp=N,19nm,0.8s,baz=218,slow=2.8,SNR=17								
JNU				LR		LR		15 46 52.6	
	comp=N,111nm,18.5s,baz=304,slow=38								
JNU	**Nakatsue**	**45.36**	**38**	*e*P		**P**		**15 26 05.3**	**-0.5**
	comp=N,18nm,0.7s								
KSH	**Kashi**	**46.05**	**335**	P		**P**		**15 26 10.4**	**-0.9**
KSH				pP		**pP**		**15 26 19.3**	**+1.3**
KSH				PP		**PP**		**15 28 01.3**	**+1.7**
KSH				S		**S**		**15 32 52.8**	**-2.9**
KSH				sS		**sS**		**15 33 06.3**	**-0.5**
KSH				SS		ScS		15 36 13.4	+7.3
KSH				PMZ					
	comp=N,150nm,5.1s								
KSH				LN					
	comp=N,420nm,5.4s								
KSH				LE					
	comp=N,250nm,5.9s								
KSH				LZ					
	comp=N,230nm,4.9s								
WMQ	**Urumqi**	**46.23**	**348**	P		**P**		**15 26 13.5**	**+1.0**
WMQ				pP		**pP**		**15 26 19.5**	**+0.2**
WMQ				sP		**sP**		**15 26 22.5**	**+0.6**
WMQ				PMZ					
	comp=N,39nm,1.0s								
WMQ				PMZ					
	comp=N,100nm,4.2s								
WMQ				LN					
	comp=N,87nm,21.2s								
WMQ				LE					
	comp=N,70nm,19.0s								
BBOO	**Buckleboo**	**46.46**	**136**	*e*P		**P**		**15 26 14.5**	**0.0**
	comp=N,28nm,1.2s								
KSAR	**Wonju Array Be**	**46.76**	**31**	P		**P**		**15 26 15.7**	**-1.0**
KSAR	**Wonju Array Be**	**46.76**	**31**	P		**P**		**15 26 15.7**	**-1.0**
KSRS	**Korea Array**	**46.79**	**31**	P		**P**		**15 26 15.7**	**-1.2**
	comp=N,5.2nm,0.6s,baz=225,slow=8.2,SNR=51								
KSRS				LR		LR		15 49 07.7	
	comp=N,60nm,19.1s,baz=220,slow=40								
KSRS	**Korea Array**	**46.79**	**31**	P		**P**		**15 26 15.7**	**-1.2**
KSRS				pmax		pmax			
	comp=Z,5.0nm,0.6s								
KSRS				MLR		MLR			
	comp=Z,60nm,19.1s								
GUMO	**Guam**	**47.42**	**70**	LR		LR		15 49 03.4	
	comp=Z,11nm,19.3s,baz=182,slow=40								
HTT	**Hallett**	**48.81**	**135**	P		**P**		**15 26 33.6**	**+0.8**
	baz=49,SNR=15								
TKM2	**Tokmak 2**	**49.06**	**337**	*e*P		**P**		**15 26 35.0**	**+0.3**
TKM2				pmax		pmax			
	comp=Z,9.0nm,0.8s								
TKM2	**Tokmak 2**	**49.06**	**337**	*e*P		**P**		**15 26 35.0**	**+0.3**
	comp=Z,9.1nm,0.8s								
SONM	**Songino Array**	**49.40**	**6**	P		**P**		**15 26 37.3**	**+0.2**
	comp=Z,5.2nm,0.7s,baz=187,slow=8.9,SNR=7.9								
SONM				PcP		**PcP**		**15 27 59.7**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=197,slow=4.5,SNR=2.9								
SONM				LR		LR		15 50 03.8	
	comp=Z,153nm,20.1s,baz=233,slow=39								
SONM	**Songino Array**	**49.40**	**6**	P		**P**		**15 26 37.3**	**+0.2**
SONM								15 27 59.7	
SONM				pmax		pmax			
	comp=Z,5.0nm,0.7s								
SONM				pmax		pmax			
	comp=Z,2.0nm,0.5s								
SONM				MLR		MLR			
	comp=Z,153nm,20.1s								
ULN	**Ulaanbaatar**	**49.51**	**7**	*ce*P		**P**		**15 26 37.1**	**-0.9**
ULN				pmax		pmax			
	comp=Z,3.0nm,0.6s								
ULN	**Ulaanbaatar**	**49.51**	**7**	*e*P		**P**		**15 26 35.4**	**-2.6**
	comp=Z,5.5nm,0.8s								
EKS2	**Erkin-Say**	**49.59**	**335**	*e*P		**P**		**15 26 39.6**	**+1.0**
EKS2				pmax		pmax			
	comp=Z,11nm,0.9s								
EKS2	**Erkin-Say**	**49.59**	**335**	*e*P		**P**		**15 26 39.6**	**+1.0**
	comp=Z,11nm,0.9s								
QLP	**Quilpie**	**49.75**	**124**	P		**P**		**15 26 40.2**	**+0.2**
	baz=50,SNR=11								
STKA	**Stephens Creek**	**49.96**	**132**	P		**P**		**15 26 41.9**	**+0.3**
	comp=Z,20nm,0.9s,baz=305,slow=6.5,SNR=39								
STKA				LR		LR		15 49 29.2	
	comp=Z,98nm,21.6s,baz=233,slow=38								
STKA	**Stephens Creek**	**49.96**	**132**	P		**P**		**15 26 41.9**	**+0.3**
STKA				pmax		pmax			
	comp=Z,20nm,0.9s								
STKA				MLR		MLR			
	comp=Z,99nm,21.6s								
STKA	**Stephens Creek**	**49.96**	**132**	*e*P		**P**		**15 26 41.6**	**+0.1**
	comp=Z,3.3nm,0.8s								
MK31	**Makanchi Array**	**50.30**	**345**	*e*P		**P**		**15 26 44.0**	**+0.1**
MK31	**Makanchi Array**	**50.30**	**345**	*e*P		**P**		**15 26 44.0**	**+0.1**
MKAR	**Makanchi Array**	**50.30**	**345**	P		**P**		**15 26 44.0**	**+0.1**
	comp=Z,10nm,0.6s,baz=148,slow=8.2,SNR=128								
MKAR				LR		LR		15 51 55.0	
	comp=Z,63nm,18.9s,baz=163,slow=41								
MKAR	**Makanchi Array**	**50.30**	**345**	P		**P**		**15 26 44.0**	**+0.1**
MKAR				pmax		pmax			
	comp=Z,11nm,0.6s								
MKAR				MLR		MLR			
	comp=Z,63nm,18.9s								
MKAR	**Makanchi Array**	**50.30**	**345**	*e*P		**P**		**15 26 44.4**	**+0.5**
CN2	**Changchun**	**50.66**	**24**	*e*P		**P**		**15 26 44.9**	**-1.7**
CN2				*es*P		**sP**		**15 26 53.8**	**-2.2**
CN2				*e*S		**S**		**15 33 57.9**	**-2.6**
CN2				PMZ					
	comp=Z,10.0nm,0.6s								
CN2				PMZ					
	comp=Z,200nm,4.0s								
CN2				LN					
	comp=Z,400nm,17.0s								
CN2				LE					
	comp=Z,200nm,17.0s								
CN2				LZ					
	comp=Z,200nm,18.0s								
ZAK	**Zakamensk**	**51.68**	**3**	*e*P		**P**		**15 26 53.1**	**-1.2**
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.8s								
MJAR	**Matsushiro Arr**	**52.16**	**40**	P		**P**		**15 26 56.5**	**-1.5**
	comp=Z,1.2nm,0.7s,baz=212,slow=7.7,SNR=7.9								
MJAR	**Matsushiro Arr**	**52.16**	**40**	P		**P**		**15 26 56.5**	**-1.5**
MJAR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
CMSA	**Cobar Meteorol**	**52.92**	**129**	P		**P**		**15 27 04.3**	**+0.6**
	baz=53,SNR=23								
MDJ	**Mudanjiang**	**53.10**	**27**	P		**P**		**15 27 07.0**	**+2.3**
MDJ				pP		**pP**		**15 27 09.8**	**-1.8**
MDJ				sP		**sP**		**15 27 11.4**	**-2.8**
MDJ				S		**S**		**15 34 38.0**	**+4.1**
MDJ				PMZ					
	comp=Z,2.0nm,0.5s								
MDJ				PMZ					
	comp=Z,19nm,3.7s								
MDJ				LN					
	comp=Z,310nm,13.5s								
MDJ				LE					
	comp=Z,320nm,13.0s								
MDJ				LZ					
	comp=Z,550nm,13.3s								
RMQ	**Roma**	**53.50**	**122**	P		P		15 27 12.8	+4.7
	baz=54,SNR=6.6								
USRK	**Ussuriysk Ar.**	**53.89**	**29**	P		**P**		**15 27 10.1**	**-0.5**
	comp=Z,10nm,0.7s,baz=224,slow=5.6,SNR=38								
USRK				LR		LR		15 52 28.0	
	comp=Z,80nm,18.4s,baz=210,slow=39								
OPO	**Ambohidratompo**	**53.98**	**248**	P		**P**		**15 27 11.8**	**-0.1**
	comp=Z,4.2nm,0.7s,baz=61,slow=8.2,SNR=5.9								
GEYT	**Alibeck**	**54.63**	**320**	P		**P**		**15 27 16.6**	**+0.4**
	comp=Z,3.4nm,0.6s,baz=140,slow=9.7,SNR=4.9								
KURBB	**Kurchatov Arra**	**54.82**	**344**	P		**P**		**15 27 17.2**	**0.0**
	comp=Z,4.2nm,0.7s,baz=162,slow=7.2,SNR=26								
KURK	**Kurchatov**	**54.88**	**344**	P		**P**		**15 27 17.0**	**-0.7**
	comp=Z,63nm,0.8s,SNR=11								
KURK	**Kurchatov**	**54.88**	**344**	P		**P**		**15 27 17.2**	**-0.4**
KURK				pmax		pmax			
	comp=Z,4.0nm,0.7s								
KURK	**Kurchatov**	**54.88**	**344**	*e*P		**P**		**15 27 16.9**	**-0.7**
	comp=Z,3.9nm,0.8s								
EIDS	**Eidsvold**	**55.14**	**120**	P		**P**		**15 27 20.7**	**+0.7**
	baz=55,SNR=3.3								
YNG	**Young**	**56.15**	**131**	P		**P**		**15 27 28.2**	**+1.0**
	baz=56,SNR=7.2								
ZAA0	**Zalesovo Array**	**56.48**	**350**	*e*P		**P**		**15 27 28.8**	**-0.3**
ZALV	**Zalesovo Beam**	**56.48**	**350**	P		**P**		**15 27 29.0**	**-0.1**
	comp=Z,18nm,0.7s,baz=182,slow=6.8,SNR=40								
ZALV				LR		LR		15 54 16.2	
	comp=Z,46nm,19.6s,baz=246,slow=39								
ZALV	**Zalesovo Beam**	**56.48**	**350**	P		**P**		**15 27 29.0**	**-0.1**
ZALV				pmax		pmax			
	comp=Z,18nm,0.7s								
ZALV				MLR		MLR			
	comp=Z,47nm,19.6s								
ARMA	**Armidale**	**57.20**	**126**	P		**P**		**15 27 36.1**	**+1.3**
	baz=57,SNR=7.5								
ARMA	**Armidale**	**57.20**	**126**	*e*P		**P**		**15 27 34.2**	**-0.7**
	comp=Z,14nm,0.8s								
KLR	**Kul'dur**	**57.61**	**25**	*e*P		P		15 27 32.7	-4.5
NVS	**Novosibirsk**	**57.62**	**349**	*e*P		**P**		**15 27 36.4**	**-0.7**
NVS				*e*S		S		15 35 27.3	-6.7
NVS				pmax		pmax			
	comp=Z,18nm,1.5s								
NVS				pmax		pmax			
	comp=N,8.0nm,1.2s								
NVS				pmax		pmax			
	comp=E,7.0nm,0.9s								
NVS				smax		smax			
	comp=E,17nm,2.2s								
BVAR	**Borovoye Array**	**59.43**	**340**	LR		LR		15 57 10.6	
	comp=E,82nm,18.9s,baz=89,slow=40								
BOD	**Bodaibo**	**60.17**	**9**	*e*P		**P**		**15 27 53.7**	**-1.1**
BOD				pmax		pmax			
	comp=Z,5.0nm,1.7s								
ABKAR	**Akbulak array**	**60.85**	**331**	*e*P		**P**		**15 27 59.0**	**-0.6**
YSS	**Yuzh-Sakhalins**	**61.27**	**32**	*e*P		**P**		**15 28 01.8**	**-0.7**
YSS				*e*				15 28 10.0	
YSS				pmax		pmax			
	comp=Z,30nm,1.0s								
YSS	**Yuzh-Sakhalins**	**61.27**	**32**	*e*P		**P**		**15 28 01.5**	**-0.9**
KMBO	**Kilima Mbogo**	**62.18**	**269**	P		**P**		**15 28 10.8**	**+1.2**
	comp=Z,9.2nm,0.8s,baz=68,slow=9.6,SNR=23								
KMBO	**Kilima Mbogo**	**62.18**	**269**	P		**P**		**15 28 10.8**	**+1.2**
KMBO				pmax		pmax			
	comp=Z,9.0nm,0.8s								
KMBO	**Kilima Mbogo**	**62.18**	**269**	*e*P		**P**		**15 28 09.6**	**0.0**
	comp=Z,9.2nm,0.8s								
SVE	**Sverdlovsk**	**65.92**	**338**	*e*P		**P**		**15 28 32.6**	**-0.4**
ARU	**Arti**	**66.44**	**337**	P		**P**		**15 28 34.3**	**-2.0**
YAK	**Yakutsk**	**67.30**	**15**	*e*P		**P**		**15 28 39.6**	**-2.1**
YAK				*e*				15 28 48.2	
YAK				pmax		pmax			
	comp=Z,10.0nm,1.1s								
YAK				pmax		pmax			
	comp=N,3.0nm,1.5s								
YAK				pmax		pmax			
	comp=E,2.0nm,1.2s								
YAK				MLR		MLR			
	comp=Z,157nm,14.0s								
YAK				MLR		MLR			
	comp=N,160nm,19.0s								
YAK				MLR		MLR			
	comp=E,60nm,17.0s								
YAK	**Yakutsk**	**67.30**	**15**	*e*P		**P**		**15 28 41.9**	**+0.2**
KBZ	**Khabaz**	**67.49**	**319**	P		**P**		**15 28 43.9**	**+0.6**
	comp=E,4.4nm,0.8s,baz=126,slow=5.5,SNR=7.3								
KBZ	**Khabaz**	**67.49**	**319**	P		**P**		**15 28 43.9**	**+0.6**
KBZ				pmax		pmax			
	comp=Z,4.0nm,0.8s								
EIL	**Elat**	**68.73**	**303**	P		**P**		**15 28 52.6**	**+1.2**
	baz=69,SNR=5.4								
MAW	**Mawson**	**70.73**	**194**	P		**P**		**15 29 04.7**	**+1.8**
	comp=Z,5.6nm,0.8s,baz=22,slow=6.5,SNR=11								
MAW				LR		LR		15 55 10.0	
	comp=Z,89nm,19.8s,baz=60,slow=32								
MAW	**Mawson**	**70.73**	**194**	P		**P**		**15 29 05.1**	**+2.1**
	baz=71,SNR=5.4								
BRTR	**Keskin Array B**	**72.51**	**312**	P		**P**		**15 29 13.5**	**-1.0**
	comp=Z,1.6nm,0.7s,baz=137,slow=5.4,SNR=8.1								
BRTR	**Keskin Array B**	**72.51**	**312**	P		**P**		**15 29 13.5**	**-1.0**
BRTR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
PETK	**Petropavlovsk-**	**72.67**	**32**	P		**P**		**15 29 14.2**	**-0.8**
	comp=Z,3.7nm,0.8s,baz=208,slow=5.9,SNR=4.8								
PETK	**Petropavlovsk-**	**72.67**	**32**	P		**P**		**15 29 14.2**	**-0.8**
PETK				pmax		pmax			
	comp=Z,3.0nm,0.8s								
PRGR	**Permogore**	**74.90**	**336**	P		**P**		**15 29 25.7**	**-2.1**
PRGR				pmax		pmax			
	comp=Z,12nm,0.8s								
SEY	**Seymchan**	**75.28**	**22**	P		**P**		**15 29 29.4**	**-0.5**
	comp=Z,3.9nm,0.8s,baz=235,slow=6.0,SNR=12								
SEY	**Seymchan**	**75.28**	**22**	*i*P		**P**		**15 29 30.0**	**0.0**
BOSA	**Boshof**	**75.46**	**241**	P		**P**		**15 29 31.9**	**0.0**
	comp=Z,2.2nm,0.7s,baz=110,slow=5.8,SNR=5.1								
BOSA				LR		LR		15 55 27.6	
	comp=Z,90nm,20.1s,baz=46,slow=30								
AKASG	**Malin Array Be**	**78.67**	**322**	P		**P**		**15 29 48.9**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=89,slow=5.0,SNR=5.1								
VRI	**Vrincioaia**	**79.03**	**317**	⇓P		**P**		**15 29 52.3**	**+0.8**
VRI	**Vrincioaia**	**79.03**	**317**	⇓*i*P		**P**		**15 29 52.3**	**+0.8**
PLOR	**Plostina**	**79.08**	**317**	⇑P		**P**		**15 29 52.9**	**+1.1**
PLOR	**Plostina**	**79.08**	**317**	⇑*i*P		**P**		**15 29 52.9**	**+1.1**
MLR	**Muntele Rosu**	**79.48**	**317**	⇓P		**P**		**15 29 55.0**	**+0.9**
MLR	**Muntele Rosu**	**79.48**	**317**	⇓*i*P		**P**		**15 29 55.0**	**+0.9**
VOIR		**80.09**	**316**	⇓P		**P**		**15 29 56.9**	**-0.4**
VOIR		**80.09**	**316**	⇓*i*P		**P**		**15 29 56.9**	**-0.4**
BURAR	**Bucovina Array**	**80.44**	**319**	⇓P		**P**		**15 30 00.3**	**+1.1**
BURAR	**Bucovina Array**	**80.44**	**319**	⇓*i*P		**P**		**15 30 00.3**	**+1.1**
BUR08	**Bucovina Ar. S**	**80.46**	**319**	*e*P		**P**		**15 29 58.3**	**-1.0**
BZS	**Buzias**	**82.49**	**316**	⇓P		**P**		**15 30 10.5**	**+0.5**
BZS	**Buzias**	**82.49**	**316**	⇓*i*P		**P**		**15 30 10.5**	**+0.5**
VNDA	**Vanda**	**82.86**	**169**	P		**P**		**15 30 12.1**	**+0.8**
	comp=Z,1.5nm,0.9s,baz=301,slow=4.5,SNR=7.0								
VNDA	**Vanda**	**82.86**	**169**	P		**P**		**15 30 12.1**	**+0.8**
VNDA				pmax		pmax			
	comp=Z,2.0nm,0.9s								
FINES	**FINESS Array B**	**83.32**	**332**	P		**P**		**15 30 14.1**	**+0.2**
	comp=Z,1.5nm,0.4s,baz=104,slow=5.1,SNR=18								
FINES	**FINESS Array B**	**83.32**	**332**	P		**P**		**15 30 14.1**	**+0.2**
FINES				pmax		pmax			
	comp=Z,2.0nm,0.4s								
PKSM	**Moragy**	**84.63**	**316**	⇓P		P		15 30 30.0	+9.1
PKSM	**Moragy**	**84.63**	**316**	⇓*i*P		P		15 30 30.0	+9.1
ARCES	**ARCESS Array B**	**85.72**	**340**	P		**P**		**15 30 26.4**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=94,slow=5.1,SNR=6.5								
ARCES	**ARCESS Array B**	**85.72**	**340**	P		**P**		**15 30 26.5**	**+0.6**
ARCES				pmax		pmax			
	comp=Z,3.0nm,0.8s								
KRLC	**Kraliky**	**86.34**	**320**	*e*P		**P**		**15 30 30.2**	**+0.7**
KRLC				*ep*P		**pP**		**15 30 38.8**	**+2.2**
KRLC	**Kraliky**	**86.34**	**320**	*e*P		**P**		**15 30 30.2**	**+0.7**
KRLC				*e*				15 30 38.8	
DPC	**Dobruska-Polom**	**86.67**	**320**	*e*P		**P**		**15 30 32.1**	**+1.0**
DPC				*ep*P		**pP**		**15 30 40.6**	**+2.4**
DPC	**Dobruska-Polom**	**86.67**	**320**	*e*P		**P**		**15 30 32.1**	**+1.0**
DPC				*e*				15 30 40.6	
BRG	**Berggiesshubel**	**88.23**	**321**	*e*P		P		15 30 47.7	+9.2
	comp=Z,7.9nm,1.1s								
BRG	**Berggiesshubel**	**88.23**	**321**	*e*P		P		15 30 47.7	+9.2
BRG				pmax		pmax			
	comp=Z,8.0nm,1.1s								
GERES	**GERESS Array B**	**88.23**	**319**	P		**P**		**15 30 39.3**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=98,slow=4.4,SNR=6.6								
GERES	**GERESS Array B**	**88.23**	**319**	P		**P**		**15 30 39.3**	**+0.6**
GERES				pmax		pmax			
	comp=Z,1.0nm,0.7s								
QSPA	**South Pole Qui**	**88.56**	**180**	*e*P		**P**		**15 30 40.8**	**+0.9**
	comp=Z,7.3nm,1.1s								
CLL	**Collm**	**88.85**	**321**	*e*P		P		15 30 50.0	+8.6
CLL				pmax		pmax			
	comp=Z,10.0nm,1.3s								
CLL	**Collm**	**88.85**	**321**	*ep*P		P		15 30 50.0	+8.6
	comp=Z,10.0nm,1.3s								
HFS	**Hagfors**	**89.08**	**330**	LR		LR		16 14 15.5	
	comp=Z,32nm,18.1s,baz=10,slow=38								
KEST	**Kesra**	**90.89**	**306**	P		**P**		**15 30 52.4**	**+1.0**
	comp=Z,2.8nm,0.9s,baz=100,slow=18,SNR=4.3								
VNA2	**Neumayer--Watz**	**94.15**	**198**	P		**P**		**15 31 05.9**	**+0.3**
	baz=85,slow=3.9								
VNA1	**Neumayer--Stat**	**94.50**	**199**	P		**P**		**15 31 08.9**	**+1.7**
TORD	**Torodi Ar. Bea**	**97.86**	**283**	P		Pdif		15 31 24.0	+0.3
	comp=Z,1.0nm,1.0s,baz=140,slow=2.1,SNR=4.1								
NVAR	**Mina Array Bea**	**129.48**	**39**	PKP		**PKPdf**		**15 36 57.8**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=254,slow=3.3,SNR=4.1								
R11A	**Troy Canyon, C**	**131.19**	**37**	*e*PKPdf		**PKPdf**		**15 36 59.5**	**-0.4**
PDAR	**Pinedale Array**	**131.32**	**28**	PKP		**PKPdf**		**15 36 57.9**	**-2.2**
	comp=Z,0.3nm,0.6s,baz=282,slow=1.7,SNR=2.6								
PDAR				SKPbc		**SKPbc**		**15 40 22.3**	**-1.7**
	comp=Z,1.1nm,1.0s,baz=357,slow=3.3,SNR=6.5								
131A	**Roby**	**143.72**	**29**	P		PKPab		15 37 19.2	-0.5
	baz=144								
X36A	**Centrahoma**	**143.85**	**22**	P		PKPab		15 37 19.9	-0.2
	baz=144								
X37A	**Clayton**	**144.20**	**21**	P		**PKPab**		**15 37 21.5**	**+0.1**
	baz=144								
X38A	**Whitesboro**	**144.32**	**20**	P		**PKPab**		**15 37 21.8**	**-0.1**
	baz=144								
330A	**Mertzon**	**144.35**	**31**	P		**PKPab**		**15 37 21.8**	**-0.4**
	baz=144								
CPUP	**Villa Florida**	**144.47**	**218**	PKP		PKPbc		15 37 23.4	+0.5
	comp=Z,18nm,0.8s,baz=139,slow=2.9,SNR=47								
CPUP	**Villa Florida**	**144.47**	**218**	PKIKP		PKPbc		15 37 23.4	+0.5
CPUP				pmax		pmax			
	comp=Z,18nm,0.8s	

BKNI			S	Sb	15 39 00.4	-0.2		
PPI	**Padang Panjang**	**1.61 149**	P	Pn	15 38 39.4	-0.1		
PPI			S	Sb	15 39 00.9	-0.3		
PBSI	**Pulau Batu**	**1.62 233**	P	Pn	15 38 39.6	-0.1		
PBSI			S	Sb	15 39 01.6	+0.1		
GSI	**Gunungsitoli**	**2.03 281**	P	Pn	15 38 45.3	0.0		
GSI			S	Sn	15 39 11.6	+1.0		
SISI	**Saibi**	**2.29 192**	P	Pn	15 38 48.8	-0.1		
SISI			S	Sn	15 39 18.0	+1.0		
SDSI	**Sungai Dareh**	**2.62 135**	P	Pn	15 38 52.6	-0.9		
SDSI			S	Sn	15 39 26.6	+1.4		
TSI	**Tuntungan**	**2.74 339**	P	Pn	15 38 55.6	+0.4		
TSI			S	Sn	15 39 29.0	+0.8		
RGRI	**Rengat**	**3.04 115**	P	Pn	15 38 59.5	+0.2		
RGRI			S	Sn	15 39 36.4	+0.8		
KRJI	**Kerinci**	**3.55 148**	P	Pn	15 39 06.3	-0.1		
KRJI			S	Sn	15 39 49.8	+1.5		
SNSI	**Sinabang, Aceh**	**3.56 294**	P	Pn	15 39 06.0	-0.4		
PPSI	**Pulau Pagai**	**3.69 173**	P	Pn	15 39 05.6	-2.6		
PPSI			S	Sn	15 39 53.6	+1.9		

*ISCJB **24** 15:40:48.3±0.3,6.66N±0.05×123.50E±0.09, h650km, mb3.9/18, Error ellipse: s-maj=12.0km s-min=5.6km az=157.4*
*IDC **24** 15:40:48.6±1.0,6.63N×123.55E, h630km±13km, mb3.4/17, mb1 3.5/19, mb1mx3.3/40, mbtmp4.4/19, Error ellipse: s-maj=16.6km s-min=6.9km az=65.0*

ISC 24 15:40:50.0±0.5,**6.62N**±0.07×**123.5E**±0.1,**h650**km,**n43,** σ1§**37**/48,**mb3.9**/18,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**7.24**	**266**	P	**P**	**15 42 41.6**	**-2.9**
	baz=7.4,SNR=6.5						
LUWI	**Luwuk**	**7.64**	**185**	P	**P**	**15 42 45.8**	**-2.1**
	baz=8.0,SNR=4.0						
TGY	**Tagaytay City**	**7.85**	**342**	P	P	15 42 44.5	-5.3
	22nm,0.3s,baz=135,slow=4.3,SNR=3.5						
SIJI	**Sorong**	**10.76**	**133**	P	**P**	**15 43 15.2**	**-2.0**
	1.4nm,0.3s,baz=328,slow=13,SNR=7.9						
FAKI	**Fak Fak**	**12.90**	**137**	P	**P**	**15 43 36.0**	**-1.0**
	baz=13,SNR=17						
SOEI	**Soe**	**16.28**	**177**	P	**P**	**15 44 08.0**	**-0.2**
	baz=17,SNR=5.1						
JAY	**Jayapura**	**19.44**	**117**	P	**P**	**15 44 36.3**	**-0.5**
	1.0nm,0.3s,baz=236,slow=7.3,SNR=6.5						
MTN	**Manton Dam**	**20.77**	**159**	P	**P**	**15 44 48.1**	**-0.6**
	baz=21,SNR=6.2						
KDU	**Kakadu**	**21.16**	**155**	P	**P**	**15 44 51.2**	**-0.8**
	baz=22,SNR=4.6						
KNRA	**Kununurra**	**22.76**	**167**	P	**P**	**15 45 06.2**	**0.0**
	baz=23,SNR=6.8						
PSI	**Prapat**	**24.76**	**262**	P	**P**	**15 45 24.1**	**0.0**
	4.7nm,0.3s,baz=134,slow=5.7,SNR=3.8						
CMAR	**Chiang Mai Arr**	**26.64**	**298**	P	**P**	**15 45 41.1**	**+0.7**
	2.3nm,0.6s,baz=114,slow=7.3,SNR=15						
COEN	**Coen**	**28.28**	**136**	P	**P**	**15 45 53.5**	**-1.1**
	baz=28,SNR=16						
WRA	**Warramunga Arr**	**28.47**	**158**	P	**P**	**15 45 55.6**	**-0.6**
	18nm,0.5s,baz=331,slow=11,SNR=271						
WRA				S	**S**	**15 49 58.8**	**-2.1**
	0.8nm,0.5s,baz=336,slow=15,SNR=5.9						
WRA				ScP	**ScP**	**15 51 30.5**	**+3.6**
	0.6nm,0.5s,baz=344,slow=3.1,SNR=12						
KSRS	**Korea Array**	**30.96**	**7**	P	**P**	**15 46 17.2**	**0.0**
	0.5nm,0.6s,baz=172,slow=9.7,SNR=4.6						
QIS	**Mount Isa**	**31.31**	**150**	P	**P**	**15 46 20.7**	**+0.2**
	baz=32,SNR=7.0						
ASAR	**Alice Springs**	**31.77**	**162**	P	**P**	**15 46 24.8**	**+0.5**
	11nm,0.4s,baz=342,slow=6.8,SNR=723						
ASAR				S	**S**	**15 50 51.6**	**+0.4**
	2.4nm,0.8s,baz=354,slow=23,SNR=12						
ASAR				ScP	**ScP**	**15 51 41.2**	**+3.3**
	1.1nm,0.7s,baz=341,slow=3.0,SNR=10						
WRKA	**Warakurna**	**31.81**	**172**	P	**P**	**15 46 25.2**	**+0.6**
	baz=32,SNR=27						
MJAR	**Matsushiro Arr**	**32.69**	**22**	P	**P**	**15 46 29.8**	**-2.1**
	1.1nm,0.7s,baz=199,slow=10.0,SNR=6.4						
MEEK	**Meekatharra**	**33.39**	**188**	P	**P**	**15 46 38.0**	**+0.1**
	baz=34,SNR=7.3						
MORW	**Morawa**	**36.19**	**191**	P	**P**	**15 47 01.5**	**+0.6**
	baz=37,SNR=9.6						
FORT	**Forrest**	**37.44**	**174**	P	**P**	**15 47 11.8**	**+0.9**
	baz=38,SNR=10						
KMBL	**Kambalda**	**37.80**	**182**	P	**P**	**15 47 14.6**	**+0.7**
	baz=38,SNR=6.5						
KLBR	**Kellerberrin**	**38.38**	**188**	P	**P**	**15 47 19.1**	**+0.6**
	baz=39,SNR=5.9						
QLP	**Quilpie**	**38.65**	**149**	P	**P**	**15 47 21.3**	**+0.5**
	baz=39,SNR=5.4						
BBOO	**Buckleboo**	**40.99**	**164**	P	**P**	**15 47 40.1**	**+0.9**
	baz=42,SNR=20						
STKA	**Stephens Creek**	**42.00**	**157**	P	**P**	**15 47 48.1**	**+1.0**
	8.1nm,0.5s,baz=324,slow=7.7,SNR=52						
STKA				ScP	**ScP**	**15 52 19.5**	**+3.2**
	0.9nm,0.7s,baz=30,slow=8.1,SNR=3.0						
HTT	**Hallett**	**42.44**	**161**	P	**P**	**15 47 51.8**	**+1.2**
	baz=43,SNR=6.4						
CMSA	**Cobar Meteorol**	**43.47**	**152**	P	**P**	**15 48 00.3**	**+1.8**
	baz=44,SNR=8.8						
SONM	**Songino Array**	**43.59**	**343**	P	**P**	**15 47 59.7**	**+0.4**
	2.0nm,0.6s,baz=161,slow=9.4,SNR=3.5						
ARMA	**Armidale**	**45.66**	**145**	P	P	15 48 17.4	+2.1
	baz=46,SNR=4.3						
ARPS	**Mount Arapiles**	**46.46**	**160**	P	**P**	**15 48 22.1**	**+1.0**
	baz=47,SNR=11						
TLY	**Talaya**	**47.83**	**343**	P	**P**	**15 48 31.9**	**+0.9**
	2.9nm,0.6s,baz=210,slow=4.6,SNR=5.7						
MKAR	**Makanchi Array**	**53.36**	**326**	P	**P**	**15 49 11.6**	**+0.5**
	6.8nm,0.5s,baz=122,slow=8.5,SNR=111						
MKAR				PcP	**PcP**	**15 50 07.5**	**0.0**
	1.0nm,0.5s,baz=115,slow=5.3,SNR=5.4						
MKAR				ScP	**ScP**	**15 53 06.8**	**+2.5**
	0.7nm,0.7s,baz=122,slow=5.8,SNR=6.2						
PETK	**Petropavlovsk-**	**54.09**	**25**	P	**P**	**15 49 16.0**	**0.0**
	1.5nm,0.6s,baz=217,slow=6.7,SNR=3.5						
ZALV	**Zalesovo Beam**	**56.57**	**334**	P	**P**	**15 49 32.5**	**-0.6**
	1.4nm,0.5s,baz=130,slow=5.9,SNR=7.5						
KURBB	**Kurchatov Arra**	**57.58**	**328**	P	**P**	**15 49 40.3**	**+0.3**
	9.1nm,0.7s,baz=130,slow=6.4,SNR=105						
BVAR	**Borovoye Array**	**63.15**	**327**	P	**P**	**15 50 16.8**	**+0.3**
	3.9nm,1.0s,baz=134,slow=8.4,SNR=15						
BRTR	**Keskin Array B**	**85.70**	**309**	P	**P**	**15 52 22.2**	**-0.4**
	0.6nm,0.7s,baz=96,slow=6.2,SNR=4.0						
VNDA	**Vanda**	**86.69**	**172**	P	**P**	**15 52 27.1**	**+0.9**
	0.5nm,0.6s,baz=320,slow=5.9,SNR=6.4						
FINES	**FINESS Array B**	**87.77**	**332**	P	**P**	**15 52 31.2**	**-0.4**
	1.6nm,0.7s,baz=18,slow=8.0,SNR=6.5						
NOA	**NORSAR Array B**	**94.77**	**333**	P	**P**	**15 53 03.1**	**-0.7**
	0.8nm,0.7s,baz=45,slow=6.9,SNR=3.7						
TORD	**Torodi Ar. Bea**	**118.94**	**289**	PKP	**PKPdf**	**15 58 27.8**	**+0.3**
	0.4nm,0.6s,baz=90,slow=1.4,SNR=2.8						

GUC 24 15:47:49.7±0.6,**36.85S**×**73.55W**,**h10**km±3km,**ML4.5,5C,**
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.35**	**90**	*i* P	Pb	15 47 57.7	-0.3
CCSP				*i* S	Sb	15 48 02.9	-0.7
CCSP				AML	AML	15 48 05.3	
	comp=E,61μm,0.3s						
U14B	**Concepcin**	**0.37**	**92**	*i* P	Pb	15 47 58.0	-0.4
U14B				*i* S	Sb	15 48 03.9	-0.4
U14B				AML	AML	15 48 06.6	
	comp=N,116μm,0.5s						
COCH	**Cobquecura**	**0.94**	**41**	*i* P	Pg	15 48 07.7	0.0
COCH				*i* S	Sn	15 48 21.7	-0.6
LNCH	**Linares**	**1.86**	**58**	*i* P	Pn	15 48 19.5	-2.1
LNCH				*i* S	Sn	15 48 45.1	0.0
TALC	**Talca**	**2.12**	**48**	*i* P	Pb	15 48 26.9	-1.3
TALC				*i* S	Sb	15 48 55.7	+1.2
NICH	**Los Niches**	**2.63**	**46**	*i* S	Sb	15 49 10.4	+1.2

IDC 24 15:53:53.8±2.3,**7.55N**×**124.45E**,**h0**km,**mb4.0**/4,
mb1 4.2/4,**mb1mx3.6**/52,**mbtmp4.0**/4,**Error ellipse:**
s-maj=243.1km s-min=24.3km az=64.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**29.01**	**161**	P	P	15 59 56.6	+1.0
	1.6nm,0.4s,baz=338,slow=9.4,SNR=18						
ASAR	**Alice Springs**	**32.38**	**164**	P	P	16 00 25.8	+0.4
	1.4nm,0.3s,baz=340,slow=7.4,SNR=50						
STKA	**Stephens Creek**	**42.49**	**158**	P	P	16 01 49.1	-1.9
	0.6nm,0.4s,baz=343,slow=7.6,SNR=5.5						
MKAR	**Makanchi Array**	**53.14**	**325**	P	P	16 03 13.5	0.0
	0.4nm,0.5s,baz=121,slow=9.0,SNR=7.2						

*IDC **24** 16:00:23.4±1.9, 14.58N×90.68W, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.6/39, mbtmp3.7/4, ML3.3/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/33, Error ellipse: s-maj=42.8km s-min=32.3km az=39.0*
*ISCJB **24** 16:00:28.1±0.7, 14.14N±0.07×92.00W±0.04, h10km, mb3.7/3, MS3.5/1, Error ellipse: s-maj=11.1km s-min=3.5km az=28.8*
*CASC **24** 16:00:33.7±2.1, 14.02N×91.74W, h20km±13km, MD3.8*
*MEX **24** 16:00:35.1±0.9, 14.27N×92.17W, h6km±159km, MD4.2*

ISC 24 16:00:27.1±1.0,**14.03N**±0.08×**92.04W**±0.04,**h10**km,**n29,**
σ1§**70**/37,**mb4.0**/3,**1C-3D,Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.49**	**53**	*i* P	**Pn**	**16 00 43.3**	**+3.1**
FUG	**Fuego 3**	**1.23**	**70**	*e* P	**Pn**	**16 00 51.3**	**+0.7**
PCG	**Pacaya**	**1.44**	**75**	*e* P	**Pn**	**16 00 54.7**	**+1.2**
PCG				*e* S	**Sn**	**16 01 10.8**	**-1.8**
IXG	**Ixpaco**	**1.54**	**84**	*e* P	**Pn**	**16 00 55.6**	**+0.7**
NBG	**Las Nubes**	**1.73**	**71**	*e* P	**Pb**	**16 00 59.8**	**+0.5**
NBG				*e* S	**Sb**	**16 01 21.9**	**+0.8**
PCIG		**2.02**	**326**	*i* P	**Pn**	**16 01 03.1**	**+1.7**
PCIG				*i* S	**Sn**	**16 01 23.0**	**-3.7**
CCIG	**Comitan**	**2.25**	**358**	*i* P	**Pn**	**16 01 07.2**	**+2.6**
CCIG				*e* S	**Sn**	**16 01 30.9**	**-1.6**
RBDL	**Robledal**	**2.28**	**88**	*e* P	**Pn**	**16 01 06.2**	**+1.2**
RTR	**El Retiro**	**2.33**	**93**	*e* P	**Pn**	**16 01 07.5**	**+1.8**
SBLS	**San Blas**	**2.35**	**94**	*e* P	**Pn**	**16 01 07.5**	**+1.4**
SBLS				*e* S	**Sn**	**16 01 34.3**	**-0.9**
SNJE	**San Jose**	**2.37**	**93**	*e* P	**Pn**	**16 01 07.7**	**+1.5**
MRL	**Marmol**	**2.50**	**65**	*e* P	**Pn**	**16 01 08.4**	**+0.4**
MTO2	**Montecristo 2**	**2.62**	**82**	*e* P	**Pn**	**16 01 10.7**	**+0.9**
BOQS	**Boqueron**	**2.69**	**96**	*e* P	**Pn**	**16 01 12.0**	**+1.2**
BOQS				*e* S	**Sn**	**16 01 42.7**	**-0.9**
LFU	**La Fuente**	**2.85**	**95**	*e* P	**Pn**	**16 01 13.8**	**+1.0**
LFRS	**El Faro**	**2.92**	**98**	*e* P	**Pn**	**16 01 15.7**	**+1.9**
LFRS				*e* S	**Sn**	**16 01 47.6**	**-1.4**
TGIG		**2.93**	**339**	*e* P	**Pn**	**16 01 15.8**	**+1.9**
TGIG				*e* S	**Sn**	**16 01 47.4**	**-1.8**
SNVI	**San Vicente**	**3.13**	**97**	*e* P	**Pn**	**16 01 19.3**	**+2.5**
SNVI				*e* S	**Sn**	**16 01 54.4**	**0.0**
VSM	**San Miguel**	**3.71**	**99**	*e* P	**Pn**	**16 01 26.1**	**+1.4**
CMIG	**Matias Romero**	**4.10**	**318**	Pn	**Pn**	**16 01 32.3**	**+2.3**
	3.0nm,0.3s,baz=135,slow=9.3,SNR=18						
CMIG				Sn	**Sn**	**16 02 18.7**	**+0.7**
	14nm,0.3s,baz=85,slow=11,SNR=8.0						
CMIG				LR	LR	16 03 29.2	
	comp=Z,81nm,21.7s,slow=39						
HUIG	**Huatulco**	**4.30**	**294**	*e* P	**Pn**	**16 01 33.9**	**+1.2**
TEIG	**Tepich**	**7.14**	**30**	Pg	**Pn**	**16 02 12.4**	**+0.7**
	0.7nm,0.3s,baz=90,slow=24,SNR=21						
JTS	**JuntasAbangare**	**7.86**	**117**	Pg	Pn	16 02 31.0	+9.4
	0.8nm,0.3s,baz=258,slow=19,SNR=2.3						
JTS				Lg	Lg	16 04 13.5	
	0.5nm,0.3s,baz=81,slow=23,SNR=2.5						
TXAR	**Lajitas Array**	**18.66**	**327**	P	**Pn**	**16 04 47.0**	**+1.3**
	0.1nm,0.3s,baz=155,slow=12,SNR=14						
ANMO	**Albuquerque**	**24.56**	**331**	P	**P**	**16 05 47.2**	**-0.3**
	0.5nm,0.4s,baz=157,slow=7.7,SNR=4.0						
NVAR	**Mina Array Bea**	**33.63**	**321**	P	**P**	**16 07 09.3**	**+1.1**
	1.5nm,0.8s,baz=124,slow=9.7,SNR=13						
BDFB	**Brasilia**	**52.57**	**123**	LR	LR	16 31 39.9	
	comp=Z,45nm,18.6s,baz=58,slow=36						
ILAR	**Eielson Array**	**62.80**	**337**	P	**P**	**16 10 50.3**	**-2.4**
	0.9nm,0.9s,baz=129,slow=4.5,SNR=6.1						
CMAR	**Chiang Mai Arr**	**145.96**	**341**	PKPbc	**PKPdf**	**16 20 05.3**	**-2.1**
	2.3nm,0.8s,baz=338,slow=4.2,SNR=10						

*IDC **24** 16:05:18.9±0.8,27.98N×56.48E, h0km, mb4.0/16, mb1 4.0/17, mb1mx3.8/49, mbtmp4.0/17, MS3.2/4, Ms1 3.2/4, ms1mx2.7/46, Error ellipse: s-maj=18.3km s-min=16.8km az=139.0*
*DSN **24** 16:05:19.9±0.9, 28.08N×57.25E, h15km, mb4.0/8, ML4.7/5, Error ellipse: s-maj=32.3km s-min=8.4km az=119.0*
*THR **24** 16:05:20.9±1.0, 27.88N×56.88E, h40km±8km, ML4.0*
*ISCJB **24** 16:05:22.6±0.4, 28.03N±0.03×56.67E±0.07, h28km, mb4.0/17, MS3.3/5, Error ellipse: s-maj=8.4km s-min=4.0km az=10.5*
*TEH **24** 16:05:22.4, 28.01N×56.43E, h19km, ML4.1*
*CSEM **24** 16:05:24.9±0.2, 27.97N×56.50E, h20km, ML4.1, Error ellipse: s-maj=8.3km s-min=3.7km az=95.0*

ISC 24 16:05:23.8±0.6,**27.99N**±0.03×**56.50E**±0.06,**h28**km,**n62,**
σ1§**82**/63,**mb4.0**/17,**MS3.2**/5,**1C-1D,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBND	**Bandar-abas**	**0.54**	**176**	*e* Pg	**Pb**	**16 05 34.6**	**-0.1**
IBND				*e* Sg	**Sn**	**16 05 43.3**	**-0.5**
IBND				*e*		16 05 54.2	
	comp=Z,61μm,0.5s						
IBND	**Bandar-abas**	**0.54**	**176**	*e* Pg	**Pb**	**16 05 34.7**	**-0.1**
IBND				*e* Sg	**Sn**	**16 05 43.3**	**-0.5**
BNDS	**Bandar-Abbas**	**0.66**	**207**	*e* Pg	**Pn**	**16 05 37.0**	**-0.4**
BNDS				*e* Sg	**Sn**	**16 05 47.8**	**+0.9**
BNDS				AML	AML	16 05 53.5	
	comp=N,5μm,0.1s						
BNDS				AML	AML	16 05 57.0	
	comp=E,4μm,0.3s						
BNDS	**Bandar-Abbas**	**0.66**	**207**	*e* Pg	**Pn**	**16 05 37.0**	**-0.4**
BNDS				*e* Sg	**Sn**	**16 05 47.8**	**+0.9**
NGRK	**Negar Kerman**	**1.66**	**7**	*e* Pn	**Pb**	**16 05 53.1**	**-0.9**
NGRK	**Negar Kerman**	**1.66**	**7**	*e* Pn	**Pb**	**16 05 53.1**	**-0.9**
KRBR	**Kerman**	**2.00**	**6**	*e* Pg	**Pb**	**16 05 58.4**	**-1.4**
KRBR				*e* Sg	**Sb**	**16 06 26.5**	**+2.2**
KRBR				AML	AML	16 06 28.2	
	comp=E,931nm,0.8s						
KRBR				AML	AML	16 06 31.4	
	comp=N,1μm,0.5s						
KRBR	**Kerman**	**2.00**	**6**	*e* Pg	**Pb**	**16 05 58.3**	**-1.4**
KRBR				*e* Sg	**Sb**	**16 06 26.5**	**+2.2**
TVBK	**TV Kerman**	**2.00**	**6**	*e* Pn	**Pb**	**16 05 58.9**	**-0.9**
TVBK	**TV Kerman**	**2.00**	**6**	*e* Pn	**Pb**	**16 05 58.9**	**-0.9**
CHMN	**Cheshme madani**	**2.08**	**26**	*e* Pn	Pn	16 05 49.1	-8.0
CHMN	**Cheshme madani**	**2.08**	**26**	*e* Pn	Pn	16 05 49.1	-8.0
KHGB	**Koh Gabri**	**2.38**	**359**	*e* Pn	**Pn**	**16 05 59.6**	**-1.5**
KHGB	**Koh Gabri**	**2.38**	**359**	*e* Pn	**Pn**	**16 05 59.6**	**-1.5**
NAZ	**Nazwa, Dubai**	**3.08**	**194**	P	**Pn**	**16 06 12.4**	**+1.8**
NAZ	**Nazwa, Dubai**	**3.08**	**194**	P	**Pn**	**16 06 12.4**	**+1.8**
GHIR	**Ghir-Karzin**	**3.12**	**276**	*e* Pn	**Pn**	**16 06 14.1**	**+2.9**
GHIR				AML	AML	16 07 33.2	
	comp=E,229nm,0.1s						
GHIR	**Ghir-Karzin**	**3.12**	**276**	*e* Pn	**Pn**	**16 06 14.1**	**+2.9**
HATD	**Hatta, Dubai**	**3.17**	**186**	P	**Pn**	**16 06 12.1**	**+0.2**
HATD	**Hatta, Dubai**	**3.17**	**186**	P	**Pn**	**16 06 12.1**	**+0.2**
ISRV	**Sarvestan**	**3.28**	**296**	*e* Pn	**Pn**	**16 06 15.4**	**+1.7**
ISRV				*e*		16 07 33.1	
	comp=Z,3μm,0.5s						
ISRV	**Sarvestan**	**3.28**	**296**	*e* Pn	**Pn**	**16 06 15.4**	**+1.7**
FAQ	**Al Faqa, Dubai**	**3.33**	**194**	P	**Pn**	**16 06 15.9**	**+1.8**
	SNR=55						
FAQ	**Al Faqa, Dubai**	**3.33**	**194**	*i* P	**Pn**	**16 06 15.9**	**+1.8**
	SNR=55						
ASUD	**Al Ashush, Dub**	**3.51**	**198**	P	**Pn**	**16 06 18.9**	**+2.4**
	SNR=51						
ASUD	**Al Ashush, Dub**	**3.51**	**198**	*i* P	**Pn**	**16 06 18.9**	**+2.4**
	SNR=51						
IBAF	**Bafgh**	**3.68**	**347**	*e* Pn	**Pn**	**16 06 20.8**	**+1.8**
IBAF				*e*		16 06 55.0	
	comp=Z,1μm,0.2s						
IBAF	**Bafgh**	**3.68**	**347**	*e* Pn	**Pn**	**16 06 20.8**	**+1.8**
IMEH	**Mehriz**	**3.77**	**335**	*e* Pn	**Pn**	**16 06 22.3**	**+2.0**
IMEH				*e*		16 07 40.5	
	comp=Z,1μm,0.4s						
IMEH	**Mehriz**	**3.77**	**335**	*e* Pn	**Pn**	**16 06 22.3**	**+2.0**
IKAZ	**Kazeroun**	**4.46**	**295**	*e* Pn	**Pn**	**16 06 30.8**	**+0.9**
IKAZ				*e*		16 07 56.6	
	comp=Z,1μm,0.4s						
IKAZ	**Kazeroun**	**4.46**	**295**	*e* Pn	**Pn**	**16 06 30.8**	**+0.9**
ISAD	**Sadrabad**	**4.61**	**329**	*e* Pn	**Pn**	**16 06 34.9**	**+3.0**
ISAD				*e*		16 06 45.7	
	comp=E,627nm,0.1s						
ISAD	**Sadrabad**	**4.61**	**329**	*e* Pn	**Pn**	**16 06 34.9**	**+3.0**
ICHK	**Chekchek**	**4.61**	**337**	*e* Pn	**Pn**	**16 06 33.9**	**+2.0**
ICHK				*e*		16 08 17.3	
	comp=Z,838nm,0.0s						
ICHK	**Chekchek**	**4.61**	**337**	*e* Pn	**Pn**	**16 06 33.9**	**+2.0**
IKOO	**Kooshah**	**4.92**	**25**	*e* Pn	**Pn**	**16 06 38.9**	**+2.7**
IKOO				*e*		16 07 16.5	
	comp=Z,965nm,0.2s						
IKOO	**Kooshah**	**4.92**	**25**	*e* Pn	**Pn**	**16 06 38.8**	**+2.7**
ITEG	**Tejag**	**5.26**	**21**	*e*		16 08 28.7	
	comp=Z,874nm,0.3s						
IDAH	**Dahanechah**	**5.55**	**31**	*e* Pn	**Pn**	**16 06 47.5**	**+2.6**
IDAH				*e*		16 08 37.2	
	comp=Z,750nm,0.5s						
IDAH	**Dahanechah**	**5.55**	**31**	*e* Pn	**Pn**	**16 06 47.5**	**+2.6**
GEYT	**Alibeck**	**10.01**	**7**	Pn	**Pn**	**16 07 44.9**	**-0.8**
	baz=207,slow=11,SNR=2.1						
BRTR	**Keskin Array B**	**22.24**	**308**	P	**P**	**16 10 17.6**	**-0.9**
	comp=Z,2.4nm,0.9s,baz=123,slow=11,SNR=8.8						
AKTO	**Aktyubinsk**	**22.45**	**3**	P	**P**	**16 10 19.8**	**-0.6**
	comp=Z,4.1nm,0.6s,baz=178,slow=10,SNR=15						
AKTO				LR	LR	16 20 41.0	
	comp=Z,83nm,21.5s,baz=172,slow=41						
BVAR	**Borovoye Array**	**27.05**	**19**	P	**P**	**16 11 03.1**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=186,slow=8.0,SNR=20						
MKAR	**Makanchi Array**	**27.59**	**40**	P	**P**	**16 11 07.9**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=228,slow=8.1,SNR=14						
KURBB	**Kurchatov Arra**	**28.11**	**30**	P	**P**	**16 11 13.2**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=230,slow=8.5,SNR=10						
ARU	**Arti**	**28.46**	**2**	LR	LR	16 24 57.6	
	comp=Z,16nm,20.4s,baz=148,slow=41						
AKASG	**Malin Array Be**	**30.67**	**325**	P	**P**	**16 11 35.3**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=129,slow=8.4,SNR=3.7						
ZALV	**Zalesovo Beam**	**33.20**	**31**	P	**P**	**16 11 57.3**	**-0.7**
	comp=Z,6.2nm,0.6s,baz=242,slow=9.4,SNR=32						
FINES	**FINESS Array B**	**39.12**	**337**	P	**P**	**16 12 48.2**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=156,slow=14,SNR=7.2						
HFS	**Hagfors**	**43.21**	**330**	P	**P**	**16 13 21.9**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=129,slow=12,SNR=7.3						
NOA	**NORSAR Array B**	**44.71**	**331**	P	**P**	**16 13 32.6**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=106,slow=7.8,SNR=2.6						
HHC	**Hu-ho-hao-te**	**46.50**	**59**	*e* P	P	16 13 53.3	+4.5
HHC				PP	**PP**	**16 15 42.4**	**+4.2**
HHC				S	**S**	**16 20 40.3**	**+4.8**
HHC	**Hu-ho-hao-te**	**46.50**	**59**	SS	SS	16 23 58.5	-2.9
HHC				pmax	pmax		
	comp=Z,28nm,1.1s						
HHC				pmax	pmax		
	comp=Z,46nm,5.5s						
HHC				LR	LR		
	comp=N,63nm,12.8s						
HHC				LR	LR		
	comp=E,49nm,12.9s						
HHC				LR	LR		
	comp=Z,45nm,13.9s						
EKA	**Eskdalemuir Ar**	**50.33**	**320**	P	**P**	**16 14 15.3**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=86,slow=6.9,SNR=5.2						
TORD	**Torodi Ar. Bea**	**52.99**	**266**	P	**P**	**16 14 37.2**	**-1.1**
	comp=Z,1.6nm,0.5s,baz=65,slow=7.2,SNR=23						
TORD				LR	LR	16 39 40.4	
	comp=Z,49nm,19.3s,baz=0.0,slow=39						
KSRS	**Korea Array**	**59.54**	**61**	P	**P**	**16 15 23.2**	**-1.6**
	comp=Z,1.1nm,0.5s,baz=277,slow=6.6,SNR=9.9						
BOSA	**Boshof**	**63.75**	**211**	P	**P**	**16 15 53.4**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=23,slow=11,SNR=3.4						
JCJ	**Chichijima**	**74.28**	**67**	LR	LR	16 52 07.5	
	comp=Z,14nm,19.7s,baz=114,slow=38						
WRA	**Warramunga Arr**	**89.03**	**113**	P	**P**	**16 18 16.3**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=326,slow=4.0,SNR=4.8						
ASAR	**Alice Springs**	**90.54**	**117**	P	**P**	**16 18 23.1**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=300,slow=4.5,SNR=7.1						

*IDC **24** 16:13:04.3±1.2, 1.19S×99.67E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.7/35, mbtmp3.8/10, ML3.9/1, MS2.9/2, Ms1 2.9/2, ms1mx2.4/34, Error ellipse: s

CTAO	Charters Tower	49.64	115	*e*P	P	16 21 54.9	-0.8
MK31	Makanchi Array	50.14	345	*e*P	P	16 22 01.0	+2.0
MKAR	Makanchi Array	50.14	345	P	P	16 22 02.4	+3.3
	1.1nm,0.5s,baz=152,slow=8.0,SNR=14						
STKA	Stephens Creek	50.23	132	P	P	16 22 01.3	+1.3
	1.4nm,0.7s,baz=335,slow=9.3,SNR=5.4						
STKA	Stephens Creek	50.23	132	*e*P	P	16 22 00.0	0.0
USRK	Ussuriysk Ar.	53.94	29	P	P	16 22 26.6	-0.7
	0.8nm,0.7s,baz=219,slow=3.7,SNR=3.7						
KURBB	Kurchatov Arra	54.65	344	P	P	16 22 33.9	+1.6
	0.6nm,0.6s,baz=163,slow=6.9,SNR=4.3						
KURK	Kurchatov	54.71	344	P	P	16 22 34.0	+1.2
ZAA0	Zalesovo Array	56.33	350	P	P	16 22 45.1	+0.7
ZALV	Zalesovo Beam	56.33	350	P	P	16 22 45.9	+1.5
	1.6nm,0.6s,baz=170,slow=9.9,SNR=7.5						
ZALV				LR	LR	16 47 47.2	
	comp=Z,12nm,18.9s,baz=72,slow=37						
BVAR	Borovoye Array	59.25	340	P	P	16 23 08.3	+3.4
	0.3nm,0.4s,baz=141,slow=7.1,SNR=2.9						
CPUP	Villa Florida	144.38	218	PKP	PKPdf	16 32 41.2	+0.8
	3.0nm,0.7s,baz=138,slow=3.5,SNR=8.1						
TXAR	Lajitas Array	144.63	36	PKP	PKPdf	16 32 42.1	+1.1
	0.3nm,0.5s,baz=220,slow=0.6,SNR=8.7						

*ISCJB **24** 16:27:09.7±0.7,27°.17N±0°.03×129°.09E±0°.04, h28km±5km, mb3.7/9, Error ellipse: s-maj=7.4km s-min=4.3km az=32.4*
*JMA **24** 16:27:11.2±0.1,27°.22N×128°.99E, h27km±2km, M3.2*
*IDC **24** 16:27:11.5±0.9,27°.20N×128°.77E, h32km±7km, mb3.5/9, mb1 3.7/10,mb1mx3.5/45,mbtmp3.7/10, ML2.9/1, MS2.2/1, Ms1 2.2/1, ms1mx2.0/25, Error ellipse: s-maj=34.6km s-min=16.1km az=81.0*

ISC 24 16:27:10.5±0.8, 27°.16N±0°.03×129°.03E±0°.04, h28km±6km, n27, σ1§15/36, mb3.7/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOKE	Okinoerabujima	0.46	296	P	Pb	16 27 19.7	-0.5
JOKE				S	Sb	16 27 25.7	-1.0
JTK	Tokunoshima	0.63	353	P	Pb	16 27 22.4	-0.6
JTK				S	Sb	16 27 29.8	-1.7
JOW	Kunigami	0.75	244	P	Pn	16 27 25.2	-0.1
JOW				S	Sn	16 27 34.9	-0.9
JIH	Iheya	0.96	263	P	Pb	16 27 28.4	-0.1
JIH				S	Sn	16 27 41.0	+0.2
JAMN	Amaminishikomi	1.08	7	P	Pn	16 27 29.9	0.0
JAMN				S	Sn	16 27 42.8	-1.2
JNTH	Nagotoyohara	1.10	235	P	Pb	16 27 30.9	-0.1
JNTH				S	Sb	16 27 45.1	+0.1
JAM	Amami Oshima	1.34	22	P	Pn	16 27 33.5	0.0
JAM				S	Sn	16 27 50.6	+0.2
JZK	Kikaishima	1.42	36	P	Pn	16 27 35.3	+0.8
JJT2	Tamagusuku 2	1.53	229	P	Pb	16 27 37.0	-1.3
JAGN	Aguni-jima	1.70	251	P	Pb	16 27 40.1	-1.0
JTAJ	Takarajima	1.99	4	P	Pn	16 27 42.4	0.0
JTAJ				S	Sn	16 28 05.9	-0.5
JKE	Kume jima 2	2.17	248	P	Pn	16 27 46.2	+1.3
JKE				S	Sb	16 28 13.7	-2.0
JMZ	Minamidaito 2	2.38	124	P	Pn	16 27 47.2	-0.4
JMZ				S	Sn	16 28 13.9	-1.9
JNU	Nakatsue	6.15	15	Pn	Pn	16 28 41.4	+1.8
	0.3nm,0.3s,baz=149,slow=13,SNR=6.4						
KSRS	Korea Array	10.31	355	Pn	Pn	16 29 40.5	+3.9
	0.1nm,0.3s,baz=176,slow=15,SNR=3.9						
KSRS				LR	LR	16 33 13.9	
	comp=Z,15nm,21.6s,baz=180,slow=35						
H11N2	WAKE ISLAND Hy	35.42	94	T	T	17 11 51.9	
	baz=290						
H11N1	WAKE ISLAND Hy	35.42	94	T	T	17 11 52.7	
	baz=290						
H11N3	WAKE ISLAND Hy	35.43	94	T	T	17 11 51.9	
	baz=290						
SEY	Seymchan	38.92	17	P	P	16 34 33.9	+0.2
	1.2nm,0.7s						
ZALV	Zalesovo Beam	41.95	322	P	P	16 34 57.1	-1.7
	0.5nm,0.4s,baz=107,slow=9.2,SNR=2.8						
KURBB	Kurchatov Arra	44.68	316	P	P	16 35 19.6	-1.2
	0.4nm,0.4s,baz=101,slow=8.9,SNR=4.9						
WRA	Warramunga Arr	47.11	173	P	P	16 35 41.0	+0.7
	0.3nm,0.8s,baz=354,slow=9.0,SNR=2.7						
WRA				pP	pP	16 35 49.0	+0.3
	0.7nm,0.7s,baz=354,slow=8.2,SNR=3.6						
ASAR	Alice Springs	50.75	174	P	P	16 36 10.0	+1.8
	0.5nm,1.1s,baz=6.3,slow=12,SNR=5.1						
ASAR				pP	pP	16 36 18.9	+2.2
	0.2nm,0.6s,baz=2.4,slow=15,SNR=2.9						
ILAR	Eielson Array	63.28	29	P	P	16 37 37.0	+0.6
	0.4nm,0.8s,baz=262,slow=6.3,SNR=3.2						
ARCES	ARCESS Array B	69.40	339	P	P	16 38 15.0	-0.6
	2.9nm,0.9s,baz=81,slow=7.9,SNR=5.0						
FINES	FINESS Array B	72.41	331	P	P	16 38 33.3	-0.6
	2.0nm,0.8s,baz=95,slow=4.6,SNR=6.7						
NOA	NORSAR Array B	78.80	334	P	P	16 39 10.4	-0.2
	0.5nm,0.6s,baz=51,slow=5.5,SNR=2.9						
NOA				pP	PcP	16 39 21.4	+2.1
	0.3nm,0.5s,baz=38,slow=6.8,SNR=1.8						

*IDC **24** 16:36:29.8±1.1,6°.36S×150°.69E, h0km, mb4.1/6, mb1 4.3/7, mb1mx3.8/33, mbtmp4.1/7, ML2.1/1, MS2.9/1, Ms1 3.1/1, ms1mx2.4/29, Error ellipse: s-maj=46.7km s-min=18.6km az=120.0*
*ISCJB **24** 16:36:33.4±0.9,6°.4S±0°.1×150°.6E±0°.2, h33km, mb4.1/6, MS3.0/1, Error ellipse: s-maj=28.3km s-min=9.1km az=33.8*
*NEIC **24** 16:36:37.2±2.7,6°.41S×150°.58E, h54km±22km, mb4.4/2, Error ellipse: s-maj=31.4km s-min=14.3km az=108.0*

ISC 24 16:36:34.8±1.0, 6°.4S±0°.2×150°.7E±0°.2, h33km, n15, σ0§79/16, mb4.1/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	4.61	229	Pn	Pn	16 37 43.3	+1.0
	6.4nm,0.3s,baz=41,slow=5.9,SNR=24						
PMG				Sn	Sn	16 38 34.0	-0.8
	12nm,0.3s,baz=98,slow=23,SNR=13						
PMG	Port Moresby	4.61	229	*e*Pn	Pn	16 37 43.1	+0.8
PMG				*e*Sn	Sn	16 38 35.0	+0.3
WRAB	Tennant Creek	20.82	228	*e*P	P	16 41 13.4	-0.4
	13nm,1.0s						
WRA	Warramunga Arr	20.83	228	P	P	16 41 13.5	-0.4
	4.6nm,0.4s,baz=53,slow=11,SNR=58						
AS31	Alice Springs	23.58	221	*e*P	P	16 41 42.4	-0.4
ASAR	Alice Springs	23.58	221	P	P	16 41 42.2	-0.6
	4.2nm,0.7s,baz=56,slow=8.5,SNR=65						
STKA	Stephens Creek	26.76	197	P	P	16 42 11.2	-0.6
	2.5nm,0.5s,baz=0.7,slow=8.3,SNR=10						
KSRS	Korea Array	48.50	336	P	P	16 45 14.7	+0.1
	1.0nm,0.8s,baz=156,slow=8.3,SNR=7.2						
KSAR	Wonju Array Be	48.50	336	P	P	16 45 14.7	+0.1
CMAR	Chiang Mai Arr	56.66	297	LR	LR	17 11 57.5	
	comp=Z,11nm,19.0s,baz=250,slow=38						
TLY	Talaya	70.40	331	*e*P	P	16 47 45.7	+0.1
	6.2nm,0.7s						
ILAR	Eielson Array	84.40	22	P	P	16 49 02.2	-1.5
	0.5nm,0.7s,baz=249,slow=5.7,SNR=4.9						
NVAR	Mina Array Bea	94.70	52	P	P	16 49 54.9	+1.5
	0.9nm,0.7s,baz=252,slow=5.8,SNR=8.5						
GERES	GERESS Array B	124.25	327	PKP	PKPdf	16 55 30.5	0.0
	0.5nm,0.6s,baz=123,slow=3.6,SNR=5.5						
TORD	Torodi Ar. Bea	148.72	285	PKPbc	PKPbc	16 56 19.6	-0.3
	1.4nm,0.5s,baz=58,slow=2.3,SNR=18						

WEL 24 16:36:37.1±0.1, 40°.62S×175°.76E, h29km, ML3.6/37, 8C-4D, Error ellipse: s-maj=1.2km s-min=0.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRZ	Mangatainoka R	0.15	253	P*	Pb	16 36 42.5	-0.3
MRZ				S*	Sb	16 36 46.7	+0.1
MRZ				AML	AML	16 36 46.9	
PRWZ	Pori Road	0.17	68	⇓P*	Pb	16 36 42.7	-0.3
PRWZ				S*	Sb	16 36 47.6	+0.6
TIWZ	Tintock	0.18	150	⇑P*	Pb	16 36 43.2	0.0
TIWZ				S*	Sb	16 36 48.1	+0.8
TIWZ				AML	AML	16 36 48.3	
POWZ	Post Office Ro	0.23	1	P*	Pb	16 36 43.0	-0.6
HOWZ	Holdsworth Sta	0.34	214	P*	Pb	16 36 45.2	+0.1
BFZ	Birch Farm	0.37	100	P*	Pb	16 36 45.6	0.0
CPWZ	Castlepoint	0.44	131	P*	Pn	16 36 47.4	-0.1
DVHZ	Dannevirke	0.44	44	P*	Pb	16 36 46.1	-0.6
OGWZ	Otaki Gorge	0.49	246	P*	Pb	16 36 47.6	+0.1
TMWZ	Te Maipa	0.50	169	⇑P*	Pb	16 36 47.9	+0.3
ANWZ	Angora Road	0.56	74	⇑P*	Pb	16 36 48.6	0.0
MTW	Mount Morrison	0.57	200	P*	Pb	16 36 48.9	+0.1
MTW				AML	AML	16 36 59.4	
MTW				AML	AML	16 37 00.3	
TSZ	Takapari Road	0.58	15	⇑P*	Pb	16 36 48.1	-0.8
TSZ				AML	AML	16 36 56.4	
TSZ				AML	AML	16 36 56.4	
KIW	Kapiti Island	0.69	249	⇑P*	Pn	16 36 51.0	0.0
KIW				AML	AML	16 37 01.8	
KIW				AML	AML	16 37 02.2	
CAW	Cannon Point	0.72	227	⇓P*	Pb	16 36 51.3	+0.1
CAW				AML	AML	16 37 02.9	
CAW				AML	AML	16 37 04.9	
PRHZ	Porangahau	0.75	62	P*	Pb	16 36 51.1	-0.6
WPHZ	Waipukurau	0.76	43	P*	Pb	16 36 51.5	-0.3
PNHZ	Pukenui	0.78	25	P*	Pn	16 36 51.7	-0.6
TRWZ	Traveller	0.78	184	P*	Pn	16 36 52.1	-0.1
TRWZ				AML	AML	16 37 08.7	
TRWZ				AML	AML	16 37 08.7	
PAWZ	Paruwai Farm	0.80	198	P*	Pn	16 36 52.0	-0.5
PAWZ				AML	AML	16 37 06.9	
PAWZ				AML	AML	16 37 08.6	
MSWZ	Moikau Station	0.89	206	P*	Pn	16 36 53.1	-0.5
MSWZ				AML	AML	16 37 09.8	
MSWZ				AML	AML	16 37 10.1	
WEL	Wellington	1.01	228	P*	Pn	16 36 55.0	-0.2
WEL				AML	AML	16 37 10.4	
WEL				AML	AML	16 37 13.9	
PXZ	Pawanui	1.02	55	⇓P*	Pn	16 36 54.8	-0.7
PXZ				AML	AML	16 37 12.5	
PXZ				AML	AML	16 37 17.7	
PXZ				AML	AML	16 37 17.7	
PXZ				AML	AML	16 37 17.7	
PLWZ	Palliser	1.02	202	P*	Pn	16 36 54.7	-0.9
BHW	Baring Head	1.04	220	P*	Pn	16 36 55.3	-0.4
BHW				AML	AML	16 37 11.6	
BHW				AML	AML	16 37 13.6	
WAZ	Wanganui	1.05	325	⇑PN	Pb	16 36 57.3	+0.5
WAZ				AML	AML	16 37 13.2	
WAZ				AML	AML	16 37 14.2	
KRHZ	Kereru	1.08	26	PN	Pn	16 36 56.0	-0.3
BHHZ	Black Hill Sta	1.15	12	PN	Pn	16 36 57.3	-0.1
KAHZ	Kahuranaki	1.19	46	PN	Pn	16 36 57.2	-0.6
MOVZ	Moawhango	1.21	360	PN	Pn	16 36 58.4	+0.2
MOVZ				AML	AML	16 37 15.3	
MOVZ				AML	AML	16 37 16.0	
MTVZ	Mangateitei	1.25	350	PN	Pb	16 36 59.6	-0.6
MTVZ				AML	AML	16 37 17.8	
MTVZ				AML	AML	16 37 21.4	
TCW	Tory Channel	1.27	242	P*	Pn	16 36 58.7	-0.3
TCW				AML	AML	16 37 18.3	
TCW				AML	AML	16 37 18.5	
WNVZ	Wahianoa	1.30	354	PN	Pn	16 37 00.2	+0.7
KWHZ	Kaweka Forest	1.30	23	⇓PN	Pn	16 36 58.9	-0.5
WHVZ	Whangaehu Hut	1.34	354	PN	Pn	16 37 00.7	+0.4
DRZ	Dome Shelter	1.35	353	PN	Pn	16 37 01.0	+0.6
DRZ				AML	AML	16 37 20.6	
DRZ				AML	AML	16 37 21.0	
TUVZ	Tukino	1.35	356	PN	Pb	16 37 01.3	-0.7
TUVZ				AML	AML	16 37 20.7	
TUVZ				AML	AML	16 37 24.0	
PKVZ	Pokaka	1.37	346	PN	Pb	16 37 01.4	-0.8
PKVZ				AML	AML	16 37 23.4	
PKVZ				AML	AML	16 37 25.1	
FWWZ	Far West T-bar	1.37	353	PN	Pn	16 37 01.3	+0.7
FWVZ				AML	AML	16 37 20.1	
FWVZ				AML	AML	16 37 22.7	
MCHZ	McNeill Hill	1.38	32	PN	Pn	16 36 59.8	-0.6
DUWZ	D'Urville Isla	1.41	262	PN	Pn	16 37 01.1	+0.2
DUWZ				AML	AML	16 37 23.6	
DUWZ				AML	AML	16 37 25.6	
WPVZ	Whakapapa	1.42	353	PN	Pn	16 37 02.1	+0.9
WPVZ				AML	AML	16 37 26.0	
WPVZ				AML	AML	16 37 26.5	
COVZ	Chateau Observ	1.43	353	⇑PN	Pn	16 37 02.3	+1.0
NGZ	Ngauruhoe	1.45	355	PN	Pn	16 37 02.4	+0.9
NGZ				AML	AML	16 37 24.4	
NGZ				AML	AML	16 37 26.3	
OTVZ	Oturere	1.46	357	PN	Pn	16 37 02.5	+0.8
OTVZ				AML	AML	16 37 27.3	
OTVZ				AML	AML	16 37 28.2	
WTVZ	West Tongariro	1.51	355	PN	Pn	16 37 03.1	+0.8
WTVZ				AML	AML	16 37 29.7	
WTVZ				AML	AML	16 37 29.7	
KRVZ	Karewarewa	1.52	356	⇑PN	Pn	16 37 03.5	+0.9
KRVZ				AML	AML	16 37 28.6	
KRVZ				AML	AML	16 37 32.0	
BKZ	Black Stump Fm	1.56	21	PN	Pn	16 37 02.2	-0.8
BKZ				AML	AML	16 37 34.1	
BKZ				AML	AML	16 37 37.7	
TWVZ	Taurewa	1.57	351	PN	Pn	16 37 04.1	+1.0
TWVZ				AML	AML	16 37 25.8	
TWVZ				AML	AML	16 37 27.5	
TUWZ	Tuamarina	1.60	239	PN	Pn	16 37 02.6	-0.8
TUWZ				AML	AML	16 37 29.5	
TUWZ				AML	AML	16 37 34.2	
KATZ	Kakaramea	1.64	358	*e*PN	Pn	16 37 04.9	+0.7
KATZ				AML	AML	16 37 33.1	
KATZ				AML	AML	16 37 37.2	
VRZ	Vera Road	1.68	332	AML	AML	16 37 41.5	
VRZ				AML	AML	16 37 46.1	
NMHZ	Naumai	1.72	28	PN	Pn	16 37 04.5	-0.7
HATZ	Hinemaiaia	1.75	8	PN	Pn	16 37 05.2	-0.2
HATZ				AML	AML	16 37 34.6	
HATZ				AML	AML	16 37 36.0	
RATZ	Rangitukua	1.75	0	*e*PN	Pn	16 37 06.0	+0.4
RATZ				AML	AML	16 37 44.1	
RATZ				AML	AML	16 37 47.5	
BSWZ	Blackbirch Sta	1.80	232	PN	Pn	16 37 05.3	-0.9
BSWZ				AML	AML	16 37 42.0	
NNZ	Nelson	1.90	251	PN	Pn	16 37 07.4	-0.2
PKE	Pukeiti	1.97	316	AML	AML	16 37 38.5	
PKE				AML	AML	16 37 47.4	
RAHZ	Arahi	1.98	31	PN	Pn	16 37 07.6	-1.2
HIZ	Hauiti	2.22	341	AML	AML	16 37 50.2	
HIZ				AML	AML	16 37 51.1	
THZ	Tophouse	2.44	241	PN	Pn	16 37 13.9	-1.2
THZ				AML	AML	16 38 00.0	
THZ				AML	AML	16 38 02.2	
KHZ	Kahutara	2.45	222	PN	Pn	16 37 13.4	-1.8
QRZ	Quartz Range	2.47	264	*e*PN	Pn	16 37 13.0	-2.4
URZ	Urewera	2.58	24	PN	Pn	16 37 14.7	-2.2
MWZ	Matawai	2.66	31	PN	Pn	16 37 15.5	-2.6
DSZ	Denniston Nort	3.19	248	PN	Pn	16 37 22.8	-2.7
HAZ	Te Kaha	3.26	29	PN	Pn	16 37 24.6	-1.7
LTZ	Lake Taylor	3.39	229	PN	Pn	16 37 26.1	-2.1
OXZ	Oxford	3.88	225	*e*PN	Pn	16 37 31.6	-3.1
ODZ	Otahua Downs	5.81	219	PN	Pn	16 37 57.9	-3.4

*NIC **24** 16:39:04.3, 34°.28N×32°.61E, h16km, ML3.5*
*HLW **24** 16:39:05.1, 34°.64N×32°.79E, h9km±11km, Ml2.7*
*ISCJB **24** 16:39:06.2±0.9, 34°.35N±0°.04×32°.64E±0°.08, h7km±7km, Error ellipse: s-maj=11.0km s-min=5.5km az=14.6*
*CSEM **24** 16:39:06.8±0.2, 34°.40N×32°.65E, h2km, ML3.5, Error ellipse: s-maj=7.0km s-min=3.4km az=97.0*
*ISK **24** 16:39:06.1, 34°.31N×32°.85E, h5km, MD3.3*

ISC 24 16:39:06.4±1.6, 34°.40N±0°.03×32°.72E±0°.05, h2km±13km, n33, σ0§89/46, 4D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SZAC	Souni-Zanaja	0.38	21	⇓P	Pb	16 39 14.6	-1.3
	baz=205						
SZAC				S	Sb	16 39 23.4	+1.1
SZAC	Souni-Zanaja	0.38	21	⇓P	Pb	16 39 14.6	-1.3
SZAC				S	Sb	16 39 23.4	+1.1
PPCY	Paphos	0.57	328	P	Pg	16 39 17.5	+0.2
	baz=162						
PPCY	Paphos	0.57	328	P	Pg	16 39 17.5	+0.2
AKMC	Akamas	0.70	333	P	Pg	16 39 19.5	-0.3
	baz=162						
AKMC	Akamas	0.70	333	P	Pg	16 39 19.5	-0.3
LEF	Lefka	0.73	11	*e*PG	Pb	16 39 22.2	+0.3
LEF				*e*SG	Sn	16 39 34.9	-0.7
LEF	Lefka	0.73	11	*e*Pg	Pb	16 39 22.2	+0.3
LEF				*e*Sg	Sn	16 39 34.9	-0.7
CSS	Prodhromos	0.76	42	P	Pb	16 39 21.8	-0.5
	baz=221						
CSS				S	Sn	16 39 34.1	-2.1
CSS	Prodhromos	0.76	42	*e*PG	Pb	16 39 22.0	-0.3
CSS				*e*SG	Sb	16 39 33.5	+0.4
CSS	Prodhromos	0.76	42	P	Pb	16 39 21.8	-0.5
CSS	Prodhromos	0.76	42	*e*Pg	Pb	16 39 22.0	-0.3
CSS				*e*Sg	Sb	16 39 33.5	+0.4
CSS				S	Sn	16 39 34.1	-2.1
ALFC	Alevga	0.76	353	⇓P	Pg	16 39 20.9	-0.1
	baz=179						
ALFC				S	Sb	16 39 33.2	-0.1
ALFC	Alevga	0.76	353	⇓P	Pg	16 39 20.9	-0.1
MAMC	Mammari	0.87	28	P	Pg	16 39 22.9	-0.2
	baz=209						
MAMC	Mammari	0.87	28	P	Pg	16 39 22.9	-0.2
LFK	Lefkose	1.11	37	*e*PN	Pn	16 39 28.9	-0.1
LFK				*e*SN	Sn	16 39 45.3	+0.4
LFK	Lefkose	1.11	37	*e*Pn	Pn	16 39 28.9	-0.1
LFK				*e*Sn	Sn	16 39 45.3	+0.4
EREN	Erenkoy	1.64	46	*e*PN	Pb	16 39 37.1	-0.2
EREN	Erenkoy	1.64	46	*e*Pn	Pb	16 39 37.2	-0.2
HDMB	Hadim	2.57	356	*e*PN	Pb	16 39 51.9	-1.4
KARA	Karaisali	3.43	33	*e*PN	Pn	16 40 02.9	+2.0
KARA	Karaisali	3.43	33	*e*Pn	Pn	16 40 02.9	+2.0
RSH		3.53	166	P	Pn	16 40 02.8	+0.5
	baz=167						
RSH		3.53	166	P	Pn	16 40 02.8	+0.5
AMAG	Maghara	3.77	174	P	Pn	16 40 05.9	+0.3
	baz=174						
AMAG	Maghara	3.77	174	P	Pn	16 40 05.9	+0.3
SUZ		4.55	179	P	Pn	16 40 17.2	+1.0
	baz=179						
SUZ		4.55	179	P	Pn	16 40 17.2	+1.0
HNKL	Nakhl	4.58	166	P	Pn	16 40 17.3	+0.5
	baz=167						
HNKL				S	Sn	16 41 10.0	-0.6
	baz=167						
HNKL	Nakhl	4.58	166	P	Pn	16 40 17.3	+0.5
HNKL				S	Sn	16 41 10.0	-0.6
TR2		6.06	172	P	Pn	16 40 37.9	+0.9
	baz=172						
TR2		6.06	172	P	Pn	16 40 37.9	+0.9

*LJU **24** 16:46:03.5, 46°.65N×15°.33E, h14km, ML2.9*
*VIE **24** 16:46:03.5±0.1, 46°.66N×15°.35E, h9km±1km, mb2.5/8, ML3.0/8, Error ellipse: s-maj=1.1km s-min=1.0km az=160.0*
*CSEM **24** 16:46:03.5±0.1, 46°.68N×15°.37E, h2km, ML3.7/16, Error ellipse: s-maj=2.1km s-min=1.9km az=121.0*
*ROM **24** 16:46:03.7±0.4, 46°.66N×15°.43E, h10km, Md2.9/7, Ml2.8/7, Error ellipse: s-maj=8.1km s-min=2.2km az=126.0*
*PRU **24** 16:46:05.5, 46°.71N×15°.31E, h0km*
*BGR **24** 16:46:06.3±0.6, 46°.74N×15°.28E, h10km, ML3.0/9, Error ellipse: s-maj=11.1km s-min=6.7km az=119.0*
BGR Partly strongly felt. Few buildings with fissures in the plastering.
*BEO **24** 16:46:06.2±0.6, 46°.81N×15°.66E, h18km±8km, ML2.8/7*

ISC 24 16:46:03.3±0.8, 46°.67N±0°.01×15°.37E±0°.01, h12km±5km, n195, σ1§19/283, 30C-39D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BISS	Bistriski jare	0.17	261	⇑*i*Pg	Pg	16 46 07.5	+0.4
BISS				*i* Sg	Sg	16 46 09.6	-0.2
	comp=Z,14μm,0.1s						
BISS	Bistriski jare	0.17	261	⇑*i*Pg	Pg	16 46 07.5	+0.4
BISS				*i* Sg	Sg	16 46 09.6	-0.2
	comp=Z,14μm,0.1s						
PERS	Pernice	0.18	258	⇑*i*Pg	Pg	16 46 07.7	+0.4
PERS				*i* Sg	Sg	16 46 09.8	-0.2
	comp=Z,4μm,0.1s						
PERS	Pernice	0.18	258	⇑*i*Pg	Pg	16 46 07.7	+0.4
PERS				*i* Sg	Sg	16 46 09.9	-0.2
	comp=Z,4μm,0.1s						
SOKA	Soboth	0.23	271	Pg	Pg	16 46 08.6	+0.4
	comp=Z,50nm,0.0s,SNR=383						
SOKA				Sg	Sg	16 46 11.4	-0.2
	comp=Z,376nm,0.0s						
SOKA	Soboth	0.23	271	⇑*i*Pg	Pg	16 46 08.6	+0.4
	comp=Z,50nm,0.0s,SNR=383						
SOKA				⇑*i*Sg	Sg	16 46 11.4	-0.2
	comp=Z,376nm,0.0s						
GROS	Grobnik	0.23	156	⇑*i*Pg	Pg	16 46 08.6	+0.3
GROS				*i* Sg	Sg	16 46 11.3	-0.3
	comp=Z,1μm,0.1s						
GROS	Grobnik	0.23	156	⇑*i*Pg	Pg	16 46 08.6	+0.3
GROS				*i* Sg	Sg	16 46 11.3	-0.3
	comp=Z,1μm,0.1s						
DOBS	Dobrina	0.53	172	⇓*i*Pg	Pg	16 46 14.2	+0.5
DOBS				*i* Sg	Sg	16 46 20.8	+0.1
	comp=Z,323nm,0.1s						
DOBS	Dobrina	0.53	172	⇓*i*Pg	Pg	16 46 14.2	+0.5
DOBS				*i* Sg	Sg	16 46 20.8	+0.1
	comp=Z,323nm,0.1s						
ARSA	Arzberg	0.59	10	*e*Pg	Pb	16 46 15.7	+0.1
ARSA				*e*Sg	Sg	16 46 22.5	-0.1
ARSA	Arzberg	0.59	10	*e*Pg	Pb	16 46 15.6	0.0
ARSA				*e*Sg	Sg	16 46 23.0	+0.4
ARSA	Arzberg	0.59	10	⇓*i*Pg	Pb	16 46 15.7	0.0
ARSA				Sg	Sg	16 46 23.4	+0.8
ARSA	Arzberg	0.59	10	Pg	Pb	16 46 15.6	0.0
	comp=Z,105nm,0.1s,SNR=509						
ARSA				Sg	Sg	16 46 22.5	-0.1
ARSA	Arzberg	0.59	10	⇓*i*Pg	Pb	16 46 15.6	0.0
	comp=Z,105nm,0.1s,SNR=509						
ARSA				⇓*i*Sg	Sb	16 46 23.6	-0.3
	comp=Z,110nm,0.1s						
OBKA	Obir	0.59	254

	comp=Z,679nm,0.5s								
CRNS	**Crni Vrh**	**0.97**	**233**	⇓*i*	Pg		**Pg**	16 46 21.8	**-0.2**
BEHE	**Becsehely**	**0.99**	**101**	⇑*e*	Pn		**Pn**	16 46 24.0	**+0.9**
BEHE					*e*Sn		**Sn**	16 46 38.1	**+1.0**
BEHE	**Becsehely**	**0.99**	**101**	⇑*e*	Sg		**Pn**	16 46 24.0	**+0.9**
BEHE					*e*Sn		**Sn**	16 46 38.1	**+1.0**
GORS	**Gorjuse**	**1.01**	**250**	*i*	Pg		**Pg**	16 46 22.8	**-0.1**
GORS	**Gorjuse**	**1.01**	**250**	*i*	Pg		**Pg**	16 46 22.8	**-0.1**
CEY	**Cerknica**	**1.14**	**215**	*i*	Pg		**Pb**	16 46 25.0	**0.0**
CEY	**Cerknica**	**1.14**	**215**	*i*	Pg		**Pb**	16 46 25.0	**0.0**
BOJS	**Bojanci**	**1.17**	**184**	*i*	Pg		**Pb**	16 46 25.7	**+0.1**
BOJS					*i* Sg		**Sn**	16 46 41.5	**0.0**
	comp=Z,89nm,0.2s								
BOJS	**Bojanci**	**1.17**	**184**	*i*	Pg		**Pb**	16 46 25.7	**+0.1**
BOJS					*i* Sg		**Sn**	16 46 41.5	**0.0**
	comp=Z,89nm,0.2s								
MYKA	**Terra Mystica**	**1.19**	**268**		Pg		**Pb**	16 46 25.7	**-0.2**
	comp=Z,6.8nm,0.1s,SNR=10								
MYKA					Sg		**Sn**	16 46 42.1	**0.0**
	comp=Z,21nm,0.1s								
MYKA	**Terra Mystica**	**1.19**	**268**	⇓*e*	Pg		**Pb**	16 46 25.7	**-0.2**
	comp=Z,6.8nm,0.1s,SNR=10								
MYKA				⇑*i*	Sg		**Sn**	16 46 42.1	**0.0**
	comp=Z,21nm,0.1s								
GBRS	**Gornja Briga**	**1.21**	**199**	*i*	Pg		**Pb**	16 46 26.4	**+0.2**
CADS	**Cadrg**	**1.21**	**249**	*i*	Pg		**Pn**	16 46 26.1	**-0.1**
	comp=Z,33nm,0.2s								
CADS	**Cadrg**	**1.21**	**249**	*i*	Pg		**Pn**	16 46 26.1	**-0.1**
	comp=Z,33nm,0.2s								
VOJS	**Vojsko**	**1.21**	**239**	*i*	Pg		**Pn**	16 46 26.0	**-0.2**
VOJS	**Vojsko**	**1.21**	**239**	*i*	Pg		**Pn**	16 46 26.0	**-0.2**
ACOM	**Acomizza, Ital**	**1.28**	**265**	⇑*e*	Pg		**Pb**	16 46 27.7	**+0.1**
ACOM					*e*Sg		**Sg**	16 46 45.2	**+0.5**
ACOM	**Acomizza, Ital**	**1.28**	**265**		Pn		**Pb**	16 46 27.7	**+0.1**
	comp=Z,265nm,0.7s								
ACOM	**Acomizza, Ital**	**1.28**	**265**	*e*	P		**Pb**	16 46 27.7	**+0.1**
ACOM					*e*Sg		**Sg**	16 46 45.2	**+0.5**
DRE	**Drenchia**	**1.29**	**248**	⇓*e*	Pg		**Pb**	16 46 27.6	**0.0**
DRE					*e*Sg		**Sg**	16 46 45.6	**+0.6**
DRE	**Drenchia**	**1.29**	**248**	*e*	P		**Pb**	16 46 27.6	**0.0**
SOP	**Sopron**	**1.30**	**38**	⇓*e*	Pn		**Pg**	16 46 28.8	**+0.6**
SOP					*e*Sn		**Sg**	16 46 46.3	**+1.2**
SOP	**Sopron**	**1.30**	**38**	⇓*e*	Pn		**Pg**	16 46 28.8	**+0.6**
SOP					*e*Sn		**Sg**	16 46 46.3	**+1.2**
CONA	**Conrad Observa**	**1.30**	**15**		Pg		**Pg**	16 46 29.0	**+0.7**
	comp=Z,37nm,0.4s,SNR=80								
CONA	**Conrad Observa**	**1.30**	**15**	⇑*e*	Pg		**Pg**	16 46 29.0	**+0.7**
	comp=Z,37nm,0.4s,SNR=80								
KNDS	**Knezji Dol**	**1.34**	**211**	*i*	Pg		**Pg**	16 46 29.4	**+0.4**
KNDS	**Knezji Dol**	**1.34**	**211**	*i*	Pg		**Pg**	16 46 29.4	**+0.4**
SISC	**Sisak**	**1.39**	**149**	*e*	Pn		**Pg**	16 46 31.5	**+1.4**
SISC					Sg		**Sg**	16 46 50.2	**+2.1**
SISC	**Sisak**	**1.39**	**149**	*e*	Pn		**Pg**	16 46 31.4	**+1.4**
SISC					Sg		**Sg**	16 46 50.2	**+2.1**
MOA	**Molln**	**1.39**	**328**	*e*	Pg		**Pg**	16 46 31.0	**+0.8**
MOA					*e*Sg		**Sg**	16 46 50.8	**+2.6**
MOA	**Molln**	**1.39**	**328**	*e*	Pg		**Pg**	16 46 30.9	**+0.8**
MOA					*e*Sg		**Sg**	16 46 51.1	**+2.9**
MOA	**Molln**	**1.39**	**328**		Pg		**Pg**	16 46 30.6	**+0.5**
	comp=Z,6.8nm,0.1s,SNR=26								
MOA					Sg		**Sg**	16 46 50.5	**+2.2**
	comp=Z,56nm,0.4s								
MOA	**Molln**	**1.39**	**328**	⇑*i*	Pg		**Pg**	16 46 30.6	**+0.5**
	comp=Z,6.8nm,0.1s,SNR=26								
MOA				⇑*i*	Sg		**Sg**	16 46 50.5	**+2.2**
	comp=Z,56nm,0.4s								
SABO	**M.te Sabotino**	**1.41**	**241**	⇓*e*	Pg		**Pn**	16 46 28.8	**-0.1**
SABO					*e*Sg		**Sg**	16 46 48.9	**+0.3**
SABO	**M.te Sabotino**	**1.41**	**241**		Pn		**Pb**	16 46 29.5	**-0.1**
	comp=Z,446nm,0.6s								
SABO	**M.te Sabotino**	**1.41**	**241**	*e*	P		**Pn**	16 46 28.8	**-0.1**
SABO	**M.te Sabotino**	**1.41**	**241**		Pn		**Pb**	16 46 29.5	**-0.1**
	comp=Z,446nm,0.6s								
SABO					*e*Sg		**Sg**	16 46 48.9	**+0.3**
PTCC	**Patocco-Chiusa**	**1.42**	**260**		Pn		**Pb**	16 46 29.9	**+0.2**
PTCC					Sn		**Sg**	16 46 49.7	**+0.8**
	comp=Z,98nm,0.7s								
PTCC	**Patocco-Chiusa**	**1.42**	**260**		Pn		**Pb**	16 46 29.9	**+0.2**
PTCC					Sn		**Sg**	16 46 49.7	**+0.8**
	comp=Z,98nm,0.7s								
KBA	**Koelnbreinsper**	**1.45**	**287**	*e*	Pg		**Pg**	16 46 32.2	**+1.1**
KBA					*e*Sg		**Sg**	16 46 50.1	**+0.2**
KBA	**Koelnbreinsper**	**1.45**	**287**		Pg		**Pg**	16 46 31.1	**0.0**
	comp=Z,15nm,0.3s								
KBA					Sn		**Sb**	16 46 49.4	**+0.7**
KBA					Sg		**Sg**	16 46 50.1	**+0.2**
KBA	**Koelnbreinsper**	**1.45**	**287**	⇑*e*	Pg		**Pg**	16 46 31.1	**0.0**
	comp=Z,15nm,0.3s								
KBA				⇓*i*	Sn		**Sb**	16 46 49.4	**+0.7**
KBA				⇓*i*	Sg		**Sg**	16 46 51.4	**+1.5**
	comp=Z,31nm,0.3s								
SKDS	**Skadanscina**	**1.47**	**220**	*i*	Pg		**Pn**	16 46 30.2	**+0.5**
	comp=Z,53nm,0.2s								
SKDS	**Skadanscina**	**1.47**	**220**	*i*	Pg		**Pn**	16 46 30.2	**+0.5**
	comp=Z,53nm,0.2s								
TRI	**Trieste**	**1.47**	**230**	*e*	Pg		**Pb**	16 46 30.5	**-0.2**
TRI					*e*Sg		**Sg**	16 46 51.5	**+0.8**
TRI	**Trieste**	**1.47**	**230**		Pn		**Pb**	16 46 30.5	**-0.2**
	comp=Z,155nm,1.0s								
TRI	**Trieste**	**1.47**	**230**	*e*	P		**Pb**	16 46 30.5	**-0.2**
TRI					*e*Sg		**Sg**	16 46 51.5	**+0.8**
COLI	**Coloredo**	**1.48**	**249**	⇓*e*	Pg		**Pb**	16 46 31.0	**+0.2**
COLI	**Coloredo**	**1.48**	**249**	⇓*e*	Pg		**Pb**	16 46 31.0	**+0.2**
VINO	**Villanova**	**1.50**	**255**	⇓*e*	Pg		**Pb**	16 46 31.5	**+0.3**
VINO					*e*Sg		**Sg**	16 46 52.8	**+1.2**
VINO	**Villanova**	**1.50**	**255**		Pn		**Pb**	16 46 31.3	**+0.1**
	comp=Z,96nm,0.9s								
VINO	**Villanova**	**1.50**	**255**		Pn		**Pb**	16 46 31.3	**+0.1**
	comp=Z,96nm,0.9s								
BAD	**Bernadia**	**1.53**	**254**	⇓*e*	Pg		**Pb**	16 46 31.9	**+0.2**
BAD					*e*Sg		**Sg**	16 46 53.3	**+0.7**
BAD	**Bernadia**	**1.53**	**254**	*e*	P		**Pb**	16 46 31.9	**+0.2**
PLRO	**Paularo**	**1.53**	**266**	⇑*e*	Pg		**Pb**	16 46 32.4	**+0.6**
PLRO					*e*Sg		**Sg**	16 46 52.8	**+0.1**
PLRO	**Paularo**	**1.53**	**266**	*e*	P		**Pb**	16 46 32.4	**+0.6**
PLRO					*e*Sg		**Sg**	16 46 52.8	**+0.1**
GEPF	**Gemona**	**1.59**	**256**		Pn		**Pg**	16 46 33.9	**+0.1**
	comp=Z,90nm,0.7s								
GEPF	**Gemona**	**1.59**	**256**		Pn		**Pg**	16 46 33.9	**+0.1**
	comp=Z,90nm,0.7s								
FUSE	**Fusea**	**1.65**	**262**	*e*	Pg		**Pg**	16 46 34.6	**-0.5**
FUSE	**Fusea**	**1.65**	**262**	*e*	Pg		**Pg**	16 46 34.6	**-0.5**
ZOU	**Zoufplan**	**1.65**	**267**	⇑*e*	Pg		**Pb**	16 46 34.6	**+0.7**
FVI	**Forni Avoltri**	**1.78**	**268**		Pn		**Pb**	16 46 36.4	**+0.4**
	comp=Z,55nm,0.6s								
FVI	**Forni Avoltri**	**1.78**	**268**		Pn		**Pb**	16 46 36.4	**+0.4**
	comp=Z,55nm,0.6s								
PKST	**T"s**	**1.92**	**71**	⇓*e*	Pn		**Pn**	16 46 36.9	**+1.0**
PKST					*e*Sn		**Sb**	16 47 01.9	**-0.3**
PKST	**T"s**	**1.92**	**71**	⇓*e*	Pn		**Pn**	16 46 36.9	**+1.0**
PKST					*e*Sn		**Sb**	16 47 01.9	**-0.3**
ABTA	**Abfaltersbach**	**1.96**	**273**		Pg		**Pg**	16 46 40.6	**-0.4**
	comp=Z,18nm,0.5s								
ABTA	**Abfaltersbach**	**1.96**	**273**	⇑*i*	Pg		**Pg**	16 46 40.6	**-0.4**
	comp=Z,18nm,0.5s								
PKS9	**Tamasi**	**2.01**	**91**	*e*	Sn		**Sg**	16 47 10.4	**+2.5**
CIMO	**Cimolais**	**2.05**	**261**	⇑*e*	Pn		**Pb**	16 46 39.8	**-0.8**
CIMO					*e*Sn		**Sb**	16 47 06.1	**0.0**
CIMO	**Cimolais**	**2.05**	**261**	*e*	P		**Pb**	16 46 39.8	**-0.8**
NVLJ	**Novalja**	**2.14**	**190**	*e*	Pn		**Pb**	16 46 40.8	**-1.2**
NVLJ					Sn		**Sb**	16 47 07.8	**-0.8**
NVLJ	**Novalja**	**2.14**	**190**	*e*	Pn		**Pb**	16 46 40.8	**-1.2**
NVLJ					Sn		**Sb**	16 47 07.7	**-0.8**
UDBI	**Udbina**	**2.17**	**172**	*e*	Pn		**Pn**	16 46 40.6	**+1.2**
UDBI					Sn		**Sn**	16 47 06.4	**+0.3**
UDBI	**Udbina**	**2.17**	**172**	*e*	Pn		**Pn**	16 46 40.5	**+1.2**
UDBI					Sn		**Sn**	16 47 06.4	**+0.3**
PKSG		**2.19**	**70**	⇓*e*	Pn		**Pb**	16 46 42.3	**-0.6**
PKSG					*e*Sn		**Sn**	16 47 07.9	**+1.3**
PKSG		**2.19**	**70**	⇓*e*	Pn		**Pb**	16 46 42.3	**-0.6**
PKSG					*e*Sn		**Sn**	16 47 07.9	**+1.3**
BLY	**Banja Luka**	**2.31**	**146**	*e*	Pn		**Pb**	16 46 43.9	**-1.0**
BLY	**Banja Luka**	**2.31**	**146**	*e*	Pn		**Pb**	16 46 43.9	**-1.0**
PKSM	**Moragy**	**2.31**	**100**	*e*	Pn		**Pn**	16 46 41.1	**-0.1**
PKSM	**Moragy**	**2.31**	**100**	⇓*i*	P		**Pn**	16 46 40.7	**-0.5**
PKSM	**Moragy**	**2.31**	**100**		S		**Sn**	16 47 07.6	**-2.0**
PKSM	**Moragy**	**2.31**	**100**	⇓*i*	P		**Pn**	16 46 40.7	**-0.5**
PKSM	**Moragy**	**2.31**	**100**	*e*	Pn		**Pn**	16 46 41.1	**-0.1**
PKSM					*e*Sn		**Sn**	16 47 09.2	**-0.4**
PKSM	**Moragy**	**2.31**	**100**	⇓*e*	Pn		**Pn**	16 46 41.4	**+0.2**
PKSM					*e*Sn		**Sn**	16 47 09.2	**-0.4**
GEC2	**GERESS Array S**	**2.44**	**333**	*e*	Pn		**Pb**	16 46 45.9	**-1.4**
GEC2					*e*Sg		**Sb**	16 47 19.8	**+2.3**
GEC2	**GERESS Array S**	**2.44**	**333**		Pn		**Pb**	16 46 45.9	**-1.4**
GEC2					Sg		**Sb**	16 47 19.8	**+2.3**
CGRP	**Cima Grappa**	**2.60**	**253**	*e*	Pn		**Pb**	16 46 48.4	**-1.6**
CGRP	**Cima Grappa**	**2.60**	**253**	*e*	Pn		**Pb**	16 46 48.4	**-1.6**
WTTA	**Wattenberg**	**2.62**	**284**	*e*	Pn		**Pb**	16 46 49.6	**-0.8**
WTTA	**Wattenberg**	**2.62**	**284**		Pn		**Pb**	16 46 49.6	**-0.8**
PKS2	**Kecel**	**2.66**	**93**	*e*	Sn		**Sn**	16 47 18.5	**+0.3**
PKS2	**Kecel**	**2.66**	**93**	*e*	Sn		**Sn**	16 47 18.5	**+0.3**
KHC	**Kasperske Hory**	**2.74**	**335**	*e*	Pn		**Pn**	16 46 49.6	**+2.4**
KHC					*e*PG		**Pg**	16 46 54.8	**-1.0**
KHC					*e*SG		**Sg**	16 47 30.6	**-0.6**
	comp=Z,22nm,0.6s								
KHC	**Kasperske Hory**	**2.74**	**335**		Pn		**Pn**	16 46 49.6	**+2.4**
KOSI	**Kohlern**	**2.76**	**267**	*e*	Pn		**Pb**	16 46 52.1	**-0.6**
VRAC	**Vranov**	**2.76**	**17**	⇓*i*	P		**Pb**	16 46 50.8	**-1.9**
VRAC	**Vranov**	**2.76**	**17**	*e*	Pn		**Pn**	16 46 50.2	**+2.7**
VRAC	**Vranov**	**2.76**	**17**	⇓*i*	P		**Pb**	16 46 50.8	**-1.9**
VRAC	**Vranov**	**2.76**	**17**	*e*	Pg		**Pg**	16 46 54.8	**-1.4**
VRAC					*e*Sg		**Sg**	16 47 31.3	**-0.7**
ABSI	**Aberstueckl**	**2.79**	**273**	*e*	Pn		**Pn**	16 46 50.6	**+2.7**
VYHS	**Vyhne**	**2.97**	**51**	*e*	Pn		**Pn**	16 46 51.1	**+0.7**
VYHS	**Vyhne**	**2.97**	**51**	*e*	Pn		**Pn**	16 46 51.0	**+0.7**
VYHS					*e*SN		**Sn**	16 47 20.9	**-5.0**
WET	**Wettzell**	**2.98**	**327**	*e*	Pn		**Pn**	16 46 53.2	**+2.6**
WET	**Wettzell**	**2.98**	**327**		Pn		**Pn**	16 46 53.2	**+2.6**
GOPC	**GO Pecny, Ondr**	**3.27**	**353**	*e*	PN		**Pn**	16 46 57.4	**+3.0**
GOPC					*e*PG		**Pb**	16 47 03.4	**+2.2**
GOPC					*e*SG		**Sg**	16 47 47.5	**-0.7**
	comp=Z,23nm,0.5s								
GOPC	**GO Pecny, Ondr**	**3.27**	**353**		Pn		**Pn**	16 46 57.4	**+3.0**
PSZ	**Piszkesteto**	**3.32**	**66**	⇑*i*	P		**Pn**	16 46 56.6	**+1.4**
PSZ	**Piszkesteto**	**3.32**	**66**	⇑*i*	P		**Pn**	16 46 56.6	**+1.4**
PSZ	**Piszkesteto**	**3.32**	**66**	*e*	Pn		**Pn**	16 46 57.1	**+1.9**
PSZ					*e*Sn		**Sn**	16 47 35.4	**+0.7**
PSZ	**Piszkesteto**	**3.32**	**66**	*e*	Pn		**Pn**	16 46 57.1	**+1.9**
PSZ					*e*Sn		**Sn**	16 47 35.4	**+0.7**
PRU	**Pruhonice**	**3.36**	**351**	*e*	PN		**Pn**	16 46 58.2	**+2.5**
PRU					*e*PG		**Pg**	16 47 06.1	**-1.6**
PRU					*e*SG		**Sg**	16 47 50.9	**-0.4**
	comp=Z,18nm,0.6s								
PRU	**Pruhonice**	**3.36**	**351**		Pn		**Pn**	16 46 58.2	**+2.5**
PRU	**Pruhonice**	**3.36**	**351**		Pg		**Pg**	16 47 06.1	**-1.6**
PRU					Sg		**Sg**	16 47 50.9	**-0.4**
	comp=Z,18nm,0.6s								
MORC	**Moravsky Berou**	**3.43**	**24**	⇑*i*	P		**Pn**	16 46 59.1	**+2.4**
MORC	**Moravsky Berou**	**3.43**	**24**	*e*	Pn		**Pn**	16 46 58.7	**+2.0**
MORC	**Moravsky Berou**	**3.43**	**24**	⇑*i*	P		**Pn**	16 46 59.1	**+2.4**
PRA	**Prague**	**3.46**	**350**	*e*	SG		**Sg**	16 47 53.9	**-0.3**
	comp=Z,43nm,0.6s								
PRA	**Prague**	**3.46**	**350**		Sg		**Sg**	16 47 53.9	**-0.3**
	comp=Z,43nm,0.6s								
TEKS	**Tekeris**	**3.61**	**125**	*e*	Pn		**Pn**	16 47 00.4	**+1.2**
TEKS					*e*Sn		**Sn**	16 47 40.4	**-1.3**
TEKS	**Tekeris**	**3.61**	**125**	*e*	Pn		**Pn**	16 47 00.4	**+1.2**
TEKS					*e*Sn		**Sn**	16 47 40.4	**-1.3**
DPC	**Dobruska-Polom**	**3.73**	**9**	*e*	SG		**Sg**	16 48 02.6	**-0.6**
	comp=Z,17nm,0.6s								
DPC	**Dobruska-Polom**	**3.73**	**9**		Sg		**Sg**	16 48 02.6	**-0.6**
	comp=Z,17nm,0.6s								
ROTZ	**Rotzenmuhle**	**3.75**	**327**	*e*	Pg		**Pg**	16 47 14.9	**-0.2**
ROTZ	**Rotzenmuhle**	**3.75**	**327**		Pg		**Pg**	16 47 14.9	**-0.2**
KECS	**Kecovo**	**3.91**	**61**	*e*	Pn		**Pn**	16 47 04.0	**+0.8**
KECS					*e*Sn		**Sn**	16 47 48.6	**-0.4**
KECS	**Kecovo**	**3.91**	**61**	*e*	PN		**Pn**	16 47 04.0	**+0.8**
KECS					*e*SN		**Sn**	16 47 48.6	**-0.4**
BBLS	**Lazići**	**4.00**	**133**	*e*	Pn		**Pn**	16 47 05.8	**+1.2**
BBLS	**Lazići**	**4.00**	**133**	*e*	Pn		**Pn**	16 47 05.8	**+1.2**
NKC	**Novy Kostel**	**4.06**	**332**	*e*	Sg		**Sg**	16 48 12.9	**-0.6**
NKC	**Novy Kostel**	**4.06**	**332**	*e*	SG		**Sg**	16 48 12.2	**-1.3**
	comp=Z,25nm,0.5s								
NKC	**Novy Kostel**	**4.06**	**332**		Sg		**Sg**	16 48 12.9	**-0.6**
STON	**Ston**	**4.15**	**156**	*e*	Pn		**Pn**	16 47 09.3	**+2.8**
STON	**Ston**	**4.15**	**156**	*e*	Pn		**Pn**	16 47 09.3	**+2.8**
DIVS	**Divibare**	**4.15**	**127**	*e*	Pn		**Pn**	16 47 07.2	**+0.5**
DIVS	**Divibare**	**4.15**	**127**	⇑*i*	P		Pn	16 47 00.0	-6.7
DIVS	**Divibare**	**4.15**	**127**	*e*	Pn		**Pn**	16 47 07.2	**+0.5**
TANN	**Tannenbergstha**	**4.21**	**334**	*e*	Sg		**Sg**	16 48 16.3	**-2.2**
TANN	**Tannenbergstha**	**4.21**	**334**		Sg		**Sg**	16 48 16.3	**-2.2**
TRIB	**Obertriebel**	**4.26**	**331**	*e*	Sg		**Sg**	16 48 17.3	**-2.8**
TRIB	**Obertriebel**	**4.26**	**331**		Sg		**Sg**	16 48 17.3	**-2.8**
BRG	**Berggiesshubel**	**4.31**	**348**		PN		**Pb**	16 47 19.2	**+0.2**
BRG					SG		**Sg**	16 48 17.1	**-4.4**
	comp=Z,26nm,0.9s								
SIRR	**Siria**	**4.37**	**93**	⇓*i*	P		Pn	16 47 06.1	-3.4
SIRR	**Siria**	**4.37**	**93**	⇓*i*	P		Pn	16 47 06.1	-3.4
BZS	**Buzias**	**4.47**	**101**	*e*	Pn		**Pn**	16 47 11.3	**+0.4**
BZS	**Buzias**	**4.47**	**101**	⇑*i*	P		**Pn**	16 47 08.0	**-2.9**
BZS	**Buzias**	**4.47**	**101**	⇑*i*	P		**Pn**	16 47 08.0	**-2.9**
BZS	**Buzias**	**4.47**	**101**	*e*	Pn		**Pn**	16 47 11.3	**+0.4**
GRUS	**Gruza**	**4.69**	**124**	*e*	Pn		**Pn**	16 47 14.7	**+0.7**
GRUS	**Gruza**	**4.69**	**124**	*e*	Pn		**Pn**	16 47 14.7	**+0.7**
CLL	**Collm**	**4.89**	**342**	*e*	Pn		**Pn**	16 47 18.0	**+1.3**
CLL					*e*Sb		**Sb**	16 48 25.0	**-2.7**
CLL					*e*Sg		**Sg**	16 48 41.0	**+0.7**
	comp=Z,28nm,0.7s								
DRGR		**5.05**	**86**	⇑*i*	P		**Pn**	16 47 16.9	**-2.1**
DRGR		**5.05**	**86**	⇑*i*	P		**Pn**	16 47 16.9	**-2.1**
SELS	**Selova**	**5.35**	**128**	*e*	Pn		**Pn**	16 47 23.8	**+0.8**
BARS	**Barje**	**6.00**	**128**	*e*	Pn		**Pn**	16 47 32.2	**+0.3**
BARS					*e*Sn		**Sn**	16 48 37.3	**-3.2**
BARS	**Barje**	**6.00**	**128**	*e*	Pn		**Pn**	16 47 32.2	**+0.3**
MLR	**Muntele Rosu**	**7.45**	**95**	⇑*i*	P		**Pn**	16 47 49.4	**-2.6**

IDC 24 16:48:31.9±3.1, 5°68.5S×150°29.9E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/30, mbtmp3.5/3, ML1.0/1, Error ellipse: s-maj=125.6km s-min=35.1km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.83**	**220**	Pn	Pn	16 49 46.8	+0.9
	0.5nm,0.3s,baz=27,slow=2.3,SNR=3.2						
PMG				Sn	Sn	16 50 43.4	+0.8
	0.6nm,0.3s,baz=57,slow=20,SNR=1.3						
WRA	**Warramunga Arr**	**21.01**	**226**	P	P	16 53 17.9	+0.6
	0.9nm,0.5s,baz=52,slow=10,SNR=9.8						
ASAR	**Alice Springs**	**23.85**	**220**	P	P	16 53 46.1	-1.0
	0.5nm,0.4s,baz=53,slow=9.3,SNR=37						
TORD	**Torodi Ar. Bea**	**148.16**	**286**	PKPbc	PKPbc	17 08 20.5	-0.4
	0.3nm,0.7s,baz=55,slow=4.0,SNR=2.6						

IDC 24 16:50:47.1±1.0, 3°78N×126°29E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.8/37, mbtmp4.0/7, ML3.7/1, MS3.0/6, Ms1 3.0/6, ms1mx2.8/39, Error ellipse: s-maj=54.3km s-min=15.7km az=73.0
NEIC 24 16:50:51.9±0.7, 3°67N×126°06E, h35km, mb4.1/1, Error ellipse: s-maj=20.3km s-min=10.5km az=78.0
ISCJB 24 16:50:52.6±0.5, 3°76N±0°07×126°5E±0°1, h53km, mb3.9/7, MS3.0/5, Error ellipse: s-maj=18.5km s-min=6.4km az=156.7

ISC 24 16:50:55.2±0.8, 3°64N±0°09×126°4E±0°2, h53km, n27, σ1°37/20, mb3.9/7, MS3.1/5, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**3.02**	**161**	Pn	**Pn**	16 51 38.6	**-1.9**
TNTI				*e*Sn	**Sn**	16 52 14.9	**-0.6**
CTBH	**Cotabato--PC H**	**4.14**	**329**	⇓*i* P	**Pn**	16 51 56.9	**+1.0**
LUWI	**Luwuk**	**5.88**	**218**	P	Pn	16 52 28.7	+8.9
	baz=5.6,SNR=8.5						
LUWI	**Luwuk**	**5.88**	**218**	*e* Pn	Pn	16 52 14.0	-5.9
	67nm,0.8s						
SIJI	**Sorong**	**6.63**	**132**	Pn	**Pn**	16 52 29.0	**-1.1**
	1.5nm,0.3s,baz=345,slow=16,SNR=3.6						
SIJI					**Sn**	16 53 44.6	**+0.3**
	0.7nm,0.3s,baz=121,slow=22,SNR=6.3						
FAKI	**Fak Fak**	**8.77**	**138**	P	**Pn**	16 53 00.9	**+1.4**
	baz=7.8,SNR=3.4						
KAPI	**Kappang**	**10.85**	**218**	LR	LR	16 58 00.1	
	comp=Z,52nm,20.3s,baz=69,slow=40						
KDU	**Kakadu**	**17.32**	**160**	P	**P**	16 54 55.1	**+1.0**
	baz=16,SNR=3.6						
KNRA	**Kununurra**	**19.34**	**173**	P	**P**	16 55 17.7	**+1.4**
	baz=18,SNR=6.1						
GUMO	**Guam**	**20.76**	**60**	LR	LR	17 02 11.6	
	comp=Z,29nm,21.5s,baz=238,slow=33						
LEM	**Lembang**	**21.42**	**241**	LR	LR	17 05 08.3	
	comp=Z,79nm,18.6s,baz=121,slow=40						
WRAB	**Tennant Creek**	**24.70**	**162**	*e*P	**P**	16 56 10.4	**-1.1**
	2.9nm,0.5s						
WRA	**Warramunga Arr**	**24.71**	**162**	P	**P**	16 56 11.1	**-0.4**
	2.7nm,0.7s,baz=342,slow=10,SNR=26						
PSI	**Prapat**	**27.42**	**269**	LR	LR	17 08 32.8	
	comp=Z,68nm,19.0s,baz=240,slow=39						
AS31	**Alice Springs**	**28.11**	**165**	*e*P	**P**	16 56 42.1	**-0.2**
ASAR	**Alice Springs**	**28.12**	**165**	P	**P**	16 56 42.2	**-0.1**
	0.8nm,0.6s,baz=343,slow=6.8,SNR=28						
WRKA	**Warakurna**	**28.57**	**176**	P	**P**	16 56 46.9	**+0.6**
	baz=28,SNR=4.8						
KSAR	**Wonju Array Be**	**33.67**	**2**	P	**P**	16 57 28.7	**-2.3**
KSRS	**Korea Array**	**33.68**	**2**	P	**P**	16 57 28.7	**-2.4**
	1.4nm,0.6s,baz=181,slow=9.8,SNR=14						
MJAR	**Matsushiro Arr**	**34.51**	**17**	LR	LR	17 09 24.7	
	comp=Z,12nm,21.4s,baz=205,slow=32						
STKA	**Stephens Creek**	**38.17**	**159**	P	**P**	16 58 10.2	**+0.5**
	6.1nm,0.7s,baz=333,slow=8.8,SNR=18						
HTT	**Hallett**	**38.73**	**163**	P	**P**	16 58 15.2	**+0.8**
	baz=38,SNR=3.3						
**

IDC 24 17:08:54.6±3.1, 6°09'S×150°55'E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.2/33, mbtmp3.4/3, ML1.5/1, Error ellipse: s-maj=129.3km s-min=36.6km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
PMG	**Port Moresby**	**4.71**	**225**	Pn		Pn	17	10 08.8	+1.9
	1.4nm,0.3s,baz=13,slow=6.7,SNR=6.7								
PMG				Sn		Sn	17	11 01.0	-1.3
	2.5nm,0.3s,baz=152,slow=22,SNR=5.7								
WRA	**Warramunga Arr**	**20.92**	**227**	P		P	17	13 38.2	-0.9
	0.7nm,0.4s,baz=53,slow=11,SNR=14								
ASAR	**Alice Springs**	**23.70**	**221**	P		P	17	14 08.8	+0.4
	0.3nm,0.5s,baz=58,slow=10,SNR=4.1								
TORD	**Torodi Ar. Bea**	**148.53**	**285**	PKPbc		PKPbc	17	28 43.9	-0.7
	0.4nm,0.8s,baz=94,slow=2.5,SNR=2.5								

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*MOS **24** 17:13:23.6±1.0, 60°.39N×177°.58W, h13km, mb5.0/48, MS4.5/20, Error ellipse: s-maj=8.6km s-min=6.1km az=93.7*

*IDC **24** 17:13:23.8±0.5, 60°.39N×177°.64W, h0km, mb4.4/38, mb1 4.5/41, mb1mx4.5/61, mbtmp4.4/41, ML4.0/3, MS4.5/37, Ms1 4.5/37, ms1mx4.4/49, Error ellipse: s-maj=13.5km s-min=7.6km az=171.0*

*GCMT **24** 17:13:24.9±0.2, 60°.38N×177°.48W, h12km±1km, MW5.2/92, Moment Tensor Solution. s34,c39; s92,c148; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.69±.19; $M_{\theta\theta}$6.66±.23; $M_{\phi\phi}$-5.97±.22; $M_{r\theta}$-2.00±.59; $M_{r\phi}$-1.08±.17; $M_{\theta\phi}$-2.85±.69; Best double couple: $M_0$7.31200×10^{16} NP1:ϕs318.00000°, δ63.00000°, λ-152.00000°. NP2: ϕs52.00000°, δ83.00000°, λ-8.00000°. Principal axes: T 7.1790, Plg14.0000°, Azm182.0000°; N 0.2710, Plg61.0000°, Azm65.0000°; P -7.4450, Plg25.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **24** 17:13:24.6, 60°.53N×178°.20W, h11km, mb5.0/59, mB5.0/38, Ms5.2/54, Ms7 4.8/52*

*NEIC **24** 17:13:24.9±0.2, 60°.31N×177°.55W, h10km, mb4.6/72, ML5.0(AEIC), Error ellipse: s-maj=5.1km s-min=3.3km az=175.0*

*ISCJB **24** 17:13:24.7±0.1, 60°.50N±0°.04×177°.90W±0°.03, h10km, mb4.6/127, MS4.6/51, Error ellipse: s-maj=5.5km s-min=2.1km az=178.3*

ISC 24 17:13:26.2±0.3, 60°.37N±0°.03×177°.71W±0°.01, h12km±1km, h12km:pP-P,n500,σ1s72/436, mb4.6/127, MS4.7/52, 8C-19D, Bering Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
SPIA	**Saint Paul Isl**	**5.03**	**126**	P		Pn	17	14 36.4	-4.9
TNA	**Tin City**	**6.85**	**36**	P		Pn	17	15 01.8	-4.5
ANM	**Nome**	**7.09**	**48**	PN		Pn	17	15 04.8	-4.8
ANM	**Nome**	**7.09**	**48**	P		Pn	17	15 04.8	-4.8
GSTR	**Great Sitkin T**	**8.35**	**173**	*e*Pn		Pn	17	15 22.7	-4.2
ATKA	**Atka Island**	**8.42**	**165**	P		Pn	17	15 24.2	-3.6
CEAP	**Semis' Anvil P**	**8.52**	**191**	P		**Pn**	**17**	**15 28.5**	**-0.8**
CESW	**Semis' Southwe**	**8.63**	**191**	P		**Pn**	**17**	**15 29.7**	**-0.9**
OKWE	**Okmok W'ng Wal**	**8.63**	**139**	P		Pn	17	15 26.1	-4.6
LSPA	**Little Sitkin**	**8.69**	**195**	P		**Pn**	**17**	**15 30.4**	**-1.1**
MSW	**Makushin Switc**	**8.78**	**133**	P		Pn	17	15 27.7	-5.1
NIKH	**Nikolski High**	**8.87**	**143**	P		Pn	17	15 29.4	-4.6
SMY	**Shemya**	**8.89**	**214**	*e*PN		Pn	17	15 28.9	-5.4
SMY	**Shemya**	**8.89**	**214**	*e*Pn		Pn	17	15 28.9	-5.4
UNV	**Unalaska Valle**	**8.93**	**132**	P		Pn	17	15 29.1	-5.8
AKUT	**Akutan**	**8.98**	**129**	*e*Pn		Pn	17	15 32.2	-3.4
AMKA	**Amchitka**	**9.17**	**192**	*e*Pn		**Pn**	**17**	**15 37.2**	**-0.9**
FALS	**False Pass**	**9.44**	**120**	*e*Pn		**Pn**	**17**	**15 39.0**	**-2.8**
SDPT	**Sand Point**	**10.45**	**111**	*e*Pn		Pn	17	15 52.3	-3.4
SVW2	**Sparrevohn**	**10.85**	**77**	*e*Pn		**Pn**	**17**	**15 59.6**	**-1.5**
CHGN	**Chignik**	**10.91**	**103**	*e*Pn		Pn	17	15 57.5	-4.5
IM04	**Indian Mountai**	**12.12**	**52**	*e*Pn		Pn	17	16 15.2	-3.3
RSO	**Redoubt South**	**12.31**	**79**	*e*Pn		**Pn**	**17**	**16 18.4**	**-2.8**
PPLA	**Purkeypile**	**12.36**	**67**	*e*Pn		Pn	17	16 16.8	-5.1
CAST	**Castle Rocks**	**12.42**	**65**	*e*Pn		Pn	17	16 18.4	-4.2
BPAW	**Bear Paw Mtn.**	**12.95**	**62**	*e*Pn		**Pn**	**17**	**16 26.9**	**-2.9**
OHAK	**Old Harbor**	**13.02**	**93**	*e*Pn		**Pn**	**17**	**16 27.6**	**-3.0**
KDAK	**Kodiak Island**	**13.15**	**90**	Pn		**Pn**	**17**	**16 32.6**	**+0.2**
	0.6nm,0.3s,baz=295,slow=10,SNR=5.2								
KDAK				Sn		**Sn**	**17**	**18 55.7**	**-2.7**
	0.1nm,0.3s,baz=305,slow=12,SNR=1.5								
KDAK				Lg		Lg	17	20 14.9	
	0.0nm,0.3s,baz=315,slow=20,SNR=2.3								
KDAK				LR		LR	17	21 59.2	
	comp=Z,8μm,19.4s,baz=292,slow=39								
MLY	**Manley**	**13.16**	**58**	*e*Pn		Pn	17	16 28.6	-4.0
TRF	**Thorofare Moun**	**13.23**	**65**	*e*Pn		Pn	17	16 29.6	-4.2
RC01	**Rabbit Creek A**	**13.66**	**75**	Pn		**Pn**	**17**	**16 40.0**	**+0.5**
MCK	**McKinley**	**13.84**	**64**	*e*P		**Pn**	**17**	**16 40.6**	**-1.3**
MCK	**McKinley**	**13.84**	**64**	*e*Pn		**Pn**	**17**	**16 40.5**	**-1.3**
COLD	**Coldfoot**	**13.85**	**49**	*e*Pn		**Pn**	**17**	**16 41.9**	**-0.1**
PMR	**Palmer**	**13.88**	**73**	*e*P		**Pn**	**17**	**16 41.6**	**-0.7**
PMR	**Palmer**	**13.88**	**73**	*e*Pn		**Pn**	**17**	**16 41.6**	**-0.7**
RND	**Reindeer**	**13.88**	**65**	*e*P		**Pn**	**17**	**16 42.1**	**-0.3**
RND	**Reindeer**	**13.88**	**65**	*e*Pn		**Pn**	**17**	**16 42.1**	**-0.3**
MDM	**Murphy Dome**	**14.21**	**59**	*e*Pn		**Pn**	**17**	**16 44.6**	**-2.4**
SML	**Sawmill**	**14.22**	**71**	*e*P		**Pn**	**17**	**16 44.4**	**-2.8**
SML	**Sawmill**	**14.22**	**71**	*e*Pn		**Pn**	**17**	**16 44.4**	**-2.8**
WRH	**Wood River Hil**	**14.24**	**61**	*e*Pn		**Pn**	**17**	**16 47.7**	**+0.4**
COLA	**College**	**14.37**	**59**	*e*P		**Pn**	**17**	**16 46.8**	**-2.3**
COLA	**College**	**14.37**	**59**	*e*Pn		**Pn**	**17**	**16 46.8**	**-2.3**
SEY	**Seymchan**	**14.37**	**293**	Pn		**Pn**	**17**	**16 49.4**	**+0.3**
	0.6nm,0.3s,baz=96,slow=11,SNR=36								
SEY	**Seymchan**	**14.37**	**293**	*c* i P		**Pn**	**17**	**16 49.9**	**+0.8**
CCB	**Clear Creek Bu**	**14.37**	**60**	*e*Pn		**Pn**	**17**	**16 48.0**	**-1.1**
SCM	**Sheep Creek Mo**	**14.69**	**71**	*e*P		**Pn**	**17**	**16 56.1**	**+2.5**
SCM	**Sheep Creek Mo**	**14.69**	**71**	*e*Pn		**Pn**	**17**	**16 56.1**	**+2.5**
HDA	**Harding Lake**	**14.73**	**61**	*e*Pn		**Pn**	**17**	**16 54.1**	**+0.1**
ILAR	**Eielson Array**	**14.77**	**59**	Pn		**Pn**	**17**	**16 52.4**	**-2.2**
	0.3nm,0.3s,baz=251,slow=11,SNR=33								
ILAR				Lg		Lg	17	21 16.6	
	0.0nm,0.3s,baz=25,slow=11,SNR=2.8								
ILAR				LR		LR	17	23 14.5	
	comp=Z,2μm,18.5s,baz=268,slow=40								
PET	**Petropavlovsk**	**14.86**	**251**	*d* i P		**Pn**	**17**	**16 55.4**	**-0.4**
PET				*e*S		**Sn**	**17**	**19 39.6**	**-0.5**
PET				pmax		pmax			
	comp=Z,700nm,4.6s								
PET				pmax		pmax			
	comp=Z,100nm,11.8s								
PET				pmax		pmax			
	comp=Z,82nm,0.7s								
PET				MLR		MLR			
	comp=Z,1μm,17.0s								
PET				MLR		MLR			
	comp=Z,1μm,18.0s								
PET	**Petropavlovsk**	**14.86**	**251**	*e*Pn		**Pn**	**17**	**16 57.6**	**+1.8**
PEA0B	**Petropavlovsk-**	**15.26**	**252**	*e*Pn		**P**	**17**	**17 03.5**	**-2.5**
PETK	**Petropavlovsk-**	**15.26**	**252**	Pn		**Pn**	**17**	**17 02.0**	**+0.8**
	comp=Z,3.5nm,0.3s,baz=76,slow=15,SNR=43								
PETK				Sn		**S**	**17**	**19 59.8**	**-6.7**
	comp=Z,0.1nm,0.3s,baz=35,slow=23,SNR=3.3								
PETK				LR		LR	17	23 31.0	
	comp=Z,534nm,18.2s,baz=57,slow=40								
KLU	**Klutina**	**15.41**	**72**	*e*Pn		**Pn**	**17**	**17 05.0**	**+1.8**
	comp=Z,32nm,1.0s								
DIV	**Divide**	**15.55**	**73**	*e*Pn		**Pn**	**17**	**17 03.3**	**-1.7**
MA2	**Magadan**	**15.72**	**281**	*e*P		**P**	**17**	**17 09.4**	**-1.8**
BMRM	**Bremner River**	**16.14**	**73**	*e*Pn		**Pn**	**17**	**17 12.2**	**-0.3**
	comp=Z,64nm,1.0s								
MENT	**Mentasta**	**16.23**	**66**	*e*Pn		**P**	**17**	**17 17.5**	**+0.7**
RAGM	**Ragged Mountai**	**16.24**	**76**	*e*Pn		**Pn**	**17**	**17 14.7**	**+0.8**
	comp=Z,66nm,1.0s								
EGAK	**Eagle**	**17.23**	**60**	*e*P		**Pn**	**17**	**17 23.7**	**-2.6**
	comp=Z,24nm,0.9s								
SKR	**Severo-Kuril's**	**17.59**	**248**	*e*P		**Pn**	**17**	**17 27.0**	**-3.8**
SKR				*e*S		**Sn**	**17**	**20 44.0**	**-2.3**
SKR				pmax		pmax			
	comp=Z,40nm,0.6s								
SKR				pmax		pmax			
	comp=Z,1μm,8.0s								
SKR				pmax		pmax			
	comp=N,900nm,6.0s								
SKR				pmax		pmax			
	comp=E,900nm,6.0s								
SKR				smax		smax			
	comp=N,1μm,10.0s								
SKR				smax		smax			
	comp=E,900nm,10.0s								
SKR				MLR		MLR			
	comp=N,1μm,18.0s								
SKR				MLR		MLR			
	comp=E,1μm,18.0s								
SKR				MLR		MLR			
	comp=Z,2μm,18.0s								
DAWY	**Dawson**	**18.04**	**62**	*e*Pn		**Pn**	**17**	**17 32.8**	**-3.7**
	comp=Z,45nm,1.1s								
HYT	**Haines Junctio**	**19.53**	**71**	*e*P		**P**	**17**	**17 52.7**	**-0.6**
INK	**Inuvik**	**20.27**	**48**	P		**P**	**17**	**17 58.1**	**-3.0**
	comp=Z,9.9nm,0.6s,baz=266,slow=13,SNR=15								
INK				S		**S**	**17**	**21 49.1**	**+1.3**
	comp=Z,0.9nm,0.4s,baz=209,slow=9.2,SNR=2.1								
INK				LR		LR	17	25 49.2	
	comp=Z,1μm,19.2s,baz=254,slow=37								
INK	**Inuvik**	**20.27**	**48**	P		**P**	**17**	**17 58.1**	**-3.0**
INK				S		**S**	**17**	**21 49.1**	**+1.3**
INK				pmax		pmax			
	comp=Z,10.0nm,0.6s								
INK				smax		smax			
	comp=N,1.0nm,0.4s								
INK				MLR		MLR			
	comp=Z,1μm,19.2s								
INK	**Inuvik**	**20.27**	**48**	*e*P		**P**	**17**	**17 58.8**	**-2.2**
	comp=Z,56nm,1.0s								
INK				S		**S**	**17**	**21 49.1**	**+1.3**
SKAG	**Skagway**	**21.00**	**74**	*e*P		**P**	**17**	**18 07.6**	**-1.5**
	comp=Z,38nm,1.0s								
NKL	**Nikolayevsk**	**23.58**	**271**	*e*P		**P**	**17**	**18 33.0**	**-3.3**
NKL				*e*S		**S**	**17**	**22 52.0**	**+2.1**
NKL				pmax		pmax			
	comp=Z,70nm,1.2s								
NKL				pmax		pmax			
	comp=Z,500nm,8.0s								
NKL				smax		smax			
	comp=E,1μm,13.0s								
DLBC	**Dease Lake**	**23.93**	**73**	P		**P**	**17**	**18 39.6**	**-0.2**
	comp=E,6.4nm,0.8s,baz=285,slow=13,SNR=8.3								
DLBC				LR		LR	17	29 00.6	
	comp=E,4μm,18.6s,baz=301,slow=39								
DLBC	**Dease Lake**	**23.93**	**73**	*e*P		**P**	**17**	**18 38.7**	**-1.1**
	comp=E,18nm,1.1s								
TYV	**Tymovskoe**	**23.96**	**264**	*e*P		P	17	18 35.0	-5.0
TYV				pmax		pmax			
	comp=Z,1μm,4.0s								
TYV				MLR		MLR			
	comp=E,2μm,16.0s								
TYV				MLR		MLR			
	comp=Z,2μm,16.0s								
YAK	**Yakutsk**	**24.83**	**297**	P		**P**	**17**	**18 47.0**	**-0.8**
	comp=Z,4.0nm,0.5s,baz=256,slow=23,SNR=50								
YAK				S		**S**	**17**	**23 13.8**	**+4.0**
	comp=Z,0.5nm,0.4s,baz=120,slow=20,SNR=1.6								
YAK				LR		LR	17	29 45.1	
	comp=Z,3μm,19.0s,baz=82,slow=40								
YAK	**Yakutsk**	**24.83**	**297**	*d* i P		**P**	**17**	**18 46.8**	**-1.0**
YAK				*e**PP		**pP**	**17**	**18 54.3**	**+2.7**
YAK				*e*			17	19 22.7	
YAK				*e*PPP		PPP	17	19 32.7	
YAK				*e*S		**S**	**17**	**23 13.4**	**+3.6**
YAK				pmax		pmax			
	comp=Z,208nm,1.3s								
YAK				pmax		pmax			
	comp=E,187nm,1.4s								
YAK				pmax		pmax			
	comp=N,19nm,1.4s								
YAK				pmax		pmax			
	comp=Z,66nm,1.1s								
YAK				pmax		pmax			
	comp=E,52nm,1.3s								
YAK				pmax		pmax			
	comp=N,49nm,1.3s								
YAK				smax		smax			
	comp=N,265nm,2.5s								
YAK				smax		smax			
	comp=E,630nm,3.1s								
YAK				MLR		MLR			
	comp=Z,3μm,17.0s								
YAK				MLR		MLR			
	comp=E,2μm,15.0s								
YAK				MLR		MLR			
	comp=N,2μm,14.0s								
YAK	**Yakutsk**	**24.83**	**297**	*e*P		**P**	**17**	**18 46.5**	**-1.2**
	comp=N,225nm,1.1s								
YAK				S		**S**	**17**	**23 13.8**	**+4.0**
KUR	**Kuril'sk**	**25.35**	**249**	*d* i P		**P**	**17**	**18 53.5**	**+0.8**
KUR				*i* S		**S**	**17**	**23 21.8**	**+3.4**
KUR				pmax		pmax			
	comp=Z,118nm,1.4s								
KUR				MLR		MLR			
	comp=Z,650nm,20.0s								
YSS	**Yuzh-Sakhalins**	**26.53**	**258**	*e*P		**P**	**17**	**19 07.0**	**+3.7**
YSS				*e*S		**S**	**17**	**23 37.0**	**0.0**
YSS				MLR		MLR			
	comp=Z,1μm,18.0s								
YSS				MLR		MLR			
	comp=N,3μm,16.0s								
YSS				MLR		MLR			
	comp=E,2μm,16.0s								
YUK	**Yuzh-Kuril'sk**	**27.20**	**250**	*c* i P		**P**	**17**	**19 08.2**	**-1.1**
YUK				*i* S		**S**	**17**	**23 48.0**	**+0.5**
YUK				pmax		pmax			
	comp=Z,91nm,1.4s								
YUK				pmax		pmax			
	comp=Z,131nm,2.2s								
YUK				MLR		MLR			
	comp=N,434nm,19.0s								
YUK				MLR		MLR			
	comp=E,597nm,19.0s								
YUK				MLR		MLR			
	comp=Z,682nm,19.0s								
BBB	**Bella Bella**	**28.10**	**84**	LR		LR	17	30 05.3	
	comp=Z,3μm,18.2s,baz=326,slow=36								
ASAJ	**Asahikawa**	**28.67**	**254**	P		**P**	**17**	**19 21.7**	**-0.8**
	comp=Z,4.0nm,0.8s,baz=20,slow=6.5,SNR=5.5								
ASAJ				LR		LR	17	30 05.7	
	comp=Z,878nm,19.6s,baz=50,slow=35								
ASAJ	**Asahikawa**	**28.67**	**254**	P		**P**	**17**	**19 21.7**	**-0.8**
ASAJ				pmax		pmax			
	comp=Z,4.0nm,0.8s								
ASAJ				MLR		MLR			
	comp=Z,879nm,19.6s								
YKA	**Yellowknife Ar**	**29.19**	**58**	P		**P**	**17**	**19 26.7**	**-0.3**
	comp=Z,3.3nm,0.9s,baz=294,slow=8.0,SNR=2.9								
HABR	**Khabarovsk**	**29.28**	**268**	*de*P		**P**	**17**	**19 27.1**	**-0.8**
HABR				*e**PP		**pP**	**17**	**19 33.1**	**+1.4**
HABR				*e**SP		**sP**	**17**	**19 35.8**	**+2.6**
HABR				*e*			17	20 21.2	
HABR				*e*			17	22 32.3	
HABR				*e*S		**S**	**17**	**24 20.8**	**+0.5**
HABR				*e**SS		**sS**	**17**	**24 31.0**	**+4.5**
HABR				*e*SS		**SnSn**	**17**	**25 49.8**	**+4.3**
HABR				*e*			17	26 13.0	
HABR				*e*			17	30 07.5	
HABR				pmax		pmax			
	comp=Z,83nm,2.0s								
HABR				pmax		pmax			
	comp=N,26nm,2.0s								
HABR				pmax		pmax			
	comp=E,14nm,1.0s								
HABR				MLR		MLR			
	comp=N,1μm,17.0s								
HABR				MLR		MLR			
	comp=E,1μm,17.0s								
HABR				MLR		MLR			
	comp=Z,1μm,17.0s								
ERM	**Erimo**	**30.01**	**250**	P		**P**	**17**	**19 31.6**	**-2.8**
ERM				pmax		pmax			
	comp=Z,26nm,1.0s								
ERM	**Erimo**	**30.01**	**250**	P		**P**	**17**	**19 31.6**	**-2.8**
	comp=Z,26nm,1.0s								
KLR	**Kul'dur**	**30.42**	**272**	*e*P		P	17	19 33.8	-4.2
KLR				*e*			17	19 34.0	
KLR				*e*S		**S**	**17**	**24 39.5**	**+1.3**
KLR				*e*			17	26 40.5	
RES	**Resolute Bay**	**31.45**	**30**	LR		LR	17	34 22.5	
	comp=Z,423nm,18.7s,baz=274,slow=40								
BOD	**Bodaibo**	**33.75**	**297**	*e*P		P	17	20 03.5	-3.6
BOD				pmax		pmax			
	comp=Z,40nm,0.8s								
USRK	**Ussuriysk Ar.**	**33.78**	**264**	P		**P**	**17**	**20 05.4**	**-2.1**
	comp=Z,1.2nm,0.7s,baz=56,slow=8.5,SNR=7.8								
USRK				LR		LR	17	33 15.6	
	comp=Z,776nm,21.8s,baz=47,slow=35								
EDM	**Edmonton**	**34.64**	**72**	*e*P		**P**	**17**	**20 12.8**	**-2.1**
EDM				pmax		pmax			
	comp=Z,19nm,0.8s								
EDM	**Edmonton**	**34.64**	**72**	*e*P		**P**	**17**	**20 12.8**	**-2.1**
	comp=Z,19nm,0.8s								
MDJ	**Mudanjiang**	**34.67**	**267**	P		**P**	**17**	**20 13.6**	**-1.6**
MDJ				pP		**pP**	**17**	**20 16.0**	**-3.0**
MDJ				S		**S**	**17**	**25 42.8**	**-1.5**
MDJ				ScP		**ScP**	**17**	**26 33.4**	**-0.2**
MDJ				ScS		**ScS**	**17**	**30 35.5**	**-1.1**
MDJ				PMZ					
	comp=Z,4.0nm,0.9s								
MDJ				PMZ					
	comp=Z,15nm,2.8s								
MDJ				LN					
	comp=Z,1μm,20.6s								
MDJ				LE					
	comp=Z,600nm,20.6s								
MDJ				LZ					
	comp=Z,1μm,16.1s								
MDJ	**Mudanjiang**	**34.67**	**267**	P		**P**	**17**	**20 13.3**	**-1.9**
B08A	**Colville Reser**	**34.88**	**83**	*e*P		P	17	20 13.4	-3.6
D08A	**Wollman Farm,**	**35.97**	**85**	*e*P		**P**	**17**	**20 26.7**	**+0.3**
	comp=Z,105nm,2.5s								
NEW	**Newport**	**36.03**	**82**	*e*P		P	17	20 29.8	+2.9
NEW				pmax		pmax			
	comp=Z,11nm,1.3s								
NEW	**Newport**	**36.03**	**82**	P		P	17	20 30.4	+3.4
	baz=36,SNR=6.0								
NEW	**Newport**	**36.03**	**82**	*e*P		P	17	20 29.8	+2.9
	comp=Z,11nm,1.3s								
HIA	**Hailar**	**36.32**	**281**	*e*P		**P**	**17**	**20 27.2**	**-2.2**
HIA				pmax		pmax			
	comp=Z,16nm,0.8s								
HIA	**Hailar**	**36.32**	**281**	*e*P		**P**	**17**	**20 27.2**	**-2.2**
	comp=Z,16nm,0.8s								
MAJO	**Matsushiro**	**36.69**	**250**	*e*P		**P**	**17**	**20 32.7**	**+0.1**
MAJO				pmax		pmax			
	comp=Z,21nm,0.7s								
MAJO	**Matsushiro**	**36.69**	**250**	*e*P		**P**	**17**	**20 32.7**	**+0.1**
	comp=Z,21nm,0.7s								
MAT	**Matsushiro**	**36.69**	**250**	P		**P**	**17**	**20 32.9**	**+0.3**
MAT				S		**S**	**17**	**26 20.4**	**+4.9**
MJAR	**Matsushiro Arr**	**36.69**	**250**	P		**P**	**17**	**20 32.7**	**+0.1**
	comp=Z,4.3nm,0.8s,baz=16,slow=7.7,SNR=19								
MJAR				LR		LR	17	35 47.1	
	comp=Z,437nm,19.9s,baz=40,slow=37								
E09A	**Wood Farm, Sta**	**36.73**	**85**	*e*P		P	17	20 36.5	+3.6
	comp=Z,19nm,1.4s								
WALA	**Waterton Lakes**	**37.06**	**78**	*e*P		**P**	**17**	**20 34.7**	**-1.2**
	comp=Z,9.1nm,0.8s								
CN2	**Changchun**	**37.31**	**270**	*e*P		**P**	**17**	**20 37.1**	**-0.7**
CN2				*es*P		**sP**	**17**	**20 45.4**	**+2.2**
CN2				*e*S		**S**	**17**	**26 22.4**	**-2.5**
CN2				PMZ					
	comp=Z,30nm,1.0s								
CN2				PMZ					
	comp=Z,200nm,5.0s								
CN2				LN					
	comp=Z,1μm,21.0s								
CN2				LE					
	comp=Z,900nm,21.0s								
CN2				LZ					
	comp=Z,300nm,19.0s								
BSMT	**Bassoo Peak**	**37.46**	**80**	*e*P		**P**	**17**	**20 37.8**	**-1.5**
BLMT	**Blacktail Moun**	**37.56**	**80**	*e*P		**P**	**17**	**20 39.0**	**-1.1**
F10A	**Beach Ranch, E**	**37.56**	**85**	*e*P		**P**	**17**	**20 39.5**	**-0.5**
	comp=Z,9.9nm,1.0s								
JTMT	**Jette**	**37.78**	**80**	*e*P		**P**	**17**	**20 41.7**	**-0.2**
YBMT	**Yellow Bay**	**37.83**	**80**	*e*P		**P**	**17**	**20 44.6**	**+2.3**
YBH	**Yreka Blue Hor**	**37.92**	**94**	*e*P		P	17	20 45.8	+2.6
YBH				pmax		pmax			
	comp=Z,10.0nm,1.0s								
YBH	**Yreka Blue Hor**	**37.92**	**94**	*e*P		P	17	20 45.8	+2.6
	comp=Z,9.9nm,1.0s								
SWMT	**Swartz Lake**	**38.08**	**80**	*e*P		**P**	**17**	**20 42.5**	**-2.0**
K05A	**Summer Lake**	**38.09**	**91**	*e*P		P	17	20 47.3	+2.6
	comp=Z,17nm,1.1s								
SLMT	**Seeley Lake**	**38.51**	**80**	*e*P		**P**	**17**	**20 49.1**	**+1.0**
MSO	**Missoula**	**38.58**	**81**	P		P	17	20 51.4	+2.8
	baz=38								
MSO	**Missoula**	**38.58**	**81**	*e*P		**P**	**17**	**20 47.7**	**-1.0**
	comp=Z,27nm,1.8s								
JHJ	**Hachijo jima 2**	**38.80**	**245**	LR		LR	17	38 54.4	
	comp=Z,86nm,18.9s,baz=348,slow=39								
CHMT	**Chamberlain Mo**	**38.86**	**80**	*e*P		**P**	**17**	**20 49.1**	**-2.0**
FFC	**Flin Flon**	**38.93**	**63**	*e*P		**P**	**17**	**20 52.2**	**+0.8**
FFC				pmax		pmax			
	comp=Z,14nm,1.3s								
FFC	**Flin Flon**	**38.93**	**63**	*e*P		**P**	**17**	**20 52.2**	**+0.8**
	comp=Z,14nm,1.3s								
MOD	**Modoc**	**38.99**	**92**	P		**P**	**17**	**20 51.8**	**-0.5**
	comp=Z,6.2nm,0.9s								
WVOR	**Wild Horse Val**	**39.42**	**90**	*e*P		**P**	**17**	**20 54.2**	**-1.6**
WVOR				pmax		pmax			
	comp=Z,12nm,1.4s								
WVOR	**Wild Horse Val**	**39.42**	**90**	*e*P		**P**	**17**	**20 54.2**	**-1.6**
	comp=Z,12nm,1.4s								
HRY	**Holter Researc**	**39.70**	**79**	*e*P		**P**	**17**	**20 57.6**	**-0.4**
FCC	**Fort Churchill**	**39.70**	**54**	*e*P		**P**	**17**	**20 58.2**	**+0.5**
FCC				pmax		pmax			
	comp=Z,25nm,1.4s								
FCC	**Fort Churchill**	**39.70**	**54**	*e*P		**P**	**17**	**20 58.2**	**+0.5**
	comp=Z,25nm,1.4s		

TLY MLR MLR
comp=Z,26nm,1.1s
TLY comp=Z,982nm,15.0s **Talaya** 42.27 295 *e*P **P** 17 21 19.1 +0.1
comp=Z,44nm,1.4s
A25A Svangstu Ranch 42.31 71 P P 17 21 22.8 +3.4
baz=42
ELK Elko 42.38 88 *e*P **P** 17 21 18.8 -1.5
ELK pmax pmax
comp=Z,5.0nm,0.9s
ELK Elko 42.38 88 *e*P **P** 17 21 18.8 -1.5
comp=Z,4.7nm,0.9s
LAO LASA Array 42.43 75 P P 17 21 23.9 +3.5
baz=42
LAO LASA Array 42.43 75 *e*P **P** 17 21 20.4 -0.1
comp=Z,10.0nm,1.1s
TPAW Teton Pass 42.45 82 P **P** 17 21 19.0 -1.9
comp=Z,9.4nm,0.7s
DAG Danmarks Havn 42.47 7 *i* P **P** 17 21 20.6 +0.3
comp=Z,11nm,0.9s
DAG Danmarks Havn 42.47 7 *i* P **P** 17 21 20.6 +0.3
DAG pmax pmax
comp=Z,9.0nm,0.9s
G20A Bridger 42.53 78 P P 17 21 24.5 +3.2
baz=42
H19A Powell 42.55 79 P P 17 21 25.2 +3.7
baz=42
REDW Red Top Meadow 42.59 82 *e*P **P** 17 21 22.1 +0.1
comp=Z,13nm,1.0s
NVAR Mina Array Bea 42.62 93 P **P** 17 21 21.8 -0.5
comp=Z,2.9nm,0.9s,baz=302,slow=6.7,SNR=14
C24A Savage 42.69 73 P P 17 21 25.5 +3.0
baz=42
E22A Miles City 42.74 75 P P 17 21 26.8 +3.8
baz=42,SNR=6.6
A26A Wade Farm, Ken 42.85 70 P P 17 21 27.1 +3.4
baz=43
JNU Nakatsue 42.94 254 P **P** 17 21 25.3 +0.6
comp=Z,11nm,1.0s,baz=7.1,slow=8.1,SNR=3.4
JNU LR LR 17 38 34.6
comp=Z,381nm,20.3s,baz=56,slow=35
JNU Nakatsue 42.94 254 *e*P **P** 17 21 22.1 -2.5
E23A Ismay 43.01 75 P **P** 17 21 27.6 +2.5
baz=43
I19A Meeteetse 43.01 80 P P 17 21 28.3 +3.0
baz=43
F22A Rosebud 43.07 76 P P 17 21 29.1 +3.5
baz=43
MTUM Tungsten Hills 43.33 95 *e*P **P** 17 21 25.4 -2.5
ZAK Zakamensk 43.34 294⇑ *i*P **P** 17 21 27.2 -0.6
ZAK pmax pmax
comp=Z,9.0nm,1.2s
ULN Ulaanbaatar 43.38 289 *e*P **P** 17 21 27.3 -0.9
ULN pmax pmax
comp=Z,7.0nm,0.8s
ULN Ulaanbaatar 43.38 289 *e*P **P** 17 21 27.3 -0.9
comp=Z,6.6nm,0.8s
TPH Tonopah 43.44 93 *e*P **P** 17 21 27.7 -1.1
TPH pmax pmax
comp=Z,7.0nm,1.0s
TPH Tonopah 43.44 93 *e*P **P** 17 21 27.7 -1.1
comp=Z,6.9nm,1.0s
G22A Birney 43.46 77 P P 17 21 32.6 +3.8
baz=43
MOY Mondy 43.47 297 *e*P **P** 17 21 28.9 +0.1
MOY pmax pmax
comp=Z,56nm,1.6s
F23A Volborg 43.52 76 P P 17 21 32.6 +3.3
baz=43
H21A Big Horn, Sher 43.53 78 P P 17 21 32.8 +3.4
baz=43
B27A Peters Farms, 43.56 70 P P 17 21 33.2 +3.7
baz=43
C26A Wahner Farm, P 43.58 71 P P 17 21 33.3 +3.6
baz=43
A28A Rude Farm, Bot 43.66 69 P P 17 21 33.8 +3.5
baz=43
PDAR Pinedale Array 43.67 82 P **P** 17 21 30.4 -0.3
comp=Z,3.9nm,0.3s,baz=309,slow=4.5,SNR=18
PDAR LR LR 17 39 27.7
comp=Z,507nm,20.1s,baz=342,slow=36
SONM Songino Array 43.71 289 P **P** 17 21 31.0 +0.1
comp=Z,2.8nm,0.6s,baz=46,slow=8.8,SNR=11
SONM LR LR 17 42 12.8
comp=Z,2μm,18.8s,baz=46,slow=40
SONM Songino Array 43.71 289 P **P** 17 21 31.0 +0.1
H22A Clearmont 43.89 78 P P 17 21 35.1 +2.8
baz=44
F24A Ekalaka 43.90 75 P P 17 21 35.1 +2.8
baz=44
E25A Miller Ranch, 43.92 73 P P 17 21 35.5 +3.1
baz=44
C27A Sayler Ranch, 43.94 71 P P 17 21 36.0 +3.4
baz=44
D26A Manning 43.99 72 P P 17 21 36.8 +3.8
baz=44
DUG Dugway 44.00 87 P P 17 21 36.2 +2.9
baz=44
I21A Big Trails, Te 44.01 79 P P 17 21 36.2 +2.9
baz=44
R11A Troy Canyon, C 44.04 91 P **P** 17 21 36.0 +2.3
baz=44
R11A Troy Canyon, C 44.04 91 *e*P **P** 17 21 33.8 +0.1
comp=Z,12nm,1.8s
A29A Manning Farm, 44.13 68 P P 17 21 37.8 +3.7
baz=44
GRAC Grapevine Rang 44.20 94 P **P** 17 21 37.3 +2.5
baz=44
J21A Lysite 44.28 80 P P 17 21 38.2 +2.6
baz=44
G24A Alzada 44.29 75 P P 17 21 39.0 +3.5
baz=44
I22A 9 Mile Ranch, 44.34 78 P P 17 21 39.6 +3.6
baz=44
E26A Carlson Angus 44.39 73 P P 17 21 39.8 +3.7
baz=44
B29A Wagenman Farm, 44.40 69 P P 17 21 39.9 +3.6
baz=44
A30A Hoffart Farm, 44.55 68 P P 17 21 40.8 +3.4
baz=44
H24A Dirks Ranch, A 44.65 76 P P 17 21 41.2 +2.8
baz=44
PKM Peak Mountain 44.66 98 P P 17 21 42.0 +3.4
baz=44
J22A Midwest 44.70 79 P P 17 21 42.0 +3.2
baz=44
ULM Lac du Bonnet 44.71 65 P **P** 17 21 37.5 -1.1
comp=Z,6.3nm,0.6s,baz=314,slow=7.4,SNR=10
ULM LR LR 17 41 05.6
comp=Z,972nm,18.6s,baz=326,slow=37
ULM Lac du Bonnet 44.71 65 *e*P **P** 17 21 37.2 -1.5
ULM pmax pmax
comp=Z,7.0nm,0.8s
ULM Lac du Bonnet 44.71 65 *e*P **P** 17 21 37.1 -1.5
comp=Z,6.9nm,0.8s
BJI Beijing 44.72 274 P **P** 17 21 38.8 0.0
BJI PP **PP** 17 23 23.8 +0.8
BJI S **S** 17 28 11.5 -3.5
BJI PMZ
comp=Z,13nm,0.8s
BJI PMZ
comp=Z,150nm,5.8s
BJI LN
comp=Z,1μm,17.2s
BJI LE
comp=Z,810nm,19.2s
BJI LZ
comp=Z,710nm,22.5s
MDND Maddock 44.73 69 P P 17 21 42.5 +3.6
baz=44
BJT Baijiatuau 44.74 274 *e*P **P** 17 21 38.3 -0.7
BJT Baijiatuau 44.74 274 *e*P **P** 17 21 38.3 -0.7
TPNV Topopah Spring 44.80 93 *e*P **P** 17 21 39.7 0.0
TPNV pmax pmax
comp=Z,7.0nm,0.9s
TPNV Topopah Spring 44.80 93 P P 17 21 42.5 +2.7
baz=45,SNR=10.0
TPNV Topopah Spring 44.80 93 *e*P **P** 17 21 39.6 0.0
comp=Z,6.5nm,0.9s
E27A Carson 44.84 72 P P 17 21 43.6 +3.8
baz=45
G25A Newell 44.86 75 P P 17 21 43.5 +3.5
baz=45
MPMC Manual Prospec 44.88 95 P P 17 21 43.3 +2.8
baz=45,SNR=6.2
B30A Myrvik Farm, E 44.89 68 P P 17 21 43.6 +3.5
baz=45
E28A Huff 45.15 71 P P 17 21 46.2 +4.0
baz=45
G26A Maurine 45.18 74 P P 17 21 46.2 +3.6
baz=45
H25A Fruitdale 45.20 75 P P 17 21 46.4 +3.7
baz=45
K22A Casper 45.25 80 P P 17 21 46.9 +3.7
baz=45
K22A Casper 45.25 80 *e*P **P** 17 21 43.2 0.0
I24A Kuemmerle Ranc 45.27 77 P P 17 21 46.4 +3.1
baz=45
RSSD Black Hills 45.36 76 *e*P **P** 17 21 41.9 -2.3
RSSD Black Hills 45.36 76 *e*P **P** 17 21 41.9 -2.3
G27A Dupree 45.44 74 P P 17 21 48.4 +3.8
baz=45
BSC Santa Cruz Isl 45.47 98 P P 17 21 47.8 +2.9
baz=45
TMUT Trail Mountain 45.48 86 *e*P **P** 17 21 43.4 -1.9
comp=Z,8.2nm,0.9s
EDW2 Edwards Air Fo 45.57 96 P P 17 21 48.5 +2.8
baz=45
MVU Marysvale 45.59 88 *e*P **P** 17 21 44.9 -1.2
comp=Z,5.1nm,0.9s
H26A Fairpoint 45.60 75 P P 17 21 49.2 +3.4
baz=45
SHOC Shoshone 45.61 94 P P 17 21 48.9 +3.0
baz=45
F28A McLaughlin 45.63 72 P **P** 17 21 48.5 +2.5
baz=45
J24A Dixon Ranch, L 45.65 77 P P 17 21 49.6 +3.3
baz=45
CCUT Cedar City 45.76 90 *e*P **P** 17 21 46.2 -1.2
comp=Z,4.5nm,1.0s
GSC Goldstone 45.82 95 *e*P **P** 17 21 46.4 -1.4
GSC pmax pmax
comp=Z,9.0nm,0.8s
GSC Goldstone 45.82 95 *e*P **P** 17 21 46.4 -1.4
comp=Z,9.5nm,0.8s
AGMN Agassiz Nation 46.13 66 P P 17 21 52.9 +3.0
baz=46
AGMN Agassiz Nation 46.13 66 *e*P **P** 17 21 48.0 -1.9
comp=Z,7.1nm,0.8s
TUQ Turquoise Moun 46.15 94 P P 17 21 53.1 +2.7
baz=46
HHC Hu-ho-hao-te 46.38 278 *e*P **P** 17 21 52.5 +0.4
HHC sP **sP** 17 21 59.5 +1.9
HHC PP **PP** 17 23 43.1 +2.3
HHC S **S** 17 28 39.0 -0.2
HHC SS SS 17 31 56.4 -8.0
HHC PMZ
comp=Z,47nm,0.9s
HHC PMZ
comp=Z,120nm,5.7s
HHC LN
comp=Z,2μm,19.7s
HHC LE
comp=Z,1μm,19.7s
HHC LZ
comp=Z,1μm,18.8s
HEC Hector,Ludlow 46.43 95 P P 17 21 55.2 +2.7
baz=46
KNB Kanab 46.45 90 *e*P **P** 17 21 52.7 -0.1
KNB pmax pmax
comp=Z,7.0nm,0.9s
KNB Kanab 46.45 90 *e*P **P** 17 21 52.6 -0.1
comp=Z,6.8nm,0.9s
LDFC Landfair 46.84 93 *e*P **P** 17 21 57.9 +2.1
G30A Faulkton 46.95 72 P P 17 21 59.5 +3.1
baz=47
TIA Tai'an 47.22 270 ⇑P **P** 17 21 58.8 +0.2
TIA S S 17 28 56.9 +5.9
TIA PMZ
comp=Z,20nm,0.9s
TIA LN
comp=Z,890nm,16.7s
TIA LE
comp=Z,1μm,16.7s
TIA LZ
comp=Z,670nm,17.2s
BELC Belle Mtn. Jos 47.26 95 P P 17 22 01.6 +2.5
baz=47
PV04 Paradox Valley 47.32 85 *e*P **P** 17 21 57.9 -1.7
PFO Pinyon Flat Ob 47.35 96 *e*P **P** 17 21 58.9 -0.9
PFO pmax pmax
comp=Z,8.0nm,1.2s
PFO Pinyon Flat Ob 47.35 96 *e*P **P** 17 21 58.9 -0.9
comp=Z,8.3nm,1.2s
IRM Iron Mountain 47.55 94 P P 17 22 03.9 +2.6
baz=47,SNR=11
PV01 Paradox Valley 47.69 85 P **P** 17 22 01.9 -0.7
comp=Z,371nm,0.7s
BC3 Big Chuckawall 47.81 95 P **P** 17 22 05.6 +2.3
baz=48
ISCO Idaho Springs 47.86 81 *e*P P 17 22 00.3 -3.6
ISCO Idaho Springs 47.86 81 *e*P P 17 22 00.3 -3.6
PDMCI Parker Dam,Lak 47.94 93 P **P** 17 22 06.5 +2.3
baz=48
L28A Connealy Angus 48.16 76 P **P** 17 22 08.3 +2.3
baz=48
Y12C Blythe 48.19 94 P **P** 17 22 08.3 +2.2
baz=48
SWSC Sam W. Stewart 48.21 96 P P 17 22 09.3 +3.0
baz=48
IBP Imperial Bould 48.29 96 P P 17 22 10.3 +3.3
baz=48
WUAZ Wupatki 48.35 90 P P 17 22 10.4 +2.9
baz=48
WUAZ Wupatki 48.35 90 *e*P **P** 17 22 07.2 -0.4
comp=Z,5.5nm,0.8s
EYMN Ely 48.36 64 *e*P **P** 17 22 05.7 -1.7
comp=Z,5.8nm,0.8s
MVCO Mesa Verde 48.44 86 *e*P **P** 17 22 06.8 -1.5
comp=Z,4.5nm,0.8s
NVS Novosibirsk 48.50 310 *e*P **P** 17 22 07.3 -0.9
NVS pmax pmax
comp=Z,32nm,2.0s
NVS pmax pmax
comp=E,12nm,1.4s
ZAA0 Zalesovo Array 48.56 309 *e*P **P** 17 22 08.3 -0.5
ZALV Zalesovo Beam 48.56 309 P **P** 17 22 08.6 -0.2
comp=E,2.6nm,0.4s,baz=15,slow=6.1,SNR=23
ZALV LR LR 17 44 26.5
comp=E,2μm,18.1s,baz=63,slow=38
Q24A Divide 48.73 82 P **P** 17 22 12.7 +2.1
baz=48
S22A 4UR Ranch, Cre 48.85 84 P P 17 22 14.3 +2.8
baz=49,SNR=6.7
S22A 4UR Ranch, Cre 48.85 84 *e*P **P** 17 22 11.9 +0.3
comp=E,6.0nm,1.0s
KEV Kevo 48.97 349 P **P** 17 22 10.5 -1.2
KEV Kevo 48.97 349 P **P** 17 22 10.5 -1.2
SSE Sheshan 49.31 262 P **P** 17 22 14.6 -0.2
SSE S **S** 17 29 24.6 +4.0
SSE PMZ
comp=E,20nm,0.6s
SSE PMZ
comp=E,84nm,4.3s
SSE LN
comp=E,160nm,22.7s
SSE LE
comp=E,280nm,23.2s
SSE LZ
comp=E,250nm,20.4s
ARCES ARCESS Array B 49.33 349 P **P** 17 22 12.9 -1.5
comp=E,3.9nm,0.8s,baz=34,slow=8.8,SNR=6.7
ARCES LR LR 17 45 43.3
comp=E,1μm,18.2s,baz=12,slow=39
ARCES ARCESS Array B 49.33 349 P **P** 17 22 12.9 -1.5
ARCES pmax pmax
comp=Z,4.0nm,0.8s
ARCES MLR MLR
comp=Z,1μm,18.2s
SDCO Great Sand Dun 49.51 83 P **P** 17 22 18.9 +2.3
baz=49
SDCO Great Sand Dun 49.51 83 *e*P **P** 17 22 16.9 +0.3
comp=Z,16nm,1.9s
NJ2 Nanjing 49.69 265 *e*P **P** 17 22 17.6 0.0
NJ2 S **S** 17 29 28.0 +2.2
NJ2 PMZ
comp=Z,50nm,0.8s
NJ2 LN
comp=Z,6μm,18.6s
NJ2 LE
comp=Z,4μm,22.6s
NJ2 LZ
comp=Z,4μm,22.7s
SPMN St. Paul 49.82 67 P P 17 22 22.0 +3.5
baz=50
SPMN St. Paul 49.82 67 *e*P **P** 17 22 17.9 -0.7
comp=Z,10nm,0.8s
R27A Eads 50.41 80 P **P** 17 22 25.0 +1.8
baz=50
214A Organ Pipe Nat 50.48 94 P P 17 22 26.5 +2.7
baz=50
214A Organ Pipe Nat 50.48 94 *e*P **P** 17 22 22.4 -1.3
comp=Z,4.8nm,0.8s
T25A Trinidad 50.52 83 P P 17 22 27.0 +2.9
baz=50
T25A Trinidad 50.52 83 *e*P P 17 22 27.2 +3.1
comp=Z,8.8nm,1.1s
Q29A Oakley 50.83 78 P P 17 22 29.7 +3.4
baz=51
T26A Comanche Natio 50.89 82 P **P** 17 22 29.1 +2.1
baz=51
ANMO Albuquerque 51.24 86 *e*P **P** 17 22 27.3 -2.3
ANMO pmax pmax
comp=Z,2.0nm,0.9s
ANMO Albuquerque 51.24 86 *e*P **P** 17 22 27.3 -2.3
comp=Z,2.4nm,0.9s
S28A Manter 51.40 80 P **P** 17 22 33.2 +2.5
baz=51
SCHQ Schefferville 52.74 43 P **P** 17 22 38.1 -2.2
comp=Z,15nm,0.9s,baz=341,slow=8.4,SNR=16
SCHQ LR LR 17 45 36.2
comp=Z,690nm,18.6s,baz=325,slow=37
XAN Xi'an 53.02 275 P **P** 17 22 41.9 -0.7
XAN S **S** 17 30 11.8 -0.1
XAN PMZ
comp=Z,5.0nm,1.2s
XAN PMZ
comp=Z,19nm,4.8s
XAN LN
comp=Z,810nm,20.2s
XAN LE
comp=Z,460nm,19.3s
XAN LZ
comp=Z,700nm,20.4s
WHN Wuhan 53.14 268 P **P** 17 22 43.5 0.0
WHN S **S** 17 30 09.6 -4.0
WHN LN
comp=Z,1μm,11.1s
WHN LE
comp=Z,920nm,11.3s
WHN LZ
comp=Z,1μm,13.9s
GTA Gaotai 53.19 286 *e*P **P** 17 22 43.6 -0.4
GTA pP **pP** 17 22 47.6 -0.3
GTA sP **sP** 17 22 51.0 +1.6
GTA PMZ
comp=Z,17nm,1.4s
GTA PMZ
comp=Z,140nm,6.2s
GTA LN
comp=Z,820nm,20.2s
GTA LE
comp=Z,1μm,21.8s
GTA LZ
comp=Z,1μm,14.7s
KURK Kurchatov 53.47 310 *e*P **P** 17 22 45.8 +0.1
KURK pmax pmax
comp=Z,17nm,0.8s
KURK Kurchatov 53.47 310 *e*P **P** 17 22 45.8 +0.1
comp=Z,17nm,0.8s
LZH Lanzhou 53.88 281 ⇓P **P** 17 22 49.0 -0.1
LZH pP **pP** 17 22 55.8 +2.8
LZH PP **PP** 17 24 51.6 +1.6
LZH *e*S **S** 17 30 22.0 -1.8
LZH sS **sS** 17 30 29.5 -0.8
LZH SS **SKiKP** 17 34 02.1 +0.4
LZH PMZ
comp=Z,94nm,1.6s
LZH PMZ
comp=Z,170nm,5.6s
LZH LN
comp=Z,1μm,13.0s
LZH LE
comp=Z,2μm,15.0s
LZH LZ
comp=Z,2μm,17.0s
GUMO Guam 54.10 227 LR LR 17 44 45.9
comp=Z,114nm,19.7s,baz=32,slow=35
SVE Sverdlovsk 54.44 325⇑ *e*P **P** 17 22 52.9 +0.2
SVE *e*S S 17 30 24.2 -6.3
SVE pmax pmax
comp=Z,32nm,1.1s
SVE MLR MLR
comp=Z,1μm,18.0s
BVA0 Borovoye Array 54.58 317 *i* P **P** 17 22 53.7 0.0
BVA0 pmax pmax
comp=Z,24nm,1.0s
BVAR Borovoye Array 54.58 317 P **P** 17 22 54.3 +0.6
comp=Z,13nm,0.8s,baz=40,slow=7.7,SNR=78
BRVK Borovoye 54.58 317 *e*P **P** 17 22 54.1 +0.3
BRVK pmax pmax
comp=Z,24nm,1.0s
BRVK Borovoye 54.58 317 *e*P **P** 17 22 54.1 +0.3
comp=Z,24nm,1.0s
V34A Guthrie 54.93 78 *e*P **P** 17 22 59.1 +2.6
comp=Z,19nm,1.1s
128A Castleberry Fa 55.07 84 P P 17 23 00.4 +2.6
baz=55,SNR=7.2
T37A Cheneyville 18 55.16 75 P **P** 17 23 00.4 +2.2
baz=55
MK31 Makanchi Array 55.16 304 *i* P **P** 17 22 57.4 -0.7
MK31 pmax pmax
comp=Z,8.0nm,0.7s
MK31 Makanchi Array 55.16 304 *e*P **P** 17 22 57.0 -1.1
MKAR Makanchi Array 55.16 304 P **P** 17 22 57.6 -0.5
comp=Z,7.4nm,0.7s,baz=42,slow=5.8,SNR=51
MKAR LR LR 17 49 07.2
comp=Z,757nm,19.1s,baz=26,slow=39
WMOK Wichita Mounta 55.19 80 *e*P P 17 22 54.4 -4.1
WMOK pmax pmax
comp=Z,10.0nm,1.3s
WMOK Wichita Mounta 55.19 80 *e*P P 17 22 54.4 -4.1
comp=Z,10nm,1.3s
Z30A Sanderson Ranc 55.20 83 P **P** 17 23 00.4 +1.7
baz=55
WMQ Urumqi 55.25 299 P **P** 17 22 59.5 +0.6
WMQ pP **pP** 17 23 03.9 +1.1
WMQ sP **sP** 17 23 07.0 +2.7
WMQ PcP **PcP** 17 24 00.0 +0.4
WMQ PP **PP** 17 25 04.5 +2.5
WMQ S **S** 17 30 41.3 -0.7
WMQ SS **SS** 17 34 25.5 0.0
WMQ PMZ
comp=Z,39nm,0.8s
WMQ PMZ
comp=Z,140nm,3.7s
WMQ LN
comp=Z,2μm,14.0s
WMQ LE
comp=Z,970nm,17.2s
WMQ LZ
comp=Z,860nm,18.9s
ARU Arti 55.37 326 P **P** 17 22 59.4 0.0
baz=8.8,slow=5.5
ARU Arti 55.37 326 *d i*P **P** 17 22 59.5 +0.1
ARU S **S** 17 30 46.1 +3.1
ARU SS **SS** 17 34 28.6 +2.0
ARU pmax pmax
comp=Z,17nm,1.2s
ARU MLR MLR
comp=Z,1μm,17.0s
ARU Arti 55.37 326 *e*P **P** 17 22 59.5 +0.1
comp=Z,22nm,1.3s
Y33A Hilltop Ranch, 55.85 80 P P 17 23 05.3 +2.1
baz=56
229A Bryant Ranch, 55.94 84 P P 17 23 06.1 +2.2
baz=56
U38A Gravette 55.96 75 P P 17 23 05.8 +1.8
baz=56
131A Roby 56.06 83 P P 17 23 06.6 +1.8
baz=56
329A Wagon Wheel Ra 56.24 85 P P 17 23 08.6 +2.5
baz=56
Y34A Reagan Ranch, 56.32 80 P P 17 23 09.1 +2.6
baz=56
Z33A Whitaker Ranch 56.37 81 P P 17 23 09.9 +3.0
baz=56
V38A Canehill 56.41 76 P P 17 23 09.0 +1.9
baz=56
ABTX Abilene, Hawle 56.47 82 P P 17 23 09.9 +2.2
baz=56
ABTX Abilene, Hawle 56.47 82 *e*P P 17 23 06.0 -1.6

X36A	**Centrahoma**	**56.51**	**78**	P		**P**	**17 23 09.9**	**+2.0**
	baz=56								
231A	**Bronte**	**56.70**	**83**	P		**P**	**17 23 11.8**	**+2.5**
	baz=56								
330A	**Mertzon**	**56.70**	**84**	P		**P**	**17 23 11.6**	**+2.2**
	baz=56								
Y35A	**Marietta**	**56.71**	**79**	P		**P**	**17 23 11.5**	**+2.2**
	baz=56								
133A	**Hamilton Ranch**	**56.84**	**81**	P		**P**	**17 23 12.4**	**+2.1**
	baz=57								
X37A	**Clayton**	**56.97**	**77**	P		**P**	**17 23 13.2**	**+2.1**
	baz=57								
429A	**Davenport Ranc**	**56.99**	**85**	P		**P**	**17 23 13.4**	**+2.0**
	baz=57,SNR=6.3								
W38A	**Poteau**	**56.99**	**76**	P		**P**	**17 23 13.1**	**+1.8**
	baz=57								
232A	**Coleman**	**57.07**	**83**	P		**P**	**17 23 14.3**	**+2.4**
	baz=57,SNR=8.5								
FINES	**FINESS Array B**	**57.14**	**347**	P		**P**	**17 23 10.9**	**-1.1**
	comp=Z,2.6nm,0.6s,baz=28,slow=8.2,SNR=14								
TXAR	**Lajitas Array**	**57.16**	**88**	P		**P**	**17 23 11.5**	**-1.2**
	comp=Z,3.9nm,0.8s,baz=313,slow=4.4,SNR=19								
TXAR				LR		LR	17 48 09.4		
	comp=Z,804nm,18.7s,baz=0.0,slow=36								
430A	**Baggett Ranch,**	**57.18**	**85**	P		P	17 23 15.6	+2.8	
	baz=57								
529A	**Stev Forest Ra**	**57.23**	**86**	P		**P**	**17 23 15.7**	**+2.6**
	baz=57								
134A	**White-Moore Ra**	**57.28**	**81**	P		P	17 23 16.4	+3.0	
	baz=57								
332A	**Millersview**	**57.43**	**83**	P		**P**	**17 23 16.8**	**+2.3**
	baz=57								
Z36A	**Blue Ridge**	**57.52**	**79**	P		**P**	**17 23 16.7**	**+1.7**
	baz=57								
PBMO	**Poplar Bluff**	**57.57**	**72**	*e*P		**P**	**17 23 13.7**	**-1.7**
	comp=Z,17nm,1.3s								
431A	**Sonora**	**57.58**	**84**	P		**P**	**17 23 17.5**	**+1.9**
	baz=57								
530A	**J-C Ranch, Com**	**57.65**	**85**	P		**P**	**17 23 18.3**	**+2.2**
	baz=57,SNR=6.8								
234A	**Clairette**	**57.72**	**81**	P		**P**	**17 23 18.9**	**+2.4**
	baz=58								
432A	**Menard**	**57.82**	**83**	P		**P**	**17 23 19.8**	**+2.6**
	baz=58								
333A	**Richland Sprin**	**57.85**	**82**	P		**P**	**17 23 19.9**	**+2.4**
	baz=58								
OTUK	**Ortayu**	**57.85**	**312**	P		**P**	**17 23 17.7**	**+0.5**
OTUK				pmax		pmax			
	comp=Z,21nm,1.3s								
MIAR	**Mount Ida**	**57.88**	**76**	*e*P		**P**	**17 23 15.5**	**-2.0**
MIAR				pmax		pmax			
	comp=Z,6.0nm,1.0s								
MIAR	**Mount Ida**	**57.88**	**76**	P		**P**	**17 23 19.6**	**+2.1**
	baz=58								
MIAR	**Mount Ida**	**57.88**	**76**	*e*P		**P**	**17 23 15.5**	**-2.0**
	comp=Z,5.8nm,1.0s								
531A	**Rocksprings**	**58.03**	**84**	P		**P**	**17 23 20.6**	**+1.8**
	baz=58								
WHTX	**Lake Whitney**	**58.06**	**81**	P		**P**	**17 23 21.4**	**+2.5**
	baz=58								
CD2	**Chengdu**	**58.10**	**277**	P		**P**	**17 23 18.9**	**-0.3**
CD2				pP		**pP**	**17 23 23.3**	**+0.1**
CD2				sP		**sP**	**17 23 25.8**	**+1.1**
CD2				PP		**PP**	**17 25 27.5**	**-0.1**
CD2				S		**S**	**17 31 19.6**	**-0.2**
CD2				sS		**sS**	**17 31 27.8**	**+1.4**
CD2				SS		**SS**	**17 35 12.1**	**+1.4**
CD2				PMZ					
	comp=Z,80nm,0.7s								
CD2				PMZ					
	comp=Z,160nm,9.6s								
CD2				LN					
	comp=Z,1μm,19.2s								
CD2				LZ					
	comp=Z,800nm,14.4s								
JCT	**Junction City**	**58.14**	**84**	*e*P		**P**	**17 23 17.7**	**-1.8**
JCT				pmax		pmax			
	comp=Z,18nm,0.9s								
JCT	**Junction City**	**58.14**	**84**	P		**P**	**17 23 21.7**	**+2.2**
	baz=58								
JCT	**Junction City**	**58.14**	**84**	*e*P		**P**	**17 23 17.6**	**-1.8**
	comp=Z,18nm,0.9s								
334A	**Lometa**	**58.21**	**82**	P		**P**	**17 23 21.6**	**+1.7**
	baz=58								
433A	**Art**	**58.27**	**83**	P		**P**	**17 23 22.5**	**+2.1**
	baz=58,SNR=7.0								
532A	**Rocksprings**	**58.38**	**84**	P		**P**	**17 23 23.4**	**+2.2**
	baz=58								
236A	**Katherine and**	**58.51**	**80**	P		**P**	**17 23 24.4**	**+2.4**
	baz=58								
434A	**Burnet**	**58.62**	**82**	P		**P**	**17 23 25.3**	**+2.4**
	baz=58								
631A	**Perdido Creek**	**58.63**	**85**	P		**P**	**17 23 21.8**	**-1.1**
	baz=58,SNR=6.3								
NB2	**NORSAR Subarra**	**58.72**	**355**	P		**P**	**17 23 22.0**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=6.9,slow=6.9								
NOA	**NORSAR Array B**	**58.72**	**355**	P		**P**	**17 23 21.8**	**-1.3**
	comp=Z,1.8nm,0.7s,baz=1.8,slow=7.1,SNR=6.3								
NOA				LR		LR	17 47 13.5		
	comp=Z,494nm,21.5s,baz=5.0,slow=35								
534A	**Blanco**	**59.16**	**83**	P		**P**	**17 23 28.4**	**+1.8**
	baz=59								
732A	**Laxson Ranch,**	**59.49**	**85**	P		**P**	**17 23 30.6**	**+1.8**
	baz=59								
HFS	**Hagfors**	**59.50**	**353**	P		**P**	**17 23 27.4**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=2.6,slow=3.3,SNR=9.1								
AKTO	**Aktyubinsk**	**60.78**	**323**	P		**P**	**17 23 37.8**	**+0.4**
	comp=Z,8.1nm,0.7s,baz=40,slow=7.8,SNR=27								
AKTO	**Aktyubinsk**	**60.78**	**323**	P		**P**	**17 23 37.3**	**-0.1**
AKTO				pmax		pmax			
	comp=Z,14nm,0.8s								
TKM2	**Tokmak 2**	**61.05**	**306**	P		**P**	**17 23 41.0**	**+1.4**
	SNR=5.9								
TKM2	**Tokmak 2**	**61.05**	**306**	*e*P		**P**	**17 23 39.9**	**+0.3**
TKM2	**Tokmak 2**	**61.05**	**306**	*e*P		**P**	**17 23 39.9**	**+0.3**
USP	**Ospenovka**	**61.20**	**307**	P		**P**	**17 23 41.6**	**+1.2**
	SNR=7.8								
AB31	**Akbulak array**	**61.22**	**321**	P		**P**	**17 23 40.5**	**+0.1**
AB31				pmax		pmax			
	comp=Z,7.0nm,0.6s								
ABKAR	**Akbulak array**	**61.22**	**321**	*e*P		**P**	**17 23 40.5**	**+0.1**
CHMS	**Chumysh**	**61.33**	**307**	P		**P**	**17 23 42.9**	**+1.6**
	SNR=6.5								
FRU	**Bishkek**	**61.52**	**307**	*e*P		**P**	**17 23 43.0**	**+0.4**
FRU				pmax		pmax			
	comp=Z,60nm,1.8s								
FRU				MLR		MLR			
	comp=E,2μm,14.0s								
KBK	**Karagaybulak**	**61.53**	**307**	P		**P**	**17 23 44.4**	**+1.5**
	SNR=5.3								
AAK	**Ala-Archa**	**61.73**	**307**	*e*P		**P**	**17 23 45.7**	**+1.5**
AAK	**Ala-Archa**	**61.73**	**307**	*e*P		**P**	**17 23 45.7**	**+1.5**
EKS2	**Erkin-Say**	**61.99**	**308**	P		**P**	**17 23 47.1**	**+1.2**
	SNR=9.1								
EKS2	**Erkin-Say**	**61.99**	**308**	*e*P		**P**	**17 23 45.8**	**-0.1**
EKS2	**Erkin-Say**	**61.99**	**308**	*e*P		**P**	**17 23 45.8**	**-0.1**
KK31	**Karatay Array**	**62.88**	**310**	*i* P		**P**	**17 23 51.9**	**+0.2**
KK31				pmax		pmax			
	comp=Z,7.0nm,0.8s								
KKAR	**Karatay Array**	**62.88**	**310**	*e*P		**P**	**17 23 50.7**	**-1.0**
KKAR	**Karatay Array**	**62.88**	**310**	*e*P		**P**	**17 23 50.7**	**-1.0**
KMI	**Kunming**	**63.38**	**274**	P		**P**	**17 23 56.3**	**+0.8**
KMI				pP		**pP**	**17 24 01.3**	**+1.8**
KMI				PcP		**PcP**	**17 24 33.8**	**+1.4**
KMI				S		**S**	**17 32 27.5**	**-0.3**
KMI				SKS		**ScS**	**17 33 46.9**	**-1.6**
KMI				SS		**SS**	**17 36 36.5**	**+2.5**
KMI				PMZ					
	comp=Z,7.0nm,1.7s								
KMI				PMZ					
	comp=Z,74nm,3.8s								
KMI				LN					
	comp=Z,630nm,21.0s								
KMI				LE					
	comp=Z,580nm,18.7s								
KMI				LZ					
	comp=Z,690nm,21.7s								
KSH	**Kashi**	**63.77**	**304**	P		P	17 24 02.4	+4.7	
KSH				pP		pP	17 24 06.3	+4.5	
KSH				PP		PP	17 26 24.3	+6.8	
KSH				S		**S**	**17 32 35.1**	**+3.0**
KSH				sS		sS	17 32 43.3	+4.6	
KSH				SS		**SS**	**17 36 45.3**	**+6.1**
KSH				PMZ					
	comp=Z,43nm,1.1s								
KSH				PMZ					
	comp=Z,250nm,3.0s								
KSH				LN					
	comp=Z,630nm,11.8s								
KSH				LE					
	comp=Z,430nm,5.8s								
KSH				LZ					
	comp=Z,1μm,13.9s								
EKA	**Eskdalemuir Ar**	**64.56**	**3**	P		**P**	**17 24 01.9**	**-0.6**
	comp=Z,3.7nm,0.8s,baz=9.4,slow=5.0,SNR=7.8								
EKA	**Eskdalemuir Ar**	**64.56**	**3**	P		**P**	**17 24 01.9**	**-0.6**
EKA				pmax		pmax			
	comp=Z,4.0nm,0.8s								
VSR	**Storozhevoye**	**64.87**	**335**	*e*P		**P**	**17 24 03.6**	**-1.0**
VSR				pmax		pmax			
	comp=Z,7.0nm,0.8s								
VSR				pmax		pmax			
	comp=N,5.0nm,0.7s								
VSR				pmax		pmax			
	comp=E,7.0nm,0.7s								
VSR				MLR		MLR			
	comp=N,690nm,20.0s								
VSR				MLR		MLR			
	comp=E,650nm,20.0s								
VSR				MLR		MLR			
	comp=Z,1μm,20.0s								
QIZ	**Qiongzhong**	**64.97**	**265**	P		**P**	**17 24 05.6**	**-0.1**
QIZ				S		**S**	**17 32 47.8**	**+0.6**
QIZ				LN					
	comp=Z,290nm,18.2s								
QIZ				LE					
	comp=Z,220nm,16.8s								
QIZ				LZ					
	comp=Z,470nm,19.2s								
LSA	**Lhasa**	**65.22**	**287**	*e*P		**P**	**17 24 07.6**	**-0.2**
LSA				pmax		pmax			
	comp=Z,18nm,0.8s								
LSA	**Lhasa**	**65.22**	**287**	*e*P		**P**	**17 24 07.6**	**-0.2**
	comp=Z,18nm,0.8s								
AKASG	**Malin Array Be**	**67.17**	**342**	P		**P**	**17 24 17.8**	**-1.6**
	comp=Z,2.5nm,0.6s,baz=15,slow=6.1,SNR=12								
AKASG				LR		LR	17 57 07.0		
	comp=Z,935nm,19.7s,baz=40,slow=39								
KIEV	**Kiev**	**67.18**	**342**	*e*P		**P**	**17 24 17.2**	**-2.2**
KIEV	**Kiev**	**67.18**	**342**	*e*P		**P**	**17 24 17.2**	**-2.2**
CLL	**Collm**	**68.34**	**353**	*e*P		**P**	**17 24 25.0**	**-1.7**
CLL				*e*S		**S**	**17 33 32.0**	**+4.9**
CLL				pmax		pmax			
	comp=Z,7.0nm,1.1s								
CLL				MLR		MLR			
	comp=Z,500nm,20.6s								
CLL	**Collm**	**68.34**	**353**	*e*P		**P**	**17 24 25.0**	**-1.7**
	comp=Z,7.0nm,1.1s								
CLL				*e*S		**S**	**17 33 32.0**	**+4.9**
CLL				*e*SS		SS	17 38 06.0	+17	
CLL				LmH			17 58 00.0		
	comp=N,500nm,22.0s								
CLL				LmH			17 58 00.0		
	comp=E,700nm,20.9s								
CLL				LmV			17 58 00.0		
	comp=Z,500nm,20.6s								
BRG	**Berggiesshubel**	**68.71**	**352**	*e*P		P	17 24 32.5	+3.4	
	comp=Z,4.0nm,0.9s								
BRG	**Berggiesshubel**	**68.71**	**352**	*e*P		P	17 24 32.5	+3.4	
BRG				pmax		pmax			
	comp=Z,4.0nm,0.9s								
LVV	**L'vov**	**68.77**	**345**	*e*P		**P**	**17 24 26.9**	**-2.5**
TAPN	**Taplejung**	**68.82**	**288**	*e*P		**P**	**17 24 29.7**	**-0.8**
	comp=Z,36nm,0.6s								
UPC	**Upice**	**68.92**	**351**	AMS		AMS	17 59 20.0		
	comp=Z,600nm,19.6s								
PVCC	**Panska Ves**	**69.01**	**352**	AMS		AMS	18 01 10.0		
	comp=Z,700nm,19.6s								
DPC	**Dobruska-Polom**	**69.05**	**350**	*e*P		**P**	**17 24 31.0**	**-0.3**
DPC				AMS		AMS	18 02 50.0		
	comp=Z,500nm,16.2s								
DPC	**Dobruska-Polom**	**69.05**	**350**	*e*P		**P**	**17 24 31.0**	**-0.3**
DPC				MLR		MLR			
	comp=Z,500nm,16.2s								
GUN	**Gumba**	**69.21**	**290**	*e*P		**P**	**17 24 32.7**	**-0.3**
	comp=Z,102nm,0.6s								
KRLC	**Kraliky**	**69.29**	**350**	*e*P		**P**	**17 24 32.1**	**-0.6**
KRLC	**Kraliky**	**69.29**	**350**	*e*P		**P**	**17 24 32.1**	**-0.6**
ODAN	**Odare**	**69.39**	**288**	*e*P		**P**	**17 24 33.5**	**-0.4**
	comp=Z,23nm,0.6s								
OKC	**Ostrava-Krasne**	**69.40**	**349**	AMS		AMS	18 02 10.0		
	comp=Z,700nm,15.2s								
PRA	**Prague**	**69.48**	**352**	AMS		AMS	18 01 10.0		
	comp=Z,700nm,20.5s								
MORC	**Moravsky Berou**	**69.52**	**350**	*e*P		**P**	**17 24 33.3**	**-0.9**
MORC				pmax		pmax			
	comp=Z,23nm,1.0s								
MORC	**Moravsky Berou**	**69.52**	**350**	*i* P		**P**	**17 24 33.8**	**-0.4**
MORC	**Moravsky Berou**	**69.52**	**350**	*e*P		**P**	**17 24 33.2**	**-0.9**
	comp=Z,23nm,1.0s								
PRU	**Pruhonice**	**69.55**	**352**	*e*P		**P**	**17 24 33.8**	**-0.5**
PRU				*ex*		x	17 24 47.4		
PRU				AMS		AMS	18 01 40.0		
	comp=Z,300nm,21.5s								
PRU	**Pruhonice**	**69.55**	**352**	*e*P		**P**	**17 24 33.8**	**-0.5**
PRU				MLR		MLR			
	comp=Z,300nm,21.5s								
KKN	**Kakani**	**69.59**	**290**	*e*P		**P**	**17 24 35.3**	**+0.1**
	comp=Z,40nm,0.7s								
GOPC	**GO Pecny, Ondr**	**69.61**	**351**	*e*P		**P**	**17 24 34.1**	**-0.6**
GOPC				AMS		AMS	18 01 40.0		
	comp=Z,600nm,16.9s								
RAMN	**Ramite**	**69.68**	**289**	*e*P		**P**	**17 24 35.3**	**-0.5**
	comp=Z,73nm,0.7s								
GKN	**Gorkha**	**69.71**	**291**	*e*P		**P**	**17 24 36.0**	**+0.2**
	comp=Z,52nm,0.6s								
PKI	**Pulchoki**	**69.72**	**290**	*e*P		**P**	**17 24 35.7**	**-0.4**
	comp=Z,41nm,0.6s								
PKIN	**Phulchoki**	**69.72**	**290**	*e*P		**P**	**17 24 35.9**	**-0.1**
	comp=Z,25nm,0.6s								
GOF	**Gofitskoye**	**69.79**	**330**	*e*P		**P**	**17 24 37.9**	**+2.0**
GOF				pmax		pmax			
	comp=Z,40nm,1.2s								
DANN	**Dangsing**	**69.82**	**292**	*e*P		**P**	**17 24 37.1**	**+0.4**
	comp=Z,21nm,0.7s								
DMN	**Daman**	**69.82**	**290**	*e*P		**P**	**17 24 36.7**	**0.0**
	comp=Z,55nm,0.9s								
KOLS	**Kolonicke sedl**	**69.85**	**346**	*e*P		**P**	**17 24 35.2**	**-1.0**
KOLS				pmax		pmax			
	comp=Z,3.0nm,0.8s								
KOLS	**Kolonicke sedl**	**69.85**	**346**	*e*P		**P**	**17 24 35.2**	**-1.0**
VRAC	**Vranov**	**70.06**	**350**	P		**P**	**17 24 36.1**	**-1.4**
	comp=Z,3.7nm,0.6s,baz=334,slow=2.7,SNR=3.8								
UZH	**Uzhgorod**	**70.15**	**346**	*e*P		**P**	**17 24 36.4**	**-1.6**
UZH				*e*			17 24 55.4		
KOLN	**Koldanda**	**70.39**	**292**	*e*P		**P**	**17 24 40.1**	**+0.1**
	comp=Z,48nm,0.7s								
KHC	**Kasperske Hory**	**70.47**	**352**	*e*P		**P**	**17 24 39.4**	**-0.6**
KHC				*ex*		x	17 24 56.8		
KHC				*ex*		x	17 25 18.5		
KHC				AMS		AMS	18 00 00.0		
	comp=Z,600nm,18.4s								
KHC	**Kasperske Hory**	**70.47**	**352**	*e*P		**P**	**17 24 39.4**	**-0.6**
KHC				*e*			17 24 56.8		
KHC				MLR		MLR			
	comp=Z,600nm,18.4s								
KHC	**Kasperske Hory**	**70.47**	**352**	*e*P		**P**	**17 24 39.3**	**-0.7**
KECS	**Kecovo**	**70.50**	**347**	*e*P		**P**	**17 24 38.9**	**-1.3**
KECS				pmax		pmax			
	comp=Z,3.0nm,0.9s								
KECS	**Kecovo**	**70.50**	**347**	*e*P		**P**	**17 24 38.9**	**-1.3**
TRPA	**Tarpa**	**70.61**	**346**	*i* P		**P**	**17 24 40.5**	**-0.3**
VYHS	**Vyhne**	**70.66**	**348**	*e*P		**P**	**17 24 39.8**	**-1.4**
VYHS				pmax		pmax			
	comp=Z,3.0nm,1.1s								
VYHS	**Vyhne**	**70.66**	**348**	*e*P		**P**	**17 24 39.8**	**-1.4**
BUR08	**Bucovina Ar. S**	**70.74**	**344**	*e*P		**P**	**17 24 39.3**	**-2.5**
GERES	**GERESS Array B**	**70.75**	**352**	P		**P**	**17 24 41.0**	**-0.8**
	comp=Z,2.1nm,0.8s,baz=19,slow=5.7,SNR=14								
BURAR	**Bucovina Array**	**70.77**	**344**	*i* P		**P**	**17 24 39.4**	**-2.5**
BURAR	**Bucovina Array**	**70.77**	**344**	*i* P		**P**	**17 24 39.4**	**-2.5**
KIS	**Kishinev**	**70.83**	**341**	*e*			17 25 52.0		
KIS				LRM		MLR	18 01 04.0		
	comp=Z,2μm,18.0s								
CMAR	**Chiang Mai Arr**	**70.87**	**274**	P		**P**	**17 24 42.6**	**-0.2**
	comp=Z,2.6nm,0.6s,baz=20,slow=7.0,SNR=12								
CMAR				LR		LR	17 57 19.8		
	comp=Z,286nm,21.1s,baz=38,slow=37								
KBZ	**Khabaz**	**71.08**	**330**	P		**P**	**17 24 44.1**	**+0.4**
	comp=Z,2.6nm,1.0s,baz=90,slow=4.0,SNR=2.8								
KBZ				LR		LR	17 58 16.3		
	comp=Z,477nm,21.8s,baz=12,slow=38								
PSZ	**Piszkesteto**	**71.12**	**348**	*i*P		**P**	**17 24 45.1**	**+1.0**
PSZ	**Piszkesteto**	**71.12**	**348**	*i*P		**P**	**17 24 45.1**	**+1.0**
ANN	**Anapa**	**71.33**	**334**	*e*P		P	17 24 41.2	-4.0	
ANN				*e*PP		pP	17 24 47.0	-2.3	
ANN				*e*			17 25 00.6		
ANN				*e*S		**S**	**17 33 57.0**	**-5.3**
ANN				pmax		pmax			
	comp=Z,27nm,1.4s								
ECH	**Echery**	**71.70**	**357**	*e*P		**P**	**17 24 46.0**	**-1.4**
ECH				pmax		pmax			
	comp=Z,9.0nm,1.2s								
ECH	**Echery**	**71.70**	**357**	*e*P		**P**	**17 24 46.0**	**-1.4**
	comp=Z,9.4nm,1.2s								
SIM	**Simferopol'**	**71.87**	**337**	P		P	17 24 53.0	+4.5	
SIM				S		S	17 34 02.0	-6.6	
GEYT	**Alibeck**	**71.91**	**317**	P		**P**	**17 24 49.0**	**+0.1**
	comp=Z,6.6nm,0.9s,baz=90,slow=4.6,SNR=6.7								
GEYT				LR		LR	17 58 58.1		
	comp=Z,982nm,19.0s,baz=15,slow=38								
MLR	**Muntele Rosu**	**72.74**	**343**	P		**P**	**17 24 53.2**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=257,slow=2.5,SNR=4.5								
MLR	**Muntele Rosu**	**72.74**	**343**	*i*P		**P**	**17 24 55.8**	**+1.9**
VOIR		**72.92**	**343**	⇑P		**P**	**17 24 55.0**	**+0.1**
VOIR		**72.92**	**343**	⇑*i*P		**P**	**17 24 55.0**	**+0.1**
DAVOX	**Davos/Dischmat**	**73.03**	**355**	P		**P**	**17 24 55.0**	**-0.6**
	comp=Z,3.2nm,0.7s,baz=0.0,slow=2.0,SNR=4.5								
ARR	**Arges**	**73.05**	**344**	*i*P		P	17 24 58.8	+3.2	
BZS	**Buzias**	**73.20**	**346**	*i*P		**P**	**17 24 55.4**	**-1.0**
BZS	**Buzias**	**73.20**	**346**	*i*P		**P**	**17 24 55.4**	**-1.0**
TIRR	**Tirgusor**	**73.37**	**341**	*i*P		**P**	**17 24 58.6**	**+1.2**
TIRR	**Tirgusor**	**73.37**	**341**	*i*P		**P**	**17 24 58.6**	**+1.2**
BR131	**Keskin Array S**	**76.99**	**336**	*e*P		**P**	**17 25 18.2**	**-0.3**
	comp=Z,3.7nm,0.9s								
BRTR	**Keskin Array B**	**76.99**	**336**	P		**P**	**17 25 18.1**	**-0.5**
	comp=Z,4.4nm,1.1s,baz=34,slow=4.6,SNR=7.6								
BRTR				LR		LR	18 04 52.9		
	comp=Z,433nm,19.1s,baz=16,slow=40								
ESDC	**Sonseca Array**	**80.18**	**5**	P		**P**	**17 25 35.2**	**-0.9**
	comp=Z,2.4nm,0.6s,baz=358,slow=5.6,SNR=16								
ESDC				LR		LR	18 01 18.6		
	comp=Z,173nm,20.8s,baz=355,slow=36								
PPT	**Papeete**	**80.93**	**153**	LR		LR	17 53 52.2		
	comp=Z,253nm,22.0s,baz=328,slow=30								
PPT2	**Papeete2**	**80.95**	**153**	*e*LQ		LQ	17 47 23.6		
	comp=Z,433nm,27.5s								
PPT2				*e*LR		LR	17 50 48.5		
	comp=Z,525nm,23.0s,baz=341								
HYB	**Hyderabad**	**81.63**	**290**	*i* P		**P**	**17 25 43.0**	**-1.0**
KEST	**Kesra**	**84.07**	**354**	LR		LR	18 07 23.5		
	comp=Z,75nm,18.3s,baz=342,slow=38								
TBI	**Tubuai**	**86.54**	**154**	*e*LR		LR	17 53 25.3		
	comp=Z,458nm,26.5s,baz=345								
LEM	**Lembang**	**88.40**	**253**	LR		LR	18 08 43.8		
	comp=Z,71nm,19.1s,baz=18,slow=38								
WRAB	**Tennant Creek**	**88.91**	**224**	⇑*e*P		**P**	**17 26 18.8**	**-1.3**
WRAB				pmax		pmax			
	comp=Z,24nm,1.7s								
WRA	**Warramunga Arr**	**88.92**	**224**	P		**P**	**17 26 18.9**	**-1.2**
	comp=Z,3.6nm,1.1s,baz=30,slow=5.5,SNR=8.7								
RKT	**Rikitea**	**90.16**	**141**	*e*LR		LR	17 55 04.8		
	comp=Z,258nm,25.2s								
ROSC	**El Rosal**	**92.38**	**76**	LR		LR	18 11 59.6		
	comp=Z,194nm,19.1s,baz=26,slow=38								
ASAR	**Alice Springs**	**92.51**	**223**	P		**P**	**17 26 35.2**	**-1.6**
	comp=Z,0.9nm,0.9s,baz=45,slow=5.5,SNR=5.2								
ASAR	**Alice Springs**	**92.51**	**223**	P		**P**	**17 26 35.2**	**-1.6**
ASAR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
STKA	**Stephens Creek**	**97.79**	**214**	LR		LR	18 07 34.8		
	comp=Z,158nm,19.4s,baz=23,slow=33								
URZ	**Urewera**	**98.37**	**184**	LR		LR	18 06 09.6		
	comp=Z,127nm,18.9s,baz=41,slow=32								
QSPA	**South Pole Qui**	**150.15**	**180**	PKPbc		**PKPbc**	**17 33 14.6**	**-0.6**
	comp=Z,10nm,0.9s,baz=350,slow=1.0,SNR=17								
QSPA	**South Pole Qui**	**150.15**	**180**	*e*PKPbc		**PKPbc**	**17 33 13.3**	**-1.8**

*IDC **24** 17:17:30.6±2.2,29.°20S×68.°77W,h70km±19km,mb3.8/2, mb1 3.8/4,mb1mx3.5/34,mbtmp4.0/4,Error ellipse: s-maj=36.4km s-min=19.7km az=88.0*
*SJA **24** 17:17:32.3±0.7,29.°08S×69.°16W,h117km±6km,ML3.7, MW3.8*
*ISCJB **24** 17:17:33.0±0.6,29.°11S±0.°05×69.°12W±0.°05,h115km±6km, mb4.0/2,Error ellipse: s-maj=9.3km s-min=6.4km az=42.5*

ISC 24 17:17:33.8±0.9,29.°04S±0.°05×69.°12W±0.°05,h111km±8km, n17,σ1°50/24,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.86**	**69**	*e*P		**Pn**		**17 17 54.4**	**+0.5**
VCA				*e*S		**Sn**		**17 18 10.0**	**+1.0**
LCO	**Las Campanas**	**1.39**	**271**	*e*P		**Pn**		**17 17 59.2**	**-0.4**
LCO				*e*S		**Sn**		**17 18 18.2**	**-0.9**
ACLC	**CERRO LA CRUZ**	**1.93**	**102**	*e*P		**Pn**		**17 18 06.0**	**-0.2**
ACLC				*e*S		**Sn**		**17 18 30.1**	**-0.8**
AMOG	**MOGNA**	**1.96**	**164**	*e*P		**Pn**		**17 18 06.0**	**-0.5**
AMOG				*e*S		**Sn**	

MXZ	**Matakaoa Point**	**5.21**	**210**	PN	**Pn**	**17 25 01.6**	**+0.3**
MXZ				*e*SN	**Sn**	**17 26 00.5**	**+0.3**
WMGZ	**Waiomatatini S**	**5.38**	**208**	SN	**Sn**	**17 26 04.5**	**0.0**
HAZ	**Te Kaha**	**5.59**	**213**	PN	**Pn**	**17 25 07.6**	**+1.0**
HAZ				*e*SN	**Sn**	**17 26 10.0**	**+0.2**
TWGZ	**Tauwhareparae**	**5.86**	**209**	*e*PN	**Pn**	**17 25 11.1**	**+0.7**
CNGZ	**Carnagh Statio**	**6.04**	**206**	*e*PN	**Pn**	**17 25 13.5**	**+0.7**
MWZ	**Matawai**	**6.19**	**211**	PN	**Pn**	**17 25 15.0**	**+0.1**
URZ	**Urewera**	**6.31**	**214**	*e*PN	**Pn**	**17 25 16.5**	**-0.1**
	1.2nm,0.3s,baz=274,slow=4.9,SNR=33						
URZ				Sn	**Sn**	**17 26 26.9**	**-0.7**
	1.8nm,0.3s,baz=97,slow=22,SNR=11						
URZ	**Urewera**	**6.31**	**214**	*e*PN	**Pn**	**17 25 16.2**	**-0.3**
OUZ	**Omahuta**	**6.96**	**250**	*e*PN	**Pn**	**17 25 26.9**	**+1.5**
BKZ	**Black Stump Fm**	**7.33**	**213**	*e*PN	**Pn**	**17 25 30.9**	**+0.3**
BHHZ	**Black Hill Sta**	**7.79**	**213**	PN	**Pn**	**17 25 37.8**	**+1.0**
MRZ	**Mangatainoka R**	**8.96**	**211**	PN	Pn	17 25 50.2	-2.6
MRZ				*e*SN	Sn	17 27 24.4	-8.1
MQZ	**McQueen's Vall**	**12.70**	**211**	*e*SN	Sn	17 28 47.7	-16
HNR	**Honiara**	**30.88**	**315**	LR	LR	17 40 58.5	
	comp=Z,57nm,18.9s,baz=208,slow=34						
ASAR	**Alice Springs**	**42.70**	**270**	P	**P**	**17 31 39.2**	**-0.7**
	0.4nm,0.5s,baz=110,slow=7.4,SNR=14						
WRA	**Warramunga Arr**	**43.93**	**275**	P	**P**	**17 31 47.3**	**-2.5**
	0.6nm,0.4s,baz=114,slow=8.0,SNR=14						
FINES	**FINESS Array B**	**147.54**	**338**	PKPbc	**PKPbc**	**17 43 27.5**	**+1.7**
	2.9nm,1.0s,baz=104,slow=5.9,SNR=3.2						

*ISCJB **24** 17:31:25.7±0.6,7.°34S±0.°05×129.°4E±0.°1,h79km,mb3.7/4, Error ellipse: s-maj=15.7km s-min=6.4km az=2.8*
*IDC **24** 17:31:29.2±3.0,7.°40S×129.°73E,h111km±28km,mb3.5/4, mb1 3.8/8,mb1mx3.4/37,mbtmp4.0/8,Error ellipse: s-maj=36.2km s-min=21.8km az=70.0*

ISC 24 17:31:26.8±0.7,7.°41S±0.°06×129.°6E±0.°1,h79km,n19, σ2°53/18,mb3.8/4,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**5.19**	**31**	P	**Pn**	**17 32 43.8**	**+1.7**
	baz=5.6,SNR=32						
MTN	**Manton Dam**	**5.61**	**164**	P	Pn	17 32 51.8	+4.1
	baz=5.7,SNR=67						
SOEI	**Soe**	**5.76**	**246**	P	Pn	17 32 53.7	+3.8
	baz=5.2,SNR=13						
KDU	**Kakadu**	**5.96**	**152**	P	Pn	17 32 56.1	+3.6
	baz=6.2,SNR=48						
SIJI	**Sorong**	**6.71**	**14**	P	**Pn**	**17 33 05.1**	**+2.2**
	2.2nm,0.3s,baz=212,slow=21,SNR=17						
SIJI				S	**Sn**	**17 34 16.3**	**-1.6**
	5.9nm,0.3s,baz=138,slow=23,SNR=10.0						
SWI	**Sorong**	**6.71**	**14**	P	**Pn**	**17 33 05.2**	**+2.3**
	baz=7.0,SNR=6.6						
KNRA	**Kununurra**	**8.26**	**186**	P	**Pn**	**17 33 25.6**	**+1.8**
	baz=8.2,SNR=62						
JAY	**Jayapura**	**12.09**	**67**	P	**Pn**	**17 34 17.1**	**+0.8**
	0.2nm,0.3s,baz=243,slow=9.0,SNR=3.5						
WRA	**Warramunga Arr**	**13.28**	**160**	P	**Pn**	**17 34 31.6**	**-0.7**
	1.5nm,0.3s,baz=333,slow=12,SNR=33						
WRA				S	Sn	17 36 50.8	-7.4
	3.3nm,0.3s,baz=330,slow=23,SNR=15						
ASAR	**Alice Springs**	**16.68**	**166**	P	**P**	**17 35 16.9**	**0.0**
	0.4nm,0.3s,baz=349,slow=14,SNR=20						
ASAR				S	**Sn**	**17 38 14.9**	**-5.8**
	0.9nm,0.3s,baz=335,slow=22,SNR=8.3						
WRKA	**Warakurna**	**17.57**	**184**	P	**Pn**	**17 35 27.4**	**+0.7**
	baz=18,SNR=8.2						
QLP	**Quilpie**	**23.61**	**146**	P	**P**	**17 36 34.9**	**+4.1**
	baz=24,SNR=5.6						
CMSA	**Cobar Meteorol**	**28.32**	**150**	P	**P**	**17 37 16.2**	**+3.0**
	baz=29,SNR=8.5						
CMAR	**Chiang Mai Arr**	**39.69**	**311**	P	**P**	**17 38 51.3**	**-0.3**
	1.1nm,0.8s,baz=138,slow=6.8,SNR=5.4						
MKAR	**Makanchi Array**	**68.35**	**327**	P	**P**	**17 42 19.4**	**-0.5**
	1.1nm,0.5s,baz=124,slow=7.8,SNR=20						
ZALV	**Zalesovo Beam**	**71.77**	**334**	P	**P**	**17 42 38.7**	**-1.9**
	0.5nm,0.6s,baz=142,slow=5.4,SNR=4.6						
ILAR	**Eielson Array**	**93.89**	**25**	P	**P**	**17 44 33.5**	**-1.8**
	0.2nm,0.5s,baz=256,slow=3.6,SNR=3.5						
TXAR	**Lajitas Array**	**125.48**	**59**	PKP	**PKPdf**	**17 50 16.6**	**-3.1**
	0.1nm,0.4s,baz=270,slow=0.3,SNR=2.6						
TORD	**Torodi Ar. Bea**	**128.49**	**281**	PKP	**PKPdf**	**17 50 25.7**	**0.0**
	0.3nm,0.6s,baz=170,slow=2.5,SNR=3.1						

IDC 24 17:43:11.3±1.4,1.°36N×127.°13E,h0km,mb3.3/4, mb1 3.4/4,mb1mx3.2/36,mbtmp3.3/4,MS3.1/1,Ms1 3.1/1, ms1mx2.4/22,Error ellipse: s-maj=154.7km s-min=21.3km az=70.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.32**	**162**	P	P	17 48 11.0	+0.1
	0.3nm,0.6s,baz=341,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**25.73**	**166**	P	P	17 48 43.6	-0.2
	0.2nm,0.7s,baz=346,slow=12,SNR=4.1						
JCJ	**Chichijima**	**29.39**	**28**	LR	LR	18 02 25.5	
	comp=Z,35nm,18.1s,baz=22,slow=39						
SONM	**Songino Array**	**49.66**	**342**	P	P	17 52 05.0	0.0
	0.4nm,0.4s,baz=140,slow=9.2,SNR=2.6						
MKAR	**Makanchi Array**	**59.72**	**326**	P	P	17 53 17.8	-0.2
	0.4nm,0.5s,baz=123,slow=7.9,SNR=6.0						

TAP 24 17:57:56.7,21.°45N×122.°04E,h161km±1km,ML4.0,1C,D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.74**	**323**	P	Pn	17 58 20.6	-0.1
	baz=323						
TSEB	**Hengchuen, Pin**	**1.15**	**293**	*e*P	Pn	17 58 24.4	+0.7
	baz=292						
TSEB				*e*S	Sn	17 58 44.6	+0.1
	baz=292						
TWK1	**Hengchun**	**1.25**	**294**	*e*P	Pn	17 58 24.8	+0.2
	baz=293						
TWK1				*e*S	Sn	17 58 45.3	-0.7
	baz=293						
HEN	**Hengchun**	**1.33**	**295**	*e*P	Pn	17 58 25.7	+0.4
	baz=294						
HEN				*e*S	Sn	17 58 46.8	-0.6
	baz=294						
EAST	**Anshuo**	**1.44**	**310**	⇑P	Pn	17 58 26.5	0.0
	baz=310						
EAST				*e*S	Sn	17 58 48.1	-1.5
	baz=310						
ECL	**Taimali**	**1.52**	**319**	*e*P	Pn	17 58 26.8	-0.5
	baz=318						
ECL				*e*S	Sn	17 58 49.1	-1.8
	baz=318						
TTN	**Taitung**	**1.54**	**328**	*e*P	Pn	17 58 28.1	+0.6
	baz=327						
SCZT	**Fangliau**	**1.60**	**305**	P	Pn	17 58 28.2	+0.1
	baz=305						
SCZT				*e*S	Sn	17 58 51.2	-1.2
	baz=305						
TWG	**Pinlang**	**1.63**	**327**	*e*P	Pn	17 58 28.3	-0.1
	baz=327						
TWG				*e*S	Sn	17 58 52.0	-1.0
	baz=327						
CHKT	**Chengkung**	**1.76**	**339**	*e*P	Pn	17 58 29.7	-0.1
	baz=339						
TWP	**Hsiaoliuchiu**	**1.79**	**300**	*e*P	Pn	17 58 31.0	+0.9
	baz=300						
TWP				*e*S	Sn	17 58 54.4	-1.6
	baz=300						
SSD	**Sandimen**	**1.83**	**315**	P	Pn	17 58 30.8	+0.2
	baz=314						
SSD				*e*S	Sn	17 58 55.5	-1.3
	baz=314						
KAU	**Kaohsiung**	**1.95**	**305**	*e*P	Pn	17 58 33.1	+1.2
	baz=304						
ELDTW	**Lidau**	**1.97**	**332**	*e*P	Pn	17 58 32.3	0.0
	baz=331						
ELDTW				*e*S	Sn	17 58 58.5	-1.4
	baz=331						
TWF1	**Yuli**	**2.02**	**340**	*e*P	Pn	17 58 33.1	+0.4
	baz=340						
TWF1				*e*S	Sn	17 58 59.9	-0.6
	baz=340						
TWM1	**Shoushan**	**2.03**	**313**	*e*P	Pn	17 58 33.8	+1.0
	baz=312						
TWM1				*e*S	Sn	17 58 59.0	-1.8
	baz=312						
STYT	**Tauyuan**	**2.08**	**326**	*e*P	Pn	17 58 33.8	+0.3
	baz=325						
STYT				*e*S	Sn	17 59 00.5	-1.4
	baz=325						
SGST	**Jiashian**	**2.11**	**321**	*e*P	Pn	17 58 34.2	+0.4
	baz=320						
SGST				*e*S	Sn	17 59 00.7	-1.8
	baz=320						
EHY	**Hungye**	**2.15**	**342**	*e*P	Pn	17 58 34.9	+0.6
	baz=342						
EHY				*e*S	Sn	17 59 02.4	-0.9
	baz=342						
CHN1	**Nanshi**	**2.22**	**321**	P	Pn	17 58 35.3	+0.2
	baz=321						
CHN1				*e*S	Sn	17 59 04.3	-0.6
	baz=321						
CHN3	**Shinhua**	**2.24**	**317**	*e*P	Pn	17 58 36.4	+1.2
	baz=316						
TWK	**Hsinying**	**2.31**	**322**	P	Pn	17 58 36.2	+0.1
	baz=321						
TWK				*e*S	Sn	17 59 05.5	-1.2
	baz=321						
ESL	**Shilin**	**2.42**	**347**	*e*P	Pn	17 58 38.0	+0.6
	baz=346						
ESL				*e*S	Sn	17 59 07.7	-1.3
	baz=346						
SCLT	**Jiali**	**2.42**	**316**	*e*P	Pn	17 58 37.9	+0.5
	baz=315						
SCLT				*e*S	Sn	17 59 07.0	-1.9
	baz=315						
CHN5	**Tsauling**	**2.48**	**330**	*e*P	Pn	17 58 38.4	+0.2
	baz=329						
CHN5				*e*S	Sn	17 59 09.6	-0.8
	baz=329						
CHY	**Chiayi**	**2.53**	**324**	*e*S	Sn	17 59 10.8	-0.4
	baz=324						
WGK	**Gukeng**	**2.61**	**329**	*e*P	Pn	17 58 39.8	+0.1
	baz=328						
WGK				*e*S	Sn	17 59 12.6	-0.5
	baz=328						
SMLT	**Sun Moon Lake**	**2.64**	**337**	*e*P	Pn	17 58 40.8	+0.5
	baz=336						
SMLT				*e*S	Sn	17 59 12.4	-1.6
	baz=336						
TYC	**Yuchr**	**2.68**	**336**	*e*P	Pn	17 58 40.9	+0.4
	baz=336						
TYC				*e*S	Sn	17 59 14.0	-0.5
	baz=336						
WNT	**Mingjian**	**2.72**	**333**	*e*P	Pn	17 58 41.5	+0.5
	baz=332						
WSF	**Szhu**	**2.75**	**323**	*e*P	Pn	17 58 41.0	-0.4
	baz=322						
WSF				*e*S	Sn	17 59 15.1	-1.0
	baz=322						
WHF	**Hehuan Shan**	**2.78**	**345**	*e*P	Pn	17 58 42.9	+0.6
	baz=345						
WHF				*e*S	Sn	17 59 16.6	-1.1
	baz=345						
WDGT	**Dungji**	**2.84**	**310**	*e*P	Pn	17 58 42.0	-0.6
	baz=309						
WTCT	**Ta-ch'eng**	**2.90**	**326**	*e*P	Pn	17 58 43.5	+0.2
	baz=326						
WTCT				*e*S	Sn	17 59 18.8	-0.6
	baz=326						
TWQ1	**Liyutan**	**3.11**	**338**	*e*P	Pn	17 58 45.6	-0.3
	baz=338						
TWQ1				*e*S	Sn	17 59 22.0	-2.3
	baz=338						
PNG	**Penghu**	**3.12**	**313**	*e*P	Pn	17 58 45.3	-0.6
	baz=312						
KNM	**Kinmen**	**4.45**	**312**	*e*P	Pn	17 59 03.6	+0.6
	baz=310						

*ISCJB **24** 18:05:24.7±0.5,32.°30N±0.°02×115.°29W±0.°02,h14km±4km, mb3.2/1,Error ellipse: s-maj=3.4km s-min=3.0km az=166.8*
*ECX **24** 18:05:26.6±0.6,32.°30N×115.°37W,h5km,MD4.0,ML4.2*
*NEIC **24** 18:05:26.5,32.°23N×115.°37W,h8km,ML4.0(ECX), ML4.0(PAS),After ECX.*
*IDC **24** 18:05:29.4±1.9,32.°36N×114.°88W,h0km,mb3.5/1, mb1 3.6/4,mb1mx3.4/34,mbtmp3.1/4,ML3.9/2,Error ellipse: s-maj=30.8km s-min=13.9km az=46.0*

ISC 24 18:05:24.5±0.9,32.°26N±0.°02×115.°34W±0.°02,h11km±7km, n78,σ1°49/89,4C-5D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.16**	**10**	⇑*e*P	**Pg**	**18 05 28.6**	**+0.4**
CPBX				*e*S	**Sg**	**18 05 31.0**	**+0.4**
CPBX				⇓*e*		18 05 32.4	
CPBX				IAML		18 05 32.4	
	comp=N,311μm,0.2s						
SGL	**Mount Signal**	**0.51**	**320**	⇓*i*P	**Pg**	**18 05 34.6**	**+0.1**
DREC	**Desert Rsrch C**	**0.55**	**350**	*e*P	**Pb**	**18 05 36.0**	**-0.2**
ERPC	**Ernies Place**	**0.56**	**330**	⇓*i*P	**Pb**	**18 05 36.0**	**-0.3**
EMSC	**East Mesa**	**0.56**	**32**	⇑*i*P	**Pb**	**18 05 36.4**	**0.0**
WESC	**Westside Schoo**	**0.60**	**326**	*e*P	**Pb**	**18 05 36.6**	**-0.4**
RDX	**Rancho Dawling**	**0.61**	**238**	⇑*e*P	**Pb**	**18 05 37.2**	**0.0**
RDX				*e*S	**Sb**	**18 05 46.0**	**+0.1**
RDX				IAML		18 05 47.8	
	comp=N,6μm,0.5s						
RDX				⇑*e*		18 05 47.8	
YUH	**Yuha Desert**	**0.63**	**308**	⇓*i*P	**Pg**	**18 05 36.5**	**-0.2**
COK	**Cook Ranch**	**0.68**	**331**	⇓*i*P	**Pg**	**18 05 37.7**	**+0.1**
RMX	**La Rumorosa**	**0.71**	**299**	*e*P	**Pg**	**18 05 38.2**	**-0.2**
RMX				*e*S	**Sg**	**18 05 47.5**	**-0.3**
IBP	**Imperial Bould**	**0.76**	**302**	P	**Pg**	**18 05 38.9**	**-0.2**
	baz=0.8						
IBP				S	**Sg**	**18 05 48.9**	**-0.1**
	baz=0.8						
SWSC	**Sam W. Stewart**	**0.78**	**330**	P	**Pg**	**18 05 39.0**	**-0.6**
	baz=0.8						
SWSC				S	**Sg**	**18 05 49.8**	**-0.1**
	baz=0.8						
ECBX	**El Chinero**	**0.82**	**163**	*e*P	**Pg**	**18 05 40.7**	**+0.4**
ECBX				*e*S	**Sb**	**18 05 52.3**	**+0.6**
GLA	**Glamis**	**0.90**	**28**	P	**Pg**	**18 05 41.0**	**-0.9**
	baz=0.9						
GLA	**Glamis**	**0.90**	**28**	*e*Pn	**Pg**	**18 05 40.8**	**-1.1**
GLA				*e*Sn	**Sg**	**18 05 52.8**	**-0.8**
ZAX	**El Zacaton**	**1.09**	**227**	*e*P	**Pb**	**18 05 45.7**	**+0.3**
ZAX				*e*S	**Sb**	**18 06 00.9**	**+1.2**
MONP	**Monument Peak**	**1.11**	**305**	P	**Pg**	**18 05 44.7**	**-1.2**
	baz=1.1						
MONP				S	**Sg**	**18 05 59.3**	**-1.1**
	baz=1.1						
BAR	**Barrett**	**1.21**	**291**	*e*Pn	**Pg**	**18 05 46.6**	**-1.1**
BAR				*e*Sg	**Sg**	**18 06 02.0**	**-1.3**
BAR	**Barrett**	**1.21**	**291**	*e*P	**Pg**	**18 05 46.9**	**-0.7**
SPX	**San Pedro Mart**	**1.21**	**185**	*e*P	**Pg**	**18 05 47.8**	**0.0**
SPX				*e*S	**Sb**	**18 06 05.4**	**+1.9**
SPX				IAML		18 06 06.4	
	comp=E,2μm,0.6s						
ECNX	**Esteban Cantu**	**1.23**	**241**	*e*P	**Pg**	**18 05 47.9**	**-0.1**
ECNX				*e*S	**Sb**	**18 06 04.3**	**+0.7**
PBX	**Punta Banda**	**1.29**	**247**	*e*P	**Pg**	**18 05 48.7**	**-0.5**
PBX				*e*S	**Sb**	**18 06 06.1**	**+0.8**
BC3	**Big Chuckawall**	**1.40**	**356**	P	**Pn**	**18 05 48.2**	**-1.8**
	baz=1.4						
SDRC	**San Diego Road**	**1.44**	**290**	*e*P	**Pn**	**18 05 50.5**	**0.0**
109C	**Camp Elliot, M**	**1.62**	**293**	P	**Pn**	**18 05 52.6**	**-0.4**
	baz=1.6						
109C				S	**Sn**	**18 06 14.2**	**+0.3**
	baz=1.6						
Y12C	**Blythe**	**1.64**	**24**	P	**Pn**	**18 05 51.8**	**-1.4**
	baz=1.7						
PFO	**Pinyon Flat Ob**	**1.64**	**325**	P	**Pn**	**18 05 51.8**	**-1.7**
	baz=1.7						
PFO	**Pinyon Flat Ob**	**1.64**	**325**	*e*Pn	**Pn**	**18 05 51.8**	**-1.7**
IRM	**Iron Mountain**	**1.90**	**5**	P	**Pn**	**18 05 55.5**	**-1.4**
	baz=1.9						
MURC	**Murrieta**	**2.06**	**311**	Sb	**Sb**	**18 06 28.4**	**+0.8**
	baz=2.1						
214A	**Organ Pipe Nat**	**2.16**	**97**	P	**Pn**	**18 05 59.5**	**-1.0**
	baz=2.2						
214A	**Organ Pipe Nat**	**2.16**	**97**	*e*Pn	**Pn**	**18 05 59.3**	**-1.2**
214A				*e*Sn	**Sb**	**18 06 30.9**	**+0.3**
LDFC	**Landfair**	**2.82**	**4**	*e*Pn	**Pn**	**18 06 10.0**	**+0.4**
CIS	**Catalina Islan**	**2.82**	**295**	Sb	**Sb**	**18 06 50.6**	**+1.0**
	baz=2.8						
MWC	**Mount Wilson**	**3.01**	**311**	*e*Pn	**Pb**	**18 06 17.1**	**-1.1**
MWC				*e*Sn	**Sb**	**18 06 56.4**	**+1.4**
PASC	**Pasadena Art C**	**3.06**	**309**	*e*Pg	**Pb**	**18 06 18.5**	**-0.4**
PASC				*e*Sn	**Sb**	**18 06 57.2**	**+0.9**
DECC	**Green Verdugo**	**3.20**	**309**	Sb	**Sb**	**18 07 02.3**	**+1.9**
	baz=3.2						
GSC	**Goldstone**	**3.27**	**338**	*e*Pn	**Pb**	**18 06 22.4**	**-0.2**
EDW2	**Edwards Air Fo**	**3.43**	**320**	Sb	**Sb**	**18 07 09.5**	**+2.6**
	baz=3.4						
OSI	**Osito Adit**	**3.68**	**311**	*e*Pn	**Pn**	**18 06 22.5**	**+1.1**
OSI				*e*Sn	**Sb**	**18 07 16.7**	**+2.5**
TUC	**Tucson**	**3.86**	**88**	*e*Pn	**Pn**	**18 06 22.9**	**-1.0**
TUC				*e*Sn	**Sn**	**18 07 08.2**	**-1.0**
TUC				*e*Sg	**Sg**	**18 07 27.3**	**-1.0**
SHPR	**Sheep Range**	**4.24**	**2**	*e*Pn	**Pn**	**18 06 30.3**	**+1.1**
SHPR				*e*Sn	**Sb**	**18 07 35.7**	**+5.3**
ISA	**Isabella**	**4.28**	**323**	*e*Pn	**Pn**	**18 06 31.1**	**+1.4**
ISA				*e*Sn	**Sg**	**18 07 38.5**	**-3.4**
DAC	**Darwin (Calif)**	**4.42**	**336**	*e*Pn	**Pn**	**18 06 31.8**	**+0.1**
TPNV	**Topopah Spring**	**4.74**	**351**	*e*Pn	Pn	18 06 40.6	+4.5
KNB	**Kanab**	**5.18**	**23**	*e*Pn	**Pn**	**18 06 43.5**	**+1.3**
PTRM	**Twissleman Ran**	**5.28**	**311**	*e*Pn	**Pn**	**18 06 42.1**	**-1.3**
W18A	**Petrified Fore**	**5.47**	**57**	*e*Pn	**Pn**	**18 06 48.0**	**+1.8**
W18A				*e*Sg	**Sg**	**18 08 16.0**	**-4.1**
CCUT	**Cedar City**	**5.52**	**17**	*e*Pn	**Pn**	**18 06 48.0**	**+1.1**
MTUM	**Tungsten Hills**	**5.74**	**333**	*e*Pg	**Pg**	**18 07 11.7**	**-2.6**
TPH	**Tonopah**	**6.01**	**346**	*e*Pg	Pg	18 07 22.4	+2.9
R11A	**Troy Canyon, C**	**6.08**	**358**	*e*Pn	**Pn**	**18 06 54.9**	**+0.4**
R11A				*e*Pg	**Pg**	**18 07 20.7**	**-0.3**
LRV	**Little Rabbit**	**6.27**	**313**	*e*Pn	**Pn**	**18 06 57.0**	**0.0**
121A	**Cookes Peak, D**	**6.39**	**86**	*e*Pn	**Pn**	**18 06 59.4**	**+0.6**
	comp=E,15nm,0.5s						
NVAR	**Mina Array Bea**	**6.62**	**339**	Pn	Pn	18 07 10.3	+8.4
	comp=E,0.1nm,0.3s,baz=169,slow=15,SNR=2.4						
MVU	**Marysvale**	**6.73**	**21**	*e*Pn	Pn	18 07 06.8	+3.3
MSU	**Marysvale**	**6.75**	**22**	*e*Pn	Pn	18 07 08.2	+4.4
WAKR	**Walker**	**7.07**	**333**	*e*Pn	Pn	18 07 15.1	+6.9
CMB	**Columbia Colle**	**7.09**	**326**	*e*Pn	**Pn**	**18 07 07.9**	**-0.4**
CMB				*e*Sg	Sg	18 09 04.9	-7.2
LAZ	**Ladron**	**7.19**	**70**	*e*Pg	**Pg**	**18 07 41.8**	**-0.3**
LENM	**Lemitar**	**7.26**	**73**	*e*Pn	Pn	18 07 03.3	-7.4
MVCO	**Mesa Verde**	**7.49**	**47**	*e*Pn	**Pn**	**18 07 16.5**	**+2.6**
BNM	**Barren Site**	**7.54**	**73**	*e*Pn	**Pn**	**18 07 16.3**	**+1.7**
LPM	**Los Pinos Moun**	**7.57**	**72**	*e*Pn	**Pn**	**18 07 12.8**	**-2.1**
PV05	**Paradox Valley**	**7.73**	**40**	*e*Pn	Pn	18 07 21.1	+3.9
TMUT	**Trail Mountain**	**7.78**	**24**	*e*Pn	**Pn**	**18 07 16.6**	**-1.4**
SRU	**San Rafael**	**7.88**	**28**	*e*Pn	**Pn**	**18 07 19.7**	**+0.5**
PV10	**Paradox Valley**	**7.98**	**38**	*e*Pn	**Pn**	**18 07 22.6**	**+2.0**
PV09	**Paradox Valley**	**8.03**	**37**	*e*Pn	**Pn**	**18 07 22.5**	**+1.2**
PV01	**Paradox Valley**	**8.06**	**41**	*e*Pn	**Pn**	**18 07 24.6**	**+2.8**
PV04	**Paradox Valley**	**8.07**	**39**	*e*Pn	**Pn**	**18 07 24.9**	**+3.1**
NLU	**North Lily Min**	**8.12**	**18**	*e*Pn	**Pn**	**18 07 20.4**	**-2.2**
DUG	**Dugway**	**8.18**	**14**	*e*Pn	Pn	18 07 20.7	-2.6
TXAR	**Lajitas Array**	**10.45**	**103**	Pn	**Pn**	**18 07 57.4**	**+3.0**
	comp=E,0.3nm,0.3s,baz=283,slow=14,SNR=14						
TXAR				Lg	Lg	18 10 59.5	
	comp=E,0.1nm,0.3s,baz=279,slow=25,SNR=6.0						
PDAR	**Pinedale Array**	**11.45**	**22**	Pn	Pn	18 08 13.3	+5.3
	comp=E,0.1nm,0.3s,baz=188,slow=11,SNR=2.3						
PDAR				Lg	Lg	18 11 24.9	
	comp=E,0.1nm,0.3s,baz=183,slow=29,SNR=3.2						
PHWY	**Pilot Hill**	**12.00**	**38**	*e*Pn	Pn	18 08 11.1	-4.6
BBOR	**Butler Butte**	**12.10**	**333**	*e*Pn	Pn	18 08 10.4	-6.5
BBOR				*e*Sn	Sn	18 10 51.2	+19
ILAR	**Eielson Array**	**37.88**	**339**	P	P	18 12 46.7	+5.5
	comp=E,0.3nm,0.6s,baz=155,slow=7.0,SNR=5.5						

*IDC **24** 18:10:42.0±9.7,21.°96S×169.°52E,h76km±56km,mb3.4/5, mb1 3.6/6,mb1mx3.4/32,mbtmp3.7/6,ML3.1/1,MS3.6/1, Ms1 3.6/1,ms1mx2.7/20,Error ellipse: s-maj=116.2km s-min=34.2km az=121.0*

ISC 24 18:10:35.0±1.7,22.°0S±0.°3×169.°8E±0.°1,h25km,n8, σ1°47/8,mb3.6/5,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.15**	**268**	P	**Pn**	**18 11 25.5**	**+2.4**
	3.0nm,0.3s,baz=270,slow=20,SNR=98						
DZM				S	**Sb**	**18 12 06.8**	**-1.5**
	4.4nm,0.3s,baz=91,slow=24,SNR=5.4						
RPZ	**Rata Peaks**	**21.69**	**178**	LR	LR	18 22 00.9	
	comp=Z,157nm,19.1s,baz=348,slow=31						
STKA	**Stephens Creek**	**26.96**	**243**	P	**P**	**18 16 14.6**	**-0.1**
	1.2nm,0.7s,baz=86,slow=11,SNR=3.9						
ASAR	**Alice Springs**	**33.11**	**260**	P	**P**	**18 17 08.3**	**-1.0**
	0.5nm,0.8s,baz=78,slow=9.5,SNR=6.6						
WRA	**Warramunga Arr**	**33.16**	**267**	P	**P**	**18 17 09.0**	**-0.7**
	0.4nm,0.9s,baz=91,slow=8.4,SNR=4.0						
MJAR	**Matsushiro Arr**	**65.44**	**332**	P	**P**	**18 21 15.4**	**-0.4**
	1.4nm,0.9s,baz=167,slow=7.6,SNR=7.2						
KSRS	**Korea Array**	**71.08**	**326**	P	**P**	**18 21 51.6**	**+0.5**
	1.4nm,1.0s,baz=134,slow=5.1,SNR=4.8						
GERES	**GERESS Array B**	**147.16**	**330**	PKPbc	**PKPbc**	**18 30 15.1**	**-0.8**
	0.6nm,0.7s,baz=62,slow=5.0,SNR=5.4						

IDC 24 18:19:53.9±2.1,1.°19N×126.°64E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.3/34,mbtmp3.3/3,Error ellipse: s-maj=178.8km s-min=24.6km az=66.0,Northern Molucca Sea

| Code |

az=177.1
*IDC **24** 18:55:43.3±0.8, 44˚.42N×33˚.10E, h0km, mb3.7/4, mb1 3.8/9, mb1mx3.5/48, mbtmp3.6/9, ML3.2/4, MS3.1/2, Ms1 3.1/2, ms1mx2.3/42, Error ellipse: s-maj=13.2km s-min=9.1km az=54.0*
*SIGU **24** 18:55:45.9±0.3, 44˚.22N×33˚.22E, h28km±7km, mb2.8/7*
*MOS **24** 18:55:45.4±1.2, 44˚.40N×32˚.93E, h28km, mb4.0/5, Error ellipse: s-maj=9.7km s-min=9.0km az=29.4*
*CSEM **24** 18:55:47.2±0.2, 44˚.42N×33˚.00E, h30km, mb3.8/4, Error ellipse: s-maj=8.8km s-min=3.4km az=179.0*

ISC 24 18:55:44.5±0.7, 44˚.29N±0˚.05×33˚.01E±0˚.03, h10km, n110, σ1§82/130, mb3.7/5, 26C-20D, Crimea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEV	**Sevastopol'**	**0.53**	**62**	⇓*i*P	**Pg**	**18 55 55.9**	**+1.0**
SEV				*e*		18 56 03.1	
SEV	**Sevastopol'**	**0.53**	**62**	*i* P	**Pg**	**18 55 55.9**	**+1.0**
SEV				*e*S	**Sg**	**18 56 03.1**	**+1.2**
SEV	**Sevastopol'**	**0.53**	**62**	*i* Pg	**Pg**	**18 55 55.9**	**+1.0**
	baz=44						
SEV				Pgm		18 55 59.6	
	baz=44						
SEV				*e*Sg	**Sg**	**18 56 03.1**	**+1.2**
	baz=44						
SEV				Sgm		18 56 04.1	
	baz=44						
YAL	**Yalta**	**0.84**	**76**	*i* P	**Pg**	**18 56 00.9**	**+0.2**
YAL				*e*		18 56 11.3	
YAL	**Yalta**	**0.84**	**76**	*i* P	**Pg**	**18 56 00.9**	**+0.2**
YAL				*e*S	**Sg**	**18 56 11.3**	**-0.4**
YAL	**Yalta**	**0.84**	**76**	*i* Pg	**Pg**	**18 56 00.9**	**+0.2**
	baz=67						
YAL				Pgm		18 56 03.9	
	baz=67						
YAL				*e*Sg	**Sg**	**18 56 11.3**	**-0.4**
	baz=67						
YAL				Sgm		18 56 13.7	
	baz=67						
YAL				Sgm		18 56 13.9	
	baz=67						
SIM	**Simferopol'**	**1.02**	**50**	*e*P	**Pg**	**18 56 04.7**	**+0.5**
SIM				*i*		18 56 18.4	
SIM	**Simferopol'**	**1.02**	**50**	*e*P	**Pg**	**18 56 04.7**	**+0.5**
SIM				*i* S	**Sg**	**18 56 18.4**	**+0.9**
SIM	**Simferopol'**	**1.02**	**50**	*e*Pg	**Pg**	**18 56 04.9**	**+0.7**
	baz=40						
SIM				Pgm		18 56 06.3	
	baz=40						
SIM				*e*Sg	**Sg**	**18 56 18.4**	**+0.9**
	baz=40						
SIM				Sgm		18 56 20.6	
	baz=40						
SIM				Sgm		18 56 20.8	
	baz=40						
ALU	**Alushta**	**1.07**	**68**	*i* P	**Pg**	**18 56 05.2**	**+0.2**
ALU				*e*		18 56 19.0	
ALU	**Alushta**	**1.07**	**68**	*i* P	**Pg**	**18 56 05.2**	**+0.2**
ALU				*e*S	**Sg**	**18 56 19.0**	**+0.1**
ALU	**Alushta**	**1.07**	**68**	*i* Pg	**Pg**	**18 56 05.2**	**+0.2**
	baz=60						
ALU				Pgm		18 56 07.7	
	baz=60						
ALU				*e*Sg	**Sg**	**18 56 19.0**	**+0.1**
	baz=60						
ALU				Sgm		18 56 23.3	
	baz=60						
ALU				Sgm		18 56 23.5	
	baz=60						
SUDU	**Sudak**	**1.54**	**67**	⇓*e*P	**Pn**	**18 56 13.9**	**+1.9**
SUDU				*e*		18 56 33.8	
SUDU	**Sudak**	**1.54**	**67**	*e*P	**Pn**	**18 56 13.9**	**+1.9**
SUDU				*e*S	**Sn**	**18 56 33.8**	**+1.8**
SUDU	**Sudak**	**1.54**	**67**	*e*Pg	**Pn**	**18 56 13.9**	**+1.9**
	baz=61						
SUDU				Pgm		18 56 15.2	
	baz=61						
SUDU				*e*Sg	**Sn**	**18 56 33.8**	**+1.8**
	baz=61						
SUDU				Sgm		18 56 36.2	
	baz=61						
SUDU				Sgm		18 56 37.9	
	baz=61						
FEO	**Feodosiya**	**1.84**	**66**	*e*P	**Pn**	**18 56 17.6**	**+1.4**
FEO				*e*		18 56 40.8	
FEO	**Feodosiya**	**1.84**	**66**	*e*P	**Pn**	**18 56 17.6**	**+1.4**
FEO				*e*S	**Sn**	**18 56 40.8**	**+1.2**
FEO	**Feodosiya**	**1.84**	**66**	*e*Pn	**Pn**	**18 56 17.6**	**+1.4**
	baz=61						
FEO				Pnm		18 56 19.6	
	baz=61						
FEO				*e*Sn	**Sn**	**18 56 40.8**	**+1.2**
	baz=61						
FEO				Snm		18 56 43.8	
	baz=61						
FEO				Snm		18 56 43.8	
	baz=61						
KERU	**Kerch**	**2.66**	**66**	*e*P	**Pn**	**18 56 27.7**	**+0.4**
KERU	**Kerch**	**2.66**	**66**	*e*P	**Pn**	**18 56 27.7**	**+0.4**
TLCR		**3.12**	**288**	⇑*i*P	**Pn**	**18 56 34.1**	**+0.4**
TLCR		**3.12**	**288**	⇑*i*P	**Pn**	**18 56 34.1**	**+0.4**
TLCR				S	**Sn**	**18 57 06.8**	**-4.2**
EFOR	**EFORIE**	**3.16**	**268**	⇓*i*P	Pn	18 56 33.0	-1.2
EFOR	**EFORIE**	**3.16**	**268**	⇓*i*P	Pn	18 56 33.0	-1.2
EFOR				S	**Sn**	**18 57 09.4**	**-2.5**
ANN	**Anapa**	**3.20**	**79**	*i* P	**Pn**	**18 56 35.0**	**+0.2**
ANN				*i*		18 57 10.0	
ANN				pmax	pmax		
	comp=N,7.0nm,0.4s						
ANN				pmax	pmax		
	comp=E,7.0nm,0.4s						
ANN				pmax	pmax		
	comp=Z,23nm,0.4s						
ANN	**Anapa**	**3.20**	**79**	*i* P	**Pn**	**18 56 35.0**	**+0.2**
	comp=Z,23nm,0.4s						
ANN				*i* S	**Sn**	**18 57 10.0**	**-3.0**
ANN	**Anapa**	**3.20**	**79**	*i* Pn	**Pn**	**18 56 35.0**	**+0.2**
	baz=75						
ANN				Pnm		18 56 35.6	
	baz=75						
ANN				*i* Sn	**Sn**	**18 57 10.6**	**-2.4**
	baz=75						
ANN				Snm		18 57 14.4	
	baz=75						
ANN				Snm		18 57 14.5	
	baz=75						
MANR	**Mangalia**	**3.23**	**263**	S	**Sn**	**18 57 11.9**	**-1.7**
MANR	**Mangalia**	**3.23**	**263**	S	**Sn**	**18 57 11.9**	**-1.7**
TIRR	**Tirgusor**	**3.30**	**274**	⇓*i*P	**Pn**	**18 56 36.1**	**-0.1**
TIRR	**Tirgusor**	**3.30**	**274**	⇓*i*P	**Pn**	**18 56 36.1**	**-0.1**
TIRR				S	**Sn**	**18 57 12.3**	**-3.2**
CVD	**Cernavoda**	**3.58**	**272**	⇑*i*P	**Pn**	**18 56 40.8**	**+0.8**
CVD	**Cernavoda**	**3.58**	**272**	⇑*i*P	**Pn**	**18 56 40.8**	**+0.8**
CVD				S	**Sn**	**18 57 20.0**	**-2.2**
CFR	**Carcaliu**	**3.58**	**286**	⇓*i*P	**Pn**	**18 56 40.1**	**0.0**
CFR	**Carcaliu**	**3.58**	**286**	⇓*i*P	**Pn**	**18 56 40.1**	**0.0**
CFR				S	**Sn**	**18 57 18.8**	**-3.7**
GIUM	**Giurgiulesti**	**3.62**	**291**	⇓*i*P	**Pn**	**18 56 40.8**	**+0.3**
GIUM	**Giurgiulesti**	**3.62**	**291**	⇓*i*P	**Pn**	**18 56 40.8**	**+0.3**
HARR	**Harsova**	**3.66**	**278**	⇑*i*P	**Pn**	**18 56 41.5**	**+0.4**
HARR	**Harsova**	**3.66**	**278**	⇑*i*P	**Pn**	**18 56 41.5**	**+0.4**
MSAB	**Monastry St. A**	**3.74**	**269**	⇓*i*P	**Pn**	**18 56 42.8**	**+0.6**
MSAB	**Monastry St. A**	**3.74**	**269**	⇓*i*P	**Pn**	**18 56 42.8**	**+0.6**
MSAB				S	**Sn**	**18 57 23.9**	**-2.3**
KIS	**Kishinev**	**4.00**	**314**	*e*P	**Pg**	**18 57 04.0**	**+3.0**
KIS				*e*S	**Sb**	**18 57 48.0**	**+4.7**
KIS	**Kishinev**	**4.00**	**314**	*e*P	**Pg**	**18 57 04.0**	**+3.0**
KIS	**Kishinev**	**4.00**	**314**	*e*P	**Pg**	**18 57 04.0**	**+3.0**
AMRR	**Amara**	**4.08**	**276**	⇑*i*P	**Pn**	**18 56 46.2**	**-0.7**
AMRR	**Amara**	**4.08**	**276**	⇑*i*P	**Pn**	**18 56 46.2**	**-0.7**
GRER		**4.43**	**286**	S	**Sn**	**18 57 39.3**	**-4.0**
GRER		**4.43**	**286**	S	**Sn**	**18 57 39.3**	**-4.0**
BRTR	**Keskin Array B**	**4.59**	**174**	Pn	**Pn**	**18 56 56.2**	**+2.2**
	comp=Z,0.6nm,0.3s,baz=20,slow=9.0,SNR=27						
BRTR				Sn	Sn	18 57 45.4	-2.2
	comp=Z,0.9nm,0.3s,baz=190,slow=30,SNR=10						
BRTR	**Keskin Array B**	**4.59**	**174**	P	**Pn**	**18 56 56.3**	**+2.2**
BRTR						18 57 45.4	
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRTR				smax	smax		
	comp=N,1.0nm,0.3s						
ISR	**Istrita**	**4.69**	**282**	⇑*i*P	**Pn**	**18 56 56.3**	**+1.0**
ISR	**Istrita**	**4.69**	**282**	⇑*i*P	**Pn**	**18 56 56.3**	**+1.0**
VRI	**Vrincioaia**	**4.72**	**292**	⇑*i*P	**Pn**	**18 56 56.7**	**+1.0**
VRI	**Vrincioaia**	**4.72**	**292**	⇑*i*P	**Pn**	**18 56 56.7**	**+1.0**
VRI				S	**Sn**	**18 57 46.5**	**-4.0**
SULR		**4.85**	**277**	⇑*i*P	**Pn**	**18 56 58.7**	**+1.2**
SULR		**4.85**	**277**	⇑*i*P	**Pn**	**18 56 58.7**	**+1.2**
SORM	**Soroca**	**5.02**	**322**	⇑*i*P	**Pn**	**18 56 59.5**	**-0.3**
SORM	**Soroca**	**5.02**	**322**	⇑*i*P	**Pn**	**18 56 59.5**	**-0.3**
SORM				S	**Sn**	**18 57 53.0**	**-4.9**
MLR	**Muntele Rosu**	**5.16**	**286**	Pn	**Pn**	**18 57 03.9**	**+2.0**
	comp=N,0.7nm,0.3s,baz=90,slow=1.0,SNR=38						
MLR				Sn	**Sn**	**18 58 01.8**	**+0.3**
	comp=N,1.6nm,0.3s,baz=105,slow=22,SNR=12						
MLR	**Muntele Rosu**	**5.16**	**286**	P	**Pn**	**18 57 03.9**	**+2.0**
MLR						18 58 01.8	
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MLR				smax	smax		
	comp=N,2.0nm,0.3s						
MLR	**Muntele Rosu**	**5.16**	**286**	⇑*i*P	**Pn**	**18 57 03.6**	**+1.7**
MLR	**Muntele Rosu**	**5.16**	**286**	S	**Sn**	**18 57 57.1**	**-4.5**
DOPR	**Dopca**	**5.65**	**290**	⇑*i*P	**Pn**	**18 57 09.5**	**+1.0**
DOPR	**Dopca**	**5.65**	**290**	⇑*i*P	**Pn**	**18 57 09.5**	**+1.0**
VOIR		**5.77**	**284**	⇓*i*P	**Pn**	**18 57 11.6**	**+1.3**
VOIR		**5.77**	**284**	⇓*i*P	**Pn**	**18 57 11.6**	**+1.3**
VOIR				S	**Sn**	**18 58 12.9**	**-3.7**
ARR	**Arges**	**6.05**	**283**	⇑*i*P	**Pn**	**18 57 15.5**	**+1.4**
ARR	**Arges**	**6.05**	**283**	⇑*i*P	**Pn**	**18 57 15.5**	**+1.4**
BURAR	**Bucovina Array**	**6.37**	**304**	⇓*i*P	**Pn**	**18 57 19.4**	**+1.0**
BURAR	**Bucovina Array**	**6.37**	**304**	⇓*i*P	**Pn**	**18 57 19.4**	**+1.0**
BURAR				S	**Sn**	**18 58 26.6**	**-4.6**
CHVG	**Ch'k'valeri**	**6.78**	**100**	⇑*i*P	Pn	18 57 34.2	+10
KIEV	**Kiev**	**6.90**	**339**	⇓*i*P	**Pn**	**18 57 24.7**	**-0.9**
KIEV	**Kiev**	**6.90**	**339**	*i* P	**Pn**	**18 57 24.7**	**-0.9**
AKASG	**Malin Array Be**	**6.90**	**340**	Pn	**Pn**	**18 57 24.5**	**-1.2**
	comp=N,8.1nm,0.3s,baz=198,slow=23,SNR=24						
AKASG				Sn	Sn	18 58 37.5	-6.7
	comp=N,21nm,0.3s,baz=152,slow=25,SNR=12						
AKASG	**Malin Array Be**	**6.90**	**340**	P	**Pn**	**18 57 24.5**	**-1.2**
AKASG						18 58 37.5	
AKASG				pmax	pmax		
	comp=Z,8.0nm,0.3s						
AKASG				smax	smax		
	comp=N,21nm,0.3s						
KIV	**Kislovodsk**	**6.97**	**89**	⇓*e*P	**Pn**	**18 57 27.3**	**+0.6**
KIV				pmax	pmax		
	comp=Z,15nm,2.3s						
KIV				MLR	MLR		
	comp=Z,32nm,15.0s						
KIV	**Kislovodsk**	**6.97**	**89**	*e*P	**Pn**	**18 57 27.3**	**+0.6**
	comp=Z,32nm,15.0s						
CJR	**Cluj-Napoca**	**7.04**	**293**	⇓*i*P	**Pn**	**18 57 28.5**	**+0.8**
CJR	**Cluj-Napoca**	**7.04**	**293**	⇓*i*P	**Pn**	**18 57 28.5**	**+0.8**
NEY	**Neytrino**	**7.11**	**95**	⇑*e*P	**Pn**	**18 57 31.6**	**+2.9**
NEY	**Neytrino**	**7.11**	**95**	*e*P	**Pn**	**18 57 31.6**	**+2.9**
KBZ	**Khabaz**	**7.15**	**91**	Pn	**Pn**	**18 57 29.8**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=290,slow=7.8,SNR=6.0						
BMR	**Baia Mare**	**7.44**	**300**	⇑*i*P	**Pn**	**18 57 32.5**	**-0.5**
BMR	**Baia Mare**	**7.44**	**300**	⇑*i*P	**Pn**	**18 57 32.5**	**-0.5**
ZAPS	**Zavoj**	**7.58**	**266**	*e*Pn	**Pn**	**18 57 35.2**	**+0.2**
BZS	**Buzias**	**8.19**	**283**	⇑*i*P	**Pn**	**18 57 42.3**	**-1.1**
BARS	**Barje**	**8.27**	**264**	*e*Pn	**Pn**	**18 57 46.1**	**+1.7**
KOLS	**Kolonicke sedl**	**8.72**	**306**	*e*P	**Pn**	**18 57 52.1**	**+1.4**
KOLS				*e*		18 59 24.5	
KOLS	**Kolonicke sedl**	**8.72**	**306**	*e*P	**Pn**	**18 57 52.1**	**+1.4**
KOLS				*e*S	**Sn**	**18 59 24.5**	**-4.6**
KOLS	**Kolonicke sedl**	**8.72**	**306**	*e*PN	**Pn**	**18 57 52.1**	**+1.4**
KOLS				*e*SN	**Sn**	**18 59 24.5**	**-4.6**
GRUS	**Gruza**	**8.86**	**272**	*e*Pn	**Pn**	**18 57 52.7**	**+0.1**
KECS	**Kecovo**	**9.61**	**300**	*e*P	**Pn**	**18 58 02.7**	**-0.2**
KECS				*e*		18 59 45.3	
KECS	**Kecovo**	**9.61**	**300**	*e*P	**Pn**	**18 58 02.7**	**-0.2**
KECS				*e*S	Sn	18 59 45.3	-5.6
KECS	**Kecovo**	**9.61**	**300**	*e*PN	**Pn**	**18 58 02.7**	**-0.2**
KECS				*e*SN	Sn	18 59 45.3	-5.6
DAVOX	**Davos/Dischmat**	**16.39**	**287**	LR	LR	19 07 58.8	
	comp=Z,28nm,18.8s,baz=86,slow=45						
FINES	**FINESS Array B**	**17.66**	**349**	P	Pn	18 59 44.4	-6.0
	comp=Z,0.5nm,0.3s,baz=159,slow=15,SNR=14						
FINES				S	Sn	19 02 47.0	-20
	comp=Z,0.2nm,0.3s,baz=153,slow=28,SNR=3.3						
HFS	**Hagfors**	**19.66**	**331**	P	**P**	**19 00 12.3**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=138,slow=12,SNR=16						
HFS				S	S	19 03 41.0	-14
	comp=Z,0.3nm,0.3s,baz=136,slow=23,SNR=4.1						
HFS	**Hagfors**	**19.66**	**331**	P	**P**	**19 00 12.3**	**-1.0**
HFS				S	S	19 03 41.0	-14
HFS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARU	**Arti**	**20.18**	**44**	P	P	19 00 15.8	-3.2
ARU				pmax	pmax		
	comp=Z,3.0nm,1.4s						
ARU	**Arti**	**20.18**	**44**	P	P	19 00 15.8	-3.2
	comp=Z,3.0nm,1.4s						
NB2	**NORSAR Subarra**	**21.18**	**330**	P	**P**	**19 00 28.1**	**-1.7**
	comp=Z,0.6nm,0.4s,baz=142,slow=11						
NB2	**NORSAR Subarra**	**21.18**	**330**	P	**P**	**19 00 28.1**	**-1.7**
	comp=Z,0.6nm,0.4s,SNR=4.4						
NOA	**NORSAR Array B**	**21.18**	**330**	P	**P**	**19 00 28.6**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=134,slow=8.6,SNR=5.2						
NOA	**NORSAR Array B**	**21.18**	**330**	P	**P**	**19 00 28.6**	**-1.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**25.59**	**354**	P	**P**	**19 01 12.7**	**-0.8**
	comp=Z,6.2nm,1.2s,baz=146,slow=7.0,SNR=4.6						
ARCES	**ARCESS Array B**	**25.59**	**354**	P	**P**	**19 01 12.7**	**-0.8**
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KURK	**Kurchatov**	**31.07**	**62**	P	P	19 01 57.9	-4.6
KURK				pmax	pmax		
	comp=Z,2.0nm,1.8s						
TORD	**Torodi Ar. Bea**	**40.98**	**231**	P	**P**	**19 03 28.1**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=38,slow=8.4,SNR=4.6						
TORD				LR	LR	19 22 24.3	
	comp=Z,50nm,21.6s,baz=205,slow=39						
YKA	**Yellowknife Ar**	**70.44**	**345**	P	**P**	**19 06 57.7**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=21,slow=7.9,SNR=3.0						
YKA	**Yellowknife Ar**	**70.44**	**345**	P	**P**	**19 06 57.7**	**-0.8**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*ISCJB **24** 18:59:47.6±1.1, 21˚.7S×169˚.8E±0˚.2, h25km, mb4.0/9, MS3.5/1, Error ellipse: s-maj=22.8km s-min=18.6km az=18.7*
*IDC **24** 18:59:54.9±4.6, 21˚.87S×169˚.53E, h68km, 37km, mb3.8/9, mb1 3.9/10, mb1mx3.7/34, mbtmp4.1/10, ML3.6/1, MS3.5/2, Ms1 3.4/2, ms1mx2.9/20, Error ellipse: s-maj=38.3km s-min=24.7km az=90.0*

ISC 24 18:59:49.7±1.1, 21˚.8S±0˚.2×169˚.7E±0˚.1, h25km, n13, σ1§21/13, mb4.1/9, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.04**	**264**	P	**Pn**	**19 00 38.1**	**+1.8**
	8.0nm,0.3s,baz=270,slow=24,SNR=178						
DZM				S	**Sb**	**19 01 19.4**	**-0.6**
	14nm,0.3s,baz=92,slow=23,SNR=7.4						
RAO	**Raoul Island**	**13.43**	**126**	LR	LR	19 06 27.5	
	comp=Z,116nm,19.9s,baz=258,slow=29						
RPZ	**Rata Peaks**	**21.92**	**177**	P	**P**	**19 04 42.1**	**+0.9**
	17nm,1.0s,baz=1.0,slow=3.9,SNR=5.0						
STKA	**Stephens Creek**	**26.96**	**242**	P	**P**	**19 05 27.5**	**-1.9**
	1.6nm,0.7s,baz=94,slow=12,SNR=5.9						
STKA				LR	LR	19 15 34.7	
	comp=Z,136nm,18.7s,baz=226,slow=35						
ASAR	**Alice Springs**	**33.03**	**260**	P	**P**	**19 06 22.6**	**-0.6**
	1.0nm,0.7s,baz=79,slow=8.7,SNR=7.8						
WRA	**Warramunga Arr**	**33.06**	**267**	P	**P**	**19 06 22.7**	**-0.8**
	0.6nm,0.8s,baz=92,slow=8.6,SNR=6.3						
MJAR	**Matsushiro Arr**	**65.18**	**332**	P	**P**	**19 10 28.8**	**0.0**
	2.4nm,0.9s,baz=164,slow=7.1,SNR=10						
JNU	**Nakatsue**	**65.97**	**325**	P	**P**	**19 10 35.0**	**+1.0**
	6.9nm,1.0s,baz=103,slow=7.0,SNR=4.5						
ASAJ	**Asahikawa**	**70.11**	**340**	P	**P**	**19 11 00.5**	**+0.8**
	1.5nm,0.7s,baz=158,slow=17						
KSRS	**Korea Array**	**70.83**	**326**	P	**P**	**19 11 03.5**	**-0.7**
	1.3nm,0.8s,baz=136,slow=8.2,SNR=12						
CMAR	**Chiang Mai Arr**	**79.94**	**294**	P	**P**	**19 11 57.9**	**+0.9**
	1.1nm,0.9s,baz=139,slow=4.0,SNR=4.9						
BRG	**Berggiesshubel**	**145.31**	**333**	*e*P	**PKPbc**	**19 19 23.4**	**-1.5**
	4.4nm,0.9s						
GERES	**GERESS Array B**	**146.90**	**331**	PKPbc	**PKPdf**	**19 19 27.6**	**-0.5**
	1.1nm,0.8s,baz=29,slow=3.0,SNR=8.6						

*NEIC **24** 19:01:19.6, 16˚.03N×97˚.73W, h10km, MD4.1(MEX), After MEX.*

MEX 24 19:01:19.6±0.6, 16˚.03N×97˚.73W, h10km±8km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.52**	**313**	*i* P	Pg	19 01 28.8	-1.1
PNIG				*i* S	Sg	19 01 36.3	-0.5
PNIG	**Pinotepa**	**0.52**	**313**	*i* P	Pg	19 01 28.8	-1.1
PNIG				*i* S	Sg	19 01 36.3	-0.5
VHO	**Vista Hermosa**	**1.41**	**43**	*e*P	Pn	19 01 41.5	-4.2
VHO				*e*S	Sn	19 01 58.8	-5.7
VHO	**Vista Hermosa**	**1.41**	**43**	*e*P	Pn	19 01 41.5	-4.2
VHO				*e*S	Sn	19 01 58.8	-5.7
HUIG	**Huatulco**	**1.58**	**99**	*e*P	Pn	19 01 44.9	-2.8
HUIG				*e*S	Sn	19 02 03.4	-5.0
HUIG	**Huatulco**	**1.58**	**99**	*e*P	Pn	19 01 44.9	-2.8
HUIG				*e*S	Sn	19 02 03.4	-5.0
TLIG	**Tlapa**	**1.72**	**332**	*i* P	Pn	19 01 47.1	-2.7
TLIG				*i* S	Sn	19 02 07.8	-4.2
TPIG	**Tehuac#an**	**2.40**	**8**	*e*P	Pn	19 01 55.8	-3.5
TPIG				*i* S	Sn	19 02 23.9	-5.0
TPIG	**Tehuac#an**	**2.40**	**8**	*e*P	Pn	19 01 55.8	-3.5
TPIG				*i* S	Sn	19 02 23.9	-5.0
PLIG	**Platanillo**	**2.89**	**324**	*i* P	Pn	19 02 03.2	-2.7
PLIG				*i* S	Sn	19 02 37.2	-3.8
PLIG	**Platanillo**	**2.89**	**324**	*i* P	Pn	19 02 03.2	-2.7
PLIG				*i* S	Sn	19 02 37.2	-3.8
ARIG	**Puente Sto Nin**	**3.35**	**312**	*i* P	Pn	19 02 10.1	-2.1
ARIG				*i* S	Sn	19 02 48.2	-4.0

*IDC **24** 19:08:57.2±3.6, 36˚.41N×71˚.33E, h199km±33km, mb3.4/11, mb1 3.5/16, mb1mx3.3/49, mbtmp4.0/16, Error ellipse: s-maj=23.1km s-min=13.7km az=175.0*
*ISCJB **24** 19:08:58.1±0.3, 36˚.70N±0˚.03×71˚.27E±0˚.05, h200km, mb3.5/11, Error ellipse: s-maj=5.2km s-min=3.7km az=168.6*
*NNC **24** 19:09:03.8±2.1, 37˚.10N×71˚.15E, h201km±14km, mb3.3, mpv4.5, Error ellipse: s-maj=21.6km s-min=9.3km az=161.0*

ISC 24 19:08:59.3±0.7, 36˚.75N±0˚.06×71˚.22E±0˚.06, h200km, n50, σ1§07/47, mb3.7/11, 10C-10D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.79**	**318**	⇑P	**Pn**	**19 09 48.0**	**+1.5**
	65nm,0.2s						
DZET				⇑S	**Sn**	**19 10 23.1**	**-0.5**
	621nm,0.4s						
CEP	**Cherat**	**2.98**	**169**	⇓P	**Pn**	**19 09 48.9**	**+0.1**
CEP				S	**Sn**	**19 10 26.0**	**-1.5**
CHCP	**Chirah Chowk**	**3.51**	**151**	P	**Pn**	**19 09 55.4**	**+0.3**
SFK	**Sufi-Kurgan**	**3.71**	**28**	⇓P	**Pn**	**19 09 59.0**	**+1.3**
SFK				⇓S	**Sn**	**19 10 42.5**	**-1.1**
	324nm,0.5s						
THW	**Thamme Wali**	**3.97**	**174**	P	Pn	19 10 00.4	-0.4
SARP	**Sargodha**	**4.97**	**166**	P	Pn	19 10 11.9	-1.4
AML	**Almayashu**	**5.70**	**19**	P	**Pn**	**19 10 23.8**	**+0.8**
	SNR=161						
DLH	**Dalhousie**	**5.74**	**136**	*e*P	Pn	19 10 22.0	-1.4
DLH				*e*S	Sn	19 11 25.0	-4.8
KZA	**Kyzart**	**6.16**	**29**	P	**Pn**	**19 10 28.9**	**0.0**
	SNR=17						
EKS2	**Erkin-Say**	**6.22**	**18**	P	**Pn**	**19 10 30.3**	**+1.0**
	SNR=30						
KK31	**Karatay Array**	**6.37**	**355**	⇓P	**Pn**	**19 10 31.9**	**+0.7**
	6.2nm,0.3s,baz=178,slow=14						
KK31				⇑S	**Sn**	**19 11 41.1**	**-3.0**
	38nm,0.4s,baz=182,slow=23						
AAK	**Ala-Archa**	**6.39**	**22**	P	**Pn**	**19 10 32.8**	**+1.2**
	SNR=23						
AAK	**Ala-Archa**	**6.39**	**22**	⇑P	**Pn**	**19 10 32.5**	**+0.9**
	21nm,0.5s						
AAK				⇓S	**Sn**	**19 11 43.1**	**-1.8**
	68nm,0.7s						
KBK	**Karagaybulak**	**6.56**	**25**	P	**Pn**	**19 10 34.7**	**+0.9**
	SNR=43						
ULHL	**Ulahol**	**6.72**	**34**	P	**Pn**	**19 10 36.9**	**+0.9**
	SNR=20						
CHMS	**Chumysh**	**6.80**	**22**	P	**Pn**	**19 10 37.3**	**+0.5**
	SNR=26						
USP	**Ospenovka**	**6.97**	**20**	P	**Pn**	**19 10 39.7**	**+0.6**
	SNR=28						
TKM2	**Tokmak 2**	**7.02**	**27**	P	**Pn**	**19 10 40.6**	**+0.8**
	SNR=78						
TKM2	**Tokmak 2**	**7.02**	**27**	⇓P	**Pn**	**19 10 40.5**	**+0.6**
	87nm,0.9s						
TKM2				⇑S	**Sn**	**19 11 57.9**	**-1.8**
	17nm,0.8s						
SDNR	**Sundarnagar**	**7.08**	**136**	*e*P	Pn	19 10 39.0	-1.6
SDNR				*e*S	Sn	19 11 52.0	-9.1
SMLA	**Simla**	**7.47**	**137**	⇑*i*P	Pn	19 10 44.3

comp=Z,1.8nm,0.7s,baz=49,slow=5.6,SNR=24
YKA Yellowknife Ar 80.98 3 P **P** 19 20 50.6 -0.4
comp=Z,0.5nm,0.4s,baz=351,slow=5.5,SNR=5.3
WRA Warramunga Arr 81.97 122 P P 19 20 53.7 -3.2
comp=Z,0.4nm,0.7s,baz=328,slow=5.9,SNR=4.3

BJI ***24*** *19:17:48.2, 13.˙34S×114.˙79E, h10km, mb4.9/51, mB5.0/38, Ms4.5/39, Ms7 4.4/24*
AUST ***24*** *19:17:52.7±0.3, 12.˙75S×114.˙45E, h0km, Error ellipse: s-maj=7.4km s-min=5.1km az=43.0*
ISCJB ***24*** *19:17:53.6±0.2, 12.˙63S±0.˙02×114.˙51E±0.˙02, h10km, mb4.9/65, MS3.8/19, Error ellipse: s-maj=3.2km s-min=2.4km az=35.5*
IDC ***24*** *19:17:54.6±0.5, 12.˙56S×114.˙59E, h0km, mb4.7/23, mb1 4.9/25, mb1mx4.8/29, mbtmp4.8/25, ML5.2/2, MS3.9/18, Ms1 3.9/18, ms1mx3.8/27, Error ellipse: s-maj=15.9km s-min=11.8km az=69.0*
GCMT ***24*** *19:17:56.0±0.3, 12.˙66S×114.˙59E, h17km±1km, MW5.1/70, Moment Tensor Solution. s30,c37; s70,c118; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=-3.57±.26; Mθθ=4.72±.16; Mφφ=1.16±.18; Mrθ=0.88±.34; Mrφ=1.07±.11; Mθφ=1.60±.58; Best double couple: M₀=4.72300×10¹⁶ NP1:φs=238.00000°,δ57.00000°,λ=-120.00000°. NP2: φs=104.00000°,δ43.00000°,λ-52.00000°. Principal axes: T 5.0670, Plg8.0000°, Azm348.0000°; N -0.6970, Plg25.0000°, Azm255.0000°; P -4.3790, Plg64.0000°, Azm95.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***24*** *19:17:56.0±1.1, 12.˙56S×114.˙64E, h24km, mb5.1/31, MS4.1/5 Error ellipse: s-maj=11.6km s-min=6.6km az=117.2*
NEIC ***24*** *19:17:56.0±0.2, 12.˙55S×114.˙52E, h10km, mb5.0/39, Error ellipse: s-maj=6.8km s-min=5.0km az=225.0*
ISC 24 19:17:57.1±0.4, 12°66S±0.˙03×114°58E±0.˙04, h19km±1km, n463, σt1s49/474, mb5.0/65, MS3.9/19, 33C-24D, Northwest of Australia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**3.86**	**8**	P	P	**Pn**	**19 18 53.8**	**-1.7**
IGBI				S	S	**Sn**	**19 19 37.9**	**-2.4**
DNP	**Denpasar**	**4.00**	**9**	P	P	**Pn**	**19 18 56.0**	**-1.5**
DNP				S	S	**Sn**	**19 19 40.8**	**-3.2**
SRBI	**Singaraja**	**4.59**	**8**	P	P	**Pn**	**19 19 04.8**	**-0.7**
ABJI	**Asem Bagus**	**4.84**	**356**	P	P	**Pn**	**19 19 08.8**	**-0.2**
BLJI	**Banyuglugur**	**4.98**	**349**	P	P	**Pn**	**19 19 10.7**	**-0.2**
BLJI				S	S	**Sn**	**19 20 05.9**	**-2.1**
KMMI	**Kalianget**	**5.61**	**354**	P	P	**Pn**	**19 19 19.5**	**0.0**
	201nm,0.7s,4μm1.4nm							
GRJI	**Gresik**	**6.07**	**340**	P	P	**Pn**	**19 19 25.5**	**-0.4**
	334nm,1.0s,4μm1.5nm							
NGJI	**Ngawi**	**6.09**	**329**	P	P	**Pn**	**19 19 26.2**	**+0.1**
	463nm,1.1s,4.0nm							
NGJI				S	S	**Sn**	**19 20 36.5**	**+1.2**
	463nm,1.1s,4.0nm							
UGM	**Wanagama**	**6.17**	**319**	P	P	**Pn**	**19 19 25.9**	**-1.5**
	3μm,0.6s,34μm12nm							
UGM				S	S	**Sn**	**19 20 32.8**	**-4.8**
	3μm,0.6s,34μm12nm							
UGM	**Wanagama**	**6.17**	**319**	⇑P	P	**Pn**	**19 19 24.7**	**-2.7**
	baz=6.2							
UGM	**Wanagama**	**6.17**	**319**	*e*Pn	P	**Pn**	**19 19 24.7**	**-2.7**
UGM				*e*Sn	S	Sn	19 20 29.6	-8.0
WSI	**Waingapu**	**6.35**	**63**	P	P	**Pn**	**19 19 28.2**	**-1.6**
	2μm,0.6s,21μm20nm							
WSI				S	S	**Sn**	**19 20 45.0**	**+3.1**
	2μm,0.6s,21μm20nm							
TBJI	**Tambak Boyo**	**6.39**	**335**	P	P	**Pn**	**19 19 29.7**	**-0.7**
	268nm,0.9s,5μm2.6nm							
TBJI				S	S	**Sn**	**19 20 43.4**	**+0.5**
	268nm,0.9s,5μm2.6nm							
SMRI	**Semarang**	**6.90**	**323**	P	P	**Pn**	**19 19 36.3**	**-1.1**
	614nm,0.7s,2.2nm							
SMRI				S	S	**Sn**	**19 20 54.3**	**-1.2**
	614nm,0.7s,2.2nm							
SMRI	**Semarang**	**6.90**	**323**	⇑P	P	**Pn**	**19 19 36.1**	**-1.3**
	baz=6.9							
SMRI	**Semarang**	**6.90**	**323**	*e*Pn	P	Pn	19 19 32.6	-4.7
SMRI				*e*Sn	S	Sn	19 20 36.8	-19
BWJI	**Bawean**	**7.02**	**344**	S	S	**Sn**	**19 20 58.9**	**+0.5**
CMJI	**Cimerak**	**7.73**	**308**	P	P	**Pn**	**19 19 46.3**	**-2.5**
	893nm,0.8s,11μm2.8nm							
CISI	**Cisompet, Garu**	**8.37**	**307**	P	P	**Pn**	**19 19 55.0**	**-2.5**
	1μm,0.5s,18μm							
CISI				S	S	**Sn**	**19 21 30.7**	**-0.9**
	1μm,0.5s,18μm							
CISI	**Cisompet, Garu**	**8.37**	**307**	⇓P	P	**Pn**	**19 19 54.8**	**-2.7**
	baz=8.3							
CISI	**Cisompet, Garu**	**8.37**	**307**	*e*Pn	P	Pn	19 19 54.2	-3.3
CISI				*e*Sn	S	Sn	19 21 19.3	-12
MMRI	**Maumere**	**8.53**	**63**	P	P	**Pn**	**19 19 59.5**	**-0.1**
	872nm,0.5s,9μm							
MMRI	**Maumere**	**8.53**	**63**	*e*Pn	P	**Pn**	**19 19 57.7**	**-1.9**
MMRI				*e*Sn	S	Sn	19 21 27.7	-7.7
BSSI	**Bau Bau, Buton**	**8.71**	**43**	P	P	**Pn**	**19 20 01.8**	**-0.4**
	400nm,0.5s,5μm							
LEM	**Lembang**	**8.98**	**310**	P	P	**Pn**	**19 20 05.2**	**-0.8**
	338nm,0.9s,3μm							
LEM	**Lembang**	**8.98**	**310**	Pn		**Pn**	**19 20 05.5**	**-0.5**
	16nm,0.3s,baz=124,slow=12,SNR=31							
LEM				Sn		**Sn**	**19 21 46.3**	**-0.5**
	17nm,0.3s,baz=180,slow=20,SNR=4.2							
LEM				LR		LR	19 23 38.3	
	comp=Z,597nm,18.8s,baz=177,slow=38							
XMI	**Christmas Isla**	**8.98**	**283**	⇑P		Pn	19 20 02.5	-3.4
	baz=8.9							
XMIS	**Christmas Isla**	**9.01**	**283**	⇓P		Pn	19 20 02.5	-3.8
	baz=8.9							
XMIS	**Christmas Isla**	**9.01**	**283**	*e*Pn		Pn	19 20 02.5	-3.8
XMIS				*e*Sn		Sn	19 21 31.1	-16
CNJI	**Cibinong**	**9.06**	**305**	P		**Pn**	**19 20 04.7**	**-2.2**
	516nm,0.8s,8μm							
BKSI	**Bulukumba**	**9.12**	**37**	P		**Pn**	**19 20 07.3**	**-0.5**
	261nm,0.7s,3μm							
BBKI	**Banjar Baru**	**9.14**	**2**	P		**Pn**	**19 20 08.3**	**+0.2**
	237nm,1.1s,3μm							
KAPI	**Kappang**	**9.15**	**34**	Pn		**Pn**	**19 20 07.3**	**-1.0**
	919nm,0.4s,SNR=44							
KAPI	**Kappang**	**9.15**	**34**	Pn		**Pn**	**19 20 07.4**	**-0.9**
	33nm,0.3s,baz=204,slow=7.5,SNR=99							
KAPI				Sn		Sn	19 21 41.8	-9.1
	27nm,0.3s,baz=232,slow=23,SNR=12							
KAPI				LR		LR	19 23 41.1	
	comp=Z,710nm,19.7s,baz=194,slow=38							
KAPI	**Kappang**	**9.15**	**34**	*e*Pn		**Pn**	**19 20 07.2**	**-1.0**
KAPI				*e*Sn		Sn	19 21 40.2	-11
KBKI	**Kotabaru**	**9.43**	**10**	P		**Pn**	**19 20 11.9**	**-0.2**
	79nm,0.9s,991nm							
SKJI	**Sukabumi**	**9.69**	**305**	P		**Pn**	**19 20 14.8**	**-0.9**
	502nm,0.9s,6μm							
MBWA	**Marble Bar**	**9.79**	**150**	*e*Pn		Pn	19 20 12.5	-4.4
MBWA				*e*Sn		Sn	19 21 49.6	-17
SOEI	**Soe**	**9.94**	**74**	P		**Pn**	**19 20 19.3**	**+0.2**
	498nm,0.8s,4μm							
SOEI	**Soe**	**9.94**	**74**	⇑P		**Pn**	**19 20 18.5**	**-0.6**
	baz=10							
SOEI	**Soe**	**9.94**	**74**	*e*Pn		**Pn**	**19 20 17.6**	**-1.5**
SOEI				*e*Sn		Sn	19 21 54.6	-16
GIRL	**Giralia**	**9.94**	**182**	⇓P		Pn	19 20 14.9	-4.1
	baz=9.9							
SPSI	**Sidrap Palu**	**10.05**	**31**	P		**Pn**	**19 20 20.5**	**0.0**
	68nm,0.6s,657nm							
PBKI	**Pangkalan Bun**	**10.30**	**344**	P		**Pn**	**19 20 23.8**	**-0.2**
	120nm,1.3s,2μm							
CGJI	**Cibinong**	**10.62**	**304**	P		**Pn**	**19 20 26.0**	**-2.3**
	315nm,0.7s,5μm							
TTSI	**Tana Toraja**	**10.87**	**29**	P		**Pn**	**19 20 32.9**	**+1.1**
	89nm,0.9s,871nm							
BLSI	**Bandar Lampung**	**11.72**	**307**	P		**Pn**	**19 20 42.7**	**-0.7**
	119nm,0.5s							
TPI	**Tanjungpandan**	**11.99**	**325**	P		**Pn**	**19 20 46.1**	**-1.0**
	26nm,1.1s							
KASI	**Kota Agung**	**12.21**	**305**	P		**Pn**	**19 20 48.7**	**-1.5**
	146nm,0.7s,1μm							
KLI	**Kotabumi**	**12.33**	**308**	P		**Pn**	**19 20 50.8**	**-1.1**
	122nm,0.8s							
KLSI		**12.54**	**308**	P		**Pn**	**19 20 53.4**	**-1.3**
	114nm,0.8s							
PCI	**Palu**	**12.79**	**24**	P		**Pn**	**19 20 58.4**	**+0.3**
	59nm,1.3s,862nm							
LWLI	**Liwa**	**12.86**	**305**	P		**Pn**	**19 20 58.3**	**-0.9**
	94nm,0.7s,4μm							
STKI	**Sintang**	**13.01**	**346**	P		**Pn**	**19 21 00.8**	**-0.3**
	123nm,1.4s							
MDSI	**Maura Dua**	**13.10**	**307**	P		**Pn**	**19 21 00.4**	**-1.9**
	58nm,0.8s							
PPBI	**Pangkal Pinang**	**13.36**	**321**	P		**Pn**	**19 21 04.8**	**-1.1**
	75nm,0.8s,668nm							
APSI	**Ampana**	**13.62**	**32**	P		**Pn**	**19 21 09.7**	**+0.3**
	54nm,1.3s,768nm							
PMBI	**Palembang**	**13.70**	**314**	P		P	19 21 22.4	+3.3
MPSI	**Mapaga**	**13.95**	**23**	P		**Pn**	**19 21 14.5**	**+0.6**
	28nm,1.0s,427nm							
LHSI	**Lahat**	**14.02**	**308**	P		**Pn**	**19 21 13.0**	**-1.8**
	167nm,0.8s,2μm							
KNRA	**Kununurra**	**14.08**	**104**	⇓P		**Pn**	**19 21 13.6**	**-2.1**
	baz=14							
LUWI	**Luwuk**	**14.11**	**36**	P		**Pn**	**19 21 17.6**	**+1.4**
	84nm,0.9s,974nm							
LUWI	**Luwuk**	**14.11**	**36**	⇑P		**Pn**	**19 21 17.6**	**+1.4**
	baz=14							
LUWI	**Luwuk**	**14.11**	**36**	*e*Pn		**Pn**	**19 21 16.7**	**+0.6**
MNAI	**Manna**	**14.14**	**305**	P		**Pn**	**19 21 13.8**	**-2.7**
	343nm,1.3s							
MNAI	**Manna**	**14.14**	**305**	*e*Pn		**Pn**	**19 21 13.5**	**-3.0**
MEEK	**Meekatharra**	**14.42**	**165**	⇑P		Pn	19 21 16.2	-4.1
	baz=14							
KSM	**Kuching**	**14.66**	**343**	*e*Pn		Pn	19 21 18.0	-5.8
KSI	**Kapahiang**	**14.85**	**306**	P		**Pn**	**19 21 23.4**	**-2.9**
	543nm,0.8s,4μm							
MRSI	**Marisa**	**14.96**	**30**	P		**Pn**	**19 21 28.8**	**+1.1**
	47nm,1.1s							
TOLI	**Toli-Toli**	**15.02**	**25**	*e*Pn		**Pn**	**19 21 26.6**	**-1.8**
	120nm,0.6s							
SBUM	**Sibu**	**15.19**	**351**	*e*Pn		**Pn**	**19 21 29.1**	**-1.7**
	234nm,1.4s							
JMBI	**JAMBI**	**15.40**	**314**	P		P	19 21 49.9	+12
SANI	**Sanana**	**15.45**	**48**	P		**Pn**	**19 21 35.4**	**+1.1**
	40nm,0.7s							
NLAI	**Namlea**	**15.53**	**54**	P		**Pn**	**19 21 35.5**	**+0.3**
	56nm,0.9s,664nm							
KMSI	**Cibinong**	**16.12**	**36**	P		**Pn**	**19 21 43.3**	**-0.4**
	342nm,1.2s,3μm							
MTN	**Manton Dam**	**16.15**	**92**	⇓P		Pn	**19 21 41.7**	**-1.6**
	baz=16							
SAUI	**Saumlaki**	**17.09**	**76**	P		**P**	**19 21 56.3**	**-0.6**
	522nm,1.1s							
TSM	**Tawau**	**17.16**	**11**	⇓P		**P**	**19 21 59.1**	**+1.6**
TSM	**Tawau**	**17.16**	**11**	⇓P		**P**	**19 21 59.1**	**+1.6**
BNDI	**Bandanaira**	**17.17**	**63**	P		**P**	**19 21 57.7**	**0.0**
	462nm,0.7s							
RGRI	**Rengat**	**17.23**	**314**	P		**Pn**	**19 21 56.5**	**-0.4**
PPSI	**Pulau Pagai**	**17.45**	**303**	P		**Pn**	**19 21 56.0**	**-3.6**
	378nm,0.7s							
KDU	**Kakadu**	**17.46**	**92**	⇑P		**Pn**	**19 21 59.0**	**-0.8**
	baz=18							
SDSI	**Sungai Dareh**	**17.48**	**311**	P		**Pn**	**19 21 59.3**	**-0.7**
	96nm,0.8s,19μm							
LBMI	**Labuha**	**17.52**	**48**	P		**P**	**19 22 01.3**	**-0.2**
	90nm,0.8s,949nm							
MYKOM	**Kota Tinggi**	**17.87**	**323**	⇓P		**Pn**	**19 22 03.3**	**-1.6**
MYKOM	**Kota Tinggi**	**17.87**	**323**	⇓P		**Pn**	**19 22 03.3**	**-1.6**
MYKOM	**Kota Tinggi**	**17.87**	**323**	*e*Pn		**Pn**	**19 22 02.2**	**-2.6**
	169nm,1.5s							
WRKA	**Warakurna**	**17.88**	**135**	P		**Pn**	**19 22 02.0**	**-2.9**
	baz=18,SNR=63							
BLDU	**Balliduu**	**17.98**	**174**	⇓P		**Pn**	**19 22 01.9**	**-4.2**
	baz=18,SNR=137							
MYLDM	**Lahad Datu**	**18.14**	**13**	⇑P		**P**	**19 22 10.1**	**+1.7**
MYLDM	**Lahad Datu**	**18.14**	**13**	⇑P		**P**	**19 22 10.1**	**+1.7**
MYLDM	**Lahad Datu**	**18.14**	**13**	*e*Pn		**P**	**19 22 09.3**	**+0.9**
	143nm,1.0s							
SDKM	**Sandakan**	**18.36**	**8**	⇑P		**Pn**	**19 22 12.8**	**+1.8**
SDKM	**Sandakan**	**18.36**	**8**	⇑P		**Pn**	**19 22 12.8**	**+1.8**
KGM	**Kluang**	**18.37**	**322**	⇓P		**P**	**19 22 09.6**	**-1.3**
KGM	**Kluang**	**18.37**	**322**	⇓P		**P**	**19 22 09.6**	**-1.3**
TNTI	**Ternate**	**18.41**	**44**	P		**P**	**19 22 09.9**	**-1.5**
	138nm,1.2s,1μm							
TNTI	**Ternate**	**18.41**	**44**	*e*P		**P**	**19 22 09.8**	**-1.7**
	162nm,1.2s							
TNTI				*e*Sn		**Sn**	**19 25 35.0**	**-2.0**
PPI	**Padang Panjang**	**18.56**	**310**	P		**P**	**19 22 12.6**	**-0.5**
	42nm,0.8s							
BKNI	**Bangkinang**	**18.62**	**313**	P		**Pn**	**19 22 14.1**	**0.0**
	158nm,1.1s,2μm							
BKNI	**Bangkinang**	**18.62**	**313**	*e*P		**P**	**19 22 11.9**	**-1.8**
	266nm,1.3s							
KKM	**Kota Kinabalu**	**18.65**	**5**	⇓P		**P**	**19 22 13.8**	**-0.3**
	baz=19,SNR=5.3							
KKM	**Kota Kinabalu**	**18.65**	**5**	*e*P		**P**	**19 22 12.7**	**-1.5**
	88nm,1.1s							
SISI	**Saibi**	**19.03**	**305**	P		**P**	**19 22 18.0**	**-0.2**
	115nm,0.8s							
KLBR	**Kellerberrin**	**19.07**	**172**	⇑P		**P**	**19 22 15.7**	**-2.8**
	baz=19,SNR=87							
KMBL	**Kambalda**	**19.80**	**161**	P		**P**	**19 22 25.4**	**-1.1**
	baz=20,SNR=14							
FAKI	**Fak Fak**	**19.99**	**63**	P		**P**	**19 22 26.7**	**-2.0**
	75nm,1.0s,723nm							
FAKI	**Fak Fak**	**19.99**	**63**	*e*P		**P**	**19 22 26.2**	**-2.5**
	73nm,1.0s							
FAKI				*e*S		**S**	**19 26 10.5**	**-2.4**
MNSI	**Mandailing Nat**	**20.00**	**311**	P		**P**	**19 22 26.6**	**-2.2**
	48nm,0.7s							
SWI	**Sorong**	**20.27**	**56**	P		**P**	**19 22 31.0**	**-0.8**
	244nm,0.8s,2μm							
SWI	**Sorong**	**20.27**	**56**	P		**P**	**19 22 30.9**	**-0.9**
	baz=20,SNR=32							
SIJI	**Sorong**	**20.27**	**56**	P		**P**	**19 22 30.6**	**-1.1**
	93nm,0.7s,baz=259,slow=6.9,SNR=53							
SIJI				S		**S**	**19 26 16.2**	**-2.4**
	6.8nm,0.9s,baz=252,slow=20,SNR=3.4							
WRA	**Warramunga Arr**	**20.29**	**113**	P		**P**	**19 22 32.5**	**+0.5**
	14nm,0.6s,baz=288,slow=11,SNR=93							
WRA				S		S	19 26 04.7	-14
	20nm,0.9s,baz=280,slow=25,SNR=6.8							
WRA				LR		LR	19 30 16.2	
	comp=Z,559nm,21.7s,baz=325,slow=36							
WRAB	**Tennant Creek**	**20.30**	**113**	P		**P**	**19 22 33.2**	**+1.1**
	349nm,0.9s,SNR=12							
WRAB	**Tennant Creek**	**20.30**	**113**	*e*P		**P**	**19 22 31.9**	**-0.2**
WRAB				pmax		pmax		
	comp=Z,43nm,0.6s							
WRAB	**Tennant Creek**	**20.30**	**113**	*e*P		**P**	**19 22 31.9**	**-0.2**
	comp=Z,43nm,0.6s							
WRAB				*e*S		S	19 26 02.0	-17
NWAO	**Narrogin (SRO)**	**20.32**	**174**	P		**P**	**19 22 32.3**	**+0.1**
	comp=Z,64nm,0.7s,baz=330,slow=14,SNR=38							
NWAO				S		S	19 26 04.0	-15
	comp=Z,40nm,0.7s,baz=329,slow=18,SNR=3.8							
NWAO				LR		LR	19 31 18.8	
	comp=Z,5.7nm,18.7s,baz=334,slow=39							
NWAO	**Narrogin (SRO)**	**20.32**	**174**	⇑P		**P**	**19 22 30.4**	**-1.8**
	baz=20,SNR=37							
NWAO				⇑P		**P**	**19 22 30.4**	**-1.8**
	baz=20,SNR=37							
NWAO	**Narrogin (SRO)**	**20.32**	**174**	*e*P		**P**	**19 22 30.0**	**-2.2**
	comp=Z,50nm,0.6s							
NWAO				S		S	19 26 04.0	-15
FRIM	**Kepong**	**20.37**	**320**	⇑P		Pn	19 22 33.9	-1.1
FRIM	**Kepong**	**20.37**	**320**	⇑P		Pn	19 22 33.9	-1.1
PBSI	**Pulau Batu**	**20.45**	**307**	P		**P**	**19 22 33.0**	**-0.7**
	comp=Z,131nm,1.0s							
ASAR	**Alice Springs**	**21.35**	**124**	P		**P**	**19 22 44.0**	**+0.5**
	comp=Z,47nm,0.8s,baz=302,slow=10,SNR=622							
ASAR				S		**S**	**19 26 35.9**	**-4.1**
	comp=Z,69nm,1.0s,baz=293,slow=22,SNR=8.2							
ASAR				LR		LR	19 30 58.0	
	comp=Z,438nm,19.6s,baz=295,slow=37							
AS31	**Alice Springs**	**21.35**	**124**	*e*P		**P**	**19 22 44.0**	**+0.5**
AS31				*e*S		S	19 26 29.0	-11
IPM	**Ipoh**	**21.71**	**321**	⇓P		**P**	**19 22 48.1**	**+0.8**
IPM	**Ipoh**	**21.71**	**321**	⇓P		**P**	**19 22 48.1**	**+0.8**
IPM	**Ipoh**	**21.71**	**321**	*e*P		**P**	**19 22 47.4**	**+0.1**
	comp=Z,46nm,0.6s							
GSI	**Gunungsitoli**	**21.84**	**308**	P		**P**	**19 22 48.5**	**-0.3**
	comp=Z,68nm,0.7s							
GSI	**Gunungsitoli**	**21.84**	**308**	*e*S		**P**	**19 22 46.9**	**-1.9**
	comp=Z,42nm,0.6s							
GSI				*e*S		S	19 26 20.7	-29
PSI	**Prapat**	**21.85**	**314**	P		**P**	**19 22 46.7**	**-2.3**
	comp=Z,10nm,0.8s,baz=154,slow=6.6,SNR=4.9							
FORT	**Forrest**	**21.92**	**147**	⇓P		**P**	**19 22 49.6**	**+0.2**
	baz=22,SNR=28							
FORT	**Forrest**	**21.92**	**147**	*e*P		**P**	**19 22 49.4**	**0.0**
	comp=Z,610nm,0.8s							
FORT				*e*S		S	19 26 38.2	-13
RKGY	**Rocky Gully**	**21.96**	**175**	⇑P		**P**	**19 22 49.8**	**-0.1**
	baz=22,SNR=7.5							
CTBH	**Cotabato--PC H**	**21.96**	**26**	⇓*i*P		**P**	**19 22 50.7**	**+0.7**
H01W3	**Cape Leeuwin H**	**22.13**	**181**	P		P	19 23 02.5	+11
	baz=8.0,slow=13,SNR=6.5							
H01W1	**Cape Leeuwin H**	**22.14**	**181**	P		P	19 22 60.0	+8.4
	baz=8.0,slow=13,SNR=5.4							
H01W2	**Cape Leeuwin H**	**22.15**	**181**	P		P	19 23 02.3	+11
	baz=8.0,slow=13,SNR=5.6							
KULM	**Kulim**	**22.57**	**321**	⇑P		**P**	**19 22 55.8**	**-0.7**
KULM	**Kulim**	**22.57**	**321**	⇑P		**P**	**19 22 55.8**	**-0.7**
KULM	**Kulim**	**22.57**	**321**	*e*P		**P**	**19 22 55.5**	**-1.0**
	comp=Z,48nm,1.1s							
TSI	**Tuntungan**	**22.60**	**314**	P		**P**	**19 22 56.4**	**-0.4**
	comp=Z,60nm,0.6s							
TRTT	**Trang**	**25.17**	**323**	P		**P**	**19 23 22.0**	**+0.5**
	comp=Z,73nm,0.8s							
QIS	**Mount Isa**	**25.21**	**111**	⇑P		**P**	**19 23 22.0**	**0.0**
	baz=25,SNR=8.2							
KRAB	**Krabi**	**25.77**	**323**	P		**P**	**19 23 27.5**	**+0.6**
	comp=Z,143nm,0.9s,comp=Z,1μm							
SMPI	**Sarmi**	**26.15**	**68**	P		**P**	**19 23 31.2**	**+0.8**
	comp=Z,60nm,1.4s,comp=Z,2μm							
SURT	**Suratani**	**26.59**	**323**	P		P	19 23 43.5	+9.1
COEN	**Coen**	**27.86**	**96**	P		**P**	**19 23 46.2**	**+0.3**
	baz=28,SNR=7.4							
BBOO	**Buckleboo**	**28.09**	**139**	⇓P		**P**	**19 23 47.5**	**-0.2**
	baz=28,SNR=13							
BBOO	**Buckleboo**	**28.09**	**139**	*e*P		**P**	**19 23 47.0**	**-0.8**
	comp=Z,37nm,0.7s							
BBOO				*e*S		**S**	**19 28 33.5**	**+1.6**
MTSU	**Mount Surprise**	**29.16**	**105**	⇑P		**P**	**19 23 59.0**	**+1.5**
	baz=29,SNR=12							
HTT	**Hallett**	**30.34**	**137**	⇑P		**P**	**19 24 08.5**	**+0.7**
	baz=30,SNR=6.5							
KHON	**Khomkaen**	**31.07**	**338**	P		P	19 24 22.7	+8.5
QLP	**Quilpie**	**31.08**	**121**	⇑P		**P**	**19 24 15.5**	**+1.1**
	baz=31,SNR=7.1							
CTAO	**Charters Tower**	**31.24**	**108**	*e*P		**P**	**19 24 16.3**	**+0.4**
CTAO				pmax		pmax		
	comp=Z,17nm,0.9s							
CTAO	**Charters Tower**	**31.24**	**108**	*e*P		**P**	**19 24 16.3**	**+0.4**
	comp=Z,17nm,0.9s							
SKNT	**Sakolnakorn**	**31.25**	**340**	P		P	19 24 19.7	+3.9
	comp=Z,23nm,0.9s							
STKA	**Stephens Creek**	**31.33**	**132**	P		**P**	**19 24 17.2**	**+0.7**
	comp=Z,13nm,0.8s,baz=299,slow=8.9,SNR=28							
STKA				LR		LR	19 36 57.5	
	comp=Z,1μm,20.8s,baz=297,slow=36							
STKA	**Stephens Creek**	**31.33**	**132**	*e*P		**P**	**19 24 16.9**	**+0.4**
STKA				pmax		pmax		
	comp=Z,4.0nm,0.8s							
STKA	**Stephens Creek**	**31.33**	**132**	*e*P		**P**	**19 24 16.9**	**+0.4**
	comp=Z,4.4nm,0.8s							
STKA				*e*S		S	19 30 11.0	+48
QIZ	**Qiongzhong**	**31.83**	**351**	P		**P**	**19 24 22.4**	**+1.5**
QIZ				pP		**pP**	**19 24 25.8**	**-0.9**
QIZ				sP		**sP**	**19 24 27.5**	**-1.5**
QIZ				S		**S**	**19 29 31.3**	**+0.6**
QIZ				sS		**sS**	**19 29 42.3**	**+2.2**
QIZ				PMZ				
	comp=Z,14nm,1.9s							
QIZ				PMZ				
	comp=Z,130nm,11.2s							
QIZ	**Qiongzhong**	**31.83**	**351**	*e*P		**P**	**19 24 20.9**	**0.0**
	comp=Z,15nm,0.9s							
CMSA	**Cobar Meteorol**	**34.23**	**128**	⇑P		**P**	**19 24 41.3**	**-0.6**
	baz=34,SNR=6.0							
ARPS	**Mount Arapiles**	**34.27**	**139**	⇓P		**P**	**19 24 43.2**	**+1.1**
	baz=34,SNR=9.5							
CM31	**Chiang Mai Arr**	**34.55**	**333**	*e*P		**P**	**19 24 44.8**	**+0.1**
	comp=Z,22nm,0.8s							
CMAR	**Chiang Mai Arr**	**34.55**	**333**	P		**P**	**19 24 45.2**	**+0.5**
	comp=Z,14nm,0.8s,baz=170,slow=8.1,SNR=58							
CMAR				PcP		**PcP**	**19 27 21.2**	**+1.7**
	comp=Z,3.6nm,0.7s,baz=188,slow=3.0,SNR=6.8							
CMAR				LR		LR	19 39 21.7	
	comp=Z,388nm,20.5s,baz=162,slow=37							
CM15	**Chiang Mai Arr**	**34.55**	**333**	⇑P		**P**	**19 24 45.4**	**+0.6**
	baz=35							
MHMT	**Maesarieng**	**34.76**	**331**	P		P	19 24 53.

NJ2 LZ
comp=Z,430nm,23.4s
RCLA Racherla 44.98 307 *e*P **P** **19 26 10.1 -1.5**
NJS Nagarjunasagar 45.37 309 *e*P **P** **19 26 13.0 -1.6**
SRLM Srisailam 45.41 308 *e*P **P** **19 26 13.6 -1.4**
URV Uravakonda 46.01 305 *e*P **P** **19 26 18.9 -0.9**
HYB Hyderabad 46.46 309 *i*P **P** **19 26 22.0 -1.3**
HYBB Hyderabad (bro 46.46 309 *e*P **P** **19 26 21.9 -1.4**
XAN Xi'an 46.75 354 P **P** **19 26 23.8 -1.5**
XAN PP **PP** **19 28 17.0 +1.5**
XAN S **S** **19 33 11.1 -3.3**
XAN PMZ
comp=Z,12nm,0.7s
XAN PMZ
comp=Z,88nm,6.1s
XAN LN
comp=Z,120nm,16.4s
XAN LE
comp=Z,130nm,15.7s
RPR Rampur 46.80 311 *e*P **P** **19 26 24.6 -1.3**
ODAN Odare 47.33 326 *e*P **P** **19 26 29.5 -0.7**
comp=Z,56nm,0.9s
SRSP Sriramsagar 47.54 311 *e*P **P** **19 26 30.1 -1.6**
TAPN Taplejung 47.55 327 *e*P P 19 26 28.0 -4.0
comp=Z,50nm,0.9s
LSA Lhasa 47.79 332 *e*P **P** **19 26 34.4 +0.4**
LSA pmax pmax
comp=Z,12nm,0.8s
LSA Lhasa 47.79 332 *e*P **P** **19 26 34.4 +0.4**
comp=Z,12nm,0.8s
KLRI Killari 48.34 308 *e*P **P** **19 26 36.9 -1.1**
TIA Tai'an 48.66 3 ⇓P **P** **19 26 38.9 -1.2**
TIA PMZ
comp=Z,20nm,0.7s
PKI Pulchoki 48.98 325 *e*P **P** **19 26 41.9 -1.2**
comp=Z,12nm,0.6s
GUN Gumba 48.98 326 *e*P P 19 26 39.2 -3.9
DMN Daman 49.18 325 *e*P **P** **19 26 43.7 -0.8**
KKN Kakani 49.22 325 *e*P **P** **19 26 43.6 -1.2**
LZH Lanzhou 49.53 349 *e*P **P** **19 26 47.3 +0.4**
LZH pP **pP** **19 26 55.0 +2.2**
LZH sP **sP** **19 26 58.5 +3.4**
LZH *e*PP **PP** **19 28 43.5 +2.1**
LZH *e*S **S** **19 33 54.5 +0.5**
LZH sS **sS** **19 34 07.8 +4.1**
LZH PMZ
comp=Z,58nm,1.4s
LZH PMZ
comp=Z,170nm,5.8s
LZH LN
comp=Z,440nm,16.0s
LZH LE
comp=Z,410nm,15.0s
LZH LZ
comp=Z,570nm,17.2s
GKN Gorkha 49.75 325 *e*P **P** **19 26 47.3 -1.4**
comp=Z,26nm,0.4s
KOLN Koldanda 50.16 324 *e*P **P** **19 26 51.1 -0.8**
comp=Z,28nm,0.4s
KSAR Wonju Array Be 51.38 14 P **P** **19 27 00.8 +0.1**
KSAR Wonju Array Be 51.38 14 P **P** **19 27 00.8 +0.1**
KSRS Korea Array 51.40 14 P **P** **19 27 00.8 0.0**
comp=Z,12nm,0.7s,baz=196,slow=7.7,SNR=83
KSRS LR LR 19 52 45.7
comp=Z,43nm,18.3s,baz=213,slow=41
KSRS Korea Array 51.40 14 P **P** **19 27 00.8 0.0**
KSRS pmax pmax
comp=Z,12nm,0.7s
KSRS MLR MLR
comp=Z,43nm,18.3s
JHJ Hachijo jima 2 51.49 27 LR LR 19 50 28.5
comp=Z,48nm,19.5s,baz=2.0,slow=38
BJT Baijiatuau 52.43 2 P **P** **19 27 07.6 -0.8**
BJT Baijiatuau 52.43 2 P **P** **19 27 07.5 -0.8**
BJI Beijing 52.45 2 P **P** **19 27 07.9 -0.6**
BJI S **S** **19 34 33.3 -0.6**
BJI SS **SS** **19 38 18.8 +6.5**
BJI PMZ
comp=Z,9.0nm,1.0s
BJI PMZ
comp=Z,100nm,3.5s
BJI LN
comp=Z,100nm,19.7s
BJI LE
comp=Z,110nm,23.1s
HHC Hu-ho-hao-te 53.31 357 *e*P **P** **19 27 17.9 +2.8**
HHC sP **sP** **19 27 24.3 +1.0**
HHC PP **PP** **19 29 20.3 +4.7**
HHC S **S** **19 34 48.3 +2.4**
HHC SS **SS** **19 38 26.8 +0.6**
HHC PMZ
comp=Z,28nm,0.7s
HHC PMZ
comp=Z,92nm,5.8s
HHC LN
comp=Z,140nm,17.3s
HHC LE
comp=Z,130nm,18.5s
GTA Gaotai 53.59 346 *e*P **P** **19 27 17.8 +0.6**
GTA pP **pP** **19 27 23.9 +0.7**
GTA sP **sP** **19 27 26.8 +1.3**
GTA PcP **PcP** **19 28 25.4 +1.7**
GTA PMZ
comp=Z,9.0nm,0.8s
CASY Casey 53.63 182 *e*P **P** **19 27 16.5 -0.5**
MAJO Matsushiro 53.77 24 *e*P **P** **19 27 16.5 -1.9**
MAJO pmax pmax
comp=Z,15nm,1.0s
MAJO Matsushiro 53.77 24 *e*P **P** **19 27 16.5 -1.9**
comp=Z,15nm,1.0s
MAT Matsushiro 53.77 24 P **P** **19 27 16.2 -2.2**
MAT S **S** **19 34 53.6 +1.5**
MJAR Matsushiro Arr 53.77 24 P **P** **19 27 16.8 -1.6**
comp=Z,6.1nm,1.0s,baz=203,slow=8.8,SNR=17
MJAR LR LR 19 50 50.4
comp=Z,31nm,21.1s,baz=190,slow=37
SMLA Simla 56.44 321 ⇓*i*P **P** **19 27 36.3 -1.5**
CN2 Changchun 57.05 9 *e*P **P** **19 27 44.8 +2.9**
VLA Vladivostok 57.72 15⇑*e*P **P** **19 27 47.0 +0.4**
VLA pmax pmax
comp=Z,18nm,1.6s
MDJ Mudanjiang 58.61 13 P **P** **19 27 52.8 0.0**
MDJ pP **pP** **19 27 55.8 -3.0**
MDJ sP **sP** **19 27 56.9 -4.2**
MDJ ScP **ScP** **19 32 43.5 +0.9**
MDJ PcS **PcS** **19 32 44.8 +0.4**
MDJ S **S** **19 35 53.4 -2.7**
MDJ PMZ
comp=Z,11nm,1.0s
MDJ PMZ
comp=Z,22nm,3.4s
MDJ LN
comp=Z,72nm,25.7s
MDJ LE
comp=Z,110nm,26.1s
MDJ Mudanjiang 58.61 13 *e*P **P** **19 27 51.1 -1.7**
comp=Z,12nm,0.8s
USRK Ussuriysk Ar. 58.77 15 P **P** **19 27 53.3 -0.6**
comp=Z,6.8nm,0.7s,baz=194,slow=6.4,SNR=27
USRK LR LR 19 57 17.0
comp=Z,47nm,18.4s,baz=182,slow=40
ULN Ulaanbaatar 60.62 354 *e*P **P** **19 28 05.8 -1.0**
ULN pmax pmax
comp=Z,8.0nm,1.0s
ULN Ulaanbaatar 60.62 354 *e*P **P** **19 28 05.8 -1.0**
comp=Z,7.8nm,1.0s
SONM Songino Array 60.66 354 P **P** **19 28 06.9 -0.1**
comp=Z,7.3nm,0.9s,baz=174,slow=8.4,SNR=36
SONM PcP **PcP** **19 28 52.3 +1.1**
comp=Z,5.7nm,0.7s,baz=180,slow=3.6,SNR=9.2
SONM LR LR 19 55 53.9
comp=Z,143nm,20.6s,baz=176,slow=38
WMQ Urumqi 61.32 338 P **P** **19 28 12.3 +0.7**
WMQ pP **pP** **19 28 16.3 -1.3**
WMQ sP **sP** **19 28 19.3 -0.6**
WMQ S **S** **19 36 28.3 -2.9**
WMQ PMZ
comp=Z,19nm,0.7s
WMQ PMZ
comp=Z,190nm,5.3s
WMQ LN
comp=Z,200nm,28.0s
WMQ LE
comp=Z,200nm,29.0s

WMQ LZ
comp=Z,230nm,27.4s
ASAJ Asahikawa 62.00 23 *e*P **P** **19 28 15.8 -0.2**
comp=Z,14nm,1.1s
KSH Kashi 63.13 327 P **P** **19 28 23.0 -0.9**
KSH pP **pP** **19 28 32.4 +2.5**
KSH PP PP 19 30 48.3 +5.3
KSH S S 19 36 48.1 -6.2
KSH sS **sS** **19 37 04.3 +0.1**
KSH SS **SS** **19 41 04.1 +3.4**
KSH PMZ
comp=Z,200nm,4.2s
KSH LN
comp=Z,210nm,5.1s
KSH LE
comp=Z,260nm,4.9s
KSH LZ
comp=Z,430nm,6.3s
ZAK Zakamensk 63.55 352 *e*P **P** **19 28 25.3 -1.1**
ZAK *e* 19 29 03.5
ZAK pmax pmax
comp=Z,4.0nm,1.1s
MAW Mawson 64.35 199 P **P** **19 28 32.1 +0.8**
comp=Z,3.5nm,0.9s,baz=42,slow=13,SNR=5.7
MAW LR LR 19 49 37.9
comp=Z,127nm,21.6s,baz=61,slow=30
MAW Mawson 64.35 199 P **P** **19 28 32.1 +0.8**
MAW pmax pmax
comp=Z,4.0nm,0.9s
MAW MLR MLR
comp=Z,127nm,21.6s
MAW Mawson 64.35 199 *e*P **P** **19 28 31.6 +0.3**
YSS Yuzh-Sakhalins 64.49 21 *e*P **P** **19 28 32.0 -0.4**
YSS *e* 19 28 41.5
YSS Yuzh-Sakhalins 64.49 21 *e*P **P** **19 28 31.8 -0.6**
comp=Z,21nm,1.0s
TLY Talaya 64.77 352 *e*P **P** **19 28 35.3 +1.0**
TLY pmax pmax
comp=Z,6.0nm,1.0s
TLY MLR MLR
comp=Z,92nm,17.0s
TLY Talaya 64.77 352 *e*P **P** **19 28 33.0 -1.2**
comp=Z,7.1nm,1.3s
ABPO Ambohimpanom 64.78 255 *e*P **P** **19 28 34.8 -0.4**
ABPO pmax pmax
comp=Z,20nm,0.9s
ABPO Ambohimpanom 64.78 255 *e*P **P** **19 28 34.8 -0.4**
comp=Z,20nm,0.9s
KZA Kyzart 65.37 329 P **P** **19 28 39.6 +0.7**
SNR=9.6
TKM2 Tokmak 2 65.82 330 P **P** **19 28 41.6 +0.1**
SNR=8.7
TKM2 Tokmak 2 65.82 330 *e*P **P** **19 28 41.2 -0.3**
TKM2 pmax pmax
comp=Z,15nm,0.9s
TKM2 Tokmak 2 65.82 330 *e*P **P** **19 28 41.2 -0.3**
comp=Z,15nm,0.9s
MK31 Makanchi Array 65.88 336 *e*P **P** **19 28 41.1 -0.5**
MK31 Makanchi Array 65.88 336 *e*P **P** **19 28 41.0 -0.5**
MKAR Makanchi Array 65.88 336 P **P** **19 28 41.2 -0.3**
comp=Z,11nm,0.5s,baz=145,slow=8.0,SNR=151
MKAR LR LR 20 00 18.9
comp=Z,90nm,21.2s,baz=152,slow=39
MKAR Makanchi Array 65.88 336 P **P** **19 28 41.3 -0.3**
MKAR pmax pmax
comp=Z,11nm,0.5s
MKAR MLR MLR
comp=Z,90nm,21.2s
KBK Karagaybulak 65.95 329 P **P** **19 28 42.8 +0.5**
SNR=10
AAK Ala-Archa 66.16 329 P **P** **19 28 44.4 +0.7**
SNR=5.5
AAK Ala-Archa 66.16 329 *e*P **P** **19 28 43.9 +0.3**
AAK pmax pmax
comp=Z,16nm,0.8s
AAK Ala-Archa 66.16 329 *e*P **P** **19 28 43.9 +0.3**
comp=Z,16nm,0.8s
AML Almayashu 66.21 328 P **P** **19 28 44.9 +0.6**
SNR=5.1
EKS2 Erkin-Say 66.55 328 P **P** **19 28 46.9 +0.8**
SNR=14
EKS2 Erkin-Say 66.55 328 *e*P **P** **19 28 46.5 +0.4**
EKS2 pmax pmax
comp=Z,27nm,0.8s
EKS2 Erkin-Say 66.55 328 *e*P **P** **19 28 46.5 +0.4**
comp=Z,27nm,0.8s
USP Ospenovka 66.62 329 P **P** **19 28 46.6 +0.2**
SNR=7.3
VNDA Vanda 69.11 170 P **P** **19 29 02.8 +1.2**
comp=Z,1.8nm,0.9s,baz=301,slow=5.9,SNR=6.6
VNDA LR LR 19 56 31.4
comp=Z,244nm,21.9s,baz=336,slow=34
VNDA Vanda 69.11 170 P **P** **19 29 02.8 +1.2**
VNDA pmax pmax
comp=Z,2.0nm,0.9s
VNDA MLR MLR
comp=Z,244nm,22.0s
VNDA Vanda 69.11 170 *e*P **P** **19 29 03.1 +1.5**
comp=Z,25nm,2.1s
SBA Scott Base 70.15 170 P **P** **19 29 09.5 +1.5**
SBA Scott Base 70.15 170 P **P** **19 29 09.5 +1.5**
BOD Bodaibo 70.22 360 *e*P **P** **19 29 07.0 -1.6**
BOD pmax pmax
comp=Z,6.0nm,1.0s
KURK Kurchatov 70.48 337 P **P** **19 29 10.3 0.0**
comp=Z,138nm,0.8s,SNR=18
KURK Kurchatov 70.48 337 *e*P **P** **19 29 09.9 -0.4**
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURK Kurchatov 70.48 337 *e*P **P** **19 29 09.9 -0.4**
comp=Z,8.2nm,0.8s
ZAA0 Zalesovo Array 71.02 342 P **P** **19 29 13.0 -0.5**
baz=71
ZAA0 Zalesovo Array 71.02 342 *e*P **P** **19 29 12.2 -1.3**
ZALV Zalesovo Beam 71.02 342 P **P** **19 29 12.8 -0.8**
comp=Z,3.9nm,0.6s,baz=158,slow=4.6,SNR=20
ZALV LR LR 20 02 33.0
comp=Z,57nm,18.1s,baz=238,slow=38
ZAB1 Zalesovo Array 71.03 342 P **P** **19 29 13.0 -0.6**
baz=71
NVS Novosibirsk 72.27 342 *e*P **P** **19 29 19.0 -2.0**
NVS pmax pmax
comp=Z,13nm,1.9s
NVS pmax pmax
comp=E,16nm,2.5s
GEYT Alibeck 72.95 316 P **P** **19 29 26.1 +0.6**
comp=E,6.2nm,0.6s,baz=282,slow=7.4,SNR=12
GEYT LR LR 20 03 43.0
comp=E,80nm,21.6s,baz=180,slow=38
PETK Petropavlovsk- 75.18 25 P **P** **19 29 39.0 +0.8**
comp=E,4.5nm,1.0s,baz=158,slow=4.7,SNR=3.6
PETK LR LR 20 02 09.6
comp=E,21nm,21.6s,baz=223,slow=35
YAK Yakutsk 75.39 7 *e*P **P** **19 29 37.2 -1.9**
YAK *e* 19 29 48.6
YAK pmax pmax
comp=Z,11nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.3s
YAK Yakutsk 75.39 7 P **P** **19 29 38.4 -0.8**
BRVK Borovoye 75.64 334 P **P** **19 29 40.3 -0.5**
comp=N,49nm,1.0s,SNR=7.4
BRVK Borovoye 75.64 334 *e*P **P** **19 29 40.6 -0.2**
BRVK pmax pmax
comp=Z,11nm,1.1s
BRVK Borovoye 75.64 334 *e*P **P** **19 29 40.6 -0.2**
comp=Z,11nm,1.1s
KMBO Kilima Mbogo 77.39 272 P **P** **19 29 53.2 +1.3**
comp=Z,9.2nm,0.8s,baz=58,slow=8.3,SNR=21
KMBO LR LR 20 01 14.1
comp=Z,48nm,18.4s,baz=90,slow=34
KMBO Kilima Mbogo 77.39 272 *e*P **P** **19 29 52.7 +0.8**
KMBO pmax pmax
comp=Z,13nm,0.9s
KMBO Kilima Mbogo 77.39 272 *e*P **P** **19 29 52.7 +0.8**
comp=Z,13nm,0.9s
ABKAR Akbulak array 78.13 327 ⇓P **P** **19 29 55.2 +0.3**
baz=78
ABKAR Akbulak array 78.13 327 *e*P **P** **19 29 55.1 +0.2**
SEY Seymchan 80.84 17 P **P** **19 30 09.8 +0.5**
comp=Z,9.0nm,1.1s,baz=214,slow=6.2,SNR=12
SEY Seymchan 80.84 17⇑*i*P **P** **19 30 10.5 +1.1**
SVE Sverdlovsk 82.30 333⇑*e*P **P** **19 30 17.9 +0.7**
SVE pmax pmax
comp=Z,21nm,0.9s
ARU Arti 82.99 332*d i*P **P** **19 30 20.9 +0.1**

ARU 19 33 29.4
ARU S **S** **19 40 37.9 -1.0**
ARU SS **SS** **19 45 58.3 -4.7**
ARU pmax pmax
comp=Z,20nm,1.7s
ARU Arti 82.99 332 *e*P **P** **19 30 20.9 +0.1**
comp=Z,14nm,1.1s
LSZ Lusaka 83.32 256 *e*P **P** **19 30 24.0 +0.3**
LSZ pmax pmax
comp=Z,11nm,0.8s
LSZ Lusaka 83.32 256 *e*P **P** **19 30 24.0 +0.3**
comp=Z,11nm,0.8s
BOSA Boshof 83.46 242 P **P** **19 30 24.6 +0.4**
comp=Z,17nm,0.8s,baz=103,slow=4.2,SNR=30
BOSA Boshof 83.46 242 *e*P **P** **19 30 24.6 +0.4**
BOSA pmax pmax
comp=Z,24nm,1.1s
BOSA Boshof 83.46 242 *e*P **P** **19 30 24.6 +0.4**
comp=Z,24nm,1.1s
MBAR Mbarara 83.86 271 *e*P **P** **19 30 27.0 +0.5**
MBAR pmax pmax
comp=Z,10.0nm,0.8s
MBAR Mbarara 83.86 271 *e*P **P** **19 30 27.0 +0.5**
comp=Z,10nm,0.8s
NEY Neytrino 85.79 316⇓*e*P **P** **19 30 35.8 +0.2**
KBZ Khabaz 85.85 316 P **P** **19 30 36.7 +1.1**
comp=Z,6.7nm,0.9s,baz=223,slow=4.6,SNR=9.8
KIV Kislovodsk 86.07 317*ce*P **P** **19 30 37.7 +0.8**
KIV *e* 19 33 52.1
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 86.07 317 P **P** **19 30 37.6 +0.7**
GOF Gofitskoye 86.24 318 *e*P **P** **19 30 38.3 +0.7**
SUR Sutherland 86.45 238 *e*P **P** **19 30 39.8 +0.6**
comp=Z,140nm,2.0s
VNA2 Neumayer--Watz 87.95 196 P **P** **19 30 46.8 +1.3**
baz=104,slow=4.4
VNA1 Neumayer--Stat 88.35 196 P **P** **19 30 48.7 +1.4**
BILL Bilibino 88.52 17⇑*e*P **P** **19 30 48.4 +0.4**
BILL *e* 19 34 12.6
BILL *e*S SKSac 19 41 08.6 -7.2
BILL pmax pmax
comp=Z,20nm,2.7s
ANN Anapa 89.90 316 *e*P P 19 30 41.9 -13
ANN *e* 19 30 52.4
ANN pmax pmax
comp=Z,39nm,1.3s
VSR Storozhevoye 90.84 323 *e*P **P** **19 30 58.9 -0.3**
VSR pmax pmax
comp=N,3.0nm,0.7s
VSR pmax pmax
comp=E,8.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s
BR131 Keskin Array S 91.15 310 P **P** **19 31 00.2 -1.0**
comp=Z,2.4nm,0.8s
BRTR Keskin Array B 91.15 310 P **P** **19 31 01.1 -0.1**
comp=Z,2.8nm,0.9s,baz=126,slow=6.2,SNR=15
OBN Obninsk 93.54 326⇑*e*P **P** **19 31 10.6 -1.0**
OBN *e* 19 34 56.5
OBN *e*SS SS 19 48 30.1 -6.5
OBN pmax pmax
comp=Z,18nm,2.5s
OBN MLR MLR
comp=Z,73nm,20.0s
AKASG Malin Array Be 96.76 320 P **P** **19 31 25.1 -1.4**
comp=Z,0.2nm,0.3s,baz=82,slow=4.7,SNR=6.1
ARCES ARCESS Array B 101.44 339 P **Pdif** **19 31 46.3 -0.7**
comp=Z,5.7nm,0.9s,baz=70,slow=4.0,SNR=4.5
TORD Torodi Ar. Bea 114.76 279 PKP PKPdf 19 36 36.9 -0.6
comp=Z,0.8nm,0.7s,baz=63,slow=1.8,SNR=4.6
YKA Yellowknife Ar 119.28 24 PKP **PKPdf** **19 36 45.0 +0.3**
comp=Z,3.8nm,0.8s,baz=308,slow=2.1,SNR=7.8
YKA Yellowknife Ar 119.28 24 PKIKP **PKPdf** **19 36 45.0 +0.3**
YKA pmax pmax
comp=Z,4.0nm,0.8s
B08A Colville Reser 123.07 40 *e*PKPdf **PKPdf** **19 36 53.5 +0.9**
J05D Fort Rock, OR 123.32 46 P **PKPdf** **19 36 54.3 +1.0**
baz=123
EDM Edmonton 124.56 33 *e*PKIKP **PKPdf** **19 36 55.8 +0.6**
EDM Edmonton 124.56 33 *e*PKPdf **PKPdf** **19 36 55.8 +0.6**
WVOR Wild Horse Val 125.39 47 *e*PKIKP **PKPdf** **19 36 59.4 +2.1**
WVOR Wild Horse Val 125.39 47 *e*PKPdf **PKPdf** **19 36 59.4 +2.1**
BSMT Bassoo Peak 126.09 39 *e*PKPdf **PKPdf** **19 36 59.0 +0.4**
NVAR Mina Array Bea 126.68 51 PKP **PKPdf** **19 37 01.0 +1.0**
comp=Z,1.2nm,0.8s,baz=244,slow=2.7,SNR=7.5
MSO Missoula 127.03 40 P **PKPdf** **19 37 01.2 +0.9**
baz=127
MSO Missoula 127.03 40 *e*PKPdf **PKPdf** **19 37 01.5 +1.2**
CHMT Chamberlain Mo 127.42 40 *e*PKPdf **PKPdf** **19 37 02.5 +1.4**
EDW2 Edwards Air Fo 127.71 56 P **PKPdf** **19 37 03.2 +1.3**
baz=128
MPMC Manual Prospec 127.86 54 P **PKPdf** **19 37 04.1 +1.8**
baz=128
HLID Hailey 127.96 44 P **PKPdf** **19 37 03.8 +1.5**
baz=128
HLID Hailey 127.96 44 *e*PKPdf **PKPdf** **19 37 03.9 +1.7**
GSC Goldstone 128.57 55 P **PKPdf** **19 37 05.0 +1.5**
baz=129
R11A Troy Canyon, C 128.77 51 P **PKPdf** **19 37 06.0 +2.1**
baz=129
R11A Troy Canyon, C 128.77 51 *e*PKPdf **PKPdf** **19 37 06.4 +2.4**
BOZ Bozeman (W) 128.98 41 P **PKPdf** **19 37 05.6 +1.5**
baz=129
EGMT Eagleton 129.05 37 P **PKPdf** **19 37 05.4 +1.4**
baz=129
EGMT Eagleton 129.05 37 *e*PKPdf **PKPdf** **19 37 05.3 +1.2**
SHPR Sheep Range 129.58 53 *e*PKPdf **PKPdf** **19 37 07.3 +1.8**
DUG Dugway 130.25 48 *e*PKIKP **PKPdf** **19 37 09.4 +2.7**
DUG Dugway 130.25 48 P **PKPdf** **19 37 08.7 +2.0**
baz=130
DUG Dugway 130.25 48 *e*PKPdf **PKPdf** **19 37 09.3 +2.7**
REDW Red Top Meadow 130.43 43 *e*PKPdf **PKPdf** **19 37 09.7 +2.7**
G27A Dupree 135.02 36 P **PKPdf** **19 37 15.6 +0.2**
baz=135
C30A Mose, Pekin 135.49 32 P **PKPdf** **19 37 16.9 +0.8**
baz=135
SCHQ Schefferville 137.91 1 PKhKP PKPpre 19 37 18.9
comp=Z,4.0nm,1.0s,baz=22,slow=5.4,SNR=2.4
ECSD EROS Data Cent 139.04 35 *e*PKPdf **PKPdf** **19 37 24.0 +1.2**
TXAR Lajitas Array 140.85 59 PKhKP PKPpre 19 37 20.2
comp=Z,0.6nm,0.8s,baz=222,slow=1.7,SNR=6.1
430A Baggett Ranch, 142.38 56 P **PKPdf** **19 37 25.7 -3.6**
baz=142
530A J-C Ranch, Com 142.51 57 P **PKPdf** **19 37 26.1 -3.4**
baz=142
WMOK Wichita Mounta 142.64 48 *e*PKIKP **PKPdf** **19 37 26.8 -2.8**
WMOK Wichita Mounta 142.64 48 *e*PKPdf **PKPdf** **19 37 26.8 -2.8**
S35A Otter Creek Ra 142.85 42 P **PKPdf** **19 37 27.3 -2.6**
baz=143
431A Sonora 142.92 55 P **PKPdf** **19 37 27.3 -3.0**
baz=143
531A Rocksprings 143.15 56 P PKPbc 19 37 28.6 +1.0
baz=143
232A Coleman 143.22 53 P PKPbc 19 37 27.6 -0.1
baz=143
U35A Pawnee 143.28 45 P PKPbc 19 37 28.8 +1.1
baz=143
S36A Lake Cedric, C 143.30 42 P PKPbc 19 37 28.5 +0.9
baz=143
332A Millersview 143.35 54 P PKPbc 19 37 29.0 +0.9
baz=143
R37A Teagarden Farm 143.45 40 P PKPbc 19 37 28.3 +0.3
baz=143
T36A Boggs Farm, Ca 143.48 43 P PKPbc 19 37 28.6 +0.4
baz=143
432A Menard 143.50 55 P PKPbc 19 37 29.3 +0.8
baz=144
JCT Junction City 143.64 55 *e*PKIKP PKPbc 19 37 28.9 0.0
JCT Junction City 143.64 55 P PKPbc 19 37 29.3 +0.3
baz=144
JCT Junction City 143.64 55 *e*PKPdf PKPbc 19 37 28.9 0.0
532A Rocksprings 143.68 56 P PKPbc 19 37 30.1 +1.0
baz=144
Y34A Reagan Ranch, 143.76 49 P **PKPdf** **19 37 30.5 -1.1**
baz=144
S37A Fort Scott 143.77 41 P PKPbc 19 37 29.6 +0.5
baz=144
333A Richland Sprin 143.97 54 P PKPbc 19 37 30.9 +1.0
baz=144
632A Uvalde 144.00 57 P **PKPdf** **19 37 31.2 -1.0**
baz=144
T37A Cheneyville 18 144.08 42 P PKPbc 19 37 30.5 +0.5
baz=144
433A Art 144.10 54 P PKPbc 19 37 30.9 +0.6
baz=144

732A	**Laxson Ranch,** baz=144	**144.11**	**58**	P		PKPbc	19 37 31.3	+1.0
X35A	**Drake** baz=144	**144.12**	**48**	P		PKPbc	19 37 30.8	+0.6
V36A	**Jenks** baz=144	**144.13**	**45**	P		PKPbc	19 37 30.9	+0.7
TUL1	**Tulsa** baz=144	**144.17**	**45**	P		PKPbc	19 37 30.7	+0.4
TUL1	**Tulsa**	**144.17**	**45**	*e*PKPdf		PKPbc	19 37 30.2	-0.1
832A	**Faith Ranch, C** baz=144	**144.25**	**59**	P		PKPbc	19 37 31.7	+0.9
W36A	**Wetumka** baz=144	**144.28**	**46**	P		PKPbc	19 37 31.5	+0.8
Y35A	**Marietta** baz=144	**144.31**	**48**	P		PKPbc	19 37 31.5	+0.7
234A	**Clairette** baz=144	**144.34**	**52**	P		**PKPdf**	**19 37 32.0**	**-0.6**
U37A	**Salina** baz=144	**144.36**	**43**	P		PKPbc	19 37 31.1	+0.2
Z35A	**Perchaven, San** baz=144	**144.42**	**49**	P		**PKPdf**	**19 37 32.3**	**-0.5**
X36A	**Centrahoma** baz=144	**144.48**	**47**	P		**PKPdf**	**19 37 32.4**	**-0.4**
633A	**Saathoff Ranch** baz=144	**144.51**	**57**	P		**PKPdf**	**19 37 32.8**	**-0.2**
334A	**Lometa** baz=144	**144.55**	**53**	P		PKPbc	19 37 32.3	+0.6
V37A	**Hulbert** baz=144	**144.63**	**44**	P		PKPbc	19 37 32.1	+0.4
135A	**Vickery Place,** baz=145	**144.66**	**51**	P		**PKPdf**	**19 37 33.5**	**+0.3**
733A	**Divot King Ran** baz=145	**144.67**	**58**	P		**PKPdf**	**19 37 33.3**	**0.0**
833A	**Chaparral WMA,** baz=145	**144.72**	**59**	P		**PKPdf**	**19 37 33.6**	**+0.2**
434A	**Burnet** baz=145	**144.73**	**54**	P		**PKPdf**	**19 37 32.9**	**-0.4**
W37A	**Quinton** baz=145	**144.83**	**45**	P		**PKPdf**	**19 37 33.0**	**-0.4**
Y36A	**Durant** baz=145	**144.86**	**48**	P		**PKPdf**	**19 37 33.4**	**-0.1**
534A	**Blanco** baz=145	**144.87**	**55**	P		**PKPdf**	**19 37 33.5**	**-0.2**
WHTX	**Lake Whitney** baz=145	**144.87**	**52**	P		**PKPdf**	**19 37 33.7**	**+0.1**
WHTX	**Lake Whitney**	**144.87**	**52**	*e*PKPdf		**PKPdf**	**19 37 34.0**	**+0.5**
933A	**Laredo** baz=145	**145.05**	**60**	P		**PKPdf**	**19 37 35.2**	**+1.2**
Z36A	**Blue Ridge** baz=145	**145.05**	**49**	P		**PKPdf**	**19 37 34.2**	**+0.4**
V38A	**Canehill** baz=145	**145.13**	**44**	P		**PKPab**	**19 37 33.6**	**+0.1**
X37A	**Clayton** baz=145	**145.16**	**46**	P		**PKPdf**	**19 37 34.3**	**+0.3**
HDIL	**Hopedale** baz=145	**145.19**	**33**	P		**PKPbc**	**19 37 33.2**	**-0.2**
335A	**Moody** baz=145	**145.20**	**53**	P		**PKPdf**	**19 37 34.6**	**+0.4**
Y37A	**Hugo** baz=145	**145.30**	**47**	P		**PKPdf**	**19 37 34.8**	**+0.6**
136A	**Ennis** baz=145	**145.36**	**50**	P		**PKPdf**	**19 37 35.5**	**+1.1**
RCBR	**Riachuelo**	**145.39**	**240**	*e*PKPdf		**PKPab**	**19 37 35.9**	**+0.9**
W38A	**Poteau** baz=145	**145.50**	**45**	P		**PKPab**	**19 37 35.3**	**+0.5**
X38A	**Whitesboro** baz=145	**145.50**	**46**	P		**PKPab**	**19 37 35.7**	**+0.9**
236A	**Katherine and** baz=146	**145.57**	**51**	P		**PKPab**	**19 37 35.9**	**+0.8**
336A	**Riesel** baz=146	**145.60**	**52**	P		**PKPab**	**19 37 36.0**	**+0.7**
635A	**Leesville** baz=146	**145.68**	**56**	P		**PKPab**	**19 37 36.8**	**+1.2**
Z37A	**Pogue Cattle C** baz=146	**145.68**	**48**	P		**PKPab**	**19 37 36.4**	**+0.9**
934A	**Benavides** baz=146	**145.69**	**59**	P		**PKPab**	**19 37 37.3**	**+1.6**
034A	**Hebbronville** baz=146	**145.72**	**60**	P		**PKPab**	**19 37 38.0**	**+2.1**
SLM	**Saint Louis**	**146.02**	**36**	*e*PKP2		**PKPab**	**19 37 36.4**	**-0.2**
SLM	**Saint Louis**	**146.02**	**36**	*e*PKPdf		**PKPab**	**19 37 36.4**	**-0.2**
MIAR	**Mount Ida**	**146.44**	**45**	*e*PKP2		**PKPab**	**19 37 38.0**	**-0.4**
MIAR	**Mount Ida** baz=146	**146.44**	**45**	P		**PKPab**	**19 37 38.2**	**-0.2**
MIAR	**Mount Ida**	**146.44**	**45**	*e*PKPdf		**PKPab**	**19 37 38.0**	**-0.4**
SFIN	**Scholer Farm** baz=146	**146.45**	**31**	P		**PKPbc**	**19 37 37.6**	**+0.4**
SFIN	**Scholer Farm**	**146.45**	**31**	*e*PKPdf		**PKPbc**	**19 37 37.7**	**+0.4**
HKT	**Hockley**	**147.00**	**54**	*e*PKP2		**PKPab**	**19 37 40.6**	**0.0**
HKT	**Hockley**	**147.00**	**54**	*e*PKPbc		**PKPab**	**19 37 40.6**	**0.0**
BDFB	**Brasilia** comp=Z,5.6nm,0.6s,baz=111,slow=3.5,SNR=8.0	**147.03**	**212**	PKPbc		**PKPab**	**19 37 40.9**	**-0.3**
PBMO	**Poplar Bluff**	**147.14**	**39**	*e*PKPdf		**PKPdf**	**19 37 38.4**	**+1.1**
UALR	**University of**	**147.14**	**43**	*e*PKPbc		**PKPbc**	**19 37 40.3**	**+0.8**
OLIL	**Olney**	**147.14**	**34**	*e*PKPbc		**PKPbc**	**19 37 39.2**	**-0.1**
LONY	**Lake Ozonia**	**147.20**	**12**	*e*PKPbc		**PKPbc**	**19 37 40.1**	**+0.8**
NCB	**Newcomb**	**147.89**	**12**	*e*PKPbc		**PKPbc**	**19 37 42.4**	**+0.9**
WVL	**Waterville**	**148.00**	**6**	*e*PKPbc		**PKPbc**	**19 37 42.4**	**+1.0**
EMMW	**East Machias**	**148.01**	**3**	*e*PKPbc		**PKPbc**	**19 37 41.2**	**-0.3**
MDV	**Middlebury**	**148.06**	**11**	*e*PKPbc		**PKPbc**	**19 37 42.4**	**+0.7**
MMNY	**Mt. Morris Dam**	**148.14**	**18**	*e*PKPbc		**PKPbc**	**19 37 42.8**	**+0.8**
ACSO	**Alum Creek Sta**	**148.48**	**26**	*e*PKPbc		**PKPbc**	**19 37 44.2**	**+1.2**
HNH	**Hanover**	**148.50**	**10**	*e*PKPbc		**PKPbc**	**19 37 44.4**	**+1.6**
ACCN	**Adirondack Com**	**148.57**	**12**	*e*PKPbc		**PKPbc**	**19 37 44.0**	**+0.9**
WVT	**Waverly**	**149.13**	**37**	*e*PKP2		**PKPbc**	**19 37 45.2**	**+0.5**
WVT	**Waverly**	**149.13**	**37**	*e*PKPbc		**PKPbc**	**19 37 45.2**	**+0.5**
TRY	**Troy**	**149.19**	**12**	*e*PKPbc		**PKPbc**	**19 37 46.2**	**+1.6**
HRV	**Adam Dziewonsk**	**149.79**	**9**	*e*PKP2		**PKPbc**	**19 37 47.8**	**+1.7**
HRV	**Adam Dziewonsk**	**149.79**	**9**	*e*PKPbc		**PKPbc**	**19 37 47.8**	**+1.7**
KSPA	**Keystone Colle**	**149.82**	**16**	*e*PKPbc		**PKPbc**	**19 37 47.4**	**+1.1**
SSPA	**Standing Stone**	**150.06**	**19**	*e*PKPbc		**PKPbc**	**19 37 46.9**	**0.0**
ODNJ	**Ogdensburg**	**150.56**	**14**	*e*PKPbc		**PKPbc**	**19 37 49.6**	**+1.5**
PAL	**Palisades**	**150.80**	**13**	*e*PKIKP		**PKPbc**	**19 37 49.8**	**+1.2**
PAL	**Palisades**	**150.80**	**13**	*e*PKPbc		**PKPbc**	**19 37 49.8**	**+1.2**
LUPA	**Lehigh Univers**	**150.83**	**16**	*e*PKPbc		**PKPbc**	**19 37 50.5**	**+1.8**
SWET	**Sewanee**	**150.87**	**36**	*e*PKPbc		**PKPbc**	**19 37 49.3**	**+0.3**
MVL	**Millersville**	**151.11**	**18**	*e*PKPbc		**PKPbc**	**19 37 50.0**	**+0.7**
LPAZ	**La Paz** comp=Z,5.0nm,0.9s,baz=61,slow=1.6,SNR=12	**151.12**	**175**	PKPbc		**PKPbc**	**19 37 52.4**	**+1.5**
LPAZ	**La Paz**	**151.12**	**175**	PKIKP		**PKPbc**	**19 37 52.4**	**+1.5**
LPAZ	comp=Z,5.0nm,0.9s			pmax		pmax		
TZTN	**Tazewell**	**151.17**	**31**	*e*PKPbc		**PKPbc**	**19 37 50.6**	**+0.9**
CPCT	**Cooper Cave**	**151.49**	**34**	*e*PKPbc		**PKPbc**	**19 37 50.5**	**+0.1**
LRAL	**Lakeview Retre**	**151.71**	**41**	*e*PKPbc		**PKPbc**	**19 37 51.4**	**+0.4**
TKL	**Tuckaleechee C**	**151.74**	**33**	*e*PKIKP		**PKPbc**	**19 37 52.1**	**+1.1**
TKL	**Tuckaleechee C**	**151.74**	**33**	*e*PKPbc		**PKPbc**	**19 37 52.1**	**+1.1**
JSRW	**J. Sargeant Re**	**152.70**	**22**	*e*PKPbc		**PKPbc**	**19 37 53.7**	**+0.7**

*NEIC **24** 19:19:13.2, 16°.74N×94°.56W, h111km, MD4.2(MEX), After MEX.*

MEX 24 19:19:13.2±1.1, 16°.74N×94°.56W, h111km±9km, MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.47**	**318**	*i* P		Pn	19 19 28.6	-1.3
CMIG				*i* S		Sn	19 19 40.6	-1.9
CMIG	**Matias Romero**	**0.47**	**318**	*i* P		Pn	19 19 28.6	-1.3
CMIG				*i* S		Sn	19 19 40.6	-1.9
TGIG		**1.38**	**88**	*i* P		Pn	19 19 37.4	-1.3
TGIG				*i* S		Sn	19 19 55.7	-2.3
TGIG		**1.38**	**88**	*i* P		Pn	19 19 37.4	-1.3
TGIG				*i* S		Sn	19 19 55.7	-2.3
PCIG		**1.65**	**129**	*e*P		Pn	19 19 41.2	-0.7
PCIG				*i* S		Sn	19 20 02.8	-0.8
PCIG		**1.65**	**129**	*e*P		Pn	19 19 41.2	-0.7
PCIG				*i* S		Sn	19 20 02.8	-0.8
HUIG	**Huatulco**	**1.77**	**237**	*e*P		Pn	19 19 41.3	-2.1
HUIG				*e*S		Sn	19 20 05.2	-1.2
HUIG	**Huatulco**	**1.77**	**237**	*e*P		Pn	19 19 41.3	-2.1
HUIG				*e*S		Sn	19 20 05.2	-1.2
VHO	**Vista Hermosa**	**2.11**	**279**	*e*P		Pn	19 19 47.2	-0.6
VHO				*i* S		Sn	19 20 13.1	-1.3
VHO	**Vista Hermosa**	**2.11**	**279**	*e*P		Pn	19 19 47.2	-0.6
VHO				*i* S		Sn	19 20 13.1	-1.3
TPIG	**Tehuac#an**	**3.15**	**302**	*e*P		Pn	19 20 00.4	-1.1
TPIG				*i* S		Sn	19 20 37.7	-1.0
TPIG	**Tehuac#an**	**3.15**	**302**	*e*P		Pn	19 20 00.4	-1.1
TPIG				*i* S		Sn	19 20 37.7	-1.0
PNIG	**Pinotepa**	**3.44**	**265**	*i* P		Pn	19 20 03.2	-1.9
PNIG				*e*S		Sn	19 20 42.9	-2.3
PNIG	**Pinotepa**	**3.44**	**265**	*i* P		Pn	19 20 03.2	-1.9
PNIG				*e*S		Sn	19 20 42.9	-2.3

*NNC **24** 19:27:05.2±4.2, 37°.72N×71°.37E, h0km, mb4.0, mpv3.5, Error ellipse: s-maj=41.1km s-min=12.1km az=167.0*

ISC 24 19:27:06.2±3.5, 37°.5N±0°.2×71°.38E±0°.10, h109km, n4, σ1°15/6, 5C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino** 10nm,0.4s	**2.38**	**303**	⇑Pn	Op	**Pn**	**19 27 43.4**	**-0.7**
DZET				⇑Sn		**Sn**	**19 28 14.6**	**+1.4**
SFK	**Sufi-Kurgan** 2.2nm,0.1s	**2.98**	**33**	⇑Pn		**Pn**	**19 27 51.8**	**-0.3**
SFK				⇑Sn		**Sn**	**19 28 28.3**	**+1.0**
KSH	**Kashi**	**4.11**	**60**	Pn		Pn	19 27 59.1	-8.0
KSH				Sn		Sn	19 28 39.5	-15
KSH	comp=N,73nm,0.3s			smax		smax		
KSH	comp=E,63nm,0.3s			smax		smax		
KK31	**Karatay Array** comp=E,4.3nm,0.3s,baz=178,slow=13	**5.60**	**353**	⇓Pn		**Pn**	**19 28 26.8**	**-0.3**
KK31	comp=E,1.7nm,0.3s,baz=176,slow=23			⇑Sn		**Sn**	**19 29 29.5**	**-0.6**

MAN 24 19:32:44, 17°.39N×120°.20E, h24km, mb4.4, ML3.2, MS3.1, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SJPP	**Brgy, Tapao**	**0.58**	**25**	⇑*e*P		Pb	19 32 56.2	+0.6
SJPP				*i* S		Sb	19 33 04.0	+0.5
PIP	**Pasuquin**	**1.01**	**23**	⇑*i* P		Pb	19 33 02.9	0.0
PIP				*e*S		Sn	19 33 16.4	+0.1

DJA 24 19:56:42.0±0.5, 4°S±6°×100°3E±°, h254km±5km, M3.8/13, mb4.6/2, MLv3.4/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.13**	**320**	P		Pn	19 57 13.6	-1.1
LHSI	**Lahat**	**0.79**	**37**	P		Pn	19 57 15.7	-0.8
LHSI				S		S	19 57 44.9	+1.3
KSI	**Kapahiang**	**0.92**	**331**	P		Pn	19 57 16.2	-0.9
KSI				S		S	19 57 45.4	+0.6
MDSI	**Maura Dua**	**1.14**	**91**	P		Pn	19 57 19.1	+0.9
MDSI				S		S	19 57 47.3	+0.6
LWLI	**Liwa**	**1.16**	**119**	P		Pn	19 57 17.9	-0.6
LWLI				S		S	19 57 47.4	+0.2
KLSI		**1.70**	**98**	P		Pn	19 57 22.4	+0.1
KLSI				S		S	19 57 55.3	+1.3
KASI	**Kota Agung**	**1.79**	**126**	P		Pn	19 57 23.2	+0.2
TNG	**Tangerang**	**3.97**	**115**	P		Pn	19 57 45.7	0.0
TNG	**Tangerang**	**3.97**	**115**	P		Pn	19 57 45.6	-0.1
PPI	**Padang Panjang**	**4.77**	**326**	P		Pn	19 57 55.5	+0.3

IDC 24 19:59:51.9±2.6, 6°.16S×150°.62E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/31, mbtmp3.8/4, ML2.0/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/23, Error ellipse: s-maj=75.4km s-min=40.4km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 4.5nm,0.3s,baz=46,slow=8.3,SNR=9.3	**4.71**	**226**	Pn		Pn	20 01 05.7	+1.5
PMG				Sn		Sn	20 01 55.7	-3.9
JAY	**Jayapura** comp=Z,68nm,21.9s,baz=210,slow=36	**10.52**	**290**	LR		LR	20 06 13.1	
WRA	**Warramunga Arr** 2.8nm,0.7s,baz=53,slow=11,SNR=18	**20.93**	**228**	P		P	20 04 36.0	-0.4
ASAR	**Alice Springs** 0.7nm,0.6s,baz=55,slow=8.8,SNR=8.1	**23.70**	**221**	P		P	20 05 05.0	-0.6
STKA	**Stephens Creek** 1.5nm,0.8s,baz=12,slow=14,SNR=4.1	**26.95**	**197**	P		P	20 05 34.8	-0.3
TORD	**Torodi Ar. Bea** 0.5nm,0.5s,baz=99,slow=2.3,SNR=7.4	**148.61**	**285**	PKPbc		PKPbc	20 19 41.9	-0.2

*IDC **24** 20:04:05.7±3.0, 32°.60S×178°.10W, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.8/25, mbtmp4.1/4, ML3.9/1, MS2.6/1, Ms1 2.6/1, ms1mx2.3/25, Error ellipse: s-maj=63.2km s-min=44.8km az=121.0*

*ISCJB **24** 20:04:07.7±2.7, 32°.9S±0°.1×178°.0W±0°.4, h34km, mb4.0/3, Error ellipse: s-maj=49.5km s-min=11.5km az=11.2*

ISC 24 20:04:08.2±2.7, 32°.8S±0°.1×177°.8W±0°.4, h34km, n10, σ0°.64/12, mb4.2/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** comp=Z,81nm,18.6s,baz=324,slow=33	**3.56**	**358**	LR		LR	20 05 57.0	
HAZ	**Te Kaha**	**6.13**	**215**	*e*PN		**Pn**	**20 05 36.8**	**+0.5**
TWGZ	**Tauwhareparae**	**6.38**	**212**	*e*PN		**Pn**	**20 05 40.2**	**+0.4**
TWGZ				*e*SN		**Sn**	**20 06 51.7**	**+0.2**
CNGZ	**Carnagh Statio**	**6.54**	**209**	*e*PN		**Pn**	**20 05 42.4**	**+0.4**
URZ	**Urewera** 2.1nm,0.3s,baz=326,slow=11,SNR=21	**6.85**	**216**	Pn		**Pn**	**20 05 46.0**	**-0.3**
URZ	1.9nm,0.3s,baz=210,slow=22,SNR=9.1			Sn		**Sn**	**20 07 02.1**	**-1.0**
URZ	**Urewera**	**6.85**	**216**	PN		**Pn**	**20 05 46.1**	**-0.2**
URZ				SN		**Sn**	**20 07 03.2**	**+0.1**
CTA	**Charters Tower** 3.3nm,0.7s,baz=116,slow=11,SNR=4.4	**34.46**	**283**	P		**P**	**20 10 54.0**	**+1.0**
ASAR	**Alice Springs** 0.8nm,0.7s,baz=102,slow=7.7,SNR=18	**43.24**	**269**	P		**P**	**20 12 06.2**	**-0.4**
WRA	**Warramunga Arr** 1.2nm,0.3s,baz=113,slow=8.1,SNR=58	**44.44**	**274**	P		**P**	**20 12 15.5**	**-0.7**
FINES	**FINESS Array B** 2.0nm,0.8s,baz=26,slow=3.9,SNR=6.1	**147.48**	**339**	PKPbc		**PKPab**	**20 23 49.4**	**-0.6**

*CSEM **24** 20:06:15.6, 33°.79N×35°.77E, h0km, ML2.7*

GRAL 24 20:06:15.6±0.3, 33°.79N×35°.77E, h0km±62km, MD2.7, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.15**	**318**	*e*P		Pg	20 06 18.3	-0.4
BHL	**Bhannes**	**0.15**	**318**	*e*P		Pg	20 06 18.3	-0.4
DQRL	**Deir Qamar**	**0.19**	**243**	*e*P		Pg	20 06 19.1	-0.3
DQRL				*e*S		Sg	20 06 21.6	-0.4
DQRL	**Deir Qamar**	**0.19**	**243**	*e*P		Pg	20 06 19.1	-0.3
DQRL				*e*S		Sg	20 06 21.6	-0.4
RCY	**Rachaya**	**0.30**	**170**	*e*P		Pg	20 06 21.0	-0.6
RCY				*e*S		Sg	20 06 25.0	-0.6
HWQ	**Hawqa**	**0.51**	**16**	*e*P		Pg	20 06 24.7	-0.8
HWQ	**Hawqa**	**0.51**	**16**	*e*P		Pg	20 06 24.7	-0.8

*BJI **24** 20:27:58.6, 8°.73S×67°.50E, h10km, mb4.9/59, mB5.2/41, Ms4.9/55, Ms7 4.8/46*

*IDC **24** 20:28:03.8±0.4, 8°.19S×68°.06E, h0km, mb4.6/29, mb1 4.7/29, mb1mx4.6/43, mbtmp4.6/29, MS4.4/27, Ms1 4.4/27, ms1mx4.2/38, Error ellipse: s-maj=14.6km s-min=11.9km az=35.0*

*ISCJB **24** 20:28:03.8±0.2, 8°.21S±0°.04×68°.01E±0°.03, h10km, mb5.1/146, MS4.4/32, Error ellipse: s-maj=5.2km s-min=4.0km az=177.4*

*MOS **24** 20:28:04.1±1.0, 8°.09S×68°.04E, h10km, mb5.5/53, MS4.5/14, Error ellipse: s-maj=7.6km s-min=4.5km az=107.8*

*GCMT **24** 20:28:05.6±0.2, 8°.33S×68°.07E, h12km, MW5.2/95, Moment Tensor Solution. s29,c42; s95,c154; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 6.04±.15; Mθθ -1.49±.16; Mϕϕ -4.55±.14; Mrθ -2.44±.49; Mθϕ 2.74±.12; Mϕr -0.04±.47; Best double couple: Mw 6.5 5300×10^16 NP1: ϕs 166.00000°, δ 42.00000°, λ 116.00000°. Principal axes: T 6.8250, Plg 72.0000°, Azm 166.0000°; N -0.5430, Plg 17.0000°, Azm 326.0000°; P -6.2820, Plg 6.0000°, Azm 58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **24** 20:28:05.6±0.1, 8°.14S×68°.03E, h10km, mb5.4/59 Error ellipse: s-maj=5.5km s-min=4.6km az=206.0*

ISC 24 20:28:06.4±0.4, 8°.20S±0°.05×68°.00E±0°.05, h15km±1km, n725, σ1°.00/771, mb5.3/146, MS4.5/33, 49C-19D, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H08N3	**Diego Garcia H**	**3.49**	**58**	Pn	Pn	Pn	20 28 55.7	-4.3
H08N3				Sn	Sn	Sn	20 29 31.2	-10
H08N3				T	T	T	20 32 28.2	
H08N2	baz=236,slow=74,SNR=697 **Diego Garcia H**	**3.51**	**58**	Pn	Pn	Pn	20 28 55.7	-4.5
H08N2				Sn	Sn	Sn	20 29 31.2	-10
H08N2				T	T	T	20 32 28.5	
H08N1	baz=236,slow=74 **Diego Garcia H**	**3.51**	**58**	Pn	Pn	Pn	20 28 55.7	-4.6
H08N1				Sn	Sn	Sn	20 29 31.2	-10
H08N1				T	T	T	20 32 34.8	
H08S1	baz=236,slow=74,SNR=593 **Diego Garcia H**	**4.46**	**83**	Pn	Pn	Pn	20 29 05.6	-7.8
H08S1	baz=294,slow=15,SNR=322			Sn	Sn	Sn	20 29 53.7	-11
H08S1				T	T	T	20 33 48.9	
H08S3	baz=272,slow=74,SNR=47 **Diego Garcia H**	**4.47**	**83**	Pn	Pn	Pn	20 29 06.0	-7.6
H08S3	baz=294,slow=15,SNR=160			Sn	Sn	Sn	20 29 53.7	-11
H08S3				T	T	T	20 33 49.1	
DGAR	baz=272,slow=74,SNR=31 **Diego Garcia**	**4.48**	**80**	*e*P		Pn	20 29 08.1	-5.7
DGAR	**Diego Garcia**	**4.48**	**80**	*e*Pn		Pn	20 29 08.1	-5.7
DGAR				*e*Sn		Sn	20 29 54.0	-12
H08S2	**Diego Garcia H** baz=294,slow=15,SNR=264	**4.48**	**83**	Pn		Pn	20 29 05.9	-7.7
H08S2				Sn		Sn	20 29 53.7	-12
H08S2				T		T	20 33 49.7	
MSEY	**Mahe Island** SNR=7.8	**12.93**	**285**	*i* P		Pn	20 31 13.0	+3.1
PALK	**Pallekele** 0.2nm,0.3s,baz=217,slow=16,SNR=3.4	**19.91**	**40**	P		**Pn**	**20 32 39.9**	**+0.4**
PALK				LR		LR	20 38 27.3	
PALK	comp=Z,3μm,20.3s,baz=236,slow=31 **Pallekele**	**19.91**	**40**	P		**Pn**	**20 32 38.9**	**-0.7**
PALK	comp=Z,22nm,0.9s			pmax		pmax		
PALK	**Pallekele** comp=Z,22nm,0.9s	**19.91**	**40**	P		**Pn**	**20 32 38.9**	**-0.7**
OPO	**Ambohidratompo** comp=Z,9.1nm,1.0s,baz=53,slow=9.5,SNR=4.5	**22.70**	**241**	P		**P**	**20 33 11.0**	**+3.0**
OPO				LR		LR	20 39 53.3	
ABPO	comp=Z,3μm,18.7s,baz=58,slow=31 **Ambohimpanom**	**22.85**	**240**	*e*P		**P**	**20 33 11.9**	**+2.3**
ABPO	comp=Z,116nm,1.4s			pmax		pmax		
ABPO	**Ambohimpanom** comp=Z,116nm,1.4s	**22.85**	**240**	*e*P		**P**	**20 33 11.9**	**+2.3**
GOA	**Goa**	**24.24**	**14**	*e*P		**P**	**20 33 23.4**	**+0.4**
GOA	comp=Z,72nm,3.3s			AMB		AMB	20 34 30.6	
HYB	**Hyderabad**	**27.51**	**22**	*e*P		**P**	**20 33 51.9**	**-0.8**
VIS	**Vishakhapatnam**	**29.88**	**30**	*e*P		**P**	**20 34 12.3**	**-1.4**
VIS	comp=Z,40nm,1.9s			AMB		AMB	20 34 24.3	
KMBO	**Kilima Mbogo** comp=Z,3.0nm,0.9s,baz=113,slow=7.5,SNR=10	**31.42**	**281**	P		**P**	**20 34 29.3**	**+1.5**
KMBO				LR		LR	20 44 38.6	
KMBO	comp=Z,1μm,21.1s,baz=94,slow=32 **Kilima Mbogo**	**31.42**	**281**	P		**P**	**20 34 29.3**	**+1.5**
KMBO	comp=Z,3.0nm,0.9s			pmax		pmax		
KMBO	comp=Z,1μm,21.1s			MLR		MLR		
KMBO	**Kilima Mbogo** comp=Z,313nm,1.8s	**31.42**	**281**	*e*P		**P**	**20 34 28.8**	**+1.0**
PPI	**Padang Panjang** comp=Z,24nm,1.2s	**33.18**	**78**	P		P	20 34 46.0	+3.1
HATD	**Hatta, Dubai**	**34.81**	**341**	⇓P		**P**	**20 34 58.2**	**+1.3**
FAQ	**Al Faqa, Dubai**	**34.91**	**340**	⇓P		**P**	**20 34 58.6**	**+0.8**
RGRI	**Rengat** comp=Z,145nm,0.4s,comp=Z,46μm	**35.08**	**79**	P		P	20 35 03.2	+3.7
KULM	**Kulim** comp=Z,52nm,1.5s	**35.21**	**69**	*e*P		**P**	**20 35 00.5**	**0.0**
LHSI	**Lahat** comp=Z,28nm,1.9s	**35.58**	**85**	P		P	20 35 07.4	+3.7
MYKOM	**Kota Tinggi** comp=Z,29nm,1.3s	**37.10**	**76**	*e*P		**P**	**20 35 17.2**	**+0.5**
MBAR	**Mbarara**	**37.88**	**280**	*e*P		**P**	**20 35 24.1**	**+0.5**
MBAR	comp=Z,49nm,1.8s			pmax		pmax		
MBAR	**Mbarara** comp=Z,49nm,1.8s	**37.88**	**280**	*e*P		**P**	**20 35 24.1**	**+0.5**
KOLN	**Koldanda** comp=Z,65nm,1.3s	**38.81**	**22**	*e*P		**P**	**20 35 31.8**	**+0.6**
DMN	**Daman** comp=Z,61nm,1.2s	**39.26**	**24**	*e*P		**P**	**20 35 36.1**	**+1.1**
RAMN	**Ramite**	**39.32**	**27**	*e*P		**P**	**20 35 37.1**	**+1.6**
PKI	**Pulchoki**	**39.35**	**25**	*e*P		**P**	**20 35 36.6**	**+0.7**
PKIN	**Phulchoki**	**39.35**	**25**	*e*P		**P**	**20 35 36.8**	**+1.0**
GKN	**Gorkha** comp=Z,206nm,1.6s	**39.42**	**23**	*e*P		**P**	**20 35 37.4**	**+1.2**
KKN	**Kakani**	**39.49**	**24**	*e*P		**P**	**20 35 37.6**	**+0.7**
DDI	**Dehra Dun**	**39.50**	**14**	*e*P		**P**	**20 35 34.4**	**-2.3**
DDI	comp=Z,51nm,0.7s			AMB		AMB	20 35 40.5	
LSZ	**Lusaka**	**39.56**	**256**	*e*P		**P**	**20 35 37.9**	**+0.3**
LSZ				*e*			20 37 45.1	
LSZ	comp=Z,44nm,1.3s			pmax		pmax		
LSZ	**Lusaka** comp=Z,44nm,1.3s	**39.56**	**256**	*e*P		**P**	**20 35 37.9**	**+0.3**
LSZ				*e*PcP		**PcP**	**20 37 45.1**	**0.0**
ODAN	**Odare** comp=Z,114nm,1.3s	**39.60**	**28**	*e*P		**P**	**20 35 38.8**	**+0.9**
GUN	**Gumba**	**39.85**	**25**	*e*P		**P**	**20 35 40.0**	**0.0**
SMLA	**Simla**	**40.08**	**12**	*e*P		**P**	**20 35 42.3**	**+0.8**
SMLA	comp=Z,82nm,0.6s			AMB		AMB	20 35 44.0	
TAPN	**Taplejung** comp=Z,65nm,1.3s	**40.17**	**28**	*e*P		**P**	**20 35 43.5**	**+0.9**
CM31	**Chiang Mai Arr** comp=Z,10nm,1.0s	**40.42**

SKNT Sakolnakorn 43.49 55 P P 20 36 12.6 +3.0
comp=Z,37nm,1.2s,comp=Z,2µm
IZEF Zefreh 43.51 341 eP P 20 36 09.5 -0.4
LSA Lhasa 43.77 30 P P 20 36 13.0 +0.7
LSA Lhasa 43.77 30 eP P 20 36 12.8 +0.5
LSA e 20 37 57.3
LSA pmax pmax
comp=Z,193nm,2.1s
LSA Lhasa 43.77 30 eP P 20 36 12.8 +0.5
comp=Z,193nm,2.1s
LSA ePP PcP 20 37 57.2 -1.7
IPIR Pirpir 43.81 339 eP P 20 36 11.4 -0.8
IMOG Moghan 44.82 350 eP P 20 36 21.2 +0.8
IMYA Miami 44.92 351 eP P 20 36 21.4 +0.4
ISRO Mashad 44.99 350 eP P 20 36 22.5 +1.0
BOSA Boshof 45.04 238 P P 20 36 21.6 -0.5
comp=Z,1.2nm,0.5s,baz=61,slow=8.9,SNR=5.0
BOSA LR LR 20 53 24.4
comp=Z,1µm,18.1s,baz=58,slow=34
BOSA Boshof 45.04 238 P P 20 36 21.6 -0.5
BOSA pmax pmax
comp=Z,1.0nm,0.5s
BOSA MLR MLR
comp=Z,1µm,18.1s
IPAY Payeh 45.21 350 eP P 20 36 24.0 +0.6
SBUM Sibu 45.35 78 eP P 20 36 24.5 -0.1
comp=Z,48nm,1.6s
IFIR Firoozkooh 45.92 343 eP P 20 36 30.3 +1.3
IDMV Damavand 46.08 342 eP P 20 36 30.8 +0.5
IR5 Iran Long-Peri 46.21 340 eP P 20 36 31.6 +0.4
IKOM Komasi 46.41 336 eP P 20 36 33.0 +0.2
ABKT Ailbek 46.81 349 P P 20 36 36.6 +0.9
comp=Z,87nm,1.4s,SNR=6.2
GEYT Alibeck 46.81 349 P P 20 36 35.6 -0.2
comp=Z,4.5nm,0.8s,baz=192,slow=5.5,SNR=17
GEYT LR LR 20 54 40.6
comp=Z,263nm,21.2s,baz=120,slow=34
IVIS Veis 46.98 336 eP P 20 36 36.9 -0.3
KMI Kunming 47.35 45 P P 20 36 41.4 +1.0
KMI pP pP 20 36 46.8 +1.8
KMI sP sP 20 36 48.6 +1.9
KMI PP PP 20 38 33.8 +2.1
KMI S S 20 43 34.5 +0.4
KMI SS SS 20 47 05.0 +3.0
KMI PMZ
comp=Z,130nm,4.0s
KMI LN
comp=Z,230nm,21.3s
KMI LE
comp=Z,210nm,20.6s
KSH Kashi 48.05 8⥣iP P 20 36 43.1 -2.3
KSH pP pP 20 36 49.3 -0.7
KSH PP PP 20 38 36.3 -1.5
KSH PcS PcS 20 42 08.3 -0.7
KSH S S 20 43 36.3 -7.1
KSH sS sS 20 43 48.3 -2.7
KSH SS SS 20 47 03.3 -9.5
KSH PMZ
comp=Z,920nm,3.2s
KSH LN
comp=Z,2µm,15.1s
KSH LE
comp=Z,1µm,12.5s
KSH LZ
comp=Z,2µm,18.9s
QIZ Qiongzhong 49.33 56 P P 20 36 55.0 -0.5
QIZ pP pP 20 36 58.1 -2.0
QIZ sP sP 20 36 59.8 -2.1
QIZ S S 20 44 02.3 +0.5
QIZ PMZ
comp=Z,130nm,9.6s
QIZ LN
comp=Z,430nm,16.9s
QIZ LE
comp=Z,200nm,21.6s
QIZ LZ
comp=Z,630nm,20.4s
H01W3 Cape Leeuwin H 49.86 129 T T 21 30 17.3
baz=292,slow=75,SNR=78
H01W2 Cape Leeuwin H 49.86 129 T T 21 30 20.9
baz=292,slow=75,SNR=78
H01W1 Cape Leeuwin H 49.88 129 T T 21 30 18.9
baz=292,slow=75,SNR=82
TSUM Tsumeb 50.03 252 eP P 20 37 02.2 +1.2
comp=Z,53nm,1.8s
ZALF Zalf 50.25 326 eP P 20 37 03.1 +0.7
AML Almayashu 50.36 5 P P 20 37 04.2 +0.8
SNR=8.9
KZA Kyzart 50.47 7 P P 20 37 05.9 +1.6
SNR=22
EKS2 Erkin-Say 50.89 5 P P 20 37 08.3 +1.2
SNR=18
EKS2 Erkin-Say 50.89 5 eP P 20 37 08.0 +0.9
EKS2 pmax pmax
comp=Z,88nm,1.8s
EKS2 Erkin-Say 50.89 5 eP P 20 37 08.0 +0.9
comp=Z,88nm,1.8s
AAK Ala-Archa 50.94 6 P P 20 37 09.0 +1.5
SNR=5.9
AAK Ala-Archa 50.94 6 eP P 20 37 08.1 +0.6
AAK pmax pmax
comp=Z,63nm,1.6s
AAK Ala-Archa 50.94 6 eP P 20 37 08.1 +0.6
comp=Z,63nm,1.6s
GYA Guiyang 50.94 46 P P 20 37 08.9 +1.1
GYA PP PP 20 39 06.0 +1.6
GYA ScP ScP 20 42 19.8 -0.4
GYA S S 20 44 24.3 -0.1
GYA PMZ
comp=Z,30nm,1.0s
GYA PMZ
comp=Z,140nm,5.6s
GYA LN
comp=Z,680nm,18.8s
GYA LE
comp=Z,560nm,19.0s
GYA LZ
comp=Z,620nm,18.3s
KBK Karagaybulak 51.01 7 P P 20 37 09.2 +1.1
SNR=9.0
TOTH TOTAH 51.08 326 eP P 20 37 09.5 +0.9
KKAR Karatay Array 51.11 2 eP P 20 37 08.8 +0.2
KKAR Karatay Array 51.11 2 eP P 20 37 08.8 +0.2
FRU Bishkek 51.15 6 eP P 20 37 08.0 -0.9
FRU pmax pmax
comp=Z,100nm,1.8s
ROOS tl_alroos 51.22 327 eP P 20 37 11.2 +1.6
TKM2 Tokmak 2 51.35 7 P P 20 37 11.0 +0.4
SNR=14
TKM2 Tokmak 2 51.35 7 eP P 20 37 10.4 -0.2
TKM2 pmax pmax
comp=Z,55nm,1.5s
TKM2 Tokmak 2 51.35 7 eP P 20 37 10.4 -0.2
comp=Z,55nm,1.5s
MBWA Marble Bar 51.45 110 eP P 20 37 11.3 -0.3
comp=Z,8.5nm,0.8s
SFNV Sufian 51.54 331 eP P 20 37 13.5 +1.5
USP Ospenovka 51.56 6 P P 20 37 12.3 +0.3
SNR=5.6
CD2 Chengdu 51.83 40 P P 20 37 14.0 -0.3
CD2 pP pP 20 37 18.5 -0.4
CD2 sP sP 20 37 20.4 -0.3
CD2 PP PP 20 39 12.0 -0.3
CD2 S S 20 44 37.1 +0.7
CD2 SS SS 20 48 15.4 +2.0
CD2 PMZ
comp=Z,30nm,1.7s
CD2 PMZ
comp=Z,200nm,3.6s
CD2 LN
comp=Z,570nm,18.0s
CD2 LZ
comp=Z,630nm,19.2s
GNI Garni 52.70 338 P P 20 37 19.6 -1.1
GNI pmax pmax
comp=Z,96nm,1.6s
GNI Garni 52.70 338⥣iP P 20 37 21.8 +1.1
SNR=6.8
GNI Garni 52.70 338 P P 20 37 19.6 -1.1
comp=Z,96nm,1.6s
DGRG David-gareji 53.60 339 P P 20 37 27.9 +0.7
DGRG David-gareji 53.60 339 eP P 20 37 27.9 +0.7
TBLG Delisi 54.08 339 P P 20 37 31.9 +1.3
TBLG Delisi 54.08 339 P P 20 37 31.9 +1.3
AKH Akhalkalaki 54.26 337 P P 20 37 33.3 +1.1
AKH Akhalkalaki 54.26 337 eP P 20 37 33.3 +1.1
WMQ Urumqi 54.77 17 P P 20 37 37.0 +1.3
WMQ pP pP 20 37 42.0 +1.6
WMQ sP sP 20 37 44.0 +1.9
WMQ PcP PcP 20 38 37.8 -0.3
WMQ PP PP 20 39 41.0 +2.4
WMQ S S 20 45 15.1 -0.9
WMQ ScS ScS 20 47 22.3 -2.4
WMQ SS SS 20 48 57.6 -1.9
WMQ PMZ
comp=Z,36nm,1.2s
WMQ PMZ
comp=Z,340nm,3.8s
WMQ LN
comp=Z,1µm,17.5s
WMQ LE
comp=Z,920nm,16.3s
WMQ LZ
comp=Z,990nm,18.7s
ONI Oni 55.29 338 P P 20 37 40.0 +0.4
ONI Oni 55.29 338 eP P 20 37 39.9 +0.4
LZH Lanzhou 55.47 35 eP P 20 37 42.0 +1.0
LZH pP pP 20 37 46.6 +0.9
LZH sP sP 20 37 49.1 +1.7
LZH PP PP 20 39 48.0 +2.9
LZH eS S 20 45 26.0 +0.2
LZH eSS SS 20 49 10.5 -0.5
LZH PMZ
comp=Z,39nm,1.2s
LZH PMZ
comp=Z,240nm,7.8s
LZH LN
comp=Z,670nm,13.5s
LZH LE
comp=Z,680nm,15.0s
LZH LZ
comp=Z,1µm,17.8s
SOEI Soe 55.54 96 eP P 20 37 42.2 +0.3
comp=Z,102nm,1.1s
GTA Gaotai 55.80 30 eP P 20 37 43.5 +0.2
GTA pP pP 20 37 54.3 +6.3
GTA S S 20 45 32.3 +2.2
GTA sS sS 20 45 39.0 +1.3
GTA SS SS 20 49 19.9 +3.9
GTA PMZ
comp=Z,12nm,1.8s
GTA PMZ
comp=Z,140nm,5.7s
GTA LN
comp=Z,420nm,20.2s
GTA LE
comp=Z,660nm,20.2s
GTA LZ
comp=Z,820nm,20.2s
NEY Neytrino 56.13 338 P P 20 37 45.9 +0.2
MK31 Makanchi Array 56.21 12 eP P 20 37 45.1 -0.9
MK31 e 20 38 42.9
MK31 Makanchi Array 56.21 12 eP P 20 37 45.1 -0.9
MK31 ePcP PcP 20 38 42.9 -0.7
MKAR Makanchi Array 56.21 12 P P 20 37 45.3 -0.7
comp=Z,5.9nm,0.7s,baz=199,slow=8.0,SNR=74
MKAR PcP PcP 20 38 43.7 +0.1
comp=Z,2.2nm,0.7s,baz=198,slow=4.2,SNR=5.0
MKAR Makanchi Array 56.21 12 P P 20 37 45.3 -0.7
MKAR 20 38 43.7
MKAR pmax pmax
comp=Z,6.0nm,0.7s
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 56.21 12 eP P 20 37 44.9 -1.1
MKAR PcP PcP 20 38 43.7 +0.1
KBZ Khabaz 56.48 338 P P 20 37 48.0 +0.1
comp=Z,13nm,1.3s,baz=146,slow=3.3,SNR=13
KBZ LR LR 21 02 05.0
comp=Z,75nm,20.3s,baz=121,slow=36
KBZ Khabaz 56.48 338 P P 20 37 48.0 +0.1
KBZ pmax pmax
comp=Z,13nm,1.3s
KBZ MLR MLR
comp=Z,75nm,20.3s
KIV Kislovodsk 56.75 338c iP P 20 37 50.0 0.0
KIV e 20 38 46.3
KIV e 20 39 55.9
KIV pmax pmax
comp=Z,32nm,2.2s
KIV MLR MLR
comp=Z,82nm,17.0s
KIV Kislovodsk 56.75 338 eP P 20 37 49.7 -0.3
XAN Xi'an 57.17 40 P P 20 37 52.3 -0.7
XAN PP PP 20 40 00.0 -0.2
XAN S S 20 45 46.4 -1.8
XAN PMZ
comp=Z,19nm,2.0s
XAN PMZ
comp=Z,110nm,3.4s
XAN LN
comp=Z,120nm,18.4s
XAN LE
comp=Z,260nm,17.7s
XAN LZ
comp=Z,320nm,19.9s
BR131 Keskin Array S 57.32 329 eP P 20 37 53.8 -0.3
comp=Z,26nm,1.3s
BRTR Keskin Array B 57.32 329 P P 20 37 53.7 -0.4
comp=Z,16nm,1.2s,baz=150,slow=8.0,SNR=43
BRTR PcP PcP 20 38 48.3 +0.1
comp=Z,1.0nm,0.8s,baz=82,slow=3.1,SNR=1.9
BRTR LR LR 21 01 41.0
comp=Z,107nm,19.7s,baz=124,slow=35
BRTR Keskin Array B 57.32 329 P P 20 37 53.7 -0.4
BRTR 20 38 48.3
BRTR pmax pmax
comp=Z,17nm,1.2s
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR MLR MLR
comp=Z,107nm,19.7s
GOF Gofitskoye 57.58 339 eP P 20 37 55.7 0.0
GOF pmax pmax
comp=Z,20nm,1.3s
ABKAR Akbulak array 57.65 354 eP P 20 37 55.6 -0.4
WHN Wuhan 58.81 47 P P 20 38 05.9 +1.4
WHN S S 20 46 12.6 +2.9
WHN LZ
comp=Z,740nm,17.2s
SIVA Sivas 59.24 319 P P 20 38 07.5 0.0
SIVA Sivas 59.24 319 P P 20 38 07.5 0.0
IDI Anoyia 59.36 319 eP P 20 38 08.3 0.0
comp=Z,96nm,2.0s
KURK Kurchatov 59.39 8 P P 20 38 08.7 +0.5
comp=Z,118nm,1.9s,SNR=22
KURK Kurchatov 59.39 8 eP P 20 38 07.8 -0.4
KURK pmax pmax
comp=Z,60nm,1.5s
KURK Kurchatov 59.39 8 eP P 20 38 07.8 -0.4
comp=Z,60nm,1.5s
MAW Mawson 59.42 182 P P 20 38 07.9 -0.3
comp=Z,5.9nm,0.8s,baz=22,slow=7.8,SNR=11
MAW LR LR 20 58 44.8
comp=Z,155nm,18.4s,baz=50,slow=31
MAW Mawson 59.42 182 eP P 20 38 07.6 -0.5
MAW pmax pmax
comp=Z,9.0nm,1.6s
MAW Mawson 59.42 182 eP P 20 38 07.6 -0.5
comp=Z,9.1nm,1.6s
ANN Anapa 59.52 335 eP P 20 38 07.6 -1.5
ANN e 20 38 55.1
ANN e 20 40 18.8
ANN eS S 20 46 15.5 -2.8
ANN eSS SS 20 50 10.7 -3.3
ANN pmax pmax
comp=Z,66nm,1.6s
SMG Samos 59.69 323 P P 20 38 10.8 +0.3
SMG Samos 59.69 323 P P 20 38 10.8 +0.3
TNTI Ternate 59.83 84 eP P 20 38 11.6 -0.4
comp=Z,713nm,2.5s
PRK Paraskevi 61.03 324 P P 20 38 21.1 +1.5
PRK Paraskevi 61.03 324 P P 20 38 21.1 +1.5
PRK Paraskevi 61.03 324 P P 20 38 21.1 +1.5
BRVK Borovoye 61.05 2 P P 20 38 19.4 -0.1
comp=Z,89nm,1.0s,SNR=11
BRVK Borovoye 61.05 2 eP P 20 38 19.3 -0.2
BRVK pmax pmax
comp=Z,101nm,1.8s
BRVK Borovoye 61.05 2 eP P 20 38 19.3 -0.2
comp=Z,101nm,1.8s
SIGR SIGRI 61.25 324 P P 20 38 18.1 -3.0
SIGR SIGRI 61.25 324 P P 20 38 18.1 -3.0
LIA Limnos Island 62.09 324 P P 20 38 26.9 +0.1
LIA Limnos Island 62.09 324 P P 20 38 26.9 +0.1
ALN Alexandroupoli 62.25 325 P P 20 38 28.1 +0.3
ALN Alexandroupoli 62.25 325 P P 20 38 28.1 +0.3
ALN Alexandroupoli 62.25 325 P P 20 38 28.1 +0.3
LTK Loutraki 62.26 321 P P 20 38 26.4 -1.6
LTK Loutraki 62.26 321 P P 20 38 26.4 -1.6
SMTH Samothraki Isl 62.26 324 P P 20 38 27.7 -0.3
SMTH Samothraki Isl 62.26 324 P P 20 38 27.7 -0.3
SMIA Simia 62.63 322 P P 20 38 29.9 -0.6
RDO Rodhopi 62.70 325 eP P 20 38 30.9 +0.1
comp=Z,94nm,1.6s
RDO Rodhopi 62.70 325 P P 20 38 30.5 -0.4
NJ2 Nanjing 62.88 48 eP P 20 38 31.1 -1.1
NJ2 S S 20 47 04.0 +2.3
NJ2 PMZ
comp=Z,30nm,0.5s
NJ2 LN
comp=Z,720nm,25.4s
NJ2 LE
comp=Z,800nm,26.3s
NJ2 LZ
comp=Z,830nm,26.6s
DRO Drossia 63.01 320 P P 20 38 33.7 +0.7
JMB Yambol 63.01 327 i P P 20 38 33.4 +0.5
PRD Provadia 63.07 328 i P P 20 38 32.8 -0.4
OUR Ouranopolis 63.08 323 P P 20 38 33.4 0.0
OUR Ouranopolis 63.08 323 P P 20 38 33.4 0.0
OUR Ouranopolis 63.08 323 P P 20 38 33.4 0.0
HHC Hu-ho-hao-te 63.14 36 eP P 20 38 35.8 +1.9
HHC PP PP 20 40 56.6 +3.6
HHC S S 20 47 06.3 +1.4
HHC sS sS 20 47 13.6 +1.0
HHC PMZ
comp=Z,27nm,0.8s
AGG Agios Georgios 63.26 321 eP P 20 38 33.4 -1.2
AGG pmax pmax
comp=Z,109nm,1.8s
AGG Agios Georgios 63.26 321 eP P 20 38 33.4 -1.2
comp=Z,109nm,1.8s
AGG Agios Georgios 63.26 321 P P 20 38 33.5 -1.2
RZN Rozhen 63.52 325 i P P 20 38 37.1 +0.5
ZAA0 Zalesovo Array 63.52 11 eP P 20 38 34.6 -1.5
ZALV Zalesovo Beam 63.52 11 P P 20 38 35.2 -0.9
comp=Z,3.3nm,0.7s,baz=202,slow=7.2,SNR=18
ZALV LR LR 21 06 50.5
comp=Z,404nm,18.3s,baz=252,slow=37
ZALV Zalesovo Beam 63.52 11 P P 20 38 35.2 -0.9
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV MLR MLR
comp=Z,404nm,18.3s
PDO Prodromos 63.72 320 P P 20 38 37.1 -0.6
NVR Nevrokopi 63.80 324 P P 20 38 38.0 -0.2
NVR Nevrokopi 63.80 324 P P 20 38 38.0 -0.2
SRS Serrai 63.80 324 P P 20 38 37.6 -0.6
SRS Serrai 63.80 324 P P 20 38 37.6 -0.6
SRS Serrai 63.80 324 P P 20 38 37.6 -0.6
HARR Harsova 63.83 329 ⥥P P 20 38 38.5 +0.2
HARR Harsova 63.83 329⥥iP P 20 38 38.5 +0.2
SZH Strazhica 63.90 327 i P P 20 38 38.8 0.0
MMB Musomiste 64.03 324 i P P 20 38 39.3 -0.4
CFR Carcaliu 64.08 330 ⥣P P 20 38 39.8 0.0
CFR Carcaliu 64.08 330⥣iP P 20 38 39.8 0.0
DSL Palaion Diasel 64.09 321 P P 20 38 39.9 -0.3
DSL Palaion Diasel 64.09 321 P P 20 38 39.9 -0.3
NVS Novosibirsk 64.09 10⥣iP P 20 38 38.9 -0.9
NVS pmax pmax
comp=Z,96nm,2.1s
NVS pmax pmax
comp=N,60nm,1.9s
NVS pmax pmax
comp=E,14nm,1.6s
SSE Sheshan 64.15 50 P P 20 38 41.8 +1.2
SSE S S 20 47 20.4 +2.9
SSE SS SS 20 51 27.8 +0.7
SSE PMZ
comp=E,27nm,0.8s
SSE PMZ
comp=E,53nm,2.7s
SSE LN
comp=E,90nm,33.2s
SSE LE
comp=E,230nm,33.1s
VSR Storozhevoye 64.20 340 eP P 20 38 40.0 -0.6
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,30nm,0.9s
KZN Kozani 64.38 322 P P 20 38 41.3 -0.8
KZN Kozani 64.38 322 P P 20 38 41.3 -0.8
KZN Kozani 64.38 322 P P 20 38 41.3 -0.8
KKB Krupnik 64.58 324 i P P 20 38 43.3 0.0
ASAR Alice Springs 64.71 112 P P 20 38 44.0 -0.6
comp=Z,12nm,0.7s,baz=276,slow=6.0,SNR=201
ASAR LR LR 21 03 03.5
comp=Z,243nm,21.6s,baz=284,slow=32
ASAR Alice Springs 64.71 112 P P 20 38 44.0 -0.6
ASAR pmax pmax
comp=Z,12nm,0.7s
ASAR MLR MLR
comp=Z,243nm,21.6s
AS31 Alice Springs 64.71 112 eP P 20 38 43.7 -1.0
IGT Igoumenitsa 64.81 321 P P 20 38 43.7 -1.1
IGT Igoumenitsa 64.81 321 P P 20 38 43.7 -1.1
IGT Igoumenitsa 64.81 321 P P 20 38 43.7 -1.1
ISR Istrita 64.84 329 ⥥P P 20 38 45.6 +0.6
ISR Istrita 64.84 329⥥iP P 20 38 45.6 +0.6
CASY Casey 64.87 162 eP P 20 38 43.6 -1.2
comp=Z,4.9nm,0.9s
ARU Arti 64.87 354c iP P 20 38 44.7 -0.1
ARU 20 41 15.7
ARU S S 20 47 24.2 -1.3
ARU pmax pmax
comp=Z,80nm,1.7s
ARU Arti 64.87 354 P P 20 38 44.4 -0.4
comp=Z,169nm,1.4s,SNR=12
ARU Arti 64.87 354 eP P 20 38 44.5 -0.4
comp=Z,158nm,1.8s
SGD Sagiada 64.92 321 P P 20 38 45.7 +0.2
VTS Vitosha 64.96 325 P P 20 38 45.5 -0.5
VTS Vitosha 64.96 325 i P P 20 38 46.4 +0.4
VTS Vitosha 64.96 325 P P 20 38 45.5 -0.5
VTS Vitosha 64.96 325 P P 20 38 45.5 -0.5
WRA Warramunga Arr 65.05 108 P P 20 38 46.4 -0.4
comp=Z,9.4nm,0.6s,baz=278,slow=5.7,SNR=73
WRA LR LR 21 03 38.2
comp=Z,562nm,21.4s,baz=280,slow=33
WRA Warramunga Arr 65.05 108 P P 20 38 46.4 -0.4
WRA pmax pmax
comp=Z,9.0nm,0.6s
WRA MLR MLR
comp=Z,562nm,21.4s
WRAB Tennant Creek 65.06 108 P P 20 38 46.9 0.0
comp=Z,141nm,0.7s,SNR=15
WRAB Tennant Creek 65.06 108c iP P 20 38 46.3 -0.6
WRAB pmax pmax
comp=Z,201nm,2.5s
WRAB Tennant Creek 65.06 108 eP P 20 38 46.5 -0.4
comp=Z,110nm,1.8s
SVE Sverdlovsk 65.08 356 eP P 20 38 46.3 +0.1
SVE pmax pmax
comp=Z,64nm,1.7s
MPEP Malo Peshtene 65.16 326 i P P 20 38 47.0 0.0
VRI Vrincioaia 65.26 330 ⥣P P 20 38 48.4 +0.7
VRI Vrincioaia 65.26 330⥣iP P 20 38 48.4 +0.7
SONM Songino Array 65.29 27 P P 20 38 48.6 +0.6
comp=Z,13nm,1.1s,baz=216,slow=6.7,SNR=36
SONM LR LR 21 06 41.9
comp=Z,883nm,20.9s,baz=224,slow=36
SONM Songino Array 65.29 27 P P 20 38 48.6 +0.6
SONM pmax pmax
comp=Z,13nm,1.1s
SONM MLR MLR
comp=Z,883nm,20.9s
PLOR Plostina 65.29 329 ⥣P P 20 38 48.8 +0.9
PLOR Plostina 65.29 329⥣iP P 20 38 48.8 +0.9
BJT Baijiatuau 65.40 39 eP P 20 38 48.7 0.0
BJT Baijiatuau 65.40 39 eP P 20 38 48.7 0.0

MLR Muntele Rosu 65.40 329 ⇓P P 20 38 49.9 +1.2
MLR Muntele Rosu 65.40 329 ⇓iP P 20 38 49.8 +1.1
BJI Beijing 65.42 39 P P 20 38 49.6 +0.9
BJI PP **PP 20 41 13.4 +0.5**
BJI S **S 20 47 34.6 +1.8**
BJI SS **SS 20 51 49.4 +2.9**
BJI PMZ
comp=Z,240nm,4.3s
BJI LN
comp=Z,280nm,18.0s
BJI LE
comp=Z,120nm,20.4s
ULN Ulaanbaatar 65.61 28 *e*P **P 20 38 49.5 -0.6**
ULN pmax pmax
comp=Z,52nm,1.8s
ULN Ulaanbaatar 65.61 28 *e*P **P 20 38 49.5 -0.6**
comp=Z,52nm,1.8s
TESR Tescani 65.75 330⇑ *i*P **P 20 38 50.8 0.0**
VOIR 65.83 328 ⇑P P 20 38 51.0 -0.4
VOIR 65.83 328⇑ *i*P **P 20 38 51.0 -0.4**
ZAK Zakamensk 65.89 24 *e*P **P 20 38 50.9 -0.8**
ZAK pmax pmax
comp=Z,7.0nm,1.9s
ARR Arges 66.00 328⇑ *i*P **P 20 38 52.3 -0.2**
DOPR Dopca 66.01 329 ⇓iP P 20 38 52.4 -0.1
PHP Peshkopia 66.02 323 P P 20 38 51.9 -0.8
PHP Peshkopia 66.02 323 P P 20 38 51.9 -0.8
PHP Peshkopia 66.02 323 P P 20 38 51.9 -0.8
TIR Tirane 66.17 322 *e*P **P 20 38 53.4 -0.2**
TIR pmax pmax
comp=Z,211nm,1.7s
TIR Tirane 66.17 322 *e*P **P 20 38 53.4 -0.2**
comp=Z,212nm,1.7s
LOT Lotru 66.51 328⇓ *i*P **P 20 38 55.3 -0.5**
TLY Talaya 67.05 23 *e*P **P 20 38 59.8 +0.8**
TLY *e*S **S 20 47 56.8 +4.5**
TLY *e*SS **SS 20 52 05.9 -5.6**
TLY pmax pmax
comp=Z,30nm,1.9s
TLY MLR MLR
comp=Z,742nm,17.0s
TLY Talaya 67.05 23 P **P 20 39 00.7 +1.7**
comp=Z,55nm,1.0s,SNR=6.4
TLY Talaya 67.05 23 P **P 20 38 58.3 -0.7**
BBOO Buckleboo 67.17 122 *e*P **P 20 38 59.0 -1.3**
comp=Z,28nm,1.4s
BURAR Bucovina Array 67.22 330⇑ P **P 20 39 00.2 -0.1**
BURAR Bucovina Array 67.22 330⇑ *i*P **P 20 39 00.2 -0.1**
BUR08 Bucovina Ar. S 67.25 330 *e*P **P 20 38 59.8 -0.7**
ARCR ARCALIA 67.29 329⇓ *i*P **P 20 39 00.7 0.0**
AK02 Malin Array Si 67.56 334 *e*P **P 20 39 01.2 -1.0**
AK01 Malin Array Si 67.58 334 *e*P **P 20 39 00.9 -1.4**
AKASG Malin Array Be 67.58 334 P **P 20 39 01.4 -1.0**
comp=Z,3.0nm,0.6s,baz=138,slow=5.0,SNR=38
AKASG PP **PP 20 41 30.5 -1.1**
comp=Z,0.2nm,0.4s,baz=144,slow=9.1,SNR=6.7
AKASG Malin Array Be 67.58 334 P **P 20 39 01.4 -1.0**
AKASG 20 41 30.5
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 67.58 334 *e*P **P 20 39 00.9 -1.5**
AKBB Malin Array Si 67.58 334 *e*P **P 20 39 00.9 -1.5**
KIEV Kiev 67.58 334 *e*P **P 20 39 00.8 -1.6**
KIEV *e* 20 41 30.0
KIEV pmax pmax
comp=Z,83nm,1.9s
KIEV Kiev 67.58 334 *e*P **P 20 39 00.8 -1.6**
comp=Z,83nm,1.9s
KIEV *e*PP **PP 20 41 30.0 -1.6**
IRK Irkutsk 67.73 23 *e*P **P 20 39 03.0 -0.3**
IRK pmax pmax
comp=Z,69nm,2.0s
DIVS Divibare 67.74 325⇑ *i*P **P 20 39 04.1 +0.5**
DIVS Divibare 67.74 325 P **P 20 39 03.2 -0.4**
BZS Buzias 67.77 327 ⇓P P 20 39 03.7 0.0
BZS Buzias 67.77 327⇓ *i*P **P 20 39 03.7 0.0**
DL2 Dalian 68.32 43 *e*P **P 20 39 08.3 +1.0**
DL2 *e*S **S 20 48 04.6 -3.4**
DL2 PMZ
comp=Z,150nm,3.6s
DL2 LN
comp=Z,170nm,15.7s
DL2 LZ
comp=Z,170nm,14.7s
OBN Obninsk 68.33 341⇓ *i*P **P 20 39 07.4 +0.5**
OBN *e* 20 41 43.3
OBN *e*SS SS 20 52 28.6 -2.5
OBN pmax pmax
comp=Z,110nm,2.5s
OBN MLR MLR
comp=Z,191nm,20.0s
OBN Obninsk 68.33 341 *e*P **P 20 39 06.1 -0.8**
comp=Z,78nm,1.4s
TAM Tamanrasset 68.44 298 *e*P **P 20 39 09.7 +1.2**
TAM pmax pmax
comp=Z,58nm,2.0s
TAM Tamanrasset 68.44 298 *e*P **P 20 39 09.7 +1.2**
comp=Z,58nm,2.0s
MOS Moscow 68.52 342 *e*P **P 20 39 07.8 -0.4**
MOS *e* 20 39 16.8
MOS pmax pmax
comp=Z,172nm,1.5s
MOS pmax pmax
comp=Z,500nm,2.2s
TRPA Tarpa 68.91 329⇑ *i*P **P 20 39 10.9 +0.2**
TOA0 Torodi Ar. Si 69.18 287 P **P 20 39 12.7 -0.4**
TORD Torodi Ar. Bea 69.18 287 P **P 20 39 12.9 -0.2**
comp=Z,2.5nm,1.0s,baz=115,slow=2.9,SNR=15
TORD LR LR 21 08 40.9
comp=Z,350nm,19.7s,baz=115,slow=35
TOB1 Torodi Ar. Sit 69.19 287 *e*P **P 20 39 12.2 -0.9**
LVV L'vov 69.30 331 *e*P **P 20 39 12.3 -0.9**
UZH Uzhgorod 69.36 330⇓ *i*P **P 20 39 13.6 +0.1**
UZH *e* 20 39 21.4
UZH *e* 20 39 31.4
KOLS Kolonicke sedl 69.57 330 *e*P **P 20 39 14.9 +0.1**
KOLS pmax pmax
comp=Z,38nm,1.5s
KOLS Kolonicke sedl 69.57 330 *e*P **P 20 39 14.9 +0.1**
PKSM Moragy 69.78 326 ⇑P P 20 39 16.3 +0.2
PKSM Moragy 69.78 326⇑ *i*P **P 20 39 16.3 +0.2**
PSZ Piszkesteto 70.14 328 *e*P **P 20 39 17.0 -1.5**
PSZ pmax pmax
comp=Z,47nm,1.7s
PSZ Piszkesteto 70.14 328⇑ *i*P **P 20 39 18.1 -0.4**
PSZ Piszkesteto 70.14 328 *e*P **P 20 39 17.0 -1.5**
comp=Z,47nm,1.7s
KECS Kecovo 70.18 329 *e*P **P 20 39 18.4 -0.2**
KECS pmax pmax
comp=Z,6.0nm,1.0s
KECS Kecovo 70.18 329 *e*P **P 20 39 18.3 -0.3**
KEST Kesra 70.33 312 LR LR 21 08 37.6
comp=Z,38nm,20.2s,baz=310,slow=35
NIE Niedzica 70.86 329 *e*P **P 20 39 22.7 -0.1**
NIE Niedzica 70.86 329 *e*P **P 20 39 22.8 -0.1**
VYHS Vyhne 71.05 328 *e*P **P 20 39 23.3 -0.6**
VYHS pmax pmax
comp=Z,32nm,1.5s
VYHS Vyhne 71.05 328 *e*P **P 20 39 23.3 -0.6**
BOJS Bojanci 71.30 324 *i*P **P 20 39 25.8 +0.3**
CIT Chita 71.52 28 *e*P **P 20 39 27.4 +0.6**
CIT *e* 20 39 45.3
CIT pmax pmax
comp=Z,104nm,2.6s
NVL N'lazarevskaya 71.56 197 *e*P **P 20 39 26.1 -0.5**
NVL pmax pmax
comp=Z,15nm,0.8s
OJC Ojcow 71.63 330 *e*P **P 20 39 26.6 -0.8**
OJC Ojcow 71.63 330 *e*P **P 20 39 26.6 -0.8**
OJC pmax pmax
comp=Z,64nm,1.9s
OJC Ojcow 71.63 330 *e*P **P 20 39 26.6 -0.8**
comp=Z,64nm,1.9s
VISS Visnje 71.71 324 *i*P **P 20 39 28.4 +0.4**
PRGR Permogore 71.78 349 P **P 20 39 26.1 -1.9**
PRGR pmax pmax
comp=Z,46nm,1.6s
STKA Stephens Creek 71.80 121 P **P 20 39 28.3 -0.6**
comp=Z,5.8nm,0.7s,baz=288,slow=5.8,SNR=17
STKA LR LR 21 09 16.8
comp=Z,218nm,18.5s,baz=260,slow=34
STKA Stephens Creek 71.80 121 *e*P **P 20 39 28.0 -0.9**
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 71.80 121 *e*P **P 20 39 28.0 -0.9**
comp=Z,1.9nm,0.8s
ZST Bratislava 71.80 327 *e*P **P 20 39 28.9 +0.5**
ZST Bratislava 71.80 327 *e*P **P 20 39 28.9 +0.5**
KSAR Wonju Array Be 71.97 46 P **P 20 39 29.3 -0.4**
KSAR Wonju Array Be 71.97 46 P **P 20 39 29.2 -0.4**
KSRS Korea Array 72.00 46 P **P 20 39 29.2 -0.6**
comp=Z,5.1nm,1.2s,baz=244,slow=7.8,SNR=8.9
KSRS LR LR 21 12 42.2
comp=Z,259nm,18.1s,baz=226,slow=37
KSRS Korea Array 72.00 46 P **P 20 39 29.3 -0.6**
KSRS pmax pmax
comp=Z,5.0nm,1.2s
KSRS MLR MLR
comp=Z,259nm,18.1s
PERS Pernice 72.01 325 *i*P **P 20 39 29.8 0.0**
SOKA Soboth 72.08 325⇑ *i*P **P 20 39 30.4 +0.1**
comp=Z,22nm,1.4s,SNR=7.7
ARSA Arzberg 72.12 325 *i*P **P 20 39 30.8 +0.4**
comp=Z,41nm,1.6s,SNR=16
BEL Belsk 72.18 331 *e*P **P 20 39 30.7 +0.1**
BEL Belsk 72.18 331 *e*P **P 20 39 30.7 +0.1**
OKC Ostrava-Krasne 72.23 329⇑ *i*P **P 20 39 30.4 -0.6**
OKC Ostrava-Krasne 72.23 329⇑ *i*P **P 20 39 30.4 -0.6**
OBKA Obir 72.26 324 *i*P **P 20 39 33.0 +1.6**
comp=Z,35nm,1.6s,SNR=5.4
CONA Conrad Observa 72.32 326 *i*P **P 20 39 31.8 +0.1**
comp=Z,56nm,1.5s,SNR=21
JNU Nakatsue 72.44 52 P **P 20 39 32.6 -0.1**
comp=Z,4.0nm,1.0s,baz=220,slow=6.3,SNR=7.8
JNU LR LR 21 09 22.5
comp=Z,317nm,21.9s,slow=34
JNU Nakatsue 72.44 52 *e*P **P 20 39 33.1 +0.4**
comp=Z,76nm,1.8s
GORS Gorjuse 72.48 324 *i*P **P 20 39 33.8 +1.1**
MORC Moravsky Berou 72.50 328 *e*P **P 20 39 32.1 -0.6**
MORC pmax pmax
comp=Z,185nm,1.6s
MORC Moravsky Berou 72.50 328⇓ *i*P **P 20 39 32.8 +0.1**
MORC Moravsky Berou 72.50 328 *e*P **P 20 39 32.1 -0.6**
comp=Z,185nm,1.6s
SUW Suwalki 72.54 334 *e*P **P 20 39 32.2 -0.5**
SUW Suwalki 72.54 334 *e*P **P 20 39 32.2 -0.5**
VRAC Vranov 72.72 328 ⇑P P 20 39 32.7 -1.3
VRAC Vranov 72.72 328⇑ *i*P **P 20 39 32.7 -1.3**
MYKA Terra Mystica 72.86 324⇑ *i*P **P 20 39 35.3 +0.4**
comp=Z,40nm,1.5s,SNR=8.6
KRLC Kraliky 73.08 328⇑ *e*P **P 20 39 36.2 +0.1**
KRLC Kraliky 73.08 328 *e*P **P 20 39 36.2 +0.1**
MOA Molln 73.16 325 *i*P **P 20 39 36.7 0.0**
comp=Z,54nm,1.5s,SNR=18
CN2 Changchun 73.27 40 *e*P **P 20 39 36.9 -0.4**
CN2 *e*S **S 20 49 03.8 -1.6**
CN2 PMZ
comp=Z,10.0nm,0.6s
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,200nm,20.0s
CN2 LE
comp=Z,200nm,20.0s
CN2 LZ
comp=Z,200nm,21.0s
TREC Trest 73.31 327⇑ *e*P **P 20 39 37.6 +0.2**
TREC Trest 73.31 327 *e*P **P 20 39 37.6 +0.2**
DPC Dobruska-Polom 73.48 328⇑ *i*P **P 20 39 38.4 -0.1**
DPC Dobruska-Polom 73.48 328⇑ *i*P **P 20 39 38.4 -0.1**
ABTA Abfaltersbach 73.58 324⇓ *i*P **P 20 39 39.7 +0.5**
comp=Z,86nm,1.6s,SNR=22
UPC Upice 73.73 328⇑ *e*P **P 20 39 40.5 +0.6**
UPC Upice 73.73 328 *e*P **P 20 39 40.5 +0.6**
KSP Ksiaz 73.78 329 *e*P **P 20 39 40.4 +0.3**
KSP Ksiaz 73.78 329 *e*P **P 20 39 40.5 +0.3**
KIC Kosan Boka 73.96 279 *e*P **P 20 39 42.2 +0.2**
comp=Z,159nm,1.4s
GEC2 GERESS Array S 74.03 326 *e*P **P 20 39 41.5 -0.3**
GEC2 GERESS Array S 74.03 326 *e*P **P 20 39 41.5 -0.3**
GERES GERESS Array B 74.03 326 P **P 20 39 40.7 -1.1**
comp=Z,1.2nm,0.9s,baz=116,slow=6.1,SNR=8.5
GERES LR LR 21 13 24.7
comp=Z,42nm,18.1s,baz=110,slow=37
GERES GERESS Array B 74.03 326 P **P 20 39 40.7 -1.1**
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES MLR MLR
comp=Z,42nm,18.1s
GOPC GO Pecny, Ondr 74.03 327⇑ *e*P **P 20 39 41.6 -0.1**
DBIC Dimbokro 74.13 279 P **P 20 39 43.2 +0.2**
comp=Z,13nm,0.8s,baz=89,slow=5.8,SNR=14
DBIC LR LR 21 11 54.3
comp=Z,296nm,18.5s,baz=84,slow=36
DBIC Dimbokro 74.13 279 P **P 20 39 43.2 +0.2**
DBIC pmax pmax
comp=Z,13nm,0.8s
DBIC MLR MLR
comp=Z,296nm,18.5s
DBIC Dimbokro 74.13 279 *e*P **P 20 39 43.0 0.0**
comp=Z,101nm,1.8s
PRU Pruhonice 74.21 327⇑ *e*P **P 20 39 43.0 +0.3**
PRU *ex* x 20 39 52.7
PRU Pruhonice 74.21 327 *e*P **P 20 39 43.0 +0.3**
PRU *e* 20 39 52.7
LIC Lamto 74.22 279 *e*P **P 20 39 43.7 +0.2**
comp=Z,166nm,1.1s
KHC Kasperske Hory 74.25 326⇑ *i*P **P 20 39 42.4 -0.6**
KHC *ex* x 20 39 53.7
KHC Kasperske Hory 74.25 326⇑ *i*P **P 20 39 42.4 -0.6**
KHC *e* 20 39 53.8
KHC Kasperske Hory 74.25 326 *e*P **P 20 39 41.9 -1.1**
comp=Z,26nm,1.7s
TIC Tomondi 74.29 279 *e*P **P 20 39 43.9 0.0**
PRA Prague 74.31 327⇑ *e*P **P 20 39 43.9 +0.6**
PRA Prague 74.31 327 *e*P **P 20 39 43.9 +0.6**
WTTA Wattenberg 74.36 324 *i*P **P 20 39 43.9 +0.1**
comp=Z,42nm,0.9s,SNR=21
WATA Walderalm 74.43 324⇑ *i*P **P 20 39 44.0 -0.2**
comp=Z,32nm,1.0s,SNR=12
PVCC Panska Ves 74.50 328⇑ *e*P **P 20 39 45.1 +0.7**
PVCC Panska Ves 74.50 328 *e*P **P 20 39 45.1 +0.7**
MOTA Moosalm 74.71 324⇓ *i*P **P 20 39 45.7 -0.2**
comp=Z,14nm,0.8s,SNR=18
FETA Feichten 74.76 323⇑ *i*P **P 20 39 46.5 +0.3**
comp=Z,34nm,1.4s,SNR=11
FUORN Ofenpass-Fuorn 74.84 323 *e*P **P 20 39 47.1 +0.3**
comp=Z,96nm,1.6s
RETA Reutte 74.98 324 *i*P **P 20 39 47.5 +0.2**
comp=Z,42nm,1.5s,SNR=12
BRG Berggiesshubel 75.02 328 *e*P **P 20 39 47.8 +0.4**
comp=Z,56nm,1.5s
BRG *e* 20 39 58.5
comp=Z,28nm,1.6s
BRG Berggiesshubel 75.02 328 *e*P **P 20 39 47.8 +0.4**
BRG *e* 20 39 58.5
BRG pmax pmax
comp=Z,56nm,1.5s
TUE Stuetta 75.32 322 *e*P **P 20 39 46.6 -2.8**
comp=Z,56nm,1.6s
DAVA Damuels 75.40 323 *i*P **P 20 39 50.2 +0.3**
comp=Z,65nm,1.4s,SNR=19
NKC Novy Kostel 75.47 327⇑ *i*P **P 20 39 50.9 +0.9**
NKC Novy Kostel 75.47 327⇑ *i*P **P 20 39 50.9 +0.9**
TMCR Tamitsa 75.62 347 *e*P **P 20 39 49.8 -0.7**
TMCR pmax pmax
comp=Z,37nm,1.4s
BOD Bodaibo 75.62 23 *e*P **P 20 39 49.1 -1.6**
BOD pmax pmax
comp=Z,10.0nm,1.9s
CLL Collm 75.75 328⇑ *i*P **P 20 39 52.2 +0.6**
CLL *e* 20 40 02.0
CLL pmax pmax
comp=Z,93nm,1.7s
CLL Collm 75.75 328 *e*P **P 20 39 50.9 -0.6**
comp=Z,125nm,1.8s
CLL Collm 75.75 328⇑ *i*P **P 20 39 52.2 +0.6**
comp=Z,93nm,1.7s
CLL *e* 20 40 02.0
CLL Lm MLR 22 51 00.0
comp=Z,300nm,20.2s
GRFO Grafenberg 75.85 326 *e*P **P 20 39 52.0 -0.2**
GRFO pmax pmax
comp=Z,157nm,1.8s
GRFO Grafenberg 75.85 326 *e*P **P 20 39 52.0 -0.2**
comp=Z,157nm,1.8s
CTA Charters Tower 76.24 109 P **P 20 39 54.6 -0.5**
comp=Z,9.1nm,0.8s,baz=274,slow=8.2,SNR=8.4
CTA Charters Tower 76.24 109 P **P 20 39 54.6 -0.5**
CTA pmax pmax
comp=Z,9.0nm,0.8s
CTAO Charters Tower 76.24 109 *e*P **P 20 39 54.6 -0.5**
CTAO pmax pmax
comp=Z,15nm,0.9s
CTAO Charters Tower 76.24 109 *e*P **P 20 39 54.6 -0.5**
comp=Z,15nm,0.9s
SNAA Sanae 76.28 198 *e*P **P 20 39 54.3 -0.1**
SNAA pmax pmax
comp=Z,9.0nm,1.5s
SNAA Sanae 76.28 198 *e*P **P 20 39 54.3 -0.1**
comp=Z,9.1nm,1.5s
MDJ Mudanjiang 76.28 40 P **P 20 39 54.8 +0.1**
MDJ pP **pP 20 39 57.9 -1.6**
MDJ sP **sP 20 39 59.1 -2.2**
MDJ S **S 20 49 39.8 +0.8**
MDJ ScS **ScS 20 50 09.3 -0.4**
MDJ PMZ
comp=Z,8.0nm,1.1s
MDJ PMZ
comp=Z,110nm,3.5s
MDJ LN
comp=Z,130nm,19.3s
MDJ LE
comp=Z,120nm,19.9s
MDJ LZ
comp=Z,230nm,19.3s
MDJ Mudanjiang 76.28 40 *e*P **P 20 39 54.5 -0.3**
comp=Z,20nm,1.4s
SENIN Lac Senin/Sane 76.51 322 *e*P **P 20 39 56.3 0.0**
STU Stuttgart 76.53 324 *e*P **P 20 39 56.0 -0.1**
STU pmax pmax
comp=Z,141nm,1.7s
STU Stuttgart 76.53 324 *e*P **P 20 39 56.0 -0.1**
comp=Z,141nm,1.7s
FINES FINESS Array B 76.73 341 P **P 20 39 56.5 -0.4**
comp=Z,6.9nm,1.1s,baz=143,slow=17,SNR=5.3
FINES **FINESS Array B 76.73 341** P **P 20 39 56.5 -0.4**
FINES pmax pmax
comp=Z,7.0nm,1.1s
BFO Black Forest 76.82 324 P **P 20 39 57.8 0.0**
comp=Z,84nm,1.5s,SNR=6.3
BFO Black Forest 76.82 324 *e*P **P 20 39 57.1 -0.6**
BFO Black Forest 76.82 324 *e*P **P 20 39 57.1 -0.6**
VLA Vladivostok 77.14 42⇑ *e*P **P 20 40 00.0 +0.4**
ECH Echery 77.46 323 *e*P **P 20 40 00.6 -0.8**
ECH pmax pmax
comp=Z,48nm,1.8s
ECH Echery 77.46 323 *e*P **P 20 40 00.6 -0.8**
comp=Z,48nm,1.8s
VNA2 Neumayer--Watz 77.53 199 P **P 20 40 01.7 +0.3**
baz=69,slow=6.3
USRK Ussuriysk Ar. 77.65 41 P **P 20 40 00.3 -2.2**
comp=Z,1.4nm,0.7s,baz=269,slow=4.4,SNR=9.6
USRK LR LR 21 15 08.9
comp=Z,216nm,21.4s,baz=219,slow=36
VNA1 Neumayer--Stat 77.76 199 P **P 20 40 04.0 +1.4**
PMG Port Moresby 78.07 98 P **P 20 40 05.4 0.0**
comp=Z,15nm,0.8s,baz=144,slow=3.4,SNR=3.4
PMG Port Moresby 78.07 98 *e*P **P 20 40 05.4 0.0**
PMG pmax pmax
comp=Z,35nm,1.0s
PMG Port Moresby 78.07 98 *e*P **P 20 40 05.4 0.0**
comp=Z,35nm,1.0s
WLF Walferdange 78.71 324 P **P 20 40 08.6 +0.4**
comp=Z,20nm,1.8s
WLF Walferdange 78.71 324 *e*P **P 20 40 08.0 -0.3**
WLF pmax pmax
comp=Z,77nm,1.8s
WLF Walferdange 78.71 324 *e*P **P 20 40 08.0 -0.3**
comp=Z,7nm,1.8s
MEM Membach 79.23 325 P **P 20 40 12.3 +1.3**
comp=Z,15nm,1.8s
MEM Membach 79.23 325 *e*P **P 20 40 12.4 +1.3**
MEM pmax pmax
comp=Z,38nm,1.5s
MEM Membach 79.23 325 *e*P **P 20 40 12.4 +1.4**
comp=Z,38nm,1.5s
MAJO Matsushiro 79.28 50⇑ *e*P **P 20 40 11.0 -0.7**
MAJO pmax pmax
comp=Z,49nm,1.5s
MAJO Matsushiro 79.28 50 *e*P **P 20 40 11.3 -0.4**
comp=Z,91nm,2.0s
MAT Matsushiro 79.28 50 P **P 20 40 11.2 -0.5**
MAT S **S 20 50 13.2 +1.4**
MJAR Matsushiro Arr 79.28 50 P **P 20 40 11.3 -0.4**
comp=Z,4.6nm,1.1s,baz=248,slow=5.2,SNR=13
MJAR LR LR 21 13 50.8
comp=Z,266nm,21.8s,baz=220,slow=35
JHJ Hachijo jima 2 79.47 54 LR LR 21 14 01.7
comp=Z,227nm,21.1s,baz=12,slow=35
KLR Kul'dur 79.63 37 *e*P P 20 40 08.2 -5.1
KLR pmax pmax
comp=Z,40nm,1.6s
DOU Dourbes 79.81 324 P **P 20 40 15.1 +0.9**
comp=Z,24nm,2.1s
SNF Seneffe 80.17 324 P **P 20 40 16.7 +0.6**
HABR Khabarovsk 81.31 38 *e*P **P 20 40 19.8 -2.5**
HABR *e* 20 40 25.7
HABR *e* 20 40 25.3
HABR PPP PPP 20 45 15.9
HABR *e*S **S 20 50 28.3 -4.2**
HABR *e*S **SKSac 20 50 41.6 +0.4**
HABR *e*SS **SS 20 55 45.4 -3.3**
HABR *e*SSS SSS 20 59 12.9
HABR pmax pmax
comp=Z,69nm,2.5s
HABR MLR MLR
comp=Z,111nm,19.0s
ESDC Sonseca Array 81.58 312 P **P 20 40 24.7 +0.7**
comp=Z,4.7nm,0.6s,baz=93,slow=4.5,SNR=35
ESLA Sonseca Array 81.58 312 *e*P **P 20 40 22.1 -1.9**
comp=Z,25nm,1.6s
PAB San Pablo 81.83 312 *e*P **P 20 40 25.8 +0.5**
PAB pmax pmax
comp=Z,82nm,1.5s
PAB San Pablo 81.83 312 *e*P **P 20 40 25.8 +0.5**
comp=Z,82nm,1.5s
QSPA South Pole Qui 81.84 180 *e*P **P 20 40 24.8 -0.2**
comp=Z,127nm,2.0s
KONO Kongsberg 81.88 334 *e*P **P 20 40 25.7 +0.7**
KONO pmax pmax
comp=Z,72nm,1.6s
KONO Kongsberg 81.88 334 *e*P **P 20 40 25.7 +0.7**
comp=Z,72nm,1.6s
NOA NORSAR Array B 81.95 336 P **P 20 40 25.2 -0.2**
comp=Z,7.3nm,1.3s,baz=112,slow=5.2,SNR=3.3
ARCES ARCESS Array B 82.88 346 P **P 20 40 30.6 +0.5**
comp=Z,3.8nm,0.6s,baz=136,slow=4.8,SNR=19
ARCES LR LR 21 19 30.8
comp=Z,102nm,18.1s,baz=119,slow=37
VNDA Vanda 82.89 167 P **P 20 40 30.4 +0.3**
comp=Z,1.3nm,0.5s,baz=273,slow=6.8,SNR=14
VNDA LR LR 21 12 03.1
comp=Z,133nm,18.5s,baz=252,slow=32
VNDA Vanda 82.89 167 P **P 20 40 30.4 +0.3**
VNDA pmax pmax
comp=Z,1.0nm,0.5s
VNDA MLR MLR
comp=Z,133nm,18.5s
PVAQ Vaqueiros 83.76 309 *e*LR LR 21 10 07.2
comp=Z,100nm,18.0s
SBA Scott Base 83.88 168 *e*P **P 20 40 36.6 +1.4**
SBA Scott Base 83.88 168 *e*P **P 20 40 36.6 +1.4**
PESTR Estremoz 84.05 311 *e*P **P 20 40 37.9 +1.1**
comp=Z,37nm,2.2s
PMRV Marv??o 84.05 311 *e*P **P 20 40 38.1 +1.3**
comp=Z,54nm,1.5s
PMRV Marv??o 84.05 311 *e*LR LR 21 10 05.8
comp=Z,153nm,18.0s
PCBR Castelo Branco 84.22 311 *e*P **P 20 40 38.5 +0.8**
comp=Z,39nm,1.7s
PBRG Braganca 84.22 314 *e*P **P 20 40 38.8 +1.1**
comp=Z,45nm,1.9s
MVO Moncorvo 84.25 313 *e*P **P 20 40 39.6 +1.7**
comp=Z,38nm,1.5s
MESJ Messejana 84.26 309 *e*P **P 20 40 39.6 +1.7**
comp=Z,34nm,1.6s
MTE Manteigas 84.42 312 *e*LR LR 21 17 33.3
comp=Z,131nm,16.0s
YAK Yakutsk 84.47 25 *e*P **P 20 40 36.3 -2.0**
YAK pmax pmax
comp=Z,10.0nm,1.6s
YAK pmax pmax
comp=E,6.0nm,1.8s

YAK MLR MLR
comp=Z,398nm,20.0s
YAK MLR MLR
comp=E,174nm,20.0s
YAK MLR MLR
comp=N,198nm,23.0s
YAK Yakutsk 84.47 25 *e*P **P 20 40 36.8 -1.5**
PNCL Nicolau / Gran 84.56 310 *e*P **P 20 40 40.4 +1.0**
comp=N,52nm,1.8s
PVIS Viseu 84.77 312 *e*P **P 20 40 41.9 +1.4**
comp=N,46nm,1.7s
PVRL Vila Real 84.78 313 *e*P **P 20 40 40.9 +0.4**
comp=N,34nm,1.8s
PTOM Tomar 84.86 311 *e*P **P 20 40 41.8 +0.9**
comp=N,51nm,1.5s
DYA Yadsworthy 84.99 322 *e*P **P 20 40 43.5 +2.2**
PCAS Casmilo, Conde 85.04 311 *e*P **P 20 40 43.0 +1.2**
comp=N,93nm,1.7s
PGAV Gavieira, Arco 85.37 313 *e*LR LR 21 20 46.9
comp=N,80nm,16.0s
YSS Yuzh-Sakhalins 85.69 42 P **P 20 40 44.6 -0.3**
YSS Yuzh-Sakhalins 85.69 42 P **P 20 40 44.5 -0.3**
NKL Nikolayevsk 86.31 35 *e*P **P 20 40 46.0 -1.7**
NKL pmax pmax
comp=Z,290nm,2.0s
NKL pmax pmax
comp=Z,500nm,4.0s
NKL MLR MLR
comp=E,400nm,15.0s
NKL MLR MLR
comp=Z,500nm,15.0s
SEY Seymchan 94.68 27 P **P 20 41 26.0 -0.8**
comp=Z,1.4nm,0.7s,baz=276,slow=5.2,SNR=5.1
SEY LR LR 21 25 00.1
comp=Z,984nm,20.5s,baz=329,slow=36
SEY Seymchan 94.68 27↑ *i*P **P 20 41 25.7 -1.1**
PETK Petropavlovsk- 96.31 37 LR LR 21 26 55.8
comp=Z,184nm,21.2s,baz=255,slow=37
BILL Bilibino 100.65 22↓ *e*P **Pdif 20 41 54.0 +0.4**
BILL *e* 20 45 57.4
BILL pmax pmax
comp=Z,4.0nm,1.0s
ILAR Eielson Array 118.43 16 PKP **PKPdf 20 46 51.7 -1.5**
comp=Z,1.3nm,0.7s,baz=298,slow=2.9,SNR=16
YKA Yellowknife Ar 125.78 1 PKP **PKPdf 20 47 06.9 -0.4**
comp=Z,3.7nm,0.7s,baz=347,slow=2.3,SNR=11
LPAZ La Paz 130.23 241 PKP **PKPdf 20 47 18.2 +0.2**
comp=Z,1.1nm,0.7s,baz=63,slow=1.7,SNR=6.8
LAO LASA Array 141.33 354 *e*PKPdf **PKPdf 20 47 37.8 +0.7**
MSO Missoula 141.47 2 P **PKPdf 20 47 37.9 +0.5**
baz=141
F27A Lemmon 141.49 349 P **PKPdf 20 47 37.3 0.0**
baz=141
G30A Faulkton 141.56 345 P **PKPdf 20 47 38.0 +0.5**
baz=141
E21A Keefer Ranch, 141.57 355 P **PKPdf 20 47 37.9 +0.4**
baz=141
G29A Hoven 141.69 346 P **PKPdf 20 47 38.4 +0.7**
baz=142
G27A Dupree 141.95 348 P **PKPdf 20 47 39.1 +0.9**
baz=142
H29A Onida 142.29 346 P **PKPdf 20 47 38.6 -0.2**
baz=142
BOZ Bozeman (W) 142.69 360 *e*PKIKP **PKPdf 20 47 39.7 0.0**
BOZ Bozeman (W) 142.69 360 P **PKPdf 20 47 40.3 +0.6**
baz=142
BOZ Bozeman (W) 142.69 360 *e*PKPdf **PKPdf 20 47 39.7 0.0**
BOZ *e*PP PP 20 50 40.2 -6.4
DLMT Dillon 142.97 1 *e*PKPdf **PKPdf 20 47 38.4 -1.7**
H24A Dirks Ranch, A 143.02 351 P **PKPdf 20 47 40.7 +0.5**
baz=143
I28A Midland 143.11 347 P **PKPdf 20 47 40.7 +0.5**
baz=143
RSSD Black Hills 143.55 350 *e*PKIKP PKPbc 20 47 38.3 -0.2
RSSD Black Hills 143.55 350 *e*PKPpre PKPbc 20 47 38.3 -0.3
J28A Allard Ranch, 143.67 347 P PKPbc 20 47 38.5 -0.2
baz=144
H20A Greybull 143.69 355 P PKPbc 20 47 38.9 +0.1
baz=144
I24A Kuemmerle Ranc 143.90 351 P PKPab 20 47 39.0 +0.1
baz=144
K30A Basset 143.98 344 P PKPbc 20 47 39.6 -0.1
baz=144
J04D Umpqua Nationa 143.99 13 P PKPbc 20 47 39.8 -0.1
baz=144
J27A Elkhorn Farm, 144.00 348 P PKPbc 20 47 39.9 +0.1
baz=144
I22A 9 Mile Ranch, 144.12 353 P PKPbc 20 47 40.0 -0.1
baz=144
J05D Fort Rock, OR 144.13 12 P PKPbc 20 47 40.7 +0.5
baz=144
M34A Aspy Farms, Fr 144.13 340 P PKPbc 20 47 39.8 -0.3
baz=144
J26A Sides Ranch, S 144.16 349 P PKPbc 20 47 40.3 +0.1
baz=144
I19A Meeteetse 144.21 356 P PKPbc 20 47 41.0 +0.5
baz=144
J25A Sunshine Ranch 144.22 350 P PKPbc 20 47 40.6 +0.1
baz=144
I20A Worland 144.23 355 P PKPbc 20 47 40.9 +0.4
baz=144
M33A Taylor Creek F 144.27 341 P **PKPab 20 47 40.1 -0.1**
baz=144
I21A Big Trails, Te 144.29 354 P **PKPab 20 47 40.3 -0.1**
baz=144
N35A Tabor 144.37 338 P PKPbc 20 47 40.9 0.0
baz=144
K28A Ten Mile Ranch 144.38 347 P PKPbc 20 47 41.3 +0.4
baz=144
HUMO Hull Mountain 144.40 14 *e*PKPdf PKPbc 20 47 41.4 +0.5
J24A Dixon Ranch, L 144.42 351 P **PKPab 20 47 40.7 -0.2**
baz=144
IMW Indian Meadow 144.43 359 *e*PKPdf **PKPdf 20 47 42.2 -0.7**
J23A Dilts Ranch, B 144.48 352 P **PKPab 20 47 41.0 -0.1**
baz=144
WVT Waverly 144.52 325 *e*PKIKP **PKPab 20 47 40.3 -1.0**
WVT Waverly 144.52 325 *e*PKPdf **PKPab 20 47 40.3 -1.0**
MOOW Moose Ponds 144.57 358 *e*PKPdf **PKPdf 20 47 42.3 -0.8**
K27A Flueckinger Fa 144.58 348 P PKPbc 20 47 41.6 0.0
baz=144
J22A Midwest 144.59 353 P **PKPab 20 47 41.0 -0.5**
baz=144
K04D Chiloquin, OR 144.65 12 P PKPbc 20 47 42.0 +0.2
baz=144
L30A Spencer Herefo 144.68 344 P PKPbc 20 47 41.9 0.0
baz=144
N34A Lincoln 144.69 339 P **PKPab 20 47 41.2 -0.5**
baz=144
LOHW Long Hollow 144.71 358 *e*PKPdf PKPbc 20 47 42.5 +0.4
HLID Hailey 144.71 3 P PKPbc 20 47 42.4 +0.3
baz=144
HLID Hailey 144.71 3 *e*PKPdf PKPbc 20 47 41.9 -0.2
BGNE Belgrade 144.72 342 P **PKPab 20 47 41.5 -0.4**
baz=144
O36A Bolckow 144.75 337 P **PKPab 20 47 41.4 -0.6**
baz=145
MFID Camas Ranch 144.76 5 *e*PKPdf PKPbc 20 47 42.0 -0.2
J21A Lysite 144.77 354 P **PKPab 20 47 42.1 -0.1**
baz=145
K26A Motz Farm, Whi 144.77 349 P **PKPab 20 47 41.8 -0.3**
baz=145
L29A Maesberg Ranch 144.77 345 P **PKPab 20 47 42.0 -0.1**
baz=145
J20A Shoshoni 144.82 355 P PKPbc 20 47 42.6 +0.2
baz=145
TPAW Teton Pass 144.84 359 *e*PKPdf **PKPdf 20 47 43.5 -0.1**
SNOW Snow King Moun 144.86 358 *e*PKPdf **PKPdf 20 47 43.5 -0.2**
REDW Red Top Meadow 144.96 359 *e*PKPdf **PKPdf 20 47 43.8 0.0**
REDW *e*PP **PP 20 51 02.5 +2.1**
J19A Crowheart 144.98 356 P **PKPdf 20 47 43.3 -0.4**
baz=145
K25A Mack Ranch, Ha 144.99 350 P PKPbc 20 47 43.1 +0.2
baz=145
O35A Humboldt 144.99 338 P **PKPab 20 47 41.9 -0.9**
baz=145
M31A Lambtecht Ranc 145.03 343 P **PKPbc 20 47 42.8 -0.2**
baz=145
L28A Connealy Angus 145.08 346 P **PKPab 20 47 43.4 +0.1**
baz=145
M30A Dale-Ortello V 145.10 344 P **PKPbc 20 47 43.0 -0.3**
baz=145
N33A J Bar K, Exete 145.11 341 P **PKPbc 20 47 42.5 -0.7**
baz=145
YBH Yreka Blue Hor 145.28 14 *e*PKIKP **PKPbc 20 47 43.3 -0.6**
YBH Yreka Blue Hor 145.28 14 *e*PKPdf **PKPbc 20 47 43.3 -0.6**
P36A Good Intent, A 145.29 337 P **PKPbc 20 47 43.4 -0.4**
baz=145
O34A Beatrice 145.34 339 P **PKPbc 20 47 43.4 -0.7**
baz=145
K22A Casper 145.35 353 P **PKPbc 20 47 43.7 -0.5**
baz=145
K22A Casper 145.35 353 *e*PKPbc **PKPbc 20 47 43.6 -0.5**
N32A Stulken Farm, 145.35 342 P **PKPbc 20 47 43.7 -0.4**
baz=145
L26A Underwood Farm 145.39 348 P **PKPdf 20 47 44.4 -0.1**
baz=145
WVOR Wild Horse Val 145.41 9 *e*PKIKP **PKPab 20 47 44.6 +0.1**
WVOR Wild Horse Val 145.41 9 *e*PKPdf **PKPab 20 47 44.6 +0.1**
M29A Burnside Ranch 145.41 345 P **PKPbc 20 47 44.0 -0.3**
baz=145
M04C Macdoel 145.44 13 P **PKPab 20 47 44.8 +0.2**
baz=145
L25A Engebretsen Ra 145.45 349 P **PKPab 20 47 44.8 +0.1**
baz=145
N31A Bailey Ranch, 145.50 342 P **PKPdf 20 47 44.3 -0.3**
baz=145
BW06 Boulder Array 145.51 357 *e*PKPdf **PKPbc 20 47 44.1 -0.6**
PDAR Pinedale Array 145.51 357 PKPbc **PKPbc 20 47 44.5 -0.3**
comp=Z,2.5nm,0.6s,baz=29,slow=3.4,SNR=33
AHID Auburn Hatcher 145.56 359 *e*PKPdf **PKPdf 20 47 44.6 -0.2**
M02C Callahan 145.57 15 P **PKPab 20 47 45.8 +0.7**
baz=145
Q37A Longview Farm, 145.62 335 P **PKPdf 20 47 44.2 -0.5**
baz=146
M28A Bar X Bar Ranc 145.62 346 P **PKPab 20 47 45.1 -0.2**
baz=145
MOD Modoc 145.64 11 *e*PKPdf **PKPab 20 47 45.5 +0.1**
OTAV Otavalo 145.65 258 *e*PKPdf **PKPab 20 47 47.3 +0.6**
M27A Reverse DX Ran 145.73 347 P **PKPbc 20 47 45.2 -0.1**
baz=146
O33A Hebron 145.75 340 P **PKPdf 20 47 44.4 -0.5**
baz=146
KHMM Horse Mountain 145.83 16 *e*PKPdf **PKPab 20 47 46.5 +0.3**
N30A Hueftle Ranch, 145.86 344 P **PKPab 20 47 45.9 -0.2**
baz=146
M26A McRoberts Ranc 145.95 348 P **PKPab 20 47 46.2 -0.3**
baz=146
P34A Walnut Farm, R 145.96 339 P **PKPdf 20 47 45.2 -0.2**
baz=146
Q36A Arnold C. Orve 145.96 337 P **PKPbc 20 47 45.0 -0.3**
baz=146
N29A Votaw Ranch, W 145.98 344 P **PKPbc 20 47 45.6 -0.5**
baz=146
N02D Trinity Center 146.00 15 P **PKPab 20 47 46.9 +0.2**
baz=146
LRAL Lakeview Retre 146.15 320 *e*PKPdf **PKPbc 20 47 46.3 -0.5**
M25A Palm-Egli Farm 146.16 349 P **PKPab 20 47 47.5 +0.1**
baz=146
OGNE Ogallala 146.21 346 P **PKPbc 20 47 46.5 -0.3**
baz=146
O31A Woolen Ranch, 146.23 342 P **PKPdf 20 47 45.9 +0.1**
baz=146
R37A Teagarden Farm 146.25 335 P **PKPdf 20 47 45.7 -0.2**
baz=146
Q35A Mercer Eighty, 146.27 337 P **PKPbc 20 47 46.4 -0.5**
baz=146
WDC Whiskeytown Da 146.41 15 *e*PKP2 **PKPdf 20 47 45.8 -0.2**
WDC Whiskeytown Da 146.41 15 *e*PKPdf **PKPdf 20 47 45.8 -0.2**
P32A Huiting Farm, 146.49 341 P **PKPdf 20 47 46.2 0.0**
baz=146
R36A Gordon, Harris 146.52 336 P **PKPdf 20 47 46.6 +0.2**
baz=146
PHWY Pilot Hill 146.53 351 *e*PKPdf **PKPdf 20 47 47.0 +0.3**
HVU Hansel Valley 146.55 1 *e*PKP2 **PKPbc 20 47 48.0 +0.1**
HVU Hansel Valley 146.55 1 *e*PKPbc **PKPbc 20 47 48.0 +0.1**
S37A Fort Scott 146.72 335 P **PKPdf 20 47 46.3 -0.4**
baz=147
HWUT Hardware Ranch 146.73 359 *e*PKPbc **PKPab 20 47 49.0 -0.6**
P31A Stockton 146.82 342 P **PKPdf 20 47 46.9 0.0**
baz=147
KIPM Iron Peak 146.89 16 *e*PKPdf **PKPdf 20 47 47.0 -0.1**
KIPM *e*PKPbc **PKPab 20 47 50.0 -0.2**
O28A Krutsinger Ran 146.92 346 P **PKPdf 20 47 47.7 +0.6**
baz=147
KCPM Cahto Peak 146.98 17 *e*PKPbc **PKPab 20 47 49.9 -0.6**
N23A Red Feather La 147.00 352 P **PKPdf 20 47 47.7 +0.3**
baz=147
SPUT South Promonto 147.03 1 *e*PKPdf **PKPbc 20 47 48.2 -1.1**
O27A Beecher Island 147.03 347 P **PKPdf 20 47 48.0 +0.8**
baz=147
Q32A Meitler Ranch, 147.05 341 P **PKPdf 20 47 48.0 +0.8**
baz=147
S36A Lake Cedric, C 147.07 336 P **PKPdf 20 47 47.2 0.0**
baz=147
R34A Isabella, Hill 147.21 338 P **PKPdf 20 47 47.9 +0.4**
baz=147
TCUT Toone Canyon 147.22 359 *e*PKPbc **PKPab 20 47 50.7 -0.8**
T37A Cheneyville 18 147.30 334 P **PKPdf 20 47 47.7 0.0**
baz=147
Q31A Ellis 147.30 342 P **PKPdf 20 47 48.2 +0.5**
baz=147
BGU Big Grassy Mou 147.40 1 *e*PKPdf **PKPdf 20 47 47.9 0.0**
BGU *e*PKPbc **PKPbc 20 47 50.7 +0.4**
ELK Elko 147.46 5 *e*PKP2 **PKPdf 20 47 48.3 +0.1**
ELK Elko 147.46 5 *e*PKPdf **PKPdf 20 47 48.2 +0.1**
ELK *e*PKPbc **PKPbc 20 47 51.0 +0.4**
BMN Battle Mountai 147.57 7 *e*PKP2 **PKPbc 20 47 49.7 -1.1**
BMN Battle Mountai 147.57 7 *e*PKPbc **PKPbc 20 47 49.7 -1.1**
CBKS Cedar Bluff 147.58 342 P **PKPbc 20 47 49.3 -1.5**
baz=147
R32A Long Quarter, 147.61 340 P **PKPdf 20 47 49.0 +0.8**
baz=147
T36A Boggs Farm, Ca 147.76 335 P **PKPdf 20 47 49.1 +0.7**
baz=148
P26A Davis Ranch, A 147.83 347 P **PKPdf 20 47 49.4 +0.7**
baz=148
Q29A Oakley 147.88 344 P **PKPdf 20 47 49.8 +1.2**
baz=148
UALR University of 147.98 329 *e*PKPdf **PKPdf 20 47 48.5 -0.4**
R31A Burdett 148.00 341 P **PKPdf 20 47 49.5 +0.7**
baz=148
ISCO Idaho Springs 148.02 351 *e*PKP2 **PKPbc 20 47 51.4 -0.9**
ISCO Idaho Springs 148.02 351 *e*PKPbc **PKPbc 20 47 51.4 -0.9**
O20A White River Ci 148.03 355 P **PKPdf 20 47 49.5 +0.5**
baz=148
O20A White River Ci 148.03 355 *e*PKPdf **PKPdf 20 47 49.3 +0.3**
V38A Canehill 148.12 332 P **PKPdf 20 47 50.1 +1.1**
baz=148
DUG Dugway 148.13 1 *e*PKIKP **PKPdf 20 47 48.1 -1.0**
DUG *e* 20 47 52.9
DUG Dugway 148.13 1 P **PKPdf 20 47 49.8 +0.7**
baz=148
DUG Dugway 148.13 1 *e*PKPdf **PKPdf 20 47 48.1 -1.0**
DUG *e*PKPbc **PKPbc 20 47 52.9 +0.6**
BCIP Isla Barro Col 148.20 274 *e*PKPbc **PKPbc 20 47 53.2 +0.2**
R29A Marienthal 148.36 344 P **PKPdf 20 47 50.6 +1.1**
baz=148
NLU North Lily Min 148.38 0 *e*PKPdf **PKPdf 20 47 50.6 +0.9**
V37A Hulbert 148.44 333 P **PKPdf 20 47 50.0 +0.4**
baz=148
R28A Tribune 148.62 345 P **PKPdf 20 47 50.6 +0.7**
baz=148
TUL1 Tulsa 148.70 334 P **PKPdf 20 47 50.1 +0.2**
baz=148
TUL1 Tulsa 148.70 334 *e*PKPbc **PKPbc 20 47 53.0 -0.7**
U35A Pawnee 148.70 336 P **PKPdf 20 47 50.4 +0.4**
baz=148
Q24A Divide 148.76 350 P **PKPdf 20 47 50.9 +0.4**
baz=149
MIAR Mount Ida 148.78 330 *e*PKIKP **PKPdf 20 47 49.9 -0.3**
MIAR *e* 20 47 54.6
MIAR Mount Ida 148.78 330 P **PKPdf 20 47 51.2 +1.1**
baz=149
MIAR Mount Ida 148.78 330 *e*PKPdf **PKPdf 20 47 49.9 -0.3**
MIAR *e*PKPbc **PKiKP 20 47 54.5 -0.9**
SMCO Snowmass 148.83 352 *e*PKPdf **PKPdf 20 47 51.0 +0.4**
SMCO *e*PKPbc **PKPbc 20 47 54.9 +0.4**
V36A Jenks 148.87 334 P **PKPdf 20 47 51.1 +0.8**
baz=149
S30A Montezuma 148.89 342 P **PKPdf 20 47 51.3 +0.9**
baz=149
R27A Eads 148.92 346 P **PKPdf 20 47 51.0 +0.6**
baz=149
U34A Anderson Ranch 148.96 337 *e*PKPdf **PKPdf 20 47 51.5 +1.1**
TMUT Trail Mountain 149.03 359 *e*PKPbc **PKPbc 20 47 54.1 -0.8**
R26A Arlington 149.06 347 P **PKPdf 20 47 51.1 +0.4**
baz=149
WAKR Walker 149.09 11 *e*PKPdf **PKPdf 20 47 51.4 +0.6**
WAKR *e*PKPbc **PKiKP 20 47 55.6 -0.6**
W37A Quinton 149.18 333 P **PKPdf 20 47 51.1 +0.3**
baz=149
SRU San Rafael 149.20 358 *e*PKIKP **PKPdf 20 47 51.9 +0.9**
SRU San Rafael 149.20 358 *e*PKPdf **PKPdf 20 47 51.9 +0.9**
V35A Meyer Ranch, C 149.26 335 P **PKPdf 20 47 51.5 +0.6**
baz=149
X38A Whitesboro 149.29 332 P **PKPdf 20 47 51.7 +0.7**
baz=149
S28A Manter 149.34 344 P **PKPdf 20 47 51.9 +0.8**
baz=149
CMB Columbia Colle 149.35 13 *e*PKIKP **PKPdf 20 47 52.2 +1.2**
CMB *e* 20 47 55.7
CMB Columbia Colle 149.35 13 *e*PKPdf **PKPdf 20 47 52.2 +1.2**
CMB *e*PKPbc **PKPbc 20 47 55.7 +0.4**
NVAR Mina Array Bea 149.37 10 PKPbc **PKPdf 20 47 52.9 +1.6**
comp=Z,8.9nm,0.7s,baz=273,slow=1.6,SNR=42
NVAR PP **PP 20 51 27.3 +1.0**
comp=Z,0.1nm,0.3s,baz=305,slow=5.2,SNR=3.6
V34A Guthrie 149.48 336 P **PKPdf 20 47 51.6 +0.3**
baz=149
V34A Guthrie 149.48 336 *e*PKPdf **PKPdf 20 47 51.1 -0.2**
V34A *e*PKPbc **PKiKP 20 47 56.5 -0.3**
S27A Las Animas 149.51 346 P **PKPdf 20 47 52.1 +0.6**
baz=149
W36A Wetumka 149.54 334 P **PKPdf 20 47 51.5 +0.1**
baz=149
X37A Clayton 149.61 332 P **PKPdf 20 47 52.2 +0.7**
baz=150
W35A Tecumseh 149.80 335 P **PKPdf 20 47 52.6 +0.8**
baz=150
R11A Troy Canyon, C 149.81 6 P **PKPdf 20 47 52.9 +1.0**
baz=150
R11A Troy Canyon, C 149.81 6 *e*PKPdf **PKPdf 20 47 52.4 +0.4**
R11A *e*PKPbc **PKPbc 20 47 57.0 +0.3**
R11A *e*SKP 20 51 27.9
PV04 Paradox Valley 149.81 355 *e*PKPdf **PKPdf 20 47 50.7 -1.2**
PV04 *e*SKP 20 51 25.2
MSU Marysvale 149.82 0 *e*PKPdf **PKPdf 20 47 52.9 +0.9**
MSU *e*PKPbc **PKiKP 20 47 57.9 +0.1**
MSU *e*SKP 20 51 30.0
MVU Marysvale 149.83 0 *e*PKPdf **PKPdf 20 47 52.7 +0.6**
MVU *e*PKPbc **PKiKP 20 47 57.9 +0.1**
MVU *e*SKP 20 51 31.4
TPH Tonopah 149.89 8 *e*PKPdf **PKPdf 20 47 53.4 +1.2**
SDCO Great Sand Dun 150.00 350 P **PKPdf 20 47 53.0 +0.6**
baz=150
SDCO Great Sand Dun 150.00 350 *e*PKPdf **PKPdf 20 47 52.1 -0.3**
SDCO *e*PKPbc **PKPbc 20 47 57.4 0.0**
PV01 Paradox Valley 150.04 355 *e*PKPdf **PKPdf 20 47 52.4 0.0**
PV01 *e*PKPbc **PKPbc 20 47 57.5 +0.2**
PV01 *e*PKPab **PKPab 20 48 03.9 +0.9**
PV01 *e*SKP 20 51 27.8
X36A Centrahoma 150.07 334 P **PKPdf 20 47 53.0 +0.8**
baz=150
W34A Bridge Creek, 150.10 336 *e*PKPdf **PKPdf 20 47 53.6 +1.3**
W34A *e*PP **PP 20 51 30.9 +0.3**
T26A Comanche Natio 150.16 346 P **PKPdf 20 47 53.3 +0.8**
baz=150
Y37A Hugo 150.23 332 P **PKPdf 20 47 53.0 +0.5**
baz=150
T25A Trinidad 150.38 348 P **PKPdf 20 47 53.4 +0.5**
baz=150
X35A Drake 150.49 334 P **PKPdf 20 47 53.2 +0.3**
baz=150
U28A Mallet 150.57 344 P **PKPdf 20 47 53.8 +0.7**
baz=150
Y36A Durant 150.61 333 P **PKPdf 20 47 53.8 +0.8**
baz=150
X34A Smith Ranch, M 150.68 336 P **PKPdf 20 47 54.3 +1.1**
baz=150
U27A Thompson Grove 150.69 345 P **PKPdf 20 47 53.7 +0.4**
baz=150
CCUT Cedar City 150.76 2 *e*PKPdf **PKPdf 20 47 54.8 +1.3**
CCUT *e*PKPbc **PKiKP 20 47 59.8 +0.1**
CCUT *e*SKP 20 51 28.6
W32A Sentinel 150.76 338 P **PKPdf 20 47 53.7 +0.4**
baz=151
Z37A Pogue Cattle C 150.88 331 P **PKPdf 20 47 54.6 +1.1**
baz=151
Y35A Marietta 150.94 334 P **PKPdf 20 47 53.7 +0.2**
baz=151
MVCO Mesa Verde 150.95 354 *e*PKPdf **PKPdf 20 47 55.4 +1.5**
Z36A Blue Ridge 151.20 332 P **PKPdf 20 47 54.6 +0.6**
baz=151
Y34A Reagan Ranch, 151.20 335 P **PKPdf 20 47 54.1 +0.1**
baz=151
239A Gary 151.24 328 P **PKPdf 20 47 55.0 +0.9**
baz=151
V27A Dan Oppiter Fa 151.32 344 P **PKPdf 20 47 55.3 +1.0**
baz=151
340A Bronson 151.39 326 P **PKPdf 20 47 55.4 +1.1**
baz=151
137A Heron Place, G 151.43 330 P **PKPdf 20 47 55.7 +1.3**
baz=151
Y33A Hilltop Ranch, 151.51 336 P **PKPdf 20 47 55.5 +1.0**
baz=151
W29A Amraillo 151.57 342 P **PKPdf 20 47 55.5 +0.8**
baz=151
238A Jacksonville 151.59 329 P **PKPdf 20 47 56.2 +1.5**
baz=152
DAC Darwin (Calif) 151.59 10 *e*PKIKP **PKPdf 20 47 55.3 +0.5**
DAC *e* 20 48 01.7
DAC Darwin (Calif) 151.59 10 *e*PKPdf **PKPdf 20 47 55.3 +0.5**
DAC *e*PKPbc **PKiKP 20 48 01.7 +0.2**
SHPR Sheep Range 151.68 5 *e*PKPbc **PKPbc 20 47 59.9 -1.2**
SHPR *e*PP **PP 20 51 39.9 +0.4**
339A Huntington 151.82 327 P **PKPdf 20 47 55.9 +0.9**
baz=152
Y32A R-V Farms, Ver 151.83 338 P **PKPdf 20 47 55.3 +0.3**
baz=152
136A Ennis 151.90 331 P **PKPdf 20 47 55.5 +0.4**
baz=152
Z32A Haskell 152.47 337 P **PKPdf 20 47 56.3 +0.4**
baz=152
GSC Goldstone 152.67 9 *e*PKIKP **PKPdf 20 47 57.0 +0.7**
GSC *e* 20 48 04.3
GSC Goldstone 152.67 9 *e*PKPdf **PKPdf 20 47 57.0 +0.7**
GSC *e*PKPbc **PKiKP 20 48 04.3 +0.7**
Z31A Sharp Cattle R 152.71 338 P **PKPdf 20 47 57.0 +0.7**
baz=153
WUAZ Wupatki 152.81 359 P **PKPdf 20 47 57.6 +1.0**
baz=153
WUAZ Wupatki 152.81 359 *e*PKPdf **PKPdf 20 47 57.3 +0.7**
WUAZ *e*PKPbc **PKiKP 20 48 04.5 +0.6**
133A Hamilton Ranch 152.85 335 P **PKPdf 20 47 56.8 +0.3**
baz=153
ANMO Albuquerque 152.90 350 *e*PKIKP **PKPdf 20 47 56.0 -0.8**
ANMO *e* 20 48 04.1
ANMO *e* 20 51 42.4
ANMO Albuquerque 152.90 350 *e*PKPdf **PKPdf 20 47 56.0 -0.8**
ANMO *e*PKPbc **PKiKP 20 48 04.1 -0.1**
ANMO *e*PP **PP 20 51 42.4 -4.1**
Z30A Sanderson Ranc 153.09 340 P **PKPdf 20 47 57.2 +0.3**
baz=153
LPM Los Pinos Moun 153.55 350 *e*PKPdf **PKPdf 20 47 58.9 +1.2**
333A Richland Sprin 153.99 334 P **PKPdf 20 47 58.1 -0.1**
baz=154
231A Bronte 154.00 337 P **PKPdf 20 47 58.7 +0.5**
baz=154
BELC Belle Mtn. Jos 154.06 8 P **PKPdf 20 47 59.4 +1.0**
baz=154
434A Burnet 154.10 332 P **PKPdf 20 47 58.1 -0.3**
baz=154
JCT Junction City 155.07 334 *e*PKIKP **PKPdf 20 48 00.6 +0.8**
JCT Junction City 155.07 334 P **PKPdf 20 48 00.3 +0.5**
baz=155
JCT Junction City 155.07 334 *e*PKPdf **PKPdf 20 48 00.6 +0.8**
JCT *e*PKPab **PKPab 20 48 23.9 -0.2**
431A Sonora 155.23 336 P **PKPdf 20 47 59.9 -0.1**
baz=155
532A Rocksprings 155.42 334 P **PKPdf 20 48 00.1 -0.1**
baz=155
121A Cookes Peak, D 155.48 351 *e*PKPdf **PKPdf 20 47 60.0 -0.5**
TUC Tucson 155.99 357 *e*PKIKP **PKPdf 20 48 01.0 0.0**
TUC Tucson 155.99 357 *e*PKPdf **PKPdf 20 48 00.9 0.0**
530A J-C Ranch, Com 155.99 337 P **PKPdf 20 48 00.8 -0.2**
baz=156
529A Stev Forest Ra 156.34 338 P **PKPdf 20 48 01.2 -0.3**
baz=156
214A Organ Pipe Nat 156.35 2 P **PKPdf 20 48 01.6 +0.2**
baz=156
214A Organ Pipe Nat 156.35 2 *e*PKPdf **PKPdf 20 48 01.6 +0.2**
TXAR Lajitas Array 157.57 341 PKP **PKPdf 20 48 03.1 -0.1**
comp=Z,0.6nm,0.7s,baz=121,slow=1.0,SNR=7.4
TXAR PKPab **PKPab 20 48 35.4 +0.6**
comp=Z,1.3nm,0.8s,baz=55,slow=3.0,SNR=12

IDC 24 20:31:42.6±2.1, 6°54N×124°37E, h580km±29km, mb2.7/5,

mb1 2.9/5,**mb1mx2.5**/42,**mbtmp3.8**/5,**Error ellipse: s-maj=31.1km s-min=15.6km az=66.0,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**27.46**	**298**	P	P	20 36 42.5	-1.0
	1.3nm,0.6s,baz=124,slow=7.4,SNR=7.7						
WRA	**Warramunga Arr**	**28.08**	**160**	P	P	20 36 48.4	-0.5
	0.3nm,0.3s,baz=331,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**31.43**	**163**	P	P	20 37 18.1	+0.4
	0.1nm,0.3s,baz=346,slow=7.1,SNR=5.0						
MJAR	**Matsushiro Arr**	**32.44**	**21**	P	P	20 37 25.4	-0.6
	0.9nm,0.5s,baz=200,slow=10,SNR=6.5						
MKAR	**Makanchi Array**	**53.92**	**325**	P	P	20 40 13.3	+0.7
	1.8nm,0.5s,baz=120,slow=8.0,SNR=24						
MKAR				ScP	ScP	20 44 10.2	-1.4
	0.3nm,0.5s,baz=92,slow=4.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**119.80**	**289**	PKP	PKPdf	20 49 28.1	-0.5
	0.3nm,0.8s,baz=54,slow=2.8,SNR=3.6						

WEL 24 20:32:34.0±0.4,**45°.46S**×**166°.60E,h5**km,**ML3.9**/14,**3C-1D, Error ellipse: s-maj=3.7km s-min=1.8km az=90.0,Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.39**	**92**	PG	Pb	20 32 42.6	-0.8
DCZ				*e*SG	Sg	20 32 47.4	+0.9
DCZ				*e*SG	Sb	20 32 47.6	-2.0
DCZ				AML	AML	20 32 48.5	
DCZ				AML	AML	20 32 48.7	
WHZ	**Wether Hill Ro**	**1.04**	**115**	⇑P*	Pg	20 32 53.4	-0.5
WHZ				S*	Sg	20 33 07.7	0.0
WHZ				AML	AML	20 33 11.5	
MLZ	**Mavora Lakes**	**1.11**	**85**	⇓P*	Pg	20 32 54.1	-1.3
MLZ				AML	AML	20 33 16.4	
MLZ				AML	AML	20 33 17.1	
MSZ	**Milford Sound**	**1.23**	**50**	*e*P*	Pg	20 32 55.7	-1.9
MSZ				*e*S*	Sg	20 33 13.4	0.0
MSZ				AML	AML	20 33 19.9	
MSZ				AML	AML	20 33 22.3	
MSZ				AML	AML	20 33 23.7	
APZ	**The Paps**	**1.68**	**145**	⇑PN	Pn	20 33 03.4	-0.7
APZ				AML	AML	20 33 28.8	
APZ				AML	AML	20 33 29.1	
WKZ	**Wanaka**	**1.82**	**70**	PN	Pn	20 33 06.2	+0.1
WKZ				AML	AML	20 33 35.7	
WKZ				AML	AML	20 33 35.7	
WKZ				AML	AML	20 33 36.0	
WKZ				AML	AML	20 33 36.0	
EAZ	**Earnscleugh**	**1.92**	**84**	PN	Pn	20 33 07.6	+0.2
EAZ				AML	AML	20 33 37.7	
EAZ				AML	AML	20 33 37.7	
EAZ				AML	AML	20 33 38.0	
EAZ				AML	AML	20 33 39.2	
SYZ	**Scrubby Hill**	**2.07**	**122**	PN	Pn	20 33 10.0	+0.6
SYZ				AML	AML	20 33 39.1	
SYZ				AML	AML	20 33 39.1	
SYZ				AML	AML	20 33 42.8	
SYZ				AML	AML	20 33 42.8	
JCZ	**Jackson Bay**	**2.07**	**49**	PN	Pn	20 33 09.3	-0.2
JCZ				AML	AML	20 33 43.5	
JCZ				AML	AML	20 33 45.9	
TUZ	**Tuapeka**	**2.18**	**104**	⇑PN	Pn	20 33 11.6	+0.8
TUZ				AML	AML	20 33 45.0	
TUZ				AML	AML	20 33 45.0	
TUZ				AML	AML	20 33 45.1	
TUZ				AML	AML	20 33 45.1	
LBZ	**Lake Benmore**	**2.76**	**68**	PN	Pn	20 33 18.5	-0.5
LBZ				AML	AML	20 33 56.0	
LBZ				AML	AML	20 33 56.9	
HHSZ	**Highcliff Hill**	**2.83**	**100**	*e*PN	Pn	20 33 20.2	+0.3
ODZ	**Otahua Downs**	**2.88**	**83**	PN	Pn	20 33 19.7	-0.9
ODZ				AML	AML	20 33 58.8	
ODZ				AML	AML	20 33 58.9	
ODZ				AML	AML	20 33 58.9	
ODZ				AML	AML	20 34 00.4	
FOZ	**Fox Glacier**	**2.91**	**50**	*e*PN	Pn	20 33 21.4	+0.5
FOZ				AML	AML	20 34 12.2	
FOZ				AML	AML	20 34 12.5	
RPZ	**Rata Peaks**	**3.63**	**63**	*e*PN	Pn	20 33 30.2	-0.6
RPZ				AML	AML	20 34 36.2	
RPZ				AML	AML	20 34 40.9	
WVZ	**Waitaha Valley**	**3.81**	**53**	PN	Pn	20 33 32.4	-0.9
OXZ	**Oxford**	**4.44**	**63**	PN	Pn	20 33 41.8	-0.2
MQZ	**McQueen's Vall**	**4.66**	**70**	PN	Pn	20 33 44.7	-0.3
LTZ	**Lake Taylor**	**4.88**	**59**	*e*PN	Pn	20 33 47.9	-0.2
DSZ	**Denniston Nort**	**5.30**	**47**	*e*PN	Pn	20 33 52.8	-1.1
THZ	**Tophouse**	**5.88**	**53**	PN	Pn	20 34 02.6	+0.7
QRZ	**Quartz Range**	**6.34**	**45**	PN	Pn	20 34 07.2	-1.0

*MOS **24** 20:35:32.1*±*2.2,49°.85N*×*157°.38E,h51km,mb4.5/1, Error ellipse: s-maj=34.9km s-min=6.6km az=82.8*
*KRSC **24** 20:35:32.2*±*2.5,49°.85N*×*157°.38E,h51km*±*25km,ML4.4*
ISC 24 20:35:29.7±3.8,**49°.6N**±0°.2×**157°.09E**±0°.07,**h41**km,**n37,** σ1§**82**/50,**1D,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.28**	**331**	*e*P	**Pn**	**20 35 51.1**	**0.0**
SKR				*e*S	**Sn**	**20 36 05.1**	**-1.9**
SKR	**Severo-Kuril's**	**1.28**	**331**	*d*iPN	**Pn**	**20 35 51.1**	**0.0**
SKR				*e*S	**Sn**	**20 36 05.2**	**-1.8**
PAU	**Pauzhetka**	**1.91**	**355**	*e*P	**Pn**	**20 36 00.8**	**+1.1**
PAU				*e*S	**Sn**	**20 36 22.1**	**-0.4**
PAU	**Pauzhetka**	**1.91**	**355**	PN	**Pn**	**20 36 00.8**	**+1.1**
PAU				S	**Sn**	**20 36 22.1**	**-0.4**
ASAK	**Asacha**	**2.86**	**10**	*e*P	**Pn**	**20 36 14.6**	**+1.7**
MTVR	**Mutnovka**	**3.00**	**13**	*e*P	**Pn**	**20 36 16.8**	**+2.0**
MTVR				*e*S	**Sn**	**20 36 49.4**	**-0.1**
RUS	**Russkaya**	**3.00**	**17**	*e*P	**Pn**	**20 36 16.0**	**+1.3**
RUS				*e*S	**Sn**	**20 36 48.6**	**-0.8**
RUS	**Russkaya**	**3.00**	**17**	PN	**Pn**	**20 36 16.0**	**+1.3**
RUS				S	**Sn**	**20 36 48.6**	**-0.8**
APC	**Apacha**	**3.36**	**1**	*e*P	**Pn**	**20 36 20.9**	**+1.3**
APC	**Apacha**	**3.36**	**1**	PN	**Pn**	**20 36 20.9**	**+1.3**
PET	**Petropavlovsk**	**3.59**	**15**	*e*P	**Pn**	**20 36 24.7**	**+1.9**
PET				*e*S	**Sn**	**20 37 03.5**	**-0.5**
PET	**Petropavlovsk**	**3.59**	**15**	*e*PN	**Pn**	**20 36 24.6**	**+1.8**
PET				*e*S	**Sn**	**20 37 03.0**	**-1.0**
PET				pmax	pmax		
	comp=Z,20nm,0.6s						
PET				smax	smax		
	comp=E,95nm,0.5s						
PET				smax	smax		
	comp=N,113nm,0.4s						
UGLR	**Uglovaya**	**3.80**	**16**	*e*P	**Pn**	**20 36 28.2**	**+2.4**
AVH	**Avacha**	**3.84**	**15**	*e*P	**Pn**	**20 36 29.0**	**+2.7**
AVH	**Avacha**	**3.84**	**15**	PN	**Pn**	**20 36 28.0**	**+2.7**
KOK	**Koryaka**	**3.85**	**14**	*e*P	**Pn**	**20 36 28.7**	**+2.2**
KOK	**Koryaka**	**3.85**	**14**	PN	**Pn**	**20 36 28.7**	**+2.2**
SMAR	**Somma**	**3.85**	**15**	*e*P	**Pn**	**20 36 28.2**	**+1.6**
SMAR	**Somma**	**3.85**	**15**	PN	**Pn**	**20 36 28.2**	**+1.6**
NLC	**Nalytchevo**	**3.87**	**21**	*e*P	**Pn**	**20 36 27.5**	**+0.8**
NLC				*e*S	**Sn**	**20 37 08.6**	**-2.2**
NLC	**Nalytchevo**	**3.87**	**21**	PN	**Pn**	**20 36 27.5**	**+0.8**
NLC				S	**Sn**	**20 37 08.6**	**-2.2**
SDLR	**Sedlovina**	**3.88**	**16**	*e*P	**Pn**	**20 36 28.5**	**+1.6**
SDLR				*e*S	**Sn**	**20 37 10.5**	**-0.7**
SDLR	**Sedlovina**	**3.88**	**16**	PN	**Pn**	**20 36 28.5**	**+1.6**
SDLR				S	**Sn**	**20 37 10.5**	**-0.7**
KRER	**Koryakskii**	**3.88**	**15**	*e*P	**Pn**	**20 36 29.6**	**+2.6**
KRX	**Arik**	**3.92**	**14**	*e*P	**Pn**	**20 36 29.9**	**+2.5**
SPN	**Mys Shipunski**	**3.98**	**26**	*e*P	**Pn**	**20 36 30.0**	**+1.8**
SPN	**Mys Shipunski**	**3.98**	**26**	PN	**Pn**	**20 36 30.0**	**+1.8**
GNL	**Ganaly**	**4.16**	**7**	*e*P	**Pn**	**20 36 32.9**	**+2.1**
GNL	**Ganaly**	**4.16**	**7**	PN	**Pn**	**20 36 32.9**	**+2.1**
MKZ	**Mys Kozlova**	**5.75**	**28**	*e*P	**Pn**	**20 36 53.4**	**+0.9**
MKZ				*e*S	**Sn**	**20 37 55.1**	**-2.0**
MKZ	**Mys Kozlova**	**5.75**	**28**	PN	**Pn**	**20 36 53.4**	**+0.9**
MKZ				S	**Sn**	**20 37 55.1**	**-2.0**
KZV	**Kizimen**	**5.89**	**18**	*e*P	**Pn**	**20 36 57.5**	**+3.0**
TUMR	**Tumrok**	**6.02**	**17**	*e*P	Pn	20 37 00.2	+4.0
TUMR	**Tumrok**	**6.02**	**17**	PN	Pn	20 37 00.2	+4.0
KBTR	**Krutoberegovo**	**7.49**	**25**	*e*P	**Pn**	**20 37 17.5**	**+1.2**
KBTR	**Krutoberegovo**	**7.49**	**25**	PN	**Pn**	**20 37 17.5**	**+1.2**
BKI	**Bering**	**7.83**	**41**	*e*S	**Sn**	**20 38 43.4**	**-4.7**

IDC 24 20:39:55.1±7.9,**22°.54S**×**170°.53E,h113**km±54km,**mb3.2**/3, **mb1 3.5**/4,**mb1mx3.1**/24,**mbtmp3.5**/4,**MS3.3**/1,**Ms1 3.3**/1, **ms1mx2.7**/11,**Error ellipse: s-maj=101.8km s-min=39.6km az=155.0,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.81**	**276**	P	Pn	20 40 50.6	-1.5
	3.2nm,0.3s,baz=90,slow=20,SNR=212						
DZM				S	Sn	20 41 37.3	+1.0
	8.0nm,0.3s,baz=90,slow=20,SNR=16						
AFI	**Afiamalu**	**18.86**	**66**	LR	LR	20 50 13.8	
	comp=Z,80nm,18.2s,baz=71,slow=33						
ASAR	**Alice Springs**	**33.65**	**261**	P	P	20 46 25.2	0.0
	0.6nm,0.7s,baz=77,slow=9.5,SNR=12						
WRA	**Warramunga Arr**	**33.78**	**268**	P	P	20 46 25.7	-0.8
	0.3nm,0.8s,baz=96,slow=8.4,SNR=4.3						
ILAR	**Eielson Array**	**93.02**	**17**	P	P	20 52 56.0	+0.7
	0.2nm,0.5s,baz=234,slow=4.6,SNR=4.1						

MAN 24 20:53:21,7°.43N×**125°.31E,h93**km,**mb4.4,ML3.2,MS3.0, 1C-1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**1.07**	**259**	⇓*i*P	Pn	20 53 44.0	+2.3
CTBH				*i* S	Sn	20 53 54.4	-2.9
CGP	**Cagayan de Oro**	**1.19**	**329**	⇑*i*P	Pn	20 53 44.0	+0.9
CGP				*i* S	Sn	20 53 54.8	-5.0

*IDC **24** 21:15:06.6*±*1.3, 7°.73S*×*124°.56E, h0km, mb3.8/2, mb1 3.7/5, mb1mx3.4/30, mbtmp3.6/5, ML3.4/3, Error ellipse: s-maj=82.0km s-min=26.0km az=55.0*
*ISCJB **24** 21:15:08.7*±*1.0, 7°.8S*±*0°.2*×*124°.5E*±*0°.3, h26km, mb3.8/2, Error ellipse: s-maj=52.3km s-min=10.9km az=140.9*
ISC 24 21:15:09.4±1.0,**7°.9S**±0°.3×**124°.6E**±0°.3,**h26**km,**n8,** σ1§**07**/8, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**5.62**	**300**	Pn	**Pn**	**21 16 30.4**	**-0.9**
	3.6nm,0.3s,baz=130,slow=13,SNR=13						
MTN	**Manton Dam**	**8.08**	**128**	P	**Pb**	**21 17 28.0**	**-0.7**
	baz=10,SNR=7.8						
KNRA	**Kununurra**	**8.74**	**153**	P	Pn	21 17 19.6	+5.5
	baz=9.2,SNR=14						
WRA	**Warramunga Arr**	**15.24**	**143**	Pn	**P**	**21 18 47.5**	**-0.2**
	0.1nm,0.3s,baz=318,slow=14,SNR=5.4						
WRA				Sn	**Sn**	**21 21 30.8**	**-0.4**
	0.1nm,0.3s,baz=305,slow=23,SNR=4.0						
ASAR	**Alice Springs**	**18.04**	**151**	P	**P**	**21 19 20.3**	**+1.6**
	0.1nm,0.3s,baz=322,slow=13,SNR=14						
ASAR				S	Sn	21 22 27.4	-12
	0.0nm,0.3s,baz=315,slow=21,SNR=3.2						
MKAR	**Makanchi Array**	**66.16**	**330**	P	**P**	**21 25 54.4**	**-0.3**
	0.6nm,0.6s,baz=133,slow=7.5,SNR=9.2						
ZALV	**Zalesovo Beam**	**70.12**	**336**	P	**P**	**21 26 20.3**	**+1.0**
	0.5nm,0.5s,baz=152,slow=6.5,SNR=3.4						
TORD	**Torodi Ar. Bea**	**123.74**	**281**	PKP	**PKPdf**	**21 34 06.8**	**+0.9**
	0.3nm,1.0s,baz=100,slow=2.7,SNR=3.0						

*SJA **24** 21:46:22.5*±*0.7, 34°.32S*×*73°.51W, h10km, ML4.5, MW4.5*
*IDC **24** 21:46:34.1*±*0.4, 33°.96S*×*72°.19W, h0km, mb4.6/23, mb1 4.7/25, mb1mx4.6/34, mbtmp4.6/25, ML4.6/2, MS4.8/17, Ms1 4.8/17, ms1mx4.7/22, Error ellipse: s-maj=19.7km s-min=11.9km az=75.0*
*NEIC **24** 21:46:36.0, 34°.01S*×*72°.31W, h24km, mb5.2/105, ML4.8(GUC), After GUC.*
NEIC Felt [III] at Pichilemu and [II] at Curico, Melipilla, Pencahue, Rancagua, San Antonio, San Fernando, Santiago, Talca and in Chacabuco. Also felt at Vina del Mar.
*GUC **24** 21:46:36.7*±*0.6, 34°.01S*×*72°.31W, h24km*±*4km, ML4.8*
*BJI **24** 21:46:37.2, 34°.65S*×*72°.48W, h29km, mB5.1/16, Ms5.2/13, Ms7 5.0/12*
*ISCJB **24** 21:46:38.1*±*0.1, 34°.00S*±*0°.02*×*72°.38W*±*0°.03, h33km, mb5.1/114, MS4.7/15, Error ellipse: s-maj=3.6km s-min=2.9km az=18.5*
ISC 24 21:46:37.8±0.7,**33°.99S**±0°.03×**72°.25W**±0°.04,**h25**km±4km, **h24**km:**pP-P,n475,** σ1§**21**/489,**mb5.2**/114,**MS4.7**/15,**7C-6D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U73B	**San Pedro**	**0.70**	**84**	*e*Pn	**Pn**	**21 46 51.9**	**-0.2**
U73B				*e*Sn	**Sn**	**21 47 02.0**	**-0.1**
LNV	**Longovilo**	**0.70**	**87**	*e*P	**Pb**	**21 46 51.7**	**+0.3**
U65B	**HualaæØ**	**1.04**	**159**	⇑*i*Pn	**Pn**	**21 46 55.8**	**-1.1**
U65B				*e*Sn	**Sn**	**21 47 11.4**	**+0.7**
IHA	**Instituto Hidr**	**1.09**	**28**	⇑*i*P	**Pn**	**21 46 57.7**	**+0.2**
IHA				*e*S	**Sb**	**21 47 13.2**	**+1.4**
TACH	**Talagante**	**1.15**	**73**	⇑*i*P	**Pn**	**21 46 58.7**	**+0.4**
NICH	**Los Niches**	**1.31**	**140**	*e*P	**Pn**	**21 47 01.0**	**+0.4**
NICH				*e*S	**Sb**	**21 47 19.8**	**+1.5**
CHCH	**Chadas Angostu**	**1.33**	**88**	*e*P	**Pb**	**21 47 01.8**	**-0.3**
SAN	**Santiago**	**1.43**	**68**	⇓*i*P	**Pb**	**21 47 03.6**	**-0.2**
SAN				*i* S	**Sb**	**21 47 23.6**	**+2.0**
TALC	**Talca**	**1.49**	**160**	⇓*i*P	**Pn**	**21 47 02.8**	**-0.2**
TALC				*i* S	**Sb**	**21 47 22.9**	**-0.5**
PCH	**Pirque**	**1.50**	**76**	⇑*i*P	**Pb**	**21 47 04.7**	**-0.2**
LACH	**Col Las Americ**	**1.53**	**70**	⇑*i*P	**Pb**	**21 47 05.2**	**-0.3**
LACH				*i* S	**Sb**	**21 47 26.9**	**+2.3**
CLCH	**Cerro Calan**	**1.55**	**68**	⇓*i*P	**Pb**	**21 47 05.5**	**-0.4**
CLCH				*e*S	**Sb**	**21 47 27.0**	**+1.9**
CLCH				AML	AML	21 47 42.0	
	comp=N,13μm,0.9s						
PEL	**Peldehue**	**1.56**	**58**	⇑*i*P	**Pb**	**21 47 05.7**	**-0.3**
PEL				*e*S	**Sb**	**21 47 27.2**	**+1.9**
PEL				AML	AML	21 47 39.4	
	comp=E,25μm,0.5s						
LNCH	**Linares**	**1.93**	**164**	⇓*i*P	**Pn**	**21 47 09.8**	**+0.8**
U14B	**Concepcin**	**2.94**	**193**	*e*Pn	**Pn**	**21 47 20.4**	**-2.6**
U14B				*e*Sn	**Sn**	**21 48 00.1**	**+2.7**
AAGR	**Agrelo**	**3.00**	**73**	*e*P	**Pb**	**21 47 31.8**	**+1.2**
ARCO	**CERRO ARCO**	**3.00**	**68**	*e*P	**Pb**	**21 47 31.1**	**+0.3**
ARCO				*e*S	Sb	21 48 17.4	+10
AVIZ	**Vizcacheras**	**3.16**	**82**	*e*P	**Pb**	**21 47 32.1**	**-1.2**
ASAL	**Salagasta**	**3.19**	**65**	*e*S	Sb	21 48 22.1	+10
RTLS	**Leoncito**	**3.31**	**49**	*e*P	Pn	21 47 32.1	+3.8
RTCV	**Cerro Valdivia**	**3.78**	**57**	*e*P	Pn	21 47 38.9	+4.4
RTCV				*e*S	Sb	21 48 35.7	+6.6
CANA	**Caviahue**	**4.00**	**166**	*e*P	**Pn**	**21 47 39.8**	**+2.1**
CFAA	**Coronel Fontan**	**4.13**	**56**	Pn	**Pn**	**21 47 42.2**	**+2.8**
	comp=E,1.1nm,0.3s,baz=229,slow=13,SNR=29						
CFAA				Lg	Lg	21 48 42.8	
	comp=E,3.5nm,0.3s,baz=139,slow=20,SNR=6.9						
CFAA	**Coronel Fontan**	**4.13**	**56**	*e*P	Pn	21 47 44.4	+5.0
RTLL	**Cerro Villicun**	**4.15**	**51**	*e*P	Pn	21 47 43.3	+3.6
RTLL				*e*S	**Sb**	**21 48 45.4**	**+5.6**
AMOG	**MOGNA**	**4.40**	**47**	*e*P	Pn	21 47 46.4	+3.3
ACAN	**Cantantal**	**4.58**	**69**	*e*P	Pn	21 47 50.6	+5.0
LCO	**Las Campanas**	**5.14**	**15**	*e*Pn	**Pn**	**21 47 52.9**	**-0.6**
LCO				*e*Sn	**Sn**	**21 48 48.5**	**-3.6**
LCO	**Las Campanas**	**5.14**	**15**	⇓*e*P	**Pn**	**21 47 52.9**	**-0.6**
AVFE	**Valle Fertil**	**5.25**	**52**	*e*P	**Pn**	**21 47 57.4**	**+2.6**
AVFE				*e*S	**Sb**	**21 49 09.8**	**-1.7**
AVFE				AML	AML	21 49 16.0	
	comp=Z,132nm,0.4s						
ACHE	**Chepes**	**5.50**	**61**	*e*P	Pn	21 48 05.0	+6.8
MRA	**San Martin**	**5.70**	**76**	*e*P	Pn	21 48 06.0	+5.0
SUCO	**SUCO**	**6.18**	**86**	*e*P	Pn	21 48 12.9	+5.4
VCA	**Vinchina**	**6.28**	**35**	*e*P	**Pn**	**21 48 11.6**	**+2.6**
VCA				⇓*e*P	**Pn**	**21 48 11.7**	**+2.6**
ACLC	**CERRO LA CRUZ**	**6.41**	**46**	*e*P	**Pn**	**21 48 12.1**	**+1.2**
PLCA	**Paso Flores**	**6.86**	**169**	*e*P	**Pn**	**21 48 17.5**	**+0.5**
TCA	**Tanti**	**6.98**	**70**	*e*P	Pn	21 48 23.2	+4.6
CYA	**Choya**	**7.82**	**47**	*e*P	**Pn**	**21 48 29.4**	**-0.7**
TRQA	**Tornquist**	**9.26**	**119**	Pn	**Pn**	**21 48 48.6**	**-1.1**
TRQA				*e*Sn	**Sn**	**21 50 27.8**	**-5.3**
FSA	**Cafayete**	**9.55**	**36**	*e*P	**Pn**	**21 48 52.8**	**-1.2**
LVC	**Limon Verde**	**11.71**	**15**	Pn	**Pn**	**21 49 20.6**	**-3.0**
	comp=Z,11nm,0.3s,baz=172,slow=14,SNR=3.2						
LVC				LR	LR	21 54 16.1	
	comp=Z,24μm,19.1s,baz=230,slow=40						
LVC	**Limon Verde**	**11.71**	**15**	*e*Pn	**Pn**	**21 49 21.9**	**-1.8**
LVC				*e*Sn	Sn	21 51 45.2	+11
CPUP	**Villa Florida**	**14.99**	**63**	Pn	**Pn**	**21 50 09.7**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=233,slow=12,SNR=12						
CPUP				Sn	**Sn**	**21 52 54.8**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=333,slow=18,SNR=1.7						
CPUP				LR	LR	21 56 24.0	
	comp=Z,5μm,18.5s,baz=241,slow=40						
CPUP	**Villa Florida**	**14.99**	**63**	*e*Pn	**Pn**	**21 50 08.4**	**+0.3**
CPUP				*e*Sn	**Sn**	**21 52 54.8**	**+1.5**
LPAZ	**La Paz**	**18.02**	**13**	P	**P**	**21 50 47.9**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=169,slow=9.8,SNR=21						
LPAZ	**La Paz**	**18.02**	**13**	*e*Pn	**Pn**	**21 50 46.2**	**-1.0**
EFI	**East Falkland**	**20.44**	**154**	*e*P	**P**	**21 51 10.1**	**-3.1**
	comp=Z,148nm,1.6s						
SIV	**San Ignacio**	**20.56**	**32**	P	**P**	**21 51 15.0**	**+0.2**
	comp=Z,15nm,0.7s,baz=223,slow=9.4,SNR=36						
SIV				LR	LR	22 00 42.5	
	comp=Z,4μm,18.8s,baz=228,slow=41						
USHA	**Ushuaia**	**21.01**	**174**	P	**P**	**21 51 20.0**	**+0.7**
	comp=Z,21nm,1.0s,baz=342,slow=13,SNR=3.2						
NNA	**Nana**	**22.30**	**348**	P	**P**	**21 51 34.6**	**+1.0**
	comp=Z,28nm,0.7s,baz=196,slow=9.3,SNR=8.2						
NNA				LR	LR	21 58 30.4	
	comp=Z,2μm,19.4s,baz=197,slow=32						
NNA	**Nana**	**22.30**	**348**	*e*P	**P**	**21 51 34.4**	**+0.9**
	comp=Z,53nm,0.9s						
BB16B	**Bebedouro**	**24.57**	**64**	⇑*i*P	**P**	**21 51 55.2**	**-0.8**
BB16B				*i*		21 51 58.0	
BB16B				*i*		21 52 00.6	
BB16B				*i*		21 52 05.8	
BB16B				*i*		21 52 08.9	
BB16B				*i*		21 52 12.0	
BB16B				*i*		21 52 16.1	
BB16B				*i*		21 52 21.0	
BB16B				*i*		21 52 25.5	
SAML	**Samuel**	**26.29**	**21**	*e*P	**P**	**21 52 11.3**	**-0.1**
	comp=Z,32nm,1.3s						
ATAH	**Atahualpa**	**27.32**	**347**	LR	LR	22 01 44.0	
	comp=Z,1μm,19.1s,baz=192,slow=33						
BDFB	**Brasilia**	**28.48**	**56**	P	**P**	**21 52 30.4**	**-0.9**
	comp=Z,6.6nm,0.8s,baz=231,slow=3.5,SNR=7.2						
BDFB				LR	LR	22 05 20.1	
	comp=Z,4μm,19.1s,baz=224,slow=40						
BDFB	**Brasilia**	**28.48**	**56**	*e*P	**P**	**21 52 30.9**	**-0.3**
PMSA	**Palmer Station**	**31.22**	**173**	LR	LR	22 05 17.6	
	comp=Z,2μm,18.3s,baz=336,slow=36						
OTAV	**Otavalo**	**34.54**	**349**	*e*P	**P**	**21 53 26.0**	**+1.1**
	comp=Z,42nm,1.6s						
OTAV				*e*PcP	**PcP**	**21 56 00.1**	**+0.5**
PTGA	**Pitinga**	**35.03**	**22**	*e*P	**P**	**21 53 28.2**	**-0.4**
	comp=Z,13nm,0.9s						
ROSC	**El Rosal**	**38.69**	**357**	LR	LR	22 10 03.0	
	comp=Z,827nm,19.7s,baz=206,slow=36						
VNA1	**Neumayer--Stat**	**49.75**	**157**	P	**P**	**21 55 29.1**	**+1.4**
VNA2	**Neumayer--Watz**	**50.09**	**157**	P	**P**	**21 55 30.5**	**+0.2**
	baz=277,slow=7.7						
SNAA	**Sanae**	**51.66**	**158**	P	**P**	**21 55 42.7**	**+0.5**
	comp=Z,11nm,1.0s,baz=283,slow=6.6,SNR=45						
SNAA	**Sanae**	**51.66**	**158**	*e*P	**P**	**21 55 42.9**	**+0.7**
	comp=Z,27nm,1.2s						
CELP	**Cerrillos**	**52.06**	**7**	*e*P	**P**	**21 55 45.3**	**-0.3**
SJG	**San Juan**	**52.14**	**7**	*e*P	**P**	**21 55 44.8**	**-1.3**
	comp=Z,52nm,1.3s						
CMIG	**Matias Romero**	**55.19**	**333**	P	**P**	**21 56 08.3**	**-0.3**
	comp=Z,4.3nm,0.9s,baz=158,slow=5.3,SNR=7.2						
RKT	**Rikitea**	**55.40**	**264**	*e*S	S	22 04 00.4	+6.9
	comp=Z,184nm,26.2s						
RKT				*e*LR	LR	22 12 16.6	
	comp=Z,341nm,23.8s						
TEIG	**Tepich**	**56.04**	**342**	P	**P**	**21 56 14.8**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=197,slow=19,SNR=22						
TEIG	**Tepich**	**56.04**	**342**	*e*P	**P**	**21 56 14.6**	**0.0**
	comp=Z,2.2nm,0.6s						
SBA	**Scott Base**	**63.05**	**192**	*e*P	**P**	**21 57 03.7**	**+1.4**
	comp=Z,149nm,2.4s						
VNDA	**Vanda**	**64.07**	**191**	P	**P**	**21 57 10.0**	**+0.9**
	comp=Z,5.7nm,1.0s,baz=164,slow=4.6,SNR=16						
VNDA				LR	LR	22 21 31.9	
	comp=Z,196nm,19.0s,baz=134,slow=33						
VNDA	**Vanda**	**64.07**	**191**	*e*P	**P**	**21 57 10.4**	**+1.3**
	comp=Z,127nm,2.6s						
933A	**Laredo**	**66.41**	**334**	P	**P**	**21 57 26.2**	**+1.4**
	baz=67,SNR=7.3						
834A	**Tilden**	**66.61**	**335**	P	**P**	**21 57 27.9**	**+1.8**
	baz=67,SNR=13						
833A	**Chaparral WMA,**	**67.10**	**334**	P	**P**	**21 57 30.8**

332A	Millersview	70.00 335	P	P	21 57 47.9	+0.6	
	baz=70,SNR=14						
234A	Clairette	70.03 337	P	P	21 57 48.3	+0.9	
	baz=70,SNR=9.8						
CPCT	Cooper Cave	70.03 349	eP	P	21 57 47.3	0.0	
SWET	Sewanee	70.03 348	eP	P	21 57 46.7	-0.7	
	comp=Z,137nm,1.8s						
PPT2	Papeete2	70.06 262	eS	S	22 07 05.7	+7.9	
	comp=Z,270nm,22.8s						
PPT2	Papeete2	70.06 262	eLR	LR	22 18 58.0		
PPT	Papeete	70.07 262	LR	LR	22 21 23.5		
	comp=Z,448nm,20.4s,baz=179,slow=30						
429A	Davenport Ranc	70.10 333	P	P	21 57 48.7	+0.8	
	baz=70,SNR=16						
TKL	Tuckaleechee C	70.12 350	P	P	21 57 47.1	-0.8	
	comp=Z,14nm,1.1s,baz=147,slow=5.8,SNR=9.2						
TKL	Tuckaleechee C	70.12 350	eP	P	21 57 47.8	-0.1	
331A	San Angelo	70.18 335	P	P	21 57 49.4	+1.0	
	baz=70,SNR=11						
135A	Vickery Place,	70.30 338	P	P	21 57 50.3	+1.3	
	baz=71						
232A	Coleman	70.43 335	P	P	21 57 50.7	+0.7	
	baz=71,SNR=6.4						
134A	White-Moore Ra	70.53 337	P	P	21 57 52.1	+1.6	
	baz=71						
330A	Mertzon	70.53 334	P	P	21 57 51.7	+1.1	
	baz=71,SNR=8.9						
Z36A	Blue Ridge	70.66 339	P	P	21 57 52.2	+1.0	
	baz=71,SNR=6.9						
231A	Bronte	70.71 335	P	P	21 57 52.3	+0.7	
	baz=71,SNR=8.5						
Y38A	Idabel	70.78 340	P	P	21 57 53.6	+1.6	
	baz=71						
133A	Hamilton Ranch	70.84 336	P	P	21 57 53.4	+1.0	
	baz=71,SNR=7.3						
329A	Wagon Wheel Ra	70.90 333	P	P	21 57 53.9	+1.0	
	baz=71,SNR=14						
230A	Sterling City	70.95 334	P	P	21 57 53.7	+0.7	
	baz=71						
TZTN	Tazewell	70.96 350	eP	P	21 57 52.8	-0.2	
	comp=Z,29nm,1.3s						
Z35A	Perchaven, San	70.97 338	P	P	21 57 54.1	+1.0	
	baz=71,SNR=6.3						
MIAR	Mount Ida	71.05 342	P	P	21 57 54.1	+0.5	
	baz=71,SNR=9.3						
MIAR	Mount Ida	71.05 342	eP	P	21 57 53.1	-0.4	
	comp=Z,27nm,1.3s						
Y37A	Hugo	71.08 340	P	P	21 57 55.7	+2.0	
	baz=71						
ABTX	Abilene, Hawle	71.10 336	P	P	21 57 55.0	+1.1	
	baz=71,SNR=7.7						
ABTX	Abilene, Hawle	71.10 336	eP	P	21 57 54.5	+0.5	
	comp=Z,71nm,1.4s						
Y36A	Durant	71.20 339	P	P	21 57 56.1	+1.6	
	baz=72						
Z34A	Collier Ranch,	71.22 337	P	P	21 57 55.6	+1.0	
	baz=72,SNR=5.1						
WVT	Waverly	71.26 347	eP	P	21 57 54.4	-0.4	
	comp=Z,196nm,1.7s						
229A	Bryant Ranch,	71.27 334	P	P	21 57 55.9	+0.8	
	baz=72						
URVA	University of	71.37 356	eP	P	21 57 55.4	0.0	
131A	Roby	71.40 335	P	P	21 57 56.6	+0.8	
	baz=72,SNR=8.2						
Z33A	Whitaker Ranch	71.41 337	P	P	21 57 56.8	+1.0	
	baz=72						
Y35A	Marietta	71.44 338	P	P	21 57 57.4	+1.4	
	baz=72						
X38A	Whitesboro	71.50 341	P	P	21 57 57.3	+1.0	
	baz=72,SNR=15						
JSRW	J. Sargeant Re	71.51 355	eP	P	21 57 56.2	0.0	
130A	Snyder	71.53 335	P	P	21 57 56.9	+0.3	
	baz=72						
X37A	Clayton	71.58 340	P	P	21 57 58.2	+1.4	
	baz=72						
Z32A	Haskell	71.67 336	P	P	21 57 58.4	+1.0	
	baz=72,SNR=12						
228A	UT Block 9, Go	71.70 333	P	P	21 57 58.2	+0.5	
	baz=72,SNR=8.1						
Y34A	Reagan Ranch,	71.71 338	P	P	21 57 58.3	+0.7	
	baz=72						
W38A	Poteau	71.80 341	P	P	21 57 58.9	+0.9	
	baz=72,SNR=5.8						
X36A	Centrahoma	71.85 339	P	P	21 57 58.6	+0.2	
	baz=72,SNR=8.9						
X35A	Drake	71.88 339	P	P	21 57 59.1	+0.6	
	baz=72,SNR=5.5						
Z31A	Sharp Cattle R	71.90 336	P	P	21 57 59.3	+0.5	
	baz=72,SNR=11						
Y33A	Hilltop Ranch,	72.03 337	P	P	21 57 60.0	+0.4	
	baz=72,SNR=5.5						
128A	Castleberry Fa	72.11 333	P	P	21 58 00.8	+0.7	
	baz=72,SNR=12						
W37A	Quinton	72.11 340	P	P	21 58 00.5	+0.5	
	baz=72						
PARMO	Parma	72.16 345	eP	P	21 58 00.8	+0.6	
Z30A	Sanderson Ranc	72.22 335	P	P	21 58 00.9	+0.2	
	baz=72,SNR=9.1						
Y32A	R-V Farms, Ver	72.29 337	P	P	21 58 01.8	+0.7	
	baz=73,SNR=6.0						
X34A	Smith Ranch, M	72.33 338	P	P	21 58 02.3	+1.1	
	baz=73						
W36A	Wetumka	72.34 340	P	P	21 58 01.4	+0.1	
	baz=73						
Z29A	Hungry Hill Ra	72.40 334	P	P	21 58 02.2	+0.4	
	baz=73,SNR=8.6						
PBMO	Poplar Bluff	72.42 345	eP	P	21 58 01.1	-0.6	
	comp=Z,14nm,0.8s						
Y31A	Rekieta Farm,	72.53 336	P	P	21 58 03.6	+1.1	
	baz=73						
Z28A	Tucker Farm, M	72.67 334	P	P	21 58 03.5	+0.1	
	baz=73						
V37A	Hulbert	72.73 341	P	P	21 58 04.7	+1.1	
	baz=73,SNR=6.1						
WMOK	Wichita Mounta	72.75 337	eP	P	21 58 03.1	-0.7	
	comp=Z,28nm,1.4s						
V36A	Jenks	72.86 340	P	P	21 58 04.9	+0.5	
	baz=73,SNR=6.2						
W34A	Bridge Creek,	72.89 338	P	P	21 58 05.8	+1.2	
	baz=73						
TUL1	Tulsa	72.94 340	P	P	21 58 05.3	+0.4	
	baz=73,SNR=5.1						
TUL1	Tulsa	72.94 340	eP	P	21 58 04.6	-0.3	
	comp=Z,41nm,1.4s						
USIN	University of	73.01 347	eP	P	21 58 04.5	-0.7	
	comp=Z,43nm,1.1s						
W33A	Caddo, Fort Co	73.03 338	P	P	21 58 06.7	+1.2	
	baz=73						
X31A	McDonald Ranch	73.04 336	P	P	21 58 06.5	+0.9	
	baz=73,SNR=5.7						
U38A	Gravette	73.05 341	P	P	21 58 06.9	+1.3	
	baz=73						
V35A	Meyer Ranch, C	73.10 339	P	P	21 58 06.0	+0.2	
	baz=73						
Y28A	McKinney Farm,	73.18 334	P	P	21 58 07.4	+1.0	
	baz=74						
U37A	Salina	73.22 341	P	P	21 58 06.9	+0.4	
	baz=74						
MAW	Mawson	73.24 164	P	P	21 58 06.7	+0.3	
	comp=Z,16nm,0.9s,baz=218,slow=6.3,SNR=29						
MAW			LR	LR	22 32 57.4		
	comp=Z,1μm,18.1s,baz=236,slow=38						
MAW	Mawson	73.24 164	eP	P	21 58 06.7	+0.3	
	comp=Z,6.8nm,1.1s						
W32A	Sentinel	73.25 337	P	P	21 58 08.0	+1.2	
	baz=74						
V34A	Guthrie	73.37 339	P	P	21 58 08.3	+0.8	
	baz=74						
V34A	Guthrie	73.37 339	eP	P	21 58 07.5	0.0	
	comp=Z,67nm,1.4s						
W31A	Holland Ranch,	73.54 337	P	P	21 58 08.7	+0.2	
	baz=74						
V33A	Lossen Ranch,	73.59 338	P	P	21 58 09.6	+0.8	
	baz=74						
U35A	Pawnee	73.64 340	P	P	21 58 09.5	+0.5	
	baz=74						
V32A	Arapaho	73.74 338	P	P	21 58 10.7	+1.1	
	baz=74						
T37A	Cheneyville 18	73.84 341	P	P	21 58 10.3	+0.1	
	baz=74,SNR=6.5						
U34A	Anderson Ranch	73.93 339	P	P	21 58 12.2	+1.5	
	baz=74						
T36A	Boggs Farm, Ca	74.04 341	P	P	21 58 11.6	+0.2	
	baz=74						
W29A	Amraillo	74.06 335	P	P	21 58 11.8	+0.2	
	baz=74						
T35A	Sooner Cattle	74.08 340	P	P	21 58 12.9	+1.3	
	baz=74,SNR=5.1						
121A	Cookes Peak, D	74.14 329	P	P	21 58 13.9	+1.6	
	baz=74						
U32A	Winter Ranch,	74.33 338	P	P	21 58 13.3	+0.3	
	baz=75						
T34A	McClaskey Farm	74.38 339	P	P	21 58 14.3	+1.0	
	baz=75,SNR=6.1						
ACSO	Alum Creek Sta	74.52 351	eP	P	21 58 13.8	-0.2	
	comp=Z,69nm,1.5s						
S36A	Lake Cedric, C	74.58 341	P	P	21 58 14.6	+0.2	
	baz=75,SNR=8.4						
S35A	Otter Creek Ra	74.74 340	P	P	21 58 15.9	+0.4	
	baz=75						
T33A	Patterson Ranc	74.75 339	P	P	21 58 16.5	+1.0	
	baz=75						
V28A	Channing	74.83 335	P	P	21 58 16.9	+0.8	
	baz=75						
BNM	Barren Site	75.06 331	eP	P	21 58 18.3	+0.6	
LPM	Los Pinos Moun	75.21 331	eP	P	21 58 18.4	0.0	
LENM	Lemitar	75.22 331	eP	P	21 58 16.2	-2.3	
TUC	Tucson	75.27 327	eP	P	21 58 19.4	+0.7	
	comp=Z,26nm,1.4s						
DBIC	Dimbokro	75.35 71	P	P	21 58 19.6	+0.1	
	comp=Z,5.6nm,0.9s,baz=186,slow=7.2,SNR=4.4						
DBIC			LR	LR	22 30 12.4		
	comp=Z,502nm,18.7s,baz=221,slow=35						
DBIC	Dimbokro	75.35 71	eP	P	21 58 19.5	+0.1	
	comp=Z,25nm,1.4s						
LAZ	Ladron	75.49 331	eP	P	21 58 18.3	-1.7	
ANMO	Albuquerque	75.69 332	P	P	21 58 21.8	+0.7	
	comp=Z,8.4nm,1.2s,baz=156,slow=8.5,SNR=20						
ANMO	Albuquerque	75.69 332	eP	P	21 58 21.9	+0.7	
	comp=Z,21nm,1.4s						
HDIL	Hopedale	75.83 347	eP	P	21 58 21.5	-0.1	
	comp=Z,5.8nm,1.6s						
214A	Organ Pipe Nat	75.91 325	P	P	21 58 24.2	+1.9	
	baz=76						
T28A	Walsh	76.02 336	P	P	21 58 23.6	+0.7	
	baz=76						
R32A	Long Quarter,	76.12 339	P	P	21 58 24.6	+1.2	
	baz=76						
T27A	Campo	76.18 335	P	P	21 58 24.7	+0.9	
	baz=76						
TRY	Troy	76.36 359	eP	P	21 58 23.6	-0.9	
	comp=Z,45nm,1.4s						
S28A	Manter	76.37 336	P	P	21 58 25.7	+0.8	
	baz=77						
MMNY	Mt. Morris Dam	76.53 356	eP	P	21 58 25.4	0.0	
	comp=Z,52nm,1.5s						
T26A	Comanche Natio	76.59 335	P	P	21 58 27.7	+1.5	
	baz=77						
AAM	Ann Arbor	76.64 351	eP	P	21 58 23.7	-2.4	
	comp=Z,57nm,1.4s						
T25A	Trinidad	76.85 334	P	P	21 58 29.6	+1.9	
	baz=77						
T25A	Trinidad	76.85 334	eP	P	21 58 28.9	+1.1	
	comp=Z,106nm,1.6s						
Q31A	Ellis	76.86 339	P	P	21 58 28.4	+0.9	
	baz=77						
R29A	Marienthal	76.88 337	P	P	21 58 29.4	+1.7	
	baz=77						
ACCN	Adirondack Com	77.02 359	eP	P	21 58 24.2	-4.0	
	comp=Z,16nm,1.5s						
R28A	Tribune	77.03 337	P	P	21 58 29.9	+1.4	
	baz=77						
O34A	Beatrice	77.18 341	P	P	21 58 29.7	+0.4	
	baz=78						
W18A	Petrified Fore	77.19 329	eP	P	21 58 30.0	+0.4	
	comp=Z,34nm,1.2s						
R27A	Eads	77.31 336	P	P	21 58 31.2	+1.0	
	baz=78						
R26A	Arlington	77.54 335	P	P	21 58 32.6	+1.1	
	baz=78						
GLA	Glamis	77.77 324	eP	P	21 58 30.3	-2.5	
	comp=Z,63nm,1.9s						
SDCO	Great Sand Dun	77.78 334	P	P	21 58 34.6	+1.5	
	baz=78						
SDCO	Great Sand Dun	77.78 334	eP	P	21 58 33.6	+0.5	
	comp=Z,23nm,1.6s						
KSCO	Kaye Shedlock'	77.90 336	eP	P	21 58 29.0	-4.5	
	comp=Z,118nm,1.8s						
Q26A	Hugo	78.13 336	P	P	21 58 36.8	+2.1	
	baz=78						
WUAZ	Wupatki	78.23 328	P	P	21 58 36.9	+1.5	
	baz=78						
WUAZ	Wupatki	78.23 328	eP	P	21 58 35.9	+0.5	
	comp=Z,40nm,1.5s						
LONY	Lake Ozonia	78.27 358	eP	P	21 58 34.6	-0.6	
	comp=Z,26nm,1.6s						
S22A	4UR Ranch, Cre	78.28 333	P	P	21 58 37.2	+1.3	
	baz=79						
S22A	4UR Ranch, Cre	78.28 333	eP	P	21 58 36.5	+0.7	
	comp=Z,19nm,1.5s						
JFWS	Jewell Farm	78.29 347	eP	P	21 58 35.1	-0.2	
	comp=Z,113nm,2.0s						
MVCO	Mesa Verde	78.47 331	P	P	21 58 38.0	+1.2	
	baz=79						
MVCO	Mesa Verde	78.47 331	eP	P	21 58 37.0	+0.2	
	comp=Z,23nm,1.3s						
BC3	Big Chuckawall	78.57 324	P	P	21 58 39.1	+1.8	
	baz=79,SNR=8.9						
SADO	Sadowa	78.64 355	P	P	21 58 36.8	-0.4	
	comp=Z,4.8nm,0.7s,baz=152,slow=3.8,SNR=6.0						
SADO	Sadowa	78.64 355	eP	P	21 58 35.1	-2.1	
	comp=Z,42nm,1.8s						
Q24A	Divide	78.73 334	P	P	21 58 39.9	+1.6	
	baz=79						
Q24A	Divide	78.73 334	eP	P	21 58 38.5	+0.2	
	comp=Z,63nm,1.8s						
IRM	Iron Mountain	78.83 325	P	P	21 58 40.3	+1.6	
	baz=79,SNR=8.4						
O27A	Beecher Island	78.92 337	P	P	21 58 41.0	+1.9	
	baz=79						
PFO	Pinyon Flat Ob	79.02 324	P	P	21 58 41.0	+1.2	
	comp=Z,3.3nm,0.8s,baz=155,slow=7.7,SNR=8.0						
PFO	Pinyon Flat Ob	79.02 324	P	P	21 58 41.6	+1.8	
	baz=79,SNR=5.3						
PFO	Pinyon Flat Ob	79.02 324	eP	P	21 58 39.7	-0.1	
	comp=Z,49nm,1.8s						
BELC	Belle Mtn. Jos	79.11 324	P	P	21 58 42.3	+2.0	
	baz=79						
PV01	Paradox Valley	79.30 332	eP	P	21 58 42.0	+0.7	
PV05	Paradox Valley	79.46 331	eP	P	21 58 43.2	+1.0	
LDFC	Landfair	79.56 325	eP	P	21 58 43.4	+0.7	
	comp=Z,32nm,1.5s						
GMRC	Granite Mounta	79.58 325	P	P	21 58 44.8	+1.9	
	baz=80,SNR=9.5						
SMCO	Snowmass	79.59 333	eP	P	21 58 43.0	-0.1	
	comp=Z,49nm,1.7s						
ISCO	Idaho Springs	79.64 334	P	P	21 58 43.6	+0.4	
	baz=80						
ISCO	Idaho Springs	79.64 334	eP	P	21 58 43.0	-0.2	
	comp=Z,32nm,1.8s						
PV10	Paradox Valley	79.69 331	eP	P	21 58 43.0	-0.5	
PV09	Paradox Valley	79.83 331	eP	P	21 58 45.1	+0.8	
CASY	Casey	80.03 181	eP	P	21 58 45.2	+0.5	
	comp=Z,44nm,1.3s						
KNB	Kanab	80.12 328	eP	P	21 58 46.3	+0.5	
	comp=Z,75nm,1.7s						
BOSA	Bonf	80.23 118	P	P	21 58 47.4	+0.6	
	comp=Z,4.7nm,0.9s,baz=283,slow=1.3,SNR=8.9						
BOSA			LR	LR	22 32 09.6		
	comp=Z,274nm,18.1s,baz=220,slow=34						
TUQ	Turquoise Moun	80.24 325	P	P	21 58 47.9	+1.6	
	baz=80,SNR=7.6						
K30A	Basset	80.31 340	P	P	21 58 47.3	+0.9	
	baz=81						
PQI	Presque Isle	80.38 3	eP	P	21 58 46.6	-0.1	
	comp=Z,79nm,0.4s						
ECSD	EROS Data Cent	80.49 342	P	P	21 58 47.7	+0.4	
	baz=81,SNR=14						
ECSD	EROS Data Cent	80.49 342	eP	P	21 58 46.9	-0.5	
	comp=Z,85nm,1.8s						
GSC	Goldstone	80.55 324	P	P	21 58 49.8	+1.8	
	baz=81,SNR=7.0						
GSC	Goldstone	80.55 324	eP	P	21 58 49.0	+1.0	
	comp=Z,14nm,1.3s						
N23A	Red Feather La	80.73 335	P	P	21 58 49.0	0.0	
	baz=81						
N23A	Red Feather La	80.73 335	eP	P	21 58 49.1	+0.1	
	comp=Z,23nm,1.5s						
SHPR	Sheep Range	80.75 326	eP	P	21 58 49.5	+0.3	
CCUT	Cedar City	80.80 328	eP	P	21 58 50.7	+1.2	
	comp=Z,48nm,1.6s						
O20A	White River Ci	80.90 333	P	P	21 58 51.0	+1.1	
	baz=81						
O20A	White River Ci	80.90 333	eP	P	21 58 50.0	+0.1	
	comp=Z,61nm,1.8s						
SRU	San Rafael	80.92 331	eP	P	21 58 50.3	+0.3	
	comp=Z,51nm,1.9s						
SPMN	St. Paul	81.02 345	eP	P	21 58 45.2	-4.9	
	comp=Z,10.0nm,0.8s						
MSU	Marysvale	81.10 329	eP	P	21 58 50.0	-1.0	
MVU	Marysvale	81.10 329	eP	P	21 58 51.6	+0.5	
	comp=Z,29nm,1.6s						
MVU			eP	P	21 59 01.3	+2.3	
J29A	Okreek	81.19 340	P	P	21 58 52.2	+1.1	
	baz=82						
P17A	Butcher Ranch,	81.31 331	eP	P	21 58 50.1	-2.0	
	comp=Z,35nm,1.6s						
TMUT	Trail Mountain	81.36 330	eP	P	21 58 53.1	+0.6	
	comp=Z,35nm,1.6s						
J28A	Allard Ranch,	81.47 339	P	P	21 58 53.7	+1.1	
	baz=82						
MPMC	Manual Prospec	81.49 324	P	P	21 58 54.5	+1.4	
	baz=82,SNR=5.2						
FURC	Furnace Creek,	81.52 325	P	P	21 58 55.6	+2.6	
	baz=82						
TPNV	Topopah Spring	81.62 326	P	P	21 58 55.7	+1.9	
	baz=82,SNR=7.3						
TPNV	Topopah Spring	81.62 326	eP	P	21 58 54.9	+1.2	
	comp=Z,41nm,1.8s						
DAC	Darwin (Calif)	81.72 324	eP	P	21 58 54.1	-0.3	
	comp=Z,36nm,1.5s						
J26A	Sides Ranch, S	81.93 338	P	P	21 58 56.6	+1.5	
	baz=82,SNR=6.3						
I28A	Midland	81.97 339	P	P	21 58 55.8	+0.6	
	baz=82						
J25A	Sunshine Ranch	82.23 337	P	P	21 58 56.8	+0.1	
	baz=83						
K23A	Bowen Ranch, D	82.26 336	P	P	21 58 57.9	+0.9	
	baz=83						
NLU	North Lily Min	82.27 330	eP	P	21 58 58.2	+1.1	
	comp=Z,29nm,1.5s						
H29A	Onida	82.27 340	P	P	21 58 57.3	+0.5	
	baz=83						
R11A	Troy Canyon, C	82.45 327	P	P	21 58 59.9	+1.8	
	baz=83,SNR=14						
R11A	Troy Canyon, C	82.45 327	eP	P	21 58 59.1	+1.0	
	comp=Z,36nm,1.6s						
K22A	Casper	82.48 335	P	P	21 58 59.5	+1.4	
	baz=83,SNR=8.3						
K22A	Casper	82.48 335	eP	P	21 58 58.8	+0.6	
	comp=Z,76nm,1.8s						
PTRM	Twissleman Ran	82.52 322	eP	P	21 58 52.4	-5.9	
G29A	Hoven	82.72 341	P	P	21 58 59.6	+0.5	
	baz=83						
DUG	Dugway	82.78 330	P	P	21 59 01.1	+1.4	
	baz=83,SNR=15						
DUG	Dugway	82.78 330	eP	P	21 59 00.7	+1.0	
	comp=Z,38nm,1.5s						
H27A	Howes	82.82 339	P	P	21 59 00.1	+0.4	
	baz=83,SNR=5.8						
RSSD	Black Hills	82.96 338	eP	P	21 59 00.3	-0.3	
	comp=Z,5.4nm,0.9s						
TPH	Tonopah	82.98 326	eP	P	21 59 02.0	+1.1	
	comp=Z,41nm,1.6s						
MTUM	Tungsten Hills	83.04 325	eP	P	21 59 01.7	+0.5	
J22A	Midwest	83.14 336	P	P	21 59 01.4	-0.1	
	baz=84						
H25A	Fruitdale	83.27 338	P	P	21 59 03.4	+1.4	
	baz=84						
EYMN	Ely	83.37 347	eP	P	21 59 01.5	-0.9	
	comp=Z,30nm,1.7s						
G27A	Dupree	83.45 339	P	P	21 59 04.3	+1.4	
	baz=84						
HWUT	Hardware Ranch	83.46 331	eP	P	21 59 03.5	+0.3	
	comp=Z,61nm,1.8s						
BGU	Big Grassy Mou	83.48 330	eP	P	21 59 03.7	+0.3	
	comp=Z,21nm,1.4s						
LRV	Little Rabbit	83.53 322	eP	P	21 59 02.0	-1.6	
RPZ	Rata Peaks	83.53 221	eP	P	21 59 04.4	+0.7	
	comp=Z,20.0nm,1.1s						
F28A	McLaughlin	83.56 340	P	P	21 59 05.3	+1.9	
	baz=84						
I22A	9 Mile Ranch,	83.56 336	P	P	21 59 04.1	+0.4	
	baz=84						
SPUT	South Promonto	83.56 331	eP	P	21 59 03.6	-0.1	
G26A	Maurine	83.58 339	P	P	21 59 03.8	+0.2	
	baz=84,SNR=5.2						
BW06	Boulder Array	83.67 333	eP	P	21 59 04.1	-0.3	
	comp=Z,17nm,1.4s						
PD31	Pinedale Array	83.67 333	eP	P	21 59 03.8	-0.6	
PDAR	Pinedale Array	83.67 333	P	P	21 59 03.8	-0.6	
	comp=Z,1.7nm,0.9s,baz=132,slow=2.2,SNR=14						
PDAR			LR	LR	22 32 44.9		
	comp=Z,431nm,18.7s,baz=150,slow=33						
H24A	Dirks Ranch, A	83.69 337	P	P	21 59 04.8	+0.6	
	baz=84						
G25A	Newell	83.73 338	P	P	21 59 05.6	+1.2	
	baz=84						
I21A	Big Trails, Te	83.77 335	P	P	21 59 05.1	+0.3	
	baz=84,SNR=7.1						
NV01	Mina Array Sit	83.78 325	eP	P	21 59 05.9	+0.9	
NVAR	Mina Array Bea	83.78 325	P	P	21 59 05.9	+0.9	
	comp=Z,2.1nm,0.8s,baz=154,slow=6.1,SNR=17						
DRLN	Deer Lake	83.91 10	eP	P	21 59 05.4	+0.3	
	comp=Z,40nm,1.2s						
J19A	Crowheart	83.92 334	P	P	21 59 06.3	+0.8	
	baz=84,SNR=8.3						
F27A	Lemmon	83.93 340	P	P	21 59 06.3	+1.0	
	baz=84,SNR=5.4						
HVU	Hansel Valley	84.09 331	eP	P	21 59 06.5	+0.1	
	comp=Z,55nm,1.9s						
G24A	Alzada	84.16 338	P	P	21 59 08.1	+1.4	
	baz=84						
D30A	Buchanan	84.18 342	P	P	21 59 07.6	+1.1	
	baz=84						
I20A	Worland	84.18 335	P	P	21 59 07.9	+1.1	
	baz=84,SNR=7.6						
E28A	Huff	84.20 341	P	P	21 59 08.0	+1.3	
	baz=84						
AHID	Auburn Hatcher	84.26 332	eP	P	21 59 05.3	-2.0	
	comp=Z,15nm,0.6s						
ELK	Elko	84.26 329	P	P	21 59 08.0	+0.6	
	comp=Z,3.7nm,0.9s,baz=141,slow=4.2,SNR=15						
ELK	Elko	84.26 329	eP	P	21 59 07.0	-0.4	
	comp=Z,30nm,1.8s						
TOA0	Torodi Ar. Sit	84.38 70	eP	P	21 59 08.6	+0.2	
TORD	Torodi Ar. Bea	84.38 70	P	P	21 59 08.6	+0.2	
	comp=Z,6.7nm,0.8s,baz=254,slow=4.0,SNR=34						
TORD			LR	LR	22 36 05.2		
	comp=Z,512nm,18.3s,baz=245,slow=35						
WAKR	Walker	84.38 325	eP	P	21 59 09.0	+1.0	
CMB	Columbia Colle	84.47 324	eP	P	21 59 07.9	-0.4	
	comp=Z,6.0nm,1.0s						
I19A	Meeteetse	84.57 334	P	P	21 59 10.4	+1.6	
	baz=85						
AGMN	Agassiz Nation	84.60 344	eP	P	21 59 08.0	-0.6	
	comp=Z,70nm,2.0s						
H20A	Greybull	84.61 335	P	P	21 59 09.0	+0.1	
	baz=85,SNR=10						
REDW	Red Top Meadow	84.67 333	eP	P	21 59 09.2	-0.2	
	comp=Z,20nm,1.6s						
LOHW	Long Hollow	84.79 333	eP	P	21 59 09.5	-0.5	
	comp=Z,27nm,2.1s						
TPAW	Teton Pass	84.82 333	eP	P	21 59 10.0	-0.2	
	comp=Z,42nm,2.2s						
F23A	Volborg	84.83 337	P	P	21 59 10.8	+0.9	
	baz=85						
E25A	Miller Ranch,	84.91 339	P	P	21 59 11.9	+1.6	
	baz=85						
MOOW	Moose Ponds	84.96 333	eP	P	21 59 10.6	-0.3	
	comp=Z,26nm,2.1s						
FXWY	Fox Creek	84.97 333	eP	P	21 59 10.8	-0.1	
	comp=Z,38nm,2.4s						
MDND	Maddock	85.08 342	eP	P	21 59 10.9	-0.2	
	comp=Z,31nm,0.7s						
H19A	Powell	85.11 335	P	P

comp=Z,31nm,1.6s
GCMT Greycliff 86.32 335 *e*P P 21 59 17.4 -0.1
ULM Lac du Bonnet 86.44 345 P P 21 59 17.0 -0.8
comp=Z,2.5nm,0.5s,baz=182,slow=3.7,SNR=7.3
ULM Lac du Bonnet 86.44 345 *e*P P 21 59 16.9 -0.8
comp=Z,34nm,1.6s
MCMT McKenzie Canyo 86.68 332 *e*P P 21 59 19.8 +0.4
MFID Camas Ranch 86.70 330 *e*P P 21 59 19.7 +0.3
comp=Z,9.3nm,1.1s
DLMT Dillon 87.03 333 *e*P P 21 59 20.8 -0.2
comp=Z,28nm,1.5s
WVOR Wild Horse Val 87.12 328 *e*P P 21 59 22.0 +0.6
comp=Z,23nm,1.6s
LRM Limekiln Ridge 87.36 333 *e*P P 21 59 22.5 -0.2
WDC Whiskeytown Da 87.49 324 *e*P P 21 59 22.4 -0.7
comp=Z,19nm,1.4s
EGMT Eagleton 88.28 336 *e*P P 21 59 26.0 -0.8
comp=Z,22nm,1.6s
K05A Summer Lake 88.38 326 *e*P P 21 59 27.8 +0.2
comp=Z,53nm,1.5s
YBH Yreka Blue Hor 88.46 325 P P 21 59 27.8 0.0
comp=Z,4.6nm,0.9s,baz=100,slow=3.4,SNR=7.6
YBH Yreka Blue Hor 88.46 325 *e*P P 21 59 27.4 -0.4
comp=Z,20nm,1.5s
CHMT Chamberlain Mo 88.58 333 *e*P P 21 59 28.4 0.0
SCHQ Schefferville 88.59 3 P P 21 59 27.6 -0.4
comp=Z,2.5nm,0.7s,baz=257,slow=2.4,SNR=5.9
SCHQ LR LR 22 38 43.8
comp=Z,138nm,22.0s,baz=196,slow=35
SCHQ Schefferville 88.59 3 *e*P P 21 59 27.9 -0.1
comp=Z,190nm,2.8s
F10A Beach Ranch, E 89.37 330 *e*P P 21 59 32.1 +0.1
comp=Z,28nm,1.8s
NEW Newport 91.18 332 *e*P P 21 59 39.2 -1.1
comp=Z,8.1nm,1.3s
TAM Tamanrasset 92.98 65 *e*P P 21 59 48.0 -1.5
comp=Z,5.9nm,1.2s
A05A Maple Falls 93.77 330 *e*P P 21 59 53.1 +0.9
comp=Z,120nm,0.5s
GEC2 GERESS Array S 112.28 45 *e*PKiKP **PKiKP** 22 05 10.5 -0.6
GERES GERESS Array B 112.28 45 PKiKP **PKiKP** 22 05 10.5 -0.6
comp=Z,0.6nm,0.7s,baz=174,slow=2.4,SNR=4.8
ILAR Eielson Array 114.11 333 PP PP 22 06 12.3 +2.9
comp=Z,0.2nm,0.4s,baz=120,slow=8.6,SNR=4.1
ILB Eielson Array 114.11 333 *e*PP PP 22 06 12.3 +2.9
VYHS Vyhne 115.22 47 *e*PKP **PKPdf** 22 05 17.0 +0.4
AS12 Alice Springs 117.49 207 *e*PKPdf **PKPdf** 22 05 21.2 -0.8
ASAR Alice Springs 117.49 207 PKPdf **PKPdf** 22 05 21.2 -0.8
comp=Z,0.7nm,0.8s,baz=126,slow=1.7,SNR=4.6
WRA Warramunga Arr 120.68 209 PKP **PKPdf** 22 05 27.0 -1.1
comp=Z,3.6nm,1.1s,baz=156,slow=1.8,SNR=11
BR101 Keskin Array S 121.99 61 *e*PKPdf **PKPdf** 22 05 30.1 -0.1
BRTR Keskin Array B 121.99 61 PKP **PKPdf** 22 05 30.1 -0.1
comp=Z,1.9nm,0.8s,baz=194,slow=3.2,SNR=11
AKASG Malin Array Be 122.32 48 PKP **PKPdf** 22 05 28.9 -1.2
comp=Z,1.1nm,0.5s,baz=262,slow=3.1,SNR=13
AKBB Malin Array Si 122.32 48 *e*PKPdf **PKPdf** 22 05 28.9 -1.2
FIA0 FINESS Array S 123.08 35 *e*PKPdf **PKPdf** 22 05 31.3 0.0
FINES FINESS Array B 123.08 35 PKP **PKPdf** 22 05 31.3 0.0
comp=Z,2.1nm,0.9s,baz=159,slow=1.2,SNR=3.4
ARA0 ARCESS Array S 124.08 25 *e*PKPdf **PKPdf** 22 05 32.3 -0.7
ARCES ARCESS Array B 124.08 25 PKP **PKPdf** 22 05 32.3 -0.7
comp=Z,1.4nm,0.7s,baz=350,slow=4.9,SNR=4.4
GNI Garni 130.28 64 *e*PKPpre PKPpre 22 05 38.4
ARU Arti 139.85 41 *e*PKPdf **PKPdf** 22 06 03.0 -0.1
SEY Seymchan 139.94 330 PKP **PKPdf** 22 06 01.4 -1.6
comp=Z,4.1nm,0.9s,baz=141,slow=4.0,SNR=7.9
GEYT Alibeck 140.01 70 PKP **PKPdf** 22 06 04.5 +0.4
comp=Z,0.7nm,0.3s,baz=255,slow=3.9
ABKAR Akbulak array 141.82 52 *e*PKPpre PKPpre 22 06 00.5
GSI Gunungsitoli 146.12 162 *e*PKPdf **PKPbc** 22 06 16.6 +0.2
URV Uravakonda 146.58 117 *e*PKPdf **PKPdf** 22 06 12.5 -3.7
URV *e*PKPbc **PKPbc** 22 06 14.1 -3.6
BRVK Borovoye 147.32 43 *e*PKPdf **PKPdf** 22 06 17.2 +0.9
BVAR Borovoye Array 147.40 43 PKPbc **PKPdf** 22 06 17.3 +0.9
comp=Z,8.5nm,0.8s,baz=276,slow=2.8,SNR=33
KSM Kuching 147.56 185 *e*PKPdf **PKPdf** 22 06 16.9 -1.0
SKHT Srikalahasti 147.56 122 *e*PKPab **PKPbc** 22 06 19.9 -0.5
MYKOM Kota Tinggi 147.76 173 *e*PKPdf **PKPdf** 22 06 19.4 +1.1
PSI Prapat 147.89 163 *e*PKPbc **PKPbc** 22 06 20.1 -1.5
KLRI Killari 147.99 112 *e*PKiKP **PKPbc** 22 06 20.9 -0.8
RCLA Racherla 148.16 118 *e*PKiKP **PKPbc** 22 06 21.8 -0.3
SBUM Sibu 148.34 189 *e*PKPdf **PKPdf** 22 06 17.6 -1.7
SRLM Srisailam 148.53 117 *e*PKiKP **PKPbc** 22 06 22.5 -0.5
YAK Yakutsk 148.66 340 *e*PKPbc **PKPbc** 22 06 21.4 -0.5
HYB Hyderabad 149.10 115 *i* PKP **PKPbc** 22 06 24.0 -0.5
HYBB Hyderabad (bro 149.10 115 *e*PKiKP **PKPbc** 22 06 23.5 -1.0
NJS Nagarjunasagar 149.12 117 *e*PKiKP **PKPbc** 22 06 24.2 -0.3
ADKI Addanki 149.15 119 *e*PKiKP **PKPbc** 22 06 24.4 -0.1
MYLDM Lahad Datu 149.64 202 *e*PKPbc **PKPbc** 22 06 26.3 +0.4
KKAR Karatay Array 149.70 61 *e*PKPbc **PKPbc** 22 06 24.8 -0.5
IPM Ipoh 149.98 167 *e*PKPbc **PKPbc** 22 06 26.1 -0.6
YSS Yuzh-Sakhalins 150.65 307 *e*PKPbc **PKPbc** 22 06 26.3 -1.0
KULM Kulim 150.69 165 *e*PKPbc **PKPbc** 22 06 26.9 -1.5
PVM Polavaram 151.26 119 *e*PKPbc **PKPdf** 22 06 25.9 +2.2
ASAJ Asahikawa 151.30 301 *e*PKPbc **PKPbc** 22 06 28.2 -0.7
EKS2 Erkin-Say 152.13 62 *e*PKPbc **PKPbc** 22 06 31.0 -0.1
AAK Ala-Archa 152.66 62 *e*PKPbc **PKPbc** 22 06 32.9 +0.5
KURK Kurchatov 153.00 43 *e*PKPdf **PKPdf** 22 06 24.9 -0.3
KURK *e*PKPbc **PKiKP** 22 06 32.7 0.0
TKM2 Tokmak 2 153.42 61 *e*PKPdf **PKPdf** 22 06 25.0 -1.5
TKM2 *e*PKPbc **PKPbc** 22 06 34.0 0.0
KSH Kashi 154.03 68 PKPbc **PKPbc** 22 06 35.8 +0.4
KSH PKS **PKSdf** 22 10 03.0 +1.4
KSH PP PP 22 10 43.3 +19
KSH SKS **SKSdf** 22 13 35.3 +2.7
ZAA1 Zalesovo Array 154.31 32 *e*PKPdf **PKPdf** 22 06 27.1 +0.1
ZAA1 *e*PKPbc **PKiKP** 22 06 35.8 +0.5
ZALV Zalesovo Beam 154.31 32 PKP **PKPdf** 22 06 27.1 +0.1
comp=Z,1.7nm,0.7s,baz=283,slow=2.3,SNR=14
ZALV PKPbc **PKiKP** 22 06 35.8 +0.4
comp=Z,8.9nm,0.7s,baz=301,slow=3.1,SNR=29
MJAR Matsushiro Arr 155.05 285 PKPbc PKPdf 22 06 36.7 +8.1
comp=Z,1.2nm,0.8s,baz=202,slow=1.4,SNR=6.6
MAJO Matsushiro 155.05 285 *e*PKPbc PKPdf 22 06 36.7 +8.0
MK32 Makanchi Array 156.89 49 *e*PKPdf **PKPdf** 22 06 31.0 +0.2
MK32 *e*PKPab **PKPab** 22 07 01.1 +0.3
MKAR Makanchi Array 156.89 49 PKP **PKPdf** 22 06 31.0 +0.2
comp=Z,1.4nm,0.9s,baz=336,slow=0.5,SNR=9.5
MKAR PKPab **PKPab** 22 07 01.1 +0.3
comp=Z,2.1nm,0.7s,baz=284,slow=2.3,SNR=11
MKAR Makanchi Array 156.89 49 *e*PKPdf **PKPdf** 22 06 29.7 -1.1
MKAR *e*PKPab **PKPab** 22 07 00.7 -0.2
USRK Ussuriysk Ar. 158.67 306 PKPab **PKPab** 22 07 08.7 +0.1
comp=Z,1.1nm,0.8s,baz=18,slow=0.6,SNR=5.7
MDJ Mudanjiang 160.10 309 PKP **PKPdf** 22 06 35.3 +0.7
MDJ PPMZ
comp=Z,22nm,3.0s
WMQ Urumqi 161.61 52 PKP **PKPdf** 22 06 36.8 +0.4
WMQ LN
comp=Z,280nm,18.9s
WMQ LE
comp=Z,270nm,16.7s
WMQ LZ
comp=Z,150nm,22.7s
CM31 Chiang Mai Arr 162.64 151 *e*PKPdf **PKPdf** 22 06 38.4 +0.3
CMAR Chiang Mai Arr 162.64 151 PKP **PKPdf** 22 06 38.4 +0.3
comp=Z,2.4nm,1.0s,baz=239,slow=2.3,SNR=12
KSRS Korea Array 163.26 288 PKP **PKPdf** 22 06 37.3 -0.8
comp=Z,0.9nm,0.9s,baz=153,slow=0.6,SNR=9.3
KSRS PKPab **PKPab** 22 07 29.8 +1.0
comp=Z,1.7nm,0.9s,baz=101,slow=3.9,SNR=7.6
KS15 Wonju Array Si 163.29 288 *e*PKPdf **PKPdf** 22 06 37.3 -0.9
KS15 *e*PKPab **PKPab** 22 07 29.8 +0.8
KSAR Wonju Array Be 163.29 288 PKP **PKPdf** 22 06 37.3 -0.9
LSA Lhasa 165.26 102 PKP **PKPdf** 22 06 40.3 -0.5
LSA Lhasa 165.26 102 *e*PKPdf **PKPdf** 22 06 39.4 -1.4
LSA *e*PKPab **PKPab** 22 07 37.0 -1.5
ULN Ulaanbaatar 166.13 2 *e*PKPdf **PKPdf** 22 06 39.4 -1.1
ULN *e*PKPab **PKPab** 22 07 41.1 -0.1
SONA0 Songino Array 166.13 4 *e*PKPab **PKPab** 22 07 41.7 +0.6
SONM Songino Array 166.13 4 PKPab **PKPab** 22 07 41.7 +0.6
comp=Z,1.8nm,0.8s,baz=314,slow=2.1,SNR=6.7
KMI Kunming 170.15 152 PKP **PKPdf** 22 06 42.1 -2.0
KMI PPMZ
comp=Z,75nm,3.5s
NJ2 Nanjing 170.47 261 *e*PKP **PKPdf** 22 06 45.1 +1.4
GTA Gaotai 171.65 47 *e*PKP **PKPdf** 22 06 45.3 +1.0
GTA pPKP **pPKPdf** 22 06 53.9 +1.3
GTA sPKP 22 06 58.5
TIA Tai'an 172.00 289 PKP **PKPdf** 22 06 44.8 +0.4
GYA Guiyang 172.43 173 *e*PKP **PKPdf** 22 06 44.0 -1.0
GYA PKPab **PKPab** 22 08 11.3 +1.8
GYA PKS **PKSdf** 22 10 14.8 -2.7
GYA PP **PP** 22 12 03.8 +4.0
GYA PPMZ
comp=Z,130nm,8.2s
HHC Hu-ho-hao-te 172.51 337 *e*PKP **PKPdf** 22 06 42.3 -2.3
HHC pPKP **pPKPdf** 22 06 50.9 -2.0
HHC sPKP 22 06 58.6
HHC PPMZ
comp=Z,90nm,8.0s
HHC LN
comp=Z,140nm,18.5s
HHC LE
comp=Z,140nm,17.3s
HHC LZ
comp=Z,92nm,18.5s
CD2 Chengdu 175.44 131 PKP **PKPdf** 22 06 45.8 -0.1
CD2 pPKP **pPKPdf** 22 06 51.3 -2.9
CD2 sPKP 22 06 53.3
CD2 PP **PP** 22 12 15.4 +0.1
CD2 SKKS 22 19 00.8
CD2 PPMZ
comp=Z,130nm,11.4s
CD2 LN
comp=Z,230nm,8.9s
CD2 LZ
comp=Z,220nm,14.4s
LZH Lanzhou 176.18 56 *e*PKP **PKPdf** 22 06 45.8 -0.2
LZH pPKP **pPKPdf** 22 06 51.0 -3.4
LZH sPKP 22 06 52.8
LZH PP **PP** 22 12 21.0 +1.8
LZH SKKS 22 19 04.3
LZH *e*SS **SS** 22 33 44.5 -2.8
LZH PPMZ
comp=Z,150nm,7.0s
LZH LN
comp=Z,280nm,18.5s
LZH LE
comp=Z,200nm,18.0s
LZH LZ
comp=Z,300nm,20.1s
XAN Xi'an 179.02 273 PKP **PKPdf** 22 06 46.1 -0.2

*IDC **24** 21:47:41.4±11.0, 51.°55N×176.°51E, h0km, mb3.6/3, mb1 4.1/3, mb1mx3.3/44, mbtmp3.7/3, Error ellipse: s-maj=215.8km s-min=74.7km az=82.0*
*ISCJB **24** 21:48:03.6±0.6, 52.°0N±0.°1×178.°04E±0.°09, h150km, mb3.5/3, Error ellipse: s-maj=21.4km s-min=6.8km az=12.0*
*NEIC **24** 21:48:05.6, 51.°98N×178.°05E, h147km, MG3.0(AEIC), After AEIC.*
ISC 24 21:48:04.7±1.2, 52.°0N±0.°2×178.°05E±0.°06, h150km, n20, σ1§03/21, mb3.3/3, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.29**	**89**	P		P	**Pn**	**21 48 25.1**	**-0.2**
LSNW	**Little Sitkin**	**0.29**	**85**	P		P	**Pn**	**21 48 25.0**	**-0.2**
LSPA	**Little Sitkin**	**0.33**	**88**	P		P	**Pn**	**21 48 25.1**	**-0.2**
LSPA				S		S	**Sn**	**21 48 40.1**	**-0.9**
CESW	**Semis' Southwe**	**0.94**	**92**	P		P	**Pn**	**21 48 28.5**	**-0.4**
CEAP	**Semis' Anvil P**	**0.95**	**86**	P		P	**Pn**	**21 48 28.9**	**-0.1**
AMKA	**Amchitka**	**0.97**	**126**	P		P	**Pn**	**21 48 29.2**	**0.0**
AMKA				S		S	**Sn**	**21 48 46.3**	**-1.4**
CERAA	**Semis' Rag'd T**	**1.01**	**92**	P		P	**Pn**	**21 48 29.3**	**-0.3**
TANO	**Tanaga North**	**2.37**	**89**	P		P	**Pn**	**21 48 44.3**	**+0.1**
TAFP	**Tanaga Falls P**	**2.46**	**90**	P		P	**Pn**	**21 48 44.7**	**-0.6**
TAFP				S		S	**Sn**	**21 49 14.3**	**-2.2**
SMY	**Shemya**	**2.54**	**290**	P		P	**Pn**	**21 48 45.6**	**-0.7**
SMY				S		S	**Sn**	**21 49 16.8**	**-1.6**
TAPA	**Tanaga Point A**	**2.57**	**91**	P		P	**Pn**	**21 48 46.3**	**-0.4**
KIKV	**Kanaga Island**	**2.96**	**89**	P		P	**Pn**	**21 48 51.0**	**-0.5**
GSTR	**Great Sitkin T**	**3.65**	**85**	P		P	**Pn**	**21 48 60.0**	**-0.3**
GSMY	**Great Sitkin M**	**3.65**	**86**	P		P	**Pn**	**21 48 58.9**	**-1.4**
ILAR	**Eielson Array**	**22.07**	**41**	P		P	**P**	**21 52 46.6**	**-0.5**
	0.5nm,0.4s,baz=245,slow=8.6,SNR=11								
H11N2	**WAKE ISLAND Hy**	**33.32**	**199**	T		T		22 29 59.1	
	baz=11,slow=76,SNR=7.7								
H11N3	**WAKE ISLAND Hy**	**33.33**	**199**	T		T		22 29 54.2	
	baz=11,slow=76,SNR=6.2								
H11N1	**WAKE ISLAND Hy**	**33.33**	**199**	T		T		22 29 54.4	
	baz=11,slow=76,SNR=6.9								
YKA	**Yellowknife Ar**	**36.26**	**46**	P		P	**P**	**21 54 54.5**	**+1.5**
	2.1nm,0.8s,baz=286,slow=7.5,SNR=4.1								
NVAR	**Mina Array Bea**	**45.42**	**81**	P		P	**P**	**21 56 09.9**	**+1.5**
	0.5nm,0.6s,baz=306,slow=7.7,SNR=5.6								

*NEIC **24** 21:55:06.7±0.5, 28.°78S×67.°33W, h114km±5km, mb4.8/10, Error ellipse: s-maj=8.5km s-min=5.5km az=102.0*
*ISCJB **24** 21:55:07.1±0.3, 28.°80S±0.°02×67.°38W±0.°04, h135km±3km, mb4.3/15, Error ellipse: s-maj=6.3km s-min=3.7km az=20.6*
*SJA **24** 21:55:07.5±1.1, 28.°81S×67.°40W, h133km±4km, ML4.3, MW4.6*
*IDC **24** 21:55:08.6±0.6, 28.°74S×67.°25W, h129km±5km, mb4.0/9, mb1 4.0/14, mb1mx3.8/33, mbtmp4.4/14, Error ellipse: s-maj=18.0km s-min=12.2km az=94.0*
ISC 24 21:55:08.1±0.5, 28.°75S±0.°03×67.°37W±0.°04, h129km±5km, n65, σ1§03/88, mb4.6/15, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.74**	**272**	*e*P		P	**Pn**	**21 55 29.9**	**+1.1**
VCA				*e*S		S	**Sn**	**21 55 45.0**	**+0.6**
ACLC	**CERRO LA CRUZ**	**0.75**	**151**	*e*P		P	**Pn**	**21 55 29.8**	**+0.8**
CYA	**Choya**	**1.41**	**77**	*e*P		P	**Pn**	**21 55 36.5**	**+1.4**
CYA				*e*S		S	**Sn**	**21 55 56.7**	**+0.9**
APLL	**PUNTA DE LOS L**	**1.78**	**156**	*e*P		P	**Pn**	**21 55 39.9**	**+0.4**
APLL				*e*S		S	**Sn**	**21 56 02.7**	**-0.7**
AVFE	**Valle Fertil**	**1.89**	**182**	*e*P		P	**Pn**	**21 55 40.9**	**+0.2**
AVFE				*e*S		S	**Sn**	**21 56 05.4**	**-0.3**
AVFE				AML		AML		21 56 07.7	
	comp=Z,2μm,0.5s								
AMOG	**MOGNA**	**2.38**	**204**	*e*P		P	**Pn**	**21 55 46.8**	**0.0**
AMOG				*e*S		S	**Sn**	**21 56 17.1**	**+0.6**
ACHE	**Chepes**	**2.47**	**166**	*e*P		P	**Pn**	**21 55 48.4**	**+0.4**
AHML	**Horco Molle**	**2.67**	**43**	*e*P		P	**Pn**	**21 55 51.2**	**+0.7**
AHML				*e*S		S	**Sn**	**21 56 21.5**	**-1.6**
RTLL	**Cerro Villicun**	**2.73**	**200**	*e*P		P	**Pn**	**21 55 51.2**	**0.0**
RTLL				*e*S		S	**Sn**	**21 56 22.6**	**-1.9**
FSA	**Cafayete**	**2.92**	**25**	*e*P		P	**Pn**	**21 55 55.8**	**+1.9**
FSA				*e*S		S	**Sn**	**21 56 30.2**	**+1.1**
CFAA	**Coronel Fontan**	**2.93**	**195**	P		P	**Pn**	**21 55 53.7**	**-0.1**
	comp=Z,6.3nm,0.3s,baz=338,slow=4.7,SNR=1258								
CFAA				S		S	**Sn**	**21 56 27.4**	**-1.6**
	comp=Z,54nm,0.3s,baz=130,slow=20,SNR=40								
CFAA	**Coronel Fontan**	**2.93**	**195**	*e*P		P	**Pn**	**21 55 53.7**	**-0.1**
CFAA				*e*S		S	**Sn**	**21 56 27.9**	**-1.2**
LCO	**Las Campanas**	**2.93**	**264**	*e*Pn		Pn	**Pn**	**21 55 54.4**	**+0.3**
LCO				*e*Sn		Sn	**Sn**	**21 56 28.4**	**-1.0**
LCO	**Las Campanas**	**2.93**	**264**	*e*P		P	**Pn**	**21 55 54.3**	**+0.3**
LCO				*e*S		S	**Sn**	**21 56 28.2**	**-1.3**
SJA	**San Juan**	**2.94**	**200**	*e*P		P	**Pn**	**21 55 54.3**	**+0.4**
SJA				*e*S		S	**Sn**	**21 56 29.1**	**-0.2**
RTCV	**Cerro Valdivia**	**3.25**	**198**	*e*P		P	**Pn**	**21 55 57.8**	**-0.1**
RTCV				*e*S		S	**Sn**	**21 56 34.6**	**-1.9**
RTLS	**Leoncito**	**3.45**	**208**	*e*P		P	**Pn**	**21 56 00.9**	**0.0**
ACAN	**Cantantal**	**3.50**	**178**	*e*P		P	**Pn**	**21 56 01.5**	**+0.2**
ACAN				*e*S		S	**Sn**	**21 56 41.0**	**-1.4**
AUSP	**Uspallata**	**3.86**	**206**	*e*P		P	**Pn**	**21 56 06.7**	**+0.4**
AUSP				*e*S		S	**Sn**	**21 56 50.0**	**-1.3**
MRA	**San Martin**	**3.91**	**159**	*e*P		P	**Pn**	**21 56 06.7**	**0.0**
MRA				*e*S		S	**Sn**	**21 56 50.4**	**-1.7**
ASAL	**Salagasta**	**4.02**	**198**	*e*P		P	**Pn**	**21 56 08.1**	**0.0**
ASAL				*e*S		S	**Sn**	**21 56 53.9**	**-0.8**
ARCO	**CERRO ARCO**	**4.28**	**198**	*e*P		P	**Pn**	**21 56 11.3**	**-0.4**
AAGR	**Agrelo**	**4.49**	**196**	*e*P		P	**Pn**	**21 56 13.9**	**-0.5**
U73B	**San Pedro**	**6.20**	**213**	*e*Pn		Pn	**Pn**	**21 56 33.5**	**-3.7**
U73B				*e*Sn		Sn	**Sn**	**21 57 37.9**	**-8.9**
LVC	**Limon Verde**	**6.28**	**347**	P		P	**Pn**	**21 56 39.2**	**+0.5**
	comp=Z,343nm,0.3s,baz=192,slow=7.4,SNR=33								
LVC				S		S	**Sn**	**21 57 46.0**	**-3.4**
	comp=Z,375nm,0.3s,baz=13,slow=21,SNR=13								
LVC	**Limon Verde**	**6.28**	**347**	*e*Pn		Pn	**Pn**	**21 56 38.2**	**-0.5**
LVC				*e*Sn		Sn	**Sn**	**21 57 46.1**	**-3.2**
U65B	**HualaæØ**	**7.23**	**210**	*e*Pn		Pn		21 56 47.4	-3.8
U65B				*e*Sn		Sn		21 58 04.8	-7.0
CPUP	**Villa Florida**	**9.23**	**77**	P		P	**Pn**	**21 57 16.9**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=258,slow=13,SNR=5.8								
U14B	**Concepcin**	**9.39**	**209**	*e*Pn		Pn	**Pn**	**21 57 18.5**	**-1.7**
U14B				*e*Sn		Sn		21 58 50.8	-13

TRQA Tornquist 10.30 156 *e*Pn **Pn** 21 57 31.6 -0.8
LPAZ La Paz 12.44 357 P **Pn** 21 58 00.7 -0.7
comp=Z,0.6nm,0.3s,baz=146,slow=2.8,SNR=17
LPAZ La Paz 12.44 357 *e*Pn **Pn** 21 58 00.6 -0.8
SIV San Ignacio 13.98 26 *e*Pn **Pn** 21 58 18.5 -2.2
comp=Z,0.5nm,0.3s,baz=222,slow=17,SNR=7.6
SIV San Ignacio 13.98 26 *e*Pn **Pn** 21 58 18.5 -2.2
SAML Samuel 20.10 12 *e*P **P** 21 59 31.9 +0.1
comp=Z,29nm,0.8s
BDFB Brasilia 22.13 58 P **P** 21 59 51.6 -1.9
comp=Z,5.2nm,0.4s,baz=212,slow=8.4,SNR=11
BDFB Brasilia 22.13 58 *e*P **P** 21 59 52.3 -1.2
EFI East Falkland 23.92 166 *e*P **P** 22 00 09.8 -0.1
comp=Z,202nm,1.8s
PTGA Pitinga 28.76 16 P **P** 22 00 53.8 +0.1
comp=Z,7.7nm,0.3s,baz=202,slow=16,SNR=22
PTGA Pitinga 28.76 16 *e*P **P** 22 00 53.6 -0.1
comp=Z,12nm,0.8s
RPN Rapa Nui 36.97 262 *e*P **P** 22 02 05.7 +0.7
RCBR Riachuelo 37.50 59 *e*P P 22 02 05.7 -4.0
comp=Z,42nm,1.4s
CELP Cerrillos 46.57 1 *e*P **P** 22 03 22.3 -0.7
TEIG Tepich 52.73 335 P **P** 22 04 09.9 +0.2
comp=Z,0.2nm,0.5s,baz=232,slow=19,SNR=3.6
TEIG Tepich 52.73 335 *e*P **P** 22 04 09.9 +0.2
comp=Z,0.9nm,1.4s
SNAA Sanae 55.00 160 P **P** 22 04 26.2 +0.5
comp=Z,1.7nm,0.6s,baz=290,slow=8.2,SNR=16
SNAA Sanae 55.00 160 *e*P **P** 22 04 26.1 +0.5
comp=Z,3.8nm,1.2s
QSPA South Pole Qui 61.46 180 *e*P **P** 22 05 11.2 +0.4
comp=Z,20nm,1.1s
WVT Waverly 67.36 342 *e*P **P** 22 05 49.0 -0.3
comp=Z,8.0nm,0.7s
PBMO Poplar Bluff 68.71 340 *e*P **P** 22 05 58.1 +0.4
comp=Z,9.0nm,0.6s
DBIC Dimbokro 69.68 70 P **P** 22 06 04.2 0.0
comp=Z,3.1nm,0.7s,baz=202,slow=7.6,SNR=11
DBIC Dimbokro 69.68 70 *e*P **P** 22 06 04.2 0.0
comp=Z,30nm,1.5s
VNDA Vanda 69.97 190 P **P** 22 06 05.9 +0.9
comp=Z,0.9nm,0.7s,baz=140,slow=5.4,SNR=4.4
MAW Mawson 77.00 163 P **P** 22 06 46.9 +0.6
comp=Z,3.1nm,0.8s,baz=261,slow=7.9,SNR=5.3
MAW Mawson 77.00 163 *e*P **P** 22 06 46.9 +0.6
comp=Z,9.3nm,2.4s
TOA0 Torodi Ar. Sit 78.61 68 *e*P **P** 22 06 56.5 +0.5
TORD Torodi Ar. Bea 78.61 68 P **P** 22 06 56.5 +0.5
comp=Z,6.7nm,0.6s,baz=275,slow=5.9,SNR=103
TORD pP **pP** 22 07 28.2 -0.1
comp=Z,0.6nm,0.6s,baz=259,slow=5.6,SNR=1.3
BOSA Boshof 78.89 116 P **P** 22 06 57.9 +0.3
comp=Z,3.3nm,0.5s,baz=257,slow=4.0,SNR=11
PD31 Pinedale Array 81.08 330 *e*P **P** 22 07 09.9 +0.9
PDAR Pinedale Array 81.08 330 P **P** 22 07 09.9 +0.9
comp=Z,0.3nm,0.6s,baz=106,slow=4.8,SNR=3.3
PDAR pP **pP** 22 07 42.9 +1.4
comp=Z,0.5nm,0.6s,baz=116,slow=6.2,SNR=3.8
ASAR Alice Springs 123.99 204 PKP **PKPdf** 22 13 51.0 -0.8
comp=Z,1.2nm,0.4s,baz=134,slow=1.7,SNR=24
WRA Warramunga Arr 127.23 206 PKP **PKPdf** 22 13 57.5 -0.5
comp=Z,3.3nm,0.6s,baz=160,slow=1.8,SNR=50
WRA pPKP **pPKPdf** 22 14 33.5 +1.0
comp=Z,0.4nm,0.5s,baz=159,slow=1.9,SNR=1.9
KAPI Kappang 145.72 193 PKPbc **PKPab** 22 14 33.2 +0.1
comp=Z,5.3nm,0.6s,baz=253,slow=1.9,SNR=4.5
ZALV Zalesovo Beam 147.69 31 PKPbc **PKPbc** 22 14 38.0 +0.9
comp=Z,1.6nm,0.4s,baz=296,slow=4.6,SNR=9.3
ZALV pPKPbc **pPKPbc** 22 15 10.8 -0.6
comp=Z,1.8nm,0.5s,baz=300,slow=3.3,SNR=4.6
MKAR Makanchi Array 150.28 44 PKPbc **PKPbc** 22 14 43.9 0.0
comp=Z,0.5nm,0.6s,baz=278,slow=2.4,SNR=5.5
MKAR PKPab **PKPab** 22 14 51.0 +0.4
comp=Z,1.4nm,0.6s,baz=334,slow=2.7,SNR=7.9
MKAR pPKPbc **pPKPbc** 22 15 18.4 +0.2
comp=Z,1.4nm,1.0s,baz=282,slow=2.2,SNR=2.7

*ISCJB **24** 22:11:46.6±1.4, 52.°7N±0.°1×169.°7W±0.°1, h9km±8km, mb3.5/2, MS4.0/4, Error ellipse: s-maj=22.1km s-min=8.1km az=153.5*
*IDC **24** 22:11:46.2±26.0, 52.°21N×169.°45W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.3/43, mbtmp3.3/3, ML3.1/1, MS3.9/4, Ms1 3.9/4, ms1mx3.2/28, Error ellipse: s-maj=485.5km s-min=51.3km az=86.0*
*NEIC **24** 22:11:48.2, 52.°70N×169.°55W, h5km, ML3.1(AEIC), After AEIC.*
ISC 24 22:11:47.7±1.9, 52.°8N±0.°1×169.°66W±0.°07, h8km±11km, n26, σ1§02/21, MS4.3/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.53**	**67**	P		P	**Pg**	**22 11 58.2**	**+0.2**
NIKH				S		S	**Sb**	**22 12 07.6**	**+0.4**
OKWR	**Okmok West Rim**	**1.10**	**52**	P		P	**Pg**	**22 12 09.5**	**+0.6**
OKCE	**Okmok Cone E**	**1.12**	**53**	P		P	**Pg**	**22 12 09.1**	**-0.1**
OKAK	**Okmok**	**1.13**	**43**	P		P	**Pb**	**22 12 07.5**	**-2.0**
OKAK				S		S	**Sg**	**22 12 22.6**	**-1.6**
OKTU	**Okmok Mt. Tuli**	**1.16**	**57**	P		P	**Pb**	**22 12 10.5**	**+0.5**
OKRE	**Okmok R'deer P**	**1.18**	**49**	P		P	**Pn**	**22 12 10.8**	**+0.3**
OKFG	**Magazine Ridge**	**1.24**	**58**	P		P	**Pn**	**22 12 10.6**	**-0.7**
OKFG				S		S	**Sg**	**22 12 29.1**	**+1.6**
MSOM	**Makushin Julie**	**1.94**	**56**	P		P	**Pn**	**22 12 21.2**	**+0.2**
MSOM				S		S	**Sb**	**22 12 48.4**	**+0.8**
MSW	**Makushin Switc**	**2.08**	**55**	P		P	**Pn**	**22 12 23.3**	**+0.4**
MTBL	**Makushin Table**	**2.16**	**55**	P		P	**Pn**	**22 12 24.8**	**+0.7**
UNV	**Unalaska Valle**	**2.18**	**59**	P		P	**Pn**	**22 12 24.5**	**+0.2**
UNV				S		S	**Sn**	**22 12 53.1**	**+1.6**
ATKA	**Atka Island**	**2.83**	**260**	P		P	**Pn**	**22 12 34.0**	**+0.8**
SPIA	**Saint Paul Isl**	**4.43**	**356**	P		P	**Pn**	**22 12 55.9**	**+0.7**
ILAR	**Eielson Array**	**16.73**	**35**	Pn		P	**P**	**22 15 44.9**	**+0.5**
	0.0nm,0.3s,baz=236,slow=10,SNR=3.2								
H11N2	**WAKE ISLAND Hy**	**37.66**	**218**	T		T		22 58 54.

0.5nm,0.4s,baz=111,slow=3.7,SNR=5.4
ZALV Zalesovo Beam 56.80 333 P **P** **22 21 43.6 -0.2**
0.3nm,0.3s,baz=156,slow=7.9,SNR=3.2
BRTR Keskin Array B 86.11 309 P **P** **22 24 33.3 -1.2**
0.4nm,0.5s,baz=47,slow=6.3,SNR=3.3
VNDA Vanda 86.65 172 P **P** **22 24 36.1 +0.2**
0.3nm,0.5s,baz=329,slow=5.9,SNR=4.4
ARCES ARCESS Array B 86.80 340 P **P** **22 24 36.9 0.0**
2.5nm,0.9s,baz=55,slow=4.7,SNR=3.1
FINES FINESS Array B 88.01 332 P **P** **22 24 42.4 -0.3**
5.3nm,1.0s,baz=64,slow=3.2,SNR=4.5
TORD Torodi Ar. Bea 119.46 289 PKP **PKPdf** **22 30 38.6 -0.4**
0.2nm,0.3s,baz=57,slow=1.7,SNR=6.8

IDC 24 22:19:04.7±2.8, 7.31N×124.24E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/33, mbtmp3.6/3, Error ellipse: s-maj=295.4km s-min=25.3km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.85**	**160**	P	P	22 25 05.0	-0.1
	0.3nm,0.4s,baz=340,slow=8.7,SNR=9.0						
ASAR	**Alice Springs**	**32.20**	**163**	P	P	22 25 34.8	0.0
	0.5nm,0.3s,baz=338,slow=7.7,SNR=17						
MKAR	**Makanchi Array**	**53.22**	**325**	P	P	22 28 24.9	-0.1
	0.2nm,0.5s,baz=122,slow=7.0,SNR=3.1						

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*ISCJB **24** 22:57:35.9±0.7, 26.97N±0.06×53.46E±0.06, h10km, mb3.6/10, Error ellipse: s-maj=9.3km s-min=8.0km az=31.0*
*THR **24** 22:57:36.5±0.3, 26.94N×53.54E, h15km, ML3.5*
*IDC **24** 22:57:36.9±2.2, 27.10N×53.49E, h0km, mb3.7/11, mb1 3.8/13, mb1mx3.6/47, mbtmp3.7/13, ML3.7/2, Error ellipse: s-maj=48.6km s-min=17.7km az=167.0*
*CSEM **24** 22:57:38.5±1.4, 26.93N×53.50E, h20km, ML3.6, Error ellipse: s-maj=38.1km s-min=11.9km az=27.0*
*TEH **24** 22:57:40.5, 27.07N×53.59E, h15km, ML3.6*
ISC 24 22:57:37.7±0.9, 27.03N±0.08×53.53E±0.06, h10km, n32, σ1s15/34, mb3.8/10, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.35**	**339**	*e*Pg	**Pn**	**22 58 02.9**	**+0.2**
GHIR				*e*Sg	**Sg**	**22 58 22.1**	**+0.9**
GHIR				AML	AML	22 58 24.8	
	comp=N,1μm,0.1s						
GHIR				AML	AML	22 58 27.9	
	comp=E,2μm,0.8s						
GHIR	**Ghir-Karzin**	**1.35**	**339**	*e*Pg	**Pn**	**22 58 02.9**	**+0.2**
GHIR				*e*Sg	**Sg**	**22 58 22.0**	**+0.9**
	comp=E,2μm,0.8s						
BNDS	**Bandar-Abbas**	**2.38**	**80**	*e*Pn	**Pn**	**22 58 17.2**	**+0.3**
BNDS				AML	AML	22 59 26.2	
	comp=N,107nm,0.5s						
BNDS	**Bandar-Abbas**	**2.38**	**80**	*e*Pn	**Pn**	**22 58 17.2**	**+0.3**
	comp=N,107nm,0.5s						
IKAZ	**Kazeroun**	**3.12**	**332**	*e*Pn	**Pn**	**22 58 28.6**	**+1.3**
IKAZ				*e*		22 59 42.5	
	comp=Z,6μm,0.5s						
IKAZ	**Kazeroun**	**3.12**	**332**	*e*Pn	**Pn**	**22 58 28.6**	**+1.3**
KRBR	**Kerman**	**4.09**	**43**	*e*Pn	**Pn**	**22 58 41.8**	**+1.2**
KRBR				AML	AML	23 00 00.4	
	comp=E,36nm,0.6s						
KRBR	**Kerman**	**4.09**	**43**	*e*Pn	**Pn**	**22 58 41.8**	**+1.2**
IMEH	**Mehriz**	**4.45**	**12**	*e*Pn	**Pn**	**22 58 46.8**	**+1.3**
IMEH				*e*		22 58 50.0	
	comp=Z,478nm,0.2s						
IMEH				*e*Sn	**Sn**	**22 59 34.6**	**-2.9**
IMEH	**Mehriz**	**4.45**	**12**	*e*Pn	**Pn**	**22 58 46.8**	**+1.3**
ISAD	**Sadrabad**	**4.87**	**2**	*e*Pn	**Pn**	**22 58 53.0**	**+1.6**
ISAD				*e*		22 59 57.0	
	comp=Z,536nm,0.3s						
ISAD	**Sadrabad**	**4.87**	**2**	*e*Pn	**Pn**	**22 58 53.0**	**+1.6**
IBAF	**Bafgh**	**4.88**	**21**	*e*	Sb	22 59 55.5	-6.8
	comp=Z,205nm,0.2s						
ICHK	**Chekchek**	**5.26**	**8**	*e*Pn	**Pn**	**22 58 57.0**	**+0.4**
ICHK	**Chekchek**	**5.26**	**8**	*e*Pn	**Pn**	**22 58 57.0**	**+0.4**
IZEF	**Zefreh**	**5.94**	**350**	*e*Pn	**Pn**	**22 59 05.2**	**-0.8**
IZEF				*e*		22 59 55.7	
	comp=Z,133nm,0.4s						
IZEF	**Zefreh**	**5.94**	**350**	*e*Pn	**Pn**	**22 59 05.2**	**-0.8**
IPIR	**Pirpir**	**6.09**	**339**	*e*Pn	**Pn**	**22 59 09.2**	**+1.1**
IPIR	**Pirpir**	**6.09**	**339**	*e*Pn	**Pn**	**22 59 09.2**	**+1.1**
EIL	**Elat**	**16.57**	**283**	Pn	**Pn**	**23 01 29.4**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=36,slow=14,SNR=2.6						
MMAI	**Mount Meron Ar**	**16.79**	**295**	Pn	**Pn**	**23 01 31.1**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=130,slow=13,SNR=4.5						
BRTR	**Keskin Array B**	**20.84**	**312**	P	**P**	**23 02 20.1**	**+0.5**
	comp=Z,1.4nm,0.9s,baz=127,slow=10,SNR=9.2						
IDI	**Anoyia**	**25.79**	**296**	P	**P**	**23 03 09.4**	**+0.3**
	comp=Z,3.0nm,0.8s,baz=122,slow=9.5,SNR=2.6						
MLR	**Mutlelo Rosu**	**28.67**	**317**	P	**P**	**23 03 35.4**	**+0.6**
	comp=Z,0.2nm,0.8s,baz=170,slow=6.1,SNR=2.8						
BVAR	**Borovoye Array**	**28.85**	**21**	P	**P**	**23 03 37.8**	**+1.6**
	comp=Z,0.8nm,0.6s,baz=212,slow=7.8,SNR=3.6						
AKASG	**Malin Array Be**	**30.03**	**328**	P	**P**	**23 03 45.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=136,slow=7.8,SNR=4.1						
MKAR	**Makanchi Array**	**30.04**	**41**	P	**P**	**23 03 46.4**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=226,slow=10.0,SNR=6.0						
KURBB	**Kurchatov Arra**	**30.30**	**32**	P	**P**	**23 03 50.2**	**+1.1**
	comp=Z,0.8nm,1.1s,baz=238,slow=8.6,SNR=4.0						
ZALV	**Zalesovo Beam**	**35.40**	**32**	P	**P**	**23 04 32.8**	**-0.7**
	comp=Z,1.8nm,0.9s,baz=247,slow=10,SNR=7.0						
FINES	**FINESS Array B**	**39.04**	**339**	P	**P**	**23 05 03.6**	**-0.7**
	comp=Z,5.9nm,1.0s,baz=144,slow=12,SNR=2.9						
SONM	**Songino Array**	**45.83**	**48**	P	**P**	**23 06 00.5**	**+0.5**
	comp=Z,1.3nm,1.0s,baz=267,slow=7.2,SNR=4.2						
TORD	**Torodi Ar. Bea**	**50.28**	**265**	P	**P**	**23 06 35.2**	**+0.5**
	comp=Z,1.4nm,0.9s,baz=60,slow=6.9,SNR=6.5						

IDC 24 23:07:31.2±2.6, 5.89S×150.26E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/25, mbtmp3.8/4, ML2.1/1, Error ellipse: s-maj=80.8km s-min=38.3km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.66**	**221**	Pn	Pn	23 08 43.8	+0.9
	6.5nm,0.3s,baz=37,slow=10,SNR=12						
PMG				Sn	Sn	23 09 33.5	-4.2
	7.3nm,0.3s,baz=120,slow=14,SNR=7.6						
WRA	**Warramunga Arr**	**20.85**	**226**	P	P	23 12 14.6	-0.3
	3.4nm,0.6s,baz=51,slow=11,SNR=17						
ASAR	**Alice Springs**	**23.67**	**220**	P	P	23 12 43.9	-0.9
	0.5nm,0.6s,baz=53,slow=8.1,SNR=8.6						
STKA	**Stephens Creek**	**27.10**	**196**	P	P	23 13 15.7	-0.2
	1.1nm,0.7s,baz=28,slow=14,SNR=5.0						
TORD	**Torodi Ar. Bea**	**148.19**	**285**	PKPbc	PKPbc	23 27 20.2	-0.1
	0.4nm,0.3s,baz=91,slow=2.6,SNR=22						

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*IDC **24** 23:22:12.8±2.4, 24.47N×125.43E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/40, mbtmp3.7/5, Error ellipse: s-maj=179.7km s-min=21.3km az=66.0*
*ISCJB **24** 23:22:18.2±0.8, 24.38N±0.09×125.25E±0.05, h50km±7km, mb3.6/5, Error ellipse: s-maj=15.2km s-min=5.8km az=158.5*
*JMA **24** 23:22:18.4±0.2, 24.32N×125.22E, h32km, M3.1*
ISC 24 23:22:19.2±1.3, 24.4N±0.1×125.23E±0.06, h42km±12km, n18, σ0s71/26, mb3.6/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.39**	**25**	P	**Pn**	**23 22 28.3**	**-0.3**
JOGS				S	**Sn**	**23 22 36.0**	**+0.8**
JMJ	**Miyako jima 2**	**0.41**	**8**	P	**Pn**	**23 22 28.7**	**-0.2**
JMJ				S	**Sn**	**23 22 36.4**	**+0.7**
JIRB	**Irabujima**	**0.42**	**353**	P	**Pn**	**23 22 28.6**	**-0.4**
JIKM	**Ikemajima**	**0.51**	**2**	P	**Pn**	**23 22 30.0**	**-0.2**
JIKM				*e*S	**Sn**	**23 22 39.3**	**+1.3**
JTJ	**Tarama**	**0.53**	**296**	P	**Pn**	**23 22 29.7**	**-0.7**
JTJ				*e*S	**Sn**	**23 22 37.7**	**-0.7**
JISG	**Ishigakijimahi**	**0.85**	**282**	P	**Pn**	**23 22 34.2**	**-0.6**
JISG				*e*S	**Sn**	**23 22 46.0**	**-0.1**
JIJ	**Ishigaki jima**	**0.99**	**268**	P	**Pn**	**23 22 36.1**	**-0.5**
JIJ				*e*S	**Sn**	**23 22 50.0**	**+0.6**
JKRS	**Kuro-shima**	**1.12**	**262**	P	**Pn**	**23 22 39.4**	**+0.9**
HATJ	**Hateruma jima**	**1.34**	**255**	*e*S	**Sn**	**23 22 57.6**	**-0.5**
IRIF	**Iriomote-Funau**	**1.37**	**267**	P	**Pn**	**23 22 42.0**	**+0.2**
YOJ	**Yonaguni jima**	**2.02**	**272**	P	**Pn**	**23 22 51.3**	**+0.5**
YOJ				*e*S	**Sn**	**23 23 15.2**	**+0.4**
JYNG	**Yonagunijimaku**	**2.08**	**272**	P	**Pn**	**23 22 53.1**	**+1.5**
JYNG				*e*S	**Sn**	**23 23 17.3**	**+1.0**
JAGN	**Aguni-jima**	**2.83**	**40**	P	**Pn**	**23 23 02.1**	**+0.2**
MKAR	**Makanchi Array**	**40.79**	**314**	P	**P**	**23 29 56.5**	**+0.1**
	0.3nm,0.3s,baz=103,slow=9.3,SNR=5.9						
ZALV	**Zalesovo Beam**	**42.12**	**325**	P	**P**	**23 30 07.0**	**-0.1**
	0.5nm,0.4s,baz=102,slow=7.2,SNR=3.8						
WRA	**Warramunga Arr**	**44.97**	**168**	P	**P**	**23 30 29.5**	**-0.9**
	0.4nm,0.5s,baz=349,slow=9.1,SNR=2.5						
ASAR	**Alice Springs**	**48.52**	**169**	P	**P**	**23 30 58.2**	**0.0**
	0.2nm,0.5s,baz=350,slow=9.4,SNR=3.5						
FINES	**FINESS Array B**	**73.10**	**330**	P	**P**	**23 33 44.7**	**-0.2**
	6.4nm,1.2s,baz=75,slow=10,SNR=3.6						

MEX 24 23:27:34.3±0.4, 15.64N×94.46W, h16km±7km, MD4.3, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.20**	**87**	*i* P	Pn	23 27 52.7	-3.7
PCIG				*e*S	Sb	23 28 06.7	-5.3
CMIG	**Matias Romero**	**1.50**	**344**	*i* P	Pn	23 27 57.2	-3.5
CMIG				*e*S	Sn	23 28 14.7	-5.2
HUIG	**Huatulco**	**1.59**	**275**	*i* P	Pn	23 27 58.4	-3.4
HUIG				*e*S	Sn	23 28 16.5	-5.5
VHO	**Vista Hermosa**	**2.60**	**304**	*i* P	Pn	23 28 13.8	-2.3
VHO				*i* S	Sn	23 28 42.4	-5.2

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*JMA **24** 23:41:09.0, 24.24N×121.55E, h29km, M2.7*
*ISCJB **24** 23:41:10.8±0.2, 24.30N±0.01×121.68E±0.02, h22km±2km, Error ellipse: s-maj=2.9km s-min=2.2km az=41.0*
*TAP **24** 23:41:10.1, 24.30N×121.63E, h24km, ML3.6, B*
ISC 24 23:41:10.7±0.9, 24.30N±0.02×121.65E±0.02, h19km±2km, n57, σ0s61/91, 5C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.09**	**85**	*i* P	**Pg**	**23 41 15.4**	**+1.0**
EHP				S	**Sg**	**23 41 18.7**	**+1.8**
	baz=86						
ENA	**Nanau**	**0.15**	**34**	⇓ *i* P	**Pg**	**23 41 15.3**	**+0.2**
	baz=42						
TWD	**Chiawan**	**0.23**	**192**	⇓ *i* P	**Pb**	**23 41 15.8**	**-0.1**
	baz=178						
TWD				S	**Sg**	**23 41 20.1**	**+0.3**
	baz=178						
NNS	**Nan Shan**	**0.28**	**299**	⇑ *i* P	**Pg**	**23 41 16.9**	**-0.3**
	baz=307						
NNS				S	**Sg**	**23 41 21.1**	**-0.5**
	baz=307						
HWA	**Hwalien**	**0.33**	**187**	*i* P	**Pg**	**23 41 17.6**	**-0.1**
	baz=189						
HWA				S	**Sb**	**23 41 23.3**	**+0.4**
	baz=189						
ENTT	**Nioudou**	**0.34**	**347**	⇑ *i* P	**Pg**	**23 41 17.8**	**-0.3**
	baz=356						
ENTT				*i* S	**Sg**	**23 41 23.2**	**+0.1**
	baz=356						
TWC	**Suao**	**0.36**	**31**	*i* P	**Pg**	**23 41 18.3**	**0.0**
	baz=35						
TWC				*i* S	**Sg**	**23 41 23.7**	**+0.3**
	baz=35						
WHF	**Hehuan Shan**	**0.38**	**246**	⇓ *i* P	**Pg**	**23 41 18.6**	**-0.4**
	baz=244						
WHF				S	**Sg**	**23 41 23.8**	**-0.8**
	baz=244						
TWE	**Neicheng**	**0.42**	**2**	*i* P	**Pg**	**23 41 19.1**	**-0.3**
	baz=10.0						
TWE				*e*S	**Sg**	**23 41 24.9**	**-0.3**
	baz=10.0						
TWT	**Tachien**	**0.43**	**264**	⇑ *i* P	**Pg**	**23 41 19.6**	**-0.1**
	baz=260						
TWT				*i* S	**Sg**	**23 41 25.6**	**-0.2**
	baz=260						
ESF	**Shoufeng Towns**	**0.45**	**197**	*e*P	**Pg**	**23 41 19.8**	**-0.1**
	baz=194						
ESF				*e*S	**Sb**	**23 41 27.5**	**+1.1**
	baz=194						
NSK	**Sanguang**	**0.46**	**325**	⇑ *i* P	**Pg**	**23 41 19.6**	**-0.5**
	baz=328						
NSK				*i* S	**Sg**	**23 41 25.9**	**-0.5**
	baz=328						
ILA	**Ilan**	**0.47**	**11**	*e*P	**Pg**	**23 41 20.1**	**-0.2**
	baz=11						
ILA				*e*S	**Sb**	**23 41 27.1**	**+0.1**
	baz=11						
ESL	**Shilin**	**0.53**	**202**	*e*P	**Pb**	**23 41 19.8**	**-1.4**
	baz=199						
EGS		**0.60**	**26**	*e*P	**Pb**	**23 42 22.0**	**-0.5**
	baz=21						
NSTT	**Nanjuang**	**0.67**	**299**	P	**Pb**	**23 41 23.6**	**-0.2**
	baz=300						
NSTT				S	**Sb**	**23 41 32.3**	**-0.5**
	baz=300						
TWA	**Mucha**	**0.68**	**355**	P	**Pb**	**23 41 23.5**	**-0.3**
	baz=4.0						
TWA				S	**Sg**	**23 41 33.3**	**+0.1**
	baz=4.0						
TAP1	**Taipei**	**0.74**	**351**	*e*P	**Pb**	**23 41 25.1**	**+0.1**
	baz=352						
TAP1				*e*S	**Sb**	**23 41 35.1**	**+0.4**
	baz=352						
TAP	**Taipei**	**0.74**	**350**	*e*P	**Pb**	**23 41 25.0**	**-0.1**
	baz=352						
TAP				*e*S	**Sb**	**23 41 34.8**	**0.0**
	baz=352						
TWB1	**Santiao Chiao**	**0.77**	**24**	*e*P	**Pb**	**23 41 25.6**	**+0.1**
	baz=20						
NWF	**Wu-fen Shan**	**0.77**	**9**	*e*P	**Pb**	**23 41 25.4**	**-0.3**
	baz=10.0						
NWF				*e*S	**Sb**	**23 41 35.9**	**+0.1**
	baz=10.0						
NCU	**National Centr**	**0.79**	**328**	*e*P	**Pb**	**23 41 26.1**	**+0.3**
	baz=329						
NCU				*e*S	**Sg**	**23 41 37.4**	**+0.8**
	baz=329						
HSN	**Hsinchu**	**0.79**	**309**	*e*P	**Pg**	**23 41 26.3**	**+0.1**
	baz=313						
HSN				*e*S	**Sn**	**23 41 38.1**	**-0.1**
	baz=313						
TWQ1	**Liyutan**	**0.80**	**273**	⇑ *i* P	**Pg**	**23 41 26.4**	**0.0**
	baz=274						
TWQ1				*e*S	**Sb**	**23 41 36.6**	**+0.2**
	baz=274						
SMLT	**Sun Moon Lake**	**0.80**	**239**	P	**Pb**	**23 41 25.7**	**-0.4**
	baz=237						
NSY	**Sanyi**	**0.82**	**278**	P	**Pg**	**23 41 27.0**	**+0.3**
	baz=273						
NSY				*e*S	**Sb**	**23 41 37.3**	**+0.4**
	baz=273						
TWS1	**Kuangyinshan**	**0.82**	**345**	*e*P	**Pb**	**23 41 26.7**	**+0.3**
	baz=358						
TWS1				*e*S	**Sg**	**23 41 38.4**	**+0.6**
	baz=358						
TYC	**Yuchr**	**0.82**	**241**	*e*P	**Pb**	**23 41 25.7**	**-0.7**
	baz=241						
TYC				*e*S	**Sb**	**23 41 37.3**	**+0.2**
	baz=241						
EHY	**Hungye**	**0.85**	**201**	*e*P	**Pb**	**23 41 25.8**	**-1.0**
	baz=192						
EHY				*e*S	**Sb**	**23 41 37.5**	**-0.3**
	baz=192						
TCU	**Taichung**	**0.90**	**260**	*e*P	**Pn**	**23 41 28.8**	**+0.5**
	baz=260						
TCU				*e*S	**Sn**	**23 41 41.5**	**+0.7**
	baz=260						
TWY	**Chenhua**	**0.97**	**357**	*e*P	**Pb**	**23 41 29.1**	**+0.2**
	baz=348						
WNT	**Mingjian**	**0.98**	**245**	*e*P	**Pn**	**23 41 29.6**	**+0.2**
	baz=237						
TWF1	**Yuli**	**1.00**	**199**	*e*P	Pb	23 41 25.9	-3.5
	baz=197						
TWF1				*e*S	**Sn**	**23 41 42.9**	**-0.4**
	baz=197						
CHN5	**Tsauling**	**1.13**	**232**	*e*P	**Pb**	**23 41 32.0**	**+0.3**
	baz=231						
CHN5				*e*S	**Sg**	**23 41 48.4**	**+0.8**
	baz=231						
WGK	**Gukeng**	**1.17**	**238**	*e*P	**Pb**	**23 41 32.4**	**+0.1**
	baz=236						
JYNG	**Yonagunijimaku**	**1.19**	**83**	P	**Pn**	**23 41 31.5**	**-0.9**
JYNG				*e*S	**Sn**	**23 41 48.2**	**+0.2**
ELDTW	**Lidau**	**1.25**	**208**	*e*P	**Pn**	**23 41 31.2**	**-2.1**
	baz=191						
YOJ	**Yonaguni jima**	**1.25**	**82**	P	**Pn**	**23 41 32.7**	**-0.5**
YOJ				*e*S	**Sn**	**23 41 50.0**	**+0.5**
YOJ	**Yonaguni jima**	**1.25**	**82**	*e*P	**Pn**	**23 41 32.2**	**-1.0**
	baz=84						
CHN2	**Minshiung**	**1.32**	**235**	*e*P	**Pb**	**23 41 35.3**	**+0.4**
	baz=234						
CHN2				*e*S	**Sg**	**23 41 53.7**	**+0.2**
	baz=234						
WTCT	**Ta-ch'eng**	**1.32**	**251**	*e*P	**Pn**	**23 41 34.5**	**+0.4**
	baz=265						
CHY	**Chiayi**	**1.38**	**235**	*e*P	**Pb**	**23 41 36.3**	**+0.4**
	baz=220						
STYT	**Tauyuan**	**1.40**	**216**	*e*P	**Pn**	**23 41 34.5**	**-0.8**
	baz=203						
WSF	**Szhu**	**1.46**	**243**	*e*P	**Pb**	**23 41 37.1**	**-0.2**
	baz=241						
TWK	**Hsinying**	**1.48**	**226**	*e*P	**Pb**	**23 41 37.6**	**-0.1**
	baz=223						
CHN1	**Nanshi**	**1.51**	**223**	*e*P	**Pb**	**23 41 37.7**	**-0.5**
	baz=209						
CHN1				*e*S	**Sb**	**23 41 58.1**	**+1.1**
	baz=209						
TWG	**Pinlang**	**1.57**	**200**	*e*P	**Pn**	**23 41 37.6**	**+0.1**
	baz=184						
SSD	**Sandimen**	**1.81**	**211**	*e*P	**Pn**	**23 41 40.9**	**+0.1**
	baz=193						
IRIF	**Iriomote-Funau**	**1.90**	**89**	P	**Pn**	**23 41 41.3**	**-0.8**
IRIF				S	**Sn**	**23 42 05.0**	**-0.5**
HATJ	**Hateruma jima**	**1.98**	**97**	*e*S	**Sn**	**23 42 06.6**	**-1.0**
EAST	**Anshuo**	**2.05**	**201**	*e*P	**Pn**	**23 41 45.6**	**+1.4**
	baz=189						
PNG	**Penghu**	**2.05**	**249**	*e*P	**Pn**	**23 41 43.5**	**-0.7**
	baz=246						
SCZT	**Fangliau**	**2.14**	**206**	*e*P	**Pn**	**23 41 45.9**	**+0.5**
	baz=189						
JKRS	**Kuro-shima**	**2.16**	**91**	P	**Pn**	**23 41 45.4**	**-0.2**
JKRS				*e*S	**Sn**	**23 42 12.2**	**+0.4**
JIJ	**Ishigaki jima**	**2.28**	**88**	P	**Pn**	**23 41 46.7**	**-0.6**
JIJ				*e*S	**Sn**	**23 42 13.7**	**-1.1**
JISG	**Ishigakijimahi**	**2.44**	**83**	P	**Pn**	**23 41 49.3**	**-0.3**
JISG				*e*S	**Sn**	**23 42 19.6**	**+0.7**
JTJ	**Tarama**	**2.80**	**82**	*e*S	**Sn**	**23 42 28.6**	**+0.8**

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*IDC **24** 23:51:06.2±0.4, 1.39S×120.54E, h0km, mb4.6/22, mb1 4.7/24, mb1mx4.6/33, mbtmp4.7/24, ML4.4/2, MS3.8/21, Ms1 3.8/21, ms1mx3.6/39, Error ellipse: s-maj=16.9km s-min=10.4km az=77.0*
*MOS **24** 23:51:10.0±1.3, 1.39S×120.58E, h36km, mb5.2/25, Error ellipse: s-maj=11.4km s-min=6.5km az=110.4*
*ISCJB **24** 23:51:12.2±0.3, 1.40S±0.02×120.62E±0.02, h55km±3km, mb4.9/76, MS3.7/19, Error ellipse: s-maj=2.9km s-min=2.7km az=6.7*
*DJA **24** 23:51:12.8±0.4, 1°S±1°×12°1E±°, h24km±4km, M5.1/71, mb5.0/71, mB5.6/28, MLv5.4/32, Mw(mB)5.1/28, Mwp5.7/1*
*NEIC **24** 23:51:12.6±0.4, 1.42S×120.64E, h47km±3km, mb5.1/41, Error ellipse: s-maj=4.3km s-min=3.3km az=53.0*
NEIC Felt [III] at Poso and [II] at Palu.
*BJI **24** 23:51:13.9, 1.40S×120.60E, h51km, mb4.9/57, mB5.1/34, Ms4.4/31, Ms7 4.2/26*
ISC 24 23:51:14.5±0.3, 1.41S±0.03×120.61E±0.03, h60km±2km, n344, σ1s36/388, mb5.0/88, MS3.7/19, 21C-15D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.93**	**303**	P	Pn	23 51 28.3	-3.3
PCI				S	**Sn**	**23 51 40.4**	**-3.8**
APSI	**Ampana**	**1.15**	**64**	P	**Pn**	**23 51 32.7**	**-1.8**
APSI				S	**Sn**	**23 51 50.2**	**+0.8**
TTSI	**Tana Toraja**	**1.81**	**206**	P	**Pn**	**23 51 41.2**	**-2.2**
TTSI				S	**Sn**	**23 52 06.2**	**+0.9**
MPSI	**Mapaga**	**1.88**	**338**	P	**Pn**	**23 51 42.4**	**-2.0**
MPSI				S	**Sn**	**23 52 06.9**	**-0.1**
LUWI	**Luwuk**	**2.19**	**80**	P	**Pn**	**23 51 46.3**	**-2.3**
LUWI				S	**Sn**	**23 52 17.8**	**+3.2**
LUWI	**Luwuk**	**2.19**	**80**	⇑ P	**Pn**	**23 51 46.8**	**-1.8**
	baz=2.1,SNR=812						
LUWI	**Luwuk**	**2.19**	**80**	*e*Pn	**Pn**	**23 51 46.6**	**-2.0**
LUWI				*e*Sn	**Sn**	**23 52 13.1**	**-1.5**
MRSI	**Marisa**	**2.30**	**35**	P	**Pn**	**23 51 47.0**	**-3.1**
MRSI				S	**Sn**	**23 52 19.2**	**+2.0**
TOLI	**Toli-Toli**	**2.52**	**4**	*e*Pn	**Pn**	**23 51 51.5**	**-1.7**
TOLI				*e*Sn	**Sn**	**23 52 21.7**	**-1.0**
SPSI	**Sidrap Palu**	**2.67**	**198**	P	**Pn**	**23 51 53.5**	**-1.7**
SPSI				S	**Sn**	**23 52 28.7**	**+2.3**
GTOI	**Gorontalo**	**3.14**	**50**	P	**Pn**	**23 51 59.9**	**-1.7**
GTOI				S	**Sn**	**23 52 39.1**	**+1.1**
KDI	**Kendari**	**3.23**	**142**	P	**Pn**	**23 52 02.0**	**-0.8**
KAPI	**Kappang**	**3.68**	**193**	Pn	**Pn**	**23 52 07.9**	**-1.1**
	4μm,0.5s,SNR=37						
KAPI	**Kappang**	**3.68**	**193**	Pn	**Pn**	**23 52 06.6**	**-2.4**
	31nm,0.3s,baz=30,slow=6.5,SNR=62						
KAPI				Sn	**Sn**	**23 52 50.7**	**-0.5**
	44nm,0.3s,baz=157,slow=17,SNR=14						
KAPI				LR	LR	23 53 54.0	
	comp=Z,4μm,19.4s,baz=334,slow=46						
KAPI	**Kappang**	**3.68**	**193**	*e*Pn	**Pn**	**23 52 06.9**	**-2.1**
KAPI				*e*Sn	**Sn**	**23 52 51.3**	**+0.1**
BKB	**Balikpapan**	**3.72**	**272**	P	**Pn**	**23 52 08.0**	**-1.5**
BKB				S	**Sn**	**23 52 51.4**	**-0.7**
KMSI	**Cibinong**	**3.90**	**60**	P	**Pn**	**23 52 11.8**	**-0.2**
KMSI				S	**Sn**	**23 52 59.5**	**+2.9**
BKSI	**Bulukumba**	**3.92**	**187**	P	**Pn**	**23 52 11.9**	**-0.3**
BKSI				S	**Sn**	**23 52 59.8**	**+2.9**
BBSI	**Bau Bau**	**4.50**	**154**	P	**Pn**	**23 52 20.5**	**+0.3**
BBSI				S	**Sn**	**23 53 14.9**	**+3.7**
BSSI	**Bau Bau, Buton**	**4.70**	**181**	P	**Pn**	**23 52 23.0**	**0.0**
BSSI				S	**Sn**	**23 53 18.9**	**+2.6**
KBKI	**Kotabaru**	**4.82**	**247**	P	**Pn**	**23 52 21.5**	**-3.1**
KBKI				S	**Sn**	**23 53 18.2**	**-1.0**
SANI	**San

KSM **Kuching** 10.70 285 *e*Pn Pn 23 53 43.7 -1.4
NGJI **Ngawi** 10.87 237 P Pn 23 53 56.3 +8.8
WOJI **Wonogiri, Jawa** 11.57 236 P **Pn** 23 53 55.7 -1.4
120nm,1.4s
SMRI **Semarang** 11.59 241 P **Pn** 23 53 57.4 +0.1
93nm,1.3s
FAKI **Fak Fak** 11.72 98 P **Pn** 23 53 59.9 +0.8
93nm,1.0s,687nm
FAKI **Fak Fak** 11.72 98 P **Pn** 23 53 56.9 -2.3
baz=12,SNR=13
FAKI **Fak Fak** 11.72 98 *e*Pn Pn 23 53 55.5 -3.6
LEM **Lembang** 14.03 247 LR LR 00 00 41.8
comp=Z,865nm,18.6s,baz=96,slow=41
PPBI **Pangkal Pinang** 14.49 267 P P 23 54 49.7 +8.1
CBJI **Citeko** 14.60 250 P **Pn** **23 54 38.1 +0.1**
246nm,0.3s,29µm
MTN **Manton Dam** 15.41 138 ⇓P **Pn** **23 54 47.0 -1.4**
baz=15,SNR=4.1
BAKI **Biak** 15.49 89 P **Pn** **23 54 47.8 -1.7**
374nm,1.4s,3µm
CGJI **Cibinong** 15.75 250 P **Pn** **23 54 52.9 +0.1**
103nm,1.3s,3µm
KLSI 16.19 258 P **Pn** **23 54 59.0 +0.6**
59nm,1.1s
KDU **Kakadu** 16.23 134 ⇓P **Pn** **23 54 57.8 -1.1**
baz=16,SNR=4.0
KNRA **Kununurra** 16.30 151 ⇑P **Pn** **23 55 00.3 +0.6**
baz=16,SNR=5.3
KASI **Kota Agung** 16.59 255 P **Pn** **23 55 04.1 +0.7**
106nm,1.2s
MDSI **Maura Dua** 16.69 259 P **P** **23 55 06.0 -0.1**
43nm,1.0s
LWLI **Liwa** 16.91 257 P **Pn** **23 55 06.6 -0.9**
56nm,0.8s,6µm
MYKOM **Kota Tinggi** 17.06 281 *e*Pn **Pn** **23 55 08.7 -0.5**
27nm,1.1s
LHSI **Lahat** 17.24 262 P **Pn** **23 55 10.9 -0.5**
68nm,1.1s,2µm
SMPI **Sarmi** 18.10 92 P **Pn** **23 55 23.7 +1.8**
76nm,1.2s,2µm
KSI **Kapahiang** 18.14 263 P **Pn** **23 55 23.6 +1.1**
163nm,0.3s,17µm
SZP **Santa** 18.84 360 *e*P **P** **23 55 29.7 -0.1**
70nm,0.8s
GENI **Genyem** 19.58 94 P **Pn** **23 55 40.3 +0.6**
119nm,1.2s
BKNI **Bangkinang** 19.65 275 P **Pn** **23 55 40.3 -0.2**
69nm,1.1s
JAY **Jayapura** 20.11 93 P Pn 23 55 45.6 -0.4
43nm,0.9s,8µm
JAY **Jayapura** 20.11 93 P **P** **23 55 44.4 +0.7**
19nm,0.8s,baz=266,slow=6.2,SNR=4.8
PPI **Padang Panjang** 20.24 272 P Pn 23 55 46.4 -1.0
58nm,1.2s,637nm
IPM **Ipoh** 20.43 287 *e*P **P** **23 55 47.2 0.0**
74nm,1.0s
KULM **Kulim** 21.02 289 *e*P **P** **23 55 52.8 -0.7**
90nm,1.0s
MNSI **Mandailing Nat** 21.15 276 P **P** **23 55 54.7 -0.2**
SISI **Saibi** 21.52 270 P **P** **23 56 00.3 +1.5**
134nm,1.2s
PSI **Prapat** 22.08 281 P **P** **23 56 05.8 +0.7**
22nm,0.9s,baz=100,slow=3.6,SNR=15
PSI **Prapat** 22.08 281 *e*P **P** **23 56 04.8 -0.2**
PSI pmax pmax
comp=Z,76nm,1.1s
PSI **Prapat** 22.08 281 ⇓P **P** **23 56 05.9 +0.8**
baz=22,SNR=11
PSI **Prapat** 22.08 281 *e*P **P** **23 56 04.8 -0.2**
comp=Z,76nm,1.1s
UBPT **Khong Chiam** 22.35 318 P **P** **23 56 12.1 +4.4**
comp=Z,50nm,1.7s
TSI **Tuntungan** 22.57 283 P **P** **23 56 11.3 +1.1**
WB0 **Warramunga Arr** 22.68 144 ⇑P **P** **23 56 10.1 -1.2**
baz=23
WB6 **Warramunga Arr** 22.74 145 ⇓P **P** **23 56 10.7 -1.1**
baz=23
WRAB **Tennant Creek** 22.79 145 P **P** **23 56 11.2 -1.2**
comp=Z,385nm,1.0s,SNR=18
WRAB **Tennant Creek** 22.79 145 *d i*P **P** **23 56 11.1 -1.3**
WRAB pmax pmax
comp=Z,196nm,1.1s
WRAB **Tennant Creek** 22.79 145 *e*P **P** **23 56 11.2 -1.3**
comp=Z,60nm,0.9s
WRA **Warramunga Arr** 22.79 145 P **P** **23 56 11.1 -1.3**
comp=Z,36nm,0.9s,baz=326,slow=9.8,SNR=107
TRTT **Trang** 22.80 294 P **P** **23 56 13.9 +1.4**
comp=Z,76nm,1.1s
QIZ **Qiongzhong** 22.91 333 *e*P **P** **23 56 12.5 -1.1**
comp=Z,108nm,1.3s
GSI **Gunungsitoli** 23.19 277 P **P** **23 56 16.2 -0.3**
comp=Z,100nm,1.0s
GSI **Gunungsitoli** 23.19 277 ⇓P **P** **23 56 16.6 +0.1**
baz=23
GSI **Gunungsitoli** 23.19 277 *e*P **P** **23 56 14.9 -1.6**
comp=Z,79nm,0.9s
KRAB **Krabi** 23.40 294 P **P** **23 56 22.9 +4.5**
comp=Z,48nm,1.2s
SURT **Suratani** 24.06 296 P P 23 56 31.0 +6.5
comp=Z,31nm,1.4s
TWG **Pinlang** 24.09 1 *e*P **P** **23 56 25.2 +0.6**
comp=Z,451nm,1.3s
LHMI **Lhok Sumawe** 24.54 286 P **P** **23 56 30.1 +1.2**
comp=Z,198nm,1.4s
LHMI **Lhok Sumawe** 24.54 286 ⇑P **P** **23 56 29.1 +0.2**
baz=25
LHMI **Lhok Sumawe** 24.54 286 *e*P **P** **23 56 27.8 -1.1**
comp=Z,307nm,1.3s
SKNT **Sakolnakorn** 24.55 319 P **P** **23 56 30.0 +1.1**
comp=Z,64nm,1.7s,comp=Z,6µm
WRKA **Warakurna** 24.63 163 P **P** **23 56 29.2 -0.4**
baz=25,SNR=9.3
YULB **Yu-li** 24.66 2 *e*P **P** **23 56 29.0 -0.8**
comp=Z,69nm,0.9s
KHON **Khomkaen** 24.89 316 P P 23 56 41.7 +10
SSLB **Suanglung** 25.05 1 *e*P **P** **23 56 33.0 -0.4**
comp=Z,140nm,1.1s
MEEK **Meekatharra** 25.16 184 P **P** **23 56 33.1 -1.3**
baz=25,SNR=14
COEN **Coen** 25.56 120 ⇑P **P** **23 56 38.8 +0.7**
baz=26,SNR=4.2
AS15 **Alice Springs** 25.58 151 ⇓P **P** **23 56 38.4 +0.1**
baz=26
ASAR **Alice Springs** 25.60 151 P **P** **23 56 38.0 -0.4**
comp=Z,9.0nm,0.8s,baz=328,slow=8.0,SNR=49
ASAR PcP **PcP** **00 00 08.4 +0.1**
comp=Z,1.4nm,0.8s,baz=345,slow=2.0,SNR=4.7
ASAR LR LR 00 07 35.2
comp=Z,352nm,19.3s,baz=320,slow=38
YHNB **Yeheng** 25.94 2 *e*P **P** **23 56 42.1 +0.7**
comp=Z,158nm,1.2s
PBKT **Sadao Pong** 26.37 313 P P 23 56 53.5 +8.1
comp=Z,20nm,1.1s
QIS **Mount Isa** 26.57 137 ⇓P **P** **23 56 46.2 -1.0**
baz=27
UTTA **Uttaradit** 27.44 315 P **P** **23 56 58.5 +3.5**
comp=Z,6.4nm,1.3s,comp=Z,71nm
PMG **Port Moresby** 27.57 108 P **P** **23 56 56.6 +0.3**
comp=Z,38nm,1.0s,baz=284,slow=11,SNR=4.5
PMG LR LR 00 11 14.7
comp=Z,148nm,18.3s,baz=288,slow=44
PMG **Port Moresby** 27.57 108 *e*P **P** **23 56 55.6 -0.7**
PMG pmax pmax
comp=Z,153nm,0.9s
PMG **Port Moresby** 27.57 108 *e*P **P** **23 56 55.6 -0.7**
comp=Z,153nm,0.9s
MORW **Morawa** 27.85 189 P **P** **23 56 57.4 -1.2**
baz=28,SNR=6.1
SLVN **Son La** 27.89 325 *e*P **P** **23 56 58.4 -0.7**
comp=Z,48nm,1.4s
MTSU **Mount Surprise** 28.59 127 ⇑P **P** **23 57 03.4 -2.0**
baz=29
LAMP **Lampang** 28.61 315 P P 23 57 10.1 +4.7
comp=Z,5.1nm,1.0s,comp=Z,66nm
CM06 **Chiang Mai Arr** 29.03 314 ⇑P **P** **23 57 10.3 +1.1**
baz=29
CMAR **Chiang Mai Arr** 29.06 314 P **P** **23 57 09.4 0.0**
comp=Z,2.8nm,0.5s,baz=136,slow=7.2,SNR=21
CMAR PcP **PcP** **00 00 16.9 +0.3**
comp=Z,1.7nm,0.6s,baz=205,slow=2.0,SNR=4.5
CMAR LR LR 00 11 09.4
comp=Z,203nm,19.7s,baz=123,slow=42
BLDU **Ballidu** 29.28 187 ⇑P **P** **23 57 09.8 -1.5**
baz=29
CMMT **Chiang Mai** 29.28 314 P P 23 57 15.2 +3.7
comp=Z,29nm,1.2s
CHTO **Chiang Mai** 29.29 314 P P 23 57 15.3 +3.8
comp=Z,66nm,1.3s

CHTO **Chiang Mai** 29.29 314 *e*P **P** **23 57 11.6 +0.1**
CHTO pmax pmax
comp=Z,17nm,1.1s
CHTO **Chiang Mai** 29.29 314 *e*P **P** **23 57 11.6 +0.1**
comp=Z,17nm,1.1s
CMAI **Chiengmai2** 29.96 316 P **P** **23 57 19.2 +1.6**
comp=Z,203nm,0.7s,comp=Z,11µm
NWAO **Narrogin (SRO)** 31.51 185 P **P** **23 57 29.8 -1.1**
comp=Z,10nm,0.9s,baz=329,slow=12,SNR=3.5
KMI **Kunming** 31.55 328 P **P** **23 57 33.8 +2.1**
KMI pP **pP** **23 57 47.5 +1.0**
KMI sP **sP** **23 57 54.8 +1.3**
KMI S **S** **00 02 37.9 +1.5**
KMI sS **sS** **00 03 04.6 +3.0**
KMI PMZ
comp=Z,23nm,1.3s
KMI PMZ
comp=Z,120nm,3.1s
KMI LN
comp=Z,160nm,18.1s
KMI LE
comp=Z,120nm,14.4s
WHN **Wuhan** 32.33 350 P **P** **23 57 39.3 +1.1**
WHN S **S** **00 02 48.5 +0.6**
WHN LZ
comp=Z,390nm,19.5s
NJ2 **Nanjing** 33.32 357 *e*P **P** **23 57 45.3 -1.5**
NJ2 PMZ
comp=Z,40nm,0.9s
QLP **Quilpie** 33.79 140 P **P** **23 57 51.0 +0.1**
baz=34,SNR=17
BBOO **Buckleboo** 34.45 157 ⇑P **P** **23 57 55.8 -0.8**
baz=34,SNR=12
BBOO **Buckleboo** 34.45 157 *e*P **P** **23 57 55.4 -1.2**
comp=Z,19nm,0.9s
CBIJ **Chichi jima** 35.14 35 *e*P **P** **23 58 01.2 -1.4**
comp=Z,219nm,0.8s
JCJ **Chichijima** 35.14 35 P **P** **23 58 01.4 -1.3**
comp=Z,221nm,0.9s,baz=117,slow=5.8,SNR=11
JCJ LR LR 00 10 15.5
comp=Z,83nm,20.3s,baz=238,slow=33
JNU **Nakatsue** 35.69 15 P **P** **23 58 04.7 -2.6**
comp=Z,7.0nm,0.8s,baz=214,slow=3.1,SNR=3.6
JNU LR LR 00 13 55.3
comp=Z,87nm,19.9s,baz=268,slow=38
JNU **Nakatsue** 35.69 15 *e*P **P** **23 58 06.0 -1.3**
comp=Z,9.9nm,1.0s
CD2 **Chengdu** 35.92 335 P **P** **23 58 10.3 +0.9**
CD2 pP **pP** **23 58 24.3 0.0**
CD2 sP **sP** **23 58 31.0 -0.3**
CD2 PP **PP** **23 59 33.1 +1.1**
CD2 S **S** **00 03 46.3 +2.8**
CD2 sS **sS** **00 04 10.6 +1.7**
CD2 PMZ
comp=Z,20nm,1.0s
CD2 PMZ
comp=Z,160nm,7.2s
CD2 LN
comp=Z,220nm,15.9s
CD2 LZ
comp=Z,290nm,10.2s
HTT **Hallett** 36.19 154 ⇑P **P** **23 58 11.9 +0.3**
baz=36,SNR=50
STKA **Stephens Creek** 36.20 149 P **P** **23 58 11.2 -0.5**
comp=Z,30nm,0.9s,baz=318,slow=8.0,SNR=57
STKA LR LR 00 13 45.1
comp=Z,265nm,18.6s,baz=332,slow=38
STKA **Stephens Creek** 36.20 149 *e*P **P** **23 58 10.7 -1.0**
STKA pmax pmax
comp=Z,8.0nm,0.9s
STKA **Stephens Creek** 36.20 149 *e*P **P** **23 58 10.7 -1.0**
comp=Z,8.0nm,0.9s
XAN **Xi'an** 36.94 344 P P 23 58 21.4 +3.4
XAN S **S** **00 04 03.4 +4.5**
XAN PMZ
comp=Z,21nm,0.9s
XAN LZ
comp=Z,120nm,9.1s
TIA **Tai'an** 37.57 355 ⇑P P 23 58 27.3 +4.1
TIA PMZ
comp=Z,20nm,0.8s
TJN **Taejon** 38.12 9 ⇑*e*P **P** **23 58 29.5 +1.7**
CMSA **Cobar Meteorol** 38.20 144 ⇑P **P** **23 58 29.0 +0.4**
baz=38,SNR=18
KSAR **Wonju Array Be** 39.24 9 P **P** **23 58 37.2 0.0**
KSAR **Wonju Array Be** 39.24 9 P **P** **23 58 37.2 0.0**
KSRS **Korea Array** 39.26 9 P **P** **23 58 37.2 -0.1**
comp=Z,8.6nm,1.0s,baz=186,slow=9.7,SNR=18
KSRS LR LR 00 15 08.7
comp=Z,168nm,20.4s,baz=214,slow=37
KSRS **Korea Array** 39.26 9 P **P** **23 58 37.2 -0.1**
KSRS pmax pmax
comp=Z,9.0nm,1.0s
KSRS MLR MLR
comp=Z,168nm,20.4s
ARPS **Mount Arapiles** 40.28 153 ⇑P **P** **23 58 45.7 -0.2**
baz=40,SNR=21
LZH **Lanzhou** 40.45 339 *e*P **P** **23 58 49.8 +2.3**
LZH pP **pP** **23 59 03.5 +0.8**
LZH sP **sP** **23 59 10.6 +1.0**
LZH PP **PnPn** **00 00 27.3 +1.4**
LZH *e*S **S** **00 04 55.0 +3.0**
LZH sS **sS** **00 05 19.5 +1.8**
LZH *e*SS **SS** **00 07 52.5 -0.9**
LZH PMZ
comp=Z,49nm,1.3s
LZH PMZ
comp=Z,170nm,4.7s
LZH LN
comp=Z,700nm,13.0s
LZH LE
comp=Z,440nm,13.2s
LZH LZ
comp=Z,630nm,17.0s
CHLP **Challavanipeta** 41.03 301 *e*P **P** **23 58 52.4 0.0**
CHLP IAmb IAmb 23 58 57.3
comp=Z,70nm,1.2s
MAJO **Matsushiro** 41.16 22 *e*P **P** **23 58 51.3 -1.8**
MAJO pmax pmax
comp=Z,30nm,1.0s
MAJO **Matsushiro** 41.16 22 *e*P **P** **23 58 51.3 -1.8**
comp=Z,30nm,1.0s
MJAR **Matsushiro Arr** 41.16 22 P **P** **23 58 51.2 -1.9**
comp=Z,17nm,1.0s,baz=200,slow=9.6,SNR=20
MJAR LR LR 00 18 27.0
comp=Z,64nm,18.0s,baz=200,slow=40
BJT **Baijiatuau** 41.43 355 *e*P **P** **23 58 54.1 -1.2**
BJT pmax pmax
comp=Z,22nm,0.8s
BJT **Baijiatuau** 41.43 355 *e*P **P** **23 58 54.1 -1.2**
comp=Z,22nm,0.8s
BJI **Beijing** 41.45 355 P **P** **23 58 55.6 +0.2**
BJI pP **pP** **23 59 10.3 -0.4**
BJI sP **sP** **23 59 16.9 -0.7**
BJI PcP **PcP** **00 00 52.6 +0.2**
BJI ScP **ScP** **00 04 38.6 +1.1**
BJI S **S** **00 05 11.9 +5.5**
BJI sS **sS** **00 05 32.6 +0.4**
BJI ScS **ScS** **00 08 54.3 +0.6**
BJI PMZ
comp=Z,13nm,1.3s
BJI PMZ
comp=Z,210nm,7.0s
BJI LN
comp=Z,130nm,28.4s
BJI LE
comp=Z,140nm,24.4s
LSA **Lhasa** 41.82 320 P **P** **23 58 59.0 -0.2**
LSA **Lhasa** 41.82 320 *e*P **P** **23 58 59.6 +0.4**
LSA pmax pmax
comp=Z,87nm,1.6s
LSA **Lhasa** 41.82 320 *e*P **P** **23 58 59.6 +0.4**
comp=Z,87nm,1.6s
ODAN **Odare** 42.60 314 *e*P **P** **23 59 04.9 -0.5**
comp=Z,185nm,1.5s
TOO **Toolangi** 42.65 150 ⇓P **P** **23 59 06.5 +1.2**
baz=43,SNR=3.9
TAPN **Taplejung** 42.66 315 *e*P **P** **23 59 04.9 -1.0**
comp=Z,102nm,1.1s
PVM **Polavaram** 42.67 297 *e*P **P** **23 59 05.8 +0.1**
PVM IAmb IAmb 23 59 10.4
comp=Z,27nm,1.1s
CAN **Canberra** 42.84 145 ⇑P **P** **23 59 08.2 +1.2**
baz=43
HHC **Hu-ho-hao-te** 42.86 350 *e*P P 23 59 11.3 +4.2
HHC pP pP 23 59 26.3 +3.9

HHC PP **PcP** **00 00 53.9 -3.3**
HHC S **S** **00 05 32.0 +4.5**
HHC SS **SS** **00 08 38.8 -2.0**
HHC PMZ
comp=Z,25nm,0.8s
HHC PMZ
comp=Z,140nm,4.3s
HHC LN
comp=Z,150nm,14.8s
HHC LE
comp=Z,140nm,14.8s
HHC LZ
comp=Z,170nm,14.8s
CNB **Canberra Magne** 43.04 145 ⇓P **P** **23 59 09.7 +1.1**
baz=43,SNR=5.4
SNY **Shenyang** 43.12 3 ⇓P **P** **23 59 08.0 -1.0**
SNY PMZ
comp=Z,13nm,1.3s
RAMN **Ramite** 43.23 313 *e*P **P** **23 59 09.3 -1.1**
comp=Z,228nm,1.4s
SKHT **Srikalahasti** 43.24 292 *e*P **P** **23 59 10.1 -0.4**
SKHT IAmb IAmb 23 59 17.7
comp=Z,36nm,1.2s
ADKI **Addanki** 43.66 295 *e*P **P** **23 59 14.0 +0.2**
ADKI IAmb IAmb 23 59 18.4
comp=Z,31nm,1.0s
GUN **Gumba** 44.30 314 *e*P **P** **23 59 19.3 +0.1**
comp=Z,263nm,1.4s
PKI **Pulchoki** 44.45 313 *e*P **P** **23 59 20.2 -0.1**
comp=Z,101nm,1.4s
RCLA **Racherla** 44.46 294 *e*P **P** **23 59 19.1 -1.0**
RCLA IAmb IAmb 23 59 24.1
comp=Z,49nm,1.1s
NJS **Nagarjunasagar** 44.50 295 *e*P **P** **23 59 19.8 -0.7**
NJS IAmb IAmb 23 59 24.5
comp=Z,37nm,1.1s
KKN **Kakani** 44.67 313 *e*P **P** **23 59 21.9 -0.1**
comp=Z,111nm,1.4s
DMN **Daman** 44.69 313 *e*P **P** **23 59 22.1 -0.1**
comp=Z,62nm,1.0s
SRLM **Srisailam** 44.72 295 *e*P **P** **23 59 21.7 -0.6**
SRLM IAmb IAmb 23 59 26.8
comp=Z,31nm,1.1s
GTA **Gaotai** 44.88 337 *e*P **P** **23 59 24.3 +0.9**
GTA pP **pP** **23 59 39.4 +0.6**
GTA sP **sP** **23 59 46.8 +1.1**
GTA PMZ
comp=Z,11nm,1.1s
CN2 **Changchun** 45.22 5 *e*P **P** **23 59 27.0 +1.2**
CN2 PMZ
comp=Z,10.0nm,1.1s
GKN **Gorkha** 45.26 313 *e*P **P** **23 59 26.3 -0.3**
comp=Z,163nm,1.3s
RPR **Rampur** 45.32 298 *e*P **P** **23 59 26.7 -0.3**
RPR IAmb IAmb 23 59 31.2
comp=Z,39nm,0.9s
HYB **Hyderabad** 45.47 296 *i*P **P** **23 59 27.0 -1.2**
HYBB **Hyderabad (bro** 45.47 296 *e*P **P** **23 59 27.3 -0.9**
HYBB IAmb IAmb 23 59 32.0
comp=Z,58nm,1.2s
VLA **Vladivostok** 45.48 12 ⇓*e*P **P** **23 59 29.8 +2.0**
VLA pmax pmax
comp=Z,25nm,1.2s
URV **Uravakonda** 45.87 292 *e*P **P** **23 59 31.6 +0.2**
URV IAmb IAmb 23 59 40.8
comp=Z,112nm,1.8s
KOLN **Koldanda** 45.89 312 *e*P **P** **23 59 31.7 +0.1**
comp=Z,48nm,0.9s
DANN **Dangsing** 46.09 313 *e*P **P** **23 59 33.8 +0.5**
SRSP **Sriramsagar** 46.18 298 *e*P **P** **23 59 32.9 -0.9**
SRSP IAmb IAmb 23 59 37.6
comp=Z,50nm,1.1s
MDJ **Mudanjiang** 46.52 9 P **P** **23 59 35.8 -0.2**
MDJ pP **pP** **23 59 49.3 -2.2**
MDJ sP **sP** **23 59 55.3 -3.0**
MDJ ScP **ScP** **00 04 58.6 +0.5**
MDJ PcS **PcS** **00 05 04.8 +0.6**
MDJ S **S** **00 06 20.1 0.0**
MDJ sS **sS** **00 06 43.9 -2.4**
MDJ PMZ
comp=Z,23nm,1.2s
MDJ LN
comp=Z,64nm,12.2s
MDJ LE
comp=Z,70nm,14.7s
MDJ LZ
comp=Z,140nm,16.5s
MDJ **Mudanjiang** 46.52 9 *e*P **P** **23 59 35.5 -0.5**
comp=Z,83nm,1.4s
USRK **Ussuriysk Ar.** 46.53 11 P **P** **23 59 35.3 -0.8**
comp=Z,6.6nm,0.6s,baz=193,slow=6.2,SNR=15
USRK LR LR 00 19 42.4
comp=Z,87nm,20.3s,baz=177,slow=37
KLRI **Killari** 47.44 296 *e*P **P** **23 59 42.3 -1.4**
KLRI IAmb IAmb 23 59 47.1
comp=Z,65nm,1.2s
ASAJ **Asahikawa** 49.40 21 *e*P **P** **23 59 57.5 -0.8**
comp=Z,13nm,0.8s
ULN **Ulaanbaatar** 50.48 348 *e*P **P** **00 00 06.6 0.0**
ULN pmax pmax
comp=Z,15nm,1.0s
ULN **Ulaanbaatar** 50.48 348 *e*P **P** **00 00 06.6 0.0**
comp=Z,15nm,1.0s
SONM **Songino Array** 50.59 348 P **P** **00 00 07.1 -0.3**
comp=Z,4.9nm,0.8s,baz=165,slow=12,SNR=8.6
KLR **Kul'dur** 51.35 9 *e*P P 00 00 07.8 -5.1
KLR *e* 00 02 09.8
YSS **Yuzh-Sakhalins** 51.94 19 *e*P **P** **00 00 16.0 -1.3**
KUR **Kuril'sk** 52.36 24 *ce*P **P** **00 00 23.2 +2.7**
ZAK **Zakamensk** 53.69 346 *e*P **P** **00 00 29.0 -1.3**
ZAK *e* 00 01 35.1
ZAK pmax pmax
comp=Z,4.0nm,1.7s
WMQ **Urumqi** 53.80 331 P **P** **00 00 32.8 +1.5**
WMQ pP **pP** **00 00 46.9 -0.1**
WMQ sP **sP** **00 00 54.3 +0.5**
WMQ PcP **PcP** **00 01 37.8 +1.3**
WMQ S **S** **00 08 01.3 -0.4**
WMQ SS **SS** **00 11 42.4 -1.1**
WMQ PMZ
comp=Z,35nm,0.9s
WMQ PMZ
comp=Z,130nm,8.0s
WMQ LN
comp=Z,120nm,24.0s
WMQ LE
comp=Z,68nm,27.2s
TLY **Talaya** 54.82 347 *e*P **P** **00 00 39.3 +0.9**
TLY pmax pmax
comp=Z,23nm,1.8s
TLY MLR MLR
comp=Z,81nm,19.0s
TLY **Talaya** 54.82 347 *e*P **P** **00 00 38.4 0.0**
comp=Z,45nm,1.8s
NKL **Nikolayevsk** 56.90 14 *e*P P 00 00 50.0 -3.2
KSH **Kashi** 57.67 320 P **P** **00 01 00.1 +0.9**
KSH pP **pP** **00 01 17.1 +2.0**
KSH PP **PP** **00 03 12.1 +4.4**
KSH S **S** **00 08 51.4 -2.1**
KSH sS **sS** **00 09 22.1 +1.7**
KSH SS **SS** **00 12 47.1 +2.3**
KSH PMZ
comp=Z,53nm,0.9s
KSH PMZ
comp=Z,170nm,2.8s
KSH LN
comp=Z,220nm,4.8s
KSH LE
comp=Z,230nm,5.2s
KSH LZ
comp=Z,270nm,4.8s
MK31 **Makanchi Array** 58.59 330 P **P** **00 01 05.8 +0.5**
baz=59
MKAR **Makanchi Array** 58.59 330 P **P** **00 01 05.5 +0.2**
comp=Z,14nm,0.8s,baz=135,slow=8.0,SNR=58
MKAR LR LR 00 28 52.9
comp=Z,45nm,18.1s,baz=134,slow=39
MKAR **Makanchi Array** 58.59 330 P **P** **00 01 05.8 +0.5**
baz=59
MSVF **Nonsavu** 58.65 110 *e*P **P** **00 01 05.1 -1.2**
MSVF pmax pmax
comp=Z,19nm,0.9s
MSVF **Nonsavu** 58.65 110 *e*P **P** **00 01 05.1 -1.2**
comp=Z,19nm,0.9s
ULHL **Ulahol** 59.05 323 P **P** **00 01 09.8 +1.0**
SNR=7.3

KZA	Kyzart	59.56	322	P		P	00 01 13.5	+0.9
	SNR=17							
TKM2	Tokmak 2	59.83	323	P		P	00 01 14.3	+0.1
	SNR=17							
TKM2	Tokmak 2	59.83	323	*e*P		P	00 01 13.9	-0.3
TKM2					pmax	pmax		
	comp=Z,38nm,1.3s							
TKM2	Tokmak 2	59.83	323	*e*P		P	00 01 13.9	-0.3
	comp=Z,38nm,1.3s							
KBL	Kabul	60.06	312	*e*P		P	00 01 14.7	-1.2
KBL					pmax	pmax		
	comp=Z,43nm,0.9s							
KBL	Kabul	60.06	312	*e*P		P	00 01 14.7	-1.2
	comp=Z,43nm,0.9s							
KBK	Karagaybulak	60.08	322	P		P	00 01 16.7	+0.9
	SNR=16							
SKR	Severo-Kuril's	60.08	25	⇑*i*P		P	00 01 15.9	+0.5
AAK	Ala-Archa	60.34	322	P		P	00 01 18.8	+1.2
	SNR=7.0							
AAK	Ala-Archa	60.34	322	*e*P		P	00 01 18.3	+0.7
AAK					pmax	pmax		
	comp=Z,246nm,2.6s							
AAK	Ala-Archa	60.34	322	*e*P		P	00 01 18.3	+0.7
	comp=Z,246nm,2.6s							
CHMS	Chumysh	60.39	323	P		P	00 01 18.2	+0.4
	SNR=6.0							
AML	Almayashu	60.56	321	P		P	00 01 20.0	+0.6
	SNR=12							
USP	Ospenovka	60.69	323	P		P	00 01 20.1	+0.2
	SNR=18							
EKS2	Erkin-Say	60.80	322	P		P	00 01 21.4	+0.8
	SNR=15							
EKS2	Erkin-Say	60.80	322	*e*P		P	00 01 20.8	+0.1
EKS2					pmax	pmax		
	comp=Z,21nm,1.1s							
EKS2	Erkin-Say	60.80	322	*e*P		P	00 01 20.8	+0.1
	comp=Z,21nm,1.1s							
RPZ	Rata Peaks	61.41	140	*e*P		P	00 01 24.9	+0.1
	comp=Z,65nm,1.2s							
PETK	Petropavlovsk-	62.53	24	P		P	00 01 32.8	+0.8
	comp=Z,18nm,1.1s,baz=212,slow=6.8,SNR=8.0							
PETK					LR	LR	00 26 23.0	
	comp=Z,56nm,21.9s,baz=219,slow=34							
ZAB4	Zalesovo Array	62.64	337	P		P	00 01 31.9	-0.8
	baz=63							
ZALV	Zalesovo Beam	62.64	337	P		P	00 01 31.5	-1.2
	comp=Z,8.4nm,0.9s,baz=123,slow=5.5,SNR=40							
ZALV					LR	LR	00 29 29.6	
	comp=Z,52nm,21.7s,baz=66,slow=37							
PET	Petropavlovsk	62.86	25	*e*P		P	00 01 34.2	0.0
PET					pmax	pmax		
	comp=Z,75nm,1.4s							
PET	Petropavlovsk	62.86	25	*e*P		P	00 01 34.2	0.0
	comp=Z,75nm,1.4s							
KURK	Kurchatov	63.03	331	P		P	00 01 35.6	+0.3
	comp=Z,246nm,0.9s,SNR=31							
KURK	Kurchatov	63.03	331	*e*P		P	00 01 34.7	-0.7
KURK					pmax	pmax		
	comp=Z,20nm,0.9s							
KURK	Kurchatov	63.03	331	*e*P		P	00 01 34.7	-0.7
	comp=Z,20nm,0.9s							
KKAR	Karatay Array	63.06	321	*e*P		P	00 01 35.0	-0.8
KKAR	Karatay Array	63.06	321	*e*P		P	00 01 35.0	-0.8
YAK	Yakutsk	63.65	5	*e*P		P	00 01 38.0	-1.2
YAK					pmax	pmax		
	comp=Z,24nm,0.9s							
NVS	Novosibirsk	63.92	337	*e*P		P	00 01 39.5	-1.6
NVS					pmax	pmax		
	comp=Z,34nm,1.8s							
NVS					pmax	pmax		
	comp=N,19nm,1.7s							
NVS					pmax	pmax		
	comp=E,11nm,1.5s							
IDAH	Dahanechah	66.51	307	*e*P		P	00 01 58.4	-0.3
ITEG	Tejag	67.46	307	*e*P		P	00 02 03.6	-1.1
IMYA	Miami	67.49	310	*e*P		P	00 02 03.9	-0.9
SEY	Seymchan	68.47	15	P		P	00 02 10.6	+0.5
	comp=E,4.8nm,0.9s,baz=214,slow=11,SNR=9.3							
SEY	Seymchan	68.47	15	*d*P		P	00 02 11.5	+1.4
BRVK	Borovoye	68.55	330	*e*P		P	00 02 10.1	-0.7
BRVK					pmax	pmax		
	comp=Z,16nm,1.0s							
BRVK	Borovoye	68.55	330	*e*P		P	00 02 10.1	-0.7
	comp=Z,16nm,1.0s							
IKRD	Kardeh	68.84	310	*e*P		P	00 02 08.3	-5.0
GEYT	Alibeck	69.51	312	P		P	00 02 16.4	-0.8
	comp=Z,9.6nm,1.1s,baz=134,slow=4.2,SNR=6.8							
IMEH	Mehriz	70.42	304	*e*P		P	00 02 19.0	-4.1
ICHK	Chekchek	70.81	305	*e*P		P	00 02 23.1	-2.4
ABKAR	Akbulak array	72.40	323	*e*P		P	00 02 33.5	-0.9
ISHM	Shahmirzad	72.60	308	*e*P		P	00 02 34.7	-1.5
IKLH	Kolahrood	73.37	305	*e*P		P	00 02 40.6	-0.2
IPIR	Pirpir	73.80	305	*e*P		P	00 02 38.3	-5.1
SVE	Sverdlovsk	75.25	331	⇓*i*P		P	00 02 50.0	-0.9
SVE					pmax	pmax		
	comp=Z,28nm,1.3s							
ARU	Arti	76.12	330	*c i*P		P	00 02 54.5	-1.3
ARU							00 05 45.4	
ARU					S	S	00 12 36.4	+1.5
ARU					pmax	pmax		
	comp=Z,12nm,1.2s							
ARU	Arti	76.12	330	*e*P		P	00 02 54.7	-1.2
	comp=Z,19nm,1.3s							
IKOM	Komasi	76.87	305	*e*P		P	00 02 56.7	-4.1
MAW	Mawson	76.88	199	P		P	00 02 59.6	-0.3
	comp=Z,13nm,1.0s,baz=41,slow=10.0,SNR=8.5							
MAW					LR	LR	00 31 56.9	
	comp=Z,79nm,19.7s,baz=62,slow=32							
MAW	Mawson	76.88	199	⇓P		P	00 03 00.3	+0.4
	baz=77,SNR=13							
MAW	Mawson	76.88	199	*e*P		P	00 03 00.1	+0.2
	comp=Z,4.7nm,1.1s							
RAYN	Ar Rayn	76.93	294	*e*P		P	00 03 01.0	-0.3
	comp=Z,8.8nm,1.1s							
VNDA	Vanda	79.20	172	P		P	00 03 12.4	-0.2
	comp=Z,2.0nm,0.8s,baz=317,slow=6.9,SNR=5.9							
VNDA					LR	LR	00 39 57.4	
	comp=Z,45nm,18.1s,baz=324,slow=37							
KBZ	Khabaz	82.11	314	P		P	00 03 27.7	-1.1
	comp=Z,3.6nm,0.9s,baz=126,slow=3.2,SNR=5.6							
NEY	Neytrino	82.15	314	⇑*e*P		P	00 03 31.6	+2.2
NEY					pmax	pmax		
	comp=Z,2.0nm,1.2s							
GOF	Gofitskoye	82.23	316	*e*P		P	00 03 36.3	+6.8
PRGR	Permogore	84.14	332	*e*P		P	00 03 42.2	+3.3
PRGR					pmax	pmax		
	comp=Z,11nm,0.9s							
VSR	Storozhevoye	85.73	321	*e*P		P	00 03 47.9	+0.8
VSR					pmax	pmax		
	comp=N,10.0nm,0.9s							
VSR					pmax	pmax		
	comp=E,10.0nm,0.9s							
VSR					pmax	pmax		
	comp=Z,10.0nm,0.9s							
BRTR	Keskin Array B	88.56	310	P		P	00 03 59.4	-2.0
	comp=Z,1.9nm,0.9s,baz=132,slow=5.2,SNR=9.3							
BRTR					LR	LR	00 53 56.5	
	comp=Z,15nm,18.0s,baz=88,slow=43							
CAST	Castle Rocks	90.04	27	*e*P		P	00 04 07.4	-0.2
	comp=Z,7.1nm,1.5s							
BPAW	Bear Paw Mtn.	90.56	26	*e*P		P	00 04 08.9	-1.1
	comp=Z,2.0nm,1.4s							
MLY	Manley	90.69	25	*e*P		P	00 04 09.9	-0.7
	comp=Z,4.9nm,1.2s							
AKASG	Malin Array Be	91.97	320	LR		LR	00 48 54.9	
	comp=Z,22nm,21.6s,baz=75,slow=38							
ILAR	Eielson Array	92.34	25	P		P	00 04 16.4	-1.7
	comp=Z,0.5nm,0.9s,baz=250,slow=5.8,SNR=4.5							
ILAR					LR	LR	00 44 22.0	
	comp=Z,34nm,22.0s,baz=285,slow=35							
BOSA	Boshof	94.04	241	LR		LR	00 45 21.0	
	comp=Z,90nm,19.2s,baz=142,slow=35							
UZH	Uzhgorod	96.56	319	*e*P		P	00 04 36.8	-1.0
UZH				*e*			00 04 54.6	
KECS	Kecovo	97.77	319	*e*P		P	00 04 40.6	-2.7
SNAA	Sanae	98.69	195	P		Pdif	00 04 47.1	0.0
CLL	Collm	102.06	322	*e*P		pPdif	00 05 12.0	-7.3
CLL	Collm	102.06	322	*e*(pPdif)		pPdif	00 05 12.0	-7.3
HLID	Hailey	115.68	41	P		PKPdf	00 09 50.3	-0.4
	baz=116							
EDW2	Edwards Air Fo	116.24	51	P		PKPdf	00 09 52.0	+0.1
	baz=116							
EGMT	Eagleton	116.50	35	P		PKPdf	00 09 51.4	-0.6
	baz=116							
EGMT	Eagleton	116.50	35	*e*PKPdf		PKPdf	00 09 51.2	-0.8
BOZ	Bozeman (W)	116.54	38	P		PKPdf	00 09 51.8	-0.4
	baz=116							
R11A	Troy Canyon, C	116.90	47	*e*PKPdf		PKPdf	00 09 53.5	+0.3
GSC	Goldstone	117.03	51	P		PKPdf	00 09 53.4	0.0
	baz=117							
TORD	Torodi Ar. Bea	118.45	284	PKP		PKPdf	00 09 56.4	-0.1
	comp=Z,0.8nm,1.0s,baz=129,slow=3.9,SNR=4.1							
G20A	Bridger	118.84	37	P		PKPdf	00 09 56.7	+0.1
	baz=119							
PDAR	Pinedale Array	119.21	40	PKP		PKPdf	00 09 58.4	+0.8
	comp=Z,0.4nm,0.5s,baz=316,slow=4.1,SNR=4.7							
PDAR					PKKPbc	PKKPbc	00 20 12.6	+0.5
	comp=Z,1.3nm,0.6s,baz=90,slow=4.4,SNR=7.9							
LAO	LASA Array	119.24	35	P		PKPdf	00 09 57.7	+0.4
	baz=119							
J20A	Shoshoni	119.87	39	P		PKPdf	00 09 58.8	+0.1
	baz=120							
E23A	Ismay	119.88	35	P		PKPdf	00 09 59.2	+0.7
	baz=120							
A26A	Wade Farm, Ken	120.24	31	P		PKPdf	00 09 59.3	+0.2
	baz=120							
J22A	Midwest	120.85	38	P		PKPdf	00 10 00.0	-0.6
	baz=121							
WUAZ	Wupatki	121.09	49	*e*PKPdf		PKPdf	00 10 02.2	+0.9
O20A	White River Ci	121.33	43	P		PKPdf	00 10 01.4	-0.3
	baz=121							
O20A	White River Ci	121.33	43	*e*PKPdf		PKPdf	00 10 00.5	-1.2
A29A	Manning Farm,	121.64	30	P		PKPdf	00 10 01.7	-0.1
	baz=122							
G25A	Newell	121.70	35	P		PKPdf	00 10 01.7	-0.4
	baz=122							
RSSD	Black Hills	121.95	37	*e*PKIKP		PKPdf	00 10 01.7	-1.1
RSSD	Black Hills	121.95	37	*e*PKPdf		PKPdf	00 10 01.7	-1.1
G26A	Maurine	122.11	35	P		PKPdf	00 10 02.4	-0.5
	baz=122							
ULM	Lac du Bonnet	122.33	27	PKP		PKPdf	00 10 02.1	-0.9
	comp=Z,3.3nm,0.9s,baz=320,slow=4.9,SNR=4.1							
G27A	Dupree	122.44	34	P		PKPdf	00 10 03.5	0.0
	baz=122							
MVCO	Mesa Verde	122.49	46	*e*PKPdf		PKPdf	00 10 03.0	-1.1
ISCO	Idaho Springs	123.26	42	*e*PKIKP		PKPdf	00 10 05.3	-0.3
ISCO	Idaho Springs	123.26	42	P		PKPdf	00 10 05.2	-0.4
	baz=123							
ISCO	Idaho Springs	123.26	42	*e*PKPdf		PKPdf	00 10 05.3	-0.3
E30A	Jud	123.39	32	P		PKPdf	00 10 05.1	-0.1
	baz=123							
G30A	Faulkton	124.15	33	P		PKPdf	00 10 06.6	-0.1
	baz=124							
ANMO	Albuquerque	124.98	47	*e*PKIKP		PKPdf	00 10 08.2	-0.7
ANMO	Albuquerque	124.98	47	*e*PKPdf		PKPdf	00 10 08.2	-0.7
121A	Cookes Peak, D	125.01	50	P		PKPdf	00 10 09.2	+0.3
	baz=125							
T25A	Trinidad	125.41	44	*e*PKPdf		PKPdf	00 10 09.8	+0.2
R26A	Arlington	125.47	42	P		PKPdf	00 10 10.0	+0.4
	baz=125							
T26A	Comanche Natio	125.95	43	P		PKPdf	00 10 10.3	-0.3
	baz=126							
SCHQ	Schefferville	126.40	5	PKP		PKPdf	00 10 09.9	-0.8
	comp=Z,4.0nm,0.9s,baz=354,slow=2.1,SNR=6.6							
ECSD	EROS Data Cent	126.43	33	P		PKPdf	00 10 11.2	0.0
	baz=126							
ECSD	EROS Data Cent	126.43	33	*e*PKPdf		PKPdf	00 10 11.1	0.0
P35A	Duane Minner,	129.49	37	P		PKPdf	00 10 17.2	+0.1
	baz=129							
TXAR	Lajitas Array	129.56	52	PKP		PKPdf	00 10 17.6	0.0
	comp=Z,0.6nm,0.8s,baz=298,slow=2.7,SNR=5.8							
Q35A	Mercer Eighty,	129.90	37	P		PKPdf	00 10 17.9	+0.1
	baz=130							
529A	Stev Forest Ra	130.34	51	P		PKPdf	00 10 19.5	+0.5
	baz=130							
429A	Davenport Ranc	130.37	50	P		PKPdf	00 10 19.4	+0.3
	baz=130							
430A	Baggett Ranch,	130.79	49	P		PKPdf	00 10 20.9	+1.0
	baz=131							
530A	J-C Ranch, Com	131.01	50	P		PKPdf	00 10 20.7	+0.4
	baz=131							
JCT	Junction City	132.02	49	*e*PKIKP		PKPdf	00 10 23.5	+1.3
JCT	Junction City	132.02	49	*e*PKPdf		PKPdf	00 10 23.5	+1.3
CPUP	Villa Florida	152.35	184	PKPbc		PKPbc	00 11 04.8	+0.2
	comp=Z,3.0nm,0.9s,baz=214,slow=5.3,SNR=3.9							
BDFB	Brasilia	159.67	213	PKP		PKPdf	00 11 08.6	+0.7
	comp=Z,3.1nm,0.6s,baz=178,slow=8.9,SNR=3.7							
BDFB					PKPab	PKPab	00 11 46.9	+0.6
	comp=Z,12nm,1.0s,baz=192,slow=2.7,SNR=4.6							
LPAZ	La Paz	160.41	154	PKP		PKPdf	00 11 10.7	+1.4
	comp=Z,4.3nm,0.9s,baz=74,slow=1.8,SNR=8.4							
LPAZ					PKPab	PKPab	00 11 49.4	-0.7
	comp=Z,1.8nm,0.9s,baz=216,slow=9.1,SNR=2.7							
LPAZ	La Paz	160.41	154	*e*PKIKP		PKPdf	00 11 09.9	+0.6
LPAZ							00 11 49.4	
LPAZ	La Paz	160.41	154	*e*PKPdf		PKPdf	00 11 09.9	+0.6
LPAZ					PKPab	PKPab	00 11 49.4	-0.7
OTAV	Otavalo	160.90	93	*e*PKPdf		PKPdf	00 11 08.8	-1.0
ROSC	El Rosal	164.69	77	PKPab		PKPab	00 12 11.8	+2.8
	comp=Z,7.5nm,0.7s,baz=269,slow=14,SNR=4.9							

NIED **25** *00:04:00,36.°60N×140.°00E,h113km,Mw4.0 Best double couple: M₀1.14000×10¹⁵ NP1:ϕ₅236.00000°, δ43.00000°, λ-135.00000°. NP2:ϕ₅110.00000°, δ61.00000°, λ-56.00000°.*

ISCJB **25** *00:04:52.0±0.4,36.°59N±0.°04×140.°04E±0.°06, h119km±4km, mb3.6/6, Error ellipse: s-maj=8.6km s-min=5.8km az=27.7*

JMA **25** *00:04:52.8±0.1,36.°58N×140.°03E,h114km±1km, M3.6*

JMA Felt I J1.

IDC **25** *00:04:52.9±1.4,36.°54N×140.°00E,h118km±17km, mb3.4/6, mb1 3.6/11,mb1mx3.4/31,mbtmp3.9/11, Error ellipse: s-maj=25.9km s-min=9.8km az=59.0*

ISC 25 00:04:52.8±0.8, **36.°59N**±0.°05×**140.°04E**±0.°06, **h115**km±7km, **n29**, σ**0.°61**/33, **mb3.7**/6, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAG	Ashikaga	0.51	251	P		Pn	00 05 10.0	-0.2
JAG				S		Sn	00 05 23.2	-0.1
JKT	Katashina	0.66	285	P		Pn	00 05 11.5	0.0
JFY	Yanaizu	0.85	342	P		Pn	00 05 13.0	-0.1
JFY				S		Sn	00 05 27.9	-0.4
JFT	Otama	0.95	14	P		Pn	00 05 14.2	+0.2
JFT				S		Sn	00 05 30.5	+0.6
JFK	Kawauchi	1.02	41	P		Pn	00 05 14.6	0.0
JFK				S		Sn	00 05 30.7	-0.4
JHK	Hiroka	1.05	309	P		Pn	00 05 15.0	+0.1
JHK				S		Sn	00 05 31.5	-0.1
JRY	Ryogami san	1.09	238	P		Pn	00 05 15.5	+0.1
JRY				S		Sn	00 05 33.2	+0.8
MJAR	Matsushiro Arr	1.48	269	P		Pn	00 05 19.4	-0.3
	32nm,0.3s,baz=84,slow=10.0,SNR=322							
MJAR				S		Sn	00 05 39.0	-1.1
	12nm,0.3s,baz=86,slow=17,SNR=10.0							
MAT	Matsushiro	1.48	269	P		Pn	00 05 19.7	0.0
MAT				S		Sn	00 05 40.2	+0.1
MAT	Matsushiro	1.48	269	P		Pn	00 05 19.7	0.0
JOD2	Odawara 2	1.54	211	P		Pn	00 05 19.8	-0.6
JYN	Shimob	1.64	228	P		Pn	00 05 21.7	+0.1
JYN				S		Sn	00 05 44.1	+0.6
JHJ	Hachijo jima 2	3.47	184	P		Pn	00 05 45.1	-0.2
	44nm,0.3s,baz=40,slow=16,SNR=29							
JHJ				S		Sn	00 06 24.6	-1.1
	70nm,0.3s,baz=244,slow=23,SNR=15							
JNU	Nakatsue	8.29	248	P		Pn	00 06 50.5	+0.2
	0.3nm,0.3s,baz=36,slow=3.0,SNR=6.8							
JCJ	Chichijima	9.64	169	P		Pn	00 07 09.4	+0.9
	3.1nm,0.3s,baz=288,slow=24,SNR=5.2							
KSRS	Korea Array	9.73	279	P		Pn	00 07 11.6	+1.9
	0.3nm,0.3s,baz=95,slow=14,SNR=12							
USRK	Ussuriysk Ar.	9.77	324	P		Pn	00 07 09.8	-0.3
	0.3nm,0.3s,baz=140,slow=12,SNR=5.3							
H11N2	WAKE ISLAND Hy	28.89	118	T		T	00 41 02.5	
	baz=312,slow=75,SNR=11							
H11N1	WAKE ISLAND Hy	28.89	118	T		T	00 41 02.8	
	baz=312,slow=75,SNR=8.7							
H11N3	WAKE ISLAND Hy	28.91	118	T		T	00 41 08.4	
	baz=312,slow=75,SNR=9.7							
H11S1	WAKE ISLAND Hy	29.57	120	T		T	00 41 51.1	
	baz=314,slow=76,SNR=13							
H11S3	WAKE ISLAND Hy	29.57	120	T		T	00 41 51.3	
	baz=314,slow=76,SNR=7.0							
H11S2	WAKE ISLAND Hy	29.58	120	T		T	00 41 52.4	
	baz=314,slow=76,SNR=5.8							
ZALV	Zalesovo Beam	41.40	313	P		P	00 12 26.9	-0.7
	1.4nm,0.8s,baz=107,slow=6.2,SNR=7.0							
MKAR	Makanchi Array	43.42	302	P		P	00 12 43.5	-0.6
	0.9nm,0.7s,baz=84,slow=9.1,SNR=7.5							
ILAR	Eielson Array	50.45	32	P		P	00 13 38.3	-0.1
	1.2nm,0.8s,baz=273,slow=6.2,SNR=15							
NVAR	Mina Array Bea	76.13	52	P		P	00 16 28.8	+0.4
	0.5nm,0.5s,baz=290,slow=5.6,SNR=4.5							
PDAR	Pinedale Array	78.75	45	P		P	00 16 42.8	-0.2
	0.3nm,0.5s,baz=297,slow=4.0,SNR=3.5							
TXAR	Lajitas Array	91.26	52	P		P	00 17 46.0	+0.5
	0.2nm,0.4s,baz=299,slow=1.9,SNR=3.6							

IDC **25** *00:17:25.4±1.3,24.°28N×125.°07E,h0km, mb3.8/6, mb1 3.9/7,mb1mx3.6/43,mbtmp3.8/7,ML3.3/1, Error ellipse: s-maj=49.9km s-min=25.1km az=64.0*

ISCJB **25** *00:17:30.1±0.9,24.°35N±0.°08×125.°26E±0.°06,h48km±6km, mb3.7/6, Error ellipse: s-maj=15.3km s-min=5.4km az=151.9*

JMA **25** *00:17:30.0±0.2,24.°33N×125.°24E,h42km, M3.3*

ISC 25 00:17:29.6±1.7, **24.°35N**±0.°08×**125.°24E**±0.°06, **h28**km±12km, **n20**, σ**0.°80**/30, **mb3.7**/6, **Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JOGS	Gusukube	0.44	20	P		Pn	00 17 40.2	+0.2
JOGS				S		Sn	00 17 48.0	+1.0
JMJ	Miyako jima 2	0.47	6	P		Pn	00 17 40.6	+0.2
JMJ				eS		Sn	00 17 48.6	+0.8
JIRB	Irabujima	0.48	353	P		Pn	00 17 40.5	-0.1
JIRB				S		Sn	00 17 48.7	+0.6
JTJ	Tarama	0.57	301	P		Pn	00 17 41.7	-0.1
JTJ				S		Sn	00 17 50.3	0.0
JIKM	Ikemajima	0.57	1	P		Pn	00 17 42.1	+0.2
JIKM				eS		Sn	00 17 50.9	+0.5
JISG	Ishigakijimahi	0.88	286	P		Pn	00 17 45.9	-0.2
JIJ	Ishigaki jima	1.00	271	P		Pn	00 17 47.9	+0.1
JIJ				eS		Sb	00 18 01.9	+0.8
JKRS	Kuro-shima	1.13	265	P		Pb	00 17 50.6	+0.2
JKRS				eS		Sb	00 18 04.6	-0.1
HATJ	Hateruma jima	1.34	258	P		Pb	00 17 53.3	-0.8
HATJ				eS		Sn	00 18 09.8	+0.4
IRIF	Iriomote-Funau	1.38	270	P		Pb	00 17 55.1	+0.4
YOJ	Yonaguni jima	2.04	274	P		Pn	00 18 03.4	+1.4
YOJ				eS		Sb	00 18 29.1	-1.7
JYNG	Yonagunijimaku	2.10	273	P		Pn	00 18 04.2	+1.4
JYNG				eS		Sn	00 18 29.3	+1.3
JKE	Kume jima 2	2.42	35	P		Pn	00 18 07.8	+0.6
MJAR	Matsushiro Arr	16.49	40	Pn		P	00 21 21.9	+0.4
	0.1nm,0.3s,baz=223,slow=11,SNR=4.1							
MKAR	Makanchi Array	40.84	314	P		P	00 25 08.1	-0.7
	0.8nm,0.5s,baz=99,slow=9.6,SNR=15							
ZALV	Zalesovo Beam	42.17	325	P		P	00 25 18.5	-1.1
	0.5nm,0.5s,baz=116,slow=8.3,SNR=3.4							
WRA	Warramunga Arr	44.91	168	P		P	00 25 41.5	-0.4
	0.6nm,0.6s,baz=349,slow=8.7,SNR=3.0							
GEYT	Alibeck	57.90	301	P		P	00 27 20.4	+1.1
	1.4nm,0.7s,baz=29,slow=3.3,SNR=3.9							
FINES	FINESS Array B	73.16	330	P		P	00 28 57.2	-0.2
	2.9nm,1.0s,baz=58,slow=5.2,SNR=7.1							
BRTR	Keskin Array B	76.03	307	P		P	00 29 13.9	-0.8
	0.6nm,0.8s,baz=74,slow=5.1,SNR=2.9							

IDC 25 00:20:52.5±14.0, **6.°93N×125.°28E, h656**km±230km, **mb2.6**/4, **mb1 2.8**/4, **mb1mx2.5**/25, **mbtmp3.8**/4, **Error ellipse: s-maj=231.3km s-min=39.5km az=60.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	Warramunga Arr	28.16	162	P		P	00 25 56.0	+0.1
	0.8nm,0.4s,baz=342,slow=9.2,SNR=5.5							
ASAR	Alice Springs	31.56	165	P		P	00 26 24.9	+0.1
	0.6nm,0.3s,baz=338,slow=7.3,SNR=12							
STKA	Stephens Creek	41.62	159	P		P	00 27 46.4	0.0
	0.8nm,0.3s,baz=315,slow=5.7,SNR=4.7							
MKAR	Makanchi Array	54.12	325	P		P	00 29 18.7	+0.1
	0.3nm,0.5s,baz=120,slow=7.3,SNR=4.1							

DJA 25 00:21:49.5±0.9, **1.°S**±2.°×**12.°0E**±.°, **h18**km±11km, **M3.1**/10, **MLv3.1**/10, **Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
APSI	Ampana	1.26	72	P		Pn	00 22 10.6	-1.6
APSI				S		Sb	00 22 28.6	0.0
MPSI	Mapaga	1.72	341	P		Pn	00 22 18.1	-0.4
MPSI				S		Sn	00 22 40.7	+0.7
TTSI	Tana Toraja	1.84	200	P		Pn	00 22 19.8	-0.5
TTSI				S		Sn	00 22 43.7	+0.5
MRSI	Marisa	2.31	40	P		Pn	00 22 26.2	-0.5
MRSI				S		Sn	00 22 55.8	+1.1
LUWI	Luwuk	2.33	84	P		Pn	00 22 28.7	+1.7
LUWI				S		Sn	00 22 56.5	+1.2
SPSI	Sidrap Palu	2.73	194	P		Pn	00 22 33.1	+0.6
SPSI				S		Sn	00 23 06.1

JKRS	Kuro-shima	1.10	266	P		Pb	00 29 02.9	-0.6
HATJ	Hateruma jima	1.31	259	P		Pn	00 29 05.4	+0.6
HATJ				eS		Sn	00 29 21.9	+0.8
IRIF	Iriomote-Funau	1.35	271	P		Pn	00 29 06.2	+0.8
YOJ	Yonaguni jima	2.01	274	P		Pn	00 29 15.3	+0.8
YOJ	Yonaguni jima	2.01	274	eP	n	Pn	00 29 15.3	+0.8
JYNG	Yonagunijimaku	2.07	274	P		Pn	00 29 15.9	+0.6
JKE	Kume jima 2	2.45	35	P		Pn	00 29 20.8	+0.2
JAGN	Aguni-jima	2.91	39	P		Pn	00 29 28.5	+1.6
NACB	Ninganchiao	3.30	268	eP	n	Pn	00 29 32.2	-0.1
YHNB	Yeheng	3.51	276	eP	n	Pn	00 29 36.8	+1.6
YULB	Yu-li	3.70	256	eP	n	Pn	00 29 36.1	-1.7
YULB				eS	n	Sn	00 30 16.7	-3.5
JOW	Kunigami	3.73	47	P		Pn	00 29 38.4	+0.2
JOW	Kunigami	3.73	47	eP	n	Pn	00 29 37.0	-1.1
SSLB	Suanglung	3.92	263	eP	n	Pn	00 29 40.4	-0.5
SSLB				eS	n	Sn	00 30 22.1	-3.7
TWG	Pinlang	4.08	249	eP	n	Pn	00 29 41.4	-1.6
JTK	Tokunoshima	4.82	44	P		Pn	00 29 51.4	-1.7
JAMN	Amaminishikomi	5.28	42	P		Pn	00 29 57.6	-1.9
JMZ	Minamidaito 2	5.65	73	P		Pn	00 30 01.0	-3.6
JMZ				eS		Sn	00 31 00.2	-8.1
JAM	Amami Oshima	5.67	43	P		Pn	00 30 02.7	-2.1
KSAR	Wonju Array Be	13.28	9	Pn		Pn	00 31 50.1	+1.1
KSRS	Korea Array	13.29	9	Pn		Pn	00 31 50.1	+0.8
	0.2nm,0.3s,baz=190,slow=11,SNR=3.5							
KSRS				LR		LR	00 37 15.9	
	comp=Z,79nm,19.0s,baz=174,slow=39							
JCJ	Chichijima	15.55	76	LR		LR	00 37 35.0	
	comp=Z,44nm,20.0s,baz=126,slow=34							
MJAR	Matsushiro Arr	16.53	40	Pn		P	00 32 35.6	+1.1
	0.3nm,0.3s,baz=228,slow=12,SNR=12							
GUMO	Guam	21.41	116	LR		LR	00 40 26.0	
	comp=Z,67nm,20.5s,baz=86,slow=33							
CMAR	Chiang Mai Arr	25.12	262	P		P	00 34 05.2	+0.2
	0.8nm,0.5s,baz=70,slow=8.8,SNR=3.0							
CMAR				pP		pP	00 34 16.0	+1.4
	1.5nm,0.7s,baz=63,slow=8.4,SNR=2.8							
CMAR				LR		LR	00 44 19.9	
	comp=Z,84nm,18.0s,baz=56,slow=37							
SONM	Songino Array	27.81	332	LR		LR	00 47 03.6	
	comp=Z,127nm,19.8s,baz=101,slow=40							
PETK	Petropavlovsk-	37.75	32	LR		LR	00 52 30.9	
	comp=Z,20nm,18.8s,baz=239,slow=38							
MK31	Makanchi Array	40.83	314	eP	n	P	00 36 20.9	-0.5
MKAR	Makanchi Array	40.83	314	P		P	00 36 21.3	-0.1
	2.3nm,0.4s,baz=99,slow=9.9,SNR=51							
MKAR				pP		pP	00 36 31.1	-0.2
	1.9nm,0.6s,baz=101,slow=11,SNR=6.3							
MKAR				LR		LR	00 54 40.9	
	comp=Z,65nm,18.3s,baz=104,slow=38							
ZAA0	Zalesovo Array	42.17	325	eP		P	00 36 30.2	-2.0
ZALV	Zalesovo Beam	42.17	325	P		P	00 36 31.0	-1.2
	2.1nm,0.5s,baz=119,slow=9.0,SNR=16							
ZALV				LR		LR	00 55 09.2	
	comp=Z,44nm,19.1s,baz=240,slow=38							
SEY	Seymchan	42.65	18	P		P	00 36 36.5	+0.6
	0.5nm,0.5s,baz=202,slow=23,SNR=3.4							
SEY				pP		pP	00 36 46.5	+0.6
	0.6nm,0.6s,baz=228,slow=9.1,SNR=2.9							
KURK	Kurchatov	44.38	319	eP	n	P	00 36 49.2	-0.8
	4.7nm,0.8s							
TKM2	Tokmak 2	44.59	307	eP	n	P	00 36 52.1	-0.1
	3.8nm,0.7s							
WRAB	Tennant Creek	44.88	168	eP		P	00 36 54.1	-0.3
	7.0nm,1.2s							
WRA	Warramunga Arr	44.89	168	P		P	00 36 54.5	+0.1
	1.5nm,0.5s,baz=348,slow=8.8,SNR=7.2							
ASAR	Alice Springs	48.45	169	P		P	00 37 22.3	0.0
	0.4nm,0.5s,baz=354,slow=8.6,SNR=12							
KBL	Kabul	49.42	295	eP		P	00 37 30.0	0.0
	6.1nm,0.7s							
ABKAR	Akbulak array	55.98	314	eP		P	00 38 17.7	-0.3
	7.0nm,0.6s							
GEYT	Alibeck	57.89	301	P		P	00 38 33.7	+1.9
	3.8nm,0.7s,baz=29,slow=3.4,SNR=8.7							
ILAR	Eielson Array	67.39	28	P		P	00 39 37.8	+3.1
	0.3nm,0.6s,baz=281,slow=9.1,SNR=5.6							
ARCES	ARCESS Array B	70.77	338	P		P	00 39 54.5	-1.1
	2.9nm,1.0s,baz=83,slow=8.3,SNR=3.8							
FINES	FINESS Array B	73.16	330	P		P	00 40 10.3	+0.3
	3.6nm,0.6s,baz=80,slow=6.3,SNR=24							
FINES				pP		pP	00 40 19.7	-0.8
	2.8nm,0.6s,baz=76,slow=5.9,SNR=2.7							
FINES				LR		LR	01 15 17.9	
	comp=Z,40nm,18.5s,baz=166,slow=38							
AKASG	Malin Array Be	75.19	319	P		P	00 40 21.8	-0.2
	0.4nm,0.4s,baz=66,slow=5.9,SNR=3.7							
AKASG				pP		pP	00 40 31.6	-1.0
	1.0nm,0.5s,baz=57,slow=6.0,SNR=1.8							
BR131	Keskin Array S	76.03	307	eP		P	00 40 27.1	-0.1
	3.9nm,0.9s							
BRTR	Keskin Array B	76.03	307	P		P	00 40 28.0	+0.8
	0.5nm,0.6s,baz=80,slow=8.9,SNR=3.4							
BRTR				pP		pP	00 40 38.0	+0.2
	3.9nm,0.9s,baz=80,slow=5.6,SNR=12							
HFS	Hagfors	79.21	332	P		P	00 40 44.7	+0.4
	3.2nm,0.8s,baz=102,slow=6.2,SNR=5.8							
HFS				pP		pP	00 40 54.6	-0.4
	3.3nm,0.8s,baz=94,slow=4.3,SNR=3.0							
NB2	NORSAR Subarra	79.79	333	P		P	00 40 47.7	+0.1
	comp=Z,0.1nm,0.6s,baz=61,slow=5.9							
NOA	NORSAR Array B	79.79	333	P		P	00 40 48.0	+0.5
	comp=Z,1.4nm,0.7s,baz=55,slow=5.7,SNR=5.5							
NOA				pP		pP	00 40 57.6	-0.6
	comp=Z,0.9nm,0.7s,baz=60,slow=5.3,SNR=2.9							
VRAC	Vranov	83.16	321	pP		pP	00 41 16.9	+0.6
	comp=Z,1.7nm,0.4s,baz=63,slow=6.8,SNR=2.9							
GERES	GERESS Array B	85.03	322	P		P	00 41 15.8	+0.5
	comp=Z,0.3nm,0.6s,baz=91,slow=4.2,SNR=2.8							
GERES				pP		pP	00 41 26.3	+0.3
	comp=Z,1.1nm,0.8s,baz=61,slow=4.6,SNR=5.7							

DJA 25 00:49:05.7±0.4, 1°S±2°×12°1E±°, h163km±6km, M3.8/16, MLv3.8/16, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	Ampana	0.60	44	P	Pn	00 49 34.5	+5.5
APSI				S	Sn	00 49 48.2	+1.3
LUWI	Luwuk	1.57	79	P	Pn	00 49 37.2	+0.2
LUWI				S	Sn	00 50 02.0	+1.0
MRSI	Marisa	1.94	21	P	Pn	00 49 41.0	0.0
MRSI				S	Sn	00 50 09.3	+1.1
MPSI	Mapaga	2.13	321	P	Pn	00 49 43.4	+0.2
TTSI	Tana Toraja	2.20	220	P	Pn	00 49 44.2	+0.2
GTOI	Gorontalo	2.65	42	P	Pn	00 49 49.3	0.0
KDI	Kendari	2.95	152	P	Pn	00 49 53.5	+0.5
KDI				S	Sn	00 50 30.8	+1.1
SPSI	Sidrap Palu	2.99	209	P	Pn	00 49 54.0	+0.5
SPSI				S	Sn	00 50 31.7	+1.1
KMSI	Cibinong	3.34	55	P	Pn	00 49 58.0	+0.1
BKSI	Bulukumba	4.11	196	P	Pn	00 50 07.3	-0.4
BKSI				S	Sn	00 50 57.4	+1.3
BBSI	Bau Bau	4.33	162	P	Pn	00 50 10.9	+0.2
BBSI				S	Sn	00 51 02.5	+1.1
BKB	Balikpapan	4.33	271	P	Pn	00 51 10.0	0.0
BKB				S	Sn	00 51 02.6	+1.3

IDC 25 01:17:15.6±3.8, 5°80S×150°03E, h0km, mb3.3/2, mb1 3.7/2, mb1mx3.3/29, mbtmp3.4/2, Error ellipse: s-maj=147.9km s-min=47.8km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.74	226	P	P	01 21 58.5	+0.4
	0.9nm,0.5s,baz=51,slow=11,SNR=4.3						
ASAR	Alice Springs	23.59	220	P	P	01 22 27.7	-0.6
	0.6nm,0.5s,baz=56,slow=9.0,SNR=9.5						
TORD	Torodi Ar. Bea	147.95	285	PKPbc	PKPbc	01 37 03.6	-0.4
	0.2nm,0.4s,baz=79,slow=1.9,SNR=5.8						

IDC 25 01:17:52.8±2.8, 5°95S×147°94E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/29, mbtmp3.5/3, ML3.6/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/18, Error ellipse: s-maj=80.1km s-min=42.3km az=100.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.19	222	P	P	01 22 17.0	-1.3
	0.2nm,0.3s,baz=51,slow=11,SNR=2.5						
ASAR	Alice Springs	22.20	216	P	P	01 22 51.0	0.0
	0.9nm,0.5s,baz=52,slow=8.8,SNR=11						
STKA	Stephens Creek	26.47	192	P	P	01 23 32.9	+1.1
	1.4nm,1.0s,baz=14,slow=12,SNR=2.3						
RAR	Rarotonga	52.79	112	LR	LR	01 48 30.5	
	comp=Z,46nm,18.4s,baz=274,slow=35						
TORD	Torodi Ar. Bea	145.98	285	PKPbc	PKPdf	01 37 34.2	-0.7
	0.4nm,0.5s,baz=90,slow=3.7,SNR=9.0						

ISCJB 25 01:20:31.5±0.9, 52°54N±0°08×169°2W±0°2, h10km, mb3.7/4, Error ellipse: s-maj=17.0km s-min=7.4km az=34.0

IDC 25 01:20:32.0±1.3, 52°65N×169°15W, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.5/44, mbtmp3.6/5, ML3.4/1, MS2.7/1, Ms1 2.9/1, ms1mx2.2/34, Error ellipse: s-maj=54.9km s-min=24.7km az=145.0

NEIC 25 01:20:32.6, 52°58N×169°12W, h5km, ML3.4(AEIC), After AEIC.

ISC 25 01:20:33.2±1.2, 52°7N±0°1×169°2W±0°1, h10km, n20, σ1s01/17, mb3.7/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.37	34	P	Pb	01 20 41.9	+0.1
NIKH				S	Sb	01 20 49.4	+1.9
OKWR	Okmok West Rim	0.97	37	P	Pn	01 20 52.9	0.0
OKCE	Okmok Cone E	0.98	39	P	Pg	01 20 52.2	+0.2
OKAK	Okmok	1.04	28	P	Pb	01 20 51.6	-1.7
OKFG	Magazine Ridge	1.07	46	P	Pb	01 20 53.4	-0.4
OKFG				S	Sn	01 21 09.2	0.0
MSOM	Makushin Julie	1.77	49	P	Pn	01 21 03.8	0.0
MSW	Makushin Switc	1.91	48	P	Pn	01 21 05.8	0.0
UNV	Unalaska Valle	2.00	53	P	Pn	01 21 06.9	-0.1
UNV				S	Sn	01 21 32.2	+0.2
SPIA	Saint Paul Isl	4.56	353	P	Pn	01 21 42.5	+0.4
ILAR	Eielson Array	16.64	35	Pn	Pn	01 24 24.2	-2.0
	0.1nm,0.3s,baz=236,slow=12,SNR=3.1						
ILAR				LR	LR	01 31 08.9	
	comp=Z,29nm,20.1s,baz=216,slow=38						
H11N2	WAKE ISLAND Hy	37.76	219	T	T	02 07 54.9	
	baz=24,slow=76,SNR=10						
H11N3	WAKE ISLAND Hy	37.76	219	T	T	02 07 47.0	
	baz=24,slow=76,SNR=10						
H11N1	WAKE ISLAND Hy	38.95	218	T	T	02 07 54.1	
	baz=24,slow=76,SNR=10						
H11S1	WAKE ISLAND Hy	38.95	218	T	T	02 09 21.0	
	baz=23,slow=76,SNR=784						
H11S2	WAKE ISLAND Hy	38.96	218	T	T	02 09 20.0	
	baz=23,slow=76,SNR=432						
H11S3	WAKE ISLAND Hy	38.96	218	T	T	02 09 19.6	
	baz=23,slow=76,SNR=176						
PDAR	Pinedale Array	40.24	80	P	P	01 28 10.2	+0.1
	0.9nm,0.8s,baz=323,slow=5.1,SNR=6.4						
TXAR	Lajitas Array	52.63	89	P	P	01 29 47.3	0.0
	0.9nm,0.6s,baz=300,slow=5.4,SNR=12						
WRA	Warramunga Arr	87.28	232	P	P	01 33 19.2	-0.6
	0.2nm,0.6s,baz=34,slow=5.8,SNR=4.9						
ASAR	Alice Springs	90.67	230	P	P	01 33 37.5	+1.7
	0.4nm,0.7s,baz=20,slow=4.1,SNR=4.9						

IDC 25 01:29:43.7±4.0, 6°12S×150°83E, h0km, mb3.0/2, mb1 3.4/2, mb1mx3.1/36, mbtmp3.1/2, Error ellipse: s-maj=166.2km s-min=49.9km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.10	228	P	P	01 34 30.2	0.0
	0.4nm,0.3s,baz=54,slow=10,SNR=2.9						
ASAR	Alice Springs	23.86	221	P	P	01 34 58.9	-0.2
	0.4nm,0.7s,baz=56,slow=9.2,SNR=4.1						
TORD	Torodi Ar. Bea	148.80	285	PKPbc	PKPbc	01 49 33.9	-0.5
	0.4nm,0.9s,baz=70,slow=2.7,SNR=5.4						

DJA 25 01:31:27.9±0.4, 1°S±2°×12°1E±°, h56km±9km, M3.6/13, MLv3.6/13, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	Palu	0.88	264	P	Pn	01 31 52.4	+8.2
APSI	Ampana	0.94	96	P	Pn	01 31 47.0	+1.9
APSI				S	Sn	01 31 57.6	-0.1
MPSI	Mapaga	1.40	325	P	Pn	01 31 51.7	+0.5
MPSI				S	Sn	01 32 09.4	+0.8
MRSI	Marisa	1.77	44	P	Pn	01 31 55.9	-0.4
MRSI				S	Sn	01 32 18.8	+1.1
LUWI	Luwuk	2.07	96	P	Pn	01 32 01.1	+0.8
LUWI				S	Sn	01 32 26.4	+1.3
TTSI	Tana Toraja	2.39	202	P	Pn	01 32 04.3	-0.4
TTSI				S	Sn	01 32 33.5	+0.7
GTOI	Gorontalo	2.71	58	P	Pn	01 32 08.2	-0.9
SPSI	Sidrap Palu	3.27	197	P	Pn	01 32 17.2	+0.5
SPSI				S	Sn	01 32 55.5	+1.1
KMSI	Cibinong	3.55	67	P	Pn	01 32 20.3	-0.2
KMSI				S	Sn	01 33 02.0	+0.8
KDI	Kendari	3.66	149	P	Pn	01 32 22.7	+0.6
KDI				S	Sn	01 33 04.9	+0.8

IDC 25 01:35:07.7±2.5, 6°34S×150°51E, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.6/36, mbtmp4.1/4, ML2.1/1, Error ellipse: s-maj=75.2km s-min=39.5km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.51	227	Pn	Pn	01 36 19.3	+2.0
	7.0nm,0.3s,baz=49,slow=10,SNR=12						
PMG				Sn	Sn	01 37 07.9	-2.6
	3.1nm,0.3s,baz=140,slow=17,SNR=2.2						
WRA	Warramunga Arr	20.73	228	P	P	01 39 49.6	-0.5
	9.5nm,0.6s,baz=53,slow=11,SNR=10						
ASAR	Alice Springs	23.50	221	P	P	01 40 18.8	-0.7
	0.6nm,0.4s,baz=54,slow=9.4,SNR=16						
STKA	Stephens Creek	26.74	197	P	P	01 40 49.0	-0.1
	1.9nm,0.7s,baz=25,slow=12,SNR=6.2						
TORD	Torodi Ar. Bea	148.56	285	PKPbc	PKPbc	01 54 57.3	-0.4
	0.6nm,0.6s,baz=83,slow=2.2,SNR=12						

IDC 25 01:35:56.2±2.8, 6°07S×150°47E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/35, mbtmp3.6/3, Error ellipse: s-maj=87.8km s-min=43.5km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.88	227	P	P	01 40 41.0	+0.8
	1.1nm,0.4s,baz=53,slow=11,SNR=2.6						
ASAR	Alice Springs	23.67	221	P	P	01 41 09.2	-0.4
	0.5nm,0.6s,baz=54,slow=9.8,SNR=3.2						
STKA	Stephens Creek	26.99	197	P	P	01 41 39.6	-0.2
	1.6nm,0.7s,baz=14,slow=10,SNR=3.3						
TORD	Torodi Ar. Bea	148.45	285	PKPbc	PKPbc	01 55 45.2	-0.7
	0.6nm,0.5s,baz=78,slow=2.9,SNR=10						

SJA 25 02:17:14.2±1.7, 34°01S×73°35W, h10km±60km, ML3.4, MW3.8

GUC 25 02:17:19.8±0.3, 34°02S×72°36W, h15km±417km, ML2.3

ISC 25 02:17:20.0±2.5, 34°06S±0°7×72°3W±0°2, h17km, n18, σ1s77/20, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.76	83	i P	Pb	02 17 34.0	-0.7
TACH	Talagante	1.22	71	i P	Pn	02 17 41.1	-1.1
NICH	Los Niches	1.30	137	i P	Pn	02 17 43.1	-0.3
NICH				i S	Sn	02 18 00.8	+0.3
CHCH	Chadas Angostu	1.39	85	i P	Pn	02 17 44.3	-0.3
TALC	Talca	1.45	157	i P	Pn	02 17 45.4	0.0
TALC				i S	Sn	02 18 04.8	+0.7
SAN	Santiago	1.51	67	i P	Pn	02 17 45.9	-0.3
PCH	Pirque	1.56	74	i P	Pn	02 17 46.9	-0.1
AUSP	Uspallata	3.06	54	eP	Pb	02 18 12.7	-1.5
AUSP				eS	Sg	02 18 55.3	-3.2
AAGR	Agrelo	3.07	73	eP	Pb	02 18 14.6	+0.3
ARCO	CERRO ARCO	3.08	68	eP	Pb	02 18 14.7	+0.3
ARCO				AML	AML	02 19 07.6	
	comp=Z,53nm,0.6s						
ASAL	Salagasta	3.26	64	eP	Pb	02 18 16.5	-1.0
ASAL				eS	Sb	02 18 57.9	+0.9
RTLS	Leoncito	3.40	49	eS	Sb	02 19 04.2	+3.3
RTCV	Cerro Valdivia	3.86	56	eP	Pb	02 18 24.5	-3.1
RTCV				eS	Sb	02 19 17.2	+3.1
CFAA	Coronel Fontan	4.22	56	eP	Pn	02 18 25.7	+2.2
RTLL	Cerro Villicun	4.23	51	eP	Pb	02 18 28.8	-5.1
AMOG	MOGNA	4.48	47	eP	Pn	02 18 28.2	+1.0
ACAN	Cantantal	4.66	69	eP	Pn	02 18 35.4	+5.9
MRA	San Martin	5.77	75	eP	Pn	02 18 48.3	+3.4

NEIC 25 02:19:03.6±1.8, 20°74S×174°86W, h10km, mb4.4/2, Error ellipse: s-maj=77.8km s-min=23.5km az=151.0

IDC 25 02:19:04.8±3.1, 20°37S×175°24W, h0km, mb4.3/4, mb1 4.5/4, mb1mx3.9/27, mbtmp4.3/4, Error ellipse: s-maj=100.3km s-min=36.6km az=141.0

ISC 25 02:19:05.2±3.1, 20°5S±0°6×175°1W±0°5, h10km, n12, σ1s14/11, mb4.5/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	36.19	264	P	P	02 26 09.8	+1.5
	2.6nm,0.3s,baz=72,slow=9.6,SNR=5.2						
CTAO	Charters Tower	36.19	264	eP	P	02 26 09.2	+0.9
	1.7nm,0.4s						
AS31	Alice Springs	47.16	256	eP	P	02 27 38.0	-0.1
ASAR	Alice Springs	47.16	256	P	P	02 27 38.4	+0.2
	2.3nm,0.5s,baz=93,slow=7.7,SNR=46						
WRAB	Tennant Creek	47.28	261	eP	P	02 27 38.0	-1.1
	4.0nm,0.8s						
WRA	Warramunga Arr	47.29	261	P	P	02 27 38.5	-0.7
	1.9nm,0.4s,baz=98,slow=8.5,SNR=22						
SOEI	Soe	59.21	271	eP	P	02 29 06.3	-0.9
MJAR	Matsushiro Arr	71.85	322	P	P	02 30 28.5	+0.2
	0.7nm,0.4s,baz=145,slow=6.3,SNR=3.8						
AKASG	Malin Array Be	144.28	333	PKhKP	PKPpre	02 38 38.8	
	0.7nm,0.4s,baz=43,slow=4.1,SNR=7.8						
BR131	Keskin Array S	148.81	314	eP	KPbc	P**Pbc**	02 38 52.3	-1.2
BRTR	Keskin Array B	148.82	314	PKPbc	P**Pbc**	02 38 52.3	-1.2
	0.5nm,0.6s,baz=48,slow=2.1,SNR=3.5						
GERES	GERESS Array B	150.85	348	PKPbc	P**Pbc**	02 38 59.6	+1.5
	0.4nm,0.6s,baz=31,slow=2.3,SNR=4.5						

IDC 25 02:38:55.6±1.7, 21°60N×143°14E, h289km±16km, mb3.3/12, mb1 3.5/16, mb1mx3.4/31, mbtmp4.1/16, Error ellipse: s-maj=21.4km s-min=11.4km az=93.0

ISCJB 25 02:38:56.4±0.6, 21°67N±0°06×143°1E±0°2, h311km, mb3.5/12, Error ellipse: s-maj=20.6km s-min=7.8km az=172.5

ISC 25 02:38:57.7±0.6, 21°70N±0°08×143°1E±0°2, h311km, n20, σ1s00/21, mb3.5/12, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	5.43	352	P	Pn	02 40 20.1	-0.4
	34nm,0.3s,baz=291,slow=22,SNR=55						
JCJ				S	S	02 41 25.4	-1.9
	57nm,0.3s,baz=244,slow=22,SNR=14						
GUMO	Guam	8.25	168	P	Pn	02 40 54.5	0.0
	7.1nm,0.3s,baz=151,slow=7.2,SNR=4.7						
JHJ	Hachijo jima 2	11.74	346	P	Pn	02 41 36.8	0.0
	18nm,0.3s,baz=74,slow=22,SNR=7.1						
MJAR	Matsushiro Arr	15.38	345	P	Pn	02 42 19.1	-1.0
	1.3nm,0.3s,baz=171,slow=11,SNR=14						
MAT	Matsushiro	15.38	345	P	Pn	02 42 19.4	-0.7
JNU	Nakatsue	15.68	319	P	Pn	02 42 22.8	-0.9
	0.5nm,0.3s,baz=85,slow=21,SNR=5.3						
CMAR	Chiang Mai Arr	41.45	274	P	P	02 46 16.7	+1.6
	1.0nm,0.3s,baz=89,slow=6.2,SNR=4.6						
WRA	Warramunga Arr	42.26	192	P	P	02 46 20.6	-0.8
	1.8nm,0.3s,baz=16,slow=8.9,SNR=14						
ASAR	Alice Springs	45.97	192	P	P	02 46 49.3	-1.3
	0.6nm,0.7s,baz=17,slow=9.9,SNR=13						
STKA	Stephens Creek	53.29	182	P	P	02 47 44.0	-1.3
	0.8nm,0.3s,baz=346,slow=7.0,SNR=5.1						
ZALV	Zalesovo Beam	54.13	322	P	P	02 47 52.1	+0.9
	0.5nm,0.4s,baz=102,slow=6.8,SNR=3.8						
MKAR	Makanchi Array	54.61	313	P	P	02 47 55.9	+1.1
	0.5nm,0.6s,baz=92,slow=8.6,SNR=4.5						
ILAR	Eielson Array	62.09	27	P	P	02 48 45.6	-0.2
	0.3nm,0.7s,baz=267,slow=5.1,SNR=5.1						
YKA	Yellowknife Ar	76.51	28	P	P	02 50 14.5	+0.9
	0.5nm,0.5s,baz=291,slow=5.9,SNR=3.3						
ARCES	ARCESS Array B	78.88	341	P	P	02 50 27.3	+0.8
	1.2nm,0.5s,baz=72,slow=8.0,SNR=17						
FINES	FINESS Array B	83.13	334	P	P	02 50 48.7	-0.2
	1.5nm,0.5s,baz=75,slow=5.6,SNR=21						
NVAR	Mina Array Bea	83.23	51	P	P	02 50 51.1	+0.9
	0.6nm,0.6s,baz=269,slow=6.7,SNR=5.4						
BRTR	Keskin Array B	90.25	313	P	P	02 51 23.6	-0.3
	0.5nm,0.8s,baz=68,slow=3.9,SNR=2.8						
TORD	Torodi Ar. Bea	128.65	309	PKP	PKPdf	02 57 28.9	0.0
	0.4nm,0.8s,baz=49,slow=1.8,SNR=5.2						
LPAZ	La Paz	150.06	85	PKPbc	PKPbc	02 58 14.2	+0.9
	1.8nm,0.5s,baz=274,slow=1.5,SNR=12						

CASC 25 02:41:45.1±1.4, 13°36N×90°92W, h5km±7km, MD3.8, ML3.8, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.93	29	eP	Pg	02 42 02.9	-0.3
FUG	Fuego 3	1.09	4	eP	Pg	02 42 05.9	-0.3
JAT	Jato	1.18	324	eP	Pg	02 42 07.3	-0.5
NBG	Las Nubes	1.34	25	eP	Pn	02 42 10.8	-0.2
SBLS	San Blas	1.35	69	eP	Pn	02 42 09.5	-1.5
RTR	El Retiro	1.35	67	eP	Pn	02 42

mb1 3.8/3,mb1mx3.5/40,mbtmp3.6/3,Error ellipse: s-maj=207.7km s-min=25.5km az=63.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.78**	**154**	P	P	03 31 13.4	-0.3
	0.4nm,0.3s,baz=331,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**26.94**	**158**	P	P	03 31 42.9	+0.4
	0.5nm,0.3s,baz=336,slow=7.7,SNR=22						
MKAR	**Makanchi Array**	**57.64**	**328**	P	P	03 35 51.0	-0.3
	0.5nm,0.5s,baz=127,slow=7.8,SNR=5.3						

IDC 25 03:27:23.1±1.7,1°.10N×123°.73E,h0km,mb3.2/3, mb1 3.4/3,mb1mx3.2/41,mbtmp3.2/3,Error ellipse: s-maj=209.8km s-min=25.1km az=63.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.36**	**154**	P	P	03 32 33.5	0.0
	0.2nm,0.3s,baz=332,slow=11,SNR=2.6						
ASAR	**Alice Springs**	**26.53**	**159**	P	P	03 33 02.9	0.0
	0.1nm,0.3s,baz=341,slow=7.0,SNR=4.3						
MKAR	**Makanchi Array**	**58.07**	**328**	P	P	03 37 18.2	-0.1
	0.2nm,0.4s,baz=142,slow=7.3,SNR=2.4						

*IDC **25** 03:29:37.6±0.8,6°.17S×150°.47E,h0km,mb3.8/8, mb1 4.1/9,mb1mx3.8/32,mbtmp3.9/9,ML2.4/1,MS3.4/1, Ms1 3.4/1,ms1mx3.0/28,Error ellipse: s-maj=38.1km s-min=18.0km az=111.0*

*ISCJB **25** 03:29:41.1±0.7,6°.24S±0°.09×150°.4E±0°.1,h35km, mb4.0/10,Error ellipse: s-maj=22.8km s-min=7.8km az=26.8*

*NEIC **25** 03:29:42.6±4.2,6°.23S×150°.42E,h34km±28km,mb4.4/4, Error ellipse: s-maj=18.6km s-min=11.2km az=102.0*

ISC 25 03:29:43.1±0.7,6°.2S±0°.1×150°.4E±0°.2,h35km,n23, σ1º05/27,mb3.9/10,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.53**	**226**	Pn	**Pn**	**03 30 50.3**	**+1.2**
	11nm,0.3s,baz=51,slow=4.1,SNR=15						
PMG				Sn	**Sn**	**03 31 40.6**	**0.0**
	24nm,0.3s,baz=93,slow=18,SNR=10						
PMG				LR	LR	03 32 39.7	
	comp=Z,443nm,20.1s,baz=13,slow=40						
PMG	**Port Moresby**	**4.53**	**226**	*e*Pn	**Pn**	**03 30 49.1**	**0.0**
PMG				Sn	**Sn**	**03 31 40.6**	**0.0**
CTAO	**Charters Tower**	**14.36**	**196**	*e*Pn	**Pn**	**03 33 02.9**	**-1.1**
	18nm,1.1s						
WRAB	**Tennant Creek**	**20.73**	**227**	*e*P	**P**	**03 34 20.0**	**-0.8**
	16nm,0.8s						
WRA	**Warramunga Arr**	**20.74**	**227**	P	**P**	**03 34 20.5**	**-0.5**
	6.8nm,0.7s,baz=50,slow=10,SNR=28						
WRA				PcP	**PcP**	**03 38 30.1**	**+0.3**
	1.4nm,1.0s,baz=46,slow=2.2,SNR=4.1						
AS31	**Alice Springs**	**23.52**	**221**	*e*P	**P**	**03 34 49.8**	**-0.4**
ASAR	**Alice Springs**	**23.52**	**221**	P	**P**	**03 34 49.7**	**-0.5**
	1.1nm,0.5s,baz=53,slow=9.0,SNR=25						
ASAR				PcP	**PcP**	**03 38 35.9**	**+0.6**
	0.3nm,0.6s,baz=50,slow=2.9,SNR=3.4						
STKA	**Stephens Creek**	**26.82**	**197**	P	**P**	**03 35 20.4**	**+0.2**
	1.7nm,0.8s,baz=28,slow=14,SNR=5.8						
FORT	**Forrest**	**32.21**	**218**	*e*P	**P**	**03 36 08.0**	**0.0**
	11nm,0.8s						
MBWA	**Marble Bar**	**33.22**	**240**	*e*P	**P**	**03 36 16.8**	**-0.3**
	5.5nm,0.9s						
MJAR	**Matsushiro Arr**	**44.07**	**346**	P	**P**	**03 37 48.1**	**+0.3**
	0.4nm,0.4s,baz=154,slow=7.3,SNR=4.3						
KSRS	**Korea Array**	**48.28**	**336**	P	**P**	**03 38 20.9**	**+0.1**
	0.7nm,0.5s,baz=156,slow=8.7,SNR=5.9						
KSAR	**Wonju Array Be**	**48.28**	**336**	P	**P**	**03 38 20.9**	**0.0**
KURK	**Kurchatov**	**83.46**	**323**	P	**P**	**03 42 05.8**	**-1.2**
KURBB	**Kurchatov Arra**	**83.49**	**322**	P	**P**	**03 42 05.8**	**-1.4**
	0.3nm,0.5s,baz=109,slow=3.8,SNR=6.1						
ILAR	**Eielson Array**	**84.37**	**22**	P	**P**	**03 42 09.9**	**-1.5**
	0.6nm,0.8s,baz=241,slow=4.9,SNR=6.5						
EKS2	**Erkin-Say**	**84.47**	**314**	*e*P	**P**	**03 42 12.5**	**-0.1**
	0.9nm,0.5s						
NVAR	**Mina Array Bea**	**94.81**	**52**	P	**P**	**03 43 02.0**	**+0.1**
	0.5nm,0.8s,baz=265,slow=6.2,SNR=3.4						
NVAR	**Mina Array Bea**	**94.81**	**52**	P		**03 43 02.0**	**+0.1**
GERES	**GERESS Array B**	**124.00**	**327**	PKP	**PKPdf**	**03 48 38.0**	**+0.1**
	0.8nm,0.7s,baz=51,slow=0.9,SNR=6.4						
TOA0	**Torodi Ar. Sit**	**148.46**	**285**	*e*PKPbc	**PKPdf**	**03 49 26.3**	**+2.7**
TORD	**Torodi Ar. Bea**	**148.46**	**285**	PKPbc	**PKPdf**	**03 49 26.4**	**+2.9**
	2.9nm,0.6s,baz=99,slow=2.5,SNR=60						
BDFB	**Brasilia**	**151.60**	**140**	PKPbc	**PKPbc**	**03 49 35.6**	**+0.8**
	1.9nm,0.6s,baz=220,slow=3.8,SNR=4.8						

*IDC **25** 03:39:15.7±0.4,15°.12S×173°.41W,h0km,mb5.1/23, mb1 5.3/23,mb1mx5.2/26,mbtmp5.1/23,MS5.5/23, Ms1 5.5/23,ms1mx5.4/29,Error ellipse: s-maj=16.1km s-min=12.9km az=128.0*

*ISCJB **25** 03:39:16.2±0.1,15°.15S±0°.03×173°.42W±0°.02,h10km, mb5.5/248,MS5.7/202,Error ellipse: s-maj=4.8km s-min=2.8km az=167.7*

*GCMT **25** 03:39:17.4±0.1,14°.84S×173°.26W,h13km,MW5.9/134, Moment Tensor Solution. s121,c258; s134,c350; Duration: 2s1 Moment tensor: Scale 10¹⁷Nm; Mrr0.80±.05; Mθθ3.72±.06; Mϕϕ-4.52±.06; Mrθ1.27±.15; Mθϕ4.28±.06; Mϕr5.13±.35; Best double couple: M₀7.93400×10¹⁷ NP1:φs19.00000°,δ87.00000°, λ138.00000°. NP2:φs111.00000°,δ48.00000°,λ3.00000°. Principal axes: T 7.4310, Plg30.0000°, Azm327.0000°; N 1.0020, Plg48.0000°, Azm196.0000°; P -8.4370, Plg26.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **25** 03:39:17.4±0.1,15°.07S×173°.55W,h7km,mb5.6/207, ME6.2,MS5.7/155,MW5.9,MW5.9 Error ellipse: s-maj=5.3km s-min=3.1km az=148.0,Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

*BJI **25** 03:39:21.5,14°.68S×173°.26W,h40km,mb5.4/55, mB6.2/51,Ms5.8/56,Ms7 5.5/53*

*MOS **25** 03:39:21.2±1.0,14°.82S×173°.40W,h33km,mb5.7/74, MS5.6/65,Error ellipse: s-maj=9.1km s-min=7.0km az=73.2*

*NEIC **25** 03:39:22.0±0.0,15°.03S×173°.54W,h15km Best double couple: NP1:φs30.00000°,δ85.00000°,λ114.00000°. NP2:φs131.00000°,δ24.00000°,λ11.00000°. Principal axes: T 1.0600, Plg44.0000°, Azm324.0000°; N -0.1200, Plg23.0000°, Azm208.0000°; P -0.9500, Plg35.0000°, Azm100.0000°;*

*SZGRF **25** 03:39:26.3,14°.80S×172°.16W,h47km,mb5.8,Samoa Islands*

*NEIC **25** 03:39:44.7±0.0,14°.23S×173°.74W,h10km,Moment Tensor Solution. s137 Moment tensor: Scale 10¹⁷Nm; Mrr0.71; Mθθ2.98; Mϕϕ-3.69; Mrθ3.32; Mθϕ3.23; Mϕr5.18; Best double couple: M₀7.70000×10¹⁷ NP1:φs118.00000°, δ38.00000°,λ6.00000°. NP2:φs23.00000°,δ86.00000°, λ128.00000°. Principal axes: T 8.1700, Plg37.0000°, Azm326.0000°; N -0.9600, Plg37.0000°, Azm200.0000°; P -7.2100, Plg30.0000°, Azm83.0000°;*

ISC 25 03:39:18.1±0.2,14°.97S±0°.05×173°.51W±0°.05,h10km, n1495,σ1ᵍ37/1416,mb5.6/247,MS5.7/205,86C-38D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.98**	**58**	Pn	Pn	03 39 44.4	-7.3
	1µm,0.3s,baz=180,slow=1.5,SNR=304						
AFI				Sn	Sn	03 40 03.9	-13
	3µm,0.3s,baz=58,slow=23,SNR=17						
AFI	**Afiamalu**	**1.98**	**58**	*e*Pn	Pn	03 39 44.1	-7.6
AFI				Sn	Sn	03 40 03.9	-13
NIUE	**Niue**	**5.33**	**141**	⇑P	Pn	03 40 32.5	-5.2
	baz=5.0,SNR=129						
MSVF	**Nonsavu**	**8.56**	**250**	Pn	Pn	03 41 30.0	+7.8
	6µm,1.3s						
MSVF	**Nonsavu**	**8.56**	**250**	*e*P	Pn	03 41 29.5	+7.3
MSVF				pmax	pmax		
	comp=Z,2µm,1.4s						
MSVF	**Nonsavu**	**8.56**	**250**	*e*P	Pn	03 41 29.4	+7.3
	comp=Z,2µm,1.4s						
RAR	**Rarotonga**	**14.45**	**117**	Pn	Pn	03 42 36.7	-6.2
	comp=Z,5.8nm,0.3s,baz=259,slow=8.8,SNR=27						
RAR				Sn	Sn	03 45 08.2	-15
	comp=Z,1.7nm,0.3s,baz=144,slow=19,SNR=2.7						
RAR				LR	LR	03 46 36.3	
	comp=Z,20µm,21.0s,baz=304,slow=31						
DZM	**Mont Dzumac**	**20.27**	**247**	P	**P**	**03 43 52.3**	**-1.7**
	comp=Z,33nm,1.1s,baz=90,slow=24,SNR=5.8						
DZM				LR	LR	03 50 28.8	
	comp=Z,26µm,20.2s,baz=0.0,slow=33						
DZM	**Mont Dzumac**	**20.27**	**247**	*e*P	**P**	**03 43 53.9**	**-0.2**
DZM	**Mont Dzumac**	**20.27**	**247**	*e*P	**P**	**03 43 52.5**	**-1.6**
	comp=Z,1µm,1.6s						
NOUC	**Port Laguerre**	**20.40**	**247**	*e*P	**P**	**03 43 57.3**	**+1.9**
TARA	**Tarawa**	**21.06**	**319**	*e*P	**P**	**03 44 04.2**	**+1.7**
	comp=Z,558nm,1.3s						
TARA				LR	LR		
	comp=Z,24µm,19.0s						
PPT	**Papeete**	**23.11**	**100**	P	P	03 44 20.7	-3.8
	comp=Z,237nm,1.2s,baz=1.5,slow=9.4,SNR=2.5						
PPT				LR	LR	03 50 44.9	
	comp=Z,12µm,21.2s,baz=268,slow=30						
PAE	**Paea**	**23.11**	**100**	*e*P	**P**	**03 44 22.2**	**-2.2**
	comp=Z,52nm,1.2s						
PAE	**Paea**	**23.11**	**100**	*e*T	T	04 07 34.7	
	comp=Z,16nm,0.3s						
PPT2	**Papeete2**	**23.11**	**100**	*e*P	**P**	**03 44 22.6**	**-1.9**
	comp=Z,381nm,1.4s						
PPT2				*e*LQ	LQ	03 48 50.5	
	comp=Z,57µm,28.2s						
PPT2				*e*LR	LR	03 49 41.7	
	comp=Z,33µm,25.0s,baz=266						
PPT2	**Papeete2**	**23.11**	**100**	*e*T	T	04 07 35.5	
	comp=Z,27nm,0.4s						
OUZ	**Omahuta**	**23.26**	**208**	*e*P	**P**	**03 44 28.4**	**+2.6**
	comp=Z,167nm,1.3s						
TIAR	**Tiarei**	**23.33**	**100**	*e*P	**P**	**03 44 24.5**	**-2.2**
	comp=Z,92nm,1.3s						
TIAR	**Tiarei**	**23.33**	**100**	*e*T	T	04 07 50.9	
	comp=Z,12nm,0.3s						
TVO	**Taravao**	**23.43**	**100**	*e*P	**P**	**03 44 25.5**	**-2.3**
	comp=Z,200nm,1.5s						
TVO	**Taravao**	**23.43**	**100**	*e*T	T	04 07 58.7	
	comp=Z,8.6nm,0.4s						
TBI	**Tubuai**	**24.17**	**114**	*e*P	**P**	**03 44 33.4**	**-1.3**
	comp=Z,499nm,1.2s						
TBI				*e*LQ	LQ	03 49 17.9	
	comp=Z,43µm,28.5s						
TBI				*e*LR	LR	03 50 12.7	
	comp=Z,33µm,26.2s,baz=285						
TBI	**Tubuai**	**24.17**	**114**	*e*T	T	04 08 59.7	
	comp=Z,55nm,0.4s						
MEH	**Mehetia**	**24.57**	**100**	*e*P	**P**	**03 44 36.1**	**-2.3**
	comp=Z,180nm,1.5s						
URZ	**Urewera**	**24.64**	**198**	P	**P**	**03 44 36.3**	**-2.5**
	comp=Z,24nm,0.6s,baz=346,slow=6.1,SNR=13						
URZ				LR	LR	03 53 23.2	
	comp=Z,24µm,20.4s,baz=18,slow=35						
URZ	**Urewera**	**24.64**	**198**	*e*P	**P**	**03 44 38.2**	**-0.7**
	comp=Z,80nm,1.0s						
PMOR	**Pomariorio Ree**	**24.74**	**93**	*e*P	**P**	**03 44 37.4**	**-2.5**
	comp=Z,2µm,1.4s						
PMOR	**Pomariorio Ree**	**24.74**	**93**	*e*T	T	04 09 33.9	
	comp=Z,12nm,0.3s						
VAH	**Vaihoa**	**24.98**	**94**	*e*P	**P**	**03 44 39.4**	**-2.8**
	comp=Z,1µm,1.4s						
VAH	**Vaihoa**	**24.98**	**94**	*e*T	T	04 09 52.5	
	comp=Z,24nm,0.3s						
BKZ	**Black Stump Fm**	**25.66**	**198**	*e*P	**P**	**03 44 49.8**	**+1.6**
	comp=Z,48nm,1.1s						
HNR	**Honiara**	**26.51**	**279**	LR	LR	03 53 47.0	
	comp=Z,17µm,18.4s,baz=126,slow=33						
BFZ	**Birch Farm**	**27.13**	**197**	*e*P	**P**	**03 45 04.2**	**+2.8**
	comp=Z,52nm,0.9s						
SNZO	**South Karori**	**28.17**	**199**	PFAKE			
SNZO				LR	LR	03 45 20.0	+9.4
	comp=Z,11µm,19.0s						
RPZ	**Rata Peaks**	**31.54**	**202**	P	P	03 45 38.6	-1.9
	comp=Z,9.7nm,0.7s,baz=26,slow=2.4,SNR=5.5						
RPZ	**Rata Peaks**	**31.54**	**202**	*e*P	**P**	**03 45 41.4**	**+0.8**
	comp=Z,36nm,1.1s						
TAOE	**Nuku Hiva Isla**	**33.17**	**83**	*e*LR	LR	03 54 28.5	
	comp=Z,23µm,24.0s,baz=260						
TAOE	**Nuku Hiva Isla**	**33.17**	**83**	*e*T	T	04 20 02.6	
	comp=Z,289nm,0.3s						
DCZ	**Deep Cove**	**34.51**	**204**	*e*P	**P**	**03 46 07.5**	**+1.1**
	comp=Z,118nm,1.3s						
WHZ	**Wether Hill Ro**	**34.55**	**203**	*e*P	**P**	**03 46 07.3**	**+0.5**
	comp=Z,374nm,1.6s						
ARMA	**Armidale**	**35.48**	**238**	⇑P	**P**	**03 46 13.7**	**-1.4**
	baz=36,SNR=7.6						
ARMA	**Armidale**	**35.48**	**238**	*e*P	**P**	**03 46 13.8**	**-1.4**
	comp=Z,26nm,1.0s						
RMQ	**Roma**	**36.98**	**246**	⇓P	**P**	**03 46 27.2**	**-0.7**
	baz=38,SNR=4.8						
RKT	**Rikitea**	**37.23**	**109**	*e*P	**P**	**03 46 29.7**	**-0.3**
	comp=Z,256nm,1.5s						
RKT				*e*S	**S**	**03 52 14.9**	**-2.3**
	comp=Z,2µm,31.0s						
RKT				*e*LQ	LQ	03 54 47.0	
	comp=Z,9µm,26.8s						
RKT				*e*LR	LR	03 56 16.2	
	comp=Z,17µm,24.0s,baz=281						
RKT	**Rikitea**	**37.23**	**109**	*e*T	T	04 25 16.4	
	comp=Z,20nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**38.54**	**329**	T	T	04 27 48.7	
	baz=147						
H11S3	**WAKE ISLAND Hy**	**38.55**	**329**	T	T	04 27 59.0	
	baz=147						
H11S1	**WAKE ISLAND Hy**	**38.56**	**329**	T	T	04 27 47.4	
	baz=147						
CTAO	**Charters Tower**	**38.64**	**256**	*e*P	**P**	**03 46 41.2**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,40nm,1.1s						
CTAO				MLR	MLR		
	comp=Z,5µm,22.0s						
CTAO	**Charters Tower**	**38.64**	**256**	*e*P	**P**	**03 46 41.2**	**-0.8**
	comp=Z,40nm,1.1s						
CTAO				LR	LR		
	comp=Z,5µm,22.0s						
POHA	**Pohakuloa**	**38.77**	**28**	PFAKE			
POHA				LR	LR	03 47 00.0	+17
	comp=Z,4µm,21.0s						
PMG	**Port Moresby**	**38.80**	**274**	⇑P	**P**	**03 46 44.6**	**+1.2**
PMG				pmax	pmax		
	comp=Z,184nm,1.1s						
PMG	**Port Moresby**	**38.80**	**274**	*e*P	**P**	**03 46 42.1**	**-1.3**
	comp=Z,58nm,1.2s						
PMG				LR	LR		
	comp=Z,7µm,21.0s						
CNB	**Canberra Magne**	**38.94**	**232**	P	**P**	**03 46 43.1**	**-1.3**
	baz=39,SNR=13						
CAN	**Canberra**	**39.21**	**232**	*e*P	P	03 46 44.4	-2.3
CAN				pmax	pmax		
	comp=Z,143nm,1.6s						
CAN				MLR	MLR		
	comp=Z,4µm,20.0s						
CAN	**Canberra**	**39.21**	**232**	⇓P	**P**	**03 46 45.0**	**-1.7**
	baz=40						
CAN	**Canberra**	**39.21**	**232**	*e*P	P	03 46 44.4	-2.3
	comp=Z,143nm,1.6s						
CAN				LR	LR		
	comp=Z,4µm,20.0s						
KIP	**Kipapa**	**39.23**	**23**	PFAKE			
KIP				LR	LR	03 47 00.0	+13
	comp=Z,4µm,20.0s						
WAKE	**Wake Island**	**39.24**	**330**	PFAKE			
WAKE				LR	LR	03 47 00.0	+13
	comp=Z,7µm,19.0s						
YNG	**Young**	**39.32**	**234**	⇑P	**P**	**03 46 46.3**	**-1.2**
	baz=40,SNR=6.0						
H11N3	**WAKE ISLAND Hy**	**39.49**	**330**	T	T	04 28 51.5	
	baz=149,slow=76,SNR=35						
H11N1	**WAKE ISLAND Hy**	**39.49**	**330**	T	T	04 28 48.7	
	baz=149,slow=76,SNR=52						
H11N2	**WAKE ISLAND Hy**	**39.51**	**330**	T	T	04 28 51.0	
	baz=149,slow=76,SNR=42						
MTSU	**Mount Surprise**	**40.49**	**260**	P	**P**	**03 46 57.0**	**-0.5**
	baz=41,SNR=10						
CMSA	**Cobar Meteorol**	**40.69**	**239**	⇑P	**P**	**03 46 57.1**	**-1.8**
	baz=41,SNR=19						
QLP	**Quilpie**	**40.99**	**247**	⇓P	P	03 46 59.2	-2.4
	baz=42,SNR=18						
COEN	**Coen**	**41.91**	**266**	⇓P	**P**	**03 47 09.3**	**+0.1**
	baz=42,SNR=5.2						
COEN	**Coen**	**41.91**	**266**	*e*P	**P**	**03 47 08.9**	**-0.3**
	comp=Z,156nm,1.7s						
TOO	**Toolangi**	**42.66**	**230**	⇓P	**P**	**03 47 13.7**	**-1.3**
	baz=43,SNR=25						
MIDW	**Midway**	**43.09**	**355**	PFAKE		03 47 30.0	+12
MIDW				LR	LR		
	comp=Z,6µm,20.0s						
TAU	**Tasmania Unive**	**43.56**	**222**	PFAKE		03 47 30.0	+7.8
TAU				LR	LR		
	comp=Z,7µm,20.0s						
STKA	**Stephens Creek**	**44.16**	**240**	P	P	03 47 25.3	-1.9
	comp=Z,12nm,1.0s,baz=73,slow=6.9,SNR=21						
STKA				LR	LR	04 03 38.8	
	comp=Z,6µm,20.4s,baz=73,slow=33						
STKA	**Stephens Creek**	**44.16**	**240**	⇓P	**P**	**03 47 26.1**	**-1.2**
	baz=45						
STKA	**Stephens Creek**	**44.16**	**240**	*e*P	**P**	**03 47 25.5**	**-1.7**
	comp=Z,16nm,1.3s						
QIS	**Mount Isa**	**44.88**	**256**	⇓P	**P**	**03 47 31.6**	**-1.6**
	baz=45,SNR=10.0						
ARPS	**Mount Arapiles**	**45.17**	**233**	P	**P**	**03 47 33.9**	**-1.3**
	baz=46,SNR=9.3						
HTT	**Hallett**	**46.68**	**238**	P	P	03 47 45.4	-1.9
	baz=47,SNR=14						
JAY	**Jayapura**	**46.80**	**281**	P	**P**	**03 47 49.4**	**+0.9**
	baz=47,SNR=5.3						
BBOO	**Buckleboo**	**48.94**	**239**	P	P	03 48 02.6	-2.1
	baz=50,SNR=13						
BBOO	**Buckleboo**	**48.94**	**239**	*e*P	P	03 48 02.3	-2.5
	comp=Z,53nm,1.1s						
WRAB	**Tennant Creek**	**49.84**	**256***c*	*i*P	P	03 48 09.9	-1.9
WRAB				pmax	pmax		
	comp=Z,222nm,1.3s						
WRAB	**Tennant Creek**	**49.84**	**256**	*e*P	P	03 48 08.8	-3.0
	comp=Z,143nm,1.3s						
WRAB				LR	LR		
	comp=Z,6µm,21.0s						
WRA	**Warramunga Arr**	**49.84**	**256**	P	P	03 48 09.4	-2.5
	comp=Z,33nm,0.8s,baz=90,slow=7.0,SNR=111						
WRA				LR	LR	04 06 48.4	
	comp=Z,6µm,21.8s,baz=95,slow=33						
GUMO	**Guam**	**50.02**	**303**	LR	LR	04 07 01.9	
	comp=Z,4µm,19.5s,baz=77,slow=33						
AS31	**Alice Springs**	**50.15**	**252**	*e*P	P	03 48 12.0	-2.1
ASAR	**Alice Springs**	**50.15**	**252**	P	**P**	**03 48 12.5**	**-1.6**
	comp=Z,130nm,0.7s,baz=85,slow=8.4,SNR=498						
ASAR				LR	LR	04 07 30.5	
	comp=Z,13µm,21.2s,baz=90,slow=34						
WRKA	**Warakurna**	**55.25**	**250**	P	P	03 48 49.7	-2.2
	baz=56,SNR=82						
FORT	**Forrest**	**55.52**	**243**	⇑P	P	03 48 51.2	-2.5
	baz=56,SNR=8.2						
FORT	**Forrest**	**55.52**	**243**	*e*P	P	03 48 50.9	-2.8
	comp=Z,62nm,0.8s						
KNRA	**Kununurra**	**55.53**	**261**	⇑P	**P**	**03 48 52.6**	**-1.3**
	baz=56,SNR=3.8						
DRV	**Dumont d'Urvil**	**59.97**	**199**	P	P	03 49 09.0	-15
DRV				S	S	03 57 17.0	-19
DRV				L	L	04 04 00.0	
DRV				R		04 07 00.0	
CBIJ	**Chichi jima**	**59.98**	**314**	*e*P	**P**	**03 49 25.4**	**+0.3**
	comp=Z,122nm,1.4s						
TNTI	**Ternate**	**60.50**	**280**	*e*P	**P**	**03 49 29.1**	**+0.3**
	comp=Z,340nm,1.6s						
RPN	**Rapa Nui**	**60.55**	**113**	PFAKE		03 49 40.0	+11
RPN				LR	LR		
	comp=Z,4µm,22.0s						
SOEI	**Soe**	**60.85**	**267**	*e*P	**P**	**03 49 30.5**	**-0.9**
	comp=Z,215nm,1.4s						
MBWA	**Marble Bar**	**63.38**	**254**	*e*P	P	03 49 46.2	-2.0
	comp=Z,32nm,1.1s						
MBWA				LR	LR		
	comp=Z,7µm,19.0s						
SBA	**Scott Base**	**63.67**	**185**	*e*P	**P**	**03 49 50.4**	**+1.3**
SBA				pmax	pmax		
	comp=Z,294nm,2.0s						
SBA				MLR	MLR		
	comp=Z,3µm,19.0s						
SBA	**Scott Base**	**63.67**	**185**	*e*P	**P**	**03 49 50.4**	**+1.3**
	comp=Z,294nm,2.0s						
SBA				LR	LR		
	comp=Z,3µm,19.0s						
VNDA	**Vanda**	**63.79**	**186**	P	**P**	**03 49 49.6**	**-0.3**
	comp=Z,7.1nm,1.0s,baz=4.9,slow=6.3,SNR=17						
VNDA				LR	LR	04 17 27.4	
	comp=Z,2µm,18.0s,baz=20,slow=36						
MEEK	**Meekatharra**	**63.88**	**247**	⇑P	P	03 49 49.4	-2.1
	baz=64,SNR=4.9						
DAV	**Davao City (W)**	**64.22**	**286**	PFAKE		03 50 10.0	+16
DAV				LR	LR		
	comp=Z,4µm,19.0s						
KLBR	**Kellerberrin**	**64.35**	**242**	⇑P	**P**	**03 49 53.0**	**-1.5**
	baz=65,SNR=6.2						
LUWI	**Luwuk**	**64.38**	**276**	*e*P	**P**	**03 49 54.9**	**+0.1**
	comp=Z,189nm,1.5s						
JHJ2	**Mitsune**	**65.36**	**318**	*e*P	**P**	**03 50 01.9**	**+1.1**
	comp=Z,129nm,1.1s						
JHJ	**Hachijo jima 2**	**65.38**	**318**	P	**P**	**03 50 01.7**	**+0.7**
	comp=Z,190nm,1.0s,baz=178,slow=7.3,SNR=6.7						
JHJ				LR	LR	04 15 32.0	
	comp=Z,2µm,19.1s,baz=104,slow=33						
KAPI	**Kappang**	**66.27**	**271**	PFAKE		03 50 20.0	+13
KAPI				LR	LR		
	comp=Z,1µm,20.0s						
MJAR	**Matsushiro Arr**	**68.54**	**320**	P	**P**	**03 50 21.0**	**-0.1**
	comp=Z,32nm,1.1s,baz=160,slow=5.9,SNR=73						
MJAR				LR	LR	04 14 52.9	
	comp=Z,5µm,21.7s,baz=125,slow=31						
MAJO	**Matsushiro**	**68.55**	**320**	*e*P	**P**	**03 50 21.1**	**0.0**
MAJO				pmax	pmax		
	comp=Z,246nm,1.7s						
MAJO				MLR	MLR		
	comp=Z,7µm,22.0s						
MAJO	**Matsushiro**	**68.55**	**320**	*e*P	**P**	**03 50 21.1**	**0.0**
	comp=Z,246nm,1.7s						
MAJO				LR	LR		
	comp=Z,7µm,22.0s						
MAT	**Matsushiro**	**68.55**	**320**	P	**P**	**03 50 20.8**	**-0.3**
MAT				S	**S**	**03 59 27.2**	**+3.7**
ERM	**Erimo**	**69.35**	**327***d*	*i*P	**P**	**03 50 26.8**	**+0.9**
ERM				pmax	pmax		
	comp=Z,62nm,1.6s						
ERM	**Erimo**	**69.35**	**327**	*e*P	**P**	**03 50 27.0**	**+1.1**
	comp=Z,74nm,1.8s						
ERM				LR	LR		
	comp=Z,5µm,20.0s						
KUR	**Kuril'sk**	**69.40**	**332***c*	*i*P	**P**	**03 50 27.0**	**+0.9**
KUR				*i*S	**S**	**03 59 36.5**	**+3.4**
KUR				*i*		04 00 22.2	
KUR				pmax	pmax		
	comp=Z,86nm,1.7s						
YUK	**Yuzh-Kuril'sk**	**69.44**	**330***c*	*i*P	**P**	**03 50 27.1**	**+0.7**
YUK				*i*S	**S**	**03

comp=E,2µm,18.0s
SKR MLR MLR
comp=Z,2µm,18.0s
BSC Santa Cruz Isl 70.69 45 P P 03 50 34.4 0.0
baz=71
CASY Casey 70.76 205 eP P 03 50 33.2 -1.0
comp=Z,85nm,1.6s
CASY LR LR
comp=Z,2µm,20.0s
SCI San Clemente I 70.89 47 P P 03 50 35.8 +0.2
baz=71
SBC Santa Barbara 70.89 45 P P 03 50 36.2 +0.7
baz=71
PKM Peak Mountain 71.08 44 P P 03 50 36.9 -0.1
baz=71
ASAJ Asahikawa 71.12 328 eP P 03 50 37.6 +0.8
comp=Z,31nm,1.3s
BLG Laguna Peak 71.15 45 P P 03 50 36.9 -0.3
baz=71
SMMC Simmler 71.19 44 P P 03 50 38.1 +0.7
baz=72
CIS Catalina Islan 71.22 46 P P 03 50 36.8 -0.9
baz=72
JNU Nakatsue 71.43 313 P P 03 50 39.4 +0.4
comp=Z,34nm,1.0s,baz=110,slow=6.2,SNR=36
JNU LR LR 04 16 43.5
comp=Z,2µm,21.0s,baz=122,slow=31
JNU Nakatsue 71.43 313 eP P 03 50 38.9 -0.1
comp=Z,114nm,1.7s
FMP Fort Macarthur 71.47 46 P P 03 50 38.8 -0.2
baz=72
KCPM Cahto Peak 71.52 39 eP P 03 50 40.1 +0.6
comp=Z,44nm,1.5s
KIPM Iron Peak 71.66 38 eP P 03 50 41.2 +0.9
comp=Z,111nm,1.7s
OSI Osito Adit 71.67 45 P P 03 50 40.4 +0.1
baz=72
OSI Osito Adit 71.67 45 eP P 03 50 40.8 +0.5
comp=Z,29nm,1.2s
DECC Green Verdugo 71.73 46 P P 03 50 40.5 -0.2
baz=72
PET Petropavlovsk 71.84 343 ceP P 03 50 41.0 +0.2
PET eS S 03 59 59.6 -1.7
PET pmax pmax
comp=Z,1µm,4.2s
PET pmax pmax
comp=Z,64nm,1.2s
PET pmax pmax
comp=Z,700nm,6.9s
PET MLR MLR
comp=Z,2µm,19.0s
PET MLR MLR
comp=Z,2µm,19.0s
PET Petropavlovsk 71.84 343 PFAKE 03 50 50.0 +9.2
PET LR LR
comp=Z,3µm,22.0s
109C Camp Elliot, M 71.86 48 P P 03 50 41.3 -0.2
baz=72
ARVC Arvin 71.88 45 P P 03 50 41.4 -0.1
baz=72
MWC Mount Wilson 71.91 46 eP P 03 50 41.9 -0.1
MWC pmax pmax
comp=Z,32nm,1.1s
MWC Mount Wilson 71.91 46 eP P 03 50 41.9 -0.1
comp=Z,32nm,1.1s
CHGN Chignik 72.12 9 eP P 03 50 42.7 +0.2
MURC Murrieta 72.17 47 P P 03 50 43.2 -0.2
baz=72,SNR=6.0
KHMM Horse Mountain 72.18 37 eP P 03 50 44.4 +1.0
comp=Z,110nm,1.9s
PEA0B Petropavlovsk- 72.19 342 eP P 03 50 43.9 +0.9
PETK Petropavlovsk- 72.19 342 P P 03 50 42.1 -0.9
comp=Z,25nm,0.8s,baz=132,slow=8.9,SNR=21
RCTC Rector, Farmer 72.27 44 P P 03 50 43.4 -0.4
baz=72
EDW2 Edwards Air Fo 72.31 45 P P 03 50 44.0 -0.2
baz=73,SNR=14
MONP Monument Peak 72.35 48 P P 03 50 44.2 -0.5
baz=73,SNR=6.7
ISA Isabella 72.42 44 eP P 03 50 45.4 +0.6
ISA pmax pmax
comp=Z,76nm,1.6s
ISA Isabella 72.42 44 P P 03 50 44.9 +0.1
baz=73,SNR=6.8
ISA S S 04 00 10.1 +1.2
baz=73
ISA Isabella 72.42 44 eP P 03 50 45.4 +0.6
comp=Z,76nm,1.6s
IBP Imperial Bould 72.47 48 P P 03 50 45.0 -0.2
baz=73
CMB Columbia Colle 72.51 41 eP P 03 50 45.6 +0.3
CMB pmax pmax
comp=Z,11nm,0.8s
CMB Columbia Colle 72.51 41 eP P 03 50 45.6 +0.3
comp=Z,11nm,0.8s
KKM Kota Kinabalu 72.69 281 eP P 03 50 47.5 +0.5
KKM LR LR
comp=Z,1µm,20.0s
WDC Whiskeytown Da 72.70 38 eP P 03 50 46.8 +0.5
WDC pmax pmax
comp=Z,118nm,1.7s
WDC Whiskeytown Da 72.70 38 eP P 03 50 46.8 +0.5
comp=Z,118nm,1.7s
PFO Pinyon Flat Ob 72.70 47 eP P 03 50 47.0 +0.3
PFO pmax pmax
comp=Z,100nm,1.9s
PFO MLR MLR
comp=Z,7µm,22.0s
PFO Pinyon Flat Ob 72.70 47 P P 03 50 46.3 -0.4
baz=73,SNR=7.2
PFO Pinyon Flat Ob 72.70 47 eP P 03 50 47.0 +0.3
comp=Z,100nm,1.9s
PFO LR LR
comp=Z,7µm,22.0s
BBRC Big Bear Solar 72.72 46 P P 03 50 46.7 -0.2
baz=73
SWSC Sam W. Stewart 72.83 48 P P 03 50 47.1 -0.1
baz=73,SNR=9.8
N02D Trinity Center 72.85 38 P P 03 50 47.8 +0.5
baz=73,SNR=12
RRX Edison Barstow 73.00 46 P P 03 50 47.8 -0.4
baz=73
M02C Callahan 73.02 37 P P 03 50 48.8 +0.5
baz=73,SNR=13
YSS Yuzh-Sakhalins 73.06 330⇑ iP P 03 50 49.0 +0.7
YSS e*PP PcP 03 51 02.0 -3.0
YSS e*SP sP 03 51 07.0 +14
YSS e 03 53 36.0
YSS ePPP PPP 03 55 14.0
YSS eS S 04 00 14.0 -1.6
YSS e 04 00 40.0
YSS ePPS PPS 04 00 59.0
YSS eSSS SSS 04 08 12.0
YSS pmax pmax
comp=Z,100nm,1.2s
YSS pmax pmax
comp=Z,2µm,6.0s
YSS pmax pmax
comp=N,500nm,4.0s
YSS smax smax
comp=N,2µm,10.0s
YSS MLR MLR
comp=Z,1µm,18.0s
YSS MLR MLR
comp=N,1µm,17.0s
YSS Yuzh-Sakhalins 73.06 330 eP P 03 50 49.5 +1.3
comp=N,320nm,1.8s
YSS LR LR
comp=Z,1µm,20.0s
L02D Cave Junction, 73.07 36 P P 03 50 49.2 +0.7
baz=73
CWC Cottonwood Cre 73.11 44 P P 03 50 49.0 0.0
baz=73,SNR=5.8
BELC Belle Mtn. Jos 73.23 47 P P 03 50 49.7 -0.2
baz=74,SNR=13
MLAC Mammoth Lakes 73.28 43 P P 03 50 50.3 +0.2
baz=74
MPMC Manual Prospec 73.30 45 P P 03 50 50.1 -0.1
baz=74,SNR=36
YBH Yreka Blue Hor 73.32 37 eP P 03 50 51.3 +1.2
YBH pmax pmax
comp=Z,70nm,1.4s
YBH Yreka Blue Hor 73.32 37 eP P 03 50 51.2 +1.2
comp=Z,70nm,1.4s
DAC Darwin (Calif) 73.35 44 eP P 03 50 50.2 -0.3
DAC pmax pmax
comp=Z,44nm,1.7s
DAC Darwin (Calif) 73.35 44 eP P 03 50 50.2 -0.3
comp=Z,44nm,1.7s
TIN Tinemaha 73.36 43 P P 03 50 50.3 -0.1
baz=74
GSC Goldstone 73.36 46 eP P 03 50 50.5 0.0
GSC pmax pmax
comp=Z,43nm,1.3s
GSC Goldstone 73.36 46 P P 03 50 50.1 -0.4
baz=74,SNR=11
GSC Goldstone 73.36 46 eP P 03 50 50.5 0.0
comp=Z,43nm,1.3s
WAKR Walker 73.39 42 eP P 03 50 51.2 +0.5
comp=Z,80nm,1.6s
HEC Hector,Ludlow 73.44 46 P P 03 50 50.2 -0.7
baz=74,SNR=6.9
BC3 Big Chuckawall 73.44 48 P P 03 50 51.0 0.0
baz=74,SNR=15
GLA Glamis 73.58 48 P P 03 50 48.4 -3.4
GLA pmax pmax
comp=Z,35nm,1.1s
GLA Glamis 73.58 48 P P 03 50 51.7 -0.1
baz=74,SNR=7.1
GLA Glamis 73.58 48 eP P 03 50 51.9 +0.1
comp=Z,35nm,1.2s
HUMO Hull Mountain 73.72 36 eP P 03 50 53.4 +1.0
comp=Z,123nm,1.7s
KSULL Ulleungdo 73.80 317 P P 03 50 54.9 +2.1
SNR=11
KSULL Ulleungdo 73.80 317 P P 03 50 54.9 +2.1
SNR=11
KSBUS Busan 73.80 314 P P 03 50 54.5 +1.6
SNR=12
KSBUS Busan 73.80 314 P P 03 50 54.5 +1.6
SNR=12
M04C Macdoel 73.86 38 P P 03 50 53.7 +0.4
baz=74,SNR=12
GMRC Granite Mounta 73.88 47 P P 03 50 53.3 -0.2
baz=74,SNR=19
GRAC Grapevine Rang 73.90 44 P P 03 50 53.9 +0.3
baz=74,SNR=14
IRM Iron Mountain 73.92 47 P P 03 50 53.9 +0.2
baz=74,SNR=23
FURC Furnace Creek, 73.95 44 P P 03 50 53.4 -0.3
baz=74,SNR=13
SHOC Shoshone 74.04 45 P P 03 50 54.1 -0.3
baz=74,SNR=7.2
TUQ Turquoise Moun 74.04 46 P P 03 50 54.3 -0.2
baz=74,SNR=13
NVAR Mina Array Bea 74.08 42 P P 03 50 53.6 -1.2
comp=Z,4.5nm,0.7s,baz=225,slow=7.1,SNR=45
KSPHA Pohang 74.13 315 P P 03 50 57.0 +2.2
SNR=16
Y12C Blythe 74.16 48 P P 03 50 54.8 -0.3
baz=74,SNR=9.6
I03D Drain, OR 74.19 35 P P 03 50 55.4 +0.4
baz=74
TWG Pinlang 74.22 299 eP P 03 50 55.4 -0.2
comp=Z,243nm,1.4s
KSDAG Daegu 74.23 314 P P 03 50 57.3 +1.9
SNR=11
KSDAG Daegu 74.23 314 P P 03 50 57.3 +1.9
SNR=11
YULB Yu-li 74.27 300 eP P 03 50 56.2 +0.3
comp=Z,16nm,1.3s
KSYOC YEONGCHEON 74.30 315 P P 03 50 58.2 +2.4
SNR=6.6
KSYOC YEONGCHEON 74.30 315 P P 03 50 58.2 +2.4
SNR=6.6
NACB Ninganchiao 74.34 301 eP P 03 50 56.4 0.0
comp=Z,146nm,1.5s
KSULJ Uljin 74.38 316 P P 03 50 58.2 +1.9
SNR=10
KSULJ Uljin 74.38 316 P P 03 50 58.3 +2.1
SNR=5.1
LDFC Landfair 74.42 46 eP P 03 50 57.5 +0.8
comp=Z,90nm,1.1s
K04D Chiloquin, OR 74.43 37 P P 03 50 56.9 +0.3
baz=75
214A Organ Pipe Nat 74.52 50 P P 03 50 57.3 +0.1
baz=75,SNR=25
214A Organ Pipe Nat 74.52 50 eP P 03 50 57.5 +0.2
comp=Z,142nm,1.7s
KDAK Kodiak Island 74.52 11 eP P 03 50 57.1 +0.5
KDAK pmax pmax
comp=Z,39nm,1.1s
KDAK MLR MLR
comp=Z,3µm,21.0s
KDAK Kodiak Island 74.52 11 eP P 03 50 57.1 +0.5
comp=Z,38nm,1.1s
KDAK LR LR
comp=Z,3µm,21.0s
TPH Tonopah 74.59 43 P P 03 50 57.5 -0.2
TPH pmax pmax
comp=Z,110nm,1.4s
TPH Tonopah 74.59 43 eP P 03 50 58.0 +0.2
comp=Z,110nm,1.4s
J04D Umpqua Nationa 74.60 36 P P 03 50 58.2 +0.4
baz=75,SNR=5.4
NEE2 Needles Airpor 74.61 47 P P 03 50 57.7 0.0
baz=75
TPNV Topopah Spring 74.62 44 P P 03 50 58.0 0.0
baz=75,SNR=19
KSEUS ULSEONG 74.68 315 P P 03 51 00.3 +2.3
SNR=12
PDMCI Parker Dam,Lak 74.71 48 P P 03 50 58.0 -0.2
baz=75,SNR=17
SSLB Suanglung 74.71 300 eP P 03 50 59.4 +0.8
comp=Z,44nm,1.4s
YHNB Yeheng 74.73 301 eP P 03 50 59.6 +0.9
comp=Z,87nm,1.4s
YHNB LR LR
comp=Z,4µm,20.0s
KSKOH Goheung 74.76 313 P P 03 51 00.2 +1.7
SNR=5.6
I04A Tendick Farm, 74.78 36 P P 03 50 58.7 +0.2
baz=75,SNR=6.1
MOD Modoc 74.85 38 eP P 03 50 59.8 +0.7
comp=Z,112nm,1.4s
KSTBA Taebaek 74.91 316 P P 03 51 01.9 +2.5
SNR=7.0
KSTBA Taebaek 74.91 316 P P 03 51 01.7 +2.3
SNR=12
KSSAJ Sangju 75.07 315 P P 03 51 02.3 +2.0
SNR=8.3
QSPA South Pole Qui 75.07 180 eP P 03 51 00.3 +0.3
comp=Z,110nm,1.3s
QSPA LR LR
comp=Z,3µm,19.0s
KSCPR CHUPUNGNYEONG 75.10 314 P P 03 51 02.4 +1.9
SNR=6.3
SHPR Sheep Range 75.13 45 eP P 03 51 00.6 -0.2
comp=Z,115nm,1.7s
J05D Fort Rock, OR 75.13 37 P P 03 51 00.9 +0.2
baz=75,SNR=21
G03D McMinnville, O 75.20 34 P P 03 51 01.1 +0.3
baz=76
KSKWJ Gwangju 75.24 313 P P 03 51 02.7 +1.4
SNR=12
KSJES JEONGSEON 75.27 316 P P 03 51 03.4 +2.0
SNR=9.9
KSYOW Yeongwol 75.27 316 P P 03 51 04.1 +2.7
SNR=8.6
KSGWJ Gwangju-acc 75.32 313 P P 03 51 03.7 +2.0
SNR=8.7
KSBON Boeun 75.37 315 P P 03 51 04.3 +2.3
SNR=6.0
KSBON Boeun 75.37 315 P P 03 51 04.3 +2.3
SNR=6.0
KSDGY Daegwallycong 75.40 316 P P 03 51 04.5 +2.3
SNR=26
KSDGY Daegwallycong 75.40 316 P P 03 51 05.0 +2.7
SNR=8.2
KSJEO Jeonju 75.43 314 P P 03 51 04.4 +2.1
SNR=5.4
KSCHJ Chungju 75.44 315 P P 03 51 04.5 +2.1
SNR=6.5
KSCHJ Chungju 75.44 315 P P 03 51 04.0 +1.6
SNR=16
KSJMJ Jumunjin 75.45 316 P P 03 51 05.3 +2.9
SNR=13
KSJMJ Jumunjin 75.45 316 P P 03 51 04.9 +2.5
SNR=20
KSJEU Jeongeup 75.45 313 P P 03 51 04.3 +1.8
SNR=10
TJN Taejon 75.60 314 c iP P 03 51 04.7 +1.4
KSWJU Wonju 75.67 316 P P 03 51 06.5 +2.8
SNR=14
BPO Bald Peter 75.72 35 P P 03 51 05.0 +0.9
I05D Terrebonne, OR 75.72 36 P P 03 51 03.9 0.0
baz=76,SNR=9.0
KSRS Korea Array 75.78 316 P P 03 51 05.0 +0.7
comp=Z,38nm,1.2s,baz=126,slow=5.9,SNR=72
KSRS LR LR 04 18 17.1
comp=Z,2µm,21.9s,baz=108,slow=31
KSAR Wonju Array Be 75.80 316 P P 03 51 05.0 +0.6
KSAR Wonju Array Be 75.80 316 P P 03 51 05.0 +0.6
KSKOJ Gongju 75.80 314 P P 03 51 06.4 +1.9
SNR=5.4
R11A Troy Canyon, C 75.82 43 P P 03 51 04.6 -0.2
baz=76,SNR=24
R11A Troy Canyon, C 75.82 43 eP P 03 51 04.7 -0.1
comp=Z,161nm,2.1s
KSSKC Sokcho 75.82 317 P P 03 51 07.7 +3.2
SNR=13
KSSKC Sokcho 75.82 317 P P 03 51 06.8 +2.3
SNR=14
KSGUS GUNSAN 75.83 314 P P 03 51 05.9 +1.2
SNR=7.3
BMN Battle Mountai 75.89 41 eP P 03 51 05.8 +0.6
BMN pmax pmax
comp=Z,90nm,1.5s
BMN Battle Mountai 75.89 41 eP P 03 51 05.8 +0.6
comp=Z,90nm,1.5s
F04D Rainier, OR 75.90 34 P P 03 51 05.0 +0.2
baz=76
KSCEA Cheonan 75.91 315 P P 03 51 07.3 +2.2
SNR=5.6
TYV Tymovskoe 75.92 333 eP P 03 51 07.0 +2.2
TYV eS S 04 00 41.0 -6.5
TYV pmax pmax
comp=Z,2µm,5.0s
TYV smax smax
comp=N,2µm,11.0s
TYV MLR MLR
comp=N,4µm,18.0s
TYV MLR MLR
comp=E,3µm,18.0s
TYV MLR MLR
comp=Z,5µm,18.0s
KSIJA INJE 75.93 316 P P 03 51 07.5 +2.2
SNR=12
KSIJA INJE 75.93 316 P P 03 51 07.5 +2.2
SNR=12
SEHB SEOHWA 75.99 316 P P 03 51 08.1 +2.5
SNR=24
KSCHC Chuncheon 76.02 316 P P 03 51 07.9 +2.2
SNR=30
KSICN Icheon 76.04 315 P P 03 51 08.4 +2.6
SNR=28
KSYAP YANGPYEONG 76.09 315 P P 03 51 08.1 +2.0
SNR=131
KSYAP YANGPYEONG 76.09 315 P P 03 51 08.1 +2.0
SNR=131
WVOR Wild Horse Val 76.16 39 eP P 03 51 07.2 +0.6
WVOR pmax pmax
comp=Z,166nm,1.7s
WVOR MLR MLR
comp=Z,5µm,19.0s
WVOR Wild Horse Val 76.16 39 eP P 03 51 07.2 +0.6
comp=Z,166nm,1.7s
WVOR LR LR
comp=Z,5µm,19.0s
TUC Tucson 76.20 51 eP P 03 51 07.0 0.0
TUC pmax pmax
comp=Z,145nm,1.7s
TUC MLR MLR
comp=Z,5µm,20.0s
TUC Tucson 76.20 51 eP P 03 51 07.0 0.0
comp=Z,146nm,1.7s
TUC LR LR
comp=Z,5µm,20.0s
VLL Laurance Lake 76.23 35 P P 03 51 07.8 +0.9
G05D Wamic, OR 76.29 35 P P 03 51 07.4 +0.3
baz=77,SNR=5.7
NLWA Neilton Lookou 76.29 32 eP P 03 51 08.0 +0.9
comp=Z,55nm,1.4s
NLWA LR LR
comp=Z,2µm,20.0s
FL2 Flat Top 2 76.32 34 P P 03 51 08.6 +1.1
KSSWO Suwon 76.33 315 P P 03 51 10.2 +2.7
SNR=21
KSCWO Cheorwon 76.38 316 P P 03 51 10.5 +2.7
SNR=12
VLA Vladivostok 76.41 322 c iP P 03 51 09.3 +1.5
VLA pmax pmax
comp=Z,55nm,2.0s
KSSES Seosan 76.44 314 P P 03 51 09.7 +1.5
SNR=6.0
KSSEO Seoul 76.48 315 P P 03 51 10.6 +2.3
SNR=36
MSHR Mys Shultsa 76.53 321 i P P 03 51 10.1 +1.6
KSDDC Dongducheon 76.60 316 P P 03 51 12.1 +3.1
SNR=17
INCN Inchon 76.67 315 eP P 03 51 11.5 +2.1
comp=Z,706nm,2.1s
INCN LR LR
comp=Z,2µm,20.0s
VTHM Trough 76.68 35 P P 03 51 10.1 +0.8
ASR Mount Adams--S 76.70 34 P P 03 51 10.5 +0.9
YNCB YEONCHEON 76.76 316 P P 03 51 12.4 +2.5
SNR=37
KSMUS Musan 76.79 315 P P 03 51 11.9 +1.8
SNR=28
CCUT Cedar City 76.90 45 eP P 03 51 11.7 +0.7
comp=Z,36nm,1.3s
KSGAH Ganghwa 76.92 315 P P 03 51 13.2 +2.5
SNR=26
LON Longmire 76.96 34 eP P 03 51 11.2 +0.2
LON pmax pmax
comp=Z,55nm,1.5s
LON Longmire 76.96 34 eP P 03 51 11.2 +0.2
comp=Z,55nm,1.5s
USRK Ussuriysk Ar. 76.98 323 P P 03 51 11.6 +0.6
comp=Z,30nm,1.2s,baz=106,slow=4.2,SNR=74
USRK LR LR 04 18 43.6
comp=Z,5µm,21.9s,baz=130,slow=31
RSO Redoubt South 77.00 10 eP P 03 51 11.8 +0.8
comp=Z,66nm,1.1s
KSM Kuching 77.05 275 eP P 03 51 12.3 +0.2
comp=Z,44nm,1.1s
QZH Quanzhou 77.15 300⇑ iP P 03 51 12.8 +0.4
QZH eS S 04 00 58.9 -3.1
QZH PMZ
comp=Z,4µm,5.8s
QZH LN
comp=Z,1µm,11.2s
QZH LE
comp=Z,980nm,12.0s
QZH LZ
comp=Z,5µm,25.1s
JBO Jordan Butte 77.25 36 P P 03 51 13.3 +0.7
WUAZ Wupatki 77.28 48 P P 03 51 13.5 +0.3
baz=78
WUAZ Wupatki 77.28 48 eP P 03 51 14.2 +1.0
comp=Z,179nm,1.8s
WUAZ LR LR
comp=Z,5µm,21.0s
PGC Sidney 77.33 31 eP P 03 51 14.2 +1.4
comp=Z,105nm,1.9s
ELK Elko 77.33 41 eP P 03 51 13.7 +0.3
ELK pmax pmax
comp=Z,40nm,1.2s
ELK Elko 77.33 41 eP P 03 51 13.7 +0.3
comp=Z,40nm,1.2s
TRW Toppenish Ridg 77.36 35 P P 03 51 14.0 +0.8
NAC Naches 77.48 34 P P 03 51 14.6 +0.7
SSE Sheshan 77.62 307 P P 03 51 13.3 -1.6
SSE PMZ
comp=Z,37nm,1.0s
SSE PMZ
comp=Z,850nm,9.3s
SSE LN
comp=Z,1µm,33.7s
SSE LE
comp=Z,1µm,33.8s
SSE LZ
comp=Z,2µm,25.8s
MIR Mirnyy 77.78 204⇑ eP P 03 51 22.0 +6.9
HABR Khabarovsk 77.92 328 c iP P 03 51 16.3 +0.2
HABR e 03 51 24.8
HABR e*PP PcP 03 51 25.6 -0.3
HABR e*SP sP 03 51 29.7 +9.1
HABR 03 54 10.7
HABR eS S 04 01 08.6 -0.7
HABR e*SS SKSac 04 01 24.0 -6.1

HABR					*e*				04 01 31.6		
HABR					*e*SS	**SS**			**04 06 08.1**	**-2.6**	
HABR					*e*SSS	SSS			04 09 33.3		
HABR					pmax	pmax					
	comp=N,44nm,2.0s										
HABR					pmax	pmax					
	comp=E,65nm,2.0s										
HABR					pmax	pmax					
	comp=Z,250nm,2.0s										
HABR					pmax	pmax					
	comp=Z,939nm,2.1s										
HABR					MLR	MLR					
	comp=Z,2µm,17.0s										
HABR					MLR	MLR					
	comp=E,2µm,20.0s										
HABR					MLR	MLR					
	comp=N,1µm,20.0s										
HAWA	**Hanford**	**77.98**	**35**	*e*P		**P**			**03 51 17.1**	**+0.5**	
	comp=N,101nm,1.5s										
HAWA					LR	LR					
	comp=Z,2µm,20.0s										
RC01	**Rabbit Creek A**	**78.14**	**12**	*e*P		**P**			**03 51 18.3**	**+1.2**	
	comp=Z,127nm,1.6s										
MVU	**Marysvale**	**78.16**	**45**	*e*P		**P**			**03 51 19.2**	**+1.1**	
	comp=Z,83nm,1.5s										
MSU	**Marysvale**	**78.19**	**45**	*e*P		**P**			**03 51 18.3**	**+0.1**	
MSU					pmax	pmax					
	comp=Z,114nm,1.5s										
MSU	**Marysvale**	**78.19**	**45**	*e*P		**P**			**03 51 18.3**	**+0.1**	
	comp=Z,114nm,1.5s										
KSBAR	**Backryungdo**	**78.24**	**315**	P		**P**			**03 51 19.8**	**+1.7**	
	SNR=18										
W18A	**Petrified Fore**	**78.28**	**49**	P		**P**			**03 51 18.7**	**0.0**	
	baz=78										
W18A	**Petrified Fore**	**78.28**	**49**	*e*P		**P**			**03 51 19.6**	**+0.9**	
	comp=Z,57nm,1.3s										
ETW	**Entiat**	**78.28**	**34**	P		**P**			**03 51 18.7**	**+0.3**	
NKL	**Nikolayevsk**	**78.41**	**334**	*i* P		**P**			**03 51 17.0**	**-1.7**	
NKL				*e*S		S			04 01 08.0	-6.4	
NKL				*e*					04 01 31.0		
NKL				pmax	pmax						
	comp=N,500nm,6.0s										
NKL				pmax	pmax						
	comp=E,500nm,6.0s										
NKL				pmax	pmax						
	comp=Z,2µm,6.0s										
NKL				pmax	pmax						
	comp=Z,350nm,2.0s										
NKL				smax	smax						
	comp=N,2µm,8.0s										
NKL				smax	smax						
	comp=E,500nm,8.0s										
NKL				MLR	MLR						
	comp=N,2µm,17.0s										
NKL				MLR	MLR						
	comp=E,1µm,17.0s										
NKL				MLR	MLR						
	comp=Z,2µm,17.0s										
MFID	**Camas Ranch**	**78.42**	**39**	*e*P		**P**			**03 51 19.7**	**+0.5**	
	comp=Z,74nm,1.4s										
121A	**Cookes Peak, D**	**78.56**	**52**	P		**P**			**03 51 20.7**	**+0.4**	
	baz=79										
121A	**Cookes Peak, D**	**78.56**	**52**	*e*P		**P**			**03 51 21.3**	**+1.0**	
	comp=Z,82nm,1.4s										
DUG	**Dugway**	**78.61**	**43**	*e*P		**P**			**03 51 20.8**	**+0.4**	
DUG				pmax	pmax						
	comp=Z,71nm,1.4s										
DUG				MLR	MLR						
	comp=Z,3µm,20.0s										
DUG	**Dugway**	**78.61**	**43**	P		**P**			**03 51 20.2**	**-0.2**	
	baz=79										
DUG	**Dugway**	**78.61**	**43**	*e*P		**P**			**03 51 20.8**	**+0.4**	
	comp=Z,70nm,1.4s										
DUG				LR	LR						
	comp=Z,3µm,20.0s										
MDJ	**Mudanjiang**	**78.62**	**322**	P		**P**			**03 51 21.4**	**+1.2**	
MDJ				pP		**PcP**			**03 51 33.8**	**+4.7**	
MDJ				sP		sP			03 51 37.0	+12	
MDJ				PP		**PP**			**03 54 18.1**	**-0.2**	
MDJ				S		**S**			**04 01 17.3**	**+0.2**	
MDJ				ScS		**SKKSac**			**04 01 39.6**	**+3.1**	
MDJ				PMZ							
	comp=Z,62nm,2.0s										
MDJ				PMZ							
	comp=Z,2µm,5.6s										
MDJ				LN							
	comp=Z,2µm,21.0s										
MDJ				LE							
	comp=Z,3µm,18.9s										
MDJ				LZ							
	comp=Z,5µm,21.0s										
MDJ	**Mudanjiang**	**78.62**	**322**	*e*P		**P**			**03 51 21.8**	**+1.6**	
	comp=Z,198nm,1.8s										
MDJ				LR	LR						
	comp=Z,6µm,22.0s										
PMR	**Palmer**	**78.72**	**12**	P		**P**			**03 51 20.4**	**+0.1**	
PMR				pmax	pmax						
	comp=Z,69nm,1.3s										
PMR	**Palmer**	**78.72**	**12**	*e*P		**P**			**03 51 20.7**	**+0.4**	
	comp=Z,69nm,1.4s										
BGU	**Big Grassy Mou**	**78.85**	**42**	*e*P		**P**			**03 51 22.1**	**+0.3**	
	comp=Z,87nm,1.6s										
NLU	**North Lily Min**	**78.98**	**43**	*e*P		**P**			**03 51 23.0**	**+0.5**	
	comp=Z,78nm,1.7s										
WRAK	**Wrangell Islan**	**78.99**	**22**	PFAKE					03 51 30.0	+8.1	
WRAK				LR	LR						
	comp=Z,1µm,19.0s										
DIV	**Divide**	**79.00**	**13**	*e*P		**P**			**03 51 22.1**	**+0.1**	
	comp=Z,77nm,1.1s										
SML	**Sawmill**	**79.08**	**12**	*e*P		**P**			**03 51 23.0**	**+0.7**	
SML				pmax	pmax						
	comp=Z,10.0nm,1.2s										
SML	**Sawmill**	**79.08**	**12**	*e*P		**P**			**03 51 23.0**	**+0.7**	
	comp=Z,9.8nm,1.2s										
BMRM	**Bremner River**	**79.12**	**14**	*e*P		**P**			**03 51 23.4**	**+0.7**	
	comp=Z,98nm,1.2s										
TMUT	**Trail Mountain**	**79.24**	**44**	*e*P		**P**			**03 51 25.1**	**+1.0**	
	comp=Z,209nm,1.4s										
MPU	**Maple Canyon**	**79.31**	**44**	*e*P		**P**			**03 51 24.8**	**+0.5**	
	comp=Z,197nm,1.4s										
HLID	**Hailey**	**79.36**	**39**	P		**P**			**03 51 24.8**	**+0.3**	
	baz=80										
HLID	**Hailey**	**79.36**	**39**	*e*P		**P**			**03 51 25.1**	**+0.7**	
	comp=Z,41nm,0.9s										
HLID				LR	LR						
	comp=Z,2µm,21.0s										
PPLA	**Purkeypile**	**79.38**	**10**	*e*P		**P**			**03 51 24.4**	**+0.3**	
	comp=Z,20nm,1.2s										
SPUT	**South Promonto**	**79.42**	**42**	*e*P		**P**			**03 51 25.2**	**+0.3**	
	comp=Z,89nm,1.5s										
HVU	**Hansel Valley**	**79.45**	**42**	P		**P**			**03 51 24.8**	**-0.2**	
HVU				pmax	pmax						
	comp=Z,42nm,1.0s										
HVU	**Hansel Valley**	**79.45**	**42**	*e*P		**P**			**03 51 25.4**	**+0.4**	
	comp=Z,42nm,1.0s										
CTU	**Camp Tracy**	**79.57**	**43**	*e*P		**P**			**03 51 26.1**	**+0.4**	
	comp=Z,72nm,1.4s										
SRU	**San Rafael**	**79.61**	**45**	*e*P		**P**			**03 51 26.5**	**+0.6**	
SRU				pmax	pmax						
	comp=Z,96nm,1.4s										
SRU	**San Rafael**	**79.61**	**45**	*e*P		**P**			**03 51 26.5**	**+0.6**	
	comp=Z,96nm,1.4s										
MA2	**Magadan**	**79.72**	**342**	*i* P		**P**			**03 51 26.7**	**+0.9**	
NJ2	**Nanjing**	**79.82**	**307**	*e*P		**P**			**03 51 27.4**	**+0.4**	
NJ2				pP		**PcP**			**03 51 39.1**	**+4.5**	
NJ2				sP		sP			03 51 44.3	+13	
NJ2				S		**S**			**04 01 28.3**	**-2.1**	
NJ2				sS		**SKKSac**			**04 01 48.0**	**+1.9**	
NJ2				PMZ							
	comp=Z,230nm,0.6s										
NJ2				PMZ							
	comp=Z,820nm,6.3s										
NJ2				LN							
	comp=Z,2µm,20.7s										
NJ2				LE							
	comp=Z,1µm,21.4s										
NJ2				LZ							
	comp=Z,2µm,21.8s										
LAZ	**Ladron**	**79.86**	**50**	*e*P		**P**			**03 51 27.9**	**+0.4**	
	comp=Z,88nm,1.8s										
Y22D	**IRIS PASSCAL I**	**79.88**	**51**	P		**P**			**03 51 28.1**	**+0.6**	
	baz=80										
HKC	**Hong Kong Obse**	**79.92**	**296**	⇑*i*P		P			03 51 31.0	+3.3	
TCUT	**Toone Canyon**	**80.00**	**43**	*e*P		**P**			**03 51 28.9**	**+0.8**	
	comp=Z,365nm,1.4s										
KLR	**Kul'dur**	**80.10**	**327**	⇓*i*P		P			03 51 25.0	-3.1	
KLR				*e*S		**S**			**04 01 30.5**	**-2.2**	
KLR					pmax	pmax					
	comp=E,56nm,1.8s										
KLR					pmax	pmax					
	comp=Z,200nm,1.8s										
KLR					pmax	pmax					
	comp=Z,2µm,6.5s										
MVCO	**Mesa Verde**	**80.13**	**47**	P		**P**			**03 51 28.7**	**-0.2**	
	baz=80										
MVCO	**Mesa Verde**	**80.13**	**47**	*e*P		**P**			**03 51 29.3**	**+0.4**	
	comp=Z,99nm,1.6s										
MVCO				LR	LR						
	comp=Z,6µm,22.0s										
HWUT	**Hardware Ranch**	**80.14**	**42**	*e*P		**P**			**03 51 28.8**	**0.0**	
	comp=Z,69nm,1.4s										
HWUT				LR	LR						
	comp=Z,4µm,21.0s										
LPM	**Los Pinos Moun**	**80.20**	**51**	*e*P		**P**			**03 51 29.2**	**-0.1**	
	comp=Z,80nm,1.4s										
TRF	**Thorofare Moun**	**80.22**	**10**	*e*P		**P**			**03 51 28.6**	**-0.1**	
	comp=Z,60nm,1.1s										
SKAG	**Skagway**	**80.37**	**19**	*e*P		**P**			**03 51 30.8**	**+1.5**	
	comp=Z,186nm,1.9s										
PV04	**Paradox Valley**	**80.39**	**46**	*e*P		**P**			**03 51 30.9**	**+0.7**	
TNA	**Tin City**	**80.40**	**2**	*e*P		**P**			**03 51 30.2**	**+0.9**	
	comp=Z,73nm,1.3s										
NEW	**Newport**	**80.41**	**34**	*e*P		**P**			**03 51 29.6**	**-0.3**	
NEW				pmax	pmax						
	comp=Z,41nm,1.6s										
NEW				MLR	MLR						
	comp=Z,1µm,19.0s										
NEW	**Newport**	**80.41**	**34**	P		**P**			**03 51 29.1**	**-0.8**	
	baz=81,SNR=6.4										
NEW	**Newport**	**80.41**	**34**	*e*P		**P**			**03 51 29.6**	**-0.3**	
	comp=Z,41nm,1.6s										
NEW				LR	LR						
	comp=Z,1µm,19.0s										
TXAR	**Lajitas Array**	**80.46**	**56**	P		**P**			**03 51 29.9**	**-0.7**	
	comp=Z,32nm,1.2s,baz=231,slow=4.3,SNR=88										
TXAR				PKKP		**PKKPdf**			**04 09 59.6**	**-3.4**	
	comp=Z,0.6nm,1.0s,baz=306,slow=2.1,SNR=4.6										
TXAR				LR	LR				04 19 17.6		
	comp=Z,4µm,21.2s,baz=0.0,slow=30										
PV01	**Paradox Valley**	**80.50**	**46**	*e*P		**P**			**03 51 31.1**	**+0.3**	
ANMO	**Albuquerque**	**80.60**	**50**	*e*P		**P**			**03 51 31.6**	**+0.2**	
ANMO				pmax	pmax						
	comp=Z,67nm,1.3s										
ANMO				MLR	MLR						
	comp=Z,4µm,21.0s										
ANMO	**Albuquerque**	**80.60**	**50**	*e*P		**P**			**03 51 31.6**	**+0.2**	
	comp=Z,67nm,1.3s										
ANMO				LR	LR						
	comp=Z,4µm,21.0s										
CN2	**Changchun**	**80.69**	**320**	*e*P		**P**			**03 51 31.8**	**+0.4**	
CN2				*es*P		sP			03 51 49.8	+14	
CN2				*e*S		**S**			**04 01 34.9**	**-4.2**	
CN2				PMZ							
	comp=Z,60nm,1.5s										
CN2				PMZ							
	comp=Z,200nm,5.0s										
CN2				LN							
	comp=Z,940nm,20.0s										
CN2				LE							
	comp=Z,2µm,20.0s										
CN2				LZ							
	comp=Z,480nm,22.0s										
BPAW	**Bear Paw Mtn.**	**80.70**	**10**	*e*P		**P**			**03 51 29.9**	**-1.2**	
	comp=Z,5.8nm,1.4s										
MCK	**McKinley**	**80.72**	**11**	*e*P		**P**			**03 51 31.1**	**-0.1**	
MCK				pmax	pmax						
	comp=Z,59nm,0.9s										
MCK	**McKinley**	**80.72**	**11**	*e*P		**P**			**03 51 31.1**	**-0.1**	
	comp=Z,59nm,0.9s										
DL2	**Dalian**	**80.81**	**314**	⇑*i*P		**P**			**03 51 33.3**	**+1.2**	
DL2				PP		**PP**			**03 54 34.3**	**-2.3**	
DL2				S		**S**			**04 01 38.1**	**-2.4**	
DL2				PMZ							
	comp=Z,130nm,1.4s										
DL2				PMZ							
	comp=Z,2µm,6.1s										
DL2				LE							
	comp=Z,670nm,23.5s										
DL2				LZ							
	comp=Z,1µm,22.6s										
HYT	**Haines Junctio**	**80.83**	**17**	*e*P		**P**			**03 51 33.4**	**+1.5**	
	comp=Z,34nm,1.1s										
SNY	**Shenyang**	**80.89**	**318**	⇑P		**P**			**03 51 33.8**	**+1.3**	
SNY				PMZ							
	comp=Z,140nm,2.5s										
SNY				PMZ							
	comp=Z,2µm,5.8s										
SNY				LN							
	comp=Z,590nm,15.1s										
SNY				LE							
	comp=Z,630nm,13.7s										
SNY				LZ							
	comp=Z,1µm,43.9s										
MCMT	**McKenzie Canyo**	**80.98**	**39**	*e*P		**P**			**03 51 34.1**	**+0.8**	
	comp=Z,26nm,1.2s										
AHID	**Auburn Hatcher**	**81.02**	**41**	*e*P		**P**			**03 51 33.9**	**+0.4**	
	comp=Z,16nm,0.3s										
AHID				LR	LR						
	comp=Z,2µm,19.0s										
GDL2	**Guadalupe Moun**	**81.05**	**53**	*e*P		**P**			**03 51 34.3**	**+0.6**	
	comp=Z,55nm,1.3s										
DLBC	**Dease Lake**	**81.34**	**21**	*e*P		**P**			**03 51 36.0**	**+1.4**	
	comp=Z,38nm,1.4s										
MSO	**Missoula**	**81.40**	**37**	P		**P**			**03 51 34.5**	**-0.8**	
	baz=82,SNR=41										
DLMT	**Dillon**	**81.42**	**39**	*e*P		**P**			**03 51 36.1**	**+0.7**	
	comp=Z,128nm,1.6s										
MDSI	**Maura Dua**	**81.44**	**268**	P		**P**			**03 51 36.4**	**+0.3**	
	comp=Z,18nm,0.9s										
CLNB	**Carlsbad**	**81.45**	**53**	*e*P		**P**			**03 51 35.9**	**+0.1**	
	comp=Z,11nm,1.5s										
BSMT	**Bassoo Peak**	**81.47**	**36**	*e*P		**P**			**03 51 35.7**	**-0.1**	
	comp=Z,120nm,1.6s										
REDW	**Red Top Meadow**	**81.48**	**41**	*e*P		**P**			**03 51 36.3**	**+0.3**	
	comp=Z,185nm,1.6s										
TPAW	**Teton Pass**	**81.48**	**41**	*e*P		**P**			**03 51 36.6**	**+0.6**	
	comp=Z,83nm,1.4s										
S22A	**4UR Ranch, Cre**	**81.55**	**47**	P		**P**			**03 51 36.9**	**+0.3**	
	baz=82,SNR=84										
SNOW	**Snow King Moun**	**81.59**	**41**	*e*P		**P**			**03 51 37.2**	**+0.7**	
	comp=Z,89nm,1.3s										
O20A	**White River Ci**	**81.65**	**45**	P		**P**			**03 51 36.2**	**-0.7**	
	baz=82,SNR=13										
O20A	**White River Ci**	**81.65**	**45**	*e*P		**P**			**03 51 37.3**	**+0.4**	
	comp=Z,156nm,1.7s										
IMW	**Indian Meadow**	**81.69**	**40**	*e*P		**P**			**03 51 37.8**	**+0.6**	
	comp=Z,128nm,1.4s										
JTMT	**Jette**	**81.70**	**36**	*e*P		**P**			**03 51 36.2**	**-0.6**	
	comp=Z,22nm,1.3s										
SWMT	**Swartz Lake**	**81.73**	**36**	*e*P		**P**			**03 51 36.5**	**-0.5**	
	comp=Z,39nm,1.6s										
MOOW	**Moose Ponds**	**81.74**	**41**	*e*P		**P**			**03 51 37.8**	**+0.5**	
	comp=Z,116nm,1.7s										
LRM	**Limekiln Ridge**	**81.74**	**38**	*e*P		**P**			**03 51 36.9**	**-0.4**	
	comp=Z,729nm,1.6s										
LOHW	**Long Hollow**	**81.76**	**41**	*e*P		**P**			**03 51 37.7**	**+0.3**	
	comp=Z,146nm,1.7s										
CPRX	**Cap Rock**	**81.76**	**53**	*e*P		**P**			**03 51 37.6**	**+0.1**	
	comp=Z,25nm,1.6s										
BLMT	**Blacktail Moun**	**81.80**	**36**	*e*P		**P**			**03 51 36.8**	**-0.7**	
	comp=Z,40nm,1.5s										
CHMT	**Chamberlain Mo**	**81.84**	**37**	*e*P		**P**			**03 51 37.5**	**-0.3**	
	comp=Z,48nm,1.3s										
QLMT	**Earthquake Lak**	**81.85**	**39**	*e*P		**P**			**03 51 39.0**	**+1.2**	
	comp=Z,13nm,1.5s										
SLMT	**Seeley Lake**	**81.88**	**37**	*e*P		**P**			**03 51 37.1**	**-0.8**	
	comp=Z,52nm,1.5s										
YBMT	**Yellow Bay**	**81.92**	**36**	*e*P		**P**			**03 51 37.3**	**-0.7**	
	comp=Z,17nm,1.4s										
529A	**Stev Forest Ra**	**81.92**	**56**	P		**P**			**03 51 38.0**	**-0.4**	
	baz=82,SNR=40										
FLWY	**Flagg Ranch**	**81.93**	**40**	*e*P		**P**			**03 51 39.3**	**+1.0**	
	comp=Z,198nm,1.5s										
COLA	**College**	**81.96**	**11**	*e*P		**P**			**03 51 37.6**	**0.0**	
COLA				pmax	pmax						
	comp=Z,83nm,0.9s										
COLA				MLR	MLR						
	comp=Z,3µm,20.0s										
COLA	**College**	**81.96**	**11**	*e*P		**P**			**03 51 37.6**	**0.0**	
	comp=Z,83nm,0.9s										
COLA				LR	LR						
	comp=Z,3µm,20.0s										
BW06	**Boulder Array**	**82.01**	**42**	*e*P		**P**			**03 51 38.8**	**0.0**	
	comp=Z,156nm,1.6s										
BW06				LR	LR						
	comp=Z,4µm,20.0s										
PDAR	**Pinedale Array**	**82.01**	**42**	P		**P**			**03 51 37.5**	**-1.3**	
	comp=Z,12nm,0.9s,baz=236,slow=1.6,SNR=49										
PDAR				LR	LR				04 23 19.6		
	comp=Z,3µm,18.8s,baz=246,slow=32										
YFT	**Old Faithful**	**82.03**	**40**	*e*P		**P**			**03 51 40.4**	**+1.6**	
	comp=Z,135nm,1.6s										
ILAR	**Eielson Array**	**82.04**	**11**	P		**P**			**03 51 37.9**	**-0.3**	
	comp=Z,10.0nm,0.9s,baz=212,slow=5.4,SNR=60										
ILAR				PKPPKP		P'P'df			04 18 15.9	+7.4	
	comp=Z,0.3nm,1.0s,baz=281,slow=1.5,SNR=4.4										
ILAR				LR	LR				04 26 01.8		
	comp=Z,1µm,18.3s,baz=211,slow=34										
IM04	**Indian Mountai**	**82.05**	**8**	*e*P		**P**			**03 51 39.0**	**+0.9**	
YMR	**Madison River**	**82.06**	**40**	*e*P		**P**			**03 51 40.3**	**+1.3**	
	comp=Z,304nm,1.7s										
SEY	**Seymchan**	**82.08**	**345**	*d i*P		**P**			**03 51 38.9**	**+0.6**	
SMCO	**Snowmass**	**82.09**	**46**	*e*P		**P**			**03 51 39.9**	**+0.4**	
	comp=Z,151nm,1.4s										
BOZ	**Bozeman (W)**	**82.14**	**39**	*e*P		**P**			**03 51 39.7**	**+0.4**	
BOZ				pmax	pmax						
	comp=Z,155nm,1.6s										
BOZ				MLR	MLR						
	comp=Z,3µm,20.0s										
BOZ	**Bozeman (W)**	**82.14**	**39**	P		**P**			**03 51 39.1**	**-0.2**	
	baz=82,SNR=53										
BOZ	**Bozeman (W)**	**82.14**	**39**	*e*P		**P**			**03 51 39.7**	**+0.4**	
	comp=Z,155nm,1.6s										
BOZ				LR	LR						
	comp=Z,3µm,20.0s										
H17A	**Grant Village**	**82.16**	**40**	P		**P**			**03 51 40.5**	**+1.0**	
	baz=82										
H17A	**Grant Village**	**82.16**	**40**	*e*P		**P**			**03 51 41.1**	**+1.6**	
	comp=Z,125nm,1.6s										
YNR	**Norris Junctio**	**82.26**	**40**	*e*P		**P**			**03 51 41.9**	**+1.8**	
	comp=Z,136nm,1.5s										
LKWY	**Lake**	**82.36**	**40**	*e*P		**P**			**03 51 42.2**	**+1.6**	
LKWY				pmax	pmax						
	comp=Z,136nm,1.5s										
LKWY				MLR	MLR						
	comp=Z,3µm,19.0s										
LKWY	**Lake**	**82.36**	**40**	*e*P		**P**			**03 51 42.2**	**+1.6**	
	comp=Z,136nm,1.5s										
LKWY				LR	LR						
	comp=Z,3µm,19.0s										
429A	**Davenport Ranc**	**82.37**	**56**	P		**P**			**03 51 40.2**	**-0.5**	
	baz=83,SNR=60										
228A	**UT Block 9, Go**	**82.39**	**54**	P		**P**			**03 51 40.4**	**-0.5**	
	baz=83,SNR=7.2										
SDCO	**Great Sand Dun**	**82.50**	**48**	P		**P**			**03 51 41.4**	**-0.1**	
	baz=83,SNR=48										
SDCO	**Great Sand Dun**	**82.50**	**48**	*e*P		**P**			**03 51 41.9**	**+0.4**	
	comp=Z,137nm,1.6s										
SDCO				LR	LR						
	comp=Z,3µm,20.0s										
HRY	**Holter Researc**	**82.57**	**38**	*e*P		**P**			**03 51 41.9**	**+0.4**	
	comp=Z,68nm,1.0s										
J19A	**Crowheart**	**82.58**	**42**	P		**P**			**03 51 41.2**	**-0.5**	
	baz=83,SNR=34										
WALA	**Waterton Lakes**	**82.62**	**35**	*e*P		**P**			**03 51 41.4**	**-0.3**	
	comp=Z,88nm,1.5s										
329A	**Wagon Wheel Ra**	**82.63**	**55**	P		**P**			**03 51 41.7**	**-0.4**	
	baz=83,SNR=18										
530A	**J-C Ranch, Com**	**82.64**	**56**	P		**P**			**03 51 41.8**	**-0.3**	
	baz=83,SNR=48										
QIZ	**Qiongzhong**	**82.65**	**292**	P		**P**			**03 51 42.4**	**+0.1**	
QIZ				pP		PcP			03 51 54.4	+7.1	
QIZ				S		**S**			**04 01 57.4**	**-2.9**	
QIZ				PMZ							
	comp=Z,24nm,2.2s										
QIZ				PMZ							
	comp=Z,900nm,8.9s										
QIZ				LN							
	comp=Z,550nm,20.6s										
QIZ				LE							
	comp=Z,720nm,22.8s										
QIZ				LZ							
	comp=Z,2µm,25.3s										
QIZ	**Qiongzhong**	**82.65**	**292**	PFAKE					03 51 50.0	+7.7	
QIZ				LR	LR						
	comp=Z,1µm,21.0s										
128A	**Castleberry Fa**	**82.67**	**54**	P		**P**			**03 51 41.9**	**-0.3**	
	baz=83,SNR=19										
WHN	**Wuhan**	**82.77**	**304**	P		**P**			**03 51 44.1**	**+1.4**	
WHN				sP		sP			03 52 02.8	+16	
WHN				S		**S**			**04 02 02.5**	**+1.4**	
WHN				LN							
	comp=Z,2µm,15.7s										
WHN				LE							
	comp=Z,4µm,22.0s										
WHN				LZ							
	comp=Z,4µm,18.1s										
TIA	**Tai'an**	**82.85**	**310**	⇑P		**P**			**03 51 43.8**	**+0.8**	
TIA				PMZ							
	comp=Z,60nm,2.0s										
TIA				PMZ							
	comp=Z,2µm,7.0s										
TIA				LN							
	comp=Z,1µm,22.0s										
TIA				LE							
	comp=Z,2µm,22.0s										
TIA				LZ							
	comp=Z,3µm,23.0s										
229A	**Bryant Ranch,**	**82.95**	**54**	P		**P**			**03 51 43.1**	**-0.6**	
	baz=83,SNR=7.1										
430A	**Baggett Ranch,**	**82.96**	**56**	P		**P**			**03 51 43.4**	**-0.4**	
	baz=83,SNR=26										
I19A	**Meeteetse**	**82.98**	**41**	P		**P**			**03 51 43.8**	**0.0**	
	baz=83,

baz=84,SNR=68
Z29A Hungry Hill Ra 83.52 53 P P 03 51 45.9 -0.7
baz=84,SNR=23
N23A Red Feather La 83.55 45 P P 03 51 47.0 +0.1
baz=84,SNR=42
833A Chaparral WMA, 83.56 59 P P 03 51 46.5 -0.3
baz=84,SNR=15
X28A Dimmitt 83.63 52 P P 03 51 46.4 -0.8
baz=84,SNR=23
V27A Dan Oppiter Fa 83.63 51 P P 03 51 46.9 -0.3
baz=84,SNR=14
T26A Comanche Natio 83.64 49 P P 03 51 46.5 -0.8
baz=84,SNR=27
J21A Lysite 83.65 42 P P 03 51 46.9 -0.3
baz=84,SNR=111
632A Uvalde 83.66 57 P P 03 51 47.4 0.0
baz=84,SNR=38
034A Hebbronville 83.71 60 P P 03 51 48.3 +0.6
baz=84,SNR=20
COLD Coldfoot 83.73 9 eP P 03 51 48.2 +1.3
comp=Z,33nm,1.1s
Y29A Porterfield Fa 83.78 53 P P 03 51 47.5 -0.5
baz=84,SNR=46
733A Divot King Ran 83.78 58 P P 03 51 47.9 -0.1
baz=84,SNR=12
532A Rocksprings 83.79 57 P P 03 51 47.5 -0.6
baz=84,SNR=54
331A San Angelo 83.80 55 P P 03 51 47.2 -0.9
baz=84,SNR=25
H20A Greybull 83.82 41 P P 03 51 47.6 -0.4
baz=84,SNR=28
130A Snyder 83.85 54 P P 03 51 47.7 -0.6
baz=84,SNR=19
U27A Thompson Grove 83.91 50 P P 03 51 47.9 -0.7
baz=84,SNR=24
W28A Vega 83.91 51 P P 03 51 48.1 -0.6
baz=84,SNR=5.8
K22A Casper 83.94 43 P P 03 51 48.3 -0.4
baz=84,SNR=30
K22A Casper 83.94 43 eP P 03 51 48.7 0.0
comp=Z,249nm,1.6s
I21A Big Trails, Te 83.96 42 P P 03 51 48.3 -0.5
baz=84,SNR=80
X29A Tulia 83.98 52 P P 03 51 48.7 -0.3
baz=84,SNR=26
Z30A Sanderson Ranc 83.98 53 P P 03 51 48.2 -0.7
baz=84,SNR=53
JCT Junction City 84.00 56 eP P 03 51 48.6 -0.5
JCT pmax pmax
comp=Z,27nm,1.1s
JCT MLR MLR
comp=Z,4µm,20.0s
JCT Junction City 84.00 56 P P 03 51 48.5 -0.6
baz=84,SNR=13
JCT Junction City 84.00 56 eP P 03 51 48.6 -0.5
comp=Z,27nm,1.1s
JCT LR LR
comp=Z,4µm,20.0s
035Z Hargill 84.03 61 P P 03 51 49.5 +0.3
baz=84
G20A Bridger 84.03 40 P P 03 51 48.8 -0.2
baz=84,SNR=17
934A Benavides 84.04 60 P P 03 51 49.8 +0.5
baz=84,SNR=9.8
PHWY Pilot Hill 84.06 45 eP P 03 51 49.5 -0.1
comp=Z,83nm,1.3s
BILL Bilibino 84.07 352 *c i* P P 03 51 49.5 +1.0
BILL *i* 03 55 03.6
BILL pmax pmax
comp=Z,20nm,0.9s
BILL Bilibino 84.07 352 eP P 03 51 48.7 +0.1
comp=Z,21nm,0.8s
BILL LR LR
comp=Z,4µm,20.0s
V28A Channing 84.09 51 P P 03 51 49.0 -0.6
baz=84,SNR=10
231A Bronte 84.11 55 P P 03 51 48.8 -0.8
baz=84,SNR=26
633A Saathoff Ranch 84.14 58 P P 03 51 49.8 0.0
baz=84,SNR=37
432A Menard 84.14 56 P P 03 51 49.2 -0.7
baz=84,SNR=24
035A Encino 84.16 60 P P 03 51 51.0 +1.1
baz=84
834A Tilden 84.19 59 P P 03 51 50.6 +0.5
baz=84,SNR=33
R26A Arlington 84.21 48 P P 03 51 49.6 -0.5
baz=84,SNR=70
T27A Campo 84.23 49 P P 03 51 49.7 -0.6
baz=84,SNR=25
W29A Amraillo 84.28 52 P P 03 51 50.2 -0.3
baz=84,SNR=18
J22A Midwest 84.31 42 P P 03 51 50.2 -0.4
baz=85,SNR=79
131A Roby 84.33 54 P P 03 51 50.2 -0.6
baz=84,SNR=15
U28A Mallet 84.33 50 P P 03 51 50.0 -0.8
baz=85,SNR=8.0
F20A Billings 84.35 40 P P 03 51 50.6 0.0
baz=85,SNR=23
S27A Las Animas 84.35 49 P P 03 51 50.1 -0.8
baz=85
332A Millersview 84.37 56 P P 03 51 50.5 -0.5
baz=85,SNR=46
Y30A Stafford Cattl 84.38 53 P P 03 51 50.6 -0.4
baz=85,SNR=27
Q26A Hugo 84.41 47 P P 03 51 50.9 -0.3
baz=85,SNR=21
734A La Parita Cree 84.43 58 P P 03 51 51.5 +0.2
baz=85,SNR=5.9
EGMT Eagleton 84.45 37 P P 03 51 51.0 -0.1
baz=85,SNR=20
EGMT Eagleton 84.45 37 eP P 03 51 51.0 -0.1
comp=Z,200nm,1.7s
EGMT LR LR
comp=Z,3µm,20.0s
533A Kerrville 84.47 57 P P 03 51 51.0 -0.5
baz=85,SNR=52
H21A Big Horn, Sher 84.50 41 P P 03 51 51.2 -0.2
baz=85,SNR=18
I22A 9 Mile Ranch, 84.52 42 P P 03 51 51.4 -0.2
baz=85,SNR=38
K23A Bowen Ranch, D 84.58 43 P P 03 51 51.6 -0.4
baz=85,SNR=24
PMSA Palmer Station 84.61 156 eP P 03 51 51.8 +0.2
comp=Z,106nm,1.5s
PMSA LR LR
comp=Z,4µm,22.0s
X30A Coker Ranch, T 84.61 52 P P 03 51 51.7 -0.4
baz=85,SNR=18
232A Coleman 84.63 55 P P 03 51 51.8 -0.5
baz=85,SNR=62
V29A Stinnett 84.66 51 P P 03 51 52.2 -0.2
baz=85,SNR=9.1
G21A Lodge Grass 84.67 41 P P 03 51 52.1 -0.1
baz=85
433A Art 84.67 56 P P 03 51 51.7 -0.8
baz=85,SNR=13
R27A Eads 84.67 48 P P 03 51 51.8 -0.6
baz=85,SNR=18
T28A Walsh 84.70 50 P P 03 51 51.8 -0.8
baz=85
Z31A Sharp Cattle R 84.76 54 P P 03 51 52.4 -0.5
baz=85,SNR=49
634A China Grove, S 84.79 58 P P 03 51 52.9 -0.1
baz=85
P26A Davis Ranch, A 84.79 47 P P 03 51 52.7 -0.4
baz=85,SNR=19
835A Beeville 84.84 59 P P 03 51 54.0 +0.6
baz=85
ABTX Abilene, Hawle 84.89 54 P P 03 51 53.3 -0.3
baz=85,SNR=64
ABTX Abilene, Hawle 84.89 54 eP P 03 51 53.5 -0.1
comp=Z,331nm,1.4s
Y31A Rekieta Farm, 84.90 53 P P 03 51 53.2 -0.4
baz=85,SNR=29
534A Blanco 84.91 57 P P 03 51 53.4 -0.3
baz=85,SNR=71
J23A Dilts Ranch, B 84.91 43 P P 03 51 53.3 -0.3
baz=85
H22A Clearmont 84.92 41 P P 03 51 53.5 0.0
baz=85
333A Richland Sprin 84.95 56 P P 03 51 53.5 -0.4
baz=85,SNR=20
F21A Absaloka Mine, 84.99 40 P P 03 51 54.1 +0.3
baz=85
S28A Manter 85.05 49 P P 03 51 53.9 -0.5
baz=85,SNR=24

735A Kenedy 85.05 59 P P 03 51 54.8 +0.4
baz=85
U29A Oasis Ranch, S 85.07 50 P P 03 51 54.0 -0.5
baz=85,SNR=9.8
M25A Palm-Egli Farm 85.07 45 P P 03 51 54.5 +0.1
baz=85,SNR=6.6
KSCO Kaye Shedlock' 85.08 48 P P 03 51 54.3 -0.2
baz=85,SNR=6.8
KSCO Kaye Shedlock' 85.08 48 eP P 03 51 54.4 -0.2
comp=Z,219nm,1.6s
O26A Horse Wrangler 85.09 46 P P 03 51 54.3 -0.3
baz=85,SNR=19
BJT Baijiatuau 85.10 313 eP P 03 51 55.0 +0.6
BJT pmax pmax
comp=Z,455nm,2.0s
BJT MLR MLR
comp=Z,2µm,22.0s
BJT Baijiatuau 85.10 313 eP P 03 51 55.0 +0.6
comp=Z,455nm,2.0s
BJT LR LR
comp=Z,2µm,22.0s
BJI Beijing 85.10 313 P P 03 51 55.1 +0.7
BJI pP pP 03 52 06.8 +9.1
BJI sP sP 03 52 13.5 +15
BJI PP **PP 03 55 09.5 -2.3**
BJI S **SKSac 04 02 22.5 +3.2**
BJI SS **SS 04 07 55.1 -3.0**
BJI PMZ
comp=Z,95nm,2.0s
BJI PMZ
comp=Z,3µm,3.9s
BJI LN
comp=Z,1µm,25.4s
BJI LE
comp=Z,1µm,21.3s
BJI LZ
comp=Z,3µm,28.4s
K24A Anderson Ranch 85.11 44 P P 03 51 54.4 -0.2
baz=85,SNR=5.6
W30A Crocket Farms 85.11 52 P P 03 51 54.2 -0.5
baz=85
EDM Edmonton 85.17 32 eP P 03 51 54.1 -0.4
EDM pmax pmax
comp=Z,106nm,1.4s
EDM Edmonton 85.17 32 eP P 03 51 54.1 -0.4
comp=Z,106nm,1.4s
I23A Meade Ranch, G 85.21 42 P P 03 51 54.5 -0.6
baz=86
G22A Birney 85.24 41 P P 03 51 55.0 -0.1
baz=86,SNR=9.7
V30A Spur Ranch, Mi 85.25 51 P P 03 51 55.4 +0.1
baz=86
635A Leesville 85.26 58 P P 03 51 55.7 +0.3
baz=86,SNR=13
233A Rising Star 85.27 55 P P 03 51 55.0 -0.5
baz=86
Z32A Haskell 85.27 54 P P 03 51 55.3 -0.1
baz=86,SNR=126
T29A Hugoton 85.32 50 P P 03 51 54.9 -0.8
baz=86
P27A Ficken Ranch, 85.33 47 P P 03 51 55.2 -0.5
baz=86,SNR=9.9
434A Burnet 85.35 57 P P 03 51 55.4 -0.5
baz=86,SNR=105
E21A Keefer Ranch, 85.35 39 P P 03 51 56.0 +0.4
baz=86,SNR=17
X31A McDonald Ranch 85.36 52 P P 03 51 55.3 -0.6
baz=86,SNR=16
N26A Koester Ranch, 85.39 46 P P 03 51 55.4 -0.7
baz=86
R28A Tribune 85.40 48 P P 03 51 55.8 -0.3
baz=86,SNR=38
L25A Engebretsen Ra 85.43 44 P P 03 51 56.3 +0.1
baz=86
133A Hamilton Ranch 85.46 55 P P 03 51 56.1 -0.3
baz=86,SNR=35
J24A Dixon Ranch, L 85.47 43 P P 03 51 55.9 -0.4
baz=86,SNR=7.8
F22A Rosebud 85.51 40 P P 03 51 56.5 0.0
baz=86
H23A Clabaugh Cattl 85.52 42 P P 03 51 55.5 -1.0
baz=86
Y32A R-V Farms, Ver 85.55 53 P P 03 51 56.6 -0.3
baz=86,SNR=12
334A Lometa 85.55 56 P P 03 51 56.6 -0.3
baz=86,SNR=44
U30A WK&E Inc. Balk 85.56 51 P P 03 51 56.1 -0.8
baz=86,SNR=6.5
W31A Holland Ranch, 85.60 52 P P 03 51 56.8 -0.3
baz=86,SNR=8.3
S29A Ulysses 85.63 49 P P 03 51 56.7 -0.5
baz=86,SNR=5.6
535A Dale 85.65 58 P P 03 51 57.5 +0.1
baz=86,SNR=16
O27A Beecher Island 85.66 47 P P 03 51 57.0 -0.4
baz=86
Q28A Sharon Springs 85.67 48 P P 03 51 57.0 -0.5
baz=86,SNR=9.9
K25A Mack Ranch, Ha 85.69 44 P P 03 51 57.5 +0.1
baz=86
736A Circle Diamond 85.70 59 P P 03 51 58.6 +0.9
baz=86,SNR=16
M26A McRoberts Ranc 85.71 45 P P 03 51 56.9 -0.7
baz=86
I24A Kuemmerle Ranc 85.72 43 P P 03 51 56.7 -0.8
baz=86
G23A Biddle 85.80 41 P P 03 51 57.5 -0.4
baz=86,SNR=17
Z33A Whitaker Ranch 85.82 54 P P 03 51 58.1 -0.1
baz=86,SNR=62
X32A Elmer 85.82 53 P P 03 51 57.6 -0.5
baz=86,SNR=9.1
T30A Plains 85.85 50 P P 03 51 57.3 -1.0
baz=86
N27A Anderson Farm, 85.86 46 P P 03 51 58.0 -0.4
baz=86,SNR=6.5
234A Clairette 85.87 56 P P 03 51 58.1 -0.3
baz=86,SNR=64
636A Smothers Creek 85.88 58 P P 03 51 59.5 +1.0
baz=86,SNR=28
V31A Spring Creek L 85.89 51 P P 03 51 58.9 +0.3
baz=86,SNR=31
435B Jarrell 85.89 57 P P 03 51 58.4 -0.1
baz=86,SNR=20
R29A Marienthal 85.92 49 P P 03 51 58.1 -0.6
baz=86
P28A Saint Francis 85.92 47 P P 03 51 58.4 -0.3
baz=86,SNR=8.4
LAO LASA Array 85.94 40 P P 03 51 59.1 +0.6
baz=86,SNR=32
LAO LASA Array 85.94 40 eP P 03 51 59.2 +0.7
comp=Z,298nm,1.5s
LAO LR LR
comp=Z,1µm,21.0s
L26A Underwood Farm 85.99 45 P P 03 51 58.9 0.0
baz=86
E22A Miles City 86.00 40 P P 03 51 58.9 0.0
baz=86,SNR=6.4
F23A Volborg 86.02 41 P P 03 51 58.7 -0.3
baz=86,SNR=21
J25A Sunshine Ranch 86.06 43 P P 03 51 58.7 -0.6
baz=86,SNR=5.9
536A Bastrop 86.08 58 P P 03 51 59.7 +0.3
baz=86,SNR=17
U31A Nine Bar Ranch 86.10 51 P P 03 51 59.1 -0.4
baz=86
W32A Sentinel 86.11 52 P P 03 51 59.0 -0.5
baz=86
134A White-Moore Ra 86.11 55 P P 03 51 59.5 -0.1
baz=86,SNR=42
PPI Padang Panjang 86.11 271 P P 03 52 15.7 +16
S30A Montezuma 86.12 50 P P **03 51 58.8 -0.8**
baz=86,SNR=6.7
O28A Krutsinger Ran 86.13 47 P P 03 51 59.0 -0.6
baz=86
H24A Dirks Ranch, A 86.14 42 P P 03 51 58.8 -0.8
baz=86,SNR=53
Y33A Hilltop Ranch, 86.19 53 P P 03 51 59.4 -0.6
baz=86,SNR=15
335A Moody 86.19 56 P P 03 51 59.7 -0.3
baz=86,SNR=19
K26A Motz Farm, Whi 86.19 44 P P 03 51 59.6 -0.3
baz=86,SNR=9.9
RSSD Black Hills 86.21 43 eP P 03 51 58.9 -1.2
RSSD pmax pmax
comp=Z,105nm,1.4s
RSSD Black Hills 86.21 43 eP P 03 51 58.9 -1.2
comp=Z,105nm,1.4s

Q29A Oakley 86.22 48 P P 03 51 59.2 -0.9
baz=86
M27A Reverse DX Ran 86.25 45 P P 03 51 59.6 -0.7
baz=86
OGNE Ogallala 86.27 46 P P 03 51 59.6 -0.7
baz=86
OGNE Ogallala 86.27 46 eP P 03 52 00.3 -0.1
comp=Z,79nm,1.5s
OGNE LR LR
comp=Z,4µm,21.0s
WMOK Wichita Mounta 86.32 53 eP P 03 51 59.0 -1.7
WMOK pmax pmax
comp=Z,58nm,1.5s
WMOK MLR MLR
comp=Z,4µm,22.0s
WMOK Wichita Mounta 86.32 53 eP P 03 51 59.0 -1.7
comp=Z,58nm,1.5s
WMOK LR LR
comp=Z,4µm,22.0s
WHTX Lake Whitney 86.41 56 P P 03 52 00.9 -0.2
baz=87,SNR=25
WHTX Lake Whitney 86.41 56 eP P 03 52 01.4 +0.3
comp=Z,313nm,1.5s
E23A Ismay 86.42 40 P P 03 52 01.2 +0.3
baz=87,SNR=8.8
637A Eagle Lake 86.47 58 P P 03 52 02.2 +0.8
baz=87,SNR=8.0
X33A Lawton 86.47 53 P P 03 52 00.5 -0.9
baz=87
V32A Arapaho 86.47 52 P P 03 52 01.1 -0.3
baz=87,SNR=12
G24A Alzada 86.48 41 P P 03 52 00.5 -0.7
baz=87,SNR=5.1
R30A Dighton 86.50 49 P P 03 52 00.8 -0.7
baz=87,SNR=16
T31A Randall Ranch, 86.50 50 P P 03 52 00.8 -0.7
baz=87
J26A Sides Ranch, S 86.51 44 P P 03 52 00.9 -0.6
baz=87,SNR=11
N28A Pribbeno Ranch 86.51 46 P P 03 52 00.7 -0.8
baz=87
Z34A Collier Ranch, 86.52 54 P P 03 52 01.0 -0.6
baz=87
P29A Atwood 86.52 48 P P 03 52 00.9 -0.7
baz=87
436A Wall Ranch, Ga 86.53 57 P P 03 52 01.9 +0.2
baz=87,SNR=14
L27A T5 Ranch, Ells 86.53 45 P P 03 52 01.2 -0.4
baz=87
COCO West Island 86.59 258 PFAKE 03 52 10.0 +7.6
COCO LR LR
comp=Z,2µm,20.0s
ENH Enshi 86.60 302 PFAKE 03 52 10.0 +7.9
ENH LR LR
comp=Z,1µm,21.0s
135A Vickery Place, 86.64 55 P P 03 52 02.0 -0.2
baz=87,SNR=9.7
F24A Ekalaka 86.68 41 P P 03 52 02.0 -0.3
baz=87,SNR=10
537A Green Hill Far 86.69 58 P P 03 52 03.2 +0.7
baz=87,SNR=25
336A Riesel 86.69 56 P P 03 52 02.2 -0.3
baz=87,SNR=28
H25A Fruitdale 86.71 42 P P 03 52 01.9 -0.4
baz=87,SNR=8.2
W33A Caddo, Fort Co 86.71 52 P P 03 52 02.7 +0.1
baz=87,SNR=13
U32A Winter Ranch, 86.74 51 P P 03 52 02.1 -0.6
baz=87,SNR=11
IPM Ipoh 86.78 275 eP P 03 52 03.4 +0.1
comp=Z,23nm,1.1s
HIA Hailar 86.79 323 eP P 03 52 02.8 +0.2
HIA pmax pmax
comp=Z,102nm,1.5s
HIA MLR MLR
comp=Z,5µm,22.0s
HIA Hailar 86.79 323 eP P 03 52 02.8 +0.2
comp=Z,102nm,1.5s
HIA LR LR
comp=Z,5µm,22.0s
Q30A Quinter 86.80 48 P P 03 52 02.3 -0.6
baz=87,SNR=11
O29A 4D Ranch, Culb 86.82 47 P P 03 52 02.3 -0.7
baz=87
K27A Flueckinger Fa 86.83 44 P P 03 52 02.7 -0.4
baz=87,SNR=9.5
S31A Mullinville 86.83 50 P P 03 52 02.4 -0.7
baz=87
738A Farr-Stevens R 86.84 59 P P 03 52 04.5 +1.3
baz=87
Y34A Reagan Ranch, 86.84 54 P P 03 52 02.5 -0.7
baz=87,SNR=14
TIY Taiyuan 86.89 310 eP P 03 52 05.3 +1.9
TIY PP **PP 03 55 30.9 +4.3**
TIY PMZ
comp=Z,72nm,1.0s
TIY PMZ
comp=Z,2µm,6.5s
TIY LN
comp=Z,910nm,14.7s
TIY LE
comp=Z,2µm,21.4s
TIY LZ
comp=Z,7µm,12.2s
M28A Bar X Bar Ranc 86.90 46 P P 03 52 02.7 -0.7
baz=87
I26A New Underwood 86.95 43 P P 03 52 03.0 -0.6
baz=87
P30A Selden 86.99 48 P P 03 52 03.1 -0.7
baz=87,SNR=8.6
X34A Smith Ranch, M 87.01 53 P P 03 52 04.1 +0.1
baz=87,SNR=24
Z35A Perchaven, San 87.02 55 P P 03 52 03.6 -0.5
baz=87,SNR=24
L28A Connealy Angus 87.04 45 P P 03 52 03.7 -0.4
baz=87
HKT Hockley 87.04 58 eP P 03 52 03.9 -0.2
HKT pmax pmax
comp=Z,264nm,1.7s
HKT Hockley 87.04 58 eP P 03 52 03.9 -0.2
comp=Z,264nm,1.7s
R31A Burdett 87.05 49 P P 03 52 02.9 -1.2
baz=87
G25A Newell 87.06 42 P P 03 52 03.3 -0.8
baz=87,SNR=6.9
E24A Baker 87.07 40 P P 03 52 03.8 -0.3
baz=87
437A Phantom Ranch, 87.08 57 P P 03 52 04.4 0.0
baz=87,SNR=9.4
CBKS Cedar Bluff 87.08 49 eP P 03 52 04.6 +0.3
CBKS pmax pmax
comp=Z,31nm,1.1s
CBKS MLR MLR
comp=Z,3µm,19.0s
CBKS Cedar Bluff 87.08 49 P P 03 52 03.4 -0.9
baz=87
CBKS Cedar Bluff 87.08 49 eP P 03 52 04.6 +0.3
comp=Z,31nm,1.1s
CBKS LR LR
comp=Z,3µm,19.0s
V33A Lossen Ranch, 87.08 52 P P 03 52 03.6 -0.7
baz=87,SNR=9.7
T32A Huddler Ranch, 87.09 50 P P 03 52 03.5 -0.9
baz=87
236A Katherine and 87.15 56 P P 03 52 04.6 -0.1
baz=87,SNR=24
J27A Elkhorn Farm, 87.20 44 P P 03 52 04.3 -0.5
baz=87,SNR=8.4
N29A Votaw Ranch, W 87.20 47 P P 03 52 03.8 -1.0
baz=87
H26A Fairpoint 87.24 42 P P 03 52 03.8 -1.2
baz=88,SNR=8.2
S32A Newby Ranch, P 87.27 50 P P 03 52 04.3 -1.0
baz=88
W34A Bridge Creek, 87.27 53 P P 03 52 04.4 -0.9
baz=88
W34A Bridge Creek, 87.27 53 eP P 03 52 05.5 +0.2
comp=Z,61nm,1.4s
D24A Glendive 87.30 40 P P 03 52 04.9 -0.3
baz=88,SNR=12
136A Ennis 87.31 56 P P 03 52 05.0 -0.5
baz=88
F25A Bowman 87.34 41 P P 03 52 05.3 -0.1
baz=88
KULM Kulim 87.35 276 eP P 03 52 06.2 +0.2
KULM LR LR
comp=Z,1µm,20.0s
SKNT Sakolnakorn 87.36 288 P P 03 52 15.8 +10

O30A	**MW Ranch, Wils** baz=88	**87.36**	**47**	P		**P**	**03 52 04.9**	**-0.7**
Y35A	**Marietta** baz=88,SNR=8.3	**87.39**	**54**	P		**P**	**03 52 05.7**	**-0.1**
M29A	**Burnside Ranch** baz=88	**87.40**	**46**	P		**P**	**03 52 05.0**	**-0.8**
Q31A	**Ellis** baz=88	**87.40**	**49**	P		**P**	**03 52 05.1**	**-0.7**
538A	**Harpers Horsep** baz=88,SNR=5.9	**87.41**	**58**	P		**P**	**03 52 07.3**	**+1.3**
C24A	**Savage** baz=88,SNR=12	**87.41**	**39**	P		**P**	**03 52 05.7**	**+0.1**
K28A	**Ten Mile Ranch** baz=88	**87.42**	**45**	P		**P**	**03 52 05.5**	**-0.4**
U33A	**Lingo Farm, Me** baz=88	**87.43**	**51**	P		**P**	**03 52 05.3**	**-0.7**
337A	**Centerville** baz=88,SNR=15	**87.44**	**57**	P		**P**	**03 52 06.7**	**+0.5**
I27A	**Quinn** baz=88,SNR=6.9	**87.49**	**43**	P		**P**	**03 52 05.7**	**-0.5**
T33A	**Patterson Ranc** baz=88	**87.56**	**51**	P		**P**	**03 52 05.2**	**-1.4**
N30A	**Hueftle Ranch,** baz=88	**87.56**	**47**	P		**P**	**03 52 05.6**	**-1.0**
438A	**Sam Houston St** baz=88,SNR=17	**87.59**	**57**	P		**P**	**03 52 07.8**	**+0.9**
P31A	**Stockton** baz=88	**87.61**	**48**	P		**P**	**03 52 05.6**	**-1.2**
X35A	**Drake** baz=88,SNR=18	**87.61**	**54**	P		**P**	**03 52 05.8**	**-1.1**
E25A	**Miller Ranch,** baz=88	**87.61**	**41**	P		**P**	**03 52 06.5**	**-0.2**
G26A	**Maurine** baz=88,SNR=8.0	**87.63**	**42**	P		**P**	**03 52 05.9**	**-0.9**
Z36A	**Blue Ridge** baz=88,SNR=17	**87.65**	**55**	P		**P**	**03 52 06.9**	**-0.2**
V34A	**Guthrie** baz=88	**87.67**	**52**	P		**P**	**03 52 06.0**	**-1.2**
V34A	**Guthrie** comp=Z,88nm,1.8s	**87.67**	**52**	*e*P		**P**	**03 52 06.0**	**-1.2**
R32A	**Long Quarter,** baz=88,SNR=11	**87.69**	**49**	P		**P**	**03 52 05.8**	**-1.4**
H27A	**Howes** baz=88	**87.70**	**43**	P		**P**	**03 52 06.1**	**-1.0**
237A	**Washetta, Mont** baz=88,SNR=15	**87.73**	**56**	P		**P**	**03 52 07.6**	**+0.1**
GYA	**Guiyang**	**87.75**	**298**	⇑*i*P		**P**	**03 52 08.8**	**+0.9**
GYA				pP	pP		03 52 21.0	+10
GYA				sP	sP		03 52 27.8	+15
GYA				PP	**PP**		**03 55 37.3**	**+3.5**
GYA				S	**SKKSac**		**04 02 47.0**	**+0.6**
GYA				SS	**SS**		**04 08 36.8**	**-1.1**
GYA	comp=Z,60nm,1.0s			PMZ				
GYA	comp=Z,830nm,7.5s			PMZ				
GYA	comp=Z,9μm,19.8s			LN				
GYA	comp=Z,6μm,20.0s			LE				
GYA	comp=Z,8μm,19.3s			LZ				
L29A	**Maesberg Ranch** baz=88	**87.78**	**45**	P		**P**	**03 52 06.3**	**-1.3**
J28A	**Allard Ranch,** baz=88,SNR=10	**87.78**	**44**	P		**P**	**03 52 06.5**	**-1.1**
CLNS	**Chul'man**	**87.81**	**331**	*e*P	P		03 52 03.8	-3.6
CLNS				*e**PP	pP		03 52 14.7	+4.0
CLNS				*e*			03 55 30.8	
CLNS				*e*PPP	PPP		03 57 26.3	
CLNS				*e*S	SKSac		04 02 28.8	-6.7
CLNS				*e*SSS	SSS		04 12 06.8	
CLNS	comp=Z,17nm,1.2s			pmax	pmax			
CLNS	comp=E,6.0nm,0.9s			pmax	pmax			
CLNS	comp=N,12nm,1.3s			pmax	pmax			
CLNS	comp=N,7.0nm,0.9s			pmax	pmax			
CLNS	comp=E,6.0nm,1.1s			pmax	pmax			
CLNS	comp=Z,5.0nm,0.9s			pmax	pmax			
CLNS	comp=N,439nm,10.1s			smax	smax			
CLNS	comp=E,472nm,10.1s			smax	smax			
CLNS	comp=N,1μm,15.0s			MLR	MLR			
CLNS	comp=Z,2μm,17.0s			MLR	MLR			
CLNS	comp=E,1μm,17.0s			MLR	MLR			
F26A	**Lodgepole** baz=88	**87.81**	**41**	P		**P**	**03 52 06.8**	**-0.9**
U34A	**Anderson Ranch** baz=88	**87.87**	**52**	P		**P**	**03 52 06.9**	**-1.2**
U34A	**Anderson Ranch** comp=E,49nm,1.4s	**87.87**	**52**	*e*P		**P**	**03 52 07.9**	**-0.2**
O31A	**Woolen Ranch,** baz=88	**87.87**	**48**	P		**P**	**03 52 06.9**	**-1.2**
INK	**Inuvik**	**87.88**	**14**	*e*P		**P**	**03 52 07.7**	**+0.4**
INK	comp=Z,22nm,1.1s			pmax	pmax			
INK	**Inuvik** comp=Z,22nm,1.1s	**87.88**	**14**	*e*P		**P**	**03 52 07.7**	**+0.4**
338A	**Crockett** baz=88,SNR=10	**87.92**	**57**	P		**P**	**03 52 08.6**	**+0.2**
S33A	**Kaszmaul Farm,** baz=88	**87.92**	**50**	P		**P**	**03 52 07.0**	**-1.3**
D25A	**Fairfield** baz=88,SNR=5.0	**87.94**	**40**	P		**P**	**03 52 07.7**	**-0.5**
W35A	**Tecumseh** baz=88	**87.94**	**53**	P		**P**	**03 52 07.7**	**-0.8**
137A	**Heron Place, G** baz=88,SNR=6.5	**87.97**	**56**	P		**P**	**03 52 09.0**	**+0.4**
Y36A	**Durant** baz=88	**87.97**	**54**	P		**P**	**03 52 08.1**	**-0.5**
539A	**Cross D Ranch,** baz=88	**88.00**	**58**	P		**P**	**03 52 09.9**	**+1.0**
Q32A	**Meitler Ranch,** baz=88	**88.01**	**49**	P		**P**	**03 52 07.5**	**-1.3**
I28A	**Midland** baz=88,SNR=5.7	**88.05**	**43**	P		**P**	**03 52 07.9**	**-0.9**
G27A	**Dupree** baz=88,SNR=14	**88.09**	**42**	P		**P**	**03 52 08.0**	**-1.0**
X36A	**Centrahoma** baz=88,SNR=8.9	**88.14**	**54**	P		**P**	**03 52 08.7**	**-0.8**
K29A	**Lazy Trails An** baz=88	**88.15**	**45**	P		**P**	**03 52 08.8**	**-0.5**
MAW	**Mawson** comp=Z,25nm,0.8s,baz=117,slow=4.5,SNR=32	**88.17**	**199**	P		**P**	**03 52 08.3**	**-0.7**
MAW	comp=Z,4μm,20.4s,baz=118,slow=34			LR	LR		04 28 52.8	
MAW	**Mawson** comp=Z,22nm,1.4s	**88.17**	**199**	*e*P		**P**	**03 52 08.3**	**-0.7**
MAW				pmax	pmax			
MAW	**Mawson** baz=88,SNR=14	**88.17**	**199**	⇓P		P	03 52 05.7	-3.2
MAW	**Mawson** comp=Z,22nm,1.4s	**88.17**	**199**	*e*P		**P**	**03 52 08.3**	**-0.7**
V35A	**Meyer Ranch, C** baz=88	**88.17**	**52**	P		**P**	**03 52 08.0**	**-1.5**
439A	**Center Grove,** baz=88,SNR=6.4	**88.19**	**58**	P		**P**	**03 52 10.1**	**+0.4**
R33A	**Olander Ranch,** baz=88,SNR=8.0	**88.19**	**50**	P		**P**	**03 52 08.6**	**-1.0**
E26A	**Carlson Angus** baz=88,SNR=5.8	**88.19**	**41**	P		**P**	**03 52 08.5**	**-1.0**
P32A	**Huiting Farm,** baz=88	**88.20**	**48**	P		**P**	**03 52 08.4**	**-1.2**
C25A	**Freed Ranch, W** baz=88	**88.21**	**39**	P		**P**	**03 52 09.6**	**+0.1**
F27A	**Lemmon** baz=88,SNR=5.5	**88.23**	**42**	P		**P**	**03 52 08.7**	**-1.0**
L30A	**Spencer Herefo** baz=88	**88.26**	**46**	P		**P**	**03 52 09.0**	**-0.9**
Z37A	**Pogue Cattle C** baz=88,SNR=5.7	**88.27**	**55**	P		**P**	**03 52 10.3**	**+0.2**
238A	**Jacksonville** baz=88,SNR=20	**88.28**	**56**	P		**P**	**03 52 10.5**	**+0.3**
XAN	**Xi'an**	**88.30**	**306**	P		**P**	**03 52 11.3**	**+1.1**
XAN				S		**S**	**04 02 51.8**	**-3.8**
XAN	comp=Z,35nm,1.6s			PMZ				
XAN	comp=Z,530nm,17.9s			LN				
XAN	comp=Z,1μm,21.2s			LE				
XAN	comp=Z,2μm,20.9s			LZ				
T34A	**McClaskey Farm** baz=89,SNR=9.7	**88.33**	**51**	P		**P**	**03 52 09.4**	**-0.9**
N31A	**Bailey Ranch,** baz=89	**88.38**	**47**	P		**P**	**03 52 09.1**	**-1.4**
J29A	**Okreek** baz=89,SNR=12	**88.39**	**44**	P		**P**	**03 52 09.3**	**-1.1**
H28A	**Mission Ridge** baz=89	**88.41**	**43**	P		**P**	**03 52 09.6**	**-0.9**
W36A	**Wetumka** baz=89,SNR=6.1	**88.43**	**53**	P		**P**	**03 52 09.7**	**-1.1**
D26A	**Manning** baz=89,SNR=12	**88.44**	**40**	P		**P**	**03 52 10.4**	**-0.2**
U35A	**Pawnee** baz=89	**88.46**	**52**	P		**P**	**03 52 09.2**	**-1.6**
B25A	**Knox Farm, Ray** baz=89	**88.50**	**39**	P		**P**	**03 52 10.7**	**-0.2**
138A	**Matatall Enter** baz=89,SNR=12	**88.52**	**56**	P		**P**	**03 52 11.4**	**+0.2**
Y37A	**Hugo** baz=89,SNR=17	**88.52**	**54**	P		**P**	**03 52 10.9**	**-0.4**
339A	**Huntington** baz=89,SNR=13	**88.53**	**57**	P		**P**	**03 52 11.3**	**0.0**
Q33A	**Connelly Farm,** baz=89,SNR=9.7	**88.54**	**49**	P		**P**	**03 52 10.4**	**-0.8**
M31A	**Lambtecht Ranc** baz=89	**88.55**	**47**	P		**P**	**03 52 10.1**	**-1.2**
NATX	**Nacogdoches** baz=89,SNR=10.0	**88.58**	**57**	P		**P**	**03 52 11.7**	**+0.2**
NATX	**Nacogdoches** comp=Z,439nm,1.6s	**88.58**	**57**	*e*P		**P**	**03 52 12.2**	**+0.7**
K30A	**Basset** baz=89,SNR=14	**88.60**	**45**	P		**P**	**03 52 10.5**	**-1.0**
S34A	**Willow Spring** baz=89,SNR=6.9	**88.62**	**50**	P		**P**	**03 52 10.5**	**-1.2**
G28A	**Parade** baz=89	**88.64**	**43**	P		**P**	**03 52 10.5**	**-1.1**
I29A	**Vivian Onida** baz=89,SNR=7.3	**88.64**	**44**	P		**P**	**03 52 10.2**	**-1.4**
540A	**Vidor** baz=89	**88.65**	**58**	P		**P**	**03 52 12.3**	**+0.4**
HHC	**Hu-ho-hao-te**	**88.66**	**313**	*e*P		**P**	**03 52 13.6**	**+1.7**
HHC				PP		**PP**	**03 55 45.4**	**+4.7**
HHC				SKS		**SKSac**	**04 02 37.0**	**-4.5**
HHC				S		**SKKSac**	**04 02 55.4**	**+2.8**
HHC				sS		sS	04 03 18.1	+14
HHC				SS		**SS**	**04 08 50.3**	**-0.2**
HHC	comp=Z,78nm,1.2s			PMZ				
HHC	comp=Z,1μm,5.3s			PMZ				
HHC	comp=Z,560nm,14.5s			LN				
HHC	comp=Z,900nm,18.4s			LE				
HHC	comp=Z,1μm,16.7s			LZ				
SLVN	**Son La** comp=Z,9.2nm,0.9s	**88.66**	**292**	*e*P		**P**	**03 52 12.2**	**0.0**
O32A	**Brockman Farm,** baz=89	**88.66**	**48**	P		**P**	**03 52 10.6**	**-1.2**
YAK	**Yakutsk**	**88.68**	**337**	*e*P		**P**	**03 52 09.8**	**-1.5**
YAK				*e*			03 52 23.6	
YAK				*e*S		**SKSac**	**04 02 36.9**	**-3.4**
YAK				*e*			04 02 53.0	
YAK				*e*SS		SS	04 08 41.4	-8.1
YAK	comp=E,11nm,1.4s			pmax	pmax			
YAK	comp=N,6.0nm,1.5s			pmax	pmax			
YAK	comp=Z,23nm,1.1s			pmax	pmax			
YAK	comp=Z,112nm,2.3s			pmax	pmax			
YAK	comp=N,26nm,1.7s			pmax	pmax			
YAK	comp=E,85nm,2.0s			pmax	pmax			
YAK	comp=N,891nm,5.0s			smax	smax			
YAK	comp=E,950nm,6.1s			smax	smax			
YAK	**Yakutsk** comp=Z,2μm,22.0s	**88.68**	**337**	*e*P		**P**	**03 52 10.9**	**-0.3**
YAK				LR	LR			
R34A	**Isabella, Hill** baz=89,SNR=8.3	**88.73**	**50**	P		**P**	**03 52 10.5**	**-1.6**
E27A	**Carson** baz=89,SNR=6.7	**88.75**	**41**	P		**P**	**03 52 11.8**	**-0.2**
Z38A	**Mt. Pleasant** baz=89	**88.79**	**55**	P		**P**	**03 52 12.6**	**+0.1**
P33A	**Williams Farm,** baz=89	**88.79**	**49**	P		**P**	**03 52 11.5**	**-1.0**
A25A	**Svangstu Ranch** baz=89	**88.80**	**38**	P		**P**	**03 52 11.0**	**-1.2**
T35A	**Sooner Cattle** baz=89,SNR=8.9	**88.81**	**51**	P		**P**	**03 52 11.5**	**-1.0**
239A	**Gary** baz=89,SNR=8.3	**88.81**	**57**	P		**P**	**03 52 12.9**	**+0.3**
N32A	**Stulken Farm,** baz=89	**88.83**	**47**	P		**P**	**03 52 11.5**	**-1.1**
440A	**Kirbyville** baz=89	**88.83**	**58**	P		**P**	**03 52 12.9**	**+0.1**
V36A	**Jenks** baz=89,SNR=7.8	**88.86**	**53**	P		**P**	**03 52 11.7**	**-1.1**
X37A	**Clayton** baz=89,SNR=10	**88.92**	**54**	P		**P**	**03 52 12.3**	**-0.8**
J30A	**Dallas** baz=89	**88.92**	**45**	P		**P**	**03 52 11.7**	**-1.3**
H29A	**Onida** baz=89,SNR=6.9	**88.93**	**43**	P		**P**	**03 52 11.4**	**-1.5**
L31A	**Butterfield Fa** baz=89	**88.95**	**46**	P		**P**	**03 52 11.6**	**-1.5**
C26A	**Wahner Farm, P** baz=89,SNR=9.7	**88.97**	**40**	P		**P**	**03 52 13.0**	**0.0**
F28A	**McLaughlin** baz=89	**89.01**	**42**	P		**P**	**03 52 12.1**	**-1.2**
TUL1	**Tulsa** baz=89	**89.02**	**52**	P		**P**	**03 52 12.8**	**-0.8**
TUL1	**Tulsa** comp=Z,27nm,1.2s	**89.02**	**52**	*e*P		**P**	**03 52 13.0**	**-0.6**
D27A	**Center** baz=89,SNR=5.3	**89.04**	**41**	P		**P**	**03 52 12.7**	**-0.7**
W37A	**Quinton** baz=89,SNR=7.4	**89.05**	**53**	P		**P**	**03 52 12.9**	**-0.8**
139A	**Bunkhouse Ranc** baz=89	**89.08**	**56**	P		**P**	**03 52 13.8**	**-0.1**
O33A	**Hebron** baz=89	**89.09**	**48**	P		**P**	**03 52 12.4**	**-1.4**
340A	**Bronson** baz=89,SNR=14	**89.09**	**57**	P		**P**	**03 52 14.0**	**0.0**
B26A	**Jensen Ranch,** baz=89	**89.11**	**39**	P		**P**	**03 52 13.2**	**-0.5**
BGNE	**Belgrade** baz=89	**89.16**	**47**	P		**P**	**03 52 13.2**	**-0.9**
BGNE	**Belgrade** comp=Z,92nm,1.3s	**89.16**	**47**	*e*P		**P**	**03 52 13.9**	**-0.2**
Q34A	**Chapman** baz=89	**89.16**	**49**	P		**P**	**03 52 12.9**	**-1.3**
I30A	**Pacoma** baz=89	**89.19**	**44**	P		**P**	**03 52 12.6**	**-1.6**
Y38A	**Idabel** baz=89	**89.21**	**55**	P		**P**	**03 52 13.5**	**-1.0**
S35A	**Otter Creek Ra** baz=89,SNR=10.0	**89.21**	**51**	P		**P**	**03 52 12.9**	**-1.5**
U36A	**Oologah** baz=89	**89.22**	**52**	P		**P**	**03 52 13.3**	**-1.2**
GSI	**Gunungsitoli** comp=Z,31nm,2.1s	**89.29**	**272**	P		**P**	**03 52 15.7**	**+0.4**
GSI	**Gunungsitoli** comp=Z,82nm,1.5s	**89.29**	**272**	*e*P		**P**	**03 52 15.2**	**-0.1**
C27A	**Sayler Ranch,** baz=90	**89.29**	**40**	P		**P**	**03 52 14.4**	**-0.2**
G29A	**Hoven** baz=90	**89.33**	**43**	P		**P**	**03 52 13.0**	**-1.8**
T36A	**Boggs Farm, Ca** baz=90,SNR=7.8	**89.33**	**51**	P		**P**	**03 52 13.5**	**-1.5**
E28A	**Huff** baz=90	**89.36**	**41**	P		**P**	**03 52 13.6**	**-1.3**
X38A	**Whitesboro** baz=90,SNR=28	**89.36**	**54**	P		**P**	**03 52 14.4**	**-0.8**
N33A	**J Bar K, Exete** baz=90	**89.42**	**48**	P		**P**	**03 52 14.4**	**-0.9**
Z39A	**Irene McRaven,** baz=90	**89.42**	**55**	P		**P**	**03 52 15.7**	**+0.2**
A26A	**Wade Farm, Ken** baz=90,SNR=8.0	**89.43**	**39**	P		**P**	**03 52 14.9**	**-0.3**
P34A	**Walnut Farm, R** baz=90	**89.46**	**49**	P		**P**	**03 52 14.4**	**-1.1**
R35A	**Emporia Munici** baz=90	**89.51**	**50**	P		**P**	**03 52 14.5**	**-1.3**
V37A	**Hulbert** baz=90,SNR=11	**89.51**	**53**	P		**P**	**03 52 14.8**	**-1.1**
F29A	**Eureka** baz=90	**89.63**	**42**	P		P	03 52 14.1	-2.1
BTO	**Baotou**	**89.67**	**312**	*e*P		**P**	**03 52 17.3**	**+0.7**
BTO	comp=Z,29nm,3.1s			PMZ				
D28A	**Regan** baz=90	**89.67**	**41**	P		P	03 52 14.3	-2.1
U37A	**Salina** baz=90	**89.70**	**52**	P		**P**	**03 52 15.9**	**-0.8**
B27A	**Peters Farms,** baz=90	**89.71**	**39**	P		**P**	**03 52 15.4**	**-1.1**
Y39A	**Lockesburg** baz=90	**89.71**	**55**	P		**P**	**03 52 16.0**	**-0.8**
W38A	**Poteau** baz=90,SNR=8.5	**89.73**	**54**	P		**P**	**03 52 16.4**	**-0.5**
YKA	**Yellowknife Ar** comp=Z,11nm,0.9s,baz=236,slow=4.2,SNR=24	**89.74**	**23**	P		**P**	**03 52 16.2**	**0.0**
YKA	**Yellowknife Ar** comp=Z,11nm,0.9s	**89.74**	**23**	P pmax		**P** pmax	**03 52 16.2**	**0.0**
S36A	**Lake Cedric, C** baz=90,SNR=9.5	**89.77**	**51**	P		**P**	**03 52 16.3**	**-0.7**
O34A	**Beatrice** baz=90	**89.77**	**48**	P		**P**	**03 52 15.3**	**-1.7**
YKW3	**Yellowknife Ar**	**89.78**	**23**	*e*P		**P**	**03 52 17.0**	**+0.6**
Q35A	**Mercer Eighty,** baz=90,SNR=7.0	**89.81**	**50**	P		**P**	**03 52 16.2**	**-1.0**
G30A	**Faulkton** baz=90	**89.82**	**43**	P		**P**	**03 52 15.4**	**-1.7**
M33A	**Taylor Creek F** baz=90	**89.89**	**47**	P		**P**	**03 52 16.4**	**-1.1**
A27A	**Ledoux Ranch,** baz=90,SNR=7.2	**89.94**	**39**	P		**P**	**03 52 17.2**	**-0.3**
C28A	**Hausauer Farms** baz=90	**89.99**	**40**	P		**P**	**03 52 16.8**	**-1.0**
E29A	**Napoleon** baz=90	**90.03**	**42**	P		**P**	**03 52 16.2**	**-1.8**
R36A	**Gordon, Harris** baz=90	**90.03**	**50**	P		**P**	**03 52 17.0**	**-1.2**
L33A	**Hoskins** baz=90	**90.04**	**46**	P		**P**	**03 52 16.7**	**-1.5**
P35A	**Duane Minner,** baz=90	**90.04**	**49**	P		**P**	**03 52 17.4**	**-0.8**
V38A	**Canehill** baz=90,SNR=14	**90.07**	**53**	P		**P**	**03 52 17.4**	**-1.1**
T37A	**Cheneyville 18** baz=90,SNR=11	**90.08**	**52**	P		**P**	**03 52 17.6**	**-0.9**
N34A	**Lincoln** baz=90	**90.13**	**48**	P		**P**	**03 52 17.6**	**-1.1**
F30A	**Leola** baz=90	**90.16**	**42**	P		**P**	**03 52 17.1**	**-1.5**
D29A	**Pettibone, Tap** baz=90	**90.24**	**41**	P		**P**	**03 52 17.7**	**-1.3**
Q36A	**Arnold C. Orve** baz=90	**90.27**	**50**	P		**P**	**03 52 18.2**	**-1.1**
U38A	**Gravette** baz=90	**90.27**	**52**	P		**P**	**03 52 18.3**	**-1.1**
B28A	**Dugan Ranch, T** baz=90	**90.28**	**40**	P		**P**	**03 52 18.5**	**-0.6**
M34A	**Aspy Farms, Fr** baz=90	**90.30**	**47**	P		**P**	**03 52 17.9**	**-1.5**
MIAR	**Mount Ida**	**90.31**	**54**	*e*P		**P**	**03 52 19.4**	**-0.2**
MIAR	comp=Z,26nm,1.3s			pmax	pmax			
MIAR	comp=Z,3μm,20.0s			MLR	MLR			
MIAR	**Mount Ida** baz=90,SNR=9.1	**90.31**	**54**	P		**P**	**03 52 18.9**	**-0.7**
MIAR	**Mount Ida** comp=Z,26nm,1.3s	**90.31**	**54**	*e*P		**P**	**03 52 19.4**	**-0.2**
MIAR	comp=Z,3μm,20.0s			LR	LR			
S37A	**Fort Scott** baz=91,SNR=8.7	**90.35**	**51**	P		**P**	**03 52 18.5**	**-1.2**
O35A	**Humboldt** baz=91	**90.36**	**48**	P		**P**	**03 52 18.5**	**-1.3**
E30A	**Jud** baz=91	**90.47**	**42**	P		**P**	**03 52 18.5**	**-1.6**
A28A	**Rude Farm, Bot** baz=91	**90.51**	**39**	P		**P**	**03 52 19.9**	**-0.4**
R37A	**Teagarden Farm** baz=91,SNR=5.6	**90.53**	**50**	P		**P**	**03 52 19.0**	**-1.5**
MDND	**Maddock** baz=91	**90.53**	**40**	P		**P**	**03 52 18.4**	**-1.9**
L34A	**Svendsen Farm,** baz=91	**90.60**	**47**	P		P	03 52 18.7	-2.1
P36A	**Good Intent, A** baz=91	**90.67**	**49**	P		**P**	**03 52 20.0**	**-1.1**
TEIG	**Tepich** comp=Z,4.4nm,1.3s	**90.73**	**69**	*e*P		**P**	**03 52 22.6**	**+0.7**
TEIG	comp=Z,34nm,20.0s			LR	LR			
KMI	**Kunming**	**90.75**	**296**	P		**P**	**03 52 22.8**	**+0.6**
KMI				pP		pP	03 52 35.6	+10
KMI				sP		sP	03 52 40.3	+14
KMI				PP		**PP**	**03 55 59.3**	**+1.4**
KMI				SKS		SKSac	04 02 48.4	-6.2
KMI				S		**SKKSac**	**04 03 14.3**	**+5.2**
KMI				sS		sS	04 03 34.3	+10
KMI	comp=Z,18nm,1.9s			PMZ				
KMI	comp=Z,740nm,6.5s			PMZ				
KMI	comp=Z,440nm,15.4s			LN				
KMI	comp=Z,1μm,19.4s			LE				
KMI	comp=Z,2μm,18.8s			LZ				
N35A	**Tabor** baz=91	**90.75**	**48**	P		**P**	**03 52 20.4**	**-1.1**
D30A	**Buchanan** baz=91	**90.79**	**41**	P		**P**	**03 52 19.6**	**-1.9**
U65B	**HualaæØ** comp=Z,107nm,1.4s	**90.85**	**126**	*e*P		**P**	**03 52 22.4**	**+0.2**
B29A	**Wagenman Farm,** baz=91	**90.91**	**40**	P		**P**	**03 52 20.7**	**-1.4**
M35A	**Neola** baz=91	**90.91**	**47**	P		**P**	**03 52 20.9**	**-1.4**
Q37A	**Longview Farm,** baz=91	**90.98**	**50**	P		**P**	**03 52 21.5**	**-1.2**
O36A	**Bolckow** baz=91	**91.01**	**49**	P		**P**	**03 52 21.6**	**-1.1**
ECSD	**EROS Data Cent** baz=91	**91.03**	**45**	P		**P**	**03 52 21.1**	**-1.6**
ECSD	**EROS Data Cent** comp=Z,30nm,1.2s	**91.03**	**45**	*e*P		P	03 52 19.8	-3.0
ECSD	comp=Z,6μm,22.0s			LR	LR			
A29A	**Manning Farm,** baz=91	**91.15**	**39**	P		**P**	**03 52 21.6**	**-1.6**
C30A	**Mose, Pekin** baz=91	**91.18**	**41**	P		**P**	**03 52 21.4**	**-1.9**
L35A	**Bielow Farm, R** baz=92	**91.23**	**47**	P		**P**	**03 52 22.2**	**-1.5**
JTS	**JuntasAbangare**	**91.23**	**80**	*e*P		**P**	**03 52 25.0**	**+0.6**
JTS	comp=Z,160nm,1.4s			pmax	pmax			
JTS	comp=Z,5μm,20.0s			MLR	MLR			
JTS	**JuntasAbangare** comp=Z,160nm,1.4s	**91.23**	**80**	*e*P		**P**	**03 52 25.0**	**+0.6**
JTS	comp=Z,5μm,20.0s			LR	LR			
UALR	**University of** comp=Z,124nm,1.6s	**91.35**	**54**	*e*P		**P**	**03 52 25.1**	**+0.7**
U73B	**San Pedro** comp=Z,56nm,1.4s	**91.47**	**126**	*e*P		**P**	**03 52 24.9**	**-0.3**
CD2	**Chengdu**	**91.50**	**301**	P		**P**	**03 52 24.5**	**-0.8**
CD2				pP		pP	03 52 37.1	+8.5
CD2				sP		sP	03 52 42.0	+12
CD2				PP		**PP**	**03 56 02.8**	**-0.7**
CD2				SKS		**SKSac**	**04 02 53.1**	**-5.2**
CD2				S		**S**	**04 03 21.5**	**-3.9**
CD2				sS		sS	04 03 43.1	+12
CD2				SS		**SS**	**04 09 30.0**	**-2.0**
CD2	comp=Z,20nm,0.5s			PMZ				
CD2				PMZ				

comp=Z,860nm,7.2s
CD2 LN
comp=Z,2µm,22.8s
CD2 LZ
comp=Z,2µm,19.2s
CIT Chita 91.52 324 *e*P **P** **03 52 26.1 +1.2**
CIT *e* 03 52 39.0
CIT pmax pmax
comp=Z,299nm,1.9s
B30A Myrvik Farm, E 91.54 40 P **P** **03 52 23.7 -1.3**
baz=92
A30A Hoffart Farm, 91.73 40 P **P** **03 52 25.1 -0.8**
baz=92
FFC Flin Flon 91.80 33 *e*P **P** **03 52 25.5 -0.5**
FFC pmax pmax
comp=Z,39nm,1.4s
FFC MLR MLR
comp=Z,1µm,22.0s
FFC Flin Flon 91.80 33 *e*P **P** **03 52 25.5 -0.5**
comp=Z,39nm,1.4s
FFC LR LR
comp=Z,1µm,22.0s
H34A Spellman Lake, 91.90 44 P **P** **03 52 25.3 -1.4**
baz=92
VBMS Vicksburg 92.07 57 P **P** **03 52 28.4 +0.6**
baz=92
CMAR Chiang Mai Arr 92.38 288 P **P** **03 52 30.6 +1.0**
comp=Z,0.9nm,0.3s,baz=113,slow=3.6,SNR=4.5
CMAR LR LR 04 29 06.6
comp=Z,1µm,21.7s,baz=104,slow=32
CHTO Chiang Mai 92.47 289 *e*P **P** **03 52 30.0 0.0**
CHTO MLR MLR
comp=Z,1µm,21.0s
CHTO Chiang Mai 92.47 289 *e*P **P** **03 52 29.9 0.0**
CHTO LR LR
comp=Z,1µm,21.0s
LZH Lanzhou 92.89 306 ⇑P **P** **03 52 34.8 +3.1**
LZH pP pP 03 52 45.3 +10
LZH sP sP 03 52 51.4 +15
LZH PP PP 03 56 20.5 +6.0
LZH *e*SKS **SKSac** **04 03 04.0 -2.1**
LZH *e*S **S** **04 03 35.0 -2.9**
LZH sS sS 04 03 53.1 +10
LZH SS **SS** **04 09 54.3 +2.4**
LZH PMZ
comp=Z,24nm,1.0s
LZH PMZ
comp=Z,150nm,6.4s
LZH LN
comp=Z,2µm,18.6s
LZH LE
comp=Z,2µm,18.2s
LZH LZ
comp=Z,2µm,17.7s
HBAR Harrisburg 92.89 54 *e*P **P** **03 52 32.4 +0.9**
AGMN Agassiz Nation 93.03 41 P **P** **03 52 30.4 -1.5**
baz=93
AGMN Agassiz Nation 93.03 41 *e*P **P** **03 52 30.8 -1.1**
comp=Z,71nm,1.5s
AGMN LR LR
comp=Z,3µm,20.0s
NNA Nana 93.25 103 PFAKE 03 52 40.0 +6.2
NNA LR LR
comp=Z,2µm,20.0s
EFI East Falkland 93.31 146 PFAKE 03 52 40.0 +6.8
EFI LR LR
comp=Z,4µm,20.0s
SNAA Sanae 93.34 177 P **P** **03 52 33.5 +0.4**
SNAA Sanae 93.34 177 *e*P **P** **03 52 33.6 +0.5**
SNAA pmax pmax
comp=Z,16nm,1.4s
SNAA Sanae 93.34 177 *e*P **P** **03 52 33.6 +0.5**
comp=Z,16nm,1.4s
GNAR Gosnell 93.50 54 *e*P **P** **03 52 35.4 +1.0**
BOD Bodaibo 93.51 329 *e*P **P** **03 52 33.7 -0.1**
BOD pmax pmax
comp=Z,14nm,1.7s
LCO Las Campanas 93.66 121 *e*P **P** **03 52 37.1 +1.4**
comp=Z,43nm,1.2s
LCO LR LR
comp=Z,4µm,20.0s
ULM Lac du Bonnet 93.66 39 P **P** **03 52 33.0 -1.7**
comp=Z,12nm,1.1s,baz=263,slow=4.8,SNR=17
ULM LR LR 04 29 19.8
comp=Z,4µm,19.8s,baz=255,slow=32
ULM Lac du Bonnet 93.66 39 *e*P **P** **03 52 33.7 -1.1**
comp=Z,90nm,1.6s
VNA2 Neumayer--Watz 93.79 175 P **P** **03 52 36.0 +0.9**
baz=188,slow=2.9
VNA1 Neumayer--Stat 93.99 175 P **P** **03 52 37.1 +1.1**
ULN Ulaanbaatar 94.04 318 *e*P **P** **03 52 37.7 +0.9**
ULN pmax pmax
comp=Z,63nm,1.6s
ULN MLR MLR
comp=Z,3µm,22.0s
ULN Ulaanbaatar 94.04 318 *e*P **P** **03 52 37.6 +0.9**
comp=Z,63nm,1.6s
ULN LR LR
comp=Z,3µm,22.0s
SPMN St. Paul 94.08 44 P **P** **03 52 35.6 -1.2**
baz=94
SPMN St. Paul 94.08 44 *e*P **P** **03 52 36.3 -0.5**
comp=Z,77nm,1.4s
NVL N'lazarevskaya 94.40 182 *e*P **P** **03 52 39.0 +1.1**
NVL *e**PP pP 03 52 49.6 +8.4
NVL *e*PPP PPP 03 58 38.9
NVL *e*S **SKSac** **04 03 14.3 +1.4**
NVL pmax pmax
comp=Z,12nm,0.9s
SONM Songino Array 94.46 318 P **P** **03 52 38.9 +0.3**
comp=Z,4.9nm,1.1s,baz=180,slow=1.5,SNR=9.8
SONM LR LR 04 30 10.2
comp=Z,2µm,21.6s,baz=102,slow=32
SIUC Southern Illin 94.59 52 *e*P **P** **03 52 39.3 0.0**
comp=Z,84nm,1.5s
BRAL Brewton 94.60 59 *e*P **P** **03 52 41.4 +1.9**
comp=Z,77nm,1.1s
BRAL LR LR
comp=Z,2µm,20.0s
PAF Port-aux-Franc 94.92 216 S **SKSac** **04 03 18.0 +1.5**
PAF SS SS 04 09 42.0 -37
PAF L L 04 18 00.0
PAF R 04 23 00.0
OTAV Otavalo 94.95 91 *e*P **P** **03 52 41.2 -0.9**
comp=Z,17nm,1.5s
OTAV LR LR
comp=Z,2µm,20.0s
LRAL Lakeview Retre 95.15 57 *e*P **P** **03 52 43.5 +1.5**
comp=Z,28nm,1.6s
JFWS Jewell Farm 95.21 47 *e*P **P** **03 52 41.3 -0.7**
JFWS pmax pmax
comp=Z,83nm,1.4s
JFWS MLR MLR
comp=Z,5µm,21.0s
JFWS Jewell Farm 95.21 47 *e*P **P** **03 52 41.3 -0.7**
comp=Z,83nm,1.4s
JFWS LR LR
comp=Z,5µm,21.0s
WVT Waverly 95.26 54 *e*P **P** **03 52 41.6 -0.8**
WVT pmax pmax
comp=Z,46nm,1.4s
WVT Waverly 95.26 54 *e*P **P** **03 52 41.6 -0.8**
comp=Z,46nm,1.4s
HDIL Hopedale 95.28 50 P **P** **03 52 41.3 -1.1**
baz=96
HDIL Hopedale 95.28 50 *e*P **P** **03 52 41.9 -0.5**
comp=Z,64nm,1.3s
HDIL LR LR
comp=Z,4µm,20.0s
EYMN Ely 95.72 42 P **P** **03 52 42.3 -2.0**
baz=96
EYMN Ely 95.72 42 *e*P **P** **03 52 43.1 -1.1**
comp=Z,42nm,1.4s
EYMN LR LR
comp=Z,3µm,20.0s
BCIP Isla Barro Col 95.83 82 PFAKE 03 53 00.0 +14
BCIP LR LR
comp=Z,2µm,22.0s
SWET Sewanee 96.54 55 *e*P **P** **03 52 47.7 -0.7**
comp=Z,28nm,1.3s
SFIN Scholer Farm 96.86 50 P **P** **03 52 48.4 -1.2**
baz=97
SFIN Scholer Farm 96.86 50 *e*P **P** **03 52 49.3 -0.3**
comp=Z,50nm,1.5s
IRK Irkutsk 97.01 322 *e*P **P** **03 52 48.9 -1.1**
IRK pmax pmax
comp=Z,72nm,1.6s

TRQA Tornquist 97.03 132 *e*P **P** **03 52 50.7 +0.1**
TRQA LR LR
comp=Z,3µm,22.0s
ZAK Zakamensk 97.13 320 *e*P **P** **03 52 50.0 -0.7**
ZAK *e* 03 56 42.9
ZAK pmax pmax
comp=Z,9.0nm,1.7s
TLY Talaya 97.24 321 *e*P **P** **03 52 52.1 +1.0**
TLY pmax pmax
comp=Z,102nm,1.9s
TLY MLR MLR
comp=Z,3µm,20.0s
TLY Talaya 97.24 321 P **P** **03 52 52.4 +1.3**
comp=Z,81nm,1.3s,SNR=6.2
TLY Talaya 97.24 321 *e*P **P** **03 52 52.1 +1.0**
comp=Z,102nm,1.9s
TLY LR LR
comp=Z,3µm,20.0s
FCC Fort Churchill 97.27 31 *e*P **P** **03 52 51.1 +0.1**
FCC Fort Churchill 97.27 31 *e*P **P** **03 52 51.1 +0.1**
LVC Limon Verde 97.29 116 *e*P **P** **03 52 52.8 +0.4**
comp=Z,19nm,1.3s
LVC LR LR
comp=Z,3µm,20.0s
TIGA Tifton 97.58 60 P **P** **03 52 52.0 -1.1**
baz=98
TIGA Tifton 97.58 60 *e*P **P** **03 52 53.4 +0.3**
CPCT Cooper Cave 97.71 55 *e*P **P** **03 52 52.8 -0.8**
GOGA Godfrey 98.12 58 *e*P Pdif 03 52 57.4 +1.9
GOGA pmax pmax
comp=Z,39nm,1.6s
GOGA MLR MLR
comp=Z,2µm,22.0s
GOGA Godfrey 98.12 58 *e*P Pdif 03 52 57.4 +1.9
comp=Z,39nm,1.6s
GOGA LR LR
comp=Z,2µm,22.0s
GLMI Grayling 99.61 46 PFAKE 03 53 10.0 +8.1
GLMI LR LR
comp=Z,3µm,19.0s
AAM Ann Arbor 99.80 49 *e*P **Pdif** **03 53 03.4 +0.7**
AAM pmax pmax
comp=Z,17nm,0.4s
AAM MLR MLR
comp=Z,2µm,20.0s
AAM Ann Arbor 99.80 49 *e*Pdif **Pdif** **03 53 03.4 +0.7**
comp=Z,17nm,0.4s
AAM LR LR
comp=Z,2µm,20.0s
ACSO Alum Creek Sta 99.90 51 PFAKE 03 53 10.0 +6.7
ACSO LR LR
comp=Z,4µm,21.0s
LPAZ La Paz 100.05 110 LR LR 04 30 51.7
comp=Z,1µm,19.5s,baz=260,slow=31
LPAZ La Paz 100.05 110 *e*P **Pdif** **03 53 04.6 -0.7**
LPAZ pmax pmax
comp=Z,12nm,1.5s
LPAZ La Paz 100.05 110 *e*Pdif **Pdif** **03 53 04.6 -0.7**
comp=Z,12nm,1.5s
MTDJ Mount Denham 100.10 74 PFAKE 03 53 20.0 +15
MTDJ LR LR
comp=Z,2µm,22.0s
NHSC New Hope 100.75 59 PFAKE 03 53 20.0 +13
NHSC LR LR
comp=Z,2µm,20.0s
BLA Blacksburg 101.31 54 PFAKE 03 53 20.0 +10
BLA LR LR
comp=Z,3µm,19.0s
LSA Lhasa 101.82 298 PFAKE 03 53 20.0 +7.3
LSA LR LR
comp=Z,840nm,22.0s
HOPE Hope Point 101.93 156 PFAKE 03 53 20.0 +8.0
HOPE LR LR
comp=Z,3µm,19.0s
GTBY Guantanamo Bay 102.69 73 PFAKE 03 53 30.0 +14
GTBY LR LR
comp=Z,2µm,21.0s
CNNC Cliffs of the 102.99 57 PFAKE 03 53 30.0 +13
CNNC LR LR
comp=Z,4µm,20.0s
CBN Corbin 103.85 54 PFAKE 03 53 30.0 +9.1
CBN LR LR
comp=Z,4µm,20.0s
SDV Santo Domingo 104.61 85 PFAKE 03 53 40.0 +15
SDV LR LR
comp=Z,2µm,20.0s
SDDR Presa de Saban 106.05 74 PFAKE 03 57 50.0
SDDR LR LR
comp=Z,5µm,20.0s
WMQ Urumqi 106.51 312 Pdif **Pdif** **03 53 32.8 +0.2**
WMQ PP **PP** **03 58 00.8 +3.0**
WMQ S **Sdif** **04 05 26.5 -6.4**
WMQ SS **SS** **04 12 59.3 -2.4**
WMQ PPMZ
comp=Z,560nm,5.4s
WMQ LN
comp=Z,670nm,16.0s
WMQ LE
comp=Z,940nm,17.5s
WMQ LZ
comp=Z,830nm,18.3s
CRZF Crozet Islands 106.52 211 SP SP 04 07 02.0 -12
CRZF SS **SS** **04 12 58.0 -1.9**
CRZF L L 04 23 00.0
CRZF R 04 29 00.0
GRTK Grand Turk 106.64 72 PFAKE 03 58 00.0
GRTK LR LR
comp=Z,1µm,20.0s
LONY Lake Ozonia 106.66 47 *e*Pdif **Pdif** **03 53 33.7 +0.5**
comp=Z,24nm,1.6s
LONY LR LR
comp=Z,3µm,20.0s
NCB Newcomb 106.86 48 PFAKE 03 58 00.0
NCB LR LR
comp=Z,4µm,20.0s
SAML Samuel 106.98 104 *e*PKP **PKiKP** **03 57 45.0 -0.2**
SAML *e*PP **PP** **03 57 58.6 -3.1**
SAML LR LR
comp=Z,2µm,20.0s
PALK Pallekele 107.05 273 *e*PKP **PKiKP** **03 57 44.4 -1.0**
ZALV Zalesovo Beam 108.82 322 Pdiff **Pdif** **03 53 42.5 -0.1**
comp=Z,0.4nm,0.3s,baz=95,slow=3.1,SNR=4.0
ZALV PKiKP **PKiKP** **03 57 46.9 -0.5**
comp=Z,1.0nm,0.6s,baz=114,slow=1.1,SNR=4.4
PKME Peaks-Kenny Pk 110.44 47 PFAKE 03 58 00.0
PKME LR LR
comp=Z,2µm,19.0s
MK31 Makanchi Array 110.45 315 *e*PKIKP **PKiKP** **03 57 50.3 -0.5**
MK31 Makanchi Array 110.45 315 *e*PKP **PKiKP** **03 57 50.3 -0.5**
MKAR Makanchi Array 110.45 315 PKiKP **PKiKP** **03 57 50.7 -0.1**
comp=Z,1.2nm,0.8s,baz=78,slow=1.1,SNR=8.5
SJG San Juan 110.70 76 PFAKE 03 58 00.0
SJG LR LR
comp=Z,2µm,21.0s
DGAR Diego Garcia 110.95 256 PFAKE 03 58 00.0
DGAR LR LR
comp=Z,3µm,20.0s
KURK Kurchatov 112.75 319 P **Pdif** **03 54 00.5 +0.4**
KURK *e* 03 57 54.4
KURK MLR MLR
comp=Z,3µm,20.0s
KURK Kurchatov 112.75 319 Pdif **Pdif** **03 54 00.5 +0.4**
KURK *e*PKP **PKiKP** **03 57 54.4 -0.6**
KURK PKiKP **PKiKP** **03 57 54.8 -0.2**
KURK LR LR
comp=Z,3µm,20.0s
KURBB Kurchatov Arra 112.81 319 Pdiff **Pdif** **03 54 00.5 +0.1**
comp=Z,0.5nm,0.9s,baz=89,slow=3.6,SNR=4.6
KURBB PKiKP **PKiKP** **03 57 54.8 -0.3**
comp=Z,2.9nm,0.9s,baz=100,slow=1.9,SNR=27
BBSR BB Station 113.61 61 PFAKE 03 58 10.0
BBSR LR LR
comp=Z,1µm,22.0s
GRGR Grenville 113.92 83 PFAKE 03 58 10.0
GRGR LR LR
comp=Z,922nm,19.0s
ANWB Willy Bob 114.74 77 PFAKE 03 58 10.0 +10
ANWB LR LR
comp=Z,978nm,20.0s
FDF Fort de France 114.87 80 PFAKE 03 58 10.0 +10
FDF LR LR
comp=Z,1µm,20.0s
KSH Kashi 115.13 307 PKP **PKPdf** **03 58 01.1 +1.0**
KSH sPKP 03 58 16.1
KSH PKS **PKSdf** **04 01 37.1 +0.2**

KSH SKS **SKSdf** **04 05 09.1 -3.5**
KSH SKKS **SKKSac** **04 05 58.1 -3.8**
KSH PPMZ
comp=Z,2µm,7.3s
KSH LN
comp=Z,1µm,12.0s
KSH LE
comp=Z,1µm,9.4s
KSH LZ
comp=Z,3µm,20.9s
TKM2 Tokmak 2 115.30 311 PFAKE 03 58 10.0 +10
TKM2 LR LR
comp=Z,1µm,21.0s
KBS Kingsbay 115.97 359 PFAKE 03 58 10.0 +10
KBS LR LR
comp=Z,1µm,19.0s
BBGH Gun Hill 116.11 83 PFAKE 03 58 10.0 +7.5
BBGH LR LR
comp=Z,3µm,20.0s
AAK Ala-Archa 116.13 310 PFAKE 03 58 10.0 +8.0
AAK LR LR
comp=Z,2µm,22.0s
SFJD Kangerlussuaq 116.25 22 PFAKE 03 58 10.0 +8.8
SFJD LR LR
comp=Z,2µm,19.0s
EKS2 Erkin-Say 116.66 310 PFAKE 03 58 10.0 +7.1
EKS2 LR LR
comp=Z,1µm,21.0s
BVAR Borovoye Array 117.48 322 PKP **PKPdf** **03 58 03.6 -0.5**
baz=88,slow=1.8
BRVK Borovoye 117.54 322 *e*PKIKP **PKPdf** **03 58 03.5 -0.6**
BRVK MLR MLR
comp=Z,3µm,21.0s
BRVK Borovoye 117.54 322 *e*PKPdf **PKPdf** **03 58 03.5 -0.6**
BRVK LR LR
comp=Z,3µm,21.0s
KBL Kabul 120.84 301 *e*PKIKP **PKPdf** **03 58 11.0 -0.4**
KBL Kabul 120.84 301 *e*PKPdf **PKPdf** **03 58 11.0 -0.4**
SVE Sverdlovsk 121.71 328 *i* PKIKP **PKPdf** **03 58 12.5 +0.5**
SVE pmax pmax
comp=Z,39nm,1.5s
SVE MLR MLR
comp=Z,2µm,19.0s
ARU Arti 122.92 329 *i* PKIKP **PKPdf** **03 58 14.7 +0.3**
ARU 03 59 49.9
ARU 04 05 11.4
ARU PS **PS** **04 09 45.1 -4.0**
ARU MLR MLR
comp=Z,2µm,21.0s
ARU Arti 122.92 329 *e*PKPdf **PKPdf** **03 58 14.6 +0.2**
ARU LR LR
comp=Z,2µm,21.0s
KEV Kevo 123.76 352 PFAKE 03 58 30.0 +14
KEV LR LR
comp=Z,2µm,21.0s
LVZ Lovozero 124.06 348 PFAKE 03 58 30.0 +14
LVZ LR LR
comp=Z,2µm,19.0s
ARCES ARCESS Array B 124.17 352 PKP **PKPdf** **03 58 16.5 +0.1**
comp=Z,16nm,0.9s,baz=28,slow=1.1,SNR=22
APA Apatity 124.59 348 ⇑*i* PKIKP **PKPdf** **03 58 21.6 +4.3**
APA *i* 04 05 24.0
APA *i* 04 10 06.0
APA MLR MLR
comp=Z,2µm,17.0s
ABKAR Akbulak array 124.82 320 *e*PKPdf **PKPdf** **03 58 18.4 +0.2**
PRGR Permogore 125.70 338 *e*PKIKP PKPdf 03 58 10.0 -10
PRGR pmax pmax
comp=Z,32nm,0.9s
TMCR Tamitsa 126.27 343 *e*PKIKP **PKPdf** **03 58 23.6 +3.1**
TMCR pmax pmax
comp=Z,60nm,1.5s
BORG Borgarnes 126.76 14 PFAKE 03 58 30.0 +8.5
BORG LR LR
comp=Z,1µm,20.0s
ABPO Ambohimpanom 127.57 231 PFAKE 03 58 40.0 +15
ABPO LR LR
comp=Z,3µm,21.0s
MSEY Mahe Island 127.69 252 PFAKE 03 58 40.0 +15
MSEY LR LR
comp=Z,2µm,22.0s
GEYT Alibeck 129.17 307 PKP **PKPdf** **03 58 26.6 -0.4**
comp=Z,1.8nm,0.2s,baz=191,slow=4.4,SNR=4.8
SUR Sutherland 130.97 196 PFAKE 03 58 40.0 +9.1
SUR LR LR
comp=Z,4µm,20.0s
FINES FINESS Array B 131.50 348 PKP **PKPdf** **03 58 31.4 +0.8**
comp=Z,8.1nm,0.9s,baz=64,slow=3.2,SNR=10.0
MOS Moscow 132.81 337 *e*PKIKP **PKPdf** **03 58 32.0 -1.2**
RCBR Riachuelo 133.18 113 PFAKE 03 58 50.0 +15
RCBR LR LR
comp=Z,3µm,21.0s
OBN Obninsk 133.68 337 ⇑*i* PKIKP **PKPdf** **03 58 35.9 +1.1**
OBN *e* 04 01 05.3
OBN *i* PS **PS** **04 11 28.1 +5.4**
OBN *i* SS SS 04 18 47.8 -1.2
OBN pmax pmax
comp=Z,64nm,1.5s
OBN MLR MLR
comp=Z,1µm,20.0s
OBN Obninsk 133.68 337 PFAKE 03 58 50.0 +15
OBN LR LR
comp=Z,1µm,20.0s
NB2 NORSAR Subarra 133.87 357 PKP **PKPdf** **03 58 35.2 +0.1**
comp=Z,11nm,1.2s,baz=11,slow=4.0
NOA NORSAR Array B 133.87 357 PKP **PKPdf** **03 58 37.6 +2.5**
comp=Z,3.0nm,0.9s,baz=13,slow=4.1,SNR=8.4
NAO01 NORSAR Array S 134.08 357 *e*PKPdf **PKPdf** **03 58 35.7 +0.2**
MAK Makhachkala 135.21 317 *e*P **Pdif** **03 55 40.1 -0.1**
MAK *i* 03 58 40.1
MAK *i* 04 01 14.0
MAK pmax pmax
comp=Z,280nm,1.5s
KONO Kongsberg 135.33 358 PFAKE 03 58 50.0 +12
KONO LR LR
comp=Z,2µm,20.0s
VSR Storozhevoye 135.34 331 *e*PKIKP **PKPdf** **03 58 38.1 0.0**
VSR *e* 04 01 11.2
VSR pmax pmax
comp=N,10.0nm,1.3s
VSR pmax pmax
comp=E,10.0nm,1.3s
VSR pmax pmax
comp=Z,30nm,1.3s
VSR pmax pmax
comp=N,70nm,4.2s
VSR pmax pmax
comp=E,70nm,4.2s
VSR pmax pmax
comp=Z,380nm,4.2s
GOF Gofitskoye 137.00 322 *e*PKIKP **PKPdf** **03 58 44.3 +2.9**
GOF pmax pmax
comp=Z,30nm,1.4s
NACGM Naroch 137.15 343 *e*PP PP 04 01 22.0 -2.9
MICGM Minsk 137.17 342 ‖*e*PKP **PKPdf** **03 58 44.0 +2.6**
MNK Minsk 137.19 342 *e*PKIKP **PKPdf** **03 58 44.0 +2.6**
MNK *e* 04 01 26.0
MNK MLR MLR
comp=Z,7µm,20.0s
DGRG David-gareji 137.29 316 P **PKPdf** **03 58 43.4 +1.3**
TBLG Delisi 137.59 317 P **PKPdf** **03 58 45.1 +2.4**
TBLG Delisi 137.59 317 PKIKP **PKPdf** **03 58 45.1 +2.4**
KBZ Khabaz 137.79 320 PKP **PKPdf** **03 58 43.7 +0.8**
comp=Z,4.4nm,1.0s,baz=90,slow=2.7,SNR=4.2
KBZ PP **PP** **04 01 29.7 0.0**
comp=Z,3.3nm,1.0s,baz=30,slow=9.7,SNR=4.6
KIV Kislovodsk 137.80 321 ⇑*i* PKIKP **PKPdf** **03 58 46.2 +3.1**
KIV *i* 04 01 30.9
KIV *e*SS SS 04 19 43.4 +3.7
KIV pmax pmax
comp=Z,34nm,2.0s
KIV Kislovodsk 137.80 321 PFAKE 03 58 50.0 +6.9
KIV LR LR
comp=Z,2µm,19.0s
ONI Oni 138.02 318 P **PKPdf** **03 58 45.0 +1.5**
ONI Oni 138.02 318 *e*PKIKP **PKPdf** **03 58 44.9 +1.5**
GNI Garni 138.30 314 PKP **PKPdf** **03 58 43.4 -0.8**
comp=Z,2.9nm,0.3s,baz=288,slow=20,SNR=3.0
GNI Garni 138.30 314 PKIKP **PKPdf** **03 58 43.4 -0.8**
GNI MLR MLR
comp=Z,1µm,21.0s
GNI Garni 138.30 314 PKP **PKPdf** **03 58 43.4 -0.8**
GNI *e*PKPdf **PKiKP** **03 58 43.8 -2.5**
GNI LR LR
comp=Z,1µm,21.0s

MUD	**Monsted U'grnd**	**138.54**	**358**	*i* P		**SKPab**	**04 02 24.2**	**-3.2**
SUW	**Suwalki**	**138.90**	**345**	*e*PKP		**PKPdf**	**03 58 41.3**	**-3.3**
SUW	**Suwalki**	**138.90**	**345**	*e*PKIKP		**PKPdf**	**03 58 41.4**	**-3.2**
ESK	**Eskdalemuir**	**139.04**	**8**	PFAKE			03 59 00.0	+15
ESK				LR	LR			
	comp=Z,2µm,20.0s							
COP	**Copenhagen**	**139.11**	**355**	*i* P		**SKPab**	**04 02 24.6**	**-5.3**
BSD	**Bornholm Skovb**	**139.41**	**353**	*i* P		**SKPab**	**04 02 27.0**	**-4.2**
AKASG	**Malin Array Be**	**139.90**	**338**	PKhKP	PKPpre		03 58 39.7	
	comp=Z,1.1nm,0.7s,baz=33,slow=2.9,SNR=6.3							
AKASG				PKP		**PKPdf**	**03 58 45.8**	**-0.7**
	comp=Z,5.7nm,0.9s,baz=32,slow=2.8,SNR=24							
AKBB	**Malin Array Si**	**139.90**	**338**	*e*PKIKP		**PKPdf**	**03 58 47.0**	**+0.5**
AKBB	**Malin Array Si**	**139.90**	**338**	*e*PKPdf		**PKPdf**	**03 58 47.0**	**+0.5**
KIEV	**Kiev**	**139.91**	**338**	*e*PKIKP		**PKPdf**	**03 58 46.5**	**-0.1**
KIEV				MLR	MLR			
	comp=Z,2µm,22.0s							
KIEV	**Kiev**	**139.91**	**338**	*e*PKPdf		**PKPdf**	**03 58 46.5**	**-0.1**
KIEV				LR	LR			
	comp=Z,2µm,22.0s							
AK01	**Malin Array Si**	**139.91**	**338**	*e*PKPdf		**PKPdf**	**03 58 46.9**	**+0.4**
AK02	**Malin Array Si**	**139.95**	**338**	*e*PKPdf		**PKPdf**	**03 58 47.1**	**+0.5**
ANN	**Anapa**	**140.39**	**325**	*e*PKIKP		**PKPdf**	**03 58 44.4**	**-3.2**
ANN				*i*			03 58 49.3	
ANN				*e*			04 01 43.9	
ANN				*e*			04 05 52.8	
ANN				*e*SS	SS		04 20 07.6	-2.0
ANN				pmax	pmax			
	comp=Z,76nm,1.6s							
ANN				MLR	MLR			
	comp=Z,777nm,21.0s							
ROSA	**Rosais**	**141.37**	**46**	*e*LQ	LQ		04 38 43.2	
ROSA				*i* LR	LR		04 46 05.0	
	comp=Z,92nm,18.6s							
PGRA	**Graciosa**	**141.40**	**45**	*e*LQ	LQ		04 38 42.2	
PGRA				*i* LR	LR		04 46 00.9	
	comp=Z,380nm,21.9s							
BEL	**Belsk**	**141.48**	**346**	*e*PKP		**PKPdf**	**03 58 47.8**	**-1.6**
BEL	**Belsk**	**141.48**	**346**	*e*PKIKP		**PKPdf**	**03 58 47.8**	**-1.6**
SIM	**Simferopol'**	**142.07**	**328**	*d i*PKIKP	PKPdf		03 58 46.4	-4.3
SIM				*i*			04 01 55.0	
SIM				pmax	pmax			
	comp=Z,18nm,1.5s							
SIM				pmax	pmax			
	comp=Z,340nm,10.7s							
SIM				MLR	MLR			
	comp=N,1µm,21.5s							
RAYN	**Ar Rayn**	**142.30**	**289**	*e*PKPdf		**PKPdf**	**03 58 51.7**	**-0.1**
RAYN				LR	LR			
	comp=Z,1µm,20.0s							
LVV	**L'vov**	**142.42**	**341**	*e*PKIKP		**PKPdf**	**03 58 47.9**	**-3.2**
LVV				*i*			03 59 01.9	
KWP	**Kalwaria Pacla**	**142.98**	**342**	*e*PKP		**PKPdf**	**03 58 48.6**	**-3.6**
KWP	**Kalwaria Pacla**	**142.98**	**342**	*e*PKIKP		**PKPdf**	**03 58 48.6**	**-3.6**
KIS	**Kishinev**	**143.04**	**334**	*e*PKP	PKPab		03 58 48.0	+0.4
KIS				LRM	MLR		04 59 50.0	
	comp=Z,2µm,20.0s							
KIS	**Kishinev**	**143.04**	**334**	*e*PKHKP	PKPab		03 58 48.0	+0.4
KIS				MLR	MLR			
	comp=N,2µm,20.0s							
KIS				MLR	MLR			
	comp=E,2µm,20.0s							
KIS				MLR	MLR			
	comp=Z,2µm,20.0s							
KIS				MLR	MLR			
	comp=Z,2µm,22.0s							
LSZ	**Lusaka**	**143.08**	**216**	*e*PKIKP	PKPbc		03 58 51.6	+1.4
LSZ				MLR	MLR			
	comp=Z,2µm,20.0s							
LSZ	**Lusaka**	**143.08**	**216**	*e*PKPdf	PKPbc		03 58 51.5	+1.3
LSZ				LR	LR			
	comp=Z,2µm,20.0s							
WTSB	**Winterswijk**	**143.09**	**360**	*e*PKP	PKPab		03 58 48.1	+0.5
OJC	**Ojcow**	**143.22**	**346**	*e*PKP	PKPab		03 58 49.8	+1.6
OJC	**Ojcow**	**143.22**	**346**	*e*PKIKP	PKPab		03 58 49.8	+1.6
KSP	**Ksiaz**	**143.35**	**350**	*e*PKP	PKPab		03 58 50.3	+1.6
KSP	**Ksiaz**	**143.35**	**350**	*e*PKIKP	PKPab		03 58 50.3	+1.6
CLL	**Collm**	**143.38**	**353**	*i* PKIKP	PKPbc		03 58 51.1	+1.3
CLL				*i*			03 58 55.6	
CLL				*i*			04 02 01.7	
CLL				pmax	pmax			
	comp=Z,22nm,1.1s							
CLL				pmax	pmax			
	comp=Z,28nm,1.3s							
CLL				MLR	MLR			
	comp=Z,28nm,19.8s							
CLL	**Collm**	**143.38**	**353**	*i* PKPdf	PKPbc		03 58 51.1	+1.3
	comp=Z,22nm,1.1s							
CLL				*i* PKiKP		**PKPdf**	**03 58 55.6**	**+2.8**
	comp=Z,28nm,1.3s							
CLL				*i* (pPKiKP)			03 58 59.9	
CLL				*i* PP		**PP**	**04 02 01.7**	**-1.3**
CLL				*e*SKPdf		**SKPdf**	**04 02 29.0**	**+1.5**
CLL				*e*SKPbc		**SKiKP**	**04 02 34.0**	**+1.5**
CLL				*e*PSKS			04 12 12.0	
CLL				*e*PPS	PPS		04 14 30.0	
CLL				LmV			05 09 00.0	
	comp=Z,2µm,19.8s							
MALT	**Malatya**	**143.49**	**316**	⇑PKIKP	PKPab		03 58 51.3	+1.5
MALT	**Malatya**	**143.49**	**316**	⇑*i*P	PKPab		03 58 51.3	+1.5
PSET	**Sete Cidades**	**143.54**	**45**	*i* LR	LR		04 47 00.5	
	comp=Z,152nm,21.4s							
CUKAN	**kangal_SIVAS**	**143.59**	**318**	*i* P	PKPab		03 58 51.3	+1.1
BUG	**Bochum--Univer**	**143.61**	**359**	*e*PKPbc	PKPab		03 58 50.4	+0.7
HAVZ	**Havza**	**143.68**	**321**	*i* P	PKPab		03 58 46.8	-3.6
BRG	**Berggiesshubel**	**143.68**	**352**	*e*PKP	PKPab		03 58 50.5	+0.5
	comp=Z,34nm,1.5s							
BRG				*e*			03 58 55.5	
	comp=Z,43nm,1.3s							
BRG				SS	SS		04 20 41.0	-5.5
	comp=N,958nm,18.5s							
	comp=E,882nm,21.3s							
	comp=Z,2µm,20.0s							
BRG	**Berggiesshubel**	**143.68**	**352**	*e*PKIKP	PKPab		03 58 50.5	+0.5
BRG				SS	SS		04 20 41.0	-5.5
BRG				pmax	pmax			
	comp=Z,34nm,1.5s							
BRG				MLR	MLR			
	comp=N,958nm,18.5s							
BRG				MLR	MLR			
	comp=E,882nm,21.3s							
BRG				MLR	MLR			
	comp=Z,2µm,20.0s							
RAC	**Raciborz**	**143.71**	**347**	*e*PKIKP	PKPab		03 58 51.1	+1.0
UPC	**Upice**	**143.72**	**350**	*e*PKP	PKPab		03 58 51.5	+1.3
UPC				*e*pPKP	**PKiKP**		**03 58 56.8**	**0.0**
UPC				*e*sPKP			03 59 01.8	
UPC				*ex*	x		03 59 12.1	
UPC				*e*PP	PP		04 02 01.1	-4.0
UPC				*e*SKP			04 02 33.8	
UPC				*e*SKKS			04 08 59.8	
UPC				*ex*	x		04 12 16.6	
UPC				*e*SS	**SS**		**04 20 43.0**	**-4.1**
UPC				AMS	AMS		05 01 00.0	
	comp=Z,2µm,21.2s							
UPC	**Upice**	**143.72**	**350**	*e*PKIKP	PKPab		03 58 51.5	+1.3
UPC				*e*			03 59 01.8	
UPC				*e*SS	SS		04 20 43.0	-4.1
UPC				MLR	MLR			
	comp=Z,2µm,21.2s							
KOLS	**Kolonicke sedl**	**143.73**	**342**	*e*PKIKP	PKPab		03 58 50.8	+0.5
KOLS	**Kolonicke sedl**	**143.73**	**342**	*e*	PKPab		03 58 50.8	+0.5
DPC	**Dobruska-Polom**	**143.82**	**349**	*e*PKP	PKPab		03 58 51.1	+0.5
DPC				*ep*PKP	pPKPdf		03 58 57.3	+0.2
DPC				*ex*	x		03 59 02.5	
DPC				*ex*	x		03 59 13.7	
DPC				*e*PP	**PP**		**04 02 04.5**	**-1.3**
DPC				*e*SKP			04 02 32.1	
DPC				*e*SKKS			04 08 57.4	
DPC				*e*SS	**SS**		**04 20 42.8**	**-5.5**
DPC				AMS	AMS		05 01 30.0	
	comp=Z,2µm,22.3s							
DPC	**Dobruska-Polom**	**143.82**	**349**	*e*PKIKP	PKPab		03 58 51.1	+0.5
DPC				*e*			03 58 57.3	
DPC				*e*			03 59 02.5	
DPC				*e*			04 02 04.5	
DPC				*e*SS	SS		04 20 42.8	-5.5
DPC				MLR	MLR			
	comp=Z,2µm,22.3s							
NIE	**Niedzica**	**143.83**	**345**	*e*PKP	PKPbc		03 58 52.7	+1.4
NIE	**Niedzica**	**143.83**	**345**	*e*PKIKP	PKPbc		03 58 52.8	+1.5
BUR08	**Bucovina Ar. S**	**143.91**	**338**	*e*PKPdf	PKPab		03 58 52.1	+0.9
BURAR	**Bucovina Array**	**143.93**	**338**	⇑PKIKP	PKPab		03 58 51.6	+0.4
BURAR	**Bucovina Array**	**143.93**	**338**	⇑*i*P	PKPab		03 58 51.6	+0.4
PVCC	**Panska Ves**	**143.93**	**351**	*e*PKP	PKPbc		03 58 53.6	+2.1
PVCC				*ep*PKP	**PKiKP**		**03 58 59.1**	**+1.8**
PVCC				*es*PKP			03 59 02.5	
PVCC				*e*PP	**PP**		**04 02 05.2**	**-1.2**
PVCC				*e*SKP			04 02 29.9	
PVCC				*e*SKKS			04 09 01.3	
PVCC				*ex*	x		04 12 21.0	
PVCC				*ex*	x		04 20 42.2	
PVCC				AMS	AMS		05 01 10.0	
	comp=Z,3µm,23.0s							
PVCC	**Panska Ves**	**143.93**	**351**	*e*PKIKP	PKPbc		03 58 53.6	+2.1
PVCC				*e*			03 59 02.5	
PVCC				*e*			04 02 05.2	
PVCC				*e*SS	SS		04 20 42.2	-7.2
PVCC				MLR	MLR			
	comp=Z,3µm,23.0s							
OKC	**Ostrava-Krasne**	**143.95**	**347**	*e*PKP	PKPab		03 58 52.1	+1.1
OKC				*ep*PKP	pPKPdf		03 58 57.5	+0.2
OKC				*es*PKP			03 59 01.9	
OKC				*ex*	x		03 59 14.5	
OKC				*e*PP	**PP**		**04 02 05.3**	**-1.2**
OKC				*e*SKP			04 02 28.7	
OKC				*e*SKKS			04 08 57.5	
OKC				*ex*	x		04 12 17.6	
OKC				*ex*	x		04 20 41.2	
OKC				AMS	AMS		05 02 50.0	
	comp=Z,2µm,17.9s							
OKC	**Ostrava-Krasne**	**143.95**	**347**	*e*PKIKP	PKPab		03 58 52.1	+1.1
OKC				*e*			03 59 01.9	
OKC				*e*			04 02 05.3	
OKC				*e*SS	SS		04 20 41.2	-8.5
OKC				MLR	MLR			
	comp=Z,2µm,17.9s							
KRLC	**Kraliky**	**144.00**	**349**	*e*PKP	PKPbc		03 58 52.9	+1.1
KRLC				*ep*PKP	pPKPdf		03 58 57.7	+0.3
KRLC				*es*PKP			03 59 00.3	
KRLC	**Kraliky**	**144.00**	**349**	*e*PKIKP	PKPbc		03 58 52.9	+1.1
KRLC				*e*			03 59 00.3	
UZH	**Uzhgorod**	**144.00**	**342**	⇑*i*PKIKP	**PKPdf**		**03 58 54.2**	**+0.3**
UZH				*i*			03 59 08.0	
UZH				*e*			04 02 08.8	
UBBA	**Unterbreizbach**	**144.13**	**356**	*e*PKPbc	**PKPab**		**03 58 52.4**	**+0.9**
UBBA				*ep*PKPbc	**pPKiKP**		**03 59 06.7**	**+5.8**
MORC	**Moravsky Berou**	**144.13**	**348**	*e*PKIKP	**PKPab**		**03 58 52.7**	**+0.9**
MORC	**Moravsky Berou**	**144.13**	**348**	*e*PKPdf	**PKPab**		**03 58 52.7**	**+0.9**
MOX	**Moxa**	**144.18**	**354**	*e*PKPbc	**PKPab**		**03 58 52.4**	**+0.5**
MOX				*ep*PKPbc	**pPKiKP**		**03 59 07.0**	**+5.8**
MOX				*eL*	L		05 04 45.0	
	comp=Z,1µm,21.3s							
MOX	**Moxa**	**144.18**	**354**	*eL*	L		05 04 55.6	
	comp=Z,1µm,21.3s							
BEBN	**Eben Emael**	**144.26**	**1**	PKhKP	PKPbc		03 58 53.1	+0.7
PLN	**Plauen**	**144.28**	**354**	*e*PKPbc	**PKPab**		**03 58 53.4**	**+1.1**
HGN	**Heimansgroeve**	**144.29**	**1**	*e*PKP	**PKPab**		**03 58 52.0**	**-0.2**
	comp=Z,346nm,3.0s							
WERD	**Werda**	**144.30**	**354**	*e*PKPbc	**PKPab**		**03 58 53.5**	**+1.1**
WERD				*ep*PKPbc	**pPKiKP**		**03 59 07.3**	**+5.8**
TANN	**Tannenbergstha**	**144.31**	**353**	*e*PKPbc	**PKPab**		**03 58 53.4**	**+0.9**
TANN				*ep*PKPbc	**pPKiKP**		**03 59 07.5**	**+5.9**
TESR	**Tescani**	**144.32**	**336**	⇑*i*P	**PKPab**		**03 58 52.6**	**+0.1**
CUSAR	**Sarkisla-SIVAS**	**144.32**	**319**	*i* P	PKPbc		03 58 54.8	+1.4
TSUM	**Tsumeb**	**144.33**	**198**	*e*PKPdf	**PKPab**		**03 58 54.5**	**+1.0**
TSUM				LR	LR			
	comp=Z,3µm,20.0s							
TRPA	**Tarpa**	**144.37**	**341**	⇑*i*P	**PKPab**		**03 58 52.4**	**-0.2**
TRPA	**Tarpa**	**144.37**	**341**	⇑*e*PKKPbc	**PKPab**		**03 58 52.8**	**+0.2**
GUNZ	**Gunzen**	**144.38**	**354**	*e*PKPbc	**PKPab**		**03 58 53.7**	**+1.0**
GUNZ				*ep*PKPbc	**pPKiKP**		**03 59 07.8**	**+6.1**
PRA	**Prague**	**144.40**	**351**	*e*PKP	**PKPab**		**03 58 53.9**	**+1.2**
PRA				*ep*PKP	**pPKPdf**		**03 58 59.3**	**+1.3**
PRA				*ex*	x		03 59 16.1	
PRA				*e*SKP			04 02 33.2	
PRA				*e*SKKS			04 08 59.8	
PRA				*e*SS	**SS**		**04 20 49.9**	**-4.9**
PRA				AMS	AMS		05 01 30.0	
	comp=Z,3µm,20.7s							
PRA	**Prague**	**144.40**	**351**	*e*PKIKP	**PKPab**		**03 58 53.9**	**+1.2**
PRA				*e*			03 58 59.3	
PRA				*e*SS	SS		04 20 49.9	-4.9
PRA				MLR	MLR			
	comp=Z,3µm,20.7s							
PSMN	**Pico do Norte,**	**144.40**	**46**	*i* LR	LR		04 47 29.7	
	comp=Z,122nm,18.9s							
MEM	**Membach**	**144.45**	**1**	PKhKP	**PKPab**		**03 58 53.6**	**+0.8**
WERN	**Wernitzgruen**	**144.45**	**354**	*e*PKPbc	**PKPab**		**03 58 54.2**	**+1.3**
WERN				*ep*PKPbc	**pPKiKP**		**03 59 08.1**	**+6.3**
PRU	**Pruhonice**	**144.46**	**351**	*e*PKP	**PKPab**		**03 58 53.9**	**+1.0**
PRU				*ep*PKP	**pPKPdf**		**03 58 59.4**	**+1.2**
PRU				*es*PKP			03 59 02.9	
PRU				*ex*	x		03 59 14.2	
PRU				*e*SKP			04 02 31.6	
PRU				*e*SKKS			04 09 02.4	
PRU				*ex*	x		04 12 19.3	
PRU				*e*SS	**SS**		**04 20 50.5**	**-5.0**
PRU				AMS	AMS		05 01 40.0	
	comp=Z,3µm,20.7s							
PRU	**Pruhonice**	**144.46**	**351**	*e*PKIKP	**PKPab**		**03 58 53.9**	**+1.0**
PRU				*e*			03 59 02.9	
PRU				*e*SS	SS		04 20 50.5	-5.0
PRU				MLR	MLR			
	comp=Z,3µm,20.7s							
BMR	**Baia Mare**	**144.47**	**340**	⇑PKIKP	**PKPab**		**03 58 53.2**	**+0.2**
BMR	**Baia Mare**	**144.47**	**340**	⇑*i*P	**PKPab**		**03 58 53.2**	**+0.2**
NKC	**Novy Kostel**	**144.50**	**353**	*e*PKP	**PKPab**		**03 58 54.4**	**+1.3**
NKC				*ep*PKP	**pPKPdf**		**03 58 59.5**	**+1.3**
NKC				*es*PKP			03 59 02.9	
NKC				*e*SKP			04 02 26.8	
NKC				*e*SKKS			04 09 04.3	
NKC				*ex*	x		04 12 22.3	
NKC				AMS	AMS		05 04 20.0	
	comp=Z,2µm,19.5s							
NKC	**Novy Kostel**	**144.50**	**353**	*e*PKIKP	**PKPab**		**03 58 54.4**	**+1.3**
NKC				*e*			03 59 02.9	
NKC				*e*			03 59 05.1	
NKC				MLR	MLR			
	comp=Z,2µm,19.5s							
GOPC	**GO Pecny, Ondr**	**144.50**	**351**	*e*PKP	**PKPab**		**03 58 53.7**	**+0.6**
GOPC				*ep*PKP	**pPKPdf**		**03 58 59.5**	**+1.2**
GOPC				*ex*	x		03 59 03.6	
GOPC				*ex*	x		03 59 16.3	
GOPC				*e*SKP			04 02 30.7	
GOPC				*e*SKKS			04 09 03.6	
GOPC				*ex*	x		04 12 18.8	
GOPC				*ex*	x		04 20 46.4	
GOPC				AMS	AMS		05 01 50.0	
	comp=Z,2µm,19.3s							
SNF	**Seneffe**	**144.51**	**2**	PKhKP	**PKPab**		**03 58 53.5**	**+0.5**
CTKT	**Corum**	**144.51**	**322**	*i* P	**PKPab**		**03 58 54.8**	**+1.2**
GZT	**Gaziantep**	**144.56**	**315**	*i* P	**PKPab**		**03 58 53.7**	**-0.2**
PINB	**Pinarbasi**	**144.64**	**318**	*i* P	**PKPab**		**03 58 55.2**	**+0.9**
KECS	**Kecovo**	**144.64**	**344**	*e*PKIKP	**PKPab**		**03 58 54.4**	**+0.7**
KECS	**Kecovo**	**144.64**	**344**	*e*PKP	**PKPab**		**03 58 54.4**	**+0.7**
ARCR	**ARCALIA**	**144.69**	**339**	⇑*i*P	**PKPab**		**03 58 54.5**	**+0.6**
VRAC	**Vranov**	**144.77**	**349**	⇑PKIKP	**PKPab**		**03 58 54.8**	**+0.7**
VRAC	**Vranov**	**144.77**	**349**	⇑*i*P	**PKPab**		**03 58 54.8**	**+0.7**
CFR	**Carcaliu**	**144.77**	**333**	⇑PKIKP	**PKPab**		**03 58 54.2**	**0.0**
CFR	**Carcaliu**	**144.77**	**333**	⇑*i*P	**PKPab**		**03 58 54.2**	**0.0**
MANZ	**Manzenberg**	**144.78**	**354**	*e*PKPbc	**PKPab**		**03 58 55.0**	**+0.9**
MANZ				*ep*PKPbc	**pPKiKP**		**03 59 09.1**	**+6.6**
TNS	**Taunus Mts**	**144.80**	**358**	*e*PKPbc	**PKPab**		**03 58 55.0**	**+0.7**
TNS				*ep*PKPbc	**pPKiKP**		**03 59 09.3**	**+6.7**
VRI	**Vrincioaia**	**144.81**	**335**	⇑PKIKP	**PKPab**		**03 58 54.8**	**+0.4**
VRI	**Vrincioaia**	**144.81**	**335**	⇑*i*P	**PKPab**		**03 58 54.8**	**+0.4**
PLOR	**Plostina**	**144.86**	**335**	⇑PKIKP	**PKPab**		**03 58 54.6**	**0.0**
PLOR	**Plostina**	**144.86**	**335**	⇑*i*P	**PKPab**		**03 58 54.6**	**0.0**
DOU	**Dourbes**	**144.93**	**2**	PKhKP	**PKPdf**		**03 58 55.0**	**-0.5**
ROTZ	**Rotzenmuhle**	**144.98**	**354**	*e*PKPbc	**PKPab**		**03 58 56.1**	**+1.2**
ROTZ				*ep*PKPbc	pPKiKP		03 59 10.3	+7.4
TREC	**Trest**	**144.98**	**350**	*e*PKP	**PKPab**		**03 58 54.2**	**-0.7**
TREC				*ep*PKP	**pPKPdf**		**03 58 59.3**	**+0.2**
TREC				*es*PKP			03 59 02.8	
TREC				*ex*	x		03 59 18.2	
TREC				AMS	AMS		05 01 10.0	
	comp=Z,2µm,22.5s							
TREC	**Trest**	**144.98**	**350**	*e*PKIKP	**PKPab**		**03 58 54.2**	**-0.7**
TREC				*e*			03 59 02.8	
TREC				MLR	MLR			
	comp=Z,2µm,22.5s							
HCB	**Kahramanmara˜**	**145.01**	**315**	*i* P	**PKPbc**		**03 58 55.3**	**-0.1**
VYHS	**Vyhne**	**145.05**	**346**	*e*PKIKP	**PKPbc**		**03 58 55.2**	**0.0**
VYHS	**Vyhne**	**145.05**	**346**	*e*PKP	**PKPbc**		**03 58 55.2**	**0.0**
GRF	**Grafenberg Arr**	**145.16**	**355**	*e*PKPbc	**PKPbc**		**03 58 56.5**	**+1.1**
GRF				*ep*PKPbc	PKiKP		03 59 11.0	+11
GRF				*eL*	L		05 04 23.4	
	comp=Z,2µm,21.4s							
GRF	**Grafenberg Arr**	**145.16**	**355**	*eL*	L		05 04 23.4	
	comp=Z,2µm,21.4s							
GRFO	**Grafenberg**	**145.16**	**355**	*e*PKIKP	**PKPbc**		**03 58 55.7**	**+0.3**
GRFO	**Grafenberg**	**145.16**	**355**	*e*PKPbc	**PKPbc**		**03 58 55.7**	**+0.3**
TIRR	**Tirgusor**	**145.21**	**332**	⇑PKIKP	**PKPbc**		**03 58 55.9**	**+0.2**
TIRR	**Tirgusor**	**145.21**	**332**	⇑*i*P	**PKPbc**		**03 58 55.9**	**+0.2**
TIRR	**Tirgusor**	**145.21**	**332**	*e*PKPbc	**PKPbc**		**03 58 56.5**	**+0.8**
HARR	**Harsova**	**145.24**	**333**	⇓PKIKP	**PKPbc**		**03 58 56.8**	**+1.0**
HARR	**Harsova**	**145.24**	**333**	⇓*i*P	**PKPbc**		**03 58 56.8**	**+1.0**
DOPR	**Dopca**	**145.26**	**337**	⇑*i*P	**PKPbc**		**03 58 56.9**	**+1.0**
ANDN	**Andirin**	**145.27**	**316**	*i* P	**PKPbc**		**03 58 57.5**	**+1.2**
CJR	**Cluj-Napoca**	**145.27**	**339**	⇑PKIKP	**PKPbc**		**03 58 56.0**	**0.0**
CJR	**Cluj-Napoca**	**145.27**	**339**	⇑*i*P	**PKPbc**		**03 58 56.0**	**0.0**
PSZ	**Piszkesteto**	**145.32**	**344**	*e*PKIKP	**PKPbc**		**03 58 56.6**	**+0.5**
PSZ				MLR	MLR			
	comp=Z,2µm,22.0s							
PSZ	**Piszkesteto**	**145.32**	**344**	⇓*i*P	**PKPbc**		**03 58 56.3**	**+0.2**
PSZ	**Piszkesteto**	**145.32**	**344**	*e*PKPbc	**PKPbc**		**03 58 56.6**	**+0.5**
PSZ				LR	LR			
	comp=Z,2µm,22.0s							
PSZ	**Piszkesteto**	**145.32**	**344**	⇑*e*	**PKPbc**		**03 58 56.6**	**+0.5**
CDAG	**Cicekdag**	**145.37**	**321**	*i* P	**PKPbc**		**03 58 57.2**	**+0.6**
WLF	**Walferdange**	**145.40**	**0**	PKhKP	**PKPab**		**03 58 56.5**	**+0.1**
WLF	**Walferdange**	**145.40**	**0**	*e*PKPbc	**PKPbc**		**03 58 57.4**	**+1.2**
WLF	**Walferdange**	**145.40**	**0**	*e*PKIKP	**PKPbc**		**03 58 56.7**	**+0.5**
WLF				MLR	MLR			
	comp=Z,2µm,20.0s							
WLF	**Walferdange**	**145.40**	**0**	*e*PKPbc	**PKPbc**		**03 58 56.7**	**+0.5**
WLF				LR	LR			
	comp=Z,2µm,20.0s							
ELDT	**Eldivan**	**145.40**	**323**	*i* P	**PKPbc**		**03 58 57.9**	**+1.1**
MLR	**Muntele Rosu**	**145.43**	**336**	⇑PKIKP	**PKPbc**		**03 58 56.7**	**+0.1**
MLR	**Muntele Rosu**	**145.43**	**336**	⇑*i*P	**PKPbc**		**03 58 56.7**	**+0.1**
KHC	**Kasperske Hory**	**145.44**	**352**	*e*PKP	**PKPbc**		**03 58 56.4**	**0.0**
KHC				*ep*PKP	**pPKPdf**		**03 59 00.6**	**+0.7**
KHC				*es*PKP			03 59 04.5	
KHC				*ex*	x		03 59 18.1	
KHC				*e*SKKS			04 09 07.7	
KHC				*e*SS	**SS**		**04 21 01.7**	**-5.1**
KHC				AMS	AMS		05 02 10.0	
	comp=Z,3µm,23.5s							
KHC	**Kasperske Hory**	**145.44**	**352**	*e*PKIKP	**PKPbc**		**03 58 56.4**	**0.0**
KHC				*e*			03 59 04.5	
KHC				*e*SS	SS		04 21 01.7	-5.1
KHC				MLR	MLR			
	comp=Z,3µm,23.5s							
KHC	**Kasperske Hory**	**145.44**	**352**	*e*PKPbc	**PKPbc**		**03 58 57.4**	**+1.0**
ISR	**Istrita**	**145.50**	**335**	⇑PKIKP	**PKPdf**		**03 58 57.2**	**+0.5**
ISR	**Istrita**	**145.50**	**335**	⇑*i*P	**PKPdf**		**03 58 57.2**	**+0.5**
DRGR		**145.50**	**340**	⇑PKIKP	**PKPdf**		**03 58 56.5**	**-0.2**
DRGR		**145.50**	**340**	⇑*i*P	**PKPdf**		**03 58 56.5**	**-0.2**
WET	**Wettzell**	**145.52**	**353**	*e*PKPbc	**PKPdf**		**03 58 57.6**	**+1.0**
WET				*ep*PKPbc	PKiKP		03 59 11.9	+11
AVNT	**Avonos**	**145.57**	**319**	*i* P	**PKPdf**		**03 58 57.8**	**+0.5**
KMBO	**Kilima Mbogo**	**145.63**	**245**	PKIKP	**PKPdf**		**03 58 57.1**	**-1.0**
	comp=Z,20nm,1.1s,baz=133,slow=4.4,SNR=20							
KMBO	**Kilima Mbogo**	**145.63**	**245**	PKIKP	**PKPdf**		**03 58 57.1**	**-1.0**
KMBO				pmax	pmax			
	comp=Z,20nm,1.1s							
KMBO	**Kilima Mbogo**	**145.63**	**245**	*e*PKPbc	**PKPdf**		**03 58 58.1**	**-0.1**
KMBO				LR	LR			
	comp=Z,1µm,20.0s							
GEC2	**GERESS Array S**	**145.70**	**352**	*e*PKPbc	**PKPdf**		**03 58 58.0**	**+1.0**
GEC2

TUE	**Stuetta**	**148.50**	**356**	*e*PKPbc	**PKPbc**	03 59 07.0	+1.5
TUE				LR	LR			
	comp=Z,2μm,20.0s							
BAGO	**Egridir - ISPA**	**148.58**	**321**	*i* P	**PKPdf**	03 59 04.4	+2.2
PGB	**Panagyurishte**	**148.59**	**335**	*i* P	**PKPbc**	03 59 05.8	+0.2
PGB	**Panagyurishte**	**148.59**	**335**	*i* P	**PKPbc**	03 59 05.8	+0.2
GDZ	**Gediz**	**148.61**	**324**	*i* P	**PKPdf**	03 59 04.9	+2.6
MAMC	**Mammari**	**148.69**	**315**	P	**PKPbc**	03 59 06.7	+0.6
CSS	**Prodhromos**	**148.73**	**314**	P	**PKPdf**	03 58 59.9	-2.5
CSS				*e*PKPbc	**PKPbc**	03 59 06.7	+0.5
CSS				LR	LR			
	comp=Z,324nm,22.0s							
CSS	**Prodhromos**	**148.73**	**314**	P	**PKPdf**	03 58 59.9	-2.5
TRI	**Trieste**	**148.75**	**350**	*e*PKP2	**PKPbc**	03 59 06.9	+1.1
TRI	**Trieste**	**148.75**	**350**	*e*PKPbc	**PKPbc**	03 59 06.9	+1.1
DIVS	**Divibare**	**148.77**	**341** ⇑	*i*P	**PKPdf**	03 59 02.4	+0.1
DIVS	**Divibare**	**148.77**	**341**	P	**PKPdf**	03 59 02.4	+0.1
DURS	**Dursunbey**	**148.80**	**326**	*i* P	**PKPdf**	03 59 04.7	+2.3
VTS	**Vitosha**	**148.94**	**336**	PKIKP	**PKPdf**	03 59 02.2	-0.5
VTS	**Vitosha**	**148.94**	**336** ⇓	*i*P	**PKPbc**	03 59 07.1	+0.4
VTS	**Vitosha**	**148.94**	**336**	*i* P	**PKPbc**	03 59 06.9	+0.2
VTS	**Vitosha**	**148.94**	**336**	*i* P	**PKPbc**	03 59 06.9	+0.2
VTS	**Vitosha**	**148.94**	**336**	P	**PKPdf**	03 59 02.2	-0.5
VTS	**Vitosha**	**148.94**	**336**	P	**PKPdf**	03 59 02.2	-0.5
RZN	**Rozhen**	**149.06**	**333**	*i* P	**PKPdf**	03 59 05.5	+2.5
RZN	**Rozhen**	**149.06**	**333**	*i* P	**PKPdf**	03 59 05.5	+2.5
ALN	**Alexandroupoli**	**149.07**	**330**	P	**PKPdf**	03 59 01.5	-1.2
ALN	**Alexandroupoli**	**149.07**	**330**	P	**PKPdf**	03 59 01.5	-1.2
KHAL	**Karahalli**	**149.09**	**323**	*i* P	**PKPdf**	03 59 06.3	+3.3
ALFC	**Alevga**	**149.12**	**315**	P	**PKPbc**	03 59 06.6	-0.6
ASCN	**Ascension**	**149.26**	**136**	PFAKE		03 59 10.0	+1.9
ASCN				LR	LR			
	comp=Z,2μm,20.0s							
AKMC	**Akamas**	**149.38**	**315**	P	**PKPbc**	03 59 07.0	-0.8
KORT	**Korkueli**	**149.48**	**320**	*i* P	**PKPdf**	03 59 06.6	+2.9
MMB	**Musomiste**	**149.56**	**334**	*i* P	**PKPbc**	03 59 07.6	-0.5
MMB	**Musomiste**	**149.56**	**334**	*i* P	**PKPbc**	03 59 07.6	-0.5
KKB	**Krupnik**	**149.60**	**335**	*i* P	**PKPbc**	03 59 07.6	-0.6
KKB	**Krupnik**	**149.60**	**335**	*i* P	**PKPbc**	03 59 07.6	-0.6
SMTH	**Samothraki Isl**	**149.65**	**330**	*e*P	**PKPdf**	03 59 01.0	-2.7
SMTH	**Samothraki Isl**	**149.65**	**330**	P	**PKPdf**	03 59 02.6	-1.1
SMTH	**Samothraki Isl**	**149.65**	**330**	P	**PKPdf**	03 59 02.6	-1.1
PLE	**Pljevlja**	**149.65**	**341** ⇓	*i*PKP	**PKPbc**	03 59 09.6	+1.2
AKHS	**Akhisar**	**149.68**	**326**	*i* P	**PKPbc**	03 59 04.8	+1.0
KAVA	**Kavala**	**149.70**	**332**	P	**PKPdf**	03 59 03.3	-0.4
KAVA	**Kavala**	**149.70**	**332**	P	**PKPdf**	03 59 03.3	-0.4
NVR	**Nevrokopi**	**149.70**	**334**	*e*P	**PKPdf**	03 59 03.5	-0.3
NVR	**Nevrokopi**	**149.70**	**334**	P	**PKPdf**	03 59 01.7	-2.1
NVR	**Nevrokopi**	**149.70**	**334**	P	**PKPdf**	03 59 01.7	-2.1
SSB	**Saint Sauveur**	**149.74**	**3**	*e*PKP2	**PKPbc**	03 59 09.1	+0.7
SSB				MLR	MLR			
	comp=Z,1μm,19.0s							
SSB	**Saint Sauveur**	**149.74**	**3**	*e*PKPbc	**PKPbc**	03 59 09.1	+0.7
SSB				LR	LR			
	comp=Z,1μm,19.0s							
GOLH	**Golhisar**	**149.81**	**322**	*i* P	**PKPbc**	03 59 09.2	+0.2
BOZC	**Bozcaada**	**149.88**	**320**	*i* P	**PKPbc**	03 59 07.8	-1.1
IVA	**Berane**	**149.90**	**340** ⇓	*i*PKP	**PKPbc**	03 59 09.9	+0.9
UPM	**Unac-Piva**	**149.92**	**342** ⇓	*i*PKP	**PKPbc**	03 59 09.5	+0.4
AYVA	**Ayvalik**	**149.96**	**328**	*i* P	**PKPbc**	03 59 08.1	-1.0
SRS	**Serrai**	**150.01**	**334**	PKIKP	**PKPdf**	03 59 02.2	-2.1
SRS	**Serrai**	**150.01**	**334**	*e*P	**PKPdf**	03 59 03.6	-0.7
SRS	**Serrai**	**150.01**	**334**	P	**PKPdf**	03 59 02.2	-2.1
SRS	**Serrai**	**150.01**	**334**	P	**PKPdf**	03 59 02.2	-2.1
PVY	**Plav**	**150.13**	**340** ⇓	*i*PKP	**PKPbc**	03 59 10.2	+0.6
PRK	**Paraskevi**	**150.22**	**328**	PKIKP	**PKPdf**	03 59 03.7	-0.9
PRK	**Paraskevi**	**150.22**	**328**	*e*P	**PKPdf**	03 59 04.2	-0.4
PRK	**Paraskevi**	**150.22**	**328**	P	**PKPdf**	03 59 03.7	-0.9
PRK	**Paraskevi**	**150.22**	**328**	P	**PKPdf**	03 59 03.7	-0.9
PGAV	**Gavieira, Arco**	**150.22**	**23**	*e*PKPbc	**PKPbc**	03 59 11.4	+1.6
PGAV	**Gavieira, Arco**	**150.22**	**23**	eLR	LR	04 50 42.4		
	comp=Z,2μm,20.0s							
NKY	**Niksic**	**150.24**	**341** ⇓	*i*PKP	**PKPbc**	03 59 10.8	+1.0
LIA	**Limnos Island**	**150.26**	**330**	*e*P	**PKPdf**	03 59 03.9	-0.7
LIA	**Limnos Island**	**150.26**	**330**	P	**PKPdf**	03 59 04.0	-0.7
LIA	**Limnos Island**	**150.26**	**330**	P	**PKPdf**	03 59 04.0	-0.7
KNT	**Kendrikon**	**150.26**	**335**	PKIKP	**PKPdf**	03 59 03.4	-1.3
KNT	**Kendrikon**	**150.26**	**335**	P	**PKPdf**	03 59 03.4	-1.3
KNT	**Kendrikon**	**150.26**	**335**	P	**PKPdf**	03 59 03.4	-1.3
VAY	**Valandovo**	**150.27**	**335**	*e*P	**PKPdf**	03 59 08.1	+3.5
VAY	**Valandovo**	**150.27**	**335**	PKIKP	**PKPdf**	03 59 05.7	+1.1
VAY	**Valandovo**	**150.27**	**335**	P	**PKPdf**	03 59 05.7	+1.1
VAY	**Valandovo**	**150.27**	**335**	P	**PKPdf**	03 59 05.7	+1.1
BRY	**Bratogost**	**150.30**	**342** ⇓	*i*PKP	**PKPbc**	03 59 10.5	+0.5
SOH	**Sokhos**	**150.35**	**334**	PKIKP	**PKPdf**	03 59 06.4	+1.5
SOH	**Sokhos**	**150.35**	**334**	*e*P	**PKPdf**	03 59 04.3	-0.6
SOH	**Sokhos**	**150.35**	**334**	P	**PKPdf**	03 59 06.4	+1.5
SOH	**Sokhos**	**150.35**	**334**	P	**PKPdf**	03 59 06.4	+1.5
AKAS	**Kas**	**150.43**	**320**	*i* P	**PKPbc**	03 59 09.4	-1.1
SIGR	**SIGRI**	**150.46**	**329**	P	**PKPdf**	03 59 04.0	-1.0
SIGR	**SIGRI**	**150.46**	**329**	P	**PKPdf**	03 59 04.0	-1.0
AYDN	**Tasoluk**	**150.50**	**324**	*i* P	**PKPbc**	03 59 10.6	+0.1
PDG	**Podgorica**	**150.51**	**341**	P	**PKPbc**	03 59 09.5	-0.8
TTG	**Podgorica**	**150.51**	**341** ⇓	*i*PKP	**PKPbc**	03 59 10.7	+0.4
TTG	**Podgorica**	**150.51**	**341**	P	**PKPbc**	03 59 09.5	-0.8
TURN	**Turunc**	**150.62**	**322**	*i* P	**PKPbc**	03 59 11.3	+0.5
GRG	**Griva**	**150.64**	**335**	PKIKP	**PKPdf**	03 59 04.9	-0.4
GRG	**Griva**	**150.64**	**335**	P	**PKPdf**	03 59 04.9	-0.4
GRG	**Griva**	**150.64**	**335**	P	**PKPdf**	03 59 04.9	-0.4
PUK	**Puka**	**150.64**	**339**	*i* PG	**PKPdf**	03 59 06.3	+1.0
PUK				*i* SG	**PKPbc**	03 59 12.7	+2.0
HORT	**Hortiatis**	**150.65**	**334**	P	**PKPdf**	03 59 09.0	+3.6
HORT	**Hortiatis**	**150.65**	**334**	P	**PKPdf**	03 59 09.0	+3.6
URLA	**Izmir**	**150.71**	**326**	*i* P	**PKPdf**	03 59 08.0	+2.5
VLC	**Villacollemand**	**150.72**	**354**	*e*PKPab	**PKPbc**	03 59 15.3	+4.5
VLC				LR	LR			
	comp=Z,2μm,22.0s							
HCY	**Herceg Novi**	**150.73**	**342** ⇓	*i*PKP	**PKPbc**	03 59 10.7	-0.1
BUM	**Brajici-Budva**	**150.74**	**341** ⇓	*i*PKP	**PKPbc**	03 59 11.4	+0.4
PHP	**Peshkopia**	**150.77**	**338**	*i* PG	**PKPdf**	03 59 06.0	+0.5
PHP				*i* SG	**PKPbc**	03 59 14.1	+3.1
PHP	**Peshkopia**	**150.77**	**338**	PKIKP	**PKPdf**	03 59 05.8	+0.3
PHP	**Peshkopia**	**150.77**	**338**	P	**PKPdf**	03 59 05.8	+0.3
PHP	**Peshkopia**	**150.77**	**338**	P	**PKPdf**	03 59 05.8	+0.3
PBRG	**Braganca**	**150.91**	**21**	*e*PKPbc	**PKPbc**	03 59 11.8	+0.4
POLO	**Lamas de Olo**	**150.91**	**22**	*e*PKPbc	**PKPbc**	03 59 12.7	+1.2
SACV	**Santiago Islan**	**150.93**	**86**	PFAKE		03 59 20.0	+0.6
SACV				LR	LR			
	comp=Z,885nm,20.0s							
ULC	**Ulcinj**	**150.93**	**340** ⇓	*i*PKP	**PKPbc**	03 59 11.4	0.0
PAIG	**Paliouri**	**150.94**	**332**	*e*P	**PKPdf**	03 59 06.1	+0.4
PAIG	**Paliouri**	**150.94**	**332**	P	**PKPbc**	03 59 10.4	-1.0
PAIG	**Paliouri**	**150.94**	**332**	P	**PKPbc**	03 59 10.4	-1.0
CHOS	**Chios island**	**150.98**	**327**	P	**PKPdf**	03 59 05.1	-0.8
CHOS	**Chios island**	**150.98**	**327**	P	**PKPdf**	03 59 05.1	-0.8
PVRL	**Vila Real**	**151.03**	**22**	*e*PKPbc	**PKPbc**	03 59 13.2	+1.5
SMG	**Samos**	**151.05**	**325**	*e*P	**PKPdf**	03 59 03.5	-2.5
SMG	**Samos**	**151.05**	**325**	P	**PKPdf**	03 59 04.8	-1.2
SMG	**Samos**	**151.05**	**325**	P	**PKPdf**	03 59 04.8	-1.2
FNA	**Florina**	**151.20**	**336**	PKIKP	**PKPdf**	03 59 07.0	+0.8
FNA	**Florina**	**151.20**	**336**	P	**PKPdf**	03 59 07.0	+0.8
FNA	**Florina**	**151.20**	**336**	P	**PKPdf**	03 59 07.0	+0.8
TIR	**Tirane**	**151.27**	**339**	*i* PG	**PKPdf**	03 59 06.9	+0.7
TIR				*i* SG	**PKPbc**	03 59 10.0	-2.2
TIR	**Tirane**	**151.27**	**339**	PFAKE		03 59 20.0	0.0
TIR				LR	LR			
	comp=Z,3μm,20.0s							
LIT	**Litokhoron**	**151.32**	**334**	PKIKP	**PKPdf**	03 59 08.5	+2.2
LIT	**Litokhoron**	**151.32**	**334**	P	**PKPdf**	03 59 08.5	+2.2
LIT	**Litokhoron**	**151.32**	**334**	P	**PKPdf**	03 59 08.5	+2.2
ARG	**Arkhangelos**	**151.34**	**322**	PKIKP	**PKPdf**	03 59 08.3	+1.8
ARG	**Arkhangelos**	**151.34**	**322**	*e*P	**PKPbc**	03 59 13.3	+0.8
ARG	**Arkhangelos**	**151.34**	**322**	P	**PKPdf**	03 59 08.3	+1.8
ARG	**Arkhangelos**	**151.34**	**322**	P	**PKPdf**	03 59 08.3	+1.8
MVO	**Moncorvo**	**151.38**	**22**	*e*PKPbc	**PKPbc**	03 59 14.2	+1.7
MVO	**Moncorvo**	**151.38**	**22**	eSS	SS	04 22 17.3	+3.3
MVO	**Moncorvo**	**151.38**	**22**	eLR	LR	04 52 05.9		
	comp=Z,1μm,20.0s							
KZN	**Kozani**	**151.45**	**335**	PKIKP	**PKPdf**	03 59 06.7	+0.1
KZN	**Kozani**	**151.45**	**335**	P	**PKPdf**	03 59 06.7	+0.1
KZN	**Kozani**	**151.45**	**335**	P	**PKPdf**	03 59 06.7	+0.1
PVIS	**Viseu**	**151.45**	**23**	*e*PKPbc	**PKPbc**	03 59 13.9	+1.2
AOS	**Alonnisos**	**151.46**	**331**	*e*P	**PKPbc**	03 59 12.4	-0.2
AOS	**Alonnisos**	**151.46**	**331**	P	**PKPdf**	03 59 07.4	+0.9
AOS	**Alonnisos**	**151.46**	**331**	P	**PKPdf**	03 59 07.4	+0.9
MBAR	**Mbarara**	**151.47**	**239**	PFAKE		03 59 20.0	-1.9
MBAR				LR	LR			
	comp=Z,856nm,22.0s							
KBN	**Korca**	**151.56**	**337**	PKIKP	**PKPdf**	03 59 06.1	-0.7
KBN	**Korca**	**151.56**	**337**	P	**PKPdf**	03 59 06.1	-0.7
KBN	**Korca**	**151.56**	**337**	P	**PKPdf**	03 59 06.1	-0.7
XOR	**Xorichti**	**151.62**	**332**	*e*P	**PKPdf**	03 59 05.5	-1.3
XOR	**Xorichti**	**151.62**	**332**	P	**PKPdf**	03 59 05.5	-1.3
XOR	**Xorichti**	**151.62**	**332**	P	**PKPdf**	03 59 05.5	-1.3
NIS1	**Nisyros Isl.**	**151.64**	**323**	P	**PKPbc**	03 59 12.4	-0.8
NIS1	**Nisyros Isl.**	**151.64**	**323**	P	**PKPbc**	03 59 12.4	-0.8
NEST	**Nestorio**	**151.64**	**336**	*e*P	**PKPdf**	03 59 07.7	+0.8
NEST	**Nestorio**	**151.64**	**336**	P	**PKPdf**	03 59 07.8	+0.8
PCAS	**Casmilo, Conde**	**151.78**	**25**	*e*PKPbc	**PKPbc**	03 59 14.0	+0.6
MTE	**Manteigas**	**151.85**	**23**	*e*PKPbc	**PKPbc**	03 59 15.2	+1.6
MTE	**Manteigas**	**151.85**	**23**	eSS	SS	04 22 25.1	+5.7
MTE	**Manteigas**	**151.85**	**23**	eLR	LR	04 53 13.1		
	comp=Z,2μm,22.0s							
MTE	**Manteigas**	**151.85**	**23**	*e*PKPdf	**PKPdf**	03 59 07.9	+0.7
MTE				*e*PKPbc	**PKPbc**	03 59 14.6	+1.0
MTE				*e*PKPab	**PKPab**	03 59 22.8	+0.2
MTE				LR	LR			
	comp=Z,2μm,21.0s							
MRKA	**Markates**	**151.96**	**331**	P	**PKPdf**	03 59 06.5	-0.9
THL	**Klokotos Trika**	**151.97**	**334**	P	**PKPdf**	03 59 06.3	-1.0
SMIA	**Simia**	**152.00**	**331**	P	**PKPdf**	03 59 07.1	-0.3
EREA	**Eretria**	**152.02**	**330**	P	**PKPdf**	03 59 06.8	-0.7
AQU	**L'Aquila**	**152.07**	**349**	*e*PKIKP	**PKPdf**	03 59 07.4	-0.1
AQU				*e*		03 59 14.8		
AQU				*e*		03 59 23.2		
AQU				MLR	MLR			
	comp=Z,3μm,22.0s							
AQU	**L'Aquila**	**152.07**	**349**	*e*PKPdf	**PKPdf**	03 59 07.4	-0.1
AQU				*e*PKPbc	**PKPbc**	03 59 14.8	+0.8
AQU				*e*PKPab	**PKPab**	03 59 23.2	-0.1
AQU				LR	LR			
	comp=Z,3μm,22.0s							
KARY	**Karystos**	**152.08**	**329**	P	**PKPdf**	03 59 06.2	-1.3
PMOZ	**Porto Moniz, M**	**152.09**	**46**	eLR	LR	04 50 20.3		
	comp=Z,1μm,20.0s							
PTOM	**Tomar**	**152.18**	**25**	*e*PKPbc	**PKPbc**	03 59 15.6	+1.3
APE	**Apeiranthos**	**152.23**	**326** ⇑	PKIKP	**PKPdf**	03 59 08.1	+0.3
APE	**Apeiranthos**	**152.23**	**326** ⇑	*i*P	**PKPdf**	03 59 08.1	+0.3
APE	**Apeiranthos**	**152.23**	**326**	*e*P	**PKPdf**	03 59 06.6	-1.2
APE	**Apeiranthos**	**152.23**	**326**	P	**PKPdf**	03 59 08.7	+0.9
APE	**Apeiranthos**	**152.23**	**326**	P	**PKPdf**	03 59 08.7	+0.9
ATAL	**Atalanti**	**152.24**	**331**	P	**PKPdf**	03 59 06.3	-1.4
ATAL	**Atalanti**	**152.24**	**331**	P	**PKPdf**	03 59 06.3	-1.4
AGG	**Agios Georgios**	**152.28**	**333**	P	**PKPbc**	03 59 12.5	-2.1
AGG	**Agios Georgios**	**152.28**	**333**	P	**PKPbc**	03 59 12.5	-2.1
LKR	**Lokris**	**152.28**	**331**	P	**PKPdf**	03 59 06.5	-1.3
LKR	**Lokris**	**152.28**	**331**	P	**PKPdf**	03 59 06.5	-1.3
AXAR	**Agios Charalam**	**152.34**	**332**	P	**PKPdf**	03 59 09.1	+1.2
AXAR	**Agios Charalam**	**152.34**	**332**	P	**PKPdf**	03 59 09.1	+1.2
PCBR	**Castelo Branco**	**152.36**	**24**	*e*PKPbc	**PKPbc**	03 59 15.3	+0.6
JAN	**Janina**	**152.37**	**336**	PKIKP	**PKPdf**	03 59 10.1	+2.1
JAN	**Janina**	**152.37**	**336**	P	**PKPdf**	03 59 10.1	+2.1
JAN	**Janina**	**152.37**	**336**	P	**PKPdf**	03 59 10.1	+2.1
MAKR	**Makrakomi, Fth**	**152.38**	**333**	P	**PKPbc**	03 59 14.2	-0.6
MAKR	**Makrakomi, Fth**	**152.38**	**333**	P	**PKPbc**	03 59 14.2	-0.6
ATHU	**Athens Univers**	**152.45**	**329**	P	**PKPbc**	03 59 14.2	-0.8
ATHU	**Athens Univers**	**152.45**	**329**	P	**PKPbc**	03 59 14.2	-0.8
SRN	**Sarande**	**152.51**	**337**	*i* PG	PKPdf	03 59 01.9	-6.1
EVR	**Evrytania**	**152.60**	**333**	P	**PKPdf**	03 59 09.1	+0.7
EVR	**Evrytania**	**152.60**	**333**	P	**PKPdf**	03 59 09.1	+0.7
DSF	**Desfina**	**152.69**	**332**	P	**PKPdf**	03 59 09.4	+0.9
DSF	**Desfina**	**152.69**	**332**	P	**PKPdf**	03 59 09.4	+0.9
DSL	**Palaion Diasel**	**152.72**	**335**	P	**PKPdf**	03 59 05.3	-3.2
DSL	**Palaion Diasel**	**152.72**	**335**	P	**PKPdf**	03 59 05.3	-3.2
PMTG	**Montargil**	**152.72**	**26**	*e*PKPdf	**PKPdf**	03 59 09.9	+1.5
PMRV	**Marv??o**	**152.75**	**24**	*e*PKPbc	**PKPbc**	03 59 16.5	+0.9
PMRV	**Marv??o**	**152.75**	**24**	eSS	SS	04 22 35.7	+6.5
PMRV	**Marv??o**	**152.75**	**24**	eLR	LR	04 51 11.9		
	comp=Z,3μm,20.0s							
EFP	**Efpalio**	**152.96**	**333**	P	**PKPdf**	03 59 08.3	-0.5
DID	**Didima**	**153.08**	**330**	P	PKPdf	03 59 04.5	-4.6
DID	**Didima**	**153.08**	**330**	P	PKPdf	03 59 04.5	-4.6
LAKA	**Lakka**	**153.08**	**332**	P	**PKPdf**	03 59 09.2	+0.2
LAKA	**Lakka**	**153.08**	**332**	P	**PKPdf**	03 59 09.2	+0.2
DIDY	**Didyma**	**153.12**	**330**	P	**PKPdf**	03 59 07.9	-1.3
PDO	**Prodromos**	**153.13**	**334**	P	PKPpre	03 58 58.7		
PESTR	**Estremoz**	**153.15**	**25**	*e*PKPbc	**PKPbc**	03 59 17.9	+1.4
GUR	**Goura**	**153.16**	**331**	P	**PKPdf**	03 59 11.9	+2.6
GUR	**Goura**	**153.16**	**331**	P	**PKPdf**	03 59 11.9	+2.6
KLV	**Kalavryta, Ach**	**153.16**	**332**	*e*P	**PKPdf**	03 59 08.6	-0.6
KLV	**Kalavryta, Ach**	**153.16**	**332**	P	PKPpre	03 58 57.8		
KLV	**Kalavryta, Ach**	**153.16**	**332**	P	PKPpre	03 58 57.8		
EVO	**Evora**	**153.26**	**26**	*e*PKPab	**PKPab**	03 59 27.5	-0.9
DRO	**Drossia**	**153.44**	**332**	P	**PKPdf**	03 59 08.7	-0.8
LAST	**Lasithi**	**153.63**	**323**	P	**PKPdf**	03 59 08.9	-1.1
LAST	**Lasithi**	**153.63**	**323**	P	**PKPdf**	03 59 08.9	-1.1
PAB	**San Pablo**	**153.73**	**19**	*e*PKPbc	**PKPbc**	03 59 18.9	+1.1
PAB				LR	LR			
	comp=Z,1μm,19.0s							
ESDC	**Sonseca Array**	**153.73**	**18**	PKP	**PKPdf**	03 59 10.2	+0.2
	comp=Z,1.0nm,0.9s,baz=354,slow=3.0,SNR=4.9							
ESDC				PKPbc	**PKPbc**	03 59 18.4	+0.6
	comp=Z,1.1nm,0.6s,baz=333,slow=2.8,SNR=8.4							
ESLA	**Sonseca Array**	**153.73**	**18**	*e*PKPdf	**PKPdf**	03 59 10.4	+0.5
ESLA				*e*PKPbc	**PKPbc**	03 59 18.5	+0.7
ESLA				*e*PKPab	**PKPab**	03 59 30.5	+0.1
MESJ	**Messejana**	**153.75**	**27**	*e*P	**PKPdf**	03 59 09.1	-0.8
MESJ				AMS	AMS	05 00 52.0		
	comp=Z,2μm,22.6s							
MESJ	**Messejana**	**153.75**	**27**	*e*PKIKP	**PKPdf**	03 59 09.1	-0.8
CUC	**Castrocucco**	**153.77**	**344**	PFAKE		03 59 20.0	+2.2
CUC				LR	LR			
	comp=Z,1μm,21.0s							
VLI	**Veliai**	**153.85**	**329**	*e*P	**PKPdf**	03 59 08.6	-1.5
IDI	**Anoyia**	**153.88**	**324**	*e*PKPdf	**PKPdf**	03 59 10.2	-0.1
IDI				*e*PKPbc	**PKPbc**	03 59 19.2	+0.9
IDI	**Anoyia**	**153.88**	**324**	P	**PKPdf**	03 59 09.4	-0.9
ITM	**Ithomi**	**153.97**	**331**	P	**PKPdf**	03 59 09.1	-1.2
ITM	**Ithomi**	**153.97**	**331**	P	**PKPdf**	03 59 09.1	-1.2
PBAR	**Barrancos**	**153.97**	**25**	*e*PKPbc	**PKPbc**	03 59 19.3	+1.0
MORF	**Marmelete**	**154.00**	**28**	*e*P	**PKPdf**	03 59 09.8	-0.6
MORF				AMS	AMS	05 01 44.7		
	comp=Z,2μm,23.6s							
MORF	**Marmelete**	**154.00**	**28**	*e*PKIKP	**PKPdf**	03 59 09.8	-0.6
SIVA	**Sivas**	**154.12**	**324**	P	**PKPdf**	03 59 12.3	+1.7
SIVA	**Sivas**	**154.12**	**324**	P	**PKPdf**	03 59 12.3	+1.7
TIP	**Timpagrande**	**154.25**	**341**	PFAKE		03 59 20.0	+1.1
TIP				LR	LR			
	comp=Z,2μm,21.0s							
PVAQ	**Vaqueiros**	**154.34**	**27**	eSS	SS	04 22 54.1	+7.5
PVAQ	**Vaqueiros**	**154.34**	**27**	eLR	LR	04 52 19.3		
	comp=Z,3μm,22.0s							
CLTB	**Caltabellotta**	**156.70**	**346**	PFAKE		03 59 30.0	-13
CLTB				LR	LR			
	comp=Z,1μm,20.0s							
RTC	**Rabat Centre**	**157.54**	**30**	PFAKE		03 59 30.0	+15
RTC				LR	LR			
	comp=Z,1μm,20.0s							
WDD	**Wield Dalam**	**157.98**	**342**	PFAKE		03 59 30.0	+14
WDD				LR	LR			
	comp=Z,1μm,20.0s							
KEST	**Kesra**	**159.16**	**353**	PKPab	**PKPab**	03 59 54.6	+0.7
	comp=Z,4.7nm,1.1s,baz=93,slow=0.4,SNR=3.3							
LIC	**Lamto**	**165.73**	**126**	*e*PKIKP	**PKPdf**	03 59 22.5	-1.7
	comp=Z,85nm,1.4s							
TIC	**Toumodi**	**166.00**	**125**	*e*PKIKP	**PKPdf**	03 59 23.4	-1.1
KIC	**Kosan Boka**	**166.04**	**127**	*e*PKIKP	**PKPdf**	03 59 24.1	-0.4
	comp=Z,81nm,1.4s							
DBIC	**Dimbokro**	**166.14**	**125**	PKP	**PKPdf**	03 59 21.6	-2.9
	comp=Z,5.8nm,0.9s,baz=80,slow=2.8,SNR=4.1							
DBIC				PKPab	**PKPab**	04 00 26.6	+1.5
	comp=Z,29nm,1.3s,baz=213,slow=6.1,SNR=4.8							
DBIC	**Dimbokro**	**166.14**	**125**	*e*PKPdf	**PKPdf**	03 59 23.8	-0.8
DBIC				*e*PKPab	**PKPab**	04 00 24.4	-0.7
TAM	**Tamanrasset**	**172.16**	**7**	*e*PKIKP	**PKPdf**	03 59 28.6	+0.4
TAM				MLR	MLR			
	comp=Z,2μm,20.0s							
TAM	**Tamanrasset**	**172.16**	**7**	*e*PKPdf	**PKPdf**	03 59 28.6	+0.4
TAM				LR	LR			
	comp=Z,2μm,20.0s							
TOB4	**Torodi Ar. Sit**	**174.99**	**111**	*e*PKIKP	**PKPdf**	03 59 28.8	-0.5
TOA0	**Torodi Ar. Sit**	**175.00**	**111**	*e*PKPdf	**PKPdf**	03 59 29.3	0.0
TORD	**Torodi Ar. Bea**	**175.00**	**111**	PKP	**PKPdf**	03 59 27.1	-2.2
	comp=Z,7.1nm,1.1s,baz=263,slow=0.6,SNR=15							
TORD				PKPab	**PKPab**	04 01 03.0	-1.4
	comp=Z,7.4nm,1.2s,baz=243,slow=3.1,SNR=3.2							
TORD				PP	**PP**	04 04 54.4	-2.6
	comp=Z,9.8nm,1.3s,baz=236,slow=2.2,SNR=7.1							

NIED ***25*** *03:52:00, 22.80N×120.60E, h35km, Mw5.1 Best double couple: M0 5.85000×10^16 NP1:φs356.00000°, δ30.00000°, λ74.00000°. NP2:φs194.00000°, δ62.00000°, λ99.00000°.*

JMA ***25*** *03:52:08.0±0.1, 22.80N×120.56E, h12km, M5.4*

MOS ***25*** *03:52:09.8±0.9, 22.79N×120.89E, h29km, mb5.6/69, MS4.6/13, Error ellipse: s-maj=6.5km s-min=4.2km az=104.8*

BJI ***25*** *03:52:09.9, 22.86N×120.67E, h25km, mb4.8/60, mB5.1/47, ML5.3/8, Ms5.1/68, Ms7 5.0/61*

BKK ***25*** *03:52:09.4±0.3, 23.N±4.×12.1E±.°, h10km, M5.1/33, mB5.6/14, mb5.2/33, Mw(mB)5.1/14*

ISCJB ***25*** *03:52:11.0±0.2, 22.76N±0.01×120.76E±0.01, h36km±1km, mb5.3/212, MS4.7/18, Error ellipse: s-maj=2.2km s-min=1.9km az=35.8*

TAP ***25*** *03:52:10.2, 22.84N×120.69E,

baz=36
ESL eS Sb 03 52 47.6 -0.5
baz=36
ESF Shoufeng Towns 1.24 32 eP Pb 03 52 34.1 -0.8
baz=45
ESF eS Sb 03 52 52.1 +1.6
baz=45
TCU Taichung 1.33 356 eP Pn 03 52 34.4 +0.1
baz=344
PNG Penghu 1.35 304⇑iP Pn 03 52 32.3 -2.3
baz=316
PNG eS Sn 03 52 48.7 -2.8
baz=316
HWA Hwalien 1.38 33 eP Pn 03 52 36.0 +1.0
baz=48
WHF Hehuan Shan 1.39 18⇓iP Pn 03 52 36.5 +0.9
baz=32
TWD Chiawan 1.46 31⇓iP Pn 03 52 36.8 +0.7
baz=45
TWD eS Sb 03 52 56.9 +0.1
baz=45
TWT Tachien 1.47 14 ⇓P Pn 03 52 37.0 +0.6
baz=17
TWT eS Sb 03 52 57.5 +0.1
baz=17
TWQ1 Liyutan 1.52 360⇓iP Pn 03 52 37.4 +0.4
baz=4.0
TWQ1 eS Sb 03 52 58.4 -0.2
baz=4.0
NACB Ninganchiao 1.54 29 ePn Pn 03 52 37.3 +0.1
NACB eSn Sb 03 52 58.2 -0.9
NSY Sanyi 1.59 359 eP Pn 03 52 38.4 +0.5
baz=347
NSY eS Sb 03 53 01.7 +1.1
baz=347
NNS Nan Shan 1.70 18 ⇓P Pn 03 52 40.9 +1.4
baz=19
EHP Heping Village 1.73 30 eP Pb 03 52 43.0 0.0
baz=46
NSTT Nanjuang 1.82 6 eP Pn 03 52 41.2 +0.2
baz=10.0
NSTT eS Sb 03 53 07.6 +0.6
baz=10.0
ENA Nanau 1.83 29 ⇓P Pn 03 52 42.3 +1.1
baz=49
YHNB Yeheng 1.92 16 ePn Pn 03 52 43.2 +0.7
YHNB eSn Sn 03 53 07.1 +1.4
NSK Sanguang 1.92 16 ⇓P Pn 03 52 43.5 +1.0
baz=20
NSK eS Sb 03 53 11.1 +1.0
baz=20
ENTT Nioudou 1.95 21⇓iP Pb 03 52 45.1 -1.8
baz=10.0
ENTT eS Sb 03 53 11.2 +0.3
baz=10.0
HSN Hsinchu 1.98 5 eP Pn 03 52 44.5 +1.2
baz=351
TWC Suao 2.03 28⇓iP Pn 03 52 45.5 +1.5
baz=30
TWC eS Sb 03 53 13.4 +0.3
baz=30
TWE Neicheng 2.06 23 P Pn 03 52 46.3 +2.0
baz=14
TWE eS Sb 03 53 15.8 +1.8
baz=14
ILA Ilan 2.13 24 eP Pn 03 52 47.1 +1.8
baz=45
NCU National Centr 2.17 10 eP Pn 03 52 46.6 +0.7
baz=353
TWA Mucha 2.27 19 eP Pn 03 52 48.3 +1.0
baz=22
TWA eS Sb 03 53 21.5 +1.3
baz=22
EGS 2.28 27 eP Pn 03 52 49.1 +1.8
baz=30
TAP Taipei 2.31 16 eP Pn 03 52 49.3 +1.5
baz=1.0
TAP1 Taipei 2.31 17 eP Pn 03 52 48.8 +1.1
baz=2.0
TWS1 Kuangyinshan 2.35 14 eP Pn 03 52 49.4 +1.1
baz=14
NWF Wu-fen Shan 2.42 22 eP Pn 03 52 50.6 +1.2
baz=11
NWF eS Sb 03 53 23.5 -1.0
baz=11
TWB1 Santiao Chiao 2.44 27 ⇓P Pn 03 52 51.8 +2.2
baz=28
TWB1 eS Sb 03 53 24.5 -0.4
baz=28
TWY Chenhua 2.56 17 eP Pn 03 52 52.7 +1.5
baz=16
JYNG Yonaguni jima 2.56 50 P Pn 03 52 52.8 +1.6
JYNG S Sb 03 53 25.0 -3.4
YOJ Yonaguni jima 2.62 51 P Pn 03 52 53.7 +1.7
YOJ S Sn 03 53 25.7 +3.1
YOJ Yonaguni jima 2.62 51⇑iP Pn 03 52 53.7 +1.7
baz=52
YOJ eS Sn 03 53 25.3 +2.7
baz=52
YOJ Yonaguni jima 2.62 51 ePn Pn 03 52 53.5 +1.6
YOJ eSn Sn 03 53 22.2 -0.4
KNM Kinmen 2.68 307⇑eP Pn 03 52 52.0 -0.8
baz=306
QZH Quanzhou 2.92 317⇓iPn Pn 03 52 53.8 -2.3
QZH Sn Sn 03 53 26.4 -3.6
QZH SMN
9µm,0.8s
QZH SME
7µm,0.7s
QZH LN
22µm,6.6s
QZH LE
23µm,9.8s
QZH LZ
38µm,11.9s
HATJ Hateruma jima 3.04 65 P Pn 03 52 58.7 +1.0
HATJ S Sn 03 53 34.9 +1.9
PCYT Pengchaiyu 3.04 23 eP Pn 03 52 59.1 +1.3
baz=8.0
IRIF Iriomote-Funau 3.10 60 P Pn 03 53 00.0 +1.4
IRIF S Sn 03 53 37.7 +3.2
JKRS Kuro-shima 3.28 64 P Pn 03 53 02.4 +1.3
JKRS S Sn 03 53 41.5 +2.5
JIJ Ishigaki jima 3.44 63 P Pn 03 53 04.2 +0.8
JIJ S Sn 03 53 44.1 +1.0
JISG Ishigakijimahi 3.68 61 P Pn 03 53 07.3 +0.7
JISG S Sn 03 53 52.0 +3.1
JTJ Tarama 4.02 62 P Pn 03 53 12.4 +1.1
JTJ S Sn 03 53 59.1 +1.8
PIP Pasuquin 4.47 182⇑iP Pn 03 53 17.5 0.0
PIP eS Sn 03 54 06.4 -2.0
JIRB Irabujima 4.49 63 P Pn 03 53 18.5 +0.8
JIRB S Sn 03 54 09.9 +1.0
JMJ Miyako jima 2 4.58 63 P Pn 03 53 20.6 +1.6
JMJ S Sn 03 54 12.9 +1.7
JMJ Miyako jima 2 4.58 63 eP Pn 03 53 20.0 +0.9
baz=68
JMJ eS Sn 03 54 13.3 +2.2
baz=68
JIKM Ikemajima 4.59 62 P Pn 03 53 20.1 +1.0
JIKM S Sn 03 54 12.4 +1.0
JOGS Gusukube 4.65 65 P Pn 03 53 21.8 +1.8
JOGS S Sn 03 53 15.6 +2.7
SZP Santa 5.25 183 ePn Pn 03 53 27.0 -1.2
442nm,0.6s
JKE Kume jima 2 6.48 56 P Pn 03 53 45.5 +0.3
JKE S Sn 03 54 58.0 0.0
GZH Guangzhou 6.86 274 P Pn 03 53 45.3 -5.1
GZH SMN
2µm,1.0s
GZH SME
2µm,1.0s
JAGN Aguni-jima 6.97 56 P Pn 03 53 52.1 +0.3
JNTH Nagotoyohara 7.54 59 P Pn 03 53 59.5 -0.2
JNTH eS Sn 03 55 22.1 -2.0
JIH Iheya 7.75 56 P Pn 03 54 02.8 +0.2
JIH eS Sn 03 55 29.6 +0.3
JOW Kunigami 7.89 58 P Pn 03 54 03.9 -0.6
JOW eS Sn 03 55 35.9 +3.2
JOW Kunigami 7.89 58 eP Pn 03 54 03.5 -1.0
baz=60
JOW Kunigami 7.89 58 ePn Pn 03 54 03.8 -0.6
SSE Sheshan 8.25 2 P Pn 03 54 11.3 +1.9
SSE S Sn 03 55 46.6 +5.1
SSE PMZ
150nm,0.8s
SSE LN
7µm,10.8s
SSE LE
5µm,10.8s
SSE LZ
9µm,10.8s
JOKE Okinoerabujima 8.38 56 P Pn 03 54 10.1 -1.1
JOKE eS Sn 03 55 43.8 -1.0
TGY Tagaytay City 8.67 179 Pn Pn 03 54 21.6 +6.4
39nm,0.3s,baz=218,slow=19,SNR=2.3
JTK Tokunoshima 8.89 55 P Pn 03 54 16.6 -1.6
JTK S Sn 03 55 55.2 -2.1
JAMN Amaminishikomi 9.30 53 P Pn 03 54 21.9 -1.9
JAMN eS Sn 03 56 03.4 -4.0
NJ2 Nanjing 9.36 350 eP Pn 03 54 26.1 +1.6
NJ2 S Sn 03 56 07.0 -1.7
NJ2 PMZ
30nm,0.6s
NJ2 SMN
3µm,1.4s
NJ2 SME
2µm,1.2s
NJ2 LN
1µm,10.7s
NJ2 LE
1µm,10.8s
NJ2 LZ
2µm,11.2s
WHN Wuhan 9.61 325 ⇓P Pn 03 54 26.0 -2.0
WHN S Sn 03 56 06.1 -8.7
WHN LN
14µm,10.3s
WHN LE
7µm,9.1s
WHN LZ
18µm,13.6s
JAM Amami Oshima 9.71 53 P Pn 03 54 27.5 -2.0
JAM eS Sn 03 56 13.9 -3.5
JTAJ Takarajima 9.85 48 P Pn 03 54 30.8 -0.6
JMZ Minamidaito 2 9.97 70 P Pn 03 54 29.9 -3.2
JMZ S Sn 03 56 15.7 -8.2
QIZ Qiongzhong 10.90 252 P Pn 03 54 48.5 +2.8
QIZ S Sn 03 56 50.9 +4.3
QIZ PMZ
120nm,1.1s
QIZ PMZ
740nm,10.0s
QIZ LE
4µm,15.3s
QIZ LZ
8µm,15.1s
QIZ Qiongzhong 10.90 252 ePn Pn 03 54 45.2 -0.5
91nm,0.8s
ENH Enshi 12.54 309 ePn Pn 03 55 09.3 +1.2
33nm,1.0s
GYA Guiyang 13.34 289⇑iP Pn 03 55 18.3 -1.0
GYA PP P 03 55 32.0 +3.5
GYA S Sn 03 57 52.3 +5.7
GYA PMZ
90nm,0.8s
GYA PMZ
160nm,4.6s
GYA LN
2µm,10.0s
GYA LE
6µm,14.0s
GYA LZ
8µm,15.6s
KSKWJ Gwangju 13.44 22 P Pn 03 55 24.3 +3.9
SNR=5.2
JNU Nakatsue 13.59 39 Pn Pn 03 55 23.1 +0.6
0.4nm,0.3s,baz=169,slow=4.0,SNR=15
JNU LR LR 04 01 05.2
comp=Z,3µm,20.8s,baz=218,slow=39
JNU Nakatsue 13.59 39 ePn Pn 03 55 22.9 +0.4
KSJEU Jeongeup 13.72 22 P Pn 03 55 27.2 +2.9
SNR=14
TIA Tai'an 13.72 347 eP P 03 55 32.8 +0.3
TIA S Sn 03 57 58.0 +2.5
TIA LR LR
comp=N,4µm,13.1s
TIA LR LR
comp=E,2µm,11.0s
TIA LR LR
comp=Z,4µm,11.0s
KSGUS GUNSAN 14.17 20 P Pn 03 55 33.2 +2.9
SNR=8.6
KSGUS GUNSAN 14.17 20 P Pn 03 55 33.2 +2.9
SNR=8.6
KSBUS Busan 14.36 29 P P 03 55 37.5 -2.1
SNR=11
TJN Taejon 14.67 21⇑iP Pn 03 55 39.0 +1.9
KSDAG Daegu 14.71 27 P Pn 03 55 40.3 +2.6
SNR=29
KSDAG Daegu 14.71 27 P Pn 03 55 40.0 +2.3
SNR=5.6
KSCPR CHUPUNGNYEONG 14.74 23 P Pn 03 55 40.7 +2.6
SNR=9.7
KSCPR CHUPUNGNYEONG 14.74 23 P Pn 03 55 40.7 +2.6
SNR=9.7
KSSES Seosan 14.76 18 P Pn 03 55 40.9 +2.5
SNR=35
KSSES Seosan 14.76 18 P P 03 55 41.8 -2.3
SNR=5.1
KSBON Boeun 14.93 22 P Pn 03 55 43.2 +2.5
SNR=36
KSBON Boeun 14.93 22 P P 03 55 43.4 -2.5
SNR=10.0
KSSAJ Sangju 14.98 24 P Pn 03 55 43.2 +1.9
SNR=6.7
KSCEA Cheonan 15.04 20 P Pn 03 55 44.0 +1.9
SNR=19
KSCEA Cheonan 15.04 20 P Pn 03 55 44.0 +1.9
SNR=7.2
KSEUS ULSEONG 15.13 25 P Pn 03 55 45.3 +2.1
SNR=8.4
KSPHA Pohang 15.27 27 P P 03 55 47.5 -2.2
SNR=11
XAN Xi'an 15.28 320 P Pn 03 55 43.3 -2.1
XAN PMZ
comp=Z,29nm,1.3s
XAN LN
comp=Z,4µm,8.9s
XAN LE
comp=Z,3µm,12.8s
XAN LZ
comp=Z,7µm,12.5s
KSCHJ Chungju 15.32 22 P Pn 03 55 47.6 +1.7
SNR=21
KSSWO Suwon 15.36 19 P Pn 03 55 48.2 +1.9
SNR=14
KSSWO Suwon 15.36 19 P P 03 55 48.5 -2.1
SNR=12
INCN Inchon 15.46 18 ePn Pn 03 55 49.1 +1.5
comp=Z,46nm,0.9s
KSBAR Backryungdo 15.48 12 P P 03 55 50.1 -1.9
SNR=10
KSBAR Backryungdo 15.48 12 P P 03 55 50.4 -1.6
SNR=6.5
KSICN Icheon 15.52 20 P P 03 55 50.4 -2.0
SNR=14
KSICN Icheon 15.52 20 P P 03 55 50.4 -2.0
SNR=8.9
KSSEO Seoul 15.55 18 P P 03 55 53.1 +0.4
SNR=6.5
SLVN Son La 15.72 268 ePn Pn 03 55 50.9 -0.3
comp=Z,34nm,0.9s
KSULJ Uljin 15.72 26 P P 03 55 53.3 -1.4
SNR=7.0
KSYOW Yeongwol 15.77 23 P P 03 55 53.6 -1.5
SNR=7.1
KSAR Wonju Array Be 15.81 21 P Pn 03 55 53.2 +1.1
KSAR Wonju Array Be 15.81 21 Pn Pn 03 55 53.2 +1.1
KSAR PcP PcP 04 00 50.2 0.0
KSWJU Wonju 15.83 22 P P 03 55 54.3 -1.6
SNR=5.2
KSRS Korea Array 15.83 21 Pn Pn 03 55 53.2 +0.8
comp=Z,1.9nm,0.3s,baz=199,slow=12,SNR=74
KSRS PcP PcP 04 00 50.2 -0.1
comp=Z,0.2nm,0.3s,baz=214,slow=0.8,SNR=6.1
KSRS LR LR 04 02 41.7
comp=Z,3µm,19.5s,baz=200,slow=40
CTBH Cotabato--PC H 15.86 167⇓iP P 03 55 57.2 +0.8
KSMUS Musan 15.88 18 P Pn 03 55 54.4 +1.4
SNR=10.0
KSTBA Taebaek 15.90 24 P Pn 03 55 54.7 +1.3
SNR=19
DL2 Dalian 16.05 2 ⇓P P 03 55 57.1 -1.3
DL2 eS Sn 03 58 57.8 +5.6
DL2 PMZ
comp=Z,160nm,1.3s
DL2 PMZ
comp=Z,360nm,4.3s
DL2 LE
comp=Z,4µm,8.2s
DL2 LZ
comp=Z,5µm,11.2s
KSJES JEONGSEON 16.07 23 P P 03 55 57.1 -1.4
SNR=7.8
KSCHC Chuncheon 16.09 20 P P 03 55 57.4 -1.4
SNR=5.8
KSCWO Cheorwon 16.28 19 P P 03 55 60.0 -0.9
SNR=15
UBPT Khong Chiam 16.30 245 P P 03 56 00.4 -0.8
comp=Z,44nm,1.2s
KSDGY Daegwallyeong 16.30 23 P P 03 55 59.9 -1.4
SNR=6.9
KSIJA iNJE 16.38 21 P Pn 03 56 00.5 +1.1
SNR=10
TIY Taiyuan 16.49 336 eP P 03 56 06.1 +2.8
TIY S S 03 59 08.8 -5.4
TIY pmax pmax
comp=Z,640nm,11.7s
TIY LR LR
comp=N,7µm,13.6s
TIY LR LR
comp=E,4µm,9.0s
TIY LR LR
comp=Z,7µm,12.2s
KSJMJ Jumunjin 16.50 23 P P 03 56 02.6 -0.8
SNR=19
KMI Kunming 16.65 282 P P 03 56 06.8 +1.4
KMI PP pP 03 56 18.1 +4.2
KMI S Sn 03 59 08.9 +1.6
KMI SS SnSn 03 59 26.1 +5.6
KMI PMZ
comp=Z,27nm,1.1s
KMI PMZ
comp=Z,520nm,4.9s
KMI LN
comp=Z,2µm,15.2s
KMI LE
comp=Z,5µm,11.6s
KMI LZ
comp=Z,5µm,13.9s
SEHB SEOHWA 16.68 21 P P 03 56 06.9 +1.5
SNR=7.5
KSSKC Sokcho 16.79 22 P P 03 56 05.9 -0.6
SNR=16
SKNT Sakolnakorn 16.83 253 P P 03 56 11.0 +3.9
comp=Z,44nm,1.9s
KSULL Ulleungdo 17.01 29 P P 03 56 09.4 +0.5
SNR=7.5
CD2 Chengdu 17.18 302 P Pn 03 56 09.8 +0.1
CD2 pP pP 03 56 19.1 -0.5
CD2 sP sP 03 56 23.3 -0.4
CD2 PP PnPn 03 56 26.3 +6.5
CD2 S Sn 03 59 21.9 +2.0
CD2 PcP PcP 04 00 54.4 +1.8
CD2 PMZ
comp=Z,120nm,1.1s
CD2 PMZ
comp=Z,460nm,6.9s
CD2 LN
comp=Z,6µm,7.2s
CD2 LZ
comp=Z,8µm,12.6s
KKM Kota Kinabalu 17.25 195⇑P P 03 56 16.6 +4.8
KKM Kota Kinabalu 17.25 195 ePn Pn 03 56 09.1 -1.5
comp=Z,205nm,1.2s
SDKM Sandakan 17.43 192⇑P P 03 56 15.9 +2.2
BJT Baijiatuan 17.59 348 eP P 03 56 15.7 +0.3
BJT pmax pmax
comp=Z,121nm,1.1s
BJT Baijiatuan 17.59 348 ePn P 03 56 15.7 +0.3
comp=Z,121nm,1.1s
BJI Beijing 17.61 348 P P 03 56 16.1 +0.5
BJI PMZ
comp=Z,46nm,1.0s
BJI PMZ
comp=Z,430nm,3.5s
BJI LN
comp=Z,3µm,17.3s
BJI LE
comp=Z,3µm,15.3s
BJI LZ
comp=Z,3µm,17.7s
MYLDM Lahad Datu 17.67 188 ⇓P P 03 56 19.1 +2.6
KHON Khomkaen 18.10 252 P P 03 56 23.6 +2.4
comp=Z,14nm,1.3s,comp=Z,1µm
TSM Tawau 18.63 189⇑P Pn 03 56 28.1 +0.7
SNY Shenyang 19.10 6⇑P P 03 56 31.9 0.0
SNY S S 04 00 08.3 +1.6
SNY PMZ
comp=Z,52nm,2.2s
SNY PMZ
comp=Z,520nm,5.2s
SNY LN
comp=Z,3µm,12.4s
SNY LE
comp=Z,2µm,10.8s
SNY LZ
comp=Z,4µm,13.9s
CRAI Chiangrai 19.16 266 P P 03 56 32.4 -0.5
comp=Z,32nm,1.7s,comp=Z,1µm
HHC Hu-ho-hao-te 19.59 339 eP Pn 03 56 43.3 +4.4
HHC PP PnPn 03 57 01.8 +9.0
HHC S Sn 04 00 18.5 +0.6
HHC sS sS 04 00 28.1 -2.5
HHC SS SnSn 04 00 45.9 +13
HHC pmax pmax
comp=Z,47nm,1.3s
HHC pmax pmax
comp=Z,310nm,5.1s
HHC LR LR
comp=N,4µm,11.6s
HHC LR LR
comp=E,1µm,10.4s
HHC LR LR
comp=Z,3µm,11.4s
HHC Hu-ho-hao-te 19.59 339 eP Pn 03 56 39.3 +0.4
HHC S Sn 04 00 18.8 +0.9
HHC PMZ
comp=Z,140nm,1.4s
HHC LN
comp=Z,4µm,8.8s
HHC LE
comp=Z,5µm,6.8s
JHJ Hachijo jima 2 19.64 54 P Pn 03 56 40.5 +0.9
comp=Z,16nm,0.3s,baz=241,slow=6.6,SNR=16
JHJ2 Mitsune 19.66 54 eP Pn 03 56 40.5 +0.7
comp=Z,213nm,0.9s
LZH Lanzhou 19.77 316 eP Pn 03 56 42.4 +1.2
LZH pP pP 03 56 51.9 +3.7
LZH sP sP 03 56 54.5 +2.2
LZH PP PnPn 03 57 01.5 +6.1
LZH eS S 04 00 21.0 +0.3
LZH SS SnSn 04 00 45.0 +7.9
LZH PMZ
comp=Z,88nm,1.2s
LZH PMZ
comp=Z,230nm,4.0s
LZH LN
comp=Z,2µm,13.2s
LZH LE
comp=Z,3µm,13.6s
LZH LZ
comp=Z,5µm,15.5s
CBIJ Chichi jima 19.86 73 eP P 03 56 40.5 +0.1
comp=Z,336nm,1.5s
JCJ Chichijima 19.86 73 P P 03 56 40.6 +0.2
comp=Z,24nm,0.3s,baz=278,slow=6.8,SNR=33
LAMP Lampang 20.24 262 P Pn 03 56 48.7 +2.0
comp=Z,9.7nm,0.9s,comp=Z,168nm
MAJO Matsushiro 20.36 44 eP P 03 56 45.3 -0.5
MAJO pmax pmax
comp=Z,151nm,0.7s
MAJO MLR MLR
comp=Z,1µm,21.0s
MAJO Matsushiro 20.36 44 eP P 03 56 45.2 -0.5
comp=Z,151nm,0.7s
MAJO LR LR
comp=Z,1µm,21.0s

MAT **Matsushiro** 20.36 44 P **P** 03 56 44.9 -0.9
MJAR **Matsushiro Arr** 20.36 44 P **P** 03 56 45.4 -0.3
comp=Z,140nm,0.7s,baz=225,slow=8.8,SNR=72
CMAI **Chiengmai2** 20.45 266 P Pn 03 56 49.5 +0.2
comp=Z,85nm,1.6s,comp=Z,2µm
CMMT **Chiang Mai** 20.79 263 P Pn 03 56 52.1 -1.1
comp=Z,89nm,2.2s,comp=Z,2µm
CHTO **Chiang Mai** 20.80 263 P Pn 03 56 52.2 -1.0
comp=Z,110nm,1.8s,comp=Z,8µm
CHTO **Chiang Mai** 20.80 263 *e*P **P** 03 56 51.4 +0.8
CHTO pmax pmax
comp=Z,200nm,1.8s
CHTO MLR MLR
comp=Z,3µm,19.0s
CHTO **Chiang Mai** 20.80 263 *e*P **P** 03 56 51.4 +0.8
comp=Z,200nm,1.8s
CHTO LR LR
comp=Z,3µm,19.0s
BTM **Bintulu** 20.88 202 ⇑P Pn 03 56 57.9 +3.7
CMAR **Chiang Mai Arr** 20.89 262 P **P** 03 56 52.8 +1.1
comp=Z,6.8nm,0.8s,baz=69,slow=8.9,SNR=17
CMAR PcP **PcP** 04 01 00.7 +1.4
comp=Z,9.5nm,0.8s,baz=65,slow=0.6,SNR=19
CMAR LR LR 04 05 57.8
comp=Z,3µm,19.5s,baz=60,slow=39
CN2 **Changchun** 21.28 9 *e*P **P** 03 56 55.0 -0.6
CN2 *e*S **S** 04 00 43.8 -6.5
CN2 PMZ
comp=Z,10.0nm,0.4s
CN2 PMZ
comp=Z,200nm,3.0s
CN2 LN
comp=Z,5µm,15.0s
CN2 LE
comp=Z,2µm,15.0s
CN2 LZ
comp=Z,3µm,13.0s
MSHR **Mys Shultsa** 21.52 21 *i*P **P** 03 56 58.3 +0.1
SBUM **Sibu** 21.89 204 ⇓P **P** 03 57 02.9 +0.6
SBUM **Sibu** 21.89 204 *e*P **P** 03 57 01.7 -0.6
comp=Z,193nm,1.3s
MHMT **Maesarieng** 21.89 262 P P 03 57 10.5 +8.1
MRSI **Marisa** 22.23 177 P **P** 03 57 08.4 +2.3
comp=Z,316nm,0.7s,comp=Z,4µm
VLA **Vladivostok** 22.25 22⇓ *i*P **P** 03 57 06.1 +0.1
VLA pmax pmax
comp=Z,54nm,1.2s
KMSI **Cibinong** 22.33 172 P **P** 03 57 08.7 +1.6
comp=Z,866nm,1.2s,comp=Z,9µm
MPSI **Mapaga** 22.36 182 P **P** 03 57 08.1 +0.7
comp=Z,91nm,1.6s,comp=Z,1µm
TNTI **Ternate** 22.83 163 P **P** 03 57 11.4 -1.0
comp=Z,433nm,1.4s,comp=Z,5µm
TNTI **Ternate** 22.83 163 *e*P **P** 03 57 10.2 -2.2
comp=Z,438nm,1.1s
MDJ **Mudanjiang** 22.92 16 *e*P **P** 03 57 11.9 -1.1
comp=Z,38nm,0.9s
USRK **Ussuriysk Ar.** 23.24 21 P **P** 03 57 15.2 -1.1
comp=Z,24nm,0.7s,baz=209,slow=10,SNR=49
KSM **Kuching** 23.53 207 ⇑P **P** 03 57 18.1 -1.3
KSM **Kuching** 23.53 207 *e*P **P** 03 57 18.8 -0.7
comp=Z,76nm,0.9s
APSI **Ampana** 23.60 178 P **P** 03 57 21.0 +0.9
comp=Z,400nm,1.6s,comp=Z,5µm
LUWI **Luwuk** 23.79 175 P **P** 03 57 21.0 -0.9
comp=Z,549nm,1.1s,comp=Z,6µm
LUWI **Luwuk** 23.79 175 *e*P **P** 03 57 20.7 -1.2
comp=Z,524nm,1.0s
LBMI **Labuha** 24.21 163 P **P** 03 57 24.4 -1.5
comp=Z,471nm,1.1s,comp=Z,4µmcomp=Z,16µm
BKB **Balikpapan** 24.23 190 P **P** 03 57 26.5 +0.5
comp=Z,488nm,1.0s,comp=Z,7µm
KTGM **Kuala Trenggan** 24.35 227 ⇑P **P** 03 57 29.4 +2.3
STKI **Sintang** 24.36 203 P **P** 03 57 28.8 +1.6
GUMO **Guam** 24.62 108 P **P** 03 57 28.7 -0.9
comp=Z,615nm,0.8s,baz=189,slow=4.5,SNR=32
GUMO **Guam** 24.62 108 *e*P **P** 03 57 29.1 -0.5
GUMO pmax pmax
comp=Z,665nm,0.8s
GUMO **Guam** 24.62 108 *e*P **P** 03 57 29.1 -0.5
comp=Z,665nm,0.8s
SANI **Sanana** 25.23 168 P **P** 03 57 32.4 -2.7
comp=Z,311nm,0.8s,comp=Z,3µm
SWI **Sorong** 25.65 155 P **P** 03 57 37.5 -1.4
comp=Z,89nm,0.8s
SIJI **Sorong** 25.66 155 P **P** 03 57 36.8 -2.2
comp=Z,60nm,0.8s,baz=343,slow=5.1,SNR=14
TTSI **Tana Toraja** 25.72 182 P **P** 03 57 41.2 +1.7
comp=Z,78nm,1.2s,comp=Z,1µm
KULM **Kulim** 26.11 231 ⇑P **P** 03 57 41.8 -1.3
KULM **Kulim** 26.11 231 *e*P **P** 03 57 42.6 -0.5
comp=Z,42nm,1.3s
IPM **Ipoh** 26.41 229 ⇑P **P** 03 57 46.5 +0.7
IPM **Ipoh** 26.41 229 *e*P **P** 03 57 45.8 -0.1
comp=Z,134nm,1.9s
HIA **Hailar** 26.41 358 *e*P **P** 03 57 44.7 -0.8
HIA pmax pmax
comp=Z,119nm,1.0s
HIA MLR MLR
comp=Z,2µm,20.0s
HIA **Hailar** 26.41 358 *e*P **P** 03 57 44.7 -0.8
comp=Z,119nm,1.0s
HIA LR LR
comp=Z,2µm,20.0s
MYKOM **Kota Tinggi** 26.59 221 ⇓P **P** 03 57 48.5 +1.1
MYKOM **Kota Tinggi** 26.59 221 *e*P **P** 03 57 48.4 +0.9
comp=Z,50nm,1.0s
NLAI **Namlea** 26.62 166 P **P** 03 57 48.4 +0.7
comp=Z,1µm,0.8s,comp=Z,9µm
KGM **Kluang** 26.74 222 ⇑P **P** 03 57 49.3 +0.5
ERM **Erimo** 26.75 39 P **P** 03 57 49.0 +0.3
comp=Z,392nm,0.7s,SNR=11
ERM **Erimo** 26.75 39 *e*P **P** 03 57 48.9 +0.3
ERM pmax pmax
comp=Z,42nm,0.7s
ERM **Erimo** 26.75 39 *e*P **P** 03 57 48.9 +0.3
comp=Z,42nm,0.7s
BBKI **Banjar Baru** 26.76 193 P **P** 03 57 49.2 +0.3
comp=Z,107nm,1.3s,comp=Z,4µm
ULN **Ulaanbaatar** 27.30 340*c*e P **P** 03 57 54.1 +0.4
ULN pmax pmax
comp=Z,39nm,1.7s
ULN **Ulaanbaatar** 27.30 340 *e*P **P** 03 57 53.8 +0.1
comp=Z,96nm,1.7s
LSA **Lhasa** 27.40 291 P **P** 03 57 56.6 +1.4
LSA LZ
comp=Z,800nm,15.2s
LSA LZ
comp=Z,3µm,17.6s
LSA **Lhasa** 27.40 291 *e*P **P** 03 57 56.5 +1.4
LSA pmax pmax
comp=Z,40nm,0.6s
LSA MLR MLR
comp=Z,486nm,19.0s
LSA **Lhasa** 27.40 291 *e*P **P** 03 57 56.5 +1.3
comp=Z,40nm,0.6s
LSA LR LR
comp=Z,486nm,19.0s
SONM **Songino Array** 27.49 339 P **P** 03 57 55.3 -0.1
comp=Z,16nm,0.6s,baz=155,slow=10,SNR=23
SONM PcP **PcP** 04 01 13.4 +0.3
comp=Z,6.6nm,0.9s,baz=164,slow=1.0,SNR=4.8
SONM LR LR 04 10 09.9
comp=Z,2µm,19.6s,baz=145,slow=39
KAPI **Kappang** 27.68 182 P **P** 03 57 56.8 -0.3
comp=Z,3.9nm,0.3s,baz=104,slow=8.3,SNR=2.8
KAPI **Kappang** 27.68 182 *e*P **P** 03 57 57.4 +0.2
comp=Z,102nm,1.3s
KLR **Kul'dur** 27.75 16 *e*P **P** 03 57 54.2 -3.3
KLR MLR MLR
comp=Z,15µm,12.5s
ASAJ **Asahikawa** 27.81 35 *e*P **P** 03 57 58.2 +0.1
comp=Z,14nm,0.8s
FAKI **Fak Fak** 27.92 155 P **P** 03 57 59.1 -0.3
comp=Z,115nm,0.7s,comp=Z,1µm
FAKI **Fak Fak** 27.92 155 *e*P **P** 03 57 59.7 +0.3
comp=Z,80nm,0.6s
HABR **Khabarovsk** 28.01 20 *e*P **P** 03 57 58.0 -1.8
HABR *e**PP **pP** 03 58 07.6 -1.6
HABR *e**SP **sP** 03 58 11.9 -1.2
HABR *e* 03 58 46.2
HABR *e*PPP PPP 03 58 54.8
HABR *e* 04 01 11.9
HABR *e*S **S** 04 02 41.1 -0.9
HABR *e**SS **sS** 04 02 57.5 0.0
HABR *e*SS **SnSn** 04 03 59.2 +1.1
HABR *e* 04 08 42.4
HABR pmax pmax
comp=Z,34nm,1.7s
HABR MLR MLR
comp=Z,2µm,17.0s
PSI **Prapat** 29.07 230 P **P** 03 58 10.7 +0.9
comp=Z,4.9nm,0.4s,baz=42,slow=6.0,SNR=8.6
PSI PcP **PcP** 04 01 17.2 -0.4
comp=Z,10nm,0.8s,baz=342,slow=6.6,SNR=5.7
PSI **Prapat** 29.07 230 *e*P **P** 03 58 10.8 +1.0
PSI 04 01 17.2
PSI pmax pmax
comp=Z,32nm,1.2s
PSI **Prapat** 29.07 230 *e*P **P** 03 58 10.8 +1.0
comp=Z,32nm,1.2s
PSI PcP **PcP** 04 01 17.2 -0.4
YUK **Yuzh-Kuril'sk** 29.56 38*c* *i*P **P** 03 58 14.9 +1.2
YUK *i* S **S** 04 03 06.9 +0.4
YUK pmax pmax
comp=N,20nm,1.2s
YUK pmax pmax
comp=E,33nm,1.2s
YUK pmax pmax
comp=Z,97nm,1.2s
YUK pmax pmax
comp=Z,119nm,1.0s
YSS **Yuzh-Sakhalins** 29.88 31⇑ *e*P **P** 03 58 16.2 -0.3
YSS *i* 03 58 23.3
YSS *e**SP **sP** 03 58 30.8 +1.0
YSS *e* 03 59 14.1
YSS *e*PPP PPP 03 59 31.0
YSS *e*S S 04 03 04.0 -7.5
YSS pmax pmax
comp=Z,70nm,1.1s
YSS MLR MLR
comp=E,1µm,15.0s
YSS MLR MLR
comp=Z,1µm,15.0s
YSS **Yuzh-Sakhalins** 29.88 31 *e*P **P** 03 58 15.6 -0.8
comp=Z,62nm,0.7s
TAPN **Taplejung** 30.24 285 *e*P **P** 03 58 20.4 +0.1
comp=Z,74nm,0.9s
ZAK **Zakamensk** 30.73 338 *e*P **P** 03 58 21.9 -2.2
ZAK *e* 04 01 20.7
ZAK pmax pmax
comp=Z,12nm,1.1s
ZAK pmax pmax
comp=Z,11nm,1.4s
GSI **Gunungsitoli** 31.07 230 *e*P **P** 03 58 26.8 -0.6
comp=Z,31nm,1.3s
MMRI **Maumere** 31.29 177 P **P** 03 58 29.1 -0.1
MMRI **Maumere** 31.29 177 *e*P **P** 03 58 29.4 +0.2
comp=Z,82nm,0.7s
KUR **Kuril'sk** 31.43 38 *e*P **P** 03 58 28.1 -2.0
KUR *e* 03 59 30.1
KUR S **S** 04 03 39.4 +3.7
KUR pmax pmax
comp=N,37nm,1.1s
KUR pmax pmax
comp=E,40nm,1.1s
KUR pmax pmax
comp=Z,122nm,1.1s
KUR MLR MLR
comp=N,2µm,18.0s
KUR MLR MLR
comp=E,1µm,18.0s
KUR MLR MLR
comp=Z,2µm,18.0s
TLY **Talaya** 31.71 340 *e*P **P** 03 58 33.2 +0.5
TLY *e*S **S** 04 03 35.0 -5.2
TLY pmax pmax
comp=Z,14nm,0.9s
TLY MLR MLR
comp=Z,2µm,16.0s
TLY **Talaya** 31.71 340 *e*P **P** 03 58 32.3 -0.3
comp=Z,19nm,1.0s
GUN **Gumba** 31.88 286 *e*P **P** 03 58 35.1 +0.3
comp=Z,77nm,0.8s
IRK **Irkutsk** 32.00 341 *e*P **P** 03 58 34.9 -0.3
IRK pmax pmax
comp=Z,48nm,1.7s
MNAI **Manna** 32.14 215 *e*P **P** 03 58 37.2 +0.5
comp=Z,236nm,1.2s
PKI **Pulchoki** 32.29 286 *e*P **P** 03 58 38.3 -0.1
comp=Z,24nm,0.7s
PKIN **Phulchoki** 32.30 286 *e*P **P** 03 58 38.5 +0.1
comp=Z,23nm,0.8s
KKN **Kakani** 32.41 286 *e*P **P** 03 58 39.8 +0.5
comp=Z,40nm,0.8s
SOEI **Soe** 32.55 174 *e*P **P** 03 58 38.8 -1.6
comp=Z,88nm,0.8s
DMN **Daman** 32.56 286 *e*P **P** 03 58 41.1 +0.5
comp=Z,72nm,1.0s
GKN **Gorkha** 32.98 287 *e*P **P** 03 58 44.2 0.0
comp=Z,37nm,0.8s
NKL **Nikolayevsk** 33.87 22 *e*P **P** 03 58 49.0 -2.4
NKL *e* 03 58 57.0
NKL pmax pmax
comp=Z,39nm,1.0s
KOLN **Koldanda** 33.89 286 *e*P **P** 03 58 52.5 +0.3
comp=Z,35nm,0.8s
WMQ **Urumqi** 34.35 316 P **P** 03 58 56.1 +0.2
WMQ pP **pP** 03 59 04.0 -1.3
WMQ sP **sP** 03 59 10.1 +0.8
WMQ PcP **PcP** 04 01 31.5 +0.2
WMQ S **S** 04 04 20.9 -0.5
WMQ SS **SnSn** 04 06 32.3 -0.3
WMQ ScS **ScS** 04 09 14.1 -2.6
WMQ PMZ
comp=Z,21nm,1.0s
WMQ PMZ
comp=Z,110nm,5.4s
WMQ LN
comp=Z,2µm,12.0s
WMQ LE
comp=Z,1µm,13.7s
WMQ LZ
comp=Z,750nm,16.2s
BOD **Bodaibo** 35.31 354 *e*P **P** 03 59 02.5 -1.3
BOD pmax pmax
comp=Z,10.0nm,0.9s
MTN **Manton Dam** 36.86 163 *e*P **P** 03 59 15.0 -2.5
SKR **Severo-Kuril's** 39.07 36⇑ *e*P **P** 03 59 35.3 -0.5
MK31 **Makanchi Array** 39.07 317 *e*P **P** 03 59 36.6 +0.6
MK31 pmax pmax
comp=Z,35nm,0.9s
MK31 **Makanchi Array** 39.07 317 *e*P **P** 03 59 36.5 +0.5
MKAR **Makanchi Array** 39.07 317 P **P** 03 59 36.5 +0.6
comp=Z,8.3nm,0.6s,baz=114,slow=9.6,SNR=37
MKAR PcP **PcP** 04 01 45.7 +0.3
comp=Z,8.7nm,0.8s,baz=94,slow=5.1,SNR=8.5
MKAR PKiKP **PKiKP** 04 08 54.1 -4.2
comp=Z,0.2nm,0.4s,baz=107,slow=1.5,SNR=3.8
YAK **Yakutsk** 39.66 7 *e*P **P** 03 59 37.9 -2.7
YAK pmax pmax
comp=Z,16nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=N,15nm,1.3s
YAK **Yakutsk** 39.66 7 *e*P **P** 03 59 39.7 -0.9
comp=N,15nm,0.6s
PMG **Port Moresby** 41.14 138 *e*P **P** 03 59 52.4 -1.0
PMG pmax pmax
comp=Z,44nm,1.0s
PMG **Port Moresby** 41.14 138 *e*P **P** 03 59 52.4 -1.0
comp=Z,44nm,1.0s
ZAA0 **Zalesovo Array** 41.20 328 *e*P **P** 03 59 53.2 -0.2
ZALV **Zalesovo Beam** 41.20 328 P **P** 03 59 53.3 -0.1
comp=Z,41nm,0.8s,baz=114,slow=8.0,SNR=38
ZALV PcP **PcP** 04 01 51.3 -0.7
comp=Z,5.4nm,0.6s,baz=130,slow=2.3,SNR=4.7
PETK **Petropavlovsk-** 41.20 33 P **P** 03 59 52.9 -0.6
comp=Z,23nm,0.9s,baz=214,slow=5.0,SNR=21
PETK PcP **PcP** 04 01 51.3 -0.8
comp=Z,5.1nm,0.6s,baz=199,slow=4.1,SNR=4.2
KSH **Kashi** 41.35 304 P P 03 59 58.8 +3.7
KSH pP pP 04 00 08.1 +3.5
KSH PP **PnPn** 04 01 38.1 +2.6
KSH PcS **PcS** 04 05 46.3 +1.9
KSH S **S** 04 06 09.4 +1.7
KSH sS sS 04 06 28.1 +4.6
KSH SS **SS** 04 09 13.1 +1.1
KSH PMZ
comp=Z,430nm,4.1s
KSH LN
comp=Z,2µm,10.9s
KSH LE
comp=Z,1µm,11.8s
KSH LZ
comp=Z,2µm,16.5s
PALK **Pallekele** 41.51 255 *e*P **P** 03 59 56.3 -0.3
PALK pmax pmax
comp=Z,32nm,1.2s
PALK **Pallekele** 41.51 255 *e*P **P** 03 59 56.3 -0.3
comp=Z,32nm,1.2s
PET **Petropavlovsk** 41.65 34 *e*P **P** 03 59 56.2 -0.9
PET pmax pmax
comp=Z,91nm,0.8s
TKM2 **Tokmak 2** 42.33 309 *e*P **P** 04 00 04.1 +1.0
TKM2 pmax pmax
comp=Z,26nm,1.1s
TKM2 **Tokmak 2** 42.33 309 *e*P **P** 04 00 04.1 +1.0
comp=Z,26nm,1.1s
MA2 **Magadan** 42.38 22 *e*P **P** 04 00 02.5 -0.5
NVS **Novosibirsk** 42.47 329 *e*P **P** 04 00 03.1 -0.7
NVS pmax pmax
comp=Z,83nm,1.8s
NVS pmax pmax
comp=E,35nm,1.7s
COEN **Coen** 42.62 147 *e*P **P** 04 00 04.2 -1.3
comp=E,142nm,1.1s
KURK **Kurchatov** 42.91 321 P **P** 04 00 07.9 +0.5
comp=E,269nm,1.4s,SNR=8.7
KURK **Kurchatov** 42.91 321 *e*P **P** 04 00 07.9 +0.5
KURK *e* 04 01 57.3
KURK pmax pmax
comp=Z,76nm,1.2s
KURK MLR MLR
comp=Z,583nm,19.0s
KURK **Kurchatov** 42.91 321 *e*P **P** 04 00 07.9 +0.5
comp=Z,76nm,1.2s
KURK *e*PcP **PcP** 04 01 57.3 -0.5
KURK LR LR
comp=Z,583nm,19.0s
KURBB **Kurchatov Arra** 42.92 321 P **P** 04 00 07.8 +0.2
comp=Z,21nm,1.1s,baz=117,slow=7.4,SNR=38
H11N1 **WAKE ISLAND Hy** 42.95 85 T T 04 45 27.7
baz=282,slow=74,SNR=146
H11N2 **WAKE ISLAND Hy** 42.95 85 T T 04 45 43.9
baz=282,slow=74,SNR=321
H11N3 **WAKE ISLAND Hy** 42.97 85 T T 04 45 45.0
baz=282,slow=74,SNR=214
H11S3 **WAKE ISLAND Hy** 43.04 87 T T 04 45 49.2
baz=284,slow=74,SNR=226
H11S1 **WAKE ISLAND Hy** 43.05 87 T T 04 45 58.6
baz=284,slow=74,SNR=182
H11S2 **WAKE ISLAND Hy** 43.06 87 T T 04 45 50.4
baz=284,slow=74,SNR=107
EKS2 **Erkin-Say** 43.58 308 *e*P **P** 04 00 15.2 +2.1
comp=Z,14nm,1.2s
EKS2 LR LR
comp=Z,1µm,20.0s
MBWA **Marble Bar** 43.72 181 *e*P **P** 04 00 12.2 -2.0
comp=Z,21nm,0.8s
WRAB **Tennant Creek** 44.51 162 P **P** 04 00 18.9 -1.7
comp=Z,554nm,0.7s,SNR=48
WRAB **Tennant Creek** 44.51 162*c* *i*P **P** 04 00 18.9 -1.7
WRAB pmax pmax
comp=Z,165nm,0.7s
WRAB **Tennant Creek** 44.51 162 *e*P **P** 04 00 18.7 -1.9
comp=Z,70nm,0.8s
WRA **Warramunga Arr** 44.51 162 P **P** 04 00 18.9 -1.8
comp=Z,55nm,0.7s,baz=344,slow=8.7,SNR=158
WRA PcP **PcP** 04 02 02.9 -0.7
comp=Z,7.5nm,0.9s,baz=340,slow=4.0,SNR=4.8
SEY **Seymchan** 45.38 20⇑ *i*P **P** 04 00 27.4 +0.4
KK31 **Karatay Array** 46.02 308 P **P** 04 00 33.6 +1.2
KK31 pmax pmax
comp=Z,25nm,1.2s
KKAR **Karatay Array** 46.02 308 *e*P **P** 04 00 33.2 +0.7
KKAR pmax pmax
comp=Z,4.0nm,0.5s
KKAR **Karatay Array** 46.02 308 *e*P **P** 04 00 33.2 +0.7
comp=Z,4.1nm,0.5s
KBL **Kabul** 46.43 297 *e*P **P** 04 00 38.1 +2.1
KBL pmax pmax
comp=Z,53nm,1.2s
KBL **Kabul** 46.43 297 *e*P **P** 04 00 38.1 +2.1
comp=Z,53nm,1.2s
AS31 **Alice Springs** 47.93 164 *e*P **P** 04 00 46.2 -1.3
ASAR **Alice Springs** 47.93 164 P **P** 04 00 46.5 -1.1
comp=Z,29nm,0.7s,baz=354,slow=14,SNR=248
ASAR PcP **PcP** 04 02 14.8 -0.8
comp=Z,11nm,0.7s,baz=348,slow=3.3,SNR=7.0
ASAR ScP **ScP** 04 06 06.5 -1.1
comp=Z,1.8nm,0.9s,baz=354,slow=4.7,SNR=4.2
BVA0 **Borovoye Array** 48.50 322 *i*P **P** 04 00 52.0 +0.4
BVA0 pmax pmax
comp=Z,27nm,0.9s
BRVK **Borovoye** 48.57 322 P **P** 04 00 52.6 +0.5
comp=Z,275nm,0.7s,SNR=13
BRVK **Borovoye** 48.57 322⇑ *i*P **P** 04 00 53.2 +1.1
BRVK pmax pmax
comp=Z,31nm,0.8s
BRVK **Borovoye** 48.57 322 *e*P **P** 04 00 52.7 +0.6
comp=Z,46nm,0.9s
CTAO **Charters Tower** 49.36 148 *e*P **P** 04 00 57.7 -0.9
CTAO pmax pmax
comp=Z,160nm,1.5s
CTAO **Charters Tower** 49.36 148 *e*P **P** 04 00 57.7 -0.9
comp=Z,160nm,1.5s
AMKA **Amchitka** 52.95 42 *e*P **P** 04 01 24.2 -0.9
comp=Z,63nm,0.6s
BILL **Bilibino** 53.09 20*ce*P **P** 04 01 25.7 -0.2
BILL pmax pmax
comp=Z,51nm,1.0s
BILL MLR MLR
comp=Z,5µm,21.0s
BILL **Bilibino** 53.09 20 *e*P **P** 04 01 25.2 -0.7
comp=Z,60nm,1.0s
IMYA **Miami** 53.68 299 *e*P **P** 04 01 32.7 +1.7
FORT **Forrest** 53.75 172 *e*P **P** 04 01 30.1 -1.0
comp=Z,162nm,1.0s
FORT *e*PcP **PcP** 04 02 36.6 -0.2
AB31 **Akbulak array** 54.14 315 *i*P **P** 04 01 34.6 +0.7
AB31 pmax pmax
comp=Z,15nm,0.6s
ABKAR **Akbulak array** 54.14 315 *e*P **P** 04 01 34.3 +0.4
comp=Z,24nm,0.8s
IPAY **Payeh** 54.57 299 *e*P **P** 04 01 38.1 +0.6
IKOO **Kooshah** 54.92 294 *e*P **P** 04 01 41.0 +0.9
SVE **Sverdlovsk** 54.93 324⇓ *e*P **P** 04 01 40.4 +0.9
SVE pmax pmax
comp=Z,90nm,1.2s
SVE MLR MLR
comp=Z,925nm,17.0s
IKRD **Kardeh** 54.93 300 *e*P P 04 01 35.9 -4.3
GEYT **Alibeck** 55.18 301 P **P** 04 01 43.3 +1.6
comp=Z,14nm,0.6s,baz=49,slow=2.7,SNR=16
AKTO **Aktyubinsk** 55.50 316 P **P** 04 01 44.5 +0.8
AKTO pmax pmax
comp=Z,35nm,1.1s
ARU **Arti** 55.98 324*c* *i*P **P** 04 01 47.1 0.0
ARU 04 02 42.7
ARU S **S** 04 09 35.2 +2.3
ARU SS **SS** 04 13 18.5 -0.4
ARU pmax pmax
comp=Z,50nm,1.7s
ARU **Arti** 55.98 324 P **P** 04 01 47.7 +0.6
comp=Z,342nm,0.4s,SNR=9.6
ARU **Arti** 55.98 324 *e*P **P** 04 01 46.6 -0.4
comp=Z,38nm,0.8s
BBOO **Buckleboo** 57.21 165 *e*P **P** 04 01 55.2 -0.8
STKA **Stephens Creek** 57.92 159 P **P** 04 02 00.1 -0.9
comp=Z,31nm,0.6s,baz=339,slow=7.2,SNR=3.4
STKA **Stephens Creek** 57.92 159 P **P** 04 02 00.1 -0.9
STKA pmax pmax
comp=Z,31nm,0.6s
STKA **Stephens Creek** 57.92 159 *e*P **P** 04 02 00.2 -0.9
comp=Z,6.2nm,0.6s
IBAF **Bafgh** 57.92 294 *e*P **P** 04 02 02.0 +0.5
IMEH **Mehriz** 58.76 294 *e*P P 04 02 01.3 -6.1
ICHK **Chekchek** 58.80 295 *e*P P 04 02 01.6 -6.0
ISHM **Shahmirzad** 59.22 299 *e*P **P** 04 02 07.6 -3.0
ISAD **Sadrabad** 59.46 295 *e*P P 04 02 07.2 -5.1
IFIR **Firoozkooh** 59.68 299 *e*P P 04 02 06.9 -6.9
IPAR **Pars** 60.35 292 *e*P **P** 04 02 19.0 +0.4
IZEF **Zefreh** 60.43 296 *e*P P 04 02 13.0 -5.9
ARMA **Armidale** 60.66 149 *e*P **P** 04 02 20.3 +0.2
comp=Z,23nm,0.8s
IPIR **Pirpir** 61.66 296 *e*P **P** 04 02 26.7 -0.6
UNV **Unalaska Valle** 61.77 40 *e*P **P** 04 02 25.9 -1.4

PRGR **Permogore** 63.15 329 eP P 04 02 34.5 -1.9
PRGR pmax pmax
comp=Z,46nm,0.9s
CAN **Canberra** 63.71 154 eP P 04 02 40.1 -0.3
CAN pmax pmax
comp=Z,14nm,0.6s
CAN **Canberra** 63.71 154 eP P 04 02 40.1 -0.3
comp=Z,14nm,0.6s
IAZR **Azarshahr** 64.75 302 eP P 04 02 47.7 0.0
IMRD **Marand** 64.79 303 eP P 04 02 49.4 +1.6
IDHR **Dehrash** 64.98 299 eP P 04 02 48.5 -0.7
SDPT **Sand Point** 65.20 38 eP P 04 02 48.3 -1.6
comp=Z,68nm,0.6s
GNI **Garni** 65.28 305 eP P 04 02 52.5 +1.5
GNI pmax pmax
comp=Z,23nm,0.9s
GNI **Garni** 65.28 305 eP P 04 02 52.5 +1.5
comp=Z,23nm,0.9s
GOF **Gofitskoye** 65.74 311 eP P 04 03 04.9 +11
KBZ **Khabaz** 66.05 309 P P 04 02 56.5 +0.9
comp=Z,15nm,0.8s,baz=87,slow=5.0,SNR=23
KIV **Kislovodsk** 66.16 309 ⇓iP P 04 02 58.0 +1.5
KIV pmax pmax
comp=Z,68nm,1.2s
KIV MLR MLR
comp=Z,286nm,17.0s
KIV **Kislovodsk** 66.16 309 eP P 04 02 57.5 +1.0
comp=Z,33nm,0.7s
NEY **Neytrino** 66.25 309 ⇓iP P 04 02 59.3 +2.1
NEY pmax pmax
comp=Z,6.0nm,0.7s
CHGN **Chignik** 66.28 37 eP P 04 02 54.9 -1.9
TMCR **Tamitsa** 66.57 332 eP P 04 02 58.7 +0.1
TMCR e 04 03 29.0
TMCR pmax pmax
comp=Z,35nm,0.4s
VSR **Storozhevoye** 67.39 318 eP P 04 03 03.1 -1.0
VSR pmax pmax
comp=Z,30nm,1.3s
VSR pmax pmax
comp=N,10.0nm,1.1s
VSR pmax pmax
comp=E,20nm,1.3s
IM04 **Indian Mountai** 67.55 26 eP P 04 03 05.4 +0.5
LVZ **Lovozero** 67.64 336 ⇓eP P 04 03 06.2 +0.8
LVZ pmax pmax
comp=Z,23nm,1.3s
LVZ **Lovozero** 67.64 336 P P 04 03 06.2 +0.8
comp=Z,130nm,1.1s,SNR=6.8
LVZ **Lovozero** 67.64 336 eP P 04 03 05.5 +0.1
comp=Z,25nm,0.9s
APA **Apatity** 68.14 336 ⇑iP P 04 03 09.2 +0.7
APA i 04 03 35.0
APA iS S 04 12 02.0 -4.0
APA pmax pmax
comp=Z,42nm,1.0s
OBN **Obninsk** 68.34 322 ⇑iP P 04 03 10.6 +0.6
OBN e 04 05 44.9
OBN pmax pmax
comp=Z,114nm,2.5s
OBN MLR MLR
comp=Z,301nm,17.0s
OBN **Obninsk** 68.34 322 eP P 04 03 10.2 +0.2
comp=Z,10nm,0.5s
RAYN **Ar Rayn** 68.39 287 P P 04 03 11.5 +0.5
comp=Z,122nm,0.9s,SNR=5.3
RAYN **Ar Rayn** 68.39 287 eP P 04 03 11.2 +0.2
comp=Z,35nm,1.2s
PPLA **Purkeypile** 68.61 29 eP P 04 03 12.0 +0.2
comp=Z,32nm,0.6s
RSO **Redoubt South** 68.71 32 eP P 04 03 12.1 -0.3
comp=Z,77nm,0.9s
COLD **Coldfoot** 68.82 25 eP P 04 03 13.7 +1.0
comp=Z,60nm,1.4s
OHAK **Old Harbor** 68.95 36 eP P 04 03 12.9 -0.8
comp=Z,30nm,0.9s
BPAW **Bear Paw Mtn.** 68.97 28 eP P 04 03 13.7 -0.1
comp=Z,5.4nm,0.7s
MSVF **Nonsavu** 68.97 121 P P 04 03 14.9 +0.4
comp=Z,587nm,0.9s,SNR=14
MSVF **Nonsavu** 68.97 121 eP P 04 03 14.8 +0.2
MSVF pmax pmax
comp=Z,92nm,0.9s
MSVF **Nonsavu** 68.97 121 eP P 04 03 14.8 +0.2
comp=Z,92nm,0.9s
KDAK **Kodiak Island** 69.23 35 P P 04 03 15.3 -0.1
comp=Z,553nm,0.7s,SNR=31
KDAK **Kodiak Island** 69.23 35 eP P 04 03 15.1 -0.3
KDAK pmax pmax
comp=Z,167nm,1.2s
KDAK **Kodiak Island** 69.23 35 eP P 04 03 15.1 -0.3
comp=Z,167nm,1.2s
TRF **Thorofare Moun** 69.38 29 eP P 04 03 16.6 +0.1
comp=Z,17nm,0.6s
ANN **Anapa** 69.71 311 eP P 04 03 18.2 -0.4
ANN eS S 04 12 28.1 +2.9
ANN e 04 13 16.8
ANN pmax pmax
comp=Z,81nm,1.2s
ANN MLR MLR
comp=Z,466nm,18.0s
TAU **Tasmania Unive** 69.82 160 eP P 04 03 18.9 -0.3
TAU pmax pmax
comp=Z,50nm,1.0s
TAU **Tasmania Unive** 69.82 160 eP P 04 03 18.9 -0.3
comp=Z,50nm,1.0s
MCK **McKinley** 69.92 28 eP P 04 03 19.3 -0.4
MCK pmax pmax
comp=Z,77nm,1.2s
MCK **McKinley** 69.92 28 eP P 04 03 19.3 -0.4
comp=Z,77nm,1.2s
KEV **Kevo** 70.10 338 eP P 04 03 20.9 +0.3
KEV pmax pmax
comp=Z,64nm,0.7s
KEV **Kevo** 70.10 338 eP P 04 03 20.9 +0.3
comp=Z,64nm,0.7s
COLA **College** 70.17 27 ⇓iP P 04 03 21.1 0.0
COLA pmax pmax
comp=Z,90nm,0.9s
COLA **College** 70.17 27 eP P 04 03 21.0 -0.1
comp=Z,26nm,0.9s
PMR **Palmer** 70.25 31 eP P 04 03 20.7 -0.9
PMR pmax pmax
comp=Z,29nm,0.7s
PMR **Palmer** 70.25 31 eP P 04 03 20.7 -0.9
comp=Z,29nm,0.7s
SEW **Seward** 70.39 32 eP P 04 03 21.7 -0.9
comp=Z,38nm,0.9s
MALT **Malatya** 70.45 304 ⇓P P 04 03 25.5 +2.0
MALT **Malatya** 70.45 304 ⇓iP P 04 03 25.5 +2.0
SML **Sawmill** 70.58 30 eP P 04 03 23.5 -0.2
SML pmax pmax
comp=Z,7.0nm,0.7s
SML **Sawmill** 70.58 30 eP P 04 03 23.5 -0.2
comp=Z,7.1nm,0.7s
ILAR **Eielson Array** 70.59 27 P P 04 03 22.3 -1.4
comp=Z,5.1nm,0.5s,baz=268,slow=5.2,SNR=117
ARCES **ARCESS Array B** 70.67 338 P P 04 03 24.1 0.0
comp=Z,29nm,0.7s,baz=70,slow=7.9,SNR=46
ARE0 **ARCESS Array S** 70.67 338 eP P 04 03 23.9 -0.1
ARE0 **ARCESS Array S** 70.67 338 eP P 04 03 24.5 +0.4
SPA0 **Spitsbergen Ar** 70.73 348 eP P 04 03 25.1 +0.7
PUL **Pulkovo** 70.81 328 ceP P 04 03 26.8 +1.7
PUL pmax pmax
comp=Z,46nm,0.4s
HAMF **Hammerfest** 71.00 340 eP P 04 03 26.6 +0.6
KBS **Kingsbay** 71.30 349 eP P 04 03 28.6 +0.8
KBS **Kingsbay** 71.30 349 eP P 04 03 28.1 +0.3
KBS pmax pmax
comp=Z,20nm,0.6s
KBS **Kingsbay** 71.30 349 eP P 04 03 28.1 +0.3
comp=Z,20nm,0.6s
HSPB **Hornsund (broa** 71.30 347 eP P 04 03 28.4 +0.7
KTK1 **Kautokeino** 71.58 338 eP P 04 03 30.4 +0.7
KTK1 IAmb IAmb 04 03 33.4
comp=Z,35nm,0.6s
DIV **Divide** 71.93 31 eP P 04 03 31.5 -0.4
comp=Z,71nm,1.2s
SIM **Simferopol'** 71.97 312 diP P 04 03 32.9 +0.5
SIM e 04 06 09.0
SIM pmax pmax
comp=Z,25nm,1.0s
SIM pmax pmax
comp=Z,120nm,9.0s
SIM MLR MLR
comp=E,190nm,16.8s

FIA1 **FINESS Array S** 72.44 330 eP P 04 03 35.2 +0.3
FINES **FINESS Array B** 72.44 330 P P 04 03 35.0 +0.1
comp=E,27nm,0.8s,baz=91,slow=7.6,SNR=47
BMRM **Bremner River** 72.52 31 eP P 04 03 35.6 +0.2
comp=E,37nm,0.8s
TRO **Tromso** 72.85 339 eP P 04 03 35.5 -1.6
VSU **Vasula** 72.92 327 ⇓P P 04 03 38.8 +1.1
EGAK **Eagle** 72.96 26 eP P 04 03 38.0 +0.1
comp=E,49nm,0.9s
AKASG **Malin Array Be** 73.64 319 P P 04 03 41.4 -0.8
comp=E,4.0nm,0.6s,baz=63,slow=5.5,SNR=14
AKBB **Malin Array Si** 73.64 319 eP P 04 03 41.6 -0.6
AKBB **Malin Array Si** 73.64 319 eP P 04 03 41.6 -0.6
AK01 **Malin Array Si** 73.65 319 eP P 04 03 41.8 -0.4
KIEV **Kiev** 73.66 319 eP P 04 03 41.5 -0.8
KIEV pmax pmax
comp=Z,6.0nm,0.6s
KIEV **Kiev** 73.66 319 eP P 04 03 41.5 -0.8
comp=Z,6.3nm,0.6s
AK02 **Malin Array Si** 73.67 318 eP P 04 03 42.0 -0.3
BR131 **Keskin Array S** 73.69 307 eP P 04 03 43.6 +0.7
BRTR **Keskin Array B** 73.69 307 P P 04 03 42.8 -0.1
comp=Z,4.5nm,1.0s,baz=133,slow=2.8,SNR=7.0
DAWY **Dawson** 73.91 27 eP P 04 03 44.1 +0.4
comp=Z,68nm,0.9s
INK **Inuvik** 74.62 22 eP P 04 03 47.1 -0.5
INK pmax pmax
comp=Z,87nm,0.8s
INK **Inuvik** 74.62 22 eP P 04 03 47.1 -0.5
comp=Z,86nm,0.8s
STEI **Steigen** 74.72 338 eP P 04 03 48.2 +0.1
STEI IAmb IAmb 04 03 49.0
comp=Z,43nm,0.7s
ALE **Alert** 74.86 0 P P 04 03 49.0 +0.2
comp=Z,129nm,0.7s,SNR=10
LOF **Lofoten** 75.22 338 eP P 04 03 51.0 -0.1
LOF IAmb IAmb 04 03 52.7
comp=Z,34nm,0.9s
CSS **Prodhromos** 75.31 302 eP P 04 03 52.2 0.0
TLCR 75.51 313 ⇓P P 04 03 53.5 +0.4
TLCR 75.51 313 ⇓iP P 04 03 53.5 +0.4
MOR8 **Moi Rana** 75.71 336 eP P 04 03 52.7 -1.3
MOR8 IAmb IAmb 04 03 53.6
comp=Z,33nm,1.0s
HYT **Haines Junctio** 75.86 30 eP P 04 03 55.2 +0.1
comp=Z,18nm,0.7s
CFR **Carcaliu** 75.97 313 ⇓P P 04 03 56.3 +0.5
CFR **Carcaliu** 75.97 313 ⇓iP P 04 03 56.3 +0.5
FLOS **Flostrand** 76.04 337 eP P 04 03 56.0 +0.3
KONS **Konsvik** 76.06 337 eP P 04 03 55.7 -0.1
SUW **Suwalki** 76.16 323 eP P 04 03 56.8 +0.1
SUW **Suwalki** 76.16 323 eP P 04 03 56.8 +0.1
MSAB **Monastry St. A** 76.52 312 ⇑iP P 04 03 59.9 +1.0
TESR **Tescani** 76.53 315 ⇓iP P 04 03 59.4 +0.4
VRI **Vrincioaia** 76.69 314 ⇑P P 04 04 01.0 +1.0
VRI **Vrincioaia** 76.69 314 ⇑iP P 04 04 00.9 +1.0
PLOR **Plostina** 76.75 314 P P 04 04 01.2 +0.9
PLOR **Plostina** 76.75 314 ⇑iP P 04 04 01.2 +0.9
BURAR **Bucovina Array** 77.09 316 P P 04 04 02.7 +0.4
BURAR **Bucovina Array** 77.09 316 ⇑iP P 04 04 02.7 +0.4
BUR08 **Bucovina Ar. S** 77.09 316 eP P 04 04 02.5 +0.2
MLR **Muntele Rosu** 77.33 314 ⇓P P 04 04 05.0 +1.3
MLR **Muntele Rosu** 77.33 314 ⇓iP P 04 04 05.0 +1.3
SKAG **Skagway** 77.38 31 eP P 04 04 04.3 +0.8
comp=Z,36nm,0.6s
DAG **Danmarks Havn** 77.66 351 ⇑iP P 04 04 04.1 -0.6
comp=Z,11nm,0.7s
DAG **Danmarks Havn** 77.66 351 ⇑iP P 04 04 04.1 -0.6
DAG pmax pmax
comp=Z,8.0nm,0.7s
ARCR **ARCALIA** 77.83 316 ⇑iP P 04 04 08.0 +1.8
KWP **Kalwaria Pacla** 77.96 319 eP P 04 04 07.6 +0.7
KWP **Kalwaria Pacla** 77.96 319 eP P 04 04 07.6 +0.7
ARR **Arges** 78.24 314 ⇓iP P 04 04 09.2 +0.5
BEL **Belsk** 78.28 321 eP P 04 04 09.4 +0.8
BEL **Belsk** 78.28 321 eP P 04 04 09.5 +0.8
KOLS **Kolonicke sedl** 78.47 318 eP P 04 04 09.8 0.0
KOLS pmax pmax
comp=Z,2.0nm,0.9s
KOLS **Kolonicke sedl** 78.47 318 eP P 04 04 09.8 0.0
TBLU **Trondheim** 78.61 334 eP P 04 04 09.5 -0.7
TBLU IAmb IAmb 04 04 10.3
comp=Z,74nm,1.2s
LOT **Lotru** 78.78 315 ⇓iP P 04 04 12.4 +0.7
DRGR 78.98 316 ⇓P P 04 04 13.3 +0.6
DRGR 78.98 316 ⇓iP P 04 04 13.3 +0.6
NB2 **NORSAR Subarra** 79.26 332 P P 04 04 13.5 -0.4
comp=Z,43nm,1.1s,baz=60,slow=5.6
NB2 **NORSAR Subarra** 79.26 332 P P 04 04 13.5 -0.4
baz=60,slow=5.6
NC602 **NORSAR Array S** 79.26 332 eP P 04 04 13.7 -0.1
NOA **NORSAR Array B** 79.26 332 P P 04 04 13.5 -0.4
comp=Z,19nm,0.8s,baz=63,slow=5.3,SNR=72
OJC **Ojcow** 79.48 320 eP P 04 04 15.8 +0.5
OJC **Ojcow** 79.48 320 eP P 04 04 15.9 +0.6
NIE **Niedzica** 79.48 319 eP P 04 04 16.0 +0.6
NIE **Niedzica** 79.48 319 eP P 04 04 16.0 +0.6
NAO01 **NORSAR Array S** 79.49 332 eP P 04 04 14.4 -0.7
comp=Z,9.0nm,0.7s
GKP **Gorka Klasztor** 79.72 324 eP P 04 04 16.7 +0.2
GKP **Gorka Klasztor** 79.72 324 eP P 04 04 16.7 +0.2
KECS **Kecovo** 79.74 318 eP P 04 04 17.4 +0.7
KECS pmax pmax
comp=Z,11nm,1.5s
KECS **Kecovo** 79.74 318 eP P 04 04 17.4 +0.7
OSL **Oslo** 79.99 331 eP P 04 04 18.4 +0.6
OSL IAmb IAmb 04 04 20.1
comp=Z,31nm,0.8s
MOL **Molde** 80.03 334 eP P 04 04 18.2 +0.2
RES **Resolute Bay** 80.06 9 eP P 04 04 17.6 -0.4
RES pmax pmax
comp=Z,59nm,1.0s
RES **Resolute Bay** 80.06 9 eP P 04 04 17.6 -0.4
comp=Z,59nm,1.0s
WRAK **Wrangell Islan** 80.11 33 eP P 04 04 19.1 +0.5
comp=Z,24nm,0.9s
VTS **Vitosha** 80.20 312 ⇓P P 04 04 20.4 +0.9
VTS **Vitosha** 80.20 312 ⇓iP P 04 04 20.4 +0.9
DLBC **Dease Lake** 80.30 30 eP P 04 04 19.5 -0.2
comp=Z,81nm,1.4s
PSZ **Piszkesteto** 80.33 318 eP P 04 04 19.8 -0.2
PSZ **Piszkesteto** 80.33 318 eP P 04 04 19.8 -0.2
AKN **Aaknes** 80.45 334 eP P 04 04 20.4 +0.1
AKN IAmb IAmb 04 04 21.5
comp=Z,62nm,1.1s
OKC **Ostrava-Krasne** 80.61 320 eP P 04 04 21.8 +0.4
OKC epP pP 04 04 32.3 +0.7
OKC esP sP 04 04 38.3 +2.9
OKC **Ostrava-Krasne** 80.61 320 eP P 04 04 21.8 +0.4
OKC e 04 04 32.3
OKC e 04 04 38.3
KONO **Kongsberg** 80.63 331 eP P 04 04 21.3 +0.1
VYHS **Vyhne** 80.74 319 eP P 04 04 22.9 +0.7
VYHS pmax pmax
comp=Z,20nm,1.1s
VYHS **Vyhne** 80.74 319 eP P 04 04 22.9 +0.7
MORC **Moravsky Berou** 80.99 320 eP P 04 04 23.4 -0.1
MORC **Moravsky Berou** 80.99 320 eP P 04 04 23.4 -0.1
KSP **Ksiaz** 81.27 322 eP P 04 04 25.6 +0.7
KSP **Ksiaz** 81.27 322 eP P 04 04 25.6 +0.7
HYA **Hoyanger** 81.31 334 eP P 04 04 25.5 +0.7
HYA IAmb IAmb 04 04 29.6
comp=Z,32nm,1.1s
KRLC **Kraliky** 81.31 321 eP P 04 04 25.8 +0.6
KRLC epP pP 04 04 35.9 +0.4
KRLC ex x 04 04 43.2
KRLC **Kraliky** 81.31 321 eP P 04 04 25.8 +0.6
KRLC e 04 04 35.9
DPC **Dobruska-Polom** 81.46 321 eP P 04 04 26.7 +0.7
DPC ePCP PcP 04 04 30.4 -1.5
DPC epP pP 04 04 35.8 -0.5
DPC esP sP 04 04 38.8 -1.2
DPC **Dobruska-Polom** 81.46 321 eP P 04 04 26.7 +0.7
DPC e 04 04 35.8
DPC e 04 04 38.8
FOO **Floro** 81.54 334 eP P 04 04 26.2 +0.2
FOO IAmb IAmb 04 04 27.1
comp=Z,18nm,0.9s
UPC **Upice** 81.57 321 eP P 04 04 27.1 +0.6
UPC ePCP PcP 04 04 32.5 +0.1
UPC epP pP 04 04 38.7 +1.9
UPC esP sP 04 04 42.7 +2.2
UPC **Upice** 81.57 321 eP P 04 04 27.1 +0.6

UPC e 04 04 32.5
UPC e 04 04 38.7
VRAC **Vranov** 81.75 320 ⇑P P 04 04 28.7 +1.2
VRAC **Vranov** 81.75 320 ⇑iP P 04 04 28.7 +1.2
DIVS **Divibare** 81.78 314 ⇓iP P 04 04 27.9 0.0
ODD1 **Odda** 81.79 332 eP P 04 04 27.9 +0.4
PKSM **Moragy** 81.80 317 ⇓P P 04 04 28.3 +0.6
PKSM **Moragy** 81.80 317 ⇓iP P 04 04 28.3 +0.6
RUE **Ruedersdorf** 81.95 324 eP P 04 04 29.5 +1.1
comp=Z,35nm,0.7s
SUE **Sulen** 81.95 334 eP P 04 04 28.7 +0.5
SUE IAmb IAmb 04 04 29.4
comp=Z,24nm,0.9s
RUND **Rundenannen** 82.05 333 eP P 04 04 28.3 -0.6
BER **Bergen** 82.08 333 eP P 04 04 29.5 +0.5
BER IAmb IAmb 04 04 29.8
comp=Z,12nm,0.8s
BLS5 **Blasjo** 82.12 332 eP P 04 04 29.8 +0.5
PVCC **Panska Ves** 82.39 322 eP P 04 04 31.7 +0.9
PVCC epP pP 04 04 40.4 -0.7
PVCC ex x 04 04 48.5
PVCC **Panska Ves** 82.39 322 eP P 04 04 31.7 +0.9
PVCC e 04 04 40.4
PVCC e 04 04 48.5
TREC **Trest** 82.41 320 eP P 04 04 31.6 +0.7
TREC ePCP PcP 04 04 36.4 +0.3
TREC epP pP 04 04 38.8 -2.4
TREC ex x 04 04 49.1
TREC **Trest** 82.41 320 eP P 04 04 31.6 +0.7
TREC e 04 04 38.8
MUD **Monsted U'grnd** 82.41 329 iP P 04 04 30.9 +0.2
comp=Z,17nm,0.8s
MUD **Monsted U'grnd** 82.41 329 iP P 04 04 30.9 +0.2
MUD pmax pmax
comp=Z,17nm,0.8s
GOPC **GO Pecny, Ondr** 82.54 321 eP P 04 04 32.2 +0.6
GOPC epP pP 04 04 39.6 -2.3
GOPC esP sP 04 04 44.6 -1.1
BRG **Berggiesshubel** 82.59 322 eP P 04 04 32.2 +0.4
comp=Z,15nm,1.1s
BRG **Berggiesshubel** 82.59 322 eP P 04 04 32.6 +0.8
comp=Z,15nm,1.1s
BRG **Berggiesshubel** 82.59 322 eP P 04 04 32.2 +0.4
BRG pmax pmax
comp=Z,15nm,1.1s
PRU **Pruhonice** 82.65 321 eP P 04 04 32.4 +0.3
PRU epP pP 04 04 40.0 -2.4
PRU esP sP 04 04 44.8 -1.4
PRU ex x 04 04 50.2
PRU **Pruhonice** 82.65 321 eP P 04 04 32.4 +0.3
PRU e 04 04 40.0
PRU e 04 04 44.8
PRA **Prague** 82.68 321 eP P 04 04 32.9 +0.6
PRA epP pP 04 04 40.0 -2.6
PRA ex x 04 04 50.1
PRA **Prague** 82.68 321 eP P 04 04 32.9 +0.6
PRA e 04 04 40.0
PRA e 04 04 50.1
KMY **Karmoy** 82.76 332 eP P 04 04 33.3 +0.9
FBE **Freiberg** 82.90 323 eP P 04 04 34.5 +1.1
comp=Z,29nm,1.1s
CLL **Collm** 82.92 323 eP P 04 04 34.0 +0.5
comp=Z,21nm,0.9s
CLL **Collm** 82.92 323 ⇑iP P 04 04 33.6 +0.1
CLL pmax pmax
comp=Z,21nm,0.9s
CLL **Collm** 82.92 323 ⇑iP P 04 04 33.6 +0.1
comp=Z,21nm,0.9s
CLL iP pP 04 04 41.9 -1.9
CLL iS sP 04 04 47.9 +0.4
CLL esPP 04 07 58.0
CLL eSS SS 04 20 18.0 +5.3
CLL e 04 21 24.0
CLL eSSSS 04 26 18.0
ABPO **Ambohimpanom** 82.98 246 eP P 04 04 35.4 +0.8
ABPO pmax pmax
comp=Z,37nm,1.1s
ABPO **Ambohimpanom** 82.98 246 eP P 04 04 35.4 +0.8
comp=Z,37nm,1.1s
BSEG **Bad Segeberg** 83.10 326 eP P 04 04 35.3 +1.0
comp=Z,42nm,1.7s
KHC **Kasperske Hory** 83.60 321 eP P 04 04 36.9 -0.2
KHC epP pP 04 04 46.4 -1.0
KHC esP sP 04 04 49.5 -1.7
KHC **Kasperske Hory** 83.60 321 eP P 04 04 36.9 -0.2
KHC e 04 04 46.4
KHC e 04 04 49.5
KHC **Kasperske Hory** 83.60 321 eP P 04 04 36.5 -0.7
NEUB **Neuenburg** 83.64 323 eP P 04 04 38.0 +0.8
comp=Z,31nm,0.9s
GEC2 **GERESS Array S** 83.66 321 eP P 04 04 38.3 +0.8
comp=Z,21nm,1.1s
GEC2 esP sP 04 04 54.6 +3.0
GERES **GERESS Array B** 83.66 321 P P 04 04 37.8 +0.2
comp=Z,9.7nm,0.9s,baz=57,slow=4.9,SNR=33
GERES PKiKP PKiKP 04 09 53.8 -0.3
comp=Z,0.3nm,0.6s,baz=96,slow=2.0,SNR=3.5
WERD **Werda** 83.71 322 eP P 04 04 38.4 +0.7
comp=Z,48nm,2.0s
WERD esP sP 04 04 55.0 +3.3
NKC **Novy Kostel** 83.73 322 eP P 04 04 38.5 +0.7
NKC ex x 04 04 45.0
NKC ex x 04 04 51.5
NKC ex x 04 04 55.9
NKC **Novy Kostel** 83.73 322 eP P 04 04 38.5 +0.7
NKC e 04 04 45.0
NKC e 04 04 51.5
GUNZ **Gunzen** 83.74 322 eP P 04 04 38.7 +0.9
comp=Z,17nm,0.9s
WERN **Wernitzgruen** 83.75 322 eP P 04 04 38.7 +0.8
comp=Z,20nm,1.1s
PLN **Plauen** 83.78 322 eP P 04 04 38.8 +0.8
comp=Z,14nm,1.1s
MOA **Molln** 83.78 319 ⇓ePcP P 04 04 39.1 +1.0
comp=Z,20nm,1.0s
SOKA **Soboth** 83.85 318 iP P 04 04 39.1 +0.5
comp=Z,11nm,1.0s,SNR=6.3
CRES **Cresnjev** 83.97 317 eP P 04 04 39.4 +0.3
WET **Wettzell** 84.00 321 eP P 04 04 40.1 +0.9
comp=Z,20nm,1.5s
WET esP sP 04 04 56.6 +3.4
MOX **Moxa** 84.00 323 eP P 04 04 39.8 +0.7
comp=Z,17nm,1.1s
MOX esP sP 04 04 56.5 +3.3
MANZ **Manzenberg** 84.04 322 eP P 04 04 40.2 +0.8
comp=Z,18nm,1.2s
MANZ esP sP 04 04 56.7 +3.3
ROTZ **Rotzenmuhle** 84.09 322 eP P 04 04 40.8 +1.2
comp=Z,20nm,1.0s
ROTZ esP sP 04 04 57.2 +3.5
CLZ **Clausthal** 84.10 324 eP P 04 04 40.8 +1.2
comp=Z,29nm,1.0s
OBKA **Obir** 84.22 318 ⇑iPcP P 04 04 41.3 +0.9
comp=Z,15nm,0.9s,SNR=4.4
YKW3 **Yellowknife Ar** 84.32 23 eP P 04 04 39.8 -0.7
comp=Z,0.7nm,0.6s
YKA **Yellowknife Ar** 84.37 23 P P 04 04 40.2 -0.5
comp=Z,37nm,0.6s,baz=310,slow=4.7,SNR=222
KMBO **Kilima Mbogo** 84.47 266 P P 04 04 44.0 +1.6
comp=Z,3.0nm,0.9s,baz=36,slow=6.3,SNR=5.9
KMBO **Kilima Mbogo** 84.47 266 eP P 04 04 43.1 +0.7
KMBO pmax pmax
comp=Z,12nm,1.0s
KMBO **Kilima Mbogo** 84.47 266 eP P 04 04 43.1 +0.7
comp=Z,12nm,1.0s
CEY **Cerknica** 84.65 318 eP P 04 04 42.8 +0.3
GRF **Grafenberg Arr** 84.69 322 eP P 04 04 43.7 +1.1
comp=Z,30nm,1.4s
GRF esP sP 04 05 00.1 +3.4
GRFO **Grafenberg** 84.69 322 eP P 04 04 42.7 +0.1
GRFO pmax pmax
comp=Z,18nm,1.1s
GRFO **Grafenberg** 84.69 322 eP P 04 04 42.7 +0.1
comp=Z,18nm,1.1s
UBBA **Unterbreizbach** 84.81 323 eP P 04 04 43.7 +0.6
comp=Z,16nm,1.4s
UBBA esP sP 04 05 00.3 +3.2
IBBN **Ibbenburen** 85.25 325 eP P 04 04 46.2 +0.8
comp=Z,27nm,0.9s
ABTA **Abfaltersbach** 85.35 319 iP P 04 04 45.7 -0.4
comp=Z,21nm,1.3s,SNR=5.8
FUR **Furstenfeldbru** 85.40 321 eP P 04 04 47.3 +1.0
comp=Z,55nm,1.2s
WTTA **Wattenberg** 85.63 320 iPcP P 04 04 47.8 +0.2

	comp=Z,17nm,0.8s,SNR=8.8								
BUG	**Bochum--Univer**	85.97	325	*e*P		P		04 04 49.7	+0.8
	comp=Z,19nm,1.2s								
TNS	**Taunus Mts**	85.97	323	*e*P		P		04 04 49.7	+0.6
	comp=Z,38nm,1.8s								
TIP	**Timpagrande**	86.06	311	*e*P		P		04 04 50.0	+0.2
	comp=Z,29nm,1.4s								
FETA	**Feichten**	86.29	320	⇑*i*P		P		04 04 50.7	-0.1
	comp=Z,18nm,1.3s								
STU	**Stuttgart**	86.30	322	*e*P		P		04 04 51.1	+0.4
STU	**Stuttgart**	86.30	322	*e*P		P		04 04 51.1	+0.4
AQU	**L'Aquila**	86.88	315	*e*P		P		04 04 53.7	0.0
AQU					pmax	pmax			
	comp=Z,52nm,1.3s								
AQU	**L'Aquila**	86.88	315	*e*P		P		04 04 53.7	0.0
	comp=Z,52nm,1.3s								
HGN	**Heimansgroeve**	87.04	325	*e*SS		SS		04 21 00.5	-13
WLF	**Walferdange**	87.52	324	*e*P		P		04 04 56.8	+0.2
WLF					pmax	pmax			
	comp=Z,9.0nm,0.7s								
WLF	**Walferdange**	87.52	324	*e*P		P		04 04 56.8	+0.2
	comp=Z,9.2nm,0.7s								
DOU	**Dourbes**	88.12	325	P		P		04 04 59.2	-0.3
PGC	**Sidney**	88.70	37	*e*P		P		04 05 02.8	+0.6
	comp=Z,64nm,1.0s								
ESK	**Eskdalemuir**	88.77	332	*e*P		P		04 05 01.8	-0.6
ESK					pmax	pmax			
	comp=Z,130nm,1.9s								
ESK	**Eskdalemuir**	88.77	332	*e*P		P		04 05 01.8	-0.6
	comp=Z,130nm,1.9s								
CASY	**Casey**	89.16	184	*e*P		P		04 05 03.7	+0.1
	comp=Z,49nm,1.3s								
NLWA	**Neilton Lookou**	89.17	38	*e*P		P		04 05 05.1	+0.7
	comp=Z,69nm,1.1s								
VDB	**Vedder Mountai**	89.23	36	P		P		04 05 04.7	0.0
MBW	**Mount Baker**	89.47	36	P		P		04 05 06.5	+0.5
JCW	**Jim Creek**	89.80	36	P		P		04 05 08.1	+0.7
SFJD	**Kangerlussuaq**	90.23	357	*i* P		P		04 05 09.2	+0.3
	comp=Z,29nm,0.8s								
SFJD	**Kangerlussuaq**	90.23	357	*e*P		P		04 05 09.0	+0.1
SFJD					pmax	pmax			
	comp=Z,30nm,0.8s								
SFJD	**Kangerlussuaq**	90.23	357	*e*P		P		04 05 09.0	+0.1
	comp=Z,30nm,0.8s								
F04D	**Rainier, OR**	90.39	39	P		P		04 05 11.0	+0.9
	baz=90								
TDL	**Tradedollar La**	90.69	38	P		P		04 05 12.4	+0.6
LON	**Longmire**	90.69	38	*e*P		P		04 05 11.7	+0.1
LON					pmax	pmax			
	comp=Z,47nm,1.2s								
LON	**Longmire**	90.69	38	*e*P		P		04 05 11.7	+0.1
	comp=Z,47nm,1.2s								
G03D	**McMinnville, O**	90.73	39	P		P		04 05 12.6	+0.8
	baz=90								
EDM	**Edmonton**	90.97	29	*e*P		P		04 05 12.9	+0.1
EDM					pmax	pmax			
	comp=Z,126nm,0.8s								
EDM	**Edmonton**	90.97	29	*e*P		P		04 05 12.9	+0.1
	comp=Z,126nm,0.8s								
ETW	**Entiat**	91.02	36	P		P		04 05 13.5	+0.3
WTV	**Waterville**	91.17	36	P		P		04 05 14.0	+0.2
EBG	**Ellensburg**	91.29	37	P		P		04 05 15.2	+0.7
VLL	**Laurance Lake**	91.50	39	P		P		04 05 16.2	+0.7
I03D	**Drain, OR**	91.52	41	P		P		04 05 16.1	+0.7
	baz=91,SNR=5.1								
G05D	**Wamic, OR**	91.84	39	P		P		04 05 17.9	+0.9
	baz=92								
OD2	**Odessa Site #2**	92.02	36	P		P		04 05 18.0	+0.2
I04A	**Tendick Farm,**	92.03	40	P		P		04 05 18.0	+0.1
	baz=92,SNR=10								
HAWA	**Hanford**	92.17	37	*e*P		P		04 05 18.8	+0.3
	comp=Z,64nm,1.4s								
NEW	**Newport**	92.33	35	*e*P		P		04 05 19.3	+0.1
NEW					pmax	pmax			
	comp=Z,43nm,0.7s								
NEW	**Newport**	92.33	35	P		P		04 05 19.5	+0.4
	baz=92								
NEW	**Newport**	92.33	35	*e*P		P		04 05 19.3	+0.1
	comp=Z,43nm,0.7s								
I05D	**Terrebonne, OR**	92.35	39	P		P		04 05 19.9	+0.5
	baz=92								
HUMO	**Hull Mountain**	92.37	42	*e*P		P		04 05 19.6	+0.2
	comp=Z,21nm,1.0s								
J04D	**Umpqua Nationa**	92.52	41	P		P		04 05 20.8	+0.4
	baz=92								
KEST	**Kesra**	92.88	311	*e*P		P		04 05 22.6	+0.6
YBH	**Yreka Blue Hor**	93.01	42	*e*P		P		04 05 22.8	+0.3
YBH					pmax	pmax			
	comp=Z,19nm,1.2s								
YBH	**Yreka Blue Hor**	93.01	42	*e*P		P		04 05 22.8	+0.3
	comp=Z,19nm,1.2s								
J05D	**Fort Rock, OR**	93.02	40	P		P		04 05 23.1	+0.5
	baz=93								
K04D	**Chiloquin, OR**	93.09	41	P		P		04 05 23.0	+0.1
	baz=93								
M02C	**Callahan**	93.11	42	P		P		04 05 23.6	+0.6
	baz=93								
N02D	**Trinity Center**	93.44	43	P		P		04 05 24.7	+0.2
	baz=93								
WALA	**Waterton Lakes**	93.46	33	*e*P		P		04 05 24.6	+0.1
	comp=Z,40nm,0.9s								
M04C	**Macdoel**	93.52	42	P		P		04 05 25.1	+0.2
	baz=93,SNR=14								
FCC	**Fort Churchill**	93.75	17	*e*P		P		04 05 24.4	-1.0
FCC	**Fort Churchill**	93.75	17	*e*P		P		04 05 24.4	-1.0
BSMT	**Bassoo Peak**	93.80	34	*e*P		P		04 05 26.5	+0.3
	comp=Z,18nm,0.9s								
BLMT	**Blacktail Moun**	93.92	34	*e*P		P		04 05 27.1	+0.4
	comp=Z,10nm,0.8s								
JTMT	**Jette**	94.13	34	*e*P		P		04 05 27.9	+0.3
	comp=Z,22nm,1.0s								
YBMT	**Yellow Bay**	94.19	33	*e*P		P		04 05 28.4	+0.5
	comp=Z,18nm,0.9s								
MOD	**Modoc**	94.39	41	*e*P		P		04 05 29.0	+0.1
	comp=Z,32nm,1.3s								
SWMT	**Swartz Lake**	94.43	34	*e*P		P		04 05 28.8	-0.1
	comp=Z,19nm,1.0s								
FFC	**Flin Flon**	94.52	23	P		P		04 05 28.3	-0.8
	comp=Z,161nm,0.7s,SNR=14								
FFC	**Flin Flon**	94.52	23	*e*P		P		04 05 28.1	-1.0
FFC					pmax	pmax			
	comp=Z,21nm,0.8s								
FFC	**Flin Flon**	94.52	23	*e*P		P		04 05 28.1	-1.0
	comp=Z,21nm,0.8s								
SLMT	**Seeley Lake**	94.87	34	*e*P		P		04 05 30.7	-0.4
	comp=Z,35nm,1.0s								
MSO	**Missoula**	94.91	34	P		P		04 05 30.7	-0.4
	baz=95								
CHMT	**Chamberlain Mo**	95.21	34	*e*P		P		04 05 32.3	-0.4
	comp=Z,7.9nm,1.0s								
HRY	**Holter Researc**	96.07	33	*e*P		P		04 05 36.6	+0.1
	comp=Z,7.5nm,0.6s								
MFID	**Camas Ranch**	96.08	38	*e*P		P		04 05 37.0	+0.4
	comp=Z,15nm,1.0s								
EGMT	**Eagleton**	96.19	31	P		P		04 05 36.5	-0.4
	baz=96								
EGMT	**Eagleton**	96.19	31	*e*P		P		04 05 36.4	-0.6
	comp=Z,15nm,1.0s								
LRM	**Limekiln Ridge**	96.35	34	*e*P		P		04 05 37.8	-0.2
	comp=Z,115nm,1.0s								
DLMT	**Dillon**	96.58	35	*e*P		P		04 05 38.5	-0.3
	comp=Z,24nm,1.0s								
CMB	**Columbia Colle**	96.59	44	*e*P		P		04 05 38.4	-0.5
CMB					pmax	pmax			
	comp=Z,18nm,1.1s								
CMB	**Columbia Colle**	96.59	44	*e*P		P		04 05 38.4	-0.5
	comp=Z,18nm,1.1s								
HLID	**Hailey**	96.78	37	P		P		04 05 40.6	+0.7
	baz=97								
HLID	**Hailey**	96.78	37	*e*P		P		04 05 40.4	+0.5
	comp=Z,13nm,1.0s								
MCMT	**McKenzie Canyo**	96.80	35	*e*P		P		04 05 39.5	-0.5
	comp=Z,1.3nm,0.7s								
BOZ	**Bozeman (W)**	96.89	34	*e*P		P		04 05 39.9	-0.3
BOZ					pmax	pmax			
	comp=Z,15nm,1.3s								
BOZ	**Bozeman (W)**	96.89	34	P		P		04 05 40.2	0.0
	baz=97								
BOZ	**Bozeman (W)**	96.89	34	*e*P		P		04 05 39.9	-0.3
	comp=Z,15nm,1.3s								
WAKR	**Walker**	96.92	43	*e*P		P		04 05 39.9	-0.7
	comp=Z,8.6nm,1.2s								
BMN	**Battle Mountai**	97.13	41	*e*P		Pdif		04 05 42.2	+0.6
BMN					pmax	pmax			
	comp=Z,10.0nm,1.3s								
BMN	**Battle Mountai**	97.13	41	*e*P		Pdif		04 05 42.2	+0.6
	comp=Z,10.0nm,1.3s								
QLMT	**Earthquake Lak**	97.55	35	*e*P		Pdif		04 05 43.6	+0.2
	comp=Z,0.5nm,0.7s								
NVAR	**Mina Array Bea**	97.68	43	P		P		04 05 43.5	-0.6
	comp=Z,3.9nm,0.7s,baz=305,slow=5.2,SNR=20								
GCMT	**Greycliff**	97.79	33	*e*P		P		04 05 44.2	-0.1
	comp=Z,2.2nm,0.5s								
LSZ	**Lusaka**	98.12	257	*e*P		P		04 05 46.1	-0.2
LSZ					pmax	pmax			
	comp=Z,12nm,1.5s								
LSZ	**Lusaka**	98.12	257	*e*P		P		04 05 46.1	-0.2
	comp=Z,12nm,1.5s								
H17A	**Grant Village**	98.29	34	*e*P		Pdif		04 05 48.2	+1.4
	comp=Z,8.2nm,0.9s								
RCTC	**Rector, Farmer**	98.34	45	P		P		04 05 46.7	0.0
	baz=98								
FLWY	**Flagg Ranch**	98.44	35	*e*P		Pdif		04 05 48.3	+0.9
	comp=Z,5.9nm,0.8s								
IMW	**Indian Meadow**	98.44	35	*e*P		Pdif		04 05 48.1	+0.6
	comp=Z,4.0nm,1.0s								
RLMT	**Red Lodge**	98.46	33	P		Pdif		04 05 47.7	+0.2
	baz=98								
RLMT	**Red Lodge**	98.46	33	*e*P		Pdif		04 05 47.4	0.0
	comp=Z,4.0nm,0.7s								
TPH	**Tonopah**	98.57	43	*e*P		P		04 05 47.8	-0.3
TPH					pmax	pmax			
	comp=Z,9.0nm,1.2s								
TPH	**Tonopah**	98.57	43	*e*P		P		04 05 47.8	-0.3
	comp=Z,8.7nm,1.2s								
PKM	**Peak Mountain**	98.78	46	P		Pdif		04 05 49.7	+0.6
	baz=99								
LAO	**LASA Array**	98.83	31	P		Pdif		04 05 49.0	+0.1
	baz=99								
LAO	**LASA Array**	98.83	31	*e*P		Pdif		04 05 49.0	+0.2
	comp=Z,5.7nm,0.8s								
G20A	**Bridger**	98.92	33	P		Pdif		04 05 50.3	+0.9
	baz=99								
A26A	**Wzz Farm, Ken**	99.03	27	P		**Pdif**		04 05 49.3	-0.4
	baz=99								
C24A	**Savage**	99.03	29	P		**Pdif**		04 05 49.1	-0.6
	baz=99								
A27A	**Ledoux Ranch,**	99.31	27	P		**Pdif**		04 05 50.6	-0.3
	baz=99								
D24A	**Glendive**	99.39	29	P		**Pdif**		04 05 51.3	0.0
	baz=99								
E23A	**Ismay**	99.40	30	P		**Pdif**		04 05 51.5	+0.1
	baz=99								
C25A	**Freed Ranch, W**	99.41	28	P		**Pdif**		04 05 51.4	0.0
	baz=99								
R11A	**Troy Canyon, C**	99.41	42	P		**Pdif**		04 05 51.1	-0.7
	baz=99								
MAW	**Mawson**	99.69	199	P		**Pdif**		04 05 51.3	-0.5
	comp=Z,1.6nm,0.6s,baz=101,slow=5.2,SNR=3.6								
FURC	**Furnace Creek,**	99.78	44	P		**Pdif**		04 05 53.1	0.0
	baz=100								
I20A	**Worland**	99.86	34	P		**Pdif**		04 05 52.7	-0.9
	baz=100								
TPNV	**Topopah Spring**	99.87	43	P		**Pdif**		04 05 53.2	-0.6
	baz=100								
F23A	**Volborg**	99.92	31	P		**Pdif**		04 05 53.2	-0.5
	baz=100								
PDAR	**Pinedale Array**	99.95	35	P		**Pdif**		04 05 53.0	-1.1
	comp=Z,1.0nm,0.7s,baz=11,slow=3.0,SNR=9.8								
B28A	**Dugan Ranch, T**	100.07	26	P		**Pdif**		04 05 54.6	+0.3
	baz=100								
A29A	**Manning Farm,**	100.15	26	P		**Pdif**		04 05 54.6	0.0
	baz=100								
C27A	**Sayler Ranch,**	100.17	27	P		**Pdif**		04 05 54.7	-0.1
	baz=100								
D26A	**Manning**	100.29	28	P		**Pdif**		04 05 55.2	-0.1
	baz=100								
ULM	**Lac du Bonnet**	100.34	23	P		**Pdif**		04 05 54.2	-1.2
	comp=Z,1.6nm,0.5s,baz=2.6,slow=4.2,SNR=3.5								
I21A	**Big Trails, Te**	100.39	33	P		**Pdif**		04 05 55.5	-0.4
	baz=100								
B29A	**Wagenman Farm,**	100.47	26	P		**Pdif**		04 05 56.0	-0.1
	baz=100								
A30A	**Hoffart Farm,**	100.50	25	P		**Pdif**		04 05 56.0	-0.2
	baz=100								
J21A	**Lysite**	100.64	34	P		**Pdif**		04 05 56.7	-0.5
	baz=100								
E26A	**Carlson Angus**	100.71	29	P		**Pdif**		04 05 56.6	-0.6
	baz=100								
B30A	**Mirik Farm, E**	100.89	25	P		**Pdif**		04 05 57.2	-0.7
	baz=101								
J22A	**Midwest**	101.08	33	P		**Pdif**		04 05 58.2	-0.9
	baz=101								
E27A	**Carson**	101.14	28	P		**Pdif**		04 05 59.1	0.0
	baz=101								
MSU	**Marysvale**	101.36	40	*e*P		**Pdif**		04 06 00.8	+0.3
MSU					pmax	pmax			
	comp=Z,4.0nm,1.2s								
MSU	**Marysvale**	101.36	40	*e*Pdif		**Pdif**		04 06 00.8	+0.3
	comp=Z,4.2nm,1.2s								
F27A	**Lemmon**	101.37	29	P		**Pdif**		04 05 59.9	-0.3
	baz=101								
E28A	**Huff**	101.40	28	P		**Pdif**		04 05 59.9	-0.3
	baz=101								
G26A	**Maurine**	101.55	30	P		**Pdif**		04 06 00.6	-0.3
	baz=101								
G27A	**Dupree**	101.79	29	P		**Pdif**		04 06 01.7	-0.3
	baz=102								
D30A	**Buchanan**	101.80	26	P		**Pdif**		04 06 01.1	-0.9
	baz=102								
AGMN	**Agassiz Nation**	101.97	24	P		**Pdif**		04 06 02.5	-0.2
	baz=102								
E30A	**Jud**	102.22	27	P		**Pdif**		04 06 03.9	0.0
	baz=102								
I27A	**Quinn**	102.74	30	P		**Pdif**		04 06 06.2	-0.1
	baz=102								
G29A	**Hoven**	102.82	28	P		**Pdif**		04 06 06.2	-0.4
	baz=103								
J26A	**Sides Ranch, S**	102.83	31	P		**Pdif**		04 06 06.0	-0.8
	baz=103								
VNDA	**Vanda**	103.00	172	Pdiff		**Pdif**		04 06 06.3	-0.2
	comp=Z,2.8nm,0.9s,baz=316,slow=5.3,SNR=8.6								
N23A	**Red Feather La**	103.18	35	P		**Pdif**		04 06 08.0	-0.6
	baz=103								
G30A	**Faulkton**	103.21	28	P		**Pdif**		04 06 07.6	-0.7
	baz=103								
PV01	**Paradise Valley**	103.70	38	*e*Pdif		**Pdif**		04 06 11.1	+0.1
I30A	**Oacoma**	104.05	29	P		**Pdif**		04 06 11.9	-0.2
	baz=104								
X29A	**Tulia**	110.20	36	P		**PKiKP**		04 10 40.8	-0.2
	baz=110								
TOA0	**Torodi Ar. Sit**	110.48	295	*e*PKP		**PKiKP**		04 10 41.8	-0.1
TORD	**Torodi Ar. Bea**	110.48	295	PKiKP		**PKiKP**		04 10 41.4	-0.5
	comp=Z,1.5nm,0.8s,baz=53,slow=1.6,SNR=9.9								
TOB5	**Torodi Ar. Sit**	110.48	295	*e*PKiKP		**PKiKP**		04 10 41.3	-0.6
Y29A	**Porterfield Fa**	110.65	37	P		**PKiKP**		04 10 41.6	-0.3
	baz=110								
S36A	**Lake Cedric, C**	110.74	30	P		**PKiKP**		04 10 41.2	-0.7
	baz=110								
T35A	**Sooner Cattle**	110.96	31	P		**PKiKP**		04 10 41.6	-0.7
	baz=111								
X31A	**McDonald Ranch**	110.99	35	P		**PKiKP**		04 10 41.8	-0.6
	baz=111								
Y30A	**Stafford Cattl**	111.06	36	P		**PKiKP**		04 10 41.8	-0.9
	baz=111								
T36A	**Boggs Farm, Ca**	111.14	31	P		**PKiKP**		04 10 42.0	-0.6
	baz=111								
U35A	**Pawnee**	111.28	32	P		**PKiKP**		04 10 42.5	-0.4
	baz=111								
V34A	**Guthrie**	111.32	33	P		**PKiKP**		04 10 42.4	-0.6
	baz=111								
Y31A	**Rekieta Farm,**	111.34	36	P		**PKiKP**		04 10 42.7	-0.4
	baz=111								
Z30A	**Sanderson Ranc**	111.38	37	P		**PKiKP**		04 10 42.3	-0.9
	baz=111								
T37A	**Stoneyville 18**	111.54	30	P		**PKiKP**		04 10 42.5	-0.9
	baz=111								
Z31A	**Sharp Cattle R**	111.89	36	P		**PKiKP**		04 10 43.8	-0.5
	baz=112								
V36A	**Jenks**	112.14	32	P		**PKiKP**		04 10 43.8	-0.7
	baz=112								
Z32A	**Haskell**	112.26	36	P		**PKiKP**		04 10 44.8	-0.1
	baz=112								
V37A	**Hulbert**	112.44	31	P		**PKiKP**		04 10 44.0	-1.1
	baz=112								
QSPA	**South Pole Qui**	112.61	180	*e*PKP		**PKiKP**		04 10 43.7	-0.7
QSPA				*e*PP		**PP**		04 11 31.6	-0.3
ABTX	**Abilene, Hawle**	112.69	36	P		**PKiKP**		04 10 45.4	-0.4
	baz=112								
TXAR	**Lajitas Array**	112.78	42	Pdiff		**Pdif**		04 06 52.7	+1.4
	comp=Z,0.7nm,0.9s,baz=254,slow=5.3,SNR=5.7								
TXAR				PKiKP		**PKiKP**		04 10 45.8	-0.3
	comp=Z,3.0nm,0.8s,baz=243,slow=1.0,SNR=20								
V38A	**Canehill**	112.81	31	P		**PKiKP**		04 10 44.6	-1.2
	baz=113								
W37A	**Quinton**	112.91	32	P		**PKiKP**		04 10 45.3	-0.8
	baz=113								
429A	**Davenport Ranc**	112.91	39	P		**PKiKP**		04 10 45.6	-0.6
	baz=113								
529A	**Stev Forest Ra**	113.08	40	P		**PKiKP**		04 10 46.0	-0.6
	baz=113								
Y35A	**Marietta**	113.08	34	P		**PKiKP**		04 10 45.4	-1.0
	baz=113								
331A	**San Angelo**	113.25	38	P		**PKiKP**		04 10 46.2	-0.7
	baz=113								
X37A	**Clayton**	113.37	32	P		**PKiKP**		04 10 46.1	-0.8
	baz=113								
W38A	**Poteau**	113.40	31	P		**PKiKP**		04 10 46.3	-0.7
	baz=113								
Y36A	**Durant**	113.47	33	P		**PKiKP**		04 10 46.6	-0.5
	baz=113								
233A	**Rising Star**	113.56	36	P		**PKiKP**		04 10 47.1	-0.3
	baz=113								
X38A	**Whitesboro**	113.57	32	P		**PKiKP**		04 10 46.8	-0.5
	baz=113								
134A	**White-Moore Ra**	113.58	35	P		**PKiKP**		04 10 46.8	-0.6
	baz=113								
332A	**Millersview**	113.58	37	P		**PKiKP**		04 10 47.2	-0.3
	baz=113								
530A	**J-C Ranch, Com**	113.58	39	P		**PKiKP**		04 10 47.2	-0.3
	baz=113								
431A	**Sonora**	113.61	38	P		**PKiKP**		04 10 46.8	-0.8
	baz=113								
Z36A	**Blue Ridge**	113.89	34	P		**PKiKP**		04 10 47.7	-0.3
	baz=114								
432A	**Menard**	113.93	38	P		**PKiKP**		04 10 47.4	-0.8
	baz=114								
234A	**Clairette**	113.99	36	P		**PKiKP**		04 10 47.8	-0.4
	baz=114								
531A	**Rocksprings**	114.03	39	P		**PKiKP**		04 10 47.9	-0.5
	baz=114								
333A	**Richland Sprin**	114.04	37	P		**PKiKP**		04 10 47.6	-0.7
	baz=114								
JCT	**Junction City**	114.22	38	*e*PKiKP		PKPdf		04 10 48.3	-0.4
JCT	**Junction City**	114.22	38	P		PKPdf		04 10 48.2	-0.5
	baz=114								
JCT	**Junction City**	114.22	38	*e*PKP		PKPdf		04 10 48.3	-0.5
MIAR	**Mount Ida**	114.27	31	*e*PKiKP		PKPdf		04 10 48.4	-0.3
MIAR	**Mount Ida**	114.27	31	P		PKPdf		04 10 48.2	-0.4
	baz=114								
MIAR	**Mount Ida**	114.27	31	*e*PKP		PKPdf		04 10 48.4	-0.3
532A	**Rocksprings**	114.43	38	P		PKPdf		04 10 48.4	-0.8
	baz=114								
334A	**Lometa**	114.45	36	P		PKPdf		04 10 48.2	-1.0
	baz=114								
631A	**Perdido Creek**	114.57	39	P		PKPdf		04 10 48.8	-0.6
	baz=114								
137A	**Heron Place, G**	114.77	34	P		PKPdf		04 10 49.8	+0.1
	baz=114								
434A	**Burnet**	114.83	37	P		PKPdf		04 10 48.9	-0.9
	baz=115								
335A	**Moody**	114.93	36	P		PKPdf		04 10 49.1	-0.9
	baz=115								
632A	**Uvalde**	114.96	39	P		PKPdf		04 10 49.7	-0.4
	baz=115								
533A	**Kerrville**	114.97	38	P		PKPdf		04 10 49.7	-0.5
	baz=115								
534A	**Blanco**	115.31	37	P		**PKPdf**		04 10 49.9	-0.9
	baz=115								
633A	**Saathoff Ranch**	115.35	38	P		**PKPdf**		04 10 50.4	-0.5
	baz=115								
WVT	**Waverly**	115.43	25	*e*PKiKP		**PKPdf**		04 10 49.6	-1.3
WVT	**Waverly**	115.43	25	*e*PKPdf		**PKPdf**		04 10 49.5	-1.3
732A	**Laxson Ranch,**	115.43	39	P		**PKPdf**		04 10 50.5	-0.5
	baz=115								
337A	**Centerville**	115.72	35	P		**PKPdf**		04 10 51.5	0.0
	baz=116								
832A	**Faith Ranch, C**	115.76	40	P		**PKPdf**		04 10 51.8	+0.1
	baz=116								
535A	**Dale**	115.82	37	P		**PKPdf**		04 10 51.9	+0.1
	baz=116								
833A	**Chaparral WMA,**	116.07	39	P		**PKPdf**		04 10 52.3	0.0
	baz=116								
635A	**Leesville**	116.19	37	P		**PKPdf**		04 10 52.5	0.0
	baz=116								
340A	**Bronson**	116.66	33	P		**PKPdf**		04 10 52.8	-0.6
	baz=116								
933A	**Laredo**	116.67	40	P		**PKPdf**		04 10 53.9	+0.4
	baz=116								
834A	**Tilden**	116.71	39	P		**PKPdf**		04 10 54.1	+0.6
	baz=116								
736A	**Circle Diamond**	116.92	37	P		**PKPdf**		04 10 54.8	+0.9
	baz=117								
DBIC	**Dimbokro**	119.31	292	PKP		**PKPdf**		04 10 58.6	-0.3
	comp=Z,4.2nm,0.6s,baz=38,slow=1.9,SNR=12								
KIC	**Kosan Boka**	119.37	292	*e*PKiKP		**PKPdf**		04 10 58.8	-0.2
	comp=Z,12nm,0.6s								
TIC	**Toumodi**	119.46	292	*e*PKiKP

MI2.1/11,**2C**,**Error ellipse: s-maj=0.7km s-min=0.6km az=35.0**,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATVO	**AVT- Monte Val**	**0.07**	**15**↑	*e*Pg	Pg	04 02 27.2	+0.2
ATVO				Sg	Sg	04 02 28.6	+0.1
ATVO	**AVT- Monte Val**	**0.07**	**15**↑	*e*Pg	Pg	04 02 27.2	+0.2
ATVO				Sg	Sg	04 02 28.6	+0.1
MURB	**Monte Urbino**	**0.12**	**117**	Pg	Pg	04 02 28.0	+0.4
MURB	477nm,0.2s			Sg	Sg	04 02 30.4	+0.8
MURB	**Monte Urbino**	**0.12**	**117**	Pg	Pg	04 02 28.0	+0.4
MURB	477nm,0.2s			Sg	Sg	04 02 30.4	+0.8
ATPI	**Pietralunga -**	**0.14**	**6**	Pg	Pg	04 02 28.5	+0.6
ATPI	409nm,0.5s			Sg	Sg	04 02 30.5	+0.4
ATPI	**Pietralunga -**	**0.14**	**6**	Pg	Pg	04 02 28.5	+0.6
ATPI	409nm,0.5s			Sg	Sg	04 02 30.5	+0.4
ATPC	**Poggio Castell**	**0.17**	**18**	Pg	Pg	04 02 29.3	+0.7
ATPC	969nm,0.3s			Sg	Sg	04 02 32.5	+1.4
ATPC	**Poggio Castell**	**0.17**	**18**	Pg	Pg	04 02 29.3	+0.7
ATPC	969nm,0.3s			Sg	Sg	04 02 32.5	+1.4
CDCA	**Citt' di Caste**	**0.18**	**323**	Pg	Pg	04 02 29.4	+0.8
CDCA				Sg	Sg	04 02 32.4	+1.3
CDCA	**Citt' di Caste**	**0.18**	**323**	Pg	Pg	04 02 29.4	+0.8
CDCA				Sg	Sg	04 02 32.4	+1.3
PIEI	**Pieia**	**0.25**	**27**	Pg	Pg	04 02 30.5	+0.6
PIEI	493nm,0.2s			Sg	Sg	04 02 34.7	+1.4
PIEI	**Pieia**	**0.25**	**27**	Pg	Pg	04 02 30.5	+0.6
PIEI	493nm,0.2s			Sg	Sg	04 02 34.7	+1.4
CAFI	**Castiglion Fio**	**0.30**	**273**	Pg	Pb	04 02 31.8	-0.7
CAFI	169nm,0.3s			Sg	Sb	04 02 36.4	-1.2
CAFI	**Castiglion Fio**	**0.30**	**273**	Pg	Pb	04 02 31.8	-0.7
CAFI	169nm,0.3s			Sg	Sb	04 02 36.4	-1.2
PARC	**Parchiule**	**0.35**	**343**	Pg	Pb	04 02 32.6	-0.7
PARC	294nm,1.2s **Parchiule**	**0.35**	**343**	Pg	Pb	04 02 32.6	-0.7
SNTG	294nm,1.2s **Esanatoglia**	**0.41**	**98**	Pg	Pg	04 02 33.3	+0.3
SNTG				Sg	Sb	04 02 39.8	-1.0
SNTG	129nm,0.4s **Esanatoglia**	**0.41**	**98**	Pg	Pg	04 02 33.3	+0.3
SNTG	129nm,0.4s			Sg	Sb	04 02 39.8	-1.0
CRE	**Caprese Michel**	**0.44**	**314**	Pg	Pg	04 02 34.1	+0.6
CRE	46nm,0.8s			Sg	Sb	04 02 40.9	-0.8
CRE	**Caprese Michel**	**0.44**	**314**	Pg	Pg	04 02 34.1	+0.6
CRE	46nm,0.8s			Sg	Sb	04 02 40.9	-0.8
ARVD	**Arcevia**	**0.45**	**66**	Pg	Pg	04 02 33.9	+0.3
ARVD	62nm,0.6s			Sg	Sb	04 02 41.2	-0.5
ARVD	**Arcevia**	**0.45**	**66**	Pg	Pg	04 02 33.9	+0.3
ARVD	62nm,0.6s			Sg	Sb	04 02 41.2	-0.5
MGAB	**Montegabbione**	**0.45**	**206**	Pg	Pg	04 02 34.2	+0.6
MGAB	325nm,0.5s			Sg	Sb	04 02 41.3	-0.5
MGAB	**Montegabbione**	**0.45**	**206**	Pg	Pg	04 02 34.2	+0.6
MGAB	325nm,0.5s			Sg	Sb	04 02 41.3	-0.5
FSSB	**Fossombrone**	**0.47**	**37**	Pg	Pg	04 02 34.5	+0.4
FSSB	182nm,0.2s			Sg	Sb	04 02 42.3	-0.2
FSSB	**Fossombrone**	**0.47**	**37**	Pg	Pg	04 02 34.5	+0.4
FSSB	182nm,0.2s			Sg	Sb	04 02 42.3	-0.2
CESI	**CESI - Serrava**	**0.49**	**129**	Pg	Pg	04 02 34.8	+0.3
CESI	**CESI - Serrava**	**0.49**	**129**	Pg	Pg	04 02 34.8	+0.3
NVLJ	**Novalja**	**2.19**	**54**	*e*Pn	Pn	04 03 02.4	+1.1
NVLJ				Sn	Sb	04 03 30.9	-0.8
NVLJ	**Novalja**	**2.19**	**54**	*e*Pn	Pn	04 03 02.4	+1.1
NVLJ				Sn	Sb	04 03 30.8	-0.9

IDC ***25*** *04:11:34.7±0.8, 15°.46S×173°.40W, h0km, mb4.1/10, mb1 4.4/10, mb1mx4.1/39, mbtmp4.1/10, MS4.6/19, Ms1 4.6/19, ms1mx4.3/43, Error ellipse: s-maj=29.6km s-min=20.6km az=141.0*

NEIC ***25*** *04:11:38.1±0.7, 15°.05S×173°.56W, h10km, mb4.5/12, Error ellipse: s-maj=35.9km s-min=10.1km az=151.0*

GCMT ***25*** *04:11:38.1±0.2, 14°.88S×173°.11W, h13km±1km, MW5.1/85, Moment Tensor Solution. s19,c25; s85,c126; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 0.99±.25; Mθθ 2.71±.18; Mθφ -3.70±.20; Mrθ 0.42±.47; Mφφ 3.25±.16; Mφr 3.84±.80; Best double couple: Mo 5.91200×10^16 NP1: ϕs 111.00000°, δ 49.00000°, λ 5.00000°. Principal axes: T 5.1970, Plg 31.0000°, Azm 326.0000°; N 1.4280, Plg 49.0000°, Azm 194.0000°; P -6.6280, Plg 25.0000°, Azm 72.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 25 04:11:41.8±1.1, 14.9S±0.3×173.7W±0.2, h30km, n67, σ1§15/38, mb4.3/20, MS4.6/17, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.08**	**64**	Pn	Pn	04 12 03.9	-11
AFI	182nm,0.3s,baz=183,slow=1.9,SNR=106			Sn	Sn	04 12 23.3	-17
MSVF	**Nonsavu**	**8.43**	**249**	*e*Pn	Pn	04 13 50.9	+8.8
RAR	100nm,1.3s **Rarotonga**	**14.67**	**118**	LR	LR	04 18 42.2	
RAO	comp=Z,2μm,18.4s,baz=300,slow=30 **Raoul Island**	**14.85**	**195**	LR	LR	04 19 15.3	
DZM	comp=Z,2μm,18.2s,baz=336,slow=32 **Mont Dzumac**	**20.15**	**246**	LR	LR	04 22 39.9	
DZM	comp=Z,3μm,21.8s,baz=0.0,slow=33 **Mont Dzumac**	**20.15**	**246**	*e*P	**P**	**04 16 13.9**	**0.0**
PPT	51nm,1.5s **Papeete**	**23.31**	**100**	LR	LR	04 23 23.3	
PAE	comp=Z,916nm,19.7s,baz=267,slow=31 **Paea**	**23.32**	**100**	*e*T	T	04 39 53.1	
PPT2	3.0nm,0.3s **Papeete2**	**23.32**	**100**	*e*LQ	LQ	04 21 08.8	
PPT2	4μm,28.2s			*e*LR	LR	04 22 10.5	
PPT2	3μm,25.0s,baz=271 **Papeete2**	**23.32**	**100**	*e*T	T	04 39 53.8	
TVO	3.5nm,0.3s **Taravao**	**23.64**	**100**	*e*T	T	04 40 17.2	
TBI	1.7nm,0.4s **Tubuai**	**24.38**	**114**	*e*LQ	LQ	04 21 37.6	
TBI	3μm,28.5s			*e*LR	LR	04 22 33.4	
TBI	3μm,26.2s,baz=291 **Tubuai**	**24.38**	**114**	*e*T	T	04 41 21.2	
HNR	5.8nm,0.3s **Honiara**	**26.31**	**279**	LR	LR	04 25 38.5	
RKT	comp=Z,1μm,20.9s,baz=124,slow=32 **Rikitea**	**37.44**	**109**	*e*LR	LR	04 28 46.4	
RKT	1μm,24.0s,baz=282 **Rikitea**	**37.44**	**109**	*e*T	T	04 57 36.0	
H11S2	3.5nm,0.3s **WAKE ISLAND Hy**	**38.35**	**329**	T	T	05 00 12.3	
H11S3	baz=147,slow=76,SNR=7.3 **WAKE ISLAND Hy**	**38.36**	**329**	T	T	05 00 44.2	
H11S1	baz=147,slow=76,SNR=7.3 **WAKE ISLAND Hy**	**38.37**	**329**	T	T	05 00 16.9	
CTA	baz=147,slow=76,SNR=6.8 **Charters Tower**	**38.49**	**256**	LR	LR	04 33 27.5	
PMG	comp=Z,715nm,21.9s,baz=104,slow=34 **Port Moresby**	**38.61**	**273**	LR	LR	04 32 53.7	
H11N3	comp=Z,725nm,19.4s,baz=44,slow=33 **WAKE ISLAND Hy**	**39.30**	**330**	T	T	05 01 20.3	
H11N1	baz=149,slow=76,SNR=11 **WAKE ISLAND Hy**	**39.30**	**330**	T	T	05 01 12.9	
H11N2	baz=149,slow=76,SNR=11 **WAKE ISLAND Hy**	**39.31**	**330**	T	T	05 01 19.8	
STKA	baz=149,slow=76,SNR=9.0 **Stephens Creek**	**44.06**	**239**	LR	LR	04 35 29.3	
WRAB	comp=Z,532nm,20.1s,baz=3.7,slow=33 **Tennant Creek**	**49.68**	**256**	*e*P	**P**	**04 20 30.9**	**-0.5**
	9.0nm,1.1s						
WRA	**Warramunga Arr**	**49.69**	**256**	P	**P**	**04 20 30.3**	**-1.2**
WRA	3.3nm,1.1s,baz=89,slow=7.1,SNR=14			LR	LR	04 38 58.3	
AS31	comp=Z,904nm,20.6s,baz=315,slow=33 **Alice Springs**	**50.01**	**251**	*e*P	**P**	**04 20 32.4**	**-1.5**
ASAR	**Alice Springs**	**50.01**	**251**	P	**P**	**04 20 32.5**	**-1.3**
ASAR	7.5nm,0.8s,baz=88,slow=7.6,SNR=40			LR	LR	04 39 52.0	
JCJ	comp=Z,1μm,20.8s,baz=86,slow=34 **Chichijima**	**59.77**	**314**	LR	LR	04 44 32.2	
VNDA	comp=Z,526nm,18.3s,baz=140,slow=33 **Vanda**	**63.89**	**186**	P	P	04 22 03.6	-7.6
MJAR	3.4nm,1.1s,baz=193,slow=2.5,SNR=8.9 **Matsushiro Arr**	**68.34**	**320**	P	**P**	**04 22 40.5**	**+0.1**
MJAR	0.7nm,0.5s,baz=161,slow=6.3,SNR=5.5			LR	LR	04 47 14.2	
JNU	comp=Z,376nm,21.7s,baz=110,slow=31 **Nakatsue**	**71.22**	**313**	LR	LR	04 49 35.5	
NVAR	comp=Z,317nm,19.7s,baz=118,slow=32 **Mina Array Bea**	**74.11**	**42**	P	**P**	**04 23 15.4**	**-0.3**
KSRS	2.0nm,1.1s,baz=225,slow=11,SNR=3.7 **Korea Array**	**75.57**	**316**	P	**P**	**04 23 25.7**	**+1.9**
KSRS	1.3nm,0.8s,baz=122,slow=4.6,SNR=9.9			LR	LR	04 53 40.7	
KSAR	comp=Z,154nm,18.1s,baz=109,slow=33 **Wonju Array Be**	**75.59**	**316**	P	**P**	**04 23 25.7**	**+1.8**
USRK	**Ussuriysk Ar.**	**76.78**	**323**	P	**P**	**04 23 30.2**	**-0.3**
USRK	0.5nm,0.5s,baz=132,slow=2.8,SNR=5.1			LR	LR	04 54 14.9	
MSU	comp=Z,364nm,19.0s,baz=112,slow=33 **Marysvale**	**78.24**	**45**	*e*P	**P**	**04 23 38.8**	**-0.3**
HLID	3.5nm,1.1s **Hailey**	**79.39**	**39**	*e*P	**P**	**04 23 44.5**	**-0.8**
HVU	5.8nm,1.1s **Hansel Valley**	**79.49**	**42**	*e*P	**P**	**04 23 44.7**	**-1.1**
TXAR	3.5nm,1.1s **Lajitas Array**	**80.55**	**56**	P	**P**	**04 23 50.9**	**-0.9**
TXAR	2.7nm,1.2s,baz=227,slow=6.6,SNR=11			LR	LR	04 53 54.4	
PV01	comp=Z,414nm,18.2s,baz=0.0,slow=32 **Paradox Valley**	**80.55**	**46**	*e*P	**P**	**04 23 50.9**	**-0.8**
MCK	**McKinley**	**80.64**	**11**	*e*P	**P**	**04 23 51.6**	**+0.2**
ANMO	8.8nm,1.0s **Albuquerque**	**80.67**	**50**	*e*P	**P**	**04 23 52.9**	**+0.4**
MCMT	3.4nm,1.3s **McKenzie Canyo**	**81.01**	**39**	*e*P	**P**	**04 23 53.4**	**-0.7**
BSMT	**Bassoo Peak**	**81.48**	**36**	*e*P	**P**	**04 23 54.0**	**-2.4**
COLA	4.4nm,1.1s **College**	**81.88**	**11**	*e*P	**P**	**04 23 58.4**	**+0.6**
ILAR	5.6nm,0.9s **Eielson Array**	**81.97**	**11**	P	**P**	**04 23 57.0**	**-1.4**
PDAR	4.1nm,1.2s,baz=215,slow=5.8,SNR=13 **Pinedale Array**	**82.05**	**42**	P	**P**	**04 23 58.5**	**-1.2**
HRY	1.5nm,1.1s,baz=248,slow=4.0,SNR=7.8 **Holte Researc**	**82.59**	**38**	*e*P	**P**	**04 24 01.3**	**-0.8**
GCMT	11nm,1.4s **Greycliff**	**83.44**	**39**	*e*P	**P**	**04 24 07.0**	**+0.4**
MAW	1.6nm,0.9s **Mawson**	**88.22**	**199**	LR	LR	05 01 41.9	
CMAR	comp=Z,367nm,18.6s,baz=71,slow=34 **Chiang Mai Arr**	**92.17**	**288**	LR	LR	05 02 40.4	
ULM	comp=Z,158nm,20.0s,baz=134,slow=33 **Lac du Bonnet**	**93.69**	**39**	LR	LR	05 00 10.5	
AKASG	comp=Z,489nm,20.2s,baz=288,slow=31 **Malin Array Be**	**139.73**	**337**	PKP	**PKPdf**	**04 31 06.3**	**-0.4**
DPC	0.8nm,0.7s,baz=24,slow=2.5,SNR=5.0 **Dobruska-Polom**	**143.67**	**349**	*e*PKP	**PKPdf**	**04 31 16.4**	**+2.5**
DPC				*ex*	x	04 31 28.8	
PSZ	**Piszkesteto**	**145.16**	**344**	*e*PKPdf	**PKPdf**	**04 31 17.3**	**+0.7**
WLF	**Walferdange**	**145.28**	**0**	*e*PKPbc	**PKPdf**	**04 31 19.1**	**+2.5**
KHC	**Kasperske Hory**	**145.30**	**352**	*e*PKP	**PKPdf**	**04 31 17.3**	**+0.5**
KHC				*ex*	x	04 31 25.5	
KHC				*ex*	x	04 31 30.4	
KHC	**Kasperske Hory**	**145.30**	**352**	*e*PKPbc	**PKPdf**	**04 31 17.2**	**+0.5**
BR131	**Keskin Array S**	**145.55**	**321**	*e*PKPbc	**PKPab**	**04 31 18.5**	**+0.5**
BRTR	**Keskin Array B**	**145.55**	**321**	PKPbc	**PKPab**	**04 31 18.6**	**+0.5**
GERES	6.6nm,1.1s,baz=82,slow=1.9,SNR=17 **GERESS Array B**	**145.56**	**351**	PKPbc	**PKPab**	**04 31 18.6**	**+0.9**
STU	2.1nm,1.1s,baz=14,slow=2.8,SNR=10.0 **Stuttgart**	**146.09**	**357**	*e*PKPbc	**PKPab**	**04 31 20.1**	**+0.6**
BFO	**Black Forest**	**146.57**	**358**	*e*PKPbc	**PKPab**	**04 31 22.1**	**+0.6**
AQU	**L'Aquila**	**151.92**	**349**	*e*PKPdf	**PKPdf**	**04 31 28.0**	**+0.3**
AQU				*e*PKPbc	**PKiKP**	**04 31 35.4**	**+0.9**
TAM	**Tamanrasset**	**172.07**	**5**	*e*PKPdf	**PKPdf**	**04 31 50.1**	**+1.4**

WEL 25 04:16:42.2±0.3, 38°.41S×175°.99E, h180km±2km, ML3.6/7, 23C-1D, Error ellipse: s-maj=2.6km s-min=2.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KATZ	**Kakaramea**	**0.61**	**202**	PN	Pn	04 17 07.3	-0.3
KRVZ	**Karewarewa**	**0.74**	**201**	PN	Pn	04 17 08.1	-0.2
WTVZ	**West Tongariro**	**0.77**	**203**	↑PN	Pn	04 17 08.3	-0.2
TWVZ	**Taurewa**	**0.79**	**213**	PN	Pn	04 17 08.4	-0.2
OTVZ	**Oturere**	**0.80**	**198**	PN	Pn	04 17 08.7	0.0
OTVZ				SN	Sn	04 17 29.5	+0.2
NGZ	**Ngauruhoe**	**0.82**	**201**	PN	Pn	04 17 08.8	-0.1
BKZ	**Black Stump Fm**	**0.86**	**153**	↑PN	Pn	04 17 08.6	-0.3
BKZ				SN	Sn	04 17 27.9	-1.9
BKZ				AML	AML	04 17 30.2	
WPVZ	**Whakapapa**	**0.87**	**203**	↑PN	Pn	04 17 09.0	-0.1
HIZ	**Hauiti**	**0.89**	**263**	↑PN	Pn	04 17 08.7	-0.4
HIZ				SN	Sn	04 17 29.8	-0.1
TUVZ	**Tukino**	**0.90**	**197**	↑PN	Pn	04 17 09.3	0.0
FWVZ	**Far West T-bar**	**0.91**	**202**	↑PN	Pn	04 17 09.4	-0.2
WHVZ	**Whangaehu Hut**	**0.93**	**199**	↑PN	Pn	04 17 09.5	-0.1
NMHZ	**Naumai**	**0.94**	**137**	PN	Pn	04 17 10.0	+0.5
NMHZ				SN	Sn	04 17 30.8	0.0
WNVZ	**Wahianoa**	**0.97**	**198**	↑PN	Pn	04 17 09.7	-0.1
RAHZ	**Arahi**	**1.00**	**121**	PN	Pn	04 17 09.9	0.0
RAHZ				SN	Sn	04 17 30.5	-0.9
PKVZ	**Pokaka**	**1.01**	**209**	↑PN	Pn	04 17 09.9	-0.1
PKVZ				SN	Sn	04 17 31.9	+0.1
MOVZ	**Moawhango**	**1.02**	**190**	↑PN	Pn	04 17 09.7	-0.4
MOVZ				SN	Sn	04 17 29.8	-2.0
MTVZ	**Mangateitei**	**1.06**	**202**	PN	Pn	04 17 10.4	0.0
KWHZ	**Kaweka Forest**	**1.07**	**162**	PN	Pn	04 17 10.6	+0.1
BHHZ	**Black Hill Sta**	**1.08**	**177**	PN	Pn	04 17 10.3	-0.3
SNGZ	**Shannon Statio**	**1.12**	**110**	PN	Pn	04 17 10.5	-0.4
ARHZ	**Aropaoanui**	**1.16**	**138**	PN	Pn	04 17 11.4	+0.3
ARHZ				SN	Sn	04 17 33.3	-0.3
MCHZ	**McNeill Hill**	**1.17**	**152**	↑PN	Pn	04 17 11.9	+0.6
MWZ	**Matawai**	**1.21**	**87**	PN	Pn	04 17 12.4	+0.8
MWZ				AML	AML	04 17 32.9	
MWZ				AML	AML	04 17 33.0	
KRHZ	**Kereru**	**1.27**	**166**	↑PN	Pn	04 17 12.2	+0.1
KNZ	**Kokohu**	**1.46**	**115**	PN	Pn	04 17 13.2	-0.4
PNHZ	**Pukenui**	**1.52**	**174**	↑PN	Pn	04 17 14.1	-0.2
KAHZ	**Kahuranaki**	**1.55**	**154**	PN	Pn	04 17 15.0	+0.4
WAZ	**Wanganui**	**1.56**	**210**	PN	Pn	04 17 14.6	0.0
TSZ	**Takapari Road**	**1.65**	**181**	PN	Pn	04 17 15.4	-0.2
TSZ				AML	AML	04 17 16.0	
TSZ				AML	AML	04 17 16.1	
WPHZ	**Waipukurau**	**1.69**	**168**	↑PN	Pn	04 17 16.0	0.0
NEZ	**North Egmont**	**1.71**	**239**	PN	Pn	04 17 16.6	+0.3
PXZ	**Pawanui**	**1.76**	**158**	↑PN	Pn	04 17 16.6	0.0
PXZ				AML	AML	04 17 43.1	
PXZ				AML	AML	04 17 43.4	
DVHZ	**Dannevirke**	**1.90**	**176**	PN	Pn	04 17 17.6	-0.5
PRHZ	**Porangahau**	**1.93**	**165**	PN	Pn	04 17 18.2	-0.2
POWZ	**Post Office Ro**	**1.99**	**185**	↑PN	Pn	04 17 18.6	-0.5
ANWZ	**Angora Road**	**2.09**	**170**	↑PN	Pn	04 17 19.9	-0.2
ANWZ				SN	Sn	04 17 48.5	-1.2
PRWZ	**Pori Road**	**2.15**	**180**	PN	Pn	04 17 20.4	-0.4
MRZ	**Mangatainoka R**	**2.27**	**188**	↑PN	Pn	04 17 21.4	-0.9
MRZ				AML	AML	04 17 22.1	
MRZ				AML	AML	04 17 53.1	
BFZ	**Birch Farm**	**2.28**	**175**	PN	Pn	04 17 21.5	-0.8
TIWZ	**Tintock**	**2.37**	**182**	PN	Pn	04 17 22.4	-0.9
TIWZ				AML	AML	04 17 55.6	
TIWZ				AML	AML	04 17 57.3	
OGWZ	**Otaki Gorge**	**2.49**	**194**	↑PN	Pn	04 17 23.8	-0.9
HOWZ	**Holdsworth Sta**	**2.52**	**188**	↑PN	Pn	04 17 23.6	-1.3
KIW	**Kapiti Island**	**2.59**	**198**	↑PN	Pn	04 17 24.5	-1.4
TMWZ	**Te Maipa**	**2.70**	**182**	PN	Pn	04 17 25.9	-1.3
CAW	**Cannon Point**	**2.79**	**194**	PN	Pn	04 17 26.8	-1.5
DUWZ	**D'Urville Isla**	**2.88**	**213**	PN	Pn	04 17 27.6	-1.7
TRWZ	**Traveller**	**3.00**	**184**	PN	Pn	04 17 29.2	-1.6
PAWZ	**Paruwai Farm**	**3.00**	**188**	PN	Pn	04 17 29.0	-1.8
WEL	**Wellington**	**3.02**	**198**	PN	Pn	04 17 29.5	-1.6
MSWZ	**Moikau Station**	**3.06**	**190**	↑PN	Pn	04 17 29.6	-1.9
MSWZ				AML	AML	04 18 10.3	
TCW	**Tory Channel**	**3.10**	**205**	PN	Pn	04 17 30.2	-1.8
PLWZ	**Palliser**	**3.21**	**190**	PN	Pn	04 17 31.3	-2.1
TUWZ	**Tuamarina**	**3.40**	**207**	PN	Pn	04 17 33.6	-2.1
NNZ	**Nelson**	**3.45**	**215**	↑PN	Pn	04 17 33.9	-2.4
NNZ				SN	Sn	04 18 16.4	-2.3
QRZ	**Quartz Range**	**3.60**	**227**	PN	Pn	04 17 35.8	-2.4
BSWZ	**Blackbirch Sta**	**3.68**	**205**	PN	Pn	04 17 36.9	-2.2
THZ	**Tophouse**	**4.10**	**214**	PN	Pn	04 17 42.0	-2.5
KHZ	**Kahutara**	**4.42**	**204**	PN	Pn	04 17 46.4	-2.1
KHZ	**Kahutara** 32nm,0.4s	**4.42**	**204**	*e*P	Pn	04 17 46.1	-2.4
DSZ	**Denniston Nort**	**4.63**	**223**	*e*PN	Pn	04 17 48.1	-3.2
LTZ	**Lake Taylor**	**5.21**	**212**	*e*PN	Pn	04 17 55.4	-3.3
OXZ	**Oxford**	**5.75**	**210**	PN	Pn	04 18 01.8	-4.0
MQZ	**McQueen's Vall**	**5.86**	**204**	‖PN	Pn	04 18 03.2	-4.0
WVZ	**Waitaha Valley**	**6.13**	**219**	PN	Pn	04 18 08.0	-2.8
ODZ	**Otahua Downs**	**7.74**	**209**	PN	Pn	04 18 28.7	-3.2
JCZ	**Jackson Bay**	**7.85**	**222**	*e*PN	Pn	04 18 29.0	-4.6

BJI ***25*** *04:21:34.3, 6°.44N×123°.90E, h600km, mb4.8/45, mB5.0/19*

MAN ***25*** *04:21:36, 6°.79N×123°.80E, h605km, mb5.5, ML4.5, MS4.9*

KLM ***25*** *04:21:37.8, 6°.74N×124°.04E, h625km, mb5.1, MS6.6*

ISCJB ***25*** *04:21:37.8±0.1, 6°.83N±0°.02×123°.74E±0°.02, h609km±2km, mb5.0/135, Error ellipse: s-maj=3.6km s-min=2.6km az=167.4*

MOS ***25*** *04:21:37.8±0.8, 6°.86N×123°.77E, h609km, mb4.7/33, Error ellipse: s-maj=8.7km s-min=5.1km az=116.0*

NEIC ***25*** *04:21:38.5±0.2, 6°.82N×123°.74E, h602km±3km, mb4.9/72, Error ellipse: s-maj=4.3km s-min=3.1km az=75.0*

IDC ***25*** *04:21:39.0±0.6, 6°.88N×123°.86E, h609km±6km, mb4.3/34, mb1 4.4/36, mb1mx4.3/43, mbtmp5.3/36, Error ellipse: s-maj=6.2km s-min=4.4km az=67.0*

DJA ***25*** *04:21:39.1±0.3, 7°N±4°×12°4E±1°, h610km±4km, M5.2/104, mb5.6/104, mB5.7/77, MLv5.9/12, Mw(mB)5.2/77*

ISC 25 04:21:38.5±0.3, 6°.81N±0°.03×123°.79E±0°.04, h605km±3km, h606km:pP-P, n603, σ1§29/707, mb4.8/134, 21C-23D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.61**	**47**	‖*i*P	**P**	**04 22 49.2**	**-0.3**
GSPH	**General Santos**	**1.35**	**122**	*e*P	**P**	**04 22 50.4**	**-0.9**
GSPH				*e*S	**S**	**04 23 50.3**	**0.0**
DMPH	**Davao City--Mi**	**1.72**	**81**	‖*e*P	**P**	**04 22 51.7**	**-0.5**
DMPH				*e*S	**S**	**04 23 52.9**	**+0.7**
DAV	**Davao City (W)**	**1.79**	**81**	*e*P	**P**	**04 22 51.7**	**-0.8**
DAV				*e*S	**S**	**04 23 51.6**	**-1.0**
DCPH	**Dipolog City**	**1.82**	**346**	‖*e*P	**P**	**04 22 51.0**	**-1.6**
DCPH				*e*S	**S**	**04 23 47.8**	**-5.1**
CGP	**Cagayan de Oro**	**1.86**	**29**	‖*e*P	**P**	**04 22 51.8**	**-1.0**
TBP	**Tagbilaran**	**2.87**	**1**	‖*e*P	**P**	**04 22 56.1**	**-1.2**
PLP	**Palo**	**4.49**	**15**	‖*i*P	**P**	**04 23 06.5**	**-1.3**
PLP				*e*S	**S**	**04 24 17.4**	**-3.3**
MYLDM	**Lahad Datu**	**5.51**	**253**	*e*P	**P**	**04 23 17.2**	**+1.4**
PPR	**Puerto Princes**	**5.82**	**301**	‖*i*P	**P**	**04 23 18.7**	**+0.4**
KMSI	**Cibinong** 816nm,0.8s,7μm8.0nm	**6.19**	**178**	P	**P**	**04 23 22.0**	**+0.4**
TOLI	**Toli-Toli**	**6.39**	**208**	*e*P	**P**	**04 23 23.3**	**0.0**
MRSI	**Marisa** 284nm,0.8s,3μm1.0nm	**6.55**	**196**	P	**P**	**04 23 25.0**	**+0.2**
TNTI	**Ternate** 760nm,1.0s,9μm3.7nm	**6.97**	**149**	P	**P**	**04 23 28.2**	**-0.4**
TNTI	**Ternate**	**6.97**	**149**	*e*P	**P**	**04 23 28.4**	**-0.2**
GQP	**Guinayangan**	**7.18**	**349**	‖*e*P	**P**	**04 23 29.3**	**-1.1**
MPSI	**Mapaga** 231nm,0.4s,7μm1.5nm	**7.51**	**211**	P	**P**	**04 23 33.4**	**-0.1**
KKM	**Kota Kinabalu** baz=7.5,SNR=304	**7.57**	**265**	P	**P**	**04 23 33.5**	**-0.7**
KKM	**Kota Kinabalu** 2μm,0.9s	**7.57**	**265**	*e*P	**P**	**04 23 33.2**	**-1.0**
TGY	**Tagaytay City** 173nm,0.3s,baz=169,slow=5.3,SNR=18	**7.78**	**339**	P	**P**	**04 23 35.1**	**-0.9**
TGY				S	**S**	**04 25 10.6**	**-1.6**
LUWI	50nm,0.3s,baz=125,slow=21,SNR=7.4 **Luwuk**	**7.86**	**187**	P	**P**	**04 23 36.1**	**-0.7**
LUWI	2μm,0.6s,27μm9.1nm **Luwuk**	**7.86**	**187**	P	**P**	**04 23 35.4**	**-1.4**
LUWI	baz=7.8,SNR=119 **Luwuk**	**7.86**	**187**	*e*P	**P**	**04 23 35.1**	**-1.6**
APSI	**Ampana** 2μm,0.5s,22μm7.6nm	**7.96**	**196**	P	**P**	**04 23 37.9**	**+0.2**
LBMI	**Labuha** 914nm,0.9s,7μm	**8.27**	**153**	P	**P**	**04 23 40.7**	**+0.1**
SANI	**Sanana** 911nm,0.7s,9μm	**9.07**	**166**	P	**P**	**04 23 46.5**	**-1.8**
BCPH	**Baguio City Da**	**10.02**	**342**	↑*i*P	**P**	**04 23 56.4**	**-1.3**
BCPH				*i* S	**S**	**04 25 50.2**	**-1.8**
NLAI	**Namlea** 404nm,0.8s,4μm	**10.51**	**162**	P	**P**	**04 24 03.1**	**+0.6**
TTSI	**Tana Toraja** 988nm,0.9s,8μm	**10.56**	**202**	P	**P**	**04 24 02.0**	**-1.0**
BKB	**Balikpapan** 1μm,0.9s,10μm	**10.56**	**221**	P	**P**	**04 24 03.2**	**+0.2**
PALU	**Palau** baz=11,SNR=32	**10.61**	**86**	P	**P**	**04 24 04.2**	**+0.7**
SWI	**Sorong** 738nm,0.8s,7μm	**10.66**	**135**	P	**P**	**04 24 04.8**	**+0.9**
SWI	**Sorong**

SOEI eS S 04 27 41.2 -3.0
YULB Yu-li 16.66 352 eP P 04 24 59.6 -2.1
60nm,0.7s
WSI Waingapu 16.73 192 P P 04 25 00.6 -1.8
2µm,0.6s,28µm
WSI Waingapu 16.73 192 P P 04 25 00.8 -1.7
baz=17,SNR=8.9
KMMI Kalianget 16.90 216 P P 04 25 04.1 +0.2
626nm,1.2s,6µm
SRBI Singaraja 17.09 210 P P 04 25 05.0 -0.7
483nm,1.2s,6µm
SSLB Suanglung 17.10 351 eP P 04 25 05.2 -0.5
137nm,0.7s
SMPI Sarmi 17.26 120 P P 04 25 08.8 +1.5
750nm,0.8s,7µm
ABJI Asem Bagus 17.36 213 P P 04 25 08.8 +0.7
242nm,0.8s
NACB Ningaanchiao 17.40 353 eP P 04 25 07.8 -0.6
38nm,0.9s
YOJ Yonaguni jima 17.57 358 eP P 04 25 10.6 +0.7
YOJ pmax pmax
comp=Z,82nm,0.6s
YOJ Yonaguni jima 17.57 358 eP P 04 25 10.6 +0.7
comp=Z,82nm,0.6s
DNP Denpasar 17.60 209 P P 04 25 11.9 +1.6
comp=Z,1µm,0.9s
BLJI Banyuglugur 17.68 215 P P 04 25 11.0 0.0
comp=Z,461nm,0.6s,comp=Z,5µm
GRJI Gresik 17.70 220 P P 04 25 12.0 +0.8
comp=Z,340nm,0.8s,comp=Z,4µm
IGBI Denpasar 17.75 209 P P 04 25 12.1 +0.4
comp=Z,956nm,1.1s,comp=Z,8µm
YHNB Yeheng 17.91 353 eP P 04 25 13.7 +0.6
comp=Z,80nm,0.6s
JAGI Jajag, Banyuwa 17.96 212 eP P 04 25 13.9 +0.2
comp=Z,705nm,0.7s
TBJI Tambak Boyo 18.03 222 P P 04 25 15.2 +0.9
comp=Z,411nm,0.8s,comp=Z,4µm
QIZ Qiongzhong 18.21 313 eP P 04 25 15.7 -0.2
comp=Z,54nm,0.6s
UWJI Ujung Watu 18.36 225 P P 04 25 18.3 +1.1
comp=Z,636nm,1.1s,comp=Z,6µm
NGJI Ngawi 18.70 221 P P 04 25 21.4 +1.1
comp=Z,241nm,0.8s
TPI Tanjungpandan 18.70 240 P P 04 25 20.6 +0.2
comp=Z,118nm,0.7s
GENI Genyem 18.82 119 P P 04 25 23.2 +1.7
comp=Z,1µm,1.0s,comp=Z,9µm
PWJI Pagerwojo 18.97 219 P P 04 25 22.8 0.0
comp=Z,104nm,0.6s
SMRI Semarang 19.15 224 P P 04 25 25.2 +0.7
comp=Z,337nm,0.9s
SMRI Semarang 19.15 224 P P 04 25 25.4 +0.9
baz=19,SNR=6.6
SMRI Semarang 19.15 224 eP P 04 25 23.7 -0.8
comp=Z,252nm,0.9s
JAY Jayapura 19.25 118 P P 04 25 26.5 +1.0
comp=Z,253nm,0.7s
JAY Jayapura 19.25 118 P P 04 25 26.4 +0.9
comp=Z,30nm,0.3s,baz=262,slow=6.1,SNR=93
JAY Jayapura 19.25 118 P P 04 25 26.4 +0.9
baz=19,SNR=27
UGM Wanagama 19.72 222 P P 04 25 30.1 +0.4
comp=Z,314nm,1.8s
UGM Wanagama 19.72 222 P P 04 25 29.5 -0.1
baz=20,SNR=29
PPBI Pangkal Pinang 19.75 244 P P 04 25 29.2 -0.7
comp=Z,55nm,0.9s,comp=Z,8µm
JOW Kunigami 20.37 12 eP P 04 25 36.6 +1.3
comp=Z,21nm,0.7s
KTGM Kuala Trenggan 20.60 267 ⇑P P 04 25 37.9 +0.4
BTDF Bukit Timah Da 20.68 256 P P 04 25 38.7 +0.4
baz=21,SNR=15
BTDF P P 04 25 38.7 +0.4
baz=21,SNR=15
MTN Manton Dam 20.84 160 P P 04 25 39.6 -0.1
baz=21,SNR=8.6
MTN Manton Dam 20.84 160 eP P 04 25 39.7 0.0
comp=Z,128nm,1.5s
KGM Kluang 20.96 258 ⇑P P 04 25 41.0 +0.3
LEM Lembang 21.07 230 P P 04 25 42.8 +0.9
comp=Z,421nm,1.1s,comp=Z,4µm
LEM Lembang 21.07 230 P P 04 25 43.0 +1.1
comp=Z,401nm,1.0s,baz=26,slow=9.5,SNR=30
LEM Lembang 21.07 230 P P 04 25 43.2 +1.3
baz=21,SNR=12
CMJI Cimerak 21.08 227 P P 04 25 39.6 -2.2
comp=Z,246nm,0.7s
KDU Kakadu 21.20 156 P P 04 25 42.9 0.0
baz=21,SNR=5.2
CISI Cisompet, Garu 21.39 228 P P 04 25 42.8 -1.9
comp=Z,302nm,0.5s
CISI Cisompet, Garu 21.39 228 P P 04 25 43.8 -0.9
baz=21,SNR=17
CISI Cisompet, Garu 21.39 228 eP P 04 25 42.9 -1.8
comp=Z,205nm,0.4s
CBJI Citeko 21.41 233 P P 04 25 46.7 +1.9
comp=Z,2µm,1.0s,comp=Z,58µm
CNJI Cibinong 21.75 230 P P 04 25 46.5 -1.3
comp=Z,475nm,1.1s,comp=Z,5µm
JMBI JAMBI 21.79 248 P P 04 25 49.6 +1.4
comp=Z,2µm,0.8s
GUMO Guam 21.80 70 P P 04 25 47.8 -0.4
comp=Z,95nm,0.3s,baz=196,slow=2.2,SNR=7.2
GUMO S S 04 29 06.6 -2.6
comp=Z,51nm,0.7s,baz=53,slow=20,SNR=3.9
KLSI 22.19 240 P P 04 25 52.0 +0.2
comp=Z,1µm,0.9s,comp=Z,11µm
FRIM Kepong 22.36 262 ⇑P P 04 25 53.2 -0.1
CGJI Cibinong 22.45 234 P P 04 25 52.9 -1.1
comp=Z,917nm,0.6s,comp=Z,10µm
MDSI Maura Dua 22.57 241 P P 04 25 54.9 -0.2
comp=Z,296nm,0.8s
KHON Khomkaen 22.60 297 P P 04 25 55.7 +0.3
comp=Z,109nm,0.5s,comp=Z,2µm
IPM Ipoh 22.77 265 ⇑P P 04 25 57.1 +0.1
IPM Ipoh 22.77 265 eP P 04 25 56.6 -0.4
comp=Z,40nm,0.9s
KASI Kota Agung 22.82 238 P P 04 25 56.7 -0.7
comp=Z,541nm,0.9s,comp=Z,4µm
LHSI Lahat 22.83 243 P P 04 25 57.7 +0.3
comp=Z,222nm,0.8s
KNRA Kununurra 22.87 168 P P 04 25 58.2 +0.5
baz=23,SNR=33
LWLI Liwa 22.93 240 P P 04 25 58.7 +0.2
comp=Z,959nm,0.8s,comp=Z,10µm
KULM Kulim 23.06 268 eP P 04 25 59.6 +0.1
comp=Z,38nm,0.9s
MNAI Manna 23.57 242 P P 04 26 03.3 -0.8
comp=Z,704nm,0.8s
MNAI Manna 23.57 242 P P 04 26 03.3 -0.8
baz=24,SNR=13
MNAI Manna 23.57 242 eP P 04 26 03.1 -0.9
comp=Z,490nm,0.8s
KSI Kapahiang 23.58 244 P P 04 26 04.0 -0.1
comp=Z,434nm,0.8s
BKNI Bangkinang 23.59 255 P P 04 26 03.9 -0.3
comp=Z,179nm,0.7s,comp=Z,3µm
SDSI Sungai Dareh 23.67 250 P P 04 26 03.8 -0.5
comp=Z,112nm,0.9s,comp=Z,28µm
SLVN Son La 24.05 309 eP P 04 26 08.9 +0.6
comp=Z,16nm,0.8s
PPI Padang Panjang 24.43 254 P P 04 26 11.3 -0.4
comp=Z,307nm,0.7s,comp=Z,3µm
PPI Padang Panjang 24.43 254 P P 04 26 11.4 -0.3
baz=24,SNR=21
MNSI Mandailing Nat 24.88 257 P P 04 26 14.8 -0.8
comp=Z,96nm,0.8s
PSI Prapat 25.09 262 P P 04 26 18.2 +0.6
comp=Z,85nm,0.7s,baz=69,slow=3.4,SNR=70
PSI PcP PcP 04 29 30.1 -0.6
comp=Z,25nm,0.8s,baz=129,slow=2.4,SNR=7.5
PSI S S 04 30 01.1 -0.2
comp=Z,5.1nm,0.7s,baz=282,slow=18,SNR=6.5
PSI ScP ScP 04 32 12.9 -0.6
comp=Z,14nm,0.9s,baz=168,slow=2.4,SNR=7.1
PSI Prapat 25.09 262 P P 04 26 18.3 +0.6
PSI 04 29 30.2
PSI S S 04 30 01.2 -0.2
PSI pmax pmax
comp=Z,85nm,0.7s
PSI pmax pmax
comp=Z,25nm,0.8s
PSI smax smax
comp=N,5.0nm,0.7s
PSI pmax pmax
comp=N,15nm,0.9s
PSI Prapat 25.09 262 P P 04 26 17.9 +0.2
baz=25,SNR=31
PSI Prapat 25.09 262 eP P 04 26 17.8 +0.1
PSI PcP PcP 04 29 30.1 -0.6
PSI S S 04 30 01.1 -0.2
PSI ScP ScP 04 32 12.9 -0.6
MANU Manus Island 25.12 110 P P 04 26 19.7 +2.0
baz=25,SNR=4.3
UTTA Uttaradit 25.14 298 P P 04 26 18.3 +0.5
comp=N,24nm,0.9s,comp=N,25nm
WHN Wuhan 25.22 341 P P 04 26 20.0 +1.6
GYA Guiyang 25.46 322 P P 04 26 22.0 +1.3
GYA sP sP 04 29 02.8 -1.3
GYA PcP PcP 04 29 32.1 +0.8
GYA S S 04 30 08.6 +1.9
GYA ScP ScP 04 32 16.0 +1.7
GYA PcS PcS 04 33 12.3 -0.5
GYA ScS ScS 04 36 05.3 +0.6
GYA PMZ
comp=N,20nm,0.8s
GYA PMZ
comp=N,120nm,4.8s
NJ2 Nanjing 25.54 350 eP P 04 26 21.1 0.0
NJ2 PMZ
comp=N,20nm,0.8s
SISI Saibi 25.95 253 P P 04 26 23.9 -1.1
comp=N,568nm,0.6s,comp=N,5µm
UMPA Umpang Tak 26.13 293 P P 04 26 27.3 +0.7
comp=N,28nm,0.9s,comp=N,792nm
LAMP Lampang 26.25 299 P P 04 26 28.4 +0.8
comp=N,27nm,0.7s,comp=N,335nm
CRAI Chiangrai 26.34 303 P P 04 26 25.7 -2.7
comp=N,55nm,0.9s,comp=N,13µm
PBSI Pulau Batu 26.35 256 P P 04 26 26.8 -1.7
comp=N,90nm,1.0s
CBIJ Chichi jima 26.70 39 eP P 04 26 30.5 -0.8
comp=N,26nm,0.5s
CBIJ S S 04 30 22.5 -3.3
JCJ Chichijima 26.70 39 P P 04 26 29.0 -2.4
comp=N,48nm,0.4s,baz=250,slow=7.7,SNR=22
JCJ S S 04 30 22.5 -3.3
comp=N,102nm,0.6s,baz=316,slow=24,SNR=21
GSI Gunungsitoli 26.71 259 P P 04 26 31.0 -0.7
comp=N,648nm,0.7s,comp=N,6µm
GSI Gunungsitoli 26.71 259 eP P 04 26 30.5 -1.2
comp=N,390nm,0.6s
CM31 Chiang Mai Arr 26.83 298 eP P 04 26 33.8 +1.1
comp=N,40nm,0.6s
CMAR Chiang Mai Arr 26.83 298 P P 04 26 33.8 +1.1
comp=N,37nm,0.7s,baz=110,slow=7.0,SNR=132
CMAR PcP PcP 04 29 36.0 +1.4
comp=N,5.6nm,0.6s,baz=122,slow=1.4,SNR=8.6
CMAR S S 04 30 29.1 +1.0
comp=N,1.0nm,0.3s,baz=93,slow=15,SNR=4.9
CMAR ScP ScP 04 32 19.1 +0.7
comp=N,9.7nm,0.9s,baz=122,slow=1.4,SNR=16
ENH Enshi 26.94 332 eP P 04 26 33.1 -0.4
comp=N,18nm,0.8s
CHTO Chiang Mai 26.96 299 P P 04 26 34.2 +0.3
comp=N,529nm,0.7s
CHTO Chiang Mai 26.96 299 eP P 04 26 34.6 +0.8
CHTO pmax pmax
comp=Z,72nm,0.6s
CHTO Chiang Mai 26.96 299 eP P 04 26 34.6 +0.8
comp=Z,72nm,0.6s
JNU Nakatsue 27.00 13 P P 04 26 32.5 -1.4
comp=Z,6.0nm,0.8s,baz=160,slow=6.3,SNR=6.1
JNU Nakatsue 27.00 13 eP P 04 26 33.4 -0.6
comp=Z,3.3nm,0.9s
KMI Kunming 27.15 314 P P 04 26 37.3 +1.6
KMI sP sP 04 29 19.8 -1.4
KMI PcP PcP 04 29 36.8 +1.3
KMI S S 04 30 33.9 +0.5
KMI ScP ScP 04 32 18.9 -0.6
KMI PMZ
comp=Z,53nm,0.9s
CMAI Chiengmai2 27.33 301 P P 04 26 37.6 +0.4
comp=Z,54nm,0.8s
MBWA Marble Bar 28.08 188 eP P 04 26 43.0 -0.4
comp=Z,252nm,0.5s
COEN Coen 28.21 137 P P 04 26 44.3 -0.3
baz=28,SNR=434
COEN Coen 28.21 137 eP P 04 26 44.1 -0.5
comp=Z,199nm,0.5s
PMG Port Moresby 28.31 124 P P 04 26 45.6 0.0
comp=Z,140nm,0.7s,baz=350,slow=4.9,SNR=31
PMG Port Moresby 28.31 124 P P 04 26 45.6 0.0
PMG pmax pmax
comp=Z,140nm,0.7s
PMG Port Moresby 28.31 124 eP P 04 26 45.3 -0.2
comp=Z,177nm,0.8s
WRAB Tennant Creek 28.53 159 eP P 04 26 47.6 +0.2
WRAB pmax pmax
comp=Z,77nm,0.5s
WRAB Tennant Creek 28.53 159 eP P 04 26 47.6 +0.2
comp=Z,77nm,0.5s
WRA Warramunga Arr 28.54 159 P P 04 26 47.6 +0.1
comp=Z,54nm,0.5s,baz=341,slow=9.2,SNR=219
WRA PcP PcP 04 29 39.0 +0.1
comp=Z,19nm,0.8s,baz=331,slow=3.0,SNR=7.9
WRA S S 04 30 50.7 -3.8
comp=Z,69nm,0.6s,baz=328,slow=16,SNR=28
WRA ScP ScP 04 32 23.4 -0.3
comp=Z,62nm,0.7s,baz=341,slow=3.3,SNR=17
TIA Tai'an 29.90 349 eP P 04 26 59.8 +0.8
TIA PMZ
comp=Z,20nm,1.0s
RABL Rabaul 30.35 110 P P 04 27 05.3 +2.1
baz=30,SNR=8.7
XAN Xi'an 30.39 335 P P 04 27 03.5 +0.2
XAN PMZ
comp=Z,57nm,0.7s
CD2 Chengdu 30.45 324 P P 04 27 03.9 0.0
CD2 sP sP 04 29 49.3 -1.4
CD2 S S 04 31 25.1 +1.2
CD2 PMZ
comp=Z,40nm,0.6s
CD2 PMZ
comp=Z,2µm,10.9s
KSAR Wonju Array Be 30.72 6 P P 04 27 05.6 -0.4
KSAR Wonju Array Be 30.72 6 P P 04 27 05.6 -0.4
KSAR ScP ScP 04 32 31.0 +0.5
GIRL Giralia 30.73 197 P P 04 27 07.6 +1.3
baz=31,SNR=221
KSRS Korea Array 30.74 6 P P 04 27 05.6 -0.5
comp=Z,2.6nm,0.6s,baz=181,slow=9.5,SNR=16
KSRS ScP ScP 04 32 31.0 +0.5
comp=Z,8.1nm,0.8s,baz=188,slow=3.1,SNR=24
KSRS Korea Array 30.74 6 P P 04 27 05.6 -0.5
KSRS pmax pmax
comp=Z,3.0nm,0.6s
KSRS pmax pmax
comp=N,8.0nm,0.9s
QIS Mount Isa 31.32 151 P P 04 27 12.1 +0.7
baz=31,SNR=72
AS31 Alice Springs 31.86 162 eP P 04 27 16.7 +0.8
ASAR Alice Springs 31.86 162 P P 04 27 16.8 +0.9
comp=N,106nm,0.3s,baz=340,slow=7.2,SNR=2162
ASAR PcP PcP 04 29 48.0 +0.3
comp=N,20nm,0.4s,baz=347,slow=2.8,SNR=12
ASAR S S 04 31 44.3 -1.1
comp=N,172nm,0.8s,baz=349,slow=20,SNR=11
ASAR ScP ScP 04 32 34.5 -0.1
comp=N,25nm,0.7s,baz=333,slow=2.9,SNR=4.9
WRKA Warakurna 31.95 172 P P 04 27 17.5 +0.8
baz=32,SNR=268
MTSU Mount Surprise 32.01 141 P P 04 27 17.9 +0.7
baz=32,SNR=20
MAJO Matsushiro 32.40 22 eP P 04 27 19.5 -0.8
MAJO e 04 29 50.0
MAJO pmax pmax
comp=Z,12nm,0.8s
MAJO Matsushiro 32.40 22 eP P 04 27 19.5 -0.8
comp=Z,12nm,0.8s
MAJO ePcP PcP 04 29 50.0 +1.0
MAJO eScP ScP 04 32 36.9 +0.6
MAT Matsushiro 32.40 22 P P 04 27 19.3 -1.0
MAT S S 04 31 48.8 -4.5
MJAR Matsushiro Arr 32.40 22 P P 04 27 19.2 -1.1
comp=Z,8.2nm,0.8s,baz=196,slow=10,SNR=27
MJAR S S 04 31 50.2 -3.1
comp=Z,2.2nm,0.8s,baz=141,slow=18,SNR=5.5
MJAR ScP ScP 04 32 37.4 +1.1
comp=Z,19nm,1.1s,baz=210,slow=4.8,SNR=20
MEEK Meekatharra 33.62 188 P P 04 27 30.9 +0.2
baz=34,SNR=236
BJT Baijiatuao 33.77 349 eP P 04 27 32.1 +0.4
BJT pmax pmax
comp=Z,19nm,0.9s
BJT Baijiatuao 33.77 349 eP P 04 27 32.1 +0.4
comp=Z,19nm,0.9s
BJT eScP ScP 04 32 41.3 +0.3
BJI Beijing 33.79 349 P P 04 27 32.5 +0.7
BJI PMZ
comp=Z,13nm,1.2s
BJI PMZ
comp=Z,570nm,14.9s
LZH Lanzhou 34.40 331 eP P 04 27 38.6 +1.4
LZH pP PP 04 29 19.1 -1.7
LZH sP sP 04 30 26.1 +0.3
LZH ScP ScP 04 32 43.8 +0.2
LZH PMZ
comp=Z,77nm,1.3s
LZH PMZ
comp=Z,250nm,4.3s
CTA Charters Tower 34.68 141 P P 04 27 40.3 +0.8
comp=Z,68nm,0.6s,baz=320,slow=10,SNR=102
CTA ScP ScP 04 32 44.9 +0.2
comp=Z,21nm,0.7s,baz=288,slow=7.1,SNR=9.1
CTAO Charters Tower 34.68 141 eP P 04 27 40.6 +1.0
CTAO pmax pmax
comp=Z,78nm,0.6s
CTAO Charters Tower 34.68 141 eP P 04 27 40.5 +1.0
comp=Z,78nm,0.6s
CTAO eScP ScP 04 32 45.0 +0.3
HHC Hu-ho-hao-te 35.62 344 eP P 04 27 48.5 +1.4
HHC S S 04 32 45.4 +3.7
HHC sS sS 04 35 46.1 -0.2
HHC PMZ
comp=Z,19nm,1.2s
HHC PMZ
comp=Z,930nm,5.5s
MORW Morawa 36.44 191 P P 04 27 54.3 +0.4
baz=36,SNR=194
FORT Forrest 37.59 174 P P 04 28 04.2 +0.9
baz=38,SNR=160
FORT Forrest 37.59 174 eP P 04 28 04.1 +0.8
comp=Z,578nm,0.6s
FORT ePcP PcP 04 30 04.8 +0.3
FORT eScP ScP 04 32 55.1 -0.2
FORT eS S 04 33 08.4 -2.5
BLDU Ballidu 37.82 190 P P 04 28 05.2 0.0
baz=38,SNR=147
USRK Ussuriysk Ar. 37.93 10 P P 04 28 05.6 -0.2
comp=Z,2.1nm,0.4s,baz=194,slow=7.3,SNR=9.5
USRK ScP ScP 04 32 56.0 -0.4
comp=Z,4.5nm,0.8s,baz=248,slow=2.1,SNR=9.4
KMBL Kambalda 38.00 183 P P 04 28 07.1 +0.5
baz=38,SNR=576
MDJ Mudanjiang 38.00 7 eP P 04 28 07.2 +0.8
comp=Z,5.8nm,0.5s
LSA Lhasa 38.23 311 P P 04 28 09.9 +0.9
LSA Lhasa 38.23 311 eP P 04 28 09.9 +0.9
LSA pmax pmax
comp=Z,24nm,0.6s
LSA Lhasa 38.23 311 eP P 04 28 09.9 +0.9
comp=Z,24nm,0.6s
KLBR Kellerberrin 38.62 188 P P 04 28 11.8 +0.2
baz=39,SNR=242
QLP Quilpie 38.66 150 P P 04 28 12.9 +0.9
baz=39,SNR=15
ERM Erimo 39.04 23 eP P 04 28 15.7 +0.9
ERM pmax pmax
comp=Z,13nm,0.9s
ERM Erimo 39.04 23 eP P 04 28 15.7 +0.9
comp=Z,13nm,0.9s
TAPN Taplejung 39.86 305 eP P 04 28 22.7 +0.7
comp=Z,50nm,0.4s
ODAN Odare 39.92 304 eP P 04 28 23.0 +0.6
comp=Z,56nm,0.5s
NWAO Narrogin (SRO) 40.00 189 P P 04 28 23.2 +0.7
comp=Z,310nm,0.6s,baz=329,slow=4.3,SNR=337
NWAO Narrogin (SRO) 40.00 189 P P 04 28 23.3 +0.7
baz=40,SNR=264
NWAO P P 04 28 23.3 +0.7
baz=40,SNR=264
RAMN Ramite 40.61 304 eP P 04 28 28.9 +1.0
comp=Z,68nm,0.8s
ASAJ Asahikawa 40.65 21 P P 04 28 28.1 +0.6
comp=Z,8.9nm,0.4s,baz=219,slow=6.5
ASAJ ScP ScP 04 33 06.4 -0.6
baz=195,slow=16
ASAJ Asahikawa 40.65 21 eP P 04 28 28.0 +0.5
comp=Z,16nm,1.3s
ASAJ eScP ScP 04 33 08.0 +0.9
RMQ Roma 41.01 145 P P 04 28 31.8 +1.1
baz=41,SNR=5.8
BBOO Buckleboo 41.09 164 P P 04 28 32.1 +0.9
baz=41,SNR=616
BBOO Buckleboo 41.09 164 eP P 04 28 31.9 +0.7
comp=Z,209nm,2.3s
BBOO ePcP PcP 04 30 15.8 -0.1
BBOO eScP ScP 04 33 08.1 -0.9
BBOO eS S 04 33 59.6 -2.2
EIDS Eidsvold 41.56 141 P P 04 28 35.6 +0.5
baz=42,SNR=21
EIDS Eidsvold 41.56 141 eP P 04 28 35.6 +0.5
comp=Z,61nm,0.7s
GUN Gumba 41.57 305 eP P 04 28 36.1 +0.5
comp=Z,60nm,0.4s
RKGY Rocky Gully 41.69 188 P P 04 28 37.2 +1.3
baz=42,SNR=22
PKI Pulchoki 41.82 304 eP P 04 28 37.5 0.0
comp=Z,15nm,0.2s
PKIN Phulchoki 41.84 304 eP P 04 28 37.6 0.0
comp=Z,16nm,0.4s
KKN Kakani 42.01 304 eP P 04 28 39.2 +0.3
comp=Z,32nm,0.4s
STKA Stephens Creek 42.05 157 P P 04 28 40.0 +1.2
comp=Z,45nm,0.4s,baz=334,slow=7.7,SNR=263
STKA PcP PcP 04 30 19.1 0.0
comp=Z,12nm,0.7s,baz=335,slow=8.2,SNR=3.4
STKA S S 04 34 15.7 0.0
comp=Z,15nm,0.7s,baz=346,slow=13,SNR=18
STKA Stephens Creek 42.05 157 P P 04 28 40.0 +1.2
STKA 04 30 19.1
STKA S S 04 34 15.7 0.0
STKA pmax pmax
comp=Z,45nm,0.4s
STKA pmax pmax
comp=Z,12nm,0.7s
STKA smax smax
comp=N,15nm,0.7s
STKA Stephens Creek 42.05 157 eP P 04 28 39.6 +0.8
comp=N,0.2nm,0.3s
STKA ePcP PcP 04 30 19.4 +0.3
STKA eScP ScP 04 33 12.8 -0.1
STKA eS S 04 34 12.7 -3.0
DMN Daman 42.09 304 eP P 04 28 39.8 +0.3
comp=N,9.2nm,0.3s
HTT Hallett 42.52 161 P P 04 28 43.8 +1.3
baz=43,SNR=190
GKN Gorkha 42.62 304 eP P 04 28 43.7 +0.1
comp=N,21nm,0.3s
PALK Pallekele 42.76 273 P P 04 28 45.2 +0.5
comp=N,20nm,0.6s,baz=83,slow=5.1,SNR=14
KLR Kul'dur 42.81 8 eP P 04 28 40.4 -4.0
KLR e 04 30 20.8
YSS Yuzh-Sakhalins 43.19 19 eP P 04 28 47.6 +0.2
YSS pmax pmax
comp=Z,12nm,1.0s
YSS Yuzh-Sakhalins 43.19 19 eP P 04 28 47.6 +0.2
ULN Ulaanbaatar 43.33 344 eP P 04 28 49.8 +1.1
ULN e 04 30 23.3
ULN pmax pmax
comp=Z,13nm,0.9s
ULN Ulaanbaatar 43.33 344 eP P 04 28 49.8 +1.1
comp=Z,13nm,0.9s
ULN ePcP PcP 04 30 23.3 -0.2
ULN eScP ScP 04 33 17.3 -0.7
KOLN Koldanda 43.39 304 eP P 04 28 50.2 +0.6
comp=Z,80nm,0.3s
DANN Dangsing 43.47 304 eP P 04 28 50.8 +0.5
comp=Z,15nm,0.5s
CMSA Cobar Meteorol 43.49 152 P P 04 28 51.9 +1.9
baz=44,SNR=25
SONM Songino Array 43.49 343 P P 04 28 51.0 +1.0
comp=Z,8.4nm,0.8s,baz=160,slow=8.5,SNR=18
SONM PcP PcP 04 30 23.8 -0.2
comp=Z,4.3nm,0.7s,baz=158,slow=4.1,SNR=5.5
SONM ScP ScP 04 33 17.9 -0.7
comp=Z,4.2nm,0.7s,baz=175,slow=4.2,SNR=6.1
KUR Kuril'sk 43.62 25 ⇑P P 04 28 51.7 +1.0

HYB Hyderabad 45.37 288 *i* P P 04 29 04.0 -0.7
ARMA Armidale 45.63 146 P P 04 29 08.9 +2.3
baz=46,SNR=26
ARMA Armidale 45.63 146 *e*P P 04 29 08.5 +1.9
comp=Z,40nm,0.8s
ARPS Mount Arapiles 46.53 160 P P 04 29 14.0 +1.0
baz=47,SNR=26
ZAK Zakamensk 46.70 342 *e*P P 04 29 14.3 +0.1
ZAK *e* 04 30 33.5
ZAK pmax pmax
comp=Z,2.0nm,1.7s
CAN Canberra 48.16 152 *e*P P 04 29 27.2 +1.8
CAN *e* 04 30 41.5
CAN pmax pmax
comp=Z,7.0nm,0.6s
CAN Canberra 48.16 152 *e*P P 04 29 27.2 +1.8
comp=Z,7.1nm,0.6s
CAN *e*PcP PcP 04 30 41.5 +0.8
CNB Canberra Magne 48.33 152 P P 04 29 28.5 +1.9
baz=48,SNR=10
WMQ Urumqi 48.55 325 P P 04 29 29.0 +0.9
WMQ PMZ
comp=Z,15nm,0.6s
WMQ PMZ
comp=Z,130nm,10.0s
TOO Toolangi 48.57 157 P P 04 29 30.1 +1.8
baz=49,SNR=50
NDI New Delhi 49.01 302 *e*P P 04 29 30.8 -0.9
TARA Tarawa 49.28 94 *e*P P 04 29 36.0 +2.1
comp=Z,329nm,1.3s
DZM Mont Dzumac 50.69 126 P P 04 29 45.9 +1.8
comp=Z,63nm,0.5s,baz=91,slow=24,SNR=72
DZM Mont Dzumac 50.69 126 *e*P P 04 29 44.9 +0.8
DZM Mont Dzumac 50.69 126 *e*P P 04 29 45.8 +1.7
comp=Z,64nm,0.6s
BOD Bodaibo 51.45 353 *e*P P 04 29 49.5 +0.6
BOD pmax pmax
comp=Z,5.0nm,0.8s
MK31 Makanchi Array 53.38 325 *e*P P 04 30 03.5 +0.6
MK31 *e* 04 30 59.7
MK31 Makanchi Array 53.38 325 *e*P P 04 30 03.5 +0.6
MK31 *e*PcP PcP 04 30 59.7 -0.4
MK31 *e*ScP ScP 04 33 59.6 -1.1
MKAR Makanchi Array 53.38 325 P P 04 30 03.6 +0.7
comp=Z,15nm,0.4s,baz=120,slow=8.3,SNR=185
MKAR PcP PcP 04 30 59.8 -0.4
comp=Z,12nm,0.6s,baz=117,slow=4.3,SNR=14
MKAR ScP ScP 04 33 59.0 -1.8
comp=Z,6.0nm,0.8s,baz=124,slow=4.8,SNR=7.5
MKAR S S 04 36 51.2 +0.5
comp=Z,4.2nm,1.0s,baz=130,slow=11,SNR=9.2
PEA0B Petropavlovsk- 53.78 25 *e*P P 04 30 06.6 +1.0
PETK Petropavlovsk- 53.78 25 P P 04 30 06.6 +1.1
comp=Z,24nm,0.6s,baz=191,slow=4.2,SNR=32
KSH Kashi 53.82 315 P P 04 30 08.1 +1.9
KSH pP pP 04 32 02.3 +3.3
KSH PP PP 04 32 22.0 +5.4
KSH S S 04 36 56.6 -0.2
KSH sS sS 04 40 20.1 +0.4
KSH SS SS 04 40 56.4 +6.0
KSH PMZ
comp=Z,17nm,0.6s
KSH PMZ
comp=Z,300nm,6.4s
PET Petropavlovsk 54.12 25 *e*P P 04 30 08.6 +0.7
PET pmax pmax
comp=Z,37nm,0.9s
PET Petropavlovsk 54.12 25 *e*P P 04 30 08.6 +0.7
comp=Z,37nm,0.9s
ULHL Ulahol 54.80 318 P P 04 30 14.0 +0.9
SNR=8.5
YAK Yakutsk 55.28 3 P P 04 30 16.2 +0.4
comp=Z,1.2nm,0.4s,baz=186,slow=19,SNR=2.6
YAK Yakutsk 55.28 3 *e*P P 04 30 16.5 +0.7
YAK Yakutsk 55.28 3 *e*P P 04 30 16.5 +0.7
KZA Kyzart 55.39 317 P P 04 30 19.0 +1.5
SNR=14
TKM2 Tokmak 2 55.52 318 P P 04 30 18.6 +0.4
SNR=11
TKM2 Tokmak 2 55.52 318 P P 04 30 18.8 +0.7
TKM2 pmax pmax
comp=Z,10.0nm,0.6s
TKM2 Tokmak 2 55.52 318 *e*P P 04 30 18.5 +0.4
comp=Z,5.9nm,0.5s
SFK Sufi-Kurgan 55.76 314 P P 04 30 21.0 +1.1
SFK pmax pmax
comp=Z,17nm,0.6s
CHMS Chumysh 56.11 318 P P 04 30 22.5 +0.5
SNR=5.2
USP Ospenovka 56.39 318 P P 04 30 24.7 +0.8
SNR=13
AML Almayashu 56.46 317 P P 04 30 26.1 +1.2
SNR=12
MA2 Magadan 56.51 16 *i* P P 04 30 25.7 +1.4
ZALV Zalesovo Beam 56.54 334 P P 04 30 24.1 -0.5
comp=Z,3.2nm,0.3s,baz=137,slow=7.6,SNR=15
ZALV ScP ScP 04 34 11.6 -2.8
comp=Z,1.9nm,0.7s,baz=134,slow=4.2,SNR=3.2
ZALV S S 04 37 31.0 -0.3
comp=Z,1.0nm,0.6s,baz=134,slow=12,SNR=3.8
ZALV PKP2bc 05 00 18.7
comp=Z,1.6nm,0.8s,baz=327,slow=2.5,SNR=4.1
EKS2 Erkin-Say 56.62 317 P P 04 30 26.8 +1.2
SNR=15
EKS2 Erkin-Say 56.62 317 *e*P P 04 30 26.5 +0.9
EKS2 *e* 04 31 13.2
EKS2 pmax pmax
comp=Z,13nm,0.6s
EKS2 Erkin-Say 56.62 317 *e*P P 04 30 26.4 +0.9
comp=Z,13nm,0.6s
EKS2 *e*PcP PcP 04 31 13.2 +0.1
KBL Kabul 57.35 307 *e*P P 04 30 31.0 +0.2
KBL pmax pmax
comp=Z,29nm,0.7s
KBL Kabul 57.35 307 *e*P P 04 30 30.9 +0.2
comp=Z,29nm,0.7s
KURBB Kurchatov Arra 57.59 328 P P 04 30 32.1 +0.3
comp=Z,20nm,0.7s,baz=128,slow=6.3,SNR=152
KURK Kurchatov 57.59 328 *e*P P 04 30 32.1 +0.3
KURK pmax pmax
comp=Z,36nm,0.6s
KURK Kurchatov 57.59 328 *e*P P 04 30 32.1 +0.3
comp=Z,36nm,0.6s
NVS Novosibirsk 57.83 334 *e*P P 04 30 32.7 -0.6
NVS *e*PP pP 04 32 31.6 +2.9
NVS *e*S S 04 37 45.7 -1.9
NVS *e* 04 39 14.8
NVS pmax pmax
comp=Z,6.0nm,0.5s
NVS pmax pmax
comp=N,6.0nm,0.5s
NVS pmax pmax
comp=E,7.0nm,0.6s
NVS smax smax
comp=E,22nm,1.5s
MSVF Nonsavu 58.85 115 *e*P P 04 30 43.1 +2.1
MSVF pmax pmax
comp=Z,62nm,0.9s
MSVF Nonsavu 58.85 115 *e*P P 04 30 43.1 +2.1
comp=Z,62nm,0.9s
KK31 Karatay Array 59.00 317 *i* P P 04 30 41.8 +0.3
KK31 pmax pmax
comp=Z,5.0nm,0.4s
KKAR Karatay Array 59.00 317 *e*P P 04 30 41.9 +0.4
KKAR pmax pmax
comp=Z,14nm,0.7s
KKAR Karatay Array 59.00 317 *e*P P 04 30 41.9 +0.4
comp=Z,14nm,0.7s
SEY Seymchan 59.76 15 ||*i*P P 04 30 48.2 +2.1
BVA0 Borovoye Array 63.16 327 *i* P P 04 31 08.3 -0.2
BVA0 pmax pmax
comp=Z,22nm,1.1s
BVAR Borovoye Array 63.16 327 P P 04 31 08.5 +0.1
comp=Z,9.8nm,0.6s,baz=133,slow=8.5,SNR=57
BRVK Borovoye 63.24 327 *d i*P P 04 31 09.1 +0.2
BRVK pmax pmax
comp=Z,27nm,0.8s
BRVK Borovoye 63.24 327 *e*P P 04 31 09.0 +0.2
comp=Z,25nm,0.8s
IDAH Dahanechah 64.45 303 *e*P P 04 31 18.1 +0.7
IKOO Kooshah 65.13 303 *e*P P 04 31 21.8 +0.2
ITEG Tejag 65.41 303 *e*P P 04 31 24.0 +0.7
RPZ Rata Peaks 65.95 144 P P 04 31 26.5 +0.4
comp=Z,12nm,0.7s,baz=274,slow=2.0,SNR=8.2
GEYT Alibeck 66.70 308 P P 04 31 31.8 +0.8
comp=Z,21nm,0.8s,baz=134,slow=4.3,SNR=24

URZ Urewera 66.77 137 P P 04 31 31.8 +0.5
comp=Z,9.5nm,0.5s,baz=252,slow=4.0,SNR=20
URZ Urewera 66.77 137 *e*P P 04 31 31.5 +0.2
comp=Z,13nm,0.6s
IBAF Bafgh 67.93 301 *e*P P 04 31 38.7 0.0
AB31 Akbulak array 67.93 321 *i* P P 04 31 38.0 -0.2
AB31 pmax pmax
comp=Z,4.0nm,0.3s
ABKAR Akbulak array 67.93 321 *e*P P 04 31 38.1 0.0
comp=Z,16nm,0.6s
IMEH Mehriz 68.72 301 *e*P P 04 31 42.7 -0.9
ICHK Chekchek 68.98 302 *e*P P 04 31 45.0 -0.1
AKTO Aktyubinsk 69.45 321 P P 04 31 47.2 -0.1
AKTO pmax pmax
comp=Z,19nm,0.6s
ISAD Sadrabad 69.56 301 *e*P P 04 31 47.9 -0.7
SVE Sverdlovsk 69.83 328 *e*P P 04 31 49.4 0.0
SVE pmax pmax
comp=Z,35nm,0.8s
IGLO Ghaloghah 69.89 306 *e*P P 04 31 50.6 +0.2
ISHM Shahmirzad 70.25 305 *e*P P 04 31 51.6 -1.0
ILAS Lasjerd 70.47 305 *e*P P 04 31 53.7 -0.2
IALA Alasht 70.66 306 *e*P P 04 31 55.0 -0.1
IFIR Firoozkooh 70.67 305 *e*P P 04 31 54.8 -0.3
ARU Arti 70.79 328 *d i*P P 04 31 54.3 -0.7
ARU PPP PPP 04 36 34.2
ARU S S 04 40 25.8 +3.2
ARU SS SS 04 45 12.4 +0.7
ARU pmax pmax
comp=Z,21nm,0.6s
ARU Arti 70.79 328 *e*P P 04 31 54.3 -0.7
comp=Z,20nm,0.6s
IDMV Damavand 71.24 305 *e*P P 04 31 57.9 -0.6
IVRN Varamin 71.44 305 *e*P P 04 31 58.8 -0.7
IR5 Iran Long-Peri 72.40 305 *e*P P 04 32 04.8 -0.2
UNV Unalaska Valle 72.61 36 *e*P P 04 32 05.6 0.0
comp=Z,40nm,0.8s
CASY Casey 73.54 186 *e*P P 04 32 10.8 +0.3
comp=Z,80nm,0.7s
RAYN Ar Rayn 76.60 292 *e*P P 04 32 28.2 -0.4
comp=Z,58nm,0.7s
DGRG David-gareji 76.85 311 P P 04 32 30.9 +1.2
DGRG David-gareji 76.85 311 *e*P P 04 32 30.9 +1.2
GNI Garni 77.28 310 *e*P P 04 32 32.8 +0.7
GNI pmax pmax
comp=Z,13nm,0.8s
GNI Garni 77.28 310 *e*P P 04 32 32.8 +0.7
comp=Z,14nm,0.8s
TBLG Delisi 77.34 311 P P 04 32 33.0 +0.7
TBLG Delisi 77.34 311 P P 04 32 33.0 +0.7
DAMY Dhamar 78.10 283 *e*P P 04 32 38.1 +1.0
comp=Z,11nm,0.6s
AKH Akhalkalaki 78.26 311 P P 04 32 38.7 +1.2
AKH Akhalkalaki 78.26 311 *e*P P 04 32 38.6 +1.2
ONI Oni 78.32 312 P P 04 32 38.6 +1.0
ONI Oni 78.32 312 *e*P P 04 32 38.6 +1.0
PRGR Permogore 78.42 332 *e*P P 04 32 34.9 -2.7
PRGR pmax pmax
comp=Z,33nm,0.7s
KBZ Khabaz 78.76 313 P P 04 32 39.6 -0.1
comp=Z,5.2nm,0.8s,baz=103,slow=5.3,SNR=6.8
NEY Neytrino 78.87 313 ||*e*P P 04 32 42.2 +1.6
NEY pmax pmax
comp=Z,5.0nm,1.4s
KIV Kislovodsk 78.91 313 *d i*P P 04 32 41.5 +0.8
KIV pmax pmax
comp=Z,31nm,1.7s
KIV Kislovodsk 78.91 313 *e*P P 04 32 41.2 +0.5
comp=Z,12nm,0.8s
CHVG Ch'k'valeri 79.33 312 P P 04 32 42.5 -0.4
ABPO Ambohimpanom 79.62 249 *e*P P 04 32 44.2 -0.8
ABPO pmax pmax
comp=Z,36nm,0.8s
ABPO Ambohimpanom 79.62 249 *e*P P 04 32 44.2 -0.8
comp=Z,36nm,0.8s
IM04 Indian Mountai 80.73 24 *e*P P 04 32 50.6 +1.0
KDAK Kodiak Island 80.88 33 *e*P P 04 32 52.2 +1.7
KDAK pmax pmax
comp=Z,21nm,0.6s
KDAK Kodiak Island 80.88 33 *e*P P 04 32 52.2 +1.7
comp=Z,21nm,0.6s
RSO Redoubt South 80.89 30 *e*P P 04 32 51.0 +0.2
comp=Z,34nm,0.8s
PPLA Purkeypile 81.25 27 *e*P P 04 32 53.2 +0.7
comp=Z,11nm,0.8s
VSR Storozhevoye 81.37 321 *e*P P 04 32 52.4 -0.8
VSR pmax pmax
comp=N,2.0nm,0.4s
VSR pmax pmax
comp=E,4.0nm,0.4s
VSR pmax pmax
comp=Z,10.0nm,0.4s
BPAW Bear Paw Mtn. 81.83 26 *e*P P 04 32 55.9 +0.6
comp=Z,13nm,1.2s
BPAW *e*pP pP 04 35 02.0 -0.8
TMCR Tamitsa 82.07 334 *e*P P 04 32 55.8 -0.6
TMCR pmax pmax
comp=Z,61nm,1.5s
TRF Thorofare Moun 82.13 27 *e*P P 04 32 57.4 +0.4
comp=Z,21nm,0.9s
MALT Malatya 82.20 308 ||P P 04 32 58.9 +1.1
MALT Malatya 82.20 308 ||*i*P P 04 32 58.9 +1.1
COLD Coldfoot 82.22 23 *e*P P 04 32 58.0 +0.8
comp=Z,19nm,1.1s
MCK McKinley 82.73 27 *e*P P 04 33 00.5 +0.6
MCK pmax pmax
comp=Z,45nm,0.8s
MCK McKinley 82.73 27 *e*P P 04 33 00.5 +0.6
comp=Z,45nm,0.8s
OBN Obninsk 82.88 325 *d i*P P 04 33 00.1 -0.5
OBN pmax pmax
comp=Z,94nm,1.7s
OBN Obninsk 82.88 325 *e*P P 04 33 00.2 -0.5
comp=Z,79nm,1.3s
SML Sawmill 83.04 29 *e*P P 04 33 02.0 +0.6
SML pmax pmax
comp=Z,7.0nm,1.2s
SML Sawmill 83.04 29 *e*P P 04 33 02.0 +0.6
comp=Z,7.1nm,1.2s
ILAR Eielson Array 83.60 26 P P 04 33 03.3 -0.8
comp=Z,1.8nm,0.6s,baz=244,slow=5.3,SNR=41
ILAR PKKPbc PKKPbc 04 51 16.5 -3.5
comp=Z,1.0nm,0.8s,baz=107,slow=1.2,SNR=7.8
MAW Mawson 85.63 200 P P 04 33 13.8 +0.1
comp=Z,15nm,0.5s,baz=71,slow=5.0,SNR=66
MAW Mawson 85.63 200 P P 04 33 13.8 +0.1
baz=86,SNR=42
EIL Elat 85.67 299 P P 04 33 15.3 +0.4
baz=86,SNR=8.8
BR131 Keskin Array S 85.82 309 *e*P P 04 33 14.2 -1.4
comp=Z,13nm,0.8s
BRTR Keskin Array B 85.82 309 P P 04 33 14.5 -1.1
comp=Z,11nm,0.7s,baz=135,slow=4.0,SNR=35
EGAK Eagle 86.05 25 *e*P P 04 33 16.4 +0.5
comp=Z,7.5nm,1.2s
CSS Prodhromos 86.53 305 *e*P P 04 33 18.2 -0.7
comp=Z,3.7nm,0.7s
ARCES ARCESS Array B 86.57 340 P P 04 33 17.5 -0.8
comp=Z,6.8nm,0.7s,baz=76,slow=6.2,SNR=32
ARCES PKiKP PKiKP 04 38 19.2 -0.9
comp=Z,1.6nm,0.9s,baz=105,slow=0.6,SNR=6.2
ARCES PKKPbc PKKPbc 04 51 09.7 -3.4
comp=Z,1.0nm,0.7s,baz=5.7,slow=1.2,SNR=4.1
KMBO Kilima Mbogo 86.70 268 P P 04 33 20.9 +0.5
comp=Z,18nm,0.8s,baz=62,slow=7.1,SNR=38
KMBO Kilima Mbogo 86.70 268 *e*P P 04 33 20.5 +0.1
KMBO pmax pmax
comp=Z,25nm,0.9s
KMBO Kilima Mbogo 86.70 268 *e*P P 04 33 20.4 +0.1
comp=Z,25nm,0.9s
VNDA Vanda 86.84 172 P P 04 33 19.8 +0.5
comp=Z,32nm,0.6s,baz=318,slow=6.0,SNR=179
AKASG Malin Array Be 87.68 321 P P 04 33 22.5 -1.3
comp=Z,5.4nm,0.7s,baz=69,slow=4.6,SNR=27
KIEV Kiev 87.69 321 *e*P P 04 33 22.2 -1.7
KIEV pmax pmax
comp=Z,6.0nm,0.8s
KIEV Kiev 87.69 321 *e*P P 04 33 22.2 -1.7
comp=Z,5.9nm,0.8s
FINES FINESS Array B 87.75 332 P P 04 33 22.9 -1.0
comp=Z,7.6nm,0.5s,baz=78,slow=4.1,SNR=78
FINES PKiKP PKiKP 04 38 21.7 -0.5
comp=Z,1.9nm,0.8s,baz=188,slow=5.2,SNR=2.6
SBA Scott Base 87.77 172 *e*P P 04 33 25.0 +1.3
SBA pmax pmax
comp=Z,8.0nm,0.7s

SBA Scott Base 87.77 172 *e*P P 04 33 25.0 +1.3
comp=Z,8.2nm,0.7s
HYT Haines Junctio 88.34 29 *e*P P 04 33 28.1 +1.2
comp=Z,5.9nm,0.9s
INK Inuvik 88.38 21 PKKPbc PKKPbc 04 51 04.9 -3.8
comp=Z,2.3nm,0.6s,baz=109,slow=3.2,SNR=6.1
TESR Tescani 90.01 317 ||*i*P P 04 33 34.2 -0.6
VRI Vrincioaia 90.06 316 ||P P 04 33 34.7 -0.4
VRI Vrincioaia 90.06 316 ||*i*P P 04 33 34.7 -0.4
MLR Muntele Rosu 90.67 316 ||P P 04 33 38.1 0.0
MLR Muntele Rosu 90.67 316 ||*i*P P 04 33 38.0 0.0
BURAR Bucovina Array 90.77 318 ⇑P P 04 33 38.0 -0.4
BURAR Bucovina Array 90.77 318 ⇑*i*P P 04 33 38.0 -0.4
VOIR 91.30 316 ⇑P P 04 33 39.9 -1.0
VOIR 91.30 316 ⇑*i*P P 04 33 39.9 -1.0
ARR Arges 91.60 316 ⇑*i*P P 04 33 41.8 -0.5
CJR Cluj-Napoca 92.04 317 ||P P 04 33 44.3 +0.1
CJR Cluj-Napoca 92.04 317 ||*i*P P 04 33 44.3 +0.1
TRPA Tarpa 92.43 319 ⇑*i*P P 04 33 45.3 -0.6
UZH Uzhgorod 92.48 319 *e*P P 04 33 45.0 -1.1
UZH *i* 04 35 56.8
APE Apeiranthos 92.49 308 ⇑P P 04 33 44.4 -2.1
APE Apeiranthos 92.49 308 ⇑*i*P P 04 33 44.4 -2.1
DRGR 92.61 318 ||P P 04 33 46.2 -0.7
DRGR 92.61 318 ||*i*P P 04 33 46.2 -0.7
VTS Vitosha 93.17 313 ⇑P P 04 33 48.4 -1.2
VTS Vitosha 93.17 313 ⇑*i*P P 04 33 48.4 -1.2
BZS Buzias 93.62 317 ⇑P P 04 33 50.5 -0.9
BZS Buzias 93.62 317 ⇑*i*P P 04 33 50.5 -0.9
SYO Syowa Base 94.22 201 ⇑*i*PKiKP PKiKP 04 38 34.6 +1.7
NB2 NORSAR Subarra 94.75 333 P P 04 33 54.2 -2.0
comp=Z,2.5nm,0.6s,baz=66,slow=4.8
NOA NORSAR Array B 94.75 333 P P 04 33 54.5 -1.7
comp=Z,3.6nm,0.7s,baz=68,slow=4.6,SNR=16
DPC Dobruska-Polom 95.77 322 *e*P P 04 34 00.2 -0.9
DPC Dobruska-Polom 95.77 322 *e*P P 04 34 00.2 -0.9
UPC Upice 95.91 322 *e*P P 04 34 01.5 -0.2
UPC Upice 95.91 322 *e*P P 04 34 01.5 -0.2
QSPA South Pole Qui 96.69 180 *e*P P 04 34 04.7 -0.2
comp=Z,5.5nm,0.7s
GOPC GO Pecny, Ondr 96.85 322 *e*P P 04 34 05.8 -0.1
PRU Pruhonice 96.97 322 *e*P P 04 34 06.4 0.0
PRU Pruhonice 96.97 322 *e*P P 04 34 06.4 0.0
BRG Berggiesshubel 97.04 323 *e*P P 04 34 06.6 -0.1
comp=Z,7.5nm,1.1s
BRG Berggiesshubel 97.04 323 *e*P P 04 34 06.6 -0.1
BRG pmax pmax
comp=Z,8.0nm,1.1s
LSZ Lusaka 97.15 255 *e*P Pdif 04 34 06.4 -1.7
LSZ pmax pmax
comp=Z,8.0nm,0.8s
LSZ Lusaka 97.15 255 *e*P Pdif 04 34 06.4 -1.6
comp=Z,8.4nm,0.8s
KHC Kasperske Hory 97.85 322 *e*P Pdif 04 34 10.3 -0.1
GERES GERESS Array B 97.87 321 P Pdif 04 34 09.7 -0.9
comp=Z,1.1nm,0.6s,baz=64,slow=6.1,SNR=9.0
GERES PKKPbc PKKPbc 04 50 42.2 -1.7
comp=Z,0.2nm,0.6s,baz=248,slow=2.5,SNR=3.8
YKA Yellowknife Ar 97.89 24 PKiKP PKiKP 04 38 39.6 0.0
comp=Z,0.6nm,0.6s,baz=302,slow=1.6,SNR=4.2
YKA PKKPbc PKKPbc 04 50 39.4 -4.8
comp=Z,2.1nm,0.4s,baz=124,slow=3.5,SNR=5.7
BOSA Boshof 100.70 242 P Pdif 04 34 24.0 +0.4
comp=Z,3.9nm,0.8s,baz=103,slow=8.5,SNR=3.5
EKA Eskdalemuir Ar 104.15 332 PKKPbc PKKPbc 04 50 24.4 -1.8
comp=Z,0.6nm,0.3s,baz=241,slow=3.2,SNR=16
EKA SKKP 04 53 08.4
comp=Z,0.5nm,0.5s,baz=250,slow=2.8,SNR=5.0
NVAR Mina Array Bea 106.98 47 PKKPbc PKKPbc 04 50 16.6 -0.8
comp=Z,2.1nm,0.6s,baz=138,slow=4.1,SNR=20
NVAR PKKPab PKKPab 04 50 32.9 -2.2
comp=Z,2.6nm,0.8s,baz=140,slow=5.1,SNR=13
SNAA Sanae 107.41 195 PKiKP PKiKP 04 38 56.4 -0.5
VNA2 Neumayer--Watz 109.04 195 P PKiKP 04 38 59.7 -0.1
baz=44,slow=1.1
PDAR Pinedale Array 110.91 39 PKKPbc PKKPbc 04 50 02.4 -3.0
comp=Z,1.3nm,0.8s,baz=104,slow=4.7,SNR=9.4
PDAR PKKP PKKPab 04 50 14.4 -3.3
comp=Z,5.4nm,0.8s,baz=105,slow=6.2,SNR=32
ULM Lac du Bonnet 113.61 27 PKKPab PKKPab 04 50 01.3 -4.2
comp=Z,2.0nm,0.5s,baz=136,slow=3.7,SNR=8.4
P27A Ficken Ranch, 117.07 39 P PKKPab 04 49 48.4 -1.9
baz=117
Y22D IRIS PASSCAL I 117.15 46 P PKKPab 04 49 48.8 -1.0
baz=117
R26A Arlington 117.24 41 P PKKPab 04 49 48.0 -1.4
baz=117
T25A Trinidad 117.27 42 P PKKPab 04 49 48.1 -1.3
baz=117
P28A Saint Francis 117.57 38 P PKKPab 04 49 46.4 -1.6
baz=117
R27A Eads 117.67 40 P PKKPab 04 49 46.2 -1.3
baz=118
T26A Comanche Natio 117.79 42 P PKKPab 04 49 45.7 -1.4
baz=118
Q28A Sharon Springs 117.83 39 P PKKPab 04 49 44.6 -2.2
baz=118
ECSD EROS Data Cent 117.84 32 P PKKPab 04 49 44.1 -2.6
baz=118
SCHQ Schefferville 117.95 7 PKP PKPdf 04 39 17.2 -0.2
comp=Z,3.9nm,0.4s,baz=8.4,slow=2.5,SNR=27
P29A Atwood 118.06 38 P PKKPab 04 49 44.5 -1.3
baz=118
O30A MW Ranch, Wils 118.23 37 P PKKPab 04 49 43.4 -1.6
baz=118
R28A Tribune 118.27 40 P PKKPab 04 49 43.3 -1.6
baz=118
T27A Campo 118.42 41 P PKKPab 04 49 42.6 -1.6
baz=118
Q29A Oakley 118.46 39 P PKKPab 04 49 41.6 -2.4
baz=118
L33A Hoskins 118.55 34 P PKKPab 04 49 41.5 -2.1
baz=118
R29A Marienthal 118.64 39 P PKKPab 04 49 41.3 -1.9
baz=118
S28A Manter 118.65 40 P PKKPab 04 49 41.5 -1.7
baz=118
SPMN St. Paul 118.69 29 P PKKPab 04 49 36.7 -2.3
baz=118
Q30A Quinter 118.88 38 P PKKPab 04 49 40.4 -1.7
baz=119
N32A Stulken Farm, 118.89 36 P PKKPab 04 49 39.7 -2.4
baz=119
P31A Stockton 119.05 37 P PKKPab 04 49 39.7 -1.7
baz=119
V27A Dan Oppiter Fa 119.09 43 P PKKPab 04 49 40.1 -1.2
baz=119
S29A Ulysses 119.14 40 P PKKPab 04 49 39.8 -1.2
baz=119
U28A Mallet 119.14 42 P PKKPab 04 49 39.3 -1.7
baz=119
TOA0 Torodi Ar. Sit 119.17 289 *e*PKiKP PKPdf 04 39 20.1 -0.7
TOA0 Torodi Ar. Sit 119.17 289 *e*PKPdf PKPdf 04 39 19.9 -0.9
TORD Torodi Ar. Bea 119.17 289 PKP PKPdf 04 39 20.2 -0.6
comp=Z,12nm,0.8s,baz=64,slow=1.7,SNR=202
TORD SKP 04 41 58.9
comp=Z,2.9nm,1.1s,baz=71,slow=2.9,SNR=4.6
TORD PKKPbc PKKPbc 04 49 37.9 +1.7
comp=Z,1.6nm,0.8s,baz=277,slow=3.9,SNR=6.7
TORD SKKPbc SKKPbc 04 52 24.9 -0.4
comp=Z,1.0nm,0.9s,baz=281,slow=3.1,SNR=3.9
R30A Dighton 119.27 39 P PKKPab 04 49 38.7 -1.7
baz=119
CBKS Cedar Bluff 119.27 38 P PKKPab 04 49 38.7 -1.7
baz=119
T29A Hugoton 119.30 40 P PKKPab 04 49 39.0 -1.3
baz=119
Q31A Ellis 119.36 38 P PKKPab 04 49 38.8 -1.2
baz=119
P32A Huiting Farm, 119.45 37 P PKKPab 04 49 38.4 -1.2
baz=119
S30A Montezuma 119.54 40 P PKKPab 04 49 37.8 -1.4
baz=119
R31A Burdett 119.73 38 P PKKPab 04 49 36.5 -1.8
baz=120
U29A Oasis Ranch, S 119.73 41 P PKKPab 04 49 36.6 -1.8
baz=120
O33A Hebron 119.75 36 P PKKPab 04 49 36.1 -2.1
baz=120
W28A Vega 119.79 43 P PKKPab 04 49 37.1 -1.1
baz=120
T30A Plains 119.85 40 P PKKPab 04 49 36.8 -1.1
baz=120
Q32A Meitler Ranch, 119.88 37 P PKKPab 04 49 36.6 -1.1
baz=120
R32A Long Quarter, 120.14 38 P PKKPab 04 49 35.4 -1.1

	baz=120							
S31A	**Mullinville**	120.17	39	P		PKKPab	04 49 35.4	-1.0
	baz=120							
O34A	**Beatrice**	120.19	35	P		PKKPab	04 49 33.3	-3.0
	baz=120							
X28A	**Dimmitt**	120.22	43	P		PKKPab	04 49 35.3	-1.0
	baz=120							
Q33A	**Connelly Farm,**	120.31	37	P		PKKPab	04 49 34.1	-1.7
	baz=120							
T31A	**Randall Ranch,**	120.36	40	P		PKKPab	04 49 34.1	-1.5
	baz=120							
S32A	**Newby Ranch, P**	120.46	39	P		PKKPab	04 49 33.5	-1.7
	baz=120							
Y28A	**McKinney Farm,**	120.52	44	P		PKKPab	04 49 33.6	-1.3
	baz=120							
P34A	**Walnut Farm, R**	120.54	36	P		PKKPab	04 49 33.2	-1.6
	baz=120							
X29A	**Tulia**	120.60	43	P		PKKPab	04 49 33.4	-1.2
	baz=120							
R33A	**Olander Ranch,**	120.66	38	P		PKKPab	04 49 33.0	-1.2
	baz=120							
U31A	**Nine Bar Ranch**	120.69	40	P		PKKPab	04 49 32.9	-1.2
	baz=121							
Z28A	**Tucker Farm, M**	120.77	45	P		PKKPab	04 49 32.1	-1.7
	baz=121							
T32A	**Huddler Ranch,**	120.79	39	P		PKKPab	04 49 32.5	-1.2
	baz=121							
Y29A	**Porterfield Fa**	120.95	44	P		PKKPab	04 49 30.8	-2.3
	baz=121							
V31A	**Spring Creek L**	121.06	41	P		PKKPab	04 49 31.5	-1.0
	baz=121							
128A	**Castleberry Fa**	121.07	45	P		PKKPab	04 49 30.8	-1.7
	baz=121,SNR=13							
R34A	**Isabella, Hill**	121.11	37	P		PKKPab	04 49 29.0	-3.3
	baz=121							
X30A	**Coker Ranch, T**	121.16	43	P		PKKPab	04 49 29.7	-2.3
	baz=121,SNR=10.0							
O36A	**Bolckow**	121.21	34	P		PKKPab	04 49 29.8	-2.1
	baz=121							
U32A	**Winter Ranch,**	121.23	40	P		PKKPab	04 49 30.9	-0.8
	baz=121							
Z29A	**Hungry Hill Ra**	121.26	44	P		PKKPab	04 49 29.6	-2.0
	baz=121							
228A	**UT Block 9, Go**	121.26	46	P		PKKPab	04 49 30.1	-1.5
	baz=121							
T33A	**Patterson Ranc**	121.27	39	P		PKKPab	04 49 29.8	-1.7
	baz=121							
129A	**Stewart Farms,**	121.50	45	P		PKKPab	04 49 28.5	-2.1
	baz=121							
S34A	**Willow Spring**	121.58	38	P		PKKPab	04 49 28.7	-1.6
	baz=121							
V32A	**Arapaho**	121.61	41	P		PKKPab	04 49 28.8	-1.3
	baz=122,SNR=8.4							
Z30A	**Sanderson Ranc**	121.64	44	P		PKKPab	04 49 28.2	-1.8
	baz=122							
X31A	**McDonald Ranch**	121.65	42	P		PKKPab	04 49 27.1	-2.8
	baz=122,SNR=7.3							
U33A	**Lingo Farm, Me**	121.76	39	P		PKKPab	04 49 27.5	-1.9
	baz=122,SNR=7.6							
Y31A	**Rekieta Farm,**	121.85	43	P		PKKPab	04 49 27.4	-1.6
	baz=122,SNR=7.0							
229A	**Bryant Ranch,**	121.90	46	P		PKKPab	04 49 27.6	-1.2
	baz=122							
TXAR	**Lajitas Array**	121.93	49	PKP		PKPdf	04 39 25.9	+0.1
	comp=Z,0.6nm,0.6s,baz=223,slow=1.1,SNR=11							
TXAR				SKP			04 42 04.6	
	comp=Z,1.0nm,0.7s,baz=283,slow=1.5,SNR=5.5							
TXAR				PKKPbc		PKKPbc	04 49 25.5	-1.4
	comp=Z,1.7nm,0.8s,baz=133,slow=6.4,SNR=20							
TXAR	**Lajitas Array**	121.93	49	PKIKP		PKPdf	04 39 26.0	+0.1
T34A	**McClaskey Farm**	121.97	38	P		PKKPab	04 49 27.0	-1.5
	baz=122							
V33A	**Lossen Ranch,**	122.03	40	P		PKKPab	04 49 26.7	-1.5
	baz=122,SNR=8.4							
329A	**Wagon Wheel Ra**	122.04	46	P		PKKPab	04 49 25.2	-3.0
	baz=122							
S35A	**Otter Creek Ra**	122.06	37	P		PKKPab	04 49 25.3	-2.7
	baz=122,SNR=9.3							
U34A	**Anderson Ranch**	122.12	39	P		PKKPab	04 49 26.0	-1.8
	baz=122,SNR=5.9							
X32A	**Elmer**	122.23	42	P		PKKPab	04 49 26.2	-1.2
	baz=122							
Z31A	**Sharp Cattle R**	122.30	43	P		PKKPab	04 49 25.5	-1.5
	baz=122							
W33A	**Caddo, Fort Co**	122.33	41	P		PKKPab	04 49 24.6	-2.3
	baz=122,SNR=5.3							
Y32A	**R-V Farms, Ver**	122.38	42	P		PKKPbc	04 49 23.7	-1.6
	baz=122							
230A	**Sterling City**	122.44	45	P		PKKPbc	04 49 23.4	-1.6
	baz=122							
T35A	**Sooner Cattle**	122.45	38	P		PKKPab	04 49 24.2	-2.2
	baz=122							
S36A	**Lake Cedric, C**	122.47	37	P		PKKPab	04 49 23.1	-1.9
	baz=122,SNR=8.2							
131A	**Roby**	122.50	44	P		PKKPab	04 49 24.3	-1.9
	baz=122,SNR=6.6							
R37A	**Teagarden Farm**	122.52	36	P		PKKPbc	04 49 23.4	-1.4
	baz=122							
429A	**Davenport Ranc**	122.57	47	P		PKKPab	04 49 23.6	-2.3
	baz=122							
529A	**Stev Forest Ra**	122.60	48	P		PKKPab	04 49 23.7	-2.1
	baz=122,SNR=5.6							
330A	**Mertzon**	122.66	46	P		PKKPbc	04 49 22.6	-1.5
	baz=123,SNR=10							
U35A	**Pawnee**	122.66	39	P		PKKPab	04 49 23.7	-1.7
	baz=122							
X33A	**Lawton**	122.68	41	P		PKKPab	04 49 23.1	-2.3
	baz=123							
W34A	**Bridge Creek,**	122.72	40	P		PKKPab	04 49 23.5	-1.7
	baz=123							
T36A	**Boggs Farm, Ca**	122.74	37	P		PKKPab	04 49 22.8	-2.3
	baz=123,SNR=8.6							
Z32A	**Haskell**	122.76	43	P		PKKPab	04 49 22.7	-2.3
	baz=123,SNR=7.5							
S37A	**Fort Scott**	122.90	36	P		PKKPbc	04 49 21.9	-1.6
	baz=123,SNR=7.3							
430A	**Baggett Ranch,**	122.96	47	P		PKKPbc	04 49 21.0	-2.0
	baz=123							
231A	**Bronte**	122.97	45	P		PKKPab	04 49 22.0	-2.1
	baz=123							
V35A	**Meyer Ranch, C**	122.99	39	P		PKKPbc	04 49 21.6	-1.4
	baz=123,SNR=7.2							
X34A	**Smith Ranch, M**	123.08	41	P		PKKPab	04 49 22.5	-1.2
	baz=123							
530A	**J-C Ranch, Com**	123.23	47	P		PKKPab	04 49 21.0	-2.0
	baz=123,SNR=8.7							
331A	**San Angelo**	123.25	46	P		PKKPbc	04 49 20.5	-1.4
	baz=123,SNR=12							
T37A	**Cheneyville 18**	123.27	37	P		PKKPbc	04 49 19.5	-2.5
	baz=123,SNR=6.6							
W35A	**Tecumseh**	123.35	40	P		PKKPab	04 49 20.2	-2.3
	baz=123							
431A	**Sonora**	123.47	46	P		PKKPbc	04 49 18.8	-2.3
	baz=123							
232A	**Coleman**	123.47	45	P		PKKPab	04 49 19.9	-2.1
	baz=123,SNR=9.2							
Y34A	**Reagan Ranch,**	123.52	41	P		PKKPab	04 49 20.2	-1.5
	baz=123							
V36A	**Jenks**	123.53	39	P		PKKPab	04 49 20.1	-1.6
	baz=123,SNR=6.4							
TUL1	**Tulsa**	123.54	38	P		PKKPab	04 49 19.7	-2.0
	baz=123							
133A	**Hamilton Ranch**	123.55	43	P		PKKPab	04 49 20.1	-1.5
	baz=123							
U37A	**Salina**	123.63	37	P		PKKPab	04 49 19.2	-2.0
	baz=124							
332A	**Millersview**	123.69	45	P		PKKPab	04 49 19.0	-2.0
	baz=124,SNR=8.1							
X35A	**Drake**	123.76	40	P		PKKPbc	04 49 18.1	-1.9
	baz=124							
W36A	**Wetumka**	123.77	39	P		PKKPab	04 49 18.6	-2.1
	baz=124,SNR=9.2							
531A	**Rocksprings**	123.80	47	P		PKKPab	04 49 18.6	-2.0
	baz=124							
HDIL	**Hopedale**	123.89	30	P		PKKPbc	04 49 17.5	-2.2
	baz=124							
233A	**Rising Star**	123.91	44	P		PKKPab	04 49 18.3	-1.7
	baz=124							
432A	**Menard**	123.94	46	P		PKKPbc	04 49 17.6	-1.7
	baz=124							
V37A	**Hulbert**	123.96	38	P		PKKPab	04 49 17.8	-2.0
	baz=124,SNR=8.3							
Y35A	**Marietta**	124.02	41	P		PKKPab	04 49 19.0	-0.6
	baz=124							
134A	**White-Moore Ra**	124.14	43	P		PKKPab	04 49 17.7	-1.3
	baz=124							
JCT	**Junction City**	124.16	46	P		PKKPab	04 49 18.1	-0.9
	baz=124							
631A	**Perdido Creek**	124.18	48	P		PKKPab	04 49 17.2	-1.7
	baz=124,SNR=5.1							
333A	**Richland Sprin**	124.25	45	P		PKKPbc	04 49 16.0	-2.1
	baz=124							
W37A	**Quinton**	124.27	39	P		PKKPab	04 49 16.8	-1.7
	baz=124,SNR=7.0							
532A	**Rocksprings**	124.28	46	P		PKKPab	04 49 16.6	-1.8
	baz=124							
234A	**Clairette**	124.44	44	P		PKKPab	04 49 16.4	-1.4
	baz=124							
X37A	**Clayton**	124.66	39	P		PKKPab	04 49 15.2	-1.6
	baz=124							
632A	**Uvalde**	124.71	47	P		PKKPab	04 49 15.0	-1.5
	baz=125							
334A	**Lometa**	124.77	44	P		PKKPbc	04 49 14.0	-2.1
	baz=125							
W38A	**Poteau**	124.88	38	P		PKKPab	04 49 15.2	-0.7
	baz=125							
WHTX	**Lake Whitney**	124.91	43	P		PKKPab	04 49 14.7	-1.0
	baz=125							
533A	**Kerrville**	124.93	46	P		PKKPab	04 49 14.0	-1.7
	baz=125							
X38A	**Whitesboro**	124.95	39	P		PKKPab	04 49 14.3	-1.3
	baz=125							
434A	**Burnet**	125.05	45	P		PKKPab	04 49 13.6	-1.5
	baz=125							
534A	**Blanco**	125.36	46	P		PKKPab	04 49 13.0	-0.8
	baz=125							
Z37A	**Pogue Cattle C**	125.39	41	P		PKKPab	04 49 13.5	-0.2
	baz=125							
336A	**Riesel**	125.69	43	P		PKKPab	04 49 11.4	-1.0
	baz=126							
MIAR	**Mount Ida**	125.80	38	P		PKKPab	04 49 10.4	-1.6
	baz=126							
KIC	**Kosan Boka**	127.01	283	*e*PKIKP		PKPdf	04 39 36.2	+0.3
	comp=Z,22nm,0.7s							
DBIC	**Dimbokro**	127.05	284	PKP		PKPdf	04 39 35.3	-0.7
	comp=Z,8.1nm,0.6s,baz=81,slow=2.4,SNR=18							
DBIC	**Dimbokro**	127.05	284	PKIKP		PKPdf	04 39 35.3	-0.7
DBIC				pmax		pmax		
	comp=Z,8.0nm,0.6s							
DBIC	**Dimbokro**	127.05	284	*e*PKPdf		PKPdf	04 39 36.0	+0.1
TIC	**Toumodi**	127.21	284	*e*PKIKP		PKPdf	04 39 36.4	+0.1
LIC	**Lamto**	127.32	283	*e*PKIKP		PKPdf	04 39 36.6	+0.1
	comp=Z,51nm,0.8s							
WVT	**Waverly**	127.98	33	*e*PKIKP		PKPdf	04 39 37.0	-0.2
WVT	**Waverly**	127.98	33	*e*PKPdf		PKPdf	04 39 37.0	-0.2
USHA	**Ushuaia**	131.11	171	SKPbc		SKPbc	04 42 12.0	+0.4
	comp=Z,7.8nm,0.8s,baz=145,slow=5.2,SNR=3.9							
CMIG	**Matias Romero**	135.00	58	SKP		SKPbc	04 42 26.2	+0.5
	comp=Z,14nm,0.9s,baz=277,slow=3.9,SNR=19							
JTS	**JuntasAbangare**	146.71	60	PKPbc		PKPbc	04 40 14.8	+0.2
	comp=Z,7.2nm,0.3s,baz=214,slow=7.3,SNR=12							
TRQA	**Tornquist**	148.45	171	*e*PKPbc		PKPbc	04 40 18.5	+0.1
U65B	**HualaaæØ**	148.52	155	*e*PKPbc		PKPbc	04 40 19.2	+0.6
U65B				*e*PKPab		PKPab	04 40 25.1	+0.6
U73B	**San Pedro**	149.57	154	*e*PKPbc		PKPbc	04 40 21.6	+0.4
CFAA	**Coronel Fontan**	152.89	157	PKP		PKPdf	04 40 21.6	+0.6
	comp=Z,0.8nm,0.7s,baz=240,slow=3.5,SNR=19							
CFAA				PKPbc		PKiKP	04 40 29.0	+0.1
	comp=Z,2.8nm,0.5s,baz=234,slow=3.2,SNR=26							
RCBR	**Riachuelo**	159.79	272	PKPab		PKPab	04 41 12.8	-0.8
	comp=Z,16nm,0.8s,baz=77,slow=4.1,SNR=6.4							
LVC	**Limon Verde**	160.08	143	PKPab		PKPab	04 41 16.9	+2.3
	comp=Z,8.9nm,0.6s,baz=258,slow=9.3,SNR=5.0							
CPUP	**Villa Florida**	160.55	177	PKP		PKPdf	04 40 31.0	+0.3
	comp=Z,3.6nm,0.7s,baz=204,slow=2.3,SNR=12							
CPUP				PKPab		PKPab	04 41 16.7	+0.6
	comp=Z,9.4nm,0.7s,baz=177,slow=4.0,SNR=14							
CPUP	**Villa Florida**	160.55	177	*e*PKIKP		PKPdf	04 40 31.0	+0.3
CPUP				*e*			04 41 16.3	
CPUP	**Villa Florida**	160.55	177	*e*PKPdf		PKPdf	04 40 31.0	+0.3
CPUP				*e*PKPab		PKPab	04 41 16.3	+0.2
LPAZ	**La Paz**	165.00	130	PKP		PKPdf	04 40 37.1	+1.2
	comp=Z,6.4nm,0.9s,baz=351,slow=0.7,SNR=22							
LPAZ				PKPab		PKPab	04 41 37.3	+0.3
	comp=Z,2.0nm,0.7s,baz=276,slow=0.6,SNR=4.6							
LPAZ	**La Paz**	165.00	130	PKIKP		PKPdf	04 40 37.2	+1.2
LPAZ							04 41 37.3	
LPAZ				pmax		pmax		
	comp=Z,6.0nm,0.9s							
LPAZ				pmax		pmax		
	comp=Z,2.0nm,0.7s							
LPAZ	**La Paz**	165.00	130	*e*PKPdf		PKPdf	04 40 36.8	+0.8
LPAZ				*e*PKPab		PKPab	04 41 37.2	+0.3
BDFB	**Brasilia**	168.10	222	PKP		PKPdf	04 40 38.0	+0.3
	comp=Z,3.9nm,0.9s,baz=26,slow=5.9,SNR=3.7							
BDFB				PKPab		PKPab	04 41 49.8	-0.2
	comp=Z,13nm,0.8s,baz=145,slow=3.6,SNR=14							
SIV	**San Ignacio**	169.70	153	PKP		PKPdf	04 40 39.2	+0.6
	comp=Z,3.5nm,0.8s,baz=161,slow=2.6,SNR=8.5							
SIV				PKPab		PKPab	04 41 57.7	+0.9
	comp=Z,3.9nm,0.6s,baz=208,slow=4.1,SNR=11							
PTGA	**Pitinga**	172.89	32	PKP		PKPdf	04 40 38.3	-1.9
	comp=Z,2.9nm,0.2s,baz=350,slow=2.8,SNR=4.9							
PTGA				PKPab		PKPab	04 42 10.6	-0.5
	comp=Z,1.9nm,0.2s,baz=359,slow=5.2,SNR=7.3							

IDC 25 04:31:44.0±7.1, 19˚06S×176˚47W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.6/46, mbtmp4.0/2, Error ellipse: s-maj=308.2km s-min=112.2km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	46.24	260	P		P	P	04 40 11.2	-0.3
	0.7nm,0.3s,baz=97,slow=7.5,SNR=7.8								
ASAR	**Alice Springs**	46.26	255	P		P	P	04 40 11.7	0.0
	1.3nm,0.5s,baz=93,slow=7.5,SNR=17								
AKASG	**Malin Array Be**	142.42	333	PKP		PKPdf		04 51 18.1	-0.6
	0.6nm,0.5s,baz=44,slow=4.3,SNR=6.4								

*BJI **25** 04:36:14.1, 6˚09N×123˚97E, h590km, mb4.9/47, mB4.9/19*
*ISCJB **25** 04:36:18.7±0.2, 6˚54N±0˚02×123˚62E±0˚03, h595km±2km, mb4.7/114, Error ellipse: s-maj=4.3km s-min=2.8km az=156.1*
*MAN **25** 04:36:19, 6˚59N×123˚82E, h579km, mb5.4, ML4.4, MS4.7*
*NEIC **25** 04:36:19.5±0.3, 6˚52N×123˚62E, h593km±4km, mb4.7/57, Error ellipse: s-maj=4.9km s-min=3.5km az=65.0*
*MOS **25** 04:36:19.1±0.9, 6˚55N×123˚59E, h602km, mb4.7/35, Error ellipse: s-maj=10.2km s-min=5.4km az=115.1*
*DJA **25** 04:36:20.5±0.3, 7˚N±4˚×12˚4E±˚, h599km±3km, M4.8/73, mb5.0/73, mB5.3/27, MLv5.5/8, Mw(mB)4.7/27*
*IDC **25** 04:36:20.2±0.7, 6˚55N×123˚69E, h602km±7km, mb4.0/41, mb1 4.1/43, mb1mx4.0/54, mbtmp5.0/43, Error ellipse: s-maj=8.4km s-min=4.7km az=65.0*

ISC 25 04:36:19.5±0.4, 6˚51N±0˚04×123˚66E±0˚05, h594km±4km, n371, σ1$14/438, mb4.7/113, 11C-21D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	0.91	39	⇓*i*P		P	P	04 37 29.5	-0.5
GSPH	**General Santos**	1.35	108	⇓*e*P		P	P	04 37 30.3	-0.9
DMPH	**Davao City--Mi**	1.92	73	*e*P		P	P	04 37 32.7	-0.3
DAV	**Davao City (W)**	1.98	74	*e*P		P	P	04 37 32.5	-0.8
DCPH	**Dipolog City**	2.08	352	⇑*e*P		P	P	04 37 32.4	-1.3
DCPH				*e*S		S	S	04 38 30.8	-3.2
CGP	**Cagayan de Oro**	2.19	28	⇓*e*P		P	P	04 37 33.0	-1.1
TBP	**Tagbilaran**	3.17	4	*e*P		P	P	04 37 37.6	-1.6
TBP				*e*S		S	S	04 38 40.2	-3.9
SGSI	**Sangihe**	3.37	146	P		P	P	04 37 37.9	-2.6
PLP	**Palo**	4.80	16	⇓*e*P		P	P	04 37 49.2	-1.3
PLP				*e*S		S	S	04 39 00.9	-3.9
MYLDM	**Lahad Datu**	5.30	256	*e*P		P	P	04 37 54.9	+0.3
PPR	**Puerto Princes**	5.86	304	⇑*e*P		P	P	04 37 59.4	+0.2
KMSI	**Cibinong**	5.91	177	P		P	P	04 38 00.4	+0.8
	377nm,0.9s,2.9nm								
TOLI	**Toli-Toli**	6.07	208	*e*P		P	P	04 37 59.6	-1.5
TSM	**Tawau**	6.17	249	⇓P		P	P	04 38 01.1	-0.9
SDKM	**Sandakan**	6.49	263	⇓P		P	P	04 38 03.7	-1.1
TNTI	**Ternate**	6.79	147	P		P	P	04 38 07.3	-0.2
	487nm,0.7s,7μm4.0nm								
TNTI	**Ternate**	6.79	147	*e*P		P	P	04 38 07.0	-0.5
	306nm,0.4s								
TNTI				*e*S		S	S	04 39 34.2	-1.5
KKM	**Kota Kinabalu**	7.42	267	P		P	P	04 38 12.3	-1.0
	baz=7.3,SNR=98								
KKM	**Kota Kinabalu**	7.42	267	*e*P		P	P	04 38 12.2	-1.2
	950nm,1.0s								
KKM				*e*S		S	S	04 39 44.0	-2.5
TGY	**Tagaytay City**	8.01	341	P		P	P	04 38 17.7	-1.1
	255nm,0.3s,baz=190,slow=2.4,SNR=32								
TGY				S		S	S	04 39 54.4	-2.1
	32nm,0.3s,baz=148,slow=16,SNR=3.2								
LBMI	**Labuha**	8.07	152	P		P	P	04 38 19.8	+0.4
	296nm,0.6s,4μm								
SANI	**Sanana**	8.81	165	P		P	P	04 38 25.0	-1.6
	329nm,0.8s,4μm								
NLAI	**Namlea**	10.28	160	P		P	P	04 38 42.8	+1.8
	296nm,0.7s,2μm								
SWI	**Sorong**	10.54	134	P		P	P	04 38 44.5	+0.8
	164nm,0.8s,2μm								
SWI	**Sorong**	10.54	134	P		P	P	04 38 44.8	+1.1
	baz=11,SNR=6.0								
SIJI	**Sorong**	10.55	134	P		P	P	04 38 44.6	+0.8
	18nm,0.3s,baz=315,slow=12,SNR=67								
SIJI				S		S	S	04 40 43.1	+0.9
	0.5nm,0.3s,baz=190,slow=20,SNR=8.1								
AAI	**Ambon**	11.10	156	P		P	P	04 38 50.4	+1.2
	212nm,0.6s,2μm								
AAI	**Ambon**	11.10	156	P		P	P	04 38 50.5	+1.2
	baz=11,SNR=3.8								
SPSI	**Sidrap Palu**	11.11	201	P		P	P	04 38 49.8	+0.5
	23nm,1.2s								
MSAI	**Masohi**	11.11	152	P		P	P	04 38 51.7	+2.3
	109nm,0.8s,1μm								
SBUM	**Sibu**	12.10	251	*e*P		P	P	04 38 59.8	+0.5
FAKI	**Fak Fak**	12.70	137	P		P	P	04 39 06.0	+0.6
	505nm,0.8s,4μm								
FAKI	**Fak Fak**	12.70	137	P		P	P	04 39 06.0	+0.6
	baz=13,SNR=131								
FAKI	**Fak Fak**	12.70	137	*e*P		P	P	04 39 06.1	+0.6
STKI	**Sintang**	13.74	243	P		P	P	04 39 16.2	+0.1
	70nm,1.0s,22μm								
KSM	**Kuching**	14.23	250	P		P	P	04 39 20.6	-0.2
	baz=14,SNR=46								
KSM	**Kuching**	14.23	250	*e*P		P	P	04 39 20.2	-0.6
	136nm,0.7s								
BAKI	**Biak**	14.59	121	P		P	P	04 39 25.2	+1.0
	443nm,0.8s,5μm								
SRPI	**Serui, Papua**	15.07	123	P		P	P	04 39 30.5	+1.9
MMRI	**Maumere**	15.11	185	*e*P		P	P	04 39 28.6	-0.4
DLV	**T Lat**	15.92	291	*e*P		P	P	04 39 36.8	+0.1
	40nm,0.6s								
SOEI	**Soe**	16.17	178	P		P	P	04 39 38.0	-0.9
	76nm,0.9s								
TWG	**Pinlang**	16.41	352	*e*P		P	P	04 39 39.4	-1.5
	162nm,0.4s								
TWG				*e*S		S	S	04 42 24.0	-0.8
YULB	**Yu-li**	16.94	353	*e*P		P	P	04 39 44.3	-1.5
	20nm,0.3s								
YULB				*e*S		S	S	04 42 31.3	-2.2
SMPI	**Sarmi**	17.23	119	P		P	P	04 39 50.0	+1.5
	257nm,0.6s,5μm								
SSLB	**Suanglung**	17.38	352	*e*P		P	P	04 39 49.8	0.0
	33nm,0.6s								
SSLB				*e*S		S	S	04 42 40.0	-0.7
NACB	**Ninganchiao**	17.68	354	*e*P		P	P	04 39 52.0	-0.4
YOJ	**Yonaguni jima**	17.86	358	*e*P		P	P	04 39 55.6	+1.5
YOJ				pmax		pmax			
	comp=Z,26nm,0.5s								
YOJ	**Yonaguni jima**	17.86	358	*e*P		P	P	04 39 55.6	+1.5
	comp=Z,26nm,0.5s								
YHNB	**Yeheng**	18.19	353	*e*P		P	P	04 39 57.9	+0.7
	comp=Z,35nm,0.5s								
GENI	**Genyem**	18.80	118	P		P	P	04 40 04.4	+1.6
	comp=Z,246nm,0.8s,comp=Z,7μm								
SMRI	**Semarang**	18.85	225	*e*P		P	P	04 40 04.5	+1.2
JAY	**Jayapura**	19.23	117	P		P	P	04 40 07.2	+0.4
	comp=Z,55nm,0.9s,comp=Z,3μm								
JAY	**Jayapura**	19.23	117	P		P	P	04 40 07.1	+0.3
	comp=Z,8.0nm,0.3s,baz=261,slow=10,SNR=24								
JAY	**Jayapura**	19.23	117	P		P	P	04 40 07.9	+1.1
	baz=19,SNR=7.2								
MYKOM	**Kota Tinggi**	20.30	258	*e*P		P	P	04 40 16.8	+0.3
	comp=Z,49nm,0.7s								
BTDF	**Bukit Timah Da**	20.48	256	P		P	P	04 40 18.5	+0.4
	baz=20,SNR=4.3								
BTDF				P		P	P	04 40 18.5	+0.4
	baz=20,SNR=4.3								
MTN	**Manton Dam**	20.61	159	P		P	P	04 40 19.2	+0.1
	baz=21,SNR=4.1								
MTN	**Manton Dam**	20.61	159	*e*P		P	P	04 40 19.2	+0.1
	comp=Z,64nm,1.4s								
LEM	**Lembang**	20.78	231	P		P	P	04 40 23.1	+2.2
LEM	**Lembang**	20.78	231	P		P	P	04 40 21.5	+0.6
	comp=Z,57nm,1.0s,baz=4.5,slow=22,SNR=5.7								
KDU	**Kakadu**	20.99	155	P		P	P	04 40 22.2	-0.3
	baz=21,SNR=6.0								
KLI	**Kotalumi**	21.91	239	P		P	P	04 40 31.9	+1.1
	comp=Z,116nm,0.9s								
KLSI		21.93	240	P		P	P	04 40 31.2	+0.2
	comp=Z,187nm,1.0s,comp=Z,3μm	

CM31 Chiang Mai Arr 26.85 299 *e*P **P** **04 41 15.7 +1.2**
comp=N,10nm,0.5s
CMAR Chiang Mai Arr 26.85 299 P **P** **04 41 15.6 +1.1**
comp=N,18nm,0.7s,baz=116,slow=7.2,SNR=57
CMAR PcP **PcP** **04 44 17.7 +1.0**
comp=N,2.3nm,0.7s,baz=182,slow=1.4,SNR=7.5
CMAR ScP **ScP** **04 47 01.4 -0.1**
comp=N,2.1nm,0.6s,baz=128,slow=1.1,SNR=5.4
CHTO Chiang Mai 26.99 299 P **P** **04 41 16.3 +0.6**
comp=N,259nm,0.8s
CHTO Chiang Mai 26.99 299 *e*P **P** **04 41 16.5 +0.8**
CHTO *e* 04 44 17.7
CHTO pmax pmax
comp=Z,38nm,0.6s
CHTO Chiang Mai 26.99 299 *e*P **P** **04 41 16.5 +0.8**
comp=Z,38nm,0.6s
CHTO *e*PcP **PcP** **04 44 17.7 +0.6**
CBIJ Chichi jima 27.01 39 *e*P **P** **04 41 14.9 -0.8**
CBIJ *e*S **S** **04 45 08.9 -3.8**
JCJ Chichijima 27.01 39 P **P** **04 41 14.8 -0.8**
comp=Z,27nm,0.5s,baz=257,slow=22,SNR=15
JCJ S **S** **04 45 08.9 -3.8**
comp=Z,41nm,0.6s,baz=309,slow=23,SNR=12
ENH Enshi 27.14 332 *e*P **P** **04 41 18.0 +1.2**
comp=Z,18nm,0.6s
KMI Kunming 27.27 315 P **P** **04 41 19.9 +1.7**
KMI PcP **PcP** **04 44 19.4 +1.5**
KMI S **S** **04 45 14.9 -2.4**
KMI PMZ
comp=Z,25nm,0.7s
CMAI Chiengmai2 27.37 302 P **P** **04 41 19.9 +0.7**
comp=Z,25nm,1.0s
MBWA Marble Bar 27.77 188 *e*P **P** **04 41 21.8 -0.6**
comp=Z,6.6nm,0.7s
COEN Coen 28.08 136 P **P** **04 41 24.9 -0.4**
baz=28,SNR=18
COEN Coen 28.08 136 *e*P **P** **04 41 24.8 -0.4**
PMG Port Moresby 28.25 124 P **P** **04 41 26.4 -0.3**
comp=Z,37nm,0.9s,baz=318,slow=4.3,SNR=6.8
PMG Port Moresby 28.25 124⇓ *e*P **P** **04 41 26.9 +0.2**
PMG pmax pmax
comp=Z,277nm,1.5s
WRAB Tennant Creek 28.30 158 *e*P **P** **04 41 26.8 -0.3**
WRAB *e*S **S** **04 45 30.0 -3.1**
WRAB pmax pmax
comp=Z,88nm,0.6s
WRAB Tennant Creek 28.30 158 *e*P **P** **04 41 26.8 -0.3**
comp=Z,88nm,0.6s
WRAB *e*S **S** **04 45 30.0 -3.1**
WRA Warramunga Arr 28.31 158 P **P** **04 41 27.1 -0.1**
comp=Z,67nm,0.5s,baz=340,slow=9.3,SNR=144
WRA PcP **PcP** **04 44 20.6 +0.2**
comp=Z,4.1nm,0.5s,baz=325,slow=2.8,SNR=6.5
WRA S **S** **04 45 29.3 -3.9**
comp=Z,9.5nm,0.6s,baz=334,slow=15,SNR=11
WRA ScP **ScP** **04 47 06.2 +0.2**
comp=Z,4.7nm,0.5s,baz=346,slow=3.6,SNR=10
GIRL Giralia 30.41 197 P **P** **04 41 46.4 +1.3**
baz=30,SNR=5.3
XAN Xi'an 30.60 335 P **P** **04 41 47.0 +0.3**
XAN PMZ
comp=Z,38nm,0.7s
CD2 Chengdu 30.62 325 P **P** **04 41 46.8 -0.1**
CD2 *s*P ***s*P** **04 44 30.3 -1.2**
CD2 S **S** **04 46 09.4 +0.8**
CD2 SS **SS** **04 49 19.5 +1.8**
CD2 PMZ
comp=Z,30nm,0.7s
CD2 PMZ
comp=Z,830nm,11.6s
KSAR Wonju Array Be 31.03 7 P **P** **04 41 50.1 -0.1**
KSAR 04 44 27.5
KSAR Wonju Array Be 31.03 7 P **P** **04 41 50.1 -0.1**
KSAR PcP **PcP** **04 44 27.4 +0.3**
KSAR ScP **ScP** **04 47 14.2 -0.3**
KSRS Korea Array 31.05 7 P **P** **04 41 50.1 -0.2**
comp=Z,0.8nm,0.4s,baz=199,slow=38,SNR=7.8
KSRS PcP **PcP** **04 44 27.4 +0.3**
comp=Z,2.0nm,0.6s,baz=190,slow=2.9,SNR=8.3
KSRS ScP **ScP** **04 47 14.2 -0.3**
comp=Z,0.7nm,0.6s,baz=203,slow=2.0,SNR=5.3
KSRS Korea Array 31.05 7 P **P** **04 41 50.1 -0.2**
KSRS 04 44 27.5
KSRS pmax pmax
comp=Z,1.0nm,0.4s
KSRS pmax pmax
comp=Z,2.0nm,0.6s
KSRS pmax pmax
comp=N,1.0nm,0.6s
QIS Mount Isa 31.13 150 P **P** **04 41 52.0 +0.6**
baz=31,SNR=36
AS31 Alice Springs 31.62 162 *e*P **P** **04 41 55.9 +0.4**
ASAR Alice Springs 31.62 162 P **P** **04 41 56.3 +0.8**
comp=N,30nm,0.3s,baz=340,slow=7.2,SNR=520
ASAR PcP **PcP** **04 44 29.4 +0.2**
comp=N,6.0nm,0.7s,baz=351,slow=2.7,SNR=10
ASAR S **S** **04 46 22.9 -1.0**
comp=N,25nm,0.8s,baz=351,slow=23,SNR=32
ASAR ScP **ScP** **04 47 16.2 -0.6**
comp=N,3.9nm,0.6s,baz=345,slow=3.3,SNR=8.4
WRKA Warakurna 31.68 172 P **P** **04 41 56.8 +0.8**
baz=32,SNR=34
MTSU Mount Surprise 31.86 141 P **P** **04 41 58.3 +0.7**
baz=32,SNR=5.7
MAJO Matsushiro 32.72 22⇓ *i*P **P** **04 42 04.7 +0.1**
MAJO pmax pmax
comp=Z,30nm,1.2s
MAJO Matsushiro 32.72 22 *e*P **P** **04 42 04.0 -0.6**
comp=Z,6.4nm,0.9s
MJAR Matsushiro Arr 32.72 22 P **P** **04 42 03.4 -1.3**
comp=Z,2.4nm,0.6s,baz=198,slow=9.6,SNR=11
MJAR PcP **PcP** **04 44 32.2 +0.2**
comp=Z,2.0nm,0.7s,baz=204,slow=3.9,SNR=6.5
MEEK Meekatharra 33.31 188 P **P** **04 42 09.8 0.0**
baz=33,SNR=14
BJT Baijiatuan 34.03 350 *e*P **P** **04 42 16.0 +0.4**
BJT Baijiatuan 34.03 350 *e*P **P** **04 42 16.0 +0.4**
BJI Beijing 34.05 350 P **P** **04 42 16.1 +0.4**
BJI PMZ
comp=Z,20nm,0.9s
CTA Charters Tower 34.53 140 P **P** **04 42 21.4 +1.4**
comp=Z,27nm,0.6s,baz=324,slow=9.8,SNR=39
CTAO Charters Tower 34.53 140 *e*P **P** **04 42 20.6 +0.6**
CTAO pmax pmax
comp=Z,35nm,0.7s
CTAO Charters Tower 34.53 140 *e*P **P** **04 42 20.6 +0.6**
comp=Z,35nm,0.7s
LZH Lanzhou 34.59 331 *e*P **P** **04 42 22.3 +1.8**
LZH *s*P ***s*P** **04 45 09.3 +2.5**
LZH PMZ
comp=Z,37nm,1.0s
LZH PMZ
comp=Z,170nm,5.0s
HHC Hu-ho-hao-te 35.86 344 *e*P **P** **04 42 31.9 +1.1**
HHC S **S** **04 47 30.8 +3.2**
HHC PMZ
comp=Z,24nm,1.1s
HHC PMZ
comp=Z,200nm,5.2s
MORW Morawa 36.13 191 P **P** **04 42 33.3 +0.2**
baz=36,SNR=6.4
FORT Forrest 37.32 174 P **P** **04 42 43.6 +0.8**
baz=37,SNR=22
FORT Forrest 37.32 174 *e*P **P** **04 42 43.5 +0.8**
comp=Z,62nm,0.8s
FORT *e*PcP **PcP** **04 44 46.1 +0.4**
BLDU Ballidu 37.51 190 P **P** **04 42 44.4 +0.1**
baz=38,SNR=5.6
KMBL Kambalda 37.70 182 P **P** **04 42 46.4 +0.5**
baz=38,SNR=7.9
USRK Ussuriysk Ar. 38.24 10 P **P** **04 42 50.5 +0.5**
comp=Z,2.3nm,0.4s,baz=193,slow=7.4,SNR=13
USRK PcP **PcP** **04 44 48.0 -0.5**
comp=Z,1.4nm,0.5s,baz=199,slow=1.8,SNR=4.8
KLBR Kellerberrin 38.30 188 P **P** **04 42 51.0 +0.2**
baz=38,SNR=11
LSA Lhasa 38.32 311 P **P** **04 42 52.8 +1.3**
LSA Lhasa 38.32 311 *e*P **P** **04 42 52.6 +1.1**
LSA pmax pmax
comp=Z,34nm,0.6s
LSA Lhasa 38.32 311 *e*P **P** **04 42 52.5 +1.1**
comp=Z,34nm,0.6s
QLP Quilpie 38.47 150 P **P** **04 42 53.0 +0.8**
baz=39,SNR=18
NWAO Narrogin (SRO) 39.69 188 P **P** **04 43 02.5 +0.7**
comp=Z,14nm,0.6s,baz=334,slow=4.0,SNR=10
NWAO Narrogin (SRO) 39.69 188 P **P** **04 43 02.8 +0.9**
baz=40,SNR=8.5
NWAO P **P** **04 43 02.8 +0.9**
baz=40,SNR=8.5
TAPN Taplejung 39.92 306 *e*P **P** **04 43 04.8 +0.6**
comp=Z,76nm,0.6s
ODAN Odare 39.98 305 *e*P **P** **04 43 05.1 +0.5**
comp=Z,112nm,0.6s
RAMN Ramite 40.66 304 *e*P **P** **04 43 10.4 +0.4**
comp=Z,85nm,0.6s
BBOO Buckleboo 40.84 164 P **P** **04 43 11.9 +0.9**
baz=41,SNR=47
BBOO Buckleboo 40.84 164 *e*P **P** **04 43 11.8 +0.7**
comp=Z,48nm,0.8s
RMQ Roma 40.84 144 P **P** **04 43 12.5 +1.4**
baz=41,SNR=4.2
ASAJ Asahikawa 40.97 21 P **P** **04 43 12.3 +0.5**
comp=Z,5.1nm,0.4s,baz=270,slow=20
ASAJ Asahikawa 40.97 21 P **P** **04 43 12.3 +0.5**
ASAJ pmax pmax
comp=Z,5.0nm,0.4s
ASAJ Asahikawa 40.97 21 *e*P **P** **04 43 12.3 +0.5**
comp=Z,5.9nm,0.9s
RKGY Rocky Gully 41.38 188 ⇑P **P** **04 43 16.5 +1.3**
baz=42,SNR=6.4
EIDS Eidsvold 41.41 141 P **P** **04 43 16.2 +0.6**
baz=42,SNR=11
EIDS Eidsvold 41.41 141 *e*P **P** **04 43 15.9 +0.2**
comp=Z,58nm,1.1s
GUN Gumba 41.63 305 *e*P **P** **04 43 18.3 +0.5**
comp=Z,111nm,0.6s
STKA Stephens Creek 41.83 157 P **P** **04 43 19.9 +1.1**
comp=Z,38nm,0.6s,baz=332,slow=7.8,SNR=119
STKA ScP **ScP** **04 47 53.7 -1.3**
comp=Z,4.7nm,0.7s,baz=335,slow=6.5,SNR=6.4
STKA S **S** **04 48 53.5 -1.3**
comp=Z,4.4nm,0.9s,baz=242,slow=24,SNR=14
STKA Stephens Creek 41.83 157 P **P** **04 43 20.0 +1.1**
STKA S **S** **04 48 53.5 -1.3**
STKA pmax pmax
comp=Z,38nm,0.6s
STKA pmax pmax
comp=N,5.0nm,0.7s
STKA smax smax
comp=N,4.0nm,0.9s
STKA Stephens Creek 41.83 157 *e*P **P** **04 43 19.6 +0.7**
comp=N,6.8nm,0.6s
STKA ScP **ScP** **04 47 53.7 -1.3**
STKA *e*ScP **ScP** **04 47 55.2 +0.2**
STKA *e*S **S** **04 48 53.2 -1.6**
STKA S S 04 48 53.5 -1.4
PKI Pulchoki 41.88 305 *e*P **P** **04 43 19.7 0.0**
comp=N,27nm,0.5s
PKIN Phulchoki 41.89 305 *e*P **P** **04 43 19.6 -0.2**
comp=N,27nm,0.6s
KKN Kakani 42.07 305 *e*P **P** **04 43 21.2 +0.1**
comp=N,37nm,0.4s
DMN Daman 42.14 304 *e*P **P** **04 43 22.0 +0.3**
comp=N,57nm,0.8s
HTT Hallett 42.28 161 P **P** **04 43 23.5 +1.2**
baz=42,SNR=24
PALK Pallekele 42.65 274 P **P** **04 43 24.7 -0.9**
comp=N,8.0nm,0.6s,baz=216,slow=3.9,SNR=4.2
GKN Gorkha 42.68 305 *e*P **P** **04 43 25.9 +0.1**
comp=N,40nm,0.5s
KLR Kul'dur 43.12 8 *e*P P 04 43 22.8 -5.8
CMSA Cobar Meteorol 43.29 152 P **P** **04 43 31.9 +1.7**
baz=43,SNR=38
KOLN Koldanda 43.44 304 *e*P **P** **04 43 32.3 +0.6**
comp=N,201nm,0.6s
YSS Yuzh-Sakhalins 43.51 19 *e*P **P** **04 43 32.3 +0.7**
DANN Dangsing 43.53 305 *e*P **P** **04 43 32.9 +0.4**
comp=N,32nm,0.6s
ULN Ulaanbaatar 43.58 344 *e*P **P** **04 43 32.8 +0.4**
ULN *e* 04 45 06.3
ULN pmax pmax
comp=Z,32nm,1.0s
ULN Ulaanbaatar 43.58 344 *e*P **P** **04 43 32.8 +0.4**
comp=Z,32nm,1.0s
ULN *e*PcP **PcP** **04 45 06.2 -0.1**
SONM Songino Array 43.74 343 P **P** **04 43 33.9 +0.4**
comp=Z,19nm,0.9s,baz=159,slow=8.4,SNR=35
SONM PcP **PcP** **04 45 06.1 -0.8**
comp=Z,5.8nm,0.9s,baz=170,slow=3.9,SNR=6.7
HYB Hyderabad 45.33 288 *i*P **P** **04 43 46.0 -0.2**
ARMA Armidale 45.47 145 P **P** **04 43 49.3 +2.3**
baz=46,SNR=14
ARMA Armidale 45.47 145 *e*P **P** **04 43 49.1 +2.0**
comp=Z,27nm,0.8s
ARPS Mount Arapiles 46.30 160 P **P** **04 43 54.1 +1.0**
baz=46,SNR=18
ZAK Zakamensk 46.93 342 *e*P **P** **04 43 57.0 -0.8**
ZAK *e* 04 45 17.8
ZAK pmax pmax
comp=Z,4.0nm,1.0s
MGCD Mangrove Creek 47.32 148 P **P** **04 44 03.5 +2.6**
baz=47,SNR=4.3
CAN Canberra 47.97 152 *e*P **P** **04 44 07.4 +1.8**
CAN pmax pmax
comp=Z,21nm,0.8s
CAN Canberra 47.97 152⇓P **P** **04 44 07.5 +1.8**
baz=48
CAN Canberra 47.97 152 *e*P **P** **04 44 07.4 +1.8**
comp=Z,21nm,0.8s
TLY Talaya 47.98 343 *e*P **P** **04 44 06.6 +1.1**
TLY pmax pmax
comp=Z,13nm,0.4s
TLY Talaya 47.98 343 *e*P **P** **04 44 06.4 +0.9**
comp=Z,19nm,0.7s
TLY *e*PcP **PcP** **04 45 22.2 +0.4**
CNB Canberra Magne 48.13 152 P **P** **04 44 08.8 +1.9**
baz=48,SNR=20
TOO Toolangi 48.35 157 P **P** **04 44 10.4 +1.9**
baz=48,SNR=13
WMQ Urumqi 48.71 326 P **P** **04 44 12.5 +1.4**
WMQ PMZ
comp=Z,51nm,0.9s
WMQ PMZ
comp=Z,870nm,12.0s
NDI New Delhi 49.05 303 *e*P **P** **04 44 12.5 -1.3**
DZM Mont Dzumac 50.63 125 P **P** **04 44 27.3 +1.9**
comp=Z,22nm,0.6s,baz=269,slow=23,SNR=43
DZM Mont Dzumac 50.63 125 *e*P **P** **04 44 26.3 +0.9**
DZM Mont Dzumac 50.63 125 *e*P **P** **04 44 27.0 +1.5**
comp=Z,23nm,0.6s
BOD Bodaibo 51.73 353 *e*P **P** **04 44 32.9 +0.2**
BOD pmax pmax
comp=Z,10.0nm,0.7s
MK31 Makanchi Array 53.55 326 *e*P **P** **04 44 46.4 +0.5**
MK31 *e* 04 45 42.5
MK31 Makanchi Array 53.55 326 *e*P **P** **04 44 46.4 +0.5**
MK31 *e*PcP **PcP** **04 45 42.5 -0.3**
MK31 *e*ScP **ScP** **04 48 43.5 -0.9**
MKAR Makanchi Array 53.55 326 P **P** **04 44 46.5 +0.6**
comp=Z,53nm,0.5s,baz=122,slow=8.4,SNR=610
MKAR PcP **PcP** **04 45 42.6 -0.3**
comp=Z,10.0nm,0.5s,baz=120,slow=4.9,SNR=9.5
MKAR ScP **ScP** **04 48 43.7 -0.8**
comp=Z,2.7nm,0.7s,baz=116,slow=5.5,SNR=7.4
MKAR S **S** **04 51 33.8 -1.5**
comp=Z,0.9nm,0.7s,baz=122,slow=16,SNR=5.5
KSH Kashi 53.93 315 P **P** **04 44 50.6 +1.8**
KSH PcP **PcP** **04 45 45.3 +0.7**
KSH pP **pP** **04 46 43.3 +3.1**
KSH PP **PP** **04 47 03.3 +4.1**
KSH S **S** **04 51 41.3 +0.5**
KSH ScS **ScS** **04 53 34.1 -2.7**
KSH SS **SS** **04 55 37.1 +2.8**
KSH PMZ
comp=Z,38nm,0.5s
KSH PMZ
comp=Z,200nm,5.5s
PETK Petropavlovsk- 54.11 25 P **P** **04 44 50.8 +1.1**
comp=Z,6.7nm,0.8s,baz=199,slow=4.7,SNR=8.7
PETK PcP **PcP** **04 45 44.3 -0.6**
comp=Z,2.0nm,0.6s,baz=188,slow=4.4,SNR=2.9
ULHL Ulahol 54.92 318 P **P** **04 44 56.8 +1.0**
SNR=17
KZA Kyzart 55.51 318 P **P** **04 45 01.4 +1.3**
SNR=24
YAK Yakutsk 55.58 3 *e*P **P** **04 44 59.6 -0.1**
YAK pmax pmax
comp=Z,27nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK Yakutsk 55.58 3 *e*P **P** **04 44 59.9 +0.2**
comp=N,34nm,0.7s
YAK *e*PcP **PcP** **04 45 50.1 -0.2**
TKM2 Tokmak 2 55.65 319 P **P** **04 45 01.6 +0.7**
SNR=28
TKM2 Tokmak 2 55.65 319 *e*P **P** **04 45 01.5 +0.7**
TKM2 *e* 04 45 51.1
TKM2 pmax pmax
comp=Z,43nm,0.8s
TKM2 Tokmak 2 55.65 319 *e*P **P** **04 45 01.5 +0.7**
comp=Z,43nm,0.8s
TKM2 *e*PcP **PcP** **04 45 51.1 -0.3**
KBK Karagaybulak 55.97 318 P **P** **04 45 04.2 +1.2**
SNR=13
CHMS Chumysh 56.24 318 P **P** **04 45 05.3 +0.5**
SNR=8.1
AAK Ala-Archa 56.26 318 P **P** **04 45 06.0 +1.0**
SNR=7.0
USP Ospenovka 56.53 319 P **P** **04 45 07.4 +0.7**
SNR=33
AML Almayashu 56.59 317 P **P** **04 45 08.6 +1.1**
SNR=22
EKS2 Erkin-Say 56.75 318 P **P** **04 45 09.5 +1.2**
SNR=39
EKS2 Erkin-Say 56.75 318 *e*P **P** **04 45 09.5 +1.2**
EKS2 *e* 04 45 55.8
EKS2 pmax pmax
comp=Z,31nm,0.7s
EKS2 Erkin-Say 56.75 318 *e*P **P** **04 45 09.5 +1.2**
comp=Z,31nm,0.7s
EKS2 *e*PcP **PcP** **04 45 55.8 +0.1**
ZAA0 Zalesovo Array 56.75 334 *e*P **P** **04 45 07.5 -0.4**
ZALV Zalesovo Beam 56.75 334 P **P** **04 45 07.3 -0.5**
comp=Z,7.4nm,0.4s,baz=122,slow=6.0,SNR=29
MA2 Magadan 56.83 16 *i*P **P** **04 45 09.7 +1.3**
KBL Kabul 57.42 307 *e*P **P** **04 45 13.1 0.0**
KBL pmax pmax
comp=Z,38nm,0.7s
KBL Kabul 57.42 307 *e*P **P** **04 45 13.1 0.0**
comp=Z,38nm,0.7s
KURBB Kurchatov Arra 57.77 328 P **P** **04 45 15.1 +0.2**
comp=Z,67nm,0.7s,baz=128,slow=5.8,SNR=550
KURK Kurchatov 57.77 328 P **P** **04 45 15.2 +0.3**
KURK pmax pmax
comp=Z,119nm,0.8s
KURK Kurchatov 57.77 328 *e*P **P** **04 45 15.1 +0.2**
comp=Z,101nm,0.6s
NVS Novosibirsk 58.03 334⇓ *i*P **P** **04 45 16.0 -0.6**
NVS *e*S **S** **04 52 31.8 -0.9**
NVS pmax pmax
comp=Z,33nm,1.0s
NVS pmax pmax
comp=N,17nm,0.9s
NVS pmax pmax
comp=E,26nm,1.2s
NVS smax smax
comp=E,16nm,1.6s
NVS smax smax
comp=N,6.0nm,1.4s
DZET Dzherino 58.84 312 P **P** **04 45 22.7 +0.2**
DZET pmax pmax
comp=Z,44nm,0.5s
MSVF Nonsavu 58.85 115 *e*P **P** **04 45 24.9 +2.1**
MSVF pmax pmax
comp=Z,18nm,0.9s
MSVF Nonsavu 58.85 115 *e*P **P** **04 45 24.9 +2.1**
comp=Z,18nm,0.9s
KK31 Karatay Array 59.13 317 *i*P **P** **04 45 24.3 +0.1**
KK31 pmax pmax
comp=Z,29nm,0.8s
KKAR Karatay Array 59.13 317 *e*P **P** **04 45 24.3 +0.1**
KKAR pmax pmax
comp=Z,23nm,0.7s
KKAR Karatay Array 59.13 317 *e*P **P** **04 45 24.3 +0.1**
comp=Z,23nm,0.7s
OTUK Ortayu 60.08 323 P **P** **04 45 30.9 +0.5**
OTUK pmax pmax
comp=Z,32nm,1.0s
SEY Seymchan 60.08 15⇓ *i*P **P** **04 45 31.6 +1.5**
BVA0 Borovoye Array 63.34 327 *i*P **P** **04 45 51.2 -0.3**
BVA0 pmax pmax
comp=Z,32nm,1.1s
BVAR Borovoye Array 63.34 327 P **P** **04 45 51.5 0.0**
comp=Z,10nm,0.5s,baz=133,slow=8.3,SNR=74
BVAR PcP **PcP** **04 46 21.4 -0.6**
comp=Z,4.1nm,0.6s,baz=139,slow=3.8,SNR=6.0
BRVK Borovoye 63.41 327*d i*P **P** **04 45 52.1 +0.2**
BRVK pmax pmax
comp=Z,43nm,1.2s
BRVK Borovoye 63.41 327 *e*P **P** **04 45 52.0 +0.2**
comp=Z,34nm,0.9s
IDAH Dahanechah 64.50 303 *e*P **P** **04 46 00.6 +1.0**
IMYA Miami 64.93 307 *e*P **P** **04 46 02.2 +0.1**
IKOO Kooshah 65.18 303 *e*P **P** **04 46 04.5 +0.7**
ISRO Mashad 65.43 307 *e*P **P** **04 46 04.9 -0.3**
ITEG Tejag 65.46 303 *e*P **P** **04 46 06.2 +0.7**
RPZ Rata Peaks 65.78 144 P **P** **04 46 07.3 +0.3**
comp=Z,17nm,0.8s,baz=276,slow=3.2,SNR=11
IPAY Payeh 65.83 307 *e*P **P** **04 46 07.4 -0.4**
IAKL Akhelmad 66.05 307 *e*P **P** **04 46 09.2 0.0**
IKRD Kardeh 66.27 307 *e*P P 04 46 06.2 -4.3
URZ Urewera 66.65 136 P **P** **04 46 11.9 -0.5**
comp=Z,4.5nm,0.5s,baz=256,slow=6.2,SNR=8.8
GEYT Alibeck 66.78 308 P **P** **04 46 14.2 +0.8**
comp=Z,13nm,0.8s,baz=130,slow=2.3,SNR=18
AB31 Akbulak array 68.08 321 *i*P **P** **04 46 20.7 -0.3**
AB31 pmax pmax
comp=Z,4.0nm,0.3s
ABKAR Akbulak array 68.08 321 *e*P **P** **04 46 20.8 -0.1**
comp=Z,14nm,0.6s
ABKAR *e*PcP **PcP** **04 46 40.9 -0.9**
IMEH Mehriz 68.76 301 *e*P **P** **04 46 24.6 -1.2**
AKTO Aktyubinsk 69.60 322 P **P** **04 46 30.1 0.0**
comp=Z,17nm,0.7s,baz=104,slow=8.3,SNR=57
AKTO Aktyubinsk 69.60 322 P **P** **04 46 30.0 0.0**
AKTO pmax pmax
comp=Z,16nm,0.6s
ISAD Sadrabad 69.60 302 *e*P **P** **04 46 30.7 -0.1**
IPAR Pars 69.98 299 *e*P **P** **04 46 32.4 -0.8**
SVE Sverdlovsk 70.01 329⇑ *i*P **P** **04 46 32.3 -0.1**
SVE pmax pmax
comp=Z,26nm,0.6s
ARU Arti 70.97 328 P **P** **04 46 37.3 -0.7**
baz=97,slow=6.6
ARU Arti 70.97 328*d i*P **P** **04 46 37.2 -0.8**
ARU S **S** **04 55 09.4 +2.2**
ARU pmax pmax
comp=Z,30nm,1.0s
ARU Arti 70.97 328 *e*P **P** **04 46 36.9 -1.1**
comp=Z,22nm,0.6s
IKAZ Kazeroun 71.03 299 *e*P **P** **04 46 38.6 -0.8**
IKLH Kolahrood 71.49 303 *e*P **P** **04 46 42.3 +0.4**
IPIR Pirpir 72.02 302 *e*P **P** **04 46 43.1 -1.9**
CASY Casey 73.23 186 *e*P **P** **04 46 50.8 0.0**
comp=Z,7.3nm,0.7s
IDHR Dehrash 75.87 304 *e*P **P** **04 47 05.1 -1.5**
IAZR Azarshahr 76.31 307 *e*P **P** **04 47 08.4 -0.6**
IMRD Marand 76.57 308 *e*P **P** **04 47 10.2 -0.1**
RAYN Ar Rayn 76.59 293 *e*P **P** **04 47 10.1 -0.4**
comp=Z,24nm,0.8s
GNI Garni 77.37 310 P **P** **04 47 15.4 +0.8**
comp=Z,2.2nm,0.3s,baz=185,slow=9.7,SNR=3.1
PRGR Permogore 78.62 332 *e*P **P** **04 47 18.6 -2.0**
PRGR pmax pmax
comp=Z,25nm,0.6s
KBZ Khabaz 78.86 313 P **P** **04 47 22.6 +0.4**
comp=Z,2.5nm,0.7s,baz=128,slow=3.4,SNR=4.8
KIV Kislovodsk 79.02 313⇓ *i*P **P** **04 47 22.3 -0.9**
KIV pmax pmax
comp=Z,13nm,1.0s
KIV Kislovodsk 79.02 313 *e*P **P** **04 47 23.2 0.0**
comp=Z,9.1nm,0.8s
ABPO Ambohimpanom 79.40 249 *e*P **P** **04 47 24.7 -1.1**
ABPO pmax pmax
comp=Z,31nm,1.1s
ABPO Ambohimpanom 79.40 249 *e*P **P** **04 47 24.7 -1.1**
comp=Z,31nm,1.1s
IM04 Indian Mountai 81.06 24 *e*P **P** **04 47 34.0 +0.8**
KDAK Kodiak Island 81.20 33 *e*P **P** **04 47 36.0 +1.9**
KDAK pmax pmax
comp=Z,16nm,0.8s
KDAK Kodiak Island 81.20 33 *e*P **P** **04 47 36.0 +1.9**
comp=Z,16nm,0.8s
VSR Storozhevoye 81.52 321 *e*P **P** **04 47 35.1 -0.8**
VSR pmax pmax
comp=N,5.0nm,0.6s
VSR pmax pmax

comp=E,3.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
PPLA Purkeypile 81.58 27 *e*P **P 04 47 37.0 +0.9**
comp=Z,6.7nm,0.8s
BPAW Bear Paw Mtn. 82.15 26 *e*P **P 04 47 39.8 +0.9**
comp=Z,3.3nm,0.8s
MALT Malatya 82.27 308 *j*P **P 04 47 41.2 +1.0**
TMCR Tamitsa 82.27 334 *e*P **P 04 47 38.7 -0.7**
TMCR *e* 04 50 54.2
TMCR pmax pmax
comp=Z,32nm,1.1s
TRF Thorofare Moun 82.45 27 *e*P **P 04 47 41.1 +0.5**
comp=Z,7.8nm,1.0s
COLD Coldfoot 82.54 23 *e*P **P 04 47 42.4 +1.6**
comp=Z,14nm,1.0s
OBN Obninsk 83.04 325 P **P 04 47 43.0 -0.4**
comp=Z,46nm,0.5s,baz=61,slow=6.3,SNR=10
OBN Obninsk 83.04 325*d iP* **P 04 47 43.1 -0.4**
OBN pmax pmax
comp=Z,108nm,1.7s
OBN Obninsk 83.04 325 *e*P **P 04 47 42.9 -0.5**
comp=Z,34nm,0.5s
MCK McKinley 83.06 27 *e*P **P 04 47 43.9 +0.4**
MCK pmax pmax
comp=Z,9.0nm,0.8s
MCK McKinley 83.06 27 *e*P **P 04 47 43.9 +0.4**
comp=Z,9.1nm,0.8s
SML Sawmill 83.36 29 *e*P **P 04 47 45.2 +0.2**
SML pmax pmax
comp=Z,2.0nm,1.0s
SML Sawmill 83.36 29 *e*P **P 04 47 45.2 +0.2**
comp=Z,2.5nm,1.0s
ILAR Eielson Array 83.92 26 P **P 04 47 46.8 -0.9**
comp=Z,1.1nm,0.5s,baz=238,slow=5.0,SNR=32
MAW Mawson 85.31 200 P **P 04 47 54.0 -0.2**
comp=Z,3.2nm,0.7s,baz=69,slow=3.8,SNR=12
MAW Mawson 85.31 200 *e*P **P 04 47 54.0 -0.2**
MAW pmax pmax
comp=Z,1.0nm,0.6s
MAW Mawson 85.31 200 *e*P **P 04 47 54.0 -0.2**
comp=Z,0.7nm,0.6s
BR131 Keskin Array S 85.91 309 *e*P **P 04 47 56.4 -1.6**
comp=Z,2.4nm,0.3s
BRTR Keskin Array B 85.91 309 P **P 04 47 56.9 -1.2**
comp=Z,5.4nm,0.5s,baz=130,slow=3.7,SNR=45
EGAK Eagle 86.37 25 *e*P **P 04 47 59.6 +0.2**
comp=Z,1.6nm,0.6s
KMBO Kilima Mbogo 86.56 268 P **P 04 48 01.3 -0.4**
comp=Z,7.1nm,0.8s,baz=58,slow=5.2,SNR=14
KMBO Kilima Mbogo 86.56 268 *e*P **P 04 48 01.5 -0.2**
KMBO pmax pmax
comp=Z,13nm,1.3s
KMBO Kilima Mbogo 86.56 268 *e*P **P 04 48 01.4 -0.2**
comp=Z,13nm,1.3s
VNDA Vanda 86.56 172 P **P 04 48 00.7 +0.7**
comp=Z,4.3nm,0.6s,baz=312,slow=7.8,SNR=21
CSS Prodhromos 86.59 305 *e*P **P 04 48 00.2 -1.0**
comp=Z,2.4nm,0.7s
ARCES ARCESS Array B 86.80 340 P **P 04 48 00.5 -0.9**
comp=Z,9.2nm,0.8s,baz=81,slow=6.5,SNR=24
ARE0 ARCESS Array S 86.80 340 *e*P **P 04 48 00.5 -0.9**
SPA0 Spitsbergen Ar 87.17 349 *e*P **P 04 48 02.7 -0.3**
SPITS Spitsbergen Ar 87.17 349 P **P 04 48 02.5 -0.5**
comp=Z,12nm,0.5s,baz=104,slow=9.6,SNR=45
HAMF Hammerfest 87.20 341 *e*P **P 04 48 02.0 -1.2**
AKASG Malin Array Be 87.82 321 P **P 04 48 05.2 -1.4**
comp=Z,2.6nm,0.5s,baz=68,slow=4.9,SNR=15
KIEV Kiev 87.83 321 *e*P **P 04 48 05.2 -1.4**
KIEV pmax pmax
comp=Z,2.0nm,0.5s
KIEV Kiev 87.83 321 *e*P **P 04 48 05.2 -1.4**
comp=Z,2.4nm,0.5s
FINES FINESS Array B 87.95 332 P **P 04 48 05.8 -1.1**
comp=Z,9.1nm,0.7s,baz=65,slow=4.8,SNR=56
HYT Haines Junctio 88.66 29 *e*P **P 04 48 11.1 +0.7**
comp=Z,4.2nm,0.9s
TRO Tromso 89.02 340 *e*P P 04 48 08.4 -3.2
TIRR Tirgusor 89.22 315 *j*P **P 04 48 12.0 -1.2**
TESR Tescani 90.13 317 *j*P **P 04 48 16.7 -0.7**
VRI Vrincioaia 90.19 316 *j*P **P 04 48 17.8 +0.1**
MLR Muntele Rosu 90.79 316 P **P 04 48 20.2 -0.4**
comp=Z,1.3nm,0.7s,baz=242,slow=1.7,SNR=9.4
BURAR Bucovina Array 90.91 318 *j*P **P 04 48 20.9 -0.2**
BUR08 Bucovina Ar. S 90.91 318 *e*P **P 04 48 20.7 -0.4**
ARR Arges 91.72 316 *j*P **P 04 48 24.2 -0.6**
CJR Cluj-Napoca 92.16 317 *j*P **P 04 48 26.8 0.0**
TRPA Tarpa 92.57 319 *j*P **P 04 48 28.0 -0.5**
UZH Uzhgorod 92.62 319 *e*P **P 04 48 28.4 -0.3**
DRGR 92.74 318 *j*P **P 04 48 29.0 -0.5**
VTS Vitosha 93.28 313 *j*P **P 04 48 31.2 -0.9**
NSS Namsos 93.28 336 *e*P **P 04 48 29.6 -1.9**
BZS Buzias 93.74 317 *j*P **P 04 48 33.2 -0.8**
HFS Hagfors 94.15 332 P **P 04 48 33.6 -1.8**
comp=Z,2.2nm,0.4s,baz=119,slow=5.2,SNR=23
NB2 NORSAR Subarra 94.95 333 P **P 04 48 37.4 -1.7**
comp=Z,3.7nm,0.7s,baz=68,slow=4.6
NB2 NORSAR Subarra 94.95 333 P **P 04 48 37.4 -1.7**
baz=68,slow=4.6
NOA NORSAR Array B 94.95 333 P **P 04 48 37.6 -1.5**
comp=Z,3.4nm,0.7s,baz=69,slow=4.5,SNR=13
OKC Ostrava-Krasne 94.95 321 *e*P **P 04 48 41.5 +2.2**
OKC Ostrava-Krasne 94.95 321 *e*P **P 04 48 41.5 +2.2**
PKSM Moragy 95.61 318 *j*P **P 04 48 42.0 -0.4**
DPC Dobruska-Polom 95.92 322 *e*P **P 04 48 44.0 +0.2**
DPC Dobruska-Polom 95.92 322 *e*P **P 04 48 44.0 +0.2**
PRU Pruhonice 97.13 322 *e*P Pdif 04 48 49.0 -0.1
PRU Pruhonice 97.13 322 *e*P Pdif 04 48 49.0 -0.1
BRG Berggiesshubel 97.20 323 *e*PKP Pdif 04 48 49.3 -0.1
comp=Z,4.8nm,1.1s
BRG Berggiesshubel 97.20 323 *e*P Pdif 04 48 49.3 -0.1
BRG pmax pmax
comp=Z,5.0nm,1.1s
KHC Kasperske Hory 98.00 321 *e*P Pdif 04 48 51.7 -1.4
KHC Kasperske Hory 98.00 321 *e*P Pdif 04 48 51.7 -1.4
GERES GERESS Array B 98.02 321 P Pdif 04 48 52.9 -0.3
comp=Z,1.0nm,0.6s,baz=58,slow=5.5,SNR=11
NVAR Mina Array Bea 107.28 47 PKKPbc PKKPbc 05 04 56.6 -1.9
comp=Z,0.6nm,0.7s,baz=140,slow=5.3,SNR=6.1
NVAR PKKPab **PKKPab 05 05 13.0 -2.8**
comp=Z,0.8nm,0.8s,baz=146,slow=5.5,SNR=5.5
VNA2 Neumayer--Watz 108.72 195 P **PKiKP 04 53 40.8 -0.6**
baz=71,slow=1.6
PDAR Pinedale Array 111.22 39 PKiKP **PKiKP 04 53 47.6 +0.3**
comp=Z,0.4nm,0.7s,baz=16,slow=4.7,SNR=3.3
PDAR PKKPab **PKKPab 05 04 55.0 -3.3**
comp=Z,1.0nm,0.8s,baz=97,slow=6.4,SNR=8.0
ULM Lac du Bonnet 113.93 27 PKiKP **PKiKP 04 53 51.5 -0.3**
comp=Z,2.7nm,0.5s,baz=295,slow=2.4,SNR=5.3
SCHQ Schefferville 118.25 7 PKP **PKPdf 04 53 60.0 -0.1**
comp=Z,2.7nm,0.6s,baz=262,slow=10,SNR=8.2
TOA0 Torodi Ar. Sit 119.14 289 *e*PKPdf **PKPdf 04 54 02.2 -0.6**
TORD Torodi Ar. Bea 119.14 289 PKP **PKPdf 04 54 02.2 -0.6**
comp=Z,4.4nm,0.7s,baz=62,slow=1.6,SNR=64
TORD SKP 04 56 41.6
comp=Z,1.3nm,0.8s,baz=75,slow=2.2,SNR=5.0
TOB4 Torodi Ar. Sit 119.16 289 *e*PKIKP **PKPdf 04 54 02.2 -0.7**
TXAR Lajitas Array 122.22 49 SKP **SKPdf 04 56 47.8 -0.7**
comp=Z,0.2nm,0.5s,baz=350,slow=2.4,SNR=4.1
TXAR PKKPbc **PKKPbc 05 04 06.0 -1.9**
comp=Z,0.4nm,0.8s,baz=127,slow=5.7,SNR=5.5
JCT Junction City 124.45 46 *e*PKIKP **PKPdf 04 54 13.4 +0.6**
JCT Junction City 124.45 46 *e*PKPdf **PKPdf 04 54 13.4 +0.6**
KIC Kosan Boka 126.95 283 *e*PKIKP **PKPdf 04 54 18.2 +0.3**
comp=Z,21nm,0.9s
DBIC Dimbokro 126.99 283 PKP **PKPdf 04 54 17.9 0.0**
comp=Z,4.8nm,0.6s,baz=39,slow=2.1,SNR=9.9
DBIC Dimbokro 126.99 283 *e*PKIKP **PKPdf 04 54 18.0 0.0**
TIC Toumodi 127.15 283 *e*PKIKP **PKPdf 04 54 18.5 +0.2**
LIC Lamto 127.26 283 *e*PKIKP **PKPdf 04 54 18.6 +0.1**
comp=Z,56nm,1.5s
TRQA Tornquist 148.18 172 *e*PKPbc **PKPbc 04 54 60.0 +0.1**
CPUP Villa Florida 160.27 177 PKP **PKPdf 04 55 12.7 +0.2**
comp=Z,1.1nm,0.6s,baz=62,slow=1.0,SNR=4.6
CPUP Villa Florida 160.27 177 PKIKP **PKPdf 04 55 12.7 +0.2**
CPUP pmax pmax
comp=Z,1.0nm,0.6s
CPUP Villa Florida 160.27 177 *e*PKPdf **PKPdf 04 55 13.2 +0.7**
LPAZ La Paz 164.91 131 PKP **PKPdf 04 55 18.7 +0.6**
comp=Z,2.5nm,0.8s,baz=45,slow=10,SNR=4.7
LPAZ La Paz 164.91 131 PKIKP **PKPdf 04 55 18.7 +0.6**
LPAZ pmax pmax
comp=Z,3.0nm,0.8s
LPAZ La Paz 164.91 131 *e*PKPdf **PKPdf 04 55 19.1 +1.0**
SAML Samuel 172.80 110 *e*PKPdf **PKPdf 04 55 22.5 +0.2**

*IDC **25** 04:41:54.0±1.8, 15.66S×173.22W, h0km, mb3.9/6, mb1 4.3/6, mb1mx3.9/38, mbtmp3.9/6, MS4.0/2, Ms1 4.0/2, ms1mx3.3/31, Error ellipse: s-maj=115.6km s-min=22.5km az=152.0*
*NEIC **25** 04:41:55.7±0.8, 15.65S×173.28W, h10km, mb4.4/9, Error ellipse: s-maj=46.6km s-min=9.4km az=151.0*
*ISCJB **25** 04:41:57.0±1.3, 15.7S±0.4×173.3W±0.3, h29km, mb4.1/15, MS4.3/1, Error ellipse: s-maj=73.5km s-min=14.5km az=150.3*
ISC 25 04:41:58.7±1.7, 15.7S±0.5×173.3W±0.3, h29km, n35, σ0s84/25, mb4.1/15, 3C-3D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.27**	**40**	Pn		Pn	04 42 24.3	-10
	9.6nm,0.3s,baz=228,slow=1.5,SNR=6.1							
AFI				Sn		Sn	04 42 44.6	-17
	83nm,0.3s,baz=17,slow=20,SNR=11							
AFI				LR		LR	04 43 14.4	
	comp=Z,2μm,20.4s,baz=260,slow=36							
MSVF	**Nonsavu**	**8.57**	**255**	*e*Pn		Pn	04 44 10.8	+10
H11S2	**WAKE ISLAND Hy**	**39.26**	**329**	T		T	05 30 30.3	
	baz=148,slow=76,SNR=13							
H11S3	**WAKE ISLAND Hy**	**39.27**	**329**	T		T	05 30 31.2	
	baz=148,slow=76,SNR=5.7							
H11S1	**WAKE ISLAND Hy**	**39.27**	**329**	T		T	05 30 29.2	
	baz=148,slow=76,SNR=9.2							
H11N3	**WAKE ISLAND Hy**	**40.20**	**330**	T		T	05 31 34.0	
	baz=149,slow=76,SNR=4.4							
H11N1	**WAKE ISLAND Hy**	**40.21**	**330**	T		T	05 31 27.9	
	baz=149,slow=76,SNR=7.2							
H11N2	**WAKE ISLAND Hy**	**40.22**	**330**	T		T	05 31 41.1	
	baz=149,slow=76,SNR=5.9							
WRAB	**Tennant Creek**	**49.90**	**257**	*e*P		**P**	**04 50 50.1**	**0.0**
	6.6nm,1.0s							
WRA	**Warramunga Arr**	**49.91**	**257**	P		**P**	**04 50 49.6**	**-0.5**
	1.2nm,0.6s,baz=91,slow=6.7,SNR=6.7							
ASAR	**Alice Springs**	**50.15**	**252**	P		**P**	**04 50 52.2**	**+0.3**
	7.1nm,0.7s,baz=85,slow=8.5,SNR=45							
RPN	**Rapa Nui**	**60.07**	**113**	LR		LR	05 11 35.0	
	comp=Z,218nm,21.2s,baz=284,slow=30							
YBH	**Yreka Blue Hor**	**73.74**	**37**	*e*P		**P**	**04 53 30.3**	**+0.1**
	4.8nm,1.1s							
NVAR	**Mina Array Bea**	**74.44**	**42**	P		**P**	**04 53 34.1**	**-0.5**
	0.6nm,0.8s,baz=222,slow=9.3,SNR=3.4							
WVOR	**Wild Horse Val**	**76.56**	**38**	*e*P		**P**	**04 53 46.4**	**-0.2**
	4.5nm,1.2s							
ELK	**Elko**	**77.70**	**41**	*e*P		**P**	**04 53 53.6**	**+0.5**
	2.2nm,1.0s							
HLID	**Hailey**	**79.75**	**39**	*e*P		**P**	**04 54 04.5**	**+0.2**
	1.7nm,0.8s							
TXAR	**Lajitas Array**	**80.66**	**56**	P		**P**	**04 54 08.8**	**-0.6**
	0.6nm,0.6s,baz=305,slow=0.8,SNR=8.2							
MCK	**McKinley**	**81.36**	**11**	*e*P		**P**	**04 54 11.6**	**-0.7**
	5.2nm,0.8s							
MCMT	**McKenzie Canyo**	**81.38**	**39**	*e*P		**P**	**04 54 13.0**	**-0.1**
	0.4nm,0.8s							
TPAW	**Teton Pass**	**81.86**	**41**	*e*P		**P**	**04 54 15.5**	**-0.2**
	2.7nm,1.0s							
PDAR	**Pinedale Array**	**82.38**	**42**	P		**P**	**04 54 18.6**	**+0.2**
	0.7nm,0.8s,baz=243,slow=1.3,SNR=4.8							
COLA	**College**	**82.60**	**11**	*e*P		**P**	**04 54 19.4**	**+0.7**
	3.6nm,0.7s							
ILAR	**Eielson Array**	**82.68**	**11**	P		**P**	**04 54 19.0**	**-0.1**
	0.4nm,0.9s,baz=214,slow=4.9,SNR=4.8							
DPC	**Dobruska-Polom**	**144.55**	**349**	*e*P		**PKPdf**	**05 01 33.7**	**+1.2**
VRI	**Vrincioaia**	**145.54**	**335**	*j*P		PKPab	05 01 39.8	+5.2
KHC	**Kasperske Hory**	**146.16**	**352**	*e*P		**PKPab**	**05 01 39.5**	**+2.6**
KHC				*ex*		x	05 01 46.0	
MLR	**Muntele Rosu**	**146.16**	**335**	*j*P		**PKPab**	**05 01 37.8**	**+0.7**
DRGR		**146.23**	**340**	*j*P		**PKPab**	**05 01 37.7**	**+0.4**
GERES	**GERESS Array B**	**146.42**	**352**	PKPbc		**PKPbc**	**05 01 36.6**	**-0.5**
	0.5nm,0.7s,baz=4.0,slow=5.8,SNR=4.8							
BR131	**Keskin Array S**	**146.44**	**321**	*e*PKPbc		**PKPab**	**05 01 37.9**	**-0.5**
BRTR	**Keskin Array B**	**146.44**	**321**	PKPbc		**PKPbc**	**05 01 36.5**	**-1.1**
	1.6nm,0.8s,baz=103,slow=2.3,SNR=11							
VOIR		**146.56**	**336**	*j*P		**PKPab**	**05 01 38.7**	**+0.1**
ARR	**Arges**	**146.78**	**337**	*j*P		**PKPab**	**05 01 40.5**	**+1.1**
BZS	**Buzias**	**147.63**	**340**	*j*P		**PKPab**	**05 01 41.5**	**-1.2**

IDC 25 04:47:31.2±20.0, 6.05N×122.55E, h550km±297km, mb2.9/4, mb1 3.0/4, mb1mx2.6/41, mbtmp3.9/4, Error ellipse: s-maj=212.2km s-min=42.5km az=60.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.31**	**156**	P		P	04 52 40.7	-0.5
	0.7nm,0.4s,baz=331,slow=10,SNR=3.3							
ASAR	**Alice Springs**	**31.54**	**160**	P		P	04 53 10.0	+0.9
	0.8nm,0.3s,baz=338,slow=7.6,SNR=23							
STKA	**Stephens Creek**	**41.86**	**155**	P		P	04 54 31.9	-1.8
	1.8nm,0.9s,baz=323,slow=10,SNR=2.8							
MKAR	**Makanchi Array**	**53.31**	**326**	P		P	04 55 59.1	-0.1
	0.4nm,0.4s,baz=124,slow=8.4,SNR=6.1							

*NEIC **25** 04:56:43.6, 17.53N×94.79W, h142km, MD4.2(MEX), After MEX.*
MEX 25 04:56:43.6±0.5, 17.54N×94.79W, h142km±3km, MD4.2, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.46**	**192**	*i* P		Pn	04 57 02.5	-1.4
CMIG				*i* S		Sn	04 57 17.1	-2.1
CMIG	**Matias Romero**	**0.46**	**192**	*i* P		Pn	04 57 02.5	-1.4
CMIG				*i* S		Sn	04 57 17.1	-2.1
TUIG	**Tuzandepetl**	**0.60**	**35**	*i* P		Pn	04 57 03.3	-1.3
TUIG	**Tuzandepetl**	**0.60**	**35**	*i* P		Pn	04 57 03.3	-1.3
TGIG		**1.76**	**115**	*e*P		Pn	04 57 14.3	-1.3
TGIG				*i* S		Sn	04 57 37.9	-2.2
TGIG		**1.76**	**115**	*e*P		Pn	04 57 14.3	-1.3
TGIG				*i* S		Sn	04 57 37.9	-2.2
VHO	**Vista Hermosa**	**1.92**	**256**	*e*P		Pn	04 57 16.2	-1.3
VHO				*e*S		Sn	04 57 42.3	-1.2
VHO	**Vista Hermosa**	**1.92**	**256**	*e*P		Pn	04 57 16.2	-1.3
VHO				*e*S		Sn	04 57 42.3	-1.2
HUIG	**Huatulco**	**2.17**	**216**	*e*P		Pn	04 57 17.0	-3.3
HUIG				*e*S		Sn	04 57 46.6	-1.9
HUIG	**Huatulco**	**2.17**	**216**	*e*P		Pn	04 57 17.0	-3.3
HUIG				*e*S		Sn	04 57 46.3	-2.2
PCIG		**2.37**	**140**	*e*P		Pn	04 57 21.6	-1.1
PCIG				*i* S		Sn	04 57 50.7	-2.0
PCIG		**2.37**	**140**	*e*P		Pn	04 57 21.6	-1.1
PCIG				*i* S		Sn	04 57 50.7	-2.0
TPIG	**Tehuac#an**	**2.60**	**290**	*e*P		Pn	04 57 24.8	-1.0
TPIG				*i* S		Sn	04 57 56.0	-2.3
TPIG	**Tehuac#an**	**2.60**	**290**	*e*P		Pn	04 57 24.8	-1.0
TPIG				*i* S		Sn	04 57 56.0	-2.3
CCIG	**Comitan**	**2.83**	**116**	*e*P		Pn	04 57 27.3	-1.5
CCIG				*e*S		Sn	04 58 01.1	-2.4
CCIG	**Comitan**	**2.83**	**116**	*e*P		Pn	04 57 27.3	-1.5
CCIG				*e*S		Sn	04 58 01.1	-2.4
PNIG	**Pinotepa**	**3.39**	**251**	*i* P		Pn	04 57 33.9	-1.9
PNIG				*i* S		Sn	04 58 13.8	-2.3
PNIG	**Pinotepa**	**3.39**	**251**	*i* P		Pn	04 57 33.9	-1.9
PNIG				*i* S		Sn	04 58 13.8	-2.3

*NEIC **25** 04:56:44.4, 19.44N×64.34W, h92km, MD3.5(RSPR), After RSPR.*
RSPR 25 04:56:44.4, 19.44N×64.34W, h92km±9km, MD3.5/8, 20C-6D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**1.05**	**195**	*j*P		Pn	04 57 04.0	-0.8
TBVI	**Tortola**	**1.05**	**195**	*j*P		Pn	04 57 04.0	-0.8
TBVI	**Tortola**	**1.05**	**195**	*j*P		Pn	04 57 04.0	-0.8
STVI	**Saint Thomas**	**1.23**	**208**	*e*S		Sn	04 57 23.6	-0.3
STVI	**Saint Thomas**	**1.23**	**208**	*j*P		Pn	04 57 06.7	-0.2
STVI	**Saint Thomas**	**1.23**	**208**	*j*P		Pn	04 57 06.7	-0.2
STVI				*e*S		Sn	04 57 23.6	-0.3
STVI	**Saint Thomas**	**1.23**	**208**	*j*P		Pn	04 57 06.7	-0.2
STVI				*e*S		Sn	04 57 23.6	-0.3
CPD	**Cerro la Pandu**	**2.04**	**227**	*j*P		Pn	04 57 16.5	-0.8
CPD	**Cerro la Pandu**	**2.04**	**227**	*e*S		Sn	04 57 42.5	+0.1
CPD	**Cerro la Pandu**	**2.04**	**227**	*j*P		Pn	04 57 16.5	-0.8
CPD				*e*S		Sn	04 57 42.5	+0.1
CPD	**Cerro la Pandu**	**2.04**	**227**	*j*P		Pn	04 57 16.5	-0.8
CPD				*e*S		Sn	04 57 42.5	+0.1
SJG	**San Juan**	**2.17**	**233**	*j*P		Pn	04 57 18.4	-0.5
SJG	**San Juan**	**2.17**	**233**	*j*P		Pn	04 57 18.5	-0.4
SJG	**San Juan**	**2.17**	**233**	*j*P		Pn	04 57 18.4	-0.5
SJG	**San Juan**	**2.17**	**233**	*j*P		Pn	04 57 18.5	-0.4
SJG	**San Juan**	**2.17**	**233**	*j*P		Pn	04 57 18.5	-0.4
AOPR	**Arecibo Observ**	**2.53**	**245**	*j*P		Pn	04 57 23.6	-0.2
AOPR	**Arecibo Observ**	**2.53**	**245**	*j*P		Pn	04 57 23.6	-0.2
AOPR	**Arecibo Observ**	**2.53**	**245**	*j*P		Pn	04 57 23.6	-0.2
AGPR	**Aguadilla, PR**	**2.80**	**250**	*j*P		Pn	04 57 27.3	0.0
AGPR	**Aguadilla, PR**	**2.80**	**250**	*j*P		Pn	04 57 27.3	0.0
AGPR	**Aguadilla, PR**	**2.80**	**250**	*j*P		Pn	04 57 27.3	0.0
LSP	**Las Mesas**	**2.89**	**245**	*j*P		Pn	04 57 28.2	-0.4
LSP	**Las Mesas**	**2.89**	**245**	*e*S		Sn	04 58 02.2	-0.4
LSP	**Las Mesas**	**2.89**	**245**	*j*P		Pn	04 57 28.2	-0.4
LSP				*e*S		Sn	04 58 02.2	-0.4
LSP	**Las Mesas**	**2.89**	**245**	*j*P		Pn	04 57 28.2	-0.4
LSP				*e*S		Sn	04 58 02.2	-0.4
CRPR	**Cabo Rojo, PR**	**2.99**	**242**	*j*P		Pn	04 57 29.9	0.0
CRPR	**Cabo Rojo, PR**	**2.99**	**242**	*j*P		Pn	04 57 29.9	0.0
CRPR	**Cabo Rojo, PR**	**2.99**	**242**	*j*P		Pn	04 57 29.9	0.0

*ISCJB **25** 05:01:04.6±1.3, 17.81N±0.04×121.48E±0.04, h7km±9km, mb4.0/15, MS3.4/1, Error ellipse: s-maj=7.1km s-min=6.0km az=41.2*
*MAN **25** 05:01:05, 17.74N×121.44E, h23km, mb5.0, ML3.9, MS4.0*
MAN INTENSITY III - CALLAO TUGUEGARAO CAGAYAN.
*IDC **25** 05:01:06.0±0.7, 18.02N×121.48E, h0km, mb3.9/14, mb1 4.0/15, mb1mx3.9/40, mbtmp3.9/15, ML3.7/1, MS3.6/1, Ms1 3.6/1, ms1mx3.0/39, Error ellipse: s-maj=23.5km s-min=14.3km az=79.0*
*NEIC **25** 05:01:07.2±0.5, 17.90N×121.42E, h10km, mb4.5/3, Error ellipse: s-maj=10.9km s-min=8.3km az=102.0*
NEIC Felt [III PIVS] at Callao and Tuguegarao City.
ISC 25 05:01:05.0±1.8, 17.65N±0.04×121.45E±0.04, h7km±12km, n39, σ1s29/34, mb4.1/15, 3C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SZP	**Santa**	**0.95**	**265**	*e*Pg		**Pg**	**05 01 23.9**	**+0.5**
SZP				*e*Sg		**Sn**	**05 01 38.7**	**0.0**
SIPP	**Brgy, Tapao**	**0.99**	**286**	*i*P		**Pn**	**05 01 24.9**	**-0.4**
SIPP				*i* S		**Sn**	**05 01 38.0**	**-1.5**
PIP	**Pasuquin**	**1.04**	**311**	*j*P		**Pn**	**05 01 25.9**	**-0.1**
PIP				*e*S		**Sn**	**05 01 43.9**	**+3.0**
PALP	**Palanan**	**1.09**	**122**	*j*P		**Pb**	**05 01 26.3**	**0.0**
PALP				*i* S		**Sn**	**05 01 43.6**	**+1.4**
BCPH	**Baguio City Da**	**1.51**	**214**	*j*P		**Pn**	**05 01 31.7**	**-0.9**
BCPH				*i* S		**Sn**	**05 01 52.9**	**+0.2**
LQP	**Lukban**	**3.51**	**179**	*e*P		**Pb**	**05 02 06.6**	**-1.1**
TGY	**Tagaytay City**	**3.56**	**188**	Pn		**Pb**	**05 02 07.2**	**-1.1**
	148nm,0.3s,baz=172,slow=7.1,SNR=4.2							
GQP	**Guinayangan**	**3.84**	**165**	*e*P		Pn	05 02 00.1	-4.5
TWG	**Pinlang**	**5.16**	**356**	Pn		**Pn**	**05 02 20.4**	**-2.3**
NACB	**Ninganchiao**	**6.50**	**1**	*e*Pn		**Pn**	**05 02 41.9**	**+0.8**
NACB				*e*Sn		**Sn**	**05 03 55.6**	**0.0**
QIZ	**Qiongzhong**	**11.11**	**279**	*e*Pn		**Pn**	**05 03 45.3**	**+0.8**
QIZ				*e*Sn		**Sn**	**05 05 48.4**	**-0.6**
JNU	**Nakatsue**	**17.59**	**27**	P		**Pn**	**05 05 09.4**	**-1.3**
	0.2nm,0.3s,baz=30,slow=20,SNR=2.3							
KSAR	**Wonju Array Be**	**20.52**	**15**	P		**P**	**05 05 43.2**	**-0.7**
KSRS	**Korea Array**	**20.54**	**15**	P		**P**	**05 05 43.2**	**-0.9**
	4.9nm,0.7s,baz=195,slow=10,SNR=32							
SIJI	**Sorong**	**20.78**	**151**	P		Pn	05 05 53.8	+4.4
	2.5nm,0.5s,baz=342,slow=19,SNR=2.1							
CMAR	**Chiang Mai Arr**	**21.42**	**276**	P		**P**	**05 05 56.6**	**+2.8**
	0.5nm,0.4s,baz=68,slow=11,SNR=4.0							
GUMO	**Guam**	**22.90**	**97**	LR		LR	05 13 02.5	
	comp=Z,146nm,21.4s,baz=328,slow=31							
MJAR	**Matsushiro Arr**	**23.95**	**35**	P		**P**	**05 06 18.4**	**-1.5**
	1.1nm,0.8s,baz=190,slow=8.0,SNR=5.9							
ULN	**Ulaanbaatar**	**32.37**	**342**	*e*P		**P**	**05 07 34.3**	**-1.0**
	3.6nm,0.8s							
SONM	**Songino Array**	**32.54**	**341**	P		**P**	**05 07 37.9**	**+1.1**
	2.6nm,0.6s,baz=156,slow=9.5,SNR=6.5							
COEN	**Coen**	**38.02**	**144**	*e*P		**P**	**05 08 26.1**	**+2.0**
WRAB	**Tennant Creek**	**39.43**	**161**	*e*P		P	05 08 40.1	+4.2
	9.9nm,1.1s							
WRA	**Warramunga Arr**	**39.44**	**161**	P		P	05 08 40.9	+4.8
	2.0nm,0.8s,baz=341,slow=9.3,SNR=5.7							
ASAR	**Alice Springs**	**42.82**	**163**	P		P	05 09 08.7	+4.8
	1.2nm,0.7s,baz=342,slow=7.2,SNR=10							
H11S3	**WAKE ISLAND Hy**	**42.93**	**82**	T		T	05 54 16.2	
	baz=276,slow=74,SNR=112							
H11S1	**WAKE ISLAND Hy**	**42.94**	**82**	T		T	05 54 15.3	
	baz=276,slow=74,SNR=68							
H11S2	**WAKE ISLAND Hy**	**42.95**	**82**	T		T	05 54 15.3	
	baz=276,slow=74,SNR=78							
H11N1	**WAKE ISLAND Hy**	**43.00**	**80**	T		T	05 54 16.6	
	baz=275,slow=74,SNR=14							
H11N2	**WAKE ISLAND Hy**	**43.00**	**80**	T		T	05 54 18.3	
	baz=275,slow=74,SNR=12							
H11N3	**WAKE ISLAND Hy**	**43.02**	**80**	T		T	05 54 18.3	
	baz=275,slow=74,SNR=15							
MK31	**Makanchi Array**	**43.37**	**321**	*e*P		**P**	**05 09 09.4**	**+1.3**
MKAR	**Makanchi Array**	**43.37**	**321**	P		**P**	**05 09 08.9**	**+0.

SNVI				*e*S		**Sn**	**05 07 12.1**	**+0.3**
LFRS	**El Faro**	**3.11**	**301**	*e*P		**Pn**	**05 06 40.5**	**+0.7**
LFRS				*e*S		**Sn**	**05 07 15.6**	**-0.7**
LBRS	**Las Brisas**	**3.16**	**303**	*e*P		**Pn**	**05 06 41.7**	**+1.4**
LFU	**La Fuente**	**3.22**	**303**	*e*P		**Pn**	**05 06 42.3**	**+1.1**
SNET	**Serv Nac Est T**	**3.29**	**301**	*e*P		**Pn**	**05 06 42.2**	**+0.1**
SNET				*e*S		**Sn**	**05 07 20.0**	**-0.4**
SNET				AML	AML		05 07 27.7	
	comp=Z,420nm,0.1s							
URSC	**Urasca**	**3.31**	**131**	*e*P		**Pn**	**05 06 44.6**	**+2.1**
QCR	**Quepos**	**3.34**	**140**	*e*P		**Pn**	**05 06 44.9**	**+2.2**
QCR				*e*S		**Sn**	**05 07 21.8**	**+0.3**
BOQS	**Boqueron**	**3.35**	**301**	*e*P		**Pn**	**05 06 44.1**	**+1.0**
BUS	**Buena Vista**	**3.51**	**134**	*e*P		**Pn**	**05 06 47.1**	**+1.6**
SBLS	**San Blas**	**3.69**	**300**	*e*P		**Pn**	**05 06 48.8**	**+1.1**
SNJE	**San Jose**	**3.69**	**300**	*e*P		**Pn**	**05 06 48.9**	**+1.3**
RTR	**El Retiro**	**3.74**	**300**	*e*P		**Pn**	**05 06 49.9**	**+1.6**
RBDL	**Robledal**	**3.88**	**303**	*e*P		**Pn**	**05 06 51.5**	**+1.2**
MRL	**Marmol**	**4.46**	**313**	*e*P		**Pn**	**05 07 01.0**	**+2.9**
IXG	**Ixpaco**	**4.56**	**298**	*e*P		**Pn**	**05 06 60.0**	**+0.6**
NBG	**Las Nubes**	**4.68**	**304**	*e*P		**Pn**	**05 07 04.2**	**+3.2**
FUG	**Fuego 3**	**5.02**	**299**	*e*P		**Pn**	**05 07 07.5**	**+1.9**
JAT	**Jato**	**5.66**	**294**	*e*P		**Pn**	**05 07 16.1**	**+2.0**
CMIG	**Matias Romero**	**9.70**	**302**	P		**Pn**	**05 08 09.5**	**+0.4**
	comp=Z,3.6nm,0.3s,baz=154,slow=10,SNR=69							
TXAR	**Lajitas Array**	**23.61**	**319**	P		**Pn**	**05 10 55.9**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=141,slow=8.7,SNR=23							
TKL	**Tuckaleechee C**	**23.65**	**5**	P		**Pn**	**05 10 54.1**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=270,slow=5.1,SNR=2.2							
PDAR	**Pinedale Array**	**36.68**	**331**	P		**Pn**	**05 12 50.0**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=134,slow=9.8,SNR=3.7							
NVAR	**Mina Array Bea**	**38.76**	**318**	P		**Pn**	**05 13 09.3**	**+1.8**
	comp=Z,0.2nm,0.4s,baz=149,slow=7.3,SNR=3.1							
ULM	**Lac du Bonnet**	**38.92**	**350**	P		**Pn**	**05 13 07.0**	**-1.4**
	comp=Z,1.3nm,0.3s,baz=166,slow=11,SNR=3.6							
SCHQ	**Schefferville**	**45.38**	**16**	P		**Pn**	**05 14 01.6**	**+0.8**
	comp=Z,1.9nm,0.4s,baz=217,slow=6.9,SNR=13							
YKA	**Yellowknife A**	**54.32**	**344**	P		**Pn**	**05 15 08.2**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=129,slow=7.9,SNR=2.6							
ILAR	**Eielson Array**	**66.86**	**336**	P		**Pn**	**05 16 32.2**	**-1.4**
	comp=Z,0.2nm,0.8s,baz=144,slow=5.2,SNR=3.8							
ESDC	**Sonseca Array**	**76.59**	**52**	P		**Pn**	**05 17 30.6**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=278,slow=8.9,SNR=3.8							
ASAR	**Alice Springs**	**140.13**	**247**	PKhKP	PKPpre		05 25 03.7	
	comp=Z,0.3nm,0.6s,baz=125,slow=3.9,SNR=2.8							
ASAR				PKP		**PKPdf**	**05 25 10.0**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=154,slow=2.8,SNR=6.4							
WRA	**Warramunga Arr**	**140.21**	**253**	PKP		**PKPdf**	**05 25 11.1**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=90,slow=2.2,SNR=5.7							

ISCJB ***25*** *05:06:37.4±1.4,37.1°S±0.2°×77.9°E±0.3, h9km, mb4.0/6, MS4.1/2, Error ellipse: s-maj=36.0km s-min=25.9km az=21.6*

IDC ***25*** *05:06:37.6±1.7,37.03°S×77.82E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.8/22, mbtmp4.0/6, MS4.1/2, Ms1 4.0/2, ms1mx3.3/32, Error ellipse: s-maj=45.0km s-min=29.7km az=116.0*

ISC 25 05:06:39.0±1.6, 37.0°S±0.2°×77.8E±0.3, h9km, n15, σ0°99/6, mb4.0/6, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**29.35**	**97**	T	T	05 43 00.7	
	baz=255,slow=75,SNR=355						
H01W3	**Cape Leeuwin H**	**29.36**	**97**	T	T	05 42 58.2	
	baz=255,slow=75,SNR=344						
H01W1	**Cape Leeuwin H**	**29.37**	**97**	T	T	05 42 59.1	
	baz=255,slow=75,SNR=332						
H08S2	**Diego Garcia H**	**29.66**	**349**	T	T	05 44 02.8	
	baz=171,slow=76,SNR=686						
H08S1	**Diego Carcia H**	**29.66**	**349**	T	T	05 44 00.4	
	baz=171,slow=76,SNR=664						
H08S3	**Diego Garcia H**	**29.68**	**349**	T	T	05 44 01.8	
	baz=171,slow=76,SNR=796						
MAW	**Mawson**	**31.76**	**191**	LR	LR	05 23 16.7	
	comp=Z,322nm,18.7s,baz=46,slow=31						
ASAR	**Alice Springs**	**49.54**	**91**	P	**P**	**05 15 30.8**	**+0.5**
	1.9nm,1.0s,baz=231,slow=8.2,SNR=7.8						
WRA	**Warramunga Arr**	**51.77**	**87**	P	**P**	**05 15 47.6**	**+0.4**
	1.8nm,0.8s,baz=239,slow=7.7,SNR=5.5						
STKA	**Stephens Creek**	**51.96**	**104**	P	**P**	**05 15 48.2**	**-0.3**
	2.0nm,0.7s,baz=264,slow=6.2,SNR=6.1						
VNDA	**Vanda**	**52.88**	**164**	P	**P**	**05 15 53.4**	**-1.2**
	0.3nm,0.3s,baz=90,slow=16,SNR=7.2						
QSPA	**South Pole Qui**	**53.12**	**180**	P	**P**	**05 15 57.7**	**+1.1**
	7.5nm,1.0s,baz=281,slow=1.4,SNR=13						
H09N1	**TRISTAN DA CUN**	**69.00**	**239**	T	T	06 31 30.1	
	SNR=1.7						
HNR	**Honiara**	**78.12**	**93**	LR	LR	05 49 17.9	
	comp=Z,104nm,21.5s,baz=139,slow=33						
MKAR	**Makanchi Array**	**83.55**	**3**	P	**P**	**05 19 06.8**	**-0.2**
	0.2nm,0.3s,baz=197,slow=4.5,SNR=3.9						

SJA ***25*** *05:10:59.0±0.7,34.01°S×72.39W, h33km±25km, MD3.7*

GUC ***25*** *05:11:03.4±0.5,33.83°S×71.87W, h14km±4km, ML3.1*

ISC 25 05:11:04.0±2.0, 33.82°S±0.05°×71.84W±0.09, h9km±12km, n18, σ1°s78/25, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.39**	**111**	*i* P	**Pg**	**05 11 11.7**	**+0.1**
TACH	**Talagante**	**0.77**	**78**	*i* P	**Pb**	**05 11 19.3**	**-0.3**
IHA	**Instituto Hidr**	**0.81**	**12**	*i* P	**Pb**	**05 11 19.6**	**-0.6**
CHCH	**Chadas Angostu**	**1.00**	**97**	*i* P	**Pg**	**05 11 23.1**	**0.0**
SAN	**Santiago**	**1.05**	**70**	*i* P	**Pb**	**05 11 23.9**	**-0.5**
SAN				*i* S	**Sn**	**05 11 39.7**	**-0.1**
CLCH	**Cerro Calan**	**1.17**	**69**	*i* P	**Pb**	**05 11 25.9**	**-0.5**
CLCH				*i* S	**Sg**	**05 11 43.1**	**+1.6**
CLCH				AML	AML	05 11 44.0	
	comp=E,497nm,0.3s						
PEL	**Peldehue**	**1.18**	**56**	*i* P	**Pn**	**05 11 25.9**	**-0.8**
PEL				*i* S	**Sg**	**05 11 43.2**	**+1.4**
PEL				AML	AML	05 11 49.2	
	comp=N,1μm,0.5s						
NICH	**Los Niches**	**1.29**	**157**	*i* P	**Pb**	**05 11 27.3**	**-1.1**
NICH				*i* S	**Sg**	**05 11 45.4**	**0.0**
AUSP	**Uspallata**	**2.60**	**53**	*e*P	**Pb**	**05 11 50.2**	**-0.8**
AAGR	**Agrelo**	**2.62**	**75**	*e*P	**Pb**	**05 11 49.8**	**-1.4**
ASAL	**Salagasta**	**2.80**	**65**	*e*P	**Pb**	**05 11 52.9**	**-1.4**
ASAL				*e*S	**Sg**	**05 12 32.3**	**-1.7**
RTLS	**Leoncito**	**2.94**	**48**	*e*P	**Pb**	**05 11 54.9**	**-1.8**
RTLS				*e*S	**Sb**	**05 12 35.6**	**+2.7**
RTCV	**Cerro Valdivia**	**3.39**	**56**	*e*P	**Pb**	**05 12 01.2**	**-3.1**
CFAA	**Coronel Fontan**	**3.75**	**55**	*e*P	**Pn**	**05 12 04.2**	**+2.1**
RTLL	**Cerro Villicun**	**3.77**	**50**	*e*P	**Pn**	**05 12 04.7**	**+2.2**
RTLL				*e*S	**Sb**	**05 12 52.9**	**-3.7**
AMOG	**MOGNA**	**4.03**	**46**	*e*P	**Pn**	**05 12 07.2**	**+1.2**
ACAN	**Cantantal**	**4.20**	**70**	*e*P	**Pn**	**05 12 09.7**	**+1.4**
MRA	**San Martin**	**5.33**	**77**	*e*P	**Pn**	**05 12 26.0**	**+2.2**

IDC 25 05:13:58.9±1.7, 14.12°S×167.13E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/30, mbtmp3.6/4, ML3.2/1, Error ellipse: s-maj=47.0km s-min=27.9km az=117.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.93**	**185**	Pn	Pn	05 15 54.8	-0.9
	0.3nm,0.3s,baz=90,slow=20,SNR=5.1						
DZM				Sn	Sn	05 17 28.9	+2.5
	0.2nm,0.3s,baz=90,slow=20,SNR=2.4						
WRA	**Warramunga Arr**	**31.85**	**255**	P	P	05 20 25.9	+0.1
	0.3nm,0.7s,baz=86,slow=9.7,SNR=4.6						
ASAR	**Alice Springs**	**32.77**	**248**	P	P	05 20 33.9	-0.1
	0.4nm,0.7s,baz=74,slow=8.6,SNR=4.6						
ILAR	**Eielson Array**	**85.99**	**18**	P	P	05 26 40.8	0.0
	1.1nm,0.8s,baz=236,slow=5.8,SNR=13						

ISCJB ***25*** *05:26:27.5±1.4,1.30°S±0.06°×120.45E±0.07, h29km±18km, Error ellipse: s-maj=14.3km s-min=5.9km az=36.2*

DJA ***25*** *05:26:27.3±0.5,1°S±3°×12°0E±°, h26km±7km, M4.0/10, MLv4.1/3, MLv3.9/10*

ISC 25 05:26:27.4±1.4, 1.28S±0.05×120.44E±0.05, h20km±12km, n9, σ0°84/15, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCI	**Palu**	**0.70**	**302**	P	**Pb**	**05 26 41.0**	**0.0**
PCI				S	**Sn**	**05 26 52.3**	**-0.1**
APSI	**Ampana**	**1.27**	**73**	P	**Pn**	**05 26 48.8**	**-1.1**
APSI				S	**Sn**	**05 27 05.8**	**-0.5**
MPSI	**Mapaga**	**1.69**	**341**	P	**Pn**	**05 26 55.7**	**-0.1**
TTSI	**Tana Toraja**	**1.86**	**199**	P	**Pn**	**05 26 57.5**	**-0.6**
TTSI				S	**Sn**	**05 27 20.5**	**-0.5**
MRSI	**Marisa**	**2.30**	**41**	P	**Pn**	**05 27 03.9**	**-0.3**
MRSI				S	**Sn**	**05 27 32.3**	**+0.4**
LUWI	**Luwuk**	**2.35**	**84**	P	**Pn**	**05 27 03.7**	**-1.1**
LUWI				S	**Sn**	**05 27 33.5**	**+0.5**
LUWI	**Luwuk**	**2.35**	**84**	P	**Pn**	**05 27 05.6**	**+0.8**
	baz=2.0,SNR=7.4						
SPSI	**Sidrap Palu**	**2.75**	**194**	P	**Pn**	**05 27 10.1**	**-0.3**
SPSI				S	**Sn**	**05 27 43.1**	**+0.1**
SOEI	**Soe**	**9.24**	**156**	P	**Pn**	**05 28 41.6**	**+1.8**
	baz=11,SNR=10						

CSEM ***25*** *05:37:54.3,33.52N×53.27E, h6km, ML3.8*

TEH 25 05:37:54.3,33.52N×53.27E, h6km, ML3.8, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IZEF	**Zefreh**	**1.00**	**232**	*e*Pg	Pg	05 38 12.1	-1.9
IZEF				*e*Sg	Sg	05 38 25.8	-1.4
IZEF				*e*		05 38 26.8	
	comp=Z,24μm,0.1s						
IZEF	**Zefreh**	**1.00**	**232**	*e*Pg	Pg	05 38 12.1	-1.9
IZEF				*e*Sg	Sg	05 38 25.8	-1.5
ICHK	**Chekchek**	**1.59**	**143**	*e*Pn	Pn	05 38 23.0	-0.3
ICHK				*e*		05 38 51.8	
	comp=Z,15μm,0.1s						
ICHK	**Chekchek**	**1.59**	**143**	*e*Pn	Pn	05 38 23.0	-0.3
ISAD	**Sadrabad**	**1.63**	**168**	*e*Pn	Pn	05 38 23.5	-0.5
ISAD				*e*Sg	Sn	05 38 45.6	-0.1
ISAD	**Sadrabad**	**1.63**	**168**	*e*Pn	Pn	05 38 23.5	-0.5
ISAD				*e*Sg	Sn	05 38 45.6	-0.1
IVRN	**Varamin**	**1.96**	**319**	*e*Pn	Pn	05 38 28.0	-0.2
IVRN				*e*		05 38 34.4	
IVRN	**Varamin**	**1.96**	**319**	*e*Pn	Pn	05 38 28.0	-0.2
IFIR	**Firoozkooh**	**2.16**	**349**	*e*Pn	Pn	05 38 30.0	-1.3
IFIR				*e*		05 39 02.2	
	comp=Z,12μm,0.1s						
IFIR	**Firoozkooh**	**2.16**	**349**	*e*Pn	Pn	05 38 30.0	-1.3
IPIR	**Pirpir**	**2.17**	**248**	*e*Pn	Pn	05 38 31.5	+0.1
IPIR				*e*		05 39 06.4	
	comp=Z,5μm,0.1s						
IPIR	**Pirpir**	**2.17**	**248**	*e*Pn	Pn	05 38 31.5	+0.1
ISHM	**Shahmirzad**	**2.29**	**0**	*e*Pn	Pn	05 38 32.3	-0.7
ISHM				*e*		05 39 07.5	
	comp=Z,13μm,0.1s						
IDMV	**Damavand**	**2.30**	**334**	*e*Pn	Pn	05 38 32.3	-0.9
IDMV				*e*		05 39 17.6	
	comp=Z,4μm,0.2s						
IDMV	**Damavand**	**2.30**	**334**	*e*Pn	Pn	05 38 32.3	-0.9
IMEH	**Mehriz**	**2.40**	**152**	*e*Pn	Pn	05 38 33.8	-0.8
IMEH				*e*		05 39 15.6	
	comp=Z,8μm,0.1s						
IMEH	**Mehriz**	**2.40**	**152**	*e*Pn	Pn	05 38 33.8	-0.7
IALA	**Alasht**	**2.59**	**352**	*e*Pn	Pn	05 38 36.9	-0.4
IALA				*e*Pn	Pb	05 38 37.1	-4.5
IALA				*e*		05 39 18.4	
	comp=E,7μm,0.2s						
IALA				*e*		05 39 18.7	
	comp=Z,3μm,0.1s						
IALA	**Alasht**	**2.59**	**352**	*e*Pn	Pn	05 38 36.8	-0.4
IALA	**Alasht**	**2.59**	**352**	*e*Pn	Pn	05 38 37.1	-0.1
IAFJ	**Afjeh**	**2.67**	**332**	*e*Pn	Pn	05 38 37.9	-0.3
IAFJ	**Afjeh**	**2.67**	**332**	*e*Pn	Pn	05 38 37.9	-0.4
IKIA	**Kiasar**	**2.71**	**7**	*e*Pn	Pn	05 38 38.1	-0.6
IKIA				*e*		05 39 24.5	
	comp=Z,2μm,0.2s						
IKIA	**Kiasar**	**2.71**	**7**	*e*Pn	Pn	05 38 38.1	-0.6
IBAF	**Bafgh**	**2.73**	**134**	*e*Pn	Pn	05 38 38.7	-0.2
IBAF				*e*		05 39 26.4	
	comp=Z,3μm,0.2s						
IBAF	**Bafgh**	**2.73**	**134**	*e*Pn	Pn	05 38 38.7	-0.2
IPRN	**Peran**	**2.83**	**344**	*e*Pn	Pn	05 38 39.8	-0.5
IPRN				*e*		05 39 26.2	
	comp=Z,4μm,0.2s						
IGLO	**Ghaloghah**	**3.02**	**9**	*e*Pn	Pn	05 38 43.7	+0.7
IGLO				*e*		05 39 32.5	
	comp=Z,3μm,0.2s						
IMHD	**Mahdasht**	**3.05**	**316**	*e*Pn	Pn	05 38 42.9	-0.4
IMHD				*e*		05 39 30.2	
	comp=Z,3μm,0.1s						
IMHD	**Mahdasht**	**3.05**	**316**	*e*Pn	Pn	05 38 42.9	-0.4
IRAZ	**Razeghan**	**3.34**	**305**	*e*Pn	Pn	05 38 46.8	-0.7
IRAZ				*e*		05 39 57.5	
	comp=Z,2μm,0.3s						
IRAZ	**Razeghan**	**3.34**	**305**	*e*Pn	Pn	05 38 46.8	-0.7
IGZV	**Ghazvin**	**3.81**	**320**	*e*Pn	Pn	05 38 53.8	0.0
IGZV				*e*		05 39 22.1	
	comp=Z,951nm,0.2s						
IGZV	**Ghazvin**	**3.81**	**320**	*e*Pn	Pn	05 38 53.8	-0.1

ISCJB ***25*** *05:40:22.8±1.0,6.1S±0.3×150.1E±0.4, h52km, mb3.6/4, Error ellipse: s-maj=68.5km s-min=11.4km az=40.4*

IDC ***25*** *05:40:22.6±8.4,6.06S×150.23E, h36km±67km, mb3.6/5, mb1 3.8/6, mb1mx3.5/19, mbtmp3.8/6, ML1.8/1, Error ellipse: s-maj=72.4km s-min=35.0km az=124.0*

ISC 25 05:40:24.1±1.0, 6.1S±0.3×150.2E±0.4, h52km, n8, σ0°s42/9, mb3.6/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.46**	**222**	Pn	**Pn**	**05 41 28.9**	**-0.3**
	3.7nm,0.3s,baz=46,slow=5.8,SNR=8.4						
PMG				Sn	**Sn**	**05 42 20.0**	**+0.1**
	9.6nm,0.3s,baz=107,slow=19,SNR=10.0						
WRA	**Warramunga Arr**	**20.66**	**227**	P	**P**	**05 44 59.9**	**+0.2**
	3.0nm,0.6s,baz=51,slow=11,SNR=11						
ASAR	**Alice Springs**	**23.47**	**220**	P	**P**	**05 45 28.9**	**-0.4**
	0.5nm,0.6s,baz=56,slow=9.1,SNR=8.6						
STKA	**Stephens Creek**	**26.90**	**196**	P	**P**	**05 46 00.9**	**+0.5**
	1.5nm,0.6s,baz=20,slow=11,SNR=6.0						
ILAR	**Eielson Array**	**84.32**	**23**	P	**P**	**05 52 50.4**	**+0.1**
	0.3nm,0.7s,baz=243,slow=6.1,SNR=4.7						
NVAR	**Mina Array Bea**	**94.93**	**52**	P	**P**	**05 53 41.1**	**-0.3**
	0.4nm,0.8s,baz=260,slow=7.4,SNR=3.8						
GERES	**GERESS Array B**	**123.71**	**327**	PKP	**PKPdf**	**05 59 16.1**	**-0.3**
	0.3nm,0.5s,baz=35,slow=3.6,SNR=4.3						
TORD	**Torodi Ar. Bea**	**148.15**	**285**	PKPbc	**PKPbc**	**06 00 05.9**	**+0.6**
	1.0nm,0.6s,baz=64,slow=2.6,SNR=8.7						

IDC 25 05:41:59.0±2.5, 6.26S×150.53E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/31, mbtmp3.6/4, Error ellipse: s-maj=71.9km s-min=38.3km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.62**	**38**	P	Pg	05 42 53.8	+4.4
	baz=3.7,SNR=5.9						
PMG	**Port Moresby**	**4.57**	**227**	Pn	Pn	05 43 11.4	+1.9
	baz=210,slow=20,SNR=3.6						
PMG				Sn	Sn	05 44 03.2	-0.2
	7.6nm,0.3s,baz=98,slow=22,SNR=4.0						
WRA	**Warramunga Arr**	**20.79**	**228**	P	P	05 46 42.7	+0.6
	2.5nm,0.6s,baz=53,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**23.56**	**221**	P	P	05 47 10.1	-1.3
	0.5nm,0.9s,baz=56,slow=9.0,SNR=5.2						
STKA	**Stephens Creek**	**26.82**	**197**	P	P	05 47 41.0	-0.1
	0.4nm,0.4s,baz=24,slow=13,SNR=2.3						
TORD	**Torodi Ar. Bea**	**148.55**	**285**	PKPbc	PKPbc	06 01 48.7	-0.4
	0.5nm,0.6s,baz=81,slow=2.2,SNR=4.7						

IDC ***25*** *05:54:57.1±0.8,2.40N×126.69E, h0km, mb4.0/11, mb1 4.1/11, mb1mx3.9/42, mbtmp4.0/11, MS3.2/1, Ms1 3.2/1, ms1mx2.7/34, Error ellipse: s-maj=35.0km s-min=14.4km az=75.0*

NEIC ***25*** *05:54:58.4±0.4,2.40N×126.78E, h10km, mb4.2/1, Error ellipse: s-maj=23.0km s-min=7.2km az=73.0*

ISCJB ***25*** *05:55:02.4±0.5,2.50N±0.05×127.03E±0.07, h53km, mb4.0/12, Error ellipse: s-maj=10.0km s-min=6.4km az=9.6*

DJA ***25*** *05:55:06.8±1.2,2.7°N±5°×12.7°E±°, h11km±12km, M4.1/9, mb4.2/2, mB4.7/1, MLv4.0/9, Mw(mB)4.0/1*

ISC 25 05:55:04.4±0.7, 2.49N±0.07×126.96E±0.09, h53km, n24, σ1°s35/22, mb4.1/12, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.75**	**167**	P	**Pn**	**05 55 32.4**	**0.0**
TNTI	**Ternate**	**1.75**	**167**	*e*Pn	Pn	05 55 27.1	-5.3
SGSI	**Sangihe**	**1.86**	**310**	P	Pn	05 55 41.1	+7.1
LBMI	**Labuha**	**3.15**	**170**	P	**Pn**	**05 55 51.7**	**+0.1**
KMSI	**Cibinong**	**3.53**	**238**	P	Pn	05 56 00.0	+3.2
KMSI				S	**Sn**	**05 56 39.8**	**+2.4**
SANI	**Sanana**	**4.61**	**192**	P	**Pn**	**05 56 11.2**	**-0.4**
SANI				S	**Sn**	**05 57 02.6**	**-1.3**
MRSI	**Marisa**	**5.40**	**248**	P	**Pn**	**05 56 24.5**	**+2.0**
	32nm,0.9s,774nm0.1nm						
SWI	**Sorong**	**5.43**	**128**	P	**Pn**	**05 56 25.7**	**+2.8**
SIJI	**Sorong**	**5.44**	**128**	LR	LR	05 58 45.6	
	comp=Z,203nm,18.7s,baz=92,slow=41						
WRAB	**Tennant Creek**	**23.43**	**162**	*e*P	**P**	**06 00 08.2**	**-1.0**
	5.6nm,0.8s						
WRA	**Warramunga Arr**	**23.43**	**162**	P	**P**	**06 00 07.8**	**-1.3**
	3.2nm,0.6s,baz=343,slow=10,SNR=14						
AS31	**Alice Springs**	**26.86**	**166**	*e*P	**P**	**06 00 39.5**	**-0.8**
ASAR	**Alice Springs**	**26.86**	**166**	P	**P**	**06 00 39.1**	**-1.2**
	1.2nm,0.7s,baz=340,slow=6.1,SNR=22						
CMAR	**Chiang Mai Arr**	**31.71**	**302**	P	**P**	**06 01 22.1**	**-1.4**
	0.8nm,0.5s,baz=137,slow=8.0,SNR=4.3						
KSAR	**Wonju Array Be**	**34.80**	**1**	P	**P**	**06 01 50.8**	**+0.7**
KSRS	**Korea Array**	**34.81**	**1**	P	**P**	**06 01 50.8**	**+0.6**
	1.9nm,0.9s,baz=180,slow=10.0,SNR=8.6						
MJAR	**Matsushiro Arr**	**35.45**	**16**	P	**P**	**06 01 55.3**	**-0.4**
	1.4nm,0.7s,baz=193,slow=11,SNR=6.3						
STKA	**Stephens Creek**	**36.89**	**159**	P	**P**	**06 02 08.4**	**+0.3**
	3.0nm,0.5s,baz=341,slow=7.5,SNR=11						
USRK	**Ussuriysk Ar.**	**41.78**	**5**	P	**P**	**06 02 50.4**	**+1.7**
	3.7nm,0.8s,baz=185,slow=6.5,SNR=8.0						
PETK	**Petropavlovsk-**	**56.49**	**22**	P	**P**	**06 04 42.1**	**+1.1**
	1.2nm,0.6s,baz=220,slow=13,SNR=2.8						
MKAR	**Makanchi Array**	**58.71**	**326**	P	**P**	**06 04 55.8**	**-1.0**
	0.7nm,0.5s,baz=119,slow=8.7,SNR=6.3						
ZALV	**Zalesovo Beam**	**61.80**	**333**	P	**P**	**06 05 16.4**	**-1.3**
	0.5nm,0.3s,baz=145,slow=9.9,SNR=2.5						
KURBB	**Kurchatov Arra**	**62.91**	**328**	P	**P**	**06 05 24.5**	**-0.7**
	1.2nm,0.6s,baz=130,slow=6.3,SNR=20						
KURK	**Kurchatov**	**62.91**	**328**	P	**P**	**06 05 24.5**	**-0.7**

IDC 25 06:14:30.9±1.2, 6.39N×122.74E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.6/25, mbtmp4.1/3, Error ellipse: s-maj=111.3km s-min=25.1km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.55**	**157**	P	P	06 20 27.7	-0.9
	1.3nm,0.4s,baz=340,slow=9.2,SNR=20						
ASAR	**Alice Springs**	**31.80**	**160**	P	P	06 20 57.2	-0.2
	1.4nm,0.3s,baz=339,slow=7.5,SNR=45						
MKAR	**Makanchi Array**	**53.13**	**326**	P	P	06 23 49.5	-1.0
	0.4nm,0.4s,baz=118,slow=9.0,SNR=5.5						
TXAR	**Lajitas Array**	**122.99**	**49**	PKP	PKPdf	06 33 31.0	+0.8
	0.8nm,0.8s,baz=292,slow=2.4,SNR=5.7						
LPAZ	**La Paz**	**165.51**	**134**	PKPab	PKPab	06 35 38.5	+1.0
	1.2nm,1.0s,baz=345,slow=15,SNR=3.7						

ISCJB ***25*** *06:22:31.0±1.7,0.53S±0.05×133.80E±0.03, h2km±11km, mb4.1/7, Error ellipse: s-maj=8.0km s-min=5.1km az=6.6*

IDC ***25*** *06:22:31.8±0.7,0.65S×133.84E, h0km, mb4.1/6, mb1 4.3/8, mb1mx3.9/43, mbtmp4.1/8, ML4.1/2, Error ellipse: s-maj=24.0km s-min=13.8km az=83.0*

DJA ***25*** *06:22:34.4±0.7,1°S±4°×13°4E±°, h13km±3km, M4.7/9, mb4.8/3, mB5.0/1, MLv4.6/9, Mw(mB)4.3/1*

NEIC ***25*** *06:22:37.1±0.5,0.74S×133.87E, h35km, mb4.3/2, Error ellipse: s-maj=19.2km s-min=9.7km az=93.0*

ISC 25 06:22:32.3±2.0, 0.61S±0.06×133.83E±0.04, h3km±12km, n28, σ1°s14/37, mb4.1/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**0.96**	**159**	P	**Pg**	**06 22 51.2**	**+0.6**
RKPI				S	**Sn**	**06 23 07.0**	**+0.2**
BAKI	**Biak**	**2.35**	**104**	P	**Pn**	**

*ISCJB **25** 06:25:10.4±0.4, 10˚.78N±0˚.04×91˚.78E±0˚.05, h27km, mb4.0/19, MS3.8/3, Error ellipse: s-maj=6.9km s-min=6.1km az=178.7*

*NEIC **25** 06:25:12.8±0.4, 10˚.87N×91˚.90E, h30km, mb4.0/3, Error ellipse: s-maj=10.9km s-min=8.7km az=42.0*

ISC 25 06:25:12.4±0.5, 10.89N±0˚.06×91.92E±0˚.07, h27km, n38, σ1ᵍ12/33, mb4.1/19, MS3.5/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**1.11**	**47**	*e*P	Pn	06 25 33.1	+0.8
PBA				*e*S	Sb	06 25 49.5	+2.3
PBA				AML	AML	06 25 50.9	
	comp=N,8μm,0.4s						
PBA				AML	AML	06 25 51.8	
	comp=E,7μm,0.6s						
DGPR	**DIGLIPUR**	**2.48**	**23**	*e*P	**Pn**	**06 25 53.4**	**+2.3**
DGPR				*e*S	**Sb**	**06 26 24.6**	**-1.9**
DGPR				AML	AML	06 26 41.6	
	comp=N,643nm,0.6s						
DGPR				AML	AML	06 26 41.8	
	comp=E,607nm,0.5s						
CMBY	**CAMPBELL BAY**	**4.33**	**153**	*e*S	**Sn**	**06 27 06.1**	**-0.2**
CMBY				AML	AML	06 27 09.4	
	comp=E,270nm,0.2s						
CMBY				AML	AML	06 27 09.6	
	comp=N,243nm,0.2s						
CMAR	**Chiang Mai Arr**	**10.14**	**41**	Pn	**Pn**	**06 27 35.2**	**-1.1**
	comp=N,0.9nm,0.3s,baz=190,slow=32,SNR=4.2						
PSI	**Prapat**	**10.62**	**139**	Pn	**Pn**	**06 27 41.7**	**-1.4**
	comp=N,0.1nm,0.3s,baz=169,slow=12,SNR=3.9						
VIS	**Vishakhapatnam**	**10.74**	**310**	*e*P	**Pn**	**06 27 43.0**	**-1.5**
PALK	**Pallekele**	**11.64**	**253**	Pn	**Pn**	**06 27 56.3**	**-0.6**
	comp=N,0.9nm,0.3s,baz=99,slow=8.1,SNR=3.6						
PALK				LR	LR	06 32 11.8	
	comp=N,130nm,18.7s,baz=91,slow=37						
KSM	**Kuching**	**20.52**	**116**	*e*P	**P**	**06 29 48.0**	**-0.8**
	comp=N,20nm,1.3s						
SMLA	**Simla**	**24.34**	**328**	*e*P	**P**	**06 30 28.8**	**+0.7**
ENH	**Enshi**	**25.28**	**38**	*e*P	**P**	**06 30 36.9**	**+0.2**
H08S3	**Diego Garcia H**	**26.69**	**227**	T	T	06 58 29.2	
	baz=47,slow=75,SNR=291						
H08S2	**Diego Garcia H**	**26.70**	**227**	T	T	06 58 29.2	
	baz=47,slow=75,SNR=303						
H08S1	**Diego Garcia H**	**26.71**	**227**	T	T	06 58 29.2	
	baz=47,slow=75,SNR=359						
MK31	**Makanchi Array**	**36.71**	**349**	*e*P	**P**	**06 32 17.0**	**-0.2**
MKAR	**Makanchi Array**	**36.71**	**349**	P	**P**	**06 32 18.0**	**+0.8**
	comp=N,2.3nm,0.5s,baz=168,slow=8.3,SNR=21						
KKAR	**Karatay Array**	**37.10**	**334**	*e*P	**P**	**06 32 21.8**	**+1.2**
	comp=N,0.7nm,0.4s						
SONM	**Songino Array**	**38.79**	**16**	P	**P**	**06 32 33.9**	**-1.0**
	comp=N,1.2nm,0.7s,baz=210,slow=10.0,SNR=3.2						
GEYT	**Alibeck**	**40.51**	**317**	P	**P**	**06 32 50.5**	**+1.2**
	comp=N,1.5nm,0.3s,baz=103,slow=6.5,SNR=4.2						
KSAR	**Wonju Array Be**	**41.73**	**45**	P	**P**	**06 32 59.5**	**+0.3**
KSRS	**Korea Array**	**41.76**	**45**	P	**P**	**06 32 59.5**	**+0.1**
	comp=N,0.3nm,0.3s,baz=242,slow=9.8,SNR=4.8						
KSRS				LR	LR	06 50 51.1	
	comp=N,46nm,18.5s,baz=345,slow=37						
ZAA0	**Zalesovo Array**	**43.32**	**354**	*e*P	**P**	**06 33 11.8**	**-0.1**
ZALV	**Zalesovo Beam**	**43.32**	**354**	P	**P**	**06 33 12.6**	**+0.6**
	comp=N,1.3nm,0.3s,baz=175,slow=9.4,SNR=6.9						
ABKAR	**Akbulak array**	**46.55**	**331**	*e*P	**P**	**06 33 36.7**	**-1.0**
	comp=N,0.9nm,0.5s						
MJAR	**Matsushiro Arr**	**48.87**	**51**	P	**P**	**06 33 58.0**	**+2.0**
	comp=N,0.8nm,0.7s,baz=246,slow=6.1,SNR=3.7						
WRA	**Warramunga Arr**	**51.79**	**126**	P	**P**	**06 34 19.7**	**+1.4**
	comp=N,1.5nm,0.6s,baz=301,slow=10,SNR=9.8						
WRAB	**Tennant Creek**	**51.80**	**126**	*e*P	**P**	**06 34 19.5**	**+1.2**
ASAR	**Alice Springs**	**53.52**	**130**	P	**P**	**06 34 32.8**	**+1.7**
	comp=N,1.1nm,0.7s,baz=307,slow=7.0,SNR=6.9						
KMBO	**Kilima Mbogo**	**55.65**	**261**	LR	LR	06 57 01.7	
	comp=N,40nm,18.8s,baz=232,slow=34						
BRTR	**Keskin Array B**	**58.82**	**310**	P	**P**	**06 35 07.8**	**-1.0**
	comp=N,1.8nm,0.8s,baz=113,slow=6.7,SNR=9.8						
STKA	**Stephens Creek**	**63.76**	**134**	LR	LR	07 06 16.0	
	comp=N,208nm,18.2s,baz=353,slow=39						
AKASG	**Malin Array Be**	**64.44**	**321**	P	**P**	**06 35 45.5**	**-0.9**
	comp=N,0.1nm,0.2s,baz=93,slow=4.4,SNR=6.4						
MLR	**Muntele Rosu**	**65.50**	**315**	P	**P**	**06 35 53.5**	**0.0**
	comp=N,1.2nm,0.9s,baz=97,slow=5.4,SNR=10.0						
FINES	**FINESS Array B**	**69.04**	**332**	P	**P**	**06 36 16.4**	**+0.9**
	comp=N,2.1nm,0.8s,baz=123,slow=7.3,SNR=4.6						
ARCES	**ARCESS Array B**	**71.70**	**340**	P	**P**	**06 36 31.9**	**+0.2**
	comp=N,2.5nm,0.9s,baz=63,slow=3.0,SNR=4.4						
GERES	**GERESS Array B**	**74.13**	**318**	P	**P**	**06 36 45.4**	**-1.2**
	comp=N,1.0nm,0.8s,baz=73,slow=6.0,SNR=7.1						
HFS	**Hagfors**	**74.76**	**329**	P	**P**	**06 36 49.9**	**0.0**
	comp=N,1.9nm,0.6s,baz=96,slow=11,SNR=5.0						
BOSA	**Boshof**	**75.36**	**237**	P	**P**	**06 36 53.9**	**-0.1**
	comp=N,2.8nm,0.7s,baz=99,slow=8.2,SNR=5.4						
TORD	**Torodi Ar. Bea**	**87.78**	**283**	P	**P**	**06 38 00.5**	**+0.7**
	comp=N,0.9nm,0.8s,baz=99,slow=6.1,SNR=4.1						

*ISCJB **25** 06:41:44.1±0.2, 4˚.20S±0˚.02×136˚.07E±0˚.02, h24km, mb4.5/37, MS3.7/8, Error ellipse: s-maj=3.6km s-min=3.2km az=161.3*

*MOS **25** 06:41:45.2±0.9, 4˚.09S×136˚.05E, h34km, mb4.9/14, Error ellipse: s-maj=14.2km s-min=7.9km az=115.4*

*BJI **25** 06:41:46.8, 4˚.00S×136˚.18E, h34km, mb4.8/35, mB4.9/21, Ms4.7/15, Ms7 4.3/17*

*IDC **25** 06:41:46.2±5.5, 4˚.18S×135˚.96E, h28km±38km, mb4.2/14, mb1 4.3/18, mb1mx4.3/23, mbtmp4.4/18, ML3.4/3, MS3.7/12, Ms1 3.8/12, ms1mx3.4/33, Error ellipse: s-maj=19.4km s-min=9.9km az=80.0*

*NEIC **25** 06:41:47.4±0.2, 4˚.09S×136˚.02E, h35km, mb4.9/6, Error ellipse: s-maj=7.4km s-min=5.6km az=74.0*

NEIC Felt [III] at Nabire.

*DJA **25** 06:41:47.0±0.2, 4˚S±2˚×13˚6E±°, h10km, M5.0/32, mb5.0/32, mB5.5/11, MLv5.2/15, Mw(mB)4.9/11*

ISC 25 06:41:46.4±0.3, 4.19S±0˚.04×136.07E±0˚.04, h24km, n142, σ1ᵍ85/178, mb4.6/37, MS3.6/8, 2C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**2.31**	**4**	P	**Pn**	**06 42 22.3**	**-0.7**
SRPI				S	**Sn**	**06 42 50.6**	**-0.1**
BAKI	**Biak**	**2.98**	**1**	P	**Pn**	**06 42 31.8**	**-0.4**
BAKI				S	**Sn**	**06 43 07.4**	**+0.2**
RKPI	**Ransiki, Papua**	**3.27**	**325**	P	**Pn**	**06 42 34.5**	**-1.6**
RKPI				S	**Sn**	**06 43 14.5**	**+0.2**
SMPI	**Sarmi**	**3.43**	**50**	P	**Pn**	**06 42 38.8**	**+0.5**
SMPI				S	**Sn**	**06 43 18.6**	**+0.4**
FAKI	**Fak Fak**	**4.02**	**288**	P	**Pn**	**06 42 45.5**	**-1.0**
FAKI				S	**Sn**	**06 43 30.1**	**-2.7**
FAKI	**Fak Fak**	**4.02**	**288**	P	**Pn**	**06 42 45.3**	**-1.2**
	baz=4.1,SNR=128						
FAKI	**Fak Fak**	**4.02**	**288**	*e*Pn	**Pn**	**06 42 45.2**	**-1.2**
FAKI				*e*Sn	**Sn**	**06 43 31.8**	**-1.0**
GENI	**Genyem**	**4.39**	**69**	P	**Pn**	**06 42 54.5**	**+2.9**
JAY	**Jayapura**	**4.92**	**70**	P	**Pn**	**06 43 00.6**	**+1.7**
JAY	**Jayapura**	**4.92**	**70**	Pn	**Pn**	**06 42 59.0**	**+0.1**
	11nm,0.3s,baz=227,slow=11,SNR=26						
JAY				Sn	**Sn**	**06 43 56.5**	**+1.3**
	4.4nm,0.3s,baz=83,slow=17,SNR=2.6						
JAY				LR	LR	06 45 18.4	
	comp=Z,2μm,19.8s,baz=238,slow=42						
JAY	**Jayapura**	**4.92**	**70**	P	**Pn**	**06 43 00.3**	**+1.3**
	baz=5.0,SNR=6.0						
SIJI	**Sorong**	**5.82**	**304**	Pn	**Pn**	**06 43 09.8**	**-1.5**
	79nm,0.3s,baz=98,slow=8.2,SNR=133						
SIJI				Sn	**Sn**	**06 44 14.7**	**-2.7**
	22nm,0.3s,baz=319,slow=23,SNR=7.8						
SIJI				LR	LR	06 45 51.3	
	comp=Z,2μm,18.2s,baz=198,slow=43						
SWI	**Sorong**	**5.83**	**304**	P	**Pn**	**06 43 10.3**	**-1.1**
	295nm,0.7s,6μm1.4nm						
SWI				S	**Sn**	**06 44 14.7**	**-2.9**
	295nm,0.7s,6μm1.4nm						
SWI	**Sorong**	**5.83**	**304**	P	**Pn**	**06 43 10.1**	**-1.4**
	baz=6.0,SNR=32						
BNDI	**Bandanaira**	**6.16**	**267**	P	**Pn**	**06 43 16.4**	**+0.5**
	502nm,1.5s,3.8nm						
BNDI				S	**Sn**	**06 44 29.3**	**+3.7**
	502nm,1.5s,3.8nm						
MSAI	**Masohi**	**7.17**	**276**	P	**Pn**	**06 43 32.1**	**+2.2**
	38nm,0.6s,2μm0.2nm						
MSAI				S	**Sn**	**06 44 52.9**	**+2.2**
	38nm,0.6s,2μm0.2nm						
AAI	**Ambon**	**7.87**	**273**	P	**Pn**	**06 43 40.5**	**+1.0**
	126nm,0.8s,0.5nm						
AAI	**Ambon**	**7.87**	**273**	P	**Pn**	**06 43 41.1**	**+1.6**
	baz=7.9,SNR=6.5						
NLAI	**Namlea**	**9.00**	**276**	P	**Pn**	**06 43 58.2**	**+3.3**
	88nm,0.6s						
KDU	**Kakadu**	**9.16**	**203**	P	**Pn**	**06 43 56.8**	**-0.4**
	baz=9.0,SNR=244						
LBMI	**Labuha**	**9.26**	**292**	P	**Pn**	**06 43 58.1**	**-0.4**
	212nm,0.9s,2μm						
MTN	**Manton Dam**	**9.88**	**209**	P	**Pn**	**06 44 08.0**	**+0.9**
	baz=9.7,SNR=85						
MTN	**Manton Dam**	**9.88**	**209**	*e*Pn	**Pn**	**06 44 07.9**	**+0.8**
SANI	**Sanana**	**10.29**	**282**	P	**Pn**	**06 44 10.1**	**-2.5**
	121nm,0.7s,982nm						
COEN	**Coen**	**11.97**	**145**	P	**Pn**	**06 44 35.0**	**-0.7**
	baz=12,SNR=46						
COEN	**Coen**	**11.97**	**145**	*e*Pn	**Pn**	**06 44 35.2**	**-0.5**
COEN				*e*Sn	**Sn**	**06 46 47.5**	**-1.0**
PMG	**Port Moresby**	**12.17**	**116**	Pn	**Pn**	**06 44 38.6**	**+0.3**
	2.8nm,0.3s,baz=7.3,slow=6.8,SNR=8.0						
PMG	**Port Moresby**	**12.17**	**116**	*e*P	**Pn**	**06 44 39.7**	**+1.3**
PMG	**Port Moresby**	**12.17**	**116**	*e*Pn	**Pn**	**06 44 39.7**	**+1.3**
SOEI	**Soe**	**12.95**	**244**	P	**Pn**	**06 44 47.6**	**-1.6**
	173nm,1.0s						
SOEI	**Soe**	**12.95**	**244**	P	**Pn**	**06 44 47.9**	**-1.3**
	baz=13,SNR=6.8						
SOEI	**Soe**	**12.95**	**244**	*e*Pn	**Pn**	**06 44 47.1**	**-2.0**
KNRA	**Kununurra**	**13.49**	**212**	P	**Pn**	**06 44 54.5**	**-1.8**
	baz=13,SNR=210						
BBSI	**Bau Bau**	**13.51**	**264**	P	P	06 45 09.7	+4.0
APSI	**Ampana**	**14.77**	**282**	P	**Pn**	**06 45 13.1**	**-0.8**
	107nm,0.9s,871nm						
MRSI	**Marisa**	**14.86**	**288**	P	**Pn**	**06 45 13.8**	**-1.3**
	32nm,0.8s,2μm						
WRAB	**Tennant Creek**	**15.74**	**186**	*e*P	**Pn**	**06 45 22.9**	**-3.8**
WRAB				pmax	pmax		
	comp=Z,46nm,0.8s						
WRAB	**Tennant Creek**	**15.74**	**186**	*e*Pn	**Pn**	**06 45 22.9**	**-3.8**
	comp=Z,46nm,0.8s						
WRAB				*e*Sn	Sn	06 48 09.3	-11
WRA	**Warramunga Arr**	**15.75**	**186**	Pn	**Pn**	**06 45 22.5**	**-4.3**
	comp=Z,2.3nm,0.3s,baz=6.7,slow=13,SNR=36						
WRA				Sn	Sn	06 48 11.6	-9.1
	comp=Z,2.8nm,0.3s,baz=6.0,slow=22,SNR=11						
WRA				LR	LR	06 51 37.1	
	comp=Z,565nm,20.7s,baz=10.0,slow=38						
MTSU	**Mount Surprise**	**16.04**	**150**	P	**Pn**	**06 45 28.4**	**-2.2**
	baz=16,SNR=25						
TTSI	**Tana Toraja**	**16.26**	**273**	P	**P**	**06 45 35.6**	**-0.6**
	comp=Z,43nm,0.9s						
SPSI	**Sidrap Palu**	**16.26**	**270**	P	**P**	**06 45 35.5**	**-0.8**
	comp=Z,17nm,1.2s						
KAPI	**Kappang**	**16.28**	**266**	LR	LR	06 53 60.0	
	comp=Z,241nm,18.9s,baz=94,slow=45						
QIS	**Mount Isa**	**16.63**	**168**	P	**Pn**	**06 45 34.6**	**-3.4**
	baz=16,SNR=6.1						
MPSI	**Mapaga**	**16.77**	**285**	P	**P**	**06 45 41.9**	**0.0**
	comp=Z,18nm,1.2s,comp=Z,6μm						
CTA	**Charters Tower**	**18.66**	**149**	P	**Pn**	**06 46 03.3**	**+0.1**
	comp=Z,2.3nm,0.3s,baz=324,slow=12,SNR=17						
CTAO	**Charters Tower**	**18.66**	**149**	*e*P	**Pn**	**06 46 03.6**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,62nm,1.3s						
CTAO	**Charters Tower**	**18.66**	**149**	*e*P	**Pn**	**06 46 03.6**	**+0.4**
	comp=Z,62nm,1.3s						
AS31	**Alice Springs**	**19.47**	**186**	*e*P	**Pn**	**06 46 12.9**	**-0.1**
ASAR	**Alice Springs**	**19.47**	**186**	P	**P**	**06 46 12.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=201,slow=24,SNR=4.1						
ASAR				S	**S**	**06 49 45.2**	**-5.3**
	comp=Z,1.1nm,0.3s,baz=5.6,slow=28,SNR=5.1						
MYLDM	**Lahad Datu**	**19.86**	**298**	*e*Pn	**Pn**	**06 46 20.0**	**+2.3**
	comp=Z,60nm,1.1s						
WRKA	**Warakurna**	**22.03**	**199**	P	**P**	**06 46 39.7**	**+0.3**
	baz=22,SNR=155						
BLJI	**Banyuglugur**	**22.62**	**260**	P	**P**	**06 46 49.5**	**+3.7**
	comp=Z,53nm,1.2s						
MBWA	**Marble Bar**	**23.16**	**222**	*e*P	**P**	**06 46 51.8**	**+0.5**
	comp=Z,38nm,1.0s						
QLP	**Quilpie**	**23.60**	**161**	P	**P**	**06 46 56.2**	**+0.7**
	baz=24,SNR=49						
PBKI	**Pangkalan Bun**	**24.40**	**273**	P	**P**	**06 47 06.9**	**+3.7**
SBUM	**Sibu**	**24.73**	**285**	*e*P	**P**	**06 47 10.3**	**+4.1**
	comp=Z,48nm,1.4s						
STKI	**Sintang**	**24.93**	**279**	P	**P**	**06 47 11.6**	**+3.6**
KSM	**Kuching**	**26.35**	**282**	P	P	06 47 26.3	+5.4
	baz=26,SNR=4.1						
KSM	**Kuching**	**26.35**	**282**	P	P	06 47 15.7	-5.3
	comp=Z,11nm,0.7s						
FORT	**Forrest**	**27.50**	**195**	P	**P**	**06 47 32.1**	**+1.0**
	baz=27,SNR=26						
FORT	**Forrest**	**27.50**	**195**	*e*P	**P**	**06 47 32.0**	**+0.9**
	comp=Z,50nm,0.7s						
MEEK	**Meekatharra**	**27.87**	**215**	P	**P**	**06 47 36.5**	**+2.0**
	baz=28,SNR=3.5						
STKA	**Stephens Creek**	**28.02**	**170**	P	**P**	**06 47 34.8**	**-0.9**
	comp=Z,6.4nm,0.9s,baz=350,slow=8.6,SNR=13						
STKA	**Stephens Creek**	**28.02**	**170**	P	**P**	**06 47 34.8**	**-0.9**
STKA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
STKA	**Stephens Creek**	**28.02**	**170**	*e*P	**P**	**06 47 35.5**	**-0.3**
BBOO	**Buckleboo**	**28.47**	**180**	P	**P**	**06 47 40.8**	**+1.0**
	baz=28,SNR=6.7						
MDSI	**Maura Dua**	**31.80**	**268**	P	**P**	**06 48 11.7**	**+2.3**
	comp=Z,13nm,1.7s						
ARPS	**Mount Arapiles**	**32.85**	**171**	P	**P**	**06 48 19.1**	**+0.8**
	baz=33,SNR=8.0						
QIZ	**Qiongzhong**	**34.63**	**313**	P	**P**	**06 48 33.3**	**-0.7**
QIZ				S	**S**	**06 54 03.5**	**+1.1**
QIZ				PMZ			
	comp=Z,14nm,1.8s						
PPI	**Padang Panjang**	**35.83**	**275**	P	P	06 48 51.5	+7.0
JNU	**Nakatsue**	**37.43**	**353**	P	**P**	**06 48 55.6**	**-2.3**
	comp=Z,9.4nm,0.7s,baz=116,slow=4.6,SNR=5.9						
NJ2	**Nanjing**	**39.59**	**337**	*e*P	**P**	**06 49 15.5**	**-0.5**
NJ2				PMZ			
	comp=Z,30nm,0.6s						
WHN	**Wuhan**	**40.30**	**330**	P	**P**	**06 49 22.5**	**+0.6**
MJAR	**Matsushiro Arr**	**40.57**	**3**	P	**P**	**06 49 21.5**	**-2.6**
	comp=Z,2.1nm,0.9s,baz=188,slow=9.2,SNR=5.5						
MJAR				LR	LR	07 05 25.5	
	comp=Z,70nm,19.5s,baz=190,slow=35						
GYA	**Guiyang**	**41.69**	**319**	*i*P	**P**	**06 49 33.5**	**-0.1**
GYA				pP	**pP**	**06 49 42.0**	**+1.1**
GYA				PP	**PnPn**	**06 51 13.5**	**-1.8**
GYA				ScP	**ScP**	**06 55 18.3**	**-0.8**
GYA				S	**S**	**06 55 50.8**	**+1.4**
GYA				sS	**sS**	**06 56 02.3**	**+0.9**
GYA				SS	**SS**	**06 58 50.0**	**-5.5**
GYA				PMZ			
	comp=Z,20nm,0.8s						
GYA				PMZ			
	comp=Z,110nm,4.9s						
GYA				LN			
	comp=Z,510nm,17.0s						
GYA				LE			
	comp=Z,480nm,18.0s						
GYA				LZ			
	comp=Z,490nm,17.6s						
KSAR	**Wonju Array Be**	**42.12**	**350**	P	**P**	**06 49 34.1**	**-2.6**
KSAR	**Wonju Array Be**	**42.12**	**350**	P	**P**	**06 49 34.0**	**-2.6**
KSRS	**Korea Array**	**42.12**	**350**	P	**P**	**06 49 34.0**	**-2.7**
	comp=Z,1.5nm,0.6s,baz=168,slow=8.4,SNR=8.1						
KSRS	**Korea Array**	**42.12**	**350**	P	**P**	**06 49 34.1**	**-2.7**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**42.95**	**303**	P	**P**	**06 49 43.3**	**-0.5**
	comp=Z,3.2nm,0.7s,baz=131,slow=7.1,SNR=9.7						
CMAR				LR	LR	07 08 58.8	
	comp=Z,46nm,20.9s,baz=153,slow=38						
KMI	**Kunming**	**43.55**	**314**	P	**P**	**06 49 48.3**	**-0.6**
KMI				pP	**pP**	**06 49 57.8**	**+1.6**
KMI				sP	**sP**	**06 50 02.5**	**+3.3**
KMI				PP	**PP**	**06 51 31.5**	**+1.0**
KMI				PMZ			
	comp=Z,13nm,0.9s						
KMI				PMZ			
	comp=Z,100nm,4.2s						
XAN	**Xi'an**	**45.85**	**328**	P	**P**	**06 50 05.8**	**-1.1**
XAN				PMZ			
	comp=Z,9.0nm,0.7s						
CD2	**Chengdu**	**46.58**	**321**	P	**P**	**06 50 12.3**	**-0.3**
CD2				pP	**pP**	**06 50 20.0**	**0.0**
CD2				sP	**sP**	**06 50 23.3**	**+0.3**
CD2				PP	**PP**	**06 52 01.8**	**-0.7**
CD2				S	**S**	**06 57 00.5**	**+0.2**
CD2				sS	**sS**	**06 57 14.0**	**+1.5**
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,90nm,4.9s						
CD2				LN			
	comp=Z,180nm,6.6s						
CD2				LZ			
	comp=Z,110nm,6.0s						
BJI	**Beijing**	**47.66**	**339**	P	**P**	**06 50 21.5**	**+0.6**
BJI				S	**S**	**06 57 15.3**	**-0.1**
BJI				PMZ			
	comp=Z,13nm,1.0s						
BJI				PMZ			
	comp=Z,70nm,4.0s						
BJI				LN			
	comp=Z,100nm,12.9s						
BJI				LE			
	comp=Z,94nm,14.8s						
BJI				LZ			
	comp=Z,54nm,27.2s						
USRK	**Ussuriysk Ar.**	**48.31**	**356**	P	**P**	**06 50 24.8**	**-1.1**
	comp=Z,4.2nm,0.7s,baz=177,slow=4.1,SNR=13						
USRK				LR	LR	07 08 33.6	
	comp=Z,104nm,20.9s,baz=155,slow=33						
HHC	**Hu-ho-hao-te**	**50.12**	**336**	*e*P	**P**	**06 50 42.5**	**+2.6**
HHC				PP	**PP**	**06 52 39.0**	**+3.7**
HHC				S	**S**	**06 57 52.3**	**+2.1**
HHC				sS	**sS**	**06 58 05.0**	**+2.5**
HHC				PMZ			
	comp=Z,20nm,1.1s						
HHC				PMZ			
	comp=Z,88nm,5.2s						
HHC				LN			
	comp=Z,74nm,13.9s						
HHC				LE			
	comp=Z,110nm,13.9s						
HHC				LZ			
	comp=Z,62nm,13.9s						
LZH	**Lanzhou**	**50.15**	**326**	*e*P	**P**	**06 50 40.5**	**+0.3**
LZH				pP	**pP**	**06 50 46.3**	**-1.4**
LZH				sP	**sP**	**06 50 50.3**	**-0.3**
LZH				PP	**PP**	**06 52 36.0**	**+0.3**
LZH				*e*S	**S**	**06 57 50.0**	**-0.8**
LZH				sS	**sS**	**06 58 02.3**	**-0.8**
LZH				SS	**SS**	**07 01 20.0**	**-4.5**
LZH				PMZ			
	comp=Z,44nm,1.3s						
LZH				PMZ			
	comp=Z,150nm,4.0s						
LZH				LN			
	comp=Z,330nm,13.3s						
LZH				LE			
	comp=Z,280nm,14.1s						
LZH				LZ			
	comp=Z,390nm,18.4s						
KLR	**Kul'dur**	**53.34**	**356**	*e*P	P	06 51 11.3	+7.7
GTA	**Gaotai**	**54.75**	**326**	*e*P	**P**	**06 51 14.5**	**+0.2**
GTA				pP	**pP**	**06 51 21.5**	**-0.3**
GTA				sP	**sP**	**06 51 25.0**	**+0.3**
GTA				PMZ			
	comp=Z,6.0nm,1.0s						
ULN	**Ulaanbaatar**	**57.75**	**337**	*e*P	**P**	**06 51 33.6**	**-2.0**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.3s						
PETK	**Petropavlovsk-**	**59.93**	**15**	P	**P**	**06 51 49.4**	**-1.1**
	comp=Z,1.8nm,0.7s,baz=152,slow=6.5,SNR=3.1						
PETK				LR	LR	07 14 29.1	
	comp=Z,30nm,21.5s,baz=187,slow=33						
ZAK	**Zakamensk**	**61.25**	**337**	*e*P	**P**	**06 51 57.4**	**-2.2**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.5s						
WMQ	**Urumqi**	**64.57**	**323**	P	**P**	**06 52 22.8**	**+1.0**
WMQ				pP	**pP**	**06 52 30.8**	**+1.4**
WMQ				sP	**sP**	**06 52 33.8**	**+1.5**
WMQ				PMZ			
	comp=Z,19nm,0.8s						
WMQ				PMZ			
	comp=Z,50nm,4.0s						
WMQ				LN			
	comp=Z,44nm,22.8s						
WMQ				LZ			
	comp=Z,58nm,20.9s						
YAK	**Yakutsk**	**66.22**	**357**	*e*P	**P**	**06 52 30.1**	**-1.9**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SEY	**Seymchan**	**68.08**	**8**	P	**P**	**06 52 43.0**	**-0.9**
	comp=Z,2.8nm,0.8s,baz=182,slow=1.7,SNR=7.3						
SEY	**Seymchan**	**68.08**	**8**	*e*P	**P**	**06 52 43.2**	**-0.6**
MK31	**Makanchi Array**	**69.38**	**324**	*i*P	**P**	**06 52 51.4**	**-0.9**
MK31				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MK31	**Makanchi Array**	**69.38**	**324**	*e*P	**P**	**06 52 50.6**	**-1.7**
MKAR	**Makanchi Array**	**69.38**	**324**	P	**P**	**06 52 51.7**	**-0.6**
	comp=Z,2.7nm,0.4s,baz=111,slow=7.9,SNR=50						
MKAR				LR	LR	07 24 55.5	
	comp=Z,25nm,20.5s,baz=148,slow=37						
MKAR	**Makanchi Array**	**69.38**	**324**	P	**P**	**06 52 51.7**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MKAR				MLR	MLR		
	comp=Z,25nm,20.5s						
MKAR	**Makanchi Array**	**69.38**	**324**	*e*P	**P**	**06 52 51.5**	**-0.8**
KSH	**Kashi**	**70.21**	**315**	P	P	06 53 03.0	+5.3
KSH				pP	pP	06 53 08.0	+2.6
KSH				PcP	**PcP**	**06 53 22.3**	**+2.8**
KSH				PP	**PP**	**06 55 38.5**	**+5.1**
KSH				S	**S**	**07 02 14.0**	**+5.8**
KSH				sS	sS	07 02 23.3	+2.4
KSH				S

comp=Z,0.8nm,0.6s,baz=127,slow=1.7,SNR=8.6
IM04 Indian Mountai 85.85 23 *e*P **P 06 54 23.0 -0.8**
ARU Arti 86.59 327 *c i*P **P 06 54 26.1 -1.5**
ARU S **SKSac 07 04 49.6 -3.1**
ARU SS SS 07 10 35.4 -8.6
ARU pmax pmax
comp=Z,5.0nm,1.0s
MCK McKinley 87.14 25 *e*P **P 06 54 29.6 -0.6**
MCK McKinley 87.14 25 *e*P **P 06 54 29.6 -0.6**
COLD Coldfoot 87.60 22 *e*P **P 06 54 32.9 +0.6**
COLA College 87.89 24 *e*P **P 06 54 32.4 -1.3**
COLA pmax pmax
comp=Z,10.0nm,1.0s
ILAR Eielson Array 88.27 25 P **P 06 54 33.5 -2.0**
comp=Z,2.3nm,0.8s,baz=265,slow=4.5,SNR=25
ILAR LR LR 07 29 09.0
comp=Z,32nm,21.9s,baz=229,slow=32
BMRM Bremner River 88.47 29 *e*P P 06 54 42.2 +5.6
PRGR Permogore 93.87 331 P P 06 54 54.8 -6.8
PRGR pmax pmax
comp=Z,13nm,1.2s
KIV Kislovodsk 95.32 314 *e*P P 06 55 04.9 -3.9
KIV pmax pmax
comp=Z,7.0nm,1.2s
OBN Obninsk 98.86 325 *e*P **P 06 55 23.8 -0.6**
OBN pmax pmax
comp=Z,9.0nm,0.8s
ARCES ARCESS Array B 101.02 340 P **Pdif 06 55 32.2 -1.6**
comp=Z,0.9nm,0.3s,baz=89,slow=5.7,SNR=23
CLL Collm 113.46 325 *e*P **Pdif 06 56 28.0 -1.5**
KSCO Kaye Shedlock' 116.70 48 *e*PKPdf **PKPdf 07 00 26.6 -2.6**
ESK Eskdalemuir 119.45 335 *i* PKIKP **PKPdf 07 00 35.8 +1.9**
CPUP Villa Florida 147.00 158 PKPbc **PKPbc 07 01 28.1 +0.2**
comp=Z,2.9nm,0.7s,baz=116,slow=0.4,SNR=7.2
LPAZ La Paz 148.59 131 PKPbc **PKPbc 07 01 33.8 +0.6**
comp=Z,3.3nm,0.8s,baz=258,slow=1.7,SNR=13
ROSC El Rosal 149.69 88 PKPbc **PKPbc 07 01 36.8 +1.0**
comp=Z,1.6nm,0.3s,baz=87,slow=12,SNR=4.5

ISCJB ***25*** *06:43:29.4±0.7,5.8S±0.1×154.9E±0.2, h150km,mb4.0/9, Error ellipse: s-maj=27.5km s-min=14.9km az=142.7*
IDC ***25*** *06:43:30.1±7.1,5.70S×154.91E,h144km±65km,mb3.9/9, mb1 4.0/10,mb1mx3.8/22,mbtmp4.3/10,MS3.5/1, Ms1 3.5/1,ms1mx2.7/30,Error ellipse: s-maj=34.4km s-min=18.2km az=43.0*
ISC 25 06:43:30.8±0.7,5.7S±0.2×154.9E±0.2,h150km,n13, σ1§12/12,mb4.1/9,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**19.72**	**147**	P	**P**		**06 47 48.4**	**-0.6**
	3.4nm,0.3s,baz=270,slow=24,SNR=39							
SIJI	**Sorong**	**24.09**	**281**	P	**P**		**06 48 32.7**	**0.0**
	6.4nm,0.3s,baz=122,slow=13,SNR=4.2							
KAPI	**Kappang**	**35.01**	**269**	LR	LR		07 08 10.8	
	comp=Z,72nm,19.5s,baz=146,slow=42							
RPZ	**Rata Peaks**	**40.44**	**162**	P	**P**		**06 50 53.6**	**-0.9**
	5.8nm,0.5s,baz=325,slow=4.4,SNR=6.7							
CMAR	**Chiang Mai Arr**	**60.17**	**295**	P	**P**		**06 53 23.9**	**+0.7**
	1.1nm,0.4s,baz=109,slow=5.2,SNR=4.5							
SONM	**Songino Array**	**68.22**	**327**	P	**P**		**06 54 15.2**	**-0.1**
	1.3nm,0.5s,baz=120,slow=5.8,SNR=2.7							
VNDA	**Vanda**	**71.86**	**178**	P	**P**		**06 54 38.8**	**+1.9**
	0.4nm,0.5s,baz=349,slow=4.3,SNR=2.9							
ILAR	**Eielson Array**	**82.21**	**22**	P	**P**		**06 55 35.1**	**+0.3**
	0.5nm,0.5s,baz=241,slow=5.1,SNR=5.7							
MKAR	**Makanchi Array**	**82.39**	**319**	P	**P**		**06 55 36.1**	**0.0**
	3.1nm,0.6s,baz=100,slow=5.5,SNR=11							
ZALV	**Zalesovo Beam**	**83.07**	**326**	P	**P**		**06 55 38.6**	**-0.9**
	1.0nm,0.3s,baz=110,slow=5.2,SNR=4.5							
NVAR	**Mina Array Bea**	**90.99**	**52**	P	**P**		**06 56 19.2**	**+0.8**
	0.5nm,0.6s,baz=266,slow=5.0,SNR=4.8							
GERES	**GERESS Array B**	**125.91**	**329**	PKP	**PKPdf**		**07 02 14.8**	**-0.3**
	0.3nm,0.5s,baz=45,slow=3.2,SNR=3.3							
TORD	**Torodi Ar. Bea**	**152.59**	**288**	PKPbc	**PKPbc**		**07 03 08.5**	**-2.1**
	0.5nm,0.5s,baz=88,slow=2.3,SNR=4.6							

IDC ***25*** *07:00:17.4±1.5, 13.8S×166.01E, h0km,mb3.7/5, mb1 3.9/6,mb1mx3.7/35,mbtmp3.7/6,ML3.3/1,Error ellipse: s-maj=41.2km s-min=25.0km az=114.0*
ISCJB ***25*** *07:00:20.6±1.3, 13.86S±0.09×165.9E±0.2, h31km, mb3.6/5, Error ellipse: s-maj=29.9km s-min=12.0km az=170.2*
ISC 25 07:00:22.1±1.3,13.8S±0.1×166.0E±0.2,h31km,n6, σ1§48/7,mb3.7/5,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.23**	**177**	Pn	**Pn**		**07 02 17.8**	**-1.8**
	0.4nm,0.3s,baz=90,slow=24,SNR=16							
DZM				Sn	**Sn**		**07 03 53.5**	**+1.8**
	0.8nm,0.3s,baz=90,slow=20,SNR=9.2							
STKA	**Stephens Creek**	**28.69**	**227**	P	**P**		**07 06 17.3**	**+0.7**
	1.1nm,0.6s,baz=51,slow=6.0,SNR=4.9							
WRA	**Warramunga Arr**	**30.88**	**254**	P	**P**		**07 06 35.1**	**-1.0**
	0.3nm,0.8s,baz=86,slow=8.9,SNR=2.2							
ASAR	**Alice Springs**	**31.88**	**247**	P	**P**		**07 06 44.6**	**-0.2**
	0.3nm,0.5s,baz=79,slow=9.5,SNR=4.0							
ILAR	**Eielson Array**	**86.03**	**18**	P	**P**		**07 12 59.4**	**+0.1**
	0.7nm,0.6s,baz=237,slow=5.2,SNR=16							
MKAR	**Makanchi Array**	**95.69**	**317**	P	**P**		**07 13 45.8**	**+0.8**
	0.3nm,0.7s,baz=101,slow=6.3,SNR=3.8							

ISCJB ***25*** *07:06:57.2±0.4,32.23N±0.02×115.23W±0.02,h24km±3km, Error ellipse: s-maj=4.0km s-min=3.5km az=162.0*
ECX ***25*** *07:06:58.7±0.5,32.22N×115.29W,h5km,MD3.5,ML3.7*
NEIC ***25*** *07:06:58.7,32.22N×115.29W,h8km,ML3.6(ECX), ML3.6(PAS),After ECX.*
ISC 25 07:06:56.9±1.1,32.22N±0.03×115.26W±0.02,h18km±3km, n41,σ0§96/60,4C-8D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.20**	**350**	⇓*e*P		**Pb**	**07 07 02.3**	**+0.2**
CPBX				*e*S		**Sb**	**07 07 05.6**	**0.0**
CPBX				⇓*e*			07 07 06.8	
CPBX				IAML			07 07 06.8	
	comp=N,61μm,0.1s							
EMSC	**East Mesa**	**0.57**	**24**	⇓*i*P		**Pb**	**07 07 09.1**	**+0.7**
SGL	**Mount Signal**	**0.58**	**318**	⇓*i*P		**Pb**	**07 07 08.7**	**+0.1**
DREC	**Desert Rsrch C**	**0.61**	**345**	⇓*e*P		**Pb**	**07 07 09.8**	**+0.8**
RDX	**Rancho Dawling**	**0.64**	**244**	⇑*e*P		**Pb**	**07 07 10.3**	**+0.5**
RDX				*e*S		**Sg**	**07 07 18.6**	**+0.2**
RDX				⇓*e*			07 07 21.8	
RDX				IAML			07 07 21.8	
	comp=N,2μm,0.4s							
COA	**Coachella**	**0.66**	**10**	⇓*i*P		**Pb**	**07 07 10.1**	**+0.2**
WESC	**Westside Schoo**	**0.67**	**324**	*i* P		**Pb**	**07 07 10.3**	**+0.2**
YMD	**Yuma Desert**	**0.69**	**61**	⇑*i*P		**Pb**	**07 07 10.9**	**+0.3**
YUH	**Yuha Desert**	**0.70**	**308**	⇑*i*P		**Pb**	**07 07 10.6**	**-0.1**
COK	**Cook Ranch**	**0.74**	**328**	*e*P		**Pb**	**07 07 11.2**	**-0.1**
ECBX	**El Chinero**	**0.77**	**166**	*e*P		**Pg**	**07 07 11.8**	**-0.1**
ECBX				*e*S		**Sg**	**07 07 22.3**	**+0.3**
RMX	**La Rumorosa**	**0.79**	**299**	*e*P		**Pb**	**07 07 12.2**	**-0.1**
RMX				*e*S		**Sb**	**07 07 22.7**	**-0.1**
RMX				IAML			07 07 23.4	
	comp=N,4μm,0.2s							
RMX				⇑*e*			07 07 23.4	
IBP	**Imperial Bould**	**0.83**	**302**	P		**Pb**	**07 07 13.0**	**+0.1**
	baz=0.8							
IBP				S		**Sb**	**07 07 23.8**	**0.0**
	baz=0.8							
SWSC	**Sam W. Stewart**	**0.85**	**328**	P		**Pb**	**07 07 12.5**	**-0.7**
	baz=0.8							
SWSC				S		**Sb**	**07 07 23.5**	**-0.8**
	baz=0.8							
GLA	**Glamis**	**0.91**	**24**	P		**Pb**	**07 07 13.7**	**-0.6**
	baz=0.9							
GLA				S		**Sb**	**07 07 24.9**	**-1.2**
	baz=0.9							
GLA	**Glamis**	**0.91**	**24**	*e*Pg		**Pb**	**07 07 13.8**	**-0.5**
GLA				*e*Sg		**Sb**	**07 07 25.1**	**-1.0**
ZAX	**El Zacaton**	**1.11**	**231**	*e*P		**Pn**	**07 07 17.9**	**+0.2**
ZAX				*e*S		**Sb**	**07 07 32.1**	**+0.3**
SPX	**San Pedro Mart**	**1.18**	**188**	⇓*e*P		**Pb**	**07 07 19.2**	**+0.1**
SPX				IAML			07 07 37.0	
	comp=E,587nm,0.6s							
MONP	**Monument Peak**	**1.19**	**305**	P		**Pn**	**07 07 18.2**	**-0.7**
	baz=1.2							
MONP				S		**Sb**	**07 07 33.7**	**-0.5**
	baz=1.2							
ECNX	**Esteban Cantu**	**1.27**	**244**	*e*P		**Pb**	**07 07 20.4**	**+0.1**
ECNX				*e*S		**Sg**	**07 07 37.3**	**-0.6**
BAR	**Barrett**	**1.28**	**292**	*e*Pn		**Pn**	**07 07 20.1**	**+0.1**
BAR				*e*Sn		**Sb**	**07 07 36.5**	**-0.1**
PBX	**Punta Banda**	**1.33**	**250**	*e*P		**Pb**	**07 07 21.3**	**-0.1**
PBX				*e*S		**Sb**	**07 07 38.5**	**+0.3**
BC3	**Big Chuckawall**	**1.44**	**354**	P		**Pn**	**07 07 21.5**	**-0.8**
	baz=1.4							
Y12C	**Blythe**	**1.65**	**22**	P		**Pn**	**07 07 24.6**	**-0.4**
	baz=1.7							
109C	**Camp Elliot, M**	**1.69**	**294**	P		**Pn**	**07 07 25.7**	**0.0**
	baz=1.7							
109C				S		**Sb**	**07 07 48.8**	**+0.2**
	baz=1.7							
PFO	**Pinyon Flat Ob**	**1.71**	**324**	P		**Pn**	**07 07 25.2**	**-0.9**
	baz=1.7							
PFO	**Pinyon Flat Ob**	**1.71**	**324**	*e*Pn		**Pn**	**07 07 25.1**	**-0.9**
IRM	**Iron Mountain**	**1.94**	**3**	P		**Pn**	**07 07 28.7**	**-0.4**
	baz=1.9							
214A	**Organ Pipe Nat**	**2.10**	**96**	P		**Pn**	**07 07 30.9**	**-0.4**
	baz=2.1							
214A	**Organ Pipe Nat**	**2.10**	**96**	*e*Pn		**Pn**	**07 07 30.8**	**-0.4**
MURC	**Murrieta**	**2.13**	**311**	Sb		**Sb**	**07 08 03.2**	**+1.9**
	baz=2.1							
CIS	**Catalina Islan**	**2.90**	**295**	Sb		**Sb**	**07 08 25.4**	**+2.1**
	baz=2.9							
MWC	**Mount Wilson**	**3.08**	**311**	*e*Pn		**Pn**	**07 07 50.9**	**-0.5**
PASC	**Pasadena Art C**	**3.13**	**309**	*e*Pn		**Pb**	**07 07 52.2**	**+0.1**
DECC	**Green Verdugo**	**3.27**	**309**	Sb		**Sb**	**07 08 37.4**	**+3.3**
	baz=3.3							
TUC	**Tucson**	**3.79**	**87**	P		**Pn**	**07 07 54.4**	**-0.3**
TUC				S		**Sn**	**07 08 38.9**	**0.0**
TUC				*e*Sn		Sb	07 08 40.6	-8.6
SHPR	**Sheep Range**	**4.28**	**1**	*e*Pn		**Pn**	**07 08 02.6**	**+1.3**
SHPR				*e*Sn		**Sn**	**07 08 49.8**	**-1.2**
WUAZ	**Wupatki**	**4.62**	**43**	*e*Pn		**Pn**	**07 08 08.3**	**+2.3**
WUAZ				*e*Sg		**Sg**	**07 09 26.1**	**+1.0**
CCUT	**Cedar City**	**5.54**	**16**	*e*Pn		**Pn**	**07 08 21.1**	**+2.2**
	comp=E,6.4nm,0.9s							
CCUT				*e*Sg		**Sg**	**07 09 54.5**	**-0.4**
121A	**Cookes Peak, D**	**6.33**	**85**	*e*Pn		**Pn**	**07 08 30.9**	**+1.2**
	comp=E,8.0nm,0.3s							
121A				*e*Sn		**Sn**	**07 09 39.8**	**-1.8**
MVU	**Marysvale**	**6.75**	**21**	*e*Pn		**Pn**	**07 08 37.0**	**+1.6**
	comp=E,2.7nm,0.5s							

ISCJB ***25*** *07:08:56.4±0.4, 9.28S±0.04×118.11E±0.03,h124km, mb4.0/4,Error ellipse: s-maj=5.9km s-min=3.6km az=175.9*
DJA ***25*** *07:08:58.0±0.4,9.3S±4.3×11.8E±.3,h67km±14km,M4.5/24, mb4.5/8,mB5.0/4,MLv4.6/24,Mw(mB)4.3/4*
IDC ***25*** *07:09:05.5±3.5,8.90S×118.86E,h182km±29km,mb3.4/4, mb1 3.5/6,mb1mx3.3/25,mbtmp4.0/6,Error ellipse: s-maj=46.8km s-min=10.0km az=50.0*
ISC 25 07:08:57.7±0.8,9.33S±0.05×118.12E±0.04,h124km,n30, σ1§38/37,mb4.0/4,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**2.17**	**99**	P	**P**		**07 09 33.3**	**-0.2**
WSI				S	**Sn**		**07 10 02.5**	**+1.5**
WSI	**Waingapu**	**2.17**	**99**	P	Pn		07 09 30.4	-3.2
	baz=2.2,SNR=4.2							
BASI	**Baing, Sumba**	**2.58**	**110**	P	**Pn**		**07 09 36.8**	**-1.9**
DNP	**Denpasar**	**2.95**	**282**	P	**Pn**		**07 09 42.4**	**-1.0**
DNP				S	**Sn**		**07 10 18.5**	**-0.2**
IGBI	**Denpasar**	**2.98**	**280**	P	**Pn**		**07 09 42.5**	**-1.4**
IGBI				S	**Sn**		**07 10 17.2**	**-2.3**
SRBI	**Singaraja**	**3.13**	**293**	P	**Pn**		**07 09 44.4**	**-1.4**
BSSI	**Bau Bau, Buton**	**3.94**	**37**	P	**Pn**		**07 09 55.7**	**-0.9**
BSSI				S	**Sn**		**07 10 40.6**	**-1.6**
JAGI	**Jajag, Banyuwa**	**4.01**	**282**	P	**Pn**		**07 09 55.0**	**-2.6**
	baz=4.0,SNR=84							
MMRI	**Maumere**	**4.12**	**81**	P	**Pn**		**07 09 58.8**	**-0.2**
MMRI				S	**Sn**		**07 10 46.9**	**+0.3**
ABJI	**Asem Bagus**	**4.13**	**291**	P	**Pn**		**07 09 58.6**	**-0.5**
BKSI	**Bulukumba**	**4.45**	**27**	P	**Pn**		**07 10 03.1**	**-0.2**
BKSI				S	**Sn**		**07 10 52.0**	**-2.3**
KAPI	**Kappang**	**4.58**	**21**	P	**Pn**		**07 10 04.6**	**-0.5**
	9.9nm,0.3s,baz=200,slow=7.3,SNR=58							
KAPI				S	**Sn**		**07 10 54.8**	**-2.7**
	97nm,0.3s,baz=113,slow=22,SNR=73							
KMMI	**Kalianget**	**4.69**	**299**	P	**Pn**		**07 10 07.5**	**+0.9**
BLJI	**Banyuglugur**	**4.74**	**289**	P	**Pn**		**07 10 06.0**	**-1.3**
BLJI				S	**Sn**		**07 11 01.5**	**+0.1**
SPSI	**Sidrap Palu**	**5.57**	**17**	P	**Pn**		**07 10 18.9**	**+0.4**
	50nm,0.7s,545nm0.2nm							
SPSI				S	**Sn**		**07 11 18.3**	**-3.1**
	50nm,0.7s,545nm0.2nm							
SOEI	**Soe**	**6.08**	**95**	P	**Pn**		**07 10 24.6**	**-0.8**
	60nm,1.2s,0.3nm							
SOEI	**Soe**	**6.08**	**95**	P	**Pn**		**07 10 25.0**	**-0.3**
	baz=6.1,SNR=11							
KBKI	**Kotabaru**	**6.29**	**342**	P	**Pn**		**07 10 27.9**	**-0.3**
	53nm,1.6s,0.2nm							
PWJI	**Pagerwojo**	**6.38**	**281**	P	**Pn**		**07 10 28.6**	**-0.7**
	51nm,1.8s,0.3nm							
TTSI	**Tana Toraja**	**6.46**	**15**	P	**Pn**		**07 10 31.8**	**+1.3**
	26nm,0.7s,986nm0.2nm							
TTSI				S	**Sn**		**07 11 43.8**	**+0.8**
	26nm,0.7s,986nm0.2nm							
BBKI	**Banjar Baru**	**6.67**	**331**	P	**Pn**		**07 10 34.0**	**+0.7**
UGM	**Wanagama**	**7.64**	**280**	P	**Pn**		**07 10 47.5**	**+1.1**
	baz=7.7,SNR=4.9							
FAKI	**Fak Fak**	**15.42**	**66**	P	**Pn**		**07 12 26.9**	**-1.8**
	baz=16,SNR=5.7							
WRA	**Warramunga Arr**	**18.89**	**126**	P	**P**		**07 13 09.3**	**+0.6**
	0.9nm,0.3s,baz=304,slow=11,SNR=30							
WRA				S	S		07 16 28.4	-8.7
	0.4nm,0.3s,baz=296,slow=24,SNR=4.6							
ASAR	**Alice Springs**	**20.76**	**135**	P	Pn		07 13 31.0	-1.6
	0.6nm,0.4s,baz=310,slow=12,SNR=19							
ASAR				S	**S**		**07 17 13.7**	**-0.3**
	1.7nm,0.8s,baz=305,slow=23,SNR=7.0							
HHC	**Hu-ho-hao-te**	**50.29**	**354**	eP	P		07 17 48.5	+6.8
HHC				PP	PP		07 19 46.8	+8.4
HHC				S	S		07 24 55.0	+10
HHC				sS	sS		07 25 35.8	+0.9
HHC	**Hu-ho-hao-te**	**50.29**	**354**	SS	SS		07 28 27.8	+7.4
HHC				pmax	pmax			
	comp=Z,13nm,1.2s							
HHC				pmax	pmax			
	comp=Z,59nm,5.2s							
HHC				LR	LR			
	comp=N,81nm,12.7s							
HHC				LR	LR			
	comp=E,67nm,13.5s							
HHC				LR	LR			
	comp=Z,39nm,14.5s							
MKAR	**Makanchi Array**	**64.36**	**334**	P	**P**		**07 19 21.9**	**+1.6**
	comp=Z,1.2nm,0.5s,baz=150,slow=7.2,SNR=21							
ZALV	**Zalesovo Beam**	**69.04**	**340**	P	**P**		**07 19 51.0**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=141,slow=4.4,SNR=4.1							
BVAR	**Borovoye Array**	**74.18**	**332**	P	**P**		**07 20 20.9**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=132,slow=2.1,SNR=5.5							

ISCJB ***25*** *07:27:15.4±0.6,32.20N±0.02×115.21W±0.02,h11km±5km, Error ellipse: s-maj=3.8km s-min=3.2km az=174.0*
ECX ***25*** *07:27:17.5±0.5,32.21N×115.27W,h7km,MD3.8,ML4.0*
NEIC ***25*** *07:27:17.8,32.20N×115.29W,h7km,ML3.8(PAS), ML4.0(ECX),After ECX.*
ISC 25 07:27:15.9±0.9,32.20N±0.02×115.26W±0.02,h14km±8km, n42,σ1§37/60,4C-8D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.22**	**350**	*e*P		**Pg**	**07 27 21.0**	**+0.1**
CPBX				*e*S		**Sg**	**07 27 24.3**	**+0.1**
EMSC	**East Mesa**	**0.59**	**23**	⇑*i*P		**Pg**	**07 27 27.9**	**+0.4**
SGL	**Mount Signal**	**0.60**	**319**	⇓*i*P		**Pg**	**07 27 27.7**	**0.0**
DREC	**Desert Rsrch C**	**0.63**	**345**	⇓*i*P		**Pb**	**07 27 28.9**	**+0.1**
RDX	**Rancho Dawling**	**0.64**	**245**	⇑*e*P		**Pb**	**07 27 29.0**	**-0.1**
RDX				*e*S		**Sb**	**07 27 37.5**	**-0.5**
RDX				⇓*e*			07 27 40.3	
RDX				IAML			07 27 40.3	
	comp=N,5μm,0.4s							
ERPC	**Ernies Place**	**0.64**	**328**	⇓*i*P		**Pb**	**07 27 28.9**	**0.0**
COA	**Coachella**	**0.68**	**10**	⇓*i*P		**Pg**	**07 27 29.0**	**-0.1**
WESC	**Westside Schoo**	**0.69**	**325**	⇓*i*P		**Pg**	**07 27 29.6**	**+0.2**
YMD	**Yuma Desert**	**0.70**	**59**	⇑*i*P		**Pg**	**07 27 29.3**	**-0.3**
YUH	**Yuha Desert**	**0.72**	**309**	⇓*i*P		**Pg**	**07 27 29.7**	**-0.2**
ECBX	**El Chinero**	**0.74**	**166**	*e*P		**Pg**	**07 27 30.3**	**-0.1**
ECBX				*e*S		**Sg**	**07 27 40.6**	**+0.4**
ECBX				*e*			07 27 42.2	
ECBX				IAML			07 27 42.2	
	comp=E,7μm,0.2s							
RMX	**La Rumorosa**	**0.80**	**300**	*e*P		**Pg**	**07 27 31.3**	**-0.3**
RMX				*e*S		**Sg**	**07 27 42.0**	**-0.2**
RMX				IAML			07 27 44.0	
	comp=N,5μm,0.2s							
RMX				⇓*e*			07 27 44.0	
IBP	**Imperial Bould**	**0.84**	**303**	P		**Pg**	**07 27 32.2**	**-0.2**
	baz=0.8							
IBP				Sb		**Sb**	**07 27 43.4**	**-0.3**
	baz=0.8							
SWSC	**Sam W. Stewart**	**0.87**	**329**	P		**Pg**	**07 27 31.7**	**-1.1**
	baz=0.9							
GLA	**Glamis**	**0.93**	**23**	P		**Pg**	**07 27 32.6**	**-1.3**
	baz=0.9							
GLA				S		**Sg**	**07 27 44.8**	**-1.3**
	baz=0.9							
GLA	**Glamis**	**0.93**	**23**	*e*Pg		**Pg**	**07 27 33.0**	**-0.9**
GLA				*e*Sg		**Sg**	**07 27 45.7**	**-0.3**
ZAX	**El Zacaton**	**1.10**	**232**	*e*P		**Pb**	**07 27 37.0**	**+0.2**
ZAX				*e*S		**Sg**	**07 27 51.6**	**0.0**
SPX	**San Pedro Mart**	**1.16**	**189**	*e*P		**Pb**	**07 27 37.8**	**-0.3**
SPX				IAML			07 27 55.6	
	comp=E,2μm,0.5s							
SPX				⇑*e*			07 27 55.6	
MONP	**Monument Peak**	**1.20**	**305**	P		**Pn**	**07 27 37.5**	**-1.1**
	baz=1.2							
MONP				Sb		**Sb**	**07 27 54.0**	**-0.2**
	baz=1.2							
ECNX	**Esteban Cantu**	**1.26**	**245**	*e*P		**Pn**	**07 27 39.4**	**+0.2**
ECNX				*e*S		**Sn**	**07 27 56.4**	**+0.3**
BAR	**Barrett**	**1.29**	**292**	*e*Pn		**Pn**	**07 27 39.4**	**-0.2**
BAR				*e*Sn		**Sb**	**07 27 56.4**	**-0.1**
BAR	**Barrett**	**1.29**	**292**	*e*P		**Pn**	**07 27 39.6**	**0.0**
PBX	**Punta Banda**	**1.33**	**250**	*e*P		**Pn**	**07 27 40.3**	**+0.2**
PBX				*e*S		**Sn**	**07 27 57.9**	**+0.3**
BC3	**Big Chuckawall**	**1.46**	**354**	P		**Pn**	**07 27 40.6**	**-1.5**
	baz=1.5							
Y12C	**Blythe**	**1.67**	**22**	Sb		**Sb**	**07 28 08.5**	**+1.1**
	baz=1.7							
109C	**Camp Elliot, M**	**1.71**	**294**	P		**Pn**	**07 27 45.1**	**-0.2**
	baz=1.7							
109C				Sb		**Sb**	**07 28 08.5**	**+0.1**
	baz=1.7							
PFO	**Pinyon Flat Ob**	**1.73**	**325**	P		**Pn**	**07 27 44.5**	**-1.3**
	baz=1.7							
PFO	**Pinyon Flat Ob**	**1.73**	**325**	*e*Pn		**Pn**	**07 27 44.4**	**-1.3**
PFO				*e*Sn		**Sn**	**07 28 04.9**	**-2.9**
214A	**Organ Pipe Nat**	**2.09**	**96**	P		**Pn**	**07 27 49.2**	**-1.5**
	baz=2.1							
214A	**Organ Pipe Nat**	**2.09**	**96**	*e*Pn		**Pn**	**07 27 49.4**	**-1.3**
MURC	**Murrieta**	**2.15**	**311**	Pg		**Pb**	**07 27 55.9**	**+1.1**
	baz=2.1							
LDFC	**Landfair**	**2.88**	**2**	*e*Pn		**Pn**	**07 28 04.3**	**+2.8**
CIS	**Catalina Islan**	**2.91**	**295**	Sb		**Sb**	**07 28 45.1**	**+1.9**
	baz=2.9							
FMP	**Fort Macarthur**	**2.97**	**301**	Sb		**Sb**	**07 28 46.6**	**+1.9**
	baz=2.9							
MWC	**Mount Wilson**	**3.10**	**311**	*e*Pn		**Pn**	**07 28 06.7**	**+2.1**
MWC				*e*Sg		**Sg**	**07 28 53.2**	**-2.3**
PASC	**Pasadena Art C**	**3.15**	**310**	*e*Pn		**Pn**	**07 28 10.6**	**-1.1**
GSC	**Goldstone**	**3.35**	**338**	Pn		**Pn**	**07 28 10.1**	**+2.1**
TUC	**Tucson**	**3.79**	**87**	P		**Pn**	**07 28 12.6**	**-1.5**
TUC				S		**Sn**	**07 28 58.8**	**+0.2**
TUC				*e*Sg		**Sg**	**07 29 14.6**	**-3.2**
SHPR	**Sheep Range**	**4.30**	**1**	*e*Pn		**Pn**	**07 28 21.9**	**+0.8**
ISA	**Isabella**	**4.37**	**323**	*e*Pn		**Pn**	**07 28 23.6**	**+1.6**
CCUT	**Cedar City**	**5.56**	**16**	*e*Pn		**Pn**	**07 28 41.0**	**+2.5**
	comp=E,19nm,0.9s							
121A	**Cookes Peak, D**	**6.33**	**85**	*e*Pn		**Pn**	**07 28 49.0**	**-0.1**
	comp=E,17nm,0.3s							
121A				*e*Sg		**Sg**	**07 30 44.2**	**+5.0**

BJI ***25*** *07:35:33.7, 18.41S×177.25W,h522km,mb4.7/12, mB4.8/6*
IDC ***25*** *07:35:38.6±1.1, 17.71S×178.26W,h506km±13km, mb3.6/15,mb1 3.8/18,mb1mx3.6/31,mbtmp4.5/18,Error ellipse: s-maj=13.6km s-min=9.6km az=157.0*
ISCJB ***25*** *07:35:41.6±0.3, 17.81S±0.07×178.37W±0.06,h550km, mb4.3/32,Error ellipse: s-maj=10.1km s-min=6.6km az=156.7*
NEIC ***25*** *07:35:42.2±0.9, 17.72S×178.38W,h541km±9km,mb4.5/17, Error ellipse: s-maj=23.2km s-min=9.5km az=151.0*
ISC 25 07:35:42.0±0.4,17.75S±0.09×178.19W±0.06,h550km, n83,σ1§44/91,mb4.4/32,1C-7D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.58**	**270**	*e*P		**P**	**07 36 59.4**	**-1.5**
AFI	**Afiam

2.5nm,0.7s,baz=89,slow=3.8,SNR=6.3
WRA ScP **ScP** **07 47 41.9 +3.8**
3.7nm,1.3s,baz=89,slow=3.4,SNR=5.4
AS31 Alice Springs 45.03 254 *e*P **P** **07 43 08.3 -1.0**
AS31 *e*PcP **PcP** **07 44 38.8 +0.3**
ASAR Alice Springs 45.03 254 P **P** **07 43 08.3 -1.0**
88nm,1.0s,baz=89,slow=8.2,SNR=983
ASAR PcP **PcP** **07 44 38.6 +0.2**
3.6nm,0.7s,baz=103,slow=4.1,SNR=5.6
ASAR ScP **ScP** **07 47 43.3 +4.5**
0.8nm,0.6s,baz=96,slow=4.6,SNR=5.0
KDU Kakadu 47.76 269 P **P** **07 43 29.0 -1.0**
baz=48,SNR=8.7
MTN Manton Dam 49.01 268 ⇓P **P** **07 43 37.8 -1.4**
baz=49,SNR=4.0
WRKA Warakurna 50.09 252 P **P** **07 43 46.4 -0.7**
baz=50,SNR=36
FORT Forrest 50.26 244 P **P** **07 43 47.0 -1.2**
baz=50,SNR=39
FORT Forrest 50.26 244 *e*P **P** **07 43 47.0 -1.2**
48nm,0.6s
KNRA Kununurra 50.71 264 P **P** **07 43 50.6 -1.0**
baz=51,SNR=7.9
FAKI Fak Fak 50.75 281 ⇓P **P** **07 43 51.2 -0.9**
baz=51,SNR=6.0
SIJI Sorong 52.40 283 P **P** **07 44 03.5 -0.4**
105nm,0.7s,baz=90,slow=5.8,SNR=49
SWI Sorong 52.41 283 P **P** **07 44 03.9 -0.1**
baz=52,SNR=9.0
SOEI Soe 56.27 270 P **P** **07 44 32.1 +0.8**
baz=56,SNR=7.7
SOEI Soe 56.27 270 *e*P **P** **07 44 32.3 +1.0**
71nm,0.9s
MEEK Meekatharra 58.68 249 P **P** **07 44 46.1 -1.3**
baz=59,SNR=4.9
KLBR Kelleberrin 59.08 243 P **P** **07 44 49.2 -0.8**
baz=59,SNR=12
VNDA Vanda 60.62 185 P **P** **07 45 00.9 +1.6**
0.5nm,0.5s,baz=339,slow=5.7,SNR=8.0
GIRL Giralia 63.14 253 P **P** **07 45 17.1 +0.5**
baz=63,SNR=5.4
MJAR Matsushiro Arr 67.90 323 P **P** **07 45 45.2 -0.9**
2.0nm,0.6s,baz=157,slow=7.7,SNR=8.8
UGM Wanagama 69.86 268 P **P** **07 45 58.1 -0.3**
baz=70,SNR=4.4
SBUM Sibu 71.38 279 *e*P **P** **07 46 08.0 +0.7**
7.4nm,0.8s
QSPA South Pole Qui 72.31 180 *e*P **P** **07 46 13.5 +1.6**
4.7nm,0.8s
KSM Kuching 72.87 277 P **P** **07 46 16.5 +0.5**
baz=73,SNR=12
KSM Kuching 72.87 277 *e*P **P** **07 46 16.1 +0.2**
43nm,0.9s
KSRS Korea Array 74.72 318 P **P** **07 46 27.0 +1.1**
0.8nm,0.5s,baz=138,slow=7.2,SNR=6.3
CMB Columbia Colle 77.58 43 *e*P **P** **07 46 42.6 +0.8**
3.1nm,0.9s
NJ2 Nanjing 78.00 309 *e*P **P** **07 46 45.3 +1.3**
NJ2 PMZ
40nm,0.8s
NVAR Mina Array Bea 79.17 44 P **P** **07 46 51.5 +1.1**
2.4nm,0.8s,baz=225,slow=9.4,SNR=24
TUC Tucson 81.44 52 *e*P **P** **07 47 04.4 +2.1**
3.2nm,0.9s
WUAZ Wupatki 82.48 49 *e*P **P** **07 47 09.3 +1.7**
3.7nm,0.9s
SEY Seymchan 83.67 347 P **P** **07 47 12.1 -0.5**
1.1nm,0.4s,baz=154,slow=5.4,SNR=4.5
BJI Beijing 83.81 315 P **P** **07 47 16.5 +2.6**
BJI PMZ
4.0nm,1.0s
BJI PMZ
20nm,5.4s
PSI Prapat 84.07 275 *e*P **P** **07 47 15.4 -0.5**
11nm,0.7s
MAW Mawson 84.08 200 P **P** **07 47 15.2 +0.5**
1.4nm,0.7s,baz=192,slow=3.4,SNR=3.5
HLID Hailey 84.38 41 *e*P **P** **07 47 18.2 +1.4**
2.4nm,0.9s
GSI Gunungsitoli 84.90 273 *e*P **P** **07 47 20.7 +0.9**
19nm,0.7s
GYA Guiyang 85.14 300 *e*P **P** **07 47 21.0 +0.2**
GYA PMZ
10.0nm,1.0s
ILAR Eielson Array 85.69 13 P **P** **07 47 21.6 -0.8**
0.2nm,0.4s,baz=222,slow=5.3,SNR=5.6
TXAR Lajitas Array 85.74 58 P **P** **07 47 25.5 +1.9**
3.1nm,0.8s,baz=219,slow=5.9,SNR=44
MCMT McKenzie Canyo 85.98 40 *e*P **P** **07 47 25.9 +1.2**
XAN Xi'an 86.33 307 P **P** **07 47 27.0 +0.7**
XAN PMZ
6.0nm,1.0s
PDAR Pinedale Array 87.09 43 P **P** **07 47 30.4 +0.4**
1.0nm,0.7s,baz=217,slow=2.1,SNR=9.1
HHC Hu-ho-hao-te 87.31 314 *e*P **P** **07 47 32.0 +1.2**
HHC PP **PP** **07 51 08.8 +3.2**
HHC S **S** **07 57 26.0 +0.7**
HHC sS **sS** **08 00 56.0 -3.1**
HHC PMZ
22nm,1.1s
HHC PMZ
53nm,5.2s
KMI Kunming 87.94 297 P **P** **07 47 35.3 +1.0**
KMI PMZ
7.0nm,0.6s
CMAR Chiang Mai Arr 89.02 290 P **P** **07 47 40.2 +1.0**
0.7nm,0.3s,baz=109,slow=3.5,SNR=6.1
CD2 Chengdu 89.15 303 P **P** **07 47 40.0 +0.4**
CD2 PMZ
10.0nm,0.5s
SNAA Sanae 90.75 179 P **P** **07 47 46.8 +0.5**
VNA2 Neumayer--Watz 91.33 177 P **P** **07 47 49.3 +0.5**
baz=197,slow=3.3
VNA1 Neumayer--Stat 91.55 177 P **P** **07 47 51.0 +1.2**
BRTR Keskin Array B 144.81 315 PKP **PKPdf** **07 54 16.9 -0.1**
1.0nm,0.8s,baz=355,slow=3.1,SNR=4.5
GERES GERESS Array B 147.51 345 PKPbc **PKPbc** **07 54 23.4 -1.2**
0.1nm,0.3s,baz=353,slow=23,SNR=2.4

IDC 25 07:41:04.5±1.9, 3°.12S×151°.24E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/25, mbtmp3.6/3, MS2.8/1, Ms1 2.8/1, ms1mx2.3/28, Error ellipse: s-maj=128.1km s-min=27.4km az=123.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**		**10.54 273**	LR	LR	07 47 35.4	
	comp=Z,48nm,18.1s,baz=269,slow=37						
WRA	**Warramunga Arr**		**23.49 223**	P	P	07 46 15.4	-0.7
	2.2nm,0.4s,baz=51,slow=10,SNR=9.3						
ASAR	**Alice Springs**		**26.42 218**	P	P	07 46 44.8	+1.7
	0.2nm,0.3s,baz=51,slow=9.2,SNR=4.1						
ILAR	**Eielson Array**		**81.21 22**	P	P	07 53 20.7	-1.2
	0.3nm,0.7s,baz=253,slow=5.7,SNR=4.2						
TORD	**Torodi Ar. Bea**		**148.29 290**	PKPbc	PKPbc	08 00 53.3	-0.5
	0.4nm,0.6s,baz=98,slow=1.8,SNR=3.3						

IDC 25 07:50:17.3±2.1, 4°.72S×129°.00E, h0km, mb3.4/1, mb1 3.6/3, mb1mx3.4/26, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=135.5km s-min=28.9km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**		**16.00 161**	Pn	P	07 54 06.0	-1.6
	0.1nm,0.3s,baz=340,slow=12,SNR=8.2						
ASAR	**Alice Springs**		**19.43 166**	P	P	07 54 44.5	-0.9
	0.1nm,0.3s,baz=349,slow=12,SNR=11						
MKAR	**Makanchi Array**		**65.78 327**	P	P	08 01 04.3	0.0
	0.2nm,0.4s,baz=115,slow=8.4,SNR=3.1						

KRSC 25 07:57:09.3±0.8, 55°.89N×164°.63E, h61km±18km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**		**1.02 131**	*i* P	Pn	07 57 28.5	+0.8
BKI				*e*S	Sn	07 57 42.2	+0.9
KBTR	**Krutoberegovo**		**1.07 288**	*e*P	Pn	07 57 28.4	+0.2
KBTR				*e*S	Sn	07 57 42.6	+0.3
SMKR	**Semkarok**		**1.90 293**	*e*P	Pn	07 57 41.5	+2.0
SMKR				*e*S	Sn	07 58 04.8	+2.4
BDR	**Baidarnaya**		**2.03 291**	*e*P	Pn	07 57 43.9	+2.6
BDR				*e*S	Sn	07 58 09.2	+3.6
SRKR	**Sorokina**		**2.08 293**	*e*P	Pn	07 57 43.7	+1.8
SRKR				*e*S	Sn	07 58 09.0	+2.2
MKZ	**Mys Kozlova**		**2.13 232**	*e*P	Pn	07 57 44.8	+2.3
MKZ				*e*S	Sn	07 58 11.2	+3.4
KMNR	**Kamenistaya**		**2.48 269**	*e*P	Pn	07 57 49.1	+1.6
KZV	**Kizimen**		**2.59 254**	*e*P	Pn	07 57 52.2	+3.2
KZV				*e*S	Sn	07 58 24.1	+4.7
TUMR	**Tumrok**		**2.62 258**	*e*P	Pn	07 57 52.3	+3.0
KOZ	**Kozyrevsk**		**2.68 276**	*e*P	Pn	07 57 52.5	+2.5
SRDR	**Sredinnyy**		**2.79 281**	*e*P	Pn	07 57 52.9	+1.3
SRDR				*e*S	Sn	07 58 28.6	+4.6
SPN	**Mys Shipunski**		**3.88 226**	*e*P	Pn	07 58 08.8	+2.4
SPN				*e*S	Sn	07 58 54.1	+3.5
SDLR	**Sedlovina**		**4.24 234**	*e*P	Pn	07 58 14.9	+3.3
KRER	**Koryakskii**		**4.29 235**	*e*P	Pn	07 58 16.0	+3.7
SMAR	**Somma**		**4.29 235**	*e*P	Pn	07 58 15.7	+3.4
UGLR	**Uglovaya**		**4.32 234**	*e*P	Pn	07 58 15.7	+3.2
AVH	**Avacha**		**4.32 235**	*e*P	Pn	07 58 16.9	+4.4
KOK	**Koryaka**		**4.35 236**	*e*P	Pn	07 58 16.7	+3.7
GNL	**Ganaly**		**4.45 243**	*e*P	Pn	07 58 17.3	+2.9
RUS	**Russkaya**		**4.99 229**	*e*P	Pn	07 58 24.6	+3.0
ASAK	**Asacha**		**5.29 231**	*e*P	Pn	07 58 29.1	+3.3

IDC 25 08:11:21.0±1.8, 6°.28S×129°.57E, h0km, mb3.8/1, mb1 3.7/4, mb1mx3.4/38, mbtmp3.6/4, ML3.2/2, MS3.4/1, Ms1 3.4/1, ms1mx2.4/39, Error ellipse: s-maj=70.4km s-min=28.5km az=80.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**		**4.27 39**	P	Pn	08 12 23.8	-3.4
	baz=3.5,SNR=5.2						
SIJI	**Sorong**		**5.63 18**	Pn	Pn	08 12 45.8	-0.2
	baz=192,slow=17						
SIJI				Sn	Sn	08 13 41.0	-10
	4.3nm,0.3s,baz=261,slow=23,SNR=14						
KDU	**Kakadu**		**6.98 156**	P	Pn	08 13 06.7	+2.1
	baz=6.9,SNR=6.3						
WRA	**Warramunga Arr**		**14.35 162**	Pn	Pn	08 14 44.3	-1.3
	0.1nm,0.3s,baz=343,slow=13,SNR=5.9						
WRA				Sn	Sn	08 17 12.1	-14
	0.4nm,0.3s,baz=340,slow=22,SNR=8.5						
ASAR	**Alice Springs**		**17.79 167**	P	P	08 15 30.9	-0.1
	0.1nm,0.3s,baz=348,slow=9.2,SNR=11						
JNU	**Nakatsue**		**39.20 2**	LR	LR	08 33 17.7	
	comp=Z,62nm,21.1s,baz=302,slow=34						
MKAR	**Makanchi Array**		**67.39 327**	P	P	08 22 18.3	+0.1
	0.4nm,0.3s,baz=114,slow=7.8,SNR=4.7						

IDC 25 08:17:07.2±3.4, 20°.59N×145°.37E, h163km±29km, mb3.5/7, mb1 3.6/9, mb1mx3.3/62, mbtmp3.9/9, Error ellipse: s-maj=29.4km s-min=19.9km az=79.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**		**7.10 336**	P	Pn	08 18 48.0	-0.6
	4.3nm,0.3s,baz=281,slow=22,SNR=7.6						
JCJ				S	Sn	08 20 07.7	-0.8
	2.8nm,0.3s,baz=224,slow=18,SNR=4.6						
MJAR	**Matsushiro Arr**		**17.08 340**	P	Pn	08 20 56.5	+0.1
	0.4nm,0.3s,baz=161,slow=9.4,SNR=4.9						
KSRS	**Korea Array**		**22.63 322**	P	P	08 21 55.7	+1.4
	1.2nm,0.5s,baz=150,slow=8.7,SNR=9.8						
SONM	**Songino Array**		**41.49 320**	P	P	08 24 39.5	+1.2
	0.6nm,0.4s,baz=130,slow=6.4,SNR=4.2						
STKA	**Stephens Creek**		**52.29 184**	P	P	08 26 01.9	-0.1
	18nm,0.6s,baz=30,slow=8.1,SNR=1.8						
KURBB	**Kurchatov Arra**		**59.72 317**	P	P	08 26 54.5	-0.1
	0.7nm,0.4s,baz=92,slow=7.4,SNR=10						
ILAR	**Eielson Array**		**62.10 27**	P	P	08 27 10.8	+0.4
	0.6nm,0.7s,baz=255,slow=4.6,SNR=11						
ARCES	**ARCESS Array B**		**80.61 342**	P	P	08 29 00.3	-0.9
	2.0nm,1.0s,baz=63,slow=8.6,SNR=3.8						
NVAR	**Mina Array Bea**		**82.23 52**	P	P	08 29 10.9	+0.3
	0.4nm,0.6s,baz=275,slow=5.2,SNR=5.0						
FINES	**FINESS Array B**		**85.05 335**	P	P	08 29 22.8	-1.5
	1.9nm,0.5s,baz=87,slow=5.0,SNR=18						

*BJI **25** 08:18:24.0, 6°.39N×123°.83E, h613km, mb5.4/73, mB4.8/39*
*KLM **25** 08:18:26.8, 6°.87N×123°.73E, h635km, mb5.4, MS6.1*
*ISCJB **25** 08:18:28.3±0.1, 6°.83N±0°.02×123°.55E±0°.02, h624km±2km, mb5.2/175, Error ellipse: s-maj=3.4km s-min=2.4km az=165.0*
*MOS **25** 08:18:28.2±0.8, 6°.85N×123°.55E, h621km, mb5.1/58, Error ellipse: s-maj=8.2km s-min=4.4km az=111.9*
*DJA **25** 08:18:29.6±0.3, 7°.N±3°×12°.4E±°, h597km±4km, M5.1/46, mb5.3/46, mB5.5/37, MLv5.3/1, MLv5.9/12, Mw(mB)5.0/37*
*IDC **25** 08:18:29.9±0.5, 6°.82N×123°.56E, h626km±5km, mb4.5/49, mb1 4.5/53, mb1mx4.4/61, mbtmp5.4/53, Error ellipse: s-maj=7.8km s-min=5.3km az=66.0*
*NEIC **25** 08:18:29.2±0.2, 6°.82N×123°.56E, h618km±2km, mb5.2/73, Error ellipse: s-maj=3.9km s-min=2.8km az=68.0*
*GCMT **25** 08:18:29.2±0.6, 6°.86N×123°.56E, h608km±5km, MW5.3/44, Moment Tensor Solution. s44,c51; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr=0.37±.04; Mθθ=0.29±.06; Mϕϕ=0.08±.08; Mrθ=-0.31±.07; Mϕθ=-0.25±.07; Mϕr=0.88±.07; Best double couple: M=0.96600×10^17 NP1: ϕs10.00000°, δ84.00000°, λ-77.00000°. NP2: ϕs125.00000°, δ14.00000°, λ-154.00000°. Principal axes: T 0.7650, Plg37.0000°, Azm89.0000°; N 0.4030, Plg13.0000°, Azm189.0000°; P -1.1670, Plg50.0000°, Azm294.0000°; nsta1 refers to body waves, cutoff=40s.*

ISC 25 08:18:28.9±0.2, 6°.83N±0°.03×123°.59E±0°.04, h616km±2km, h617km: pP-P, n832, σ1°.19/1005, mb5.2/184, 48C-38D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**		**0.75 59**	⇓*i*P	P	08 19 41.2	-0.1
GSPH	**General Santos**		**1.54 119**	⇓*e*P	P	08 19 42.7	-0.6
DCPH	**Dipolog City**		**1.76 352**	⇓*e*P	P	08 19 43.3	-0.5
DCPH				*e*S	S	08 20 42.9	-1.8
CGP	**Cagayan de Oro**		**1.95 34**	⇓*e*P	P	08 19 45.3	+0.8
CGP				*e*S	S	08 20 45.5	-0.5
DAV	**Davao City (W)**		**1.98 83**	⇑*e*P	P	08 19 42.9	-1.8
DAV	**Davao City (W)**		**1.98 83**	⇑*e*S	S	08 20 46.9	+0.7
DAV	**Davao City (W)**		**1.98 83**	*e*P	P	08 19 44.4	-0.3
TBP	**Tagbilaran**		**2.85 5**	*e*P	P	08 19 47.5	-1.1
TBP				*e*S	S	08 20 51.9	-1.7
SGSI	**Sangihe**		**3.67 148**	P	P	08 19 51.8	-1.7
PLP	**Palo**		**4.52 18**	⇑*i*P	P	08 19 58.7	-0.5
PLP				*e*S	S	08 21 10.1	-2.7
MYLDM	**Lahad Datu**		**5.33 252**	⇑P	P	08 20 06.5	+1.1
MYLDM	**Lahad Datu**		**5.33 252**	*e*P	P	08 20 06.9	+1.5
PPR	**Puerto Princes**		**5.63 302**	⇑*i*P	P	08 20 08.5	+0.6
TSM	**Tawau**		**6.23 246**	⇑P	P	08 20 12.5	-0.4
KMSI	**Cibinong**		**6.23 176**	P	P	08 20 13.1	+0.2
	3μm,0.9s,23μm8.1nm						
KMSI				S	S	08 21 36.7	-1.2
	3μm,0.9s,23μm8.1nm						
TOLI	**Toli-Toli**		**6.32 206**	*e*P	P	08 20 13.4	-0.3
SDKM	**Sandakan**		**6.47 260**	⇑P	P	08 20 14.3	-0.8
MRSI	**Marisa**		**6.53 195**	P	P	08 20 15.3	-0.2
	531nm,1.2s,6μm1.7nm						
MRSI				S	S	08 21 40.9	-1.7
	531nm,1.2s,6μm1.7nm						
KDM	**Kudat**		**6.71 271**	⇑P	P	08 20 16.0	-1.1
TNTI	**Ternate**		**7.10 148**	P	P	08 20 19.9	-0.7
	2μm,0.7s,22μm13nm						
TNTI				S	S	08 21 48.7	-3.2
	2μm,0.7s,22μm13nm						
TNTI	**Ternate**		**7.10 148**	*e*P	P	08 20 19.6	-1.0
GQP	**Guinayangan**		**7.12 351**	⇑*i*P	P	08 20 20.3	-0.4
KKM	**Kota Kinabalu**		**7.38 264**	⇓P	P	08 20 22.3	-0.9
	baz=7.3,SNR=217						
KKM	**Kota Kinabalu**		**7.38 264**	⇑P	P	08 20 22.6	-0.6
KKM	**Kota Kinabalu**		**7.38 264**	*e*P	P	08 20 22.6	-0.6
	776nm,0.5s						
KKM				*e*S	S	08 21 55.1	-1.6
MPSI	**Mapaga**		**7.43 210**	P	P	08 20 23.3	-0.3
	146nm,0.9s,3μm0.7nm0.7nm						
MPSI				S	S	08 21 56.0	-1.4
	146nm,0.9s,3μm0.7nm0.7nm						
LQP	**Lukban**		**7.51 345**	⇑*e*P	P	08 20 24.3	-0.2
TGY	**Tagaytay City**		**7.68 340**	P	P	08 20 25.8	-0.1
	143nm,0.3s,baz=188,slow=2.4,SNR=36						
LUWI	**Luwuk**		**7.87 186**	P	P	08 20 27.2	-0.4
	402nm,1.2s,4μm6.8nm						
LUWI				S	S	08 21 59.0	-5.8
	402nm,1.2s,4μm6.8nm						
LUWI	**Luwuk**		**7.87 186**	P	P	08 20 27.6	-0.1
	baz=7.7,SNR=14						
LUWI	**Luwuk**		**7.87 186**	*e*P	P	08 20 26.6	-1.0
APSI	**Ampana**		**7.93 194**	P	P	08 20 28.2	-0.1
	386nm,1.0s,3μm						
APSI				S	S	08 22 06.1	+0.2
	386nm,1.0s,3μm						
LBMI	**Labuha**		**8.38 152**	P	P	08 20 32.8	+0.3
	1μm,0.5s,16μm						
LBMI				S	S	08 22 10.6	-3.1
	1μm,0.5s,16μm						
PCI	**Palu**		**8.55 206**	P	P	08 20 33.4	-0.7
	486nm,1.0s,5μm						
PCI				S	S	08 22 13.9	-2.8
	486nm,1.0s,5μm						
SANI	**Sanana**		**9.14 165**	P	P	08 20 37.9	-1.9
	1μm,0.7s,12μm						
SANI				S	S	08 22 20.8	-6.2
	1μm,0.7s,12μm						
BCPH	**Baguio City Da**		**9.94 343**	⇓*i*P	P	08 20 49.8	+2.2
BKB	**Balikpapan**		**10.46 220**	P	P	08 20 53.1	+0.5
	201nm,0.9s						
TTSI	**Tana Toraja**		**10.51 201**	P	P	08 20 52.8	-0.4
	111nm,0.8s,722nm						
TTSI				S	S	08 22 50.8	-0.6
	111nm,0.8s,722nm						
NLAI	**Namlea**		**10.60 161**	P	P	08 20 55.3	+1.3
	321nm,0.7s,4μm						
KDI	**Kendari**		**10.76 185**	P	P	08 20 56.8	+1.2
	73nm,0.9s						
SWI	**Sorong**		**10.81 135**	P	P	08 20 56.5	+0.3
	225nm,0.8s,2μm						
SWI				S	S	08 22 58.3	+1.4
	225nm,0.8s,2μm						
SWI	**Sorong**		**10.81 135**	P	P	08 20 56.9	+0.8
	baz=11,SNR=11						
SIJI	**Sorong**		**10.82 135**	P	P	08 20 56.7	+0.4
	20nm,0.3s,baz=337,slow=7.4,SNR=89						
SIJI				ScP	ScP	08 28 29.9	-1.1
	0.1nm,0.3s,baz=329,slow=3.8,SNR=5.5						
BTM	**Bintulu**		**11.07 251**	⇑P	P	08 20 58.5	-0.2
SZP	**Santa**		**11.09 344**	*e*P	P	08 20 58.5	-0.2
	487nm,0.7s						
SPSI	**Sidrap Palu**		**11.38 200**	P	P	08 21 00.5	-1.3
	52nm,0.9s,553nm						
SPSI				S	S	08 23 05.2	-1.9
	52nm,0.9s,553nm						
AAI	**Ambon**		**11.41 156**	P	P	08 21 02.9	+0.9
	398nm,0.7s,4μm						
AAI				S	S	08 23 09.4	+1.8
	398nm,0.7s,4μm						
AAI	**Ambon**		**11.41 156**	P	P	08 21 03.0	+0.9
	baz=11,SNR=9.5						
SBUM	**Sibu**		**12.14 250**	⇑P	P	08 21 09.7	+0.5
SBUM	**Sibu**		**12.14 250**	*e*P	P	08 21 09.6	+0.4
KAPI	**Kappang**		**12.38 198**	P	P	08 21 11.5	+0.1
	2.8nm,0.3s,baz=1.2,slow=7.3,SNR=5.5						
KAPI				ScP	ScP	08 28 32.2	-1.0
	0.4nm,0.3s,baz=68,slow=2.0,SNR=5.0						
KBKI	**Kotabaru**		**12.50 217**	P	P	08 21 12.2	-0.5
	81nm,1.0s,3μm						
BNDI	**Bandanaira**		**12.92 151**	P	P	08 21 17.0	+0.2
	923nm,1.2s,8μm						
FAKI	**Fak Fak**		**12.98 138**	P	P	08 21 17.7	+0.3
	792nm,0.9s,6μm						
FAKI				S	S	08 23 36.9	+1.3
	792nm,0.9s,6μm						
FAKI	**Fak Fak**		**12.98 138**	P	P	08 21 18.1	+0.6
	baz=13,SNR=101						
FAKI	**Fak Fak**		**12.98 138**	*e*P	P	08 21 18.1	+0.6
RKPI	**Ransiki, Papua**		**13.43 128**	P	P	08 21 23.4	+1.6
	636nm,0.8s,40μm						
STKI	**Sintang**		**13.83 241**	P	P	08 21 25.8	0.0
	111nm,0.9s,12μm						
KSM	**Kuching**		**14.28 249**	P	P	08 21 30.4	+0.4
	baz=14,SNR=61						
KSM	**Kuching**		**14.28 249**	⇑P	P	08 21 28.1	-1.9
KSM	**Kuching**		**14.28 249**	*e*P	P	08 21 30.4	+0.4
	124nm,0.6s						
KSM				*e*S	S	08 23 58.7	+0.9
KSM				*e*PcP	PcP	08 26 00.3	+0.6
BAKI	**Biak**		**14.81 122**	P	P	08 21 36.3	+1.4
	1μm,0.9s,12μm						
MMRI	**Maumere**		**15.43 185**	P	P	08 21 41.6	+1.1
	750nm,0.6s,8μm						
MMRI	**Maumere**		**15.43 185**	*e*P	P	08 21 41.3	+0.9
	547nm,0.5s						
DLV	**T Lat**		**15.74 290**	*e*P	P	08 21 44.5	+1.0
TWG	**Pinlang**		**16.08 352**	*e*P	P	08 21 45.8	-0.5
	208nm,0.6s						
TWG				*e*S	S	08 24 27.1	0.0
SOEI	**Soe**		**16.49 178**	P	P	08 21 49.9	-0.4
	453nm,0.8s,4μm						
SOEI	**Soe**		**16.49 178**	⇓P	P	08 21 49.7	-0.6
	baz=16,SNR=12						
SOEI	**Soe**		**16.49 178**	*e*P	P	08 21 50.2	-0.2
	286nm,0.6s						
SAUI	**Saumlaki**		**16.60 152**	P	P	08 21 51.7	+0.5
	773nm,0.7s						
YULB	**Yu-li**		**16.61 353**	*e*P	P	08 21 50.1	-1.1
	30nm,0.3s						
YULB				*e*S	S	08 24 35.7	0.0
YULB				*e*ScP	ScP	08 28 38.7	-1.9
SSLB	**Suanglung**		**17.05 352**	*e*P	P	08 21 55.0	-0.2
	95nm,1.0s						
SMPI	**Sarmi**		**17.45 120**	P	P	08 22 00.5	+1.5
	201nm,0.9s						
YHNB	**Yeheng**		**17.86 353**	*e*P	P	08 22 02.2	-0.5
	40nm,0.8s						
YHNB				*e*S	S	08 24 54.9	-1.2
QIZ	**Qiongzhong**		**18.05 313**	P	P	08 22 05.0	+0.6
QIZ				sP	sP	08 24 32.0	-2.7
QIZ				S	S	08 24 57.8	-1.4
QIZ				PMZ			
	55nm,0.9s						
QIZ				PMZ			
	85nm,9.9s						
QIZ	**Qiongzhong**		**18.05 313**	*e*P	P	08 22 04.7	+0.3
	39nm,0.9s						
TPI	**Tanjungpandan**		**18.55 240**	P	P	08 22 06.9	-2.1
NGJI	**Ngawi**		**18.59 221**	P	P	08 22 13.5	+4.2
	205nm,0.8s,8μm						
QZH	**Quanzhou**		**18.64 346**	⇑*i*P	P	08 22 10.8	+1.2
QZH				sP	sP	08 24 37.5	-3.6
QZH				S	S	08 25 08.8	+0.5
QZH				PMZ			
	170nm,1.1s						
GENI	**Genyem**		**19.01 119**	P	P	08 22 14.7	+1.5
	674nm,1.0s,7μm						
SMRI	**Semarang**		**19.04 224**	*e*P	P	08 22 13.6	+0.2
JAY	**Jayapura**		**19.44 118**	P	P	08 22 17.5	+0.4
	122nm,0.9s,8μm						
JAY	**Jayapura**		**19.44 118**	P	P	08 22 17.3	+0.2
	5.2nm,0.3s,baz=207,slow=1.5,SNR=22						
JAY	**Jayapura**		**19.44 118**	P	P	08 22 17.8	+0.7
	baz=20,SNR=5.9						
MYKOM	**Kota Tinggi**		**20.31 257**	*e*P	P	08 22 25.2	+0.3
	135nm,0.8s						
KTGM	**Kuala Trenggan**		**20.40 267**	⇑P	P	08 22 23.5	-2.2
KGM	**Kluang**		**20.77 258**	⇑P	P	08 22 27.1	-1.9
LEM	**Lembang**		**20.93 230**	P	P	08 22 31.1	+0.5
	44nm,0.6s,baz=346,slow=16,SNR=8.6						
MTN	**Manton Dam**		**20.93 159**	P	P	08 22 30.1	-0.3
	baz=21,SNR=9.5						
MTN	**Manton Dam**		**20.93

TRTT	Trang	23.73	274	P		P	08 22 56.1	+0.8			
	69nm,1.1s										
SLVN	Son La	23.88	309	*eP*		P	08 22 57.8	+1.1			
	44nm,0.9s										
PPI	Padang Panjang	24.25	254	P		P	08 22 59.5	-0.5			
	baz=24,SNR=17										
PSI	Prapat	24.90	262	P		P	08 23 05.8	-0.1			
	110nm,0.7s,baz=79,slow=4.8,SNR=56										
PSI				PcP		PcP	08 26 19.3	-0.4			
	21nm,0.7s,baz=18,slow=1.8,SNR=6.4										
PSI				ScP		ScP	08 29 00.5	-1.0			
	24nm,0.9s,baz=122,slow=2.9,SNR=8.1										
PSI	Prapat	24.90	262	*eP*		P	08 23 05.7	-0.1			
PSI							08 26 19.3				
PSI				pmax		pmax					
	comp=Z,122nm,0.8s										
PSI	Prapat	24.90	262	P		P	08 23 05.9	0.0			
	baz=25,SNR=34										
PSI	Prapat	24.90	262	*eP*		P	08 23 05.7	-0.1			
	comp=Z,122nm,0.8s										
PSI				PcP		PcP	08 26 19.3	-0.4			
PSI				ScP		ScP	08 29 00.5	-1.0			
UTTA	Uttaradit	24.95	298	P		P	08 23 06.6	+0.5			
	comp=Z,40nm,0.7s,comp=Z,416nm										
PKDT	Phuket	25.07	274	P		P	08 23 08.2	+1.0			
	comp=Z,191nm,0.9s,comp=Z,14µm										
WHN	Wuhan	25.13	341	⇓P		P	08 23 09.5	+2.0			
WHN				sP		sP	08 25 50.8	-1.6			
WHN				S		S	08 26 51.8	+1.1			
WHN				PMZ							
	comp=Z,170nm,0.8s										
GYA	Guiyang	25.32	322	⇓*i*P		P	08 23 10.5	+1.2			
GYA				sP		sP	08 25 53.8	-0.8			
GYA				PcP		PcP	08 26 20.8	+0.4			
GYA				S		S	08 26 56.0	+2.1			
GYA				ScP		ScP	08 29 03.3	+0.9			
GYA				PcS		PcS	08 30 01.8	0.0			
GYA				ScS		ScS	08 32 50.0	-2.6			
GYA				PMZ							
	comp=Z,60nm,0.9s										
GYA				PMZ							
	comp=Z,130nm,4.8s										
NJ2	Nanjing	25.48	351	*eP*		P	08 23 13.8	+3.3			
NJ2				PMZ							
	comp=Z,100nm,0.8s										
UMPA	Umpang Tak	25.93	293	P		P	08 23 15.4	+0.6			
	comp=Z,79nm,1.0s,comp=Z,590nm										
LAMP	Lampang	26.06	299	P		P	08 23 16.8	+0.9			
	comp=Z,49nm,0.8s,comp=Z,538nm										
CRAI	Chiangrai	26.16	303	P		P	08 23 14.2	-2.5			
	comp=Z,99nm,0.9s,comp=Z,4µm										
GSI	Gunungsitoli	26.52	259	*eP*		P	08 23 18.6	-1.3			
	comp=Z,430nm,0.5s										
CM31	Chiang Mai Arr	26.64	298	*eP*		P	08 23 22.2	+1.3			
	comp=Z,73nm,0.6s										
CMAR	Chiang Mai Arr	26.64	298	P		P	08 23 22.2	+1.3			
	comp=Z,86nm,0.8s,baz=114,slow=7.2,SNR=203										
CMAR				PcP		PcP	08 26 23.9	+0.4			
	comp=Z,5.4nm,0.6s,baz=133,slow=0.3,SNR=7.4										
CMAR				ScP		ScP	08 29 05.8	-0.6			
	comp=Z,4.2nm,0.7s,baz=119,slow=1.9,SNR=7.8										
CMMT	Chiang Mai	26.77	299	P		P	08 23 22.6	+0.5			
	comp=Z,338nm,0.7s,comp=Z,3µm										
CHTO	Chiang Mai	26.78	299	P		P	08 23 22.6	+0.5			
	comp=Z,1µm,0.8s,comp=Z,10µm										
CHTO	Chiang Mai	26.78	299	*eP*		P	08 23 23.3	+1.2			
CHTO				pmax		pmax					
	comp=Z,140nm,0.6s										
CHTO	Chiang Mai	26.78	299	*eP*		P	08 23 23.3	+1.2			
	comp=Z,140nm,0.6s										
CBIJ	Chichi jima	26.80	39	P		P	08 23 22.0	-0.2			
CBIJ				S		S	08 27 12.8	-4.0			
JCJ	Chichijima	26.80	39	P		P	08 23 22.0	-0.2			
	comp=Z,28nm,0.5s,baz=219,slow=6.3,SNR=7.3										
JCJ				S		S	08 27 12.8	-4.0			
	comp=Z,97nm,0.9s,baz=285,slow=22,SNR=14										
ENH	Enshi	26.82	332	*eP*		P	08 23 23.5	+1.1			
	comp=Z,48nm,0.8s										
ENH				*e*S		S	08 27 18.1	+1.0			
KMI	Kunming	26.99	315	P		P	08 23 26.0	+1.8			
KMI				sP		sP	08 26 09.8	-2.0			
KMI				PcP		PcP	08 26 25.8	+1.2			
KMI				S		S	08 27 23.0	+2.7			
KMI				ScP		ScP	08 29 08.5	+0.9			
KMI				PMZ							
	comp=Z,120nm,0.9s										
KMI				PMZ							
	comp=Z,230nm,3.1s										
JNU	Nakatsue	27.02	14	P		P	08 23 24.0	-0.1			
	comp=Z,12nm,0.9s,baz=129,slow=3.5,SNR=7.9										
CMAI	Chiengmai2	27.15	301	P		P	08 23 26.0	+0.5			
	comp=Z,108nm,1.2s,comp=Z,2µm										
MBWA	Marble Bar	28.07	188	*eP*		P	08 23 32.7	-0.7			
	comp=Z,94nm,0.6s										
COEN	Coen	28.36	137	P		P	08 23 35.3	-0.6			
	baz=28,SNR=203										
COEN	Coen	28.36	137	*eP*		P	08 23 35.4	-0.6			
	comp=Z,196nm,0.6s										
PMG	Port Moresby	28.49	124	*eP*		P	08 23 37.2	+0.2			
PMG				pmax		pmax					
	comp=Z,159nm,0.8s										
PMG	Port Moresby	28.49	124	*eP*		P	08 23 37.2	+0.2			
	comp=Z,159nm,0.8s										
WRAB	Tennant Creek	28.63	159	P		P	08 23 37.0	-1.1			
	comp=Z,5µm,0.5s										
WRAB	Tennant Creek	28.63	159	*eP*		P	08 23 37.9	-0.2			
WRAB				pmax		pmax					
	comp=Z,450nm,0.6s										
WRAB	Tennant Creek	28.63	159	*eP*		P	08 23 37.9	-0.2			
	comp=Z,450nm,0.6s										
WRA	Warramunga Arr	28.63	159	P		P	08 23 37.5	-0.7			
	comp=Z,358nm,0.5s,baz=339,slow=9.4,SNR=389										
WRA				S		S	08 27 40.6	-4.8			
	comp=Z,23nm,0.6s,baz=327,slow=17,SNR=12										
WRA				ScP		ScP	08 29 11.6	-0.9			
	comp=Z,13nm,0.5s,baz=342,slow=3.1,SNR=14										
WRA				P3KPbc			08 55 36.1				
	comp=Z,0.6nm,0.6s,baz=154,slow=3.9,SNR=9.2										
TJN	Taejon	29.61	6	*eP*		P	08 23 47.4	+1.1			
TIA	Tai'an	29.84	349	⇓P		P	08 23 50.3	+2.0			
TIA				S		S	08 28 04.8	+1.3			
TIA				PMZ							
	comp=Z,90nm,0.9s										
XAN	Xi'an	30.29	335	P		P	08 23 52.8	+0.5			
XAN				PMZ							
	comp=Z,140nm,0.6s										
CD2	Chengdu	30.32	325	⇓P		P	08 23 53.0	+0.4			
CD2				S		S	08 28 13.3	+2.1			
CD2				SS		SS	08 31 23.5	+3.0			
CD2				PMZ							
	comp=Z,130nm,0.9s										
CD2				PMZ							
	comp=Z,120nm,6.6s										
RABL	Rabaul	30.55	110	P		P	08 23 57.1	+2.3			
	baz=31,SNR=5.9										
GIRL	Giralia	30.69	197	P		P	08 23 56.7	+0.9			
	baz=31,SNR=43										
KSAR	Wonju Array Be	30.72	7	P		P	08 23 56.7	+0.9			
KSAR							08 26 33.6				
KSAR	Wonju Array Be	30.72	7	P		P	08 23 56.7	+0.9			
KSAR				PcP		PcP	08 26 33.5	-0.1			
KSAR				ScP		ScP	08 29 18.4	-0.5			
KSRS	Korea Array	30.73	7	P		P	08 23 56.7	+0.8			
	comp=Z,12nm,0.9s,baz=183,slow=10,SNR=66										
KSRS				PcP		PcP	08 26 33.5	-0.1			
	comp=Z,6.0nm,0.8s,baz=195,slow=2.1,SNR=14										
KSRS				ScP		ScP	08 29 18.4	-0.6			
	comp=Z,3.0nm,0.9s,baz=183,slow=3.9,SNR=7.5										
KSRS	Korea Array	30.73	7	P		P	08 23 56.7	+0.8			
KSRS							08 26 33.6				
KSRS				pmax		pmax					
	comp=Z,12nm,0.9s										
KSRS				pmax		pmax					
	comp=Z,6.0nm,0.8s										
KSRS				pmax		pmax					
	comp=N,3.0nm,0.9s										
KSGAH	Ganghwa	30.84	4	P		P	08 23 58.7	+1.9			
	SNR=7.2										
KSBAR	Backryungdo	31.02	2	P		P	08 24 00.9	+2.5			
	SNR=18										
KSCHC	Chuncheon	31.04	6	P		P	08 24 00.6	+2.0			
	SNR=27										
KSDGY	Daegwallycong	31.06	8	P		P	08 24 00.8	+2.0			
	SNR=12										
KSJMJ	Jumunjin	31.26	8	P		P	08 24 02.6	+2.2			
	SNR=16										
KSIJA	INJE	31.28	7	P		P	08 24 03.2	+2.5			
	SNR=10										
KSCWO	Cheorwon	31.31	6	P		P	08 24 03.0	+2.1			
	SNR=16										
QIS	Mount Isa	31.44	150	P		P	08 24 02.6	+0.4			
	baz=32,SNR=167										
SEHB	SEOSHWA	31.58	7	P		P	08 24 05.2	+2.0			
	SNR=7.8										
KSSKC	Sokcho	31.63	7	P		P	08 24 05.8	+2.2			
	SNR=9.0										
AS31	Alice Springs	31.94	162	*eP*		P	08 24 06.8	+0.4			
AS31				*e*S		S	08 28 34.0	-2.0			
AS31				*e*ScP		ScP	08 29 23.3	-0.2			
ASAR	Alice Springs	31.94	162	P		P	08 24 06.8	+0.4			
	comp=N,176nm,0.4s,baz=342,slow=6.7,SNR=3406										
ASAR				S		S	08 28 33.8	-2.3			
	comp=N,63nm,0.8s,baz=354,slow=23,SNR=38										
ASAR				ScP		ScP	08 29 22.6	-0.9			
	comp=N,17nm,0.5s,baz=341,slow=3.3,SNR=12										
ASAR				P3KPbc			08 55 21.4				
	comp=N,0.6nm,0.9s,baz=157,slow=4.8,SNR=4.9										
DL2	Dalian	31.98	357	⇓*i*P		P	08 24 07.5	+1.0			
DL2				S		S	08 28 36.5	+0.4			
DL2				ScS		ScS	08 33 23.3	-0.3			
DL2				PMZ							
	comp=N,170nm,0.7s										
WRKA	Warakurna	32.01	172	P		P	08 24 07.3	+0.3			
	baz=32,SNR=259										
MTSU	Mount Surprise	32.15	141	P		P	08 24 08.8	+0.5			
	baz=32,SNR=6.4										
MAJO	Matsushiro	32.45	22*d*	*i*P		P	08 24 09.9	-0.6			
MAJO				pmax		pmax					
	comp=Z,142nm,1.0s										
MAJO	Matsushiro	32.45	22	*eP*		P	08 24 10.0	-0.6			
	comp=Z,25nm,0.8s										
MAT	Matsushiro	32.45	22	P		P	08 24 09.9	-0.6			
MJAR	Matsushiro Arr	32.45	22	P		P	08 24 09.9	-0.6			
	comp=Z,24nm,0.8s,baz=198,slow=9.8,SNR=87										
MJAR				PcP		PcP	08 26 38.6	0.0			
	comp=Z,5.4nm,0.7s,baz=190,slow=3.6,SNR=11										
MJAR				ScP		ScP	08 29 24.3	-0.7			
	comp=Z,2.8nm,0.9s,baz=197,slow=5.1,SNR=4.7										
MEEK	Meekatharra	33.62	188	P		P	08 24 20.3	-0.2			
	baz=34,SNR=146										
BJT	Baijiatuan	33.71	350	*eP*		P	08 24 21.6	+0.6			
BJT				pmax		pmax					
	comp=Z,195nm,1.2s										
BJT	Baijiatuan	33.71	350	*eP*		P	08 24 21.6	+0.6			
	comp=Z,195nm,1.2s										
BJI	Beijing	33.73	350	P		P	08 24 21.5	+0.3			
BJI				pP		pP	08 25 58.5	-2.2			
BJI				PcP		PcP	08 26 43.0	+0.9			
BJI				sP		sP	08 27 08.8	-2.9			
BJI				S		S	08 29 02.5	0.0			
BJI				ScS		ScS	08 33 32.5	-0.3			
BJI				PMZ							
	comp=Z,130nm,0.9s										
LZH	Lanzhou	34.28	331	⇓P		P	08 24 28.0	+2.0			
LZH				sP		sP	08 27 15.5	-1.4			
LZH				*e*S		S	08 29 13.3	+2.0			
LZH				ScP		ScP	08 29 32.0	+0.3			
LZH				sS		sS	08 32 17.0	0.0			
LZH				PMZ							
	comp=Z,150nm,1.0s										
LZH				PMZ							
	comp=Z,450nm,4.0s										
CTA	Charters Tower	34.82	141	P		P	08 24 31.8	+1.2			
	comp=Z,99nm,0.6s,baz=318,slow=10,SNR=126										
CTA				ScP		ScP	08 29 33.1	-0.7			
	comp=Z,19nm,0.9s,baz=279,slow=4.4,SNR=6.5										
CTAO	Charters Tower	34.82	141	*eP*		P	08 24 31.3	+0.7			
CTAO				pmax		pmax					
	comp=Z,125nm,0.7s										
CTAO	Charters Tower	34.82	141	*eP*		P	08 24 31.3	+0.7			
	comp=Z,125nm,0.7s										
CTAO				*e*ScP		ScP	08 29 34.1	+0.3			
SNY	Shenyang	34.85	360	⇓P		P	08 24 31.0	+0.6			
SNY				S		S	08 29 18.5	-0.7			
SNY				PMZ							
	comp=Z,66nm,0.6s										
SNY				PMZ							
	comp=Z,260nm,3.5s										
HHC	Hu-ho-hao-te	35.54	344	*eP*		P	08 24 37.5	+1.2			
HHC				PP		pP	08 26 19.3	+2.2			
HHC				S		S	08 29 33.8	+4.0			
HHC				sS		sS	08 32 34.3	-2.2			
HHC				SS		SS	08 32 39.8	-7.4			
HHC				ScS		ScS	08 33 44.5	+1.5			
HHC				PMZ							
	comp=Z,91nm,1.1s										
HHC				PMZ							
	comp=Z,81nm,5.2s										
SHL	Shillong	35.54	305	*i* P		P	08 24 37.0	+0.3			
SHL				AMB		AMB	08 24 38.0				
	comp=Z,340nm,0.6s										
SHL				*ex*		x	08 29 38.0				
MSHR	Mys Shultsa	36.22	9	*i* P		P	08 24 43.1	+1.3			
MORW	Morawa	36.43	191	P		P	08 24 43.5	-0.1			
	baz=36,SNR=60										
CN2	Changchun	36.86	2	*eP*		P	08 24 46.5	-0.4			
CN2				*ep*P		pP	08 26 28.3	-0.3			
CN2				*e*S		S	08 29 51.8	+2.7			
CN2				SS		SS	08 33 01.3	-7.4			
CN2				PMZ							
	comp=Z,10.0nm,0.7s										
CN2				PMZ							
	comp=Z,200nm,4.0s										
VLA	Vladivostok	36.87	10*d*	*i*P		P	08 24 48.0	+1.0			
VLA				pmax		pmax					
	comp=Z,30nm,0.8s										
FORT	Forrest	37.64	174	P		P	08 24 53.9	+0.4			
	baz=38,SNR=317										
FORT	Forrest	37.64	174	*eP*		P	08 24 53.9	+0.4			
	comp=Z,560nm,0.6s										
BLDU	Ballidu	37.81	190	P		P	08 24 54.6	-0.3			
	baz=38,SNR=24										
USRK	Ussuriysk Ar.	37.94	10	P		P	08 24 56.6	+0.9			
	comp=Z,14nm,0.8s,baz=197,slow=8.1,SNR=53										
USRK				PcP		PcP	08 26 54.5	-0.3			
	comp=Z,4.8nm,0.6s,baz=172,slow=2.4,SNR=7.5										
MDJ	Mudanjiang	38.00	7	P		P	08 24 57.3	+1.1			
MDJ				PP		PP	08 26 45.3	+1.6			
MDJ				PcP		PcP	08 26 55.5	+0.5			
MDJ				sP		sP	08 27 48.8	-0.2			
MDJ				S		S	08 30 09.0	+3.2			
MDJ				PMZ							
	comp=Z,40nm,1.2s										
MDJ				PMZ							
	comp=Z,57nm,4.8s										
MDJ	Mudanjiang	38.00	7	*eP*		P	08 24 57.0	+0.8			
	comp=Z,43nm,1.1s										
KMBL	Kambalda	38.02	182	P		P	08 24 56.6	0.0			
	baz=38,SNR=266										
LSA	Lhasa	38.06	311	P		P	08 24 59.0	+1.5			
LSA				PMZ							
	comp=Z,170nm,0.7s										
LSA	Lhasa	38.06	311	*eP*		P	08 24 59.2	+1.7			
LSA				*e*			08 26 56.6				
LSA				*e*S		S	08 30 09.2	+1.0			
LSA				pmax		pmax					
	comp=Z,108nm,0.6s										
LSA	Lhasa	38.06	311	*eP*		P	08 24 59.2	+1.7			
	comp=Z,108nm,0.6s										
LSA				*ep*PcP		PcP	08 26 56.6	+0.5			
LSA				*e*S		S	08 30 09.2	+1.0			
KLBR	Kellerberrin	38.61	188	P		P	08 25 01.1	-0.2			
	baz=39,SNR=76										
QLP	Quilpie	38.78	150	P		P	08 25 03.2	+0.4			
	baz=39,SNR=65										
GTA	Gaotai	38.86	330	⇓P		P	08 25 04.8	+1.4			
GTA				pP		pP	08 26 48.0	+1.4			
GTA				sP		sP	08 27 54.0	-2.6			
GTA				ScP		ScP	08 29 49.0	+0.2			
GTA				S		S	08 30 21.0	+2.1			
GTA				sS		sS	08 33 26.0	-2.7			
GTA				SS		SS	08 33 36.0	-5.8			
GTA				PMZ							
	comp=Z,130nm,0.9s										
GTA				PMZ							
	comp=Z,90nm,7.8s										
ERM	Erimo	39.10	23	P		P	08 25 06.1	+1.1			
	comp=Z,136nm,0.9s,SNR=6.2										
ERM	Erimo	39.10	23	*eP*		P	08 25 06.3	+1.3			
ERM				pmax		pmax					
	comp=Z,18nm,0.9s										
ERM	Erimo	39.10	23	*eP*		P	08 25 05.5	+0.4			
	comp=Z,15nm,0.8s										
ERM				*e*ScP		ScP	08 29 44.9	-4.6			
TAPN	Taplejung	39.68	305	*eP*		P	08 25 11.0	+0.6			
	comp=Z,324nm,0.7s										
ODAN	Odare	39.74	304	*eP*		P	08 25 11.5	+0.7			
	comp=Z,440nm,0.7s										
NWAO	Narrogin (SRO)	40.00	188	P		P	08 25 12.5	+0.2			
	comp=Z,109nm,0.6s,baz=328,slow=4.9,SNR=106										
NWAO	Narrogin (SRO)	40.00	188	P		P	08 25 12.6	+0.2			
	baz=40,SNR=80										
NWAO				P		P	08 25 12.6	+0.2			
	baz=40,SNR=80										
CHLP	Challavanipeta	40.18	291	*eP*		P	08 25 14.5	+0.4			
CHLP				IAmb		IAmb	08 25 16.0				
	comp=Z,122nm,1.0s										
RAMN	Ramite	40.43	304	*eP*		P	08 25 16.5	+0.3			
	comp=Z,365nm,0.7s										
ASAJ	Asahikawa	40.69	21	*eP*		P	08 25 18.8	+1.1			
VIS	Vishakhapatnam	40.72	289	*eP*		P	08 25 19.3	+1.0			
RMQ	Roma	41.14	145	P		P	08 25 22.3	+0.7			
	baz=41,SNR=21										
BBOO	Buckleboo	41.17	164	P		P	08 25 22.1	+0.5			
	baz=41,SNR=534										
BBOO	Buckleboo	41.17	164	*eP*		P	08 25 22.0	+0.3			
	comp=Z,352nm,0.8s										
GUN	Gumba	41.39	305	*eP*		P	08 25 24.5	+0.5			
	comp=Z,351nm,0.6s										
PKI	Pulchoki	41.65	304	*eP*		P	08 25 26.1	+0.2			
	comp=Z,62nm,0.5s										
PKIN	Phulchoki	41.66	304	*eP*		P	08 25 26.0	+0.1			
	comp=Z,99nm,0.7s										
RKGY	Rocky Gully	41.69	188	P		P	08 25 26.5	+0.8			
	baz=42,SNR=62										
EIDS	Eidsvold	41.71	141	P		P	08 25 26.3	+0.3			
	baz=42,SNR=58										
EIDS	Eidsvold	41.71	141	*eP*		P	08 25 26.3	+0.3			
	comp=Z,132nm,0.8s										
KKN	Kakani	41.84	305	*eP*		P	08 25 27.6	+0.3			
	comp=Z,176nm,0.6s										
YUK	Yuzh-Kuril'sk	41.87	24	P		P	08 25 28.1	+1.2			
YUK				*i* *PP		pP	08 27 10.4	-2.0			
YUK				*i*			08 27 20.1				
YUK				S		S	08 31 05.3	+3.4			
YUK				pmax		pmax					
	comp=Z,72nm,2.5s										
DMN	Daman	41.91	304	*eP*		P	08 25 28.2	+0.3			
	comp=Z,327nm,1.1s										
STKA	Stephens Creek	42.15	157	P		P	08 25 30.1	+0.7			
	comp=Z,188nm,0.6s,baz=333,slow=7.5,SNR=763										
STKA				ScP		ScP	08 30 01.2	-0.6			
	comp=Z,21nm,0.8s,baz=322,slow=5.6,SNR=7.2										
STKA	Stephens Creek	42.15	157	P		P	08 25 30.1	+0.7			
STKA				pmax		pmax					
	comp=Z,188nm,0.6s										
STKA				pmax		pmax					
	comp=N,21nm,0.8s										
PVM	Polavaram	42.24	288	*eP*		P	08 25 30.3	0.0			
PVM				IAmb		IAmb	08 25 31.5				
	comp=Z,80nm,0.7s										
HIA	Hailar	42.41	356	*eP*		P	08 25 31.8	+0.6			
HIA				*e*			08 27 09.6				
HIA				pmax		pmax					
	comp=Z,163nm,1.3s										
HIA	Hailar	42.41	356	*eP*		P	08 25 31.8	+0.6			
	comp=Z,163nm,1.3s										
HIA				*e*PcP		PcP	08 27 09.6	+0.1			
HIA				*e*ScP		ScP	08 30 03.4	+0.8			
GKN	Gorkha	42.44	305	*eP*		P	08 25 32.1	+0.2			
	comp=Z,97nm,0.5s										
PALK	Pallekele	42.56	273	P		P	08 25 33.0	+0.1			
	comp=Z,308nm,0.5s,SNR=7.2										
PALK	Pallekele	42.56	273	P		P	08 25 33.3	+0.5			
	comp=Z,25nm,0.5s,baz=90,slow=6.3,SNR=21										
PALK				ScP		ScP	08 30 02.6	-1.4			
	comp=Z,17nm,0.7s,baz=38,slow=3.2,SNR=7.6										
PALK	Pallekele	42.56	273	*eP*		P	08 25 33.4	+0.5			
PALK				pmax		pmax					
	comp=Z,76nm,1.2s										
PALK	Pallekele	42.56	273	*eP*		P	08 25 33.4	+0.5			
	comp=Z,76nm,1.2s										
PALK				ScP		ScP	08 30 02.6	-1.4			
HTT	Hallett	42.60	161	P		P	08 25 33.7	+0.8			
	baz=43,SNR=146										
HABR	Khabarovsk	42.62	11	*eP*		P	08 25 31.7	-1.0			
HABR				*e*			08 27 08.8				
HABR				*e**PP		pP	08 27 16.7	-2.1			
HABR				*e*			08 27 24.5				
HABR				*e**SP		sP	08 28 25.5	-2.4			
HABR				*e*S		S	08 31 12.7	+0.3			
HABR				*e*			08 34 23.9				
HABR				*e**SS		sS	08 34 25.7	-0.3			
HABR				*e*SS		SS	08 34 44.0	+1.8			
HABR				pmax		pmax					
	comp=E,28nm,1.1s										
HABR				pmax		pmax					
	comp=Z,97nm,2.2s										
HABR				pmax		pmax					
	comp=N,14nm,0.9s										
HABR				MLR		MLR					
	comp=Z,49nm,17.0s										
KLR	Kul'dur	42.81	8	*eP*		P	08 25 30.3	-3

baz=46,SNR=108
ARMA Armidale 45.77 145 *e*P P 08 25 59.2 +1.9
comp=Z,178nm,0.8s
CIT Chita 45.80 351 *e*P P 08 25 58.6 +1.5
CIT pmax pmax
comp=Z,198nm,1.5s
URV Uravakonda 46.13 284 *e*P P 08 25 59.3 -0.9
URV lAmb lAmb 08 26 01.0
comp=Z,79nm,0.8s
LGTI Lohaghat 46.56 304 *e*P P 08 26 04.1 +0.9
ZAK Zakamensk 46.61 342⇑*i*P P 08 26 03.4 +0.1
ZAK *e* 08 27 22.8
ZAK pmax pmax
comp=Z,22nm,1.1s
ARPS Mount Arapiles 46.62 160 P P 08 26 03.9 +0.5
baz=47,SNR=152
KLRI Killari 47.10 288 *e*P P 08 26 06.6 -0.9
KLRI lAmb lAmb 08 26 08.1
comp=Z,232nm,0.7s
YNG Young 47.16 152 P P 08 26 08.9 +1.3
baz=47,SNR=7.9
BHPL Bhopal 47.24 295 *e*P P 08 26 08.6 +0.1
JOSI Joshimath 47.50 306 *e*P P 08 26 08.1 -2.4
JOSI AMB AMB 08 26 09.9
comp=Z,1μm,1.1s
TLY Talaya 47.65 343 P P 08 26 12.4 +1.4
comp=Z,77nm,0.7s,baz=170,slow=5.8,SNR=150
TLY Talaya 47.65 343 *e*P P 08 26 12.4 +1.4
TLY pmax pmax
comp=Z,142nm,1.0s
TLY Talaya 47.65 343 P P 08 26 12.6 +1.6
comp=Z,857nm,0.7s,SNR=59
TLY Talaya 47.65 343 *e*P P 08 26 12.3 +1.4
comp=Z,96nm,0.8s
TLY *e*PcP PcP 08 27 28.2 +0.2
AGRA Agra 47.79 301 *e*P P 08 26 11.9 -0.5
AGRA AMB AMB 08 26 12.7
comp=Z,172nm,0.7s
IRK Irkutsk 47.98 344 *e*P P 08 26 11.4 -2.0
IRK *e* 08 28 11.0
IRK pmax pmax
comp=Z,99nm,1.4s
NKL Nikolayevsk 48.24 14 *e*P P 08 26 14.0 -1.2
NKL pmax pmax
comp=Z,43nm,1.0s
CAN Canberra 48.28 152 *e*P P 08 26 17.3 +1.4
CAN pmax pmax
comp=Z,107nm,0.8s
CAN Canberra 48.28 152 *e*P P 08 26 17.3 +1.4
comp=Z,107nm,0.8s
CAN *e*ScP ScP 08 30 27.4 0.0
WMQ Urumqi 48.41 325 P P 08 26 18.5 +1.7
WMQ PcP PcP 08 27 31.0 0.0
WMQ pP pP 08 28 07.8 +0.5
WMQ PMZ
comp=Z,200nm,0.9s
WMQ PMZ
comp=Z,430nm,3.8s
MOY Mondy 48.44 341 *e*P P 08 26 18.2 +1.3
MOY pmax pmax
comp=Z,132nm,1.6s
CNB Canberra Magne 48.45 152 P P 08 26 18.4 +1.2
baz=48,SNR=68
BISR Bishrakh 48.61 302 *e*P P 08 26 17.5 -0.9
BISR AMB AMB 08 26 19.0
comp=Z,752nm,0.6s
DDI Dehra Dun 48.64 305 *ex* P 08 26 17.5 -1.3
DDI *e*P P 08 26 19.4 +0.6
DDI AMB AMB 08 26 20.1
comp=Z,231nm,1.1s
TOO Toolangi 48.68 157 P P 08 26 20.0 +1.2
baz=49,SNR=96
NDI New Delhi 48.83 302 *e*P P 08 26 18.0 -2.1
AYAN Aya Nagar 48.84 302 *e*P P 08 26 19.3 -0.8
BHGR Bahadurgarh 49.06 302 *e*P P 08 26 21.1 -0.6
BHGR AMB AMB 08 26 21.9
comp=Z,235nm,0.7s
KUDL Kundal 49.28 301 *e*P P 08 26 22.9 -0.5
KUDL AMB AMB 08 26 23.7
comp=Z,201nm,0.9s
GOA Goa 49.48 284 *e*P P 08 26 24.4 -0.6
KKR Kurukshetra 49.54 304 *e*P P 08 26 25.5 +0.2
KKR AMB AMB 08 26 26.5
comp=Z,209nm,0.7s
RTK Rohtak 49.60 302 *e*P P 08 26 27.6 +1.8
RTK AMB AMB 08 26 28.1
comp=Z,332nm,0.6s
SMLA Simla 49.63 305 *e*P P 08 26 26.5 +0.6
SMLA AMB AMB 08 26 27.5
comp=Z,270nm,1.2s
SMLA *i* x x 08 32 54.3
POO Poona 49.75 288⇓*i*P P 08 26 26.0 -1.0
comp=Z,310nm,1.0s
POO *e*P P 08 26 26.4 -0.6
POO AMB AMB 08 26 27.6
comp=Z,113nm,0.7s
MILA Mila 49.78 153 P P 08 26 28.1 +1.2
baz=50,SNR=21
KHET Khetri 49.84 301 *e*P P 08 26 27.5 0.0
KHET AMB AMB 08 26 28.8
comp=Z,160nm,0.9s
CLNS Chul'man 49.88 1 *e*P P 08 26 26.0 -1.3
CLNS pmax pmax
comp=Z,48nm,0.9s
CLNS pmax pmax
comp=E,14nm,0.9s
CLNS pmax pmax
comp=N,25nm,0.9s
SDNR Sundarnagar 49.91 306 *e*P P 08 26 27.0 -1.0
DHRM DHARAMSHALA 50.70 306 *e*P P 08 26 34.2 +0.3
DHRM AMB AMB 08 26 34.9
comp=Z,381nm,1.1s
DZM Mont Dzumac 50.87 126 P P 08 26 36.6 +1.5
comp=Z,39nm,0.6s,baz=90,slow=24,SNR=58
DZM Mont Dzumac 50.87 126 *e*P P 08 26 36.1 +1.0
comp=Z,46nm,0.6s
LHI Lord Howe Isla 51.01 140 P P 08 26 37.5 +1.6
baz=51,SNR=6.2
DLH Dalhousie 51.06 307 *e*P P 08 26 35.0 -1.5
BOD Bodaibo 51.40 353⇑*i*P P 08 26 38.7 +0.5
BOD pmax pmax
comp=Z,53nm,0.8s
SKR Severo-Kuril's 51.40 26 *e*P P 08 26 39.5 +1.2
MK31 Makanchi Array 53.24 326 *e*P P 08 26 52.6 +1.0
MK31 *e* 08 27 49.0
MK31 Makanchi Array 53.24 326 *e*P P 08 26 52.6 +1.0
MK31 *e*PcP PcP 08 27 49.0 -0.1
MK31 *e*ScP ScP 08 30 47.7 -1.0
MKAR Makanchi Array 53.24 326 P P 08 26 52.5 +0.9
comp=Z,141nm,0.5s,baz=122,slow=8.5,SNR=1592
MKAR PcP PcP 08 27 48.8 -0.3
comp=Z,26nm,0.7s,baz=115,slow=4.6,SNR=7.0
MKAR ScP ScP 08 30 46.7 -2.0
comp=Z,10.0nm,0.6s,baz=126,slow=5.1,SNR=12
MKAR S S 08 33 37.3 -0.6
comp=Z,2.7nm,1.0s,baz=123,slow=13,SNR=4.7
KSH Kashi 53.66 315⇓*i*P P 08 26 56.8 +2.0
KSH PcP PcP 08 27 54.3 +3.3
KSH pP pP 08 28 51.0 +2.1
KSH PP PP 08 29 11.3 +6.2
KSH S S 08 33 41.5 -2.3
KSH ScS ScS 08 35 43.0 +2.4
KSH sS sS 08 37 09.3 +0.2
KSH SS SS 08 37 44.0 +6.7
KSH PMZ
comp=Z,380nm,1.3s
JASL Jaisalmer 53.80 298 *e*P P 08 26 55.8 -0.1
PETK Petropavlovsk- 53.84 25 P P 08 26 56.7 +1.1
comp=Z,21nm,0.7s,baz=199,slow=6.7,SNR=23
PETK PcP PcP 08 27 51.3 +0.1
comp=Z,4.3nm,0.6s,baz=190,slow=1.4,SNR=4.1
TAU Tasmania Unive 54.01 159 P P 08 26 58.2 +1.3
comp=Z,341nm,0.7s,SNR=7.2
TAU Tasmania Unive 54.01 159 *e*P P 08 26 57.8 +0.9
TAU pmax pmax
comp=Z,34nm,0.6s
TAU Tasmania Unive 54.01 159 *e*P P 08 26 57.8 +0.9
comp=Z,34nm,0.6s
PET Petropavlovsk 54.18 25 *i*P P 08 26 59.4 +1.4
PET pmax pmax
comp=Z,73nm,1.5s
BHJ Bhuj 54.27 294 *e*P P 08 26 59.4 +0.2
BHJ AMB AMB 08 27 00.7
comp=Z,267nm,1.1s
ULHL Ulahol 54.64 318 P P 08 27 02.7 +1.0
SNR=46
KRAR Krasnoyarsk 54.75 339⇑*i*P P 08 27 02.7 +0.8
KRAR pmax pmax
comp=Z,40nm,1.7s
KZA Kyzart 55.23 317 P P 08 27 07.6 +1.6
SNR=14
YAK Yakutsk 55.27 3 P P 08 27 05.6 +0.3
comp=Z,9.2nm,0.6s,baz=187,slow=22,SNR=14
YAK Yakutsk 55.27 3*d*/P P 08 27 05.6 +0.3
YAK *e* 08 27 54.4
YAK *e**PP pP 08 28 57.7 -2.9
YAK *e* 08 29 17.4
YAK *e*S S 08 34 02.7 -0.9
YAK *e* 08 35 48.5
YAK *e*SS SS 08 38 01.3 -0.1
YAK pmax pmax
comp=Z,98nm,0.8s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=N,41nm,1.2s
YAK pmax pmax
comp=Z,11nm,1.0s
YAK smax smax
comp=E,50nm,1.6s
YAK smax smax
comp=N,52nm,1.4s
YAK Yakutsk 55.27 3 *e*P P 08 27 05.6 +0.3
comp=N,135nm,0.8s
YAK *e*PcP PcP 08 27 56.6 +0.1
TKM2 Tokmak 2 55.37 318 P P 08 27 07.8 +1.0
SNR=110
TKM2 Tokmak 2 55.37 318 *e*P P 08 27 07.6 +0.9
TKM2 pmax pmax
comp=Z,126nm,0.8s
TKM2 Tokmak 2 55.37 318 *e*P P 08 27 07.6 +0.9
comp=Z,126nm,0.8s
SFK Sufi-Kurgan 55.60 314 P P 08 27 09.6 +1.2
SFK pmax pmax
comp=Z,107nm,0.6s
KBK Karagaybulak 55.68 318 P P 08 27 10.1 +1.2
SNR=29
CHMS Chumysh 55.96 318 P P 08 27 11.3 +0.7
SNR=32
AAK Ala-Archa 55.98 318 P P 08 27 12.1 +1.1
SNR=24
AAK Ala-Archa 55.98 318 P P 08 27 12.0 +1.1
AAK pmax pmax
comp=Z,49nm,0.8s
FRU Bishkek 55.98 318 *e*P P 08 27 11.0 +0.3
FRU pmax pmax
comp=Z,80nm,1.2s
USP Ospenovka 56.24 318 P P 08 27 13.3 +0.8
SNR=11
AML Almayashu 56.31 317 P P 08 27 14.8 +1.4
SNR=59
ZAA0 Zalesovo Array 56.43 334 *e*P P 08 27 13.2 -0.3
ZALV Zalesovo Beam 56.43 334 P P 08 27 13.2 -0.4
comp=Z,61nm,0.8s,baz=125,slow=5.8,SNR=165
ZALV S S 08 34 17.6 -1.3
comp=Z,1.2nm,0.4s,baz=132,slow=12,SNR=5.4
EKS2 Erkin-Say 56.47 317 P P 08 27 15.5 +1.3
SNR=102
EKS2 Erkin-Say 56.47 317 *e*P P 08 27 15.5 +1.3
EKS2 pmax pmax
comp=Z,131nm,0.8s
EKS2 Erkin-Say 56.47 317 *e*P P 08 27 15.5 +1.3
comp=Z,131nm,0.8s
MA2 Magadan 56.54 16 *i*P P 08 27 15.6 +1.4
KBL Kabul 57.17 307 *e*P P 08 27 19.4 +0.1
KBL pmax pmax
comp=Z,141nm,0.7s
KBL Kabul 57.17 307 *e*P P 08 27 19.4 +0.1
comp=Z,141nm,0.7s
KURBB Kurchatov Arra 57.46 328 P P 08 27 21.0 +0.4
comp=Z,221nm,0.7s,baz=128,slow=6.2,SNR=1714
KURK Kurchatov 57.47 328 P P 08 27 21.3 +0.7
comp=Z,4μm,0.6s
KURK Kurchatov 57.47 328 P P 08 27 21.0 +0.4
KURK *e* 08 28 07.8 -4.2
KURK *e**PP pP 08 29 20.0 +2.7
KURK Kurchatov 57.47 328 P P 08 27 21.0 +0.4
KURK *e*PcP PcP 08 28 07.8 +2.2
KURK *e*pP pP 08 29 20.0 +2.7
NVS Novosibirsk 57.72 334⇓*i*P P 08 27 21.9 -0.3
NVS *i*S S 08 34 34.0 -1.2
NVS pmax pmax
comp=N,56nm,0.9s
NVS pmax pmax
comp=Z,107nm,0.9s
NVS pmax pmax
comp=E,76nm,1.0s
NVS smax smax
comp=E,39nm,1.7s
NVS smax smax
comp=N,23nm,1.6s
DZET Dzherino 58.58 312 P P 08 27 28.9 +0.4
DZET pmax pmax
comp=Z,169nm,0.6s
KK31 Karatay Array 58.85 317 *i*P P 08 27 30.3 +0.2
KK31 pmax pmax
comp=Z,94nm,0.7s
KKAR Karatay Array 58.85 317 *e*P P 08 27 30.4 +0.2
KKAR pmax pmax
comp=Z,101nm,0.7s
KKAR Karatay Array 58.85 317 *e*P P 08 27 30.4 +0.2
comp=Z,101nm,0.7s
MSVF Nonsavu 59.04 115 P P 08 27 34.3 +2.3
comp=Z,257nm,0.9s,SNR=5.3
MSVF Nonsavu 59.04 115 *e*P P 08 27 34.2 +2.3
MSVF pmax pmax
comp=Z,50nm,1.0s
MSVF Nonsavu 59.04 115 *e*P P 08 27 34.1 +2.3
comp=Z,50nm,1.0s
SEY Seymchan 59.79 15 P P 08 27 37.5 +1.6
comp=Z,18nm,0.9s,baz=227,slow=6.9,SNR=30
SEY Seymchan 59.79 15*d*/P P 08 27 37.4 +1.5
BVA0 Borovoye Array 63.04 327 *i*P P 08 27 57.2 0.0
BVA0 pmax pmax
comp=Z,161nm,1.0s
BVAR Borovoye Array 63.04 327 P P 08 27 57.5 +0.2
comp=Z,72nm,0.8s,baz=134,slow=8.4,SNR=283
BVAR S S 08 35 40.3 -0.9
comp=Z,0.9nm,0.8s,baz=130,slow=14,SNR=4.6
BRVK Borovoye 63.11 327 P P 08 27 58.2 +0.5
comp=Z,981nm,1.0s,SNR=65
BRVK Borovoye 63.11 327 *e*P P 08 27 58.1 +0.4
BRVK pmax pmax
comp=Z,141nm,0.9s
BRVK Borovoye 63.11 327 *e*P P 08 27 58.1 +0.4
comp=Z,141nm,0.9s
IDAH Dahanechah 64.27 303 *e*P P 08 28 07.0 +1.1
IMYA Miami 64.69 307 *e*P P 08 28 08.6 +0.3
IKOO Kooshah 64.95 303 *e*P P 08 28 10.9 +0.8
ISRO Mashad 65.18 307 *e*P P 08 28 11.1 -0.2
IMOG Moghan 65.25 307 *e*P P 08 28 11.4 -0.5
IAKL Akhelmad 65.80 307 *e*P P 08 28 15.9 +0.6
IKRD Kardeh 66.02 307 *e*P P 08 28 12.8 -3.9
RPZ Rata Peaks 66.08 144 P P 08 28 16.7 +0.2
comp=Z,57nm,0.6s,baz=295,slow=1.4,SNR=54
ISFR Sfrayin 66.47 307 *e*P P 08 28 20.4 +0.9
ABKT Ailbek 66.53 308 P P 08 28 20.1 +0.6
comp=Z,550nm,0.9s,SNR=19
GEYT Alibeck 66.53 308 P P 08 28 20.4 +0.9
comp=Z,58nm,0.8s,baz=131,slow=4.1,SNR=93
HATD Hatta, Dubai 66.72 294⇑*i*P P 08 28 20.7 -0.3
SNR=9.1
ISHV Shirvan 66.79 308 *e*P P 08 28 22.4 +1.1
KHZ Kahutara 66.81 142 *e*P P 08 28 20.8 -0.2
comp=Z,17nm,0.5s
SNZO South Karori 66.93 140 *e*P P 08 28 21.2 -0.5
comp=Z,62nm,0.7s
URZ Urewera 66.93 137 P P 08 28 22.1 +0.3
comp=Z,26nm,0.8s,baz=277,slow=4.0,SNR=22
URZ Urewera 66.93 137 P P 08 28 22.1 +0.3
comp=Z,10nm,0.8s
NAZ Nazwa, Dubai 67.16 294⇑*i*P P 08 28 23.0 -0.6
SNR=6.5
FAQ Al Faqa, Dubai 67.21 294⇓*i*P P 08 28 23.2 -0.6
SNR=8.0
BILL Bilibino 67.41 16*c i*P P 08 28 24.9 +0.7
BILL *e**PP pP 08 30 27.1 +0.5
BILL pmax pmax
comp=Z,14nm,1.0s
ASUD Al Ashush, Dub 67.44 294⇑*i*P P 08 28 25.3 0.0
SNR=12
AB31 Akbulak array 67.79 321 *i*P P 08 28 26.9 0.0
AB31 pmax pmax
comp=Z,110nm,0.9s
ABKAR Akbulak array 67.79 321 *e*P P 08 28 27.0 +0.1
comp=Z,54nm,0.6s
IMEH Mehriz 68.54 301 *e*P P 08 28 31.0 -1.2
ICHK Chekchek 68.79 302 *e*P P 08 28 33.2 -0.4
AKTO Aktyubinsk 69.30 322 P P 08 28 36.1 +0.1
comp=Z,75nm,0.7s,baz=100,slow=7.6,SNR=235
ISAD Sadrabad 69.37 301 *e*P P 08 28 36.4 -0.8
ISAD *e*P P 08 28 37.0 -0.1
ISRV Sarvestan 69.68 299 *e*P P 08 28 38.4 -0.7
SVE Sverdlovsk 69.70 329*c i*P P 08 28 38.3 +0.1
SVE pmax pmax
comp=Z,105nm,0.8s
IGLO Ghaloghah 69.71 306 *e*P P 08 28 39.2 +0.2
IPAR Pars 69.77 299 *e*P P 08 28 39.6 0.0
IKIA Kiasar 69.80 306 *e*P P 08 28 39.3 -0.3
IFIR Firoozkooh 70.49 305 *e*P P 08 28 43.9 +0.2
ARU Arti 70.66 328 P P 08 28 43.4 -0.5
baz=101,slow=4.8
ARU Arti 70.66 328*d*/P P 08 28 43.3 -0.6
ARU S S 08 37 09.6 -0.4
ARU pmax pmax
comp=Z,108nm,1.0s
ARU Arti 70.66 328 P P 08 28 43.0 -0.9
comp=Z,781nm,0.6s,SNR=40
IKAZ Kazeroun 70.81 299 *e*P P 08 28 45.6 -0.2
RAYN Ar Rayn 76.41 292 P P 08 29 16.0 -1.2
comp=Z,584nm,0.8s,SNR=27
RAYN Ar Rayn 76.41 292 *e*P P 08 29 16.8 -0.4
comp=Z,74nm,0.8s
DGRG David-gareji 76.68 311 P P 08 29 19.4 +1.1
DGRG David-gareji 76.68 311 *e*P P 08 29 19.4 +1.1
GNI Garni 77.11 310 P P 08 29 21.4 +0.6
comp=Z,9.0nm,0.6s,baz=150,slow=3.4,SNR=8.9
GNI Garni 77.11 310*d*/P P 08 29 21.5 +0.7
GNI pmax pmax
comp=Z,73nm,1.5s
GNI Garni 77.11 310 *i*P P 08 29 22.7 +1.9
SNR=5.5
GNI Garni 77.11 310 *e*P P 08 29 21.1 +0.3
comp=Z,26nm,0.9s
SEAG Tbilisi Sea 77.12 311 P P 08 29 18.3 -2.4
TBLG Delisi 77.17 311 P P 08 29 21.2 +0.3
TBLG Delisi 77.17 311 P P 08 29 21.2 +0.3
CHGN Chignik 77.69 34 *e*P P 08 29 23.5 +0.2
AKH Akhalkalaki 78.10 311 P P 08 29 26.9 +0.7
AKH Akhalkalaki 78.10 311 *e*P P 08 29 26.8 +0.7
AKH Akhalkalaki 78.10 311⇑*i*P P 08 29 27.5 +1.4
ONI Oni 78.16 312 P P 08 29 27.0 +0.8
ONI Oni 78.16 312 *e*P P 08 29 27.0 +0.8
PRGR Permogore 78.31 332⇓*i*P P 08 29 26.1 -0.4
PRGR pmax pmax
comp=Z,93nm,0.7s
GOF Gofitskoye 78.53 314 *e*P P 08 29 27.8 -0.3
GOF pmax pmax
comp=Z,30nm,1.4s
KBZ Khabaz 78.59 313 P P 08 29 28.4 0.0
comp=Z,12nm,0.8s,baz=97,slow=3.2,SNR=14
NEY Neytrino 78.71 313 *e*P P 08 29 30.3 +1.0
KIV Kislovodsk 78.75 313*d*/P P 08 29 29.1 -0.3
KIV pmax pmax
comp=Z,67nm,1.6s
KIV Kislovodsk 78.75 313 *e*P P 08 29 29.4 0.0
comp=Z,15nm,0.6s
CHVG Ch'k'valeri 79.17 312 P P 08 29 30.6 -0.9
CHVG Ch'k'valeri 79.17 312⇑*i*P P 08 29 32.2 +0.7
OPO Ambohidratompo 79.40 250 P P 08 29 32.8 -0.5
comp=Z,14nm,0.5s,baz=83,slow=4.7,SNR=23
ABPO Ambohimpanom 79.45 249 *e*P P 08 29 32.8 -0.8
ABPO pmax pmax
comp=Z,26nm,0.9s
ABPO Ambohimpanom 79.45 249 *e*P P 08 29 32.8 -0.8
comp=Z,26nm,0.9s
OHAK Old Harbor 80.57 33 *e*P P 08 29 38.9 +0.5
comp=Z,43nm,0.9s
IM04 Indian Mountai 80.79 24 *e*P P 08 29 40.5 +1.1
RSO Redoubt South 80.96 30 *e*P P 08 29 40.8 +0.1
comp=Z,47nm,0.8s
KDAK Kodiak Island 80.97 33 P P 08 29 41.3 +0.9
comp=Z,417nm,0.7s,SNR=13
KDAK Kodiak Island 80.97 33 P P 08 29 41.5 +1.1
comp=Z,49nm,0.7s,baz=269,slow=3.8,SNR=35
KDAK Kodiak Island 80.97 33 *i*P P 08 29 42.3 +1.9
PPLA Purkeypile 81.32 27 *e*P P 08 29 43.2 +0.8
comp=Z,27nm,0.8s
MNKR ALMNKUR 81.44 305 *e*P P 08 29 39.0 -4.5
BPAW Bear Paw Mtn. 81.89 26 *e*P P 08 29 45.9 +0.7
comp=Z,11nm,0.8s
TMCR Tamitsa 81.96 334 *e*P P 08 29 44.9 -0.5
TMCR pmax pmax
comp=Z,79nm,1.0s
MALT Malatya 82.02 308⇑*i*P P 08 29 47.5 +1.0
MOS Moscow 82.13 325 *e*P P 08 29 45.2 -1.2
MOS pmax pmax
comp=Z,152nm,0.8s
TRF Thorofare Moun 82.20 27 *e*P P 08 29 47.4 +0.6
comp=Z,42nm,0.9s
COLD Coldfoot 82.27 23 *e*P P 08 29 48.6 +1.7
comp=Z,51nm,1.0s
ANN Anapa 82.51 314*d*/P P 08 29 47.3 -1.3
ANN *e*S S 08 39 09.2 -6.5
ANN pmax pmax
comp=Z,199nm,1.2s
PMR Palmer 82.74 29 *e*P P 08 29 49.2 -0.2
PMR pmax pmax
comp=Z,21nm,0.9s
PMR Palmer 82.74 29 *e*P P 08 29 49.2 -0.2
comp=Z,21nm,0.9s
OBN Obninsk 82.74 325 P P 08 29 49.2 -0.3
comp=Z,91nm,0.7s,baz=64,slow=3.1,SNR=32
OBN Obninsk 82.74 325*d*/P P 08 29 49.0 -0.5
OBN *e**PP pP 08 31 57.9 -1.3
OBN *i* 08 32 58.1
OBN pmax pmax
comp=Z,179nm,1.2s
OBN Obninsk 82.74 325 P P 08 29 49.8 +0.3
comp=Z,964nm,0.7s,SNR=5.6
MCK McKinley 82.80 27 *e*P P 08 29 49.8 +0.1
MCK pmax pmax
comp=Z,68nm,0.9s
MCK McKinley 82.80 27 *e*P P 08 29 49.8 +0.1
comp=Z,68nm,0.9s
SML Sawmill 83.12 29 *e*P P 08 29 51.4 +0.1
SML pmax pmax
comp=Z,9.0nm,0.9s
SML Sawmill 83.12 29 *e*P P 08 29 51.4 +0.1
comp=Z,8.7nm,0.9s
ROOS tl_alroos 83.16 304 *e*P P 08 29 51.9 -0.3
ZALF Zalf 83.20 302 *e*P P 08 29 52.1 -0.3
RABH Abou Rabah 83.21 304 *e*P P 08 29 52.5 +0.1
LVZ Lovozero 83.32 338 *e*P P 08 29 51.6 -0.6
LVZ pmax pmax
comp=Z,40nm,1.3s
LVZ Lovozero 83.32 338 P P 08 29 51.0 -1.2
comp=Z,176nm,0.9s,SNR=5.5
LVZ Lovozero 83.32 338 *e*P P 08 29 51.0 -1.2
comp=Z,26nm,0.8s
ASF Jabal al Asfar 83.62 302 P P 08 29 54.7 +0.2
comp=Z,34nm,0.9s,baz=46,slow=3.7,SNR=29
ILAR Eielson Array 83.66 26 P P 08 29 52.8 -1.2
comp=Z,1.8nm,0.5s,baz=238,slow=5.0,SNR=54
SALA Sala 83.72 302 *e*P P 08 29 55.7 +0.6
WRDH Warideh 83.79 305 *e*P P 08 29 55.1 -0.1
APA Apatity 83.81 337⇓*i*P P 08 29 54.0 -0.5
BIDA Albida 83.90 304 *e*P P 08 29 56.3 +0.4
TOTH TOTAH 83.93 303 *e*P P 08 29 53.7 -2.3
QASN Qassioun 84.04 303 *e*P P 08 29 55.2 -1.4
ARNB Al Arnab 84.12 305 *e*P P 08 29 56.7 -0.2
BRBR Barbar 84.32 303 *e*P P 08 29 59.0 +0.9
DIV Divide 84.38 29 *e*P P 08 29 58.3 +0.7
comp=Z,24nm,1.1s
MMAI Mount Meron Ar 84.81 303 P P 08 30 00.5 +0.1
comp=Z,8.7nm,0.6s,baz=80,slow=9.4,SNR=10
SIM Simferopol' 84.86 315*d*/P P 08 29 59.3 -0.9
SIM pmax pmax
comp=Z,65nm,0.5s
BMRM Bremner River 84.95 29 *e*P P 08 30 00.8 +0.5
comp=Z,12nm,0.9s
EIL Elat 85.49 299 P P 08 30 03.9 +0.3
comp=Z,23nm,0.8s,baz=321,slow=2.0,SNR=16
EIL pP pP 08 32 16.6 +2.1
comp=Z,4.7nm,0.8s,baz=352,slow=3.6,SNR=2.8
EIL Elat 85.49 299 P P 08 30 03.9 +0.3

baz=85,SNR=11
MAW Mawson 85.59 200 P **P** 08 30 03.0 -0.1
comp=Z,1.2nm,0.4s,baz=72,slow=7.2,SNR=6.4
MAW Mawson 85.59 200 P **P** 08 30 03.0 -0.1
BR131 Keskin Array S 85.65 309 *e*P **P** 08 30 03.0 -1.3
comp=Z,18nm,0.8s
BRTR Keskin Array B 85.65 309 P **P** 08 30 03.2 -1.1
comp=Z,17nm,0.8s,baz=115,slow=5.2,SNR=80
BRTR pP **pP** 08 32 17.6 +2.4
comp=Z,1.5nm,0.9s,baz=108,slow=4.7,SNR=3.6
BRTR PP **PP** 08 33 31.4 -3.6
comp=Z,1.4nm,0.9s,baz=124,slow=10,SNR=3.8
PUL Pulkovo 85.80 330 *e*P **P** 08 30 03.6 -0.7
PUL pmax pmax
comp=Z,45nm,0.6s
EGAK Eagle 86.11 25 *e*P **P** 08 30 05.7 0.0
comp=Z,9.6nm,0.9s
CSS Prodhromos 86.35 305 *e*P **P** 08 30 06.8 -0.7
comp=Z,5.8nm,0.8s
ARCES ARCESS Array B 86.47 340 P **P** 08 30 06.4 -1.0
comp=Z,21nm,0.8s,baz=79,slow=6.3,SNR=46
ARCES pP **pP** 08 32 20.9 +2.2
comp=Z,4.1nm,0.9s,baz=46,slow=6.9,SNR=4.3
ARE0 ARCESS Array S 86.47 340 *e*P **P** 08 30 06.5 -0.8
ARE0 ARCESS Array S 86.47 340 *e*P **P** 08 30 06.1 -1.3
KMBO Kilima Mbogo 86.50 268 P **P** 08 30 08.7 -0.3
comp=Z,6.6nm,0.2s,baz=46,slow=6.8,SNR=20
KMBO pP **pP** 08 32 22.6 +2.3
comp=Z,2.9nm,0.2s,baz=54,slow=8.8,SNR=1.2
KMBO Kilima Mbogo 86.50 268 P **P** 08 30 08.7 -0.3
KMBO pP **pP** 08 32 22.6 +2.3
KMBO *e*pP **pwP** 08 32 25.4 +5.1
SPA0 Spitsbergen Ar 86.85 349 *e*P **P** 08 30 08.7 -0.3
SPA0 IAmb IAmb 08 30 09.7
comp=Z,45nm,0.8s
SPITS Spitsbergen Ar 86.85 349 P **P** 08 30 08.2 -0.7
comp=Z,23nm,0.5s,baz=94,slow=8.4,SNR=73
HAMF Hammerfest 86.88 341 *e*P **P** 08 30 08.1 -1.1
HAMF IAmb IAmb 08 30 09.0
comp=Z,46nm,0.7s
VNDA Vanda 86.89 172 P **P** 08 30 09.2 +0.1
comp=Z,12nm,0.6s,baz=318,slow=6.6,SNR=41
VNDA PP **PP** 08 33 41.5 -2.4
comp=Z,4.4nm,0.9s,baz=323,slow=6.7,SNR=6.5
VNDA PKKPbc **PKKPbc** 08 47 59.0 -3.0
comp=Z,1.0nm,0.7s,baz=296,slow=0.2,SNR=4.1
DAWY Dawson 86.97 26 *e*P **P** 08 30 10.2 +0.4
comp=Z,14nm,1.3s
KTK1 Kautokeino 87.37 339 *e*P **P** 08 30 10.6 -0.9
AKASG Malin Array Be 87.53 321 P **P** 08 30 11.3 -1.4
comp=Z,12nm,0.6s,baz=68,slow=4.8,SNR=30
AKASG PP **PP** 08 33 48.2 -1.1
comp=Z,4.2nm,0.8s,baz=70,slow=7.8,SNR=5.0
AKBB Malin Array Si 87.53 321 *e*P **P** 08 30 11.6 -1.0
AKBB Malin Array Si 87.53 321 *e*P **P** 08 30 11.6 -1.0
AK01 Malin Array Si 87.54 321 *e*P **P** 08 30 11.2 -1.4
KIEV Kiev 87.54 321 *e*P **P** 08 30 11.4 -1.3
KIEV pmax pmax
comp=Z,11nm,0.8s
KIEV Kiev 87.54 321 *e*P **P** 08 30 11.4 -1.3
comp=Z,11nm,0.8s
AK02 Malin Array Si 87.55 321 *e*P **P** 08 30 11.2 -1.5
FINES FINESS Array B 87.64 332 P **P** 08 30 11.9 -1.0
comp=Z,16nm,0.7s,baz=69,slow=4.4,SNR=60
KIF Kilpisjarvi 88.22 339 *e*P **P** 08 30 14.0 -1.5
HYT Haines Junctio 88.41 29 *e*P **P** 08 30 17.6 +0.9
comp=Z,10nm,0.8s
INK Inuvik 88.43 21 P **P** 08 30 16.4 0.0
comp=Z,9.6nm,1.0s,baz=274,slow=6.8,SNR=9.6
INK Inuvik 88.43 21 P **P** 08 30 16.5 0.0
INK pmax pmax
comp=Z,10.0nm,1.0s
INK Inuvik 88.43 21 *e*P **P** 08 30 16.7 +0.2
TRO Tromso 88.70 340 *e*P **P** 08 30 14.5 -3.2
TIRR Tirgusor 88.95 314 ⇓*i*P **P** 08 30 18.7 -0.7
TESR Tescani 89.85 317 ⇓*i*P **P** 08 30 23.2 -0.4
VRI Vrincioaia 89.91 316 ⇑*i*P **P** 08 30 23.9 0.0
PLOR Plostina 89.97 316 ⇑*i*P **P** 08 30 24.0 -0.2
ISR Istrita 90.16 315 ⇓*i*P **P** 08 30 25.5 +0.4
STEI Steigen 90.50 339 *e*P **P** 08 30 24.7 -1.4
STEI IAmb IAmb 08 30 25.7
comp=Z,25nm,0.8s
MLR Muntele Rosu 90.51 316 P **P** 08 30 26.2 -0.6
comp=Z,3.2nm,0.7s,baz=322,slow=2.0,SNR=28
MLR pP **pP** 08 32 42.1 +2.8
comp=Z,1.0nm,0.9s,baz=15,slow=5.8,SNR=4.0
MLR PP **PP** 08 34 13.1 +0.2
comp=Z,1.7nm,0.7s,baz=350,slow=6.4,SNR=3.1
MLR Muntele Rosu 90.51 316 ⇓*i*P **P** 08 30 26.4 -0.4
SUW Suwalki 90.60 325 *e*P **P** 08 30 25.6 -1.2
SUW Suwalki 90.60 325 *e*P **P** 08 30 25.7 -1.1
BURAR Bucovina Array 90.62 318 ⇑*i*P **P** 08 30 27.3 +0.1
BUR08 Bucovina Ar. S 90.63 318 *e*P **P** 08 30 26.8 -0.5
LOF Lofoten 91.03 339 *e*P **P** 08 30 27.2 -1.3
ARR Arges 91.44 316 ⇓*i*P **P** 08 30 30.5 -0.5
CJR Cluj-Napoca 91.88 317 ⇑*i*P **P** 08 30 33.1 +0.1
KOLS Kolonicke sedl 92.28 320 *e*P **P** 08 30 34.3 -0.4
KOLS pmax pmax
comp=Z,4.0nm,0.8s
KOLS Kolonicke sedl 92.28 320 *e*P **P** 08 30 34.3 -0.4
TRPA Tarpa 92.28 319 ⇑*i*P **P** 08 30 34.4 -0.3
UZH Uzhgorod 92.33 319 ⇑*i*P **P** 08 30 35.4 +0.5
UZH *e* 08 32 45.2
DRGR 92.46 318 ⇑*i*P **P** 08 30 35.4 -0.3
DEV Deva 92.53 317 ⇑*i*P **P** 08 30 36.0 +0.1
DLBC Dease Lake 92.68 30 P **P** 08 30 36.4 0.0
comp=Z,4.5nm,0.9s,baz=295,slow=6.3,SNR=9.7
NSS Namsos 92.96 336 *e*P **P** 08 30 35.6 -1.8
VTS Vitosha 93.01 313 ⇑*i*P **P** 08 30 37.5 -0.9
IDI Anoyia 93.15 305 P **P** 08 30 38.2 -0.9
comp=Z,5.8nm,0.7s,baz=120,slow=22,SNR=5.7
NIE Niedzica 93.41 320 *e*P **P** 08 30 39.9 0.0
NIE Niedzica 93.41 320 *e*P **P** 08 30 39.9 0.0
BZS Buzias 93.47 317 ⇑*i*P **P** 08 30 39.4 -0.8
OJC Ojcow 93.53 321 *e*P **P** 08 30 39.8 -0.6
OJC Ojcow 93.53 321 *e*P **P** 08 30 39.8 -0.6
KECS Kecovo 93.53 320 *e*P **P** 08 30 39.8 -0.6
KECS pmax pmax
comp=Z,7.0nm,0.8s
KECS Kecovo 93.53 320 *e*P **P** 08 30 39.8 -0.6
HFS Hagfors 93.83 332 P **P** 08 30 40.1 -1.4
comp=Z,4.3nm,0.5s,baz=114,slow=3.7,SNR=27
TBLU Trondheim 94.16 335 *e*P **P** 08 30 41.4 -1.5
VYHS Vyhne 94.59 320 *e*P **P** 08 30 44.7 -0.6
VYHS pmax pmax
comp=Z,3.0nm,1.2s
VYHS Vyhne 94.59 320 *e*P **P** 08 30 44.7 -0.6
NB2 NORSAR Subarra 94.63 333 P **P** 08 30 43.3 -1.9
comp=Z,13nm,0.8s,baz=69,slow=4.8
NB2 NORSAR Subarra 94.63 333 P **P** 08 30 43.3 -1.9
baz=69,slow=4.8
NOA NORSAR Array B 94.63 333 P **P** 08 30 43.5 -1.7
comp=Z,7.9nm,0.8s,baz=68,slow=4.5,SNR=26
NOA PP **PP** 08 34 43.5 -0.4
comp=Z,1.7nm,0.8s,baz=76,slow=7.7,SNR=4.3
OKC Ostrava-Krasne 94.66 321 *e*P **P** 08 30 45.2 -0.3
OKC Ostrava-Krasne 94.66 321 *e*P **P** 08 30 45.2 -0.3
DIVS Divibare 94.95 315 ⇓*i*P **P** 08 30 46.4 -0.7
MORC Moravsky Berou 95.05 321 ⇑*i*P **P** 08 30 47.3 0.0
PKSM Moragy 95.33 318 ⇑*i*P **P** 08 30 48.1 -0.5
KRLC Kraliky 95.43 322 *e*P **P** 08 30 48.6 -0.5
KRLC *e*PP **PP** 08 34 54.0 +3.6
KRLC Kraliky 95.43 322 *e*P **P** 08 30 48.6 -0.5
KRLC *e* 08 34 54.0
KSP Ksiaz 95.50 323 *e*P **P** 08 30 49.1 -0.2
KSP Ksiaz 95.50 323 *e*P **P** 08 30 49.1 -0.2
DPC Dobruska-Polom 95.63 322 *e*P **P** 08 30 49.5 -0.5
DPC *e*PP **PP** 08 34 53.9 +2.0
DPC Dobruska-Polom 95.63 322 *e*P **P** 08 30 49.5 -0.5
DPC *e* 08 34 53.9
UPC Upice 95.77 322 *e*P **P** 08 30 50.1 -0.4
UPC *ex* x 08 30 54.0
UPC *e*PP **PP** 08 34 54.5 +1.6
UPC Upice 95.77 322 *e*P **P** 08 30 50.1 -0.4
UPC *e* 08 34 54.5
VRAC Vranov 95.78 321 P **P** 08 30 49.7 -0.9
comp=Z,6.0nm,0.8s,baz=355,slow=3.3,SNR=7.9
VRAC Vranov 95.78 321 ⇑*i*P **P** 08 30 50.9 +0.3
RUE Ruedersdorf 96.45 325 *e*Pdiff **P** 08 30 54.2 +0.7
TREC Trest 96.47 321 *e*P **P** 08 30 53.6 -0.1
TREC Trest 96.47 321 *e*P **P** 08 30 53.6 -0.1
PVCC Panska Ves 96.64 323 *e*P **P** 08 30 54.6 +0.2
PVCC *e*PP **PP** 08 35 03.6 +4.2
PVCC Panska Ves 96.64 323 *e*P **P** 08 30 54.6 +0.2
PVCC *e* 08 35 03.6
GOPC GO Pecny, Ondr 96.71 322 *e*P **P** 08 30 54.6 -0.1
GOPC *e*PP **PP** 08 35 00.7 +0.7
PRU Pruhonice 96.83 322 *e*P **P** 08 30 55.3 0.0
PRU *ex* x 08 30 57.8
PRU *e*PP **PP** 08 35 04.7 +3.8
PRU Pruhonice 96.83 322 *e*P **P** 08 30 55.3 0.0
PRU *e* 08 35 04.7
BRG Berggiesshubel 96.90 323 *i* P **P** 08 30 55.1 -0.4
comp=Z,18nm,1.1s
BRG *e* 08 35 05.2
comp=Z,9.0nm,1.3s
BRG Berggiesshubel 96.90 323 *e*Pdiff **P** 08 30 56.0 +0.5
BRG Berggiesshubel 96.90 323 *i* P **P** 08 30 55.1 -0.4
BRG *e* 08 35 05.2
BRG pmax pmax
comp=Z,19nm,1.1s
BRG pmax pmax
comp=Z,9.0nm,1.3s
LSZ Lusaka 96.96 255 *e*P **P** 08 30 55.0 -1.7
LSZ pmax pmax
comp=Z,10.0nm,0.8s
LSZ Lusaka 96.96 255 *e*P **P** 08 30 55.0 -1.7
comp=Z,9.8nm,0.8s
FBE Freiberg 97.23 323 *e*Pdiff **P** 08 30 57.8 +0.8
CLL Collm 97.31 324 *e*Pdiff **P** 08 30 57.6 +0.3
CLL Collm 97.31 324 *e*P Pdif 08 30 55.0 -2.3
CLL Collm 97.31 324 *e*PP PP 08 35 06.0 +1.6
MOA Molln 97.70 320 ⇑*i*Pdiff Pdif 08 30 59.1 -0.1
comp=Z,10nm,0.7s
KHC Kasperske Hory 97.71 321 *e*P Pdif 08 30 58.8 -0.5
KHC *e*pP pP 08 33 11.2 -1.4
KHC *e*PP **PP** 08 35 07.2 -0.3
KHC Kasperske Hory 97.71 321 *e*P Pdif 08 30 58.8 -0.5
KHC *e**PP pP 08 33 11.2 -1.4
KHC *e* 08 35 07.2
GEC2 GERESS Array S 97.73 321 *e*Pdiff **P** 08 30 59.6 +0.2
GERES GERESS Array B 97.73 321 P Pdif 08 30 58.6 -0.9
comp=Z,3.0nm,0.7s,baz=76,slow=5.6,SNR=18
GERES PP **PP** 08 35 08.9 +1.1
comp=Z,1.8nm,0.7s,baz=79,slow=6.9,SNR=7.5
TANN Tannenbergstha 97.94 323 *e*Pdiff **P** 08 31 00.8 +0.5
YKA Yellowknife Ar 97.95 23 P Pdif 08 30 59.5 -0.4
comp=Z,2.3nm,0.8s,baz=295,slow=5.3,SNR=3.8
YKA Yellowknife Ar 97.95 23 P Pdif 08 30 59.5 -0.4
YKA pmax pmax
comp=Z,2.0nm,0.8s
NKC Novy Kostel 98.02 323 *e*P **P** 08 31 00.5 -0.1
NKC *e*PP **PP** 08 35 11.4 +1.6
NKC Novy Kostel 98.02 323 *e*P **P** 08 31 00.5 -0.1
NKC *e* 08 35 11.4
WERD Werda 98.03 323 *e*Pdiff **P** 08 31 01.1 +0.5
GUNZ Gunzen 98.04 323 *e*Pdiff **P** 08 31 01.3 +0.6
WERN Wernitzgruen 98.04 323 *e*Pdiff **P** 08 31 01.3 +0.6
PLN Plauen 98.10 323 *e*Pdiff **P** 08 31 01.5 +0.6
ROTZ Rotzenmuhle 98.33 322 *e*Pdiff **P** 08 31 02.9 +0.9
MOX Moxa 98.36 323 *e*Pdiff **P** 08 31 02.6 +0.5
CLZ Clausthal 98.64 325 *e*Pdiff **P** 08 31 04.4 +1.0
WTTA Wattenberg 99.58 320 ⇓*i*Pdiff **Pdif** 08 31 06.7 -1.1
comp=Z,10nm,0.8s
MOTA Moosalm 99.89 320 ⇑*e*Pdiff **Pdif** 08 31 07.8 -1.4
comp=Z,5.1nm,0.7s
FETA Feichten 100.24 320 ⇑*i*Pdiff **Pdif** 08 31 09.6 -1.2
comp=Z,3.9nm,0.8s
NVAR Mina Array Bea 107.11 46 PKiKP **PKiKP** 08 35 46.9 0.0
comp=Z,0.5nm,0.7s,baz=212,slow=5.3,SNR=4.7
NVAR SKiKP **SKiKP** 08 38 24.1 -0.7
comp=Z,0.7nm,0.8s,baz=238,slow=3.1,SNR=5.4
NVAR PKKPbc **PKKPbc** 08 47 03.9 -2.6
comp=Z,1.1nm,0.7s,baz=138,slow=5.0,SNR=13
NVAR PKKP **PKKPab** 08 47 21.8 -2.2
comp=Z,1.3nm,0.8s,baz=132,slow=5.4,SNR=10.0
EGMT Eagleton 108.08 35 P **PKiKP** 08 35 48.2 -0.1
baz=108
EGMT Eagleton 108.08 35 *e*PKPdf **PKiKP** 08 35 48.4 +0.1
ELK Elko 108.28 43 SKiKP **SKiKP** 08 38 26.3 -0.7
comp=Z,0.7nm,0.8s,baz=293,slow=3.0,SNR=6.6
ELK PKKP **PKKPdf** 08 47 16.2 +1.2
comp=Z,0.8nm,0.7s,baz=91,slow=4.6,SNR=4.1
MPMC Manual Prospec 108.65 48 P **PKiKP** 08 35 50.6 +0.8
baz=109
VNA2 Neumayer--Watz 109.01 195 P **PKiKP** 08 35 49.2 0.0
baz=55,slow=1.2
F20A Billings 110.22 36 P **PKiKP** 08 35 52.1 -0.3
baz=110
G20A Bridger 110.51 36 P **PKiKP** 08 35 53.6 +0.7
baz=110
BELC Belle Mtn. Jos 110.59 50 P **PKiKP** 08 35 54.3 +0.8
baz=110
I19A Meeteetse 110.69 38 P **PKiKP** 08 35 54.4 +1.0
baz=111
LAO LASA Array 110.81 34 P **PKiKP** 08 35 54.4 +0.9
baz=111
PDAR Pinedale Array 111.01 39 PKiKP **PKiKP** 08 35 53.6 -0.6
comp=Z,0.4nm,0.6s,baz=3.3,slow=4.2,SNR=5.4
PDAR SKiKP **SKiKP** 08 38 31.6 -0.7
comp=Z,0.6nm,0.7s,baz=342,slow=1.1,SNR=4.6
PDAR PKKPbc **PKKPbc** 08 46 51.8 -2.7
comp=Z,0.3nm,0.6s,baz=95,slow=4.6,SNR=4.1
PDAR PKKP **PKKPab** 08 47 03.5 -3.3
comp=Z,1.7nm,0.8s,baz=108,slow=6.7,SNR=13
E22A Miles City 111.11 34 P **PKiKP** 08 35 54.5 +0.5
baz=111
I20A Worland 111.26 37 P **PKiKP** 08 35 54.8 +0.3
baz=111
C24A Savage 111.30 33 P **PKiKP** 08 35 54.7 +0.5
baz=111
E23A Ismay 111.44 34 P **PKiKP** 08 35 54.8 +0.2
baz=111
A26A Wade Farm, Ken 111.68 31 P **PKiKP** 08 35 55.3 +0.3
baz=112
F23A Volborg 111.84 35 P **PKiKP** 08 35 55.5 +0.1
baz=112
G23A Biddle 112.16 35 P **PKiKP** 08 35 56.6 +0.6
baz=112
F24A Ekalaka 112.31 34 P **PKiKP** 08 35 56.5 +0.2
baz=112
J22A Midwest 112.55 37 P **PKiKP** 08 35 56.5 -0.4
baz=112
A28A Rude Farm, Bot 112.55 30 P **PKiKP** 08 35 57.0 +0.4
baz=112
G24A Alzada 112.64 35 P **PKiKP** 08 35 56.9 -0.1
baz=112
B28A Dugan Ranch, T 112.81 30 P **PKiKP** 08 35 57.2 +0.1
baz=113
H24A Dirks Ranch, A 112.91 35 P **PKiKP** 08 35 57.4 -0.1
baz=113
E26A Carlson Angus 113.01 33 P **PKiKP** 08 35 57.7 +0.1
baz=113
ESDC Sonseca Array 113.08 318 PKiKP **PKiKP** 08 35 57.5 -0.4
comp=Z,0.3nm,0.5s,baz=49,slow=1.7,SNR=4.2
ESDC PP **PP** 08 36 56.6 -2.4
comp=Z,1.8nm,0.8s,baz=50,slow=7.1,SNR=8.0
O20A White River Ci 113.24 41 P **PKiKP** 08 35 59.0 +0.6
baz=113
O20A White River Ci 113.24 41 *e*PKPdf **PKiKP** 08 35 59.0 +0.6
O20A *e*SKPdf **SKiKP** 08 38 36.6 +0.1
F26A Lodgepole 113.28 33 P **PKiKP** 08 35 58.5 +0.4
baz=113
C28A Hausauer Farms 113.29 31 P **PKiKP** 08 35 58.6 +0.6
baz=113
RSSD Black Hills 113.58 35 *e*PKIKP **PKiKP** 08 35 58.9 -0.1
RSSD Black Hills 113.58 35 *e*PKPdf **PKiKP** 08 35 58.9 -0.1
RSSD *e*SKPdf **SKPdf** 08 38 36.0 -1.0
MDND Maddock 113.59 30 P **PKiKP** 08 35 58.2 -0.5
baz=114
F27A Lemmon 113.62 33 P **PKiKP** 08 35 59.2 +0.4
baz=114
G26A Maurine 113.67 34 P **PKiKP** 08 35 59.3 +0.4
baz=114
ULM Lac du Bonnet 113.67 26 PKiKP **PKiKP** 08 35 58.1 -0.5
comp=Z,3.0nm,0.6s,baz=326,slow=6.3,SNR=4.8
ULM SKiKP **SKiKP** 08 38 35.3 -1.5
comp=Z,1.8nm,0.5s,baz=3.2,slow=5.1,SNR=3.4
B30A Myrvik Farm, E 113.81 29 P **PKiKP** 08 35 58.4 -0.6
baz=114
G27A Dupree 113.98 33 P **PKiKP** 08 35 59.2 -0.3
baz=114
H26A Fairpoint 113.99 34 P **PKiKP** 08 35 59.8 +0.2
baz=114
J25A Sunshine Ranch 114.15 36 P PKPdf 08 35 59.8 -0.2
baz=114
C30A Mose, Pekin 114.25 30 P PKPdf 08 35 59.7 -0.2
baz=114
H27A Howes 114.37 34 P PKPdf 08 36 00.1 -0.2
baz=114
D30A Buchanan 114.52 30 P PKPdf 08 36 00.1 -0.4
baz=114
POLO Lamas de Olo 114.60 322 *e*PKPdf PKPdf 08 36 01.1 +0.2
PVRL Vila Real 114.61 321 *e*PKPdf PKPdf 08 36 01.2 +0.4
G28A Parade 114.73 33 P PKPdf 08 36 01.0 0.0
baz=115
I27A Quinn 114.74 35 P PKPdf 08 36 00.9 -0.1
baz=115
F29A Eureka 114.82 32 P PKPdf 08 36 00.8 -0.3
baz=115
E30A Jud 114.85 31 P PKPdf 08 36 00.8 -0.3
baz=115
MTE Manteigas 115.00 321 *e*PKPdf PKPdf 08 36 01.9 +0.3
ISCO Idaho Springs 115.11 40 P **PKPdf** 08 36 02.0 -0.2
baz=115
PCBR Castelo Branco 115.27 320 *e*PKPdf **PKPdf** 08 36 02.5 +0.4
J27A Elkhorn Farm, 115.27 35 P **PKPdf** 08 36 03.1 +1.0
baz=115
I28A Midland 115.28 34 P **PKPdf** 08 36 01.8 -0.2
baz=115
J28A Allard Ranch, 115.60 35 P **PKPdf** 08 36 03.0 +0.3
baz=116
G30A Faulkton 115.64 32 P **PKPdf** 08 36 02.2 -0.5
baz=116
I29A Vivian Onida 115.74 34 P **PKPdf** 08 36 02.9 0.0
baz=116
PCAS Casmilo, Conde 115.80 321 *e*PKPdf **PKPdf** 08 36 03.2 +0.1
PBAR Barrancos 115.91 318 *e*PKPdf **PKPdf** 08 36 03.8 +0.5
K28A Ten Mile Ranch 115.97 35 P **PKPdf** 08 36 02.1 -1.3
baz=116
J29A Okreek 116.13 34 P **PKPdf** 08 36 03.0 -0.6
baz=116
I30A Oacoma 116.30 33 P **PKPdf** 08 36 04.2 +0.3
baz=116
SDCO Great Sand Dun 116.32 42 P **PKPdf** 08 36 05.1 +0.5
baz=116
J30A Dallas 116.64 34 P **PKPdf** 08 36 04.0 -0.6
baz=116
PVAQ Vaqueiros 116.78 318 *e*PKPdf **PKPdf** 08 36 05.5 +0.5
PCVE Castro Verde 116.87 318 *e*PKPdf **PKPdf** 08 36 05.6 +0.4
MESJ Messejana 116.87 319 *e*PKPdf **PKPdf** 08 36 05.6 +0.4
PNCL Nicolau / Gran 116.92 319 *e*PKPdf **PKPdf** 08 36 05.3 0.0
K30A Basset 117.00 35 P **PKPdf** 08 36 05.2 -0.2
baz=117
N28A Pribbeno Ranch 117.12 37 P **PKPdf** 08 36 05.7 0.0
baz=117
EYMN Ely 117.31 26 P **PKPdf** 08 36 05.7 -0.1
baz=117
R26A Arlington 117.35 40 P **PKPdf** 08 36 06.4 +0.1
baz=117
T25A Trinidad 117.38 42 P **PKPdf** 08 36 06.9 +0.4
baz=117
121A Cookes Peak, D 117.41 48 P **PKPdf** 08 36 07.6 +1.0
baz=117
MORF Marmelete 117.45 318 *e*PKPdf **PKPdf** 08 36 07.2 +0.8
H34A Spellman Lake, 117.71 31 P **PKPdf** 08 36 06.7 +0.1
baz=118
R27A Eads 117.78 40 P **PKPdf** 08 36 07.1 0.0
baz=118
T26A Comanche Natio 117.90 42 P **PKPdf** 08 36 07.9 +0.4
baz=118
ECSD EROS Data Cent 117.92 32 P **PKPdf** 08 36 06.8 -0.3
baz=118
ECSD EROS Data Cent 117.92 32 *e*PKPdf **PKPdf** 08 36 06.9 -0.2
ECSD *e*SKPdf **SKPdf** 08 38 44.2 -0.9
Q28A Sharon Springs 117.93 39 P **PKPdf** 08 36 07.5 +0.1
baz=118
SCHQ Schefferville 117.94 7 PKP **PKPdf** 08 36 05.8 -1.0
comp=Z,4.2nm,0.6s,baz=248,slow=1.1,SNR=8.9
M31A Lambteit Ranc 118.22 35 P **PKPdf** 08 36 06.3 -1.4
baz=118
O30A MW Ranch, Wils 118.33 37 P **PKPdf** 08 36 07.6 -0.4
baz=118
R28A Tribune 118.37 40 P **PKPdf** 08 36 08.4 +0.1
baz=118
T27A Campo 118.54 41 P **PKPdf** 08 36 09.9 +1.2
baz=118
Q29A Oakley 118.56 39 P **PKPdf** 08 36 08.7 +0.1
baz=118
L33A Hoskins 118.64 34 P **PKPdf** 08 36 08.4 -0.1
baz=118
BGNE Belgrade 118.65 35 P **PKPdf** 08 36 08.2 -0.4
baz=118
BGNE Belgrade 118.65 35 *e*PKPdf **PKPdf** 08 36 08.4 -0.1
BGNE *e*SKPdf **SKPdf** 08 38 45.6 -1.0
S28A Manter 118.76 40 P **PKPdf** 08 36 09.1 +0.1
baz=119
SPMN St. Paul 118.77 29 P **PKPdf** 08 36 08.8 +0.1
baz=119
SPMN St. Paul 118.77 29 *e*PKPdf **PKPdf** 08 36 09.0 +0.3
U27A Thompson Grove 118.83 42 P **PKPdf** 08 36 08.8 -0.4
baz=119
T28A Walsh 118.90 41 P **PKPdf** 08 36 09.5 +0.2
baz=119
TOA0 Torodi Ar. Sit 118.98 289 *e*PKPdf **PKPdf** 08 36 09.1 -0.7
TORD Torodi Ar. Bea 118.98 289 PKP **PKPdf** 08 36 09.1 -0.7
comp=Z,10nm,0.7s,baz=50,slow=1.9,SNR=57
TORD PP **PP** 08 37 39.8 -0.7
comp=Z,2.4nm,0.9s,baz=46,slow=4.1,SNR=4.6
TORD SKiKP **SKiKP** 08 38 46.9 -1.3
comp=Z,2.1nm,0.6s,baz=22,slow=2.4,SNR=4.7
TORD PKKPbc **PKKPbc** 08 46 27.4 +0.9
comp=Z,1.2nm,0.8s,baz=280,slow=3.3,SNR=5.3
Q30A Quinter 118.98 38 P **PKPdf** 08 36 09.3 -0.1
baz=119
M33A Taylor Creek F 119.08 34 P **PKPdf** 08 36 08.9 -0.5
baz=119
P31A Stockton 119.15 37 P **PKPdf** 08 36 09.5 -0.1
baz=119
V27A Dan Oppiter Fa 119.20 42 P **PKPdf** 08 36 10.9 +1.0
baz=119
S29A Ulysses 119.24 40 P **PKPdf** 08 36 10.0 +0.1
baz=119
L34A Svendsen Farm, 119.26 33 P **PKPdf** 08 36 09.2 -0.5
baz=119
O32A Brockman Farm, 119.33 36 P **PKPdf** 08 36 09.0 -1.0
baz=119
R30A Dighton 119.37 39 P **PKPdf** 08 36 10.2 +0.1
baz=119
P32A Huiting Farm, 119.55 37 P **PKPdf** 08 36 10.0 -0.3
baz=119
L35A Bielow Farm, R 119.61 33 P **PKPdf** 08 36 10.2 -0.2
baz=120
V28A Channing 119.62 42 P **PKPdf** 08 36 11.4 +0.7
baz=120
S30A Montezuma 119.64 39 P **PKPdf** 08 36 11.1 +0.4
baz=120
R31A Burdett 119.83 38 P **PKPdf** 08 36 11.0 0.0
baz=120
O33A Hebron 119.85 36 P **PKPdf** 08 36 10.1 -0.8
baz=120
M35A Neola 119.97 33 P **PKPdf** 08 36 10.8 -0.3
baz=120
Q32A Meitler Ranch, 119.97 37 P **PKPdf** 08 36 10.9 -0.3
baz=120
V29A Stinnett 120.01 42 P **PKPdf** 08 36 11.5 0.0
baz=120
U30A WK&E Inc. Balk 120.19 41 P **PKPdf** 08 36 12.3 +0.5
baz=120
P33A Williams Farm, 120.20 36 P **PKPdf** 08 36 11.5 -0.1
baz=120
R32A Long Quarter, 120.25 38 P **PKPdf** 08 36 11.8 0.0
baz=120
X28A Dimmitt 120.33 43 P **PKPdf** 08 36 12.4 +0.2
baz=120
Q33A Connelly Farm, 120.40 37 P **PKPdf** 08 36 11.9 -0.1
baz=120
T31A Randall Ranch, 120.47 39 P **PKPdf** 08 36 12.2 0.0
baz=120
S32A Newby Ranch, P 120.56 39 P **PKPdf** 08 36 12.4 +0.1
baz=120
V30A Spur Ranch, Mi 120.62 41 P **PKPdf** 08 36 13.1 +0.5
baz=120
P34A Walnut Farm, R 120.63 36 P **PKPdf** 08 36 12.0 -0.4
baz=120
X29A Tulia 120.71 43 P **PKPdf** 08 36 13.2 +0.4
baz=121
R33A Olander Ranch, 120.76 37 P **PKPdf** 08 36 12.9 +0.2
baz=121
Z28A Tucker Farm, M 120.89 45 P **PKPdf** 08 36 13.2 0.0
baz=121
T32A Huddler Ranch, 120.89 39 P **PKPdf** 08 36 13.3 +0.3
baz=121
Y29A Porterfield Fa 121.07 44 P **PKPdf** 08 36 13.7 +0.2
baz=121
V31A Spring Creek L 121.17 41 P **PKPdf** 08 36 14.6 +1.0
baz=121

128A	**Castleberry Fa** baz=121	**121.19**	**45**	P	**PKPdf**	**08 36 14.5**	**+0.7**
R34A	**Isabella, Hill** baz=121	**121.20**	**37**	P	**PKPdf**	**08 36 13.3**	**-0.2**
X30A	**Coker Ranch, T** baz=121	**121.27**	**43**	P	**PKPdf**	**08 36 14.0**	**+0.1**
U32A	**Winter Ranch,** baz=121	**121.34**	**40**	P	**PKPdf**	**08 36 13.9**	**0.0**
Z29A	**Hungry Hill Ra** baz=121	**121.38**	**44**	P	**PKPdf**	**08 36 14.2**	**+0.1**
W31A	**Holland Ranch,** baz=121	**121.45**	**41**	P	**PKPdf**	**08 36 14.4**	**+0.3**
Q35A	**Mercer Eighty,** baz=121	**121.55**	**36**	P	**PKPdf**	**08 36 13.7**	**-0.5**
129A	**Stewart Farms,** baz=122	**121.62**	**45**	P	**PKPdf**	**08 36 14.8**	**+0.2**
V32A	**Arapaho** baz=122	**121.72**	**40**	P	**PKPdf**	**08 36 15.1**	**+0.5**
X31A	**McDonald Ranch** baz=122	**121.76**	**42**	P	**PKPdf**	**08 36 14.9**	**+0.1**
Z30A	**Sanderson Ranc** baz=122	**121.76**	**44**	P	**PKPdf**	**08 36 15.0**	**+0.2**
Q36A	**Arnold C. Orve** baz=122	**121.81**	**35**	P	**PKPdf**	**08 36 13.0**	**-1.7**
Y31A	**Rekieta Farm,** baz=122	**121.97**	**43**	P	**PKPdf**	**08 36 15.3**	**+0.1**
TXAR	**Lajitas Array** comp=Z,1.4nm,0.8s,baz=218,slow=0.7,SNR=19	**122.06**	**49**	PKP	**PKPdf**	**08 36 15.7**	**+0.1**
TXAR	comp=Z,0.5nm,0.6s,baz=25,slow=1.6,SNR=4.7			SKP		08 38 52.9	
TXAR	comp=Z,0.9nm,0.7s,baz=128,slow=5.8,SNR=12			PKKPbc	**PKKPbc**	**08 46 15.8**	**0.0**
S35A	**Otter Creek Ra** baz=122	**122.16**	**37**	P	**PKPdf**	**08 36 15.4**	**0.0**
R36A	**Gordon, Harris** baz=122	**122.22**	**36**	P	**PKPdf**	**08 36 15.1**	**-0.4**
X32A	**Elmer** baz=122	**122.34**	**42**	P	**PKPdf**	**08 36 15.9**	**0.0**
W33A	**Caddo, Fort Co** baz=122	**122.44**	**41**	P	**PKPdf**	**08 36 16.5**	**+0.5**
WMOK	**Wichita Mounta**	**122.49**	**41**	*e*PKIKP	**PKPdf**	**08 36 16.2**	**0.0**
WMOK	**Wichita Mounta**	**122.49**	**41**	*e*PKPdf	**PKPdf**	**08 36 16.2**	**0.0**
WMOK				*e*SKPdf	**SKiKP**	**08 38 54.3**	**-0.5**
T35A	**Sooner Cattle** baz=122	**122.55**	**38**	P	**PKPdf**	**08 36 16.0**	**-0.2**
230A	**Sterling City** baz=122	**122.56**	**45**	P	**PKPdf**	**08 36 15.5**	**-1.0**
S36A	**Lake Cedric, C** baz=122	**122.57**	**36**	P	**PKPdf**	**08 36 15.3**	**-0.9**
R37A	**Teagarden Farm** baz=122	**122.62**	**35**	P	**PKPdf**	**08 36 15.5**	**-0.8**
V34A	**Guthrie** baz=122	**122.62**	**39**	P	**PKPdf**	**08 36 16.5**	**+0.2**
V34A	**Guthrie**	**122.62**	**39**	*e*PKPdf	**PKPdf**	**08 36 16.8**	**+0.5**
V34A				*e*SKPdf	**SKiKP**	**08 38 54.5**	**-0.5**
131A	**Roby** baz=122	**122.62**	**44**	P	**PKPdf**	**08 36 16.8**	**+0.3**
429A	**Davenport Ranc** baz=123	**122.70**	**47**	P	**PKPdf**	**08 36 17.2**	**+0.5**
529A	**Stev Forest Ra** baz=123	**122.72**	**48**	P	**PKPdf**	**08 36 17.3**	**+0.5**
U35A	**Pawnee** baz=123	**122.77**	**38**	P	**PKPdf**	**08 36 16.8**	**+0.2**
X33A	**Lawton** baz=123	**122.79**	**41**	P	**PKPdf**	**08 36 16.8**	**+0.1**
W34A	**Bridge Creek,** baz=123	**122.83**	**40**	P	**PKPdf**	**08 36 17.0**	**+0.2**
W34A	**Bridge Creek,**	**122.83**	**40**	*e*PKPdf	**PKPdf**	**08 36 17.6**	**+0.8**
T36A	**Boggs Farm, Ca** baz=123	**122.84**	**37**	P	**PKPdf**	**08 36 16.8**	**+0.1**
Z32A	**Haskell** baz=123	**122.88**	**43**	P	**PKPdf**	**08 36 17.3**	**+0.4**
S37A	**Fort Scott** baz=123	**122.99**	**36**	P	**PKPdf**	**08 36 16.5**	**-0.5**
430A	**Baggett Ranch,** baz=123	**123.08**	**46**	P	**PKPdf**	**08 36 18.0**	**+0.5**
V35A	**Meyer Ranch, C** baz=123	**123.09**	**39**	P	**PKPdf**	**08 36 17.3**	**+0.1**
231A	**Bronte** baz=123	**123.09**	**45**	P	**PKPdf**	**08 36 17.6**	**+0.2**
X34A	**Smith Ranch, M** baz=123	**123.19**	**41**	P	**PKPdf**	**08 36 18.2**	**+0.8**
530A	**J-C Ranch, Com** baz=123	**123.36**	**47**	P	**PKPdf**	**08 36 18.9**	**+1.0**
T37A	**Cheneyville 18** baz=123	**123.37**	**37**	P	**PKPdf**	**08 36 17.6**	**-0.1**
331A	**San Angelo** baz=123	**123.37**	**45**	P	**PKPdf**	**08 36 18.1**	**+0.1**
W35A	**Tecumseh** baz=123	**123.45**	**40**	P	**PKPdf**	**08 36 18.0**	**+0.1**
431A	**Sonora** baz=124	**123.59**	**46**	P	**PKPdf**	**08 36 18.4**	**0.0**
V36A	**Jenks** baz=124	**123.63**	**38**	P	**PKPdf**	**08 36 18.3**	**0.0**
Y34A	**Reagan Ranch,** baz=124	**123.63**	**41**	P	**PKPdf**	**08 36 18.0**	**-0.3**
TUL1	**Tulsa** baz=124	**123.64**	**38**	P	**PKPdf**	**08 36 18.6**	**+0.3**
U37A	**Salina** baz=124	**123.73**	**37**	P	**PKPdf**	**08 36 18.4**	**0.0**
332A	**Millersview** baz=124	**123.81**	**45**	P	**PKPdf**	**08 36 19.3**	**+0.6**
X35A	**Drake** baz=124	**123.87**	**40**	P	**PKPdf**	**08 36 18.3**	**-0.5**
W36A	**Wetumka** baz=124	**123.87**	**39**	P	**PKPdf**	**08 36 19.0**	**+0.2**
531A	**Rocksprings** baz=124	**123.92**	**47**	P	**PKPdf**	**08 36 19.8**	**+0.7**
HDIL	**Hopedale** baz=124	**123.97**	**30**	P	**PKPdf**	**08 36 18.8**	**0.0**
233A	**Rising Star** baz=124	**124.03**	**44**	P	**PKPdf**	**08 36 19.5**	**+0.3**
V37A	**Hulbert** baz=124	**124.06**	**38**	P	**PKPdf**	**08 36 19.0**	**-0.1**
432A	**Menard** baz=124	**124.06**	**45**	P	**PKPdf**	**08 36 19.6**	**+0.3**
U38A	**Gravette** baz=124	**124.14**	**37**	P	**PKPdf**	**08 36 19.4**	**+0.1**
X36A	**Centrahoma** baz=124	**124.16**	**40**	P	**PKPdf**	**08 36 19.5**	**+0.2**
134A	**White-Moore Ra** baz=124	**124.26**	**43**	P	**PKPdf**	**08 36 20.2**	**+0.6**
JCT	**Junction City**	**124.28**	**46**	*e*PKIKP	**PKPdf**	**08 36 20.4**	**+0.7**
JCT	**Junction City** baz=124	**124.28**	**46**	P	**PKPdf**	**08 36 20.0**	**+0.3**
JCT	**Junction City**	**124.28**	**46**	*e*PKPdf	**PKPdf**	**08 36 20.4**	**+0.7**
JCT				*e*SKPdf	**SKiKP**	**08 38 58.0**	**-0.5**
631A	**Perdido Creek** baz=124	**124.31**	**47**	P	**PKPdf**	**08 36 20.0**	**+0.2**
W37A	**Quinton** baz=124	**124.37**	**39**	P	**PKPdf**	**08 36 20.4**	**+0.7**
333A	**Richland Sprin** baz=124	**124.37**	**45**	P	**PKPdf**	**08 36 20.2**	**+0.4**
532A	**Rocksprings** baz=124	**124.40**	**46**	P	**PKPdf**	**08 36 20.4**	**+0.4**
V38A	**Canehill** baz=124	**124.52**	**37**	P	**PKPdf**	**08 36 19.9**	**-0.1**
234A	**Clairette** baz=124	**124.56**	**43**	P	**PKPdf**	**08 36 20.8**	**+0.6**
Y36A	**Durant** baz=124	**124.62**	**40**	P	**PKPdf**	**08 36 20.3**	**+0.1**
135A	**Vickery Place,** baz=125	**124.72**	**42**	P	**PKPdf**	**08 36 21.2**	**+0.7**
X37A	**Clayton** baz=125	**124.76**	**39**	P	**PKPdf**	**08 36 21.0**	**+0.6**
632A	**Uvalde** baz=125	**124.83**	**47**	P	**PKPdf**	**08 36 21.6**	**+0.8**
334A	**Lometa** baz=125	**124.89**	**44**	P	**PKPdf**	**08 36 20.7**	**-0.2**
Z36A	**Blue Ridge** baz=125	**124.92**	**41**	P	**PKPdf**	**08 36 21.5**	**+0.7**
W38A	**Poteau** baz=125	**124.98**	**38**	P	**PKPdf**	**08 36 21.5**	**+0.6**
WHTX	**Lake Whitney**	**125.03**	**43**	*e*PKPdf	**PKPdf**	**08 36 21.9**	**+0.8**
X38A	**Whitesboro** baz=125	**125.05**	**39**	P	**PKPdf**	**08 36 21.4**	**+0.4**
533A	**Kerrville** baz=125	**125.06**	**46**	P	**PKPdf**	**08 36 21.8**	**+0.6**
732A	**Laxson Ranch,** baz=125	**125.13**	**48**	P	**PKPdf**	**08 36 21.8**	**+0.5**
434A	**Burnet** baz=125	**125.17**	**45**	P	**PKPdf**	**08 36 21.9**	**+0.5**
136A	**Ennis** baz=125	**125.36**	**42**	P	**PKPdf**	**08 36 22.5**	**+0.9**
832A	**Faith Ranch, C** baz=125	**125.37**	**48**	P	**PKPdf**	**08 36 22.8**	**+1.0**
335A	**Moody** baz=125	**125.47**	**44**	P	**PKPdf**	**08 36 22.4**	**+0.4**
534A	**Blanco** baz=125	**125.48**	**46**	P	**PKPdf**	**08 36 22.2**	**+0.2**
Y38A	**Idabel** baz=126	**125.59**	**39**	P	**PKPdf**	**08 36 22.2**	**+0.2**
236A	**Katherine and** baz=126	**125.65**	**42**	P	**PKPdf**	**08 36 23.2**	**+1.0**
833A	**Chaparral WMA,** baz=126	**125.77**	**48**	P	**PKPdf**	**08 36 23.2**	**+0.6**
137A	**Heron Place, G** baz=126	**125.79**	**41**	P	**PKPdf**	**08 36 24.0**	**+1.5**
336A	**Riesel** baz=126	**125.81**	**43**	P	**PKPdf**	**08 36 23.1**	**+0.6**
MIAR	**Mount Ida** baz=126	**125.91**	**38**	P	**PKPdf**	**08 36 23.7**	**+1.0**
Y39A	**Lockesburg** baz=126	**125.99**	**39**	P	**PKPdf**	**08 36 23.2**	**+0.4**
535A	**Dale** baz=126	**126.12**	**45**	P	**PKPdf**	**08 36 24.0**	**+0.9**
237A	**Washetta, Mont** baz=126	**126.13**	**42**	P	**PKPdf**	**08 36 23.9**	**+0.8**
138A	**Matatall Enter** baz=126	**126.18**	**41**	P	**PKPdf**	**08 36 24.3**	**+1.0**
BLO	**Bloomington**	**126.39**	**29**	*e*PKIKP	**PKPdf**	**08 36 23.7**	**+0.2**
BLO	**Bloomington**	**126.39**	**29**	*e*PKPdf	**PKPdf**	**08 36 23.6**	**+0.2**
KIC	**Kosan Boka** comp=Z,52nm,0.9s	**126.81**	**283**	*e*PKIKP	**PKPdf**	**08 36 25.1**	**+0.2**
DBIC	**Dimbokro** comp=Z,11nm,0.6s,baz=81,slow=2.1,SNR=20	**126.85**	**284**	PKP	**PKPdf**	**08 36 24.7**	**-0.3**
DBIC	comp=Z,3.6nm,0.5s,baz=61,slow=5.6,SNR=6.4			SKPbc	SKiKP	08 38 43.7	-20
DBIC	**Dimbokro**	**126.85**	**284**	PKP	**PKPdf**	**08 36 24.7**	**-0.3**
DBIC				*e*PKPdf	**PKiKP**	**08 36 25.5**	**-0.1**
DBIC				SKPbc	SKiKP	08 38 43.7	-20
338A	**Crockett** baz=127	**126.86**	**42**	P	**PKPdf**	**08 36 26.1**	**+1.5**
537A	**Green Hill Far** baz=127	**126.96**	**44**	P	**PKPdf**	**08 36 26.4**	**+1.6**
TIC	**Toumodi**	**127.01**	**284**	*e*PKIKP	**PKPdf**	**08 36 25.3**	**0.0**
736A	**Circle Diamond** baz=127	**127.10**	**46**	P	**PKPdf**	**08 36 27.0**	**+1.9**
LIC	**Lamto** comp=Z,94nm,1.7s	**127.12**	**283**	*e*PKIKP	**PKPdf**	**08 36 25.5**	**0.0**
ACSO	**Alum Creek Sta**	**127.15**	**25**	*e*PKPdf	**PKPdf**	**08 36 25.5**	**+0.7**
ACSO				*ep*PKPdf	**pPKPdf**	**08 38 46.5**	**-0.1**
WVT	**Waverly**	**128.07**	**32**	*e*PKIKP	**PKPdf**	**08 36 26.8**	**+0.1**
WVT				*e*		08 38 50.0	
WVT	**Waverly**	**128.07**	**32**	*e*PKPdf	**PKPdf**	**08 36 26.8**	**+0.1**
WVT				*ep*PKPdf	**pPKPdf**	**08 38 50.0**	**+1.5**
USHA	**Ushuaia** comp=Z,25nm,0.8s,baz=252,slow=2.4,SNR=8.5	**131.17**	**171**	SKPbc	**SKPbc**	**08 39 00.1**	**-0.3**
CMIG	**Matias Romero** comp=Z,9.0nm,1.0s,baz=288,slow=3.7,SNR=10	**135.15**	**58**	SKPbc	**SKPbc**	**08 39 14.4**	**-0.3**
SDDR	**Presa de Saban**	**150.45**	**30**	*e*PKPbc	**PKPbc**	**08 37 13.3**	**+0.2**
CFAA	**Coronel Fontan** comp=Z,0.4nm,0.8s,baz=217,slow=5.3,SNR=4.6	**152.99**	**157**	PKP	**PKPdf**	**08 37 10.7**	**+0.1**
CFAA	comp=Z,0.5nm,0.6s,baz=234,slow=3.9,SNR=7.8			PKPbc	**PKPbc**	**08 37 18.1**	**-0.4**
ATAH	**Atahualpa** comp=Z,4.3nm,0.8s,baz=164,slow=21,SNR=3.8	**158.17**	**92**	PKP	**PKPdf**	**08 37 19.5**	**+1.2**
CPUP	**Villa Florida** comp=Z,1.9nm,0.7s,baz=244,slow=3.7,SNR=4.9	**160.59**	**178**	PKP	**PKPdf**	**08 37 20.6**	**+0.4**
LPAZ	**La Paz** comp=Z,3.5nm,0.9s,baz=330,slow=1.2,SNR=13	**165.17**	**130**	PKP	**PKPdf**	**08 37 26.0**	**+0.5**
LPAZ	**La Paz**	**165.17**	**130**	PKP	**PKPdf**	**08 37 26.0**	**+0.5**
LPAZ				*e*PKPdf	PKPdf	08 37 26.4	+0.8
SIV	**San Ignacio** comp=Z,2.9nm,1.0s,baz=292,slow=0.8,SNR=4.7	**169.81**	**154**	PKP	**PKPdf**	**08 37 28.2**	**+0.2**
PTGA	**Pitinga** comp=Z,3.5nm,1.2s,baz=316,slow=5.6,SNR=5.3	**172.97**	**31**	PKP	**PKPdf**	**08 37 29.0**	**-0.7**

MEX 25 08:24:16.1±0.3, 16°35N×98°48W, h3km±7km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.34**	**83**	*i* P	Pg	08 24 22.4	-0.3
PNIG				*i* S	Sg	08 24 27.2	+0.1
VHO	**Vista Hermosa**	**1.82**	**67**	*e*P	Pn	08 24 45.1	-3.5
VHO				*e*S	Sn	08 25 07.3	-5.0

*IDC **25** 08:29:56.7±9.3, 38°28N×74°31E, h211km±94km, mb3.2/3, mb1 3.2/6, mb1mx2.9/60, mbtmp3.8/6, MS3.3/3, Ms1 3.3/3, ms1mx2.6/24, Error ellipse: s-maj=73.6km s-min=51.1km az=116.0*

*NNC **25** 08:29:59.2±7.0, 39°41N×73°30E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=82.6km s-min=25.2km az=140.0*

ISC 25 08:29:48.8±3.3, 38°0N±0°3×74°1E±0°1, h150km, n12, σ0s98/11, mb3.5/3, 4C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino** 1.8nm,0.3s	**4.20**	**283**	⇓P	**Pn**	**08 30 52.4**	**+0.6**
DZET				⇓S	**Sn**	**08 31 40.4**	**-0.3**
	49nm,0.5s						
AAK	**Ala-Archa** 4.5nm,0.6s	**4.67**	**4**	⇓Pg	**Pn**	**08 30 59.5**	**+1.6**
AAK				⇑Lg	Lg	08 31 49.6	
	16nm,0.7s						
TKM2	**Tokmak 2** 1.9nm,0.4s	**5.08**	**13**	⇑Pn	**Pn**	**08 31 03.7**	**+0.2**
TKM2				⇑Lg	Lg	08 31 59.5	
	16nm,0.6s						
KK31	**Karatay Array** 0.8nm,0.2s,baz=133,slow=12,SNR=51	**5.80**	**333**	⇑Pg	**Pn**	**08 31 13.0**	**+0.2**
KK31				⇓Lg	Lg	08 32 14.2	
	34nm,0.7s,baz=149,slow=49,SNR=20						
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=205,slow=10,SNR=8.8	**13.04**	**13**	P	**P**	**08 32 51.8**	**-1.3**
AB31	**Akbulak array** 0.6nm,0.5s,baz=129,slow=13,SNR=6.9	**15.20**	**322**	Pn	**P**	**08 33 16.8**	**-0.2**
BVAR	**Borovoye Array** 0.4nm,0.3s,baz=156,slow=8.7,SNR=4.2	**15.27**	**352**	P	**P**	**08 33 16.7**	**-1.1**
ZALV	**Zalesovo Beam** 0.9nm,0.3s,baz=201,slow=11,SNR=6.7	**17.61**	**21**	P	**P**	**08 33 42.6**	**-0.9**
FINES	**FINESS Array B** 1.7nm,0.8s,baz=116,slow=6.5,SNR=5.0	**37.68**	**324**	P	**P**	**08 36 49.5**	**+0.3**
ARCES	**ARCESS Array B** 0.4nm,0.4s,baz=107,slow=8.0,SNR=8.4	**40.76**	**336**	P	**P**	**08 37 15.4**	**+0.8**
ARCES	comp=Z,44nm,21.7s,baz=336,slow=36			LR	LR	08 54 08.8	
TGY	**Tagaytay City** comp=Z,44nm,21.3s,slow=35	**47.73**	**107**	LR	LR	08 57 36.2	
TORD	**Torodi Ar. Bea** 0.5nm,0.6s,baz=50,slow=5.8,SNR=3.0	**68.19**	**270**	P	P	08 40 35.8	+2.5
TORD	comp=Z,21nm,18.5s,baz=130,slow=42			LR	LR	09 17 34.0	

*IDC **25** 08:39:45.5±1.3, 27°72N×91°31E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.4/42, mbtmp3.5/7, MS3.4/1, Ms1 3.4/1, ms1mx2.5/32, Error ellipse: s-maj=42.9km s-min=20.3km az=60.0*

*ISCJB **25** 08:39:46.2±0.9, 27°37N±0°09×91°1E±0°2, h33km, mb3.4/6, MS3.4/1, Error ellipse: s-maj=32.1km s-min=8.6km az=161.2*

ISC 25 08:39:47.8±1.1, 27°3N±0°1×91°2E±0°2, h35km, n9, σ1s03/7, mb3.5/6, Bhutan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**1.86**	**161**	*i* PG	**Pn**	**08 40 17.0**	**-0.3**
SHL				*e*SG	**Sn**	**08 40 40.0**	**+0.4**
MKAR	**Makanchi Array** 1.5nm,0.7s,baz=151,slow=12,SNR=15	**20.66**	**342**	P	**P**	**08 44 24.8**	**+0.3**
SONM	**Songino Array** 0.5nm,0.5s,baz=230,slow=11,SNR=2.4	**23.65**	**26**	P	**P**	**08 44 56.5**	**+0.5**
KURBB	**Kurchatov Arra** 0.4nm,0.4s,baz=152,slow=9.7,SNR=5.8	**25.19**	**341**	P	**P**	**08 45 08.1**	**-1.8**
MJAR	**Matsushiro Arr** 0.9nm,0.6s,baz=268,slow=10,SNR=5.4	**40.57**	**65**	P	**P**	**08 47 23.8**	**-0.2**
FINES	**FINESS Array B** 0.3nm,0.3s,baz=97,slow=9.9,SNR=5.8	**54.53**	**328**	P	**P**	**08 49 12.6**	**+0.7**
ARCES	**ARCESS Array B** comp=Z,33nm,19.1s,baz=70,slow=38	**56.20**	**337**	LR	LR	09 14 48.9	
WRA	**Warramunga Arr** 0.3nm,0.8s,baz=316,slow=8.3,SNR=2.8	**62.87**	**134**	P	P	08 50 14.9	+4.4
ASAR	**Alice Springs** 0.2nm,0.5s,baz=318,slow=7.1,SNR=4.1	**65.33**	**137**	P	P	08 50 31.9	+5.3

*BKK **25** 08:57:00.0±6.1, 17°N±13°×9°4E±5°0, h10km, M4.4/9, mB5.2/2, mb4.4/9, Mw(mB)4.6/2*

*IDC **25** 08:57:02.5±0.6, 16°35N×94°57E, h0km, mb4.3/19, mb1 4.4/20, mb1mx4.2/46, mbtmp4.3/20, ML4.2/1, MS3.2/10, Ms1 3.2/10, ms1mx2.9/36, Error ellipse: s-maj=18.1km s-min=13.2km az=41.0*

*NEIC **25** 08:57:04.0±0.4, 16°35N×94°61E, h10km, mb4.6/3, Error ellipse: s-maj=10.3km s-min=7.9km az=191.0*

*ISCJB **25** 08:57:06.2±0.5, 16°46N±0°06×94°64E±0°03, h33km, mb4.3/24, MS3.2/9, Error ellipse: s-maj=9.2km s-min=4.6km az=3.5*

ISC 25 08:57:08.1±0.6, 16°49N±0°08×94°61E±0°07, h35km, n61, σ1s27/59, mb4.3/24, MS3.2/9, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UMPA	**Umpang Tak**	**4.09**	**93**	P	**Pn**	**08 58 07.5**	**-0.7**
CM31	**Chiang Mai Arr**	**4.58**	**64**	*e*Pn	**Pn**	**08 58 14.4**	**-0.5**
CMAR	**Chiang Mai Arr** 2.7nm,0.3s,baz=247,slow=15,SNR=20	**4.58**	**64**	Pn	**Pn**	**08 58 13.3**	**-1.6**
CMAR	2.9nm,0.3s,baz=244,slow=19,SNR=6.8			Sn	**Sn**	**08 59 07.0**	**+0.2**
CMAR	2.6nm,0.3s,baz=252,slow=27,SNR=5.1			Lg	Lg	08 59 32.0	
CMAR	comp=Z,110nm,20.9s,baz=245,slow=35			LR	LR	08 59 46.2	
CHTO	**Chiang Mai** 137nm,0.8s,3µm	**4.74**	**60**	P	**Pn**	**08 58 17.7**	**+0.6**
CHTO	**Chiang Mai**	**4.74**	**60**	*e*Pn	**Pn**	**08 58 16.2**	**-0.9**
CHTO				*e*Sn	**Sn**	**08 59 11.1**	**+0.3**
CMMT	**Chiang Mai** 40nm,0.8s,1µm	**4.74**	**60**	P	**Pn**	**08 58 17.6**	**+0.5**
LAMP	**Lampang** 13nm,1.0s	**5.20**	**66**	P	**Pn**	**08 58 25.5**	**+2.0**
CMAI	**Chiengmai2** 33nm,0.5s	**5.43**	**50**	P	**Pn**	**08 58 28.0**	**+1.2**
UTTA	**Uttaradit** 6.2nm,0.7s	**5.82**	**77**	P	Pn	08 58 35.8	+3.9
PBKT	**Sadao Pong** 40nm,0.7s	**6.10**	**88**	P	**Pn**	**08 58 38.6**	**+2.8**
CRAI	**Chiangrai** 13nm,0.9s	**6.62**	**55**	P	**Pn**	**08 58 41.8**	**-1.1**
SHL	**Shillong**	**9.39**	**345**	*e*P	**Pn**	**08 59 18.4**	**-2.7**
SHL				*e*S	**Sn**	**09 01 03.0**	**-2.5**
ODAN	**Odare**	**12.31**	**328**	*e*P	**Pn**	**09 00 02.1**	**+1.0**
TAPN	**Taplejung** 18nm,0.4s	**12.56**	**331**	*e*P	**Pn**	**09 00 03.9**	**-0.7**
RAMN	**Ramite**	**12.79**	**326**	*e*P	**Pn**	**09 00 09.3**	**+1.5**
PKI	**Pulchoki**	**13.94**	**324**	*e*P	**Pn**	**09 00 23.8**	**+0.3**
GUN	**Gumba**	**13.94**	**326**	*e*P	**Pn**	**09 00 24.0**	**+0.4**
PKIN	**Phulchoki**	**13.95**	**324**	*e*P	**Pn**	**09 00 23.9**	**+0.3**
DMN	**Daman**	**14.14**	**323**	*e*P	**Pn**	**09 00 26.7**	**+0.6**
GKN	**Gorkha** 31nm,0.4s	**14.71**	**323**	*e*P	**Pn**	**09 00 34.3**	**+0.5**
KOLN	**Koldanda** 16nm,0.3s	**15.16**	**320**	*e*P	**Pn**	**09 00 40.3**	**+0.5**
LEM	**Lembang** comp=Z,39nm,19.3s,baz=172,slow=36	**26.50**	**150**	LR	LR	09 12 39.5	
MK31	**Makanchi Array**	**31.91**	**344**	*e*P	**P**	**09 03 31.5**	**+1.3**
MKAR	**Makanchi Array** 3.8nm,0.5s,baz=157,slow=9.9,SNR=37	**31.91**	**344**	P	**P**	**09 03 30.2**	**0.0**
MKAR	comp=Z,29nm,18.6s,baz=162,slow=40			LR	LR	09 18 18.5	
SONM	**Songino Array** comp=Z,50nm,19.4s,baz=238,slow=38	**32.74**	**15**	LR	LR	09 17 54.6	
KSRS	**Korea Array** comp=Z,41nm,18.2s,baz=247,slow=40	**36.02**	**48**	LR	LR	09 20 56.1	
KURK	**Kurchatov** 5.6nm,0.6s	**36.48**	**343**	*e*P	**P**	**09 04 10.7**	**+1.0**
ZAA0	**Zalesovo Array**	**38.16**	**351**	*e*P	**P**	**09 04 25.1**	**+1.2**
ZALV	**Zalesovo Beam** 7.3nm,0.5s,baz=174,slow=8.6,SNR=20	**38.16**	**351**	P	**P**	**09 04 24.9**	**+1.1**
GEYT	**Alibeck** 13nm,0.8s,baz=142,slow=7.5,SNR=24	**38.51**	**311**	P	**P**	**09 04 28.7**	**+1.6**
BVAR	**Borovoye Array** 1.7nm,0.5s,baz=119,slow=12,SNR=11	**41.13**	**338**	P	**P**	**09 04 49.4**	**+0.8**
BVAR	1.8nm,0.6s,baz=143,slow=5.2,SNR=7.0			PcP	**PcP**	**09 06 48.8**	**+1.1**
USRK	**Ussuriysk Ar.** 1.3nm,0.5s,baz=264,slow=7.8,SNR=6.4	**41.90**	**41**	P	**P**	**09 04 54.8**	**-0.3**
ABKAR	**Akbulak array** 4.0nm,0.7s	**43.11**	**327**	*e*P	**P**	**09 05 06.1**	**+1.2**
KBZ	**Khabaz** 1.8nm,0.7s,baz=173,slow=8.3,SNR=3.9	**51.30**	**313**	P	**P**	**09 06 09.3**	**+0.5**
KIV	**Kislovodsk** 14nm,0.8s	**51.51**	**313**	*e*P	**P**	**09 06 12.1**	**+1.6**
WRA	**Warramunga Arr** 2.2nm,0.6s,baz=311,slow=7.5,SNR=23	**53.24**	**131**	P	**P**	**09 06 22.4**	**-1.0**
ASAR	**Alice Springs** 1.0nm,0.6s,baz=313,slow=7.1,SNR=17	**55.38**	**135**	P	**P**	**09 06 38.3**	**-0.7**
BRTR	**Keskin Array B** 0.8nm,0.6s,baz=123,slow=10,SNR=4.8	**57.41**	**307**	P	**P**	**09 06 52.1**	**-1.4**
PETK	**Petropavlovsk-** comp=Z,22nm,19.1s,baz=244,slow=38	**60.87**	**38**	LR	LR	09 35 35.8	
AKASG	**Malin Array Be** 1.2nm,0.7s,baz=82,slow=5.1,SNR=7.8	**61.85**	**319**	P	**P**	**09 07 22.7**	**-1.0**
FINES	**FINESS Array B** 4.9nm,0.6s,baz=111,slow=6.3,SNR=28	**65.42**	**331**	P	**P**	**09 07 47.9**	**+0.8**
FINES	comp=Z,18nm,18.2s,baz=166,slow=42			LR	LR	09 43 30.0	
STKA	**Stephens Creek** 2.1nm,0.8s,baz=325,slow=6.2,SNR=7.6	**65.88**	**137**	P	**P**	**09 07 50.9**	**+0.4**
KEV	**Kevo**	**66.94**	**340**	*e*	**P**	**09 07 57.8**	**+1.1**
ARCES	**ARCESS Array B** 4.6nm,0.6s,baz=88,slow=6.8,SNR=49	**67.40**	**339**	P	**P**	**09 08 00.8**	**+1.2**
ARCES	comp=Z,25nm,19.6s,baz=103,slow=40			LR	LR	09 41 53.5	
KRLC	**Kraliky**	**69.76**	**318**	*e*P	**P**	**09 08 15.3**	**+0.6**
DPC	**Dobruska-Polom**	**70.04**	**318**	*e*P	**P**	**09 08 17.6**	**+1.1**
BRG	**Berggiesshubel** 6.4nm,0.8s	**71.53**	**319**	*e*P	**P**	**09 08 26.4**	**+1.0**
GERES	**GERESS Array B** 4.2nm,0.8s,baz=76,slow=5.6,SNR=17	**71.83**	**317**	P	**P**	**09 08 28.4**	**+1.0**
KHC	**Kasperske Hory**	**71.89**	**317**	*e*P	**P**	**09 08 27.9**	**+0.2**
CLL	**Collm** comp=Z,4.0nm,0.9s	**72.09**	**319**	*e*P	**P**	**09 08 29.0**	**+0.2**
NB2	**NORSAR Subarra** comp=Z,3.0nm,0.6s,baz=87,slow=6.2	**72.54**	**330**	P	**P**	**09 08 31.5**	**+0.2**
NOA	**NORSAR Array B** comp=Z,3.7nm,0.7s,baz=88,slow=6.0,SNR=20	**72.54**	**330**	P	**P**	**09 08 31.7**	**+0.4**
NOA	comp=Z,13nm,20.1s,baz=295,slow=39			LR	LR	09 44 22.4	
BOSA	**Boshof** comp=Z,1.6nm,0.6s,baz=62,slow=4.7,SNR=5.4	**80.61**	**237**	P	**P**	**09 09 17.5**	**-0.2**
ESDC	**Sonseca Array** comp=Z,1.2nm,0.5s,baz=54,slow=4.6,SNR=10	**86.05**	**310**	P	**P**	**09 09 46.2**	**+0.7**
ILAR	**Eielson Array** comp=Z,0.3nm,0.8s,baz=293,slow=4.3,SNR=5.8	**86.64**	**22**	P	**P**	**09 09 47.3**	**-0.5**
RES	**

az=177.0
*IDC **25** 09:03:45.5±2.1,5˚46S×131˚34E, h77km±20km, mb4.0/8, mb1 4.2/11,mb1mx3.8/34, mbtmp4.4/11, Error ellipse: s-maj=26.4km s-min=12.9km az=75.0*
*NEIC **25** 09:03:46.7±0.7,5˚56S×131˚30E, h92km±7km, mb4.1/6, Error ellipse: s-maj=9.7km s-min=6.0km az=73.0*
*DJA **25** 09:03:47.5±0.3,5˚S±2˚×13˚1E±˚, h89km±14km, M4.9/14, mb4.9/6, mbB5.3/4, MLv5.0/14, Mw(mB)4.7/4*

ISC 25 09:03:47.3±0.5, 5.49S±0.04×131.25E±0.05, h100km, n58, σ1§30/64, mb4.1/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.65**	**306**	P	**Pn**	**09 04 15.8**	**+0.4**
BNDI				S	**Sn**	**09 04 36.7**	**-0.1**
SAUI	**Saumlaki**	**2.48**	**179**	P	**Pn**	**09 04 26.4**	**+0.3**
SAUI				S	**Sn**	**09 04 57.1**	**+1.2**
FAKI	**Fak Fak**	**2.75**	**21**	P	**Pn**	**09 04 29.5**	**-0.2**
FAKI				S	**Sn**	**09 05 01.0**	**-1.3**
FAKI	**Fak Fak** baz=2.8,SNR=480	**2.75**	**21**	P	**Pn**	**09 04 29.5**	**-0.2**
FAKI	**Fak Fak**	**2.75**	**21**	*e*Pn	**Pn**	**09 04 29.5**	**-0.2**
FAKI				*e*Sn	**Sn**	**09 04 58.6**	**-3.6**
MSAI	**Masohi**	**3.14**	**313**	P	**Pn**	**09 04 34.8**	**-0.2**
MSAI				S	**Sn**	**09 05 09.4**	**-2.4**
AAI	**Ambon**	**3.53**	**300**	P	**Pn**	**09 04 40.8**	**+0.6**
AAI				S	**Sn**	**09 05 18.9**	**-2.2**
AAI	**Ambon** baz=3.7,SNR=9.1	**3.53**	**300**	P	**Pn**	**09 04 41.0**	**+0.7**
SIJI	**Sorong** 74nm,0.3s,baz=43,slow=3.4,SNR=190	**4.59**	**0**	P	**Pn**	**09 04 53.6**	**-1.0**
SIJI				S	**Sn**	**09 05 43.8**	**-3.0**
	68nm,0.3s,baz=106,slow=24,SNR=13						
SWI	**Sorong**	**4.60**	**0**	P	**Pn**	**09 04 53.9**	**-0.7**
SWI	**Sorong** baz=4.7,SNR=28	**4.60**	**0**	P	**Pn**	**09 04 53.9**	**-0.7**
NLAI	**Namlea**	**4.70**	**298**	P	Pn	09 04 59.9	+3.9
RKPI	**Ransiki, Papua**	**4.92**	**37**	P	**Pn**	**09 04 59.3**	**+0.3**
RKPI				S	**Sn**	**09 05 54.2**	**-0.5**
LBMI	**Labuha** 106nm,1.0s,2µm0.8nm	**6.10**	**322**	P	**Pn**	**09 05 14.6**	**-0.4**
SANI	**Sanana** 79nm,0.7s,1µm0.3nm	**6.26**	**303**	P	**Pn**	**09 05 17.9**	**+0.7**
BAKI	**Biak** 131nm,1.1s,0.5nm	**6.46**	**49**	P	**Pn**	**09 05 21.1**	**+1.1**
BAKI				S	**Sn**	**09 06 32.1**	**-0.2**
	131nm,1.1s,0.5nm						
KDU	**Kakadu** baz=7.2,SNR=454	**7.25**	**170**	P	**Pn**	**09 05 28.2**	**-2.4**
MTN	**Manton Dam** baz=7.3,SNR=273	**7.31**	**181**	P	**Pn**	**09 05 29.6**	**-1.8**
TNTI	**Ternate**	**7.33**	**328**	*e*Pn	**Pn**	**09 05 32.5**	**+0.8**
SOEI	**Soe**	**8.11**	**238**	P	**Pn**	**09 05 41.9**	**-0.6**
SOEI				S	**Sn**	**09 07 09.6**	**-3.0**
SOEI	**Soe** baz=8.2,SNR=5.5	**8.11**	**238**	P	**Pn**	**09 05 42.6**	**+0.1**
SOEI	**Soe** 70nm,0.9s	**8.11**	**238**	*e*Pn	**Pn**	**09 05 42.1**	**-0.4**
SOEI				*e*Sn	**Sn**	**09 07 13.2**	**+0.6**
KDI	**Kendari**	**8.73**	**280**	P	**Pn**	**09 05 53.8**	**+3.0**
KNRA	**Kununurra** baz=10,SNR=118	**10.41**	**193**	P	Pn	09 06 10.2	-3.4
KAPI	**Kappang** 1.0nm,0.3s,baz=127,slow=15,SNR=2.6	**11.46**	**272**	P	**Pn**	**09 06 27.4**	**-0.4**
COEN	**Coen** baz=14,SNR=26	**14.45**	**126**	P	**Pn**	**09 07 05.4**	**-1.7**
COEN	**Coen** 22nm,0.6s	**14.45**	**126**	*e*Pn	**Pn**	**09 07 05.3**	**-1.8**
COEN				*e*Sn	Sn	09 09 33.5	-13
WRAB	**Tennant Creek** 22nm,0.5s	**14.67**	**168**	*e*Pn	Pn	09 07 04.0	-6.0
WRAB				*e*Sn	Sn	09 09 42.2	-10
WRA	**Warramunga Arr** 7.0nm,0.3s,baz=351,slow=13,SNR=101	**14.68**	**168**	P	Pn	09 07 04.1	-5.9
WRA				S	Sn	09 09 41.5	-10
	6.9nm,0.3s,baz=346,slow=24,SNR=8.3						
QIS	**Mount Isa** baz=17,SNR=28	**17.04**	**152**	P	**Pn**	**09 07 36.9**	**-2.6**
MTSU	**Mount Surprise** baz=18,SNR=22	**17.91**	**136**	P	**Pn**	**09 07 50.8**	**+0.7**
AS31	**Alice Springs**	**18.25**	**172**	*e*P	**P**	**09 07 51.3**	**-1.7**
ASAR	**Alice Springs** 4.1nm,0.3s,baz=348,slow=8.8,SNR=169	**18.25**	**172**	P	**P**	**09 07 51.4**	**-1.7**
ASAR				S	S	09 11 05.9	-11
	1.2nm,0.3s,baz=355,slow=26,SNR=7.3						
MBWA	**Marble Bar** 5.4nm,0.4s	**19.16**	**215**	*e*P	**P**	**09 08 02.7**	**-0.3**
CTA	**Charters Tower** 2.3nm,0.6s,baz=318,slow=14,SNR=4.8	**20.58**	**136**	P	Pn	09 08 18.4	-3.1
FORT	**Forrest** 15nm,0.7s	**25.33**	**186**	*e*P	**P**	**09 09 05.2**	**+0.3**
STKA	**Stephens Creek** 4.1nm,0.4s,baz=346,slow=8.1,SNR=34	**27.98**	**161**	P	**P**	**09 09 29.4**	**+0.8**
STKA	**Stephens Creek** 1.1nm,0.7s	**27.98**	**161**	*e*P	**P**	**09 09 29.4**	**+0.8**
CMAR	**Chiang Mai Arr** 3.2nm,0.5s,baz=138,slow=7.4,SNR=17	**39.76**	**308**	P	**P**	**09 11 11.6**	**+0.9**
CHTO	**Chiang Mai** 4.9nm,0.8s	**39.96**	**308**	*e*P	**P**	**09 11 12.6**	**+0.4**
ODAN	**Odare** 14nm,0.5s	**53.24**	**309**	*e*P	**P**	**09 12 56.5**	**+0.4**
TAPN	**Taplejung** 22nm,0.4s	**53.24**	**310**	*e*P	**P**	**09 12 56.7**	**+0.5**
GUN	**Gumba** 34nm,0.7s	**54.92**	**310**	*e*P	**P**	**09 13 08.3**	**-0.2**
PKI	**Pulchoki**	**55.12**	**309**	*e*P	**P**	**09 13 10.2**	**+0.3**
PKIN	**Phulchoki**	**55.13**	**309**	*e*P	**P**	**09 13 09.8**	**-0.1**
KKN	**Kakani** 9.1nm,0.5s	**55.33**	**309**	*e*P	**P**	**09 13 11.6**	**+0.3**
DMN	**Daman** 35nm,1.0s	**55.37**	**309**	*e*P	**P**	**09 13 12.2**	**+0.6**
GKN	**Gorkha** 22nm,0.5s	**55.92**	**309**	*e*P	**P**	**09 13 15.8**	**+0.3**
KOLN	**Koldanda** 24nm,0.6s	**56.62**	**308**	*e*P	**P**	**09 13 21.2**	**+0.7**
SONM	**Songino Array** 1.1nm,0.7s,baz=163,slow=6.0,SNR=5.2	**57.43**	**340**	P	**P**	**09 13 26.9**	**+1.2**
MK31	**Makanchi Array**	**67.66**	**326**	*e*P	**P**	**09 14 35.0**	**+1.2**
MKAR	**Makanchi Array** 4.2nm,0.3s,baz=116,slow=8.5,SNR=49	**67.66**	**326**	P	**P**	**09 14 35.2**	**+1.5**
SEY	**Seymchan** 0.9nm,0.5s,baz=214,slow=5.3,SNR=4.9	**70.11**	**10**	P	**P**	**09 14 49.8**	**+1.3**
ZALV	**Zalesovo Beam** 2.1nm,0.5s,baz=106,slow=7.6,SNR=2.2	**70.80**	**333**	P	**P**	**09 14 53.0**	**+0.2**
KURK	**Kurchatov** 2.1nm,0.7s	**71.89**	**328**	*e*P	**P**	**09 14 59.1**	**-0.4**
KKAR	**Karatay Array** 0.4nm,0.4s	**73.04**	**318**	*e*P	**P**	**09 15 08.0**	**+1.4**
ILAR	**Eielson Array** 0.4nm,0.6s,baz=249,slow=4.6,SNR=5.9	**91.46**	**25**	P	**P**	**09 16 41.6**	**-0.5**
TORD	**Torodi Ar. Bea** 0.8nm,0.6s,baz=85,slow=1.7,SNR=5.4	**129.72**	**282**	PKP	**PKPdf**	**09 22 46.5**	**+0.6**

*CSEM **25** 09:23:05.8±0.9,39˚89N×19˚77E, h2km, MD2.9, Error ellipse: s-maj=21.5km s-min=10.5km az=65.0*
*TIR **25** 09:23:08.7,39˚70N×19˚86E, h7km, ML1.9*
*ATH **25** 09:23:10.0,39˚82N×20˚07E, h7km±5km, MD2.9/8*

ISC 25 09:23:11.3±1.0, 39.80N±0.03×20.15E±0.04, h7km±10km, n21, σ0§78/28, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRN	**Sarande**	**0.14**	**303**	*i* PG	**Pg**	**09 23 13.9**	**-0.4**
SRN				*i* SG	**Sg**	**09 23 16.9**	**+0.7**
SGD	**Sagiada**	**0.20**	**162**	*e*PG	**Pg**	**09 23 14.8**	**-0.5**
SGD				*e*SG	**Sg**	**09 23 18.4**	**+0.4**
SGD	**Sagiada**	**0.20**	**162**	*e*Pg	**Pg**	**09 23 14.8**	**-0.5**
SGD				*e*Sg	**Sg**	**09 23 18.4**	**+0.4**
IGT	**Igoumenitsa**	**0.30**	**153**	*e*PG	**Pg**	**09 23 16.6**	**-0.6**
IGT				*e*SB	**Sg**	**09 23 22.3**	**+1.0**
IGT	**Igoumenitsa**	**0.30**	**153**	*e*Pg	**Pg**	**09 23 16.6**	**-0.6**
IGT				*e*Sb	**Sg**	**09 23 22.3**	**+1.0**
JAN	**Janina**	**0.56**	**105**	*e*PB	**Pg**	**09 23 21.1**	**-0.9**
JAN				*e*SB	**Sg**	**09 23 29.6**	**+0.3**
JAN	**Janina**	**0.56**	**105**	*e*Pb	**Pg**	**09 23 21.1**	**-0.9**
JAN				*e*Sb	**Sg**	**09 23 29.6**	**+0.3**
VLO	**Vlora**	**0.83**	**323**	*i* PG	Pg	09 23 16.1	-11
VLO	**Vlora**	**0.83**	**323**	*i* Pg	Pg	09 23 16.1	-11
NEST	**Nestorio**	**0.92**	**48**	*e*PG	Pg	09 23 27.7	-1.2
NEST				*e*SB	**Sg**	**09 23 41.4**	**+0.5**
NEST	**Nestorio**	**0.92**	**48**	*e*Pg	Pg	09 23 27.7	-1.2
NEST				*e*Sb	**Sg**	**09 23 41.4**	**+0.5**
DSL	**Palaion Diesel**	**0.99**	**132**	*e*PG	**Pg**	**09 23 29.5**	**-0.8**
DSL				*e*SB	**Sb**	**09 23 45.2**	**+1.2**
DSL	**Palaion Diesel**	**0.99**	**132**	*e*Pg	**Pg**	**09 23 29.5**	**-0.8**
DSL				*e*Sb	**Sb**	**09 23 45.2**	**+1.2**
LKD2	**Lefkada island**	**1.09**	**159**	*e*PB	**Pn**	**09 23 32.1**	**-0.8**
LKD2	**Lefkada island**	**1.09**	**159**	*e*Pb	**Pn**	**09 23 32.1**	**-0.8**
FNA	**Florina**	**1.35**	**43**	*e*PB	**Pn**	**09 23 36.3**	**-0.3**
FNA	**Florina**	**1.35**	**43**	*e*Pb	**Pn**	**09 23 36.3**	**-0.3**
THL	**Klokotos Trika**	**1.46**	**99**	*e*PB	**Pn**	**09 23 38.9**	**+1.0**
THL	**Klokotos Trika**	**1.46**	**99**	*e*Pb	**Pn**	**09 23 38.9**	**+1.0**
AGG	**Agios Georgios**	**1.86**	**114**	*e*PN	**Pb**	**09 23 45.1**	**-0.4**
AGG	**Agios Georgios**	**1.86**	**114**	*e*Pn	**Pb**	**09 23 45.1**	**-0.4**

IDC 25 09:34:13.9±18.0, 6.05N×122.75E, h507km±260km, mb3.1/4, mb1 3.3/4, mb1mx2.7/51, mbtmp4.1/4, Error ellipse: s-maj=196.5km s-min=34.5km az=60.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 1.3nm,0.5s,baz=333,slow=11,SNR=32	**28.23**	**156**	P	P	09 39 25.1	-0.5
ASAR	**Alice Springs** 1.3nm,0.3s,baz=339,slow=7.5,SNR=64	**31.48**	**160**	P	P	09 39 54.5	+0.8
STKA	**Stephens Creek** 0.8nm,0.4s,baz=335,slow=6.9,SNR=3.1	**41.78**	**156**	P	P	09 41 17.9	-0.6
MKAR	**Makanchi Array** 0.8nm,0.3s,baz=125,slow=8.2,SNR=8.2	**53.42**	**326**	P	P	09 42 45.8	-0.1

*SJA **25** 09:34:45.9±0.3,21˚66S×66˚40W, h249km±13km, ML2.6, MW3.3*
*NEIC **25** 09:34:45.8±0.9,21˚76S×67˚15W, h181km±12km, mb4.1/2, Error ellipse: s-maj=17.6km s-min=16.9km az=76.0*
*IDC **25** 09:34:45.1±0.8,21˚75S×67˚22W, h182km±14km, mb3.9/2, mb1 3.4/6, mb1mx3.1/40, mbtmp4.0/6, Error ellipse: s-maj=24.2km s-min=13.9km az=109.0*

ISC 25 09:34:48.3±1.2, 21.59S±0.07×66.9W±0.1, h207km, n14, σ1§54/17, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YJA	**Yavi**	**1.44**	**114**	*e*P	**Pn**	**09 35 21.9**	**-0.6**
YJA				*e*S	**S**	**09 35 48.6**	**-0.3**
LVC	**Limon Verde** 1µm,0.3s,baz=57,slow=18,SNR=435	**2.10**	**241**	P	Pn	09 35 21.3	-7.4
LVC				S	S	09 35 47.8	-12
	388nm,0.3s,baz=246,slow=21,SNR=19						
HJA	**Humahuaca**	**2.14**	**139**	*e*P	**Pn**	**09 35 27.8**	**-1.4**
AZAP	**Zapla**	**3.14**	**147**	*e*P	**Pn**	**09 35 37.5**	**-2.7**
SLA	**San Lorenzo**	**3.38**	**158**	*e*P	**Pn**	**09 35 40.8**	**-2.2**
SLA				AML	AML	09 36 32.9	
	comp=Z,9.7nm,0.6s						
LPAZ	**La Paz** comp=Z,1.1nm,0.3s,baz=143,slow=5.9,SNR=38	**5.39**	**348**	P	**Pn**	**09 36 06.8**	**-1.7**
LPAZ				S	**S**	**09 37 10.5**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=22,slow=22,SNR=4.8						
LPAZ	**La Paz** comp=Z,5.1nm,0.7s	**5.39**	**348**	*e*Pn	**Pn**	**09 36 07.8**	**-0.7**
LPAZ				*e*Sn	**S**	**09 37 10.7**	**-0.8**
SIV	**San Ignacio** comp=Z,2.2nm,0.3s,baz=250,slow=9.3,SNR=36	**7.86**	**46**	P	**Pn**	**09 36 39.6**	**-0.2**
SIV				S	**S**	**09 38 06.1**	**-2.6**
	comp=Z,0.9nm,0.3s,baz=150,slow=22,SNR=8.2						
CPUP	**Villa Florida** comp=Z,0.2nm,0.3s,baz=295,slow=15,SNR=4.9	**9.97**	**120**	P	**Pn**	**09 37 06.4**	**-0.6**
BDFB	**Brasilia** comp=Z,0.3nm,0.3s,baz=219,slow=14,SNR=3.1	**18.87**	**75**	P	**Pn**	**09 38 56.7**	**+0.3**
DBIC	**Dimbokro** comp=Z,2.1nm,0.8s,baz=238,slow=9.5,SNR=3.2	**67.00**	**72**	P	**P**	**09 45 21.1**	**+1.8**
DBIC	**Dimbokro** comp=Z,6.7nm,1.2s	**67.00**	**72**	*e*P	**P**	**09 45 21.0**	**+1.7**
TORD	**Torodi Ar. Bea** comp=Z,2.3nm,0.5s,baz=255,slow=5.6,SNR=45	**75.65**	**69**	P	**P**	**09 46 11.6**	**+0.4**
MKAR	**Makanchi Array** comp=Z,0.7nm,0.6s,baz=336,slow=2.7,SNR=6.5	**144.60**	**37**	PKP	**PKPdf**	**09 54 01.1**	**+1.0**

*ISCJB **25** 09:35:00.5±0.5,6.62N±0.04×76.74E±0.07, h10km, mb3.9/19, MS3.3/1, Error ellipse: s-maj=10.6km s-min=5.1km az=10.6*
*IDC **25** 09:35:00.9±0.7,6.61N×76.74E, h0km, mb3.9/15, mb1 4.0/16, mb1mx3.8/50, mbtmp3.9/16, ML3.9/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/31, Error ellipse: s-maj=19.4km s-min=16.3km az=42.0*
*NEIC **25** 09:35:02.5±0.5,6.60N×76.78E, h10km, mb4.0/4, Error ellipse: s-maj=13.7km s-min=10.7km az=208.0*

ISC 25 09:35:02.3±0.6, 6.54N±0.07×76.84E±0.08, h10km, n47, σ1§39/42, mb4.0/19, Laccadive Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele** 7.2nm,0.3s,baz=254,slow=15,SNR=50	**3.91**	**79**	Pn	**Pn**	**09 36 02.3**	**-0.2**
PALK				Sn	**Sn**	**09 36 44.8**	**-3.6**
	97nm,0.3s,baz=1.7,slow=22,SNR=26						
PALK				LR	LR	09 37 32.8	
	comp=Z,109nm,21.4s,baz=295,slow=38						
SKHT	**Srikalahasti**	**7.70**	**21**	*e*Pn	**Pn**	**09 36 55.2**	**+0.7**
SKHT				*e*		09 38 18.2	
SKHT				IVMs_BB	IVMs_BB	09 40 49.9	
	comp=Z,928nm,4.7s						
URV	**Uravakonda**	**8.37**	**3**	*e*Pn	**Pn**	**09 37 02.3**	**-1.5**
URV				*e*		09 38 28.7	
URV				IVMs_BB	IVMs_BB	09 41 17.9	
	comp=Z,772nm,4.4s						
RCLA	**Racherla**	**9.11**	**13**	*e*Pn	**Pn**	**09 37 12.4**	**-1.5**
RCLA				IAmb	IAmb	09 37 19.1	
	comp=Z,14nm,0.8s						
RCLA				*e*		09 38 49.6	
RCLA				*e*Sn	**Sn**	**09 38 58.0**	**+1.4**
RCLA				IVMs_BB	IVMs_BB	09 41 26.0	
	comp=Z,1µm,4.6s						
SRLM	**Srisailam**	**9.72**	**12**	*e*Pn	**Pn**	**09 37 20.1**	**-2.2**
SRLM				*e*		09 39 04.7	
SRLM				IVMs_BB	IVMs_BB	09 43 00.9	
	comp=Z,1µm,5.8s						
ADKI	**Addanki**	**9.75**	**18**	*e*Pn	**Pn**	**09 37 22.9**	**+0.2**
ADKI				*e*		09 39 05.4	
ADKI				*e*Sn	**Sn**	**09 39 14.4**	**+2.2**
ADKI				IVMs_BB	IVMs_BB	09 42 10.5	
	comp=Z,1µm,4.3s						
NJS	**Nagarjunasagar**	**10.24**	**13**	*e*Pn	**Pn**	**09 37 28.2**	**-1.3**
NJS				*e*		09 39 15.4	
NJS				*e*Sn	**Sn**	**09 39 26.1**	**+1.6**
NJS				IVMs_BB	IVMs_BB	09 42 43.9	
	comp=Z,844nm,4.4s						
HYB	**Hyderabad**	**10.94**	**9**	*i* P	**Pn**	**09 37 39.5**	**+0.4**
HYB				*e*S	Sn	09 39 32.0	-10
HYB	**Hyderabad**	**10.94**	**9**	*e*P	Pn	09 37 47.0	+7.9
HYB				*e*S	Sn	09 39 32.0	-10
HYBB	**Hyderabad (bro**	**10.95**	**9**	*e*Pn	**Pn**	**09 37 40.3**	**+1.1**
HYBB				*e*		09 39 32.1	
HYBB				*e*Sn	**Sn**	**09 39 42.3**	**+0.6**
HYBB				IVMs_BB	IVMs_BB	09 42 40.4	
	comp=Z,1µm,4.8s						
KLRI	**Killari**	**11.47**	**359**	*e*Pn	**Pn**	**09 37 44.3**	**-2.0**
KLRI				*e*		09 39 46.8	
KLRI				*e*Sn	**Sn**	**09 39 53.9**	**-0.7**
KLRI				IVMs_BB	IVMs_BB	09 42 24.5	
	comp=Z,1µm,4.3s						
PVM	**Polavaram**	**11.63**	**23**	*e*		09 39 47.6	
PVM				*e*Sn	**Sn**	**09 39 59.4**	**+0.9**
PVM				IVMs_BB	IVMs_BB	09 43 20.7	
	comp=Z,434nm,4.3s						
LATR	**Latur**	**11.81**	**359**	*e*P	Pn	09 37 42.5	-8.4
SRSP	**Sriramsagar**	**12.40**	**7**	*e*Pn	**Pn**	**09 37 56.4**	**-2.7**
SRSP				*e*		09 40 06.3	
SRSP				IVMs_BB	IVMs_BB	09 43 26.8	
	comp=Z,726nm,5.2s						
RPR	**Rampur**	**12.48**	**11**	*e*Pn	**Pn**	**09 37 59.0**	**-1.1**
RPR				*e*		09 40 07.7	
RPR				*e*Sn	**Sn**	**09 40 21.1**	**+1.8**
RPR				IVMs_BB	IVMs_BB	09 43 24.3	
	comp=Z,1µm,4.7s						
H08N2	**Diego Garcia H** baz=25,slow=76,SNR=17	**14.04**	**205**	T	T	09 53 52.1	
H08N1	**Diego Carcia H** baz=25,slow=76,SNR=16	**14.05**	**205**	T	T	09 53 53.2	
H08N3	**Diego Garcia H** baz=25,slow=76,SNR=16	**14.06**	**205**	T	T	09 53 50.8	
H08S3	**Diego Garcia H** baz=17,slow=76,SNR=16	**14.72**	**197**	T	T	09 54 36.7	
H08S2	**Diego Garcia H** baz=17,slow=76,SNR=27	**14.74**	**197**	T	T	09 54 38.6	
H08S1	**Diego Carcia H** baz=17,slow=76,SNR=9.8	**14.74**	**197**	T	T	09 54 40.0	
CMAR	**Chiang Mai Arr** comp=Z,0.6nm,0.2s,baz=238,slow=8.4,SNR=3.0	**24.58**	**59**	P	**P**	**09 40 24.2**	**+1.4**
KURBB	**Kurchatov Arra** comp=Z,0.9nm,0.3s,baz=196,slow=7.9,SNR=9.4	**43.96**	**2**	P	**P**	**09 43 09.9**	**+0.3**
KURK	**Kurchatov** comp=Z,2.2nm,0.6s	**44.06**	**2**	*e*P	**P**	**09 43 11.2**	**+0.9**
ABKAR	**Akbulak array** comp=Z,0.7nm,0.5s	**44.90**	**344**	*e*P	**P**	**09 43 18.0**	**+1.0**
AKTO	**Aktyubinsk** comp=Z,0.5nm,0.5s,baz=168,slow=9.3,SNR=3.7	**46.50**	**343**	P	**P**	**09 43 27.6**	**-2.1**
BVAR	**Borovoye Array** comp=Z,0.3nm,0.5s,baz=142,slow=7.3,SNR=2.9	**46.65**	**355**	P	**P**	**09 43 29.4**	**-1.4**
SONM	**Songino Array** comp=Z,0.6nm,0.8s,baz=208,slow=5.9,SNR=3.3	**48.25**	**26**	P	**P**	**09 43 44.8**	**+1.2**
BRTR	**Keskin Array B** comp=Z,1.0nm,1.0s,baz=118,slow=7.1,SNR=4.6	**50.91**	**317**	P	**P**	**09 44 04.9**	**+0.9**
LSZ	**Lusaka** comp=Z,1.3nm,0.5s,baz=64,slow=14,SNR=2.7	**52.85**	**245**	P	**P**	**09 44 17.8**	**-1.0**
H01W3	**Cape Leeuwin H** baz=315,slow=75,SNR=11	**54.17**	**142**	T	T	10 43 22.0	
H01W2	**Cape Leeuwin H** baz=315,slow=75,SNR=16	**54.18**	**142**	T	T	10 43 12.0	
H01W1	**Cape Leeuwin H** baz=315,slow=75,SNR=13	**54.19**	**142**	T	T	10 43 12.2	
AKASG	**Malin Array Be** comp=Z,1.8nm,0.7s,baz=120,slow=5.7,SNR=9.3	**59.12**	**327**	P	**P**	**09 45 02.0**	**-1.0**
BOSA	**Boshof** comp=Z,4.6nm,0.9s,baz=57,slow=8.5,SNR=5.9	**60.73**	**232**	P	**P**	**09 45 15.7**	**+1.1**
WRA	**Warramunga Arr** comp=Z,1.1nm,0.6s,baz=295,slow=7.0,SNR=11	**62.36**	**116**	P	**P**	**09 45 26.8**	**+1.1**
WRAB	**Tennant Creek** comp=Z,2.2nm,0.6s	**62.37**	**116**	*e*P	**P**	**09 45 26.9**	**+1.2**
ASAR	**Alice Springs** comp=Z,0.7nm,0.7s,baz=296,slow=6.5,SNR=8.7	**63.25**	**120**	P	**P**	**09 45 32.5**	**+1.0**
YAK	**Yakutsk** comp=Z,19nm,18.8s,baz=332,slow=39	**67.50**	**24**	LR	LR	10 19 10.7	
CLL	**Collm** comp=Z,4.0nm,0.9s	**68.71**	**323**	*e*P	**P**	**09 46 07.0**	**+0.8**
ARCES	**ARCESS Array B** comp=Z,1.1nm,0.6s,baz=142,slow=6.1,SNR=8.6	**71.08**	**343**	P	**P**	**09 46 19.7**	**-0.7**
STKA	**Stephens Creek** comp=Z,1.8nm,1.0s,baz=328,slow=6.6,SNR=2.8	**72.48**	**126**	P	**P**	**09 46 29.6**	**0.0**
STKA	**Stephens Creek** comp=Z,0.4nm,1.0s	**72.48**	**126**	*e*P	**P**	**09 46 30.0**	**+0.5**
NOA	**NORSAR Array B** comp=Z,0.5nm,0.6s,baz=113,slow=4.4,SNR=3.4	**72.64**	**332**	P	**P**	**09 46 28.8**	**-1.2**
SEY	**Seymchan** comp=Z,1.0nm,0.6s,baz=168,slow=7.3,SNR=3.7	**77.64**	**27**	P	**P**	**09 46 58.6**	**-0.1**
PDAR	**Pinedale Array** comp=Z,0.3nm,0.6s,baz=32,slow=2.0,SNR=3.5	**130.59**	**6**	PKP	**PKPdf**	**09 54 14.8**	**+0.6**
TXAR	**Lajitas Array** comp=Z,0.3nm,0.8s,baz=108,slow=2.8,SNR=4.0	**144.33**	**1**	PKP	**PKPdf**	**09 54 39.4**	**-0.3**

*ISCJB **25** 09:43:37.8±0.4,24˚58N±0.03×122˚65E±0.02, h95km±4km, Error ellipse: s-maj=4.9km s-min=2.2km az=171.5*
*JMA **25** 09:43:37.6±0.1,24˚53N×122˚60E, h99km±1km, M3.2*
*TAP **25** 09:43:38.3,24˚50N×122˚64E, h84km±1km, ML3.7, D*

ISC 25 09:43:38.0±1.3, 24.57N±0.04×122.65E±0.02, h96km±7km, n58, σ0§97/106, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.30**	**113**	P	**Pn**	**09 43 52.4**	**+0.3**
JYNG				S	**Sn**	**09 44 03.1**	**+0.5**
YOJ	**Yonaguni jima**	**0.35**	**107**	P	**Pn**	**09 43 52.6**	**+0.2**
YOJ				S	**Sn**	**09 44 03.5**	**+0.4**
EGS	baz=297	**0.71**	**293**	*e*P	**Pn**	**09 43 55.4**	**+0.3**
EGS				*e*S	**Sn**	**09 44 07.6**	**-0.3**
	baz=297						
TWC	**Suao** baz=278	**0.73**	**274**	P	**Pn**	**09 43 54.9**	**-0.4**
TWC				S	**Sn**	**09 44 06.9**	**-1.3**
	baz=278						
TWB1	**Santiao Chiao** baz=310	**0.74**	**307**	*e*P	**Pn**	**09 43 55.4**	**-0.1**
TWB1				*e*S	**Sn**	**09 44 08.2**	**-0.3**
	baz=310						
ENA	**Nanau** baz=264	**0.83**	**261**	*e*P	**Pn**	**09 43 56.5**	**+0.1**
ENA				*e*S	**Sn**	**09 44 08.9**	**-1.2**
	baz=264						
ILA	**Ilan** baz=287	**0.84**	**284**	*e*P	**Pn**	**09 43 59.0**	**+2.6**
ILA				*e*S	**Sn**	**09 44 10.0**	**-0.3**
	baz=287						
TWE	**Neicheng** baz=283	**0.90**	**280**	P	**Pn**	**09 43 57.2**	**+0.1**
TWE				S	**Sn**	**09 44 10.6**	**-0.8**
	baz=283						
NWF	**Wu-fen Shan** baz=305	**0.93**	**303**	*e*P	**Pn**	**09 43 57.5**	**-0.1**
NWF				*e*S	**Sn**	**09 44 11.8**	**-0.4**
	baz=305						
ENTT	**Nioudou** baz=277	**0.98**	**275**	*e*P	**Pn**	**09 43 58.4**	**+0.4**
ENTT				*e*S	**Sn**	**09 44 13.3**	**+0.3**
	baz=277						
IRIF	**Iriomote-Funau**	**1.01**	**103**	P	**Pn**	**09 43 58.6**	**+0.3**
IRIF				S	**Sn**	**09 44 14.3**	**+0.8**
TWA	**Mucha** baz=296	**1.05**	**293**	*e*P	**Pn**	**09 43 58.8**	**0.0**
TWA				*e*S	**Sn**	**09 44 13.3**	**-1.0**
	baz=296						
TWD	**Chiawan** baz=246	**1.07**	**243**	*e*P	**Pn**	**09 43 59.2**	**+0.3**
TWD				S	**Sn**	**09 44 14.0**	**-0.7**
	baz=246						
HWA	**Hwalien** baz=240	**1.12**

TWQ1	**Liyutan**	**1.72**	**263**	*e*P	**Pn**	**09 44 08.2**	**+1.4**
	baz=264						
TWQ1				*e*S	**Sn**	**09 44 28.5**	**-0.3**
	baz=264						
NSY	**Sanyi**	**1.72**	**265**	*e*P	**Pn**	**09 44 05.8**	**-1.1**
	baz=266						
NSY				*e*S	**Sn**	**09 44 29.3**	**+0.4**
	baz=266						
TWF1	**Yuli**	**1.73**	**226**	*e*P	**Pn**	**09 44 06.5**	**-0.5**
	baz=226						
TWF1				*e*S	**Sn**	**09 44 27.8**	**-1.2**
	baz=226						
SMLT	**Sun Moon Lake**	**1.73**	**247**	*e*P	**Pn**	**09 44 08.3**	**+1.2**
	baz=248						
SMLT				*e*S	**Sn**	**09 44 30.4**	**+1.2**
	baz=248						
TYC	**Yuchr**	**1.76**	**248**	*e*P	**Pn**	**09 44 08.4**	**+1.0**
	baz=249						
TYC				*e*S	**Sn**	**09 44 30.2**	**+0.6**
	baz=249						
TCU	**Taichung**	**1.84**	**257**	*e*S	**Sn**	**09 44 31.6**	**0.0**
	baz=258						
CHKT	**Chengkung**	**1.87**	**219**	*e*P	**Pn**	**09 44 08.2**	**-0.7**
	baz=219						
CHKT				*e*S	**Sn**	**09 44 30.4**	**-1.8**
	baz=219						
JTJ	**Tarama**	**1.87**	**87**	P	**Pn**	**09 44 09.5**	**+0.7**
JTJ				S	**Sn**	**09 44 32.3**	**+0.1**
WNT	**Mingjian**	**1.92**	**249**	*e*P	**Pn**	**09 44 11.2**	**+1.8**
	baz=250						
WNT				*e*S	**Sn**	**09 44 35.1**	**+1.9**
	baz=250						
CHN5	**Tsauling**	**2.04**	**242**	*e*P	**Pn**	**09 44 12.2**	**+1.1**
	baz=243						
CHN5				*e*S	**Sn**	**09 44 38.0**	**+1.8**
	baz=243						
WGK	**Gukeng**	**2.10**	**246**	*e*S	**Sn**	**09 44 39.9**	**+2.5**
	baz=246						
STYT	**Tauyuan**	**2.22**	**231**	*e*P	**Pn**	**09 44 14.7**	**+1.3**
	baz=232						
STYT				*e*S	**Sn**	**09 44 41.3**	**+0.8**
	baz=232						
CHN2	**Minshiung**	**2.23**	**243**	*e*P	**Pn**	**09 44 15.1**	**+1.6**
	baz=243						
CHN2				*e*S	**Sn**	**09 44 42.5**	**+1.8**
	baz=243						
TWG	**Pinlang**	**2.26**	**220**	*e*P	**Pn**	**09 44 13.3**	**-0.5**
	baz=220						
TWG				*e*S	**Sn**	**09 44 39.9**	**-1.3**
	baz=220						
CHY	**Chiayi**	**2.29**	**243**	*e*S	**Sn**	**09 44 43.5**	**+1.4**
	baz=243						
JIRB	**Irabujima**	**2.31**	**83**	P	**Pn**	**09 44 15.2**	**+0.7**
JIRB				S	**Sn**	**09 44 41.7**	**-0.8**
TWK	**Hsinying**	**2.36**	**237**	*e*P	**Pn**	**09 44 16.1**	**+0.8**
	baz=237						
TWK				*e*S	**Sn**	**09 44 44.3**	**+0.6**
	baz=237						
CHN1	**Nanshi**	**2.38**	**235**	*e*P	**Pn**	**09 44 16.2**	**+0.8**
	baz=235						
CHN1				*e*S	**Sn**	**09 44 44.6**	**+0.5**
	baz=235						
JIKM	**Ikemajima**	**2.39**	**81**	S	**Sn**	**09 44 44.3**	**-0.1**
SGST	**Jiashian**	**2.40**	**232**	*e*P	**Pn**	**09 44 16.1**	**+0.4**
	baz=232						
SGST				*e*S	**Sn**	**09 44 46.4**	**+1.9**
	baz=232						
JMJ	**Miyako jima 2**	**2.42**	**84**	S	**Sn**	**09 44 44.8**	**-0.3**
ECL	**Taimali**	**2.50**	**219**	*e*P	**Pn**	**09 44 16.1**	**-0.9**
	baz=219						
JOGS	**Gusukube**	**2.52**	**85**	P	**Pn**	**09 44 18.0**	**+0.7**
JOGS				S	**Sn**	**09 44 47.6**	**+0.2**
SSD	**Sandimen**	**2.59**	**226**	*e*P	**Pn**	**09 44 20.1**	**+1.9**
	baz=226						
LAY	**Lan-yu**	**2.71**	**202**	*e*P	**Pn**	**09 44 19.1**	**-0.8**
	baz=202						
LAY				*e*S	**Sn**	**09 44 49.3**	**-2.6**
	baz=202						
EAST	**Anshuo**	**2.73**	**218**	*e*P	**Pn**	**09 44 20.2**	**+0.1**
	baz=217						
EAST				*e*S	**Sn**	**09 44 52.2**	**-0.3**
	baz=217						
PNG	**Penghu**	**2.99**	**251**	*e*S	**Sn**	**09 44 56.3**	**-2.4**
	baz=251						
JKE	**Kume jima 2**	**4.13**	**64**	P	**Pn**	**09 44 39.0**	**+0.1**
JNTH	**Nagotoyohara**	**5.23**	**67**	P	**Pn**	**09 44 53.2**	**-0.6**
JNTH				S	**Sn**	**09 45 51.1**	**-1.8**

*ISK **25** 09:47:18.7, 39°.22N×27°.29E, h25km, MD2.5*
*CSEM **25** 09:47:20.9±0.3, 39°.12N×27°.22E, h25km±4km, MD2.5, Error ellipse: s-maj=9.5km s-min=6.3km az=150.0*
*DDA **25** 09:47:20.6, 39°.10N×27°.30E, h7km, MD2.7*
*ISCJB **25** 09:47:21.4±0.5, 39°.10N±0°.04×27°.25E±0°.05, h26km±6km, Error ellipse: s-maj=8.4km s-min=5.0km az=145.2*

ISC 25 09:47:20.8±1.0, 39°.12N±0°.02×27°.26E±0°.02, h16km±8km, n35, σ0§94/58, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DKL	**Dikili**	**0.28**	**259**	*e*PG	**Pg**		**09 47 26.7**	**-0.2**
DKL				*e*SG	**Sb**		**09 47 32.4**	**+0.6**
DKL	**Dikili**	**0.28**	**259**	*e*Pg	**Pg**		**09 47 26.7**	**-0.2**
DKL				*e*Sg	**Sb**		**09 47 32.4**	**+0.6**
AKS	**Akhisar**	**0.50**	**119**	*e*PG	**Pg**		**09 47 30.1**	**-0.6**
AKS	**Akhisar**	**0.50**	**119**	*e*Pg	**Pg**		**09 47 30.1**	**-0.6**
AKHS	**Akhisar**	**0.50**	**119**	*i* P	**Pg**		**09 47 30.6**	**-0.1**
AKHS	**Akhisar**	**0.50**	**119**	*i* P	**Pg**		**09 47 30.6**	**-0.1**
BALY	**Balya**	**0.68**	**24**	*i* P	**Pn**		**09 47 35.4**	**-0.3**
BALY				*i* S	**Sn**		**09 47 45.8**	**-0.2**
BALY	**Balya**	**0.68**	**24**	*i* P	**Pb**		**09 47 34.5**	**+0.3**
BALY				*i* S	**Sb**		**09 47 44.5**	**+1.1**
BALY	**Balya**	**0.68**	**24**	*i* P	**Pn**		**09 47 35.4**	**-0.3**
BALY				*i* S	**Sn**		**09 47 45.8**	**-0.2**
BALY	**Balya**	**0.68**	**24**	*i* P	**Pb**		**09 47 34.5**	**+0.3**
BALY				*i* S	**Sb**		**09 47 44.5**	**+1.1**
BLCB	**Balcova**	**0.76**	**193**	*e*PG	**Pb**		**09 47 35.5**	**-0.1**
BLCB	**Balcova**	**0.76**	**193**	*e*Pg	**Pb**		**09 47 35.5**	**-0.1**
URLA	**Izmir**	**0.92**	**214**	*i* P	**Pn**		**09 47 39.9**	**+0.8**
URLA				*i* S	**Sn**		**09 47 53.2**	**+1.2**
URLA	**Izmir**	**0.92**	**214**	*i* P	**Pn**		**09 47 39.4**	**+0.3**
URLA				*i* S	**Sg**		**09 47 51.6**	**+0.8**
URLA	**Izmir**	**0.92**	**214**	*i* P	**Pn**		**09 47 39.9**	**+0.8**
URLA				*i* S	**Sn**		**09 47 53.2**	**+1.2**
URLA	**Izmir**	**0.92**	**214**	*i* P	**Pn**		**09 47 39.4**	**+0.3**
URLA				*i* S	**Sg**		**09 47 51.6**	**+0.8**
DURS	**Dursunbey**	**1.06**	**63**	*i* P	**Pg**		**09 47 41.7**	**+0.4**
DURS				*i* S	**Sn**		**09 47 56.0**	**+0.6**
DURS	**Dursunbey**	**1.06**	**63**	*i* P	**Pg**		**09 47 41.2**	**-0.1**
DURS				*i* S	**Sg**		**09 47 55.1**	**0.0**
DURS	**Dursunbey**	**1.06**	**63**	*i* P	**Pg**		**09 47 41.7**	**+0.4**
DURS				*i* S	**Sn**		**09 47 56.0**	**+0.6**
DURS	**Dursunbey**	**1.06**	**63**	*i* P	**Pg**		**09 47 41.2**	**-0.1**
DURS				*i* S	**Sg**		**09 47 55.1**	**0.0**
ZEY	**¨zmir**	**1.06**	**214**	*i* P	**Pg**		**09 47 42.0**	**+0.7**
ZEY				*i* S	**Sg**		**09 47 57.7**	**+2.4**
SIGR	**SIGRI**	**1.09**	**275**	*e*PN	**Pb**		**09 47 39.1**	**-2.2**
SIGR	**SIGRI**	**1.09**	**275**	*e*Pn	**Pb**		**09 47 39.1**	**-2.2**
DEMI	**Demirci**	**1.14**	**94**	*i* P	**Pg**		**09 47 42.9**	**+0.1**
DEMI				*i* S	**Sb**		**09 47 56.7**	**0.0**
DEMI	**Demirci**	**1.14**	**94**	*i* P	**Pb**		**09 47 42.4**	**+0.3**
DEMI				*i* S	**Sb**		**09 47 56.8**	**+0.1**
DEMI	**Demirci**	**1.14**	**94**	*i* P	**Pg**		**09 47 42.9**	**+0.1**
DEMI				*i* S	**Sb**		**09 47 56.7**	**0.0**
DEMI	**Demirci**	**1.14**	**94**	*i* P	**Pb**		**09 47 42.4**	**+0.3**
DEMI				*i* S	**Sb**		**09 47 56.8**	**+0.1**
CHOS	**Chios island**	**1.20**	**232**	*e*PN	**Pn**		**09 47 41.4**	**-1.5**
CHOS	**Chios island**	**1.20**	**232**	*e*Pn	**Pn**		**09 47 41.4**	**-1.5**
MANT	**Manisa**	**1.20**	**122**	*i* P	**Pg**		**09 47 44.1**	**+0.1**
MANT				*i* S	**Sb**		**09 47 58.1**	**-0.4**
MANT	**Manisa**	**1.20**	**122**	*i* P	**Pb**		**09 47 43.6**	**+0.4**
MANT				*i* S	**Sb**		**09 47 56.2**	**-2.3**
MANT	**Manisa**	**1.20**	**122**	*i* P	**Pg**		**09 47 44.1**	**+0.1**
MANT				*i* S	**Sb**		**09 47 58.1**	**-0.4**
MANT	**Manisa**	**1.20**	**122**	*i* P	**Pb**		**09 47 43.6**	**+0.4**
MANT				*i* S	**Sb**		**09 47 56.2**	**-2.3**
AYDB	**Zeytinkoy-Aydi**	**1.28**	**157**	*e*PN	**Pn**		**09 47 42.5**	**-1.6**
AYDB	**Zeytinkoy-Aydi**	**1.28**	**157**	*e*Pn	**Pn**		**09 47 42.5**	**-1.6**

IDC 25 10:05:20.9±4.6, 26°.39S×141°.56E, h0km, mb1 2.9/3, mb1mx2.9/30, mbtmp2.7/3, ML2.7/3, Error ellipse: s-maj=66.9km s-min=21.0km az=67.0, Queensland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**5.47**	**180**	P	**Pn**	**Pn**	**10 06 42.0**	**-1.7**
	0.2nm,0.3s,baz=1.0,slow=12,SNR=5.4							
STKA				Sn	**Sn**	**Sn**	**10 07 41.0**	**-6.3**
	0.3nm,0.3s,baz=94,slow=14,SNR=5.2							
STKA				Lg	**Lg**	**Lg**	**10 08 16.0**	
	0.3nm,0.3s,baz=106,slow=21,SNR=3.0							
ASAR	**Alice Springs**	**7.46**	**290**	Pn	**Pn**	**Pn**	**10 07 11.5**	**+0.4**
	0.1nm,0.3s,baz=112,slow=14,SNR=6.8							
ASAR				Sn	**Sn**	**Sn**	**10 08 35.3**	**-1.2**
	0.2nm,0.3s,baz=109,slow=24,SNR=9.4							
WRA	**Warramunga Arr**	**9.24**	**313**	Pn	**Pn**	**Pn**	**10 07 37.2**	**+1.7**
	0.1nm,0.3s,baz=131,slow=13,SNR=5.7							
WRA				Sn	**Sn**	**Sn**	**10 09 19.7**	**-0.5**
	0.1nm,0.3s,baz=138,slow=24,SNR=6.2							

IDC 25 10:09:16.7±2.9, 54°.24N×87°.43E, h0km, mb1 2.9/2, mb1mx2.8/43, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=23.0km s-min=16.7km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.56**	**260**	*i*			**10 18 10.0**	
	baz=80,slow=313,SNR=29							
ZALV	**Zalesovo Beam**	**1.56**	**260**	Pg	**Pn**	**Pn**	**10 09 45.8**	**+0.1**
	5.5nm,0.3s,baz=82,slow=16,SNR=46							
ZALV				Lg	**Lg**	**Lg**	**10 10 06.2**	
	1.2nm,0.3s,baz=83,slow=24,SNR=9.1							
KURBB	**Kurchatov Arra**	**6.54**	**240**	Pn	**Pn**	**Pn**	**10 10 53.2**	**-0.7**
	0.2nm,0.3s,baz=56,slow=14,SNR=9.8							
KURBB				Sn	**Sn**	**Sn**	**10 12 08.7**	**-0.5**
	baz=60,slow=25,SNR=3.4							
KURBB				Lg	**Lg**	**Lg**	**10 12 46.4**	
	0.2nm,0.3s,baz=61,slow=30,SNR=9.7							
MKAR	**Makanchi Array**	**8.14**	**206**	Pn	**Pn**	**Pn**	**10 11 17.9**	**+1.9**
	0.1nm,0.3s,baz=24,slow=14,SNR=2.9							
MKAR				Sn	**Sn**	**Sn**	**10 12 48.2**	**-0.5**
	0.1nm,0.3s,baz=40,slow=21,SNR=2.7							
MKAR				Lg	**Lg**	**Lg**	**10 13 37.7**	
	0.1nm,0.3s,baz=32,slow=30,SNR=6.8							

IDC 25 10:16:58.9±2.4, 7°.14S×150°.34E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/30, mbtmp3.7/4, ML1.7/1, MS2.9/1, Ms1 2.9/1, ms1mx2.2/20, Error ellipse: s-maj=66.3km s-min=37.0km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.87**	**234**	Pn	**Pn**	**Pn**	**10 18 01.2**	**+1.6**
	4.0nm,0.3s,baz=70,slow=7.5,SNR=12							
PMG				Sn	**Sn**	**Sn**	**10 18 48.3**	**+2.5**
	5.1nm,0.3s,baz=160,slow=21,SNR=8.4							
WRA	**Warramunga Arr**	**20.07**	**229**	P	**P**	**P**	**10 21 33.2**	**-0.8**
	2.7nm,0.5s,baz=55,slow=11,SNR=37							
ASAR	**Alice Springs**	**22.78**	**222**	P	**P**	**P**	**10 22 02.5**	**-0.8**
	0.8nm,0.8s,baz=50,slow=9.6,SNR=10							
STKA	**Stephens Creek**	**25.93**	**197**	P	**P**	**P**	**10 22 33.0**	**+0.1**
	0.9nm,0.7s,baz=20,slow=15,SNR=3.1							
JCJ	**Chichijima**	**34.94**	**347**	LR	**LR**	**LR**	**10 36 30.7**	
	comp=Z,17nm,19.3s,slow=34							
TORD	**Torodi Ar. Bea**	**148.58**	**283**	PKPbc	**PKPbc**		**10 36 48.6**	**-0.4**
	0.3nm,0.4s,baz=56,slow=3.1,SNR=3.5							

IDC 25 10:22:32.5±1.9, 5°.59S×149°.31E, h0km, mb3.2/3, mb1 3.6/4, mb1mx3.4/30, mbtmp3.3/4, ML1.1/1, Error ellipse: s-maj=107.8km s-min=24.3km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.35**	**209**	Pn	**Pn**	**Pn**	**10 23 41.7**	**+1.8**
	0.8nm,0.3s,baz=22,slow=11,SNR=2.9							
PMG				Sn	**Sn**	**Sn**	**10 24 33.0**	**+1.7**
	3.3nm,0.3s,baz=72,slow=4.9,SNR=6.3							
WRA	**Warramunga Arr**	**20.38**	**224**	P	**P**	**P**	**10 27 11.1**	**+0.1**
	0.6nm,0.5s,baz=52,slow=11,SNR=9.4							
ASAR	**Alice Springs**	**23.30**	**218**	P	**P**	**P**	**10 27 42.0**	**-0.3**
	0.2nm,0.6s,baz=51,slow=9.1,SNR=8.7							
ILAR	**Eielson Array**	**84.21**	**23**	P	**P**	**P**	**10 35 06.5**	**+0.9**
	0.5nm,1.0s,baz=230,slow=4.0,SNR=4.5							
TORD	**Torodi Ar. Bea**	**147.21**	**286**	PKPbc	**PKPdf**		**10 42 16.9**	**+0.3**
	0.1nm,0.3s,baz=106,slow=1.9,SNR=2.9							

*IDC **25** 10:27:50.0±6.2, 6°.91S×129°.41E, h112km±67km, mb3.8/4, mb1 3.9/7, mb1mx3.5/33, mbtmp4.2/7, Error ellipse: s-maj=131.1km s-min=17.9km az=76.0*
*ISCJB **25** 10:27:50.9±0.5, 6°.82S±0.05×129°.7E±0°.1, h139km, mb3.9/4, Error ellipse: s-maj=15.0km s-min=6.5km az=175.9*

ISC 25 10:27:52.1±0.8, 6°.75S±0°.07×129°.8E±0°.1, h139km, n16, σ1§50/17, mb4.0/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.55**	**33**	P	**Pn**	**Pn**	**10 29 00.1**	**+0.8**
	baz=4.9,SNR=80							
SIJI	**Sorong**	**6.03**	**15**	P	**Pn**	**Pn**	**10 29 20.3**	**+1.1**
	8.0nm,0.3s,baz=230,slow=22,SNR=38							
SIJI				S	**Sn**	**Sn**	**10 30 23.7**	**-3.5**
	7.5nm,0.3s,baz=302,slow=23,SNR=9.8							
SWI	**Sorong**	**6.04**	**14**	P	**Pn**	**Pn**	**10 29 20.6**	**+1.4**
	baz=6.4,SNR=6.1							
MTN	**Manton Dam**	**6.21**	**167**	P	**Pn**	**Pn**	**10 29 22.1**	**+0.7**
	baz=6.1,SNR=26							
KDU	**Kakadu**	**6.48**	**156**	P	**Pn**	**Pn**	**10 29 25.4**	**+0.3**
	baz=6.4,SNR=59							
KNRA	**Kununurra**	**8.93**	**186**	P	**Pn**	**Pn**	**10 29 57.3**	**-0.7**
	baz=8.7,SNR=16							
WRA	**Warramunga Arr**	**13.85**	**162**	P	**Pn**	**Pn**	**10 30 59.6**	**-3.0**
	0.5nm,0.3s,baz=338,slow=13,SNR=16							
WRA				S	**Sn**	**Sn**	**10 33 24.8**	**-11**
	1.7nm,0.3s,baz=332,slow=24,SNR=10.0							
QIS	**Mount Isa**	**16.72**	**146**	P	**Pn**	**Pn**	**10 31 39.1**	**+0.8**
	baz=17,SNR=3.7							
ASAR	**Alice Springs**	**17.29**	**167**	P	**Pn**	**Pn**	**10 31 44.6**	**-0.5**
	1.1nm,0.3s,baz=346,slow=10,SNR=115							
ASAR				S	**Sn**	**Sn**	**10 34 47.7**	**-10**
	0.4nm,0.3s,baz=359,slow=30,SNR=8.3							
WRKA	**Warakurna**	**18.24**	**184**	P	**Pn**	**Pn**	**10 31 55.7**	**-0.8**
	baz=18,SNR=23							
SMRI	**Semarang**	**19.18**	**268**	P	**P**	**P**	**10 32 04.4**	**-0.7**
	baz=19,SNR=5.5							
MEEK	**Meekatharra**	**22.44**	**207**	P	**P**	**P**	**10 32 40.4**	**+0.7**
	baz=22,SNR=3.5							
STKA	**Stephens Creek**	**27.34**	**158**	P	**P**	**P**	**10 33 24.4**	**+0.4**
	1.1nm,0.6s,baz=341,slow=7.9,SNR=4.4							
SONM	**Songino Array**	**58.13**	**342**	P	**P**	**P**	**10 37 32.4**	**+1.2**
	0.6nm,0.4s,baz=145,slow=5.3,SNR=3.1							
MKAR	**Makanchi Array**	**67.88**	**327**	P	**P**	**P**	**10 38 36.6**	**+1.0**
	2.1nm,0.4s,baz=124,slow=8.0,SNR=19							
ZALV	**Zalesovo Beam**	**71.25**	**334**	P	**P**	**P**	**10 38 55.7**	**-0.3**
	1.4nm,0.4s,baz=133,slow=5.4,SNR=4.8							

IDC 25 10:40:19.7±4.3, 28°.30N×115°.10W, h0km, mb3.3/1, mb1 3.4/4, mb1mx3.2/31, mbtmp3.0/4, ML3.4/3, MS2.4/1, Ms1 2.4/1, ms1mx2.0/14, Error ellipse: s-maj=64.9km s-min=20.5km az=32.0, Off west coast of Baja California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PFO	**Pinyon Flat Ob**	**5.42**	**348**	Pn	**Pn**	**Pn**	**10 41 43.4**	**+1.4**
	0.2nm,0.3s,baz=172,slow=14,SNR=3.0							
TXAR	**Lajitas Array**	**10.08**	**81**	Pn	**Pn**	**Pn**	**10 42 47.6**	**+1.8**
	0.1nm,0.3s,baz=257,slow=15,SNR=4.2							
TXAR				Lg	**Lg**	**Lg**	**10 45 24.9**	
	0.1nm,0.3s,baz=267,slow=29,SNR=8.4							
TXAR				LR	**LR**	**LR**	**10 46 28.1**	
	comp=Z,25nm,21.8s,baz=0.0,slow=37							
PDAR	**Pinedale Array**	**15.12**	**16**	Pn	**P**	**P**	**10 43 57.6**	**-2.6**
	0.0nm,0.3s,baz=195,slow=17,SNR=2.2							
ILAR	**Eielson Array**	**41.64**	**340**	P	**P**	**P**	**10 48 08.2**	**-1.3**
	0.3nm,0.7s,baz=154,slow=7.0,SNR=5.4							

KRSC 25 10:53:24.5±1.4, 50°.30N×156°.95E, h60km±20km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC

SKR	**Severo-Kuril's**	**0.66**	**306**	*i* P		**Pn**	**10 53 39.2**	**+1.1**
SKR				*e*S		**Sn**	**10 53 48.1**	**0.0**
PAU	**Pauzhetka**	**1.17**	**356**	*e*P		**Pn**	**10 53 46.7**	**+2.0**
PAU				*e*S		**Sn**	**10 54 01.6**	**+1.8**
MIPR	**Malaya Ipel'ka**	**1.98**	**357**	*e*P		**Pn**	**10 53 58.1**	**+2.4**
ASAK	**Asacha**	**2.17**	**16**	*e*P		**Pn**	**10 54 01.4**	**+3.1**
MTVR	**Mutnovka**	**2.32**	**19**	*e*S		**Sn**	**10 54 31.2**	**+3.3**
RUS	**Russkaya**	**2.35**	**24**	*e*P		**Pn**	**10 54 03.1**	**+2.5**
RUS				*e*S		**Sn**	**10 54 30.5**	**+2.2**
UGLR	**Uglovaya**	**3.14**	**21**	*e*P		**Pn**	**10 54 13.8**	**+2.3**
AVH	**Avacha**	**3.17**	**20**	*e*P		**Pn**	**10 54 15.7**	**+3.7**
KOK	**Koryaka**	**3.17**	**19**	*e*P		**Pn**	**10 54 14.4**	**+2.4**
KRER	**Koryakskii**	**3.21**	**20**	*e*P		**Pn**	**10 54 15.3**	**+2.7**
SDLR	**Sedlovina**	**3.21**	**21**	*e*P		**Pn**	**10 54 14.6**	**+2.0**
SPN	**Mys Shipunski**	**3.39**	**33**	*e*P		**Pn**	**10 54 18.1**	**+3.2**
SPN				*e*S		**Sn**	**10 54 58.0**	**+4.2**
GNL	**Ganaly**	**3.45**	**10**	*e*P		**Pn**	**10 54 19.5**	**+3.6**
MKZ	**Mys Kozlova**	**5.17**	**33**	*e*P		**Pn**	**10 54 41.9**	**+2.8**

*DJA **25** 10:58:29.7±2.7, 7°.1N±24°.4×12°.4E±1°.0, h617km±23km, M4.3/15, mb4.5/15, mB4.6/10, MLv4.8/6, Mw(mB)3.8/10*
*ISCJB **25** 10:58:31.4±0.3, 6°.80N±0°.05×123°.85E±0°.06, h600km, mb3.8/13, Error ellipse: s-maj=8.5km s-min=6.1km az=174.0*
*IDC **25** 10:58:33.7±1.5, 6°.72N×123°.93E, h612km±20km, mb3.2/13, mb1 3.3/13, mb1mx3.1/33, mbtmp4.2/13, Error ellipse: s-maj=22.7km s-min=7.8km az=73.0*
*KLM **25** 10:58:37.2, 6°.33N×123°.50E, h531km, mb4.5, ML3.7, MS5.9*

ISC 25 10:58:32.5±0.5, 6°.75N±0°.07×123°.9E±0°.1, h600km, n48, σ1§15/53, mb3.8/13, 8C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.61**	**40**	⇓*i* P		**P**	**10 59 42.1**	**-0.9**
DCPH	**Dipolog City**	**1.89**	**345**	*e*P		**P**	**10 59 44.9**	**-1.5**
TBP	**Tagbilaran**	**2.92**	**0**	⇓*e*P		**P**	**10 59 49.6**	**-1.7**
MYLDM	**Lahad Datu**	**5.55**	**254**	⇑P		**P**	**11 00 07.8**	**-2.1**
TSM	**Tawau**	**6.43**	**248**	⇑P		**P**	**11 00 15.4**	**-2.1**
MRSI	**Marisa**	**6.51**	**197**	P		**P**	**11 00 18.7**	**+0.4**
	76nm,0.7s,825nm0.3nm							
SDKM	**Sandakan**	**6.71**	**261**	⇑P		**P**	**11 00 18.0**	**-2.0**
TNTI	**Ternate**	**6.89**	**149**	P		**P**	**11 00 20.1**	**-1.6**
	60nm,0.7s,0.7nm							
KDM	**Kudat**	**6.97**	**272**	⇑P		**P**	**11 00 20.3**	**-2.0**
MPSI	**Mapaga**	**7.49**	**212**	P		**P**	**11 00 27.3**	**+0.2**
	39nm,0.8s,969nm0.2nm							
KKM	**Kota Kinabalu**	**7.62**	**265**	⇑P		**P**	**11 00 26.9**	**-1.6**
LUWI	**Luwuk**	**7.81**	**188**	P		**P**	**11 00 30.5**	**+0.3**
	97nm,0.5s,2µm							
LUWI	**Luwuk**	**7.81**	**188**	P		**P**	**11 00 30.7**	**+0.5**
	baz=8.0,SNR=7.9							
APSI	**Ampana**	**7.92**	**196**	P		**P**	**11 00 31.4**	**+0.2**
	153nm,0.5s,2µm							
LBMI	**Labuha**	**8.19**	**153**	P		P	11 00 30.0	-3.8
	69nm,0.9s,974nm							
PCI	**Palu**	**8.59**	**208**	P		**P**	**11 00 37.0**	**-0.6**
	84nm,1.1s,922nm							
SANI	**Sanana**	**8.99**	**166**	P		**P**	**11 00 39.3**	**-2.2**
	84nm,0.9s,924nm							
TTSI	**Tana Toraja**	**10.53**	**203**	P		**P**	**11 00 57.2**	**+0.6**
	73nm,0.9s,2µm							
BKB	**Balikpapan**	**10.56**	**221**	P		**P**	**11 00 57.5**	**+0.6**
	91nm,0.8s							
BTM	**Bintulu**	**11.29**	**252**	⇑P		**P**	**11 01 03.5**	**-0.8**
SPSI	**Sidrap Palu**	**11.39**	**201**	P		**P**	**11 01 05.0**	**-0.3**
SBUM	**Sibu**	**12.36**	**250**	⇑P		**P**	**11 01 13.5**	**-1.4**
KSM	**Kuching**	**14.49**	**249**	P		**P**	**11 01 36.9**	**+0.7**
	baz=15,SNR=19							
KSM	**Kuching**	**14.49**	**249**	⇑P		**P**	**11 01 35.3**	**-0.8**
CMAR	**Chiang Mai Arr**	**26.91**	**298**	P		**P**	**11 03 28.6**	**+0.9**
	0.7nm,0.6s,baz=98,slow=8.5,SNR=4.2							
WRA	**Warramunga Arr**	**28.46**	**159**	P		**P**	**11 03 41.1**	**-0.1**
	3.6nm,0.6s,baz=342,slow=9.1,SNR=50							
WRA				PcP		**PcP**	**11 06 33.6**	**+0.5**
	1.0nm,0.7s,baz=335,slow=2.6,SNR=11							
WRA				S		**S**	**11 07 45.0**	**-3.0**
	0.4nm,0.5s,baz=332,slow=12,SNR=6.3							
WRA				ScP		**ScP**	**11 09 18.6**	**+0.2**
	0.6nm,0.6s,baz=342,slow=3.1,SNR=5.0							
KSRS	**Korea Array**	**30.79**	**6**	P		**P**	**11 04 01.6**	**+0.7**
	0.8nm,0.5s,baz=184,slow=

DJA 25 11:19:45.2±0.6,2°N±6°×12°7E±°, h21km±12km, M3.8/6, MLv3.8/6, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.90**	**153**	P	Pb	11 20 01.5	-0.7
TNTI				S	Sb	11 20 14.3	+0.5
LBMI	**Labuha**	**2.27**	**166**	P	Pn	11 20 21.8	+0.3
LBMI				S	Sn	11 20 50.1	+1.2
KMSI	**Cibinong**	**3.13**	**251**	P	Pn	11 20 33.5	+0.1
KMSI				S	Sn	11 21 10.1	-0.1
SANI	**Sanana**	**3.73**	**195**	P	Pn	11 20 41.7	+0.1

*ISCJB **25** 11:22:32.5±0.4, 16°.37N±0°.05×119°.71E±0°.05, h43km, mb3.9/18, MS3.3/20, Error ellipse: s-maj=8.1km s-min=4.9km az=43.7*
*IDC **25** 11:22:32.9±1.0, 16°.13N×119°.87E, h47km±9km, mb3.7/19, mb1 3.9/19, mb1mx3.7/43, mbtmp4.0/19, MS3.3/22, Ms1 3.3/22, ms1mx3.2/46, Error ellipse: s-maj=19.6km s-min=13.0km az=72.0*
*MAN **25** 11:22:35, 16°.38N×119°.98E, h26km, mb4.8, ML3.7, MS3.7*
MAN INTENSITY III - DAGUPAN CITY.

ISC 25 11:22:34.2±0.5, 16°.40N±0°.04×119°.80E±0°.07, h43km, n42, σ1§25/37, mb4.0/18, MS3.3/21, 3C-5D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BCPH	**Baguio City Da**	**0.75**	**91⇑**	*i*P	**Pn**	**11 22 48.0**	**-0.5**
BCPH				*i*S	**Sn**	**11 22 58.7**	**-0.2**
SIPP	**Brgy, Tapao**	**1.64**	**23⇑**	*e*P	**Pn**	**11 23 02.1**	**+1.5**
SIPP				*e*S	**Sn**	**11 23 17.8**	**-2.7**
PIP	**Pasuquin**	**2.07**	**22⇓**	*i*P	**Pn**	**11 23 08.5**	**+2.1**
PIP				*e*S	Sn	11 23 40.2	+9.2
TGY	**Tagaytay City**	**2.53**	**154**	P	**Pn**	**11 23 12.0**	**-0.9**
	562nm,0.3s,baz=138,slow=1.4,SNR=28						
TGY				S	**Sn**	**11 23 44.1**	**+1.5**
	634nm,0.3s,baz=352,slow=19,SNR=13						
TGY				LR	LR	11 24 14.2	
	comp=Z,44nm,18.1s,baz=28,slow=45						
TGY	**Tagaytay City**	**2.53**	**154⇓**	*e*P	**Pn**	**11 23 15.2**	**+2.3**
TGY				*e*S	**Sn**	**11 23 44.1**	**+1.5**
PALP	**Palanan**	**2.60**	**75⇓**	*e*P	Pn	11 23 19.4	+5.7
LQP	**Lukban**	**2.83**	**143⇑**	*e*P	**Pn**	**11 23 17.3**	**+0.2**
GQP	**Guinayangan**	**3.56**	**134⇓**	*e*P	**Pn**	**11 23 26.5**	**-0.5**
GQP				*e*S	**Sn**	**11 24 09.9**	**+2.1**
PVCP	**Virac**	**5.05**	**123⇓**	*e*P	**Pn**	**11 23 47.8**	**+0.4**
PVCP				*e*S	**Sn**	**11 24 43.6**	**-0.9**
JNU	**Nakatsue**	**19.43**	**29**	LR	LR	11 34 41.0	
	comp=Z,52nm,19.6s,baz=128,slow=37						
CMAR	**Chiang Mai Arr**	**20.00**	**279**	P	**P**	**11 27 03.3**	**-0.1**
	2.7nm,0.8s,baz=92,slow=7.8,SNR=38						
CMAR				LR	LR	11 34 47.1	
	comp=Z,206nm,20.1s,baz=68,slow=36						
SIJI	**Sorong**	**20.56**	**146**	LR	LR	11 35 31.4	
	comp=Z,70nm,19.3s,baz=12,slow=38						
KAPI	**Kappang**	**21.28**	**180**	LR	LR	11 35 29.8	
	comp=Z,56nm,20.4s,baz=25,slow=37						
KSRS	**Korea Array**	**22.17**	**17**	P	**P**	**11 27 27.5**	**+1.1**
	0.8nm,0.7s,baz=200,slow=11,SNR=5.3						
KSRS				pP	**pP**	**11 27 39.1**	**+2.1**
	2.0nm,0.7s,baz=198,slow=11,SNR=5.8						
KSRS				LR	LR	11 37 22.4	
	comp=Z,18nm,18.5s,baz=206,slow=40						
JCJ	**Chichijima**	**23.32**	**59**	LR	LR	11 35 05.9	
	comp=Z,56nm,20.9s,baz=251,slow=32						
GUMO	**Guam**	**24.37**	**93**	LR	LR	11 35 17.5	
	comp=Z,68nm,21.7s,baz=32,slow=32						
PSI	**Prapat**	**24.58**	**239**	P	**P**	**11 27 49.8**	**-0.8**
	5.8nm,0.6s,baz=335,slow=4.0,SNR=3.7						
PSI				LR	LR	11 35 57.4	
	comp=Z,168nm,21.4s,baz=25,slow=33						
MJAR	**Matsushiro Arr**	**25.88**	**36**	LR	LR	11 38 09.4	
	comp=Z,21nm,21.1s,baz=205,slow=36						
LEM	**Lembang**	**26.04**	**209**	LR	LR	11 38 01.1	
	comp=Z,52nm,19.3s,baz=25,slow=36						
SONM	**Songino Array**	**33.24**	**343**	P	**P**	**11 29 08.2**	**+0.9**
	1.1nm,0.7s,baz=163,slow=11,SNR=4.0						
SONM				pP	**pP**	**11 29 21.1**	**+2.1**
	1.4nm,0.6s,baz=162,slow=10,SNR=4.5						
SONM				LR	LR	11 43 35.2	
	comp=Z,50nm,18.9s,baz=30,slow=38						
WRA	**Warramunga Arr**	**38.84**	**158**	P	P	11 29 50.4	-5.0
	2.7nm,0.7s,baz=328,slow=11,SNR=17						
PALK	**Pallekele**	**39.26**	**261**	P	**P**	**11 29 57.8**	**-1.3**
	14nm,0.9s,baz=234,slow=3.5,SNR=3.7						
ASAR	**Alice Springs**	**42.14**	**161**	P	P	11 30 18.8	-3.8
	1.3nm,0.4s,baz=340,slow=6.9,SNR=18						
MKAR	**Makanchi Array**	**43.36**	**322**	P	**P**	**11 30 32.8**	**+0.5**
	1.0nm,0.7s,baz=134,slow=8.7,SNR=8.3						
MKAR				pP	**pP**	**11 30 44.3**	**+0.1**
	1.1nm,0.7s,baz=126,slow=8.4,SNR=6.4						
MKAR				PcP	**PcP**	**11 32 18.9**	**-1.4**
	1.5nm,0.8s,baz=107,slow=4.1,SNR=6.8						
MKAR				LR	LR	11 50 27.5	
	comp=Z,53nm,18.7s,baz=126,slow=38						
ZALV	**Zalesovo Beam**	**46.28**	**332**	P	**P**	**11 30 55.9**	**+0.6**
	1.0nm,0.8s,baz=230,slow=44,SNR=2.8						
ZALV				LR	LR	11 51 18.0	
	comp=Z,33nm,18.8s,baz=68,slow=37						
PETK	**Petropavlovsk-**	**47.12**	**30**	LR	LR	11 50 06.8	
	comp=Z,16nm,22.0s,baz=249,slow=35						
HNR	**Honiara**	**47.30**	**120**	LR	LR	11 47 24.7	
	comp=Z,59nm,21.6s,baz=312,slow=32						
KURBB	**Kurchatov Arra**	**47.48**	**325**	P	**P**	**11 31 05.8**	**+1.0**
	1.3nm,0.7s,baz=122,slow=8.5,SNR=13						
SEY	**Seymchan**	**51.72**	**18**	P	**P**	**11 31 36.4**	**-0.5**
	1.0nm,0.6s,baz=221,slow=7.8,SNR=4.2						
STKA	**Stephens Creek**	**52.36**	**156**	P	P	11 31 38.6	-3.3
	1.2nm,0.6s,baz=300,slow=8.5,SNR=4.2						
STKA				LR	LR	11 56 38.3	
	comp=Z,44nm,18.5s,baz=357,slow=39						
BVAR	**Borovoye Array**	**53.07**	**325**	P	**P**	**11 31 45.8**	**-1.2**
	0.3nm,0.4s,baz=101,slow=7.5,SNR=3.1						
BVAR				PcP	**PcP**	**11 32 54.1**	**-0.9**
	0.4nm,0.5s,baz=77,slow=6.4,SNR=2.7						
GEYT	**Allbeck**	**57.87**	**305**	LR	LR	11 59 43.6	
	comp=Z,73nm,21.7s,baz=250,slow=38						
KBZ	**Khabaz**	**69.45**	**311**	P	**P**	**11 33 37.6**	**-0.5**
	1.0nm,0.5s,baz=152,slow=6.6,SNR=4.2						
ARCES	**ARCESS Array B**	**76.27**	**339**	P	**P**	**11 34 18.4**	**+0.4**
	2.4nm,0.8s,baz=66,slow=6.0,SNR=5.7						
MMAI	**Mount Meron Ar**	**76.65**	**301**	LR	LR	12 13 01.7	
	comp=Z,24nm,18.7s,baz=120,slow=39						
ILAR	**Eielson Array**	**76.72**	**26**	P	**P**	**11 34 20.1**	**-0.6**
	0.3nm,0.8s,baz=321,slow=34,SNR=3.1						
BRTR	**Keskin Array B**	**76.81**	**308**	P	**P**	**11 34 21.0**	**-0.9**
	0.6nm,0.9s,baz=94,slow=9.0,SNR=3.7						
BRTR				LR	LR	12 12 32.2	
	comp=Z,14nm,19.1s,baz=100,slow=39						
FINES	**FINESS Array B**	**77.52**	**331**	P	**P**	**11 34 24.2**	**-1.0**
	2.2nm,0.7s,baz=90,slow=1.4,SNR=6.6						
FINES				LR	LR	12 12 06.9	
	comp=Z,33nm,18.4s,baz=192,slow=38						
AKASG	**Malin Array Be**	**77.85**	**319**	LR	LR	12 12 20.1	
	comp=Z,25nm,19.8s,baz=170,slow=38						
NB2	**NORSAR Subarra**	**84.48**	**332**	P	**P**	**11 35 01.6**	**-0.7**
	comp=Z,2.9nm,0.9s,baz=66,slow=4.8						
NOA	**NORSAR Array B**	**84.48**	**332**	P	**P**	**11 35 01.7**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=68,slow=4.6,SNR=4.3						
NOA				LR	LR	12 15 09.9	
	comp=Z,36nm,19.0s,baz=55,slow=37						
TXAR	**Lajitas Array**	**118.13**	**43**	PKP	**PKPdf**	**11 41 16.9**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=301,slow=1.9,SNR=2.2						

*ISCJB **25** 11:24:14.7±0.4, 30°.21N±0°.04×139°.70E±0°.09, h350km, mb3.4/6, Error ellipse: s-maj=11.4km s-min=4.6km az=162.8*
*JMA **25** 11:24:14.3±0.1, 30°.14N×139°.59E, h359km, M3.3*
*IDC **25** 11:24:15.0±0.9, 30°.18N×139°.57E, h332km±18km, mb3.3/6, mb1 3.3/10, mb1mx3.0/43, mbtmp3.9/10, Error ellipse: s-maj=63.2km s-min=9.5km az=71.0*

ISC 25 11:24:15.5±0.8, 30°.20N±0°.06×139°.7E±0°.1, h350km, n25, σ1§18/32, mb3.3/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.90**	**2**	P	**Pn**	**11 25 14.4**	**+0.5**
JHJ	**Hachijo jima 2**	**2.91**	**1**	P	**Pn**	**11 25 14.0**	**+0.1**
	43nm,0.3s,baz=87,slow=22,SNR=32						
JHJ				S	**S**	**11 25 58.3**	**-2.7**
	23nm,0.3s,baz=69,slow=23,SNR=6.7						
CBIJ	**Chichi jima**	**3.78**	**144**	P	**Pn**	**11 25 21.7**	**-0.7**
JCJ	**Chichijima**	**3.78**	**144**	P	**Pn**	**11 25 21.9**	**-0.5**
	21nm,0.3s,baz=11,slow=20,SNR=121						
JCJ				S	**S**	**11 26 14.6**	**-1.6**
	28nm,0.3s,baz=124,slow=23,SNR=17						
JHHJ	**Haha-jima-NKT**	**4.17**	**148**	P	**Pn**	**11 25 26.1**	**-0.2**
JHHJ				S	**S**	**11 26 21.5**	**-1.9**
TTO2	**TONANKAI O.B.S**	**4.20**	**328**	P	**Pn**	**11 25 26.3**	**+0.1**
TTO1	**TONANKAI O.B.S**	**4.23**	**325**	P	**Pn**	**11 25 26.6**	**+0.2**
BSO1	**Boso 1**	**4.56**	**13**	P	**Pn**	**11 25 29.6**	**-0.1**
BSO1				S	S	**11 26 29.2**	**-0.6**
BSO3	**Boso 3**	**4.63**	**8**	P	**Pn**	**11 25 31.4**	**+0.6**
BSO3				S	S	**11 26 30.4**	**-1.2**
JWZ	**Kozaga**	**4.76**	**315**	P	**Pn**	**11 25 31.2**	**-1.2**
BSO4	**Boso 4**	**4.80**	**6**	*e*S	**S**	**11 26 34.1**	**-1.1**
JHMK	**Hamakita**	**4.89**	**341**	P	**Pn**	**11 25 34.1**	**+0.4**
JIE	**Ise**	**4.89**	**329**	P	**Pn**	**11 25 33.9**	**0.0**
HMMJ	**Hamamatsu 2**	**4.94**	**341**	P	**Pn**	**11 25 34.4**	**+0.1**
JKN2	**Miekihoku**	**4.97**	**325**	P	**Pn**	**11 25 34.3**	**-0.4**
JOD2	**Odawara 2**	**5.08**	**354**	P	**Pn**	**11 25 36.1**	**+0.2**
MJAR	**Matsushiro Arr**	**6.45**	**349**	P	**Pn**	**11 25 50.8**	**-0.6**
	1.0nm,0.3s,baz=174,slow=12,SNR=18						
MJAR				S	**S**	**11 27 07.0**	**-2.2**
	0.3nm,0.3s,baz=216,slow=14,SNR=4.1						
MAT	**Matsushiro**	**6.45**	**349**	P	**Pn**	**11 25 50.8**	**-0.6**
MAT				*e*S	**S**	**11 27 06.3**	**-2.9**
KSRS	**Korea Array**	**12.18**	**310**	P	**Pn**	**11 26 58.6**	**-0.7**
	0.1nm,0.3s,baz=129,slow=14,SNR=8.5						
KURBB	**Kurchatov Arra**	**49.34**	**313**	P	**P**	**11 32 30.0**	**-0.3**
	0.6nm,0.4s,baz=88,slow=6.4,SNR=6.7						
WRA	**Warramunga Arr**	**50.12**	**187**	P	**P**	**11 32 37.6**	**+1.1**
	0.4nm,0.3s,baz=0.9,slow=7.7,SNR=5.7						
BVAR	**Borovoye Array**	**54.30**	**316**	P	**P**	**11 33 07.2**	**+0.6**
	0.7nm,0.4s,baz=88,slow=10,SNR=4.1						
FINES	**FINESS Array B**	**74.21**	**333**	P	**P**	**11 35 16.0**	**+1.6**
	0.9nm,0.4s,baz=76,slow=5.9,SNR=6.4						
AKASG	**Malin Array Be**	**78.84**	**323**	P	**P**	**11 35 41.2**	**+0.9**
	0.4nm,0.3s,baz=52,slow=5.4,SNR=4.0						
BRTR	**Keskin Array B**	**82.32**	**312**	P	**P**	**11 35 59.2**	**+0.2**
	0.2nm,0.4s,baz=102,slow=5.2,SNR=4.4						

*CSEM **25** 11:27:52.0±0.4, 36°.91N×27°.59E, h5km, MD2.4, Error ellipse: s-maj=11.0km s-min=6.2km az=164.0*

ISK 25 11:27:50.3, 36°.90N×27°.58E, h5km, MD2.4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BODT	**Bodrum**	**0.27**	**306**	*e*PG	Pb	11 27 56.7	-1.0
BODT				*e*SG	Sb	11 28 01.8	-0.8
BODT	**Bodrum**	**0.27**	**306**	*e*Pg	Pb	11 27 56.7	-1.0
BODT				*e*Sg	Sb	11 28 01.8	-0.9
NIS1	**Nisyros Isl.**	**0.44**	**227**	*e*PG	Pb	11 28 00.5	-0.2
NIS1				*e*SG	Sb	11 28 07.2	-0.4
NIS1	**Nisyros Isl.**	**0.44**	**227**	*e*Pg	Pb	11 28 00.5	-0.1
NIS1				*e*Sg	Sb	11 28 07.2	-0.4
YER	**Yerkesik**	**0.61**	**67**	*e*PG	Pb	11 28 03.4	-0.1
YER				*e*SG	Sb	11 28 12.7	+0.3
YER	**Yerkesik**	**0.61**	**67**	*e*Pg	Pb	11 28 03.4	-0.1
YER				*e*Sg	Sb	11 28 12.7	+0.3

*CSEM **25** 11:29:16.2±0.4, 36°.42N×22°.28E, h2km, MD3.0, Error ellipse: s-maj=9.7km s-min=4.4km az=43.0*
*THE **25** 11:29:16.9, 36°.44N×22°.32E, h0km±3km, ML2.7/3, Error ellipse: s-maj=4.1km s-min=0.9km az=200.0*
*ATH **25** 11:29:16.3, 36°.42N×22°.33E, h19km±2km, MD3.0/9*

ISC 25 11:29:16.0±1.3, 36°.41N±0°.04×22°.28E±0°.04, h2km±11km, n44, σ0§44/58, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLI	**Veliai**	**0.61**	**60**	*e*PN	**Pg**	**11 29 27.9**	**+0.1**
VLI				*e*SN	**Sg**	**11 29 36.2**	**+0.4**
VLI	**Veliai**	**0.61**	**60**	P	**Pg**	**11 29 27.9**	**+0.1**
VLI				*e*Sn	**Sg**	**11 29 36.2**	**+0.4**
VLI	**Veliai**	**0.61**	**60**	S	**Sg**	**11 29 36.1**	**+0.3**
VLI	**Veliai**	**0.61**	**60**	P	**Pg**	**11 29 27.9**	**+0.1**
VLI				S	**Sg**	**11 29 36.1**	**+0.3**
KYTH	**Kithira**	**0.63**	**102**	*e*PN	**Pg**	**11 29 28.0**	**-0.1**
KYTH	**Kithira**	**0.63**	**102**	*e*Pn	**Pg**	**11 29 28.0**	**-0.1**
KYTH	**Kithira**	**0.63**	**102**	P	**Pg**	**11 29 27.8**	**-0.3**
PYL	**PYLOS**	**0.65**	**319**	*e*PB	**Pg**	**11 29 28.0**	**-0.4**
PYL				*e*SN	**Sb**	**11 29 39.1**	**-0.5**
PYL	**PYLOS**	**0.65**	**319**	P	**Pg**	**11 29 28.0**	**-0.4**
PYL				S	**Sb**	**11 29 39.0**	**-0.5**
PYL	**PYLOS**	**0.65**	**319**	P	**Pg**	**11 29 28.0**	**-0.4**
PYL				S	**Sb**	**11 29 39.0**	**-0.5**
ITM	**Ithomi**	**0.82**	**340**	*e*PN	**Pg**	**11 29 32.5**	**+0.8**
ITM				*e*SN	**Sb**	**11 29 44.4**	**0.0**
ITM	**Ithomi**	**0.82**	**340**	P	**Pg**	**11 29 31.7**	**0.0**
ITM	**Ithomi**	**0.82**	**340**	*e*Pn	**Pg**	**11 29 32.5**	**+0.8**
ITM				*e*Sn	**Sb**	**11 29 44.4**	**0.0**
ITM	**Ithomi**	**0.82**	**340**	P	**Pg**	**11 29 31.7**	**0.0**
ITM				S	**Sb**	**11 29 44.8**	**+0.4**
VLX	**Vlachokerasia**	**0.96**	**5**	*e*PN	**Pg**	**11 29 34.2**	**-0.3**
VLX				*e*SN	**Sg**	**11 29 47.3**	**+0.4**
VLX	**Vlachokerasia**	**0.96**	**5**	P	**Pg**	**11 29 34.1**	**-0.4**
VLX	**Vlachokerasia**	**0.96**	**5**	*e*Sn	**Sg**	**11 29 47.3**	**+0.4**
VLX	**Vlachokerasia**	**0.96**	**5**	P	**Pg**	**11 29 34.1**	**-0.4**
ANKY	**Antikythira Is**	**0.99**	**123**	*e*PN	**Pg**	**11 29 35.0**	**0.0**
ANKY				*e*SN	**Sg**	**11 29 47.6**	**-0.3**
ANKY	**Antikythira Is**	**0.99**	**123**	P	**Pg**	**11 29 35.2**	**+0.2**
ANKY	**Antikythira Is**	**0.99**	**123**	P	**Pg**	**11 29 35.2**	**+0.2**
AMT	**Artemida-Makis**	**1.21**	**338**	*e*PN	**Pg**	**11 29 39.2**	**0.0**
AMT	**Artemida-Makis**	**1.21**	**338**	P	**Pg**	**11 29 39.0**	**-0.2**
AMT	**Artemida-Makis**	**1.21**	**338**	S	**Sn**	**11 29 57.1**	**+0.2**
AMT	**Artemida-Makis**	**1.21**	**338**	P	**Pg**	**11 29 39.0**	**-0.2**
AMT				S	**Sn**	**11 29 57.1**	**+0.2**
DIDY	**Didyma**	**1.30**	**35**	P	**Pg**	**11 29 40.2**	**-0.8**
DIDY				S	**Sn**	**11 29 59.2**	**-0.1**
DIDY	**Didyma**	**1.30**	**35**	P	**Pg**	**11 29 40.2**	**-0.8**
DIDY				S	**Sn**	**11 29 59.2**	**-0.1**
GUR	**Goura**	**1.52**	**2**	*e*PN	**Pn**	**11 29 44.0**	**-0.4**
GUR	**Goura**	**1.52**	**2**	P	**Pn**	**11 29 43.9**	**-0.4**
GUR	**Goura**	**1.52**	**2**	P	**Pn**	**11 29 43.9**	**-0.4**
ACOR	**Acrocorinthos**	**1.55**	**18**	P	**Pn**	**11 29 44.8**	**+0.1**
DRO	**Drossia**	**1.60**	**344**	*e*PN	**Pb**	**11 29 46.7**	**+0.3**
DRO	**Drossia**	**1.60**	**344**	P	**Pb**	**11 29 46.4**	**0.0**
DRO	**Drossia**	**1.60**	**344**	*e*Pn	**Pb**	**11 29 46.7**	**+0.3**
DRO	**Drossia**	**1.60**	**344**	P	**Pb**	**11 29 46.4**	**0.0**
KLV	**Kalavryta, Ach**	**1.63**	**357**	*e*PN	**Pn**	**11 29 46.0**	**+0.2**
KLV	**Kalavryta, Ach**	**1.63**	**357**	P	**Pn**	**11 29 46.0**	**+0.2**
KLV	**Kalavryta, Ach**	**1.63**	**357**	P	**Pn**	**11 29 46.0**	**+0.2**
VAM	**Vamos**	**1.86**	**122**	P	**Pb**	**11 29 49.8**	**-0.8**
VAM	**Vamos**	**1.86**	**122**	P	**Pb**	**11 29 49.8**	**-0.8**
IDI	**Anoyia**	**2.40**	**117**	P	**Pn**	**11 29 57.5**	**+1.1**
IDI	**Anoyia**	**2.40**	**117**	P	**Pn**	**11 29 57.5**	**+1.1**
APE	**Apeiranthos**	**2.69**	**75**	P	**Pn**	**11 30 00.5**	**+0.1**
APE	**Apeiranthos**	**2.69**	**75**	P	**Pn**	**11 30 00.5**	**+0.1**

*HLW **25** 12:01:11.2, 37°.22N×23°.83E, h23km±11km, Ml3.8*
*IDC **25** 12:01:12.0±1.8, 37°.33N×23°.29E, h94km±19km, mb3.4/11, mb1 3.5/16, mb1mx3.3/45, mbtmp3.7/16, Error ellipse: s-maj=25.4km s-min=14.4km az=30.0*
*ISCJB **25** 12:01:12.9±0.2, 37°.35N±0°.02×23°.28E±0°.03, h108km±2km, mb3.5/11, Error ellipse: s-maj=4.6km s-min=3.3km az=147.1*
*ATH **25** 12:01:13.7, 37°.32N×23°.32E, h91km±1km, ML2.8*
*CSEM **25** 12:01:14.7±0.1, 37°.35N×23°.30E, h89km±1km, ML3.8, Error ellipse: s-maj=2.5km s-min=1.7km az=54.0*
*THE **25** 12:01:14.8, 37°.33N×23°.28E, h90km±1km, ML3.8/7, Error ellipse: s-maj=1.5km s-min=0.8km az=246.0*

ISC 25 12:01:12.9±0.4, 37°.30N±0°.02×23°.28E±0°.02, h109km±3km, n255, σ1§20/260, mb3.6/11, 2C-3D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRND	**KRANIDI**	**0.14**	**308**	*e*P	**Pn**	**12 01 27.6**	**-0.5**
KRND				*e*S	**Sn**	**12 01 36.5**	**-2.9**
KRND	**KRANIDI**	**0.14**	**308**	P	**Pn**	**12 01 27.6**	**-0.5**
KRND				*e*S	**Sn**	**12 01 36.5**	**-2.9**
KRND	**KRANIDI**	**0.14**	**308**	P	**Pn**	**12 01 27.6**	**-0.5**
KRND				S	**Sn**	**12 01 37.5**	**-1.9**
DIDY	**Didyma**	**0.19**	**342**	*e*P	**Pn**	**12 01 27.6**	**-0.7**
DIDY				*e*S	**Sn**	**12 01 37.2**	**-2.7**
DIDY	**Didyma**	**0.19**	**342**	P	**Pn**	**12 01 27.6**	**-0.7**
DIDY				*e*S	**Sn**	**12 01 37.2**	**-2.7**
DIDY	**Didyma**	**0.19**	**342**	P	**Pn**	**12 01 27.6**	**-0.7**
DIDY				S	**Sn**	**12 01 37.5**	**-2.4**
NAIG	**Nisos Aigina**	**0.49**	**20**	*e*P	**Pn**	**12 01 29.0**	**-0.6**
NAIG	**Nisos Aigina**	**0.49**	**20**	*e*P	**Pn**	**12 01 29.0**	**-0.6**
VLI	**Veliai**	**0.64**	**206**	*e*P	**Pn**	**12 01 30.8**	**0.0**
VLI				*e*S	**Sn**	**12 01 42.2**	**-1.9**
VLI	**Veliai**	**0.64**	**206**	*e*P	**Pn**	**12 01 30.8**	**0.0**
VLI				S	**Sn**	**12 01 42.6**	**-1.5**
VLI	**Veliai**	**0.64**	**206**	P	**Pn**	**12 01 30.7**	**0.0**
VLI				S	**Sn**	**12 01 42.6**	**-1.5**
ACOR	**Acrocorinthos**	**0.68**	**331**	P	**Pn**	**12 01 30.4**	**-0.6**
ACOR				S	**Sn**	**12 01 42.1**	**-2.5**
VLX	**Vlachokerasia**	**0.72**	**276**	*e*P	**Pn**	**12 01 31.7**	**+0.2**
VLX				*e*S	**Sn**	**12 01 43.8**	**-1.7**
VLX	**Vlachokerasia**	**0.72**	**276**	P	**Pn**	**12 01 31.7**	**+0.2**
VLX				S	**Sn**	**12 01 44.2**	**-1.3**
VLX	**Vlachokerasia**	**0.72**	**276**	P	**Pn**	**12 01 31.7**	**+0.2**
VLX				S	**Sn**	**12 01 44.2**	**-1.3**
LOUT	**Loutraki**	**0.73**	**340**	*e*P	**Pn**	**12 01 31.1**	**-0.4**
LOUT				*e*S	**Sn**	**12 01 43.3**	**-2.1**
LOUT	**Loutraki**	**0.73**	**340**	P	**Pn**	**12 01 31.1**	**-0.4**
LOUT				*e*S	**Sn**	**12 01 43.3**	**-2.1**
LOUT	**Loutraki**	**0.73**	**340**	P	**Pn**	**12 01 31.1**	**-0.4**
ATH	**Athens Observa**	**0.76**	**27**	*e*P	**Pn**	**12 01 31.8**	**+0.1**
ATH				*e*S	**Sn**	**12 01 43.4**	**-2.4**
ATH	**Athens Observa**	**0.76**	**27**	*e*P	**Pn**	**12 01 31.8**	**+0.1**
ATH				*e*S	**Sn**	**12 01 43.4**	**-2.4**
LTK	**Loutraki**	**0.77**	**341**	*e*P	**Pn**	**12 01 31.5**	**-0.3**
LTK				*e*S	**Sn**	**12 01 43.7**	**-2.3**
LTK	**Loutraki**	**0.77**	**341**	*e*P	**Pn**	**12 01 31.5**	**-0.3**
LTK				*e*S	**Sn**	**12 01 43.7**	**-2.3**
LTK	**Loutraki**	**0.77**	**341**	P	**Pn**	**12 01 31.4**	**-0.3**
LTK				S	**Sn**	**12 01 44.0**	**-2.0**
ATHU	**Athens Univers**	**0.78**	**31**	P	**Pn**	**12 01 31.1**	**-0.2**
ATHU				S	**Sn**	**12 01 44.1**	**-2.1**
ATHU	**Athens Univers**	**0.78**	**31**	P	**Pn**	**12 01 31.7**	**-0.2**
ATHU				S	**Sn**	**12 01 44.1**	**-2.1**
VILL	**Villia**	**0.86**	**2**	P	**Pn**	**12 01 32.5**	**-0.3**
VILL				*e*S	**Sn**	**12 01 45.4**	**-2.3**
VILL	**Villia**	**0.86**	**2**	P	**Pn**	**12 01 32.5**	**-0.3**
THAL	**Thalero**	**0.89**	**326**	*e*P	**Pn**	**12 01 32.8**	**-0.1**
THAL				*e*S	**Sn**	**12 01 45.9**	**-2.0**
THAL	**Thalero**	**0.89**	**326**	P	**Pn**	**12 01 32.8**	**-0.1**
THAL				*e*S	**Sn**	**12 01 45.9**	**-2.0**
THAL	**Thalero**	**0.89**	**326**	P	**Pn**	**12 01 32.8**	**-0.1**
VIL2	**Platees**	**0.91**	**359**	*e*P	**Pn**	**12 01 32.5**	**-0.7**
VIL2				*e*S	**Sn**	**12 01 45.4**	**-3.1**
GUR	**Goura**	**0.98**	**311**	*e*P	**Pn**	**12 01 34.1**	**+0.1**
GUR	**Goura**	**0.98**	**311**	*e*P	**Pn**	**12 01 34.1**	**+0.1**
GUR				S	**Sn**	**12 01 47.9**	**-1.9**
GUR	**Goura**	**0.98**	**311**	P	**Pn**	**12 01 34.0**	**+0.1**
GUR				S	**Sn**	**12 01 47.9**	**-1.9**
KYTH	**Kithira**	**1.04**	**191**	*e*P	**Pn**	**12 01 35.5**	**+1.0**
KYTH	**Kithira**	**1.04**	**191**	P	**Pn**	**12 01 35.5**	**+1.0**
KYTH	**Kithira**	**1.04**	**191**	P	**Pn**	**12 01 35.5**	**+1.0**
ITM	**Ithomi**	**1.09**	**264**	*e*P	**Pn**	**12 01 36.3**	**+1.3**
ITM	**Ithomi**	**1.09**	**264**	P	**Pn**	**12 01 36.3**	**+1.3**
ITM	**Ithomi**	**1.09**	**264**	P	**Pn**	**12 01 36.3**	**+1.3**
KLV	**Kalavryta, Ach**	**1.17**	**310**	*e*P	**Pn**	**12 01 36.2**	**+0.3**
KLV	**Kalavryta, Ach**	**1.17**	**310**	*e*P	**Pn**	**12 01 36.2**	**+0.3**
KLV	**Kalavryta, Ach**	**1.17**	**310**	P

KFL	Anninata	2.14	293	P	Pn	12 01 48.5	+0.9
VLS	Valsamata	2.31	293	*e*P	Pn	12 01 50.1	+0.3
VLS	Valsamata	2.31	293	P	Pn	12 01 50.1	+0.3
VLS	Valsamata	2.31	293	P	Pn	12 01 50.1	+0.3
IDI	Anoyia	2.39	147	P	Pn	12 01 50.9	-0.1
	8.8nm,0.3s,baz=250,slow=5.1,SNR=128						
IDI				S	Sn	12 02 16.7	-3.5
	28nm,0.3s,baz=286,slow=19,SNR=9.6						
IDI	Anoyia	2.39	147	*e*P	Pn	12 01 51.1	+0.1
IDI	Anoyia	2.39	147	*e*P	Pn	12 01 51.1	+0.1
IDI	Anoyia	2.39	147	P	Pn	12 01 50.9	-0.1
CHOS	Chios island	2.45	63	*e*PN	Pn	12 01 52.2	+0.5
CHOS	Chios island	2.45	63	*e*P	Pn	12 01 52.7	+1.0
CHOS	Chios island	2.45	63	*e*Pn	Pn	12 01 52.2	+0.5
CHOS	Chios island	2.45	63	*e*P	Pn	12 01 52.7	+1.0
CHOS	Chios island	2.45	63	P	Pn	12 01 52.8	+1.0
THL	Klokotos Trika	2.47	337	*e*P	Pn	12 01 52.5	+0.6
THL	Klokotos Trika	2.47	337	*e*P	Pn	12 01 52.5	+0.6
THL	Klokotos Trika	2.47	337	P	Pn	12 01 52.4	+0.6
DSL	Palaion Diasel	2.51	317	*e*P	Pn	12 01 54.4	+1.9
DSL	Palaion Diasel	2.51	317	*e*P	Pn	12 01 54.4	+1.9
GVD	Gavdhos	2.54	165	*e*P	Pn	12 01 54.6	+1.7
GVD	Gavdhos	2.54	165	*e*P	Pn	12 01 54.6	+1.7
LKD2	Lefkada island	2.55	306	*e*P	Pn	12 01 54.3	+1.3
LKD2	Lefkada island	2.55	306	*e*P	Pn	12 01 54.3	+1.3
SIVA	Sivas	2.59	151	*e*P	Pn	12 01 56.1	+2.6
SIVA	Sivas	2.59	151	*e*P	Pn	12 01 56.1	+2.6
PAIG	Paliouri	2.64	7	*e*P	Pn	12 01 54.5	+0.4
PAIG	Paliouri	2.64	7	*e*P	Pn	12 01 54.5	+0.4
NPS	Neapolis	2.77	137	*e*P	Pn	12 01 56.8	+0.9
NPS	Neapolis	2.77	137	*e*P	Pn	12 01 56.8	+0.9
LAST	Lasithi	2.77	140	*e*P	Pn	12 01 57.2	+1.2
LAST	Lasithi	2.77	140	*e*P	Pn	12 01 57.2	+1.2
LAST	Lasithi	2.77	140	P	Pn	12 01 57.0	+1.0
SIGR	SIGRI	2.78	46	*e*PN	Pn	12 01 56.7	+0.7
SIGR	SIGRI	2.78	46	*e*P	Pn	12 01 56.6	+0.7
SIGR	SIGRI	2.78	46	*e*Pn	Pn	12 01 56.7	+0.7
SMG	Samos	2.86	81	*e*P	Pn	12 01 58.7	+1.7
SMG	Samos	2.86	81	*e*P	Pn	12 01 58.7	+1.7
LIT	Litokhoron	2.87	348	*e*P	Pn	12 01 57.8	+0.6
LIT	Litokhoron	2.87	348	*e*P	Pn	12 01 57.8	+0.6
LIT	Litokhoron	2.87	348	P	Pn	12 01 57.7	+0.6
LIA	Limnos Island	2.99	29	*e*P	Pn	12 01 59.0	+0.3
LIA	Limnos Island	2.99	29	*e*P	Pn	12 01 59.0	+0.3
JAN	Janina	3.03	322	*e*P	Pn	12 02 00.8	+1.4
JAN	Janina	3.03	322	P	Pn	12 02 00.7	+1.4
JAN	Janina	3.03	322	P	Pn	12 02 00.7	+1.4
OUR	Ouranopolis	3.08	10	*e*P	Pn	12 02 00.4	+0.5
OUR	Ouranopolis	3.08	10	*e*P	Pn	12 02 00.4	+0.5
IGT	Igoumenitsa	3.22	315	*e*PN	Pn	12 02 05.0	+3.3
IGT	Igoumenitsa	3.22	315	*e*P	Pn	12 02 02.1	+0.3
IGT	Igoumenitsa	3.22	315	*e*P	Pn	12 02 02.1	+0.3
IGT	Igoumenitsa	3.22	315	*e*Pn	Pn	12 02 05.1	+3.3
IGT	Igoumenitsa	3.22	315	P	Pn	12 02 02.0	+0.3
BODT	Bodrum	3.23	93	*e*PN	Pn	12 02 04.1	+2.2
BODT	Bodrum	3.23	93	*e*Pn	Pn	12 02 04.1	+2.2
KZN	Kozani	3.23	339	*e*P	Pn	12 02 03.1	+1.1
KZN	Kozani	3.23	339	*e*P	Pn	12 02 03.1	+1.1
HORT	Hortiatis	3.30	358	*e*P	Pn	12 02 03.5	+0.6
HORT	Hortiatis	3.30	358	*e*P	Pn	12 02 03.5	+0.6
SGD	Sagiada	3.33	315	*e*P	Pn	12 02 03.8	+0.6
SGD	Sagiada	3.33	315	*e*P	Pn	12 02 03.8	+0.6
SOH	Sokhos	3.52	1	*e*P	Pn	12 02 06.9	+1.1
SOH	Sokhos	3.52	1	*e*P	Pn	12 02 06.9	+1.1
NEST	Nestorio	3.57	331	*e*P	Pn	12 02 07.6	+1.1
NEST	Nestorio	3.57	331	*e*P	Pn	12 02 07.6	+1.1
NEST	Nestorio	3.57	331	P	Pn	12 02 07.4	+0.9
KARP	Karpathos	3.58	118	*e*P	Pn	12 02 08.8	+2.1
KARP	Karpathos	3.58	118	*e*P	Pn	12 02 08.8	+2.1
SMTH	Samothraki Isl	3.62	28	*e*P	Pn	12 02 07.0	-0.1
SMTH	Samothraki Isl	3.62	28	*e*P	Pn	12 02 07.0	-0.1
FNA	Florina	3.78	337	*e*P	Pn	12 02 09.6	+0.2
FNA	Florina	3.78	337	*e*P	Pn	12 02 09.6	+0.2
KAVA	Kavala	3.81	14	*e*P	Pn	12 02 10.2	+0.5
KAVA	Kavala	3.81	14	*e*P	Pn	12 02 10.2	+0.5
SRS	Serrai	3.82	4	*e*P	Pn	12 02 10.7	+0.9
SRS	Serrai	3.82	4	*e*P	Pn	12 02 10.7	+0.9
KNT	Kendrikon	3.87	356	*e*P	Pn	12 02 11.1	+0.6
KNT	Kendrikon	3.87	356	*e*P	Pn	12 02 11.1	+0.6
ARG	Arkhangelos	4.04	104	*e*P	Pn	12 02 16.3	+3.6
ARG	Arkhangelos	4.04	104	*e*P	Pn	12 02 16.3	+3.6
VTS	Vitosha	5.29	359	*i* P	Pn	12 02 29.7	0.0
VTS	Vitosha	5.29	359	S	Sn	12 03 37.4	+8.0
VTS	Vitosha	5.29	359	*i* P	Pn	12 02 29.7	0.0
VTS	Vitosha	5.29	359	*e*Pn	Pn	12 02 31.2	+1.5
BARS	Barje	5.62	349	*e*Pn	Pn	12 02 33.5	-0.6
SLUM		6.01	164	P	Pn	12 02 37.2	-2.2
	baz=168						
SLUM				S	Sn	12 03 39.6	-7.2
	baz=168						
SLUM		6.01	164	P	Pn	12 02 37.2	-2.2
SLUM				S	Sn	12 03 39.6	-7.2
HMAT	Matruh	6.95	152	AMP		12 04 00.0	
	comp=E,80μm,0.1s,logA/T=5.7,baz=155						
STON	Ston	7.02	324	*i* Pn	Pn	12 02 50.3	-2.7
STON				S	Sn	12 04 03.6	-7.6
DIVS	Divibare	7.24	341	⇑*i*P	Pn	12 02 53.5	-2.5
DIVS	Divibare	7.24	341	S	Sn	12 04 10.3	-6.4
DIVS	Divibare	7.24	341	*e*Pn	Pn	12 02 56.2	+0.2
SWA2		8.24	167	P	Pn	12 03 08.2	-1.4
	baz=169						
SWA2				S	Sn	12 04 33.9	-7.1
	baz=169						
SWA2		8.24	167	P	Pn	12 03 08.2	-1.4
SWA2				S	Sn	12 04 33.9	-7.1
BRTR	Keskin Array B	8.47	70	P	Pn	12 03 13.0	+0.1
	comp=E,0.1nm,0.3s,baz=252,slow=13,SNR=3.2						
UDBI	Udbina	9.19	324	*e*Pn	Pn	12 03 21.5	-1.0
NVLJ	Novalja	9.65	321	*e*Pn	Pn	12 03 26.3	-2.4
NVLJ				Sn	Sn	12 05 06.2	-8.9
BOJS	Bojanci	10.17	326	*i* Pn	Pn	12 03 33.4	-2.3
AMAG	Maghara	10.58	126	P	Pn	12 03 37.8	-3.6
	baz=127						
AMAG	Maghara	10.58	126	P	Pn	12 03 37.8	-3.6
RSH		10.71	123	P	Pn	12 03 39.8	-3.4
	baz=124						
RSH		10.71	123	P	Pn	12 03 39.8	-3.4
SKDS	Skadanscina	10.78	323	*i* Pn	Pn	12 03 40.9	-3.1
MMAI	Mount Meron Ar	10.80	10	P	Pn	12 03 42.7	-1.8
	comp=E,0.7nm,0.3s,baz=308,slow=14,SNR=3.1						
SOKA	Soboth	11.20	329	⇑*i*Pn	Pn	12 03 47.2	-2.4
HNKL	Nakhl	11.55	126	P	Pn	12 03 51.8	-2.7
	baz=127						
HNKL				S	Sn	12 05 49.0	-12
	baz=127						
HNKL	Nakhl	11.55	126	P	Pn	12 03 51.8	-2.7
HNKL				S	Sn	12 05 49.0	-13
EIL	Elat	12.35	125	P	Pn	12 04 03.0	-2.0
	comp=E,0.4nm,0.3s,baz=267,slow=2.1,SNR=12						
GERES	GERESS Array B	13.48	332	P	Pn	12 04 17.3	-2.4
	comp=E,0.1nm,0.3s,baz=158,slow=14,SNR=4.1						
ESDC	Sonseca Array	21.43	285	P	P	12 05 52.1	-0.1
	comp=E,0.1nm,0.3s,baz=74,slow=11,SNR=4.6						
HFS	Hagfors	23.66	348	P	P	12 06 13.4	-0.7
	comp=E,3.1nm,0.9s,baz=138,slow=11,SNR=3.4						
FINES	FINESS Array B	24.23	3	P	P	12 06 19.1	-0.2
	comp=E,2.3nm,0.9s,baz=161,slow=12,SNR=6.3						
NOA	NORSAR Array B	24.95	346	P	P	12 06 25.9	0.0
	comp=E,0.2nm,0.5s,baz=140,slow=9.2,SNR=2.8						
EKA	Eskdalemuir Ar	25.42	324	P	P	12 06 31.2	+1.1
	comp=E,0.9nm,0.7s,baz=126,slow=9.7,SNR=4.7						
ARCES	ARCESS Array B	32.32	1	P	P	12 07 32.3	+1.1
	comp=E,0.7nm,0.8s,baz=152,slow=8.1,SNR=3.6						
MKAR	Makanchi Array	43.90	58	P	P	12 09 09.2	+0.7
	comp=E,0.8nm,0.5s,baz=273,slow=7.8,SNR=18						
ZALV	Zalesovo Beam	44.65	48	P	P	12 09 14.7	+0.3
	comp=E,3.1nm,0.3s,baz=270,slow=8.9,SNR=5.3						
SCHQ	Scheffervile	60.58	318	P	P	12 11 12.2	+0.4
	comp=E,0.9nm,0.4s,baz=61,slow=10,SNR=3.1						
CMAR	Chiang Mai Arr	67.83	83	P	P	12 11 59.5	-0.1
	comp=E,0.6nm,0.6s,baz=289,slow=8.5,SNR=3.5						
KSRS	Korea Array	78.17	52	P	P	12 13 00.7	+0.5
	comp=E,0.6nm,0.5s,baz=317,slow=4.9,SNR=4.8						
ASAR	Alice Springs	119.89	98	PKP	PKPdf	12 19 52.2	+1.4
	comp=E,0.2nm,0.3s,baz=305,slow=1.8,SNR=5.5						

IDC 25 12:04:18.1±1.0,21°.52N×143°.23E,h0km,mb3.7/6, mb1 4.0/6,mb1mx3.5/39,mbtmp3.7/6,Error ellipse: s-maj=68.1km s-min=22.1km az=107.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11N1	WAKE ISLAND Hy	22.22	90	T	T	12 31 50.2	
	baz=277,slow=75,SNR=81						
H11N2	WAKE ISLAND Hy	22.22	90	T	T	12 31 52.3	
	baz=277,slow=75,SNR=58						
H11N3	WAKE ISLAND Hy	22.24	90	T	T	12 31 51.5	
	baz=277,slow=75,SNR=61						
H11S3	WAKE ISLAND Hy	22.24	94	T	T	12 31 48.2	
	baz=280,slow=75,SNR=36						
H11S1	WAKE ISLAND Hy	22.25	94	T	T	12 31 48.6	
	baz=280,slow=75,SNR=40						
H11S2	WAKE ISLAND Hy	22.26	94	T	T	12 31 48.0	
	baz=280,slow=75,SNR=39						
WRA	Warramunga Arr	42.11	193	P	P	12 12 12.4	+0.2
	0.2nm,0.4s,baz=19,slow=9.4,SNR=4.0						
ASAR	Alice Springs	45.82	192	P	P	12 12 41.7	-0.3
	0.2nm,0.7s,baz=11,slow=8.5,SNR=3.8						
ILAR	Eielson Array	62.18	27	P	P	12 14 41.1	+0.1
	0.5nm,1.0s,baz=267,slow=5.4,SNR=4.1						
YKA	Yellowknife Ar	76.60	28	P	P	12 16 10.9	+0.7
	0.9nm,0.6s,baz=293,slow=5.6,SNR=4.6						
NVAR	Mina Array Bea	83.22	51	P	P	12 16 46.4	-0.6
	0.5nm,0.7s,baz=269,slow=5.3,SNR=5.3						
FINES	FINESS Array B	83.36	335	P	P	12 16 46.7	-0.2
	1.1nm,0.9s,baz=126,slow=3.8,SNR=2.2						

*ISCJB **25** 12:13:23.0±0.4,3°.20N±0°.04×128°.78E±0°.06,h200km, mb3.7/13,Error ellipse: s-maj=8.6km s-min=5.7km az=7.4*
*DJA **25** 12:13:23.4±0.6,3°N±4°×12°.9E±°,h10km,M4.5/9,mb4.8/4, mB5.4/1,MLv4.4/9,Mw(mB)4.9/1*
*IDC **25** 12:13:27.3±2.0,3°.06N×128°.87E,h235km±20km,mb3.4/13, mb1 3.5/14,mb1mx3.3/41,mbtmp4.0/14,Error ellipse: s-maj=22.8km s-min=8.6km az=80.0*

ISC 25 12:13:24.3±0.6,3°.14N±0°.06×128°.73E±0°.07,h200km,n22, σ1°44/26,mb3.8/13,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	2.71	210	P	Pn	12 14 09.4	-1.2
TNTI				S	Sn	12 14 46.2	-0.7
SGSI	Sangihe	3.24	280	P	Pn	12 14 17.5	+0.7
SGSI				S	Sn	12 14 57.4	-0.5
LBMI	Labuha	3.94	198	P	Pn	12 14 27.0	+1.6
LBMI				S	Sn	12 15 16.2	+2.7
SWI	Sorong	4.71	147	P	Pn	12 14 35.3	+0.3
SIJI	Sorong	4.72	147	P	Pn	12 14 37.0	+1.8
	1.7nm,0.3s,baz=330,slow=20,SNR=6.4						
KMSI	Cibinong	5.38	242	P	Pn	12 14 44.5	+0.9
	135nm,0.7s,1.5nm						
SANI	Sanana	5.83	208	P	Pn	12 14 49.2	-0.2
NLAI	Namlea	6.54	194	P	Pn	12 15 01.0	+2.4
WRA	Warramunga Arr	23.59	167	P	P	12 18 15.5	-1.6
	0.4nm,0.5s,baz=348,slow=10,SNR=7.8						
WRA				S	S	12 22 12.5	-4.1
	0.3nm,0.4s,baz=344,slow=14,SNR=5.2						
JCJ	Chichijima	27.08	27	P	P	12 18 47.5	-1.0
	13nm,0.7s,baz=286,slow=20,SNR=3.9						
ASAR	Alice Springs	27.11	170	P	P	12 18 48.4	-0.5
	0.8nm,0.5s,baz=349,slow=6.9,SNR=21						
CMAR	Chiang Mai Arr	32.89	300	P	P	12 19 41.0	+1.2
	1.1nm,0.7s,baz=117,slow=7.5,SNR=6.5						
KSRS	Korea Array	34.16	359	P	P	12 19 51.2	+0.8
	1.1nm,0.4s,baz=175,slow=9.3,SNR=8.0						
MJAR	Matsushiro Arr	34.37	14	P	P	12 19 52.6	+0.2
	3.6nm,0.8s,baz=186,slow=10,SNR=15						
MAT	Matsushiro	34.37	14	P	P	12 19 52.6	+0.2
STKA	Stephens Creek	36.91	162	P	P	12 20 13.6	-0.3
	0.6nm,0.3s,baz=330,slow=8.6,SNR=6.8						
USRK	Ussuriysk Ar.	40.99	4	P	P	12 20 47.2	-0.4
	0.8nm,0.5s,baz=187,slow=8.7,SNR=3.7						
ASAJ	Asahikawa	42.61	15	P	P	12 21 01.6	+0.8
	1.0nm,0.4s,baz=299,slow=4.4,SNR=6.5						
SONM	Songino Array	48.51	340	P	P	12 21 47.7	+0.6
	0.7nm,0.7s,baz=156,slow=7.4,SNR=2.8						
MKAR	Makanchi Array	59.19	325	P	P	12 23 04.5	+0.2
	0.6nm,0.3s,baz=111,slow=7.2,SNR=22						
SEY	Seymchan	62.18	12	P	P	12 23 24.4	+0.2
	0.6nm,0.3s,baz=228,slow=6.6,SNR=4.1						
ARCES	ARCESS Array B	91.69	340	P	P	12 26 07.5	-1.1
	2.1nm,1.0s,baz=75,slow=5.3,SNR=4.9						

*NEIC **25** 12:16:37.8,15°.28N×93°.28W,h79km,MD4.0(MEX),After MEX.*

MEX 25 12:16:37.0±0.4,15°.28N×93°.29W,h88km±4km,MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		0.43	9	*i* P	Pn	12 16 49.5	-1.5
PCIG				*i* S	Sn	12 16 59.9	-1.5
PCIG		0.43	9	*i* P	Pn	12 16 49.5	-1.5
PCIG				*i* S	Sn	12 16 58.8	-2.6
CCIG	Comitan	1.49	48	*e*P	Pn	12 17 01.5	-1.3
CCIG				*e*S	Sn	12 17 20.6	-1.8
CCIG	Comitan	1.49	48	*e*P	Pn	12 17 01.5	-1.3
CCIG				*e*S	Sn	12 17 20.6	-1.8
TGIG		1.50	6	*e*P	Pn	12 17 01.9	-0.9
TGIG				*i* S	Sn	12 17 20.5	-1.8
TGIG		1.50	6	*e*P	Pn	12 17 01.9	-0.9
TGIG				*i* S	Sn	12 17 20.5	-1.8
HUIG	Huatulco	2.76	281	*i* P	Pn	12 17 16.8	-2.4
HUIG	Huatulco	2.76	281	*e*P	Pn	12 17 14.4	-4.9

*IDC **25** 12:28:39.0±3.2,7°.31N×126°.83E,h18km±19km,mb4.3/24, mb1 4.4/26,mb1mx4.3/30,mbtmp4.4/26,ML3.9/2,MS3.7/12, Ms1 3.7/12,ms1mx3.5/38,Error ellipse: s-maj=20.9km s-min=11.3km az=80.0*
*MOS **25** 12:28:39.9±1.2,7°.31N×126°.65E,h32km,mb4.8/34,Error ellipse: s-maj=14.2km s-min=6.6km az=105.8*
*DJA **25** 12:28:40.2±0.7,8°N±7°×12°.7E±°,h48km±29km,M5.0/5, mb5.0/5,mB5.1/5,MLv5.3/1,Mw(mB)4.5/5*
*ISCJB **25** 12:28:42.8±0.6,7°.41N±0°.02×127°.17E±0°.04,h54km±5km, mb4.5/64,MS3.6/11,Error ellipse: s-maj=6.4km s-min=3.8km az=163.1*
*BJI **25** 12:28:42.4,7°.16N×127°.09E,h69km,mb4.8/29,mB5.0/24, Ms4.2/22,Ms7 4.1/22*
*NEIC **25** 12:28:45.8±1.0,7°.37N×126°.86E,h68km±9km,mb4.7/38, Error ellipse: s-maj=9.5km s-min=5.8km az=78.0*

ISC 25 12:28:45.4±0.4,7°.37N±0°.04×127°.13E±0°.05,h63km±3km, h63km:pP-P,n230,σ1°61/246,mb4.6/63,5C-7D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	Davao City (W)	1.57	259	*e*Pn	Pn	12 29 10.3	-0.8
DMPH	Davao City--Mi	1.64	260	⇑*i*P	Pn	12 29 11.1	-0.9
DMPH				*e*S	Sn	12 29 36.1	+4.0
GSPH	General Santos	2.52	240	⇓*e*P	Pn	12 29 21.0	-3.1
CGP	Cagayan de Oro	2.64	294	⇑*e*P	Pn	12 29 24.3	-1.3
CGP				*e*S	Sn	12 29 58.9	+2.3
CTBH	Cotabato--PC H	2.87	267	⇑*i*P	Pn	12 29 27.1	-1.6
DCPH	Dipolog City	3.93	288	*e*P	Pn	12 29 42.3	-1.0
TBP	Tagbilaran	3.97	306	*e*P	Pn	12 29 42.4	-1.4
TBP				*e*S	Sn	12 30 30.4	+1.2
SGSI	Sangihe	4.00	204	P	Pn	12 29 45.8	+1.6
SGSI				S	Sn	12 30 39.9	+10
PLP	Palo	4.33	331	⇓*e*P	Pn	12 29 45.0	-3.7
PLP				*e*S	Sn	12 30 43.1	+5.2
TNTI	Ternate	6.56	178	P	Pn	12 30 19.2	-0.1
TNTI				S	Sn	12 31 40.2	+7.4
TNTI	Ternate	6.56	178	*e*Pn	Pn	12 30 18.9	-0.4
TNTI				*e*Sn	Sn	12 31 36.9	+4.1
PALU	Palau	7.28	90	P	Pn	12 30 25.2	-4.0
	baz=7.2,SNR=5.1						
KMSI	Cibinong	7.45	205	P	Pn	12 30 33.1	+1.6
KMSI				S	Sn	12 32 05.4	+11
LBMI	Labuha	7.97	177	P	Pn	12 30 38.6	0.0
LBMI				S	Sn	12 32 15.0	+7.7
MRSI	Marisa	8.59	217	P	Pn	12 30 47.5	+0.5
	81nm,0.8s,1μm						
MYLDM	Lahad Datu	8.85	256	*e*Pn	Pn	12 30 51.6	+0.9
SWI	Sorong	9.16	153	P	Pn	12 30 51.8	-3.1
	30nm,0.7s,739nm						
SWI	Sorong	9.16	153	P	Pn	12 30 52.8	-2.1
	baz=9.2,SNR=3.0						
SIJI	Sorong	9.17	153	Pn	Pn	12 30 50.2	-4.7
	2.8nm,0.3s,baz=346,slow=13,SNR=17						
SIJI				Sn	Sn	12 32 32.2	-4.5

	1.3nm,0.3s,baz=218,slow=23,SNR=6.2						
LUWI	Luwuk	9.42	208	P	Pn	12 31 00.5	+2.0
LUWI	Luwuk	9.42	208	P	Pn	12 31 02.1	+3.6
	baz=9.6,SNR=13						
LUWI	Luwuk	9.42	208	*e*Pn	Pn	12 31 02.1	+3.6
SANI	Sanana	9.43	187	P	Pn	12 30 56.1	-2.5
APSI	Ampana	9.88	214	P	Pn	12 31 07.0	+2.3
MPSI	Mapaga	10.04	226	P	Pn	12 31 09.0	+2.0
NLAI	Namlea	10.54	180	P	Pn	12 31 13.6	-0.2
FAKI	Fak Fak	11.43	153	P	Pn	12 31 23.1	-2.8
FAKI	Fak Fak	11.43	153	P	Pn	12 31 23.9	-2.0
	baz=2.5NR=11						
FAKI	Fak Fak	11.43	153	*e*Pn	Pn	12 31 26.6	+0.7
TTSI	Tana Toraja	12.66	215	P	Pn	12 31 44.7	+2.0
KAPI	Kappang	14.34	211	Pn	Pn	12 31 57.8	-7.5
	0.3nm,0.3s,baz=108,slow=20,SNR=1.9						
KAPI	Kappang	14.34	211	*e*Pn	Pn	12 32 04.4	-0.8
SBUM	Sibu	15.64	253	*e*P	P	12 32 24.8	-0.2
	45nm,0.8s						
KSM	Kuching	17.76	252	P	P	12 32 49.5	+1.0
	baz=18,SNR=12						
KSM	Kuching	17.76	252	*e*P	P	12 32 49.1	+0.6
	19nm,0.8s						
GUMO	Guam	18.50	69	LR	LR	12 38 57.7	
	comp=Z,204nm,19.5s,baz=194,slow=33						
JOW	Kunigami	19.38	3	*e*P	Pn	12 33 09.0	+1.1
	62nm,0.8s						
JOW				*e*		12 33 20.1	
QIZ	Qiongzhong	20.41	306	P	P	12 33 16.0	-1.4
QIZ				pP	pP	12 33 30.0	-0.9
QIZ				sP	sP	12 33 38.0	-0.9
QIZ				S	S	12 37 00.5	-2.2
QIZ				sS	sS	12 37 23.0	-1.8
QIZ				PMZ			
	16nm,0.8s						
QIZ				PMZ			
	170nm,14.3s						
QIZ				LN			
	320nm,16.6s						
QIZ				LE			
	210nm,16.1s						
QIZ				LZ			
	570nm,16.6s						
QIZ	Qiongzhong	20.41	306	*e*P	P	12 33 15.4	-2.0
	19nm,0.9s						
MTN	Manton Dam	20.47	169	P	P	12 33 18.6	+0.5
	baz=21,SNR=10						
MTN	Manton Dam	20.47	169	*e*P	P	12 33 18.8	+0.7
	25nm,0.8s						
KDU	Kakadu	20.62	165	P	P	12 33 19.3	-0.4
	baz=21,SNR=7.9						
KNRA	Kunurra	22.96	176	P	P	12 33 44.3	-0.3
	baz=23,SNR=16						
MYKOM	Kota Tinggi	23.85	258	*e*P	P	12 33 54.0	+0.8
	29nm,0.9s						
LEM	Lembang	24.04	235	LR	LR	12 45 09.1	
	comp=Z,248nm,18.5s,baz=34,slow=42						
CBIJ	Chichi jima	24.27	34	P	P	12 33 55.6	-1.1
JCJ	Chichijima	24.27	34	P	P	12 33 55.6	-1.1
	49nm,1.0s,baz=234,slow=14,SNR=4.1						
JCJ				LR	LR	12 42 32.6	
	comp=Z,126nm,19.8s,baz=230,slow=34						
NJ2	Nanjing	25.74	344	*e*P	P	12 34 10.3	+0.3
NJ2				PMZ			
	30nm,0.6s						
JNU	Nakatsue	25.86	7	P	P	12 34 09.4	-1.7
	14nm,0.9s,baz=175,slow=3.6,SNR=5.4						
JNU				LR	LR	12 45 58.5	
	comp=Z,76nm,18.2s,baz=125,slow=40						
WHN	Wuhan	25.98	334	P	P	12 34 14.5	+2.2
WHN				LZ			
	580nm,16.0s						
PMG	Port Moresby	26.00	130	LR	LR	12 45 44.1	
	comp=Z,111nm,18.8s,baz=294,slow=39						
PMG	Port Moresby	26.00	130	*e*P	P	12 34 14.5	+1.9
PMG				pmax	pmax		
	comp=Z,116nm,1.2s						
COEN	Coen	26.51	143	P	P	12 34 19.2	+2.0
	baz=27,SNR=3.7						
KSJDO	Jindo	26.98	359	P	P	12 34 21.0	-0.2
	SNR=10						
KSKOH	Goheung	27.11	0	P	P	12 34 22.5	+0.1
	SNR=7.1						
GYA	Guiyang	27.19	317	*e*P	P	12 34 24.5	+1.1
GYA				pP	pP	12 34 40.0	+1.3
GYA				sP	sP	12 34 47.8	+1.7
GYA				PP	PnPn	12 35 13.3	+3.5
GYA				S	S	12 38 57.8	-0.1
GYA				sS	sS	12 39 24.0	-0.2
GYA				SS

KSAR	Wonju Array Be	29.94	1	P	P	12 34 47.5	0.0		
KSRS	Korea Array	29.95	1	P	P	12 34 47.5	-0.1		
	comp=Z,8.4nm,0.8s,baz=176,slow=9.8,SNR=47								
KSRS				LR	LR	12 47 30.9			
	comp=Z,108nm,19.2s,baz=183,slow=38								
KSRS	Korea Array	29.95	1	P	P	12 34 47.5	-0.1		
KSRS				pmax	pmax				
	comp=Z,8.0nm,0.8s								
KSRS				MLR	MLR				
	comp=Z,108nm,19.2s								
GSI	Gunungsitoli	30.07	260	*e*P	P	12 34 47.1	-1.9		
	comp=Z,30nm,0.8s								
KSDGY	Daegwallycong	30.21	2	P	P	12 34 50.8	+0.8		
	SNR=7.2								
QIS	Mount Isa	30.34	156	P	P	12 34 51.5	+0.2		
	baz=30,SNR=14								
KSIJA	INJE	30.49	2	P	P	12 34 53.2	+0.8		
	SNR=8.5								
MTSU	Mount Surprise	30.50	146	P	P	12 34 54.1	+1.4		
	baz=31,SNR=5.4								
MAJO	Matsushiro	30.75	18	*e*P	P	12 34 54.9	+0.2		
MAJO				pmax	pmax				
	comp=Z,26nm,0.8s								
MAJO	Matsushiro	30.75	18	*e*P	P	12 34 54.2	-0.5		
	comp=Z,6.0nm,0.8s								
MAT	Matsushiro	30.75	18	P	P	12 34 53.3	-1.4		
MJAR	Matsushiro Arr	30.75	18	P	P	12 34 53.2	-1.5		
	comp=Z,3.4nm,0.7s,baz=192,slow=9.3,SNR=16								
MJAR	Matsushiro Arr	30.75	18	P	P	12 34 53.2	-1.5		
MJAR				pmax	pmax				
	comp=Z,3.0nm,0.7s								
XAN	Xi'an	31.42	330	P	P	12 34 57.3	-3.4		
XAN				S	S	12 40 05.8	+1.8		
XAN				PMZ					
	comp=Z,5.0nm,0.8s								
XAN				LN					
	comp=Z,100nm,15.8s								
XAN				LE					
	comp=Z,84nm,16.9s								
XAN				LZ					
	comp=Z,180nm,15.8s								
AS31	Alice Springs	31.55	168	*e*P	P	12 35 02.7	+0.7		
ASAR	Alice Springs	31.55	168	P	P	12 35 00.2	-1.7		
	comp=Z,1.8nm,0.8s,baz=344,slow=7.2,SNR=19								
ASAR				PcP	PcP	12 37 54.4	+0.9		
	comp=Z,1.2nm,0.6s,baz=347,slow=2.3,SNR=8.0								
ASAR				ScP	ScP	12 41 34.2	+2.8		
	comp=Z,1.3nm,0.8s,baz=340,slow=3.3,SNR=7.3								
ASAR				LR	LR	12 49 48.9			
	comp=Z,168nm,18.3s,baz=317,slow=40								
ASAR	Alice Springs	31.55	168	P	P	12 35 00.2	-1.7		
ASAR						12 37 54.4			
ASAR				pmax	pmax				
	comp=Z,2.0nm,0.8s								
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
ASAR				pmax	pmax				
	comp=N,1.0nm,0.8s								
ASAR				MLR	MLR				
	comp=Z,168nm,18.3s								
CD2	Chengdu	32.04	320	P	P	12 35 05.8	-0.4		
CD2				pP	pP	12 35 21.0	-0.7		
CD2				sP	sP	12 35 28.5	-0.6		
CD2				PP	PP	12 36 19.0	-0.6		
CD2				S	S	12 40 14.0	+0.2		
CD2				sS	sS	12 40 40.5	+0.3		
CD2				PMZ					
	comp=Z,20nm,0.5s								
CD2				PMZ					
	comp=Z,110nm,6.5s								
CD2				LE					
	comp=Z,350nm,16.2s								
CD2				LZ					
	comp=Z,430nm,16.8s								
WRKA	Warakurna	32.23	178	P	P	12 35 08.9	+0.9		
	baz=32,SNR=14								
CTAO	Charters Tower	33.15	146	*e*P	P	12 35 17.1	+1.2		
CTAO				pmax	pmax				
	comp=Z,12nm,0.8s								
CTAO	Charters Tower	33.15	146	*e*P	P	12 35 17.1	+1.2		
	comp=Z,12nm,0.8s								
BJI	Beijing	33.98	345	P	P	12 35 21.5	-1.4		
BJI				S	S	12 40 45.3	+1.8		
BJI				PMZ					
	comp=Z,7.0nm,0.8s								
BJI				LN					
	comp=Z,110nm,13.2s								
BJI				LE					
	comp=Z,110nm,18.0s								
MEEK	Meekatharra	34.80	193	P	P	12 35 30.2	-0.1		
	baz=35,SNR=18								
MSHR	Mys Shultsa	35.24	5	*i* P	P	12 35 35.2	+1.4		
LZH	Lanzhou	35.64	327	*e*P	P	12 35 42.0	+4.5		
LZH				pP	pP	12 35 58.0	+4.9		
LZH				sP	sP	12 36 05.0	+4.5		
LZH				PMZ					
	comp=Z,36nm,1.0s								
LZH				PMZ					
	comp=Z,190nm,5.0s								
HHC	Hu-ho-hao-te	36.11	340	*e*P	P	12 35 45.0	+3.6		
HHC				PP	PP	12 37 08.8	+4.2		
HHC				S	S	12 41 19.5	+2.9		
HHC				sS	sS	12 41 45.3	+2.1		
HHC				SS	SnSn	12 43 45.5	-1.9		
HHC				PMZ					
	comp=Z,17nm,1.0s								
HHC				PMZ					
	comp=Z,50nm,5.4s								
HHC				LN					
	comp=Z,150nm,14.7s								
HHC				LE					
	comp=Z,140nm,12.4s								
HHC				LZ					
	comp=Z,150nm,14.7s								
CN2	Changchun	36.31	358	*e*P	P	12 35 44.0	+1.0		
CN2				*ep*P	pP	12 35 59.3	+0.7		
CN2				*e*S	S	12 41 20.5	+1.1		
CN2				PMZ					
	comp=Z,10.0nm,0.6s								
CN2				PMZ					
	comp=Z,200nm,3.0s								
CN2				LN					
	comp=Z,190nm,20.0s								
CN2				LE					
	comp=Z,140nm,20.0s								
CN2				LZ					
	comp=Z,100nm,15.0s								
USRK	Ussuriysk Ar.	36.93	6	P	P	12 35 48.5	+0.3		
	comp=Z,17nm,0.8s,baz=189,slow=7.7,SNR=40								
MDJ	Mudanjiang	37.16	3	*e*P	P	12 35 50.9	+0.7		
	comp=Z,37nm,0.8s								
ERM	Erimo	37.31	20	*e*P	P	12 35 52.2	+0.8		
ERM				pmax	pmax				
	comp=Z,4.0nm,1.0s								
ERM	Erimo	37.31	20	*e*P	P	12 35 52.6	+1.2		
	comp=Z,15nm,1.1s								
QLP	Quilpie	37.61	154	P	P	12 35 56.8	+2.6		
	baz=38,SNR=5.1								
MORW	Morawa	37.77	196	P	P	12 35 55.6	+0.1		
	baz=38,SNR=10								
FORT	Forrest	37.94	179	*e*P	P	12 35 56.5	-0.4		
	comp=Z,33nm,0.9s								
KMBL	Kambalda	38.85	187	P	P	12 36 05.0	+0.5		
	baz=39,SNR=6.5								
ASAJ	Asahikawa	39.02	18	*e*P	P	12 36 06.1	+0.3		
	comp=Z,11nm,1.0s								
ASAJ				*e*		12 36 19.3			
BLDU	Ballidu	39.07	194	P	P	12 36 06.6	+0.2		
	baz=39,SNR=14								
H11S3	WAKE ISLAND Hy	40.01	70	T	T	13 19 44.8			
	baz=263,slow=74,SNR=9.5								
H11S1	WAKE ISLAND Hy	40.03	70	T	T	13 19 42.6			
	baz=263								
H11S2	WAKE ISLAND Hy	40.03	70	T	T	13 19 43.6			
	baz=263,slow=74,SNR=4.9								
H11N1	WAKE ISLAND Hy	40.44	68	T	T	13 20 23.3			
	baz=261,slow=74,SNR=4.8								
H11N2	WAKE ISLAND Hy	40.45	68	T	T	13 20 23.1			
	baz=261,slow=74								
H11N3	WAKE ISLAND Hy	40.46	68	T	T	13 20 20.2			
	baz=261,slow=74,SNR=7.8								
BBOO	Buckleboo	40.85	168	P	P	12 36 21.7	+0.5		
	baz=41,SNR=14								
BBOO	Buckleboo	40.85	168	*e*P	P	12 36 21.7	+0.5		
	comp=Z,9.3nm,0.7s								
NWAO	Narrogin (SRO)	41.17	193	P	P	12 36 24.6	+0.9		
	baz=42,SNR=8.0								
NWAO				P	P	12 36 24.6	+0.9		
	baz=42,SNR=8.0								
STKA	Stephens Creek	41.40	161	P	P	12 36 24.4	-1.3		
	comp=Z,6.6nm,0.8s,baz=339,slow=8.1,SNR=14								
STKA				LR	LR	12 58 25.9			
	comp=Z,76nm,18.9s,baz=22,slow=43								
STKA	Stephens Creek	41.40	161	P	P	12 36 24.4	-1.3		
STKA				pmax	pmax				
	comp=Z,7.0nm,0.8s								
STKA				MLR	MLR				
	comp=Z,76nm,18.9s								
STKA	Stephens Creek	41.40	161	*e*P	P	12 36 26.4	+0.8		
	comp=Z,1.9nm,0.9s								
YSS	Yuzh-Sakhalins	41.65	16	*e*P	P	12 36 28.9	+1.4		
YSS				pmax	pmax				
	comp=Z,9.0nm,1.7s								
KUR	Kuril'sk	41.78	22	*e*P	P	12 36 31.4	+2.8		
KLR	Kul'dur	41.90	5	*e*P	P	12 36 26.1	-3.4		
KLR				pmax	pmax				
	comp=Z,50nm,1.6s								
HTT	Hallett	42.10	165	P	P	12 36 36.5	+5.1		
	baz=42,SNR=4.1								
ULN	Ulaanbaatar	43.82	340	*e*P	P	12 36 43.9	-1.4		
ULN				pmax	pmax				
	comp=Z,4.0nm,0.8s								
ULN	Ulaanbaatar	43.82	340	*e*P	P	12 36 43.9	-1.4		
	comp=Z,4.4nm,0.8s								
SONM	Songino Array	44.02	340	P	P	12 36 44.9	-1.9		
	comp=Z,1.4nm,0.7s,baz=152,slow=8.6,SNR=6.9								
SONM				PcP	PcP	12 38 31.6	+0.1		
	comp=Z,1.0nm,0.6s,baz=151,slow=3.7,SNR=3.6								
SONM	Songino Array	44.02	340	P	P	12 36 44.9	-1.9		
SONM						12 38 31.6			
SONM				pmax	pmax				
	comp=Z,1.0nm,0.7s								
SONM				pmax	pmax				
	comp=Z,1.0nm,0.6s								
ZAK	Zakamensk	47.26	339	*e*P	P	12 37 09.6	-2.8		
ZAK				pmax	pmax				
	comp=Z,1.0nm,1.5s								
WMQ	Urumqi	50.03	323	P	P	12 37 35.3	+1.6		
WMQ				pP	pP	12 37 50.8	+0.8		
WMQ				sP	sP	12 37 57.8	+0.6		
WMQ				PMZ					
	comp=Z,11nm,0.7s								
WMQ				PMZ					
	comp=Z,82nm,4.0s								
WMQ				LN					
	comp=Z,300nm,17.0s								
WMQ				LE					
	comp=Z,130nm,23.8s								
WMQ				LZ					
	comp=Z,110nm,20.0s								
BOD	Bodaibo	51.35	351	*e*P	P	12 37 42.6	-0.7		
BOD				pmax	pmax				
	comp=Z,6.0nm,0.9s								
PETK	Petropavlovsk-	51.93	23	P	P	12 37 49.4	+1.6		
	comp=Z,3.0nm,0.7s,baz=193,slow=3.0,SNR=7.3								
PETK	Petropavlovsk-	51.93	23	P	P	12 37 49.4	+1.6		
PETK				pmax	pmax				
	comp=Z,3.0nm,0.7s								
YAK	Yakutsk	54.58	1	*e*P	P	12 38 06.5	-0.5		
YAK				pmax	pmax				
	comp=Z,17nm,0.9s								
YAK				pmax	pmax				
	comp=N,8.0nm,1.3s								
YAK				pmax	pmax				
	comp=E,3.0nm,0.9s								
YAK	Yakutsk	54.58	1	*e*P	P	12 38 07.6	+0.6		
	comp=E,20nm,0.8s								
YAK				*e*		12 38 18.1			
MK31	Makanchi Array	54.84	324	*e*P	P	12 38 07.6	-1.6		
MK31				pmax	pmax				
	comp=Z,3.0nm,0.5s								
MK31	Makanchi Array	54.84	324	*e*P	P	12 38 08.0	-1.3		
MKAR	Makanchi Array	54.84	324	P	P	12 38 07.9	-1.3		
	comp=Z,2.9nm,0.5s,baz=122,slow=8.1,SNR=52								
MKAR				PcP	PcP	12 39 10.1	-0.7		
	comp=Z,3.7nm,0.7s,baz=110,slow=3.1,SNR=6.7								
MKAR	Makanchi Array	54.84	324	P	P	12 38 07.9	-1.3		
MKAR						12 39 10.1			
MKAR				pmax	pmax				
	comp=Z,3.0nm,0.5s								
MKAR				pmax	pmax				
	comp=Z,4.0nm,0.7s								
ZALV	Zalesovo Beam	57.56	332	P	P	12 38 26.4	-2.0		
	comp=Z,0.9nm,0.4s,baz=140,slow=6.9,SNR=7.1								
ZALV	Zalesovo Beam	57.56	332	P	P	12 38 26.4	-2.0		
ZALV				pmax	pmax				
	comp=Z,1.0nm,0.4s								
SEY	Seymchan	58.42	13	P	P	12 38 34.9	+0.6		
	comp=Z,2.7nm,1.0s,baz=217,slow=10,SNR=5.6								
SEY	Seymchan	58.42	13	*e*P	P	12 38 36.4	+2.2		
EKS2	Erkin-Say	58.48	316	*e*P	P	12 38 34.5	-0.8		
EKS2				pmax	pmax				
	comp=Z,5.0nm,0.9s								
EKS2	Erkin-Say	58.48	316	*e*P	P	12 38 34.5	-0.8		
	comp=Z,5.1nm,0.9s								
NVS	Novosibirsk	58.84	332	*e*P	P	12 38 34.9	-2.4		
NVS				pmax	pmax				
	comp=N,2.0nm,0.9s								
NVS				pmax	pmax				
	comp=E,2.0nm,0.9s								
NVS				pmax	pmax				
	comp=Z,3.0nm,0.9s								
KURK	Kurchatov	58.93	326	P	P	12 38 36.0	-2.0		
KURK				pmax	pmax				
	comp=Z,10.0nm,0.9s								
KURK	Kurchatov	58.93	326	*e*P	P	12 38 36.6	-1.4		
	comp=Z,10nm,0.9s								
KKAR	Karatay Array	60.89	316	*e*P	P	12 38 49.8	-1.9		
KKAR				pmax	pmax				
	comp=Z,17nm,1.1s								
KKAR	Karatay Array	60.89	316	*e*P	P	12 38 49.8	-1.9		
	comp=Z,17nm,1.1s								
BVAR	Borovoye Array	64.52	326	LR	LR	13 10 09.3			
	comp=Z,63nm,19.0s,baz=190,slow=39								
BRVK	Borovoye	64.59	326	*e*P	P	12 39 13.5	-2.6		
BRVK				pmax	pmax				
	comp=Z,4.0nm,0.6s								
BRVK	Borovoye	64.59	326	*e*P	P	12 39 13.5	-2.6		
	comp=Z,4.4nm,0.6s								
BILL	Bilibino	65.95	15	*e*P	P	12 39 27.0	+2.4		
BILL				pmax	pmax				
	comp=Z,3.0nm,1.2s								
GEYT	Alibeck	68.97	308	P	P	12 39 42.1	-2.2		
	comp=Z,1.9nm,0.4s,baz=266,slow=2.1,SNR=5.0								
ABKAR	Akbulak array	69.62	320	*e*P	P	12 39 46.5	-1.5		
	comp=Z,0.8nm,0.5s								
SVE	Sverdlovsk	71.10	328	*e*P	P	12 39 56.3	-0.6		
ARU	Arti	72.10	327	P	P	12 40 00.9	-2.0		
	baz=79,slow=10								
ARU	Arti	72.10	327	P	P	12 39 59.9	-3.0		
ARU	Arti	72.10	327	*e*P	P	12 40 00.7	-2.3		
	comp=Z,3.7nm,0.6s								
CASY	Casey	74.46	187	*e*P	P	12 40 17.8	+1.3		
	comp=Z,22nm,1.5s								
KDAK	Kodiak Island	78.62	33	*i* P	P	12 40 42.4	+2.1		
DGRG	David-gareji	78.99	311	P	P	12 40 43.0	+0.2		
DGRG	David-gareji	78.99	311	*e*P	P	12 40 42.9	+0.2		
CAST	Castle Rocks	79.32	27	*e*P	P	12 40 46.6	+2.5		
	comp=Z,7.3nm,0.9s								
RAYN	Ar Rayn	79.45	293	*e*P	P	12 40 44.6	-1.0		
	comp=Z,8.1nm,0.9s								
TBLG	Delisi	79.47	311	P	P	12 40 45.1	-0.2		
TBLG	Delisi	79.47	311	P	P	12 40 45.1	-0.2		
BPAW	Bear Paw Mtn.	79.86	26	*e*P	P	12 40 48.2	+1.2		
	comp=Z,10nm,1.0s								
PMR	Palmer	80.58	29	*e*P	P	12 40 52.5	+1.7		
PMR				pmax	pmax				
	comp=Z,11nm,1.2s								
PMR	Palmer	80.58	29	*e*P	P	12 40 52.5	+1.7		
	comp=Z,11nm,1.2s								
MCK	McKinley	80.75	27	*e*P	P	12 40 53.1	+1.3		
MCK				pmax	pmax				
	comp=Z,6.0nm,0.7s								
MCK	McKinley	80.75	27	*e*P	P	12 40 53.1	+1.3		
	comp=Z,6.0nm,0.7s								
KBZ	Khabaz	80.79	313	P	P	12 40 50.8	-1.5		
	comp=Z,3.8nm,0.9s,baz=109,slow=3.2,SNR=6.4								
KBZ	Khabaz	80.79	313	P	P	12 40 50.8	-1.5		
KBZ				pmax	pmax				
	comp=Z,4.0nm,0.9s								
KIV	Kislovodsk	80.94	313	*e*P	P	12 40 52.8	-0.5		
KIV				pmax	pmax				
	comp=Z,8.0nm,0.7s								
KIV	Kislovodsk	80.94	313	*e*P	P	12 40 52.8	-0.5		
	comp=Z,13nm,0.8s								
COLA	College	81.25	25	*e*P	P	12 40 57.4	+3.0		
COLA				pmax	pmax				
	comp=Z,3.0nm,1.0s								
COLA	College	81.25	25	*e*P	P	12 40 57.4	+3.0		
	comp=Z,3.1nm,1.0s								
CCB	Clear Creek Bu	81.27	26	*e*P	P	12 40 55.9	+1.4		
	comp=Z,11nm,1.4s								
ILAR	Eielson Array	81.67	26	P	P	12 40 56.8	+0.2		
	comp=Z,0.8nm,0.6s,baz=246,slow=5.0,SNR=23								
ILAR	Eielson Array	81.67	26	P	P	12 40 56.8	+0.2		
ILAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
EGAK	Eagle	84.12	26	*e*P	P	12 41 11.0	+1.8		
	comp=Z,4.7nm,0.8s								
OBN	Obninsk	84.33	325	*e*P	P	12 41 10.2	-0.3		
OBN				pmax	pmax				
	comp=Z,8.0nm,1.2s								
MALT	Malatya	84.47	308	*i*/*e*P	P	12 41 12.3	+0.5		
DAWY	Dawson	84.95	26	*e*P	P	12 41 15.2	+1.6		
	comp=Z,11nm,1.6s								
HYT	Haines Junctio	86.23	29	*e*P	P	12 41 22.3	+2.2		
VNDA	Vanda	86.97	173	P	P	12 41 22.5	-0.6		
	comp=Z,0.7nm,0.7s,baz=316,slow=5.3,SNR=4.5								
VNDA	Vanda	86.97	173	P	P	12 41 22.5	-0.6		
VNDA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
SIM	Simferopol'	86.98	315	*e*P	P	12 41 22.8	-1.1		
SIM				pmax	pmax				
	comp=Z,13nm,0.7s								
ARCES	ARCESS Array B	87.19	340	P	P	12 41 22.5	-1.9		
	comp=Z,2.5nm,0.8s,baz=84,slow=5.2,SNR=13								
ARCES	ARCESS Array B	87.19	340	P	P	12 41 22.5	-1.9		
ARCES				pmax	pmax				
	comp=Z,3.0nm,0.8s								
BR131	Keskin Array S	88.02	310	*e*P	P	12 41 28.1	-1.2		
	comp=Z,3.4nm,0.8s								
BRTR	Keskin Array B	88.02	310	P	P	12 41 27.9	-1.4		
	comp=Z,3.6nm,0.7s,baz=102,slow=4.5,SNR=23								
BRTR	Keskin Array B	88.02	310	P	P	12 41 27.9	-1.4		
BRTR				pmax	pmax				
	comp=Z,4.0nm,0.7s								
FINES	FINESS Array B	88.83	332	P	P	12 41 30.9	-1.5		
	comp=Z,3.1nm,0.8s,baz=111,slow=4.3,SNR=8.7								
FINES	FINESS Array B	88.83	332	P	P	12 41 30.9	-1.5		
FINES				pmax	pmax				
	comp=Z,3.0nm,0.8s								
AKASG	Malin Array Be	89.33	321	P	P	12 41 33.4	-1.5		
	comp=Z,4.2nm,0.7s,baz=66,slow=5.0,SNR=23								
AKASG	Malin Array Be	89.33	321	P	P	12 41 33.4	-1.5		
AKASG				pmax	pmax				
	comp=Z,4.0nm,0.7s								
AK01	Malin Array Si	89.34	321	*e*P	P	12 41 33.3	-1.7		
KIEV	Kiev	89.35	321	*e*P	P	12 41 33.1	-1.9		
KIEV				pmax	pmax				
	comp=Z,4.0nm,0.7s								
KIEV	Kiev	89.35	321	*e*P	P	12 41 33.0	-1.9		
	comp=Z,4.2nm,0.7s								
AK02	Malin Array Si	89.36	321	*e*P	P	12 41 33.7	-1.3		
VRI	Vrancioaia	91.95	317	*i*/*e*P	P	12 41 47.9	+0.6		
BURAR	Bucovina Array	92.56	318	*i*/*e*P	P	12 41 49.8	-0.4		
BUR08	Bucovina Ar. S	92.56	319	*e*P	P	12 41 49.5	-0.7		
DRGR		94.42	318	*i*/*e*P	P	12 41 57.8	-0.9		
APE	Apeiranthos	94.76	308	*i*/*e*P	pP	12 42 14.4	-3.8		
VTS	Vitosha	95.18	314	*i*/*e*P	P	12 42 01.6	-0.8		
NB2	NORSAR Subarra	95.72	334	P	P	12 42 02.3	-2.0		
	comp=Z,1.1nm,0.8s,baz=65,slow=4.4								
NOA	NORSAR Array B	95.72	334	P	P	12 42 01.5	-2.8		
	comp=Z,0.9nm,0.8s,baz=63,slow=4.6,SNR=3.9								
NOA	NORSAR Array B	95.72	334	P	P	12 42 01.5	-2.8		
NOA				pmax	pmax				
	comp=Z,1.0nm,0.8s								
DPC	Dobruska-Polom	97.35	323	*e*P	P	12 42 11.7	-0.2		
DPC				*ex*	x	12 42 23.2			
DPC				*ep*P	pP	12 42 28.9	-0.8		
DPC	Dobruska-Polom	97.35	323	*e*P	P	12 42 11.7	-0.2		
DPC				*e*		12 42 23.2			
DPC				*e*		12 42 28.9			
VRAC	Vranov	97.55	322	*i*/*e*P	P	12 42 12.6	-0.2		
GERES	GERESS Array B	99.49	322	P	Pdif	12 42 20.9	-0.6		
	comp=Z,1.0nm,0.6s,baz=72,slow=4.3,SNR=11								
GERES	GERESS Array B	99.49	322	P	Pdif	12 42 21.0	-0.6		
GERES				pmax	pmax				
	comp=Z,1.0nm,0.6s								
NVAR	Mina Array Bea	104.18	47	Pdiff	Pdif	12 42 47.5	+4.7		
	comp=Z,0.4nm,0.8s,baz=242,slow=3.2,SNR=3.6								
TXAR	Lajitas Array	119.03	51	PKP	PKPdf	12 47 28.7	+0.8		
	comp=Z,0.2nm,0.6s,baz=318,slow=1.7,SNR=4.0								
JCT	Junction City	121.36	48	*e*PKIKP	PKPdf	12 47 33.9	+1.7		
JCT	Junction City	121.36	48	*e*PKPdf	PKPdf	12 47 33.9	+1.7		
TOA0	Torodi Ar. Sít	122.10	290	*e*PKPdf	PKPdf	12 47 33.7	-0.3		
TORD	Torodi Ar. Bea	122.10	290	PKP	PKPdf	12 47 33.5	-0.4		
	comp=Z,3.4nm,0.7s,baz=61,slow=1.5,SNR=21								
MIAR	Mount Ida	123.28	40	*e*PKIKP	PKPdf	12 47 36.6	+0.9		
MIAR	Mount Ida	123.28	40	*e*PKPdf	PKPdf	12 47 36.6	+0.9		
DBIC	Dimbokro	130.12	285	PKP	PKPdf	12 47 49.1	-0.2		
	comp=Z,2.6nm,0.9s,baz=42,slow=2.2,SNR=4.1								
DBIC	Dimbokro	130.12	285	PKIKP	PKPdf	12 47 49.1	-0.2		
DBIC				pmax	pmax				
	comp=Z,3.0nm,0.9s								
TRQA	Tornquist	148.36	166	*e*PKPbc	PKPbc	12 48 25.4	+0.2		

ISCJB ***25*** *12:42:28.1±0.7, 6.8N±0.1° × 124.0E±0.2°, h600km, mb3.8/8, Error ellipse: s-maj=22.0km s-min=13.0km az=161.9*

IDC ***25*** *12:42:29.3±1.4, 6.8ON×123.9ΘE, h592km±18km, mb3.1/8, mb1 3.1/9, mb1mx2.8/34, mbtmp4.1/9, Error ellipse: s-maj=19.1km s-min=12.1km az=76.0*

ISC 25 12:42:29.5±0.8, 6.8N±0.1° × 124.0E±0.2°, h600km, n9, σ0ѲѮ3/13, mb3.9/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	Sorong	10.49	136	P	P	12 44 52.7	-0.6
	0.5nm,0.3s,baz=342,slow=23,SNR=4.5						
JCJ	Chichijima	26.57	38	P	P	12 47 21.5	-0.1
	24nm,0.8s,baz=94,slow=22,SNR=12						
CMAR	Chiang Mai Arr	27.04	298	P	P	12 47 24.9	-0.9
	1.9nm,0.7s,baz=110,slow=6.8,SNR=11						
WRA	Warramunga Arr	28.43

2.7800, Plg41.0000°, Azm8.0000°; N 0.1600, Plg25.0000°, Azm254.0000°; P -2.9400, Plg38.0000°, Azm142.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.

GCMT ***25*** *12:57:01.4±0.1,49.61N×155.01E,h136km±1km, MW5.6/128,Moment Tensor Solution. s111,c195; s128,c259; Duration: 1§5 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.36±.03; $M_{\theta\theta}$1.45±.04; $M_{\phi\phi}$-1.09±.04; $M_{r\theta}$2.32±.03; $M_{\theta\phi}$-1.16±.04; $M_{\phi r}$0.69±.03; Best double couple: M_o2.97500×10^{17} NP1:ϕ_s252.00000°,δ86.00000°, λ-124.00000°. NP2:ϕ_s155.00000°,δ35.00000°, λ-8.00000°. Principal axes: T 3.1190, Plg32.0000°, Azm10.0000°; N -0.2850, Plg34.0000°, Azm255.0000°; P -2.8310, Plg39.0000°, Azm131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

MOS ***25*** *12:57:01.3±0.9,49.69N×154.76E,h144km,mb5.6/101 Error ellipse: s-maj=5.3km s-min=3.2km az=81.4*

ISC 25 12:57:01.5±0.3,49.60N±0.03×154.81E±0.03,h134km±1km, h133km:pP-P,n1908,σ1§24/2127,mb5.6/449,96C-30D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
SKR	**Severo-Kuril's**	**1.37**	**37**	*e*P		**Pn**	**12 57 28.6**	**+0.2**
SKR				*e*S		**Sn**	**12 57 49.3**	**+0.4**
SKR	**Severo-Kuril's**	**1.37**	**37**	*i* PN		**Pn**	**12 57 28.6**	**+0.2**
SKR				*i* S		**Sn**	**12 57 49.4**	**+0.5**
PAU	**Pauzhetka**	**2.26**	**34**	*e*P		**Pn**	**12 57 39.2**	**+0.4**
PAU				*e*S		**Sn**	**12 58 07.5**	**0.0**
PAU	**Pauzhetka**	**2.26**	**34**	PN		**Pn**	**12 57 39.2**	**+0.4**
PAU				S		**Sn**	**12 58 07.5**	**0.0**
MIPR	**Malaya Ipel'ka**	**2.95**	**24**	*e*P		**Pn**	**12 57 47.8**	**+0.3**
MIPR				*e*S		**Sn**	**12 58 22.4**	**-0.7**
ASAK	**Asacha**	**3.40**	**34**	*e*P		**Pn**	**12 57 53.6**	**+0.1**
ASAK				*e*S		**Sn**	**12 58 32.7**	**-1.0**
MTVR	**Mutnovka**	**3.58**	**35**	*e*P		**Pn**	**12 57 55.6**	**-0.3**
MTVR				*e*S		**Sn**	**12 58 36.7**	**-1.4**
GRL	**Gorelyy**	**3.60**	**34**	*e*P		**Pn**	**12 57 57.4**	**+1.3**
GRL				*e*S		**Sn**	**12 58 39.5**	**+1.1**
GRL	**Gorelyy**	**3.60**	**34**	PN		**Pn**	**12 57 57.4**	**+1.3**
GRL				S		**Sn**	**12 58 39.5**	**+1.1**
APC	**Apacha**	**3.64**	**23**	*e*P		**Pn**	**12 57 56.6**	**+0.1**
APC				*e*S		**Sn**	**12 58 37.2**	**-1.9**
APC	**Apacha**	**3.64**	**23**	PN		**Pn**	**12 57 56.6**	**+0.1**
APC				S		**Sn**	**12 58 37.2**	**-1.9**
RUS	**Russkaya**	**3.67**	**38**	*e*P		**Pn**	**12 57 55.5**	**-1.4**
RUS				*e*S		**Sn**	**12 58 36.0**	**-3.9**
RUS	**Russkaya**	**3.67**	**38**	PN		**Pn**	**12 57 55.5**	**-1.4**
RUS				S		**Sn**	**12 58 36.0**	**-3.9**
PEA0B	**Petropavlovsk-**	**3.95**	**26**	*e*Pn		**Pn**	**12 58 01.5**	**+0.9**
PETK	**Petropavlovsk-** 472nm,0.3s,baz=182,slow=10,SNR=2546	**3.95**	**26**	P		**Pn**	**12 58 01.5**	**+0.9**
PETK				S		**Sn**	**12 58 49.4**	**+2.9**
	36nm,0.3s,baz=184,slow=19,SNR=2.3							
PETK				LR		LR	12 59 34.1	
	comp=Z,5μm,19.7s,baz=182,slow=39							
I44RU	**PETROPAVLOVSK-** baz=186,slow=11,SNR=1.0	**3.95**	**26**	P		**Pn**	**12 58 00.0**	**-0.6**
PET	**Petropavlovsk**	**4.19**	**34**	PN		**Pn**	**12 58 03.0**	**-0.7**
PET				S		**Sn**	**12 58 50.4**	**-1.7**
PET	**Petropavlovsk**	**4.19**	**34**	*e*Pn		**Pn**	**12 58 03.9**	**+0.2**
PET				*e*Sn		**Sn**	**12 58 52.1**	**0.0**
UGLR	**Uglovaya**	**4.40**	**33**	*e*P		**Pn**	**12 58 07.2**	**+0.5**
UGLR				*e*S		**Sn**	**12 58 57.0**	**-0.3**
KOK	**Koryaka**	**4.40**	**31**	*e*P		**Pn**	**12 58 07.6**	**+0.9**
KOK				*e*S		**Sn**	**12 58 57.4**	**+0.1**
KOK	**Koryaka**	**4.40**	**31**	PN		**Pn**	**12 58 07.6**	**+0.9**
KOK				S		**Sn**	**12 58 57.4**	**+0.1**
AVH	**Avacha**	**4.41**	**32**	*e*P		**Pn**	**12 58 07.7**	**+0.9**
AVH				*e*S		**Sn**	**12 58 56.7**	**-0.9**
AVH	**Avacha**	**4.41**	**32**	PN		**Pn**	**12 58 07.7**	**+0.9**
AVH				S		**Sn**	**12 58 56.7**	**-0.9**
SMAR	**Somma**	**4.43**	**33**	*e*P		**Pn**	**12 58 07.9**	**+0.7**
SMAR				*e*S		**Sn**	**12 58 58.7**	**+0.4**
SMAR	**Somma**	**4.43**	**33**	PN		**Pn**	**12 58 07.9**	**+0.7**
SMAR				S		**Sn**	**12 58 58.7**	**+0.4**
KRER	**Koryakskii**	**4.45**	**32**	*e*P		**Pn**	**12 58 08.1**	**+0.7**
KRER				*e*S		**Sn**	**12 58 58.3**	**-0.3**
KRX	**Arik**	**4.46**	**31**	*e*P		**Pn**	**12 58 08.0**	**+0.5**
KRX				*e*S		**Sn**	**12 58 58.3**	**-0.5**
SDLR	**Sedlovina**	**4.47**	**33**	*e*P		**Pn**	**12 58 07.3**	**-0.4**
SDLR				*e*S		**Sn**	**12 58 56.6**	**-2.5**
SDLR	**Sedlovina**	**4.47**	**33**	PN		**Pn**	**12 58 07.3**	**-0.4**
SDLR				S		**Sn**	**12 58 56.6**	**-2.5**
GNL	**Ganaly**	**4.54**	**24**	*e*P		**Pn**	**12 58 09.3**	**+0.8**
GNL	**Ganaly**	**4.54**	**24**	PN		**Pn**	**12 58 09.3**	**+0.8**
NLC	**Nalytchevo**	**4.56**	**37**	*e*P		**Pn**	**12 58 07.0**	**-1.7**
NLC				*e*S		**Sn**	**12 58 55.4**	**-5.6**
NLC	**Nalytchevo**	**4.56**	**37**	PN		**Pn**	**12 58 07.0**	**-1.7**
NLC				S		**Sn**	**12 58 55.4**	**-5.6**
SPN	**Mys Shipunski**	**4.79**	**41**	*e*P		**Pn**	**12 58 10.0**	**-1.7**
SPN				*e*S		**Sn**	**12 59 01.4**	**-4.9**
SPN	**Mys Shipunski**	**4.79**	**41**	PN		**Pn**	**12 58 10.0**	**-1.7**
SPN				S		**Sn**	**12 59 01.4**	**-4.9**
KUR	**Kuril'sk**	**6.43**	**230**	*i* PN		**Pn**	**12 58 34.3**	**+0.6**
KUR				*i* S		**Sn**	**12 59 47.6**	**+1.8**
KUR				pmax	pmax			
	comp=Z,696nm,0.7s							
KZV	**Kizimen**	**6.46**	**29**	*e*P		**Pn**	**12 58 33.9**	**-0.3**
KZV				*e*S		**Sn**	**12 59 44.8**	**-1.9**
MKZ	**Mys Kozlova**	**6.54**	**38**	*e*P		**Pn**	**12 58 32.9**	**-2.2**
MKZ	**Mys Kozlova**	**6.54**	**38**	PN		**Pn**	**12 58 32.9**	**-2.2**
TUMR	**Tumrok**	**6.55**	**28**	*e*P		**Pn**	**12 58 36.1**	**+0.6**
TUMR				*e*S		**Sn**	**12 59 46.1**	**-2.9**
TUMR	**Tumrok**	**6.55**	**28**	PN		**Pn**	**12 58 36.1**	**+0.6**
TUMR				S		**Sn**	**12 59 46.1**	**-2.9**
ESO	**Esso**	**6.76**	**19**	*e*P		**Pn**	**12 58 38.5**	**+0.4**
ESO				*e*S		**Sn**	**12 59 51.5**	**-2.2**
ESO	**Esso**	**6.76**	**19**	PN		**Pn**	**12 58 38.5**	**+0.4**
ESO				S		**Sn**	**12 59 51.5**	**-2.2**
KMNR	**Kamenistaya**	**6.99**	**26**	*e*P		**Pn**	**12 58 42.2**	**+0.9**
KMNR				*e*S		**Sn**	**12 59 58.4**	**-1.0**
KMNR	**Kamenistaya**	**6.99**	**26**	PN		**Pn**	**12 58 42.2**	**+0.9**
KMNR				S		**Sn**	**12 59 58.4**	**-1.0**
KOZ	**Kozyrevsk**	**7.15**	**23**	*e*P		**Pn**	**12 58 44.3**	**+0.9**
KOZ	**Kozyrevsk**	**7.15**	**23**	PN		**Pn**	**12 58 44.3**	**+0.9**
KIRR	**Kirishev**	**7.19**	**26**	*e*P		**Pn**	**12 58 44.7**	**+0.7**
BZMR	**Bezymyannaya**	**7.21**	**26**	*e*P		**Pn**	**12 58 44.9**	**+0.5**
BZMR				*e*S		**Sn**	**13 00 02.3**	**-2.6**
BZWR	**Bezymyannyi-We**	**7.24**	**26**	*e*P		**Pn**	**12 58 45.7**	**+0.9**
SRDR	**Sredinnyy**	**7.35**	**22**	*e*P		**Pn**	**12 58 46.9**	**+0.8**
SRDR	**Sredinnyy**	**7.35**	**22**	PN		**Pn**	**12 58 46.9**	**+0.8**
KLY	**Klyuchi**	**7.59**	**25**	*e*P		**Pn**	**12 58 49.9**	**+0.7**
KLY				*e*S		**Sn**	**13 00 10.3**	**-3.3**
TYV	**Tymovskoe**	**7.90**	**284**	*e*PN		Pn	12 58 58.0	+4.5
TYV				pmax	pmax			
	comp=Z,2μm,4.0s							
TYV				MLR	MLR			
	comp=Z,4μm,11.0s							
TYV				MLR	MLR			
	comp=E,4μm,12.0s							
BDR	**Baidarnaya**	**7.96**	**26**	*e*P		**Pn**	**12 58 53.7**	**-0.7**
BDR				*e*S		**Sn**	**13 00 17.3**	**-5.6**
SRKR	**Sorokina**	**8.03**	**26**	*e*P		**Pn**	**12 58 54.8**	**-0.4**
SRKR	**Sorokina**	**8.03**	**26**	PN		**Pn**	**12 58 54.8**	**-0.4**
SMKR	**Semkarok**	**8.05**	**27**	*e*P		**Pn**	**12 58 56.1**	**+0.5**
SMKR	**Semkarok**	**8.05**	**27**	PN		**Pn**	**12 58 56.1**	**+0.5**
KBTR	**Krutoberegovo**	**8.19**	**33**	*e*P		**Pn**	**12 58 54.9**	**-2.5**
KBTR				*e*S		Sn	13 00 18.7	-10
KBTR	**Krutoberegovo**	**8.19**	**33**	PN		**Pn**	**12 58 54.9**	**-2.5**
YUK	**Yuzh-Kuril'sk**	**8.29**	**231**	||*i*PN	**Pn**	**12 58 57.8**	**-0.9**
YUK				*i* S		**Sn**	**13 00 28.7**	**-2.0**
YUK				pmax	pmax			
	comp=E,363nm,0.4s							
YUK				pmax	pmax			
	comp=Z,1μm,0.4s							
YUK				pmax	pmax			
	comp=N,55nm,0.2s							
YUK				pmax	pmax			
	comp=Z,2μm,2.6s							
YUK				MLR	MLR			
	comp=N,1μm,15.0s							
YUK				MLR	MLR			
	comp=E,1μm,15.0s							
YUK				MLR	MLR			
	comp=Z,1μm,15.0s							
UGL	**Uglegorsk**	**8.35**	**271**	*e*PN		Pn	12 59 03.5	+4.0
UGL				*i* S		**Sn**	**13 00 37.0**	**+5.0**
UGL				pmax	pmax			
	comp=N,200nm,4.0s							
UGL				pmax	pmax			
	comp=E,1μm,4.0s							
UGL				pmax	pmax			
	comp=Z,1μm,4.0s							
UGL				pmax	pmax			
	comp=Z,112nm,1.0s							
UGL				smax	smax			
	comp=N,2μm,10.0s							
UGL				smax	smax			
	comp=E,3μm,10.0s							
UGL				smax	smax			
	comp=Z,4μm,10.0s							
UGL				MLR	MLR			
	comp=Z,3μm,16.0s							
UGL				MLR	MLR			
	comp=N,5μm,14.0s							
UGL				MLR	MLR			
	comp=E,4μm,14.0s							
OKH	**Okha**	**8.39**	**303**	*e*PN		Pn	12 59 04.0	+4.0
OKH				pmax	pmax			
	comp=Z,2μm,3.0s							
YSS	**Yuzh-Sakhalins**	**8.47**	**256**	||*e*PN	**Pn**	**12 59 03.9**	**+2.7**
YSS				*i* S		**Sn**	**13 00 36.0**	**+0.9**
YSS				pmax	pmax			
	comp=N,60nm,1.0s							
YSS				pmax	pmax			
	comp=E,100nm,1.0s							
YSS				pmax	pmax			
	comp=Z,160nm,1.0s							
YSS				smax	smax			
	comp=N,2μm,6.0s							
YSS				smax	smax			
	comp=E,2μm,5.0s							
YSS				smax	smax			
	comp=N,230nm,1.2s							
YSS				smax	smax			
	comp=E,260nm,1.2s							
YSS				MLR	MLR			
	comp=Z,1μm,13.0s							
YSS				MLR	MLR			
	comp=N,1μm,12.0s							
YSS	**Yuzh-Sakhalins**	**8.47**	**256**	*e*Pn		**Pn**	**12 59 04.2**	**+3.0**
BKI	**Bering**	**8.83**	**46**	*e*P		Pn	12 59 02.1	-3.7
BKI				*e*S		Sn	13 00 31.4	-12
BKI	**Bering**	**8.83**	**46**	PN		Pn	12 59 02.1	-3.7
NKL	**Nikolayevsk**	**9.52**	**297**	*i* PN		**Pn**	**12 59 16.0**	**+0.8**
NKL				*e*S		**Sn**	**13 01 05.0**	**+4.6**
NKL				pmax	pmax			
	comp=N,30nm,1.0s							
NKL				pmax	pmax			
	comp=E,77nm,1.0s							
NKL				pmax	pmax			
	comp=Z,150nm,1.0s							
NKL				pmax	pmax			
	comp=E,900nm,4.0s							
NKL				pmax	pmax			
	comp=Z,700nm,4.0s							
NKL				MLR	MLR			
	comp=E,1μm,9.0s							
NKL				MLR	MLR			
	comp=Z,1μm,9.0s							
ASAJ	**Asahikawa** baz=64,slow=10	**10.00**	**241**	P		**Pn**	**12 59 23.4**	**+1.7**
MA2	**Magadan**	**10.26**	**348**	*i* PN		**Pn**	**12 59 24.8**	**-0.3**
OSSR	**Ossora**	**10.78**	**23**	*e*P		**Pn**	**12 59 31.2**	**-0.8**
ERM	**Erimo**	**11.12**	**231**	*e*PN		**Pn**	**12 59 33.6**	**-3.0**
ERM				pmax	pmax			
	comp=Z,86nm,0.5s							
ERM	**Erimo**	**11.12**	**231**	*e*Pn		**Pn**	**12 59 33.5**	**-3.0**
SMY	**Shemya**	**12.50**	**68**	*e*PN		**Pn**	**12 59 54.4**	**-0.1**
SMY				pmax	pmax			
	comp=Z,262nm,0.6s							
SMY	**Shemya**	**12.50**	**68**	*e*Pn		**Pn**	**12 59 54.4**	**-0.1**
	comp=Z,262nm,0.6s							
SMY				*e*Sn		**Sn**	**13 02 07.6**	**-4.6**
TILK	**Tilichiki**	**12.64**	**26**	*e*P		**Pn**	**12 59 53.6**	**-2.7**
HABR	**Khabarovsk**	**13.02**	**273**	*de*PN		**Pn**	**13 00 01.7**	**+0.4**
HABR				*e*S		**Sn**	**13 02 26.0**	**+1.2**
HABR				pmax	pmax			
	comp=N,7.0nm,1.5s							
HABR				pmax	pmax			
	comp=Z,64nm,1.5s							
HABR				pmax	pmax			
	comp=E,34nm,0.8s							
HABR				MLR	MLR			
	comp=Z,1μm,14.0s							
SEY	**Seymchan** comp=Z,6.1nm,0.3s,baz=163,slow=9.8,SNR=278	**13.43**	**355**	P		**Pn**	**13 00 06.4**	**-0.1**
SEY	**Seymchan**	**13.43**	**355**	*c* ||PN	**Pn**	**13 00 06.6**	**+0.1**
KLR	**Kul'dur**	**15.01**	**277**	*e*P		**Pn**	**13 00 26.0**	**-0.6**
KLR				*e*S		**Sn**	**13 03 15.0**	**+2.2**
KLR				pmax	pmax			
	comp=E,200nm,1.8s							
KLR				pmax	pmax			
	comp=Z,260nm,1.8s							
KLR				MLR	MLR			
	comp=Z,6μm,12.5s							
AMKA	**Amchitka** comp=Z,920nm,1.0s	**15.67**	**74**	*e*Pn		**Pn**	**13 00 34.8**	**0.0**
USRK	**Ussuriysk Ar.** comp=Z,1.7nm,0.3s,baz=65,slow=12,SNR=23	**16.48**	**260**	P		**P**	**13 00 44.9**	**-0.1**
VLA	**Vladivostok**	**17.07**	**256**	*e*P		**Pn**	**13 00 53.8**	**+1.9**
MJAR	**Matsushiro Arr** comp=Z,3.2nm,0.3s,baz=39,slow=7.0,SNR=104	**17.77**	**229**	P		**P**	**13 00 58.6**	**-0.7**
MJAR				S		**S**	**13 04 17.4**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=21,slow=21,SNR=3.9							
MJAR				LR		LR	13 07 24.4	
	comp=Z,759nm,20.6s,baz=50,slow=35							
MJAR				ScP		**ScP**	**13 08 51.1**	**-1.3**
	baz=86,slow=0.6,SNR=6.4							
MAJO	**Matsushiro**	**17.77**	**229**	*e*P		**P**	**13 00 59.0**	**-0.3**
MAJO				pmax	pmax			
	comp=Z,224nm,1.0s							
MAJO	**Matsushiro** comp=Z,224nm,1.0s	**17.77**	**229**	*e*Pn		**P**	**13 00 59.0**	**-0.3**
MAT	**Matsushiro**	**17.77**	**229**	P		**P**	**13 00 58.2**	**-1.1**
MAT				S		**S**	**13 04 17.0**	**+0.1**
MSHR	**Mys Shultsa**	**17.80**	**256**	*i* P		**P**	**13 00 59.5**	**-0.1**
MDJ	**Mudanjiang**	**17.84**	**263**	P		**P**	**13 00 59.5**	**-0.5**
MDJ				sP		**sP**	**13 01 38.5**	**-2.0**
MDJ				S		**S**	**13 04 16.0**	**-2.1**
MDJ				PcP		**PcP**	**13 05 31.8**	**+1.9**
MDJ				ScP		**ScP**	**13 08 53.3**	**+0.9**
MDJ				PcS		**PcS**	**13 09 06.0**	**-0.2**
MDJ	**Mudanjiang** comp=Z,147nm,1.0s	**17.84**	**263**	*e*P		**P**	**13 00 59.9**	**-0.1**
GSTR	**Great Sitkin T** comp=Z,89nm,0.5s	**18.50**	**71**	*e*P		**P**	**13 01 06.4**	**-0.8**
YAK	**Yakutsk** comp=Z,0.1nm,0.3s,baz=114,slow=24,SNR=305	**18.66**	**321**	P		**P**	**13 01 08.9**	**+0.1**
YAK				S		**S**	**13 04 33.7**	**-0.3**
	baz=52,slow=19,SNR=8.3							
YAK	**Yakutsk**	**18.66**	**321**	*e*P		**P**	**13 01 09.0**	**+0.2**
YAK				*e*S		**S**	**13 04 33.4**	**-0.7**
YAK				pmax	pmax			
	comp=E,290nm,0.9s							
YAK				pmax	pmax			
	comp=Z,1μm,0.9s							
YAK				pmax	pmax			
	comp=N,254nm,1.2s							
YAK				smax	smax			
	comp=N,1μm,1.6s							
YAK				smax	smax			
	comp=E,831nm,1.7s							
YAK	**Yakutsk** comp=E,2μm,0.7s	**18.66**	**321**	*e*P		**P**	**13 01 09.2**	**+0.4**
YAK				S		**S**	**13 04 33.7**	**-0.3**
CLNS	**Chul'man**	**19.20**	**304**	*e*P		**Pn**	**13 01 16.3**	**-0.8**
CLNS				*e*S		**S**	**13 04 46.1**	**+1.1**
CLNS				pmax	pmax			
	comp=Z,371nm,0.8s							
CLNS				pmax	pmax			
	comp=N,112nm,0.9s							
CLNS				pmax	pmax			
	comp=E,212nm,0.9s							
CLNS				smax	smax			
	comp=N,576nm,7.8s							
CLNS				smax	smax			
	comp=E,223nm,12.3s							
BILL	**Bilibino**	**19.35**	**13**	*e*P		**P**	**13 01 15.9**	**-0.3**
BILL				pmax	pmax			
	comp=Z,534nm,0.4s							
BILL	**Bilibino** comp=Z,534nm,0.4s	**19.35**	**13**	*e*P		**P**	**13 01 15.9**	**-0.3**
ATKA	**Atka Island** comp=Z,109nm,0.9s	**19.64**	**71**	*e*Pn		**P**	**13 01 18.6**	**-0.9**
JHJ2	**Mitsune** comp=Z,144nm,0.8s	**19.89**	**220**	*e*P		**P**	**13 01 23.1**	**+0.8**
JHJ	**Hachijo jima 2** comp=Z,11nm,0.3s,baz=100,slow=5.7,SNR=14	**19.90**	**220**	P		**P**	**13 01 23.2**	**+0.8**
JHJ				S		**S**	**13 04 52.6**	**-6.4**
	comp=Z,3.9nm,0.3s,baz=49,slow=18,SNR=2.5							
CN2	**Changchun**	**20.88**	**265**	*e*P		**P**	**13 01 31.0**	**-1.8**
CN2				*e*pP		**pP**	**13 01 53.0**	**-4.0**
CN2				*e*S		**S**	**13 05 17.0**	**-1.1**
CN2				LN				
	comp=Z,2μm,16.0s							
CN2				LE				
	comp=Z,630nm,16.0s							
CN2				LZ				
	comp=Z,300nm,15.0s							
HIA	**Hailar**	**22.69**	**283**	*e*P		**P**	**13 01 50.9**	**-0.7**
HIA				*e*			13 02 24.0	
HIA				pmax	pmax			
	comp=Z,175nm,0.8s							
HIA	**Hailar** comp=Z,175nm,0.8s	**22.69**	**283**	*e*P		**P**	**13 01 50.9**	**-0.7**
HIA				*e*			13 02 24.0	
KSRS	**Korea Array** comp=Z,47nm,0.8s,baz=52,slow=9.6,SNR=138	**22.83**	**248**	P		**P**	**13 01 53.5**	**+0.6**
KSRS				ScP		**ScP**	**13 09 03.1**	**-1.3**
	comp=Z,2.3nm,0.9s,baz=22,slow=2.6,SNR=6.2							
KSAR	**Wonju Array Be**	**22.86**	**248**	P		**P**	**13 01 53.6**	**+0.3**
KSAR	**Wonju Array Be**	**22.86**	**248**	P		**P**	**13 01 53.5**	**+0.3**
KSAR				ScP		**ScP**	**13 09 03.1**	**-1.4**
INCN	**Inchon** comp=Z,22nm,0.9s	**23.60**	**250**	*e*P		**P**	**13 02 00.3**	**+0.2**
TJN	**Taejon**	**23.88**	**247**	*e*P		**P**	**13 02 03.6**	**+1.0**
UNV	**Unalaska Valle** comp=Z,40nm,1.0s	**24.12**	**65**	*e*P		**P**	**13 02 03.5**	**-1.1**
JNU	**Nakatsue** comp=Z,261nm,0.9s,baz=26,slow=4.1,SNR=82	**24.21**	**236**	P		**P**	**13 02 06.4**	**+0.7**
CBIJ	**Chichi jima** comp=Z,186nm,1.1s	**24.49**	**208**	*e*P		**P**	**13 02 07.7**	**-0.5**
CBIJ				*e*			13 02 37.4	
JCJ	**Chichijima** comp=Z,191nm,0.8s,baz=43,slow=3.6,SNR=22	**24.49**	**208**	P		**P**	**13 02 07.5**	**-0.7**
TNA	**Tin City** comp=Z,851nm,0.8s	**25.04**	**37**	*e*P		**P**	**13 02 13.2**	**+0.4**
BOD	**Bodaibo**	**25.17**	**305**	*e*P		**P**	**13 02 12.9**	**-1.2**
BOD				pmax	pmax			
	comp=Z,66nm,1.8s							
CHGN	**Chignik**	**28.49**	**58**	*e*P		**P**	**13 02 42.0**	**-1.7**
BJI	**Beijing**	**28.75**	**265**	P		**P**	**13 02 44.8**	**-1.4**
BJI				pP		**pP**	**13 03 19.0**	**+4.2**
BJI				S		**S**	**13 07 21.5**	**-4.0**
BJI				sS		**sS**	**13 08 13.0**	**-2.8**
BJI				ScS		**ScS**	**13 13 14.8**	**-0.4**
BJI				LN				
	comp=Z,2μm,21.8s							
BJI				LE				
	comp=Z,890nm,23.5s							
BJI				LZ				
	comp=Z,510nm,30.2s							
SVW2	**Sparrevohn** comp=Z,74nm,0.8s	**29.70**	**48**	*e*P		**P**	**13 02 55.4**	**+0.9**
TIA	**Tai'an**	**30.34**	**258**	*e*P		P	13 03 06.0	+5.6
TIA				PMZ				
	comp=Z,20nm,0.8s							
TIA				LN				
	comp=Z,740nm,17.0s							
TIA				LE				
	comp=Z,780nm,14.3s							
TIA				LZ				
	comp=Z,660nm,20.0s							
JOW	**Kunigami** comp=Z,80nm,1.2s	**30.57**	**232**	*e*P		**P**	**13 03 03.5**	**+1.1**
JOW				*e*			13 03 33.5	
IM04	**Indian Mountai**	**30.79**	**39**	*e*P		**P**	**13 03 04.2**	**+0.2**
IM04				*e*PcP		**PcP**	**13 05 58.5**	**+0.7**
IM04				*e*ScP		**ScP**	**13 09 28.8**	**+1.0**
RSO	**Redoubt South** comp=Z,255nm,0.9s	**31.11**	**49**	*e*P		**P**	**13 03 07.2**	**+0.1**
ULN	**Ulaanbaatar**	**31.14**	**285**	*e*P		**P**	**13 03 06.8**	**-0.6**
ULN				*e*			13 03 40.1	
ULN				pmax	pmax			
	comp=Z,30nm,0.9s							
ULN	**Ulaanbaatar** comp=Z,30nm,0.9s	**31.14**	**285**	*e*P		**P**	**13 03 06.8**	**-0.6**
ULN				*e*			13 03 40.1	
ULN				*e*ScP		**ScP**	**13 09 30.2**	**+0.8**
OHAK	**Old Harbor** comp=Z,255nm,1.0s	**31.17**	**56**	*e*P		**P**	**13 03 06.2**	**-1.1**
PPLA	**Purkeypile** comp=Z,1μm,1.7s	**31.30**	**45**	*e*P		**P**	**13 03 10.0**	**+1.2**
PPLA				*e*ScP		**ScP**	**13 09 29.9**	**+0.3**
HHC	**Hu-ho-hao-te**	**31.32**	**270**	*e*P		**P**	**13 03 10.0**	**+1.0**
HHC				PP		**PnPn**	**13 04 17.5**	**+0.5**
HHC				S		**S**	**13 08 05.0**	**-1.1**
HHC				sS		**sS**	**13 08 53.0**	**-3.5**
HHC				ScS		**ScS**	**13 13 28.3**	**+0.5**
HHC				PMZ				
	comp=Z,39nm,1.1s							
HHC				PMZ				
	comp=Z,69nm,5.0s							
H11N2	**WAKE ISLAND Hy** baz=346,SNR=260	**31.33**	**158**	T		T	13 36 04.9	
H11N1	**WAKE ISLAND Hy** baz=346,slow=74,SNR=237	**31.35**	**158**	T		T	13 36 06.8	
H11N3	**WAKE ISLAND Hy** baz=346,slow=74,SNR=249	**31.35**	**158**	T		T	13 36 04.9	
CAST	**Castle Rocks** comp=Z,265nm,0.9s	**31.36**	**44**	*e*P		**P**	**13 03 09.3**	**+0.3**
IRK	**Irkutsk**	**31.45**	**294**	*e*P		**P**	**13 03 08.9**	**-1.0**
IRK				*e*			13 03 42.5	
IRK				*e*			13 13 28.8	
IRK				pmax	pmax			
	comp=Z,160nm,1.0s							
KDAK	**Kodiak Island**	**31.47**	**55**	*e*P		**P**	**13 03 08.9**	**-1.1**
KDAK				*e*			13 06 00.7	
KDAK				pmax	pmax			
	comp=Z,170nm,0.8s							
KDAK	**Kodiak Island** comp=Z,170nm,0.8s	**31.47**	**55**	*e*P		**P**	**13 03 08.9**	**-1.1**
KDAK				*e*PcP		**PcP**	**13 06 00.7**	**+1.1**
SONM	**Songino Array** comp=Z,6.6nm,0.6s,baz=73,slow=7.6,SNR=21	**31.56**	**286**	P		**P**	**13 03 10.4**	**-0.7**
SONM				PcP		**PcP**	**13 06 00.5**	**+0.2**
	comp=Z,11nm,0.8s,baz=79,slow=1.7,SNR=5.3			

comp=Z,366nm,0.9s
H11S1 WAKE ISLAND Hy 32.46 159 T T 13 37 32.0
baz=346,slow=76,SNR=1188
H11S3 WAKE ISLAND Hy 32.47 159 T T 13 37 29.7
baz=346,slow=76,SNR=685
H11S2 WAKE ISLAND Hy 32.48 159 T T 13 37 31.4
baz=346,slow=76,SNR=239
BWN Browne 32.52 42 *eP* **P 13 03 20.4 +1.2**
comp=Z,2µm,1.0s
RC01 Rabbit Creek A 32.54 48 *eP* **P 13 03 18.9 -0.5**
comp=Z,148nm,0.7s
RC01 *ePcP* **PcP 13 06 03.1 +0.5**
RC01 *eScP* **ScP 13 09 34.1 +0.5**
ZAK Zakamensk 32.60 291 ⇓*iP* **P 13 03 20.5 +0.4**
ZAK *e* 13 03 55.0
ZAK *e* 13 04 47.2
ZAK *e* 13 06 04.1
ZAK pmax pmax
comp=Z,71nm,1.0s
MCK McKinley 32.76 43 *eP* **P 13 03 20.9 -0.4**
MCK pmax pmax
comp=Z,532nm,0.9s
MCK McKinley 32.76 43 *eP* **P 13 03 20.9 -0.4**
comp=Z,532nm,0.9s
SEW Seward 32.78 50 *eP* **P 13 03 20.8 -0.6**
comp=Z,276nm,0.9s
SEW *ePcP* **PcP 13 06 03.3 +0.1**
SEW *eS* **S 13 08 30.1 +2.1**
PMR Palmer 32.79 47 *eP* **P 13 03 20.1 -1.4**
PMR *e* 13 06 03.6
PMR pmax pmax
comp=Z,84nm,0.6s
PMR Palmer 32.79 47 *eP* **P 13 03 20.1 -1.4**
comp=Z,84nm,0.6s
PMR *ePcP* **PcP 13 06 03.6 +0.4**
PMR *eScP* **ScP 13 09 35.0 +0.5**
SML Sawmill 33.15 47 *eP* **P 13 03 24.8 +0.1**
SML pmax pmax
comp=Z,169nm,0.7s
SML Sawmill 33.15 47 *eP* **P 13 03 24.8 +0.1**
comp=Z,168nm,0.7s
COLA College 33.21 41 *eP* **P 13 03 25.2 +0.1**
COLA pmax pmax
comp=Z,1µm,0.9s
COLA College 33.21 41 *eP* **P 13 03 25.2 +0.1**
comp=Z,1µm,0.9s
CCB Clear Creek Bu 33.24 41 *eP* **P 13 03 25.1 -0.2**
comp=Z,374nm,0.7s
DHY Denali Highway 33.49 44 *eP* **P 13 03 27.6 -0.2**
comp=Z,477nm,1.4s
MOY Mondy 33.56 295 *eP* **P 13 03 28.9 +0.5**
MOY *e* 13 04 01.4
MOY pmax pmax
comp=Z,70nm,1.8s
HDA Harding Lake 33.61 42 *eP* **P 13 03 27.6 -1.0**
comp=Z,500nm,0.5s
ILAR Eielson Array 33.63 41 P **P 13 03 28.5 -0.3**
comp=Z,197nm,0.8s,baz=254,slow=6.1,SNR=1624
ILAR ScP **ScP 13 09 36.6 -0.8**
comp=Z,1.7nm,0.9s,baz=264,slow=2.4,SNR=5.1
KLU Klutina 34.33 47 *eP* **P 13 03 35.3 +0.3**
comp=Z,332nm,1.3s
PAX Paxson 34.37 44 *eP* **P 13 03 35.6 +0.3**
PAX pmax pmax
comp=Z,113nm,0.8s
PAX Paxson 34.37 44 *eP* **P 13 03 35.5 +0.3**
comp=Z,113nm,0.8s
DIV Divide 34.45 48 *eP* **P 13 03 36.3 +0.3**
comp=Z,233nm,0.6s
EYAK Cordova Ski Ar 34.54 49 *eP* **P 13 03 37.1 +0.4**
comp=Z,99nm,0.8s
HARP HAARP 34.57 45 *eP* **P 13 03 37.8 +0.8**
comp=Z,256nm,0.6s
BMRM Bremner River 35.03 48 *eP* **P 13 03 40.8 -0.2**
comp=Z,371nm,1.1s
BMRM *ePcP* **PcP 13 06 09.9 +0.2**
BMRM *eScP* **ScP 13 09 43.4 +0.8**
MENT Mentasta 35.17 44 *eP* **P 13 03 42.7 +0.7**
WHN Wuhan 35.80 253 P **P 13 03 48.0 +0.2**
WHN S S 13 09 08.5 -6.6
WHN LN
comp=Z,2µm,7.9s
WHN LE
comp=Z,1µm,10.3s
WHN LZ
comp=Z,940nm,12.0s
YHNB Yeheng 35.99 239 *eP* **P 13 03 49.5 0.0**
comp=Z,19nm,0.7s
EGAK Eagle 36.07 41 *eP* **P 13 03 48.8 -0.9**
comp=Z,602nm,0.8s
NACB Ninganchiao 36.26 238 *eP* **P 13 03 50.5 -1.3**
comp=Z,70nm,1.5s
KRAR Krasnoyarsk 36.85 304 ⇑*iP* **P 13 03 56.0 -0.4**
KRAR pmax pmax
comp=Z,86nm,1.2s
SSLB Suanglung 36.92 238 *eP* **P 13 03 58.8 +1.4**
comp=Z,31nm,1.1s
DAWY Dawson 36.93 42 *eP* **P 13 03 56.8 -0.3**
comp=Z,137nm,0.8s
DAWY *ePP* **PP 13 05 23.7 0.0**
YULB Yu-li 37.04 237 *eP* **P 13 03 59.0 +0.6**
comp=Z,44nm,1.2s
TWG Pinlang 37.62 237 *eP* **P 13 04 03.0 -0.3**
comp=Z,204nm,0.9s
HYT Haines Junctio 38.46 47 *eP* **P 13 04 11.0 +0.9**
HYT *ePP* **PnPn 13 05 45.6 +1.7**
HYT *eScP* **ScP 13 09 57.4 +1.9**
INK Inuvik 38.64 34 *eP* **P 13 04 12.0 +0.7**
INK pmax pmax
comp=Z,476nm,0.6s
INK Inuvik 38.64 34 *eP* **P 13 04 12.0 +0.7**
comp=Z,476nm,0.6s
LZH Lanzhou 38.99 269 ⇓P **P 13 04 16.3 +1.4**
LZH pP **pP 13 04 47.3 +2.8**
LZH sP **sP 13 04 58.3 -1.4**
LZH PP **PnPn 13 05 51.3 +0.7**
LZH *eS* **S 13 10 01.0 -2.7**
LZH sS **sS 13 10 53.5 -1.7**
LZH SS **SS 13 12 56.3 -4.6**
LZH PMZ
comp=Z,54nm,1.1s
LZH PMZ
comp=Z,190nm,4.0s
LZH LN
comp=Z,2µm,14.9s
LZH LE
comp=Z,830nm,14.2s
LZH LZ
comp=Z,2µm,16.2s
ENH Enshi 39.05 258 *eP* **P 13 04 18.0 +2.8**
comp=Z,7.6nm,0.7s
GTA Gaotai 39.71 277 P **P 13 04 21.5 +0.8**
GTA pP **pP 13 04 49.8 -0.6**
GTA sP **sP 13 05 05.0 -0.6**
GTA PcP **PcP 13 06 26.0 +1.4**
GTA ScP **ScP 13 10 03.0 +2.4**
GTA S **S 13 10 13.3 -1.0**
GTA sS **sS 13 11 03.0 -2.9**
GTA SS **SS 13 13 06.5 -8.5**
GTA ScS **ScS 13 14 13.5 -0.3**
GTA PMZ
comp=Z,53nm,1.0s
GTA PMZ
comp=Z,150nm,7.1s
GTA LN
comp=Z,820nm,20.4s
GTA LE
comp=Z,500nm,15.4s
GTA LZ
comp=Z,720nm,16.9s
SKAG Skagway 39.88 48 *eP* **P 13 04 23.6 +1.9**
comp=Z,900nm,2.2s
SKAG *eScP* **ScP 13 10 02.4 +1.7**
BESE Bessie Mountai 40.40 50 *eP* **P 13 04 27.6 +1.6**
comp=Z,45nm,0.8s
ZAA0 Zalesovo Array 41.92 304 *eP* **P 13 04 37.3 -1.1**
ZAA0 *ePcP* **PcP 13 06 32.3 +1.0**
ZALV Zalesovo Beam 41.92 304 P **P 13 04 37.2 -1.2**
comp=Z,42nm,0.7s,baz=62,slow=7.5,SNR=150
ZALV PcP **PcP 13 06 31.4 +0.2**
comp=Z,49nm,0.8s,baz=58,slow=3.7,SNR=15
ZALV ScP **ScP 13 10 08.9 0.0**
comp=Z,5.5nm,0.9s,baz=54,slow=7.5,SNR=4.6
ZALV ScS **ScS 13 14 26.5 +0.2**
comp=Z,4.7nm,1.0s,baz=20,slow=4.7,SNR=6.3
ZALV LR LR 13 23 43.6
comp=Z,364nm,18.2s,baz=66,slow=38
SZP Santa 42.27 233 *eP* **P 13 04 43.5 +1.8**
comp=Z,357nm,1.1s
CD2 Chengdu 42.30 263 P **P 13 04 42.5 +0.6**
CD2 pP **pP 13 05 07.3 -4.5**
CD2 sP sP 13 05 20.0 -6.9
CD2 PP **PP 13 06 22.3 -0.1**
CD2 S S 13 10 46.5 -6.1
CD2 sS sS 13 11 38.3 -6.3
CD2 SS **SS 13 14 07.8 +1.8**
CD2 PMZ
comp=Z,70nm,0.8s
CD2 PMZ
comp=Z,130nm,7.8s
CD2 LN
comp=Z,780nm,17.4s
CD2 LZ
comp=Z,490nm,16.8s
NVS Novosibirsk 42.41 306 *eP* **P 13 04 40.8 -1.6**
NVS *e* 13 05 32.9
NVS *e* 13 06 32.9
NVS *eSS* SS 13 14 24.9 +18
NVS pmax pmax
comp=N,32nm,1.0s
NVS pmax pmax
comp=E,49nm,1.0s
NVS pmax pmax
comp=Z,99nm,1.0s
CRAG Craig 42.41 53 *eP* **P 13 04 44.7 +2.4**
comp=Z,108nm,1.0s
WRAK Wrangell Islan 42.44 52 *eP* **P 13 04 44.5 +2.0**
comp=Z,194nm,0.8s
DLBC Dease Lake 42.82 48 *eP* **P 13 04 47.9 +2.1**
comp=Z,293nm,0.9s
DLBC *ePcP* **PcP 13 06 35.3 +1.0**
DLBC *eScP* **ScP 13 10 13.7 +1.2**
GYA Guiyang 43.48 256 ⇑*iP* **P 13 04 51.0 -0.5**
GYA pP **pP 13 05 22.0 +0.4**
GYA sP **sP 13 05 36.8 +0.1**
GYA PP **PcP 13 06 37.3 +0.2**
GYA ScP **ScP 13 10 17.0 +1.2**
GYA S S 13 11 03.5 -6.5
GYA sS **sS 13 12 02.8 +0.6**
GYA SS SS 13 14 19.3 -10
GYA ScS **ScS 13 14 34.0 -3.1**
GYA PMZ
comp=Z,30nm,0.8s
GYA PMZ
comp=Z,80nm,6.8s
GYA LN
comp=Z,490nm,16.8s
GYA LE
comp=Z,540nm,17.2s
GYA LZ
comp=Z,580nm,17.6s
WMQ Urumqi 45.00 289 P **P 13 05 04.3 +0.9**
WMQ pP **pP 13 05 29.8 -3.9**
WMQ sP sP 13 05 42.8 -5.9
WMQ PcP **PcP 13 06 43.3 +1.2**
WMQ S **S 13 11 33.0 +1.4**
WMQ sS sS 13 12 18.0 -6.1
WMQ ScS **ScS 13 14 47.5 +1.3**
WMQ PMZ
comp=Z,92nm,0.8s
WMQ PMZ
comp=Z,350nm,4.2s
WMQ LN
comp=Z,2µm,12.2s
WMQ LE
comp=Z,920nm,15.5s
WMQ LZ
comp=Z,330nm,22.0s
KIP Kipapa 46.54 110 *eP* **P 13 05 15.5 -0.1**
KIP pmax pmax
comp=Z,128nm,1.0s
KIP Kipapa 46.54 110 *eP* **P 13 05 15.5 -0.1**
comp=Z,128nm,1.0s
MK31 Makanchi Array 46.68 296 *eP* **P 13 05 16.2 -0.3**
MK31 *e* 13 05 51.4
MK31 Makanchi Array 46.68 296 *eP* **P 13 05 16.2 -0.3**
MK31 *e* 13 05 51.4
MK31 *eScP* **ScP 13 10 28.8 +0.1**
MKAR Makanchi Array 46.68 296 P **P 13 05 15.8 -0.7**
comp=Z,113nm,0.8s,baz=62,slow=7.0,SNR=594
MKAR ScP **ScP 13 10 28.6 -0.1**
comp=Z,13nm,1.0s,baz=55,slow=5.0,SNR=8.7
MKAR LR LR 13 25 51.1
comp=Z,458nm,21.8s,baz=44,slow=37
MKAR Makanchi Array 46.68 296 P **P 13 05 15.8 -0.7**
MKAR pmax pmax
comp=Z,113nm,0.9s
MKAR pmax pmax
comp=N,13nm,1.0s
MKAR MLR MLR
comp=Z,458nm,21.8s
KURK Kurchatov 46.77 302 P **P 13 05 16.6 -0.4**
comp=Z,1µm,0.8s
KURK Kurchatov 46.77 302 *eP* **P 13 05 16.1 -0.9**
KURK *e* 13 05 49.5
KURK pmax pmax
comp=Z,177nm,0.8s
KURK Kurchatov 46.77 302 *eP* **P 13 05 16.1 -0.9**
comp=Z,177nm,0.8s
KURK *e* 13 05 49.5
KURK *eScP* **ScP 13 10 28.5 -0.4**
ALE Alert 46.78 6 P **P 13 05 16.5 -0.3**
comp=Z,1µm,0.6s,SNR=27
KMI Kunming 46.91 258 P **P 13 05 19.8 +1.1**
KMI pP **pP 13 05 51.0 +1.8**
KMI sP **sP 13 06 05.0 +0.8**
KMI PP **PP 13 07 13.5 +3.2**
KMI S **S 13 11 59.3 -0.3**
KMI sS **sS 13 12 47.5 -4.9**
KMI ScS **ScS 13 14 57.0 -2.5**
KMI SS **SS 13 15 28.0 +0.2**
KMI PMZ
comp=Z,14nm,1.2s
KMI PMZ
comp=Z,120nm,9.7s
KMI LN
comp=Z,430nm,23.3s
KMI LE
comp=Z,350nm,22.9s
KMI LZ
comp=Z,280nm,28.1s
QIZ Qiongzhong 47.03 246 P **P 13 05 20.0 +0.6**
QIZ pP **pP 13 05 49.0 -1.0**
QIZ sP **sP 13 06 03.5 -1.4**
QIZ S **S 13 12 01.0 0.0**
QIZ sS **sS 13 12 53.8 -0.1**
QIZ PMZ
comp=Z,22nm,1.1s
QIZ Qiongzhong 47.03 246 *eP* **P 13 05 20.9 +1.5**
comp=Z,36nm,1.4s
QIZ *e* 13 05 53.4
YKW3 Yellowknife Ar 47.93 39 *eP* **P 13 05 26.5 +0.7**
comp=Z,6.5nm,0.8s
YKA Yellowknife Ar 47.97 39 P **P 13 05 26.6 +0.5**
comp=Z,265nm,0.7s,baz=299,slow=7.6,SNR=369
YKA PcP **PcP 13 06 52.5 +0.5**
comp=Z,8.8nm,1.0s,baz=295,slow=3.8,SNR=3.9
YKA ScP **ScP 13 10 32.4 -1.3**
comp=Z,3.2nm,1.0s,baz=297,slow=5.3,SNR=3.0
POHA Pohakuloa 49.31 109 *eP* **P 13 05 37.2 0.0**
comp=Z,194nm,0.9s
CTBH Cotabato--PC H 49.41 222 ⇑*iP* **P 13 05 39.2 +1.5**
KBS Kingsbay 49.85 351 *eP* **P 13 05 39.4 -0.9**
KBS IAmb IAmb 13 05 41.5
comp=Z,423nm,0.8s
KBS Kingsbay 49.85 351 *eP* **P 13 05 39.0 -1.2**
KBS pmax pmax
comp=Z,116nm,0.9s
KBS Kingsbay 49.85 351 *eP* **P 13 05 39.0 -1.2**
comp=Z,116nm,0.9s
BVA0 Borovoye Array 49.95 308 *i* P **P 13 05 40.8 -0.6**
BVA0 pmax pmax
comp=Z,206nm,1.0s
BVAR Borovoye Array 49.95 308 P **P 13 05 40.9 -0.5**
comp=Z,42nm,0.4s,baz=56,slow=7.9,SNR=362
BVAR pP **pP 13 06 13.0 +0.7**
comp=Z,59nm,0.6s,baz=59,slow=8.8,SNR=4.4
BVAR PcP **PcP 13 06 59.8 +0.3**
comp=Z,27nm,0.4s,baz=72,slow=2.7,SNR=12
BRVK Borovoye 49.99 308 *eP* **P 13 05 41.0 -0.7**
BRVK *e* 13 06 14.5
BRVK *e* 13 06 59.7
BRVK pmax pmax
comp=Z,145nm,0.8s
BRVK Borovoye 49.99 308 *eP* **P 13 05 41.0 -0.7**
comp=Z,146nm,0.8s
BRVK *e* 13 06 14.5
BRVK *ePcP* **PcP 13 06 59.7 +0.1**
BRVK *eScP* **ScP 13 10 43.1 +0.6**
SPA0 Spitsbergen Ar 50.01 350 *eP* **P 13 05 39.8 -1.6**
SPA0 IAmb IAmb 13 05 42.3
comp=Z,177nm,1.1s
PGC Sidney 50.92 58 *eP* **P 13 05 49.5 +0.8**
comp=Z,30nm,0.7s
HSPB Hornsund (broa 51.09 349 *eP* **P 13 05 48.4 -1.2**
LSA Lhasa 51.28 272 P **P 13 05 53.0 +0.8**
LSA Lhasa 51.28 272 *eP* **P 13 05 53.7 +1.4**
LSA *e* 13 06 28.0
LSA pmax pmax
comp=Z,21nm,0.5s
LSA Lhasa 51.28 272 *eP* **P 13 05 53.7 +1.4**
comp=Z,21nm,0.5s
LSA *e* 13 06 28.0
NLWA Neilton Lookou 51.40 59 *eP* **P 13 05 53.2 +0.9**
comp=Z,90nm,1.0s
NLWA *e* 13 06 24.0
VDB Vedder Mountai 51.44 57 P **P 13 05 53.0 +0.3**
OTUK Ortayu 51.55 302 P **P 13 05 52.9 -0.6**
OTUK pmax pmax
comp=Z,118nm,1.2s
CRAI Chiangrai 51.95 256 P **P 13 05 56.7 0.0**
comp=Z,12nm,1.1s,comp=Z,1µm
JCW Jim Creek 52.01 57 P **P 13 05 57.6 +0.8**
E03A Lebam 52.05 60 *eP* **P 13 05 57.5 +0.4**
B06A Marblemount 52.07 57 *eP* **P 13 05 57.9 +0.7**
comp=Z,108nm,1.1s
SKNT Sakolnakorn 52.15 250 P **P 13 05 59.9 +1.7**
comp=Z,69nm,0.9s
SVE Sverdlovsk 52.53 316 *diP* **P 13 06 00.7 +0.2**
SVE *eS* **S 13 13 14.6 -1.9**
SVE pmax pmax
comp=Z,366nm,1.0s
UBPT Khong Chiam 52.56 247 P P 13 06 04.7 +3.5
comp=Z,27nm,1.5s
D05A Emumclaw 52.56 59 *eP* **P 13 06 02.4 +1.5**
comp=Z,180nm,1.4s
BJO Bjornoya 52.67 346 *eP* **P 13 05 60.0 -1.3**
TKM2 Tokmak 2 52.79 295 P **P 13 06 02.8 -0.1**
SNR=42
TKM2 Tokmak 2 52.79 295 *eP* **P 13 06 02.6 -0.3**
TKM2 *e* 13 06 38.9
TKM2 *e* 13 07 10.6
TKM2 pmax pmax
comp=Z,42nm,0.8s
TKM2 Tokmak 2 52.79 295 *eP* **P 13 06 02.6 -0.3**
comp=Z,42nm,0.8s
TKM2 *e* 13 06 38.9
TKM2 *ePcP* **PcP 13 07 10.6 +0.1**
TKM2 *eScP* **ScP 13 10 54.8 -0.3**
ULHL Ulahol 52.81 294 P **P 13 06 03.7 +0.6**
SNR=18
LON Longmire 52.91 59 *eP* **P 13 06 04.2 +0.6**
LON pmax pmax
comp=Z,18nm,1.0s
LON Longmire 52.91 59 *eP* **P 13 06 04.2 +0.6**
comp=Z,18nm,1.0s
TDL Tradedollar La 52.92 60 P **P 13 06 04.7 +1.0**
G03D McMinnville, O 53.00 61 P **P 13 06 05.3 +1.1**
baz=53
CMAI Chiengmai2 53.01 257 P **P 13 06 07.5 +2.8**
comp=Z,27nm,1.1s,comp=Z,6µm
USP Ospenovka 53.23 296 P **P 13 06 06.0 +0.1**
SNR=65
CHMS Chumysh 53.24 296 P **P 13 06 06.4 +0.4**
SNR=20
JAY Jayapura 53.33 198 LR LR 13 30 04.8
comp=Z,42nm,18.3s,baz=4.0,slow=37
B08A Colville Reser 53.33 56 *eP* **P 13 06 07.0 +0.4**
comp=Z,106nm,1.1s
KBK Karagaybulak 53.33 295 P **P 13 06 07.1 +0.3**
SNR=17
KHON Khomkaen 53.35 251 P **P 13 06 08.8 +1.8**
comp=Z,28nm,0.8s,comp=Z,427nm
COR Corvallis 53.35 62 *eP* **P 13 06 08.1 +1.4**
COR pmax pmax
comp=Z,58nm,0.7s
COR Corvallis 53.35 62 *eP* **P 13 06 08.1 +1.4**
comp=Z,58nm,0.7s
WTV Waterville 53.38 57 P **P 13 06 07.4 +0.4**
FRU Bishkek 53.42 295 ⇑*iP* **P 13 06 07.0 -0.3**
FRU *i* 13 06 42.0
FRU pmax pmax
comp=Z,150nm,1.0s
KZA Kyzart 53.50 294 P **P 13 06 08.9 +0.5**
SNR=19
EBG Ellensburg 53.51 58 P **P 13 06 08.9 +1.0**
EDM Edmonton 53.54 48 *eP* **P 13 06 08.2 +0.2**
EDM pmax pmax
comp=Z,383nm,0.7s
EDM Edmonton 53.54 48 *eP* **P 13 06 08.2 +0.2**
comp=Z,383nm,0.7s
AAK Ala-Archa 53.61 295 P **P 13 06 09.3 +0.4**
SNR=27
LAMP Lampang 53.68 255 P P 13 06 13.7 +4.3
comp=Z,7.1nm,0.7s,comp=Z,158nm
UTTA Uttaradit 53.69 254 P **P 13 06 11.3 +1.8**
comp=Z,7.9nm,0.7s,comp=Z,86nm
ARU Arti 53.70 317 *ciP* **P 13 06 07.7 -1.3**
ARU *PP **pP 13 06 43.9 +3.6
ARU *SP **sP 13 06 56.3 +1.2
ARU *e* 13 07 13.2
ARU S **S 13 13 28.7 -3.6
ARU *SS **sS 13 14 25.7 -0.5
ARU 13 15 37.1
ARU SS **SS 13 17 16.9 +2.9
ARU pmax pmax
comp=Z,699nm,1.2s
ARU Arti 53.70 317 P **P 13 06 08.1 -0.9**
comp=Z,4µm,0.4s
ARU Arti 53.70 317 *eP* **P 13 06 08.3 -0.7**
comp=Z,562nm,0.8s
ARU *e* 13 06 44.6
ARU *ePcP* **PcP 13 07 12.8 -0.6**
VLL Laurance Lake 53.75 60 P **P 13 06 11.0 +1.2**
MYLDM Lahad Datu 53.83 227 *eP* **P 13 06 12.9 +2.4**
comp=Z,117nm,1.2s
I03D Drain, OR 53.86 63 P **P 13 06 12.2 +1.7**
baz=54,SNR=7.2
CMMT Chiang Mai 53.90 256 P **P 13 06 13.0 +2.0**
comp=Z,73nm,0.9s
CHTO Chiang Mai 53.90 256 P **P 13 06 13.1 +2.1**
comp=Z,200nm,0.8s
CHTO Chiang Mai 53.90 256 *eP* **P 13 06 12.8 +1.8**
CHTO *e* 13 06 44.1
CHTO pmax pmax
comp=Z,26nm,0.6s
CHTO Chiang Mai 53.90 256 *eP* **P 13 06 12.8 +1.8**
comp=Z,26nm,0.6s
CHTO *e* 13 06 44.1
EKS2 Erkin-Say 54.02 296 P **P 13 06 12.3 +0.5**
SNR=17
EKS2 Erkin-Say 54.02 296 *eP* **P 13 06 11.9 +0.1**
EKS2 *e* 13 06 47.5
EKS2 *e* 13 07 15.9
EKS2 pmax pmax
comp=Z,53nm,0.9s
EKS2 Erkin-Say 54.02 296 *eP* **P 13 06 11.9 +0.1**
comp=Z,53nm,0.9s
EKS2 *e* 13 06 47.5
EKS2 *ePcP* **PcP 13 07 15.9 +0.8**
TNTI Ternate 54.02 215 *eP* **P 13 06 12.0 +0.1**
comp=Z,115nm,1.7s
SDKM Sandakan 54.05 229 ⇑P **P 13 06 12.6 +0.4**
G05D Wamic, OR 54.09 60 P **P 13 06 13.2 +1.1**
baz=54,SNR=10
CM31 Chiang Mai Arr 54.16 256 *eP* **P 13 06 15.0 +2.0**
comp=Z,23nm,0.7s
CM31 *e* 13 06 47.0
CMAR Chiang Mai Arr 54.16 256 P **P 13 06 14.0 +1.0**
comp=Z,6.9nm,0.7s,baz=34,slow=7.4,SNR=24
CMAR ScP **ScP 13 11 00.5 -0.7**
comp=Z,2.8nm,0.9s,baz=19,slow=4.2,SNR=5.5
CMAR LR LR 13 29 45.9
comp=Z,194nm,19.1s,baz=44,slow=36
PBKT Sadao Pong 54.31 252 P **P 13 06 16.3 +2.3**
comp=Z,30nm,0.9s,comp=Z,3µm

D08A Wollman Farm, 54.33 57 *e*P P 13 06 14.0 +0.2
comp=Z,30nm,0.8s
I04A Tendick Farm, 54.34 62 P P 13 06 15.4 +1.4
baz=54,SNR=19
AML Almayashu 54.39 295 P P 13 06 15.9 +1.1
SNR=5.7
HAWA Hanford 54.39 58 *e*P P 13 06 14.7 +0.4
comp=Z,59nm,1.0s
HAWA *e* 13 06 46.1
NEW Newport 54.57 55 *e*P P 13 06 15.9 +0.3
NEW pmax pmax
comp=Z,83nm,1.2s
NEW Newport 54.57 55 P P 13 06 16.0 +0.3
baz=54,SNR=46
NEW Newport 54.57 55 *e*P P 13 06 15.9 +0.3
comp=Z,84nm,1.2s
LVZ Lovozero 54.60 336 *c i*P P 13 06 14.1 -1.4
LVZ pmax pmax
comp=Z,186nm,1.2s
LVZ Lovozero 54.60 336 P P 13 06 14.8 -0.7
comp=Z,831nm,0.7s,SNR=22
LVZ Lovozero 54.60 336 *e*P P 13 06 14.1 -1.4
comp=Z,110nm,0.8s
I05D Terrebonne, OR 54.62 61 P P 13 06 17.4 +1.4
baz=54,SNR=18
KSH Kashi 54.64 291 P P 13 06 20.3 +4.0
KSH PcP **PcP** 13 07 22.0 +4.4
KSH PP PP 13 08 27.0 +7.1
KSH S **S** 13 13 48.5 +2.7
KSH sS sS 13 14 42.0 +2.1
KSH SS **SS** 13 17 35.3 +5.4
KSH PMZ
comp=Z,90nm,1.0s
KSH LN
comp=Z,780nm,8.8s
KSH LE
comp=Z,2µm,15.8s
KSH LZ
comp=Z,640nm,12.9s
L02D Cave Junction, 54.65 64 P P 13 06 18.4 +2.2
baz=54,SNR=18
HUMO Hull Mountain 54.75 64 *e*P P 13 06 18.8 +1.9
comp=Z,92nm,1.3s
HUMO *e* 13 06 50.1
HUMO *e*PcP **PcP** 13 07 18.5 +0.7
J04D Umpqua Nationa 54.85 63 P P 13 06 19.1 +1.2
baz=55,SNR=51
TSM Tawau 54.90 227 ⇓P P 13 06 19.7 +1.5
HAMF Hammerfest 55.02 342 *e*P P 13 06 16.4 -2.0
HAMF lAmb lAmb 13 06 17.2
comp=Z,40nm,0.7s
KEV Kevo 55.03 340 *e* P 13 06 16.8 -1.7
KEV Kevo 55.03 340 *e*P P 13 06 16.6 -1.9
KEV pmax pmax
comp=Z,57nm,0.7s
KEV Kevo 55.03 340 *e*P P 13 06 16.6 -1.9
comp=Z,57nm,0.7s
TAPN Taplejung 55.10 272 *e*P P 13 06 20.8 +0.8
comp=Z,27nm,0.4s
APA Apatity 55.17 336 ⇓ *i*P P 13 06 18.6 -0.9
APA *i* S S 13 13 42.0 -10
APA pmax pmax
comp=Z,7.0nm,0.8s
APA MLR MLR
comp=Z,800nm,17.0s
J05D Fort Rock, OR 55.33 62 P P 13 06 23.0 +1.7
baz=55,SNR=87
G08A Pilot Rock 55.38 59 *e*P P 13 06 22.4 +0.9
comp=Z,36nm,1.2s
YBH Yreka Blue Hor 55.43 64 *e*P P 13 06 23.8 +1.8
YBH *e* 13 06 55.2
YBH pmax pmax
comp=Z,195nm,1.5s
YBH Yreka Blue Hor 55.43 64 *e*P P 13 06 23.8 +1.8
comp=Z,195nm,1.5s
YBH *e* 13 06 55.2
K04D Chiloquin, OR 55.44 63 P P 13 06 23.8 +1.8
baz=55
ARCES ARCESS Array B 55.53 341 P P 13 06 20.4 -1.8
comp=Z,61nm,0.6s,baz=32,slow=7.0,SNR=389
ARCES PcP **PcP** 13 07 19.4 -0.9
comp=Z,19nm,0.6s,baz=35,slow=4.4,SNR=6.1
ARCES LR LR 13 34 59.9
comp=Z,588nm,19.2s,baz=29,slow=41
ARE0 ARCESS Array S 55.53 341 *e*P P 13 06 20.6 -1.5
ARE0 lAmb lAmb 13 06 21.6
comp=Z,98nm,0.9s
ARE0 ARCESS Array S 55.53 341 *e*P P 13 06 20.3 -1.9
ARE0 *e*PcP **PcP** 13 07 20.7 +0.4
M02C Callahan 55.56 65 P P 13 06 24.8 +2.0
baz=55,SNR=31
PRGR Permogore 55.59 327 ⇑ *i*P P 13 06 22.3 -0.3
PRGR *e**PP **pP** 13 06 58.1 +4.1
PRGR S **S** 13 13 59.7 +2.3
PRGR 13 15 54.0
PRGR pmax pmax
comp=Z,362nm,1.1s
ODAN Odare 55.64 272 *e*P P 13 06 25.1 +1.3
comp=Z,26nm,0.4s
KK31 Karatay Array 55.64 298 *i* P P 13 06 22.8 -0.5
KK31 pmax pmax
comp=Z,53nm,1.1s
KKAR Karatay Array 55.64 298 *e*P P 13 06 23.0 -0.3
KKAR Karatay Array 55.64 298 *e*P P 13 06 23.0 -0.3
WALA Waterton Lakes 55.77 53 *e*P P 13 06 24.7 +0.4
comp=Z,78nm,0.7s
WALA *e* 13 06 55.9
FAKI Fak Fak 55.83 208 *e*P P 13 06 24.4 -0.5
comp=Z,157nm,1.0s
FAKI *e* 13 06 56.8
K05A Summer Lake 55.87 62 *e*P P 13 06 27.1 +1.9
comp=Z,194nm,1.1s
UMPA Umpang Tak 55.90 254 P P 13 06 29.7 +4.2
comp=Z,11nm,0.8s,comp=Z,2µm
GUN Gumba 55.91 274 *e*P P 13 06 26.5 +0.7
comp=Z,76nm,0.4s
N02D Trinity Center 55.91 65 P P 13 06 27.2 +1.9
baz=56,SNR=35
M04C Macdoel 55.91 64 P P 13 06 27.2 +1.8
baz=56,SNR=33
BSMT Bassoo Peak 56.06 54 *e*P P 13 06 27.3 +0.8
comp=Z,92nm,0.9s
BSMT *e* 13 06 58.7
RAMN Ramite 56.09 273 *e*P P 13 06 27.7 +0.7
comp=Z,112nm,0.6s
BLMT Blacktail Moun 56.19 54 *e*P P 13 06 27.9 +0.6
BLMT *e* 13 06 59.3
WDC Whiskeytown Da 56.25 65 *e*P P 13 06 29.1 +1.5
WDC pmax pmax
comp=Z,72nm,1.2s
WDC Whiskeytown Da 56.25 65 *e*P P 13 06 29.1 +1.5
comp=Z,72nm,1.2s
TMCR Tamitsa 56.34 332 *e*P P 13 06 27.2 -0.7
TMCR *e* 13 08 34.3
TMCR pmax pmax
comp=Z,341nm,1.3s
KKN Kakani 56.38 275 *e*P P 13 06 29.9 +0.9
comp=Z,80nm,0.6s
JTMT Jette 56.40 54 *e*P P 13 06 29.6 +0.9
KTK1 Kautokeino 56.44 341 *e*P P 13 06 27.3 -1.2
KTK1 lAmb lAmb 13 06 28.1
comp=Z,120nm,0.6s
PKI Pulchoki 56.44 274 *e*P P 13 06 30.1 +0.5
comp=Z,35nm,0.6s
PKIN Phulchoki 56.45 274 *e*P P 13 06 30.1 +0.6
comp=Z,24nm,0.5s
YBMT Yellow Bay 56.46 54 *e*P P 13 06 29.8 +0.6
comp=Z,50nm,0.8s
YBMT *e* 13 07 01.5
DMN Daman 56.61 275 *e*P P 13 06 31.7 +1.0
GKN Gorkha 56.65 275 *e*P P 13 06 31.6 +0.8
SWMT Swartz Lake 56.69 54 *e*P P 13 06 31.3 +0.4
comp=Z,52nm,1.0s
SWMT *e* 13 07 01.9
MOD Modoc 56.73 63 *e*P P 13 06 32.5 +1.3
comp=Z,177nm,1.4s
MOD *e* 13 07 04.2
TRO Tromso 56.78 343 *e*P P 13 06 27.8 -3.1
DANN Dangsing 56.98 276 *e*P P 13 06 34.5 +1.2
comp=Z,19nm,0.6s
SLMT Seeley Lake 57.13 54 *e*P P 13 06 34.5 +0.5
comp=Z,81nm,0.7s
SLMT *e* 13 07 06.1
MSO Missoula 57.15 55 P P 13 06 34.9 +0.8
baz=57,SNR=59
MSO Missoula 57.15 55 *e*P P 13 06 34.4 +0.3
comp=Z,111nm,1.1s
WVOR Wild Horse Val 57.35 61 *e*P P 13 06 36.7 +1.2
WVOR pmax pmax
comp=Z,81nm,1.0s
WVOR Wild Horse Val 57.35 61 *e*P P 13 06 36.7 +1.2
comp=Z,81nm,1.0s
CHMT Chamberlain Mo 57.46 54 *e*P P 13 06 36.6 +0.2
comp=Z,53nm,1.0s
CHMT *e* 13 07 07.5
KOLN Koldanda 57.48 276 *e*P P 13 06 37.6 +0.9
comp=Z,89nm,0.7s
AB31 Akbulak array 57.49 309 *i* P P 13 06 35.7 -0.5
AB31 pmax pmax
comp=Z,84nm,0.5s
ABKAR Akbulak array 57.49 309 *e*P P 13 06 35.3 -0.9
comp=Z,235nm,0.8s
MCCM Marconi Confer 57.60 68 *e*P P 13 06 38.2 +1.0
comp=Z,38nm,0.9s
AKTO Aktyubinsk 57.68 311 P P 13 06 36.4 -1.2
AKTO pmax pmax
comp=Z,53nm,0.8s
FFC Flin Flon 57.84 42 P P 13 06 39.3 +0.7
comp=Z,2µm,0.7s
FFC Flin Flon 57.84 42 *e*P P 13 06 38.9 +0.3
FFC pmax pmax
comp=Z,265nm,0.8s
FFC Flin Flon 57.84 42 *e*P P 13 06 38.9 +0.3
comp=Z,265nm,0.8s
JOSI Joshimath 58.20 281 *e*P P 13 06 37.9 -3.9
JOSI *ex* **PcP** **13 07 30.1 -1.6**
BTM Bintulu 58.20 231 ⇓P P 13 06 42.8 +1.2
FCC Fort Churchill 58.26 35 *e*P P 13 06 41.5 +0.1
FCC pmax pmax
comp=Z,337nm,0.8s
FCC Fort Churchill 58.26 35 *e*P P 13 06 41.5 +0.1
comp=Z,337nm,0.8s
MFID Camas Ranch 58.30 59 *e*P P 13 06 43.2 +1.0
comp=Z,87nm,1.4s
HRY Holter Researc 58.34 54 *e*P P 13 06 43.3 +0.9
comp=Z,93nm,1.1s
EGMT Eagleton 58.56 52 P P 13 06 44.4 +0.6
baz=58,SNR=65
EGMT Eagleton 58.56 52 *e*P P 13 06 44.1 +0.3
comp=Z,208nm,1.3s
LRM Limekiln Ridge 58.59 55 *e*P P 13 06 45.0 +0.7
comp=Z,1µm,1.3s
DLMT Dillon 58.81 55 *e*P P 13 06 46.7 +1.0
comp=Z,50nm,0.8s
STEI Steigen 58.94 343 *e*P P 13 06 44.6 -1.4
HLID Hailey 58.99 58 P P 13 06 48.3 +1.2
baz=59,SNR=78
HLID Hailey 58.99 58 *e*P P 13 06 48.2 +1.2
comp=Z,157nm,1.6s
MCMT McKenzie Canyo 59.02 56 *e*P P 13 06 47.8 +0.5
LOF Lofoten 59.07 344 *e*P P 13 06 51.3 +4.4
PMG Port Moresby 59.14 189 *e*P P 13 06 48.3 +0.3
PMG pmax pmax
comp=Z,79nm,0.8s
PMG Port Moresby 59.14 189 *e*P P 13 06 48.3 +0.3
comp=Z,80nm,0.8s
BOZ Bozeman (W) 59.14 55 *e*P P 13 06 48.8 +0.8
BOZ pmax pmax
comp=Z,110nm,0.7s
BOZ Bozeman (W) 59.14 55 P P 13 06 49.4 +1.5
baz=59,SNR=212
BOZ Bozeman (W) 59.14 55 *e*P P 13 06 48.8 +0.8
comp=Z,110nm,0.7s
CMB Columbia Colle 59.17 66 *e*P P 13 06 49.2 +1.1
CMB *e* 13 07 36.0
CMB pmax pmax
comp=Z,53nm,1.0s
CMB Columbia Colle 59.17 66 *e*P P 13 06 49.2 +1.1
comp=Z,53nm,1.0s
CMB *e*PcP **PcP** 13 07 36.0 +0.7
SDNR Sundarnagar 59.21 284 *e*P P 13 06 50.0 +1.5
SBUM Sibu 59.28 232 *e*P P 13 06 50.5 +1.4
SMLA Simla 59.34 283 *i* P P 13 06 47.3 -2.0
SMLA *i* x **pP** 13 07 24.7 +3.6
SMLA AML AML 13 07 27.4
comp=N,293nm,0.6s
SMLA AML AML 13 07 27.5
comp=E,213nm,0.6s
DZET Dzherino 59.37 295 P P 13 06 49.2 -0.4
DZET pmax pmax
comp=Z,35nm,0.5s
WAKR Walker 59.42 65 *e*P P 13 06 51.6 +1.5
WAKR *e* 13 07 23.4
BMN Battle Mountai 59.45 62 *e*P P 13 06 51.5 +1.3
BMN *e* 13 07 23.9
BMN pmax pmax
comp=Z,114nm,1.0s
BMN Battle Mountai 59.45 62 *e*P P 13 06 51.5 +1.3
comp=Z,114nm,1.0s
BMN *e* 13 07 23.9
BHK Bhakra 59.62 284 *ex* P 13 06 57.0 +5.7
QLMT Earthquake Lak 59.78 55 *e*P P 13 06 53.7 +1.2
comp=Z,14nm,1.0s
QLMT *e* 13 07 25.3
GCMT Greycliff 60.08 53 *e*P P 13 06 55.7 +1.3
comp=Z,80nm,1.0s
YMR Madison River 60.14 55 *e*P P 13 06 56.4 +1.4
comp=Z,106nm,0.9s
NVAR Mina Array Bea 60.14 65 P P 13 06 55.6 +0.6
comp=Z,54nm,0.7s,baz=294,slow=7.3,SNR=487
YNR Norris Junctio 60.26 55 *e*P P 13 06 57.5 +1.8
comp=Z,104nm,1.2s
YFT Old Faithful 60.35 55 *e*P P 13 06 58.9 +2.5
comp=Z,92nm,0.8s
MLAC Mammoth Lakes 60.36 66 P P 13 06 58.3 +1.8
baz=60,SNR=8.6
ELK Elko 60.38 61 *e*P P 13 06 57.7 +1.1
ELK pmax pmax
comp=Z,25nm,0.8s
ELK Elko 60.38 61 *e*P P 13 06 57.7 +1.1
comp=Z,25nm,0.8s
LKWY Lake 60.51 55 *e*P P 13 07 00.4 +2.9
LKWY pmax pmax
comp=Z,81nm,0.8s
LKWY Lake 60.51 55 *e*P P 13 07 00.4 +2.9
comp=Z,81nm,0.8s
H17A Grant Village 60.53 55 P P 13 07 00.6 +3.0
baz=60
ASOR Ausora 60.56 281 *ex* P 13 07 01.8 +4.1
ASOR *ex* **PcP** **13 07 37.1 -3.7**
KONS Konsvik 60.60 343 *e*P P 13 06 57.2 -0.2
MOR8 Moi Rana 60.64 343 *e*P P 13 06 54.8 -2.9
MOR8 lAmb lAmb 13 06 55.9
comp=Z,61nm,0.7s
IMW Indian Meadow 60.67 56 *e*P P 13 07 00.2 +1.6
FLWY Flagg Ranch 60.67 55 *e*P P 13 07 00.4 +1.9
comp=Z,72nm,1.1s
FLOS Flostrand 60.70 343 *e*P P 13 06 57.4 -0.6
RLMT Red Lodge 60.74 54 P P 13 06 60.0 +1.0
baz=60,SNR=140
RLMT Red Lodge 60.74 54 *e*P P 13 07 00.0 +1.0
comp=Z,177nm,1.1s
STOK Stokkvaagen 60.76 343 *e*P P 13 06 58.5 0.0
FXWY Fox Creek 60.79 56 *e*P P 13 07 00.9 +1.5
F20A Billings 60.86 53 P P 13 07 00.9 +1.3
baz=61,SNR=56
MOOW Moose Ponds 60.87 56 *e*P P 13 07 01.5 +1.6
E21A Keefer Ranch, 60.91 51 P P 13 07 01.2 +1.3
baz=61,SNR=61
TPAW Teton Pass 60.93 56 *e*P P 13 07 02.1 +1.8
comp=Z,110nm,1.0s
TPAW *e* 13 07 34.1
NDI New Delhi 60.96 281 *ex* P 13 06 59.0 -1.4
RCTC Rector, Farmer 60.99 67 P P 13 07 01.9 +1.3
baz=61,SNR=10
TPH Tonopah 61.01 64 *e*P P 13 07 02.0 +1.1
TPH pmax pmax
comp=Z,94nm,0.9s
TPH Tonopah 61.01 64 *e*P P 13 07 02.0 +1.1
comp=Z,94nm,0.9s
LOHW Long Hollow 61.04 56 *e*P P 13 07 02.6 +1.5
comp=Z,87nm,1.1s
LOHW *e* 13 07 34.7
SNOW Snow King Moun 61.06 56 *e*P P 13 07 02.8 +1.6
comp=Z,110nm,1.1s
SNOW *e* 13 07 34.8
REDW Red Top Meadow 61.07 56 *e*P P 13 07 02.9 +1.7
HVU Hansel Valley 61.08 59 *e*P P 13 07 02.8 +1.5
HVU pmax pmax
comp=Z,44nm,1.0s
HVU Hansel Valley 61.08 59 *e*P P 13 07 02.8 +1.5
comp=Z,44nm,1.0s
TIN Tinemaha 61.10 66 P P 13 07 02.7 +1.3
baz=61,SNR=7.0
KSM Kuching 61.10 233 *e*P P 13 07 02.8 +1.4
comp=Z,27nm,0.8s
KSM *e* 13 07 34.3
BHGR Bahadurgarh 61.14 281 *ex* P **13 06 58.9 -2.7**
BHGR *ex* PcP 13 07 38.0 -5.2
H19A Powell 61.19 54 P P 13 07 03.5 +1.6
baz=61,SNR=31
SMMC Simmler 61.21 68 P P 13 07 03.7 +1.6
baz=61
G20A Bridger 61.22 53 P P 13 07 03.1 +1.0
baz=61,SNR=71
A25A Svangstu Ranch 61.23 47 P P 13 07 03.1 +1.1
baz=61,SNR=74
LAO LASA Array 61.25 51 P P 13 07 03.6 +1.4
baz=61,SNR=80
LAO LASA Array 61.25 51 *e*P P 13 07 03.2 +1.0
comp=Z,184nm,1.0s
LAO *e* 13 07 34.4
AHID Auburn Hatcher 61.34 57 *e*P P 13 07 04.1 +1.0
comp=Z,56nm,1.0s
F21A Absaloka Mine, 61.38 52 P P 13 07 03.8 +0.7
baz=61
AGRA Agra 61.49 279 *e*P P 13 07 05.1 +1.1
AGRA *e*S pP 13 07 41.6 +5.6
BGU Big Grassy Mou 61.51 59 *e*P P 13 07 05.2 +1.1
comp=Z,18nm,0.9s
E22A Miles City 61.55 51 P P 13 07 05.8 +1.5
baz=61,SNR=30
C24A Savage 61.57 49 P P 13 07 05.2 +0.9
baz=61,SNR=27
SPUT South Promonto 61.58 59 *e*P P 13 07 05.9 +1.3
comp=Z,76nm,1.0s
PKM Peak Mountain 61.60 69 P P 13 07 06.3 +1.4
baz=62,SNR=13
CWC Cottonwood Cre 61.60 66 P P 13 07 06.1 +1.3
baz=62,SNR=50
I19A Meeteetse 61.61 55 P P 13 07 06.5 +1.6
baz=61,SNR=36
GRAC Grapevine Rang 61.65 65 P P 13 07 06.4 +1.5
baz=62,SNR=28
B25A Knox Farm, Ray 61.67 48 P P 13 07 06.4 +1.5
baz=61,SNR=19
G21A Lodge Grass 61.74 53 P P 13 07 06.5 +0.9
baz=62,SNR=20
A26A Wade Farm, Ken 61.78 47 P P 13 07 06.7 +1.0
baz=62,SNR=43
R11A Troy Canyon, C 61.78 63 P P 13 07 07.0 +1.0
baz=62,SNR=155
R11A Troy Canyon, C 61.78 63 *e*P P 13 07 06.8 +0.7
comp=Z,53nm,0.9s
H20A Greybull 61.83 54 P P 13 07 06.8 +0.6
baz=62,SNR=8.3
E23A Ismay 61.84 51 P P 13 07 07.4 +1.3
baz=62,SNR=47
F22A Rosebud 61.85 52 P P 13 07 07.3 +1.1
baz=62,SNR=30
KRAB Krabi 61.86 248 P P 13 07 11.9 +5.3
comp=Z,70nm,0.7s,comp=Z,635nm
HWUT Hardware Ranch 61.87 58 *e*P P 13 07 07.6 +1.1
comp=Z,73nm,1.0s
HWUT *e* 13 07 39.6
ISA Isabella 61.89 67 *e*P P 13 07 06.5 -0.2
ISA pmax pmax
comp=Z,35nm,1.0s
ISA Isabella 61.89 67 P P 13 07 07.4 +0.8
baz=62,SNR=32
ISA Isabella 61.89 67 *e*P P 13 07 06.5 -0.2
comp=Z,35nm,1.0s
D24A Glendive 61.90 49 P P 13 07 08.0 +1.5
baz=62,SNR=41
FIA1 FINESS Array S 61.94 335 *e*P P 13 07 04.7 -1.8
FIA1 *e*PcP **PcP** 13 07 42.9 -2.9
FINES FINESS Array B 61.94 335 P P 13 07 04.9 -1.6
comp=Z,125nm,0.5s,baz=41,slow=7.0,SNR=1091
FINES PP **PP** 13 09 21.3 -2.4
comp=Z,13nm,0.8s,baz=27,slow=9.4,SNR=4.1
FINES LR LR 13 37 02.2
comp=Z,370nm,19.0s,baz=42,slow=39
SBC Santa Barbara 61.97 69 P P 13 07 08.8 +1.7
baz=62
DAC Darwin (Calif) 62.00 66 *e*P P 13 07 08.2 +0.6
DAC pmax pmax
comp=Z,44nm,1.1s
DAC Darwin (Calif) 62.00 66 *e*P P 13 07 08.2 +0.6
comp=Z,44nm,1.1s
C25A Freed Ranch, W 62.01 48 P P 13 07 08.8 +1.5
baz=62,SNR=8.7
ARVC Arvin 62.04 68 P P 13 07 08.5 +0.9
baz=62,SNR=8.3
B26A Jensen Ranch, 62.05 47 P P 13 07 09.0 +1.6
baz=62,SNR=6.2
KBL Kabul 62.08 291 *e*P P 13 07 06.5 -1.6
KBL *e* 13 07 40.8
KBL pmax pmax
comp=Z,59nm,1.0s
KBL Kabul 62.08 291 *e*P P 13 07 06.5 -1.6
comp=Z,59nm,1.0s
KBL *e* 13 07 40.8
J19A Crowheart 62.10 55 P P 13 07 09.7 +1.6
baz=62,SNR=40
A27A Ledoux Ranch, 62.11 46 P P 13 07 09.4 +1.5
baz=62,SNR=93
DUG Dugway 62.12 60 *e*P P 13 07 09.5 +1.2
DUG pmax pmax
comp=Z,81nm,1.0s
DUG Dugway 62.12 60 P P 13 07 09.6 +1.4
baz=62,SNR=93
DUG Dugway 62.12 60 *e*P P 13 07 09.5 +1.2
comp=Z,81nm,1.0s
I20A Worland 62.13 54 P P 13 07 09.4 +1.2
baz=62,SNR=17
SFJD Kangerlussuaq 62.13 11 *e*P P 13 07 07.2 -0.5
SFJD *e* 13 07 46.6
SFJD pmax pmax
comp=Z,178nm,0.5s
SFJD Kangerlussuaq 62.13 11 *e*P P 13 07 07.2 -0.5
comp=Z,178nm,0.5s
SFJD *e*PcP **PcP** **13 07 46.5 0.0**
BW06 Boulder Array 62.17 56 *e*P P 13 07 09.3 +0.6
comp=Z,100nm,0.9s
BW06 *e* 13 07 41.6
PDAR Pinedale Array 62.17 56 P P 13 07 09.4 +0.7
comp=Z,83nm,0.8s,baz=345,slow=2.9,SNR=552
PDAR pP **pP** **13 07 40.8 0.0**
comp=Z,21nm,0.9s,baz=357,slow=3.0,SNR=2.7
PDAR PKP2bc 13 36 18.4
comp=Z,0.5nm,0.9s,baz=120,slow=8.8,SNR=3.8
MPMC Manual Prospec 62.21 66 P P 13 07 10.0 +1.1
baz=62,SNR=78
G22A Birney 62.22 52 P P 13 07 09.4 +0.7
baz=62,SNR=34
H21A Big Horn, Sher 62.23 53 P P 13 07 09.9 +1.0
baz=62,SNR=55
KHET Khetri 62.28 282 *e*P P 13 07 09.2 -0.1
KHET *e*S **PcP** **13 07 46.6 -1.3**
TCUT Toone Canyon 62.28 58 *e*P P 13 07 10.6 +1.2
comp=Z,139nm,1.3s
E24A Baker 62.29 50 P P 13 07 10.2 +1.0
baz=62,SNR=12
FURC Furnace Creek, 62.30 66 P P 13 07 10.7 +1.4
baz=62,SNR=108
BSC Santa Cruz Isl 62.32 69 P P 13 07 09.9 +0.4
baz=62
F23A Volborg 62.32 51 P P 13 07 10.6 +1.2
baz=62,SNR=29
TPNV Topopah Spring 62.34 65 P P 13 07 10.7 +0.9
baz=62,SNR=167
D25A Fairfield 62.37 49 P P 13 07 10.9 +1.2
baz=62,SNR=15
CTU Camp Tracy 62.38 59 *e*P P 13 07 11.2 +1.2
OSI Osito Adit 62.45 68 P P 13 07 11.6 +1.2
baz=62
OSI Osito Adit 62.45 68 *e*P P 13 07 11.0 +0.6
comp=Z,70nm,0.8s
B27A Peters Farms, 62.49 47 P P 13 07 11.4 +1.0
baz=62,SNR=30
C26A Wahner Farm, P 62.50 48 P P 13 07 11.5 +1.0
baz=62,SNR=14
J20A Shoshoni 62.56 55 P P 13 07 12.5 +1.4
baz=62,SNR=42
NSS Namsos 62.58 343 *e*P P 13 07 09.6 -1.1
BLG Laguna Peak 62.59 69 P P 13 07 12.2 +0.9
baz=62
A28A Rude Farm, Bot 62.60 46 P P 13 07 12.5 +1.3
baz=62,SNR=39

H22A	**Clearmont**	**62.62**	**53**	P		**P**	**13 07 12.4**	**+1.0**
	baz=62,SNR=15								
I21A	**Big Trails, Te**	**62.66**	**54**	P		**P**	**13 07 12.7**	**+0.9**
	baz=62,SNR=120								
G23A	**Biddle**	**62.69**	**52**	P		**P**	**13 07 12.7**	**+0.8**
	baz=62,SNR=29								
NLU	**North Lily Min**	**62.70**	**60**	*e*P		**P**	**13 07 13.3**	**+1.1**
EDW2	**Edwards Air Fo**	**62.71**	**68**	P		**P**	**13 07 12.8**	**+0.7**
	baz=63,SNR=66								
F24A	**Ekalaka**	**62.72**	**51**	P		**P**	**13 07 12.9**	**+0.8**
	baz=62,SNR=38								
MOS	**Moscow**	**62.73**	**326**	*e*P		**P**	**13 07 10.3**	**-1.5**
MOS				*e*			13 07 47.7		
MOS					pmax	pmax			
	comp=Z,200nm,0.8s								
MOS					pmax	pmax			
	comp=Z,180nm,0.8s								
E25A	**Miller Ranch,**	**62.78**	**49**	P		**P**	**13 07 13.6**	**+1.1**
	baz=62,SNR=35								
C27A	**Sayler Ranch,**	**62.86**	**48**	P		**P**	**13 07 14.2**	**+1.4**
	baz=63,SNR=11								
B28A	**Dugan Ranch, T**	**62.88**	**46**	P		**P**	**13 07 14.0**	**+1.0**
	baz=63,SNR=42								
D26A	**Manning**	**62.89**	**49**	P		**P**	**13 07 14.0**	**+0.9**
	baz=63,SNR=20								
J21A	**Lysite**	**62.90**	**54**	P		**P**	**13 07 14.6**	**+1.2**
	baz=63,SNR=20								
MPU	**Maple Canyon**	**62.91**	**59**	*e*P		**P**	**13 07 14.7**	**+1.2**
	comp=Z,307nm,1.0s								
DECC	**Green Verdugo**	**62.94**	**68**	P		**P**	**13 07 14.4**	**+0.8**
	baz=63,SNR=18								
I22A	**9 Mile Ranch,**	**63.03**	**53**	P		**P**	**13 07 15.2**	**+1.0**
	baz=63,SNR=49								
SHOC	**Shoshone**	**63.04**	**66**	P		**P**	**13 07 15.2**	**+0.9**
	baz=63,SNR=29								
A29A	**Manning Farm,**	**63.07**	**45**	P		**P**	**13 07 15.1**	**+0.9**
	baz=63,SNR=159								
PASC	**Pasadena Art C**	**63.08**	**68**	*e*P		**P**	**13 07 14.6**	**+0.1**
	comp=Z,13nm,0.6s								
G24A	**Alzada**	**63.10**	**51**	P		**P**	**13 07 15.0**	**+0.5**
	baz=63,SNR=17								
MWC	**Mount Wilson**	**63.12**	**68**	*e*P		**P**	**13 07 15.3**	**+0.3**
MWC				*e*			13 07 48.0		
MWC					pmax	pmax			
	comp=Z,95nm,1.2s								
MWC	**Mount Wilson**	**63.12**	**68**	*e*P		**P**	**13 07 15.3**	**+0.3**
	comp=Z,94nm,1.2s								
MWC				*e*			13 07 48.0		
H23A	**Clabaugh Cattl**	**63.13**	**52**	P		**P**	**13 07 14.7**	**-0.1**
	baz=63								
GSC	**Goldstone**	**63.13**	**66**	*e*P		**P**	**13 07 15.8**	**+0.9**
GSC					pmax	pmax			
	comp=Z,55nm,0.9s								
GSC	**Goldstone**	**63.13**	**66**	P		**P**	**13 07 15.8**	**+0.9**
	baz=63,SNR=52								
GSC	**Goldstone**	**63.13**	**66**	*e*P		**P**	**13 07 15.8**	**+0.9**
	comp=Z,55nm,0.9s								
F25A	**Bowman**	**63.16**	**50**	P		**P**	**13 07 16.1**	**+1.1**
	baz=63,SNR=14								
E26A	**Carlson Angus**	**63.27**	**49**	P		**P**	**13 07 16.3**	**+0.7**
	baz=63,SNR=36								
D27A	**Center**	**63.28**	**48**	P		**P**	**13 07 16.5**	**+0.8**
	baz=63,SNR=12								
SHPR	**Sheep Range**	**63.28**	**64**	*e*P		**P**	**13 07 17.2**	**+1.2**
RRX	**Edison Barstow**	**63.30**	**67**	P		**P**	**13 07 17.1**	**+1.1**
	baz=63								
FMP	**Fort Macarthur**	**63.32**	**69**	P		**P**	**13 07 16.8**	**+0.7**
	baz=63								
KULM	**Kulim**	**63.33**	**245**	⇑P		**P**	**13 07 16.4**	**+0.1**
B29A	**Wagenman Farm,**	**63.34**	**46**	P		**P**	**13 07 17.1**	**+1.0**
	baz=63,SNR=68								
J22A	**Midwest**	**63.37**	**54**	P		**P**	**13 07 17.8**	**+1.3**
	baz=63,SNR=66								
C28A	**Hausauer Farms**	**63.39**	**47**	P		**P**	**13 07 17.9**	**+1.5**
	baz=63,SNR=26								
H24A	**Dirks Ranch, A**	**63.43**	**52**	P		**P**	**13 07 17.7**	**+0.9**
	baz=63,SNR=62								
CIS	**Catalina Islan**	**63.47**	**69**	P		**P**	**13 07 18.0**	**+0.9**
	baz=63								
A30A	**Hoffart Farm,**	**63.49**	**45**	P		**P**	**13 07 17.8**	**+0.8**
	baz=63,SNR=63								
I23A	**Meade Ranch, G**	**63.51**	**53**	P		**P**	**13 07 17.9**	**+0.6**
	baz=63								
TUQ	**Turquoise Moun**	**63.56**	**66**	P		**P**	**13 07 18.9**	**+1.0**
	baz=63,SNR=50								
OBN	**Obninsk**	**63.60**	**326**	LR		LR	13 39 04.3		
	comp=Z,370nm,18.3s,baz=73,slow=40								
OBN	**Obninsk**	**63.60**	**326**	*c i*P		**P**	**13 07 16.5**	**-1.0**
OBN				*i*	*PP	**PcP**	**13 07 53.8**	**+1.1**
OBN				*i*			13 09 45.4		
OBN				*e*S		**S**	**13 15 43.4**	**+3.1**
OBN					pmax	pmax			
	comp=Z,134nm,1.0s								
OBN					MLR	MLR			
	comp=Z,412nm,20.0s								
OBN	**Obninsk**	**63.60**	**326**	P		**P**	**13 07 16.3**	**-1.2**
	comp=Z,960nm,0.8s,SNR=7.3								
OBN	**Obninsk**	**63.60**	**326**	*e*P		**P**	**13 07 16.3**	**-1.2**
	comp=Z,80nm,0.5s								
F26A	**Lodgepole**	**63.60**	**50**	P		**P**	**13 07 18.4**	**+0.6**
	baz=63,SNR=41								
CCUT	**Cedar City**	**63.61**	**62**	*e*P		**P**	**13 07 19.1**	**+0.9**
	comp=Z,53nm,1.1s								
MVU	**Marysvale**	**63.62**	**61**	*e*P		**P**	**13 07 19.6**	**+1.3**
	comp=Z,44nm,1.1s								
MSU	**Marysvale**	**63.63**	**61**	*e*P		**P**	**13 07 19.6**	**+1.2**
MSU				*e*			13 07 52.7		
MSU					pmax	pmax			
	comp=Z,56nm,1.2s								
MSU	**Marysvale**	**63.63**	**61**	*e*P		**P**	**13 07 19.6**	**+1.2**
	comp=Z,56nm,1.2s								
MSU				*e*			13 07 52.7		
ULM	**Lac du Bonnet**	**63.63**	**43**	P		**P**	**13 07 17.7**	**-0.2**
	comp=Z,98nm,0.7s,baz=315,slow=7.1,SNR=137								
ULM				LR		LR	13 34 51.7		
	comp=Z,174nm,21.7s,baz=302,slow=36								
ULM	**Lac du Bonnet**	**63.63**	**43**	*e*P		**P**	**13 07 17.8**	**-0.1**
ULM					pmax	pmax			
	comp=Z,119nm,0.8s								
ULM	**Lac du Bonnet**	**63.63**	**43**	*e*P		**P**	**13 07 17.8**	**-0.1**
	comp=Z,119nm,0.8s								
TMUT	**Trail Mountain**	**63.64**	**60**	*e*P		**P**	**13 07 19.6**	**+1.0**
	comp=Z,74nm,0.9s								
MDND	**Maddock**	**63.67**	**46**	P		**P**	**13 07 19.1**	**+0.9**
	baz=63,SNR=22								
MDND	**Maddock**	**63.67**	**46**	*e*P		**P**	**13 07 19.0**	**+0.8**
	comp=Z,396nm,1.1s								
D28A	**Regan**	**63.68**	**47**	P		**P**	**13 07 19.3**	**+1.0**
	baz=63,SNR=13								
G25A	**Newell**	**63.69**	**51**	P		**P**	**13 07 18.8**	**+0.4**
	baz=64,SNR=8.5								
CHLP	**Challavanipeta**	**63.70**	**268**	*e*P		**P**	**13 07 20.4**	**+1.6**
CHLP					IAmb	IAmb	13 07 24.7		
	comp=Z,29nm,1.1s								
E27A	**Carson**	**63.74**	**49**	P		**P**	**13 07 19.6**	**+0.9**
	baz=64,SNR=40								
HEC	**Hector,Ludlow**	**63.74**	**67**	P		**P**	**13 07 19.9**	**+1.0**
	baz=64,SNR=94								
IPM	**Ipoh**	**63.76**	**244**	⇑P		**P**	**13 07 20.5**	**+1.3**
BBRC	**Big Bear Solar**	**63.77**	**67**	P		**P**	**13 07 20.1**	**+0.7**
	baz=64,SNR=18								
P17A	**Butcher Ranch,**	**63.78**	**59**	*e*P		**P**	**13 07 20.6**	**+1.4**
B30A	**Myrvik Farm, E**	**63.83**	**45**	P		**P**	**13 07 20.0**	**+0.8**
	baz=64,SNR=233								
J23A	**Dilts Ranch, B**	**63.86**	**53**	P		**P**	**13 07 20.3**	**+0.7**
	baz=64,SNR=8.3								
K22A	**Casper**	**63.87**	**54**	P		**P**	**13 07 20.5**	**+0.7**
	baz=64,SNR=24								
K22A	**Casper**	**63.87**	**54**	*e*P		**P**	**13 07 20.2**	**+0.5**
	comp=Z,240nm,1.7s								
F27A	**Lemmon**	**63.91**	**49**	P		**P**	**13 07 20.5**	**+0.7**
	baz=64,SNR=22								
H25A	**Fruitdale**	**64.00**	**51**	P		**P**	**13 07 21.2**	**+0.7**
	baz=64,SNR=18								
I24A	**Kuemmerle Ranc**	**64.02**	**52**	P		**P**	**13 07 21.2**	**+0.6**
	baz=64,SNR=26								
G26A	**Maurine**	**64.03**	**50**	P		**P**	**13 07 21.5**	**+0.8**
	baz=64,SNR=59								
E28A	**Huff**	**64.06**	**48**	P		**P**	**13 07 21.6**	**+0.8**
	baz=64,SNR=36								
TBLU	**Trondheim**	**64.06**	**343**	*e*P		**P**	**13 07 18.8**	**-1.7**
MURC	**Murrieta**	**64.06**	**68**	P		**P**	**13 07 21.8**	**+0.8**
	baz=64,SNR=29								
COEN	**Coen**	**64.11**	**193**	*e*P		**P**	**13 07 21.4**	**+0.1**
	comp=Z,154nm,1.1s								
COEN				*e*			13 07 53.7		
RSSD	**Black Hills**	**64.14**	**52**	*e*P		**P**	**13 07 21.9**	**+0.3**
RSSD					pmax	pmax			
	comp=Z,71nm,0.7s								
RSSD	**Black Hills**	**64.14**	**52**	*e*P		**P**	**13 07 21.9**	**+0.3**
	comp=Z,71nm,0.7s								
SRU	**San Rafael**	**64.15**	**59**	*e*P		**P**	**13 07 22.7**	**+1.0**
SRU					pmax	pmax			
	comp=Z,129nm,0.8s								
SRU	**San Rafael**	**64.15**	**59**	*e*P		**P**	**13 07 22.7**	**+1.0**
	comp=Z,129nm,0.8s								
GMRC	**Granite Mounta**	**64.17**	**66**	P		**P**	**13 07 22.7**	**+0.9**
	baz=64,SNR=55								
VSU	**Vasula**	**64.21**	**333**	*d i*P		**P**	**13 07 20.6**	**-0.8**
VSU					pmax	pmax			
	comp=Z,359nm,0.8s								
D29A	**Pettibone, Tap**	**64.24**	**47**	P		**P**	**13 07 22.4**	**+0.5**
	baz=64,SNR=27								
K23A	**Bowen Ranch, D**	**64.27**	**54**	P		**P**	**13 07 22.8**	**+0.4**
	baz=64,SNR=13								
LDFC	**Landfair**	**64.29**	**66**	*e*P		**P**	**13 07 23.1**	**+0.5**
C30A	**Mose, Pekin**	**64.30**	**46**	P		**P**	**13 07 23.0**	**+0.7**
	baz=64,SNR=40								
G27A	**Dupree**	**64.30**	**50**	P		**P**	**13 07 22.7**	**+0.3**
	baz=64,SNR=61								
J24A	**Dixon Ranch, L**	**64.37**	**53**	P		**P**	**13 07 23.2**	**+0.2**
	baz=64,SNR=18								
H26A	**Fairpoint**	**64.42**	**51**	P		**P**	**13 07 23.8**	**+0.6**
	baz=64,SNR=19								
PFO	**Pinyon Flat Ob**	**64.51**	**68**	P		**P**	**13 07 24.9**	**+0.9**
	comp=Z,121nm,1.4s,SNR=7.6								
PFO	**Pinyon Flat Ob**	**64.51**	**68**	*e*P		**P**	**13 07 24.3**	**+0.3**
PFO				*e*			13 07 55.6		
PFO					pmax	pmax			
	comp=Z,27nm,1.3s								
PFO	**Pinyon Flat Ob**	**64.51**	**68**	P		**P**	**13 07 24.6**	**+0.6**
	baz=64,SNR=11								
PFO	**Pinyon Flat Ob**	**64.51**	**68**	*e*P		**P**	**13 07 24.3**	**+0.3**
	comp=Z,27nm,1.3s								
PFO				*e*			13 07 55.6		
BELC	**Belle Mtn. Jos**	**64.51**	**67**	P		**P**	**13 07 24.1**	**0.0**
	baz=64,SNR=31								
F28A	**McLaughlin**	**64.53**	**49**	P		**P**	**13 07 24.4**	**+0.6**
	baz=64,SNR=31								
E29A	**Napoleon**	**64.57**	**47**	P		**P**	**13 07 24.4**	**+0.4**
	baz=64,SNR=11								
D30A	**Buchanan**	**64.60**	**46**	P		**P**	**13 07 24.8**	**+0.6**
	baz=64,SNR=62								
109C	**Camp Elliot, M**	**64.61**	**69**	P		**P**	**13 07 25.0**	**+0.5**
	baz=64,SNR=12								
O20A	**White River Ci**	**64.70**	**57**	P		**P**	**13 07 25.8**	**+0.5**
	baz=64,SNR=62								
O20A	**White River Ci**	**64.70**	**57**	*e*P		**P**	**13 07 25.8**	**+0.5**
	comp=Z,84nm,1.1s								
K24A	**Anderson Ranch**	**64.72**	**53**	P		**P**	**13 07 25.2**	**-0.1**
	baz=64								
H27A	**Howes**	**64.76**	**50**	P		**P**	**13 07 26.0**	**+0.6**
	baz=64,SNR=25								
J25A	**Sunshine Ranch**	**64.77**	**52**	P		**P**	**13 07 25.8**	**+0.3**
	baz=64,SNR=26								
I26A	**New Underwood**	**64.80**	**51**	P		**P**	**13 07 26.5**	**+0.8**
	baz=65,SNR=15								
NEE2	**Needles Airpor**	**64.80**	**65**	P		**P**	**13 07 26.4**	**+0.6**
	baz=65								
SOEI	**Soe**	**64.88**	**214**	*e*P		**P**	**13 07 25.9**	**-0.6**
	comp=Z,118nm,1.0s								
IRM	**Iron Mountain**	**64.91**	**66**	P		**P**	**13 07 27.4**	**+1.0**
	baz=65,SNR=89								
E30A	**Jud**	**64.97**	**47**	P		**P**	**13 07 27.1**	**+0.5**
	baz=65,SNR=76								
F29A	**Eureka**	**65.01**	**48**	P		**P**	**13 07 27.6**	**+0.6**
	baz=65,SNR=20								
BAR	**Barrett**	**65.02**	**68**	*e*P		**P**	**13 07 27.8**	**+0.5**
	comp=Z,18nm,0.6s								
G28A	**Parade**	**65.02**	**49**	P		**P**	**13 07 27.4**	**+0.3**
	baz=65,SNR=13								
MONP	**Monument Peak**	**65.03**	**68**	P		**P**	**13 07 27.7**	**+0.2**
	baz=65,SNR=8.0								
AGMN	**Agassiz Nation**	**65.07**	**44**	P		**P**	**13 07 27.1**	**-0.1**
	baz=65,SNR=74								
AGMN	**Agassiz Nation**	**65.07**	**44**	*e*P		**P**	**13 07 26.9**	**-0.4**
	comp=Z,126nm,0.9s								
BC3	**Big Chuckawall**	**65.07**	**67**	P		**P**	**13 07 27.9**	**+0.2**
	baz=65,SNR=41								
I27A	**Quinn**	**65.18**	**51**	P		**P**	**13 07 29.0**	**+0.8**
	baz=65,SNR=28								
J26A	**Sides Ranch, S**	**65.20**	**52**	P		**P**	**13 07 29.0**	**+0.7**
	baz=65,SNR=23								
H28A	**Mission Ridge**	**65.26**	**50**	P		**P**	**13 07 29.5**	**+0.9**
	baz=65,SNR=37								
K25A	**Mack Ranch, Ha**	**65.29**	**53**	P		**P**	**13 07 29.6**	**+0.7**
	baz=65,SNR=6.0								
SWSC	**Sam W. Stewart**	**65.37**	**68**	P		**P**	**13 07 29.7**	**+0.3**
	baz=65,SNR=8.0								
PHWY	**Pilot Hill**	**65.39**	**55**	*e*P		**P**	**13 07 29.8**	**0.0**
	comp=Z,91nm,1.8s								
F30A	**Leola**	**65.39**	**48**	P		**P**	**13 07 29.5**	**0.0**
	baz=65,SNR=16								
PDMCI	**Parker Dam,Lak**	**65.41**	**66**	P		**P**	**13 07 30.6**	**+1.0**
	baz=65,SNR=20								
N23A	**Red Feather La**	**65.42**	**55**	P		**P**	**13 07 30.8**	**+0.8**
	baz=65,SNR=61								
G29A	**Hoven**	**65.42**	**49**	P		**P**	**13 07 29.8**	**+0.2**
	baz=65,SNR=19								
PV10	**Paradox Valley**	**65.50**	**59**	*e*P		**P**	**13 07 31.7**	**+1.2**
	comp=Z,2µm,0.8s								
PV04	**Paradox Valley**	**65.56**	**59**	*e*P		**P**	**13 07 31.6**	**+0.8**
Y12C	**Blythe**	**65.56**	**66**	P		**P**	**13 07 31.8**	**+1.1**
	baz=65,SNR=23								
L25A	**Engebretsen Ra**	**65.56**	**53**	P		**P**	**13 07 31.3**	**+0.6**
	baz=65								
K26A	**Motz Farm, Whi**	**65.58**	**52**	P		**P**	**13 07 31.1**	**+0.3**
	baz=65,SNR=6.0								
VSR	**Storozhevoye**	**65.59**	**321**	*e*P		**P**	**13 07 29.9**	**-0.6**
VSR				*e**PP		**pP**	**13 08 07.2**	**+4.3**
VSR				*e*			13 09 54.5		
VSR				*e*S		**S**	**13 16 01.6**	**-3.2**
VSR				*e**SS		**SKSac**	**13 17 07.2**	**-5.6**
VSR					pmax	pmax			
	comp=N,120nm,0.9s								
VSR					pmax	pmax			
	comp=E,80nm,0.9s								
VSR					pmax	pmax			
	comp=Z,260nm,0.9s								
VSR					pmax	pmax			
	comp=N,60nm,1.1s								
VSR					pmax	pmax			
	comp=E,20nm,1.1s								
VSR					pmax	pmax			
	comp=Z,40nm,1.1s								
VSR					smax	smax			
	comp=N,40nm,1.2s								
VSR					smax	smax			
	comp=Z,10.0nm,1.2s								
VSR					smax	smax			
	comp=E,30nm,1.3s								
AKN	**Aaknes**	**65.65**	**344**	*e*P		**P**	**13 07 30.2**	**-0.5**
AKN					IAmb	IAmb	13 07 32.2		
	comp=Z,39nm,0.7s								
I28A	**Midland**	**65.67**	**50**	P		**P**	**13 07 31.5**	**+0.2**
	baz=65,SNR=26								
H29A	**Onida**	**65.69**	**49**	P		**P**	**13 07 31.4**	**+0.1**
	baz=66,SNR=35								
J27A	**Elkhorn Farm,**	**65.79**	**51**	P		**P**	**13 07 33.0**	**+0.9**
	baz=66,SNR=15								
G30A	**Faulkton**	**65.85**	**48**	P		**P**	**13 07 32.6**	**+0.3**
	baz=66,SNR=29								
GLA	**Glamis**	**65.87**	**67**	*e*P		**P**	**13 07 33.6**	**+0.9**
GLA					pmax	pmax			
	comp=Z,70nm,0.9s								
GLA	**Glamis**	**65.87**	**67**	P		**P**	**13 07 33.3**	**+0.6**
	baz=66,SNR=34								
GLA	**Glamis**	**65.87**	**67**	*e*P		**P**	**13 07 33.6**	**+0.9**
	comp=Z,70nm,0.9s								
NB2	**NORSAR Subarra**	**65.89**	**342**	P		**P**	**13 07 31.2**	**-1.2**
	comp=Z,54nm,0.6s,baz=24,slow=6.5								
NB2	**NORSAR Subarra**	**65.89**	**342**	P		**P**	**13 07 31.2**	**-1.2**
	baz=24,slow=6.5								
NOA	**NORSAR Array B**	**65.89**	**342**	P		**P**	**13 07 31.1**	**-1.3**
	comp=Z,52nm,0.7s,baz=24,slow=6.5,SNR=272								
NOA					LR	LR	13 40 48.0		
	comp=Z,256nm,20.5s,baz=30,slow=40								
PV01	**Paradox Valley**	**65.93**	**59**	*e*P		**P**	**13 07 33.9**	**+0.6**
	comp=Z,5µm,1.1s								
BORG	**Borgarnes**	**65.95**	**358**	P		**P**	**13 07 34.3**	**+1.7**
	comp=Z,1µm,1.0s,SNR=15								
BORG	**Borgarnes**	**65.95**	**358**	*e*P		**P**	**13 07 34.0**	**+1.4**
BORG				*e*			13 08 04.0		
BORG					pmax	pmax			
	comp=Z,378nm,1.3s								
BORG	**Borgarnes**	**65.95**	**358**	*e*P		**P**	**13 07 34.0**	**+1.4**
BORG				*e*			13 08 04.0		
M25A	**Palm-Egli Farm**	**66.03**	**54**	P		**P**	**13 07 35.0**	**+1.2**
	baz=66,SNR=12								
J28A	**Allard Ranch,**	**66.05**	**51**	P		**P**	**13 07 34.6**	**+0.9**
	baz=66,SNR=25								
K27A	**Flueckinger Fa**	**66.06**	**52**	P		**P**	**13 07 33.5**	**-0.4**
	baz=66								
SMCO	**Snowmass**	**66.07**	**57**	*e*P		**P**	**13 07 34.8**	**+0.4**
	comp=Z,65nm,0.8s								
SMCO				*e*			13 08 08.0		
I29A	**Vivian Onida**	**66.09**	**50**	P		**P**	**13 07 34.1**	**+0.2**
	baz=66,SNR=23								
NC602	**NORSAR Array S**	**66.10**	**341**	*e*P		**P**	**13 07 32.8**	**-0.8**
L26A	**Underwood Farm**	**66.11**	**53**	P		**P**	**13 07 34.8**	**+0.6**
	baz=66								
IMYA	**Miami**	**66.11**	**298**	*e*P		**P**	**13 07 34.3**	**-0.1**
ABKT	**Ailbek**	**66.12**	**301**	P		**P**	**13 07 34.7**	**+0.5**
	comp=Z,508nm,0.6s,SNR=12								
GEYT	**Alibeck**	**66.12**	**301**	P		**P**	**13 07 34.3**	**+0.1**
	comp=Z,48nm,0.7s,baz=72,slow=4.8,SNR=61								
GEYT					LR	LR	13 39 24.7		
	comp=Z,308nm,20.6s,baz=40,slow=38								
NAO01	**NORSAR Array S**	**66.13**	**342**	*e*P		**P**	**13 07 32.8**	**-1.1**
	comp=Z,24nm,0.7s								
NAO01				*e*			13 08 05.8		
HFS	**Hagfors**	**66.17**	**340**	LR		LR	13 39 04.5		
	comp=Z,229nm,21.1s,baz=16,slow=38								
WUAZ	**Wupatki**	**66.18**	**63**	P		**P**	**13 07 36.0**	**+1.3**
	baz=66,SNR=37								
WUAZ	**Wupatki**	**66.18**	**63**	*e*P		**P**	**13 07 36.2**	**+1.4**
PVM	**Polavaram**	**66.20**	**269**	*e*P		**P**	**13 07 35.8**	**+0.9**
PVM					IAmb	IAmb	13 07 37.1		
	comp=Z,17nm,0.9s								
PSI	**Prapat**	**66.34**	**245**	LR		LR	13 36 27.2		
	comp=Z,105nm,21.2s,baz=27,slow=36								
ISCO	**Idaho Springs**	**66.37**	**56**	*e*P		**P**	**13 07 37.0**	**+0.9**
ISCO					pmax	pmax			
	comp=Z,141nm,1.2s								
ISCO	**Idaho Springs**	**66.37**	**56**	P		**P**	**13 07 37.0**	**+0.9**
	baz=66,SNR=123								
ISCO	**Idaho Springs**	**66.37**	**56**	*e*P		**P**	**13 07 37.0**	**+0.9**
	comp=Z,141nm,1.2s								
L27A	**T5 Ranch, Ells**	**66.47**	**52**	P		**P**	**13 07 37.1**	**+0.6**
	baz=66,SNR=7.5								
M26A	**McRoberts Ranc**	**66.49**	**53**	P		**P**	**13 07 37.8**	**+1.2**
	baz=66								
K28A	**Ten Mile Ranch**	**66.50**	**51**	P		**P**	**13 07 37.6**	**+1.0**
	baz=66,SNR=18								
J29A	**Okreek**	**66.52**	**50**	P		**P**	**13 07 37.1**	**+0.4**
	baz=66,SNR=38								
FOO	**Floro**	**66.53**	**345**	*e*P		**P**	**13 07 35.1**	**-1.3**
RPR	**Rampur**	**66.54**	**272**	*e*P		**P**	**13 07 37.6**	**+0.5**
RPR					IAmb	IAmb	13 07 39.3		
	comp=Z,42nm,0.7s								
I30A	**Oacoma**	**66.60**	**49**	P		**P**	**13 07 37.5**	**+0.3**
	baz=66,SNR=37								
MVCO	**Mesa Verde**	**66.62**	**60**	P		**P**	**13 07 38.8**	**+1.1**
	baz=66,SNR=50								
MVCO	**Mesa Verde**	**66.62**	**60**	*e*P		**P**	**13 07 37.9**	**+0.2**
IKRD	**Kardeh**	**66.71**	**300**	*e*P		P	13 07 34.9	-3.3
HYA	**Hoyanger**	**66.74**	**344**	*e*P		**P**	**13 07 36.6**	**-1.0**
M27A	**Reverse DX Ran**	**66.84**	**53**	P		**P**	**13 07 39.5**	**+0.7**
	baz=67,SNR=6.4								
N26A	**Koester Ranch,**	**66.91**	**54**	P		**P**	**13 07 40.4**	**+1.1**
	baz=67,SNR=17								
L28A	**Connealy Angus**	**66.94**	**52**	P		**P**	**13 07 40.8**	**+1.4**
	baz=67								
OSL	**Oslo**	**66.99**	**341**	*e*P		**P**	**13 07 38.9**	**-0.4**
K29A	**Lazy Trails An**	**67.00**	**51**	P		**P**	**13 07 40.8**	**+1.1**
	baz=67,SNR=26								
J30A	**Dallas**	**67.00**	**50**	P		**P**	**13 07 40.2**	**+0.5**
	baz=67,SNR=31								
SUE	**Sulen**	**67.09**	**345**	*e*P		**P**	**13 07 38.7**	**-1.2**
SRSP	**Sriramsagar**	**67.11**	**273**	*e*P		**P**	**13 07 41.0**	**+0.3**
SRSP					IAmb	IAmb	13 07 42.4		
	comp=Z,46nm,0.7s								
MICGM	**Minsk**	**67.12**	**330**	⇑*e*P		**P**	**13 07 39.0**	**-1.2**
MNK	**Minsk**	**67.14**	**330**	⇑*e*P		**P**	**13 07 39.0**	**-1.3**
MNK				*e*			13 08 17.0		
NACGM	**Naroch**	**67.14**	**330**	*e*		P	13 07 37.0	-3.3
S22A	**4UR Ranch, Cre**	**67.17**	**58**	P		**P**	**13 07 42.4**	**+1.2**
	baz=67,SNR=138								
Q24A	**Divide**	**67.22**	**56**	P		**P**	**13 07 42.4**	**+0.9**
	baz=67,SNR=29								
EYMN	**Ely**	**67.27**	**42**	P		**P**	**13 07 41.4**	**+0.1**
	baz=67,SNR=126								
EYMN	**Ely**	**67.27**	**42**	*e*P		**P**	**13 07 41.1**	**-0.2**
	comp=Z,185nm,0.8s								
EYMN				*e*			13 08 13.5		
EYMN				*e*PP		**PP**	**13 10 08.4**	**-2.2**
N27A	**

N29A Votay Ranch, W 68.26 52 P P 13 07 47.9 +0.2
baz=68
ADKI Addanki 68.30 269 *e*P P 13 07 49.3 +1.2
ADKI IAmb IAmb 13 07 50.5
comp=Z,27nm,0.9s
BLS5 Blasjo 68.31 343 *e*P P 13 07 47.4 -0.2
GSI Gunungsitoli 68.34 245 *e*P P 13 07 49.8 +1.4
comp=Z,18nm,0.6s
KSCO Kaye Shedlock' 68.54 55 P P 13 07 50.2 +0.7
baz=68,SNR=8.2
KSCO Kaye Shedlock' 68.54 55 *e*P P 13 07 50.0 +0.5
comp=Z,75nm,1.2s
N30A Hueftle Ranch, 68.55 52 P P 13 07 49.6 +0.1
baz=68
P28A Saint Francis 68.59 54 P P 13 07 49.7 -0.1
baz=68,SNR=14
GOF Gofitskoye 68.61 315⇑ *i*P P 13 07 49.4 -0.3
GOF *i* S S 13 16 41.3 0.0
GOF pmax pmax
comp=Z,890nm,0.8s
R26A Arlington 68.62 56 P P 13 07 50.6 +0.6
baz=68,SNR=80
O29A 4D Ranch, Culb 68.68 53 P P 13 07 50.5 +0.1
baz=68,SNR=19
M31A Lambtecht Ranc 68.72 51 P P 13 07 50.4 -0.1
baz=68,SNR=7.8
KMY Karmoy 68.73 344 *e*P P 13 07 50.4 +0.2
SPMN St. Paul 68.76 45 P P 13 07 50.8 +0.2
baz=68,SNR=42
SPMN St. Paul 68.76 45 *e*P P 13 07 50.5 -0.2
comp=Z,109nm,0.8s
TUC Tucson 68.80 65 *e*P P 13 07 52.0 +0.8
TUC pmax pmax
comp=Z,37nm,1.1s
TUC Tucson 68.80 65 *e*P P 13 07 52.0 +0.8
comp=Z,38nm,1.1s
SRLM Srisailam 68.81 270 *e*P P 13 07 51.5 +0.1
SRLM IAmb IAmb 13 07 53.0
comp=Z,58nm,0.9s
WAL1 Walls 68.84 348 *e*P P 13 07 49.9 -0.9
KLRI Killari 68.87 273 *e*P P 13 07 52.6 +0.9
KLRI IAmb IAmb 13 07 53.5
comp=Z,108nm,0.9s
LRW Lerwick 68.90 347 *e*P P 13 07 50.2 -1.0
Q28A Sharon Springs 68.92 54 P P 13 07 51.5 -0.4
baz=69,SNR=7.7
T25A Trinidad 68.94 57 P P 13 07 51.8 -0.4
baz=69,SNR=49
L33A Hoskins 68.95 49 P P 13 07 51.5 -0.5
baz=69
R27A Eads 68.98 55 P P 13 07 52.6 +0.4
baz=69,SNR=37
HOMB Homborsund 68.98 342 *e*P P 13 07 51.6 -0.1
P29A Atwood 69.00 53 P P 13 07 52.6 +0.2
baz=69
SAN1 Sandwick 69.02 347 *e*P P 13 07 51.0 -1.0
O30A MW Ranch, Wils 69.03 52 P P 13 07 52.3 -0.2
baz=69,SNR=13
SUW Suwalki 69.03 332 *e*P P 13 07 51.2 -0.9
SUW Suwalki 69.03 332⇓ *e*P P 13 07 51.2 -0.9
BGNE Belgrade 69.08 50 P P 13 07 53.0 +0.2
baz=69,SNR=7.4
BGNE Belgrade 69.08 50 *e*P P 13 07 52.3 -0.4
comp=Z,238nm,1.1s
N31A Bailey Ranch, 69.11 51 P P 13 07 53.2 +0.2
baz=69,SNR=7.7
RCLA Racherla 69.24 270 *e*P P 13 07 54.3 +0.3
RCLA IAmb IAmb 13 07 56.0
comp=Z,54nm,0.9s
T26A Comanche Natio 69.36 57 P P 13 07 55.0 +0.3
baz=69,SNR=74
S27A Las Animas 69.36 56 P P 13 07 55.3 +0.6
baz=69
ANMO Albuquerque 69.39 60 *e*P P 13 07 56.0 +1.0
ANMO pmax pmax
comp=Z,40nm,0.9s
ANMO Albuquerque 69.39 60 *e*P P 13 07 56.0 +1.0
comp=Z,40nm,0.9s
P30A Selden 69.40 53 P P 13 07 54.8 0.0
baz=69,SNR=20
LAZ Ladron 69.40 61 *e*P P 13 07 56.4 +1.3
comp=Z,43nm,1.1s
LAZ *e* 13 08 29.3
O31A Woolen Ranch, 69.42 52 P P 13 07 54.6 -0.3
baz=69,SNR=9.4
M33A Taylor Creek F 69.44 50 P P 13 07 54.8 -0.1
baz=69,SNR=9.2
R28A Tribune 69.46 55 P P 13 07 55.2 -0.1
baz=69,SNR=26
N32A Stulken Farm, 69.49 51 P P 13 07 55.0 -0.3
baz=69
Q29A Oakley 69.50 54 P P 13 07 55.5 0.0
baz=69,SNR=25
IGLO Ghaloghah 69.52 302 *e*P P 13 07 56.9 +1.2
IKOO Kooshah 69.54 296 *e*P P 13 07 55.9 -0.1
L34A Svendsen Farm, 69.54 49 P P 13 07 55.2 -0.3
baz=69,SNR=18
KIV Kislovodsk 69.62 314 *e*P P 13 07 56.7 +0.6
KIV Kislovodsk 69.62 314 *c i*P P 13 07 56.4 +0.3
KIV *i* *PP sP 13 08 48.7 +5.4
KIV *e* 13 10 27.8
KIV *i* S S 13 16 52.0 -1.4
KIV *e*SS SS 13 21 25.4 +2.5
KIV pmax pmax
comp=Z,238nm,1.0s
KIV MLR MLR
comp=Z,224nm,17.0s
KIV Kislovodsk 69.62 314 P P 13 07 56.4 +0.3
comp=Z,2um,0.9s,SNR=28
KIV Kislovodsk 69.62 314⇑ *i*P P 13 07 56.5 +0.5
SNR=8.9
KIV Kislovodsk 69.62 314 *e*P P 13 07 56.4 +0.3
comp=Z,214nm,0.9s
LENM Lemitar 69.67 61 *e*P P 13 07 57.3 +0.6
comp=Z,89nm,1.0s
KBZ Khabaz 69.69 314 P P 13 07 56.9 +0.5
comp=Z,229nm,0.9s,baz=61,slow=3.9,SNR=163
KBZ LR LR 13 43 16.5
comp=Z,270nm,18.3s,baz=26,slow=40
LPM Los Pinos Moun 69.76 61 *e*P P 13 07 58.3 +1.1
comp=Z,45nm,1.4s
R29A Marienthal 69.76 54 P P 13 07 57.2 +0.2
baz=70,SNR=39
Y22D IRIS PASSCAL I 69.76 61 P P 13 07 58.9 +1.7
baz=70,SNR=5.1
M34A Aspy Farms, Fr 69.79 49 P P 13 07 57.3 +0.2
baz=70,SNR=10
CTAO Charters Tower 69.79 189 *e*P P 13 07 56.1 -1.0
CTAO *e* 13 08 29.8
CTAO pmax pmax
comp=Z,94nm,0.8s
CTAO Charters Tower 69.79 189 *e*P P 13 07 56.1 -1.0
comp=Z,94nm,0.8s
CTAO *e* 13 08 29.8
AKASG Malin Array Be 69.80 327 P P 13 07 55.3 -1.6
comp=Z,33nm,0.5s,baz=32,slow=6.3,SNR=106
AKASG ScS SKSac 13 17 44.3 -0.4
comp=Z,0.4nm,0.4s,baz=35,slow=8.7,SNR=5.9
AKASG PKP2bc 13 35 59.2
comp=Z,0.2nm,0.2s,baz=240,slow=2.8,SNR=5.8
AKASG LR LR 13 41 59.0
comp=Z,300nm,20.3s,baz=5.0,slow=39
AKBB Malin Array Si 69.80 327 *e*P P 13 07 55.7 -1.2
AKBB Malin Array Si 69.80 327 *e*P P 13 07 55.7 -1.2
KIEV Kiev 69.81 327 *c i*P P 13 07 55.8 -1.2
KIEV pmax pmax
comp=Z,68nm,1.0s
KIEV Kiev 69.81 327 *e*P P 13 07 55.5 -1.5
comp=Z,71nm,0.8s
AK01 Malin Array Si 69.81 327 *e*P P 13 07 55.7 -1.3
Q30A Quinter 69.83 53 P P 13 07 57.5 0.0
baz=70,SNR=48
L35A Bielow Farm, R 69.84 48 P P 13 07 56.9 -0.5
baz=70,SNR=12
AK02 Malin Array Si 69.84 327 *e*P P 13 07 55.6 -1.6
P31A Stockton 69.86 52 P P 13 07 57.4 -0.2
baz=70,SNR=26
O32A Brockman Farm, 69.88 51 P P 13 07 57.0 -0.6
baz=70
T27A Campo 69.92 56 P P 13 07 58.6 +0.5
baz=70,SNR=5.4
N33A J Bar K, Exete 69.94 50 P P 13 07 57.6 -0.4
baz=70,SNR=7.3
S28A Manter 69.97 55 P P 13 07 58.6 +0.3
baz=70,SNR=16
SKHT Srikalahasti 70.02 268 *e*P P 13 07 59.3 +0.6
SKHT IAmb IAmb 13 08 01.3
comp=Z,85nm,1.0s
DUS Dusheti 70.08 312 P P 13 07 59.8 +0.9
DUS Dusheti 70.08 312 *e*P P 13 07 59.8 +0.9
MSVF Nonsavu 70.13 156 P P 13 08 00.3 +1.0
comp=Z,285nm,1.1s,SNR=6.0
MSVF Nonsavu 70.13 156 *e*P P 13 08 00.0 +0.7
MSVF *e* 13 08 34.1
MSVF pmax pmax
comp=Z,66nm,1.1s
MSVF Nonsavu 70.13 156 *e*P P 13 08 00.0 +0.7
comp=Z,66nm,1.1s
MSVF *e* 13 08 34.1
NEY Neytrino 70.14 314 *e*P P 13 07 59.5 +0.1
P32A Huiting Farm, 70.19 52 P P 13 07 58.9 -0.6
baz=70,SNR=21
T28A Walsh 70.20 56 P P 13 07 59.8 +0.1
baz=70,SNR=27
CBKS Cedar Bluff 70.20 53 *e*P P 13 07 59.2 -0.5
CBKS pmax pmax
comp=Z,86nm,0.8s
CBKS Cedar Bluff 70.20 53 P P 13 07 59.5 -0.2
baz=70,SNR=14
CBKS Cedar Bluff 70.20 53 *e*P P 13 07 59.2 -0.5
comp=Z,86nm,0.8s
IANJ Anjilo 70.23 302 *e*P P 13 08 01.2 +1.0
SCHQ Schefferville 70.24 24 P P 13 07 59.1 -0.4
comp=Z,271nm,0.5s,baz=349,slow=5.5,SNR=618
SCHQ PKP2bc 13 35 55.8
comp=Z,9.0nm,1.1s,baz=121,slow=4.6,SNR=5.0
SCHQ LR LR 13 40 45.2
comp=Z,110nm,21.1s,baz=298,slow=37
SCHQ Schefferville 70.24 24 *e*P P 13 07 59.4 -0.1
comp=Z,259nm,0.6s
Q31A Ellis 70.24 53 P P 13 07 59.5 -0.4
baz=70,SNR=5.4
DGRG David-gareji 70.24 311 P P 13 08 00.4 +0.5
DGRG David-gareji 70.24 311 *e*P P 13 08 00.4 +0.5
M35A Neola 70.26 49 P P 13 08 00.1 +0.2
baz=70,SNR=17
SEAG Tbilisi Sea 70.28 312 P P 13 07 59.4 -0.7
ONI Oni 70.30 313 P P 13 08 01.3 +1.0
ONI Oni 70.30 313 *e*P P 13 08 01.2 +1.0
R30A Dighton 70.32 54 P P 13 08 00.2 -0.2
baz=70,SNR=30
ISHM Shahmirzad 70.32 302 *e*P P 13 08 03.0 +2.2
U27A Thompson Grove 70.33 57 P P 13 08 01.0 +0.4
baz=70,SNR=32
N34A Lincoln 70.33 50 P P 13 07 60.0 -0.4
baz=70,SNR=13
TBLG Delisi 70.34 312 *e*P P 13 08 02.1 +1.7
O33A Hebron 70.36 51 P P 13 07 60.0 -0.6
baz=70,SNR=14
S29A Ulysses 70.36 55 P P 13 08 00.9 +0.2
baz=70,SNR=17
IALA Alasht 70.39 303 *e*P P 13 08 01.9 +0.7
121A Cookes Peak, D 70.39 63 P P 13 08 02.6 +1.5
baz=70,SNR=43
121A Cookes Peak, D 70.39 63 *e*P P 13 08 02.4 +1.3
comp=Z,78nm,1.1s
BSD Bornholm Skovb 70.39 337⇑ *i*P P 13 08 00.2 -0.2
comp=Z,124nm,0.6s
BSD *i* 13 12 16.7
comp=Z,520nm,22.0s
BSD Bornholm Skovb 70.39 337⇑ *i*P P 13 08 00.2 -0.2
BSD *i* 13 12 16.7
BSD pmax pmax
comp=Z,120nm,0.6s
BSD MLR MLR
comp=Z,530nm,22.0s
COP Copenhagen 70.48 338 *i*P P 13 08 01.5 +0.5
COP *i* 13 12 20.0
COP Copenhagen 70.48 338 *i*P P 13 08 01.5 +0.5
COP *i* 13 12 20.0
MUD Monsted U'grnd 70.52 341 *i*P P 13 08 01.6 +0.4
comp=Z,43nm,0.6s
MUD *i* 13 12 23.2
MUD Monsted U'grnd 70.52 341 *i*P P 13 08 01.6 +0.4
MUD *i* 13 12 23.2
MUD pmax pmax
comp=Z,43nm,0.6s
T29A Hugoton 70.61 55 P P 13 08 02.2 0.0
baz=70,SNR=15
Q32A Meitler Ranch, 70.68 52 P P 13 08 02.1 -0.5
baz=70,SNR=34
U28A Mallet 70.69 56 P P 13 08 02.5 -0.3
baz=70
S30A Montezuma 70.70 54 P P 13 08 02.7 0.0
baz=70,SNR=31
R31A Burdett 70.71 53 P P 13 08 02.1 -0.6
baz=70,SNR=13
URV Uravakonda 70.72 271 *e*P P 13 08 03.2 +0.2
URV IAmb IAmb 13 08 04.9
comp=Z,56nm,0.9s
O34A Beatrice 70.73 50 P P 13 08 02.2 -0.6
baz=70,SNR=52
N35A Tabor 70.74 49 P P 13 08 02.9 0.0
baz=70,SNR=20
P33A Williams Farm, 70.79 51 P P 13 08 02.5 -0.7
baz=71,SNR=7.8
V27A Dan Oppiter Fa 70.81 57 P P 13 08 03.7 +0.2
baz=71
ILAS Lasjerd 70.82 302 *e*P P 13 08 04.8 +1.1
CHVG Ch'k'valeri 70.85 314 P P 13 08 03.9 +0.4
BIGH Upper Bighouse 70.86 348 *e*P P 13 08 02.5 -0.7
BIGH AMB AMB 13 08 03.5
comp=Z,173nm,1.6s
MLA1 Latheron 70.97 348⇑ *e*P P 13 08 03.6 -0.3
R32A Long Quarter, 71.03 53 P P 13 08 03.6 -1.0
baz=71,SNR=10.0
Q33A Connelly Farm, 71.05 52 P P 13 08 04.0 -0.8
baz=71,SNR=75
O35A Humboldt 71.06 50 P P 13 08 04.1 -0.7
baz=71,SNR=7.0
T30A Plains 71.10 55 P P 13 08 04.9 -0.2
baz=71
P34A Walnut Farm, R 71.15 51 P P 13 08 04.3 -1.1
baz=71,SNR=25
U29A Oasis Ranch, S 71.15 56 P P 13 08 05.0 -0.5
baz=71
V28A Channing 71.15 57 P P 13 08 05.8 +0.2
baz=71
IDMV Damavand 71.18 303 *e*P P 13 08 07.2 +1.2
AKH Akhalkalaki 71.19 312 *e*P P 13 08 06.2 +0.5
AKH Akhalkalaki 71.19 312 P P 13 08 06.9 +1.1
AKH Akhalkalaki 71.19 312 *e*P P 13 08 06.8 +1.1
S31A Mullinville 71.23 54 P P 13 08 05.6 -0.4
baz=71
SOC Sochi 71.27 316 *c i*P P 13 08 05.7 -0.3
SOC *e**PP pP 13 08 43.5 +4.7
SOC *e* 13 10 44.5
SOC *e*PPP PPP 13 12 26.1
SOC *e*S S 13 17 09.3 -3.0
SOC *e* 13 17 48.8
SOC pmax pmax
comp=Z,152nm,0.9s
RGN Rugen 71.30 337 *e*P P 13 08 06.6 +0.7
comp=Z,362nm,0.8s
ANN Anapa 71.32 318 *e*P P 13 08 04.0 -2.2
ANN *e* 13 10 43.7
ANN *e*PPP PPP 13 12 31.1
ANN *e*S S 13 17 09.2 -3.6
ANN pmax pmax
comp=Z,178nm,1.4s
GKP Gorka Klasztor 71.42 335 *e*P P 13 08 06.5 -0.2
GKP Gorka Klasztor 71.42 335⇓ *e*P P 13 08 06.5 -0.2
U30A WK&E Inc. Balk 71.42 55 P P 13 08 06.8 -0.4
baz=71,SNR=17
V29A Stinnett 71.44 56 P P 13 08 07.1 -0.2
baz=71
MVH1 Achvaich 71.45 348⇑ *e*P P 13 08 06.3 -0.5
S32A Newby Ranch, P 71.45 53 P P 13 08 06.6 -0.7
baz=71,SNR=8.0
R33A Olander Ranch, 71.49 52 P P 13 08 06.9 -0.6
baz=71,SNR=25
T31A Randall Ranch, 71.52 54 P P 13 08 07.2 -0.4
baz=71
W28A Vega 71.53 57 P P 13 08 08.6 +0.8
baz=71,SNR=20
GNI Garni 71.54 311 LR LR 13 45 27.7
comp=Z,230nm,18.8s,baz=44,slow=41
GNI Garni 71.54 311 *c i*P P 13 08 09.3 +1.3
GNI pmax pmax
comp=Z,194nm,1.7s
GNI Garni 71.54 311 ⇓P P 13 08 09.0 +1.1
SNR=18
GNI Garni 71.54 311 *e*P P 13 08 09.2 +1.3
comp=Z,123nm,1.0s
Q34A Chapman 71.56 51 P P 13 08 07.3 -0.6
baz=71
IGZV Ghazvin 71.56 305 *e*P P 13 08 09.2 +1.0
P35A Duane Minner, 71.57 50 P P 13 08 07.5 -0.4
baz=71,SNR=18
WRAB Tennant Creek 71.57 200 *e*P P 13 08 07.3 -0.6
WRAB *e* 13 08 41.7
WRAB pmax pmax
comp=Z,120nm,1.0s
WRAB Tennant Creek 71.57 200 *e*P P 13 08 07.3 -0.6
comp=Z,120nm,1.0s
WRAB *e* 13 08 41.7
WRA Warramunga Arr 71.58 200 P P 13 08 07.2 -0.8
comp=Z,89nm,1.0s,baz=18,slow=6.9,SNR=159
WRA pP pP 13 08 40.1 -0.8
comp=Z,42nm,0.7s,baz=15,slow=6.1,SNR=7.8
WRA LR LR 13 38 30.2
comp=Z,73nm,20.6s,baz=60,slow=35
O36A Bolckow 71.63 49 P P 13 08 08.4 +0.2
baz=71
BEL Belsk 71.64 332 *e*P P 13 08 08.5 +0.5
BEL Belsk 71.64 332⇑ *e*P P 13 08 08.5 +0.5
MCD Coleburn Disti 71.65 348 *e*P P 13 08 07.1 -0.9
JFWS Jewell Farm 71.72 45 *e*P P 13 08 08.0 -0.7
JFWS pmax pmax
comp=Z,69nm,1.1s
JFWS Jewell Farm 71.72 45 *e*P P 13 08 08.0 -0.7
comp=Z,69nm,1.1s
IHRS Heris 71.78 308 *e*P P 13 08 09.9 +0.5
IVRN Varamin 71.78 303 *e*P P 13 08 10.1 +0.8
MME1 Meikle Cairn 71.87 348 *e*P P 13 08 08.6 -0.8
R34A Isabella, Hill 71.88 52 P P 13 08 09.0 -0.7
baz=72,SNR=24
P36A Good Intent, A 71.90 50 P P 13 08 09.2 -0.6
baz=72,SNR=17
W29A Amraillo 71.94 57 P P 13 08 10.5 +0.2
baz=72
MDO Dochfour 71.94 348 *e*P P 13 08 08.1 -1.6
U31A Nine Bar Ranch 71.97 55 P P 13 08 10.8 +0.5
baz=72,SNR=8.7
V30A Spur Ranch, Mi 71.98 56 P P 13 08 10.2 -0.2
baz=72
KAC Achnashellach 72.00 349⇑ *e*P P 13 08 09.7 -0.4
S33A Kaszmaul Farm, 72.02 53 P P 13 08 10.3 -0.3
baz=72
BCA Borcka 72.05 313 *e*P P 13 08 09.5 -1.3
Q35A Mercer Eighty, 72.07 51 P P 13 08 10.1 -0.7
baz=72,SNR=10.0
X28A Dimmitt 72.08 58 P P 13 08 11.5 +0.3
baz=72,SNR=13
DZM Mont Dzumac 72.10 169 *e*P P 13 08 11.9 +0.8
comp=Z,108nm,1.0s
DZM *e* 13 08 44.2
DBOC Borcka 72.11 313 *i*P P 13 08 11.9 +0.8
NOUC Port Laguerre 72.11 169 *e*P P 13 08 10.9 -0.2
IBAF Bafgh 72.14 298 *e*P P 13 08 12.1 +0.5
IMRD Marand 72.16 309 *e*P P 13 08 12.0 +0.4
DRUM Mains of Drumt 72.19 347 *e*P P 13 08 10.8 -0.5
KPL Plockton 72.21 349⇑ *e*P P 13 08 11.0 -0.3
KPL AMB AMB 13 08 12.0
comp=Z,73nm,1.2s
Q36A Arnold C. Orve 72.28 50 P P 13 08 11.5 -0.6
baz=72,SNR=8.1
T33A Patterson Ranc 72.28 53 P P 13 08 11.7 -0.4
baz=72,SNR=10
KSB Sheil Bridge 72.30 349 *e*P P 13 08 11.1 -0.7
IBST Bostanabad 72.32 308 *e*P P 13 08 12.8 +0.2
ICHK Chekchek 72.32 299 *e*P P 13 08 13.6 +0.8
LVV L'vov 72.34 329 *d i*P P 13 08 11.6 -0.7
LVV *e**PP pP 13 08 42.8 -2.4
LVV *e*S S 13 17 21.2 -3.3
LVV *e**SS SKSac 13 17 59.9 -4.1
R35A Emporia Munici 72.39 51 P P 13 08 12.6 -0.2
baz=72,SNR=11
S34A Willow Spring 72.40 52 P P 13 08 12.0 -0.9
baz=72,SNR=5.5
X29A Tulia 72.41 57 P P 13 08 13.9 +0.8
baz=72,SNR=43
U32A Winter Ranch, 72.42 54 P P 13 08 13.4 +0.4
baz=72,SNR=6.7
DDEM Demirkent 72.42 313 *i*P P 13 08 14.8 +1.7
V31A Spring Creek L 72.42 55 P P 13 08 13.8 +0.7
baz=72,SNR=40
IRAZ Razeghan 72.45 304 *e*P P 13 08 14.2 +0.7
W30A Crocket Farms 72.47 56 P P 13 08 14.2 +0.8
baz=72
Y28A McKinney Farm, 72.51 58 P P 13 08 13.9 +0.3
baz=72,SNR=21
BSEG Bad Segeberg 72.59 339 *e*P P 13 08 14.2 +0.6
comp=Z,85nm,1.2s
SIM Simferopol' 72.61 320 *d i*P P 13 08 14.2 +0.2
SIM *e* 13 08 28.0
SIM *e*S S 13 17 25.6 -2.1
SIM *e**SS ScS 13 18 10.0 +1.5
SIM pmax pmax
comp=Z,95nm,0.9s
EDU Dundee 72.62 347 *e*P P 13 08 13.5 -0.4
GLMI Grayling 72.66 40 *e*P P 13 08 14.5 +0.2
comp=Z,197nm,0.7s
CLDR Caldiran 72.72 310 *e*P P 13 08 16.4 +1.4
R36A Gordon, Harris 72.75 51 P P 13 08 14.5 -0.4
baz=72,SNR=40
IAZR Azarshahr 72.81 308 *e*P P 13 08 16.4 +0.9
W31A Holland Ranch, 72.81 56 P P 13 08 16.1 +0.7
baz=73,SNR=24
S35A Otter Creek Ra 72.82 52 P P 13 08 14.8 -0.6
baz=73
IMEH Mehriz 72.84 298 *e*P P 13 08 15.4 -0.4
U33A Lingo Farm, Me 72.84 54 P P 13 08 15.3 -0.2
baz=73,SNR=15
AGRB Hanur-Agry 72.84 311 *e*P P 13 08 17.5 +1.8
Q37A Longview Farm, 72.85 50 P P 13 08 14.9 -0.6
baz=73,SNR=16
X30A Coker Ranch, T 72.86 57 P P 13 08 15.7 0.0
baz=73,SNR=14
Y29A Porterfield Fa 72.86 58 P P 13 08 16.4 +0.6
baz=73,SNR=18
EATA Eleskirt 72.87 312 *i*P P 13 08 17.8 +1.8
T34A McClaskey Farm 72.88 53 P P 13 08 15.1 -0.5
baz=73,SNR=7.7
V32A Arapaho 72.89 55 P P 13 08 16.8 +0.9
baz=73,SNR=14
Z28A Tucker Farm, M 72.89 59 P P 13 08 15.9 -0.1
baz=73,SNR=13
KWP Kalwaria Pacla 72.94 330 *e*P P 13 08 16.2 +0.3
KWP Kalwaria Pacla 72.94 330 *e*P P 13 08 16.2 +0.3
ISAD Sadrabad 72.98 299 *e*P P 13 08 17.3 +0.6
HOMI Horasan 73.01 312 *i*P P 13 08 18.1 +1.4
KIS Kishinev 73.03 325 *e*P P 13 08 14.0 -2.4
comp=Z,600nm,2.0s
KIS *e*pP pP 13 08 50.0 +0.6
KIS Kishinev 73.03 325 *e*PP PP 13 11 30.0 +30
KIS Kishinev 73.03 325 *e*P P 13 08 14.0 -2.4
KIS *e**PP pP 13 08 50.0 +0.6
KIS *e*S S 13 17 20.0 -12
KIS *e*PS PnS 13 18 07.0 -15
KIS pmax pmax
comp=Z,600nm,2.0s
RUE Ruedersdorf 73.06 336 *e*P P 13 08 16.8 +0.4
comp=Z,205nm,1.2s
RUE Ruedersdorf 73.06 336 *e*P P 13 08 16.3 -0.1
comp=Z,261nm,1.3s
R37A Teagarden Farm 73.09 50 P P 13 08 16.2 -0.7
baz=73,SNR=24
U34A Anderson Ranch 73.14 53 P P 13 08 17.3 0.0
baz=73,SNR=16
U34A Anderson Ranch 73.14 53 *e*P P 13 08 17.0 -0.2
comp=Z,69nm,1.1s
EAB Aberfoyle 73.16 348 *e*P P 13 08 16.2 -0.8
S36A Lake Cedric, C 73.16 51 P P 13 08 17.0 -0.3
baz=73,SNR=22
ESY Stoneypath 73.18 347 *e*P P 13 08 16.2 -0.9
X31A McDonald Ranch 73.21 56 P P 13 08 18.4 +0.6
baz=73,SNR=28
V33A Lossen Ranch, 73.22 54 P P 13 08 17.4 -0.3
baz=73,SNR=14
W32A Sentinel 73.23 55 P P 13 08 18.5 +0.6
baz=73,SNR=45
EDI Edinburgh 73.25 347⇑ *e*P P 13 08 17.1 -0.5
EDI AMB AMB 13 08 17.9
comp=Z,87nm,1.5s
Y30A Stafford Cattl 73.28 57 P P 13 08 18.7 +0.5
baz=73,SNR=19

KTUT	Trabzon	73.28	314	*eP*		**P**	**13 08 18.1**	**+0.2**
Z29A	Hungry Hill Ra	73.29	58	P		**P**	**13 08 18.9**	**+0.6**
	baz=73,SNR=78							
T35A	Sooner Cattle	73.31	52	P		**P**	**13 08 18.0**	**-0.2**
	baz=73,SNR=19							
128A	Castleberry Fa	73.34	59	P		**P**	**13 08 19.3**	**+0.8**
	baz=73							
OJC	Ojcow	73.36	332	*eP*		**P**	**13 08 18.4**	**+0.2**
OJC	Ojcow	73.36	332⇑	*eP*		**P**	**13 08 18.5**	**+0.2**
EZM	Erzurum	73.38	313	*eP*		**P**	**13 08 19.9**	**+1.0**
EBL	Broad Law	73.38	347⇑	*eP*		**P**	**13 08 18.1**	**-0.2**
S37A	Fort Scott	73.52	51	P		**P**	**13 08 18.7**	**-0.7**
	baz=73,SNR=30							
T36A	Boggs Farm, Ca	73.52	52	P		**P**	**13 08 19.4**	**-0.1**
	baz=73,SNR=13							
PGBU	Glenifferbraes	73.54	348⇑	*eP*		**P**	**13 08 18.4**	**-0.9**
PGBU					AMB	AMB	13 08 20.8	
	comp=Z,372nm,1.5s							
EKAR	Karacoban	73.55	312	*i* P		**P**	**13 08 21.9**	**+2.0**
Y31A	Rekieta Farm,	73.56	57	P		**P**	**13 08 19.9**	**+0.1**
	baz=73,SNR=22							
BAYT	Ayd¯–ntepe-Bay	73.57	314	*eP*		**P**	**13 08 18.9**	**-1.0**
Z30A	Sanderson Ranc	73.59	58	P		**P**	**13 08 20.2**	**+0.2**
	baz=73,SNR=123							
V34A	Guthrie	73.61	54	P		**P**	**13 08 20.3**	**+0.3**
	baz=73,SNR=17							
V34A	Guthrie	73.61	54	*eP*		**P**	**13 08 20.0**	**0.0**
	comp=Z,124nm,0.8s							
U35A	Pawnee	73.61	53	P		**P**	**13 08 20.1**	**+0.2**
	baz=73,SNR=15							
W33A	Caddo, Fort Co	73.63	55	P		**P**	**13 08 21.1**	**+1.0**
	baz=73,SNR=29							
228A	UT Block 9, Go	73.65	60	P		**P**	**13 08 20.8**	**+0.3**
	baz=74,SNR=24							
129A	Stewart Farms,	73.68	59	P		**P**	**13 08 20.9**	**+0.3**
	baz=74							
KOLS	Kolonicke sedl	73.69	330	*eP*		**P**	**13 08 19.9**	**-0.4**
KOLS					pmax	pmax		
	comp=Z,50nm,1.5s							
KOLS	Kolonicke sedl	73.69	330	*eP*		**P**	**13 08 19.9**	**-0.4**
KOPT	Kop Dagi	73.70	313	*i* P		P	13 08 24.2	+3.4
X32A	Elmer	73.74	56	P		**P**	**13 08 21.2**	**+0.4**
	baz=74,SNR=20							
WMOK	Wichita Mounta	73.77	55	*eP*		**P**	**13 08 21.2**	**+0.2**
WMOK					pmax	pmax		
	comp=Z,96nm,0.9s							
WMOK	Wichita Mounta	73.77	55	*eP*		**P**	**13 08 21.2**	**+0.2**
	comp=Z,96nm,0.9s							
BUR08	Bucovina Ar. S	73.80	327	*eP*		**P**	**13 08 20.4**	**-0.6**
BURAR	Bucovina Array	73.82	327	*i* P		**P**	**13 08 20.8**	**-0.3**
GUMT	Gumushane	73.83	314	*eP*		**P**	**13 08 22.5**	**+1.1**
ESK	Eskdalemuir	73.84	347	P		**P**	**13 08 20.2**	**-0.8**
	comp=Z,534nm,0.8s,SNR=26							
ESK	Eskdalemuir	73.84	347	*eP*		**P**	**13 08 20.2**	**-0.8**
ESK					AMB	AMB	13 08 21.6	
	comp=Z,110nm,1.5s							
ESK	Eskdalemuir	73.84	347	*eP*		**P**	**13 08 20.7**	**-0.3**
ESK					pmax	pmax		
	comp=Z,48nm,0.6s							
ESK	Eskdalemuir	73.84	347	*eP*		**P**	**13 08 20.7**	**-0.3**
	comp=Z,48nm,0.6s							
KSP	Ksiaz	73.84	334	*eP*		**P**	**13 08 21.3**	**+0.2**
KSP	Ksiaz	73.84	334⇑	*eP*		**P**	**13 08 21.3**	**+0.2**
NIE	Niedzica	73.91	331	*eP*		**P**	**13 08 21.4**	**-0.1**
NIE	Niedzica	73.91	331⇑	*eP*		**P**	**13 08 21.4**	**-0.1**
VRTB	Varto-Mus	73.91	312	*eP*		**P**	**13 08 23.6**	**+1.7**
W34A	Bridge Creek,	73.93	54	P		**P**	**13 08 22.5**	**+0.7**
	baz=74,SNR=21							
W34A	Bridge Creek,	73.93	54	*eP*		**P**	**13 08 22.6**	**+0.7**
	comp=Z,101nm,0.9s							
UZH	Uzhgorod	73.95	329	*eP*		P	13 08 17.2	-4.5
UZH				*e*			13 08 29.8	
UZH				*e*			13 11 10.6	
UZH				*eS*		**SKiKP**	**13 17 32.2**	**-3.9**
UZH				*e*			13 18 17.4	
UZH				*i*			13 18 33.8	
UZH				*e*			13 22 32.2	
ECK	Cauldkaine Hil	73.97	347	*eP*		**P**	**13 08 21.0**	**-0.7**
RAC	Raciborz	73.97	333	*eP*		**P**	**13 08 22.0**	**+0.2**
T37A	Cheneyville 18	73.97	51	P		**P**	**13 08 21.8**	**-0.2**
	baz=74,SNR=41							
Y32A	R-V Farms, Ver	73.97	56	P		**P**	**13 08 22.6**	**+0.4**
	baz=74,SNR=25							
HDIL	Hopedale	74.02	45	P		**P**	**13 08 22.0**	**-0.2**
	baz=74,SNR=31							
HDIL	Hopedale	74.02	45	*eP*		**P**	**13 08 21.9**	**-0.4**
	comp=Z,193nm,1.0s							
HKR	Hakkari	74.02	310	*eP*		**P**	**13 08 24.2**	**+1.6**
V35A	Meyer Ranch, C	74.02	53	P		**P**	**13 08 22.4**	**+0.1**
	baz=74,SNR=37							
GRSN	GIRESUNGRSN	74.02	315	*i* P		**P**	**13 08 22.4**	**0.0**
HAKT	HAKKARI	74.05	310	*i* P		**P**	**13 08 23.4**	**+0.5**
X33A	Lawton	74.07	55	P		**P**	**13 08 23.0**	**+0.3**
	baz=74,SNR=5.6							
U36A	Oologah	74.11	52	P		**P**	**13 08 23.0**	**+0.2**
	baz=74,SNR=7.2							
Z31A	Sharp Cattle R	74.11	57	P		**P**	**13 08 23.4**	**+0.5**
	baz=74,SNR=64							
LCP	Cassop	74.14	346	*eP*		**P**	**13 08 22.6**	**-0.1**
KELT	Kelkit	74.18	314	*i* P		**P**	**13 08 24.8**	**+1.2**
OKC	Ostrava-Krasne	74.20	332	*eP*		**P**	**13 08 22.6**	**-0.6**
OKC				*ex*		x	13 09 00.9	
OKC				*es*P		**sP**	**13 09 12.4**	**+1.8**
OKC				*e*PP		**PP**	**13 11 09.4**	**-0.4**
OKC				*ex*		x	13 13 27.7	
OKC				*eS*		**S**	**13 17 41.5**	**-3.8**
OKC					AMS	AMS	13 50 20.0	
	comp=Z,200nm,16.2s							
OKC	Ostrava-Krasne	74.20	332	*eP*		**P**	**13 08 22.6**	**-0.6**
OKC				*e*			13 09 00.9	
OKC				*e*			13 09 12.4	
OKC				*e*			13 11 09.4	
OKC				*eS*		**S**	**13 17 41.5**	**-3.8**
OKC					MLR	MLR		
	comp=Z,200nm,16.2s							
130A	Snyder	74.20	58	P		**P**	**13 08 24.2**	**+0.7**
	baz=74,SNR=32							
229A	Bryant Ranch,	74.20	59	P		**P**	**13 08 24.5**	**+0.9**
	baz=74,SNR=27							
PALK	Pallekele	74.20	263	LR		LR	13 44 35.0	
	comp=Z,96nm,19.6s,baz=53,slow=38							
PALK	Pallekele	74.20	263	*eP*		**P**	**13 08 25.7**	**+1.9**
PALK					pmax	pmax		
	comp=Z,41nm,1.0s							
PALK	Pallekele	74.20	263	*eP*		**P**	**13 08 25.7**	**+1.9**
	comp=Z,41nm,1.0s							
UPC	Upice	74.22	334	*eP*		**P**	**13 08 22.4**	**-0.9**
UPC				*ex*		x	13 08 32.2	
UPC				*ex*		x	13 09 01.1	
UPC				*e*PP		**PP**	**13 11 10.0**	**0.0**
UPC				*ex*		x	13 13 28.0	
UPC				*eS*		**SKiKP**	**13 17 40.9**	**+4.4**
UPC					AMS	AMS	13 45 20.0	
	comp=Z,400nm,17.5s							
UPC	Upice	74.22	334	*eP*		**P**	**13 08 22.4**	**-0.9**
UPC				*e*			13 08 32.2	
UPC				*e*			13 09 01.1	
UPC				*e*			13 11 10.0	
UPC				*eS*		**SKiKP**	**13 17 40.9**	**+4.4**
UPC					MLR	MLR		
	comp=Z,400nm,17.5s							
DPC	Dobruska-Polom	74.28	334	*eP*		**P**	**13 08 23.3**	**-0.4**
DPC				*e*PCP		**PcP**	**13 08 39.5**	**+1.6**
DPC				*ex*		x	13 09 02.6	
DPC				*es*P		**sP**	**13 09 12.5**	**+1.3**
DPC				*e*PP		**PP**	**13 11 13.4**	**+2.9**
DPC				*ex*		x	13 13 29.8	
DPC				*eS*		**S**	**13 17 49.5**	**+3.2**
DPC				*ex*		x	13 18 28.3	
DPC					AMS	AMS	13 48 00.0	
	comp=Z,500nm,15.0s							
DPC	Dobruska-Polom	74.28	334	*eP*		**P**	**13 08 23.3**	**-0.4**
DPC				*e*			13 08 39.5	
DPC				*e*			13 09 02.6	
DPC				*e*			13 09 12.5	
DPC				*e*			13 11 13.4	
DPC				*eS*		**S**	**13 17 49.5**	**+3.2**
DPC				*e*			13 18 28.3	
DPC					MLR	MLR		
	comp=Z,500nm,15.0s							
TRPA	Tarpa	74.30	329	*i* P		**P**	**13 08 23.8**	**+0.1**
TRPA	Tarpa	74.30	329⇑	*eP*		**P**	**13 08 24.3**	**+0.6**
CLL	Collm	74.32	336	*eP*		**P**	**13 08 23.8**	**0.0**
	comp=Z,277nm,1.3s							
CLL	Collm	74.32	336	*i* P		**P**	**13 08 23.3**	**-0.5**
CLL				*e**PP		**pP**	**13 08 59.0**	**+2.1**
CLL				*eS*		**S**	**13 17 45.0**	**-1.7**
CLL					pmax	pmax		
	comp=Z,273nm,1.3s							
CLL	Collm	74.32	336	*i* P		**P**	**13 08 23.3**	**-0.5**
	comp=Z,273nm,1.3s							
CLL				*e*(pP)		**pP**	**13 08 59.0**	**+2.1**
CLL				*e*PP		**PP**	**13 11 12.0**	**+1.2**
CLL				*e*PPP		PPP	13 13 00.0	
CLL				*eS*		**S**	**13 17 45.0**	**-1.7**
CLL				*es*ScS		**SKSac**	**13 18 18.0**	**-0.8**
CLL				*e*PS		**PnS**	**13 18 35.0**	**-3.8**
CLL				*e*SS		**SS**	**13 22 36.0**	**+2.0**
CLL				*e*			13 27 00.0	
CLL				*e*			13 28 12.0	
CLL					LmV		13 44 00.0	
	comp=Z,400nm,19.8s							
CUKT	Cukurca	74.34	309	*eP*		**P**	**13 08 26.4**	**+2.0**
X34A	Smith Ranch, M	74.38	55	P		**P**	**13 08 25.2**	**+0.7**
	baz=74,SNR=37							
GCD	Castle Douglas	74.39	347⇑	*eP*		**P**	**13 08 23.9**	**-0.3**
KRLC	Kraliky	74.39	333	*eP*		**P**	**13 08 23.6**	**-0.7**
KRLC				*ex*		x	13 09 01.1	
KRLC				*es*P		**sP**	**13 09 11.8**	**0.0**
KRLC	Kraliky	74.39	333	*eP*		**P**	**13 08 23.6**	**-0.7**
KRLC				*e*			13 09 01.1	
KRLC				*e*			13 09 11.8	
ERZN	Erzincan	74.41	313	*eP*		**P**	**13 08 25.1**	**+0.4**
Y33A	Hilltop Ranch,	74.41	56	P		**P**	**13 08 24.9**	**+0.2**
	baz=74,SNR=38							
U37A	Salina	74.42	52	P		**P**	**13 08 24.6**	**-0.1**
	baz=74,SNR=47							
BNGB	Bing ¶ll	74.42	312	*eP*		**P**	**13 08 26.4**	**+1.6**
MORC	Moravsky Berou	74.43	333	*eP*		**P**	**13 08 24.5**	**-0.1**
MORC					pmax	pmax		
	comp=Z,700nm,1.1s							
MORC	Moravsky Berou	74.43	333⇑	*i* P		**P**	**13 08 25.0**	**+0.4**
MORC	Moravsky Berou	74.43	333	*eP*		**P**	**13 08 24.5**	**-0.1**
	comp=Z,700nm,1.1s							
TUL1	Tulsa	74.45	53	P		**P**	**13 08 24.8**	**-0.1**
	baz=74,SNR=46							
TUL1	Tulsa	74.45	53	*eP*		**P**	**13 08 25.0**	**+0.1**
	comp=Z,179nm,1.0s							
131A	Roby	74.46	58	P		**P**	**13 08 25.5**	**+0.5**
	baz=74,SNR=67							
BRG	Berggiesshubel	74.47	335	*i* P		**P**	**13 08 24.5**	**-0.2**
	comp=Z,74nm,1.0s							
BRG					pP	**PcP**	**13 08 41.0**	**+2.4**
BRG					sP	**sP**	**13 09 14.0**	**+1.8**
BRG					PP	PP	13 11 06.0	-6.1
BRG					S	**SKiKP**	**13 17 42.0**	**+5.1**
	comp=N,387nm,21.4s							
	comp=E,255nm,20.0s							
	comp=Z,430nm,15.1s							
BRG	Berggiesshubel	74.47	335	*eP*		**P**	**13 08 24.9**	**+0.2**
	comp=Z,123nm,1.4s							
BRG	Berggiesshubel	74.47	335	*i* P		**P**	**13 08 24.5**	**-0.2**
BRG				*PP		**PcP**	**13 08 41.0**	**+2.4**
BRG				*SP		**sP**	**13 09 14.0**	**+1.8**
BRG				S		**SKiKP**	**13 17 42.0**	**+5.1**
BRG					pmax	pmax		
	comp=Z,74nm,1.0s							
BRG					MLR	MLR		
	comp=N,387nm,21.4s							
BRG					MLR	MLR		
	comp=E,255nm,20.0s							
BRG					MLR	MLR		
	comp=Z,430nm,15.1s							
V36A	Jenks	74.47	53	P		**P**	**13 08 25.0**	**+0.1**
	baz=74,SNR=60							
W35A	Tecumseh	74.47	54	P		**P**	**13 08 25.5**	**+0.5**
	baz=74,SNR=49							
329A	Wagon Wheel Ra	74.47	60	P		**P**	**13 08 25.6**	**+0.5**
	baz=74,SNR=76							
Z32A	Haskell	74.48	57	P		**P**	**13 08 25.1**	**0.0**
	baz=74,SNR=53							
GAL1	Galloway	74.49	348⇑	*eP*		**P**	**13 08 24.4**	**-0.3**
GAL1					AMB	AMB	13 08 26.0	
	comp=Z,188nm,1.3s							
CLZ	Clausthal	74.50	338	*eP*		**P**	**13 08 25.6**	**+0.7**
	comp=Z,280nm,1.2s							
KESW	Keswick, Cumbr	74.54	347⇑	*eP*		**P**	**13 08 25.0**	**0.0**
KESW					AMB	AMB	13 08 26.7	
	comp=Z,278nm,1.5s							
FBE	Freiberg	74.58	336	*eP*		**P**	**13 08 25.8**	**+0.4**
	comp=Z,187nm,1.2s							
PVCC	Panska Ves	74.61	335	*eP*		**P**	**13 08 25.1**	**-0.4**
PVCC				*ex*		x	13 08 33.6	
PVCC				*e*PCP		**PcP**	**13 08 37.3**	**-1.9**
PVCC					AMS	AMS	13 47 40.0	
	comp=Z,600nm,18.7s							
PVCC	Panska Ves	74.61	335	*eP*		**P**	**13 08 25.1**	**-0.4**
PVCC				*e*			13 08 37.3	
PVCC					MLR	MLR		
	comp=Z,600nm,18.7s							
SUSE	Susehri	74.62	315	*i* P		**P**	**13 08 26.6**	**+0.6**
230A	Sterling City	74.65	59	P		**P**	**13 08 26.6**	**+0.4**
	baz=74,SNR=26							
KECS	Kecovo	74.67	330	*eP*		**P**	**13 08 25.5**	**-0.4**
KECS					pmax	pmax		
	comp=Z,9.0nm,0.6s							
KECS	Kecovo	74.67	330	*eP*		**P**	**13 08 25.5**	**-0.4**
IBBN	Ibbenburen	74.68	340	*eP*		**P**	**13 08 26.3**	**+0.4**
	comp=Z,204nm,1.1s							
EIDS	Eidsvold	74.71	184	*eP*		**P**	**13 08 26.5**	**+0.3**
	comp=Z,101nm,1.1s							
EIDS				*e*			13 09 00.1	
NEUB	Neuenburg	74.73	337	*eP*		**P**	**13 08 26.4**	**+0.2**
	comp=Z,270nm,1.5s							
VRI	Vrincioaia	74.76	325	*i* P		**P**	**13 08 26.5**	**0.0**
U38A	Gravette	74.76	51	P		**P**	**13 08 26.6**	**-0.1**
	baz=74,SNR=34							
IVIS	Veis	74.76	306	*eP*		**P**	**13 08 27.1**	**+0.2**
DIKM	Dikmen	74.80	318	*eP*		**P**	**13 08 28.8**	**+2.1**
PLOR	Plostina	74.80	325	*i* P		**P**	**13 08 28.6**	**+1.8**
V37A	Hulbert	74.81	52	P		**P**	**13 08 27.0**	**+0.1**
	baz=75,SNR=75							
W36A	Wetumka	74.82	53	P		**P**	**13 08 27.3**	**+0.3**
	baz=75,SNR=23							
SVAN	Silvan-Diyarba	74.83	312	*eP*		**P**	**13 08 28.6**	**+1.5**
Z33A	Whitaker Ranch	74.88	56	P		**P**	**13 08 27.5**	**0.0**
	baz=75,SNR=20							
IPAR	Pars	74.89	298	*eP*		**P**	**13 08 27.9**	**0.0**
KVT	Kavak	74.91	317	*eP*		**P**	**13 08 28.9**	**+1.5**
ERBA	Erbaa	74.91	316	*i* P		**P**	**13 08 28.8**	**+1.4**
ABTX	Abilene, Hawle	74.91	57	P		**P**	**13 08 28.0**	**+0.3**
	baz=75,SNR=52							
ABTX	Abilene, Hawle	74.91	57	*eP*		**P**	**13 08 27.9**	**+0.3**
	comp=Z,96nm,1.0s							
ABTX				*e*			13 09 01.0	
Y34A	Reagan Ranch,	74.91	55	P		**P**	**13 08 28.0**	**+0.5**
	baz=75,SNR=28							
HPK	Haverah Park	74.92	346⇑	*eP*		**P**	**13 08 27.5**	**+0.3**
HPK					AMB	AMB	13 08 28.8	
	comp=Z,361nm,1.5s							
330A	Mertzon	74.98	59	P		**P**	**13 08 28.4**	**+0.3**
	baz=75,SNR=45							
X35A	Drake	74.99	54	P		**P**	**13 08 28.0**	**0.0**
	baz=75,SNR=50							
HAVZ	Havza	75.06	317	*i* P		**P**	**13 08 29.5**	**+1.2**
231A	Bronte	75.06	58	P		**P**	**13 08 28.5**	**0.0**
	baz=75,SNR=23							
PRA	Prague	75.06	335	*eP*		**P**	**13 08 28.0**	**-0.1**
PRA				*eS*		**S**	**13 17 53.8**	**-1.1**
PRA					AMS	AMS	13 47 50.0	
	comp=Z,700nm,16.3s							
PRA	Prague	75.06	335	*eP*		**P**	**13 08 28.0**	**-0.1**
PRA				*eS*		**S**	**13 17 53.8**	**-1.1**
PRA					MLR	MLR		
	comp=Z,700nm,16.3s							
BZK	Bozkurt	75.09	318	*eP*		**P**	**13 08 30.5**	**+2.1**
SLM	Saint Louis	75.09	47	*eP*		**P**	**13 08 28.4**	**-0.1**
SLM					pmax	pmax		
	comp=Z,124nm,0.8s							
SLM	Saint Louis	75.09	47	*eP*		**P**	**13 08 28.4**	**-0.1**
	comp=Z,124nm,0.8s							
GOPC	GO Pecny, Ondr	75.10	335	*eP*		**P**	**13 08 28.2**	**-0.2**
GOPC				*ex*		x	13 09 05.7	
GOPC				*e*PP		**PP**	**13 11 13.2**	**-4.3**
GOPC				*eS*		**S**	**13 17 52.1**	**-3.4**
GOPC				*ex*		x	13 18 31.0	
GOPC					AMS	AMS	13 47 40.0	
	comp=Z,600nm,17.2s							
PRU	Pruhonice	75.11	335	*eP*		**P**	**13 08 28.1**	**-0.3**
PRU				*ex*		x	13 08 35.7	
PRU				*ex*		x	13 09 05.6	
PRU				*e*PP		**PP**	**13 11 14.8**	**-2.7**
PRU				*ex*		x	13 13 40.9	
PRU				*eS*		**S**	**13 17 50.5**	**-4.9**
PRU				*ex*		x	13 18 32.3	
PRU					AMS	AMS	13 44 50.0	
	comp=Z,500nm,20.9s							
PRU	Pruhonice	75.11	335	*eP*		**P**	**13 08 28.1**	**-0.3**
PRU				*e*			13 08 35.7	
PRU				*e*			13 09 05.6	
PRU				*e*			13 11 14.8	
PRU				*eS*		**S**	**13 17 50.5**	**-4.9**
PRU				*e*			13 18 32.3	
PRU					MLR	MLR		
	comp=Z,500nm,20.9s							
PTK	Pertek	75.11	313	*eP*		**P**	**13 08 30.5**	**+1.6**
AAM	Ann Arbor	75.12	41	*eP*		**P**	**13 08 29.0**	**+0.4**
AAM					pmax	pmax		
	comp=Z,98nm,0.6s							
AAM	Ann Arbor	75.12	41	*eP*		**P**	**13 08 29.0**	**+0.4**
	comp=Z,98nm,0.6s							
TXAR	Lajitas Array	75.13	62	P		**P**	**13 08 29.4**	**+0.4**
	comp=Z,79nm,0.6s,baz=298,slow=4.4,SNR=1197							
TXAR					pP	**pP**	**13 09 01.9**	**-0.3**
	comp=Z,24nm,0.8s,baz=285,slow=3.9,SNR=3.7							
VRAC	Vranov	75.13	333	*i* P		**P**	**13 08 29.1**	**+0.5**
CJR	Cluj-Napoca	75.16	328	*i* P		**P**	**13 08 29.6**	**+0.8**
SFIN	Scholer Farm	75.16	44	P		**P**	**13 08 28.7**	**-0.2**
	baz=75,SNR=22							
SFIN	Scholer Farm	75.16	44	*eP*		**P**	**13 08 28.4**	**-0.5**
	comp=Z,45nm,0.6s							
429A	Davenport Ranc	75.17	60	P		**P**	**13 08 29.7**	**+0.5**
	baz=75,SNR=43							
VYHS	Vyhne	75.18	331	*eP*		**P**	**13 08 29.4**	**+0.5**
VYHS					pmax	pmax		
	comp=Z,82nm,1.3s							
VYHS	Vyhne	75.18	331	*eP*		**P**	**13 08 29.4**	**+0.5**
LMK	Market Rasen	75.19	345	*eP*		**P**	**13 08 28.8**	**+0.1**
LMK					AMB	AMB	13 08 29.5	
	comp=Z,247nm,1.2s							
X36A	Centrahoma	75.19	54	P		**P**	**13 08 29.5**	**+0.3**
	baz=75,SNR=66							
ISRV	Sarvestan	75.19	298	*eP*		**P**	**13 08 29.9**	**+0.2**
V38A	Canehill	75.20	52	P		**P**	**13 08 29.3**	**+0.1**
	baz=75,SNR=117							
WTSB	Winterswijk	75.21	340	*eP*		**P**	**13 08 28.6**	**-0.4**
	comp=Z,269nm,1.3s							
W37A	Quinton	75.23	53	P		**P**	**13 08 29.8**	**+0.4**
	baz=75,SNR=75							
KEMA	Kemaliye	75.24	314	*i* P		**P**	**13 08 31.0**	**+1.6**
GMM	Mts of Mourne	75.27	348⇑	*eP*		**P**	**13 08 28.2**	**-1.0**
AS31	Alice Springs	75.28	200	*eP*		**P**	**13 08 30.2**	**+0.7**
AS31				*e*			13 09 03.1	
Z34A	Collier Ranch,	75.28	56	P		**P**	**13 08 29.9**	**+0.2**
	baz=75,SNR=22							
ASAR	Alice Springs	75.28	200	P		**P**	**13 08 30.1**	**+0.5**
	comp=Z,62nm,0.9s,baz=14,slow=5.7,SNR=240							
ASAR					pP	**pP**	**13 09 01.9**	**-0.9**
	comp=Z,20nm,0.8s,baz=19,slow=6.0,SNR=4.6							
ASAR					LR	LR	13 39 34.0	
	comp=Z,70nm,21.6s,baz=348,slow=34							
TANN	Tannenbergstha	75.28	336	*eP*		**P**	**13 08 30.0**	**+0.5**
	comp=Z,149nm,1.6s							
MOX	Moxa	75.29	337	*eP*		**P**	**13 08 29.9**	**+0.5**
	comp=Z,164nm,1.2s							
WERD	Werda	75.29	336	*eP*		**P**	**13 08 30.0**	**+0.5**
	comp=Z,162nm,1.3s							
TOKT	Tokat	75.29	316	*eP*		**P**	**13 08 30.3**	**+0.6**
PLN	Plauen	75.30	336	*eP*		**P**	**13 08 30.1**	**+0.6**
	comp=Z,122nm,1.2s							
TIRR	Tirgusor	75.31	323	*eP*		**P**	**13 08 30.2**	**+0.6**
TIRR	Tirgusor	75.31	323	*eP*		**P**	**13 08 29.5**	**-0.1**
TIRR					pmax	pmax		
	comp=Z,136nm,1.1s							
TIRR	Tirgusor	75.31	323	*i* P		**P**	**13 08 29.6**	**-0.1**
TIRR	Tirgusor	75.31	323	*eP*		**P**	**13 08 29.4**	**-0.1**
	comp=Z,136nm,1.1s							
133A	Hamilton Ranch	75.32	57	P		**P**	**13 08 30.3**	**+0.4**
	baz=75,SNR=51							
Y35A	Marietta	75.34	55	P		**P**	**13 08 30.5**	**+0.5**
	baz=75,SNR=32							
SHI	Shiraz	75.34	298	*eP*		**P**	**13 08 31.9**	**+1.6**
PSZ	Piszkesteto	75.35	331	*eP*		**P**	**13 08 30.1**	**+0.2**
PSZ					pmax	pmax		
	comp=Z,123nm,1.3s							
PSZ	Piszkesteto	75.35	331⇑	*i* P		**P**	**13 08 30.5**	**+0.6**
PSZ	Piszkesteto	75.35	331	*eP*		**P**	**13 08 30.1**	**+0.2**
	comp=Z,123nm,1.3s							
PSZ	Piszkesteto	75.35	331⇑	*eP*		**P**	**13 08 30.3**	**+0.4**
LHO	Holmfirth	75.35	346	*eP*		**P**	**13 08 29.4**	**-0.3**
529A	Stev Forest Ra	75.36	61	P		**P**	**13 08 30.7**	**+0.4**
	baz=75,SNR=47							
GUNZ	Gunzen	75.36	336	*eP*		**P**	**13 08 30.4**	**+0.5**
	comp=Z,161nm,1.3s							
MLR	Muntele Rosu	75.37	326	*i* P		**P**	**13 08 30.7**	**+0.5**
DRGR		75.40	328	*i* P		**P**	**13 08 30.1**	**-0.1**
SVSK	Karacayir	75.41	315	*eP*		**P**	**13 08 31.8**	**+1.5**
430A	Baggett Ranch,	75.42	60	P		**P**	**13 08 31.1**	**+0.5**
	baz=75,SNR=98							
WERN	Wernitzgruen	75.42	336	*eP*		**P**	**13 08 30.8**	**+0.6**
	comp=Z,179nm,1.2s							
NKC	Novy Kostel	75.45	336	*eP*		**P**	**13 08 30.1**	**-0.3**
NKC				*ex*		x	13 08 37.3	
NKC				*ex*		x	13 08 40.0	
NKC				*ex

ROTZ	**Rotzenmuhle**	75.94	336	*e*P		**P**	13 08 34.0	+0.8
	comp=Z,147nm,1.1s								
WPM1	**Penmaenmawr**	75.94	347	*e*P		**P**	13 08 32.4	-0.7
ARR	**Arges**	75.95	326⇑	*i*P		**P**	13 08 34.3	+0.9
ILGA	**Ilgaz**	75.95	318	*i* P		**P**	13 08 35.0	+1.3
WLF1	**Llynfaes**	75.98	347⇑	*e*P		**P**	13 08 33.1	-0.2
WLF1				AMB	AMB		13 08 34.4		
	comp=Z,84nm,1.2s								
BUD	**Budapest**	76.01	331⇑	*e*P		**P**	13 08 34.4	+0.8
OLIL	**Olney**	76.02	46	*e*P		**P**	13 08 33.6	-0.2
	comp=Z,101nm,0.8s								
Y37A	**Hugo**	76.03	54	P		**P**	13 08 34.3	+0.3
	baz=76,SNR=8.5								
MALT	**Malatya**	76.03	313	*e*P		**P**	13 08 35.4	+1.4
MALT	**Malatya**	76.03	313⇓	*i*P		**P**	13 08 35.4	+1.4
CWF	**Charnwood Fore**	76.04	345	*e*P		**P**	13 08 33.0	-0.6
YRC	**Rhoscolyn**	76.05	347⇑	*e*P		**P**	13 08 33.1	-0.5
PSN	**Preselentsi**	76.05	323	*i* P		**P**	13 08 34.6	+0.7
KBSD	**Kabsdagh**	76.06	311	*e*P		**P**	13 08 35.5	+1.4
KBSD	**Kabsdagh**	76.06	311	*e*P		**P**	13 08 35.5	+1.4
KBSD	**Kabsdagh**	76.06	311	*e*P		**P**	13 08 34.2	+0.1
YLL	**Llanberis**	76.10	347	*e*P		**P**	13 08 34.0	+0.1
Z36A	**Blue Ridge**	76.15	55	P		**P**	13 08 34.7	+0.1
	baz=76,SNR=53								
KHC	**Kasperske Hory**	76.15	335	*e*P		**P**	13 08 34.2	-0.2
KHC				*e*		x	13 08 40.3		
KHC				*ex*		x	13 09 11.4		
KHC				*e*S		**S**	**13 18 02.4**	**-4.6**
KHC				*ex*		x	13 18 37.6		
KHC				AMS	AMS		13 45 40.0		
	comp=Z,600nm,17.5s								
KHC	**Kasperske Hory**	76.15	335	*e*P		**P**	13 08 34.2	-0.2
KHC				*e*			13 08 40.3		
KHC				*e*			13 09 11.4		
KHC				*e*S		**S**	**13 18 02.4**	**-4.6**
KHC				*e*			13 18 37.6		
KHC				MLR	MLR				
	comp=Z,600nm,17.5s								
KHC	**Kasperske Hory**	76.15	335	*e*P		**P**	13 08 34.7	+0.3
	comp=Z,71nm,0.9s								
432A	**Menard**	76.15	59	P		**P**	13 08 35.1	+0.4
	baz=76,SNR=54								
135A	**Vickery Place,**	76.17	56	P		**P**	13 08 35.4	+0.6
	baz=76,SNR=16								
FOEL	**Foel Wylfa**	76.20	346	*e*P		**P**	13 08 34.1	-0.5
FOEL				AMB	AMB		13 08 35.7		
	comp=Z,218nm,1.0s								
234A	**Clairette**	76.20	57	P		**P**	13 08 35.6	+0.6
	baz=76,SNR=43								
SAFT	**Safranbolu**	76.24	319	*e*P		**P**	13 08 36.6	+1.5
333A	**Richland Sprin**	76.26	58	P		**P**	13 08 35.7	+0.4
	baz=76,SNR=35								
GRF	**Grafenberg Arr**	76.27	337	*e*P		**P**	13 08 35.9	+0.9
	comp=Z,335nm,1.1s								
CORM	**Corum**	76.27	317	*e*P		**P**	13 08 36.9	+1.6
GRFO	**Grafenberg**	76.27	337	*e*P		**P**	13 08 35.7	+0.7
GRFO				pmax	pmax				
	comp=Z,264nm,1.0s								
GRFO	**Grafenberg**	76.27	337	*e*P		**P**	13 08 35.7	+0.7
	comp=Z,264nm,1.0s								
DARE	**Darende-Malaty**	76.27	314	*e*P		**P**	13 08 37.8	+2.5
531A	**Rocksprings**	76.27	60	P		**P**	13 08 35.6	+0.2
	baz=76,SNR=91								
YRE	**Yr Eifl**	76.29	347⇑	*e*P		**P**	13 08 34.0	-1.0
PKSG		76.29	331⇓	*e*P		**P**	13 08 36.6	+1.4
DSB	**Dublin**	76.30	348	*e*P		**P**	13 08 35.2	+0.1
	comp=Z,212nm,0.8s								
SIUC	**Southern Illin**	76.31	47	*e*P		**P**	13 08 35.6	+0.2
	comp=Z,151nm,0.9s								
WET	**Wettzell**	76.33	335	*e*P		**P**	13 08 36.3	+0.9
	comp=Z,280nm,1.3s								
CSKK	**Cs˙ákako**	76.36	331⇓	*e*P		**P**	13 08 34.8	-0.8
CANT	**Cankiri**	76.36	318	*e*P		**P**	13 08 38.2	+2.4
GEC2	**GERESS Array S**	76.37	335	*e*P		**P**	13 08 36.1	+0.3
	comp=Z,67nm,0.9s								
GERES	**GERESS Array B**	76.37	335	P		**P**	13 08 35.5	-0.3
	comp=Z,36nm,0.6s,baz=35,slow=5.4,SNR=301								
GERES				PP		**PP**	13 11 28.4	+0.1
	comp=Z,4.9nm,0.8s,baz=27,slow=9.0,SNR=4.4								
GERES				LR		LR	13 46 12.9		
	comp=Z,526nm,20.5s,baz=18,slow=39								
YOZ	**Yozgat**	76.40	316	*e*P		**P**	13 08 36.4	+0.3
BLO	**Bloomington**	76.40	45	*e*P		**P**	13 08 35.6	-0.3
BLO				pmax	pmax				
	comp=Z,99nm,1.3s								
BLO	**Bloomington**	76.40	45	*e*P		**P**	13 08 35.6	-0.3
	comp=Z,99nm,1.3s								
JCT	**Junction City**	76.45	59	*e*P		**P**	13 08 36.9	+0.5
JCT				pmax	pmax				
	comp=Z,144nm,1.0s								
JCT	**Junction City**	76.45	59	P		**P**	13 08 37.1	+0.6
	baz=76,SNR=64								
JCT	**Junction City**	76.45	59	*e*P		**P**	13 08 36.9	+0.5
	comp=Z,144nm,1.0s								
TNS	**Taunus Mts**	76.46	339	*e*P		**P**	13 08 36.6	+0.4
	comp=Z,214nm,0.7s								
PKST	**T˙s**	76.52	331⇓	*e*P		**P**	13 08 37.7	+1.2
HGN	**Heimansgroeve**	76.53	340	*e*P		**P**	13 08 35.8	-0.6
	comp=Z,352nm,1.0s								
Y38A	**Idabel**	76.53	53	P		**P**	13 08 36.7	-0.1
	baz=76,SNR=11								
URFA	**Urfa**	76.54	313	*e*P		**P**	13 08 39.0	+2.1
ELDT	**Eldivan**	76.54	318	*i* P		**P**	13 08 38.1	+1.2
WHTX	**Lake Whitney**	76.58	56	P		**P**	13 08 37.7	+0.6
	baz=76,SNR=47								
WHTX	**Lake Whitney**	76.58	56	*e*P		**P**	13 08 37.5	+0.5
	comp=Z,145nm,0.8s								
CONA	**Conrad Observa**	76.58	333⇑	*i*P		**P**	13 08 37.2	+0.3
	comp=Z,225nm,1.3s,SNR=57								
SOP	**Sopron**	76.60	332⇑	*e*P		**P**	13 08 38.1	+1.2
Z37A	**Pogue Cattle C**	76.63	54	P		**P**	13 08 37.7	+0.4
	baz=76,SNR=20								
433A	**Art**	76.64	58	P		**P**	13 08 37.7	+0.3
	baz=76,SNR=63								
MIAR	**Mount Ida**	76.65	52	*e*P		**P**	13 08 37.4	0.0
MIAR				pmax	pmax				
	comp=Z,105nm,0.8s								
MIAR	**Mount Ida**	76.65	52	P		**P**	13 08 37.7	+0.3
	baz=76,SNR=102								
MIAR	**Mount Ida**	76.65	52	*e*P		**P**	13 08 37.4	0.0
	comp=Z,105nm,0.8s								
532A	**Rocksprings**	76.66	59	P		**P**	13 08 38.3	+0.6
	baz=76,SNR=87								
MEM	**Membach**	76.66	340	P		**P**	13 08 37.2	0.0
	comp=Z,226nm,1.1s								
334A	**Lometa**	76.66	57	P		**P**	13 08 38.2	+0.6
	baz=76,SNR=63								
PINB	**Pinarbasi**	76.68	315	*i* P		**P**	13 08 39.8	+1.9
UOSS	**Wadi Hilu**	76.70	293	P		**P**	13 08 37.5	-0.3
	comp=Z,526nm,0.6s,SNR=11								
136A	**Ennis**	76.71	55	P		**P**	13 08 38.2	+0.4
	baz=76								
KDZE	**Karadeniz Ereo**	76.71	320	*e*P		**P**	13 08 37.3	-0.4
SFNV	**Sufian**	76.73	311	*e*P		**P**	13 08 38.6	+0.7
SFNV	**Sufian**	76.73	311	*e*P		**P**	13 08 38.2	+0.2
SFNV	**Sufian**	76.73	311	*e*P		**P**	13 08 38.7	+0.7
LONY	**Lake Ozonia**	76.75	34	*e*P		**P**	13 08 37.1	-0.7
	comp=Z,70nm,0.8s								
PRD	**Provadia**	76.77	323	*i* P		**P**	13 08 38.4	+0.5
BZS	**Buzias**	76.80	328	*e*P		**P**	13 08 37.3	-0.8
BZS	**Buzias**	76.80	328⇑	*i*P		**P**	13 08 37.8	-0.3
631A	**Perdido Creek**	76.83	60	P		**P**	13 08 38.9	+0.4
	baz=77,SNR=133								
HATD	**Hatta, Dubai**	76.83	293⇑	*i*P		**P**	13 08 38.8	+0.3
	SNR=19								
CDAG	**Cicekdag**	76.83	317	*i* P		**P**	13 08 40.0	+1.5
USIN	**University of**	76.84	46	*e*P		**P**	13 08 38.7	+0.3
	comp=Z,196nm,0.9s								
USIN				*e*			13 09 12.3		
Y39A	**Lockesburg**	76.86	53	P		**P**	13 08 38.8	+0.2
	baz=77,SNR=22								
BCAM	**Yenicaga**	76.86	319	*i* P		**P**	13 08 39.7	+1.1
PARMO	**Parma**	76.89	48	*e*P		**P**	13 08 39.2	+0.5
Z38A	**Mt. Pleasant**	76.93	54	P		**P**	13 08 39.3	+0.4
	baz=77,SNR=5.5								
MZRK	**Al-Mazaregh**	76.93	310	*e*P		**P**	13 08 39.1	+0.1
MZRK	**Al-Mazaregh**	76.93	310	*e*P		**P**	13 08 41.0	+2.0
ASHO	**Ashiyiah**	76.98	293	P		**P**	13 08 40.6	+1.2
	SNR=9.9								
SMDO	**Samad**	76.99	290	P		**P**	13 08 40.9	+1.3
	SNR=6.0								
NAZ	**Nazwa, Dubai**	76.99	293⇓	*i*P		**P**	13 08 39.7	+0.2
	SNR=14								
BCLA	**Clavier**	76.99	341	P		**P**	13 08 36.9	-2.1
	comp=Z,91nm,1.1s								
137A	**Heron Place, G**	77.03	55	P		**P**	13 08 40.0	+0.5
	baz=77								
MBWA	**Marble Bar**	77.03	213	*e*P		**P**	13 08 39.2	-0.3
	comp=Z,69nm,1.0s								
MCH1	**Michaelchurch**	77.03	346⇑	*e*P		**P**	13 08 38.4	-0.8
MCH1				AMB	AMB		13 08 40.7		
	comp=Z,170nm,2.2s								
434A	**Burnet**	77.04	58	P		**P**	13 08 39.7	-0.1
	baz=77,SNR=49								
HOQ	**Hoqain**	77.05	291	P		**P**	13 08 40.5	+0.6
	SNR=9.4								
BR131	**Keskin Array S**	77.08	317	*e*P		**P**	13 08 40.1	+0.2
	comp=Z,88nm,0.8s								
BRTR	**Keskin Array B**	77.08	317	P		**P**	13 08 40.0	+0.1
	comp=Z,117nm,0.8s,baz=52,slow=3.3,SNR=283								
BRTR				PP		PP	13 11 23.8	-11	
	comp=Z,3.8nm,0.8s,baz=26,slow=5.5,SNR=3.3								
BRTR				LR		LR	13 47 09.3		
	comp=Z,69nm,18.7s,baz=20,slow=39								
236A	**Katherine and**	77.08	56	P		**P**	13 08 40.2	+0.4
	baz=77,SNR=18								
UALR	**University of**	77.10	51	*e*P		**P**	13 08 38.7	-1.2
	comp=Z,62nm,1.4s								
ACSO	**Alum Creek Sta**	77.11	42	*e*P		**P**	13 08 39.7	-0.2
	comp=Z,197nm,1.3s								
MOA	**Molln**	77.12	334⇑	*i*P		**P**	13 08 39.8	0.0
	comp=Z,88nm,0.8s,SNR=47								
SNF	**Seneffe**	77.13	341	P		**P**	13 08 39.9	+0.1
ELSH	**Elham, Standar**	77.14	343	*e*P		**P**	13 08 39.9	0.0
ELSH				AMB	AMB		13 08 41.7		
	comp=Z,797nm,0.9s								
335A	**Moody**	77.14	57	P		**P**	13 08 41.0	+0.8
	baz=77,SNR=24								
MONM	**Monmouth**	77.15	346	*e*P		**P**	13 08 39.7	-0.2
MONM				AMB	AMB		13 08 41.5		
	comp=Z,357nm,1.0s								
PQI	**Presque Isle**	77.17	29	*e*P		**P**	13 08 39.7	-0.4
	comp=Z,59nm,1.0s								
533A	**Kerrville**	77.19	59	P		**P**	13 08 41.1	+0.5
	baz=77,SNR=71								
632A	**Uvalde**	77.20	60	P		**P**	13 08 41.3	+0.7
	baz=77,SNR=55								
GZT	**Gaziantep**	77.21	313	*i* P		**P**	13 08 42.1	+1.5
FAQ	**Al Faqa, Dubai**	77.21	293	*i* P		**P**	13 08 40.8	0.0
	SNR=21								
PKSM	**Moragy**	77.26	330⇑	*i*P		**P**	13 08 40.4	-0.2
PKSM	**Moragy**	77.26	330⇑	*e*P		**P**	13 08 40.3	-0.3
SZH	**Strazhica**	77.27	324	*i* P		**P**	13 08 40.5	-0.3
OLDB	**Oldbury-Upon-S**	77.29	346	*e*P		**P**	13 08 40.7	0.0
OLDB				AMB	AMB		13 08 42.0		
	comp=Z,174nm,2.1s								
ARSA	**Arzberg**	77.29	333⇑	*i*P		**P**	13 08 40.8	0.0
	comp=Z,150nm,1.4s,SNR=58								
SWN1	**Swindon**	77.31	345	*e*P		**P**	13 08 40.8	+0.1
SWN1				AMB	AMB		13 08 42.6		
	comp=Z,1μm,1.3s								
GNAR	**Gosnell**	77.32	49	*e*P		**P**	13 08 41.8	+0.7
	comp=Z,4μm,1.4s								
LOD	**Lodumlu**	77.32	318	*e*P		**P**	13 08 42.4	+1.2
138A	**Matatall Enter**	77.33	54	P		**P**	13 08 42.2	+0.9
	baz=77,SNR=10								
Z39A	**Irene McRaven,**	77.36	53	P		**P**	13 08 41.9	+0.6
	baz=77,SNR=6.0								
336A	**Riesel**	77.38	56	P		**P**	13 08 42.1	+0.5
	baz=77,SNR=14								
KMRS	**Kahramanmaras**	77.40	314	*e*P		**P**	13 08 43.1	+1.5
WOL	**Wolverton**	77.40	345⇑	*e*P		**P**	13 08 40.7	-0.6
WOL				AMB	AMB		13 08 42.2		
	comp=Z,406nm,0.8s								
GLAT	**Glass**	77.43	48	*e*P		**P**	13 08 42.4	+0.7
NCB	**Newcomb**	77.44	34	*e*P		**P**	13 08 41.3	-0.4
	comp=Z,93nm,0.9s								
435B	**Jarrell**	77.44	57	P		**P**	13 08 42.2	+0.3
	baz=77,SNR=7.7								
DOU	**Dourbes**	77.45	341	P		**P**	13 08 41.6	0.0
	comp=Z,70nm,1.0s								
ASUD	**Al Ashush, Dub**	77.46	293⇑	*i*P		**P**	13 08 42.6	+0.6
	SNR=21								
237A	**Washetta, Mont**	77.46	55	P		**P**	13 08 42.2	+0.2
	baz=77,SNR=8.6								
BATH	**Bath**	77.46	346	*e*P		**P**	13 08 41.1	-0.6
JMDO	**Jabal Madar**	77.47	290	P		**P**	13 08 43.2	+1.0
	SNR=9.1								
WLF	**Walferdange**	77.52	340	P		**P**	13 08 42.3	+0.2
	comp=Z,111nm,1.8s								
WLF	**Walferdange**	77.52	340	*e*P		**P**	13 08 42.8	+0.8
	comp=Z,64nm,0.8s								
WLF	**Walferdange**	77.52	340	*e*P		**P**	13 08 42.2	+0.2
WLF				pmax	pmax				
	comp=Z,88nm,0.8s								
WLF	**Walferdange**	77.52	340	*e*P		**P**	13 08 42.2	+0.2
	comp=Z,88nm,0.8s								
HCB	**Kahramanmara˙**	77.52	314	*i* P		**P**	13 08 44.2	+1.9
534A	**Blanco**	77.53	58	P		**P**	13 08 42.7	+0.2
	baz=77,SNR=49								
AFSR	**Af˙ar-Bala (A**	77.55	318	*e*P		**P**	13 08 44.2	+1.7
HMNX	**Herstmonceux**	77.56	344⇑	*e*P		**P**	13 08 43.1	+1.0
HMNX				AMB	AMB		13 08 44.0		
	comp=Z,693nm,0.9s								
UTMT	**University of**	77.58	48	*e*P		**P**	13 08 43.4	+0.9
	comp=Z,246nm,1.2s								
633A	**Saathoff Ranch**	77.58	59	P		**P**	13 08 43.2	+0.5
	baz=77,SNR=28								
SILT	**Sile**	77.59	321	*e*P		**P**	13 08 43.9	+1.3
BEHE	**Becsehely**	77.62	332⇑	*e*P		**P**	13 08 43.4	+0.8
STU	**Stuttgart**	77.63	338	*e*P		**P**	13 08 43.1	+0.5
	comp=Z,328nm,1.4s								
STU	**Stuttgart**	77.63	338	*e*P		**P**	13 08 42.7	+0.1
STU				pmax	pmax				
	comp=Z,159nm,0.9s								
STU	**Stuttgart**	77.63	338	*e*P		**P**	13 08 42.7	+0.1
	comp=Z,159nm,0.9s								
YAYX	**Yaylak**	77.64	317	*e*P		**P**	13 08 46.0	+3.0
FUR	**Furstenfeldbru**	77.65	336	*e*P		**P**	13 08 43.6	+0.8
	comp=Z,239nm,1.0s								
139A	**Bunkhouse Ranc**	77.68	54	P		**P**	13 08 44.1	+0.9
	baz=78								
HALT	**Halls**	77.69	48	*e*P		**P**	13 08 43.6	+0.4
732A	**Laxson Ranch,**	77.69	60	P		**P**	13 08 44.2	+0.9
	baz=78,SNR=28								
ARQ	**Aragi**	77.71	291	P		**P**	13 08 44.5	+1.0
	SNR=8.9								
KSRV	**Kasrt alli**	77.71	312	*e*P		**P**	13 08 45.9	+2.5
KSRV	**Kasrt alli**	77.71	312	*e*P		**P**	13 08 45.5	+2.2
KSRV	**Kasrt alli**	77.71	312	*e*P		**P**	13 08 44.6	+1.3
BSY	**Bisya**	77.74	291	P		**P**	13 08 44.2	+0.5
	SNR=16								
SERE	**Sereflikochisa**	77.75	317	*e*P		**P**	13 08 45.2	+1.6
KLYT	**Kilyos**	77.75	321	*e*P		**P**	13 08 44.0	+0.5
MDV	**Middlebury**	77.79	33	*e*P		**P**	13 08 43.2	-0.4
KOGS	**Kog**	77.80	332	*e*P		**P**	13 08 43.1	-0.5
238A	**Jacksonville**	77.83	55	P		**P**	13 08 45.3	+1.3
	baz=78,SNR=19								
GULT	**Gulveren**	77.83	320	*e*P		**P**	13 08 44.8	+0.7
HRT	**Hereke**	77.86	321	*e*P		**P**	13 08 44.8	+0.7
CTYL	**Yal??k??y-??at**	77.87	322	*e*P		**P**	13 08 45.3	+1.2
436A	**Wall Ranch, Ga**	77.88	57	P		**P**	13 08 45.5	+1.1
	baz=78,SNR=9.1								
ISK	**Istanbul-Kandi**	77.91	321	*e*P		**P**	13 08 43.3	-1.0
KUZU	**Kuzuini**	77.91	313	*i* P		**P**	13 08 45.9	+1.5
KULU	**Kulu**	77.92	317	*e*P		**P**	13 08 45.7	+1.2
KOZT	**Kozan**	77.92	315	*e*P		**P**	13 08 45.8	+1.3
GULA	**Gulagac**	77.94	316	*e*P		**P**	13 08 46.7	+2.0
337A	**Centerville**	77.95	56	P		**P**	13 08 45.6	+0.9
	baz=78								
SOKA	**Soboth**	77.95	333⇑	*i*P		**P**	13 08 44.3	-0.3
	comp=Z,162nm,0.7s,SNR=132								
NIG	**Nigde**	77.96	316	*e*P		**P**	13 08 46.7	+1.7
CTKS	**Kestanelik-??a**	77.99	322	*e*P		**P**	13 08 44.2	-0.5
PKME	**Peaks-Kenny Pk**	78.01	30	*e*P		**P**	13 08 45.0	+0.3
	comp=Z,75nm,1.1s								
MPEP	**Malo Peshtene**	78.01	326	*i* P		**P**	13 08 45.1	+0.2
832A	**Faith Ranch, C**	78.03	60	P		**P**	13 08 46.2	+1.0
	baz=78,SNR=44								
535A	**Dale**	78.03	58	P		**P**	13 08 45.8	+0.6
	baz=78								
VAL	**Valentia**	78.04	351⇓	*i*P		**P**	13 08 45.4	+0.6
PHSR	**Pinarhisar**	78.05	322	*e*P		**P**	13 08 45.1	0.0
733A	**Divot King Ran**	78.08	60	P		**P**	13 08 46.4	+1.0
	baz=78,SNR=9.2								
KBA	**Koelnbreinsper**	78.08	334⇑	*i*P		**P**	13 08 45.7	+0.3
	comp=Z,557nm,0.7s,SNR=88								
634A	**China Grove, S**	78.10	59	P		**P**	13 08 46.6	+1.0
	baz=78,SNR=7.4								
ACCN	**Adirondack Com**	78.15	34	*e*P		**P**	13 08 45.4	-0.2
	comp=Z,95nm,0.9s								
ADVT	**Abdulvahap**	78.16	320	*e*P		**P**	13 08 46.4	+0.7
239A	**Gary**	78.16	54	P		**P**	13 08 46.2	+0.4
	baz=78								
EDRB	**Edirne**	78.17	323	*e*P		**P**	13 08 46.3	+0.5
437A	**Phantom Ranch,**	78.19	56	P		**P**	13 08 47.3	+1.2
	baz=78,SNR=5.7								
SVRH	**Sivrihisar-ESK**	78.23	319	*e*P		**P**	13 08 46.8	+0.6
338A	**Crockett**	78.23	55	P		**P**	13 08 47.3	+1.1
	baz=78,SNR=21								
HTL	**Hartland**	78.23	347	*e*P		**P**	13 08 45.3	-0.6
HTL				AMB	AMB		13 08 47.1		
	comp=Z,300nm,0.9s								
WVT	**Waverly**	78.24	47	*e*P		**P**	13 08 46.2	0.0
WVT				pmax	pmax				
	comp=Z,61nm,0.8s								
WVT	**Waverly**	78.24	47	*e*P		**P**	13 08 46.2	0.0
	comp=Z,61nm,0.8s								
OBKA	**Obir**	78.25	333⇑	*i*P		**P**	13 08 45.5	-0.7
	comp=Z,117nm,0.8s,SNR=42								
BFO	**Black Forest**	78.25	338	*e*P		**P**	13 08 46.5	+0.4
	comp=Z,154nm,0.8s								
BFO	**Black Forest**	78.25	338	P		**P**	13 08 46.2	+0.1
	comp=Z,1μm,0.7s,SNR=75								
BFO	**Black Forest**	78.25	338	*e*P		**P**	13 08 46.1	0.0
BFO				pmax	pmax				
	comp=Z,147nm,0.8s								
BFO	**Black Forest**	78.25	338	*e*P		**P**	13 08 46.1	0.0
	comp=Z,147nm,0.8s								
NATX	**Nacogdoches**	78.26	55	P		**P**	13 08 47.5	+1.0
	baz=78,SNR=16								
NATX	**Nacogdoches**	78.26	55	*e*P		**P**	13 08 47.4	+1.0
	comp=Z,256nm,0.9s								
536A	**Bastrop**	78.27	57	P		**P**	13 08 47.2	+0.7
	baz=78,SNR=12								
CAVI	**Cavuskoy**	78.31	320	*e*P		**P**	13 08 47.4	+0.8
BORA	**Eskisehir**	78.32	320	*i* P		**P**	13 08 47.3	+0.6
833A	**Chaparral WMA,**	78.33	60	P		**P**	13 08 48.1	+1.3
	baz=78,SNR=8.6								
WATA	**Walderalm**	78.33	335⇑	*i*P		**P**	13 08 47.0	+0.2
	comp=Z,170nm,0.8s,SNR=146								
CEYT	**Ceyhan**	78.34	314	*e*P		**P**	13 08 47.9	+1.2
CHBY	**Cihanbeyli**	78.34	317	*e*P		**P**	13 08 48.0	+1.1
IZI	**Iznik**	78.35	320	*e*P		**P**	13 08 47.7	+0.8
HNH	**Hanover**	78.36	33	*e*P		**P**	13 08 47.1	+0.3
	comp=Z,61nm,0.8s								
GEMT	**Gemlik**	78.38	321	*e*P		**P**	13 08 47.6	+0.6
SULT	**Sultanhani-AKS**	78.38	317	*e*P		**P**	13 08 48.2	+1.0
WTTA	**Wattenberg**	78.39	335⇑	*i*P		**P**	13 08 47.1	+0.1
	comp=Z,366nm,0.8s,SNR=184								
734A	**La Parita Cree**	78.39	59	P		**P**	13 08 48.4	+1.2
	baz=78,SNR=13								
MYKA	**Terra Mystica**	78.40	334⇑	*i*P		**P**	13 08 46.6	-0.4
	comp=Z,112nm,0.7s,SNR=46								
ARMT	**Armutlu**	78.41	321	*e*P		**P**	13 08 47.3	+0.2
635A	**Leesville**	78.41	58	P		**P**	13 08 47.9	+0.6
	baz=78								
RETA	**Reutte**	78.41	336⇓	*i*P		**P**	13 08 46.8	-0.3
	comp=Z,110nm,0.8s,SNR=64								
ESKT	**Eskisehir**	78.45	319	*e*P		**P**	13 08 47.7	+0.2
KARA	**Karaisali**	78.45	315	*e*P		**P**	13 08 48.7	+1.3
SEYT	**Eskypehyr**	78.45	319	*i* P		**P**	13 08 48.3	+0.8
MOTA	**Moosalm**	78.45	336⇑	*i*P		**P**	13 08 47.7	+0.3
	comp=Z,222nm,1.0s,SNR=181								
WVL	**Waterville**	78.51	31	*e*P		**P**	13 08 47.7	+0.2
	comp=Z,111nm,1.0s								
YURE	**YUREGIR**	78.54	314	*i* P		**P**	13 08 49.9	+2.

baz=79,SNR=24
DURS Dursunbey 79.38 321 *i* P **P** 13 08 52.6 +0.1
GDZ Gediz 79.39 320 *i* P **P** 13 08 53.0 +0.4
LPK Lapseki 79.42 322 *eP* **P** 13 08 53.5 +0.9
440A Kirbyville 79.43 55 P **P** 13 08 53.9 +1.1
baz=79
GELI Tayfur-Gelibol 79.51 322 *eP* **P** 13 08 53.6 +0.5
539A Cross D Ranch, 79.52 56 P **P** 13 08 55.2 +1.9
baz=79,SNR=5.2
MMB Musomiste 79.55 325 *i* P **P** 13 08 53.9 +0.6
JLP Les Platons 79.55 345 *eP* **P** 13 08 52.7 -0.4
PLE Pljevlja 79.57 329⇑ *i*P **P** 13 08 53.3 -0.2
JQE Queens East 79.58 345⇑ *eP* **P** 13 08 53.0 -0.2
BALB Balikesir 79.59 321 *eP* **P** 13 08 54.1 +0.6
JRS Jersey 79.60 345⇑ *eP* **P** 13 08 53.1 -0.3
JSA Saint Aubin 79.62 345 *eP* **P** 13 08 53.4 -0.1
JSA AMB AMB 13 08 54.7
comp=Z,491nm,0.9s
HRV Adam Dziewonsk 79.67 33 *eP* **P** 13 08 53.9 0.0
HRV pmax pmax
comp=Z,76nm,0.9s
HRV Adam Dziewonsk 79.67 33 *eP* **P** 13 08 53.9 0.0
comp=Z,76nm,0.9s
UDBI Udbina 79.67 332 P **P** 13 08 53.8 -0.2
BIDA Albida 79.69 313 *eP* **P** 13 08 54.5 +0.3
BIDA Albida 79.69 313 *eP* **P** 13 08 54.4 +0.1
BIDA Albida 79.69 313 *eP* P 13 08 50.1 -4.2
034A Hebbronville 79.69 60 P **P** 13 08 56.2 +1.9
baz=80,SNR=43
NVR Nevrokopi 79.70 325 *eP* **P** 13 08 54.3 +0.1
NVR Nevrokopi 79.70 325 P **P** 13 08 53.9 -0.3
NVR Nevrokopi 79.70 325 P **P** 13 08 53.9 -0.3
ARMA Armidale 79.71 183 *eP* **P** 13 08 55.0 +0.8
comp=Z,66nm,1.0s
ARMA *e* 13 09 29.2
TUE Stuetta 79.72 337 *eP* **P** 13 08 54.9 +0.5
comp=Z,314nm,0.8s
RABH Abou Rabah 79.73 312 *eP* **P** 13 08 55.4 +0.9
RABH Abou Rabah 79.73 312 *eP* **P** 13 08 54.4 -0.1
RABH Abou Rabah 79.73 312 *eP* **P** 13 08 55.4 +0.9
BAGO Egridir - ISPA 79.75 318 *i* P **P** 13 08 55.4 +0.8
KAVA Kavala 79.76 324 *eP* **P** 13 08 54.3 -0.1
KAVA Kavala 79.76 324 P **P** 13 08 54.1 -0.3
KAVA Kavala 79.76 324 P **P** 13 08 54.1 -0.3
IVA Berane 79.80 328⇑ *i*P **P** 13 08 54.3 -0.4
SMTH Samothraki Isl 79.82 323 *eP* **P** 13 08 54.3 -0.5
UPM Unac-Piva 79.84 329⇑ *i*P **P** 13 08 54.7 -0.4
HDMB Hadim 79.86 317 *eP* **P** 13 08 55.4 +0.8
SWET Sewanee 79.88 47 *eP* **P** 13 08 54.6 -0.6
comp=Z,116nm,0.9s
ROOS tl_alroos 79.91 312 *eP* **P** 13 08 56.0 +0.6
ROOS tl_alroos 79.91 312 *eP* **P** 13 08 55.6 +0.1
ROOS tl_alroos 79.91 312 *eP* **P** 13 08 55.5 +0.1
GADA Gvkgeada 79.92 323 *eP* **P** 13 08 55.4 +0.1
NVLJ Novalja 79.92 332 P **P** 13 08 54.3 -0.9
ERMK Ermenek 79.94 316 *i* P **P** 13 08 56.3 +0.5
KHAL Karahalli 79.99 319 *i* P **P** 13 08 55.6 -0.3
SRS Serrai 80.00 325 P **P** 13 08 55.1 -0.7
SRS Serrai 80.00 325 *eP* **P** 13 08 56.0 +0.2
SRS Serrai 80.00 325 P **P** 13 08 55.1 -0.7
SRS Serrai 80.00 325 P **P** 13 08 55.1 -0.7
KHL Karahalli 80.02 319 *eP* **P** 13 08 55.5 -0.5
PVY Plav 80.02 328⇑ *i*P **P** 13 08 55.3 -0.7
SKO Skopje 80.05 327⇑ *eP* **P** 13 08 56.7 +0.7
VBMS Vicksburg 80.05 51 P **P** 13 08 57.4 +1.2
baz=80,SNR=5.3
035A Encino 80.12 60 P **P** 13 08 58.6 +2.0
baz=80,SNR=5.2
NKY Niksic 80.16 329⇑ *i*P **P** 13 08 55.6 -1.1
BRYW Bryant College 80.19 33 *eP* **P** 13 08 56.6 -0.1
comp=Z,81nm,0.8s
VAY Valandovo 80.21 326⇓ *i*P **P** 13 08 57.5 +0.6
VAY Valandovo 80.21 326 P **P** 13 08 57.0 +0.2
VAY Valandovo 80.21 326 P **P** 13 08 57.0 +0.2
VAY Valandovo 80.21 326 P **P** 13 08 57.0 +0.2
NKME Niksic 80.21 329⇑ *i*P **P** 13 08 56.0 -0.9
KULA Kula-Manisa 80.22 320 *eP* **P** 13 08 57.6 +0.5
KNT Kendrikon 80.22 325 P **P** 13 08 56.6 -0.4
KNT Kendrikon 80.22 325 *eP* **P** 13 08 57.1 +0.1
KNT Kendrikon 80.22 325 P **P** 13 08 56.6 -0.4
KNT Kendrikon 80.22 325 P **P** 13 08 56.6 -0.4
BRY Bratogost 80.23 329⇑ *i*P **P** 13 08 56.4 -0.7
AKS Akhisar 80.26 321 *eP* **P** 13 08 55.5 -1.7
EREN Erenkoy 80.28 315 *eP* **P** 13 08 58.2 +0.9
MANT Manisa 80.28 320 *i* P **P** 13 08 57.6 0.0
BCK Bucak 80.28 318 *eP* **P** 13 08 58.0 +0.6
SOH Sokhos 80.35 325 P **P** 13 08 57.4 -0.3
SOH Sokhos 80.35 325 *eP* **P** 13 08 57.3 -0.4
SOH Sokhos 80.35 325 P **P** 13 08 57.4 -0.3
SOH Sokhos 80.35 325 P **P** 13 08 57.4 -0.3
CPCT Cooper Cave 80.35 45 *eP* **P** 13 08 57.5 -0.2
SDMD Soldier's Deli 80.36 38 *eP* **P** 13 08 57.5 -0.1
comp=Z,279nm,1.0s
PDG Podgorica 80.41 328 P **P** 13 08 57.0 -0.9
TTG Podgorica 80.41 328⇑ *i*P **P** 13 08 57.7 -0.2
TTG Podgorica 80.41 328 P **P** 13 08 57.0 -0.9
TTG Podgorica 80.41 328 P **P** 13 08 57.0 -0.9
LIA Limnos Island 80.45 323 *eP* **P** 13 08 58.0 -0.1
LIA Limnos Island 80.45 323 P **P** 13 08 57.4 -0.7
LIA Limnos Island 80.45 323 P **P** 13 08 57.4 -0.7
HWQ Hawqa 80.47 313 *eP* **P** 13 08 58.8 +0.3
035Z Hargill 80.51 60 P **P** 13 09 00.7 +2.0
baz=80,SNR=8.7
OUR Ouranopolis 80.54 324 *eP* **P** 13 08 58.4 -0.2
OUR Ouranopolis 80.54 324 P **P** 13 08 57.9 -0.7
OUR Ouranopolis 80.54 324 *eP* **P** 13 08 58.4 -0.2
OUR Ouranopolis 80.54 324 P **P** 13 08 57.9 -0.7
OUR Ouranopolis 80.54 324 P **P** 13 08 57.9 -0.7
STON Ston 80.54 330 P **P** 13 08 57.0 -1.5
GAZI Gazipasa 80.54 316 *i* P **P** 13 08 57.9 -0.8
PRK Paraskevi 80.58 322 P **P** 13 08 58.2 -0.6
PRK Paraskevi 80.58 322 *eP* **P** 13 08 58.6 -0.2
PRK Paraskevi 80.58 322 P **P** 13 08 58.2 -0.6
PRK Paraskevi 80.58 322 P **P** 13 08 58.2 -0.6
HORT Hortiatis 80.64 325 *eP* **P** 13 08 58.5 -0.8
HORT Hortiatis 80.64 325 *eP* **P** 13 08 58.5 -0.8
HORT Hortiatis 80.64 325 P **P** 13 08 58.4 -0.8
HORT Hortiatis 80.64 325 P **P** 13 08 58.4 -0.8
BUM Brajici-Budva 80.65 328⇑ *i*P **P** 13 08 58.8 -0.5
DRME Dracevica, Mon 80.65 328⇑ *i*P **P** 13 08 58.7 -0.5
HCY Herceg Novi 80.65 329⇑ *i*P **P** 13 08 58.2 -1.0
PHP Peshkopia 80.66 327 P **P** 13 08 58.3 -1.0
PHP Peshkopia 80.66 327 P **P** 13 08 58.3 -1.0
PHP Peshkopia 80.66 327 P **P** 13 08 58.3 -1.0
DENT Denizli 80.71 319 *eP* **P** 13 09 00.9 +1.3
ANTB Antalya 80.73 318 *eP* **P** 13 08 58.1 -1.5
BLA Blacksburg 80.73 42 *eP* **P** 13 09 00.1 +0.3
BLA pmax pmax
comp=Z,141nm,1.1s
BLA Blacksburg 80.73 42 *eP* **P** 13 09 00.1 +0.3
comp=Z,141nm,1.1s
SIGR SIGRI 80.77 322 *eP* **P** 13 09 00.3 +0.4
SIGR SIGRI 80.77 322 *eP* **P** 13 08 59.8 -0.1
SIGR SIGRI 80.77 322 P **P** 13 08 59.1 -0.8
SIGR SIGRI 80.77 322 P **P** 13 08 59.1 -0.8
KORT Korkueli 80.77 318 *i* P **P** 13 09 00.7 +0.6
LFK Lefkose 80.78 315 *eP* **P** 13 09 00.6 +0.6
ULC Ulcinj 80.83 328⇑ *i*P **P** 13 08 59.6 -0.6
VWCC Virginia Weste 80.89 41 *eP* **P** 13 09 00.4 -0.2
ZALF Zalf 80.89 311 *eP* **P** 13 09 00.7 0.0
ZALF Zalf 80.89 311 *eP* **P** 13 08 58.6 -2.1
ZALF Zalf 80.89 311 *eP* **P** 13 09 01.1 +0.4
BHL Bhannes 80.91 313 *eP* **P** 13 09 01.2 +0.4
QASN Qassioun 80.91 312 *eP* **P** 13 08 59.1 -1.8
QASN Qassioun 80.91 312 *eP* **P** 13 08 58.2 -2.7
GOLH Golhisar 80.92 319 *i* P **P** 13 09 01.2 +0.3
TOTH TOTAH 80.98 312 *eP* **P** 13 08 58.9 -2.3
TOTH TOTAH 80.98 312 *eP* **P** 13 09 00.9 -0.2
BLCB Balcova 81.00 321 *eP* **P** 13 09 00.1 -1.0
PAIG Paliouri 81.00 324 P **P** 13 09 00.3 -0.8
PAIG Paliouri 81.00 324 *eP* **P** 13 09 00.7 -0.4
PAIG Paliouri 81.00 324 P **P** 13 09 00.3 -0.8
PAIG Paliouri 81.00 324 P **P** 13 09 00.3 -0.8
MAMC Mammari 81.01 315 P **P** 13 09 01.5 +0.3
AKDN Akdeniz- K¨–br 81.02 315 *eP* P 13 09 06.8 +5.5
AYDB Zeytinkoy-Aydi 81.02 320 *eP* **P** 13 09 01.9 +0.5
FNA Florina 81.11 326 *eP* **P** 13 09 01.4 -0.4
FNA Florina 81.11 326 P **P** 13 09 00.2 -1.6
FNA Florina 81.11 326 *eP* **P** 13 09 01.4 -0.4
FNA Florina 81.11 326 P **P** 13 09 00.2 -1.6
FNA Florina 81.11 326 P **P** 13 09 00.2 -1.6

CSS Prodhromos 81.13 315 P **P** 13 09 02.3 +0.4
CSS Prodhromos 81.13 315 *eP* **P** 13 09 01.9 0.0
comp=Z,47nm,0.6s
CSS Prodhromos 81.13 315 P **P** 13 09 00.9 -1.0
LRAL Lakeview Retre 81.15 49 *eP* **P** 13 09 01.3 -0.7
comp=Z,41nm,0.8s
RCY Rachaya 81.16 312 *eP* **P** 13 09 02.5 +0.2
TIR Tirane 81.16 327 *eP* **P** 13 09 01.4 -0.5
TIR pmax pmax
comp=Z,318nm,0.7s
TIR Tirane 81.16 327 *eP* **P** 13 09 01.4 -0.5
comp=Z,318nm,0.7s
TIR Tirane 81.16 327 P **P** 13 09 01.9 0.0
BRBR Barbar 81.17 312 *eP* **P** 13 09 02.9 +0.5
BRBR Barbar 81.17 312 *eP* **P** 13 09 01.8 -0.5
BRBR Barbar 81.17 312 *eP* **P** 13 09 00.4 -1.9
CBN Corbin 81.17 39 *eP* **P** 13 09 02.3 +0.3
comp=Z,142nm,1.0s
URLA Izmir 81.20 321 *i* P **P** 13 09 02.3 0.0
LEF Lefka 81.21 315 *eP* **P** 13 09 02.4 +0.2
AYDN Tasoluk 81.27 320 *i* P **P** 13 09 03.2 +0.6
LIT Litokhoron 81.30 325 P **P** 13 09 01.4 -1.3
LIT Litokhoron 81.30 325 *eP* **P** 13 09 01.4 -1.3
LIT Litokhoron 81.30 325 P **P** 13 09 01.4 -1.3
LIT Litokhoron 81.30 325 P **P** 13 09 01.4 -1.3
ALFC Alevga 81.31 315 P **P** 13 09 03.5 +0.7
ZEY ¨zmir 81.34 321 *i* P **P** 13 09 02.7 -0.2
SALA Sala 81.36 311 *eP* **P** 13 09 04.2 +0.9
SALA Sala 81.36 311 *eP* **P** 13 09 02.2 -1.2
SALA Sala 81.36 311 *eP* **P** 13 09 04.0 +0.7
KZN Kozani 81.39 326 P **P** 13 09 02.1 -1.1
KZN Kozani 81.39 326 *eP* **P** 13 09 02.5 -0.7
KZN Kozani 81.39 326 P **P** 13 09 02.1 -1.1
KZN Kozani 81.39 326 P **P** 13 09 02.1 -1.1
JSRW J. Sargeant Re 81.40 40 *eP* **P** 13 09 02.8 -0.4
CHOS Chios island 81.40 322 *eP* **P** 13 09 03.9 +0.6
CHOS Chios island 81.40 322 *eP* **P** 13 09 03.1 -0.2
CHOS Chios island 81.40 322 P **P** 13 09 02.8 -0.5
CHOS Chios island 81.40 322 P **P** 13 09 02.8 -0.5
SZAC Souni-Zanaja 81.51 315 P **P** 13 09 04.4 +0.5
AKMC Akamas 81.54 316 P **P** 13 09 03.8 -0.2
YER Yerkesik 81.55 320 *eP* **P** 13 09 04.5 +0.4
NEST Nestorio 81.56 326 *eP* **P** 13 09 03.9 -0.2
NEST Nestorio 81.56 326 P **P** 13 09 03.6 -0.5
AOS Alonnisos 81.58 324 *eP* **P** 13 09 03.7 -0.5
AOS Alonnisos 81.58 324 *eP* **P** 13 09 03.8 -0.4
AOS Alonnisos 81.58 324 P **P** 13 09 03.6 -0.5
AOS Alonnisos 81.58 324 P **P** 13 09 03.6 -0.5
VLC Villacollemand 81.58 335 *eP* **P** 13 09 04.5 +0.4
comp=Z,214nm,0.8s
TURN Turunc 81.63 319 *i* P **P** 13 09 06.3 +1.8
PPCY Paphos 81.65 315 P **P** 13 09 03.9 -0.7
DALY Dalyan (Mu¨la 81.66 319 *eP* **P** 13 09 05.4 +0.8
SMG Samos 81.66 321 *eP* **P** 13 09 03.7 -0.9
SMG Samos 81.66 321 P **P** 13 09 03.5 -1.1
SMG Samos 81.66 321 P **P** 13 09 03.5 -1.1
XOR Xorichti 81.68 324 *eP* **P** 13 09 04.1 -0.6
XOR Xorichti 81.68 324 P **P** 13 09 02.2 -2.5
XOR Xorichti 81.68 324 P **P** 13 09 02.2 -2.5
PMOR Pomariorio Ree 81.70 125 *eT* T 14 38 42.4
comp=Z,16nm,0.2s
NEO Neokhori 81.72 324 *eP* **P** 13 09 04.8 -0.1
FYTO Fytoko, Volos 81.74 324 P **P** 13 09 03.2 -1.8
FYTO Fytoko, Volos 81.74 324 P **P** 13 09 03.2 -1.8
AKAS Kas 81.74 318 *i* P **P** 13 09 04.7 -0.5
TCHB Talchebab 81.77 312 *eP* **P** 13 09 03.6 -1.7
THL Klokotos Trika 81.95 325 *eP* **P** 13 09 04.6 -1.5
THL Klokotos Trika 81.95 325 P **P** 13 09 04.2 -1.9
BDRM Kayabasi 81.96 320 *i* P **P** 13 09 06.1 -0.1
STKA Stephens Creek 81.97 191 P **P** 13 09 06.0 0.0
comp=Z,47nm,0.9s,baz=349,slow=6.7,SNR=71
STKA LR LR 13 45 00.5
comp=Z,94nm,20.6s,baz=14,slow=35
STKA Stephens Creek 81.97 191 P **P** 13 09 06.0 0.0
STKA pmax pmax
comp=Z,47nm,0.9s
STKA MLR MLR
comp=Z,94nm,20.6s
STKA Stephens Creek 81.97 191 *eP* **P** 13 09 05.8 -0.1
comp=Z,11nm,0.9s
SSB Saint Sauveur 82.02 339 *eP* **P** 13 09 07.0 +0.6
SSB pmax pmax
comp=Z,274nm,0.8s
SSB Saint Sauveur 82.02 339 *eP* **P** 13 09 07.0 +0.6
comp=Z,274nm,0.8s
BODT Bodrum 82.02 320 *eP* **P** 13 09 06.5 0.0
SMIA Simia 82.09 324 *eP* **P** 13 09 06.5 -0.4
SMIA Simia 82.09 324 P **P** 13 09 05.8 -1.1
MRKA Markates 82.10 324 *eP* **P** 13 09 05.7 -1.2
MRKA Markates 82.10 324 P **P** 13 09 05.5 -1.4
EREA Eretria 82.21 323 *eP* **P** 13 09 06.8 -0.7
EREA Eretria 82.21 323 P **P** 13 09 06.4 -1.1
JAN Janina 82.30 326 P **P** 13 09 07.7 -0.2
JAN Janina 82.30 326 *eP* **P** 13 09 08.1 +0.2
JAN Janina 82.30 326 P **P** 13 09 07.7 -0.2
JAN Janina 82.30 326 P **P** 13 09 07.7 -0.2
AGG Agios Georgios 82.30 325 *eP* **P** 13 09 05.1 -2.9
AGG Agios Georgios 82.30 325 P **P** 13 09 06.2 -1.8
AGG Agios Georgios 82.30 325 *eP* **P** 13 09 06.5 -1.5
AGG Agios Georgios 82.30 325 P **P** 13 09 06.2 -1.8
AGG Agios Georgios 82.30 325 P **P** 13 09 06.2 -1.8
ATAL Atalanti 82.33 324 P **P** 13 09 07.1 -1.0
ATAL Atalanti 82.33 324 P **P** 13 09 07.1 -1.0
KARY Karystos 82.35 323 P **P** 13 09 06.9 -1.3
AQU L'Aquila 82.37 332 *eP* **P** 13 09 09.4 +1.1
AQU pmax pmax
comp=Z,170nm,0.8s
AQU L'Aquila 82.37 332 *eP* **P** 13 09 09.4 +1.1
comp=Z,170nm,0.8s
LKR Lokris 82.37 324 *eP* **P** 13 09 07.0 -1.3
LKR Lokris 82.37 324 P **P** 13 09 06.6 -1.7
LKR Lokris 82.37 324 P **P** 13 09 06.6 -1.7
MAKR Makrakomi, Fth 82.39 325 *eP* **P** 13 09 07.6 -0.8
MAKR Makrakomi, Fth 82.39 325 P **P** 13 09 07.2 -1.2
MAKR Makrakomi, Fth 82.39 325 P **P** 13 09 07.2 -1.2
ARG Arkhangelos 82.39 319 P **P** 13 09 08.3 -0.1
ARG Arkhangelos 82.39 319 P **P** 13 09 08.3 -0.1
ARG Arkhangelos 82.39 319 P **P** 13 09 08.3 -0.1
AXAR Agios Charalam 82.40 324 *eP* **P** 13 09 07.6 -0.9
AXAR Agios Charalam 82.40 324 P **P** 13 09 07.2 -1.3
AXAR Agios Charalam 82.40 324 P **P** 13 09 07.2 -1.3
SRN Sarande 82.41 327 P **P** 13 09 07.8 -0.6
SRN Sarande 82.41 327 P **P** 13 09 07.8 -0.6
NIS1 Nisyros Isl. 82.46 320 *eP* **P** 13 09 10.3 +1.5
GOGA Godfrey 82.53 46 *eP* **P** 13 09 08.9 -0.3
GOGA pmax pmax
comp=Z,33nm,0.8s
GOGA Godfrey 82.53 46 *eP* **P** 13 09 08.8 -0.3
comp=Z,33nm,0.8s
SGD Sagiada 82.56 326 *eP* **P** 13 09 09.3 +0.1
SGD Sagiada 82.56 326 P **P** 13 09 08.9 -0.3
EVR Evrytania 82.59 325 *eP* **P** 13 09 08.5 -1.1
EVR Evrytania 82.59 325 P **P** 13 09 08.5 -1.1
EVR Evrytania 82.59 325 P **P** 13 09 08.5 -1.1
IGT Igoumenitsa 82.59 326 P **P** 13 09 09.0 -0.4
IGT Igoumenitsa 82.59 326 *eP* **P** 13 09 09.1 -0.4
IGT Igoumenitsa 82.59 326 P **P** 13 09 09.0 -0.4
IGT Igoumenitsa 82.59 326 P **P** 13 09 09.0 -0.4
VIL2 Platees 82.65 324 *eP* **P** 13 09 08.7 -1.1
ATHU Athens Univers 82.66 323 P **P** 13 09 08.5 -1.3
ATHU Athens Univers 82.66 323 P **P** 13 09 08.5 -1.3
DSL Palaion Diasel 82.67 325 *eP* **P** 13 09 09.8 -0.1
DSL Palaion Diasel 82.67 325 P **P** 13 09 09.5 -0.4
DSL Palaion Diasel 82.67 325 P **P** 13 09 09.5 -0.4
VILL Villia 82.68 323 P **P** 13 09 08.1 -1.9
APE Apeiranthos 82.74 321 P **P** 13 09 08.3 -2.0
APE Apeiranthos 82.74 321⇑ *i*P **P** 13 09 08.7 -1.6
APE Apeiranthos 82.74 321 *eP* **P** 13 09 08.3 -2.0
APE Apeiranthos 82.74 321 P **P** 13 09 08.3 -2.0
APE Apeiranthos 82.74 321 P **P** 13 09 08.3 -2.0
DESF Desfina 82.76 324 *eP* **P** 13 09 09.0 -1.4
BRAL Brewton 82.76 50 *eP* **P** 13 09 10.6 +0.2
comp=Z,83nm,0.8s
DSF Desfina 82.76 324 *eP* **P** 13 09 09.0 -1.4
DSF Desfina 82.76 324 P **P** 13 09 07.8 -2.6
DSF Desfina 82.76 324 P **P** 13 09 07.8 -2.6
KALE Kalithea 82.93 324 *eP* **P** 13 09 10.1 -1.2
KALE Kalithea 82.93 324 P **P** 13 09 09.8 -1.5
KALE Kalithea 82.93 324 P **P** 13 09 09.8 -1.5
LTK Loutraki 82.93 324 *eP* **P** 13 09 09.7 -1.5

LTK Loutraki 82.93 324 P **P** 13 09 09.4 -1.8
LTK Loutraki 82.93 324 P **P** 13 09 09.4 -1.8
PPT2 Papeete2 82.97 128 *eS* **S** 13 19 23.9 +4.5
comp=Z,503nm,24.0s
PPT2 Papeete2 82.97 128 *eLR* LR 13 34 25.6
comp=Z,625nm,34.5s
PPT2 Papeete2 82.97 128 *eT* T 14 40 08.6
comp=Z,5.1nm,0.3s
EFP Efpalio 82.98 325 *eP* **P** 13 09 11.8 +0.3
EFP Efpalio 82.98 325 P **P** 13 09 09.9 -1.6
PAE Paea 83.03 128 *eT* T 14 40 27.9
comp=Z,1.9nm,0.3s
THAL Thalero 83.04 324 *eP* **P** 13 09 10.3 -1.4
THAL Thalero 83.04 324 P **P** 13 09 10.3 -1.4
PDO Prodromos 83.10 325 *eP* **P** 13 09 11.6 -0.5
PDO Prodromos 83.10 325 P **P** 13 09 11.2 -0.9
LAKA Lakka 83.12 324 *eP* **P** 13 09 11.7 -0.5
LAKA Lakka 83.12 324 P **P** 13 09 11.3 -0.9
LAKA Lakka 83.12 324 P **P** 13 09 11.3 -0.9
KLV Kalavryta, Ach 83.23 324 *eP* **P** 13 09 11.4 -1.4
KLV Kalavryta, Ach 83.23 324 P **P** 13 09 11.0 -1.8
KLV Kalavryta, Ach 83.23 324 P **P** 13 09 11.0 -1.8
GUR Goura 83.25 324 *eP* **P** 13 09 11.9 -1.1
GUR Goura 83.25 324 P **P** 13 09 11.5 -1.5
GUR Goura 83.25 324 P **P** 13 09 11.5 -1.5
DID Didima 83.28 323 *eP* **P** 13 09 10.8 -2.2
DID Didima 83.28 323 P **P** 13 09 10.3 -2.7
DID Didima 83.28 323 P **P** 13 09 10.3 -2.7
DIDY Didyma 83.31 323 *eP* **P** 13 09 11.4 -1.9
DIDY Didyma 83.31 323 P **P** 13 09 10.5 -2.8
KARP Karpathos 83.37 319 P **P** 13 09 11.5 -2.1
KARP Karpathos 83.37 319 P **P** 13 09 11.5 -2.1
THR5 Thira Island, 83.38 321 *eP* **P** 13 09 11.8 -1.7
RLS Riolos of Patr 83.47 325 *eP* **P** 13 09 14.1 +0.1
RLS Riolos of Patr 83.47 325 P **P** 13 09 13.3 -0.7
RLS Riolos of Patr 83.47 325 P **P** 13 09 13.3 -0.7
DRO Drossia 83.47 324 *eP* **P** 13 09 14.0 0.0
DRO Drossia 83.47 324 P **P** 13 09 13.3 -0.7
CNNC Cliffs of the 83.48 41 *eP* **P** 13 09 14.6 +0.5
comp=Z,224nm,1.3s
FORT Forrest 83.49 203 *eP* **P** 13 09 14.1 +0.2
comp=Z,173nm,0.9s
FORT *e* 13 09 47.7
KFL Anninata 83.68 325 P **P** 13 09 14.6 -0.5
VLS Valsamata 83.69 325 P **P** 13 09 13.4 -1.7
VLS Valsamata 83.69 325 P **P** 13 09 13.4 -1.7
VLS Valsamata 83.69 325 P **P** 13 09 13.4 -1.7
BBOO Buckleboo 83.73 196 *eP* **P** 13 09 14.7 -0.3
comp=Z,93nm,1.0s
BBOO *e* 13 09 49.5
VLX Vlachokerasia 83.73 324 *eP* **P** 13 09 14.5 -0.9
VLX Vlachokerasia 83.73 324 P **P** 13 09 14.3 -1.1
VLX Vlachokerasia 83.73 324 P **P** 13 09 14.3 -1.1
CUC Castrocucco 83.75 330 *eP* **P** 13 09 14.3 -1.1
comp=Z,90nm,1.0s
AMT Artemida-Makis 83.84 324 *eP* **P** 13 09 15.1 -0.8
AMT Artemida-Makis 83.84 324 P **P** 13 09 15.3 -0.6
RAYN Ar Rayn 84.04 299 P **P** 13 09 17.0 -0.2
comp=Z,2µm,0.7s,SNR=77
RAYN Ar Rayn 84.04 299 *eP* **P** 13 09 17.3 +0.2
comp=Z,230nm,0.8s
ITM Ithomi 84.07 324 *eP* **P** 13 09 15.3 -1.8
ITM Ithomi 84.07 324 P **P** 13 09 15.7 -1.4
ITM Ithomi 84.07 324 P **P** 13 09 15.7 -1.4
VLI Veliai 84.08 323 *eP* **P** 13 09 15.2 -1.9
VLI Veliai 84.08 323 P **P** 13 09 14.8 -2.5
VLI Veliai 84.08 323 P **P** 13 09 14.6 -2.5
TIGA Tifton 84.10 47 P **P** 13 09 18.4 +1.1
baz=84,SNR=27
TIGA Tifton 84.10 47 *eP* **P** 13 09 18.0 +0.7
comp=Z,208nm,0.9s
TIGA *e* 13 09 51.5
ZKR Zakros 84.14 320 P **P** 13 09 17.1 -0.3
ZKR Zakros 84.14 320 P **P** 13 09 17.1 -0.3
TIP Timpagrande 84.16 329 *eP* **P** 13 09 17.5 0.0
comp=Z,205nm,1.2s
TIP Timpagrande 84.16 329 P **P** 13 09 17.1 -0.5
NPS Neapolis 84.26 320 *eP* **P** 13 09 16.9 -1.2
PYL PYLOS 84.39 324 *eP* **P** 13 09 17.4 -1.3
PYL PYLOS 84.39 324 P **P** 13 09 16.4 -2.3
PYL PYLOS 84.39 324 P **P** 13 09 16.4 -2.3
LAST Lasithi 84.41 320 P **P** 13 09 17.8 -1.1
LAST Lasithi 84.41 320 P **P** 13 09 17.8 -1.1
RGRS Roger Stewart 84.45 44 *eP* **P** 13 09 19.4 +0.4
comp=Z,2.4nm,0.3s
IDI Anoyia 84.54 321 *eP* **P** 13 09 17.5 -2.0
comp=Z,151nm,0.7s
IDI Anoyia 84.54 321 P P 13 09 16.2 -3.3
ANKY Antikythira Is 84.68 322 P **P** 13 09 17.9 -2.2
ANKY Antikythira Is 84.68 322 P **P** 13 09 17.9 -2.2
VAM Vamos 84.72 321 P **P** 13 09 19.0 -1.3
VAM Vamos 84.72 321 *eP* **P** 13 09 19.7 -0.6
VAM Vamos 84.72 321 P **P** 13 09 19.0 -1.3
VAM Vamos 84.72 321 P **P** 13 09 19.0 -1.3
SIVA Sivas 84.81 321 P **P** 13 09 19.8 -1.0
SIVA Sivas 84.81 321 P **P** 13 09 19.8 -1.0
GVD Gavdhos 85.26 321 *eP* **P** 13 09 22.6 -0.4
comp=Z,574nm,0.8s
CLTB Caltabellotta 86.78 330 *eP* **P** 13 09 30.1 -0.5
comp=Z,97nm,1.3s
PBRG Braganca 87.54 346 *eP* **P** 13 09 33.5 -0.6
comp=Z,54nm,2.0s
PGAV Gavieira, Arco 87.61 347 *eP* **P** 13 09 33.9 -0.6
comp=Z,82nm,1.3s
TBI Tubuai 87.85 131 *eS* **S** 13 20 09.0 +2.1
comp=Z,236nm,27.0s
TBI Tubuai 87.85 131 *eLR* LR 13 37 19.2
comp=Z,814nm,35.2s
TBI Tubuai 87.85 131 *eT* T 14 46 36.9
comp=Z,8.4nm,0.2s
DWPF Disney 87.90 47 *eP* **P** 13 09 36.8 +0.9
comp=Z,93nm,0.9s
POLO Lamas de Olo 88.12 347 *eP* **P** 13 09 36.2 -0.7
comp=Z,45nm,0.8s
PVRL Vila Real 88.21 347 *eP* **P** 13 09 36.6 -0.7
comp=Z,132nm,0.8s
MVO Moncorvo 88.21 346 *eP* **P** 13 09 36.7 -0.6
comp=Z,64nm,1.5s
PTO Porto 88.47 348 *eP* **P** 13 09 38.2 -0.2
comp=Z,61nm,1.5s
PVIS Viseu 88.78 347 *eP* **P** 13 09 39.6 -0.4
comp=Z,66nm,1.5s
MTE Manteigas 89.04 347 *eP* **P** 13 09 40.7 -0.5
comp=Z,65nm,0.8s
MTE Manteigas 89.04 347 *eP* **P** 13 09 40.3 -1.0
comp=Z,53nm,0.8s
ESDC Sonseca Array 89.15 344 P **P** 13 09 41.0 -0.7
comp=Z,29nm,0.6s,baz=3.6,slow=3.8,SNR=227
ESDC LR LR 13 55 04.3
comp=Z,153nm,20.7s,baz=10.0,slow=39
ESLA Sonseca Array 89.15 344 *eP* **P** 13 09 41.0 -0.8
comp=Z,5.5nm,0.7s
PAB San Pablo 89.34 344 *eP* **P** 13 09 41.7 -1.0
PAB pmax pmax
comp=Z,39nm,0.6s
PAB San Pablo 89.34 344 *eP* **P** 13 09 41.7 -1.0
comp=Z,39nm,0.6s
CMAH Djebel Manchou 89.42 334 P **P** 13 09 42.7 -0.4
PCAS Casmilo, Conde 89.52 347 *eP* **P** 13 09 42.5 -0.9
comp=Z,88nm,0.9s
PCBR Castelo Branco 89.58 346 *eP* **P** 13 09 42.8 -0.8
comp=Z,55nm,1.3s
KEST Kesra 89.69 333 P **P** 13 09 44.6 +0.2
comp=Z,43nm,0.6s,baz=19,slow=0.3,SNR=148
KEST LR LR 13 55 29.1
comp=Z,169nm,19.8s,baz=336,slow=39
ABSA Djebel Ababsia 89.73 334 P **P** 13 09 44.1 -0.5
CKFL Kef-Lekhel 89.82 335 P **P** 13 09 44.5 -0.5
DFRA Djebel Bou Aff 89.92 335 P **P** 13 09 47.4 +1.9
PTOM Tomar 89.93 347 *eP* **P** 13 09 44.3 -1.0
comp=Z,55nm,2.1s
PMRV Marv??o 89.97 346 *eP* **P** 13 09 43.8 -1.7
comp=Z,56nm,1.7s
CASM Ain Smara 90.02 335 P **P** 13 09 45.5 -0.4
CTEI Djebel Teioual 90.23 335 P **P** 13 09 48.3 +1.4
SET Setif 90.37 336 P **P** 13 09 50.0 +2.4
PMTG Montargil 90.44 347 *eP* **P** 13 09 46.5 -1.2
comp=Z,47nm,1.9s
CKHR Kef el Ahmar 90.51 336 P **P** 13 09 48.4 +0.1
PESTR Estremoz 90.55 346 *eP* **P** 13 09 47.2 -1.0
comp=Z,51nm,1.4s
PMAFR Mafra 90.71 348 *eP* **P** 13 09 48.5 -0.5
comp=Z,87nm,1.2s
PACT Alcochete 90.83 347 *eP* **P** 13 09 47.4 -2.1

	comp=Z,158nm,1.8s							
PBAR	**Barrancos**	**91.14**	**346**	*e*P	**P**	**13 09 50.3**	**-0.6**	
	comp=Z,80nm,1.2s							
PNCL	**Nicolau / Gran**	**91.43**	**347**	*e*P	**P**	**13 09 51.6**	**-0.7**	
	comp=Z,31nm,2.0s							
MESJ	**Messejana**	**91.65**	**347**	*e*P	**P**	**13 09 52.5**	**-0.8**	
MESJ				AMb	AMB	13 09 53.9		
	comp=Z,43nm,1.1s							
MESJ	**Messejana**	**91.65**	**347**	*e*P	**P**	**13 09 52.3**	**-1.0**	
	comp=Z,48nm,1.9s							
MESJ	**Messejana**	**91.65**	**347**	*e*P	**P**	**13 09 52.5**	**-0.8**	
PCVE	**Castro Verde**	**91.82**	**346**	*e*P	**P**	**13 09 53.6**	**-0.5**	
	comp=Z,18nm,1.8s							
PVAQ	**Vaqueiros**	**92.00**	**346**	*e*P	**P**	**13 09 54.6**	**-0.3**	
	comp=Z,68nm,1.7s							
PTEO	**Sao Teotonio**	**92.01**	**347**	*e*P	**P**	**13 09 55.7**	**+0.7**	
	comp=Z,77nm,1.9s							
PBDV	**Barranco-do-Ve**	**92.19**	**346**	*e*P	**P**	**13 09 55.7**	**-0.2**	
	comp=Z,41nm,2.0s							
MORF	**Marmelete**	**92.24**	**347**	*e*P	**P**	**13 09 55.5**	**-0.6**	
MORF				AMb	AMB	13 09 59.6		
	comp=Z,72nm,1.4s							
MORF	**Marmelete**	**92.24**	**347**	*e*P	**P**	**13 09 55.7**	**-0.4**	
	comp=Z,77nm,1.5s							
MORF	**Marmelete**	**92.24**	**347**	*e*P	**P**	**13 09 55.5**	**-0.6**	
RKT	**Rikitea**	**95.38**	**120**	*e*S	**S**	**13 21 13.9**	**-0.9**	
	comp=Z,486nm,34.2s							
RKT	**Rikitea**	**95.38**	**120**	*e*LR	LR	13 40 43.0		
	comp=Z,410nm,41.0s							
TAM	**Tamanrasset**	**102.93**	**331**	*e*P	**Pdif**	**13 10 44.7**	**0.0**	
TAM				pmax	pmax			
	comp=Z,5.0nm,0.8s							
TAM	**Tamanrasset**	**102.93**	**331**	*e*Pdif	**Pdif**	**13 10 44.7**	**0.0**	
	comp=Z,4.7nm,0.8s							
TOB5	**Torodi Ar. Sit**	**113.18**	**331**	*e*PKIKP	**PKiKP**	**13 15 23.1**	**-0.2**	
TORD	**Torodi Ar. Bea**	**113.18**	**331**	Pdiff	**Pdif**	**13 11 30.5**	**+0.3**	
	comp=Z,1.4nm,0.7s,baz=21,slow=4.3,SNR=12							
TORD				PKiKP	PKiKP	**13 15 23.1**	**-0.2**	
	comp=Z,1.5nm,0.5s,baz=15,slow=1.9,SNR=9.7							
TORD				PP	PP	13 16 06.0	-8.0	
	comp=Z,10nm,0.8s,baz=13,slow=7.4,SNR=11							
TORD				PKKPbc	**PKKPbc**	**13 26 06.2**	**-0.9**	
	comp=Z,2.1nm,1.0s,baz=238,slow=3.1,SNR=6.2							
DBIC	**Dimbokro**	**121.22**	**336**	PKP	**PKPdf**	**13 15 37.3**	**-1.5**	
	comp=Z,8.0nm,0.7s,baz=2.3,slow=2.6,SNR=13							
DBIC				PP	PP	13 17 04.0	-5.8	
	comp=Z,11nm,0.9s,baz=6.0,slow=10.0,SNR=5.0							
DBIC	**Dimbokro**	**121.22**	**336**	PKP	**PKPdf**	**13 15 37.3**	**-1.5**	
DBIC				*e*PKPdf	**PKiKP**	**13 15 38.3**	**-0.6**	
DBIC				PP	PP	13 17 04.0	-5.8	
TIC	**Toumodi**	**121.29**	**336**	*e*PKIKP	**PKPdf**	**13 15 39.0**	**+0.1**	
KIC	**Kosan Boka**	**121.49**	**336**	*e*PKIKP	**PKPdf**	**13 15 39.2**	**-0.1**	
	comp=Z,38nm,0.7s							
LSZ	**Lusaka**	**124.99**	**289**	*e*PKIKP	**PKPdf**	**13 15 46.7**	**+0.7**	
LSZ	**Lusaka**	**124.99**	**289**	*e*PKPdf	**PKPdf**	**13 15 46.6**	**+0.7**	
VNDA	**Vanda**	**126.92**	**178**	PKP	**PKPdf**	**13 15 47.0**	**-0.8**	
	comp=Z,3.5nm,0.9s,baz=312,slow=3.8,SNR=15							
VNDA				pPKP	**pPKPdf**	**13 16 23.5**	**0.0**	
	comp=Z,2.4nm,0.8s,baz=311,slow=5.1,SNR=3.4							
VNDA				PKKPbc	**PKKPbc**	**13 25 16.8**	**-1.2**	
	comp=Z,1.2nm,0.8s,baz=185,slow=3.1,SNR=6.2							
SBA	**Scott Base**	**127.40**	**177**	*e*PKIKP	**PKPdf**	**13 15 48.8**	**+0.2**	
SBA	**Scott Base**	**127.40**	**177**	*e*PKPdf	**PKPdf**	**13 15 48.8**	**+0.2**	
SAML	**Samuel**	**128.60**	**51**	*e*PKPdf	**PKPdf**	**13 15 52.5**	**-0.3**	
LPAZ	**La Paz**	**131.99**	**62**	PKP	**PKPdf**	**13 15 59.1**	**-0.8**	
	comp=Z,3.8nm,0.9s,baz=357,slow=6.4,SNR=11							
LPAZ				SKPbc	**SKPbc**	**13 19 13.1**	**-0.5**	
	comp=Z,6.1nm,1.0s,baz=354,slow=6.1,SNR=6.5							
LPAZ	**La Paz**	**131.99**	**62**	PKP	**PKPdf**	**13 15 59.1**	**-0.8**	
LPAZ				*e*PKPdf	**PKiKP**	**13 16 00.6**	**-0.4**	
LPAZ				SKPbc	**SKPbc**	**13 19 13.1**	**-0.5**	
LBTB	**Lobatse**	**133.83**	**283**	*e*PKIKP	**PKPdf**	**13 16 01.6**	**-0.9**	
LBTB	**Lobatse**	**133.83**	**283**	*e*PKPdf	**PKPdf**	**13 16 01.6**	**-0.9**	
MAW	**Mawson**	**135.23**	**213**	PKP	**PKPdf**	**13 16 02.6**	**-1.0**	
	comp=Z,4.7nm,1.0s,baz=334,slow=6.9,SNR=6.5							
MAW				pPKP	**pPKPdf**	**13 16 40.0**	**+0.6**	
	comp=Z,5.5nm,1.0s,baz=105,slow=8.1,SNR=3.9							
MAW				SKPbc	**SKPbc**	**13 19 20.9**	**-0.9**	
	comp=Z,21nm,1.0s,baz=58,slow=3.9,SNR=15							
MAW	**Mawson**	**135.23**	**213**	*e*PKPdf	**PKPdf**	**13 16 02.3**	**-1.3**	
MAW				PKP	**PKPdf**	**13 16 02.6**	**-1.0**	
MAW				pPKP	**pPKPdf**	**13 16 40.0**	**+0.6**	
MAW				SKPbc	**SKPbc**	**13 19 20.9**	**-0.9**	
BOSA	**Boshof**	**136.56**	**280**	PKhKP	PKPpre	13 15 55.9		
	comp=Z,2.3nm,0.7s,baz=352,slow=5.4,SNR=4.3							
BOSA				SKPbc	**SKPbc**	**13 19 26.0**	**-1.4**	
	comp=Z,5.5nm,0.9s,baz=93,slow=7.8,SNR=3.6							
BDFB	**Brasilia**	**141.37**	**37**	PKhKP	PKPpre	13 16 10.1		
	comp=Z,9.8nm,0.9s,baz=253,slow=5.2,SNR=6.7							
BDFB				PP	**PP**	**13 19 17.0**	**-3.0**	
	comp=Z,5.0nm,0.8s,baz=325,slow=25,SNR=4.0							
SUR	**Sutherland**	**141.92**	**279**	*e*PKPdf	**PKPdf**	**13 16 14.2**	**-3.1**	
CPUP	**Villa Florida**	**146.04**	**59**	PKPbc	**PKPbc**	**13 16 25.1**	**-0.3**	
	comp=Z,37nm,0.8s,baz=317,slow=2.4,SNR=55							
CPUP				pPKPbc	pPKPbc	13 17 00.1	-0.6	
	comp=Z,15nm,1.1s,baz=326,slow=3.6,SNR=2.6							
CPUP	**Villa Florida**	**146.04**	**59**	*e*PKP2	**PKPdf**	**13 16 24.9**	**+0.5**	
CPUP						13 16 25.1		
CPUP				*e*		13 17 00.6		
CPUP	**Villa Florida**	**146.04**	**59**	*e*PKPdf	**PKPdf**	**13 16 24.9**	**+0.5**	
CPUP				PKPbc	**PKPbc**	**13 16 25.1**	**-0.3**	
CPUP				pPKPbc	pPKPbc	13 17 00.1	-0.6	
CPUP				*e*		13 17 00.6		
TRQA	**Tornquist**	**151.34**	**80**	*e*PKPbc	**PKPbc**	**13 16 38.2**	**-0.6**	
TRQA				*e*PKPab	**PKPab**	**13 16 46.0**	**-1.4**	
TRQA				*e*		13 17 15.7		
SNAA	**Sanae**	**155.61**	**197**	PKPab	**PKPab**	**13 17 04.7**	**0.0**	
SNAA	**Sanae**	**155.61**	**197**	PKPdf	PKPdf	13 16 44.9	+7.1	
SNAA	**Sanae**	**155.61**	**197**	*e*PKIKP	**PKPdf**	**13 16 40.6**	**+2.8**	
SNAA				*e*		13 17 04.1		
SNAA	**Sanae**	**155.61**	**197**	*e*PKPdf	**PKPdf**	**13 16 40.6**	**+2.8**	
SNAA				*e*PKPab	**PKPab**	**13 17 04.0**	**-0.7**	
VNA1	**Neumayer--Stat**	**157.44**	**195**	PKPab	**PKPab**	**13 17 12.9**	**+0.5**	
VNA1	**Neumayer--Stat**	**157.44**	**195**	PKPdf	PKPdf	13 16 50.8	+11	

IDC ***25*** *13:27:36.8±0.8, 10°.67N×125°.50E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.7/57, mbtmp4.0/7, Error ellipse: s-maj=78.7km s-min=17.0km az=73.0*
ISCJB ***25*** *13:27:42.1±0.5, 10°.80N±0°.04×126°.03E±0°.05, h49km, mb4.0/9, Error ellipse: s-maj=7.8km s-min=6.1km az=19.8*
NEIC ***25*** *13:27:42.3±0.6, 10°.68N×125°.60E, h35km, mb4.2/3, Error ellipse: s-maj=52.6km s-min=10.6km az=71.0*
ISC 25 13:27:43.8±0.8, 10°.82N±0°.05×125°.96E±0°.09, h49km, n25, σ1§23/24, mb4.1/9, 3C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**1.02**	**290**	⇑*e*P	**Pn**	**13 28 02.7**	**+0.9**
PLP				*e*S	**Sn**	**13 28 15.2**	**+0.1**
TBP	**Tagbilaran**	**2.34**	**242**	*e*P	**Pn**	**13 28 21.3**	**+1.4**
TBP				*i* S	**Sn**	**13 28 47.4**	**-0.1**
CGP	**Cagayan de Oro**	**2.66**	**208**	⇑*e*P	**Pn**	**13 28 25.4**	**+1.3**
CGP				*e*S	**Sn**	**13 28 55.6**	**+0.4**
PVCP	**Virac**	**3.28**	**328**	*e*P	**Pn**	**13 28 34.2**	**+1.5**
DCPH	**Dipolog City**	**3.39**	**229**	⇓*e*P	**Pn**	**13 28 35.1**	**+0.8**
DCPH				*e*S	**Sn**	**13 29 12.2**	**-1.1**
CTBH	**Cotabato--PC H**	**3.95**	**205**	⇑*i*P	**Pn**	**13 28 44.2**	**+2.2**
KSAR	**Wonju Array Be**	**26.57**	**3**	P	**P**	**13 33 18.7**	**+1.4**
KSRS	**Korea Array**	**26.58**	**4**	P	**P**	**13 33 18.7**	**+1.3**
	0.5nm,0.7s,baz=188,slow=9.4,SNR=2.9						
WRAB	**Tennant Creek**	**31.65**	**165**	*e*P	**P**	**13 34 00.8**	**-1.9**
	6.2nm,1.2s						
WRA	**Warramunga Arr**	**31.66**	**165**	P	**P**	**13 34 01.4**	**-1.2**
	1.0nm,0.6s,baz=344,slow=9.7,SNR=5.5						
AS31	**Alice Springs**	**35.14**	**167**	*e*P	**P**	**13 34 32.7**	**-0.3**
ASAR	**Alice Springs**	**35.14**	**167**	P	**P**	**13 34 32.9**	**-0.1**
	0.8nm,0.3s,baz=342,slow=7.0,SNR=47						
ASAR				PcP	**PcP**	**13 37 01.9**	**-1.8**
	0.2nm,0.5s,baz=330,slow=3.3,SNR=2.2						
H11S3	**WAKE ISLAND Hy**	**40.07**	**74**	T	T	14 18 13.3	
	baz=267,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hy**	**40.08**	**74**	T	T	14 18 16.7	
	baz=267,slow=74,SNR=6.4						
H11S2	**WAKE ISLAND Hy**	**40.08**	**74**	T	T	14 18 15.0	
	baz=267						
H11N1	**WAKE ISLAND Hy**	**40.38**	**72**	T	T	14 18 49.1	
	baz=265,slow=75,SNR=24						
H11N2	**WAKE ISLAND Hy**	**40.39**	**72**	T	T	14 18 52.4	
	baz=265,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	**40.40**	**72**	T	T	14 18 47.2	
	baz=265,slow=75,SNR=23						
STKA	**Stephens Creek**	**45.02**	**161**	P	**P**	**13 35 54.7**	**0.0**
	2.9nm,0.6s,baz=342,slow=7.7,SNR=13						
STKA	**Stephens Creek**	**45.02**	**161**	*e*P	**P**	**13 35 56.0**	**+1.3**
	0.6nm,0.6s						
MK31	**Makanchi Array**	**51.41**	**323**	*e*P	**P**	**13 36 43.7**	**-0.2**
MKAR	**Makanchi Array**	**51.41**	**323**	P	**P**	**13 36 43.4**	**-0.5**
	1.4nm,0.6s,baz=120,slow=7.8,SNR=14						
KURK	**Kurchatov**	**55.45**	**325**	*e*P	**P**	**13 37 12.9**	**-0.5**
	3.6nm,1.0s						
ARCES	**ARCESS Array B**	**83.58**	**340**	P	**P**	**13 40 06.8**	**+0.3**
	1.1nm,0.8s,baz=76,slow=7.5,SNR=3.6						
FINES	**FINESS Array B**	**85.27**	**332**	P	**P**	**13 40 13.2**	**-2.0**
	2.1nm,1.0s,baz=97,slow=4.4,SNR=5.6						

PRU ***25*** *13:30:49.2, 10°.18N×20°.02E, h0km*
BEO ***25*** *13:30:49.2±0.8, 10°.14N×19°.83E, h13km±4km, ML3.3/9*
IDC ***25*** *13:30:50.6±1.3, 10°.63N×20°.11E, h0km, mb3.4/6, mb1 3.5/11, mb1mx3.5/33, mbtmp3.4/11, ML3.1/5, Error ellipse: s-maj=22.2km s-min=15.7km az=54.0*
ATH ***25*** *13:30:51.4, 10°.52N×19°.98E, h10km±2km, MD3.5/28*
PDG ***25*** *13:30:52.0±0.3, 10°.38N×19°.92E, h11km, ML3.5/13, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
CSEM ***25*** *13:30:52.6±0.1, 10°.44N×20°.00E, h2km, ML3.5, Error ellipse: s-maj=4.2km s-min=2.4km az=69.0*

TIR ***25*** *13:30:52.2, 10°.47N×20°.08E, h7km, ML3.6*
THE ***25*** *13:30:53.0, 10°.45N×20°.07E, h0km±2km, ML3.5/8, Error ellipse: s-maj=2.5km s-min=0.7km az=299.0*
ISC 25 13:30:52.1±1.0, 40°.42N±0°.01×20°.00E±0°.02, h12km±7km, n243, σ1§56/319, mb3.4/6, 26C-23D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLO	**Vlora**	**0.39**	**278**	*i* PG	**Pb**	**13 31 01.6**	**+0.7**
VLO				*i* SG	**Sb**	**13 31 08.9**	**+2.0**
VLO	**Vlora**	**0.39**	**278**	P	**Pb**	**13 31 01.3**	**+0.4**
VLO	**Vlora**	**0.39**	**278**	*i* Pg	**Pb**	**13 31 01.6**	**+0.7**
VLO				S	**Sb**	**13 31 08.8**	**+1.9**
VLO	**Vlora**	**0.39**	**278**	P	**Pb**	**13 31 01.3**	**+0.4**
VLO				S	**Sb**	**13 31 08.8**	**+1.9**
SRN	**Sarande**	**0.54**	**180**	*i* PG	**Pb**	**13 31 03.9**	**+0.5**
SRN				*i* SG	**Sn**	**13 31 14.1**	**-0.4**
SRN	**Sarande**	**0.54**	**180**	P	**Pb**	**13 31 03.5**	**+0.1**
SRN	**Sarande**	**0.54**	**180**	*i* Pg	**Pb**	**13 31 03.9**	**+0.5**
SRN				S	**Sb**	**13 31 11.8**	**+0.7**
SRN				*i* Sg	**Sn**	**13 31 14.1**	**-0.4**
SRN	**Sarande**	**0.54**	**180**	P	**Pb**	**13 31 03.5**	**+0.1**
SRN				S	**Sb**	**13 31 11.8**	**+0.7**
KBN	**Korca**	**0.63**	**71**	*i* PG	**Pg**	**13 31 03.8**	**-0.6**
KBN				*i* SG	**Sg**	**13 31 13.2**	**+0.5**
KBN	**Korca**	**0.63**	**71**	*i* Pg	**Pg**	**13 31 03.8**	**-0.6**
KBN				*i* Sg	**Sg**	**13 31 13.2**	**+0.5**
KBN	**Korca**	**0.63**	**71**	P	**Pg**	**13 31 03.8**	**-0.6**
KBN				S	**Sg**	**13 31 12.2**	**-0.5**
NEST	**Nestorio**	**0.80**	**90**	*e*PB	**Pg**	**13 31 07.3**	**-0.2**
NEST				*e*SB	**Sg**	**13 31 18.2**	**+0.2**
NEST	**Nestorio**	**0.80**	**90**	*e*Pb	**Pg**	**13 31 07.3**	**-0.2**
NEST				*e*Sb	**Sg**	**13 31 18.2**	**+0.2**
NEST	**Nestorio**	**0.80**	**90**	P	**Pg**	**13 31 06.7**	**-0.8**
NEST				S	**Sb**	**13 31 18.9**	**+0.2**
SGD	**Sagiada**	**0.82**	**167**	*e*PB	**Pn**	**13 31 09.4**	**-0.1**
SGD				*e*SB	**Sn**	**13 31 22.6**	**+1.1**
SGD	**Sagiada**	**0.82**	**167**	P	**Pn**	**13 31 09.4**	**-0.1**
SGD				S	**Sn**	**13 31 21.8**	**+0.2**
SGD				*e*Sb	**Sn**	**13 31 22.6**	**+1.1**
SGD	**Sagiada**	**0.82**	**167**	P	**Pn**	**13 31 09.4**	**-0.1**
SGD				S	**Sn**	**13 31 21.8**	**+0.2**
IGT	**Igoumenitsa**	**0.92**	**164**	*e*PN	**Pn**	**13 31 11.1**	**+0.3**
IGT				*e*SB	**Sn**	**13 31 25.3**	**+1.3**
IGT	**Igoumenitsa**	**0.92**	**164**	P	**Pb**	**13 31 10.7**	**+0.8**
IGT	**Igoumenitsa**	**0.92**	**164**	*e*Pn	**Pn**	**13 31 11.1**	**+0.3**
IGT				S	**Sn**	**13 31 25.0**	**+1.0**
IGT	**Igoumenitsa**	**0.92**	**164**	P	**Pb**	**13 31 10.7**	**+0.8**
IGT				S	**Sn**	**13 31 25.0**	**+1.0**
OHR	**Ohrid**	**0.92**	**41**	*e*Pg	**Pg**	**13 31 07.7**	**-2.2**
OHR				*e*Sg	**Sn**	**13 31 24.6**	**+0.5**
OHR	**Ohrid**	**0.92**	**41**	*e*Pg	**Pg**	**13 31 07.6**	**-2.2**
OHR				*e*Sg	**Sn**	**13 31 24.6**	**+0.5**
TIR	**Tirane**	**0.94**	**354**	*i* PG	**Pb**	**13 31 10.3**	**+0.1**
TIR				*i* SG	**Sn**	**13 31 27.0**	**+2.6**
TIR	**Tirane**	**0.94**	**354**	*e*Pg	**Pb**	**13 31 10.2**	**0.0**
TIR				*e*Sg	**Sn**	**13 31 27.8**	**+3.4**
TIR	**Tirane**	**0.94**	**354**	P	**Pb**	**13 31 10.3**	**+0.1**
TIR				*i* Sg	**Sn**	**13 31 27.0**	**+2.6**
TIR	**Tirane**	**0.94**	**354**	P	**Pb**	**13 31 10.3**	**+0.1**
JAN	**Janina**	**1.00**	**139**	*e*PG	**Pg**	**13 31 14.4**	**+0.1**
JAN				*e*SB	**Sn**	**13 31 26.8**	**+0.8**
JAN	**Janina**	**1.00**	**139**	*e*Pg	**Pg**	**13 31 11.4**	**+0.1**
JAN				*e*Sb	**Sn**	**13 31 26.8**	**+0.8**
JAN				S	**Sn**	**13 31 27.1**	**+1.1**
JAN	**Janina**	**1.00**	**139**	P	**Pg**	**13 31 11.2**	**-0.1**
JAN				S	**Sn**	**13 31 27.1**	**+1.1**
FNA	**Florina**	**1.11**	**70**	*e*PN	**Pb**	**13 31 12.4**	**-0.8**
FNA				*e*SB	**Sg**	**13 31 27.2**	**-0.6**
FNA	**Florina**	**1.11**	**70**	*e*Pn	**Pb**	**13 31 12.4**	**-0.8**
FNA				*e*Sb	**Sg**	**13 31 27.2**	**-0.6**
FNA				S	**Sn**	**13 31 28.6**	**-0.1**
FNA	**Florina**	**1.11**	**70**	P	**Pb**	**13 31 12.4**	**-0.8**
FNA				S	**Sn**	**13 31 28.6**	**-0.1**
MEV	**Metsovon**	**1.13**	**123**	P	**Pb**	**13 31 13.4**	**-0.3**
PHP	**Peshkopia**	**1.31**	**14**	*i* PG	**Pg**	**13 31 16.9**	**-0.4**
PHP				*i* SG	**Sg**	**13 31 37.6**	**+3.3**
PHP	**Peshkopia**	**1.31**	**14**	P	**Pg**	**13 31 17.0**	**+0.1**
PHP				S	**Sg**	**13 31 35.5**	**+1.2**
PHP				*i* Sg	**Sg**	**13 31 37.6**	**+3.3**
PHP	**Peshkopia**	**1.31**	**14**	P	**Pb**	**13 31 16.7**	**+0.1**
PHP				S	**Sg**	**13 31 35.5**	**+1.2**
KZN	**Kozani**	**1.35**	**94**	*e*PB	**Pb**	**13 31 17.5**	**+0.1**
KZN	**Kozani**	**1.35**	**94**	P	**Pb**	**13 31 17.5**	**+0.1**
KZN				S	**Sg**	**13 31 36.5**	**+0.8**
KZN	**Kozani**	**1.35**	**94**	P	**Pb**	**13 31 17.5**	**+0.1**
KZN				S	**Sg**	**13 31 36.5**	**+0.8**
DSL	**Palaion Diasel**	**1.53**	**146**	*e*PG	**Pg**	**13 31 21.7**	**+0.2**
DSL	**Palaion Diasel**	**1.53**	**146**	*e*Pg	**Pg**	**13 31 21.7**	**+0.2**
DSL	**Palaion Diasel**	**1.53**	**146**	P	**Pg**	**13 31 21.5**	**0.0**
PUK	**Puka**	**1.63**	**357**	*i* PG	**Pg**	**13 31 24.4**	**+1.1**
PUK				*i* SG	**Sg**	**13 31 46.2**	**+1.8**
PUK	**Puka**	**1.63**	**357**	*i* Pg	**Pg**	**13 31 24.4**	**+1.1**
PUK				*i* Sg	**Sg**	**13 31 46.2**	**+1.8**
ULC	**Ulcinj**	**1.65**	**340**	⇓*i*Pn	**Pb**	**13 31 22.3**	**-0.1**
ULC				*e*Sn	**Sg**	**13 31 45.6**	**+0.5**
ULC	**Ulcinj**	**1.65**	**340**	⇓*i*Pn	**Sg**	**13 31 22.3**	**-0.1**
ULC				*e*Sn	**Sg**	**13 31 45.6**	**+0.5**
LKD2	**Lefkada island**	**1.70**	**163**	*e*PB	**Pb**	**13 31 23.4**	**+0.1**
LKD2	**Lefkada island**	**1.70**	**163**	P	**Pb**	**13 31 23.3**	**0.0**
LKD2	**Lefkada island**	**1.70**	**163**	P	**Pb**	**13 31 23.3**	**0.0**
THL	**Klokotos Trika**	**1.76**	**118**	*e*PN	**Pb**	**13 31 24.9**	**+0.6**
THL	**Klokotos Trika**	**1.76**	**118**	P	**Pb**	**13 31 24.3**	**0.0**
THL	**Klokotos Trika**	**1.76**	**118**	*e*Pn	**Pb**	**13 31 24.9**	**+0.6**
THL				S	**Sb**	**13 31 47.5**	**+1.1**
THL	**Klokotos Trika**	**1.76**	**118**	P	**Pb**	**13 31 24.3**	**0.0**
THL				S	**Sb**	**13 31 47.5**	**+1.1**
DRME	**Dracevica, Mon**	**1.87**	**341**	⇑*i*Pn	**Pb**	**13 31 25.1**	**-1.1**
DRME				*e*Sn	**Sg**	**13 31 51.0**	**-1.3**
DRME	**Dracevica, Mon**	**1.87**	**341**	⇑*i*Pn	**Pb**	**13 31 25.1**	**-1.1**
DRME				*e*Sn	**Sg**	**13 31 51.0**	**-1.3**
SKO	**Skopje**	**1.90**	**34**	*e*Pn	**Pb**	**13 31 26.6**	**-0.1**
SKO	**Skopje**	**1.90**	**34**	P	**Pb**	**13 31 26.1**	**-0.6**
SKO	**Skopje**	**1.90**	**34**	*e*Pn	**Pb**	**13 31 26.6**	**-0.1**
SKO	**Skopje**	**1.90**	**34**	P	**Pb**	**13 31 26.0**	**-0.6**
LIT	**Litokhoron**	**1.93**	**99**	*e*PN	**Pb**	**13 31 27.4**	**+0.2**
LIT	**Litokhoron**	**1.93**	**99**	*e*Pn	**Pb**	**13 31 27.4**	**+0.2**
EXG	**Exogi**	**2.01**	**166**	*e*PB	**Pn**	**13 31 27.6**	**+1.7**
EXG	**Exogi**	**2.01**	**166**	*e*Pb	**Pn**	**13 31 27.6**	**+1.7**
PDO	**Prodromos**	**2.03**	**153**	*e*PB	**Pb**	**13 31 28.3**	**-0.6**
PDO	**Prodromos**	**2.03**	**153**	P	**Pb**	**13 31 28.0**	**-0.9**
PDO	**Prodromos**	**2.03**	**153**	*e*Pb	**Pb**	**13 31 28.3**	**-0.6**
PDO	**Prodromos**	**2.03**	**153**	P	**Pb**	**13 31 28.0**	**-0.9**
EVR	**Evrytania**	**2.05**	**136**	*e*PN	**Pb**	**13 31 29.9**	**+0.7**
EVR	**Evrytania**	**2.05**	**136**	*e*Pn	**Pb**	**13 31 29.9**	**+0.7**
BUM	**Brajici-Budva**	**2.06**	**336**	⇓*i*Pn	**Pn**	**13 31 27.5**	**+0.9**
BUM				*e*Sn	**Sb**	**13 31 55.8**	**+0.8**
BUM	**Brajici-Budva**	**2.06**	**336**	⇓*i*Pn	**Pn**	**13 31 27.5**	**+0.9**
BUM				*e*Sn	**Sb**	**13 31 55.8**	**+0.8**
PDG	**Podgorica**	**2.09**	**345**	*e*Pn	**Pn**	**13 31 27.9**	**+1.0**
PDG				*e*Sn	**Sb**	**13 31 55.9**	**+0.1**
PDG	**Podgorica**	**2.09**	**345**	*e*Pn	**Pn**	**13 31 27.9**	**+1.0**
PDG				*e*Sn	**Sb**	**13 31 55.9**	**+0.1**
TTG	**Podgorica**	**2.09**	**345**	⇑*i*Pn	**Pn**	**13 31 28.3**	**+1.4**
TTG				*e*Sn	**Sg**	**13 31 57.3**	**-1.9**
VAY	**Valandovo**	**2.15**	**64**	*e*Pn	**Pn**	**13 31 29.3**	**+1.6**
VAY	**Valandovo**	**2.15**	**64**	*e*Pn	**Pn**	**13 31 28.5**	**+0.8**
VAY				*e*Sn	**Sb**	**13 31 56.9**	**-0.5**
VAY	**Valandovo**	**2.15**	**64**	*e*Pn	**Pn**	**13 31 28.5**	**+0.8**
VAY	**Valandovo**	**2.15**	**64**	P	**Pn**	**13 31 29.0**	**+1.3**
VAY				*e*Sn	**Sb**	**13 31 56.9**	**-0.5**
VAY	**Valandovo**	**2.15**	**64**	P	**Pn**	**13 31 29.0**	**+1.3**
MAKR	**Makrakomi, Fth**	**2.16**	**130**	*e*PN	**Pb**	**13 31 31.6**	**+0.5**
MAKR	**Makrakomi, Fth**	**2.16**	**130**	*e*Pn	**Pb**	**13 31 31.6**	**+0.5**
PVY	**Plav**	**2.18**	**359**	⇓*i*Pn	**Pb**	**13 31 30.5**	**-1.0**
PVY				*e*Sn	**Sb**	**13 31 59.4**	**+0.9**
PVY	**Plav**	**2.18**	**359**	⇓*i*Pn	**Pb**	**13 31 30.5**	**-1.0**
PVY				*e*Sn	**Sb**	**13 31 59.4**	**+0.9**
THE	**Thessaloniki**	**2.27**	**84**	*e*PB	**Pn**	**13 31 30.5**	**+1.2**
THE	**Thessaloniki**	**2.27**	**84**	*e*Pb	**Pn**	**13 31 30.5**	**+1.2**
AGG	**Agios Georgios**	**2.27**	**127**	*e*PN	**Pb**	**13 31 33.4**	**+0.4**
AGG	**Agios Georgios**	**2.27**	**127**	*e*Pn	**Pb**	**13 31 33.4**	**+0.4**
VLS	**Valsamata**	**2.28**	**168**	*e*PN	**Pn**	**13 31 30.5**	**+0.9**
VLS	**Valsamata**	**2.28**	**168**	*e*Pn	**Pn**	**13 31 30.5**	**+0.9**
KNT	**Kendrikon**	**2.32**	**70**	*e*PN	**Pn**	**13 31 31.5**	**+1.4**
KNT	**Kendrikon**	**2.32**	**70**	*e*Pn	**Pn**	**13 31 31.5**	**+1.4**
KNT	**Kendrikon**	**2.32**	**70**	P	**Pn**	**13 31 31.7**	**+1.6**
HCY	**Herceg Novi**	**2.33**	**331**	⇓*i*Pn	**Pn**	**13 31 31.0**	**+0.8**

DJA 25 13:04:49.8±0.4, 1°S±2°×122°0E±°, h27km±6km, M4.3/18, mb5.0/2, mB5.0/1, MLv4.0/18, Mw(mB)4.3/1, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCI	**Palu**	**0.71**	**300**	P	Pb	13 05 03.7	+0.1
PCI				S	Sn	13 05 13.8	-0.3
APSI	**Ampana**	**1.25**	**74**	P	Pn	13 05 10.8	-0.7
APSI				S	Sb	13 05 28.1

HCY				*e*Sn	**Sb**	**13 32 02.0**	**-0.6**
HCY	**Herceg Novi**	**2.33**	**331**	⇓*i*Pn	**Pn**	**13 31 31.0**	**+0.8**
HCY				*e*Sn	**Sb**	**13 32 02.0**	**-0.6**
HORT	**Hortiatis**	**2.37**	**85**	*e*PB	**Pn**	**13 31 32.0**	**+1.2**
HORT	**Hortiatis**	**2.37**	**85**	*e*Pb	**Pn**	**13 31 32.0**	**+1.2**
BEY	**Berane**	**2.46**	**358**	⇑*i*Pn	**Pn**	**13 31 34.0**	**+2.0**
BEY				*e*Sn	**Sb**	**13 32 06.1**	**-0.3**
IVA	**Berane**	**2.46**	**358**	⇑*i*Pn	**Pn**	**13 31 34.0**	**+2.0**
IVA				*e*Sn	**Sb**	**13 32 06.1**	**-0.3**
EFP	**Efpalio**	**2.47**	**143**	*e*PN	**Pb**	**13 31 35.9**	**-0.5**
EFP	**Efpalio**	**2.47**	**143**	*e*Pn	**Pb**	**13 31 35.9**	**-0.5**
NKME	**Niksic**	**2.48**	**342**	⇓*i*Pn	**Pn**	**13 31 33.4**	**+1.1**
NKME				*e*Sn	**Sb**	**13 32 05.9**	**-1.1**
NKME	**Niksic**	**2.48**	**342**	⇓*i*Pn	**Pn**	**13 31 33.4**	**+1.1**
NKME				*e*Sn	**Sb**	**13 32 05.9**	**-1.1**
NKY	**Niksic**	**2.51**	**343**	⇑*i*Pn	**Pn**	**13 31 34.4**	**+1.6**
NKY				*e*Sn	**Sb**	**13 32 06.5**	**-1.6**
NKY	**Niksic**	**2.51**	**343**	⇑*i*Pn	**Pn**	**13 31 34.4**	**+1.6**
NKY				*e*Sn	**Sb**	**13 32 06.5**	**-1.6**
SOH	**Sokhos**	**2.58**	**80**	*e*PN	**Pn**	**13 31 35.7**	**+2.0**
SOH	**Sokhos**	**2.58**	**80**	*e*Pn	**Pn**	**13 31 35.7**	**+2.0**
TRIZ	**Trizonia**	**2.60**	**141**	*e*PN	**Pb**	**13 31 37.5**	**-1.1**
TRIZ	**Trizonia**	**2.60**	**141**	*e*Pn	**Pb**	**13 31 37.5**	**-1.1**
KALE	**Kalithea**	**2.61**	**140**	*e*PN	**Pb**	**13 31 37.2**	**-1.7**
KALE	**Kalithea**	**2.61**	**140**	*e*Pn	**Pb**	**13 31 37.2**	**-1.7**
RLS	**Riolos of Patr**	**2.62**	**154**	*e*PB	**Pn**	**13 31 36.4**	**+2.3**
RLS	**Riolos of Patr**	**2.62**	**154**	*e*Pb	**Pn**	**13 31 36.4**	**+2.3**
AXAR	**Agios Charalam**	**2.63**	**128**	*e*PN	**Pb**	**13 31 38.7**	**-0.5**
AXAR	**Agios Charalam**	**2.63**	**128**	*e*Pn	**Pb**	**13 31 38.7**	**-0.5**
LAKA	**Lakka**	**2.66**	**144**	*e*PB	**Pn**	**13 31 37.5**	**+2.7**
LAKA	**Lakka**	**2.66**	**144**	*e*Pb	**Pn**	**13 31 37.5**	**+2.7**
XOR	**Xorichti**	**2.67**	**112**	*e*PN	**Pb**	**13 31 38.6**	**-1.2**
XOR	**Xorichti**	**2.67**	**112**	*e*Pn	**Pb**	**13 31 38.6**	**-1.2**
BRY	**Bratogost**	**2.71**	**337**	⇑*i*Pn	**Pn**	**13 31 37.3**	**+1.7**
BRY				*e*Sn	**Sb**	**13 32 11.7**	**-2.3**
BRY	**Bratogost**	**2.71**	**337**	⇑*i*Pn	**Pn**	**13 31 37.3**	**+1.7**
BRY				*e*Sn	**Sb**	**13 32 11.7**	**-2.3**
BARS	**Barje**	**2.76**	**29**	*e*Pn	**Pn**	**13 31 37.7**	**+1.6**
BARS	**Barje**	**2.76**	**29**	*e*Pn	**Pn**	**13 31 37.7**	**+1.6**
TIP	**Timpagrande**	**2.79**	**245**	P	**Pn**	**13 31 37.6**	**+1.0**
TIP	**Timpagrande**	**2.79**	**245**	P	**Pn**	**13 31 37.6**	**+1.0**
DRO	**Drossia**	**2.80**	**151**	*e*PN	**Pn**	**13 31 38.6**	**+2.0**
DRO	**Drossia**	**2.80**	**151**	*e*Pn	**Pn**	**13 31 38.6**	**+2.0**
DSF	**Desfina**	**2.80**	**135**	*e*PN	**Pn**	**13 31 38.8**	**+2.1**
DSF	**Desfina**	**2.80**	**135**	*e*Pn	**Pn**	**13 31 38.8**	**+2.1**
DESF	**Desfina**	**2.80**	**135**	*e*PN	**Pn**	**13 31 39.1**	**+2.4**
DESF	**Desfina**	**2.80**	**135**	*e*Pn	**Pn**	**13 31 39.1**	**+2.4**
SRS	**Serrai**	**2.81**	**74**	*e*PN	**Pn**	**13 31 39.4**	**+2.5**
SRS	**Serrai**	**2.81**	**74**	*e*Pn	**Pn**	**13 31 39.4**	**+2.5**
SJES	**Sjenica**	**2.84**	**360**	*e*PN	**Pn**	**13 31 38.5**	**+1.1**
SJES				*e*Sn	**Sb**	**13 32 15.4**	**-2.2**
PAIG	**Paliouri**	**2.86**	**99**	*e*PN	**Pn**	**13 31 39.8**	**+2.3**
PAIG	**Paliouri**	**2.86**	**99**	*e*Pn	**Pn**	**13 31 39.8**	**+2.3**
KLV	**Kalavryta, Ach**	**2.90**	**144**	*e*PN	**Pn**	**13 31 41.0**	**+2.9**
KLV	**Kalavryta, Ach**	**2.90**	**144**	*e*Pn	**Pn**	**13 31 41.0**	**+2.9**
UPM	**Unac-Piva**	**2.90**	**344**	⇑*i*Pn	**Pn**	**13 31 40.8**	**+2.5**
UPM				*e*Sn	**Sn**	**13 32 16.1**	**+2.9**
LKR	**Lokris**	**2.91**	**126**	*e*PB	**Pb**	**13 31 42.8**	**-1.1**
LKR	**Lokris**	**2.91**	**126**	*e*Pb	**Pb**	**13 31 42.8**	**-1.1**
SMIA	**Simia**	**2.91**	**121**	*e*PB	**Pb**	**13 31 43.0**	**-0.9**
SMIA	**Simia**	**2.91**	**121**	*e*Pb	**Pb**	**13 31 43.0**	**-0.9**
SELS	**Selova**	**2.92**	**16**	*e*Pn	**Pn**	**13 31 39.5**	**+1.1**
PLE	**Pljevlja**	**2.95**	**351**	⇓*i*Pn	**Pn**	**13 31 41.3**	**+2.5**
PLE				*e*Sn	**Sn**	**13 32 17.4**	**+3.2**
PLE	**Pljevlja**	**2.95**	**351**	⇓*i*Pn	**Pn**	**13 31 41.3**	**+2.5**
PLE				*e*Sn	**Sn**	**13 32 17.4**	**+3.2**
STON	**Ston**	**3.00**	**326**	*e*Pn	**Pn**	**13 31 39.1**	**-0.3**
STON	**Ston**	**3.00**	**326**	*e*Pn	**Pn**	**13 31 38.7**	**-0.7**
STON	**Ston**	**3.00**	**326**	*e*Pn	**Pn**	**13 31 39.1**	**-0.3**
STON				*e*Sn	**Sn**	**13 32 14.9**	**-0.4**
STON	**Ston**	**3.00**	**326**	*e*Pn	**Pn**	**13 31 39.1**	**-0.3**
STON				*e*Sn	**Sn**	**13 32 14.9**	**-0.4**
OUR	**Ouranopolis**	**3.04**	**90**	*e*PN	**Pn**	**13 31 41.9**	**+1.9**
OUR	**Ouranopolis**	**3.04**	**90**	*e*Pn	**Pn**	**13 31 41.9**	**+1.9**
NVR	**Nevrokopi**	**3.07**	**71**	*e*PB	**Pn**	**13 31 42.9**	**+2.5**
NVR	**Nevrokopi**	**3.07**	**71**	*e*Pb	**Pn**	**13 31 42.9**	**+2.5**
GUR	**Goura**	**3.07**	**143**	*e*PN	**Pn**	**13 31 43.2**	**+2.7**
GUR	**Goura**	**3.07**	**143**	P	**Pn**	**13 31 42.9**	**+2.4**
GUR	**Goura**	**3.07**	**143**	*e*Pn	**Pn**	**13 31 43.2**	**+2.7**
GUR	**Goura**	**3.07**	**143**	P	**Pn**	**13 31 42.9**	**+2.4**
IVAS	**Ivanjica**	**3.16**	**2**	*e*PN	**Pn**	**13 31 42.9**	**+1.2**
IVAS	**Ivanjica**	**3.16**	**2**	*e*Pn	**Pn**	**13 31 42.9**	**+1.2**
AMT	**Artemida-Makis**	**3.17**	**155**	*e*PN	**Pn**	**13 31 44.4**	**+2.6**
AMT	**Artemida-Makis**	**3.17**	**155**	*e*Pn	**Pn**	**13 31 44.4**	**+2.6**
AOS	**Alonnisos**	**3.23**	**111**	*e*PB	**Pb**	**13 31 46.7**	**-2.7**
AOS	**Alonnisos**	**3.23**	**111**	*e*Pb	**Pb**	**13 31 46.7**	**-2.7**
VTS	**Vitosha**	**3.24**	**47**	*e*Pn	**Pn**	**13 31 44.5**	**+1.6**
VTS				*e*Sn	**Sn**	**13 32 24.6**	**+3.1**
VTS	**Vitosha**	**3.24**	**47**	⇑*i*P	**Pn**	**13 31 45.8**	**+2.9**
VTS	**Vitosha**	**3.24**	**47**	S	**Sn**	**13 32 25.0**	**+3.5**
VTS	**Vitosha**	**3.24**	**47**	P	**Pn**	**13 31 45.5**	**+2.6**
VTS				*e*Sn	**Sn**	**13 32 24.6**	**+3.1**
VTS	**Vitosha**	**3.24**	**47**	P	**Pn**	**13 31 45.5**	**+2.6**
MRKA	**Markates**	**3.25**	**121**	*e*PB	Pb	13 31 46.7	-3.1
MRKA	**Markates**	**3.25**	**121**	*e*Pb	Pb	13 31 46.7	-3.1
LTK	**Loutraki**	**3.32**	**135**	*e*PN	Pn	13 31 47.6	+3.8
LTK	**Loutraki**	**3.32**	**135**	*e*Pn	Pn	13 31 47.6	+3.8
VIL2	**Platees**	**3.35**	**130**	*e*PB	**Pb**	**13 31 50.8**	**-0.7**
VILL	**Villia**	**3.41**	**130**	*e*Pb	**Pb**	**13 31 50.8**	**-1.7**
BBLS	**Lazići**	**3.48**	**353**	*e*PN	**Pn**	**13 31 47.0**	**+1.0**
BBLS	**Lazići**	**3.48**	**353**	*e*Pn	**Pn**	**13 31 47.0**	**+1.0**
KAVA	**Kavala**	**3.48**	**79**	*e*PB	**Pn**	**13 31 49.0**	**+3.0**
KAVA	**Kavala**	**3.48**	**79**	*e*Pn	**Pn**	**13 31 49.0**	**+3.0**
ITM	**Ithomi**	**3.56**	**154**	*e*PN	**Pn**	**13 31 49.5**	**+2.3**
ITM	**Ithomi**	**3.56**	**154**	*e*Pn	**Pn**	**13 31 49.5**	**+2.3**
EREA	**Eretria**	**3.64**	**122**	*e*PB	Pb	13 31 52.6	-3.7
EREA	**Eretria**	**3.64**	**122**	*e*Pb	Pb	13 31 52.6	-3.7
DIVS	**Divibare**	**3.68**	**360**	*e*Pn	**Pn**	**13 31 48.8**	**-0.1**
DIVS				*e*Sn	**Sn**	**13 32 34.4**	**+2.2**
DIVS	**Divibare**	**3.68**	**360**	⇑*i*P	**Pn**	**13 31 50.1**	**+1.2**
DIVS	**Divibare**	**3.68**	**360**	S	**Sn**	**13 32 32.8**	**+0.6**
DIVS	**Divibare**	**3.68**	**360**	*e*Pn	**Pn**	**13 31 48.8**	**-0.1**
DIVS	**Divibare**	**3.68**	**360**	⇑*i*P	**Pn**	**13 31 50.1**	**+1.2**
DIVS				*e*Sn	**Sn**	**13 32 34.4**	**+2.2**
BOLS	**Boljevac**	**3.71**	**22**	*e*Pn	**Pn**	**13 31 49.4**	**+0.3**
BOLS	**Boljevac**	**3.71**	**22**	*e*Pn	**Pn**	**13 31 49.4**	**+0.3**
DIDY	**Didyma**	**3.86**	**139**	*e*PN	**Pn**	**13 31 53.9**	**+2.6**
DIDY	**Didyma**	**3.86**	**139**	*e*Pn	**Pn**	**13 31 53.9**	**+2.6**
KUBS	**Kucevo**	**4.18**	**17**	*e*Pn	**Pn**	**13 31 55.5**	**-0.2**
KUBS	**Kucevo**	**4.18**	**17**	*e*Pn	**Pn**	**13 31 55.5**	**-0.2**
VLI	**Veliai**	**4.35**	**147**	*e*PN	**Pn**	**13 32 00.1**	**+2.1**
VLI	**Veliai**	**4.35**	**147**	*e*Pn	**Pn**	**13 32 00.1**	**+2.1**
KYTH	**Kithira**	**4.77**	**149**	P	**Pn**	**13 32 06.7**	**+2.9**
KYTH	**Kithira**	**4.77**	**149**	P	**Pn**	**13 32 06.7**	**+2.9**
BZS	**Buzias**	**5.33**	**12**	⇑*i*P	**Pn**	**13 32 11.9**	**+0.5**
BZS	**Buzias**	**5.33**	**12**	⇑*i*P	**Pn**	**13 32 11.9**	**+0.5**
APE	**Apeiranthos**	**5.46**	**126**	⇑*i*P	Pn	13 32 19.0	+5.7
NVLJ	**Novalja**	**5.62**	**319**	*e*Pn	**Pn**	**13 32 15.4**	**0.0**
NVLJ					Sn	**Sn**	**13 33 17.5**	**-2.4**
NVLJ	**Novalja**	**5.62**	**319**	*e*Pn	**Pn**	**13 32 15.4**	**0.0**
NVLJ					Sn	**Sn**	**13 33 17.4**	**-2.4**
PKSM	**Moragy**	**5.88**	**351**	⇓*i*P	**Pn**	**13 32 18.9**	**0.0**
PKSM	**Moragy**	**5.88**	**351**	⇓*i*P	**Pn**	**13 32 18.9**	**0.0**
ARR	**Arges**	**6.00**	**33**	⇑*i*P	**Pn**	**13 32 22.1**	**+1.4**
ARR	**Arges**	**6.00**	**33**	⇑*i*P	**Pn**	**13 32 22.1**	**+1.4**
BOJS	**Bojanci**	**6.16**	**327**	*i* Pn	**Pn**	**13 32 23.7**	**+0.8**
BOJS	**Bojanci**	**6.16**	**327**	Pn	**Pn**	**13 32 23.7**	**+0.8**
VOIR		**6.24**	**35**	⇑*i*P	**Pn**	**13 32 26.9**	**+2.9**
VOIR		**6.24**	**35**	⇑*i*P	**Pn**	**13 32 26.9**	**+2.9**
IDI	**Anoyia**	**6.41**	**141**	Pn	**Pn**	**13 32 26.4**	**0.0**
	0.2nm,0.3s,baz=319,slow=18,SNR=2.4						
IDI					Sn	**Sn**	**13 33 36.5**	**-3.1**
	1.0nm,0.3s,baz=311,slow=19,SNR=3.5						
DRGR			**6.67**	**16**	⇓*i*P	**Pn**	**13 32 32.9**	**+3.0**
DRGR			**6.67**	**16**	⇓*i*P	**Pn**	**13 32 32.9**	**+3.0**
MLR	**Muntele Rosu**	**6.69**	**39**	Pn	**Pn**	**13 32 28.5**	**-1.7**
	0.1nm,0.3s,baz=139,slow=18,SNR=2.5						
MLR	**Muntele Rosu**	**6.69**	**39**	⇓*i*P	**Pn**	**13 32 32.8**	**+2.6**
MLR	**Muntele Rosu**	**6.69**	**39**	⇓*i*P	**Pn**	**13 32 32.8**	**+2.6**
VNDS	**Vrh nad Dolski**	**6.87**	**328**	*i* Pn	**Pn**	**13 32 32.8**	**+0.1**
SOKA	**Soboth**	**7.22**	**332**	Pn	**Pn**	**13 32 37.3**	**-0.2**
SOKA	**Soboth**	**7.22**	**332**	⇓*i*Pn	**Pn**	**13 32 37.3**	**-0.2**
PLOR	**Plostina**	**7.29**	**40**	⇑*i*P	**Pn**	**13 32 40.6**	**+2.3**
PLOR	**Plostina**	**7.29**	**40**	⇑*i*P	**Pn**	**13 32 40.6**	**+2.3**
VRI	**Vrincioaia**	**7.34**	**40**	⇓*i*P	**Pn**	**13 32 41.8**	**+2.8**
VRI	**Vrincioaia**	**7.34**	**40**	⇓*i*P	**Pn**	**13 32 41.8**	**+2.8**
PSZ	**Piszkesteto**	**7.50**	**359**	⇑*i*P	**Pn**	**13 32 41.3**	**0.0**
PSZ	**Piszkesteto**	**7.50**	**359**	⇑*i*P	**Pn**	**13 32 41.3**	**0.0**
BURAR	**Bucovina Array**	**8.12**	**26**	⇓*i*P	**Pn**	**13 32 52.6**	**+2.8**
BURAR	**Bucovina Array**	**8.12**	**26**	⇓*i*P	**Pn**	**13 32 52.6**	**+2.8**
WTTA	**Wattenberg**	**9.13**	**321**	Pn	**Pn**	**13 33 03.4**	**-0.3**
WTTA	**Wattenberg**	**9.13**	**321**	⇑*i*Pn	**Pn**	**13 33 03.4**	**-0.3**
MOTA	**Moosalm**	**9.44**	**320**	Pn	**Pn**	**13 33 08.4**	**+0.4**
MOTA	**Moosalm**	**9.44**	**320**	⇑*i*Pn	**Pn**	**13 33 08.4**	**+0.4**
GERES	**GERESS Array B**	**9.54**	**334**	Pn	**Pn**	**13 33 07.6**	**-1.8**
	0.2nm,0.3s,baz=157,slow=13,SNR=7.2						
GERES					Sn	**Sn**	**13 34 53.4**	**-3.2**
	0.0nm,0.3s,baz=156,slow=24,SNR=2.5						
DAVOX	**Davos/Dischmat**	**9.71**	**314**	Pn	**Pn**	**13 33 09.6**	**-2.1**
	0.2nm,0.3s,baz=164,slow=19,SNR=2.2						
DAVOX					Sn	**Sn**	**13 35 00.2**	**-0.5**
	0.2nm,0.3s,baz=139,slow=20,SNR=2.0						
KHC	**Kasperske Hory**	**9.83**	**335**	*e*PN	**Pn**	**13 33 13.0**	**-0.2**
KHC				*ex*	x	13 33 22.4	
KHC				*e*SN	**Sn**	**13 35 01.7**	**-1.9**
KHC	**Kasperske Hory**	**9.83**	**335**	Pn	**Pn**	**13 33 13.0**	**-0.2**
KHC				Sn	**Sn**	**13 35 01.7**	**-1.9**
HFS	**Hagfors**	**20.13**	**351**	P	**P**	**13 35 25.8**	**+0.1**
	0.1nm,0.3s,baz=188,slow=9.7,SNR=3.2						
NOA	**NORSAR Array B**	**21.35**	**348**	P	**P**	**13 35 37.1**	**-1.8**
	0.9nm,0.8s,baz=158,slow=11,SNR=3.0						
FINES	**FINESS Array B**	**21.38**	**8**	P	**P**	**13 35 36.9**	**-2.3**
	1.9nm,0.9s,baz=185,slow=13,SNR=3.8						
EKA	**Eskdalemuir Ar**	**21.39**	**322**	P	**P**	**13 35 39.2**	**-0.2**
	1.1nm,0.6s,baz=124,slow=9.9,SNR=8.1						
ARCES	**ARCESS Array B**	**29.33**	**4**	P	**P**	**13 36 52.8**	**-1.4**
	1.1nm,0.8s,baz=171,slow=13,SNR=2.8						
TORD	**Torodi Ar. Bea**	**31.56**	**216**	P	**P**	**13 37 17.3**	**+2.9**
	0.2nm,0.3s,baz=22,slow=11,SNR=2.4						
MKAR	**Makanchi Array**	**44.51**	**60**	P	**P**	**13 39 02.5**	**-0.8**
	0.1nm,0.4s,baz=276,slow=8.8,SNR=4.2						

*IDC **25** 13:31:50.9±0.9, 16°.17N×94°.56E, h0km, mb3.8/12, mb1 3.9/13, mb1mx3.6/53, mbtmp3.8/13, ML3.7/1, Error ellipse: s-maj=40.4km s-min=16.7km az=49.0*
*NEIC **25** 13:31:52.2±0.6, 16°.14N×94°.57E, h10km, mb4.0/1, Error ellipse: s-maj=13.6km s-min=9.0km az=192.0*
*ISCJB **25** 13:31:53.9±0.8, 16°.2N±0°.1×94°.70E±0°.06, h33km, mb3.8/13, Error ellipse: s-maj=16.3km s-min=8.8km az=173.0*

ISC 25 13:31:56.5±1.0, 16°.3N±0°.2×94°.68E±0°.09, h35km, n16, σ0s85/18, mb3.8/13, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**4.62**	**61**	*e*P		**Pn**	**Pn**	**13 33 04.8**	**+0.9**
CMAR	**Chiang Mai Arr**	**4.62**	**61**	P		**Pn**	**Pn**	**13 33 04.5**	**+0.6**
	0.8nm,0.3s,baz=240,slow=16,SNR=14								
CMAR						Sn	**Sn**	**13 33 56.0**	**-0.4**
	1.4nm,0.3s,baz=238,slow=20,SNR=5.1								
CHTO	**Chiang Mai**	**4.80**	**57**	*e*P		**Pn**	**Pn**	**13 33 05.8**	**-0.5**
MKAR	**Makanchi Array**	**32.14**	**344**	P		**P**	**P**	**13 38 20.7**	**0.0**
	0.6nm,0.5s,baz=163,slow=10.0,SNR=4.5								
KURK	**Kurchatov**	**36.71**	**343**	*e*P		**P**	**P**	**13 39 00.2**	**0.0**
	1.2nm,0.4s								
ZALV	**Zalesovo Beam**	**38.38**	**351**	P		**P**	**P**	**13 39 14.5**	**+0.3**
	1.4nm,0.3s,baz=168,slow=8.3,SNR=2.5								
GEYT	**Alibeck**	**38.70**	**311**	P		**P**	**P**	**13 39 17.1**	**-0.1**
	2.9nm,0.8s,baz=131,slow=6.6,SNR=3.8								
BVAR	**Borovoye Array**	**41.35**	**338**	P		**P**	**P**	**13 39 38.7**	**-0.3**
	0.8nm,0.7s,baz=169,slow=11,SNR=4.8								
WRA	**Warramunga Arr**	**53.04**	**131**	P		**P**	**P**	**13 41 09.3**	**-1.1**
	0.5nm,0.7s,baz=311,slow=7.5,SNR=2.9								
WRA					PcP	**PcP**	**PcP**	**13 42 20.5**	**+1.8**
	0.3nm,0.5s,baz=321,slow=3.3,SNR=2.8								
ASAR	**Alice Springs**	**55.17**	**135**	P		**P**	**P**	**13 41 25.6**	**-0.4**
	0.2nm,0.5s,baz=314,slow=7.2,SNR=5.7								
FINES	**FINESS Array B**	**65.64**	**331**	P		**P**	**P**	**13 42 36.6**	**-0.2**
	1.9nm,1.0s,baz=183,slow=7.6,SNR=4.5								
ARCES	**ARCESS Array B**	**67.62**	**339**	P		**P**	**P**	**13 42 50.4**	**+0.9**
	1.1nm,0.5s,baz=90,slow=7.3,SNR=8.9								
HFS	**Hagfors**	**71.56**	**329**	P		**P**	**P**	**13 43 12.2**	**-1.7**
	1.3nm,0.8s,baz=113,slow=11,SNR=4.9								
GERES	**GERESS Array B**	**72.03**	**317**	P		**P**	**P**	**13 43 17.5**	**+0.4**
	0.6nm,0.7s,baz=95,slow=4.9,SNR=3.1								
NOA	**NORSAR Array B**	**72.76**	**330**	P		**P**	**P**	**13 43 20.3**	**-0.8**
	0.6nm,0.6s,baz=90,slow=6.0,SNR=2.9								
EKA	**Eskdalemuir Ar**	**81.17**	**325**	P		**P**	**P**	**13 44 08.4**	**0.0**
	0.6nm,0.6s,baz=78,slow=6.8,SNR=3.5								

*IDC **25** 13:37:57.6±0.7, 60°.25N×140°.78W, h0km, mb3.4/6, mb1 3.7/11, mb1mx3.5/41, mbtmp3.5/11, ML3.2/4, MS2.9/3, Ms1 2.9/3, ms1mx2.5/42, Error ellipse: s-maj=14.9km s-min=10.8km az=32.0*
*ISCJB **25** 13:37:58.0±0.7, 60°.21N±0°.03×140°.61W±0°.04, h11km±5km, mb3.9/6, MS2.9/1, Error ellipse: s-maj=5.8km s-min=3.5km az=13.3*
*NEIC **25** 13:37:59.0, 60°.25N×140°.70W, h8km, ML3.6(OTT), ML3.6(AEIC), After AEIC.*
*PGC **25** 13:38:03.0±3.1, 60°.30N×140°.11W, h5km, ML3.6/4, 117km Nnw of Yakutat, Ak Southeastern Alaska*

ISC 25 13:37:59.2±1.1, 60°.21N±0°.03×140°.75W±0°.03, h13km±7km, n72, σ1s36/76, mb3.7/6, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHX	**Chaix Hills**	**0.23**	**232**	P		**Pg**	**Pg**	**13 38 04.6**	**+0.4**
TABL	**Table Mountain**	**0.30**	**320**	P		**Pg**	**Pg**	**13 38 05.7**	**+0.2**
YAH	**Yahtse**	**0.52**	**288**	P		**Pb**	**Pg**	**13 38 10.1**	**-0.2**
BAGL	**Bagley Icefiel**	**0.72**	**294**	P		**Pg**	**Pg**	**13 38 13.1**	**-0.1**
BAGL				S		**Sb**	**Sg**	**13 38 24.3**	**+0.8**
ISLE	**Juniper Island**	**0.88**	**297**	P		**Pg**	**Pg**	**13 38 15.3**	**-0.9**
ISLE				S		**Sg**	**Sg**	**13 38 27.9**	**+0.1**
YKU2	**Yakutat**	**0.89**	**142**	P		**Pg**	**Pg**	**13 38 15.7**	**-0.6**
YKU2				S		**Sn**	**Sn**	**13 38 29.7**	**-0.3**
BARN	**Barnard Glacie**	**0.96**	**333**	P		**Pg**	**Pg**	**13 38 16.6**	**-1.2**
BARN				S		**Sg**	**Sg**	**13 38 30.2**	**-0.3**
KIAG	**Kiagna River**	**1.07**	**313**	P		**Pg**	**Pg**	**13 38 18.4**	**-1.5**
BALM	**Baldy**	**1.14**	**317**	P		**Pb**	**Pg**	**13 38 19.5**	**-1.4**
BGLC	**Bering Glacier**	**1.27**	**267**	P		**Pb**	**Pg**	**13 38 22.9**	**0.0**
GRIN	**Grindle Hills**	**1.28**	**274**	P		**Pn**	**Pn**	**13 38 22.7**	**-0.2**
GRIN				S		**Sn**	**Sn**	**13 38 41.2**	**+1.3**
BERG	**Berg Lake**	**1.48**	**278**	P		**Pn**	**Pn**	**13 38 25.7**	**+0.2**
BERG				S		**Sg**	**Sg**	**13 38 46.3**	**-0.5**
SUCK	**Suckling Hills**	**1.52**	**266**	P		**Pb**	**Pg**	**13 38 26.7**	**-0.6**
SUCK				S		**Sg**	**Sg**	**13 38 48.5**	**+0.4**
MCARA	**McCarthy VSAT**	**1.62**	**318**	P		**Pn**	**Pn**	**13 38 27.5**	**0.0**
VRDI	**Verde Repeater**	**1.68**	**309**	P		**Pn**	**Pn**	**13 38 28.1**	**-0.3**
VRDI				S		**Sb**	**Sg**	**13 38 52.2**	**+1.1**
HYT	**Haines Junctio**	**1.72**	**68**	Pg		**Pn**	**Pn**	**13 38 29.1**	**+0.1**
HYT	**Haines Junctio**	**1.72**	**68**	P		**Pn**	**Pn**	**13 38 29.4**	**+0.5**
GLB	**Gilahina Butte**	**1.94**	**311**	P		**Pn**	**Pn**	**13 38 32.4**	**+0.4**
RAGM	**Ragged Mountai**	**1.96**	**277**	P		**Pn**	**Pn**	**13 38 32.4**	**+0.2**
PLBC	**Pleasant Camp**	**2.34**	**107**	Pn		**Pn**	**Pn**	**13 38 37.6**	**+0.4**
PLBC				Sg		**Sn**	**Sn**	**13 39 07.5**	**+1.7**
PLBC	**Pleasant Camp**	**2.34**	**107**	P		**Pn**	**Pn**	**13 38 37.7**	**+0.4**
WASW	**Wrangell South**	**2.40**	**318**	P		**Pn**	**Pn**	**13 38 40.5**	**+2.2**
EYAK	**Cordova Ski Ar**	**2.50**	**280**	P		**Pn**	**Pn**	**13 38 39.7**	**+0.2**
SKAG	**Skagway**	**2.84**	**103**	P		**Pn**	**Pn**	**13 38 44.2**	**+0.1**
KLU	**Klutina**	**2.84**	**299**	P		**Pn**	**Pn**	**13 38 44.8**	**+0.6**
WHY	**Whitehorse**	**2.94**	**79**	Pn		**Pn**	**Pn**	**13 38 45.8**	**+0.1**
WHY				Sg		**Sn**	**Sn**	**13 39 23.4**	**+2.4**
WHY	**Whitehorse**	**2.94**	**79**	P		**Pn**	**Pn**	**13 38 46.2**	**+0.5**
MENT	**Mentasta**	**3.09**	**334**	*e*Pn		**Pn**	**Pn**	**13 38 50.4**	**+2.8**
BESE	**Bessie Mountai**	**3.43**	**116**	P		**Pn**	**Pn**	**13 38 52.1**	**-0.3**
PAX	**Paxson**	**3.57**	**323**	P		**Pn**	**Pn**	**13 38 57.4**	**+3.0**
SCM	**Sheep Creek Mo**	**3.59**	**303**	P		**Pn**	**Pn**	**13 38 55.3**	**+0.7**
DAWY	**Dawson**	**3.92**	**9**	Pn		**Pn**	**Pn**	**13 39 00.7**	**+1.6**
DAWY				Sn		**Sn**	**Sn**	**13 39 45.6**	**+0.6**
DAWY	**Dawson**	**3.92**	**9**	P		**Pn**	**Pn**	**13 39 00.8**	**+1.6**
RIDG	**Independ'e Rid**	**4.04**	**333**	P		**Pn**	**Pn**	**13 39 02.0**	**+1.4**
SEW	**Seward**	**4.35**	**272**	P		**Pn**	**Pn**	**13 39 04.1**	**-0.8**
EGAK	**Eagle**	**4.59**	**358**	P		**Pn**	**Pn**	**13 39 10.8**	**+2.5**
MCK	**McKinley**	**5.23**	**316**	*e*P		**Pn**	**Pn**	**13 39 19.5**	**+2.4**
	24nm,0.7s								
CNPM	**China Poot**	**5.33**	**267**	P		**Pn**	**Pn**	**13 39 19.1**	**+0.7**
CNPM				S		**Sn**	**Sn**	**13 40 18.6**	**-1.0**
ILAR	**Eielson Array**	**5.39**	**331**	Pn		**Pn**	**Pn**	**13 39 18.8**	**-0.4**
	0.7nm,0.3s,baz=149,slow=13,SNR=47								
TRF	**Thorofare Moun**	**5.57**	**310**	*e*P		**Pn**	**Pn**	**13 39 22.9**	**+1.1**
	12nm,0.3s								
COLA	**College**	**5.72**	**328**	P		**Pn**	**Pn**	**13 39 26.6**	**+3.0**
	19nm,0.9s								
DLBC	**Dease Lake**	**5.77**	**103**	Pn		**Pn**	**Pn**	**13 39 25.3**	**+0.8**
	0.5nm,0.3s,baz=261,slow=9.0,SNR=12								
DLBC						Sn	**Sn**	**13 40 28.4**	**-2.1**
	1.7nm,0.3s,baz=235,slow=13,SNR=4.3								
DLBC						Lg	Lg	13 40 55.9	
	2

SANV					*e*S	**Sb**	**13 51 04.8**	**+0.3**
SANV	**Sanarito**	**1.64**	**145**		*e*P	**Pb**	**13 50 43.4**	**-0.3**
SANV					*e*S	**Sb**	**13 51 04.8**	**+0.3**
JACV	**Jacura**	**1.65**	**82**		*e*S	**Sn**	**13 51 04.1**	**+0.6**
JACV	**Jacura**	**1.65**	**82**		*e*S	**Sn**	**13 51 05.0**	**+1.5**
VIRV	**Villa del Rosa**	**1.91**	**260**		*e*P	**Pn**	**13 50 45.4**	**-0.5**
VIRV					*e*S	**Sn**	**13 51 09.9**	**0.0**
SDV	**Santo Domingo**	**1.96**	**184**		*e*Pn	**Pn**	**13 50 47.3**	**+0.7**
SDV					*e*Pg	**Pb**	**13 50 49.2**	**+0.1**
SDV					*e*Sn	**Sn**	**13 51 12.4**	**+1.0**
VIGV	**El Vigia**	**2.18**	**203**		*e*P	**Pn**	**13 50 50.2**	**+0.7**
VIGV					*e*S	**Sn**	**13 51 17.1**	**+0.5**
VIGV	**El Vigia**	**2.18**	**203**		*e*P	**Pn**	**13 50 50.2**	**+0.7**
VIGV					*e*S	**Sn**	**13 51 17.1**	**+0.5**
MAPV	**Macapo**	**2.25**	**117**		*e*P	**Pn**	**13 50 50.8**	**+0.4**
MAPV					*e*S	**Sn**	**13 51 18.3**	**0.0**
SOCV	**Socops**	**2.58**	**188**		*e*P	**Sn**	**13 50 55.6**	**+0.6**
SOCV					*e*S	**Sn**	**13 51 26.3**	**-0.1**
SOCV	**Socops**	**2.58**	**188**		*e*P	**Sn**	**13 50 55.9**	**+0.9**
SOCV					*e*S	**Sn**	**13 51 26.7**	**+0.3**
TURV	**Turiamo**	**2.64**	**99**		*e*P	**Pn**	**13 50 55.4**	**-0.5**
TURV	**Turiamo**	**2.64**	**99**		*e*P	**Pn**	**13 50 55.1**	**-0.7**
BAUV	**El Baul**	**3.07**	**128**		*e*P	**Pn**	**13 51 01.8**	**0.0**
CAPV	**Capacho**	**3.47**	**211**		*e*P	**Pn**	**13 51 07.2**	**-0.3**
CAPV					*e*S	**Sn**	**13 51 48.0**	**-0.8**
CAPV	**Capacho**	**3.47**	**211**		*e*P	**Pn**	**13 51 07.2**	**-0.3**
CAPV					*e*S	**Sn**	**13 51 48.0**	**-0.8**
ELOV	**Elorza**	**3.96**	**165**		*e*P	**Pn**	**13 51 13.5**	**-0.5**
ELOV					*e*S	**Sn**	**13 51 58.5**	**-1.9**
ELOV	**Elorza**	**3.96**	**165**		*e*P	**Pn**	**13 51 13.5**	**-0.5**
ELOV					*e*S	**Sn**	**13 51 58.5**	**-1.9**
CUPV	**Cœpira**	**4.70**	**99**		*e*P	**Pn**	**13 51 23.3**	**-0.9**
PCRV	**Puerto La Cruz**	**5.80**	**96**		*e*P	**Pn**	**13 51 39.0**	**-0.3**
ROSC	**El Rosal**	**7.07**	**213**		Pn	**Pn**	**13 51 58.4**	**+1.3**
CELP	**Cerrillos**	**8.12**	**27**		*e*Pn	**Pn**	**13 52 09.1**	**-2.0**
SAML	**Samuel**	**20.97**	**159**		*e*P	**P**	**13 54 58.2**	**+1.5**

IDC ***25*** *13:55:06.6±1.1,6˚.21S×146˚.57E, h0km, mb3.6/6, mb1 3.9/9, mb1mx3.7/26, mbtmp3.7/9, ML3.7/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/24, Error ellipse: s-maj=35.5km s-min=19.4km az=92.0*

ISCJB ***25*** *13:55:10.2±0.8, 6˚.23S±0˚.07×146˚.4E±0˚.1, h35km, mb3.5/6, Error ellipse: s-maj=19.9km s-min=8.6km az=164.4*

ISC 25 13:55:12.0±0.9, 6˚24S±0˚.09×146˚.5E±0˚.2, h35km, n10, σ0s88/11, mb3.6/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.22**	**167**	Pn	**Pn**	**13 55 59.3**	**-0.8**
	3.7nm,0.3s,baz=337,slow=6.7,SNR=12						
PMG				Sn	**Sn**	**13 56 38.1**	**+0.8**
	15nm,0.3s,baz=285,slow=18,SNR=7.3						
PMG				LR	LR	13 57 38.0	
	comp=Z,177nm,18.1s,baz=38,slow=47						
SIJI	**Sorong**	**16.06**	**289**	Pn	**Pn**	**13 58 54.1**	**-1.3**
	0.4nm,0.3s,baz=37,slow=20,SNR=2.1						
WRA	**Warramunga Arr**	**18.00**	**220**	P	**Pn**	**13 59 18.9**	**-0.6**
	0.2nm,0.3s,baz=44,slow=12,SNR=11						
ASAR	**Alice Springs**	**21.11**	**214**	P	**P**	**13 59 54.5**	**+0.7**
	1.6nm,1.0s,baz=38,slow=9.6,SNR=5.1						
KSRS	**Korea Array**	**46.78**	**340**	P	**P**	**14 03 38.7**	**+0.6**
	0.7nm,0.7s,baz=158,slow=9.1,SNR=5.3						
CMAR	**Chiang Mai Arr**	**52.88**	**299**	P	**P**	**14 04 25.7**	**+0.9**
	0.3nm,0.5s,baz=116,slow=6.3,SNR=3.2						
SEY	**Seymchan**	**69.13**	**3**	P	**P**	**14 06 14.2**	**-0.2**
	0.8nm,0.7s,baz=232,slow=22,SNR=4.1						
MKAR	**Makanchi Array**	**77.33**	**321**	P	**P**	**14 07 03.3**	**+0.1**
	0.1nm,0.4s,baz=134,slow=4.2,SNR=2.5						
ILAR	**Eielson Array**	**85.92**	**23**	P	**P**	**14 07 47.4**	**-0.7**
	0.7nm,0.9s,baz=254,slow=5.4,SNR=6.1						
TORD	**Torodi Ar. Bea**	**144.62**	**284**	PKP	**PKPab**	**14 14 45.5**	**+0.9**
	1.0nm,0.7s,baz=87,slow=2.6,SNR=6.2						

NNC 25 14:14:23.2±7.5, 36˚.99N×70˚.95E, h0km, mb3.5, mpv3.2, 5C, Error ellipse: s-maj=64.7km s-min=25.0km az=176.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.47**	**318**	⇑P	Pn	14 15 05.0	+0.1
	4.0nm,0.4s						
DZET				⇑S	Sn	14 15 37.6	+1.7
	18nm,0.4s						
SFK	**Sufi-Kurgan**	**3.62**	**33**	⇑P	Pn	14 15 20.5	-0.4
	1.3nm,0.2s						
SFK				⇑S	Sn	14 16 05.8	+1.2
	6.5nm,0.2s						
KK31	**Karatay Array**	**6.12**	**357**	P	Pn	14 15 53.5	-1.3
	1.1nm,0.4s,baz=174,slow=12,SNR=12						
KK31				⇑S	Sn	14 17 04.7	-0.8
	0.6nm,0.4s,baz=185,slow=25						

IGIL ***25*** *14:17:07.1, 36˚.68N×12˚.93W, h10km, ML1.5*

MDD ***25*** *14:17:10.6±2.0, 36˚.72N×12˚.83W, h50km, mb3.6/11, Error ellipse: s-maj=18.0km s-min=15.9km az=109.0, PRXIMO*

INMG ***25*** *14:17:12.4±0.8, 36˚.68N×12˚.92W, h10km, ML2.2, Error ellipse: s-maj=4.9km s-min=2.5km az=121.0*

ISC 25 14:17:10.3±3.7, 36˚.9N±0˚.1×12˚.5W±0˚.2, h10km, n51, σ1s32/81, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**3.11**	**77**	*e*Pn	**Pn**	**14 18 00.1**	**+0.8**
PTEO				*e*Sn	**Sn**	**14 18 36.5**	**0.0**
PTEO				A	A	14 18 46.5	
	4.6nm,0.8s						
PTEO	**Sao Teotonio**	**3.11**	**77**	P	**Pn**	**14 18 00.1**	**+0.8**
PTEO				S	**Sn**	**14 18 36.5**	**0.0**
	2.3nm,0.8s						
MORF	**Marmelete**	**3.13**	**82**	*e*P	**Pn**	**14 17 59.8**	**0.0**
MORF	**Marmelete**	**3.13**	**82**	*e*Pn	**Pn**	**14 18 00.2**	**+0.5**
MORF				*e*Sn	**Sn**	**14 18 36.4**	**-0.8**
MORF				A	A	14 18 37.7	
	2.9nm,0.4s						
MORF	**Marmelete**	**3.13**	**82**	P	**Pn**	**14 18 00.2**	**+0.5**
MORF				S	**Sn**	**14 18 36.4**	**-0.8**
	2.9nm,0.4s						
PMAFR	**Mafra**	**3.27**	**51**	*e*Pn	**Pn**	**14 18 03.5**	**+1.8**
PMAFR				*e*Sn	**Sn**	**14 18 41.8**	**+1.1**
PMAFR				A	A	14 18 42.5	
	11nm,0.2s						
PMAFR	**Mafra**	**3.27**	**51**	P	**Pn**	**14 18 03.4**	**+1.8**
	0.8nm,0.2s,SNR=7.9						
PMAFR				S	**Sn**	**14 18 41.8**	**+1.1**
	15nm,0.2s,SNR=11						
PNCL	**Nicolau / Gran**	**3.40**	**68**	*e*Pn	**Pn**	**14 18 04.6**	**+1.2**
PNCL				*e*Sn	**Sn**	**14 18 44.1**	**+0.3**
PNCL				A	A	14 18 48.2	
	1.6nm,0.5s						
PACT	**Alcochete**	**3.46**	**57**	*e*Pn	**Pn**	**14 18 04.7**	**+0.5**
PACT				*e*Sn	**Sn**	**14 18 45.7**	**+0.5**
PACT				A	A	14 18 47.4	
	8.1nm,0.2s						
MESJ	**Messejana**	**3.56**	**74**	*e*P	**Pn**	**14 18 06.1**	**+0.5**
MESJ				*e*S	**Sn**	**14 18 48.4**	**+0.7**
MESJ				AML	AML	14 18 48.4	
	comp=E,1.0nm,0.1s						
MESJ	**Messejana**	**3.56**	**74**	*e*Pn	**Pn**	**14 18 06.9**	**+1.4**
MESJ	**Messejana**	**3.56**	**74**	P	**Pn**	**14 18 06.1**	**+0.5**
MESJ				S	**Sn**	**14 18 48.4**	**+0.7**
	comp=E,1.0nm,0.1s						
PCVE	**Castro Verde**	**3.66**	**78**	*e*Pn	**Pn**	**14 18 08.2**	**+1.3**
PCVE				*e*Sn	**Sn**	**14 18 49.5**	**-0.6**
PCVE	**Castro Verde**	**3.66**	**78**	P	**Pn**	**14 18 08.2**	**+1.3**
PCVE				S	**Sn**	**14 18 49.5**	**-0.6**
PBDV	**Barranco-do-Ve**	**3.70**	**84**	*e*Pn	**Pn**	**14 18 08.2**	**+0.7**
PBDV	**Barranco-do-Ve**	**3.70**	**84**	P	**Pn**	**14 18 08.2**	**+0.7**
PVAQ	**Vaqueiros**	**3.88**	**82**	*e*Pn	**Pn**	**14 18 10.8**	**+0.8**
PVAQ				*e*Sn	**Sn**	**14 18 54.9**	**-0.7**
PVAQ	**Vaqueiros**	**3.88**	**82**	P	**Pn**	**14 18 10.8**	**+0.8**
PVAQ				S	**Sn**	**14 18 54.9**	**-0.7**
PMTG	**Montargil**	**4.02**	**57**	*e*Pn	**Pn**	**14 18 13.1**	**+1.2**
PMTG				*e*Sn	**Sn**	**14 18 58.9**	**-0.2**
PMTG				A	A	14 19 02.0	
	comp=E,2.8nm,0.9s						
EGRO	**El Granado**	**4.08**	**80**	P	**Pn**	**14 18 13.6**	**+0.9**
	comp=E,0.3nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**14 19 00.3**	**-0.2**
	SNR=7.9						
PTOM	**Tomar**	**4.21**	**49**	*e*Sn	**Sn**	**14 19 04.0**	**+0.2**
PTOM				A	A	14 19 06.2	
	comp=E,6.1nm,0.5s						
PTOM	**Tomar**	**4.21**	**49**	S	**Sn**	**14 19 04.0**	**+0.2**
	comp=E,3.1nm,0.5s						
PESTR	**Estremoz**	**4.37**	**62**	*e*Pn	**Pn**	**14 18 18.0**	**+1.3**
PESTR				*e*Sn	**Sn**	**14 19 06.8**	**-0.8**
PESTR				A	A	14 19 18.4	
	comp=E,2.1nm,0.8s						
PCAS	**Casmilo, Conde**	**4.45**	**44**	*e*Pn	**Pn**	**14 18 18.5**	**+0.7**
PCAS				*e*Sn	**Sn**	**14 19 09.6**	**0.0**
PCAS				A	A	14 19 14.9	
	comp=E,3.5nm,0.6s						
PBAR	**Barrancos**	**4.54**	**72**	*e*Pn	**Pn**	**14 18 20.1**	**+1.0**
PBAR				*e*Sn	**Sn**	**14 19 10.7**	**-1.3**
PBAR	**Barrancos**	**4.54**	**72**	P	**Pn**	**14 18 20.1**	**+1.0**
PBAR				S	**Sn**	**14 19 10.7**	**-1.3**
EBAD	**Badajoz**	**4.74**	**66**	P	**Pn**	**14 18 22.9**	**+1.1**
EBAD				S	**Sn**	**14 19 15.4**	**-1.4**
	comp=E,1.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.75**	**78**	P	**Pn**	**14 18 22.3**	**+0.3**
	comp=E,0.2nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**14 19 15.4**	**-1.7**
	comp=E,0.2nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**4.76**	**57**	*e*Pn	**Pn**	**14 18 23.5**	**+1.4**
PMRV				*e*Sn	**Sn**	**14 19 16.5**	**-0.9**
PMRV				A	A	14 19 18.6	
	comp=E,2.9nm,0.6s						
PMRV	**Marv??o**	**4.76**	**57**	P	**Pn**	**14 18 23.5**	**+1.4**
PMRV				S	**Sn**	**14 19 16.5**	**-0.9**
	comp=E,2.9nm,0.6s						
PCBR	**Castelo Branco**	**4.93**	**52**	*e*Pn	**Pn**	**14 18 26.3**	**+2.0**
PCBR				*e*Sn	**Sn**	**14 19 20.8**	**-0.6**
PCBR	**Castelo Branco**	**4.93**	**52**	P	**Pn**	**14 18 26.3**	**+2.0**
PCBR				S	**Sn**	**14 19 20.8**	**-0.6**
PMPST	**Porto Santo, M**	**4.94**	**220**	*e*Sn	Sn	14 19 02.7	-19
PMPS	**Porto Santo**	**4.96**	**220**	S	Sn	14 19 02.7	-20
PVIS	**Viseu**	**5.24**	**42**	*e*Sn	**Sn**	**14 19 28.4**	**-0.8**
PVIS				A	A	14 19 31.8	
	comp=E,4.2nm,0.3s						
PVIS	**Viseu**	**5.24**	**42**	S	**Sn**	**14 19 28.4**	**-0.8**
	comp=E,2.1nm,0.3s						
ESPR	**Espera**	**5.36**	**89**	P	**Pn**	**14 18 30.6**	**+0.3**
	comp=E,0.6nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**14 19 30.7**	**-1.3**
	comp=E,2.6nm,0.3s,SNR=7.9						
POLO	**Lamas de Olo**	**5.77**	**38**	*e*Sn	**Sn**	**14 19 40.7**	**-1.6**
ECAB	**El Cabril**	**5.78**	**76**	P	**Pn**	**14 18 36.5**	**+0.4**
	comp=E,0.6nm,0.2s,SNR=10						
ECAB				S	**Sn**	**14 19 40.9**	**-1.6**
	comp=E,0.1nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**5.96**	**56**	P	**Pn**	**14 18 40.2**	**+1.7**
	comp=E,0.6nm,0.2s,SNR=7.9						
EPLA				S	**Sn**	**14 19 46.1**	**-0.7**
	comp=E,0.0nm,0.2s,SNR=7.9						
PGAV	**Gavieira, Arco**	**6.02**	**32**	*e*Sn	**Sn**	**14 19 46.5**	**-1.9**
MVO	**Moncorvo**	**6.02**	**44**	*e*Sn	**Sn**	**14 19 46.3**	**-2.2**
MVO				A	A	14 19 47.7	
	comp=E,2.3nm,0.4s						
MVO	**Moncorvo**	**6.02**	**44**	S	**Sn**	**14 19 46.4**	**-2.2**
	comp=E,1.2nm,0.1s,SNR=5.6						
ELOB	**Lobios**	**6.03**	**34**	S	**Sn**	**14 19 46.4**	**-2.3**
	comp=E,0.6nm,0.1s,SNR=5.8						
EADA	**Adamuz**	**6.45**	**77**	P	**Pn**	**14 18 45.8**	**+0.5**
	comp=E,0.3nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**14 19 56.9**	**-2.0**
	comp=E,0.3nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.61**	**23**	S	**Sn**	**14 19 59.4**	**-3.4**
	comp=E,3.0nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**6.72**	**40**	P	**Pn**	**14 18 51.4**	**+2.3**
	comp=E,0.0nm,0.1s,SNR=4.0						
ECAL				S	**Sn**	**14 20 03.7**	**-2.1**
	comp=E,0.6nm,0.1s,SNR=6.2						
EAGO	**Agolada(Pontev**	**6.79**	**29**	S	**Sn**	**14 20 03.9**	**-3.4**
	comp=E,0.9nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**6.96**	**65**	P	**Pn**	**14 18 53.8**	**+1.4**
	comp=E,0.1nm,0.2s,SNR=7.9						
PAB				S	**Sn**	**14 20 09.7**	**-1.9**
	comp=E,0.1nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**7.28**	**65**	P	**Pn**	**14 18 58.0**	**+1.3**
	comp=E,0.8nm,0.2s,baz=252,slow=13,SNR=4.2						
GUD	**Guadarrama**	**7.53**	**58**	S	**Sn**	**14 20 23.0**	**-2.6**
	comp=E,0.1nm,0.1s,SNR=7.9						

IDC 25 14:26:30.0±12.0, 6˚.83N×123˚.06E, h245km±149km, mb3.1/3, mb1 3.4/4, mb1mx2.9/34, mbtmp3.9/4, Error ellipse: s-maj=230.6km s-min=23.5km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**11.21**	**133**	P	Pn	14 29 04.0	0.0
	0.6nm,0.3s,baz=270,slow=20,SNR=3.5						
WRA	**Warramunga Arr**	**28.83**	**158**	P	P	14 32 05.5	-0.3
	0.5nm,0.4s,baz=336,slow=10,SNR=3.1						
ASAR	**Alice Springs**	**32.11**	**161**	P	P	14 32 34.9	+0.2
	0.4nm,0.3s,baz=342,slow=6.8,SNR=36						
MKAR	**Makanchi Array**	**52.95**	**326**	P	P	14 35 21.3	-0.1
	0.2nm,0.3s,baz=120,slow=8.7,SNR=3.5						

WEL 25 14:45:04.1±0.9, 36˚.40S×177˚.22E, h15km±9km, ML3.5/4, Error ellipse: s-maj=10.2km s-min=6.4km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUZ	**Kuaotunu**	**1.26**	**254**	PN	Pn	14 45 26.1	-1.0
KUZ				*e*SN	Sb	14 45 42.1	-1.5
KUZ				AML	AML	14 45 42.6	
KUZ				AML	AML	14 45 43.4	
KUZ				AML	AML	14 45 43.4	
HAZ	**Te Kaha**	**1.42**	**162**	*e*P*	Pb	14 45 30.3	-0.1
GRZ	**Great Barrier**	**1.44**	**276**	PN	Pn	14 45 28.9	-0.8
GRZ				SN	Sn	14 45 47.4	-0.8
MXZ	**Matakaoa Point**	**1.45**	**144**	P*	Pn	14 45 28.3	-1.5
MXZ				S*	Sn	14 45 43.2	-5.3
MKAZ	**Moumakai**	**1.80**	**246**	PN	Pn	14 45 33.5	-1.1
MKAZ				SN	Sb	14 45 58.3	-0.8
URZ	**Urewera**	**1.86**	**183**	AML	AML	14 45 44.4	
ETAZ	**East Tamaki Re**	**1.93**	**253**	PN	Pn	14 45 37.0	+0.6
ABAZ	**Army Bay**	**1.94**	**263**	*e*PN	Pb	14 45 38.3	-0.9
ABAZ				SN	Sb	14 46 03.8	+0.7
KBAZ	**Karaka Road Bo**	**2.00**	**249**	PN	Pb	14 45 39.6	-0.6
KBAZ				SN	Sb	14 46 06.1	+1.2
RVAZ	**Riverhead Bore**	**2.16**	**259**	PN	Pn	14 45 39.8	+0.2

ISCJB ***25*** *15:09:36.9±1.5, 30˚.5N±0˚.2×113˚.8W±0˚.2, h10km, mb3.7/2, MS3.2/3, Error ellipse: s-maj=29.2km s-min=11.4km az=35.6*

IDC ***25*** *15:09:36.5±1.8, 30˚.38N×113˚.95W, h0km, mb3.8/2, mb1 3.5/7, mb1mx3.4/28, mbtmp3.2/7, ML3.0/5, MS3.2/8, Ms1 3.2/8, ms1mx2.8/41, Error ellipse: s-maj=31.4km s-min=12.6km az=37.0*

ISC 25 15:09:39.1±1.5, 30˚.5N±0˚.2×113˚.8W±0˚.1, h10km, n12, σ1s25/6, MS3.0/3, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFO	**Pinyon Flat Ob**	**3.79**	**325**	Pn	**Pn**	**15 10 38.1**	**+0.5**
	0.1nm,0.3s,baz=139,slow=9.3,SNR=2.8						
PFO				Lg	Lg	15 11 38.3	
	1.8nm,0.3s,baz=90,slow=20,SNR=4.3						
PFO				LR	LR	15 12 04.6	
	comp=Z,308nm,18.9s,baz=192,slow=38						
LPIG	**La Paz**	**7.14**	**153**	LR	LR	15 13 59.0	
	comp=Z,165nm,20.8s,baz=357,slow=37						
ANMO	**Albuquerque**	**7.61**	**53**	Pn	**Pn**	**15 11 30.1**	**0.0**
	0.1nm,0.3s,baz=223,slow=14,SNR=3.0						
ANMO				Lg	Lg	15 13 45.3	
	0.1nm,0.3s,baz=318,slow=16,SNR=2.2						
NVAR	**Mina Array Bea**	**8.69**	**336**	Pn	**Pn**	**15 11 46.1**	**+1.1**
	0.0nm,0.3s,baz=162,slow=13,SNR=3.9						
TXAR	**Lajitas Array**	**8.90**	**95**	Pn	**Pn**	**15 11 48.9**	**+1.0**
	0.1nm,0.3s,baz=269,slow=12,SNR=6.3						
TXAR				Lg	Lg	15 14 26.9	
	0.1nm,0.3s,baz=263,slow=33,SNR=9.8						
TXAR				LR	LR	15 15 39.2	
	comp=Z,251nm,18.0s,baz=0.0,slow=40						
PDAR	**Pinedale Array**	**12.67**	**14**	Pn	Pn	15 12 44.6	+5.1
	0.0nm,0.3s,baz=179,slow=8.1,SNR=3.5						
YBH	**Yreka Blue Hor**	**13.27**	**330**	LR	LR	15 18 30.6	
	comp=Z,64nm,19.2s,baz=168,slow=40						
NEW	**Newport**	**17.88**	**353**	LR	LR	15 20 58.0	
	comp=Z,49nm,20.1s,baz=166,slow=38						
CMIG	**Matias Romero**	**21.86**	**123**	P	**P**	**15 14 31.2**	**-0.8**
	2.8nm,0.8s,baz=324,slow=11,SNR=4.3						
CMIG				LR	LR	15 23 24.6	
	comp=Z,66nm,19.7s,baz=304,slow=38						
BBB	**Bella Bella**	**24.05**	**338**	LR	LR	15 24 37.4	
	comp=Z,47nm,19.7s,baz=222,slow=37						
ILAR	**Eielson Array**	**39.94**	**339**	P	**P**	**15 17 11.9**	**-1.3**
	1.4nm,0.9s,baz=153,slow=7.5,SNR=8.9						
MJAR	**Matsushiro Arr**	**85.10**	**310**	LR	LR	15 53 41.9	
	comp=Z,18nm,20.7s,baz=220,slow=31						

ISCJB ***25*** *15:31:15.2±0.4, 6˚.99N±0˚.05×123˚.62E±0˚.07, h600km, mb3.8/10, Error ellipse: s-maj=9.6km s-min=5.8km az=168.7*

IDC ***25*** *15:31:17.6±1.2, 6˚.85N×123˚.84E, h632km±17km, mb3.0/10, mb1 3.2/11, mb1mx3.0/27, mbtmp4.2/11, Error ellipse: s-maj=25.6km s-min=8.0km az=70.0*

DJA ***25*** *15:31:18.7±0.9, 7˚.1N±14˚.4E±˚, h610km±20km, M4.1/10, mb4.3/10, mB4.5/10, MLv4.6/6, Mw(mB)3.6/10*

ISC 25 15:31:15.6±0.6, 6˚.85N±0.07×123˚.67E±0˚.10, h600km, n34, σ1s60/44, mb3.8/10, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**6.25**	**177**	P	**P**	**15 33 00.6**	**+1.6**
	119nm,1.0s,1µm0.4nm						
KMSI				S	**S**	**15 34 23.3**	**-0.1**
	119nm,1.0s,1µm0.4nm						
MRSI	**Marisa**	**6.56**	**195**	P	**P**	**15 33 03.2**	**+1.4**
	25nm,0.9s,507nm0.1nm						
MRSI				S	**S**	**15 34 28.3**	**-0.2**
	25nm,0.9s,507nm0.1nm						
TNTI	**Ternate**	**7.08**	**148**	P	**P**	**15 33 08.3**	**+1.8**
	51nm,0.8s,1µm0.3nm						
TNTI				S	**S**	**15 34 38.0**	**+0.9**
	51nm,0.8s,1µm0.3nm						
KKM	**Kota Kinabalu**	**7.45**	**264**	P	**P**	**15 33 10.9**	**+0.9**
	baz=7.2,SNR=7.0						
MPSI	**Mapaga**	**7.48**	**210**	P	**P**	**15 33 11.7**	**+1.5**
	14nm,0.7s,485nm0.1nm						
MPSI				S	**S**	**15 34 43.7**	**-0.2**
	14nm,0.7s,485nm0.1nm						
LUWI	**Luwuk**	**7.89**	**187**	P	**P**	**15 33 15.4**	**+1.4**
	44nm,0.4s,944nm0.2nm						
LUWI				S	**S**	**15 34 50.2**	**-0.7**
	44nm,0.4s,944nm0.2nm						
LUWI	**Luwuk**	**7.89**	**187**	P	**P**	**15 33 15.5**	**+1.5**
	baz=7.8,SNR=16						
APSI	**Ampana**	**7.97**	**195**	P	**P**	**15 33 16.0**	**+1.2**
	42nm,1.0s,468nm0.2nm						
LBMI	**Labuha**	**8.37**	**153**	P	**P**	**15 33 20.4**	**+1.8**
	91nm,0.9s,1µm						
LBMI				S	**S**	**15 34 59.6**	**+0.4**
	91nm,0.9s,1µm						
PCI	**Palu**	**8.60**	**207**	P	**P**	**15 33 21.4**	**+0.6**
	38nm,1.1s,710nm						
SANI	**Sanana**	**9.14**	**165**	P	**P**	**15 33 25.3**	**-0.7**
	242nm,0.7s,5µm						
NLAI	**Namlea**	**10.60**	**161**	P	**P**	**15 33 42.4**	**+2.0**
SWI	**Sorong**	**10.78**	**135**	P	**P**	**15 33 44.7**	**+2.5**
	baz=11,SNR=4.0						
SIJI	**Sorong**	**10.79**	**135**	P	**P**	**15 33 43.6**	**+1.3**
	2.6nm,0.3s,baz=308,slow=23,SNR=11						
AAI	**Ambon**	**11.40**	**157**	P	**P**	**15 33 50.8**	**+2.3**
	baz=12,SNR=4.2						
FAKI	**Fak Fak**	**12.95**	**138**	P	**P**	**15 34 05.7**	**+1.7**
	baz=13,SNR=12						
SOEI	**Soe**	**16.51**	**178**	P	**P**	**15 34 38.3**	**+0.4**
	baz=16,SNR=3.1						
MTN	**Manton Dam**	**20.93**	**159**	P	P	15 35 22.8	+5.0
	baz=21,SNR=4.0						
KDU	**Kakadu**	**21.29**	**156**	P	**P**	**15 35 23.9**	**+2.8**
	baz=21,SNR=3.6						
KNRA	**Kununurra**	**22.95**	**167**	P	**P**	**15 35 36.3**	**+0.5**
	baz=23,SNR=3.6						
CMAR	**Chiang Mai Arr**	**26.69**	**298**	P	**P**	**15 36 09.9**	**+1.0**
	1.0nm,0.4s,baz=106,slow=7.1,SNR=7.6						
WRA	**Warramunga Arr**	**28.62**	**159**	P	**P**	**15 36 25.8**	**+0.1**
	4.4nm,0.3s,baz=332,slow=11,SNR=55						
WRA				PcP	**PcP**	**15 39 15.6**	**-1.1**
	0.2nm,0.3s,baz=331,slow=2.3,SNR=4.9						
WRA				S	**S**	**15 40 29.2**	**-4.4**
	2.0nm,0.8s,baz=338,slow=17,SNR=7.6						
WRA				ScP	**ScP**	**15 41 58.9**	**-3.1**
	0.1nm,0.3s,baz=339,slow=2.8,SNR=6.2						
KSRS	**Korea Array**	**30.71**	**7**	P	**P**	**15 36 43.4**	**+0.1**
	0.3nm,0.3s,baz=174,slow=9.7,SNR=4.0						

MGCD	Mangrove Creek	26.76	242	P	P	15 57 18.9	+1.8
	baz=27,SNR=5.0						
CTA	Charters Tower	30.95	269	P	P	15 57 53.9	+0.3
	12nm,0.3s,baz=94,slow=11,SNR=28						
CMSA	Cobar Meteorol	30.96	247	P	P	15 57 54.2	+0.6
	baz=31,SNR=6.8						
QLP	Quilpie	32.02	257	P	P	15 58 03.0	+0.3
	baz=32,SNR=3.9						
TOO	Toolangi	32.35	236	P	P	15 58 06.3	+0.9
	baz=33,SNR=5.8						
MTSU	Mount Surprise	33.18	272	P	P	15 58 13.2	+0.5
	baz=33,SNR=6.9						
STKA	Stephens Creek	34.47	247	P	P	15 58 23.4	+0.1
	1.5nm,0.4s,baz=94,slow=9.7,SNR=16						
STKA				PcP	PcP	16 00 42.0	-0.7
	0.8nm,0.6s,baz=109,slow=3.2,SNR=3.1						
HTT	Hallett	36.85	245	P	P	15 58 43.2	+0.1
	baz=37,SNR=5.0						
BBOO	Buckleboo	39.20	246	P	P	15 59 01.7	-0.5
	baz=39,SNR=7.9						
ASAR	Alice Springs	41.62	260	P	P	15 59 21.1	-0.4
	1.4nm,0.5s,baz=92,slow=7.3,SNR=62						
ASAR				PcP	PcP	16 01 04.8	-0.8
	0.6nm,0.7s,baz=114,slow=3.1,SNR=4.4						
ASAR				ScP	ScP	16 04 06.0	+2.4
	0.2nm,0.7s,baz=117,slow=4.3,SNR=2.9						
WRA	Warramunga Arr	41.92	266	P	P	15 59 23.1	-0.9
	2.4nm,0.5s,baz=90,slow=5.8,SNR=171						
WRA				PcP	PcP	16 01 07.0	+0.4
	0.3nm,0.5s,baz=98,slow=6.1,SNR=2.8						
JAY	Jayapura	42.78	293	P	P	15 59 30.0	-0.8
	5.8nm,0.8s,baz=180,slow=0.0						
KDU	Kakadu	45.70	275	P	P	15 59 52.4	-0.9
	baz=46,SNR=4.5						
WRKA	Warakurna	46.46	257	P	P	15 59 58.4	-0.5
	baz=47,SNR=21						
KNRA	Kununurra	48.16	269	P	P	16 00 11.3	-0.5
	baz=48,SNR=4.4						
BLDU	Ballidu	55.77	248	P	P	16 01 05.6	-0.6
	baz=56,SNR=5.1						
MORW	Morawa	56.59	250	P	P	16 01 11.4	-0.5
	baz=57,SNR=3.8						
MJAR	Matsushiro Arr	71.08	326	P	P	16 02 43.5	-0.4
	1.8nm,0.7s,baz=167,slow=6.0,SNR=11						
KSRS	Korea Array	77.42	320	P	P	16 03 19.7	+0.1
	1.6nm,0.8s,baz=138,slow=5.4,SNR=8.3						
PETK	Petropavlovsk-	78.37	347	P	P	16 03 24.8	+0.4
	4.3nm,0.7s,baz=125,slow=7.8,SNR=7.6						
NVAR	Mina Array Bea	84.67	44	P	P	16 03 58.0	+0.8
	0.3nm,0.5s,baz=214,slow=7.7,SNR=2.6						
SEY	Seymchan	88.55	348	P	P	16 04 15.1	+0.4
	2.7nm,0.8s,baz=118,slow=4.5,SNR=9.6						
CMAR	Chiang Mai Arr	88.81	291	P	P	16 04 17.8	+0.8
	0.8nm,0.3s,baz=142,slow=4.6,SNR=3.8						
TXAR	Lajitas Array	90.55	58	P	P	16 04 26.7	+1.8
	0.4nm,0.8s,baz=216,slow=7.7,SNR=5.2						
ILAR	Eielson Array	91.55	14	P	P	16 04 29.0	+0.4
	0.2nm,0.6s,baz=231,slow=5.1,SNR=7.6						
MKAR	Makanchi Array	111.34	313	PKiKP	PKiKP	16 09 51.8	-0.7
	0.1nm,0.4s,baz=90,slow=1.9,SNR=3.7						
ARCES	ARCESS Array B	131.16	348	PKP	PKPdf	16 10 29.7	-0.1
	1.4nm,0.8s,baz=0.0,slow=1.2,SNR=6.8						
FINES	FINESS Array B	137.68	341	PKP	PKPdf	16 10 42.9	+0.8
	1.0nm,0.7s,baz=72,slow=6.2,SNR=4.3						
NB2	NORSAR Subarra	141.38	351	PKP	PKPdf	16 10 44.5	-4.4
	comp=Z,0.7nm,0.5s,baz=13,slow=2.9						
NOA	NORSAR Array B	141.38	351	PKhKP	PKPpre	16 10 44.3	
	comp=Z,0.9nm,0.7s,baz=15,slow=4.8,SNR=3.2						
AKASG	Malin Array Be	144.16	327	PKP	PKPbc	16 10 53.1	-0.5
	comp=Z,2.8nm,0.5s,baz=43,slow=4.2,SNR=17						
BRTR	Keskin Array B	146.78	308	PKPbc	PKPbc	16 11 01.8	-0.1
	comp=Z,1.9nm,0.7s,baz=79,slow=3.7,SNR=8.8						
OKC	Ostrava-Krasne	149.69	336	ePKP	PKPbc	16 11 09.5	+0.9
UPC	Upice	149.89	339	ePKP	PKPbc	16 11 09.8	+0.7
DPC	Dobruska-Polom	149.92	338	ePKP	PKPbc	16 11 10.1	+0.9
DPC				ex	x	16 11 18.1	
KRLC	Kraliky	149.99	337	ePKP	PKPbc	16 11 09.7	+0.3
CLL	Collm	150.10	343	⇓iPKP	PKPbc	16 11 10.1	+0.6
	comp=Z,8.0nm,0.8s						
CLL				epPKP	pPKPdf	16 13 25.0	+12
	comp=Z,11nm,1.6s						
BRG	Berggiesshubel	150.22	341	i P	PKPbc	16 11 10.5	+0.7
	comp=Z,5.9nm,0.6s						
PVCC	Panska Ves	150.34	340	ePKP	PKPbc	16 11 11.1	+1.0
GOPC	GO Pecny, Ondr	150.80	339	ePKP	PKPbc	16 11 12.0	+0.8
PRU	Pruhonice	150.82	340	ePKP	PKPbc	16 11 11.5	+0.3
NKC	Novy Kostel	151.22	342	ePKP	PKPbc	16 11 12.3	+0.1
KHC	Kasperske Hory	151.87	340	ePKP	PKPbc	16 11 14.0	+0.3
KHC				ex	x	16 11 17.3	
KHC				ex	x	16 11 26.5	
GERES	GERESS Array B	152.09	340	PKPbc	PKPbc	16 11 13.8	-0.4
	comp=Z,0.6nm,0.5s,baz=29,slow=3.0,SNR=7.2						
GERES				PKPab	PKPab	16 11 27.2	+0.8
	comp=Z,0.5nm,0.7s,baz=35,slow=4.9,SNR=4.8						
ESDC	Sonseca Array	163.40	9	PKPab	PKPab	16 12 15.6	-0.1
	comp=Z,0.2nm,0.5s,baz=323,slow=5.7,SNR=3.8						

*CSEM **25** 15:57:44.5±0.3, 76°.93N×18°.56E, h5km, ML3.4, Error ellipse: s-maj=7.8km s-min=4.7km az=49.0*
*ISCJB **25** 15:57:45.8±0.6, 76°.74N±0°.07×18°.2E±0°.2, h16km, mb3.1/1, Error ellipse: s-maj=10.7km s-min=5.0km az=33.3*
*NAO **25** 15:57:45.3±1.1, 76°.87N×18°.41E, h11km±10km, ML4.3*
*BER **25** 15:57:47.7±3.9, 76°.91N×18°.31E, h15km±26km, MD2.0, ML3.4, ML4.3(NAO)*
*IDC **25** 15:57:58.6±4.2, 76°.34N×24°.81E, h0km, mb3.3/1, mb1 3.3/3, mb1mx3.0/30, mbtmp3.3/3, ML2.6/2, Error ellipse: s-maj=78.9km s-min=22.7km az=109.0*
ISC 25 15:57:45.9±0.7,**76°.77N**±0°.05×**17°.95E**±0°.06,**h16**km,**n22,** σ**2s.07**/33,**Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HSP	Hornsund	0.60	295	Pg	Pg	15 57 58.6	+0.9
HSP				Lg	Lg	15 58 06.9	
HSP	Hornsund	0.60	295	Pg	Pg	15 57 58.6	+0.9
HSP				Lg	Lg	15 58 06.9	
HSPB	Hornsund (broa	0.60	294	eP	Pg	15 57 58.6	+0.9
HSPB				eS	Sg	15 58 07.0	+1.3
HSPB	Hornsund (broa	0.60	294	eP	Pg	15 57 58.6	+0.9
	SNR=94						
HSPB				eS	Sg	15 58 07.0	+1.3
	SNR=94						
SPA0	Spitsbergen Ar	1.46	347	Pn	Pn	15 58 10.2	-1.4
	baz=152,slow=18						
SPA0				Lg	Lg	15 58 28.5	
	baz=162,slow=37						
SPA0	Spitsbergen Ar	1.46	347	Pn	Pn	15 58 10.2	-1.4
	baz=152,slow=18						
SPA0				Lg	Lg	15 58 28.5	
	baz=162,slow=37						
SPA0	Spitsbergen Ar	1.46	347	Pn	Pn	15 58 10.2	-1.4
	SNR=55						
SPA0				Lg	Lg	15 58 28.5	
	SNR=33						
HOPEN	Hopen	1.66	95	Pn	Pn	15 58 13.9	-0.4
HOPEN				Lg	Lg	15 58 34.2	
HOPEN	Hopen	1.66	95	eP	Pn	15 58 13.7	-0.5
HOPEN				eS	Sn	15 58 34.2	-1.0
HOPEN				IAML		15 58 38.8	
	comp=Z,347nm,0.2s						
HOPEN	Hopen	1.66	95	eP	Pn	15 58 13.7	-0.5
	SNR=55						
HOPEN				eS	Sn	15 58 34.2	-1.0
	SNR=55						
BJO	Bjornoya	2.29	172	ePg	Pg	15 58 31.0	+1.2
BJO				eSg	Sg	15 59 02.2	+2.7
BJO				IAML		15 59 07.0	
	comp=Z,145nm,0.5s						
BJO	Bjornoya	2.29	172	ePg	Pg	15 58 31.0	+1.2
	SNR=91						
BJO				Lg	Lg	15 59 01.9	
BJO				eSg	Sg	15 59 02.2	+2.7
	SNR=91						
KBS	Kingsbay	2.52	333	Pn	Pn	15 58 24.9	-1.1
KBS				Pg	Pb	15 58 30.5	-0.1
KBS				Lg	Lg	15 58 60.0	
KBS	Kingsbay	2.52	333	eP	Pn	15 58 24.7	-1.3
KBS				eSg	Sb	15 59 01.0	-0.2
KBS				IAML		15 59 09.7	
	comp=Z,2µm,0.4s						
KBS	Kingsbay	2.52	333	Pn	Pn	15 58 24.9	-1.1
KBS	Kingsbay	2.52	333	Pg	Pb	15 58 30.5	-0.1
KBS				Lg	Lg	15 59 00.0	
KBS				eSg	Sb	15 59 01.0	-0.2
	SNR=91						
ARA0	ARCESS Array S	7.58	159	Pn	Pn	15 59 36.1	+0.5
	baz=352,slow=12						
ARA0				Sn	Sn	16 00 55.6	-5.4
	slow=22						
ARA0	ARCESS Array S	7.58	159	Pn	Pn	15 59 36.1	+0.5
	baz=352,slow=12						
ARA0				Sn	Sn	16 00 55.6	-5.4
	slow=22						
ARA0	ARCESS Array S	7.58	159	Pn	Pn	15 59 36.1	+0.5
	SNR=55						
ARCES	ARCESS Array B	7.58	159	Pn	Pn	15 59 39.3	+3.8
	comp=Z,0.3nm,0.3s,baz=355,slow=10.0,SNR=17						
ARCES				Sn	Sn	16 00 55.6	-5.4
	comp=Z,2.8nm,0.3s,baz=360,slow=20,SNR=11						
FINES	FINESS Array B	15.64	165	Pn	Pn	16 01 26.9	+1.7
	comp=Z,0.1nm,0.3s,baz=359,slow=9.8,SNR=2.8						
FINES				Sn	Sn	16 04 07.3	-10
	comp=Z,0.1nm,0.3s,baz=359,slow=24,SNR=3.3						
MKAR	Makanchi Array	39.14	101	P	P	16 05 13.3	+1.2
	comp=Z,0.3nm,0.7s,baz=352,slow=7.4,SNR=4.1						

IDC 25 16:13:43.3±11.0,**7°.31S**×**129°.16E,h397**km±148km, **mb2.7**/1,**mb1 2.5**/3,**mb1mx2.4**/20,**mbtmp3.2**/3,**Error ellipse: s-maj=99.4km s-min=58.9km az=65.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.52	159	P	P	16 16 37.8	-2.1
	0.1nm,0.3s,baz=339,slow=12,SNR=3.1						
WRA				S	S	16 19 05.6	-0.4
	0.1nm,0.3s,baz=333,slow=24,SNR=2.8						
ASAR	Alice Springs	16.89	165	P	P	16 17 17.9	+1.7
	0.1nm,0.3s,baz=347,slow=10,SNR=9.0						
MKAR	Makanchi Array	68.03	327	P	P	16 24 01.3	0.0
	0.2nm,0.5s,baz=128,slow=7.2,SNR=3.7						

IDC 25 16:27:10.0±17.0,**3°.93N**×**128°.10E,h0**km,**mb3.5**/3, **mb1 3.7**/3,**mb1mx3.3**/45,**mbtmp3.6**/3,**Error ellipse: s-maj=294.6km s-min=181.4km az=159.0,North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.50	166	P	P	16 32 31.2	-0.1
	0.3nm,0.3s,baz=345,slow=10,SNR=3.4						
ASAR	Alice Springs	28.01	169	P	P	16 33 03.1	+0.1
	0.4nm,0.5s,baz=350,slow=7.5,SNR=5.6						
STKA	Stephens Creek	37.86	161	P	P	16 34 28.6	-0.1
	0.7nm,0.4s,baz=353,slow=8.1,SNR=6.2						

IDC 25 16:29:10.9±2.7,**7°.73N**×**124°.76E,h0**km,**mb3.8**/3, **mb1 4.0**/3,**mb1mx3.4**/43,**mbtmp3.8**/3,**Error ellipse: s-maj=250.9km s-min=26.5km az=64.0,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	29.07	161	P	P	16 35 12.8	-0.5
	0.8nm,0.4s,baz=341,slow=9.3,SNR=5.8						
ASAR	Alice Springs	32.46	164	P	P	16 35 43.5	+0.3
	0.4nm,0.3s,baz=339,slow=7.5,SNR=24						
MKAR	Makanchi Array	53.18	325	P	P	16 38 30.8	-0.1
	0.3nm,0.4s,baz=122,slow=7.9,SNR=5.9						

*CSEM **25** 16:34:17.0±0.1, 46°.40N×0°.50E, h2km, ML3.9/36, Error ellipse: s-maj=2.0km s-min=1.9km az=83.0*
*NEIC **25** 16:34:19.1, 46°.40N×0°.47E, h2km, ML4.0(LDG), After LDG.*
*STR **25** 16:34:19.4±0.2, 46°.31N×0°.50E, h5km, Ml4.1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **25** 16:34:19.1±0.1, 46°.40N×0°.47E, h2km, Md3.7/3, Ml4.0/47, Error ellipse: s-maj=1.1km s-min=0.9km az=129.0*
*PRU **25** 16:34:26.5, 46°.26N×1°.09E, h7km*
ISC 25 16:34:17.5±0.7,**46°.41N**±0°.01×**0°.51E**±0°.01,**h10**km±6km, **n262,**σ**1s.35**/439,**France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MFF	Saint Martin d	0.49	294	ePg	Pg	16 34 27.8	+0.7
MFF				eSg	Sg	16 34 33.3	-0.3
	790nm,0.3s						
MFF	Saint Martin d	0.49	294	ePg	Pg	16 34 27.8	+0.7
MFF				eSg	Sg	16 34 33.3	-0.3
	395nm,0.3s						
MFF	Saint Martin d	0.49	294	ePg	Pg	16 34 27.8	+0.7
MFF				eSg	Sg	16 34 33.3	-0.3
TCF	Toulx Ste Croi	1.18	95	ePn	Pn	16 34 41.6	+1.5
TCF	Toulx Ste Croi	1.18	95	eP	Pn	16 34 42.9	+2.8
TCF				eSg	Sn	16 34 57.1	+0.8
	946nm,0.2s						
TCF	Toulx Ste Croi	1.18	95	ePn	Pn	16 34 41.6	+1.5
TCF				eSg	Sn	16 34 57.1	+0.8
	473nm,0.2s						
TCF	Toulx Ste Croi	1.18	95	ePn	Pn	16 34 41.6	+1.5
TCF				eSg	Sn	16 34 57.1	+0.8
RJF	Les Rejaudoux	1.31	147	ePn	Pb	16 34 42.8	+0.7
RJF				eSg	Sn	16 35 00.6	+1.3
	1µm,0.2s						
RJF	Les Rejaudoux	1.31	147	ePn	Pb	16 34 42.8	+0.7
RJF				eSg	Sn	16 35 00.6	+1.3
	595nm,0.2s						
RJF	Les Rejaudoux	1.31	147	ePn	Pb	16 34 42.8	+0.7
RJF				eSg	Sn	16 35 00.6	+1.3
LFF	La Frestale	1.48	174	ePn	Pn	16 34 45.1	+1.0
LFF	La Frestale	1.48	174	ePg	Pg	16 34 46.3	+0.5
LFF				eSg	Sg	16 35 05.7	+0.8
	2µm,0.3s						
LFF	La Frestale	1.48	174	ePn	Pn	16 34 45.1	+1.0
LFF	La Frestale	1.48	174	ePg	Pg	16 34 46.3	+0.5
LFF				eSg	Sg	16 35 05.7	+0.8
	856nm,0.3s						
LFF	La Frestale	1.48	174	ePn	Pn	16 34 45.1	+1.0
LFF				ePg	Pg	16 34 46.3	+0.5
LFF				eSg	Sg	16 35 05.7	+0.8
VERF	Verneugheol	1.52	115	Pn	Pb	16 34 46.3	+0.4
VERF	Verneugheol	1.52	115	Pg	Pg	16 34 47.7	+1.0
VERF				Sg	Sg	16 35 07.8	+1.3
VERF	Verneugheol	1.52	115	Pn	Pb	16 34 46.3	+0.4
VERF	Verneugheol	1.52	115	Pg	Pg	16 34 47.7	+1.0
VERF				Sg	Sg	16 35 07.8	+1.3
BGF	Bois d’Agland	1.62	84	ePn	Pb	16 34 48.1	+0.6
BGF	Bois d’Agland	1.62	84	ePg	Pg	16 34 49.5	+0.9
BGF				eSg	Sg	16 35 10.5	+0.9
	2µm,0.3s						
BGF	Bois d’Agland	1.62	84	ePn	Pb	16 34 48.1	+0.6
BGF	Bois d’Agland	1.62	84	ePg	Pg	16 34 49.5	+0.9
BGF				eSg	Sg	16 35 10.5	+0.9
	1µm,0.3s						
BGF	Bois d’Agland	1.62	84	ePn	Pb	16 34 48.1	+0.6
BGF				ePg	Pg	16 34 49.5	+0.9
BGF				eSg	Sg	16 35 10.5	+0.9
HYF	Humbligny	1.70	59	eP	Pb	16 34 49.6	+0.8
HYF	Humbligny	1.70	59	eP	Pb	16 34 49.6	+0.8
HYF				ePg	Pg	16 34 51.3	+1.2
HYF				eSg	Sg	16 35 12.7	+0.6
FRNF	Fournols	1.76	125	Pn	Pn	16 34 49.4	+1.3
FRNF	Fournols	1.76	125	Pg	Pg	16 34 51.5	+0.3
FRNF	Fournols	1.76	125	Pn	Pn	16 34 49.4	+1.3
FRNF	Fournols	1.76	125	Pg	Pg	16 34 51.5	+0.3
CAF	Calviac	1.84	143	ePn	Pn	16 34 50.1	+0.9
CAF	Calviac	1.84	143	ePg	Pg	16 34 52.7	0.0
CAF				eSg	Sg	16 35 17.3	+0.7
	221nm,0.2s						
CAF	Calviac	1.84	143	ePn	Pn	16 34 50.1	+0.9
CAF	Calviac	1.84	143	ePg	Pg	16 34 52.7	0.0
CAF				eSg	Sg	16 35 17.3	+0.7
	110nm,0.2s						
CAF	Calviac	1.84	143	ePn	Pn	16 34 50.1	+0.9
CAF				ePg	Pg	16 34 52.7	0.0
CAF				eSg	Sg	16 35 17.3	+0.7
PYM	Petit Puy Mans	1.86	110	Pn	Pn	16 34 51.0	+1.5
PYM	Petit Puy Mans	1.86	110	Pg	Pg	16 34 53.9	+0.8
PYM	Petit Puy Mans	1.86	110	Pn	Pn	16 34 51.0	+1.5
PYM	Petit Puy Mans	1.86	110	Pg	Pg	16 34 53.9	+0.8
CFF	Clermont-Ferra	1.92	109	Pg	Pg	16 34 55.1	+0.8
CFF	Clermont-Ferra	1.92	109	Pg	Pg	16 34 55.1	+0.8
AVF	Avril sur Loir	2.00	78	ePn	Pn	16 34 53.1	+1.8
AVF	Avril sur Loir	2.00	78	ePg	Pg	16 34 56.1	+0.3
AVF				eSg	Sg	16 35 20.7	-1.0
	214nm,0.3s						
AVF	Avril sur Loir	2.00	78	ePn	Pn	16 34 53.1	+1.8
AVF	Avril sur Loir	2.00	78	ePg	Pg	16 34 56.1	+0.3
AVF				eSg	Sg	16 35 20.7	-1.0
	107nm,0.3s						
AVF	Avril sur Loir	2.00	78	ePn	Pn	16 34 53.1	+1.8
AVF				ePg	Pg	16 34 56.1	+0.3
AVF				eSg	Sg	16 35 20.7	-1.0
SSF	Saint Saulge	2.16	71	ePn	Pn	16 34 55.3	+1.7
SSF	Saint Saulge	2.16	71	ePg	Pg	16 34 58.6	-0.3
SSF				eSg	Sg	16 35 26.9	-0.1
	239nm,0.2s						
SSF	Saint Saulge	2.16	71	ePn	Pn	16 34 55.3	+1.7
SSF	Saint Saulge	2.16	71	ePg	Pg	16 34 58.6	-0.3
SSF				eSg	Sg	16 35 26.9	-0.1
	119nm,0.2s						
SSF	Saint Saulge	2.16	71	ePn	Pn	16 34 55.3	+1.7
SSF				ePg	Pg	16 34 58.6	-0.3
SSF				eSg	Sg	16 35 26.9	-0.1
GRR	Gorron	2.19	335	ePn	Pn	16 34 55.2	+1.3
GRR	Gorron	2.19	335	ePg	Pb	16 34 58.9	+1.7
GRR				eSg	Sg	16 35 27.1	-0.7
	246nm,0.3s						
GRR	Gorron	2.19	335	ePn	Pn	16 34 55.2	+1.3
GRR	Gorron	2.19	335	ePg	Pb	16 34 58.9	+1.7
GRR				eSg	Sg	16 35 27.1	-0.7
	123nm,0.3s						
GRR	Gorron	2.19	335	ePn	Pn	16 34 55.2	+1.3
GRR				ePg	Pb	16 34 58.9	+1.7
GRR				eSg	Sg	16 35 27.1	-0.7
PLDF	La Plantade	2.21	100	Pn	Pn	16 34 55.9	+1.7
PLDF	La Plantade	2.21	100	Pg	Pg	16 35 00.0	+0.2
PLDF	La Plantade	2.21	100	Pn	Pn	16 34 55.9	+1.7
PLDF	La Plantade	2.21	100	Pg	Pg	16 35 00.0	+0.2
LDF	La Druitiere	2.23	349	ePn	Pn	16 34 55.6	+1.1
LDF	La Druitiere	2.23	349	ePg	Pg	16 34 59.7	-0.5
LDF				eSg	Sg	16 35 28.3	-0.8
	158nm,0.2s						
LDF	La Druitiere	2.23	349	ePn	Pn	16 34 55.6	+1.1
LDF	La Druitiere	2.23	349	ePg	Pg	16 34 59.7	-0.5
LDF				eSg	Sg	16 35 28.3	-0.8
	79nm,0.2s						
LDF	La Druitiere	2.23	349	ePn	Pn	16 34 55.6	+1.1
LDF				ePg	Pg	16 34 59.7	-0.5
LDF				eSg	Sg	16 35 28.3	-0.8
LBL	Lubilhac	2.25	121	Pn	Pn	16 34 56.1	+1.3
LBL	Lubilhac	2.25	121	Pg	Pg	16 35 01.1	+0.6
LBL				Sg	Sg	16 35 31.5	+1.9
LBL	Lubilhac	2.25	121	Pn	Pn	16 34 56.1	+1.3
LBL	Lubilhac	2.25	121	Pg	Pg	16 35 01.1	+0.6
LBL				Sg	Sg	16 35 31.5	+1.9
SMF	Signal de Mont	2.31	83	ePn	Pn	16 34 57.7	+2.1
SMF	Signal de Mont	2.31	83	ePg	Pg	16 35 01.7	-0.1
SMF				eSg	Sg	16 35 31.5	-0.3
	235nm,0.3s						
SMF	Signal de Mont	2.31	83	ePn	Pn	16 34 57.7	+2.1
SMF	Signal de Mont	2.31	83	ePg	Pg	16 35 01.7	-0.1
SMF				eSg	Sg	16 35 31.5	-0.3
	117nm,0.3s						
SMF	Signal de Mont	2.31	83	ePn	Pn	16 34 57.7	+2.1
SMF				ePg	Pg	16 35 01.7	-0.1
SMF				eSg	Sg	16 35 31.5	-0.3
COLF	Collangettes	2.39	111	Pn	Pn	16 34 58.3	+1.5
COLF	Collangettes	2.39	111	Pg	Pg	16 35 03.3	0.0
COLF	Collangettes	2.39	111	Pn	Pn	16 34 58.3	+1.5
COLF	Collangettes	2.39	111	Pg	Pg	16 35 03.3	0.0
FLN	La Foliniere	2.45	344	ePn	Pn	16 34 58.5	+1.0
	baz=168						
FLN	La Foliniere	2.45	344	ePg	Pg	16 35 03.8	-0.7
	baz=167						
FLN				eSg	Sg	16 35 35.1	-1.1
	150nm,0.2s,baz=160						
FLN	La Foliniere	2.45	344	ePn	Pn	16 34 58.5	+1.0
FLN	La Foliniere	2.45	344	ePg	Pg	16 35 03.8	-0.7
FLN				eSg	Sg	16 35 35.1	-1.1
	75nm,0.2s						
FLN	La Foliniere	2.45	344	ePn	Pn	16 34 58.5	+1.0
FLN				ePg	Pg	16 35 03.8	-0.7
FLN				eSg	Sg	16 35 35.1	-1.1
LOR	Lormes	2.46	68	ePn	Pn	16 34 59.2	+1.6
	baz=244						
LOR	Lormes	2.46	68	ePg	Pg	16 35 03.8	-0.7
	baz=252						
LOR				eSg	Sg	16 35 36.0	-0.4
	198nm,0.2s,baz=238						
LOR	Lormes	2.46	68	ePn	Pn	16 34 59.2	+1.6
LOR	Lormes	2.46	68	ePg	Pg	16 35 03.8	-0.7
LOR				eSg	Sg	16 35 36.0	-0.4
	99nm,0.2s						
LOR	Lormes	2.46	68	ePn	Pn	16 34 59.2	+1.6
LOR				ePg	Pg	16 35 03.8	-0.7
LOR				eSg	Sg	16 35 36.0	-0.4
SGMF	Saint Gilles	2.79	313	ePn	Pn	16 35 03.6	+1.5
SGMF	Saint Gilles	2.79	313	ePg	Pb	16 35 09.7	+2.4
SGMF				eSg	Sb	16 35 45.3	+3.8
	102nm,0.3s						
SGMF	Saint Gilles	2.79	313	ePn	Pn	16 35 03.6	+1.5
SGMF	Saint Gilles	2.79	313	ePg	Pb	16 35 09.7	+2.4
SGMF				eSg	Sb	16 35 45.3	+3.8
	51nm,0.3s						
SGMF	Saint Gilles	2.79	313	ePn	Pn	16 35 03.6	+1.5
SGMF				ePg	Pb	16 35 09.7	+2.4
SGMF				eSg	Sb	16 35 45.3	+3.8
QUIF	Quistinic	2.93	302	ePn	Pn	16 35 05.6	+1.6
QUIF	Quistinic	2.93	302	ePg	Pg	16 35 12.5	-1.1
QUIF				eSg	Sg	16 35 49.7	-1.8
	191nm,0.5s						
QUIF	Quistinic	2.93	302	ePn	Pn	16 35 05.6	+1.6
QUIF	Quistinic	2.93	302	ePg	Pg	16 35 12.5	-1.1
QUIF				eSg	Sg	16 35 49.7	-1.8
	96nm,0.5s						
QUIF	Quistinic	2.93	302	ePn	Pn	16 35 05.6	+1.6
QUIF				ePg	Pg	16 35 12.5	-1.1
QUIF				eSg	Sg	16 35 49.7	-1.8
SSB	Saint Sauveur	3.04	110	ePn	Pn	16 35 07.2	+1.6
SSB	Saint Sauveur	3.04	110	ePg	Pg	16 35 15.5	-0.1
SSB	Saint Sauveur	3.04	110	ePn	Pn	16 35 07.2	+1.6
SSB				ePg	Pg	16 35 15.5	-0.1
SSB				eSg	Sg	16 35 54.6	-0.4
ROSF	Rostrenen	3.21	308	ePn	Pn	16 35 09.5	+1.5
ROSF	Rostrenen	3.21	308	ePg	Pg	16 35 17.9	-1.2
ROSF				eSg	Sg	16 35 58.7	-2.0
	78nm,0.3s						
ROSF	Rostrenen	3.21	308	ePn	Pn	16 35 09.5	+1.5
ROSF	Rostrenen	3.21	308	ePg	Pg	16 35 17.9	-1.2
ROSF				eSg	Sg	16 35 58.7	-2.0
	39nm,0.3s						
ROSF	Rostrenen	3.21	308	ePn	Pn	16 35 09.5	+1.5
ROSF				ePg	Pg	16 35 17.9	-1.2
ROSF				eSg	Sg	16 35 58.7	-2.0
MTLF	Montolieu	3.30	158	ePn	Pn	16 35 10.3	+1.1
MTLF	Montolieu	3.30	158	ePg	Pg	16 35 20.0	-0.6
MTLF				eSg	Sg	16 36 03.1	-0.2
	72nm,0.3s						
MTLF	Montolieu	3.30	158	ePn	Pn	16 35 10.3	+1.1
MTLF	Montolieu	3.30	158	ePg	Pg	16 35 20.0	-0.6
MTLF				eSg	Sg	16 36 03.1	-0.2
	36nm,0.3s						
MTLF	Montolieu	3.30	158	ePn	Pn	16 35 10.3	+1.1
MTLF				ePg	Pg	16 35 20.0	-0.6
MTLF				eSg	Sg	16 36 03.1	-0.2
VIVF	Saint-Julien-l	3.31	116	ePg	Pg	16 35 20.6	-0.2
VIVF				eSg	Sg	16 36 03.4	-0.3
	112nm,0.4s						
VIVF	Saint-Julien-l	3.31	116	ePg	Pg	16 35 20.6	-0.2
VIVF				eSg	Sg	16 36 03.4	-0.3
	56nm,0.4s						
VIVF	Saint-Julien-l	3.31	116	ePg	Pg	16 35 20.6	-0.2
VIVF				eSg	Sg	16 36 03.4	-0.3
LASF	Ste Croix	3.32	133	ePn	Pn	16 35 11.0	+1.5
LASF	Ste Croix	3.32	133	ePg	Pg	16 35 21.0	-0.1
LASF				eSg	Sg	16 36 03.8	-0.3
	132nm,0.5s						
LASF	Ste Croix	3.32	133	ePn	Pn	16 35 11.0	+1.5
LASF	Ste Croix	3.32	133	ePg	Pg	16 35 21.0	-0.1
LASF				eSg	Sg	16 36 03.8	-0.3
	66nm,0.5s						
LASF	Ste Croix	3.32	133	ePn	Pn	16 35 11.0	+1.5
LASF				ePg	Pg	16 35 21.0	-0.1
LASF				eSg	Sg	16 36 03.8	-0.3
ORDF	Ordiarp	3.35	198	Pn	Pn	16 35 09.8	-0.1

ORDF	**Ordiarp**	**3.35**	**198**	Pg		**Pg**	**16 35 20.7**	**-1.0**
ORDF	**Ordiarp**	**3.35**	**198**	Pn		**Pn**	**16 35 09.8**	**-0.1**
ORDF	**Ordiarp**	**3.35**	**198**	Pg		**Pg**	**16 35 20.7**	**-1.0**
LABF	**Labassere**	**3.37**	**185**	Pn		**Pn**	**16 35 10.3**	**0.0**
LABF	**Labassere**	**3.37**	**185**	Pg		**Pg**	**16 35 20.5**	**-1.6**
LABF	**Labassere**	**3.37**	**185**	Pn		**Pn**	**16 35 10.3**	**0.0**
LABF	**Labassere**	**3.37**	**185**	Pg		**Pg**	**16 35 20.5**	**-1.6**
EPF	**Esparros**	**3.38**	**182**	*e*Pn		**Pn**	**16 35 10.1**	**-0.2**
EPF	**Esparros**	**3.38**	**182**	*e*Pg		**Pg**	**16 35 21.5**	**-0.7**
EPF				*e*Sn		**Sn**	**16 35 48.7**	**-1.8**
EPF				*e*Sg		**Sg**	**16 36 04.9**	**-1.0**
	112nm,0.3s							
EPF	**Esparros**	**3.38**	**182**	*e*Pn		**Pn**	**16 35 10.1**	**-0.2**
EPF	**Esparros**	**3.38**	**182**	*e*Pg		**Pg**	**16 35 21.5**	**-0.7**
EPF				*e*Sn		**Sn**	**16 35 48.7**	**-1.8**
EPF				*e*Sg		**Sg**	**16 36 04.9**	**-1.0**
	56nm,0.3s							
EPF	**Esparros**	**3.38**	**182**	*e*Pn		**Pn**	**16 35 10.1**	**-0.2**
EPF				*e*Pg		**Pg**	**16 35 21.5**	**-0.7**
EPF				*e*Sn		**Sn**	**16 35 48.7**	**-1.8**
EPF				*e*Sg		**Sg**	**16 36 04.9**	**-1.0**
OSSF	**Osses**	**3.39**	**202**	Pn		**Pn**	**16 35 10.1**	**-0.4**
OSSF	**Osses**	**3.39**	**202**	Pn		**Pn**	**16 35 10.1**	**-0.4**
REYF	**Montagne du Re**	**3.40**	**191**	Pg		**Pg**	**16 35 21.8**	**-0.8**
REYF	**Montagne du Re**	**3.40**	**191**	Pg		**Pg**	**16 35 21.8**	**-0.8**
ATE	**Arette**	**3.43**	**195**	Pg		**Pg**	**16 35 22.1**	**-1.1**
ATE	**Arette**	**3.43**	**195**	Pg		**Pg**	**16 35 22.1**	**-1.1**
SJPF	**Ste Jean**	**3.52**	**201**	*e*Pn		**Pn**	**16 35 12.8**	**+0.6**
SJPF	**Ste Jean**	**3.52**	**201**	*e*Pg		**Pg**	**16 35 23.4**	**-1.4**
SJPF				*e*Sn		**Sn**	**16 35 51.9**	**-1.9**
SJPF				*e*Sg		**Sg**	**16 36 08.7**	**-1.7**
	71nm,0.4s							
SJPF	**Ste Jean**	**3.52**	**201**	*e*Pn		**Pn**	**16 35 12.8**	**+0.6**
SJPF	**Ste Jean**	**3.52**	**201**	*e*Pg		**Pg**	**16 35 23.4**	**-1.4**
SJPF				*e*Sn		**Sn**	**16 35 51.9**	**-1.9**
SJPF				*e*Sg		**Sg**	**16 36 08.7**	**-1.7**
	35nm,0.4s							
SJPF	**Ste Jean**	**3.52**	**201**	*e*Pn		**Pn**	**16 35 12.8**	**+0.6**
SJPF				*e*Pg		**Pg**	**16 35 23.4**	**-1.4**
SJPF				*e*Sn		**Sn**	**16 35 51.9**	**-1.9**
SJPF				*e*Sg		**Sg**	**16 36 08.7**	**-1.7**
LARF	**Larrau**	**3.53**	**198**	Pn		**Pn**	**16 35 12.1**	**-0.3**
LARF	**Larrau**	**3.53**	**198**	Pn		**Pn**	**16 35 12.1**	**-0.3**
MELF	**Melles**	**3.54**	**177**	Pn		**Pn**	**16 35 11.8**	**-0.7**
MELF	**Melles**	**3.54**	**177**	Pg		**Pg**	**16 35 24.2**	**-1.1**
MELF	**Melles**	**3.54**	**177**	Pn		**Pn**	**16 35 11.8**	**-0.7**
MELF	**Melles**	**3.54**	**177**	Pg		**Pg**	**16 35 24.2**	**-1.1**
VIEF	**Viey**	**3.54**	**186**	Pg		**Pg**	**16 35 23.7**	**-1.6**
VIEF	**Viey**	**3.54**	**186**	Pg		**Pg**	**16 35 23.7**	**-1.6**
SFTF	**Sexfontaines** baz=236	**3.57**	**58**	*e*Pn		**Pn**	**16 35 14.1**	**+1.2**
SFTF	**Sexfontaines**	**3.57**	**58**	*e*Pg		**Pg**	**16 35 25.1**	**-0.7**
SFTF				*e*Sg		**Sg**	**16 36 11.1**	**-0.9**
	133nm,0.5s							
SFTF	**Sexfontaines**	**3.57**	**58**	*e*Pn		**Pn**	**16 35 14.1**	**+1.2**
SFTF	**Sexfontaines**	**3.57**	**58**	*e*Pg		**Pg**	**16 35 25.1**	**-0.7**
SFTF				*e*Sg		**Sg**	**16 36 11.1**	**-0.9**
	66nm,0.5s							
SFTF	**Sexfontaines**	**3.57**	**58**	*e*Pn		**Pn**	**16 35 14.1**	**+1.2**
SFTF				*e*Pg		**Pg**	**16 35 25.1**	**-0.7**
SFTF				*e*Sg		**Sg**	**16 36 11.1**	**-0.9**
MEZF	**Maizieres J'vi**	**3.73**	**54**	*e*Pn		**Pn**	**16 35 16.7**	**+1.6**
MEZF	**Maizieres J'vi** baz=242	**3.73**	**54**	*e*Pg		**Pg**	**16 35 28.0**	**-0.9**
MEZF				*e*Sg		**Sg**	**16 36 16.1**	**-1.0**
	125nm,0.4s							
MEZF	**Maizieres J'vi**	**3.73**	**54**	*e*Pn		**Pn**	**16 35 16.7**	**+1.6**
MEZF	**Maizieres J'vi**	**3.73**	**54**	*e*Pg		**Pg**	**16 35 28.0**	**-0.9**
MEZF				*e*Sg		**Sg**	**16 36 16.1**	**-1.0**
	62nm,0.4s							
MEZF	**Maizieres J'vi**	**3.73**	**54**	*e*Pn		**Pn**	**16 35 16.7**	**+1.6**
MEZF				*e*Pg		**Pg**	**16 35 28.0**	**-0.9**
MEZF				*e*Sg		**Sg**	**16 36 16.1**	**-1.0**
CABF	**La Chapelle**	**3.86**	**85**	*e*Pn		Pn	16 35 19.3	+2.4
CABF	**La Chapelle**	**3.86**	**85**	*e*Pg		**Pg**	**16 35 30.8**	**-0.6**
CABF				*e*Sg		**Sg**	**16 36 20.1**	**-1.2**
	184nm,0.8s							
CABF	**La Chapelle**	**3.86**	**85**	*e*Pg		**Pg**	**16 35 30.8**	**-0.6**
CABF				*e*Sg		**Sg**	**16 36 20.1**	**-1.2**
	92nm,0.8s							
CABF	**La Chapelle**	**3.86**	**85**	*e*Pn		Pn	16 35 19.3	+2.4
CABF				*e*Pg		**Pg**	**16 35 30.8**	**-0.6**
CABF				*e*Sg		**Sg**	**16 36 20.1**	**-1.2**
ORIF	**Oris-en-Rattie**	**4.05**	**110**	*e*Pn		**Pn**	**16 35 20.7**	**+1.1**
ORIF	**Oris-en-Rattie**	**4.05**	**110**	*e*Pg		**Pg**	**16 35 34.6**	**-0.4**
ORIF				*e*Sg		**Sg**	**16 36 26.6**	**-0.9**
	58nm,0.6s							
ORIF	**Oris-en-Rattie**	**4.05**	**110**	*e*Pn		**Pn**	**16 35 20.7**	**+1.1**
ORIF	**Oris-en-Rattie**	**4.05**	**110**	*e*Pg		**Pg**	**16 35 34.6**	**-0.4**
ORIF				*e*Sg		**Sg**	**16 36 26.6**	**-0.9**
	29nm,0.6s							
ORIF	**Oris-en-Rattie**	**4.05**	**110**	*e*Pn		**Pn**	**16 35 20.7**	**+1.1**
ORIF				*e*Pg		**Pg**	**16 35 34.6**	**-0.4**
ORIF				*e*Sg		**Sg**	**16 36 26.6**	**-0.9**
PAGF	**Fort de Pagny**	**4.14**	**57**	*e*Pn		**Pn**	**16 35 21.9**	**+1.2**
PAGF	**Fort de Pagny** baz=237	**4.14**	**57**	*e*Pg		**Pg**	**16 35 35.8**	**-0.9**
PAGF				*e*Sg		**Sg**	**16 36 28.8**	**-1.5**
	42nm,0.6s							
PAGF	**Fort de Pagny**	**4.14**	**57**	*e*Pn		**Pn**	**16 35 21.9**	**+1.2**
PAGF	**Fort de Pagny**	**4.14**	**57**	*e*Pg		**Pg**	**16 35 35.8**	**-0.9**
PAGF				*e*Sg		**Sg**	**16 36 28.8**	**-1.5**
	21nm,0.6s							
PAGF	**Fort de Pagny**	**4.14**	**57**	*e*Pn		**Pn**	**16 35 21.9**	**+1.2**
PAGF				*e*Pg		**Pg**	**16 35 35.8**	**-0.9**
PAGF				*e*Sg		**Sg**	**16 36 28.8**	**-1.5**
THEF	**They Montfort**	**4.15**	**62**	Pn		**Pn**	**16 35 21.8**	**+1.0**
THEF	**They Montfort**	**4.15**	**62**	Pn		**Pn**	**16 35 21.8**	**+1.0**
VALF	**Valcebollere**	**4.15**	**164**	Pg		**Pg**	**16 35 35.5**	**-1.4**
VALF	**Valcebollere**	**4.15**	**164**	Pg		**Pg**	**16 35 35.5**	**-1.4**
HAU	**Haudompre**	**4.29**	**66**	*e*Pn		**Pn**	**16 35 23.8**	**+1.0**
HAU	**Haudompre**	**4.29**	**66**	*e*Pg		**Pg**	**16 35 38.3**	**-1.3**
HAU				*e*Sn		**Sn**	**16 36 11.1**	**-1.8**
HAU				*e*Sg		**Sg**	**16 36 33.5**	**-1.7**
	100nm,0.3s							
HAU	**Haudompre**	**4.29**	**66**	*e*Pn		**Pn**	**16 35 23.8**	**+1.0**
HAU	**Haudompre**	**4.29**	**66**	*e*Pg		**Pg**	**16 35 38.3**	**-1.3**
HAU				*e*Sn		**Sn**	**16 36 11.1**	**-1.8**
HAU				*e*Sg		**Sg**	**16 36 33.5**	**-1.7**
	50nm,0.3s							
HAU	**Haudompre**	**4.29**	**66**	*e*Pn		**Pn**	**16 35 23.8**	**+1.0**
HAU				*e*Pg		**Pg**	**16 35 38.3**	**-1.3**
HAU				*e*Sn		**Sn**	**16 36 11.1**	**-1.8**
HAU				*e*Sg		**Sg**	**16 36 33.5**	**-1.7**
SMRF	**Simiane la Rot**	**4.33**	**122**	*e*Pn		**Pn**	**16 35 25.2**	**+1.8**
SMRF	**Simiane la Rot**	**4.33**	**122**	*e*Pg		**Pg**	**16 35 39.5**	**-0.9**
SMRF				*e*Sg		**Sg**	**16 36 35.5**	**-0.9**
	61nm,0.7s							
SMRF	**Simiane la Rot**	**4.33**	**122**	*e*Pn		**Pn**	**16 35 25.2**	**+1.8**
SMRF	**Simiane la Rot**	**4.33**	**122**	*e*Pg		**Pg**	**16 35 39.5**	**-0.9**
SMRF				*e*Sg		**Sg**	**16 36 35.5**	**-0.9**
	31nm,0.7s							
SMRF	**Simiane la Rot**	**4.33**	**122**	*e*Pn		**Pn**	**16 35 25.2**	**+1.8**
SMRF				*e*Pg		**Pg**	**16 35 39.5**	**-0.9**
SMRF				*e*Sg		**Sg**	**16 36 35.5**	**-0.9**
BAIF	**Baives**	**4.41**	**33**	*e*Pn		**Pn**	**16 35 26.3**	**+1.8**
BAIF	**Baives**	**4.41**	**33**	*e*Pg		**Pg**	**16 35 40.8**	**-1.2**
BAIF				*e*Sn		**Sn**	**16 36 14.2**	**-1.7**
BAIF				*e*Sg		**Sg**	**16 36 36.9**	**-2.2**
	59nm,0.7s							
BAIF	**Baives**	**4.41**	**33**	*e*Pg		**Pg**	**16 35 40.8**	**-1.2**
BAIF				*e*Sn		**Sn**	**16 36 14.2**	**-1.7**
BAIF				*e*Sg		**Sg**	**16 36 36.9**	**-2.2**
	30nm,0.7s							
BAIF	**Baives**	**4.41**	**33**	*e*Pn		**Pn**	**16 35 26.3**	**+1.8**
BAIF				*e*Pg		**Pg**	**16 35 40.8**	**-1.2**
BAIF				*e*Sn		**Sn**	**16 36 14.2**	**-1.7**
BAIF				*e*Sg		**Sg**	**16 36 36.9**	**-2.2**
LPL	**La Plagne**	**4.43**	**99**	*e*Pn		**Pn**	**16 35 26.5**	**+1.6**
LPL	**La Plagne**	**4.43**	**99**	*e*Pg		**Pg**	**16 35 41.3**	**-1.0**
LPL				*e*Sg		**Sg**	**16 36 38.7**	**-1.0**
	66nm,0.6s							
LPL	**La Plagne**	**4.43**	**99**	*e*Pn		**Pn**	**16 35 26.5**	**+1.6**
LPL	**La Plagne**	**4.43**	**99**	*e*Pg		**Pg**	**16 35 41.3**	**-1.0**
LPL				*e*Sg		**Sg**	**16 36 38.7**	**-1.0**
	33nm,0.6s							
LPL	**La Plagne**	**4.43**	**99**	*e*Pn		**Pn**	**16 35 26.5**	**+1.6**
LPL				*e*Pg		**Pg**	**16 35 41.3**	**-1.0**
LPL				*e*Sg		**Sg**	**16 36 38.7**	**-1.0**
LPG	**La Plagne**	**4.45**	**100**	*e*Pn		**Pn**	**16 35 27.2**	**+2.0**
LPG				*e*Sg		**Sg**	**16 36 39.3**	**-1.0**
	55nm,0.6s							
LPG	**La Plagne**	**4.45**	**100**	*e*Pn		**Pn**	**16 35 27.2**	**+2.0**
LPG				*e*Sg		**Sg**	**16 36 39.3**	**-1.0**
	27nm,0.6s							
LPG	**La Plagne**	**4.45**	**100**	*e*Pn		**Pn**	**16 35 27.2**	**+2.0**
LPG				*e*Sg		**Sg**	**16 36 39.3**	**-1.0**
HINF	**Hinteralfeld**	**4.56**	**70**	*e*Pn		**Pn**	**16 35 28.0**	**+1.5**
HINF	**Hinteralfeld**	**4.56**	**70**	*e*Pg		**Pg**	**16 35 43.1**	**-1.6**
HINF				*e*Sg		**Sg**	**16 36 41.3**	**-2.4**
	65nm,0.3s							
HINF	**Hinteralfeld**	**4.56**	**70**	*e*Pn		**Pn**	**16 35 28.0**	**+1.5**
HINF	**Hinteralfeld**	**4.56**	**70**	*e*Pg		**Pg**	**16 35 43.1**	**-1.6**
HINF				*e*Sg		**Sg**	**16 36 41.3**	**-2.4**
	32nm,0.3s							
HINF	**Hinteralfeld**	**4.56**	**70**	*e*Pn		**Pn**	**16 35 28.0**	**+1.5**
HINF				*e*Pg		**Pg**	**16 35 43.1**	**-1.6**
HINF				*e*Sg		**Sg**	**16 36 41.3**	**-2.4**
GIVF	**Givet**	**4.69**	**36**	*e*Pn		**Pn**	**16 35 29.9**	**+1.6**
GIVF	**Givet**	**4.69**	**36**	*e*Pg		**Pg**	**16 35 45.4**	**-1.8**
GIVF				*e*Sn		**Sn**	**16 36 20.6**	**-2.1**
GIVF				*e*Sg		**Sg**	**16 36 45.9**	**-2.0**
	54nm,0.5s							
GIVF	**Givet**	**4.69**	**36**	*e*Pn		**Pn**	**16 35 29.9**	**+1.6**
GIVF	**Givet**	**4.69**	**36**	*e*Pg		**Pg**	**16 35 45.4**	**-1.8**
GIVF				*e*Sn		**Sn**	**16 36 20.6**	**-2.1**
GIVF				*e*Sg		**Sg**	**16 36 45.9**	**-2.0**
	27nm,0.5s							
GIVF	**Givet**	**4.69**	**36**	*e*Pn		**Pn**	**16 35 29.9**	**+1.6**
GIVF				*e*Pg		**Pg**	**16 35 45.4**	**-1.8**
GIVF				*e*Sn		**Sn**	**16 36 20.6**	**-2.1**
GIVF				*e*Sg		**Sg**	**16 36 45.9**	**-2.0**
MBDF	**Montbardon**	**4.71**	**109**	*e*Pn		**Pn**	**16 35 28.9**	**+0.2**
MBDF	**Montbardon**	**4.71**	**109**	*e*Pg		**Pg**	**16 36 46.4**	**-1.2**
MBDF				*e*Sg		**Sg**	**16 36 47.3**	**-1.3**
	40nm,0.8s							
MBDF	**Montbardon**	**4.71**	**109**	*e*Pn		**Pn**	**16 35 28.9**	**+0.2**
MBDF	**Montbardon**	**4.71**	**109**	*e*Pg		**Pg**	**16 36 46.4**	**-1.2**
MBDF				*e*Sg		**Sg**	**16 36 47.3**	**-1.3**
	20nm,0.8s							
MBDF	**Montbardon**	**4.71**	**109**	*e*Pn		**Pn**	**16 35 28.9**	**+0.2**
MBDF				*e*Pg		**Pg**	**16 36 46.4**	**-1.2**
MBDF				*e*Sg		**Sg**	**16 36 47.3**	**-1.3**
SNF	**Seneffe**	**4.81**	**30**	P		**Pn**	**16 35 31.9**	**+2.0**
SNF	**Seneffe**	**4.81**	**30**	P		**Pn**	**16 35 31.9**	**+2.0**
ECH	**Echery**	**4.87**	**66**	Pn		**Pn**	**16 35 31.9**	**+1.1**
ECH	**Echery**	**4.87**	**66**	Pn		**Pn**	**16 35 31.9**	**+1.1**
ECH				*e*Sg		**Sg**	**16 36 51.3**	**-2.5**
ECH	**Echery**	**4.87**	**66**	*e*Pn		**Pn**	**16 35 32.8**	**+2.0**
ECH				*e*Sg		**Sg**	**16 36 51.4**	**-2.5**
WLF	**Walferdange**	**5.00**	**47**	P		**Pn**	**16 35 34.3**	**+1.8**
WLF	**Walferdange**	**5.00**	**47**	*e*Pn		**Pn**	**16 35 34.1**	**+1.6**
	21nm,0.8s							
WLF	**Walferdange**	**5.00**	**47**	*e*Pg		**Pg**	**16 35 51.2**	**-1.9**
WLF	**Walferdange**	**5.00**	**47**	*e*Pn		**Pn**	**16 35 34.1**	**+1.6**
	21nm,0.8s							
WLF				*e*Pg		**Pg**	**16 35 51.2**	**-1.9**
WLF				*e*Sg		**Sg**	**16 36 57.8**	**0.0**
CDF	**Champ du Feu**	**5.01**	**64**	*e*Pn		**Pn**	**16 35 32.9**	**+0.1**
CDF	**Champ du Feu**	**5.01**	**64**	*e*Pg		**Pg**	**16 35 51.9**	**-1.6**
CDF				*e*Sg		**Sg**	**16 36 56.2**	**-2.2**
	56nm,0.3s							
CDF	**Champ du Feu**	**5.01**	**64**	*e*Pn		**Pn**	**16 35 32.9**	**+0.1**
CDF	**Champ du Feu**	**5.01**	**64**	*e*Pg		**Pg**	**16 35 51.9**	**-1.6**
CDF				*e*Sg		**Sg**	**16 36 56.2**	**-2.2**
	28nm,0.3s							
CDF	**Champ du Feu**	**5.01**	**64**	*e*Pn		**Pn**	**16 35 32.9**	**+0.1**
CDF				*e*Pg		**Pg**	**16 35 51.9**	**-1.6**
CDF				*e*Sg		**Sg**	**16 36 56.2**	**-2.2**
FRF	**La Foret Royal**	**5.20**	**121**	*e*Pn		**Pn**	**16 35 36.0**	**+0.7**
FRF	**La Foret Royal**	**5.20**	**121**	*e*Pg		**Pg**	**16 35 55.7**	**-1.4**
FRF				*e*Sg		**Sg**	**16 37 02.6**	**-1.8**
	32nm,0.7s							
FRF	**La Foret Royal**	**5.20**	**121**	*e*Pn		**Pn**	**16 35 36.0**	**+0.7**
FRF	**La Foret Royal**	**5.20**	**121**	*e*Pg		**Pg**	**16 35 55.7**	**-1.4**
FRF				*e*Sg		**Sg**	**16 37 02.6**	**-1.8**
	16nm,0.7s							
FRF	**La Foret Royal**	**5.20**	**121**	*e*Pn		**Pn**	**16 35 36.0**	**+0.7**
FRF				*e*Pg		**Pg**	**16 35 55.7**	**-1.4**
FRF				*e*Sg		**Sg**	**16 37 02.6**	**-1.8**
LMR	**La Mourre**	**5.25**	**124**	*e*Pn		**Pn**	**16 35 36.6**	**+0.5**
LMR	**La Mourre**	**5.25**	**124**	*e*Pg		**Pg**	**16 35 56.7**	**-1.4**
LMR				*e*Sg		**Sg**	**16 37 04.2**	**-1.9**
	12nm,0.5s							
LMR	**La Mourre**	**5.25**	**124**	*e*Pn		**Pn**	**16 35 36.6**	**+0.5**
LMR	**La Mourre**	**5.25**	**124**	*e*Pg		**Pg**	**16 35 56.7**	**-1.4**
LMR				*e*Sg		**Sg**	**16 37 04.2**	**-1.9**
	6.2nm,0.5s							
LMR	**La Mourre**	**5.25**	**124**	*e*Pn		**Pn**	**16 35 36.6**	**+0.5**
LMR				*e*Pg		**Pg**	**16 35 56.7**	**-1.4**
LMR				*e*Sg		**Sg**	**16 37 04.2**	**-1.9**
FELD	**Feldberg im Sc**	**5.32**	**71**	Pn		**Pn**	**16 35 37.6**	**+0.5**
RUP	**Ruppelstein**	**5.49**	**51**	Pn		**Pn**	**16 35 39.8**	**+0.5**
SBF	**Sospel**	**5.52**	**115**	*e*Pn		**Pn**	**16 35 40.2**	**+0.4**
SBF	**Sospel**	**5.52**	**115**	*e*Pg		**Pg**	**16 36 01.3**	**-1.9**
SBF				*e*Sn		**Sn**	**16 36 40.5**	**-2.8**
SBF				*e*Sg		**Sg**	**16 37 13.0**	**-1.7**
	41nm,0.8s							
SBF	**Sospel**	**5.52**	**115**	*e*Pn		**Pn**	**16 35 40.2**	**+0.4**
SBF	**Sospel**	**5.52**	**115**	*e*Pg		**Pg**	**16 36 01.3**	**-1.9**
SBF				*e*Sg		**Sg**	**16 37 13.0**	**-1.7**
	21nm,0.8s							
SBF	**Sospel**	**5.52**	**115**	*e*Pn		**Pn**	**16 35 40.2**	**+0.4**
SBF				*e*Pg		**Pg**	**16 36 01.3**	**-1.9**
SBF				*e*Sn		**Sn**	**16 36 40.5**	**-2.8**
SBF				*e*Sg		**Sg**	**16 37 13.0**	**-1.7**
LANF	**Langenberg**	**5.56**	**60**	Pn		**Pn**	**16 35 41.8**	**+1.6**
LANF	**Langenberg**	**5.56**	**60**	Pn		**Pn**	**16 35 41.8**	**+1.6**
BFO	**Black Forest**	**5.65**	**67**	Pn		**Pn**	**16 35 43.5**	**+2.0**
	4.9nm,0.5s							
BFO	**Black Forest**	**5.65**	**67**	*e*Pg		**Pg**	**16 36 05.3**	**-0.3**
BFO	**Black Forest**	**5.65**	**67**	Pn		**Pn**	**16 35 43.5**	**+2.0**
	4.9nm,0.5s							
BFO				*e*Pg		**Pg**	**16 36 05.3**	**-0.3**
BFO				*e*Sg		**Sg**	**16 37 13.7**	**-5.1**
PGF	**Pioggiola**	**7.19**	**119**	*e*Pn		**Pn**	**16 36 03.2**	**+0.4**
PGF				*e*Sn		**Sn**	**16 37 21.0**	**-3.5**
	0.4nm,0.2s							
PGF	**Pioggiola**	**7.19**	**119**	*e*Pn		**Pn**	**16 36 03.2**	**+0.4**
PGF	**Pioggiola**	**7.19**	**119**	*e*Pn		**Pn**	**16 36 03.2**	**+0.4**
PGF				*e*Sn		**Sn**	**16 37 21.0**	**-3.5**
NKC	**Novy Kostel**	**8.83**	**60**	*e*SN		**Sn**	**16 38 02.6**	**-2.0**
NKC				*ex*		x	16 38 57.3	
	7.2nm,0.6s							
KHC	**Kasperske Hory**	**9.21**	**68**	*e*PN		Pn	16 36 33.9	+3.5
KHC				*ex*		x	16 37 06.4	
KHC				*ex*		x	16 37 12.2	
KHC				*e*SN		**Sn**	**16 38 10.6**	**-3.5**
KHC				*ex*		x	16 39 09.2	
	11nm,1.1s							
EVO	**Evora**	**10.07**	**222**	*e*Pn		**Pn**	**16 36 42.8**	**+0.7**
EVO				*e*Sn		Sn	16 38 29.9	-5.2
	1.9nm,0.4s							
EVOP	**Sao Brissos**	**10.13**	**222**	*e*Pn		**Pn**	**16 36 42.8**	**-0.1**
EVOP	**Sao Brissos**	**10.13**	**222**	*e*Pn		**Pn**	**16 36 42.8**	**-0.1**
EVOP				*e*Sn		Sn	16 38 29.9	-6.5

IDC 25 16:34:31.9±3.3, 5°92'S×151°10'E, h0km, mb3.0/2, mb1 3.5/3, mb1mx3.2/32, mbtmp3.3/3, ML1.2/1, Error ellipse: s-maj=138.4km s-min=42.2km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.22**	**228**	Pn	Pn	16 35 51.8	+0.4
	0.6nm,0.3s,baz=32,slow=13,SNR=4.6						
PMG				Sn	Sn	16 36 46.4	-5.9
	1.8nm,0.3s,baz=128,slow=20,SNR=3.9						
WRA	**Warramunga Arr**	**21.44**	**228**	P	P	16 39 21.9	-0.1
	0.4nm,0.5s,baz=54,slow=10,SNR=2.4						
ASAR	**Alice Springs**	**24.19**	**221**	P	P	16 39 50.5	+0.1
	0.3nm,0.7s,baz=53,slow=9.5,SNR=6.6						
TORD	**Torodi Ar. Bea**	**149.00**	**286**	PKPbc	PKPbc	16 54 22.4	-0.8
	0.8nm,0.8s,baz=72,slow=2.9,SNR=5.9						

*IDC **25** 16:46:19.5±1.1, 1°68'N×96°77'E, h0km, mb4.0/12, mb1 4.0/13, mb1mx3.8/43, mbtmp3.9/13, ML3.2/2, MS3.3/5, Ms1 3.3/5, ms1mx2.8/39, Error ellipse: s-maj=29.8km s-min=17.1km az=53.0*
*ISCJB **25** 16:46:22.5±0.6, 1°68'N±0'05×96°71'E±0'07, h35km, mb4.0/14, MS3.2/4, Error ellipse: s-maj=11.4km s-min=4.7km az=146.5*
*NEIC **25** 16:46:22.3±1.7, 1°69'N×96°78'E, h18km, 9km, mb4.2/2, Error ellipse: s-maj=13.9km s-min=7.3km az=59.0*
*DJA **25** 16:46:23.1±0.6, 2°N±3'×9°7'E±', h50km±11km, M4.2/9, mb4.6/3, MLv4.0/9*

ISC 25 16:46:24.4±0.8, 1°70N±0'06×96°74'E±0'10, h35km, n42, σ0°98/33, mb4.0/14, MS3.2/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.92**	**115**	P	**Pn**	**16 46 40.2**	**-0.7**
GSI				S	**Sn**	**16 46 54.8**	**+1.8**
GSI	**Gunungsitoli**	**0.92**	**115**	*e*Pg	**Pn**	**16 46 39.5**	**-1.5**
PBSI	**Pulau Batu**	**2.33**	**138**	P	**Pn**	**16 46 59.3**	**-0.9**
PBSI				S	**Sn**	**16 47 27.8**	**+0.2**
PSI	**Prapat**	**2.44**	**63**	Pn	**Pn**	**16 47 00.6**	**-1.4**
	2.1nm,0.3s,baz=283,slow=8.7,SNR=8.7						
MNSI	**Mandailing Nat**	**2.98**	**107**	P	**Pn**	**16 47 09.1**	**-0.1**
MNSI				S	**Sn**	**16 47 45.7**	**+1.9**
LHMI	**Lhok Sumawe**	**3.51**	**3**	P	**Pn**	**16 47 15.8**	**-0.8**
LHMI				S	**Sn**	**16 47 57.9**	**+0.9**
SISI	**Saibi**	**3.81**	**142**	P	**Pn**	**16 47 19.5**	**-1.2**
PPI	**Padang Panjang**	**4.24**	**120**	P	**Pn**	**16 47 25.9**	**-0.7**
MNAI	**Manna**	**8.65**	**134**	P	**Pn**	**16 48 26.2**	**-1.0**
LEM	**Lembang**	**13.77**	**128**	LR	LR	16 54 38.0	
	comp=Z,130nm,18.2s,baz=208,slow=36						
CMAR	**Chiang Mai Arr**	**16.80**	**7**	Pn	**Pn**	**16 50 15.9**	**-1.2**
	0.1nm,0.3s,baz=194,slow=13,SNR=4.8						
KKM	**Kota Kinabalu**	**19.90**	**77**	*e*P	**Pn**	**16 50 53.9**	**-1.2**
KAPI	**Kappang**	**23.94**	**106**	LR	LR	17 02 09.5	
	comp=Z,40nm,19.8s,baz=348,slow=40						
H08S2	**Diego Garcia H**	**25.91**	**249**	T	T	17 18 40.7	
	baz=70,slow=75,SNR=376						
H08S3	**Diego Garcia H**	**25.91**	**249**	T	T	17 18 40.9	
	baz=70,slow=75,SNR=334						
H08S1	**Diego Carcia H**	**25.92**	**249**	T	T	17 18 42.1	
	baz=70,slow=75,SNR=427						
H08N1	**Diego Carcia H**	**26.89**	**252**	T	T	17 20 53.6	
	baz=13						
H08N2	**Diego Garcia H**	**26.90**	**253**	T	T	17 20 52.5	
	baz=13						
H08N3	**Diego Garcia H**	**26.92**	**253**	T	T	17 20 51.9	
	baz=13						
H01W3	**Cape Leeuwin H**	**39.88**	**157**	T	T	17 36 16.6	
	baz=333,slow=76,SNR=9.7						
H01W2	**Cape Leeuwin H**	**39.89**	**157**	T	T	17 36 15.7	
	baz=333,slow=76,SNR=9.1			

border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.93**	**342**	*eP*	Pn	17 02 19.0	-20
IMP				*eS*	S	17 02 50.0	-15
CMAR	**Chiang Mai Arr**	**6.97**	**140**	P	Pn	17 03 44.5	-0.9
	0.3nm,0.3s,baz=318,slow=16,SNR=5.3						
CMAR				S	S	17 05 07.0	+1.5
	0.1nm,0.3s,baz=328,slow=27,SNR=3.1						
MKAR	**Makanchi Array**	**24.78**	**340**	P	P	17 07 04.8	-0.2
	0.7nm,0.7s,baz=149,slow=10,SNR=7.4						
KURBB	**Kurchatov Arra**	**29.34**	**339**	P	P	17 07 45.7	+0.2
	0.1nm,0.3s,baz=145,slow=9.3,SNR=3.0						
ASAR	**Alice Springs**	**60.97**	**138**	P	P	17 11 53.2	-0.1
	0.2nm,0.8s,baz=314,slow=6.9,SNR=3.1						

BJI ***25*** *17:06:12.0,36°.30N×29°.65E,h10km,mb4.5/6,mB4.7/5, Ms4.3/1,Ms7 3.8/1*

HLW ***25*** *17:06:17.5,37°.28N×30°.53E,h35km±16km,Ml4.2*

IDC ***25*** *17:06:18.2±0.5,36°.96N×30°.45E,h0km,mb4.1/22, mb1 4.1/32,mb1mx4.0/54,mbtmp4.0/32,ML3.6/10, MS3.0/11,Ms1 3.0/11,ms1mx2.8/42,Error ellipse: s-maj=11.3km s-min=10.4km az=165.0*

DDA ***25*** *17:06:19.4,36°.98N×30°.35E,h7km,ML4.3*

ISK ***25*** *17:06:19.9,36°.97N×30°.35E,h7km,ML4.1*

MOS ***25*** *17:06:19.0±0.9,37°.01N×30°.48E,h11km,mb4.3/9,Error ellipse: s-maj=7.5km s-min=5.5km az=91.2*

ISCJB ***25*** *17:06:20.3±0.4,36°.94N±0°.01×30°.45E±0°.01,h15km±2km, mb4.0/30,MS2.9/4,Error ellipse: s-maj=2.2km s-min=1.7km az=18.6*

NEIC ***25*** *17:06:20.3±0.2,36°.96N×30°.51E,h10km,mb4.0/9, ML4.1(ISK),ML4.5(THE),Error ellipse: s-maj=4.4km s-min=3.3km az=181.0*

THE ***25*** *17:06:21.7,36°.95N×30°.56E,h11km±3km,ML4.5/2,Error ellipse: s-maj=3.7km s-min=1.4km az=43.0*

NSSC ***25*** *17:06:21.4±1.4,35°.69N×29°.93E,h20km±674km,MD2.5, ML3.0*

CSEM ***25*** *17:06:21.0±0.1,36°.95N×30°.42E,h10km,mb4.0/9,Error ellipse: s-maj=2.6km s-min=2.2km az=18.0*

NIC ***25*** *17:06:24.4,37°.04N×30°.72E,h16km,mb4.4,ML4.1*

ISC 25 17:06:20.4±0.5, 36°.95N±0°.02×30°.39E±0°.02, h10km±3km, n574,σ1$51/635, mb4.1/30, MS3.0/4, 11C-15D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KORT	**Korkueli**	**0.06**	**326**	*i* P	**Pg**	**17 06 20.9**	**-1.8**
KORT				*i* S	**Sg**	**17 06 22.1**	**-2.2**
KORT	**Korkueli**	**0.06**	**326**	*i* P	**Pg**	**17 06 20.9**	**-1.8**
KORT				*i* S	**Sg**	**17 06 22.1**	**-2.2**
ANTB	**Antalya**	**0.21**	**104**	*e*PG	**Pg**	**17 06 24.9**	**+0.1**
ANTB				*e*SG	**Sg**	**17 06 29.8**	**+2.0**
ANTB	**Antalya**	**0.21**	**104**	*e*Pg	**Pg**	**17 06 24.9**	**+0.1**
ANTB				*e*Sg	**Sg**	**17 06 29.8**	**+2.0**
ELL	**Elmali**	**0.44**	**243**	*e*PG	**Pg**	**17 06 28.1**	**-0.9**
ELL	**Elmali**	**0.44**	**243**	*e*Pg	**Pg**	**17 06 28.1**	**-0.9**
BCK	**Bucak**	**0.53**	**17**	*e*PG	**Pg**	**17 06 30.4**	**-0.4**
BCK				*e*SG	**Sb**	**17 06 39.0**	**-0.7**
BCK	**Bucak**	**0.53**	**17**	*e*Pg	**Pg**	**17 06 30.4**	**-0.4**
BCK				*e*Sg	**Sb**	**17 06 39.0**	**-0.7**
GOLH	**Golhisar**	**0.72**	**293**	*i* P	**Pg**	**17 06 32.3**	**-2.1**
GOLH				*i* S	**Sb**	**17 06 46.7**	**+1.5**
GOLH	**Golhisar**	**0.72**	**293**	*i* P	**Pg**	**17 06 32.3**	**-2.1**
GOLH				*i* S	**Sb**	**17 06 46.7**	**+1.5**
AKAS	**Kas**	**0.96**	**222**	*i* P	**Pg**	**17 06 37.9**	**-0.9**
AKAS				*i* S	**Sn**	**17 06 57.3**	**+3.6**
AKAS	**Kas**	**0.96**	**222**	*i* P	**Pg**	**17 06 37.9**	**-0.9**
KSL	**Kastellorizon**	**1.03**	**219**	*e*P	**Pg**	**17 06 38.6**	**-1.6**
BAGO	**Egridir - ISPA**	**1.08**	**17**	*i* P	**Pg**	**17 06 39.7**	**-1.6**
BAGO				*i* S	**Sn**	**17 06 56.9**	**0.0**
DENT	**Denizli**	**1.35**	**307**	*e*PN	**Pn**	**17 06 44.7**	**-0.7**
DENT	**Denizli**	**1.35**	**307**	*e*Pn	**Pn**	**17 06 44.7**	**-0.7**
DALY	**Dalyan (Mu¨la**	**1.40**	**265**	*e*PN	**Pn**	**17 06 46.2**	**+0.2**
DALY	**Dalyan (Mu¨la**	**1.40**	**265**	*e*Pn	**Pn**	**17 06 46.2**	**+0.2**
TURN	**Turunc**	**1.44**	**267**	*i* P	Pg	17 06 51.2	+3.3
TURN				*i* S	Sg	17 07 14.3	+7.7
KHL	**Karahalli**	**1.53**	**334**	*e*PN	**Pn**	**17 06 48.3**	**+0.3**
KHL	**Karahalli**	**1.53**	**334**	*e*Pn	**Pn**	**17 06 48.3**	**+0.3**
KHAL	**Karahalli**	**1.59**	**333**	*i* P	**Pn**	**17 06 48.6**	**-0.1**
KHAL				*i* S	**Sb**	**17 07 11.2**	**+1.1**
KHAL	**Karahalli**	**1.59**	**333**	*i* P	**Pn**	**17 06 48.6**	**-0.1**
KHAL				*i* S	**Sb**	**17 07 11.2**	**+1.1**
HDMB	**Hadim**	**1.68**	**89**	*e*PN	**Pb**	**17 06 51.0**	**-0.5**
HDMB	**Hadim**	**1.68**	**89**	*e*Pn	**Pb**	**17 06 51.0**	**-0.5**
YER	**Yerkesik**	**1.70**	**277**	*e*PN	**Pn**	**17 06 50.2**	**+0.1**
YER	**Yerkesik**	**1.70**	**277**	*e*Pn	**Pn**	**17 06 50.2**	**+0.1**
GAZI	**Gazipasa**	**1.71**	**114**	*i* P	Pn	17 06 47.0	-3.2
GAZI				*i* S	**Sg**	**17 07 17.3**	**+2.1**
GAZI	**Gazipasa**	**1.71**	**114**	*i* P	Pn	17 06 47.0	-3.2
BOLV	**Bolvadin**	**1.82**	**14**	*i* P	**Pn**	**17 06 52.9**	**+1.0**
BOLV				*i* S	**Sg**	**17 07 18.7**	**-0.2**
BOLV	**Bolvadin**	**1.82**	**14**	*i* P	**Pn**	**17 06 52.9**	**+1.0**
KONT	**Konya--Tatoy**	**1.85**	**57**	*e*PN	**Pn**	**17 06 52.6**	**+0.3**
KONT	**Konya--Tatoy**	**1.85**	**57**	*e*Pn	**Pn**	**17 06 52.6**	**+0.3**
ARG	**Arkhangelos**	**1.97**	**249**	P	**Pn**	**17 06 54.9**	**+1.1**
ARG				S	**Sn**	**17 07 19.8**	**+1.3**
ARG	**Arkhangelos**	**1.97**	**249**	*e*P	**Pn**	**17 06 54.9**	**+1.1**
ARG	**Arkhangelos**	**1.97**	**249**	P	**Pn**	**17 06 54.9**	**+1.1**
ARG				S	**Sn**	**17 07 19.8**	**+1.3**
ARG	**Arkhangelos**	**1.97**	**249**	P	**Pn**	**17 06 54.9**	**+1.1**
ARG				S	**Sn**	**17 07 19.8**	**+1.3**
ERMK	**Ermenek**	**2.05**	**98**	*i* P	**Pn**	**17 06 54.7**	**-0.4**
ERMK				*i* S	**Sg**	**17 07 25.7**	**-0.5**
ERMK	**Ermenek**	**2.05**	**98**	*i* P	**Pn**	**17 06 54.7**	**-0.4**
KDHN	**Kadinhani**	**2.08**	**41**	*i* P	**Pn**	**17 06 55.5**	**+0.1**
KDHN				*i* S	**Sb**	**17 07 24.7**	**+0.5**
KDHN	**Kadinhani**	**2.08**	**41**	*i* P	**Pn**	**17 06 55.5**	**+0.1**
KULA	**Kula-Manisa**	**2.08**	**319**	*e*PN	**Pn**	**17 06 55.4**	**0.0**
KULA	**Kula-Manisa**	**2.08**	**319**	P	**Pn**	**17 06 55.4**	**0.0**
KULA				S	**Sn**	**17 07 23.2**	**+1.8**
KULA	**Kula-Manisa**	**2.08**	**319**	P	**Pn**	**17 06 55.4**	**0.0**
KULA				S	**Sn**	**17 07 23.2**	**+1.8**
KULA	**Kula-Manisa**	**2.08**	**319**	P	**Pn**	**17 06 55.4**	**0.0**
KULA				S	**Sn**	**17 07 23.2**	**+1.8**
AYDN	**Tasoluk**	**2.13**	**290**	*i* P	**Pn**	**17 06 57.3**	**+1.2**
AYDN				*i* S	**Sb**	**17 07 25.2**	**-0.3**
AYDN	**Tasoluk**	**2.13**	**290**	*i* P	**Pn**	**17 06 57.3**	**+1.2**
AYDN				*i* S	**Sb**	**17 07 25.2**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**2.23**	**297**	*e*PN	**Pn**	**17 06 58.3**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**2.23**	**297**	*e*Pn	**Pn**	**17 06 58.3**	**+0.8**
GDZ	**Gediz**	**2.25**	**342**	*i* P	**Pn**	**17 06 57.8**	**-0.1**
GDZ				*i* S	**Sg**	**17 07 36.4**	**+3.6**
GDZ	**Gediz**	**2.25**	**342**	*i* P	**Pn**	**17 06 57.8**	**-0.1**
KIZT	**Kizilcal**	**2.26**	**31**	*e*PN	**Pn**	**17 06 59.1**	**+1.2**
KIZT	**Kizilcal**	**2.26**	**31**	*e*Pn	**Pn**	**17 06 59.1**	**+1.2**
BDRM	**Kayabasi**	**2.36**	**274**	*i* P	**Pn**	**17 07 00.7**	**+1.4**
BDRM				*i* S	**Sb**	**17 07 30.8**	**-1.5**
BDRM	**Kayabasi**	**2.36**	**274**	*i* P	**Pn**	**17 07 00.7**	**+1.4**
BDRM				*i* S	**Sb**	**17 07 30.8**	**-1.5**
BODT	**Bodrum**	**2.47**	**273**	*e*PN	**Pn**	**17 07 02.0**	**+1.3**
BODT	**Bodrum**	**2.47**	**273**	*e*Pn	**Pn**	**17 07 02.0**	**+1.3**
DEMI	**Demirci**	**2.47**	**328**	*i* P	**Pn**	**17 07 00.9**	**0.0**
DEMI				*i* S	**Sn**	**17 07 30.7**	**-0.5**
DEMI	**Demirci**	**2.47**	**328**	*i* P	**Pn**	**17 07 00.9**	**0.0**
DEMI				*i* S	**Sn**	**17 07 30.7**	**-0.5**
AKMC	**Akamas**	**2.48**	**140**	P	**Pn**	**17 07 02.5**	**+1.6**
	baz=327						
AKMC	**Akamas**	**2.48**	**140**	P	**Pn**	**17 07 02.5**	**+1.6**
ALFC	**Alevga**	**2.53**	**134**	P	**Pn**	**17 07 02.3**	**+0.7**
	baz=321						
ALFC				S	**Sn**	**17 07 32.3**	**-0.2**
ALFC	**Alevga**	**2.53**	**134**	P	**Pn**	**17 07 02.3**	**+0.7**
ALFC				S	**Sn**	**17 07 32.3**	**-0.2**
CHBY	**Cihanbeyli**	**2.56**	**50**	*e*PN	**Pn**	**17 07 02.8**	**+0.7**
CHBY	**Cihanbeyli**	**2.56**	**50**	*e*Pn	**Pn**	**17 07 02.8**	**+0.7**
ESKT	**Eskisehir**	**2.59**	**8**	*e*PN	**Pn**	**17 07 03.2**	**+0.7**
ESKT	**Eskisehir**	**2.59**	**8**	*e*Pn	**Pn**	**17 07 03.2**	**+0.7**
SEYT	**Eskypehyr**	**2.59**	**8**	*i* P	**Pn**	**17 07 03.2**	**+0.7**
SEYT	**Eskypehyr**	**2.59**	**8**	*i* P	**Pn**	**17 07 03.2**	**+0.7**
PPCY	**Paphos**	**2.60**	**142**	⇑P	**Pn**	**17 07 04.4**	**+1.9**
	baz=328						
PPCY	**Paphos**	**2.60**	**142**	⇑P	**Pn**	**17 07 04.4**	**+1.9**
TVSB	**Tavsanli**	**2.60**	**344**	*e*PN	**Pn**	**17 07 03.1**	**+0.5**
TVSB	**Tavsanli**	**2.60**	**344**	*e*Pn	**Pn**	**17 07 03.1**	**+0.5**
NIS1	**Nisyros Isl.**	**2.60**	**263**	*e*PN	**Pn**	**17 07 03.3**	**+0.7**
NIS1	**Nisyros Isl.**	**2.60**	**263**	*e*P	**Pn**	**17 07 04.3**	**+1.7**
NIS1	**Nisyros Isl.**	**2.60**	**263**	*e*Pn	**Pn**	**17 07 03.3**	**+0.7**
NIS1	**Nisyros Isl.**	**2.60**	**263**	P	**Pn**	**17 07 04.0**	**+1.4**
NIS1				S	**Sn**	**17 07 35.6**	**+1.3**
NIS1	**Nisyros Isl.**	**2.60**	**263**	P	**Pn**	**17 07 04.0**	**+1.4**
NIS1				S	**Sn**	**17 07 35.6**	**+1.3**
NIS1	**Nisyros Isl.**	**2.60**	**263**	P	**Pn**	**17 07 04.0**	**+1.4**
NIS1				S	**Sn**	**17 07 35.6**	**+1.3**
GCAM	**G?zelcaml?**	**2.63**	**287**	*i* P	**Pn**	**17 07 03.8**	**+0.9**
GCAM				*i* S	**Sg**	**17 07 44.1**	**-0.7**
GCAM	**G?zelcaml?**	**2.63**	**287**	*i* P	**Pn**	**17 07 03.8**	**+0.9**
NISR	**Nisiros**	**2.64**	**264**	*e*P	**Pb**	**17 07 05.9**	**-1.9**
AUSIV	**SIVRIHISAR**	**2.64**	**20**	*i* P	**Pn**	**17 07 03.8**	**+0.6**
SVRH	**Sivrihisar-ESK**	**2.65**	**19**	*e*PN	**Pn**	**17 07 04.4**	**+1.1**
SVRH	**Sivrihisar-ESK**	**2.65**	**19**	*e*Pn	**Pn**	**17 07 04.4**	**+1.1**
LEF	**Lefka**	**2.73**	**131**	*e*PN	**Pn**	**17 07 06.0**	**+1.8**
LEF	**Lefka**	**2.73**	**131**	*e*Pn	**Pn**	**17 07 06.0**	**+1.8**
SULT	**Sultanhani-AKS**	**2.78**	**62**	*e*PN	**Pn**	**17 07 06.6**	**+1.6**
SULT	**Sultanhani-AKS**	**2.78**	**62**	*e*Pn	**Pn**	**17 07 06.6**	**+1.6**
YESY	**Yesilyurt**	**2.79**	**72**	*e*PN	**Pn**	**17 07 06.5**	**+1.2**
YESY	**Yesilyurt**	**2.79**	**72**	*e*Pn	**Pn**	**17 07 06.5**	**+1.2**
AKHS	**Akhisar**	**2.80**	**314**	*i* P	**Pn**	**17 07 05.1**	**-0.2**
AKHS				*i* S	**Sn**	**17 07 40.0**	**+0.8**
AKHS	**Akhisar**	**2.80**	**314**	*i* P	**Pn**	**17 07 05.1**	**-0.2**
AKHS				*i* S	**Sn**	**17 07 40.0**	**+0.8**
AKS	**Akhisar**	**2.81**	**314**	*e*PN	**Pn**	**17 07 05.5**	**+0.2**
AKS	**Akhisar**	**2.81**	**314**	*e*Pn	**Pn**	**17 07 05.5**	**+0.2**
MAMC	**Mammari**	**2.90**	**127**	⇓P	**Pn**	**17 07 08.0**	**+1.4**
	baz=313						
MAMC	**Mammari**	**2.90**	**127**	⇓P	**Pn**	**17 07 08.0**	**+1.4**
BORA	**Eskisehir**	**2.92**	**1**	*i* P	**Pn**	**17 07 07.7**	**+0.6**
BORA	**Eskisehir**	**2.92**	**1**	*i* P	**Pn**	**17 07 07.7**	**+0.6**
SMG	**Samos**	**2.93**	**286**	*e*P	**Pn**	**17 07 08.1**	**+0.9**
SMG	**Samos**	**2.93**	**286**	P	**Pn**	**17 07 08.0**	**+0.9**
SMG				S	**Sn**	**17 07 45.2**	**+2.8**
SMG	**Samos**	**2.93**	**286**	P	**Pn**	**17 07 08.0**	**+0.9**
SMG				S	**Sn**	**17 07 45.2**	**+2.8**
SMG	**Samos**	**2.93**	**286**	P	**Pn**	**17 07 08.0**	**+0.9**
SMG				S	**Sn**	**17 07 45.2**	**+2.8**
KULU	**Kulu**	**2.93**	**44**	*e*PN	**Pn**	**17 07 08.4**	**+1.2**
KULU	**Kulu**	**2.93**	**44**	*e*Pn	**Pn**	**17 07 08.4**	**+1.2**
KARP	**Karpathos**	**2.96**	**243**	*e*P	**Pn**	**17 07 08.7**	**+1.2**
KARP	**Karpathos**	**2.96**	**243**	P	**Pn**	**17 07 08.7**	**+1.2**
KARP				S	**Sn**	**17 07 45.7**	**+2.5**
KARP	**Karpathos**	**2.96**	**243**	P	**Pn**	**17 07 08.7**	**+1.2**
KARP				S	**Sn**	**17 07 45.7**	**+2.5**
KARP	**Karpathos**	**2.96**	**243**	P	**Pn**	**17 07 08.7**	**+1.2**
KARP				S	**Sn**	**17 07 45.7**	**+2.5**
SZAC	**Souni-Zanaja**	**2.98**	**137**	P	**Pn**	**17 07 09.3**	**+1.5**
	baz=322						
SZAC				S	**Sn**	**17 07 44.1**	**+0.5**
SZAC	**Souni-Zanaja**	**2.98**	**137**	P	**Pn**	**17 07 09.3**	**+1.5**
SZAC				S	**Sn**	**17 07 44.1**	**+0.5**
DST	**Dursunbey**	**2.99**	**333**	*e*PN	**Pn**	**17 07 08.6**	**+0.6**
DST	**Dursunbey**	**2.99**	**333**	*e*Pn	**Pn**	**17 07 08.6**	**+0.6**
AUKUT	**KUTAHYA**	**3.01**	**355**	*i* P	Pn	17 07 01.5	-6.8
AUKUT				*i* S	Sn	17 07 32.2	-12
BLCB	**Balcova**	**3.02**	**299**	*e*PN	**Pn**	**17 07 08.4**	**+0.2**
BLCB	**Balcova**	**3.02**	**299**	*e*Pn	**Pn**	**17 07 08.4**	**+0.2**
AUMIH	**MIHALICIK**	**3.04**	**16**	*i* P	**Pn**	**17 07 09.6**	**+0.9**
LFK	**Lefkose**	**3.04**	**122**	*e*PN	**Pn**	**17 07 10.5**	**+1.9**
LFK	**Lefkose**	**3.04**	**122**	*e*Pn	**Pn**	**17 07 10.5**	**+1.9**
DURS	**Dursunbey**	**3.05**	**331**	*i* P	**Pn**	**17 07 09.0**	**+0.3**
DURS				*i* S	**Sn**	**17 07 47.8**	**+2.5**
DURS	**Dursunbey**	**3.05**	**331**	*i* P	**Pn**	**17 07 09.0**	**+0.3**
DURS				*i* S	**Sn**	**17 07 47.8**	**+2.5**
CSS	**Prodhromos**	**3.10**	**129**	P	**Pn**	**17 07 09.9**	**+0.5**
	baz=315						
CSS				S	**Sn**	**17 07 46.3**	**-0.3**
CSS	**Prodhromos**	**3.10**	**129**	*e*PN	**Pn**	**17 07 10.3**	**+1.0**
CSS	**Prodhromos**	**3.10**	**129**	P	**Pn**	**17 07 09.9**	**+0.5**
CSS	**Prodhromos**	**3.10**	**129**	*e*Pn	**Pn**	**17 07 10.4**	**+1.0**
CSS				S	**Sn**	**17 07 46.3**	**-0.3**
CSS	**Prodhromos**	**3.10**	**129**	*e*Pn	**Pn**	**17 07 06.8**	**-2.6**
CSS				P	Pb	17 07 07.1	-8.6
CSS				*e*Pg	**Pg**	**17 07 17.6**	**-2.2**
CSS				S	**Sn**	**17 07 43.3**	**-3.3**
SERE	**Sereflikochisa**	**3.20**	**51**	*e*PN	**Pn**	**17 07 13.0**	**+2.1**
SERE	**Sereflikochisa**	**3.20**	**51**	*e*Pn	**Pn**	**17 07 13.0**	**+2.1**
AFSR	**Af˘ar-Bala (A**	**3.27**	**39**	*e*PN	**Pn**	**17 07 13.3**	**+1.6**
AFSR	**Af˘ar-Bala (A**	**3.27**	**39**	*e*Pn	**Pn**	**17 07 13.3**	**+1.6**
CAVI	**Cavuskoy**	**3.27**	**353**	*e*PN	**Pn**	**17 07 12.9**	**+1.1**
CAVI	**Cavuskoy**	**3.27**	**353**	*e*Pn	**Pn**	**17 07 12.9**	**+1.1**
URLA	**Izmir**	**3.33**	**296**	*i* P	**Pn**	**17 07 13.4**	**+0.9**
URLA				*i* S	**Sg**	**17 08 07.7**	**+0.5**
URLA	**Izmir**	**3.33**	**296**	*i* P	**Pn**	**17 07 13.4**	**+0.9**
BALB	**Balikesir**	**3.33**	**324**	*e*PN	**Pn**	**17 07 13.6**	**+1.0**
BALB	**Balikesir**	**3.33**	**324**	*e*Pn	**Pn**	**17 07 13.6**	**+1.0**
ULDT	**Uludag**	**3.33**	**343**	*i* P	**Pn**	**17 07 12.9**	**+0.1**
ULDT	**Uludag**	**3.33**	**343**	*i* P	**Pn**	**17 07 12.9**	**+0.1**
ZEY	**¨zmir**	**3.35**	**294**	*i* P	**Pn**	**17 07 13.4**	**+0.7**
IZI	**Iznik**	**3.46**	**348**	*e*PN	**Pn**	**17 07 15.7**	**+1.3**
IZI	**Iznik**	**3.46**	**348**	*e*Pn	**Pn**	**17 07 15.7**	**+1.3**
DKL	**Dikili**	**3.47**	**309**	*e*PN	**Pn**	**17 07 15.7**	**+1.2**
DKL	**Dikili**	**3.47**	**309**	*e*Pn	**Pn**	**17 07 15.7**	**+1.2**
GULT	**Gulveren**	**3.48**	**2**	*e*PN	**Pn**	**17 07 15.6**	**+0.9**
GULT	**Gulveren**	**3.48**	**2**	*e*Pn	**Pn**	**17 07 15.6**	**+0.9**
ADVT	**Abdulvahap**	**3.52**	**352**	*e*PN	**Pn**	**17 07 16.3**	**+1.2**
ADVT	**Abdulvahap**	**3.52**	**352**	*e*Pn	**Pn**	**17 07 16.3**	**+1.2**
BALY	**Balya**	**3.54**	**323**	*i* P	**Pn**	**17 07 15.7**	**+0.2**
BALY				*i* S	**Sn**	**17 07 58.8**	**+1.4**
BALY	**Balya**	**3.54**	**323**	*i* P	**Pn**	**17 07 15.7**	**+0.2**
BALY				*i* S	**Sn**	**17 07 58.8**	**+1.4**
NIG	**Nigde**	**3.55**	**70**	*e*PN	**Pn**	**17 07 16.7**	**+0.9**
NIG	**Nigde**	**3.55**	**70**	*e*Pn	**Pn**	**17 07 16.7**	**+0.9**
KAMT	**Kaman**	**3.56**	**46**	*e*PN	**Pn**	**17 07 17.4**	**+1.6**
KAMT	**Kaman**	**3.56**	**46**	*e*Pn	**Pn**	**17 07 17.4**	**+1.6**
MDNY	**Mudanya-Bursa**	**3.61**	**341**	*e*PN	**Pn**	**17 07 17.5**	**+1.1**
MDNY	**Mudanya-Bursa**	**3.61**	**341**	*e*Pn	**Pn**	**17 07 17.5**	**+1.1**
KCTX	**Karacabey (Bur**	**3.67**	**335**	*e*PN	**Pn**	**17 07 17.9**	**+0.6**
KCTX	**Karacabey (Bur**	**3.67**	**335**	*e*Pn	**Pn**	**17 07 17.9**	**+0.6**
CHOS	**Chios island**	**3.73**	**294**	*e*PN	**Pn**	**17 07 19.8**	**+1.7**
CHOS	**Chios island**	**3.73**	**294**	*e*P	**Pn**	**17 07 19.4**	**+1.4**
CHOS	**Chios island**	**3.73**	**294**	P	**Pn**	**17 07 19.5**	**+1.4**
CHOS	**Chios island**	**3.73**	**294**	*e*Pn	**Pn**	**17 07 19.8**	**+1.7**
CHOS	**Chios island**	**3.73**	**294**	P	**Pn**	**17 07 19.4**	**+1.4**
CHOS	**Chios island**	**3.73**	**294**	P	**Pn**	**17 07 19.5**	**+1.4**
SPNC	**Sapanca-Adapaz**	**3.73**	**359**	*e*PN	**Pn**	**17 07 20.2**	**+2.2**
SPNC	**Sapanca-Adapaz**	**3.73**	**359**	*e*Pn	**Pn**	**17 07 20.2**	**+2.2**
KARA	**Karaisali**	**3.74**	**84**	*e*PN	**Pn**	**17 07 20.7**	**+2.5**
KARA	**Karaisali**	**3.74**	**84**	*e*Pn	**Pn**	**17 07 20.7**	**+2.5**
BR131	**Keskin Array S**	**3.77**	**42**	*e*PN	**Pn**	**17 07 18.9**	**+0.2**
BR131	**Keskin Array S**	**3.77**	**42**	*e*Pg	**Pg**	**17 07 30.4**	**-2.1**
BR131	**Keskin Array S**	**3.77**	**42**	*e*Pn	**Pn**	**17 07 18.9**	**+0.2**
BR131				*e*Pg	**Pg**	**17 07 30.4**	**-2.1**
BR131				*e*Sn	**Sn**	**17 08 02.2**	**-0.9**
BRTR	**Keskin Array B**	**3.77**	**42**	Pn	**Pn**	**17 07 18.8**	**+0.1**
	6.3nm,0.3s,baz=217,slow=16,SNR=91						
BRTR				Sn	**Sn**	**17 08 03.2**	**+0.1**
	10.0nm,0.3s,baz=214,slow=27,SNR=9.1						
ARMT	**Armutlu**	**3.80**	**342**	*e*PN	**Pn**	**17 07 19.8**	**+0.7**
ARMT	**Armutlu**	**3.80**	**342**	*e*Pn	**Pn**	**17 07 19.8**	**+0.7**
ZKR	**Zakros**	**3.85**	**243**	P	**Pn**	**17 07 21.2**	**+1.5**
ZKR	**Zakros**	**3.85**	**243**	P	**Pn**	**17 07 21.2**	**+1.5**
ZKR	**Zakros**	**3.85**	**243**	P	**Pn**	**17 07 21.2**	**+1.5**
APE	**Apeiranthos**	**3.89**	**273**	*e*PN	**Pn**	**17 07 22.1**	**+1.7**
APE	**Apeiranthos**	**3.89**	**273**	P	**Pn**	**17 07 21.6**	**+1.2**
APE	**Apeiranthos**	**3.89**	**273**	⇑P	**Pn**	**17 07 21.5**	**+1.2**
APE	**Apeiranthos**	**3.89**	**273**	*e*P	**Pn**	**17 07 21.0**	**+0.7**
APE	**Apeiranthos**	**3.89**	**273**	P	**Pn**	**17 07 21.6**	**+1.2**
APE	**Apeiranthos**	**3.89**	**273**	*e*Pn	**Pn**	**17 07 22.1**	**+1.7**
APE	**Apeiranthos**	**3.89**	**273**	P	**Pn**	**17 07 21.6**	**+1.2**
APE	**Apeiranthos**	**3.89**	**273**	P	**Pn**	**17 07 21.6**	**+1.2**
HRT	**Hereke**	**3.91**	**352**	*e*PN	**Pn**	**17 07 21.8**	**+1.3**
HRT	**Hereke**	**3.91**	**352**	*e*Pn	**Pn**	**17 07 21.8**	**+1.3**
EDC	**Edincik**	**3.93**	**330**	*e*PN	**Pn**	**17 07 21.5**	**+0.8**
EDC	**Edincik**	**3.93**	**330**	*e*Pn	**Pn**	**17 07 21.5**	**+0.8**
PRK	**Paraskevi**	**3.98**	**306**	P	**Pn**	**17 07 22.4**	**+1.0**
PRK	**Paraskevi**	**3.98**	**306**	*e*P	**Pn**	**17 07 22.7**	**+1.3**
PRK	**Paraskevi**	**3.98**	**306**	P	**Pn**	**17 07 22.4**	**+1.0**
PRK	**Paraskevi**	**3.98**	**306**	P	**Pn**	**17 07 22.4**	**+1.0**
PRK	**Paraskevi**	**3.98**	**306**	P	**Pn**	**17 07 22.4**	**+1.0**
THR1	**Thera Island**	**4.01**	**263**	*e*PN	**Pn**	**17 07 23.6**	**+1.7**
THR1	**Thera Island**	**4.01**	**263**	*e*Pn	**Pn**	**17 07 23.6**	**+1.7**
KRTS	**Karatas**	**4.02**	**94**	*e*PN	**Pn**	**17 07 24.9**	**+2.9**
KRTS	**Karatas**	**4.02**	**94**	*e*Pn	**Pn**	**17 07 24.9**	**+2.9**
THR3	**Thira Island,**	**4.05**	**264**	P	**Pn**	**17 07 24.0**	**+1.6**
THR3	**Thira Island,**	**4.05**	**264**	P	**Pn**	**17 07 24.0**	**+1.6**
THR3	**Thira Island,**	**4.05**	**264**	P	**Pn**	**17 07 24.0**	**+1.6**
THR6	**Thira Island,**	**4.06**	**263**	P	**Pn**	**17 07 24.1**	**+1.5**
THR6	**Thira Island,**	**4.06**	**263**	P	**Pn**	**17 07 24.1**	**+1.5**
THR6	**Thira Island,**	**4.06**	**263**	P	**Pn**	**17 07 24.1**	**+1.5**
BCAM	**Yenicaga**	**4.07**	**18**	*i* P	**Pn**	**17 07 23.8**	**+0.9**
BCAM				*i* S	**Sn**	**17 08 13.3**	**+2.6**
BCAM	**Yenicaga**	**4.07**	**18**	*i* P	**Pn**	**17 07 23.8**	**+0.9**
BCAM				*i* S	**Sn**	**17 08 13.3**	**+2.6**
THR5	**Thira Island,**	**4.09**	**264**	*e*PN	**Pn**	**17 07 24.6**	**+1.6**
THR5	**Thira Island,**	**4.09**	**264**	*e*Pn	**Pn**	**17 07 24.6**	**+1.6**
CDAG	**Cicekdag**	**4.11**	**48**	*i* P	**Pn**	**17 07 24.1**	**+0.7**
CDAG				*i* S	**Sn**	**17 08 11.2**	**-0.5**
CDAG	**Cicekdag**	**4.11**	**48**	*i* P	**Pn**	**17 07 24.1**	**+0.7**
CDAG				*i* S	**Sn**	**17 08 11.2**	**-0.5**
KRBG	**Karabiga-Canak**	**4.21**	**326**	*e*PN	**Pn**	**17 07 26.1**	**+1.5**
KRBG	**Karabiga-Canak**	**4.21**	**326**	*e*Pn	**Pn**	**17 07 26.1**	**+1.5**
NPS	**Neapolis**	**4.22**	**248**	*e*P	**Pn**	**17 07 25.3**	**+0.5**
SIGR	**SIGRI**	**4.23**	**304**	*e*PN	**Pn**	**17 07 25.9**	**+1.1**
**SI

TCHB **Talchebab** **6.27 131** *e*P Pn 17 07 48.5 -4.4
TCHB *e*S Sn 17 08 50.3 -14
TCHB AML AML 17 09 24.1
comp=E,32nm,0.9s
TCHB AML AML 17 09 28.2
comp=N,115nm,0.5s
ROOS tl_alroos **6.27 114** *e*P **Pn** **17 07 52.8 -0.2**
ROOS *e*S **Sn** **17 09 00.1 -4.6**
ROOS AML AML 17 09 16.5
comp=E,103nm,0.6s
ROOS AML AML 17 09 34.5
comp=N,71nm,0.6s
AXAR Agios Charalam **6.38 289** *e*P Pn 17 07 57.7 +3.2
DESF Desfina **6.40 286** *e*P Pn 17 07 58.3 +3.5
DSF Desfina **6.41 286** *e*P **Pn** **17 07 57.6 +2.7**
HMAT Matruh **6.45 206** S **Sn** **17 09 08.2 -1.0**
baz=206
HMAT Matruh **6.45 206** S **Sn** **17 09 08.2 -1.0**
RZN Rozhen **6.46 319** P Pn 17 07 59.6 +3.9
GUR Goura **6.48 281** *e*P **Pn** **17 07 58.5 +2.6**
MALT Malatya **6.52 76** *i*P **Pn** **17 07 57.5 +1.0**
KLV Kalavryta, Ach **6.64 262** *e*P **Pn** **17 08 00.8 +2.7**
AGG Agios Georgios **6.70 290** *e*PN **Pn** **17 08 01.5 +2.7**
AGG Agios Georgios **6.70 290** *e*P **Pn** **17 08 02.0 +3.2**
AGG Agios Georgios **6.70 290** *e*Pn **Pn** **17 08 01.5 +2.7**
KALE Kalithea **6.70 285** *e*P **Pn** **17 08 02.0 +3.1**
NVR Nevrokopi **6.71 313** *e*P **Pn** **17 08 00.2 +1.2**
SALA Sala **6.71 127** *e*P Pn 17 07 55.1 -4.1
SALA *e*S Sn 17 09 02.6 -13
SALA AML AML 17 09 28.7
comp=N,26nm,0.6s
SALA AML AML 17 09 32.1
comp=E,3.3nm,0.6s
SRS Serrai **6.73 310** P **Pn** **17 08 00.3 +1.0**
SRS Serrai **6.73 310** *e*P **Pn** **17 08 00.3 +1.0**
SRS Serrai **6.73 310** P **Pn** **17 08 00.3 +1.0**
SRS Serrai **6.73 310** P **Pn** **17 08 00.3 +1.0**
SRS Serrai **6.73 310** P **Pn** **17 08 00.3 +1.0**
TRIZ Trizonia **6.75 285** *e*P Pn 17 08 02.8 +3.3
HORT Hortiatis **6.76 305** *e*PN **Pn** **17 08 01.6 +1.9**
HORT Hortiatis **6.76 305** *e*P **Pn** **17 08 02.0 +2.2**
HORT Hortiatis **6.76 305** *e*Pn **Pn** **17 08 01.7 +1.9**
PLD Plovdiv **6.77 321** P **Pn** **17 08 02.9 +3.1**
ITM Ithomi **6.77 274** *e*P Pn 17 08 04.6 +4.7
LAKA Lakka **6.80 283** *e*P **Pn** **17 08 03.3 +3.0**
MAKR Makrakomi, Fth **6.84 290** *e*P Pn 17 08 05.0 +4.2
EFP Efpalio **6.89 285** *e*P Pn 17 08 04.7 +3.3
SLUM **6.93 220** P **Pn** **17 08 02.5 +0.5**
baz=219
SLUM AMP 17 09 00.0
comp=E,80µm,0.6s,logA/T=5.1,baz=219
SLUM **6.93 220** P **Pn** **17 08 02.5 +0.5**
MMB Musomiste **6.94 314** P **Pn** **17 08 04.1 +1.9**
LIT Litokhoron **6.95 299** *e*P **Pn** **17 08 04.8 +2.5**
AMT Artemida-Makis **6.95 277** *e*P Pn 17 08 08.9 +6.6
ZALF Zalf **6.97 123** *e*P **Pn** **17 08 00.7 -2.0**
ZALF *e*S Sn 17 09 10.6 -12
ZALF AML AML 17 09 38.0
comp=E,17nm,0.7s
ZALF AML AML 17 09 53.1
comp=N,14nm,0.7s
DRO Drossia **6.98 281** *e*P Pn 17 08 06.1 +3.4
EVR Evrytania **7.06 289** *e*P Pn 17 08 07.9 +4.0
SZH Strazhica **7.17 333** P **Pn** **17 08 05.9 +0.6**
ASF Jabal al Asfar **7.18 130** Pn **Pn** **17 08 07.3 +1.9**
comp=N,0.4nm,0.3s,baz=275,slow=11,SNR=3.8
ASF Sn **Sn** **17 09 29.6 +2.4**
baz=98,slow=15,SNR=1.4
KNT Kendrikon **7.19 308** *e*PN **Pn** **17 08 06.9 +1.3**
KNT Kendrikon **7.19 308** *e*P **Pn** **17 08 07.4 +1.8**
KNT Kendrikon **7.19 308** *e*Pn **Pn** **17 08 06.9 +1.3**
MSAB Monastry St. A **7.39 345** *i*P **Pn** **17 08 09.6 +1.3**
GRG Griva **7.40 305** *e*PN **Pn** **17 08 10.7 +2.2**
GRG Griva **7.40 305** *e*P **Pn** **17 08 11.4 +2.9**
GRG Griva **7.40 305** *e*Pn **Pn** **17 08 10.7 +2.2**
GLL Jalalah **7.44 171** P **Pn** **17 08 09.2 +0.2**
baz=172
GLL Jalalah **7.44 171** P **Pn** **17 08 09.2 +0.2**
PDO Prodromos **7.48 285** *e*P Pn 17 08 15.1 +5.6
HNKL Nakhl **7.62 156** P **Pn** **17 08 11.3 -0.2**
baz=157
HNKL Nakhl **7.62 156** P **Pn** **17 08 11.3 -0.2**
TIRR Tirgusor **7.65 349** *e*PN **Pn** **17 08 14.2 +2.3**
TIRR Tirgusor **7.65 349** *e*P **Pn** **17 08 12.6 +0.8**
TIRR *e* 17 09 37.4
TIRR pmax pmax
comp=Z,21nm,0.6s
TIRR Tirgusor **7.65 349** *i*P **Pn** **17 08 12.9 +1.1**
TIRR Tirgusor **7.65 349** *e*P **Pn** **17 08 12.6 +0.8**
comp=Z,21nm,0.6s
TIRR *e*S **Sn** **17 09 37.4 -1.1**
TIRR Tirgusor **7.65 349** *e*Pn **Pn** **17 08 12.6 +0.8**
comp=Z,21nm,0.6s
TIRR *e*Sn **Sn** **17 09 37.4 -1.1**
DSL Palaion Diasel **7.65 289** *e*P Pn 17 08 16.9 +4.9
VTS Vitosha **7.89 318** *i*P **Pn** **17 08 17.4 +2.0**
VTS Vitosha **7.89 318** P **Pn** **17 08 17.0 +1.6**
HARR Harsova **7.95 347** *i*P **Pn** **17 08 17.2 +1.2**
SEV Sevastopol' **7.98 17** *e*P **Pn** **17 08 16.4 0.0**
SEV *e*S **Sn** **17 09 46.6 -0.1**
SEV Sevastopol' **7.98 17** *e*P **Pn** **17 08 16.4 0.0**
SEV *e*S **Sn** **17 09 46.6 -0.1**
FNA Florina **8.01 301** *e*P Pn 17 08 20.4 +3.6
NEST Nestorio **8.08 298** *e*P Pn 17 08 22.5 +4.6
MPEP Malo Peshtene **8.18 324** P **Pn** **17 08 20.6 +1.5**
EIL Elat **8.20 151** Pn **Pn** **17 08 18.4 -1.0**
comp=Z,4.2nm,0.3s,baz=337,slow=11,SNR=36
EIL Sn **Sn** **17 09 50.9 -1.3**
comp=Z,0.7nm,0.3s,baz=120,slow=20,SNR=2.5
EIL LR LR 17 12 07.5
comp=Z,107nm,18.1s,baz=264,slow=43
TLCR **8.31 352** *i*P **Pn** **17 08 22.7 +1.8**
IGT Igoumenitsa **8.32 291** *e*P Pn 17 08 27.0 +5.8
CFR Carcaliu **8.39 349** *i*P **Pn** **17 08 23.0 +1.0**
SGD Sagiada **8.42 291** *e*P Pn 17 08 28.1 +5.7
SIM Simferopol' **8.47 18** P **Pn** **17 08 25.3 +2.2**
SIM S **Sn** **17 10 01.3 +2.5**
SIM pmax pmax
comp=Z,16nm,0.8s
SIM smax smax
comp=N,10.0nm,1.0s
SIM smax smax
comp=E,17nm,1.2s
SIM Simferopol' **8.47 18** P **Pn** **17 08 25.3 +2.2**
comp=E,16nm,0.8s
SIM S **Sn** **17 10 01.3 +2.5**
comp=E,10.0nm,1.0s
ISR Istrita **8.66 342** *i*P **Pn** **17 08 27.8 +2.0**
SUDU Sudak **8.66 22** *e*P **Pn** **17 08 27.2 +1.5**
SUDU *e*S **Sn** **17 10 06.5 +3.1**
SUDU Sudak **8.66 22** *e*P **Pn** **17 08 27.2 +1.5**
SWA2 **8.73 210** P **Pn** **17 08 27.8 +1.1**
baz=210
SWA2 AMP 17 10 00.0
comp=N,80µm,0.4s,logA/T=5.3,baz=210
SWA2 S **Sn** **17 10 02.7 -2.5**
baz=210
SWA2 **8.73 210** P **Pn** **17 08 27.8 +1.1**
HKAT Jabal Katrina **8.93 159** P **Pn** **17 08 29.5 -0.2**
baz=160
HKAT Jabal Katrina **8.93 159** P **Pn** **17 08 29.5 -0.2**
MLR Muntele Rosu **9.16 340** Pn **Pn** **17 08 32.8 0.0**
comp=N,0.1nm,0.3s,baz=150,slow=7.1,SNR=14
MLR Muntele Rosu **9.16 340** *i*P **Pn** **17 08 35.0 +2.2**
MTUR Matau **9.19 336** *i*P **Pn** **17 08 34.8 +1.7**
VRI Vrincioaia **9.32 344** *i*P **Pn** **17 08 36.5 +1.7**
PLOR Plostina **9.32 344** *i*P **Pn** **17 08 37.1 +2.2**
VOIR **9.38 336** *i*P **Pn** **17 08 37.2 +1.5**
ARR Arges **9.46 335** *i*P **Pn** **17 08 38.4 +1.6**
SH2 Sharm el Sheik **9.56 160** P **Pn** **17 08 38.4 +0.2**
baz=161
SH2 Sharm el Sheik **9.56 160** P **Pn** **17 08 38.4 +0.2**
DOPR Dopca **9.76 339** *i*P **Pn** **17 08 42.6 +1.8**
TESR Tescani **9.95 345** *i*P **Pn** **17 08 44.2 +0.8**
BZS Buzias **10.88 325** *i*P **Pn** **17 08 57.5 +1.4**
TIP Timpagrande **10.98 286** *e*P **Pn** **17 08 58.8 +1.2**
comp=N,13nm,0.9s
TIP Timpagrande **10.98 286** *e*P **Pn** **17 08 58.8 +1.2**
comp=N,13nm,0.9s
BURAR Bucovina Array **11.32 342** *i*P **Pn** **17 09 04.7 +2.4**
NEY Neytrino **11.34 53** *e*P Pn 17 09 05.8 +3.2
NEY pmax pmax
comp=Z,1.0nm,0.7s
BUR08 Bucovina Ar. S **11.35 342** *e*P **Pn** **17 09 03.0 +0.3**
BUR08 Bucovina Ar. S **11.35 342** *e*P **Pn** **17 09 03.0 +0.3**
DRGR **11.37 332** *i*P **Pn** **17 09 04.0 +1.1**
GNI Garni **11.68 70** LR LR 17 14 32.5
comp=Z,215nm,20.7s,baz=272,slow=42
KBZ Khabaz **11.69 51** Pn **Pn** **17 09 08.7 +1.5**
comp=Z,0.1nm,0.3s,baz=240,slow=8.1,SNR=3.1
CUC Castrocucco **11.82 289** *e*P **Pn** **17 09 11.9 +2.8**
comp=Z,19nm,0.8s
CUC Castrocucco **11.82 289** *e*P **Pn** **17 09 11.9 +2.8**
comp=Z,19nm,0.8s
TRPA Tarpa **12.57 335** *i*P **Pn** **17 09 20.7 +1.4**
PSZ Piszkesteto **13.41 328** *e*P **Pn** **17 09 28.1 -2.7**
PSZ Piszkesteto **13.41 328** *e*P **Pn** **17 09 28.1 -2.7**
KIEV Kiev **13.77 357** *e*P **P** **17 09 41.6 -2.5**
KIEV pmax pmax
comp=Z,3.0nm,1.0s
AKASG Malin Array Be **13.77 357** Pn **Pn** **17 09 34.8 -0.8**
comp=Z,0.8nm,0.3s,baz=174,slow=12,SNR=3.8
AQU L'Aquila **14.15 298** P **P** **17 09 50.3 +1.7**
AQU L'Aquila **14.15 298** Pn **P** **17 09 50.3 +1.7**
VSR Storozhevoye **15.57 21** *e*P **P** **17 10 03.4 -0.8**
VSR pmax pmax
comp=Z,10.0nm,1.3s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,20nm,1.0s
VSR Storozhevoye **15.57 21** *e*P **P** **17 10 03.4 -0.8**
comp=E,10.0nm,1.3s
OKC Ostrava-Krasne **15.63 329** *e*P **P** **17 10 07.6 +2.8**
OKC *ep*P **pP** **17 10 11.9 +4.3**
OKC *ex* x 17 10 18.4
OKC AMS AMS 17 17 10.0
comp=E,200nm,15.9s
OKC Ostrava-Krasne **15.63 329** *e*P **P** **17 10 07.6 +2.8**
OKC MLR MLR
comp=Z,200nm,15.9s
OKC Ostrava-Krasne **15.63 329** *e*P **P** **17 10 07.6 +2.8**
comp=Z,200nm,15.9s
MORC Moravsky Berou **15.83 328** *e*P **P** **17 10 10.1 +2.9**
MORC Moravsky Berou **15.83 328** *e*P **P** **17 10 10.1 +2.9**
MORC Moravsky Berou **15.83 328** *e*Pn **P** **17 10 10.1 +2.9**
VRAC Vranov **15.90 325** LR LR 17 17 40.7
comp=Z,27nm,20.5s,baz=138,slow=43
KRLC Kraliky **16.38 327** *e*P **P** **17 10 15.9 +2.7**
KRLC *ex* x 17 10 21.5
KRLC Kraliky **16.38 327** *e*P **P** **17 10 15.9 +2.7**
KRLC Kraliky **16.38 327** *e*P **P** **17 10 15.9 +2.7**
TREC Trest **16.41 323** AMS AMS 17 17 30.0
comp=Z,200nm,11.3s
DPC Dobruska-Polom **16.78 327** *e*P **Pn** **17 10 14.9 -0.6**
DPC *ep*P **pP** **17 10 20.1 -0.4**
DPC *es*P **sP** **17 10 22.2 +0.4**
DPC AMS AMS 17 17 20.0
comp=Z,200nm,6.8s
DPC Dobruska-Polom **16.78 327** *e*P **Pn** **17 10 14.9 -0.6**
DPC MLR MLR
comp=Z,200nm,6.8s
KEST Kesra **17.00 272** P **Pn** **17 10 17.3 -1.1**
comp=Z,0.0nm,0.3s,baz=252,slow=3.2,SNR=3.2
KEST LR LR 17 19 33.3
comp=Z,18nm,18.0s,baz=306,slow=47
GERES GERESS Array B **17.01 320** P **Pn** **17 10 17.5 -0.9**
comp=Z,0.1nm,0.3s,baz=127,slow=11,SNR=2.8
GERES LR LR 17 18 10.3
comp=Z,78nm,18.4s,baz=130,slow=42
UPC Upice **17.03 327** AMS AMS 17 18 00.0
comp=Z,100nm,12.1s
GOPC GO Pecny, Ondr **17.17 324** AMS AMS 17 18 00.0
comp=Z,200nm,10.8s
KHC Kasperske Hory **17.25 320** *e*P P 17 10 29.4 +6.5
KHC *ex* x 17 10 32.8
KHC *ex* x 17 10 40.4
KHC AMS AMS 17 17 50.0
comp=Z,200nm,12.9s
KHC Kasperske Hory **17.25 320** *e*P P 17 10 29.4 +6.5
KHC MLR MLR
comp=Z,200nm,12.9s
PRU Pruhonice **17.34 324** AMS AMS 17 18 00.0
comp=Z,100nm,11.5s
DAVOX Davos/Dischmat **18.11 309** P **Pn** **17 10 32.1 -0.2**
comp=Z,0.2nm,0.3s,baz=151,slow=10,SNR=3.3
DAVOX LR LR 17 18 44.2
comp=Z,57nm,20.5s,baz=260,slow=41
NKC Novy Kostel **18.52 321** AMS AMS 17 18 40.0
comp=Z,100nm,9.7s
OBN Obninsk **18.65 11** *e*P Pn 17 10 43.8 +5.3
OBN pmax pmax
comp=Z,10.0nm,0.4s
RAYN Ar Rayn **18.66 132** *e*P **Pn** **17 10 38.9 0.0**
comp=Z,2.3nm,0.6s
RAYN Ar Rayn **18.66 132** *e*P **Pn** **17 10 38.9 0.0**
comp=Z,2.3nm,0.6s
KLNR Kaliningrad **18.99 342** *e*P **Pn** **17 10 46.2 +3.6**
STU Stuttgart **19.45 314** *e*P **Pn** **17 10 50.2 +2.0**
STU pmax pmax
comp=Z,16nm,0.8s
STU Stuttgart **19.45 314** *e*P **Pn** **17 10 50.2 +2.0**
comp=Z,16nm,0.8s
STU Stuttgart **19.45 314** *e*P **Pn** **17 10 50.2 +2.0**
comp=Z,16nm,0.8s
BFO Black Forest **19.74 312** *e*P **Pn** **17 10 51.9 +0.2**
BFO pmax pmax
comp=Z,6.0nm,0.7s
BFO Black Forest **19.74 312** *e*P **Pn** **17 10 51.9 +0.2**
comp=Z,6.1nm,0.7s
BFO Black Forest **19.74 312** *e*P **Pn** **17 10 51.9 +0.2**
comp=Z,6.1nm,0.7s
ECH Echery **20.40 311** *e*P Pn 17 10 58.8 -0.7
ECH pmax pmax
comp=Z,6.0nm,0.8s
ECH Echery **20.40 311** *e*P Pn 17 10 58.8 -0.7
comp=Z,6.0nm,0.8s
ECH Echery **20.40 311** *e*P Pn 17 10 58.8 -0.7
comp=Z,6.0nm,0.8s
GEYT Alibeck **22.01 79** P **P** **17 11 14.4 -0.4**
comp=Z,6.4nm,0.5s,baz=289,slow=9.2,SNR=14
AKTK Aktyubinsk **23.93 47** P **P** **17 11 33.9 -0.5**
AKTO Aktyubinsk **23.93 47** P **P** **17 11 33.9 -0.5**
comp=Z,2.1nm,0.5s,baz=249,slow=9.7,SNR=11
ABKAR Akbulak array **24.66 51** *e*P **P** **17 11 40.8 -0.4**
comp=Z,1.5nm,0.4s
ABKAR Akbulak array **24.66 51** *e*P **P** **17 11 40.8 -0.4**
comp=Z,1.5nm,0.4s
FINES FINESS Array B **24.67 355** P **P** **17 11 40.1 -0.9**
comp=Z,1.6nm,0.6s,baz=172,slow=11,SNR=10
FINES PcP **PcP** **17 15 17.3 -0.7**
comp=Z,2.4nm,1.0s,baz=225,slow=0.8,SNR=4.0
HFS Hagfors **25.55 341** P **P** **17 11 48.7 -0.4**
comp=Z,0.5nm,0.5s,baz=139,slow=7.7,SNR=2.2
HFS LR LR 17 23 47.5
comp=Z,44nm,20.5s,baz=46,slow=41
TAM Tamanrasset **25.68 244** *e*P **P** **17 11 52.2 +1.4**
TAM pmax pmax
comp=Z,5.0nm,0.8s
TAM Tamanrasset **25.68 244** *e*P **P** **17 11 52.2 +1.4**
comp=Z,4.8nm,0.8s
TAM Tamanrasset **25.68 244** *e*P **P** **17 11 52.2 +1.4**
comp=Z,4.8nm,0.8s
NOA NORSAR Array B **26.98 339** P **P** **17 12 01.5 -0.6**
comp=Z,0.3nm,0.5s,baz=150,slow=10.0,SNR=3.0
NOA LR LR 17 23 19.1
comp=Z,17nm,18.8s,baz=110,slow=38
ESDC Sonseca Array **27.00 286** P **P** **17 12 02.2 -0.3**
comp=Z,3.5nm,0.8s,baz=78,slow=9.5,SNR=16
ESLA Sonseca Array **27.00 286** *e*P **P** **17 12 01.2 -1.3**
comp=Z,0.8nm,0.8s
ESLA Sonseca Array **27.00 286** *e*P **P** **17 12 01.2 -1.3**
comp=Z,0.8nm,0.8s
ARU Arti **27.12 35** P **P** **17 12 02.8 -0.5**
baz=233,slow=14
ARU Arti **27.12 35***c i*P **P** **17 12 03.6 +0.2**
ARU 17 12 42.7
ARU S **S** **17 16 43.0 +1.5**
ARU pmax pmax
comp=Z,8.0nm,1.0s
ARU Arti **27.12 35** *i* P **P** **17 12 03.6 +0.2**
comp=Z,8.0nm,1.0s
ARU S **S** **17 16 43.0 +1.5**
EKA Eskdalemuir Ar **29.23 320** P **P** **17 12 21.6 -0.5**
comp=Z,0.7nm,0.5s,baz=120,slow=8.5,SNR=6.0
KKAR Karatay Array **31.11 66** *e*P **P** **17 12 38.4 -0.6**
KKAR pmax pmax
comp=Z,1.0nm,0.5s
KKAR Karatay Array **31.11 66** *e*P **P** **17 12 38.4 -0.6**
comp=Z,1.1nm,0.5s
BVAR Borovoye Array **32.03 47** P **P** **17 12 46.2 -0.8**
comp=Z,0.3nm,0.4s,baz=261,slow=2.8,SNR=3.3
BVAR PcP **PcP** **17 15 35.8 -0.6**
comp=Z,0.5nm,0.6s,baz=298,slow=3.1,SNR=3.7
ARCES ARCESS Array B **32.75 357** P **P** **17 12 52.5 -0.5**
comp=Z,3.9nm,0.7s,baz=172,slow=7.2,SNR=16
ARCES PcP **PcP** **17 15 37.0 -1.1**
comp=Z,0.9nm,0.7s,baz=204,slow=2.7,SNR=3.9
ARCES ARCESS Array B **32.75 357** PcP **PcP** **17 15 37.0 -1.1**
ARE0 ARCESS Array S **32.75 357** *e*P **P** **17 12 54.2 +1.2**
ARE0 ARCESS Array S **32.75 357** *e*P **P** **17 12 54.2 +1.2**
EKS2 Erkin-Say **33.53 67** P **P** **17 12 58.5 -1.8**
EKS2 Erkin-Say **33.53 67** P **P** **17 12 58.5 -1.8**
EKS2 Erkin-Say **33.53 67** P **P** **17 12 58.5 -1.8**
TOA0 Torodi Ar. Sit **34.94 235** *e*P **P** **17 13 13.1 +0.5**
TOA0 Torodi Ar. Sit **34.94 235** *e*P **P** **17 13 13.1 +0.5**
TORD Torodi Ar. Bea **34.94 235** P **P** **17 13 12.4 -0.2**
comp=Z,2.2nm,0.5s,baz=32,slow=8.5,SNR=28
TORD PcP **PcP** **17 15 45.0 -0.1**
comp=Z,0.4nm,0.6s,baz=54,slow=3.7,SNR=2.9
TORD LR LR 17 31 48.7
comp=Z,28nm,18.5s,baz=185,slow=44
KURBB Kurchatov Arra **36.68 53** P **P** **17 13 26.7 -0.6**
comp=Z,4.5nm,0.5s,baz=273,slow=8.7,SNR=42
KURBB PcP **PcP** **17 15 49.1 -0.7**
comp=Z,1.6nm,0.8s,baz=266,slow=3.7,SNR=9.3
KURK Kurchatov **36.75 52** P **P** **17 13 26.7 -1.1**
KURK 17 15 49.1
KURK Kurchatov **36.75 52** P **P** **17 13 26.7 -1.1**
KURK Kurchatov **36.75 52** PcP **PcP** **17 15 49.1 -0.9**
KURK Kurchatov **36.75 52** P **P** **17 13 26.7 -1.1**
KURK PcP **PcP** **17 15 49.1 -0.9**
MK31 Makanchi Array **39.24 59** *e*P **P** **17 13 48.7 -0.2**
MK31 *e* 17 15 19.1
MK31 *e* 17 15 56.8
MK31 Makanchi Array **39.24 59** *e*P **P** **17 13 48.7 -0.2**
MK31 Makanchi Array **39.24 59** *e*P **P** **17 13 48.7 -0.2**
MK31 *e*PP **PP** **17 15 19.1 +0.4**
MK31 *e*PcP **PcP** **17 15 56.8 -1.0**
MKAR Makanchi Array **39.24 59** P **P** **17 13 48.3 -0.6**
comp=Z,3.5nm,0.5s,baz=269,slow=8.8,SNR=44
MKAR PcP **PcP** **17 15 56.7 -1.1**
comp=Z,1.1nm,0.8s,baz=276,slow=4.2,SNR=4.3
MKAR ScP **ScP** **17 19 45.9 -0.5**
comp=Z,0.4nm,0.6s,baz=250,slow=5.4,SNR=3.8
MKAR LR LR 17 33 11.3
comp=Z,20nm,18.8s,baz=262,slow=41
NVS Novosibirsk **39.81 46** *e*P **P** **17 13 54.1 +0.6**
NVS pmax pmax
comp=N,2.0nm,0.8s
NVS pmax pmax
comp=E,1.0nm,0.8s
NVS pmax pmax
comp=Z,3.0nm,0.8s
NVS Novosibirsk **39.81 46** *e*P **P** **17 13 54.1 +0.6**
ZAA0 Zalesovo Array **40.69 48** *e*P **P** **17 13 59.2 -1.6**
ZAA0 Zalesovo Array **40.69 48** *e*P **P** **17 13 59.2 -1.6**
ZALV Zalesovo Beam **40.69 48** P **P** **17 13 59.9 -0.9**
comp=Z,1.9nm,0.4s,baz=266,slow=9.4,SNR=14
ZALV PcP **PcP** **17 16 01.2 -1.0**
comp=Z,0.3nm,0.3s,baz=280,slow=4.2,SNR=2.8
DBIC Dimbokro **44.04 236** P **P** **17 14 30.8 +2.3**
DBIC Dimbokro **44.04 236** P **P** **17 14 30.8 +2.3**
DBIC Dimbokro **44.04 236** P **P** **17 14 30.8 +2.3**
DANN Dangsing **45.25 85** *e*P **P** **17 14 39.0 +0.6**
KOLN Koldanda **45.37 86** *e*P **P** **17 14 39.2 -0.1**
comp=Z,24nm,0.4s
GKN Gorkha **46.09 85** *e*P **P** **17 14 44.5 -0.5**
comp=Z,30nm,0.8s
DMN Daman **46.64 85** *e*P **P** **17 14 49.2 -0.2**
comp=Z,73nm,1.0s
KKN Kakani **46.70 85** *e*P **P** **17 14 49.7 -0.1**
comp=Z,22nm,0.8s
PKIN Phulchoki **46.88 85** *e*P **P** **17 14 50.9 -0.4**
comp=Z,24nm,1.0s
PKI Pulchoki **46.90 85** *e*P **P** **17 14 51.2 -0.3**
comp=Z,26nm,0.8s
GUN Gumba **47.13 84** *e*P **P** **17 14 54.0 +0.7**
ODAN Odare **48.79 85** *e*P **P** **17 15 05.5 -0.6**
comp=Z,38nm,1.3s
LSA Lhasa **50.54 80** *e*P **P** **17 15 19.4 -0.2**
LSA pmax pmax
comp=Z,2.0nm,0.8s
LSA Lhasa **50.54 80** *e*P **P** **17 15 19.4 -0.2**
comp=Z,2.2nm,0.8s
LSA Lhasa **50.54 80** *e*P **P** **17 15 19.4 -0.2**
comp=Z,2.2nm,0.8s
ZAK Zakamensk **52.36 51** *e*P **P** **17 15 32.8 +0.3**
ZAK pmax pmax
comp=Z,1.0nm,1.0s
ZAK Zakamensk **52.36 51** *e*P **P** **17 15 32.8 +0.3**
comp=Z,1.0nm,1.0s
SONM Songino Array **55.05 53** P **P** **17 15 52.3 0.0**
comp=Z,1.7nm,0.6s,baz=289,slow=7.7,SNR=12
SONM PcP **PcP** **17 16 52.9 -1.0**
comp=Z,0.5nm,0.6s,baz=261,slow=3.8,SNR=2.7
ULN Ulaanbaatar **55.46 53** P **P** **17 15 53.2 -2.1**
ULN Ulaanbaatar **55.46 53** P **P** **17 15 53.2 -2.1**
ULN Ulaanbaatar **55.46 53** P **P** **17 15 53.2 -2.1**
TSUM Tsumeb **57.14 194** *e*P **P** **17 16 08.8 +1.3**
TSUM Tsumeb **57.14 194** *e*P **P** **17 16 08.8 +1.3**
HHC Hu-ho-hao-te **61.10 59** *e*P **P** **17 16 36.8 +2.0**
HHC PP **PP** **17 18 53.0 +3.9**
HHC S **S** **17 24 52.5 -1.5**
HHC PMZ
comp=Z,24nm,1.1s
HHC PMZ
comp=Z,50nm,5.5s
HHC LN
comp=Z,81nm,13.9s
HHC LE
comp=Z,58nm,14.5s
HHC LZ
comp=Z,49nm,14.5s
CHTO Chiang Mai **62.01 87** *e*P **P** **17 16 39.7 -1.4**
CHTO Chiang Mai **62.01 87** *e*P **P** **17 16 39.7 -1.4**
CHTO Chiang Mai **62.01 87** *e*P **P** **17 16 39.7 -1.4**
CMAR Chiang Mai Arr **62.20 87** P **P** **17 16 41.4 -1.0**
comp=Z,7.1nm,1.1s,baz=297,slow=8.1,SNR=15
BOSA Boshof **65.40 185** P **P** **17 17 04.0 +0.8**
comp=Z,2.2nm,0.7s,baz=352,slow=6.6,SNR=6.2
BOSA Boshof **65.40 185** P **P** **17 17 04.0 +0.8**
BOSA Boshof **65.40 185** P **P** **17 17 04.0 +0.8**
SEY Seymchan **70.24 24** P **P** **17 17 32.5 -0.7**
comp=Z,1.2nm,0.8s,baz=311,slow=7.3,SNR=5.3
SEY Seymchan **70.24 24** P **P** **17 17 32.5 -0.7**
SEY pmax pmax
comp=Z,1.0nm,0.8s
PSI Prapat **71.22 101** P **P** **17 17 39.0 -1.1**
comp=Z,8.3nm,0.6s,baz=271,slow=5.0,SNR=4.0
USRK Ussuriysk Ar. **72.54 48** P **P** **17 17 46.1 -1.4**
comp=Z,1.8nm,0.6s,baz=308,slow=3.9,SNR=6.7
KSAR Wonju Array Be **73.79 55** P **P** **17 17 54.0 -1.0**
KSAR Wonju Array Be **73.79 55** P **P** **17 17 54.0 -1.0**
KSAR Wonju Array Be **73.79 55** P **P** **17 17 54.0 -1.0**
KSRS Korea Array **73.81 55** P **P** **17 17 54.0 -1.1**
comp=Z,2.6nm,0.7s,baz=308,slow=4.8,SNR=17
KSRS Korea Array **73.81 55** P **P** **17 17 54.0 -1.1**
KSRS pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar **76.97 344** P **P** **17 18 12.4 -0.4**
comp=Z,1.1nm,0.9s,baz=25,slow=4.9,SNR=3.0
JNU Nakatsue **78.28 57** P **P** **17 18 20.1 -0.6**
baz=233,slow=5.1
MJAR Matsushiro Arr **80.94 51** P **P** **17 18 34.3 -0.8**
comp=Z,1.3nm,0.8s,baz=301,slow=3.8,SNR=6.6
WRA Warramunga Arr **112.62 98** PKiKP **PKiKP** **17 24 55.5 -1.9**
comp=Z,0.2nm,0.4s,baz=321,slow=1.9,SNR=4.6
ASAR Alice Springs **114.24 102** PKiKP PKPdf 17 24 58.5 -2.0
comp=Z,0.3nm,0.4s,baz=310,slow=1.4,SNR=11
STKA Stephens Creek **124.13 107** PKP **PKPdf** **17 25 19.6 +0.4**
comp=Z,1.1nm,0.7s,baz=315,slow=5.4,SNR=6.1
RPZ Rata Peaks **149.48 115** PKPbc **PKPbc** **17 26 08.4 -1.2**
comp=Z,13nm,0.9s,baz=190,slow=2.6,SNR=5.8
URZ Urewera **153.68 103** PKPbc **PKPbc** **17 26 16.7 -2.7**
comp=Z,7.3nm,0.9s,baz=270,slow=3.0,SNR=3.5

*SJA **25** 17:23:15.8±0.5, 34.56°S×73.05°W, h10km, MD4.0*
*ISCJB **25** 17:23:27.5±1.0, 34.06°S±0.04°×72.37°W±0.08, h10km, Error ellipse: s-maj=10.1km s-min=4.6km az=22.2*
*GUC **25** 17:23:27.6±0.3, 34.03°S×72.41°W, h15km±2km, ML4.0*

ISC 25 17:23:22.1±1.9, 33°97'S±0°06×72°58W±0°10, h10km, n18, σ1°35/24, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	**Talagante**	**1.41**	**77**	*i* P	**Pg**	**17 23 49.7**	**+0.6**
NICH	**Los Niches**	**1.52**	**133**	*i* P	**Pg**	**17 23 51.4**	**+0.2**
NICH				*i* S	**Sn**	**17 24 09.4**	**+0.2**
TALC	**Talca**	**1.62**	**152**	*i* P	**Pg**	**17 23 53.4**	**+0.1**
TALC				*i* S	**Sb**	**17 24 13.0**	**+0.2**
SAN	**Santiago**	**1.68**	**73**	*i* P	**Pg**	**17 23 54.3**	**-0.1**
SAN				*i* S	**Sb**	**17 24 14.7**	**+0.3**
PEL	**Peldehue**	**1.79**	**63**	*i* P	**Pg**	**17 23 56.3**	**0.0**
PEL				*i* S	**Sb**	**17 24 18.2**	**+0.8**
PEL				AML	AML	17 24 26.4	
	comp=N,4μm,0.4s						
CLCH	**Cerro Calan**	**1.80**	**72**	*i* P	**Pg**	**17 23 56.3**	**-0.4**
CLCH				*i* S	**Sb**	**17 24 18.2**	**+0.3**
CLCH				AML	AML	17 24 31.2	
	comp=N,2μm,0.7s						
YECH	**El Yeso**	**2.10**	**82**	*i* P	**Pb**	**17 24 01.4**	**+0.8**
YECH				*i* S	**Sb**	**17 24 27.1**	**+0.2**
YECH				AML	AML	17 24 36.5	
	comp=N,2μm,0.7s						
COCH	**Cobquecura**	**2.16**	**184**	*i* P	**Pg**	**17 24 02.9**	**-0.6**
COCH				*i* S	**Sb**	**17 24 29.8**	**+1.6**
AUSP	**Uspallata**	**3.20**	**58**	*e*P	**Pb**	**17 24 18.8**	**-0.4**
AAGR	**Agrelo**	**3.26**	**75**	*e*P	**Pb**	**17 24 20.6**	**+0.4**
ASAL	**Salagasta**	**3.43**	**67**	*e*P	**Pb**	**17 24 23.5**	**+0.6**
ASAL				*e*S	**Sg**	**17 25 08.8**	**-3.4**
RTLS	**Leoncito**	**3.51**	**53**	*e*P	**Pb**	**17 24 23.9**	**-0.7**
RTLS				*e*S	**Sg**	**17 25 13.5**	**-1.4**
RTCV	**Cerro Valdivia**	**4.00**	**59**	*e*P	Pb	17 24 29.2	-3.5
RTCV				*e*S	**Sb**	**17 25 24.4**	**+3.3**
RTLL	**Cerro Villicun**	**4.35**	**54**	*e*S	**Sb**	**17 25 33.6**	**+2.3**
CFAA	**Coronel Fontan**	**4.35**	**58**	*e*S	**Sb**	**17 25 32.8**	**+1.4**
AMOG	**MOGNA**	**4.59**	**50**	*e*P	Pn	17 24 36.7	+5.0
ACAN	**Cantantal**	**4.83**	**71**	*e*P	Pn	17 24 39.9	+4.9
MRA	**San Martin**	**5.96**	**77**	*e*P	Pn	17 24 55.2	+4.7

FUNV 25 17:46:07.2, 9°77N×73°94W, h5km, MW3.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIRV	**Villa del Rosa**	**1.68**	**64**	*e*P	Pn	17 46 37.0	-0.3
VIRV				*e*S	Sn	17 46 58.6	-0.7
CAPV	**Capacho**	**2.48**	**139**	*e*P	Pn	17 46 47.3	-1.4
CAPV				*e*S	Sn	17 47 18.1	-1.5
VIGV	**El Vigia**	**2.71**	**110**	*e*P	Pn	17 46 51.0	-0.5
VIGV				*e*S	Sn	17 47 23.2	-1.6
SOCV	**Socops**	**3.39**	**116**	*e*P	Pn	17 46 59.6	-1.2
SOCV				*e*S	Sn	17 47 38.5	-3.1
QARV	**Quebrada Arrib**	**3.40**	**82**	*e*P	Pn	17 47 00.4	-0.6
QARV				*e*S	Sn	17 47 38.9	-2.9
CURV	**Curarigua**	**3.93**	**86**	*e*P	Pn	17 47 07.2	-1.2
CURV				*e*S	Sn	17 47 51.3	-3.8
SANV	**Sanarito**	**4.36**	**93**	*e*P	Pn	17 47 12.2	-2.1
SANV				*e*S	Sn	17 48 01.1	-4.5

ISCJB 25 17:51:45.8±0.3, 21°.04S±0°.07×175°.77W±0°.06, h89km, mb4.4/27, Error ellipse: s-maj=10.0km s-min=6.6km az=149.9

IDC 25 17:51:46.6±2.9, 21°.03S×175°.80W, h81km±26km, mb3.9/15, mb1 4.1/19, mb1mx4.1/28, mbtmp4.3/19, Error ellipse: s-maj=18.3km s-min=13.5km az=130.0

NEIC 25 17:51:58.6±1.5, 21°.11S×175°.94W, h189km±12km, mb4.6/12, Error ellipse: s-maj=10.4km s-min=7.7km az=99.0

ISC 25 17:51:47.0±0.4, 21°.03S±0°.08×175°.71W±0°.07, h89km, n88, σ0°97/90, mb4.5/27, 12C-5D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.77**	**71**	P	**Pn**	**17 53 10.0**	**-0.1**
	baz=5.1,SNR=68						
MSVF	**Nonsavu**	**6.74**	**298**	*e*Pn	Pn	17 53 33.6	+10
	68nm,0.9s						
AFI	**Afiamalu**	**8.01**	**29**	P	**Pn**	**17 53 40.0**	**-0.8**
	4.6nm,0.3s,baz=206,slow=6.0,SNR=6.2						
AFI				S	Sn	17 55 01.5	-8.3
	26nm,0.3s,baz=233,slow=20,SNR=7.1						
RAR	**Rarotonga**	**14.87**	**94**	P	**P**	**17 55 14.7**	**-1.5**
	1.3nm,0.3s,baz=248,slow=11,SNR=3.6						
RAR				S	Sn	17 57 44.8	-12
	3.3nm,0.3s,baz=120,slow=20,SNR=5.1						
DZM	**Mont Dzumac**	**16.64**	**263**	P	**Pn**	**17 55 33.7**	**-1.3**
	0.2nm,0.3s,baz=90,slow=20,SNR=2.3						
URZ	**Urewera**	**18.26**	**198**	P	**P**	**17 55 52.6**	**-1.0**
	2.5nm,0.3s,baz=349,slow=6.8,SNR=14						
URZ				S	S	17 58 59.4	-18
	0.9nm,0.3s,baz=5.0,slow=13,SNR=5.0						
URZ	**Urewera**	**18.26**	**198**	P	**P**	**17 55 52.5**	**-1.0**
URZ				*e*Sn	S	17 58 57.2	-20
SNZO	**South Karori**	**21.79**	**200**	*e*P	**P**	**17 56 35.0**	**+3.3**
	104nm,1.2s						
RPZ	**Rata Peaks**	**25.17**	**203**	P	**P**	**17 57 04.2**	**+0.1**
	16nm,0.5s,baz=9.2,slow=9.1,SNR=27						
EIDS	**Eidsvold**	**30.78**	**256**	P	**P**	**17 57 55.5**	**+1.1**
	baz=31,SNR=5.3						
EIDS	**Eidsvold**	**30.78**	**256**	*e*P	**P**	**17 57 54.8**	**+0.4**
	11nm,0.7s						
ARMA	**Armidale**	**30.79**	**246**	P	**P**	**17 57 56.1**	**+1.6**
	baz=32,SNR=11						
ARMA	**Armidale**	**30.79**	**246**	*e*P	**P**	**17 57 56.0**	**+1.5**
	7.2nm,0.7s						
MGCD	**Mangrove Creek**	**31.80**	**241**	P	**P**	**17 58 05.8**	**+2.7**
	baz=32,SNR=6.5						
RMQ	**Roma**	**32.90**	**254**	P	**P**	**17 58 14.4**	**+1.4**
	baz=34,SNR=5.1						
CTAO	**Charters Tower**	**35.57**	**265**	*e*P	**P**	**17 58 36.4**	**+0.2**
	12nm,0.8s						
CMSA	**Cobar Meteorol**	**35.99**	**245**	P	**P**	**17 58 40.0**	**+0.4**
	baz=37,SNR=17						
QLP	**Quilpie**	**36.96**	**253**	P	**P**	**17 58 48.2**	**+0.4**
	baz=38,SNR=6.8						
TOO	**Toolangi**	**37.34**	**235**	P	**P**	**17 58 51.2**	**+0.2**
	baz=38,SNR=8.9						
PMG	**Port Moresby**	**37.55**	**282**	P	**P**	**17 58 53.3**	**+0.4**
	7.4nm,0.5s,baz=135,slow=9.5,SNR=10						
MTSU	**Mount Surprise**	**37.71**	**267**	P	**P**	**17 58 55.3**	**+1.1**
	baz=38,SNR=17						
STKA	**Stephens Creek**	**39.50**	**245**	P	**P**	**17 59 08.6**	**-0.5**
	4.9nm,0.5s,baz=94,slow=11,SNR=30						
COEN	**Coen**	**39.76**	**273**	P	**P**	**17 59 12.9**	**+1.5**
	baz=40,SNR=4.6						
HTT	**Hallett**	**41.89**	**243**	P	**P**	**17 59 28.4**	**-0.5**
	baz=42,SNR=7.0						
BBOO	**Buckleboo**	**44.24**	**244**	P	**P**	**17 59 46.9**	**-0.9**
	baz=45,SNR=9.8						
AS31	**Alice Springs**	**46.49**	**257**	*e*P	**P**	**18 00 05.2**	**-0.4**
ASAR	**Alice Springs**	**46.49**	**257**	P	**P**	**18 00 05.2**	**-0.5**
	7.2nm,0.9s,baz=87,slow=8.4,SNR=31						
ASAR				PcP	**PcP**	**18 01 38.8**	**-0.2**
	1.0nm,0.5s,baz=106,slow=3.8,SNR=6.6						
WRAB	**Tennant Creek**	**46.64**	**262**	*e*P	**P**	**18 00 06.0**	**-0.9**
	8.1nm,0.7s						
WRA	**Warramunga Arr**	**46.65**	**262**	P	**P**	**18 00 06.5**	**-0.5**
	4.7nm,0.6s,baz=98,slow=8.4,SNR=45						
WRA				PcP	**PcP**	**18 01 38.7**	**-0.8**
	1.2nm,0.7s,baz=99,slow=2.7,SNR=4.0						
KDU	**Kakadu**	**50.10**	**271**	P	**P**	**18 00 33.8**	**+0.3**
	baz=51,SNR=6.6						
MTN	**Manton Dam**	**51.31**	**270**	P	**P**	**18 00 42.3**	**-0.2**
	baz=52,SNR=4.1						
WRKA	**Warakurna**	**51.39**	**254**	P	**P**	**18 00 42.3**	**-0.8**
	baz=52,SNR=26						
KNRA	**Kununurra**	**52.76**	**266**	P	**P**	**18 00 53.3**	**0.0**
	baz=53,SNR=4.6						
VNDA	**Vanda**	**57.59**	**186**	P	**P**	**18 01 28.4**	**+1.2**
	0.6nm,0.8s,baz=48,slow=5.1,SNR=3.5						
VNDA	**Vanda**	**57.59**	**186**	*e*P	**P**	**18 01 28.3**	**+1.1**
TNTI	**Ternate**	**59.67**	**284**	*e*P	**P**	**18 01 43.0**	**+0.4**
	23nm,1.0s						
MEEK	**Meekatharra**	**59.77**	**251**	P	**P**	**18 01 42.4**	**-0.7**
	baz=60,SNR=6.5						
MBWA	**Marble Bar**	**59.83**	**257**	*e*P	**P**	**18 01 42.3**	**-1.3**
	6.4nm,0.8s						
BLDU	**Ballidu**	**60.80**	**246**	P	**P**	**18 01 49.7**	**-0.4**
	baz=61,SNR=7.3						
MORW	**Morawa**	**61.61**	**248**	P	**P**	**18 01 55.4**	**-0.2**
	baz=62,SNR=4.5						
LUWI	**Luwuk**	**63.14**	**280**	P	P	18 02 02.5	-3.5
	baz=64,SNR=3.5						
CASY	**Casey**	**64.41**	**206**	*e*P	**P**	**18 02 11.4**	**-2.0**
JHJ	**Hachijo jima 2**	**68.58**	**321**	P	**P**	**18 02 40.8**	**+0.3**
	17nm,0.3s,baz=83,slow=19,SNR=6.2						
QSPA	**South Pole Qui**	**69.05**	**180**	*e*P	**P**	**18 02 44.0**	**+0.9**
	3.4nm,0.7s						
MJAR	**Matsushiro Arr**	**71.92**	**322**	P	**P**	**18 03 00.9**	**+0.1**
	3.1nm,0.7s,baz=155,slow=6.4,SNR=20						
MAJO	**Matsushiro**	**71.92**	**322**	*e*P	**P**	**18 03 00.9**	**+0.1**
MAT	**Matsushiro**	**71.92**	**322**	P	**P**	**18 03 00.6**	**-0.2**
KSM	**Kuching**	**75.61**	**277**	*e*P	**P**	**18 03 22.7**	**-0.2**
	5.9nm,0.9s						
YSS	**Yuzh-Sakhalins**	**77.34**	**332**	P	**P**	**18 03 31.8**	**0.0**
PETK	**Petropavlovsk-**	**77.35**	**344**	P	**P**	**18 03 32.5**	**+0.7**
	2.0nm,0.6s,baz=140,slow=7.5,SNR=3.6						
KSRS	**Korea Array**	**78.71**	**317**	P	**P**	**18 03 40.3**	**+0.6**
	1.6nm,1.0s,baz=138,slow=4.6,SNR=5.1						
KSAR	**Wonju Array Be**	**78.73**	**317**	P	**P**	**18 03 40.3**	**+0.5**
PMSA	**Palmer Station**	**79.95**	**156**	P	**P**	**18 03 46.1**	**+0.1**
	39nm,1.2s						
NVAR	**Mina Array Bea**	**79.95**	**42**	P	**P**	**18 03 48.0**	**+1.3**
	0.4nm,0.6s,baz=223,slow=9.4,SNR=4.9						
PMR	**Palmer**	**85.05**	**12**	*e*P	**P**	**18 04 12.7**	**+0.4**
	15nm,1.6s						
TXAR	**Lajitas Array**	**85.55**	**56**	P	**P**	**18 04 17.0**	**+1.2**
	0.3nm,0.6s,baz=221,slow=8.4,SNR=4.0						
TXAR	**Lajitas Array**	**85.55**	**56**	P	**P**	**18 04 17.0**	**+1.2**
SEY	**Seymchan**	**87.39**	**346**	P	**P**	**18 04 24.1**	**+0.3**
	1.9nm,0.5s,baz=155,slow=5.4,SNR=11						
PDAR	**Pinedale Array**	**87.89**	**42**	P	**P**	**18 04 27.9**	**+0.9**
	0.2nm,0.4s,baz=272,slow=5.2,SNR=2.4						
VNA1	**Neumayer--Stat**	**88.15**	**176**	P	**P**	**18 04 26.8**	**-0.7**
ILAR	**Eielson Array**	**88.37**	**12**	P	**P**	**18 04 28.6**	**+0.2**
	0.4nm,0.7s,baz=216,slow=5.7,SNR=5.7						
CMAR	**Chiang Mai Arr**	**92.31**	**289**	P	**P**	**18 04 48.1**	**+0.2**
	1.4nm,0.9s,baz=86,slow=3.4,SNR=7.0						
ARCES	**ARCESS Array B**	**129.81**	**350**	PKP	**PKPdf**	**18 10 45.3**	**-0.1**
	1.0nm,0.5s,baz=17,slow=1.7,SNR=15						
FINES	**FINESS Array B**	**136.86**	**345**	PKP	**PKPdf**	**18 10 58.9**	**+0.1**
	0.5nm,0.5s,baz=116,slow=3.2,SNR=3.8						
GNI	**Garni**	**140.72**	**308**	PKPdf	**PKPdf**	**18 11 03.7**	**-3.0**
AKASG	**Malin Array Be**	**144.49**	**333**	PKP	**PKPab**	**18 11 11.1**	**-0.3**
	0.2nm,0.3s,baz=40,slow=4.0,SNR=14						
MALT	**Malatya**	**145.95**	**308**	*i*P	**PKPab**	**18 11 17.5**	**+0.1**
BUR08	**Bucovina Ar. S**	**148.53**	**332**	*e*PKPbc	**PKPbc**	**18 11 24.4**	**+0.7**
BURAR	**Bucovina Array**	**148.54**	**332**	*i*P	**PKPbc**	**18 11 24.5**	**+0.8**
BRTR	**Keskin Array B**	**148.77**	**313**	PKPbc	**PKPbc**	**18 11 24.4**	**-0.2**
	1.3nm,0.5s,baz=134,slow=4.3,SNR=7.4						
UPC	**Upice**	**149.16**	**345**	*e*PKP	**PKPbc**	**18 11 25.4**	**+0.4**
TRPA	**Tarpa**	**149.23**	**336**	*i*P	**PKPbc**	**18 11 25.4**	**+0.2**
DPC	**Dobruska-Polom**	**149.23**	**345**	*e*PKP	**PKPbc**	**18 11 26.1**	**+0.8**
DPC				*e*PKPAB	**PKPab**	**18 11 31.0**	**+1.1**
DPC				*ex*	x	18 11 33.0	
KRLC	**Kraliky**	**149.37**	**344**	*e*PKP	**PKPbc**	**18 11 25.9**	**+0.3**
PVCC	**Panska Ves**	**149.46**	**347**	*e*PKP	**PKPbc**	**18 11 26.7**	**+0.9**
MLR	**Muntele Rosu**	**149.80**	**329**	*i*P	**PKPbc**	**18 11 26.4**	**-0.5**
PRA	**Prague**	**149.92**	**347**	*e*PKP	**PKPbc**	**18 11 27.6**	**+0.7**
PRU	**Pruhonice**	**149.98**	**347**	*e*PKP	**PKPbc**	**18 11 27.6**	**+0.6**
GOPC	**GO Pecny, Ondr**	**150.00**	**346**	*e*PKP	**PKPbc**	**18 11 27.8**	**+0.7**
DRGR		**150.25**	**334**	*i*P	**PKPbc**	**18 11 27.8**	**-0.1**
VOIR		**150.27**	**330**	*i*P	**PKPbc**	**18 11 28.7**	**+0.7**
ARR	**Arges**	**150.52**	**330**	*i*P	**PKPbc**	**18 11 29.8**	**+1.2**
CSS	**Prodhromos**	**150.97**	**305**	*e*PKPbc	**PKPbc**	**18 11 29.6**	**-0.4**
KHC	**Kasperske Hory**	**150.99**	**347**	*e*PKP	**PKPbc**	**18 11 30.0**	**+0.5**
KHC				*e*PKPAB	**PKPab**	**18 11 34.7**	**-2.5**
GERES	**GERESS Array B**	**151.24**	**347**	PKPbc	**PKPbc**	**18 11 30.2**	**0.0**
	1.0nm,0.6s,baz=28,slow=3.2,SNR=8.5						
BZS	**Buzias**	**151.65**	**334**	*i*P	**PKPbc**	**18 11 30.9**	**-0.2**
PKSM	**Moragy**	**152.27**	**338**	*i*P	**PKPbc**	**18 11 32.7**	**+0.2**
TORD	**Torodi Ar. Bea**	**171.78**	**162**	PKPab	**PKPab**	**18 13 08.4**	**+0.1**
	0.5nm,0.7s,baz=194,slow=4.3,SNR=3.1						

SJA 25 18:34:03.2±1.1, 33°.86S×73°.64W, h33km, MD3.7

GUC 25 18:34:03.5±0.2, 34°.29S×73°.35W, h34km±1km, ML3.8

ISC 25 18:34:04.6±5.2, 34°.34S±0°.07×73°.3W±0°.1, h18km±22km, n15, σ1°10/25, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.75**	**127**	*i* P	**Pn**	**18 34 33.5**	**-0.5**
TALC				*i* S	**Sn**	**18 34 56.4**	**+0.5**
COCH	**Cobquecura**	**1.84**	**166**	*i* P	**Pn**	**18 34 34.9**	**-0.4**
COCH				*i* S	**Sn**	**18 34 58.6**	**+0.5**
NICH	**Los Niches**	**1.86**	**111**	*i* P	**Pn**	**18 34 34.9**	**-0.7**
NICH				*i* S	**Sn**	**18 34 58.7**	**+0.1**
CCSP	**San Pedro de C**	**2.50**	**176**	*i* P	**Pn**	**18 34 44.0**	**-0.3**
CCSP				AML	AML	18 35 14.0	
	comp=E,976nm,0.3s						
CCSP				*i* S	**Sn**	**18 35 14.7**	**+0.3**
PEL	**Peldehue**	**2.52**	**62**	*i* P	**Pn**	**18 34 43.3**	**-1.2**
PEL				*i* S	**Sn**	**18 35 13.5**	**-1.3**
PEL				AML	AML	18 35 15.5	
	comp=N,544nm,0.4s						
CLCH	**Cerro Calan**	**2.52**	**69**	*i* P	**Pn**	**18 34 43.3**	**-1.3**
CLCH				*i* S	**Sn**	**18 35 13.8**	**-1.1**
CLCH				AML	AML	18 35 18.7	
	comp=N,207nm,0.6s						
AUSP	**Uspallata**	**3.93**	**59**	*e*P	**Pn**	**18 35 05.3**	**+1.1**
AUSP				*e*S	**Sn**	**18 35 51.4**	**+1.4**
ASAL	**Salagasta**	**4.15**	**66**	*e*P	**Pn**	**18 35 09.8**	**+2.7**
ASAL				*e*S	**Sn**	**18 35 56.9**	**+1.6**
RTLS	**Leoncito**	**4.24**	**54**	*e*P	**Pn**	**18 35 09.1**	**+0.6**
RTCV	**Cerro Valdivia**	**4.73**	**60**	*e*P	**Pn**	**18 35 16.1**	**+1.1**
RTLL	**Cerro Villicun**	**5.08**	**55**	*e*P	**Pn**	**18 35 20.1**	**+0.3**
RTLL				*e*S	**Sn**	**18 36 16.8**	**-1.3**
CFAA	**Coronel Fontan**	**5.08**	**59**	*e*P	**Pn**	**18 35 19.9**	**0.0**
CFAA				*e*S	**Sn**	**18 36 17.5**	**-0.7**
AMOG	**MOGNA**	**5.32**	**52**	*e*P	**Pn**	**18 35 22.6**	**-0.5**
ACAN	**Cantantal**	**5.55**	**70**	*e*P	**Pn**	**18 35 27.0**	**+0.7**
MRA	**San Martin**	**6.66**	**75**	*e*P	**Pn**	**18 35 41.8**	**+0.2**

IDC 25 18:34:16.0±0.8, 38°.44N×70°.37E, h0km, mb3.6/14, mb1 3.8/20, mb1mx3.7/45, mbtmp3.7/20, ML3.3/6, MS3.0/7, Ms1 3.0/7, ms1mx2.6/41, Error ellipse: s-maj=13.7km s-min=12.1km az=4.0

ISCJB 25 18:34:20.7±0.4, 38°.88N±0°.04×70°.13E±0°.05, h23km, mb3.6/18, MS3.0/4, Error ellipse: s-maj=5.6km s-min=5.4km az=180.0

NNC 25 18:34:20.1±1.2, 38°.44N×69°.79E, h111km±9km, mb3.5, mpv4.2, Error ellipse: s-maj=12.5km s-min=8.2km az=170.0

MOS 25 18:34:21.4±1.9, 38°.74N×70°.25E, h33km, mb4.0/14, Error ellipse: s-maj=9.4km s-min=6.2km az=76.9

BJI 25 18:34:25.5, 38°.74N×70°.41E, h75km, mb4.3/3, mB4.6/2, Ms3.8/1

ISC 25 18:34:21.7±0.5, 38°.84N±0°.05×70°.21E±0°.03, h23km, n78, σ1°95/74, mb3.7/19, MS2.9/4, 11C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**1.08**	**268**	⇓P	**Pn**	**18 34 40.1**	**-1.5**
	295nm,0.5s						
DZET				⇓S	**Sb**	**18 34 55.6**	**+0.2**
	1μm,0.4s						
DZET	**Dzherino**	**1.08**	**268**	PG	**Pn**	**18 34 40.0**	**-1.5**
DZET				S	**Sb**	**18 34 55.6**	**+0.2**
DZET				pmax	pmax		
	comp=Z,295nm,0.5s						
DZET				smax	smax		
	comp=N,1μm,0.5s						
SFK	**Sufi-Kurgan**	**2.81**	**64**	⇓Pn	**Pn**	**18 35 08.0**	**+2.5**
	comp=N,54nm,0.6s						
SFK				⇓Sn	**Sb**	**18 35 50.3**	**+4.9**
	comp=N,498nm,0.9s						
SFK	**Sufi-Kurgan**	**2.81**	**64**	PN	**Pn**	**18 35 07.9**	**+2.5**
SFK						18 35 50.1	
SFK				pmax	pmax		
	comp=Z,54nm,0.6s						
SFK				smax	smax		
	comp=N,577nm,1.1s						
AML	**Almayashu**	**4.22**	**38**	P	Pn	18 35 29.7	+4.6
	SNR=10						
KK31	**Karatay Array**	**4.26**	**3**	⇑Pn	Pn	18 35 29.2	+3.9
	comp=N,14nm,0.6s,baz=193,slow=14,SNR=135						
KK31				⇑Sn	**Sb**	**18 36 22.2**	**-4.7**
	comp=N,23nm,0.6s						
KK31	**Karatay Array**	**4.26**	**3**	*i* PN	Pn	18 35 29.1	+3.9
KK31						18 36 36.5	
KK31				pmax	pmax		
	comp=Z,7.0nm,0.3s						
KK31				pmax	pmax		
	comp=Z,82nm,0.7s						
KSH	**Kashi**	**4.53**	**80**	P	**Pn**	**18 35 30.5**	**+1.5**
KSH				S	**Sn**	**18 36 17.8**	**-3.3**
KSH				SMN			
	comp=Z,1μm,0.8s						
KSH				SME			
	comp=Z,600nm,1.0s						
EKS2	**Erkin-Say**	**4.68**	**34**	P	**Pn**	**18 35 34.0**	**+3.0**
	SNR=25						
AAK	**Ala-Archa**	**4.99**	**39**	P	Pn	18 35 42.0	+6.6
	SNR=8.3						
AAK	**Ala-Archa**	**4.99**	**39**	⇑Pn	Pn	18 35 40.6	+5.2
	comp=Z,22nm,0.7s						
AAK				⇓Sn	**Sb**	**18 36 42.8**	**-5.3**
	comp=Z,47nm,1.1s						
AAK	**Ala-Archa**	**4.99**	**39**	PN	Pn	18 35 40.6	+5.2
AAK				pmax	pmax		
	comp=Z,22nm,0.7s						
KZA	**Kyzart**	**5.02**	**48**	P	Pn	18 35 41.7	+5.7
	SNR=9.5						
CEP	**Cherat**	**5.20**	**164**	P	**Pn**	**18 35 40.9**	**+2.7**
CEP				S	**Sb**	**18 36 52.0**	**-2.0**
FRU	**Bishkek**	**5.20**	**39**	*e*PN	Pn	18 35 44.0	+5.8
FRU				*e*		18 35 54.0	
FRU				*e*S	Sn	18 36 46.0	+8.5
FRU				pmax	pmax		
	comp=Z,60nm,1.2s						
FRU				pmax	pmax		
	comp=E,480nm,1.2s						
KBK	**Karagaybulak**	**5.24**	**42**	P	Pn	18 35 45.5	+6.6
	SNR=41						
CHMS	**Chumysh**	**5.39**	**38**	P	Pn	18 35 45.9	+5.2
	SNR=22						
USP	**Ospenovka**	**5.48**	**35**	P	Pn	18 35 46.7	+4.7
	SNR=19						
TKM2	**Tokmak 2**	**5.77**	**43**	P	Pn	18 35 52.1	+6.0
	SNR=12						
TKM2	**Tokmak 2**	**5.77**	**43**	⇑Pn	Pn	18 35 50.7	+4.5
	comp=E,49nm,0.6s						
TKM2	**Tokmak 2**	**5.77**	**43**	PN	Pn	18 35 50.6	+4.5
TKM2				pmax	pmax		
	comp=Z,49nm,0.6s						
THW	**Thamme Wali**	**6.16**	**168**	P	**Pn**	**18 35 52.2**	**+0.8**
PDGK	**Podgornoye**	**8.31**	**54**	⇓Pn	Pn	18 36 24.8	+4.0
	comp=Z,1.9nm,0.6s						
OTUK	**Ortayu**	**9.52**	**9**	⇑Pn	**Pn**	**18 36 39.5**	**+2.1**
	comp=Z,3.4nm,1.3s						
OTUK	**Ortayu**	**9.52**	**9**	P	**Pn**	**18 36 39.7**	**+2.3**
OTUK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GEYT	**Alibeck**	**9.54**	**268**	Pn	**Pn**	**18 36 35.5**	**-2.1**
	comp=Z,1.0nm,0.3s,baz=102,slow=14,SNR=6.2						
GEYT				Sn	**Sn**	**18 38 22.1**	**-2.0**
	comp=Z,2.2nm,0.3s,baz=45,slow=25,SNR=6.7						
MK31	**Makanchi Array**	**11.90**	**44**	⇑Pn	**Pn**	**18 37 12.9**	**+3.0**
	comp=Z,1.4nm,0.7s						
MK31	**Makanchi Array**	**11.90**	**44**	P	**Pn**	**18 37 12.9**	**+3.0**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**11.90**	**44**	Pn	**Pn**	**18 37 08.8**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=289,slow=12,SNR=6.3						
MKAR				Lg	Lg	18 40 42.0	
	comp=Z,0.0nm,0.3s,baz=233,slow=28,SNR=2.5						
AB31	**Akbulak array**	**12.75**	**328**	⇑Pn	**Pn**	**18 37 21.0**	**-0.4**
	comp=Z,3.3nm,0.5s,baz=144,slow=12,SNR=140						
AB31				Sn	**Sn**	**18 39 40.6**	**-1.9**
	comp=Z,8.9nm,0.6s,baz=157,slow=22,SNR=19						
KURBB	**Kurchatov Arra**	**13.17**	**24**	⇓Pn	**Pn**	**18 37 28.2**	**+1.0**
	comp=Z,1.8nm,0.6s						
KURBB	**Kurchatov Arra**	**13.17**	**24**	Pn	**Pn**	**18 37 25.8**	**-1.4**
	comp=Z,0.0nm,0.3s,baz=208,slow=13,SNR=9.3						
KURBB				Lg	Lg	18 41 20.7	
	comp=Z,0.0nm,0.3s,baz=213,slow=32,SNR=6.4						
KURK	**Kurchatov**	**13.28**	**24**	P	Pn	18 37 25.8	-2.9
BVA0	**Borovoye Array**	**14.18**	**0**	Pn	**Pn**	**18 37 41.9**	**+0.8**
	comp=Z,2.5nm,0.7s,baz=236,slow=36,SNR=21						
BVA0				⇑Sn	**Sn**	**18 40 19.0**	**+1.4**
	comp=Z,2.1nm,0.7s,baz=168,slow=23,SNR=3.9						
BVA0	**Borovoye Array**	**14.18**	**0**	*e*P	**Pn**	**18 37 41.9**	**+0.8**
BVA0				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BVAR	**Borovoye Array**	**14.18**	**0**	Pn	**Pn**	**18 37 40.4**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=172,slow=12,S

HHC				SS	SnSn	18 47 34.0	-2.8	
HHC				PMZ				
	comp=Z,18nm,1.1s							
HHC				PMZ				
	comp=Z,46nm,5.4s							
HHC				LN				
	comp=Z,92nm,13.9s							
HHC				LE				
	comp=Z,66nm,14.5s							
CMAR	**Chiang Mai Arr**	**32.17**	**121**	LR	LR	18 55 04.8		
	comp=Z,15nm,18.7s,baz=165,slow=39							
FINES	**FINESS Array B**	**35.20**	**325**	P	**P**	**18 41 14.5**	**+0.8**	
	comp=Z,1.8nm,0.9s,baz=111,slow=11,SNR=3.5							
FINES	**FINESS Array B**	**35.20**	**325**	P	**P**	**18 41 14.5**	**+0.8**	
FINES				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ARCES	**ARCESS Array B**	**38.74**	**337**	P	**P**	**18 41 44.7**	**+0.9**	
	comp=Z,1.0nm,0.8s,baz=104,slow=9.4,SNR=3.9							
ARCES				LR	LR	18 58 58.6		
	comp=Z,57nm,19.9s,baz=140,slow=38							
ARCES	**ARCESS Array B**	**38.74**	**337**	P	**P**	**18 41 44.7**	**+0.9**	
ARCES				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ARCES				MLR	MLR			
	comp=Z,57nm,19.9s							
NB2	**NORSAR Subarra**	**42.14**	**322**	P	**P**	**18 42 12.1**	**0.0**	
	comp=Z,8.8nm,1.1s,baz=92,slow=8.6							
NOA	**NORSAR Array B**	**42.14**	**322**	P	**P**	**18 42 12.0**	**0.0**	
	comp=Z,1.3nm,0.8s,baz=94,slow=7.9,SNR=4.5							
NOA				LR	LR	19 01 19.9		
	comp=Z,12nm,18.3s,baz=200,slow=38							
NOA	**NORSAR Array B**	**42.14**	**322**	P	**P**	**18 42 12.0**	**0.0**	
NOA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
NOA				MLR	MLR			
	comp=Z,12nm,18.3s							
KSRS	**Korea Array**	**44.75**	**73**	P	**P**	**18 42 30.7**	**-2.6**	
	comp=Z,0.7nm,0.7s,baz=291,slow=7.2,SNR=3.5							
KSRS	**Korea Array**	**44.75**	**73**	P	**P**	**18 42 30.7**	**-2.6**	
KSRS				pmax	pmax			
	comp=Z,1.0nm,0.7s							
MJAR	**Matsushiro Arr**	**52.71**	**70**	P	**P**	**18 43 33.1**	**-1.4**	
	comp=Z,0.9nm,0.7s,baz=288,slow=8.8,SNR=6.7							
MJAR	**Matsushiro Arr**	**52.71**	**70**	P	**P**	**18 43 33.1**	**-1.4**	
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
MJA0	**Matsu Arr-Jizo**	**52.74**	**70**	*e*P	**P**	**18 43 34.1**	**-0.7**	
MJA0				pmax	pmax			
	comp=Z,1.0nm,0.9s							
ESDC	**Sonseca Array**	**55.83**	**296**	P	**P**	**18 43 57.8**	**+0.5**	
	comp=Z,1.2nm,0.7s,baz=62,slow=7.6,SNR=11							
TORD	**Torodi Ar. Bea**	**65.17**	**267**	P	**P**	**18 44 59.8**	**-1.5**	
	comp=Z,0.5nm,0.7s,baz=47,slow=5.8,SNR=4.2							
YKA	**Yellowknife Ar**	**78.93**	**2**	P	**P**	**18 46 22.9**	**0.0**	
	comp=Z,0.6nm,0.7s,baz=349,slow=5.8,SNR=3.6							
YKA	**Yellowknife Ar**	**78.93**	**2**	P	**P**	**18 46 22.9**	**0.0**	
YKA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
WRA	**Warramunga Arr**	**83.76**	**122**	P	P	18 46 45.6	-3.5	
	comp=Z,0.4nm,0.7s,baz=324,slow=4.7,SNR=5.4							
ASAR	**Alice Springs**	**86.11**	**125**	P	P	18 46 57.8	-3.0	
	comp=Z,0.2nm,0.6s,baz=331,slow=5.3,SNR=3.5							
STKA	**Stephens Creek**	**96.68**	**126**	*e*P	**P**	**18 47 52.6**	**+2.6**	

NIED ***25*** *18:36:00,23.˚50N×123.˚90E,h8km,Mw3.6 Best double couple: M₀2.79000×10¹⁴ NP1:φs141.00000°,δ64.00000°, λ16.00000°. NP2:φs44.00000°,δ76.00000°,λ153.00000°.*

JMA 25 18:36:20.0±0.1,23.˚51N×123.˚93E,h38km±1km, M3.8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.56**	**348**	P	Pn	18 36 31.3	-0.2
HATJ				S	Sn	18 36 39.5	-0.1
JKRS	**Kuro-shima**	**0.73**	**6**	P	Pn	18 36 33.9	+0.1
JKRS				*e*S	Sn	18 36 43.7	0.0
IRIF	**Iriomote-Funau**	**0.84**	**347**	P	Pn	18 36 35.8	+0.5
IRIF				*e*S	Sn	18 36 47.2	+0.7
JIJ	**Ishigaki jima**	**0.87**	**13**	P	Pn	18 36 36.0	+0.2
JIJ				*i* S	Sn	18 36 47.3	0.0
JISG	**Ishigakijimahi**	**1.13**	**18**	P	Pn	18 36 39.6	+0.4
JISG				*e*S	Sn	18 36 54.1	+0.6
YOJ	**Yonaguni jima**	**1.27**	**319**	P	Pn	18 36 41.8	+0.6
YOJ				S	Sn	18 36 56.9	0.0
JYNG	**Yonagunijimaku**	**1.30**	**316**	P	Pn	18 36 42.2	+0.6
JYNG				S	Sn	18 36 58.2	+0.5
JTJ	**Tarama**	**1.33**	**32**	P	Pn	18 36 43.0	+1.0
JTJ				*e*S	Sn	18 36 59.7	+1.3
JIRB	**Irabujima**	**1.73**	**41**	P	Pn	18 36 48.4	+0.8
JIRB				S	Sn	18 37 09.8	+1.3
JMJ	**Miyako jima 2**	**1.80**	**44**	P	Pn	18 36 49.8	+1.3
JMJ				*e*S	Sn	18 37 11.8	+1.7
JOGS	**Gusukube**	**1.83**	**47**	P	Pn	18 36 50.2	+1.2
JOGS				*e*S	Sn	18 37 12.6	+1.6
JIKM	**Ikemajima**	**1.85**	**40**	P	Pn	18 36 50.1	+0.9
JIKM				*e*S	Sn	18 37 12.7	+1.4
JKE	**Kume jima 2**	**3.82**	**42**	P	Pn	18 37 15.8	-0.5

MEX 25 18:37:36.7±0.5,14.˚37N×93.˚84W,h16km±97km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.46**	**24**	*e*P	Pn	18 37 58.7	-3.7
PCIG				*e*P	Pb	18 37 58.7	-4.8
PCIG				*i* S	Sn	18 38 16.4	-4.8
CCIG	**Comitan**	**2.51**	**41**	*e*P	Pn	18 38 14.6	-2.6
CCIG				*e*S	Sn	18 38 43.5	-4.2

IDC ***25*** *18:57:40.6±1.9,52.˚47N×170.˚28W,h0km,mb3.6/3, mb1 3.8/4,mb1mx3.3/44,mbtmp3.5/4,ML3.6/1,Error ellipse: s-maj=86.8km s-min=33.0km az=152.0*
NEIC 25 18:57:41.7,52.˚70N×169.˚50W,h10km,ML3.2(AEIC),After AEIC.

ISC 25 18:57:41.0±1.7,52.˚9N±0.˚1×169.˚77W±0.˚07,h1km±11km, n24,σ1§43/23,mb3.3/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.56**	**80**	P	**Pg**	**18 57 51.7**	**-0.1**
NIKH				S	**Sg**	**18 57 59.7**	**+0.7**
OKSO	**Okmok South**	**1.08**	**63**	P	**Pg**	**18 58 01.0**	**-0.7**
OKSO				S	**Sg**	**18 58 16.2**	**+0.6**
OKWR	**Okmok West Rim**	**1.09**	**59**	P	**Pg**	**18 58 02.6**	**+0.7**
OKAK	**Okmok**	**1.10**	**50**	P	**Pg**	**18 58 00.8**	**-1.3**
OKCE	**Okmok Cone E**	**1.11**	**60**	P	**Pg**	**18 58 01.8**	**-0.4**
OKFG	**Magazine Ridge**	**1.24**	**64**	P	**Pg**	**18 58 03.6**	**-1.1**
OKFG				S	**Sg**	**18 58 20.4**	**-0.3**
MSOM	**Makushin Julie**	**1.93**	**60**	P	**Pn**	**18 58 14.1**	**-0.8**
MCIR	**Makushin Cirqu**	**2.03**	**57**	P	**Pn**	**18 58 16.5**	**+0.2**
MSW	**Makushin Switc**	**2.07**	**59**	P	**Pn**	**18 58 16.4**	**-0.4**
MSW				S	**Sn**	**18 58 43.6**	**+0.4**
MTBL	**Makushin Table**	**2.15**	**58**	P	**Pn**	**18 58 17.7**	**-0.3**
UNV	**Unalaska Valle**	**2.18**	**62**	P	**Pn**	**18 58 17.1**	**-1.3**
UNV				S	**Sn**	**18 58 43.8**	**-2.3**
AKUT	**Akutan**	**2.70**	**61**	*e*Pn	**Pn**	**18 58 26.1**	**+0.7**
AKUT				*e*Sg	**Sb**	**18 59 02.5**	**-1.0**
ATKA	**Atka Island**	**2.79**	**258**	P	**Pn**	**18 58 26.1**	**-0.6**
GSTR	**Great Sitkin T**	**3.93**	**261**	P	**Pn**	**18 58 42.8**	**+0.4**
ILAR	**Eielson Array**	**16.67**	**36**	P	**P**	**19 01 41.6**	**+3.6**
	0.1nm,0.3s,baz=232,slow=10,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**37.71**	**218**	T	T	19 44 41.2	
	baz=23,slow=76,SNR=6.2						
H11N3	**WAKE ISLAND Hy**	**37.71**	**218**	T	T	19 44 41.8	
	baz=23,slow=76,SNR=6.5						
H11N1	**WAKE ISLAND Hy**	**37.72**	**218**	T	T	19 44 41.2	
	baz=23,slow=76,SNR=5.3						
H11S1	**WAKE ISLAND Hy**	**38.90**	**217**	T	T	19 46 12.5	
	baz=22,slow=76,SNR=79						
H11S2	**WAKE ISLAND Hy**	**38.91**	**217**	T	T	19 46 13.6	
	baz=22,slow=76,SNR=98						
H11S3	**WAKE ISLAND Hy**	**38.92**	**217**	T	T	19 46 14.2	
	baz=22,slow=76,SNR=53						
PDAR	**Pinedale Array**	**40.55**	**79**	P	P	19 05 24.6	+2.8
	0.4nm,0.6s,baz=312,slow=5.8,SNR=4.1						
TXAR	**Lajitas Array**	**52.98**	**89**	P	**P**	**19 07 01.3**	**+2.1**
	0.3nm,0.7s,baz=293,slow=4.8,SNR=4.9						
ASAR	**Alice Springs**	**90.54**	**230**	P	**P**	**19 10 41.9**	**-2.6**
	0.4nm,0.6s,baz=40,slow=4.1,SNR=7.0						

CASC 25 19:02:59.8±1.8,13.˚42N×90.˚93W,h6km±22km, MD3.7, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.88**	**31**	*e*P	Pg	19 03 16.8	-0.2
IXG				*e*S	Sg	19 03 29.3	+0.6
FUG	**Fuego 3**	**1.03**	**5**	*e*P	Pg	19 03 19.5	-0.4
JAT	**Jato**	**1.13**	**323**	*e*P	Pg	19 03 20.9	-0.6
NBG	**Las Nubes**	**1.29**	**26**	*e*P	Pn	19 03 24.2	-0.6
NBG				*e*S	Sg	19 03 42.1	0.0
RTR	**El Retiro**	**1.33**	**69**	*e*P	Pn	19 03 23.4	-1.9
SBLS	**San Blas**	**1.34**	**72**	*e*P	Pn	19 03 24.3	-1.0
RBDL	**Robledal**	**1.39**	**60**	*e*P	Pn	19 03 24.7	-1.3
BOQS	**Boqueron**	**1.63**	**79**	*e*P	Pn	19 03 28.7	-0.7
LFU	**La Fuente**	**1.79**	**79**	*e*P	Pn	19 03 31.6	+0.1
MTO2	**Montecristo 2**	**1.81**	**57**	*e*P	Pn	19 03 31.0	-0.8
LFRS	**El Faro**	**1.83**	**83**	*e*P	Pn	19 03 31.1	-0.8
MRL	**Marmol**	**2.03**	**36**	*e*P	Pb	19 03 36.2	-1.2

CNRM ***25*** *19:41:15.4,36.˚49N×9.˚88W,h15km,MD3.5*
SFS ***25*** *19:41:18.0,36.˚70N×9.˚75W,h0km,ML3.2*
CSEM ***25*** *19:41:18.1±0.4,36.˚56N×9.˚78W,h20km,ML3.1,Error ellipse: s-maj=8.2km s-min=5.5km az=65.0*
MDD ***25*** *19:41:18.0±0.9,36.˚48N×9.˚99W,h40km,mbLg3.1/15, Error ellipse: s-maj=9.0km s-min=5.8km az=76.0,PRXIMO*
IGIL ***25*** *19:41:19.9,36.˚55N×9.˚88W,h25km,ML3.0*
LDG ***25*** *19:41:19.5±0.1,36.˚57N×9.˚91W,h20km,Ml3.6/3,Error ellipse: s-maj=2.6km s-min=1.9km az=42.0*
INMG ***25*** *19:41:20.0±0.9,36.˚53N×9.˚91W,h31km,MD3.2,ML2.9, Error ellipse: s-maj=3.2km s-min=2.2km az=61.0*

ISC 25 19:41:17.2±2.0,36.˚64N±0.˚06×9.˚81W±0.˚07,h10km,n146, σ1§67/228,3C-2D,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MORF	**Marmelete**	**1.14**	**54**	*e*P	**Pb**	**19 41 40.2**	**+1.2**
MORF				*e*S	**Sb**	**19 41 55.2**	**+1.3**
MORF				AML	AML	19 41 55.8	
	comp=N,331nm,0.2s						
MORF	**Marmelete**	**1.14**	**54**	*e*P	**Pb**	**19 41 40.2**	**+1.2**
MORF				*e*S	**Sb**	**19 41 55.4**	**+1.4**
MORF				A	A	19 41 57.3	
	comp=N,207nm,0.2s						
MORF	**Marmelete**	**1.14**	**54**	P	**Pb**	**19 41 40.2**	**+1.2**
MORF				S	**Sb**	**19 41 55.2**	**+1.3**
	comp=N,331nm,0.2s						
MORF	**Marmelete**	**1.14**	**54**	P	**Pb**	**19 41 40.2**	**+1.2**
MORF				S	**Sb**	**19 41 55.2**	**+1.3**
	comp=N,331nm,0.2s						
PTEO	**Sao Teotonio**	**1.25**	**43**	*e*P	**Pn**	**19 41 41.9**	**+1.2**
PTEO				*e*S	**Sb**	**19 41 58.3**	**+1.2**
PTEO				A	A	19 41 59.5	
	comp=N,101nm,0.2s						
PTEO	**Sao Teotonio**	**1.25**	**43**	P	**Pn**	**19 41 41.9**	**+1.2**
PTEO				S	**Sb**	**19 41 58.3**	**+1.2**
	comp=N,50nm,0.2s						
PTEO	**Sao Teotonio**	**1.25**	**43**	P	**Pn**	**19 41 41.9**	**+1.2**
PTEO				S	**Sb**	**19 41 58.3**	**+1.2**
	comp=N,50nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.62**	**68**	*i* Pn	**Pn**	**19 41 46.8**	**+1.0**
PBDV				*e*Sn	**Sn**	**19 42 06.3**	**-0.5**
PBDV				A	A	19 42 10.3	
	comp=N,60nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.62**	**68**	⇑P	**Pn**	**19 41 46.8**	**+1.0**
PBDV				S	**Sn**	**19 42 06.3**	**-0.5**
	comp=N,60nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.62**	**68**	P	**Pn**	**19 41 46.8**	**+1.0**
PBDV				S	**Sn**	**19 42 06.3**	**-0.5**
	comp=N,60nm,0.2s						
PCVE	**Castro Verde**	**1.73**	**54**	*e*Pn	**Pn**	**19 41 48.6**	**+1.3**
PCVE				*e*Sn	**Sn**	**19 42 09.9**	**+0.5**
PCVE				A	A	19 42 11.4	
	comp=N,5.4nm,0.5s						
PCVE	**Castro Verde**	**1.73**	**54**	P	**Pn**	**19 41 48.6**	**+1.3**
PCVE				S	**Sn**	**19 42 09.9**	**+0.5**
	comp=N,5.4nm,0.5s						
PCVE	**Castro Verde**	**1.73**	**54**	P	**Pn**	**19 41 48.6**	**+1.3**
PCVE				S	**Sn**	**19 42 09.9**	**+0.5**
	comp=N,5.4nm,0.5s						
MESJ	**Messejana**	**1.75**	**46**	*e*P	**Pn**	**19 41 48.5**	**+1.0**
MESJ				*e*S	**Sn**	**19 42 09.3**	**-0.5**
MESJ				AML	AML	19 42 10.1	
	comp=N,75nm,0.1s						
MESJ	**Messejana**	**1.75**	**46**	*e*Pn	**Pn**	**19 41 48.5**	**+1.0**
MESJ				*e*Sn	**Sn**	**19 42 09.8**	**0.0**
MESJ				A	A	19 42 13.2	
	comp=N,52nm,0.1s						
MESJ	**Messejana**	**1.75**	**46**	P	**Pn**	**19 41 48.5**	**+1.0**
MESJ				S	**Sn**	**19 42 09.3**	**-0.5**
	comp=N,75nm,0.1s						
MESJ	**Messejana**	**1.75**	**46**	P	**Pn**	**19 41 48.5**	**+1.0**
MESJ				S	**Sn**	**19 42 09.3**	**-0.5**
	comp=N,75nm,0.1s						
PNCL	**Nicolau / Gran**	**1.79**	**34**	*e*Pn	**Pn**	**19 41 48.9**	**+0.8**
PNCL				*e*Sn	**Sn**	**19 42 10.9**	**0.0**
PNCL				A	A	19 42 13.9	
	comp=N,63nm,0.2s						
PVAQ	**Vaqueiros**	**1.84**	**65**	*i* Pn	**Pn**	**19 41 49.7**	**+0.9**
PVAQ				*e*Sn	**Sn**	**19 42 11.6**	**-0.5**
PVAQ				A	A	19 42 13.8	
	comp=N,114nm,0.1s						
PVAQ	**Vaqueiros**	**1.84**	**65**	⇑P	**Pn**	**19 41 49.7**	**+0.9**
PVAQ				S	**Sn**	**19 42 11.6**	**-0.5**
	comp=N,114nm,0.1s						
PVAQ	**Vaqueiros**	**1.84**	**65**	P	**Pn**	**19 41 49.7**	**+0.9**
PVAQ				S	**Sn**	**19 42 11.6**	**-0.5**
	comp=N,114nm,0.1s						
EGRO	**El Granado**	**2.06**	**64**	P	**Pn**	**19 41 52.6**	**+0.7**
	comp=N,4.5nm,0.1s,SNR=40						
EGRO				S	**Sn**	**19 42 17.1**	**-0.5**
	comp=N,38nm,0.1s,SNR=10.0						
EGRO	**El Granado**	**2.06**	**64**	P	**Pn**	**19 41 52.6**	**+0.7**
	comp=N,4.5nm,0.1s,SNR=40						
EGRO				S	**Sn**	**19 42 17.1**	**-0.5**
	comp=N,38nm,0.1s,SNR=10.0						
PMST	**Lisbon--Monsan**	**2.15**	**13**	*e*Pn	**Pn**	**19 41 54.0**	**+0.9**
PMST				*e*Sn	**Sn**	**19 42 19.8**	**-0.1**
PMST				A	A	19 42 22.0	
	comp=N,64nm,0.3s						
PACT	**Alcochete**	**2.26**	**20**	*e*Pn	**Pn**	**19 41 54.3**	**-0.3**
PACT				*e*Sn	**Sn**	**19 42 21.6**	**-0.9**
PACT				A	A	19 42 22.2	
	comp=N,59nm,0.2s						
EVOP	**Sao Brissos**	**2.31**	**35**	*e*Pn	**Pn**	**19 41 56.0**	**+0.7**
EVOP				*e*Sn	**Sn**	**19 42 23.2**	**-0.6**
	comp=N,50nm,0.2s						
PMAFR	**Mafra**	**2.35**	**10**	*e*Pn	**Pn**	**19 41 56.2**	**+0.4**
PMAFR				*e*Sn	**Sn**	**19 42 24.3**	**-0.5**
PMAFR				A	A	19 42 27.0	
	comp=N,95nm,0.2s						
PMAFR	**Mafra**	**2.35**	**10**	P	**Pn**	**19 41 56.3**	**+0.4**
	comp=N,8.2nm,0.1s,SNR=49						
PMAFR				S	**Sn**	**19 42 23.7**	**-1.1**
	comp=N,81nm,0.1s,SNR=20						
PMAFR	**Mafra**	**2.35**	**10**	P	**Pn**	**19 41 56.3**	**+0.4**
	comp=N,8.2nm,0.1s,SNR=49						
PMAFR				S	**Sn**	**19 42 23.7**	**-1.1**
	comp=N,81nm,0.1s,SNR=20						
EVO	**Evora**	**2.37**	**36**	*e*Pn	**Pn**	**19 41 56.0**	**-0.1**
EVO				*e*Sn	**Sn**	**19 42 23.2**	**-2.0**
	comp=N,100nm,0.2s						
PBAR	**Barrancos**	**2.69**	**54**	*e*Pn	**Pn**	**19 42 01.1**	**+0.6**
PBAR				*e*Sn	**Sn**	**19 42 32.1**	**-0.9**
PBAR				A	A	19 42 34.5	
	comp=N,60nm,0.4s						
PBAR	**Barrancos**	**2.69**	**54**	P	**Pn**	**19 42 01.1**	**+0.6**
PBAR				S	**Sn**	**19 42 32.1**	**-0.9**
	comp=N,60nm,0.4s						
PBAR	**Barrancos**	**2.69**	**54**	P	**Pn**	**19 42 01.1**	**+0.6**
PBAR				S	**Sn**	**19 42 32.1**	**-0.9**
	comp=N,60nm,0.4s						
PMTG	**Montargil**	**2.73**	**27**	*e*Pn	**Pn**	**19 42 01.8**	**+0.7**
PMTG				*e*Sn	**Sn**	**19 42 33.4**	**-0.7**
PMTG				A	A	19 42 35.0	
	comp=N,51nm,0.3s						
EMIN	**Mina Concepcio**	**2.75**	**65**	P	**Pn**	**19 42 01.6**	**+0.3**
	comp=N,0.6nm,0.1s,SNR=42						
EMIN				S	**Sn**	**19 42 33.1**	**-1.4**
	comp=N,16nm,0.1s,SNR=11						
EMIN	**Mina Concepcio**	**2.75**	**65**	P	**Pn**	**19 42 01.6**	**+0.3**
	comp=N,0.6nm,0.1s,SNR=42						
EMIN				S	**Sn**	**19 42 33.1**	**-1.4**
	comp=N,16nm,0.1s,SNR=11						
PESTR	**Estremoz**	**2.84**	**38**	*e*Pn	**Pn**	**19 42 02.8**	**+0.3**
PESTR				*e*Sn	**Sn**	**19 42 35.9**	**-0.9**
PESTR				A	A	19 42 38.1	
	comp=N,10nm,0.4s						
EBAD	**Badajoz**	**3.06**	**46**	P	**Pn**	**19 42 06.0**	**+0.4**
	comp=N,4.4nm,0.1s,SNR=38						
EBAD				S	**Sn**	**19 42 40.9**	**-1.4**
	comp=N,88nm,0.3s						
EBAD	**Badajoz**	**3.06**	**46**	P	**Pn**	**19 42 06.0**	**+0.4**
	comp=N,4.4nm,0.1s,SNR=38						
EBAD				S	**Sn**	**19 42 40.9**	**-1.4**
	comp=N,88nm,0.3s						
PTOM	**Tomar**	**3.17**	**20**	*e*Pn	**Pn**	**19 42 07.8**	**+0.7**
PTOM				*e*Sn	**Sn**	**19 42 43.8**	**-1.2**
PTOM				A	A	19 42 46.1	
	comp=N,39nm,0.2s						
PTOM	**Tomar**	**3.17**	**20**	P	**Pn**	**19 42 07.8**	**+0.7**
PTOM				S	**Sn**	**19 42 43.8**	**-1.2**
	comp=N,20nm,0.2s						
PTOM	**Tomar**	**3.17**	**20**	P	**Pn**	**19 42 07.8**	**+0.7**
PTOM				S	**Sn**	**19 42 43.8**	**-1.2**
	comp=N,20nm,0.2s						
ESPR	**Espera**	**3.18**	**85**	⇓P	**Pn**	**19 42 07.7**	**+0.4**
	comp=N,10nm,0.1s,SNR=18						
ESPR				S	**Sn**	**19 42 43.2**	**-2.0**
	comp=N,440nm,0.2s,SNR=14						
ESPR	**Espera**	**3.18**	**85**	P	**Pn**	**19 42 07.7**	**+0.4**
	comp=N,10nm,0.1s,SNR=18						
ESPR				S	**Sn**	**19 42 43.2**	**-2.0**
	comp=N,440nm,0.2s,SNR=14						
PMRV	**Marv??o**	**3.38**	**34**	*e*Pn	**Pn**	**19 42 10.7**	**+0.7**
PMRV				*e*Sn	**Sn**	**19 42 48.8**	**-1.3**
PMRV				A	A	19 42 51.0	
	comp=N,33nm,0.2s						
PMRV	**Marv??o**	**3.38**	**34**	P	**Pn**	**19 42 10.7**	**+0.7**
PMRV				S	**Sn**	**19 42 48.8**	**-1.3**
	comp=N,33nm,0.2s						
PMRV	**Marv??o**	**3.38**	**34**	P	**Pn**	**19 42 10.7**	**+0.7**
PMRV				S	**Sn**	**19 42 48.8**	**-1.3**
	comp=N,33nm,0.2s						
LIJA	**Lijar**	**3.55**	**84**	*e*P	**Pn**	**19 42 14.0**	**+1.6**
LIJA				*e*S	**Sn**	**19 42 51.0**	**-3.4**
PCAS	**Casmilo, Conde**	**3.56**	**16**	*e*Pn	**Pn**	**19 42 13.3**	**+0.8**
PCAS				*e*Sn	**Sn**	**19 42 53.0**	**-1.6**
PCAS				A	A	19 42 56.5	
	comp=N,12nm,0.2s						
CEU	**Ceuta**	**3.66**	**100**	P	**Pn**	**19 42 15.3**	**+1.5**
CEU				S	**Sn**	**19 42 57.8**	**+0.8**
CEU	**Ceuta**	**3.66**	**100**	*e*P	**Pn**	**19 42 15.3**	**+1.5**
CEU				S	**Sn**	**19 42 57.8**	**+0.8**
PCBR	**Castelo Branco**	**3.69**	**29**	*e*Pn	**Pn**	**19 42 15.0**	**+0.8**
PCBR				*e*Sn	**Sn**	**19 42 56.2**	**-1.5**
PCBR				A	A	19 42 58.3	
	comp=N,12nm,0.3s						
PCBR	**Castelo Branco**	**3.69**	**29**	P	**Pn**	**19 42 15.0**	**+0.8**
PCBR				S	**Sn**	**19 42 56.2**	**-1.5**
	comp=N,6.1nm,0.3s						
PCBR	**Castelo Branco**	**3.69**	**29**	P	**Pn**	**19 42 15.0**	**+0.8**
PCBR				S	**Sn**	**19 42 56.2**	**-1.5**
	comp=N,6.1nm,0.3s						
ECAB	**El Cabril**	**3.78**	**66**	P	**Pn**	**19 42 16.2**	**+0.6**
	comp=N,1.8nm,0.1s,SNR=44						
ECAB				S	**Sn**	**19 42 57.6**	**-2.5**
	comp=N,16nm,0.2s,SNR=12						
ECAB	**El Cabril**	**3.78**	**66**	P	**Pn**	**19 42 16.2**	**+0.6**
	comp=N,1.8nm,0.1s,SNR=44						
ECAB				S	**Sn**	**19 42 57.6**	**-2.5**
	comp=N,16nm,0.2s,SNR=12						
EMIJ	**Mijas**	**4.05**	**90**	P	**Pn**	**19 42 20.1**	**+0.8**
	comp=N,0.7nm,0.2s,SNR=5.6						
EMIJ				S	**Sn**	**19 43 04.1**	**-2.7**
	comp=N,8.9nm,0.2s,SNR=5.8						
EMIJ	**Mijas**	**4.05**	**90**	P	**Pn**	**19 42 20.1**	**+0.8**
	comp=N,0.7nm,0.2s,SNR=5.6						
EMIJ				S	**Sn**	**19 43 04.1**	**-2.7**
	comp=N,8.9nm,0.2s,SNR=5.8						
MTE	**Manteigas**	**4.15**	**25**	*e*Pn	**Pn**	**19 42 21.4**	**+0.7**
MTE				*e*Sn	**Sn**	**19 43 07.6**	**-1.7**
MTE				A	A	19 43 10.5	
	comp=N,19nm,0.5s						
MTE	**Manteigas**	**4.15**	**25**	P	**Pn**	**19 42 21.4**	**+0.7**
MTE				S	**Sn**	**19 43 07.6**	**-1.7**
	comp=N,9.6nm,0.5s						
MTE	**Manteigas**	**4.15**	**25**	P	**Pn**	**19 42 21.4**	**+0.7**
MTE				S	**Sn**	**19 43 07.6**	**-1.7**
	comp=N,9.6nm,0.5s						
EMAL	**Malaga-Limoner**	**4.32**	**87**	*e*P	**Pn**	**19 42 22.3**	**-0.7**
EMAL				*e*S	**Sn**	**19 43 12.2**	**-1.2**
PVIS	**Viseu**	**4.34**	**20**	*e*Pn	**Pn**	**19 42 23.7**	**+0.5**
PVIS				*e*Sn	**Sn**	**19 43 12.0**	**-1.9**
PVIS				A	A	19 43 14.1	
	comp=N,19nm,0.3s						
PVIS	**Viseu**	**4.34**	**20**	P	**Pn**	**19 42 23.7**	**+0.5**
PVIS				S	**Sn**	**19 43 12.0**	**-1.9**
	comp=N,9.7nm,0.3s						
PVIS	**Viseu**	**4.34**	**20**	P	**Pn**	**19 42 23.7**	**+0.

PAB	**San Pablo**	**5.19**	**54**	P		**Pn**	**19 42 35.7**	**+0.7**
	comp=N,0.6nm,0.1s,SNR=7.9							
PAB				S		**Sn**	**19 43 32.0**	**-3.0**
	comp=N,4.4nm,0.1s,SNR=7.9							
PAB	**San Pablo**	**5.19**	**54**	P		**Pn**	**19 42 35.7**	**+0.7**
	comp=N,0.6nm,0.1s,SNR=7.9							
PAB				S		**Sn**	**19 43 32.0**	**-3.0**
	comp=N,4.4nm,0.1s,SNR=7.9							
TZC	**Tazercounte**	**5.25**	**148**	P		Pn	19 42 32.0	-3.9
TZC				S		Sn	19 43 28.0	-8.6
TZC	**Tazercounte**	**5.25**	**148**	P		Pn	19 42 32.0	-3.9
TZC				S		Sn	19 43 28.0	-8.6
TZK	**Tazeka**	**5.25**	**117**	P		**Pn**	**19 42 33.0**	**-3.0**
TZK				S		Sn	19 43 29.0	-7.7
TZK	**Tazeka**	**5.25**	**117**	P		**Pn**	**19 42 33.0**	**-3.0**
TZK				S		Sn	19 43 29.0	-7.7
CZD	**Col de Zad**	**5.32**	**131**	P		Pn	19 42 33.0	-3.9
CZD				S		Sn	19 43 30.0	-8.4
CZD	**Col de Zad**	**5.32**	**131**	P		Pn	19 42 33.0	-3.9
CZD				S		Sn	19 43 30.0	-8.4
ELOB	**Lobios**	**5.39**	**14**	P		**Pn**	**19 42 37.6**	**-0.2**
	comp=N,1.7nm,0.1s,SNR=30							
ELOB				S		Sn	19 43 35.2	-4.8
	comp=N,4.8nm,0.1s,SNR=6.3							
ELOB	**Lobios**	**5.39**	**14**	P		**Pn**	**19 42 37.6**	**-0.2**
	comp=N,1.7nm,0.1s,SNR=30							
ELOB				S		Sn	19 43 35.2	-4.8
	comp=N,4.8nm,0.1s,SNR=6.3							
PGAV	**Gavieira, Arco**	**5.45**	**12**	*e*Pn		**Pn**	**19 42 38.7**	**+0.1**
PGAV				*e*Sn		Sn	19 43 37.7	-3.7
PGAV				A		A	19 43 40.8	
	comp=N,6.9nm,0.4s							
EQES	**Quesada**	**5.50**	**76**	P		**Pn**	**19 42 39.7**	**+0.5**
	comp=N,0.3nm,0.1s,SNR=7.9							
EQES				S		**Sn**	**19 43 39.7**	**-2.9**
	comp=N,10.0nm,0.2s,SNR=7.9							
EQES	**Quesada**	**5.50**	**76**	P		**Pn**	**19 42 39.7**	**+0.5**
	comp=N,0.3nm,0.1s,SNR=7.9							
EQES				S		**Sn**	**19 43 39.7**	**-2.9**
	comp=N,10.0nm,0.2s,SNR=7.9							
ESDC	**Sonseca Array**	**5.51**	**55**	P		**Pn**	**19 42 39.7**	**+0.3**
	comp=N,1.2nm,0.1s,baz=240,slow=14,SNR=41							
ESDC				S		**Sn**	**19 43 40.0**	**-2.9**
	comp=N,4.2nm,0.5s,baz=240,slow=24,SNR=5.3							
ESDC	**Sonseca Array**	**5.51**	**55**	P		**Pn**	**19 42 39.7**	**+0.3**
	comp=N,1.2nm,0.1s,SNR=41							
ESDC				S		**Sn**	**19 43 40.0**	**-2.9**
	comp=N,4.2nm,0.5s,SNR=5.3							
PBRG	**Braganca**	**5.68**	**24**	*e*Pn		**Pn**	**19 42 41.8**	**+0.1**
PBRG				*e*Sn		Sn	19 43 43.5	-3.5
PBRG				A		A	19 43 46.0	
	comp=N,5.1nm,0.1s							
PBRG	**Braganca**	**5.68**	**24**	P		**Pn**	**19 42 41.8**	**+0.1**
PBRG				S		Sn	19 43 43.5	-3.5
	comp=N,2.6nm,0.1s							
PBRG	**Braganca**	**5.68**	**24**	P		**Pn**	**19 42 41.8**	**+0.1**
PBRG				S		Sn	19 43 43.5	-3.5
	comp=N,2.6nm,0.1s							
ECAL	**Calabor**	**5.81**	**23**	P		**Pn**	**19 42 43.4**	**0.0**
	comp=N,1.2nm,0.1s,SNR=11							
ECAL				S		**Sn**	**19 43 47.8**	**-2.3**
	comp=N,4.9nm,0.1s,SNR=7.0							
ECAL	**Calabor**	**5.81**	**23**	P		**Pn**	**19 42 43.4**	**0.0**
	comp=N,1.2nm,0.1s,SNR=11							
ECAL				S		**Sn**	**19 43 47.8**	**-2.3**
	comp=N,4.9nm,0.1s,SNR=7.0							
EHUE	**Huescar**	**5.88**	**76**	S		**Sn**	**19 43 48.7**	**-3.1**
	comp=N,5.6nm,0.1s,SNR=7.9							
EHUE	**Huescar**	**5.88**	**76**	S		**Sn**	**19 43 48.7**	**-3.1**
	comp=N,5.6nm,0.1s,SNR=7.9							
GUD	**Guadarrama**	**5.96**	**46**	P		**Pn**	**19 42 46.3**	**+0.7**
	comp=N,0.9nm,0.2s,SNR=9.5							
GUD				S		**Sn**	**19 43 50.6**	**-3.4**
	comp=N,6.4nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**5.96**	**46**	P		**Pn**	**19 42 46.3**	**+0.7**
	comp=N,0.9nm,0.2s,SNR=9.5							
GUD				S		**Sn**	**19 43 50.6**	**-3.4**
	comp=N,6.4nm,0.2s,SNR=7.9							
SESP	**Santiago Espad**	**5.97**	**73**	P		**Pn**	**19 42 46.0**	**+0.2**
	comp=N,0.8nm,0.1s,SNR=7.9							
SESP				S		**Sn**	**19 43 50.8**	**-3.5**
	comp=N,10nm,0.1s,SNR=7.9							
SESP	**Santiago Espad**	**5.97**	**73**	P		**Pn**	**19 42 46.0**	**+0.2**
	comp=N,0.8nm,0.1s,SNR=7.9							
SESP				S		**Sn**	**19 43 50.8**	**-3.5**
	comp=N,10nm,0.1s,SNR=7.9							
EAGO	**Agolada(Pontev**	**6.30**	**12**	P		**Pn**	**19 42 49.8**	**-0.3**
	comp=N,4.6nm,0.2s,SNR=7.9							
EAGO				S		Sn	19 43 56.9	-5.2
	comp=N,1.4nm,0.1s,SNR=7.9							
EAGO	**Agolada(Pontev**	**6.30**	**12**	P		**Pn**	**19 42 49.8**	**-0.3**
	comp=N,4.6nm,0.2s,SNR=7.9							
EAGO				S		Sn	19 43 56.9	-5.2
	comp=N,1.4nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**6.33**	**6**	⇑P		**Pn**	**19 42 49.9**	**-0.7**
	comp=N,6.0nm,0.1s,SNR=18							
EMAZ				S		Sn	19 43 56.3	-6.7
	comp=N,2.8nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**6.33**	**6**	P		**Pn**	**19 42 49.9**	**-0.7**
	comp=N,6.0nm,0.1s,SNR=18							
EMAZ				S		Sn	19 43 56.3	-6.7
	comp=N,2.8nm,0.1s,SNR=7.9							
ZFT	**Errachidia**	**6.44**	**134**	P		Pn	19 42 49.0	-3.2
ZFT				S		Sn	19 43 55.0	-11
ZFT	**Errachidia**	**6.44**	**134**	P		Pn	19 42 49.0	-3.2
ZFT				S		Sn	19 43 55.0	-11
ETOB	**Tobarra**	**6.85**	**71**	P		**Pn**	**19 42 57.6**	**-0.2**
	comp=N,0.4nm,0.1s,SNR=12							
ETOB				S		Sn	19 44 09.7	-6.2
	comp=N,1.9nm,0.1s,SNR=7.9							
ETOB	**Tobarra**	**6.85**	**71**	P		**Pn**	**19 42 57.6**	**-0.2**
	comp=N,0.4nm,0.1s,SNR=12							
ETOB				S		Sn	19 44 09.7	-6.2
	comp=N,1.9nm,0.1s,SNR=7.9							
EMUR	**La Murta**	**6.94**	**77**	S		**Sn**	**19 44 13.3**	**-4.7**
	comp=N,5.7nm,0.6s,SNR=4.9							
EMUR	**La Murta**	**6.94**	**77**	S		**Sn**	**19 44 13.3**	**-4.7**
	comp=N,5.7nm,0.6s,SNR=4.9							
EPON	**Pontenova**	**6.99**	**16**	P		**Pn**	**19 42 59.3**	**-0.2**
	comp=N,0.6nm,0.1s,SNR=7.9							
EPON				S		Sn	19 44 14.1	-4.9
	comp=N,1.5nm,0.2s,SNR=7.9							
EPON	**Pontenova**	**6.99**	**16**	P		**Pn**	**19 42 59.3**	**-0.2**
	comp=N,0.6nm,0.1s,SNR=7.9							
EPON				S		Sn	19 44 14.1	-4.9
	comp=N,1.5nm,0.2s,SNR=7.9							
ETOR	**Torete**	**7.36**	**53**	P		**Pn**	**19 43 05.7**	**+1.0**
	comp=N,8.1nm,0.3s,SNR=7.9							
ETOR				S		Sn	19 44 23.1	-5.2
	comp=N,38nm,0.4s,SNR=7.9							
ETOR	**Torete**	**7.36**	**53**	P		**Pn**	**19 43 05.7**	**+1.0**
	comp=N,8.1nm,0.3s,SNR=7.9							
ETOR				S		Sn	19 44 23.1	-5.2
	comp=N,38nm,0.4s,SNR=7.9							
EARI	**Arriondas**	**7.53**	**27**	P		**Pn**	**19 43 10.0**	**+2.9**
	comp=N,0.5nm,0.4s,SNR=7.9							
EARI				S		**Sn**	**19 44 29.4**	**-3.1**
	comp=N,0.6nm,0.3s,SNR=7.9							
EARI	**Arriondas**	**7.53**	**27**	P		**Pn**	**19 43 10.0**	**+2.9**
	comp=N,0.5nm,0.4s,SNR=7.9							
EARI				S		**Sn**	**19 44 29.4**	**-3.1**
	comp=N,0.6nm,0.3s,SNR=7.9							
EBEN	**Beniarda**	**7.88**	**72**	P		**Pn**	**19 43 11.7**	**-0.1**
	comp=N,0.1nm,0.1s,SNR=7.9							
EBEN				S		**Sn**	**19 44 37.8**	**-3.2**
	comp=N,1.4nm,0.4s,SNR=7.9							
EBEN	**Beniarda**	**7.88**	**72**	P		**Pn**	**19 43 11.7**	**-0.1**
	comp=N,0.1nm,0.1s,SNR=7.9							
EBEN				S		**Sn**	**19 44 37.8**	**-3.2**
	comp=N,1.4nm,0.4s,SNR=7.9							
ELAN	**Lanestosa**	**8.20**	**35**	P		**Pn**	**19 43 17.5**	**+1.3**
	comp=N,0.2nm,0.1s,SNR=7.9							
ELAN				S		**Sn**	**19 44 45.6**	**-3.3**
	comp=N,0.8nm,0.4s,SNR=4.0							
ELAN	**Lanestosa**	**8.20**	**35**	P		**Pn**	**19 43 17.5**	**+1.3**
	comp=N,0.2nm,0.1s,SNR=7.9							
ELAN				S		**Sn**	**19 44 45.6**	**-3.3**
	comp=N,0.8nm,0.4s,SNR=4.0							
EMOS	**Mosqueruela**	**8.21**	**60**	P		**Pn**	**19 43 18.0**	**+1.5**
	comp=N,0.1nm,0.1s,SNR=7.9							
EMOS				S		**Sn**	**19 44 45.1**	**-4.3**
	comp=N,2.5nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**8.21**	**60**	P		**Pn**	**19 43 18.0**	**+1.5**
	comp=N,0.1nm,0.1s,SNR=7.9							
EMOS				S		**Sn**	**19 44 45.1**	**-4.3**
	comp=N,2.5nm,0.2s,SNR=7.9							
IELO	**Elcoad**	**9.05**	**44**	P		**Pn**	**19 43 29.2**	**+1.3**
	comp=N,0.3nm,0.2s,SNR=7.9							
IELO				S		Sn	19 45 03.8	-6.1
	comp=N,1.7nm,0.4s,SNR=7.9							
IELO	**Elcoad**	**9.05**	**44**	P		**Pn**	**19 43 29.2**	**+1.3**
	comp=N,0.3nm,0.2s,SNR=7.9							
IELO				S		Sn	19 45 03.8	-6.1
	comp=N,1.7nm,0.4s,SNR=7.9							
EALK	**Alkurruntz**	**9.15**	**42**	S		Sn	19 45 07.3	-5.0
	comp=N,2.7nm,0.4s,SNR=7.9							
EALK	**Alkurruntz**	**9.15**	**42**	S		Sn	19 45 07.3	-5.0
	comp=N,2.7nm,0.4s,SNR=7.9							
SJPF	**Ste Jean**	**9.23**	**43**	*e*Pn		**Pn**	**19 43 30.7**	**+0.3**
SJPF				*e*Sn		Sn	19 45 08.7	-5.6
	comp=N,2.5nm,0.3s							
SJPF	**Ste Jean**	**9.23**	**43**	*e*Pn		**Pn**	**19 43 30.7**	**+0.3**
ATE	**Arette**	**9.51**	**45**	P		**Pn**	**19 43 36.0**	**+1.8**
	comp=N,0.3nm,0.1s,SNR=7.9							
ATE				S		Sn	19 45 15.3	-5.8
	comp=N,1.3nm,0.4s,SNR=7.9							
ATE	**Arette**	**9.51**	**45**	P		**Pn**	**19 43 36.0**	**+1.8**
	comp=N,0.3nm,0.1s,SNR=7.9							
ATE				S		Sn	19 45 15.3	-5.8
	comp=N,1.3nm,0.4s,SNR=7.9							
EPF	**Esparros**	**10.08**	**48**	*e*Pn		**Pn**	**19 43 42.2**	**+0.2**
EPF				*e*Sn		Sn	19 45 28.9	-6.2
	comp=N,1.6nm,0.3s							
EPF	**Esparros**	**10.08**	**48**	*e*Pn		**Pn**	**19 43 42.2**	**+0.2**
CLLI	**Llivia**	**10.80**	**54**	S		Sn	19 45 47.9	-5.1
	comp=N,0.4nm,0.3s,SNR=7.9							
CLLI	**Llivia**	**10.80**	**54**	S		Sn	19 45 47.9	-5.1
	comp=N,0.4nm,0.3s,SNR=7.9							

WEL 25 19:41:22.6±0.4, 37.12S×176.56E, h223km±3km, ML3.5/6, 2C-1D, Error ellipse: s-maj=7.4km s-min=4.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARZ	**Manawahe**	**0.87**	**174**	PN	Pn	19 41 56.1	+2.1
HAZ	**Te Kaha**	**1.16**	**124**	PN	Pn	19 41 55.8	+0.1
HAZ				SN	S	19 42 21.5	-0.1
URZ	**Urewera**	**1.22**	**159**	⇑PN	Pn	19 41 56.3	+0.2
URZ				SN	S	19 42 22.2	-0.2
MXZ	**Matakaoa Point**	**1.46**	**108**	⇑PN	Pn	19 41 58.1	+0.1
TWGZ	**Tauwhareparae**	**1.55**	**134**	PN	Pn	19 41 59.2	+0.5
WMGZ	**Waiomatatini S**	**1.63**	**116**	PN	Pn	19 41 59.6	+0.1
PUZ	**Puketiti**	**1.65**	**126**	⇓PN	Pn	19 41 59.4	-0.2
SNGZ	**Shannon Statio**	**1.77**	**160**	PN	Pn	19 42 00.6	-0.1
SNGZ				SN	S	19 42 29.6	-1.0
RAHZ	**Arahi**	**1.85**	**167**	PN	Pn	19 42 01.3	-0.1
CNGZ	**Carnagh Statio**	**1.89**	**137**	PN	Pn	19 42 01.6	-0.1
BKZ	**Black Stump Fm**	**2.05**	**181**	PN	Pn	19 42 02.6	-0.7
BKZ				AML	AML	19 42 35.5	
KNZ	**Kokohu**	**2.10**	**156**	PN	Pn	19 42 02.7	-0.9
WNVZ	**Wahianoa**	**2.33**	**199**	PN	Pn	19 42 05.9	-0.5
BHHZ	**Black Hill Sta**	**2.40**	**189**	PN	Pn	19 42 06.1	-0.8
KAHZ	**Kahuranaki**	**2.69**	**175**	PN	Pn	19 42 08.5	-1.4
MRZ	**Mangatainoka R**	**3.62**	**192**	SN	S	19 43 01.9	-4.4
CAW	**Cannon Point**	**4.15**	**196**	AML	AML	19 43 11.7	
TCW	**Tory Channel**	**4.46**	**203**	AML	AML	19 43 21.6	

*ISCJB **25** 19:43:22.3±0.3, 24.03S±0.04×67.12W±0.05, h181km, mb4.0/19, Error ellipse: s-maj=6.9km s-min=4.9km az=172.8*
*NEIC **25** 19:43:22.2±0.6, 24.02S×66.97W, h167km±5km, mb4.2/11, Error ellipse: s-maj=8.4km s-min=5.8km az=80.0*
*IDC **25** 19:43:22.6±1.0, 24.01S×66.92W, h171km±9km, mb3.8/11, mb1 4.0/16, mb1mx3.8/28, mbtmp4.3/16, Error ellipse: s-maj=13.8km s-min=11.6km az=48.0*
*SJA **25** 19:43:23.4±0.4, 24.07S×67.05W, h179km±9km, ML3.3, MW3.5*
*BJI **25** 19:43:27.2, 24.10S×67.30W, h187km, mB4.8/1*

ISC 25 19:43:23.7±0.4, 23.99S±0.06×67.07W±0.06, h181km, n60, σ1s27/64, mb4.1/19, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.60**	**117**	AML	AML	19 44 25.1	
	comp=Z,165nm,0.6s						
HJA	**Humahuaca**	**1.71**	**63**	*e*P	**Pn**	**19 43 59.2**	**+0.9**
HJA				*e*S	**Sn**	**19 44 25.4**	**+0.5**
AZAP	**Zapla**	**1.84**	**98**	*e*P	**Pn**	**19 43 59.8**	**+0.3**
LVC	**Limon Verde**	**2.18**	**309**	P	**Pn**	**19 44 03.2**	**+0.1**
	comp=Z,2μm,0.3s,baz=131,slow=6.8,SNR=481						
LVC				S	**Sn**	**19 44 34.2**	**+0.6**
	comp=Z,11μm,0.3s,baz=299,slow=19,SNR=88						
LVC	**Limon Verde**	**2.18**	**309**	P	**Pn**	**19 44 03.2**	**+0.1**
LVC				*e*Sn	**Sn**	**19 44 28.3**	**-5.4**
LVC	**Limon Verde**	**2.18**	**309**	*e*P	**Pn**	**19 44 04.2**	**+1.1**
YJA	**Yavi**	**2.30**	**39**	*e*P	**Pn**	**19 44 06.0**	**+1.3**
YJA				*e*S	**Sn**	**19 44 37.9**	**+1.4**
FSA	**Cafayete**	**2.31**	**156**	*e*P	**Pn**	**19 44 04.3**	**-0.1**
ASTB	**Santa Barbara**	**2.37**	**90**	*e*P	**Pn**	**19 44 05.7**	**+0.6**
AHML	**Horco Molle**	**3.20**	**151**	*e*P	**Pn**	**19 44 14.2**	**-0.6**
LCO	**Las Campanas**	**5.97**	**212**	*e*Pn	Pn	19 44 46.3	-4.3
	comp=Z,60nm,0.4s						
LCO				*e*Sn	Sn	19 45 41.7	-18
CFAA	**Coronel Fontan**	**7.66**	**188**	P	**Pn**	**19 45 10.1**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=30,slow=11,SNR=22						
CFAA				S	Sn	19 46 29.8	-8.9
	comp=Z,0.7nm,0.3s,baz=2.1,slow=19,SNR=11						
LPAZ	**La Paz**	**7.72**	**352**	P	**Pn**	**19 45 13.8**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=153,slow=5.9,SNR=12						
LPAZ				S	**Sn**	**19 46 40.2**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=240,slow=16,SNR=4.8						
CPUP	**Villa Florida**	**9.13**	**107**	P	**Pn**	**19 45 29.1**	**-2.8**
	comp=Z,0.3nm,0.3s,baz=280,slow=11,SNR=7.3						
SIV	**San Ignacio**	**9.75**	**36**	P	**Pn**	**19 45 37.9**	**-2.1**
	comp=Z,5.7nm,0.3s,baz=225,slow=13,SNR=95						
TRQA	**Tornquist**	**14.69**	**164**	*e*Pn	**Pn**	**19 46 42.9**	**+0.1**
	comp=Z,13nm,0.8s						
SAML	**Samuel**	**15.41**	**15**	*e*Pn	**Pn**	**19 46 50.8**	**-1.1**
	comp=Z,5.0nm,0.7s						
SAML				*e*S	S	19 49 35.2	-9.1
BDFB	**Brasilia**	**19.74**	**69**	P	**P**	**19 47 38.8**	**-1.1**
	comp=Z,1.8nm,0.3s,baz=240,slow=11,SNR=39						
PTGA	**Pitinga**	**24.12**	**18**	P	**P**	**19 48 22.7**	**-0.4**
	comp=Z,1.5nm,0.3s,baz=182,slow=17,SNR=5.4						
ROSC	**El Rosal**	**29.53**	**345**	P	**P**	**19 49 11.4**	**-0.4**
VNA1	**Neumayer--Stat**	**57.38**	**160**	P	**P**	**19 52 53.4**	**+0.7**
VNA2	**Neumayer--Watz**	**57.75**	**160**	P	**P**	**19 52 55.6**	**+0.3**
	baz=280,slow=8.2						
SNAA	**Sanae**	**59.38**	**161**	P	**P**	**19 53 06.2**	**-0.5**
SNAA	**Sanae**	**59.38**	**161**	*e*P	**P**	**19 53 06.2**	**-0.5**
	comp=Z,3.7nm,1.3s						
SWET	**Sewanee**	**61.53**	**342**	*e*P	**P**	**19 53 21.1**	**-0.5**
WVT	**Waverly**	**62.93**	**341**	*e*P	**P**	**19 53 30.1**	**-0.7**
MIAR	**Mount Ida**	**63.42**	**336**	*e*P	**P**	**19 53 33.7**	**-0.4**
TXAR	**Lajitas Array**	**63.63**	**324**	P	**P**	**19 53 36.3**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=152,slow=9.0,SNR=5.7						
WMOK	**Wichita Mounta**	**65.70**	**332**	P	**P**	**19 53 48.3**	**-0.6**
QSPA	**South Pole Qui**	**66.22**	**180**	*e*P	**P**	**19 53 52.1**	**+0.1**
	comp=Z,3.4nm,0.7s						
DBIC	**Dimbokro**	**67.86**	**72**	P	**P**	**19 54 02.1**	**-0.8**
	comp=Z,2.1nm,0.8s,baz=214,slow=7.3,SNR=4.0						
ANMO	**Albuquerque**	**69.50**	**326**	*e*P	**P**	**19 54 14.1**	**+1.2**
	comp=Z,2.6nm,0.9s						
SDCO	**Great Sand Dun**	**71.24**	**329**	*e*P	**P**	**19 54 24.5**	**+1.0**
	comp=Z,1.2nm,0.7s						
PV01	**Paradox Valley**	**73.05**	**327**	*e*P	**P**	**19 54 34.8**	**+0.6**
SBA	**Scott Base**	**73.70**	**190**	*e*P	**P**	**19 54 38.6**	**+1.4**
VNDA	**Vanda**	**74.70**	**190**	P	**P**	**19 54 43.1**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=106,slow=4.5,SNR=6.4						
MSU	**Marysvale**	**75.18**	**325**	*e*P	**P**	**19 54 48.1**	**+1.6**
	comp=Z,3.1nm,0.8s						
TOA0	**Torodi Ar. Sit**	**76.62**	**69**	*e*P	**P**	**19 54 53.7**	**-1.2**
TORD	**Torodi Ar. Bea**	**76.62**	**69**	P	**P**	**19 54 54.0**	**-0.8**
	comp=Z,1.6nm,0.5s,baz=254,slow=5.6,SNR=43						
PDAR	**Pinedale Array**	**77.10**	**329**	P	**P**	**19 54 58.2**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=125,slow=7.1,SNR=5.5						
HWUT	**Hardware Ranch**	**77.18**	**327**	*e*P	**P**	**19 54 58.3**	**+0.6**
ULM	**Lac du Bonnet**	**78.19**	**342**	P	**P**	**19 55 01.9**	**-0.9**
	comp=Z,3.5nm,0.6s,baz=172,slow=5.2,SNR=3.8						
NVAR	**Mina Array Bea**	**78.49**	**321**	P	**P**	**19 55 05.3**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=142,slow=7.5,SNR=4.5						
HLID	**Hailey**	**80.04**	**327**	*e*P	**P**	**19 55 15.2**	**+1.9**
	comp=Z,5.2nm,1.1s						
BOSA	**Boshof**	**80.80**	**117**	P	**P**	**19 55 17.1**	**-0.6**
	comp=Z,1.8nm,0.4s,baz=254,slow=4.4,SNR=8.6						
MAW	**Mawson**	**81.47**	**163**	P	**P**	**19 55 20.0**	**-0.3**
	comp=Z,4.6nm,0.8s,baz=215,slow=6.5,SNR=13						
LBTB	**Lobatse**	**82.45**	**114**	*e*P	**P**	**19 55 25.8**	**-0.6**
LSZ	**Lusaka**	**88.57**	**106**	P	**P**	**19 55 58.0**	**+1.3**
	comp=Z,3.9nm,1.0s						
CASY	**Casey**	**90.00**	**179**	*e*P	**P**	**19 56 03.3**	**+1.0**
	comp=Z,5.4nm,0.8s						
YKA	**Yellowknife Ar**	**94.09**	**340**	P	**P**	**19 56 21.1**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=130,slow=4.6,SNR=12						
ASAR	**Alice Springs**	**128.44**	**205**	PKP	**PKPdf**	**20 02 09.4**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=138,slow=1.9,SNR=16						
WRA	**Warramunga Arr**	**131.61**	**207**	PKP	**PKPdf**	**20 02 15.6**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=158,slow=1.8,SNR=20						
SEY	**Seymchan**	**133.04**	**337**	PKP	**PKPdf**	**20 02 17.6**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=342,slow=6.4,SNR=6.8						
ZALV	**Zalesovo Beam**	**143.41**	**28**	PKP	PKPbc	20 02 34.5	+0.5
	comp=Z,1.4nm,0.3s,baz=310,slow=3.4,SNR=7.3						
KSH	**Kashi**	**145.24**	**55**	PKPbc	**PKPab**	**20 02 40.5**	**0.0**
MK31	**Makanchi Array**	**146.55**	**39**	*e*PKPdf	**PKPdf**	**20 02 41.1**	**-0.8**
MK31				*e*PKPab	**PKPbc**	**20 02 44.0**	**+0.3**
MKAR	**Makanchi Array**	**146.55**	**39**	PKPbc	**PKPbc**	**20 02 42.7**	**-1.0**
	comp=Z,4.5nm,0.7s,baz=317,slow=2.7,SNR=26						
MJAR	**Matsushiro Arr**	**154.92**	**306**	PKPab	**PKPab**	**20 03 20.8**	**+0.7**
	comp=Z,1.7nm,1.0s,baz=98,slow=2.5,SNR=5.5						
SONM	**Songino Array**	**155.64**	**11**	PKPab	**PKPab**	**20 03 22.8**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=317,slow=5.0,SNR=4.1						
HHC	**Hu-ho-hao-te**	**163.15**	**4**	*e*PKP	**PKPdf**	**20 03 08.0**	**+3.3**
HHC				PKS	**PKSdf**	**20 06 40.0**	**+2.2**
HHC				PP	PP	20 07 47.5	+7.4
HHC				SS	SS	20 27 56.5	+7.1
HHC				PPMZ			
	comp=Z,44nm,5.2s						

*IDC **25** 19:53:45.0±16.0, 6.60N×122.84E, h301km±167km, mb3.2/5, mb1 3.3/5, mb1mx2.9/39, mbtmp3.8/5, MS2.7/2, Ms1 2.8/2, ms1mx2.4/14, Error ellipse: s-maj=201.5km s-min=27.4km az=60.0*

ISC 25 19:53:13.6±1.2, 9.0N±0.1×127.1E±0.1, h38km, n12, σ2s22/8, mb3.7/5, 2C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**2.39**	**258**	⇑*i*P	Pn	19 53 55.5	+5.3
CGP				*e*S	**Sn**	**19 54 19.4**	**+1.1**
PLP	**Palo**	**3.01**	**317**	⇓*e*P	**Pn**	**19 53 56.2**	**-2.5**
PLP				*e*S	Sn	19 54 19.8	-14
TBP	**Tagbilaran**	**3.24**	**283**	*e*P	**Pn**	**19 54 02.2**	**+0.2**
TBP				*e*S	Sn	19 54 29.9	-9.4
CTBH	**Cotabato--PC H**	**3.28**	**239**	⇓*i*P	Pn	19 54 13.0	+11
DCPH	**Dipolog City**	**3.69**	**265**	⇑*e*P	Pn	19 54 11.8	+3.8
DCPH				*e*S	**Sn**	**19 54 48.5**	**-1.8**
CMAR	**Chiang Mai Arr**	**28.87**	**292**	LR	LR	20 09 20.8	
	comp=Z,9.3nm,18.9s,baz=190,slow=36						
WRA	**Warramunga Arr**	**29.59**	**166**	P	**P**	**19 59 14.9**	**-0.3**
	0.3nm,0.4s,baz=334,slow=10,SNR=4.5						
ASAR	**Alice Springs**	**33.10**	**168**	P	**P**	**19 59 43.8**	**-2.3**
	0.3nm,0.3s,baz=339,slow=7.3,SNR=13						
SONM	**Songino Array**	**42.52**	**339**	LR	LR	20 21 55.7	
	comp=Z,15nm,18.4s,baz=138,slow=39						
MKAR	**Makanchi Array**	**53.54**

KHAL				*i* S		**Sn**	**20 25 48.3**	**+1.6**	
NPS	**Neapolis**	**3.59**	**276**	*e*PN		**Pn**	**20 25 10.2**	**+2.5**	
NPS				*e*SN		**Sn**	**20 25 49.9**	**-0.3**	
NPS	**Neapolis**	**3.59**	**276**	*e*Pn		**Pn**	**20 25 10.2**	**+2.5**	
NPS				*e*Sn		**Sn**	**20 25 49.9**	**-0.3**	
LAST	**Lasithi**	**3.69**	**275**	*e*PN		**Pn**	**20 25 11.6**	**+2.4**	
LAST				*e*SN		**Sn**	**20 25 52.9**	**0.0**	
LAST	**Lasithi**	**3.69**	**275**	*e*Pn		**Pn**	**20 25 11.6**	**+2.4**	
LAST				*e*Sn		**Sn**	**20 25 52.9**	**0.0**	
SMG	**Samos**	**3.75**	**318**	*e*PB		Pn	20 25 13.8	+4.0	
SMG				*e*SN		**Sn**	**20 25 55.5**	**+1.4**	
SMG	**Samos**	**3.75**	**318**	*e*Pb		Pn	20 25 13.8	+4.0	
SMG				*e*Sn		**Sn**	**20 25 55.5**	**+1.4**	
KDHN	**Kadinhani**	**3.96**	**25**	*i* P		Pn	20 25 16.7	+3.8	
KDHN				*i* S		**Sn**	**20 26 02.4**	**+2.8**	
KDHN	**Kadinhani**	**3.96**	**25**	*i* P		Pn	20 25 16.7	+3.8	
APE	**Apeiranthos**	**4.18**	**302**	*e*PN		**Pn**	**20 25 18.3**	**+2.5**	
APE				*e*SN		**Sn**	**20 26 04.4**	**-0.4**	
APE	**Apeiranthos**	**4.18**	**302**	*e*Pn		**Pn**	**20 25 18.3**	**+2.5**	
APE				*e*Sn		**Sn**	**20 26 04.4**	**-0.4**	
IDI	**Anoyia**	**4.18**	**276**	*e*PN		**Pn**	**20 25 18.0**	**+2.1**	
IDI				*e*SN		**Sn**	**20 26 04.1**	**-0.8**	
IDI	**Anoyia**	**4.18**	**276**	*e*Pn		**Pn**	**20 25 18.0**	**+2.1**	
IDI				*e*Sn		**Sn**	**20 26 04.1**	**-0.8**	
VAM	**Vamos**	**4.75**	**277**	*e*PN		**Pn**	**20 25 26.1**	**+2.5**	
VAM	**Vamos**	**4.75**	**277**	*e*Pn		**Pn**	**20 25 26.1**	**+2.5**	
KYTH	**Kithira**	**5.81**	**285**	*e*PN		**Pn**	**20 25 39.6**	**+1.4**	
KYTH	**Kithira**	**5.81**	**285**	*e*Pn		**Pn**	**20 25 39.6**	**+1.4**	
VLI	**Veliai**	**5.99**	**289**	*e*PN		**Pn**	**20 25 42.3**	**+1.7**	
VLI	**Veliai**	**5.99**	**289**	*e*Pn		**Pn**	**20 25 42.3**	**+1.7**	
DIDY	**Didyma**	**6.02**	**297**	*e*PN		Pn	20 25 44.2	+3.0	
DIDY	**Didyma**	**6.02**	**297**	*e*Pn		Pn	20 25 44.2	+3.0	
GUR	**Goura**	**6.84**	**298**	*e*PN		Pn	20 25 55.5	+3.1	
GUR	**Goura**	**6.84**	**298**	*e*Pn		Pn	20 25 55.5	+3.1	

IDC ***25*** *20:24:37.0±0.8, 36°.11N×7°.71W, h0km, mb3.9/18, mb1 4.0/23, mb1mx3.9/42, mbtmp3.9/23, ML3.8/3, MS2.7/1, Ms1 2.8/1, ms1mx2.1/34, Error ellipse: s-maj=18.5km s-min=16.7km az=145.0*

NEIC ***25*** *20:24:38.7±0.4, 36°.20N×7°.71W, h10km, mb4.1/7, Error ellipse: s-maj=6.3km s-min=4.1km az=96.0*

CSEM ***25*** *20:24:39.7±0.1, 36°.17N×7°.73W, h20km, mb4.2/6, Error ellipse: s-maj=3.3km s-min=2.2km az=69.0*

IGIL ***25*** *20:24:41.2, 36°.25N×7°.72W, h5km, ML3.6*

LDG ***25*** *20:24:41.9±0.2, 36°.15N×7°.77W, h30km, Ml4.3/27, Error ellipse: s-maj=3.4km s-min=2.3km az=36.0*

MDD ***25*** *20:24:41.1±0.8, 36°.15N×7°.76W, h28km±9km, mbLg3.9/78, Error ellipse: s-maj=5.2km s-min=2.9km az=60.0, PRXIMO*

SFS ***25*** *20:24:41.0, 36°.20N×7°.71W, h0km, ML3.9*

INMG ***25*** *20:24:41.4±1.6, 36°.24N×7°.72W, h10km, ML3.9, Error ellipse: s-maj=5.1km s-min=2.3km az=46.0*

CNRM ***25*** *20:24:42.2, 36°.02N×7°.82W, h30km, MD3.7*

STR ***25*** *20:24:56.3±0.3, 37°.06N×6°.67W, h10km, Ml4.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 25 20:24:39.4±0.8**, 36°.19N**±0°.03×**7°.65W**±0°.03**, h16**km±5km**, n476**, σ1°.**63**/638**, mb3.9**/24**, 31C-27D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**1.07**	**348**	*e*P		**Pn**	**20 24 59.7**	**-0.1**
PBDV				*e*S		**Sb**	**20 25 13.1**	**-0.3**
PBDV				A		A	20 25 16.8	
	2µm,0.3s							
PBDV	**Barranco-do-Ve**	**1.07**	**348**	⇓P		**Pn**	**20 24 59.7**	**-0.1**
PBDV				S		**Sb**	**20 25 13.1**	**-0.3**
	2µm,0.3s							
PBDV	**Barranco-do-Ve**	**1.07**	**348**	P		**Pn**	**20 24 59.7**	**-0.1**
PBDV				S		**Sb**	**20 25 13.1**	**-0.3**
	2µm,0.3s							
SFS	**San Fernando**	**1.20**	**76**	*e*P		**Pg**	**20 25 03.3**	**+0.7**
PVAQ	**Vaqueiros**	**1.21**	**358**	*i* P		**Pb**	**20 25 01.8**	**-0.2**
PVAQ				*e*S		**Sn**	**20 25 17.4**	**-0.3**
PVAQ				A		A	20 25 25.3	
	2µm,0.4s							
PVAQ	**Vaqueiros**	**1.21**	**358**	⇓P		**Pb**	**20 25 01.8**	**-0.2**
PVAQ				S		**Sn**	**20 25 17.4**	**-0.3**
	2µm,0.4s							
PVAQ	**Vaqueiros**	**1.21**	**358**	P		**Pb**	**20 25 01.8**	**-0.2**
PVAQ				S		**Sn**	**20 25 17.4**	**-0.3**
	2µm,0.4s							
CNIL	**Conil**	**1.30**	**82**	*e*P		**Pg**	**20 25 04.7**	**+0.1**
EGRO	**El Granado**	**1.35**	**6**	⇓P		**Pb**	**20 25 04.0**	**-0.3**
	46nm,0.3s,SNR=18							
EGRO				S		**Sn**	**20 25 20.0**	**-1.1**
	1µm,0.2s,SNR=27							
EGRO	**El Granado**	**1.35**	**6**	P		**Pb**	**20 25 04.0**	**-0.3**
	46nm,0.3s,SNR=18							
EGRO				S		**Sn**	**20 25 20.0**	**-1.1**
	1µm,0.2s,SNR=27							
MORF	**Marmelete**	**1.37**	**325**	*e*P		**Pn**	**20 25 03.2**	**-0.8**
MORF				*e*S		**Sn**	**20 25 20.9**	**-0.8**
MORF				AML		AML	20 25 21.4	
	comp=N,907nm,0.4s							
MORF	**Marmelete**	**1.37**	**325**	*e*P		**Pn**	**20 25 03.3**	**-0.6**
MORF				*e*S		**Sn**	**20 25 21.1**	**-0.7**
MORF				A		A	20 25 23.9	
	comp=N,2µm,0.4s							
MORF	**Marmelete**	**1.37**	**325**	P		**Pn**	**20 25 03.3**	**-0.6**
MORF				S		**Sn**	**20 25 21.1**	**-0.7**
	comp=N,2µm,0.4s							
MORF	**Marmelete**	**1.37**	**325**	P		**Pn**	**20 25 03.3**	**-0.6**
MORF				S		**Sn**	**20 25 21.1**	**-0.7**
	comp=N,2µm,0.4s							
PCVE	**Castro Verde**	**1.47**	**348**	*e*P		**Pn**	**20 25 05.5**	**+0.2**
PCVE				*e*S		**Sn**	**20 25 23.1**	**-1.1**
PCVE				A		A	20 25 32.4	
	comp=N,141nm,0.7s							
PCVE	**Castro Verde**	**1.47**	**348**	⇓P		**Pn**	**20 25 05.5**	**+0.2**
PCVE				S		**Sn**	**20 25 23.1**	**-1.1**
	comp=N,141nm,0.7s							
PCVE	**Castro Verde**	**1.47**	**348**	P		**Pn**	**20 25 05.5**	**+0.2**
PCVE				S		**Sn**	**20 25 23.1**	**-1.1**
	comp=N,141nm,0.7s							
GIBL	**Gibalbin**	**1.50**	**64**	*e*P		**Pb**	**20 25 07.0**	**+0.1**
GIBL				*e*S		**Sn**	**20 25 23.0**	**-1.9**
MOMI	**Momias**	**1.57**	**84**	*e*P		**Pb**	**20 25 08.3**	**+0.2**
MOMI				*e*S		**Sb**	**20 25 27.5**	**-0.2**
TSY	**Tnine Yamani**	**1.59**	**120**	P		**Pb**	**20 25 08.0**	**-0.5**
TSY				S		**Sn**	**20 25 28.0**	**+0.8**
TSY	**Tnine Yamani**	**1.59**	**120**	P		**Pb**	**20 25 08.0**	**-0.5**
TSY				S		**Sn**	**20 25 28.0**	**+0.8**
ESPR	**Espera**	**1.60**	**64**	⇓P		**Pb**	**20 25 08.1**	**-0.4**
	comp=N,573nm,0.3s,SNR=18							
ESPR				S		**Sn**	**20 25 27.5**	**+0.2**
	comp=N,2µm,0.3s,SNR=16							
ESPR	**Espera**	**1.60**	**64**	P		**Pb**	**20 25 08.1**	**-0.4**
	comp=N,573nm,0.3s,SNR=18							
ESPR				S		**Sn**	**20 25 27.5**	**+0.2**
	comp=N,2µm,0.3s,SNR=16							
PTEO	**Sao Teotonio**	**1.60**	**328**	*e*Pn		**Pn**	**20 25 06.7**	**-0.3**
PTEO				*e*Sg		**Sb**	**20 25 29.3**	**+0.7**
PTEO				A		A	20 25 31.6	
	comp=N,536nm,0.4s							
PTEO	**Sao Teotonio**	**1.60**	**328**	P		**Pn**	**20 25 06.7**	**-0.3**
PTEO				S		**Sb**	**20 25 29.3**	**+0.7**
	comp=N,268nm,0.4s							
PTEO	**Sao Teotonio**	**1.60**	**328**	P		**Pn**	**20 25 06.7**	**-0.3**
MESJ	**Messejana**	**1.71**	**345**	*e*P		**Pn**	**20 25 08.5**	**+0.1**
MESJ				*e*S		**Sn**	**20 25 28.8**	**-1.2**
MESJ				AML		AML	20 25 29.4	
	comp=N,617nm,0.7s							
MESJ	**Messejana**	**1.71**	**345**	*e*Pn		**Pn**	**20 25 08.6**	**+0.1**
MESJ				*e*Sn		**Sn**	**20 25 29.2**	**-0.8**
MESJ				*e*Sg		**Sg**	**20 25 34.7**	**+0.3**
MESJ				A		A	20 25 40.9	
	comp=N,949nm,0.5s							
MESJ	**Messejana**	**1.71**	**345**	P		**Pn**	**20 25 08.6**	**+0.1**
MESJ				S		**Sn**	**20 25 29.2**	**-0.8**
MESJ	**Messejana**	**1.71**	**345**	P		**Pn**	**20 25 08.6**	**+0.1**
MESJ				S		**Sn**	**20 25 29.2**	**-0.8**
EMIN	**Mina Concepcio**	**1.76**	**26**	⇓P		**Pn**	**20 25 09.7**	**+0.5**
	comp=N,9.9nm,0.2s,SNR=18							
EMIN				S		**Sn**	**20 25 30.1**	**-1.1**
	comp=N,374nm,0.2s,SNR=11							
EMIN	**Mina Concepcio**	**1.76**	**26**	P		**Pn**	**20 25 09.7**	**+0.5**
	comp=N,9.9nm,0.2s,SNR=18							
EMIN				S		**Sn**	**20 25 30.1**	**-1.1**
	comp=N,374nm,0.2s,SNR=11							
ECEU	**Ceuta**	**1.87**	**98**	⇑P		**Pb**	**20 25 12.6**	**-0.6**
	comp=N,38nm,0.2s,SNR=18							
ECEU				S		**Sb**	**20 25 35.5**	**-0.8**
	comp=N,67nm,0.3s,SNR=4.8							
ECEU	**Ceuta**	**1.87**	**98**	P		**Pb**	**20 25 12.6**	**-0.6**
	comp=N,38nm,0.2s,SNR=18							
ECEU				S		**Sb**	**20 25 35.5**	**-0.8**
	comp=N,67nm,0.3s,SNR=4.8							
CEU	**Ceuta**	**1.87**	**98**	P		**Pb**	**20 25 13.3**	**+0.1**
CEU				S		**Sg**	**20 25 38.2**	**-1.5**
CEU	**Ceuta**	**1.87**	**98**	P		**Pb**	**20 25 13.3**	**+0.1**
LIJA	**Lijar**	**1.95**	**68**	*i* P		**Pn**	**20 25 13.2**	**+1.3**
DKH	**Dar Kharkhour**	**1.99**	**110**	P		**Pn**	**20 25 14.0**	**+1.5**
DKH				S		**Sn**	**20 25 37.0**	**-0.2**
DKH	**Dar Kharkhour**	**1.99**	**110**	P		**Pn**	**20 25 14.0**	**+1.5**
DKH				S		**Sn**	**20 25 37.0**	**-0.2**
REAL	**Reales**	**2.00**	**81**	*e*P		**Pb**	**20 25 14.3**	**-1.2**
PBAR	**Barrancos**	**2.04**	**14**	*e*Pn		**Pn**	**20 25 13.5**	**+0.4**
PBAR				*e*Sn		**Sn**	**20 25 38.1**	**-0.1**
PBAR				A		A	20 25 39.7	
	comp=N,971nm,0.6s							
PBAR	**Barrancos**	**2.04**	**14**	⇓P		**Pn**	**20 25 13.5**	**+0.4**
PBAR				S		**Sn**	**20 25 38.1**	**-0.1**
	comp=N,971nm,0.6s							
PBAR	**Barrancos**	**2.04**	**14**	P		**Pn**	**20 25 13.5**	**+0.4**
PBAR				S		**Sn**	**20 25 38.1**	**-0.1**
	comp=N,971nm,0.6s							
PNCL	**Nicolau / Gran**	**2.04**	**340**	*e*Pn		**Pn**	**20 25 12.9**	**-0.2**
PNCL				*e*Sn		**Sn**	**20 25 38.1**	**-0.1**
PNCL				*e*Sg		**Sg**	**20 25 43.7**	**-1.4**
PNCL				A		A	20 25 45.0	
	comp=N,573nm,0.2s							
RTC	**Rabat Centre**	**2.29**	**163**	P		**Pn**	**20 25 15.0**	**-1.6**
RTC				S		**Sn**	**20 25 39.5**	**-5.0**
RTC	**Rabat Centre**	**2.29**	**163**	P		**Pn**	**20 25 15.0**	**-1.6**
RTC				*i* S		**Sn**	**20 25 39.5**	**-5.0**
EVO	**Evora**	**2.35**	**353**	*e*Pn		**Pn**	**20 25 17.6**	**+0.2**
EVO				*e*Sn		**Sn**	**20 25 44.3**	**-1.6**
	comp=N,876nm,0.2s							
EMIJ	**Mijas**	**2.35**	**80**	⇑P		**Pn**	**20 25 18.2**	**+0.7**
	comp=N,56nm,0.4s,SNR=18							
EMIJ				S		**Sn**	**20 25 45.1**	**-1.0**
	comp=N,82nm,0.2s,SNR=11							
EMIJ	**Mijas**	**2.35**	**80**	P		**Pn**	**20 25 18.2**	**+0.7**
	comp=N,56nm,0.4s,SNR=18							
EMIJ				S		**Sn**	**20 25 45.1**	**-1.0**
	comp=N,82nm,0.2s,SNR=11							
EVOP	**Sao Brissos**	**2.36**	**351**	*e*Pn		**Pn**	**20 25 17.6**	**+0.1**
EVOP				*e*Sn		**Sn**	**20 25 44.3**	**-1.8**
	comp=N,438nm,0.2s							
EVOP	**Sao Brissos**	**2.36**	**351**	*e*Pn		**Pn**	**20 25 17.6**	**+0.1**
EVOP				*e*Sn		**Sn**	**20 25 44.3**	**-1.8**
ECAB	**El Cabril**	**2.59**	**43**	⇓P		**Pn**	**20 25 21.2**	**+0.5**
	comp=N,26nm,0.2s,SNR=18							
ECAB				S		**Sn**	**20 25 50.4**	**-1.5**
	comp=N,46nm,0.1s,SNR=15							
ECAB	**El Cabril**	**2.59**	**43**	P		**Pn**	**20 25 21.2**	**+0.5**
	comp=N,26nm,0.2s,SNR=18							
ECAB				S		**Sn**	**20 25 50.4**	**-1.5**
	comp=N,46nm,0.1s,SNR=15							
EBAD	**Badajoz**	**2.61**	**11**	⇓P		**Pn**	**20 25 21.1**	**+0.2**
	comp=N,1.8nm,0.1s,SNR=18							
EBAD				S		**Sn**	**20 25 50.8**	**-1.5**
	comp=N,512nm,0.2s,SNR=8.6							
EBAD	**Badajoz**	**2.61**	**11**	P		**Pn**	**20 25 21.1**	**+0.2**
	comp=N,1.8nm,0.1s,SNR=18							
EBAD				S		**Sn**	**20 25 50.8**	**-1.5**
	comp=N,512nm,0.2s,SNR=8.6							
EMAL	**Malaga-Limoner**	**2.66**	**77**	*e*P		**Pn**	**20 25 22.0**	**+0.4**
EMAL				*e*S		**Sn**	**20 25 53.9**	**+0.4**
PESTR	**Estremoz**	**2.67**	**1**	*e*Pn		**Pn**	**20 25 21.8**	**0.0**
PESTR				*e*Sn		**Sn**	**20 25 52.6**	**-1.2**
PESTR				*e*Sg		**Sg**	**20 26 04.5**	**-0.8**
PESTR				A		A	20 26 14.4	
	comp=N,342nm,0.4s							
PACT	**Alcochete**	**2.74**	**340**	*e*Pn		**Pn**	**20 25 21.5**	**-1.2**
PACT				A		A	20 25 53.8	
	comp=N,432nm,0.6s							
PACT				*e*Sn		**Sn**	**20 25 54.1**	**-1.3**
LIS	**Lisbon**	**2.79**	**335**	*e*P		**Pn**	**20 25 24.4**	**+1.0**
LIS	**Lisbon**	**2.79**	**335**	*e*Pn		**Pn**	**20 25 24.6**	**+1.3**
LIS				*e*Sn		**Sn**	**20 25 56.4**	**-0.2**
LIS				*e*Sg		**Sg**	**20 26 09.7**	**+0.7**
LIS				A		A	20 26 19.4	
	comp=N,441nm,0.4s							
LIS	**Lisbon**	**2.79**	**335**	P		**Pn**	**20 25 24.6**	**+1.3**
LIS				S		**Sn**	**20 25 56.4**	**-0.2**
PMST	**Lisbon--Monsan**	**2.82**	**335**	*e*Pn		**Pn**	**20 25 23.9**	**+0.1**
PMST				*e*Sn		**Sn**	**20 25 57.4**	**0.0**
PMST				*e*Sg		**Sg**	**20 26 08.4**	**-1.5**
PMST				A		A	20 26 14.2	
	comp=N,317nm,0.4s							
PMTG	**Montargil**	**2.91**	**351**	*e*Pn		**Pn**	**20 25 25.1**	**+0.1**
PMTG				*e*Sn		**Sn**	**20 25 58.2**	**-1.4**
PMTG				*e*Sg		**Sg**	**20 26 12.2**	**-0.7**
PMTG				A		A	20 26 20.3	
	comp=N,372nm,0.5s							
PVLZ	**Peæn de**	**2.91**	**109**	*e*P		**Pn**	**20 25 25.3**	**+0.2**
PVLZ				*e*S		**Sn**	**20 25 59.8**	**+0.1**
TGT	**Taghat**	**3.00**	**134**	P		**Pn**	**20 25 27.0**	**+0.6**
TGT				S		**Sn**	**20 26 00.0**	**-2.1**
TGT	**Taghat**	**3.00**	**134**	P		**Pn**	**20 25 27.0**	**+0.6**
TGT				S		**Sn**	**20 26 00.0**	**-2.1**
PMAFR	**Mafra**	**3.05**	**335**	*e*Pn		**Pn**	**20 25 27.0**	**+0.1**
PMAFR				*e*Sn		**Sn**	**20 26 01.0**	**-2.1**
PMAFR				A		A	20 26 20.8	
	comp=N,372nm,0.3s							
PMAFR	**Mafra**	**3.05**	**335**	⇑P		**Pn**	**20 25 27.1**	**+0.1**
	comp=N,92nm,0.3s,SNR=18							
PMAFR				S		**Sn**	**20 26 00.9**	**-2.1**
	comp=N,562nm,0.2s,SNR=12							
PMAFR	**Mafra**	**3.05**	**335**	P		**Pn**	**20 25 27.1**	**+0.1**
	comp=N,92nm,0.3s,SNR=18							
PMAFR				S		**Sn**	**20 26 00.9**	**-2.1**
	comp=N,562nm,0.2s,SNR=12							
EADA	**Adamuz**	**3.15**	**50**	⇑P		**Pn**	**20 25 29.6**	**+1.2**
	comp=N,59nm,0.2s,SNR=18							
EADA				S		**Sn**	**20 26 04.9**	**-0.8**
	comp=N,5.5nm,0.3s,SNR=8.7							
EADA	**Adamuz**	**3.15**	**50**	P		**Pn**	**20 25 29.6**	**+1.2**
	comp=N,59nm,0.2s,SNR=18							
EADA				S		**Sn**	**20 26 04.9**	**-0.8**
	comp=N,5.5nm,0.3s,SNR=8.7							
PMRV	**Marv??o**	**3.24**	**4**	*e*Pn		**Pn**	**20 25 29.8**	**+0.2**
PMRV				*e*Sn		**Sn**	**20 26 06.6**	**-1.2**
PMRV				*e*Sg		**Sg**	**20 26 21.1**	**-2.3**
PMRV				A		A	20 26 27.9	
	comp=N,442nm,0.5s							
PMRV	**Marv??o**	**3.24**	**4**	⇓P		**Pn**	**20 25 29.8**	**+0.2**
PMRV				S		**Sn**	**20 26 06.6**	**-1.2**
PMRV	**Marv??o**	**3.24**	**4**	P		**Pn**	**20 25 29.8**	**+0.2**
PMRV				S		**Sn**	**20 26 06.6**	**-1.2**
SELV	**Sierra Elvira**	**3.32**	**71**	⇑P		**Pn**	**20 25 32.5**	**+1.7**
	comp=N,17nm,0.2s,SNR=18							
SELV				S		**Sn**	**20 26 10.0**	**+0.1**
	comp=N,59nm,0.2s,SNR=7.9							
SELV	**Sierra Elvira**	**3.32**	**71**	P		**Pn**	**20 25 32.5**	**+1.7**
	comp=N,17nm,0.2s,SNR=18							
SELV				S		**Sn**	**20 26 10.0**	**+0.1**
	comp=N,59nm,0.2s,SNR=7.9							
MIF	**Mishlifen**	**3.42**	**144**	P		**Pn**	**20 25 32.0**	**-0.3**
MIF				S		**Sn**	**20 26 10.0**	**-2.6**
MIF	**Mishlifen**	**3.42**	**144**	P		**Pn**	**20 25 32.0**	**-0.3**
MIF				S		**Sn**	**20 26 10.0**	**-2.6**
PTOM	**Tomar**	**3.47**	**350**	*e*Pn		**Pn**	**20 25 33.1**	**+0.3**
PTOM				*e*Sn		**Sn**	**20 26 11.4**	**-2.1**
PTOM				*e*Sg		**Sg**	**20 26 29.1**	**-1.8**
PTOM				A		A	20 26 35.8	
	comp=N,327nm,0.3s							
PTOM	**Tomar**	**3.47**	**350**	P		**Pn**	**20 25 33.1**	**+0.3**
PTOM				S		**Sn**	**20 26 11.4**	**-2.1**
PTOM	**Tomar**	**3.47**	**350**	P		**Pn**	**20 25 33.1**	**+0.3**
PTOM				S		**Sn**	**20 26 11.4**	**-2.1**
EQUE	**Quentar**	**3.53**	**72**	⇑P		**Pn**	**20 25 35.6**	**+1.8**
	comp=N,72nm,0.4s,SNR=18							
EQUE				S		**Sn**	**20 26 14.9**	**-0.4**
	comp=N,69nm,0.2s,SNR=7.6							
EQUE	**Quentar**	**3.53**	**72**	P		**Pn**	**20 25 35.6**	**+1.8**
	comp=N,72nm,0.4s,SNR=18							
EQUE				S		**Sn**	**20 26 14.9**	**-0.4**
	comp=N,69nm,0.2s,SNR=7.6							
TZK	**Tazeka**	**3.53**	**125**	P		**Pn**	**20 25 32.5**	**-1.3**
TZK				S		**Sn**	**20 26 12.0**	**-3.4**
TZK	**Tazeka**	**3.53**	**125**	P		**Pn**	**20 25 32.5**	**-1.3**
TZK				*i* S		**Sn**	**20 26 12.0**	**-3.4**
PCBR	**Castelo Branco**	**3.65**	**2**	*e*Pn		**Pn**	**20 25 35.4**	**+0.3**
PCBR				*e*Sn		**Sn**	**20 26 15.8**	**-2.0**
PCBR				*e*Sg		**Sg**	**20 26 35.3**	**-1.2**
PCBR				A		A	20 26 45.3	
	comp=N,138nm,0.3s							
PCBR	**Castelo Branco**	**3.65**	**2**	⇓P		**Pn**	**20 25 35.4**	**+0.3**
PCBR				S		**Sn**	**20 26 15.8**	**-2.0**
PCBR	**Castelo Branco**	**3.65**	**2**	P		**Pn**	**20 25 35.4**	**+0.3**
PCBR				S		**Sn**	**20 26 15.8**	**-2.0**
CZD	**Col de Zad**	**3.82**	**145**	P		**Pn**	**20 25 38.0**	**+0.2**
CZD				S		**Sn**	**20 26 20.0**	**-2.5**
CZD	**Col de Zad**	**3.82**	**145**	P		**Pn**	**20 25 38.0**	**+0.2**
CZD				S		**Sn**	**20 26 20.0**	**-2.5**
KIB	**El Ksiba**	**3.85**	**159**	P		**Pn**	**20 25 37.0**	**-1.0**
KIB				S		Sn	20 26 17.0	-5.9
KIB	**El Ksiba**	**3.85**	**159**	P		**Pn**	**20 25 37.0**	**-1.0**
EBER	**Berja**	**3.90**	**78**	P		**Pn**	**20 25 39.3**	**+0.4**
	comp=N,24nm,0.3s,SNR=83							
EBER				S		**Sn**	**20 26 23.6**	**-0.8**
	comp=N,141nm,0.7s,SNR=6.9							
EBER	**Berja**	**3.90**	**78**	P		**Pn**	**20 25 39.3**	**+0.4**
	comp=N,24nm,0.3s,SNR=83							
EBER				S		**Sn**	**20 26 23.6**	**-0.8**
	comp=N,141nm,0.7s,SNR=6.9							
PCAS	**Casmilo, Conde**	**3.91**	**350**	*e*Pn		**Pn**	**20 25 39.1**	**+0.3**
PCAS				*e*Sn		**Sn**	**20 26 21.7**	**-2.7**
PCAS				*e*Sg		**Sg**	**20 26 44.0**	**-1.0**
PCAS				A		A	20 26 55.3	
	comp=N,243nm,0.5s							
GORA	**Gorafe**	**3.92**	**69**	P		**Pn**	**20 25 40.9**	**+1.9**
	comp=N,55nm,0.1s,SNR=7.9							
GORA				S		**Sn**	**20 26 24.1**	**-0.6**
	comp=N,79nm,0.3s,SNR=7.9							
GORA	**Gorafe**	**3.92**	**69**	P		**Pn**	**20 25 40.9**	**+1.9**
	comp=N,55nm,0.1s,SNR=7.9							
GORA				S		**Sn**	**20 26 24.1**	**-0.6**
	comp=N,79nm,0.3s,SNR=7.9							
EMEL	**Melilla**	**3.92**	**102**	P		**Pn**	**20 25 39.4**	**+0.5**
	comp=N,98nm,0.1s,SNR=7.9							
EMEL				S		**Sn**	**20 26 22.4**	**-2.3**
	comp=N,74nm,0.1s,SNR=7.9							
EMLI	**Melilla**	**3.93**	**102**	P		**Pn**	**20 25 39.4**	**+0.4**
	comp=N,98nm,0.1s,SNR=7.9							
MELI	**Melilla**	**3.94**	**102**	P		**Pn**	**20 25 40.0**	**+0.8**
	comp=N,31nm,0.1s,SNR=7.9							
MELI				S		**Sn**	**20 26 22.1**	**-3.0**
	comp=N,14nm,0.4s,SNR=7.9							
MELI	**Melilla**	**3.94**	**102**	P		**Pn**	**20 25 40.0**	**+0.8**
	comp=N,31nm,0.1s,SNR=7.9							
EQES	**Quesada**	**4.00**	**65**	⇑P		**Pn**	**20 25 41.1**	**+0.9**
	comp=N,67nm,0.2s,SNR=18							
EQES				S		**Sn**	**20 26 25.6**	**-1.3**
	comp=N,37nm,0.2s,SNR=6.3							
EQES	**Quesada**	**4.00**	**65**	P		**Pn**	**20 25 41.1**	**+0.9**
	comp=N,67nm,0.2s,SNR=18							
EQES				S		**Sn**	**20 26 25.6**	**-1.3**
	comp=N,37nm,0.2s,SNR=6.3							
EPLA	**Plasencia**	**4.06**	**17**	P		**Pn**	**20 25 41.1**	**+0.2**
	comp=N,48nm,0.3s,SNR=144							
EPLA				S		**Sn**	**20 26 25.9**	**-2.2**
	comp=N,174nm,0.2s,SNR=11							
EPLA	**Plasencia**	**4.06**	**17**	P		**Pn**	**20 25 41.1**	**+0.2**
	comp=N,48nm,0.3s,SNR=144							
TZC	**Tazercounte**	**4.15**	**166**	P		**Pn**	**20 25 40.5**	**-1.8**
TZC				S		Sn	20 26 24.0	-6.5
TZC	**Tazercounte**	**4.15**	**166**	P		**Pn**	**20 25 40.5**	**-1.8**
MDT	**Midelt**	**4.20**	**142**	Pn		**Pn**	**20 25 42.0**	**-0.9**
	comp=N,14nm,0.3s,baz=348,slow=13,SNR=748							
MDT				S		**Sn**	**20 26

POLO eSn Sn 20 26 52.2 -3.5
POLO A A 20 27 29.2
comp=N,37nm,0.4s
GUD Guadarrama 5.22 31 ⇑P Pn 20 25 58.1 +1.1
comp=N,12nm,0.2s,SNR=18
GUD S Sn 20 26 53.8 -3.1
comp=N,74nm,0.3s,SNR=11
GUD Guadarrama 5.22 31 P Pn 20 25 58.1 +1.1
comp=N,12nm,0.2s,SNR=18
EMUR La Murta 5.39 70 P Pn 20 25 59.7 +0.5
comp=N,29nm,0.3s,SNR=89
EMUR S Sn 20 26 58.6 -2.3
comp=N,134nm,0.5s
EMUR La Murta 5.39 70 P Pn 20 25 59.7 +0.5
comp=N,29nm,0.3s,SNR=89
ETOB Tobarra 5.44 61 ⇑P Pn 20 26 00.2 +0.3
comp=N,136nm,0.4s,SNR=18
ETOB S Sn 20 26 59.2 -3.0
comp=N,61nm,0.2s
ETOB Tobarra 5.44 61 P Pn 20 26 00.2 +0.3
comp=N,136nm,0.4s,SNR=18
PBRG Braganca 5.65 7 ePn Pn 20 26 02.9 +0.2
PBRG eSn Sn 20 27 03.7 -3.6
PBRG A A 20 27 50.3
comp=N,58nm,0.5s
PBRG Braganca 5.65 7 P Pn 20 26 02.9 +0.2
PBRG S Sn 20 27 03.7 -3.6
comp=N,29nm,0.5s
PBRG Braganca 5.65 7 P Pn 20 26 02.9 +0.2
ELOB Lobios 5.68 357 P Pn 20 26 03.2 0.0
comp=N,16nm,0.3s,SNR=82
ELOB S Sn 20 27 02.8 -5.2
comp=N,69nm,0.3s
ELOB Lobios 5.68 357 P Pn 20 26 03.2 0.0
comp=N,16nm,0.3s,SNR=82
ECAL Calabor 5.79 7 P Pn 20 26 04.7 +0.1
comp=N,28nm,0.4s,SNR=51
ECAL S Sn 20 27 06.8 -3.9
comp=N,313nm,0.4s
ECAL Calabor 5.79 7 P Pn 20 26 04.7 +0.1
comp=N,28nm,0.4s,SNR=51
PGAV Gavieira, Arco 5.79 355 ePn Pn 20 26 04.9 +0.2
PGAV eSn Sn 20 27 06.2 -4.5
PGAV A A 20 27 49.4
comp=N,74nm,0.5s
AFS Agadir Fac de 5.96 196 P Pn 20 26 06.0 -1.0
AFS S Sn 20 27 07.0 -7.9
AFS Agadir Fac de 5.96 196 P Pn 20 26 06.0 -1.0
ETOR Torete 6.37 42 P Pn 20 26 13.9 +1.2
comp=N,139nm,0.3s,SNR=399
ETOR S Sn 20 27 21.6 -3.6
comp=N,348nm,0.2s
ETOR Torete 6.37 42 P Pn 20 26 13.9 +1.2
comp=N,139nm,0.3s,SNR=399
EBEN Beniarda 6.42 65 ⇓P Pn 20 26 13.5 +0.2
comp=N,13nm,0.3s,SNR=18
EBEN S Sn 20 27 22.2 -4.1
comp=N,42nm,0.5s,SNR=7.9
EBEN Beniarda 6.42 65 P Pn 20 26 13.5 +0.2
comp=N,13nm,0.3s,SNR=18
YBT Youssef Ben Ta 6.52 194 P Pn 20 26 13.0 -1.6
YBT S Sn 20 27 18.0 -11
YBT Youssef Ben Ta 6.52 194 P Pn 20 26 13.0 -1.6
EAGO Agolada(Pontev 6.61 357 P Pn 20 26 15.8 -0.1
comp=N,1.2nm,0.1s,SNR=7.9
EAGO S Sn 20 27 25.6 -5.4
comp=N,28nm,0.3s,SNR=7.9
EAGO Agolada(Pontev 6.61 357 P Pn 20 26 15.8 -0.1
comp=N,1.2nm,0.1s,SNR=7.9
OKGL Djebel Kef Gue 6.72 89 P Pn 20 26 17.5 +0.1
comp=N,1.4nm,0.2s,SNR=7.9
OKGL S Sn 20 27 29.9 -3.7
comp=N,36nm,0.3s,SNR=7.9
OKGL Djebel Kef Gue 6.72 89 P Pn 20 26 17.5 +0.1
comp=N,1.4nm,0.2s,SNR=7.9
EMAZ Mazaricos 6.83 352 P Pn 20 26 19.1 +0.3
comp=N,4.7nm,0.3s,SNR=8.2
EMAZ S Sn 20 27 30.5 -5.7
comp=N,21nm,0.2s,SNR=7.9
EMAZ Mazaricos 6.83 352 P Pn 20 26 19.1 +0.3
comp=N,4.7nm,0.3s,SNR=8.2
EMOS Mosqueruela 7.02 51 P Pn 20 26 22.5 +0.8
comp=N,34nm,0.4s,SNR=110
EMOS S Sn 20 27 35.7 -5.4
comp=N,34nm,0.3s,SNR=7.9
EMOS Mosqueruela 7.02 51 P Pn 20 26 22.5 +0.8
comp=N,34nm,0.4s,SNR=110
EPON Pontenova 7.14 3 P Pn 20 26 24.0 +0.9
comp=N,2.6nm,0.3s,SNR=7.9
EPON S Sn 20 27 39.9 -3.9
comp=N,7.2nm,0.2s,SNR=7.9
EPON Pontenova 7.14 3 P Pn 20 26 24.0 +0.9
comp=N,2.6nm,0.3s,SNR=7.9
EARI Arriondas 7.34 14 P Pn 20 26 26.2 +0.2
comp=N,3.4nm,0.3s,SNR=38
EARI S Sn 20 27 44.1 -4.9
comp=N,13nm,0.3s,SNR=7.9
EARI Arriondas 7.34 14 P Pn 20 26 26.2 +0.2
comp=N,3.4nm,0.3s,SNR=38
EIBI Ibiza 7.68 66 P Pn 20 26 30.0 -0.6
comp=N,6.7nm,0.1s,SNR=7.9
EIBI S Sn 20 27 51.4 -5.9
comp=N,28nm,0.3s,SNR=7.9
EIBI Ibiza 7.68 66 P Pn 20 26 30.0 -0.6
comp=N,6.7nm,0.1s,SNR=7.9
ELAN Lanestosa 7.75 24 P Pn 20 26 31.2 -0.2
comp=N,2.6nm,0.2s,SNR=7.9
ELAN S Sn 20 27 51.4 -7.3
comp=N,12nm,0.2s,SNR=7.9
ELAN Lanestosa 7.75 24 P Pn 20 26 31.2 -0.2
comp=N,2.6nm,0.2s,SNR=7.9
ERTA Horta de San J 7.86 50 P Pn 20 26 33.7 +0.7
comp=N,3.6nm,0.2s,SNR=7.9
ERTA S Sn 20 27 57.9 -3.7
comp=N,42nm,0.8s,SNR=4.8
ERTA Horta de San J 7.86 50 P Pn 20 26 33.7 +0.7
comp=N,3.6nm,0.2s,SNR=7.9
ESAC San Caprasio 7.86 43 P Pn 20 26 34.6 +1.5
comp=N,32nm,0.3s,SNR=7.9
ESAC S Sn 20 27 57.9 -3.9
comp=N,67nm,0.3s,SNR=7.9
ESAC San Caprasio 7.86 43 P Pn 20 26 34.6 +1.5
comp=N,32nm,0.3s,SNR=7.9
EBR Ebro Roquetas 7.88 52 P Pn 20 26 35.5 +2.2
comp=N,76nm,0.4s,SNR=7.9
EBR Ebro Roquetas 7.88 52 P Pn 20 26 35.5 +2.2
comp=N,76nm,0.4s,SNR=7.9
YNAR Nardues-Alduna 8.07 35 P Pn 20 26 38.1 +2.2
comp=N,10.0nm,0.1s,SNR=7.9
YNAR S Sn 20 28 01.7 -5.1
comp=N,10.0nm,0.2s,SNR=7.9
YNAR Nardues-Alduna 8.07 35 P Pn 20 26 38.1 +2.2
comp=N,10.0nm,0.1s,SNR=7.9
EARA Aranguren 8.07 34 ⇓P Pn 20 26 37.7 +1.7
comp=N,7.5nm,0.1s,SNR=18
EARA S Sn 20 28 02.1 -4.8
comp=N,35nm,0.3s,SNR=7.9
EARA Aranguren 8.07 34 P Pn 20 26 37.7 +1.7
comp=N,7.5nm,0.1s,SNR=18
IUNC Unciti 8.10 34 P Pn 20 26 37.9 +1.6
SNR=7.9
IUNC S Sn 20 28 02.8 -4.8
SNR=7.9
IUNC Unciti 8.10 34 P Pn 20 26 37.9 +1.6
SNR=7.9
IPRE Itoiz 8.20 34 P Pn 20 26 39.9 +2.1
comp=N,9.9nm,0.2s,SNR=10
IPRE S Sn 20 28 05.8 -4.3
comp=N,15nm,0.3s,SNR=4.6
IPRE Itoiz 8.20 34 P Pn 20 26 39.9 +2.1
comp=N,9.9nm,0.2s,SNR=10
IEPA Eparoz 8.22 35 P Pn 20 26 40.0 +1.9
SNR=7.9
IEPA S Sn 20 28 07.1 -3.6
SNR=7.9
IEPA Eparoz 8.22 35 P Pn 20 26 40.0 +1.9
SNR=7.9
IUSE Utxeti 8.23 33 P Pn 20 26 39.3 +1.1
SNR=7.9
IUSE S Sn 20 28 06.5 -4.3
SNR=7.9
IUSE Utxeti 8.23 33 P Pn 20 26 39.3 +1.1
SNR=7.9
IELO Elcoad 8.29 35 P Pn 20 26 40.3 +1.3
comp=N,13nm,0.1s,SNR=7.9
IELO S Sn 20 28 07.3 -4.9
comp=N,44nm,0.5s,SNR=7.9
IELO Elcoad 8.29 35 P Pn 20 26 40.3 +1.3
comp=N,13nm,0.1s,SNR=7.9
ELIZ Elizondo 8.41 32 P Pn 20 26 42.4 +1.8
comp=N,9.6nm,0.2s,SNR=69
ELIZ S Sn 20 28 04.5 -11
comp=N,12nm,0.3s,SNR=10
ELIZ Elizondo 8.41 32 P Pn 20 26 42.4 +1.8
comp=N,9.6nm,0.2s,SNR=69
EALK Alkurruntz 8.46 32 P Pn 20 26 42.6 +1.3
comp=N,23nm,0.4s,SNR=67
EALK S Sn 20 28 10.2 -6.2
comp=N,85nm,0.3s,SNR=8.4
EALK Alkurruntz 8.46 32 P Pn 20 26 42.6 +1.3
comp=N,23nm,0.4s,SNR=67
SJPF Ste Jean 8.50 34 ePn Pn 20 26 43.4 +1.5
SJPF eSn Sn 20 28 12.1 -5.4
comp=N,83nm,0.5s
SJPF Ste Jean 8.50 34 P Pn 20 26 43.4 +1.5
SJPF S Sn 20 28 12.1 -5.4
comp=N,42nm,0.5s
SJPF Ste Jean 8.50 34 P Pn 20 26 43.4 +1.5
SJPF Ste Jean 8.50 34 ePn Pn 20 26 43.4 +1.5
SJPF eSn Sn 20 28 12.1 -5.4
EPOB Poblet 8.55 50 P Pn 20 26 42.9 +0.4
comp=N,2.1nm,0.1s,SNR=18
EPOB S Sn 20 28 12.3 -6.3
comp=N,14nm,0.7s,SNR=5.9
EPOB Poblet 8.55 50 P Pn 20 26 42.9 +0.4
comp=N,2.1nm,0.1s,SNR=18
LARF Larrau 8.55 35 P Pn 20 26 44.3 +1.7
LARF Larrau 8.55 35 P Pn 20 26 44.3 +1.7
OSSF Osses 8.60 33 P Pn 20 26 44.5 +1.3
OSSF Osses 8.60 33 P Pn 20 26 44.5 +1.3
ORDF Ordiarp 8.71 34 P Pn 20 26 46.5 +1.8
ORDF Ordiarp 8.71 34 P Pn 20 26 46.5 +1.8
ATE Arette 8.72 36 P Pn 20 26 46.4 +1.5
ATE Arette 8.72 36 P Pn 20 26 46.5 +1.6
comp=N,18nm,0.3s,SNR=7.9
ATE S Sn 20 28 17.7 -5.2
comp=N,33nm,0.9s,SNR=7.9
ATE Arette 8.72 36 P Pn 20 26 46.4 +1.5
REYF Montagne du Re 8.86 37 P Pn 20 26 48.1 +1.3
REYF Montagne du Re 8.86 37 P Pn 20 26 48.1 +1.3
VIEF Viey 8.93 39 P Pn 20 26 48.7 +0.9
VIEF Viey 8.93 39 P Pn 20 26 48.7 +0.9
ETOS Mallorca 9.00 64 P Pn 20 26 48.3 -0.4
comp=N,9.9nm,0.4s,SNR=15
ETOS S Sn 20 28 22.8 -7.0
comp=N,20nm,0.6s,SNR=116
ETOS Mallorca 9.00 64 P Pn 20 26 48.3 -0.4
comp=N,9.9nm,0.4s,SNR=15
RESF Ens 9.04 41 P Pn 20 26 50.6 +1.2
RESF S Sn 20 28 26.5 -4.3
RESF Ens 9.04 41 P Pn 20 26 50.6 +1.2
LABF Labassere 9.07 39 P Pn 20 26 50.8 +1.0
LABF S Sn 20 28 27.2 -4.4
LABF Labassere 9.07 39 P Pn 20 26 50.8 +1.0
EMIR Miracle 9.14 49 P Pn 20 26 51.6 +0.9
comp=N,23nm,0.4s,SNR=22
EMIR S Sn 20 28 26.7 -6.5
comp=N,3.3nm,0.2s,SNR=7.9
EMIR Miracle 9.14 49 P Pn 20 26 51.6 +0.9
comp=N,23nm,0.4s,SNR=22
CSOR Sort 9.19 45 P Pn 20 26 52.2 +0.8
comp=N,4.4nm,0.3s,SNR=22
CSOR S Sn 20 28 29.1 -5.4
comp=N,30nm,1.0s,SNR=7.9
CSOR Sort 9.19 45 P Pn 20 26 52.2 +0.8
comp=N,4.4nm,0.3s,SNR=22
EPF Esparros 9.20 40 ePn Pn 20 26 52.7 +1.2
EPF eSn Sn 20 28 29.3 -5.3
comp=N,57nm,0.5s
EPF Esparros 9.20 40 P Pn 20 26 52.7 +1.2
EPF S Sn 20 28 29.3 -5.3
comp=N,28nm,0.5s
EPF Esparros 9.20 40 P Pn 20 26 52.7 +1.2
EPF Esparros 9.20 40 ePn Pn 20 26 52.7 +1.2
EPF eSn Sn 20 28 29.3 -5.3
MELF Melles 9.31 42 P Pn 20 26 54.4 +1.4
MELF Melles 9.31 42 P Pn 20 26 54.4 +1.4
CFON Fontmartina 9.62 52 P Pn 20 26 57.8 +0.5
comp=N,4.8nm,0.3s,SNR=7.9
CFON Fontmartina 9.62 52 P Pn 20 26 57.8 +0.5
comp=N,4.8nm,0.3s,SNR=7.9
CLLI Llivia 9.74 47 P Pn 20 27 00.1 +1.1
comp=N,5.5nm,0.3s,SNR=29
CLLI S Sn 20 28 40.9 -7.2
comp=N,12nm,0.5s,SNR=6.4
CLLI Llivia 9.74 47 P Pn 20 27 00.1 +1.1
comp=N,5.5nm,0.3s,SNR=29
EJON La Jonquera 10.28 49 P Pn 20 27 07.3 +1.1
comp=N,2.9nm,0.4s,SNR=7.9
EJON La Jonquera 10.28 49 P Pn 20 27 07.3 +1.1
comp=N,2.9nm,0.4s,SNR=7.9
SJAF Saint Jean de 10.29 49 P Pn 20 27 07.3 +0.9
comp=N,1.3nm,0.3s,SNR=7.9
SJAF Saint Jean de 10.29 49 P Pn 20 27 07.3 +0.9
comp=N,1.3nm,0.3s,SNR=7.9
MTLF Montolieu 10.42 44 ePn Pn 20 27 08.4 +0.3
MTLF eSn Sn 20 28 58.1 -6.4
comp=N,7.4nm,0.5s
MTLF Montolieu 10.42 44 P Pn 20 27 08.4 +0.3
MTLF S Sn 20 28 58.1 -6.4
comp=N,3.7nm,0.5s
MTLF Montolieu 10.42 44 P Pn 20 27 08.4 +0.3
MTLF Montolieu 10.42 44 ePn Pn 20 27 08.4 +0.3
MTLF eSn Sn 20 28 58.1 -6.4
LFF La Frestale 10.81 34 ePn Pn 20 27 14.3 +0.8
LFF eSn Sn 20 29 07.8 -6.3
comp=N,22nm,0.5s
LFF La Frestale 10.81 34 P Pn 20 27 14.3 +0.8
LFF S Sn 20 29 07.8 -6.3
comp=N,11nm,0.5s
LFF La Frestale 10.81 34 P Pn 20 27 14.3 +0.8
LFF La Frestale 10.81 34 ePn Pn 20 27 14.3 +0.8
LFF eSn Sn 20 29 07.8 -6.3
CAF Calviac 11.43 37 ePn Pn 20 27 22.2 +0.3
CAF eSn Sn 20 29 21.6 -7.6
comp=N,11nm,0.3s
CAF Calviac 11.43 37 P Pn 20 27 22.2 +0.3
CAF S Sn 20 29 21.6 -7.6
comp=N,5.3nm,0.3s
CAF Calviac 11.43 37 P Pn 20 27 22.2 +0.3
CAF Calviac 11.43 37 ePn Pn 20 27 22.2 +0.3
CAF eSn Sn 20 29 21.6 -7.6
RJF Les Rejaudoux 11.45 35 ePn Pn 20 27 22.3 +0.1
RJF eSn Sn 20 29 20.6 -9.1
comp=N,25nm,0.5s
RJF Les Rejaudoux 11.45 35 P Pn 20 27 22.3 +0.1
RJF S Sn 20 29 20.6 -9.1
comp=N,13nm,0.5s
RJF Les Rejaudoux 11.45 35 P Pn 20 27 22.3 +0.1
RJF Les Rejaudoux 11.45 35 ePn Pn 20 27 22.3 +0.1
RJF eSn Sn 20 29 20.6 -9.1
LASF Ste Croix 11.81 45 ePn Pn 20 27 27.3 +0.2
LASF eSn Sn 20 29 31.1 -7.4
comp=N,12nm,0.6s
LASF Ste Croix 11.81 45 P Pn 20 27 27.3 +0.2
LASF S Sn 20 29 31.1 -7.4
comp=N,6.0nm,0.6s
LASF Ste Croix 11.81 45 P Pn 20 27 27.3 +0.2
LASF Ste Croix 11.81 45 ePn Pn 20 27 27.3 +0.2
LASF eSn Sn 20 29 31.1 -7.4
MFF Saint Martin d 11.82 26 ePn Pn 20 27 27.1 -0.2
MFF eSn Sn 20 29 31.1 -7.7
comp=N,8.8nm,0.4s
MFF Saint Martin d 11.82 26 P Pn 20 27 27.1 -0.2
MFF S Sn 20 29 31.1 -7.7
comp=N,4.4nm,0.4s
MFF Saint Martin d 11.82 26 P Pn 20 27 27.1 -0.2
MFF Saint Martin d 11.82 26 ePn Pn 20 27 27.1 -0.2
MFF eSn Sn 20 29 31.1 -7.7
QUIF Quistinic 12.18 14 ePn Pn 20 27 30.8 -1.3
QUIF eSn Sn 20 29 39.6 -7.9
comp=N,10nm,0.3s
QUIF Quistinic 12.18 14 P Pn 20 27 30.8 -1.3
QUIF S Sn 20 29 39.6 -7.9
comp=N,5.1nm,0.3s
QUIF Quistinic 12.18 14 P Pn 20 27 30.8 -1.3
QUIF Quistinic 12.18 14 ePn Pn 20 27 30.8 -1.3
QUIF eSn Sn 20 29 39.6 -7.9
TCF Toulx Ste Croi 12.51 33 ePn Pn 20 27 36.1 -0.7
TCF eSn Sn 20 29 43.7 -12
comp=N,16nm,0.6s
TCF Toulx Ste Croi 12.51 33 P Pn 20 27 36.1 -0.7
TCF S Sn 20 29 43.7 -12
comp=N,7.8nm,0.6s
TCF Toulx Ste Croi 12.51 33 P Pn 20 27 36.1 -0.7
TCF Toulx Ste Croi 12.51 33 ePn Pn 20 27 36.1 -0.7
TCF eSn Sn 20 29 43.7 -12
ROSF Rostrenen 12.56 14 ePn Pn 20 27 36.9 -0.4
ROSF eSn Sn 20 29 47.1 -10
comp=N,6.9nm,0.4s
ROSF Rostrenen 12.56 14 P Pn 20 27 36.9 -0.4
ROSF S Sn 20 29 47.1 -10
comp=N,3.5nm,0.4s
ROSF Rostrenen 12.56 14 P Pn 20 27 36.9 -0.4
ROSF Rostrenen 12.56 14 ePn Pn 20 27 36.9 -0.4
ROSF eSn Sn 20 29 47.1 -10
SGMF Saint Gilles 12.63 16 ePn Pn 20 27 37.0 -1.3
SGMF eSn Sn 20 29 48.0 -10
comp=N,25nm,0.8s
SGMF Saint Gilles 12.63 16 P Pn 20 27 37.0 -1.3
SGMF S Sn 20 29 48.0 -10
comp=N,12nm,0.8s
SGMF Saint Gilles 12.63 16 P Pn 20 27 37.0 -1.3
SGMF Saint Gilles 12.63 16 ePn Pn 20 27 37.0 -1.3
SGMF eSn Sn 20 29 48.0 -10
VIVF Saint-Julien-l 12.75 43 ePn Pn 20 27 39.9 -0.1
VIVF eSn Sn 20 29 53.9 -7.6
comp=N,9.6nm,0.8s
VIVF Saint-Julien-l 12.75 43 P Pn 20 27 39.9 -0.1
VIVF S Sn 20 29 53.9 -7.6
comp=N,4.8nm,0.8s
VIVF Saint-Julien-l 12.75 43 P Pn 20 27 39.9 -0.1
VIVF Saint-Julien-l 12.75 43 ePn Pn 20 27 39.9 -0.1
VIVF eSn Sn 20 29 53.9 -7.6
BGF Bois d'Agland 13.00 34 ePn Pn 20 27 42.9 -0.5
BGF eSn Sn 20 29 57.8 -10
comp=N,34nm,0.6s
BGF Bois d'Agland 13.00 34 P Pn 20 27 42.9 -0.5
BGF S Sn 20 29 57.8 -10
comp=N,17nm,0.6s
BGF Bois d'Agland 13.00 34 P Pn 20 27 42.9 -0.5
BGF Bois d'Agland 13.00 34 ePn Pn 20 27 42.9 -0.5
BGF eSn Sn 20 29 57.8 -10
GRR Gorron 13.18 20 ePn Pn 20 27 45.4 -0.4
GRR eSn Sn 20 30 03.9 -8.0
comp=N,7.4nm,0.4s
GRR Gorron 13.18 20 P Pn 20 27 45.4 -0.4
GRR S Sn 20 30 03.9 -8.0
comp=N,3.7nm,0.4s
GRR Gorron 13.18 20 P Pn 20 27 45.4 -0.4
GRR Gorron 13.18 20 ePn Pn 20 27 45.4 -0.4
GRR eSn Sn 20 30 03.9 -8.0
AVF Avril sur Loir 13.41 34 ePn Pn 20 27 48.4 -0.5
AVF eSn Sn 20 30 08.2 -9.4
comp=N,7.5nm,0.6s
AVF Avril sur Loir 13.41 34 P Pn 20 27 48.4 -0.5
AVF S Sn 20 30 08.2 -9.4
comp=N,3.8nm,0.6s
AVF Avril sur Loir 13.41 34 P Pn 20 27 48.4 -0.5
AVF Avril sur Loir 13.41 34 ePn Pn 20 27 48.4 -0.5
AVF eSn Sn 20 30 08.2 -9.4
ORIF Oris-en-Rattie 13.47 46 ePn Pn 20 27 49.9 0.0
ORIF Oris-en-Rattie 13.47 46 P Pn 20 27 49.9 0.0
ORIF Oris-en-Rattie 13.47 46 P Pn 20 27 49.9 0.0
ORIF Oris-en-Rattie 13.47 46 ePn Pn 20 27 49.9 0.0
SMF Signal de Mont 13.53 36 ePn Pn 20 27 50.0 -0.6
SMF eSn Sn 20 30 12.6 -7.9
comp=N,4.6nm,0.5s
SMF Signal de Mont 13.53 36 P Pn 20 27 50.0 -0.6
SMF S Sn 20 30 12.6 -7.9
comp=N,2.3nm,0.5s
SMF Signal de Mont 13.53 36 P Pn 20 27 50.0 -0.6
SMF Signal de Mont 13.53 36 ePn Pn 20 27 50.0 -0.6
SMF eSn Sn 20 30 12.6 -7.9
LDF La Druitiere 13.57 22 ePn Pn 20 27 51.1 -0.1
LDF eSn Sn 20 30 13.4 -8.2
comp=N,6.1nm,0.5s
LDF La Druitiere 13.57 22 ePn Pn 20 27 51.1 -0.1
LDF La Druitiere 13.57 22 ePn Pn 20 27 51.1 -0.1
LDF eSn Sn 20 30 13.4 -8.2
FLN La Foliniere 13.62 21 ePn Pn 20 27 51.4 -0.4
baz=196
FLN eSn Sn 20 30 14.6 -8.2
comp=N,4.7nm,0.4s
FLN La Foliniere 13.62 21 P Pn 20 27 51.4 -0.4
FLN S Sn 20 30 14.6 -8.2
comp=N,2.3nm,0.4s
FLN La Foliniere 13.62 21 P Pn 20 27 51.4 -0.4
FLN La Foliniere 13.62 21 ePn Pn 20 27 51.4 -0.4
FLN eSn Sn 20 30 14.6 -8.2
SSF Saint Saulge 13.68 34 ePn Pn 20 27 51.8 -0.9
SSF eSn Sn 20 30 15.0 -9.2
comp=N,12nm,0.9s
SSF Saint Saulge 13.68 34 P Pn 20 27 51.8 -0.9
SSF S Sn 20 30 15.0 -9.2
comp=N,5.9nm,0.9s
SSF Saint Saulge 13.68 34 ePn Pn 20 27 51.8 -0.9
SSF Saint Saulge 13.68 34 ePn Pn 20 27 51.8 -0.9
SSF eSn Sn 20 30 15.0 -9.2
KEST Kesra 13.78 87 Pn Pn 20 27 54.4 +0.2
comp=N,0.0nm,0.3s,baz=266,slow=15,SNR=2.1
MBDF Montbardon 13.89 48 ePn Pn 20 27 55.7 +0.1
MBDF Montbardon 13.89 48 P Pn 20 27 55.7 +0.1
MBDF Montbardon 13.89 48 ePn Pn 20 27 55.7 +0.1
MBDF Montbardon 13.89 48 ePn Pn 20 27 55.7 +0.1
LOR Lormes 13.99 34 ePn Pn 20 27 56.6 -0.4
baz=214
LOR eSn Sn 20 30 23.1 -8.8
comp=N,4.9nm,0.6s
LOR Lormes 13.99 34 P Pn 20 27 56.6 -0.4
LOR S Sn 20 30 23.1 -8.8
comp=N,2.5nm,0.6s
LOR Lormes 13.99 34 ePn Pn 20 27 56.6 -0.4
baz=214
LOR Lormes 13.99 34 ePn Pn 20 27 56.6 -0.4
LOR eSn Sn 20 30 23.1 -8.8
LPG La Plagne 14.31 45 ePn Pn 20 28 01.2 -0.3
LPG La Plagne 14.31 45 P Pn 20 28 01.2 -0.3
LPG La Plagne 14.31 45 ePn Pn 20 28 01.2 -0.3
LPG La Plagne 14.31 45 ePn Pn 20 28 01.2 -0.3
LPL La Plagne 14.31 45 ePn Pn 20 28 01.5 0.0
LPL La Plagne 14.31 45 P Pn 20 28 01.5 0.0
LPL La Plagne 14.31 45 ePn Pn 20 28 01.5 0.0
LPL La Plagne 14.31 45 ePn Pn 20 28 01.5 0.0
CABF La Chapelle 14.63 40 ePn Pn 20 28 05.5 -0.2
CABF La Chapelle 14.63 40 P Pn 20 28 05.5 -0.2
CABF La Chapelle 14.63 40 ePn Pn 20 28 05.5 -0.2
CABF La Chapelle 14.63 40 ePn Pn 20 28 05.5 -0.2
HAU Haudompre 15.70 37 ePn Pn 20 28 20.1 +0.3
HAU Haudompre 15.70 37 P Pn 20 28 20.1 +0.3
HAU Haudompre 15.70 37 ePn Pn 20 28 20.1 +0.3
HAU Haudompre 15.70 37 ePn Pn 20 28 20.1 +0.3
HINF Hinteralfeld 15.82 38 ePn Pn 20 28 22.1 +0.7
HINF Hinteralfeld 15.82 38 P Pn 20 28 22.1 +0.7
HINF Hinteralfeld 15.82 38 ePn Pn 20 28 22.1 +0.7
HINF Hinteralfeld 15.82 38 ePn Pn 20 28 22.1 +0.7
BAIF Baives 16.31 28 ePn Pn 20 28 28.2 +0.5
BAIF Baives 16.31 28 P Pn 20 28 28.2 +0.5
BAIF Baives 16.31 28 ePn Pn 20 28 28.2 +0.5
BAIF Baives 16.31 28 ePn Pn 20 28 28.2 +0.5
CDF Champ du Feu 16.43 37 ePn Pn 20 28 30.0 +0.7
CDF Champ du Feu 16.43 37 P Pn 20 28 30.0 +0.7
CDF Champ du Feu 16.43 37 P Pn 20 28 30.0 +0.7
CDF Champ du Feu 16.43 37 ePn Pn 20 28 30.0 +0.7
DOU Dourbes 16.49 29 P P 20 28 31.2 -1.3
GIVF Givet 16.59 29 ePn Pn 20 28 31.9 +0.8
GIVF Givet 16.59 29 P Pn 20 28 31.9 +0.8
GIVF Givet 16.59 29 P Pn 20 28 31.9 +0.8
GIVF Givet 16.59 29 ePn Pn 20 28 31.9 +0.8
DAVOX Davos/Dischmat 16.83 46 Pn Pn 20 28 35.3 +0.9
comp=N,0.1nm,0.3s,baz=231,slow=13,SNR=3.5
TAM Tamanrasset 17.58 136 eP P 20 28 46.7 +1.8
comp=N,1.8nm,0.9s
TAM Tamanrasset 17.58 136 eP P 20 28 46.7 +1.8
comp=N,1.8nm,0.9s
EKA Eskdalemuir Ar 19.39 8 P Pn 20 29 05.1 -0.6
baz=187,slow=11,SNR=4.6
TIP Timpagrande 19.54 74 eP P 20 29 06.9 +0.6
comp=N,22nm,1.2s
TIP Timpagrande 19.54 74 eP P 20 29 06.9 +0.6
comp=N,22nm,1.2s
SOKA Soboth 19.91 51 P Pn 20 29 12.0 0.0
comp=N,5.6nm,0.8s
SOKA Soboth 19.91 51 ⇑i Pn Pn 20 29 12.0 0.0
comp=N,5.6nm,0.8s
MOA Molln 19.95 47 P P 20 29 11.0 +0.4

	comp=N,6.3nm,1.0s							
MOA	**Molln**	**19.95**	**47**	⇑*iP*		**P**	**20 29 11.0**	**+0.4**
	comp=N,6.3nm,1.0s							
GERES	**GERESS Array B**	**20.11**	**44**	P		Pn	20 29 13.6	-0.8
	comp=N,2.0nm,0.7s,baz=237,slow=10,SNR=13							
KHC	**Kasperske Hory**	**20.19**	**44**	*eP*		Pn	20 29 15.4	+0.2
KHC				*epP*		pP	20 29 18.9	+1.0
KHC				*ex*		x	20 29 33.2	
KHC	**Kasperske Hory**	**20.19**	**44**	*eP*		Pn	20 29 15.1	-0.1
	comp=N,5.0nm,0.8s							
KHC	**Kasperske Hory**	**20.19**	**44**	*eP*		Pn	20 29 15.2	-0.1
	comp=N,5.0nm,0.8s							
NKC	**Novy Kostel**	**20.20**	**40**	*epP*		pP	20 29 23.3	+5.3
CONA	**Conrad Observa**	**20.94**	**49**	P		**P**	**20 29 21.9**	**+0.4**
	comp=N,8.0nm,0.6s							
CONA	**Conrad Observa**	**20.94**	**49**	⇑*iP*		**P**	**20 29 21.9**	**+0.4**
	comp=N,8.0nm,0.6s							
CLL	**Collm**	**21.13**	**38**	*eP*		**P**	**20 29 25.0**	**+1.7**
	comp=Z,6.0nm,1.4s							
CLL				LmH			20 36 00.0	
	comp=N,100nm,19.5s							
CLL				LmH			20 36 00.0	
	comp=E,100nm,20.6s							
PRA	**Prague**	**21.16**	**42**	*eP*		**P**	**20 29 25.1**	**+1.4**
PRA	**Prague**	**21.16**	**42**	P		**P**	**20 29 25.1**	**+1.4**
PRU	**Pruhonice**	**21.18**	**42**	*eP*		**P**	**20 29 25.5**	**+1.6**
PRU				*epP*		**pP**	**20 29 27.2**	**-1.3**
PRU	**Pruhonice**	**21.18**	**42**	P		**P**	**20 29 25.5**	**+1.6**
GOPC	**GO Pecny, Ondr**	**21.27**	**43**	*eP*		**P**	**20 29 26.3**	**+1.4**
GOPC				*epP*		**pP**	**20 29 31.1**	**+1.5**
GOPC	**GO Pecny, Ondr**	**21.27**	**43**	P		**P**	**20 29 26.3**	**+1.4**
BRG	**Berggiesshubel**	**21.35**	**40**	*eP*		**P**	**20 29 27.8**	**+2.1**
	comp=E,3.9nm,1.1s							
TREC	**Trest**	**21.35**	**45**	*eP*		**P**	**20 29 27.0**	**+1.2**
TREC				*epP*		**pP**	**20 29 29.6**	**-0.8**
TREC	**Trest**	**21.35**	**45**	P		**P**	**20 29 27.0**	**+1.2**
PVCC	**Panska Ves**	**21.48**	**41**	*eP*		**P**	**20 29 30.1**	**+2.9**
PVCC	**Panska Ves**	**21.48**	**41**	P		**P**	**20 29 30.1**	**+2.9**
VRAC	**Vranov**	**21.99**	**46**	P		**P**	**20 29 33.6**	**+0.9**
	comp=E,6.3nm,0.9s,baz=238,slow=8.9,SNR=9.8							
VRAC	**Vranov**	**21.99**	**46**	⇑*iP*		**P**	**20 29 33.4**	**+0.7**
PKSM	**Moragy**	**22.08**	**55**	⇑*iP*		**P**	**20 29 33.9**	**+0.3**
PKSM	**Moragy**	**22.08**	**55**	⇑*iP*		**P**	**20 29 33.9**	**+0.3**
UPC	**Upice**	**22.25**	**43**	*eP*		**P**	**20 29 36.8**	**+1.4**
UPC				AMS		AMS	20 40 10.0	
	comp=E,100nm,11.4s							
UPC	**Upice**	**22.25**	**43**	P		**P**	**20 29 36.8**	**+1.4**
DPC	**Dobruska-Polom**	**22.34**	**43**	*eP*		**P**	**20 29 37.5**	**+1.0**
DPC	**Dobruska-Polom**	**22.34**	**43**	P		**P**	**20 29 37.5**	**+1.0**
KRLC	**Kraliky**	**22.46**	**44**	*eP*		**P**	**20 29 38.6**	**+0.8**
KRLC				*ex*		x	20 29 46.8	
KRLC	**Kraliky**	**22.46**	**44**	P		**P**	**20 29 38.6**	**+0.8**
DIVS	**Divibare**	**22.48**	**61**	⇓*iP*		**P**	**20 29 38.3**	**+0.2**
DIVS	**Divibare**	**22.48**	**61**	⇓*iP*		**P**	**20 29 38.3**	**+0.2**
MORC	**Moravsky Berou**	**22.76**	**46**	⇓*iP*		**P**	**20 29 41.3**	**+0.4**
MORC	**Moravsky Berou**	**22.76**	**46**	*eP*		**P**	**20 29 41.1**	**+0.2**
	comp=E,56nm,1.1s							
MORC	**Moravsky Berou**	**22.76**	**46**	*eP*		**P**	**20 29 41.1**	**+0.2**
	comp=E,56nm,1.1s							
VYHS	**Vyhne**	**22.99**	**49**	*eP*		**P**	**20 29 41.7**	**-1.6**
VYHS	**Vyhne**	**22.99**	**49**	*eP*		**P**	**20 29 41.7**	**-1.6**
OKC	**Ostrava-Krasne**	**23.13**	**46**	*eP*		**P**	**20 29 44.5**	**-0.2**
OKC	**Ostrava-Krasne**	**23.13**	**46**	P		**P**	**20 29 44.5**	**-0.2**
PSZ	**Piszkesteto**	**23.44**	**51**	*eP*		**P**	**20 29 49.1**	**+1.2**
PSZ	**Piszkesteto**	**23.44**	**51**	*eP*		**P**	**20 29 49.1**	**+1.2**
BZS	**Buzias**	**23.93**	**58**	⇑*iP*		**P**	**20 29 52.8**	**+0.2**
BZS	**Buzias**	**23.93**	**58**	⇑*iP*		**P**	**20 29 52.8**	**+0.2**
KECS	**Kecovo**	**24.01**	**50**	*eP*		**P**	**20 29 53.9**	**+0.6**
	comp=E,1.9nm,0.7s							
KECS	**Kecovo**	**24.01**	**50**	*eP*		**P**	**20 29 53.9**	**+0.6**
TOA0	**Torodi Ar. Sit**	**24.44**	**158**	*eP*		**P**	**20 29 56.7**	**-0.8**
TOA0	**Torodi Ar. Sit**	**24.44**	**158**	*eP*		**P**	**20 29 56.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**24.44**	**158**	P		**P**	**20 29 57.4**	**-0.1**
	comp=E,31nm,0.7s,baz=346,slow=8.6,SNR=23							
VTS	**Vitosha**	**24.61**	**65**	⇓*iP*		**P**	**20 29 58.5**	**-0.5**
VTS	**Vitosha**	**24.61**	**65**	⇓*iP*		**P**	**20 29 58.5**	**-0.5**
DRGR		**24.94**	**55**	⇑*iP*		**P**	**20 30 02.1**	**+0.2**
DRGR		**24.94**	**55**	⇑*iP*		**P**	**20 30 02.1**	**+0.2**
TRPA	**Tarpa**	**25.19**	**52**	⇑*iP*		**P**	**20 30 04.6**	**+0.6**
TRPA	**Tarpa**	**25.19**	**52**	⇑*iP*		**P**	**20 30 04.6**	**+0.6**
LOT	**Lotru**	**25.38**	**59**	⇓*iP*		**P**	**20 30 06.2**	**+0.3**
LOT	**Lotru**	**25.38**	**59**	⇓*iP*		**P**	**20 30 06.2**	**+0.3**
ARR	**Arges**	**25.97**	**59**	⇑*iP*		**P**	**20 30 12.1**	**+0.9**
ARR	**Arges**	**25.97**	**59**	⇑*iP*		**P**	**20 30 12.1**	**+0.9**
VOIR		**26.27**	**59**	⇑*iP*		**P**	**20 30 14.2**	**+0.3**
VOIR		**26.27**	**59**	⇑*iP*		**P**	**20 30 14.2**	**+0.3**
IDI	**Anoyia**	**26.37**	**82**	P		**P**	**20 30 15.3**	**+0.4**
	comp=E,3.9nm,0.5s,baz=306,slow=15,SNR=3.4							
BUR08	**Bucovina Ar. S**	**26.79**	**54**	*eP*		**P**	**20 30 20.1**	**+1.4**
BUR08	**Bucovina Ar. S**	**26.79**	**54**	*eP*		**P**	**20 30 20.1**	**+1.4**
BURAR	**Bucovina Array**	**26.80**	**55**	⇑*iP*		**P**	**20 30 19.8**	**+1.0**
BURAR	**Bucovina Array**	**26.80**	**55**	⇑*iP*		**P**	**20 30 19.8**	**+1.0**
MLR	**Muntele Rosu**	**26.90**	**59**	P		**P**	**20 30 20.5**	**+0.8**
	comp=E,0.7nm,0.8s,baz=306,slow=8.7							
MLR	**Muntele Rosu**	**26.90**	**59**	⇓*iP*		**P**	**20 30 20.5**	**+0.8**
ISR	**Istrita**	**27.27**	**60**	⇓*iP*		**P**	**20 30 22.1**	**-0.8**
ISR	**Istrita**	**27.27**	**60**	⇓*iP*		**P**	**20 30 22.1**	**-0.8**
PLOR	**Plostina**	**27.44**	**59**	⇓*iP*		**P**	**20 30 25.2**	**+0.7**
PLOR	**Plostina**	**27.44**	**59**	⇓*iP*		**P**	**20 30 25.2**	**+0.7**
VRI	**Vrincioaia**	**27.49**	**59**	⇓*iP*		**P**	**20 30 25.7**	**+0.8**
VRI	**Vrincioaia**	**27.49**	**59**	⇓*iP*		**P**	**20 30 25.7**	**+0.8**
NOA	**NORSAR Array B**	**27.61**	**20**	LR		LR	20 43 14.8	
	comp=E,16nm,19.4s,baz=250,slow=40							
HFS	**Hagfors**	**27.62**	**23**	P		**P**	**20 30 26.9**	**+1.0**
	comp=E,0.9nm,0.6s,baz=214,slow=10,SNR=3.7							
TIRR	**Tirgusor**	**28.53**	**62**	P		**P**	**20 30 33.3**	**-0.8**
	comp=E,5.4nm,0.9s							
TIRR	**Tirgusor**	**28.53**	**62**	P		**P**	**20 30 33.3**	**-0.8**
	comp=E,5.4nm,0.9s							
BR131	**Keskin Array S**	**32.54**	**71**	*eP*		**P**	**20 31 10.7**	**+0.8**
	comp=E,1.8nm,0.9s							
BR131	**Keskin Array S**	**32.54**	**71**	*eP*		**P**	**20 31 10.7**	**+0.8**
	comp=E,1.8nm,0.9s							
BRTR	**Keskin Array B**	**32.54**	**71**	P		**P**	**20 31 09.9**	**+0.1**
	comp=E,0.9nm,0.7s,baz=260,slow=8.3,SNR=6.4							
FINES	**FINESS Array B**	**32.98**	**29**	P		**P**	**20 31 13.9**	**+0.7**
	comp=E,2.3nm,0.9s,baz=269,slow=8.3,SNR=4.6							
MMAI	**Mount Meron Ar**	**35.37**	**82**	P		**P**	**20 31 35.5**	**+1.2**
	comp=E,3.0nm,0.8s,baz=295,slow=7.6,SNR=3.4							
OBN	**Obninsk**	**35.49**	**44**	*eP*		**P**	**20 31 34.8**	**-0.2**
OBN	**Obninsk**	**35.49**	**44**	*eP*		**P**	**20 31 34.8**	**-0.2**
ARCES	**ARCESS Array B**	**35.95**	**18**	P		**P**	**20 31 57.3**	**+1.4**
	comp=E,2.1nm,1.0s,baz=218,slow=7.7,SNR=3.7							
ARCES				PcP		**PcP**	**20 34 11.2**	**-0.1**
	comp=E,0.5nm,0.5s,baz=225,slow=1.5,SNR=8.5							
AKTO	**Aktyubinsk**	**48.31**	**51**	P		**P**	**20 33 20.1**	**+0.3**
	comp=E,0.7nm,0.4s,baz=281,slow=6.5,SNR=4.5							
BRVK	**Borovoye**	**55.20**	**46**	P		**P**	**20 34 10.2**	**-0.9**
	comp=E,1.1nm,0.7s							
BRVK	**Borovoye**	**55.20**	**46**	P		**P**	**20 34 10.2**	**-0.9**
	comp=E,1.1nm,0.7s							
BVAR	**Borovoye Array**	**55.27**	**46**	P		**P**	**20 34 12.5**	**+0.8**
	comp=E,0.6nm,0.6s,baz=276,slow=5.2,SNR=5.6							
KURK	**Kurchatov**	**60.84**	**47**	*eP*		**P**	**20 34 50.7**	**-0.1**
KURK	**Kurchatov**	**60.84**	**47**	*eP*		**P**	**20 34 50.6**	**-0.1**
EKS2	**Erkin-Say**	**60.93**	**57**	P		**P**	**20 34 53.0**	**+1.3**
EKS2	**Erkin-Say**	**60.93**	**57**	P		**P**	**20 34 53.0**	**+1.3**
MKAR	**Makanchi Array**	**64.68**	**49**	P		**P**	**20 35 17.2**	**+0.8**
	comp=E,0.8nm,0.7s,baz=296,slow=4.8,SNR=6.1							
PDAR	**Pinedale Array**	**74.05**	**311**	P		**P**	**20 36 14.9**	**+0.1**
	comp=E,0.2nm,0.5s,baz=80,slow=6.6,SNR=2.4							
ILAR	**Eielson Array**	**74.42**	**343**	P		**P**	**20 36 17.2**	**+1.0**
	comp=E,0.4nm,0.5s,baz=20,slow=5.3,SNR=10							
LPAZ	**La Paz**	**77.35**	**239**	P		**P**	**20 36 34.1**	**-0.3**
	comp=E,0.4nm,0.4s,baz=323,slow=5.1,SNR=3.0							
TXAR	**Lajitas Array**	**77.73**	**297**	P		**P**	**20 36 36.2**	**+0.4**
	comp=E,0.4nm,0.7s,baz=74,slow=5.5,SNR=5.9							
SONM	**Songino Array**	**77.74**	**39**	P		**P**	**20 36 36.7**	**+1.1**
	comp=E,0.7nm,0.8s,baz=300,slow=5.5,SNR=6.7							
HHC	**Hu-ho-hao-te**	**85.21**	**42**	*eP*		**P**	**20 37 15.8**	**+0.5**
HHC				pmax		pmax		
	comp=Z,16nm,1.2s							
HHC				pmax		pmax		
	comp=Z,57nm,5.4s							
ASAR	**Alice Springs**	**144.65**	**80**	PKP		PKPbc	20 44 14.9	+0.5
	comp=Z,2.7nm,0.8s,baz=297,slow=2.9,SNR=9.9							

*ISCJB **25** 20:28:01.2±0.7,52.8N±0.1×169.74W±0.07,h10km, mb3.5/6,Error ellipse: s-maj=16.3km s-min=4.2km az=161.5*
*IDC **25** 20:28:01.5±2.2,52.96N×169.61W,h0km,mb3.6/6, mb1 3.8/7,mb1mx3.4/65,mbtmp3.5/7,ML2.0/1,MS2.5/1,*

Ms1 2.6/1,ms1mx2.1/32,Error ellipse: s-maj=42.7km s-min=27.7km az=28.0
*NEIC **25** 20:28:02.4,52.76N×169.57W,h5km,ML3.2(AEIC),After AEIC.*
ISC 25 20:28:02.1±0.8,52.9N±0.1×169.69W±0.05,h10km,n23, σ1°07/25,mb3.6/6,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.52**	**77**	P		P	**Pg**	**20 28 12.4**	**+0.2**
NIKH				S		S	**Sb**	**20 28 20.4**	**-0.5**
OKSO	**Okmok South**	**1.05**	**61**	P		P	**Pg**	**20 28 21.8**	**-0.4**
OKSO				S		S	**Sb**	**20 28 36.8**	**+0.7**
OKWR	**Okmok West Rim**	**1.06**	**57**	P		P	**Pg**	**20 28 23.1**	**+0.5**
OKAK	**Okmok**	**1.08**	**48**	P		P	**Pb**	**20 28 21.3**	**-1.5**
OKCE	**Okmok Cone E**	**1.08**	**58**	P		P	**Pb**	**20 28 22.5**	**-0.3**
OKTU	**Okmok Mt. Tuli**	**1.12**	**62**	P		P	**Pb**	**20 28 23.8**	**+0.2**
OKFG	**Magazine Ridge**	**1.21**	**62**	P		P	**Pb**	**20 28 24.6**	**-0.4**
OKFG				S		S	**Sn**	**20 28 41.8**	**+0.5**
UNV	**Unalaska Valle**	**2.15**	**61**	P		P	**Pn**	**20 28 39.2**	**+1.2**
UNV				S		S	**Sb**	**20 29 07.8**	**0.0**
ZRO	**Akutan Zero**	**2.54**	**59**	P		P	**Pb**	**20 28 46.1**	**-1.6**
ATKA	**Atka Island**	**2.83**	**258**	P		P	**Pn**	**20 28 47.3**	**0.0**
GSTR	**Great Sitkin T**	**3.97**	**261**	*eP*		n	**Pn**	**20 29 03.2**	**+0.2**
GSTR				*eS*		n	**Sn**	**20 29 50.7**	**+1.1**
SPIA	**Saint Paul Isl**	**4.34**	**356**	P		P	**Pn**	**20 29 09.5**	**+1.5**
BPAW	**Bear Paw Mtn.**	**14.84**	**33**	*ePn*		P		**20 31 38.0**	**+0.3**
	0.8nm,0.7s								
ILAR	**Eielson Array**	**16.66**	**35**	Pn		**Pn**		**20 31 51.8**	**-3.5**
	0.0nm,0.3s,baz=222,slow=11,SNR=2.4								
ILAR				LR		LR		20 37 53.2	
	comp=Z,17nm,20.9s,baz=34,slow=36								
SEY	**Seymchan**	**22.19**	**312**	P		P		**20 32 58.7**	**+0.6**
	1.5nm,0.7s,baz=108,slow=11,SNR=5.5								
DLBC	**Dease Lake**	**22.80**	**60**	P		P		**20 33 04.8**	**0.0**
	2.4nm,0.8s,baz=257,slow=11,SNR=2.8								
INK	**Inuvik**	**23.05**	**34**	P		P		**20 33 06.6**	**-0.4**
	1.0nm,0.6s,baz=258,slow=10,SNR=3.5								
NVAR	**Mina Array Bea**	**37.87**	**91**	P		P		**20 35 20.0**	**+0.7**
	0.7nm,0.7s,baz=298,slow=9.7,SNR=4.4								
H11S1	**WAKE ISLAND Hy**	**38.91**	**217**	T		T		21 16 33.3	
	baz=22,slow=76,SNR=9.5								
H11S2	**WAKE ISLAND Hy**	**38.93**	**217**	T		T		21 16 34.6	
	baz=22,slow=76,SNR=8.1								
H11S3	**WAKE ISLAND Hy**	**38.93**	**217**	T		T		21 16 35.3	
	baz=22,slow=76,SNR=6.6								
PDAR	**Pinedale Array**	**40.50**	**79**	P		P		**20 35 41.2**	**0.0**
	0.4nm,0.6s,baz=316,slow=4.1,SNR=3.7								
TXAR	**Lajitas Array**	**52.93**	**89**	P		P		**20 37 19.0**	**+0.5**
	0.6nm,0.7s,baz=302,slow=5.2,SNR=8.1								

*ISCJB **25** 20:30:54.5±0.2,6.72N±0.02×123.59E±0.03,h608km±3km, mb4.4/74,Error ellipse: s-maj=5.3km s-min=3.3km az=158.7*
*MOS **25** 20:30:54.8±0.8,6.73N×123.61E,h615km,mb4.4/39,Error ellipse: s-maj=11.6km s-min=6.4km az=114.6*
*BJI **25** 20:30:54.3,6.70N×123.60E,h598km,mb4.6/38,mB4.6/29*
*NEIC **25** 20:30:54.9±0.4,6.72N±123.60E,h598km±6km, mb4.7/24, Error ellipse: s-maj=10.4km s-min=6.1km az=67.0*
*IDC **25** 20:30:56.0±0.8,6.70N×123.60E,h610km±9km,mb3.7/39, mb1 3.7/41,mb1mx3.6/57,mbtmp4.6/41,Error ellipse: s-maj=9.2km s-min=5.9km az=62.0*
*KLM **25** 20:30:55.3,6.63N×123.53E,h597km,mb4.8,ML4.3, MS6.2*
*DJA **25** 20:30:58.0±0.7,7°N±8°×12°4E±°,h583km±9km,M4.3/11, mb4.7/11,mB4.8/10,MLv4.6/3,Mw(mB)4.0/10*
ISC 25 20:30:55.0±0.3,6.68N±0.03×123.61E±0.05,h598km±3km, h600km:pP-P,n264,σ1°11/320,mb4.4/73,17C-15D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.83**	**49**	⇓*iP*		P		**20 32 06.7**	**+1.0**
GSPH	**General Santos**	**1.45**	**114**	⇓*eP*		P		**20 32 08.1**	**+0.7**
IPIL	**Ipil**	**1.51**	**317**	⇓*iP*		P		**20 32 07.7**	**+0.3**
DCPH	**Dipolog City**	**1.91**	**352**	*eP*		P		**20 32 09.3**	**+0.5**
DAV	**Davao City (W)**	**1.99**	**79**	*eP*		P		**20 32 08.4**	**-0.6**
CGP	**Cagayan de Oro**	**2.07**	**31**	⇓*eP*		P		**20 32 09.7**	**+0.3**
TBP	**Tagbilaran**	**3.00**	**5**	*eP*		P		**20 32 12.7**	**-1.3**
TBP				*eS*		S		**20 33 17.8**	**-0.6**
MYLDM	**Lahad Datu**	**5.30**	**254**	⇑P		P		**20 32 30.4**	**+0.2**
MYLDM	**Lahad Datu**	**5.30**	**254**	*eP*		P		**20 32 32.4**	**+2.2**
KMSI	**Cibinong**	**6.07**	**177**	P		P		**20 32 37.8**	**+1.1**
TSM	**Tawau**	**6.19**	**248**	⇑P		P		**20 32 36.9**	**-0.8**
TOLI	**Toli-Toli**	**6.19**	**207**	*eP*		P		**20 32 37.6**	**-0.2**
MRSI	**Marisa**	**6.38**	**195**	P		P		**20 32 40.3**	**+0.9**
SDKM	**Sandakan**	**6.46**	**261**	⇑P		P		**20 32 39.7**	**-0.5**
KDM	**Kudat**	**6.74**	**272**	⇑P		P		**20 32 41.7**	**-0.9**
TNTI	**Ternate**	**6.96**	**147**	P		P		**20 32 45.7**	**+1.1**
TNTI	**Ternate**	**6.96**	**147**	*eP*		P		**20 32 44.9**	**+0.3**
TNTI				*eS*		S		**20 34 13.9**	**-0.3**
MPSI	**Mapaga**	**7.31**	**211**	P		P		**20 32 48.4**	**+0.6**
	16nm,0.6s,708nm								
KKM	**Kota Kinabalu**	**7.38**	**266**	P		P		**20 32 48.5**	**-0.1**
	baz=7.3,SNR=38								
KKM	**Kota Kinabalu**	**7.38**	**266**	⇑P		P		**20 32 48.4**	**-0.1**
KKM	**Kota Kinabalu**	**7.38**	**266**	*eP*		P		**20 32 48.4**	**-0.2**
LUWI	**Luwuk**	**7.71**	**186**	P		P		**20 32 51.0**	**-0.6**
	117nm,0.6s,2μm								
LUWI	**Luwuk**	**7.71**	**186**	P		P		**20 32 51.5**	**-0.1**
	baz=7.6,SNR=48								
LUWI	**Luwuk**	**7.71**	**186**	*eP*		P		**20 32 50.4**	**-1.2**
LUWI				*eS*		S		**20 34 26.7**	**-0.4**
APSI	**Ampana**	**7.79**	**195**	P		P		**20 32 53.2**	**+0.9**
TGY	**Tagaytay City**	**7.83**	**341**	P		P		**20 32 53.1**	**+0.4**
	56nm,3s,baz=188,slow=2.8,SNR=21								
TGY	**Tagaytay City**	**7.83**	**341**	P		P		**20 32 53.1**	**+0.4**
TGY				pmax		pmax			
	comp=Z,56nm,0.3s								
LBMI	**Labuha**	**8.24**	**152**	P		P		**20 32 57.8**	**+1.2**
PCI	**Palu**	**8.42**	**207**	P		P		**20 32 58.1**	**-0.3**
	comp=Z,37nm,0.7s,comp=Z,688nm								
SANI	**Sanana**	**8.99**	**165**	P		P		**20 33 02.3**	**-1.5**
	comp=Z,265nm,0.6s,comp=Z,7μm								
TTSI	**Tana Toraja**	**10.37**	**202**	P		P		**20 33 17.8**	**+0.3**
	comp=Z,22nm,0.9s								
NLAI	**Namlea**	**10.45**	**160**	P		P		**20 33 19.5**	**+1.3**
SWI	**Sorong**	**10.69**	**134**	P		P		**20 33 21.5**	**+0.8**
	comp=Z,148nm,0.6s,comp=Z,2μm								
SWI	**Sorong**	**10.69**	**134**	P		P		**20 33 22.3**	**+1.6**
	baz=11,SNR=31								
SIJI	**Sorong**	**10.70**	**134**	P		P		**20 33 21.7**	**+0.9**
	comp=Z,23nm,0.3s,baz=318,slow=13,SNR=59								
BTM	**Bintulu**	**11.04**	**252**	⇑P		P		**20 33 23.5**	**-0.7**
SZP	**Santa**	**11.24**	**344**	*eP*		P		**20 33 23.8**	**-2.3**
AAI	**Ambon**	**11.27**	**156**	P		P		**20 33 27.8**	**+1.4**
AAI	**Ambon**	**11.27**	**156**	P		P		**20 33 28.0**	**+1.6**
	baz=11,SNR=17								
SBUM	**Sibu**	**12.11**	**250**	⇑P		P		**20 33 34.0**	**-0.9**
SBUM	**Sibu**	**12.11**	**250**	*eP*		P		**20 33 35.5**	**+0.6**
FAKI	**Fak Fak**	**12.85**	**138**	P		P		**20 33 43.5**	**+1.1**
FAKI	**Fak Fak**	**12.85**	**138**	P		P		**20 33 43.5**	**+1.1**
	baz=13,SNR=144								
FAKI	**Fak Fak**	**12.85**	**138**	*eP*		P		**20 33 43.2**	**+0.9**
STKI	**Sintang**	**13.78**	**242**	P		P		**20 33 53.5**	**+1.7**
KSM	**Kuching**	**14.24**	**249**	P		P		**20 33 56.7**	**+0.4**
	baz=14,SNR=10								
KSM	**Kuching**	**14.24**	**249**	⇑P		P		**20 33 55.1**	**-1.2**
KSM	**Kuching**	**14.24**	**249**	*eP*		P		**20 33 55.5**	**-0.8**
MMRI	**Maumere**	**15.27**	**185**	*eP*		P		**20 34 07.1**	**+1.3**
	comp=Z,154nm,1.7s								
TWG	**Pinlang**	**16.24**	**352**	*eP*		P		**20 34 13.0**	**-1.6**
	comp=Z,268nm,1.6s								
SOEI	**Soe**	**16.34**	**178**	*eP*		P		**20 34 15.9**	**+0.2**
	comp=Z,38nm,0.8s								
SOEI				*eS*		S		**20 37 00.0**	**+0.9**
YULB	**Yu-li**	**16.77**	**353**	*eP*		P		**20 34 17.8**	**-1.6**
	comp=Z,93nm,2.1s								
SSLB	**Suanglung**	**17.20**	**352**	*eP*		P		**20 34 23.6**	**+0.2**
	comp=Z,27nm,0.6s								
SSLB				*eS*		S		**20 37 12.8**	**-0.2**
YHNB	**Yeheng**	**18.02**	**353**	*eP*		P		**20 34 31.3**	**+0.4**
	comp=Z,196nm,2.2s								
JAY	**Jayapura**	**19.35**	**118**	P		P		**20 34 43.7**	**+0.6**
	comp=Z,3.2nm,0.3s,baz=260,slow=6.5,SNR=14								
JAY	**Jayapura**	**19.35**	**118**	P		P		**20 34 43.7**	**+0.6**
JAY				pmax		pmax			
	comp=Z,3.0nm,0.3s								
JAY	**Jayapura**	**19.35**	**118**	P		P		**20 34 44.5**	**+1.4**
	baz=19,SNR=3.9								
UGM	**Wanagama**	**19.51**	**222**	P		P		**20 34 45.8**	**+1.3**
	baz=19,SNR=5.5								
MYKOM	**Kota Tinggi**	**20.29**	**257**	⇑P		P		**20 34 51.4**	**-0.2**
KTGM	**Kuala Trenggan**	**20.41**	**267**	⇑P		P		**20 34 52.1**	**-0.6**
KGM	**Kluang**	**20.75**	**258**	⇑P		P		**20 34 54.4**	**-1.3**
MTN	**Manton Dam**	**20.78**	**159**	P		P		**20 34 56.1**	**+0.2**
	baz=21,SNR=7.6								
LEM	**Lembang**	**20.85**	**230**	P		P		**20 34 57.8**	**+1.1**
	comp=Z,22nm,0.7s,baz=132,slow=21,SNR=6.7								
LEM	**Lembang**	**20.85**	**230**	P		P		**20 34 57.8**	**+1.1**
LEM				pmax		pmax			
	comp=Z,22nm,0.7s								
KDU	**Kakadu**	**21.16**	**155**	P		P		**20 34 59.1**	**-0.2**
	baz=21,SNR=11								
CISI	**Cisompet, Garu**	**21.17**	**228**	P		P		**20 34 59.7**	**+0.2**
	baz=21,SNR=3.6								
FRIM	**Kepong**	**22.17**	**262**	⇑P		P		**20 35 08.2**	**-0.2**
KHON	**Khomkaen**	**22.50**	**297**	P		P		**20 35 12.2**	**+1.0**
	comp=Z,10nm,0.5s,comp=Z,386nm								
IPM	**Ipoh**	**22.59**	**266**	⇑P		P		**20 35 11.0**	**-1.1**
KNRA	**Kununurra**	**22.79**	**167**	P		P		**20 35 14.3**	**+0.5**
	baz=23,SNR=28								
KULM	**Kulim**	**22.88**	**268**	⇑P		P		**20 35 15.2**	**+0.5**
PPI	**Padang Panjang**	**24.23**	**254**	P		P		**20 35 26.5**	**-0.1**
	baz=24,SNR=6.9								
PSI	**Prapat**	**24.90**	**262**	P		P		**20 35 32.7**	**0.0**
	comp=Z,22nm,0.7s,baz=71,slow=9.4,SNR=13								
PSI	**Prapat**	**24.90**	**262**	P		P		**20 35 32.7**	**0.0**
PSI				pmax		pmax			
	comp=Z,22nm,0.7s								
PSI	**Prapat**	**24.90**	**262**	P		P		**20 35 33.8**	**+1.0**
	baz=25,SNR=7.1								
PSI	**Prapat**	**24.90**	**262**	*eP*		P		**20 35 32.4**	**-0.3**
	comp=Z,24nm,0.6s								
GYA	**Guiyang**	**25.45**	**323**	⇓*iP*		P		**20 35 38.5**	**+1.1**
GYA				sP		**sP**		**20 38 18.5**	**-1.0**
GYA				PcP		**PcP**		**20 38 50.0**	**+1.6**
GYA				S		**S**		**20 39 25.5**	**+1.7**
GYA				ScP		**ScP**		**20 41 33.8**	**+1.9**
GYA				PcS		**PcS**		**20 42 29.5**	**-0.4**
GYA				ScS		**ScS**		**20 45 22.0**	**-

MJAR PcP **PcP** **20 39 06.1 -0.5**
comp=Z,0.3nm,0.4s,baz=189,slow=4.4,SNR=4.6
MJAR **Matsushiro Arr** **32.58 22** P **P** **20 36 38.3 -0.4**
MJAR 20 39 06.1
MJAR pmax pmax
comp=Z,2.0nm,0.6s
MEEK **Meekatharra** **33.47 188** P **P** **20 36 46.5 +0.2**
baz=34,SNR=11
BJI **Beijing** **33.88 350** P **P** **20 36 50.3 +0.8**
BJI pP **pP** **20 38 27.0 -0.4**
BJI PcP **PcP** **20 39 09.8 -0.4**
BJI S S 20 41 39.8 +7.1
BJI PMZ
comp=Z,11nm,0.8s
BJI PMZ
comp=Z,77nm,5.7s
LZH **Lanzhou** **34.42 331** *e*P **P** **20 36 56.3 +2.0**
LZH PMZ
comp=Z,32nm,1.2s
LZH PMZ
comp=Z,170nm,5.0s
CTA **Charters Tower** **34.69 141** P **P** **20 36 57.3 +0.8**
comp=Z,16nm,0.5s,baz=320,slow=10,SNR=22
CTA **Charters Tower** **34.69 141** P **P** **20 36 57.3 +0.8**
CTA pmax pmax
comp=Z,16nm,0.5s
HHC **Hu-ho-hao-te** **35.69 344** *e*P **P** **20 37 06.3 +1.7**
HHC PP **PP** **20 38 48.3 -1.1**
HHC S **S** **20 42 04.0 +4.0**
HHC sS **sS** **20 45 04.5 +1.2**
HHC SS **SS** **20 45 10.5 -6.5**
HHC ScS **ScS** **20 46 13.0 +0.1**
HHC PMZ
comp=Z,10.0nm,1.1s
HHC PMZ
comp=Z,98nm,5.3s
MORW **Morawa** **36.28 191** P **P** **20 37 09.9 +0.4**
baz=36,SNR=8.9
FORT **Forrest** **37.48 174** P **P** **20 37 20.1 +0.9**
comp=Z,58nm,0.6s
FORT **Forrest** **37.48 174** *e*P **P** **20 37 20.2 +0.9**
comp=Z,58nm,0.6s
KMBL **Kambalda** **37.87 182** P **P** **20 37 22.9 +0.5**
baz=38,SNR=20
USRK **Ussuriysk Ar.** **38.09 10** P **P** **20 37 24.3 +0.3**
comp=Z,1.8nm,0.7s,baz=216,slow=9.0,SNR=6.0
USRK PcP **PcP** **20 39 22.6 -0.4**
comp=Z,0.9nm,0.5s,baz=210,slow=6.6,SNR=5.1
MDJ **Mudanjiang** **38.15 7** P **P** **20 37 25.8 +1.3**
MDJ PP **PP** **20 39 11.8 +0.1**
MDJ PcP **PcP** **20 39 23.5 +0.3**
MDJ sP **sP** **20 40 13.0 -0.5**
MDJ ScP **ScP** **20 42 16.0 +1.1**
MDJ S **S** **20 42 39.0 +3.0**
MDJ PcS **PcS** **20 43 14.0 +0.8**
MDJ PMZ
comp=Z,5.0nm,1.3s
MDJ PMZ
comp=Z,43nm,6.7s
LSA **Lhasa** **38.18 311** P **P** **20 37 26.5 +1.0**
LSA **Lhasa** **38.18 311** *e*P **P** **20 37 27.0 +1.5**
LSA *e* 20 39 24.8
LSA pmax pmax
comp=Z,12nm,0.6s
LSA **Lhasa** **38.18 311** *e*P **P** **20 37 27.0 +1.5**
comp=Z,12nm,0.6s
LSA *e*PcP **PcP** **20 39 24.8 +0.5**
QLP **Quilpie** **38.64 150** P **P** **20 37 29.6 +0.9**
baz=39,SNR=9.8
GTA **Gaotai** **39.00 330** *e*P **P** **20 37 32.5 +0.9**
GTA PMZ
comp=Z,13nm,0.8s
TAPN **Taplejung** **39.79 305** *e*P **P** **20 37 38.8 +0.5**
comp=Z,19nm,0.4s
ODAN **Odare** **39.85 305** *e*P **P** **20 37 39.2 +0.5**
comp=Z,40nm,0.6s
RAMN **Ramite** **40.53 304** *e*P **P** **20 37 44.9 +0.7**
comp=Z,38nm,0.6s
ASAJ **Asahikawa** **40.83 21** P **P** **20 37 46.2 +0.4**
comp=Z,3.4nm,0.6s,baz=198,slow=7.1,SNR=8.1
ASAJ **Asahikawa** **40.83 21** P **P** **20 37 46.3 +0.4**
ASAJ pmax pmax
comp=Z,3.0nm,0.6s
BBOO **Buckleboo** **41.01 164** P **P** **20 37 48.4 +0.9**
baz=41,SNR=30
BBOO **Buckleboo** **41.01 164** *e*P **P** **20 37 48.2 +0.7**
comp=Z,46nm,1.0s
GUN **Gumba** **41.50 305** *e*P **P** **20 37 52.3 +0.4**
comp=Z,44nm,0.5s
EIDS **Eidsvold** **41.57 141** P **P** **20 37 52.8 +0.8**
baz=42,SNR=5.9
EIDS **Eidsvold** **41.57 141** *e*P **P** **20 37 52.8 +0.8**
comp=Z,17nm,0.8s
PKI **Pulchoki** **41.75 304** *e*P **P** **20 37 53.8 -0.1**
PKIN **Phulchoki** **41.76 304** *e*P **P** **20 37 53.8 -0.1**
comp=Z,6.0nm,0.4s
KKN **Kakani** **41.94 305** *e*P **P** **20 37 55.3 +0.1**
comp=Z,18nm,0.5s
STKA **Stephens Creek** **42.00 157** P **P** **20 37 56.3 +1.0**
comp=Z,29nm,0.5s,baz=334,slow=7.7,SNR=140
STKA ScP **ScP** **20 42 29.1 -1.2**
comp=Z,3.5nm,0.8s,baz=319,slow=5.6,SNR=6.2
STKA **Stephens Creek** **42.00 157** P **P** **20 37 56.3 +1.0**
STKA pmax pmax
comp=Z,29nm,0.5s
STKA pmax pmax
comp=N,4.0nm,0.8s
STKA **Stephens Creek** **42.00 157** *e*P **P** **20 37 56.2 +0.9**
comp=N,4.8nm,0.6s
DMN **Daman** **42.01 304** *e*P **P** **20 37 55.9 +0.1**
comp=N,19nm,0.7s
HTT **Hallett** **42.45 161** P **P** **20 38 00.1 +1.3**
baz=42,SNR=43
GKN **Gorkha** **42.55 305** *e*P **P** **20 37 59.9 0.0**
comp=N,14nm,0.4s
PALK **Pallekele** **42.59 273** P **P** **20 38 00.6 +0.3**
comp=N,5.1nm,0.7s,baz=101,slow=9.3,SNR=3.6
PALK **Pallekele** **42.59 273** P **P** **20 38 00.6 +0.3**
PALK pmax pmax
comp=Z,5.0nm,0.7s
HABR **Khabarovsk** **42.77 11** P **P** **20 38 00.0 -1.0**
HABR *e* 20 39 37.1
HABR *e**PP **pP** **20 39 44.2 -0.9**
HABR *e* 20 39 52.9
HABR *SP **sP** **20 40 52.3 0.0**
HABR *e*S **S** **20 43 42.0 -0.6**
HABR *e* 20 46 53.3
HABR *e*SS **SS** **20 47 13.7 +1.5**
HABR pmax pmax
comp=Z,5.0nm,0.6s
HABR MLR MLR
comp=Z,71nm,17.0s
KOLN **Koldanda** **43.31 304** *e*P **P** **20 38 06.6 +0.7**
comp=Z,67nm,0.5s
DANN **Dangsing** **43.39 305** *e*P **P** **20 38 07.1 +0.5**
comp=Z,12nm,0.6s
ULN **Ulaanbaatar** **43.41 344** *e*P **P** **20 38 06.4 +0.2**
ULN *e* 20 39 40.9
ULN pmax pmax
comp=Z,28nm,1.4s
ULN **Ulaanbaatar** **43.41 344** *e*P **P** **20 38 06.4 +0.2**
comp=Z,28nm,1.4s
ULN *e*PcP **PcP** **20 39 40.9 +0.1**
CMSA **Cobar Meteorol** **43.46 152** P **P** **20 38 08.4 +1.7**
baz=44,SNR=49
SONM **Songino Array** **43.56 343** P **P** **20 38 07.9 +0.5**
comp=Z,9.0nm,0.9s,baz=160,slow=8.1,SNR=52
SONM PcP **PcP** **20 39 40.8 -0.5**
comp=Z,2.2nm,0.8s,baz=158,slow=3.5,SNR=7.1
SONM ScP **ScP** **20 42 35.3 -1.3**
comp=Z,0.3nm,0.6s,baz=153,slow=3.2,SNR=3.1
SONM **Songino Array** **43.56 343** P **P** **20 38 07.9 +0.5**
SONM 20 39 40.8
SONM pmax pmax
comp=Z,9.0nm,0.9s
SONM pmax pmax
comp=Z,2.0nm,0.8s
HYB **Hyderabad** **45.23 288** *i* P **P** **20 38 20.0 -0.6**
ARMA **Armidale** **45.63 145** P **P** **20 38 25.8 +2.4**
baz=46,SNR=14
ARMA **Armidale** **45.63 145** P **P** **20 38 23.9 +0.5**
ARPS **Mount Arapiles** **46.47 160** P **P** **20 38 30.5 +1.0**
baz=46,SNR=29
ZAK **Zakamensk** **46.76 342** *e*P **P** **20 38 31.0 -0.7**
ZAK *e* 20 39 52.7
ZAK pmax pmax
comp=Z,2.0nm,1.1s
TLY **Talaya** **47.81 343** P **P** **20 38 39.8 +0.5**
comp=Z,9.1nm,0.6s,baz=182,slow=7.5,SNR=12
TLY **Talaya** **47.81 343** *i* P **P** **20 38 40.7 +1.4**
TLY pmax pmax
comp=Z,11nm,1.1s
TLY **Talaya** **47.81 343** *e*P **P** **20 38 40.1 +0.7**
CNB **Canberra Magne** **48.30 152** P **P** **20 38 45.3 +2.0**
baz=48,SNR=6.7
TOO **Toolangi** **48.52 157** P **P** **20 38 46.7 +1.8**
baz=49,SNR=12
WMQ **Urumqi** **48.55 325** P **P** **20 38 46.0 +0.9**
WMQ pP **pP** **20 40 34.5 +1.1**
WMQ sP **sP** **20 41 38.0 -1.2**
WMQ PMZ
comp=Z,17nm,1.0s
WMQ PMZ
comp=Z,100nm,4.0s
MOY **Mondy** **48.59 341** *e*P **P** **20 38 46.6 +1.3**
MOY pmax pmax
comp=Z,12nm,1.3s
DZM **Mont Dzumac** **50.76 125** P **P** **20 39 02.6 +1.0**
comp=Z,7.1nm,0.5s,baz=270,slow=20,SNR=14
MK31 **Makanchi Array** **53.38 326** *e*P **P** **20 39 20.6 +0.7**
MK31 *e* 20 40 16.9
MK31 **Makanchi Array** **53.38 326** *e*P **P** **20 39 20.6 +0.7**
MK31 *e*PcP **PcP** **20 40 16.9 -0.4**
MKAR **Makanchi Array** **53.38 326** P **P** **20 39 20.4 +0.5**
comp=Z,27nm,0.5s,baz=120,slow=8.0,SNR=452
MKAR PcP **PcP** **20 40 16.8 -0.5**
comp=Z,3.2nm,0.5s,baz=114,slow=4.3,SNR=4.8
MKAR **Makanchi Array** **53.38 326** P **P** **20 39 20.4 +0.5**
MKAR 20 40 16.8
MKAR pmax pmax
comp=Z,27nm,0.5s
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR **Makanchi Array** **53.38 326** *e*P **P** **20 39 20.8 +0.9**
PETK **Petropavlovsk-** **53.98 25** P **P** **20 39 24.5 +0.6**
comp=Z,4.3nm,0.7s,baz=201,slow=7.9,SNR=4.8
PETK PcP **PcP** **20 40 19.5 +0.1**
comp=Z,1.7nm,0.6s,baz=183,slow=2.7,SNR=3.2
PETK **Petropavlovsk-** **53.98 25** P **P** **20 39 24.5 +0.6**
PETK 20 40 19.5
PETK pmax pmax
comp=Z,4.0nm,0.7s
PETK pmax pmax
comp=Z,2.0nm,0.6s
YAK **Yakutsk** **55.42 3** P **P** **20 39 34.0 +0.3**
comp=Z,1.6nm,0.5s,baz=189,slow=19
YAK **Yakutsk** **55.42 3** *i* P **P** **20 39 34.4 +0.7**
YAK pmax pmax
comp=Z,12nm,0.6s
ZAA0 **Zalesovo Array** **56.58 334** *e*P **P** **20 39 40.7 -1.1**
ZALV **Zalesovo Beam** **56.58 334** P **P** **20 39 41.4 -0.5**
comp=Z,5.4nm,0.6s,baz=123,slow=5.5,SNR=25
ZALV **Zalesovo Beam** **56.58 334** P **P** **20 39 41.4 -0.5**
ZALV pmax pmax
comp=Z,5.0nm,0.6s
KURBB **Kurchatov Arra** **57.60 328** P **P** **20 39 49.1 +0.3**
comp=Z,33nm,0.7s,baz=131,slow=6.4,SNR=489
KURK **Kurchatov** **57.61 328** P **P** **20 39 49.0 +0.1**
comp=Z,633nm,0.6s,SNR=66
KURK **Kurchatov** **57.61 328** P **P** **20 39 49.1 +0.1**
KURK pmax pmax
comp=Z,33nm,0.7s
KURK **Kurchatov** **57.61 328** *e*P **P** **20 39 49.4 +0.5**
NVS **Novosibirsk** **57.87 334** *e*P **P** **20 39 49.8 -0.8**
NVS *e*S **S** **20 47 04.3 -1.1**
NVS pmax pmax
comp=N,7.0nm,0.8s
NVS pmax pmax
comp=E,7.0nm,0.8s
NVS pmax pmax
comp=Z,12nm,0.8s
NVS smax smax
comp=N,3.0nm,1.1s
NVS smax smax
comp=E,6.0nm,1.1s
OTUK **Ortayu** **59.92 323** *i* P **P** **20 40 04.9 +0.4**
OTUK pmax pmax
comp=Z,12nm,0.6s
SEY **Seymchan** **59.93 15** P **P** **20 40 04.8 +0.6**
comp=Z,2.1nm,0.8s,baz=191,slow=6.0,SNR=4.9
BVAR **Borovoye Array** **63.18 327** P **P** **20 40 25.6 +0.1**
comp=Z,8.5nm,0.8s,baz=132,slow=8.0,SNR=58
BVAR pmax pmax
comp=Z,9.0nm,0.8s
BRVK **Borovoye** **63.25 327** P **P** **20 40 26.3 +0.3**
comp=Z,127nm,1.0s,SNR=14
BRVK **Borovoye** **63.25 327** *d* *i* P **P** **20 40 26.1 +0.1**
BRVK pmax pmax
comp=Z,18nm,0.8s
BRVK **Borovoye** **63.25 327** *e*P **P** **20 40 25.8 -0.2**
comp=Z,17nm,0.8s
IKOO **Kooshah** **65.05 303** *e*P **P** **20 40 38.9 +0.8**
ISRO **Mashad** **65.29 307** *e*P **P** **20 40 39.4 0.0**
ITEG **Tejag** **65.33 303** *e*P **P** **20 40 40.7 +1.0**
RPZ **Rata Peaks** **65.95 144** P **P** **20 40 42.8 -0.3**
comp=Z,8.9nm,0.8s,baz=243,slow=2.3,SNR=3.0
GEYT **Alibeck** **66.64 308** P **P** **20 40 47.8 +0.2**
comp=Z,8.0nm,0.9s,baz=132,slow=2.2,SNR=11
BILL **Bilibino** **67.56 16** *e*P **P** **20 40 53.0 +0.5**
BILL pmax pmax
comp=Z,2.0nm,1.2s
ABKAR **Akbulak array** **67.92 321** *e*P **P** **20 40 54.6 -0.4**
comp=Z,4.0nm,0.4s
IMEH **Mehriz** **68.64 301** *e*P **P** **20 40 59.4 -0.7**
AKTO **Aktyubinsk** **69.44 322** P **P** **20 41 04.2 +0.1**
comp=Z,9.3nm,0.7s,baz=115,slow=7.8,SNR=43
AKTO **Aktyubinsk** **69.44 322** P **P** **20 41 04.3 +0.1**
AKTO pmax pmax
comp=Z,9.0nm,0.7s
SVE **Sverdlovsk** **69.84 329** *i* P **P** **20 41 06.7 +0.2**
SVE pmax pmax
comp=Z,15nm,0.9s
ARU **Arti** **70.81 328** P **P** **20 41 11.7 -0.5**
baz=110,slow=6.5
ARU **Arti** **70.81 328** *d* *i* P **P** **20 41 11.3 -0.8**
ARU S **S** **20 49 40.1 -0.1**
ARU SS **SS** **20 54 23.6 -5.5**
ARU pmax pmax
comp=Z,13nm,1.0s
ARU **Arti** **70.81 328** P **P** **20 41 11.4 -0.7**
comp=Z,105nm,0.6s,SNR=6.9
ARU **Arti** **70.81 328** *e*P **P** **20 41 11.6 -0.5**
comp=Z,5.1nm,0.4s
IKAZ **Kazeroun** **70.90 299** *e*P **P** **20 41 13.8 +0.1**
CASY **Casey** **73.39 185** *e*P **P** **20 41 25.1 -1.7**
comp=Z,3.6nm,0.6s
RAYN **Ar Rayn** **76.49 293** P **P** **20 41 44.6 -0.5**
comp=Z,79nm,0.7s,SNR=6.1
PRGR **Permogore** **78.45 332** *e*P **P** **20 41 53.1 -1.6**
PRGR pmax pmax
comp=Z,10.0nm,0.6s
KIV **Kislovodsk** **78.87 313** *e*P **P** **20 41 57.5 0.0**
KIV pmax pmax
comp=Z,4.0nm,1.3s
KDAK **Kodiak Island** **81.08 33** P **P** **20 42 08.8 +0.2**
comp=Z,12nm,0.7s,baz=266,slow=3.9,SNR=8.4
KDAK **Kodiak Island** **81.08 33** P **P** **20 42 08.8 +0.2**
KDAK pmax pmax
comp=Z,12nm,0.7s
VSR **Storozhevoye** **81.36 321** *e*P **P** **20 42 09.2 -0.9**
VSR pmax pmax
comp=N,9.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s
BPAW **Bear Paw Mtn.** **82.03 26** *e*P **P** **20 42 14.3 +1.0**
comp=Z,3.1nm,1.0s
TMCR **Tamitsa** **82.10 334** *e*P **P** **20 42 12.9 -0.7**
TMCR *e* 20 45 36.3
TMCR pmax pmax
comp=Z,25nm,1.2s
COLD **Coldfoot** **82.41 23** *e*P **P** **20 42 15.5 +0.4**
comp=Z,8.4nm,1.0s
OBN **Obninsk** **82.88 325** *d* *i* P **P** **20 42 17.0 -0.7**
OBN pmax pmax
comp=Z,19nm,0.6s
MCK **McKinley** **82.93 27** *e*P **P** **20 42 16.3 -1.6**
MCK pmax pmax
comp=Z,16nm,1.1s
MCK **McKinley** **82.93 27** *e*P **P** **20 42 16.3 -1.6**
comp=Z,16nm,1.1s
ASF **Jabal al Asfar** **83.72 302** P **P** **20 42 22.8 +0.3**
comp=Z,3.9nm,0.7s,baz=80,slow=3.1,SNR=7.3
ASF **Jabal al Asfar** **83.72 302** P **P** **20 42 22.8 +0.3**
ASF pmax pmax
comp=Z,4.0nm,0.7s
ILAR **Eielson Array** **83.80 26** P **P** **20 42 21.4 -0.7**
comp=Z,0.6nm,0.5s,baz=240,slow=4.9,SNR=16
ILAR **Eielson Array** **83.80 26** P **P** **20 42 21.4 -0.7**
ILAR pmax pmax
comp=Z,1.0nm,0.5s
MMAI **Mount Meron Ar** **84.91 303** P **P** **20 42 28.7 +0.3**
comp=Z,1.0nm,0.5s,baz=92,slow=10,SNR=3.1
MAW **Mawson** **85.45 200** P **P** **20 42 29.8 -0.1**
comp=Z,0.9nm,0.4s,baz=80,slow=6.5,SNR=9.9
MAW **Mawson** **85.45 200** P **P** **20 42 29.8 -0.1**
MAW pmax pmax
comp=Z,1.0nm,0.4s
BR131 **Keskin Array S** **85.77 309** *e*P **P** **20 42 30.3 -2.0**
comp=Z,0.8nm,0.3s
BRTR **Keskin Array B** **85.77 309** P **P** **20 42 31.2 -1.2**
comp=Z,2.0nm,0.5s,baz=123,slow=4.9,SNR=15
BRTR **Keskin Array B** **85.77 309** P **P** **20 42 31.2 -1.2**
BRTR pmax pmax
comp=Z,2.0nm,0.5s
KMBO **Kilima Mbogo** **86.52 268** P **P** **20 42 36.5 -0.1**
comp=Z,1.2nm,0.4s,baz=39,slow=12,SNR=7.8
KMBO **Kilima Mbogo** **86.52 268** P **P** **20 42 36.5 -0.1**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
ARCES **ARCESS Array B** **86.63 340** P **P** **20 42 34.7 -0.9**
comp=Z,2.1nm,0.7s,baz=74,slow=6.4,SNR=14
ARCES **ARCESS Array B** **86.63 340** P **P** **20 42 34.7 -0.9**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
VNDA **Vanda** **86.73 172** P **P** **20 42 36.0 +0.1**
comp=Z,1.3nm,0.6s,baz=301,slow=4.6,SNR=11
VNDA **Vanda** **86.73 172** P **P** **20 42 36.0 +0.1**
VNDA pmax pmax
comp=Z,1.0nm,0.6s
AKASG **Malin Array Be** **87.66 321** P **P** **20 42 39.5 -1.4**
comp=Z,0.9nm,0.4s,baz=68,slow=4.6,SNR=8.7
AKASG **Malin Array Be** **87.66 321** P **P** **20 42 39.5 -1.4**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
FINES **FINESS Array B** **87.78 332** P **P** **20 42 40.2 -1.0**
comp=Z,2.2nm,0.5s,baz=67,slow=4.7,SNR=26
FINES **FINESS Array B** **87.78 332** P **P** **20 42 40.2 -1.0**
FINES pmax pmax
comp=Z,2.0nm,0.5s
TESR **Tescani** **89.98 317** ⇓ *i* P **P** **20 42 50.8 -0.9**
VRI **Vrincioaia** **90.03 316** ⇓P **P** **20 42 51.3 -0.7**
VRI **Vrincioaia** **90.03 316** ⇓ *i* P **P** **20 42 51.3 -0.7**
MLR **Muntele Rosu** **90.64 316** P **P** **20 42 54.2 -0.8**
comp=Z,0.3nm,0.5s,baz=63,slow=6.8
MLR **Muntele Rosu** **90.64 316** ⇓ *i* P **P** **20 42 54.0 -1.0**
BURAR **Bucovina Array** **90.75 318** ⇓P **P** **20 42 55.0 -0.4**
BURAR **Bucovina Array** **90.75 318** ⇓ *i* P **P** **20 42 55.0 -0.4**
BUR08 **Bucovina Ar. S** **90.76 318** *e*P **P** **20 42 54.1 -1.3**
UZH **Uzhgorod** **92.46 319** ⇑ *i* P **P** **20 43 03.1 0.0**
HFS **Hagfors** **93.98 332** P **P** **20 43 08.6 -1.1**
comp=Z,2.3nm,0.9s,baz=116,slow=6.8,SNR=8.3
HFS **Hagfors** **93.98 332** P **P** **20 43 08.6 -1.1**
HFS pmax pmax
comp=Z,2.0nm,0.9s
NB2 **NORSAR Subarra** **94.78 333** P **P** **20 43 11.7 -1.7**
comp=Z,2.0nm,0.8s,baz=71,slow=4.4
NB2 **NORSAR Subarra** **94.78 333** P **P** **20 43 11.7 -1.7**
baz=71,slow=4.4
NOA **NORSAR Array B** **94.78 333** P **P** **20 43 11.7 -1.7**
comp=Z,1.4nm,0.7s,baz=70,slow=4.5,SNR=5.5
NOA **NORSAR Array B** **94.78 333** P **P** **20 43 11.7 -1.7**
NOA pmax pmax
comp=Z,1.0nm,0.7s
VRAC **Vranov** **95.91 321** ⇑P P 20 43 12.7 -6.1
VRAC **Vranov** **95.91 321** ⇑ *i* P P 20 43 12.7 -6.1
GERES **GERESS Array B** **97.86 321** P Pdif 20 43 27.1 -0.5
comp=Z,0.2nm,0.4s,baz=70,slow=5.0,SNR=4.0
TORD **Torodi Ar. Bea** **119.05 289** PKP **PKPdf** **20 48 37.0 -0.6**
comp=Z,1.8nm,0.5s,baz=66,slow=1.3,SNR=24
TXAR **Lajitas Array** **122.15 49** PKP **PKPdf** **20 48 43.6 +0.1**
comp=Z,0.3nm,0.7s,baz=217,slow=2.3,SNR=5.7
DBIC **Dimbokro** **126.91 283** PKP **PKPdf** **20 48 52.4 -0.4**
comp=Z,5.3nm,0.9s,baz=16,slow=1.4,SNR=6.2
DBIC **Dimbokro** **126.91 283** PKIKP **PKPdf** **20 48 52.4 -0.4**
DBIC pmax pmax
comp=Z,5.0nm,0.9s
LPAZ **La Paz** **165.05 131** PKP **PKPdf** **20 49 53.1 -0.1**
comp=Z,0.5nm,0.7s,baz=43,slow=2.0,SNR=4.8
LPAZ **La Paz** **165.05 131** PKIKP **PKPdf** **20 49 53.1 -0.1**
LPAZ pmax pmax
comp=Z,1.0nm,0.7s

IDC ***25*** *20:37:30.2±5.9, 36°.13N×70°.99E, h160km±54km, mb3.4/13, mb1 3.5/17, mb1mx3.3/32, mbtmp3.9/17, Error ellipse: s-maj=27.7km s-min=14.3km az=10.0*
ISCJB ***25*** *20:37:32.7±0.4, 36°.37N±0°.03×71°.06E±0°.05, h188km, mb3.6/12, Error ellipse: s-maj=6.5km s-min=3.2km az=158.3*
NNC ***25*** *20:37:39.1±5.5, 36°.83N×71°.28E, h0km, mb5.0, mpv4.7, Error ellipse: s-maj=46.6km s-min=19.7km az=171.0*
ISC 25 20:37:33.4±0.6, 36°.35N±0°.05×71°.14E±0°.06, h188km, n54, σ2≤12/64, mb3.6/12, 7C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.60**	**166**	⇓P		Pn		20 38 23.0	+5.1
CEP				S		**Sn**		**20 38 58.0**	**+5.5**
DZET	**Dzherino** 132nm,0.2s	**3.06**	**324**	⇓P		**Pn**		**20 38 25.5**	**+2.3**
DZET				⇑S		**Sn**		**20 39 00.9**	**-1.3**
	374nm,0.4s								
THW	**Thamme Wali**	**3.58**	**172**	⇓P		Pn		20 38 34.3	+4.7
SFK	**Sufi-Kurgan** 38nm,0.5s	**4.10**	**26**	⇑P		**Pn**		**20 38 37.9**	**+1.7**
SFK				⇑S		**Sn**		**20 39 24.8**	**-0.8**
	74nm,0.4s								
SARP	**Sargodha**	**4.60**	**163**	P		Pn		20 38 45.9	+3.5
SARP				S		**Sn**		**20 39 38.0**	**+1.4**
KSH	**Kashi**	**4.96**	**49**	Pn		**Pn**		**20 38 44.5**	**-2.5**
KSH				Sn		Sn		20 39 35.0	-10
KSH				smax		smax			
	comp=N,290nm,0.4s								
KSH				smax		smax			
	comp=E,150nm,0.4s								
DLH	**Dalhousie**	**5.51**	**132**	*e*P		**Pn**		**20 38 56.0**	**+1.7**
DLH				*e*S		**Sn**		**20 39 59.0**	**+0.9**
AML	**Almayashu** SNR=266	**6.10**	**18**	P		**Pn**		**20 39 02.9**	**+0.8**
KZA	**Kyzart** SNR=16	**6.55**	**28**	P		**Pn**		**20 39 09.0**	**+1.1**
BHK	**Bhakra**	**6.60**	**137**	*ex*		**Sn**		**20 40 27.5**	**+4.2**
EKS2	**Erkin-Say** SNR=21	**6.62**	**17**	P		**Pn**		**20 39 09.7**	**+1.1**
KK31	**Karatay Array**	**6.76**	**356**	P		**Pn**		**20 39 11.0**	**+0.7**
	comp=E,19nm,0.3s,baz=180,slow=13,SNR=1311								
KK31				⇓S		**Sn**		**20 40 22.1**	**-5.0**
	comp=E,11nm,0.5s,baz=179,slow=21,SNR=4.4								
AAK	**Ala-Archa** SNR=39	**6.79**	**21**	P		**Pn**		**20 39 11.9**	**+1.1**
AAK	**Ala-Archa** comp=E,27nm,0.4s	**6.79**	**21**	⇑P		**Pn**		**20 39 11.8**	**+0.9**
AAK				⇑S		**Sn**		**20 40 25.7**	**-2.3**
	comp=E,25nm,0.6s								
SDNR	**Sundarnagar**	**6.85**	**133**	*e*P		**Pn**		**20 39 14.0**	**+2.4**
SDNR				*e*S		**Sn**		**20 40 29.0**	**-0.3**
KBK	**Karagaybulak** SNR=12	**6.95**	**24**	P		**Pn**		**20 39 14.5**	**+1.6**
ULHL	**Ulahol** SNR=14	**7.09**	**32**	P		**Pn**		**20 39 15.6**	**+0.8**
CHMS	**Chumysh** SNR=36	**7.20**	**22**	P		**Pn**		**20 39 16.7**	**+0.6**
SMLA	**Simla**	**7.24**	**134**	*i* S		**Sn**		**20 40 37.7**	**-0.7**
SMLA				*i* S		**Sn**		**20 40 38.1**	**-0.2**
USP	**Ospenovka** SNR=27	**7.38**	**20**	P		**Pn**		**20 39 18.8**	**+0.4**
TKM2	**Tokmak 2** SNR=65	**7.41**	**26**	P		**Pn**		**20 39 19.9**	**+1.0**
TKM2	**Tokmak 2** comp=E,45nm,0.8s	**7.41**	**26**	⇑P		**Pn**		**20 39 19.7**	**+0.7**
TKM2				⇓S		**Sn**		**20 40 40.3**	**-2.4**
	comp=E,12nm,0.9s								
KNDC	**Almaty**	**8.19**	**31**	⇑P		**Pn**		**20 39 30.4**	**+1.3**

comp=E,34nm,0.7s
JOSI Joshimath 9.10 127 *e*P **Pn** **20 39 40.7 -0.6**
JOSI *e*S **Sn** **20 41 21.4 -1.8**
JOSI AML AML 20 41 22.9
comp=N,162nm,0.8s
JOSI AML AML 20 41 23.1
comp=E,162nm,0.4s
KHET Khetri 9.15 153 *e*P **Pn** **20 39 42.3 +0.5**
KHET *e*S **Sn** **20 41 19.0 -5.1**
KHET AML AML 20 41 23.3
comp=E,153nm,0.3s
KHET AML AML 20 41 23.5
comp=N,103nm,0.1s
NDI New Delhi 9.21 144 *e*S **Sn** **20 41 20.0 -5.4**
KUDL Kundal 9.35 150 *e*P **Pn** **20 39 44.9 +0.6**
KUDL *e*S **Sn** **20 41 23.9 -5.0**
BISR Bishrakh 9.41 144 *e*S **Sn** **20 41 25.5 -4.6**
ASOR Ausora 9.42 142 *e*S **Sn** **20 41 25.6 -4.7**
AGRA Agra 10.78 146 *e*P **Pn** **20 40 02.8 -0.1**
AGRA *e*S Sn 20 41 56.0 -6.9
AGRA AML AML 20 42 24.6
comp=E,48nm,0.3s
AGRA AML AML 20 42 28.9
comp=N,31nm,0.1s
MKAR Makanchi Array 13.35 35 P **Pn** **20 40 35.9 +0.4**
comp=N,0.5nm,0.3s,baz=207,slow=12,SNR=6.0
KOLN Koldanda 13.59 126 *e*P **Pn** **20 40 40.1 +1.2**
GKN Gorkha 14.13 122 *e*P **Pn** **20 40 46.3 +0.7**
DMN Daman 14.70 122 *e*P **P** **20 40 54.9 +0.9**
KKN Kakani 14.71 121 *e*P **P** **20 40 54.8 +0.8**
comp=N,16nm,0.5s
PKIN Phulchoki 14.92 122 *e*P **P** **20 40 57.6 +1.1**
PKI Pulchoki 14.93 122 *e*P **P** **20 40 58.2 +1.5**
comp=N,18nm,0.6s
KURBB Kurchatov Arra 15.23 18 P **Pn** **20 40 57.8 -0.8**
comp=N,0.1nm,0.3s,baz=210,slow=11,SNR=3.3
BVAR Borovoye Array 16.68 358 P **Pn** **20 41 16.5 +0.3**
comp=N,0.8nm,0.3s,baz=166,slow=13,SNR=7.0
AKTO Aktyubinsk 16.96 330 P **Pn** **20 41 19.6 +0.1**
comp=N,0.9nm,0.3s,baz=146,slow=12,SNR=6.2
ZALV Zalesovo Beam 20.00 24 P **P** **20 41 51.9 +0.5**
comp=N,1.9nm,0.6s,baz=217,slow=12,SNR=5.9
TLY Talaya 27.66 46 P **P** **20 43 06.4 +2.9**
comp=N,1.1nm,0.3s,baz=223,slow=19,SNR=6.1
SONM Songino Array 28.33 55 P **P** **20 43 11.4 +1.8**
comp=N,0.3nm,0.6s,baz=264,slow=7.9,SNR=3.6
BRTR Keskin Array B 29.58 288 P **P** **20 43 20.2 -0.6**
comp=N,0.7nm,0.8s,baz=111,slow=7.9,SNR=3.1
AKASG Malin Array Be 33.12 309 P **P** **20 43 51.6 +0.2**
comp=N,0.2nm,0.3s,baz=82,slow=7.7,SNR=3.1
FINES FINESS Array B 37.67 326 P **P** **20 44 30.5 +0.5**
comp=N,1.2nm,0.3s,baz=126,slow=10,SNR=16
ARCES ARCESS Array B 41.32 338 P **P** **20 45 00.7 +0.6**
comp=N,1.5nm,0.5s,baz=114,slow=8.3,SNR=22
NB2 NORSAR Subarra 44.56 323 P **P** **20 45 26.1 -0.2**
comp=Z,0.7nm,0.6s,baz=97,slow=7.9
NOA NORSAR Array B 44.56 323 P **P** **20 45 26.4 +0.1**
comp=Z,0.6nm,0.4s,baz=97,slow=7.7,SNR=5.2
ESDC Sonseca Array 57.62 298 P **P** **20 47 04.0 +0.2**
comp=Z,0.1nm,0.4s,baz=49,slow=7.6,SNR=4.2
TORD Torodi Ar. Bea 65.82 269 P **P** **20 47 57.6 -1.2**
comp=Z,0.9nm,0.5s,baz=46,slow=6.2,SNR=20
YKA Yellowknife Ar 81.39 3 P **P** **20 49 29.0 +0.3**
comp=Z,0.4nm,0.4s,baz=352,slow=5.2,SNR=8.2
WRA Warramunga Arr 81.82 122 P **P** **20 49 31.2 -0.4**
comp=Z,1.3nm,1.0s,baz=325,slow=4.9,SNR=6.7
ASAR Alice Springs 84.08 125 P **P** **20 49 43.1 -0.1**
comp=Z,1.1nm,0.8s,baz=310,slow=5.0,SNR=11

*IDC **25** 20:40:31.2±1.2, 52.7°N×169.6°3W, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.5/48, mbtmp3.5/7, ML3.4/1, MS2.8/1, Ms1 2.8/1, ms1mx2.2/29, Error ellipse: s-maj=46.5km s-min=22.4km az=145.0*
*NEIC **25** 20:40:35.5, 52.7°4N×169.7°21W, h15km, mb3.8/2, ML3.3(AEIC), After AEIC.*
ISC 25 20:40:34.0±1.0, 52°9N±0.1×169°46W±0.07, h10km, n33, σ0s94/28, mb3.7/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.37**	**79**	P	**Pg**	**20 40 42.0**	**+0.7**
NIKH				S	**Sb**	**20 40 48.1**	**-0.3**
OKSO	**Okmok South**	**0.90**	**59**	P	**Pg**	**20 40 51.3**	**0.0**
OKSO				S	**Sb**	**20 41 04.8**	**+1.0**
OKWR	**Okmok West Rim**	**0.92**	**54**	P	**Pg**	**20 40 53.3**	**+1.6**
OKCE	**Okmok Cone E**	**0.94**	**56**	P	**Pg**	**20 40 52.5**	**+0.6**
OKAK	**Okmok**	**0.94**	**44**	P	**Pg**	**20 40 51.5**	**-0.6**
OKTU	**Okmok Mt. Tuli**	**0.98**	**60**	P	**Pg**	**20 40 53.2**	**+0.5**
OKFG	**Magazine Ridge**	**1.06**	**61**	P	**Pg**	**20 40 53.9**	**-0.4**
OKFG				S	**Sb**	**20 41 09.1**	**+0.9**
MCIR	**Makushin Cirqu**	**1.86**	**55**	P	**Pn**	**20 41 06.9**	**+1.0**
MSW	**Makushin Switc**	**1.89**	**57**	P	**Pn**	**20 41 07.3**	**+1.0**
MTBL	**Makushin Table**	**1.97**	**56**	P	**Pn**	**20 41 08.3**	**+0.8**
UNV	**Unalaska Valle**	**2.00**	**61**	P	**Pn**	**20 41 07.6**	**-0.2**
UNV				S	**Sn**	**20 41 34.0**	**+1.1**
AKRB	**Akutan Reef Bi**	**2.37**	**57**	P	**Pn**	**20 41 14.2**	**+1.4**
ZRO	**Akutan Zero**	**2.39**	**59**	P	**Pn**	**20 41 14.3**	**+1.1**
AKUT	**Akutan**	**2.52**	**59**	*e*Pn	**Pn**	**20 41 15.4**	**+0.5**
ATKA	**Atka Island**	**2.98**	**258**	P	**Pn**	**20 41 22.1**	**+1.0**
FALS	**False Pass**	**4.07**	**59**	*e*Pn	**Pn**	**20 41 34.7**	**-1.5**
BPAW	**Bear Paw Mtn.** 0.5nm,0.7s	**14.72**	**33**	Pn	Pn	20 44 06.7	+4.7
ILAR	**Eielson Array** 0.1nm,0.3s,baz=228,slow=11,SNR=4.9	**16.54**	**35**	Pn	**Pn**	**20 44 23.8**	**-1.9**
HYT	**Haines Junctio** 3.7nm,0.6s	**19.01**	**53**	*e*P	**P**	**20 44 56.5**	**+0.8**
DLBC	**Dease Lake** 4.5nm,1.1s	**22.66**	**60**	*e*P	**P**	**20 45 34.5**	**-0.6**
INK	**Inuvik** comp=Z,22nm,19.0s,baz=198,slow=38	**22.93**	**34**	LR	LR	20 55 19.9	
YKA	**Yellowknife Ar** 0.3nm,0.6s,baz=273,slow=8.0,SNR=3.6	**29.93**	**50**	P	**P**	**20 46 41.6**	**-0.1**
NVAR	**Mina Array Bea** 0.2nm,0.4s,baz=297,slow=8.0,SNR=2.2	**37.73**	**92**	P	**P**	**20 47 49.4**	**-0.5**
H11N2	**WAKE ISLAND Hy** baz=24,slow=76,SNR=18	**37.84**	**218**	T	T	21 27 48.7	
H11N3	**WAKE ISLAND Hy** baz=24,slow=76,SNR=26	**37.85**	**218**	T	T	21 27 48.3	
H11N1	**WAKE ISLAND Hy** baz=24,slow=76,SNR=20	**37.86**	**218**	T	T	21 27 48.3	
H11S1	**WAKE ISLAND Hy** baz=23,slow=76,SNR=884	**39.03**	**218**	T	T	21 29 16.8	
H11S2	**WAKE ISLAND Hy** baz=23,slow=76,SNR=105	**39.05**	**218**	T	T	21 29 17.6	
H11S3	**WAKE ISLAND Hy** baz=23,slow=76,SNR=99	**39.05**	**218**	T	T	21 29 17.6	
PDAR	**Pinedale Array** 0.6nm,0.6s,baz=323,slow=5.1,SNR=4.2	**40.36**	**80**	P	**P**	**20 48 11.4**	**-0.4**
TXAR	**Lajitas Array** 0.6nm,0.7s,baz=295,slow=5.1,SNR=12	**52.79**	**89**	P	**P**	**20 49 48.8**	**-0.6**
TXAR				PcP	**PcP**	**20 50 58.6**	**-0.1**
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=40,slow=5.3,SNR=5.4	**87.30**	**232**	P	P	20 53 18.7	-2.0
ASAR	**Alice Springs** 0.4nm,0.7s,baz=30,slow=5.2,SNR=4.1	**90.70**	**230**	P	P	20 53 34.7	-2.0

*CSEM **25** 20:42:23.0, 45.88N×15.54E, h0km, ML0.2*
LJU 25 20:42:23.0, 45.88N×15.54E, h0km, ML0.2, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GCIS	**Gornji Cirnik**	**0.06**	**101**	⇑*i*P	Pg	20 42 24.0	-0.2
GCIS				*i* Sg	Sg	20 42 25.0	-0.1
	comp=Z,9.0nm,0.1s						
GCIS	**Gornji Cirnik**	**0.06**	**101**	⇑*i*Pg	Pg	20 42 24.0	-0.2
GCIS				*i* Sg	Sg	20 42 25.0	-0.1
	comp=Z,9.0nm,0.1s						
CRES	**Cresnjev**	**0.08**	**227**	*i* Pg	Pg	20 42 24.3	-0.2
CRES				*i* Sg	Sg	20 42 25.9	+0.3
	comp=Z,5.0nm,0.1s						
CRES	**Cresnjev**	**0.08**	**227**	*i* Pg	Pg	20 42 24.3	-0.3
CRES				*i* Sg	Sg	20 42 25.9	+0.3
	comp=Z,5.0nm,0.1s						
CESS	**Cesta pri Krsk**	**0.11**	**331**	*i* Sg	Sg	20 42 26.4	-0.2
	comp=Z,7.0nm,0.1s						
CESS	**Cesta pri Krsk**	**0.11**	**331**	*i* Sg	Sg	20 42 26.4	-0.2
	comp=Z,7.0nm,0.1s						
GOLS	**Golise**	**0.14**	**24**	*e*Pg	Pg	20 42 26.6	+0.7
GOLS	**Golise**	**0.14**	**24**	*e*Pg	Pg	20 42 26.6	+0.7

*CSEM **25** 20:42:57.4±0.6, 49.92N×18.64E, h1km, Error ellipse: s-maj=9.8km s-min=8.0km az=51.0*
PRU 25 20:42:59.3, 49.79N×18.53E, h0km, 1C, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.25**	**281**	*e*PG	Pg	20 43 04.1	-0.1
OKC				*e*SG	Sg	20 43 07.4	-0.1
	comp=Z,9.2nm,0.6s						
OKC	**Ostrava-Krasne**	**0.25**	**281**	Pg	Pg	20 43 04.1	-0.1
OKC				Sg	Sg	20 43 07.4	-0.1
	9.2nm,0.6s						
MORC	**Moravsky Berou**	**0.64**	**269**	⇑*i*P	Pg	20 43 12.4	+0.7
MORC	**Moravsky Berou**	**0.64**	**269**	*e*Pg	Pg	20 43 11.6	-0.1
MORC				*e*Sg	Sg	20 43 20.7	+0.6
KRLC	**Kraliky**	**1.17**	**285**	*e*SG	Sg	20 43 36.4	-0.5
KRLC	**Kraliky**	**1.17**	**285**	Sg	Sg	20 43 36.4	-0.5
DPC	**Dobruska-Polom**	**1.53**	**292**	*e*PG	Pn	20 43 26.9	-1.1
DPC				*e*SG	Sb	20 43 47.9	-0.7
DPC	**Dobruska-Polom**	**1.53**	**292**	Pg	Pn	20 43 26.9	-1.1
DPC				Sg	Sb	20 43 47.9	-0.7
UPC	**Upice**	**1.77**	**295**	*e*SG	Sb	20 43 55.4	-0.1
UPC	**Upice**	**1.77**	**295**	Sg	Sb	20 43 55.4	-0.1

*IDC **25** 20:43:42.6±0.9, 13.55S×166.63E, h0km, mb4.2/14, mb1 4.3/15, mb1mx4.1/35, mbtmp4.1/15, ML3.5/1, MS3.5/8, Ms1 3.5/8, ms1mx3.1/28, Error ellipse: s-maj=29.9km s-min=17.3km az=109.0*
*ISCJB **25** 20:43:46.3±0.7, 13.69S±0.06×166.6E±0.1, h39km, mb4.1/16, MS3.6/5, Error ellipse: s-maj=17.9km s-min=8.0km az=179.6*
*NEIC **25** 20:43:47.9±0.5, 13.58S×166.55E, h35km, mb4.1/4, Error ellipse: s-maj=13.3km s-min=8.3km az=107.0*
ISC 25 20:43:48.3±0.8, 13.63S±0.08×166.6E±0.2, h39km, n28, σ0s74/26, mb4.1/16, MS3.6/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.72**	**302**	LR	LR	20 48 42.0	
	comp=Z,149nm,21.2s,baz=128,slow=39						
DZM	**Mont Dzumac**	**8.40**	**181**	Pn	**Pn**	**20 45 47.3**	**-0.4**
	0.6nm,0.3s,baz=270,slow=24,SNR=288						
DZM				Sn	**Sn**	**20 47 20.5**	**-0.8**
	baz=90,slow=20						
DZM				LR	LR	20 48 18.4	
	comp=Z,130nm,19.1s,baz=359,slow=32						
PMG	**Port Moresby**	**19.49**	**280**	LR	LR	20 54 36.6	
	comp=Z,101nm,18.2s,baz=64,slow=34						
CTA	**Charters Tower**	**20.48**	**249**	P	**P**	**20 48 22.9**	**0.0**
	2.2nm,0.4s,baz=49,slow=14,SNR=3.6						
AFI	**Afiamalu**	**21.02**	**93**	LR	LR	20 54 31.4	
	comp=Z,139nm,19.2s,baz=252,slow=31						
ARMA	**Armidale**	**21.67**	**217**	*e*P	**P**	**20 48 36.9**	**+1.1**
	11nm,1.3s						
COEN	**Coen**	**22.73**	**266**	*e*P	**P**	**20 48 46.1**	**-1.1**
	3.8nm,0.6s						
STKA	**Stephens Creek**	**29.22**	**227**	P	**P**	**20 49 47.3**	**+0.8**
	2.3nm,0.6s,baz=58,slow=9.3,SNR=8.2						
STKA				LR	LR	21 01 17.7	
	comp=Z,120nm,18.3s,baz=27,slow=36						
STKA	**Stephens Creek**	**29.22**	**227**	*e*P	**P**	**20 49 46.0**	**-0.5**
	0.3nm,0.6s						
WRAB	**Tennant Creek**	**31.45**	**254**	*e*P	**P**	**20 50 06.3**	**-0.1**
	3.3nm,1.0s						
WRA	**Warramunga Arr**	**31.47**	**254**	P	**P**	**20 50 06.2**	**-0.3**
	2.5nm,0.8s,baz=86,slow=9.0,SNR=10						
WRA				PcP	**PcP**	**20 52 58.6**	**-0.6**
	0.3nm,0.8s,baz=82,slow=3.4,SNR=5.1						
WRA				LR	LR	21 03 00.3	
	comp=Z,155nm,18.2s,baz=50,slow=37						
AS31	**Alice Springs**	**32.46**	**247**	*e*P	**P**	**20 50 14.8**	**-0.4**
ASAR	**Alice Springs**	**32.46**	**247**	P	**P**	**20 50 15.1**	**-0.1**
	2.0nm,0.6s,baz=74,slow=9.5,SNR=40						
MJAR	**Matsushiro Arr**	**56.62**	**333**	P	**P**	**20 53 26.9**	**-0.5**
	0.6nm,0.5s,baz=164,slow=7.7,SNR=4.3						
KSRS	**Korea Array**	**62.46**	**326**	P	**P**	**20 54 07.9**	**+0.3**
	0.8nm,0.6s,baz=138,slow=5.8,SNR=4.0						
KSAR	**Wonju Array Be**	**62.47**	**326**	P	**P**	**20 54 07.9**	**+0.2**
VNDA	**Vanda**	**63.95**	**181**	P	**P**	**20 54 18.6**	**+1.6**
	0.6nm,0.6s,baz=14,slow=6.6,SNR=5.2						
USRK	**Ussuriysk Ar.**	**65.61**	**333**	P	**P**	**20 54 28.8**	**+0.6**
	0.9nm,0.7s,baz=130,slow=5.4,SNR=4.9						
CMAR	**Chiang Mai Arr**	**73.89**	**294**	P	**P**	**20 55 20.8**	**+0.9**
	3.7nm,0.8s,baz=124,slow=4.7,SNR=20						
SEY	**Seymchan**	**77.11**	**353**	P	**P**	**20 55 38.2**	**+0.9**
	3.1nm,0.6s,baz=153,slow=6.0,SNR=9.0						
SONM	**Songino Array**	**81.22**	**324**	P	**P**	**20 56 00.6**	**+0.3**
	0.6nm,0.7s,baz=103,slow=4.7,SNR=6.2						
YBH	**Yreka Blue Hor**	**85.11**	**45**	LR	LR	21 31 36.9	
	comp=Z,24nm,18.3s,baz=255,slow=34						
ILAR	**Eielson Array**	**85.69**	**18**	P	**P**	**20 56 21.6**	**-1.1**
	1.2nm,0.5s,baz=244,slow=4.9,SNR=22						
ILAR				LR	LR	21 30 24.2	
	comp=Z,29nm,18.4s,baz=53,slow=33						
MKAR	**Makanchi Array**	**95.95**	**317**	P	**P**	**20 57 11.1**	**-0.1**
	1.1nm,0.7s,baz=95,slow=6.7,SNR=10						
ZALV	**Zalesovo Beam**	**96.11**	**324**	P	**P**	**20 57 10.7**	**-1.1**
	1.0nm,0.6s,baz=106,slow=4.7,SNR=4.3						
ARCES	**ARCESS Array B**	**119.02**	**345**	PKP	**PKPdf**	**21 02 32.1**	**-0.2**
	0.7nm,0.7s,baz=28,slow=2.1,SNR=5.8						
ESDC	**Sonseca Array**	**152.75**	**344**	PKPbc	**PKPbc**	**21 03 40.8**	**-0.6**
	0.5nm,0.7s,baz=1.6,slow=3.0,SNR=5.0						
TORD	**Torodi Ar. Bea**	**165.29**	**270**	PKPab	**PKPab**	**21 04 47.3**	**0.0**
	0.4nm,0.8s,baz=94,slow=5.8,SNR=2.6						

*WEL **25** 21:23:56.6±0.2, 44.18S×168.58E, h5km, ML4.1/15, Error ellipse: s-maj=1.9km s-min=1.3km az=90.0*
WEL Felt in the Otago region, maximum reported intensity MM 4.
*IDC **25** 21:23:56.7±1.8, 44.26S×168.53E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/12, mbtmp3.4/2, MS3.7/1, Ms1 3.7/1, ms1mx2.9/12, Error ellipse: s-maj=65.5km s-min=22.8km az=179.0*
*NEIC **25** 21:23:56.8, 44.20S×168.60E, h5km, ML4.1(WEL), After WEL.*
ISC 25 21:23:57.0±1.2, 44.18S±0.03×168.59E±0.03, h2km±9km, n50, σ1s46/65, 3C-3D, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCZ	**Jackson Bay**	**0.16**	**50**	⇑PG	**Pg**	**21 24 00.4**	**+0.3**
JCZ				SG	**Sg**	**21 24 02.5**	**+0.3**
JCZ				AML	AML	21 24 03.0	
JCZ	**Jackson Bay**	**0.16**	**50**	*e*Pg	**Pg**	**21 24 00.4**	**+0.3**
MSZ	**Milford Sound**	**0.69**	**224**	P*	**Pg**	**21 24 10.2**	**0.0**
MSZ				SG	**Sg**	**21 24 19.5**	**+0.5**
MSZ				AML	AML	21 24 26.2	
MSZ				AML	AML	21 24 26.4	
MSZ				AML	AML	21 24 26.5	
MSZ	**Milford Sound**	**0.69**	**224**	*e*Pg	**Pg**	**21 24 10.2**	**0.0**
MSZ				*e*Sg	**Sn**	**21 24 26.2**	**+1.3**
WKZ	**Wanaka**	**0.72**	**155**	⇓P*	**Pg**	**21 24 10.5**	**-0.3**
WKZ				AML	AML	21 24 21.0	
WKZ				AML	AML	21 24 21.1	
WKZ				AML	AML	21 24 21.3	
WKZ				AML	AML	21 24 21.3	
WKZ	**Wanaka**	**0.72**	**155**	*e*Pg	**Pg**	**21 24 10.5**	**-0.3**
WKZ				*e*Sg	**Sb**	**21 24 21.1**	**-1.5**
FOZ	**Fox Glacier**	**1.00**	**53**	⇑P*	**Pb**	**21 24 16.6**	**-0.4**
FOZ				AML	AML	21 24 35.8	
FOZ				AML	AML	21 24 35.8	
FOZ				AML	AML	21 24 35.8	
FOZ				AML	AML	21 24 35.8	
FOZ	**Fox Glacier**	**1.00**	**53**	*e*Pg	**Pb**	**21 24 16.6**	**-0.4**
FOZ				*e*Sn	**Sn**	**21 24 35.8**	**+3.0**
LBZ	**Lake Benmore**	**1.17**	**101**	⇓P*	**Pg**	**21 24 18.7**	**-0.6**
LBZ				AML	AML	21 24 38.0	
LBZ				AML	AML	21 24 38.1	
LBZ				AML	AML	21 24 40.8	
LBZ				AML	AML	21 24 40.8	
LBZ	**Lake Benmore**	**1.17**	**101**	*e*Pg	**Pg**	**21 24 18.7**	**-0.6**
LBZ				*e*Sg	**Sn**	**21 24 38.0**	**+1.2**
LBZ				*e*Sn	Sb	21 24 40.8	+5.4
EAZ	**Earnscleugh**	**1.17**	**154**	⇓P*	**Pg**	**21 24 18.6**	**-0.9**
EAZ				AML	AML	21 24 37.2	
EAZ				AML	AML	21 24 37.2	
EAZ				AML	AML	21 24 37.3	
EAZ				AML	AML	21 24 37.4	
EAZ	**Earnscleugh**	**1.17**	**154**	*e*Pg	**Pg**	**21 24 18.6**	**-0.9**
EAZ				*e*Sn	**Sn**	**21 24 37.4**	**+0.4**
MLZ	**Mavora Lakes**	**1.21**	**194**	P*	**Pg**	**21 24 19.2**	**-1.0**
MLZ				AML	AML	21 24 40.4	
MLZ				AML	AML	21 24 41.6	
MLZ	**Mavora Lakes**	**1.21**	**194**	*e*Pg	**Pg**	**21 24 19.2**	**-1.0**
MLZ				*e*Sn	**Sn**	**21 24 40.4**	**+2.5**
DCZ	**Deep Cove**	**1.65**	**218**	PN	**Pn**	**21 24 26.0**	**-1.0**
DCZ				AML	AML	21 24 52.6	
DCZ				AML	AML	21 24 52.6	
DCZ				AML	AML	21 24 55.5	
DCZ				AML	AML	21 24 55.6	
DCZ	**Deep Cove**	**1.65**	**218**	*e*Pn	**Pn**	**21 24 26.0**	**-1.0**
DCZ				*e*Sn	**Sg**	**21 24 52.6**	**+2.5**
DCZ				*e*Sg	Sb	21 24 55.5	+6.1
ODZ	**Otahua Downs**	**1.70**	**121**	⇑PN	**Pn**	**21 24 26.6**	**-1.1**
ODZ	**Otahua Downs**	**1.70**	**121**	*e*Pn	**Pb**	**21 24 27.8**	**-1.2**
WHZ	**Wether Hill Ro**	**1.78**	**195**	PN	**Pn**	**21 24 28.1**	**-0.7**
WHZ				AML	AML	21 24 57.3	
WHZ				AML	AML	21 24 57.3	
WHZ	**Wether Hill Ro**	**1.78**	**195**	*e*Sn	**Sg**	**21 24 57.3**	**+3.3**
RPZ	**Rata Peaks**	**1.84**	**76**	PN	**Pn**	**21 24 29.2**	**-0.4**
RPZ				AML	AML	21 24 59.3	
RPZ				AML	AML	21 24 59.8	
RPZ	**Rata Peaks** baz=268,slow=4.8,SNR=0.9	**1.84**	**76**	Pn	**Pb**	**21 24 31.2**	**-0.2**
RPZ				Sn	**Sb**	**21 24 54.9**	**+0.1**
	26nm,0.3s,baz=288,slow=19,SNR=3.6						
RPZ				LR	LR	21 25 26.3	
	comp=Z,226nm,21.2s,baz=312,slow=47						
RPZ	**Rata Peaks**	**1.84**	**76**	*e*Pn	**Pn**	**21 24 29.2**	**-0.4**
RPZ				*e*Sn	**Sg**	**21 24 59.3**	**+3.2**
WVZ	**Waitaha Valley**	**1.91**	**55**	PN	**Pn**	**21 24 28.4**	**-2.1**
WVZ				AML	AML	21 25 06.7	
WVZ	**Waitaha Valley**	**1.91**	**55**	*e*Pn	**Pn**	**21 24 28.4**	**-2.1**
TUZ	**Tuapeka**	**1.93**	**158**	PN	**Pn**	**21 24 29.6**	**-1.2**
TUZ	**Tuapeka**	**1.93**	**158**	*e*Pn	**Pn**	**21 24 29.6**	**-1.2**
HHSZ	**Highcliff Hill**	**2.22**	**141**	PN	**Pn**	**21 24 34.3**	**-0.6**
HHSZ	**Highcliff Hill**	**2.22**	**141**	*e*Pn	**Pn**	**21 24 34.3**	**-0.6**
SYZ	**Scrubby Hill**	**2.39**	**171**	PN	**Pn**	**21 24 36.2**	**-1.0**
SYZ				AML	AML	21 25 16.5	
SYZ				AML	AML	21 25 19.1	
SYZ				AML	AML	21 25 21.1	
SYZ				AML	AML	21 25 23.0	
SYZ	**Scrubby Hill**	**2.39**	**171**	*e*Pn	**Pn**	**21 24 36.2**	**-1.0**
SYZ				*e*Sn	**Sg**	**21 25 16.5**	**+2.6**
SYZ				*e*Sg	Sb	21 25 19.1	+8.4
SYZ				*e*Lg	Lg	21 25 23.1	
PYZ	**Puysegur Point**	**2.40**	**213**	PN	**Pb**	**21 24 39.3**	**-1.7**
PYZ	**Puysegur Point**	**2.40**	**213**	*e*Pn	**Pb**	**21 24 39.3**	**-1.7**
APZ	**The Paps**	**2.69**	**189**	PN	**Pn**	**21 24 41.3**	**0.0**
APZ				AML	AML	21 25 20.6	
APZ				AML	AML	21 25 25.6	
APZ	**The Paps**	**2.69**	**189**	*e*Pn	**Pn**	**21 24 41.4**	**0.0**
APZ				*e*Sn	**Sb**	**21 25 20.6**	**+1.4**
APZ				*e*Lg	Lg	21 25 25.6	
MQZ	**McQueen's Vall**	**2.97**	**82**	PN	**Pn**	**21 24 43.6**	**-1.5**
MQZ	**McQueen's Vall**	**2.97**	**82**	*e*Pn	**Pn**	**21 24 43.6**	**-1.5**
LTZ	**Lake Taylor**	**3.02**	**64**	PN	**Pn**	**21 24 44.0**	**-1.8**
LTZ				AML	AML	21 25 33.0	
LTZ				AML	AML	21 25 48.8	
LTZ	**Lake Taylor**	**3.02**	**64**	*e*Pn	**Pn**	**21 24 44.0**	**-1.8**
LTZ				*e*Sn	**Sg**	**21 25 33.0**	**-1.0**
DSZ	**Denniston Nort**	**3.39**	**45**	PN	**Pn**	**21 24 49.8**	**-1.1**
DSZ	**Denniston Nort**	**3.39**	**45**	*e*Pn	**Pn**	**21 24 49.8**	**-1.1**
THZ	**Tophouse**	**3.98**	**54**	PN	**Pn**	**21 24 58.1**	**-1.0**
THZ				AML	AML	21 25 50.4	
THZ	**Tophouse**	**3.98**	**54**	*e*Pn	**Pn**	**21 24 58.1**	**-1.0**
THZ				*e*Sn	**Sn**	**21 25 50.4**	**+4.0**
QRZ	**Quartz Range**	**4.44**	**42**	PN	**Pn**	**21 25 03.4**	**-1.9**
QRZ	**Quartz Range**	**4.44**	**42**	*e*Pn	**Pn**	**21 25 03.4**	**-1.9**
NNZ	**Nelson**	**4.61**	**52**	PN	**Pn**	**21 25 06.9**	**-0.7**
NNZ	**Nelson**	**4.61**	**52**	*e*Pn	**Pn**	**21 25 07.0**	**-0.7**
ASAR	**Alice Springs** 0.3nm,0.6s,baz=128,slow=6.0,SNR=3.7	**34.95**	**294**	P	**P**	**21 30 50.7**	**+0.3**
WRA	**Warramunga Arr** 0.5nm,0.6s,baz=135,slow=7.9,SNR=9.5	**37.35**	**299**	P	**P**	**21 31 10.6**	**-0.4**
WRA				LR	LR	21 46 04.4	
	comp=Z,108nm,21.6s,baz=165,slow=36						
TORD	**Torodi Ar. Bea** 0.5nm,0.9s,baz=182,slow=3.1,SNR=4.0	**147.10**	**204**	PKPbc	**PKPbc**	**21 43 40.6**	**-1.2**

*ISCJB **25** 21:25:40.1±0.3, 33.18N±0.01×115.98W±0.02, h9km±2km, mb4.5/1, Error ellipse: s-maj=2.5km s-min=2.2km az=15.5*
*IDC **25** 21:25:40.4±1.5, 33.29N×115.85W, h0km, mb1 3.5/3, mb1mx3.3/36, mbtmp3.0/3, ML3.5/3, Error ellipse: s-maj=23.7km s-min=8.7km az=24.0*
*NEIC **25** 21:25:41.4, 33.16N×116.01W, h13km, mb4.1/3, ML3.8(PAS), After PAS.*
NEIC Felt at Brawley, Coachella, El Centro, Foothill Ranch, Imperial, La Quinta, Murrieta, Rancho Mirage, San Jacinto, San Marcos, Thermal and Yorba Linda.
*ECX **25** 21:25:41.8±0.6, 33.16N×116.02W, h9km, MD3.6, ML3.8*
ISC 25 21:25:41.1±0.9, 33.17N±0.02×115.99W±0.02, h10km±7km, n77, σ1s48/104, 9C-6D, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERRC	**Elmore Ranch**	**0.15**	**109**	⇑*i*P	**Pg**	**21 25 45.0**	**+0.6**
CRR	**Carrizo Plain**	**0.28**	**176**	⇓*i*P	**Pg**	**21 25 46.8

GLA					S		Sg	21 26 11.5 -1.4
	baz=1.0							
GLA	**Glamis**	**0.98**	**96**	*e*Pg			**Pg**	**21 25 58.4 -1.7**
GLA					*e*Sg		**Sg**	**21 26 11.0 -1.9**
MURC	**Murrieta**	**1.10**	**294**		P		**Pg**	**21 26 00.3 -1.9**
	baz=1.1							
MURC					S		**Sg**	**21 26 15.6 -1.0**
	baz=1.1							
IRM	**Iron Mountain**	**1.22**	**35**		P		**Pg**	**21 26 02.2 -2.3**
	baz=1.2							
IRM					S		**Sg**	**21 26 18.7 -1.6**
	baz=1.2							
RDX	**Rancho Dawling**	**1.23**	**178**	*e*P			**Pg**	**21 26 03.3 -1.6**
RDX				*e*S			**Sg**	**21 26 19.7 -1.2**
RDX				*e*				21 26 21.2
RDX				IAML				21 26 21.2
	comp=N,1μm,0.4s							
BBRC	**Big Bear Solar**	**1.34**	**325**	Pg			**Pn**	**21 26 06.0 -0.2**
	baz=1.3							
Y12C	**Blythe**	**1.36**	**64**		P		**Pn**	**21 26 04.1 -2.2**
	baz=1.4							
Y12C					Sb		**Sg**	**21 26 23.4 -1.5**
	baz=1.4							
PBX	**Punta Banda**	**1.55**	**204**	*e*P			**Pn**	**21 26 08.1 -0.8**
PBX				*e*S			**Sn**	**21 26 29.1 0.0**
ECNX	**Esteban Cantu**	**1.59**	**199**	*e*P			**Pn**	**21 26 08.6 -0.9**
ECNX				*e*S			**Sn**	**21 26 30.4 +0.3**
GMRC	**Granite Mounta**	**1.64**	**10**		P		**Pn**	**21 26 08.2 -1.9**
	baz=1.7							
ZAX	**El Zacaton**	**1.66**	**188**	*e*P			**Pn**	**21 26 10.1 -0.4**
ZAX				*e*S			**Sn**	**21 26 32.3 +0.3**
HEC	**Hector,Ludlow**	**1.68**	**351**	Pg			**Pb**	**21 26 12.2 -0.2**
	baz=1.7							
ECBX	**El Chinero**	**1.87**	**154**	*e*P			**Pn**	**21 26 14.1 +0.9**
ECBX				*e*S			**Sb**	**21 26 38.5 -0.2**
PDMCI	**Parker Dam,Lak**	**1.92**	**53**	Sb			**Sn**	**21 26 39.4 +1.4**
	baz=1.9							
NEE2	**Needles Airpor**	**1.96**	**35**	Sb			**Sb**	**21 26 42.4 +0.8**
	baz=2.0							
FMP	**Fort Macarthur**	**2.00**	**286**	Sb			**Sb**	**21 26 43.1 +0.5**
	baz=2.0							
MWC	**Mount Wilson**	**2.02**	**302**	*e*Pn			**Pn**	**21 26 16.7 +1.2**
PASC	**Pasadena Art C**	**2.09**	**299**	*e*Pn			**Pb**	**21 26 18.2 -0.9**
PASC				*e*Sn			**Sn**	**21 26 44.0 +1.7**
SCI	**San Clemente I**	**2.15**	**266**	Pb			**Pn**	**21 26 17.6 +0.4**
	baz=2.1							
SPX	**San Pedro Mart**	**2.16**	**168**	*e*P			**Pn**	**21 26 16.7 -0.9**
SPX				*e*S			**Sn**	**21 26 46.4 +1.8**
SPX				⇑*e*				21 26 56.6
SPX				IAML				21 26 56.6
	comp=E,294nm,0.9s							
DECC	**Green Verdugo**	**2.23**	**300**	Sb			**Sb**	**21 26 49.3 +0.1**
	baz=2.2							
GSC	**Goldstone**	**2.24**	**343**	*e*Pn			**Pn**	**21 26 17.1 -1.3**
GSC				*e*Sn			**Sg**	**21 26 52.4 -0.6**
EDW2	**Edwards Air Fo**	**2.38**	**316**	Sb			**Sb**	**21 26 54.8 +1.1**
	baz=2.4							
OSI	**Osito Adit**	**2.69**	**303**	*e*Pn			**Pn**	**21 26 22.7 -1.9**
OSI				*e*Sn			**Sn**	**21 26 55.2 -2.1**
214A	**Organ Pipe Nat**	**2.94**	**113**	P			**Pn**	**21 26 25.7 -2.4**
	baz=2.9							
ISA	**Isabella**	**3.23**	**321**	*e*Pn			**Pb**	**21 26 36.8 -1.8**
ISA				*e*Sn			**Sn**	**21 27 13.4 +2.8**
DAC	**Darwin (Calif)**	**3.37**	**337**	*e*Pn			**Pn**	**21 26 33.0 -1.2**
DAC				*e*Sn			**Sn**	**21 27 17.4 +3.0**
SHPR	**Sheep Range**	**3.40**	**11**	*e*Pn			**Pn**	**21 26 33.7 -0.8**
SHPR				*e*Sn			**Sb**	**21 27 22.4 -0.7**
TPNV	**Topopah Spring**	**3.78**	**357**	*e*Pn			**Pn**	**21 26 39.5 +0.2**
TPNV				*e*Sn			**Sn**	**21 27 29.2 +4.9**
TUC	**Tucson**	**4.47**	**100**	*e*Pn			**Pn**	**21 26 47.4 -1.7**
WUAZ	**Wupatki**	**4.48**	**57**	*e*Pn			**Pn**	**21 26 51.0 +1.7**
KNB	**Kanab**	**4.64**	**33**	*e*Pn			**Pn**	**21 26 51.7 +0.2**
CCUT	**Cedar City**	**4.88**	**25**	*e*Pn			**Pn**	**21 26 55.3 +0.5**
TPH	**Tonopah**	**5.00**	**349**	*e*Pn			**Pn**	**21 26 56.7 +0.2**
TPH				*e*Pg			Pb	21 27 12.6 +3.6
R11A	**Troy Canyon, C**	**5.18**	**4**	*e*Pn			Pn	21 27 03.5 +4.5
W18A	**Petrified Fore**	**5.54**	**68**	*e*Pn			**Pn**	**21 27 04.0 +0.1**
NV01	**Mina Array Sit**	**5.58**	**341**	*e*Pn			**Pn**	**21 27 04.5 0.0**
NV01				*e*Pg			**Pb**	**21 27 21.6 +2.8**
NV01				*e*Sg			Sg	21 28 33.7 -6.5
NVAR	**Mina Array Bea**	**5.58**	**341**	Pn			**Pn**	**21 27 04.5 0.0**
	comp=E,0.2nm,0.3s,baz=164,slow=15,SNR=2.7							
NVAR				Pg			**Pb**	**21 27 21.6 +2.8**
	comp=E,1.8nm,0.3s,baz=160,slow=18,SNR=20							
NVAR				Lg			Lg	21 28 33.7
	baz=158,slow=31,SNR=1.9							
WAKR	**Walker**	**6.02**	**333**	*e*Pn			**Pn**	**21 27 09.6 -0.9**
MSU	**Marysvale**	**6.17**	**29**	*e*Pn			**Pn**	**21 27 13.1 +0.6**
DUG	**Dugway**	**7.47**	**19**	*e*Pn			**Pn**	**21 27 28.9 -1.4**
ELK	**Elko**	**7.59**	**4**	Pg			Pb	21 27 57.9 +4.9
	comp=E,0.1nm,0.3s,baz=202,slow=16,SNR=3.9							
ELK				Lg			Lg	21 29 35.6
	comp=E,0.1nm,0.3s,baz=241,slow=19,SNR=1.4							
PV10	**Paradox Valley**	**7.68**	**45**	*e*Pn			Pn	21 27 43.3 +10
PV10				*e*Sg			**Sg**	**21 29 42.5 -5.1**
PV09	**Paradox Valley**	**7.70**	**44**	*e*Pn			**Pn**	**21 27 36.3 +2.6**
PV01	**Paradox Valley**	**7.81**	**49**	*e*Pn			**Pn**	**21 27 34.9 -0.3**
BGU	**Big Grassy Mou**	**8.10**	**16**	*e*Pn			**Pn**	**21 27 37.7 -1.3**
ANMO	**Albuquerque**	**8.11**	**75**	Pg			Pb	21 28 09.2 +7.3
	comp=E,0.1nm,0.3s,baz=258,slow=13,SNR=3.1							
ANMO				Lg			Lg	21 29 54.5
	comp=E,0.1nm,0.3s,baz=359,slow=18,SNR=2.9							
WVOR	**Wild Horse Val**	**9.49**	**348**	*e*Pn			**Pn**	**21 27 56.4 -1.6**
PD31	**Pinedale Array**	**10.84**	**26**	*e*Pn			**Pn**	**21 28 17.9 +1.3**
PDAR	**Pinedale Array**	**10.84**	**26**	Pn			**Pn**	**21 28 17.9 +1.3**
	comp=E,0.1nm,0.3s,baz=210,slow=14,SNR=4.6							
TXAR	**Lajitas Array**	**11.22**	**107**	Pn			**Pn**	**21 28 22.5 +0.8**
	comp=E,0.1nm,0.3s,baz=287,slow=13,SNR=7.2							
B06A	**Marblemount**	**15.88**	**347**	*e*Pn			Pn	21 29 18.4 -6.3
	comp=E,6.9nm,0.9s							
A05A	**Maple Falls**	**16.46**	**346**	*e*Pn			**P**	**21 29 38.5 +3.6**
	comp=E,14nm,0.9s							
INK	**Inuvik**	**36.60**	**349**	*e*P			**P**	**21 32 45.0 -2.1**
	comp=E,3.0nm,0.4s							

*ISCJB **25** 21:35:05.7±0.5, 30°.76N±0°.05×138°.7E±0°.1, h384km, mb3.2/5, Error ellipse: s-maj=12.4km s-min=5.6km az=164.1*
*IDC **25** 21:35:08.0±1.4, 30°.79N×138°.73E, h398km±18km, mb3.0/5, mb1 3.0/8, mb1mx2.7/30, mbtmp3.6/8, Error ellipse: s-maj=46.3km s-min=18.5km az=73.0*
*JMA **25** 21:35:07.1±0.1, 30°.89N×139°.26E, h400km, M3.3*
ISC 25 21:35:06.3±0.8, 30°.82N±0°.07×139°.0E±0°.1, h384km, n19, σ1§64/24, mb3.0/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**2.39**	**16**	P		Pn	21 36 07.0	+3.6
	2.9nm,0.3s,baz=238,slow=15,SNR=9.7							
JHJ				S		**S**	**21 36 51.5**	**+2.0**
	19nm,0.3s,baz=163,slow=19,SNR=8.8							
JIE	**Ise**	**4.05**	**332**	P		**Pn**	**21 36 20.2**	**+2.4**
BSO4	**Boso 4**	**4.32**	**15**	S		**S**	**21 37 20.9**	**+0.6**
CBIJ	**Chichi jima**	**4.65**	**142**	P		**Pn**	**21 36 25.1**	**+1.2**
CBIJ				S		**S**	**21 37 25.9**	**-0.9**
JHHJ	**Haha-jima-NKT**	**5.02**	**145**	P		**Pn**	**21 36 28.9**	**+1.0**
JHHJ				S		**S**	**21 37 34.0**	**0.0**
JHU	**Hanno**	**5.03**	**3**	P		**Pn**	**21 36 28.7**	**+1.0**
JHU				S		**S**	**21 37 33.1**	**-0.8**
JRY	**Ryogami san**	**5.19**	**359**	P		**Pn**	**21 36 31.4**	**+2.0**
JYT	**Yasato**	**5.49**	**10**	P		**Pn**	**21 36 33.4**	**+0.8**
JAG	**Ashikaga**	**5.61**	**4**	P		**Pn**	**21 36 34.2**	**+0.3**
JAG				S		**S**	**21 37 40.8**	**-4.4**
MJAR	**Matsushiro Arr**	**5.75**	**354**	P		**Pn**	**21 36 37.5**	**+2.0**
	0.5nm,0.3s,baz=169,slow=11,SNR=5.0							
JHO	**Hitachi**	**5.93**	**12**	P		**Pn**	**21 36 37.8**	**+0.4**
JHO				S		**S**	**21 37 48.5**	**-3.1**
JFK	**Kawauchi**	**6.72**	**13**	P		**P**	**21 36 48.0**	**+0.9**
JMK	**Ichinoseki**	**8.32**	**12**	P		**P**	**21 37 06.1**	**+0.6**
JMK				S		S	21 38 34.2	-7.3
KSRS	**Korea Array**	**11.30**	**309**	P		**Pn**	**21 37 38.7**	**-0.7**
	0.1nm,0.3s,baz=116,slow=8.7,SNR=4.2							
SONM	**Songino Array**	**30.11**	**314**	P		**P**	**21 40 41.6**	**-0.5**
	0.4nm,0.7s,baz=132,slow=9.7,SNR=4.1							
MKAR	**Makanchi Array**	**45.98**	**307**	P		**P**	**21 42 51.6**	**-1.1**
	0.5nm,0.6s,baz=92,slow=8.6,SNR=5.1							
WRA	**Warramunga Arr**	**50.66**	**186**	P		**P**	**21 43 28.3**	**0.0**
	0.5nm,0.9s,baz=1.1,slow=8.6,SNR=3.1							
ARCES	**ARCESS Array B**	**69.11**	**340**	P		**P**	**21 45 31.7**	**+0.1**
	2.2nm,1.0s,baz=70,slow=8.0,SNR=3.5							
FINES	**FINESS Array B**	**73.38**	**332**	P		**P**	**21 45 57.1**	**+0.1**
	2.6nm,1.0s,baz=74,slow=7.7,SNR=4.5							

*ISCJB **25** 21:54:55.9±1.0, 3°.44S±0°.07×148°.9E±0°.2, h19km, mb3.9/9, MS3.5/10, Error ellipse: s-maj=35.3km s-min=9.3km az=8.4*
*IDC **25** 21:55:04.4±4.6, 3°.51S×148°.84E, h75km±40km, mb3.7/9, mb1 3.8/10, mb1mx3.6/20, mbtmp4.0/10, ML1.1/1, MS3.5/12, Ms1 3.5/12, ms1mx3.4/19, Error ellipse: s-maj=42.9km s-min=20.5km az=88.0*
ISC 25 21:54:57.7±1.2, 3°.4S±0°.1×149°.0E±0°.3, h19km, n23, σ0§71/11, mb4.1/9, MS3.5/10, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**6.21**	**197**	P		Pn	21 56 33.7	+5.3
	0.3nm,0.3s,baz=234,slow=19,SNR=2.2							
PMG				S		**Sn**	**21 57 39.8**	**+0.9**
	0.8nm,0.3s,baz=272,slow=15,SNR=1.9							
PMG				LR		LR	21 59 02.7	
	comp=Z,340nm,19.5s,baz=284,slow=39							
HNR	**Honiara**	**12.43**	**119**	LR		LR	22 02 25.3	
	comp=Z,245nm,19.9s,baz=296,slow=35							
WRA	**Warramunga Arr**	**21.76**	**220**	P		**P**	**21 59 47.3**	**-1.1**
	3.4nm,0.7s,baz=44,slow=10,SNR=21							
WRA				LR		LR	22 09 37.6	
	comp=Z,146nm,18.2s,baz=30,slow=40							
ASAR	**Alice Springs**	**24.84**	**215**	P		**P**	**22 00 19.3**	**+0.2**
	4.2nm,0.7s,baz=48,slow=8.0,SNR=22							
ASAR				LR		LR	22 10 56.8	
	comp=Z,189nm,18.2s,baz=46,slow=39							
H11S3	**WAKE ISLAND Hy**	**27.91**	**38**	T		T	22 29 51.4	
	baz=220,slow=76,SNR=382							
H11S2	**WAKE ISLAND Hy**	**27.92**	**38**	T		T	22 29 52.1	
	baz=220,slow=76,SNR=491							
H11S1	**WAKE ISLAND Hy**	**27.93**	**38**	T		T	22 29 52.9	
	baz=220,slow=76,SNR=446							
H11N1	**WAKE ISLAND Hy**	**28.96**	**37**	T		T	22 31 12.2	
	baz=218,slow=76,SNR=205							
H11N3	**WAKE ISLAND Hy**	**28.98**	**37**	T		T	22 31 14.0	
	baz=218,slow=76,SNR=189							
H11N2	**WAKE ISLAND Hy**	**28.98**	**37**	T		T	22 31 12.8	
	baz=218,slow=76,SNR=328							
STKA	**Stephens Creek**	**29.14**	**193**	LR		LR	22 13 30.8	
	comp=Z,116nm,18.6s,baz=23,slow=38							
JNU	**Nakatsue**	**40.18**	**336**	P		**P**	**22 02 33.9**	**+0.9**
	5.9nm,0.8s,baz=196,slow=9.8,SNR=4.9							
MJAR	**Matsushiro Arr**	**41.01**	**347**	LR		LR	22 17 34.2	
	comp=Z,45nm,21.0s,baz=175,slow=33							
KSRS	**Korea Array**	**45.13**	**336**	LR		LR	22 19 25.5	
	comp=Z,52nm,21.7s,baz=166,slow=32							
USRK	**Ussuriysk Ar.**	**49.80**	**344**	LR		LR	22 22 44.2	
	comp=Z,59nm,21.2s,baz=147,slow=33							
CMAR	**Chiang Mai Arr**	**53.84**	**296**	P		**P**	**22 04 19.9**	**0.0**
	1.9nm,1.0s,baz=112,slow=6.5,SNR=6.8							
PETK	**Petropavlovsk-**	**56.80**	**6**	LR		LR	22 25 29.9	
	comp=Z,21nm,21.0s,baz=187,slow=32							
SONM	**Songino Array**	**63.17**	**329**	P		**P**	**22 05 24.6**	**0.0**
	0.7nm,0.8s,baz=125,slow=7.6,SNR=6.8							
SONM				LR		LR	22 32 00.1	
	comp=Z,35nm,21.5s,baz=118,slow=35							
VNDA	**Vanda**	**74.36**	**177**	P		**P**	**22 06 33.2**	**-0.4**
	0.7nm,0.7s,baz=348,slow=7.2,SNR=3.9							
MKAR	**Makanchi Array**	**76.80**	**320**	P		**P**	**22 06 48.0**	**-0.2**
	3.8nm,1.2s,baz=97,slow=6.2,SNR=8.5							
MKAR				LR		LR	22 41 27.8	
	comp=Z,25nm,18.3s,baz=147,slow=36							
ZALV	**Zalesovo Beam**	**77.92**	**327**	P		**P**	**22 06 53.3**	**-0.9**
	1.3nm,0.8s,baz=102,slow=3.6,SNR=6.2							
ZALV				LR		LR	22 41 30.4	
	comp=Z,21nm,20.0s,baz=70,slow=36							
ILAR	**Eielson Array**	**92.36**	**23**	P		**P**	**22 07 18.3**	**+0.2**
	0.6nm,0.6s,baz=70,slow=2.6,SNR=5.0							
TORD	**Torodi Ar. Bea**	**146.25**	**289**	PKPbc		**PKPdf**	**22 14 37.2**	**+0.2**

KRSC 25 21:56:27.6±1.0, 55°.92N×164°.34E, h20km±25km, ML3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.90**	**289**	*i* P		Pb	21 56 44.1	-0.4
KBTR				*e*S		Sb	21 56 56.6	+0.5
BKI	**Bering**	**1.17**	**127**	*i* P		Pb	21 56 49.4	+0.3
BKI				*i* S		Sg	21 57 05.2	-0.4
SMKR	**Semkarok**	**1.74**	**294**	*e*P		Pn	21 56 57.5	+0.8
SMKR				*e*S		Sb	21 57 20.6	+0.3
BDR	**Baidarnaya**	**1.87**	**292**	*e*P		Pn	21 56 59.3	+0.8
BDR				*e*S		Sb	21 57 23.2	-0.8
SRKR	**Sorokina**	**1.92**	**294**	*i* P		Pn	21 56 59.9	+0.8
SRKR				*e*S		Sb	21 57 25.0	-0.5
MKZ	**Mys Kozlova**	**2.02**	**229**	*e*P		Pb	21 57 03.0	-0.6
MKZ				*e*S		Sb	21 57 29.1	+0.8
KMNR	**Kamenistaya**	**2.32**	**268**	*e*P		Pb	21 57 07.9	-0.9
KZV	**Kizimen**	**2.44**	**252**	*e*P		Pb	21 57 09.4	-1.5
TUMR	**Tumrok**	**2.46**	**257**	*i* P		Pb	21 57 09.6	-1.7
KOZ	**Kozyrevsk**	**2.51**	**275**	*e*P		Pb	21 57 10.3	-1.7
KOZ				*e*S		Sb	21 57 42.1	-0.4
SRDR	**Sredinnyy**	**2.62**	**281**	*i* P		Pn	21 57 10.6	+1.8
SRDR				*e*S		Sn	21 57 42.3	+2.2
SPN	**Mys Shipunski**	**3.78**	**223**	*e*P		Pn	21 57 28.3	+3.6
SPN				*e*S		Sn	21 58 11.3	+2.7
SDLR	**Sedlovina**	**4.13**	**232**	*e*P		Pn	21 57 32.6	+3.0
SMAR	**Somma**	**4.18**	**233**	*e*P		Pn	21 57 34.0	+3.6
KRX	**Arik**	**4.18**	**235**	*e*P		Pn	21 57 34.6	+4.2
UGLR	**Uglovaya**	**4.20**	**232**	*e*P		Pn	21 57 34.5	+3.9
AVH	**Avacha**	**4.21**	**233**	*e*P		Pn	21 57 34.6	+4.0
GNL	**Ganaly**	**4.32**	**242**	*e*P		Pn	21 57 36.2	+4.0
RUS	**Russkaya**	**4.89**	**227**	*e*P		Pn	21 57 43.1	+3.2
ASAK	**Asacha**	**5.18**	**230**	*e*P		Pn	21 57 48.4	+4.4

WEL 25 22:07:39.3±0.9, 46°.31S×166°.07E, h26km±4km, ML3.5/8, 3D, Error ellipse: s-maj=7.5km s-min=3.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.45**	**72**	P*		Pb	22 07 48.9	+0.3
PYZ				S*		Sb	22 07 54.9	-0.2
DCZ	**Deep Cove**	**1.12**	**43**	⇓PN		Pn	22 07 58.6	-0.6
DCZ				SN		Sn	22 08 12.1	-1.7
DCZ				AML	AML		22 08 14.2	
DCZ				AML	AML		22 08 14.3	
DCZ				AML	AML		22 08 14.5	
WHZ	**Wether Hill Ro**	**1.37**	**73**	PN		Pn	22 08 02.9	+0.2
WHZ				SN		Sn	22 08 20.1	+0.1
WHZ				AML	AML		22 08 21.0	
APZ	**The Paps**	**1.42**	**112**	PN		Pn	22 08 02.6	-0.8
APZ				*e*SN		Sn	22 08 18.9	-2.5
APZ				AML	AML		22 08 21.4	
MLZ	**Mavora Lakes**	**1.76**	**58**	⇓PN		Pn	22 08 09.4	+1.4
MLZ				SN		Sb	22 08 32.5	0.0
MLZ				AML	AML		22 08 42.6	
MSZ	**Milford Sound**	**2.09**	**39**	AML	AML		22 08 47.4	
MSZ				AML	AML		22 08 48.2	
SYZ	**Scrubby Hill**	**2.13**	**97**	PN		Pn	22 08 13.4	+0.3
SYZ				SN		Sn	22 08 37.2	-1.5
SYZ				AML	AML		22 08 41.3	
SYZ				AML	AML		22 08 43.9	
SYZ				AML	AML		22 08 43.9	
TUZ	**Tuapeka**	**2.50**	**83**	⇓PN		Pn	22 08 18.3	+0.2
TUZ				SN		Sn	22 08 46.5	-1.3
EAZ	**Earnscleugh**	**2.51**	**66**	PN		Pn	22 08 19.5	+1.2
EAZ				AML	AML		22 08 53.0	
EAZ				AML	AML		22 08 53.7	
WKZ	**Wanaka**	**2.54**	**55**	PN		Pb	22 08 21.9	-2.4
JCZ	**Jackson Bay**	**2.93**	**41**	PN		Pb	22 08 28.2	-2.8
JCZ				AML	AML		22 09 17.1	
ODZ	**Otahua Downs**	**3.45**	**70**	PN		Pn	22 08 30.3	-0.9
LBZ	**Lake Benmore**	**3.48**	**58**	PN		Pn	22 08 32.3	+0.6

*IDC **25** 23:00:08.7±1.6, 52°.90N×166°.93W, h0km, mb3.8/11, mb1 3.9/11, mb1mx3.7/44, mbtmp3.8/11, MS2.9/3, Ms1 3.0/3, ms1mx2.4/42, Error ellipse: s-maj=58.5km s-min=17.6km az=19.0*
*NEIC **25** 23:00:08.7, 52°.34N×166°.74W, h26km, ML3.1(AEIC), After AEIC.*
*ISCJB **25** 23:00:10.6±1.2, 52°.45N±0°.08×166°.87W±0°.08, h40km±9km, mb3.8/11, MS2.9/2, Error ellipse: s-maj=14.0km s-min=7.5km az=160.7*
ISC 25 23:00:12.6±1.0, 52°.5N±0°.1×166°.93W±0°.06, h37km±2km, n35, σ1§10/32, mb3.8/11, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OKFG	**Magazine Ridge**	**1.08**	**327**	P		**Pn**	**23 00 30.3**	**-0.7**
OKFG				S		**Sn**	**23 00 46.2**	**+1.5**
OKTU	**Okmok Mt. Tuli**	**1.10**	**323**	P		**Pn**	**23 00 31.5**	**0.0**
OKCE	**Okmok Cone E**	**1.18**	**321**	P		**Pn**	**23 00 32.2**	**-0.3**
OKWR	**Okmok West Rim**	**1.20**	**321**	P		**Pn**	**23 00 33.1**	**+0.2**
NIKH	**Nikolski High**	**1.26**	**292**	P		**Pn**	**23 00 32.5**	**-1.0**
NIKH				S		**Sn**	**23 00 51.0**	**+1.9**
UNV	**Unalaska Valle**	**1.36**	**11**	P		**Pn**	**23 00 34.0**	**-1.0**
OKAK	**Okmok**	**1.37**	**322**	P		**Pn**	**23 00 33.2**	**-1.9**
MSW	**Makushin Switc**	**1.41**	**4**	P		**Pn**	**23 00 35.3**	**-0.4**
MSW				S		**Sn**	**23 00 54.3**	**+1.4**
MCIR	**Makushin Cirqu**	**1.44**	**1**	P		**Pn**	**23 00 35.7**	**-0.4**
MTBL	**Makushin Table**	**1.47**	**6**	P		**Pn**	**23 00 35.8**	**-0.7**
ZRO	**Akutan Zero**	**1.68**	**20**	P		**Pn**	**23 00 38.6**	**-0.8**
AKRB	**Akutan Reef Bi**	**1.70**	**17**	P		**Pn**	**23 00 38.9**	**-0.7**
AKRB				S		**Sn**	**23 00 60.0**	**-0.2**
AKUT	**Akutan**	**1.77**	**23**	*e*Pn		**Pn**	**23 00 38.5**	**-2.0**
AKUT				*e*Sn		**Sn**	**23 01 01.5**	**-0.3**
WESP	**Westdahl Peak**	**2.38**	**33**	P		**Pn**	**23 00 48.3**	**-0.8**
SSBA	**Shishaldin**	**2.82**	**35**	P		**Pn**	**23 00 54.3**	**-0.7**
GSTR	**Great Sitkin T**	**5.62**	**269**	*e*Pn		**Pn**	**23 01 31.5**	**-2.0**
ILAR	**Eielson Array**	**16.02**	**32**	LR		LR	23 10 12.2	
	comp=Z,37nm,20.6s,baz=222,slow=38							
PETK	**Petropavlovsk-**	**21.26**	**286**	P		**P**	**23 04 55.8**	**+0.6**
	2.1nm,0.5s,baz=86,slow=12,SNR=4.4							
INK	**Inuvik**	**22.42**	**32**	LR		LR	23 14 53.7	
	comp=Z,25nm,18.1s,baz=126,slow=40							
NVAR	**Mina Array Bea**	**36.18**	**93**	P		**P**	**23 07 13.4**	**+1.9**
	0.3nm,0.5s,baz=299,slow=8.2,SNR=3.0							
H11N2	**WAKE ISLAND Hy**	**38.52**	**222**	T		T	23 49 18.7	
	baz=23							
H11N3	**WAKE ISLAND Hy**	**38.53**	**222**	T		T	23 49 19.3	
	baz=23							
H11N1	**WAKE ISLAND Hy**	**38.54**	**222**	T		T	23 49 18.7	
	baz=23							
PDAR	**Pinedale Array**	**38.91**	**81**	P		**P**	**23 07 35.4**	**+0.7**
	0.5nm,0.8s,baz=345,slow=5.2,SNR=4.3							
H11S1	**WAKE ISLAND Hy**	**39.70**	**221**	T		T	23 51 03.7	
	baz=29							
H11S2	**WAKE ISLAND Hy**	**39.72**	**221**	T		T	23 51 01.2	
	baz=29							
H11S3	**WAKE ISLAND Hy**	**39.72**	**221**	T		T	23 51 03.6	
	baz=29							
TXAR	**Lajitas Array**	**51.26**	**91**	P		**P**	**23 09 13.6**	**+1.0**
	0.6nm,0.8s,baz=301,slow=5.5,SNR=8.0							
SONM	**Songino Array**	**52.50**	**302**	P		**P**	**23 09 21.5**	**-0.2**
	0.3nm,0.5s,baz=76,slow=6.1,SNR=4.5							
ARCES	**ARCESS Array B**	**57.93**	**355**	P		**P**	**23 09 59.1**	**-1.2**
	1.1nm,0.7s,baz=14,slow=5.4,SNR=3.8							
ZALV	**Zalesovo Beam**	**58.31**	**319**	P		**P**	**23 10 02.5**	**-0.7**
	0.3nm,0.3s,baz=63,slow=6.6,SNR=2.4							
MKAR	**Makanchi Array**	**64.78**	**315**	P		**P**	**23 10 46.4**	**-0.6**
	1.0nm,0.7s,baz=56,slow=7.5,SNR=11							
FINES	**FINESS Array B**	**65.92**	**353**	P		**P**	**23 10 53.5**	**-0.6**
	2.0nm,0.6s,baz=26,slow=6.3,SNR=9.9							
AKASG	**Malin Array Be**	**76.26**	**350**	P		**P**	**23 11 56.2**	**-0.6**
	0.4nm,0.4s,baz=10,slow=5.9,SNR=4.0							
AKASG				LR		LR	23 48 50.5	
	comp=Z,12nm,20.1s,baz=0.0,slow=38							
BRTR	**Keskin Array B**	**86.42**	**344**	P		**P**	**23 12 52.0**	**+0.9**
	0.7nm,0.7s,baz=20,slow=8.3,SNR=3.8							

*NIED **25** 23:03:00, 43°.90N×148°.10E, h47km, Mw3.8 Best double couple: M0=4.82000×10^14

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANA	**San'a**	**0.15**	**348**	⇓*i*P	**Pg**	**23 19 48.3**	**0.0**
SANA				*i* S	**Sg**	**23 19 50.7**	**0.0**
SANA				AML	AML	23 19 58.9	
	comp=E,26μm,0.4s						
DHBB	**Dhamar BB**	**0.68**	**167**	⇑*i*P	**Pg**	**23 19 58.4**	**+0.4**
DHBB				*i* S	**Sb**	**23 20 08.5**	**-0.2**
HAJJ	**Hajjah**	**0.77**	**307**	⇓*i*P	**Pg**	**23 19 59.5**	**-0.1**
HAJJ				*i* S	**Sg**	**23 20 09.8**	**+0.1**
HAJJ	**Hajjah**	**0.77**	**307**	⇓*i*P	**Pg**	**23 19 59.5**	**-0.1**
HAJJ				*i* S	**Sg**	**23 20 09.8**	**+0.1**
RADA	**Ahram - Rada'a**	**0.99**	**143**	⇑*i*P	P*g*	23 19 08.5	-8.5
RADA				*i* S	Sg	23 20 08.9	-8.0
BDHA	**Al Bayda'**	**1.80**	**134**	⇓*i*P	**Pb**	**23 20 17.6**	**-0.5**
BDHA				*i* S	**Sb**	**23 20 41.1**	**+0.2**
	comp=E,182nm,0.5s						
JAZS	**Jizan**	**2.22**	**325**	P	**Pn**	**23 20 22.0**	**+0.2**
JAZS				S	**Sb**	**23 20 53.0**	**+0.3**
JAZS	**Jizan**	**2.22**	**325**	P	**Pn**	**23 20 22.3**	**+0.5**
FRSS	**Farasan al Kab**	**2.53**	**306**	P	**Pn**	**23 20 26.0**	**0.0**
FRSS				S	**Sn**	**23 20 57.0**	**0.0**
FRSS	**Farasan al Kab**	**2.53**	**306**	P	**Pn**	**23 20 26.1**	**0.0**

*JMA **25** 23:32:31.1±0.1,22°.83N×120°.57E,h4km±3km,M3.8*
*TAP **25** 23:32:33.2,22°.84N×120°.69E,h19km,ML3.5,B*
*ISCJB **25** 23:32:34.7±0.2,22°.82N±0°.01×120°.70E±0°.02,h20km±3km,*
Error ellipse: s-maj=3.2km s-min=2.4km az=163.8

ISC 25 23:32:34.1±0.8,22°.84N±0°.02×120°.68E±0°.02,h15km±6km,
n55,σ0s86/94,7C-6D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSD	**Sandimen**	**0.10**	**202**	⇓*i*P	**Pb**	**23 32 37.5**	**-0.3**
	baz=209						
SSD				*e*S	**Sg**	**23 32 40.0**	**+0.3**
	baz=209						
SGLT	**Jiouru**	**0.21**	**235**	P	**Pb**	**23 32 39.5**	**-0.1**
	baz=238						
SGLT				*e*S	**Sb**	**23 32 44.9**	**+1.7**
	baz=238						
TWM1	**Shoushan**	**0.23**	**265**	*e*P	**Pb**	**23 32 40.4**	**+0.4**
	baz=267						
SGST	**Jiashian**	**0.25**	**340**	⇑*i*P	**Pb**	**23 32 40.3**	**0.0**
	baz=344						
SGST				*i* S	**Sb**	**23 32 45.4**	**+0.9**
	baz=344						
STYT	**Tauyuan**	**0.33**	**13**	⇓*i*P	**Pg**	**23 32 41.2**	**+0.2**
	baz=16						
STYT				S	**Sb**	**23 32 46.5**	**-0.2**
	baz=16						
ECL	**Taimali**	**0.36**	**133**	⇑*i*P	**Pg**	**23 32 41.1**	**-0.3**
	baz=138						
ECL				*i* S	**Sg**	**23 32 46.1**	**-0.2**
	baz=138						
CHN1	**Nanshi**	**0.37**	**338**	⇑*i*P	**Pb**	**23 32 42.4**	**+0.1**
	baz=346						
CHN1				*i* S	**Sn**	**23 32 49.4**	**-2.4**
	baz=346						
TWG	**Pinlang**	**0.37**	**93**	⇑*i*P	**Pg**	**23 32 41.7**	**+0.1**
	baz=97						
TWG				*i* S	**Sb**	**23 32 47.4**	**-0.4**
	baz=97						
CHN3	**Shinhua**	**0.37**	**309**	*e*P	**Pn**	**23 32 43.5**	**-1.3**
	baz=316						
CHN3				*e*S	**Sn**	**23 32 52.2**	**+0.5**
	baz=316						
KAU	**Kaohsiung**	**0.43**	**231**	*e*P	**Pn**	**23 32 45.1**	**-0.6**
	baz=233						
TTN	**Taitung**	**0.45**	**101**	⇑*i*P	**Pb**	**23 32 43.6**	**0.0**
	baz=101						
TTN				*e*S	**Sb**	**23 32 51.1**	**+1.1**
	baz=101						
TAI1	**Yung-k'ang**	**0.46**	**296**	*e*P	**Pb**	**23 32 44.5**	**+0.7**
	baz=296						
TWK	**Hsinying**	**0.46**	**338**	⇑*i*P	**Pb**	**23 32 43.6**	**-0.2**
	baz=338						
TWK				*e*S	**Sb**	**23 32 51.4**	**+0.9**
	baz=338						
ELDTW	**Lidau**	**0.47**	**42**	⇓*i*P	**Pg**	**23 32 43.3**	**-0.2**
	baz=41						
ELDTW				*e*S	**Sg**	**23 32 50.1**	**+0.3**
	baz=41						
SCZT	**Fangliau**	**0.47**	**186**	*e*P	**Pg**	**23 32 43.0**	**-0.5**
	baz=187						
EAST	**Anshuo**	**0.48**	**161**	⇑*i*P	**Pg**	**23 32 43.5**	**-0.2**
	baz=159						
EAST				S	**Sg**	**23 32 50.3**	**0.0**
	baz=159						
TAW	**Tawu**	**0.52**	**157**	*i* P	**Pg**	**23 32 44.2**	**-0.3**
	baz=156						
TAW				*i* S	**Sg**	**23 32 51.3**	**-0.2**
	baz=156						
SCLT	**Jiali**	**0.55**	**307**	*e*P	**Pb**	**23 32 46.0**	**+0.6**
	baz=307						
SCLT				*e*S	**Sn**	**23 32 56.2**	**0.0**
	baz=307						
TWP	**Hsiaoliuchiu**	**0.57**	**210**	*e*P	**Pn**	**23 32 47.8**	**+0.1**
	baz=211						
TWP				*e*S	**Sn**	**23 32 59.8**	**+3.1**
	baz=211						
CHN8	**Yiju**	**0.66**	**320**	*e*P	**Pg**	**23 32 47.3**	**+0.3**
	baz=320						
CHKT	**Chengkung**	**0.69**	**68**	P	**Pb**	**23 32 47.2**	**-0.5**
	baz=81						
CHKT				*i* S	**Sg**	**23 32 57.7**	**+1.1**
	baz=81						
CHY	**Chiayi**	**0.69**	**341**	P	**Pg**	**23 32 47.9**	**+0.3**
	baz=340						
CHY				*e*S	**Sn**	**23 32 58.9**	**-0.8**
	baz=340						
CHN2	**Minshiung**	**0.71**	**345**	*e*P	**Pg**	**23 32 48.4**	**+0.4**
	baz=344						
CHN5	**Tsauling**	**0.75**	**0**	*e*P	**Pb**	**23 32 48.6**	**-0.3**
	baz=359						
CHN5				*e*S	**Sn**	**23 33 00.9**	**-0.4**
	baz=359						
TWF1	**Yuli**	**0.77**	**48**	⇓*i*P	**Pb**	**23 32 48.5**	**-0.6**
	baz=48						
TWF1				S	**Sb**	**23 32 58.4**	**-1.0**
	baz=48						
HEN	**Hengchun**	**0.83**	**176**	*e*P	**Pg**	**23 32 50.3**	**0.0**
	baz=168						
HEN				*e*S	**Sn**	**23 33 02.7**	**-0.5**
	baz=168						
WGK	**Gukeng**	**0.85**	**353**	*e*P	**Pg**	**23 32 50.8**	**+0.3**
	baz=352						
WGK				*e*S	**Sn**	**23 33 03.7**	**+0.1**
	baz=352						
EHY	**Hungye**	**0.89**	**42**	⇓*i*P	**Pb**	**23 32 50.5**	**-0.7**
	baz=46						
EHY				S	**Sb**	**23 33 02.1**	**-0.8**
	baz=46						
TWK1	**Hengchun**	**0.90**	**172**	P	**Pb**	**23 32 51.3**	**-0.1**
	baz=173						
TWK1				S	**Sn**	**23 33 04.5**	**-0.4**
	baz=173						
TSEB	**Hengchuen, Pin**	**0.96**	**167**	*e*P	**Pn**	**23 32 52.8**	**-0.2**
	baz=171						
TSEB				*e*S	**Sb**	**23 33 05.0**	**+0.1**
	baz=171						
WDGT	**Dungji**	**1.02**	**294**	P	**Pb**	**23 32 52.1**	**-1.4**
	baz=295						
WDGT				*e*S	**Sb**	**23 33 06.1**	**-0.6**
	baz=295						
SMLT	**Sun Moon Lake**	**1.06**	**11**	*e*P	**Pn**	**23 32 54.1**	**-0.3**
	baz=10.0						
SMLT				*e*S	**Sg**	**23 33 09.5**	**+1.1**
	baz=10.0						
TYC	**Yuchr**	**1.07**	**9**	P	**Pn**	**23 32 54.1**	**-0.3**
	baz=8.0						
TYC				*e*S	**Sg**	**23 33 10.2**	**+1.5**
	baz=8.0						
WTCT	**Ta-ch'eng**	**1.08**	**340**	*e*P	**Pb**	**23 32 54.0**	**-0.5**
	baz=339						
LAY	**Lan-yu**	**1.14**	**134**	*e*P	**Pn**	**23 32 53.8**	**-1.7**
	baz=123						
ESL	**Shilin**	**1.19**	**36**	*e*P	**Pn**	**23 32 56.0**	**-0.2**
	baz=36						
ESL				*e*S	**Sn**	**23 33 12.0**	**-0.1**
	baz=36						
PNG	**Penghu**	**1.26**	**305**	*e*P	**Pn**	**23 32 54.7**	**-2.4**
	baz=306						
TCU	**Taichung**	**1.30**	**0**	*e*P	**Pn**	**23 32 56.7**	**-0.9**
	baz=344						
WHF	**Hehuan Shan**	**1.41**	**23**	⇓P	**Pn**	**23 32 59.5**	**0.0**
	baz=33						
WHF				*e*S	**Sg**	**23 33 20.0**	**+0.4**
	baz=33						
TWT	**Tachien**	**1.48**	**18**	*e*P	**Pn**	**23 32 60.0**	**-0.3**
	baz=14						
TWD	**Chiawan**	**1.49**	**34**	*e*P	**Pn**	**23 33 00.2**	**-0.2**
	baz=35						
TWD				*e*S	**Sn**	**23 33 18.9**	**-0.7**
	baz=35						
TWQ1	**Liyutan**	**1.50**	**3**	*e*P	**Pn**	**23 33 00.5**	**+0.1**
	baz=3.0						
TWQ1				*e*S	**Sg**	**23 33 21.6**	**-1.0**
	baz=3.0						
NSY	**Sanyi**	**1.57**	**3**	*e*P	**Pn**	**23 33 00.9**	**-0.5**
	baz=345						
NNS	**Nan Shan**	**1.71**	**22**	*e*P	**Pn**	**23 33 03.7**	**+0.2**
	baz=22						
NNS				*e*S	**Sb**	**23 33 26.9**	**+0.1**
	baz=22						
NSK	**Sanguang**	**1.93**	**19**	*e*P	**Pn**	**23 33 06.6**	**+0.2**
	baz=16						
ENTT	**Nioudou**	**1.97**	**24**	*e*P	**Pb**	**23 33 08.2**	**-1.4**
	baz=10.0						
ENTT				*e*S	**Sb**	**23 33 34.8**	**+0.9**
	baz=10.0						
TWC	**Suao**	**2.06**	**31**	*e*P	**Pn**	**23 33 09.4**	**+1.2**
	baz=31						
TWC				*e*S	**Sb**	**23 33 37.2**	**+0.6**
	baz=31						
TWE	**Neicheng**	**2.08**	**26**	*e*P	**Pb**	**23 33 10.8**	**-0.7**
	baz=45						
JYNG	**Yonagunijimaku**	**2.63**	**52**	P	**Pn**	**23 33 16.1**	**+0.2**
JYNG				*e*S	**Sn**	**23 33 48.6**	**+1.1**
YOJ	**Yonaguni jima**	**2.68**	**53**	P	**Pn**	**23 33 16.9**	**+0.3**
YOJ				*e*S	**Sn**	**23 33 50.6**	**+1.8**
IRIF	**Iriomote-Funau**	**3.17**	**61**	P	**Pn**	**23 33 24.8**	**+1.4**
JKRS	**Kuro-shima**	**3.36**	**65**	P	**Pn**	**23 33 26.9**	**+0.9**
JKRS				*e*S	**Sn**	**23 34 07.0**	**+1.4**
JIJ	**Ishigaki jima**	**3.52**	**64**	P	**Pn**	**23 33 28.5**	**+0.3**
JIJ				*e*S	**Sn**	**23 34 09.1**	**-0.5**
JISG	**Ishigakijimahi**	**3.76**	**62**	P	**Pn**	**23 33 30.8**	**-0.7**
JISG				*e*S	**Sn**	**23 34 14.2**	**-1.2**
JTJ	**Tarama**	**4.10**	**63**	P	**Pn**	**23 33 37.5**	**+1.3**

IDC 25 23:37:11.5±6.7,15°.27S×173°.00W,h0km,mb3.7/3,
mb1 4.0/3,mb1mx3.6/36,mbtmp3.7/3,MS3.6/2,Ms1 3.6/2,
ms1mx2.8/40,Error ellipse: s-maj=320.3km
s-min=22.9km az=142.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.80**	**41**	Pn	Pn	23 37 42.6	-1.2
	42nm,0.3s,baz=252,slow=9.6,SNR=41						
AFI				Sn	Sn	23 38 02.2	-5.2
	118nm,0.3s,baz=90,slow=19,SNR=15						
AFI				LR	LR	23 38 06.5	
	comp=Z,219nm,18.9s,baz=204,slow=31						
H11S2	**WAKE ISLAND Hy**	**39.05**	**329**	T	T	00 25 53.0	
	baz=149						
H11S3	**WAKE ISLAND Hy**	**39.07**	**328**	T	T	00 25 53.6	
	baz=149						
H11S1	**WAKE ISLAND Hy**	**39.07**	**329**	T	T	00 25 53.0	
	baz=149						
H11N3	**WAKE ISLAND Hy**	**39.99**	**330**	T	T	00 27 01.8	
	baz=147						
H11N1	**WAKE ISLAND Hy**	**40.00**	**330**	T	T	00 27 00.6	
	baz=147						
H11N2	**WAKE ISLAND Hy**	**40.01**	**330**	T	T	00 27 01.2	
	baz=147						
WRA	**Warramunga Arr**	**50.25**	**257**	P	P	23 46 09.4	-0.6
	0.7nm,0.8s,baz=90,slow=7.7,SNR=3.0						
ASAR	**Alice Springs**	**50.52**	**252**	P	P	23 46 11.8	-0.2
	2.2nm,0.7s,baz=88,slow=8.1,SNR=17						
PFO	**Pinyon Flat Ob**	**72.55**	**47**	LR	LR	00 12 12.0	
	comp=Z,72nm,19.6s,baz=202,slow=29						
ILAR	**Eielson Array**	**82.25**	**11**	P	P	23 49 35.2	+1.0
	0.3nm,0.9s,baz=202,slow=6.8,SNR=3.3						
SONM	**Songino Array**	**95.01**	**318**	LR	LR	00 30 37.0	
	comp=Z,13nm,20.2s,baz=226,slow=34						

*ISCJB **25** 23:41:08.8±0.9,14°.42S±0°.07×166°.9E±0°.2,h67km,*
mb3.5/7,Error ellipse: s-maj=23.4km s-min=10.7km
az=1.5
*IDC **25** 23:41:10.8±5.1,14°.42S×166°.95E,h72km±44km,mb3.4/7,*
mb1 3.7/8,mb1mx3.6/20,mbtmp3.8/8,ML3.9/1,MS3.5/1,
Ms1 3.4/1,ms1mx2.6/15,Error ellipse: s-maj=30.7km
s-min=28.2km az=122.0

ISC 25 23:41:10.2±0.8,14°.38S±0°.09×166°.9E±0°.2,h67km,n11,
σ0s82/13,mb3.5/7,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.67**	**183**	P	**Pn**	**23 42 58.8**	**-0.5**
	1.8nm,0.3s,baz=90,slow=24,SNR=43						
DZM				S	**Sn**	**23 44 25.8**	**+1.0**
	1.3nm,0.3s,baz=90,slow=20,SNR=3.9						
STKA	**Stephens Creek**	**28.97**	**229**	P	**P**	**23 47 03.8**	**+0.3**
	1.1nm,0.5s,baz=65,slow=9.0,SNR=3.7						
STKA				PcP	**PcP**	**23 50 10.3**	**-0.7**
	1.3nm,0.7s,baz=108,slow=3.2,SNR=3.2						
STKA				LR	LR	23 56 44.4	
	comp=Z,79nm,18.6s,baz=194,slow=32						
WRA	**Warramunga Arr**	**31.59**	**255**	P	**P**	**23 47 26.8**	**-0.1**
	0.2nm,0.3s,baz=86,slow=9.5,SNR=2.1						
ASAR	**Alice Springs**	**32.49**	**248**	P	**P**	**23 47 34.2**	**-0.5**
	0.3nm,0.5s,baz=77,slow=9.1,SNR=2.8						
VNDA	**Vanda**	**63.21**	**181**	P	**P**	**23 51 30.5**	**-0.4**
	2.2nm,0.8s,baz=355,slow=7.5,SNR=18						
SONM	**Songino Array**	**82.02**	**324**	P	**P**	**23 53 24.5**	**+1.4**
	0.2nm,0.4s,baz=134,slow=6.2,SNR=2.7						
ILAR	**Eielson Array**	**86.29**	**18**	P	**P**	**23 53 43.2**	**-1.1**
	0.3nm,0.6s,baz=228,slow=5.2,SNR=4.2						
NVAR	**Mina Array Bea**	**87.29**	**49**	P	**P**	**23 53 51.1**	**+1.0**
	0.2nm,0.6s,baz=284,slow=3.6,SNR=3.0						
ARCES	**ARCESS Array B**	**119.83**	**345**	PKP	**PKPdf**	**23 59 52.0**	**-0.3**
	0.8nm,0.5s,baz=83,slow=1.6,SNR=14						
FINES	**FINESS Array B**	**125.27**	**338**	PKP	**PKPdf**	**00 00 02.4**	**-0.4**
	0.5nm,0.5s,baz=196,slow=1.0,SNR=5.5						
TORD	**Torodi Ar. Bea**	**165.60**	**267**	PKPab	**PKPab**	**00 02 07.0**	**-0.2**
	0.4nm,0.9s,baz=75,slow=3.7,SNR=2.2						

TRN 25 23:43:48.8,17°.33N×61°.65W,h29km,MD3.9,M3.7(FDF),
2D,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.36**	**339**	⇓*i*P	Pn	23 43 58.7	+0.6
ANWB				*e*S	Sn	23 44 04.8	+0.5
SEG	**Port Louis**	**0.93**	**171**	⇓*e*P	Pb	23 44 07.4	+1.0
SKI	**Saint Kitts**	**1.04**	**270**	*e*P	Pb	23 44 09.2	+0.9
SKI	**Saint Kitts**	**1.04**	**270**	*e*P	Pb	23 44 09.2	+1.0
SKI				*e*S	Sb	23 44 22.8	+1.3
MLG	**Mont-d'or**	**1.26**	**183**	*e*P	Pb	23 44 12.1	0.0
MGG	**Marie-Galante**	**1.44**	**167**	*e*P	Pb	23 44 14.8	-0.3
MGG				*e*S	Sb	23 44 33.3	+0.4
TBG	**Guadaloupe-3**	**1.47**	**180**	*e*P	Pb	23 44 14.6	-0.9
TBG				*e*S	Sb	23 44 34.2	+0.4
SMRT	**St. Maarten**	**1.53**	**298**	*e*P	Pb	23 44 16.2	-0.4
SMRT				*e*S	Sb	23 44 35.6	-0.1
SABA	**Saba**	**1.54**	**281**	*e*P	Pb	23 44 16.7	-0.1
MCLT	**Moule a Chique**	**3.66**	**169**	*e*P	Pn	23 44 45.2	+1.6
MCLT				*e*S	Sn	23 45 27.0	+1.1
SVB	**Belmont**	**4.05**	**174**	*e*P	Pn	23 44 51.6	+2.6

*IDC **25** 23:57:45.2±1.0,32°.42S×179°.68E,h340km±12km,mb3.8/5,*
mb1 4.0/8,mb1mx3.5/38,mbtmp4.7/8,Error ellipse:
s-maj=17.7km s-min=15.4km az=111.0
*ISCJB **25** 23:57:47.8±0.9,32°.63S±0°.05×179°.2E±0°.1,h350km,*
mb3.9/5,Error ellipse: s-maj=15.9km s-min=6.7km
az=169.2

ISC 25 23:57:48.0±1.2,32°.68S±0°.08×179°.3E±0°.1,h350km,n92,
σ1s58/88,mb3.9/5,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.16**	**35**	P	Pn	23 58 51.8	-6.9
	64nm,0.3s,baz=233,slow=20,SNR=6.6						
RAO				S	S	23 59 45.1	-11
	84nm,0.3s,baz=45,slow=20,SNR=4.1						
MXZ	**Matakaoa Point**	**4.94**	**189**	PN	**Pn**	**23 59 07.1**	**+0.3**
MXZ				SN	**S**	**00 00 11.2**	**+0.6**
WMGZ	**Waiomatatini S**	**5.18**	**188**	PN	**Pn**	**23 59 10.4**	**+0.9**
WMGZ				SN	**S**	**00 00 19.0**	**+3.7**
HAZ	**Te Kaha**	**5.22**	**194**	*e*PN	**Pn**	**23 59 11.6**	**+1.8**
MYRZ	**Mayor Island**	**5.24**	**208**	PN	Pn	23 59 16.1	+6.0
PUZ	**Puketiti**	**5.45**	**189**	PN	**Pn**	**23 59 13.0**	**+0.5**
PUZ				SN	**S**	**00 00 21.4**	**+0.5**
TWGZ	**Tauwhareparae**	**5.59**	**191**	PN	**Pn**	**23 59 15.0**	**+0.9**
OPRZ	**Ohinepanea**	**5.63**	**203**	PN	Pn	23 59 18.4	+4.0
MARZ	**Manawahe**	**5.72**	**202**	PN	Pn	23 59 20.5	+5.0
EDRZ	**Edgecumbe**	**5.81**	**201**	PN	Pn	23 59 20.9	+4.3
MWZ	**Matawai**	**5.83**	**194**	PN	**Pn**	**23 59 17.4**	**+0.7**
MWZ				*e*SN	**S**	**00 00 29.8**	**+1.0**
URZ	**Urewera**	**5.85**	**197**	P	**Pn**	**23 59 17.0**	**+0.1**
	43nm,0.3s,baz=358,slow=3.1,SNR=138						
URZ				S	**S**	**00 00 30.1**	**+1.0**
	27nm,0.3s,baz=252,slow=20,SNR=11						
URZ	**Urewera**	**5.85**	**197**	PN	**Pn**	**23 59 18.4**	**+1.4**
URZ				SN	**S**	**00 00 30.8**	**+1.7**
TKGZ	**Te Karaka**	**5.87**	**191**	PN	**Pn**	**23 59 17.4**	**+0.3**
TARZ	**Mount Tarawera**	**6.00**	**202**	PN	Pn	23 59 23.8	+5.1
RAGZ	**Rawiri**	**6.00**	**194**	*e*PN	**Pn**	**23 59 19.1**	**+0.3**
RIGZ	**Rimuhau**	**6.14**	**192**	PN	**Pn**	**23 59 19.8**	**-0.5**
SNGZ	**Shannon Statio**	**6.29**	**194**	PN	**Pn**	**23 59 23.8**	**+1.7**
ALRZ	**Allen Road**	**6.35**	**202**	PN	Pn	23 59 26.4	+3.7
TLZ	**Tolley Road**	**6.42**	**208**	PN	Pn	23 59 28.6	+5.0
KNZ	**Kokohu**	**6.46**	**192**	PN	**Pn**	**23 59 25.0**	**+1.0**
RAHZ	**Arahi**	**6.48**	**196**	PN	**Pn**	**23 59 25.8**	**+1.6**
WHHZ	**Waihua**	**6.60**	**194**	PN	**Pn**	**23 59 27.0**	**+1.4**
NMHZ	**Naumai**	**6.72**	**197**	PN	**Pn**	**23 59 27.4**	**+0.4**
ARHZ	**Aropaoanui**	**6.83**	**195**	PN	**Pn**	**23 59 29.7**	**+1.5**
HIZ	**Hauiti**	**6.86**	**211**	*e*PN	Pn	23 59 32.3	+3.6
BKZ	**Black Stump Fm**	**6.87**	**199**	PN	**Pn**	**23 59 31.0**	**+2.3**
KRVZ	**Karewarewa**	**7.06**	**204**	PN	**Pn**	**23 59 33.8**	**+2.7**
WTVZ	**West Tongariro**	**7.10**	**204**	PN	**Pn**	**23 59 34.3**	**+2.8**
TWVZ	**Taurewa**	**7.11**	**205**	PN	**Pn**	**23 59 34.6**	**+2.9**
OTVZ	**Oturere**	**7.12**	**204**	PN	**Pn**	**23 59 34.6**	**+2.8**
KWHZ	**Kaweka Forest**	**7.12**	**198**	PN	**Pn**	**23 59 33.4**	**+1.7**
NGZ	**Ngauruhoe**	**7.15**	**204**	PN	**Pn**	**23 59 34.7**	**+2.6**
WPVZ	**Whakapapa**	**7.19**	**204**	PN	Pn	23 59 35.8	+3.2
TUVZ	**Tukino**	**7.21**	**203**	PN	**Pn**	**23 59 35.7**	**+2.3**
WHVZ	**Whangaehu Hut**	**7.25**	**204**	PN	**Pn**	**23 59 35.4**	**+2.0**
DRZ	**Dome Shelter**	**7.25**	**204**	PN	**Pn**	**23 59 36.5**	**+3.0**
BHHZ	**Black Hill Sta**	**7.29**	**200**	*e*PN	**Pn**	**23 59 33.4**	**-0.2**
WNVZ	**Wahianoa**	**7.29**	**203**	PN	**Pn**	**23 59 33.9**	**+0.1**
MOVZ	**Moawhango**	**7.31**	**202**	PN	**Pn**	**23 59 35.5**	**+1.6**
PKVZ	**Pokaka**	**7.34**	**205**	PN	**Pn**	**23 59 37.1**	**+2.9**
MTVZ	**Mangateitei**	**7.38**	**204**	PN	**Pn**	**23 59 37.4**	**+2.7**
PXZ	**Pawanui**	**7.60**	**194**	PN	**Pn**	**23 59 36.1**	**-1.1**
PNHZ	**Pukenui**	**7.64**	**198**	*e*PN	**Pn**	**23 59 36.9**	**-1.0**
WPHZ	**Waipukurau**	**7.73**	**197**	PN	**Pn**	**23 59 40.4**	**+1.7**
TSZ	**Takapari Road**	**7.84**	**199**	*e*PN	**Pn**	**23 59 38.5**	**-1.7**
PRHZ	**Porangahau**	**7.87**	**195**	PN	**Pn**	**23 59 41.2**	**+0.7**
WAZ	**Wanganui**	**7.88**	**205**	*e*PN	**Pn**	**23 59 42.6**	**+2.0**
ANWZ	**Angora Road**	**8.09**	**196**	PN	**Pn**	**23 59 45.2**	**+2.1**
POWZ	**Post Office Ro**	**8.21**	**199**	PN	**Pn**	**23 59 45.8**	**+1.3**
PRWZ	**Pori Road**	**8.31**	**198**	*e*PN	**Pn**	**23 59 45.7**	**+0.1**
MRZ	**Mangatainoka R**	**8.51**	**200**	PN	**Pn**	**23 59 46.5**	**-1.6**
MRZ				*e*SN	**S**	**00 01 22.7**	**-3.5**
TIWZ	**Tintock**	**8.54**	**198**	PN	**Pn**	**23 59 49.4**	**+1.0**
CPWZ	**Castlepoint**	**8.58**	**196**	PN	**P**	**23 59 51.4**	**-0.1**
OGWZ	**Otaki Gorge**	**8.78**	**201**	PN	**Pn**	**23 59 50.9**	**-0.2**
TMWZ	**Te Maipa**	**8.85**	**197**	PN	**Pn**	**23 59 52.9**	**+0.9**
KIW	**Kapiti Island**	**8.90**	**202**	PN	**Pn**	**23 59 52.6**	**-0.1**
MTW	**Mount Morrison**	**8.99**	**199**	PN	**Pn**	**23 59 53.5**	**-0.3**
CAW	**Cannon Point**	**9.07**	**201**	PN	**Pn**	**23 59 54.7**	**0.0**
TRWZ	**Traveller**	**9.17**	**197**	PN	**Pn**	**23 59 56.7**	**+0.8**
MSWZ	**Moikau Station**	**9.30**	**199**	PN	**Pn**	**23 59 57.7**	**+0.2**
BHW	**Baring Head**	**9.41**	**201**	PN	**Pn**	**23 59 58.7**	**0.0**
TCW	**Tory Channel**	**9.42**	**204**	PN	**Pn**	**23 59 59.3**	**+0.5**
PLWZ	**Palliser**	**9.45**	**199**	PN	**Pn**	**23 59 58.7**	**-0.6**
TUWZ	**Tuamarina**	**9.73**	**205**	*e*PN	**Pn**	**00 00 00.8**	**-1.7**
NNZ	**Nelson**	**9.76**	**207**	*e*PN	**Pn**	**00 00 01.0**	**-1.8**
QRZ	**Quartz Range**	**9.78**	**212**	PN	**Pn**	**00 00 03.8**	**+0.6**
THZ	**Tophouse**	**10.41**	**208**	PN	**Pn**	**00 00 09.6**	**-1.1**
THZ				*e*SN	**S**	**00 00 24.7**	**-3.1**
KHZ	**Kahutara**	**10.74**	**204**	PN	**Pn**	**00 00 14.3**	**-0.3**
DSZ	**Denniston Nort**	**10.85**	**211**	PN	**Pn**	**00 00 16.0**	**+0.1**
LTZ	**Lake Taylor**	**11.52**	**207**	PN	**Pn**	**00 00 24.2**	**+0.3**
OXZ	**Oxford**	**12.07**	**206**	PN	**P**	**00 00 30.0**	**-0.2**
MQZ	**McQueen's Vall**	**12.19**	**204**	PN	**P**	**00 00 31.5**	**0.0**
MQZ				SN	S	00 02 41.1	-5.7
WVZ	**Waitaha Valley**	**12.39**	**211**	*e*PN	**P**	**00 00 32.6**	**-1.1**
RPZ	**Rata Peaks**	**12.78**	**208**	P	**Pn**	**00 00 39.4**	**+0.6**
	2.4nm,0.3s,baz=43,slow=3.6,SNR=9.4						
RPZ				S	**S**	**00 02 54.9**	**-4.2**
	3.5nm,0.3s,baz=163,slow=23,SNR=20						
RPZ	**Rata Peaks**	**12.78**	**208**	PN	**Pn**	**00 00 39.7**	**+0.8**
FOZ	**Fox Glacier**	**13.24**	**212**	PN	**P

DLBC	**Dease Lake**	**22.88**	**60**	P		**P**	**00 10 05.2**	**+3.0**	
	0.8nm,0.5s,baz=254,slow=15,SNR=2.8								
INK	**Inuvik**	**23.18**	**34**	LR		LR	00 20 08.7		
	comp=Z,32nm,18.1s,baz=222,slow=39								
H11N2	**WAKE ISLAND Hy**	**37.59**	**218**	T		T	00 52 03.3		
	baz=24,slow=76,SNR=8.1								
H11N3	**WAKE ISLAND Hy**	**37.60**	**218**	T		T	00 52 00.8		
	baz=24,slow=76,SNR=8.4								
H11N1	**WAKE ISLAND Hy**	**37.61**	**218**	T		T	00 52 03.5		
	baz=24,slow=76,SNR=9.4								
NVAR	**Mina Array Bea**	**37.86**	**91**	P		**P**	**00 12 18.4**	**+2.6**	
	0.5nm,0.7s,baz=308,slow=7.8,SNR=4.9								
H11S1	**WAKE ISLAND Hy**	**38.78**	**217**	T		T	00 53 29.2		
	baz=23,slow=76,SNR=87								
H11S2	**WAKE ISLAND Hy**	**38.80**	**217**	T		T	00 53 30.4		
	baz=23,slow=76,SNR=48								
H11S3	**WAKE ISLAND Hy**	**38.80**	**217**	T		T	00 53 26.9		
	baz=23,slow=76,SNR=43								
PDAR	**Pinedale Array**	**40.53**	**79**	P		**P**	**00 12 38.3**	**+0.2**	
	0.7nm,0.8s,baz=340,slow=4.9,SNR=5.8								
KSRS	**Korea Array**	**45.18**	**276**	LR		LR	00 32 43.5		
	comp=Z,7.1nm,19.0s,baz=270,slow=37								
TXAR	**Lajitas Array**	**52.93**	**89**	P		**P**	**00 14 15.4**	**+0.2**	
	0.6nm,0.6s,baz=300,slow=7.2,SNR=6.0								
WRA	**Warramunga Arr**	**87.06**	**231**	P		**P**	**00 17 42.9**	**-1.6**	
	0.5nm,0.8s,baz=44,slow=4.3,SNR=3.0								
ASAR	**Alice Springs**	**90.46**	**230**	P		**P**	**00 17 59.6**	**-0.9**	
	1.0nm,0.7s,baz=35,slow=5.3,SNR=8.6								

*ISCJB **26** 00:11:15.3±0.4,32°.32N±0°.02×115°.36W±0°.02, h4km±3km, Error ellipse: s-maj=3.4km s-min=2.9km az=154.2*
*NEIC **26** 00:11:17.0,32°.30N×115°.38W, h9km, ML4.0(PAS), ML4.0(ECX), After PAS.*
NEIC Felt at Mexicali. Felt [II] at Calexico, California. Also felt at Brawley, Chula Vista, La Mesa, San Diego and Spring Valley.
*ECX **26** 00:11:17.6±0.5,32°.33N×115°.41W, h5km, MD3.8, ML4.0*
ISC 26 00:11:16.0±1.1,32°.28N±0°.02×115°.41W±0°.02, h1km±10km, n40, σ1§03/64, 9C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
CPBX	**Cerro Prieto**	**0.17**	**32**	*eP*		**Pg**	**00 11 19.5**	**+0.2**	
CPBX				*eS*		**Sg**	**00 11 21.7**	**+0.3**	
CPBX				IAML			00 11 23.1		
	comp=E,264µm,0.3s								
CPBX					⇑*e*		00 11 23.1		
SGL	**Mount Signal**	**0.46**	**324**	⇑*iP*		**Pg**	**00 11 25.0**	**+0.2**	
ERPC	**Ernies Place**	**0.51**	**335**	⇓*iP*		**Pg**	**00 11 26.3**	**+0.4**	
DREC	**Desert Rsrch C**	**0.53**	**356**	*iP*		**Pg**	**00 11 26.5**	**+0.3**	
WESC	**Westside Schoo**	**0.55**	**330**	⇑*iP*		**Pg**	**00 11 27.0**	**+0.4**	
RDX	**Rancho Dawling**	**0.57**	**233**	⇑*eP*		**Pb**	**00 11 28.6**	**-0.4**	
RDX				*eS*		**Sb**	**00 11 37.0**	**-0.7**	
YUH	**Yuha Desert**	**0.57**	**310**	⇑*iP*		**Pg**	**00 11 27.0**	**0.0**	
EMSC	**East Mesa**	**0.58**	**38**	⇑*iP*		**Pg**	**00 11 27.2**	**-0.1**	
COK	**Cook Ranch**	**0.63**	**335**	⇑*iP*		**Pg**	**00 11 28.2**	**0.0**	
COA	**Coachella**	**0.63**	**22**	⇓*iP*		**Pg**	**00 11 27.6**	**-0.5**	
RMX	**La Rumorosa**	**0.66**	**300**	⇓*eP*		**Pg**	**00 11 28.7**	**+0.1**	
RMX				*eS*		**Sg**	**00 11 37.6**	**+0.5**	
RMX				IAML			00 11 39.8		
	comp=N,6µm,0.2s								
RMX					⇑*e*		00 11 39.8		
ECBX	**El Chinero**	**0.86**	**159**	*eP*		**Pg**	**00 11 32.2**	**-0.3**	
ECBX				*eS*		**Sg**	**00 11 44.7**	**+1.2**	
GLA	**Glamis**	**0.92**	**32**	*ePg*		**Pg**	**00 11 31.6**	**-2.0**	
GLA				*eSg*		**Sg**	**00 11 43.0**	**-2.5**	
ZAX	**El Zacaton**	**1.06**	**224**	*eP*		**Pb**	**00 11 37.0**	**-0.3**	
ZAX				*eS*		**Sb**	**00 11 51.4**	**-0.2**	
BAR	**Barrett**	**1.14**	**291**	*ePg*		**Pg**	**00 11 36.9**	**-1.0**	
BAR				*eSg*		**Sg**	**00 11 52.1**	**-0.6**	
BAR	**Barrett**	**1.14**	**291**	*eP*		**Pg**	**00 11 37.4**	**-0.6**	
BAR				*eS*		**Sg**	**00 11 52.4**	**-0.4**	
ECNX	**Esteban Cantu**	**1.19**	**239**	*eP*		**Pg**	**00 11 38.9**	**+0.2**	
ECNX				*eS*		**Sg**	**00 11 54.6**	**+0.5**	
SPX	**San Pedro Mart**	**1.23**	**182**	*eP*		**Pg**	**00 11 39.2**	**-0.4**	
SPX				*eS*		**Sb**	**00 11 57.4**	**+0.6**	
PBX	**Punta Banda**	**1.24**	**245**	*eP*		**Pg**	**00 11 39.6**	**-0.2**	
PBX				*eS*		**Sg**	**00 11 56.4**	**+0.5**	
SDRC	**San Diego Road**	**1.38**	**290**	*eP*		**Pn**	**00 11 40.8**	**-1.6**	
PFO	**Pinyon Flat Ob**	**1.59**	**327**	*ePn*		Pn	00 11 41.9	-3.7	
PFO				*eSn*		**Sn**	**00 12 04.0**	**-2.9**	
214A	**Organ Pipe Nat**	**2.23**	**98**	*ePn*		Pn	00 11 50.9	-3.3	
214A				*eSn*		**Sn**	**00 12 22.5**	**+0.2**	
LDFC	**Landfair**	**2.81**	**5**	*ePn*		**Pn**	**00 12 00.2**	**-2.0**	
MWC	**Mount Wilson**	**2.95**	**312**	*ePn*		**Pn**	**00 12 03.9**	**-0.4**	
MWC				*eSb*		**Sb**	**00 12 46.1**	**-0.1**	
PASC	**Pasadena Art C**	**3.00**	**310**	*ePn*		**Pn**	**00 12 04.9**	**+0.2**	
PASC				*eSb*		**Sb**	**00 12 47.4**	**-0.1**	
GSC	**Goldstone**	**3.23**	**339**	*ePn*		**Pn**	**00 12 09.3**	**+1.3**	
GSC				*ePg*		**Pg**	**00 12 20.8**	**+2.8**	
OSI	**Osito Adit**	**3.62**	**311**	*ePn*		**Pn**	**00 12 13.6**	**+0.3**	
OSI				*eSn*		**Sn**	**00 12 59.5**	**+2.7**	
TUC	**Tucson**	**3.91**	**88**	*ePn*		**Pn**	**00 12 18.1**	**+0.7**	
TUC				*ePg*		**Pg**	**00 12 31.8**	**+0.7**	
TUC				*eSn*		**Sn**	**00 13 03.3**	**-0.8**	
SHDR	**Sheep Range**	**4.22**	**3**	*ePn*		**Pn**	**00 12 21.8**	**+0.1**	
SHPR				*ePg*		**Pg**	**00 12 37.9**	**+0.9**	
SHPR				*eSg*		**Sg**	**00 13 31.9**	**+0.2**	
ISA	**Isabella**	**4.23**	**324**	*ePn*		**Pn**	**00 12 20.4**	**-1.4**	
ISA				*eSn*		**Sn**	**00 13 13.2**	**+1.3**	
DAC	**Darwin (Calif)**	**4.38**	**336**	*ePn*		**Pn**	**00 12 24.8**	**+0.8**	
DAC				*ePg*		**Pg**	**00 12 40.4**	**+0.4**	
WUAZ	**Wupatki**	**4.66**	**45**	*ePn*		**Pn**	**00 12 26.8**	**-1.0**	
WUAZ				*ePg*		**Pg**	**00 12 45.6**	**+0.3**	
CCUT	**Cedar City**	**5.52**	**17**	*ePn*		**Pn**	**00 12 40.7**	**+1.0**	
R11A	**Troy Canyon, C**	**6.06**	**359**	*ePn*		**Pn**	**00 12 47.6**	**+0.6**	
R11A				*ePg*		**Pg**	**00 13 12.2**	**0.0**	
121A	**Cookes Peak, D**	**6.45**	**86**	*ePn*		**Pn**	**00 12 50.7**	**-1.7**	
121A				*eSg*		**Sg**	**00 14 44.1**	**+0.8**	
MVU	**Marysvale**	**6.74**	**22**	*ePn*		**Pn**	**00 12 56.2**	**-0.1**	
MSU	**Marysvale**	**6.76**	**22**	*ePn*		**Pn**	**00 12 56.5**	**-0.1**	
MVCO	**Mesa Verde**	**7.52**	**47**	*ePn*		**Pn**	**00 13 07.8**	**+0.8**	
SRU	**San Rafael**	**7.89**	**29**	*ePn*		**Pn**	**00 13 11.8**	**-0.3**	
PV04	**Paradox Valley**	**8.09**	**39**	*ePn*		**Pn**	**00 13 16.5**	**+1.7**	

*SJA **26** 00:45:53.3±0.8,32°.96S×73°.02W, h4km±43km, ML3.7*
*GUC **26** 00:45:58.4±0.2,33°.39S×72°.41W, h25km±1km, ML3.9*
ISC 26 00:45:59.1±2.7,33°.44S±0°.05×72°.3W±0°.1, h5km±16km, n26, σ0§99/33, 3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
IHA	**Instituto Hidr**	**0.71**	**55**	*iP*		**Pg**	**00 46 12.9**	**+0.1**	
LNV	**Longovilo**	**0.93**	**124**	*iP*		**Pb**	**00 46 17.2**	**-0.5**	
TACH	**Talagante**	**1.19**	**101**	*iP*		**Pb**	**00 46 21.3**	**-0.8**	
SAN	**Santiago**	**1.40**	**91**	*iP*		**Pn**	**00 46 24.8**	**-0.5**	
SAN				*iS*		**Sg**	**00 46 44.8**	**+0.7**	
PEL	**Peldehue**	**1.41**	**78**	*iP*		**Pn**	**00 46 24.8**	**-0.6**	
PEL				*iS*		**Sg**	**00 46 45.0**	**+0.5**	
PEL				AML		AML	00 46 53.3		
	comp=N,4µm,0.4s								
CHCH	**Chadas Angostu**	**1.49**	**110**	*iP*		**Pb**	**00 46 26.3**	**-0.9**	
CLCH	**Cerro Calan**	**1.50**	**89**	*iP*		**Pb**	**00 46 26.5**	**-1.0**	
CLCH				*iS*		**Sg**	**00 46 47.8**	**+0.4**	
CLCH				AML		AML	00 46 55.1		
	comp=E,2µm,0.5s								
FSR	**Penalolen**	**1.51**	**92**	*iP*		**Pn**	**00 46 26.6**	**-0.3**	
FSR				*iS*		**Sg**	**00 46 48.0**	**+0.4**	
PCH	**Pirque**	**1.53**	**97**	*iP*		**Pn**	**00 46 27.1**	**-0.9**	
NICH	**Los Niches**	**1.81**	**150**	*iP*		**Pn**	**00 46 31.1**	**+0.2**	
NICH				*iS*		**Sb**	**00 46 56.1**	**+0.4**	
TALC	**Talca**	**2.04**	**164**	*iP*		**Pn**	**00 46 34.5**	**+0.5**	
TALC				*iS*		**Sb**	**00 47 02.0**	**-0.3**	
AUSP	**Uspallata**	**2.76**	**65**	*iP*		**Pb**	**00 46 47.1**	**-2.0**	
AUSP				*iS*		**Sg**	**00 47 27.1**	**-0.7**	
ARCO	**CERRO ARCO**	**2.92**	**79**	*iP*		**Pb**	**00 46 50.7**	**-1.0**	
ARCO				*iS*		**Sg**	**00 47 33.4**	**+0.6**	
ARCO				AML		AML	00 47 37.0		
	comp=Z,154nm,0.4s								
AAGR	**Agrelo**	**2.96**	**84**	*iP*		**Pb**	**00 46 51.8**	**-0.5**	
AAGR				*iP*		**Pb**	**00 46 51.8**	**-0.5**	
AAGR				*iS*		**Sg**	**00 47 35.4**	**+1.2**	
RTLS	**Leoncito**	**3.04**	**58**	*eP*		**Pn**	**00 46 50.3**	**+2.3**	
RTLS				*iS*		**Sg**	**00 47 32.6**	**+1.3**	
ASAL	**Salagasta**	**3.06**	**75**	*eP*		**Pb**	**00 46 53.2**	**-0.8**	
ASAL				*iS*		**Sg**	**00 47 36.5**	**-0.8**	
RTCV	**Cerro Valdivia**	**3.56**	**65**	*eP*		Pn	00 46 57.8	+2.7	
RTCV				*iS*		**Sb**	**00 47 45.2**	**-1.1**	
RTLL	**Cerro Villicun**	**3.88**	**58**	*eP*		**Pn**	**00 47 01.4**	**+1.9**	
CFAA	**Coronel Fontan**	**3.91**	**63**	*iP*		Pn	00 47 02.4	+2.5	
AMOG	**MOGNA**	**4.10**	**54**	*iP*		**Pn**	**00 47 03.3**	**+0.9**	
ACAN	**Cantantal**	**4.48**	**76**	*eP*		**Pn**	**00 47 08.7**	**+1.0**	
MRA	**San Martin**	**5.66**	**81**	⇓*eP*		Pn	00 47 29.0	+5.1	
VCA	**Vinchina**	**5.87**	**38**	*eP*		**Pn**	**00 47 26.9**	**0.0**	
TCA	**Tanti**	**6.87**	**74**	*eP*		Pn	00 47 44.0	+3.4	
CYA	**Choya**	**7.50**	**50**	⇓*eP*		Pn	00 47 55.3	+6.1	
FSA	**Cafayete**	**9.15**	**39**	⇓*eP*		Pn	00 48 21.4	+9.3	

*ISCJB **26** 00:48:32.8±0.7,38°.85N±0°.08×97°.05E±0°.06, h10km, mb3.7/5, Error ellipse: s-maj=11.8km s-min=6.9km az=2.1*
*IDC **26** 00:48:33.4±1.0,38°.83N×97°.01E, h0km, mb3.6/6, mb1 3.8/10, mb1mx3.6/33, mbtmp3.7/10, ML3.0/4, Error ellipse: s-maj=43.6km s-min=16.4km az=56.0*
*BJI **26** 00:48:37.5,39°.09N×96°.98E, h6km, ML3.4/8, Ms3.3/2, Ms7 3.1/1*
ISC 26 00:48:34.5±1.2,38°.9N±0°.2×96°.99E±0°.07, h10km, n12, σ1§13/12, mb4.0/5, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
GTA	**Gaotai**	**2.26**	**75**	Pg		**Pg**	**00 49 17.5**	**-0.3**	
GTA				Sg		**Sg**	**00 49 46.5**	**-0.6**	
GTA				SMN					
	400nm,0.9s								
GTA				SME					
	110nm,0.7s								
WMQ	**Urumqi**	**8.56**	**308**	P		**Pn**	**00 50 39.3**	**+0.8**	
WMQ				pP		pP	00 50 45.3		
WMQ				sP			00 50 50.3		
WMQ				LN					
	210nm,8.0s								
SONM	**Songino Array**	**11.26**	**34**	Pn		**Pn**	**00 51 16.9**	**+1.3**	
	0.3nm,0.3s,baz=217,slow=15,SNR=12								
SONM				Lg		Lg	00 54 26.5		
	0.2nm,0.3s,baz=224,slow=30,SNR=3.7								
MKAR	**Makanchi Array**	**13.37**	**311**	Pn		**Pn**	**00 51 41.9**	**-2.4**	
	0.1nm,0.3s,baz=124,slow=12,SNR=2.6								
MKAR				Lg		Lg	00 55 37.5		
	0.0nm,0.3s,baz=116,slow=30,SNR=2.7								
ZALV	**Zalesovo Beam**	**17.21**	**335**	P		**P**	**00 52 35.5**	**-1.0**	
	0.1nm,0.3s,baz=148,slow=11,SNR=5.0								
KURBB	**Kurchatov Arra**	**17.55**	**318**	P		**P**	**00 52 39.6**	**-0.5**	
	0.1nm,0.3s,baz=128,slow=12,SNR=4.4								
CMAR	**Chiang Mai Arr**	**20.42**	**175**	P		Pn	00 53 12.4	-1.5	
	0.5nm,0.6s,baz=356,slow=12,SNR=3.0								
BVAR	**Borovoye Array**	**23.11**	**316**	P		**P**	**00 53 41.3**	**+0.8**	
	0.2nm,0.5s,baz=125,slow=12,SNR=2.2								
ARCES	**ARCESS Array B**	**47.76**	**333**	P		**P**	**00 57 12.0**	**+0.7**	
	2.4nm,1.0s,baz=77,slow=8.7,SNR=3.0								
FINES	**FINESS Array B**	**47.87**	**322**	P		**P**	**00 57 12.8**	**+0.5**	
	1.8nm,1.1s,baz=90,slow=4.7,SNR=4.3								
WRA	**Warramunga Arr**	**68.17**	**142**	P		**P**	**00 59 34.6**	**-0.4**	
	0.4nm,0.3s,baz=338,slow=7.0,SNR=5.2								
ASAR	**Alice Springs**	**71.17**	**144**	P		**P**	**00 59 53.9**	**+0.4**	
	0.6nm,0.6s,baz=335,slow=5.8,SNR=5.9								

*IDC **26** 00:51:30.3±0.9,49°.64N×28°.64W, h0km, mb3.6/18, mb1 3.8/19, mb1mx3.7/59, mbtmp3.6/19, ML4.0/1, MS3.2/13, Ms1 3.2/13, ms1mx3.0/39, Error ellipse: s-maj=23.3km s-min=14.9km az=18.0*
*ISCJB **26** 00:51:31.0±0.7,49°.7N±0°.1×28°.6W±0°.1, h17km, mb3.6/17, MS3.1/13, Error ellipse: s-maj=17.2km s-min=11.0km az=16.7*
ISC 26 00:51:32.9±0.8,49°.6N±0°.2×28°.6W±0°.1, h17km, n31, σ0§83/20, mb3.7/17, MS3.2/13, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
EKA	**Eskdalemuir Ar**	**16.48**	**60**	Pn		**Pn**	**00 55 22.1**	**-0.8**	
	baz=256,slow=10.0,SNR=9.1								
ESDC	**Sonseca Array**	**20.09**	**110**	P		**P**	**00 56 05.1**	**-0.3**	
	0.2nm,0.4s,baz=305,slow=13,SNR=3.7								
ESDC				LR		LR	01 02 07.3		
	comp=Z,36nm,20.3s,baz=205,slow=32								
JMIC	**Jan Mayen**	**23.38**	**17**	LR		LR	01 03 48.0		
	comp=Z,30nm,18.2s,baz=273,slow=32								
MDT	**Midelt**	**24.50**	**124**	P		**P**	**00 56 52.4**	**+1.1**	
	1.4nm,0.9s,baz=328,slow=13,SNR=1.7								
NOA	**NORSAR Array B**	**24.95**	**48**	P		**P**	**00 56 54.4**	**-0.7**	
	1.5nm,1.0s,baz=261,slow=9.7,SNR=2.6								
NOA				LR		LR	01 05 33.0		
	comp=Z,50nm,19.1s,baz=255,slow=34								
DAVOX	**Davos/Dischmat**	**25.63**	**82**	LR		LR	01 06 22.2		
	comp=Z,59nm,20.1s,baz=272,slow=35								
HFS	**Hagfors**	**26.06**	**50**	LR		LR	01 07 11.5		
	comp=Z,55nm,18.0s,baz=281,slow=36								
GERES	**GERESS Array B**	**27.39**	**75**	P		**P**	**00 57 17.2**	**0.0**	
	0.3nm,0.7s,baz=275,slow=12,SNR=3.0								
GERES				LR		LR	01 07 58.2		
	comp=Z,59nm,18.0s,baz=296,slow=36								
VRAC	**Vranov**	**29.05**	**73**	LR		LR	01 08 10.4		
	comp=Z,61nm,20.5s,baz=288,slow=34								
FINES	**FINESS Array B**	**32.13**	**48**	P		**P**	**00 57 58.6**	**-0.4**	
	1.1nm,0.7s,baz=280,slow=8.3,SNR=3.9								
FINES				LR		LR	01 09 46.2		
	comp=Z,91nm,18.5s,baz=276,slow=34								
ARCES	**ARCESS Array B**	**32.31**	**32**	P		**P**	**00 57 59.1**	**-1.4**	
	2.1nm,0.8s,baz=238,slow=5.2,SNR=4.1								
ARCES				LR		LR	01 08 18.8		
	comp=Z,16nm,18.9s,baz=310,slow=31								
AKASG	**Malin Array Be**	**36.26**	**66**	LR		LR	01 13 43.0		
	comp=Z,55nm,18.7s,baz=295,slow=37								
TORD	**Torodi Ar. Bea**	**44.07**	**135**	P		**P**	**00 59 39.2**	**-0.7**	
	1.1nm,0.9s,baz=335,slow=9.4,SNR=7.8								
BRTR	**Keskin Array B**	**44.19**	**78**	P		**P**	**00 59 41.8**	**+0.9**	
	0.7nm,1.0s,baz=302,slow=8.3,SNR=2.6								
BRTR				LR		LR	01 18 57.0		
	comp=Z,12nm,19.8s,baz=280,slow=37								
YKA	**Yellowknife Ar**	**46.05**	**320**	P		**P**	**00 59 54.9**	**-0.3**	
	0.6nm,0.8s,baz=72,slow=8.5,SNR=3.4								
PDAR	**Pinedale Array**	**53.88**	**296**	P		**P**	**01 00 54.7**	**-0.5**	
	0.5nm,0.6s,baz=60,slow=9.0,SNR=4.7								
DLBC	**Dease Lake**	**54.66**	**321**	P		**P**	**01 01 00.8**	**+0.4**	
	1.5nm,0.7s,baz=186,slow=6.4,SNR=3.9								
ILAR	**Eielson Array**	**56.33**	**333**	P		**P**	**01 01 12.5**	**+0.3**	
	0.2nm,0.6s,baz=38,slow=6.0,SNR=3.1								
BVAR	**Borovoye Array**	**57.05**	**45**	P		**P**	**01 01 18.2**	**+0.7**	
	0.8nm,0.6s,baz=307,slow=5.4,SNR=7.6								
H10N2	**ASCENSION HYDR**	**58.53**	**164**	T		T	02 04 24.3		
	baz=349								
H10N3	**ASCENSION HYDR**	**58.54**	**164**	T		T	02 04 25.3		
	baz=349								
H10N1	**ASCENSION HYDR**	**58.55**	**164**	T		T	02 04 22.9		
	baz=349,slow=74								
TXAR	**Lajitas Array**	**58.88**	**280**	P		**P**	**01 01 30.7**	**-0.2**	
	0.4nm,0.8s,baz=63,slow=7.6,SNR=4.8								
TXAR				LR		LR	01 25 29.4		
	comp=Z,30nm,19.0s,baz=0.0,slow=35								
H10S1	**ASCENSION HYDR**	**59.59**	**164**	T		T	02 05 45.3		
	baz=350,slow=75,SNR=4.2								
H10S3	**ASCENSION HYDR**	**59.60**	**164**	T		T	02 05 44.9		
	baz=350,slow=75,SNR=4.7								
H10S2	**ASCENSION HYDR**	**59.61**	**164**	T		T	02 05 46.7		
	baz=350,slow=75,SNR=4.0								
KURBB	**Kurchatov Arra**	**62.39**	**43**	P		**P**	**01 01 53.7**	**-0.6**	
	0.8nm,0.8s,baz=316,slow=7.2,SNR=7.7								
ZALV	**Zalesovo Beam**	**62.62**	**38**	P		**P**	**01 01 57.0**	**+1.2**	
	0.2nm,0.3s,baz=341,slow=8.3,SNR=2.5								
MKAR	**Makanchi Array**	**66.89**	**44**	P		**P**	**01 02 23.4**	**-0.4**	
	1.0nm,0.8s,baz=316,slow=6.8,SNR=7.5								
MKAR				LR		LR	01 30 49.9		
	comp=Z,37nm,18.9s,baz=348,slow=35								
SONM	**Songino Array**	**75.43**	**29**	P		**P**	**01 03 17.3**	**+1.6**	
	0.2nm,0.3s,baz=305,slow=5.2,SNR=4.2								
ASAR	**Alice Springs**	**150.69**	**34**	PKPbc		**PKPbc**	**01 11 23.5**	**-0.5**	
	0.7nm,0.8s,baz=343,slow=1.6,SNR=4.6								

*IDC **26** 01:09:20.2±2.6,37°.14S×74°.68W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/14, mbtmp3.8/4, Error ellipse: s-maj=73.1km s-min=42.7km az=38.0*
*SJA **26** 01:10:35.8±0.6,33°.17S×69°.72W, h36km±3km, MD2.7, ML2.7*
ISC 26 01:09:23.1±1.9,37°.0S±0°.3×74°.3W±0°.2, h10km, n12, σ1§08/10, mb3.8/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
AAGR	**Agrelo**	**5.95**	**51**	*iP*		**Pn**	**01 10 51.2**	**-0.2**	
ARCO	**CERRO ARCO**	**6.06**	**49**	*iP*		**Pn**	**01 10 51.5**	**-1.4**	
ARCO				*iS*		Pb	01 11 02.5	-6.3	
ARCO				AML		AML	01 11 02.7		
	comp=Z,308nm,0.3s								
AUSP	**Uspallata**	**6.25**	**42**	*iP*		**Pn**	**01 10 55.2**	**-0.4**	
AUSP				*iP*		**Pn**	**01 10 55.2**	**-0.4**	
ASAL	**Salagasta**	**6.29**	**47**	*iP*		**Pn**	**01 10 54.5**	**-1.5**	
ASAL				*iS*		Pb	01 11 08.0	-4.8	
RTLS	**Leoncito**	**6.63**	**40**	*iP*		**Pn**	**01 11 01.6**	**+0.8**	
LPAZ	**La Paz**	**21.33**	**17**	P		**P**	**01 14 12.1**	**+1.2**	
	comp=Z,1.6nm,0.8s,baz=200,slow=7.2,SNR=6.7								
TXAR	**Lajitas Array**	**71.48**	**333**	P		**P**	**01 20 42.8**	**-1.1**	
	comp=Z,0.4nm,0.6s,baz=156,slow=8.9,SNR=5.9								
DBIC	**Dimbokro**	**77.89**	**72**	P		**P**	**01 21 21.9**	**+0.5**	
	comp=Z,2.8nm,0.9s,baz=239,slow=5.9,SNR=3.3								
TORD	**Torodi Ar. Bea**	**86.96**	**71**	P		**P**	**01 22 09.3**	**+0.5**	
	comp=Z,0.7nm,0.9s,baz=224,slow=6.0,SNR=3.9								
H11N3	**WAKE ISLAND Hy**	**124.33**	**270**	T		T	03 45 51.5		
	baz=125								
H11N1	**WAKE ISLAND Hy**	**124.34**	**270**	T		T	03 45 51.1		
	baz=125								
H11N2	**WAKE ISLAND Hy**	**124.34**	**270**	T		T	03 45 51.7		
	baz=125								

*NEIC **26** 01:10:57.1,52°.83N×169°.61W, h5km, ML3.3(AEIC), After AEIC.*
*IDC **26** 01:11:02.4±20.0,52°.65N×168°.82W, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.3/30, mbtmp3.3/4, ML3.1/1, Error ellipse: s-maj=381.0km s-min=48.6km az=86.0*
ISC 26 01:10:59.5±1.9,53°.03N±0°.09×169°.49W±0°.05, h1km±11km, n23, σ0§77/24, mb3.2/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
NIKH	**Nikolski High**	**0.39**	**98**	P		**Pg**	**01 11 06.7**	**-0.2**	
NIKH				S		**Sb**	**01 11 14.7**	**-0.9**	
OKWR	**Okmok West Rim**	**0.87**	**61**	P		**Pb**	**01 11 17.4**	**-0.1**	
OKWR				S		**Sn**	**01 11 33.2**	**+0.8**	
OKAK	**Okmok**	**0.88**	**50**	P		**Pg**	**01 11 15.6**	**-0.6**	
OKCE	**Okmok Cone E**	**0.89**	**63**	P		**Pg**	**01 11 17.2**	**+0.7**	
OKTU	**Okmok Mt. Tuli**	**0.94**	**67**	P		**Pb**	**01 11 18.2**	**-0.5**	
OKFG	**Magazine Ridge**	**1.02**	**67**	P		**Pg**	**01 11 19.1**	**0.0**	
OKFG				S		**Sn**	**01 11 36.0**	**0.0**	
MCIR	**Makushin Cirqu**	**1.81**	**58**	P		**Pn**	**01 11 32.2**	**+0.4**	
MSW	**Makushin Switc**	**1.84**	**60**	P		**Pn**	**01 11 32.5**	**+0.1**	
MSW				S		**Sg**	**01 11 59.6**	**+0.9**	
MTBL	**Makushin Table**	**1.93**	**59**	P		**Pn**	**01 11 34.0**	**+0.5**	
UNV	**Unalaska Valle**	**1.97**	**64**	*ePn*		**Pn**	**01 11 33.5**	**-0.4**	
UNV				*eS*		**Sn**	**01 12 00.4**	**+1.2**	
ZRO	**Akutan Zero**	**2.35**	**62**	P		**Pn**	**01 11 40.4**	**+1.1**	
AKUT	**Akutan**	**2.48**	**62**	*ePn*		**Pn**	**01 11 41.8**	**+0.9**	
AKUT				*eS*		**Sb**	**01 12 16.6**	**-0.2**	
ATKA	**Atka Island**	**2.99**	**256**	P		Pn	01 12 42.0	-5.9	
GSTR	**Great Sitkin T**	**4.12**	**260**	*ePn*		Pn	01

LOF	**Lofoten**	**2.54**	**280**	*e*P	**Pn**	**01 41 46.6**	**+1.4**
LOF				*e*Sg	**Sb**	**01 42 22.3**	**+1.4**
LOF				IAML		01 42 26.9	
	comp=Z,16nm,0.6s						
LOF	**Lofoten**	**2.54**	**280**	*e*P	**Pn**	**01 41 46.6**	**+1.4**
	SNR=50						
LOF				*e*Sg	**Sb**	**01 42 22.3**	**+1.4**
	SNR=90						
RNF	**Rovaniemi**	**2.57**	**116**	*e*PB	**Pn**	**01 41 47.8**	**+2.1**
RNF				*e*SB	**Sb**	**01 42 20.8**	**-1.0**
RNF	**Rovaniemi**	**2.57**	**116**	Pb	**Pn**	**01 41 47.7**	**+2.1**
RNF				Sb	**Sb**	**01 42 20.8**	**-1.0**
ARA0	**ARCESS Array S**	**2.57**	**46**	Pn	**Pn**	**01 41 46.2**	**+0.5**
	baz=224,slow=14						
ARA0				Lg	Lg	01 42 20.2	
	baz=227,slow=28						
ARA0	**ARCESS Array S**	**2.57**	**46**	Pn	**Pn**	**01 41 46.2**	**+0.5**
	baz=224,slow=14						
ARA0				Lg	Lg	01 42 20.2	
	baz=227,slow=28						
ARA0	**ARCESS Array S**	**2.57**	**46**	Pn	**Pn**	**01 41 46.2**	**+0.5**
	SNR=50						
ARA0				Lg	Lg	01 42 20.2	
	SNR=4.9						
ARCES	**ARCESS Array B**	**2.57**	**46**	Pn	**Pn**	**01 41 46.2**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=231,slow=14,SNR=59						
ARCES				Lg	Lg	01 42 20.0	
	comp=Z,3.5nm,0.3s,baz=226,slow=25,SNR=17						
ARE0	**ARCESS Array S**	**2.57**	**46**	*e*P	**Pn**	**01 41 45.9**	**+0.2**
	baz=226						
ARE0				*e*S	**Sn**	**01 42 16.0**	**-1.7**
ARE0	**ARCESS Array S**	**2.57**	**46**	P	**Pn**	**01 41 45.9**	**+0.2**
ARE0				S	**Sn**	**01 42 16.0**	**-1.7**
MOR8	**Moi Rana**	**2.82**	**236**	*e*Sg	**Sn**	**01 42 26.3**	**+2.5**
HAMF	**Hammerfest**	**3.07**	**22**	*e*P	**Pn**	**01 41 53.7**	**+1.2**
HAMF				*e*S	**Sn**	**01 42 30.5**	**+0.6**
HAMF	**Hammerfest**	**3.07**	**22**	*e*P	**Pn**	**01 41 53.7**	**+1.2**
	SNR=50						
HAMF				*e*S	**Sn**	**01 42 30.5**	**+0.6**
	SNR=50						
KEV	**Kevo**	**3.12**	**49**	*e*P	**Pn**	**01 41 54.0**	**+0.7**
KEV				*e*S	**Sn**	**01 42 32.1**	**+0.9**
KEV				MSG		01 42 35.6	
	comp=Z,3.6nm,0.2s						
KEV	**Kevo**	**3.12**	**49**	P	**Pn**	**01 41 54.0**	**+0.7**
KEV				S	**Sn**	**01 42 32.1**	**+0.9**
	comp=Z,3.6nm,0.2s						
OUL	**Oulu**	**3.58**	**138**	*e*PG	**Pb**	**01 42 07.1**	**+0.1**
OUL				*e*SG	**Sb**	**01 42 53.2**	**+2.3**
OUL	**Oulu**	**3.58**	**138**	Pg	**Pb**	**01 42 07.1**	**+0.1**
OUL				Sg	**Sb**	**01 42 53.2**	**+2.3**
MSF	**Maaselka**	**3.98**	**115**	*e*P	**Pn**	**01 42 06.2**	**+1.2**
	baz=298						
MSF				*e*SG	**Sg**	**01 43 08.4**	**-2.1**
MSF	**Maaselka**	**3.98**	**115**	P	**Pn**	**01 42 06.2**	**+1.2**
MSF				Sg	**Sg**	**01 43 08.4**	**-2.1**
UMAU	**Umeaa**	**3.98**	**177**	*e*P	**Pn**	**01 42 07.0**	**+2.0**
UMAU	**Umeaa**	**3.98**	**177**	P	**Pn**	**01 42 07.0**	**+2.0**
KU6	**Riekki**	**4.22**	**111**	*e*P	**Pn**	**01 42 09.2**	**+0.9**
	baz=296						
KU6	**Riekki**	**4.22**	**111**	P	**Pn**	**01 42 09.1**	**+0.9**
FIA0	**FINESS Array S**	**6.89**	**156**	Pn	**Pn**	**01 42 45.9**	**+0.9**
	baz=333,slow=10						
FIA0				Sn	**Sn**	**01 44 03.3**	**-0.7**
	baz=349,slow=22						
FIA0				Lg	Lg	01 44 36.9	
	baz=342,slow=37						
FIA0	**FINESS Array S**	**6.89**	**156**	Pn	**Pn**	**01 42 45.9**	**+0.9**
	baz=333,slow=10						
FIA0				Sn	**Sn**	**01 44 03.3**	**-0.7**
	baz=349,slow=22						
FIA0				Lg	Lg	01 44 36.9	
	baz=342,slow=37						
FIA0	**FINESS Array S**	**6.89**	**156**	Pn	**Pn**	**01 42 45.9**	**+0.9**
	SNR=50						
FIA0				Sn	**Sn**	**01 44 03.3**	**-0.7**
	SNR=50						
FIA0				Lg	Lg	01 44 36.9	
	SNR=4.3						
FINES	**FINESS Array B**	**6.89**	**156**	Pn	**Pn**	**01 42 45.8**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=341,slow=9.6,SNR=3.7						
FINES				Sn	**Sn**	**01 44 03.0**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=345,slow=20,SNR=3.5						
FINES				Lg	Lg	01 44 38.1	
	comp=Z,0.3nm,0.3s,baz=344,slow=28,SNR=6.4						
NB2	**NORSAR Subarra**	**7.85**	**214**	Lg	Lg	01 45 07.8	
NB2	**NORSAR Subarra**	**7.85**	**214**	Lg	Lg	01 45 07.8	
NOA	**NORSAR Array B**	**7.85**	**214**	Pn	**Pn**	**01 42 58.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=26,slow=12,SNR=2.5						
NOA				Lg	Lg	01 45 10.9	
	comp=Z,0.3nm,0.3s,baz=27,slow=7.4,SNR=6.3						
HFS	**Hagfors**	**8.25**	**203**	Pn	**Pn**	**01 43 01.9**	**-1.7**
	baz=21,slow=14						
HFS				Sn	**Sn**	**01 44 33.8**	**-3.5**
	baz=21,slow=28						
HFS				Lg	Lg	01 45 19.6	
	baz=28,slow=37						
HFS	**Hagfors**	**8.25**	**203**	Pn	**Pn**	**01 43 01.9**	**-1.7**
	baz=21,slow=14						
HFS				Sn	**Sn**	**01 44 33.8**	**-3.5**
	baz=21,slow=28						
HFS				Lg	Lg	01 45 19.6	
	baz=28,slow=37						
HFS	**Hagfors**	**8.25**	**203**	Pn	**Pn**	**01 43 02.4**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=20,slow=14,SNR=3.4						

IDC ***26*** *01:46:17.3±1.0, 13°.52N×93°.63E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.6/52, mbtmp3.7/11, ML3.4/1, MS2.9/2, Ms1 2.9/2, ms1mx2.4/43, Error ellipse: s-maj=34.0km s-min=18.0km az=50.0*

ISCJB ***26*** *01:46:20.6±0.8, 13°.6N±0°.1×93°.83E±0°.09, h33km, mb3.7/10, MS2.9/2, Error ellipse: s-maj=15.9km s-min=11.2km az=147.8*

ISC 26 01:46:22.6±1.1, 13°.6N±0°.1×93°.8E±0°.1, h35km, n16, σ0s83/12, mb3.7/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**6.93**	**45**	Pn	**Pn**	**01 48 00.8**	**-0.9**
	0.2nm,0.3s,baz=245,slow=15,SNR=4.0						
CMAR				Sn	**Sn**	**01 49 19.4**	**0.0**
	0.6nm,0.3s,baz=237,slow=27,SNR=5.5						
H08S3	**Diego Garcia H**	**29.86**	**226**	T	T	02 23 09.1	
	baz=42,slow=76,SNR=5.6						
H08S2	**Diego Garcia H**	**29.86**	**226**	T	T	02 23 09.6	
	baz=42,slow=76,SNR=6.5						
H08S1	**Diego Garcia H**	**29.88**	**226**	T	T	02 23 15.7	
	baz=42,slow=76,SNR=5.9						
MKAR	**Makanchi Array**	**34.45**	**346**	P	**P**	**01 53 06.9**	**0.0**
	0.7nm,0.7s,baz=163,slow=8.5,SNR=6.5						
SONM	**Songino Array**	**35.70**	**15**	P	**P**	**01 53 18.7**	**+0.9**
	0.2nm,0.5s,baz=200,slow=7.3,SNR=2.5						
KSRS	**Korea Array**	**38.57**	**46**	LR	LR	02 10 38.4	
	comp=Z,14nm,18.2s,baz=213,slow=38						
GEYT	**Alibeck**	**39.82**	**314**	P	**P**	**01 53 52.2**	**-0.5**
	0.8nm,0.5s,baz=181,slow=7.2,SNR=3.3						
ZALV	**Zalesovo Beam**	**40.85**	**352**	P	**P**	**01 54 01.7**	**+0.8**
	0.9nm,0.6s,baz=181,slow=11,SNR=5.4						
MJAR	**Matsushiro Arr**	**45.77**	**52**	LR	LR	02 16 16.6	
	comp=Z,16nm,19.5s,baz=210,slow=39						
WRA	**Warramunga Arr**	**52.03**	**129**	P	**P**	**01 55 29.2**	**0.0**
	0.6nm,0.6s,baz=306,slow=10,SNR=3.2						
ASAR	**Alice Springs**	**53.98**	**133**	P	**P**	**01 55 43.6**	**+0.1**
	0.9nm,0.4s,baz=307,slow=6.9,SNR=12						
BRTR	**Keskin Array B**	**58.50**	**308**	P	**P**	**01 56 14.2**	**-1.5**
	0.5nm,0.7s,baz=100,slow=8.0,SNR=3.1						
FINES	**FINESS Array B**	**67.50**	**331**	P	**P**	**01 57 15.4**	**+0.5**
	1.9nm,0.9s,baz=119,slow=6.7,SNR=5.5						
ARCES	**ARCESS Array B**	**69.77**	**340**	P	**P**	**01 57 29.9**	**+0.9**
	1.5nm,1.0s,baz=95,slow=6.4,SNR=3.7						
GERES	**GERESS Array B**	**73.35**	**317**	P	**P**	**01 57 51.5**	**+0.5**
	0.5nm,0.6s,baz=97,slow=5.5,SNR=4.8						

IDC 26 01:48:24.3±8.0, 35°.25N×16°.45E, h0km, mb3.6/2, mb1 3.9/5, mb1mx3.5/31, mbtmp3.8/5, ML3.9/3, MS1.9/1, Ms1 1.9/1, ms1mx1.6/53, Error ellipse: s-maj=146.0km s-min=85.1km az=53.0, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLR	**Muntele Rosu**	**12.52**	**32**	LR	LR	01 56 18.1	
	comp=Z,5.0nm,18.8s,baz=338,slow=38						
DAVOX	**Davos/Dischmat**	**12.53**	**339**	Pn	Pn	01 51 25.9	+1.9
	0.3nm,0.3s,baz=155,slow=17,SNR=7.6						
GERES	**GERESS Array B**	**13.73**	**352**	Pn	Pn	01 51 41.8	+1.5
	0.2nm,0.3s,baz=170,slow=12,SNR=8.3						
VRAC	**Vranov**	**14.05**	**0**	Pn	Pn	01 51 45.5	+0.9
	0.3nm,0.3s,baz=188,slow=7.1,SNR=3.3						
NOA	**NORSAR Array B**	**26.02**	**354**	P	P	01 53 57.9	-0.9
	0.3nm,0.7s,baz=171,slow=9.8,SNR=2.4						
FINES	**FINESS Array B**	**26.92**	**10**	P	P	01 54 07.9	+1.0
	1.5nm,0.9s,baz=194,slow=9.7,SNR=4.7						

KRSC 26 01:59:34.5±0.7, 55°.05N×162°.46E, h40km±11km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.65**	**221**	*e*P	Pn	01 59 48.3	+1.1
MKZ				*e*S	Sn	01 59 57.0	+0.8
KBTR	**Krutoberegovo**	**1.18**	**10**	*e*P	Pn	01 59 56.2	+1.6
KBTR				*e*S	Sn	02 00 11.4	+1.9
KZV	**Kizimen**	**1.25**	**274**	*e*P	Pn	01 59 56.6	+1.0
KZV				*e*S	Sn	02 00 11.2	-0.2
TUMR	**Tumrok**	**1.35**	**281**	*e*P	Pn	01 59 59.0	+2.0
TUMR				*e*S	Sn	02 00 15.7	+1.9
ZLN	**Zelenaya**	**1.35**	**317**	*e*P	Pn	01 59 58.6	+1.5
KMNR	**Kamenistaya**	**1.45**	**300**	*e*P	Pn	01 59 59.9	+1.5
KLY	**Klyuchi**	**1.63**	**322**	*e*P	Pn	02 00 02.0	+1.3
KLY				*e*S	Sn	02 00 20.8	+0.4
SMKR	**Semkarok**	**1.64**	**340**	*e*P	Pn	02 00 02.9	+2.0
SMKR				*e*S	Sn	02 00 23.0	+2.1
BDR	**Baidarnaya**	**1.68**	**336**	*e*P	Pn	02 00 03.9	+2.4
BDR				*e*S	Sn	02 00 24.1	+2.2
SRKR	**Sorokina**	**1.77**	**336**	*e*P	Pn	02 00 04.9	+2.2
SRKR				*e*S	Sn	02 00 26.2	+2.2
SRDR	**Sredinnyy**	**2.01**	**311**	*e*P	Pn	02 00 07.7	+1.7
BKI	**Bering**	**2.02**	**84**	*e*P	Pn	02 00 08.6	+2.5
BKI				*e*S	Sn	02 00 32.3	+2.2
ESO	**Esso**	**2.31**	**294**	*e*P	Pn	02 00 11.4	+1.3
SPN	**Mys Shipunski**	**2.42**	**217**	*e*P	Pn	02 00 13.9	+2.3
SPN				*e*S	Sn	02 00 40.4	+0.5
SDLR	**Sedlovina**	**2.75**	**231**	*e*P	Pn	02 00 19.4	+3.2
SDLR				*e*S	Sn	02 00 51.3	+3.0
KRER	**Koryakskii**	**2.79**	**233**	*e*P	Pn	02 00 20.6	+3.7
KRER				*e*S	Sn	02 00 53.8	+4.3
SMAR	**Somma**	**2.79**	**232**	*e*P	Pn	02 00 20.1	+3.1
SMAR				*e*S	Sn	02 00 52.0	+2.4
KRX	**Arik**	**2.80**	**234**	*e*P	Pn	02 00 21.0	+4.0
KRX				*e*S	Sn	02 00 53.6	+3.9
UGLR	**Uglovaya**	**2.82**	**231**	*e*P	Pn	02 00 20.5	+3.3
UGLR				*e*S	Sn	02 00 52.9	+2.9
AVH	**Avacha**	**2.82**	**232**	*e*P	Pn	02 00 21.7	+4.5
AVH				*e*S	Sn	02 00 55.0	+5.0
KOK	**Koryaka**	**2.85**	**234**	*e*P	Pn	02 00 21.7	+4.1
KOK				*e*S	Sn	02 00 54.9	+4.1
GNL	**Ganaly**	**2.97**	**245**	*e*P	Pn	02 00 22.4	+3.2
PET	**Petropavlovsk**	**3.02**	**229**	*e*P	Pn	02 00 24.2	+4.4
PET				*e*S	Sn	02 00 58.6	+3.9
RUS	**Russkaya**	**3.51**	**223**	*e*P	Pn	02 00 30.0	+3.5
RUS				*e*S	Sn	02 01 10.1	+3.3
APC	**Apacha**	**3.78**	**238**	*e*P	Pn	02 00 34.5	+4.3
APC				*e*S	Sn	02 01 17.5	+4.1
ASAK	**Asacha**	**3.80**	**227**	*e*P	Pn	02 00 35.4	+4.8
MIPR	**Malaya Ipel'ka**	**4.38**	**233**	*e*P	Pn	02 00 43.6	+5.1
MGCD	**Mangrove Creek**	**88.44**	**189**	P	P	02 12 37.1	+15
	baz=26,SNR=31						

IDC ***26*** *02:07:19.0±2.6, 23°.80S×179°.89W, h493km±23km, mb3.5/7, mb1 3.7/8, mb1mx3.3/32, mbtmp4.4/8, Error ellipse: s-maj=29.6km s-min=19.6km az=29.0*

ISCJB ***26*** *02:07:20.9±1.1, 23°.9S±0°.1×180°.0E±0°.2, h518km, mb4.0/7, Error ellipse: s-maj=19.5km s-min=13.9km az=159.9*

ISC 26 02:07:21.6±1.0, 24°.0S±0°.1×179°.9W±0°.2, h518km, n14, σ1s45/17, mb4.0/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.44**	**189**	P	**P**	**02 10 25.7**	**+0.1**
	0.8nm,0.3s,baz=342,slow=3.2,SNR=4.3						
URZ				S	**S**	**02 12 55.7**	**-1.6**
	0.5nm,0.3s,baz=217,slow=20,SNR=4.8						
ARMA	**Armidale**	**26.05**	**250**	P	**P**	**02 12 15.1**	**+1.5**
	baz=25,SNR=5.9						
EIDS	**Eidsvold**	**26.36**	**261**	P	**P**	**02 12 16.5**	**+0.3**
	baz=25,SNR=3.5						
CMSA	**Cobar Meteorol**	**31.24**	**248**	P	**P**	**02 12 59.0**	**+0.4**
	baz=30,SNR=12						
CTA	**Charters Tower**	**31.54**	**270**	P	**P**	**02 13 01.4**	**0.0**
	18nm,0.4s,baz=92,slow=11,SNR=29						
STKA	**Stephens Creek**	**34.75**	**248**	P	**P**	**02 13 28.6**	**+0.3**
	2.0nm,0.5s,baz=98,slow=1.1,SNR=6.1						
ASAR	**Alice Springs**	**42.09**	**261**	P	**P**	**02 14 27.5**	**-0.7**
	7.2nm,0.7s,baz=99,slow=7.0,SNR=46						
ASAR				ScP	**ScP**	**02 19 14.9**	**+2.8**
	1.1nm,0.7s,baz=104,slow=4.2,SNR=8.1						
WRA	**Warramunga Arr**	**42.47**	**266**	P	**P**	**02 14 29.9**	**-1.3**
	6.4nm,0.3s,baz=96,slow=8.4,SNR=172						
WRA				ScP	**ScP**	**02 19 15.9**	**+2.3**
	0.7nm,0.7s,baz=105,slow=3.7,SNR=5.0						
QSPA	**South Pole Qui**	**66.09**	**180**	P	**P**	**02 17 18.4**	**+1.5**
	1.1nm,0.9s,baz=30,slow=1.4,SNR=7.0						
MAW	**Mawson**	**77.68**	**200**	P	**P**	**02 18 25.0**	**+0.9**
	1.1nm,0.5s,baz=125,slow=8.2,SNR=9.1						
TXAR	**Lajitas Array**	**90.42**	**58**	P	**P**	**02 19 27.9**	**-0.2**
	0.3nm,0.6s,baz=214,slow=6.4,SNR=4.1						
AKASG	**Malin Array Be**	**145.09**	**327**	PKP	**PKPdf**	**02 25 58.3**	**-1.3**
	1.3nm,0.6s,baz=34,slow=3.6,SNR=5.2						
BRTR	**Keskin Array B**	**147.69**	**307**	PKPbc	**PKPbc**	**02 26 06.9**	**-1.2**
	0.5nm,0.5s,baz=202,slow=28,SNR=4.5						
TORD	**Torodi Ar. Bea**	**169.10**	**188**	PKPab	**PKPab**	**02 27 43.3**	**-1.7**
	0.4nm,1.0s,baz=165,slow=4.4,SNR=3.5						

IDC ***26*** *02:18:27.6±0.8, 13°.42N×90°.43W, h0km, mb4.1/18, mb1 4.3/19, mb1mx4.2/27, mbtmp4.2/19, ML4.6/1, MS3.4/20, Ms1 3.5/20, ms1mx3.3/41, Error ellipse: s-maj=24.8km s-min=16.5km az=47.0*

ISCJB ***26*** *02:18:33.9±0.3, 13°.51N±0°.03×90°.87W±0°.02, h38km, mb4.5/78, MS3.4/20, Error ellipse: s-maj=5.3km s-min=2.4km az=30.0*

CASC ***26*** *02:18:35.7±2.0, 13°.53N×90°.79W, h25km±9km, MD4.2, ML4.5*

NEIC ***26*** *02:18:36.1±0.8, 13°.48N×90°.72W, h50km±7km, mb4.5/67, MD4.9(SNET), Error ellipse: s-maj=9.6km s-min=5.9km az=215.0*

NEIC Felt [III] at Antigua Guatemala and [II] at Guatemala. Also felt at Santa Catarina Pinula. Felt [II] at San Salvador, El Salvador.

ISC 26 02:18:34.1±0.5, 13°.43N±0°.06×90°.90W±0°.04, h38km, n373, σ1s41/361, mb4.5/79, MS3.4/20, 6C-5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.85**	**30**	*e*P	**Pn**	**02 18 49.5**	**-0.3**
PCG	**Pacaya**	**0.99**	**16**	*i*P	**Pn**	**02 18 52.6**	**+0.8**
FUG	**Fuego 3**	**1.01**	**3**	*i*P	**Pn**	**02 18 52.6**	**+0.7**
JAT	**Jato**	**1.14**	**321**	*e*P	**Pn**	**02 18 55.4**	**+1.9**
SONS	**Sonsonate**	**1.19**	**75**	*e*P	**Pn**	**02 18 54.2**	**+0.1**
SONS				*e*S	**Sn**	**02 19 09.0**	**-0.1**
SONS				AML	AML	02 19 10.2	
	comp=Z,9μm,0.3s						
NBG	**Las Nubes**	**1.27**	**25**	*e*P	**Pn**	**02 18 57.3**	**+1.8**
RTR	**El Retiro**	**1.30**	**69**	*i*P	**Pn**	**02 18 56.5**	**+0.6**
SBLS	**San Blas**	**1.30**	**72**	*i*P	**Pn**	**02 18 56.2**	**+0.2**
SNJE	**San Jose**	**1.33**	**71**	*i*P	**Pn**	**02 18 56.7**	**+0.5**
RBDL	**Robledal**	**1.35**	**60**	*e*P	**Pn**	**02 18 57.4**	**+0.8**
BOQS	**Boqueron**	**1.60**	**79**	*e*P	**Pn**	**02 19 01.0**	**+1.0**
SNET	**Serv Nac Est T**	**1.64**	**81**	*e*P	**Pn**	**02 19 01.3**	**+0.8**
SNET				*e*S	**Sn**	**02 19 20.7**	**+0.4**
SNET				AML	AML	02 19 24.4	
	comp=Z,15μm,0.3s						
SNET	**Serv Nac Est T**	**1.64**	**81**	*e*Pn	**Pn**	**02 19 01.0**	**+0.5**
SNET				*e*Sn	**Sn**	**02 19 20.2**	**-0.1**
LFU	**La Fuente**	**1.76**	**80**	*e*P	**Pn**	**02 19 03.4**	**+1.3**
LFRS	**El Faro**	**1.79**	**84**	*e*P	**Pn**	**02 19 03.7**	**+1.1**
LBRS	**Las Brisas**	**1.83**	**80**	*e*P	**Pn**	**02 19 04.4**	**+1.4**
MRL	**Marmol**	**2.00**	**36**	*e*P	**Pn**	**02 19 07.9**	**+2.4**
SNVI	**San Vicente**	**2.01**	**85**	*e*P	**Pn**	**02 19 07.3**	**+1.7**
VSM	**San Miguel**	**2.55**	**90**	*e*P	**Pn**	**02 19 14.9**	**+1.8**
CAHU	**Cacacuatique**	**2.63**	**82**	*e*P	**Pn**	**02 19 15.4**	**+1.2**
CNCH	**Conchagua**	**2.98**	**93**	*e*P	**Pn**	**02 19 20.4**	**+1.4**

PCIG		**3.19**	**315**	P	**Pn**	**02 19 22.6**	**+0.9**
PCIG				S	**Sn**	**02 19 55.3**	**-3.1**
COPN	**Copaltepe**	**4.38**	**106**	*e*P	**Pn**	**02 19 39.3**	**+1.2**
CMIG	**Matias Romero**	**5.29**	**314**	Pn	**Pn**	**02 19 52.0**	**+1.3**
	comp=Z,19nm,0.3s,baz=121,slow=11,SNR=90						
CMIG				Sn	**Sn**	**02 20 51.0**	**+0.6**
	comp=Z,47nm,0.3s,baz=252,slow=19,SNR=7.1						
HUIG	**Huatulco**	**5.55**	**295**	P	**Pn**	**02 19 55.0**	**+0.7**
HUIG				S	**Sn**	**02 20 54.9**	**-1.9**
VCR	**Vista de Mar**	**6.11**	**122**	*e*P	**Pn**	**02 20 04.7**	**+2.7**
JCR	**Jicaral**	**6.69**	**122**	*e*P	**Pn**	**02 20 13.0**	**+3.0**
VHO	**Vista Hermosa**	**6.70**	**303**	P	Pn	02 20 14.6	+4.5
VHO				S	**Sn**	**02 21 22.9**	**-2.3**
CGA2	**Cerro Gallo 2**	**7.15**	**118**	*e*P	**Pn**	**02 20 19.0**	**+2.7**
TEIG	**Tepich**	**7.21**	**20**	Pn	**Pn**	**02 20 18.7**	**+1.8**
	comp=Z,4.1nm,0.3s,baz=2.5,slow=24,SNR=219						
TEIG				Lg	Lg	02 22 20.4	
	comp=Z,0.6nm,0.3s,baz=177,slow=23,SNR=2.3						
PNIG	**Pinotepa**	**7.58**	**294**	P	**Pn**	**02 20 24.0**	**+1.8**
PNIG				S	Sn	02 21 31.4	-16
QCR	**Quepos**	**7.71**	**120**	*e*P	Pn	02 20 27.2	+3.4
URSC	**Urasca**	**7.83**	**116**	*i*P	Pn	02 20 29.1	+3.4
URSC				*e*S	**Sn**	**02 21 52.9**	**-0.4**
BUS	**Buena Vista**	**7.99**	**118**	*i*P	Pn	02 20 32.0	+4.0
BUS				*e*S	**Sn**	**02 21 52.2**	**-5.2**
BCIP	**Isla Barro Col**	**11.64**	**110**	*e*Pn	**Pn**	**02 21 19.7**	**+1.9**
	comp=Z,16nm,0.7s						
035Z	**Hargill**	**14.61**	**334**	P	Pn	02 22 01.8	+3.7
	baz=15						
035A	**Encino**	**15.04**	**334**	P	**P**	**02 22 08.4**	**-0.3**
	baz=15						
936A	**North Padre Is**	**15.15**	**338**	P	**P**	**02 22 09.5**	**-0.5**
	baz=15						
034A	**Hebbronville**	**15.40**	**333**	P	**P**	**02 22 12.2**	**-0.6**
	baz=16						
934A	**Benavides**	**15.79**	**334**	P	**P**	**02 22 17.4**	**+0.2**
	baz=16						
738A	**Farr-Stevens R**	**15.96**	**345**	P	**P**	**02 22 19.1**	**+0.1**
	baz=16						
737A	**Port Lavaca**	**16.10**	**342**	P	**P**	**02 22 20.5**	**-0.1**
	baz=16						
835A	**Beeville**	**16.13**	**337**	P	**P**	**02 22 21.1**	**+0.2**
	baz=16						
933A	**Laredo**	**16.13**	**332**	P	**P**	**02 22 20.9**	**0.0**
	baz=16,SNR=5.5						
834A	**Tilden**	**16.27**	**335**	P	**P**	**02 22 22.4**	**0.0**
	baz=16						
736A	**Circle Diamond**	**16.48**	**341**	P	**P**	**02 22 24.7**	**0.0**
	baz=17						
735A	**Kenedy**	**16.64**	**338**	P	**P**	**02 22 26.7**	**+0.3**
	baz=17						
637A	**Eagle Lake**	**16.71**	**343**	P	**P**	**02 22 27.5**	**+0.2**
	baz=17						
833A	**Chaparral WMA,**	**16.80**	**333**	P	**P**	**02 22 28.7**	**+0.4**
	baz=17,SNR=15						
734A	**La Parita Cree**	**16.91**	**336**	P	**P**	**02 22 29.9**	**+0.4**
	baz=17						
636A	**Smothers Creek**	**16.96**	**341**	P	**P**	**02 22 30.6**	**+0.5**
	baz=17,SNR=5.1						
832A	**Faith Ranch, C**	**17.03**	**332**	P	**P**	**02 22 31.8**	**+1.0**
	baz=17						
DWPF	**Disney**	**17.06**	**30**	*e*Pn	**P**	**02 22 32.2**	**+1.1**
	comp=Z,28nm,0.7s						
HKT	**Hockley**	**17.06**	**345**	*e*Pn	**Pn**	**02 22 30.6**	**+0.9**
	comp=Z,40nm,1.6s						
733A	**Divot King Ran**	**17.10**	**334**	P	**P**	**02 22 32.7**	**+1.1**
	baz=17,SNR=8.2						
635A	**Leesville**	**17.11**	**339**	P	**P**	**02 22 32.2**	**+0.5**
	baz=17						
538A	**Harpers Horsep**	**17.24**	**346**	P	**P**	**02 22 33.6**	**+0.5**
	baz=17						
537A	**Green Hill Far**	**17.31**	**344**	P	**P**	**02 22 35.1**	**+1.2**
	baz=17						
634A	**China Grove, S**	**17.31**	**338**	P	**P**	**02 22 35.8**	**+1.8**
	baz=17						
732A	**Laxson Ranch,**	**17.40**	**332**	P	**P**	**02 22 36.8**	**+1.8**
	baz=18						
536A	**Bastrop**	**17.52**	**342**	P	**P**	**02 22 37.3**	**+1.1**
	baz=18						
535A	**Dale**	**17.63**	**341**	P	**P**	**02 22 39.0**	**+1.5**
	baz=18						
439A	**Center Grove,**	**17.64**	**349**	P	**P**	**02 22 38.4**	**+0.8**
	baz=18						
633A	**Saathoff Ranch**	**17.70**	**336**	P	**P**	**02 22 39.9**	**+1.6**
	baz=18,SNR=13						
438A	**Sam Houston St**	**17.74**	**347**	P	**P**	**02 22 39.4**	**+0.7**
	baz=18						
534A	**Blanco**	**17.94**	**338**	P	**P**	**02 22 42.1**	**+1.1**
	baz=18

baz=20,SNR=21
234A Clairette 19.64 341 P P 02 23 00.5 +1.0
baz=20,SNR=13
136A Ennis 19.64 346 P P 02 22 59.9 +0.3
baz=20
430A Baggett Ranch, 19.73 333 P P 02 23 01.8 +1.2
baz=20
TXAR Lajitas Array 19.77 325 P Pn 02 23 03.5 +0.8
comp=Z,6.0nm,0.5s,baz=150,slow=13,SNR=80
TXAR PcP PcP 02 27 19.9 +1.4
comp=Z,0.4nm,0.6s,baz=141,slow=3.3,SNR=4.4
331A San Angelo 19.83 335 P P 02 23 02.9 +1.2
baz=20,SNR=23
LRAL Lakeview Retre 19.83 10 eP P 02 23 02.6 +0.9
comp=Z,13nm,0.9s
429A Davenport Ranc 19.89 331 P P 02 23 04.4 +2.0
baz=20,SNR=18
233A Rising Star 19.90 340 P P 02 23 03.6 +1.1
baz=20,SNR=27
135A Vickery Place, 19.95 344 P P 02 23 02.9 0.0
baz=20,SNR=11
H06E1 SOCORRO T-PHAS 19.96 288 T T 02 43 17.0
SNR=30
232A Coleman 20.05 338 P P 02 23 04.6 +0.6
baz=20,SNR=9.1
Z37A Pogue Cattle C 20.14 348 P P 02 23 05.4 +0.4
baz=20
134A White-Moore Ra 20.15 342 P P 02 23 06.7 +1.5
baz=20,SNR=8.1
330A Mertzon 20.23 334 P P 02 23 07.8 +1.7
baz=20,SNR=11
231A Bronte 20.34 336 P P 02 23 08.3 +1.0
baz=20,SNR=9.3
Z36A Blue Ridge 20.38 347 P P 02 23 08.6 +1.0
baz=20,SNR=6.9
133A Hamilton Ranch 20.45 340 P P 02 23 09.1 +0.7
baz=20,SNR=29
Y39A Lockesburg 20.62 352 P P 02 23 10.4 +0.2
baz=21
230A Sterling City 20.62 335 P P 02 23 11.4 +1.1
baz=21
Z35A Perchaven, San 20.64 345 P P 02 23 11.1 +0.7
baz=21
329A Wagon Wheel Ra 20.66 332 P P 02 23 11.5 +0.8
baz=21,SNR=8.1
Y38A Idabel 20.70 351 P P 02 23 10.9 -0.1
baz=21,SNR=17
ABTX Abilene, Hawle 20.71 339 P P 02 23 12.0 +0.8
baz=21,SNR=8.0
ABTX Abilene, Hawle 20.71 339 eP P 02 23 12.0 +0.8
comp=Z,19nm,0.9s
Z34A Collier Ranch, 20.85 343 P P 02 23 13.4 +0.6
baz=21
Y37A Hugo 20.90 349 P P 02 23 13.2 0.0
baz=21,SNR=5.9
Y36A Durant 20.96 347 P P 02 23 14.9 +1.1
baz=21
229A Bryant Ranch, 20.99 333 P P 02 23 15.3 +1.0
baz=21
GOGA Godfrey 21.01 18 eP P 02 23 15.5 +1.1
comp=Z,20nm,0.8s
Z33A Whitaker Ranch 21.03 341 P P 02 23 15.3 +0.7
baz=21,SNR=5.7
131A Roby 21.03 337 P P 02 23 15.4 +0.7
baz=21
Y35A Marietta 21.13 346 P P 02 23 16.0 +0.3
baz=21
MIAR Mount Ida 21.16 354 P P 02 23 15.7 -0.3
baz=21,SNR=8.0
MIAR Mount Ida 21.16 354 eP P 02 23 14.9 -1.1
comp=Z,18nm,0.7s
130A Snyder 21.18 336 P P 02 23 16.7 +0.4
baz=21
Z32A Haskell 21.27 340 P P 02 23 18.0 +0.8
baz=21,SNR=22
UALR University of 21.29 357 eP P 02 23 17.5 +0.1
comp=Z,15nm,0.8s
Y34A Reagan Ranch, 21.36 344 P P 02 23 18.8 +0.6
baz=21
X38A Whitesboro 21.44 351 P P 02 23 19.5 +0.5
baz=22,SNR=11
X37A Clayton 21.45 350 P P 02 23 19.4 +0.3
baz=22,SNR=12
228A UT Block 9, Go 21.47 332 P P 02 23 20.2 +0.8
baz=22
Z31A Sharp Cattle R 21.52 338 P P 02 23 20.2 +0.3
baz=22,SNR=28
129A Stewart Farms, 21.58 334 P P 02 23 21.6 +1.0
baz=22,SNR=11
X35A Drake 21.59 346 P P 02 23 21.2 +0.6
baz=22,SNR=5.9
X36A Centrahoma 21.62 348 P P 02 23 20.7 -0.2
baz=22
Y33A Hilltop Ranch, 21.65 342 P P 02 23 21.6 +0.3
baz=22
W38A Poteau 21.79 352 P P 02 23 23.0 +0.2
baz=22,SNR=9.8
128A Castleberry Fa 21.84 333 P P 02 23 24.9 +1.5
baz=22
Z30A Sanderson Ranc 21.85 336 P P 02 23 24.9 +1.4
baz=22,SNR=6.8
Y32A R-V Farms, Ver 21.90 341 P P 02 23 24.3 +0.3
baz=22
X34A Smith Ranch, M 21.99 345 P P 02 23 26.1 +1.2
baz=22
W37A Quinton 22.00 350 P P 02 23 25.1 +0.2
baz=22,SNR=11
Z29A Hungry Hill Ra 22.06 335 P P 02 23 26.4 +0.6
baz=22,SNR=7.5
Y31A Rekieta Farm, 22.14 339 P P 02 23 26.8 +0.3
baz=22,SNR=15
W36A Wetumka 22.14 348 P P 02 23 25.9 -0.6
baz=22,SNR=5.8
SWET Sewanee 22.15 11 eP P 02 23 26.7 +0.1
comp=Z,24nm,0.7s
X32A Elmer 22.24 341 P P 02 23 28.7 +1.1
baz=22
W35A Tecumseh 22.29 347 P P 02 23 28.3 +0.1
baz=22
Y30A Stafford Cattl 22.29 338 P P 02 23 28.6 +0.4
baz=22
Z28A Tucker Farm, M 22.37 334 P P 02 23 29.2 +0.1
baz=22
WMOK Wichita Mounta 22.38 343 eP P 02 23 28.8 -0.3
comp=Z,7.1nm,0.6s
V38A Canehill 22.56 353 P P 02 23 29.6 -1.4
baz=23,SNR=9.8
Y29A Porterfield Fa 22.57 336 P P 02 23 31.7 +0.4
baz=23
W34A Bridge Creek, 22.58 345 P P 02 23 30.8 -0.4
baz=23
W34A Bridge Creek, 22.58 345 eP P 02 23 31.3 0.0
comp=Z,24nm,0.9s
X31A McDonald Ranch 22.65 340 P P 02 23 32.7 +0.6
baz=23,SNR=21
CPCT Cooper Cave 22.66 14 eP P 02 23 32.6 +0.5
V37A Hulbert 22.68 351 P P 02 23 31.0 -1.3
baz=23,SNR=15
W33A Caddo, Fort Co 22.68 344 P P 02 23 32.2 -0.1
baz=23
V36A Jenks 22.72 349 P P 02 23 31.6 -1.1
baz=23
WVT Waverly 22.77 6 eP P 02 23 32.5 -0.7
comp=Z,10.0nm,0.6s
X30A Coker Ranch, T 22.79 338 P P 02 23 33.3 -0.3
baz=23,SNR=5.7
TUL1 Tulsa 22.81 350 P P 02 23 32.3 -1.4
baz=23,SNR=5.9
TUL1 Tulsa 22.81 350 eP P 02 23 31.9 -1.8
comp=Z,18nm,0.8s
Y28A McKinney Farm, 22.85 335 P P 02 23 33.6 -0.6
baz=23
W32A Sentinel 22.88 342 P P 02 23 33.5 -0.9
baz=23
TKL Tuckaleechee C 23.04 15 P P 02 23 34.9 -1.1
comp=Z,6.5nm,0.7s,baz=187,slow=8.1,SNR=14
TKL LR LR 02 33 20.9
comp=Z,132nm,20.6s,baz=191,slow=39
TKL Tuckaleechee C 23.04 15 eP P 02 23 36.0 0.0
V34A Guthrie 23.09 346 P P 02 23 35.1 -1.4
baz=23,SNR=8.2
V34A Guthrie 23.09 346 eP P 02 23 35.0 -1.6
comp=Z,17nm,0.8s
U38A Gravette 23.12 353 P P 02 23 35.3 -1.6
baz=23,SNR=7.9
U37A Salina 23.19 351 P P 02 23 36.2 -1.3
baz=23,SNR=21
PBMO Poplar Bluff 23.25 1 eP P 02 23 37.2 -0.9
comp=Z,16nm,0.8s
X28A Dimmitt 23.36 336 P P 02 23 39.3 -0.1
baz=24
U35A Pawnee 23.43 348 P P 02 23 38.2 -1.7
baz=24,SNR=5.8
U34A Anderson Ranch 23.67 347 P P 02 23 41.3 -0.8
baz=24
U34A Anderson Ranch 23.67 347 eP P 02 23 43.1 +0.9
comp=Z,14nm,0.8s
W29A Amraillo 23.68 338 P P 02 23 42.3 -0.1
baz=24
U33A Lingo Farm, Me 23.80 345 P P 02 23 43.1 -0.4
baz=24
T37A Cheneyville 18 23.86 352 P P 02 23 43.4 -0.6
baz=24,SNR=8.9
ATAH Atahualpa 23.91 148 LR LR 02 30 41.7
comp=Z,84nm,21.1s,baz=309,slow=31
T35A Sooner Cattle 23.92 349 P P 02 23 42.8 -1.8
baz=24,SNR=6.9
TZTN Tazewell 23.94 15 eP P 02 23 44.2 -0.5
comp=Z,14nm,0.8s
T36A Boggs Farm, Ca 23.95 350 P P 02 23 43.1 -1.7
baz=24,SNR=12
W28A Vega 24.01 337 P P 02 23 45.3 -0.2
baz=24
T34A McClaskey Farm 24.16 348 P P 02 23 45.5 -1.2
baz=24,SNR=9.4
SIUC Southern Illin 24.23 3 eP P 02 23 48.4 +1.0
comp=Z,23nm,0.9s
SJG San Juan 24.25 76 LR LR 02 32 51.7
comp=Z,52nm,19.1s,baz=277,slow=36
V28A Channing 24.45 337 P P 02 23 49.0 -0.6
baz=25
S37A Fort Scott 24.48 352 P P 02 23 48.5 -1.2
baz=25,SNR=15
121A Cookes Peak, D 24.50 324 P P 02 23 52.5 +2.4
baz=25,SNR=36
121A Cookes Peak, D 24.50 324 eP P 02 23 52.5 +2.4
comp=Z,32nm,0.7s
S36A Lake Cedric, C 24.55 351 P P 02 23 49.3 -1.0
baz=25,SNR=55
USIN University of 24.60 6 eP P 02 23 50.7 0.0
comp=Z,52nm,1.3s
S35A Otter Creek Ra 24.63 350 P P 02 23 50.2 -0.8
baz=25,SNR=7.3
S34A Willow Spring 24.80 348 P P 02 23 51.7 -0.9
baz=25
R37A Teagarden Farm 25.02 353 P P 02 23 53.7 -0.9
baz=25,SNR=7.5
BNM Barren Site 25.09 328 eP P 02 23 57.4 +2.0
R36A Gordon, Harris 25.13 351 P P 02 23 55.2 -0.4
baz=25,SNR=8.3
Y22D IRIS PASSCAL I 25.18 327 P P 02 23 58.2 +2.0
baz=25
LPM Los Pinos Moun 25.21 328 eP P 02 23 59.2 +2.6
R35A Emporia Munici 25.23 350 P P 02 23 56.7 +0.2
baz=25
U27A Thompson Grove 25.27 337 P P 02 23 57.7 +0.7
baz=25
LENM Lemitar 25.28 327 eP P 02 23 59.3 +2.2
OLIL Olney 25.32 5 eP P 02 23 58.7 +1.5
comp=Z,13nm,0.7s
R34A Isabella, Hill 25.40 348 P P 02 23 58.0 0.0
baz=26
BLA Blacksburg 25.46 20 eP P 02 23 57.6 -1.0
comp=Z,14nm,1.0s
LAZ Ladron 25.55 328 eP P 02 24 02.0 +2.4
R33A Olander Ranch, 25.56 347 P P 02 23 59.8 +0.3
baz=26
ANMO Albuquerque 25.63 329 P P 02 24 01.0 +0.7
comp=Z,2.4nm,0.6s,baz=156,slow=14,SNR=13
ANMO LR LR 02 34 11.1
comp=Z,46nm,20.0s,baz=159,slow=36
Q35A Mercer Eighty, 25.73 351 P P 02 24 01.3 +0.3
baz=26
Q36A Arnold C. Orve 25.75 352 P P 02 24 00.8 -0.4
baz=26
S29A Ulysses 25.75 341 P P 02 24 01.8 +0.5
baz=26
R32A Long Quarter, 25.84 346 P P 02 24 02.1 +0.1
baz=26
PCRV Puerto La Cruz 25.90 94 LR LR 02 34 57.8
comp=Z,76nm,20.2s,baz=298,slow=39
R31A Burdett 25.92 344 P P 02 24 03.2 +0.5
baz=26
R30A Dighton 26.12 343 P P 02 24 05.2 +0.7
baz=26
TUC Tucson 26.16 319 eP P 02 24 08.0 +2.9
comp=Z,5.5nm,0.8s
Q33A Connelly Farm, 26.19 348 P P 02 24 06.3 +1.2
baz=26
T26A Comanche Natio 26.23 337 P P 02 24 07.0 +1.2
baz=26
Q32A Meitler Ranch, 26.34 346 P P 02 24 06.5 -0.1
baz=26
P36A Good Intent, A 26.36 352 P P 02 24 07.3 +0.6
baz=26
P35A Duane Minner, 26.38 351 P P 02 24 06.7 -0.2
baz=26,SNR=8.2
R29A Marienthal 26.50 342 P P 02 24 08.6 +0.6
baz=27
P34A Walnut Farm, R 26.53 350 P P 02 24 08.6 +0.3
baz=27
Q31A Ellis 26.56 345 P P 02 24 09.2 +0.7
baz=27
O34A Beatrice 27.13 350 P P 02 24 14.8 +1.2
baz=27,SNR=5.4
R26A Arlington 27.16 338 P P 02 24 14.9 +0.9
baz=27
214A Organ Pipe Nat 27.27 316 P P 02 24 16.9 +1.9
baz=27
SDCO Great Sand Dun 27.49 334 P P 02 24 18.3 +1.1
baz=28
ACSO Alum Creek Sta 27.59 13 eP P 02 24 17.5 -0.2
S22A 4UR Ranch, Cre 28.07 332 P P 02 24 23.2 +0.9
baz=28,SNR=5.2
S22A 4UR Ranch, Cre 28.07 332 eP P 02 24 24.1 +1.7
comp=Z,3.7nm,1.0s
MVCO Mesa Verde 28.43 330 P P 02 24 27.6 +2.1
baz=28,SNR=6.5
MVCO Mesa Verde 28.43 330 eP P 02 24 27.8 +2.2
comp=Z,6.6nm,0.8s
WUAZ Wupatki 28.71 324 P P 02 24 30.5 +2.5
baz=29,SNR=14
WUAZ Wupatki 28.71 324 eP P 02 24 31.0 +3.1
comp=Z,9.9nm,0.8s
NNA Nana 28.85 150 LR LR 02 34 23.1
comp=Z,54nm,20.0s,baz=320,slow=33
PV01 Paradox Valley 29.19 331 eP P 02 24 33.8 +1.5
SSPA Standing Stone 29.40 20 eP P 02 24 33.2 -0.6
comp=Z,19nm,1.5s
PV04 Paradox Valley 29.55 330 eP P 02 24 37.9 +2.5
PDMCI Parker Dam,Lak 29.59 319 P P 02 24 37.8 +2.3
baz=30
BC3 Big Chuckawall 30.06 316 P P 02 24 41.9 +2.0
baz=30
IRM Iron Mountain 30.16 317 P P 02 24 42.5 +1.8
baz=30
KNB Kanab 30.59 324 eP P 02 24 47.6 +3.0
comp=Z,15nm,0.7s
MMU Miners Mountai 30.61 327 eP P 02 24 46.9 +2.0
O20A White River Ci 30.66 333 P P 02 24 46.1 +0.9
baz=31
O20A White River Ci 30.66 333 eP P 02 24 48.4 +3.1
comp=Z,40nm,2.5s
PFO Pinyon Flat Ob 30.71 315 LR LR 02 39 01.3
comp=Z,85nm,19.4s,baz=118,slow=40
GMRC Granite Mounta 30.87 318 P P 02 24 49.8 +2.7
baz=31,SNR=5.5
CCUT Cedar City 31.27 324 eP P 02 24 53.6 +2.9
comp=Z,8.7nm,1.0s
MSU Marysvale 31.30 327 eP P 02 24 53.0 +2.0
MVU Marysvale 31.32 327 eP P 02 24 53.1 +2.0
comp=Z,6.1nm,0.7s
TUQ Turquoise Moun 31.44 319 P P 02 24 53.7 +1.6
baz=32
SHPR Sheep Range 31.63 321 eP P 02 24 56.7 +2.9
comp=Z,2.8nm,0.9s
SPMN St. Paul 31.73 357 P P 02 24 54.1 -0.2
baz=32
SPMN St. Paul 31.73 357 eP P 02 24 53.7 -0.6
comp=Z,6.9nm,0.8s
K23A Bowen Ranch, D 31.87 339 P P 02 24 57.0 +1.1
baz=32
TPNV Topopah Spring 32.59 320 P P 02 25 04.1 +1.9
baz=33
TPNV Topopah Spring 32.59 320 eP P 02 25 06.0 +3.7
comp=Z,66nm,2.8s
FURC Furnace Creek, 32.67 319 P P 02 25 05.0 +2.3
baz=33
CTU Camp Tracy 32.72 330 eP P 02 25 06.2 +2.9
comp=Z,7.4nm,0.8s
SADO Sadowa 32.80 16 P P 02 25 01.2 -2.5
comp=Z,3.0nm,0.3s,baz=227,slow=9.5,SNR=5.8
SADO LR LR 02 39 32.6
comp=Z,115nm,18.5s,baz=209,slow=39
MPMC Manual Prospec 32.83 318 P P 02 25 07.0 +2.6
baz=33,SNR=7.4
DUG Dugway 32.88 328 P P 02 25 05.5 +0.8
baz=33
DUG Dugway 32.88 328 eP P 02 25 05.2 +0.6
comp=Z,2.0nm,0.8s
R11A Troy Canyon, C 33.10 323 P P 02 25 08.8 +2.1
baz=33,SNR=9.6
R11A Troy Canyon, C 33.10 323 eP P 02 25 09.4 +2.7
comp=Z,12nm,1.5s
G26A Maurine 33.28 345 P P 02 25 08.5 +0.5
baz=33
J20A Shoshoni 33.29 337 P P 02 25 09.1 +0.9
baz=33
GRAC Grapevine Rang 33.32 319 P P 02 25 11.1 +2.6
baz=33,SNR=6.6
HWUT Hardware Ranch 33.34 331 eP P 02 25 11.0 +2.2
comp=Z,3.9nm,0.9s
PDAR Pinedale Array 33.38 335 P P 02 25 08.9 -0.3
comp=Z,0.7nm,0.7s,baz=128,slow=11,SNR=6.6
PDAR PcP PcP 02 27 50.3 +0.1
comp=Z,0.9nm,0.9s,baz=191,slow=0.9,SNR=4.5
PDAR LR LR 02 42 07.9
comp=Z,49nm,18.3s,baz=148,slow=42
SPUT South Promonto 33.53 330 eP P 02 25 12.9 +2.5
comp=Z,20nm,2.0s
PTGA Pitinga 33.73 112 eP P 02 25 12.4 +0.2
comp=Z,21nm,1.0s
I20A Worland 33.81 337 P P 02 25 13.2 +0.4
baz=34
TPH Tonopah 33.90 321 eP P 02 25 16.5 +2.8
comp=Z,6.9nm,1.4s
HVU Hansel Valley 34.05 330 eP P 02 25 17.5 +2.6
comp=Z,4.2nm,0.9s
RCTC Rector, Farmer 34.13 317 P P 02 25 17.5 +2.1
baz=34
E26A Carlson Angus 34.34 346 P P 02 25 17.8 +0.6
baz=34
EYMN Ely 34.41 359 P P 02 25 16.1 -1.6
baz=34
REDW Red Top Meadow 34.42 334 eP P 02 25 18.9 +0.7
comp=Z,3.9nm,0.8s
SNOW Snow King Moun 34.46 334 eP P 02 25 19.9 +1.4
comp=Z,9.4nm,0.5s
LOHW Long Hollow 34.52 334 eP P 02 25 19.3 +0.3
comp=Z,2.1nm,0.5s
ELK Elko 34.55 326 eP P 02 25 21.9 +2.6
comp=Z,5.7nm,0.8s
TPAW Teton Pass 34.56 334 eP P 02 25 21.9 +2.4
comp=Z,4.7nm,1.1s
FXWY Fox Creek 34.72 334 eP P 02 25 22.5 +1.8
comp=Z,19nm,2.3s
NVAR Mina Array Bea 34.78 321 P P 02 25 24.4 +3.1
comp=Z,14nm,0.7s,baz=135,slow=8.5,SNR=57
AGMN Agassiz Nation 35.00 354 P P 02 25 21.7 -1.1
baz=35
AGMN Agassiz Nation 35.00 354 eP P 02 25 21.7 -1.1
comp=Z,3.9nm,0.8s
E23A Ismay 35.12 343 P P 02 25 23.9 0.0
baz=35
SAML Samuel 35.38 127 eP P 02 25 25.6 -0.8
comp=Z,5.9nm,0.8s
B30A Myrvik Farm, E 35.45 351 P P 02 25 25.7 -1.1
baz=36
WAKR Walker 35.54 320 eP P 02 25 31.5 +3.7
B28A Dugan Ranch, T 35.78 349 P P 02 25 29.4 -0.1
baz=36
CMB Columbia Colle 35.87 318 eP P 02 25 33.3 +2.8
comp=Z,3.6nm,0.8s
A29A Manning Farm, 36.05 351 P P 02 25 31.0 -0.8
baz=36
HLID Hailey 36.19 331 P P 02 25 34.9 +1.6
baz=36,SNR=5.8
HLID Hailey 36.19 331 eP P 02 25 35.6 +2.3
comp=Z,2.9nm,1.0s
MCMT McKenzie Canyo 36.45 333 eP P 02 25 37.2 +1.6
BOZ Bozeman (W) 36.60 335 P P 02 25 36.9 +0.1
baz=37
MFID Camas Ranch 36.77 329 eP P 02 25 40.1 +1.9
comp=Z,2.6nm,0.9s
ULM Lac du Bonnet 36.94 355 P P 02 25 38.1 -1.3
comp=Z,3.3nm,0.8s,baz=156,slow=7.5,SNR=6.2
ULM Lac du Bonnet 36.94 355 eP P 02 25 37.8 -1.6
comp=Z,3.6nm,0.8s
LRM Limekiln Ridge 37.08 335 eP P 02 25 42.2 +1.3
LPAZ La Paz 37.13 142 P P 02 25 41.9 -0.1
comp=Z,1.5nm,0.9s,baz=325,slow=12,SNR=4.0
LPAZ LR LR 02 41 01.9
comp=Z,74nm,18.8s,baz=298,slow=37
WVOR Wild Horse Val 37.56 326 eP P 02 25 47.1 +2.2
comp=Z,7.5nm,0.8s
EGMT Eagleton 37.89 339 P P 02 25 48.1 +0.6
baz=38
MOD Modoc 38.15 324 eP P 02 25 52.0 +2.0
comp=Z,3.4nm,0.7s
CHMT Chamberlain Mo 38.28 335 eP P 02 25 51.0 0.0
MSO Missoula 38.50 334 P P 02 25 53.4 +0.6
baz=39
M04C Macdoel 38.98 322 P P 02 25 58.4 +1.5
baz=39
SWMT Swartz Lake 39.07 335 eP P 02 25 57.9 +0.4
comp=Z,1.8nm,0.7s
F10A Beach Ranch, E 39.32 331 eP P 02 26 00.4 +0.7
comp=Z,8.8nm,0.6s
YBH Yreka Blue Hor 39.47 322 LR LR 02 44 03.3
comp=Z,64nm,19.3s,baz=140,slow=39
YBH Yreka Blue Hor 39.47 322 eP P 02 26 01.9 +1.0
comp=Z,104nm,2.8s
KHMM Horse Mountain 39.61 320 eP P 02 26 05.5 +3.3
comp=Z,57nm,1.5s
J04D Umpqua Nationa 40.03 324 P P 02 26 07.3 +1.6
baz=40
L02D Cave Junction, 40.26 322 P P 02 26 08.7 +1.3
baz=40
I05D Terrebonne, OR 40.30 326 P P 02 26 09.1 +1.4
baz=40
I04A Tendick Farm, 40.55 324 P P 02 26 11.3 +1.5
baz=41
G05D Wamic, OR 40.88 327 P P 02 26 14.7 +2.2
baz=41
NEW Newport 40.98 333 LR LR 02 45 24.6
comp=Z,69nm,20.6s,baz=138,slow=39
NEW Newport 40.98 333 P P 02 26 14.3 +1.0
baz=41
H04A Detroit Lake 40.98 326 eP P 02 26 15.1 +1.8
comp=Z,27nm,0.6s
I03D Drain, OR 41.02 324 P P 02 26 15.6 +2.0
baz=41
C09A Chrisman Ranch 41.15 332 eP P 02 26 16.4 +1.7
comp=Z,9.9nm,0.5s
G03D McMinnville, O 41.91 325 P P 02 26 22.1 +1.2
baz=42
LON Longmire 42.13 328 eP P 02 26 24.1 +1.3
comp=Z,6.6nm,0.8s
F04D Rainier, OR 42.32 327 P P 02 26 25.8 +1.5
baz=42
SCHQ Schefferville 45.39 19 P P 02 26 45.9 -2.8
comp=Z,2.4nm,0.5s,baz=216,slow=8.9,SNR=6.9
SCHQ LR LR 02 46 20.4
comp=Z,82nm,21.1s,baz=328,slow=37
CPUP Villa Florida 51.26 140 LR LR 02 48 57.4
comp=Z,68nm,18.0s,baz=314,slow=36
BDFB Brasilia 51.31 123 P P 02 27 32.8 -2.3
comp=Z,2.0nm,0.6s,baz=298,slow=7.2,SNR=4.4
YKA Yellowknife Ar 51.82 346 P P 02 27 37.4 -0.7
comp=Z,0.4nm,0.5s,baz=144,slow=7.8,SNR=5.8
FRB Frobisher Bay 52.63 12 P P 02 27 43.7 -0.3
comp=Z,1.3nm,0.5s,baz=180,slow=7.1,SNR=4.0
SFJD Kangerlussuaq 59.73 17 P P 02 28 32.7 -2.0
comp=Z,7.6nm,0.6s,baz=241,slow=10,SNR=1.8
RES Resolute Bay 61.28 359 P P 02 28 44.0 -1.2
comp=Z,1.9nm,0.7s,baz=221,slow=4.6,SNR=3.7
INK Inuvik 61.28 343 P P 02 28 45.9 +0.6
comp=Z,0.6nm,0.4s,baz=91,slow=7.7,SNR=3.3
ILAR Eielson Array 63.78 337 P P 02 29 02.1 +0.1
comp=Z,0.2nm,0.4s,baz=121,slow=5.6,SNR=11
ILAR LR LR 02 59 02.2
comp=Z,19nm,20.1s,baz=139,slow=38
PPT Papeete 65.59 243 LR LR 02 49 47.1
comp=Z,111nm,18.7s,baz=38,slow=28

RAR	**Rarotonga**	**75.87**	**244**	P	**P**	**02 30 16.9**	**-0.2**
	comp=Z,9.0nm,0.3s,baz=56,slow=3.6,SNR=2.7						
ESDC	**Sonseca Array**	**79.22**	**52**	P	P	02 30 31.5	-4.2
	comp=Z,0.3nm,0.5s,baz=288,slow=4.2,SNR=6.5						
TIC	**Toumodi**	**84.49**	**85**	*e*P	**P**	**02 31 02.2**	**-1.6**
LIC	**Lamto**	**84.57**	**85**	*e*P	**P**	**02 31 02.7**	**-1.5**
	comp=Z,25nm,0.8s						
DBIC	**Dimbokro**	**84.64**	**84**	P	**P**	**02 31 02.5**	**-2.0**
	comp=Z,4.1nm,0.6s,baz=262,slow=4.5,SNR=12						
KIC	**Kosan Boka**	**84.82**	**85**	*e*P	**P**	**02 31 04.1**	**-1.3**
	comp=Z,16nm,0.7s						
ARCES	**ARCESS Array B**	**86.33**	**18**	P	**P**	**02 31 09.6**	**-2.2**
	comp=Z,1.5nm,0.8s,baz=294,slow=6.8,SNR=3.6						
ARCES				LR	LR	03 09 21.3	
	comp=Z,16nm,19.5s,baz=273,slow=35						
TORD	**Torodi Ar. Bea**	**89.47**	**77**	P	P	02 31 23.5	-4.4
	comp=Z,0.3nm,0.5s,baz=292,slow=5.4,SNR=5.8						
TORD				LR	LR	03 09 03.2	
	comp=Z,9.7nm,20.0s,baz=325,slow=34						
FINES	**FINESS Array B**	**90.55**	**25**	LR	LR	03 12 05.7	
	comp=Z,17nm,19.4s,baz=318,slow=36						
VRAC	**Vranov**	**90.97**	**39**	LR	LR	03 05 58.1	
	comp=Z,34nm,21.0s,baz=352,slow=31						
BOSA	**Boshof**	**119.14**	**115**	PKP	**PKPdf**	**02 37 18.5**	**-1.3**
	comp=Z,1.6nm,0.7s,baz=220,slow=2.4,SNR=4.7						
MKAR	**Makanchi Array**	**119.74**	**5**	PKP	**PKPdf**	**02 37 19.7**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=13,slow=6.2,SNR=2.8						
GEYT	**Alibeck**	**121.22**	**28**	PKP	**PKPdf**	**02 37 22.2**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=174,slow=4.3,SNR=2.6						
HHC	**Hu-ho-hao-te**	**122.12**	**340**	*e*PKP	**PKPdf**	**02 37 28.5**	**+3.3**
HHC				PP	PP	02 39 10.0	+11
HHC				PPMZ			
	comp=Z,44nm,8.6s						
HHC				LN			
	comp=Z,110nm,14.8s						
HHC				LE			
	comp=Z,110nm,14.8s						
HHC				LZ			
	comp=Z,91nm,16.0s						
WMQ	**Urumqi**	**123.01**	**1**	PKP	**PKPdf**	**02 37 26.8**	**0.0**
WMQ				LN			
	comp=Z,31nm,30.0s						
WMQ				LE			
	comp=Z,32nm,23.4s						
NJ2	**Nanjing**	**126.54**	**328**	*e*PKP	**PKPdf**	**02 37 35.5**	**+1.7**
KMI	**Kunming**	**139.44**	**341**	PKP	**PKPdf**	**02 37 56.8**	**-1.7**
CMAR	**Chiang Mai Arr**	**146.86**	**343**	PKPbc	**PKPdf**	**02 38 13.3**	**+1.9**
	comp=Z,4.8nm,0.6s,baz=347,slow=3.2,SNR=25						

*SKO **26** 02:28:25.4, 40˚.96N×20˚.85E, h15km, M2.1, ML2.7*
*THE **26** 02:28:25.3, 41˚.00N×20˚.83E, h0km±1km, ML3.1/8, Error ellipse: s-maj=1.7km s-min=0.5km az=323.0*
*ATH **26** 02:28:26.4, 40˚.95N×20˚.93E, h18km±1km, MD3.5/32*
*BEO **26** 02:28:26.7±0.7, 40˚.93N×20˚.90E, h12km±3km, ML2.7/9*
*CSEM **26** 02:28:26.1±0.1, 40˚.97N×20˚.89E, h2km, ML2.8, Error ellipse: s-maj=2.8km s-min=1.9km az=64.0*
*PDG **26** 02:28:26.6±0.2, 41˚.02N×20˚.86E, h1km, ML3.0/11, Error ellipse: s-maj=1.0km s-min=0.6km az=90.0*
*SOF **26** 02:28:36.3, 41˚.44N×21˚.47E, h12km, MD2.7*

ISC 26 02:28:26.3±0.9, 40˚.97N±0˚.01×20˚.86E±0˚.02, h8km±7km, n172, σ1°05/240, 10C-18D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.15**	**341**	⇓*i*Pg		**Pg**		**02 28 29.7**	**+0.1**
OHR				*e*Lg		Lg		02 28 31.0	
	comp=E,4μm,0.5s								
OHR				*e*Lg		Lg		02 28 31.2	
	comp=N,2μm,0.6s								
OHR				*i* Sg		**Sg**		**02 28 32.6**	**+0.7**
OHR	**Ohrid**	**0.15**	**341**	⇓*i*Pg		**Pg**		**02 28 29.7**	**+0.1**
OHR				*e*Lg		Lg		02 28 31.2	
	comp=N,2μm,0.6s								
OHR				*i* Sg		**Sg**		**02 28 32.5**	**+0.7**
KBN	**Korca**	**0.35**	**190**	P		**Pg**		**02 28 32.1**	**-1.0**
KBN				S		**Sg**		**02 28 38.3**	**+0.6**
KBN	**Korca**	**0.35**	**190**	P		**Pg**		**02 28 32.1**	**-1.0**
KBN				S		**Sg**		**02 28 38.3**	**+0.6**
FNA	**Florina**	**0.43**	**115**	*e*PB		**Pg**		**02 28 34.2**	**-0.5**
FNA				*e*SB		**Sg**		**02 28 40.9**	**+0.6**
FNA	**Florina**	**0.43**	**115**	P		**Pg**		**02 28 34.2**	**-0.5**
FNA				*e*Sb		**Sg**		**02 28 40.9**	**+0.6**
FNA	**Florina**	**0.43**	**115**	P		**Pg**		**02 28 34.2**	**-0.5**
FNA				S		**Sg**		**02 28 41.1**	**+0.8**
NEST	**Nestorio**	**0.57**	**166**	*e*PN		**Pg**		**02 28 36.2**	**-1.1**
NEST				*e*SN		**Sg**		**02 28 44.3**	**-0.5**
NEST	**Nestorio**	**0.57**	**166**	P		**Pg**		**02 28 36.2**	**-1.1**
NEST				*e*Sn		**Sg**		**02 28 44.3**	**-0.5**
NEST				S		**Sb**		**02 28 46.3**	**-0.5**
NEST	**Nestorio**	**0.57**	**166**	P		**Pg**		**02 28 36.2**	**-1.1**
NEST				S		**Sb**		**02 28 46.3**	**-0.5**
PHP	**Peshkopia**	**0.79**	**336**	P		**Pg**		**02 28 39.5**	**-1.9**
PHP				S		**Sg**		**02 28 50.6**	**-1.0**
PHP	**Peshkopia**	**0.79**	**336**	P		**Pg**		**02 28 39.5**	**-1.9**
PHP				S		**Sg**		**02 28 50.6**	**-1.0**
TIR	**Tirane**	**0.84**	**297**	*e*Pg		**Pg**		**02 28 41.3**	**-1.2**
TIR	**Tirane**	**0.84**	**297**	P		**Pg**		**02 28 40.7**	**-1.8**
TIR	**Tirane**	**0.84**	**297**	*e*Pg		**Pg**		**02 28 41.3**	**-1.2**
TIR				S		**Sg**		**02 28 52.3**	**-1.2**
TIR	**Tirane**	**0.84**	**297**	P		**Pg**		**02 28 40.7**	**-1.8**
TIR				S		**Sg**		**02 28 52.3**	**-1.2**
KZN	**Kozani**	**0.95**	**133**	*e*PN		**Pg**		**02 28 43.8**	**-0.9**
KZN				*e*SN		**Sg**		**02 28 56.3**	**-0.7**
KZN	**Kozani**	**0.95**	**133**	P		**Pg**		**02 28 43.7**	**-0.9**
KZN				*e*Sn		**Sg**		**02 28 56.3**	**-0.7**
KZN				S		**Sn**		**02 28 59.5**	**-0.3**
KZN	**Kozani**	**0.95**	**133**	P		**Pg**		**02 28 43.7**	**-0.9**
KZN				S		**Sn**		**02 28 59.5**	**-0.3**
SKO	**Skopje**	**1.09**	**23**	*i* Pg		**Pg**		**02 28 46.8**	**-0.5**
SKO				*i* Sg		**Sn**		**02 29 03.0**	**-0.2**
SKO				*e*Lg		Lg		02 29 05.2	
	comp=N,24nm,0.5s								
SKO				*e*Lg		Lg		02 29 05.4	
	comp=E,54nm,0.8s								
SKO	**Skopje**	**1.09**	**23**	P		**Pg**		**02 28 45.9**	**-1.4**
SKO	**Skopje**	**1.09**	**23**	*i* Pg		**Pg**		**02 28 46.8**	**-0.5**
SKO				S		**Sb**		**02 29 02.6**	**+0.7**
SKO				*i* Sg		**Sn**		**02 29 03.0**	**-0.2**
SKO				*e*Lg		Lg		02 29 05.4	
	comp=E,54nm,0.8s								
SKO	**Skopje**	**1.09**	**23**	P		**Pg**		**02 28 45.9**	**-1.4**
SKO				S		**Sb**		**02 29 02.6**	**+0.7**
GRG	**Griva**	**1.17**	**90**	*e*PN		**Pb**		**02 28 47.4**	**-1.2**
GRG	**Griva**	**1.17**	**90**	P		**Pb**		**02 28 47.3**	**-1.3**
GRG				S		**Sn**		**02 29 05.5**	**+0.5**
GRG	**Griva**	**1.17**	**90**	P		**Pb**		**02 28 47.3**	**-1.3**
GRG				S		**Sn**		**02 29 05.5**	**+0.5**
MEV	**Metsovon**	**1.21**	**167**	P		**Pb**		**02 28 48.9**	**-0.6**
MEV	**Metsovon**	**1.21**	**167**	P		**Pb**		**02 28 48.9**	**-0.6**
SRN	**Sarande**	**1.27**	**212**	P		**Pb**		**02 28 50.6**	**+0.2**
SRN				S		**Sn**		**02 29 07.7**	**+0.3**
SRN	**Sarande**	**1.27**	**212**	P		**Pb**		**02 28 50.6**	**+0.2**
SRN				S		**Sn**		**02 29 07.7**	**+0.3**
JAN	**Janina**	**1.31**	**180**	*e*PN		**Pn**		**02 28 50.8**	**0.0**
JAN				*e*SN		**Sn**		**02 29 09.2**	**+0.7**
JAN	**Janina**	**1.31**	**180**	P		**Pn**		**02 28 50.4**	**-0.4**
JAN	**Janina**	**1.31**	**180**	*e*Pn		**Pn**		**02 28 50.8**	**0.0**
JAN				*e*Sn		**Sn**		**02 29 09.2**	**+0.7**
JAN				S		**Sn**		**02 29 10.0**	**+1.5**
JAN	**Janina**	**1.31**	**180**	P		**Pn**		**02 28 50.4**	**-0.4**
JAN				S		**Sn**		**02 29 10.0**	**+1.5**
VAY	**Valandovo**	**1.34**	**74**	*i* Pg		**Pn**		**02 28 51.0**	**-0.2**
VAY				*i* Sg		**Sg**		**02 29 12.6**	**+3.3**
VAY				*e*Lg		Lg		02 29 15.2	
	comp=N,221nm,0.9s								
VAY				*e*Lg		Lg		02 29 15.2	
	comp=E,237nm,1.0s								
VAY	**Valandovo**	**1.34**	**74**	*e*Pg		**Pn**		**02 28 50.5**	**-0.8**
VAY				*e*Sg		**Sb**		**02 29 09.0**	**+0.2**
VAY	**Valandovo**	**1.34**	**74**	P		**Pn**		**02 28 50.4**	**-0.8**
VAY	**Valandovo**	**1.34**	**74**	*i* Pg		**Pn**		**02 28 51.0**	**-0.2**
VAY				*e*Sg		**Sb**		**02 29 09.0**	**+0.2**
VAY				*e*Lg		Lg		02 29 15.1	
	comp=E,237nm,1.0s								
VAY	**Valandovo**	**1.34**	**74**	P		**Pn**		**02 28 50.4**	**-0.8**
SGD	**Sagiada**	**1.44**	**200**	P		**Pg**		**02 28 53.7**	**-0.1**
SGD	**Sagiada**	**1.44**	**200**	P		**Pg**		**02 28 53.7**	**-0.1**
IGT	**Igoumenitsa**	**1.49**	**196**	*e*PN		**Pb**		**02 28 54.5**	**+0.3**
IGT	**Igoumenitsa**	**1.49**	**196**	P		**Pn**		**02 28 52.9**	**-0.4**
IGT	**Igoumenitsa**	**1.49**	**196**	*e*Pn		**Pb**		**02 28 54.5**	**+0.3**
IGT	**Igoumenitsa**	**1.49**	**196**	P		**Pn**		**02 28 52.9**	**-0.4**
LIT	**Litokhoron**	**1.51**	**124**	*e*PN		**Pb**		**02 28 54.4**	**-0.2**
LIT	**Litokhoron**	**1.51**	**124**	P		**Pn**		**02 28 53.4**	**-0.2**
LIT	**Litokhoron**	**1.51**	**124**	*e*Pn		**Pb**		**02 28 54.4**	**-0.2**
LIT				S		**Sg**		**02 29 15.8**	**+0.9**
LIT	**Litokhoron**	**1.51**	**124**	P		**Pn**		**02 28 53.4**	**-0.2**
LIT				S		**Sg**		**02 29 15.8**	**+0.9**
KNT	**Kendrikon**	**1.55**	**82**	*e*PN		**Pn**		**02 28 54.5**	**+0.3**
KNT	**Kendrikon**	**1.55**	**82**	P		**Pn**		**02 28 53.9**	**-0.3**
KNT	**Kendrikon**	**1.55**	**82**	*e*Pn		**Pn**		**02 28 54.5**	**+0.3**
KNT	**Kendrikon**	**1.55**	**82**	P		**Pn**		**02 28 53.9**	**-0.3**
ULC	**Ulcinj**	**1.57**	**310**	*e*Pg		**Pn**		**02 28 54.9**	**+0.4**
ULC				*e*Sg		**Sg**		**02 29 19.1**	**+2.3**
ULC	**Ulcinj**	**1.57**	**310**	*e*Pg		**Pn**		**02 28 54.9**	**+0.4**
ULC				*e*Sg		**Sg**		**02 29 19.1**	**+2.3**
THE	**Thessaloniki**	**1.63**	**101**	*e*PN		**Pn**		**02 28 55.5**	**+0.3**
THE	**Thessaloniki**	**1.63**	**101**	*e*Pn		**Pn**		**02 28 55.5**	**+0.3**
THL	**Klokotos Trika**	**1.65**	**147**	*e*PN		**Pn**		**02 28 56.0**	**+0.5**
THL	**Klokotos Trika**	**1.65**	**147**	*e*Pn		**Pn**		**02 28 56.0**	**+0.5**
THL	**Klokotos Trika**	**1.65**	**147**	P		**Pn**		**02 28 55.8**	**+0.3**
HORT	**Hortiatis**	**1.74**	**102**	*e*PN		**Pn**		**02 28 56.6**	**-0.2**
HORT	**Hortiatis**	**1.74**	**102**	*e*Pn		**Pn**		**02 28 56.6**	**-0.2**
DRME	**Dracevica, Mon**	**1.75**	**315**	⇓*i*Pn		**Pn**		**02 28 57.6**	**+0.7**
DRME				*e*Sn		**Sg**		**02 29 23.9**	**+1.3**
DRME	**Dracevica, Mon**	**1.75**	**315**	⇓*i*Pn		**Pn**		**02 28 57.6**	**+0.7**
DRME				*e*Sn		**Sg**		**02 29 23.9**	**+1.3**
PVY	**Plav**	**1.76**	**338**	⇓*i*Pn		**Pn**		**02 28 58.3**	**+1.1**
PVY				*e*Sn		**Sg**		**02 29 24.6**	**+1.7**
PVY	**Plav**	**1.76**	**338**	⇓*i*Pn		**Pn**		**02 28 58.3**	**+1.1**
PVY				*e*Sn		**Sg**		**02 29 24.6**	**+1.7**
DSL	**Palaion Diasel**	**1.84**	**174**	*e*PN		**Pb**		**02 28 59.4**	**-0.7**
DSL	**Palaion Diasel**	**1.84**	**174**	*e*Pn		**Pb**		**02 28 59.4**	**-0.7**
SOH	**Sokhos**	**1.89**	**94**	*e*PN		**Pn**		**02 28 59.4**	**+0.5**
SOH	**Sokhos**	**1.89**	**94**	*e*Pn		**Pn**		**02 28 59.4**	**+0.5**
PDG	**Podgorica**	**1.89**	**321**	*e*Pn		**Pn**		**02 29 00.1**	**+1.2**
PDG				*e*Sg		**Sg**		**02 29 29.3**	**+2.1**
PDG	**Podgorica**	**1.89**	**321**	*e*Pn		**Pn**		**02 29 00.1**	**+1.2**
PDG				*e*Sn		**Sg**		**02 29 26.6**	**-0.6**
PDG				*e*Sg		**Sg**		**02 29 29.3**	**+2.1**
TTG	**Podgorica**	**1.89**	**321**	*e*Pn		**Pb**		**02 29 00.6**	**-0.5**
TTG				*e*Sn		**Sg**		**02 29 26.6**	**-0.6**
BARS	**Barje**	**1.98**	**21**	*e*Pn		**Pn**		**02 29 00.6**	**+0.5**
BARS				*e*Sn		**Sn**		**02 29 24.8**	**-0.3**
BARS	**Barje**	**1.98**	**21**	*e*Pn		**Pn**		**02 29 00.6**	**+0.5**
BARS				*e*Sn		**Sn**		**02 29 24.8**	**-0.3**
BUM	**Brajici-Budva**	**1.99**	**313**	⇑*i*Pn		**Pn**		**02 29 01.6**	**+1.4**
BUM				*e*Sn		**Sb**		**02 29 29.3**	**+1.6**
BUM	**Brajici-Budva**	**1.99**	**313**	⇑*i*Pn		**Pn**		**02 29 01.6**	**+1.4**
BUM				*e*Sn		**Sb**		**02 29 29.3**	**+1.6**
BEY	**Berane**	**2.04**	**339**	⇑*i*Pn		**Pn**		**02 29 02.5**	**+1.6**
BEY				*e*Sn		**Sb**		**02 29 30.6**	**+1.5**
IVA	**Berane**	**2.04**	**339**	⇑*i*Pn		**Pn**		**02 29 02.5**	**+1.6**
IVA				*e*Sn		**Sb**		**02 29 30.6**	**+1.5**
SRS	**Serrai**	**2.07**	**85**	*e*PN		**Pn**		**02 29 01.6**	**+0.3**
SRS	**Serrai**	**2.07**	**85**	P		**Pn**		**02 29 00.9**	**-0.4**
SRS	**Serrai**	**2.07**	**85**	*e*Pn		**Pn**		**02 29 01.6**	**+0.3**
SRS	**Serrai**	**2.07**	**85**	P		**Pn**		**02 29 00.9**	**-0.4**
EVR	**Evrytania**	**2.17**	**160**	*e*PN		**Pn**		**02 29 03.5**	**+0.7**
EVR	**Evrytania**	**2.17**	**160**	*e*Pn		**Pn**		**02 29 03.5**	**+0.7**
LKD2	**Lefkada island**	**2.18**	**184**	*e*PN		**Pb**		**02 29 04.8**	**-1.2**
LKD2	**Lefkada island**	**2.18**	**184**	*e*Pn		**Pb**		**02 29 04.8**	**-1.2**
MAKR	**Makrakomi, Fth**	**2.18**	**153**	*e*PN		**Pn**		**02 29 04.0**	**+1.2**
MAKR	**Makrakomi, Fth**	**2.18**	**153**	*e*Pn		**Pn**		**02 29 04.0**	**+1.2**
AGG	**Agios Georgios**	**2.25**	**149**	*e*PN		**Pn**		**02 29 04.4**	**+0.7**
AGG	**Agios Georgios**	**2.25**	**149**	P		**Pn**		**02 29 03.9**	**+0.2**
AGG	**Agios Georgios**	**2.25**	**149**	*e*Pn		**Pn**		**02 29 04.4**	**+0.7**
AGG	**Agios Georgios**	**2.25**	**149**	P		**Pn**		**02 29 03.9**	**+0.2**
MMB	**Musomiste**	**2.25**	**73**	P		**Pb**		**02 29 06.5**	**-0.6**
MMB	**Musomiste**	**2.25**	**73**	P		**Pb**		**02 29 06.5**	**-0.6**
SELS	**Selova**	**2.26**	**5**	*e*Pn		**Pn**		**02 29 03.5**	**-0.4**
NKME	**Niksic**	**2.30**	**322**	⇓*i*Pn		**Pn**		**02 29 06.3**	**+1.8**
NKME				*e*Sn		**Sb**		**02 29 37.0**	**+0.5**
NKME	**Niksic**	**2.30**	**322**	⇓*i*Pn		**Pn**		**02 29 06.3**	**+1.8**
NKME				*e*Sn		**Sb**		**02 29 37.0**	**+0.5**
HCY	**Herceg Novi**	**2.31**	**311**	⇓*i*Pn		**Pn**		**02 29 06.0**	**+1.4**
HCY				*e*Sn		**Sb**		**02 29 37.5**	**+0.7**
HCY	**Herceg Novi**	**2.31**	**311**	⇓*i*Pn		**Pn**		**02 29 06.0**	**+1.4**
HCY				*e*Sn		**Sb**		**02 29 37.5**	**+0.7**
NKY	**Niksic**	**2.31**	**323**	⇑*i*Pn		**Pn**		**02 29 06.3**	**+1.6**
NKY				*e*Sn		**Sb**		**02 29 37.1**	**0.0**
NKY	**Niksic**	**2.31**	**323**	⇑*i*Pn		**Pn**		**02 29 06.3**	**+1.6**
NKY				*e*Sn		**Sb**		**02 29 37.1**	**0.0**
PAIG	**Paliouri**	**2.39**	**115**	*e*PB		**Pn**		**02 29 05.4**	**-0.2**
PAIG	**Paliouri**	**2.39**	**115**	*e*Pb		**Pn**		**02 29 05.4**	**-0.2**
SJES	**Sjenica**	**2.39**	**344**	*e*Pn		**Pn**		**02 29 07.0**	**+1.2**
SJES				*e*Sg		**Sg**		**02 29 43.2**	**+0.2**
SJES	**Sjenica**	**2.39**	**344**	*e*Pn		**Pn**		**02 29 07.0**	**+1.2**
SJES				*e*Sg		**Sg**		**02 29 43.2**	**+0.2**
VTS	**Vitosha**	**2.39**	**46**	*e*Pn		**Pn**		**02 29 06.8**	**+1.0**
VTS				*e*Sn		**Sn**		**02 29 35.9**	**+0.5**
VTS	**Vitosha**	**2.39**	**46**	⇑*i*P		**Pn**		**02 29 07.0**	**+1.2**
VTS	**Vitosha**	**2.39**	**46**	S		**Sg**		**02 29 48.0**	**+4.9**
VTS	**Vitosha**	**2.39**	**46**	P		**Pn**		**02 29 07.2**	**+1.4**
VTS				Pg		**Pg**		**02 29 11.5**	**-0.6**
VTS	**Vitosha**	**2.39**	**46**	*e*Pn		**Pn**		**02 29 06.8**	**+1.0**
VTS	**Vitosha**	**2.39**	**46**	P		**Pn**		**02 29 07.2**	**+1.4**
VTS	**Vitosha**	**2.39**	**46**	Pg		**Pg**		**02 29 11.5**	**-0.6**
VTS				*e*Sn		**Sn**		**02 29 35.9**	**+0.5**
XOR	**Xorichti**	**2.40**	**131**	*e*PN		**Pn**		**02 29 06.6**	**+0.8**
XOR	**Xorichti**	**2.40**	**131**	*e*Pn		**Pn**		**02 29 06.6**	**+0.8**
NEO	**Neokhori**	**2.45**	**132**	*e*PN		**Pn**		**02 29 07.2**	**+0.6**
NEO	**Neokhori**	**2.45**	**132**	*e*Pn		**Pn**		**02 29 07.2**	**+0.6**
OUR	**Ouranopolis**	**2.46**	**104**	*e*PN		**Pn**		**02 29 07.0**	**+0.4**
OUR	**Ouranopolis**	**2.46**	**104**	*e*Pn		**Pn**		**02 29 07.0**	**+0.4**
AXAR	**Agios Charalam**	**2.60**	**147**	*e*PN		**Pn**		**02 29 08.4**	**-0.1**
AXAR	**Agios Charalam**	**2.60**	**147**	*e*Pn		**Pn**		**02 29 08.4**	**-0.1**
BRY	**Bratogost**	**2.60**	**319**	⇑*i*Pn		**Pn**		**02 29 10.1**	**+1.4**
BRY				*e*Sn		**Sb**		**02 29 44.1**	**-1.1**
BRY	**Bratogost**	**2.60**	**319**	⇑*i*Pn		**Pn**		**02 29 10.1**	**+1.4**
BRY				*e*Sn		**Sb**		**02 29 44.1**	**-1.1**
PLE	**Pljevlja**	**2.60**	**336**	⇓*i*Pn		**Pn**		**02 29 09.8**	**+1.1**
PLE				*e*Sn		**Sb**		**02 29 43.9**	**-1.5**
PLE	**Pljevlja**	**2.60**	**336**	⇓*i*Pn		**Pn**		**02 29 09.8**	**+1.1**
PLE				*e*Sn		**Sb**		**02 29 43.9**	**-1.5**
ZAPS	**Zavoj**	**2.66**	**29**	*e*Pn		**Pn**		**02 29 09.8**	**+0.4**
EFP	**Efpalio**	**2.66**	**162**	*e*PN		**Pn**		**02 29 10.3**	**+0.9**
EFP	**Efpalio**	**2.66**	**162**	*e*Pn		**Pn**		**02 29 10.3**	**+0.9**
IVAS	**Ivanjica**	**2.66**	**349**	*e*Pn		**Pn**		**02 29 09.7**	**+0.2**
IVAS	**Ivanjica**	**2.66**	**349**	*e*Pn		**Pn**		**02 29 09.7**	**+0.2**
KALE	**Kalithea**	**2.75**	**159**	*e*PN		**Pn**		**02 29 11.8**	**+1.0**
KALE	**Kalithea**	**2.75**	**159**	*e*Pn		**Pn**		**02 29 11.8**	**+1.0**
TRIZ	**Trizonia**	**2.76**	**160**	*e*PN		**Pn**		**02 29 11.1**	**+0.3**
TRIZ	**Trizonia**	**2.76**	**160**	*e*Pn		**Pn**		**02 29 11.1**	**+0.3**
VLS	**Valsamata**	**2.79**	**184**	*e*PN		**Pn**		**02 29 12.8**	**+1.5**
VLS	**Valsamata**	**2.79**	**184**	*e*Pn		**Pn**		**02 29 12.8**	**+1.5**
LAKA	**Lakka**	**2.86**	**162**	*e*PB		**Pn**		**02 29 14.0**	**+1.9**
LAKA	**Lakka**	**2.86**	**162**	*e*Pb		**Pn**		**02 29 14.0**	**+1.9**
DESF	**Desfina**	**2.86**	**153**	*e*PN		**Pn**		**02 29 12.1**	**-0.1**
DESF	**Desfina**	**2.86**	**153**	*e*Pn		**Pn**		**02 29 12.1**	**-0.1**
GRUS	**Gruza**	**2.92**	**358**	*e*Pn		**Pn**		**02 29 13.4**	**+0.4**
GRUS	**Gruza**	**2.92**	**358**	*e*Pn		**Pn**		**02 29 13.4**	**+0.4**
PGB	**Panagyurishte**	**2.93**	**56**	*e*P		**Pn**		**02 29 14.3**	**+1.1**
PGB	**Panagyurishte**	**2.93**	**56**	*e*P		**Pn**		**02 29 14.3**	**+1.1**
BOLS	**Boljevac**	**2.97**	**15**	*e*Pn		**Pn**		**02 29 12.9**	**-0.8**
BOLS	**Boljevac**	**2.97**	**15**	*e*Pn		**Pn**		**02 29 12.9**	**-0.8**
DRO	**Drossia**	**3.08**	**167**	*e*PB		**Pn**		**02 29 17.4**	**+2.2**
DRO	**Drossia**	**3.08**	**167**	*e*Pb		**Pn**		**02 29 17.4**	**+2.2**
MRKA	**Markates**	**3.08**	**136**	*e*PN		**Pn**		**02 29 15.9**	**+0.7**
MRKA	**Markates**	**3.08**	**136**	*e*Pn		**Pn**		**02 29 15.9**	**+0.7**
KLV	**Kalavryta, Ach**	**3.08**	**161**	*e*PN		**Pn**		**02 29 15.9**	**+0.6**
KLV	**Kalavryta, Ach**	**3.08**	**161**	*e*Pn		**Pn**		**02 29 15.9**	**+0.6**
BBLS	**Lazići**	**3.09**	**340**	*e*Pn		**Pn**		**02 29 16.6**	**+1.2**
BBLS	**Lazići**	**3.09**	**340**	*e*Pn		**Pn**		**02 29 16.6**	**+1.2**
DIVS	**Divibare**	**3.19**	**349**	*e*Pn		**Pn**		**02 29 17.4**	**+0.6**
DIVS	**Divibare**	**3.19**	**349**	⇓*i*P		**Pn**		**02 29 17.1**	**+0.3**
DIVS	**Divibare**	**3.19**	**349**	S		Sg		02 30 17.5	+8.6
DIVS	**Divibare**	**3.19**	**349**	⇓*i*P		**Pn**		**02 29 17.1**	**+0.3**
DIVS	**Divibare**	**3.19**	**349**	*e*Pn		**Pn**		**02 29 17.4**	**+0.6**
MPEP	**Malo Peshtene**	**3.21**	**41**	P		**Pn**		**02 29 18.0**	**+1.1**
TEKS	**Tekeris**	**3.71**	**345**	*e*Pn		**Pn**		**02 29 23.4**	**-0.5**
TEKS	**Tekeris**	**3.71**	**345**	*e*Pn		**Pn**		**02 29 23.4**	**-0.5**
BZS	**Buzias**	**4.68**	**6**	⇓*i*P		**Pn**		**02 29 37.0**	**-0.2**
BZS	**Buzias**	**4.68**	**6**	S		**Sg**		**02 30 53.2**	**-3.3**
BZS	**Buzias**	**4.68**	**6**	⇓*i*P		**Pn**		**02 29 37.0**	**-0.2**
UDBI	**Udbina**	**5.17**	**315**	*i* Pn		**Pn**		**02 29 45.5**	**+1.5**
UDBI						**Sn**		**02 30 43.4**	**-0.4**
UDBI	**Udbina**	**5.17**	**315**	*i* Pn		**Pn**		**02 29 45.4**	**+1.5**
UDBI						**Sn**		**02 30 43.4**	**-0.4**
PKSM	**Moragy**	**5.49**	**344**	⇓*i*P		**Pn**		**02 29 47.2**	**-1.0**
PKSM	**Moragy**	**5.49**	**344**	⇓*i*P		**Pn**		**02 29 47.2**	**-1.0**
NVLJ	**Novalja**	**5.69**	**311**	*e*Pn		**Pn**		**02 29 51.4**	**+0.3**
NVLJ				Sn		**Sn**		**02 30 55.3**	**-1.1**
NVLJ	**Novalja**	**5.69**	**311**	*e*Pn		**Pn**		**02 29 51.3**	**+0.3**
MLR	**Muntele Rosu**	**5.85**	**38**	⇑*i*P		Pn		02 29 47.7	-5.6

*IDC **26** 02:28:26.6±2.8, 15˚.96S×173˚.90W, h92km±25km, mb3.7/8, mb1 3.9/9, mb1mx3.7/22, mbtmp4.1/9, Error ellipse: s-maj=36.9km s-min=16.7km az=139.0*
*ISCJB **26** 02:28:27.3±0.7, 15˚.8S±0˚.2×173˚.9W±0˚.2, h115km, mb3.8/8, Error ellipse: s-maj=32.2km s-min=10.8km az=139.1*

ISC 26 02:28:28.8±0.9, 15˚.9S±0˚.2×173˚.8W±0˚.2, h115km, n14, σ1°41/12, mb3.9/8, Tonga Islands

| Code | Station Name | Δ° | AZ° | Phase | ID | Op |

KDU	**Kakadu**	**18.50**	**148**	P		**P**	**02 37 09.1**	**0.0**	
	baz=18,SNR=8.7								
JAY	**Jayapura**	**18.88**	**107**	P		**P**	**02 37 13.3**	**+0.6**	
	1.0nm,0.3s,baz=266,slow=15,SNR=4.9								
KNRA	**Kununurra**	**19.64**	**162**	P		**P**	**02 37 20.0**	**+0.5**	
	baz=20,SNR=3.6								
WRA	**Warramunga Arr**	**25.64**	**154**	P		**P**	**02 38 12.6**	**-0.6**	
	5.0nm,0.3s,baz=339,slow=9.3,SNR=64								
WRA				ScP		**ScP**	**02 44 14.0**	**+1.4**	
	0.4nm,0.9s,baz=335,slow=2.8,SNR=7.0								
WRKA	**Warakurna**	**28.54**	**169**	P		**P**	**02 38 38.9**	**+0.4**	
	baz=28,SNR=6.5								
ASAR	**Alice Springs**	**28.81**	**158**	P		**P**	**02 38 41.0**	**+0.2**	
	3.0nm,0.5s,baz=339,slow=7.0,SNR=55								
ASAR				ScP		**ScP**	**02 44 24.1**	**+1.8**	
	0.7nm,0.5s,baz=345,slow=3.5,SNR=6.3								
QIS	**Mount Isa**	**28.82**	**146**	P		**P**	**02 38 41.5**	**+0.5**	
	baz=29,SNR=7.9								
MEEK	**Meekatharra**	**29.86**	**187**	P		**P**	**02 38 49.8**	**-0.1**	
	baz=30,SNR=9.0								
KMBL	**Kambalda**	**34.32**	**181**	P		**P**	**02 39 28.3**	**+0.6**	
	baz=34,SNR=7.9								
KSRS	**Korea Array**	**34.49**	**7**	P		**P**	**02 39 29.3**	**+0.3**	
	0.8nm,0.6s,baz=183,slow=9.7,SNR=4.3								
NWAO	**Narrogin (SRO)**	**36.24**	**188**	P		**P**	**02 39 44.5**	**+0.9**	
	baz=36,SNR=5.2								
NWAO				P		**P**	**02 39 44.5**	**+0.9**	
	baz=36,SNR=5.2								
BBOO	**Buckleboo**	**37.94**	**162**	P		**P**	**02 39 58.4**	**+0.9**	
	baz=38,SNR=20								
STKA	**Stephens Creek**	**39.20**	**154**	P		**P**	**02 40 08.9**	**+1.2**	
	4.9nm,0.5s,baz=339,slow=8.0,SNR=14								
HTT	**Hallett**	**39.48**	**158**	P		**P**	**02 40 11.7**	**+1.6**	
	baz=39,SNR=5.8								
ARPS	**Mount Arapiles**	**43.54**	**157**	P		**P**	**02 40 43.3**	**+1.4**	
	baz=43,SNR=11								
SONM	**Songino Array**	**46.69**	**345**	P		**P**	**02 41 04.9**	**-1.1**	
	0.2nm,0.5s,baz=158,slow=4.2,SNR=2.4								
LHI	**Lord Howe Isla**	**48.84**	**138**	P		P	02 41 30.1	+7.8	
	baz=49,SNR=4.5								
MKAR	**Makanchi Array**	**55.80**	**327**	P		**P**	**02 42 12.9**	**+1.0**	
	1.6nm,0.4s,baz=120,slow=8.8,SNR=23								
MKAR				PcP		**PcP**	**02 43 03.4**	**+0.6**	
	0.4nm,0.5s,baz=122,slow=4.3,SNR=4.1								
ZALV	**Zalesovo Beam**	**59.34**	**335**	P		**P**	**02 42 34.6**	**-1.1**	
	0.5nm,0.3s,baz=159,slow=5.7,SNR=2.6								
GEYT	**Alibeck**	**68.12**	**310**	P		**P**	**02 43 32.7**	**+0.6**	
	1.1nm,0.4s,baz=90,slow=4.3,SNR=2.2								
VNDA	**Vanda**	**83.38**	**172**	P		**P**	**02 44 56.0**	**+0.4**	
	0.3nm,0.3s,baz=309,slow=6.5,SNR=5.8								
TORD	**Torodi Ar. Bea**	**119.23**	**287**	PKP		**PKPdf**	**02 51 14.5**	**+0.1**	
	0.5nm,1.1s,baz=66,slow=2.6,SNR=3.1								

IDC 26 02:51:43.8±17.0, 6°.20N×122°.42E, h453km±251km, mb3.1/5, mb1 3.3/5, mb1mx2.9/26, mbtmp4.0/5, Error ellipse: s-maj=123.0km s-min=24.3km az=71.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.51**	**156**	P	P	02 57 00.9	-0.2
	2.4nm,0.3s,baz=332,slow=11,SNR=44						
ASAR	**Alice Springs**	**31.74**	**160**	P	P	02 57 29.9	+0.7
	1.1nm,0.3s,baz=337,slow=7.5,SNR=28						
STKA	**Stephens Creek**	**42.05**	**155**	P	P	02 58 53.2	-1.2
	1.0nm,0.4s,baz=332,slow=9.8,SNR=4.6						
SONM	**Songino Array**	**43.69**	**344**	P	P	02 59 06.9	-0.3
	0.2nm,0.5s,baz=154,slow=7.9,SNR=2.7						
MKAR	**Makanchi Array**	**53.11**	**326**	P	P	03 00 17.6	-0.1
	0.9nm,0.4s,baz=121,slow=8.5,SNR=11						

*ISCJB **26** 02:54:21.7±0.4, 9°.60N±0°.06×93°.21E±0°.07, h100km, mb4.1/28, Error ellipse: s-maj=11.5km s-min=5.5km az=140.1*
*NEIC **26** 02:54:24.3±1.1, 9°.63N×93°.27E, h109km±10km, mb4.5/6, Error ellipse: s-maj=13.6km s-min=5.5km az=68.0*
*IDC **26** 02:54:24.4±2.9, 9°.67N×93°.31E, h110km±26km, mb3.8/24, mb1 3.9/26, mb1mx3.8/36, mbtmp4.1/26, MS3.4/2, Ms1 3.5/2, ms1mx2.7/39, Error ellipse: s-maj=23.8km s-min=10.3km az=59.0*

ISC 26 02:54:23.7±0.5, 9°.66N±0°.08×93°.25E±0°.10, h100km, n48, σ0°.95/46, mb4.2/28, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.53**	**120**	*e*Pn	**Pn**	**02 56 24.7**	**+0.1**
KULM				*e*S	**Sn**	**02 57 57.8**	**-1.4**
PSI	**Prapat**	**8.85**	**140**	P	**Pn**	**02 56 29.4**	**+0.4**
	2.2nm,0.3s,baz=322,slow=8.9,SNR=6.1						
PSI				S	**Sn**	**02 58 10.5**	**+3.4**
	1.2nm,0.3s,baz=245,slow=19,SNR=3.6						
CM31	**Chiang Mai Arr**	**10.34**	**32**	*e*Pn	**Pn**	**02 56 50.2**	**+1.0**
	6.8nm,0.5s						
CMAR	**Chiang Mai Arr**	**10.34**	**32**	P	**Pn**	**02 56 50.2**	**+1.1**
	1.2nm,0.3s,baz=222,slow=15,SNR=39						
CHTO	**Chiang Mai**	**10.64**	**31**	*e*Pn	**Pn**	**02 56 54.6**	**+1.4**
	8.6nm,0.8s						
PALK	**Pallekele**	**12.63**	**260**	LR	LR	03 01 31.0	
	comp=Z,81nm,18.9s,baz=110,slow=34						
TAPN	**Taplejung**	**18.35**	**344**	*e*P	**P**	**02 58 31.3**	**+0.4**
	27nm,0.4s						
PKI	**Pulchoki**	**19.29**	**339**	*e*P	**P**	**02 58 41.6**	**+0.5**
PKIN	**Phulchoki**	**19.30**	**338**	*e*P	**P**	**02 58 41.6**	**+0.5**
	12nm,0.3s						
GUN	**Gumba**	**19.43**	**340**	*e*P	**P**	**02 58 42.7**	**0.0**
	37nm,0.5s						
KKN	**Kakani**	**19.53**	**338**	*e*P	**P**	**02 58 43.8**	**+0.2**
GKN	**Gorkha**	**19.96**	**337**	*e*P	**P**	**02 58 48.1**	**-0.2**
KOLN	**Koldanda**	**20.18**	**335**	*e*P	**P**	**02 58 50.5**	**-0.1**
H08S3	**Diego Garcia H**	**26.88**	**231**	T	T	03 27 17.1	
	baz=49,slow=76,SNR=55						
H08S2	**Diego Garcia H**	**26.89**	**231**	T	T	03 27 24.0	
	baz=49,slow=76,SNR=61						
H08S1	**Diego Garcia H**	**26.90**	**231**	T	T	03 27 20.2	
	baz=49,slow=76,SNR=45						
EKS2	**Erkin-Say**	**37.03**	**336**	*e*P	**P**	**03 01 25.0**	**+1.0**
	3.4nm,0.7s						
MK31	**Makanchi Array**	**38.16**	**348**	*e*P	**P**	**03 01 32.6**	**-0.8**
MKAR	**Makanchi Array**	**38.16**	**348**	P	**P**	**03 01 32.6**	**-0.8**
	1.4nm,0.5s,baz=173,slow=8.1,SNR=20						
KKAR	**Karatay Array**	**38.78**	**333**	*e*P	**P**	**03 01 39.4**	**+0.9**
	1.1nm,0.3s						
SONM	**Songino Array**	**39.63**	**14**	P	**P**	**03 01 45.4**	**-0.4**
	1.2nm,0.3s,baz=202,slow=7.5,SNR=15						
GEYT	**Alibeck**	**42.29**	**317**	P	**P**	**03 02 09.1**	**+1.5**
	8.1nm,0.4s,baz=141,slow=7.3,SNR=15						
KURBB	**Kurchatov Arra**	**42.61**	**346**	P	**P**	**03 02 09.3**	**-0.6**
	1.2nm,0.3s,baz=171,slow=6.9,SNR=11						
KURK	**Kurchatov**	**42.67**	**346**	P	**P**	**03 02 09.3**	**-1.1**
ZALV	**Zalesovo Beam**	**44.68**	**353**	P	**P**	**03 02 25.4**	**-1.0**
	1.4nm,0.3s,baz=159,slow=8.9,SNR=5.7						
BVAR	**Borovoye Array**	**47.02**	**341**	P	**P**	**03 02 44.5**	**-0.4**
	1.0nm,0.4s,baz=134,slow=8.2,SNR=5.4						
NWAO	**Narrogin (SRO)**	**48.13**	**153**	P	**P**	**03 02 52.7**	**-1.1**
	14nm,1.0s,baz=328,slow=3.6,SNR=3.2						
ABKAR	**Akbulak array**	**48.25**	**331**	*e*P	**P**	**03 02 54.8**	**+0.4**
	1.9nm,0.3s						
AKTO	**Aktyubinsk**	**49.96**	**331**	P	**P**	**03 03 07.2**	**-0.3**
	1.0nm,0.4s,baz=104,slow=7.2						
WRA	**Warramunga Arr**	**50.02**	**126**	P	**P**	**03 03 07.8**	**-0.6**
	4.8nm,0.7s,baz=305,slow=8.6,SNR=33						
WRAB	**Tennant Creek**	**50.02**	**126**	*e*P	**P**	**03 03 08.1**	**-0.4**
	5.2nm,0.5s						
ASAR	**Alice Springs**	**51.74**	**130**	P	**P**	**03 03 20.4**	**-0.9**
	1.1nm,0.4s,baz=306,slow=7.1,SNR=12						
KBZ	**Khabaz**	**55.18**	**317**	P	**P**	**03 03 46.9**	**+0.8**
	1.9nm,0.8s,baz=126,slow=6.3,SNR=3.5						
BRTR	**Keskin Array B**	**60.60**	**310**	P	**P**	**03 04 23.0**	**-1.3**
	1.4nm,0.7s,baz=134,slow=7.7,SNR=10						
BRTR	**Keskin Array B**	**60.60**	**310**	P	**P**	**03 04 23.0**	**-1.3**
STKA	**Stephens Creek**	**61.98**	**134**	P	**P**	**03 04 32.7**	**-0.7**
	1.2nm,0.3s,baz=299,slow=4.9,SNR=6.1						
AKASG	**Malin Array Be**	**66.21**	**321**	P	**P**	**03 04 59.5**	**-1.4**
	0.2nm,0.4s,baz=88,slow=5.5,SNR=4.4						
FINES	**FINESS Array B**	**70.72**	**332**	P	**P**	**03 05 28.0**	**-0.7**
	0.9nm,0.5s,baz=116,slow=8.7,SNR=9.0						
ARCES	**ARCESS Array B**	**73.29**	**340**	P	**P**	**03 05 44.0**	**0.0**
	1.4nm,0.8s,baz=86,slow=6.3,SNR=8.5						
BOSA	**Boshof**	**75.79**	**237**	P	**P**	**03 05 59.7**	**+0.4**
	1.3nm,0.8s,baz=202,slow=11,SNR=2.7						
GERES	**GERESS Array B**	**75.91**	**318**	P	**P**	**03 05 59.8**	**+0.1**
	1.0nm,0.6s,baz=96,slow=4.2,SNR=10						
HFS	**Hagfors**	**76.47**	**330**	P	**P**	**03 06 02.3**	**-0.2**
	0.7nm,0.3s,baz=108,slow=4.7,SNR=8.5						
NOA	**NORSAR Array B**	**77.75**	**330**	P	**P**	**03 06 09.5**	**-0.2**
	0.2nm,0.5s,baz=93,slow=7.3,SNR=2.6						
SPITS	**Spitsbergen Ar**	**77.92**	**348**	P	**P**	**03 06 10.3**	**0.0**
	6.3nm,0.9s,baz=102,slow=10,SNR=4.0						
TORD	**Torodi Ar. Bea**	**89.33**	**283**	P	**P**	**03 07 10.4**	**+0.7**
	0.2nm,0.8s,baz=89,slow=5.0,SNR=3.2						
ILAR	**Eielson Array**	**93.43**	**22**	P	**P**	**03 07 26.9**	**-0.8**
	0.2nm,0.6s,baz=284,slow=4.7,SNR=2.7						
ILAR				LR	LR	03 54 42.1	
	comp=Z,39nm,18.9s,baz=218,slow=39						
INK	**Inuvik**	**95.53**	**16**	P	**P**	**03 07 37.0**	**-0.1**
	0.4nm,0.3s,baz=296,slow=2.3,SNR=4.5						
TXAR	**Lajitas Array**	**137.94**	**22**	PKP	**PKPdf**	**03 13 38.9**	**+1.3**
	0.1nm,0.5s,baz=321,slow=1.2,SNR=5.4						

IDC 26 02:57:02.2±1.6, 0°.09N×133°.04E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.5/23, mbtmp3.6/5, ML3.5/2, MS3.2/2, Ms1 3.2/2, ms1mx2.5/36, Error ellipse: s-maj=32.7km s-min=24.4km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.01**	**242**	Pn	Pn	02 57 38.0	+0.6
	15nm,0.3s,baz=256,slow=22,SNR=30						
SIJI				Sn	Sn	02 58 03.4	+0.1
	26nm,0.3s,baz=142,slow=21,SNR=30						
WRA	**Warramunga Arr**	**19.95**	**176**	P	P	03 01 35.6	-0.4
	0.2nm,0.3s,baz=355,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**23.63**	**178**	P	P	03 02 15.4	+0.2
	0.9nm,0.5s,baz=355,slow=11,SNR=8.4						
HNR	**Honiara**	**28.41**	**110**	LR	LR	03 13 51.5	
	comp=Z,42nm,19.4s,baz=158,slow=36						
STKA	**Stephens Creek**	**32.81**	**166**	P	P	03 03 37.4	-0.1
	1.7nm,0.8s,baz=333,slow=11,SNR=3.3						
MKAR	**Makanchi Array**	**64.16**	**324**	P	P	03 07 38.6	-0.1
	0.3nm,0.7s,baz=134,slow=6.2,SNR=2.8						
ARU	**Arti**	**81.38**	**327**	LR	LR	03 49 03.4	
	comp=Z,16nm,18.7s,baz=116,slow=38						

*GUC **26** 03:09:28.0±0.3, 36°.33S×73°.91W, h16km±4km, ML4.0*
*SJA **26** 03:09:37.2±1.0, 36°.04S×73°.17W, h33km, ML3.1*

ISC 26 03:09:30.3±2.5, 36°.22S±0°.05×73°.7W±0°.1, h11km±12km, n19, σ2s15/25, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.75**	**84**	*i* P	**Pb**	**03 09 45.7**	**+0.4**
COCH				*i* S	**Sn**	**03 09 59.2**	**+1.1**
CCSP	**San Pedro de C**	**0.79**	**143**	*i* P	**Pg**	**03 09 44.1**	**-1.5**
CCSP				*i* S	**Sb**	**03 09 56.2**	**-0.6**
CCSP				AML	AML	03 09 58.3	
	comp=E,14μm,0.4s						
LNCH	**Linares**	**1.75**	**78**	*i* P	**Pb**	**03 10 02.0**	**-0.3**
LNCH				*i* S	**Sg**	**03 10 28.0**	**+1.5**
TALC	**Talca**	**1.87**	**65**	*i* P	**Pb**	**03 10 04.2**	**-0.3**
TALC				*i* S	**Sg**	**03 10 31.6**	**+1.1**
U65B	**HualaæØ**	**2.00**	**52**	*i* P	**Pb**	**03 10 06.1**	**-0.5**
U65B				*i* S	**Sg**	**03 10 35.1**	**+0.5**
U65B				AML	AML	03 10 46.0	
	comp=E,1μm,0.6s						
CANA	**Caviahue**	**2.69**	**129**	*e*P	**Pb**	**03 10 18.0**	**-0.7**
CLCH	**Cerro Calan**	**3.84**	**44**	*i* P	**Pn**	**03 10 32.2**	**+2.9**
CLCH				*i* S	**Sb**	**03 11 21.5**	**-3.0**
AAGR	**Agrelo**	**5.09**	**54**	*e*P	Pn	03 10 49.9	+3.3
ARCO	**CERRO ARCO**	**5.18**	**51**	*e*P	**Pn**	**03 10 50.8**	**+2.9**
ARCO				*i* S	**Sn**	**03 11 43.5**	**-4.3**
ARCO				AML	AML	03 11 44.3	
	comp=Z,16nm,0.6s						
AUSP	**Uspallata**	**5.35**	**43**	*i* P	**Pn**	**03 10 53.3**	**+2.9**
ASAL	**Salagasta**	**5.41**	**49**	*i* P	**Pn**	**03 10 53.3**	**+2.3**
RTLS	**Leoncito**	**5.73**	**41**	*i* P	**Pn**	**03 10 58.6**	**+3.1**
RTCV	**Cerro Valdivia**	**6.10**	**46**	*e*P	**Pn**	**03 11 02.7**	**+2.2**
CFAA	**Coronel Fontan**	**6.47**	**46**	*e*P	**Pn**	**03 11 06.8**	**+1.4**
RTLL	**Cerro Villicun**	**6.54**	**43**	*e*P	**Pn**	**03 11 08.1**	**+1.7**
ACAN	**Cantantal**	**6.68**	**56**	*e*P	**Pn**	**03 11 10.3**	**+2.0**
AMOG	**MOGNA**	**6.83**	**41**	*e*P	**Pn**	**03 11 12.0**	**+1.5**
AVFE	**Valle Fertil**	**7.61**	**45**	*e*P	**Pn**	**03 11 22.3**	**+1.1**
VCA	**Vinchina**	**8.79**	**33**	*e*P	**Pn**	**03 11 39.3**	**+1.9**

*IDC **26** 03:27:38.8±0.6, 52°.65N×169°.67W, h0km, mb4.0/17, mb1 4.1/19, mb1mx3.9/62, mbtmp3.9/19, ML3.4/2, MS3.0/1, Ms1 3.2/1, ms1mx2.4/49, Error ellipse: s-maj=20.9km s-min=13.3km az=1.0*
*ISCJB **26** 03:27:42.3±0.8, 52°.68N±0°.07×169°.45W±0°.05, h33km±5km, mb3.9/24, Error ellipse: s-maj=12.5km s-min=3.6km az=159.2*
*NEIC **26** 03:27:42.4, 52°.64N×169°.30W, h19km, mb3.9/7, ML3.9(AEIC), After AEIC.*

ISC 26 03:27:42.2±0.7, 52°.6N±0°.1×169°.39W±0°.05, h21km±4km, n72, σ1s31/77, mb4.0/24, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.48**	**42**	P	**Pb**	**03 27 51.3**	**-0.6**
NIKH				S	**Sb**	**03 27 58.9**	**+0.3**
OKSO	**Okmok South**	**1.05**	**44**	P	**Pn**	**03 28 00.1**	**-1.7**
OKSO				S	**Sb**	**03 28 14.1**	**-0.8**
OKWR	**Okmok West Rim**	**1.09**	**40**	P	**Pn**	**03 28 02.0**	**-0.3**
OKCE	**Okmok Cone E**	**1.10**	**42**	P	**Pn**	**03 28 01.2**	**-1.2**
OKTU	**Okmok Mt. Tuli**	**1.12**	**46**	P	**Pn**	**03 28 01.9**	**-0.8**
OKFG	**Magazine Ridge**	**1.20**	**48**	P	**Pn**	**03 28 02.5**	**-1.2**
OKFG				S	**Sb**	**03 28 18.2**	**-0.9**
MSOM	**Makushin Julie**	**1.90**	**50**	P	**Pn**	**03 28 12.9**	**-0.4**
MCIR	**Makushin Cirqu**	**2.01**	**47**	P	**Pn**	**03 28 15.4**	**+0.5**
MSW	**Makushin Switc**	**2.03**	**49**	P	**Pn**	**03 28 15.0**	**-0.3**
MSW				S	**Sn**	**03 28 40.9**	**+0.8**
MTBL	**Makushin Table**	**2.12**	**49**	P	**Pn**	**03 28 16.2**	**-0.2**
UNV	**Unalaska Valle**	**2.13**	**53**	*e*Pn	**Pn**	**03 28 15.6**	**-0.9**
UNV				*e*Pg	**Pb**	**03 28 20.3**	**+0.3**
UNV				*e*S	**Sn**	**03 28 38.7**	**-3.6**
AKRB	**Akutan Reef Bi**	**2.50**	**51**	P	**Pn**	**03 28 22.3**	**+0.7**
ZRO	**Akutan Zero**	**2.52**	**53**	P	**Pn**	**03 28 22.7**	**+0.8**
AKGG	**Akutan Green G**	**2.58**	**51**	P	**Pn**	**03 28 23.2**	**+0.5**
AKUT	**Akutan**	**2.65**	**53**	*e*Pn	**Pn**	**03 28 24.4**	**+0.8**
AKUT				*e*S	**Sb**	**03 28 60.0**	**-0.8**
ATKA	**Atka Island**	**2.98**	**264**	P	**Pn**	**03 28 28.0**	**-0.2**
ATKA				S	**Sn**	**03 29 02.2**	**-1.0**
SSBA	**Shishaldin**	**3.80**	**53**	P	**Pn**	**03 28 40.0**	**+0.5**
GSTR	**Great Sitkin T**	**4.12**	**265**	*e*Pn	**Pn**	**03 28 44.9**	**+0.9**
GSTR				*e*S	**Sn**	**03 29 33.3**	**+1.7**
FALS	**False Pass**	**4.20**	**55**	*e*Pn	**Pn**	**03 28 45.8**	**+0.9**
FALS				*e*S	Sn	03 29 39.5	+6.3
GSCK	**Great Sitkin C**	**4.20**	**264**	P	**Pn**	**03 28 45.5**	**+0.4**
ADAG	**Mount Adagdak**	**4.47**	**265**	P	**Pn**	**03 28 50.1**	**+1.4**
SPIA	**Saint Paul Isl**	**4.60**	**354**	P	**Pn**	**03 28 52.1**	**+1.7**
SDPT	**Sand Point**	**5.93**	**59**	*e*Pn	**Pn**	**03 29 08.0**	**-0.6**
SDPT				*e*S	**Sn**	**03 30 15.6**	**-0.3**
AMKA	**Amchitka**	**7.10**	**264**	*e*Pn	**Pn**	**03 29 26.5**	**+1.8**
AMKA				*e*S	**Sn**	**03 30 40.3**	**-4.4**
CHGN	**Chignik**	**7.38**	**56**	*e*Pn	**Pn**	**03 29 30.1**	**+1.4**
CHGN				*e*S	**Sn**	**03 30 55.7**	**+4.1**
OHAK	**Old Harbor**	**10.34**	**57**	*e*Pn	**Pn**	**03 30 08.3**	**-0.9**
KDAK	**Kodiak Island**	**10.90**	**55**	Pn	**Pn**	**03 30 17.8**	**+1.1**
	0.5nm,0.3s,baz=236,slow=7.3,SNR=3.8						
KDAK				Sn	**Sn**	**03 32 20.0**	**+2.2**
	0.1nm,0.3s,baz=180,slow=20,SNR=2.2						
BPAW	**Bear Paw Mtn.**	**14.95**	**33**	*e*Pn	**Pn**	**03 31 12.7**	**+0.7**
	1.3nm,0.8s						
ILAR	**Eielson Array**	**16.75**	**35**	Pn	**Pn**	**03 31 34.9**	**-0.4**
	0.1nm,0.3s,baz=231,slow=10,SNR=7.4						
ILAR				LR	LR	03 38 11.4	
	comp=Z,61nm,21.3s,baz=234,slow=38						
EGAK	**Eagle**	**18.85**	**39**	*e*Pn	**Pn**	**03 32 01.4**	**+0.2**
	3.0nm,0.8s						
HYT	**Haines Junctio**	**19.16**	**52**	*e*P	**Pn**	**03 32 05.4**	**+0.4**
	9.9nm,0.7s						
PETK	**Petropavlovsk-**	**19.79**	**285**	P	**P**	**03 32 10.1**	**-0.7**
	0.2nm,0.3s,baz=92,slow=12,SNR=3.3						
H02S1	**DAWSON INLET T**	**22.11**	**74**	T	T	03 55 30.1	
	SNR=27						
SEY	**Seymchan**	**22.50**	**312**	P	**P**	**03 32 40.4**	**+0.4**
	0.7nm,0.4s,baz=90,slow=14,SNR=3.3						
DLBC	**Dease Lake**	**22.77**	**60**	P	**P**	**03 32 47.0**	**+4.1**
	2.6nm,1.0s,baz=293,slow=14,SNR=3.8						
INK	**Inuvik**	**23.15**	**34**	P	**P**	**03 32 47.2**	**+0.5**
	1.3nm,0.6s,baz=248,slow=5.1,SNR=6.3						
INK	**Inuvik**	**23.15**	**34**	*e*P	**P**	**03 32 46.8**	**+0.1**
YKA	**Yellowknife Ar**	**30.09**	**49**	P	**P**	**03 33 50.9**	**+1.2**
	0.6nm,0.7s,baz=271,slow=7.9,SNR=5.1						
NEW	**Newport**	**32.96**	**76**	P	**P**	**03 34 16.4**	**+1.2**
	1.5nm,0.7s,baz=288,slow=9.8,SNR=2.0						
MCMT	**McKenzie Canyo**	**37.24**	**79**	*e*P	**P**	**03 34 52.9**	**+0.6**
	1.2nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**37.64**	**218**	T	T	04 14 50.9	
	baz=24,slow=76,SNR=73						
H11N3	**WAKE ISLAND Hy**	**37.65**	**218**	T	T	04 14 54.8	
	baz=24,slow=76,SNR=115						
H11N1	**WAKE ISLAND Hy**	**37.66**	**218**	T	T	04 14 55.7	
	baz=24,slow=76,SNR=89						
NVAR	**Mina Array Bea**	**37.68**	**91**	P	**P**	**03 34 56.5**	**+0.4**
	0.8nm,0.7s,baz=289,slow=8.5,SNR=3.4						
NVAR				PcP	**PcP**	**03 37 14.0**	**+0.9**
	0.9nm,0.7s,baz=333,slow=0.2,SNR=4.1						
ELK	**Elko**	**38.12**	**86**	P	**P**	**03 35 01.1**	**+1.2**
	1.0nm,0.6s,baz=274,slow=10,SNR=6.9						
H11S1	**WAKE ISLAND Hy**	**38.83**	**218**	T	T	04 16 23.6	
	baz=23,slow=76,SNR=3044						
H11S2	**WAKE ISLAND Hy**	**38.84**	**218**	T	T	04 16 24.7	
	baz=23,slow=76,SNR=2215						
H11S3	**WAKE ISLAND Hy**	**38.85**	**218**	T	T	04 16 24.9	
	baz=23,slow=76,SNR=1080						
R11A	**Troy Canyon, C**	**39.39**	**89**	*e*P	**P**	**03 35 11.4**	**+1.0**
	2.7nm,1.0s						
DUG	**Dugway**	**39.93**	**85**	*e*P	**P**	**03 35 14.5**	**-0.4**
	4.2nm,1.2s						
BW06	**Boulder Array**	**40.37**	**79**	*e*P	**P**	**03 35 19.4**	**+0.8**
	1.8nm,0.7s						
PDAR	**Pinedale Array**	**40.37**	**79**	P	**P**	**03 35 19.6**	**+1.0**
	1.7nm,0.8s,baz=324,slow=4.9,SNR=11						
O20A	**White River Ci**	**42.73**	**82**	*e*P	**P**	**03 35 38.0**	**0.0**
	4.7nm,0.8s						
SONM	**Songino Array**	**51.16**	**301**	PcP	**PcP**	**03 37 58.3**	**-0.5**
	2.6nm,0.7s,baz=61,slow=2.3,SNR=16						
TXAR	**Lajitas Array**	**52.75**	**89**	P	**P**	**03 36 56.4**	**+0.7**
	2.7nm,0.7s,baz=297,slow=5.6,SNR=50						
TXAR				PcP	**PcP**	**03 38 05.5**	**+0.5**
	0.5nm,0.7s,baz=288,slow=0.9,SNR=2.5						
H06N1	**SOCORRO T-PHAS**	**56.13**	**104**	T	T	04 38 04.6	
	SNR=6.5						
H06E1	**SOCORRO T-PHAS**	**56.23**	**104**	T	T	04 38 12.3	
	SNR=8.1						
ARCES	**ARCESS Array B**	**57.67**	**354**	PcP	**PcP**	**03 38 22.5**	**-0.8**
	1.0nm,0.7s,baz=12,slow=4.7,SNR=4.8						
KURK	**Kurchatov**	**62.18**	**318**	P	**P**	**03 38 01.4**	**-0.2**
KURBB	**Kurchatov Arra**	**62.29**	**318**	P	**P**	**03 38 01.4**	**-1.0**
	1.2nm,0.8s,baz=45,slow=7.2,SNR=13						
BVAR	**Borovoye Array**	**63.50**	**324**	P	**P**	**03 38 09.6**	**-0.8**
	1.2nm,0.6s,baz=61,slow=5.4,SNR=7.5						
MKAR	**Makanchi Array**	**63.63**	**313**	P	**P**	**03 38 10.0**	**-1.4**
	0.4nm,0.8s,baz=32,slow=7.1,SNR=3.7						
FINES	**FINESS Array B**	**65.62**	**352**	P	**P**	**03 38 22.7**	**-1.4**
	1.0nm,0.7s,baz=15,slow=6.0,SNR=3.0						
HFS	**Hagfors**	**67.58**	**358**	P	**P**	**03 38 36.0**	**-0.6**
	2.4nm,0.9s,baz=20,slow=4.7,SNR=7.0						
AKTO	**Aktyubinsk**	**69.79**	**330**	P	**P**	**03 38 49.5**	**-1.1**
	1.9nm,0.8s,baz=68,slow=11,SNR=5.3						
CMAR	**Chiang Mai Arr**	**76.55**	**283**	P	**P**	**03 39 29.8**	**-1.2**
	0.9nm,0.3s,baz=23,slow=4.9,SNR=3.8						
WRA	**Warramunga Arr**	**87.15**	**232

KDAK pmax pmax
comp=Z,1.0nm,0.3s
SEW Seward 13.38 48 *e*Pn **Pn 03 40 36.2 -0.8**
PPLA Purkeypile 13.77 35 *e*Pn Pn 03 40 45.7 +3.2
CAST Castle Rocks 14.15 34 *e*Pn P 03 40 51.0 -4.0
TRF Thorofare Moun 14.79 36 *e*Pn **Pn 03 40 58.8 +2.4**
BPAW Bear Paw Mtn. 14.97 33 *e*Pn **Pn 03 40 60.0 +1.3**
comp=Z,26nm,0.9s
MCK McKinley 15.45 36 *e*P **Pn 03 41 06.2 +1.2**
MCK pmax pmax
comp=Z,31nm,1.2s
MCK McKinley 15.45 36 *e*Pn **Pn 03 41 06.2 +1.2**
comp=Z,31nm,1.2s
IM04 Indian Mountai 15.51 25 *e*Pn **Pn 03 41 06.7 +0.9**
BWN Browne 15.53 34 *e*Pn **Pn 03 41 07.0 +1.0**
comp=Z,286nm,1.7s
KLU Klutina 15.53 46 *e*Pn **Pn 03 41 05.2 -0.9**
comp=Z,12nm,0.8s
BMRM Bremner River 15.92 49 *e*Pn **Pn 03 41 12.8 +1.6**
comp=Z,18nm,1.0s
CCB Clear Creek Bu 16.39 35 *e*Pn **Pn 03 41 17.1 0.0**
comp=Z,23nm,1.1s
COLA College 16.51 34 *e*P **Pn 03 41 19.4 +0.8**
COLA pmax pmax
comp=Z,42nm,1.2s
COLA College 16.51 34 *e*Pn **Pn 03 41 19.4 +0.8**
comp=Z,42nm,1.2s
ILAR Eielson Array 16.78 35 Pn **Pn 03 41 21.4 -0.6**
comp=Z,0.2nm,0.3s,baz=229,slow=9,9,SNR=33
COLD Coldfoot 17.39 26 *e*Pn **P 03 41 31.1 +0.2**
comp=Z,139nm,2.0s
EGAK Eagle 18.89 39 *e*P **Pn 03 41 47.8 -0.2**
comp=Z,73nm,2.1s
PET Petropavlovsk 19.08 284 *e*P **Pn 03 41 50.9 +0.6**
PET *e*S **S 03 45 24.3 -0.6**
PET pmax pmax
comp=Z,200nm,6.6s
PET pmax pmax
comp=Z,100nm,11.3s
PET MLR MLR
comp=Z,200nm,17.0s
PET MLR MLR
comp=Z,200nm,16.0s
HYT Haines Junctio 19.23 52 *e*P **Pn 03 41 52.8 +0.5**
BILL Bilibino 19.24 332 *e*P **P 03 41 50.7 -0.5**
BILL pmax pmax
comp=Z,59nm,1.4s
BILL Bilibino 19.24 332 *e*Pn **P 03 41 50.7 -0.5**
comp=Z,59nm,1.4s
DAWY Dawson 19.30 42 *e*P **P 03 41 51.8 -0.1**
comp=Z,17nm,1.3s
PETK Petropavlovsk- 19.62 284 P **P 03 41 55.0 -0.5**
comp=Z,0.5nm,0.3s,baz=89,slow=14,SNR=4.8
PETK LR LR 03 50 19.7
comp=Z,81nm,18.9s,baz=91,slow=40
PETK Petropavlovsk- 19.62 284 P **P 03 41 55.0 -0.5**
PETK pmax pmax
comp=Z,1.0nm,0.3s
PETK MLR MLR
comp=Z,81nm,18.9s
SEY Seymchan 22.33 312 P **P 03 42 23.8 -0.8**
comp=Z,5.5nm,0.8s,baz=88,slow=9.1,SNR=9.9
SEY ScP **ScP 03 49 56.5 +1.0**
comp=Z,3.0nm,0.6s,baz=118,slow=6.8,SNR=9.6
SEY Seymchan 22.33 312 P **P 03 42 23.8 -0.8**
SEY pmax pmax
comp=Z,6.0nm,0.8s
SEY pmax pmax
comp=N,3.0nm,0.6s
DLBC Dease Lake 22.86 60 P **P 03 42 31.7 +1.3**
comp=N,12nm,0.8s,baz=272,slow=10,SNR=12
DLBC LR LR 03 52 27.9
comp=N,257nm,18.2s,baz=259,slow=39
DLBC Dease Lake 22.86 60 *e*P **P 03 42 31.7 +1.3**
comp=N,34nm,1.1s
INK Inuvik 23.17 34 P **P 03 42 32.4 -0.9**
comp=N,3.8nm,0.8s,baz=274,slow=5.9,SNR=12
INK PcP **PcP 03 46 22.6 +1.8**
comp=N,0.8nm,0.6s,baz=312,slow=1.3,SNR=5.2
INK LR LR 03 51 59.6
comp=N,267nm,18.9s,baz=256,slow=38
INK Inuvik 23.17 34 *e*P **P 03 42 32.3 -1.0**
INK 03 46 22.6
INK pmax pmax
comp=Z,13nm,1.3s
INK Inuvik 23.17 34 *e*P **P 03 42 32.3 -1.0**
comp=Z,13nm,1.3s
INK PcP **PcP 03 46 22.6 +1.8**
BBB Bella Bella 25.07 74 LR LR 03 50 38.0
comp=Z,117nm,20.1s,baz=296,slow=31
YKA Yellowknife Ar 30.16 49 P **P 03 43 37.8 +1.1**
comp=Z,0.5nm,0.6s,baz=272,slow=7.8,SNR=3.6
YKA Yellowknife Ar 30.16 49 P **P 03 43 37.8 +1.1**
YKA pmax pmax
comp=Z,1.0nm,0.6s
I04A Tendick Farm, 32.16 87 P **P 03 43 56.6 +1.9**
baz=32
I05D Terrebonne, OR 32.52 85 P **P 03 43 58.4 +0.6**
baz=32
NEW Newport 33.09 76 P **P 03 44 03.3 +0.5**
comp=Z,4.2nm,0.6s,baz=287,slow=8.6,SNR=10.0
NEW Newport 33.09 76 P **P 03 44 03.3 +0.5**
NEW pmax pmax
comp=Z,4.0nm,0.6s
NEW Newport 33.09 76 P **P 03 44 03.9 +1.1**
baz=33,SNR=7.1
NEW Newport 33.09 76 *e*P **P 03 44 03.3 +0.5**
comp=Z,5.7nm,0.8s
YBH Yreka Blue Hor 33.14 90 P **P 03 44 06.2 +2.8**
comp=Z,3.1nm,0.9s,baz=231,slow=3.2,SNR=4.8
YBH LR LR 03 55 57.3
comp=Z,116nm,18.2s,baz=300,slow=33
YBH Yreka Blue Hor 33.14 90 P **P 03 44 06.2 +2.8**
YBH pmax pmax
comp=Z,3.0nm,0.9s
YBH MLR MLR
comp=Z,116nm,18.2s
J05D Fort Rock, OR 33.16 87 P **P 03 44 05.5 +1.9**
baz=33
EDM Edmonton 33.16 66 *e*P P 03 44 07.0 +3.6
EDM Edmonton 33.16 66 *e*P P 03 44 07.0 +3.6
M04C Macdoel 33.64 89 P **P 03 44 10.1 +2.3**
baz=34
K05A Summer Lake 33.68 87 *e*P P 03 44 11.5 +3.4
comp=Z,20nm,1.2s
MOD Modoc 34.51 88 *e*P **P 03 44 17.6 +2.3**
comp=Z,6.2nm,0.9s
BSMT Basson Peak 34.66 76 *e*P **P 03 44 17.5 +0.8**
comp=Z,5.4nm,0.7s
BLMT Blacktail Moun 34.84 75 *e*P **P 03 44 19.3 +1.1**
MSO Missoula 35.67 77 P **P 03 44 25.5 +0.3**
baz=36
MSO Missoula 35.67 77 *e*P **P 03 44 26.2 +1.0**
comp=Z,3.8nm,0.8s
SLMT Seeley Lake 35.73 76 *e*P **P 03 44 25.8 0.0**
comp=Z,3.6nm,0.7s
MFID Camas Ranch 36.36 83 *e*P **P 03 44 31.9 +0.7**
comp=Z,4.3nm,1.0s
HRY Holter Researc 36.98 75 *e*P **P 03 44 37.4 +1.0**
comp=Z,3.7nm,0.6s
WAKR Walker 37.09 92 *e*P **P 03 44 38.8 +1.2**
HLID Hailey 37.13 82 P **P 03 44 38.5 +0.7**
baz=37,SNR=6.1
HLID Hailey 37.13 82 *e*P **P 03 44 38.6 +0.7**
comp=Z,12nm,1.7s
DLMT Dillon 37.23 78 *e*P **P 03 44 39.9 +1.3**
comp=Z,3.6nm,1.0s
DLMT ePcP **PcP 03 46 59.0 +1.0**
BMN Battle Mountai 37.25 88 *e*P **P 03 44 40.3 +1.5**
BMN pmax pmax
comp=Z,5.0nm,0.9s
BMN Battle Mountai 37.25 88 *e*P **P 03 44 40.3 +1.5**
comp=Z,4.9nm,0.9s
MCMT McKenzie Canyo 37.37 79 *e*P **P 03 44 41.1 +1.2**
EGMT Eagleton 37.52 72 P **P 03 44 41.4 +0.5**
baz=37
EGMT Eagleton 37.52 72 *e*P **P 03 44 42.2 +1.2**
comp=Z,11nm,0.9s
BOZ Bozeman (W) 37.66 77 *e*P **P 03 44 43.5 +1.3**
BOZ pmax pmax
comp=Z,5.0nm,0.7s
BOZ Bozeman (W) 37.66 77 P **P 03 44 43.4 +1.2**
baz=38,SNR=11
BOZ Bozeman (W) 37.66 77 *e*P **P 03 44 43.5 +1.2**
comp=Z,5.3nm,0.7s
NVAR Mina Array Bea 37.83 91 P **P 03 44 45.6 +1.8**
comp=Z,3.1nm,0.7s,baz=292,slow=7.8,SNR=8.8

ELK Elko 38.27 86 *e*P **P 03 44 48.5 +1.0**
ELK pmax pmax
comp=Z,4.0nm,0.8s
ELK Elko 38.27 86 *e*P **P 03 44 48.5 +1.0**
comp=Z,4.0nm,0.8s
USRK Ussuriysk Ar. 38.67 281 LR LR 04 00 22.8
comp=Z,92nm,21.0s,baz=37,slow=36
TPH Tonopah 38.71 91 *e*P **P 03 44 52.6 +1.4**
TPH pmax pmax
comp=Z,7.0nm,1.1s
TPH Tonopah 38.71 91 *e*P **P 03 44 52.6 +1.4**
comp=Z,7.3nm,1.1s
H11S1 WAKE ISLAND Hy 38.80 217 T T 04 25 51.7
baz=22,slow=76,SNR=454
H11S2 WAKE ISLAND Hy 38.81 217 T T 04 25 52.8
baz=22,slow=76,SNR=377
H11S3 WAKE ISLAND Hy 38.81 217 T T 04 25 55.1
baz=22,slow=76,SNR=6.1
IMW Indian Meadow 39.03 79 *e*P **P 03 44 54.1 +0.2**
comp=Z,3.5nm,0.8s
FXWY Fox Creek 39.12 79 *e*P **P 03 44 56.2 +1.5**
comp=Z,16nm,2.1s
HVU Hansel Valley 39.15 83 *e*P **P 03 44 55.5 +0.7**
HVU Hansel Valley 39.15 83 *e*P **P 03 44 55.5 +0.7**
comp=Z,69µm,0.9s
RLMT Red Lodge 39.34 76 P **P 03 44 57.6 +1.2**
baz=39,SNR=7.8
RLMT Red Lodge 39.34 76 *e*P **P 03 44 58.0 +1.6**
comp=Z,8.4nm,1.0s
LOHW Long Hollow 39.39 79 *e*P **P 03 44 58.2 +1.3**
comp=Z,1.8nm,0.7s
BGU Big Grassy Mou 39.50 84 *e*P **P 03 44 59.0 +1.3**
comp=Z,7.6nm,1.2s
ISA Isabella 39.52 95 P **P 03 44 58.8 +1.0**
baz=39
R11A Troy Canyon, C 39.54 89 P **P 03 44 59.6 +1.5**
baz=39,SNR=13
R11A Troy Canyon, C 39.54 89 *e*P **P 03 44 59.3 +1.2**
comp=Z,8.9nm,1.0s
MJAR Matsushiro Arr 39.55 267 P **P 03 44 57.6 -0.4**
comp=Z,0.8nm,0.6s,baz=36,slow=5.9,SNR=4.7
MJAR LR LR 03 59 11.0
comp=Z,139nm,21.6s,baz=55,slow=33
F20A Billings 39.63 75 P **P 03 44 59.1 +0.4**
baz=40
H19A Powell 39.76 77 P **P 03 45 00.7 +0.9**
baz=40
MPMC Manual Prospec 39.86 93 P **P 03 45 01.5 +0.7**
baz=40
G20A Bridger 39.91 75 P **P 03 45 01.9 +0.9**
baz=40,SNR=6.4
BSC Santa Cruz Isl 39.95 98 P **P 03 45 02.4 +1.1**
baz=40
FURC Furnace Creek, 39.97 92 P **P 03 45 02.9 +1.5**
baz=40
TPNV Topopah Spring 40.03 91 P **P 03 45 03.6 +1.4**
baz=40,SNR=9.7
DUG Dugway 40.08 85 *e*P **P 03 45 04.1 +1.6**
DUG pmax pmax
comp=Z,23nm,1.6s
DUG Dugway 40.08 85 P **P 03 45 03.7 +1.2**
baz=40,SNR=7.6
DUG Dugway 40.08 85 *e*P **P 03 45 04.1 +1.6**
comp=Z,23nm,1.6s
I19A Meeteetse 40.11 77 P **P 03 45 03.3 +0.5**
baz=40
H20A Greybull 40.44 76 P **P 03 45 05.5 +0.1**
baz=40
G21A Lodge Grass 40.50 75 P **P 03 45 05.9 0.0**
baz=40
BW06 Boulder Array 40.50 79 *e*P **P 03 45 06.6 +0.5**
comp=Z,5.3nm,0.7s
PDAR Pinedale Array 40.50 79 P **P 03 45 07.1 +1.0**
comp=Z,4.5nm,0.6s,baz=323,slow=4.8,SNR=37
PDAR LR LR 04 01 29.0
comp=Z,66nm,18.1s,baz=315,slow=36
J19A Crowheart 40.52 78 P **P 03 45 06.9 +0.7**
baz=40
NLU North Lily Min 40.67 85 *e*P **P 03 45 08.9 +1.4**
comp=Z,5.0nm,0.8s
I20A Worland 40.67 77 P **P 03 45 08.3 +0.9**
baz=40
F22A Rosebud 40.74 73 P **P 03 45 08.4 +0.6**
baz=41
GSC Goldstone 40.78 94 *e*P **P 03 45 10.3 +2.0**
GSC pmax pmax
comp=Z,9.0nm,0.9s
GSC Goldstone 40.78 94 P **P 03 45 09.8 +1.6**
baz=41,SNR=5.2
GSC Goldstone 40.78 94 *e*P **P 03 45 10.3 +2.0**
comp=Z,8.9nm,0.9s
A25A Svangstu Ranch 40.85 68 P **P 03 45 08.9 +0.2**
baz=41
MPU Maple Canyon 40.90 84 *e*P **P 03 45 10.0 +0.6**
comp=Z,21nm,1.2s
E23A Ismay 40.90 72 P **P 03 45 09.5 +0.3**
baz=41
H21A Big Horn, Sher 40.93 75 P **P 03 45 10.1 +0.6**
baz=41
J20A Shoshoni 41.04 78 P **P 03 45 11.4 +1.0**
baz=41,SNR=5.2
I21A Big Trails, Te 41.25 77 P **P 03 45 12.5 +0.4**
baz=41
F23A Volborg 41.27 73 P **P 03 45 13.0 +0.8**
baz=41
CCUT Cedar City 41.40 88 *e*P **P 03 45 15.1 +1.6**
comp=Z,2.9nm,0.7s
J21A Lysite 41.42 77 P **P 03 45 14.2 +0.6**
baz=41
E24A Baker 41.45 71 P **P 03 45 14.7 +1.0**
baz=41
A26A Wade Farm, Ken 41.48 67 P **P 03 45 14.6 +0.8**
baz=41
MVU Marysvale 41.49 86 *e*P **P 03 45 15.9 +1.6**
comp=Z,5.5nm,1.1s
MVU *e*PcP **PcP 03 47 12.4 +0.8**
MSU Marysvale 41.51 86 *e*P **P 03 45 15.7 +1.3**
MSU *e* 03 47 13.1
MSU pmax pmax
comp=Z,11nm,1.4s
MSU Marysvale 41.51 86 *e*P **P 03 45 15.7 +1.3**
comp=Z,11nm,1.4s
MSU *e*PcP **PcP 03 47 13.1 +1.4**
TMUT Trail Mountain 41.60 85 *e*P **P 03 45 17.1 +1.8**
comp=Z,11nm,0.9s
P17A Butcher Ranch, 41.78 84 *e*P **P 03 45 18.3 +1.7**
GMRC Granite Mounta 41.82 93 P **P 03 45 17.8 +0.8**
baz=42,SNR=5.7
LDFC Landfair 41.96 93 *e*P **P 03 45 19.0 +1.0**
comp=Z,12nm,0.8s
J22A Midwest 41.96 77 P **P 03 45 18.8 +0.8**
baz=42,SNR=8.4
E25A Miller Ranch, 42.00 71 P **P 03 45 19.1 +0.9**
baz=42
G24A Alzada 42.07 73 P **P 03 45 19.2 +0.4**
baz=42
SRU San Rafael 42.13 84 *e*P **P 03 45 20.9 +1.4**
SRU pmax pmax
comp=Z,8.0nm,1.1s
SRU San Rafael 42.13 84 *e*P **P 03 45 20.9 +1.4**
comp=Z,8.4nm,1.1s
PFO Pinyon Flat Ob 42.13 95 P **P 03 45 20.9 +1.4**
comp=Z,3.1nm,0.7s,baz=324,slow=7.5,SNR=4.4
PFO Pinyon Flat Ob 42.13 95 P **P 03 45 20.9 +1.4**
PFO pmax pmax
comp=Z,3.0nm,0.7s
PFO Pinyon Flat Ob 42.13 95 P **P 03 45 20.4 +0.9**
baz=42
BELC Belle Mtn. Jos 42.15 94 P **P 03 45 20.2 +0.6**
baz=42
H24A Dirks Ranch, A 42.32 74 P **P 03 45 21.1 +0.3**
baz=42
K22A Casper 42.38 77 P **P 03 45 21.8 +0.3**
baz=42
K22A Casper 42.38 77 *e*P **P 03 45 21.4 0.0**
comp=Z,40nm,2.0s
IRM Iron Mountain 42.55 94 P **P 03 45 23.4 +0.7**
baz=42
E26A Carlson Angus 42.56 70 P **P 03 45 23.2 +0.5**
baz=42
MONP Monument Peak 42.65 96 P **P 03 45 24.7 +0.9**
baz=42
K23A Bowen Ranch, D 42.85 77 P **P 03 45 25.8 +0.6**
baz=43
O20A White River Ci 42.88 82 P **P 03 45 26.0 +0.5**
baz=43,SNR=18
O20A White River Ci 42.88 82 *e*P **P 03 45 26.1 +0.5**
comp=Z,18nm,0.9s

H25A Fruitdale 42.95 73 P **P 03 45 26.2 +0.3**
baz=43
A29A Manning Farm, 43.03 66 P **P 03 45 26.8 +0.4**
baz=43
PDMCI Parker Dam,Lak 43.07 93 P **P 03 45 28.0 +1.1**
baz=43
G26A Maurine 43.14 72 P **P 03 45 28.5 +1.0**
baz=43
F27A Lemmon 43.15 71 P **P 03 45 28.4 +0.9**
baz=43
Y12C Blythe 43.21 93 P **P 03 45 29.0 +0.9**
baz=43
H26A Fairpoint 43.43 73 P **P 03 45 30.3 +0.5**
baz=43
GLA Glamis 43.51 94 P **P 03 45 30.9 +0.4**
baz=43
J25A Sunshine Ranch 43.55 75 P **P 03 45 30.8 0.0**
baz=43
PV04 Paradox Valley 43.57 84 *e*P **P 03 45 31.9 +0.8**
N23A Red Feather La 43.78 79 P **P 03 45 33.2 +0.2**
baz=44
PV01 Paradox Valley 43.94 84 *e*P **P 03 45 35.0 +0.9**
comp=Z,738nm,0.7s
WUAZ Wupatki 43.94 89 P **P 03 45 35.2 +1.1**
baz=44,SNR=6.9
WUAZ Wupatki 43.94 89 *e*P **P 03 45 35.1 +1.0**
comp=Z,12nm,0.9s
ULM Lac du Bonnet 44.14 62 P **P 03 45 37.9 +2.5**
comp=Z,3.9nm,0.8s,baz=278,slow=7.7,SNR=4.3
ULM LR LR 04 04 40.9
comp=Z,119nm,19.1s,baz=292,slow=37
ULM Lac du Bonnet 44.14 62 *e*P **P 03 45 36.0 +0.6**
ULM pmax pmax
comp=Z,4.0nm,0.8s
ULM Lac du Bonnet 44.14 62 *e*P **P 03 45 36.0 +0.6**
comp=Z,3.8nm,0.8s
I27A Quinn 44.17 73 P **P 03 45 36.3 +0.5**
baz=44
D30A Buchanan 44.30 68 P **P 03 45 37.3 +0.6**
baz=44
MVCO Mesa Verde 44.57 85 P **P 03 45 39.7 +0.5**
baz=44
MVCO Mesa Verde 44.57 85 *e*P **P 03 45 40.0 +0.8**
comp=Z,14nm,1.5s
M25A Palm-Egli Farm 44.58 77 P **P 03 45 40.0 +0.8**
baz=44
ISCO Idaho Springs 44.66 80 P **P 03 45 40.8 +0.8**
baz=44
I28A Midland 44.73 73 P **P 03 45 40.7 +0.5**
baz=45
G29A Hoven 44.74 70 P **P 03 45 41.1 +0.9**
baz=45
K27A Flueckinger Fa 44.88 75 P **P 03 45 42.2 +0.7**
baz=45
H29A Onida 44.91 71 P **P 03 45 42.1 +0.5**
baz=45
J28A Allard Ranch, 45.03 73 P **P 03 45 43.1 +0.5**
baz=45
W18A Petrified Fore 45.20 88 P **P 03 45 45.0 +0.8**
baz=45
KSRS Korea Array 45.21 276 P **P 03 45 42.9 -1.1**
comp=Z,0.7nm,0.5s,baz=44,slow=8.9,SNR=3.3
KSRS LR LR 04 04 22.6
comp=Z,82nm,19.5s,baz=53,slow=36
KSRS Korea Array 45.21 276 P **P 03 45 42.9 -1.1**
KSRS pmax pmax
comp=Z,1.0nm,0.5s
KSRS MLR MLR
comp=Z,82nm,19.5s
I29A Vivian Onida 45.22 72 P **P 03 45 44.8 +0.8**
baz=45
AGMN Agassiz Nation 45.24 65 P **P 03 45 45.0 +0.9**
baz=45,SNR=9.6
AGMN Agassiz Nation 45.24 65 *e*P **P 03 45 44.1 0.0**
comp=Z,8.6nm,0.8s
KSAR Wonju Array Be 45.24 276 P **P 03 45 42.9 -1.3**
KSAR Wonju Array Be 45.24 276 P **P 03 45 42.9 -1.3**
S22A 4UR Ranch, Cre 45.24 83 P **P 03 45 45.3 +0.7**
baz=45
K28A Ten Mile Ranch 45.38 74 P **P 03 45 46.1 +0.6**
baz=45
Q24A Divide 45.47 81 P **P 03 45 46.7 +0.3**
baz=45
214A Organ Pipe Nat 45.49 94 P **P 03 45 47.5 +1.1**
baz=45
J29A Okreek 45.57 73 P **P 03 45 47.5 +0.6**
baz=45
O26A Horse Wrangler 45.76 78 P **P 03 45 49.0 +0.5**
baz=46
I30A Oacoma 45.79 72 P **P 03 45 49.4 +0.9**
baz=46
N27A Anderson Farm, 45.87 77 P **P 03 45 49.9 +0.6**
baz=46
SDCO Great Sand Dun 46.04 82 P **P 03 45 52.0 +1.1**
baz=46,SNR=11
SDCO Great Sand Dun 46.04 82 *e*P **P 03 45 51.8 +0.9**
comp=Z,5.2nm,1.0s
OGNE Ogallala 46.08 76 P **P 03 45 51.9 +0.9**
baz=46
P26A Davis Ranch, A 46.17 79 P **P 03 45 52.7 +0.9**
baz=46,SNR=9.8
M28A Bar X Bar Ranc 46.19 76 P **P 03 45 52.2 +0.4**
baz=46
O27A Beecher Island 46.29 78 P **P 03 45 53.3 +0.6**
baz=46
JNU Nakatsue 46.30 269 P **P 03 45 53.1 +0.3**
comp=Z,5.3nm,0.8s,baz=22,slow=3.1,SNR=4.5
K30A Basset 46.43 73 P **P 03 45 54.2 +0.5**
baz=46
Q26A Hugo 46.47 80 P **P 03 45 55.0 +0.8**
baz=46
TUC Tucson 46.48 92 *e*P **P 03 45 55.2 +1.0**
TUC pmax pmax
comp=Z,10.0nm,1.2s
TUC Tucson 46.48 92 *e*P **P 03 45 55.2 +1.0**
comp=Z,10nm,1.2s
M29A Burnside Ranch 46.56 75 P **P 03 45 54.7 0.0**
baz=46
O28A Krutsinger Ran 46.75 77 P **P 03 45 57.1 +0.9**
baz=47
R26A Arlington 46.92 80 P **P 03 45 58.2 +0.6**
baz=47,SNR=11
KSCO Kaye Shedlock' 46.95 79 P **P 03 45 58.9 +1.0**
baz=47
KSCO Kaye Shedlock' 46.95 79 *e*P **P 03 45 59.4 +1.5**
comp=Z,18nm,1.0s
T25A Trinidad 47.09 82 P **P 03 46 00.0 +0.9**
baz=47
P28A Saint Francis 47.11 78 P **P 03 45 60.0 +0.9**
baz=47
LAZ Ladron 47.26 87 *e*P **P 03 46 02.0 +1.6**
comp=Z,6.4nm,1.4s
ANMO Albuquerque 47.31 86 P **P 03 46 01.7 +0.9**
comp=Z,2.3nm,1.0s,baz=319,slow=11,SNR=4.6
ANMO PcP **PcP 03 47 31.5 0.0**
comp=Z,2.1nm,0.9s,baz=289,slow=3.2,SNR=5.2
ANMO Albuquerque 47.31 86 P **P 03 46 01.7 +0.9**
ANMO 03 47 31.5
ANMO pmax pmax
comp=Z,2.0nm,1.0s
ANMO pmax pmax
comp=Z,2.0nm,0.9s
R27A Eads 47.31 80 P **P 03 46 01.3 +0.6**
baz=47,SNR=7.3
O29A 4D Ranch, Culb 47.33 77 P **P 03 46 01.2 +0.5**
baz=47
ECSD EROS Data Cent 47.52 70 P **P 03 46 02.7 +0.6**
baz=47
ECSD EROS Data Cent 47.52 70 *e*P **P 03 46 01.4 -0.7**
comp=Z,7.8nm,1.1s
ECSD ePcP **PcP 03 47 32.2 +0.3**
T26A Comanche Natio 47.56 82 P **P 03 46 03.3 +0.6**
baz=47
P29A Atwood 47.58 77 P **P 03 46 03.6 +0.9**
baz=47
O30A MW Ranch, Wils 47.73 76 P **P 03 46 04.6 +0.8**
baz=48
EYMN Ely 47.82 63 P **P 03 46 05.7 +1.3**
baz=48
EYMN Ely 47.82 63 *e*P **P 03 46 07.2 +2.8**
comp=Z,8.9nm,1.0s
Q29A Oakley 48.01 78 P **P 03 46 07.0 +0.9**
baz=48
P30A Selden 48.02 77 P **P 03 46 06.9 +0.8**
baz=48
121A Cookes Peak, D 48.15 89 P **P 03 46 08.7 +1.4**
baz=48,SNR=7.0
121A Cookes Peak, D 48.15 89 *e*P **P 03 46 08.7 +1.4**

comp=Z,7.1nm,0.8s
O31A Woolen Ranch, 48.18 76 P P 03 46 07.5 +0.2
baz=48
R29A Marienthal 48.22 79 P P 03 46 08.6 +0.9
baz=48
S28A Manter 48.31 80 P P 03 46 09.3 +0.9
baz=48,SNR=6.8
Q30A Quinter 48.41 77 P P 03 46 10.0 +0.9
baz=48
T28A Walsh 48.49 81 P P 03 46 10.7 +0.9
baz=48
U27A Thompson Grove 48.52 82 P P 03 46 10.5 +0.4
baz=48,SNR=7.2
M33A Taylor Creek F 48.53 73 P P 03 46 09.8 -0.1
baz=48
P31A Stockton 48.55 76 P P 03 46 10.2 0.0
baz=48
L34A Svendsen Farm, 48.75 72 P P 03 46 11.9 +0.3
baz=49
R30A Dighton 48.82 78 P P 03 46 12.6 +0.3
baz=49
P32A Huiting Farm, 48.95 76 P P 03 46 13.6 +0.4
baz=49
T29A Hugoton 48.95 80 P P 03 46 13.8 +0.4
baz=49
V27A Dan Oppiter Fa 48.96 82 P P 03 46 13.6 +0.2
baz=49
S30A Montezuma 49.13 79 P P 03 46 15.0 +0.3
baz=49
O33A Hebron 49.25 74 P P 03 46 15.9 +0.4
baz=49
R31A Burdett 49.27 78 P P 03 46 16.1 +0.4
baz=49
Q32A Meitler Ranch, 49.38 76 P P 03 46 16.8 +0.3
baz=49
M35A Neola 49.46 72 P P 03 46 17.6 +0.5
baz=49
R32A Long Quarter, 49.66 77 P P 03 46 19.4 +0.7
baz=50
O34A Beatrice 49.71 74 P P 03 46 19.2 +0.3
baz=50
U30A WK&E Inc. Balk 49.76 80 P P 03 46 20.0 +0.6
baz=50
Q33A Connelly Farm, 49.81 76 P P 03 46 20.3 +0.6
baz=50
N35A Tabor 49.88 72 P P 03 46 20.8 +0.5
baz=50
T31A Randall Ranch, 49.96 79 P P 03 46 21.8 +0.8
baz=50
X28A Dimmitt 50.18 83 P P 03 46 23.2 +0.4
baz=50
U31A Nine Bar Ranch 50.34 80 P P 03 46 24.6 +0.7
baz=50
BJI Beijing 50.53 287 P P 03 46 25.5 +0.4
BJI PMZ
comp=Z,5.0nm,0.5s
Y28A McKinney Farm, 50.56 84 P P 03 46 25.1 -0.5
baz=50
R34A Isabella, Hill 50.61 76 P P 03 46 25.5 -0.3
baz=50
V31A Spring Creek L 50.75 80 P P 03 46 27.7 +0.7
baz=51
Z28A Tucker Farm, M 50.91 84 P P 03 46 28.4 +0.1
baz=51
P36A Good Intent, A 50.94 73 P P 03 46 28.3 0.0
baz=51
Y29A Porterfield Fa 50.95 83 P P 03 46 29.1 +0.6
baz=51
SONM Songino Array 51.00 300 P P 03 46 26.2 -2.6
comp=Z,0.2nm,0.4s,baz=60,slow=8.5,SNR=3.0
SONM PcP PcP 03 47 43.3 -1.4
comp=Z,1.2nm,0.8s,baz=61,slow=4.2,SNR=5.5
SONM ScP ScP 03 51 38.6 -1.2
comp=Z,0.8nm,0.8s,baz=59,slow=2.2,SNR=6.5
SONM LR LR 04 08 45.9
comp=Z,82nm,21.2s,baz=43,slow=37
SONM Songino Array 51.00 300 P P 03 46 26.2 -2.6
SONM 03 47 43.3
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM pmax pmax
comp=N,1.0nm,0.8s
SONM MLR MLR
comp=Z,82nm,21.2s
X30A Coker Ranch, T 51.03 82 P P 03 46 29.6 +0.5
baz=51
W31A Holland Ranch, 51.08 81 P P 03 46 29.7 +0.2
baz=51
128A Castleberry Fa 51.31 85 P P 03 46 31.8 +0.5
baz=51,SNR=10
U33A Lingo Farm, Me 51.34 78 P P 03 46 31.7 +0.4
baz=51
Z29A Hungry Hill Ra 51.34 84 P P 03 46 32.0 +0.5
baz=51,SNR=7.3
Y30A Stafford Cattl 51.40 83 P P 03 46 32.7 +0.7
baz=51
X31A McDonald Ranch 51.44 81 P P 03 46 32.7 +0.5
baz=51
T34A McClaskey Farm 51.49 77 P P 03 46 32.3 -0.2
baz=51
W32A Sentinel 51.55 80 P P 03 46 33.3 +0.4
baz=51
S35A Otter Creek Ra 51.57 76 P P 03 46 33.4 +0.3
baz=51
228A UT Block 9, Go 51.59 86 P P 03 46 34.0 +0.7
baz=52
R36A Gordon, Harris 51.62 75 P P 03 46 33.9 +0.4
baz=51
Z30A Sanderson Ranc 51.67 83 P P 03 46 34.4 +0.5
baz=52,SNR=6.0
129A Stewart Farms, 51.68 85 P P 03 46 33.9 -0.1
baz=52
U34A Anderson Ranch 51.68 78 P P 03 46 33.9 0.0
baz=52
U34A Anderson Ranch 51.68 78 eP P 03 46 34.0 +0.1
comp=Z,12nm,0.8s
T35A Sooner Cattle 51.97 77 P P 03 46 36.0 0.0
baz=52
S36A Lake Cedric, C 51.97 75 P P 03 46 36.0 -0.1
baz=52
W33A Caddo, Fort Co 51.99 80 P P 03 46 37.4 +1.1
baz=52
X32A Elmer 52.00 81 P P 03 46 36.8 +0.5
baz=52
WMOK Wichita Mounta 52.09 80 eP P 03 46 37.3 +0.3
WMOK pmax pmax
comp=Z,8.0nm,0.8s
WMOK Wichita Mounta 52.09 80 eP P 03 46 37.3 +0.3
comp=Z,8.0nm,0.8s
V34A Guthrie 52.10 79 P P 03 46 37.1 +0.1
baz=52
V34A Guthrie 52.10 79 eP P 03 46 36.6 -0.4
comp=Z,6.4nm,0.7s
Y32A R-V Farms, Ver 52.19 82 P P 03 46 38.3 +0.5
baz=52,SNR=7.0
U35A Pawnee 52.20 77 P P 03 46 37.5 -0.3
baz=52
Z31A Sharp Cattle R 52.24 83 P P 03 46 37.9 -0.2
baz=52
T36A Boggs Farm, Ca 52.24 76 P P 03 46 38.3 +0.2
baz=52
X33A Lawton 52.39 80 P P 03 46 38.9 -0.3
baz=52
S37A Fort Scott 52.39 75 P P 03 46 38.9 -0.3
baz=52
329A Wagon Wheel Ra 52.40 86 P P 03 46 39.7 +0.3
baz=52
131A Roby 52.54 83 P P 03 46 40.9 +0.5
baz=52
V35A Meyer Ranch, C 52.55 78 P P 03 46 40.7 +0.4
baz=52
230A Sterling City 52.65 85 P P 03 46 41.5 +0.3
baz=52
Z32A Haskell 52.65 82 P P 03 46 41.6 +0.4
baz=52,SNR=12
HHC Hu-ho-hao-te 52.66 291 eP P 03 46 41.0 -0.2
HHC S S 03 54 06.5 -1.2
HHC SS SS 03 54 16.3 -1.1
HHC SS SS 03 57 42.8 -2.8
HHC PMZ
comp=Z,37nm,1.5s
HHC PMZ
comp=Z,64nm,4.9s
HHC LN
comp=Z,140nm,19.7s
HHC LE
comp=Z,160nm,16.0s
Y33A Hilltop Ranch, 52.68 81 P P 03 46 42.0 +0.7
baz=52
X34A Smith Ranch, M 52.75 80 P P 03 46 42.3 +0.4
baz=53
T37A Cheneyville 18 52.77 76 P P 03 46 42.0 +0.1
baz=53
TXAR Lajitas Array 52.90 89 P P 03 46 44.1 +0.9
comp=Z,6.9nm,0.8s,baz=297,slow=5.5,SNR=89
TXAR Lajitas Array 52.90 89 P P 03 46 44.1 +0.9
TXAR pmax pmax
comp=Z,7.0nm,0.8s
W35A Tecumseh 52.95 79 P P 03 46 43.7 +0.4
baz=53
330A Mertzon 52.95 85 P P 03 46 43.8 +0.3
baz=53
ABTX Abilene, Hawle 53.03 83 P P 03 46 44.3 +0.4
baz=53
ABTX Abilene, Hawle 53.03 83 eP P 03 46 44.4 +0.4
comp=Z,18nm,1.4s
429A Davenport Ranc 53.06 86 P P 03 46 44.5 +0.2
baz=53,SNR=8.2
V36A Jenks 53.07 77 P P 03 46 44.1 -0.1
baz=53
TUL1 Tulsa 53.07 77 P P 03 46 44.2 0.0
baz=53
Z33A Whitaker Ranch 53.10 82 P P 03 46 44.9 +0.4
baz=53
231A Bronte 53.10 84 P P 03 46 44.6 +0.1
baz=53
U37A Salina 53.14 76 P P 03 46 44.8 +0.1
baz=53
529A Stev Forest Ra 53.22 87 P P 03 46 45.9 +0.5
baz=53,SNR=5.6
Y34A Reagan Ranch, 53.24 80 P P 03 46 45.9 +0.4
baz=53
W36A Wetumka 53.34 78 P P 03 46 46.6 +0.4
baz=53
430A Baggett Ranch, 53.35 86 P P 03 46 47.0 +0.6
baz=53,SNR=9.8
X35A Drake 53.40 79 P P 03 46 46.8 +0.1
baz=53
331A San Angelo 53.47 85 P P 03 46 47.0 -0.3
baz=53
133A Hamilton Ranch 53.48 82 P P 03 46 47.4 +0.2
baz=53
232A Coleman 53.54 84 P P 03 46 47.8 +0.1
baz=53
U38A Gravette 53.55 76 P P 03 46 46.9 -0.8
baz=53
Z34A Collier Ranch, 53.55 81 P P 03 46 48.2 +0.4
baz=53
X36A Centrahoma 53.66 79 P P 03 46 48.9 +0.4
baz=54
Y35A Marietta 53.70 80 P P 03 46 49.3 +0.4
baz=54
HDIL Hopedale 53.72 69 P P 03 46 49.2 +0.2
baz=54
HDIL Hopedale 53.72 69 eP P 03 46 49.7 +0.7
comp=Z,15nm,0.8s
530A J-C Ranch, Com 53.74 86 P P 03 46 50.0 +0.7
baz=54,SNR=22
431A Sonora 53.80 85 P P 03 46 50.1 +0.3
baz=54
W37A Quinton 53.82 78 P P 03 46 49.9 +0.2
baz=54
332A Millersview 53.84 84 P P 03 46 50.2 +0.3
baz=54,SNR=7.9
233A Rising Star 53.90 83 P P 03 46 51.0 +0.7
baz=54,SNR=8.6
V38A Canehill 53.93 76 P P 03 46 50.1 -0.4
baz=54
134A White-Moore Ra 54.01 82 P P 03 46 51.8 +0.7
baz=54
Y36A Durant 54.16 79 P P 03 46 52.7 +0.5
baz=54
432A Menard 54.16 85 P P 03 46 52.9 +0.6
baz=54
531A Rocksprings 54.21 86 P P 03 46 52.9 +0.2
baz=54
X37A Clayton 54.23 78 P P 03 46 53.3 +0.6
baz=54
333A Richland Sprin 54.34 84 P P 03 46 53.6 +0.1
baz=54,SNR=9.4
NJ2 Nanjing 54.34 278 eP P 03 46 56.0 +2.5
NJ2 PMZ
comp=Z,30nm,0.8s
234A Clairette 54.37 82 P P 03 46 54.2 +0.4
baz=54
W38A Poteau 54.40 77 P P 03 46 54.5 +0.5
baz=54
135A Vickery Place, 54.42 81 P P 03 46 54.8 +0.7
baz=54
JCT Junction City 54.44 85 eP P 03 46 54.5 +0.2
JCT pmax pmax
comp=Z,9.0nm,0.8s
JCT Junction City 54.44 85 P P 03 46 54.5 +0.2
baz=54,SNR=6.7
JCT Junction City 54.44 85 eP P 03 46 54.5 +0.2
comp=Z,8.9nm,0.8s
X38A Whitesboro 54.50 78 P P 03 46 54.9 +0.2
baz=54
Y37A Hugo 54.50 79 P P 03 46 55.3 +0.7
baz=54
Z36A Blue Ridge 54.51 80 P P 03 46 54.9 +0.2
baz=54
532A Rocksprings 54.62 85 P P 03 46 55.5 -0.2
baz=54
433A Art 54.67 84 P P 03 46 56.4 +0.3
baz=54,SNR=7.6
631A Perdido Creek 54.73 86 P P 03 46 56.3 -0.1
baz=55,SNR=6.3
334A Lometa 54.78 83 P P 03 46 57.4 +0.6
baz=55,SNR=16
WHTX Lake Whitney 54.79 82 P P 03 46 57.4 +0.6
baz=55
WHTX Lake Whitney 54.79 82 eP P 03 46 57.5 +0.7
comp=Z,20nm,1.0s
Y38A Idabel 55.07 78 P P 03 46 58.9 +0.2
baz=55
434A Burnet 55.13 84 P P 03 46 59.9 +0.6
baz=55,SNR=11
SCHQ Schefferville 55.31 43 LR LR 04 13 37.1
comp=Z,146nm,18.0s,baz=292,slow=39
MIAR Mount Ida 55.33 77 eP P 03 47 01.0 +0.3
MIAR pmax pmax
comp=Z,7.0nm,0.9s
MIAR Mount Ida 55.33 77 P P 03 47 00.1 -0.5
baz=55
MIAR Mount Ida 55.33 77 eP P 03 47 01.0 +0.3
comp=Z,7.3nm,0.9s
236A Katherine and 55.34 81 P P 03 47 01.4 +0.6
baz=55
633A Saathoff Ranch 55.54 85 P P 03 47 02.6 +0.3
baz=55
534A Blanco 55.56 84 P P 03 47 02.8 +0.4
baz=55
336A Riesel 55.58 82 P P 03 47 03.1 +0.6
baz=55
732A Lawson Ranch, 55.59 87 P P 03 47 02.8 +0.2
baz=56
832A Faith Ranch, C 55.90 87 P P 03 47 05.3 +0.5
baz=56,SNR=8.7
733A Divot King Ran 56.00 86 P P 03 47 05.8 +0.2
baz=56
436A Wall Ranch, Ga 56.05 82 P P 03 47 06.6 +0.7
baz=56
535A Dale 56.11 84 P P 03 47 06.2 -0.1
baz=56
833A Chaparral WMA, 56.23 86 P P 03 47 08.1 +1.0
baz=56,SNR=7.0
734A La Parita Cree 56.36 85 P P 03 47 08.5 +0.4
baz=56
H06E1 SOCORRO T-PHAS 56.40 104 T T 04 48 10.8
SNR=4.8
635A Leesville 56.45 84 P P 03 47 09.8 +1.0
baz=56
933A Laredo 56.81 87 P P 03 47 12.1 +0.7
baz=57
438A Sam Houston St 56.86 82 P P 03 47 12.5 +0.9
baz=57
834A Tilden 56.88 86 P P 03 47 13.0 +1.2
baz=57
ZALV Zalesovo Beam 57.08 317 LR LR 04 13 08.3
comp=Z,77nm,19.8s,baz=70,slow=38
736A Circle Diamond 57.18 84 P P 03 47 15.3 +1.3
baz=57
835A Beeville 57.20 85 P P 03 47 15.7 +1.6
baz=57
HKT Hockley 57.22 82 eP P 03 47 14.9 +0.8
HKT pmax pmax
comp=Z,16nm,1.5s
HKT Hockley 57.22 82 eP P 03 47 14.9 +0.8
comp=Z,16nm,1.5s
934A Benavides 57.28 86 P P 03 47 16.0 +1.3
baz=57
340A Bronson 57.34 80 P P 03 47 15.0 0.0
baz=57
034A Hebbronville 57.57 87 P P 03 47 17.7 +1.0
baz=57
ARCES ARCESS Array B 57.59 354 LR LR 04 14 04.0
comp=Z,104nm,18.5s,baz=0.5,slow=38
LZH Lanzhou 60.32 291 eP P 03 47 38.5 +2.6
LZH pP pP 03 47 42.3 +0.4
LZH sP sP 03 47 44.3 +0.1
LZH PMZ
comp=Z,17nm,1.0s
KURK Kurchatov 62.03 318 P P 03 47 46.9 -0.1
KURK pmax pmax
comp=Z,1.0nm,0.8s
KURK Kurchatov 62.03 318 P P 03 47 46.9 -0.1
KURBB Kurchatov Arra 62.13 318 P P 03 47 46.9 -0.9
comp=Z,0.7nm,0.8s,baz=44,slow=7.4,SNR=6.8
WMQ Urumqi 63.21 308 P P 03 47 57.0 +1.9
WMQ pP pP 03 48 02.0 +0.9
WMQ sP sP 03 48 04.0 +0.6
WMQ S S 03 56 26.3 +0.8
WMQ SS SS 04 00 34.3 +3.3
WMQ PMZ
comp=Z,11nm,0.7s
WMQ PMZ
comp=Z,80nm,6.0s
WMQ LN
comp=Z,76nm,18.0s
WMQ LE
comp=Z,69nm,18.9s
BVAR Borovoye Array 63.35 324 P P 03 47 54.7 -1.1
comp=Z,0.8nm,0.5s,baz=57,slow=9.0,SNR=6.5
BVAR Borovoye Array 63.35 324 P P 03 47 54.7 -1.1
BVAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 63.47 313 P P 03 47 56.1 -0.6
comp=Z,0.1nm,0.3s,baz=39,slow=5.5,SNR=3.6
MKAR LR LR 04 16 02.5
comp=Z,85nm,20.8s,baz=36,slow=37
FINES FINESS Array B 65.53 352 P P 03 48 10.3 +0.4
comp=Z,1.0nm,0.7s,baz=35,slow=12,SNR=3.1
FINES LR LR 04 18 54.4
comp=Z,81nm,19.1s,baz=2.5,slow=38
FINES FINESS Array B 65.53 352 P P 03 48 10.3 +0.4
FINES pmax pmax
comp=Z,1.0nm,0.7s
FINES MLR MLR
comp=Z,81nm,19.1s
NOA NORSAR Array B 66.62 360 P P 03 48 17.2 +0.2
comp=Z,0.8nm,0.8s,baz=359,slow=6.5,SNR=2.9
NOA NORSAR Array B 66.62 360 P P 03 48 17.2 +0.2
NOA pmax pmax
comp=Z,1.0nm,0.8s
CMIG Matias Romero 67.36 91 P P 03 48 22.0 -0.3
comp=Z,2.3nm,0.6s,baz=278,slow=12,SNR=3.6
JAY Jayapura 68.96 235 LR LR 04 15 57.5
comp=Z,40nm,18.9s,baz=6.0,slow=34
KMI Kunming 69.03 284 P P 03 48 36.5 +3.5
KMI PMZ
comp=Z,7.0nm,0.7s
KMI PMZ
comp=Z,62nm,3.5s
AKTO Aktyubinsk 69.65 330 P P 03 48 40.1 +3.9
comp=Z,0.5nm,0.5s,baz=31,slow=12,SNR=4.2
AKTO Aktyubinsk 69.65 330 P P 03 48 40.1 +3.9
AKTO pmax pmax
comp=Z,1.0nm,0.5s
PPT Papeete 72.09 160 LR LR 04 13 50.8
comp=Z,52nm,21.5s,baz=94,slow=30
SIJI Sorong 72.50 244 P P 03 48 53.1 -0.8
comp=Z,4.8nm,0.6s,baz=29,slow=7.8,SNR=5.2
AKASG Malin Array Be 75.76 348 P P 03 49 11.9 -0.5
comp=Z,0.3nm,0.3s,baz=9.0,slow=5.3,SNR=3.3
AKASG LR LR 04 29 07.0
comp=Z,46nm,18.2s,baz=10.0,slow=41
CMAR Chiang Mai Arr 76.39 282 P P 03 49 14.6 -1.9
comp=Z,0.5nm,0.3s,baz=27,slow=8.1,SNR=4.8
CMAR LR LR 04 25 53.7
comp=Z,46nm,19.5s,baz=101,slow=38
CMAR Chiang Mai Arr 76.39 282 P P 03 49 14.6 -1.9
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR MLR MLR
comp=Z,46nm,19.5s
GERES GERESS Array B 78.80 358 P P 03 49 29.6 -0.1
comp=Z,0.4nm,0.6s,baz=20,slow=4.3,SNR=4.5
KBZ Khabaz 79.95 337 LR LR 04 30 36.5
comp=Z,62nm,18.1s,baz=56,slow=40
BRTR Keskin Array B 85.77 342 LR LR 04 32 29.5
comp=Z,23nm,20.4s,baz=343,slow=39
WRA Warramunga Arr 87.08 231 P P 03 50 11.2 -1.3
comp=Z,3.9nm,0.9s,baz=34,slow=6.0,SNR=16
WRA Warramunga Arr 87.08 231 P P 03 50 11.3 -1.3
WRA pmax pmax
comp=Z,4.0nm,0.9s
ESDC Sonseca Array 87.17 11 P P 03 50 12.2 -0.9
comp=Z,0.2nm,0.3s,baz=0.8,slow=5.2,SNR=3.3
AS31 Alice Springs 90.47 230 eP P 03 50 28.2 -0.4
ASAR Alice Springs 90.48 230 P P 03 50 28.4 -0.3
comp=Z,8.9nm,0.9s,baz=34,slow=4.8,SNR=46
ASAR Alice Springs 90.48 230 P P 03 50 28.4 -0.3
ASAR pmax pmax
comp=Z,9.0nm,0.9s
STKA Stephens Creek 94.34 220 P P 03 50 46.2 0.0
comp=Z,3.2nm,1.0s,baz=22,slow=4.9,SNR=3.9
STKA LR LR 04 27 03.8
comp=Z,117nm,21.2s,baz=25,slow=32
TORD Torodi Ar. Bea 114.01 9 PKiKP PKiKP 03 56 05.0 -1.2
comp=Z,0.3nm,0.7s,baz=6.1,slow=1.3,SNR=3.5
TORD PKKPab PKKPab 04 06 52.6 -4.2
comp=Z,1.8nm,0.9s,baz=169,slow=4.1,SNR=7.7
DBIC Dimbokro 119.47 17 PKP PKPdf 03 56 15.8 -1.0
comp=Z,0.7nm,0.4s,baz=7.4,slow=1.3,SNR=3.9
DBIC Dimbokro 119.47 17 PKiKP PKPdf 03 56 15.8 -1.0
DBIC pmax pmax
comp=Z,1.0nm,0.4s
VNDA Vanda 131.15 188 PKP PKPdf 03 56 38.0 +0.9
comp=Z,0.3nm,0.3s,baz=98,slow=6.0,SNR=5.1
LBTB Lobatse 150.06 331 ePKPdf PKPdf 03 57 12.5 -0.1
LBTB ePKPbc PKPbc 03 57 17.3 -0.3
LBTB ePKPab PKPab 03 57 22.9 -0.5
MAW Mawson 151.02 219 PKPbc PKPbc 03 57 18.4 +0.1
comp=Z,5.0nm,1.1s,baz=89,slow=5.8,SNR=8.4
MAW Mawson 151.02 219 ePKiKP PKPdf 03 57 12.2 -0.4
MAW e 03 57 18.3
MAW 03 57 18.4
MAW Mawson 151.02 219 ePKPdf PKPdf 03 57 12.2 -0.4
MAW ePKPbc PKPbc 03 57 18.3 -0.1
MAW PKPbc PKPbc 03 57 18.4 +0.1
MAW ePKPab PKPab 03 57 26.2 +0.1
BOSA Boshof 153.54 330 PKPbc PKPbc 03 57 24.6 -0.9
comp=Z,1.4nm,0.6s,baz=10.0,slow=1.4,SNR=3.9
BOSA Boshof 153.54 330 PKiKP PKPbc 03 57 24.6 -0.9
BOSA pmax pmax
comp=Z,1.0nm,0.6s

IDC 26 03:40:56.5±3.2, 6°.00S×150°.57E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.5/34, mbtmp3.8/3, ML2.0/1, Error ellipse: s-maj=127.9km s-min=39.9km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.79**	**225**	Pn	Pn	03 42 12.0	+2.1
	4.4nm,0.3s,baz=45,slow=11,SNR=6.3						
PMG				Sn	Sn	03 43 01.9	-4.2
	19nm,0.3s,baz=342,slow=20,SNR=10.0						
WRA	**Warramunga Arr**	**21.00**	**227**	P	P	03 45 41.3	-0.5
	2.0nm,0.5s,baz=54,slow=11,SNR=26						
ASAR	**Alice Springs**	**23.79**	**221**	P	P	03 46 10.7	-0.4
	0.3nm,0.3s,baz=55,slow=9.1,SNR=5.4						
TORD	**Torodi Ar. Bea**	**148.53**	**285**	PKPbc	PKPbc	04 00 45.7	-0.7
	0.2nm,0.3s,baz=90,slow=2.5,SNR=17						

*IDC **26** 03:43:15.2±0.8, 52°.92N×170°.25W, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.6/55, mbtmp3.7/9, ML1.6/1, Error ellipse: s-maj=31.7km s-min=19.1km az=156.0*

ISCJB ***26*** *03:43:16.5±1.1,52.°63N±0.°09×169.°74W±0.°09,h8km±7km, mb3.7/8,Error ellipse: s-maj=17.3km s-min=4.5km az=153.4*
NEIC ***26*** *03:43:18.4,52.°67N×169.°60W,h6km,ML3.4(AEIC),After AEIC.*

ISC 26 03:43:17.8±1.5,52.°8N±0.°1×169.°78W±0.°05,h11km±9km, n32,σ1§40/39,mb3.7/8,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.59**	**72**	P	**Pg**	**03 43 28.9**	**-0.3**
NIKH				S	**Sg**	**03 43 37.6**	**+0.6**
OKWR	**Okmok West Rim**	**1.15**	**55**	P	**Pn**	**03 43 40.4**	**+0.6**
OKWE	**Okmok W'ng Wal**	**1.15**	**53**	P	**Pg**	**03 43 39.7**	**-0.2**
OKWE				S	**Sb**	**03 43 55.9**	**+1.3**
OKAK	**Okmok**	**1.16**	**47**	P	**Pg**	**03 43 38.2**	**-1.9**
OKCE	**Okmok Cone E**	**1.16**	**56**	P	**Pg**	**03 43 40.1**	**0.0**
OKCE				S	**Sn**	**03 43 57.1**	**+1.2**
OKTU	**Okmok Mt. Tuli**	**1.20**	**60**	P	**Pg**	**03 43 40.8**	**-0.1**
OKFG	**Magazine Ridge**	**1.28**	**60**	P	**Pn**	**03 43 41.2**	**-0.4**
OKFG				S	**Sb**	**03 43 58.9**	**+0.5**
MSOM	**Makushin Julie**	**1.98**	**58**	P	**Pn**	**03 43 52.2**	**+1.0**
MSOM				S	**Sn**	**03 44 17.1**	**+1.0**
MCIR	**Makushin Cirqu**	**2.08**	**55**	P	**Pn**	**03 43 54.4**	**+1.7**
MSW	**Makushin Switc**	**2.12**	**57**	P	**Pn**	**03 43 54.3**	**+1.2**
MTBL	**Makushin Table**	**2.20**	**56**	P	**Pn**	**03 43 55.3**	**+1.0**
UNV	**Unalaska Valle**	**2.23**	**60**	*e*Pn	**Pn**	**03 43 55.5**	**+0.9**
UNV				*e*S	**Sn**	**03 44 23.6**	**+1.5**
AKRB	**Akutan Reef Bi**	**2.59**	**57**	P	**Pn**	**03 44 01.4**	**+1.8**
AKUT	**Akutan**	**2.75**	**59**	*e*Pn	**Pn**	**03 44 03.2**	**+1.5**
AKUT				*e*S	**Sb**	**03 44 40.4**	**-0.1**
ATKA	**Atka Island**	**2.76**	**259**	P	**Pn**	**03 44 02.8**	**+0.9**
ATKA				S	**Sn**	**03 44 36.6**	**+1.4**
GSTR	**Great Sitkin T**	**3.91**	**262**	*e*Pn	**Pn**	**03 44 19.1**	**+1.4**
GSTR				*e*S	**Sb**	**03 45 14.9**	**+1.0**
FALS	**False Pass**	**4.30**	**59**	*e*Pn	**Pn**	**03 44 24.2**	**+1.2**
SPIA	**Saint Paul Isl**	**4.40**	**357**	P	**Pn**	**03 44 26.8**	**+2.4**
AMKA	**Amchitka**	**6.88**	**262**	*e*Pn	**Pn**	**03 45 00.4**	**+1.9**
ILAR	**Eielson Array** 0.0nm,0.3s,baz=225,slow=10,SNR=2.6	**16.75**	**35**	Pn	**Pn**	**03 47 09.3**	**-2.7**
DLBC	**Dease Lake** 2.9nm,0.9s,baz=253,slow=8.6,SNR=4.1	**22.89**	**60**	P	**P**	**03 48 22.5**	**+1.4**
INK	**Inuvik** 0.6nm,0.9s,baz=248,slow=7.5,SNR=4.0	**23.13**	**34**	P	**P**	**03 48 22.2**	**-1.3**
NVAR	**Mina Array Bea** 0.2nm,0.3s,baz=301,slow=7.2,SNR=3.3	**37.92**	**91**	P	**P**	**03 50 37.1**	**+2.0**
H11S1	**WAKE ISLAND Hy** baz=20	**38.83**	**217**	T	T	04 31 54.0	
H11S2	**WAKE ISLAND Hy** baz=20	**38.84**	**217**	T	T	04 31 55.1	
H11S3	**WAKE ISLAND Hy** baz=20	**38.84**	**217**	T	T	04 31 55.3	
PDAR	**Pinedale Array** 0.7nm,0.7s,baz=327,slow=5.7,SNR=6.6	**40.57**	**79**	P	**P**	**03 50 57.8**	**+0.5**
TXAR	**Lajitas Array** 0.8nm,0.7s,baz=299,slow=5.9,SNR=15	**52.99**	**89**	P	**P**	**03 52 35.0**	**+0.5**
TXAR				PcP	**PcP**	**03 53 43.6**	**+0.5**
GEYT	**Alibeck** 1.0nm,0.3s,baz=1.1,slow=7.2,SNR=4.6	**80.54**	**324**	P	**P**	**03 55 27.1**	**-2.8**
WRA	**Warramunga Arr** 0.3nm,0.8s,baz=34,slow=5.9,SNR=3.5	**87.07**	**231**	P	**P**	**03 56 01.8**	**-1.5**
ASAR	**Alice Springs** 1.5nm,0.8s,baz=27,slow=5.1,SNR=9.9	**90.48**	**230**	P	**P**	**03 56 17.6**	**-1.7**
BOSA	**Boshof** 0.8nm,0.7s,baz=304,slow=3.6,SNR=3.1	**153.40**	**329**	PKPbc	**PKPbc**	**04 03 15.8**	**-0.1**

NIED ***26*** *03:47:00,43.°30N×146.°40E,h38km,Mw3.6 Best double couple: M₀3.15000×10¹⁴ NP1:φ₅217.00000°,δ32.00000°, λ97.00000°. NP2:φ₅29.00000°,δ58.00000°,λ86.00000°.*
ISCJB ***26*** *03:47:28.6±1.0,43.°38N±0.°07×146.°47E±0.°08,h50km±7km, mb4.4/1,MS3.5/1,Error ellipse: s-maj=14.9km s-min=5.9km az=142.6*
JMA ***26*** *03:47:28.7±0.2,43.°28N×146.°44E,h48km±1km,M3.5*
JMA Felt I J1.
SKHL ***26*** *03:47:29.4±0.4,43.°46N×146.°35E,h58km±4km,mb4.6/3*

ISC 26 03:47:28.5±1.2,43.°40N±0.°08×146.°48E±0.°07,h52km±7km, n21,σ1§59/27,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.53**	**28**	*e*P	**Pn**	**03 47 40.0**	**-0.2**
SHO				AMB	AMB	03 47 40.6	
	170nm,0.2s						
SHO				*e*S	**Sn**	**03 47 47.8**	**-0.9**
SHO				A	A	03 47 48.2	
	250nm,0.2s						
NEM2	**Nemuro 2**	**0.54**	**267**	P	**Pn**	**03 47 40.0**	**-0.3**
NEM2				*e*S	**Sn**	**03 47 48.4**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**0.78**	**325**	*i* P	**Pn**	**03 47 43.7**	**+0.4**
YUK				AMB	AMB	03 47 44.2	
	220nm,0.3s						
YUK				AMB	AMB	03 47 44.2	
	150nm,0.3s						
YUK				AMB	AMB	03 47 44.2	
	1μm,0.3s						
YUK				*i* S	**Sn**	**03 47 54.9**	**+0.8**
YUK				A	A	03 47 57.5	
	840nm,0.5s						
YUK				A	A	03 47 57.5	
	2μm,0.5s						
JRA	**Rausu**	**1.12**	**299**	P	**Pn**	**03 47 48.9**	**+1.0**
JNK	**Nakash**	**1.30**	**279**	P	**Pn**	**03 47 50.4**	**+0.2**
JNK				*e*S	**Sn**	**03 48 06.4**	**-0.1**
JAK	**Akkeshi**	**1.37**	**253**	P	**Pn**	**03 47 50.9**	**-0.2**
JTKR	**Abashiri--Toko**	**1.95**	**288**	P	**Pn**	**03 48 01.0**	**+1.9**
JAR	**Ashorobuto**	**1.98**	**268**	P	**Pn**	**03 48 00.3**	**+0.8**
JOB	**Onbets**	**2.00**	**257**	P	**Pn**	**03 48 00.3**	**+0.5**
KUR	**Kuril'sk**	**2.08**	**28**	*e*P	**Pn**	**03 48 03.0**	**+2.1**
KUR				AMB	AMB	03 48 03.8	
	10.0nm,0.2s						
KUR				AMB	AMB	03 48 03.8	
	20nm,0.2s						
KUR				*i* S	**Sn**	**03 48 28.2**	**+2.5**
KUR				A	A	03 48 30.5	
	320nm,0.3s						
KUR				A	A	03 48 30.5	
	140nm,0.3s						
JMP	**Maruseppu**	**2.34**	**286**	P	**Pn**	**03 48 06.5**	**+2.0**
JCH	**Churui**	**2.42**	**252**	P	**Pn**	**03 48 06.6**	**+1.1**
JCH				*e*S	**Sn**	**03 48 34.1**	**+0.2**
ERM	**Erimo**	**2.82**	**242**	*e*P	**Pn**	**03 48 13.7**	**+2.8**
YSS	**Yuzh-Sakhalins**	**4.42**	**325**	*e*P	**Pn**	**03 48 34.0**	**+1.0**
TYV	**Tymovskoe** 500nm,12.0s	**7.91**	**342**	AMS	AMS	03 57 36.0	
OKH	**Okha** 1μm,10.0s	**10.43**	**348**	AMS	AMS	03 55 28.5	
NKL	**Nikolayevsk** 300nm,15.0s	**10.49**	**340**	AMS	AMS	03 56 20.0	
SEY	**Seymchan**	**19.87**	**8**	*e*P	**P**	**03 51 52.2**	**-2.8**
YAK	**Yakutsk**	**21.13**	**338**	*e*P	**P**	**03 52 05.1**	**-3.5**
HHC	**Hu-ho-hao-te**	**25.91**	**276**	*e*P	**P**	**03 52 55.3**	**-0.4**
HHC				pP	**pP**	**03 53 10.8**	**+2.0**
HHC				S	**S**	**03 57 22.3**	**+0.2**
HHC				sS	**sS**	**03 57 44.5**	**0.0**
HHC				pmax	pmax		
	comp=Z,18nm,1.3s						
HHC				pmax	pmax		
	comp=Z,59nm,6.2s						
HHC				LR	LR		
	comp=N,140nm,19.7s						
HHC				LR	LR		
	comp=E,160nm,17.3s						
HHC				LR	LR		
	comp=Z,81nm,16.0s						
ULN	**Ulaanbaatar**	**27.72**	**293**	*e*P	**P**	**03 53 13.4**	**+1.5**

ISCJB ***26*** *03:48:16.1±0.9,4.°55N±0.°04×75.°34W±0.°07,h13km±6km, mb3.4/4,Error ellipse: s-maj=11.3km s-min=6.3km az=178.6*
IDC ***26*** *03:48:16.0±1.1,4.°52N×75.°42W,h0km,mb3.5/4,mb1 3.9/5, mb1mx3.5/35,mbtmp3.6/5,ML3.8/1,MS2.8/1,Ms1 2.8/1, ms1mx2.4/20,Error ellipse: s-maj=29.3km s-min=17.1km az=3.0*
NEIC ***26*** *03:48:17.0±0.6,4.°48N×75.°37W,h10km,ML4.1(RSNC), Error ellipse: s-maj=10.4km s-min=8.4km az=103.0*
NEIC Felt at Cajamarca and Ibague.

ISC 26 03:48:16.4±1.3,4.°50N±0.°04×75.°34W±0.°07,h3km±10km, n12,σ1§17/15,mb3.5/4,Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLC	**Tolima**	**0.09**	**2**	*e*P	**Pg**	**03 48 18.4**	**0.0**
TOLC				*e*S	**Sg**	**03 48 19.6**	**0.0**
PRAC	**Prado**	**0.91**	**151**	*i* P	**Pg**	**03 48 33.6**	**-0.3**
PRAC				*e*S	**Sg**	**03 48 45.9**	**+0.2**
ROSC	**El Rosal** 34nm,0.3s,baz=323,slow=2.5,SNR=78	**1.07**	**70**	Pg	**Pn**	**03 48 38.4**	**-0.4**
ROSC				Lg	Lg	03 48 57.0	
	56nm,0.3s,baz=274,slow=23,SNR=14						
BETC	**Betania**	**1.81**	**183**	*e*P	**Pn**	**03 48 48.0**	**-0.6**
BETC				*e*S	**Sn**	**03 49 11.7**	**-0.3**
BETC				*e*		03 49 14.6	
OTAV	**Otavalo** 5.1nm,0.6s	**5.25**	**216**	*e*Pn	**Pn**	**03 49 35.7**	**-0.6**
OTAV				*e*S	**Sn**	**03 50 40.3**	**+2.8**
ATAH	**Atahualpa** comp=Z,48nm,21.5s,baz=23,slow=41	**11.95**	**195**	LR	LR	03 56 30.0	
PCRV	**Puerto La Cruz** 0.6nm,0.3s,baz=256,slow=4.2,SNR=3.8	**12.02**	**61**	Pn	**Pn**	**03 51 10.4**	**+1.5**
SIV	**San Ignacio** 1.4nm,0.6s,baz=332,slow=8.8,SNR=5.0	**24.77**	**146**	P	**P**	**03 53 39.8**	**0.0**
TXAR	**Lajitas Array** 0.1nm,0.5s,baz=121,slow=8.7,SNR=4.1	**36.46**	**316**	P	**P**	**03 55 23.9**	**+0.9**
NVAR	**Mina Array Bea** 0.1nm,0.4s,baz=132,slow=7.2,SNR=2.6	**51.59**	**317**	P	**P**	**03 57 23.6**	**-1.0**
YKA	**Yellowknife Ar** 0.3nm,0.4s,baz=134,slow=6.1,SNR=5.0	**64.70**	**341**	P	**P**	**03 58 54.0**	**-1.6**
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=98,slow=3.2,SNR=3.6	**147.27**	**240**	PKPbc	**PKPbc**	**04 08 02.3**	**-0.1**

ISCJB ***26*** *03:52:48.2±0.4,22.°93S±0.°05×65.°60W±0.°07,h242km, mb4.0/10,Error ellipse: s-maj=9.2km s-min=7.0km az=179.1*
IDC ***26*** *03:52:49.9±0.9,23.°19S×65.°86W,h265km±9km,mb3.6/9, mb1 3.7/13,mb1mx3.5/30,mbtmp4.2/13,Error ellipse: s-maj=18.0km s-min=13.2km az=14.0*
SJA ***26*** *03:52:54.6±0.5,22.°99S×66.°09W,h250km,ML3.2*

ISC 26 03:52:49.0±0.6,22.°91S±0.°07×65.°81W±0.°09,h242km,n34, σ2§05/28,mb4.1/10,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**0.47**	**129**	*e*P	Pn	03 53 28.7	+7.4
YJA	**Yavi**	**0.78**	**20**	*e*P	Pn	03 53 30.9	+8.3
AZAP	**Zapla**	**1.47**	**153**	*e*P	Pn	03 53 31.8	+5.3
ASTB	**Santa Barbara**	**1.59**	**131**	*e*P	Pn	03 53 33.3	+5.8
SLA	**San Lorenzo**	**1.82**	**171**	*e*P	Pn	03 53 34.2	+4.9
SLA				*i* S	**S**	**03 54 06.6**	**+5.4**
SLA				AML	AML	03 54 11.0	
	comp=Z,83nm,0.8s						
LVC	**Limon Verde** comp=Z,2μm,0.3s,baz=148,slow=3.6,SNR=1026	**2.88**	**275**	P	Pn	03 53 43.9	+4.0
LVC				S	**S**	**03 54 23.6**	**+3.6**
	comp=Z,2μm,0.3s,baz=250,slow=21,SNR=19						
LVC	**Limon Verde**	**2.88**	**275**	*e*P	Pn	03 53 43.9	+4.0
FSA	**Cafayete**	**3.17**	**183**	*e*P	**Pn**	**03 53 45.0**	**+2.0**
AHML	**Horco Molle**	**3.88**	**174**	*e*P	**Pn**	**03 53 52.6**	**+1.6**
CYA	**Choya**	**5.51**	**180**	*e*P	**Pn**	**03 54 11.9**	**+1.1**
VCA	**Vinchina**	**6.19**	**200**	*e*P	**Pn**	**03 54 19.4**	**-0.1**
LPAZ	**La Paz** comp=Z,0.4nm,0.3s,baz=176,slow=12,SNR=12	**6.94**	**341**	P	Pn	03 54 34.1	+4.6
LPAZ				S	**S**	**03 55 52.0**	**+2.1**
	baz=6.3,slow=18,SNR=1.8						
SIV	**San Ignacio** comp=Z,1.4nm,0.3s,baz=225,slow=14,SNR=32	**8.20**	**34**	P	Pn	03 54 49.1	+4.1
CPUP	**Villa Florida** comp=Z,0.1nm,0.3s,baz=321,slow=6.6,SNR=3.3	**8.43**	**116**	P	**Pn**	**03 54 49.2**	**+1.6**
TCA	**Tanti**	**8.46**	**173**	*e*P	**Pn**	**03 54 46.7**	**-1.4**
RTLL	**Cerro Villicun**	**8.71**	**195**	*e*P	**Pn**	**03 54 48.7**	**-2.6**
CFAA	**Coronel Fontan** comp=Z,0.1nm,0.3s,baz=18,slow=13,SNR=37	**8.93**	**193**	P	**Pn**	**03 54 50.9**	**-3.1**
CFAA				S		03 56 23.1	-12
	comp=Z,0.4nm,0.3s,baz=295,slow=19,SNR=25						
ACAN	**Cantantal**	**9.41**	**187**	*e*P	**Pn**	**03 54 58.1**	**-2.0**
BDFB	**Brasilia** comp=Z,1.1nm,0.3s,baz=245,slow=11,SNR=18	**18.28**	**70**	P	**P**	**03 56 47.0**	**+1.7**
PTGA	**Pitinga** comp=Z,2.3nm,0.3s,baz=190,slow=19,SNR=5.1	**22.77**	**15**	P	**P**	**03 57 31.9**	**+1.2**
PCRV	**Puerto La Cruz** comp=Z,13nm,1.0s,baz=166,slow=8.3,SNR=3.5	**32.90**	**2**	P	**P**	**03 59 02.3**	**+1.6**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.5s,baz=145,slow=6.2,SNR=7.4	**63.45**	**323**	P	**P**	**04 02 53.1**	**-0.3**
TIC	**Toumodi**	**66.26**	**71**	*e*P	**P**	**04 03 10.6**	**-1.2**
KIC	**Kosan Boka** comp=Z,119nm,2.0s	**66.37**	**72**	*e*P	**P**	**04 03 11.2**	**-1.2**
DBIC	**Dimbokro** comp=Z,3.8nm,0.6s,baz=223,slow=5.2,SNR=9.6	**66.42**	**71**	P	**P**	**04 03 11.4**	**-1.2**
TORD	**Torodi Ar. Bea** comp=Z,3.0nm,0.4s,baz=260,slow=6.1,SNR=108	**75.16**	**69**	P	**P**	**04 04 03.7**	**-1.5**
TOB3	**Torodi Ar. Sit**	**75.16**	**69**	*e*P	**P**	**04 04 03.8**	**-1.4**
PDAR	**Pinedale Array** comp=Z,0.4nm,0.5s,baz=120,slow=7.4,SNR=6.3	**76.79**	**328**	P	**P**	**04 04 14.2**	**+0.1**
ULM	**Lac du Bonnet** comp=Z,2.1nm,0.6s,baz=122,slow=2.2,SNR=3.4	**77.56**	**341**	P	**P**	**04 04 17.5**	**-0.4**
ESDC	**Sonseca Array** comp=Z,0.7nm,0.7s,baz=233,slow=4.9,SNR=5.3	**84.86**	**43**	P	**P**	**04 04 56.4**	**-0.2**
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.5s,baz=134,slow=4.6,SNR=6.5	**93.49**	**340**	P	**P**	**04 05 35.8**	**-0.8**
ASAR	**Alice Springs** comp=Z,1.8nm,1.1s,baz=158,slow=1.3,SNR=6.3	**129.89**	**204**	PKP	**PKPdf**	**04 11 27.8**	**-2.6**
WRA	**Warramunga Arr** comp=Z,0.4nm,0.3s,baz=151,slow=1.8,SNR=7.6	**153.05**	**206**	PKP	**PKPdf**	**04 11 34.8**	**-1.7**
MKAR	**Makanchi Array** comp=Z,0.8nm,0.5s,baz=316,slow=3.8,SNR=6.5	**144.99**	**39**	PKPbc	**PKPdf**	**04 11 56.9**	**-0.3**

IDC ***26*** *03:55:18.6±1.8,52.°39N×169.°66W,h0km,mb3.6/3, mb1 3.8/4,mb1mx3.4/42,mbtmp3.5/4,ML3.4/1,Error ellipse: s-maj=60.5km s-min=31.0km az=141.0*
NEIC ***26*** *03:55:20.8,52.°71N×169.°48W,h3km,ML3.1(AEIC),After AEIC.*
ISCJB ***26*** *03:55:21.0±1.4,52.°7N±0.°1×169.°6W±0.°1,h26km±9km, mb3.6/3,Error ellipse: s-maj=23.4km s-min=8.8km az=153.5*

ISC 26 03:55:20.5±1.9,52.°7N±0.°1×169.°53W±0.°08,h10km±11km, n20,σ0§73/21,mb3.5/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.52**	**52**	P	**Pg**	**03 55 39.0**	**+0.3**
NIKH				S	**Sb**	**03 55 39.6**	**+0.2**
OKSO	**Okmok South**	**1.09**	**49**	P	**Pg**	**03 55 40.6**	**-0.8**
OKSO				S	**Sb**	**03 55 56.9**	**+1.2**
OKWR	**Okmok West Rim**	**1.12**	**45**	P	**Pg**	**03 55 42.0**	**-0.1**
OKCE	**Okmok Cone E**	**1.13**	**46**	P	**Pg**	**03 55 41.4**	**-0.8**
OKTU	**Okmok Mt. Tuli**	**1.16**	**50**	P	**Pg**	**03 55 42.5**	**-0.3**
OKAK	**Okmok**	**1.17**	**37**	P	Pg	03 55 40.2	-2.7
OKFG	**Magazine Ridge**	**1.24**	**52**	P	**Pg**	**03 55 43.3**	**-1.0**
OKFG				S	**Sg**	**03 56 00.5**	**+0.2**
MCIR	**Makushin Cirqu**	**2.05**	**50**	P	**Pn**	**03 55 56.2**	**+1.1**
MSW	**Makushin Switc**	**2.08**	**51**	P	**Pn**	**03 55 55.8**	**+0.3**
UNV	**Unalaska Valle**	**2.18**	**55**	*e*Pn	**Pn**	**03 55 56.8**	**0.0**
UNV				*e*S	**Sn**	**03 56 23.6**	**-0.2**
AKUT	**Akutan**	**2.70**	**55**	*e*Pn	**Pn**	**03 56 03.9**	**0.0**
AKUT				*e*S	**Sb**	**03 56 42.3**	**+0.4**
ATKA	**Atka Island**	**2.89**	**263**	P	**Pn**	**03 56 07.5**	**+1.0**
SPIA	**Saint Paul Isl**	**4.55**	**355**	P	**Pn**	**03 56 29.2**	**-0.2**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=229,slow=11,SNR=5.8	**16.77**	**35**	Pn	**Pn**	**03 59 15.8**	**+0.5**
H11S1	**WAKE ISLAND Hy** baz=22,slow=76,SNR=33	**38.80**	**218**	T	T	04 43 55.4	
H11S2	**WAKE ISLAND Hy** baz=22,slow=76,SNR=20	**38.82**	**218**	T	T	04 43 54.0	
H11S3	**WAKE ISLAND Hy** baz=22,slow=76,SNR=21	**38.82**	**218**	T	T	04 43 56.3	
PDAR	**Pinedale Array** 0.5nm,0.7s,baz=306,slow=3.1,SNR=4.3	**40.45**	**79**	P	**P**	**04 02 59.4**	**+0.2**
TXAR	**Lajitas Array** 0.5nm,0.7s,baz=290,slow=4.3,SNR=7.7	**52.84**	**89**	P	**P**	**04 04 36.6**	**+0.4**
ASAR	**Alice Springs** 0.5nm,0.6s,baz=39,slow=4.8,SNR=5.8	**90.50**	**230**	P	**P**	**04 08 20.9**	**-1.5**

CSEM ***26*** *03:57:02.9±0.3,41.°78N×23.°82E,h15km,MD3.0,Error ellipse: s-maj=8.1km s-min=4.6km az=70.0*
ATH ***26*** *03:57:03.2,41.°74N×23.°75E,h22km±1km,MD3.0/8*
ISCJB ***26*** *03:57:05.3±0.8,41.°67N±0.°04×23.°81E±0.°07,h26km±6km, Error ellipse: s-maj=8.4km s-min=5.5km az=160.3*
BEO ***26*** *03:57:06.3,41.°79N×23.°71E,h31km,ML2.0/1*

ISC 26 03:57:04.3±1.1,41.°72N±0.°03×23.°81E±0.°04,h22km±6km,

n24,σ0§79/39,1C,Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVR	**Nevrokopi**	**0.38**	**174**	*e*PB	**Pb**	**03 57 12.2**	**-0.1**
NVR				*e*SB	**Sb**	**03 57 17.7**	**0.0**
NVR	**Nevrokopi**	**0.38**	**174**	*e*Pb	**Pb**	**03 57 12.2**	**-0.1**
NVR				*e*Sb	**Sb**	**03 57 17.7**	**0.0**
SRS	**Serrai**	**0.63**	**195**	*e*PN	**Pb**	**03 57 16.7**	**+0.1**
SRS				*e*SN	**Sb**	**03 57 25.0**	**0.0**
SRS	**Serrai**	**0.63**	**195**	*e*Pn	**Pb**	**03 57 16.7**	**+0.1**
SRS				*e*Sn	**Sb**	**03 57 25.0**	**0.0**
KNT	**Kendrikon**	**0.89**	**231**	*e*PN	**Pn**	**03 57 20.5**	**-1.0**
KNT				*e*SN	**Sb**	**03 57 31.8**	**-0.6**
KNT	**Kendrikon**	**0.89**	**231**	*e*Pn	**Pn**	**03 57 20.5**	**-1.0**
KNT				*e*Sn	**Sb**	**03 57 31.8**	**-0.6**
KAVA	**Kavala**	**0.90**	**144**	*e*PN	**Pn**	**03 57 21.4**	**-0.2**
KAVA				*e*SN	**Sn**	**03 57 34.3**	**+0.4**
KAVA	**Kavala**	**0.90**	**144**	*e*Pn	**Pn**	**03 57 21.4**	**-0.2**
KAVA				*e*Sn	**Sn**	**03 57 34.3**	**+0.4**
SOH	**Sokhos**	**0.96**	**201**	*e*PN	**Pb**	**03 57 21.9**	**-0.5**
SOH				*e*SN	**Sn**	**03 57 35.2**	**-0.4**
SOH	**Sokhos**	**0.96**	**201**	*e*Pn	**Pb**	**03 57 21.9**	**-0.5**
SOH				*e*Sn	**Sn**	**03 57 35.2**	**-0.4**
VTS	**Vitosha**	**0.98**	**333**	*i* P	**Pn**	**03 57 21.5**	**-1.3**
VTS				S	**Sn**	**03 57 37.3**	**+1.2**
VTS	**Vitosha**	**0.98**	**333**	*e*PN	**Pn**	**03 57 21.6**	**-1.3**
VTS	**Vitosha**	**0.98**	**333**	*e*Pn	**Pn**	**03 57 21.6**	**-1.3**
VAY	**Valandovo**	**1.02**	**247**	*e*Pg	**Pn**	**03 57 24.5**	**+1.3**
VAY				*i* Sg	**Sn**	**03 57 37.4**	**+0.5**
VAY	**Valandovo**	**1.02**	**247**	*e*Pg	**Pn**	**03 57 24.5**	**+1.3**
VAY				*i* Sg	**Sn**	**03 57 37.3**	**+0.5**
HORT	**Hortiatis**	**1.25**	**206**	*e*PN	**Pb**	**03 57 27.0**	**-0.2**
HORT				*e*SN	**Sb**	**03 57 44.5**	**+1.7**
HORT	**Hortiatis**	**1.25**	**206**	*e*Pn	**Pb**	**03 57 27.0**	**-0.2**
HORT				*e*Sn	**Sb**	**03 57 44.5**	**+1.7**
GRG	**Griva**	**1.31**	**235**	*e*PN	**Pb**	**03 57 27.4**	**-0.8**
GRG	**Griva**	**1.31**	**235**	*e*Pn	**Pb**	**03 57 27.4**	**-0.8**
OUR	**Ouranopolis**	**1.39**	**175**	*e*PN	**Pb**	**03 57 29.5**	**-0.1**
OUR	**Ouranopolis**	**1.39**	**175**	*e*Pn	**Pb**	**03 57 29.5**	**-0.1**
ZAPS	**Zavoj**	**1.78**	**331**	*e*Pg	**Pb**	**03 57 37.0**	**+0.8**
BARS	**Barje**	**1.84**	**307**	*e*Pg	**Pb**	**03 57 37.3**	**0.0**
BARS	**Barje**	**1.84**	**307**	*e*Pg	**Pb**	**03 57 37.3**	**0.0**

IDC ***26*** *04:00:33.4±1.0,1.°95N×116.°90E,h0km,mb3.7/6, mb1 3.9/7,mb1mx3.6/39,mbtmp3.8/7,ML3.8/1,MS3.1/2, Ms1 3.2/2,ms1mx2.6/34,Error ellipse: s-maj=119.9km s-min=16.6km az=58.0*

ISC 26 04:00:38.5±1.0,1.°7N±0.°4×116.°6E±0.°6,h35km,n7,σ1§14/8, mb3.7/6,Borneo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**7.37**	**155**	Pn	**Pn**	**04 02 25.0**	**+1.4**
KAPI	1.4nm,0.3s,baz=4.8,slow=12,SNR=2.7			Sn	**Sn**	**04 03 44.1**	**-2.0**
	0.9nm,0.3s,baz=227,slow=18,SNR=1.8						
KAPI				LR	LR	04 06 02.5	
	comp=Z,166nm,18.7s,baz=310,slow=44						
CMAR	**Chiang Mai Arr** 0.6nm,0.3s,baz=146,slow=8.7,SNR=6.8	**24.03**	**315**	P	**P**	**04 05 50.4**	**-0.1**
CMAR				LR	LR	04 16 44.4	
	comp=Z,30nm,19.4s,baz=80,slow=40						
WRA	**Warramunga Arr** 0.5nm,0.6s,baz=320,slow=9.9,SNR=4.0	**27.66**	**142**	P	**P**	**04 06 23.2**	**-0.1**
ASAR	**Alice Springs** 0.4nm,0.7s,baz=334,slow=8.3,SNR=3.5	**30.31**	**147**	P	**P**	**04 06 47.3**	**+0.5**
STKA	**Stephens Creek** 2.0nm,0.8s,baz=316,slow=10,SNR=3.5	**40.95**	**147**	P	**P**	**04 08 17.8**	**-0.1**
MKAR	**Makanchi Array** 0.7nm,0.6s,baz=134,slow=8.3,SNR=6.7	**53.94**	**331**	P	**P**	**04 09 58.5**	**-0.3**
ZALV	**Zalesovo Beam** 0.6nm,0.4s,baz=152,slow=6.5,SNR=3.0	**58.27**	**339**	P	**P**	**04 10 29.0**	**-0.5**

IDC ***26*** *04:15:58.2±1.3,52.°55N×170.°03W,h0km,mb3.6/5, mb1 3.9/6,mb1mx3.5/42,mbtmp3.5/6,ML3.3/1,Error ellipse: s-maj=50.8km s-min=23.1km az=150.0*
ISCJB ***26*** *04:15:59.3±1.2,52.°7N±0.°1×169.°67W±0.°09,h7km,7km, mb3.6/5,Error ellipse: s-maj=18.6km s-min=4.9km az=155.6*
NEIC ***26*** *04:16:01.9,52.°74N×169.°52W,h5km,ML3.4(AEIC),After AEIC.*

ISC 26 04:16:01.0±1.9,52.°8N±0.°1×169.°65W±0.°06,h6km±12km, n30,σ1§24/28,mb3.6/5,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.51**	**69**	P	**Pg**	**04 16 11.6**	**+0.7**
NIKH				S	**Sg**	**04 16 19.3**	**-0.7**
OKSO	**Okmok South**	**1.06**	**57**	P	**Pg**	**04 16 20.9**	**-0.3**
OKSO				S	**Sb**	**04 16 36.5**	**+0.7**
OKWR	**Okmok West Rim**	**1.08**	**53**	P	**Pb**	**04 16 22.6**	**+0.5**
OKCE	**Okmok Cone E**	**1.09**	**54**	P	**Pg

LPAZ	**La Paz**	**7.36**	**339**	Pn	Pn	04 25 12.0	+5.3		
	comp=Z,0.1nm,0.3s,baz=151,slow=12,SNR=3.2								
LPAZ				Sn	Sn	04 26 37.8	+6.9		
	comp=Z,0.1nm,0.3s,baz=259,slow=16,SNR=1.6								
CPUP	**Villa Florida**	**7.99**	**114**	Pn	**Pn**	**04 25 14.2**	**-0.6**		
	comp=Z,0.4nm,0.3s,baz=295,slow=15,SNR=11								
CPUP				Lg	Lg	04 27 23.5			
	comp=Z,0.2nm,0.3s,baz=209,slow=19,SNR=1.9								
SIV	**San Ignacio**	**8.30**	**31**	Pn	**Pn**	**04 25 20.6**	**+1.4**		
	comp=Z,1.7nm,0.3s,baz=217,slow=14,SNR=16								
SIV				Sn	**Sn**	**04 26 51.1**	**-2.1**		
	comp=Z,0.8nm,0.3s,baz=183,slow=18,SNR=3.1								
TORD	**Torodi Ar. Bea**	**74.97**	**68**	P	**P**	**04 35 01.0**	**+0.4**		
	comp=Z,0.3nm,0.5s,baz=257,slow=6.0,SNR=8.8								

*ISCJB **26** 04:27:44.5±0.4, 40°48N±0°01×25°79E±0°02, h9km×3km, Error ellipse: s-maj=2.8km s-min=2.4km az=174.3*
*ATH **26** 04:27:44.4, 40°49N×25°82E, h27km±1km, MD3.3/9*
*SOF **26** 04:27:44.5, 40°44N×25°72E, h10km, MD2.8*
*DDA **26** 04:27:45.9, 40°43N×25°93E, h7km, MD3.2*
*ISK **26** 04:27:45.6, 40°47N×25°91E, h9km, MD3.3*
*THE **26** 04:27:45.3, 40°48N×25°80E, h10km, ML3.1/6, Error ellipse: s-maj=1.0km s-min=0.5km az=301.0*
*CSEM **26** 04:27:45.2±0.1, 40°46N×25°79E, h10km, ML3.1, Error ellipse: s-maj=2.8km s-min=2.7km az=36.0*

ISC 26 04:27:45.2±0.9, **40°47N**±0°02×**25°81E**±0°01, **h11**km±7km, **n135**, σ0**72**/174, **9C-10D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMTH	**Samothraki Isl**	**0.21**	**271**	*e*PB	**Pg**	**04 27 50.0**	**+0.2**
SMTH	**Samothraki Isl**	**0.21**	**271**	P	**Pg**	**04 27 50.0**	**+0.2**
SMTH				S	**Sg**	**04 27 52.7**	**-0.2**
SMTH	**Samothraki Isl**	**0.21**	**271**	P	**Pg**	**04 27 50.0**	**+0.2**
SMTH				S	**Sg**	**04 27 52.7**	**-0.2**
GADA	**Gvkgeada**	**0.28**	**167**	*e*PG	**Pb**	**04 27 51.9**	**-0.4**
GADA				*e*SG	**Sb**	**04 27 56.3**	**-0.7**
GADA	**Gvkgeada**	**0.28**	**167**	*e*Pg	**Pb**	**04 27 51.9**	**-0.4**
GADA				*e*Sg	**Sb**	**04 27 56.3**	**-0.7**
ENEZ	**Enez**	**0.37**	**44**	*e*PG	**Pg**	**04 27 52.2**	**-0.4**
ENEZ	**Enez**	**0.37**	**44**	*e*Pg	**Pg**	**04 27 52.2**	**-0.4**
ALN	**Alexandroupoli**	**0.46**	**22**	*e*PG	**Pb**	**04 27 55.1**	**-0.3**
ALN	**Alexandroupoli**	**0.46**	**22**	*e*PB	**Pg**	**04 27 54.0**	**-0.3**
ALN				*e*SB	**Sg**	**04 28 00.5**	**-0.1**
ALN	**Alexandroupoli**	**0.46**	**22**	P	**Pg**	**04 27 54.0**	**-0.3**
ALN	**Alexandroupoli**	**0.46**	**22**	*e*Pg	**Pb**	**04 27 55.1**	**-0.3**
ALN				S	**Sg**	**04 28 00.4**	**-0.1**
ALN	**Alexandroupoli**	**0.46**	**22**	P	**Pg**	**04 27 54.0**	**-0.3**
ALN				S	**Sg**	**04 28 00.4**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.51**	**98**	*e*PG	**Pg**	**04 27 55.1**	**0.0**
GELI	**Tayfur-Gelibol**	**0.51**	**98**	*e*Pg	**Pg**	**04 27 55.1**	**0.0**
ERIK	**Erikli-Kesan**	**0.57**	**69**	*e*PG	**Pg**	**04 27 55.8**	**-0.5**
ERIK				*e*SG	**Sg**	**04 28 03.4**	**-0.5**
ERIK	**Erikli-Kesan**	**0.57**	**69**	*e*Pg	**Pg**	**04 27 55.8**	**-0.5**
ERIK				*e*Sg	**Sg**	**04 28 03.4**	**-0.5**
BOZC	**Bozcaada**	**0.65**	**163**	*i* P	**Pg**	**04 27 58.1**	**+0.3**
BOZC				*i* S	**Sg**	**04 28 06.7**	**+0.3**
LPK	**Lapseki**	**0.73**	**97**	*e*PG	**Pg**	**04 27 59.2**	**-0.1**
LPK				*e*SG	**Sg**	**04 28 08.9**	**0.0**
LPK	**Lapseki**	**0.73**	**97**	*e*Pg	**Pg**	**04 27 59.2**	**-0.1**
LPK				*e*Sg	**Sg**	**04 28 08.9**	**0.0**
LIA	**Limnos Island**	**0.75**	**220**	*e*PN	**Pg**	**04 27 59.8**	**+0.2**
LIA				*e*SN	**Sg**	**04 28 10.7**	**+0.4**
LIA	**Limnos Island**	**0.75**	**220**	P	**Pg**	**04 27 59.8**	**+0.2**
LIA				S	**Sb**	**04 28 10.2**	**-0.1**
LIA	**Limnos Island**	**0.75**	**220**	P	**Pg**	**04 27 59.8**	**+0.2**
LIA				S	**Sb**	**04 28 10.2**	**-0.1**
EZN	**Ezine**	**0.75**	**148**	*e*PG	**Pg**	**04 27 59.8**	**+0.1**
EZN	**Ezine**	**0.75**	**148**	*e*Pg	**Pg**	**04 27 59.8**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.06**	**78**	*e*PG	**Pg**	**04 28 04.6**	**-1.1**
RKY	**Sarkoy-Tekirda**	**1.06**	**78**	*e*Pg	**Pg**	**04 28 04.6**	**-1.1**
SART	**Tekirdag**	**1.06**	**78**	*i* P	**Pg**	**04 28 04.6**	**-1.1**
SART				*i* S	**Sg**	**04 28 19.6**	**0.0**
SART	**Tekirdag**	**1.06**	**78**	*i* P	**Pg**	**04 28 04.6**	**-1.1**
SART				*i* S	**Sg**	**04 28 19.6**	**0.0**
KRBG	**Karabiga-Canak**	**1.14**	**93**	*e*PG	**Pb**	**04 28 06.1**	**-0.7**
KRBG				*e*SG	**Sb**	**04 28 21.1**	**-0.4**
KRBG	**Karabiga-Canak**	**1.14**	**93**	*e*Pg	**Pb**	**04 28 06.1**	**-0.7**
KRBG				*e*Sg	**Sb**	**04 28 21.1**	**-0.4**
KDZ	**Kurdzhali**	**1.22**	**346**	P	**Pn**	**04 28 07.4**	**-0.8**
KDZ	**Kurdzhali**	**1.22**	**346**	P	**Pn**	**04 28 07.4**	**-0.8**
SIGR	**SIGRI**	**1.25**	**178**	*e*PN	**Pg**	**04 28 09.7**	**+0.4**
SIGR	**SIGRI**	**1.25**	**178**	*e*PN	**Pn**	**04 28 08.3**	**-0.3**
SIGR				*e*SN	**Sb**	**04 28 25.5**	**+0.5**
SIGR	**SIGRI**	**1.25**	**178**	*e*Pn	**Pn**	**04 28 08.3**	**-0.3**
SIGR				*e*Sn	**Sb**	**04 28 25.5**	**+0.5**
SIGR	**SIGRI**	**1.25**	**178**	P	**Pn**	**04 28 08.2**	**-0.3**
SIGR				S	**Sb**	**04 28 25.4**	**+0.5**
PRK	**Paraskevi**	**1.27**	**164**	*e*PN	**Pn**	**04 28 08.9**	**+0.1**
PRK				*e*SN	**Sg**	**04 28 26.3**	**+0.2**
PRK	**Paraskevi**	**1.27**	**164**	*e*Pn	**Pn**	**04 28 08.9**	**+0.1**
PRK				*e*Sn	**Sg**	**04 28 26.3**	**+0.2**
PRK	**Paraskevi**	**1.27**	**164**	P	**Pn**	**04 28 08.8**	**0.0**
PRK				S	**Sg**	**04 28 26.4**	**+0.3**
AYVA	**Ayvalik**	**1.34**	**149**	*i* P	**Pb**	**04 28 10.3**	**0.0**
AYVA				*i* S	**Sn**	**04 28 28.0**	**+0.4**
AYVA	**Ayvalik**	**1.34**	**149**	*i* P	**Pb**	**04 28 10.3**	**0.0**
AYVA				*i* S	**Sn**	**04 28 28.0**	**+0.4**
MRMT	**Marmara Adasi**	**1.37**	**84**	*e*PN	**Pn**	**04 28 10.5**	**+0.3**
MRMT	**Marmara Adasi**	**1.37**	**84**	*e*Pn	**Pn**	**04 28 10.5**	**+0.3**
OUR	**Ouranopolis**	**1.40**	**265**	*e*PN	**Pg**	**04 28 13.1**	**+1.0**
OUR	**Ouranopolis**	**1.40**	**265**	*e*PB	**Pn**	**04 28 09.6**	**-1.1**
OUR				*e*SN	**Sb**	**04 28 30.0**	**+0.7**
OUR	**Ouranopolis**	**1.40**	**265**	P	**Pn**	**04 28 09.6**	**-1.1**
OUR	**Ouranopolis**	**1.40**	**265**	*e*Pn	**Pg**	**04 28 13.1**	**+1.0**
OUR				S	**Sn**	**04 28 29.1**	**0.0**
OUR				*e*Sn	**Sb**	**04 28 30.0**	**+0.7**
OUR	**Ouranopolis**	**1.40**	**265**	P	**Pn**	**04 28 09.6**	**-1.1**
OUR				S	**Sn**	**04 28 29.1**	**0.0**
TKR	**Tekirdag**	**1.41**	**68**	*e*PN	**Pg**	**04 28 12.1**	**-0.2**
TKR	**Tekirdag**	**1.41**	**68**	*e*Pn	**Pg**	**04 28 12.1**	**-0.2**
RZN	**Rozhen**	**1.47**	**326**	P	**Pn**	**04 28 11.3**	**-0.5**
RZN	**Rozhen**	**1.47**	**326**	P	**Pn**	**04 28 11.3**	**-0.5**
EDRB	**Edirne**	**1.55**	**27**	*e*PN	**Pb**	**04 28 13.6**	**-0.2**
EDRB	**Edirne**	**1.55**	**27**	P	**Pn**	**04 28 11.9**	**-0.8**
EDRB	**Edirne**	**1.55**	**27**	*e*Pn	**Pb**	**04 28 13.6**	**-0.2**
EDRB				S	**Sn**	**04 28 32.6**	**-0.1**
EDRB	**Edirne**	**1.55**	**27**	P	**Pn**	**04 28 11.9**	**-0.8**
EDRB				S	**Sn**	**04 28 32.6**	**-0.1**
BALY	**Balya**	**1.56**	**117**	*i* P	**Pn**	**04 28 13.6**	**+0.6**
BALY				*i* S	**Sb**	**04 28 34.9**	**+0.9**
BALY	**Balya**	**1.56**	**117**	*i* P	**Pn**	**04 28 13.6**	**+0.6**
BALY				*i* S	**Sb**	**04 28 34.9**	**+0.9**
EDC	**Edincik**	**1.57**	**94**	*e*PN	**Pn**	**04 28 13.7**	**+0.7**
EDC	**Edincik**	**1.57**	**94**	*e*Pn	**Pn**	**04 28 13.7**	**+0.7**
CRLT	**Corlu**	**1.60**	**65**	*e*PN	**Pb**	**04 28 14.4**	**-0.4**
CRLT	**Corlu**	**1.60**	**65**	*e*Pn	**Pb**	**04 28 14.4**	**-0.4**
BNT	**Bandirma**	**1.61**	**93**	*e*PN	**Pn**	**04 28 14.0**	**+0.4**
BNT	**Bandirma**	**1.61**	**93**	*e*Pn	**Pn**	**04 28 14.0**	**+0.4**
DKL	**Dikili**	**1.63**	**149**	*e*PN	**Pb**	**04 28 14.8**	**-0.4**
DKL	**Dikili**	**1.63**	**149**	*e*Pn	**Pb**	**04 28 14.8**	**-0.4**
PAIG	**Paliouri**	**1.72**	**252**	*e*PB	**Pn**	**04 28 14.3**	**-0.7**
PAIG	**Paliouri**	**1.72**	**252**	*e*Pb	**Pn**	**04 28 14.3**	**-0.7**
NVR	**Nevrokopi**	**1.72**	**301**	*e*PN	**Pn**	**04 28 14.7**	**-0.4**
NVR	**Nevrokopi**	**1.72**	**301**	*e*Pn	**Pn**	**04 28 14.7**	**-0.4**
NVR	**Nevrokopi**	**1.72**	**301**	P	**Pn**	**04 28 14.6**	**-0.5**
PHSR	**Pinarhisar**	**1.74**	**48**	*e*PN	**Pn**	**04 28 15.9**	**+0.7**
PHSR	**Pinarhisar**	**1.74**	**48**	*e*Pn	**Pn**	**04 28 16.0**	**+0.7**
BALB	**Balikesir**	**1.79**	**117**	*e*PN	**Pn**	**04 28 16.8**	**+0.8**
BALB	**Balikesir**	**1.79**	**117**	*e*Pn	**Pn**	**04 28 16.8**	**+0.8**
SRS	**Serrai**	**1.81**	**292**	P	**Pn**	**04 28 15.8**	**-0.4**
SRS	**Serrai**	**1.81**	**292**	P	**Pn**	**04 28 15.8**	**-0.4**
PLG	**Polygyros**	**1.81**	**268**	P	**Pn**	**04 28 15.7**	**-0.6**
PLG	**Polygyros**	**1.81**	**268**	P	**Pn**	**04 28 15.7**	**-0.6**
PLD	**Plovdiv**	**1.84**	**333**	P	**Pb**	**04 28 19.3**	**+0.5**
PLD	**Plovdiv**	**1.84**	**333**	P	**Pb**	**04 28 19.3**	**+0.5**
MMB	**Musomiste**	**1.93**	**306**	P	**Pn**	**04 28 16.9**	**-1.1**
MMB	**Musomiste**	**1.93**	**306**	P	**Pn**	**04 28 16.9**	**-1.1**
AOS	**Alonnisos**	**1.97**	**230**	*e*PN	**Pn**	**04 28 18.3**	**-0.2**
AOS	**Alonnisos**	**1.97**	**230**	*e*Pn	**Pn**	**04 28 18.3**	**-0.2**
CHOS	**Chios island**	**2.09**	**175**	*e*PN	**Pn**	**04 28 21.0**	**+0.9**
CHOS	**Chios island**	**2.09**	**175**	*e*PN	**Pn**	**04 28 19.9**	**-0.2**
CHOS				*e*SN	**Sn**	**04 28 45.5**	**-0.6**
CHOS	**Chios island**	**2.09**	**175**	P	**Pn**	**04 28 19.4**	**-0.7**
CHOS	**Chios island**	**2.09**	**175**	*e*Pn	**Pn**	**04 28 19.9**	**-0.2**
CHOS				*e*Sn	**Sn**	**04 28 45.5**	**-0.6**
CHOS	**Chios island**	**2.09**	**175**	P	**Pn**	**04 28 19.4**	**-0.7**
CTYL	**Yal??k??y-??at**	**2.13**	**61**	*e*PN	**Pn**	**04 28 21.4**	**+0.8**
CTYL	**Yal??k??y-??at**	**2.13**	**61**	*e*Pn	**Pn**	**04 28 21.4**	**+0.8**
CTKS	**Kestanelik-??a**	**2.18**	**69**	*e*PN	**Pn**	**04 28 22.2**	**+0.9**
CTKS	**Kestanelik-??a**	**2.18**	**69**	*e*Pn	**Pn**	**04 28 22.3**	**+0.9**
URLA	**Izmir**	**2.19**	**164**	*i* P	**Pn**	**04 28 21.6**	**+0.1**
URLA				*i* S	**Sn**	**04 28 48.2**	**-0.4**
URLA	**Izmir**	**2.19**	**164**	*i* P	**Pn**	**04 28 21.6**	**+0.1**
URLA				*i* S	**Sn**	**04 28 48.2**	**-0.4**
ZEY	**¨zmir**	**2.29**	**166**	*i* P	**Pn**	**04 28 22.1**	**-0.7**
ZEY				*i* S	**Sn**	**04 28 50.0**	**-1.0**
ISK	**Istanbul-Kandi**	**2.54**	**75**	*e*PN	**Pn**	**04 28 27.2**	**+1.0**
ISK	**Istanbul-Kandi**	**2.54**	**75**	*e*Pn	**Pn**	**04 28 27.2**	**+1.0**
KLYT	**Kilyos**	**2.57**	**71**	*e*PN	**Pn**	**04 28 27.8**	**+1.1**
KLYT	**Kilyos**	**2.57**	**71**	*e*Pn	**Pn**	**04 28 27.8**	**+1.1**
VAY	**Valandovo**	**2.60**	**290**	*i* Pn	**Pg**	**04 28 35.1**	**+0.1**
VAY				*i* Sn	**Sg**	**04 29 08.7**	**-0.1**
SMG	**Samos**	**2.87**	**164**	*e*PN	**Pn**	**04 28 31.0**	**+0.2**
SMG	**Samos**	**2.87**	**164**	*e*Pn	**Pn**	**04 28 31.0**	**+0.2**
VTS	**Vitosha**	**2.88**	**318**	↑*i*P	**Pn**	**04 28 31.6**	**+0.4**
VTS	**Vitosha**	**2.88**	**318**	P	**Pn**	**04 28 31.4**	**+0.2**
VTS	**Vitosha**	**2.88**	**318**	P	**Pn**	**04 28 31.4**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**2.99**	**147**	*e*PN	**Pn**	**04 28 33.4**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**2.99**	**147**	*e*Pn	**Pn**	**04 28 33.4**	**+0.8**
MPEP	**Malo Peshtene**	**3.27**	**333**	P	**Pn**	**04 28 36.9**	**+0.5**
APE	**Apeiranthos**	**3.40**	**184**	↓*i*P	**Pn**	**04 28 37.2**	**-1.0**
APE	**Apeiranthos**	**3.40**	**184**	S	**Sn**	**04 29 16.6**	**-1.9**
APE	**Apeiranthos**	**3.40**	**184**	↓*i*P	**Pn**	**04 28 37.2**	**-1.0**
BARS	**Barje**	**3.81**	**309**	*e*Pn	**Pn**	**04 28 44.1**	**+0.4**
BOLS	**Boljevac**	**4.42**	**321**	*e*Pn	Pn	04 28 48.9	-3.2
TIRR	**Tirgusor**	**4.43**	**25**	↓*i*P	**Pn**	**04 28 53.7**	**+1.5**
TIRR	**Tirgusor**	**4.43**	**25**	↓*i*P	**Pn**	**04 28 53.7**	**+1.5**
SELS	**Selova**	**4.46**	**310**	*e*Pn	**Pn**	**04 28 51.6**	**-1.0**
HARR	**Harsova**	**4.50**	**20**	↑*i*P	**Pn**	**04 28 55.2**	**+2.0**
HARR	**Harsova**	**4.50**	**20**	↑*i*P	**Pn**	**04 28 55.2**	**+2.0**
ISR	**Istrita**	**4.68**	**6**	↑*i*P	**Pn**	**04 28 56.8**	**+1.0**
ISR	**Istrita**	**4.68**	**6**	↑*i*P	**Pn**	**04 28 56.8**	**+1.0**
KUBS	**Kucevo**	**4.99**	**324**	*e*Pn	**Pn**	**04 28 58.7**	**-1.3**
VOIR		**5.00**	**354**	↑*i*P	**Pn**	**04 29 00.4**	**+0.2**
VOIR		**5.00**	**354**	↑*i*P	**Pn**	**04 29 00.4**	**+0.2**
CFR	**Carcaliu**	**5.01**	**19**	↓*i*P	**Pn**	**04 29 02.6**	**+2.4**
CFR	**Carcaliu**	**5.01**	**19**	↓*i*P	**Pn**	**04 29 02.6**	**+2.4**
MLR	**Muntele Rosu**	**5.02**	**1**	↓*i*P	**Pn**	**04 29 01.3**	**+0.8**
MLR	**Muntele Rosu**	**5.02**	**1**	↓*i*P	**Pn**	**04 29 01.3**	**+0.8**
GRUS	**Gruza**	**5.10**	**314**	*e*Pn	**Pn**	**04 29 01.3**	**-0.2**
IVAS	**Ivanjica**	**5.24**	**308**	*e*Pn	Pn	04 29 07.6	+4.2
VRI	**Vrincioaia**	**5.44**	**7**	↑*i*P	**Pn**	**04 29 07.5**	**+1.4**
VRI	**Vrincioaia**	**5.44**	**7**	↑*i*P	**Pn**	**04 29 07.5**	**+1.4**
BZS	**Buzias**	**5.99**	**331**	↓*i*P	**Pn**	**04 29 13.3**	**-0.4**
BZS	**Buzias**	**5.99**	**331**	↓*i*P	**Pn**	**04 29 13.3**	**-0.4**

*IDC **26** 04:54:55.7±0.4, 10°27S×112°26E, h0km, mb4.6/21, mb1 4.6/22, mb1mx4.5/31, mbtmp4.6/22, ML4.2/1, MS3.5/18, Ms1 3.5/18, ms1mx3.3/36, Error ellipse: s-maj=16.2km s-min=11.6km az=72.0*
*ISCJB **26** 04:54:57.2±0.2, 10°43S±0°02×112°07E±0°02, h22km, mb4.6/46, MS3.5/16, Error ellipse: s-maj=3.5km s-min=2.7km az=39.9*
*NEIC **26** 04:54:58.3±2.3, 10°36S×112°17E, h17km±14km, mb4.8/17, Error ellipse: s-maj=7.7km s-min=5.1km az=215.0*
*AUST **26** 04:54:58.8±1.2, 10°45S×112°07E, h20km, Error ellipse: s-maj=0.8km s-min=0.5km az=36.0*
*MOS **26** 04:55:00.2±1.2, 10°25S×112°25E, h43km, mb4.7/27, Error ellipse: s-maj=12.7km s-min=7.9km az=116.7*
*DJA **26** 04:55:01.4±0.8, 10°S±2°×11°2E±°, h37km±8km, M5.1/44, mb5.0/44, mB5.6/24, MLv5.3/25, Mw(mB)5.0/24*

ISC 26 04:54:59.0±0.3, **10°46S**±0°04×**112°15E**±0°04, **h22**km, **n324**, σ1**53**/334, **mb4.7**/47, **MS3.5**/16, **2D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PWJI	**Pagerwojo**	**2.45**	**352**	P	**Pn**	**04 55 35.4**	**-2.3**
PWJI				S	**Sn**	**04 56 02.2**	**-4.8**
JAGI	**Jajag, Banyuwa**	**2.80**	**45**	P	**Pn**	**04 55 42.7**	**+0.3**
	baz=2.9,SNR=163						
JAGI	**Jajag, Banyuwa**	**2.80**	**45**	*e*Pn	**Pn**	**04 55 42.8**	**+0.3**
JAGI				*e*S	**Sn**	**04 56 13.1**	**-2.5**
UGM	**Wanagama**	**3.00**	**327**	P	**Pn**	**04 55 44.4**	**-0.9**
UGM				S	**Sn**	**04 56 20.0**	**-0.6**
UGM	**Wanagama**	**3.00**	**327**	P	**Pn**	**04 55 44.4**	**-0.9**
	baz=3.0,SNR=338						
BLJI	**Banyuglugur**	**3.06**	**28**	P	**Pn**	**04 55 47.1**	**+1.1**
BLJI				S	**Sn**	**04 56 23.1**	**+1.2**
NGJI	**Ngawi**	**3.15**	**347**	P	**Pn**	**04 55 47.7**	**+0.4**
NGJI				S	**Sn**	**04 56 24.1**	**-0.2**
ABJI	**Asem Bagus**	**3.35**	**38**	P	**Pn**	**04 55 51.4**	**+1.3**
IGBI	**Denpasar**	**3.38**	**61**	P	**Pn**	**04 55 50.9**	**+0.5**
IGBI				S	**Sn**	**04 56 26.2**	**-3.6**
DNP	**Denpasar**	**3.50**	**60**	P	**Pn**	**04 55 53.6**	**+1.5**
DNP				S	**Sn**	**04 56 35.3**	**+2.4**
GRJI	**Gresik**	**3.54**	**5**	P	**Pn**	**04 55 52.6**	**-0.1**
GRJI				S	**Sn**	**04 56 34.1**	**+0.2**
TBJI	**Tambak Boyo**	**3.63**	**355**	S	**Sn**	**04 56 36.2**	**0.0**
SMRI	**Semarang**	**3.79**	**333**	P	**Pn**	**04 55 56.4**	**+0.2**
SMRI				S	**Sn**	**04 56 39.5**	**-0.6**
SMRI	**Semarang**	**3.79**	**333**	P	**Pn**	**04 55 56.6**	**+0.5**
	baz=3.8,SNR=9.6						
SMRI	**Semarang**	**3.79**	**333**	*e*Pn	**Pn**	**04 55 56.1**	**0.0**
SMRI				*e*S	**Sn**	**04 56 39.9**	**+0.8**
KMMI	**Kalianget**	**3.84**	**28**	P	**Pn**	**04 55 57.7**	**+0.9**
SRBI	**Singaraja**	**3.84**	**52**	P	**Pn**	**04 55 58.4**	**+1.6**
CMJI	**Cimerak**	**4.52**	**306**	P	**Pn**	**04 56 04.7**	**-1.5**
CISI	**Cisompet, Garu**	**5.17**	**304**	P	**Pn**	**04 56 13.8**	**-1.3**
	470nm,0.7s,12µm5.1nm						
CISI	**Cisompet, Garu**	**5.17**	**304**	P	**Pn**	**04 56 14.0**	**-1.1**
	baz=5.1,SNR=19						
CISI	**Cisompet, Garu**	**5.17**	**304**	*e*Pn	**Pn**	**04 56 13.7**	**-1.4**
	392nm,0.5s						
CISI				*e*S	**Sn**	**04 57 09.8**	**-4.4**
LEM	**Lembang**	**5.76**	**309**	P	**Pn**	**04 56 23.1**	**-0.2**
	132nm,0.7s,1.0nm						
LEM	**Lembang**	**5.76**	**309**	Pn	**Pn**	**04 56 24.1**	**+0.8**
	6.9nm,0.3s,baz=60,slow=10,SNR=8.6						
LEM				Sn	**Sn**	**04 57 30.3**	**+1.5**
	15nm,0.3s,baz=277,slow=16,SNR=5.6						
LEM				LR	LR	04 59 13.3	
	comp=Z,807nm,18.5s,baz=110,slow=45						
LEM	**Lembang**	**5.76**	**309**	P	**Pn**	**04 56 24.2**	**+0.8**
LEM						04 57 30.3	
LEM				pmax	pmax		
	comp=Z,7.0nm,0.3s						
LEM				smax	smax		
	comp=N,15nm,0.3s						
LEM				MLR	MLR		
	comp=Z,807nm,18.5s						
CNJI	**Cibinong**	**5.87**	**302**	P	**Pn**	**04 56 24.1**	**-0.6**
	comp=Z,173nm,0.9s,comp=Z,4µmcomp=Z,1.4nm						
XMI	**Christmas Isla**	**6.36**	**270**	P	**Pn**	**04 56 29.8**	**-1.6**
	baz=6.3,SNR=13						
XMIS	**Christmas Isla**	**6.39**	**269**	P	**Pn**	**04 56 30.3**	**-1.7**
	baz=6.3,SNR=8.8						
XMIS	**Christmas Isla**	**6.39**	**269**	*e*Pn	**Pn**	**04 56 29.6**	**-2.3**
	comp=Z,185nm,0.3s						
XMIS				*e*S	Sn	04 57 32.0	-12
CGJI	**Cibinong**	**7.44**	**300**	P	**Pn**	**04 56 45.3**	**-1.1**
	comp=Z,306nm,0.7s,comp=Z,4µmcomp=Z,1.2nm						
KASI	**Kota Agung**	**9.03**	**302**	P	**Pn**	**04 57 08.1**	**0.0**
	comp=Z,87nm,0.7s,comp=Z,1µm						
KAPI	**Kappang**	**9.27**	**55**	Pn	**Pn**	**04 57 12.2**	**+0.7**
	comp=Z,6.9nm,0.3s,baz=230,slow=2.7,SNR=16						
KAPI				Sn	Sn	04 58 48.5	-6.8
	comp=Z,4.3nm,0.3s,baz=48,slow=24,SNR=7.1						
KAPI				LR	LR	05 01 49.1	
	comp=Z,202nm,19.9s,baz=232,slow=46						
KAPI	**Kappang**	**9.27**	**55**	*e*Pn	**Pn**	**04 57 12.3**	**+0.7**
KAPI				*e*S	Sn	04 58 48.3	-6.9
KAPI				Sn	Sn	04 58 48.5	-6.8
KLSI		**9.33**	**307**	P	**Pn**	**04 57 12.2**	**0.0**
	comp=Z,47nm,1.3s,comp=Z,29µm						
BKSI	**Bulukumba**	**9.40**	**58**	P	**Pn**	**04 57 14.6**	**+1.3**
	comp=Z,56nm,0.8s,comp=Z,683nm						
LWLI	**Liwa**	**9.67**	**303**	P	**Pn**	**04 57 17.0**	**-0.1**
	comp=Z,81nm,0.5s,comp=Z,22µm						
MDSI	**Maura Dua**	**9.88**	**306**	P	**Pn**	**04 57 19.7**	**-0.2**
	comp=Z,21nm,0.7s						
SPSI	**Sidrap Palu**	**9.94**	**50**	P	**Pn**	**04 57 22.1**	**+1.5**
	comp=Z,22nm,0.8s,comp=Z,638nm						
MMRI	**Maumere**	**10.11**	**81**	P	**Pn**	**04 57 21.6**	**-1.4**
	comp=Z,244nm,0.5s,comp=Z,4µm						
MMRI	**Maumere**	**10.11**	**81**	*e*Pn	**Pn**	**04 57 21.9**	**-1.2**
MMRI				*e*S	Sn	04 59 07.0	-8.9
PPBI	**Pangkal Pinang**	**10.18**	**324**	P	**Pn**	**04 57 24.0**	**0.0**
	comp=Z,35nm,0.7s,comp=Z,70µm						
STKI	**Sintang**	**10.48**	**356**	P	**Pn**	**04 57 28.2**	**+0.1**
	comp=Z,51nm,0.6s,comp=Z,17µm						
TTSI	**Tana Toraja**	**10.59**	**46**	P	**Pn**	**04 57 30.7**	**+1.1**
	comp=Z,64nm,0.8s,comp=Z,730nm						
MNAI	**Manna**	**10.95**	**303**	P	**Pn**	**04 57 33.0**	**-1.5**
	baz=11,SNR=7.9						
KSI	**Kapahiang**	**11.65**	**305**	P	**Pn**	**04 57 42.8**	**-1.3**
	comp=Z,236nm,0.6s						
SOEI	**Soe**	**11.95**	**88**	P	**Pn**	**04 57 48.9**	**+0.6**
	comp=Z,197nm,0.9s,comp=Z,2µm						
SOEI	**Soe**	**11.95**	**88**	P	**Pn**	**04 57 48.6**	**+0.3**
	baz=12,SNR=15						
SOEI	**Soe**	**11.95**	**88**	*e*Pn	**Pn**	**04 57 48.4**	**+0.1**
SOEI				*e*S	Sn	04 59 49.6	-11
PCI	**Palu**	**12.19**	**39**	P	**Pn**	**04 57 52.3**	**+0.9**
	comp=Z,65nm,1.1s,comp=Z,997nm						
MASI	**Maura Aman, Be**	**12.23**	**306**	P	**Pn**	**04 57 50.6**	**-1.5**
	comp=Z,210nm,0.8s						
GIRL	**Giralia**	**12.28**	**171**	P	Pn	04 57 49.5	-3.1
	baz=12,SNR=52						
SBUM	**Sibu**	**12.83**	**0**	*e*Pn	**P**	**04 58 11.5**	**+0.6**
MBWA	**Marble Bar**	**12.89**	**146**	*e*Pn	Pn	04 57 56.1	-4.9
MBWA				*e*S	Sn	05 00 04.7	-19
MPSI	**Mapaga**	**13.21**	**36**	P	**Pn**	**04 58 06.3**	**+0.9**
	comp=Z,19nm,1.1s,comp=Z,657nm						
LUWI	**Luwuk**	**14.11**	**49**	P	**Pn**	**04 58 18.7**	**+1.0**
	comp=Z,50nm,1.0s,comp=Z,3µm						
MRSI	**Marisa**	**14.59**	**42**	P	**Pn**	**04 58 25.3**	**+1.0**
	comp=Z,38nm,1.0s						
SANI	**Sanana**	**16.09**	**60**	P

KMI PMZ
comp=Z,28nm,3.1s
KMI LN
comp=Z,170nm,12.2s
KMI LE
comp=Z,180nm,14.8s
KMI LZ
comp=Z,140nm,15.9s
GYA Guiyang 37.09 352 *e*P **P** **05 02 11.0 +3.0**
GYA PP **PnPn** **05 03 37.5 +4.3**
GYA S **S** **05 07 58.5 +5.4**
GYA ScP **ScP** **05 08 17.0 +2.7**
GYA PMZ
comp=Z,10.0nm,1.0s
GYA PMZ
comp=Z,110nm,4.8s
GYA LN
comp=Z,490nm,17.6s
GYA LE
comp=Z,370nm,18.2s
GYA LZ
comp=Z,450nm,17.8s
CMSA Cobar Meteorol 37.45 129 P **P** **05 02 12.7 +1.7**
baz=38,SNR=6.7
ARPS Mount Arapiles 37.47 139 P **P** **05 02 12.8 +1.7**
baz=38,SNR=8.6
RMQ Roma 38.03 120 P **P** **05 02 18.6 +2.6**
baz=38,SNR=5.1
H08S2 Diego Garcia H 39.24 271 T T 05 44 14.4
baz=96,slow=75,SNR=16
H08S3 Diego Garcia H 39.26 271 T T 05 44 15.5
baz=96,slow=75,SNR=14
H08S1 Diego Carcia H 39.26 271 T T 05 44 19.6
baz=96,slow=75,SNR=17
TOO Toolangi 40.32 138 P **P** **05 02 37.6 +2.6**
baz=40,SNR=5.9
YNG Young 40.72 131 P **P** **05 02 40.2 +1.9**
baz=41,SNR=7.5
ARMA Armidale 41.69 124 P **P** **05 02 49.4 +2.9**
baz=42,SNR=9.7
CD2 Chengdu 41.92 349 *e*P **P** **05 02 49.0 +0.9**
CD2 pP **pP** **05 02 51.5 -3.4**
CD2 PP **PP** **05 04 26.5 +1.1**
CD2 PcS **PcS** **05 08 35.0 -0.2**
CD2 S **S** **05 09 10.0 +4.6**
CD2 sS **sS** **05 09 14.3 -2.3**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
CD2 LE
comp=Z,230nm,14.2s
CD2 LZ
comp=Z,220nm,13.2s
MGCD Mangrove Creek 42.31 128 P **P** **05 02 54.1 +2.8**
baz=42,SNR=4.9
NJ2 Nanjing 42.76 8 *e*P **P** **05 02 56.8 +1.9**
NJ2 PMZ
comp=Z,50nm,0.7s
ODAN Odare 44.21 328 *e*P **P** **05 03 07.7 +0.7**
comp=Z,12nm,0.5s
XAN Xi'an 44.36 356 P **P** **05 03 05.0 -2.9**
XAN PMZ
comp=Z,4.0nm,0.8s
XAN PMZ
comp=Z,47nm,7.0s
TAPN Taplejung 44.44 328 *e*P **P** **05 03 08.6 -0.3**
LSA Lhasa 44.77 334 *e*P **P** **05 03 11.6 -0.1**
LSA pmax pmax
comp=Z,6.0nm,0.6s
LSA Lhasa 44.77 334 *e*P **P** **05 03 11.6 -0.1**
comp=Z,6.3nm,0.6s
PKI Pulchoki 45.84 326 *e*P **P** **05 03 19.0 -1.1**
PKIN Phulchoki 45.85 326 *e*P **P** **05 03 19.2 -0.9**
comp=Z,12nm,0.6s
GUN Gumba 45.85 327 *e*P **P** **05 03 19.6 -0.6**
comp=Z,37nm,0.6s
DMN Daman 46.03 326 *e*P **P** **05 03 20.7 -0.8**
comp=Z,42nm,0.8s
GKN Gorkha 46.60 326 *e*P **P** **05 03 24.8 -1.0**
comp=Z,11nm,0.3s
LZH Lanzhou 46.96 351 *e*P **P** **05 03 29.5 +1.0**
LZH pP **pP** **05 03 32.0 -3.4**
LZH sP **sP** **05 03 33.5 -4.5**
LZH PMZ
comp=Z,23nm,1.0s
LZH PMZ
comp=Z,78nm,5.0s
LZH LN
comp=Z,170nm,12.6s
LZH LE
comp=Z,150nm,13.2s
LZH LZ
comp=Z,130nm,15.0s
KOLN Koldanda 47.00 325 *e*P **P** **05 03 28.1 -1.0**
comp=Z,36nm,0.6s
JCJ Chichijima 47.36 37 P **P** **05 03 30.1 -1.5**
comp=Z,10.0nm,0.4s,baz=172,slow=16,SNR=4.9
CBIJ Chichi jima 47.36 37 P **P** **05 03 30.1 -1.4**
LHI Lord Howe Isla 48.11 123 P **P** **05 03 38.2 +0.8**
baz=48,SNR=3.4
KSAR Wonju Array Be 49.89 16 P **P** **05 03 49.9 -0.9**
KSAR Wonju Array Be 49.89 16 P **P** **05 03 49.9 -0.9**
KSRS Korea Array 49.91 16 P **P** **05 03 49.9 -1.1**
comp=Z,2.1nm,0.6s,baz=201,slow=7.8,SNR=7.8
KSRS LR LR 05 26 16.9
comp=Z,22nm,19.1s,baz=205,slow=38
KSRS Korea Array 49.91 16 P **P** **05 03 49.9 -1.1**
KSRS pmax pmax
comp=Z,2.0nm,0.6s
KSRS MLR MLR
comp=Z,22nm,19.1s
BJI Beijing 50.38 4 P **P** **05 03 53.0 -1.5**
BJI S **S** **05 11 11.5 +4.9**
BJI PMZ
comp=Z,15nm,0.8s
BJI PMZ
comp=Z,60nm,3.1s
BJI LN
comp=Z,98nm,14.3s
BJI LE
comp=Z,100nm,16.1s
GTA Gaotai 50.93 348 *e*P P 05 04 02.5 +3.6
GTA pP pP 05 04 07.0 +1.2
GTA sP sP 05 04 09.5 +1.1
GTA S S 05 11 21.0 +6.5
GTA sS sS 05 11 28.8 +3.0
GTA PMZ
comp=Z,4.0nm,1.4s
GTA PMZ
comp=Z,100nm,4.8s
GTA LN
comp=Z,77nm,19.5s
GTA LE
comp=Z,82nm,21.4s
GTA LZ
comp=Z,77nm,19.5s
HHC Hu-ho-hao-te 51.06 359 *e*P **P** **05 04 01.0 +1.2**
HHC PP **PP** **05 05 57.8 +1.1**
HHC S S 05 11 22.5 +6.3
HHC PMZ
comp=Z,20nm,1.5s
HHC PMZ
comp=Z,58nm,6.2s
HHC LN
comp=Z,120nm,18.7s
HHC LE
comp=Z,93nm,17.4s
MAJO Matsushiro 52.80 26 *e*P **P** **05 04 13.5 +0.8**
MAJO pmax pmax
comp=Z,17nm,0.8s
MJAR Matsushiro Arr 52.80 26 P **P** **05 04 09.8 -3.0**
comp=Z,1.7nm,0.5s,baz=208,slow=9.0,SNR=6.9
MJAR Matsushiro Arr 52.80 26 P **P** **05 04 09.8 -3.0**
MJAR pmax pmax
comp=Z,2.0nm,0.5s
MSHR Mys Shultsa 55.58 17 *e*P **P** **05 04 34.9 +2.0**
USRK Ussuriysk Ar. 57.31 17 P **P** **05 04 43.7 -1.5**
comp=Z,3.5nm,0.7s,baz=187,slow=5.3,SNR=9.5
ULN Ulaanbaatar 58.24 356 *e*P **P** **05 04 50.7 -1.2**
ULN pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 58.26 355 P **P** **05 04 50.8 -1.2**
comp=Z,2.9nm,0.6s,baz=176,slow=8.8,SNR=22
SONM LR LR 05 33 11.3
comp=Z,64nm,19.0s,baz=146,slow=40
SONM Songino Array 58.26 355 P **P** **05 04 50.8 -1.2**
SONM pmax pmax
comp=Z,3.0nm,0.6s
SONM MLR MLR
comp=Z,64nm,19.0s
WMQ Urumqi 58.43 339 P **P** **05 04 53.3 +0.2**
WMQ pP **pP** **05 04 57.0 -3.1**
WMQ sP **sP** **05 05 00.3 -2.5**
WMQ PMZ
comp=Z,18nm,0.8s
WMQ PMZ
comp=Z,79nm,3.8s
WMQ LN
comp=Z,52nm,20.5s
WMQ LE
comp=Z,63nm,22.0s
WMQ LZ
comp=Z,41nm,22.0s
ERM Erimo 59.48 26 *e*P **P** **05 04 58.0 -2.3**
ERM pmax pmax
comp=Z,8.0nm,1.0s
KBL Kabul 60.60 320 *e*P **P** **05 05 07.5 -1.0**
KBL pmax pmax
comp=Z,3.0nm,0.6s
KBL Kabul 60.60 320 *e*P **P** **05 05 07.5 -1.0**
comp=Z,3.0nm,0.6s
TKM2 Tokmak 2 62.74 331 *e*P **P** **05 05 21.5 -1.3**
TKM2 pmax pmax
comp=Z,9.0nm,0.7s
TKM2 Tokmak 2 62.74 331 *e*P **P** **05 05 21.4 -1.3**
comp=Z,9.3nm,0.7s
MK31 Makanchi Array 62.94 337 *e*P **P** **05 05 22.5 -1.3**
MK31 Makanchi Array 62.94 337 *e*P **P** **05 05 22.5 -1.3**
MKAR Makanchi Array 62.94 337 P **P** **05 05 22.8 -1.0**
comp=Z,2.6nm,0.4s,baz=147,slow=7.3,SNR=20
MKAR LR LR 05 36 05.6
comp=Z,35nm,20.1s,baz=158,slow=39
MKAR Makanchi Array 62.94 337 P **P** **05 05 22.8 -1.0**
MKAR pmax pmax
comp=Z,3.0nm,0.4s
MKAR MLR MLR
comp=Z,35nm,20.1s
EKS2 Erkin-Say 63.45 329 *e*P **P** **05 05 27.3 -0.1**
EKS2 pmax pmax
comp=Z,7.0nm,0.7s
EKS2 Erkin-Say 63.45 329 *e*P **P** **05 05 27.3 -0.1**
comp=Z,7.3nm,0.7s
URZ Urewera 63.96 127 LR LR 05 35 30.0
comp=Z,78nm,18.6s,baz=299,slow=38
KKAR Karatay Array 65.45 328 *e*P **P** **05 05 38.8 -1.5**
KKAR pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 65.45 328 *e*P **P** **05 05 38.8 -1.5**
comp=Z,1.3nm,0.4s
MAW Mawson 65.64 199 P **P** **05 05 42.3 +1.2**
comp=Z,4.3nm,0.8s,baz=66,slow=7.3,SNR=14
MAW LR LR 05 26 49.5
comp=Z,50nm,21.1s,baz=63,slow=29
ITEG Tejag 66.68 313 *e*P **P** **05 05 47.5 -1.1**
KURK Kurchatov 67.55 338 *e*P **P** **05 05 52.0 -1.5**
KURK pmax pmax
comp=Z,5.0nm,0.8s
KURK Kurchatov 67.55 338 *e*P **P** **05 05 52.0 -1.5**
comp=Z,4.7nm,0.8s
ZAA0 Zalesovo Array 68.22 343 *e*P **P** **05 05 56.5 -1.2**
ZALV Zalesovo Beam 68.22 343 P **P** **05 05 55.9 -1.8**
comp=Z,4.8nm,0.6s,baz=151,slow=4.3,SNR=16
ZALV LR LR 05 40 49.7
comp=Z,26nm,18.0s,baz=246,slow=40
ZALV Zalesovo Beam 68.22 343 P **P** **05 05 55.9 -1.8**
ZALV pmax pmax
comp=Z,5.0nm,0.6s
ZALV MLR MLR
comp=Z,26nm,18.0s
IMEH Mehriz 69.03 309 *e*P **P** **05 06 01.1 -2.5**
ISRV Sarvestan 69.29 307 *e*P **P** **05 06 05.0 -0.3**
NVS Novosibirsk 69.46 343 *e*P P 05 06 09.1 +3.7
NVS pmax pmax
comp=N,4.0nm,1.3s
NVS pmax pmax
comp=E,7.0nm,1.3s
NVS pmax pmax
comp=Z,9.0nm,1.3s
IPAR Pars 69.54 307 *e*P **P** **05 06 07.5 +0.7**
GEYT Alibeck 69.73 317 P **P** **05 06 07.5 -0.1**
comp=Z,2.9nm,0.6s,baz=138,slow=7.4,SNR=4.4
GEYT LR LR 05 39 04.7
comp=Z,30nm,21.6s,baz=95,slow=38
VNDA Vanda 71.67 170 P **P** **05 06 18.9 +0.3**
comp=Z,1.8nm,0.9s,baz=313,slow=6.5,SNR=9.8
VNDA LR LR 05 36 41.2
comp=Z,75nm,18.2s,baz=348,slow=35
IPIR Pirpir 72.43 309 *e*P **P** **05 06 22.2 -2.1**
BRVK Borovoye 72.65 335 *e*P **P** **05 06 23.6 -1.2**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
SYO Syowa Base 74.06 201 *e*P **P** **05 06 32.4 -0.5**
PETK Petropavlovsk- 74.26 27 P **P** **05 06 33.5 -0.7**
comp=Z,8.1nm,1.0s,baz=151,slow=3.4,SNR=4.3
PETK Petropavlovsk- 74.26 27 P **P** **05 06 33.6 -0.7**
PETK pmax pmax
comp=Z,8.0nm,1.0s
ABKAR Akbulak array 75.01 328 *e*P **P** **05 06 38.2 -0.5**
comp=Z,5.9nm,0.5s
SEY Seymchan 79.45 17 P **P** **05 07 02.1 -1.2**
comp=Z,0.9nm,0.3s,baz=197,slow=19,SNR=5.7
SEY Seymchan 79.45 17 *e*P **P** **05 07 03.7 +0.4**
QSPA South Pole Qui 79.54 180 *e*P **P** **05 07 04.5 +0.4**
comp=Z,14nm,1.3s
ARU Arti 79.96 333 LR LR 05 49 28.8
comp=Z,19nm,18.9s,baz=121,slow=41
ARU Arti 79.96 333 *d i*P **P** **05 07 07.7 +1.5**
ARU S **S** **05 17 11.4 +2.7**
ARU SS **SS** **05 22 14.5 -4.5**
ARU pmax pmax
comp=Z,8.0nm,1.7s
BOSA Boshof 82.37 242 P **P** **05 07 20.9 +0.9**
comp=Z,1.9nm,0.5s,baz=95,slow=2.4,SNR=8.6
BOSA Boshof 82.37 242 P **P** **05 07 20.9 +0.9**
BOSA pmax pmax
comp=Z,2.0nm,0.5s
KBZ Khabaz 82.63 317 P **P** **05 07 21.0 +0.3**
comp=Z,1.7nm,0.6s,baz=200,slow=3.4,SNR=4.2
KBZ Khabaz 82.63 317 P **P** **05 07 21.0 +0.3**
KBZ pmax pmax
comp=Z,2.0nm,0.6s
BILL Bilibino 87.15 18 *e*P **P** **05 07 44.7 +1.8**
BILL *e* 05 11 08.3
BILL pmax pmax
comp=Z,3.0nm,1.2s
SNAA Sanae 87.72 197 P **P** **05 07 47.0 +1.1**
SNAA Sanae 87.72 197 *e*P **P** **05 07 46.8 +0.9**
SNAA pmax pmax
comp=Z,3.0nm,1.0s
SNAA Sanae 87.72 197 *e*P **P** **05 07 46.8 +0.9**
comp=Z,3.3nm,1.0s
BR131 Keskin Array S 87.92 311 *e*P **P** **05 07 47.4 -0.1**
comp=Z,2.7nm,0.8s
BRTR Keskin Array B 87.92 311 P **P** **05 07 47.1 -0.3**
comp=Z,1.4nm,0.8s,baz=143,slow=6.5,SNR=9.0
BRTR LR LR 05 48 21.4
comp=Z,15nm,21.6s,baz=138,slow=36
BRTR Keskin Array B 87.92 311 P **P** **05 07 47.2 -0.3**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR MLR MLR
comp=Z,15nm,21.7s
VNA1 Neumayer--Stat 89.76 197 P **P** **05 07 55.8 +0.5**
OBN Obninsk 90.40 326 LR LR 05 54 21.8
comp=Z,15nm,18.6s,baz=91,slow=40
OBN Obninsk 90.40 326 *e*P **P** **05 07 59.2 +0.7**
OBN pmax pmax
comp=Z,3.0nm,0.8s
OBN MLR MLR
comp=Z,23nm,13.0s
AKASG Malin Array Be 93.57 321 P P 05 08 16.6 +3.3
comp=Z,0.1nm,0.3s,baz=80,slow=3.4,SNR=5.0
AKASG LR LR 05 54 37.1
comp=Z,16nm,21.6s,baz=205,slow=38
FINES FINESS Array B 97.23 331 LR LR 05 56 44.2
comp=Z,16nm,19.7s,baz=58,slow=38
TORD Torodi Ar. Bea 112.06 280 PKiKP **PKiKP** **05 13 33.5 -0.2**
comp=Z,0.4nm,0.7s,baz=70,slow=2.4,SNR=3.7
YKA Yellowknife Ar 118.21 23 PKP **PKPdf** **05 13 43.6 -0.5**
comp=Z,0.5nm,0.6s,baz=296,slow=1.7,SNR=4.2
YKA Yellowknife Ar 118.21 23 PKIKP **PKPdf** **05 13 43.6 -0.5**
YKA pmax pmax
comp=Z,1.0nm,0.6s
J04D Umpqua Nationa 122.89 45 P **PKPdf** **05 13 54.5 +0.5**
baz=123
J05D Fort Rock, OR 123.48 45 P **PKPdf** **05 13 55.5 +0.5**
baz=123
NEW Newport 124.27 38 P **PKPdf** **05 13 56.4 +0.1**
baz=124
MSO Missoula 126.84 38 P **PKPdf** **05 14 01.7 +0.4**
baz=127
PKM Peak Mountain 126.93 54 P **PKPdf** **05 14 01.3 -0.7**
baz=127
NVAR Mina Array Bea 127.12 49 PKP **PKPdf** **05 14 03.7 +1.4**
comp=Z,0.7nm,0.7s,baz=296,slow=1.8,SNR=5.6
BLG Laguna Peak 127.73 55 P **PKPdf** **05 14 03.0 -0.3**
baz=128
HLID Hailey 127.99 42 P **PKPdf** **05 14 04.6 +0.8**
baz=128
EDW2 Edwards Air Fo 128.39 54 P **PKPdf** **05 14 05.0 +0.4**
baz=128
MPMC Manual Prospec 128.45 52 P **PKPdf** **05 14 05.6 +0.7**
baz=128
EGMT Eagleton 128.69 35 P **PKPdf** **05 14 05.6 +0.8**
baz=128
BOZ Bozeman (W) 128.81 39 P **PKPdf** **05 14 05.6 +0.4**
baz=129
FURC Furnace Creek, 128.82 51 P **PKPdf** **05 14 05.8 +0.6**
baz=129
TPNV Topopah Spring 129.13 51 P **PKPdf** **05 14 07.1 +1.0**
baz=129
R11A Troy Canyon, C 129.17 49 P **PKPdf** **05 14 07.2 +1.0**
baz=129
BBRC Big Bear Solar 129.41 54 P **PKPdf** **05 14 07.3 +0.5**
baz=129
PFO Pinyon Flat Ob 129.96 55 P **PKPdf** **05 14 08.9 +1.2**
baz=130
GMRC Granite Mounta 130.25 53 P **PKPdf** **05 14 09.6 +1.4**
baz=130
DUG Dugway 130.47 45 P **PKPdf** **05 14 09.2 +0.7**
baz=130
SWSC Sam W. Stewart 130.67 55 P **PKPdf** **05 14 08.7 -0.2**
baz=131
BC3 Big Chuckawall 130.75 54 P **PKPdf** **05 14 08.9 -0.2**
baz=131
G20A Bridger 131.10 37 P **PKPdf** **05 14 10.1 +0.6**
baz=131
PDAR Pinedale Array 131.51 41 PKP **PKPdf** **05 14 11.5 +1.0**
comp=Z,0.2nm,0.7s,baz=316,slow=3.8,SNR=2.7
PDMCI Parker Dam,Lak 131.60 53 P **PKPdf** **05 14 10.6 0.0**
baz=132
E22A Miles City 131.73 35 P **PKPdf** **05 14 10.9 +0.3**
baz=132
I20A Worland 131.82 39 P **PKPdf** **05 14 11.1 +0.2**
baz=132
J20A Shoshoni 132.16 39 P **PKPdf** **05 14 12.6 +1.0**
baz=132
J22A Midwest 133.12 39 P **PKPdf** **05 14 13.8 +0.4**
baz=133
H24A Dirks Ranch, A 133.51 36 P **PKPdf** **05 14 14.8 +0.7**
baz=133
O20A White River Ci 133.64 43 P **PKPdf** **05 14 15.2 +0.6**
baz=134
D27A Center 133.70 32 P **PKPdf** **05 14 15.2 +1.0**
baz=134
I24A Kuemmerle Ranc 133.99 37 P **PKPdf** **05 14 15.5 +0.5**
baz=134
F27A Lemmon 134.24 33 P **PKPdf** **05 14 15.8 +0.5**
baz=134
E28A Huff 134.48 32 P **PKPdf** **05 14 16.5 +0.8**
baz=134
G27A Dupree 134.60 34 P **PKPdf** **05 14 17.1 +1.1**
baz=134
I27A Quinn 135.35 35 P **PKPdf** **05 14 18.2 +0.7**
baz=135
S22A 4UR Ranch, Cre 135.73 46 P **PKPdf** **05 14 19.5 +0.8**
baz=136
I28A Midland 135.89 35 P **PKPdf** **05 14 19.6 +1.2**
baz=136
K27A Flueckinger Fa 136.08 37 P **PKPdf** **05 14 20.1 +1.2**
baz=136
SDCO Great Sand Dun 136.66 45 P **PKPdf** **05 14 21.9 +1.4**
baz=136
J29A Okreek 136.74 35 P **PKPdf** **05 14 21.8 +1.8**
baz=137
P26A Davis Ranch, A 137.18 41 P **PKPdf** **05 14 22.3 +1.1**
baz=137
121A Cookes Peak, D 137.19 53 P **PKPdf** **05 14 22.4 +1.0**
baz=137
T25A Trinidad 137.72 45 P **PKPdf** **05 14 23.3 +1.0**
baz=138
Q28A Sharon Springs 138.44 41 P **PKPdf** **05 14 24.6 +1.2**
baz=138
ECSD EROS Data Cent 138.53 32 P **PKPdf** **05 14 25.1 +1.8**
baz=138
U27A Thompson Grove 139.18 45 P **PKPdf** **05 14 26.6 +1.7**
baz=139
S28A Manter 139.20 43 P **PKPdf** **05 14 26.5 +1.6**
baz=139
T28A Walsh 139.30 44 P **PKPdf** **05 14 26.5 +1.5**
baz=139
Q30A Quinter 139.51 40 P **PKPdf** **05 14 27.8 +2.4**
baz=139
CBKS Cedar Bluff 139.91 40 P **PKPdf** **05 14 28.1 +2.1**
baz=140
X28A Dimmitt 140.56 47 P **PKPdf** **05 14 29.2 +1.8**
baz=140
U30A WK&E Inc. Balk 140.61 43 P **PKPdf** **05 14 29.6 +2.2**
baz=140
TXAR Lajitas Array 141.66 55 PKhKP PKPpre 05 14 23.6
comp=Z,0.4nm,0.5s,baz=238,slow=3.0,SNR=9.2
Z30A Sanderson Ranc 141.94 48 P **PKPdf** **05 14 32.0 +2.1**
baz=142
CPUP Villa Florida 142.02 195 PKP **PKPdf** **05 14 31.6 +1.5**
comp=Z,2.5nm,0.6s,baz=126,slow=1.7,SNR=10
CPUP Villa Florida 142.02 195 PKIKP **PKPdf** **05 14 31.6 +1.5**
CPUP pmax pmax
comp=Z,3.0nm,0.6s
Y31A Rekieta Farm, 142.23 47 P **PKPdf** **05 14 32.5 +2.2**
baz=142
529A Stev Forest Ra 142.51 53 P **PKPdf** **05 14 32.3 +1.3**
baz=142
Z32A Haskell 143.12 47 P **PKPdf** **05 14 30.7 -1.2**
baz=143
X33A Lawton 143.16 45 P **PKPdf** **05 14 31.0 -0.9**
baz=143
530A J-C Ranch, Com 143.20 53 P **PKPdf** **05 14 31.4 -0.8**
baz=143
Z33A Whitaker Ranch 143.65 47 P **PKPdf** **05 14 31.9 -0.9**
baz=144
232A Coleman 143.71 49 P PKPbc 05 14 31.1 +0.6
baz=144
531A Rocksprings 143.81 52 P **PKPdf** **05 14 32.6 -0.7**
baz=144
332A Millersview 143.87 50 P PKPbc 05 14 32.4 +1.4
baz=144
133A Hamilton Ranch 143.89 48 P **PKPdf** **05 14 32.8 -0.5**
baz=144
631A Perdido Creek 144.11 54 P PKPbc 05 14 32.8 +1.1
baz=144
JCT Junction City 144.25 51 *e*PKIKP PKPbc 05 14 32.8 +0.6
JCT Junction City 144.25 51 P PKPbc 05 14 33.0 +0.8
baz=144,SNR=6.3
JCT Junction City 144.25 51 *e*PKPdf PKPbc 05 14 32.8 +0.6
U37A Salina 144.29 39 P PKPbc 05 14 32.8 +0.7
baz=144
X35A Drake 144.29 44 P **PKPdf** **05 14 34.2 +0.3**
baz=144
333A Richland Sprin 144.47 50 P PKPbc 05 14 33.8 +0.9
baz=144,SNR=7.6
Y35A Marietta 144.52 44 P PKPbc 05 14 33.6 +0.7
baz=144
HDIL Hopedale 144.53 29 P **PKPab** **05 14 32.6 +0.1**
baz=144
V37A Hulbert 144.60 40 P **PKPab** **05 14 33.1 +0.2**
baz=144
X36A Centrahoma 144.61 43 P PKPbc 05 14 33.4 +0.2
baz=144
433A Art 144.66 51 P PKPbc 05 14 33.9 +0.4
baz=144,SNR=5.3
632A Uvalde 144.69 53 P **PKPab** **05 14 33.1 -0.3**
baz=145
U38A Gravette 144.72 39 P **PKPab** **05 14 33.3 0.0**
baz=145
234A Clairette 144.76 48 P PKPbc 05 14 34.5 +0.7
baz=145,SNR=5.6
732A Laxson Ranch, 144.87 54 P **PKPab** **05 14 32.9 -1.2**
baz=145

W37A	**Quinton** baz=145	**144.88**	**41**	P	**PKPab**	05 14 33.7	**-0.3**
135A	**Vickery Place,** baz=145	**145.00**	**47**	P	**PKPab**	05 14 33.7	**-0.8**
533A	**Kerrville** baz=145	**145.02**	**52**	P	**PKPab**	05 14 34.4	**-0.3**
334A	**Lometa** baz=145	**145.03**	**49**	P	**PKPab**	05 14 33.2	**-1.4**
Y36A	**Durant** baz=145	**145.04**	**44**	P	**PKPbc**	05 14 34.0	**-0.6**
832A	**Faith Ranch, C** baz=145,SNR=9.5	**145.05**	**55**	P	**PKPdf**	05 14 36.0	**+0.6**
V38A	**Canehill** baz=145,SNR=7.6	**145.07**	**39**	P	**PKPbc**	05 14 34.1	**-0.6**
633A	**Saathoff Ranch** baz=145	**145.19**	**53**	P	**PKPbc**	05 14 35.0	**-0.2**
X37A	**Clayton** baz=145	**145.25**	**42**	P	**PKPbc**	05 14 35.5	**+0.3**
434A	**Burnet** baz=145	**145.25**	**50**	P	**PKPbc**	05 14 35.2	**-0.2**
WHTX	**Lake Whitney** baz=145	**145.26**	**47**	P	**PKPdf**	05 14 36.0	**+0.3**
WHTX	**Lake Whitney**	**145.26**	**47**	*e*PKPdf	**PKPdf**	05 14 36.5	**+0.9**
534A	**Blanco** baz=145,SNR=13	**145.47**	**51**	P	**PKPbc**	05 14 36.3	**+0.2**
833A	**Chaparral WMA,** baz=145,SNR=5.6	**145.50**	**55**	P	**PKPab**	05 14 37.0	**+0.6**
W38A	**Poteau** baz=145,SNR=5.3	**145.50**	**41**	P	**PKPbc**	05 14 36.0	**0.0**
X38A	**Whitesboro** baz=145,SNR=5.9	**145.55**	**41**	P	**PKPdf**	05 14 36.4	**+0.3**
335A	**Moody** baz=146,SNR=5.2	**145.65**	**49**	P	**PKPbc**	05 14 36.8	**+0.2**
136A	**Ennis** baz=146	**145.67**	**46**	P	**PKPab**	05 14 37.6	**+0.6**
933A	**Laredo** baz=146	**145.89**	**56**	P	**PKPab**	05 14 38.6	**+0.7**
Z37A	**Pogue Cattle C** baz=146	**145.90**	**44**	P	**PKPbc**	05 14 37.7	**+0.4**
336A	**Riesel** baz=146	**146.02**	**48**	P	**PKPab**	05 14 38.7	**+0.4**
834A	**Tilden** baz=146	**146.26**	**54**	P	**PKPbc**	05 14 38.9	**+0.3**
MIAR	**Mount Ida**	**146.44**	**40**	*e*PKP2	**PKPbc**	05 14 39.5	**+0.6**
MIAR	**Mount Ida** baz=146,SNR=6.6	**146.44**	**40**	P	**PKPbc**	05 14 38.8	**-0.1**
MIAR	**Mount Ida**	**146.44**	**40**	*e*PKPbc	**PKPbc**	05 14 39.5	**+0.6**
Y39A	**Lockesburg** baz=146	**146.48**	**42**	P	**PKPbc**	05 14 39.4	**+0.4**
OLIL	**Olney**	**146.53**	**29**	*e*PKPdf	**PKPbc**	05 14 39.3	**+0.3**
138A	**Matatall Enter** baz=146	**146.57**	**44**	P	**PKPab**	05 14 40.2	**-0.2**
034A	**Hebbronville** baz=146	**146.59**	**56**	P	**PKPab**	05 14 40.8	**+0.2**
835A	**Beeville** baz=147	**146.76**	**54**	P	**PKPbc**	05 14 40.8	**+0.8**
636A	**Smothers Creek** baz=147	**146.82**	**51**	P	**PKPbc**	05 14 40.9	**+0.7**
338A	**Crockett** baz=147	**147.15**	**47**	P	**PKPbc**	05 14 41.9	**+0.9**
438A	**Sam Houston St** baz=147	**147.36**	**48**	P	**PKPbc**	05 14 42.0	**+0.4**
BDFB	**Brasilia** comp=Z,2.5nm,0.6s,baz=158,slow=4.6,SNR=6.1	**147.47**	**217**	PKPbc	**PKPbc**	05 14 43.3	**+0.9**
BDFB	**Brasilia**	**147.47**	**217**	PKP2 pmax	**PKPbc** pmax	05 14 43.3	**+0.9**
BDFB	comp=Z,3.0nm,0.6s						
340A	**Bronson** baz=148	**148.12**	**45**	P	**PKPbc**	05 14 44.2	**+0.6**
440A	**Kirbyville** baz=148	**148.45**	**46**	P	**PKPbc**	05 14 45.4	**+0.9**
LRAL	**Lakeview Retre**	**151.45**	**35**	*e*PKPbc	**PKPbc**	05 14 51.9	**+0.1**
SIV	**San Ignacio**	**152.87**	**194**	PKPbc	**PKPbc**	05 14 57.0	**+1.5**
LPAZ	**La Paz** comp=Z,2.5nm,0.9s,baz=157,slow=2.8,SNR=7.9	**153.42**	**179**	PKPbc	**PKPbc**	05 14 58.6	**+1.2**
LPAZ	**La Paz**	**153.42**	**179**	PKIKP pmax	**PKPbc** pmax	05 14 58.6	**+1.2**
LPAZ	comp=Z,3.0nm,0.9s						

*IDC **26** 04:55:30.2±1.9, 27.°26N×21.°13W, h0km, mb3.4/5, mb1 3.5/6, mb1mx3.4/29, mbtmp3.4/6, ML4.7/1, Error ellipse: s-maj=43.9km s-min=21.6km az=55.0*
*INMG **26** 04:55:41.3±0.6, 27.°54N×20.°59W, h10km, ML3.9, Error ellipse: s-maj=7.1km s-min=4.2km az=73.0*

ISC 26 04:55:32.3±1.8, 27.°4N±0.°1×21.°0W±0.°2, h10km, n11, σ2s12/12, mb3.3/5, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUL	**Funchal**	**6.32**	**33**	*e*Pn	**Pn**	**04 57 04.0**	**-1.4**
FUL				*e*Sn	Sn	04 58 06.3	-11
FUL				A	A	04 58 15.2	
	122nm,0.2s						
PMOZ	**Porto Moniz, M**	**6.32**	**31**	*e*Pn	**Pn**	**04 57 04.2**	**-1.4**
PMOZ				*e*Sn	Sn	04 58 06.6	-11
PMOZ				A	A	04 58 17.1	
	171nm,0.5s						
PMAR	**Madeira**	**6.37**	**33**	*e*Pn	**Pn**	**04 57 04.7**	**-1.6**
PMAR				*e*Sn	Sn	04 58 07.9	-11
PMAR				A	A	04 58 13.8	
	141nm,0.2s						
PMPS	**Porto Santo**	**6.92**	**35**	*e*Pn	**Pn**	**04 57 12.7**	**-1.1**
PMPS				*e*Sn	Sn	04 58 21.0	-12
PMPS				A	A	04 58 30.6	
	35nm,0.2s						
PMPST	**Porto Santo, M**	**6.94**	**35**	*e*Pn	**Pn**	**04 57 12.6**	**-1.4**
PMPST				*e*Sn	Sn	04 58 21.1	-12
PMPST				A	A	04 58 29.1	
	75nm,0.3s						
ESDC	**Sonseca Array**	**18.71**	**45**	P	**Pn**	**04 59 53.4**	**+2.1**
	0.5nm,0.3s,baz=235,slow=12,SNR=7.4						
TORD	**Torodi Ar. Bea**	**25.54**	**119**	P	**P**	**05 00 59.2**	**-2.2**
	0.4nm,0.8s,baz=306,slow=11,SNR=3.6						
TORD				S	**S**	**05 05 32.8**	**+3.7**
	0.2nm,0.9s,baz=303,slow=23,SNR=2.3						
DBIC	**Dimbokro**	**25.72**	**140**	P	**P**	**05 01 01.1**	**-1.8**
	1.6nm,0.8s,baz=319,slow=11,SNR=2.1						
AKASG	**Malin Array Be**	**44.35**	**44**	P	**P**	**05 03 41.7**	**-0.8**
	0.1nm,0.3s,baz=263,slow=7.4,SNR=3.3						
BRTR	**Keskin Array B**	**46.51**	**60**	P	**P**	**05 04 01.4**	**+1.3**
	0.4nm,0.7s,baz=257,slow=8.1,SNR=3.6						
ILAR	**Eielson Array**	**79.01**	**339**	P	**P**	**05 07 37.5**	**+1.4**
	0.2nm,0.7s,baz=20,slow=5.8,SNR=5.8						

*ISCJB **26** 05:17:53.0±1.5, 28.°4N±0.°3×43.°7W±0.°2, h12km, mb3.9/9, MS3.4/9, Error ellipse: s-maj=47.8km s-min=18.2km az=7.9*
*IDC **26** 05:17:52.9±1.8, 28.°35N×43.°67W, h0km, mb3.9/9, mb1 4.2/9, mb1mx3.8/41, mbtmp3.9/9, MS3.2/8, Ms1 3.2/8, ms1mx2.9/46, Error ellipse: s-maj=58.6km s-min=20.6km az=6.0*

ISC 26 05:17:54.7±1.9, 28.°3N±0.°4×43.°7W±0.°2, h12km, n22, σ0s76/9, mb4.0/9, MS3.3/9, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**22.97**	**249**	LR	LR	05 30 36.3	
	comp=Z,16nm,21.0s,baz=131,slow=33						
SCHQ	**Schefferville**	**31.35**	**334**	LR	LR	05 35 42.8	
	comp=Z,34nm,20.9s,baz=41,slow=34						
DBIC	**Dimbokro**	**42.56**	**113**	LR	LR	05 41 33.5	
	comp=Z,52nm,18.4s,baz=297,slow=33						
BDFB	**Brasilia**	**43.91**	**186**	LR	LR	05 43 24.0	
	comp=Z,32nm,18.9s,baz=236,slow=35						
TORD	**Torodi Ar. Bea**	**44.78**	**100**	P	**P**	**05 26 08.6**	**0.0**
	0.8nm,0.7s,baz=299,slow=9.0,SNR=5.5						
TORD				LR	LR	05 43 22.1	
	comp=Z,36nm,20.1s,baz=270,slow=34						
H10N2	**ASCENSION HYDR** baz=323,slow=75,SNR=84	**45.69**	**137**	T	T	06 14 54.8	
H10N3	**ASCENSION HYDR** baz=323,slow=75,SNR=70	**45.69**	**138**	T	T	06 14 55.3	
H10N1	**ASCENSION HYDR** baz=323,slow=75,SNR=100	**45.70**	**138**	T	T	06 14 55.3	
H10S1	**ASCENSION HYDR** baz=324,slow=75,SNR=154	**46.48**	**139**	T	T	06 15 53.3	
H10S3	**ASCENSION HYDR** baz=324,slow=75,SNR=132	**46.48**	**139**	T	T	06 15 52.4	
H10S2	**ASCENSION HYDR** baz=324,slow=75,SNR=138	**46.49**	**139**	T	T	06 15 54.5	
GERES	**GERESS Array B**	**48.07**	**48**	P	**P**	**05 26 35.0**	**+0.8**
	0.2nm,0.2s,baz=296,slow=7.3,SNR=5.5						
TXAR	**Lajitas Array**	**52.03**	**286**	LR	LR	05 50 41.0	
	comp=Z,13nm,18.2s,baz=0.0,slow=38						

PDAR	**Pinedale Array**	**54.21**	**304**	P	**P**	**05 27 20.6**	**0.0**
	1.1nm,0.7s,baz=86,slow=8.7,SNR=12						
PDAR				LR	LR	05 49 03.1	
	comp=Z,35nm,19.4s,baz=88,slow=34						
FINES	**FINESS Array B**	**55.91**	**33**	P	**P**	**05 27 32.5**	**+0.2**
	2.5nm,0.8s,baz=274,slow=6.8,SNR=4.9						
AKASG	**Malin Array Be**	**58.06**	**46**	P	**P**	**05 27 46.8**	**-0.9**
	2.6nm,0.7s,baz=280,slow=6.1,SNR=9.7						
NVAR	**Mina Array Bea**	**61.58**	**301**	P	**P**	**05 28 12.5**	**+0.1**
	0.4nm,0.7s,baz=104,slow=7.5,SNR=3.2						
BRTR	**Keskin Array B**	**63.28**	**57**	P	**P**	**05 28 24.3**	**+0.7**
	0.9nm,0.9s,baz=329,slow=2.2,SNR=4.8						
KBZ	**Khabaz**	**68.71**	**51**	P	**P**	**05 28 57.0**	**-1.2**
	2.0nm,0.7s,baz=280,slow=6.1,SNR=2.7						
ILAR	**Eielson Array**	**70.11**	**334**	P	**P**	**05 29 06.7**	**+0.1**
	1.0nm,1.0s,baz=68,slow=5.1,SNR=8.3						
LBTB	**Lobatse**	**85.16**	**122**	LR	LR	06 01 08.1	
	comp=Z,44nm,19.1s,baz=307,slow=30						
SUR	**Sutherland**	**86.01**	**130**	LR	LR	06 00 14.6	
	comp=Z,189nm,20.3s,baz=188,slow=30						

MEX 26 05:24:41.5±0.3, 28.°05N×112.°22W, h14km±7km, MD4.1, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.73**	**181**	*i* P	Pg	05 24 53.5	-2.3
SRIG				*e*S	Sg	05 25 02.8	-2.6
HSIG		**1.48**	**49**	*e*P	Pn	05 25 04.1	-3.7
HSIG				*e*S	Sn	05 25 22.1	-4.8

IDC 26 05:24:49.9±3.2, 19.°34S×169.°53E, h261km±35km, mb3.2/4, mb1 3.5/5, mb1mx3.1/28, mbtmp3.8/5, Error ellipse: s-maj=88.5km s-min=30.4km az=154.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.97**	**226**	P	Pn	05 25 54.2	+0.3
	2.2nm,0.3s,baz=92,slow=24,SNR=21						
DZM				S	S	05 26 38.1	-6.8
	0.6nm,0.3s,baz=90,slow=20,SNR=1.9						
DZM	**Mont Dzumac**	**3.97**	**226**	*e*P	Pn	05 25 53.6	-0.3
WRA	**Warramunga Arr**	**33.11**	**263**	P	P	05 31 01.1	-0.8
	0.3nm,0.3s,baz=95,slow=8.4,SNR=21						
WRA				PcP	PcP	05 33 38.6	0.0
	0.2nm,0.6s,baz=90,slow=3.5,SNR=2.6						
ASAR	**Alice Springs**	**33.37**	**256**	P	P	05 31 04.0	-0.1
	2.2nm,0.5s,baz=82,slow=9.2,SNR=29						
CMAR	**Chiang Mai Arr**	**78.79**	**294**	P	P	05 36 25.3	+1.0
	0.4nm,0.5s,baz=116,slow=4.2,SNR=3.8						
ILAR	**Eielson Array**	**90.24**	**17**	P	P	05 37 19.7	-0.8
	0.2nm,0.7s,baz=232,slow=4.4,SNR=3.7						

MEX 26 05:41:09.8±0.6, 13.°88N×91.°94W, h15km, MD4.0, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**2.20**	**326**	*i* P	Pn	05 41 43.1	-2.6
PCIG				*i* S	Sn	05 42 08.1	-4.6
CCIG	**Comitan**	**2.39**	**355**	*i* P	Pn	05 41 46.4	-2.4
CCIG				*i* S	Sn	05 42 14.3	-3.8
TGIG		**3.10**	**338**	*e*P	Pn	05 41 55.5	-2.8
TGIG				*e*S	Sn	05 42 31.5	-3.7

*NNC **26** 05:42:37.9±2.3, 54.°03N×86.°24E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=21.6km s-min=16.6km az=84.0*

IDC 26 05:42:35.4±2.4, 54.°29N×86.°06E, h0km, mb1 3.4/2, mb1mx3.1/31, mbtmp3.4/2, ML3.0/2, 3C-4D, Error ellipse: s-maj=18.2km s-min=11.6km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.81**	**245**	*i*		05 48 09.7	
	baz=64,slow=304,SNR=13						
ZALV	**Zalesovo Beam**	**0.81**	**245**	Pg	Pg	05 42 49.8	-1.0
	1.6nm,0.3s,baz=62,slow=16,SNR=16						
ZALV				Lg	Lg	05 43 02.5	
	8.7nm,0.3s,baz=65,slow=30,SNR=41						
ZALV				Rg	Rg	05 43 05.8	
	126nm,1.1s,baz=60,slow=30,SNR=46						
KURK	**Kurchatov**	**5.78**	**235**	⇑Pn	Pn	05 44 03.6	+1.2
	8.1nm,1.3s						
KURK				⇓Lg	Lg	05 45 41.0	
	9.5nm,0.9s						
KURBB	**Kurchatov Arra**	**5.89**	**234**	⇓Pn	Pn	05 44 05.3	+1.5
	3.3nm,0.5s						
KURBB				⇑Lg	Lg	05 45 44.2	
	7.3nm,0.8s						
KURBB	**Kurchatov Arra**	**5.89**	**234**	Pn	Pn	05 44 05.0	+1.3
	0.2nm,0.3s,baz=53,slow=13,SNR=4.6						
KURBB				Lg	Lg	05 45 43.8	
	0.1nm,0.3s,baz=52,slow=33,SNR=5.2						
MK31	**Makanchi Array**	**7.88**	**199**	⇑Pn	Pn	05 44 32.0	+0.8
	1.3nm,0.6s,baz=24,slow=9.4,SNR=16						
MK31				⇓Sn	Sn	05 45 59.2	-1.8
	2.6nm,1.1s,baz=33,slow=30,SNR=3.8						
MK31				⇓Lg	Lg	05 46 40.1	
	4.4nm,1.1s,baz=18,slow=29,SNR=3.9						
MKAR	**Makanchi Array**	**7.88**	**199**	Pn	Pn	05 44 32.1	+1.0
	0.5nm,0.3s,baz=20,slow=16,SNR=16						
MKAR				Sn	Sn	05 45 59.6	-1.4
	0.2nm,0.3s,baz=18,slow=28,SNR=7.5						
MKAR				Lg	Lg	05 46 43.0	
	0.0nm,0.3s,baz=14,slow=31,SNR=10						

*IDC **26** 05:45:50.2±0.5, 1.°34N×128.°65E, h0km, mb4.4/23, mb1 4.5/25, mb1mx4.4/52, mbtmp4.4/25, ML4.2/2, MS3.6/17, Ms1 3.6/17, ms1mx3.4/37, Error ellipse: s-maj=19.7km s-min=11.2km az=78.0*
*ISCJB **26** 05:45:54.1±0.2, 1.°38N±0.°03×128.°86E±0.°03, h35km, mb4.4/33, MS3.6/14, Error ellipse: s-maj=4.2km s-min=3.3km az=145.9*
*BJI **26** 05:45:55.3, 1.°30N×128.°90E, h61km, mb4.7/30, mB4.9/17, Ms4.4/11, Ms7 3.9/8*
*DJA **26** 05:45:57.0±1.1, 1.°1N±4.°×12.°9E±.°, h22km±11km, M4.7/14, mb4.9/12, mB5.2/9, MLv4.6/14, Mw(mB)4.6/9*
*NEIC **26** 05:45:58.2±1.1, 1.°31N×128.°77E, h61km±10km, mb4.6/11, Error ellipse: s-maj=11.2km s-min=7.0km az=54.0*

ISC 26 05:45:55.9±0.4, 1.°26N±0.°04×128.°81E±0.°04, h35km, n115, σ1s67/119, mb4.5/33, MS3.6/15, 2D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.52**	**251**	P	**Pn**	**05 46 20.9**	**+0.3**
TNTI				S	**Sn**	**05 46 42.0**	**+2.9**
TNTI	**Ternate**	**1.52**	**251**	*e*Pn	**Pn**	**05 46 20.8**	**+0.2**
TNTI				*e*Sn	**Sn**	**05 46 40.3**	**+1.1**
LBMI	**Labuha**	**2.29**	**215**	P	**Pn**	**05 46 32.4**	**+1.1**
LBMI				S	**Sn**	**05 47 01.2**	**+2.9**
SWI	**Sorong**	**3.24**	**131**	P	**Pn**	**05 46 45.1**	**+0.9**
SWI				S	**Sn**	**05 47 24.0**	**+2.4**
SWI	**Sorong**	**3.24**	**131**	P	**Pn**	**05 46 45.4**	**+1.2**
	baz=3.1,SNR=9.6						
SIJI	**Sorong**	**3.25**	**131**	Pn	**Pn**	**05 46 45.3**	**+0.9**
	99nm,0.3s,baz=158,slow=23,SNR=125						
SIJI				Sn	**Sn**	**05 47 23.5**	**+1.7**
	31nm,0.3s,baz=184,slow=22,SNR=11						
SIJI				LR	LR	05 48 18.2	
	comp=Z,2μm,19.9s,baz=3.5,slow=43						
SANI	**Sanana**	**4.33**	**221**	P	**Pn**	**05 46 59.7**	**+0.4**
MSAI	**Masohi**	**4.58**	**178**	P	**Pn**	**05 47 03.6**	**+0.9**
NLAI	**Namlea**	**4.79**	**201**	P	**Pn**	**05 47 07.3**	**+1.8**
KMSI	**Cibinong**	**4.87**	**262**	P	**Pn**	**05 47 09.2**	**+2.5**
KMSI				S	**Sn**	**05 48 06.3**	**+4.3**
AAI	**Ambon**	**4.95**	**187**	P	**Pn**	**05 47 09.4**	**+1.5**
FAKI	**Fak Fak**	**5.39**	**140**	P	**Pn**	**05 47 15.1**	**+1.1**
	123nm,0.7s,2μm0.6nm						
FAKI	**Fak Fak**	**5.39**	**140**	P	**Pn**	**05 47 15.1**	**+1.1**
	baz=5.3,SNR=42						
FAKI	**Fak Fak**	**5.39**	**140**	*e*Pn	**Pn**	**05 47 15.0**	**+1.1**
	87nm,0.4s						
FAKI				*e*Sn	**Sn**	**05 48 16.5**	**+1.7**
LUWI	**Luwuk**	**6.45**	**249**	P	**Pn**	**05 47 31.1**	**+2.6**
	119nm,0.9s,5μm0.6nm						
LUWI	**Luwuk**	**6.45**	**249**	P	Pn	05 47 33.9	+5.5
	baz=6.5,SNR=4.0						
LUWI	**Luwuk**	**6.45**	**249**	*e*Pn	Pn	05 47 32.9	+4.5
	92nm,0.8s						

MRSI	**Marisa**	**6.91**	**264**	P	**Pn**	**05 47 37.4**	**+2.7**
	63nm,1.2s,1μm0.2nm						
CTBH	**Cotabato--PC H**	**7.46**	**323**	⇓*i*P	**Pn**	**05 47 44.9**	**+2.6**
APSI	**Ampana**	**7.47**	**253**	P	**Pn**	**05 47 44.8**	**+2.3**
	153nm,1.1s,1μm0.5nm						
KDI	**Kendari**	**8.07**	**230**	P	Pn	05 48 04.2	+14
PALU	**Palau**	**8.27**	**43**	P	Pn	05 47 58.5	+5.0
	baz=8.3,SNR=4.0						
MPSI	**Mapaga**	**8.95**	**264**	P	Pn	05 48 09.5	+6.7
TTSI	**Tana Toraja**	**9.95**	**245**	P	**Pn**	**05 48 17.0**	**+0.5**
	95nm,0.8s,860nm						
SMPI	**Sarmi**	**10.42**	**108**	P	Pn	05 48 30.8	+7.9
SPSI	**Sidrap Palu**	**10.42**	**240**	P	**Pn**	**05 48 25.4**	**+2.5**
	55nm,0.7s,603nm						
BKSI	**Bulukumba**	**10.86**	**233**	P	Pn	05 48 39.2	+10
KAPI	**Kappang**	**10.99**	**235**	Pn	**Pn**	**05 48 29.2**	**-1.4**
	0.5nm,0.3s,baz=35,slow=13,SNR=2.3						
KAPI				Sn	**Sn**	**05 50 28.9**	**-3.5**
	0.4nm,0.3s,baz=176,slow=19,SNR=1.5						
KAPI	**Kappang**	**10.99**	**235**	*e*Pn	**Pn**	**05 48 33.0**	**+2.3**
KAPI				Sn	**Sn**	**05 50 28.9**	**-3.5**
KAPI				*e*Sn	Sn	05 50 38.7	+6.3
MYLDM	**Lahad Datu**	**11.00**	**291**	*e*Pn	**Pn**	**05 48 33.9**	**+3.1**
JAY	**Jayapura**	**12.47**	**108**	LR	LR	05 53 17.8	
	comp=Z,341nm,19.9s,baz=280,slow=35						
KKM	**Kota Kinabalu**	**13.43**	**291**	*e*Pn	**Pn**	**05 49 04.5**	**+0.3**
	22nm,0.9s						
SBUM	**Sibu**	**16.62**	**274**	*e*Pn	**Pn**	**05 49 47.6**	**+1.2**
	21nm,1.1s						
STKI	**Sintang**	**17.37**	**266**	P	P	05 50 04.2	+7.4
KSM	**Kuching**	**18.49**	**271**	*e*P	**Pn**	**05 50 10.6**	**+1.0**
	66nm,1.3s						
GUMO	**Guam**	**20.07**	**52**	LR	LR	05 57 08.0	
	comp=Z,106nm,20.5s,baz=232,slow=34						
PMG	**Port Moresby**	**21.13**	**120**	P	**P**	**05 50 41.4**	**+3.4**
	34nm,0.9s,baz=307,slow=12,SNR=4.7						
WRAB	**Tennant Creek**	**21.75**	**166**	*e*P	**P**	**05 50 45.4**	**+0.8**
	33nm,0.9s						
WRAB				*e*S	**S**	**05 54 45.9**	**+2.3**
WRA	**Warramunga Arr**	**21.76**	**166**	P	**P**	**05 50 44.9**	**+0.3**
	24nm,0.8s,baz=344,slow=11,SNR=76						
WRA				S	**S**	**05 54 39.5**	**-4.1**
	0.9nm,0.9s,baz=345,slow=23,SNR=3.5						
MDSI	**Maura Dua**	**25.26**	**257**	P	**P**	**05 51 21.1**	**+2.0**
	21nm,1.2s						
AS31	**Alice Springs**	**25.27**	**169**	*e*P	**P**	**05 51 19.5**	**+0.5**
ASAR	**Alice Springs**	**25.27**	**169**	P	**P**	**05 51 19.6**	**+0.5**
	16nm,0.7s,baz=351,slow=12,SNR=97						
ASAR				LR	LR	06 02 24.3	
	comp=Z,234nm,19.9s,baz=324,slow=39						
QIZ	**Qiongzhong**	**25.64**	**315**	P	**P**	**05 51 22.5**	**+0.1**
QIZ				S	**S**	**05 55 47.8**	**-0.8**
QIZ				LN			
	170nm,14.2s						
CTA	**Charters Tower**	**27.26**	**142**	LR	LR	06 03 42.9	
	comp=Z,429nm,20.5s,baz=332,slow=39						
PSI	**Prapat**	**29.90**	**273**	P	**P**	**05 51 59.6**	**-1.2**
	11nm,0.7s,baz=68,slow=6.1,SNR=6.3						
PSI	**Prapat**	**29.90**	**273**	P	**P**	**05 52 00.2**	**-0.7**
	baz=30,SNR=4.7						
PSI	**Prapat**	**29.90**	**273**	*e*P	**P**	**05 52 00.5**	**-0.4**
	24nm,1.1s						
JNU	**Nakatsue**	**31.75**	**3**	*e*P	**P**	**05 52 15.7**	**-1.1**
	8.6nm,1.1s						
HNR	**Honiara**	**32.78**	**110**	LR	LR	06 07 20.9	
	comp=Z,46nm,18.8s,baz=109,slow=39						
GYA	**Guiyang**	**32.88**	**322**	*e*P	**P**	**05 52 27.8**	**+0.9**
GYA				PMZ			
	10.0nm,1.0s						
CRAI	**Chiangrai**	**33.58**	**306**	P	**P**	**05 52 30.7**	**-2.3**
	6.4nm,1.6s,3μm						
CMAR	**Chiang Mai Arr**	**33.92**	**302**	P	**P**	**05 52 35.2**	**-0.7**
	2.6nm,0.9s,baz=123,slow=7.6,SNR=15						
CMAR				LR	LR	06 07 31.5	
	comp=Z,42nm,18.6s,baz=126,slow=39						
CHTO	**Chiang Mai**	**34.08**	**303**	P	**P**	**05 52 38.0**	**+0.7**
	48nm,2.0s						
CHTO	**Chiang Mai**	**34.08**	**303**	*e*P	**P**	**05 52 37.6**	**+0.2**
	15nm,1.3s						
KMI	**Kunming**	**34.58**	**315**	P	**P**	**05 52 43.0**	**+1.1**
KMI				pP	pP	05 52 59.5	+7.5
KMI				sP	sP	05 53 07.0	+11
KMI				PP	**PP**	**05 54 02.0**	**+1.4**
KMI				PcP	**PcP**	**05 55 16.3**	**+0.1**
KMI				S	**S**	**05 58 07.5**	**-1.6**
KMI				sS	sS	05 58 35.5	+10
KMI				SS	**SnSn**	**06 00 22.0**	**-0.6**
KMI				PMZ			
	16nm,0.9s						
KMI				PMZ			
	66nm,3.1s						
KMI				LN			
	150nm,10.5s						
KMI				LE			
	110nm,8.9s						
KMI				LZ			
	130nm,13.7s						
STKA	**Stephens Creek**	**35.12**	**161**	P	**P**	**05 52 46.4**	**+0.2**
	9.2nm,0.6s,baz=333,slow=9.7,SNR=18						
STKA				LR	LR	06 09 59.6	
	comp=Z,184nm,18.6s,baz=8.2,slow=41						
STKA	**Stephens Creek**	**35.12**	**161**	*e*P	**P**	**05 52 46.8**	**+0.6**
	2.0nm,0.7s						
KSAR	**Wonju Array Be**	**36.01**	**359**	P	**P**	**05 52 52.8**	**-0.9**
KSRS	**Korea Array**	**36.02**	**359**	P	**P**	**05 52 52.8**	**-1.0**
	4.3nm,0.8s,baz=176,slow=9.9,SNR=18						
KSRS				LR	LR	06 06 13.7	
	comp=Z,53nm,21.9s,baz=200,slow=34						
MAJO	**Matsushiro**	**36.17**	**13**	*e*P	**P**	**05 52 54.3**	**-0.8**
	22nm,0.9s						
MAT	**Matsushiro**	**36.17**	**13**	P	**P**	**05 52 53.5**	**-1.6**
MJAR	**Matsushiro Arr**	**36.17**	**13**	P	**P**	**05 52 53.6**	**-1.5**
	14nm,0.8s,baz=189,slow=10.0,SNR=31						
MJAR				LR	LR	06 07 35.2	
	comp=Z,50nm,20.1s,baz=195,slow=36						
XAN	**Xi'an**	**37.54**	**332**	P	**P**	**05 53 05.8**	**-1.1**
XAN			

USRK	**Ussuriysk Ar.**	**42.85**	**3**	P		**P**	**05 53 49.4**	**-1.2**
	4.2nm,0.8s,baz=192,slow=8.1,SNR=11							
MDJ	**Mudanjiang**	**43.18**	**1**	P		**P**	**05 53 53.8**	**+0.5**
MDJ				PMZ				
	7.0nm,1.1s							
MDJ				PMZ				
	46nm,6.5s							
GTA	**Gaotai**	**46.27**	**329**	P		**P**	**05 54 18.0**	**-0.2**
GTA				pP		**pP**	**05 54 30.5**	**+1.9**
GTA				sP		**sP**	**05 54 35.8**	**+3.0**
GTA				S		**S**	**06 01 01.5**	**-1.3**
GTA				sS		**sS**	**06 01 22.3**	**+2.3**
GTA				SS		SS	06 04 20.8	-7.9
GTA				PMZ				
	8.0nm,1.2s							
GTA				PMZ				
	55nm,5.0s							
GTA				LN				
	88nm,18.5s							
GTA				LE				
	100nm,17.1s							
GTA				LZ				
	100nm,17.1s							
TAPN	**Taplejung**	**47.14**	**307**	*e*P		**P**	**05 54 24.8**	**-0.7**
ODAN	**Odare**	**47.19**	**306**	*e*P		**P**	**05 54 25.2**	**-0.5**
	55nm,0.8s							
RAMN	**Ramite**	**47.86**	**306**	*e*P		**P**	**05 54 31.2**	**+0.2**
GUN	**Gumba**	**48.85**	**307**	*e*P		**P**	**05 54 38.4**	**-0.3**
	63nm,0.8s							
PKI	**Pulchoki**	**49.09**	**306**	*e*P		**P**	**05 54 39.7**	**-0.8**
PKIN	**Phulchoki**	**49.10**	**306**	*e*P		**P**	**05 54 40.4**	**-0.1**
KKN	**Kakani**	**49.28**	**306**	*e*P		**P**	**05 54 41.2**	**-0.7**
	30nm,0.8s							
DMN	**Daman**	**49.34**	**306**	*e*P		**P**	**05 54 41.8**	**-0.6**
	55nm,1.0s							
GKN	**Gorkha**	**49.89**	**306**	*e*P		**P**	**05 54 45.7**	**-0.7**
	29nm,1.0s							
ULN	**Ulaanbaatar**	**50.10**	**341**	*e*P		**P**	**05 54 47.4**	**-0.3**
	13nm,1.2s							
SONM	**Songino Array**	**50.29**	**340**	P		**P**	**05 54 48.0**	**-1.1**
	3.3nm,1.0s,baz=154,slow=7.9,SNR=18							
SONM				LR		LR	06 17 56.6	
	comp=Z,44nm,20.2s,baz=149,slow=38							
KOLN	**Koldanda**	**50.63**	**306**	*e*P		**P**	**05 54 52.0**	**-0.1**
	70nm,0.7s							
DANN	**Dangsing**	**50.73**	**306**	*e*P		**P**	**05 54 52.1**	**-0.9**
	8.0nm,0.6s							
PETK	**Petropavlovsk-**	**56.96**	**20**	P		**P**	**05 55 38.3**	**+0.6**
	4.8nm,0.9s,baz=178,slow=13,SNR=3.5							
MK31	**Makanchi Array**	**60.75**	**325**	P		**P**	**05 56 03.1**	**-1.1**
	baz=61,SNR=9.0							
MK31	**Makanchi Array**	**60.75**	**325**	*e*P		**P**	**05 56 03.0**	**-1.3**
MKAR	**Makanchi Array**	**60.75**	**325**	P		**P**	**05 56 03.0**	**-1.2**
	3.6nm,0.4s,baz=117,slow=8.2,SNR=45							
MKAR				LR		LR	06 24 32.7	
	comp=Z,42nm,20.1s,baz=130,slow=38							
ZALV	**Zalesovo Beam**	**63.72**	**333**	P		**P**	**05 56 21.3**	**-2.6**
	1.1nm,0.4s,baz=114,slow=7.3,SNR=8.1							
ZALV				LR		LR	06 25 00.1	
	comp=Z,54nm,21.8s,baz=70,slow=37							
SEY	**Seymchan**	**63.98**	**12**	P		**P**	**05 56 26.1**	**+0.6**
	5.9nm,0.9s,baz=216,slow=4.3,SNR=15							
KURBB	**Kurchatov Arra**	**64.92**	**327**	P		**P**	**05 56 29.8**	**-2.0**
	6.2nm,0.5s,baz=126,slow=6.0,SNR=50							
KKAR	**Karatay Array**	**66.44**	**317**	*e*P		**P**	**05 56 40.3**	**-1.5**
	1.3nm,0.7s							
BVAR	**Borovoye Array**	**70.50**	**327**	P		**P**	**05 57 05.1**	**-1.9**
	1.2nm,0.6s,baz=127,slow=9.4,SNR=8.0							
GEYT	**Alibeck**	**74.05**	**309**	P		**P**	**05 57 28.0**	**-0.6**
	1.6nm,0.4s,baz=101,slow=4.6,SNR=3.0							
GEYT				LR		LR	06 34 43.3	
	comp=Z,27nm,18.7s,baz=0.0,slow=40							
ABKAR	**Akbulak array**	**75.36**	**321**	*e*P		**P**	**05 57 34.5**	**-1.4**
	0.2nm,0.2s							
AKTO	**Aktyubinsk**	**76.87**	**322**	P		**P**	**05 57 42.5**	**-1.9**
	0.7nm,0.6s,baz=159,slow=6.6,SNR=3.5							
VNDA	**Vanda**	**80.74**	**173**	P		**P**	**05 58 05.4**	**+0.3**
	2.5nm,0.8s,baz=306,slow=8.7,SNR=12							
VNDA				LR		LR	06 34 49.0	
	comp=Z,45nm,18.8s,baz=346,slow=36							
MAW	**Mawson**	**82.18**	**201**	P		**P**	**05 58 13.3**	**+0.4**
	0.9nm,0.5s,baz=11,slow=7.0,SNR=4.3							
MAW	**Mawson**	**82.18**	**201**	*e*P		**P**	**05 58 10.5**	**-2.4**
	0.4nm,0.9s							
KDAK	**Kodiak Island**	**82.86**	**32**	P		**P**	**05 58 16.9**	**+0.3**
	3.9nm,0.8s,baz=247,slow=7.7,SNR=3.7							
IM04	**Indian Mountai**	**83.73**	**24**	*e*P		**P**	**05 58 22.3**	**+1.3**
ILAR	**Eielson Array**	**86.43**	**25**	P		**P**	**05 58 34.8**	**+0.2**
	0.2nm,0.4s,baz=251,slow=5.2,SNR=4.7							
QSPA	**South Pole Qui**	**91.18**	**180**	P		**P**	**05 58 57.1**	**0.0**
	1.5nm,0.8s,baz=345,slow=12,SNR=7.7							
QSPA	**South Pole Qui**	**91.18**	**180**	*e*P		**P**	**05 58 57.3**	**+0.1**
KMBO	**Kilima Mbogo**	**91.58**	**269**	P		P	05 58 56.4	-4.0
	baz=92,SNR=5.1							
BRTR	**Keskin Array B**	**93.18**	**310**	LR		LR	06 46 56.1	
	comp=Z,14nm,19.8s,baz=99,slow=39							
ARCES	**ARCESS Array B**	**93.46**	**340**	P		**P**	**05 59 05.3**	**-2.3**
	2.7nm,0.8s,baz=60,slow=5.7,SNR=4.9							
FINES	**FINESS Array B**	**94.97**	**332**	LR		LR	06 46 14.2	
	comp=Z,46nm,18.3s,baz=82,slow=38							
TORD	**Torodi Ar. Bea**	**125.64**	**287**	PKP		**PKPdf**	**06 04 52.8**	**-1.9**
	0.6nm,1.0s,baz=101,slow=2.2,SNR=2.6							

*NNC **26** 05:47:41.4±3.6,54°.37N×86°.54E,h0km,mb3.4,mpv3.1, Error ellipse: s-maj=29.5km s-min=23.0km az=174.0*

IDC 26 05:47:39.1±3.0,54°.61N×86°.54E,h0km,mb1 3.1/2, mb1mx3.0/31,mbtmp3.1/2,ML2.7/2,5C-4D,Error ellipse: s-maj=23.4km s-min=16.2km az=49.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.21**	**237**	*i*			05 55 30.0	
	baz=55,slow=315,SNR=2.8							
ZALV	**Zalesovo Beam**	**1.21**	**237**	Pg		Pg	05 48 00.7	-1.6
	1.0nm,0.3s,baz=56,slow=16,SNR=8.8							
ZALV				Lg		Lg	05 48 18.0	
	1.2nm,0.3s,baz=52,slow=26,SNR=13							
KURK	**Kurchatov**	**6.20**	**234**	⇑Pn		Pn	05 49 12.2	+0.4
	2.6nm,0.9s							
KURK				⇓Sn		Sn	05 50 24.0	+0.7
	3.5nm,0.9s							
KURK				⇓Lg		Lg	05 50 55.2	
	10nm,0.9s							
KURBB	**Kurchatov Arra**	**6.30**	**234**	⇑Pn		Pn	05 49 13.3	+0.1
	0.9nm,0.3s							
KURBB				⇓Sn		Sn	05 50 24.6	-1.3
	9.2nm,0.7s							
KURBB				⇑Lg		Lg	05 50 54.0	
	14nm,1.1s							
KURBB	**Kurchatov Arra**	**6.30**	**234**	Pn		Pn	05 49 14.3	+1.1
	0.1nm,0.3s,baz=51,slow=14,SNR=11							
KURBB				Sn		Sn	05 50 27.5	+1.6
	0.1nm,0.3s,baz=48,slow=19,SNR=3.8							
KURBB				Lg		Lg	05 50 55.4	
	0.0nm,0.3s,baz=52,slow=33,SNR=3.0							
MK31	**Makanchi Array**	**8.28**	**201**	⇓Pn		Pn	05 49 40.0	-0.4
	0.1nm,0.2s,baz=23,slow=13,SNR=6.6							
MK31				⇑Sn		Sn	05 51 12.9	-1.6
	1.2nm,0.9s,baz=20,slow=22							
MK31				⇑Lg		Lg	05 51 58.3	
	5.1nm,1.2s							
MKAR	**Makanchi Array**	**8.28**	**201**	Pn		Pn	05 49 40.9	+0.5
	0.2nm,0.3s,baz=24,slow=13,SNR=5.3							
MKAR				Sn		Sn	05 51 13.3	-1.2
	0.1nm,0.3s,baz=21,slow=30,SNR=4.5							
MKAR				Lg		Lg	05 52 01.2	
	0.1nm,0.3s,baz=21,slow=30,SNR=5.9							

*ISCJB **26** 05:49:44.8±0.5,71°.07N±0°.08×7°.21W±0°.10,h20km, Error ellipse: s-maj=11.4km s-min=4.2km az=170.2*
*NAO **26** 05:49:45.0±2.4,71°.00N×7°.19W,ML4.4*
*CSEM **26** 05:49:46.2±0.1,71°.06N×7°.34W,h10km,ML3.0,Error ellipse: s-maj=3.7km s-min=1.7km az=171.0*
*BER **26** 05:49:48.5±1.7,71°.19N×7°.74W,h10km,MD1.6,ML3.0, ML4.4(NAO)*

ISC 26 05:49:46.2±0.9,70°.9N±0°.1×7°.34W±0°.05,h20km,n28, σ1s42/37,6D,Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JNE	**Jan Mayen East**	**0.32**	**279**	⇓*i*P		**Pb**	**05 49 52.9**	**-0.2**
JNE				*e*S		**Sb**	**05 49 58.1**	**+0.3**
JNE				IAML			05 49 58.8	
	comp=Z,8μm,0.2s							
JNE	**Jan Mayen East**	**0.32**	**279**	⇓*i*P		**Pb**	**05 49 52.9**	**-0.2**
	SNR=109							
JNE				*e*S		**Sb**	**05 49 58.1**	**+0.3**
	SNR=109							
JNW	**Jan Mayen West**	**0.37**	**284**	⇓*i*P		**Pb**	**05 49 53.3**	**-0.6**
JNW				*e*S		**Sb**	**05 49 58.3**	**-0.8**
JNW				IAML			05 49 59.0	
	comp=Z,6μm,0.5s							
JNW	**Jan Mayen West**	**0.37**	**284**	⇓*i*P		**Pb**	**05 49 53.3**	**-0.6**
	SNR=108							
JNW				*e*S		**Sb**	**05 49 58.3**	**-0.8**
	SNR=108							
JMIC	**Jan Mayen**	**0.38**	**277**	Pg		**Pb**	**05 49 53.8**	**-0.5**
JMIC				Lg		Lg	05 49 59.0	
JMIC	**Jan Mayen**	**0.38**	**277**	Pg		**Pb**	**05 49 53.8**	**-0.5**
JMIC				Lg		Lg	05 49 59.0	
JMIC	**Jan Mayen**	**0.38**	**277**	Pg		**Pb**	**05 49 53.8**	**-0.5**
	SNR=106							
JMIC				Lg		Lg	05 49 59.0	
	SNR=90							
JMI	**Jan Mayen**	**0.46**	**269**	⇓*i*P		**Pb**	**05 49 55.4**	**-0.1**
JMI				*e*S		**Sb**	**05 50 01.6**	**-0.2**
JMI				IAML			05 50 02.1	
	comp=Z,4μm,0.3s							
JMI	**Jan Mayen**	**0.46**	**269**	⇓*i*P		**Pb**	**05 49 55.3**	**-0.1**
	SNR=102							
JMI				*e*S		**Sb**	**05 50 01.6**	**-0.2**
	SNR=102							
KONS	**Konsvik**	**8.64**	**111**	*e*P		**Pn**	**05 51 51.9**	**+2.1**
KONS				*e*S		**Sn**	**05 53 23.7**	**-2.8**
KONS				IAML			05 53 26.8	
	comp=Z,2.4nm,0.4s							
KONS	**Konsvik**	**8.64**	**111**	*e*P		**Pn**	**05 51 51.9**	**+2.1**
	SNR=47							
HSPB	**Hornsund (broa**	**8.70**	**36**	*e*P		**Pn**	**05 51 50.7**	**+0.2**
HSPB	**Hornsund (broa**	**8.70**	**36**	*e*P		**Pn**	**05 51 50.7**	**+0.2**
	SNR=47							
STOK	**Stokkvaagen**	**8.72**	**112**	*e*P		**Pn**	**05 51 53.2**	**+2.4**
STOK				*e*S		**Sn**	**05 53 24.5**	**-3.8**
STOK				IAML			05 53 29.8	
	comp=N,3.3nm,0.3s							
STOK	**Stokkvaagen**	**8.72**	**112**	*e*P		**Pn**	**05 51 53.2**	**+2.4**
	SNR=47							
FLOS	**Flostrand**	**8.82**	**111**	*e*P		**Pn**	**05 51 54.4**	**+2.1**
FLOS				*e*S		**Sn**	**05 53 29.3**	**-1.6**
FLOS				IAML			05 53 36.3	
	comp=Z,3.7nm,0.6s							
FLOS	**Flostrand**	**8.82**	**111**	*e*P		**Pn**	**05 51 54.4**	**+2.1**
	SNR=47							
MOR8	**Moi Rana**	**9.26**	**110**	*e*P		**Pn**	**05 52 00.0**	**+1.7**
MOR8	**Moi Rana**	**9.26**	**110**	*e*P		**Pn**	**05 52 00.0**	**+1.7**
	SNR=47							
KBS	**Kingsbay**	**9.38**	**23**	Pn		Pn	**05 51 59.4**	**-0.4**
KBS	**Kingsbay**	**9.38**	**23**	Pn		Pn	**05 51 59.4**	**-0.4**
KBS	**Kingsbay**	**9.38**	**23**	Pn		Pn	**05 51 59.4**	**-0.4**
	SNR=50							
SPA0	**Spitsbergen Ar**	**9.52**	**30**	Pn		Pn	**05 52 02.8**	**+1.0**
	baz=229,slow=16							
SPA0	**Spitsbergen Ar**	**9.52**	**30**	Pn		Pn	**05 52 02.8**	**+1.0**
	baz=229,slow=16							
SPA0	**Spitsbergen Ar**	**9.52**	**30**	Pn		Pn	**05 52 02.8**	**+1.0**
	baz=229,slow=14,SNR=50							
ARA0	**ARCESS Array S**	**11.12**	**82**	Pn		Pn	**05 52 24.7**	**+0.9**
	baz=295,slow=12							
ARA0	**ARCESS Array S**	**11.12**	**82**	P		**Pn**	**05 52 24.7**	**+0.9**
	baz=295,slow=12							
ARA0	**ARCESS Array S**	**11.12**	**82**	P		**Pn**	**05 52 24.7**	**+0.9**
	baz=295,slow=12,SNR=47							

*ISCJB **26** 05:58:11.7±0.9,6°.3N±0°.3×123°.5E±0°.5,h600km,mb3.7/5, Error ellipse: s-maj=66.3km s-min=14.2km az=152.1*
*IDC **26** 05:58:12.7±2.4,6°.41N×123°.68E,h595km±34km,mb3.0/5, mb1 3.2/6,mb1mx2.8/50,mbtmp4.1/6, Error ellipse: s-maj=90.4km s-min=13.5km az=67.0*

ISC 26 05:58:12.9±0.8,6°.4N±0°.3×123°.7E±0°.4,h600km,n7, σ0s67/10,mb3.7/5,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**10.43**	**134**	P		**P**	**06 00 36.0**	**-0.1**
	2.1nm,0.3s,baz=251,slow=12,SNR=3.9							
WRA	**Warramunga Arr**	**28.20**	**159**	P		**P**	**06 03 18.8**	**-0.5**
	2.3nm,0.5s,baz=332,slow=11,SNR=50							
WRA				PcP		**PcP**	**06 06 13.0**	**+0.2**
	0.3nm,0.4s,baz=338,slow=2.4,SNR=5.1							
WRA				S		S	06 07 17.0	-7.2
	0.2nm,0.3s,baz=325,slow=20,SNR=5.2							
ASAR	**Alice Springs**	**31.51**	**162**	P		**P**	**06 03 48.2**	**+0.6**
	1.5nm,0.3s,baz=338,slow=7.7,SNR=21							
ASAR				PcP		**PcP**	**06 06 21.9**	**+0.3**
	0.2nm,0.4s,baz=342,slow=2.7,SNR=5.0							
SONM	**Songino Array**	**43.85**	**343**	P		**P**	**06 05 27.2**	**-0.2**
	0.2nm,0.5s,baz=140,slow=5.6,SNR=3.0							
MKAR	**Makanchi Array**	**53.66**	**326**	P		**P**	**06 06 39.8**	**+0.1**
	1.5nm,0.4s,baz=121,slow=8.0,SNR=19							
MKAR				PcP		**PcP**	**06 07 35.2**	**-0.9**
	0.6nm,0.5s,baz=122,slow=4.2,SNR=4.9							
ARCES	**ARCESS Array B**	**86.91**	**340**	P		**P**	**06 09 55.8**	**+1.0**
	1.2nm,0.8s,baz=80,slow=7.4,SNR=3.6							
TORD	**Torodi Ar. Bea**	**119.24**	**289**	PKP		**PKPdf**	**06 15 55.1**	**-0.7**
	0.2nm,0.4s,baz=85,slow=1.0,SNR=5.0							

*ISCJB **26** 06:00:19.6±0.7, 19°.02N±0°.06×145°.5E±0°.2, h214km, mb3.6/7, Error ellipse: s-maj=26.8km s-min=7.5km az=173.4*
*IDC **26** 06:00:23.7±2.2, 19°.02N×145°.35E, h242km±23km, mb3.3/7, mb1 3.5/9,mb1mx3.2/52,mbtmp4.0/9, Error ellipse: s-maj=29.7km s-min=12.7km az=88.0*

ISC 26 06:00:21.4±0.8,19°.05N±0°.07×145°.5E±0°.2,h214km,n10, σ1s76/12,mb3.6/7,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**5.46**	**186**	P		**Pn**	**06 01 44.8**	**+2.8**
	14nm,0.3s,baz=324,slow=2.9,SNR=5.7							
GUMO				S		**S**	**06 02 43.9**	**-1.7**
	4.6nm,0.3s,baz=141,slow=19,SNR=2.8							
JCJ	**Chichijima**	**8.55**	**340**	P		**Pn**	**06 02 23.5**	**+1.7**
	4.1nm,0.3s,baz=108,slow=20,SNR=6.0							
JCJ				S		**S**	**06 03 56.2**	**-2.0**
	5.1nm,0.3s,baz=300,slow=20,SNR=6.8							
MJAR	**Matsushiro Arr**	**18.55**	**341**	P		**Pn**	**06 04 27.1**	**+2.0**
	0.4nm,0.3s,baz=158,slow=9.9,SNR=5.9							
WRA	**Warramunga Arr**	**40.25**	**196**	P		**P**	**06 07 36.9**	**-0.8**
	3.1nm,0.5s,baz=8.6,slow=9.0,SNR=37							
SONM	**Songino Array**	**42.72**	**321**	P		**P**	**06 07 57.4**	**-0.2**
	0.3nm,0.6s,baz=132,slow=10,SNR=2.2							
ASAR	**Alice Springs**	**43.92**	**195**	P		**P**	**06 08 06.5**	**-0.8**
	1.2nm,0.5s,baz=13,slow=7.5,SNR=15							
DZM	**Mont Dzumac**	**45.74**	**152**	P		**P**	**06 08 21.1**	**-0.5**
	6.3nm,0.7s,baz=359,slow=12,SNR=4.7							
ILAR	**Eielson Array**	**63.44**	**26**	P		**P**	**06 10 27.6**	**-0.6**
	0.6nm,0.8s,baz=263,slow=5.1,SNR=7.0							
YKA	**Yellowknife Ar**	**77.79**	**28**	P		**P**	**06 11 55.2**	**+0.5**
	0.4nm,0.5s,baz=291,slow=5.2,SNR=2.7							
FINES	**FINESS Array B**	**86.47**	**335**	P		**P**	**06 12 37.7**	**-2.0**
	3.1nm,1.0s,baz=74,slow=4.9,SNR=4.7							

IDC 26 06:18:01.0±26.0,6°.99N×124°.69E,h432km±349km, mb3.1/4,mb1 3.2/4,mb1mx2.8/41,mbtmp3.9/4,Error ellipse: s-maj=211.9km s-min=44.2km az=60.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.40**	**161**	P		P	06 23 18.5	-0.2
	0.9nm,0.4s,baz=340,slow=9.2,SNR=36							
ASAR	**Alice Springs**	**31.77**	**164**	P		P	06 23 48.0	-0.1
	0.8nm,0.3s,baz=339,slow=6.9,SNR=8.4							
STKA	**Stephens Creek**	**41.88**	**158**	P		P	06 25 11.8	+0.1
	0.6nm,0.4s,baz=337,slow=7.7,SNR=3.2							
MKAR	**Makanchi Array**	**53.74**	**325**	P		P	06 26 41.0	-0.1
	0.5nm,0.4s,baz=129,slow=6.1,SNR=5.0							

*IDC **26** 06:17:48.0±1.2,35°.63N×70°.83E,h0km,mb3.9/10, mb1 4.0/15,mb1mx3.8/55,mbtmp3.9/15,ML3.4/5,MS3.6/2, Ms1 3.6/2,ms1mx2.6/32, Error ellipse: s-maj=24.4km s-min=21.2km az=154.0*
*NEIC **26** 06:18:00.9±1.2,36°.10N×70°.77E,h86km±12km,mb4.1/3, Error ellipse: s-maj=16.8km s-min=11.8km az=128.0*
*ISCJB **26** 06:18:01.5±0.5,36°.35N±0°.05×70°.48E±0°.07,h100km, mb3.7/11,Error ellipse: s-maj=9.7km s-min=4.7km az=35.6*
*NNC **26** 06:18:04.9±4.8,36°.56N×70°.27E,h110km±77km,mb3.6, mpv4.1,Error ellipse: s-maj=39.0km s-min=33.0km az=35.0*

ISC 26 06:18:03.0±0.8,36°.29N±0°.07×70°.53E±0°.08,h100km,n41, σ1s79/43,mb3.8/11,8C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBL	**Kabul**	**2.12**	**215**	*e*Pn		**Pn**	**06 18 35.6**	**-1.7**
KBL				*e*Sn		**Sn**	**06 19 02.7**	**-0.8**
SFK	**Sufi-Kurgan**	**4.40**	**31**	⇑P		**Pn**	**06 19 07.8**	**+0.1**
	43nm,0.5s							
SFK				⇓S		**Sn**	**06 19 58.9**	**+0.9**
	25nm,0.3s							
AML	**Almayashu**	**6.33**	**22**	P		**Pn**	**06 19 33.3**	**-0.9**
	SNR=78							
KK31	**Karatay Array**	**6.81**	**360**	P		**Pn**	**06 19 39.4**	**-0.8**
	3.6nm,0.3s,baz=180,slow=12,SNR=77							
KK31				⇑S		**Sn**	**06 20 54.0**	**-2.2**
	5.2nm,0.3s,baz=185,slow=25,SNR=4.4							
EKS2	**Erkin-Say**	**6.85**	**21**	P		**Pn**	**06 19 40.2**	**-0.6**
	SNR=5.8							
EKS2	**Erkin-Say**	**6.85**	**21**	*e*Pn		**Pn**	**06 19 40.0**	**-0.9**
	4.5nm,0.4s							
EKS2				*e*Sn		**Sn**	**06 20 54.2**	**-3.1**
KZA	**Kyzart**	**6.85**	**31**	P		**Pn**	**06 19 40.0**	**-1.1**
	SNR=5.2							
AAK	**Ala-Archa**	**7.04**	**25**	P		**Pn**	**06 19 43.0**	**-0.6**
	SNR=5.9							
AAK	**Ala-Archa**	**7.04**	**25**	⇑P		**Pn**	**06 19 42.4**	**-1.1**
	5.0nm,0.5s							
AAK				⇑S		**Sn**	**06 20 58.8**	**-3.3**
	19nm,0.5s							
TKM2	**Tokmak 2**	**7.70**	**29**	P		**Pn**	**06 19 51.6**	**-0.8**
	SNR=12							
TKM2	**Tokmak 2**	**7.70**	**29**	*e*Pn		**Pn**	**06 19 51.3**	**-1.2**
	10nm,0.7s							
TKM2				*e*Sn		**Sn**	**06 21 17.4**	**-0.7**
GEYT	**Alibeck**	**10.05**	**283**	Pn		Pn	06 20 19.1	-5.2
	0.5nm,0.3s,baz=125,slow=9.7,SNR=2.6							
GEYT				Sn		**Sn**	**06 22 11.8**	**-3.3**
	2.6nm,0.3s,baz=125,slow=20,SNR=4.7							
MK31	**Makanchi Array**	**13.69**	**36**	⇑P		**Pn**	**06 21 11.3**	**-1.5**
	2.3nm,0.8s,baz=220,slow=13,SNR=13							
MK31	**Makanchi Array**	**13.69**	**36**	*e*Pn		**Pn**	**06 21 12.9**	**+0.2**
MKAR	**Makanchi Array**	**13.69**	**36**	Pn		**Pn**	**06 21 10.1**	**-2.6**
	0.1nm,0.3s,baz=214,slow=12,SNR=8.7							
AB31	**Akbulak array**	**15.09**	**332**	P		**Pn**	**06 21 29.6**	**-1.1**
	5.6nm,0.5s,baz=156,slow=12,SNR=92							
AB31				⇑S		Sn	06 24 07.4	-10
	1.8nm,0.4s,baz=153,slow=23,SNR=10							
ABKAR	**Akbulak array**	**15.09**	**332**	*e*Pn		**Pn**	**06 21 29.6**	**-1.0**
	8.0nm,0.5s							
KURBB	**Kurchatov Arra**	**15.45**	**19**	Pn		Pn	06 21 30.3	-4.9
	0.1nm,0.3s,baz=213,slow=13,SNR=3.5							
KURK	**Kurchatov**	**15.56**	**19**	*e*Pn		**P**	**06 21 37.8**	**-0.9**
BVA0	**Borovoye Array**	**16.74**	**360**	⇑P		**Pn**	**06 21 51.2**	**+0.1**
	1.9nm,0.6s,baz=167,slow=11,SNR=8.4							
BVAR	**Borovoye Array**	**16.74**	**360**	Pn		**Pn**	**06 21 48.8**	**-2.4**
	0.2nm,0.3s,baz=158,slow=8.5,SNR=3.4							
AKTO	**Aktyubinsk**	**16.78**	**331**	⇓P		**Pn**	**06 21 51.8**	**+0.1**
	4.1nm,0.7s							
AKTO				⇑S		Sn	06 24 47.4	-10
	6.6nm,0.9s							
AKTO	**Aktyubinsk**	**16.78**	**331**	P		**P**	**06 21 52.4**	**+0.1**
	0.5nm,0.3s,baz=151,slow=13,SNR=15							
AKTO				S		Sn	06 24 47.2	-11
	0.1nm,0.3s,baz=328,slow=19,SNR=4.5							
ZAA0	**Zalesovo Array**	**20.27**	**25**	*e*P		**P**	**06 22 29.4**	**-0.9**
ZALV	**Zalesovo Beam**	**20.27**	**25**	P		**P**	**06 22 28.9**	**-1.4**
	7.6nm,0.5s,baz=218,slow=12,SNR=27							
ARU	**Arti**	**21.71**	**342**	P		**P**	**06 22 49.1**	**+3.4**
	baz=141,slow=13							
ARU	**Arti**	**21.71**	**342**	*e*P		**P**	**06 22 48.7**	**+3.0**
	4.0nm,0.9s							
ARU				*e*S		Sn	06 26 57.0	+1.1
AKASG	**Malin Array Be**	**32.78**	**309**	P		**P**	**06 24 28.7**	**+2.3**
	0.3nm,0.4s,baz=82,slow=7.1,SNR=5.9							
FINES	**FINESS Array B**	**37.45**	**326**	P		**P**	**06 25 09.0**	**+2.8**
	3.6nm,0.6s,baz=120,slow=11,SNR=13							
ARCES	**ARCESS Array B**	**41.20**	**338**	P		**P**	**06 25 39.6**	**+2.3**
	2.7nm,0.8s,baz=111,slow=8.0,SNR=14							
NB2	**NORSAR Subarra**	**44.32**	**323**	P		**P**	**06 26 04.6**	**+1.9**
	comp=Z,2.6nm,0.5s,baz=95,slow=7.9							
NOA	**NORSAR Array B**	**44.32**	**323**	P		**P**	**06 26 04.4**	**+1.7**
	comp=Z,3.4nm,0.7s,baz=97,slow=7.9,SNR=14							
YAK	**Yakutsk**	**44.36**	**35**	LR		LR	06 44 40.0	
	comp=Z,33nm,18.4s,baz=251,slow=36							
TORD	**Torodi Ar. Bea**	**65.33**	**268**	P		**P**	**06 28 33.0**	**-1.8**
	comp=Z,0.7nm,0.7s,baz=47,slow=5.5,SNR=8.2							
INK	**Inuvik**	**74.18**	**9**	P		**P**	**06 29 29.1**	**+0.9**
	comp=Z,0.9nm,0

MSW	**Makushin Switc**	**1.96**	**49**	P	Pn	07 00 40.6	-0.5
MTBL	**Makushin Table**	**2.04**	**49**	P	Pn	07 00 42.1	-0.1
UNV	**Unalaska Valle**	**2.06**	**54**	P	Pn	07 00 41.6	-0.6
ATKA	**Atka Island**	**3.03**	**263**	P	Pn	07 00 52.8	-2.9
PETK	**Petropavlovsk-**	**19.82**	**284**	P	P	07 04 38.2	-0.1
	baz=82,slow=15,SNR=2.6						

*IDC **26** 07:00:11.3±1.3, 52.°58N×170.°02W, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.4/37, mbtmp3.5/5, ML2.8/1, Error ellipse: s-maj=43.9km s-min=23.9km az=161.0*
*ISCJB **26** 07:00:12.7±1.1, 52.°5N±0.°1×169.°4W±0.°2, h10km, mb3.4/3, Error ellipse: s-maj=19.7km s-min=8.9km az=43.9*
*NEIC **26** 07:00:16.2, 52.°56N×168.°99W, h13km, ML3.4(AEIC), After AEIC.*

ISC 26 07:00:15.8±1.5, 52.°7N±0.°1×169.°2W±0.°1, h10km, n20, σ1§47/15, mb3.4/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKSO	**Okmok South**	**0.91**	**41**	P	**Pg**	**07 00 33.5**	**+0.2**
OKSO				S	**Sb**	**07 00 47.4**	**+1.5**
OKTU	**Okmok Mt. Tuli**	**0.98**	**43**	P	**Pg**	**07 00 35.4**	**+0.8**
OKAK	**Okmok**	**1.02**	**28**	P	**Pb**	**07 00 33.9**	**-1.7**
OKFG	**Magazine Ridge**	**1.05**	**45**	P	**Pg**	**07 00 35.8**	**-0.3**
OKFG				S	**Sb**	**07 00 51.4**	**+1.5**
UNV	**Unalaska Valle**	**1.98**	**53**	P	**Pn**	**07 00 49.0**	**-0.3**
UNV				S	**Sn**	**07 01 13.8**	**-0.3**
AKUT	**Akutan**	**2.50**	**53**	*e*Pn	**Pn**	**07 00 57.4**	**+0.9**
AKUT				*e*Sn	**Sn**	**07 01 24.5**	**-2.5**
SPIA	**Saint Paul Isl**	**4.55**	**353**	P	**Pn**	**07 01 25.9**	**+1.3**
ILAR	**Eielson Array**	**16.63**	**35**	Pn	**Pn**	**07 04 08.1**	**-0.6**
	0.0nm,0.3s,baz=232,slow=1.1,SNR=2.7						
H02S1	**DAWSON INFLET T**	**21.96**	**74**	T	T	07 28 04.9	
	SNR=9.4						
H11N2	**WAKE ISLAND Hy**	**37.77**	**219**	T	T	07 47 31.3	
	baz=24,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**37.78**	**219**	T	T	07 47 31.2	
	baz=24,slow=76,SNR=27						
H11N1	**WAKE ISLAND Hy**	**37.79**	**219**	T	T	07 47 32.1	
	baz=24,slow=76,SNR=10						
H11S1	**WAKE ISLAND Hy**	**38.96**	**218**	T	T	07 49 00.6	
	baz=23,slow=76,SNR=397						
H11S2	**WAKE ISLAND Hy**	**38.98**	**218**	T	T	07 49 01.8	
	baz=23,slow=76,SNR=250						
H11S3	**WAKE ISLAND Hy**	**38.98**	**218**	T	T	07 48 57.2	
	baz=23,slow=76,SNR=186						
PDAR	**Pinedale Array**	**40.22**	**80**	P	**P**	**07 07 54.8**	**+2.2**
	0.4nm,0.7s,baz=340,slow=3.5,SNR=4.2						
SONM	**Songino Array**	**51.25**	**301**	PcP	**PcP**	**07 10 32.5**	**-2.0**
	0.1nm,0.3s,baz=48,slow=2.1,SNR=3.8						
TXAR	**Lajitas Array**	**52.62**	**89**	P	**P**	**07 09 29.7**	**-0.1**
	0.6nm,0.7s,baz=297,slow=5.3,SNR=9.7						
H06N1	**SOCORRO T-PHAS**	**56.02**	**104**	T	T	08 10 35.3	
	SNR=4.9						
WRA	**Warramunga Arr**	**87.30**	**232**	P	P	07 12 58.1	-4.5
	0.1nm,0.4s,baz=35,slow=5.7,SNR=2.9						

*ISCJB **26** 07:13:51.4±0.5, 44.°91N±0.°02×11.°44E±0.°04, h1km±4km, Error ellipse: s-maj=4.5km s-min=2.9km az=16.8*
*VIE **26** 07:13:51.0±0.4, 44.°81N×11.°62E, h9km±1km, mb2.4/5, ML3.0/6, Error ellipse: s-maj=5.2km s-min=1.3km az=120.0*
*ROM **26** 07:13:52.1±0.1, 44.°93N×11.°34E, h2km, Md2.4/14, Ml2.3/11, Error ellipse: s-maj=2.3km s-min=1.1km az=103.0*
*CSEM **26** 07:13:53.3±0.1, 44.°92N×11.°34E, h20km, ML3.8/4, Error ellipse: s-maj=4.5km s-min=2.7km az=101.0*
*GEN **26** 07:13:53.6, 44.°91N×11.°40E, h7km, ML2.2*

ISC 26 07:13:52.6±1.0, 44.°92N±0.°02×11.°37E±0.°03, h10km±8km, n60, σ0§54/95, 15C-12D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAVA	**Ravarino**	**0.24**	**229**	Pg	**Pg**	**07 13 56.5**	**-1.0**
RAVA				Sg	**Sg**	**07 14 01.3**	**+0.5**
RAVA	**Ravarino**	**0.24**	**229**	Pg	**Pg**	**07 13 56.5**	**-1.0**
RAVA				Sg	**Sg**	**07 14 01.3**	**+0.5**
TEOL	**Teolo**	**0.49**	**25**	⇑*e*Pg	**Pg**	**07 14 02.7**	**+0.5**
TEOL				*e*Sg	**Sb**	**07 14 11.0**	**+0.4**
TEOL	**Teolo**	**0.49**	**25**	Pg	**Pg**	**07 14 02.6**	**+0.5**
TEOL				Sg	**Sb**	**07 14 11.6**	**+1.0**
	151nm,0.3s						
TEOL	**Teolo**	**0.49**	**25**	⇑*e*Pg	**Pg**	**07 14 02.7**	**+0.5**
TEOL				*e*Sg	**Sb**	**07 14 11.0**	**+0.4**
MTRZ	**Monterenzio**	**0.54**	**173**	Pg	**Pn**	**07 14 06.1**	**-0.3**
MTRZ	**Monterenzio**	**0.54**	**173**	Pg	**Pn**	**07 14 06.1**	**-0.3**
ZCCA	**Zocca**	**0.63**	**207**	Pg	**Pb**	**07 14 05.7**	**0.0**
	55nm,0.4s						
ZCCA	**Zocca**	**0.63**	**207**	Pg	**Pb**	**07 14 05.7**	**0.0**
	55nm,0.4s						
MARN	**Marana (Italy)**	**0.73**	**351**	⇑*e*Pg	**Pg**	**07 14 06.5**	**-0.2**
MARN				*e*Sg	**Sb**	**07 14 17.9**	**+0.4**
MARN	**Marana (Italy)**	**0.73**	**351**	⇑*e*Pg	**Pg**	**07 14 06.5**	**-0.2**
MARN				*e*Sg	**Sb**	**07 14 17.9**	**+0.4**
ROVR	**Rover¯¤ Verone**	**0.76**	**344**	Pg	**Pg**	**07 14 06.9**	**-0.4**
ROVR				Sg	**Sg**	**07 14 18.1**	**+0.8**
	226nm,0.3s						
ROVR	**Rover¯¤ Verone**	**0.76**	**344**	Pg	**Pg**	**07 14 06.9**	**-0.4**
ROVR				Sg	**Sg**	**07 14 18.1**	**+0.8**
	226nm,0.3s						
FNVD	**Fontana Vidola**	**0.77**	**193**	Pg	**Pb**	**07 14 07.9**	**-0.1**
	82nm,0.2s						
FNVD	**Fontana Vidola**	**0.77**	**193**	Pg	**Pb**	**07 14 07.9**	**-0.1**
	82nm,0.2s						
GSCL	**Gusciola**	**0.80**	**225**	Pg	**Pg**	**07 14 08.2**	**+0.3**
	11nm,0.4s						
GSCL	**Gusciola**	**0.80**	**225**	Pg	**Pg**	**07 14 08.2**	**+0.3**
	11nm,0.4s						
BALD	**Monte Baldo**	**0.86**	**333**	⇑*e*Pg	**Pg**	**07 14 09.1**	**-0.1**
BALD				*e*Sg	**Sb**	**07 14 22.1**	**+0.7**
BALD	**Monte Baldo**	**0.86**	**333**	⇑*e*Pg	**Pg**	**07 14 09.1**	**-0.1**
BALD				*e*Sg	**Sb**	**07 14 22.1**	**+0.7**
SALO	**Salr**	**0.92**	**320**	Pg	**Pg**	**07 14 10.0**	**-0.3**
SALO				Sg	**Sb**	**07 14 24.1**	**+1.1**
	182nm,0.2s						
SALO	**Salr**	**0.92**	**320**	Pg	**Pg**	**07 14 10.0**	**-0.3**
SALO				Sg	**Sb**	**07 14 24.1**	**+1.1**
	182nm,0.2s						
DDS	**Dosso del Somm**	**0.97**	**352**	⇑*e*Pg	**Pg**	**07 14 10.8**	**-0.5**
DDS				*e*Sg	**Sb**	**07 14 24.9**	**+0.4**
DDS	**Dosso del Somm**	**0.97**	**352**	⇑*e*Pg	**Pg**	**07 14 10.8**	**-0.5**
DDS				*e*Sg	**Sb**	**07 14 25.0**	**+0.4**
MAGA	**Magasa**	**1.01**	**329**	Pg	**Pg**	**07 14 11.4**	**-0.6**
MAGA				Sg	**Sg**	**07 14 25.6**	**+0.5**
	435nm,0.3s						
MAGA	**Magasa**	**1.01**	**329**	Pg	**Pg**	**07 14 11.4**	**-0.6**
MAGA				Sg	**Sg**	**07 14 25.6**	**+0.5**
	435nm,0.3s						
CGRP	**Cima Grappa**	**1.01**	**17**	⇑*e*Pg	**Pg**	**07 14 11.8**	**-0.2**
CGRP				*e*Sg	**Sn**	**07 14 27.2**	**-0.1**
CGRP	**Cima Grappa**	**1.01**	**17**	Pg	**Pg**	**07 14 11.8**	**-0.2**
	44nm,0.4s						
CGRP	**Cima Grappa**	**1.01**	**17**	Pg	**Pg**	**07 14 11.8**	**-0.2**
	44nm,0.4s						
CGRP				*e*Sg	**Sn**	**07 14 27.2**	**-0.1**
BDI	**Bagni Di Lucca**	**1.02**	**213**	Pg	**Pb**	**07 14 12.7**	**+0.4**
	52nm,0.7s						
BDI	**Bagni Di Lucca**	**1.02**	**213**	Pg	**Pb**	**07 14 12.7**	**+0.4**
	52nm,0.7s						
SFI	**Santa Sofia**	**1.07**	**161**	Pg	**Pb**	**07 14 13.2**	**+0.1**
	5µm,7.6s						
SFI	**Santa Sofia**	**1.07**	**161**	Pg	**Pb**	**07 14 13.2**	**+0.1**
	5µm,7.6s						
PANI	**Panarotta**	**1.14**	**358**	⇓*e*Pg	**Pb**	**07 14 13.9**	**-0.5**
PANI				*e*Sg	**Sn**	**07 14 30.2**	**-0.2**
PANI	**Panarotta**	**1.14**	**358**	⇓*e*Pg	**Pb**	**07 14 13.9**	**-0.5**
PANI				*e*Sg	**Sn**	**07 14 30.2**	**-0.2**
MAIM	**Mastiano**	**1.18**	**213**	P	**Pb**	**07 14 15.3**	**+0.3**
MAIM				S	**Sb**	**07 14 30.1**	**-0.3**
RNI	**Roncone**	**1.18**	**335**	⇑*e*Pg	**Pb**	**07 14 14.6**	**-0.6**
RNI	**Roncone**	**1.18**	**335**	⇑*e*Pg	**Pb**	**07 14 14.6**	**-0.6**
VARN	**Col Varnada, M**	**1.20**	**25**	⇑*e*Pg	**Pb**	**07 14 14.5**	**-0.8**
VARN	**Col Varnada, M**	**1.20**	**25**	⇑*e*Pg	**Pb**	**07 14 14.5**	**-0.8**
MABI	**Malga Bissina**	**1.29**	**332**	Pg	**Pn**	**07 14 16.1**	**-0.7**
MABI				Sg	**Sb**	**07 14 33.8**	**+0.1**
	19nm,0.1s						
MABI	**Malga Bissina**	**1.29**	**332**	Pg	**Pn**	**07 14 16.1**	**-0.7**
MABI				Sg	**Sb**	**07 14 33.8**	**+0.1**
	19nm,0.1s						
SC2M	**Scurtabo**	**1.41**	**249**	P	**Pn**	**07 14 18.8**	**+0.6**
SC2M				S	**Sn**	**07 14 35.7**	**-1.2**
MLNI	**Malnisio**	**1.51**	**35**	*e*Pg	**Pn**	**07 14 19.6**	**-0.1**
MLNI				*e*Sg	**Sb**	**07 14 40.0**	**+0.1**
MLNI	**Malnisio**	**1.51**	**35**	*e*Pg	**Pn**	**07 14 19.6**	**-0.1**
MLNI				*e*Sg	**Sb**	**07 14 40.0**	**+0.1**
KOSI	**Kohlern**	**1.55**	**0**	Pg	**Pn**	**07 14 20.8**	**+0.4**
	40nm,0.7s						
KOSI	**Kohlern**	**1.55**	**0**	⇑*e*Pg	**Pn**	**07 14 20.7**	**+0.4**
CIMO	**Cimolais**	**1.58**	**28**	⇓*e*Pg	**Pn**	**07 14 20.3**	**-0.4**
CIMO	**Cimolais**	**1.58**	**28**	⇓*e*Pg	**Pn**	**07 14 20.3**	**-0.4**
ABSI	**Aberstueckl**	**1.81**	**359**	*e*Pn	**Pn**	**07 14 24.1**	**+0.1**
SABO	**M.te Sabotino**	**1.90**	**55**	⇓*e*Pn	**Pn**	**07 14 25.1**	**+0.1**
SABO				*e*Sn	**Sn**	**07 14 49.4**	**+0.5**
SABO	**M.te Sabotino**	**1.90**	**55**	⇓*e*Pn	**Pn**	**07 14 25.1**	**+0.1**
SABO				*e*Sn	**Sn**	**07 14 49.4**	**+0.5**
VINO	**Villanova**	**1.90**	**44**	⇓*e*Pn	**Pn**	**07 14 24.5**	**-0.5**
VINO	**Villanova**	**1.90**	**44**	⇓*e*Pn	**Pn**	**07 14 24.5**	**-0.5**
ZOU	**Zoufplan**	**1.99**	**34**	*e*Pn	**Pn**	**07 14 27.1**	**+0.7**
FETA	**Feichten**	**2.15**	**348**	Pn	**Pn**	**07 14 29.0**	**+0.4**
FETA				Sn	**Sb**	**07 14 58.4**	**-0.1**
FETA	**Feichten**	**2.15**	**348**	⇓*i*Pn	**Pn**	**07 14 29.1**	**+0.4**
FETA				⇓*i*Sn	**Sb**	**07 14 58.4**	**-0.1**
MOTA	**Moosalm**	**2.44**	**356**	Pn	**Pn**	**07 14 33.2**	**+0.7**
MOTA				Sn	**Sb**	**07 15 05.5**	**-1.2**
MOTA	**Moosalm**	**2.44**	**356**	⇓*i*Pn	**Pn**	**07 14 33.2**	**+0.7**
MOTA				⇓*i*Sn	**Sb**	**07 15 05.5**	**-1.2**
NVLJ	**Novalja**	**2.52**	**97**	*e*Pn	**Pn**	**07 14 33.0**	**-0.5**
NVLJ				Sn	**Sn**	**07 15 03.6**	**-0.6**
NVLJ	**Novalja**	**2.52**	**97**	*e*Pn	**Pn**	**07 14 32.9**	**-0.5**
NVLJ				Sn	**Sn**	**07 15 03.5**	**-0.6**

*MOS **26** 07:18:40.1±1.1, 52.°57N×106.°54E, h10km, mb4.0/5, Error ellipse: s-maj=10.0km s-min=8.0km az=87.8*
MOS Felt (IV) at Elantsy; (II) at Irkutsk.
*IDC **26** 07:18:40.4±1.0, 52.°56N×106.°65E, h0km, mb3.7/5, mb1 3.8/10, mb1mx3.5/39, mbtmp3.6/10, ML3.1/4, MS2.8/4, Ms1 2.8/4, ms1mx2.4/45, Error ellipse: s-maj=21.4km s-min=16.0km az=170.0*
*BYKL **26** 07:18:42.5±0.2, 52.°57N×106.°49E, h18km±3km, FELT I=IV-V MSK at Tyrgan and IV at Yelantsy, Petrovo, Popovo, Narin-Kunta and II at Irkutsk*

ISC 26 07:18:42.1±0.9, 52.°56N±0.°02×106.°53E±0.°02, h10km±6km, n65, σ1§67/113, mb3.8/7, 16C-19D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRG	**Tyrgan**	**0.23**	**331**	⇓*i*Pg	**Pb**	**07 18 47.6**	**+0.8**
TRG				*i* Sg	**Sb**	**07 18 51.0**	**+1.0**
TRG	**Tyrgan**	**0.23**	**331**	⇓*i*PG	**Pb**	**07 18 47.6**	**+0.8**
TRG				*e*		07 18 51.4	
TRG				pmax	pmax		
	comp=Z,7µm,0.1s						
TRG				smax	smax		
	comp=N,3µm,0.2s						
KAB	**Kabansk**	**0.52**	**171**	⇑*i*Pg	**Pg**	**07 18 52.7**	**+0.6**
KAB				Pmax		07 18 53.1	
	comp=N,2µm,0.6s						
KAB				*i* Sg	**Sg**	**07 19 00.3**	**+1.4**
KAB				Smax		07 19 00.8	
	comp=N,18µm,0.4s						
KAB	**Kabansk**	**0.52**	**171**	⇑*i*PG	**Pg**	**07 18 52.8**	**+0.6**
KAB				*i*		07 19 00.4	
KAB				pmax	pmax		
	comp=Z,2µm,0.3s						
KAB				smax	smax		
	comp=N,8µm,0.4s						
HRMR	**Khuramsha**	**0.97**	**164**	⇓*i*Pg	**Pb**	**07 19 00.6**	**-0.4**
	comp=N,2µm,0.4s						
HRMR				⇑*i*Pg	**Pb**	**07 19 00.6**	**-0.4**
	comp=N,280nm,0.4s						
HRMR				⇑*i*Pg	**Pb**	**07 19 00.6**	**-0.4**
	comp=N,2µm,0.4s						
HRMR				Pmax		07 19 00.8	
	comp=N,2µm,0.3s						
HRMR				⇑*i*Pb	**Pg**	**07 19 01.9**	**+1.2**
HRMR				*i* Sg	**Sb**	**07 19 13.6**	**-0.2**
HRMR				*e*Sb	**Sn**	**07 19 15.8**	**+0.2**
HRMR				max		07 19 16.2	
	comp=N,38µm,0.4s						
UUDB	**Ulan-Yde**	**0.98**	**134**	⇓*i*Pg	**Pb**	**07 19 00.7**	**-0.5**
	comp=N,522nm,0.6s						
UUDB				⇑*i*Pg	**Pb**	**07 19 00.7**	**-0.5**
	comp=N,402nm,0.6s						
UUDB				⇑*i*Pg	**Pb**	**07 19 00.7**	**-0.5**
	comp=N,884nm,0.6s						
UUDB				Pmax		07 19 01.8	
	comp=N,534nm,0.3s						
UUDB				*e*Sg	**Sb**	**07 19 13.8**	**-0.5**
UUDB				*e*Sb	**Sn**	**07 19 15.9**	**-0.1**
UUDB				max		07 19 16.7	
	comp=N,4µm,0.4s						
LSTR	**Listvyanka**	**1.25**	**237**	⇑*i*Pg	**Pb**	**07 19 05.2**	**-0.6**
LSTR				⇓*i*Pb	**Pg**	**07 19 06.4**	**+0.3**
LSTR				max		07 19 07.8	
	comp=N,230nm,0.2s						
LSTR				*e*Sg	**Sn**	**07 19 21.6**	**-1.0**
LSTR				Smax		07 19 23.0	
	comp=N,2µm,0.4s						
LSTR				*e*Sb	**Sg**	**07 19 23.4**	**+1.0**
OGRR	**Ongureny**	**1.26**	**30**	⇑*i*Pg	**Pn**	**07 19 05.5**	**-0.3**
	comp=N,229nm,0.3s						
OGRR				⇑*i*Pg	**Pn**	**07 19 05.5**	**-0.3**
	comp=N,92nm,0.3s						
OGRR				⇑*i*Pg	**Pn**	**07 19 05.5**	**-0.3**
	comp=N,309nm,0.3s						
OGRR				*e*Pb	**Pb**	**07 19 06.3**	**+0.4**
OGRR				max		07 19 06.9	
	comp=N,804nm,0.5s						
OGRR				*i* Sg	**Sg**	**07 19 23.1**	**+0.5**
OGRR				Smax		07 19 24.5	
	comp=N,3µm,0.6s						
OGRR	**Ongureny**	**1.26**	**30**	*e*PG	**Pb**	**07 19 05.7**	**-0.2**
OGRR				*e*		07 19 22.7	
OGRR				pmax	pmax		
	comp=Z,713nm,0.4s						
OGRR				smax	smax		
	comp=E,3µm,0.6s						
IRK	**Irkutsk**	**1.42**	**258**	⇓*i*Pg	**Pb**	**07 19 08.6**	**-0.1**
IRK				Pmax		07 19 08.9	
	comp=E,3µm,0.4s						
IRK				*i* Sg	**Sg**	**07 19 27.0**	**-0.7**
IRK				max		07 19 28.6	
	comp=E,9µm,0.4s						
IRK	**Irkutsk**	**1.42**	**258**	*e*PG	**Pb**	**07 19 08.5**	**-0.1**
IRK				*e*		07 19 27.0	
IRK				pmax	pmax		
	comp=Z,3µm,0.4s						
IRK				smax	smax		
	comp=N,9µm,0.4s						
TLY	**Talaya**	**1.98**	**245**	⇓*i*Pn	**Pn**	**07 19 16.4**	**+0.7**
	comp=N,33nm,0.5s						
TLY				⇓*i*Pn	**Pn**	**07 19 16.4**	**+0.7**
	comp=N,33nm,0.5s						
TLY				⇑*i*Pn	**Pn**	**07 19 16.4**	**+0.7**
	comp=N,57nm,0.5s						
TLY				*e*Pg	**Pb**	**07 19 17.9**	**-0.4**
TLY				Pmax		07 19 18.2	
	comp=N,177nm,0.3s						
TLY				*i* Sg	**Sb**	**07 19 43.3**	**+0.3**
TLY				Smax		07 19 44.2	
	comp=N,3µm,0.2s						
TLY	**Talaya**	**1.98**	**245**	Pn	**Pn**	**07 19 16.4**	**+0.7**
	comp=N,0.9nm,0.3s,baz=55,slow=8.8,SNR=141						
TLY				Sn	**Sb**	**07 19 41.6**	**-1.4**
	comp=N,3.5nm,0.3s,baz=197,slow=19,SNR=64						
TLY	**Talaya**	**1.98**	**245**	*e*PN	**Pn**	**07 19 14.9**	**-0.8**
TLY				*e*		07 19 16.4	
TLY				*e*S	**Sb**	**07 19 40.7**	**-2.3**
TLY				*e*		07 19 43.2	
TLY				pmax	pmax		
	comp=Z,182nm,0.2s						
TLY				smax	smax		
	comp=N,3µm,0.3s						
SYVR	**Suvo**	**2.36**	**61**	⇓*i*Pn	**Pn**	**07 19 21.1**	**+0.2**
	comp=N,15nm,0.5s						
SYVR				⇓*i*Pn	**Pn**	**07 19 21.1**	**+0.2**
	comp=N,24nm,0.5s						
SYVR				⇓*i*Pn	**Pn**	**07 19 21.1**	**+0.2**
	comp=N,44nm,0.5s						
SYVR				⇓*i*Pg	**Pb**	**07 19 25.3**	**+0.6**
SYVR				Pmax		07 19 25.7	
	comp=N,72nm,0.4s						
SYVR				*e*PgPg	**Pg**	**07 19 30.1**	**+2.8**
SYVR				*e*Sg	**Sg**	**07 19 57.0**	**-0.9**
SYVR				Smax		07 20 00.8	
	comp=N,368nm,0.6s						
SYVR	**Suvo**	**2.36**	**61**	*e*PN	**Pn**	**07 19 20.5**	**-0.4**
SYVR				*e*		07 19 23.9	
SYVR				*e*		07 19 57.0	
SYVR				pmax	pmax		
	comp=Z,73nm,0.3s						
SYVR				smax	smax		
	comp=E,374nm,0.3s						
ARS	**Arshan**	**2.60**	**257**	⇑*i*Pn	**Pn**	**07 19 24.3**	**0.0**
ARS				*e*		07 19 25.9	
ARS				⇓*i*Pg	**Pb**	**07 19 27.7**	**-1.1**
ARS				Pmax		07 19 32.8	
	comp=E,465nm,0.3s						
ARS				*e*Sg	**Sb**	**07 20 01.7**	**+0.8**
ARS				*e*		07 20 04.5	
ARS				max		07 20 04.7	
	comp=E,7µm,0.4s						
ZAK	**Zakamensk**	**2.98**	**224**	*e*Pn	**Pn**	**07 19 29.5**	**0.0**
ZAK				*e*Pg	**Pb**	**07 19 36.2**	**+0.9**
ZAK				Pmax		07 19 39.7	
	comp=E,34nm,0.2s						
ZAK				*e*PgPg	Pg	07 19 44.2	+5.1
ZAK				*e*		07 20 12.9	
ZAK				*e*Sg	**Sg**	**07 20 15.1**	**-2.6**
ZAK				Smax		07 20 18.2	
	comp=E,367nm,0.6s						
ZAK	**Zakamensk**	**2.98**	**224**	*e*PN	**Pn**	**07 19 30.5**	**+1.0**
ZAK				*e*		07 19 35.1	
ZAK				*e*S	**Sb**	**07 20 14.1**	**+2.3**
ZAK				smax	smax		
	comp=N,369nm,0.6s						
MOY	**Mondy**	**3.53**	**257**	⇓*i*Pn	Pn	07 19 39.7	+2.7
MOY				*e*Pg	**Pb**	**07 19 44.3**	**-0.3**
MOY				*e*PgPg	**PbPb**	**07 19 47.4**	**-0.4**
MOY				max		07 19 48.3	
	comp=N,454nm,0.6s						
MOY				*e*		07 20 21.8	
MOY				*e*Sg	**Sb**	**07 20 29.2**	**+1.7**
MOY				Smax		07 20 33.7	
	comp=N,961nm,0.5s						
MOY				*e*SgSg	**Sg**	**07 20 35.1**	**-0.2**
MOY	**Mondy**	**3.53**	**257**	*e*PN	Pn	07 19 39.4	+2.4
MOY				*e*		07 19 47.2	
MOY				*e*		07 20 28.6	
MOY				pmax	pmax		
	comp=Z,452nm,0.6s						
MOY				smax	smax		
	comp=E,961nm,0.5s						
YLYR	**Ulyunkhan**	**3.60**	**48**	⇑*i*Pn	**Pn**	**07 19 38.1**	**+0.2**
YLYR				*e*Pg	**Pb**	**07 19 46.2**	**+0.4**
YLYR				*e*		07 19 50.9	
YLYR				max		07 19 56.2	
	comp=E,37nm,1.3s						
YLYR				*e*		07 20 23.7	
YLYR				*e*Sg	**Sb**	**07 20 33.6**	**+4.1**
YLYR				Smax		07 20 38.2	
	comp=E,353nm,1.0s						
NIZ	**Nizh Angarsk**	**3.67**	**28**	⇓*i*Pn	**Pn**	**07 19 39.5**	**+0.6**
NIZ				*e*Pg	**Pb**	**07 19 47.8**	**+0.7**
NIZ				Pmax		07 19 48.9	
	comp=E,33nm,0.5s						
NIZ				*e*Sn	**Sn**	**07 20 22.2**	**-0.1**
NIZ				*e*		07 20 24.5	
NIZ				*e*Sg	**Sg**	**07 20 36.6**	**-3.4**
NIZ				Smax		07 20 40.1	
	comp=E,603nm,1.0s						
ORL	**Orlik**	**4.10**	**272**	⇑*i*Pn	**Pn**	**07 19 46.0**	**+1.1**
ORL				Pmax		07 19 47.4	
	comp=E,75nm,1.0s						
ORL				*e*Pg	**Pb**	**07 19 55.0**	**+0.6**
ORL				*e*		07 20 34.5	
ORL				*e*Sg	**Sb**	**07 20 48.3**	**+4.3**
ORL				Smax		07 20 53.5	
	comp=E,476nm,0.7s						
ORL	**Orlik**	**4.10**	**272**	*e*PN	**Pn**	**07 19 46.3**	**+1.4**
ORL				*e*		07 19 56.7	
ORL				*e*		07 20 49.1	
ORL				pmax	pmax		
	comp=Z,76nm,0.7s						
ORL				smax	smax		
	comp=N,479nm,0.7s						
KMO	**Kumora**	**4.32**	**38**	*e*Pn	**Pn**	**07 19 47.9**	**+0.2**
KMO				*e*Pg	**Pb**	**07 19 58.0**	**+0.1**
KMO				Pmax		07 20 02.6	
	comp=N,29nm,0.8s						
KMO				*e*		07 20 27.0	
KMO				*e*Sg	**Sb**	**07 20 54.6**	**+4.6**
KMO				Smax		07 21 18.8	
	comp=N,310nm,1.2s						
CIT	**Chita**	**4.35**	**94**	*e*Sg	**Sg**	**07 20 58.1**	**-3.4**
CIT				Smax		07 21 02.8	
	comp=N,854nm,0.6s						
CIT	**Chita**	**4.35**	**94**	*e*PN	**Pn**	**07 19 47.5**	**-0.7**
CIT				*e*		07 20 00.5	
CIT				*e*		07 20 56.9	
CIT				pmax	pmax		
	comp=Z,127nm,0.3s						
CIT				smax	smax		
	comp=E,854nm,0.5s						
KPC	**Khapcheranga**	**4.66**	**126**	⇓*i*Pn	**Pn**	**07 19 51.7**	**-0.8**
KPC				*e*Pg	**Pb**	**07 20 05.4**	**+1.5**
KPC				*e*		07 20 07.4	
KPC				*e*		07 20 10.2	
	comp=E,33nm,0.3s						
KPC				*e*Sn	**Sn**	**07 20 46.5**	**-0.2**
KPC				*e*Sg	**Sg**	**07 21 07.8**	**-3.9**
KPC				Smax		07 21 12.6	
	comp=E,385nm,0.9s						
KPC	**Khapcheranga**	**4.66**	**126**	*e*PN	**Pn**	**07 19 51.8**	**-0.8**
KPC				*e*		07 20 04.8	
KPC				*e*S	**Sn**	**07 20 46.7**	**0.0**
KPC				*e*		07 21 06.0	
KPC				pmax	pmax		
	comp=

CRS max 07 23 14.0
comp=Z,162nm,2.0s
CRS Chara 8.06 53 *e*PG Pb 07 21 08.4 +6.7
CRS pmax pmax
comp=Z,11nm,1.0s
HVS Khovu-Aksy 8.07 265 *e* Pn 07 20 44.1 +4.8
HVS *e*Sg Sb 07 22 53.6 +15
HVS Khovu-Aksy 8.07 265⇓*e*PN **Pn 07 20 38.8 -0.5**
TUP Tupik 8.22 72⇑*i*Pn **Pn 07 20 41.1 -0.2**
TUP *e*Pg Pb 07 21 10.8 +6.3
TUP *e* 07 21 19.9
TUP max 07 21 25.5
comp=Z,3.0nm,0.6s
TUP *e* 07 22 38.1
TUP *e*Sg Sb 07 22 58.6 +16
TUP Smax 07 23 08.5
comp=Z,256nm,1.2s
TUP Tupik 8.22 72 *e*PN **Pn 07 20 40.9 -0.4**
TUP *e* 07 21 09.0
TUP pmax pmax
comp=Z,4.0nm,0.6s
KRAR Krasnoyarsk 8.70 299 *i* PN **Pn 07 20 48.0 +0.1**
HHC Hu-ho-hao-te 12.21 162 *e*P **Pn 07 21 38.3 +2.3**
HHC S **Sn 07 23 56.8 +4.6**
HHC pmax pmax
comp=Z,22nm,1.2s
HHC pmax pmax
comp=Z,70nm,5.0s
HHC LR LR
comp=N,83nm,11.2s
HHC LR LR
comp=E,66nm,11.2s
HHC LR LR
comp=Z,120nm,12.4s
ZALV Zalesovo Beam 13.07 285 Pn **Pn 07 21 48.4 +0.8**
comp=Z,0.1nm,0.3s,baz=90,slow=10,SNR=7.0
ZALV Lg Lg 07 25 25.9
comp=Z,0.4nm,0.3s,baz=90,slow=25,SNR=4.5
YAK Yakutsk 15.61 44 LR LR 07 27 59.7
comp=Z,19nm,21.5s,baz=18,slow=36
MKAR Makanchi Array 16.67 259 Pn **P 07 22 37.0 -1.1**
comp=Z,0.1nm,0.3s,baz=61,slow=9.7,SNR=5.8
MKAR Lg Lg 07 27 18.4
comp=Z,0.1nm,0.3s,baz=63,slow=32,SNR=3.1
MKAR LR LR 07 28 43.2
comp=Z,20nm,19.9s,baz=28,slow=36
MKAR Makanchi Array 16.67 259 P **P 07 22 37.0 -1.1**
MKAR MLR MLR
comp=Z,20nm,19.9s
KURK Kurchatov 17.38 275 P **P 07 22 44.7 -1.1**
KURBB Kurchatov Arra 17.46 275 P **Pn 07 22 44.7 -0.8**
baz=96,slow=38,SNR=5.0
KURBB Lg Lg 07 27 45.4
comp=Z,0.0nm,0.3s,baz=79,slow=33,SNR=3.8
BVAR Borovoye Array 21.72 286 P **P 07 23 32.3 -0.8**
comp=Z,1.6nm,0.6s,baz=76,slow=11,SNR=6.5
BVAR Borovoye Array 21.72 286 P **P 07 23 32.3 -0.8**
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BRVK Borovoye 21.77 286⇓*e*P **P 07 23 32.3 -1.4**
BRVK pmax pmax
comp=Z,2.0nm,0.7s
SVE Sverdlovsk 26.47 298 *e*P **P 07 24 17.4 -1.6**
ARU Arti 27.67 297 *e*P **P 07 24 26.8 -3.0**
ARU pmax pmax
comp=Z,9.0nm,2.2s
AKTO Aktyubinsk 29.83 286 LR LR 07 37 33.1
comp=Z,29nm,18.2s,baz=65,slow=38
ARCES ARCESS Array B 39.20 327 LR LR 07 44 37.7
comp=Z,20nm,19.0s,baz=107,slow=40
ILAR Eielson Array 50.14 32 P **P 07 27 37.5 +0.5**
comp=Z,1.1nm,0.9s,baz=298,slow=6.2,SNR=13
ILAR Eielson Array 50.14 32 P **P 07 27 37.5 +0.5**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 76.15 153 P **P 07 30 29.2 -0.8**
comp=Z,0.5nm,0.6s,baz=342,slow=5.4,SNR=3.9
WRA Warramunga Arr 76.15 153 P **P 07 30 29.2 -0.8**
WRA pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 79.58 155 P **P 07 30 48.7 -0.4**
comp=Z,0.3nm,0.5s,baz=352,slow=5.6,SNR=3.3
TORD Torodi Ar. Bea 88.47 290 P **P 07 31 34.2 -0.5**
comp=Z,0.4nm,0.7s,baz=24,slow=4.0,SNR=2.8

IDC 26 07:23:29.0±83.0, 18°29S×167°50E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/23, mbtmp3.9/3, Error ellipse: s-maj=1386.0km s-min=117.2km az=72.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**27.00**	**235**	P	P	07 29 12.8	0.0
	1.1nm,0.5s,baz=85,slow=11,SNR=4.5						
WRA	**Warramunga Arr**	**31.35**	**262**	P	P	07 29 50.8	-0.8
	1.1nm,1.2s,baz=94,slow=8.9,SNR=4.2						
ASAR	**Alice Springs**	**31.78**	**254**	P	P	07 29 56.0	+0.6
	2.0nm,0.8s,baz=80,slow=8.9,SNR=14						

IDC 26 07:32:57.3±2.7, 53.75N×86.83E, h0km, mb1 3.1/2, mb1mx3.0/57, mbtmp3.1/2, ML2.6/2, Error ellipse: s-maj=24.9km s-min=14.8km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.21**	**280**	*i*		07 41 10.0	
	baz=99,slow=313,SNR=9.2						
ZALV	**Zalesovo Beam**	**1.21**	**280**	Pg	Pg	07 33 19.5	-0.9
	2.0nm,0.3s,baz=102,slow=18,SNR=11						
ZALV				Lg	Lg	07 33 36.5	
	2.1nm,0.3s,baz=98,slow=29,SNR=12						
ZALV				Rg	Rg	07 33 43.4	
	3.3nm,0.3s,baz=106,slow=29,SNR=7.5						
KURBB	**Kurchatov Arra**	**5.99**	**242**	Pn	Pn	07 34 28.3	+1.3
	0.1nm,0.3s,baz=59,slow=14,SNR=4.2						
KURBB				Lg	Lg	07 36 06.6	
	0.0nm,0.3s,baz=62,slow=32,SNR=3.7						
MKAR	**Makanchi Array**	**7.54**	**204**	Pn	Pn	07 34 49.4	+0.9
	0.2nm,0.3s,baz=27,slow=14,SNR=8.3						

*BJI **26** 07:36:42.3, 6.11N×123.74E, h632km, mb4.9/54, mB4.6/33*
*KLM **26** 07:36:47.4, 6.84N×123.62E, h618km, mb4.8, MS5.8*
*ISCJB **26** 07:36:48.0±0.2, 6.69N±0.02×123.47E±0.03, h642km±4km, mb4.5/99, Error ellipse: s-maj=5.4km s-min=3.3km az=156.7*
*MOS **26** 07:36:47.8±0.8, 6.67N×123.42E, h643km, mb4.6/46, Error ellipse: s-maj=11.7km s-min=5.8km az=110.0*
*NEIC **26** 07:36:48.8±0.4, 6.69N×123.44E, h634km±6km, mb4.7/34, Error ellipse: s-maj=6.5km s-min=4.2km az=72.0*
*IDC **26** 07:36:48.8±0.8, 6.69N×123.45E, h636km±9km, mb3.8/37, mb1 3.8/41, mb1mx3.8/51, mbtmp4.8/41, Error ellipse: s-maj=11.4km s-min=7.0km az=67.0*
*DJA **26** 07:36:49.0±0.3, 7.1N±4°×12.3E±°, h631km±5km, M4.5/50, mb4.8/50, mB5.0/20, MLv4.9/6, Mw(mB)4.3/20*
ISC 26 07:36:48.5±0.4, 6.68N±0.04×123.50E±0.06, h628km±4km, h629km; pP-P, n288, σ1§22/341, mb4.5/98, 11C-17D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.91**	**54**⇓*i*P		**P**	**07 38 02.3**	**0.0**
TSM	**Tawau**	**6.08**	**247**	⇓P	**P**	**07 38 31.3**	**-0.6**
KMSI	**Cibinong**	**6.08**	**175**	P	**P**	**07 38 32.8**	**+0.9**
SDKM	**Sandakan**	**6.36**	**261**	⇓P	**P**	**07 38 33.5**	**-0.8**
MRSI	**Marisa**	**6.36**	**194**	P	**P**	**07 38 33.9**	**-0.3**
	127nm,1.1s,1μm0.4nm						
KDM	**Kudat**	**6.63**	**272**	⇓P	**P**	**07 38 35.8**	**-0.7**
TNTI	**Ternate**	**7.02**	**147**	P	**P**	**07 38 39.6**	**-0.4**
	482nm,0.8s,5μm1.8nm						
TNTI	**Ternate**	**7.02**	**147**	*e*P	**P**	**07 38 39.9**	**-0.1**
MPSI	**Mapaga**	**7.25**	**210**	P	**P**	**07 38 41.5**	**-0.6**
	14nm,0.6s,562nm0.2nm						
MPSI				S	**S**	**07 40 13.6**	**-1.4**
	14nm,0.6s,562nm0.2nm						
KKM	**Kota Kinabalu**	**7.27**	**265**	P	**P**	**07 38 41.9**	**-0.4**
	baz=7.2,SNR=6.7						
KKM	**Kota Kinabalu**	**7.27**	**265**	⇑P	**P**	**07 38 41.7**	**-0.6**
LUWI	**Luwuk**	**7.71**	**185**	P	**P**	**07 38 46.1**	**-0.1**
	baz=7.7,SNR=3.4						
APSI	**Ampana**	**7.76**	**194**	P	**P**	**07 38 46.7**	**0.0**
	56nm,1.1s,0.3nm						
TGY	**Tagaytay City**	**7.79**	**341**	P	**P**	**07 38 46.1**	**-0.9**
	26nm,0.3s,baz=168,slow=14,SNR=3.9						
TGY				S	**S**	**07 40 22.6**	**-1.4**
	91nm,0.3s,baz=100,slow=18,SNR=3.5						
TGY	**Tagaytay City**	**7.79**	**341**	P	**P**	**07 38 46.1**	**-0.9**
TGY				S	**S**	**07 40 22.6**	**-1.4**
TGY				pmax	pmax		
	comp=Z,26nm,0.3s						
TGY				smax	smax		
	comp=N,91nm,0.3s						
LBMI	**Labuha**	**8.29**	**151**	P	**P**	**07 38 52.5**	**+0.8**
	comp=N,677nm,0.5s,comp=N,7μm						
PCI	**Palu**	**8.38**	**206**	P	**P**	**07 38 51.9**	**-0.5**
	comp=N,90nm,0.9s,comp=N,1μm						
SANI	**Sanana**	**9.02**	**164**	P	**P**	**07 38 56.6**	**-1.9**
	comp=N,246nm,0.7s,comp=N,3μm						
BKB	**Balikpapan**	**10.28**	**220**	P	**P**	**07 39 11.2**	**+0.5**
	comp=N,303nm,0.9s						
TTSI	**Tana Toraja**	**10.34**	**201**	P	**P**	**07 39 10.4**	**-0.8**
	comp=N,34nm,1.2s						
NLAI	**Namlea**	**10.49**	**160**	P	**P**	**07 39 14.1**	**+1.4**
	comp=N,163nm,0.8s,comp=N,2μm						
SWI	**Sorong**	**10.78**	**134**	P	**P**	**07 39 16.3**	**+0.7**
	comp=N,102nm,0.7s,comp=N,2μm						
SWI	**Sorong**	**10.78**	**134**	P	**P**	**07 39 16.8**	**+1.3**
	baz=11,SNR=3.9						
SIJI	**Sorong**	**10.78**	**134**	P	**P**	**07 39 16.4**	**+0.8**
	comp=N,13nm,0.3s,baz=326,slow=8.3,SNR=29						
SIJI				S	**S**	**07 41 18.3**	**+2.0**
	comp=N,1.1nm,0.3s,baz=229,slow=19,SNR=5.0						
BTM	**Bintulu**	**10.94**	**252**	⇑P	**P**	**07 39 17.2**	**0.0**
SPSI	**Sidrap Palu**	**11.21**	**200**	P	**P**	**07 39 18.4**	**-1.4**
	comp=N,37nm,0.8s						
AAI	**Ambon**	**11.31**	**155**	P	**P**	**07 39 21.3**	**+0.5**
	comp=N,110nm,0.6s						
SBUM	**Sibu**	**12.00**	**250**	⇓P	**P**	**07 39 28.3**	**+0.9**
SBUM	**Sibu**	**12.00**	**250**	*e*P	**P**	**07 39 27.4**	**0.0**
BBSI	**Bau Bau**	**12.12**	**184**	P	**P**	**07 39 29.0**	**+0.5**
	comp=N,55nm,1.0s						
KAPI	**Kappang**	**12.21**	**198**	P	**P**	**07 39 29.4**	**+0.1**
	comp=N,1.1nm,0.3s,baz=79,slow=10,SNR=4.2						
KAPI	**Kappang**	**12.21**	**198**	*e*P	**P**	**07 39 29.7**	**+0.5**
KBKI	**Kotabaru**	**12.32**	**217**	P	**P**	**07 39 29.9**	**-0.5**
	comp=N,89nm,0.8s,comp=N,5μm						
FAKI	**Fak Fak**	**12.93**	**137**	P	**P**	**07 39 37.4**	**+1.2**
	comp=N,177nm,0.7s,comp=N,763nm						
FAKI	**Fak Fak**	**12.93**	**137**	P	**P**	**07 39 37.5**	**+1.2**
	baz=13,SNR=12						
FAKI	**Fak Fak**	**12.93**	**137**	*e*P	**P**	**07 39 37.5**	**+1.3**
STKI	**Sintang**	**13.68**	**242**	P	P	07 39 35.6	-7.8
KSM	**Kuching**	**14.14**	**249**	P	**P**	**07 39 48.1**	**+0.4**
	baz=14,SNR=24						
KSM	**Kuching**	**14.14**	**249**	⇑P	**P**	**07 39 48.4**	**+0.7**
KSM	**Kuching**	**14.14**	**249**	*e*P	**P**	**07 39 47.6**	**-0.2**
	comp=N,113nm,0.9s						
PBKI	**Pangkalan Bun**	**15.05**	**232**	P	**P**	**07 39 56.6**	**+0.5**
	comp=N,287nm,1.2s						
MMRI	**Mamere**	**15.27**	**185**	P	**P**	**07 39 59.8**	**+1.7**
	comp=N,232nm,0.7s,comp=N,7μm						
MMRI	**Maumere**	**15.27**	**185**	*e*P	**P**	**07 39 59.8**	**+1.7**
	comp=N,161nm,0.6s						
SOEI	**Soe**	**16.35**	**177**	P	**P**	**07 40 07.9**	**-0.1**
	comp=N,102nm,0.8s						
SOEI	**Soe**	**16.35**	**177**	P	**P**	**07 40 08.1**	**0.0**
	baz=16,SNR=6.6						
SOEI	**Soe**	**16.35**	**177**	*e*P	**P**	**07 40 08.1**	**0.0**
	comp=N,73nm,0.8s						
WSI	**Waingapu**	**16.55**	**191**	P	P	07 40 02.6	-7.2
	baz=17,SNR=3.8						
YULB	**Yu-li**	**16.75**	**353**	*e*P	**P**	**07 40 10.1**	**-1.4**
	comp=N,8.6nm,0.6s						
TPUB	**Ta-pu**	**16.75**	**351**	*e*P	**P**	**07 40 11.8**	**+0.3**
	comp=N,71nm,0.9s						
SRBI	**Singaraja**	**16.84**	**210**	P	**P**	**07 40 12.7**	**+0.3**
	comp=N,59nm,1.2s						
SSLB	**Suanglung**	**17.18**	**352**	*e*P	**P**	**07 40 16.6**	**+1.2**
	comp=N,21nm,0.8s						
IGBI	**Denpasar**	**17.50**	**209**	P	**P**	**07 40 19.6**	**+1.1**
	comp=N,117nm,0.9s						
JAGI	**Jajag, Banyuwa**	**17.70**	**212**	P	**P**	**07 40 22.2**	**+1.9**
	baz=18,SNR=5.4						
JAGI	**Jajag, Banyuwa**	**17.70**	**212**	*e*P	**P**	**07 40 20.4**	**0.0**
	comp=N,106nm,0.8s						
JAY	**Jayapura**	**19.45**	**117**	P	**P**	**07 40 37.1**	**+0.9**
	comp=N,1.1nm,0.3s,baz=272,slow=18,SNR=3.9						
JAY	**Jayapura**	**19.45**	**117**	P	**P**	**07 40 37.2**	**+0.9**
JAY				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MTN	**Manton Dam**	**20.83**	**159**	P	**P**	**07 40 48.5**	**+0.1**
	baz=21,SNR=4.4						
KDU	**Kakadu**	**21.21**	**155**	P	**P**	**07 40 51.6**	**-0.3**
	baz=21,SNR=11						
SKNT	**Sakolnakorn**	**21.65**	**300**	P	**P**	**07 40 55.9**	**+0.1**
	comp=Z,59nm,0.7s						
KLSI		**21.88**	**239**	P	**P**	**07 40 58.0**	**+0.1**
	comp=Z,143nm,0.8s						
MDSI	**Maura Dua**	**22.25**	**241**	P	**P**	**07 41 00.7**	**-0.5**
	comp=Z,27nm,1.1s						
KHON	**Khomkaen**	**22.40**	**297**	P	**P**	**07 41 02.8**	**+0.3**
	comp=Z,20nm,0.9s						
LWLI	**Liwa**	**22.62**	**240**	P	**P**	**07 41 04.6**	**0.0**
	comp=Z,86nm,0.8s,comp=Z,15μm						
KNRA	**Kununurra**	**22.82**	**167**	P	**P**	**07 41 06.3**	**+0.2**
	baz=23,SNR=5.7						
NONG	**Nongkai**	**22.84**	**302**	P	**P**	**07 41 06.5**	**+0.1**
	comp=Z,23nm,1.0s,comp=Z,10μm						
PBKT	**Sadao Pong**	**24.13**	**296**	P	**P**	**07 41 18.2**	**+0.4**
	comp=Z,35nm,0.9s						
UTTA	**Uttaradit**	**24.94**	**298**	P	**P**	**07 41 25.4**	**+0.5**
	comp=Z,8.5nm,0.9s,comp=Z,71nm						
UTHA	**Uthaitani**	**25.17**	**293**	P	**P**	**07 41 27.8**	**+0.8**
	comp=Z,8.5nm,0.8s,comp=Z,324nm						
WHN	**Wuhan**	**25.25**	**341**	⇑P	**P**	**07 41 29.0**	**+1.6**
WHN				PMZ			
	comp=Z,44nm,0.8s						
GYA	**Guiyang**	**25.38**	**323**	*e*P	**P**	**07 41 30.8**	**+2.0**
GYA				sP	**sP**	**07 44 16.5**	**-0.1**
GYA				PcP	**PcP**	**07 44 40.0**	**+1.1**
GYA				S	**S**	**07 45 16.3**	**+3.0**
GYA				ScP	**ScP**	**07 47 21.5**	**+1.6**
GYA				ScS	**ScS**	**07 51 10.8**	**+0.5**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
NJ2	**Nanjing**	**25.61**	**351**	*e*P	**P**	**07 41 30.3**	**-0.3**
NJ2				PMZ			
	comp=Z,30nm,0.5s						
UMPA	**Umpang Tak**	**25.91**	**294**	P	**P**	**07 41 34.9**	**+1.4**
	comp=Z,8.3nm,0.9s,comp=Z,843nm						
LAMP	**Lampang**	**26.06**	**299**	P	**P**	**07 41 35.6**	**+0.9**
	comp=Z,9.8nm,0.9s,comp=Z,86nm						
CRAI	**Chiangrai**	**26.16**	**303**	P	**P**	**07 41 33.0**	**-2.7**
	comp=Z,18nm,1.3s,comp=Z,1μm						
CM31	**Chiang Mai Arr**	**26.63**	**298**	*e*P	**P**	**07 41 40.5**	**+0.7**
	comp=Z,12nm,0.7s						
CMAR	**Chiang Mai Arr**	**26.63**	**298**	P	**P**	**07 41 40.5**	**+0.7**
	comp=Z,13nm,0.7s,baz=112,slow=6.9,SNR=69						
CMAR				PcP	**PcP**	**07 44 42.4**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=172,slow=2.0,SNR=5.4						
CMAR				ScP	**ScP**	**07 47 22.9**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=67,slow=1.2,SNR=8.0						
CMAR	**Chiang Mai Arr**	**26.63**	**298**	P	**P**	**07 41 40.5**	**+0.7**
CMAR						07 44 42.4	
CMAR				pmax	pmax		
	comp=Z,13nm,0.7s						
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CMAR				pmax	pmax		
	comp=N,1.0nm,0.6s						
CMMT	**Chiang Mai**	**26.77**	**299**	P	**P**	**07 41 41.1**	**+0.1**
	comp=N,55nm,0.8s						
CHTO	**Chiang Mai**	**26.77**	**299**	P	**P**	**07 41 41.2**	**+0.2**
	comp=N,186nm,0.8s						
CHTO	**Chiang Mai**	**26.77**	**299**	*e*P	**P**	**07 41 41.4**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,26nm,0.8s						
CHTO	**Chiang Mai**	**26.77**	**299**	*e*P	**P**	**07 41 41.4**	**+0.4**
	comp=Z,26nm,0.8s						
ENH	**Enshi**	**26.91**	**332**	*e*P	**P**	**07 41 42.9**	**+0.8**
	comp=Z,5.9nm,0.4s						
CBIJ	**Chichi jima**	**26.98**	**39**	P	**P**	**07 41 42.0**	**-0.7**
CBIJ				S	**S**	**07 45 33.6**	**-4.3**
JCJ	**Chichijima**	**26.98**	**39**	P	**P**	**07 41 42.0**	**-0.7**
	comp=Z,15nm,0.3s,baz=279,slow=19,SNR=19						
JCJ				S	**S**	**07 45 33.6**	**-4.3**
	comp=Z,59nm,0.6s,baz=142,slow=19,SNR=25						
KMI	**Kunming**	**27.03**	**315**	P	**P**	**07 41 45.0**	**+1.5**
KMI				sP	**sP**	**07 44 32.0**	**-1.7**
KMI				S	**S**	**07 45 42.3**	**+3.0**
KMI				PMZ			
	comp=Z,25nm,0.9s						
KMI				PMZ			
	comp=Z,76nm,3.1s						
CMAI	**Chiengmai2**	**27.15**	**301**	P	**P**	**07 41 44.8**	**+0.4**
	comp=Z,20nm,1.0s,comp=Z,1μm						
JNU	**Nakatsue**	**27.19**	**14**	P	**P**	**07 41 43.2**	**-1.2**
	comp=Z,3.8nm,0.7s,baz=166,slow=8.3,SNR=2.8						
MHMT	**Maesarieng**	**27.42**	**297**	P	**P**	**07 41 47.4**	**+0.8**
	comp=Z,31nm,0.9s,comp=Z,845nm						
MBWA	**Marble Bar**	**27.91**	**188**	*e*P	**P**	**07 41 50.3**	**-0.6**
	comp=Z,30nm,0.7s						
COEN	**Coen**	**28.32**	**136**	P	**P**	**07 41 54.2**	**-0.2**
	baz=28,SNR=14						
PMG	**Port Moresby**	**28.48**	**124**	P	**P**	**07 41 55.2**	**-0.7**
	comp=Z,20nm,0.9s,baz=336,slow=8.6,SNR=3.7						
PMG	**Port Moresby**	**28.48**	**124**	P	**P**	**07 41 55.2**	**-0.7**
PMG				pmax	pmax		
	comp=Z,20nm,0.9s						
PMG	**Port Moresby**	**28.48**	**124**	P	**P**	**07 41 55.6**	**-0.3**
WRAB	**Tennant Creek**	**28.52**	**158***c*	*i*P	**P**	**07 41 56.1**	**0.0**
WRAB				pmax	pmax		
	comp=Z,193nm,0.8s						
WRAB	**Tennant Creek**	**28.52**	**158**	*e*P	**P**	**07 41 56.4**	**+0.2**
	comp=Z,73nm,0.8s						
WRA	**Warramunga Arr**	**28.52**	**158**	P	**P**	**07 41 56.0**	**-0.2**
	comp=Z,65nm,0.5s,baz=341,slow=9.2,SNR=594						
WRA				S	**S**	**07 45 57.3**	**-4.8**
	comp=Z,6.9nm,0.6s,baz=320,slow=20,SNR=14						
WRA				ScP	**ScP**	**07 47 28.5**	**-1.0**
	comp=Z,8.5nm,0.7s,baz=341,slow=3.1,SNR=18						
WRA	**Warramunga Arr**	**28.52**	**158**	P	**P**	**07 41 56.0**	**-0.2**
WRA				S	**S**	**07 45 57.3**	**-4.8**
WRA				pmax	pmax		
	comp=Z,65nm,0.5s						
WRA				smax	smax		
	comp=N,7.0nm,0.6s						
WRA				pmax	pmax		
	comp=N,9.0nm,0.7s						
TJN	**Taejon**	**29.77**	**6**⇓*i*P		**P**	**07 42 06.7**	**+0.1**
XAN	**Xi'an**	**30.38**	**336**	P	**P**	**07 42 12.0**	**0.0**
XAN				PMZ			
	comp=N,32nm,0.8s						
XAN				PMZ			
	comp=N,54nm,5.5s						
CD2	**Chengdu**	**30.39**	**325**	⇓P	**P**	**07 42 12.3**	**+0.2**
CD2				PcP	**PcP**	**07 44 50.8**	**-0.6**
CD2				sP	**sP**	**07 45 04.0**	**+0.2**
CD2				S	**S**	**07 46 31.5**	**+0.9**
CD2				PcS	**PcS**	**07 48 35.5**	**-0.6**
CD2				PMZ			
	comp=N,30nm,0.6s						
CD2				PMZ			
	comp=N,140nm,6.0s						
GIRL	**Giralia**	**30.52**	**197**	P	**P**	**07 42 14.3**	**+1.0**
	baz=31,SNR=12						
KSAR	**Wonju Array Be**	**30.88**	**7**	P	**P**	**07 42 17.5**	**+1.4**
KSAR						07 44 52.7	
KSAR	**Wonju Array Be**	**30.88**	**7**	P	**P**	**07 42 17.4**	**+1.4**
KSAR				PcP	**PcP**	**07 44 52.6**	**+0.2**
KSAR				ScP	**ScP**	**07 47 36.5**	**-0.4**
KSRS	**Korea Array**	**30.89**	**7**	P	**P**	**07 42 17.4**	**+1.3**
	comp=N,5.1nm,0.6s,baz=190,slow=9.0,SNR=17						
KSRS				PcP	**PcP**	**07 44 52.6**	**+0.2**
	comp=N,1.6nm,0.7s,baz=199,slow=2.2,SNR=4.6						
KSRS				ScP	**ScP**	**07 47 36.5**	**-0.4**
	comp=N,0.6nm,0.3s,baz=213,slow=3.3,SNR=2.9						
KSRS	**Korea Array**	**30.89**	**7**	P	**P**	**07 42 17.5**	**+1.3**
KSRS						07 44 52.7	
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KSRS				pmax	pmax		
	comp=N,1.0nm,0.3s						
QIS	**Mount Isa**	**31.36**	**150**	P	**P**	**07 42 21.1**	**+0.7**
	baz=32,SNR=23						
ASAR	**Alice Springs**	**31.83**	**162**	P	**P**	**07 42 25.1**	**+0.8**
	comp=N,42nm,0.4s,baz=341,slow=6.9,SNR=1130						
ASAR				S	**S**	**07 46 51.5**	**-1.1**
	comp=N,16nm,0.9s,baz=350,slow=23,SNR=38						
ASAR				ScP	**ScP**	**07 47 39.5**	**-1.0**
	comp=N,5.9nm,0.6s,baz=339,slow=2.9,SNR=18						
ASAR	**Alice Springs**	**31.83**	**162**	P	**P**	**07 42 25.2**	**+0.8**
ASAR				S	**S**	**07 46 51.5**	**-1.1**
ASAR				pmax	pmax		
	comp=Z,42nm,0.4s						
ASAR				smax	smax		
	comp=N,16nm,0.9s						
ASAR				pmax	pmax		
	comp=N,6.0nm,0.6s						
WRKA	**Warakurna**	**31.87**	**172**	P	**P**	**07 42 25.3**	**+0.6**
	baz=32,SNR=98						
MTSU	**Mount Surprise**	**32.09**	**141**	P	**P**	**07 42 27.7**	**+1.0**
	baz=32,SNR=6.0						
MAJO	**Matsushiro**	**32.62**	**22**⇑*i*P		**P**	**07 42 30.4**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,50nm,1.2s						
MAT	**Matsushiro**	**32.62**	**22**	P	**P**	**07 42 30.0**	**-0.9**
MJAR	**Matsushiro Arr**	**32.62**	**22**	P	**P**	**07 42 29.9**	**-1.0**
	comp=Z,4.6nm,0.6s,baz=197,slow=9.9,SNR=14						
MJAR				PcP	**PcP**	**07 44 58.0**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=205,slow=4.9,SNR=3.5						
MJAR	**Matsushiro Arr**	**32.62**	**22**	P	**P**	**07 42 29.9**	**-1.0**
MJAR						07 44 58.0	
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MEEK	**Meekatharra**	**33.46**	**188**	P	**P**	**07 42 37.9**	**-0.1**
	baz=34,SNR=28						
BJT	**Baijiatuau**	**33.84**	**350**	*e*P	**P**	**07 42 41.0**	**0.0**
BJT				pmax	pmax		
	comp=Z,20nm,0.6s						
BJT	**Baijiatuau**	**33.84**	**350**	*e*P	**P**	**07 42 41.0**	**0.0**
	comp=Z,20nm,0.6s						
BJI	**Beijing**	**33.86**	**350**	P	**P**	**07 42 41.0**	**-0.1**
BJI				PMZ			
	comp=Z,39nm,0.8s						
BJI				PMZ			
	comp=Z,74nm,3.9s						
LZH	**Lanzhou**	**34.37**	**331**	⇑P	**P**	**07 42 47.0**	**+1.4**
LZH				sP	**sP**	**07 45 41.0**	**+1.9**
LZH				*e*S	**S**	**07 47 34.0**	**+3.2**
LZH				ScP	**ScP**	**07 47 50.0**	**+0.6**
LZH				PMZ			
	comp=Z,45nm,1.0s						
LZH				PMZ			
	comp=Z,97nm,4.0s						
HHC	**Hu-ho-hao-te**	**35.66**	**344**	*e*P	**P**	**07 42 57.0**	**+0.9**
HHC				S	**S**	**07 47 55.3**	**+5.5**
HHC				SS	**SS**	**07 51 03.0**	**-4.8**
HHC				PMZ			
	comp=Z,25nm,1.3s						
HHC				PMZ			
	comp=Z,70nm,6.2s						
MORW	**Morawa**	**36.26**	**191**	P	**P**	**07 43 01.2**	**0.0**
	baz=36,SNR=17						
MSHR	**Mys Shultsa**	**36.39

MDJ PMZ
comp=Z,16nm,0.7s
MDJ PMZ
comp=Z,46nm,5.4s
QLP Quilpie 38.70 150 P **P** 07 43 21.6 +0.7
baz=39,SNR=12
GTA Gaotai 38.94 330 ⇓P **P** 07 43 23.5 +0.6
GTA PcP **PcP** 07 45 17.5 +0.7
GTA sP **sP** 07 46 16.5 -2.3
GTA ScP **ScP** 07 48 06.5 0.0
GTA S **S** 07 48 39.3 +1.0
GTA PMZ
comp=Z,39nm,1.2s
GTA PMZ
comp=Z,60nm,5.7s
ERM Erimo 39.27 23⇓*e*P **P** 07 43 25.4 +0.2
ERM pmax pmax
comp=Z,17nm,1.7s
TAPN Taplejung 39.69 305 *e*P **P** 07 43 29.5 +0.2
comp=Z,41nm,0.6s
ODAN Odare 39.75 305 *e*P **P** 07 43 29.9 +0.2
ASAJ Asahikawa 40.87 21 P **P** 07 43 38.4 +0.5
comp=Z,11nm,0.4s,baz=229,slow=12,SNR=11
ASAJ Asahikawa 40.87 21 P **P** 07 43 38.4 +0.5
ASAJ pmax pmax
comp=Z,11nm,0.4s
BBOO Buckleboo 41.05 164 P **P** 07 43 40.2 +0.7
baz=41,SNR=48
BBOO Buckleboo 41.05 164 *e*P **P** 07 43 40.1 +0.7
comp=Z,68nm,0.8s
GUN Gumba 41.40 305 *e*P **P** 07 43 42.9 +0.1
comp=Z,98nm,0.7s
RKGY Rocky Gully 41.53 188 P **P** 07 43 44.3 +1.1
baz=42,SNR=16
EIDS Eidsvold 41.65 141 P **P** 07 43 44.9 +0.6
baz=42,SNR=5.8
EIDS Eidsvold 41.65 141 *e*P **P** 07 43 44.9 +0.6
comp=Z,15nm,0.8s
PKI Pulchoki 41.65 305 *e*P **P** 07 43 44.3 -0.5
PKIN Phulchoki 41.67 305 *e*P **P** 07 43 44.5 -0.3
KKN Kakani 41.84 305 *e*P **P** 07 43 46.0 -0.1
comp=Z,61nm,0.9s
DMN Daman 41.92 304 *e*P **P** 07 43 46.6 -0.1
YUK Yuzh-Kuril'sk 42.05 24*d i*P **P** 07 43 49.5 +2.4
STKA Stephens Creek 42.05 157 P **P** 07 43 48.1 +0.8
comp=Z,31nm,0.6s,baz=334,slow=7.7,SNR=104
STKA ScP **ScP** 07 48 17.7 -1.1
comp=Z,6.0nm,0.7s,baz=325,slow=6.0,SNR=9.3
STKA Stephens Creek 42.05 157 P **P** 07 43 48.2 +0.8
STKA pmax pmax
comp=Z,31nm,0.6s
STKA pmax pmax
comp=N,6.0nm,0.7s
STKA Stephens Creek 42.05 157 P **P** 07 43 48.4 +1.0
baz=42,SNR=64
GKN Gorkha 42.45 305 *e*P **P** 07 43 50.5 -0.3
HTT Hallett 42.49 161 P **P** 07 43 51.9 +1.0
baz=43,SNR=15
KLR Kul'dur 42.97 8 *e*P P 07 43 50.0 -4.2
KOLN Koldanda 43.22 304 *e*P **P** 07 43 57.0 +0.2
DANN Dangsing 43.30 305 *e*P **P** 07 43 57.5 0.0
ULN Ulaanbaatar 43.37 344 *e*P **P** 07 43 58.0 +0.4
ULN pmax pmax
comp=Z,21nm,0.6s
ULN Ulaanbaatar 43.37 344 *e*P **P** 07 43 58.0 +0.4
comp=Z,21nm,0.6s
CMSA Cobar Meteorol 43.52 152 P **P** 07 44 00.4 +1.7
baz=44,SNR=40
SONM Songino Array 43.53 343 P **P** 07 43 58.8 +0.1
comp=Z,16nm,0.9s,baz=161,slow=8.4,SNR=75
SONM PcP **PcP** 07 45 31.3 -0.7
comp=Z,2.6nm,0.7s,baz=174,slow=4.6,SNR=5.5
SONM ScP **ScP** 07 48 23.6 -1.1
comp=Z,1.9nm,0.8s,baz=153,slow=4.2,SNR=6.4
SONM Songino Array 43.53 343 P **P** 07 43 58.8 +0.1
SONM 07 45 31.3
SONM pmax pmax
comp=Z,17nm,0.9s
SONM pmax pmax
comp=Z,3.0nm,0.7s
SONM pmax pmax
comp=N,2.0nm,0.8s
ARMA Armidale 45.70 145 P **P** 07 44 17.8 +2.3
baz=46,SNR=13
ARPS Mount Arapiles 46.51 160 P **P** 07 44 22.3 +0.9
baz=47,SNR=20
TLY Talaya 47.77 343 P **P** 07 44 31.6 +1.0
comp=N,15nm,0.5s,baz=257,slow=6.9,SNR=15
TLY Talaya 47.77 343 *i* P **P** 07 44 32.3 +1.7
TLY pmax pmax
comp=Z,18nm,1.0s
TLY Talaya 47.77 343 *e*P **P** 07 44 31.6 +1.0
comp=Z,21nm,0.7s
CNB Canberra Magne 48.36 151 P **P** 07 44 36.9 +1.6
baz=49,SNR=14
WMQ Urumqi 48.48 326 P **P** 07 44 37.3 +1.2
WMQ PcP **PcP** 07 45 52.0 +2.3
WMQ pP **pP** 07 46 26.5 -1.7
WMQ sP sP 07 47 31.3 -5.8
WMQ PMZ
comp=Z,42nm,1.0s
WMQ PMZ
comp=Z,47nm,4.0s
MOY Mondy 48.55 341 *e*P **P** 07 44 37.2 +0.7
MOY pmax pmax
comp=Z,32nm,1.7s
TOO Toolangi 48.57 157 P **P** 07 44 38.4 +1.7
baz=49,SNR=9.5
NDI New Delhi 48.83 302 *e*P **P** 07 44 37.5 -1.3
BOD Bodaibo 51.54 354 *e*P **P** 07 44 58.3 +0.4
BOD pmax pmax
comp=Z,15nm,0.8s
MK31 Makanchi Array 53.32 326 *e*P **P** 07 45 11.0 +0.2
MK31 pmax pmax
comp=Z,26nm,0.5s
MK31 Makanchi Array 53.32 326 P **P** 07 45 11.2 +0.4
baz=53,SNR=51
MK31 Makanchi Array 53.32 326 *e*P **P** 07 45 11.1 +0.4
MK31 *e*ScP **ScP** 07 49 04.9 -1.5
MKAR Makanchi Array 53.32 326 P **P** 07 45 11.1 +0.3
comp=Z,28nm,0.5s,baz=122,slow=8.5,SNR=402
MKAR PcP **PcP** 07 46 07.1 -0.7
comp=Z,6.5nm,0.7s,baz=132,slow=3.8,SNR=9.2
MKAR ScP **ScP** 07 49 04.8 -1.6
comp=Z,4.4nm,0.7s,baz=123,slow=5.1,SNR=17
MKAR Makanchi Array 53.32 326 P **P** 07 45 11.1 +0.3
MKAR 07 46 07.1
MKAR pmax pmax
comp=Z,28nm,0.5s
MKAR pmax pmax
comp=Z,7.0nm,0.7s
MKAR pmax pmax
comp=N,4.0nm,0.7s
KSH Kashi 53.70 315 P **P** 07 45 15.0 +1.3
KSH pP **pP** 07 47 11.3 +1.7
KSH PP PP 07 47 31.5 +7.1
KSH S **S** 07 51 59.0 -3.3
KSH SS SS 07 56 04.0 +7.7
KSH PMZ
comp=N,49nm,1.2s
KSH PMZ
comp=N,120nm,4.1s
PETK Petropavlovsk- 54.02 25 P **P** 07 45 16.4 +0.9
comp=N,4.9nm,0.7s,baz=190,slow=6.9,SNR=4.4
PETK Petropavlovsk- 54.02 25 P **P** 07 45 16.5 +0.9
PETK pmax pmax
comp=Z,5.0nm,0.7s
PET Petropavlovsk 54.36 25 *e*P **P** 07 45 19.8 +1.9
PET pmax pmax
comp=Z,77nm,1.7s
ULHL Ulahol 54.69 318 P **P** 07 45 21.3 +0.6
SNR=6.1
KRAR Krasnoyarsk 54.86 340⇑ *e*P **P** 07 45 23.0 +1.7
KRAR pmax pmax
comp=Z,41nm,0.6s
KZA Kyzart 55.28 317 P **P** 07 45 25.9 +0.8
SNR=17
TKM2 Tokmak 2 55.42 319 P **P** 07 45 26.2 +0.5
SNR=18
TKM2 Tokmak 2 55.42 319 *e*P **P** 07 45 26.0 +0.2
TKM2 pmax pmax
comp=Z,19nm,0.8s
TKM2 Tokmak 2 55.42 319 *e*P **P** 07 45 26.0 +0.2
comp=Z,19nm,0.8s
YAK Yakutsk 55.42 4 P **P** 07 45 25.3 +0.2
comp=Z,6.5nm,0.4s,baz=16,slow=23,SNR=5.6
YAK PcP **PcP** 07 46 13.7 -1.8
comp=Z,7.4nm,0.6s,baz=180,slow=7.1,SNR=4.3
YAK Yakutsk 55.42 4 *e*P **P** 07 45 24.4 -0.7
YAK pmax pmax
comp=Z,31nm,0.8s
YAK Yakutsk 55.42 4 *e*P **P** 07 45 25.1 0.0
comp=Z,58nm,0.6s
YAK PcP **PcP** 07 46 13.7 -1.8
KBK Karagaybulak 55.73 318 P **P** 07 45 28.6 +0.8
SNR=7.1
USP Ospenovka 56.29 318 P **P** 07 45 31.9 +0.3
SNR=16
AML Almayashu 56.35 317 P **P** 07 45 33.2 +0.8
SNR=12
EKS2 Erkin-Say 56.52 318 P **P** 07 45 34.1 +0.9
SNR=13
EKS2 Erkin-Say 56.52 318 *e*P **P** 07 45 33.9 +0.7
EKS2 pmax pmax
comp=Z,16nm,0.7s
EKS2 Erkin-Say 56.52 318 *e*P **P** 07 45 33.9 +0.7
comp=Z,16nm,0.7s
ZAA0 Zalesovo Array 56.53 334 *e*P **P** 07 45 31.9 -0.9
ZALV Zalesovo Beam 56.53 334 P **P** 07 45 32.0 -0.8
comp=Z,13nm,0.8s,baz=126,slow=5.8,SNR=29
ZALV Zalesovo Beam 56.53 334 P **P** 07 45 32.0 -0.8
ZALV pmax pmax
comp=Z,13nm,0.8s
MA2 Magadan 56.71 16 *i* P **P** 07 45 35.1 +1.1
KBL Kabul 57.19 307 *e*P **P** 07 45 37.7 -0.3
KBL pmax pmax
comp=Z,15nm,0.8s
KBL Kabul 57.19 307 *e*P **P** 07 45 37.7 -0.3
comp=Z,15nm,0.8s
KURBB Kurchatov Arra 57.54 328 P **P** 07 45 39.5 -0.3
comp=Z,42nm,0.7s,baz=127,slow=6.2,SNR=318
KURK Kurchatov 57.54 328 P **P** 07 45 39.0 -0.8
KURK pmax pmax
comp=Z,69nm,0.7s
KURK Kurchatov 57.54 328 *e*P **P** 07 45 39.5 -0.3
comp=Z,82nm,0.7s
NVS Novosibirsk 57.81 334 *e*P **P** 07 45 40.5 -1.0
NVS pmax pmax
comp=N,9.0nm,0.8s
NVS pmax pmax
comp=Z,19nm,0.8s
NVS pmax pmax
comp=E,8.0nm,0.6s
KK31 Karatay Array 58.90 317 *i* P **P** 07 45 48.4 -0.7
KK31 pmax pmax
comp=Z,13nm,0.7s
KKAR Karatay Array 58.90 317 *e*P **P** 07 45 49.0 -0.1
KKAR Karatay Array 58.90 317 *e*P **P** 07 45 49.0 -0.1
SEY Seymchan 59.96 15 P **P** 07 45 56.7 +1.0
comp=Z,2.5nm,0.4s,baz=212,slow=5.9,SNR=10
SEY Seymchan 59.96 15⇓*e*P **P** 07 45 56.2 +0.5
BVA0 Borovoye Array 63.11 327 *i* P **P** 07 46 15.7 -0.6
BVA0 pmax pmax
comp=Z,16nm,0.8s
BVAR Borovoye Array 63.11 327 P **P** 07 46 16.0 -0.3
comp=Z,17nm,1.0s,baz=134,slow=8.4,SNR=63
BVAR PcP **PcP** 07 46 45.6 -1.2
comp=Z,1.9nm,0.6s,baz=106,slow=3.1,SNR=3.8
BVAR Borovoye Array 63.11 327 P **P** 07 46 16.0 -0.3
BVAR 07 46 45.6
BVAR pmax pmax
comp=Z,17nm,1.0s
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BRVK Borovoye 63.18 327 *e*P **P** 07 46 16.5 -0.3
BRVK pmax pmax
comp=Z,24nm,0.9s
BRVK Borovoye 63.18 327 *e*P **P** 07 46 16.5 -0.3
comp=Z,24nm,0.9s
GEYT Alibeck 66.55 308 P **P** 07 46 38.1 -0.1
comp=Z,8.1nm,0.8s,baz=116,slow=3.4,SNR=11
BKZ Black Stump Fm 66.92 138 *e*P **P** 07 46 41.5 +1.1
comp=Z,23nm,0.9s
BILL Bilibino 67.58 16*d i*P **P** 07 46 43.4 -0.4
BILL pmax pmax
comp=Z,2.0nm,0.4s
AB31 Akbulak array 67.84 321 *i* P **P** 07 46 45.3 -0.5
AB31 pmax pmax
comp=Z,5.0nm,0.5s
ABKAR Akbulak array 67.84 321 *e*P **P** 07 46 45.5 -0.3
ATKA Atka Island 67.96 36 *e*P **P** 07 46 46.7 +0.3
comp=Z,17nm,0.6s
AKTO Aktyubinsk 69.36 322 P **P** 07 46 54.3 -0.6
comp=Z,15nm,0.7s,baz=101,slow=8.2,SNR=56
AKTO Aktyubinsk 69.36 322 P **P** 07 46 54.3 -0.6
AKTO pmax pmax
comp=Z,15nm,0.7s
SVE Sverdlovsk 69.78 329⇑ *e*P **P** 07 46 56.8 -0.4
SVE pmax pmax
comp=Z,21nm,0.6s
ARU Arti 70.74 328 P **P** 07 47 01.5 -1.4
baz=106,slow=5.3
ARU Arti 70.74 328*d i*P **P** 07 47 01.8 -1.1
ARU S **S** 07 55 30.7 +2.0
ARU SS **SS** 08 00 16.4 -2.2
ARU pmax pmax
comp=Z,26nm,1.0s
ARU Arti 70.74 328 *e*P **P** 07 47 01.5 -1.4
comp=Z,21nm,0.6s
CASY Casey 73.39 185 *e*P **P** 07 47 17.5 -0.3
comp=Z,6.3nm,0.6s
RAYN Ar Rayn 76.38 293 *e*P **P** 07 47 34.0 -1.5
comp=Z,14nm,0.8s
PRGR Permogore 78.39 332 *e*P P 07 47 41.5 -3.9
PRGR pmax pmax
comp=Z,21nm,0.6s
KBZ Khabaz 78.63 313 P **P** 07 47 46.0 -1.1
comp=Z,1.8nm,0.8s,baz=77,slow=11,SNR=4.9
KBZ Khabaz 78.63 313 P **P** 07 47 46.0 -1.1
KBZ pmax pmax
comp=Z,2.0nm,0.8s
NEY Neytrino 78.74 313⇓ *i*P **P** 07 47 48.1 +0.1
NEY pmax pmax
comp=Z,1.0nm,0.7s
KIV Kislovodsk 78.79 313 *e*P **P** 07 47 47.6 -0.5
KIV *e* 07 47 55.6
KIV pmax pmax
comp=Z,4.0nm,0.5s
IM04 Indian Mountai 80.97 24 *e*P **P** 07 47 59.4 +0.5
KDAK Kodiak Island 81.14 33 *e*P **P** 07 48 00.9 +1.1
KDAK Kodiak Island 81.14 33 *e*P **P** 07 48 00.9 +1.1
TMCR Tamitsa 82.05 334 *e*P **P** 07 48 03.7 -0.6
TMCR pmax pmax
comp=Z,23nm,1.0s
BPAW Bear Paw Mtn. 82.07 26 *e*P **P** 07 48 05.4 +0.9
comp=Z,5.9nm,1.1s
COLD Coldfoot 82.45 23 *e*P **P** 07 48 07.8 +1.5
comp=Z,17nm,1.1s
ANN Anapa 82.55 314 *e*P **P** 07 48 06.2 -1.1
ANN pmax pmax
comp=Z,22nm,0.7s
OBN Obninsk 82.81 325 P **P** 07 48 07.0 -1.3
comp=Z,26nm,0.5s,baz=35,slow=5.8,SNR=8.0
OBN Obninsk 82.81 325*de*P **P** 07 48 07.2 -1.1
OBN *e**PP **pP** 07 50 22.5 +2.4
OBN pmax pmax
comp=Z,57nm,1.3s
MCK McKinley 82.98 27 *e*P **P** 07 48 09.9 +0.9
MCK McKinley 82.98 27 *e*P **P** 07 48 09.9 +0.9
COLA College 83.42 25⇑ *i*P **P** 07 48 13.3 +2.1
COLA pmax pmax
comp=Z,42nm,2.5s
LVZ Lovozero 83.42 338⇓ *e*P **P** 07 48 10.5 -0.7
LVZ pmax pmax
comp=Z,27nm,1.7s
ASF Jabal al Asfar 83.62 302 P **P** 07 48 13.3 +0.3
comp=Z,6.7nm,0.8s,baz=69,slow=3.9,SNR=9.1
ASF Jabal al Asfar 83.62 302 P **P** 07 48 13.3 +0.3
ASF pmax pmax
comp=Z,7.0nm,0.8s
ILAR Eielson Array 83.84 26 P **P** 07 48 12.1 -1.2
comp=Z,1.5nm,0.5s,baz=238,slow=4.8,SNR=46
ILAR Eielson Array 83.84 26 P **P** 07 48 12.1 -1.2
ILAR pmax pmax
comp=Z,2.0nm,0.5s
MMAI Mount Meron Ar 84.81 303 P **P** 07 48 18.4 -0.4
comp=Z,1.0nm,0.3s,baz=104,slow=6.1,SNR=3.8
EIL Elat 85.48 299 P **P** 07 48 22.0 0.0
comp=Z,7.8nm,0.8s,baz=38,slow=4.3,SNR=5.7
BR131 Keskin Array S 85.67 309 *e*P **P** 07 48 21.5 -1.3
comp=Z,3.8nm,0.8s
BRTR Keskin Array B 85.67 309 P **P** 07 48 21.1 -1.7
comp=Z,4.3nm,0.8s,baz=120,slow=5.1,SNR=19
BRTR Keskin Array B 85.67 309 P **P** 07 48 21.2 -1.7
BRTR pmax pmax
comp=Z,4.0nm,0.8s
EGAK Eagle 86.28 25 *e*P **P** 07 48 25.0 0.0
comp=Z,2.0nm,0.5s
KMBO Kilima Mbogo 86.40 268 P **P** 07 48 26.0 -0.9
comp=Z,2.8nm,0.8s,baz=67,slow=7.0,SNR=5.5
KMBO Kilima Mbogo 86.40 268 P **P** 07 48 26.0 -0.9
KMBO pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 86.58 340 P **P** 07 48 25.0 -1.3
comp=Z,5.4nm,0.8s,baz=72,slow=5.8,SNR=16
ARCES ARCESS Array B 86.58 340 P **P** 07 48 25.0 -1.3
ARCES pmax pmax
comp=Z,5.0nm,0.8s
VNDA Vanda 86.75 172 P **P** 07 48 27.0 +0.1
comp=Z,3.1nm,0.7s,baz=315,slow=6.5,SNR=27
VNDA Vanda 86.75 172 P **P** 07 48 27.0 +0.1
VNDA pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 87.59 321 P **P** 07 48 29.6 -1.7
comp=Z,2.8nm,0.6s,baz=67,slow=4.7,SNR=15
AKASG Malin Array Be 87.59 321 P **P** 07 48 29.7 -1.7
AKASG pmax pmax
comp=Z,3.0nm,0.6s
KIEV Kiev 87.60 321⇑ *i*P **P** 07 48 29.7 -1.7
KIEV pmax pmax
comp=Z,4.0nm,1.0s
FINES FINESS Array B 87.73 332 P **P** 07 48 30.3 -1.5
comp=Z,4.8nm,0.6s,baz=59,slow=4.7,SNR=23
FINES FINESS Array B 87.73 332 P **P** 07 48 30.3 -1.5
FINES pmax pmax
comp=Z,5.0nm,0.6s
VSU Vasula 87.89 329⇓ *e*P **P** 07 48 30.5 -2.1
VSU pmax pmax
comp=Z,44nm,0.8s
INK Inuvik 88.61 21 P **P** 07 48 35.1 -0.6
comp=Z,2.1nm,0.7s,baz=300,slow=5.5,SNR=8.3
INK Inuvik 88.61 21 P **P** 07 48 35.1 -0.6
INK pmax pmax
comp=Z,2.0nm,0.7s
INK Inuvik 88.61 21 *e*P **P** 07 48 36.2 +0.4
MLR Muntele Rosu 90.56 316 P **P** 07 48 44.6 -0.9
comp=Z,0.9nm,0.7s,baz=202,slow=2.9,SNR=5.6
MLR Muntele Rosu 90.56 316 P **P** 07 48 44.6 -0.9
MLR pmax pmax
comp=Z,1.0nm,0.7s
BUR08 Bucovina Ar. S 90.68 318 *e*P **P** 07 48 45.2 -0.8
NB2 NORSAR Subarra 94.72 333 P **P** 07 49 01.8 -2.3
comp=Z,1.7nm,0.6s,baz=69,slow=4.8
NOA NORSAR Array B 94.72 333 P **P** 07 49 02.0 -2.0
comp=Z,1.7nm,0.7s,baz=69,slow=4.6,SNR=6.5
NOA NORSAR Array B 94.72 333 P **P** 07 49 02.0 -2.0
NOA pmax pmax
comp=Z,2.0nm,0.7s
DPC Dobruska-Polom 95.69 322 *e*P **P** 07 49 07.9 -0.8
DPC Dobruska-Polom 95.69 322 *e*P **P** 07 49 07.9 -0.8
UPC Upice 95.83 322 *e*P **P** 07 49 08.4 -0.9
UPC Upice 95.83 322 *e*P **P** 07 49 08.4 -0.9
GERES GERESS Array B 97.79 321 P Pdif 07 49 16.9 -1.2
comp=Z,0.4nm,0.4s,baz=72,slow=3.2,SNR=4.7
TORD Torodi Ar. Bea 118.94 289 PKP **PKPdf** 07 54 26.8 -1.3
comp=Z,1.6nm,0.7s,baz=55,slow=2.0,SNR=12
TXAR Lajitas Array 122.23 49 PKP **PKPdf** 07 54 34.2 0.0
comp=Z,0.6nm,0.8s,baz=249,slow=1.4,SNR=7.1
TXAR pPKP **pPKPdf** 07 56 54.8 -3.6
comp=Z,0.2nm,0.7s,baz=308,slow=4.4,SNR=3.3
TXAR Lajitas Array 122.23 49 PKIKP **PKPdf** 07 54 34.3 0.0
TXAR 07 56 54.8
TXAR pmax pmax
comp=Z,1.0nm,0.9s

IDC ***26*** *07:59:29.3±0.9, 6°.53N×126°.37E, h0km, mb4.1/6, mb1 4.1/6, mb1mx3.7/34, mbtmp4.1/6, Error ellipse: s-maj=48.5km s-min=19.2km az=76.0*
MAN ***26*** *07:59:34, 6°.41N×126°.42E, h32km, mb4.4, ML3.2, MS3.1*
ISCJB ***26*** *07:59:35.8±0.5, 6°.49N±0°.09×126°.43E±0°.09, h68km, mb4.0/8, Error ellipse: s-maj=15.4km s-min=7.8km az=44.9*
NEIC ***26*** *07:59:35.4±1.9, 6°.51N×126°.48E, h42km±18km, mb4.3/2, Error ellipse: s-maj=26.7km s-min=10.4km az=68.0*
ISC 26 07:59:37.6±0.7, 6°.5N±0°.1×126°.4E±0°.1, h68km, n16, σ1s47/18, mb4.0/8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**0.98**	**303**	*e*Pn	**Pn**	**07 59 53.8**	**-2.0**
DAV				*e*Sn	**Sn**	**08 00 09.2**	**0.0**
CTBH	**Cotabato--PC H**	**2.25**	**288**	*i*P	**Pn**	**08 00 10.8**	**-1.9**
MANU	**Manus Island**	**22.59**	**111**	P	**P**	**08 04 29.5**	**-3.3**
baz=13,SNR=4.6							
CBIJ	**Chichi jima**	**25.37**	**34**	P	**P**	**08 04 58.4**	**-0.2**
JCJ	**Chichijima**	**25.37**	**34**	P	**P**	**08 04 58.4**	**-0.3**
9.7nm,0.4s,baz=255,slow=20,SNR=5.4							
WRAB	**Tennant Creek**	**27.43**	**164**	*e*P	**P**	**08 05 17.3**	**0.0**
2.9nm,0.8s							
WRA	**Warramunga Arr**	**27.44**	**164**	P	**P**	**08 05 16.7**	**-0.6**
0.7nm,0.7s,baz=343,slow=10,SNR=8.6							
QIS	**Mount Isa**	**29.88**	**155**	P	**P**	**08 05 39.3**	**+0.2**
baz=19,SNR=3.4							
ASAR	**Alice Springs**	**30.89**	**167**	P	**P**	**08 05 47.6**	**-0.3**
1.5nm,0.6s,baz=342,slow=7.0,SNR=21							
ASAR				PcP	**PcP**	**08 08 44.8**	**+1.4**
0.2nm,0.5s,baz=354,slow=2.3,SNR=5.1							
STKA	**Stephens Creek**	**40.85**	**160**	P	**P**	**08 07 13.7**	**+0.8**
1.9nm,0.7s,baz=329,slow=12,SNR=4.5							
STKA	**Stephens Creek**	**40.85**	**160**	*e*P	**P**	**08 07 13.8**	**+0.9**
MK31	**Makanchi Array**	**55.10**	**324**	*e*P	**P**	**08 09 03.1**	**+0.3**
MKAR	**Makanchi Array**	**55.10**	**324**	P	**P**	**08 09 03.0**	**+0.2**
1.1nm,0.6s,baz=127,slow=8.1,SNR=13							
KURK	**Kurchatov**	**59.23**	**327**	*e*P	**P**	**08 09 34.6**	**+2.8**
1.5nm,0.3s							
ARCES	**ARCESS Array B**	**87.73**	**340**	P	**P**	**08 12 19.7**	**+1.0**
1.0nm,1.0s,baz=84,slow=9.2,SNR=3.5							
TORD	**Torodi Ar. Bea**	**121.71**	**290**	PKP	**PKPdf**	**08 18 25.6**	**+0.8**
0.5nm,0.6s,baz=37,slow=2.3,SNR=4.1							

ISCJB ***26*** *08:09:13.6±0.5, 6°.80N±0°.07×123°.8E±0°.1, h600km, mb3.8/9, Error ellipse: s-maj=17.0km s-min=8.6km az=163.3*
IDC ***26*** *08:09:15.7±1.4, 6°.70N×123°.84E, h614km±16km, mb3.2/8, mb1 3.4/9, mb1mx3.1/26, mbtmp4.3/9, Error ellipse: s-maj=32.3km s-min=9.4km az=73.0*
ISC 26 08:09:14.5±0.6, 6°.75N±0°.08×123°.7E±0°.1, h600km, n24, σ1s14/29, mb3.8/9, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**7.52**	**265**	P	**P**	**08 11 09.6**	**+0.1**
baz=7.3,SNR=9.5							
LUWI	**Luwuk**	**7.80**	**187**	P	**P**	**08 11 12.9**	**+0.8**
baz=7.6,SNR=4.2							
TGY	**Tagaytay City**	**7.81**	**340**	P	**P**	**08 11 10.8**	**-1.3**
72nm,0.3s,baz=158,slow=5.4,SNR=4.3							
SIJI	**Sorong**	**10.66**	**135**	P	**P**	**08 11 38.6**	**-1.3**
2.4nm,0.3s,baz=346,slow=6.3,SNR=5.7							
FAKI	**Fak Fak**	**12.82**	**138**	P	**P**	**08 12 02.5**	**+0.9**
baz=13,SNR=8.9							
WRA	**Warramunga Arr**	**28.50**	**159**	P	**P**	**08 14 23.5**	**0.0**
6.8nm,0.6s,baz=330,slow=11,SNR=108							
WRA				S	**S**	**08 18 27.2**	**-3.4**
1.1nm,0.6s,baz=345,slow=15,SNR=9.4							
WRA				ScP	**ScP**	**08 19 59.6**	**-0.9**
3.7nm,0.6s,baz=343,slow=3.3,SNR=23							
QIS	**Mount Isa**	**31.30**	**150**	P	**P**	**08 14 48.3**	**+0.9**
baz=31,SNR=3.7							
ASAR	**Alice Springs**	**31.82**	**162**	P	**P**	**08 14 52.7**	**+0.8**
4.7nm,0.3s,baz=339,slow=7.2,SNR=148							
ASAR				S	**S**	**08 19 19.8**	**-1.6**
6.8nm,0.8s,baz=352,slow=23,SNR=25							
ASAR				ScP	**ScP**	**08 20 10.8**	**-0.6**
1.3nm,0.7s,baz=339,slow=2.7,SNR=7.1							
WRKA	**Warakurna**	**31.90**	**172**	P	**P**	**08 14 53.4**	**+0.8**
baz=32,SNR=22							
MEEK	**Meekatharra**	**33.56**	**188**	P	**P**	**08 15 06.7**	**+0.2**
baz=34,SNR=9.6							
MORW	**Morawa**	**36.38**	**191**	P	**P**	**08 15 30.1**	**+0.4**
baz=36,SNR=6.0							
FORT	**Forrest**	**37.54**	**174**	P	**P**	**08 15 40.3**	**+1.1**
baz=38,SNR=7.1							
KMBL	**Kambalda**	**37.94**	**183**	P	**P**	**08 15 42.9**	**+0.5**
baz=38,SNR=16							

NWAO	**Narrogin (SRO)**	**39.94**	**189**	P		**P**	**08 15 58.5**	**+0.1**
	8.7nm,0.6s,baz=329,slow=12,SNR=8.1							
BBOO	**Buckleboo**	**41.05**	**164**	P		**P**	**08 16 08.1**	**+0.8**
	baz=41,SNR=14							
STKA	**Stephens Creek**	**42.02**	**157**	P		**P**	**08 16 15.6**	**+0.6**
	2.3nm,0.5s,baz=333,slow=8.9,SNR=11							
STKA	**Stephens Creek**	**42.02**	**157**	P		**P**	**08 16 16.1**	**+1.2**
	baz=42,SNR=6.1							
HTT	**Hallett**	**42.48**	**161**	P		**P**	**08 16 19.9**	**+1.4**
	baz=42,SNR=4.7							
SONM	**Songino Array**	**43.53**	**343**	P		**P**	**08 16 27.4**	**+0.7**
	0.2nm,0.4s,baz=160,slow=4.6,SNR=2.0							
MKAR	**Makanchi Array**	**53.40**	**325**	P		**P**	**08 17 39.5**	**+0.1**
	0.5nm,0.5s,baz=120,slow=8.1,SNR=11							
MKAR				ScP		**ScP**	**08 21 36.2**	**-1.5**
	0.4nm,0.7s,baz=108,slow=4.7,SNR=3.9							
PETK	**Petropavlovsk-**	**53.86**	**25**	P		**P**	**08 17 43.6**	**+1.2**
	2.5nm,0.6s,baz=206,slow=13,SNR=3.2							
ILAR	**Eielson Array**	**83.67**	**26**	P		**P**	**08 20 39.9**	**-1.0**
	0.3nm,0.5s,baz=245,slow=5.6,SNR=10							
VNDA	**Vanda**	**86.79**	**172**	P		**P**	**08 20 56.0**	**+0.5**
	0.7nm,0.7s,baz=308,slow=5.7,SNR=4.2							
TORD	**Torodi Ar. Bea**	**119.14**	**289**	PKP		**PKPdf**	**08 26 56.8**	**-0.5**
	0.3nm,0.9s,baz=77,slow=1.2,SNR=2.8							

*IDC **26** 08:22:27.1±4.2,9°.82S×109°.67W,h0km,mb3.6/5, mb1 4.0/5,mb1mx3.8/14,mbtmp3.6/5,MS3.7/7,Ms1 3.7/7, ms1mx3.5/25, Error ellipse: s-maj=124.8km s-min=33.4km az=48.0*

ISC 26 08:22:28.9±3.7,9°.8S±0°.5×109°.6W±0°.6,h10km,n21, σ0°67/5,mb3.5/5,MS3.6/7,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**27.65**	**238**	*e*LR		LR	08 35 56.7	
	577nm,29.8s							
RKT	**Rikitea**	**27.65**	**238**	*e*T		T	08 58 11.8	
	1.2nm,0.3s							
CMIG	**Matias Romero**	**30.40**	**29**	LR		LR	08 37 45.1	
	comp=Z,222nm,21.6s,baz=204,slow=30							
ATAH	**Atahualpa**	**30.98**	**88**	LR		LR	08 37 26.7	
	comp=Z,139nm,19.4s,baz=256,slow=29							
TXAR	**Lajitas Array**	**39.30**	**8**	P		**P**	**08 29 58.2**	**-0.1**
	0.8nm,1.0s,baz=179,slow=10.0,SNR=5.7							
PPT	**Papeete**	**39.53**	**254**	LR		LR	08 41 14.1	
	comp=Z,65nm,21.6s,baz=154,slow=29							
PPT2	**Papeete2**	**39.53**	**254**	*e*LQ		LQ	08 39 29.9	
	564nm,23.8s							
PPT2				*e*LR		LR	08 41 09.1	
	409nm,27.0s							
TBI	**Tubuai**	**40.36**	**245**	*e*LQ		LQ	08 39 43.5	
	331nm,32.2s							
TBI				*e*LR		LR	08 41 47.5	
	388nm,29.2s,baz=71							
LPAZ	**La Paz**	**40.87**	**104**	P		**P**	**08 30 12.3**	**+0.1**
	1.5nm,0.8s,baz=258,slow=6.3,SNR=4.1							
LPAZ				LR		LR	08 43 17.3	
	comp=Z,90nm,19.6s,baz=254,slow=31							
PFO	**Pinyon Flat Ob**	**43.63**	**352**	LR		LR	08 43 58.8	
	comp=Z,154nm,19.4s,baz=198,slow=30							
NVAR	**Mina Array Bea**	**48.63**	**351**	P		**P**	**08 31 14.1**	**+0.8**
	0.3nm,0.3s,baz=180,slow=9.9,SNR=7.1							
CPUP	**Villa Florida**	**52.01**	**116**	LR		LR	08 49 18.9	
	comp=Z,152nm,21.5s,baz=281,slow=31							
PDAR	**Pinedale Array**	**52.28**	**0**	P		**P**	**08 31 40.6**	**-0.3**
	0.5nm,0.9s,baz=161,slow=5.7,SNR=5.2							
BDFB	**Brasilia**	**60.21**	**102**	LR		LR	08 56 17.5	
	comp=Z,41nm,19.1s,baz=238,slow=34							
ILAR	**Eielson Array**	**79.41**	**345**	P		**P**	**08 34 34.5**	**-0.4**
	0.3nm,1.0s,baz=162,slow=5.2,SNR=3.2							
H11S2	**WAKE ISLAND Hy**	**87.14**	**289**	T		T	10 12 12.6	
	baz=101,slow=75,SNR=294							
H11S1	**WAKE ISLAND Hy**	**87.15**	**289**	T		T	10 12 08.8	
	baz=101,slow=75,SNR=193							
H11S3	**WAKE ISLAND Hy**	**87.16**	**289**	T		T	10 12 23.7	
	baz=101,slow=75,SNR=200							
H11N3	**WAKE ISLAND Hy**	**87.19**	**290**	T		T	10 12 19.1	
	baz=100,slow=74,SNR=44							
H11N2	**WAKE ISLAND Hy**	**87.21**	**290**	T		T	10 12 20.1	
	baz=100,slow=74,SNR=33							
H11N1	**WAKE ISLAND Hy**	**87.21**	**290**	T		T	10 12 16.9	
	baz=100,slow=74,SNR=27							

IDC 26 08:26:39.7±2.4,16°.82S×173°.98W,h0km,mb3.6/6, mb1 3.9/6,mb1mx3.7/19,mbtmp3.6/6,Error ellipse: s-maj=148.3km s-min=23.5km az=146.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**39.91**	**331**	T		T	09 15 18.9	
	baz=150,slow=74,SNR=8.6							
H11S3	**WAKE ISLAND Hy**	**39.92**	**331**	T		T	09 15 20.4	
	baz=150,slow=74,SNR=11							
H11S1	**WAKE ISLAND Hy**	**39.93**	**331**	T		T	09 15 21.1	
	baz=150,slow=74,SNR=7.5							
H11N3	**WAKE ISLAND Hy**	**40.88**	**332**	T		T	09 16 29.5	
	baz=151,slow=76,SNR=27							
H11N1	**WAKE ISLAND Hy**	**40.89**	**332**	T		T	09 16 30.8	
	baz=151,slow=76,SNR=31							
H11N2	**WAKE ISLAND Hy**	**40.90**	**332**	T		T	09 16 30.9	
	baz=151,slow=76,SNR=28							
STKA	**Stephens Creek**	**42.86**	**241**	P		P	08 34 40.2	+0.2
	2.8nm,1.0s,baz=82,slow=14,SNR=3.5							
WRA	**Warramunga Arr**	**48.99**	**258**	P		P	08 35 30.1	+1.5
	0.2nm,0.8s,baz=96,slow=7.8,SNR=3.6							
ASAR	**Alice Springs**	**49.16**	**253**	P		P	08 35 27.9	-2.0
	1.0nm,0.8s,baz=91,slow=8.3,SNR=8.2							
NVAR	**Mina Array Bea**	**75.75**	**42**	P		P	08 38 27.8	0.0
	0.4nm,0.7s,baz=235,slow=8.6,SNR=4.2							
PDAR	**Pinedale Array**	**83.69**	**42**	P		P	08 39 11.1	+0.3
	0.3nm,0.8s,baz=251,slow=2.8,SNR=3.3							
ILAR	**Eielson Array**	**83.94**	**11**	P		P	08 39 11.0	-0.3
	0.1nm,0.5s,baz=223,slow=6.2,SNR=4.7							

*IDC **26** 08:36:02.0±23.0,20°.55S×178°.58W,h652km±254km, mb2.9/6,mb1 3.0/6,mb1mx2.9/19,mbtmp4.0/6,Error ellipse: s-maj=182.7km s-min=28.2km az=53.0*

ISC 26 08:35:55.5±2.4,20°.3S±0.4×178°.3W±0°.3,h587km,n7, σ0°68/7,mb3.6/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.26**	**264**	P		**P**	**08 41 46.5**	**+0.6**
	8.0nm,1.0s,baz=78,slow=9.3,SNR=2.3							
STKA	**Stephens Creek**	**37.65**	**244**	P		**P**	**08 42 21.2**	**-0.7**
	0.7nm,0.5s,baz=72,slow=10,SNR=4.9							
ASAR	**Alice Springs**	**44.32**	**257**	P		**P**	**08 43 14.8**	**-0.1**
	1.7nm,0.8s,baz=96,slow=7.7,SNR=19							
WRA	**Warramunga Arr**	**44.38**	**262**	P		**P**	**08 43 15.3**	**0.0**
	0.5nm,0.5s,baz=96,slow=8.0,SNR=22							
VNDA	**Vanda**	**58.09**	**185**	P		**P**	**08 44 54.0**	**+0.8**
	0.4nm,0.6s,baz=3.2,slow=6.8,SNR=5.8							
QSPA	**South Pole Qui**	**69.78**	**180**	P		**P**	**08 46 07.0**	**-0.5**
	2.2nm,0.9s,baz=312,slow=0.8,SNR=14							
AKASG	**Malin Array Be**	**142.71**	**331**	PKP		**PKPdf**	**08 54 22.4**	**-0.2**
	0.8nm,0.4s,baz=37,slow=3.4,SNR=5.4							

*PGC **26** 08:43:21.7±2.6,49°.95N×130°.22W,h10km,ML3.6/43, Mw4.6,215km Wsw of Pt. Hardy, Bc Vancouver Island Region*

*IDC **26** 08:43:22.0±0.6,50°.03N×130°.15W,h0km,mb4.1/25, mb1 4.3/35,mb1mx4.2/44,mbtmp4.1/35,ML3.9/10, MS3.7/27,Ms1 3.7/27,ms1mx3.7/44,Error ellipse: s-maj=14.4km s-min=8.6km az=50.0*

*BJI **26** 08:43:24.4,50°.10N×129°.80W,h20km,mb5.0/9,mB5.3/6, Ms4.7/3,Ms7 4.6/2*

*ISCJB **26** 08:43:24.7±0.6,50°.16N±0°.02×129°.89W±0°.03,h15km±4km, mb4.4/61,MS3.8/25,Error ellipse: s-maj=3.1km s-min=2.2km az=138.1*

*MOS **26** 08:43:24.6±1.2,50°.14N×129°.97W,h20km,mb4.7/30, Error ellipse: s-maj=10.4km s-min=4.8km az=118.1*

*NEIC **26** 08:43:25.3±0.3,50°.18N×129°.93W,h10km,mb4.6/74, MW4.6(OTT),Error ellipse: s-maj=6.3km s-min=2.6km az=48.0*

ISC 26 08:43:26.9±0.6,50°.12N±0°.04×129°.85W±0°.05,h22km±4km, h22km:pP-P,n774,σ1°03/779,mb4.5/60,MS3.8/25,4C, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.22**	**64**	Pn		**Pn**	**08 43 46.7**	**-2.0**
HOLB						Sn	**08 44 04.2**	**-0.3**
HOLB	**Holberg**	**1.22**	**64**	Pn		**Pn**	**08 43 46.7**	**-2.0**
HOLB						Sn	**08 44 04.2**	**-0.3**
BPBC	**Brooks Peninsu**	**1.34**	**88**	Pn		**Pn**	**08 43 47.5**	**-2.9**
BPBC						Sn	**08 44 05.5**	**-2.0**
BPBC	**Brooks Peninsu**	**1.34**	**88**	Pn		**Pn**	**08 43 47.5**	**-2.9**
BPBC						Sn	**08 44 05.5**	**-2.0**
PHC	**Port Hardy**	**1.66**	**68**	Pn		**Pn**	**08 43 53.0**	**-1.6**
PHC						Sn	**08 44 14.2**	**-0.9**
PHC	**Port Hardy**	**1.66**	**68**	Pn		**Pn**	**08 43 53.0**	**-1.6**
PHC						Sn	**08 44 14.2**	**-0.9**
MAYB	**Maynard**	**1.74**	**80**	Pn		**Pn**	**08 43 53.7**	**-2.3**
MAYB						Sn	**08 44 17.8**	**+0.2**
MAYB	**Maynard**	**1.74**	**80**	Pn		**Pn**	**08 43 53.7**	**-2.3**
MAYB						Sn	**08 44 17.8**	**+0.2**
FHRB	**Fair Harbour**	**1.76**	**91**	Pn		**Pn**	**08 43 53.5**	**-2.6**
FHRB						Sn	**08 44 16.8**	**-0.9**
EDB	**Eliza Dome**	**1.78**	**97**	Pn		Pn	08 43 53.2	-3.2
EDB						Sn	**08 44 15.5**	**-2.7**
EDB	**Eliza Dome**	**1.78**	**97**	Pn		Pn	08 43 53.2	-3.2
EDB						Sn	**08 44 15.5**	**-2.7**
TLCB	**Telegraph Cove**	**1.98**	**76**	Pn		**Pn**	**08 43 57.5**	**-1.6**
TLCB						Sn	**08 44 23.3**	**+0.1**
WOSB	**Woss**	**2.11**	**88**	Pn		**Pn**	**08 43 59.1**	**-1.9**
WOSB	**Woss**	**2.11**	**88**	Pn		**Pn**	**08 43 59.1**	**-1.9**
BBB	**Bella Bella**	**2.34**	**27**	Pn		**Pn**	**08 44 02.6**	**-1.4**
	111nm,0.3s,baz=226,slow=6.2,SNR=1547							
BBB						Sn	**08 44 30.7**	**-1.3**
	158nm,0.3s,baz=308,slow=20,SNR=16							
BBB						LR	LR	08 45 03.8
	comp=Z,1μm,19.8s,baz=286,slow=40							
BBB	**Bella Bella**	**2.34**	**27**	Pn		**Pn**	**08 44 02.7**	**-1.2**
BBB						Sn	**08 44 30.4**	**-1.6**
NCRB	**Newcastle Ridg**	**2.45**	**82**	Pn		**Pn**	**08 44 04.6**	**-1.1**
GDR	**Gold River**	**2.49**	**96**	Pn		**Pn**	**08 44 03.8**	**-2.3**
SPLB	**Strathcona Par**	**2.72**	**93**	Pn		**Pn**	**08 44 07.3**	**-2.0**
BNB	**Barry Inlet**	**2.73**	**335**	Pn		Pn	08 44 04.1	-5.3
BNB						Sn	**08 44 36.1**	**-5.7**
TOFB	**Tofino**	**2.74**	**109**	Pn		**Pn**	**08 44 07.8**	**-1.7**
TOFB						Sn	**08 44 41.1**	**-0.8**
BTB	**Buttle Lake**	**2.88**	**101**	Pn		**Pn**	**08 44 09.4**	**-2.2**
CBB	**Campbell River**	**2.89**	**90**	Pn		**Pn**	**08 44 10.4**	**-1.2**
CBB						Sn	**08 44 45.6**	**-0.1**
MWAB	**Mount Washingt**	**2.96**	**96**	Pn		**Pn**	**08 44 11.3**	**-1.4**
MWAB						Sn	**08 44 46.7**	**-0.9**
BCBC	**Bella Coola**	**2.98**	**40**	Pn		**Pn**	**08 44 13.1**	**+0.3**
BCBC						Sn	**08 44 49.2**	**+1.5**
OZB	**Mount Ozzard**	**3.07**	**111**	Pn		**Pn**	**08 44 11.8**	**-2.3**
OZB						Sn	**08 44 48.4**	**-1.7**
MOBC	**Moresby Island**	**3.30**	**337**	Pn		Pn	08 44 12.9	-4.3
BMSB	**Bamfield Mari**	**3.33**	**111**	Pn		**Pn**	**08 44 17.1**	**-0.6**
B928	**Bamfield**	**3.34**	**111**	Pn		**Pn**	**08 44 17.1**	**-0.5**
ALB	**Alberni**	**3.37**	**103**	Pn		**Pn**	**08 44 16.9**	**-1.2**
B927	**Port Alberni**	**3.40**	**104**	Pn		**Pn**	**08 44 17.8**	**-0.7**
DIB	**Dawson Inlet,**	**3.49**	**333**	Pn		Pn	08 44 14.8	-5.0
H02S1	**DAWSON INLET T**	**3.49**	**333**	Pn		Pn	08 44 14.7	-5.1
TXB	**Texada**	**3.53**	**95**	Pn		**Pn**	**08 44 19.5**	**-0.9**
MGB	**Mount Grey**	**3.54**	**107**	Pn		**Pn**	**08 44 19.4**	**-1.2**
MGB						Sn	**08 45 00.7**	**-1.2**
H02N1	**VAN INLET T-PH**	**3.55**	**333**	Pn		Pn	08 44 15.6	-5.2
VIB	**Van Inlet**	**3.55**	**333**	Pn		Pn	08 44 15.9	-4.9
GHNB	**Nanoose**	**3.74**	**100**	Pn		**Pn**	**08 44 24.2**	**+1.0**
YOUB	**Youbou, Lake C**	**3.84**	**106**	Pn		**Pn**	**08 44 23.9**	**-0.8**
PFB	**Port Renfrew**	**3.87**	**112**	Pn		**Pn**	**08 44 23.8**	**-1.2**
OCP	**Olym-Cheeka Pk**	**3.88**	**116**	Pn		**Pn**	**08 44 24.5**	**-0.8**
SHB	**Sechelt**	**3.90**	**95**	Pn		**Pn**	**08 44 24.7**	**-0.9**
SHB						Sn	**08 45 11.1**	**+0.3**
NLLB	**Nanaimo Lost L**	**3.91**	**101**	Pn		**Pn**	**08 44 25.3**	**-0.3**
BPCB	**Bare Point**	**4.18**	**104**	Pn		**Pn**	**08 44 30.1**	**+0.8**
OFR	**Olym-F Res Ctr**	**4.21**	**119**	Pn		**Pn**	**08 44 29.9**	**+0.2**
LZB	**Mount Lazard**	**4.22**	**109**	Pn		**Pn**	**08 44 29.7**	**-0.3**
LZB						Sn	**08 45 18.7**	**+0.2**
NDB	**Naden**	**4.29**	**335**	Pn		Pn	08 44 27.2	-3.6
BIB	**Bowen Island**	**4.30**	**97**	Pn		**Pn**	**08 44 30.7**	**-0.3**
WPB	**Watts Point**	**4.32**	**94**	Pn		**Pn**	**08 44 31.3**	**0.0**
OBC	**Olympics--Boni**	**4.33**	**117**	Pn		**Pn**	**08 44 31.5**	**0.0**
OBC						Sn	**08 45 23.8**	**+2.5**
OBC	**Olympics--Boni**	**4.33**	**117**	P		**Pn**	**08 44 31.3**	**-0.2**
PGC	**Sidney**	**4.43**	**107**	Pn		**Pn**	**08 44 32.8**	**+0.1**
PGC	**Sidney**	**4.43**	**107**	*e*Pn		**Pn**	**08 44 33.0**	**+0.2**
PGC				*e*Sn		**Sn**	**08 45 25.8**	**+2.1**
WSLR	**Whistler**	**4.46**	**87**	Pn		**Pn**	**08 44 33.8**	**+0.6**
UBRB	**Upper Baezaeko**	**4.55**	**50**	Pn		**Pn**	**08 44 35.5**	**+1.1**
UBRB						Sn	**08 45 29.0**	**+2.3**
SNB	**Saturna Island**	**4.56**	**105**	Pn		**Pn**	**08 44 34.7**	**+0.1**
VGZ	**Gonzales**	**4.60**	**109**	Pn		**Pn**	**08 44 35.8**	**+0.6**
OSD	**Olympics--Snow**	**4.66**	**117**	Pn		**Pn**	**08 44 35.9**	**-0.2**
OSD	**Olympics--Snow**	**4.66**	**117**	P		**Pn**	**08 44 36.6**	**+0.5**
HNB	**Haney**	**4.80**	**97**	Pn		**Pn**	**08 44 38.0**	**+0.2**
HNB						Sn	**08 45 32.5**	**-0.1**
MCW	**Mount Constitu**	**4.81**	**105**	Pn		**Pn**	**08 44 38.0**	**0.0**
NLWA	**Neilton Lookou**	**4.81**	**122**	*e*Pn		**Pn**	**08 44 37.7**	**-0.3**
NLWA				*e*Sn		**Sn**	**08 45 37.2**	**+4.2**
SQM	**Sequim**	**4.92**	**112**	Pn		**Pn**	**08 44 40.6**	**+1.2**
BLN	**Blyn Mountain**	**4.99**	**112**	Pn		**Pn**	**08 44 40.4**	**-0.2**
BLN	**Blyn Mountain**	**4.99**	**112**	P		**Pn**	**08 44 40.6**	**0.0**
WISH	**Wishkah**	**5.03**	**124**	Pn		**Pn**	**08 44 41.4**	**+1.4**
SVOH	**Skagit Valley**	**5.08**	**108**	Pn		**Pn**	**08 44 42.8**	**+1.2**
HDW	**Hoodsport**	**5.12**	**116**	Pn		**Pn**	**08 44 42.7**	**+0.3**
LLLB	**Lillooet**	**5.13**	**81**	Pn		**Pn**	**08 44 41.9**	**-0.4**
SMW	**South Mountain**	**5.14**	**121**	Pn		**Pn**	**08 44 43.2**	**+0.7**
VDB	**Vedder Mountai**	**5.16**	**99**	Pn		**Pn**	**08 44 43.4**	**+0.5**
VDB	**Vedder Mountai**	**5.16**	**99**	P		**Pn**	**08 44 43.3**	**+0.5**
A05A	**Maple Falls**	**5.18**	**100**	Pn		**Pn**	**08 44 43.8**	**+0.7**
A05A						Sn	**08 45 42.1**	**+0.1**
GNW	**Green Mountain**	**5.30**	**116**	Pn		**Pn**	**08 44 44.1**	**-0.6**
CMW	**Cultus Mountai**	**5.34**	**106**	Pn		**Pn**	**08 44 46.1**	**+0.8**
MBW	**Mount Baker**	**5.36**	**101**	Pn		**Pn**	**08 44 46.3**	**+0.6**
MBW	**Mount Baker**	**5.36**	**101**	P		**Pn**	**08 44 46.1**	**+0.5**
E03A	**Lebam**	**5.51**	**128**	Pn		**Pn**	**08 44 47.5**	**-0.1**
E03A	**Lebam**	**5.51**	**128**	*e*Pn		**Pn**	**08 44 49.0**	**+1.4**
HOPB	**Hope**	**5.52**	**94**	Pn		**Pn**	**08 44 48.1**	**+0.5**
FSB	**Fort Saint Jam**	**5.52**	**36**	Pn		**Pn**	**08 44 46.8**	**-0.9**
JCW	**Jim Creek**	**5.54**	**107**	Pn		**Pn**	**08 44 49.0**	**+0.9**
B06A	**Marblemount**	**5.70**	**103**	Pn		**Pn**	**08 44 51.3**	**+1.1**
B06A	**Marblemount**	**5.70**	**103**	*e*Pn		**Pn**	**08 44 50.9**	**+0.7**
RPW	**Rockport**	**5.71**	**104**	Pn		**Pn**	**08 44 51.0**	**+0.6**
CRAG	**Craig**	**5.71**	**341**	*e*Pn		**Pn**	**08 44 48.0**	**-2.3**
ELW	**Echo Lake**	**5.89**	**113**	Pn		**Pn**	**08 44 53.9**	**+1.1**
C05A	**Tolt Reservoir**	**5.91**	**111**	Pn		**Pn**	**08 44 54.5**	**+1.5**
D05A	**Enumclaw**	**5.98**	**116**	Pn		**Pn**	**08 44 55.1**	**+1.0**
D05A	**Enumclaw**	**5.98**	**116**	*e*Pn		**Pn**	**08 44 55.8**	**+1.8**
GPW	**Glacier Peak**	**6.06**	**106**	Pn		**Pn**	**08 44 56.3**	**+0.8**
F04D	**Rainier, OR**	**6.11**	**129**	P		**Pn**	**08 44 57.0**	**+1.2**
	baz=6.2							
FMW	**Mount Fremont**	**6.30**	**117**	Pn		**Pn**	**08 44 59.6**	**+1.0**
LON	**Longmire**	**6.33**	**119**	Pn		**Pn**	**08 45 00.1**	**+1.3**
WRAK	**Wrangell Islan**	**6.48**	**348**	*e*Pn		**Pn**	**08 44 59.8**	**-1.1**
G03D	**McMinnville, O**	**6.63**	**135**	P		**Pn**	**08 45 04.1**	**+1.2**
	baz=6.7							
TWW	**Teanaway**	**6.66**	**113**	P		**Pn**	**08 45 05.5**	**+2.0**
PNT	**Penticton**	**6.69**	**93**	Pn		**Pn**	**08 45 04.2**	**+0.5**
LTY	**Liberty**	**6.72**	**112**	Pn		**Pn**	**08 45 05.5**	**+1.3**
B08A	**Colville Reser**	**7.11**	**100**	P		**Pn**	**08 45 09.8**	**+0.2**
DOWB	**Downie Slide**	**7.32**	**75**	P		**Pn**	**08 45 14.3**	**+1.8**
SLEB	**Sale Mountain**	**7.53**	**78**	P		**Pn**	**08 45 17.4**	**+1.9**
G05D	**Wamic, OR**	**7.55**	**127**	P		**Pn**	**08 45 17.0**	**+1.3**
	baz=7.6,SNR=5.3							
I03D	**Drain, OR**	**7.82**	**143**	P		**Pn**	**08 45 20.4**	**+1.2**
	baz=7.8							
HAWA	**Hanford**	**7.83**	**115**	*e*Pn		**Pn**	**08 45 19.9**	**+0.4**
D08A	**Wollman Farm,**	**7.87**	**109**	*e*Pn		**Pn**	**08 45 19.9**	**-0.1**
C09A	**Chrisman Ranch**	**7.97**	**103**	P		**Pn**	**08 45 21.3**	**-0.1**
I04A	**Tendick Farm,**	**8.12**	**138**	P		**Pn**	**08 45 24.6**	**+1.2**
	baz=8.1							
I05D	**Terrebonne, OR**	**8.19**	**132**	P		**Pn**	**08 45 25.1**	**+0.7**
	baz=8.2							
WAPA	**Wapiti River**	**8.20**	**48**	P		**Pn**	**08 45 26.4**	**+2.0**
DLBC	**Dease Lake**	**8.33**	**359**	Pn		**Pn**	**08 45 26.9**	**+0.5**
	0.9nm,0.3s,baz=191,slow=12,SNR=37							
DLBC						Sn	**08 46 59.5**	**-0.2**
	0.1nm,0.3s,baz=234,slow=18,SNR=1.5							
DLBC						LR	08 48 26.0	
	comp=Z,860nm,18.2s,baz=194,slow=36							
DLBC	**Dease Lake**	**8.33**	**359**	P		**Pn**	**08 45 26.8**	**+0.5**
DLBC	**Dease Lake**	**8.33**	**359**	*e*Pn		**Pn**	**08 45 26.8**	**+0.5**
DLBC						Sn	**08 46 59.5**	**-0.2**
DLBC				*e*Sn		**Sn**	**08 47 01.3**	**+1.6**
NEW	**Newport**	**8.54**	**98**	Pn		**Pn**	**08 45 29.5**	**+0.2**
	1.2nm,0.3s,baz=293,slow=11,SNR=23							
NEW						Sn	**08 47 03.2**	**-1.7**
	0.1nm,0.3s,baz=84,slow=17,SNR=1.9							
NEW	**Newport**	**8.54**	**98**	P		**Pn**	**08 45 29.5**	**+0.2**
NEW							08 47 03.3	
NEW				pmax		pmax		
	comp=Z,1.0nm,0.3s							
NEW	**Newport**	**8.54**	**98**	P		**Pn**	**08 45 30.6**	**+1.3**
	baz=8.7,SNR=19							
NEW	**Newport**	**8.54**	**98**	*e*Pn		**Pn**	**08 45 28.9**	**-0.3**
J04D	**Umpqua Nationa**	**8.70**	**139**	P		**Pn**	**08 45 32.8**	**+1.3**
	baz=8.7,SNR=6.6							
G08A	**Pilot Rock**	**8.79**	**119**	*e*Pn		**Pn**	**08 45 33.6**	**+0.9**
J05D	**Fort Rock, OR**	**9.04**	**136**	P		**Pn**	**08 45 37.9**	**+1.7**
	baz=9.1,SNR=20							
L02D	**Cave Junction,**	**9.07**	**149**	P		**Pn**	**08 45 38.0**	**+1.5**
	baz=9.0							
K05A	**Summer Lake**	**9.64**	**137**	*e*Pn		**Pn**	**08 45 47.0**	**+2.7**
FNBB	**Fort Nelson**	**9.64**	**22**	P		**Pn**	**08 45 43.9**	**-0.3**
YBH	**Yreka Blue Hor**	**9.75**	**147**	Pn		**Pn**	**08 45 47.5**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=339,slow=7.7,SNR=20							
YBH				LR		LR	08 49 05.6	
	comp=Z,1μm,18.8s,baz=338,slow=35							
YBH	**Yreka Blue Hor**	**9.75**	**147**	*e*P		**Pn**	**08 45 49.0**	**+3.1**
YBH	**Yreka Blue Hor**	**9.75**	**147**	*e*Pn		**Pn**	**08 45 49.0**	**+3.1**
M02C	**Callahan**	**10.00**	**148**	P		**Pn**	**08 45 50.3**	**+1.0**
	baz=10.0							
M04C	**Macdoel**	**10.03**	**143**	P		**Pn**	**08 45 51.1**	**+1.4**
	baz=10.0							
PLBC	**Pleasant Camp**	**10.07**	**341**	P		**Pn**	**08 45 49.7**	**-0.4**
BSMT	**Bassoo Peak**	**10.16**	**97**	*e*Pn		**Pn**	**08 45 51.8**	**+0.3**
WALA	**Waterton Lakes**	**10.41**	**90**	P		**Pn**	**08 45 56.1**	**+1.2**
WALA	**Waterton Lakes**	**10.41**	**90**	*e*Pn		**Pn**	**08 45 55.9**	**+1.0**
N02D	**Trinity Center**	**10.43**	**149**	P		**Pn**	**08 45 56.2**	**+1.1**
	baz=10							
YBMT	**Yellow Bay**	**10.65**	**96**	*e*Pn		**Pn**	**08 45 58.9**	**+0.6**
WVOR	**Wild Horse Val**	**10.92**	**130**	*e*P		**Pn**	**08 46 03.7**	**+1.8**
WVOR	**Wild Horse Val**	**10.92**	**130**	*e*Pn		**Pn**	**08 46 03.7**	**+1.8**
WHY	**Whitehorse**	**10.94**	**347**	P		**Pn**	**08 46 00.5**	**-1.5**
MSO	**Missoula**	**11.06**	**101**	P		**Pn**	**08 46 04.2**	**+0.3**
	baz=11,SNR=12							
MSO	**Missoula**	**11.06**	**101**	*e*Pn		**Pn**	**08 46 04.0**	**+0.2**
SLMT	**Seeley Lake**	**11.19**	**99**	*e*Pn		**Pn**	**08 46 05.5**	**-0.2**
CHMT	**Chamberlain Mo**	**11.47**	**100**	*e*Pn		**Pn**	**08 46 10.2**	**+0.7**
HYT	**Haines Junctio**	**11.56**	**341**	P		**Pn**	**08 46 12.5**	**+1.9**
HYT	**Haines Junctio**	**11.56**	**341**	*e*Pn		**Pn**	**08 46 11.3**	**+0.7**
MFID	**Camas Ranch**	**11.72**	**120**	*e*Pn		**Pn**	**08 46 13.6**	**+0.8**
LRM	**Limekiln Ridge**	**12.43**	**104**	*e*Pn		**Pn**	**08 46 22.8**	**+0.2**
HLID	**Hailey**	**12.43**	**116**	P		**Pn**	**08 46 23.9**	**+1.4**
	baz=12,SNR=38							
HLID	**Hailey**	**12.43**	**116**	*e*Pn		**Pn**	**08 46 23.6**	**+1.0**
HRY	**Holter Researc**	**12.45**	**99**	*e*Pn		**Pn**	**08 46 23.4**	**+0.6**
DLMT	**Dillon**	**12.55**	**106**	*e*Pn		**Pn**	**08 46 24.4**	**+0.2**
MCMT	**McKenzie Can

I20A	**Worland**	16.02	104	P		Pn	08 47	12.3	+1.5
	baz=16,SNR=32								
LAO	**LASA Array**	16.05	93	P		Pn	08 47	12.2	+1.2
	baz=16,SNR=22								
LAO	**LASA Array**	16.05	93	*e*Pn		Pn	08 47	11.7	+0.6
	comp=Z,42nm,0.9s								
DHY	**Denali Highway**	16.09	330	*e*P		P	08 47	16.1	+1.3
	comp=Z,16nm,1.0s								
CWC	**Cottonwood Cre**	16.11	144	P		Pn	08 47	13.0	+0.9
	baz=16,SNR=9.8								
CTLN	**Castor Lake**	16.11	22	P		P	08 47	24.6	+10
NLU	**North Lily Min**	16.12	122	*e*Pn		Pn	08 47	12.8	+0.6
	comp=Z,30nm,0.9s								
VES	**Vestal, Richgr**	16.28	147	P		Pn	08 47	14.4	+0.4
	baz=16								
E22A	**Miles City**	16.31	94	P		Pn	08 47	15.8	+1.3
	baz=16								
J20A	**Shoshoni**	16.35	106	P		Pn	08 47	15.6	+0.5
	baz=16,SNR=33								
F22A	**Rosebud**	16.37	96	P		Pn	08 47	15.3	+0.1
	baz=16,SNR=7.2								
H21A	**Big Horn, Sher**	16.37	101	P		Pn	08 47	16.0	+0.7
	baz=16,SNR=8.0								
TPNV	**Topopah Spring**	16.42	138	P		Pn	08 47	16.9	+1.0
	baz=16,SNR=45								
DAC	**Darwin (Calif)**	16.44	143	*e*P		Pn	08 47	16.9	+0.6
DAC				pmax		pmax			
	comp=Z,41nm,1.3s								
DAC	**Darwin (Calif)**	16.44	143	*e*Pn		Pn	08 47	16.9	+0.6
	comp=Z,41nm,1.3s								
SMMC	**Simmler**	16.45	150	P		Pn	08 47	17.4	+1.0
	baz=16								
FURC	**Furnace Creek,**	16.57	141	P		P	08 47	19.2	-0.9
	baz=17								
G22A	**Birney**	16.58	98	P		Pn	08 47	18.0	+0.1
	baz=17								
I21A	**Big Trails, Te**	16.61	104	P		Pn	08 47	18.7	+0.3
	baz=17,SNR=14								
ISA	**Isabella**	16.65	146	*e*P		P	08 47	20.4	-0.7
ISA	**Isabella**	16.65	146	P		Pn	08 47	19.7	+0.8
	baz=17,SNR=17								
ISA	**Isabella**	16.65	146	*e*Pn		P	08 47	20.4	-0.7
MPMC	**Manual Prospec**	16.67	143	P		Pn	08 47	20.2	+0.9
	baz=17,SNR=29								
E23A	**Ismay**	16.70	93	P		Pn	08 47	20.0	+0.6
	baz=17,SNR=11								
J21A	**Lysite**	16.75	105	P		Pn	08 47	21.2	+0.9
	baz=17,SNR=13								
H22A	**Clearmont**	16.82	100	P		Pn	08 47	21.2	+0.2
	baz=17,SNR=7.2								
PKM	**Peak Mountain**	16.89	150	P		P	08 47	23.5	-0.4
	baz=17								
C24A	**Savage**	16.92	89	P		Pn	08 47	22.5	+0.4
	baz=17								
F23A	**Volborg**	16.94	96	P		Pn	08 47	22.6	+0.2
	baz=17,SNR=32								
ARVC	**Arvin**	17.01	148	P		P	08 47	24.5	-0.5
	baz=17								
MCK	**McKinley**	17.05	330	*e*P		Pn	08 47	23.5	-0.2
MCK				pmax		pmax			
	comp=Z,17nm,1.1s								
MCK	**McKinley**	17.05	330	*e*Pn		Pn	08 47	23.5	-0.2
	comp=Z,17nm,1.1s								
TMUT	**Trail Mountain**	17.06	122	*e*Pn		Pn	08 47	25.2	+1.0
	comp=Z,14nm,0.9s								
I22A	**9 Mile Ranch,**	17.08	102	P		Pn	08 47	24.8	+0.6
	baz=17,SNR=26								
MVU	**Marysvale**	17.11	126	*e*Pn		Pn	08 47	25.6	+0.9
	comp=Z,36nm,1.4s								
D24A	**Glendive**	17.12	90	P		Pn	08 47	24.8	+0.2
	baz=17,SNR=25								
MSU	**Marysvale**	17.12	126	*e*P		Pn	08 47	25.7	+0.8
MSU				pmax		pmax			
	comp=Z,42nm,1.3s								
MSU	**Marysvale**	17.12	126	*e*Pn		Pn	08 47	25.7	+0.8
	comp=Z,42nm,1.3s								
G23A	**Biddle**	17.17	97	P		Pn	08 47	25.5	+0.2
	baz=17,SNR=12								
ILAR	**Eielson Array**	17.21	335	Pn		Pn	08 47	24.6	-1.1
	comp=Z,0.1nm,0.3s,baz=149,slow=11,SNR=11								
ILAR				LR		LR	08 54	12.3	
	comp=Z,194nm,19.0s,baz=151,slow=38								
CCUT	**Cedar City**	17.25	130	*e*Pn		Pn	08 47	26.3	-0.3
	comp=Z,50nm,1.5s								
SHPR	**Sheep Range**	17.26	136	*e*Pn		P	08 47	27.8	-0.2
SHOC	**Shoshone**	17.30	140	P		P	08 47	28.5	+0.3
	baz=17,SNR=10								
TRF	**Thorofare Moun**	17.31	328	*e*P		P	08 47	28.0	-0.3
J22A	**Midwest**	17.32	104	P		Pn	08 47	27.8	+0.4
	baz=18,SNR=20								
E24A	**Baker**	17.32	92	P		Pn	08 47	27.7	+0.5
	baz=18,SNR=9.1								
SBC	**Santa Barbara**	17.35	151	P		P	08 47	28.4	-0.4
	baz=17								
A25A	**Svangstu Ranch**	17.37	84	P		P	08 47	28.5	-0.4
	baz=18,SNR=9.2								
CCB	**Clear Creek Bu**	17.38	334	*e*Pn		P	08 47	29.6	+0.8
	comp=Z,133nm,2.7s								
H23A	**Clabaugh Cattl**	17.44	99	P		Pn	08 47	28.7	-0.1
	baz=18								
F24A	**Ekalaka**	17.51	94	P		P	08 47	30.2	-0.4
	baz=18,SNR=34								
OSI	**Osito Adit**	17.51	148	P		P	08 47	31.0	+0.4
	baz=18								
B25A	**Knox Farm, Ray**	17.51	86	P		P	08 47	30.4	-0.1
	baz=18								
EDW2	**Edwards Air Fo**	17.53	146	P		P	08 47	30.7	-0.2
	baz=18								
FFC	**Flin Flon**	17.55	64	*e*P		Pn	08 47	30.2	+0.2
FFC				pmax		pmax			
	comp=Z,33nm,0.9s								
FFC	**Flin Flon**	17.55	64	*e*P		Pn	08 47	30.2	+0.2
	comp=Z,33nm,0.9s								
COLA	**College**	17.56	334	*e*P		P	08 47	30.9	+0.1
COLA				pmax		pmax			
	comp=Z,13nm,1.2s								
COLA	**College**	17.56	334	*e*P		P	08 47	30.9	+0.1
	comp=Z,13nm,1.2s								
SNLN	**Sandy Lake, NW**	17.56	35	P		Pn	08 47	28.1	-1.8
SRU	**San Rafael**	17.57	121	*e*P		P	08 47	32.0	+0.6
SRU				pmax		pmax			
	comp=Z,31nm,1.0s								
SRU	**San Rafael**	17.57	121	*e*Pn		P	08 47	32.0	+0.6
	comp=Z,31nm,1.0s								
GSC	**Goldstone**	17.60	142	*e*P		P	08 47	32.7	+1.0
GSC				pmax		pmax			
	comp=Z,154nm,2.5s								
GSC	**Goldstone**	17.60	142	P		P	08 47	33.2	+1.5
	baz=18,SNR=11								
GSC	**Goldstone**	17.60	142	*e*P		P	08 47	32.7	+1.0
	comp=Z,154nm,2.5s								
C25A	**Freed Ranch, W**	17.61	88	P		P	08 47	32.1	+0.4
	baz=18,SNR=8.5								
PPLA	**Purkeypile**	17.64	325	*e*P		P	08 47	31.4	-0.5
	comp=Z,25nm,1.3s								
I23A	**Meade Ranch, G**	17.69	101	P		Pn	08 47	32.2	+0.4
	baz=18								
K22A	**Casper**	17.70	106	P		P	08 47	33.7	+0.9
	baz=18,SNR=15								
K22A	**Casper**	17.70	106	*e*P		P	08 47	34.2	+1.4
	comp=Z,45nm,1.2s								
G24A	**Alzada**	17.73	96	P		Pn	08 47	32.3	-0.1
	baz=18								
GDLN	**Gardenia Lake,**	17.74	39	P		Pn	08 47	32.1	-0.1
D25A	**Fairfield**	17.75	89	P		P	08 47	33.4	+0.2
	baz=18,SNR=14								
BSC	**Santa Cruz Isl**	17.78	151	P		P	08 47	33.9	+0.3
	baz=18								
TUQ	**Turquoise Moun**	17.84	140	P		P	08 47	35.0	+0.6
	baz=18,SNR=5.1								
H24A	**Dirks Ranch, A**	17.90	98	P		Pn	08 47	34.3	-0.1
	baz=18,SNR=28								
J23A	**Dilts Ranch, B**	17.91	103	P		P	08 47	35.5	+0.4
	baz=18								
CAST	**Castle Rocks**	17.91	326	*e*Pn		Pn	08 47	34.4	0.0
	comp=Z,28nm,1.4s								
E25A	**Miller Ranch,**	17.93	91	P		P	08 47	35.7	+0.5
	baz=18,SNR=51								
BPAW	**Bear Paw Mtn.**	17.97	329	*e*P		Pn	08 47	35.0	0.0
	comp=Z,14nm,1.0s								
DECC	**Green Verdugo**	17.98	148	P		P	08 47	36.6	+0.8
	baz=18								
A26A	**Wade Farm, Ken**	18.07	83	P		P	08 47	36.9	+0.2
	baz=18,SNR=6.7								
B26A	**Jensen Ranch,**	18.08	85	P		P	08 47	37.3	+0.5
	baz=18								
SVW2	**Sparrevohn**	18.08	317	*e*Pn		Pn	08 47	33.0	-3.4
	comp=Z,25nm,1.0s								
MWC	**Mount Wilson**	18.10	147	*e*P		P	08 47	37.5	+0.3
MWC				pmax		pmax			
	comp=Z,20nm,1.1s								
MWC	**Mount Wilson**	18.10	147	*e*P		P	08 47	37.5	+0.3
	comp=Z,20nm,1.1s								
F25A	**Bowman**	18.11	93	P		P	08 47	37.4	+0.3
	baz=18,SNR=9.0								
O20A	**White River Ci**	18.17	115	P		P	08 47	38.5	+0.5
	baz=18,SNR=27								
O20A	**White River Ci**	18.17	115	*e*P		P	08 47	38.2	+0.2
	comp=Z,224nm,1.9s								
K23A	**Bowen Ranch, D**	18.20	105	P		P	08 47	38.6	+0.3
	baz=18								
HEC	**Hector,Ludlow**	18.20	142	P		P	08 47	39.0	+0.8
	baz=18,SNR=17								
I24A	**Kuemmerle Ranc**	18.27	100	P		Pn	08 47	39.0	+0.1
	baz=18								
C26A	**Wahner Farm, P**	18.33	86	P		Pn	08 47	40.0	+0.5
	baz=18,SNR=5.3								
INK	**Inuvik**	18.33	356	P		P	08 47	38.5	-0.8
	comp=Z,0.1nm,0.3s,baz=162,slow=13,SNR=15								
INK				LR		LR	08 54	10.5	
	comp=Z,252nm,19.1s,baz=183,slow=35								
INK	**Inuvik**	18.33	356	*e*P		Pn	08 47	39.7	+0.3
INK				pmax		pmax			
	comp=Z,15nm,1.2s								
INK	**Inuvik**	18.33	356	P		P	08 47	38.1	-1.2
INK	**Inuvik**	18.33	356	*e*P		Pn	08 47	39.7	+0.3
	comp=Z,15nm,1.2s								
D26A	**Manning**	18.36	89	P		Pn	08 47	40.5	+0.5
	baz=18,SNR=16								
G25A	**Newell**	18.43	95	P		Pn	08 47	41.0	+0.1
	baz=19,SNR=11								
BBRC	**Big Bear Solar**	18.48	144	P		Pn	08 47	42.2	+0.6
	baz=18,SNR=6.7								
FMP	**Fort Macarthur**	18.48	148	P		Pn	08 47	42.5	+1.1
	baz=18								
LDFC	**Landfair**	18.49	139	*e*P		P	08 47	41.7	+0.2
	comp=Z,38nm,0.9s								
J24A	**Dixon Ranch, L**	18.50	102	P		Pn	08 47	42.4	+0.6
	baz=19,SNR=9.3								
RSSD	**Black Hills**	18.52	99	*e*P		Pn	08 47	42.6	+0.5
RSSD				pmax		pmax			
	comp=Z,11nm,0.9s								
RSSD	**Black Hills**	18.52	99	*e*P		Pn	08 47	42.6	+0.5
	comp=Z,11nm,0.9s								
GMRC	**Granite Mounta**	18.52	141	P		Pn	08 47	42.7	+0.7
	baz=18,SNR=14								
JERN	**Jeri Cho Mine,**	18.54	24	P		Pn	08 47	50.0	+8.0
E26A	**Carlson Angus**	18.54	91	P		Pn	08 47	42.5	+0.4
	baz=19,SNR=30								
A27A	**Ledoux Ranch,**	18.56	83	P		Pn	08 47	43.0	+0.6
	baz=19								
H25A	**Fruitdale**	18.57	97	P		Pn	08 47	42.5	0.0
	baz=19,SNR=28								
F26A	**Lodgepole**	18.64	93	P		Pn	08 47	44.0	+0.6
	baz=19,SNR=14								
B27A	**Peters Farms,**	18.70	84	P		Pn	08 47	44.7	+0.7
	baz=19								
CIS	**Catalina Islan**	18.72	149	P		Pn	08 47	44.9	+0.5
	baz=19								
K24A	**Anderson Ranch**	18.72	104	P		P	08 47	44.2	+0.1
	baz=19								
C27A	**Sayler Ranch,**	18.74	86	P		Pn	08 47	44.9	+0.4
	baz=19								
G26A	**Maurine**	18.91	94	P		Pn	08 47	46.9	+0.2
	baz=19,SNR=12								
D27A	**Center**	18.92	88	P		Pn	08 47	46.8	0.0
	baz=19								
NEE2	**Needles Airpor**	18.96	138	P		Pn	08 47	47.9	+0.6
	baz=19								
MURC	**Murrieta**	18.96	146	P		Pn	08 47	47.9	+0.6
	baz=19								
PV04	**Paradox Valley**	18.97	120	*e*P		Pn	08 47	47.8	+0.3
J25A	**Sunshine Ranch**	19.02	101	P		Pn	08 47	47.7	-0.3
	baz=19								
F27A	**Lemmon**	19.05	92	P		P	08 47	47.9	+0.4
	baz=19,SNR=13								
N23A	**Red Feather La**	19.06	110	P		Pn	08 47	49.1	+0.4
	baz=19,SNR=12								
BELC	**Belle Mtn. Jos**	19.06	142	P		Pn	08 47	48.9	+0.3
	baz=19,SNR=14								
SCI	**San Clemente I**	19.07	150	P		Pn	08 47	48.6	0.0
	baz=19								
H26A	**Fairpoint**	19.09	96	P		Pn	08 47	49.3	+0.4
	baz=19,SNR=24								
PHWY	**Pilot Hill**	19.11	108	*e*P		P	08 47	49.0	+0.5
	comp=Z,20nm,0.9s								
E27A	**Carson**	19.14	90	P		Pn	08 47	49.7	+0.3
	baz=19,SNR=14								
A28A	**Rude Farm, Bot**	19.20	82	P		Pn	08 47	50.4	+0.3
	baz=19								
PFO	**Pinyon Flat Ob**	19.23	144	P		P	08 47	48.8	-0.9
	comp=Z,0.2nm,0.3s,baz=332,slow=9.3,SNR=6.8								
PFO	**Pinyon Flat Ob**	19.23	144	*e*P		P	08 47	49.2	-0.4
PFO				pmax		pmax			
	comp=Z,14nm,1.3s								
PFO	**Pinyon Flat Ob**	19.23	144	P		Pn	08 47	51.3	+0.6
	baz=19								
PFO	**Pinyon Flat Ob**	19.23	144	*e*P		P	08 47	49.2	-0.4
	comp=Z,14nm,1.3s								
B28A	**Dugan Ranch, T**	19.26	84	P		Pn	08 47	50.9	+0.2
	baz=19,SNR=15								
IRM	**Iron Mountain**	19.26	140	P		Pn	08 47	51.0	+0.1
	baz=19								
I26A	**New Underwood**	19.31	98	P		Pn	08 47	51.7	+0.3
	baz=20,SNR=7.8								
G27A	**Dupree**	19.31	93	P		Pn	08 47	51.1	-0.4
	baz=20,SNR=21								
PV01	**Paradox Valley**	19.34	120	*e*P		Pn	08 47	51.7	-0.4
K25A	**Mack Ranch, Ha**	19.37	103	P		Pn	08 47	52.3	0.0
	baz=20								
C28A	**Hasauer Farms**	19.46	86	P		Pn	08 47	53.1	0.0
	baz=20								
D28A	**Regan**	19.51	87	P		Pn	08 47	53.7	-0.1
	baz=20								
J26A	**Sides Ranch, S**	19.52	100	P		Pn	08 47	53.9	0.0
	baz=20,SNR=18								
H27A	**Howes**	19.53	96	P		Pn	08 47	54.0	-0.1
	baz=20,SNR=14								
SMCO	**Snowmass**	19.53	115	*e*P		Pn	08 47	54.2	-0.3
	comp=Z,47nm,1.1s								
L25A	**Empbretsen Ra**	19.56	104	P		Pn	08 47	54.3	-0.2
	baz=20								
PDMCI	**Parker Dam,Lak**	19.57	138	P		Pn	08 47	54.8	+0.3
	baz=20,SNR=10.0								
BC3	**Big Chuckawall**	19.58	142	P		Pn	08 47	55.2	+0.4
	baz=20								
109C	**Camp Elliot, M**	19.64	146	P		Pn	08 47	55.8	+0.4
	baz=20								
E28A	**Huff**	19.64	89	P		Pn	08 47	54.9	-0.5
	baz=20								
K26A	**Motz Farm, Whi**	19.76	102	P		Pn	08 47	56.9	0.0
	baz=20,SNR=9.2								
I27A	**Quinn**	19.80	97	P		Pn	08 47	57.1	-0.2
	baz=20,SNR=16								
WUAZ	**Wupatki**	19.84	130	P		Pn	08 47	57.4	-0.6
	baz=20,SNR=16								
WUAZ	**Wupatki**	19.84	130	*e*P		Pn	08 47	57.5	-0.4
	comp=Z,23nm,0.9s								
F28A	**McLaughlin**	19.85	91	P		Pn	08 47	57.3	-0.5
	baz=20,SNR=9.8								
A29A	**Manning Farm,**	19.85	82	P		Pn	08 47	57.0	-0.8
	baz=20,SNR=20								
Y12C	**Blythe**	19.88	140	P		Pn	08 47	57.8	-0.4
	baz=20,SNR=5.8								
MONP	**Monument Peak**	19.89	145	P		P	08 47	57.2	+0.3
	baz=20								
B29A	**Wagenman Farm,**	19.90	83	P		Pn	08 47	57.8	-0.6
	baz=20								
M25A	**Palm-Egli Farm**	19.90	106	P		Pn	08 47	58.2	-0.4
	baz=20,SNR=9.2								
MDND	**Maddock**	19.92	85	P		P	08 47	57.5	+0.6
	baz=20								
MDND	**Maddock**	19.92	85	*e*P		Pn	08 47	58.8	+0.1
	comp=Z,133nm,1.5s								
ISCO	**Idaho Springs**	19.93	112	*e*P		Pn	08 47	58.5	-0.7
ISCO				pmax		pmax			
	comp=Z,14nm,1.0s								
ISCO	**Idaho Springs**	19.93	112	P		P	08 47	58.2	+0.7
	baz=20,SNR=16								
ISCO	**Idaho Springs**	19.93	112	*e*P		Pn	08 47	58.5	-0.7
	comp=Z,14nm,1.0s								
COLD	**Coldfoot**	19.97	337	*e*Pn		Pn	08 47	60.0	+0.9
	comp=Z,26nm,1.3s								
BAR	**Barrett**	19.98	146	*e*P		P	08 47	58.8	+1.0
	comp=Z,49nm,1.8s								
MVCO	**Mesa Verde**	20.04	122	P		P	08 47	59.1	+0.6
	baz=20,SNR=38								
MVCO	**Mesa Verde**	20.04	122	*e*P		P	08 47	59.4	+0.8
	comp=Z,776nm,2.6s								
SWSC	**Sam W. Stewart**	20.08	143	P		Pn	08 48	00.3	-0.3
	baz=20								
G28A	**Parade**	20.09	93	P		Pn	08 48	00.3	-0.4
	baz=20,SNR=10								
IM04	**Indian Mountai**	20.10	331	*e*P		P	08 47	59.0	+0.3
L26A	**Underwood Farm**	20.18	103	P		P	08 48	00.3	+0.4
	baz=20								
D29A	**Pettibone, Tap**	20.18	87	P		P	08 48	00.1	+0.3
	baz=20								
H28A	**Mission Ridge**	20.19	95	P		P	08 48	00.6	+0.6
	baz=20								
IBP	**Imperial Bould**	20.21	144	P		P	08 48	01.3	+1.0
	baz=20								
J27A	**Elkhorn Farm,**	20.22	99	P		Pn	08 48	01.9	-0.5
	baz=20,SNR=22								
E29A	**Napoleon**	20.32	88	P		P	08 48	02.3	+1.0
	baz=20								
K27A	**Flueckinger Fa**	20.35	101	P		Pn	08 48	03.3	-0.6
	baz=20,SNR=12								
GLA	**Glamis**	20.36	141	*e*P		P	08 48	02.9	+1.1
GLA				pmax		pmax			
	comp=Z,18nm,0.9s								
GLA	**Glamis**	20.36	141	P		P	08 48	02.7	+0.9
	baz=20								
GLA	**Glamis**	20.36	141	*e*P		P	08 48	02.9	+1.1
	comp=Z,18nm,0.9s								
I28A	**Midland**	20.40	96	P		Pn	08 48	03.4	-1.0
	baz=20,SNR=20								
A30A	**Hoffart Farm,**	20.44	81	P		P	08 48	02.9	+0.3
	baz=21								
M26A	**McRoberts Ranc**	20.45	105	P		P	08 48	03.8	+0.9
	baz=21								
F29A	**Eureka**	20.48	90	P		P	08 48	03.5	+0.5
	baz=21								
B30A	**Myrvik Farm, E**	20.56	82	P		Pn	08 48	05.5	-0.6
	baz=21,SNR=12								
S22A	**4UR Ranch, Cre**	20.59	118	P		P	08 48	05.9	+1.3
	baz=21,SNR=66								
L27A	**T5 Ranch, Ells**	20.63	102	P		P	08 48	05.8	+1.0
	baz=21								
J28A	**Allard Ranch,**	20.63	98	P		Pn	08 48	06.1	-1.0
	baz=21,SNR=18								
G29A	**Hoven**	20.68	92	P		P	08 48	05.8	+0.6
	baz=21								
C30A	**Mose, Pekin**	20.69	85	P		P	08 48	05.6	+0.3
	baz=21								
D30A	**Buchanan**	20.70	86	P		P	08 48	06.5	+1.1
	baz=21,SNR=6.1								
H29A	**Onida**	20.73	94	P		P	08 48	06.5	+0.8
	baz=21								
Q24A	**Divide**	20.74	113	P		Pn	08 48	07.7	-1.1
	baz=21,SNR=11								
N26A	**Koester Ranch,**	20.76	106	P		P	08 48	07.2	+0.9
	baz=21								
E30A	**Jud**	20.82	88	P		P	08 48	07.8	+1.1
	baz=21								
M27A	**Reverse DX Ran**	20.89	104	P		P	08 48	08.9	+1.3
	baz=21								
K28A	**Ten Mile Ranch**	20.90	100	P		P	08 48	08.9	+1.3
	baz=21								
I29A	**Vivian Onida**	20.94	96	P		P	08 48	08.5	+0.4
	baz=21,SNR=9.1								
W18A	**Petrified Fore**	20.97	128	P		P	08 48	09.7	+1.1
	baz=21,SNR=29								
W18A	**Petrified Fore**	20.97	128	*e*P		P	08 48	09.7	+1.1
	comp=Z,104nm,1.1s								
F30A	**Leola**	21.00	90	P		P	08 48	09.5	+0.8
	baz=21,SNR=10.0								
O26A	**Horse Wrangler**	21.05	108	P		P	08 48	10.1	+0.7
	baz=21,SNR=9.6								
L28A	**Connealy Angus**	21.17	102	P		P	08 48	11.6	+1.0
	baz=21								
N27A	**Anderson Farm,**	21.20	106	P		P	08 48	12.0	+1.1
	baz=21,SNR=6.6								
G30A	**Faulkton**	21.20	92	P		P	08 48	11.6	+0.8
	baz=21								
J29A	**Okreek**	21.22	97	P		P	08 48	12.1	+1.0
	baz=21,SNR=18								
SDCO	**Great Sand Dun**	21.35	116	P		P	08 48	14.4	+1.7
	baz=21,SNR=35								
OGNE	**Ogallala**	21.43	105	P		P	08 48	14.5	+1.1
	baz=22								
P26A	**Davis Ranch, A**	21.45	109	P		P	08 48	14.9	+1.2
	baz=22,SNR=13								
K29A	**Lazy Trails An**	21.54	99	P		P	08 48	15.5	+0.9
	baz=22,SNR=6.3								
I30A	**Oacoma**	21.56	95	P		P	08 48	15.2	+0.5
	baz=22								
M28A	**Bar X Bar Ranc**	21.60	103	P		P	08 48	16.0	+0.8
	baz=22								
O27A	**Beecher Island**	21.60	107	P		P	08 48	16.1	+0.8
	baz=22								
ULM	**Lac du Bonnet**	21.65	77	P		P	08 48	15.4	-0.2
	comp=Z,36nm,0.8s,baz=283,slow=11,SNR=18								
ULM	**Lac du Bonnet**	21.65	77	*e*P		P	08 48	17.2	+1.6
ULM				pmax		pmax			
	comp=Z,76nm,1.3s								
ULM	**Lac du Bonnet**	21.65

	comp=Z,12nm,1.0s								
ANMO				MLR	MLR				
	comp=Z,121nm,20.3s								
ANMO	**Albuquerque**	**22.83**	**123**	*e*P	**P**	**08 48 28.3**	**-0.1**
	comp=Z,19nm,1.1s								
T26A	**Comanche Natio**	**22.85**	**114**	P	**P**	**08 48 28.7**	**0.0**
	baz=23								
LAZ	**Ladron**	**22.87**	**125**	*e*P	**P**	**08 48 29.5**	**+0.5**
	comp=Z,13nm,1.5s								
P29A	**Atwood**	**22.90**	**106**	P	**P**	**08 48 29.4**	**+0.3**
	baz=23,SNR=11								
S27A	**Las Animas**	**22.92**	**113**	P	**P**	**08 48 29.4**	**0.0**
	baz=23								
O30A	**MW Ranch, Wils**	**23.11**	**104**	P	**P**	**08 48 31.5**	**+0.4**
	baz=23								
M31A	**Lambtecht Ranc**	**23.13**	**100**	P	**P**	**08 48 31.2**	**-0.3**
	baz=23								
EPLO	**Experimental L**	**23.14**	**77**	P	**P**	**08 48 32.0**	**+0.6**
LENM	**Lemitar**	**23.14**	**125**	*e*P	**P**	**08 48 33.0**	**+1.3**
	comp=Z,126nm,1.3s								
R28A	**Tribune**	**23.14**	**110**	P	**P**	**08 48 31.9**	**+0.3**
	baz=23,SNR=14								
LPM	**Los Pinos Moun**	**23.21**	**124**	*e*P	**P**	**08 48 33.6**	**+1.2**
	comp=Z,21nm,1.3s								
Y22D	**IRIS PASSCAL I**	**23.24**	**125**	P	**P**	**08 48 33.1**	**+0.5**
	baz=23								
Q29A	**Oakley**	**23.31**	**108**	P	**P**	**08 48 33.6**	**+0.4**
	baz=23,SNR=10								
P30A	**Selden**	**23.36**	**106**	P	**P**	**08 48 34.0**	**+0.3**
	baz=24								
N31A	**Bailey Ranch,**	**23.43**	**101**	P	**P**	**08 48 34.7**	**+0.3**
	baz=24								
T27A	**Campo**	**23.44**	**113**	P	**P**	**08 48 35.0**	**+0.4**
	baz=24,SNR=9.5								
ECSD	**EROS Data Cent**	**23.45**	**93**	P	**P**	**08 48 34.6**	**0.0**
	baz=24,SNR=43								
ECSD	**EROS Data Cent**	**23.45**	**93**	*e*P	**P**	**08 48 34.5**	**0.0**
R29A	**Marienthal**	**23.50**	**109**	P	**P**	**08 48 35.7**	**+0.5**
	baz=24,SNR=6.3								
S28A	**Manter**	**23.58**	**111**	P	**P**	**08 48 36.3**	**+0.4**
	baz=24,SNR=19								
O31A	**Woolen Ranch,**	**23.58**	**103**	P	**P**	**08 48 36.5**	**+0.6**
	baz=24								
BGNE	**Belgrade**	**23.62**	**99**	P	**P**	**08 48 36.7**	**+0.4**
	baz=24								
BGNE	**Belgrade**	**23.62**	**99**	*e*P	**P**	**08 48 38.0**	**+1.7**
	comp=Z,50nm,1.0s								
Q30A	**Quinter**	**23.72**	**107**	P	**P**	**08 48 37.6**	**+0.3**
	baz=24,SNR=14								
T28A	**Walsh**	**23.76**	**113**	P	**P**	**08 48 38.3**	**+0.6**
	baz=24,SNR=28								
L33A	**Hoskins**	**23.79**	**97**	P	**P**	**08 48 37.8**	**0.0**
	baz=24								
U27A	**Thompson Grove**	**23.81**	**115**	P	**P**	**08 48 38.7**	**+0.4**
	baz=24,SNR=10								
N32A	**Stulken Farm,**	**23.88**	**101**	P	**P**	**08 48 38.8**	**+0.1**
	baz=24								
P31A	**Stockton**	**23.91**	**105**	P	**P**	**08 48 39.4**	**+0.4**
	baz=24,SNR=18								
121A	**Cookes Peak, D**	**24.01**	**129**	P	**P**	**08 48 40.7**	**+0.6**
	baz=24,SNR=10								
121A	**Cookes Peak, D**	**24.01**	**129**	*e*P	**P**	**08 48 41.2**	**+1.0**
	comp=Z,26nm,1.1s								
S29A	**Ulysses**	**24.03**	**110**	P	**P**	**08 48 40.8**	**+0.6**
	baz=24,SNR=10								
SOLO	**Sioux Lookout**	**24.08**	**76**	P	**P**	**08 48 39.8**	**-0.6**
R30A	**Dighton**	**24.11**	**108**	P	**P**	**08 48 41.6**	**+0.6**
	baz=24,SNR=13								
CBKS	**Cedar Bluff**	**24.12**	**106**	*e*P	**P**	**08 48 42.3**	**+1.3**
CBKS				pmax	pmax				
	comp=Z,49nm,1.3s								
CBKS	**Cedar Bluff**	**24.12**	**106**	P	**P**	**08 48 41.3**	**+0.3**
	baz=24,SNR=7.8								
CBKS	**Cedar Bluff**	**24.12**	**106**	*e*P	**P**	**08 48 42.3**	**+1.3**
	comp=Z,49nm,1.3s								
M33A	**Taylor Creek F**	**24.14**	**98**	P	**P**	**08 48 42.0**	**+0.9**
	baz=24,SNR=7.2								
O32A	**Brockman Farm,**	**24.18**	**102**	P	**P**	**08 48 42.1**	**+0.7**
	baz=24,SNR=5.4								
U28A	**Mallet**	**24.19**	**114**	P	**P**	**08 48 42.2**	**+0.4**
	baz=24								
Q31A	**Ellis**	**24.21**	**106**	P	**P**	**08 48 42.5**	**+0.7**
	baz=24,SNR=5.8								
T29A	**Hugoton**	**24.22**	**111**	P	**P**	**08 48 42.9**	**+0.9**
	baz=24								
V27A	**Dan Oppiter Fa**	**24.27**	**116**	P	**P**	**08 48 43.0**	**+0.5**
	baz=24,SNR=11								
P32A	**Huiting Farm,**	**24.34**	**104**	P	**P**	**08 48 44.0**	**+1.0**
	baz=24,SNR=21								
S30A	**Montezuma**	**24.41**	**109**	P	**P**	**08 48 44.4**	**+0.7**
	baz=24								
N33A	**J Bar K, Exete**	**24.43**	**100**	P	**P**	**08 48 43.8**	**0.0**
	baz=25								
L34A	**Svendsen Farm,**	**24.46**	**97**	P	**P**	**08 48 44.2**	**+0.1**
	baz=25								
M34A	**Aspy Farms, Fr**	**24.57**	**98**	P	**P**	**08 48 45.3**	**+0.2**
	baz=25								
R31A	**Burdett**	**24.57**	**107**	P	**P**	**08 48 46.3**	**+1.2**
	baz=25,SNR=18								
V28A	**Channing**	**24.63**	**115**	P	**P**	**08 48 46.0**	**+0.3**
	baz=25,SNR=9.5								
U29A	**Oasis Ranch, S**	**24.71**	**113**	P	**P**	**08 48 46.9**	**+0.5**
	baz=25								
ATKO	**Atikokan Iron**	**24.71**	**78**	P	**P**	**08 48 48.6**	**+2.3**
O33A	**Hebron**	**24.72**	**102**	P	**P**	**08 48 46.8**	**+0.4**
	baz=25								
Q32A	**Meitler Ranch,**	**24.74**	**105**	P	**P**	**08 48 47.5**	**+0.8**
	baz=25,SNR=13								
T30A	**Plains**	**24.75**	**111**	P	**P**	**08 48 47.4**	**+0.6**
	baz=25								
PKLO	**Pickle Lake**	**24.80**	**71**	P	**P**	**08 48 47.7**	**+0.7**
L35A	**Bielow Farm, R**	**24.92**	**95**	P	**P**	**08 48 48.7**	**+0.5**
	baz=25								
V29A	**Stinnett**	**24.95**	**114**	P	**P**	**08 48 48.6**	**-0.1**
	baz=25								
N34A	**Lincoln**	**24.98**	**99**	P	**P**	**08 48 49.3**	**+0.5**
	baz=25,SNR=9.9								
W28A	**Vega**	**24.98**	**116**	P	**P**	**08 48 49.4**	**+0.4**
	baz=25								
R32A	**Long Quarter,**	**24.99**	**106**	P	**P**	**08 48 49.3**	**+0.4**
	baz=25								
P33A	**Williams Farm,**	**25.02**	**103**	P	**P**	**08 48 49.4**	**+0.3**
	baz=25								
S31A	**Mullinville**	**25.02**	**108**	P	**P**	**08 48 49.3**	**+0.1**
	baz=25								
U30A	**WK&E Inc. Balk**	**25.02**	**112**	P	**P**	**08 48 50.1**	**+0.8**
	baz=25,SNR=6.4								
EYMN	**Ely**	**25.06**	**80**	P	**P**	**08 48 50.3**	**+0.9**
	baz=25,SNR=14								
EYMN	**Ely**	**25.06**	**80**	*e*P	**P**	**08 48 50.9**	**+1.4**
	comp=Z,28nm,1.0s								
NUNN	**Nunuq Camp, NU**	**25.11**	**38**	P	P	08 48 58.4	+8.7
M35A	**Neola**	**25.16**	**97**	P	**P**	**08 48 50.4**	**0.0**
	baz=25								
Q33A	**Connelly Farm,**	**25.19**	**104**	P	**P**	**08 48 51.5**	**+0.9**
	baz=25,SNR=11								
O34A	**Beatrice**	**25.22**	**100**	P	**P**	**08 48 51.7**	**+0.8**
	baz=25,SNR=21								
T31A	**Randall Ranch,**	**25.24**	**110**	P	**P**	**08 48 51.7**	**+0.6**
	baz=25								
SPMN	**St. Paul**	**25.24**	**87**	P	**P**	**08 48 52.0**	**+0.9**
	baz=25,SNR=6.4								
SPMN	**St. Paul**	**25.24**	**87**	*e*P	**P**	**08 48 53.3**	**+2.2**
	comp=Z,13nm,0.7s								
S32A	**Newby Ranch, P**	**25.30**	**108**	P	**P**	**08 48 52.1**	**+0.4**
	baz=25								
W29A	**Amraillo**	**25.40**	**115**	P	**P**	**08 48 53.1**	**+0.3**
	baz=26								
P34A	**Walnut Farm, R**	**25.50**	**102**	P	**P**	**08 48 54.4**	**+1.0**
	baz=26,SNR=11								
N35A	**Tabor**	**25.51**	**98**	P	**P**	**08 48 54.2**	**+0.7**
	baz=26,SNR=12								
R33A	**Olander Ranch,**	**25.51**	**105**	P	**P**	**08 48 53.9**	**+0.2**
	baz=26								
X28A	**Dimmitt**	**25.52**	**117**	P	**P**	**08 48 54.0**	**+0.2**
	baz=26,SNR=12								
V30A	**Spur Ranch, Mi**	**25.52**	**113**	P	**P**	**08 48 54.1**	**+0.3**
	baz=26,SNR=10								
U31A	**Nine Bar Ranch**	**25.61**	**111**	P	**P**	**08 48 55.1**	**+0.6**
	baz=26								
O35A	**Humboldt**	**25.67**	**99**	P	**P**	**08 48 55.6**	**+0.6**
	baz=26								
Q34A	**Chapman**	**25.79**	**103**	P	**P**	**08 48 57.1**	**+1.0**
	baz=26								
X29A	**Tulia**	**25.85**	**117**	P	**P**	**08 48 56.8**	**0.0**
	baz=26,SNR=7.1								
Y28A	**McKinney Farm,**	**25.93**	**118**	P	**P**	**08 48 57.4**	**-0.1**
	baz=26,SNR=13								
S33A	**Kaszmaul Farm,**	**25.95**	**107**	P	**P**	**08 48 58.1**	**+0.5**
	baz=26								
R34A	**Isabella, Hill**	**25.98**	**105**	P	**P**	**08 48 58.5**	**+0.7**
	baz=26,SNR=8.0								
W30A	**Crocket Farms**	**25.99**	**114**	P	**P**	**08 48 58.5**	**+0.4**
	baz=26								
V31A	**Spring Creek L**	**26.02**	**112**	P	**P**	**08 48 59.3**	**+1.1**
	baz=26,SNR=12								
P35A	**Duane Minner,**	**26.02**	**101**	P	**P**	**08 48 58.7**	**+0.6**
	baz=26								
U32A	**Winter Ranch,**	**26.12**	**110**	P	**P**	**08 48 59.8**	**+0.7**
	baz=26								
T33A	**Patterson Ranc**	**26.12**	**108**	P	**P**	**08 48 59.7**	**+0.5**
	baz=26								
Y29A	**Porterfield Fa**	**26.29**	**117**	P	**P**	**08 49 00.9**	**+0.1**
	baz=26,SNR=7.0								
Z28A	**Tucker Farm, M**	**26.31**	**119**	P	**P**	**08 49 02.2**	**+1.3**
	baz=26								
X30A	**Coker Ranch, T**	**26.33**	**115**	P	**P**	**08 49 01.2**	**+0.1**
	baz=26,SNR=9.8								
O36A	**Bolckow**	**26.35**	**99**	P	**P**	**08 49 01.5**	**+0.4**
	baz=26								
W31A	**Holland Ranch,**	**26.36**	**113**	P	**P**	**08 49 01.7**	**+0.3**
	baz=26								
Q35A	**Mercer Eighty,**	**26.40**	**102**	P	**P**	**08 49 02.2**	**+0.6**
	baz=26								
S34A	**Willow Spring**	**26.43**	**105**	P	**P**	**08 49 02.8**	**+0.9**
	baz=26								
P36A	**Good Intent, A**	**26.48**	**100**	P	**P**	**08 49 02.9**	**+0.5**
	baz=27								
R35A	**Emporia Munici**	**26.62**	**103**	P	**P**	**08 49 04.2**	**+0.6**
	baz=27								
U33A	**Lingo Farm, Me**	**26.62**	**109**	P	**P**	**08 49 04.1**	**+0.4**
	baz=27,SNR=11								
Q36A	**Arnold C. Orve**	**26.70**	**101**	P	**P**	**08 49 04.9**	**+0.6**
	baz=27								
Z29A	**Hungry Hill Ra**	**26.71**	**118**	P	**P**	**08 49 05.2**	**+0.6**
	baz=27,SNR=11								
X31A	**McDonald Ranch**	**26.72**	**114**	P	**P**	**08 49 05.1**	**+0.5**
	baz=27,SNR=14								
Y30A	**Stafford Cattl**	**26.72**	**116**	P	**P**	**08 49 04.8**	**+0.1**
	baz=27								
128A	**Castleberry Fa**	**26.75**	**120**	P	**P**	**08 49 04.6**	**-0.3**
	baz=27,SNR=8.5								
T34A	**McClaskey Farm**	**26.81**	**107**	P	**P**	**08 49 05.5**	**+0.1**
	baz=27,SNR=7.2								
W32A	**Sentinel**	**26.82**	**112**	P	**P**	**08 49 05.5**	**+0.1**
	baz=27,SNR=13								
V33A	**Lossen Ranch,**	**26.92**	**110**	P	**P**	**08 49 06.1**	**-0.3**
	baz=27								
S35A	**Otter Creek Ra**	**26.93**	**105**	P	**P**	**08 49 06.8**	**+0.4**
	baz=27,SNR=11								
U34A	**Anderson Ranch**	**26.97**	**108**	P	**P**	**08 49 07.2**	**+0.4**
	baz=27								
U34A	**Anderson Ranch**	**26.97**	**108**	*e*P	**P**	**08 49 07.8**	**+1.0**
	comp=Z,26nm,1.1s								
Z30A	**Sanderson Ranc**	**27.02**	**118**	P	**P**	**08 49 07.4**	**0.0**
	baz=27								
Y31A	**Rekieta Farm,**	**27.03**	**115**	P	**P**	**08 49 07.5**	**+0.1**
	baz=27,SNR=16								
R36A	**Gordon, Harris**	**27.05**	**103**	P	**P**	**08 49 07.8**	**+0.3**
	baz=27								
228A	**UTBlock 9, Go**	**27.07**	**121**	P	**P**	**08 49 07.6**	**-0.2**
	baz=27,SNR=6.2								
129A	**Stewart Farms,**	**27.09**	**120**	P	**P**	**08 49 08.1**	**+0.2**
	baz=27								
W33A	**Caddo, Fort Co**	**27.26**	**111**	P	**P**	**08 49 09.0**	**-0.4**
	baz=27								
X32A	**Elmer**	**27.28**	**113**	P	**P**	**08 49 10.3**	**+0.8**
	baz=27								
T35A	**Sooner Cattle**	**27.29**	**106**	P	**P**	**08 49 10.1**	**+0.4**
	baz=27,SNR=21								
GTO	**Geldton**	**27.34**	**74**	P	**P**	**08 49 10.8**	**+0.9**
WMOK	**Wichita Mounta**	**27.36**	**112**	*e*P	**P**	**08 49 10.2**	**-0.1**
WMOK				pmax	pmax				
	comp=Z,18nm,0.9s								
WMOK	**Wichita Mounta**	**27.36**	**112**	*e*P	**P**	**08 49 10.2**	**-0.1**
	comp=Z,18nm,0.9s								
S36A	**Lake Cedric, C**	**27.36**	**104**	P	**P**	**08 49 10.9**	**+0.6**
	baz=28,SNR=15								
V34A	**Guthrie**	**27.38**	**109**	P	**P**	**08 49 10.9**	**+0.4**
	baz=28								
V34A	**Guthrie**	**27.38**	**109**	*e*P	**P**	**08 49 11.2**	**+0.8**
	comp=Z,55nm,1.3s								
Q37A	**Longview Farm,**	**27.39**	**101**	P	**P**	**08 49 10.2**	**-0.3**
	baz=28								
Y32A	**R-V Farms, Ver**	**27.48**	**114**	P	**P**	**08 49 11.7**	**+0.3**
	baz=28,SNR=13								
R37A	**Teagarden Farm**	**27.48**	**102**	P	**P**	**08 49 11.3**	**-0.1**
	baz=28								
U35A	**Pawnee**	**27.51**	**107**	P	**P**	**08 49 11.8**	**+0.2**
	baz=28								
Z31A	**Sharp Cattle R**	**27.56**	**116**	P	**P**	**08 49 12.1**	**-0.1**
	baz=28								
T36A	**Boggs Farm, Ca**	**27.59**	**105**	P	**P**	**08 49 12.8**	**+0.4**
	baz=28,SNR=9.7								
229A	**Bryant Ranch,**	**27.62**	**120**	P	**P**	**08 49 13.1**	**+0.5**
	baz=28								
130A	**Snyder**	**27.62**	**118**	P	**P**	**08 49 12.6**	**-0.1**
	baz=28								
W34A	**Bridge Creek,**	**27.62**	**110**	P	**P**	**08 49 12.2**	**-0.4**
	baz=28								
W34A	**Bridge Creek,**	**27.62**	**110**	*e*P	**P**	**08 49 13.6**	**+0.9**
	comp=Z,21nm,0.8s								
S37A	**Fort Scott**	**27.82**	**103**	P	**P**	**08 49 15.1**	**+0.7**
	baz=28,SNR=13								
V35A	**Meyer Ranch, C**	**27.84**	**108**	P	**P**	**08 49 14.5**	**-0.1**
	baz=28								
131A	**Roby**	**27.89**	**118**	P	**P**	**08 49 14.9**	**-0.2**
	baz=28								
JFWS	**Jewell Farm**	**27.93**	**90**	*e*P	**P**	**08 49 17.0**	**+1.7**
JFWS				pmax	pmax				
	comp=Z,13nm,0.8s								
JFWS	**Jewell Farm**	**27.93**	**90**	*e*P	**P**	**08 49 17.0**	**+1.7**
	comp=Z,13nm,0.8s								
Z32A	**Haskell**	**27.95**	**115**	P	**P**	**08 49 15.3**	**-0.3**
	baz=28,SNR=11								
Y33A	**Hilltop Ranch,**	**27.96**	**113**	P	**P**	**08 49 15.5**	**-0.1**
	baz=28								
X34A	**Smith Ranch, M**	**28.02**	**111**	P	**P**	**08 49 16.4**	**+0.2**
	baz=28								
230A	**Sterling City**	**28.07**	**120**	P	**P**	**08 49 16.8**	**+0.1**
	baz=28								
U36A	**Oologah**	**28.11**	**106**	P	**P**	**08 49 17.0**	**0.0**
	baz=28								
T37A	**Cheneyville 18**	**28.16**	**104**	P	**P**	**08 49 17.6**	**+0.2**
	baz=28,SNR=7.7								
W35A	**Tecumseh**	**28.22**	**109**	P	**P**	**08 49 17.2**	**-0.8**
	baz=28								
ABTX	**Abilene, Hawle**	**28.35**	**117**	P	**P**	**08 49 19.3**	**+0.1**
	baz=28								
ABTX	**Abilene, Hawle**	**28.35**	**117**	*e*P	**P**	**08 49 19.4**	**+0.1**
	comp=Z,12nm,1.1s								
V36A	**Jenks**	**28.37**	**107**	P	**P**	**08 49 18.4**	**-0.9**
	baz=28								
TUL1	**Tulsa**	**28.38**	**107**	P	**P**	**08 49 19.7**	**+0.3**
	baz=28								
TUL1	**Tulsa**	**28.38**	**107**	*e*P	**P**	**08 49 20.6**	**+1.1**
	comp=Z,28nm,1.0s								
Z33A	**Whitaker Ranch**	**28.39**	**115**	P	**P**	**08 49 19.1**	**-0.3**
	baz=28,SNR=10								
330A	**Mertzon**	**28.39**	**120**	P	**P**	**08 49 19.1**	**-0.5**
	baz=28								
231A	**Bronte**	**28.48**	**118**	P	**P**	**08 49 20.3**	**0.0**
	baz=29,SNR=8.2								
U37A	**Salina**	**28.48**	**105**	P	**P**	**08 49 20.4**	**+0.1**
	baz=29								
Y34A	**Reagan Ranch,**	**28.51**	**112**	P	**P**	**08 49 20.7**	**+0.1**
	baz=29,SNR=10.0								
429A	**Davenport Ranc**	**28.60**	**122**	P	**P**	**08 49 21.7**	**+0.3**
	baz=29								
RES	**Resolute Bay**	**28.60**	**19**	LR	LR	09 01 10.8			
	comp=Z,275nm,21.2s,baz=248,slow=37								
W36A	**Wetumka**	**28.63**	**109**	P	**P**	**08 49 22.2**	**+0.6**
	baz=29								
X35A	**Drake**	**28.67**	**111**	P	**P**	**08 49 22.2**	**+0.2**
	baz=29,SNR=7.5								
TXAR	**Lajitas Array**	**28.67**	**127**	P	**P**	**08 49 22.3**	**+0.1**
	comp=Z,2.8nm,0.8s,baz=326,slow=6.5,SNR=26								
TXAR				LR	LR	09 01 38.5			
	comp=Z,282nm,18.8s,baz=0.0,slow=38								
TXAR	**Lajitas Array**	**28.67**	**127**	P	**P**	**08 49 22.3**	**+0.1**
TXAR				pmax	pmax				
	comp=Z,3.0nm,0.8s								
TXAR				MLR	MLR				
	comp=Z,282nm,18.8s								
133A	**Hamilton Ranch**	**28.79**	**116**	P	**P**	**08 49 22.7**	**-0.3**
	baz=29								
V37A	**Hulbert**	**28.80**	**106**	P	**P**	**08 49 23.6**	**+0.4**
	baz=29,SNR=10								
529A	**Stev Forest Ra**	**28.81**	**124**	P	**P**	**08 49 23.7**	**+0.4**
	baz=29,SNR=19								
Z34A	**Collier Ranch,**	**28.82**	**113**	P	**P**	**08 49 23.2**	**-0.2**
	baz=29								
430A	**Baggett Ranch,**	**28.83**	**121**	P	**P**	**08 49 23.9**	**+0.4**
	baz=29								
331A	**San Angelo**	**28.88**	**119**	P	**P**	**08 49 23.8**	**-0.1**
	baz=29								
232A	**Coleman**	**28.89**	**118**	P	**P**	**08 49 23.8**	**-0.2**
	baz=29								
U38A	**Gravette**	**28.92**	**105**	P	**P**	**08 49 24.1**	**0.0**
	baz=29								
X36A	**Centrahoma**	**28.93**	**110**	P	**P**	**08 49 24.6**	**+0.3**
	baz=29								
Y35A	**Marietta**	**28.97**	**111**	P	**P**	**08 49 24.9**	**+0.2**
	baz=29								
W37A	**Quinton**	**29.12**	**108**	P	**P**	**08 49 26.4**	**+0.4**
	baz=29								
332A	**Millersview**	**29.21**	**118**	P	**P**	**08 49 27.2**	**+0.3**
	baz=29								
233A	**Rising Star**	**29.23**	**117**	P	**P**	**08 49 27.1**	**+0.2**
	baz=29								
Z35A	**Perchaven, San**	**29.25**	**113**	P	**P**	**08 49 27.1**	**0.0**
	baz=29								
431A	**Sonora**	**29.26**	**121**	P	**P**	**08 49 27.0**	**-0.3**
	baz=29								
530A	**J-C Ranch, Com**	**29.27**	**122**	P	**P**	**08 49 27.4**	**0.0**
	baz=29								
V38A	**Canehill**	**29.27**	**106**	P	**P**	**08 49 27.7**	**+0.4**
	baz=29								
134A	**White-Moore Ra**	**29.30**	**115**	P	**P**	**08 49 27.4**	**-0.2**
	baz=29								
Y36A	**Durant**	**29.43**	**111**	P	**P**	**08 49 28.8**	**+0.1**
	baz=30,SNR=8.1								
X37A	**Clayton**	**29.52**	**109**	P	**P**	**08 49 29.6**	**+0.1**
	baz=30								
432A	**Menard**	**29.57**	**119**	P	**P**	**08 49 29.9**	**-0.2**
	baz=30								
234A	**Clairette**	**29.68**	**116**	P	**P**	**08 49 30.4**	**-0.6**
	baz=30,SNR=8.5								
333A	**Richland Sprin**	**29.69**	**118**	P	**P**	**08 49 31.3**	**+0.2**
	baz=30								
531A	**Rocksprings**	**29.69**	**121**	P	**P**	**08 49 31.4**	**+0.3**
	baz=30								
W38A	**Poteau**	**29.72**	**107**	P	**P**	**08 49 31.4**	**+0.2**
	baz=30								
HDIL	**Hopedale**	**29.74**	**93**	P	**P**	**08 49 31.0**	**-0.4**
	baz=30								
Z36A	**Blue Ridge**	**29.78**	**112**	P	**P**	**08 49 31.8**	**0.0**
	baz=30								
Y37A	**Hugo**	**29.78**	**110**	P	**P**	**08 49 32.1**	**+0.3**
	baz=30,SNR=7.3								
X38A	**Whitesboro**	**29.79**	**108**	P	**P**	**08 49 32.1**	**+0.2**
	baz=30								
JCT	**Junction City**	**29.86**	**120**	*e*P	**P**	**08 49 32.1**	**-0.5**
JCT				pmax	pmax				
	comp=Z,15nm,0.8s								
JCT	**Junction City**	**29.86**	**120**	P	**P**	**08 49 32.2**	**-0.4**
	baz=30,SNR=16								
JCT	**Junction City**	**29.86**	**120**	*e*P	**P**	**08 49 32.1**	**-0.5**
	comp=Z,15nm,0.8s								
433A	**Art**	**30.05**	**118**	P	**P**	**08 49 33.9**	**-0.4**
	baz=30								
532A	**Rocksprings**	**30.07**	**120**	P	**P**	**08 49 34.1**	**-0.4**
	baz=30,SNR=5.9								
WHTX	**Lake Whitney**	**30.08**	**115**	P	**P**	**08 49 34.5**	**-0.1**
	baz=30								
WHTX	**Lake Whitney**	**30.08**	**115**	*e*P	**P**	**08 49 34.9**	**+0.4**
	comp=Z,17nm,1.0s								
LPIG	**La Paz**	**30.11**	**142**	P	**P**	**08 49 34.8**	**+0.1**
	comp=Z,9.0nm,0.7s,baz=2.5,slow=2.9,SNR=2.3								
334A	**Lometa**	**30.11**	**117**	P	**P**	**08 49 35.2**	**+0.5**
	baz=30								
631A	**Perdido Creek**	**30.25**	**122**	P	**P**	**08 49 35.7**	**-0.4**
	baz=30,SNR=6.6								
136A	**Ennis**	**30.28**	**113**	P	**P**	**08 49 35.7**	**-0.6**
	baz=30								
434A	**Burnet**	**30.48**	**117**	P	**P**	**08 49 38.3**	**+0.2**
	baz=31								
533A	**Kerrville**	**30.60**	**119**	P	**P**	**08 49 39.5**	**+0.4**
	baz=31								
632A	**Uvalde**	**30.61**	**121**	P	**P**	**08 49 39.4**	**+0.2**
	baz=31								
335A	**Moody**	**30.62**	**116**	P	**P**	**08 49 39.4**	**+0.2**
	baz=31								
236A	**Katherine and**	**30.62**	**114**	P	**P**	**08 49 39.4**	**+0.2**
	baz=31								
MIAR	**Mount Ida**	**30.65**	**107**	*e*P	**P**	**08 49 40.6**	**+1.1**
MIAR				pmax	pmax				
	comp=Z,28nm,1.4s								
MIAR	**Mount Ida**	**30.65**	**107**	P	**P**	**08 49 39.9**	**+0.4**
	baz=31,SNR=12								
MIAR	**Mount Ida**	**30.65**	**107**	*e*P	**P**	**08 49 40.6**	**+1.1**
	comp=Z,28nm,1.4s								
Y39A	**Lockesburg**	**30.73**	**108**	P	**P**	**08 49 40.4**	**+0.2**
	baz=31								
336A	**Riesel**	**30.88**	**115**	P	**P**	**08 49 41.7**	**+0.2**
	baz=31								
435B	**Jarrell**	**30.89**	**117**	P	**P**	**08 49 42.2**	**+0.5**
	baz=31								
534A	**Blanco**	**30.95**	**119**	P	**P**	**08 49 42.8**	**+0.6**
	baz=31								
237A	**Washetta, Mont**	**31.05**	**113**	P	**P**	**08 49 43.3**	**+0.3**
	baz=31								
732A	**Laxson Ranch,**	**31.12**	**122**	P	**P**	**08 49 43.9**	**+0.2**
	baz=31								
238A	**Jacksonville**	**31.45**	**112**	P	**P**	**08 49 46.6**	**0.0**
	baz=32								
535A	**Dale**	**31

SCHQ **Schefferville** 37.52 58 P P 08 50 40.0 +1.1
comp=Z,3.0nm,0.7s
comp=Z,3.4nm,1.1s,baz=255,slow=12,SNR=1.7
GOGA **Godfrey** 37.74 98 eP P 08 50 41.1 +0.2
GOGA pmax pmax
comp=Z,15nm,0.9s
GOGA **Godfrey** 37.74 98 eP P 08 50 41.1 +0.2
comp=Z,15nm,0.9s
SEY **Seymchan** 42.02 318 P P 08 51 14.9 -1.2
comp=Z,1.4nm,0.6s,baz=103,slow=13,SNR=4.6
SEY **Seymchan** 42.02 318 ⇑i P P 08 51 17.0 +0.9
PETK **Petropavlovsk-** 43.31 303 P P 08 51 26.1 -0.6
comp=Z,3.1nm,0.7s,baz=60,slow=8.5,SNR=2.0
PETK LR LR 09 06 41.8
comp=Z,57nm,20.8s,baz=81,slow=32
H11N2 **WAKE ISLAND Hy** 58.01 263 T T 09 55 52.5
baz=42,slow=75,SNR=280
H11N3 **WAKE ISLAND Hy** 58.01 263 T T 09 55 54.5
baz=42,slow=75,SNR=357
H11N1 **WAKE ISLAND Hy** 58.03 263 T T 09 56 02.2
baz=42,slow=75,SNR=302
ARCES **ARCESS Array B** 59.30 10 P P 08 53 26.0 -0.3
comp=Z,1.4nm,0.8s,baz=10,slow=7.4,SNR=3.9
ARCES LR LR 09 20 20.3
comp=Z,36nm,18.8s,baz=310,slow=37
ARCES **ARCESS Array B** 59.30 10 P P 08 53 26.0 -0.3
ARCES pmax pmax
comp=Z,1.0nm,0.8s
ARCES MLR MLR
comp=Z,37nm,18.8s
USRK **Ussuriysk Ar.** 62.23 306 P P 08 53 45.0 -1.6
comp=Z,1.4nm,0.9s,baz=25,slow=6.3,SNR=5.0
MJAR **Matsushiro Arr** 64.14 297 P P 08 53 55.7 -3.7
comp=Z,1.3nm,0.3s,baz=56,slow=3.2,SNR=2.5
MJAR LR LR 09 23 10.2
comp=Z,21nm,19.5s,baz=95,slow=37
MJAR **Matsushiro Arr** 64.14 297 P P 08 53 55.7 -3.7
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MJAR MLR MLR
comp=Z,21nm,19.5s
ROSC **El Rosal** 64.69 115 LR LR 09 27 12.1
comp=Z,24nm,18.2s,baz=212,slow=41
NOA **NORSAR Array B** 64.86 20 P P 08 54 02.4 -1.4
comp=Z,1.4nm,0.9s,baz=334,slow=6.6,SNR=4.1
NOA LR LR 09 22 22.3
comp=Z,65nm,19.8s,baz=305,slow=36
NOA **NORSAR Array B** 64.86 20 P P 08 54 02.4 -1.4
NOA pmax pmax
comp=Z,1.0nm,0.9s
NOA MLR MLR
comp=Z,65nm,19.8s
FINES **FINESS Array B** 67.12 12 P P 08 54 16.7 -1.5
comp=Z,4.3nm,0.9s,baz=336,slow=4.2,SNR=8.8
FINES LR LR 09 24 42.0
comp=Z,61nm,18.4s,baz=358,slow=37
FINES **FINESS Array B** 67.12 12 P P 08 54 16.7 -1.5
FINES pmax pmax
comp=Z,4.0nm,0.9s
FINES MLR MLR
comp=Z,61nm,18.4s
PRGR **Permogore** 68.53 2 P P 08 54 29.3 +2.2
KSRS **Korea Array** 69.21 304 P P 08 54 29.3 -2.4
comp=Z,0.3nm,0.3s,baz=34,slow=3.1,SNR=2.9
KSRS LR LR 09 24 45.6
comp=Z,16nm,19.7s,baz=34,slow=36
KSAR **Wonju Array Be** 69.24 304 P P 08 54 29.3 -2.6
KSAR **Wonju Array Be** 69.24 304 P P 08 54 29.3 -2.6
PPT **Papeete** 69.61 200 LR LR 09 19 31.0
comp=Z,90nm,19.0s,baz=143,slow=31
ULN **Ulaanbaatar** 70.78 323 eP P 08 54 41.3 -0.1
ULN pmax pmax
comp=Z,6.0nm,2.4s
SONM **Songino Array** 71.06 324 P P 08 54 42.3 -0.8
comp=Z,0.1nm,0.3s,baz=28,slow=6.5,SNR=2.8
SONM LR LR 09 25 48.9
comp=Z,106nm,21.6s,baz=33,slow=36
ARU **Arti** 73.59 355 P P 08 54 56.5 -1.3
baz=293,slow=17
ARU **Arti** 73.59 355 c iP P 08 54 58.8 +1.0
ARU 08 57 41.1
ARU S S 09 04 29.3 +3.1
ARU pmax pmax
comp=Z,8.0nm,1.7s
OBN **Obninsk** 74.52 8 eP P 08 55 03.0 -0.2
OBN e 08 55 15.7
OBN pmax pmax
comp=Z,11nm,1.0s
OBN MLR MLR
comp=Z,41nm,15.0s
HHC **Hu-ho-hao-te** 74.63 316 eP P 08 55 05.5 +1.2
HHC S S 09 04 38.0 -0.8
HHC SS SS 09 09 30.3 +5.3
HHC PMZ
comp=Z,19nm,0.9s
HHC PMZ
comp=Z,73nm,5.0s
HHC LN
comp=Z,120nm,14.9s
HHC LE
comp=Z,130nm,12.4s
BFO **Black Forest** 75.53 27 i P P 08 55 10.9 +1.6
UPC **Upice** 75.60 22 AMS AMS 09 30 00.0
comp=Z,100nm,18.0s
PRU **Pruhonice** 75.72 23 AMS AMS 09 30 50.0
comp=Z,100nm,12.8s
BRVK **Borovoye** 75.80 348 eP P 08 55 12.0 +1.3
BRVK pmax pmax
comp=Z,5.0nm,1.4s
DPC **Dobruska-Polom** 75.81 22 eP P 08 55 11.7 +0.8
DPC epP pP 08 55 15.7 -2.4
DPC ePCP PcP 08 55 24.5 +1.1
DPC ex x 08 55 28.4
DPC AMS AMS 09 30 10.0
comp=Z,100nm,13.8s
DPC **Dobruska-Polom** 75.81 22 eP P 08 55 11.7 +0.8
DPC e 08 55 15.7
DPC e 08 55 24.5
DPC MLR MLR
comp=Z,100nm,13.8s
GOPC **GO Pecny, Ondr** 75.85 23 AMS AMS 09 30 50.0
GERES **GERESS Array B** 76.56 24 P P 08 55 13.5 -1.7
comp=Z,0.2nm,0.3s,baz=343,slow=3.1,SNR=3.2
GERES LR LR 09 30 50.1
comp=Z,40nm,18.9s,baz=308,slow=37
TREC **Trest** 76.59 23 AMS AMS 09 31 00.0
comp=Z,100nm,15.1s
KURK **Kurchatov** 76.64 342 P P 08 55 15.6 +0.1
KURK **Kurchatov** 76.64 342 P P 08 55 15.6 +0.1
KURBB **Kurchatov Arra** 76.75 342 P P 08 55 15.6 -0.6
comp=Z,0.4nm,0.3s,baz=25,slow=6.3,SNR=4.7
AKASG **Malin Array Be** 77.98 13 P P 08 55 21.1 -1.9
comp=Z,0.2nm,0.3s,baz=344,slow=5.3,SNR=8.7
AKASG LR LR 09 30 30.7
comp=Z,90nm,18.8s,baz=340,slow=36
KIEV **Kiev** 77.98 13 ⇑i P P 08 55 22.3 -0.7
KIEV pmax pmax
comp=Z,6.0nm,1.2s
NJ2 **Nanjing** 78.13 306 eP P 08 55 27.0 +2.8
NJ2 PMZ
comp=Z,40nm,0.7s
ESDC **Sonseca Array** 78.73 40 P P 08 55 27.6 +0.1
comp=Z,0.2nm,0.3s,baz=302,slow=6.6,SNR=3.5
MKAR **Makanchi Array** 79.54 338 P P 08 55 30.4 -1.3
comp=Z,0.2nm,0.5s,baz=63,slow=6.6,SNR=1.8
AKTO **Aktyubinsk** 79.60 355 P P 08 55 31.0 -0.9
comp=Z,0.7nm,0.4s,baz=0.0,slow=3.0,SNR=2.1
AKTO **Aktyubinsk** 79.60 355 P P 08 55 31.0 -0.9
AKTO pmax pmax
comp=Z,1.0nm,0.4s
ABKAR **Akbulak array** 80.64 354 eP P 08 55 37.0 -0.5
comp=Z,3.0nm,0.9s
WMQ **Urumqi** 80.87 333 P P 08 55 41.3 +2.3
WMQ pP pP 08 55 47.5 +1.2
WMQ sP sP 08 55 50.3 +1.4
WMQ PMZ
comp=Z,11nm,0.7s
WMQ PMZ
comp=Z,110nm,4.0s
WMQ LN
comp=Z,96nm,23.0s
LZH **Lanzhou** 81.95 319 eP P 08 55 41.0 -4.0
LZH PMZ
comp=Z,13nm,1.0s
MDT **Midelt** 84.26 44 P P 08 55 57.0 +0.1
comp=Z,0.7nm,0.4s,baz=27,slow=4.5

LPAZ **La Paz** 85.44 122 P P 08 56 02.7 -0.7
comp=Z,2.1nm,0.8s,baz=301,slow=3.5,SNR=2.7
LPAZ LR LR 09 37 46.2
comp=Z,37nm,19.4s,baz=322,slow=38
LPAZ **La Paz** 85.44 122 P P 08 56 02.7 -0.7
LPAZ pmax pmax
comp=Z,2.0nm,0.8s
LPAZ MLR MLR
comp=Z,37nm,19.4s
KIV **Kislovodsk** 86.08 5 eP P 08 56 05.6 -0.2
KIV e 08 59 25.9
KIV pmax pmax
comp=Z,6.0nm,0.6s
KIV MLR MLR
comp=Z,39nm,19.0s
KBZ **Khabaz** 86.32 5 P P 08 56 05.7 -1.1
comp=Z,2.2nm,0.8s,baz=58,slow=9.5,SNR=1.8
KBZ LR LR 09 36 10.1
comp=Z,26nm,21.6s,baz=317,slow=37
KBZ **Khabaz** 86.32 5 P P 08 56 05.7 -1.1
KBZ pmax pmax
comp=Z,2.0nm,0.9s
KBZ MLR MLR
comp=Z,26nm,21.6s
CD2 **Chengdu** 86.39 316 eP P 08 56 07.0 -0.5
BRTR **Keskin Array B** 89.36 13 LR LR 09 41 16.1
comp=Z,22nm,18.0s,baz=300,slow=39
KMI **Kunming** 91.80 314 P P 08 56 34.5 +1.2
KMI pP pP 08 56 41.0 +0.3
KMI sP sP 08 56 43.3 0.0
KMI S S 09 07 30.8 -2.4
KMI PMZ
comp=Z,8.0nm,0.7s
KMI PMZ
comp=Z,91nm,5.2s
KMI LZ
comp=Z,45nm,7.7s
CMAR **Chiang Mai Arr** 99.30 314 LR LR 09 44 47.8
comp=Z,33nm,19.1s,baz=82,slow=37
VNA1 **Neumayer--Stat** 146.50 149 PKiKP PKPdf 09 03 01.8 -1.5
SNAA **Sanae** 148.06 151 PKiKP PKPab 09 03 13.1 +1.0

PGC 26 08:48:35.2±4.7, 49°.94N×130°.13W, h10km, ML2.9/12, Mw3.5,210km Wsw of Pt. Hardy, Bc Vancouver Island Region,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.46**	**60**	Pn	Pn	08 49 59.5	-2.3
HOLB				Sn	Sn	08 49 17.0	-4.0
BPBC	**Brooks Peninsu**	**1.54**	**81**	Pn	Pn	08 49 00.2	-2.6
BPBC				Sn	Sn	08 49 17.6	-5.3
PHC	**Port Hardy**	**1.90**	**65**	Pn	Pn	08 49 05.6	-2.0
PHC				Sn	Sn	08 49 27.8	-3.7
FHRB	**Fair Harbour**	**1.95**	**85**	Sn	Sn	08 49 27.4	-5.4
EDB	**Eliza Dome**	**1.95**	**91**	Pn	Pn	08 49 08.4	0.0
EDB				Sn	Sn	08 49 27.7	-5.1
TLCB	**Telegraph Cove**	**2.20**	**73**	Pn	Pn	08 49 10.8	-1.1
TLCB				Sn	Sn	08 49 36.0	-3.1
WOSB	**Woss**	**2.31**	**83**	Pn	Pn	08 49 12.7	-0.7
BBB	**Bella Bella**	**2.59**	**29**	Pn	Pn	08 49 15.6	-1.5
BBB				Sn	Sn	08 49 43.4	-5.1
GDR	**Gold River**	**2.66**	**92**	Pn	Pn	08 49 17.0	-1.1
NCRB	**Newcastle Ridg**	**2.66**	**78**	Pn	Pn	08 49 17.0	-1.4
BNB	**Barry Inlet**	**2.83**	**340**	Pn	Pn	08 49 17.8	-2.8
BTS	**Buttle Lake**	**3.03**	**97**	Sn	Sn	08 49 56.4	-3.6
CBB	**Campbell River**	**3.08**	**86**	Pn	Pn	08 49 21.8	-2.1
CBB				Sn	Sn	08 49 58.6	-2.2
BCBC	**Bella Coola**	**3.23**	**40**	Pn	Pn	08 49 25.9	-0.1
MOBC	**Moresby Island**	**3.41**	**341**	Pn	Pn	08 49 26.9	-1.6
DIB	**Dawson Inlet,**	**3.58**	**337**	Pn	Pn	08 49 29.5	-1.3
MGB	**Mount Grey**	**3.67**	**103**	Pn	Pn	08 49 30.3	-1.9
SHB	**Sechelt**	**4.07**	**92**	Pn	Pn	08 49 36.1	-1.6
FSB	**Fort Saint Jam**	**5.78**	**36**	Pn	Pn	08 49 59.9	-1.2

*NNC **26** 08:52:51.1±4.0, 53°.79N×86°.47E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=37.1km s-min=28.6km az=81.0*
IDC 26 08:52:47.5±2.3, 54°.11N×86°.49E, h0km, mb1 3.6/3, mb1mx3.3/32, mbtmp3.6/3, ML3.4/3, 4C-3D, Error ellipse: s-maj=19.4km s-min=11.5km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**262**	*i*		08 59 30.0	
	baz=78,slow=310,SNR=1.9						
ZALV	**Zalesovo Beam**	**1.00**	**262**	Pg	Pg	08 53 04.8	-1.9
	5.6nm,0.3s,baz=80,slow=16,SNR=44						
ZALV				Lg	Lg	08 53 20.6	
	8.4nm,0.3s,baz=78,slow=30,SNR=20						
KURK	**Kurchatov**	**5.89**	**238**	⇑Pn	Pn	08 54 16.5	+0.5
	1.1nm,0.3s						
KURK				⇑Lg	Lg	08 55 54.6	
	4.3nm,0.7s						
KURBB	**Kurchatov Arra**	**6.00**	**238**	⇑Pn	Pn	08 54 18.1	+0.6
	5.2nm,0.5s						
KURBB				⇓Lg	Lg	08 55 56.7	
	5.5nm,0.7s						
KURBB	**Kurchatov Arra**	**6.00**	**238**	Pn	Pn	08 54 18.5	+1.0
	0.6nm,0.3s,baz=54,slow=13,SNR=32						
KURBB				Lg	Lg	08 56 00.5	
	0.1nm,0.3s,baz=53,slow=30,SNR=9.0						
MK31	**Makanchi Array**	**7.79**	**202**	⇑Pn	Pn	08 54 43.3	+1.1
	0.4nm,0.3s,baz=24,slow=13,SNR=31						
MK31				⇓Sn	Sn	08 56 07.3	-3.9
	1.5nm,0.8s						
MK31				⇓Lg	Lg	08 56 51.1	
	3.3nm,0.9s,baz=26,slow=29,SNR=4.7						
MKAR	**Makanchi Array**	**7.79**	**202**	Pn	Pn	08 54 43.2	+1.0
	1.5nm,0.3s,baz=24,slow=13,SNR=35						
MKAR				Sn	Sn	08 56 09.1	-2.1
	0.1nm,0.3s,baz=20,slow=25,SNR=6.3						
MKAR				Lg	Lg	08 56 53.7	
	0.1nm,0.3s,baz=24,slow=29,SNR=6.0						
BVAR	**Borovoye Array**	**9.65**	**270**	Pn	Pn	08 55 07.6	+0.1
	0.2nm,0.3s,baz=82,slow=20,SNR=2.8						

*HLW **26** 08:56:18.9, 36°.68N×26°.23E, h33km±17km, Ml4.1*
*IDC **26** 08:56:21.8±0.9, 36°.71N×26°.18E, h138km±11km, mb3.4/7, mb1 3.3/14, mb1mx3.2/34, mbtmp3.7/14, Error ellipse: s-maj=16.5km s-min=12.4km az=153.0*
*ATH **26** 08:56:22.7, 36°.55N×26°.27E, h150km±1km, ML3.4*
*ISCJB **26** 08:56:22.0±0.2, 36°.52N±0°.03×26°.30E±0°.03, h156km±3km, mb3.6/7, Error ellipse: s-maj=4.2km s-min=3.3km az=12.1*
*CSEM **26** 08:56:23.0±0.1, 36°.51N×26°.29E, h149km±2km, ML3.4, Error ellipse: s-maj=3.1km s-min=2.3km az=13.0*
*THE **26** 08:56:25.0, 36°.54N×26°.26E, h167km±3km, ML3.2/5, Error ellipse: s-maj=3.9km s-min=0.8km az=114.0*
*NIC **26** 08:56:27.1, 37°.57N×27°.18E, h35km, mb4.4, ML3.9*
ISC 26 08:56:22.4±0.6, 36°.52N±0°.03×26°.30E±0°.03, h157km±5km, n131, σ1§21/168, mb3.4/7, 4C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANT	**Santorini**	**0.70**	**258**	eP	**Pn**	**08 56 45.5**	**-0.2**
SANT				eS	**Sn**	**08 57 02.5**	**-0.9**
SANT	**Santorini**	**0.70**	**258**	eP	**Pn**	**08 56 45.5**	**-0.2**
SANT				eS	**Sn**	**08 57 02.5**	**-0.9**
NIS1	**Nisyros Isl.**	**0.71**	**83**	eP	**Pn**	**08 56 46.2**	**+0.5**
NIS1	**Nisyros Isl.**	**0.71**	**83**	eP	**Pn**	**08 56 46.2**	**+0.5**
NIS1	**Nisyros Isl.**	**0.71**	**83**	P	**Pn**	**08 56 46.2**	**+0.5**
THR6	**Thira Island,**	**0.75**	**258**	P	**Pn**	**08 56 46.5**	**+0.6**
THR6	**Thira Island,**	**0.75**	**258**	P	**Pn**	**08 56 46.5**	**+0.6**
APE	**Apeiranthos**	**0.83**	**312**	eP	**Pn**	**08 56 47.0**	**+0.4**
APE				eS	**Sn**	**08 57 03.6**	**-1.5**
APE	**Apeiranthos**	**0.83**	**312**	P	**Pn**	**08 56 46.9**	**+0.4**
APE				eS	**Sn**	**08 57 03.6**	**-1.5**
APE	**Apeiranthos**	**0.83**	**312**	P	**Pn**	**08 56 46.9**	**+0.4**
APE				S	**Sn**	**08 57 03.8**	**-1.3**
KARP	**Karpathos**	**1.19**	**144**	eP	**Pn**	**08 56 50.7**	**+1.1**
KARP	**Karpathos**	**1.19**	**144**	eP	**Pn**	**08 56 50.7**	**+1.1**
KARP				S	**Sn**	**08 57 09.9**	**-0.4**
KARP	**Karpathos**	**1.19**	**144**	P	**Pn**	**08 56 50.7**	**+1.1**
KARP				S	**Sn**	**08 57 09.9**	**-0.4**
SMG	**Samos**	**1.26**	**20**	eP	**Pn**	**08 56 50.5**	**+0.3**
SMG	**Samos**	**1.26**	**20**	eP	**Pn**	**08 56 50.5**	**+0.3**
SMG				S	**Sn**	**08 57 10.1**	**-1.5**
SMG	**Samos**	**1.26**	**20**	P	**Pn**	**08 56 50.5**	**+0.3**
SMG				S	**Sn**	**08 57 10.1**	**-1.5**

NPS **Neapolis** 1.37 204 eP Pn 08 56 52.0 +0.7
NPS eS Sn 08 57 12.6 -0.7
NPS **Neapolis** 1.37 204 eP Pn 08 56 52.0 +0.7
NPS eS Sn 08 57 12.6 -0.7
ZKR **Zakros** 1.40 183 P Pn 08 56 52.7 +1.2
ZKR S Sn 08 57 13.3 -0.5
ZKR **Zakros** 1.40 183 P Pn 08 56 52.7 +1.2
ZKR S Sn 08 57 13.3 -0.5
ARG **Arkhangelos** 1.50 101 eP Pn 08 56 53.9 +1.4
ARG eS Sn 08 57 15.5 -0.1
ARG **Arkhangelos** 1.50 101 P Pn 08 56 53.8 +1.3
ARG S Sn 08 57 16.0 +0.4
ARG **Arkhangelos** 1.50 101 P Pn 08 56 53.8 +1.3
ARG S Sn 08 57 16.0 +0.4
LAST **Lasithi** 1.51 207 eP Pn 08 56 53.7 +1.0
LAST eS Sn 08 57 15.5 -0.4
LAST **Lasithi** 1.51 207 P Pn 08 56 53.4 +0.7
LAST S Sn 08 57 15.9 0.0
LAST **Lasithi** 1.51 207 P Pn 08 56 53.4 +0.7
LAST S Sn 08 57 15.9 0.0
IACM **Heraklion** 1.57 220 eP Pn 08 56 54.0 +0.8
IACM **Heraklion** 1.57 220 eP Pn 08 56 54.0 +0.8
IDI **Anoyia** 1.68 224 P Pn 08 56 55.0 +0.6
15nm,0.3s,baz=55,slow=5.2,SNR=452
IDI S Sn 08 57 17.6 -1.5
60nm,0.3s,baz=304,slow=23,SNR=24
IDI **Anoyia** 1.68 224 P Pn 08 56 54.8 +0.3
IDI **Anoyia** 1.68 224 P Pn 08 56 54.8 +0.3
AYDN **Tasoluk** 1.70 47 iP Pn 08 56 56.1 +1.4
AYDN **Tasoluk** 1.70 47 iP Pn 08 56 56.1 +1.4
ZEY **˙zmir** 1.73 5 iP Pn 08 56 54.6 -0.2
URLA **Izmir** 1.85 7 iP Pn 08 56 56.3 0.0
URLA **Izmir** 1.85 7 iP Pn 08 56 56.3 0.0
CHOS **Chios island** 1.88 354 eP Pn 08 56 56.8 +0.2
CHOS **Chios island** 1.88 354 eP Pn 08 56 56.8 +0.2
CHOS S Sn 08 57 22.7 -0.4
CHOS **Chios island** 1.88 354 P Pn 08 56 56.6 0.0
CHOS S Sn 08 57 22.7 -0.4
TURN **Turunc** 1.88 78 iP Pn 08 56 54.2 -2.4
TURN i S Sn 08 57 16.4 -6.4
SIVA **Sivas** 1.93 220 eP Pn 08 56 57.6 +0.5
SIVA eS Sn 08 57 23.8 0.0
SIVA **Sivas** 1.93 220 eP Pn 08 56 57.6 +0.5
SIVA eS Sn 08 57 23.8 0.0
VAM **Vamos** 2.03 238 eP Pn 08 56 59.1 +0.8
VAM **Vamos** 2.03 238 eP Pn 08 56 59.1 +0.8
VAM S Sn 08 57 24.9 -1.1
VAM **Vamos** 2.03 238 P Pn 08 56 58.7 +0.4
VAM S Sn 08 57 24.9 -1.1
KARY **Karystos** 2.12 316 P Pn 08 56 59.9 +0.6
ANKY **Antikythira Is** 2.51 256 eP Pn 08 57 04.8 +0.8
ANKY **Antikythira Is** 2.51 256 eP Pn 08 57 04.8 +0.8
ANKY **Antikythira Is** 2.51 256 P Pn 08 57 04.5 +0.5
ATH **Athens Observa** 2.52 306 eP Pn 08 57 04.9 +0.8
ATH **Athens Observa** 2.52 306 eP Pn 08 57 04.9 +0.8
DID **Didima** 2.65 293 eP Pn 08 57 06.0 +0.4
DID **Didima** 2.65 293 P Pn 08 57 06.1 +0.4
DID S Sn 08 57 38.1 -1.0
DID **Didima** 2.65 293 P Pn 08 57 06.1 +0.4
DID S Sn 08 57 38.1 -1.0
KYTH **Kithira** 2.65 266 eP Pn 08 57 06.2 +0.5
KYTH **Kithira** 2.65 266 eP Pn 08 57 06.2 +0.5
KYTH **Kithira** 2.65 266 P Pn 08 57 06.5 +0.5
KRND **KRANIDI** 2.67 290 eP Pn 08 57 06.5 +0.6
KRND **KRANIDI** 2.67 290 eP Pn 08 57 06.5 +0.6
KSL **Kastellorizon** 2.67 97 eP Pn 08 57 07.3 +1.3
KSL **Kastellorizon** 2.67 97 eP Pn 08 57 07.3 +1.3
EREA **Eretria** 2.68 316 eP Pn 08 57 06.8 +0.8
EREA **Eretria** 2.68 316 eP Pn 08 57 06.8 +0.8
EREA **Eretria** 2.68 316 P Pn 08 57 06.8 +0.8
AKAS **Kas** 2.68 95 iP Pn 08 57 05.7 +1.3
AKAS i S Sn 08 57 37.1 -2.9
AKAS Kas 2.68 95 iP Pn 08 57 05.7 +1.3
GOLH **Golhisar** 2.71 74 iP Pn 08 57 08.3 +1.8
GOLH i S Sn 08 57 39.7 -0.9
GOLH **Golhisar** 2.71 74 iP Pn 08 57 08.3 +1.8
GOLH i S Sn 08 57 39.7 -0.9
VLI **Veliai** 2.71 275 eP Pn 08 57 06.6 +0.1
VLI **Veliai** 2.71 275 P Pn 08 57 06.7 +0.2
VLI **Veliai** 2.71 275 P Pn 08 57 06.7 +0.2
PRK **Paraskevi** 2.73 359 eP Pn 08 57 06.8 +0.3
PRK **Paraskevi** 2.73 359 eP Pn 08 57 06.9 +0.3
PRK **Paraskevi** 2.73 359 P Pn 08 57 06.6 0.0
VILL **Villia** 2.90 306 eP Pn 08 57 09.5 +0.8
VIL2 **Platees** 2.95 306 eP Pn 08 57 09.5 +0.1
LTK **Loutraki** 3.06 300 eP Pn 08 57 11.8 +1.1
LTK **Loutraki** 3.06 300 eP Pn 08 57 11.8 +1.1
MRKA **Markates** 3.07 316 eP Pn 08 57 11.0 +0.1
MRKA **Markates** 3.07 316 eP Pn 08 57 11.0 +0.1
KORT **Korkueli** 3.29 80 iP Pn 08 57 15.5 +1.7
KORT i S Sn 08 57 54.6 +1.0
KORT **Korkueli** 3.29 80 iP Pn 08 57 15.5 +1.7
KORT i S Sn 08 57 54.6 +1.0
GUR **Goura** 3.46 295 eP Pn 08 57 16.3 +0.3
GUR **Goura** 3.46 295 eP Pn 08 57 16.3 +0.3
ITM **Ithomi** 3.57 282 eP Pn 08 57 18.3 +1.0
ITM **Ithomi** 3.57 282 eP Pn 08 57 18.3 +1.0
KLV **Kalavryta, Ach** 3.65 296 eP Pn 08 57 19.0 +0.7
KLV **Kalavryta, Ach** 3.65 296 eP Pn 08 57 19.0 +0.7
PYL **PYLOS** 3.68 277 eP Pn 08 57 19.4 +0.7
PYL **PYLOS** 3.68 277 eP Pn 08 57 19.4 +0.7
KALE **Kalithea** 3.80 301 eP Pn 08 57 21.5 +1.2
KALE **Kalithea** 3.80 301 eP Pn 08 57 21.5 +1.2
LAKA **Lakka** 3.85 298 eP Pn 08 57 21.9 +1.0
LAKA **Lakka** 3.85 298 eP Pn 08 57 21.9 +1.0
GAZI **Gazipasa** 4.86 92 iP Pn 08 57 33.9 -0.2
GAZI i S Sn 08 58 25.4 -4.7
GAZI **Gazipasa** 4.86 92 iP Pn 08 57 33.9 -0.2
SLUM **5.09 191** P Pn 08 57 36.0 -1.2
baz=190
SLUM AMP 08 58 00.0
comp=E,220μm,0.3s,logA/T=5.8,baz=190
SLUM S Sn 08 58 32.0 -3.6
baz=190
SLUM **5.09 191** P Pn 08 57 36.0 -1.2
AKMC **Akamas** 5.12 105 ⇑P Pn 08 57 37.7 +0.2
baz=302
AKMC **Akamas** 5.12 105 ⇑P Pn 08 57 37.7 +0.2
PPCY **Paphos** 5.18 107 P Pn 08 57 38.8 +0.5
baz=304
PPCY **Paphos** 5.18 107 P Pn 08 57 38.8 +0.5
ALFC **Alevga** 5.29 103 ⇑P Pn 08 57 39.5 -0.3
baz=300
ALFC S Sn 08 58 36.6 -3.7
ALFC **Alevga** 5.29 103 ⇑P Pn 08 57 39.5 -0.3
HMAT **Matruh** 5.45 173 S Sn 08 58 40.9 -3.2
baz=172
HMAT AMP 08 58 00.0
comp=N,200μm,0.3s,logA/T=5.8,baz=172
SZAC **Souni-Zanaja** 5.64 106 P Pn 08 57 45.5 +1.1
baz=302
SZAC S Sn 08 58 46.9 -1.6
SZAC **Souni-Zanaja** 5.64 106 P Pn 08 57 45.5 +1.1
BRTR **Keskin Array B** 6.61 59 P Pn 08 57 58.0 +0.6
comp=N,0.2nm,0.3s,baz=232,slow=13,SNR=3.2
HBRG **Burj al 'Arab** 6.62 153 AMP 08 59 00.0
comp=E,240μm,0.2s,logA/T=6.1,baz=152
SWA2 **7.29 186** P Pn 08 58 06.4 +0.1
baz=186
SWA2 **7.29 186** P Pn 08 58 06.4 +0.1
MMAI **Mount Meron Ar** 8.26 112 P Pn 08 58 19.4 0.0
comp=E,6.7nm,0.3s,baz=307,slow=12,SNR=8.7
MMAI S Sn 08 59 47.5 -3.9
comp=E,9.8nm,0.3s,baz=306,slow=27,SNR=6.7
RSH **8.30 130** P Pn 08 58 20.4 +0.7
baz=130
RSH **8.30 130** P Pn 08 58 20.4 +0.7
STON **Ston** 9.18 316 ePn Pn 08 58 28.3 -3.0
ASF **Jabal al Asfar** 9.77 113 P Pn 08 58 42.2 +2.8
comp=E,0.6nm,0.3s,baz=333,slow=2.3,SNR=3.7
EIL **Elat** 9.96 131 P Pn 08 58 43.2 +1.5
comp=E,0.6nm,0.3s,baz=349,slow=16,SNR=5.7
EIL S Sn 09 00 27.8 -4.4
comp=E,5.0nm,0.3s,baz=285,slow=20,SNR=12
UDBI **Udbina** 11.32 318 ePn Pn 08 58 58.8 -0.8
KEST **Kesra** 13.73 272 P Pn 08 59 29.1 -1.6
comp=E,0.1nm,0.3s,baz=104,slow=4.2,SNR=2.2
AKASG **Malin Array Be** 14.34 8 P Pn 08 59 36.8 -1.2
comp=E,0.7nm,0.3s,baz=202,slow=11,SNR=5.5
GERES **GERESS Array B** 15.39 327 P Pn 08 59 50.9 -0.3
comp=E,0.3nm,0.3s,baz=136,slow=12,SNR=5.3
DPC **Dobruska-Polom** 15.59 336 eP P 08 59 54.9 +0.4

DPC			*ex*	x		08 59 58.3
KHC	**Kasperske Hory**	**15.66 328**	*eP*	**P**		**08 59 55.8 +0.5**
PRU	**Pruhonice**	**15.93 331**	*eP*	**P**		**08 59 59.3 +1.1**
PRU			*ex*	x		09 00 00.8
ESDC	**Sonseca Array**	**23.97 287**	P	**P**		**09 01 22.7 +0.4**
	comp=E,0.3nm,0.3s,baz=83,slow=9.5,SNR=3.8					
HFS	**Hagfors**	**24.99 345**	P	**P**		**09 01 29.3 -2.0**
	comp=E,1.6nm,0.9s,baz=144,slow=10.0,SNR=7.6					
TORD	**Torodi Ar. Bea**	**32.07 230**	P	**P**		**09 02 36.7 +2.1**
	comp=E,0.2nm,0.3s,baz=33,slow=8.6,SNR=11					
ARCES	**ARCESS Array B**	**33.08 359**	P	**P**		**09 02 42.0 -0.8**
	comp=E,0.4nm,0.5s,baz=180,slow=8.1,SNR=4.1					
MKAR	**Makanchi Array**	**42.26 58**	P	**P**		**09 04 01.4 +1.3**
	comp=E,0.5nm,0.5s,baz=267,slow=8.3,SNR=4.3					
SCHQ	**Schefferville**	**62.76 319**	P	**P**		**09 06 30.4 -0.2**
	comp=E,1.7nm,0.4s,baz=58,slow=2.9,SNR=6.6					
BOSA	**Boshof**	**64.79 181**	P	**P**		**09 06 47.1 +2.8**
	comp=E,1.5nm,0.9s,baz=14,slow=8.3,SNR=2.5					

NNC ***26*** *08:56:41.3±4.4, 52°.39N×87°.83E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=47.8km s-min=26.4km az=8.0*

IDC 26 08:56:34.0±3.1, 53°.60N×87°.97E, h0km, mb1 3.1/2, mb1mx2.9/31, mbtmp3.1/2, ML2.9/2, 7C-1D, Error ellipse: s-maj=28.3km s-min=17.0km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.90**	**282**	*i*		09 08 37.4	
	baz=98,slow=320,SNR=20						
ZALV	**Zalesovo Beam**	**1.90**	**282**	Pg	Pn	08 57 07.8	+0.1
	4.0nm,0.3s,baz=97,slow=17,SNR=24						
ZALV				Lg	Lg	08 57 34.7	
	8.9nm,0.3s,baz=98,slow=26,SNR=15						
KURK	**Kurchatov**	**6.44**	**247**	⇑Pn	Pn	08 58 11.2	+1.2
	1.7nm,1.0s						
KURK				⇑Sn	Sn	08 59 20.9	-3.3
	1.9nm,1.3s						
KURK				⇓Lg	Lg	08 59 54.3	
	19nm,1.5s						
KURBB	**Kurchatov Arra**	**6.54**	**247**	⇑Pn	Pn	08 58 12.1	+0.8
	2.0nm,0.4s						
KURBB				⇑Sn	Sn	08 59 22.4	-4.1
	4.1nm,0.8s						
KURBB				⇑Lg	Lg	08 59 54.2	
	6.3nm,0.8s						
KURBB	**Kurchatov Arra**	**6.54**	**247**	Pn	Pn	08 58 12.2	+0.9
	0.1nm,0.3s,baz=63,slow=14,SNR=6.1						
KURBB				Lg	Lg	08 59 59.8	
	0.1nm,0.3s,baz=64,slow=32,SNR=7.1						
MK31	**Makanchi Array**	**7.73**	**210**	⇑Pn	Pn	08 58 23.4	-4.4
	0.2nm,0.2s,baz=33,slow=15,SNR=5.7						
MK31				⇑Lg	Lg	09 00 16.2	
	1.9nm,0.9s,baz=33,slow=31,SNR=3.9						
MKAR	**Makanchi Array**	**7.73**	**210**	Pn	Pn	08 58 28.9	+1.2
	0.3nm,0.3s,baz=30,slow=14,SNR=5.2						
MKAR				Lg	Lg	09 00 38.0	
	0.1nm,0.3s,baz=29,slow=33,SNR=5.1						

IDC 26 09:04:25.6±17.0, 24°.55S×178°.23W, h302km±132km, mb3.6/4, mb1 3.7/5, mb1mx3.2/32, mbtmp4.3/5, Error ellipse: s-maj=136.2km s-min=31.4km az=42.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.23**	**195**	P	P	09 07 33.3	-0.8
	2.1nm,0.3s,baz=348,slow=2.7,SNR=18						
CTA	**Charters Tower**	**33.10**	**271**	P	P	09 10 35.4	+1.3
	5.7nm,0.4s,baz=98,slow=15,SNR=11						
STKA	**Stephens Creek**	**35.99**	**249**	P	P	09 10 58.5	-0.1
	1.5nm,0.5s,baz=102,slow=13,SNR=11						
ASAR	**Alice Springs**	**43.53**	**261**	P	P	09 11 59.6	-0.8
	0.9nm,0.4s,baz=93,slow=7.1,SNR=36						
WRA	**Warramunga Arr**	**43.98**	**266**	P	P	09 12 03.2	-0.8
	1.6nm,0.6s,baz=101,slow=8.1,SNR=47						
TORD	**Torodi Ar. Bea**	**168.66**	**180**	PKPab	PKPab	09 25 08.6	-0.1
	0.3nm,0.7s,baz=210,slow=2.2,SNR=2.5						

IGQ 26 09:16:38±1.7, 0°.61S×81°.14W, h6km±15km, Mb4.0, 8C-1D, Error ellipse: s-maj=11.3km s-min=3.9km az=19.7, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIS	**Cerro-Chispas-**	**0.60**	**137**	P	Pg	09 16 49.9	+0.3
JAMA	**Jama**	**0.99**	**70**	⇑P	Pn	09 16 57.5	-0.2
JAMA	**Jama**	**0.99**	**70**	⇑S	Sg	09 17 09.2	-0.9
MAG1	**Magdalena**	**1.46**	**69**	P	Pg	09 17 06.0	-0.1
PAST	**Pastocalle**	**2.50**	**92**	P	Pn	09 17 20.2	+0.4
JUA2	**San Juan 2**	**2.56**	**81**	P	Pn	09 17 21.9	+1.1
PINO	**Pino**	**2.57**	**80**	P	Pn	09 17 20.3	-0.7
GGP	**Refugio Guagua**	**2.58**	**80**	P	Pn	09 17 21.9	+0.8
YANA	**Yana**	**2.61**	**79**	P	Pn	09 17 20.5	-1.0
IGUA	**Igualata**	**2.65**	**109**	P	Pn	09 17 23.7	+1.6
BNAS	**Cotopaxi Volca**	**2.66**	**91**	⇑P	Pn	09 17 23.2	+1.1
NAS2	**Nasa**	**2.67**	**91**	P	Pn	09 17 23.4	+1.2
BMOR	**Cotopaxi Volca**	**2.68**	**93**	P	Pn	09 17 23.4	+0.9
BREF	**Cotopaxi Volca**	**2.69**	**91**	⇑P	Pn	09 17 24.1	+1.3
PITA	**Cotopaxi Volc**	**2.70**	**89**	P	Pn	09 17 24.6	+1.9
BVC2	**Cotopaxi Volca**	**2.72**	**91**	⇑P	Pn	09 17 24.4	+1.3
VC1	**Cotopaxi 1**	**2.73**	**91**	P	Pn	09 17 25.5	+2.3
BTAM	**Cotopaxi Volca**	**2.74**	**91**	⇑P	Pn	09 17 25.5	+2.2
RIOE	**Riobamba**	**2.75**	**114**	P	Pn	09 17 24.9	+1.7
TAMB	**Tambo**	**2.77**	**92**	P	Pn	09 17 25.6	+1.9
PISA	**Pisayambo**	**2.79**	**99**	P	Pn	09 17 26.3	+2.4
COV1	**Cotopaxi Volc**	**2.79**	**91**	P	Pn	09 17 24.2	+0.1
BMAS	**Trigal station**	**2.80**	**109**	⇑P	Pn	09 17 25.0	+1.1
OTAV	**Otavalo**	**2.81**	**73**	⇑P	Pn	09 17 24.8	+0.6
ARRY	**Arrayan**	**2.82**	**108**	P	Pn	09 17 25.2	+0.9
PAT1	**Patacocha**	**2.84**	**108**	P	Pn	09 17 26.2	+1.6
BPAT	**Tungurahua Vol**	**2.84**	**108**	P	Pn	09 17 26.2	+1.6
BULB	**Ulba Tungurahu**	**2.85**	**107**	P	Pn	09 17 26.8	+2.2
COTA	**Cotacachi**	**2.95**	**72**	P	Pn	09 17 26.8	+0.6
ANTI	**Antisana**	**2.98**	**87**	⇓P	Pn	09 17 28.2	+1.5
URCU	**Urcuqui**	**3.06**	**70**	P	Pn	09 17 29.7	+2.1
LITE	**Lita**	**3.11**	**63**	P	Pn	09 17 30.4	+2.6
CAYR	**Refugio Cayamb**	**3.19**	**79**	P	Pn	09 17 32.1	+2.5

IDC ***26*** *09:23:45.3±1.3, 8°.88S×158°.54E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/28, mbtmp3.8/7, MS3.5/3, Ms1 3.5/3, ms1mx2.9/22, Error ellipse: s-maj=45.7km s-min=23.8km az=110.0*

ISCJB ***26*** *09:23:49.5±0.8, 8°.75S±0°.1×158°.10E±0°.07, h33km, mb3.7/7, MS3.4/2, Error ellipse: s-maj=21.5km s-min=9.7km az=11.1*

ISC 26 09:23:51.6±0.8, 8°.8S±0°.2×158°.2E±0°.1, h35km, n12, σ1s81/10, mb3.8/7, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.87**	**111**	LR	LR	09 24 54.9	
	comp=Z,554nm,20.3s,baz=271,slow=47						
HNR	**Honiara**	**1.87**	**111**	*eP*	**Pn**	**09 24 20.0**	**-1.1**
HNR				*i* S	**Sn**	**09 24 46.0**	**+2.4**
PMG	**Port Moresby**	**10.89**	**266**	LR	LR	09 30 35.0	
	comp=Z,219nm,18.3s,baz=114,slow=36						
WRA	**Warramunga Arr**	**25.58**	**242**	P	**P**	**09 29 18.6**	**+0.9**
	0.8nm,0.6s,baz=71,slow=9.7,SNR=10						
WRA				LR	LR	09 39 03.4	
	comp=Z,76nm,18.9s,baz=210,slow=36						
ASAR	**Alice Springs**	**27.54**	**235**	P	**P**	**09 29 34.7**	**-0.6**
	0.4nm,0.9s,baz=63,slow=10,SNR=4.6						
STKA	**Stephens Creek**	**27.67**	**212**	P	**P**	**09 29 37.4**	**+1.0**
	1.3nm,0.5s,baz=30,slow=13,SNR=5.6						
FITZ	**Fitzroy Crossi**	**32.92**	**250**	LR	LR	09 42 38.2	
	comp=Z,89nm,18.6s,slow=34						
VNDA	**Vanda**	**68.75**	**179**	P	**P**	**09 34 50.0**	**-1.4**
	0.9nm,0.9s,baz=356,slow=5.2,SNR=3.8						
SONM	**Songino Array**	**72.54**	**326**	P	**P**	**09 35 17.8**	**+2.6**
	1.9nm,0.9s,baz=124,slow=7.4,SNR=8.1						
ILAR	**Eielson Array**	**83.89**	**21**	P	**P**	**09 36 15.7**	**-1.8**
	0.4nm,0.7s,baz=251,slow=5.5,SNR=5.6						
MKAR	**Makanchi Array**	**86.82**	**318**	P	**P**	**09 36 31.9**	**-0.7**
	0.5nm,0.5s,baz=100,slow=6.4,SNR=5.0						
MLR	**Muntele Rosu**	**125.10**	**320**	⇑*iP*	**Pdif**	**09 39 26.0**	**+0.9**

MEX 26 09:47:56.5±0.4, 16°.72N×99°.36W, h17km±999km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACP2	**Acapulco**	**0.53**	**287**	*eP*	Pg	09 48 04.7	-2.3
ACP2				*eS*	Sg	09 48 12.7	-1.4
CAIG	**El Cayaco**	**0.93**	**291**	*eP*	Pb	09 48 11.2	-2.9
CAIG				*eS*	Sb	09 48 22.2	-3.9
TLIG	**Tlapa**	**1.13**	**42**	*eP*	Pn	09 48 14.0	-3.8
TLIG				*i* S	Sb	09 48 27.2	-5.1
MEIG	**Mezcala**	**1.22**	**348**	*eP*	Pn	09 48 15.4	-3.6
MEIG				*eS*	Sb	09 48 30.1	-4.8
ARIG	**Puente Sto Nin**	**1.81**	**329**	*eP*	Pn	09 48 24.3	-2.7
ARIG				*eS*	Sn	09 48 45.0	-4.7

IDC ***26*** *09:48:13.5±2.4, 61°.53N×150°.54W, h0km, mb3.3/3, mb1 3.8/5, mb1mx3.5/27, mbtmp3.3/5, ML3.1/2, Error ellipse: s-maj=39.3km s-min=13.9km az=90.0*

ISCJB ***26*** *09:48:17.4±0.2, 61°.86N±0°.02×150°.84W±0°.04, h76km±4km, mb3.1/3, Error ellipse: s-maj=3.6km s-min=3.0km az=22.1*

NEIC ***26*** *09:48:19.3, 61°.85N×150°.84W, h61km, ML3.3(AEIC), After AEIC.*

ISC 26 09:48:18.4±0.9, 61°.86N±0°.03×150°.88W±0°.03, h64km±7km, n80, σ0s68/96, mb3.2/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKT	**Skwentna**	**0.33**	**292**	P	**Pn**	**09 48 29.2**	**0.0**
SKT				S	**Sn**	**09 48 37.5**	**+0.4**
SUA	**Susitna One**	**0.41**	**170**	P	**Pn**	**09 48 30.1**	**+0.1**
SUA				S	**Sn**	**09 48 38.9**	**+0.5**
TRAP	**Trapper Creek**	**0.56**	**32**	P	**Pn**	**09 48 31.5**	**+0.1**
STLK	**Strandline Lak**	**0.58**	**232**	P	**Pn**	**09 48 31.7**	**0.0**
CUT	**Chulitna**	**0.62**	**28**	P	**Pn**	**09 48 32.2**	**+0.3**
FIB	**Fire Island**	**0.78**	**154**	P	**Pn**	**09 48 34.7**	**+0.9**
SPCG	**Spurr Capps Gl**	**0.79**	**224**	P	**Pn**	**09 48 34.0**	**-0.2**
SPCG				S	**Sn**	**09 48 45.6**	**-0.1**
PMR	**Palmer**	**0.88**	**107**	P	**Pn**	**09 48 34.5**	**+0.5**
PMR				S	**Sn**	**09 48 47.1**	**-0.2**
CKN	**Chakachatna No**	**0.89**	**225**	P	**Pn**	**09 48 35.6**	**+0.3**
VOGL	**Vogel Lake**	**0.90**	**166**	P	**Pn**	**09 48 36.3**	**+1.1**
SPBG	**Spurr Blockage**	**0.93**	**230**	P	**Pn**	**09 48 36.0**	**+0.1**
BGL	**Barrier Glacie**	**0.94**	**231**	P	**Pn**	**09 48 36.1**	**+0.1**
RC01	**Rabbit Creek A**	**0.95**	**144**	P	**Pn**	**09 48 35.6**	**-0.4**
RC01				S	**Sn**	**09 48 49.5**	**+0.5**
CKL	**Chakachamna La**	**0.96**	**227**	P	**Pn**	**09 48 36.3**	**0.0**
NKA	**Nikishka**	**1.14**	**189**	P	**Pn**	**09 48 40.4**	**+2.1**
SML	**Sawmill**	**1.21**	**91**	P	**Pn**	**09 48 39.1**	**-0.3**
SML				S	**Sn**	**09 48 55.4**	**+0.3**
HUR	**Hurricane**	**1.26**	**27**	P	**Pn**	**09 48 40.6**	**+0.5**
HUR				S	**Sn**	**09 48 57.3**	**+1.1**
BGRM	**Barrier Glacie**	**1.33**	**214**	P	**Pn**	**09 48 40.9**	**-0.2**
PTE	**Portage**	**1.34**	**137**	P	**Pn**	**09 48 40.5**	**-0.5**
SLKM	**Skilak Lake**	**1.40**	**166**	P	**Pn**	**09 48 41.4**	**-0.4**
PWL	**Port Wells**	**1.59**	**128**	P	**Pn**	**09 48 42.7**	**-0.7**
TRF	**Thorofare Moun**	**1.62**	**10**	P	**Pn**	**09 48 45.4**	**+0.5**
TRF				S	**Sn**	**09 49 05.8**	**+0.9**
RDN	**Redoubt North**	**1.63**	**215**	P	**Pn**	**09 48 45.2**	**+0.1**
NCT	**North Crescent**	**1.64**	**218**	P	**Pn**	**09 48 45.8**	**+0.7**
CAST	**Castle Rocks**	**1.66**	**341**	P	**Pn**	**09 48 45.8**	**+0.4**
CAST				S	**Sn**	**09 49 05.5**	**-0.1**
RSO	**Redoubt South**	**1.67**	**214**	P	**Pn**	**09 48 46.3**	**+0.6**
SCM	**Sheep Creek Mo**	**1.69**	**89**	P	**Pn**	**09 48 45.5**	**-0.2**
RND	**Reindeer**	**1.81**	**30**	P	**Pn**	**09 48 47.6**	**+0.1**
SEW	**Seward**	**1.90**	**158**	P	**Pn**	**09 48 48.4**	**-0.1**
DHY	**Denali Highway**	**2.04**	**52**	P	**Pn**	**09 48 51.3**	**+0.8**
ILIM	**Iliamna**	**2.06**	**210**	P	**Pn**	**09 48 51.3**	**+0.6**
MCK	**McKinley**	**2.08**	**25**	P	**Pn**	**09 48 51.6**	**+0.5**
MCK				S	**Sn**	**09 49 16.3**	**+0.4**
CHUM	**Lake Minchumin**	**2.13**	**343**	P	**Pn**	**09 48 52.5**	**+0.8**
CHUM				S	**Sn**	**09 49 16.9**	**-0.1**
BPAW	**Bear Paw Mtn.**	**2.25**	**359**	P	**Pn**	**09 48 53.4**	**+0.1**
VLZ	**Valdez**	**2.30**	**107**	P	**Pn**	**09 48 52.8**	**-1.2**
CNPM	**China Poot**	**2.35**	**184**	P	**Pn**	**09 48 55.2**	**+0.5**
SVW2	**Sparrevohn**	**2.38**	**253**	P	**Pn**	**09 48 54.9**	**-0.2**
SVW2				S	**Sn**	**09 49 23.1**	**-0.1**
KLU	**Klutina**	**2.40**	**97**	P	**Pn**	**09 48 54.5**	**-0.9**
BWN	**Browne**	**2.41**	**15**	P	**Pn**	**09 48 56.4**	**+0.9**
OPT	**Oil Point**	**2.50**	**208**	P	**Pn**	**09 48 57.6**	**+0.9**
DIV	**Divide**	**2.56**	**104**	P	**Pn**	**09 48 56.3**	**-1.3**
TT01	**Tatalina**	**2.61**	**296**	P	**Pn**	**09 48 58.4**	**+0.2**
TTA	**Tatalina**	**2.62**	**296**	P	**Pn**	**09 48 58.4**	**0.0**
HARP	**HAARP**	**2.75**	**76**	P	**Pn**	**09 49 00.8**	**+0.7**
PAX	**Paxson**	**2.75**	**64**	P	**Pn**	**09 49 00.8**	**+0.5**
EYAK	**Cordova Ski Ar**	**2.81**	**116**	P	**Pn**	**09 48 59.3**	**-1.6**
WRH	**Wood River Hil**	**2.91**	**25**	P	**Pn**	**09 49 02.2**	**0.0**
HDA	**Harding Lake**	**3.12**	**33**	P	**Pn**	**09 49 05.2**	**+0.1**
CCB	**Clear Creek Bu**	**3.12**	**25**	P	**Pn**	**09 49 05.0**	**-0.2**
BMRM	**Bremner River**	**3.15**	**104**	P	**Pn**	**09 49 05.7**	**+0.1**
WASW	**Wrangell South**	**3.18**	**86**	P	**Pn**	**09 49 05.8**	**-0.3**
MLY	**Manley**	**3.18**	**1**	P	**Pn**	**09 49 06.2**	**+0.1**
PS08	**TAPS Pump Stn8**	**3.26**	**33**	P	**Pn**	**09 49 07.1**	**0.0**
COLA	**College**	**3.32**	**23**	P	**Pn**	**09 49 07.9**	**+0.1**
MDM	**Murphy Dome**	**3.33**	**20**	P	**Pn**	**09 49 08.1**	**0.0**
GLB	**Gilahina Butte**	**3.40**	**94**	P	**Pn**	**09 49 09.1**	**+0.1**
IL1	**Eielson Array**	**3.43**	**30**	P	**Pn**	**09 49 09.2**	**-0.2**
ILAR	**Eielson Array**	**3.43**	**30**	P	Pn	**09 49 09.7**	**+0.3**
	2.6nm,0.3s,baz=213,slow=14,SNR=174						
ILAR					**Sn**	**09 49 49.2**	**+0.4**
	11nm,0.3s,baz=213,slow=23,SNR=11						
ILAR				Lg	Lg	09 50 08.1	
	14nm,0.3s,baz=210,slow=28,SNR=10						
MENT	**Mentasta**	**3.50**	**69**	*ePn*	**Pn**	**09 49 10.3**	**-0.1**
MENT				*eSn*	**Sn**	**09 49 51.5**	**+0.9**
MCARA	**McCarthy VSAT**	**3.78**	**94**	P	**Pn**	**09 49 14.0**	**-0.2**
KAHC	**Katmai Hardscr**	**3.82**	**214**	P	**Pn**	**09 49 15.1**	**+0.3**
PS06	**TAPS Pump Stn6**	**4.04**	**7**	P	**Pn**	**09 49 18.2**	**+0.5**
KDAK	**Kodiak Island**	**4.18**	**193**	*ePn*	**Pn**	**09 49 20.8**	**+1.2**
KDAK				*eSn*	**Sn**	**09 50 07.5**	**+0.4**
KIAG	**Kiagna River**	**4.21**	**99**	P	**Pn**	**09 49 19.1**	**-1.0**
ISLE	**Juniper Island**	**4.32**	**103**	P	**Pn**	**09 49 20.9**	**-0.7**
IM04	**Indian Mountai**	**4.32**	**344**	*ePn*	**Pn**	**09 49 22.1**	**+0.5**
IM3	**Indian Mountai**	**4.33**	**344**	P	**Pn**	**09 49 22.0**	**+0.4**
BAGL	**Bagley Icefiel**	**4.47**	**104**	P	**Pn**	**09 49 22.9**	**-0.7**
BARN	**Barnard Glacie**	**4.50**	**96**	P	**Pn**	**09 49 23.6**	**-0.5**
EGAK	**Eagle**	**5.27**	**52**	*ePn*	**Pn**	**09 49 34.1**	**-0.3**
	24nm,0.6s						
COLD	**Coldfoot**	**5.40**	**3**	P	**Pn**	**09 49 37.0**	**+0.8**
DAWY	**Dawson**	**5.69**	**62**	P	**Pn**	**09 49 40.1**	**-0.2**
BM3	**Burnt Mountain**	**6.19**	**23**	P	**Pn**	**09 49 47.6**	**+0.4**
HYT	**Haines Junctio**	**6.52**	**93**	*ePn*	**Pn**	**09 49 51.6**	**-0.1**
	3.0nm,0.4s						
ANM	**Nome**	**7.08**	**299**	P	**Pn**	**09 50 00.2**	**+1.0**
TNA	**Tin City**	**8.41**	**304**	*ePn*	**Pn**	**09 50 18.3**	**+0.9**
	5.6nm,0.7s						
TNA				*eSn*	**Sn**	**09 51 47.9**	**-2.7**
YKA	**Yellowknife Ar**	**16.81**	**72**	Pn	**Pn**	**09 52 08.1**	**-1.1**
	0.1nm,0.3s,baz=286,slow=9.7,SNR=2.8						
NVAR	**Mina Array Bea**	**30.82**	**124**	P	**P**	**09 54 28.0**	**-0.2**
	0.2nm,0.4s,baz=331,slow=7.2,SNR=4.4						
PDAR	**Pinedale Array**	**30.92**	**109**	P	**P**	**09 54 28.5**	**-0.6**
	0.1nm,0.4s,baz=349,slow=3.7,SNR=3.3						
TXAR	**Lajitas Array**	**44.74**	**114**	P	**P**	**09 56 25.9**	**+0.7**
	0.4nm,0.9s,baz=335,slow=6.1,SNR=4.7						

JMA 26 09:50:43.8±0.7, 43°.61N×150°.15E, h30km, M3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.22**	**267**	P	Pn	09 51 31.3	-0.9
NEM2				*eS*	Sn	09 52 06.9	-2.6
JNK	**Nakash**	**3.94**	**272**	P	Pn	09 51 41.9	-0.4
JNK				*eS*	Sn	09 52 25.0	-2.5
JAK	**Akkeshi**	**4.03**	**263**	P	Pn	09 51 42.7	-0.7
JTKR	**Abashiri--Toko**	**4.53**	**277**	P	Pn	09 51 51.6	+1.3
JAR	**Ashorobuto**	**4.66**	**268**	P	Pn	09 51 52.5	+0.5
JOB	**Onbets**	**4.67**	**263**	P	Pn	09 51 51.7	-0.5
JMP	**Maruseppu**	**4.93**	**277**	P	Pn	09 51 57.7	+1.9
JCH	**Churui**	**5.07**	**261**	P	Pn	09 51 57.0	-0.7
JKK2	**Kamakawa 2**	**5.37**	**275**	P	Pn	09 52 05.0	+3.1
JNBK	**Urakawa-nobuka**	**5.59**	**259**	P	Pn	09 52 04.4	-0.5
JBT2	**Biratori 2**	**5.75**	**264**	P	Pn	09 52 07.3	+0.2
JKB	**Kayabe**	**6.93**	**259**	P	Pn	09 52 23.2	0.0
JKB				*eS*	Sn	09 53 35.2	-5.8
JANG	**Nango**	**7.20**	**246**	P	Pn	09 52 23.9	-3.1
JANG				*eS*	Sn	09 53 38.2	-10
JIO	**Ouri**	**8.41**	**235**	*eS*	Sn	09 54 05.9	-12

IDC ***26*** *09:57:04.2±0.6, 34°.01S×72°.21W, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.3/18, mbtmp4.2/13, ML4.2/1, MS3.8/8, Ms1 3.7/8, ms1mx3.5/16, Error ellipse: s-maj=26.6km s-min=15.9km az=95.0*

ISCJB ***26*** *09:57:06.0±1.1, 33°.99S±0°.03×72°.43W±0°.06, h24km±7km, mb4.2/14, MS3.8/5, Error ellipse: s-maj=8.1km s-min=5.0km az=3.5*

NEIC ***26*** *09:57:07.0, 34°.03S×72°.34W, h15km, ML3.7(GUC), After GUC.*

NEIC Felt [II] at Navidad, Rancagua and San Antonio.

GUC ***26*** *09:57:07.3±0.5, 34°.03S×72°.34W, h15km±409km, ML3.7*

ISC 26 09:57:06.0±1.8, 34°.00S±0°.04×72°.40W±0°.07, h12km±10km, n45, σ1s90/53, mb4.4/14, MS3.8/5, 2C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U73B	**San Pedro**	**0.81**	**85**	*ePg*	**Pg**	**09 57 21.4**	**-0.3**
U73B				*eSg*	**Sg**	**09 57 32.4**	**+0.1**
LNV	**Longovilo**	**0.82**	**88**	⇓*iP*	**Pg**	**09 57 21.7**	**-0.1**
IHA	**Instituto Hidr**	**1.15**	**33**	⇑*iP*	**Pb**	**09 57 27.4**	**-0.4**
IHA				*i* S	**Sb**	**09 57 42.8**	**0.0**
NICH	**Los Niches**	**1.39**	**137**	⇓*eP*	**Pn**	**09 57 30.7**	**-0.5**
NICH				*i* S	**Sn**	**09 57 47.8**	**-1.7**
CHCH	**Chadas Angostu**	**1.45**	**88**	⇑*iP*	**Pn**	**09 57 31.5**	**-0.6**
TALC	**Talca**	**1.53**	**156**	*eP*	**Pn**	**09 57 32.9**	**-0.2**
TALC				*i* S	**Sn**	**09 57 52.0**	**-1.0**
SAN	**Santiago**	**1.54**	**70**	*i* P	**Pn**	**09 57 33.0**	**-0.3**
SAN				*i* S	**Sn**	**09 57 52.8**	**-0.5**
LACH	**Col Las Americ**	**1.65**	**71**	*i* P	**Pn**	**09 57 34.4**	**-0.3**
LACH				*i* S	**Sn**	**09 57 55.4**	**-0.4**
LACH				AML	AML	09 58 08.8	
	comp=E,2μm,0.5s						
LNCH	**Linares**	**1.96**	**161**	*eP*	**Pn**	**09 57 39.5**	**+0.5**
LNCH				*i* S	**Sn**	**09 58 03.5**	**0.0**
U14B	**Concepcin**	**2.91**	**191**	*ePn*	**Pn**	**09 57 52.3**	**+0.2**
CFAA	**Coronel Fontan**	**4.24**	**57**	Pn	**Pn**	**09 58 11.6**	**+1.2**
	comp=E,0.9nm,0.3s,baz=30,slow=0.6,SNR=38						
CFAA					Sn	**09 59 03.4**	**+3.7**
	comp=E,1.7nm,0.3s,baz=250,slow=9.7,SNR=3.7						
CFAA				LR	LR	10 00 08.7	
	comp=E,128nm,19.2s,baz=246,slow=45						
LCO	**Las Campanas**	**5.17**	**17**	*ePn*	**Pn**	**09 58 22.8**	**-0.7**
	comp=E,100nm,0.7s						
LCO				*eSn*	**Sn**	**09 59 20.8**	**-2.5**
TRQA	**Tornquist**	**9.36**	**119**	*ePn*	**Pn**	**09 59 21.9**	**+1.2**
	comp=E,13nm,0.8s						
LVC	**Limon Verde**	**11.75**	**16**	Pn	Pn	09 59 47.8	-5.8
	comp=E,12nm,0.3s,baz=166,slow=12,SNR=3.1						
LVC				LR	LR	10 04 56.0	
	comp=E,1μm,19.0s,baz=212,slow=40						
CPUP	**Villa Florida**	**15.09**	**64**	Pn	**Pn**	**10 00 40.8**	**+1.8**
	comp=E,0.1nm,0.3s,baz=219,slow=14,SNR=2.9						
CPUP				LR	LR	10 07 05.2	
	comp=E,534nm,18.0s,baz=240,slow=40						
LPAZ	**La Paz**	**18.05**	**13**	P	**P**	**10 01 18.3**	**+0.6**
	comp=E,0.3nm,0.3s,baz=197,slow=7.5,SNR=22						
SIV	**San Ignacio**	**20.63**	**32**	P	**P**	**10 01 44.2**	**-1.1**
	comp=E,6.2nm,0.7s,baz=218,slow=10.0,SNR=21						
USHA	**Ushuaia**	**21.02**	**174**	P	**P**	**10 01 49.2**	**0.0**
	comp=E,5.1nm,0.9s,baz=262,slow=19,SNR=2.1						
SAML	**Samuel**	**26.33**	**21**	*eP*	**P**	**10 02 41.5**	**-0.3**
	comp=E,5.8nm,0.7s						
BDFB	**Brasilia**	**28.58**	**56**	P	**P**	**10 03 00.2**	**-1.9**
	comp=E,5.6nm,0.8s,baz=250,slow=6.7,SNR=4.9						
BDFB				LR	LR	10 14 51.9	
	comp=

PGC 26 10:14:51.8±5.2, 50.04N×130.10W, h10km, ML3.0/22, Mw3.6, 204km Wsw of Pt. Hardy, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.40**	**64**	Pn	Pn	10 15 15.3	-2.1
HOLB				Sn	Sn	10 15 31.1	-4.9
BPBC	**Brooks Peninsu**	**1.50**	**84**	Pn	Pn	10 15 15.7	-3.2
PHC	**Port Hardy**	**1.83**	**68**	Pn	Pn	10 15 21.4	-1.9
PHC				Sn	Sn	10 15 42.7	-3.9
MAYB	**Maynard**	**1.92**	**78**	Pn	Pn	10 15 22.7	-2.0
MAYB				Sn	Sn	10 15 48.4	-0.6
FHRB	**Fair Harbour**	**1.92**	**88**	Pn	Pn	10 15 22.1	-2.4
EDB	**Eliza Dome**	**1.93**	**94**	Sn	Sn	10 15 43.9	-5.1
TLCB	**Telegraph Cove**	**2.15**	**75**	Pn	Pn	10 15 26.2	-1.5
TLCB				Sn	Sn	10 15 50.8	-3.6
WOSB	**Woss**	**2.27**	**85**	Pn	Pn	10 15 27.4	-2.1
BBB	**Bella Bella**	**2.49**	**29**	Pn	Pn	10 15 31.0	-1.4
BBB				Sn	Sn	10 15 58.4	-4.4
NCRB	**Newcastle Ridg**	**2.62**	**80**	Pn	Pn	10 15 33.1	-1.2
NCRB				Sn	Sn	10 16 04.2	-2.2
GDR	**Gold River**	**2.64**	**94**	Pn	Pn	10 15 32.2	-2.2
TOFB	**Tofino**	**2.87**	**106**	Sn	Sn	10 16 08.7	-3.4
BTB	**Buttle Lake**	**3.02**	**99**	Sn	Sn	10 16 13.1	-3.3
CBB	**Campbell River**	**3.05**	**88**	Pn	Pn	10 15 39.0	-1.2
CBB				Sn	Sn	10 16 14.5	-2.2
BCBC	**Bella Coola**	**3.15**	**41**	Pn	Pn	10 15 42.0	+0.6
BCBC				Sn	Sn	10 16 18.8	-0.1
OZB	**Mount Ozzard**	**3.19**	**108**	Sn	Sn	10 16 16.5	-3.7
DIB	**Dawson Inlet,**	**3.50**	**336**	Pn	Pn	10 15 45.0	-1.2
VIB	**Van Inlet**	**3.56**	**336**	Pn	Pn	10 15 46.3	-0.9
MGB	**Mount Grey**	**3.67**	**104**	Pn	Pn	10 15 48.4	-0.4
MGB				Sn	Sn	10 16 28.2	-4.0
TXB	**Texada**	**3.68**	**93**	Pn	Pn	10 15 49.2	+0.4
YOUB	**Youbou, Lake C**	**3.97**	**104**	Pn	Pn	10 15 54.5	+1.7
YOUB				Sn	Sn	10 16 37.6	-2.0
SHB	**Sechelt**	**4.05**	**94**	Pn	Pn	10 15 54.0	-0.1
SHB				Sn	Sn	10 16 37.7	-3.9
NDB	**Naden**	**4.30**	**337**	Pn	Pn	10 15 54.3	-3.0
BIB	**Bowen Island**	**4.45**	**96**	Pn	Pn	10 15 59.5	+0.2
WPB	**Watts Point**	**4.47**	**92**	Pn	Pn	10 15 59.5	-0.1
UBRB	**Upper Baezaeko**	**4.72**	**50**	Pn	Pn	10 16 03.6	+0.4
UBRB				Sn	Sn	10 16 57.4	-0.8
HNB	**Haney**	**4.94**	**96**	Pn	Pn	10 16 07.5	+1.4
HNB				Sn	Sn	10 17 01.4	-1.9
FSB	**Fort Saint Jam**	**5.69**	**36**	Pn	Pn	10 16 15.4	-0.9

*ISCJB **26** 10:48:40.5±0.3, 6.69N±0.06×123.59E±0.09, h600km, mb3.9/17, Error ellipse: s-maj=13.0km s-min=6.3km az=152.7*
*IDC **26** 10:48:43.0±1.0, 6.65N×123.79E, h622km±12km, mb3.3/17, mb1 3.4/19, mb1mx3.3/28, mbtmp4.4/19, Error ellipse: s-maj=14.9km s-min=6.9km az=70.0*
*MAN **26** 10:48:47, 6.55N×123.74E, h522km, mb4.5, ML3.4, MS3.3*

ISC 26 10:48:41.5±0.5, 6.66N±0.07×123.7E±0.1, h600km, n41, σ1§30/46, mb3.8/16, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.79**	**45**	*i* P	**P**	**10 49 52.6**	**+0.2**
KKM	**Kota Kinabalu**	**7.45**	**266**	P	P	10 50 34.8	-1.0
	baz=7.2,SNR=14						
TGY	**Tagaytay City**	**7.87**	**340**	P	P	10 50 43.6	+3.9
	29nm,0.3s,baz=323,slow=20,SNR=3.0						
TGY				S	**S**	**10 52 18.1**	**+1.6**
	111nm,0.3s,baz=284,slow=19,SNR=4.0						
SWI	**Sorong**	**10.63**	**134**	P	**P**	**10 51 08.3**	**+1.6**
	baz=11,SNR=4.6						
SIJI	**Sorong**	**10.64**	**134**	P	**P**	**10 51 08.1**	**+1.3**
	7.0nm,0.3s,baz=319,slow=14,SNR=23						
FAKI	**Fak Fak**	**12.79**	**138**	P	**P**	**10 51 29.5**	**+1.1**
	baz=13,SNR=14						
JAY	**Jayapura**	**19.28**	**118**	P	**P**	**10 52 29.5**	**+0.5**
	0.9nm,0.3s,baz=243,slow=2.3,SNR=3.3						
MTN	**Manton Dam**	**20.74**	**159**	P	**P**	**10 52 42.1**	**0.0**
	baz=21,SNR=3.4						
KDU	**Kakadu**	**21.11**	**156**	P	**P**	**10 52 45.2**	**-0.2**
	baz=21,SNR=4.1						
KNRA	**Kununurra**	**22.75**	**167**	P	**P**	**10 53 00.2**	**+0.2**
	baz=23,SNR=5.0						
CMAR	**Chiang Mai Arr**	**26.80**	**298**	P	**P**	**10 53 36.4**	**+0.7**
	1.9nm,0.7s,baz=117,slow=7.3,SNR=11						
JCJ	**Chichijima**	**26.88**	**39**	P	**P**	**10 53 36.1**	**-0.2**
	17nm,0.7s,baz=276,slow=22,SNR=6.9						
JCJ				S	**S**	**10 57 29.7**	**-2.5**
	25nm,0.9s,baz=288,slow=19,SNR=5.7						
COEN	**Coen**	**28.18**	**137**	P	**P**	**10 53 47.8**	**0.0**
	baz=28,SNR=9.4						
WRA	**Warramunga Arr**	**28.44**	**159**	P	**P**	**10 53 49.9**	**0.0**
	13nm,0.5s,baz=333,slow=11,SNR=291						
WRA				PcP	**PcP**	**10 56 42.0**	**-0.1**
	0.6nm,0.4s,baz=334,slow=2.8,SNR=4.6						
WRA				S	**S**	**10 57 51.6**	**-5.0**
	3.0nm,0.6s,baz=335,slow=15,SNR=15						
WRA				ScP	**ScP**	**10 59 26.8**	**-0.6**
	1.0nm,0.5s,baz=343,slow=3.1,SNR=6.6						
QIS	**Mount Isa**	**31.25**	**150**	P	**P**	**10 54 14.9**	**+0.8**
	baz=31,SNR=11						
ASAR	**Alice Springs**	**31.75**	**162**	P	**P**	**10 54 19.0**	**+0.7**
	8.7nm,0.3s,baz=340,slow=7.3,SNR=562						
ASAR				PcP	**PcP**	**10 56 51.1**	**+0.1**
	0.7nm,0.5s,baz=342,slow=2.8,SNR=5.9						
ASAR				S	**S**	**10 58 45.1**	**-2.3**
	5.9nm,0.7s,baz=351,slow=21,SNR=28						
ASAR				ScP	**ScP**	**10 59 37.6**	**-0.7**
	0.8nm,0.5s,baz=345,slow=3.1,SNR=6.2						
WRKA	**Warakurna**	**31.82**	**172**	P	**P**	**10 54 19.6**	**+0.7**
	baz=32,SNR=13						
MTSU	**Mount Surprise**	**31.96**	**141**	P	**P**	**10 54 21.1**	**+0.9**
	baz=32,SNR=5.3						
MJAR	**Matsushiro Arr**	**32.58**	**22**	P	**P**	**10 54 25.5**	**+0.4**
	0.4nm,0.4s,baz=201,slow=9.8,SNR=3.4						
MORW	**Morawa**	**36.27**	**191**	P	**P**	**10 54 55.7**	**-0.3**
	baz=36,SNR=8.1						
QLP	**Quilpie**	**38.59**	**150**	P	**P**	**10 55 15.8**	**+1.0**
	baz=39,SNR=6.6						
BBOO	**Buckleboo**	**40.98**	**164**	P	**P**	**10 55 34.5**	**+0.7**
	baz=41,SNR=14						
EIDS	**Eidsvold**	**41.52**	**141**	P	**P**	**10 55 39.1**	**+0.9**
	baz=42,SNR=3.2						
STKA	**Stephens Creek**	**41.96**	**157**	P	**P**	**10 55 42.5**	**+1.1**
	5.5nm,0.5s,baz=335,slow=8.1,SNR=23						
STKA	**Stephens Creek**	**41.96**	**157**	P	**P**	**10 55 42.6**	**+1.1**
	baz=42,SNR=17						
HTT	**Hallett**	**42.41**	**161**	P	**P**	**10 55 46.1**	**+1.1**
	baz=43,SNR=3.4						
CMSA	**Cobar Meteorol**	**43.41**	**152**	P	**P**	**10 55 55.2**	**+2.4**
	baz=44,SNR=7.5						
SONM	**Songino Array**	**43.60**	**343**	P	**P**	**10 55 55.0**	**+0.8**
	2.1nm,0.5s,baz=161,slow=9.3,SNR=15						
LHI	**Lord Howe Isla**	**50.82**	**140**	P	P	10 56 54.1	+5.9
	baz=51,SNR=3.2						
MK31	**Makanchi Array**	**53.44**	**326**	P	**P**	**10 57 07.5**	**+0.8**
	baz=54,SNR=20						
MKAR	**Makanchi Array**	**53.44**	**326**	P	**P**	**10 57 07.4**	**+0.7**
	12nm,0.4s,baz=121,slow=8.3,SNR=131						
MKAR				PcP	**PcP**	**10 58 03.5**	**-0.5**
	1.0nm,0.5s,baz=120,slow=5.1,SNR=4.1						
MKAR				ScP	**ScP**	**11 01 02.6**	**-2.4**
	0.4nm,0.6s,baz=108,slow=4.0,SNR=3.7						
ZALV	**Zalesovo Beam**	**56.63**	**334**	P	**P**	**10 57 28.4**	**-0.3**
	1.1nm,0.4s,baz=116,slow=6.8,SNR=6.6						
ILAR	**Eielson Array**	**83.78**	**26**	P	**P**	**11 00 08.2**	**-0.3**
	0.2nm,0.7s,baz=244,slow=4.9,SNR=8.8						
MAW	**Mawson**	**85.46**	**200**	P	**P**	**11 00 16.5**	**0.0**
	0.4nm,0.4s,baz=34,slow=3.6,SNR=3.0						
BRTR	**Keskin Array B**	**85.83**	**309**	P	P	11 00 17.8	-1.4
	0.8nm,0.4s,baz=119,slow=4.9,SNR=5.1						
ARCES	**ARCESS Array B**	**86.67**	**340**	P	**P**	**11 00 21.2**	**-1.1**
	0.5nm,0.4s,baz=81,slow=7.6,SNR=5.8						
VNDA	**Vanda**	**86.71**	**172**	P	**P**	**11 00 22.1**	**-0.2**
	0.4nm,0.5s,baz=317,slow=6.3,SNR=5.4						
AKASG	**Malin Array Be**	**87.72**	**321**	P	**P**	**11 00 26.3**	**-1.3**
	0.6nm,0.3s,baz=60,slow=5.6,SNR=7.2						
FINES	**FINESS Array B**	**87.83**	**332**	P	**P**	**11 00 26.9**	**-1.0**
	1.2nm,0.6s,baz=64,slow=4.4,SNR=7.8						
YKA	**Yellowknife Ar**	**98.07**	**24**	P	Pdif	11 01 14.8	+0.3
	0.7nm,0.7s,baz=306,slow=5.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**119.11**	**289**	PKP	**PKPdf**	**11 06 23.6**	**-0.7**
	0.5nm,0.4s,baz=58,slow=1.8,SNR=6.1						

IDC 26 11:17:00.9±2.3, 10.13S×161.25E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/20, mbtmp3.8/5, ML3.8/1, Error ellipse: s-maj=53.8km s-min=31.3km az=92.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.46**	**298**	*i* P	Pb	11 17 40.0	+11
HNR				*i* S	Sn	11 18 03.0	+15
DZM	**Mont Dzumac**	**12.88**	**158**	Pn	Pn	11 20 05.1	-0.4
	0.5nm,0.3s,baz=270,slow=24,SNR=25						
DZM				Sn	Sn	11 22 23.2	-6.5
	0.2nm,0.3s,baz=90,slow=20,SNR=2.4						
WRA	**Warramunga Arr**	**27.72**	**246**	P	P	11 22 51.4	0.0
	0.4nm,0.5s,baz=77,slow=9.0,SNR=5.5						
STKA	**Stephens Creek**	**28.28**	**217**	P	P	11 22 56.6	+0.5
	1.2nm,0.9s,baz=63,slow=9.0,SNR=2.1						
H11S2	**WAKE ISLAND Hy**	**28.94**	**11**	T	T	11 54 26.6	
	baz=189,slow=76,SNR=5.6						
H11S3	**WAKE ISLAND Hy**	**28.94**	**11**	T	T	11 54 14.2	
	baz=189,slow=76,SNR=3.8						
H11S1	**WAKE ISLAND Hy**	**28.95**	**11**	T	T	11 54 11.6	
	baz=189,slow=76,SNR=3.8						
ASAR	**Alice Springs**	**29.35**	**239**	P	P	11 23 05.2	-0.6
	0.3nm,0.9s,baz=64,slow=9.6,SNR=4.5						
H11N1	**WAKE ISLAND Hy**	**30.17**	**11**	T	T	11 55 46.6	
	baz=191						
H11N3	**WAKE ISLAND Hy**	**30.17**	**11**	T	T	11 55 57.3	
	baz=191,slow=74						
H11N2	**WAKE ISLAND Hy**	**30.18**	**11**	T	T	11 55 44.3	
	baz=191,slow=74						
SONM	**Songino Array**	**75.36**	**325**	P	P	11 28 46.5	+0.1
	0.4nm,0.5s,baz=134,slow=5.3,SNR=2.6						

*ISCJB **26** 11:57:59.7±0.6, 33.7N±0.1×137.1E±0.1, h400km, mb2.9/2, Error ellipse: s-maj=20.3km s-min=9.0km az=41.0*
*IDC **26** 11:57:59.3±9.5, 33.07N×136.65E, h331km±303km, mb2.8/2, mb1 3.0/3, mb1mx2.6/28, mbtmp3.4/3, ML2.8/1, Error ellipse: s-maj=375.0km s-min=199.1km az=18.0*
*JMA **26** 11:58:00.4±0.2, 33.61N×137.08E, h391km, M2.9*

ISC 26 11:57:59.9±1.2, 33.8N±0.1×137.0E±0.1, h400km, n18, σ1§51/23, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.58**	**340**	P	**Pn**	**11 58 50.3**	**+0.6**
JKN2	**Miekihoku**	**0.69**	**305**	P	**Pn**	**11 58 50.1**	**+0.1**
JHMK	**Hamakita**	**1.18**	**34**	P	**Pn**	**11 58 52.2**	**+0.8**
HMMJ	**Hamamatsu 2**	**1.20**	**32**	P	**Pn**	**11 58 52.6**	**+1.0**
HMMJ				S	**S**	**11 59 30.5**	**-2.9**
JNY	**Yasuok**	**1.69**	**26**	P	**Pn**	**11 58 55.5**	**+1.5**
JWT	**Wachi**	**1.92**	**319**	P	**Pn**	**11 58 56.3**	**+1.0**
JOD2	**Odawara 2**	**2.26**	**51**	P	**Pn**	**11 58 59.3**	**+1.8**
JRY	**Ryogami san**	**2.70**	**36**	P	**Pn**	**11 59 03.2**	**+2.6**
JHU	**Hanno**	**2.77**	**43**	P	**Pn**	**11 59 02.5**	**+1.3**
JHU				S	**S**	**11 59 51.2**	**+0.3**
MAT	**Matsushiro**	**2.88**	**21**	P	**Pn**	**11 59 03.3**	**+1.3**
MJAR	**Matsushiro Arr**	**2.88**	**21**	P	**Pn**	**11 59 03.9**	**+1.9**
	0.8nm,0.3s,baz=200,slow=10,SNR=11						
BSO3	**Boso 3**	**3.10**	**71**	S	**S**	**11 59 55.0**	**-0.1**
JAG	**Ashikaga**	**3.29**	**38**	P	**Pn**	**11 59 06.5**	**+1.1**
JAG				S	**S**	**11 59 57.4**	**-1.2**
JYT	**Yasato**	**3.57**	**47**	P	**Pn**	**11 59 07.9**	**+0.1**
JHO	**Hitachi**	**4.05**	**46**	P	**Pn**	**11 59 12.5**	**+0.2**
JHO				S	**S**	**12 00 08.5**	**-2.6**
JFK	**Kawauchi**	**4.75**	**41**	P	**Pn**	**11 59 20.5**	**+1.2**
JFK				S	**S**	**12 00 22.1**	**-1.7**
WRA	**Warramunga Arr**	**53.54**	**183**	P	**P**	**12 06 41.5**	**+0.1**
	0.4nm,0.3s,baz=360,slow=7.6,SNR=14						
ASAR	**Alice Springs**	**57.26**	**183**	P	**P**	**12 07 07.3**	**-0.1**
	0.1nm,0.3s,baz=358,slow=6.8,SNR=4.2						

IDC 26 12:02:44.8±6.7, 5.82S×150.83E, h74km±57km, mb3.2/3, mb1 3.5/4, mb1mx3.2/19, mbtmp3.5/4, ML0.6/1, Error ellipse: s-maj=138.0km s-min=34.9km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.09**	**225**	P	Pn	12 04 00.3	+1.7
	0.2nm,0.3s,baz=241,slow=13,SNR=1.8						
PMG				S	Sn	12 04 55.8	-0.3
	2.0nm,0.3s,baz=166,slow=18,SNR=3.6						
WRA	**Warramunga Arr**	**21.31**	**227**	P	P	12 07 25.7	0.0
	1.1nm,0.6s,baz=54,slow=10,SNR=12						
ASAR	**Alice Springs**	**24.09**	**221**	P	P	12 07 53.7	+0.1
	1.3nm,0.7s,baz=56,slow=10.0,SNR=23						
ILAR	**Eielson Array**	**83.84**	**22**	P	P	12 15 05.8	-0.1
	0.2nm,0.6s,baz=226,slow=5.8,SNR=3.4						

IDC 26 12:03:41.2±3.9, 28.64N×68.09E, h0km, mb3.4/7, mb1 3.5/7, mb1mx3.3/53, mbtmp3.5/7, Error ellipse: s-maj=81.0km s-min=30.6km az=141.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**21.26**	**28**	P	P	12 08 28.9	0.0
	0.8nm,0.6s,baz=206,slow=11,SNR=6.5						
AKTO	**Aktyubinsk**	**23.07**	**343**	P	P	12 08 48.1	-0.1
	1.2nm,0.8s,baz=158,slow=11,SNR=5.1						
KURBB	**Kurchatov Arra**	**23.33**	**17**	P	P	12 08 50.9	0.0
	1.3nm,0.7s,baz=211,slow=9.6,SNR=14						
BVAR	**Borovoye Array**	**24.42**	**3**	P	P	12 09 01.4	+0.1
	0.3nm,0.4s,baz=137,slow=7.3,SNR=2.5						
AKASG	**Malin Array Be**	**36.56**	**318**	P	P	12 10 48.6	0.0
	0.3nm,0.4s,baz=126,slow=9.5,SNR=4.4						
ARCES	**ARCESS Array B**	**47.63**	**341**	P	P	12 12 18.4	-0.2
	1.0nm,0.8s,baz=132,slow=6.7,SNR=5.8						
TORD	**Torodi Ar. Bea**	**63.22**	**271**	P	P	12 14 11.8	0.0
	0.5nm,0.8s,baz=58,slow=5.9,SNR=3.3						

IDC 26 12:04:27.9±27.0, 21.75S×173.74W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/20, mbtmp3.9/4, Error ellipse: s-maj=499.6km s-min=158.6km az=75.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.34**	**265**	P	P	12 11 43.1	+0.7
	3.9nm,0.3s,baz=96,slow=10,SNR=14						
STKA	**Stephens Creek**	**40.87**	**246**	P	P	12 12 10.9	-0.9
	1.0nm,0.7s,baz=82,slow=7.1,SNR=2.7						
ASAR	**Alice Springs**	**48.11**	**257**	P	P	12 13 09.1	-0.8
	0.2nm,0.4s,baz=96,slow=7.5,SNR=9.0						
WRA	**Warramunga Arr**	**48.37**	**262**	P	P	12 13 12.1	+0.2
	0.5nm,0.4s,baz=97,slow=8.4,SNR=32						

IDC 26 12:11:44.0±8.2, 2.61N×127.23E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/43, mbtmp3.8/3, MS2.8/2, Ms1 2.8/2, ms1mx2.4/41, Error ellipse: s-maj=163.5km s-min=127.7km az=77.0, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**10.64**	**225**	LR	LR	12 18 35.7	
	comp=Z,74nm,19.1s,baz=108,slow=39						
WRA	**Warramunga Arr**	**23.48**	**163**	P	P	12 16 55.9	+0.5
	1.4nm,0.7s,baz=341,slow=11,SNR=16						
ASAR	**Alice Springs**	**26.91**	**166**	P	P	12 17 26.9	-0.2
	0.5nm,0.8s,baz=348,slow=7.2,SNR=10.0						
JCJ	**Chichijima**	**28.25**	**29**	LR	LR	12 27 10.3	
	comp=Z,16nm,21.9s,baz=124,slow=33						
STKA	**Stephens Creek**	**36.91**	**159**	P	P	12 18 54.4	-0.3
	2.6nm,0.7s,baz=346,slow=9.3,SNR=6.3						

*IDC **26** 12:20:07.9±1.6, 51.44N×179.49E, h0km, mb3.9/11, mb1 4.2/12, mb1mx3.9/47, mbtmp3.9/12, ML4.7/1, MS3.1/11, Ms1 3.1/11, ms1mx2.9/48, Error ellipse: s-maj=44.7km s-min=18.3km az=5.0*
*ISCJB **26** 12:20:11.5±0.8, 51.09N±0.09×179.40E±0.06, h52km, mb3.9/17, MS3.2/10, Error ellipse: s-maj=12.6km s-min=5.0km az=6.9*
*NEIC **26** 12:20:11.5, 51.08N×179.49E, h22km, mb4.2/10, ML3.8(AEIC), After AEIC.*

ISC 26 12:20:13.3±1.0, 51.2N±0.1×179.36E±0.05, h52km, n62, σ1§22/53, mb4.0/17, MS3.1/10, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.21**	**349**	P	**Pn**	**12 20 19.2**	**-2.7**
AMKA				S	**Sn**	**12 20 24.5**	**-3.6**
CESW	**Semis' Southwe**	**0.74**	**10**	P	**Pn**	**12 20 27.0**	**-0.6**
CERAA	**Semis' Rag'd T**	**0.76**	**15**	P	**Pn**	**12 20 27.2**	**-0.7**
CEAP	**Semis' Anvil P**	**0.84**	**9**	P	**Pn**	**12 20 28.6**	**-0.4**
LSPA	**Little Sitkin**	**0.93**	**328**	P	**Pn**	**12 20 30.5**	**+0.3**
LSSA	**Little Sitkin**	**0.94**	**326**	P	**Pn**	**12 20 30.6**	**+0.2**
LSNW	**Little Sitkin**	**0.96**	**327**	P	**Pn**	**12 20 30.7**	**+0.2**
GALAA	**Gareloi Lava P**	**1.31**	**62**	P	**Pn**	**12 20 33.7**	**-1.5**
GAEA	**Gareloi East**	**1.33**	**62**	P	**Pn**	**12 20 34.1**	**-1.5**
TANO	**Tanaga North**	**1.74**	**64**	P	**Pn**	**12 20 40.3**	**-0.7**
TANO				S	**Sn**	**12 21 03.0**	**+1.0**
TAFL	**Tanaga Flats**	**1.81**	**70**	P	**Pn**	**12 20 40.9**	**-1.2**
TAFP	**Tanaga Falls P**	**1.81**	**65**	P	**Pn**	**12 20 41.2**	**-0.9**
TAFP				S	**Sn**	**12 21 04.0**	**+0.1**
TAPA	**Tanaga Point A**	**1.88**	**69**	P	**Pn**	**12 20 41.9**	**-1.2**
KICM	**Kanaga Island**	**2.27**	**69**	P	**Pn**	**12 20 47.7**	**-0.7**
KIKV	**Kanaga Island**	**2.28**	**71**	P	**Pn**	**12 20 47.5**	**-0.9**
KIRH	**Kanaga Island**	**2.33**	**70**	P	**Pn**	**12 20 48.3**	**-0.8**
ADAG	**Mount Adagdak**	**2.64**	**71**	P	**Pn**	**12 20 53.0**	**-0.5**
ETKA	**Kagalaska Isla**	**2.73**	**74**	P	**Pn**	**12 20 53.9**	**-0.8**
GSCK	**Great Sitkin C**	**2.92**	**71**	P	**Pn**	**12 20 56.4**	**-0.7**
GSTD	**Great Sitkin T**	**2.94**	**71**	P	**Pn**	**12 20 56.6**	**-1.0**
GSMY	**Great Sitkin M**	**2.99**	**71**	P	**Pn**	**12 20 57.3**	**-0.8**
GSTR	**Great Sitkin T**	**3.00**	**70**	*e*Pn	**Pn**	**12 20 57.6**	**-0.7**
GSTR				*e*Sn	**Sn**	**12 21 35.5**	**+2.5**
SMY	**Shemya**	**3.61**	**298**	*e*Pn	**Pn**	**12 21 08.6**	**+1.9**
ATKA	**Atka Island**	**4.14**	**73**	P	**Pn**	**12 21 12.6**	**-1.3**
UNV	**Unalaska Valle**	**9.03**	**67**	*e*Pn	**Pn**	**12 22 20.3**	**-0.5**
	56nm,1.2s						
PETK	**Petropavlovsk-**	**13.44**	**287**	LR	LR	12 29 00.4	
	comp=Z,21nm,18.6s,baz=98,slow=40						
KDAK	**Kodiak Island**	**17.50**	**57**	P	**Pn**	**12 24 09.6**	**-3.7**
	2.4nm,0.3s,baz=293,slow=3.0,SNR=16						
RSO	**Redoubt South**	**18.08**	**48**	*e*Pn	**Pn**	**12 24 20.2**	**-0.5**
	29nm,0.8s						
PPLA	**Purkeypile**	**19.23**	**41**	*e*P	**Pn**	**12 24 34.4**	**0.0**
	18nm,1.0s						
IM04	**Indian Mountai**	**20.15**	**32**	*e*Pn	**P**	**12 24 43.3**	**+0.5**
BPAW	**Bear Paw Mtn.**	**20.23**	**39**	*e*P	**P**	**12 24 44.2**	**+0.4**
	2.9nm,1.0s						
TRF	**Thorofare Moun**	**20.24**	**41**	*e*P	**P**	**12 24 44.5**	**+0.4**
	18nm,1.1s						
COLA	**College**	**21.79**	**39**	*e*P	**P**	**12 25 00.9**	**+0.5**
	6.9nm,0.9s						
COLD	**Coldfoot**	**22.03**	**32**	*e*P	**P**	**12 25 03.8**	**+0.8**
	4.0nm,0.8s						
BMRM	**Bremner River**	**22.09**	**50**	*e*P	**P**	**12 25 04.0**	**+0.2**
	14nm,1.0s						
ILAR	**Eielson Array**	**22.13**	**39**	P	**P**	**12 25 02.4**	**-1.7**
	0.8nm,0.6s,baz=238,slow=7.8,SNR=15						
ILAR				LR	LR	12 33 52.4	
	comp=Z,50nm,18.5s,baz=198,slow=38						
EGAK	**Eagle**	**24.46**	**41**	*e*P	**P**	**12 25 26.3**	**-0.6**
	8.6nm,0.8s						
INK	**Inuvik**	**28.29**	**35**	P	**P**	**12 26 00.8**	**-0.5**
	0.7nm,0.5s,baz=245,slow=7.0,SNR=8.0						
YAK	**Yakutsk**	**28.69**	**312**	LR	LR	12 37 50.3	
	comp=Z,40nm,18.7s,baz=147,slow=37						
DLBC	**Dease Lake**	**29.43**	**56**	LR	LR	12 36 43.5	
	comp=Z,91nm,21.8s,baz=206,slow=34						
MJAR	**Matsushiro Arr**	**32.61**	**260**	LR	LR	12 38 55.8	
	comp=Z,18nm,21.3s,baz=220,slow=34						
H11N2	**WAKE ISLAND Hy**	**32.88**	**202**	T	T	13 02 23.7	
	baz=17,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**32.89**	**202**	T	T	13 02 24.2	
	baz=17,slow=76,SNR=15						
H11N1	**WAKE ISLAND Hy**	**32.90**	**202**	T	T	13 02 24.8	
	baz=17,slow=76,SNR=10						
YKA	**Yellowknife Ar**	**36.21**	**46**	P	**P**	**12 27 09.7**	**-0.8**
	1.8nm,0.6s,baz=286,slow=7.3,SNR=18						
BSMT	**Bassoo Peak**	**41.60**	**68**	P	**P**	**12 27 55.8**	**-0.3**
	2.2nm,0.8s						
NVAR	**Mina Array Bea**	**44.72**	**81**	P	**P**	**12 28 22.9**	**+1.4**
	1.3nm,1.0s,baz=289,slow=9.4,SNR=8.0						
SONM	**Songino Array**	**45.70**	**296**	P	**P**	**12 28 30.6**	**+1.7**
	0.3nm,0.6s,baz=72,slow=11,SNR=3.3						
R11A	**Troy Canyon, C**	**46.46**	**80**	*e*P	**P**	**12 28 35.6**	**+0.5**
	1.9nm,1.1s						
PDAR	**Pinedale Array**	**47.47**	**71**	P	**P**	**12 28 43.0**	**0.0**
	6.0nm,0.9s,baz=325,slow=4.6,SNR=45						
ULM	**Lac du Bonnet

ASAR	**Alice Springs**	**35.48**	**190**	P		**P**		**12 56 00.1**	**+0.4**	
	0.4nm,0.5s,baz=19,slow=12,SNR=10									
CMAR	**Chiang Mai Arr**	**40.34**	**285**	P		**P**		**12 56 40.6**	**-0.2**	
	0.4nm,0.5s,baz=78,slow=6.6,SNR=4.5									
SONM	**Songino Array**	**45.95**	**329**	P		**P**		**12 57 26.5**	**+0.6**	
	0.6nm,1.0s,baz=116,slow=3.4,SNR=2.9									
KURBB	**Kurchatov Arra**	**63.30**	**321**	P		**P**		**12 59 30.4**	**-1.2**	
	0.9nm,0.9s,baz=100,slow=7.6,SNR=8.7									
BVAR	**Borovoye Array**	**68.74**	**323**	P		**P**		**13 00 08.1**	**+1.6**	
	0.4nm,0.5s,baz=99,slow=6.6,SNR=4.0									
ILAR	**Eielson Array**	**72.42**	**25**	P		**P**		**13 00 27.6**	**-1.1**	
	0.1nm,0.4s,baz=243,slow=5.9,SNR=6.2									

IDC 26 12:55:11.2±20.0, 6°31N×122°59E, h501km±284km, mb3.3/4, mb1 3.4/4, mb1mx2.8/26, mbtmp4.2/4, Error ellipse: s-maj=200.2km s-min=37.6km az=60.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.53**	**156**	P	P	13 00 25.5	-0.3
	2.8nm,0.3s,baz=332,slow=11,SNR=70						
ASAR	**Alice Springs**	**31.77**	**160**	P	P	13 00 55.0	+1.1
	2.0nm,0.3s,baz=338,slow=7.9,SNR=163						
STKA	**Stephens Creek**	**42.08**	**156**	P	P	13 02 17.1	-1.5
	1.1nm,0.3s,baz=336,slow=10,SNR=4.9						
MKAR	**Makanchi Array**	**53.12**	**326**	P	P	13 03 41.4	-0.1
	0.5nm,0.3s,baz=118,slow=8.3,SNR=6.4						

IDC 26 12:59:35.3±630.0, 26°70N×18°96E, h0km, Error ellipse: s-maj=356.0km s-min=145.7km az=120.0, Libya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I48TN	**KESRA INFRASON**	**12.26**	**320**	*i*		14 15 00.0	
	baz=136,slow=318,SNR=0.6						
I26DE	**FREYUNG INFRAS**	**22.49**	**351**	*i*		15 17 40.0	
	baz=166,slow=329,SNR=1.1						
I17CI	**DIMBOKRO INFRA**	**30.17**	**233**	*i*		16 04 10.0	
	baz=45,slow=314,SNR=1.6						

*IDC **26** 13:01:57.9±2.6, 46°74S×165°23E, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.4/18, mbtmp3.4/2, Error ellipse: s-maj=213.7km s-min=54.8km az=31.0*
*ISCJB **26** 13:01:59.4±1.3, 46°07S±0°06×165°96E±0°08, h26km±7km, mb3.4/2, Error ellipse: s-maj=10.7km s-min=8.5km az=39.2*
*WEL **26** 13:01:59.7±0.5, 46°11S×166°02E, h12km, ML4.3/15, Error ellipse: s-maj=4.2km s-min=2.0km az=90.0*
*NEIC **26** 13:02:00.9, 46°25S×166°01E, h18km, ML4.4(WEL), After WEL.*

ISC 26 13:01:59.4±1.9, 46°10S±0°06×166°02E±0°07, h14km±10km, n49, σ1°906/54, 3C-2D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.46**	**99**	P*	**Pg**	**13 02 08.2**	**-0.4**
PYZ				S*	**Sg**	**13 02 15.5**	**+0.7**
PYZ	**Puysegur Point**	**0.46**	**99**	P*	**Pb**	**13 02 10.2**	**+0.9**
PYZ				S*	**Sb**	**13 02 17.0**	**+0.9**
DCZ	**Deep Cove**	**1.00**	**52**	P*	**Pb**	**13 02 18.3**	**-0.3**
DCZ				S*	**Sb**	**13 02 32.0**	**+0.4**
DCZ				AML	AML	13 02 32.5	
DCZ				AML	AML	13 02 36.2	
DCZ	**Deep Cove**	**1.00**	**52**	Pn	**Pb**	**13 02 18.3**	**-0.3**
WHZ	**Wether Hill Ro**	**1.36**	**82**	⇑PN	**Pn**	**13 02 24.2**	**+0.2**
WHZ				SN	**Sn**	**13 02 41.9**	**+0.2**
WHZ				AML	AML	13 02 46.7	
WHZ	**Wether Hill Ro**	**1.36**	**82**	Pn	**Pn**	**13 02 24.2**	**+0.2**
APZ	**The Paps**	**1.55**	**119**	⇓PN	**Pn**	**13 02 26.1**	**-0.5**
APZ				SN	**Sn**	**13 02 45.9**	**-0.6**
APZ				AML	AML	13 02 47.5	
APZ	**The Paps**	**1.55**	**119**	Pn	**Pn**	**13 02 26.1**	**-0.5**
MLZ	**Mavora Lakes**	**1.68**	**64**	PN	**Pn**	**13 02 28.6**	**+0.1**
MLZ				SN	**Sn**	**13 02 47.3**	**-2.5**
MLZ				AML	AML	13 02 58.3	
MLZ	**Mavora Lakes**	**1.68**	**64**	Pn	**Pb**	**13 02 29.6**	**-0.6**
MSZ	**Milford Sound**	**1.96**	**44**	PN	**Pn**	**13 02 33.1**	**+1.0**
MSZ				AML	AML	13 03 13.4	
MSZ				AML	AML	13 03 13.4	
MSZ				AML	AML	13 03 15.2	
MSZ				AML	AML	13 03 15.2	
MSZ	**Milford Sound**	**1.96**	**44**	Pn	**Pn**	**13 02 33.1**	**+1.0**
SYZ	**Scrubby Hill**	**2.21**	**103**	PN	**Pn**	**13 02 36.2**	**+0.6**
SYZ				AML	AML	13 03 10.1	
SYZ				AML	AML	13 03 10.2	
SYZ				AML	AML	13 03 17.9	
SYZ				AML	AML	13 03 18.0	
SYZ	**Scrubby Hill**	**2.21**	**103**	Pn	**Pn**	**13 02 36.2**	**+0.6**
WKZ	**Wanaka**	**2.46**	**60**	PN	**Pn**	**13 02 40.7**	**+1.5**
WKZ				AML	AML	13 03 20.6	
WKZ				AML	AML	13 03 20.6	
WKZ				AML	AML	13 03 24.7	
WKZ				AML	AML	13 03 24.7	
WKZ	**Wanaka**	**2.46**	**60**	Pn	**Pb**	**13 02 41.7**	**-1.8**
EAZ	**Earnscleugh**	**2.46**	**71**	⇑PN	**Pn**	**13 02 41.1**	**+2.0**
EAZ				AML	AML	13 03 15.3	
EAZ				AML	AML	13 03 15.3	
EAZ				AML	AML	13 03 29.0	
EAZ				AML	AML	13 03 29.0	
EAZ	**Earnscleugh**	**2.46**	**71**	Pn	**Pn**	**13 02 41.1**	**+2.0**
TUZ	**Tuapeka**	**2.52**	**88**	⇓PN	**Pn**	**13 02 41.2**	**+1.3**
TUZ	**Tuapeka**	**2.52**	**88**	Pn	**Pn**	**13 02 41.2**	**+1.3**
JCZ	**Jackson Bay**	**2.80**	**45**	PN	**Pn**	**13 02 45.0**	**+1.1**
JCZ				AML	AML	13 03 39.1	
JCZ				AML	AML	13 03 39.4	
JCZ	**Jackson Bay**	**2.80**	**45**	Pn	**Pn**	**13 02 46.0**	**+2.1**
HHSZ	**Highcliff Hill**	**3.20**	**88**	PN	**Pn**	**13 02 50.6**	**+1.3**
HHSZ	**Highcliff Hill**	**3.20**	**88**	Pn	**Pn**	**13 02 50.6**	**+1.3**
LBZ	**Lake Benmore**	**3.40**	**61**	PN	**Pn**	**13 02 52.9**	**+0.8**
LBZ				AML	AML	13 03 53.4	
LBZ				AML	AML	13 04 01.2	
LBZ	**Lake Benmore**	**3.40**	**61**	Pn	**Pn**	**13 02 52.9**	**+0.8**
ODZ	**Otahua Downs**	**3.41**	**74**	⇑PN	**Pn**	**13 02 52.3**	**+0.1**
FOZ	**Fox Glacier**	**3.63**	**47**	PN	**Pn**	**13 02 57.5**	**+2.3**
FOZ				AML	AML	13 04 04.7	
FOZ				AML	AML	13 04 04.7	
FOZ	**Fox Glacier**	**3.63**	**47**	Pn	**Pn**	**13 02 57.5**	**+2.3**
RPZ	**Rata Peaks**	**4.29**	**58**	Pn	**Pn**	**13 03 04.4**	**0.0**
RPZ				AML	AML	13 04 15.7	
RPZ				AML	AML	13 04 30.3	
RPZ	**Rata Peaks**	**4.29**	**58**	Pn	**Pn**	**13 03 04.4**	**0.0**
WVZ	**Waitaha Valley**	**4.52**	**50**	PN	**Pn**	**13 03 08.1**	**+0.6**
WVZ				AML	AML	13 04 38.2	
WVZ	**Waitaha Valley**	**4.52**	**50**	Pn	**Pn**	**13 03 08.1**	**+0.6**
MQZ	**McQueen's Vall**	**5.28**	**65**	PN	**Pn**	**13 03 17.9**	**+0.1**
MQZ	**McQueen's Vall**	**5.28**	**65**	Pn	**Pn**	**13 03 17.9**	**+0.1**
LTZ	**Lake Taylor**	**5.56**	**56**	PN	**Pn**	**13 03 21.3**	**-0.5**
LTZ				AML	AML	13 05 21.6	
LTZ	**Lake Taylor**	**5.56**	**56**	Pn	**Pn**	**13 03 21.3**	**-0.5**
DSZ	**Denniston Nort**	**6.03**	**46**	PN	**Pn**	**13 03 28.3**	**+0.1**
DSZ	**Denniston Nort**	**6.03**	**46**	Pn	**Pn**	**13 03 28.3**	**+0.1**
THZ	**Tophouse**	**6.59**	**51**	PN	**Pn**	**13 03 35.4**	**-0.5**
THZ				AML	AML	13 05 09.5	
THZ	**Tophouse**	**6.59**	**51**	Pn	**Pn**	**13 03 35.4**	**-0.5**
QRZ	**Quartz Range**	**7.08**	**44**	PN	**Pn**	**13 03 42.4**	**-0.1**
QRZ	**Quartz Range**	**7.08**	**44**	Pn	**Pn**	**13 03 43.4**	**+0.9**
NNZ	**Nelson**	**7.22**	**50**	PN	**Pn**	**13 03 44.1**	**-0.5**
NNZ	**Nelson**	**7.22**	**50**	Pn	**Pn**	**13 03 44.1**	**-0.5**
ASAR	**Alice Springs**	**34.20**	**306**	P	**P**	**13 08 43.8**	**-0.8**
	0.3nm,0.7s,baz=135,slow=8.8,SNR=6.2						
WRA	**Warramunga Arr**	**36.81**	**304**	P	**P**	**13 09 07.0**	**0.0**
	0.6nm,1.0s,baz=136,slow=7.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**144.59**	**207**	PKP	PKPbc	13 21 34.4	0.0
	0.5nm,0.5s,baz=164,slow=1.3,SNR=5.3						
ARCES	**ARCESS Array B**	**149.45**	**334**	PKPbc	**PKPbc**	**13 21 48.0**	**+1.4**
	0.8nm,0.6s,baz=64,slow=2.8,SNR=9.1						

DJA 26 13:09:35.5±0.7, 8°S±4°×107°E±°, h31km±7km, M3.8/7, MLv3.8/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.79**	**44**	P	Pn	13 09 50.6	+0.1
CISI				S	Sb	13 10 01.0	-0.2
CNJI	**Cibinong**	**0.82**	**351**	P	Pb	13 09 51.4	+0.2
CNJI				S	Sn	13 10 01.8	-0.1
CMJI	**Cimerak**	**1.22**	**74**	P	Pn	13 09 56.3	-0.2
CMJI				S	Sn	13 10 10.8	-1.2
SKJI	**Sukabumi**	**1.31**	**328**	P	Pn	13 09 57.1	-0.6
SKJI				S	Sn	13 10 13.4	-0.7
LEM	**Lembang**	**1.33**	**15**	P	Pb	13 09 59.4	-0.7
LEM				S	Sb	13 10 16.9	-0.1
CGJI	**Cibinong**	**2.16**	**314**	P	Pn	13 10 09.8	+0.5
CGJI				S	Sn	13 10 35.1	0.0
UGM	**Wanagama**	**3.24**	**87**	P	Pn	13 10 24.1	-0.2

*ISCJB **26** 13:19:12.2±1.2, 4°90S±0°04×153°41E±0°05, h50km±10km, mb4.7/44, MS3.6/14, Error ellipse: s-maj=8.5km s-min=7.1km az=178.9*
*NEIC **26** 13:19:13.9±0.3, 4°87S×153°44E, mb5.0/21, Error ellipse: s-maj=8.6km s-min=6.4km az=90.0*
*IDC **26** 13:19:14.5±0.7, 4°93S×153°42E, h58km±4km, mb4.2/22, mb1 4.4/23, mb1mx4.2/45, mbtmp4.5/23, MS3.6/15, Ms1 3.6/15, ms1mx3.6/22, Error ellipse: s-maj=16.1km s-min=10.2km az=93.0*
*BJI **26** 13:19:16.4, 4°40S×153°51E, h75km, mb5.0/48, mB5.0/33, Ms4.6/15, Ms7 4.2/14*

ISC 26 13:19:16.2±0.4, 4°97S±0°05×153°41E±0°06, h73km±2km, h73km:pP-P, n123, σ1°54/158, mb4.7/44, 1C-1D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**6.69**	**296**	P	Pn	13 20 57.5	+5.5
	baz=6.5,SNR=4.5						
PMG	**Port Moresby**	**7.60**	**234**	P	**Pn**	**13 21 02.4**	**-1.9**
	6.8nm,0.3s,baz=51,slow=8.3,SNR=22						
PMG				S	**Sn**	**13 22 26.7**	**-2.3**
	3.6nm,0.3s,baz=75,slow=3.4,SNR=4.8						
PMG	**Port Moresby**	**7.60**	**234**	P	**Pn**	**13 21 05.3**	**+1.0**
	baz=7.3,SNR=9.5						
PMG				P	**Pn**	**13 21 05.3**	**+1.0**
	baz=7.3,SNR=9.5						
PMG				P	**Pn**	**13 21 05.3**	**+1.0**
	baz=7.3,SNR=9.5						
PMG	**Port Moresby**	**7.60**	**234**	*e*Pn	**Pn**	**13 21 05.2**	**+1.0**
PMG				S	**Sn**	**13 22 26.7**	**-2.3**
HNR	**Honiara**	**7.86**	**125**	*e*Pn	**Pn**	**13 21 09.0**	**+1.2**
JAY	**Jayapura**	**12.91**	**280**	LR	LR	13 27 15.6	
	comp=Z,298nm,21.8s,baz=360,slow=37						
COEN	**Coen**	**13.47**	**228**	P	**Pn**	**13 22 23.0**	**-1.2**
GUMO	**Guam**	**20.30**	**335**	LR	LR	13 30 51.3	
	comp=Z,57nm,19.2s,baz=165,slow=34						
EIDS	**Eidsvold**	**20.40**	**186**	P	Pn	13 23 51.7	+1.6
	baz=20,SNR=4.0						
EIDS	**Eidsvold**	**20.40**	**186**	P	Pn	13 23 50.2	+0.1
QIS	**Mount Isa**	**20.49**	**220**	P	Pn	13 23 53.5	+2.3
	baz=20,SNR=3.7						
DZM	**Mont Dzumac**	**21.17**	**145**	P	**P**	**13 23 53.9**	**-1.9**
	16nm,0.9s,baz=271,slow=24,SNR=15						
FAKI	**Fak Fak**	**21.20**	**275**	P	**P**	**13 23 55.6**	**-0.5**
	baz=21,SNR=5.2						
FAKI	**Fak Fak**	**21.20**	**275**	*e*P	**P**	**13 23 55.5**	**-0.5**
RMQ	**Roma**	**21.85**	**191**	P	**P**	**13 24 04.6**	**+1.8**
	baz=22,SNR=8.4						
KDU	**Kakadu**	**22.04**	**248**	P	**P**	**13 24 03.8**	**-1.2**
	baz=22,SNR=24						
SIJI	**Sorong**	**22.48**	**280**	P	**P**	**13 24 08.0**	**-1.8**
	7.0nm,0.4s,baz=117,slow=4.6,SNR=8.4						
SIJI				LR	LR	13 31 54.5	
	comp=Z,347nm,21.3s,baz=82,slow=34						
PALU	**Palau**	**22.51**	**303**	P	**P**	**13 24 07.8**	**-2.3**
	baz=22,SNR=7.4						
QLP	**Quilpie**	**23.21**	**201**	P	**P**	**13 24 17.2**	**+0.2**
	baz=23,SNR=5.9						
MTN	**Manton Dam**	**23.34**	**249**	P	**P**	**13 24 19.6**	**+1.3**
	baz=23,SNR=16						
WRAB	**Tennant Creek**	**23.77**	**230**	*e*P	**P**	**13 24 22.3**	**0.0**
	41nm,1.4s						
WRA	**Warramunga Arr**	**23.79**	**230**	P	**P**	**13 24 22.0**	**-0.4**
	11nm,0.9s,baz=54,slow=9.8,SNR=61						
WRA				PcP	**PcP**	**13 28 05.4**	**+1.1**
	9.9nm,1.0s,baz=51,slow=2.1,SNR=13						
WRA				ScP	**ScP**	**13 31 38.9**	**+2.5**
	1.9nm,1.1s,baz=48,slow=3.4,SNR=4.2						
WRA				LR	LR	13 33 25.1	
	comp=Z,254nm,19.3s,baz=65,slow=36						
ARMA	**Armidale**	**25.37**	**184**	P	**P**	**13 24 38.2**	**+1.5**
	baz=25,SNR=4.6						
ARMA	**Armidale**	**25.37**	**184**	*e*P	**P**	**13 24 37.5**	**+0.8**
	23nm,0.9s						
AS31	**Alice Springs**	**26.43**	**223**	*e*P	**P**	**13 24 46.7**	**+0.3**
ASAR	**Alice Springs**	**26.43**	**223**	P	**P**	**13 24 46.1**	**-0.2**
	1.8nm,0.5s,baz=56,slow=8.9,SNR=39						
ASAR				PcP	**PcP**	**13 28 11.7**	**+1.5**
	4.9nm,0.9s,baz=57,slow=2.8,SNR=11						
ASAR				ScP	**ScP**	**13 31 46.3**	**+2.4**
	1.1nm,0.9s,baz=51,slow=3.7,SNR=5.8						
ASAR				LR	LR	13 34 46.5	
	comp=Z,345nm,21.2s,baz=56,slow=35						
KNRA	**Kununrra**	**26.44**	**244**	P	**P**	**13 24 46.7**	**+0.3**
	2s,2nm,SNR=42						
H11S3	**WAKE ISLAND Hy**	**26.74**	**29**	T	T	13 52 44.8	
	baz=214,slow=75,SNR=5.3						
H11S2	**WAKE ISLAND Hy**	**26.75**	**29**	T	T	13 52 37.7	
	baz=214,slow=75,SNR=4.6						
H11S1	**WAKE ISLAND Hy**	**26.76**	**29**	T	T	13 52 47.9	
	baz=214,slow=75,SNR=4.5						
CMSA	**Cobar Meteorol**	**27.40**	**194**	P	**P**	**13 24 55.0**	**+0.1**
	baz=27,SNR=6.5						
STKA	**Stephens Creek**	**28.96**	**201**	P	**P**	**13 25 08.4**	**-0.4**
	3.9nm,0.7s,baz=46,slow=10.0,SNR=7.3						
STKA				PcP	**PcP**	**13 28 17.3**	**+1.1**
	5.7nm,1.0s,baz=175,slow=1.8,SNR=4.3						
STKA				LR	LR	13 36 51.0	
	comp=Z,284nm,18.5s,baz=22,slow=36						
STKA	**Stephens Creek**	**28.96**	**201**	P	**P**	**13 25 08.9**	**0.0**
	baz=29,SNR=4.1						
STKA	**Stephens Creek**	**28.96**	**201**	*e*P	**P**	**13 25 07.5**	**-1.3**
	1.2nm,1.0s						
STKA				PcP	**PcP**	**13 28 17.3**	**+1.1**
WRKA	**Warakurna**	**31.29**	**228**	P	**P**	**13 25 28.6**	**-0.9**
	baz=31,SNR=26						
HTT	**Hallett**	**31.36**	**204**	P	**P**	**13 25 30.2**	**+0.1**
	baz=31,SNR=3.3						
ARPS	**Mount Arapiles**	**33.38**	**197**	P	**P**	**13 25 48.6**	**+1.0**
	baz=33,SNR=5.0						
MYLDM	**Lahad Datu**	**36.29**	**286**	*e*P	**P**	**13 26 13.3**	**+0.3**
	15nm,1.0s						
MBWA	**Marble Bar**	**36.41**	**241**	*e*P	**P**	**13 26 13.7**	**-0.3**
	18nm,1.1s						
MEEK	**Meekatharra**	**39.58**	**233**	P	**P**	**13 26 40.0**	**-0.6**
	baz=39,SNR=3.8						
JOW	**Kunigami**	**39.89**	**324**	*e*P	**P**	**13 26 43.7**	**+0.6**
	99nm,0.5s						
KHZ	**Kahutara**	**41.36**	**157**	*e*P	**P**	**13 26 54.6**	**-0.4**
	44nm,1.1s						
RPZ	**Rata Peaks**	**41.61**	**161**	P	**P**	**13 26 55.9**	**-1.1**
	25nm,0.8s,baz=80,slow=11,SNR=6.9						
MORW	**Morawa**	**42.71**	**232**	P	**P**	**13 27 06.0**	**-0.3**
	baz=42,SNR=11						
JNU	**Nakatsue**	**43.49**	**332**	P	**P**	**13 27 10.8**	**-1.7**
	27nm,1.0s,baz=49,slow=1.5,SNR=17						
JNU	**Nakatsue**	**43.49**	**332**	*e*P	**P**	**13 27 11.0**	**-1.5**
	6.6nm,1.0s						
MJAR	**Matsushiro Arr**	**43.68**	**342**	P	**P**	**13 27 11.4**	**-2.5**
	0.9nm,0.4s,baz=176,slow=8.3,SNR=5.9						
MJAR				LR	LR	13 45 24.1	
	comp=Z,39nm,18.4s,baz=170,slow=36						
CISI	**Cisompet, Garu**	**45.38**	**264**	P	**P**	**13 27 27.3**	**-0.6**
	baz=45,SNR=6.5						
CISI	**Cisompet, Garu**	**45.38**	**264**	*e*P	**P**	**13 27 27.3**	**-0.6**
	108nm,0.9s						
KSRS	**Korea Array**	**48.43**	**333**	P	**P**	**13 27 49.3**	**-1.8**
	5.0nm,0.8s,baz=150,slow=8.9,SNR=24						
KSRS				pP	**pP**	**13 28 07.3**	**-2.1**
	5.9nm,0.9s,baz=151,slow=8.5,SNR=6.8						
KSRS				LR	LR	13 48 17.6	
	comp=Z,26nm,18.1s,baz=167,slow=36						
KSAR	**Wonju Array Be**	**48.43**	**333**	P	**P**	**13 27 49.3**	**-1.9**
KSAR				pP	**pP**	**13 28 07.3**	**-2.2**
INCN	**Inchon**	**49.05**	**332**	*e*P	**P**	**13 27 56.2**	**+0.3**
	46nm,1.0s						
QIZ	**Qiongzhong**	**49.08**	**300**	P	**P**	**13 27 56.0**	**-0.5**
QIZ				S	**S**	**13 34 55.5**	**-0.8**
QIZ				LZ			
	160nm,22.9s						
NJ2	**Nanjing**	**49.36**	**321**	*e*P	**P**	**13 27 57.8**	**-0.6**
NJ2				PMZ			
	40nm,0.9s						
USRK	**Ussuriysk Ar.**	**52.61**	**341**	P	**P**	**13 28 22.0**	**-0.6**
	2.7nm,0.8s,baz=147,slow=9.5,SNR=6.1						
USRK				pP	**pP**	**13 28 38.6**	**-2.5**
	3.8nm,0.8s,baz=161,slow=7.5,SNR=6.0						
MDJ	**Mudanjiang**	**53.80**	**339**	P	**P**	**13 28 30.5**	**-0.8**
MDJ				PMZ			
	8.0nm,1.0s						
MDJ				PMZ			
	54nm,6.3s						
GYA	**Guiyang**	**54.98**	**307**	*e*P	**P**	**13 28 41.0**	**+0.6**
GYA				pP	**pP**	**13 29 01.5**	**+2.4**
GYA				PP	**PP**	**13 30 46.8**	**+2.6**
GYA				ScP	**ScP**	**13 33 32.0**	**-1.8**
GYA				S	**S**	**13 36 16.3**	**-1.0**
GYA				PMZ			
	10.0nm,1.0s						
GYA				PMZ			
	110nm,5.2s						
BJI	**Beijing**	**56.37**	**326**	P	**P**	**13 28 49.0**	**-0.9**
BJI				PMZ			
	6.0nm,1.6s						
BJI				PMZ			
	120nm,3.9s						
UTTA	**Uttaradit**	**56.82**	**295**	P	**P**	**13 28 55.5**	**+2.0**
	4.3nm,1.1s						
XAN	**Xi'an**	**57.16**	**316**	P	**P**	**13 28 55.8**	**+0.1**
XAN				PMZ			
	16nm,1.2s						
XAN				PMZ			
	46nm,4.7s						
LHMI	**Lhok Sumawe**	**57.29**	**279**	P	P	13 29 02.0	+5.1
	baz=57,SNR=4.4						
KMI	**Kunming**	**57.58**	**304**	P	**P**	**13 29 00.5**	**+1.4**
KMI				pP	**pP**	**13 29 20.0**	**+2.1**
KMI				sP	**sP**	**13 29 28.3**	**+2.2**
KMI				S	**S**	**13 36 51.0**	**-1.0**
KMI				PMZ			
	9.0nm,1.4s						
KMI				PMZ			
	81nm,5.5s						
KMI				LN			
	92nm,11.4s						
KMI				LE			
	110nm,5.7s						
KMI				LZ			
	120nm,12.5s						
CRAI	**Chiangrai**	**57.79**	**298**	P	**P**	**13 28 58.7**	**-1.7**
	12nm,0.7s,546nm						
LAMP	**Lampang**	**57.90**	**295**	P	**P**	**13 29 03.3**	**+2.2**
	3.9nm,1.0s						
PETK	**Petropavlovsk-**	**57.98**	**3**	P	**P**	**13 29 00.6**	**-0.4**
	2.2nm,0.7s,baz=169,slow=8.8,SNR=6.6						
PETK				LR	LR	13 49 50.5	
	comp=Z,49nm,21.9s,baz=177,slow=32						
CMAR	**Chiang Mai Arr**	**58.50**	**295**	P	**P**	**13 29 06.5**	**+1.2**
	6.3nm,1.0s,baz=112,slow=5.2,SNR=31						
CMAR				pP	**pP**	**13 29 21.1**	**-3.1**
	2.9nm,0.8s,baz=121,slow=4.9,SNR=5.7						
CMAR				LR	LR	13 54 41.1	
	comp=Z,15nm,18.1s,baz=120,slow=36						
CMMT	**Chiang Mai**	**58.60**	**295**	P	**P**	**13 29 07.2**	**+1.1**
	14nm,1.6s						
CHTO	**Chiang Mai**	**58.60**	**295**	P	**P**	**13 29 07.3**	**+1.2**
	49nm,1.6s						
CHTO	**Chiang Mai**	**58.60**	**295**	*e*P	**P**	**13 29 06.7**	**+0.6**
	15nm,1.3s						
CD2	**Chengdu**	**59.31**	**310**	P	**P**	**13 29 10.5**	**-0.3**
CD2				pP	**pP**	**13 29 29.5**	**-0.2**
CD2				PcP	**PcP**	**13 29 57.5**	**-0.7**
CD2				PP	**PP**	**13 31 22.0**	**-0.6**
CD2				PcS	**PcS**	**13 33 59.5**	**-0.9**
CD2				S	**S**	**13 37 13.8**	**-0.1**
CD2				sS	**sS**	**13 37 47.0**	**+1.0**
CD2				SS	**SS**	**13 41 11.0**	**+1.1**
CD2				PMZ			
	40nm,0.6s						
CD2				PMZ			
	160nm,5.2s						
HHC	**Hu-ho-hao-te**	**59.54**	**324**	*e*P	**P**	**13 29 13.0**	**+0.7**
HHC				S	**S**	**13 37 17.0**	**+0.3**
HHC				sS	**sS**	**13 37 44.5**	**-4.3**
HHC				PMZ			
	31nm,1.5s						
HHC				PMZ			
	63nm,5.0s						
HHC				LN			
	110nm,13.7s						
HHC				LE			
	79nm,14.9s						
HHC				LZ			
	60nm,14.9s						
LZH	**Lanzhou**	**61.77**	**316**	⇓P	**P**	**13 29 29.0**	**+1.4**
LZH				pP	**pP**	**13 29 51.0**	**+4.4**
LZH				sP	sP	13 30 01.0	+6.2
LZH				PMZ			
	80nm,1.2s						
LZH				PMZ			
	160nm,4.0s						
GTA	**Gaotai**	**66.19**	**317**	P	**P**	**13 29 57.5**	**+1.0**
GTA				pP	**pP**	**13 30 14.8**	**-0.9**
GTA				sP	**sP**	**13 30 24.8**	**+1.0**
GTA				S	**S**	**13 38 42.0**	**+2.0**
GTA				sS	**sS**	**13 39 13.3**	**+0.6**
GTA				PMZ			
	34nm,1.3s						
GTA				PMZ			
	70nm,6.4s						
GTA				LN			
	64nm,15.0s						
GTA				LE			
	53nm,16.9s						
GTA				LZ			
	71nm,16.2s						
ULN	**Ulaanbaatar**	**66.46**	**328**	*e*P	**P**	**13 29 58.3**	**+0.2**
	12nm,1.1s						
SONM	**Songino Array**	**66.79**	**328**	P	**P**	**13 30 00.8**	**+0.6**
	3.9nm,0.4s,baz=144,slow=5.5,SNR=26						
SONM				LR	LR	14 00 20.3	
	comp=Z,38nm,18.3s,baz=82,slow=37						
SEY	**Seymchan**	**67.72**	**359**	P	**P**	**13 30 05.7**	**+0.2**
	1.0nm,0.5s,baz=170,slow=5.7,SNR=6.1						
VNDA	**Vanda**	**72.64**	**178**	P	**P**	**13 30 36.7**	**+1.3**
	14nm,1.0s,baz=332,slow=6.8,SNR=35						
VNDA	**Vanda**	**72.64**	**178**	*e*P	**P**	**13 30 36.3**	**+0.9**
	23nm,1.2s						
SBA	**Scott Base**	**73.17**	**177**	*e*P	**P**	**13 30 40.8**	**+2.2**
	18nm,1.1s						
WMQ	**Urumqi**	**76.28**	**317**	P	**P**	**13 30 57.8**	**+0.6**
WMQ				PcP	**PcP**	**13 31 08.8**	**-0.1**
WMQ				pP	**pP**	**13 31 17.8**	**+0.9**
WMQ				s

KSH			SKS	**S**		**13 41 50.0**	**-2.7**
KSH			S	**SKSac**		**13 41 54.0**	**+1.1**
KSH			sS	**sS**		**13 42 29.0**	**+2.5**
KSH			SS	**SS**		**13 47 25.0**	**+4.8**
KSH			PMZ				
	23nm,1.0s						
KSH			PMZ				
	160nm,5.5s						
KSH			LN				
	120nm,4.2s						
KSH			LE				
	84nm,4.4s						
KSH			LZ				
	280nm,5.7s						
HYT	**Haines Junctio**	**84.31 27**	*e*P	**P**		**13 31 40.1**	**0.0**
TKM2	**Tokmak 2**	**84.48 314**	P	**P**		**13 31 42.1**	**+0.6**
	SNR=10						
TKM2	**Tokmak 2**	**84.48 314**	*e*P	**P**		**13 31 41.7**	**+0.3**
	17nm,1.0s						
TKM2			*e*			13 31 58.9	
KZA	**Kyzart**	**84.56 313**	P	**P**		**13 31 43.5**	**+1.4**
	SNR=20						
KBK	**Karagaybulak**	**84.90 313**	P	**P**		**13 31 44.7**	**+1.2**
	SNR=5.5						
QSPA	**South Pole Qui**	**84.99 180**	*e*P	**P**		**13 31 43.9**	**+0.5**
	43nm,0.8s						
CHMS	**Chumysh**	**85.11 314**	P	**P**		**13 31 44.9**	**+0.5**
	SNR=9.3						
AAK	**Ala-Archa**	**85.22 313**	*e*P	**P**		**13 31 45.8**	**+0.7**
	16nm,0.9s						
USP	**Ospenovka**	**85.34 314**	P	**P**		**13 31 46.6**	**+1.1**
	SNR=15						
MAW	**Mawson**	**85.64 203**	P	**P**		**13 31 47.2**	**+0.8**
	8.0nm,0.8s,baz=73,slow=6.1,SNR=19						
MAW	**Mawson**	**85.64 203**	*e*P	**P**		**13 31 46.4**	**0.0**
	2.1nm,0.8s						
AML	**Almayashu**	**85.71 313**	P	**P**		**13 31 49.0**	**+1.1**
	SNR=8.0						
EKS2	**Erkin-Say**	**85.75 313**	P	**P**		**13 31 48.7**	**+1.1**
	SNR=6.3						
EKS2	**Erkin-Say**	**85.75 313**	*e*P	**P**		**13 31 48.4**	**+0.7**
	16nm,0.9s						
KKAR	**Karatay Array**	**88.19 313**	*e*P	**P**		**13 31 59.1**	**-0.3**
INK	**Inuvik**	**88.40 21**	P	**P**		**13 32 00.3**	**+0.6**
	0.5nm,0.3s,baz=263,slow=8.2,SNR=7.7						
BVAR	**Borovoye Array**	**89.74 323**	P	**P**		**13 32 05.8**	**-0.6**
	10.0nm,0.7s,baz=104,slow=6.3,SNR=58						
BRVK	**Borovoye**	**89.81 323**	*e*P	**P**		**13 32 05.5**	**-1.1**
	12nm,0.8s						
BRVK			*e*			13 32 23.1	
NVAR	**Mina Array Bea**	**91.72 52**	P	**P**		**13 32 15.8**	**-0.4**
	0.4nm,0.6s,baz=273,slow=5.2,SNR=4.3						
SYO	**Syowa Base**	**93.70 199**↑	*e*P	**P**		**13 32 23.2**	**-1.2**
ABKAR	**Akbulak array**	**96.00 319**	*e*P	**P**		**13 32 32.7**	**-2.6**
PDAR	**Pinedale Array**	**98.52 48**	LR	LR		14 10 39.1	
	comp=Z,79nm,21.1s,baz=272,slow=31						
SNAA	**Sanae**	**101.94 187**	P	**Pdif**		**13 33 01.6**	**0.0**
BOSA	**Boshof**	**120.00 233**	PKP	**PKPdf**		**13 37 59.2**	**-0.1**
	3.4nm,0.8s,baz=91,slow=2.5,SNR=5.3						
LSZ	**Lusaka**	**122.14 249**	PKP	**PKPdf**		**13 38 04.3**	**+0.6**
	2.8nm,0.7s,baz=28,slow=12,SNR=5.2						
LSZ	**Lusaka**	**122.14 249**	*e*PKPdf	**PKPdf**		**13 38 04.8**	**+1.1**
CLL	**Collm**	**123.29 331**	*e*PKPdf	**PKPdf**		**13 38 06.0**	**+1.2**
GERES	**GERESS Array B**	**124.52 329**	PKP	**PKPdf**		**13 38 07.3**	**0.0**
	0.6nm,0.2s,baz=52,slow=2.2,SNR=7.9						
TAM	**Tamanrasset**	**144.28 303**	*e*PKP	PKPbc		13 38 43.8	+0.5
BDFB	**Brasilia**	**150.52 134**	PKPbc	**PKPbc**		**13 38 59.4**	**-1.4**
	2.8nm,0.6s,baz=206,slow=0.2,SNR=4.1						
TOA0	**Torodi Ar. Sit**	**150.93 288**	*e*PKPbc	**PKPbc**		**13 39 01.2**	**-0.4**
TORD	**Torodi Ar. Bea**	**150.93 288**	PKPbc	**PKPbc**		**13 39 01.3**	**-0.4**
	27nm,0.8s,baz=63,slow=2.1,SNR=125						
TORD			pPKPbc	**pPKPbc**		**13 39 18.9**	**-3.6**
	13nm,0.9s,baz=63,slow=2.0,SNR=7.1						

*IDC **26** 13:44:57.4±1.0,52°.32N×169°.34W,h0km,mb3.7/4, mb1 3.9/7,mb1mx3.5/51,mbtmp3.6/7,ML3.3/3,Error ellipse: s-maj=40.8km s-min=19.0km az=153.0*
*ISCJB **26** 13:44:60.0±1.2,52°.7N±0°.1×169°.45W±0°.09,h28km±8km, mb3.7/4,Error ellipse: s-maj=20.5km s-min=5.4km az=157.0*
*NEIC **26** 13:45:00.6,52°.60N×169°.31W,h26km,ML3.4(AEIC),After AEIC.*

ISC 26 13:45:00.3±0.9,52°.7N±0°.1×169°.40W±0°.06,h20km±7km, n34,σ1§15/32,mb3.8/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.46**	**45**	P	**Pb**	**13 45 09.3**	**-0.3**
NIKH				S	**Sb**	**13 45 16.9**	**+0.9**
OKSO	**Okmok South**	**1.03**	**46**	P	**Pn**	**13 45 18.2**	**-1.4**
OKSO				S	**Sb**	**13 45 32.1**	**-0.4**
OKWR	**Okmok West Rim**	**1.06**	**42**	P	**Pn**	**13 45 20.0**	**-0.1**
OKCE	**Okmok Cone E**	**1.08**	**43**	P	**Pn**	**13 45 19.4**	**-0.8**
OKTU	**Okmok Mt. Tuli**	**1.10**	**48**	P	**Pn**	**13 45 20.1**	**-0.5**
OKAK	**Okmok**	**1.12**	**34**	P	**Pn**	**13 45 18.6**	**-2.2**
OKFG	**Magazine Ridge**	**1.18**	**49**	P	**Pn**	**13 45 20.6**	**-0.9**
OKFG				S	**Sn**	**13 45 36.5**	**-0.5**
MCIR	**Makushin Cirqu**	**1.99**	**48**	P	**Pn**	**13 45 33.3**	**+0.5**
MSW	**Makushin Switc**	**2.02**	**50**	P	**Pn**	**13 45 33.2**	**+0.1**
MTBL	**Makushin Table**	**2.10**	**50**	P	**Pn**	**13 45 34.4**	**+0.1**
UNV	**Unalaska Valle**	**2.11**	**54**	P	**Pn**	**13 45 33.9**	**-0.5**
UNV				S	**Sn**	**13 45 58.9**	**-1.1**
AKRB	**Akutan Reef Bi**	**2.48**	**52**	P	**Pn**	**13 45 40.4**	**+0.9**
ZRO	**Akutan Zero**	**2.51**	**53**	P	**Pn**	**13 45 40.7**	**+0.8**
AKGG	**Akutan Green G**	**2.56**	**51**	P	**Pn**	**13 45 41.1**	**+0.6**
AKUT	**Akutan**	**2.63**	**54**	*e*Pn	**Pn**	**13 45 41.8**	**+0.2**
ATKA	**Atka Island**	**2.97**	**263**	P	**Pn**	**13 45 45.5**	**-0.7**
ATKA				S	**Sn**	**13 46 18.7**	**-2.5**
SSBA	**Shishaldin**	**3.79**	**54**	P	**Pn**	**13 45 59.3**	**+1.8**
GSTR	**Great Sitkin T**	**4.12**	**265**	*e*Pn	**Pn**	**13 46 03.5**	**+1.4**
FALS	**False Pass**	**4.18**	**56**	P	**Pn**	**13 46 04.5**	**+1.7**
GSCK	**Great Sitkin C**	**4.20**	**264**	P	**Pn**	**13 46 04.7**	**+1.6**
SPIA	**Saint Paul Isl**	**4.56**	**354**	P	**Pn**	**13 46 10.1**	**+2.0**
KDAK	**Kodiak Island**	**10.88**	**55**	Pn	Pn	13 47 38.4	+3.8
	0.4nm,0.3s,baz=286,slow=19,SNR=2.7						
ILAR	**Eielson Array**	**16.73**	**35**	Pn	**P**	**13 48 55.3**	**0.0**
	0.1nm,0.3s,baz=235,slow=8.7,SNR=4.7						
PETK	**Petropavlovsk-**	**19.77**	**284**	P	**Pn**	**13 49 30.2**	**-0.2**
	0.2nm,0.3s,baz=90,slow=14,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**37.66**	**218**	T	T	14 32 05.2	
	baz=24,slow=76,SNR=21						
H11N3	**WAKE ISLAND Hy**	**37.67**	**218**	T	T	14 32 12.1	
	baz=24,slow=76,SNR=30						
H11N1	**WAKE ISLAND Hy**	**37.68**	**218**	T	T	14 32 23.7	
	baz=24,slow=76,SNR=19						
H11S1	**WAKE ISLAND Hy**	**38.85**	**218**	T	T	14 33 40.9	
	baz=23,slow=76,SNR=299						
H11S2	**WAKE ISLAND Hy**	**38.87**	**218**	T	T	14 33 42.5	
	baz=23,slow=76,SNR=301						
H11S3	**WAKE ISLAND Hy**	**38.87**	**218**	T	T	14 33 42.7	
	baz=23,slow=76,SNR=163						
PDAR	**Pinedale Array**	**40.37**	**79**	P	**P**	**13 52 37.8**	**+1.2**
	0.2nm,0.5s,baz=275,slow=6.2,SNR=2.7						
TXAR	**Lajitas Array**	**52.76**	**89**	P	**P**	**13 54 13.8**	**0.0**
	0.8nm,0.6s,baz=298,slow=5.7,SNR=16						
WRA	**Warramunga Arr**	**87.17**	**232**	P	**P**	**13 57 43.7**	**-1.0**
	0.2nm,0.4s,baz=34,slow=5.6,SNR=3.7						
ASAR	**Alice Springs**	**90.56**	**230**	P	**P**	**13 58 00.7**	**-0.1**
	0.6nm,0.5s,baz=25,slow=4.6,SNR=19						

*ISCJB **26** 13:45:53.2±0.5,19°.95S±0°.04×69°.0W±0°.1,h109km±7km, mb3.9/3,Error ellipse: s-maj=17.0km s-min=7.0km az=0.5*
*GUC **26** 13:45:53.8±0.6,19°.97S×69°.19W,h102km±8km,ML4.6*
*NEIC **26** 13:45:55.5±1.0,20°.00S×68°.94W,h119km±9km,mb3.7/1, Error ellipse: s-maj=17.1km s-min=9.4km az=96.0*
NEIC Felt [III] at Iquique and [II] at Alto Hospicio, Huara, Pica and Pozo Almonte.
*IDC **26** 13:45:55.8±1.1,20°.06S×68°.90W,h119km±9km,mb3.8/3, mb1 4.0/7,mb1mx3.6/31,mbtmp4.3/7,Error ellipse: s-maj=25.9km s-min=8.8km az=99.0*

ISC 26 13:45:54.1±0.8,20°.00S±0°.04×69°.1W±0°.1,h104km±7km, n25,σ1§44/30,mb3.9/3,1C-4D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNMC	**Minimini**	**0.97**	**332**↓	*i*P	**Pn**	**13 46 14.4**	**-0.5**
MNMC				*i* S	**Sn**	**13 46 29.7**	**-0.8**
MNMC				AML	AML	13 46 30.6	
	comp=N,26μm,0.7s						
PB01	**IPOC Station P**	**1.10**	**198**↓	*i*P	**Pn**	**13 46 16.3**	**+0.3**
PB01				*i* S	**Sn**	**13 46 33.1**	**+0.6**
PB01				AML	AML	13 46 34.2	
	comp=N,27μm,0.3s						
PB09	**IPOC Station P**	**1.79**	**184**↓	*i*P	**Pn**	**13 46 25.3**	**+0.9**
PB09				*i* S	**Sn**	**13 46 48.6**	**+1.1**
PB09				AML	AML	13 46 58.5	
	comp=E,6μm,0.4s						
PB04	**IPOC Station P**	**2.28**	**189**↑	*i*P	Pn	13 46 34.4	+3.8
PB04				AML	AML	13 47 13.1	
	comp=N,2μm,0.3s						
LVC	**Limon Verde**	**2.61**	**176**	P	**Pn**	**13 46 36.4**	**+1.3**
	comp=N,914nm,0.3s,baz=35,slow=9.9,SNR=110						
LVC				S	**Sn**	**13 47 08.1**	**+1.6**
	comp=N,3μm,0.3s,baz=233,slow=20,SNR=14						
LVC	**Limon Verde**	**2.61**	**176**	*e*P	**Pn**	**13 46 36.7**	**+1.6**
LVC				*e*S	**Sn**	**13 47 02.9**	**-3.6**
LVC				S	**Sn**	**13 47 08.1**	**+1.6**
PB06	**IPOC Station P**	**2.73**	**189**↓	*i*P	**Pn**	**13 46 36.6**	**+0.1**
PB06				*i* S	**Sn**	**13 47 09.6**	**+0.5**
PB06				AML	AML	13 47 18.9	
	comp=E,1μm,0.3s						
LPAZ	**La Paz**	**3.81**	**14**	P	**Pn**	**13 46 53.8**	**+2.4**
	comp=E,3.6nm,0.3s,baz=183,slow=7.3,SNR=88						
LPAZ				S	**Sn**	**13 47 38.8**	**+3.3**
	comp=E,1.7nm,0.3s,baz=185,slow=9.0,SNR=5.9						
SIV	**San Ignacio**	**8.63**	**64**	P	**Pn**	**13 47 54.2**	**-2.0**
	comp=E,6.8nm,0.3s,baz=268,slow=10,SNR=147						
SAML	**Samuel**	**12.39**	**28**	P	**Pn**	**13 48 46.2**	**-0.7**
CPUP	**Villa Florida**	**12.54**	**122**	P	**Pn**	**13 48 48.3**	**-0.5**
	comp=E,0.2nm,0.3s,baz=302,slow=12,SNR=6.5						
CPUP	**Villa Florida**	**12.54**	**122**	P	**Pn**	**13 48 48.5**	**-0.3**
TRQA	**Tornquist**	**19.04**	**162**	*e*Pn	**Pn**	**13 50 09.0**	**-0.8**
BDFB	**Brasilia**	**20.55**	**81**	P	**P**	**13 50 24.2**	**-0.5**
	comp=E,1.8nm,0.4s,baz=280,slow=15,SNR=3.5						
SNAA	**Sanae**	**63.76**	**161**	*e*P	**P**	**13 56 15.5**	**+1.0**
	comp=E,0.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**77.04**	**71**	P	**P**	**13 57 35.0**	**-1.2**
	comp=E,1.4nm,0.6s,baz=250,slow=5.6,SNR=16						
TORD				pP	**pP**	**13 58 02.5**	**-0.4**
	comp=E,1.5nm,0.8s,baz=252,slow=5.4,SNR=5.7						
YKA	**Yellowknife Ar**	**89.71**	**341**	P	**P**	**13 58 40.1**	**+0.1**
	comp=E,2.1nm,0.7s,baz=135,slow=5.1,SNR=8.7						
H11N3	**WAKE ISLAND Hy**	**127.52**	**280**	T	T	16 24 43.5	
	baz=102,slow=75,SNR=14						
H11N2	**WAKE ISLAND Hy**	**127.54**	**280**	T	T	16 24 46.5	
	baz=102,slow=75,SNR=9.5						
H11N1	**WAKE ISLAND Hy**	**127.54**	**280**	T	T	16 24 52.7	
	baz=102,slow=75,SNR=10						
ASAR	**Alice Springs**	**131.14**	**208**	PKP	**PKPdf**	**14 04 53.2**	**-1.3**
	comp=E,0.5nm,0.8s,baz=122,slow=1.7,SNR=12						
WRA	**Warramunga Arr**	**134.14**	**211**	PKP	**PKPdf**	**14 04 59.9**	**-0.4**
	comp=E,0.4nm,0.5s,baz=162,slow=1.9,SNR=7.1						
MKAR	**Makanchi Array**	**144.52**	**35**	PKP	**PKPab**	**14 05 16.9**	**-0.1**
	comp=E,0.3nm,0.6s,baz=326,slow=2.6,SNR=2.8						
SIJI	**Sorong**	**151.20**	**226**	PKPbc	**PKPbc**	**14 05 36.9**	**+0.7**
	comp=E,4.6nm,0.8s,baz=105,slow=5.4,SNR=3.5						
SONM	**Songino Array**	**151.99**	**6**	PKPbc	**PKPbc**	**14 05 37.6**	**+0.4**
	comp=E,0.8nm,0.4s,baz=311,slow=1.3,SNR=5.7						

*IDC **26** 14:09:48.9±2.6,21°.63N×146°.32E,h0km,mb3.7/8, mb1 3.8/9,mb1mx3.6/60,mbtmp3.8/9,ML3.9/1,MS3.2/2, Ms1 3.2/2,ms1mx2.4/35,Error ellipse: s-maj=105.1km s-min=18.7km az=78.0*

ISC 26 14:09:56.3±2.3,21°.6N±0°.2×145°.7E±0°.6,h35km,n11, σ1§49/10,mb3.9/8,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**6.32**	**331**	Pn	**Pn**	**14 11 27.3**	**+0.2**
	2.4nm,0.3s,baz=76,slow=22,SNR=19						
JCJ				Sn	**Sn**	**14 12 36.0**	**-2.1**
	5.7nm,0.3s,baz=294,slow=23,SNR=9.5						
GUMO	**Guam**	**8.00**	**185**	LR	LR	14 13 46.7	
	comp=Z,24nm,18.8s,baz=20,slow=29						
KSRS	**Korea Array**	**22.03**	**320**	P	**P**	**14 14 50.4**	**+2.7**
	0.6nm,0.8s,baz=147,slow=7.9,SNR=3.7						
WRA	**Warramunga Arr**	**42.74**	**196**	P	**P**	**14 17 50.0**	**-0.4**
	0.8nm,0.5s,baz=11,slow=8.3,SNR=18						
ASAR	**Alice Springs**	**46.42**	**195**	P	**P**	**14 18 18.7**	**-1.1**
	0.4nm,0.5s,baz=11,slow=6.5,SNR=13						
ZALV	**Zalesovo Beam**	**55.72**	**321**	P	**P**	**14 19 28.1**	**-1.2**
	0.9nm,0.4s,baz=120,slow=7.4,SNR=4.2						
MKAR	**Makanchi Array**	**56.46**	**313**	P	**P**	**14 19 35.6**	**+0.9**
	0.1nm,0.4s,baz=89,slow=11,SNR=2.4						
KURBB	**Kurchatov Arra**	**59.17**	**317**	P	**P**	**14 19 54.3**	**+0.6**
	0.5nm,0.3s,baz=91,slow=7.8,SNR=4.5						
BVAR	**Borovoye Array**	**64.24**	**320**	P	**P**	**14 20 28.0**	**+0.2**
	1.1nm,0.4s,baz=83,slow=7.2,SNR=9.2						
RAR	**Rarotonga**	**68.18**	**125**	LR	LR	14 43 15.1	
	comp=Z,104nm,21.3s,baz=73,slow=30						
FINES	**FINESS Array B**	**84.25**	**335**	P	**P**	**14 22 24.0**	**-0.1**
	0.6nm,0.3s,baz=77,slow=4.8,SNR=9.6						

PRE 26 14:24:19.2±1.8,28°.79S×20°.41E,h5km,ML4.1,1C,South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UPI	**Upington**	**0.86**	**60**↑	*i*P	Pg	14 24 35.8	-0.1
UPI				*e*S	Sg	14 24 46.1	-0.9
UPI				AML	AML	14 24 48.0	
	comp=Z,2μm,0.3s						
CVNA	**Calvinia**	**2.74**	**192**	*e*P	Pn	14 25 05.3	+1.3
CVNA				*e*S	Sn	14 25 36.9	-0.7
CVNA				AML	AML	14 25 49.8	
	comp=Z,659nm,0.4s						
SWZ	**Schweizer**	**4.64**	**71**	*e*P	Pn	14 25 31.0	+0.8
SWZ				*e*S	Sn	14 26 24.2	-0.4
SWZ				AML	AML	14 26 55.4	
	comp=Z,141nm,0.7s						
CER	**Ceres**	**4.66**	**192**	*e*P	Pn	14 25 30.4	+0.2
CER				*e*S	Sn	14 26 23.6	-1.1
CER				AML	AML	14 26 53.5	
	comp=Z,311nm,0.6s						
ELIM	**Elim**	**5.82**	**185**	*e*P	Pn	14 25 40.3	-5.9
ELIM				*e*S	Sn	14 26 49.6	-3.7
ELIM				AML	AML	14 27 24.8	
	comp=Z,152nm,0.4s						
SOE	**Somerset East**	**5.91**	**133**	*e*P	Pn	14 25 48.5	+0.9
SOE				*e*S	Sn	14 26 53.7	-2.1
SOE				AML	AML	14 27 36.7	
	comp=Z,70nm,0.6s						
PRYS	**Parys**	**6.43**	**75**	*e*P	Pn	14 25 55.4	+0.6
PRYS				AML	AML	14 27 21.3	
	comp=Z,23nm,0.6s						

PRE 26 14:27:05.4±2.0,28°.63S×20°.33E,h5km,ML3.8,1C,South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UPI	**Upington**	**0.86**	**72**↑	*i*P	Pg	14 27 22.1	+0.1
UPI				*e*S	Sg	14 27 32.8	-0.4
UPI				AML	AML	14 27 33.5	
	comp=Z,1μm,0.3s						
CVNA	**Calvinia**	**2.88**	**190**	*e*P	Pn	14 27 52.9	+0.7
CVNA				*e*S	Sn	14 28 26.2	-1.2
CVNA				AML	AML	14 28 35.4	
	comp=Z,314nm,0.3s						
SWZ	**Schweizer**	**4.66**	**73**	*e*P	Pn	14 28 18.9	+2.3
SWZ				*e*S	Sn	14 29 09.6	-1.6
SWZ				AML	AML	14 29 32.5	
	comp=Z,130nm,0.7s						
CER	**Ceres**	**4.80**	**190**	*e*P	Pn	14 28 19.1	+0.8
CER				*e*S	Sn	14 29 12.0	-2.4
CER				AML	AML	14 29 38.9	
	comp=Z,107nm,0.7s						
ELIM	**Elim**	**5.97**	**185**	*e*P	Pn	14 28 34.6	+0.2
ELIM				*e*S	Sn	14 29 41.8	-1.5
ELIM				AML	AML	14 30 12.0	
	comp=Z,62nm,0.7s						
SOE	**Somerset East**	**6.07**	**133**	*e*P	Pn	14 28 35.6	-0.4
SOE				*e*S	Sn	14 29 44.6	-1.3
SOE				AML	AML	14 30 14.0	
	comp=Z,22nm,0.4s						
PRYS	**Parys**	**6.46**	**76**	*e*P	Pn	14 28 42.3	+0.9
PRYS				*e*S	Sn	14 29 52.2	-3.4
PRYS				AML	AML	14 30 28.5	
	comp=Z,32nm,0.4s						

IDC 26 14:27:15.5±1.9,16°.94S×177°.94W,h0km,mb3.7/5, mb1 4.0/5,mb1mx3.7/24,mbtmp3.7/5,Error ellipse: s-maj=109.4km s-min=26.4km az=148.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.49**	**240**	P	P	14 34 48.4	+0.3
	1.9nm,0.7s,baz=89,slow=9.4,SNR=4.7						
WRA	**Warramunga Arr**	**45.26**	**259**	P	P	14 35 35.2	+0.1
	0.3nm,0.5s,baz=97,slow=7.1,SNR=7.4						
ASAR	**Alice Springs**	**45.49**	**253**	P	P	14 35 36.4	-0.6
	1.6nm,0.6s,baz=87,slow=9.0,SNR=44						
ILAR	**Eielson Array**	**84.84**	**13**	P	P	14 39 51.1	-0.5
	0.1nm,0.4s,baz=213,slow=5.7,SNR=5.3						
TXAR	**Lajitas Array**	**85.10**	**58**	P	P	14 39 54.4	+0.5
	0.3nm,0.7s,baz=204,slow=7.3,SNR=3.8						

*ISCJB **26** 15:00:25.8±0.6,8°.18S±0°.08×122°.2E±0°.1,h250km, mb3.7/5,Error ellipse: s-maj=16.8km s-min=7.8km az=144.8*
*IDC **26** 15:00:26.4±1.5,8°.17S×122°.24E,h236km±14km,mb3.5/5, mb1 3.5/8,mb1mx3.2/42,mbtmp4.1/8,Error ellipse: s-maj=49.4km s-min=9.7km az=60.0*

ISC 26 15:00:27.1±0.7,8°.2S±0°.1×122°.2E±0°.1,h250km,n21, σ1§69/23,mb3.8/5,Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**2.54**	**127**	P	Pn	15 01 10.2	-4.7
	baz=2.8,SNR=14						
KAPI	**Kappang**	**4.02**	**323**	P	**Pn**	**15 01 29.5**	**-1.7**
	1.5nm,0.3s,baz=154,slow=6.4,SNR=9.9						
JAGI	**Jajag, Banyuwa**	**7.97**	**268**	P	Pn	15 02 14.9	-5.1
	baz=7.9,SNR=4.9						
KNRA	**Kununurra**	**9.79**	**140**	P	**Pn**	**15 02 40.0**	**-3.1**
	baz=10,SNR=15						
MTN	**Manton Dam**	**9.90**	**118**	P	**Pn**	**15 02 41.9**	**-2.6**
	baz=10,SNR=16						
KDU	**Kakadu**	**11.03**	**114**	P	**Pn**	**15 02 58.3**	**-0.3**
	baz=11,SNR=4.2						
WRA	**Warramunga Arr**	**16.54**	**136**	P	**P**	**15 04 03.3**	**-0.7**
	0.9nm,0.3s,baz=311,slow=12,SNR=21						
WRA				S	**S**	**15 07 02.5**	**-1.6**
	0.3nm,0.3s,baz=304,slow=26,SNR=4.8						
WRA				ScP	**ScP**	**15 11 51.1**	**-0.1**
	0.0nm,0.3s,baz=307,slow=3.5,SNR=4.9						
WRKA	**Warakurna**	**17.69**	**162**	P	**Pn**	**15 04 17.2**	**-1.9**
	baz=18,SNR=20						
MEEK	**Meekatharra**	**18.61**	**190**	P	**P**	**15 04 27.3**	**+1.0**
	baz=19,SNR=5.1						
ASAR	**Alice Springs**	**19.00**	**145**	P	**P**	**15 04 30.9**	**+0.3**
	0.9nm,0.3s,baz=332,slow=13,SNR=68						
ASAR				S	**S**	**15 07 56.6**	**+3.7**
	0.0nm,0.3s,baz=318,slow=24,SNR=5.4						
ASAR				ScP	**ScP**	**15 11 58.6**	**+2.2**
	0.1nm,0.3s,baz=332,slow=2.3,SNR=8.1						
QIS	**Mount Isa**	**20.81**	**128**	P	**P**	**15 04 49.6**	**-0.3**
	baz=21,SNR=10						
MORW	**Morawa**	**21.52**	**195**	P	**P**	**15 04 57.1**	**+0.4**
	baz=22,SNR=4.3						
MTSU	**Mount Surprise**	**23.65**	**117**	P	**P**	**15 05 17.2**	**+0.9**
	baz=24,SNR=6.7						
HTT	**Hallett**	**29.45**	**151**	P	**P**	**15 06 09.3**	**+1.3**
	baz=30,SNR=7.2						
STKA	**Stephens Creek**	**29.64**	**145**	P	**P**	**15 06 10.6**	**+1.0**
	1.0nm,0.4s,baz=341,slow=7.7,SNR=5.9						
STKA	**Stephens Creek**	**29.64**	**145**	P	**P**	**15 06 10.8**	**+1.1**
	baz=30,SNR=4.9						
CMSA	**Cobar Meteorol**	**31.87**	**140**	P	**P**	**15 06 30.9**	**+1.7**
	baz=32,SNR=8.3						
USRK	**Ussuriysk Ar.**	**52.94**	**9**	P	**P**	**15 09 17.8**	**0.0**
	1.4nm,0.4s,baz=199,slow=5.5,SNR=6.3						
MKAR	**Makanchi Array**	**65.28**	**331**	P	**P**	**15 10 43.5**	**+1.2**
	1.1nm,0.5s,baz=137,slow=7.9,SNR=21						
ZALV	**Zalesovo Beam**	**69.51**	**327**	P	**P**	**15 11 07.9**	**-0.6**
	1.7nm,0.7s,baz=134,slow=4.3,SNR=5.7						
SEY	**Seymchan**	**74.64**	**14**	P	**P**	**15 11 39.8**	**+1.1**
	0.6nm,0.5s,baz=232,slow=19,SNR=5.8						

*ISCJB **26** 15:05:57.0±0.5,20°.49S±0°.07×169°.80E±0°.06,h122km, mb4.2/17,Error ellipse: s-maj=10.5km s-min=7.1km az=158.0*
*NEIC **26** 15:05:57.5±0.5,20°.40S×169°.87E,mb4.4/8,Error ellipse: s-maj=11.8km s-min=9.2km az=177.0*
*IDC **26** 15:05:57.7±0.9,20°.51S×169°.81E,h116km±7km,mb3.9/11, mb1 4.1/13,mb1mx3.9/32,mbtmp4.3/13,MS3.6/1, Ms1 3.6/1,ms1mx2.5/31,Error ellipse: s-maj=19.0km s-min=11.2km az=153.0*

ISC 26 15:05:58.3±0.6,20°.47S±0°.08×169°.77E±0°.07,h122km,n57, σ1§12/59,mb4.2/17,1D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.17**	**238**	*e*P	**Pn**	**15 06 47.1**	**+0.2**
BAYA				*e*S	**Sn**	**15 07 22.4**	**-2.0**
DZM	**Mont Dzumac**	**3.49**	**242**	P	**Pn**	**15 06 51.6**	**+0.4**
	56nm,0.3s,baz=270,slow=24,SNR=1072						
DZM				S	**Sn**

MBWA **Marble Bar** **46.62** **260** *e*P **P** **15 14 14.8 +0.3**
6.3nm,0.8s
MEEK **Meekatharra** **47.05** **252** P **P** **15 14 17.8 -0.1**
baz=47,SNR=19
NWAO **Narrogin (SRO)** **48.11** **244** P **P** **15 14 25.6 -0.4**
5.0nm,0.6s,baz=152,slow=6.2,SNR=5.8
VNDA **Vanda** **57.22** **182** P **P** **15 15 31.9 -0.4**
0.8nm,0.8s,baz=349,slow=8.5,SNR=5.5
SBA **Scott Base** **57.44** **181** *e*P **P** **15 15 34.3 +0.5**
6.6nm,0.9s
MJAR **Matsushiro Arr** **64.07** **332** P **P** **15 16 19.8 +0.6**
0.5nm,0.4s,baz=171,slow=6.7,SNR=4.5
QSPA **South Pole Qui** **69.59** **180** *e*P **P** **15 16 53.9 -0.2**
9.2nm,0.9s
CMAR **Chiang Mai Arr** **79.46** **294** P **P** **15 17 52.8 +1.0**
1.4nm,0.9s,baz=135,slow=4.6,SNR=6.6
SNAA **Sanae** **87.96** **182** P **P** **15 18 33.2 -0.9**
SNAA **Sanae** **87.96** **182** *e*P **P** **15 18 32.7 -1.4**
0.6nm,0.6s
SONM **Songino Array** **88.50** **323** P **P** **15 18 37.2 +0.1**
0.4nm,0.5s,baz=134,slow=4.3,SNR=4.3
SONM pP **pP** **15 19 07.1 -1.4**
0.5nm,0.7s,baz=128,slow=2.4,SNR=2.6
VNA1 **Neumayer--Stat** **89.11** **181** P **P** **15 18 38.9 -0.6**
NVAR **Mina Array Bea** **89.24** **48** P **P** **15 18 41.5 +0.6**
1.7nm,0.8s,baz=229,slow=8.1,SNR=11
ILAR **Eielson Array** **91.25** **17** P **P** **15 18 48.2 -1.1**
0.3nm,0.6s,baz=243,slow=5.1,SNR=5.5
ARCES **ARCESS Array B** **126.38** **345** PKP **PKPdf** **15 24 45.1 -0.9**
0.7nm,0.7s,baz=75,slow=1.4,SNR=5.9
DPC **Dobruska-Polom** **143.54** **331** *e*PKP PKPbc 15 25 16.5 +0.3
DPC *ex* x 15 25 38.1
BRG **Berggiesshubel** **144.19** **334** *e*P PKPbc 15 25 18.0 -0.1
7.9nm,0.8s
CLL **Collm** **144.24** **335** ⇓ *i*PKPdf PKPbc 15 25 18.1 0.0
comp=Z,6.0nm,0.7s
GOPC **GO Pecny, Ondr** **144.54** **332** *e*PKP PKPbc 15 25 19.5 +0.3
PRU **Pruhonice** **144.59** **332** *e*PKP PKPbc 15 25 19.8 +0.5
NKC **Novy Kostel** **145.29** **334** *e*PKP **PKPab** **15 25 22.3 +0.5**
KHC **Kasperske Hory** **145.65** **332** *e*PKP **PKPab** **15 25 23.6 +0.4**
GERES **GERESS Array B** **145.81** **332** PKPbc **PKPab** **15 25 23.7 -0.2**
comp=Z,2.0nm,0.6s,baz=38,slow=3.4,SNR=14
GERES pPKPbc pPKPbc 15 25 53.5 -2.3
comp=Z,1.0nm,0.8s,baz=352,slow=2.7,SNR=2.3

*CSEM **26** 15:20:49.9±0.2,29.91N×9.73W,h10km,mb3.7, Error ellipse: s-maj=9.0km s-min=3.9km az=144.0*
*CNRM **26** 15:20:49.0,29.88N×9.80W,h0km,MD3.5*
*MDD **26** 15:20:50.3±0.8,29.94N×9.73W,h9km±6km,mb3.7/6, Error ellipse: s-maj=7.7km s-min=5.3km az=89.0,PRXIMO*
ISC 26 15:20:49.3±0.9,30.00N±0.05×9.79W±0.04,h10km,n24, σ1s23/34,Morocco

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
YBT	**Youssef Ben Ta**	**0.29**	**121**	P		**Pg**	**15 20 54.0**	**-1.2**
YBT				S		**Sg**	**15 20 58.0**	**-1.1**
YBT	**Youssef Ben Ta**	**0.29**	**121**	*i* P		**Pg**	**15 20 54.0**	**-1.2**
YBT				*i* S		**Sg**	**15 20 58.0**	**-1.1**
AFS	**Agadir Fac de**	**0.49**	**31**	P		**Pb**	**15 21 00.0**	**0.0**
AFS				S		**Sb**	**15 21 08.0**	**+0.7**
AFS	**Agadir Fac de**	**0.49**	**31**	*i* P		**Pb**	**15 21 00.0**	**0.0**
AFS				*i* S		**Sb**	**15 21 08.0**	**+0.7**
CIA	**Chichaoua**	**1.80**	**29**	P		**Pn**	**15 21 21.0**	**+0.6**
CIA				S		**Sb**	**15 21 45.0**	**0.0**
CIA	**Chichaoua**	**1.80**	**29**	*i* P		**Pn**	**15 21 21.0**	**+0.6**
CIA				*i* S		**Sb**	**15 21 45.0**	**0.0**
EFAM	**Famara**	**3.37**	**256**	P		**Pn**	**15 21 43.5**	**+1.5**
	1.0nm,0.1s,SNR=7.9							
EFAM				S		**Sn**	**15 22 22.9**	**+0.8**
	5.2nm,0.2s,SNR=7.9							
EFAM	**Famara**	**3.37**	**256**	P		**Pn**	**15 21 43.5**	**+1.5**
	1.0nm,0.1s,SNR=7.9							
EFAM				S		**Sn**	**15 22 22.9**	**+0.8**
	5.2nm,0.2s,SNR=7.9							
TZC	**Tazercounte**	**3.55**	**52**	P		**Pn**	**15 21 46.0**	**+1.3**
TZC				S		**Sn**	**15 22 27.0**	**+0.2**
TZC	**Tazercounte**	**3.55**	**52**	*e*P		**Pn**	**15 21 46.0**	**+1.3**
TZC				*e*S		**Sn**	**15 22 27.0**	**+0.2**
CFTV	**Fuerteventura**	**4.07**	**248**	P		**Pn**	**15 21 52.8**	**+1.1**
	0.3nm,0.1s,SNR=7.9							
CFTV				S		**Sn**	**15 22 38.9**	**-0.5**
	2.1nm,0.2s,SNR=7.9							
CFTV	**Fuerteventura**	**4.07**	**248**	P		**Pn**	**15 21 52.8**	**+1.1**
	0.3nm,0.1s,SNR=7.9							
CFTV				S		**Sn**	**15 22 38.9**	**-0.5**
	2.1nm,0.2s,SNR=7.9							
KIB	**El Ksiba**	**4.11**	**50**	P		**Pn**	**15 21 54.0**	**+1.7**
KIB				S		**Sn**	**15 22 41.0**	**+0.5**
KIB	**El Ksiba**	**4.11**	**50**	*i* P		**Pn**	**15 21 54.0**	**+1.7**
KIB				*i* S		**Sn**	**15 22 41.0**	**+0.5**
CZD	**Col de Zad**	**5.06**	**52**	P		**Pn**	**15 22 07.0**	**+1.5**
CZD				S		**Sn**	**15 23 05.0**	**+0.9**
CZD	**Col de Zad**	**5.06**	**52**	*e*P		**Pn**	**15 22 07.0**	**+1.5**
CZD				*e*S		**Sn**	**15 23 05.0**	**+0.9**
EGRO	**El Granado**	**7.76**	**14**	P		Pn	15 22 39.0	-3.3
	0.4nm,0.1s,SNR=7.9							
EGRO				S		Sn	15 23 58.1	-12
	1.8nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**7.76**	**14**	P		Pn	15 22 39.0	-3.3
	0.4nm,0.1s,SNR=7.9							
EGRO				S		Sn	15 23 58.1	-12
	1.8nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**8.17**	**18**	P		**Pn**	**15 22 45.3**	**-2.7**
	0.1nm,0.1s,SNR=7.9							
EMIN				S		Sn	15 24 09.0	-11
	0.9nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**8.17**	**18**	P		**Pn**	**15 22 45.3**	**-2.7**
	0.1nm,0.1s,SNR=7.9							
EMIN				S		Sn	15 24 09.0	-11
	0.9nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**8.84**	**23**	P		Pn	15 22 53.1	-4.0
	0.2nm,0.1s,SNR=7.9							
ECAB				S		Sn	15 24 21.9	-15
	1.1nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**8.84**	**23**	P		Pn	15 22 53.1	-4.0
	0.2nm,0.1s,SNR=7.9							
ECAB				S		Sn	15 24 21.9	-15
	1.1nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**9.22**	**27**	P		Pn	15 22 58.2	-4.2
	0.7nm,0.1s,SNR=7.9							
EADA				S		Sn	15 24 32.3	-14
	1.3nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**9.22**	**27**	P		Pn	15 22 58.2	-4.2
	0.7nm,0.1s,SNR=7.9							
EADA				S		Sn	15 24 32.3	-14
	1.3nm,0.2s,SNR=7.9							

*IDC **26** 15:23:28.4±6.6,31.99S×179.90W,h198km±49km,mb3.0/3, mb1 3.1/4,mb1mx3.0/43,mbtmp3.5/4, Error ellipse: s-maj=60.4km s-min=22.6km az=48.0*
ISC 26 15:23:29.8±1.7,32.05S±0.1×179.8E±0.3,h200km,n15, σ1s67/16,mb3.0/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.69**	**192**	PN		**Pn**	**15 24 54.4**	**+1.5**
MXZ				SN		**Sn**	**15 25 57.7**	**-1.1**
WMGZ	**Waiomatatini S**	**5.92**	**191**	PN		**Pn**	**15 24 58.9**	**+2.9**
WMGZ				SN		**Sn**	**15 26 03.7**	**-0.4**
HAZ	**Te Kaha**	**5.98**	**196**	PN		Pn	15 25 00.1	+3.4
HAZ				SN		**Sn**	**15 26 05.6**	**+0.1**
PUZ	**Puketiti**	**6.19**	**191**	PN		Pn	15 25 03.6	+4.1
MWZ	**Matawai**	**6.59**	**196**	PN		Pn	15 25 08.2	+3.5
URZ	**Urewera**	**6.62**	**199**	P		**Pn**	**15 25 06.7**	**+1.6**
	0.7nm,0.3s,baz=268,slow=5.3,SNR=14							
URZ				S		**Sn**	**15 26 18.8**	**-1.9**
	2.5nm,0.3s,baz=66,slow=23,SNR=14							
URZ	**Urewera**	**6.62**	**199**	*e*PN		**Pn**	**15 25 07.7**	**+2.6**
URZ				*e*SN		**Sn**	**15 26 19.0**	**-1.7**
BKZ	**Black Stump Fm**	**7.64**	**200**	PN		Pn	15 25 22.6	+4.2
PXZ	**Pawanui**	**8.36**	**196**	PN		**Pn**	**15 25 29.3**	**+1.6**
PXZ				*e*SN		Sn	15 26 53.7	-8.0
TSZ	**Takapari Road**	**8.62**	**200**	PN		**Pn**	**15 25 31.5**	**+0.4**
OGWZ	**Otaki Gorge**	**9.56**	**202**	PN		**Pn**	**15 25 43.2**	**-0.1**
ASAR	**Alice Springs**	**41.19**	**270**	P		**P**	**15 30 56.0**	**+0.9**
	0.1nm,0.5s,baz=108,slow=7.5,SNR=9.9							
WRA	**Warramunga Arr**	**42.32**	**275**	P		**P**	**15 31 04.9**	**+0.6**
	0.2nm,0.4s,baz=112,slow=8.1,SNR=7.9							
QSPA	**South Pole Qui**	**58.11**	**180**	P		**P**	**15 33 01.2**	**-0.9**
	2.2nm,0.8s,baz=45,slow=6.0,SNR=14							
FINES	**FINESS Array B**	**145.95**	**338**	PKPbc		**PKPdf**	**15 42 42.0**	**-2.0**
	0.6nm,0.5s,baz=62,slow=4.5,SNR=4.2							

*ISCJB **26** 15:24:52.1±0.3,36.49N±0.02×70.26E±0.04,h216km±4km, mb3.7/17,Error ellipse: s-maj=5.7km s-min=3.4km az=159.7*
*MOS **26** 15:24:53.0±1.1,36.51N×70.36E,h228km,mb4.0/16,Error ellipse: s-maj=13.4km s-min=7.0km az=85.5*
*IDC **26** 15:24:55.0±0.9,36.44N×70.34E,h236km±9km,mb3.5/17, mb1 3.7/21,mb1mx3.5/54,mbtmp4.2/21, Error ellipse: s-maj=11.7km s-min=10.3km az=10.0*
*NNC **26** 15:24:56.8±1.1,36.82N×70.23E,h208km±5km,mb3.7, mpv4.8,Error ellipse: s-maj=10.6km s-min=5.6km az=172.0*
ISC 26 15:24:53.1±0.5,36.51N±0.04×70.28E±0.04,h219km±5km, h218km:pP-P,n101,σ1s68/121,mb3.9/17,7C-13D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.56**	**334**	⇓P		**Pn**	**15 25 39.0**	**+0.1**
	414nm,0.4s							
DZET				⇑S		**S**	**15 26 11.9**	**-2.7**
	1μm,0.5s							
CEP	**Cherat**	**3.00**	**153**	⇓P		**Pn**	**15 25 44.9**	**+1.0**
CEP				S		**S**	**15 26 24.0**	**+0.6**
CHCP	**Chirah Chowk**	**3.75**	**138**	P		**Pn**	**15 25 54.1**	**+1.5**
THW	**Thamme Wali**	**3.90**	**162**	⇓P		**Pn**	**15 25 55.1**	**+0.7**
SFK	**Sufi-Kurgan**	**4.32**	**35**	⇓P		**Pn**	**15 26 00.4**	**+0.9**
	40nm,0.2s							
SFK				⇑S		**S**	**15 26 51.3**	**-0.6**
	494nm,0.5s							
SFK	**Sufi-Kurgan**	**4.32**	**35**	PN		**Pn**	**15 26 00.5**	**+0.9**
SFK				S		**S**	**15 26 51.7**	**-0.2**
SFK				pmax	pmax			
	comp=Z,40nm,0.2s							
SFK				smax	smax			
	comp=N,340nm,0.3s							
SARP	**Sargodha**	**4.99**	**156**	P		**Pn**	**15 26 07.8**	**-0.1**
DLH	**Dalhousie**	**6.14**	**129**	*e*P		**Pn**	**15 26 21.0**	**-1.7**
DLH				*e*S		**S**	**15 27 30.0**	**-3.6**
AML	**Almayashu**	**6.20**	**24**	P		**Pn**	**15 26 23.9**	**+0.4**
	SNR=147							
KK31	**Karatay Array**	**6.58**	**1**	P		**Pn**	**15 26 27.9**	**-0.1**
	comp=N,26nm,0.3s,baz=198,slow=14,SNR=556							
KK31				⇑S		**S**	**15 27 40.5**	**-3.0**
	comp=N,35nm,0.6s,baz=189,slow=23,SNR=5.0							
EKS2	**Erkin-Say**	**6.71**	**23**	P		**Pn**	**15 26 30.4**	**+0.8**
	SNR=164							
KZA	**Kyzart**	**6.76**	**33**	P		**Pn**	**15 26 31.1**	**+0.4**
	SNR=79							
AAK	**Ala-Archa**	**6.92**	**27**	P		**Pn**	**15 26 33.4**	**+0.9**
	SNR=42							
AAK	**Ala-Archa**	**6.92**	**27**	⇓P		**Pn**	**15 26 33.0**	**+0.5**
	comp=N,34nm,0.5s							
AAK				⇓S		**S**	**15 27 48.6**	**-3.1**
	comp=N,166nm,0.7s							
AAK	**Ala-Archa**	**6.92**	**27**	PN		**Pn**	**15 26 33.0**	**+0.5**
AAK				S		**S**	**15 27 50.0**	**-1.7**
AAK				pmax	pmax			
	comp=Z,34nm,0.5s							
AAK				smax	smax			
	comp=N,166nm,0.7s							
KBK	**Karagaybulak**	**7.11**	**29**	P		**Pn**	**15 26 36.1**	**+1.1**
	SNR=26							
FRU	**Bishkek**	**7.14**	**27**	⇓ *i* PN		**Pn**	**15 26 35.5**	**+0.3**
FRU				*i* S		**S**	**15 27 56.0**	**-0.6**
FRU				pmax	pmax			
	comp=Z,76nm,1.0s							
FRU				smax	smax			
	comp=Z,490nm,1.9s							
BHK	**Bhakra**	**7.20**	**133**	*e*P		Pn	15 26 41.0	+5.0
BHK				*e*S		**S**	**15 27 57.6**	**-0.5**
CHMS	**Chumysh**	**7.33**	**27**	P		**Pn**	**15 26 38.0**	**+0.4**
	SNR=22							
ULHL	**Ulahol**	**7.35**	**37**	P		**Pn**	**15 26 38.6**	**+0.5**
	SNR=15							
SDNR	**Sundarnagar**	**7.47**	**130**	*e*P		**Pn**	**15 26 40.0**	**+0.4**
SDNR				*e*S		**S**	**15 27 59.0**	**-5.5**
USP	**Ospenovka**	**7.48**	**24**	P		**Pn**	**15 26 39.7**	**+0.2**
	SNR=51							
TKM2	**Tokmak 2**	**7.59**	**31**	P		**Pn**	**15 26 41.7**	**+0.5**
	SNR=22							
TKM2	**Tokmak 2**	**7.59**	**31**	⇓P		**Pn**	**15 26 41.4**	**+0.2**
	comp=Z,30nm,0.7s							
TKM2				⇓S		**S**	**15 28 05.2**	**-2.4**
	comp=Z,76nm,0.8s							
TKM2	**Tokmak 2**	**7.59**	**31**	PN		**Pn**	**15 26 41.4**	**+0.2**
TKM2				pmax	pmax			
	comp=Z,30nm,0.7s							
SMLA	**Simla**	**7.85**	**131**	*i* P		**Pn**	**15 26 44.4**	**0.0**
SMLA				*i* S		**S**	**15 28 09.3**	**-4.1**
SMLA				*i* S		S	15 28 09.5	-3.9
KKR	**Kurukshetra**	**8.52**	**138**	*e*S		S	15 28 23.0	-6.3
JASL	**Jaisalmer**	**9.57**	**177**	*e*P		Pn	15 27 03.5	-3.1
KHET	**Khetri**	**9.62**	**149**	*e*P		**Pn**	**15 27 05.3**	**-2.0**
KHET				*e*S		S	15 28 46.9	-8.6
KHET				AML	AML		15 28 52.8	
	comp=E,567nm,0.0s							
KHET				AML	AML		15 28 53.2	
	comp=N,883nm,0.3s							
NDI	**New Delhi**	**9.75**	**141**	*e*P		**Pn**	**15 27 08.0**	**-0.9**
NDI				*e*S		S	15 28 50.0	-8.4
JOSI	**Joshimath**	**9.76**	**125**	*e*S		S	15 28 52.4	-6.4
JOSI				AML	AML		15 28 56.1	
	comp=N,374nm,0.8s							
JOSI				AML	AML		15 28 56.2	
	comp=E,206nm,0.4s							
GEYT	**Alibeck**	**9.81**	**282**	P		**Pn**	**15 27 07.4**	**-2.2**
	comp=E,2.2nm,0.3s,baz=106,slow=11,SNR=20							
GEYT				S		**S**	**15 28 55.2**	**-4.3**
	comp=E,1.1nm,0.3s,baz=68,slow=19,SNR=3.8							
AYAN	**Aya Nagar**	**9.87**	**142**	*e*S		S	15 28 53.0	-8.3
BISR	**Bishrakh**	**9.96**	**141**	*e*S		S	15 28 55.9	-7.3
LGTI	**Lohaghat**	**10.93**	**127**	*e*P		**Pn**	**15 27 22.1**	**-1.8**
LGTI				*e*S		S	15 29 17.2	-9.1
AGRA	**Agra**	**11.31**	**143**	*e*P		**Pn**	**15 27 28.7**	**-0.1**
AGRA				*e*S		S	15 29 26.5	-7.3
AGRA				AML	AML		15 29 52.3	
	comp=N,74nm,0.4s							
AGRA				AML	AML		15 29 54.2	
	comp=E,68nm,0.4s							
MK31	**Makanchi Array**	**13.62**	**37**	P		**Pn**	**15 27 57.7**	**+0.2**
	comp=E,6.0nm,0.6s,baz=217,slow=11,SNR=80							
MKAR	**Makanchi Array**	**13.62**	**37**	P		**Pn**	**15 27 57.6**	**+0.1**
	comp=E,1.3nm,0.3s,baz=230,slow=13,SNR=70							
MKAR	**Makanchi Array**	**13.62**	**37**	P		**Pn**	**15 27 57.6**	**+0.1**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
DANN	**Dangsing**	**13.98**	**122**	*e*P		**P**	**15 28 05.1**	**+1.2**
KOLN	**Koldanda**	**14.25**	**124**	*e*P		**Pn**	**15 28 04.2**	**-1.4**
	comp=Z,111nm,0.3s							
AB31	**Akbulak array**	**14.80**	**333**	⇓P		**Pn**	**15 28 11.3**	**-0.5**
	comp=Z,6.0nm,0.5s							
AB31				⇑S		**S**	**15 30 56.8**	**+1.4**
	comp=Z,6.2nm,0.9s,baz=150,slow=20,SNR=4.1							
AB31	**Akbulak array**	**14.80**	**333**	P		**Pn**	**15 28 11.4**	**-0.5**
AB31				pmax	pmax			
	comp=Z,7.0nm,0.3s							
GKN	**Gorkha**	**14.80**	**121**	*e*P		P	15 28 15.2	+2.4
KURBB	**Kurchatov Arra**	**15.30**	**20**	⇓P		**P**	**15 28 17.2**	**-0.7**
	comp=Z,12nm,0.5s							
KURBB	**Kurchatov Arra**	**15.30**	**20**	P		**P**	**15 28 17.4**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=210,slow=11,SNR=32							
DMN	**Daman**	**15.37**	**121**	*e*P		**Pn**	**15 28 20.7**	**+1.4**
KKN	**Kakani**	**15.38**	**120**	*e*P		**Pn**	**15 28 21.4**	**+2.0**
	comp=Z,63nm,0.5s							
KURK	**Kurchatov**	**15.41**	**20**	P		**P**	**15 28 17.4**	**-1.7**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.3s							
PKIN	**Phulchoki**	**15.59**	**121**	*e*P		**Pn**	**15 28 23.3**	**+1.3**
	comp=Z,52nm,0.4s							
PKI	**Pulchoki**	**15.61**	**121**	*e*P		**Pn**	**15 28 23.4**	**+1.2**
	comp=Z,59nm,0.4s							
GUN	**Gumba**	**15.73**	**119**	*e*P		**Pn**	**15 28 26.5**	**+2.8**
	comp=Z,49nm,0.3s							
AKTO	**Aktyubinsk**	**16.49**	**331**	⇑P		**Pn**	**15 28 32.3**	**+0.2**
	comp=Z,8.2nm,0.8s							
AKTO				⇓S		**S**	**15 31 31.5**	**-0.7**
	comp=Z,8.0nm,0.9s							
AKTO	**Aktyubinsk**	**16.49**	**331**	P		**P**	**15 28 31.3**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=147,slow=8.3,SNR=24							
AKTO	**Aktyubinsk**	**16.49**	**331**	P		**P**	**15 28 31.3**	**+0.4**
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.3s							
BVA0	**Borovoye Array**	**16.51**	**0**	P		**Pn**	**15 28 32.6**	**+0.2**
	comp=Z,11nm,0.6s,baz=236,slow=38,SNR=71							
BVA0				⇓S		**S**	**15 31 33.1**	**+0.5**
	comp=Z,9.8nm,1.4s,baz=178,slow=21,SNR=4.4							
BVA0	**Borovoye Array**	**16.51**	**0**	P		**Pn**	**15 28 32.6**	**+0.2**
BVA0				pmax	pmax			
	comp=Z,17nm,0.5s							
BVAR	**Borovoye Array**	**16.51**	**0**	P		**Pn**	**15 28 32.8**	**+0.4**
	comp=Z,5.0nm,0.3s,baz=158,slow=10,SNR=42							
BVAR	**Borovoye Array**	**16.51**	**0**	P		**Pn**	**15 28 32.8**	**+0.4**
BVAR				pmax	pmax			
	comp=Z,5.0nm,0.3s							
BRVK	**Borovoye**	**16.54**	**0**	⇑P		**Pn**	**15 28 33.0**	**+0.2**
	comp=Z,20nm,0.5s							
BRVK				⇑S		**S**	**15 31 32.8**	**-0.5**
	comp=Z,12nm,1.0s							
BRVK	**Borovoye**	**16.54**	**0**	P		**Pn**	**15 28 32.9**	**+0.2**
BRVK				pmax	pmax			
	comp=Z,20nm,0.5s							
RAMN	**Ramite**	**16.82**	**120**	*e*P		**Pn**	**15 28 36.0**	**-0.6**
	comp=Z,69nm,0.6s							
TAPN	**Taplejung**	**17.37**	**117**	*e*P		**Pn**	**15 28 43.7**	**+0.7**
	comp=Z,31nm,0.4s							
ODAN	**Odare**	**17.43**	**119**	*e*P		**Pn**	**15 28 43.7**	**0.0**
	comp=Z,64nm,0.6s							
ZALV	**Zalesovo Beam**	**20.15**	**26**	P		**P**	**15 29 11.5**	**+1.0**
	comp=Z,8.0nm,0.4s,baz=222,slow=11,SNR=24							
ZALV	**Zalesovo Beam**	**20.15**	**26**	P		**P**	**15 29 11.5**	**+1.0**
ZALV				pmax	pmax			
	comp=Z,8.0nm,0.4s							
GNI	**Garni**	**20.34**	**288**	P		**P**	**15 29 15.6**	**+2.7**
	comp=Z,13nm,0.6s,baz=121,slow=5.0,SNR=7.3							
GNI	**Garni**	**20.34**	**288**	P		**P**	**15 29 15.6**	**+2.7**
GNI				pmax	pmax			
	comp=Z,13nm,0.6s							
NVS	**Novosibirsk**	**20.38**	**22**	*e*P		**P**	**15 29 13.4**	**+0.5**
NVS				*e*S		**S**	**15 32 47.4**	**-1.2**
NVS				pmax	pmax			
	comp=Z,13nm,1.2s							
NVS				smax	smax			
	comp=N,7.0nm,1.3s							
ARU	**Arti**	**21.44**	**342**	P		**P**	**15 29 25.2**	**+1.3**
	baz=135,slow=10							
ARU	**Arti**	**21.44**	**342**	P		**P**	**15 29 25.4**	**+1.5**
KBZ	**Khabaz**	**22.08**	**297**	P		**P**	**15 29 31.7**	**+1.4**
	comp=N,2.0nm,0.7s,baz=121,slow=9.5,SNR=3.6							
KBZ	**Khabaz**	**22.08**	**297**	P		**P**	**15 29 31.7**	**+1.4**
KBZ				pmax	pmax			
	comp=Z,2.0nm,0.7s							
KIV	**Kislovodsk**	**22.27**	**298**	*e*P		**P**	**15 29 27.9**	**-4.3**
KIV				*e**PP		**pP**	**15 30 07.7**	**-2.1**
KIV				*e*			15 33 19.6	
KIV				pmax	pmax			
	comp=Z,3.0nm,0.8s							
MMAI	**Mount Meron Ar**	**28.77**	**273**	P		**P**	**15 30 31.8**	**+1.1**
	comp=Z,1.7nm,0.5s,baz=74,slow=14,SNR=3.7							
SONM	**Songino Array**	**28.80**	**56**	P		**P**	**15 30 32.4**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=278,slow=9.0,SNR=3.4							
SONM				pP		**pP**	**15 31 19.0**	**+4.3**
	comp=Z,0.6nm,0.7s,baz=255,slow=10,SNR=2.8							
SONM	**Songino Array**	**28.80**	**56**	P		**P**	**15 30 32.4**	**+1.6**
SONM				*PP		**pP**	**15 31 19.0**	**+4.3**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.6s							
SONM				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BRTR	**Keskin Array B**	**28.88**	**288**	P		**P**	**15 30 33.4**	**+1.8**
	comp=Z,1.5nm,0.6s,baz=110,slow=8.8,SNR=9.7							
BRTR	**Keskin Array B**	**28.88**	**288**	P		**P**	**15 30 33.4**	**+1.8**
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
OBN	**Obninsk**	**29.55**	**320**	*e*P		**P**	**15 30 38.7**	**+1.6**
OBN				*e**PP		**pP**	**15 31 24.1**	**+3.0**
OBN				*e*			15 33 39.5	
OBN				pmax	pmax			
	comp=Z,5.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**30.97**	**118**	P		**P**	**15 30 51.0**	**+1.0**
	comp=Z,0.7nm,0.4s,baz=300,slow=8.6,SNR=5.2							
CMAR				pP		**pP**	**15 31 37.1**	**+3.0**
	comp=Z,0.6nm,0.4s,baz=311,slow=9.2,SNR=1.9							
CMAR	**Chiang Mai Arr**	**30.97**	**118**	P		**P**	**15 30 51.0**	**+1.0**
CMAR				*PP		**pP**	**15 31 37.2**	**+3.0**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
FINES	**FINESS Array B**	**37.15**	**326**	P		**P**	**15 31 44.0**	**+1.4**
	comp=Z,3.0nm,0.7s,baz=108,slow=12,SNR=13							
FINES	**FINESS Array B**	**37.15**	**326**	P		**P**	**15 31 44.0**	**+1.4**
FINES				pmax	pmax			
	comp=Z,3.0nm,0.7s							
ARCES	**ARCESS Array B**	**40.91**	**338**	P		**P**	**15 32 15.2**	**+1.7**
	comp=Z,4.0nm,0.6s,baz=112,slow=8.2,SNR=25							
ARCES	**ARCESS Array B**	**40.91**	**338**	P		**P**	**15 32 15.3**	**+1.7**
ARCES				pmax	pmax			
	comp=Z,4.0nm,0.6s							
NB2	**NORSAR Subarra**	**44.02**	**323**	P		**P**	**15 32 39.2**	**+0.4**
	comp=Z,5.4nm,1.0s,baz=97,slow=7.9							
NOA	**NORSAR Array B**	**44.02**	**323**	P		**P**

ASAR	**Alice Springs**	**42.11**	**260**	P		**P**	**15 33 29.8**	**-1.1**
	5.2nm,0.8s,baz=95,slow=7.5,SNR=93								
ASAR				ScP		**ScP**	**15 38 16.6**	**+1.8**
	0.8nm,0.8s,baz=117,slow=4.5,SNR=5.0								
WRA	**Warramunga Arr**	**42.47**	**266**	P		**P**	**15 33 33.2**	**-0.6**
	8.4nm,0.5s,baz=100,slow=8.5,SNR=167								
JAY	**Jayapura**	**43.53**	**293**	P		**P**	**15 33 41.7**	**-0.5**
	16nm,0.8s,baz=104,slow=4.4,SNR=4.7								
KDU	**Kakadu**	**46.34**	**275**	P		**P**	**15 34 03.2**	**-0.4**
	baz=50,SNR=4.8								
FORT	**Forrest**	**46.40**	**249**	P		**P**	**15 34 03.1**	**-0.8**
	baz=50,SNR=10.0								
WRKA	**Warakurna**	**46.91**	**257**	P		**P**	**15 34 07.6**	**-0.4**
	baz=50,SNR=23								
KNRA	**Kununurra**	**48.75**	**270**	P		**P**	**15 34 21.7**	**-0.1**
	baz=52,SNR=9.3								
SIJI	**Sorong**	**52.46**	**288**	P		**P**	**15 34 48.8**	**-0.2**
	7.5nm,0.7s,baz=317,slow=22,SNR=7.6								
MEEK	**Meekatharra**	**55.20**	**253**	P		**P**	**15 35 07.2**	**-1.0**
	baz=59,SNR=3.3								
MORW	**Morawa**	**56.96**	**250**	P		**P**	**15 35 19.8**	**-0.5**
	baz=60,SNR=7.0								
NVAR	**Mina Array Bea**	**84.64**	**44**	P		**P**	**15 38 02.7**	**-0.6**
	0.4nm,0.6s,baz=226,slow=7.4,SNR=4.2								
CMAR	**Chiang Mai Arr**	**89.55**	**290**	P		**P**	**15 38 27.9**	**+1.2**
	0.1nm,0.3s,baz=130,slow=1.4,SNR=4.3								
TXAR	**Lajitas Array**	**90.33**	**58**	P		**P**	**15 38 30.5**	**+0.3**
	0.7nm,0.7s,baz=216,slow=6.2,SNR=11								

KRNET ***26*** *15:32:09.6±0.1, 39.36N×73.46E, mb3.1*
NNC ***26*** *15:32:09.3±2.7, 39.44N×73.17E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=31.0km s-min=11.0km az=131.0*

ISC 26 15:32:08.1±2.2, 39.3N±0.1×73.6E±0.0, h28km, n16, σ2s0.8/21, 14C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.73**	**350**	⇑P		**Pb**	**15 32 20.8**	**-1.7**
	26nm,0.3s							
SFK				⇓S		**Sb**	**15 32 30.8**	**-1.4**
	219nm,0.2s							
SFK	**Sufi-Kurgan**	**0.73**	**350**	*e*P		**Pb**	**15 32 22.0**	**-0.5**
	baz=3.0							
SFK				*e*S		**Sb**	**15 32 32.0**	**-0.3**
	baz=3.0							
AML	**Almayashu**	**2.84**	**0**	P		**Pb**	**15 32 57.0**	**-1.3**
	SNR=27							
AML	**Almayashu**	**2.84**	**0**	⇑*i*P		**Pb**	**15 32 59.8**	**+1.5**
	baz=3.0							
AML				⇑*i*S		**Sb**	**15 33 37.2**	**+4.4**
	baz=3.0							
KZA	**Kyzart**	**3.03**	**23**	P		**Pb**	**15 33 03.0**	**+1.4**
	SNR=13							
KZA	**Kyzart**	**3.03**	**23**	⇑*i*P		**Pb**	**15 33 02.8**	**+1.1**
	baz=26							
EKS2	**Erkin-Say**	**3.37**	**1**	P		**Pb**	**15 33 05.3**	**-1.9**
	SNR=6.2							
AAK	**Ala-Archa**	**3.40**	**10**	⇑Pn		**Pb**	**15 33 06.1**	**-1.6**
	SNR=14							
AAK	**Ala-Archa**	**3.40**	**10**	⇑Pn		**Pb**	**15 33 06.1**	**-1.6**
	19nm,0.6s							
AAK				⇑Lg		Lg	15 33 51.3	
	25nm,0.8s							
AAK	**Ala-Archa**	**3.40**	**10**	⇑*i*P		**Pb**	**15 33 05.9**	**-1.8**
	baz=13							
AAK				⇑*i*S		**Sb**	**15 33 50.8**	**+2.1**
	baz=13							
CHMS	**Chumysh**	**3.79**	**12**	P		**Pb**	**15 33 11.5**	**-2.9**
	SNR=14							
DZET	**Dzherino**	**3.79**	**264**	⇑Pn		**Pn**	**15 33 05.5**	**+0.6**
	5.4nm,0.4s							
DZET				⇑Lg		Lg	15 33 55.3	
	72nm,0.8s							
TKM2	**Tokmak 2**	**3.91**	**21**	P		**Pb**	**15 33 14.2**	**-2.3**
	SNR=12							
TKM2	**Tokmak 2**	**3.91**	**21**	⇑Pn		**Pb**	**15 33 13.5**	**-2.9**
	6.9nm,0.4s							
TKM2				⇑Lg		Lg	15 34 14.6	
	14nm,0.7s							
USP	**Ospenovka**	**4.02**	**9**	P		Pb	15 33 13.6	-4.7
	SNR=5.5							
KK31	**Karatay Array**	**4.49**	**329**	⇑Pn		**Pn**	**15 33 15.6**	**+1.3**
	1.1nm,0.3s,baz=143,slow=12,SNR=35							
KK31				⇓Pg		**Pb**	**15 33 26.5**	**+0.2**
	2.4nm,0.4s,baz=149,slow=15,SNR=9.6							
KK31				⇑Sn		**Sn**	**15 34 03.5**	**-2.0**
	17nm,0.8s,baz=141,slow=22,SNR=4.0							
KK31				⇓Lg		Lg	15 34 16.4	
	4.8nm,0.4s,baz=11,slow=51,SNR=4.4							

IDC 26 15:38:53.9±2.1, 1.20N×126.84E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/36, mbtmp3.5/3, Error ellipse: s-maj=168.9km s-min=25.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.26**	**161**	P		P	15 43 51.8	-0.9
	1.0nm,0.4s,baz=340,slow=11,SNR=27							
ASAR	**Alice Springs**	**25.66**	**165**	P		P	15 44 26.2	+0.6
	0.2nm,0.4s,baz=344,slow=11,SNR=17							
MKAR	**Makanchi Array**	**59.69**	**326**	P		P	15 49 00.1	-0.1
	0.3nm,0.3s,baz=115,slow=7.4,SNR=5.2							

IDC 26 16:02:47.0±66.0, 20.23S×177.81E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/31, mbtmp3.5/3, Error ellipse: s-maj=1165.0km s-min=146.0km az=81.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**34.38**	**243**	P		P	16 09 35.6	-0.4
	0.6nm,0.7s,baz=85,slow=12,SNR=2.4							
WRA	**Warramunga Arr**	**40.74**	**263**	P		P	16 10 30.1	+0.1
	0.6nm,0.9s,baz=95,slow=8.0,SNR=6.2							
ASAR	**Alice Springs**	**40.75**	**257**	P		P	16 10 30.0	-0.1
	0.3nm,0.5s,baz=92,slow=8.4,SNR=12							

IDC ***26*** *16:08:25.7±0.6, 21.57N×145.78E, h0km, mb4.0/20, mb1 4.2/23, mb1mx4.1/44, mbtmp4.0/23, ML3.9/3, MS3.4/10, Ms1 3.4/10, ms1mx3.1/54, Error ellipse: s-maj=19.5km s-min=14.6km az=85.0*
ISCJB ***26*** *16:08:30.5±0.4, 21.58N±0.07×145.69E±0.08, h44km, mb4.2/31, MS3.5/9, Error ellipse: s-maj=11.4km s-min=9.2km az=162.3*
NEIC ***26*** *16:08:30.1±2.7, 21.53N×145.72E, h29km±19km, mb4.6/12, Error ellipse: s-maj=11.3km s-min=7.2km az=85.0*

ISC 26 16:08:32.4±0.6, 21.64N±0.08×145.6E±0.1, h44km, n52, σ1s21/47, mb4.1/31, MS3.5/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**6.26**	**331**	*e*P		**Pn**	**16 10 01.2**	**-1.1**
CBIJ				Sn		**Sn**	**16 11 10.0**	**-2.6**
JCJ	**Chichijima**	**6.26**	**331**	Pn		**Pn**	**16 10 00.7**	**-1.6**
	15nm,0.3s,baz=223,slow=11,SNR=13							
JCJ				Sn		**Sn**	**16 11 10.0**	**-2.6**
	14nm,0.3s,baz=280,slow=23,SNR=6.6							
GUMO	**Guam**	**8.04**	**185**	P		Pn	16 10 22.8	-3.9
MJAR	**Matsushiro Arr**	**16.19**	**338**	Pn		**Pn**	**16 12 15.9**	**-0.8**
	0.3nm,0.3s,baz=160,slow=11,SNR=4.2							
MJAR				LR		LR	16 18 39.4	
	comp=Z,76nm,20.5s,baz=185,slow=38							
MAJO	**Matsushiro**	**16.19**	**338**	P		**Pn**	**16 12 18.5**	**+1.7**
	10nm,1.0s							
JNU	**Nakatsue**	**17.35**	**314**	P		**P**	**16 12 32.9**	**+0.6**
	0.2nm,0.3s,baz=21,slow=3.6,SNR=4.0							
JNU	**Nakatsue**	**17.35**	**314**	*e*P		**P**	**16 12 34.3**	**+2.0**
KSRS	**Korea Array**	**21.96**	**320**	P		**P**	**16 13 24.6**	**+2.2**
	2.8nm,0.8s,baz=144,slow=8.3,SNR=13							
KSRS				LR		LR	16 21 10.6	
	comp=Z,68nm,21.1s,baz=128,slow=34							
KSAR	**Wonju Array Be**	**21.98**	**320**	P		**P**	**16 13 24.6**	**+2.0**
JAY	**Jayapura**	**24.48**	**192**	LR		LR	16 22 34.3	
	comp=Z,116nm,18.9s,baz=2.5,slow=35							
USRK	**Ussuriysk Ar.**	**25.17**	**337**	P		**P**	**16 13 53.9**	**+0.3**
	2.3nm,0.9s,baz=128,slow=8.4,SNR=4.2							
PETK	**Petropavlovsk-**	**32.76**	**13**	LR		LR	16 25 56.4	
	comp=Z,64nm,21.5s,baz=197,slow=32							
ULN	**Ulaanbaatar**	**40.45**	**320**	*e*P		**P**	**16 16 07.0**	**+0.2**
	3.0nm,0.9s							
SONM	**Songino Array**	**40.83**	**319**	P		**P**	**16 16 10.5**	**+0.6**
	0.9nm,0.7s,baz=127,slow=7.0,SNR=5.3							
SEY	**Seymchan**	**41.53**	**5**	P		**P**	**16 16 15.8**	**+0.6**
	2.0nm,0.8s,baz=199,slow=7.2,SNR=9.5							
WRAB	**Tennant Creek**	**42.76**	**196**	*e*P		**P**	**16 16 25.6**	**-0.1**
	19nm,1.3s							
WRA	**Warramunga Arr**	**42.77**	**196**	P		**P**	**16 16 24.9**	**-0.9**
	6.1nm,1.0s,baz=17,slow=8.6,SNR=20							
CMAR	**Chiang Mai Arr**	**43.83**	**274**	P		**P**	**16 16 35.0**	**+0.5**
	0.6nm,0.7s,baz=67,slow=7.0,SNR=4.4							
ASAR	**Alice Springs**	**46.45**	**195**	P		**P**	**16 16 55.2**	**+0.1**
	1.3nm,0.7s,baz=15,slow=7.6,SNR=15							
ASAR				LR		LR	16 36 25.6	
	comp=Z,78nm,19.0s,baz=17,slow=36							
UNV	**Unalaska Valle**	**48.32**	**36**	*e*P		**P**	**16 17 09.2**	**-0.1**
STKA	**Stephens Creek**	**53.35**	**184**	P		**P**	**16 17 45.2**	**-2.2**
	1.6nm,0.8s,baz=359,slow=12,SNR=3.2							
ZAA0	**Zalesovo Array**	**55.66**	**321**	*e*P		**P**	**16 18 03.4**	**-0.6**
ZALV	**Zalesovo Beam**	**55.66**	**321**	P		**P**	**16 18 04.3**	**+0.4**
	1.1nm,0.5s,baz=119,slow=8.4,SNR=5.8							
MK31	**Makanchi Array**	**56.40**	**313**	*e*P		**P**	**16 18 10.2**	**+0.8**
MKAR	**Makanchi Array**	**56.40**	**313**	P		**P**	**16 18 10.3**	**+0.9**
	0.9nm,0.6s,baz=92,slow=8.6,SNR=10							
IM04	**Indian Mountai**	**58.57**	**25**	*e*P		**P**	**16 18 25.3**	**+0.9**
BPAW	**Bear Paw Mtn.**	**59.19**	**27**	*e*P		**P**	**16 18 29.3**	**+0.6**
	1.3nm,0.7s							
SML	**Sawmill**	**59.87**	**30**	*e*P		**P**	**16 18 33.5**	**0.0**
	9.9nm,1.5s							
ILAR	**Eielson Array**	**61.07**	**27**	P		**P**	**16 18 40.9**	**-0.7**
	2.5nm,0.7s,baz=258,slow=5.5,SNR=26							
ILAR				LR		LR	16 42 34.9	
	comp=Z,64nm,21.3s,baz=248,slow=34							
BRVK	**Borovoye**	**64.24**	**320**	*e*P		**P**	**16 19 04.3**	**+1.4**
	4.5nm,0.7s							
KKAR	**Karatay Array**	**64.86**	**309**	*e*P		**P**	**16 19 08.5**	**+1.4**
	4.1nm,0.8s							
HYT	**Haines Junctio**	**64.98**	**32**	*e*P		**P**	**16 19 08.9**	**+1.2**
	8.3nm,1.2s							
INK	**Inuvik**	**66.72**	**24**	P		**P**	**16 19 17.9**	**-0.7**
	2.7nm,0.8s,baz=290,slow=4.9,SNR=6.0							
DLBC	**Dease Lake**	**68.91**	**34**	*e*P		**P**	**16 19 31.8**	**-0.9**
	3.7nm,0.9s							
ARU	**Arti**	**70.64**	**324**	LR		LR	16 52 30.5	
	comp=Z,26nm,19.2s,baz=74,slow=37							
ARU	**Arti**	**70.64**	**324**	*e*P		**P**	**16 19 43.1**	**-0.2**
	6.6nm,0.9s							
ABKAR	**Akbulak array**	**71.15**	**316**	*e*P		**P**	**16 19 47.2**	**+0.7**
	2.4nm,0.6s							
YKA	**Yellowknife Ar**	**75.45**	**28**	P		**P**	**16 20 11.5**	**0.0**
	1.4nm,0.7s,baz=292,slow=5.6,SNR=5.5							
ARCES	**ARCESS Array B**	**79.68**	**342**	P		**P**	**16 20 36.9**	**+1.9**
	2.0nm,0.9s,baz=14,slow=8.4,SNR=3.4							
ARCES				LR		LR	16 58 58.6	
	comp=Z,15nm,21.7s,baz=112,slow=38							
NVAR	**Mina Array Bea**	**81.41**	**52**	P		**P**	**16 20 44.5**	**-0.7**
	1.6nm,0.8s,baz=268,slow=6.2,SNR=8.1							
KBZ	**Khabaz**	**84.02**	**315**	P		**P**	**16 20 59.2**	**+0.9**
	1.1nm,0.6s,baz=129,slow=6.5,SNR=3.1							
FINES	**FINESS Array B**	**84.19**	**335**	P		**P**	**16 20 58.3**	**-0.6**
	1.6nm,0.7s,baz=123,slow=7.0,SNR=5.3							
IMW	**Indian Meadow**	**84.44**	**45**	*e*P		**P**	**16 21 02.3**	**+1.4**
	2.0nm,0.7s							
PDAR	**Pinedale Array**	**85.84**	**46**	P		**P**	**16 21 06.8**	**-1.0**
	1.0nm,0.7s,baz=266,slow=1.7,SNR=9.0							
AKASG	**Malin Array Be**	**88.85**	**325**	P		**P**	**16 21 20.9**	**-1.0**
	0.2nm,0.3s,baz=46,slow=4.7,SNR=4.3							
NB2	**NORSAR Subarra**	**89.80**	**340**	P		P	16 21 32.0	+5.8
	comp=Z,3.0nm,1.2s,baz=43,slow=5.1							
NOA	**NORSAR Array B**	**89.80**	**340**	P		**P**	**16 21 25.2**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=52,slow=4.3,SNR=2.7							
SFJD	**Kangerlussuaq**	**90.80**	**6**	LR		LR	17 04 55.4	
	comp=Z,24nm,19.7s,baz=317,slow=37							
FRB	**Frobisher Bay**	**90.81**	**14**	LR		LR	17 04 00.7	
	comp=Z,18nm,19.9s,baz=340,slow=37							
TORD	**Torodi Ar. Bea**	**130.50**	**311**	PKP		**PKPdf**	**16 27 37.4**	**-1.8**
	comp=Z,0.9nm,1.1s,baz=323,slow=0.8,SNR=3.2							
PTGA	**Pitinga**	**147.54**	**54**	PKPbc		**PKPbc**	**16 28 12.7**	**-0.1**
	comp=Z,4.3nm,0.8s,baz=298,slow=10.0,SNR=6.9							
LPAZ	**La Paz**	**147.70**	**86**	PKPbc		**PKPbc**	**16 28 14.4**	**+0.5**
	comp=Z,2.5nm,0.7s,baz=9.8,slow=19,SNR=7.9							

IDC 26 16:17:49.2±1.6, 1.71N×128.52E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.2/32, mbtmp3.2/4, ML3.2/1, Error ellipse: s-maj=82.9km s-min=23.5km az=62.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**3.76**	**133**	Pn		Pn	16 18 47.5	-1.0
	1.8nm,0.3s,baz=326,slow=21,SNR=8.3							
SIJI				Sn		Sn	16 19 30.5	-3.0
	0.7nm,0.3s,baz=30,slow=20,SNR=2.6							
WRA	**Warramunga Arr**	**22.26**	**165**	P		P	16 22 48.0	-0.1
	0.5nm,0.8s,baz=344,slow=11,SNR=4.9							
ASAR	**Alice Springs**	**25.76**	**169**	P		P	16 23 22.3	+0.4
	0.4nm,0.9s,baz=347,slow=11,SNR=3.3							
MKAR	**Makanchi Array**	**60.22**	**325**	P		P	16 27 59.3	0.0
	0.1nm,0.5s,baz=112,slow=7.4,SNR=3.5							

BJI ***26*** *16:36:57.9, 6.39N×123.84E, h600km, mb5.1/65, mB4.7/35*
ISCJB ***26*** *16:37:01.8±0.2, 6.78N±0.02×123.62E±0.02, h611km±2km, mb4.9/139, Error ellipse: s-maj=3.9km s-min=2.8km az=151.0*
KLM ***26*** *16:37:01.3, 7.06N×123.75E, h589km, mb5.2*
MOS ***26*** *16:37:01.8±0.9, 6.82N×123.64E, h611km, mb4.8/47, Error ellipse: s-maj=9.3km s-min=5.0km az=114.1*
NEIC ***26*** *16:37:02.7±0.3, 6.80N×123.62E, h606km±4km, mb5.0/38, Error ellipse: s-maj=5.0km s-min=3.8km az=62.0*
NEIC Felt at Tagum.
MAN ***26*** *16:37:02, 6.86N×123.67E, h595km, mb5.2, ML4.2, MS5.0*
DJA ***26*** *16:37:02.7±0.2, 7.1N±3.2×12.4E±.1, h612km±3km, M4.8/80, mb5.1/80, mB5.3/45, MLv5.3/9, Mw(mB)4.8/45, Mwp6.6/2*
IDC ***26*** *16:37:03.2±0.6, 6.79N×123.66E, h613km±7km, mb4.2/48, mb1 4.2/51, mb1mx4.1/63, mbtmp5.1/51, Error ellipse: s-maj=7.2km s-min=4.5km az=67.0*

ISC 26 16:37:02.8±0.3, 6.76N±0.03×123.66E±0.04, h608km±3km, h609km:pP-P, n524, σ1s17/614, mb5.0/151, 57C-41D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.74**	**52**	⇓*i*P		**P**	**16 38 13.6**	**-0.7**
IPIL	**Ipil**	**1.49**	**313**	⇓*e*P		**P**	**16 38 14.7**	**-1.3**
DAV	**Davao City (W)**	**1.93**	**81**	*e*P		**P**	**16 38 16.7**	**-0.8**
TBP	**Tagbilaran**	**2.92**	**4**	*e*P		**P**	**16 38 20.4**	**-1.7**
TBP				*e*S		**S**	**16 39 23.2**	**-3.6**
SGSI	**Sangihe**	**3.58**	**149**	P		**P**	**16 38 21.4**	**-1.7**
PLP	**Palo**	**4.56**	**16**	⇓*e*P		**P**	**16 38 31.2**	**-1.6**
MYLDM	**Lahad Datu**	**5.37**	**253**	*e*P		**P**	**16 38 39.9**	**+0.8**
PPR	**Puerto Princes**	**5.73**	**302**	⇑*i*P		**P**	**16 38 41.9**	**-0.2**
KMSI	**Cibinong**	**6.16**	**177**	P		**P**	**16 38 45.8**	**0.0**
KMSI				S		**S**	**16 40 11.8**	**+2.0**
TSM	**Tawau**	**6.26**	**247**	⇑P		**P**	**16 38 46.1**	**-0.6**
MRSI	**Marisa**	**6.47**	**195**	P		**P**	**16 38 48.4**	**-0.2**
	110nm,1.4s,1µm0.4nm							
MRSI				S		**S**	**16 40 13.9**	**-1.0**
	110nm,1.4s,1µm0.4nm							
SDKM	**Sandakan**	**6.53**	**261**	⇓P		**P**	**16 38 47.9**	**-1.2**
PVCP	**Virac**	**6.81**	**4**	⇓*e*P		**P**	**16 38 50.2**	**-1.2**
TNTI	**Ternate**	**7.00**	**148**	P		**P**	**16 38 51.9**	**-1.4**
	555nm,0.7s,8µm3.5nm							
TNTI				S		S	16 40 15.3	-8.3
	555nm,0.7s,8µm3.5nm							
TNTI	**Ternate**	**7.00**	**148**	*e*P		**P**	**16 38 52.5**	**-0.7**
MPSI	**Mapaga**	**7.41**	**211**	P		**P**	**16 38 55.8**	**-1.1**
	21nm,0.7s,0.1nm							
MPSI				S		**S**	**16 40 27.3**	**-3.0**
	21nm,0.7s,0.1nm							
KKM	**Kota Kinabalu**	**7.43**	**265**	P		**P**	**16 38 56.0**	**-1.3**
	baz=7.4,SNR=135							
KKM	**Kota Kinabalu**	**7.43**	**265**	*e*P		**P**	**16 38 55.9**	**-1.5**
TGY	**Tagaytay City**	**7.77**	**340**	P		**P**	**16 38 59.2**	**-1.1**
	205nm,0.3s,baz=188,slow=2.1,SNR=27							
TGY	**Tagaytay City**	**7.77**	**340**	P		**P**	**16 38 59.2**	**-1.1**
TGY				pmax		pmax		
	comp=Z,205nm,0.3s							
LUWI	**Luwuk**	**7.80**	**187**	P		**P**	**16 38 59.4**	**-1.2**
	comp=Z,108nm,1.1s,comp=Z,2µmcomp=Z,1.0nm							
LUWI	**Luwuk**	**7.80**	**187**	⇑P		**P**	**16 38 59.3**	**-1.3**
	baz=7.8,SNR=17							
LUWI	**Luwuk**	**7.80**	**187**	*e*P		**P**	**16 38 59.4**	**-1.2**
APSI	**Ampana**	**7.88**	**195**	P		**P**	**16 39 00.8**	**-0.6**
	comp=Z,95nm,1.6s,comp=Z,1µmcomp=Z,0.4nm							
LBMI	**Labuha**	**8.29**	**152**	P		**P**	**16 39 04.7**	**-0.5**
	comp=Z,373nm,0.6s,comp=Z,5µm							
PCI	**Palu**	**8.52**	**207**	P		**P**	**16 39 06.1**	**-1.3**
	comp=Z,93nm,0.8s,comp=Z,1µm							
SANI	**Sanana**	**9.06**	**165**	P		**P**	**16 39 10.6**	**-2.0**
	comp=Z,380nm,0.7s,comp=Z,4µm							
TTSI	**Tana Toraja**	**10.47**	**202**	P		**P**	**16 39 26.8**	**+0.3**
	comp=Z,28nm,1.2s							
NLAI	**Namlea**	**10.51**	**161**	P		**P**	**16 39 27.8**	**+0.9**
	comp=Z,124nm,0.7s,comp=Z,1µm							
SWI	**Sorong**	**10.72**	**135**	P		**P**	**16 39 29.7**	**+0.8**
	comp=Z,199nm,0.6s,comp=Z,2µm							
SWI	**Sorong**	**10.72**	**135**	P		**P**	**16 39 29.7**	**+0.8**
	baz=11,SNR=52							
SIJI	**Sorong**	**10.73**	**135**	P		**P**	**16 39 29.8**	**+0.7**
	comp=Z,23nm,0.3s,baz=313,slow=9.3,SNR=145							
SIJI				S		**S**	**16 41 30.4**	**+1.4**
	baz=170,slow=19,SNR=11							
PALU	**Palau**	**10.75**	**86**	⇓P		**P**	**16 39 29.9**	**+0.7**
	baz=11,SNR=10							
BTM	**Bintulu**	**11.12**	**252**	⇓P		**P**	**16 39 33.0**	**+0.1**
SZP	**Santa**	**11.17**	**344**	*e*P		**P**	**16 39 32.5**	**-0.8**
SZP				*e*S		**S**	**16 41 37.2**	**+0.3**
AAI	**Ambon**	**11.32**	**156**	P		**P**	**16 39 35.5**	**+0.6**
	comp=Z,144nm,0.6s,comp=Z,1µm							
AAI	**Ambon**	**11.32**	**156**	P		**P**	**16 39 35.7**	**+0.8**
	baz=11,SNR=9.5							
SBUM	**Sibu**	**12.18**	**250**	*e*P		**P**	**16 39 43.4**	**-0.1**
KAPI	**Kappang**	**12.33**	**199**	P		**P**	**16 39 45.8**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=162,slow=3.4,SNR=3.8							
FAKI	**Fak Fak**	**12.88**	**138**	P		**P**	**16 39 50.3**	**-0.2**
	comp=Z,539nm,0.7s,comp=Z,4µm							
FAKI	**Fak Fak**	**12.88**	**138**	⇑P		**P**	**16 39 51.0**	**+0.6**
	baz=13,SNR=143							
FAKI	**Fak Fak**	**12.88**	**138**	*e*P		**P**	**16 39 50.8**	**+0.4**
RKPI	**Ransiki, Papua**	**13.33**	**128**	P		**P**	**16 39 56.5**	**+1.5**
	comp=Z,371nm,1.0s							
STKI	**Sintang**	**13.86**	**242**	P		**P**	**16 39 59.9**	**-0.3**
	comp=Z,52nm,1.1s,comp=Z,7µm							
KSM	**Kuching**	**14.31**	**249**	⇓P		**P**	**16 40 04.3**	**-0.3**
	baz=14,SNR=32							
KSM	**Kuching**	**14.31**	**249**	*e*P		**P**	**16 40 04.3**	**-0.3**
BAKI	**Biak**	**14.72**	**122**	P		**P**	**16 40 09.3**	**+1.0**
	comp=Z,629nm,0.8s,comp=Z,6µm							
PBKI	**Pangkalan Bun**	**15.22**	**232**	P		**P**	**16 40 12.0**	**-0.8**
	comp=Z,591nm,0.8s,comp=Z,4µmcomp=Z,23µm							
DLV	**T Lat**	**15.83**	**290**	*e*P		**P**	**16 40 19.1**	**+0.5**
SOEI	**Soe**	**16.42**	**178**	⇑P		**P**	**16 40 23.7**	**-0.2**
	baz=16,SNR=7.0							
YULB	**Yu-li**	**16.69**	**352**	*e*P		**P**	**16 40 24.7**	**-1.5**
	comp=Z,24nm,0.5s							
SSLB	**Suanglung**	**17.13**	**352**	*e*P		**P**	**16 40 30.0**	**-0.1**
	comp=Z,32nm,0.6s							
SMPI	**Sarmi**	**17.36**	**120**	P		**P**	**16 40 33.4**	**+1.1**
	comp=Z,179nm,1.0s,comp=Z,3µm							
IGBI	**Denpasar**	**17.65**	**209**	P		**P**	**16 40 33.8**	**-1.2**
	comp=Z,68nm,1.3s							
JAGI	**Jajag, Banyuwa**	**17.86**	**212**	⇑P		**P**	**16 40 36.9**	**0.0**
	baz=18,SNR=8.5							
JAGI	**Jajag, Banyuwa**	**17.86**	**212**	*e*P		**P**	**16 40 37.7**	**+0.8**
	comp=Z,36nm,0.8s							
YHNB	**Yeheng**	**17.94**	**353**	*e*P		**P**	**16 40 37.3**	**-0.3**
	comp=Z,363nm,2.0s							
QIZ	**Qiongzhong**	**18.15**	**313**	P		**P**	**16 40 39.5**	**0.0**
QIZ				sP		**sP**	**16 43 05.0**	**-3.5**
QIZ				S		**S**	**16 43 35.3**	**0.0**
QIZ				PMZ				
	comp=Z,10.0nm,0.8s							
GENI	**Genyem**	**18.92**	**119**	P		**P**	**16 40 47.2**	**+0.6**
	comp=Z,371nm,0.9s,comp=Z,3µm							
SMRI	**Semarang**	**19.03**	**224**	P		**P**	**16 40 48.4**	**+0.8**
	comp=Z,154nm,1.1s							
SMRI	**Semarang**	**19.03**	**224**	*e*P		**P**	**16 40 48.8**	**+1.2**
	comp=Z,201nm,1.3s							
JAY	**Jayapura**	**19.35**	**118**	P		**P**	**16 40 51.2**

PSI 16 44 54.3
PSI pmax pmax
comp=Z,61nm,0.7s
PSI pmax pmax
comp=Z,12nm,0.7s
PSI pmax pmax
comp=N,7.0nm,0.8s
PSI Prapat 24.96 262 P **P** **16 41 40.5 -0.2**
baz=25,SNR=23
PSI Prapat 24.96 262 *e*P **P** **16 41 39.8 -0.8**
comp=N,62nm,0.7s
PSI PcP **PcP** **16 44 54.3 -0.1**
PSI ScP **ScP** **16 47 34.8 -2.1**
UTTA Uttaradit 25.05 298 P **P** **16 41 41.4 +0.2**
comp=N,15nm,0.8s,comp=N,127nm
WHN Wuhan 25.22 341 ⇑P **P** **16 41 44.3 +1.8**
WHN PMZ
comp=N,60nm,0.9s
MANU Manus Island 25.23 109 ⇑P **P** **16 41 44.6 +1.8**
baz=25,SNR=3.7
SRDT SRDT 25.26 289 P **P** **16 41 43.8 +0.7**
comp=N,375nm,0.8s,comp=N,19µm
GYA Guiyang 25.41 322 *e*P **P** **16 41 45.5 +1.0**
GYA sP **sP** **16 44 27.5 -0.8**
GYA PcP **PcP** **16 44 57.0 +1.7**
GYA S **S** **16 45 32.3 +2.2**
GYA PcS **PcS** **16 48 37.3 +0.5**
GYA ScS **ScS** **16 51 29.8 +1.5**
GYA PMZ
comp=N,20nm,0.8s
GYA PMZ
comp=N,120nm,4.8s
NJ2 Nanjing 25.56 351 *e*P **P** **16 41 45.0 -0.5**
NJ2 PMZ
comp=N,170nm,1.0s
SISI Saibi 25.81 253 P **P** **16 41 45.4 -2.5**
comp=N,339nm,0.6s
KHLT Khaolaem Dam 25.87 290 P **P** **16 41 49.6 +1.1**
comp=N,23nm,1.0s
KCSI Kotacane, Aceh 25.98 264 P **P** **16 41 47.2 -2.3**
comp=N,168nm,0.8s,comp=N,1µm
UMPA Umpang Tak 26.02 293 P **P** **16 41 50.1 +0.3**
comp=N,29nm,1.0s
LAMP Lampang 26.16 299 P **P** **16 41 51.5 +0.5**
comp=N,20nm,0.7s,comp=N,234nm
CRAI Chiangrai 26.25 303 P **P** **16 41 49.0 -2.8**
comp=N,42nm,0.8s,comp=N,1µm
GSI Gunungsitoli 26.57 259 P **P** **16 41 52.1 -2.6**
comp=N,401nm,0.7s,comp=N,5µm
GSI Gunungsitoli 26.57 259 *e*P **P** **16 41 53.2 -1.4**
comp=N,238nm,0.7s
LHMI Lhok Sumawe 26.61 268 P **P** **16 41 55.7 +0.7**
baz=27,SNR=3.4
CM09 Chiang Mai Arr 26.69 298 ⇓P **P** **16 41 56.6 +1.0**
baz=27
CM31 Chiang Mai Arr 26.73 298 *e*P **P** **16 41 56.8 +0.7**
comp=N,34nm,0.6s
CMAR Chiang Mai Arr 26.73 298 P **P** **16 41 55.8 -0.2**
comp=N,32nm,0.6s,baz=113,slow=7.1,SNR=255
CMAR PcP **PcP** **16 44 58.5 +0.1**
comp=N,4.4nm,0.8s,baz=152,slow=0.6,SNR=9.7
CMAR ScP **ScP** **16 47 41.0 -1.0**
comp=N,3.7nm,0.9s,baz=123,slow=1.7,SNR=13
CMAR Chiang Mai Arr 26.73 298 P **P** **16 41 55.8 -0.2**
CMAR 16 44 58.6
CMAR pmax pmax
comp=Z,32nm,0.6s
CMAR pmax pmax
comp=Z,4.0nm,0.8s
CMAR pmax pmax
comp=N,4.0nm,0.9s
CM07 Chiang Mai Arr 26.73 298 ⇑P **P** **16 41 56.8 +0.8**
baz=27
CBIJ Chichi jima 26.81 39 *e*P **P** **16 41 55.8 -0.7**
comp=N,122nm,1.3s
CBIJ S **S** **16 45 48.0 -3.7**
JCJ Chichijima 26.81 39 P **P** **16 41 55.8 -0.8**
comp=N,53nm,0.5s,baz=270,slow=23,SNR=37
JCJ S **S** **16 45 48.0 -3.7**
comp=N,115nm,0.8s,baz=239,slow=22,SNR=25
CMMT Chiang Mai 26.87 299 P **P** **16 41 57.3 +0.1**
comp=N,156nm,0.6s,comp=N,1µm
CHTO Chiang Mai 26.87 299 P **P** **16 41 57.3 +0.1**
comp=N,524nm,0.7s,comp=N,5µm
CHTO Chiang Mai 26.87 299 *e*P **P** **16 41 57.8 +0.6**
CHTO pmax pmax
comp=Z,76nm,0.6s
CHTO Chiang Mai 26.87 299 *e*P **P** **16 41 57.8 +0.6**
comp=Z,76nm,0.6s
KMI Kunming 27.09 315 P **P** **16 42 01.0 +1.7**
KMI sP **sP** **16 44 44.8 -0.5**
KMI S **S** **16 45 59.0 +2.5**
KMI PMZ
comp=Z,43nm,1.1s
KMI PMZ
comp=Z,120nm,3.8s
CMAI Chiengmai2 27.24 301 P **P** **16 42 00.9 +0.3**
comp=Z,52nm,1.1s
MHMT Maesariang 27.52 297 P **P** **16 42 03.5 +0.6**
comp=Z,96nm,0.7s,comp=Z,835nm
COEN Coen 28.26 137 P **P** **16 42 08.9 -0.5**
baz=28,SNR=124
COEN Coen 28.26 137 *e*P **P** **16 42 08.8 -0.5**
comp=Z,103nm,0.6s
PMG Port Moresby 28.39 124 P **P** **16 42 10.4 -0.1**
comp=Z,66nm,0.8s,baz=318,slow=4.7,SNR=16
PMG Port Moresby 28.39 124 *c i*P **P** **16 42 10.3 -0.2**
PMG pmax pmax
comp=Z,598nm,1.3s
PMG Port Moresby 28.39 124 ⇑P **P** **16 42 10.3 -0.2**
baz=28,SNR=9.3
PMG ⇑P **P** **16 42 10.3 -0.2**
baz=28,SNR=9.3
PMG ⇑P **P** **16 42 10.3 -0.2**
baz=28,SNR=9.3
PMG Port Moresby 28.39 124 *e*P **P** **16 42 10.3 -0.2**
comp=Z,345nm,0.8s
WB8 Warramunga Arr 28.44 158 ⇑P **P** **16 42 10.6 -0.2**
baz=28
WRAB Tennant Creek 28.54 159 P **P** **16 42 11.0 -0.7**
comp=Z,1µm,0.5s
WRAB Tennant Creek 28.54 159 *e*P **P** **16 42 11.4 -0.2**
WRAB pmax pmax
comp=Z,109nm,0.7s
WRAB Tennant Creek 28.54 159 *e*P **P** **16 42 11.4 -0.2**
comp=Z,109nm,0.7s
WRA Warramunga Arr 28.54 159 P **P** **16 42 11.2 -0.5**
comp=Z,91nm,0.4s,baz=330,slow=11,SNR=750
WRA PcP **PcP** **16 45 03.0 +0.2**
comp=Z,4.7nm,0.7s,baz=341,slow=3.6,SNR=5.6
WRA S **S** **16 46 13.9 -4.8**
comp=Z,21nm,0.9s,baz=327,slow=16,SNR=11
WRA ScP **ScP** **16 47 47.1 -0.4**
comp=Z,14nm,0.6s,baz=342,slow=3.1,SNR=18
WRA Warramunga Arr 28.54 159 P **P** **16 42 11.2 -0.5**
WRA 16 45 03.1
WRA S **S** **16 46 13.9 -4.8**
WRA pmax pmax
comp=Z,91nm,0.4s
WRA pmax pmax
comp=Z,5.0nm,0.7s
WRA smax smax
comp=N,21nm,0.9s
WRA pmax pmax
comp=N,14nm,0.6s
WR8 Warramunga Arr 28.61 158 ⇑P **P** **16 42 12.2 -0.1**
baz=29
TIA Tai'an 29.92 349 ⇓P **P** **16 42 23.5 +0.2**
TIA PMZ
comp=N,30nm,0.8s
XAN Xi'an 30.38 335 P **P** **16 42 27.5 +0.1**
XAN PMZ
comp=N,64nm,0.7s
CD2 Chengdu 30.41 325 P **P** **16 42 28.0 +0.3**
CD2 PcP **PcP** **16 45 07.3 -0.4**
CD2 sP **sP** **16 45 14.8 -0.3**
CD2 S **S** **16 46 48.5 +1.2**
CD2 SS **SS** **16 49 58.8 +2.3**
CD2 PMZ
comp=N,50nm,0.5s
CD2 PMZ
comp=N,130nm,4.5s
RABL Rabaul 30.46 110 P **P** **16 42 30.4 +2.1**
baz=30,SNR=11
GIRL Giralia 30.65 197 ⇑P **P** **16 42 30.8 +1.1**
baz=31,SNR=6.3
KSAR Wonju Array Be 30.78 7 P **P** **16 42 30.5 -0.2**
KSAR 16 45 09.3
KSAR Wonju Array Be 30.78 7 P **P** **16 42 30.5 -0.2**
KSAR PcP **PcP** **16 45 09.3 +0.8**
KSAR ScP **ScP** **16 47 55.3 +0.8**
KSRS Korea Array 30.80 7 P **P** **16 42 30.5 -0.3**
comp=N,2.6nm,0.6s,baz=185,slow=9.0,SNR=8.2
KSRS PcP **PcP** **16 45 09.3 +0.8**
comp=N,3.4nm,0.8s,baz=189,slow=2.0,SNR=9.3
KSRS ScP **ScP** **16 47 55.3 +0.8**
comp=N,1.1nm,0.6s,baz=167,slow=2.6,SNR=4.9
KSRS Korea Array 30.80 7 P **P** **16 42 30.5 -0.3**
KSRS 16 45 09.3
KSRS pmax pmax
comp=Z,3.0nm,0.6s
KSRS pmax pmax
comp=Z,3.0nm,0.8s
KSRS pmax pmax
comp=N,1.0nm,0.6s
QIS Mount Isa 31.35 150 P **P** **16 42 36.3 +0.5**
baz=31,SNR=69
AS16 Alice Springs 31.84 162 ⇑P **P** **16 42 40.6 +0.7**
baz=32
ASAR Alice Springs 31.85 162 P **P** **16 42 40.7 +0.7**
comp=N,46nm,0.3s,baz=341,slow=6.9,SNR=3027
ASAR PcP **PcP** **16 45 11.9 +0.2**
comp=N,4.2nm,0.5s,baz=339,slow=2.8,SNR=6.4
ASAR S **S** **16 47 08.8 -0.7**
comp=N,54nm,0.8s,baz=352,slow=23,SNR=51
ASAR ScP **ScP** **16 47 58.1 -0.3**
comp=N,6.0nm,0.6s,baz=342,slow=2.6,SNR=6.7
ASAR Alice Springs 31.85 162 P **P** **16 42 40.7 +0.7**
ASAR 16 45 11.9
ASAR S **S** **16 47 08.8 -0.7**
ASAR pmax pmax
comp=Z,46nm,0.3s
ASAR pmax pmax
comp=Z,4.0nm,0.5s
ASAR smax smax
comp=N,54nm,0.8s
ASAR pmax pmax
comp=N,6.0nm,0.6s
WRKA Warakurna 31.93 172 P **P** **16 42 41.2 +0.5**
baz=32,SNR=71
MTSU Mount Surprise 32.06 141 ⇓P **P** **16 42 42.5 +0.7**
baz=32,SNR=36
MAJO Matsushiro 32.49 22 *c e*P **P** **16 42 44.5 -0.7**
MAJO pmax pmax
comp=Z,36nm,1.0s
MAT Matsushiro 32.49 22 P **P** **16 42 44.4 -0.8**
MJAR Matsushiro Arr 32.49 22 P **P** **16 42 44.8 -0.4**
comp=Z,3.9nm,0.8s,baz=198,slow=9.8,SNR=15
MJAR PcP **PcP** **16 45 13.9 +0.6**
comp=Z,2.5nm,0.7s,baz=192,slow=3.1,SNR=6.5
MJAR ScP **ScP** **16 48 01.0 +0.6**
comp=Z,1.8nm,1.1s,baz=219,slow=3.7,SNR=5.0
MJAR Matsushiro Arr 32.49 22 P **P** **16 42 44.8 -0.4**
MJAR 16 45 13.9
MJAR pmax pmax
comp=Z,4.0nm,0.8s
MJAR pmax pmax
comp=Z,3.0nm,0.7s
MJAR pmax pmax
comp=N,2.0nm,1.1s
MEEK Meekatharra 33.56 188 ⇓P **P** **16 42 54.2 -0.1**
baz=34,SNR=9.9
BJI Beijing 33.81 350 P **P** **16 42 56.5 +0.3**
BJI PcP **PcP** **16 45 17.0 0.0**
BJI S **S** **16 47 41.0 +2.6**
BJI ScS **ScS** **16 52 09.8 +1.3**
BJI PMZ
comp=N,44nm,0.9s
BJI PMZ
comp=N,190nm,4.4s
LZH Lanzhou 34.37 331 ⇓P **P** **16 43 02.8 +1.6**
LZH S **S** **16 47 49.0 +1.6**
LZH PMZ
comp=N,150nm,1.5s
LZH PMZ
comp=N,190nm,4.0s
CTA Charters Tower 34.73 141 P **P** **16 43 05.5 +1.4**
comp=N,42nm,0.6s,baz=320,slow=10,SNR=64
CTA Charters Tower 34.73 141 P **P** **16 43 05.5 +1.4**
CTA pmax pmax
comp=Z,42nm,0.6s
CTA Charters Tower 34.73 141 ⇑P **P** **16 43 05.2 +1.1**
baz=35
CTAO Charters Tower 34.73 141 *e*P **P** **16 43 05.3 +1.1**
CTAO Charters Tower 34.73 141 *e*P **P** **16 43 05.3 +1.1**
HHC Hu-ho-hao-te 35.62 344 ⇓P **P** **16 43 12.5 +1.1**
HHC S **S** **16 48 11.8 +6.0**
HHC SS **SS** **16 51 17.0 -6.1**
HHC PMZ
comp=Z,51nm,0.8s
HHC PMZ
comp=Z,45nm,3.7s
SHL Shillong 35.63 305 *i*P **P** **16 43 13.0 +1.2**
SHL *e*S **S** **16 48 07.0 +0.4**
MSHR Mys Shultsa 36.28 9 *e*P **P** **16 43 17.2 +0.6**
MORW Morawa 36.37 191 P **P** **16 43 17.6 0.0**
baz=36,SNR=33
FORT Forrest 37.56 174 ⇓P **P** **16 43 27.8 +0.6**
baz=38,SNR=21
FORT Forrest 37.56 174 *e*P **P** **16 43 28.0 +0.8**
BLDU Ballidu 37.76 190 ⇑P **P** **16 43 28.5 -0.3**
baz=38,SNR=7.2
KMBL Kambalda 37.95 182 ⇓P **P** **16 43 30.3 0.0**
baz=38
USRK Ussuriysk Ar. 38.00 10 P **P** **16 43 29.6 -0.9**
comp=Z,3.7nm,0.6s,baz=191,slow=6.8,SNR=12
USRK PcP **PcP** **16 45 29.8 +0.1**
comp=Z,2.7nm,0.5s,baz=188,slow=3.5,SNR=5.6
MDJ Mudanjiang 38.06 7 P **P** **16 43 32.0 +1.0**
MDJ PMZ
comp=Z,6.0nm,1.2s
MDJ PMZ
comp=Z,52nm,6.7s
QLP Quilpie 38.69 150 P **P** **16 43 37.0 +0.7**
baz=39,SNR=37
GTA Gaotai 38.95 330 ⇓P **P** **16 43 39.5 +1.0**
GTA pP **pP** **16 45 23.0 +2.1**
GTA PcP **PcP** **16 45 32.8 -0.2**
GTA sP **sP** **16 46 29.5 -0.5**
GTA ScP **ScP** **16 48 25.5 +1.0**
GTA S **S** **16 48 59.0 +4.0**
GTA sS **sS** **16 52 03.5 +0.3**
GTA SS **SS** **16 52 14.8 -3.1**
GTA ScS **ScS** **16 52 36.8 -1.4**
GTA PMZ
comp=Z,56nm,1.0s
GTA PMZ
comp=Z,140nm,6.4s
ERM Erimo 39.14 23 ⇑*e*P **P** **16 43 37.6 -2.1**
ERM pmax pmax
comp=Z,27nm,1.7s
TAPN Taplejung 39.78 305 *e*P **P** **16 43 45.9 +0.4**
comp=Z,180nm,0.7s
ODAN Odare 39.84 304 *e*P **P** **16 43 46.3 +0.4**
comp=Z,207nm,0.7s
NWAO Narrogin (SRO) 39.94 188 P **P** **16 43 46.7 +0.4**
comp=Z,19nm,0.8s,baz=325,slow=5.0,SNR=16
NWAO Narrogin (SRO) 39.94 188 P **P** **16 43 46.7 +0.4**
NWAO pmax pmax
comp=Z,19nm,0.8s
NWAO Narrogin (SRO) 39.94 188 ⇑P **P** **16 43 46.7 +0.4**
baz=40
NWAO ⇑P **P** **16 43 46.7 +0.4**
baz=40
CHLP Challavanipeta 40.27 291 *e*P **P** **16 43 49.2 0.0**
CHLP IAmb IAmb 16 43 50.4
comp=Z,42nm,0.7s
RAMN Ramite 40.52 304 *e*P **P** **16 43 52.0 +0.6**
comp=Z,164nm,0.6s
ASAJ Asahikawa 40.73 21 P **P** **16 43 52.4 0.0**
comp=Z,7.4nm,0.6s,baz=249,slow=9.4,SNR=14
ASAJ Asahikawa 40.73 21 P **P** **16 43 52.4 0.0**
ASAJ pmax pmax
comp=Z,7.0nm,0.6s
RMQ Roma 41.05 145 ⇓P **P** **16 43 55.9 +0.7**
baz=41,SNR=6.4
BBOO Buckleboo 41.08 164 P **P** **16 43 56.0 +0.7**
baz=41,SNR=74
BBOO Buckleboo 41.08 164 *e*P **P** **16 43 56.1 +0.7**
GUN Gumba 41.49 305 *e*P **P** **16 43 59.5 +0.4**
EIDS Eidsvold 41.61 141 P **P** **16 44 00.1 +0.5**
baz=42,SNR=17
EIDS Eidsvold 41.61 141 *e*P **P** **16 43 56.9 -2.7**
RKGY Rocky Gully 41.63 188 ⇓P **P** **16 44 00.6 +1.1**
baz=42,SNR=9.6
PKI Pulchoki 41.74 304 *e*P **P** **16 44 00.9 -0.1**
PKIN Phulchoki 41.75 304 *e*P **P** **16 44 00.8 -0.3**
comp=Z,32nm,0.6s
KKN Kakani 41.93 305 *e*P **P** **16 44 02.4 0.0**
comp=Z,67nm,0.4s
DMN Daman 42.00 304 *e*P **P** **16 44 03.1 +0.1**
STKA Stephens Creek 42.06 157 P **P** **16 44 04.0 +0.9**
comp=Z,47nm,0.5s,baz=337,slow=7.6,SNR=210
STKA ScP **ScP** **16 48 35.7 -1.0**
comp=Z,4.7nm,0.7s,baz=338,slow=6.6,SNR=3.6
STKA S **S** **16 49 39.7 -0.1**
comp=Z,3.8nm,1.0s,baz=255,slow=24,SNR=9.4
STKA Stephens Creek 42.06 157 P **P** **16 44 04.0 +0.9**
STKA S **S** **16 49 39.7 -0.1**
STKA pmax pmax
comp=Z,47nm,0.5s
STKA pmax pmax
comp=N,5.0nm,0.7s
STKA smax smax
comp=N,4.0nm,1.0s
STKA Stephens Creek 42.06 157 P **P** **16 44 04.0 +0.9**
baz=42,SNR=157
PVM Polavaram 42.33 288 *e*P **P** **16 44 05.0 -0.3**
PVM IAmb IAmb 16 44 06.2
comp=Z,36nm,0.7s
HTT Hallett 42.52 161 P **P** **16 44 07.7 +1.0**
baz=43,SNR=19
GKN Gorkha 42.54 305 *e*P **P** **16 44 07.0 -0.1**
comp=Z,62nm,0.5s
PALK Pallekele 42.63 273 P **P** **16 44 07.9 +0.1**
comp=Z,12nm,0.6s,baz=69,slow=5.5,SNR=9.6
PALK PcP **PcP** **16 45 46.0 +0.3**
comp=Z,8.4nm,0.8s,baz=54,slow=5.6,SNR=5.0
PALK ScP **ScP** **16 48 39.6 0.0**
comp=Z,8.3nm,0.7s,baz=140,slow=2.5,SNR=5.2
PALK Pallekele 42.63 273 P **P** **16 44 07.9 +0.1**
PALK 16 45 46.0
PALK pmax pmax
comp=Z,12nm,0.6s
PALK pmax pmax
comp=Z,8.0nm,0.8s
PALK pmax pmax
comp=N,8.0nm,0.7s
HABR Khabarovsk 42.68 11 *e*P **P** **16 44 05.8 -1.7**
HABR *e* 16 45 43.5
HABR *PP **pP** **16 45 50.0 -2.7**
HABR *e*SP **sP** **16 46 57.6 -3.4**
HABR *eS **S** **16 49 47.1 -0.9**
HABR *e 16 52 57.9
HABR *eSS **SS** **16 53 17.4 -0.3**
HABR pmax pmax
comp=Z,9.0nm,1.2s
HABR MLR MLR
comp=Z,37nm,17.0s
YSS Yuzh-Sakhalins 43.27 19 *e*P **P** **16 44 12.4 +0.2**
YSS pmax pmax
comp=Z,21nm,1.7s
KOLN Koldanda 43.30 304 *e*P **P** **16 44 13.6 +0.5**
comp=Z,360nm,0.5s
ULN Ulaanbaatar 43.34 344 *e*P **P** **16 44 13.6 +0.7**
ULN *e 16 45 47.5
ULN pmax pmax
comp=Z,31nm,0.6s
ULN Ulaanbaatar 43.34 344 *e*P **P** **16 44 13.6 +0.7**
comp=Z,31nm,0.6s
ULN *ePcP **PcP** **16 45 47.5 -0.1**
DANN Dangsing 43.38 305 *e*P **P** **16 44 13.9 +0.1**
comp=Z,45nm,0.6s
SONM Songino Array 43.50 343 P **P** **16 44 14.7 +0.6**
comp=Z,37nm,0.8s,baz=159,slow=8.2,SNR=195
SONM PcP **PcP** **16 45 48.0 0.0**
comp=Z,5.5nm,0.8s,baz=172,slow=4.3,SNR=5.9
SONM ScP **ScP** **16 48 40.2 -2.3**
comp=Z,1.0nm,0.6s,baz=153,slow=6.1,SNR=4.1
SONM Songino Array 43.50 343 P **P** **16 44 14.7 +0.6**
SONM 16 45 48.0
SONM pmax pmax
comp=Z,37nm,0.8s
SONM pmax pmax
comp=Z,6.0nm,0.8s
SONM pmax pmax
comp=N,1.0nm,0.6s
CMSA Cobar Meteorol 43.51 152 P **P** **16 44 15.9 +1.6**
baz=44,SNR=69
ADKI Addanki 43.71 286 *e*P **P** **16 44 16.3 +0.3**
ADKI IAmb IAmb 16 44 17.4
comp=Z,42nm,1.0s
SKHT Srikalahasti 43.75 283 *e*P **P** **16 44 16.3 -0.2**
SKHT IAmb IAmb 16 44 17.2
comp=Z,41nm,0.7s
NJS Nagarjunasagar 44.42 287 *e*P **P** **16 44 21.3 -0.3**
NJS IAmb IAmb 16 44 22.4
comp=Z,47nm,0.8s
RCLA Racherla 44.63 285 *e*P **P** **16 44 22.3 -0.9**
RCLA IAmb IAmb 16 44 23.6
comp=Z,46nm,0.7s
SRLM Srisailam 44.77 286 *e*P **P** **16 44 23.5 -0.8**
SRLM IAmb IAmb 16 44 24.9
comp=Z,43nm,0.8s
RPR Rampur 44.77 290 *e*P **P** **16 44 24.3 0.0**
RPR IAmb IAmb 16 44 25.2
comp=Z,90nm,0.7s
HYB Hyderabad 45.25 288 *i*P **P** **16 44 26.0 -2.0**
HYBB Hyderabad (bro 45.25 288 *e*P **P** **16 44 27.6 -0.4**
HYBB IAmb IAmb 16 44 28.6
comp=Z,52nm,0.9s
ARMA Armidale 45.67 146 P **P** **16 44 33.2 +2.2**
baz=46,SNR=29
ARMA Armidale 45.67 146 *e*P **P** **16 44 33.0 +2.0**
comp=Z,50nm,0.8s
SRSP Sriramsagar 45.67 290 *e*P **P** **16 44 30.1 -1.0**
SRSP IAmb IAmb 16 44 31.9
comp=Z,80nm,0.8s
CIT Chita 45.88 351 *e*P **P** **16 44 33.1 +0.9**
CIT *e* 16 45 53.4
URV Uravakonda 46.21 284 *e*P **P** **16 44 34.1 -1.1**
URV IAmb IAmb 16 44 35.3
comp=Z,37nm,0.9s
ARPS Mount Arapiles 46.53 160 P **P** **16 44 37.9 +0.7**
baz=47,SNR=18
YNG Young 47.07 152 ⇑P **P** **16 44 42.8 +1.5**
baz=47,SNR=5.1
KLRI Killari 47.19 288 *e*P **P** **16 44 42.0 -0.6**
KLRI IAmb IAmb 16 44 42.5
comp=Z,97nm,0.6s
MGCD Mangrove Creek 47.54 148 ⇑P **P** **16 44 47.1 +2.3**
baz=48,SNR=5.0
JOSI Joshimath 47.60 306 *e*P **P** **16 44 43.3 -2.3**
JOSI AMB AMB 16 44 44.7
comp=Z,542nm,1.1s
TLY Talaya 47.74 343 P **P** **16 44 46.5 +0.5**
comp=Z,38nm,0.6s,baz=182,slow=5.0,SNR=12
TLY Talaya 47.74 343 *e*P **P** **16 44 46.8 +0.8**
TLY pmax pmax
comp=Z,49nm,0.8s
TLY Talaya 47.74 343 P **P** **16 44 47.0 +1.0**
comp=Z,447nm,0.6s,SNR=7.0
TLY Talaya 47.74 343 *e*P **P** **16 44 47.3 +1.3**
comp=Z,43nm,0.7s
AGRA Agra 47.88 301 *e*P **P** **16 44 46.8 -0.7**
AGRA AMB AMB 16 44 47.5
comp=Z,83nm,0.6s
IRK Irkutsk 48.07 344 *e*P **P** **16 44 47.6 -0.8**
IRK pmax pmax
comp=Z,35nm,2.4s
CAN Canberra 48.19 152 *e*P **P** **16 44 51.1 +1.4**
CAN pmax pmax
comp=Z,31nm,0.8s
CAN Canberra 48.19 152 ⇑P **P** **16 44 51.3 +1.6**
baz=48
CAN Canberra 48.19 152 *e*P **P** **16 44 51.1 +1.4**
comp=Z,31nm,0.8s
CNB Canberra Magne 48.35 152 ⇑P **P** **16 44 52.4 +1.4**
baz=48,SNR=20
WMQ Urumqi 48.51 325 P **P** **16 44 53.0 +1.0**
WMQ pP **pP** **16 46 44.0 +2.5**
WMQ sP **sP** **16 47 44.5 -3.8**
WMQ PMZ
comp=Z,76nm,1.0s
WMQ PMZ
comp=Z,150nm,4.4s
MOY Mondy 48.53 341 *e*P **P** **16 44 53.0 +1.0**
MOY pmax pmax
comp=Z,55nm,1.6s

TOO Toolangi 48.59 157 ⇑P **P** **16 44 54.1 +1.5**
baz=49,SNR=24
BISR Bishrakh 48.70 302 *e*P **P** **16 44 52.1 -1.4**
BISR AMB AMB 16 44 53.7
comp=Z,307nm,0.6s
AYAN Aya Nagar 48.94 302 *e*P **P** **16 44 54.2 -1.1**
KUDL Kundal 49.38 301 *e*P **P** **16 44 57.5 -1.0**
KUDL AMB AMB 16 44 58.5
comp=Z,86nm,0.6s
KKR Kurukshetra 49.64 304 *e*P **P** **16 45 00.1 -0.3**
KKR AMB AMB 16 45 01.4
comp=Z,116nm,0.8s
MILA Mila 49.69 153 ⇓P **P** **16 45 02.0 +1.3**
baz=50,SNR=5.5
KHET Khetri 49.94 301 *e*P **P** **16 45 02.0 -0.7**
DZM Mont Dzumac 50.77 126 P **P** **16 45 10.6 +1.7**
comp=Z,30nm,0.5s,baz=90,slow=24,SNR=66
BOD Bodaibo 51.48 353 *e*P **P** **16 45 13.9 +0.7**
BOD pmax pmax
comp=Z,19nm,0.8s
MK08 Makanchi Array 53.32 325 ⇓P **P** **16 45 27.3 +0.7**
baz=53
MK31 Makanchi Array 53.34 326 *e*P **P** **16 45 27.4 +0.7**
MK31 *e* 16 46 23.9
MK31 Makanchi Array 53.34 326 P **P** **16 45 27.4 +0.7**
baz=54,SNR=213
MK31 Makanchi Array 53.34 326 *e*P **P** **16 45 27.4 +0.7**
MK31 *e*PcP **PcP** **16 46 23.9 -0.2**
MKAR Makanchi Array 53.34 326 P **P** **16 45 27.3 +0.6**
comp=Z,77nm,0.4s,baz=121,slow=7.9,SNR=1415
MKAR PcP **PcP** **16 46 23.7 -0.4**
comp=Z,9.2nm,0.5s,baz=104,slow=5.1,SNR=6.4
MKAR ScP **ScP** **16 49 23.4 -1.0**
comp=Z,6.5nm,0.8s,baz=122,slow=5.9,SNR=9.2
MKAR S **S** **16 52 14.1 0.0**
comp=Z,2.0nm,1.0s,baz=133,slow=10,SNR=5.9
MKAR Makanchi Array 53.34 326 P **P** **16 45 27.3 +0.6**
MKAR 16 46 23.7
MKAR S **S** **16 52 14.1 0.0**
MKAR pmax pmax
comp=Z,77nm,0.4s
MKAR pmax pmax
comp=Z,9.0nm,0.5s
MKAR pmax pmax
comp=N,7.0nm,0.8s
MKAR smax smax
comp=N,2.0nm,1.0s
KSH Kashi 53.75 315 P **P** **16 45 31.5 +1.6**
KSH pP **pP** **16 47 27.3 +4.3**
KSH PP PP 16 47 47.3 +7.1
KSH S **S** **16 52 17.5 -2.5**
KSH sS **sS** **16 55 45.0 +1.6**
KSH SS SS 16 56 21.0 +7.5
KSH PMZ
comp=N,210nm,2.2s
PETK Petropavlovsk- 53.88 25 P **P** **16 45 31.9 +1.5**
comp=N,5.8nm,0.7s,baz=195,slow=6.5,SNR=7.3
PETK Petropavlovsk- 53.88 25 P **P** **16 45 31.9 +1.5**
PETK pmax pmax
comp=Z,6.0nm,0.7s
ULHL Ulahol 54.74 318 P **P** **16 45 37.8 +0.9**
SNR=8.8
KRAR Krasnoyarsk 54.84 339⇑ *e*P **P** **16 45 36.5 -0.4**
KRAR pmax pmax
comp=Z,47nm,1.7s
KZA Kyzart 55.33 317 P **P** **16 45 42.5 +1.3**
SNR=15
YAK Yakutsk 55.33 3 P **P** **16 45 40.0 -0.3**
comp=Z,1.7nm,0.3s,baz=193,slow=23,SNR=9.8
YAK Yakutsk 55.33 3 *d* *i*P **P** **16 45 40.3 0.0**
YAK pmax pmax
comp=Z,28nm,0.8s
YAK pmax pmax
comp=E,3.0nm,1.5s
YAK pmax pmax
comp=N,10.0nm,1.2s
YAK Yakutsk 55.33 3 *e*P **P** **16 45 40.0 -0.3**
comp=N,43nm,0.6s
YAK *e*PcP **PcP** **16 46 31.1 -0.3**
TKM2 Tokmak 2 55.47 318 P **P** **16 45 42.7 +0.8**
SNR=80
TKM2 Tokmak 2 55.47 318 P **P** **16 45 42.4 +0.5**
TKM2 pmax pmax
comp=Z,42nm,0.5s
TKM2 Tokmak 2 55.47 318 *e*P **P** **16 45 42.3 +0.5**
comp=Z,62nm,0.6s
SFK Sufi-Kurgan 55.70 314 P **P** **16 45 44.5 +0.9**
SFK pmax pmax
comp=Z,59nm,0.7s
KBK Karagaybulak 55.78 318 P **P** **16 45 45.1 +1.1**
SNR=28
CHMS Chumysh 56.06 318 P **P** **16 45 46.1 +0.4**
SNR=26
AAK Ala-Archa 56.07 318 P **P** **16 45 47.0 +1.0**
SNR=15
AAK Ala-Archa 56.07 318 P **P** **16 45 46.7 +0.7**
AAK pmax pmax
comp=Z,22nm,0.8s
FRU Bishkek 56.08 318 *i* P **P** **16 45 45.5 -0.4**
USP Ospenovka 56.34 318 P **P** **16 45 48.2 +0.6**
SNR=13
AML Almayashu 56.40 317 P **P** **16 45 49.7 +1.1**
SNR=8.8
ZAA0 Zalesovo Array 56.52 334 ⇑P **P** **16 45 48.2 -0.5**
baz=57
ZAA0 Zalesovo Array 56.52 334 *e*P **P** **16 45 48.0 -0.6**
ZALV Zalesovo Beam 56.52 334 P **P** **16 45 48.1 -0.6**
comp=Z,23nm,0.6s,baz=127,slow=5.9,SNR=90
ZALV S **S** **16 52 52.4 -2.6**
comp=Z,2.0nm,0.7s,baz=134,slow=12,SNR=7.6
ZALV Zalesovo Beam 56.52 334 P **P** **16 45 48.1 -0.6**
ZALV S **S** **16 52 52.4 -2.6**
ZALV pmax pmax
comp=Z,23nm,0.6s
ZALV smax smax
comp=N,2.0nm,0.7s
EKS2 Erkin-Say 56.56 317 P **P** **16 45 50.3 +1.0**
SNR=8.5
EKS2 Erkin-Say 56.56 317 *e*P **P** **16 45 50.3 +1.0**
EKS2 pmax pmax
comp=Z,64nm,0.7s
EKS2 Erkin-Say 56.56 317 *e*P **P** **16 45 50.3 +1.0**
comp=Z,64nm,0.7s
MA2 Magadan 56.59 16 *i* P **P** **16 45 50.0 +1.0**
KBL Kabul 57.27 307 *e*P **P** **16 45 54.3 -0.1**
KBL pmax pmax
comp=Z,77nm,0.6s
KBL Kabul 57.27 307 P **P** **16 45 54.4 0.0**
baz=57,SNR=24
KBL Kabul 57.27 307 *e*P **P** **16 45 54.3 -0.1**
comp=Z,77nm,0.6s
KURBB Kurchatov Arra 57.56 328 P **P** **16 45 55.9 +0.2**
comp=Z,113nm,0.7s,baz=130,slow=6.3,SNR=1589
KURK Kurchatov 57.56 328 P **P** **16 45 55.9 +0.2**
KURK pmax pmax
comp=Z,113nm,0.7s
KURK Kurchatov 57.56 328 P **P** **16 45 55.9 +0.2**
NVS Novosibirsk 57.81 334 *e*P **P** **16 45 56.3 -1.0**
NVS *e*S **S** **16 53 09.7 -1.6**
NVS pmax pmax
comp=Z,48nm,0.9s
NVS pmax pmax
comp=N,23nm,0.9s
NVS pmax pmax
comp=E,24nm,0.9s
NVS smax smax
comp=N,11nm,1.5s
NVS smax smax
comp=E,26nm,1.7s
KK31 Karatay Array 58.95 317 P **P** **16 46 05.1 -0.2**
KK31 pmax pmax
comp=Z,52nm,0.7s
KKAR Karatay Array 58.95 317 *e*P **P** **16 46 05.4 +0.1**
KKAR pmax pmax
comp=Z,46nm,0.6s
KKAR Karatay Array 58.95 317 *e*P **P** **16 46 05.4 +0.1**
comp=Z,46nm,0.6s
SEY Seymchan 59.84 15 P **P** **16 46 12.2 +1.4**
comp=Z,2.4nm,0.4s,baz=212,slow=6.7,SNR=21
SEY ScP **ScP** **16 49 54.0 +1.3**
comp=Z,1.8nm,0.7s,baz=236,slow=5.4,SNR=4.8
BVA0 Borovoye Array 63.13 327 *i* P **P** **16 46 32.1 -0.3**
BVA0 pmax pmax
comp=Z,77nm,1.0s
BVAR Borovoye Array 63.13 327 P **P** **16 46 32.4 0.0**
comp=Z,31nm,0.8s,baz=134,slow=8.5,SNR=188
BVAR Borovoye Array 63.13 327 P **P** **16 46 32.4 0.0**
BVAR pmax pmax
comp=Z,31nm,0.8s
BRVK Borovoye 63.20 327 P **P** **16 46 33.1 +0.3**
comp=Z,483nm,1.0s,SNR=32
BRVK Borovoye 63.20 327 *e*P **P** **16 46 32.9 +0.1**
BRVK pmax pmax
comp=Z,65nm,0.8s
BRVK Borovoye 63.20 327 *e*P **P** **16 46 32.9 +0.1**
comp=Z,65nm,0.8s
IDAH Dahanechah 64.37 303 *e*P **P** **16 46 41.5 +0.6**
IMYA Miami 64.78 307 *e*P **P** **16 46 43.4 0.0**
IKOO Kooshah 65.04 303 *e*P **P** **16 46 45.3 +0.1**
ISRO Mashad 65.28 307 *e*P **P** **16 46 46.5 +0.1**
IAKL Akhelmad 65.90 307 *e*P **P** **16 46 50.6 +0.2**
RPZ Rata Peaks 65.99 144 P **P** **16 46 51.4 +1.0**
comp=Z,19nm,0.6s,baz=281,slow=3.9,SNR=7.1
ABKT Ailbek 66.63 308 P **P** **16 46 55.6 +1.0**
comp=Z,296nm,0.9s,SNR=8.4
GEYT Ailbeck 66.63 308 P **P** **16 46 55.3 +0.7**
comp=Z,32nm,0.8s,baz=132,slow=4.4,SNR=38
HATD Hatta, Dubai 66.81 294 ⇑P **P** **16 46 55.6 -0.4**
SNR=7.0
URZ Urewera 66.83 137 P **P** **16 46 55.0 -0.8**
comp=Z,9.1nm,0.5s,baz=277,slow=4.5,SNR=17
BILL Bilibino 67.46 16 *e*P **P** **16 46 58.9 -0.1**
BILL pmax pmax
comp=Z,3.0nm,1.0s
ASUD Al Ashush, Dub 67.53 294 ⇓ *i*P **P** **16 47 00.5 +0.1**
SNR=8.5
AB31 Akbulak array 67.88 321 P **P** **16 47 01.8 -0.2**
AB31 pmax pmax
comp=Z,65nm,0.9s
ABKAR Akbulak array 67.88 321 ⇓P **P** **16 47 02.0 0.0**
baz=68
ABKAR Akbulak array 67.88 321 *e*P **P** **16 47 01.8 -0.1**
comp=Z,31nm,0.7s
IMEH Mehriz 68.63 301 *e*P **P** **16 47 06.4 -0.8**
AKTO Aktyubinsk 69.40 322 P **P** **16 47 11.1 0.0**
comp=Z,34nm,0.7s,baz=100,slow=7.8,SNR=119
AKTO Aktyubinsk 69.40 322 P **P** **16 47 11.1 0.0**
AKTO pmax pmax
comp=Z,34nm,0.7s
ISRV Sarvestan 69.77 299 *e*P **P** **16 47 13.7 -0.5**
SVE Sverdlovsk 69.80 329 *c* *i*P **P** **16 47 13.1 -0.2**
SVE pmax pmax
comp=Z,41nm,0.6s
IGLO Ghaloghah 69.81 306 *e*P **P** **16 47 13.9 -0.2**
IPAR Pars 69.86 299 *e*P **P** **16 47 13.8 -0.9**
ISHM Shahmirzad 70.16 306 *e*P **P** **16 47 16.6 +0.3**
ILAS Lasjerd 70.39 305 *e*P **P** **16 47 17.5 -0.1**
IALA Alasht 70.58 306 *e*P **P** **16 47 18.7 -0.1**
ARU Arti 70.76 328 P **P** **16 47 18.1 -0.9**
ARU Arti 70.76 328 *d* *i*P **P** **16 47 18.1 -0.9**
ARU S **S** **16 55 46.3 +0.2**
ARU pmax pmax
comp=Z,49nm,1.0s
ARU Arti 70.76 328 P **P** **16 47 18.4 -0.6**
comp=Z,398nm,0.5s,SNR=20
ARU Arti 70.76 328 *e*P **P** **16 47 18.1 -0.9**
comp=Z,39nm,0.6s
IKAZ Kazeroun 70.90 299 *e*P **P** **16 47 20.3 -0.5**
IDMV Damavand 71.16 305 *e*P **P** **16 47 21.7 -0.4**
IPIR Pirpir 71.88 302 *e*P **P** **16 47 25.1 -1.3**
IKOM Komasi 74.78 303 *e*P **P** **16 47 41.5 -1.1**
ISRB Sarab 74.83 307 *e*P **P** **16 47 43.4 +0.5**
SDPT Seed Point 76.43 35 *e*P **P** **16 47 51.3 +0.2**
RAYN Ar Rayn 76.50 292 P **P** **16 47 51.0 -1.2**
comp=Z,273nm,0.8s,SNR=19
RAYN Ar Rayn 76.50 292 *e*P **P** **16 47 51.7 -0.5**
comp=Z,34nm,0.8s
GNI Garni 77.21 310 P **P** **16 47 55.4 -0.5**
comp=Z,2.4nm,0.4s,baz=1.6,slow=23,SNR=3.6
GNI Garni 77.21 310 *de*P **P** **16 47 57.8 +1.9**
GNI pmax pmax
comp=Z,36nm,1.7s
PRGR Permogore 78.40 332 *e*P **P** **16 47 59.3 -2.2**
PRGR pmax pmax
comp=Z,35nm,0.6s
KBZ Khabaz 78.69 313 P **P** **16 48 03.2 -0.3**
comp=Z,4.4nm,0.8s,baz=49,slow=3.3,SNR=12
KBZ Khabaz 78.69 313 P **P** **16 48 03.2 -0.3**
KBZ pmax pmax
comp=Z,4.0nm,0.8s
NEY Neytrino 78.81 313⇑ *e*P **P** **16 48 05.2 +0.8**
NEY pmax pmax
comp=Z,2.0nm,0.8s
KIV Kislovodsk 78.85 313 *ce*P **P** **16 48 04.8 +0.3**
KIV *e* 16 48 10.2
KIV *e**PP **pP** **16 50 15.4 +4.3**
KIV *e* 16 51 15.5
KIV pmax pmax
comp=Z,25nm,1.4s
SFNV Sufian 80.84 306 *i* P **P** **16 48 15.1 +0.1**
KDAK Kodiak Island 80.99 33 P **P** **16 48 14.8 -0.2**
comp=Z,12nm,0.8s,baz=269,slow=5.6,SNR=7.3
KDAK Kodiak Island 80.99 33 P **P** **16 48 14.9 -0.2**
KDAK pmax pmax
comp=Z,12nm,0.8s
VSR Storozhevoye 81.32 321 *e*P **P** **16 48 16.0 -1.0**
VSR pmax pmax
comp=N,8.0nm,0.6s
VSR pmax pmax
comp=Z,20nm,0.6s
VSR pmax pmax
comp=E,7.0nm,0.4s
PPLA Purkeypile 81.35 27 *e*P **P** **16 48 18.0 +0.8**
comp=E,4.3nm,0.7s
BPAW Bear Paw Mtn. 81.93 26 *e*P **P** **16 48 21.0 +1.1**
comp=E,3.2nm,0.8s
TMCR Tamitsa 82.05 334 *e*P **P** **16 48 19.7 -0.7**
TMCR pmax pmax
comp=Z,67nm,1.5s
MALT Malatya 82.12 308 ⇑P **P** **16 48 22.0 +0.5**
MALT Malatya 82.12 308 ⇑ *i*P **P** **16 48 22.0 +0.5**
MOS Moscow 82.22 325 *e*P **P** **16 48 20.4 -1.1**
MOS pmax pmax
comp=Z,69nm,1.1s
MOS pmax pmax
comp=Z,100nm,1.3s
TRF Thorofare Moun 82.23 27 *e*P **P** **16 48 22.2 +0.6**
comp=Z,8.8nm,1.0s
COLD Coldfoot 82.31 23 *e*P **P** **16 48 23.6 +1.9**
comp=Z,14nm,1.0s
ANN Anapa 82.61 314 *d* *i*P **P** **16 48 22.6 -1.0**
ANN pmax pmax
comp=Z,53nm,0.7s
MCK McKinley 82.83 27 *e*P **P** **16 48 24.8 +0.4**
MCK pmax pmax
comp=Z,10.0nm,0.7s
MCK McKinley 82.83 27 *e*P **P** **16 48 24.8 +0.4**
comp=Z,9.9nm,0.7s
OBN Obninsk 82.84 325 P **P** **16 48 24.0 -0.5**
comp=Z,43nm,0.6s,baz=117,slow=1.8,SNR=16
OBN Obninsk 82.84 325 *d* *i*P **P** **16 48 23.8 -0.7**
OBN *i**PP **pP** **16 50 35.7 +2.8**
OBN pmax pmax
comp=Z,113nm,1.6s
OBN Obninsk 82.84 325 *e*P **P** **16 48 24.0 -0.5**
comp=Z,22nm,0.6s
ZALF Zalf 83.29 302 *i* P **P** **16 48 28.0 +0.6**
LVZ Lovozero 83.41 338⇓ *e*P **P** **16 48 26.9 -0.3**
LVZ pmax pmax
comp=Z,13nm,0.7s
ILAR Eielson Array 83.70 26 P **P** **16 48 27.8 -0.9**
comp=Z,0.6nm,0.4s,baz=239,slow=5.3,SNR=8.8
ILAR Eielson Array 83.70 26 P **P** **16 48 27.8 -0.9**
ILAR pmax pmax
comp=Z,1.0nm,0.4s
ASF Jabal al Asfar 83.71 302 P **P** **16 48 30.4 +0.8**
comp=Z,11nm,0.6s,baz=37,slow=4.2,SNR=23
ASF Jabal al Asfar 83.71 302 P **P** **16 48 30.4 +0.8**
ASF pmax pmax
comp=Z,11nm,0.6s
APA Apatity 83.90 337⇓ *i*P **P** **16 48 29.8 +0.2**
APA *i**PP **pP** **16 50 42.0 +3.6**
APA MLR MLR
comp=Z,300nm,26.0s
BIDA Albida 83.99 304 *i* P **P** **16 48 31.2 +0.3**
SLNF Slenfeh 84.03 305 *i* P **P** **16 48 31.1 -0.1**
MMAI Mount Meron Ar 84.91 303 P **P** **16 48 35.4 +0.1**
comp=Z,5.1nm,0.6s,baz=84,slow=7.6,SNR=8.2
MAW Mawson 85.55 200 P **P** **16 48 36.8 -0.6**
comp=Z,2.5nm,0.5s,baz=80,slow=4.9,SNR=13
MAW Mawson 85.55 200 P **P** **16 48 36.8 -0.6**
MAW pmax pmax
comp=Z,3.0nm,0.5s
MAW Mawson 85.55 200 ⇓P **P** **16 48 37.3 -0.1**
baz=86
MAW Mawson 85.55 200 *e*P **P** **16 48 37.1 -0.3**
comp=Z,1.0nm,0.6s
EIL Elat 85.58 299 P **P** **16 48 38.7 +0.2**
comp=Z,8.3nm,0.7s,baz=323,slow=3.0,SNR=9.0
EIL Elat 85.58 299 ⇑P **P** **16 48 38.6 +0.1**
baz=86,SNR=5.7
BR102 Keskin Array S 85.74 309 ⇓P **P** **16 48 38.2 -1.1**
baz=86
BR131 Keskin Array S 85.75 309 *e*P **P** **16 48 38.0 -1.2**
comp=Z,7.3nm,0.8s
BRTR Keskin Array B 85.75 309 P **P** **16 48 38.1 -1.3**
comp=Z,8.4nm,0.7s,baz=121,slow=4.7,SNR=37
BRTR Keskin Array B 85.75 309 P **P** **16 48 38.1 -1.3**
BRTR pmax pmax
comp=Z,8.0nm,0.7s
BR105 Keskin Array S 85.77 309 ⇓P **P** **16 48 38.3 -1.1**
baz=86
ARCES ARCESS Array B 86.56 340 P **P** **16 48 41.3 -1.1**
comp=Z,11nm,0.8s,baz=78,slow=6.3,SNR=29
ARCES ARCESS Array B 86.56 340 P **P** **16 48 41.3 -1.1**
ARCES pmax pmax
comp=Z,11nm,0.8s
AREO ARCESS Array S 86.56 340 *e*P **P** **16 48 41.3 -1.1**
KMBO Kilima Mbogo 86.57 268 P **P** **16 48 44.0 +0.1**
comp=Z,8.3nm,0.8s,baz=64,slow=6.8,SNR=19
KMBO Kilima Mbogo 86.57 268 P **P** **16 48 44.0 +0.1**
KMBO pmax pmax
comp=Z,8.0nm,0.8s
KMBO Kilima Mbogo 86.57 268 ⇑P **P** **16 48 43.9 +0.1**
baz=86
VNDA Vanda 86.81 172 P **P** **16 48 43.6 +0.3**
comp=Z,3.2nm,0.6s,baz=321,slow=6.6,SNR=23
VNDA Vanda 86.81 172 *e*P **P** **16 48 43.4 +0.1**
VNDA pmax pmax
comp=Z,5.0nm,1.0s
VNDA Vanda 86.81 172 *e*P **P** **16 48 43.4 +0.1**
comp=Z,5.0nm,1.0s
SPITS Spitsbergen Ar 86.93 349 P **P** **16 48 42.9 -1.0**
comp=Z,10nm,0.5s,baz=101,slow=8.6,SNR=45
SPITS Spitsbergen Ar 86.93 349 P **P** **16 48 42.9 -1.0**
SPITS pmax pmax
comp=Z,10.0nm,0.5s
AKASG Malin Array Be 87.63 321 P **P** **16 48 46.2 -1.5**
comp=Z,7.5nm,0.7s,baz=68,slow=4.8,SNR=28
AKASG Malin Array Be 87.63 321 P **P** **16 48 46.2 -1.5**
AKASG pmax pmax
comp=Z,8.0nm,0.7s
AK01 Malin Array Si 87.64 321 *e*P **P** **16 48 46.3 -1.4**
KIEV Kiev 87.64 321 *c* *i*P **P** **16 48 46.3 -1.4**
KIEV pmax pmax
comp=Z,7.0nm,1.0s
KIEV Kiev 87.64 321 *e*P **P** **16 48 46.0 -1.7**
comp=Z,4.6nm,0.8s
AK02 Malin Array Si 87.64 321 *e*P **P** **16 48 46.3 -1.5**
FIA1 FINESS Array S 87.73 332 *e*P **P** **16 48 46.5 -1.4**
FINES FINESS Array B 87.73 332 P **P** **16 48 46.8 -1.1**
comp=Z,9.2nm,0.6s,baz=90,slow=5.7,SNR=24
FINES FINESS Array B 87.73 332 P **P** **16 48 46.8 -1.1**
FINES pmax pmax
comp=Z,9.0nm,0.6s
VSU Vasula 87.91 329⇓ *e*P **P** **16 48 47.1 -1.7**
VSU pmax pmax
comp=Z,42nm,0.8s
HYT Haines Junctio 88.44 29 *e*P **P** **16 48 52.5 +1.0**
comp=Z,2.4nm,0.9s
INK Inuvik 88.47 21 P **P** **16 48 51.1 -0.1**
comp=Z,3.1nm,0.9s,baz=226,slow=4.0,SNR=5.0
INK Inuvik 88.47 21 P **P** **16 48 51.1 -0.1**
INK pmax pmax
comp=Z,3.0nm,0.9s
TESR Tescani 89.95 317 ⇑ *i*P **P** **16 48 57.8 -0.8**
VRI Vrincioaia 90.01 316 ⇑P **P** **16 48 58.9 0.0**
VRI Vrincioaia 90.01 316 ⇑ *i*P **P** **16 48 58.8 -0.1**
MLR Muntele Rosu 90.61 316 P **P** **16 49 00.9 -1.0**
comp=Z,1.6nm,0.7s,baz=105,slow=0.0,SNR=9.7
MLR Muntele Rosu 90.61 316 P **P** **16 49 00.9 -1.0**
MLR pmax pmax
comp=Z,2.0nm,0.7s
MLR Muntele Rosu 90.61 316 ⇑ *i*P **P** **16 49 01.4 -0.5**
SUW Suwalki 90.70 325 *e*P **P** **16 49 00.7 -1.2**
SUW Suwalki 90.70 325 *e*P **P** **16 49 00.7 -1.2**
BURAR Bucovina Array 90.72 318 ⇑P **P** **16 49 02.3 0.0**
BURAR Bucovina Array 90.72 318 ⇑ *i*P **P** **16 49 02.3 0.0**
BUR08 Bucovina Ar. S 90.72 318 *e*P **P** **16 49 01.6 -0.7**
VOIR 91.24 316 ⇑P **P** **16 49 03.5 -1.2**
VOIR 91.24 316 ⇑ *i*P **P** **16 49 03.5 -1.2**
LOT Lotru 92.12 316 ⇑ *i*P **P** **16 49 08.3 -0.5**
UZH Uzhgorod 92.43 319 ⇓ *i*P **P** **16 49 09.4 -0.5**
VTS Vitosha 93.11 313 ⇑P **P** **16 49 11.4 -2.0**
VTS Vitosha 93.11 313 ⇑ *i*P **P** **16 49 11.4 -2.0**
SIRR Siria 93.38 317 ⇑ *i*P **P** **16 49 13.9 -0.5**
BZS Buzias 93.56 317 ⇑P **P** **16 49 14.1 -1.1**
BZS Buzias 93.56 317 ⇑ *i*P **P** **16 49 14.1 -1.1**
DAG Danmarks Havn 93.85 352 ⇓ *i*P **P** **16 49 14.7 -1.2**
comp=Z,10nm,0.6s
DAG Danmarks Havn 93.85 352 ⇓ *i*P **P** **16 49 14.7 -1.2**
DAG pmax pmax
comp=Z,7.0nm,0.6s
HFS Hagfors 93.93 332 P **P** **16 49 15.0 -1.5**
comp=Z,2.8nm,0.5s,baz=108,slow=4.8,SNR=14
HFS Hagfors 93.93 332 P **P** **16 49 15.0 -1.5**
HFS pmax pmax
comp=Z,3.0nm,0.5s
VYHS Vyhne 94.69 320 *e*P **P** **16 49 19.2 -1.1**
VYHS Vyhne 94.69 320 *e*P **P** **16 49 19.2 -1.1**
NB2 NORSAR Subarra 94.72 333 P **P** **16 49 18.3 -1.9**
comp=Z,4.7nm,0.8s,baz=68,slow=4.6
NOA NORSAR Array B 94.72 333 P **P** **16 49 18.4 -1.8**
comp=Z,4.0nm,0.8s,baz=69,slow=4.6,SNR=16
NOA PP **PP** **16 53 20.1 +1.1**
comp=Z,0.7nm,0.7s,baz=74,slow=7.7,SNR=4.0
NOA NORSAR Array B 94.72 333 P **P** **16 49 18.4 -1.8**
NOA 16 53 20.1
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA pmax pmax
comp=Z,1.0nm,0.7s
DIVS Divibare 95.05 315 ⇓ *i*P **P** **16 49 21.4 -0.7**
PKSM Moragy 95.43 318 ⇑P **P** **16 49 22.5 -1.1**
PKSM Moragy 95.43 318 ⇑ *i*P **P** **16 49 22.5 -1.1**
KRLC Kraliky 95.53 322 *e*P **P** **16 49 23.4 -0.7**
KRLC Kraliky 95.53 322 *e*P **P** **16 49 23.4 -0.7**
DPC Dobruska-Polom 95.73 322 *e*PP PP 16 53 23.8 -3.2
QSPA South Pole Qui 96.65 180 P **P** **16 49 30.1 +1.4**
comp=Z,0.6nm,0.6s,baz=239,slow=2.8,SNR=7.5
BRG Berggiesshubel 97.00 323 *e*P **P** **16 49 30.4 -0.2**
comp=Z,9.4nm,1.1s
BRG Berggiesshubel 97.00 323 *e*P **P** **16 49 30.4 -0.2**
BRG pmax pmax
comp=Z,9.0nm,1.1s
GERES GERESS Array B 97.83 321 PP PP 16 53 46.4 +3.5
comp=Z,1.2nm,0.9s,baz=75,slow=7.1,SNR=5.2
NKC Novy Kostel 98.11 323 *e*P Pdif 16 49 32.3 -3.3
NKC Novy Kostel 98.11 323 *e*P Pdif 16 49 32.3 -3.3
NKC MLR MLR
comp=Z,1μm,19.7s
EKA Eskdalemuir Ar 104.13 332 PP PP 16 54 30.4 +1.4
comp=Z,0.2nm,0.4s,baz=312,slow=10.0,SNR=3.6
NVAR Mina Array Bea 107.11 46 PKKPbc PKKPbc 17 05 40.5 -0.6
comp=Z,0.7nm,0.6s,baz=120,slow=5.3,SNR=6.0
NVAR PKKP **PKKPab** **17 05 55.5 -3.0**
comp=Z,0.5nm,0.4s,baz=122,slow=7.2,SNR=5.9
ESDC Sonseca Array 113.18 318 PP PP 16 55 31.4 -2.7
comp=Z,0.1nm,0.3s,baz=49,slow=5.6,SNR=4.4
MDT Midelt 117.06 312 PKP **PKPdf** **16 54 40.1 -0.5**
comp=Z,1.6nm,0.8s,baz=100,slow=2.0,SNR=4.1
T26A Comanche Natio 117.91 42 P **PKPdf** **16 54 43.0 +0.8**
baz=118
ECSD EROS Data Cent 117.95 32 P **PKPdf** **16 54 41.5 -0.3**
baz=118
SCHQ Schefferville 118.01 7 PKP **PKPdf** **16 54 41.6 +0.1**
comp=Z,2.2nm,0.4s,baz=55,slow=4.9,SNR=6.6
T28A Walsh 118.91 41 P **PKPdf** **16 54 44.0 0.0**
baz=119
TOA0 Torodi Ar. Sit 119.06 289 *e*PKP1 **PKPdf** **16 54 43.8 -0.9**
TOA0 Torodi Ar. Sit 119.06 289 *e*PKPdf **PKPdf** **16 54 43.8 -0.9**
TORD Torodi Ar. Bea 119.06 289 PKP **PKPdf** **16 54 43.9 -0.8**
comp=Z,6.8nm,0.7s,baz=59,slow=1.7,SNR=52
TORD PP PP 16 56 05.1 -10
comp=Z,2.0nm,0.8s,baz=57,slow=6.2,SNR=7.7
TORD PKKPbc **PKKPab** **17 05 03.1 -1.8**
comp=Z,0.6nm,0.9s,baz=231,slow=5.1,SNR=3.6

P31A	**Stockton** baz=119	**119.16**	**37**	P		**PKPdf**	**16 54 44.9**	**+0.6**
P32A	**Huiting Farm,** baz=119	**119.56**	**37**	P		**PKPdf**	**16 54 45.3**	**+0.2**
O33A	**Hebron** baz=120	**119.87**	**36**	P		**PKPdf**	**16 54 45.3**	**-0.3**
T32A	**Huddler Ranch,** baz=121	**120.91**	**39**	P		**PKPdf**	**16 54 48.4**	**+0.7**
Z29A	**Hungry Hill Ra** baz=121	**121.38**	**44**	P		**PKPdf**	**16 54 49.2**	**+0.4**
Q35A	**Mercer Eighty,** baz=121	**121.57**	**36**	P		**PKPdf**	**16 54 48.7**	**-0.2**
X31A	**McDonald Ranch** baz=122	**121.77**	**42**	P		**PKPdf**	**16 54 49.8**	**+0.4**
Z30A	**Sanderson Ranc** baz=122	**121.77**	**44**	P		**PKPdf**	**16 54 49.9**	**+0.4**
TXAR	**Lajitas Array** comp=Z,0.7nm,0.7s,baz=262,slow=1.8,SNR=8.8	**122.06**	**49**	PKP		**PKPdf**	**16 54 50.9**	**+0.7**
TXAR	comp=Z,0.7nm,0.7s,baz=134,slow=8.9,SNR=5.5			PKKPbc		**PKKPbc**	**17 04 50.8**	**+0.4**
TXAR	**Lajitas Array**	**122.06**	**49**	PKIKP		**PKPdf**	**16 54 50.9**	**+0.7**
TXAR	comp=Z,1.0nm,0.7s			pmax	pmax			
TXAR	comp=Z,1.0nm,0.7s			pmax	pmax			
S35A	**Otter Creek Ra** baz=122	**122.18**	**37**	P		**PKPdf**	**16 54 50.2**	**+0.1**
R36A	**Gordon, Harris** baz=122	**122.24**	**36**	P		**PKPdf**	**16 54 49.9**	**-0.3**
Z31A	**Sharp Cattle R** baz=122	**122.42**	**43**	P		**PKPdf**	**16 54 50.6**	**-0.1**
R37A	**Teagarden Farm** baz=122	**122.63**	**36**	P		**PKPdf**	**16 54 50.5**	**-0.4**
529A	**Stev Forest Ra** baz=123	**122.72**	**48**	P		**PKPdf**	**16 54 51.7**	**+0.3**
U35A	**Pawnee** baz=123	**122.78**	**38**	P		**PKPdf**	**16 54 51.9**	**+0.6**
330A	**Mertzon** baz=123	**122.79**	**46**	P		**PKPdf**	**16 54 51.5**	**0.0**
Z32A	**Haskell** baz=123	**122.88**	**43**	P		**PKPdf**	**16 54 51.4**	**-0.2**
S37A	**Fort Scott** baz=123	**123.01**	**36**	P		**PKPdf**	**16 54 51.4**	**-0.3**
430A	**Baggett Ranch,** baz=123	**123.08**	**46**	P		**PKPdf**	**16 54 52.0**	**-0.1**
530A	**J-C Ranch, Com** baz=123	**123.36**	**47**	P		**PKPdf**	**16 54 53.6**	**+0.9**
431A	**Sonora** baz=124	**123.59**	**46**	P		**PKPdf**	**16 54 53.6**	**+0.5**
332A	**Millersview** baz=124	**123.81**	**45**	P		**PKPdf**	**16 54 54.1**	**+0.6**
531A	**Rocksprings** baz=124	**123.92**	**47**	P		**PKPdf**	**16 54 54.3**	**+0.6**
V37A	**Hulbert** baz=124	**124.07**	**38**	P		**PKPdf**	**16 54 54.1**	**+0.3**
U38A	**Gravette** baz=124	**124.16**	**37**	P		**PKPdf**	**16 54 54.0**	**+0.1**
X36A	**Centrahoma** baz=124	**124.17**	**40**	P		**PKPdf**	**16 54 54.6**	**+0.6**
JCT	**Junction City** baz=124	**124.28**	**46**	P		**PKPdf**	**16 54 55.0**	**+0.6**
631A	**Perdido Creek** baz=124	**124.31**	**47**	P		**PKPdf**	**16 54 55.3**	**+0.8**
333A	**Richland Sprin** baz=124	**124.38**	**45**	P		**PKPdf**	**16 54 54.8**	**+0.3**
W37A	**Quinton** baz=124	**124.39**	**39**	P		**PKPdf**	**16 54 55.1**	**+0.7**
V38A	**Canehill** baz=124	**124.53**	**37**	P		**PKPdf**	**16 54 54.7**	**0.0**
Y36A	**Durant** baz=124	**124.63**	**40**	P		**PKPdf**	**16 54 55.6**	**+0.7**
135A	**Vickery Place,** baz=125	**124.72**	**42**	P		**PKPdf**	**16 54 55.9**	**+0.7**
X37A	**Clayton** baz=125	**124.78**	**39**	P		**PKPdf**	**16 54 55.9**	**+0.7**
632A	**Uvalde** baz=125	**124.83**	**47**	P		**PKPdf**	**16 54 56.6**	**+1.1**
334A	**Lometa** baz=125	**124.89**	**44**	P		**PKPdf**	**16 54 55.9**	**+0.4**
X38A	**Whitesboro** baz=125	**125.06**	**39**	P		**PKPdf**	**16 54 56.7**	**+1.0**
MIAR	**Mount Ida** baz=126	**125.92**	**38**	P		**PKPdf**	**16 54 58.4**	**+1.0**
KIC	**Kosan Boka** comp=Z,37nm,0.9s	**126.89**	**283**	*e*PKP1		**PKPdf**	**16 54 58.6**	**-1.1**
DBIC	**Dimbokro** comp=Z,7.9nm,0.6s,baz=56,slow=1.9,SNR=12	**126.93**	**284**	PKP		**PKPdf**	**16 54 59.9**	**+0.1**
DBIC	**Dimbokro**	**126.93**	**284**	PKIKP		**PKPdf**	**16 54 59.9**	**+0.1**
DBIC	comp=Z,8.0nm,0.6s			pmax	pmax			
TIC	**Toumodi**	**127.09**	**284**	*e*PKP1		**PKPdf**	**16 54 59.7**	**-0.4**
LIC	**Lamto** comp=Z,73nm,1.8s	**127.20**	**283**	*e*PKP1		**PKPdf**	**16 55 00.3**	**0.0**
CPUP	**Villa Florida** comp=Z,1.6nm,0.8s,baz=184,slow=16,SNR=3.3	**160.52**	**177**	PKP		**PKPdf**	**16 55 54.5**	**-0.2**
CPUP	**Villa Florida**	**160.52**	**177**	PKIKP		**PKPdf**	**16 55 54.5**	**-0.2**
CPUP	comp=Z,2.0nm,0.8s			pmax	pmax			
LPAZ	**La Paz** comp=Z,2.6nm,0.9s,baz=23,slow=6.2,SNR=7.6	**165.07**	**130**	PKP		**PKPdf**	**16 56 00.5**	**+0.4**
LPAZ	comp=Z,2.9nm,0.7s,baz=230,slow=2.4,SNR=10			PKPab		**PKPab**	**16 57 02.5**	**+1.2**
LPAZ	**La Paz**	**165.07**	**130**	PKIKP		**PKPdf**	**16 56 00.5**	**+0.4**
LPAZ	comp=Z,3.0nm,0.9s			pmax	pmax			
LPAZ	comp=Z,3.0nm,0.7s			pmax	pmax			
BDFB	**Brasilia** comp=Z,1.9nm,0.5s,baz=100,slow=2.9,SNR=4.3	**167.98**	**222**	PKPab		**PKPab**	**16 57 13.2**	**-0.4**
BDFB	**Brasilia**	**167.98**	**222**	PKP2		**PKPab**	**16 57 13.2**	**-0.4**
BDFB	comp=Z,2.0nm,0.5s			pmax	pmax			

*ISCJB **26** 16:39:12.7±0.5,59°58N±0°04×22°22E±0°04, h0km, Error ellipse: s-maj=6.1km s-min=3.1km az=172.1*
*HEL **26** 16:39:13.6±0.1,59°52N×22°20E, h0km, ML1.8, ML1.7(UPP), Explosion*
*CSEM **26** 16:39:13.7±0.3,59°56N×22°22E, h2km, ML1.7, Error ellipse: s-maj=10.3km s-min=4.4km az=168.0, Mining explosion.*
*NAO **26** 16:39:15.0±1.6,59°66N×22°21E, ML2.1*
*IDC **26** 16:39:16.2±1.9,59°79N×22°17E, h0km, mb1 2.8/4, mb1mx2.7/52, mbtmp2.7/4, ML2.5/4, Error ellipse: s-maj=25.8km s-min=6.3km az=163.0*
*BER **26** 16:39:17.4±4.1,59°74N×22°12E, h0km, ML2.1(NAO), Suspected explosion*
*UPP **26** 16:39:17.3,59°64N×21°69E, h0km, ML1.7, Suspected Mining explosion.*

ISC 26 16:39:12.7±0.8, 59°59N±0°04×22°19E±0°02, h0km, n70, σ1§32/101, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SRPE	**Suurupi**	**1.12**	**95**	*e*P		**Pg**	**16 39 33.7**	**-0.5**
SRPE				*e*S		**Sg**	**16 39 48.3**	**-0.4**
SRPE	**Suurupi**	**1.12**	**95**	P		**Pg**	**16 39 33.7**	**-0.5**
SRPE				S		**Sg**	**16 39 48.3**	**-0.4**
AAL	**Aland**	**1.26**	**299**	*e*P		**Pg**	**16 39 36.1**	**-0.7**
AAL				*e*S		**Sg**	**16 39 54.0**	**+0.9**
AAL	**Aland**	**1.26**	**299**	P		**Pg**	**16 39 36.1**	**-0.7**
AAL				S		**Sg**	**16 39 53.0**	**0.0**
AAL	**Aland**	**1.26**	**299**	P		**Pg**	**16 39 36.1**	**-0.7**
AAL				S		**Sg**	**16 39 53.0**	**0.0**
MEF	**Metsahovi**	**1.28**	**59**	*e*P		**Pg**	**16 39 36.1**	**-1.0**
MEF				*e*S		**Sg**	**16 39 53.2**	**-0.5**
MEF	comp=Z,9.4nm,0.1s			MSG			16 39 55.5	
MEF	**Metsahovi**	**1.28**	**59**	P		**Pg**	**16 39 36.1**	**-1.0**
MEF				S		**Sg**	**16 39 53.2**	**-0.5**
RAF	**Rauma**	**1.46**	**352**	*e*P		**Pn**	**16 39 40.3**	**+0.1**
RAF				*e*S		**Sg**	**16 40 00.6**	**+1.1**
RAF	comp=Z,5.6nm,0.1s			MSG			16 40 05.0	
RAF	**Rauma**	**1.46**	**352**	P		**Pn**	**16 39 40.3**	**+0.1**
RAF				S		**Sg**	**16 40 00.6**	**+1.1**
NRTU	**Norrtaelje**	**1.81**	**274**	*e*P		**Pn**	**16 39 45.4**	**+0.3**
NRTU	**Norrtaelje**	**1.81**	**274**	P		**Pn**	**16 39 45.4**	**+0.3**
NRTU	**Norrtaelje**	**1.81**	**274**	P		**Pn**	**16 39 45.4**	**+0.3**
GRAU	**Graesoe**	**1.98**	**294**	*e*P		**Pn**	**16 39 48.3**	**+0.8**
GRAU	**Graesoe**	**1.98**	**294**	P		**Pn**	**16 39 48.3**	**+0.8**
GRAU	**Graesoe**	**1.98**	**294**	P		**Pn**	**16 39 48.3**	**+0.8**
PVF	**Pernaja**	**2.08**	**61**	*e*P		**Pn**	**16 39 50.2**	**+1.4**
PVF				*e*S		**Sn**	**16 40 16.7**	**+1.4**
PVF	comp=Z,5.7nm,0.1s			MSG			16 40 23.1	
PVF	**Pernaja**	**2.08**	**61**	P		**Pn**	**16 39 50.1**	**+1.4**
PVF				S		**Sn**	**16 40 16.6**	**+1.4**
FORU	**Forsmark**	**2.17**	**293**	*e*P		**Pn**	**16 39 51.4**	**+1.4**
FORU	**Forsmark**	**2.17**	**293**	P		**Pn**	**16 39 51.4**	**+1.4**
FORU	**Forsmark**	**2.17**	**293**	P		**Pn**	**16 39 51.4**	**+1.4**
NYNU	**Nynaeshamn**	**2.23**	**257**	*e*P		**Pn**	**16 39 52.4**	**+1.6**
NYNU	**Nynaeshamn**	**2.23**	**257**	P		**Pn**	**16 39 52.4**	**+1.6**
NYNU	**Nynaeshamn**	**2.23**	**257**	P		**Pn**	**16 39 52.4**	**+1.6**
FLYU	**Flymyra**	**2.24**	**286**	*e*P		**Pn**	**16 39 52.0**	**+1.0**
FLYU	**Flymyra**	**2.24**	**286**	P		**Pn**	**16 39 52.0**	**+1.0**
FLYU	**Flymyra**	**2.24**	**286**	P		**Pn**	**16 39 52.0**	**+1.0**
UPP	**Uppsala**	**2.33**	**279**	*e*P		**Pb**	**16 39 55.6**	**+0.1**
UPP	**Uppsala**	**2.33**	**279**	P		**Pb**	**16 39 55.6**	**+0.1**
UPP	**Uppsala**	**2.33**	**279**	P		**Pb**	**16 39 55.6**	**+0.1**
BACU	**Backbrunna**	**2.59**	**278**	*e*P		**Pn**	**16 39 56.6**	**+0.8**
BACU	**Backbrunna**	**2.59**	**278**	P		**Pn**	**16 39 56.6**	**+0.8**
BACU	**Backbrunna**	**2.59**	**278**	P		**Pn**	**16 39 56.6**	**+0.8**
VSU	**Vasula**	**2.60**	**114**	Sn		**Sb**	**16 40 32.6**	**-0.1**
VSU	**Vasula**	**2.60**	**114**	Sn		**Sb**	**16 40 32.6**	**-0.1**
VSU	**Vasula** SNR=50	**2.60**	**114**	Sn		**Sb**	**16 40 32.6**	**-0.1**
OSTU	**Oestervaala**	**2.63**	**286**	*e*P		**Pn**	**16 39 57.9**	**+1.5**
OSTU	**Oestervaala**	**2.63**	**286**	P		**Pn**	**16 39 57.8**	**+1.5**
OSTU	**Oestervaala**	**2.63**	**286**	P		**Pn**	**16 39 57.9**	**+1.5**
FIA0	**FINESS Array S** baz=219,slow=16	**2.68**	**44**	Pn		**Pn**	**16 39 59.4**	**+2.4**
FIA0				Pg		**Pb**	**16 40 01.1**	**-0.3**
FIA0				Sn		**Sb**	**16 40 33.7**	**-1.1**
FIA0	baz=230,slow=22			Lg		Lg	16 40 35.9	
FIA0	**FINESS Array S** baz=227,slow=28	**2.68**	**44**	Pn		**Pn**	**16 39 59.4**	**+2.4**
FIA0				Pg		**Pb**	**16 40 01.1**	**-0.3**
FIA0				Sn		**Sb**	**16 40 33.7**	**-1.1**
FIA0	baz=230,slow=22			Lg		Lg	16 40 35.9	
FIA0	**FINESS Array S** baz=227,slow=28	**2.68**	**44**	*e*P		**Pn**	**16 39 59.1**	**+2.1**
FIA0				*e*S		**Sn**	**16 40 31.2**	**+1.1**
FIA0	comp=Z,3.6nm,0.1s			MSG			16 40 37.9	
FIA0	**FINESS Array S**	**2.68**	**44**	P		**Pn**	**16 39 59.0**	**+2.1**
FIA0	**FINESS Array S** SNR=50	**2.68**	**44**	Pn		**Pn**	**16 39 59.4**	**+2.4**
FIA0	**FINESS Array S** SNR=90	**2.68**	**44**	Pg		**Pb**	**16 40 01.1**	**-0.3**
FIA0				S		**Sn**	**16 40 31.1**	**+1.1**
FIA0				Sn		**Sb**	**16 40 33.7**	**-1.1**
FIA0	SNR=50			Lg		Lg	16 40 35.9	
FINES	**FINESS Array B** comp=Z,1.1nm,0.3s,baz=227,slow=14,SNR=35	**2.68**	**44**	Pn		**Pn**	**16 39 59.3**	**+2.4**
FINES	comp=Z,1.9nm,0.3s,baz=235,slow=23,SNR=22			Lg		Lg	16 40 35.4	
VJF	**Virojoki**	**2.85**	**68**	*e*P		**Pn**	**16 39 60.0**	**+0.5**
VJF				*e*S		**Sn**	**16 40 34.6**	**+0.2**
VJF	**Virojoki**	**2.85**	**68**	P		**Pn**	**16 39 59.9**	**+0.5**
VJF				S		**Sn**	**16 40 34.6**	**+0.2**
KEF	**Keuruu**	**2.90**	**26**	*e*P		**Pn**	**16 40 02.0**	**+1.9**
KEF				*e*S		**Sn**	**16 40 37.4**	**+1.7**
KEF	**Keuruu**	**2.90**	**26**	P		**Pn**	**16 40 02.0**	**+1.9**
KEF				S		**Sn**	**16 40 37.3**	**+1.7**
VAF	**Ylistaro**	**3.48**	**4**	*e*P		**Pn**	**16 40 10.7**	**+2.7**
VAF				*e*S		**Sn**	**16 40 51.1**	**+1.4**
VAF	**Ylistaro**	**3.48**	**4**	P		**Pn**	**16 40 10.6**	**+2.7**
VAF				S		**Sn**	**16 40 51.1**	**+1.4**
SUF	**Sumiainen**	**3.68**	**30**	*e*P		**Pn**	**16 40 12.2**	**+1.4**
SUF				*e*S		**Sn**	**16 40 56.5**	**+1.6**
SUF	**Sumiainen**	**3.68**	**30**	P		**Pn**	**16 40 12.2**	**+1.4**
SUF				S		**Sn**	**16 40 56.4**	**+1.6**
HFS	**Hagfors** baz=103,slow=14	**4.32**	**281**	Pn		**Pn**	**16 40 21.6**	**+2.0**
HFS	baz=85,slow=28			Sn		**Sn**	**16 41 12.0**	**+1.4**
HFS	baz=101,slow=37			Lg		Lg	16 41 27.2	
HFS	**Hagfors** baz=103,slow=14	**4.32**	**281**	Pn		**Pn**	**16 40 21.6**	**+2.0**
HFS	baz=85,slow=28			Sn		**Sn**	**16 41 12.0**	**+1.4**
HFS	baz=101,slow=37			Lg		Lg	16 41 27.2	
HFS	**Hagfors** comp=Z,0.1nm,0.3s,baz=98,slow=12,SNR=11	**4.32**	**281**	Pn		**Pn**	**16 40 21.6**	**+2.0**
HFS	comp=Z,0.3nm,0.3s,baz=87,slow=26,SNR=4.1			Sn		**Sn**	**16 41 11.5**	**+0.9**
HFS	comp=Z,1.3nm,0.3s,baz=95,slow=30,SNR=13			Lg		Lg	16 41 27.9	
HFS	**Hagfors** SNR=50	**4.32**	**281**	Pn		**Pn**	**16 40 21.6**	**+2.0**
HFS	SNR=50			Sn		**Sn**	**16 41 12.0**	**+1.4**
HFS	SNR=50			Lg		Lg	16 41 27.2	
NB2	**NORSAR Subarra** baz=94,slow=12	**5.65**	**290**	Pn		**Pn**	**16 40 37.3**	**-0.5**
NB2	baz=102,slow=37			Lg		Lg	16 42 10.0	
NB2	**NORSAR Subarra** baz=94,slow=12	**5.65**	**290**	Pn		**Pn**	**16 40 37.3**	**-0.5**
NB2	baz=102,slow=37			Lg		Lg	16 42 10.0	
NB2	**NORSAR Subarra** SNR=50	**5.65**	**290**	Pn		**Pn**	**16 40 37.3**	**-0.5**
NB2	SNR=90			Lg		Lg	16 42 10.0	
NOA	**NORSAR Array B** comp=Z,0.2nm,0.3s,baz=81,slow=14,SNR=7.6	**5.65**	**290**	Pn		**Pn**	**16 40 39.0**	**+1.2**
NOA	comp=Z,0.1nm,0.3s,baz=195,slow=19,SNR=2.5			Sn		**Sn**	**16 41 41.4**	**-1.9**
NOA	comp=Z,0.4nm,0.3s,baz=302,slow=21,SNR=4.1			Lg		Lg	16 42 08.7	
APA0	**Apatity Array** baz=212,slow=16	**9.36**	**26**	Pn		**Pn**	**16 41 30.2**	**+1.6**
APA0	**Apatity Array** baz=212,slow=16	**9.36**	**26**	Pn		**Pn**	**16 41 30.2**	**+1.6**
APA0	**Apatity Array** SNR=50	**9.36**	**26**	Pn		**Pn**	**16 41 30.2**	**+1.6**
ARA0	**ARCESS Array S** baz=194,slow=14	**10.09**	**7**	Pn		**Pn**	**16 41 38.0**	**-0.6**
ARA0	**ARCESS Array S** baz=194,slow=14	**10.09**	**7**	Pn		**Pn**	**16 41 38.0**	**-0.6**
ARA0	**ARCESS Array S** SNR=50	**10.09**	**7**	Pn		**Pn**	**16 41 38.0**	**-0.6**
ARCES	**ARCESS Array B** comp=Z,0.1nm,0.3s,baz=192,slow=14,SNR=13	**10.09**	**7**	Pn		**Pn**	**16 41 37.4**	**-1.3**
SPA0	**Spitsbergen Ar** baz=175,slow=22	**18.78**	**356**	P		**P**	**16 43 31.0**	**-2.0**
SPA0	**Spitsbergen Ar** baz=175,slow=22	**18.78**	**356**	P		**P**	**16 43 31.0**	**-2.0**

TAP 26 16:41:33.0, 24°59N×121°54E, h58km, ML3.3, 8C-3D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ENTT	**Nioudou** baz=35	**0.06**	**29**	⇑*i*P		Pn	16 41 42.2	+0.4
ENTT	baz=35			S		Sn	16 41 48.6	+0.6
TWE	**Neicheng** baz=46	**0.17**	**43**	P		Pn	16 41 42.8	+0.6
TWE	baz=46			S		Sn	16 41 49.7	+1.0
NSK	**Sanguang** baz=297	**0.18**	**297**	⇑*i*P		Pn	16 41 42.2	-0.1
NSK	baz=297			*e*S		Sn	16 41 48.9	-0.1
NNS	**Nan Shan** baz=222	**0.21**	**225**	P		Pn	16 41 42.7	+0.2
NNS	baz=222			S		Sn	16 41 49.6	+0.2
ENA	**Nanau** baz=130	**0.25**	**131**	⇓*i*P		Pn	16 41 42.4	-0.2
ENA	baz=130			*e*S		Sn	16 41 48.9	-0.5
ILA	**Ilan** baz=49	**0.26**	**48**	*e*P		Pn	16 41 43.3	+0.7
ILA	baz=49			*e*S		Sn	16 41 50.8	+1.2

TWC	**Suao** baz=86	**0.28**	**86**	P		Pn	16 41 43.1	+0.3
TWC	baz=86			*e*S		Sn	16 41 50.5	+0.7
TWA	**Mucha** baz=7.0	**0.39**	**6**	⇑*i*P		Pn	16 41 44.1	+0.4
TWA	baz=7.0			*i* S		Sn	16 41 52.1	+0.6
EGS	baz=55	**0.44**	**55**	⇑*i*P		Pn	16 41 45.3	+1.1
EGS	baz=55			*e*S		Sn	16 41 53.8	+1.5
TAP1	**Taipei** baz=357	**0.45**	**358**	⇑P		Pn	16 41 44.5	+0.2
TAP1	baz=357			*e*S		Sn	16 41 52.8	+0.4
TAP	**Taipei** baz=357	**0.45**	**356**	⇑P		Pn	16 41 44.5	+0.2
TAP	baz=357			S		Sn	16 41 53.0	+0.6
TWT	**Tachien** baz=225	**0.47**	**224**	⇓P		Pn	16 41 45.5	+0.7
TWT	baz=225			S		Sn	16 41 54.1	+0.8
NSTT	**Nanjuang** baz=274	**0.49**	**275**	⇑P		Pn	16 41 45.0	+0.2
NSTT	baz=274			*e*S		Sn	16 41 53.6	+0.4
NCU	**National Centr** baz=320	**0.49**	**320**	P		Pn	16 41 45.3	+0.5
NCU	baz=320			*e*S		Sn	16 41 54.4	+1.1
WHF	**Hehuan Shan** baz=208	**0.51**	**209**	⇓*i*P		Pn	16 41 45.9	+0.3
WHF	baz=208			S		Sn	16 41 54.5	0.0
TWD	**Chiawan** baz=173	**0.51**	**174**	P		Pn	16 41 44.0	-0.9
TWD	baz=173			*e*S		Sn	16 41 52.5	-1.2
TWS1	**Kuangyinshan** baz=348	**0.52**	**348**	⇑*i*P		Pn	16 41 45.6	+0.6
TWS1	baz=348			*e*S		Sn	16 41 55.0	+1.2
NWF	**Wu-fen Shan** baz=24	**0.53**	**25**	P		Pn	16 41 45.6	+0.4
NWF	baz=24			*e*S		Sn	16 41 54.6	+0.5
HSN	**Hsinchu** baz=296	**0.56**	**292**	*e*P		Pn	16 41 45.6	+0.2
HSN	baz=296			*e*S		Sn	16 41 55.0	+0.5
TWB1	**Santiao Chiao** baz=45	**0.58**	**45**	*e*P		Pn	16 41 46.6	+0.8
TWB1	baz=45			*e*S		Sn	16 41 55.2	+0.2
HWA	**Hwalien** baz=173	**0.61**	**174**	*e*P		Pn	16 41 47.0	+0.8
TWY	**Chenhua** baz=5.0	**0.68**	**5**	*e*P		Pn	16 41 47.5	+0.5
TWY	baz=5.0			*e*S		Sn	16 41 58.3	+1.1
NSY	**Sanyi** baz=255	**0.73**	**256**	*e*P		Pn	16 41 48.2	+0.7
NSY	baz=255			*e*S		Sn	16 41 59.3	+1.1
TWQ1	**Liyutan** baz=250	**0.74**	**251**	*e*P		Pn	16 41 48.2	+0.5
TWQ1	baz=250			*e*S		Sn	16 41 58.9	+0.6
ESL	**Shilin** baz=186	**0.78**	**187**	*e*P		Pn	16 41 46.7	-1.5
TCU	**Taichung** baz=240	**0.90**	**241**	*e*P		Pn	16 41 50.2	+0.5
SMLT	**Sun Moon Lake** baz=219	**0.92**	**220**	*e*P		Pn	16 41 51.4	+1.3
TYC	**Yuchr** baz=221	**0.92**	**222**	*e*P		Pn	16 41 50.5	+0.5
EHY	**Hungye** baz=190	**1.10**	**190**	*e*P		Pn	16 41 52.1	-0.3
TWF1	**Yuli** baz=189	**1.25**	**190**	*e*P		Pn	16 41 54.4	0.0
CHN5	**Tsauling** baz=218	**1.26**	**219**	*e*P		Pn	16 41 55.0	+0.4
ALS	**Alishan** baz=211	**1.27**	**212**	*e*P		Pn	16 41 55.6	+0.6
ALS	baz=211			*e*S		Sn	16 42 13.1	+1.8
WGK	**Gukeng** baz=224	**1.27**	**225**	*e*P		Pn	16 41 55.1	+0.5
WGK	baz=224			*e*S		Sn	16 42 11.8	+1.2
ELDTW	**Lidau** baz=198	**1.48**	**199**	*e*P		Pn	16 41 57.6	+0.1
CHKT	**Chengkung** baz=185	**1.49**	**186**	*e*P		Pn	16 41 56.1	-1.5
WSF	**Szhu** baz=231	**1.53**	**232**	*e*P		Pn	16 41 59.5	+1.4
STYT	**Tauyuan** baz=206	**1.59**	**207**	*e*P		Pn	16 42 00.3	+1.3
TWK	**Hsinying** baz=215	**1.63**	**216**	*e*P		Pn	16 42 01.2	+1.7
CHN1	**Nanshi** baz=213	**1.68**	**214**	*e*P		Pn	16 42 01.7	+1.5
TWG	**Pinlang** baz=193	**1.81**	**194**	*e*P		Pn	16 42 03.7	+1.7
SSD	**Sandimen** baz=204	**2.02**	**204**	*e*P		Pn	16 42 07.5	+2.8
PNG	**Penghu** baz=240	**2.08**	**241**	*e*P		Pn	16 42 03.5	-2.0

*ISCJB **26** 16:43:03.3±0.4,59°60N±0°04×22°17E±0°04, h0km, Error ellipse: s-maj=5.1km s-min=3.0km az=175.7*
*HEL **26** 16:43:04.8±0.1,59°58N×22°20E, h0km, ML2.0, ML2.3(UPP), Explosion*
*CSEM **26** 16:43:04.4±0.2,59°60N×22°17E, h2km, ML2.0, Error ellipse: s-maj=5.7km s-min=3.5km az=168.0, Mining explosion.*
*NAO **26** 16:43:05.0±1.4,59°60N×22°17E, ML2.6*
*BER **26** 16:43:06.9±4.0,59°63N×22°05E, h0km, ML2.6(NAO), Suspected explosion*
*IDC **26** 16:43:07.1±1.9,59°89N×22°08E, h0km, mb1 3.0/4, mb1mx2.9/54, mbtmp3.0/4, ML3.0/3, Error ellipse: s-maj=27.7km s-min=7.2km az=163.0*
*UPP **26** 16:43:08.6,59°70N×21°61E, h0km, ML2.3, Suspected Mining explosion.*

ISC 26 16:43:03.5±0.8, 59°60N±0°04×22°13E±0°02, h0km, n59, σ1§42/91, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SRPE	**Suurupi**	**1.15**	**96**	*e*P		**Pg**	**16 43 24.8**	**-0.7**
SRPE				*e*S		**Sg**	**16 43 38.9**	**-1.6**
SRPE	**Suurupi**	**1.15**	**96**	P		**Pg**	**16 43 24.8**	**-0.7**
AAL	**Aland**	**1.22**	**299**	*e*P		**Pg**	**16 43 27.6**	**+0.6**
AAL				*e*S		**Sb**	**16 43 43.9**	**+0.1**
AAL	**Aland**	**1.22**	**299**	P		**Pg**	**16 43 27.5**	**+0.6**
AAL				S		**Sb**	**16 43 43.8**	**+0.1**
MEF	**Metsahovi**	**1.30**	**61**	*e*P		**Pg**	**16 43 27.6**	**-0.8**
MEF				*e*S		**Sg**	**16 43 43.5**	**-1.7**
MEF	comp=Z,12nm,0.1s			MSG			16 43 50.5	
MEF	**Metsahovi**	**1.30**	**61**	P		**Pg**	**16 43 27.5**	**-0.8**
MEF				S		**Sg**	**16 43 43.4**	**-1.7**
RAF	**Rauma**	**1.44**	**353**	*e*P		**Pn**	**16 43 30.6**	**-0.2**
RAF				*e*S		**Sg**	**16 43 49.4**	**-0.3**
RAF	comp=Z,13nm,0.1s			MSG			16 43 54.4	
RAF	**Rauma**	**1.44**	**353**	P		**Pn**	**16 43 30.6**	**-0.2**
RAF				S		**Sg**	**16 43 49.4**	**-0.3**
NRTU	**Norrtaelje**	**1.78**	**274**	*e*P		**Pn**	**16 43 36.6**	**+1.2**
NRTU				*e*S		**Sn**	**16 43 58.6**	**-0.1**
NRTU	**Norrtaelje**	**1.78**	**274**	P		**Pn**	**16 43 36.6**	**+1.2**
NRTU				S		**Sn**	**16 43 58.6**	**-0.1**
NRTU	**Norrtaelje**	**1.78**	**274**	P		**Pn**	**16 43 36.6**	**+1.2**
NRTU				S		**Sn**	**16 43 58.6**	**-0.1**
GRAU	**Graesoe**	**1.95**	**294**	*e*P		**Pn**	**16 43 38.9**	**+1.1**
GRAU	**Graesoe**	**1.95**	**294**	P		**Pn**	**16 43 38.9**	**+1.1**
GRAU	**Graesoe**	**1.95**	**294**	P		**Pn**	**16 43 38.9**	**+1.1**
PVF	**Pernaja**	**2.10**	**62**	*e*P		**Pn**	**16 43 41.0**	**+1.2**
PVF				*e*S		**Sn**	**16 44 07.3**	**+0.8**
PVF	comp=Z,15nm,0.1s			MSG			16 44 11.0	

PVF	**Pernaja**	**2.10**	**62**	P		**Pn**	**16 43 41.0**	**+1.2**
PVF				S		**Sn**	**16 44 07.3**	**+0.8**
FORU	**Forsmark**	**2.14**	**293**	*eP*		**Pb**	**16 43 42.4**	**-0.6**
FORU	**Forsmark**	**2.14**	**293**	P		**Pb**	**16 43 42.3**	**-0.6**
FORU	**Forsmark**	**2.14**	**293**	P		**Pb**	**16 43 42.4**	**-0.6**
NYNU	**Nynaeshamn**	**2.20**	**256**	*eP*		**Pn**	**16 43 43.2**	**+2.0**
NYNU	**Nynaeshamn**	**2.20**	**256**	P		**Pn**	**16 43 43.2**	**+2.0**
NYNU	**Nynaeshamn**	**2.20**	**256**	P		**Pn**	**16 43 43.2**	**+2.0**
FLYU	**Flymyra**	**2.21**	**286**	*eP*		**Pn**	**16 43 42.6**	**+1.3**
FLYU	**Flymyra**	**2.21**	**286**	P		**Pn**	**16 43 42.6**	**+1.3**
FLYU	**Flymyra**	**2.21**	**286**	P		**Pn**	**16 43 42.6**	**+1.3**
VSU	**Vasula**	**2.64**	**114**	Pn		**Pn**	**16 43 48.3**	**+1.1**
VSU				S		**Sn**	**16 44 22.2**	**+2.3**
VSU	**Vasula**	**2.64**	**114**	Pn		**Pn**	**16 43 48.3**	**+1.1**
VSU				Sn		**Sn**	**16 44 22.2**	**+2.3**
VSU	**Vasula** SNR=50	**2.64**	**114**	Pn		**Pn**	**16 43 48.3**	**+1.1**
VSU	SNR=50			Sn		**Sn**	**16 44 22.2**	**+2.3**
FIA0	**FINESS Array S** baz=222,slow=16	**2.69**	**45**	Pn		**Pn**	**16 43 49.6**	**+1.7**
FIA0	baz=223,slow=22			Sn		**Sn**	**16 44 24.4**	**+3.2**
FIA0	**FINESS Array S** baz=222,slow=16	**2.69**	**45**	Pn		**Pn**	**16 43 49.6**	**+1.7**
FIA0	baz=223,slow=22			Sn		**Sn**	**16 44 24.4**	**+3.2**
FIA0	**FINESS Array S**	**2.69**	**45**	*eP*		**Pn**	**16 43 49.2**	**+1.2**
FIA0				*eS*		**Sn**	**16 44 21.6**	**+0.5**
FIA0	**FINESS Array S**	**2.69**	**45**	P		**Pn**	**16 43 49.1**	**+1.2**
FIA0	**FINESS Array S** baz=222,slow=14,SNR=50	**2.69**	**45**	Pn		**Pn**	**16 43 49.7**	**+1.7**
FIA0				S		**Sn**	**16 44 21.6**	**+0.5**
FIA0	baz=223,slow=22,SNR=50			Sn		**Sn**	**16 44 24.4**	**+3.2**
FINES	**FINESS Array B** comp=Z,3.4nm,0.3s,baz=229,slow=13,SNR=63	**2.69**	**45**	Pn		**Pn**	**16 43 49.7**	**+1.8**
FINES				Lg		Lg	16 44 24.1	
VJF	**Virojoki**	**2.88**	**69**	*eP*		**Pn**	**16 43 51.3**	**+0.7**
VJF	comp=Z,4.4nm,0.3s,baz=232,slow=22,SNR=5.9			*eS*		**Sn**	**16 44 25.8**	**0.0**
VJF	**Virojoki**	**2.88**	**69**	P		**Pn**	**16 43 51.2**	**+0.7**
VJF				S		**Sn**	**16 44 25.7**	**0.0**
KEF	**Keuruu**	**2.90**	**26**	*eP*		**Pn**	**16 43 53.1**	**+2.2**
KEF				*eS*		**Sn**	**16 44 27.1**	**+0.6**
KEF	**Keuruu**	**2.90**	**26**	P		**Pn**	**16 43 53.0**	**+2.2**
KEF				S		**Sn**	**16 44 27.0**	**+0.6**
VAF	**Ylistaro**	**3.46**	**4**	*eP*		**Pn**	**16 44 01.0**	**+2.4**
VAF				*eS*		**Sn**	**16 44 41.2**	**+0.9**
VAF	**Ylistaro**	**3.46**	**4**	P		**Pn**	**16 44 00.9**	**+2.4**
VAF				S		**Sn**	**16 44 41.1**	**+0.9**
SUF	**Sumiainen**	**3.69**	**30**	*eP*		**Pn**	**16 44 03.8**	**+2.2**
SUF				*eS*		**Sn**	**16 44 45.7**	**0.0**
SUF	**Sumiainen**	**3.69**	**30**	P		**Pn**	**16 44 03.8**	**+2.2**
SUF				S		**Sn**	**16 44 45.7**	**0.0**
HFS	**Hagfors** baz=100,slow=12	**4.29**	**281**	Pn		**Pn**	**16 44 11.3**	**+1.5**
HFS	baz=88,slow=37			Sn		**Sn**	**16 45 01.5**	**+0.9**
HFS	baz=90,slow=37			Lg		Lg	16 45 17.3	
HFS	**Hagfors** baz=100,slow=12	**4.29**	**281**	Pn		**Pn**	**16 44 11.3**	**+1.5**
HFS	baz=88,slow=37			Sn		**Sn**	**16 45 01.5**	**+0.9**
HFS	baz=90,slow=37			Lg		Lg	16 45 17.3	
HFS	**Hagfors** comp=Z,0.2nm,0.3s,baz=92,slow=12,SNR=6.9	**4.29**	**281**	Pn		**Pn**	**16 44 12.0**	**+2.1**
HFS	comp=Z,3.7nm,0.3s,baz=91,slow=29,SNR=13			Lg		Lg	16 45 16.5	
HFS	**Hagfors** baz=100,slow=12,SNR=50	**4.29**	**281**	Pn		**Pn**	**16 44 11.4**	**+1.5**
HFS	baz=88,slow=29,SNR=50			Sn		**Sn**	**16 45 01.5**	**+0.9**
HFS	SNR=50			Lg		Lg	16 45 17.3	
NB2	**NORSAR Subarra** baz=98,slow=14	**5.61**	**290**	Pn		**Pn**	**16 44 26.8**	**-1.4**
NB2	**NORSAR Subarra** baz=98,slow=14	**5.61**	**290**	Pn		**Pn**	**16 44 26.8**	**-1.4**
NOA	**NORSAR Array B** comp=Z,0.4nm,0.3s,baz=81,slow=14,SNR=7.7	**5.61**	**290**	Pn		**Pn**	**16 44 29.0**	**+0.8**
NOA	comp=Z,1.2nm,0.3s,baz=45,slow=20,SNR=5.0			Lg		Lg	16 45 57.5	
BSD	**Bornholm Skovb**	**5.95**	**224**	*i* P		**Pn**	**16 44 32.1**	**-0.7**
BSD				*i* S		**Sn**	**16 45 38.7**	**-2.9**
BSD	**Bornholm Skovb** SNR=113	**5.95**	**224**	*i* P		**Pn**	**16 44 32.1**	**-0.7**
APA0	**Apatity Array** baz=221,slow=12	**9.36**	**26**	Pn		**Pn**	**16 45 19.2**	**-0.2**
APA0	**Apatity Array** baz=221,slow=12	**9.36**	**26**	Pn		**Pn**	**16 45 19.2**	**-0.2**
APA0	**Apatity Array** baz=221,slow=12,SNR=50	**9.36**	**26**	Pn		**Pn**	**16 45 19.2**	**-0.2**
ARA0	**ARCESS Array S** baz=186,slow=14	**10.08**	**7**	Pn		**Pn**	**16 45 28.2**	**-1.1**
ARA0	**ARCESS Array S** baz=186,slow=14	**10.08**	**7**	Pn		**Pn**	**16 45 28.2**	**-1.1**
ARA0	**ARCESS Array S** baz=186,slow=14,SNR=50	**10.08**	**7**	Pn		**Pn**	**16 45 28.2**	**-1.1**
ARCES	**ARCESS Array B** comp=Z,0.3nm,0.3s,baz=186,slow=14,SNR=18	**10.08**	**7**	Pn		**Pn**	**16 45 27.8**	**-1.5**
MORC	**Moravsky Berou**	**10.19**	**197**	*eSg*		**Sn**	**16 47 26.6**	**+0.7**

IDC 26 16:43:29.1±1.9, 59.99N×22.04E, h0km, mb1 3.2/4, mb1mx3.0/54, mbtmp3.1/4, ML3.0/4, Error ellipse: s-maj=29.2km s-min=7.0km az=163.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B** 4.5nm,0.3s,baz=225,slow=18,SNR=19	**2.46**	**52**	Pn	Pn	16 44 11.8	+1.4
FINES	6.6nm,0.3s,baz=238,slow=26,SNR=7.4			Lg	Lg	16 44 45.8	
HFS	**Hagfors** 0.4nm,0.3s,baz=91,slow=12,SNR=5.5	**4.19**	**276**	Pn	Pn	16 44 34.2	+0.1
HFS	5.0nm,0.3s,baz=92,slow=30,SNR=8.8			Lg	Lg	16 45 39.4	
NOA	**NORSAR Array B** 0.7nm,0.3s,baz=82,slow=14,SNR=7.2	**5.45**	**286**	Pn		16 44 49.0	-2.6
NOA	1.4nm,0.3s,baz=302,slow=21,SNR=4.5			Lg	Lg	16 46 20.9	
ARCES	**ARCESS Array B** 0.4nm,0.3s,baz=188,slow=14,SNR=10.0	**9.70**	**7**	Pn	Pn	16 45 47.5	-2.2

PGC 26 16:48:34.7±0.0, 66.08N×135.21W, h15km, ML3.5/3, 155km Ssw of Fort McPherson, Nt Northern Yukon Territory, Canada, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**2.33**	**16**	Pn	Pn	16 49 12.2	-0.2
INK				Sn	Sn	16 49 39.7	-1.1
INK				Sg	Sg	16 49 47.8	-1.8
DAWY	**Dawson**	**2.69**	**223**	Pn	Pn	16 49 16.4	-1.0
DAWY				Pg	Pb	16 49 23.1	+0.6
DAWY				Sn	Sn	16 49 48.2	-1.5
DAWY				Sg	Sb	16 49 55.8	+0.4
HYT	**Haines Junctio**	**5.37**	**192**	Pn	Pn	16 49 53.1	-1.3
HYT				Sg	Sb	16 51 17.2	+4.5
WHY	**Whitehorse**	**5.44**	**178**	Pn	Pn	16 49 54.1	-1.2
WHY				Sg	Sb	16 51 20.9	+6.2
PLBC	**Pleasant Camp**	**6.67**	**185**	Pn	Pn	16 50 12.2	+0.2
PLBC				Sg	Sb	16 51 57.8	+8.2
DLBC	**Dease Lake**	**8.04**	**160**	Pn	Pn	16 50 30.6	-0.3
DLBC				Sg	Sb	16 52 41.3	+12
YKW3	**Yellowknife Ar**	**9.59**	**102**	Pn	Pn	16 50 49.6	-2.3
YKW3				Sn	Sn	16 52 30.6	-8.6

IDC 26 16:59:24.6±7.1, 19.04S×176.83W, h0km, mb3.8/2, Error ellipse: s-maj=274.5km s-min=114.7km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=97,slow=7.7,SNR=27	**45.92**	**260**	P	P	17 07 49.5	0.0
ASAR	**Alice Springs** 0.7nm,0.5s,baz=90,slow=8.4,SNR=39	**45.95**	**255**	P	P	17 07 49.5	-0.2
AKASG	**Malin Array Be**	**142.25**	**333**	PKP	PKPdf	17 18 58.0	-0.9

0.8nm,0.4s,baz=43,slow=3.9,SNR=6.6

BJI **26** *17:08:43.9,4.31S×141.79E, h35km, mb5.6/86, mB5.7/54, Ms5.2/82, Ms7 5.0/78*

MOS **26** *17:08:48.8±0.9, 3.84S×141.29E, h39km, mb5.8/52, MS4.9/27, Error ellipse: s-maj=9.6km s-min=4.7km az=102.8*

GCMT **26** *17:08:49.8±0.1, 3.82S×141.44E, h54km±1km, MW6.6/118, Moment Tensor Solution. s101,c168; s118,c259; Duration: 1!6 Moment tensor: Scale 10^17Nm; Mrr=0.55±.04; Mθθ-1.99±.04; Mφφ2.54±.04; Mrθ-2.14±.05; Mθφ1.70±.04; Mφr0.02±.04; Best double couple: M○3.54400×10^17 NP1:φs60.00000°,δ77.00000°, λ-33.00000°. NP2:φs159.00000°,δ58.00000°, λ-164.00000°. Principal axes: T 3.2490, Plg12.0000°, Azm113.0000°; N 0.5930, Plg55.0000°, Azm221.0000°; P -3.8400, Plg32.0000°, Azm15.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISCJB **26** *17:08:49.8±0.4, 3.89S±0.02×141.42E±0.02, h48km±3km, mb5.6/160, MS5.0/52 Error ellipse: s-maj=3.9km s-min=3.1km az=157.0*

NEIC **26** *17:08:49.9±0.1, 3.83S×141.40E, h35km, mb5.6/94, MW5.5, Error ellipse: s-maj=4.7km s-min=3.9km az=78.0, Moment Tensor Solution. s29 Moment tensor: Scale 10^17Nm; Mrr-0.71; Mθθ-1.00; Mφφ1.71; Mrθ-1.17; Mθφ0.94; Mφr-0.16; Best double couple: M○2.10000×10^17 NP1: φs56.00000°,δ73.00000°,λ-37.00000°. NP2:φs159.00000°, δ55.00000°,λ-159.00000°. Principal axes: T 2.1000, Plg11.0000°, Azm111.0000°; N 0.0300, Plg49.0000°, Azm214.0000°; P -2.1300, Plg37.0000°, Azm11.0000°;*

NEIC Felt [III] at Jayapura, Indonesia.

IDC **26** *17:08:51.4±1.0, 3.84S×141.37E, h46km±8km, mb5.1/24, mb1 5.2/29, mb1mx5.2/30, mbtmp5.4/29, ML4.7/5, MS4.9/33, Ms1 4.9/33, ms1mx4.9/38 Error ellipse: s-maj=15.0km s-min=6.9km az=70.0*

DJA **26** *17:08:54.1±0.3, 4.3S±3.3×14.1E±., h59km±3km, M5.5/82, mb5.5/82, mB5.9/55, MLv6.0/7, Mw(mB)5.5/55, Mwp5.8/6*

ISC 26 17:08:50.8±0.3, 3.86S±0.03×141.41E±0.04, h44km±1km, h44km:pP-P,n609,σ1§61/725, mb5.6/170, MS5.1/52, 37C-46D, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.51**	**332**	P	**Pn**	**17 09 15.8**	**+0.3**
JAY	**Jayapura** 1μm,0.3s,baz=174,slow=7.8,SNR=1342	**1.51**	**332**	P	**Pn**	**17 09 14.7**	**-0.8**
JAY	2μm,0.3s,baz=107,slow=19,SNR=18			S	**Sn**	**17 09 33.3**	**-0.7**
JAY	comp=Z,65μm,21.1s,baz=120,slow=45			LR	LR	17 09 57.3	
JAY	**Jayapura** baz=1.5,SNR=171	**1.51**	**332**	⇑P	**Pn**	**17 09 15.3**	**-0.2**
GENI	**Genyem**	**1.77**	**315**	P	**Pn**	**17 09 20.3**	**+1.3**
GENI				S	**Sn**	**17 09 41.2**	**+0.9**
SMPI	**Sarmi**	**3.27**	**305**	P	**Pn**	**17 09 42.6**	**+2.9**
BAKI	**Biak** 1μm,0.9s,17μm8.3nm	**5.92**	**296**	P	**Pn**	**17 10 19.0**	**+2.9**
MANU	**Manus Island** baz=6.4,SNR=37	**6.22**	**73**	⇑P	Pn	17 10 24.4	+4.2
RKPI	**Ransiki, Papua** 722nm,1.1s,28μm5.2nm	**7.59**	**288**	P	Pn	17 10 42.9	+3.9
PMG	**Port Moresby** 84nm,0.3s,baz=326,slow=7.0,SNR=221	**7.93**	**134**	P	**Pn**	**17 10 45.9**	**+2.3**
PMG	30nm,0.3s,baz=288,slow=18,SNR=4.1			S	**Sn**	**17 12 14.6**	**+2.5**
PMG	comp=Z,16μm,18.4s,baz=289,slow=48			LR	LR	17 15 15.4	
PMG	**Port Moresby**	**7.93**	**134**	P	**Pn**	**17 10 45.9**	**+2.3**
PMG				S	**Sn**	**17 12 14.6**	**+2.5**
PMG	comp=Z,85nm,0.3s			pmax	pmax		
PMG	comp=N,30nm,0.3s			smax	smax		
PMG	comp=Z,16μm,18.4s			MLR	MLR		
PMG	**Port Moresby** baz=8.0,SNR=316	**7.93**	**134**	⇑P	**Pn**	**17 10 46.1**	**+2.4**
PMG	baz=8.0,SNR=316			⇑P	**Pn**	**17 10 46.1**	**+2.4**
PMG	baz=8.0,SNR=316			⇑P	**Pn**	**17 10 46.1**	**+2.4**
PMG	**Port Moresby** comp=Z,937nm,0.7s	**7.93**	**134**	*eP*	**Pn**	**17 10 45.8**	**+2.1**
PMG				S	**Sn**	**17 12 14.6**	**+2.5**
FAKI	**Fak Fak** comp=Z,407nm,0.9s,comp=Z,6μmcomp=Z,36μm	**9.19**	**276**	P	**Pn**	**17 11 03.4**	**+2.5**
FAKI	**Fak Fak** 0.9nm,0.3s,baz=68	**9.19**	**276**	⇑P	**Pn**	**17 11 00.7**	**-0.2**
FAKI	**Fak Fak** comp=Z,266nm,0.8s	**9.19**	**276**	*eP*	**Pn**	**17 11 02.2**	**+1.3**
COEN	**Coen** baz=10,SNR=84	**10.18**	**170**	⇑P	**Pn**	**17 11 17.1**	**+2.6**
COEN	**Coen** comp=Z,192nm,0.7s	**10.18**	**170**	*eP*	**Pn**	**17 11 17.4**	**+2.9**
SIJI	**Sorong** comp=Z,9.4nm,0.3s,baz=79,slow=10,SNR=62	**10.56**	**286**	P	**Pn**	**17 11 20.0**	**+0.3**
SIJI	comp=Z,9μm,21.1s,baz=106,slow=43			LR	LR	17 16 25.9	
SWI	**Sorong** comp=Z,408nm,1.1s,comp=Z,4μm	**10.57**	**286**	P	**Pn**	**17 11 21.0**	**+1.2**
SWI	**Sorong** baz=10,SNR=50	**10.57**	**286**	P	**Pn**	**17 11 20.6**	**+0.9**
SAUI	**Saumlaki** comp=Z,2μm,0.7s,comp=Z,28μm	**10.85**	**247**	P	Pn	17 11 28.7	+5.0
KDU	**Kakadu** baz=12,SNR=305	**12.45**	**225**	⇑P	**Pn**	**17 11 43.8**	**-1.6**
PALU	**Palau** baz=13,SNR=6.7	**13.11**	**328**	⇑P	**Pn**	**17 11 57.0**	**+2.5**
AAI	**Ambon** comp=Z,237nm,0.9s,comp=Z,3μm	**13.19**	**270**	P	**Pn**	**17 11 56.7**	**+1.1**
MTN	**Manton Dam** baz=13,SNR=152	**13.52**	**228**	P	**Pn**	**17 11 57.9**	**-2.2**
LBMI	**Labuha** comp=Z,297nm,1.2s,comp=Z,5μmcomp=Z,18μm	**14.26**	**283**	P	**Pn**	**17 12 11.5**	**+1.3**
NLAI	**Namlea** comp=Z,173nm,0.9s,comp=Z,2μm	**14.29**	**272**	P	**Pn**	**17 12 11.8**	**+1.1**
MTSU	**Mount Surprise** baz=15,SNR=81	**14.47**	**169**	P	**P**	**17 12 16.3**	**-2.6**
TNTI	**Ternate** comp=Z,425nm,1.4s,comp=Z,11μmcomp=Z,20μm	**14.77**	**288**	P	**Pn**	**17 12 18.8**	**+1.8**
TNTI	**Ternate** comp=Z,552nm,1.3s	**14.77**	**288**	*eP*	**Pn**	**17 12 18.1**	**+1.1**
SANI	**Sanana** comp=Z,202nm,1.3s,comp=Z,3μmcomp=Z,15μm	**15.50**	**276**	P	**Pn**	**17 12 25.2**	**-1.4**
QIS	**Mount Isa** baz=17,SNR=34	**16.69**	**186**	⇑P	**Pn**	**17 12 40.4**	**-1.2**
CTA	**Charters Tower** comp=Z,2.3nm,0.3s,baz=339,slow=14,SNR=21	**16.80**	**164**	P	**P**	**17 12 44.2**	**-0.5**
CTA	comp=Z,6μm,21.8s,baz=348,slow=36			LR	LR	17 19 04.5	
CTA	**Charters Tower**	**16.80**	**164**	P	**P**	**17 12 44.3**	**-0.5**
CTA	comp=Z,2.0nm,0.3s			pmax	pmax		
CTA	comp=Z,6μm,21.8s			MLR	MLR		
CTA	**Charters Tower** baz=17	**16.80**	**164**	⇓P	**P**	**17 12 45.6**	**+0.8**
CTAO	**Charters Tower** comp=Z,251nm,1.3s	**16.80**	**164**	*eP*	**P**	**17 12 45.0**	**+0.2**
CTAO	**Charters Tower** comp=Z,251nm,1.3s	**16.80**	**164**	*eP*	**P**	**17 12 45.0**	**+0.2**
KNRA	**Kununurra** baz=17,SNR=555	**17.11**	**226**	⇓P	**Pn**	**17 12 44.9**	**-1.9**
WRAB	**Tennant Creek** comp=Z,232nm,0.7s	**17.39**	**203**	*eP*	**Pn**	**17 12 48.3**	**-2.1**
WRAB	**Tennant Creek** comp=Z,232nm,0.7s	**17.39**	**203**	*eP*	**P**	**17 12 48.3**	**-2.1**
WRA	**Warramunga Arr** comp=Z,3.8nm,0.3s,baz=21,slow=14,SNR=102	**17.41**	**203**	P	**Pn**	**17 12 49.2**	**-1.4**
WRA	comp=Z,6.9nm,0.3s,baz=22,slow=23,SNR=4.3			S	Sn	17 15 55.5	-8.0
WRA	comp=Z,12μm,19.1s,baz=30,slow=38			LR	LR	17 19 47.1	
WRA	**Warramunga Arr**	**17.41**	**203**	P	**Pn**	**17 12 49.2**	**-1.4**
WRA				S	Sn	17 15 55.5	-8.0
WRA	comp=Z,4.0nm,0.3s			pmax	pmax		
WRA	comp=N,7.0nm,0.3s			smax	smax		
WRA	comp=Z,12μm,19.1s			MLR	MLR		
GUMO	**Guam** comp=Z,5.1nm,0.3s,baz=340,slow=2.7,SNR=4.3	**17.68**	**11**	P	**P**	**17 12 54.9**	**+0.5**
GUMO	comp=Z,3μm,21.1s,baz=193,slow=35			LR	LR	17 19 14.0	
GUMO	**Guam** comp=Z,5.0nm,0.3s	**17.68**	**11**	P	**P**	**17 12 54.9**	**+0.5**
GUMO	comp=Z,3μm,21.1s			pmax	pmax		
GUMO	comp=Z,5.0nm,0.3s			MLR	MLR		
KMSI	**Cibinong** comp=Z,1μm,1.1s,comp=Z,12μmcomp=Z,15μm	**17.96**	**284**	P	**Pn**	**17 12 57.4**	**-0.1**
SOEI	**Soe** comp=Z,1μm,0.8s,comp=Z,12μm	**17.99**	**250**	P	**P**	**17 13 00.9**	**+2.8**
SOEI	**Soe** baz=18,SNR=55	**17.99**	**250**	⇓P	**P**	**17 12 58.3**	**+0.2**
SOEI	**Soe** comp=Z,1μm,0.9s	**17.99**	**250**	*eP*	**P**	**17 12 58.3**	**+0.2**
KDI	**Kendari** comp=Z,214nm,1.1s,comp=Z,3μm	**18.75**	**269**	P	**Pn**	**17 13 09.9**	**+2.9**
LUWI	**Luwuk** comp=Z,522nm,0.9s,comp=Z,7μm	**18.83**	**278**	P	**Pn**	**17 13 08.3**	**+0.3**
LUWI	**Luwuk** comp=Z,211nm,0.6s	**18.83**	**278**	*eP*	**P**	**17 13 07.5**	**+0.4**
HNR	**Honiara** comp=Z,32nm,0.3s,baz=217,slow=4.6,SNR=6.4	**19.22**	**108**	P	**Pn**	**17 13 16.9**	**+4.2**
HNR	**Honiara**	**19.22**	**108**	*eP*	**Pn**	**17 13 13.7**	**+1.0**
HNR	comp=Z,437nm,0.8s			pmax	pmax		
HNR	**Honiara**	**19.22**	**108**	*eP*	Pn	17 13 20.0	+7.3
HNR	**Honiara** comp=Z,437nm,0.8s	**19.22**	**108**	*eP*	**Pn**	**17 13 13.7**	**+1.0**
MMRI	**Maumere** comp=Z,397nm,0.9s,comp=Z,5μm	**19.63**	**255**	P	**Pn**	**17 13 19.6**	**+2.0**
MMRI	**Maumere** comp=Z,226nm,0.5s	**19.63**	**255**	*eP*	**P**	**17 13 16.4**	**+0.5**
MRSI	**Marisa** comp=Z,317nm,0.7s,comp=Z,4μm	**19.93**	**282**	P	**P**	**17 13 19.3**	**+0.1**
PATS	**Pohnpei** baz=20,SNR=14	**19.94**	**58**	⇓P	**Pn**	**17 13 21.1**	**-0.1**
APSI	**Ampana** comp=Z,961nm,0.9s,comp=Z,10μm	**19.96**	**278**	P	**Pn**	**17 13 21.1**	**-0.3**
CTBH	**Cotabato--PC H**	**20.36**	**303**	⇓*i*P	**P**	**17 13 24.0**	**+0.1**
FITZ	**Fitzroy Crossi** baz=21	**20.94**	**226**	⇓P	**P**	**17 13 29.7**	**-0.4**
FITZ	**Fitzroy Crossi** comp=Z,150nm,0.8s	**20.94**	**226**	*eP*	**P**	**17 13 30.3**	**+0.2**
BSSI	**Bau Bau, Buton** comp=Z,654nm,0.9s,comp=Z,8μm	**20.96**	**263**	P	Pn	17 13 33.8	+0.5
ASAR	**Alice Springs** comp=Z,33nm,0.5s,baz=28,slow=10,SNR=651	**20.98**	**200**	P	**P**	**17 13 30.9**	**+0.4**
ASAR	comp=Z,48nm,0.9s,baz=21,slow=21,SNR=5.8			S	**S**	**17 17 16.9**	**-5.1**
ASAR	comp=Z,9μm,18.2s,baz=9.5,slow=38			LR	LR	17 21 59.7	
ASAR	**Alice Springs**	**20.98**	**200**	P	**P**	**17 13 30.9**	**+0.4**
ASAR				S	**S**	**17 17 16.9**	**-5.1**
ASAR	comp=Z,33nm,0.5s			pmax	pmax		
ASAR	comp=N,48nm,0.9s			smax	smax		
ASAR	comp=Z,9μm,18.2s			MLR	MLR		
AS11	**Alice Springs** baz=21	**20.99**	**200**	⇑P	**P**	**17 13 30.3**	**-0.3**
TOLI	**Toli-Toli** comp=Z,430nm,0.6s	**21.19**	**283**	*eP*	**P**	**17 13 34.1**	**+1.3**
BKSI	**Bulukumba** comp=Z,626nm,0.7s,comp=Z,5μm	**21.27**	**265**	P	**P**	**17 13 36.3**	**+2.7**
TTSI	**Tana Toraja** comp=Z,302nm,2.0s,comp=Z,4μm	**21.57**	**271**	P	**P**	**17 13 40.1**	**+3.2**
SPSI	**Sidrap Palu** comp=Z,286nm,1.2s,comp=Z,3μm	**21.59**	**269**	P	**P**	**17 13 39.0**	**+1.9**
KAPI	**Kappang** comp=Z,51nm,0.8s,baz=113,slow=6.1,SNR=24	**21.62**	**266**	P	**P**	**17 13 38.4**	**+1.0**
KAPI	**Kappang** comp=Z,120nm,1.0s	**21.62**	**266**	*eP*	**P**	**17 13 39.4**	**+2.0**
WSI	**Waingapu** comp=Z,787nm,0.7s,comp=Z,12μm	**21.73**	**254**	P	**P**	**17 13 42.5**	**+3.8**
PCI	**Palu** comp=Z,530nm,1.8s,comp=Z,10μm	**21.75**	**277**	P	**P**	**17 13 42.3**	**+3.4**
MPSI	**Mapaga** comp=Z,139nm,1.8s,comp=Z,2μm	**21.90**	**281**	P	**P**	**17 13 42.7**	**+2.3**
QLP	**Quilpie** baz=23,SNR=40	**22.75**	**173**	⇓P	**P**	**17 13 48.9**	**-0.5**
EIDS	**Eidsvold** baz=23,SNR=62	**23.32**	**157**	⇓P	**P**	**17 13 56.1**	**+0.9**
EIDS	**Eidsvold** comp=Z,437nm,0.9s	**23.32**	**157**	*eP*	**P**	**17 13 55.9**	**+0.7**
RMQ	**Roma** baz=24,SNR=38	**23.57**	**163**	⇓P	**P**	**17 13 58.0**	**+0.4**
PVCP	**Virac**	**24.38**	**316**	⇑*e*P	**P**	**17 14 05.1**	**0.0**
WRKA	**Warakurna** baz=24,SNR=162	**24.54**	**210**	P	**P**	**17 14 05.7**	**-0.9**
BKB	**Balikpapan**	**24.62**	**275**	P	P	17 14 19.0	+12
TSM	**Tawau**	**24.87**	**289**	⇑P	**P**	**17 14 11.3**	**+1.6**
KBKI	**Kotabaru** comp=Z,72nm,1.1s,comp=Z,2μm	**25.20**	**270**	P	**P**	**17 14 16.2**	**+3.6**
SDKM	**Sandakan**	**25.96**	**291**	⇑P	**P**	**17 14 24.0**	**+4.4**
IGBI	**Denpasar** comp=Z,171nm,0.7s,comp=Z,2μm	**26.55**	**258**	P	**P**	**17 14 28.3**	**+3.4**
KKM	**Kota Kinabalu**	**27.01**	**291**	⇑P	**P**	**17 14 31.6**	**+2.4**
KKM	**Kota Kinabalu** comp=Z,262nm,1.5s	**27.01**	**291**	*eP*	**P**	**17 14 25.1**	**-4.1**
TGY	**Tagaytay City** comp=Z,86nm,0.3s,baz=124,slow=3.0,SNR=8.7	**27.03**	**312**	P	**P**	**17 14 29.3**	**+0.1**
TGY	comp=Z,53nm,19.2s,baz=236,slow=38			LR	LR	17 25 49.7	
TGY	**Tagaytay City**	**27.03**	**312**	P	**P**	**17 14 29.3**	**+0.1**
TGY	comp=Z,86nm,0.3s			pmax	pmax		
TGY	comp=Z,53nm,19.2s			MLR	MLR		
MBWA	**Marble Bar** comp=Z,1μm,1.3s	**27.20**	**229**	*eP*	**P**	**17 14 30.2**	**-0.4**
KMMI	**Kalianget**	**27.50**	**262**	P	P	17 14 41.8	+8.4
CMSA	**Cobar Meteorol** baz=28,SNR=14	**27.82**	**172**	⇓P	**P**	**17 14 36.2**	**+0.1**
STKA	**Stephens Creek** comp=Z,8.1nm,0.7s,baz=354,slow=10,SNR=15	**27.87**	**180**	P	**P**	**17 14 36.4**	**-0.1**
STKA	comp=Z,5μm,19.2s,baz=356,slow=40			LR	LR	17 27 32.3	
STKA	**Stephens Creek**	**27.87**	**180**	P	**P**	**17 14 36.4**	**-0.1**
STKA	comp=Z,8.0nm,0.7s			pmax	pmax		
STKA	comp=Z,5μm,19.2s			MLR	MLR		
STKA	**Stephens Creek** baz=28,SNR=14	**27.87**	**180**	⇓P	**P**	**17 14 35.7**	**-0.7**
STKA	**Stephens Creek** comp=Z,13nm,1.5s	**27.87**	**180**	*eP*	**P**	**17 14 35.6**	**-0.9**
ARMA	**Armidale** baz=28,SNR=5.6	**28.12**	**161**	⇓P	**P**	**17 14 41.4**	**+2.4**
ARMA	**Armidale** comp=Z,40nm,1.0s	**28.12**	**161**	*eP*	**P**	**17 14 40.1**	**+1.2**
BBOO	**Buckleboo** baz=29,SNR=19	**29.23**	**189**	⇓P	**P**	**17 14 47.9**	**-0.7**
BBOO	**Buckleboo** comp=Z,50nm,0.8s	**29.23**	**189**	*eP*	**P**	**17 14 48.5**	**-0.2**
HTT	**Hallett** baz=30,SNR=8.8	**29.51**	**184**	⇓P	**P**	**17 14 50.2**	**-1.0**
FORT	**Forrest** baz=30,SNR=13	**29.59**	**204**	⇑P	**P**	**17 14 51.9**	**+0.1**
FORT	**Forrest** comp=Z,208nm,0.7s	**29.59**	**204**	*eP*	**P**	**17 14

CAN Canberra 32.08 168 ⇓P P 17 15 15.7 +1.8
baz=32
CAN Canberra 32.08 168 eP P 17 15 15.1 +1.3
comp=Z,65nm,0.9s
CNB Canberra Magne 32.15 168 ⇑P P 17 15 16.7 +2.3
baz=32,SNR=13
GIRL Giralia 32.26 232 ⇑P P 17 15 17.1 +1.6
baz=32,SNR=9.7
ARPS Mount Arapiles 32.75 179 P P 17 15 21.8 +2.2
baz=33,SNR=12
KMBL Kambalda 32.96 212 ⇑P P 17 15 21.0 -0.5
baz=33,SNR=9.4
JOW Kunigami 33.05 338 eP P 17 15 23.3 +1.0
comp=Z,95nm,1.3s
YULB Yu-li 33.45 325 eP P 17 15 24.6 -1.2
comp=Z,133nm,1.5s
CISI Cisompet, Garu 33.62 262 P P 17 15 26.6 -0.9
comp=Z,196nm,1.0s
CISI Cisompet, Garu 33.62 262 ⇓P P 17 15 25.6 -2.0
baz=34,SNR=8.8
CISI Cisompet, Garu 33.62 262 eP P 17 15 25.6 -2.0
comp=Z,135nm,0.8s
TPI Tanjungpandan 33.72 271 P P 17 15 35.6 +7.3
TOO Toolangi 33.76 174 ⇓P P 17 15 29.6 +1.2
baz=34,SNR=15
LEM Lembang 33.77 264 P P 17 15 29.6 +0.7
comp=Z,133nm,1.0s
MILA Mila 33.79 169 ⇑P P 17 15 31.1 +2.4
baz=34,SNR=15
NACB Ninganchiao 33.89 326 eP P 17 15 30.0 +0.3
comp=Z,578nm,1.6s
SSLB Suanglung 33.95 325 eP P 17 15 29.4 -0.9
comp=Z,26nm,0.8s
CNJI Cibinong 34.28 263 P P 17 15 35.9 +2.7
YHNB Yeheng 34.41 327 eP P 17 15 34.7 +0.5
comp=Z,63nm,0.6s
CBJI Citeko 34.51 264 P P 17 15 43.6 +8.4
MORW Morawa 34.76 221 ⇓P P 17 15 37.4 +0.2
baz=35,SNR=50
PPBI Pangkal Pinang 35.26 272 P P 17 15 51.2 +9.5
BLDU Ballidu 35.38 218 ⇓P P 17 15 42.6 +0.1
baz=35,SNR=26
CGJI Cibinong 35.66 264 P P 17 15 48.1 +2.9
comp=Z,67nm,1.3s
QZH Quanzhou 36.21 323⇓iP P 17 15 50.5 +0.9
QZH sP sP 17 16 06.5 -0.2
QZH S S 17 21 26.5 -0.5
QZH PMZ
comp=Z,610nm,1.3s
QZH LZ
comp=Z,11µm,33.9s
KLSI 36.58 267 P P 17 15 55.4 +2.4
comp=Z,87nm,0.8s
NWAO Narrogin (SRO) 36.70 215 ⇓P P 17 15 54.4 +0.6
baz=37
NWAO ⇓P P 17 15 54.4 +0.6
baz=37
JHJ2 Mitsune 36.80 358 eP P 17 15 59.9 +5.3
JHJ Hachijo jima 2 36.81 358 P P 17 15 56.2 +1.5
comp=Z,87nm,0.9s,baz=93,slow=22,SNR=4.0
JHJ LR LR 17 29 31.8
comp=Z,3µm,20.2s,baz=214,slow=34
KASI Kota Agung 36.82 266 P P 17 15 54.0 -1.0
comp=Z,188nm,0.9s
MDSI Maura Dua 37.13 268 P P 17 15 57.6 -0.1
comp=Z,84nm,0.8s,comp=Z,1µm
LWLI Liwa 37.25 267 P P 17 15 59.6 +0.8
comp=Z,148nm,0.9s,comp=Z,6µm
LHSI Lahat 37.80 269 P P 17 16 05.9 +2.6
RKGY Rocky Gully 38.08 214 ⇑P P 17 16 07.1 +1.7
baz=38,SNR=6.7
JNU Nakatsue 38.11 346 LR LR 17 29 36.7
comp=Z,981nm,21.4s,slow=33
JNU Nakatsue 38.11 346 eP P 17 16 05.8 +0.1
comp=Z,144nm,1.5s
GZH Guangzhou 38.31 316 eP P 17 16 09.0 +1.5
GZH PP PnPn 17 17 42.5 +4.7
GZH S S 17 22 00.3 +1.3
GZH SS SnSn 17 24 45.8 -1.3
GZH PMZ
comp=Z,150nm,1.7s
GZH LN
comp=Z,2µm,19.8s
GZH LE
comp=Z,2µm,21.6s
GZH LZ
comp=Z,3µm,22.1s
QIZ Qiongzhong 38.51 307 P P 17 16 08.8 -0.4
QIZ sP sP 17 16 22.3 -4.0
QIZ PP PnPn 17 17 39.5 -0.7
QIZ S S 17 22 00.0 -2.1
QIZ PMZ
comp=Z,30nm,1.7s
QIZ LN
comp=Z,1µm,26.6s
QIZ LZ
comp=Z,3µm,30.4s
QIZ Qiongzhong 38.51 307 eP P 17 16 09.4 +0.2
KSI Kapahiang 38.73 269 P P 17 16 21.4 +10
MASI Maura Aman, Be 39.10 270 P P 17 16 31.3 +17
KSJJU Jeju 39.67 340 P P 17 16 20.2 +1.5
SNR=7.6
KSJJU Jeju 39.67 340 P P 17 16 20.2 +1.5
SNR=7.6
SSE Sheshan 39.76 332 P P 17 16 21.0 +1.6
SSE sP sP 17 16 36.8 +0.2
SSE S S 17 22 24.3 +3.8
SSE sS sS 17 22 41.5 +1.0
SSE SS SnSn 17 25 23.8 +2.0
SSE PMZ
comp=Z,170nm,1.0s
SSE PMZ
comp=Z,500nm,5.5s
SSE LN
comp=Z,2µm,22.0s
SSE LE
comp=Z,980nm,22.0s
SSE LZ
comp=Z,3µm,21.5s
MJAR Matsushiro Arr 40.31 356 P P 17 16 22.6 -1.4
comp=Z,37nm,1.2s,baz=183,slow=8.4,SNR=35
MJAR ScP ScP 17 22 11.5 -1.4
comp=Z,3.9nm,1.1s,baz=170,slow=3.0,SNR=5.8
MJAR LR LR 17 31 37.9
comp=Z,725nm,20.9s,baz=175,slow=34
MJAR Matsushiro Arr 40.31 356 P P 17 16 22.6 -1.4
MJAR pmax pmax
comp=Z,37nm,1.2s
MJAR pmax pmax
comp=N,4.0nm,1.1s
MJAR MLR MLR
comp=Z,725nm,20.9s
MAJO Matsushiro 40.31 356dP P 17 16 22.9 -1.0
MAJO i *PP pP 17 16 43.5 +7.5
MAJO pmax pmax
comp=Z,686nm,1.7s
MAJO Matsushiro 40.31 356 eP P 17 16 23.0 -1.0
comp=Z,213nm,1.7s
MAT Matsushiro 40.31 356 P P 17 16 22.6 -1.4
MAT S S 17 22 24.2 -4.5
UBPT Khong Chiam 40.35 299 P P 17 16 24.8 +0.2
comp=Z,49nm,1.0s,comp=Z,1µm
KSTOY TONGYEONG 40.39 343 P P 17 16 26.1 +1.5
SNR=7.8
KSTOY TONGYEONG 40.39 343 P P 17 16 26.0 +1.4
SNR=13
KSWAN Wando 40.49 341 P P 17 16 27.1 +1.6
SNR=9.0
KSWAN Wando 40.49 341 P P 17 16 27.1 +1.6
SNR=9.0
KSNAH Namhae 40.51 343 P P 17 16 26.9 +1.3
SNR=6.0
KSNAH Namhae 40.51 343 P P 17 16 26.9 +1.3
SNR=6.0
BKNI Bangkinang 40.55 275 P P 17 16 28.2 +1.8
BKNI Bangkinang 40.55 275 P P 17 16 25.6 -0.7
comp=Z,48nm,0.4s
KSJDO Jindo 40.69 341 P P 17 16 28.2 +1.0
SNR=17
KSJDO Jindo 40.69 341 P P 17 16 28.2 +1.0
SNR=17
KSJIN Jinju 40.80 343 P P 17 16 29.8 +1.8
SNR=8.6
PPI Padang Panjang 41.12 274 P P 17 16 30.2 -0.8
comp=Z,138nm,0.8s,comp=Z,1µm
PPI Padang Panjang 41.12 274 P P 17 16 30.2 -0.8
baz=41,SNR=5.6

KSDAG Daegu 41.13 344 P P 17 16 32.3 +1.5
SNR=10
KSDAG Daegu 41.13 344 P P 17 16 31.8 +1.1
SNR=12
KSHUK Heuksando 41.18 340 P P 17 16 32.6 +1.5
SNR=6.6
KSHUK Heuksando 41.18 340 P P 17 16 32.6 +1.5
SNR=6.6
IPM Ipoh 41.19 281 eP P 17 16 31.3 -0.3
comp=Z,12nm,0.8s
KSPHA Pohang 41.41 345 P P 17 16 34.3 +1.3
SNR=12
KSPHA Pohang 41.41 345 P P 17 16 34.3 +1.3
SNR=12
NJ2 Nanjing 41.66 331 eP P 17 16 37.5 +2.4
NJ2 pP pP 17 16 44.0 -3.2
NJ2 sP sP 17 16 49.8 -2.6
NJ2 S S 17 22 50.0 +1.2
NJ2 sS sS 17 23 07.0 -1.9
NJ2 SS SS 17 25 59.0 +3.4
NJ2 PMZ
comp=Z,350nm,0.7s
NJ2 PMZ
comp=Z,3µm,5.5s
NJ2 LN
comp=Z,2µm,19.6s
NJ2 LE
comp=Z,6µm,22.1s
NJ2 LZ
comp=Z,8µm,22.1s
KSEUS ULSEONG 41.74 345 P P 17 16 37.0 +1.3
SNR=22
KSJEO Jeonju 41.74 343 P P 17 16 37.2 +1.4
SNR=8.6
KSCPR CHUPUNGNYEONG41.81 344 P P 17 16 37.5 +1.1
SNR=8.5
KSULJ Uljin 41.88 346 P P 17 16 38.1 +1.2
SNR=24
KSGUS GUNSAN 41.99 342 P P 17 16 38.8 +1.1
SNR=9.5
MNSI Mandailing Nat 42.06 275 P P 17 16 50.1 +11
KSBON Boeun 42.12 344 P P 17 16 40.5 +1.6
SNR=9.3
TJN Taejon 42.13 343diP P 17 16 39.3 +0.4
SKNT Sakolnakorn 42.37 300 P P 17 16 40.5 -0.7
comp=Z,105nm,0.8s,comp=Z,1µm
KSCHJ Chungju 42.42 344 P P 17 16 42.4 +1.1
SNR=16
KSCEA Cheonan 42.58 343 P P 17 16 43.5 +1.0
SNR=15
KSJES JEONGSEON 42.76 345 P P 17 16 45.9 +1.8
SNR=8.7
KSSES Seosan 42.78 342 P P 17 16 45.3 +1.1
SNR=69
WHN Wuhan 42.88 325 ⇓P P 17 16 47.0 +1.9
WHN S S 17 23 09.0 +2.1
WHN PMZ
comp=Z,340nm,1.3s
WHN LN
comp=Z,2µm,13.1s
WHN LE
comp=Z,2µm,15.4s
WHN LZ
comp=Z,4µm,21.2s
KSICN Icheon 42.97 344 P P 17 16 47.3 +1.6
SNR=11
KSICN Icheon 42.97 344 P P 17 16 47.3 +1.6
SNR=11
PSI Prapat 42.97 278 P P 17 16 45.1 -1.2
baz=43,SNR=6.5
KSAR Wonju Array Be 42.98 344 P P 17 16 46.9 +1.1
KSAR 17 18 36.7
KSAR Wonju Array Be 42.98 344 P P 17 16 46.9 +1.1
KSAR PcP PcP 17 18 36.6 +1.0
KSAR ScP ScP 17 22 24.7 +1.3
KSRS Korea Array 42.98 344 P P 17 16 46.9 +1.1
comp=Z,125nm,1.2s,baz=155,slow=7.7,SNR=98
KSRS PcP PcP 17 18 36.6 +1.0
comp=Z,18nm,1.1s,baz=156,slow=3.5,SNR=8.3
KSRS ScP ScP 17 22 24.7 +1.3
comp=Z,8.0nm,1.1s,baz=160,slow=4.6,SNR=12
KSRS LR LR 17 32 14.7
comp=Z,1µm,21.4s,baz=154,slow=33
KSRS Korea Array 42.98 344 P P 17 16 46.9 +1.1
KSRS 17 18 36.7
KSRS pmax pmax
comp=Z,125nm,1.2s
KSRS pmax pmax
comp=Z,18nm,1.1s
KSRS pmax pmax
comp=N,8.0nm,1.1s
KSRS MLR MLR
comp=Z,1µm,21.4s
KSDGY Daegwallycong 43.00 345 P P 17 16 47.6 +1.5
SNR=15
KSDGY Daegwallycong 43.00 345 P P 17 16 47.6 +1.5
SNR=15
KHON Khomkaen 43.10 299 P P 17 16 47.1 0.0
comp=Z,18nm,1.0s
OUZ Omahuta 43.13 140 eP P 17 16 49.3 +2.2
comp=Z,66nm,1.0s
KSJMJ Jumunjin 43.16 345 P P 17 16 49.4 +2.1
SNR=23
KSJMJ Jumunjin 43.16 345 P P 17 16 49.4 +2.1
SNR=23
INCN Inchon 43.37 343 eP P 17 16 50.5 +1.5
comp=Z,427nm,1.4s
KSSKC Sokcho 43.61 345 P P 17 16 53.1 +2.2
SNR=8.2
KSSKC Sokcho 43.61 345 P P 17 16 52.8 +2.0
SNR=14
KSGAH Ganghwa 43.63 343 P P 17 16 52.8 +1.7
SNR=10
KSGAH Ganghwa 43.63 343 P P 17 16 52.8 +1.7
SNR=10
KSDDC Dongducheon 43.63 343 P P 17 16 52.9 +1.8
SNR=10
KSDDC Dongducheon 43.63 343 P P 17 16 52.9 +1.8
SNR=10
NAYO Nakonayok 43.66 295 P P 17 16 52.6 +1.0
comp=Z,29nm,1.6s
KSCWO Cheorwon 43.68 344 P P 17 16 53.2 +1.8
SNR=32
KSCWO Cheorwon 43.68 344 P P 17 16 53.2 +1.8
SNR=32
KSMUS Musan 43.71 343 P P 17 16 53.1 +1.4
SNR=8.2
KSMUS Musan 43.71 343 P P 17 16 53.1 +1.4
SNR=8.2
YNCB YEONCHEON 43.80 343 P P 17 16 54.3 +1.9
SNR=25
YNCB YEONCHEON 43.80 343 P P 17 16 54.1 +1.7
SNR=16
GSI Gunungsitoli 44.11 276 P P 17 17 03.0 +7.7
GSI Gunungsitoli 44.11 276 eP P 17 16 52.9 -2.5
comp=Z,40nm,0.9s
KCSI Kotacane, Aceh 44.22 279 P P 17 17 05.0 +8.8
KSBAR Backryungdo 44.42 341 P P 17 16 59.6 +2.3
SNR=9.1
KSBAR Backryungdo 44.42 341 P P 17 16 59.2 +1.9
SNR=7.2
PBKT Sadao Pong 44.82 298 P P 17 17 01.2 +0.3
comp=Z,24nm,1.1s
GYA Guiyang 45.15 314⇑iP P 17 17 03.8 +0.3
GYA pP pP 17 17 15.0 -0.7
GYA PcP PcP 17 18 45.3 +1.8
GYA PP PP 17 18 52.8 +3.0
GYA ScP ScP 17 22 33.5 +0.7
GYA S S 17 23 41.3 +1.0
GYA sS sS 17 23 59.0 -1.6
GYA SS ScS 17 26 55.5 -1.9
GYA PMZ
comp=Z,30nm,1.0s
GYA PMZ
comp=Z,480nm,8.1s
GYA LN
comp=Z,1µm,26.0s
GYA LE
comp=Z,970nm,25.0s
GYA LZ
comp=Z,1µm,24.2s
ENH Enshi 45.65 320 eP P 17 17 06.5 -0.8
comp=Z,35nm,1.1s
UTTA Uttaradit 45.66 299 P P 17 17 07.4 -0.1
comp=Z,11nm,0.9s,comp=Z,76nm
ERM Erimo 45.69 2 eP P 17 17 08.2 +0.8
ERM pmax pmax

comp=Z,116nm,1.4s
ERM Erimo 45.69 2 eP P 17 17 08.2 +0.8
comp=Z,116nm,1.4s
UTHA Uthaitani 45.80 296 P P 17 17 08.6 -0.1
comp=Z,10nm,1.0s,comp=Z,91nm
TIA Tai'an 45.88 332 ⇓P P 17 17 09.0 0.0
TIA pP pP 17 17 21.0 -0.2
TIA sP sP 17 17 29.0 +2.6
TIA ScP ScP 17 22 37.3 +1.9
TIA S S 17 23 50.8 +0.4
TIA sS sS 17 24 13.0 +2.3
TIA SS SS 17 27 16.0 +0.3
TIA PMZ
comp=Z,110nm,1.5s
TIA PMZ
comp=Z,1µm,3.5s
TIA LN
comp=Z,2µm,21.0s
TIA LE
comp=Z,1µm,19.0s
TIA LZ
comp=Z,3µm,33.0s
RAO Raoul Island 46.07 128 LR LR 17 34 49.4
comp=Z,710nm,20.8s,baz=306,slow=34
UMPA Umpang Tak 46.55 297 P P 17 17 14.6 -0.1
comp=Z,12nm,1.0s,comp=Z,676nm
LAMP Lampang 46.77 300 P P 17 17 17.0 +0.7
comp=Z,13nm,0.8s,comp=Z,107nm
CRAI Chiangrai 46.86 302 P P 17 17 14.2 -2.8
comp=Z,16nm,1.5s,comp=Z,742nm
MSHR Mys Shultsa 47.15 350 iP P 17 17 20.1 +1.3
URZ Urewera 47.23 141 LR LR 17 37 16.3
comp=Z,2µm,18.8s,baz=323,slow=36
URZ Urewera 47.23 141 eP P 17 17 20.0 +0.4
comp=Z,37nm,0.8s
AFI Afiamalu 47.23 105 LR LR 17 35 26.1
comp=Z,1µm,21.5s,baz=270,slow=34
CM11 Chiang Mai Arr 47.30 299 ⇓P P 17 17 20.3 -0.2
baz=47
KMI Kunming 47.32 310 P P 17 17 22.3 +1.5
KMI pP pP 17 17 33.0 0.0
KMI sP sP 17 17 37.0 -1.1
KMI PP PP 17 19 13.0 +0.6
KMI S S 17 24 13.8 +2.0
KMI sS sS 17 24 30.5 -1.6
KMI SS SS 17 27 35.0 -4.9
KMI PMZ
comp=Z,25nm,1.2s
KMI PMZ
comp=Z,250nm,5.5s
KMI LN
comp=Z,640nm,16.5s
KMI LE
comp=Z,1µm,22.0s
KMI LZ
comp=Z,2µm,29.3s
CM31 Chiang Mai Arr 47.34 299 eP P 17 17 20.1 -0.7
comp=Z,20nm,0.8s
CMAR Chiang Mai Arr 47.34 299 P P 17 17 20.2 -0.6
comp=Z,22nm,0.9s,baz=119,slow=6.0,SNR=70
CMAR PcP PcP 17 18 52.8 +1.6
comp=Z,9.7nm,1.1s,baz=129,slow=3.3,SNR=4.2
CMAR Chiang Mai Arr 47.34 299 P P 17 17 20.2 -0.6
CMAR 17 18 52.8
CMAR pmax pmax
comp=Z,22nm,0.9s
CMAR pmax pmax
comp=Z,10.0nm,1.1s
CMMT Chiang Mai 47.48 300 P P 17 17 31.0 +9.1
CHTO Chiang Mai 47.49 300 P P 17 17 21.9 0.0
comp=Z,122nm,1.0s
CHTO Chiang Mai 47.49 300 eP P 17 17 21.2 -0.7
CHTO pmax pmax
comp=Z,17nm,0.8s
CHTO MLR MLR
comp=Z,726nm,20.0s
CHTO Chiang Mai 47.49 300 eP P 17 17 21.1 -0.7
comp=Z,17nm,0.8s
CHTO LR LR
comp=Z,726nm,20.0s
VLA Vladivostok 47.55 351diP P 17 17 22.7 +0.8
VLA pmax pmax
comp=Z,313nm,1.7s
RPZ Rata Peaks 47.56 151 P P 17 17 22.9 +0.8
RPZ LR LR 17 36 02.1
comp=Z,2µm,19.6s,baz=306,slow=34
RPZ Rata Peaks 47.56 151 P P 17 17 22.9 +0.8
comp=Z,50nm,1.1s
ASAJ Asahikawa 47.77 1 eP P 17 17 24.2 +0.6
comp=Z,87nm,1.5s
WHZ Wether Hill Ro 47.83 155 eP P 17 17 24.7 +0.6
comp=Z,61nm,1.0s
YUK Yuzh-Kuril'sk 47.85 4diP P 17 17 24.2 0.0
YUK i *SP sP 17 17 42.6 +1.0
YUK i 17 19 14.2
YUK i PPP PPP 17 20 06.4
YUK i S S 17 24 18.6 +0.5
YUK e 17 27 12.2
YUK i SS SS 17 27 42.5 -4.9
YUK i SSS SSS 17 29 02.4
YUK pmax pmax
comp=N,76nm,1.3s
YUK pmax pmax
comp=E,75nm,1.3s
YUK pmax pmax
comp=Z,138nm,1.3s
YUK pmax pmax
comp=Z,392nm,2.9s
YUK MLR MLR
comp=N,244nm,21.0s
YUK MLR MLR
comp=E,439nm,21.0s
YUK MLR MLR
comp=Z,569nm,21.0s
CMAI Chiengmai2 47.86 301 P P 17 17 25.2 +0.2
comp=Z,41nm,1.4s,comp=Z,5µm
KHZ Kahutara 47.88 148 eP P 17 17 22.8 -1.8
comp=Z,64nm,1.1s
MHMT Maesarieng 48.12 299 P P 17 17 27.2 +0.4
comp=Z,14nm,0.8s,comp=Z,363nm
SNY Shenyang 48.28 342 ⇓P P 17 17 28.3 +0.7
SNY S S 17 24 30.8 +6.4
SNY PMZ
comp=Z,130nm,1.1s
SNY PMZ
comp=Z,1µm,3.4s
SNY LN
comp=Z,1µm,19.2s
SNY LE
comp=Z,560nm,19.4s
SNY LZ
comp=Z,2µm,22.7s
XAN Xi'an 48.58 324 P P 17 17 30.0 -0.2
XAN pP pP 17 17 40.3 -2.1
XAN sP sP 17 17 45.3 -2.2
XAN PP PP 17 19 23.0 -0.4
XAN S S 17 24 26.8 -2.2
XAN sS sS 17 24 49.5 +0.1
XAN SS SS 17 28 00.5 +0.8
XAN PMZ
comp=Z,160nm,1.5s
XAN PMZ
comp=Z,440nm,4.4s
XAN LN
comp=Z,400nm,19.5s
XAN LE
comp=Z,900nm,21.9s
XAN LZ
comp=Z,1µm,22.6s
USRK Ussuriysk Ar. 48.59 351 P P 17 17 30.8 +0.8
comp=Z,114nm,1.2s,baz=164,slow=7.5,SNR=106
USRK LR LR 17 34 44.5
comp=Z,1µm,21.9s,baz=155,slow=32
KUR Kuril'sk 49.22 6diP P 17 17 35.2 +0.5
KUR i S S 17 24 37.1 -0.3
KUR i SS SS 17 28 03.4 -6.1
KUR pmax pmax
comp=N,109nm,1.3s
KUR pmax pmax
comp=E,33nm,1.3s
KUR pmax pmax
comp=Z,349nm,1.3s
TIY Taiyuan 49.35 330 eP P 17 17 36.3 +0.3
TIY PP PP 17 19 31.5 +1.1
TIY S S 17 24 40.8 +1.1
TIY PMZ

TIY	comp=Z,570nm,4.9s			LN					
TIY	comp=Z,2μm,17.0s			LE					
TIY	comp=Z,400nm,12.9s			LZ					
MDJ	comp=Z,3μm,20.3s **Mudanjiang**	**49.41**	**349**	P	**P**		**17**	**17**	**37.5 +1.3**
MDJ				pP	**pP**		**17**	**17**	**45.8 -2.7**
MDJ				sP	**sP**		**17**	**17**	**51.0 -2.7**
MDJ				S	**S**		**17**	**24**	**44.8 +4.6**
MDJ	comp=Z,75nm,1.4s			PMZ					
MDJ	comp=Z,460nm,5.8s			PMZ					
MDJ	comp=Z,1μm,34.9s			LN					
MDJ	comp=Z,640nm,26.4s			LE					
MDJ	comp=Z,2μm,27.6s			LZ					
MDJ	comp=Z,101nm,1.2s **Mudanjiang**	**49.41**	**349**	*e*P	**P**		**17**	**17**	**36.6 +0.4**
BJI	**Beijing**	**49.46**	**334**	P	**P**		**17**	**17**	**36.5 -0.2**
BJI				sP	**sP**		**17**	**17**	**52.0 -2.1**
BJI				PP	**PP**		**17**	**19**	**28.0 -3.3**
BJI				S	**S**		**17**	**24**	**41.0 0.0**
BJI				sS	**sS**		**17**	**25**	**01.3 -0.1**
BJI				SS	**SS**		**17**	**28**	**15.0 +1.5**
BJI	comp=Z,160nm,1.4s			PMZ					
BJI	comp=Z,1μm,3.8s			PMZ					
BJI	comp=Z,3μm,21.1s			LN					
BJI	comp=Z,710nm,22.5s			LE					
BJI	comp=Z,3μm,21.1s			LZ					
CN2	**Changchun**	**49.58**	**345**	*e*P	**P**		**17**	**17**	**37.5 0.0**
CN2				*e*S	**S**		**17**	**24**	**41.5 -1.0**
CN2	comp=Z,20nm,1.0s			PMZ					
CN2	comp=Z,200nm,4.0s			PMZ					
CN2	comp=Z,1μm,19.0s			LN					
CN2	comp=Z,900nm,19.0s			LE					
CN2	comp=Z,400nm,20.0s			LZ					
CD2	**Chengdu**	**49.85**	**317**	⇑P	**P**		**17**	**17**	**41.3 +1.4**
CD2				PcP	**PcP**		**17**	**19**	**00.5 +0.4**
CD2				PP	**PP**		**17**	**19**	**36.5 +1.4**
CD2				PcS	**PcS**		**17**	**22**	**57.8 +0.7**
CD2				S	**S**		**17**	**24**	**47.5 +0.5**
CD2				SS	**SS**		**17**	**28**	**22.5 +2.2**
CD2	comp=Z,130nm,0.7s			PMZ					
CD2	comp=Z,620nm,6.2s			PMZ					
CD2	comp=Z,1μm,16.8s			LN					
CD2	comp=Z,1μm,19.2s			LE					
CD2	comp=Z,2μm,18.6s			LZ					
YSS	**Yuzh-Sakhalins**	**50.61**	**1***d*	*i*P	**P**		**17**	**17**	**45.2 -0.1**
YSS				*e**SP	**sP**		**17**	**18**	**02.0 -0.7**
YSS				*e*S	S		17	24	49.0 -7.8
YSS	comp=Z,160nm,1.2s			pmax	pmax				
YSS	comp=Z,800nm,5.0s			pmax	pmax				
YSS	**Yuzh-Sakhalins**	**50.61**	**1**	*e*P	**P**		**17**	**17**	**45.6 +0.3**
HHC	comp=Z,155nm,1.3s **Hu-ho-hao-te**	**52.20**	**331**	⇓P	**P**		**17**	**17**	**58.3 +0.8**
HHC				S	**S**		**17**	**25**	**20.0 +0.8**
HHC				sS	sS		17	25	46.0 +6.2
HHC	comp=Z,71nm,2.0s			PMZ					
HHC	comp=Z,160nm,5.0s			PMZ					
HHC	comp=Z,2μm,19.9s			LN					
HHC	comp=Z,1μm,18.7s			LE					
HHC	comp=Z,2μm,22.4s			LZ					
HABR	**Khabarovsk**	**52.41**	**355**	*d* *i*P	**P**		**17**	**17**	**57.1 -1.6**
HABR				*e**PP	**pP**		**17**	**18**	**12.8 +1.7**
HABR				*e*			17	19	07.0
HABR				*e*			17	19	56.4
HABR				*e*PPP	PPP		17	21	00.8
HABR				*e*S	**S**		**17**	**25**	**19.8 -1.8**
HABR				*e*			17	27	40.9
HABR				*e*SS	**SS**		**17**	**29**	**00.1 -0.1**
HABR				*e*SSS	SSS		17	30	47.9
HABR	comp=E,35nm,2.3s			pmax	pmax				
HABR	comp=N,71nm,1.1s			pmax	pmax				
HABR	comp=Z,232nm,1.1s			pmax	pmax				
HABR	comp=Z,732nm,3.0s			MLR	MLR				
LZH	comp=Z,336nm,19.0s **Lanzhou**	**53.03**	**322**	⇑P	**P**		**17**	**18**	**05.5 +1.7**
LZH				pP	**pP**		**17**	**18**	**16.0 -0.2**
LZH				sP	**sP**		**17**	**18**	**19.5 -1.8**
LZH				PP	**PP**		**17**	**20**	**08.0 +4.0**
LZH				S	**S**		**17**	**25**	**32.0 +1.1**
LZH				SS	**SS**		**17**	**29**	**10.5 -0.3**
LZH	comp=Z,180nm,1.3s			PMZ					
LZH	comp=Z,780nm,4.0s			PMZ					
LZH	comp=Z,1μm,15.5s			LN					
LZH	comp=Z,810nm,16.2s			LE					
LZH	comp=Z,2μm,16.0s			LZ					
KLR	**Kul'dur**	**53.54**	**352**	*e*P	P		17	18	03.7 -3.4
KLR				*e*S	S		17	25	30.5 -6.5
KLR				*e*			17	27	47.0
KLR				*e*			17	31	09.0
KLR	comp=N,80nm,1.4s			pmax	pmax				
KLR	comp=E,72nm,1.4s			pmax	pmax				
KLR	comp=Z,460nm,1.4s			pmax	pmax				
TYV	**Tymovskoe**	**54.52**	**1**	*e*P	**P**		**17**	**18**	**17.0 +2.8**
TYV				*e*S	**S**		**17**	**25**	**53.0 +2.9**
TYV	comp=Z,2μm,1.0s			pmax	pmax				
TYV	comp=N,2μm,12.0s			smax	smax				
SKR	**Severo-Kuril's**	**55.78**	**11**	*e*P	P		17	18	18.0 -5.3
SKR				*e*			17	20	30.0
SKR				*e*S	**S**		**17**	**26**	**05.0 -2.0**
SKR	comp=Z,200nm,1.0s			pmax	pmax				
SKR	comp=N,1μm,4.0s			pmax	pmax				
SKR	comp=E,1μm,4.0s			pmax	pmax				
SKR	comp=Z,1μm,4.0s			pmax	pmax				
SKR	comp=N,1μm,8.0s			pmax	pmax				
SKR	comp=E,1μm,8.0s			MLR	MLR				
SKR	comp=N,900nm,16.0s			MLR	MLR				
SKR	comp=E,900nm,16.0s			MLR	MLR				
HIA	comp=Z,1μm,16.0s **Hailar**	**56.16**	**343**	*e*P	**P**		**17**	**18**	**27.1 +1.0**
HIA	comp=Z,263nm,1.4s			pmax	pmax				
HIA	**Hailar** comp=Z,263nm,1.4s	**56.16**	**343**	*e*P	**P**		**17**	**18**	**27.1 +1.0**
NKL	**Nikolayevsk**	**56.80**	**359**	*i*P	**P**		**17**	**18**	**30.0 -0.5**
NKL				*e*S	**S**		**17**	**26**	**21.0 +0.5**
NKL	comp=N,500nm,4.0s			pmax	pmax				
NKL	comp=Z,1μm,4.0s			pmax	pmax				
NKL	comp=Z,110nm,1.1s			pmax	pmax				
NKL	comp=E,900nm,18.0s			smax	smax				
GTA	**Gaotai**	**57.60**	**322**	⇓P	**P**		**17**	**18**	**37.5 +0.9**
GTA				pP	**pP**		**17**	**18**	**47.5 -1.7**
GTA				sP	**sP**		**17**	**18**	**51.5 -2.7**
GTA				S	**S**		**17**	**26**	**33.0 +1.1**
GTA				sS	**sS**		**17**	**26**	**49.5 -3.2**
GTA				SS	**SS**		**17**	**30**	**25.0 +2.3**
GTA	comp=E,100nm,1.6s			PMZ					
GTA	comp=E,720nm,6.7s			PMZ					
GTA	comp=E,480nm,17.6s			LN					
GTA	comp=E,450nm,17.6s			LE					
GTA	comp=E,670nm,17.6s			LZ					
PEA0B	**Petropavlovsk-**	**58.40**	**11**	*e*P	**P**		**17**	**18**	**42.1 +0.4**
PETK	**Petropavlovsk-** comp=E,36nm,0.9s,baz=170,slow=7.1,SNR=30	**58.40**	**11**	P	**P**		**17**	**18**	**42.5 +0.7**
PETK	comp=E,611nm,21.3s,baz=194,slow=32			LR	LR		17	40	30.4
PETK	**Petropavlovsk-**	**58.40**	**11**	P	**P**		**17**	**18**	**42.5 +0.7**
PETK	comp=Z,36nm,0.9s			pmax	pmax				
PETK	comp=Z,611nm,21.3s			MLR	MLR				
PET	**Petropavlovsk**	**58.51**	**12**	*de*P	**P**		**17**	**18**	**42.1 -0.4**
PET				*e*S	**S**		**17**	**26**	**45.4 +2.5**
PET	comp=Z,51nm,1.3s			pmax	pmax				
PET	comp=Z,800nm,5.7s			pmax	pmax				
PET	comp=Z,400nm,12.3s			pmax	pmax				
PET	**Petropavlovsk** comp=Z,166nm,1.6s	**58.51**	**12**	*e*P	**P**		**17**	**18**	**43.4 +0.8**
LSA	**Lhasa**	**58.53**	**308**	*e*P	**P**		**17**	**18**	**44.3 +0.6**
LSA	comp=E,60nm,1.4s			pmax	pmax				
LSA	**Lhasa** comp=Z,60nm,1.4s	**58.53**	**308**	*e*P	**P**		**17**	**18**	**44.3 +0.6**
RAR	**Rarotonga** comp=Z,305nm,21.8s,baz=276,slow=33	**59.60**	**112**	LR	LR		17	42	05.9
ULN	**Ulaanbaatar**	**59.66**	**334**	*e*P	**P**		**17**	**18**	**51.8 +1.0**
ULN	comp=Z,92nm,1.1s			pmax	pmax				
ULN	**Ulaanbaatar** comp=Z,92nm,1.1s	**59.66**	**334**	*e*P	**P**		**17**	**18**	**51.8 +1.0**
SONM	**Songino Array** comp=Z,29nm,1.1s,baz=156,slow=8.2,SNR=94	**59.92**	**333**	P	**P**		**17**	**18**	**53.7 +1.1**
SONM	comp=Z,2μm,21.5s,baz=140,slow=35			LR	LR		17	43	23.4
SONM	comp=Z,0.8nm,1.0s,baz=45,slow=0.4,SNR=3.2			PKPPKP	**P'P'df**		**17**	**48**	**15.9 -1.9**
TAPN	**Taplejung** comp=Z,108nm,1.0s	**60.34**	**304**	*e*P	**P**		**17**	**18**	**56.4 +0.3**
ODAN	**Odare**	**60.42**	**304**	*e*P	**P**		**17**	**18**	**56.9 +0.4**
CIT	**Chita**	**60.49**	**341**	*e*P	**P**		**17**	**18**	**57.6 +1.3**
CIT				*e*			17	19	11.2
CIT	comp=Z,731nm,1.8s			pmax	pmax				
CHLP	**Challavanipeta**	**60.68**	**294**	*e*P	**P**		**17**	**18**	**58.2 +0.1**
CHLP	comp=Z,28nm,1.0s			IAmb	IAmb		17	19	06.5
CHLP				*e*S	**S**		**17**	**27**	**13.7 +1.7**
CHLP	comp=Z,542nm,4.1s			IVMs_BB	IVMs_BB		18	02	34.2
CLNS	**Chul'man**	**61.98**	**350**	*e*P	**P**		**17**	**19**	**06.5 +0.3**
CLNS				*e**PP	**pP**		**17**	**19**	**15.7 -3.2**
CLNS				*e*			17	19	48.2
CLNS				*e*			17	21	21.9
CLNS				*e*S	**S**		**17**	**27**	**26.9 -0.4**
CLNS				*e*SS	**SS**		**17**	**31**	**26.2 -4.3**
CLNS	comp=Z,147nm,1.2s			pmax	pmax				
CLNS	comp=E,18nm,1.0s			pmax	pmax				
CLNS	comp=N,76nm,1.0s			pmax	pmax				
CLNS	comp=Z,10.0nm,0.9s			pmax	pmax				
CLNS	comp=E,10.0nm,0.9s			pmax	pmax				
CLNS	comp=N,14nm,0.9s			smax	smax				
CLNS	comp=E,145nm,11.2s			smax	smax				
CLNS	comp=N,168nm,8.2s			MLR	MLR				
CLNS	comp=Z,275nm,16.0s			MLR	MLR				
CLNS	comp=N,209nm,15.0s			MLR	MLR				
GUN	comp=E,234nm,15.0s **Gumba**	**62.06**	**304**	*e*P	**P**		**17**	**19**	**08.1 +0.4**
PKI	comp=E,240nm,1.0s **Pulchoki**	**62.32**	**304**	*e*P	**P**		**17**	**19**	**09.0 -0.5**
PKIN	comp=E,60nm,0.9s **Phulchoki**	**62.34**	**304**	*e*P	**P**		**17**	**19**	**10.1 +0.6**
KKN	**Kakani** comp=E,145nm,1.0s	**62.51**	**304**	*e*P	**P**		**17**	**19**	**10.6 0.0**
DMN	**Daman** comp=E,146nm,0.9s	**62.59**	**304**	*e*P	**P**		**17**	**19**	**11.0 -0.2**
PVM	**Polavaram**	**62.61**	**292**	*e*P	**P**		**17**	**19**	**11.4 +0.3**
PVM	comp=Z,15nm,1.1s			IAmb	IAmb		17	19	19.0
PVM	comp=Z,551nm,4.7s			*e*S	**S**		**17**	**27**	**37.0 +0.6**
PVM				IVMs_BB	IVMs_BB		18	02	52.9
DRV	**Dumont d'Urvil**	**62.70**	**181**	P	**P**		**17**	**19**	**08.0 -2.8**
DRV				S	S		17	27	24.0 -12
DRV				L	L		17	34	00.0
DRV				R			17	38	00.0
SMY	**Shemya**	**62.77**	**22**	*e*P	**P**		**17**	**19**	**12.5 +1.0**
SMY	comp=Z,401nm,1.2s			pmax	pmax				
SMY	**Shemya** comp=Z,401nm,1.2s	**62.77**	**22**	*e*P	**P**		**17**	**19**	**12.5 +1.0**
GKN	**Gorkha** comp=Z,266nm,1.2s	**63.12**	**304**	*e*P	**P**		**17**	**19**	**14.5 -0.1**
ZAK	**Zakamensk**	**63.19**	**334**	⇑*i*P	**P**		**17**	**19**	**14.5 0.0**
ZAK				*e*			17	27	45.7
ZAK	comp=Z,109nm,1.4s			pmax	pmax				
SKHT	**Srikalahasti**	**63.65**	**287**	*e*P	**P**		**17**	**19**	**16.9 -1.2**
SKHT	comp=Z,28nm,1.4s			IAmb	IAmb		17	19	20.0
SKHT				*e*S	**S**		**17**	**27**	**48.8 -0.7**
SKHT	comp=Z,874nm,4.8s			IVMs_BB	IVMs_BB		18	04	51.8
MA2	**Magadan**	**63.68**	**5**	*i*P	**P**		**17**	**19**	**17.9 +0.5**
AMKA	**Amchitka** comp=Z,585nm,1.6s	**63.81**	**25**	*e*P	**P**		**17**	**19**	**18.8 +0.3**
ADKI	**Addanki**	**63.84**	**290**	*e*P	**P**		**17**	**19**	**18.5 -0.8**
ADKI	comp=Z,28nm,1.2s			IAmb	IAmb		17	19	20.6
ADKI	comp=Z,844nm,4.9s			*e*S	**S**		**17**	**27**	**52.4 +0.6**
ADKI				IVMs_BB	IVMs_BB		17	48	58.1
DANN	**Dangsing** comp=Z,12nm,0.7s	**63.96**	**304**	*e*P	**P**		**17**	**19**	**20.6 +0.3**
TLY	**Talaya** comp=Z,2μm,20.8s,baz=144,slow=35	**63.98**	**335**	LR	LR		17	46	34.5
TLY	**Talaya**	**63.98**	**335**	*e*P	**P**		**17**	**19**	**20.7 +1.1**
TLY	comp=Z,163nm,1.5s			pmax	pmax				
TLY	**Talaya** comp=Z,378nm,1.4s,SNR=32	**63.98**	**335**	P	**P**		**17**	**19**	**21.7 +2.1**
TLY	**Talaya** comp=Z,122nm,1.3s	**63.98**	**335**	*e*P	**P**		**17**	**19**	**20.2 +0.6**
IRK	**Irkutsk**	**64.13**	**336**	*e*P	**P**		**17**	**19**	**21.2 +0.6**
IRK				*e*			17	21	37.3
IRK	comp=Z,246nm,2.2s			pmax	pmax				
KIP	**Kipapa**	**64.38**	**64**	*ce*P	**P**		**17**	**19**	**24.8 +2.0**
KIP	comp=Z,122nm,1.7s			pmax	pmax				
NJS	**Nagarjunasagar**	**64.61**	**290**	*e*P	**P**		**17**	**19**	**24.4 +0.1**
NJS	comp=Z,15nm,1.0s			IAmb	IAmb		17	19	33.2
NJS				*e*S	**S**		**17**	**28**	**00.7 -0.7**
NJS	comp=Z,1μm,4.8s			IVMsBB			18	06	44.5
RCLA	**Racherla**	**64.71**	**289**	*i*P	**P**		**17**	**19**	**25.2 +0.2**
RCLA	comp=Z,25nm,1.3s			IAmb	IAmb		17	19	29.8
RCLA				*e*S	**S**		**17**	**28**	**03.2 +0.5**
RCLA	comp=Z,1μm,4.5s			IVMs_BB	IVMs_BB		18	01	25.6
SRLM	**Srisailam**	**64.90**	**290**	*e*P	**P**		**17**	**19**	**25.3 -1.1**
SRLM	comp=Z,29nm,1.1s			IAmb	IAmb		17	19	27.0
SRLM				*e*S	**S**		**17**	**28**	**07.9 +2.8**
SRLM	comp=Z,974nm,4.2s			IVMs_BB	IVMs_BB		17	57	38.2
MOY	**Mondy**	**65.12**	**334**	*e*P	**P**		**17**	**19**	**28.8 +1.6**
RPR	**Rampur**	**65.14**	**293**	*e*P	**P**		**17**	**19**	**26.9 -0.9**
RPR	comp=Z,36nm,1.2s			IAmb	IAmb		17	19	28.4
RPR				*e*S	**S**		**17**	**28**	**08.7 +0.7**
RPR	comp=Z,889nm,4.5s			IVMs_BB	IVMs_BB		18	01	58.0
BOD	**Bodaibo**	**65.32**	**344**	*e*P	**P**		**17**	**19**	**28.8 +0.6**
BOD	comp=Z,102nm,1.5s			pmax	pmax				
HYB	**Hyderabad**	**65.50**	**291**	*i*P	**P**		**17**	**19**	**30.0 -0.2**
HYBB	**Hyderabad (bro**	**65.50**	**291**	*e*P	**P**		**17**	**19**	**29.9 -0.3**
HYBB	comp=Z,33nm,1.3s			IAmb	IAmb		17	19	38.1
HYBB				*e*S	**S**		**17**	**28**	**12.8 +0.3**
HYBB	comp=Z,1μm,4.4s			IVMs_BB	IVMs_BB		18	02	38.0
CASY	**Casey** comp=Z,27nm,0.7s	**65.94**	**193**	*e*P	**P**		**17**	**19**	**32.1 +0.1**
SRSP	**Sriramsagar**	**66.03**	**293**	*e*P	**P**		**17**	**19**	**32.1 -1.4**
SRSP	comp=Z,37nm,1.2s			IAmb	IAmb		17	19	34.2
SRSP				*e*S	**S**		**17**	**28**	**17.2 -1.7**
SRSP	comp=Z,832nm,4.5s			IVMs_BB	IVMs_BB		18	01	40.3
URV	**Uravakonda**	**66.21**	**288**	*e*P	**P**		**17**	**19**	**33.9 -0.9**
URV	comp=Z,29nm,1.3s			IAmb	IAmb		17	19	36.3
URV				*e*S	**S**		**17**	**28**	**21.3 +0.2**
URV	comp=Z,1μm,4.4s			IVMs_BB	IVMs_BB		17	59	30.0
YAK	**Yakutsk** comp=Z,4.7nm,0.5s	**66.32**	**354**	P	**P**		**17**	**19**	**35.0 +0.5**
YAK	comp=Z,699nm,22.0s,baz=151,slow=33			LR	LR		17	45	32.8
YAK	**Yakutsk**	**66.32**	**354**	*d* *i*P	**P**		**17**	**19**	**35.3 +0.8**
YAK				*e**PP	**pP**		**17**	**19**	**47.7 +0.4**
YAK				*e*			17	20	01.9
YAK				*e*			17	21	59.1
YAK				*e*S	**S**		**17**	**28**	**23.0 +2.2**
YAK				*e**SS	**sS**		**17**	**28**	**46.6 +4.6**
YAK				*e*			17	29	25.5
YAK				*e*SS	**SS**		**17**	**32**	**35.1 -2.8**
YAK	comp=Z,311nm,1.4s			pmax	pmax				
YAK	comp=N,167nm,1.4s			pmax	pmax				
YAK	comp=E,28nm,1.3s			pmax	pmax				
YAK	comp=Z,212nm,3.8s			pmax	pmax				
YAK	comp=N,59nm,1.5s			pmax	pmax				
YAK	comp=E,28nm,1.4s			smax	smax				
YAK	comp=E,414nm,5.6s			smax	smax				
GSTR	comp=N,419nm,4.1s **Great Sitkin T** comp=N,96nm,1.0s	**66.36**	**27**	*e*P	**P**		**17**	**19**	**35.9 +0.8**
SEY	**Seymchan** comp=N,104nm,1.2s,baz=181,slow=5.3,SNR=77	**67.13**	**5**	P	**P**		**17**	**19**	**40.3 +0.6**
KLRI	**Killari**	**67.46**	**291**	*e*P	**P**		**17**	**19**	**43.3 +0.6**
WMQ	**Urumqi**	**67.59**	**321**	P	**P**		**17**	**19**	**44.8 +1.7**
WMQ				PcP	**PcP**		**17**	**20**	**11.8 +1.8**
WMQ				PP	**PP**		**17**	**22**	**14.5 +1.9**
WMQ				S	**S**		**17**	**28**	**35.0 -2.0**
WMQ				sS	**sS**		**17**	**29**	**02.0 +3.8**
WMQ				ScS	**SKSac**		**17**	**29**	**33.8 -3.8**
WMQ				SS	**SS**		**17**	**32**	**57.8 -0.7**
WMQ	comp=N,130nm,1.0s			PMZ					
WMQ	comp=N,770nm,5.0s			PMZ					
WMQ	comp=N,760nm,18.9s			LN					
WMQ	comp=N,510nm,18.9s			LE					
WMQ	comp=N,590nm,21.0s			LZ					
PPT	**Papeete** comp=N,170nm,19.6s,baz=274,slow=34	**68.84**	**107**	LR	LR		17	47	32.7
PPT2	**Papeete2** comp=N,1μm,31.2s	**68.84**	**107**	*e*S	**S**		**17**	**28**	**52.7 -0.1**
PPT2	comp=N,4μm,33.5s			*e*LQ	LQ		17	37	53.3
PPT2	comp=N,3μm,27.0s,baz=269			*e*LR	LR		17	40	47.7
TBI	**Tubuai** comp=N,734nm,30.0s	**69.33**	**113**	*e*S	**S**		**17**	**28**	**59.5 +1.3**
TBI	comp=N,2μm,35.0s			*e*LQ	LQ		17	37	58.2
TBI	comp=N,2μm,34.0s,baz=280			*e*LR	LR		17	40	59.4
NDI	**New Delhi**	**69.53**	**302**	*e*P	**P**		**17**	**19**	**53.5 -1.9**
SMLA	**Simla**	**70.28**	**305**	*i*P	**P**		**17**	**20**	**00.8 +0.8**
KRAR	**Krasnoyarsk**	**71.60**	**334**	⇑*i*P	**P**		**17**	**20**	**07.6 +0.2**
KRAR	comp=Z,69nm,1.2s			pmax	pmax				
UNV	**Unalaska Valle**	**71.98**	**29**	*e*P	**P**		**17**	**20**	**09.6 -0.2**
MK31	**Makanchi Array**	**72.35**	**322**	*i*P	**P**		**17**	**20**	**12.0 -0.2**
MK31	comp=Z,195nm,1.2s			pmax	pmax				
MK31	**Makanchi Array** baz=72,SNR=32	**72.35**	**322**	P	**P**		**17**	**20**	**13.1 +0.8**
MK31	**Makanchi Array**	**72.35**	**322**	*e*P	**P**		**17**	**20**	**12.6 +0.4**
MKAR	**Makanchi Array** comp=Z,63nm,0.9s,baz=112,slow=6.9,SNR=355	**72.35**	**322**	P	**P**		**17**	**20**	**12.4 +0.2**
MKAR	comp=Z,2.5nm,1.2s,baz=101,slow=15,SNR=7.1			S	**S**		**17**	**29**	**31.7 -0.9**
MKAR	comp=Z,0.2nm,0.6s,baz=5.7,slow=1.4,SNR=3.2			PKPPKP	**P'P'df**		**17**	**47**	**57.6 -0.2**
MKAR	comp=Z,361nm,18.0s,baz=106,slow=38			LR	LR		17	55	14.0
AKUT	**Akutan**	**72.50**	**29**	*e*P	**P**		**17**	**20**	**12.8 0.0**
BILL	**Bilibino**	**73.83**	**9**	*d* *i*P	**P**		**17**	**20**	**20.5 0.0**
BILL				*e*			17	20	37.3
BILL				*e*			17	23	08.6
BILL				*e*S	**SKiKP**		**17**	**29**	**46.1 +0.1**
BILL				*e*SS	SS		17	34	40.7 +7.5
BILL	comp=Z,109nm,1.2s			pmax	pmax				
BILL	comp=Z,253nm,19.0s			MLR	MLR				
KSH	**Kashi**	**73.83**	**313**	⇓*i*P	**P**		**17**	**20**	**22.3 +1.0**
KSH				pP	**pP**		**17**	**20**	**34.3 +0.1**
KSH				PP	**PP**		**17**	**23**	**11.0 +4.5**
KSH				S	**S**		**17**	**29**	**50.8 +0.9**
KSH				sS	**sS**		**17**	**30**	**10.3 -1.1**
KSH				SKS	**SKSac**		**17**	**30**	**24.3 -0.8**
KSH				SS	**SS**		**17**	**34**	**40.5 +5.8**
KSH	comp=Z,750nm,2.3s			PMZ					
KSH	comp=Z,170nm,3.5s			LN					
KSH	comp=Z,470nm,6.2s			LE					
KSH	comp=Z,2μm,21.2s			LZ					
ZAA0	**Zalesovo Array**	**74.29**	**329**	*e*P	**P**		**17**	**20**	**22.9 -0.5**
ZALV	**Zalesovo Beam** comp=Z,52nm,1.0s,baz=106,slow=4.8,SNR=114	**74.29**	**329**	P	**P**		**17**	**20**	**23.0 -0.4**
ZALV	comp=Z,9.9nm,1.0s,baz=124,slow=7.2,SNR=4.7			PP	**PP**		**17**	**23**	**10.4 +0.5**

ZALV S **S** **17 29 53.0 -1.1**
comp=Z,0.3nm,0.3s,baz=120,slow=8.5,SNR=3.9
ZALV LR LR 17 52 47.9
comp=Z,1µm,20.0s,baz=72,slow=36
ZALV Zalesovo Beam 74.29 329 P **P** **17 20 23.0 -0.4**
ZALV 17 23 10.4
ZALV S **S** **17 29 53.0 -1.1**
ZALV pmax pmax
comp=Z,52nm,1.0s
ZALV pmax pmax
comp=Z,10.0nm,1.0s
ZALV MLR MLR
comp=Z,1µm,20.0s
VNDA Vanda 74.41 175 P **P** **17 20 24.1 +0.4**
comp=Z,12nm,0.7s,baz=326,slow=6.5,SNR=70
VNDA LR LR 17 53 09.4
comp=Z,1µm,18.1s,baz=346,slow=36
VNDA Vanda 74.41 175 P **P** **17 20 24.2 +0.4**
VNDA pmax pmax
comp=Z,12nm,0.7s
VNDA MLR MLR
comp=Z,1µm,18.1s
PAF Port-aux-Franc 74.87 220 P P 17 20 17.0 -10
PAF S **SKiKP** **17 29 48.0 -0.2**
PAF L L 17 40 00.0
PAF R 17 45 00.0
SBA Scott Base 75.14 175 *e*P **P** **17 20 29.4 +1.4**
SBA pmax pmax
comp=Z,79nm,1.6s
SBA Scott Base 75.14 175 *e*P **P** **17 20 29.4 +1.4**
comp=Z,79nm,1.6s
KZA Kyzart 75.19 315 P **P** **17 20 30.2 +0.7**
SNR=54
TKM2 Tokmak 2 75.23 316 P **P** **17 20 30.3 +0.8**
SNR=30
TKM2 Tokmak 2 75.23 316 *e*P **P** **17 20 29.7 +0.2**
TKM2 pmax pmax
comp=Z,85nm,1.3s
TKM2 Tokmak 2 75.23 316 *e*P **P** **17 20 29.7 +0.2**
comp=Z,85nm,1.3s
NVS Novosibirsk 75.54 329⇓ *i*P **P** **17 20 30.0 -0.6**
NVS *e* 17 20 45.8
NVS *e* 17 23 20.6
NVS *e*S **S** **17 30 04.2 -3.8**
NVS pmax pmax
comp=Z,178nm,1.3s
NVS pmax pmax
comp=N,67nm,1.4s
NVS pmax pmax
comp=E,93nm,1.3s
NVS pmax pmax
comp=N,40nm,2.1s
NVS pmax pmax
comp=Z,84nm,2.1s
NVS pmax pmax
comp=E,44nm,2.2s
NVS smax smax
comp=E,95nm,3.0s
KBK Karagaybulak 75.59 316 P **P** **17 20 32.4 +0.9**
SNR=14
SDPT Sand Point 75.75 30 *e*P **P** **17 20 31.7 -0.1**
comp=E,520nm,1.2s
SFK Sufi-Kurgan 75.80 313 P **P** **17 20 33.5 +0.7**
SFK pmax pmax
comp=Z,93nm,1.4s
CHMS Chumysh 75.84 316 P **P** **17 20 33.6 +0.9**
SNR=24
FRU Bishkek 75.88 316 *i* P **P** **17 20 32.0 -0.9**
FRU *e* 17 30 01.0
FRU pmax pmax
comp=Z,140nm,2.0s
AAK Ala-Archa 75.90 316 P **P** **17 20 34.3 +1.1**
SNR=12
AAK Ala-Archa 75.90 316 LR LR 17 57 51.9
comp=Z,345nm,18.6s,baz=92,slow=39
USP Ospenovka 76.11 316 P **P** **17 20 35.0 +0.8**
SNR=36
KURBB Kurchatov Arra 76.22 324 PKPPKP **P'P'df** **17 47 49.0 -1.6**
comp=Z,0.7nm,1.0s,baz=283,slow=2.4,SNR=4.4
AML Almayashu 76.31 315 P **P** **17 20 37.2 +1.4**
SNR=27
EKS2 Erkin-Say 76.41 315 P **P** **17 20 37.3 +1.2**
SNR=25
EKS2 Erkin-Say 76.41 315 *e*P **P** **17 20 36.7 +0.6**
EKS2 pmax pmax
comp=Z,64nm,1.3s
EKS2 Erkin-Say 76.41 315 *e*P **P** **17 20 36.7 +0.6**
comp=Z,64nm,1.3s
CHGN Chignik 77.23 30 *e*P **P** **17 20 39.2 -1.0**
KBL Kabul 77.78 306 *e*P **P** **17 20 43.7 -0.3**
KBL pmax pmax
comp=Z,40nm,1.0s
KBL Kabul 77.78 306⇑ P **P** **17 20 42.9 -1.2**
baz=78,SNR=4.4
KBL Kabul 77.78 306 *e*P **P** **17 20 43.7 -0.3**
comp=Z,40nm,1.0s
TNA Tin City 78.33 19 *e*P **P** **17 20 46.3 +0.2**
comp=Z,118nm,1.3s
KK31 Karatay Array 78.84 315 *i* P **P** **17 20 49.5 0.0**
KK31 pmax pmax
comp=Z,68nm,1.1s
KKAR Karatay Array 78.84 315 *e*P **P** **17 20 48.5 -1.0**
KKAR pmax pmax
comp=Z,10.0nm,0.5s
KKAR Karatay Array 78.84 315 *e*P **P** **17 20 48.5 -1.0**
comp=Z,9.8nm,0.5s
OHAK Old Harbor 80.18 30 *e*P **P** **17 20 56.5 +0.1**
comp=Z,248nm,1.2s
KDAK Kodiak Island 80.75 30 P **P** **17 20 59.8 +0.4**
comp=Z,100nm,1.0s,baz=232,slow=3.0,SNR=25
KDAK LR LR 17 51 12.3
comp=Z,885nm,21.8s,baz=246,slow=32
KDAK Kodiak Island 80.75 30 P **P** **17 20 59.8 +0.4**
KDAK pmax pmax
comp=Z,100nm,1.0s
KDAK MLR MLR
comp=Z,885nm,21.8s
KDAK Kodiak Island 80.75 30 *e*P **P** **17 20 59.9 +0.5**
comp=Z,249nm,1.3s
RSO Redoubt South 81.71 27 *e*P **P** **17 21 03.0 -1.7**
comp=Z,111nm,1.2s
BVA0 Borovoye Array 81.80 325 *i* P **P** **17 21 04.9 -0.2**
BVA0 pmax pmax
comp=Z,316nm,1.8s
BVAR Borovoye Array 81.80 325 S **S** **17 31 13.5 -1.5**
comp=Z,1.0nm,0.9s,baz=123,slow=9.2,SNR=5.4
BRVK Borovoye 81.87 325*d* *i*P **P** **17 21 05.5 0.0**
BRVK pmax pmax
comp=Z,142nm,1.7s
BRVK Borovoye 81.87 325 *e*P **P** **17 21 05.7 +0.3**
comp=Z,86nm,1.0s
MAW Mawson 82.08 202 P **P** **17 21 07.0 +0.7**
comp=Z,55nm,0.8s,baz=80,slow=6.4,SNR=69
MAW LR LR 17 55 42.8
comp=Z,757nm,18.4s,baz=64,slow=34
MAW Mawson 82.08 202 P **P** **17 21 07.0 +0.7**
MAW pmax pmax
comp=Z,55nm,0.9s
MAW MLR MLR
comp=Z,757nm,18.4s
MAW Mawson 82.08 202⇑ P **P** **17 21 07.3 +1.0**
baz=82
RKT Rikitea 82.63 113 *e*LQ LQ 17 43 33.3
comp=Z,877nm,36.5s
RKT *e*LR LR 17 47 09.5
comp=Z,1µm,36.8s,baz=275
PPLA Purkeypile 82.91 25 *e*P **P** **17 21 10.2 -0.7**
comp=Z,303nm,1.7s
SEW Seward 83.11 28 *e*P **P** **17 21 11.1 -0.6**
comp=Z,160nm,1.3s
RC01 Rabbit Creek A 83.31 27 *e*P **P** **17 21 12.3 -0.5**
comp=Z,162nm,1.3s
IM04 Indian Mountai 83.52 22 *e*P **P** **17 21 13.9 +0.1**
PMR Palmer 83.76 27 *e*P **P** **17 21 14.5 -0.6**
PMR pmax pmax
comp=Z,145nm,1.3s
PMR Palmer 83.76 27 *e*P **P** **17 21 14.5 -0.6**
comp=Z,145nm,1.3s
BPAW Bear Paw Mtn. 83.87 24 *e*P **P** **17 21 14.9 -0.8**
comp=Z,146nm,1.3s
TRF Thorofare Moun 83.92 25 *e*P **P** **17 21 14.8 -1.3**
comp=Z,59nm,1.2s
SML Sawmill 84.19 27 *e*P **P** **17 21 17.1 -0.3**
SML pmax pmax
comp=Z,57nm,1.2s
SML Sawmill 84.19 27 *e*P **P** **17 21 17.1 -0.3**
comp=Z,57nm,1.2s

WBK Wadi Bani Khal 84.51 293 P **P** **17 21 20.3 +0.5**
SNR=10
MCK McKinley 84.58 25 *e*P **P** **17 21 18.5 -0.8**
MCK pmax pmax
comp=Z,193nm,1.2s
MCK McKinley 84.58 25 *e*P **P** **17 21 18.5 -0.8**
comp=Z,194nm,1.2s
DIV Divide 85.15 28 *e*P **P** **17 21 22.2 -0.1**
comp=Z,271nm,1.5s
IMYA Miami 85.28 307 *e*P **P** **17 21 23.7 +0.1**
COLD Coldfoot 85.33 21 *e*P **P** **17 21 22.5 -0.4**
comp=Z,120nm,1.2s
SMDO Samad 85.40 293 P **P** **17 21 24.5 +0.1**
SNR=17
COLA College 85.41 24 *e*P **P** **17 21 22.1 -1.2**
COLA pmax pmax
comp=Z,58nm,1.0s
COLA College 85.41 24 *e*P **P** **17 21 22.1 -1.2**
comp=Z,58nm,1.0s
BMRM Bnner River 85.65 28 *e*P **P** **17 21 23.6 -1.2**
comp=Z,119nm,1.3s
IKOO Kooshah 85.65 303 *e*P **P** **17 21 26.1 +0.4**
ILAR Eielson Array 85.77 24 P **P** **17 21 23.5 -1.7**
comp=Z,37nm,1.0s,baz=258,slow=4.7,SNR=157
ILAR LR LR 17 57 23.4
comp=Z,334nm,20.5s,baz=244,slow=34
ILAR Eielson Array 85.77 24 P **P** **17 21 23.5 -1.7**
ILAR pmax pmax
comp=Z,37nm,1.0s
ILAR MLR MLR
comp=Z,334nm,20.5s
PAX Paxson 85.82 26 *e*P **P** **17 21 25.8 +0.2**
PAX pmax pmax
comp=Z,23nm,0.5s
PAX Paxson 85.82 26 *e*P **P** **17 21 25.8 +0.2**
comp=Z,23nm,0.5s
IMOG Moghan 85.86 306 *e*P **P** **17 21 27.8 +1.1**
QSPA South Pole Qui 86.09 180 LR LR 17 59 23.7
comp=Z,3µm,21.6s,baz=4.0,slow=35
QSPA South Pole Qui 86.09 180 *e*P **P** **17 21 26.7 -0.2**
comp=Z,74nm,0.9s
HOQ Hoqain 86.13 294 P **P** **17 21 28.0 +0.1**
SNR=11
IPAY Payeh 86.18 307 *e*P **P** **17 21 28.6 +0.5**
IAKL Akhelmad 86.39 307 *e*P **P** **17 21 30.6 +1.3**
ABKT Ailbek 87.06 308 P **P** **17 21 32.6 +0.4**
comp=Z,165nm,1.4s,SNR=9.5
GEYT Alibeck 87.06 308 P **P** **17 21 32.0 -0.2**
comp=Z,30nm,1.0s,baz=305,slow=5.2,SNR=28
GEYT LR LR 18 02 50.9
comp=Z,817nm,21.3s,baz=85,slow=37
BANOM Banah 87.28 296 P **P** **17 21 33.8 +0.3**
SNR=6.2
AB31 Akbulak array 87.34 320 P **P** **17 21 31.8 -1.4**
AB31 pmax pmax
comp=Z,37nm,1.1s
ABKAR Akbulak array 87.34 320 P **P** **17 21 32.4 -0.8**
baz=87
ABKAR Akbulak array 87.34 320 *e*P **P** **17 21 31.7 -1.4**
comp=Z,24nm,0.9s
EGAK Eagle 88.13 25 *e*P **P** **17 21 36.7 0.0**
comp=Z,134nm,1.2s
SVE Sverdlovsk 88.16 327*ce*P **P** **17 21 36.0 -0.9**
SVE *e*S **SKSac** **17 32 00.8 -1.2**
SVE pmax pmax
comp=Z,47nm,1.6s
SVE MLR MLR
comp=Z,1µm,18.0s
DAWY Dawson 88.73 26 *e*P P 17 21 34.6 -5.0
AKTO Aktyubinsk 88.74 321 LR LR 18 01 33.7
comp=Z,241nm,22.0s,baz=95,slow=36
AKTO Aktyubinsk 88.74 321 P **P** **17 21 37.8 -2.0**
AKTO pmax pmax
comp=Z,33nm,1.5s
HYT Haines Junctio 89.00 29 *e*P **P** **17 21 41.0 0.0**
comp=Z,84nm,1.2s
ARU Arti 89.23 327 LR LR 18 03 49.5
comp=Z,570nm,19.3s,baz=90,slow=37
ARU Arti 89.23 327*d* *i*P **P** **17 21 40.5 -1.5**
ARU *P **pP** **17 21 58.6 +3.4**
ARU 17 25 12.1
ARU PPP PPP 17 27 09.8
ARU S **SKSac** **17 32 04.7 -3.7**
ARU *SS **S** **17 32 24.6 -3.4**
ARU pmax pmax
comp=Z,72nm,1.7s
ARU MLR MLR
comp=Z,624nm,19.0s
ARU Arti 89.23 327 P **P** **17 21 40.4 -1.5**
comp=Z,229nm,1.0s,SNR=15
ARU Arti 89.23 327 *e*P **P** **17 21 40.3 -1.7**
comp=Z,36nm,0.9s
ISRV Sarvestan 90.39 299 *e*P **P** **17 21 47.5 -1.0**
IPAR Pars 90.48 300 *e*P **P** **17 21 48.0 -0.8**
SYO Syowa Base 90.64 201⇑ *e*P **P** **17 21 47.2 -1.1**
WRAK Wrangell Islan 91.11 34 *e*P **P** **17 21 51.0 +0.3**
comp=Z,50nm,1.2s
IKAZ Kazeroun 91.52 300 *e*P **P** **17 21 52.1 -1.7**
INK Inuvik 91.73 22 P **P** **17 21 52.9 -0.4**
comp=Z,25nm,1.1s,baz=256,slow=5.0,SNR=18
INK Inuvik 91.73 22 P **P** **17 21 52.9 -0.4**
INK pmax pmax
comp=Z,25nm,1.2s
INK Inuvik 91.73 22 *e*P **P** **17 21 52.9 -0.4**
comp=Z,35nm,1.3s
DLBC Dease Lake 92.51 32 P **P** **17 21 57.1 -0.2**
comp=Z,14nm,1.2s,baz=256,slow=5.4,SNR=10
DLBC Dease Lake 92.51 32 *e*P **P** **17 21 57.1 -0.2**
comp=Z,25nm,1.3s
PRGR Permogore 96.13 331 *e*P P 17 22 08.5 -5.2
PRGR pmax pmax
comp=Z,32nm,1.4s
HUMO Hull Mountain 96.75 48 *e*P **P** **17 22 17.5 +0.5**
comp=Z,9.8nm,1.1s
M02C Callahan 96.84 49 P **P** **17 22 17.4 -0.2**
baz=97
RAYN Ar Rayn 96.94 293 *e*P **P** **17 22 17.0 -1.3**
comp=Z,11nm,1.0s
YBH Yreka Blue Hor 96.94 49 P **P** **17 22 18.0 0.0**
comp=Z,10.0nm,1.1s,baz=138,slow=5.7,SNR=3.8
YBH Yreka Blue Hor 96.94 49 P **P** **17 22 18.0 0.0**
YBH pmax pmax
comp=Z,10.0nm,1.2s
N02D Trinity Center 96.96 49 P **P** **17 22 18.9 +0.8**
baz=97
WDC Whiskeytown Da 97.09 50 *e*P Pdif 17 22 18.7 0.0
WDC pmax pmax
comp=Z,14nm,1.4s
WDC Whiskeytown Da 97.09 50 *e*P Pdif 17 22 18.7 0.0
comp=Z,14nm,1.4s
I04A Tendick Farm, 97.12 47 P **P** **17 22 18.7 -0.1**
baz=97
J04D Umpqua Nationa 97.35 47 P Pdif 17 22 20.5 +0.4
baz=97
M04C Macdoel 97.59 49 P Pdif 17 22 21.5 +0.4
baz=98
J05D Fort Rock, OR 97.99 47 P **P** **17 22 22.6 -0.2**
baz=98
GOF Gofitskoye 98.63 315 *e*P **P** **17 22 22.6 -2.8**
MOD Modoc 98.74 48 *e*P **P** **17 22 25.4 -0.7**
comp=Z,20nm,1.2s
KBZ Khabaz 98.81 313 P **P** **17 22 24.1 -2.0**
comp=Z,2.1nm,0.8s,baz=153,slow=2.3,SNR=6.8
KBZ Khabaz 98.81 313 P **P** **17 22 24.2 -2.0**
KBZ pmax pmax
comp=Z,2.0nm,0.8s
KIV Kislovodsk 98.95 314⇑ *e*P **P** **17 22 25.0 -2.0**
KIV *e* 17 26 28.9
KIV *e*SS SS 17 40 39.0 -3.3
KIV pmax pmax
comp=Z,16nm,2.5s
NEY Neytrino 98.96 313⇑ *e*P **P** **17 22 27.0 -0.2**
NEY pmax pmax
comp=Z,6.0nm,1.7s
TMCR Tamitsa 99.28 334 *e*P **Pdif** **17 22 26.5 -1.3**
TMCR pmax pmax
comp=Z,57nm,1.1s
LVZ Lovozero 99.83 338⇓ *e*P **Pdif** **17 22 29.0 -1.3**
LVZ pmax pmax
comp=Z,36nm,2.0s
YKA Yellowknife Ar 99.86 27 P **Pdif** **17 22 29.6 -0.9**
comp=Z,7.7nm,1.1s,baz=284,slow=4.6,SNR=16
YKA PP **PP** **17 26 34.2 -1.1**
comp=Z,0.6nm,0.7s,baz=282,slow=6.9,SNR=4.1
YKA Yellowknife Ar 99.86 27 P **Pdif** **17 22 29.6 -0.9**
YKA 17 26 34.2
YKA pmax pmax
comp=Z,8.0nm,1.1s
YKA pmax pmax
comp=Z,1.0nm,0.7s
WVOR Wild Horse Val 99.94 48 *e*P **Pdif** **17 22 32.1 +0.6**
WVOR pmax pmax
comp=Z,22nm,1.3s
WVOR Wild Horse Val 99.94 48 *e*P **Pdif** **17 22 32.1 +0.6**
comp=Z,22nm,1.3s
APA Apatity 100.38 338⇓ *i*P **Pdif** **17 22 32.0 -0.7**
APA MLR MLR
comp=Z,1µm,21.0s
NVAR Mina Array Bea 100.45 52 P **Pdif** **17 22 34.2 +0.2**
comp=Z,1.1nm,0.8s,baz=260,slow=5.4,SNR=5.3
NVAR PP **PP** **17 26 40.6 -0.3**
comp=Z,2.1nm,0.9s,baz=262,slow=6.3,SNR=4.0
VSR Storozhevoye 100.67 321 *e*P **Pdif** **17 22 32.5 -1.8**
VSR pmax pmax
comp=Z,7.0nm,0.8s
VSR pmax pmax
comp=N,3.0nm,0.6s
VSR pmax pmax
comp=E,4.0nm,0.8s
VSR MLR MLR
comp=N,260nm,24.0s
VSR MLR MLR
comp=E,410nm,24.0s
VSR MLR MLR
comp=Z,1µm,24.0s
EDW2 Edwards Air Fo 100.89 55 P **Pdif** **17 22 35.4 -0.4**
baz=101
SNAA Sanae 101.11 191 P **Pdif** **17 22 36.6 +0.5**
SNAA Sanae 101.11 191 P **PP** **17 26 44.6 +0.2**
SNAA Sanae 101.11 191*de*P **Pdif** **17 22 36.2 +0.2**
SNAA pmax pmax
comp=Z,8.0nm,1.7s
SNAA Sanae 101.11 191 *e*Pdif **Pdif** **17 22 36.5 +0.5**
comp=Z,6.0nm,1.3s
BMN Battle Mountai 101.15 50 *e*P **Pdif** **17 22 37.7 +0.7**
BMN pmax pmax
comp=Z,3.0nm,0.9s
BMN Battle Mountai 101.15 50 *e*Pdif **Pdif** **17 22 37.6 +0.7**
comp=Z,3.4nm,0.9s
MPMC Manual Prospec 101.24 54 P **Pdif** **17 22 37.2 -0.3**
baz=101
OBN Obninsk 101.63 325*ce*P **Pdif** **17 22 37.7 -0.8**
OBN *i* 17 26 48.0
OBN *e*SS SS 17 41 16.9 -1.7
OBN pmax pmax
comp=Z,11nm,1.2s
OBN MLR MLR
comp=Z,743nm,25.0s
RES Resolute Bay 102.22 13 *e*P **Pdif** **17 22 40.2 -0.5**
RES pmax pmax
comp=Z,16nm,1.1s
RES Resolute Bay 102.22 13 *e*Pdif **Pdif** **17 22 40.2 -0.5**
comp=Z,16nm,1.1s
ARCES ARCESS Array B 102.47 341 P **Pdif** **17 22 40.8 -1.2**
comp=Z,17nm,0.9s,baz=81,slow=5.7,SNR=26
ARCES ARCESS Array B 102.47 341 P **Pdif** **17 22 40.8 -1.2**
ARCES pmax pmax
comp=Z,17nm,0.9s
ARE0 ARCESS Array S 102.47 341 *e*Pdif **Pdif** **17 22 41.1 -0.9**
ANN Anapa 102.62 315 *i* P **Pdif** **17 22 41.4 -1.7**
ANN *e* 17 26 57.1
ANN *e* 17 33 14.7
ANN *e*SS SS 17 41 44.9 +12
ANN pmax pmax
comp=Z,10.0nm,0.6s
HLID Hailey 102.92 46 P **Pdif** **17 22 45.5 +0.7**
baz=103
HLID Hailey 102.92 46 *e*Pdif **Pdif** **17 22 45.5 +0.7**
comp=Z,4.6nm,1.3s
VNA1 Neumayer--Stat 102.94 190 P **Pdif** **17 22 45.4 +1.3**
VNA1 Neumayer--Stat 102.94 190 P **PP** **17 26 58.7 +0.6**
MCMT McKenzie Canyo 103.87 45 *e*Pdif **Pdif** **17 22 51.1 +2.1**
comp=Z,1.5nm,1.1s
BOZ Bozeman (W) 104.59 44 *e*P **Pdif** **17 22 52.5 +0.4**
BOZ pmax pmax
comp=Z,3.0nm,1.1s
BOZ Bozeman (W) 104.59 44 *e*Pdif **Pdif** **17 22 52.5 +0.4**
comp=Z,3.1nm,1.1s
FINES FINESS Array B 105.30 333 Pdiff **Pdif** **17 22 53.1 -1.6**
comp=Z,8.9nm,1.1s,baz=67,slow=3.6,SNR=10
FINES PKiKP **PKiKP** **17 27 08.6 +0.1**
comp=Z,3.2nm,1.1s,baz=48,slow=2.1,SNR=3.0
FINES FINESS Array B 105.30 333 P **Pdif** **17 22 53.1 -1.6**
FINES pmax pmax
comp=Z,9.0nm,1.1s
FINES pmax pmax
comp=Z,3.0nm,1.1s
BRTR Keskin Array B 106.11 310 Pdiff **Pdif** **17 22 56.7 -2.3**
comp=Z,1.6nm,0.9s,baz=90,slow=5.8,SNR=6.2
BRTR Keskin Array B 106.11 310 P **Pdif** **17 22 56.7 -2.3**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
PDAR Pinedale Array 106.55 47 PP PP 17 27 26.6 +0.3
comp=Z,0.9nm,0.6s,baz=304,slow=5.3,SNR=7.1
AKASG Malin Array Be 106.93 322 Pdiff **Pdif** **17 23 00.8 -1.4**
comp=Z,0.3nm,0.3s,baz=64,slow=4.3,SNR=9.3
AKASG PP **PP** **17 27 29.1 +0.6**
comp=Z,1.6nm,0.7s,baz=65,slow=6.6,SNR=6.4
AKASG Malin Array Be 106.93 322 P **Pdif** **17 23 00.8 -1.4**
AKASG 17 27 29.1
AKASG pmax pmax
comp=Z,2.0nm,0.7s
KIS Kishinev 108.13 318 *e* **PP** **17 27 40.0 +2.6**
KIS *eL* L 18 02 48.0
KIS LRM MLR 18 15 36.0
comp=Z,600nm,20.0s
ANMO Albuquerque 110.30 54 PFAKE 17 27 30.0
ANMO LR LR
comp=Z,599nm,22.0s
HFS Hagfors 111.31 335 PP PP 17 28 00.5 +0.7
comp=Z,4.0nm,1.0s,baz=32,slow=5.6,SNR=3.0
KOLS Kolonicke sedl 111.76 322 *i* PKiKP **PKiKP** **17 27 21.1 +0.1**
KOLS Kolonicke sedl 111.76 322 *e*PKP 17 27 21.1
NB2 NORSAR Subarra 111.83 336 P **Pdif** **17 23 22.8 -1.0**
comp=Z,1.7nm,1.0s,baz=55,slow=4.6
NOA NORSAR Array B 111.83 336 Pdiff **Pdif** **17 23 21.9 -1.9**
comp=Z,1.6nm,1.1s,baz=60,slow=4.4,SNR=3.0
NOA PP **PP** **17 28 05.2 +1.6**
comp=Z,4.9nm,1.1s,baz=50,slow=7.0,SNR=4.9
NOA NORSAR Array B 111.83 336 P **Pdif** **17 23 21.9 -1.9**
NOA 17 28 05.2
NOA pmax pmax
comp=Z,2.0nm,1.1s
NOA pmax pmax
comp=Z,5.0nm,1.1s
TXAR Lajitas Array 113.56 60 PKiKP **PKiKP** **17 27 24.3 -0.8**
comp=Z,0.4nm,0.7s,baz=243,slow=1.8,SNR=4.2
TXAR PKKPab **PKKPab** **17 38 15.5 -0.7**
comp=Z,1.4nm,1.1s,baz=102,slow=3.0,SNR=7.3
OKC Ostrava-Krasne 113.91 324 *e*PP PP 17 28 21.2 +2.4
OKC *ex* x 17 35 47.3
OKC *e*SP SP 17 37 52.4 +1.9
OKC AMS AMS 18 16 30.0
comp=Z,600nm,24.0s
KRLC Kraliky 114.61 324 *e*PP **PP** **17 28 22.4 -1.4**
529A Stev Forest Ra 114.67 59 P PKPdf 17 27 26.2 -1.0
baz=115
DPC Dobruska-Polom 114.76 325 *e*PP PP 17 28 17.7 -7.1
DPC *e*SDIF 17 36 08.2
DPC *e*SP **SP** **17 38 01.1 +2.9**
DPC *ex* x 17 39 13.8
DPC AMS AMS 18 20 50.0
comp=Z,600nm,18.8s
UPC Upice 114.87 325 *e*PP **PP** **17 28 20.9 -4.6**
UPC *e*SKS **SKSdf** **17 34 29.1 -6.4**
UPC *ex* x 17 35 47.5
UPC *e*SP **SP** **17 38 03.9 +4.7**
UPC *ex* x 17 39 13.4
UPC *e*SS **SS** **17 44 17.6 +0.2**
UPC AMS AMS 18 21 20.0
comp=Z,600nm,17.7s
430A Baggett Ranch, 115.38 58 P **PKPdf** **17 27 27.5 -1.0**
baz=115
ECSD EROS Data Cent 115.41 43 P **PKPdf** **17 27 26.4 -1.7**
baz=115
PVCC Panska Ves 115.68 325 *e*PP PP 17 28 32.6 +1.4
PVCC *e*PS **PS** **17 38 16.6 +3.9**
PVCC *ex* x 17 39 21.7
PVCC AMS AMS 18 19 20.0
comp=Z,800nm,21.0s
TREC Trest 115.71 324 *e*PP PP 17 28 29.6 -1.9
TREC *e*SDIF 17 36 09.4

TREC				*e*SP	**SP**	**17 38 04.8**	**-2.1**
TREC				*ex*	x	17 39 22.6	
TREC				AMS	AMS	18 18 10.0	
	comp=Z,1μm,21.8s						
GOPC	**GO Pecny, Ondr**	**115.84**	**325**	*e*PP	PP	17 28 31.3	-1.0
GOPC				*e*SKS	**SKSdf**	**17 34 38.5**	**+1.0**
GOPC				*e*SDIF	**Sdif**	**17 36 09.7**	**-5.3**
GOPC				*e*SP	**SP**	**17 38 02.5**	**-5.6**
GOPC				*ex*	x	17 39 23.2	
GOPC				*e*SS	**SS**	**17 44 32.1**	**+2.0**
GOPC				AMS	AMS	18 22 10.0	
	comp=Z,400nm,18.0s						
BRG	**Berggiesshubel**	**115.87**	**326**	*e*PKP	**PKPdf**	**17 27 28.8**	**0.0**
	comp=Z,4.9nm,1.2s						
BRG				*e*PP	**PP**	**17 28 34.9**	**+2.4**
	comp=Z,15nm,1.7s						
BRG				S	**PKKPdf**	**17 38 24.0**	**-3.0**
BRG				SS	SS	17 44 39.0	+8.6
BRG	**Berggiesshubel**	**115.87**	**326**	*e*PKIKP	**PKPdf**	**17 27 28.8**	**0.0**
BRG				*e*		17 28 34.9	
BRG				SS	SS	17 44 39.0	+8.6
BRG				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BRG				pmax	pmax		
	comp=Z,15nm,1.7s						
BRG				MLR	MLR		
	comp=N,632nm,21.6s						
BRG				MLR	MLR		
	comp=E,660nm,20.6s						
BRG				MLR	MLR		
	comp=Z,860nm,21.8s						
O33A	**Hebron**	**115.93**	**47**	P	**PKPdf**	**17 27 28.5**	**-0.7**
	baz=116						
PRU	**Pruhonice**	**115.94**	**325**	*e*PP	PP	17 28 30.8	-2.2
PRU				*e*SKS	**SKSdf**	**17 34 42.1**	**+4.5**
PRU				*e*SDIF	**Sdif**	**17 36 11.1**	**-4.7**
PRU				*ex*	x	17 37 57.7	
PRU				*ex*	x	17 39 23.8	
PRU				*e*SS	**SS**	**17 44 29.4**	**-2.0**
PRU				AMS	AMS	18 19 10.0	
	comp=Z,600nm,20.9s						
PRA	**Prague**	**115.97**	**325**	AMS	AMS	18 19 20.0	
	comp=Z,800nm,21.2s						
CLL	**Collm**	**116.18**	**327**	*e*PKIKP	**PKPdf**	**17 27 28.0**	**-1.3**
CLL				*e*		17 28 33.0	
CLL				pmax	pmax		
	comp=Z,6.0nm,1.2s						
CLL				MLR	MLR		
	comp=Z,1μm,21.6s						
CLL	**Collm**	**116.18**	**327**	*e*PKiKP	**PKPdf**	**17 27 29.0**	**-0.3**
	comp=Z,6.0nm,1.2s						
CLL				LmV		17 19 00.0	
	comp=Z,1μm,21.6s						
CLL				*e*PP	**PP**	**17 28 33.0**	**-1.6**
CLL				*e*		17 28 58.0	
CLL				*e*PPP	PPP	17 31 06.0	
CLL				*e*Sdif	Sdif	17 36 14.0	-3.7
CLL				*e*PS	**PS**	**17 38 14.0**	**-3.2**
CLL				*e*PPS	PPS	17 39 30.0	
CLL				*e*SS	**SS**	**17 44 33.0**	**-1.4**
CLL				*e*PPPrev		17 45 48.0	
CLL				*e*SSS	SSS	17 48 00.0	
631A	**Perdido Creek**	**116.21**	**59**	P	**PKPdf**	**17 27 28.9**	**-1.2**
	baz=116						
232A	**Coleman**	**116.48**	**56**	P	**PKPdf**	**17 27 30.1**	**-0.5**
	baz=116						
332A	**Millersview**	**116.51**	**57**	P	**PKPdf**	**17 27 29.8**	**-0.8**
	baz=116						
JCT	**Junction City**	**116.65**	**58**	*e*PKIKP	**PKPdf**	**17 27 30.3**	**-0.7**
JCT	**Junction City**	**116.65**	**58**	P	**PKPdf**	**17 27 30.0**	**-1.0**
	baz=117						
JCT	**Junction City**	**116.65**	**58**	*e*PKPdf	**PKPdf**	**17 27 30.3**	**-0.7**
632A	**Uvalde**	**116.86**	**59**	P	**PKPdf**	**17 27 30.3**	**-1.1**
	baz=117						
KHC	**Kasperske Hory**	**116.90**	**324**	*e*PKP	**PKPdf**	**17 27 30.4**	**-0.5**
KHC				*e*PP	PP	17 28 32.8	-7.0
KHC				*e*SKS	**SKSac**	**17 34 19.3**	**+0.1**
KHC				*ex*	x	17 34 41.9	
KHC				*e*SDIF	**Sdif**	**17 36 24.8**	**+0.9**
KHC				*e*SP	**SP**	**17 38 18.5**	**+0.8**
KHC				*ex*	x	17 39 42.9	
KHC				*e*SS	**SS**	**17 44 46.6**	**+2.6**
KHC				AMS	AMS	18 23 00.0	
	comp=Z,600nm,19.9s						
KHC	**Kasperske Hory**	**116.90**	**324**	*e*PKIKP	**PKPdf**	**17 27 30.4**	**-0.5**
KHC				*e*		17 34 19.3	
KHC				*e*		17 34 41.9	
KHC				*e*		17 38 18.5	
KHC				*e*		17 39 42.9	
KHC				*e*SS	SS	17 44 46.6	+2.6
KHC				MLR	MLR		
	comp=Z,600nm,19.9s						
133A	**Hamilton Ranch**	**116.92**	**55**	P	**PKPdf**	**17 27 30.9**	**-0.5**
	baz=117						
GERES	**GERESS Array B**	**116.96**	**324**	PKP	**PKPdf**	**17 27 30.2**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=90,slow=1.3,SNR=6.7						
GERES				PKKPab	**PKKPab**	**17 37 59.7**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=234,slow=4.7,SNR=4.6						
GERES	**GERESS Array B**	**116.96**	**324**	PKIKP	**PKPdf**	**17 27 30.2**	**-0.9**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NKC	**Novy Kostel**	**117.01**	**326**	*e*PP	PP	17 28 39.8	-0.7
NKC				AMS	AMS	18 18 50.0	
	comp=Z,1μm,19.7s						
T35A	**Sooner Cattle**	**117.69**	**50**	P	**PKPdf**	**17 27 32.3**	**-0.5**
	baz=118						
434A	**Burnet**	**117.87**	**57**	P	**PKPdf**	**17 27 32.2**	**-1.1**
	baz=118						
V37A	**Hulbert**	**119.06**	**51**	P	**PKPdf**	**17 27 34.3**	**-1.1**
	baz=119						
W37A	**Quinton**	**119.06**	**52**	P	**PKPdf**	**17 27 34.7**	**-0.7**
	baz=119						
U38A	**Gravette**	**119.46**	**50**	P	**PKPdf**	**17 27 35.2**	**-1.0**
	baz=120						
FETA	**Feichten**	**119.59**	**323**	⇑*i*PKiKP	**PKPdf**	**17 27 36.1**	**-0.2**
	comp=Z,4.8nm,1.1s						
X38A	**Whitesboro**	**119.67**	**52**	P	**PKPdf**	**17 27 36.0**	**-0.6**
	baz=120						
DAVOX	**Davos/Dischmat**	**120.21**	**323**	PKP	**PKPdf**	**17 27 36.5**	**-1.1**
	comp=Z,2.6nm,0.5s,baz=236,slow=3.6,SNR=3.6						
DAVOX	**Davos/Dischmat**	**120.21**	**323**	PKIKP	**PKPdf**	**17 27 36.5**	**-1.1**
DAVOX				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MEM	**Membach**	**120.28**	**329**	PKP	**PKPdf**	**17 27 37.1**	**-0.1**
EKA	**Eskdalemuir Ar**	**121.30**	**337**	PKP	**PKPdf**	**17 27 38.5**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=27,slow=3.2,SNR=9.0						
EKA				PKKPbc	**PKKPab**	**17 37 41.0**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=172,slow=1.7,SNR=4.5						
EKA	**Eskdalemuir Ar**	**121.30**	**337**	PKIKP	**PKPdf**	**17 27 38.5**	**-0.6**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
EKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
DOU	**Dourbes**	**121.31**	**329**	PKP	**PKPdf**	**17 27 39.5**	**+0.3**
TOA0	**Torodi Ar. Sit**	**139.16**	**286**	*e*PKPpre	PKPpre	17 27 59.8	
TORD	**Torodi Ar. Bea**	**139.16**	**286**	PKhKP	PKPpre	17 28 04.4	
	comp=Z,2.8nm,1.0s,baz=77,slow=1.5,SNR=8.3						
TORD				PKP	**PKPdf**	**17 28 14.7**	**+0.7**
	comp=Z,3.2nm,0.8s,baz=78,slow=2.2,SNR=9.6						
TORD				SKPbc	**SKPbc**	**17 31 43.9**	**-2.0**
	comp=Z,4.0nm,1.1s,baz=62,slow=3.3,SNR=4.6						
PGRA	**Graciosa**	**143.69**	**346**	*e*PKPdf	**PKPdf**	**17 28 20.8**	**-0.7**
H07N1	**FLORES T-PHASE**	**143.70**	**350**	*e*PKPdf	**PKPdf**	**17 28 20.5**	**-1.0**
ADH	**Angra Heroismo**	**143.86**	**345**	*e*PKPdf	**PKPdf**	**17 28 20.8**	**-1.0**
H07S1	**FLORES T-PHASE**	**144.02**	**350**	*e*PKPdf	PKPbc	17 28 20.3	+0.3
ROSA	**Rosais**	**144.05**	**346**	*e*PKPdf	**PKPdf**	**17 28 21.4**	**-0.8**
BART	**Pico Bartolome**	**144.08**	**342**	*e*PKPdf	PKPbc	17 28 21.0	+0.7
PMAN	**Manadas**	**144.09**	**346**	*e*PKPdf	**PKPdf**	**17 28 21.8**	**-0.4**
PSET	**Sete Cidades**	**144.21**	**342**	*e*PKPdf	PKPbc	17 28 21.0	+0.4
PCED	**Cedros**	**144.24**	**347**	*e*PKPdf	PKPbc	17 28 21.0	+0.3
PPNO	**Prainha do Nor**	**144.29**	**346**	*e*PKPdf	**PKPdf**	**17 28 22.0**	**-0.6**
ROSC	**El Rosal**	**144.35**	**87**	PKP	PKPbc	17 28 22.5	+0.2
	comp=Z,7.2nm,0.4s,baz=316,slow=3.9,SNR=11						
ROSC				SKPbc	**SKPbc**	**17 31 58.7**	**-0.9**
	comp=Z,14nm,0.7s,baz=233,slow=3.4,SNR=4.9						
ROSC	**El Rosal**	**144.35**	**87**	PKP	PKPbc	17 28 22.5	+0.2
ROSC				*e*PKPdf	**PKPab**	**17 28 22.7**	**+0.7**
ROSC				SKPbc	**SKPbc**	**17 31 58.7**	**-0.9**
LPAZ	**La Paz**	**144.59**	**125**	PKP	PKPbc	17 28 23.7	+0.5
	comp=Z,37nm,0.9s,baz=235,slow=1.5,SNR=56						
LPAZ				SKPbc	**SKPbc**	**17 31 59.4**	**-1.0**
	comp=Z,6.8nm,1.0s,baz=193,slow=1.9,SNR=3.9						
LPAZ	**La Paz**	**144.59**	**125**	PKIKP	PKPbc	17 28 23.7	+0.5
LPAZ				pmax	pmax		
	comp=Z,37nm,0.9s						
LPAZ				pmax	pmax		
	comp=N,7.0nm,1.0s						
SDDR	**Presa de Saban**	**144.71**	**62**	*e*PKPdf	**PKPab**	**17 28 20.9**	**-1.8**
PSMN	**Pico do Norte,**	**144.75**	**341**	*e*PKPdf	PKPbc	17 28 22.5	+0.1
PSMA	**Santa Maria**	**144.78**	**341**	*e*PKPdf	**PKPab**	**17 28 22.3**	**0.0**
CPUP	**Villa Florida**	**144.93**	**150**	PKP	PKPbc	17 28 23.3	+0.1
	comp=N,55nm,1.0s,baz=230,slow=4.8,SNR=34						
CPUP	**Villa Florida**	**144.93**	**150**	PKIKP	PKPbc	17 28 23.3	+0.1
CPUP				pmax	pmax		
	comp=Z,55nm,1.0s						
KIC	**Kosan Boka**	**146.20**	**276**	*e*PKP1	**PKPdf**	**17 28 26.9**	**+0.4**
	comp=Z,253nm,1.2s						
DBIC	**Dimbokro**	**146.30**	**276**	PKPbc	**PKPbc**	**17 28 27.5**	**-0.4**
	comp=Z,49nm,0.9s,baz=76,slow=4.3,SNR=3.0						
DBIC	**Dimbokro**	**146.30**	**276**	*e*PKP2	**PKPdf**	**17 28 27.1**	**+0.4**
DBIC	**Dimbokro**	**146.30**	**276**	*e*PKPdf	**PKPdf**	**17 28 27.1**	**+0.4**
DBIC				PKPbc	**PKPbc**	**17 28 27.5**	**-0.4**
TIC	**Toumodi**	**146.46**	**276**	*e*PKP1	**PKPdf**	**17 28 27.6**	**+0.6**
LIC	**Lamto**	**146.49**	**275**	*e*PK	**PKPdf**	**17 28 27.6**	**+0.6**
	comp=Z,126nm,1.2s						
SDV	**Santo Domingo**	**147.78**	**80**	*e*PKPbc	**PKPbc**	**17 28 31.5**	**-0.8**
CRPR	**Cabo Rojo, PR**	**148.74**	**61**	*e*PKPdf	**PKPdf**	**17 28 30.2**	**-0.3**
OBIP	**Obispado Ponce**	**149.17**	**61**	*e*PKPbc	**PKPbc**	**17 28 34.6**	**-0.9**
CELP	**Cerrillos**	**149.18**	**61**	*e*PKPbc	**PKPbc**	**17 28 34.4**	**-1.2**
SJG	**San Juan**	**149.53**	**60**	*e*PKP2	**PKPbc**	**17 28 35.6**	**-0.8**
SJG	**San Juan**	**149.53**	**60**	*e*PKPbc	**PKPbc**	**17 28 35.6**	**-0.8**
SIV	**San Ignacio**	**150.27**	**132**	PKPbc	**PKPbc**	**17 28 38.1**	**-0.2**
	comp=Z,15nm,0.8s,baz=246,slow=3.2,SNR=7.8						
STVI	**Saint Thomas**	**150.46**	**59**	*e*PKPbc	**PKPbc**	**17 28 37.5**	**-1.2**
SAML	**Samuel**	**152.38**	**118**	*e*PKPdf	**PKPdf**	**17 28 36.1**	**-0.3**
BDFB	**Brasilia**	**158.49**	**155**	PKP	**PKPdf**	**17 28 45.0**	**+0.4**
	comp=Z,1.4nm,0.4s,baz=180,slow=1.0,SNR=3.2						
BDFB				PKPab	**PKPab**	**17 29 19.9**	**+0.5**
	comp=Z,16nm,0.8s,baz=167,slow=3.3,SNR=9.7						
BDFB	**Brasilia**	**158.49**	**155**	PKIKP	**PKPdf**	**17 28 45.1**	**+0.4**
BDFB						17 29 19.9	
BDFB				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BDFB				pmax	pmax		
	comp=Z,16nm,0.8s						

IDC 26 17:28:06.8±2.2, 3.78S×140.42E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.3/17, mbtmp3.3/3, ML3.0/1, Error ellipse: s-maj=98.3km s-min=19.4km az=105.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.29**	**13**	Pn	Pn	17 28 32.3	+0.1
	5.9nm,0.3s,baz=150,slow=12,SNR=36						
JAY				Sn	Sn	17 28 50.7	+0.5
	10nm,0.3s,baz=72,slow=20,SNR=5.5						
WRA	**Warramunga Arr**	**17.12**	**200**	P	Pn	17 32 06.9	-0.8
	0.1nm,0.3s,baz=22,slow=13,SNR=5.2						
ASAR	**Alice Springs**	**20.75**	**197**	P	P	17 32 49.6	+0.3
	0.5nm,0.8s,baz=22,slow=10,SNR=4.8						
MKAR	**Makanchi Array**	**71.67**	**322**	P	P	17 39 30.5	0.0
	0.4nm,0.7s,baz=124,slow=5.1,SNR=4.4						

*ISCJB **26** 17:28:45.4±0.4, 59.60N±0.03×22.38E±0.04, h0km, Error ellipse: s-maj=4.4km s-min=2.8km az=3.2*
*IDC **26** 17:28:46.6±1.7, 59.53N×22.40E, h0km, mb1 3.3/4, mb1mx3.0/30, mbtmp3.2/4, ML2.8/4, Error ellipse: s-maj=21.7km s-min=7.3km az=162.0*
*CSEM **26** 17:28:46.9±0.2, 59.62N×22.29E, h2km, ML2.1, Error ellipse: s-maj=4.9km s-min=2.7km az=173.0, Mining explosion.*
*HEL **26** 17:28:46.8±0.1, 59.57N×22.33E, h0km, ML2.1, ML2.3(UPP), Explosion*
*NAO **26** 17:28:46.8±1.4, 59.61N×22.29E, ML2.0*
*UPP **26** 17:28:47.3, 59.59N×22.18E, h0km, ML2.3, Suspected Mining explosion.*
*BER **26** 17:28:49.3±4.0, 59.60N×22.15E, h0km±28km, ML2.0(NAO)*

ISC 26 17:28:45.4±0.7, 59.63N±0.03×22.33E±0.02, h0km, n66, σ1§34/106, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPE	**Suurupi**	**1.06**	**98**	*e*P	**Pg**	**17 29 06.0**	**+0.3**
SRPE				*e*S	**Sg**	**17 29 18.4**	**-0.9**
MTSE	**Matsula**	**1.20**	**139**	*e*P	**Pg**	**17 29 07.4**	**-0.8**
MTSE				*e*S	**Sg**	**17 29 21.9**	**-1.8**
MEF	**Metsahovi**	**1.20**	**60**	*e*P	**Pg**	**17 29 08.6**	**+0.3**
MEF				*e*S	**Sg**	**17 29 23.7**	**-0.2**
MEF	**Metsahovi**	**1.20**	**60**	P	**Pg**	**17 29 08.6**	**+0.3**
AAL	**Aland**	**1.30**	**296**	*e*P	**Pg**	**17 29 10.3**	**0.0**
AAL				*e*S	**Sn**	**17 29 28.7**	**0.0**
AAL	**Aland**	**1.30**	**296**	P	**Pg**	**17 29 10.2**	**0.0**
AAL				S	**Sn**	**17 29 28.7**	**0.0**
RAF	**Rauma**	**1.43**	**349**	*e*P	**Pb**	**17 29 13.0**	**+0.1**
RAF				*e*S	**Sn**	**17 29 32.1**	**+0.2**
RAF				MSG		17 29 37.5	
	comp=Z,11nm,0.2s						
RAF	**Rauma**	**1.43**	**349**	P	**Pb**	**17 29 12.9**	**+0.1**
RAF				S	**Sn**	**17 29 32.1**	**+0.2**
NRTU	**Norrtaelje**	**1.88**	**273**	*e*P	**Pn**	**17 29 19.6**	**+1.0**
NRTU				*e*S	**Sb**	**17 29 44.5**	**0.0**
NRTU	**Norrtaelje**	**1.88**	**273**	P	**Pn**	**17 29 19.6**	**+1.0**
NRTU				S	**Sb**	**17 29 44.4**	**0.0**
NRTU	**Norrtaelje**	**1.88**	**273**	P	**Pn**	**17 29 19.6**	**+1.0**
	baz=90						
NRTU				S	**Sb**	**17 29 44.5**	**0.0**
PVF	**Pernaja**	**2.00**	**61**	*e*P	**Pb**	**17 29 22.4**	**-0.1**
PVF				*e*S	**Sb**	**17 29 47.7**	**-0.2**
PVF				MSG		17 29 54.2	
	comp=Z,22nm,0.2s						
PVF	**Pernaja**	**2.00**	**61**	P	**Pb**	**17 29 22.4**	**-0.1**
PVF				S	**Sb**	**17 29 47.6**	**-0.2**
GRAU	**Graesoe**	**2.03**	**292**	*e*P	**Pn**	**17 29 22.1**	**+1.3**
GRAU				*e*S	**Sb**	**17 29 49.2**	**+0.3**
GRAU	**Graesoe**	**2.03**	**292**	P	**Pn**	**17 29 22.1**	**+1.3**
GRAU				S	**Sb**	**17 29 49.1**	**+0.3**
GRAU	**Graesoe**	**2.03**	**292**	P	**Pn**	**17 29 22.1**	**+1.3**
GRAU				S	**Sb**	**17 29 49.2**	**+0.3**
FORU	**Forsmark**	**2.22**	**292**	*e*P	**Pb**	**17 29 25.5**	**-0.7**
FORU	**Forsmark**	**2.22**	**292**	P	**Pb**	**17 29 25.5**	**-0.7**
FORU	**Forsmark**	**2.22**	**292**	P	**Pb**	**17 29 25.5**	**-0.7**
FLYU	**Flymyra**	**2.29**	**285**	*e*P	**Pn**	**17 29 25.5**	**+1.1**
FLYU	**Flymyra**	**2.29**	**285**	P	**Pn**	**17 29 25.5**	**+1.1**
FLYU	**Flymyra**	**2.29**	**285**	P	**Pn**	**17 29 25.5**	**+1.1**
NYNU	**Nynaeshamn**	**2.30**	**256**	*e*P	**Pn**	**17 29 25.9**	**+1.4**
NYNU	**Nynaeshamn**	**2.30**	**256**	P	**Pn**	**17 29 25.9**	**+1.4**
NYNU	**Nynaeshamn**	**2.30**	**256**	P	**Pn**	**17 29 25.9**	**+1.4**
UPP	**Uppsala**	**2.39**	**278**	*e*P	**Pn**	**17 29 27.0**	**+1.3**
UPP	**Uppsala**	**2.39**	**278**	P	**Pn**	**17 29 27.0**	**+1.3**
UPP	**Uppsala**	**2.39**	**278**	P	**Pn**	**17 29 27.0**	**+1.3**
VSU	**Vasula**	**2.56**	**115**	Pn	**Pn**	**17 29 30.2**	**+2.2**
VSU				Sn	**Sb**	**17 30 03.1**	**-1.0**
VSU	**Vasula**	**2.56**	**115**	Pn	**Pn**	**17 29 30.2**	**+2.2**
VSU				Sn	**Sb**	**17 30 03.1**	**-1.0**
VSU	**Vasula**	**2.56**	**115**	*e*P	**Pn**	**17 29 29.4**	**+1.3**
VSU				*e*S	**Sn**	**17 30 00.1**	**+0.2**
VSU	**Vasula**	**2.56**	**115**	P	**Pn**	**17 29 29.3**	**+1.3**
VSU	**Vasula**	**2.56**	**115**	Pn	**Pn**	**17 29 30.2**	**+2.2**
	SNR=50						
VSU				S	**Sn**	**17 30 00.1**	**+0.2**
VSU				Sn	**Sb**	**17 30 03.1**	**-1.0**
	SNR=50						
FIA0	**FINESS Array S**	**2.60**	**44**	Pn	**Pn**	**17 29 30.8**	**+2.2**
	baz=224,slow=14						
FIA0				Sn	**Sb**	**17 30 04.1**	**-1.1**
	baz=212,slow=28						
FIA0	**FINESS Array S**	**2.60**	**44**	Pn	**Pn**	**17 29 30.8**	**+2.2**
	baz=224,slow=14						
FIA0				Sn	**Sb**	**17 30 04.1**	**-1.1**
	baz=212,slow=28						
FIA0	**FINESS Array S**	**2.60**	**44**	*e*P	**Pb**	**17 29 31.0**	**-1.8**
FIA0				*e*S	**Sn**	**17 30 03.1**	**+2.2**
FIA0				MSG		17 30 07.6	
	comp=Z,7.3nm,0.2s						
FIA0	**FINESS Array S**	**2.60**	**44**	Pn	**Pn**	**17 29 30.8**	**+2.2**
	baz=224,slow=13,SNR=50						
FIA0				S	**Sn**	**17 30 03.0**	**+2.2**
FIA0				Sn	**Sb**	**17 30 04.1**	**-1.1**
	baz=212,slow=26,SNR=50						
FINES	**FINESS Array B**	**2.60**	**44**	Pn	**Pb**	**17 29 31.1**	**-1.6**
	comp=Z,1.3nm,0.3s,baz=224,slow=13,SNR=95						
FINES				Sn	**Sb**	**17 30 05.0**	**-0.2**
	comp=Z,2.2nm,0.3s,baz=225,slow=26,SNR=14						
BACU	**Backbrunna**	**2.65**	**277**	*e*P	**Pn**	**17 29 30.5**	**+1.2**
BACU	**Backbrunna**	**2.65**	**277**	P	**Pn**	**17 29 30.5**	**+1.2**
BACU	**Backbrunna**	**2.65**	**277**	P	**Pn**	**17 29 30.5**	**+1.2**
OSTU	**Oestervaala**	**2.68**	**285**	*e*P	**Pn**	**17 29 31.1**	**+1.3**
OSTU	**Oestervaala**	**2.68**	**285**	P	**Pn**	**17 29 31.0**	**+1.3**
OSTU	**Oestervaala**	**2.68**	**285**	P	**Pn**	**17 29 31.1**	**+1.3**
VJF	**Virojoki**	**2.77**	**69**	*e*P	**Pn**	**17 29 31.8**	**+0.8**
VJF				*e*S	**Sn**	**17 30 05.1**	**0.0**
VJF	**Virojoki**	**2.77**	**69**	P	**Pn**	**17 29 31.8**	**+0.8**
KEF	**Keuruu**	**2.83**	**25**	*e*P	**Pb**	**17 29 34.7**	**-2.2**
KEF				*e*S	**Sn**	**17 30 08.3**	**+1.6**
KEF	**Keuruu**	**2.83**	**25**	P	**Pb**	**17 29 34.6**	**-2.2**
KEF				S	**Sn**	**17 30 08.2**	**+1.6**
VAF	**Ylistaro**	**3.43**	**3**	*e*P	**Pn**	**17 29 42.5**	**+2.5**
VAF				*e*S	**Sn**	**17 30 22.7**	**+1.4**
VAF	**Ylistaro**	**3.43**	**3**	P	**Pn**	**17 29 42.4**	**+2.5**
VAF				S	**Sn**	**17 30 22.7**	**+1.4**
SUF	**Sumiainen**	**3.61**	**29**	*e*P	**Pn**	**17 29 45.4**	**+2.9**
SUF				*e*S	**Sn**	**17 30 26.6**	**+0.7**
SUF	**Sumiainen**	**3.61**	**29**	P	**Pn**	**17 29 45.4**	**+2.9**
SUF				S	**Sn**	**17 30 26.5**	**+0.7**
HFS	**Hagfors**	**4.38**	**280**	Pn	**Pn**	**17 29 53.7**	**+0.6**
	baz=77,slow=14						
HFS				Sn	**Sn**	**17 30 43.8**	**-0.9**
	baz=94,slow=37						
HFS				Lg	Lg	17 31 01.0	
	baz=96,slow=37						
HFS	**Hagfors**	**4.38**	**280**	Pn	**Pn**	**17 29 53.7**	**+0.6**
	baz=77,slow=14						
HFS				Sn	**Sn**	**17 30 43.8**	**-0.9**
	baz=94,slow=37						
HFS				Lg	Lg	17 31 01.0	
	baz=96,slow=37						
HFS	**Hagfors**	**4.38**	**280**	Pn	**Pn**	**17 29 54.1**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=94,slow=13,SNR=44						
HFS				Pg	**Pb**	**17 30 02.9**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=96,slow=17,SNR=22						
HFS				Sn	**Sn**	**17 30 43.8**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=92,slow=32,SNR=6.9						
HFS				Lg	Lg	17 31 05.5	
	comp=Z,1.1nm,0.3s,baz=97,slow=31,SNR=8.8						
HFS	**Hagfors**	**4.38**	**280**	Pn	**Pn**	**17 29 53.7**	**+0.6**
	baz=77,slow=14,SNR=50						
HFS				Sn	**Sn**	**17 30 43.8**	**-0.9**
	baz=94,slow=28,SNR=50						
HFS				Lg	Lg	17 31 01.0	
	SNR=50						
NB2	**NORSAR Subarra**	**5.70**	**289**	Pn	**Pn**	**17 30 11.9**	**+0.7**
	baz=99,slow=14						
NB2	**NORSAR Subarra**	**5.70**	**289**	Pn	**Pn**	**17 30 11.9**	**+0.7**
	baz=99,slow=14						
NB2	**NORSAR Subarra**	**5.70**	**289**	Pn	**Pn**	**17 30 11.9**	**+0.7**
	baz=99,slow=13,SNR=50						
NOA	**NORSAR Array B**	**5.70**	**289**	Pn	**Pn**	**17 30 11.6**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=102,slow=8.8,SNR=16						
NOA				Sn	**Sn**	**17 31 16.6**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=104,slow=8.9,SNR=2.4						
NOA				Lg	Lg	17 31 48.1	
	comp=Z,0.5nm,0.3s,baz=127,slow=22,SNR=3.9						
APA0	**Apatity Array**	**9.29**	**26**	Pn	**Pn**	**17 31 01.0**	**+0.6**
	baz=202,slow=12						
APA0	**Apatity Array**	**9.29**	**26**	P	**Pn**	**17 31 01.0**	**+0.6**
	baz=202,slow=12						
APA0	**Apatity Array**	**9.29**	**26**	P	**Pn**	**17 31 01.0**	**+0.6**
	baz=202,slow=12,SNR=47						
ARA0	**ARCESS Array S**	**10.04**	**6**	Pn	**Pn**	**17 31 09.8**	**-0.8**
	baz=184,slow=14						
ARA0	**ARCESS Array S**	**10.04**	**6**	P	**Pn**	**17 31 09.8**	**-0.8**
	baz=184,slow=14						
ARCES	**ARCESS Array B**	**10.04**	**6**	Pn	**Pn**	**17 31 10.1**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=186,slow=14,SNR=36						
ARCES				Sn	**Sn**	**17 32 58.2**	**-5.6**
	comp=Z,0.1nm,0.3s,baz=192,slow=26,SNR=3.9						

*SJA **26** 17:31:26.9±0.8, 24.14S×67.15W, h203km±14km, MD4.2, ML4.6*
*ISCJB **26** 17:31:28.3±0.2, 24.08S±0.03×67.04W±0.03, h179km±2km, mb5.2/224, Error ellipse: s-maj=5.0km s-min=3.1km az=136.8*
*MOS **26** 17:31:29.2±1.1, 23.95S×66.91W, h181km, mb5.3/58, Error ellipse: s-maj=11.8km s-min=6.0km az=114.3*
*BJI **26** 17:31:30.7, 24.54S×67.83W, h200km, mB5.2/22*
*IDC **26** 17:31:30.9±0.3, 24.08S×66.95

comp=E,43µm,0.6s
PB01 IPOC Station P 3.80 322 ⇑ *i*P **Pn 17 32 27.6 -2.6**
PB01 *e*S **Sn 17 33 11.7 -4.9**
CYA Choya 4.47 166 *i* P **Pn 17 32 35.7 -2.7**
VCA Vinchina 4.75 193 *i* P Pn 17 32 38.0 -4.2
ACLC CERRO LA CRUZ 5.31 180 *i* P Pn 17 32 45.1 -4.3
LCO Las Campanas 5.91 213 *e*Pn Pn 17 32 51.0 -6.3
APLL PUNTA DE LOS L 6.29 176 *i* P Pn 17 32 58.3 -3.7
TCA Tanti 7.53 164 *i* P Pn 17 33 13.9 -4.3
CFAA Coronel Fontan 7.56 188 P Pn 17 33 13.9 -4.6
comp=E,1.3nm,0.3s,baz=11,slow=15,SNR=47
CFAA S Sn 17 34 33.8 -10
comp=E,3.3nm,0.3s,baz=125,slow=18,SNR=8.0
LPAZ La Paz 7.83 352 P **Pn 17 33 22.1 -0.7**
comp=E,69nm,0.3s,baz=157,slow=9.6,SNR=361
LPAZ S **Sn 17 34 48.8 -2.6**
comp=E,12nm,0.3s,baz=72,slow=20,SNR=6.9
LPAZ La Paz 7.83 352 P **Pn 17 33 22.1 -0.7**
LPAZ S **Sn 17 34 48.8 -2.6**
LPAZ pmax pmax
comp=Z,69nm,0.3s
LPAZ smax smax
comp=N,12nm,0.3s
LPAZ La Paz 7.83 352 *e*Pn **Pn 17 33 22.0 -0.7**
LPAZ S **Sn 17 34 48.8 -2.6**
LPAZ *e*ScS **ScS 17 46 33.0 +3.2**
ARE Arequipa 8.68 330 *e*P Pn 17 33 30.0 -3.5
ARE *e*S Sn 17 34 59.0 -12
ARE Arequipa 8.68 330 *e*P Pn 17 33 30.0 -3.5
ARE *e*S Sn 17 34 59.0 -12
CPUP Villa Florida 9.04 106 P **Pn 17 33 34.7 -3.1**
comp=N,2.6nm,0.3s,baz=292,slow=12,SNR=91
CPUP Villa Florida 9.04 106 *e*P **Pn 17 33 35.1 -2.8**
CPUP Villa Florida 9.04 106 *e*Pn **Pn 17 33 35.1 -2.8**
SIV San Ignacio 9.79 36 P **Pn 17 33 45.3 -2.5**
comp=N,37nm,0.3s,baz=230,slow=13,SNR=247
SIV S Sn 17 35 23.3 -14
comp=N,5.4nm,0.3s,baz=234,slow=8.3,SNR=4.5
U73B San Pedro 10.52 201 *e*Pn Pn 17 33 48.2 -8.9
U65B HualaæØ 11.61 200 *e*Pn Pn 17 34 05.8 -5.1
U14B Concepcin 13.76 201 *e*Pn Pn 17 34 33.5 -4.5
TRQA Tornquist 14.57 164 *e*Pn Pn 17 34 43.8 -4.4
SAML Samuel 15.49 14 *e*Pn **Pn 17 34 58.1 -1.5**
comp=N,167nm,1.4s
BB16B Bebedouro 17.28 83 ⇑ *i*P P 17 35 08.8 -11
BB16B *i* 17 38 20.8
BB16B *i* 17 41 07.3
BB16B *i* 17 42 42.3
BDFB Brasilia 19.72 68 P **P 17 35 45.5 -0.7**
comp=N,74nm,0.3s,baz=242,slow=10,SNR=338
BDFB S **S 17 39 13.7 -4.4**
comp=N,2.4nm,0.3s,baz=144,slow=17,SNR=2.2
BDFB Brasilia 19.72 68 P **P 17 35 45.5 -0.7**
BDFB S **S 17 39 13.7 -4.4**
BDFB pmax pmax
comp=Z,74nm,0.3s
BDFB smax smax
comp=N,2.0nm,0.3s
ATAH Atahualpa 20.09 325 P **P 17 35 51.0 +0.6**
comp=N,5.3nm,0.5s,baz=131,slow=9.3,SNR=11
ATAH S **S 17 39 29.9 +4.0**
comp=N,3.2nm,0.6s,baz=317,slow=18,SNR=2.1
PTGA Pitinga 24.20 17 P **P 17 36 29.0 -1.1**
comp=N,23nm,0.3s,baz=192,slow=10,SNR=33
PTGA S **S 17 40 32.7 -1.6**
comp=N,11nm,0.8s,baz=108,slow=20,SNR=3.0
OTAV Otavalo 26.61 334 *e*P **P 17 36 53.2 +1.0**
comp=N,46nm,1.3s
OTAV *e*PcP **PcP 17 40 13.1 +1.7**
EFI East Falkland 28.39 168 P **P 17 37 05.2 -1.9**
comp=N,424nm,1.1s,SNR=11
EFI East Falkland 28.39 168 *d i*P **P 17 37 05.4 -1.6**
EFI pmax pmax
comp=Z,233nm,1.2s
EFI East Falkland 28.39 168 *e*P **P 17 37 05.5 -1.6**
comp=Z,54nm,0.8s
ROSC El Rosal 29.64 345 P **P 17 37 18.1 -1.0**
comp=Z,8.0nm,0.4s,baz=102,slow=19,SNR=2.5
ROSC LR LR 17 52 24.1
comp=Z,319nm,20.9s,baz=181,slow=42
USHA Ushuaia 30.72 182 P **P 17 37 26.3 -1.4**
comp=Z,28nm,0.8s,baz=353,slow=9.2,SNR=12
SDV Santo Domingo 32.97 353 *e*P **P 17 37 46.8 -1.1**
PCRV Puerto La Cruz 34.13 4 P **P 17 37 57.3 -0.6**
comp=Z,16nm,0.5s,baz=21,slow=10,SNR=4.1
RCBR Riachuelo 34.97 64 *e*P **P 17 38 04.3 -0.8**
comp=Z,183nm,0.9s
BCIP Isla Barro Col 35.35 338 *e*P **P 17 38 09.5 +1.3**
comp=Z,210nm,1.6s
GRGR Grenville 36.38 9 *e*P **P 17 38 16.7 -0.3**
HOPE Hope Point 37.77 151 P **P 17 38 28.2 0.0**
comp=Z,460nm,0.8s,SNR=5.4
HOPE Hope Point 37.77 151 *e*P **P 17 38 28.3 +0.1**
comp=Z,128nm,1.2s
JTS JuntasAbangare 38.41 331 P **P 17 38 36.3 +2.3**
comp=Z,358nm,0.7s,SNR=6.7
JTS JuntasAbangare 38.41 331 *d i*P **P 17 38 35.6 +1.6**
JTS pmax pmax
comp=Z,225nm,1.7s
JTS JuntasAbangare 38.41 331 *e*P **P 17 38 36.0 +2.0**
comp=Z,74nm,1.0s
FDF Fort de France 39.01 9 *e*P **P 17 38 37.7 -1.3**
FDF pmax pmax
comp=Z,73nm,0.5s
FDF Fort de France 39.01 9 *e*P **P 17 38 37.7 -1.3**
comp=Z,73nm,0.5s
PMSA Palmer Station 40.72 178 P **P 17 38 52.2 -0.3**
comp=Z,40nm,1.0s,baz=24,slow=7.6,SNR=4.6
ANWB Willy Bob 41.82 7 *e*P **P 17 39 03.3 +1.4**
OBIP Obispado Ponce 41.88 1 *e*P **P 17 38 59.7 -2.7**
comp=Z,47nm,0.6s
CELP Cerrillos 41.91 1 *e*P **P 17 39 00.6 -2.1**
SJG San Juan 41.95 1 P **P 17 39 00.3 -2.7**
comp=Z,22nm,0.6s,baz=148,slow=2.5,SNR=8.4
SJG San Juan 41.95 1 *e*P **P 17 39 00.7 -2.3**
SJG pmax pmax
comp=Z,123nm,0.8s
SJG San Juan 41.95 1 *e*P **P 17 39 00.7 -2.3**
comp=Z,122nm,0.8s
AOPR Arecibo Observ 42.18 0 *e*P **P 17 39 02.7 -2.2**
comp=Z,65nm,1.3s
SDDR Presa de Saban 43.01 354 *e*P **P 17 39 12.8 +1.2**
comp=Z,9.0nm,0.4s
TEIG Tepich 48.68 333 P **P 17 39 55.2 -0.6**
comp=Z,2.1nm,0.4s,baz=180,slow=23,SNR=14
TEIG Tepich 48.68 333 *e*P **P 17 39 54.6 -1.3**
comp=Z,3.1nm,0.4s
CMIG Matias Romero 49.15 324 P **P 17 39 59.4 -0.1**
comp=Z,17nm,0.8s,baz=130,slow=5.7,SNR=22
CMIG pP **pP 17 40 43.4 +1.2**
comp=Z,8.4nm,0.9s,baz=151,slow=7.2,SNR=2.2
DWPF Disney 53.73 344 *e*P **P 17 40 33.4 +0.2**
comp=Z,67nm,1.2s
VNA1 Neumayer--Stat 57.27 160 P **P 17 40 58.0 0.0**
TIGA Tifton 57.45 343 P **P 17 40 59.3 -0.4**
baz=58
SHEL Horse Pasture 57.75 94 *e*P **P 17 41 02.1 -0.1**
SHEL pmax pmax
comp=Z,92nm,0.6s
SHEL Horse Pasture 57.75 94 *e*P **P 17 41 02.1 -0.1**
comp=Z,92nm,0.6s
BRAL Brewton 58.06 340 *e*P **P 17 41 05.0 +1.1**
comp=Z,655nm,1.7s
CSU Charleston Sou 58.11 347 *e*P **P 17 41 04.0 -0.3**
035Z Hargill 58.54 327 P **P 17 41 07.6 +0.2**
baz=59
035A Encino 58.95 327 P **P 17 41 10.7 +0.5**
baz=59
936A North Padre Is 58.97 328 P **P 17 41 10.6 +0.3**
baz=59
SNAA Sanae 59.27 161 P **P 17 41 11.5 -0.4**
SNAA Sanae 59.27 161 *e*P **P 17 41 11.1 -0.8**
SNAA *e*S **S 17 49 06.0 +1.6**
SNAA pmax pmax
comp=Z,35nm,1.0s
SNAA Sanae 59.27 161 *e*P **P 17 41 11.1 -0.8**
comp=Z,35nm,1.0s
SNAA *e*S **S 17 49 06.0 +1.6**
GOGA Godfrey 59.29 344 *e*P **P 17 41 10.5 -1.9**
GOGA *e**PP **PcP 17 41 58.7 +0.3**
GOGA pmax pmax
comp=Z,62nm,1.3s
GOGA Godfrey 59.29 344 *e*P **P 17 41 10.5 -1.9**
comp=Z,62nm,1.3s
GOGA *e*pP **PcP 17 41 58.7 +0.3**
034A Hebbronville 59.35 327 P **P 17 41 13.4 +0.4**
baz=60,SNR=14
738A Farr-Stevens R 59.41 331 P **P 17 41 13.1 -0.2**
baz=60
JSC Jenkinsville 59.61 346 *e*P **P 17 41 14.7 +0.1**
JSC pmax pmax
comp=Z,154nm,1.3s
JSC Jenkinsville 59.61 346 *e*P **P 17 41 14.7 +0.1**
comp=Z,154nm,1.3s
737A Port Lavaca 59.70 330 P **P 17 41 16.2 +0.9**
baz=60
934A Benavides 59.71 328 P **P 17 41 16.3 +0.9**
baz=60
540A Vidor 59.88 333 P **P 17 41 17.7 +1.2**
baz=60
LRAL Lakeview Retre 59.92 341 *e*P **P 17 41 15.7 -1.0**
comp=Z,49nm,1.1s
835A Beeville 59.95 329 P **P 17 41 17.9 +0.9**
baz=60,SNR=5.1
933A Laredo 60.09 327 P **P 17 41 18.3 +0.3**
baz=60,SNR=16
539A Cross D Ranch, 60.10 332 P **P 17 41 19.3 +1.3**
baz=60
736A Circle Diamond 60.15 330 P **P 17 41 19.6 +1.2**
baz=60,SNR=18
736A S **S 17 49 19.3 +2.8**
baz=60
834A Tilden 60.16 328 P **P 17 41 19.3 +0.8**
baz=60,SNR=13
637A Eagle Lake 60.23 331 P **P 17 41 19.9 +1.0**
baz=60
VBMS Vicksburg 60.33 337 P **P 17 41 19.0 -0.5**
baz=61
440A Kirbyville 60.34 333 P **P 17 41 20.3 +0.7**
baz=61
735A Kenedy 60.41 329 P **P 17 41 20.6 +0.4**
baz=61
HKT Hockley 60.44 331 *e*P **P 17 41 19.8 -0.5**
HKT *e* 17 42 05.3
HKT pmax pmax
comp=Z,67nm,1.3s
HKT Hockley 60.44 331 *e*P **P 17 41 19.8 -0.5**
comp=Z,68nm,1.3s
HKT *e*PcP **pP 17 42 05.2 +0.6**
KMSC Kings Mountain 60.45 347 *e*P **P 17 41 20.2 -0.1**
comp=Z,55nm,1.0s
538A Harpers Horsep 60.53 332 P **P 17 41 21.7 +0.8**
baz=61
636A Smothers Creek 60.59 330 P **P 17 41 22.0 +0.6**
baz=61,SNR=9.8
439A Center Grove, 60.72 333 P **P 17 41 23.0 +0.9**
baz=61
833A Chaparral WMA, 60.74 327 P **P 17 41 22.9 +0.5**
baz=61,SNR=33
734A La Parita Cree 60.77 328 P **P 17 41 22.8 +0.3**
baz=61,SNR=8.0
537A Green Hill Far 60.77 331 P **P 17 41 23.2 +0.6**
baz=61,SNR=6.3
635A Leesville 60.85 329 P **P 17 41 22.9 -0.2**
baz=61,SNR=8.4
340A Bronson 60.90 334 P **P 17 41 24.0 +0.7**
baz=61,SNR=6.2
438A Sam Houston St 60.98 332 P **P 17 41 24.7 +0.8**
baz=61
832A Faith Ranch, C 61.00 327 P **P 17 41 24.3 +0.2**
baz=61,SNR=38
733A Divot King Ran 61.02 328 P **P 17 41 24.5 +0.2**
baz=61
339A Huntington 61.10 333 P **P 17 41 25.3 +0.6**
baz=61,SNR=6.0
536A Bastrop 61.10 330 P **P 17 41 25.0 +0.2**
baz=61
634A China Grove, S 61.11 329 P **P 17 41 24.5 -0.3**
baz=61
535A Dale 61.29 330 P **P 17 41 25.9 -0.1**
baz=62,SNR=5.3
437A Phantom Ranch, 61.33 331 P **P 17 41 26.9 +0.6**
baz=62
732A Laxson Ranch, 61.36 327 P **P 17 41 26.5 0.0**
baz=62,SNR=26
338A Crockett 61.43 332 P **P 17 41 28.0 +1.0**
baz=62,SNR=9.1
CPCT Cooper Cave 61.50 344 *e*P **P 17 41 26.6 -0.7**
CPCT epP **pP 17 42 15.0 +3.2**
TKL Tuckaleechee C 61.51 344 P **P 17 41 26.2 -1.2**
comp=Z,26nm,0.7s,baz=145,slow=6.6,SNR=33
TKL pP **pP 17 42 13.5 +1.6**
comp=Z,29nm,1.0s,baz=156,slow=9.5,SNR=5.3
TKL Tuckaleechee C 61.51 344 P **P 17 41 26.2 -1.2**
TKL *PP **pP 17 42 13.5 +1.6**
TKL pmax pmax
comp=Z,26nm,0.7s
TKL pmax pmax
comp=Z,29nm,1.0s
TKL Tuckaleechee C 61.51 344 P **P 17 41 26.2 -1.2**
TKL *epP **pP 17 42 14.9 +3.0**
NATX Nacogdoches 61.51 333 P **P 17 41 28.3 +0.8**
baz=62,SNR=8.3
NATX Nacogdoches 61.51 333 *e*P **P 17 41 28.1 +0.6**
comp=Z,139nm,1.0s
436A Wall Ranch, Ga 61.57 331 P **P 17 41 28.4 +0.4**
baz=62
633A Saathoff Ranch 61.57 328 P **P 17 41 28.1 +0.1**
baz=62,SNR=16
337A Centerville 61.64 332 P **P 17 41 29.4 +1.0**
baz=62,SNR=7.2
SWET Sewanee 61.65 342 *e*P **P 17 41 27.9 -0.5**
239A Gary 61.66 334 P **P 17 41 29.3 +0.8**
baz=62,SNR=8.5
534A Blanco 61.71 329 P **P 17 41 28.3 -0.6**
baz=62,SNR=15
632A Uvalde 61.91 328 P **P 17 41 30.5 +0.3**
baz=62,SNR=28
238A Jacksonville 61.91 333 P **P 17 41 31.0 +0.8**
baz=62,SNR=5.7
435B Jarrell 61.94 330 P **P 17 41 30.3 -0.1**
baz=62
533A Kerrville 62.01 329 P **P 17 41 30.9 -0.1**
baz=62,SNR=8.6
336A Riesel 62.12 331 P **P 17 41 31.7 +0.2**
baz=62,SNR=8.4
237A Washetta, Mont 62.20 332 P **P 17 41 32.8 +0.7**
baz=62,SNR=6.1
631A Perdido Creek 62.22 327 P **P 17 41 32.1 -0.2**
baz=62,SNR=42
BLA Blacksburg 62.27 348 *e*P **P 17 41 32.6 +0.1**
BLA pmax pmax
comp=Z,93nm,1.6s
BLA Blacksburg 62.27 348 *e*P **P 17 41 32.6 +0.1**
comp=Z,93nm,1.6s
434A Burnet 62.28 330 P **P 17 41 32.4 -0.3**
baz=63,SNR=18
335A Moody 62.29 331 P **P 17 41 32.8 +0.1**
baz=63,SNR=14
TZTN Tazewell 62.30 345 *e*P **P 17 41 31.2 -1.4**
comp=Z,30nm,1.1s
138A Matatall Enter 62.48 333 P **P 17 41 34.7 +0.8**
baz=63,SNR=5.9
532A Rocksprings 62.48 328 P **P 17 41 34.3 +0.2**
baz=63,SNR=33
236A Katherine and 62.51 332 P **P 17 41 34.5 +0.3**
baz=63,SNR=9.0
433A Art 62.61 329 P **P 17 41 34.8 0.0**
baz=63,SNR=52
Z39A Irene McRaven, 62.62 334 P **P 17 41 35.4 +0.6**
baz=63
137A Heron Place, G 62.70 333 P **P 17 41 36.3 +0.9**
baz=63,SNR=11
334A Lometa 62.70 330 P **P 17 41 35.3 -0.1**
baz=63,SNR=22
JCT Junction City 62.72 328 *e*P **P 17 41 35.6 0.0**
JCT pmax pmax
comp=Z,114nm,1.2s
JCT Junction City 62.72 328 P **P 17 41 35.6 0.0**
baz=63,SNR=24
JCT Junction City 62.72 328 *e*P **P 17 41 35.6 0.0**
comp=Z,114nm,1.2s
531A Rocksprings 62.82 327 P **P 17 41 36.8 +0.5**
baz=63,SNR=63
WHTX Lake Whitney 62.91 331 P **P 17 41 36.9 +0.1**
baz=63
WHTX Lake Whitney 62.91 331 *e*P **P 17 41 36.9 +0.1**
comp=Z,120nm,1.4s
Z38A Mt. Pleasant 62.95 334 P **P 17 41 37.4 +0.4**
baz=63
333A Richland Sprin 63.04 329 P **P 17 41 37.5 -0.2**
baz=63,SNR=29
432A Menard 63.04 329 P **P 17 41 37.8 0.0**
baz=63,SNR=30
WVT Waverly 63.05 341 *e*P **P 17 41 36.2 -1.4**
WVT pmax pmax
comp=Z,117nm,1.1s
WVT Waverly 63.05 341 *e*P **P 17 41 36.2 -1.4**
comp=Z,117nm,1.1s
Z37A Pogue Cattle C 63.16 333 P **P 17 41 38.7 +0.3**
baz=64
SLBS Sierra La Lagu 63.18 316 *e*P **P 17 41 40.2 +1.4**
comp=Z,137nm,1.5s
Y39A Lockesburg 63.20 335 P **P 17 41 38.9 +0.3**
baz=64,SNR=14
530A J-C Ranch, Com 63.20 327 P **P 17 41 39.1 +0.3**
baz=64,SNR=46
234A Clairette 63.22 331 P **P 17 41 39.0 +0.1**
baz=64,SNR=45
431A Sonora 63.28 328 P **P 17 41 39.2 -0.1**
baz=64,SNR=29
UALR University of 63.29 337 *e*P **P 17 41 38.3 -0.9**
comp=Z,100nm,1.5s
135A Vickery Place, 63.37 331 P **P 17 41 39.8 0.0**
baz=64,SNR=6.9
Y38A Idabel 63.44 334 P **P 17 41 40.0 -0.2**
baz=64
332A Millersview 63.44 329 P **P 17 41 40.4 0.0**
baz=64,SNR=56
MIAR Mount Ida 63.54 336 *e*P **P 17 41 40.8 -0.1**
MIAR pmax pmax
comp=Z,40nm,0.8s
MIAR Mount Ida 63.54 336 P **P 17 41 40.7 -0.1**
baz=64,SNR=27
MIAR Mount Ida 63.54 336 *e*P **P 17 41 40.8 -0.1**
comp=Z,40nm,0.8s
Z36A Blue Ridge 63.56 333 P **P 17 41 41.4 +0.3**
baz=64,SNR=17
GNAR Gosnell 63.57 339 *e*P **P 17 41 41.3 +0.3**
233A Rising Star 63.58 330 P **P 17 41 41.2 0.0**
baz=64,SNR=29
GLAT Glass 63.62 340 *e*P **P 17 41 41.4 0.0**
529A Stev Forest Ra 63.63 326 P **P 17 41 42.1 +0.5**
baz=64,SNR=112
430A Baggett Ranch, 63.67 327 P **P 17 41 41.9 0.0**
baz=64,SNR=36
134A White-Moore Ra 63.68 331 P **P 17 41 41.7 -0.1**
baz=64,SNR=8.0
331A San Angelo 63.70 328 P **P 17 41 42.0 -0.1**
baz=64,SNR=23
TXAR Lajitas Array 63.75 324 P **P 17 41 42.5 0.0**
comp=Z,3.8nm,0.4s,baz=153,slow=7.6,SNR=114
TXAR pP **pP 17 42 27.2 -0.1**
comp=Z,3.9nm,1.0s,baz=149,slow=9.0,SNR=1.9
TXAR PKP2bc 18 10 39.0
comp=Z,0.6nm,0.9s,baz=279,slow=1.7,SNR=4.3
TXAR Lajitas Array 63.75 324 P **P 17 41 42.5 0.0**
TXAR *PP **pP 17 42 27.2 -0.1**
TXAR pmax pmax
comp=Z,4.0nm,0.4s
TXAR pmax pmax
comp=Z,4.0nm,1.0s
NVL N'lazarevskaya 63.80 159 ⇑ *i*P **P 17 41 41.9 -0.2**
NVL *e* 17 42 20.3
NVL *i* S **S 17 50 03.6 +2.5**
NVL *e* 17 51 18.0
NVL *e*SS **SS 17 54 16.8 +4.5**
NVL pmax pmax
comp=Z,86nm,1.0s
NVL MLR MLR
comp=Z,1µm,16.0s
232A Coleman 63.81 329 P **P 17 41 42.9 +0.1**
baz=64,SNR=53
SDMD Soldier's Deli 63.84 352 *e*P P 17 41 38.9 -3.8
Y37A Hugo 63.84 334 P **P 17 41 43.4 +0.6**
baz=64,SNR=14
429A Davenport Ranc 63.87 327 P **P 17 41 43.5 +0.3**
baz=64,SNR=66
Z35A Perchaven, San 63.96 332 P **P 17 41 44.0 +0.3**
baz=64,SNR=18
Y36A Durant 64.04 333 P **P 17 41 44.1 0.0**
baz=64
133A Hamilton Ranch 64.08 330 P **P 17 41 44.5 0.0**
baz=64,SNR=20
PARMO Parma 64.13 340 *e*P **P 17 41 43.9 -0.7**
X38A Whitesboro 64.13 335 P **P 17 41 45.2 +0.4**
baz=64,SNR=36
330A Mertzon 64.15 328 P **P 17 41 44.7 -0.3**
baz=64,SNR=15
231A Bronte 64.17 329 P **P 17 41 44.8 -0.3**
baz=64,SNR=12
X37A Clayton 64.27 334 P **P 17 41 45.8 +0.2**
baz=65,SNR=36
Z34A Collier Ranch, 64.28 332 P **P 17 41 45.9 +0.2**
baz=65,SNR=18
W38A Poteau 64.36 335 P **P 17 41 46.8 +0.6**
baz=65,SNR=41
Y35A Marietta 64.36 333 P **P 17 41 46.5 +0.3**
baz=65,SNR=27
ABTX Abilene, Hawle 64.43 330 P **P 17 41 46.6 -0.2**
baz=65,SNR=17
ABTX Abilene, Hawle 64.43 330 *e*P **P 17 41 44.8 -1.9**
comp=Z,150nm,1.4s
PBMO Poplar Bluff 64.45 339 *e*P **P 17 41 46.1 -0.6**
comp=Z,95nm,1.0s
230A Sterling City 64.51 328 P **P 17 41 47.0 -0.4**
baz=65,SNR=9.5
Z33A Whitaker Ranch 64.58 331 P **P 17 41 47.9 +0.2**
baz=65,SNR=29
X36A Centrahoma 64.65 333 P **P 17 41 47.7 -0.4**
baz=65,SNR=27
USIN University of 64.71 342 *e*P **P 17 41 47.4 -1.0**
Y34A Reagan Ranch, 64.71 332 P **P 17 41 48.4 -0.1**
baz=65,SNR=25
X35A Drake 64.76 333 P **P 17 41 48.4 -0.4**
baz=65,SNR=36
W37A Quinton 64.77 334 P **P 17 41 49.1 +0.2**
baz=65,SNR=44
131A Roby 64.81 329 P **P 17 41 49.4 +0.1**
baz=65,SNR=22
229A Bryant Ranch, 64.92 328 P **P 17 41 49.8 -0.2**
baz=65,SNR=9.4
Z32A Haskell 64.92 330 P **P 17 41 49.9 -0.1**
baz=65,SNR=15
SIUC Southern Illin 64.93 341 *e*P **P 17 41 49.0 -0.8**
comp=Z,36nm,0.8s
V38A Canehill 65.02 336 P **P 17 41 50.4 -0.1**
baz=65,SNR=58
130A Snyder 65.02 329 P **P 17 41 50.7 +0.1**
baz=65,SNR=44
W36A Wetumka 65.09 334 P **P 17 41 50.4 -0.5**
baz=65,SNR=36
Y33A Hilltop Ranch, 65.13 331 P **P 17 41 51.2 -0.1**
baz=66,SNR=13
SSPA Standing Stone 65.19 351 *e*P **P 17 41 49.8 -1.6**
comp=Z,59nm,1.0s
Z31A Sharp Cattle R 65.24 330 P **P 17 41 52.1 +0.1**
baz=66,SNR=41
X34A Smith Ranch, M 65.30 332 P **P 17 41 52.3 0.0**
baz=66,SNR=18
V37A Hulbert 65.32 335 P **P 17 41 52.3 0.0**
baz=66,SNR=34
W35A Tecumseh 65.37 333 P **P 17 41 51.9 -0.8**
baz=66,SNR=14
228A UT Block 9, Go 65.42 327 P **P 17 41 53.0 -0.3**
baz=66,SNR=18
Y32A R-V Farms, Ver 65.49 331 P **P 17 41 53.5 0.0**
baz=66,SNR=14
U38A Gravette 65.52 336 P **P 17 41 53.2 -0.5**
baz=66,SNR=14
BLO Bloomington 65.53 343 *e*P **P 17 41 52.0 -1.6**
BLO pmax pmax
comp=Z,52nm,0.5s
BLO Bloomington 65.53 343 *e*P **P 17 41 52.0 -1.6**
comp=Z,52nm,0.5s
X33A Lawton 65.53 332 P **P 17 41 53.1 -0.7**
baz=66,SNR=5.6
V36A Jenks 65.54 334 P **P 17 41 53.8 -0.1**
baz=66,SNR=33
OLIL Olney 65.55 342 *e*P **P 17 41 52.7 -1.0**
comp=Z,64nm,1.4s
TUL1 Tulsa 65.59 335 P **P 17 41 53.9 -0.3**
baz=66,SNR=11
TUL1 Tulsa 65.59 335 *e*P **P 17 41 53.7 -0.4**
comp=Z,60nm,0.9s
Z30A Sanderson Ranc 65.67 329 P **P 17 41 54.4 -0.3**
baz=66,SNR=50
ACSO Alum Creek Sta 65.70 347 *e*P **P 17 41 54.2 -0.5**
comp=Z,142nm,1.4s
U37A Salina 65.77 335 P **P 17 41 55.2 0.0**
baz=66,SNR=26
X32A Elmer 65.77 331 P **P 17 41 55.1 -0.2**

baz=66,SNR=7.6
BRYW **Bryant College** 65.81 356 *e*P P 17 41 54.0 -1.4
comp=Z,48nm,1.0s
W34A **Bridge Creek,** 65.81 333 P P 17 41 55.1 -0.5
baz=66
W34A **Bridge Creek,** 65.81 333 *e*P P 17 41 55.8 +0.2
comp=Z,24nm,0.8s
KSPA **Keystone Colle** 65.82 353 *e*P P 17 41 55.2 -0.2
comp=Z,50nm,1.4s
WMOK **Wichita Mounta** 65.82 332 *e*P P 17 41 55.0 -0.7
WMOK pmax pmax
comp=Z,81nm,1.8s
WMOK **Wichita Mounta** 65.82 332 *e*P P 17 41 55.0 -0.7
comp=Z,81nm,1.8s
Y31A **Rekieta Farm,** 65.83 330 P P 17 41 55.8 +0.1
baz=66,SNR=24
V35A **Meyer Ranch, C** 65.88 334 P P 17 41 55.6 -0.4
baz=66,SNR=16
Z29A **Hungry Hill Ra** 65.92 329 P P 17 41 56.0 -0.5
baz=66,SNR=31
U36A **Oologah** 65.99 335 P P 17 41 56.2 -0.4
baz=66
W33A **Caddo, Fort Co** 66.04 332 P P 17 41 57.4 +0.4
baz=66,SNR=41
Y30A **Stafford Cattl** 66.05 329 P P 17 41 57.0 -0.2
baz=66,SNR=5.8
QSPA **South Pole Qui** 66.11 180 P P 17 41 56.7 -0.6
comp=Z,50nm,0.5s,baz=161,slow=4.2,SNR=262
QSPA pP pP 17 42 41.6 -0.8
comp=Z,20nm,0.9s,baz=154,slow=10,SNR=2.0
V34A **Guthrie** 66.22 333 P P 17 41 57.9 -0.3
baz=66,SNR=7.6
V34A **Guthrie** 66.22 333 *e*P P 17 41 57.9 -0.3
comp=Z,150nm,1.3s
Z28A **Tucker Farm, M** 66.27 328 P P 17 41 58.3 -0.4
baz=67,SNR=14
T37A **Cheneyville 18** 66.32 336 P P 17 41 58.7 -0.1
baz=67,SNR=76
W32A **Sentinel** 66.35 331 P P 17 41 59.0 0.0
baz=67,SNR=25
U35A **Pawnee** 66.37 334 P P 17 41 59.1 0.0
baz=67,SNR=17
Y29A **Porterfield Fa** 66.40 329 P P 17 41 59.2 -0.2
baz=67,SNR=17
X30A **Coker Ranch, T** 66.51 330 P P 17 41 60.0 -0.1
baz=67,SNR=37
V33A **Lossen Ranch,** 66.53 333 P P 17 42 00.1 0.0
baz=67,SNR=14
T36A **Boggs Farm, Ca** 66.63 335 P P 17 42 00.6 -0.1
baz=67,SNR=11
W31A **Holland Ranch,** 66.71 331 P P 17 42 01.0 -0.3
baz=67,SNR=10
Y28A **McKinney Farm,** 66.71 329 P P 17 42 01.2 -0.2
baz=67,SNR=15
U34A **Anderson Ranch** 66.75 334 P P 17 42 01.5 0.0
baz=67,SNR=24
U34A **Anderson Ranch** 66.75 334 *e*P P 17 42 01.4 -0.1
comp=Z,235nm,1.4s
T35A **Sooner Cattle** 66.75 335 P P 17 42 01.5 0.0
baz=67,SNR=19
V32A **Arapaho** 66.77 332 P P 17 42 01.8 +0.1
baz=67,SNR=9.1
TRY **Troy** 66.77 355 *e*P P 17 42 02.3 +0.9
comp=Z,41nm,1.1s
TRY *e*pP pP 17 42 49.9 +3.2
SFIN **Scholer Farm** 66.81 343 P P 17 42 00.3 -1.4
baz=67,SNR=17
SFIN **Scholer Farm** 66.81 343 *e*P P 17 42 00.4 -1.4
comp=Z,135nm,1.4s
S37A **Fort Scott** 66.85 336 P P 17 42 02.1 0.0
baz=67,SNR=33
X29A **Tulia** 66.89 329 P P 17 42 02.4 -0.2
baz=67,SNR=12
U33A **Lingo Farm, Me** 66.98 333 P P 17 42 02.5 -0.4
baz=67,SNR=12
W30A **Crocket Farms** 66.99 331 P P 17 42 02.9 -0.3
baz=67
S36A **Lake Cedric, C** 67.11 336 P P 17 42 03.7 0.0
baz=67,SNR=17
T34A **McClaskey Farm** 67.11 334 P P 17 42 03.9 +0.1
baz=67,SNR=12
V31A **Spring Creek L** 67.16 331 P P 17 42 04.6 +0.5
baz=68,SNR=7.6
X28A **Dimmitt** 67.19 329 P P 17 42 04.2 -0.2
baz=68,SNR=6.4
U32A **Winter Ranch,** 67.31 332 P P 17 42 04.9 -0.1
baz=68
R37A **Teagarden Farm** 67.34 337 P P 17 42 04.9 -0.2
baz=68,SNR=25
S35A **Otter Creek Ra** 67.34 335 P P 17 42 05.2 -0.1
baz=68,SNR=26
W29A **Amraillo** 67.42 330 P P 17 42 05.7 -0.2
baz=68,SNR=11
LIC **Lamto** 67.47 72 *e*P P 17 42 04.4 -2.1
comp=Z,26nm,0.5s
V30A **Spur Ranch, Mi** 67.52 331 P P 17 42 07.1 +0.6
baz=68,SNR=12
HDIL **Hopedale** 67.58 342 P P 17 42 05.4 -1.1
baz=68,SNR=9.7
HDIL **Hopedale** 67.58 342 *e*P P 17 42 05.7 -0.9
comp=Z,15nm,1.4s
T33A **Patterson Ranc** 67.59 333 P P 17 42 07.0 +0.2
baz=68,SNR=15
R36A **Gordon, Harris** 67.60 336 P P 17 42 06.5 -0.3
baz=68,SNR=14
U31A **Nine Bar Ranch** 67.66 332 P P 17 42 07.4 +0.1
baz=68,SNR=6.6
S34A **Willow Spring** 67.67 335 P P 17 42 06.9 -0.3
baz=68
TIC **Toumodi** 67.68 71 *e*P P 17 42 06.5 -1.4
Q37A **Longview Farm,** 67.71 337 P P 17 42 07.1 -0.3
baz=68,SNR=9.8
KIC **Kosan Boka** 67.78 72 *e*P P 17 42 07.3 -1.2
comp=Z,43nm,0.5s
W28A **Vega** 67.80 329 P P 17 42 08.4 +0.2
baz=68,SNR=7.5
AAM **Ann Arbor** 67.83 347 *e*P P 17 42 07.0 -1.1
AAM **Ann Arbor** 67.83 347 *e*P P 17 42 07.0 -1.1
DBIC **Dimbokro** 67.83 72 P P 17 42 07.6 -1.2
comp=Z,26nm,0.8s,baz=213,slow=8.2,SNR=28
DBIC pP pP 17 42 53.4 -0.7
comp=Z,30nm,1.0s,baz=205,slow=6.8,SNR=4.0
DBIC **Dimbokro** 67.83 72 P P 17 42 07.6 -1.2
DBIC *PP pP 17 42 53.4 -0.7
DBIC pmax pmax
comp=Z,26nm,0.8s
DBIC pmax pmax
comp=Z,30nm,1.0s
DBIC **Dimbokro** 67.83 72 *e*P P 17 42 08.4 -0.4
comp=Z,32nm,0.9s
DBIC pP pP 17 42 53.4 -0.7
R35A **Emporia Munici** 67.86 336 P P 17 42 08.5 +0.1
baz=68,SNR=6.1
S33A **Kaszmaul Farm,** 67.93 334 P P 17 42 09.0 +0.1
baz=68
V29A **Stinnett** 67.99 330 P P 17 42 09.6 +0.2
baz=68
Q36A **Arnold C. Orve** 68.15 336 P P 17 42 09.4 -0.7
baz=68
U30A **WK&E Inc. Balk** 68.15 331 P P 17 42 10.8 +0.4
baz=68,SNR=13
V28A **Channing** 68.21 330 P P 17 42 11.2 +0.4
baz=68
R34A **Isabella, Hill** 68.24 335 P P 17 42 10.9 +0.1
baz=69,SNR=13
Q35A **Mercer Eighty,** 68.27 336 P P 17 42 10.6 -0.4
baz=69,SNR=12
U29A **Oasis Ranch, S** 68.36 331 P P 17 42 12.3 +0.6
baz=69,SNR=10
S32A **Newby Ranch, P** 68.40 333 P P 17 42 12.3 +0.4
baz=69,SNR=6.9
121A **Cookes Peak, D** 68.45 324 P P 17 42 13.9 +1.5
baz=69,SNR=74
121A **Cookes Peak, D** 68.45 324 *e*P P 17 42 13.4 +1.0
comp=Z,110nm,1.0s
V27A **Dan Oppiter Fa** 68.50 329 P P 17 42 12.8 +0.2
baz=69,SNR=10
T30A **Plains** 68.53 332 P P 17 42 13.2 +0.5
baz=69
R33A **Olander Ranch,** 68.54 334 P P 17 42 12.7 0.0
baz=69,SNR=9.3
S31A **Mullinville** 68.56 333 P P 17 42 13.3 +0.4
baz=69
P36A **Good Intent, A** 68.64 337 P P 17 42 12.6 -0.6
baz=69,SNR=6.4
Q34A **Chapman** 68.66 335 P P 17 42 13.2 -0.3
baz=69,SNR=5.4
LONY **Lake Ozonia** 68.72 354 *e*P P 17 42 13.5 -0.2
LONY *e*pP pP 17 43 00.6 +1.4
U28A **Mallet** 68.73 330 P P 17 42 14.2 +0.2
baz=69,SNR=24
P35A **Duane Minner,** 68.85 336 P P 17 42 14.0 -0.5
baz=69,SNR=23
R32A **Long Quarter,** 68.93 334 P P 17 42 15.3 +0.2
baz=69,SNR=7.5
T29A **Hugoton** 68.95 331 P P 17 42 15.8 +0.4
baz=69,SNR=5.8
S30A **Montezuma** 69.00 332 P P 17 42 15.9 +0.3
baz=69,SNR=8.9
O36A **Bolckow** 69.00 337 P P 17 42 14.9 -0.6
baz=69,SNR=11
U27A **Thompson Grove** 69.04 330 P P 17 42 16.1 +0.2
baz=69,SNR=11
Q33A **Connelly Farm,** 69.08 335 P P 17 42 16.1 +0.1
baz=69,SNR=8.2
BNM **Barren Site** 69.08 326 *e*P P 17 42 17.5 +1.1
R31A **Burdett** 69.15 333 P P 17 42 16.6 +0.2
baz=70
P34A **Walnut Farm, R** 69.17 336 P P 17 42 16.5 0.0
baz=70,SNR=22
Y22D **IRIS PASSCAL I** 69.18 325 P P 17 42 18.1 +1.2
baz=70
LPM **Los Pinos Moun** 69.21 326 *e*P P 17 42 17.9 +0.7
S29A **Ulysses** 69.26 332 P P 17 42 17.9 +0.6
baz=70,SNR=12
LENM **Lemitar** 69.28 325 *e*P P 17 42 18.6 +1.0
T28A **Walsh** 69.29 331 P P 17 42 17.5 +0.1
baz=70,SNR=21
Q32A **Meitler Ranch,** 69.36 334 P P 17 42 17.9 +0.2
baz=70,SNR=11
P33A **Williams Farm,** 69.40 335 P P 17 42 18.0 +0.1
baz=70
SADO **Sadowa** 69.42 351 P P 17 42 17.4 -0.5
comp=Z,14nm,0.5s,baz=197,slow=6.9,SNR=20
O35A **Humboldt** 69.46 337 P P 17 42 17.2 -1.0
baz=70
R30A **Dighton** 69.46 333 P P 17 42 18.8 +0.4
baz=70
T27A **Campo** 69.51 330 P P 17 42 19.2 +0.4
baz=70,SNR=31
LAZ **Ladron** 69.55 325 *e*P P 17 42 20.4 +1.3
S28A **Manter** 69.58 331 P P 17 42 19.6 +0.5
baz=70,SNR=17
ANMO **Albuquerque** 69.62 326 P P 17 42 20.5 +0.9
comp=Z,43nm,1.0s,baz=149,slow=5.9,SNR=92
ANMO pP pP 17 43 05.0 -0.1
comp=Z,9.6nm,0.8s,baz=134,slow=8.2,SNR=2.9
ANMO **Albuquerque** 69.62 326 *e*P P 17 42 20.8 +1.2
ANMO *e*PP pP 17 43 06.1 +0.9
ANMO pmax pmax
comp=Z,57nm,0.9s
ANMO **Albuquerque** 69.62 326 *e*P P 17 42 20.8 +1.2
comp=Z,57nm,0.9s
ANMO *e*pP pP 17 43 06.1 +0.9
O34A **Beatrice** 69.67 336 P P 17 42 19.3 -0.3
baz=70,SNR=19
CBKS **Cedar Bluff** 69.68 333 *e*P P 17 42 20.3 +0.6
CBKS pmax pmax
comp=Z,168nm,1.0s
CBKS **Cedar Bluff** 69.68 333 P P 17 42 20.4 +0.7
baz=70,SNR=8.1
CBKS **Cedar Bluff** 69.68 333 *e*P P 17 42 20.3 +0.6
comp=Z,168nm,1.0s
Q31A **Ellis** 69.70 334 P P 17 42 20.4 +0.5
baz=70,SNR=7.3
N35A **Tabor** 69.89 337 P P 17 42 20.4 -0.5
baz=70,SNR=16
O33A **Hebron** 69.91 335 P P 17 42 21.1 +0.1
baz=70,SNR=26
P32A **Huiting Farm,** 69.92 334 P P 17 42 21.2 +0.1
baz=70,SNR=7.1
R29A **Marienthal** 69.94 332 P P 17 42 21.7 +0.3
baz=70,SNR=5.8
TUC **Tucson** 69.95 321 *e*P P 17 42 22.6 +1.0
TUC *e*PP pP 17 43 10.0 +2.8
TUC pmax pmax
comp=Z,78nm,1.2s
TUC **Tucson** 69.95 321 *e*P P 17 42 22.6 +1.0
comp=Z,78nm,1.2s
TUC *e*pP pP 17 43 10.0 +2.8
T26A **Comanche Natio** 70.01 330 P P 17 42 22.7 +0.7
baz=70,SNR=45
Q30A **Quinter** 70.02 333 P P 17 42 22.4 +0.6
baz=70,SNR=9.4
JFWS **Jewell Farm** 70.03 342 *e*P P 17 42 21.3 -0.4
JFWS pmax pmax
comp=Z,78nm,0.6s
JFWS **Jewell Farm** 70.03 342 *e*P P 17 42 21.3 -0.4
comp=Z,78nm,0.6s
S27A **Las Animas** 70.10 330 P P 17 42 22.6 +0.1
baz=70
P31A **Stockton** 70.14 334 P P 17 42 23.0 +0.5
baz=70,SNR=15
R28A **Tribune** 70.17 332 P P 17 42 22.9 +0.2
baz=70,SNR=5.7
N34A **Lincoln** 70.17 337 P P 17 42 22.2 -0.4
baz=70,SNR=12
Q29A **Oakley** 70.27 332 P P 17 42 23.7 +0.4
baz=71,SNR=9.6
O32A **Brockman Farm,** 70.34 335 P P 17 42 23.7 +0.1
baz=71,SNR=5.6
T25A **Trinidad** 70.36 329 P P 17 42 25.2 +1.1
baz=71,SNR=21
T25A **Trinidad** 70.36 329 *e*P P 17 42 25.2 +1.1
comp=Z,103nm,1.3s
N33A **J Bar K, Exete** 70.44 336 P P 17 42 24.3 0.0
baz=71
M35A **Neola** 70.44 337 P P 17 42 23.9 -0.4
baz=71
GLMI **Grayling** 70.44 347 *e*P P 17 42 24.3 +0.1
comp=Z,67nm,0.8s
P30A **Selden** 70.51 333 P P 17 42 25.2 +0.4
baz=71
R27A **Eads** 70.55 331 P P 17 42 25.5 +0.3
baz=71
O31A **Woolen Ranch,** 70.66 334 P P 17 42 25.9 +0.3
baz=71
Q28A **Sharon Springs** 70.77 332 P P 17 42 26.8 +0.4
baz=71,SNR=5.8
N32A **Stulken Farm,** 70.78 335 P P 17 42 26.5 +0.2
baz=71,SNR=5.3
M34A **Aspy Farms, Fr** 70.79 337 P P 17 42 26.2 -0.1
baz=71
P29A **Atwood** 70.84 333 P P 17 42 27.3 +0.5
baz=71
R26A **Arlington** 70.86 330 P P 17 42 27.7 +0.7
baz=71,SNR=61
214A **Organ Pipe Nat** 70.87 320 P P 17 42 28.5 +1.5
baz=71,SNR=15
L35A **Bielow Farm, R** 70.96 338 P P 17 42 27.2 -0.1
baz=71
O30A **MW Ranch, Wils** 70.97 334 P P 17 42 28.1 +0.6
baz=71,SNR=5.4
M33A **Taylor Creek F** 71.07 336 P P 17 42 27.7 -0.3
baz=71,SNR=9.1
KSCO **Kaye Shedlock'** 71.08 331 P P 17 42 29.3 +1.0
baz=71,SNR=9.0
KSCO **Kaye Shedlock'** 71.08 331 *e*P P 17 42 29.3 +1.0
comp=Z,169nm,1.3s
N31A **Bailey Ranch,** 71.08 335 P P 17 42 28.7 +0.5
baz=71,SNR=12
L34A **Svendsen Farm,** 71.12 337 P P 17 42 28.0 -0.4
baz=72,SNR=13
P28A **Saint Francis** 71.17 332 P P 17 42 29.4 +0.7
baz=72
O29A **4D Ranch, Culb** 71.23 333 P P 17 42 29.7 +0.6
baz=72
BGNE **Belgrade** 71.28 336 P P 17 42 29.6 +0.3
baz=72,SNR=14
BGNE **Belgrade** 71.28 336 *e*P P 17 42 29.6 +0.3
comp=Z,1µm,1.5s
BGNE *e*pP pP 17 43 16.2 +1.1
SDCO **Great Sand Dun** 71.36 329 P P 17 42 31.3 +1.1
baz=72,SNR=71
SDCO **Great Sand Dun** 71.36 329 *e*P P 17 42 31.2 +1.0
comp=Z,90nm,1.3s
Q26A **Hugo** 71.40 331 P P 17 42 31.3 +1.1
baz=72,SNR=18
W18A **Petrified Fore** 71.47 324 P P 17 42 32.0 +1.2
baz=72,SNR=28
W18A **Petrified Fore** 71.47 324 *e*P P 17 42 32.0 +1.2
comp=Z,122nm,1.1s
P27A **Ficken Ranch,** 71.50 332 P P 17 42 31.6 +0.8
baz=72
N30A **Hueftle Ranch,** 71.51 334 P P 17 42 31.4 +0.6
baz=72,SNR=5.8
M31A **Lambtecht Ranc** 71.54 335 P P 17 42 31.5 +0.6
baz=72,SNR=5.8
L33A **Hoskins** 71.62 337 P P 17 42 30.7 -0.6
baz=72
O28A **Krutsinger Ran** 71.64 333 P P 17 42 32.5 +0.9
baz=72,SNR=10
N29A **Votaw Ranch, W** 71.74 334 P P 17 42 32.9 +0.7
baz=72,SNR=9.4
P26A **Davis Ranch, A** 71.84 331 P P 17 42 33.7 +0.8
baz=72
O27A **Beecher Island** 71.99 332 P P 17 42 34.8 +1.2
baz=72,SNR=11
S22A **4UR Ranch, Cre** 72.00 328 P P 17 42 35.1 +1.0
baz=72,SNR=27
S22A **4UR Ranch, Cre** 72.00 328 *e*P P 17 42 34.1 +0.1
comp=Z,22nm,1.0s
N28A **Pribbeno Ranch** 72.01 333 P P 17 42 34.1 +0.4
baz=72
M30A **Dale-Ortello V** 72.05 335 P P 17 42 34.4 +0.5
baz=72,SNR=6.7
Q24A **Divide** 72.17 330 P P 17 42 36.1 +1.1
baz=72,SNR=35
Q24A **Divide** 72.17 330 *e*P P 17 42 36.2 +1.2
comp=Z,93nm,1.0s
L31A **Butterfield Fa** 72.20 336 P P 17 42 35.4 +0.6
baz=72,SNR=11
M29A **Burnside Ranch** 72.30 334 P P 17 42 36.1 +0.7
baz=73,SNR=5.0
L30A **Spencer Herefo** 72.34 335 P P 17 42 36.3 +0.6
baz=73,SNR=8.7
O26A **Horse Wrangler** 72.39 332 P P 17 42 37.2 +1.2
baz=73,SNR=9.1
MVCO **Mesa Verde** 72.42 326 P P 17 42 37.7 +1.2
baz=73,SNR=36
MVCO **Mesa Verde** 72.42 326 *e*P P 17 42 37.6 +1.2
comp=Z,59nm,1.4s
OGNE **Ogallala** 72.43 333 P P 17 42 37.0 +0.7
baz=73
OGNE **Ogallala** 72.43 333 *e*P P 17 42 36.7 +0.4
comp=Z,41nm,0.9s
N27A **Anderson Farm,** 72.52 332 P P 17 42 37.5 +0.7
baz=73
M28A **Bar X Bar Ranc** 72.53 334 P P 17 42 37.8 +0.9
baz=73
WUAZ **Wupatki** 72.65 323 P P 17 42 39.3 +1.5
baz=73,SNR=39
WUAZ **Wupatki** 72.65 323 *e*P P 17 42 39.3 +1.5
comp=Z,88nm,1.0s
L29A **Maesberg Ranch** 72.74 335 P P 17 42 38.7 +0.7
baz=73,SNR=11
ECSD **EROS Data Cent** 72.76 338 P P 17 42 37.9 -0.2
baz=73,SNR=47
ECSD **EROS Data Cent** 72.76 338 *e*P P 17 42 37.8 -0.2
comp=Z,78nm,1.0s
N26A **Koester Ranch,** 72.83 332 P P 17 42 40.0 +1.3
baz=73
GLA **Glamis** 72.84 319 *e*P P 17 42 40.1 +1.3
GLA pmax pmax
comp=Z,57nm,1.1s
GLA **Glamis** 72.84 319 P P 17 42 40.0 +1.3
baz=73,SNR=10
GLA **Glamis** 72.84 319 *e*P P 17 42 40.1 +1.3
comp=Z,58nm,1.1s
SPMN **St. Paul** 72.88 341 P P 17 42 38.0 -0.6
baz=73,SNR=11
SPMN **St. Paul** 72.88 341 *e*P P 17 42 38.2 -0.5
comp=Z,63nm,0.9s
K30A **Basset** 72.92 335 P P 17 42 39.5 +0.4
baz=73,SNR=12
ISCO **Idaho Springs** 73.06 330 *e*P P 17 42 41.2 +0.9
ISCO pmax pmax
comp=Z,59nm,1.1s
ISCO **Idaho Springs** 73.06 330 P P 17 42 41.3 +1.1
baz=73,SNR=40
ISCO **Idaho Springs** 73.06 330 *e*P P 17 42 41.2 +0.9
comp=Z,59nm,1.1s
M27A **Reverse DX Ran** 73.06 333 P P 17 42 40.9 +0.9
baz=73
L28A **Connealy Angus** 73.11 334 P P 17 42 41.2 +0.9
baz=73
Y12C **Blythe** 73.16 320 P P 17 42 42.0 +1.5
baz=74,SNR=16
PV01 **Paradox Valley** 73.17 327 *e*P P 17 42 42.2 +1.3
SMCO **Snowmass** 73.20 329 *e*P P 17 42 42.8 +1.6
comp=Z,46nm,0.8s
K29A **Lazy Trails An** 73.27 335 P P 17 42 41.8 +0.7
baz=74,SNR=16
PDMCI **Parker Dam,Lak** 73.32 321 P P 17 42 42.6 +1.0
baz=74,SNR=9.4
M26A **McRoberts Ranc** 73.33 332 P P 17 42 42.7 +1.1
baz=74
IBP **Imperial Bould** 73.33 318 P P 17 42 43.1 +1.4
baz=74,SNR=12
SWSC **Sam W. Stewart** 73.34 319 P P 17 42 42.9 +1.3
baz=74,SNR=6.6
PV05 **Paradox Valley** 73.39 326 *e*P P 17 42 43.0 +0.9
J30A **Dallas** 73.44 336 P P 17 42 42.1 +0.1
baz=74
SYO **Syowa Base** 73.47 159⇑ *i*P P 17 42 40.1 -1.8
L27A **T5 Ranch, Ells** 73.49 333 P P 17 42 43.6 +1.1
baz=74
PV04 **Paradox Valley** 73.53 327 *e*P P 17 42 44.1 +1.2
PV10 **Paradox Valley** 73.59 327 *e*P P 17 42 44.2 +0.9
SBA **Scott Base** 73.61 190 *e*P P 17 42 43.6 +1.0
SBA pmax pmax
comp=Z,85nm,1.2s
SBA **Scott Base** 73.61 190 *e*P P 17 42 43.6 +1.0
comp=Z,85nm,1.2s
BC3 **Big Chuckawall** 73.64 319 P P 17 42 44.8 +1.3
baz=74,SNR=40
K28A **Ten Mile Ranch** 73.64 334 P P 17 42 44.3 +1.0
baz=74
MONP **Monument Peak** 73.69 318 P P 17 42 45.2 +1.2
baz=74,SNR=14
M25A **Palm-Egli Farm** 73.69 332 P P 17 42 44.9 +1.1
baz=74
BAR **Barrett** 73.70 318 *e*P P 17 42 44.9 +1.1
comp=Z,49nm,0.9s
PV09 **Paradox Valley** 73.73 327 *e*P P 17 42 45.4 +1.2
L26A **Underwood Farm** 73.77 333 P P 17 42 45.3 +1.2
baz=74
IRM **Iron Mountain** 73.81 320 P P 17 42 45.8 +1.3
baz=74,SNR=41
J29A **Okreek** 73.82 335 P P 17 42 44.7 +0.4
baz=74,SNR=14
I30A **Oacoma** 73.92 336 P P 17 42 44.8 0.0
baz=74
NEE2 **Needles Airpor** 73.93 321 P P 17 42 46.1 +1.0
baz=74
K27A **Flueckinger Fa** 73.98 334 P P 17 42 46.4 +1.1
baz=74
N23A **Red Feather La** 74.09 330 P P 17 42 47.3 +1.1
baz=74,SNR=28
N23A **Red Feather La** 74.09 330 *e*P P 17 42 47.3 +1.1
comp=Z,58nm,1.1s
109C **Camp Elliot, M** 74.11 318 P P 17 42 47.1 +1.0
baz=74
J28A **Allard Ranch,** 74.19 335 P P 17 42 47.2 +0.8
baz=74,SNR=22
PHWY **Pilot Hill** 74.19 331 *e*P P 17 42 47.7 +0.9
comp=Z,63nm,1.3s
BELC **Belle Mtn. Jos** 74.20 319 P P 17 42 48.1 +1.3
baz=74,SNR=27
PFO **Pinyon Flat Ob** 74.20 319 P P 17 42 48.6 +1.7
comp=Z,230nm,1.2s,SNR=14
PFO **Pinyon Flat Ob** 74.20 319 P P 17 42 48.0 +1.1
comp=Z,27nm,0.9s,baz=138,slow=5.6,SNR=28
PFO **Pinyon Flat Ob** 74.20 319 *e*P P 17 42 48.2 +1.4
PFO pmax pmax
comp=Z,47nm,1.0s
PFO **Pinyon Flat Ob** 74.20 319 P P 17 42 48.2 +1.4
baz=74,SNR=22
PFO **Pinyon Flat Ob** 74.20 319 *e*P P 17 42 48.2 +1.4
comp=Z,47nm,1.0s
L25A **Engebretsen Ra** 74.24 332 P P 17 42 48.0 +1.1
baz=75
TBI **Tubuai** 74.32 251 *e*P P 17 42 49.2 +1.5
comp=Z,369nm,1.3s
I29A **Vivian Onida** 74.34 336 P P 17 42 47.4 +0.1
baz=75,SNR=20
J27A **Elkhorn Farm,** 74.35 334 P P 17 42 48.7 +1.3
baz=75,SNR=18
K26A **Motz Farm, Whi** 74.36 333 P P 17 42 48.6 +1.1
baz=75
EKU **East Kanab** 74.41 324 *e*P P 17 42 50.0 +1.9
LDFC **Landfair** 74.44 321 *e*P P 17 42 50.0 +1.9
comp=Z,70nm,1.0s
KNB **Kanab** 74.54 323 *e*P P 17 42 50.7 +1.9

KNB pmax pmax
comp=Z,212nm,1.1s
KNB Kanab 74.54 323 *e*P **P 17 42 50.7 +1.9**
comp=Z,212nm,1.1s
GMRC Granite Mounta 74.55 320 P **P 17 42 50.5 +1.7**
baz=75
O20A White River Ci 74.56 328 P **P 17 42 50.2 +1.4**
baz=75,SNR=20
O20A White River Ci 74.56 328 *e*P **P 17 42 50.1 +1.2**
comp=Z,133nm,1.1s
K25A Mack Ranch, Ha 74.58 333 P **P 17 42 50.1 +1.3**
baz=75,SNR=5.3
BTU Barney Top 74.58 325 *e*P **P 17 42 50.5 +1.3**
VNDA Vanda 74.61 190 P **P 17 42 48.9 +0.5**
comp=Z,38nm,1.0s,baz=140,slow=5.3,SNR=91
VNDA Vanda 74.61 190 P **P 17 42 48.9 +0.5**
VNDA pmax pmax
comp=Z,38nm,1.0s
VNDA Vanda 74.61 190 *e*P **P 17 42 49.3 +0.9**
comp=Z,59nm,1.1s
I28A Midland 74.65 335 P **P 17 42 49.5 +0.5**
baz=75,SNR=9.7
MURC Murrieta 74.65 318 P **P 17 42 50.5 +1.2**
baz=75
H29A Onida 74.82 336 P **P 17 42 50.1 +0.1**
baz=75,SNR=5.5
J26A Sides Ranch, S 74.83 334 P **P 17 42 51.4 +1.2**
baz=75,SNR=24
G30A Faulkton 74.86 337 P **P 17 42 49.9 -0.4**
baz=75
SRU San Rafael 74.89 326 *e*P **P 17 42 51.8 +1.0**
SRU pmax pmax
comp=Z,128nm,1.3s
SRU San Rafael 74.89 326 *e*P **P 17 42 51.8 +1.0**
comp=Z,128nm,1.3s
BBRC Big Bear Solar 74.93 319 P **P 17 42 52.8 +1.7**
baz=75
HEC Hector,Ludlow 74.97 320 P **P 17 42 52.8 +1.6**
baz=75,SNR=45
EYMN Ely 75.01 343 P **P 17 42 50.5 -0.4**
baz=75,SNR=29
EYMN Ely 75.01 343 *e*P **P 17 42 50.4 -0.6**
comp=Z,78nm,1.2s
I27A Quinn 75.05 335 P **P 17 42 52.0 +0.7**
baz=75
SCI San Clemente I 75.06 317 P **P 17 42 52.5 +0.9**
baz=75
K24A Anderson Ranch 75.07 332 P **P 17 42 53.0 +1.4**
baz=75,SNR=5.0
TUQ Turquoise Moun 75.16 320 P **P 17 42 53.6 +1.3**
baz=76,SNR=9.8
H28A Mission Ridge 75.16 336 P **P 17 42 52.4 +0.4**
baz=76,SNR=9.3
J25A Sunshine Ranch 75.19 333 P **P 17 42 53.3 +1.1**
baz=76,SNR=17
G29A Hoven 75.20 337 P **P 17 42 52.3 +0.1**
baz=76,SNR=6.5
CCUT Cedar City 75.23 324 *e*P **P 17 42 54.8 +2.0**
comp=Z,125nm,1.1s
ROA Roan Cliffs 75.23 327 *e*P **P 17 42 54.4 +1.5**
CIS Catalina Islan 75.25 317 P **P 17 42 54.1 +1.3**
baz=76,SNR=5.1
RWWY Rawlins 75.30 330 *e*pP pP 17 43 44.0 +4.7
MSU Marysvale 75.30 325 *e*P **P 17 42 54.7 +1.5**
MSU Marysvale 75.30 325 *e*P **P 17 42 54.7 +1.5**
MVU Marysvale 75.31 325 *e*P **P 17 42 54.9 +1.6**
comp=Z,96nm,1.2s
I26A New Underwood 75.34 334 P **P 17 42 53.8 +0.8**
baz=76,SNR=7.6
TMUT Trail Mountain 75.38 326 *e*P **P 17 42 55.0 +1.2**
comp=Z,220nm,2.2s
FMP Fort Macarthur 75.39 318 P **P 17 42 54.9 +1.4**
baz=76
RRX Edison Barstow 75.41 319 P **P 17 42 55.2 +1.6**
baz=76
F30A Leola 75.43 337 P **P 17 42 53.6 +0.1**
baz=76,SNR=5.6
DWU Dry Willow Pea 75.44 324 *e*P **P 17 42 55.6 +1.6**
K23A Bowen Ranch, D 75.44 332 P **P 17 42 54.9 +1.1**
baz=76,SNR=24
ARGU Argyle Ridge 75.44 327 *e*P **P 17 42 55.7 +1.6**
G28A Parade 75.46 336 P **P 17 42 54.1 +0.4**
baz=76,SNR=9.6
SHPR Sheep Range 75.47 322 *e*P **P 17 42 55.6 +1.5**
J24A Dixon Ranch, L 75.50 333 P **P 17 42 55.6 +1.5**
baz=76,SNR=18
SGU Sterling 75.52 326 *e*P **P 17 42 56.2 +1.8**
H27A Howes 75.53 335 P **P 17 42 54.4 +0.3**
baz=76,SNR=23
VAH Vaihoa 75.54 260 *e*P **P 17 42 56.4 +1.7**
comp=Z,257nm,1.0s
GSC Goldstone 75.58 320 *e*P **P 17 42 56.1 +1.4**
GSC pmax pmax
comp=Z,81nm,1.3s
GSC Goldstone 75.58 320 P **P 17 42 56.2 +1.4**
baz=76,SNR=34
GSC Goldstone 75.58 320 *e*P **P 17 42 56.1 +1.4**
comp=Z,81nm,1.3s
MWC Mount Wilson 75.59 318 *e*P **P 17 42 56.1 +1.2**
MWC pmax pmax
comp=Z,165nm,1.6s
MWC Mount Wilson 75.59 318 *e*P **P 17 42 56.0 +1.2**
comp=Z,165nm,1.6s
PASC Pasadena Art C 75.64 318 *e*P **P 17 42 55.0 +0.1**
comp=Z,96nm,1.2s
SHOC Shoshone 75.69 321 P **P 17 42 56.3 +1.1**
baz=76,SNR=8.9
F29A Eureka 75.72 337 P **P 17 42 55.2 +0.2**
baz=76,SNR=7.7
K22A Casper 75.75 331 P **P 17 42 56.7 +1.2**
baz=76,SNR=10
K22A Casper 75.75 331 *e*P **P 17 42 56.6 +1.0**
comp=Z,66nm,1.1s
SUR Sutherland 75.77 119 P **P 17 42 57.6 +1.5**
comp=Z,245nm,1.9s,SNR=6.5
SUR Sutherland 75.77 119 P **P 17 42 56.4 +0.3**
comp=Z,30nm,0.8s,baz=236,slow=5.6,SNR=22
SUR Sutherland 75.77 119 P **P 17 42 57.6 +1.5**
comp=Z,96nm,0.6s,SNR=6.5
SUR Sutherland 75.77 119 *e*P **P 17 42 56.5 +0.4**
comp=Z,934nm,2.8s
DECC Green Verdugo 75.78 318 P **P 17 42 56.7 +1.0**
baz=76
H26A Fairpoint 75.79 334 P **P 17 42 55.8 +0.2**
baz=76
PMOR Pomariorio Ree 75.86 260 *e*P **P 17 42 58.3 +1.7**
comp=Z,290nm,1.1s
RSSD Black Hills 75.89 333 *e*P **P 17 42 57.1 +0.8**
RSSD pmax pmax
comp=Z,41nm,1.1s
RSSD Black Hills 75.89 333 *e*P **P 17 42 57.1 +0.8**
comp=Z,41nm,1.1s
I24A Kuemmerle Ranc 75.92 333 P **P 17 42 57.4 +1.0**
baz=76,SNR=9.4
J23A Dilts Ranch, B 75.94 332 P **P 17 42 57.7 +1.2**
baz=76
E30A Jud 75.97 338 P **P 17 42 56.7 +0.2**
baz=76,SNR=5.8
EDW2 Edwards Air Fo 76.00 319 P **P 17 42 57.8 +0.8**
baz=76
F28A McLaughlin 76.08 336 P **P 17 42 57.7 +0.5**
baz=76,SNR=5.3
G27A Dupree 76.10 335 P **P 17 42 57.7 +0.4**
baz=76,SNR=26
H25A Fruitdale 76.12 334 P **P 17 42 58.2 +0.7**
baz=76,SNR=9.1
BLG Laguna Peak 76.13 318 P **P 17 42 58.7 +1.0**
baz=76,SNR=7.0
MPU Maple Canyon 76.14 326 *e*P **P 17 42 59.2 +1.3**
comp=Z,194nm,1.1s
OSI Osito Adit 76.26 318 P **P 17 42 59.3 +0.8**
baz=77
E29A Napoleon 76.28 337 P **P 17 42 58.2 -0.1**
baz=77
G26A Maurine 76.29 335 P **P 17 42 58.6 +0.3**
baz=77,SNR=20
NLU North Lily Min 76.32 326 *e*P **P 17 42 59.9 +1.0**
comp=Z,102nm,1.5s
J22A Midwest 76.34 332 P **P 17 42 59.3 +0.5**
baz=77,SNR=44
I23A Meade Ranch, G 76.35 332 P **P 17 42 59.2 +0.4**
baz=77
TPNV Topopah Spring 76.41 321 *e*P **P 17 43 01.1 +1.7**
TPNV pmax pmax
comp=Z,65nm,0.9s
TPNV Topopah Spring 76.41 321 P **P 17 43 01.1 +1.7**
baz=77
TPNV Topopah Spring 76.41 321 *e*P **P 17 43 01.1 +1.7**
comp=Z,65nm,0.9s
BSC Santa Cruz Isl 76.41 317 P **P 17 43 00.3 +1.1**
baz=77,SNR=7.8
PAE Paea 76.41 257 *e*P **P 17 43 01.2 +1.5**
comp=Z,20nm,1.1s
FURC Furnace Creek, 76.42 321 P **P 17 43 00.7 +1.5**
baz=77
PPT2 Papeete2 76.43 257 *e*P **P 17 43 01.6 +1.7**
comp=Z,125nm,1.2s
PPT Papeete 76.44 257 P **P 17 43 00.8 +0.9**
comp=Z,116nm,1.1s,baz=143,slow=5.1,SNR=4.3
PPT Papeete 76.44 257 P **P 17 43 00.8 +0.9**
PPT pmax pmax
comp=Z,116nm,1.1s
D30A Buchanan 76.44 338 P **P 17 42 59.6 +0.5**
baz=77,SNR=24
MPMC Manual Prospec 76.51 320 P **P 17 43 00.8 +0.8**
baz=77
G25A Newell 76.52 334 P **P 17 43 00.3 +0.6**
baz=77,SNR=8.4
F27A Lemmon 76.55 336 P **P 17 43 00.3 +0.5**
baz=77,SNR=26
AGMN Agassiz Nation 76.56 341 P **P 17 42 59.7 0.0**
baz=77
AGMN Agassiz Nation 76.56 341 *e*P **P 17 42 59.8 0.0**
comp=Z,40nm,0.9s
TOA0 Torodi Ar. Sit 76.60 69 *e* **P 17 42 58.9 -1.8**
TOA0 Torodi Ar. Sit 76.60 69 *e*P **P 17 43 00.0 -0.7**
TORD Torodi Ar. Bea 76.60 69 P **P 17 43 00.0 -0.7**
comp=Z,29nm,0.5s,baz=258,slow=5.7,SNR=333
TORD pP **pP 17 43 46.3 -0.8**
comp=Z,12nm,0.8s,baz=248,slow=6.0,SNR=2.0
TORD S **S 17 52 28.9 -2.4**
comp=Z,2.8nm,1.1s,baz=246,slow=10,SNR=6.4
TORD PKKPbc **PKKPbc 18 02 09.3 -0.7**
comp=Z,0.2nm,0.4s,baz=60,slow=1.2,SNR=4.7
H24A Dirks Ranch, A 76.61 333 P **P 17 43 00.6 +0.3**
baz=77,SNR=42
E28A Huff 76.66 337 P **P 17 43 01.1 +0.7**
baz=77,SNR=19
ARVC Arvin 76.67 319 P **P 17 43 01.5 +0.8**
baz=77
D29A Pettibone, Tap 76.69 338 P **P 17 43 00.7 +0.2**
baz=77
CTU Camp Tracy 76.71 327 *e*P **P 17 43 01.6 +0.7**
comp=Z,34nm,1.4s
J21A Lysite 76.71 331 P **P 17 43 02.0 +1.0**
baz=77,SNR=37
DAC Darwin (Calif) 76.72 320 *e*P **P 17 43 02.1 +0.9**
DAC pmax pmax
comp=Z,62nm,1.0s
DAC Darwin (Calif) 76.72 320 *e*P **P 17 43 02.1 +0.9**
comp=Z,62nm,1.0s
I22A 9 Mile Ranch, 76.73 332 P **P 17 43 01.6 +0.7**
baz=77,SNR=40
SBC Santa Barbara 76.76 318 P **P 17 43 02.0 +0.8**
baz=77
F26A Lodgepole 76.78 335 P **P 17 43 01.7 +0.6**
baz=77,SNR=25
H23A Clabaugh Cattl 76.81 333 P **P 17 43 02.0 +0.6**
baz=77
ISA Isabella 76.82 319 *e*P **P 17 43 03.0 +1.4**
ISA pmax pmax
comp=Z,60nm,1.0s
ISA Isabella 76.82 319 P **P 17 43 03.0 +1.4**
baz=77
ISA Isabella 76.82 319 *e*P **P 17 43 03.0 +1.4**
comp=Z,60nm,1.0s
FSU Fish Springs 76.83 325 *e*P **P 17 43 03.1 +1.4**
E27A Carson 76.85 336 P **P 17 43 02.0 +0.5**
baz=77,SNR=5.9
TCUT Toone Canyon 76.86 327 *e*P **P 17 43 02.9 +0.9**
comp=Z,18nm,0.6s
C30A Mose, Pekin 76.87 339 P **P 17 43 01.9 +0.4**
baz=77,SNR=15
DUG Dugway 76.88 326 *e*P **P 17 43 03.1 +1.2**
DUG pmax pmax
comp=Z,58nm,1.1s
DUG Dugway 76.88 326 P **P 17 43 03.3 +1.4**
baz=77
DUG Dugway 76.88 326 *e*P **P 17 43 03.1 +1.2**
comp=Z,58nm,1.1s
J20A Shoshoni 77.00 331 P **P 17 43 03.7 +1.2**
baz=77,SNR=28
I21A Big Trails, Te 77.02 331 P **P 17 43 03.1 +0.5**
baz=77,SNR=60
R11A Troy Canyon, C 77.02 323 P **P 17 43 04.4 +1.6**
baz=77,SNR=100
R11A Troy Canyon, C 77.02 323 *e*P **P 17 43 04.3 +1.5**
comp=Z,52nm,1.0s
G24A Alzada 77.03 334 P **P 17 43 03.1 +0.5**
baz=77,SNR=6.7
GRAC Grapevine Rang 77.09 321 P **P 17 43 04.5 +1.4**
baz=77
CWC Cottonwood Cre 77.12 320 P **P 17 43 04.6 +1.2**
baz=77
PKM Peak Mountain 77.12 318 P **P 17 43 04.8 +1.3**
baz=77
D28A Regan 77.14 337 P **P 17 43 03.7 +0.6**
baz=78,SNR=9.3
F25A Bowman 77.15 335 P **P 17 43 03.7 +0.5**
baz=78,SNR=7.6
MCU Monte Cristo P 77.16 327 *e*P **P 17 43 04.6 +0.9**
BW06 Boulder Array 77.22 329 *e*P **P 17 43 04.2 +0.3**
comp=Z,68nm,1.5s
E26A Carlson Angus 77.22 336 P **P 17 43 03.8 +0.3**
baz=78,SNR=6.9
PDAR Pinedale Array 77.22 329 P **P 17 43 04.1 +0.2**
comp=Z,7.4nm,0.5s,baz=119,slow=7.6,SNR=57
H22A Clearmont 77.24 332 P **P 17 43 04.1 +0.4**
baz=78
RSUT Red Spur Mount 77.25 327 *e*P **P 17 43 04.9 +0.7**
HWUT Hayware Ranch 77.30 327 *e*P **P 17 43 05.1 +0.8**
comp=Z,133nm,1.5s
G23A Biddle 77.33 333 P **P 17 43 04.8 +0.6**
baz=78,SNR=13
MDND Maddock 77.37 338 P **P 17 43 05.0 +0.8**
baz=78,SNR=19
MDND Maddock 77.37 338 *e*P **P 17 43 05.1 +0.8**
comp=Z,569nm,1.4s
J19A Crowheart 77.38 330 P **P 17 43 05.5 +0.8**
baz=78,SNR=62
BMUT Black Mountain 77.40 328 *e*P **P 17 43 05.6 +0.6**
D27A Center 77.41 337 P **P 17 43 05.0 +0.4**
baz=78
F24A Ekalaka 77.47 334 P **P 17 43 05.5 +0.5**
baz=78,SNR=17
B30A Myrvik Farm, E 77.47 339 P **P 17 43 05.0 +0.1**
baz=78,SNR=28
I20A Worland 77.50 331 P **P 17 43 05.8 +0.6**
baz=78,SNR=20
SMMC Simler 77.51 318 P **P 17 43 07.1 +1.8**
baz=78
SPUT South Promonto 77.52 327 *e*P **P 17 43 06.6 +1.1**
comp=Z,63nm,0.8s
BGU Big Grassy Mou 77.53 326 *e*P **P 17 43 06.5 +0.9**
comp=Z,69nm,1.2s
C28A Hausauer Farms 77.53 338 P **P 17 43 05.7 +0.5**
baz=78,SNR=6.2
H21A Big Horn, Sher 77.56 332 P **P 17 43 06.0 +0.4**
baz=78,SNR=20
EPU East Promontor 77.56 327 *e*P **P 17 43 06.6 +0.9**
E25A Miller Ranch, 77.60 335 P **P 17 43 06.5 +0.8**
baz=78,SNR=14
TIN Tinemaha 77.62 320 P **P 17 43 07.4 +1.3**
baz=78
TSUM Tsumeb 77.63 106 P **P 17 43 05.7 -0.9**
comp=Z,16nm,0.6s,baz=236,slow=6.7,SNR=65
TSUM pP **pP 17 43 51.4 -1.8**
comp=Z,8.7nm,1.0s,baz=253,slow=5.7,SNR=2.1
TSUM Tsumeb 77.63 106 *e*P **P 17 43 06.0 -0.6**
comp=Z,19nm,0.8s
TSUM pP **pP 17 43 51.4 -1.8**
D26A Manning 77.68 336 P **P 17 43 06.7 +0.6**
baz=78,SNR=12
G22A Birney 77.71 333 P **P 17 43 06.6 +0.2**
baz=78,SNR=13
RCTC Rector, Farmer 77.72 319 P **P 17 43 06.6 +0.1**
baz=78
TPH Tonopah 77.75 322 *e*P **P 17 43 08.0 +1.1**
TPH pmax pmax
comp=Z,61nm,1.1s
TPH Tonopah 77.75 322 *e*P **P 17 43 08.0 +1.1**
comp=Z,61nm,1.1s
F23A Volborg 77.75 334 P **P 17 43 07.0 +0.4**
baz=78
BEI Bear River Ran 77.79 328 *e*P **P 17 43 06.6 -0.4**
B29A Wagenman Farm, 77.82 339 P **P 17 43 07.1 +0.3**
baz=78,SNR=17
H20A Greybull 77.86 331 P **P 17 43 07.6 +0.4**
baz=78,SNR=17
A30A Hoffart Farm, 77.89 339 P **P 17 43 07.3 +0.2**
baz=78,SNR=12
C27A Sayler Ranch, 77.92 337 P **P 17 43 08.2 +0.8**
baz=78,SNR=14
AHID Auburn Hatcher 77.95 328 *e*P **P 17 43 09.2 +1.3**
comp=Z,70nm,0.8s
I19A Meeteetse 77.95 330 P **P 17 43 08.8 +0.9**
baz=78
E24A Baker 78.00 335 P **P 17 43 08.9 +1.0**
baz=78,SNR=28
HVU Hansel Valley 78.03 327 *e*P **P 17 43 09.0 +0.7**
HVU pmax pmax
comp=Z,72nm,1.2s
HVU Hansel Valley 78.03 327 *e*P **P 17 43 09.0 +0.7**
comp=Z,72nm,1.2s
G21A Lodge Grass 78.11 332 P **P 17 43 09.3 +0.7**
baz=78,SNR=26
D25A Fairfield 78.11 336 P **P 17 43 09.7 +1.2**
baz=78,SNR=19
B28A Dugan Ranch, T 78.15 338 P **P 17 43 09.1 +0.5**
baz=78,SNR=16
F22A Rosebud 78.15 333 P **P 17 43 09.3 +0.5**
baz=78,SNR=18
NPI North Pocatell 78.18 327 *e*P **P 17 43 09.8 +0.7**
A29A Manning Farm, 78.18 339 P **P 17 43 08.9 +0.2**
baz=78,SNR=23
C26A Wahner Farm, P 78.23 337 P **P 17 43 10.0 +0.9**
baz=79,SNR=14
REDW Red Top Meadow 78.29 329 *e*P **P 17 43 10.8 +1.0**
comp=Z,60nm,1.1s
ULM Lac du Bonnet 78.31 342 P **P 17 43 09.0 -0.4**
comp=Z,25nm,0.5s,baz=154,slow=6.1,SNR=38
ULM pP **pP 17 43 55.5 -0.5**
comp=Z,8.8nm,0.8s,baz=120,slow=5.2,SNR=1.7
ULM Lac du Bonnet 78.31 342 *e*P **P 17 43 09.3 -0.1**
ULM *PP **pP 17 43 55.5 -0.5**
ULM pmax pmax
comp=Z,123nm,1.4s
ULM Lac du Bonnet 78.31 342 *e*P **P 17 43 09.2 -0.1**
comp=Z,123nm,1.4s
ULM pP **pP 17 43 55.5 -0.5**
SNOW Snow King Moun 78.32 329 *e*P **P 17 43 11.1 +1.1**
comp=Z,52nm,1.1s
E23A Ismay 78.35 334 P **P 17 43 10.0 +0.2**
baz=79,SNR=28
LOHW Long Hollow 78.36 329 *e*P **P 17 43 11.2 +1.1**
comp=Z,152nm,1.8s
MLAC Mammoth Lakes 78.37 320 P **P 17 43 11.5 +1.2**
baz=79
B27A Peters Farms, 78.42 337 P **P 17 43 10.8 +0.7**
baz=79,SNR=5.1
TPAW Teton Pass 78.43 329 *e*P **P 17 43 11.6 +1.0**
comp=Z,85nm,1.3s
H19A Powell 78.44 331 P **P 17 43 11.3 +0.8**
baz=79,SNR=16
D24A Glendive 78.47 335 P **P 17 43 11.6 +1.2**
baz=79,SNR=12
A28A Rude Farm, Bot 78.51 338 P **P 17 43 10.8 +0.2**
baz=79,SNR=6.4
MOOW Moose Ponds 78.53 329 *e*P **P 17 43 11.9 +0.8**
comp=Z,85nm,1.7s
G20A Bridger 78.53 332 P **P 17 43 11.3 +0.3**
baz=79,SNR=54
ELK Elko 78.54 325 P **P 17 43 11.8 +0.6**
comp=Z,25nm,0.9s,baz=126,slow=4.9,SNR=76
ELK pP **pP 17 43 58.2 +0.3**
comp=Z,8.5nm,0.9s,baz=117,slow=4.5,SNR=2.8
ELK Elko 78.54 325 *e*P **P 17 43 12.2 +1.0**
ELK *PP **pP 17 43 58.2 +0.3**
ELK pmax pmax
comp=Z,42nm,1.0s
ELK Elko 78.54 325 *e*P **P 17 43 12.2 +1.0**
comp=Z,42nm,1.0s
ELK pP **pP 17 43 58.2 +0.3**
F21A Absaloka Mine, 78.55 333 P **P 17 43 11.7 +0.8**
baz=79
E22A Miles City 78.56 334 P **P 17 43 11.2 +0.3**
baz=79,SNR=7.7
C25A Freed Ranch, W 78.56 336 P **P 17 43 11.8 +0.9**
baz=79,SNR=6.7
FXWY Fox Creek 78.58 329 *e*P **P 17 43 12.2 +0.8**
comp=Z,37nm,1.4s
SCHQ Schefferville 78.60 0 P **P 17 43 10.8 -0.1**
comp=Z,6.7nm,0.4s,baz=220,slow=7.2,SNR=25
SCHQ LR LR 18 22 21.0
comp=Z,182nm,19.1s,baz=318,slow=39
SCHQ Schefferville 78.60 0 *e*P **P 17 43 11.2 +0.3**
comp=Z,63nm,1.5s
NVAR Mina Array Bea 78.61 321 P **P 17 43 12.0 +0.4**
comp=Z,28nm,1.0s,baz=153,slow=6.1,SNR=84
NVAR pP **pP 17 43 58.6 +0.4**
comp=Z,1.8nm,0.8s,baz=163,slow=6.3,SNR=1.0
IMW Indian Meadow 78.74 329 *e*P **P 17 43 13.4 +1.2**
comp=Z,81nm,1.1s
B26A Jensen Ranch, 78.74 337 P **P 17 43 12.6 +0.7**
baz=79
FLWY Flagg Ranch 78.77 329 *e*P **P 17 43 10.1 -2.3**
comp=Z,100nm,1.1s
YTP The Promontory 78.81 330 *e*P **P 17 43 14.1 +1.5**
C24A Savage 78.85 335 P **P 17 43 13.6 +1.1**
baz=79,SNR=12
LRV Little Rabbit 78.86 318 *e*P **P 17 43 15.0 +2.2**
LAO LASA Array 78.87 334 P **P 17 43 13.4 +0.7**
baz=79
LAO LASA Array 78.87 334 *e*P **P 17 43 13.0 +0.4**
comp=Z,95nm,1.1s
LAO *epP **pP 17 44 01.1 +1.7**
A27A Ledoux Ranch, 78.88 338 P **P 17 43 13.4 +0.8**
baz=79,SNR=12
RLMT Red Lodge 78.92 331 P **P 17 43 14.2 +1.0**
baz=79
RLMT Red Lodge 78.92 331 *e*P **P 17 43 13.6 +0.5**
comp=Z,210nm,1.7s
RLMT *epP **pP 17 44 00.6 +0.8**
F20A Billings 78.96 332 P **P 17 43 13.6 +0.4**
baz=79,SNR=8.4
B25A Knox Farm, Ray 78.99 336 P **P 17 43 14.5 +1.3**
baz=79,SNR=9.9
LKWY Lake 79.00 330 *e*P **P 17 43 16.2 +2.6**
LKWY pmax pmax
comp=Z,85nm,1.4s
LKWY Lake 79.00 330 *e*P **P 17 43 16.2 +2.6**
comp=Z,85nm,1.4s
MCID Moose Creek 79.07 329 *e*P **P 17 43 15.5 +1.4**
E21A Keefer Ranch, 79.10 333 P **P 17 43 14.7 +0.8**
baz=79
YFT Old Faithful 79.11 330 *e*P **P 17 43 17.0 +2.7**
comp=Z,34nm,1.0s
A26A Wade Farm, Ken 79.11 337 P **P 17 43 14.4 +0.5**
baz=79,SNR=7.9
YNR Norris Junctio 79.24 330 *e*P **P 17 43 17.7 +2.7**
comp=Z,53nm,1.4s
WAKR Walker 79.31 321 *e*P **P 17 43 16.9 +1.5**
YMR Madison River 79.34 330 *e*P **P 17 43 17.2 +1.7**
comp=Z,217nm,1.4s
YHH Holmes Hill 79.38 330 *e*P **P 17 43 17.2 +1.5**
BMN Battle Mountai 79.39 323 *e*P **P 17 43 15.8 +0.1**
BMN pmax pmax
comp=Z,24nm,1.2s
BMN Battle Mountai 79.39 323 *e*P **P 17 43 15.8 +0.1**
comp=Z,24nm,1.2s
A25A Svangstu Ranch 79.53 337 P **P 17 43 17.0 +0.9**
baz=80,SNR=10
CMB Columbia Colle 79.55 320 *e*P **P 17 43 17.2 +0.7**
CMB pmax pmax
comp=Z,32nm,1.4s
CMB Columbia Colle 79.55 320 *e*P **P 17 43 17.2 +0.7**
comp=Z,32nm,1.4s
QLMT Earthquake Lak 79.67 330 *e*P **P 17 43 18.8 +1.6**
QLMT *epP **pP 17 44 09.0 +5.0**
HLID Hailey 80.16 327 P **P 17 43 21.3 +1.5**
baz=80
HLID Hailey 80.16 327 *e*P **P 17 43 21.5 +1.6**
comp=Z,126nm,1.1s
MCMT McKenzie Canyo 80.34 329 *e*P **P 17 43 22.2 +1.4**
BOZ Bozeman (W) 80.39 330 *e*P **P 17 43 21.2 +0.3**
BOZ pmax pmax
comp=Z,32nm,1.3s
BOZ Bozeman (W) 80.39 330 P **P 17 43 21.6 +0.6**
baz=81
BOZ Bozeman (W) 80.39 330 *e*P **P 17 43 21.2 +0.3**
comp=Z,32nm,1.3s
SAC San Andreas 80.47 318 *e*P **P 17 43 22.7 +1.3**
SAC San Andreas 80.47 318 *e*P **P 17 43 22.6 +1.3**

DLMT **Dillon** 80.62 329 *e*P P 17 43 23.1 +0.9
comp=Z,51nm,0.9s
BOSA **Boshof** 80.69 117 P P 17 43 22.4 -0.6
comp=Z,17nm,0.5s,baz=252,slow=3.8,SNR=40
BOSA **Boshof** 80.69 117 P P 17 43 22.5 -0.6
BOSA pmax pmax
comp=Z,17nm,0.5s
BOSA **Boshof** 80.69 117 *e*P P 17 43 22.9 -0.3
MFID **Camas Ranch** 80.77 326 *e*P P 17 43 23.7 +0.8
comp=Z,74nm,1.4s
MFID *e*pP pP 17 44 09.8 0.0
LRM **Limekiln Ridge** 80.90 330 *e*P P 17 43 24.8 +1.0
OHCM **Honcut** 81.05 320 *e*P P 17 43 25.2 +0.8
MCCM **Marconi Confer** 81.11 319 *e*P P 17 43 25.9 +1.2
comp=Z,56nm,0.9s
NSHM **Saint Helena R** 81.19 319 *e*P P 17 43 26.0 +0.9
HRY **Holter Researc** 81.29 331 *e*P P 17 43 26.8 +1.1
MAW **Mawson** 81.35 163 P P 17 43 25.5 -0.1
comp=Z,66nm,0.8s,baz=226,slow=6.8,SNR=84
MAW pP pP 17 44 14.1 +1.6
comp=Z,17nm,1.1s,baz=230,slow=7.9,SNR=2.3
MAW **Mawson** 81.35 163 *e*P P 17 43 25.8 +0.2
MAW *PP pP 17 44 14.1 +1.6
MAW pmax pmax
comp=Z,15nm,0.8s
MAW **Mawson** 81.35 163 *e*P P 17 43 25.8 +0.2
comp=Z,15nm,0.8s
MAW pP pP 17 44 14.1 +1.6
EGMT **Eagleton** 81.39 333 P P 17 43 26.4 +0.2
baz=82
EGMT **Eagleton** 81.39 333 *e*P P 17 43 26.3 +0.2
comp=Z,94nm,1.1s
WVOR **Wild Horse Val** 81.54 324 *e*P P 17 43 27.7 +0.6
WVOR pmax pmax
comp=Z,19nm,1.1s
WVOR **Wild Horse Val** 81.54 324 *e*P P 17 43 27.7 +0.6
comp=Z,19nm,1.1s
WVOR *e*ScS ScS 17 53 37.3 -1.4
CHMT **Chamberlain Mo** 82.08 330 *e*P P 17 43 30.6 +0.7
MDT **Midelt** 82.08 49 P P 17 43 30.9 +0.7
comp=Z,16nm,1.0s,baz=246,slow=5.1
MDT pP pP 17 44 18.2 +1.0
comp=Z,6.1nm,1.0s,baz=222,slow=7.0,SNR=2.4
MOD **Modoc** 82.09 323 *e*P P 17 43 30.5 +0.5
comp=Z,65nm,1.1s
MORF **Marmelete** 82.10 43 *e*P P 17 43 30.6 +0.5
MORF *e*S S 17 53 29.3 +0.8
MORF AMS AMS 18 31 58.3
comp=Z,476nm,21.9s
MORF **Marmelete** 82.10 43 *e*P P 17 43 31.3 +1.2
comp=Z,51nm,2.0s
MORF **Marmelete** 82.10 43 *e*P P 17 43 30.5 +0.5
MORF *e*S S 17 53 29.3 +0.8
PTEO **Sao Teotonio** 82.20 43 *e*P P 17 43 33.1 +2.6
comp=Z,59nm,1.8s
MSO **Missoula** 82.33 330 P P 17 43 32.1 +1.0
baz=83
MSO **Missoula** 82.33 330 *e*P P 17 43 32.1 +1.0
comp=Z,42nm,1.4s
LBTB **Lobatse** 82.35 114 P P 17 43 31.9 +0.1
comp=Z,16nm,0.5s,baz=255,slow=5.6,SNR=35
LBTB **Lobatse** 82.35 114 *e*P P 17 43 31.5 -0.4
LBTB pmax pmax
comp=Z,81nm,1.4s
LBTB **Lobatse** 82.35 114 *e*P P 17 43 31.5 -0.4
comp=Z,81nm,1.4s
SLMT **Seeley Lake** 82.44 330 *e*P P 17 43 32.5 +0.8
SLMT *e*pP pP 17 44 20.8 +2.1
WDC **Whiskeytown Da** 82.48 321 *e*P P 17 43 30.9 -0.9
WDC pmax pmax
comp=Z,15nm,0.8s
WDC **Whiskeytown Da** 82.48 321 *e*P P 17 43 30.9 -0.9
comp=Z,15nm,0.8s
KCPM **Cahto Peak** 82.52 319 *e*P P 17 43 33.9 +1.7
comp=Z,37nm,1.4s
PBDV **Barranco-do-Ve** 82.52 44 *e*P P 17 43 33.5 +1.3
comp=Z,42nm,1.8s
KIPM **Iron Peak** 82.53 320 *e*P P 17 43 33.9 +1.5
PNCL **Nicolau / Gran** 82.68 43 *e*P P 17 43 34.2 +1.3
comp=Z,29nm,0.1s
PCVE **Castro Verde** 82.69 43 *e*P P 17 43 34.5 +1.5
comp=Z,11nm,2.4s
MESJ **Messejana** 82.70 43 *e*P P 17 43 34.0 +1.0
MESJ *e*S S 17 53 35.2 +0.7
MESJ AMS AMS 18 31 50.7
comp=Z,556nm,17.3s
MESJ **Messejana** 82.70 43 *e*P P 17 43 34.5 +1.4
comp=Z,22nm,1.3s
MESJ **Messejana** 82.70 43 *e*P P 17 43 34.0 +1.0
MESJ *e*S S 17 53 35.1 +0.7
PVAQ **Vaqueiros** 82.75 44 *e*P P 17 43 34.7 +1.4
comp=Z,26nm,1.8s
PVAQ *e*pP pP 17 44 22.3 +1.9
N02D **Trinity Center** 82.83 321 P P 17 43 33.5 -0.2
baz=83
M04C **Macdoel** 82.86 322 P P 17 43 34.5 +0.5
baz=83
SWMT **Swartz Lake** 82.86 330 *e*P P 17 43 34.5 +0.7
KMRM **Mail Ridge** 82.93 320 *e*P P 17 43 35.5 +1.2
comp=Z,44nm,0.9s
K05A **Summer Lake** 82.96 323 *e*P P 17 43 35.8 +1.2
comp=Z,165nm,1.2s
YBMT **Yellow Bay** 83.13 330 *e*P P 17 43 36.0 +0.8
JTMT **Jette** 83.17 330 *e*P P 17 43 36.2 +0.8
M02C **Callahan** 83.19 321 P P 17 43 35.9 +0.3
baz=84
EVO **Evora** 83.25 43 *e*P P 17 43 33.8 -2.1
EVO *e*pP pP 17 44 23.1 +0.1
F10A **Beach Ranch, E** 83.29 327 *e*P P 17 43 36.8 +0.7
comp=Z,52nm,1.1s
YBH **Yreka Blue Hor** 83.32 321 P P 17 43 35.7 -0.6
comp=Z,13nm,0.9s,baz=104,slow=3.7,SNR=17
YBH **Yreka Blue Hor** 83.32 321 P P 17 43 35.7 -0.6
YBH pmax pmax
comp=Z,13nm,0.9s
YBH **Yreka Blue Hor** 83.32 321 *e*P P 17 43 35.6 -0.6
comp=Z,14nm,1.0s
KHMM **Horse Mountain** 83.36 320 *e*P P 17 43 37.9 +1.3
comp=Z,35nm,1.0s
K04D **Chiloquin, OR** 83.37 323 P P 17 43 37.2 +0.7
baz=84
BLMT **Blacktail Moun** 83.40 330 *e*P P 17 43 37.3 +0.6
BLMT *e*pP pP 17 44 24.8 +0.9
PMTG **Montargil** 83.45 42 *e*P P 17 43 38.2 +1.3
comp=Z,28nm,1.7s
PMTG *e*pP pP 17 44 24.5 +0.5
BSMT **Bassoo Peak** 83.48 330 *e*P P 17 43 37.8 +0.7
J05D **Fort Rock, OR** 83.52 323 P P 17 43 38.3 +0.9
baz=84
PBAR **Barrancos** 83.64 43 *e*P P 17 43 39.2 +1.3
comp=Z,32nm,2.4s
PBAR *e*pP pP 17 44 24.6 -0.5
G08A **Pilot Rock** 83.68 326 *e*P P 17 43 38.6 +0.5
comp=Z,36nm,1.4s
PESTR **Estremoz** 83.72 43 *e*pP pP 17 44 25.4 -0.1
KTRM **Thompson Ridge** 83.82 321 P P 17 43 39.9 +1.0
PCAS **Casmilo, Conde** 83.90 41 *e*P P 17 43 42.8 +3.7
PCAS *e*pP pP 17 44 27.3 +1.0
J04D **Umpqua Nationa** 83.97 323 P P 17 43 40.3 +0.6
baz=84
WALA **Waterton Lakes** 83.97 331 *e*P P 17 43 39.8 +0.3
comp=Z,28nm,1.0s
WALA *e*pP pP 17 44 30.0 +3.4
RAR **Rarotonga** 83.98 250 *e*PP PP 17 47 00.2 +3.8
HUMO **Hull Mountain** 84.03 322 *e*P P 17 43 39.5 -0.2
comp=Z,29nm,1.4s
FFC **Flin Flon** 84.04 340 P P 17 43 39.0 -0.5
comp=Z,124nm,1.0s,SNR=8.1
FFC **Flin Flon** 84.04 340 *e*P P 17 43 39.4 -0.1
FFC pmax pmax
comp=Z,28nm,1.0s
FFC **Flin Flon** 84.04 340 *e*P P 17 43 39.4 -0.1
comp=Z,28nm,1.0s
L02D **Cave Junction,** 84.11 321 P P 17 43 41.1 +0.9
baz=84
E09A **Wood Farm, Sta** 84.12 327 *e*P P 17 43 40.6 +0.5
comp=Z,102nm,2.0s
PMRV **Marv??o** 84.19 42 *e*P P 17 43 41.0 +0.4
comp=Z,14nm,2.0s
PMRV *e*pP pP 17 44 28.1 +0.2
I05D **Terrebonne, OR** 84.28 324 P P 17 43 42.3 +1.3
baz=85
PCBR **Castelo Branco** 84.38 42 *e*P P 17 43 43.0 +1.4
comp=Z,24nm,1.0s
VTHM **Trough** 84.43 325 P P 17 43 42.7 +0.9
TAM **Tamanrasset** 84.44 62 *e*P P 17 43 43.1 +0.7
TAM pmax pmax
comp=Z,80nm,1.5s
TAM **Tamanrasset** 84.44 62 *e*P P 17 43 43.1 +0.7
comp=Z,80nm,1.5s
I04A **Tendick Farm,** 84.50 323 P P 17 43 42.2 +0.1
baz=85
G06A **Carlson Farm,** 84.51 325 *e*P P 17 43 43.0 +0.8
comp=Z,57nm,1.4s
CROR **Criterion Ridg** 84.52 325 P P 17 43 43.5 +1.2
PVIS **Viseu** 84.67 41 *e*P P 17 43 44.7 +1.6
comp=Z,28nm,1.3s
MTE **Manteigas** 84.69 41 *e*P P 17 43 43.8 +0.6
comp=Z,38nm,1.1s
MTE *e*pP pP 17 44 29.8 -0.7
MTE **Manteigas** 84.69 41 *e*P P 17 43 43.5 +0.3
comp=Z,20nm,1.0s
HAWA **Hanford** 84.73 327 *e*P P 17 43 44.0 +0.9
comp=Z,57nm,1.0s
HAWA *e*pP pP 17 44 33.0 +2.6
WRD **Warden** 84.82 327 P P 17 43 45.2 +1.6
NEW **Newport** 84.86 329 P P 17 43 43.2 -0.6
comp=Z,5.3nm,0.4s,baz=132,slow=4.4,SNR=17
NEW pP pP 17 44 31.1 0.0
comp=Z,4.4nm,0.7s,baz=124,slow=7.3,SNR=1.2
NEW **Newport** 84.86 329 *e*P P 17 43 44.0 +0.2
NEW *PP pP 17 44 31.1 0.0
NEW pmax pmax
comp=Z,22nm,1.1s
NEW **Newport** 84.86 329 P P 17 43 43.5 -0.3
baz=85
NEW **Newport** 84.86 329 *e*P P 17 43 44.0 +0.2
comp=Z,22nm,1.1s
NEW pP pP 17 44 31.1 0.0
G05D **Wamic, OR** 84.87 325 P P 17 43 45.3 +1.3
baz=85
D08A **Wollman Farm,** 84.88 327 *e*P P 17 43 44.5 +0.6
comp=Z,77nm,1.3s
I03D **Drain, OR** 84.95 323 P P 17 43 45.0 +0.7
baz=85
H04A **Detroit Lake** 84.96 324 *e*P P 17 43 44.5 +0.1
comp=Z,63nm,1.3s
OD2 **Odessa Site #2** 85.01 328 P P 17 43 45.2 +0.6
C09A **Chrisman Ranch** 85.08 328 P P 17 43 45.5 +0.6
PVRL **Vila Real** 85.12 41 *e*P P 17 43 46.2 +0.9
comp=Z,36nm,1.6s
PVRL *e*pP pP 17 44 33.5 +0.9
POLO **Lamas de Olo** 85.13 40 *e*P P 17 43 46.3 +0.9
comp=Z,12nm,1.0s
POLO *e*pP pP 17 44 32.1 -0.7
PGAV **Gavieira, Arco** 85.22 40 *e*pP pP 17 44 33.4 +0.2
MVO **Moncorvo** 85.46 41 *e*P P 17 43 48.1 +1.1
comp=Z,29nm,0.3s
MVO *e*pP pP 17 44 34.5 +0.1
COR **Corvallis** 85.50 323 *e*P P 17 43 48.6 +1.6
COR pmax pmax
comp=Z,143nm,1.3s
COR **Corvallis** 85.50 323 *e*P P 17 43 48.6 +1.6
comp=Z,143nm,1.3s
FCC **Fort Churchill** 85.55 346 *e*P P 17 43 47.3 +0.4
FCC pmax pmax
comp=Z,214nm,1.4s
FCC **Fort Churchill** 85.55 346 *e*P P 17 43 47.3 +0.4
comp=Z,214nm,1.4s
G03D **McMinnville, O** 85.89 324 P P 17 43 49.6 +0.7
baz=86
ETW **Entiat** 85.95 327 P P 17 43 49.9 +0.5
B08A **Colville Reser** 85.98 328 *e*P P 17 43 49.1 -0.2
comp=Z,52nm,1.3s
PBRG **Braganca** 86.02 41 *e*P P 17 43 50.8 +1.1
comp=Z,29nm,1.7s
PBRG *e*pP pP 17 44 38.1 +0.9
LON **Longmire** 86.13 326 *e*P P 17 43 50.1 -0.1
LON pmax pmax
comp=Z,61nm,1.8s
LON **Longmire** 86.13 326 *e*P P 17 43 50.1 -0.1
comp=Z,61nm,1.8s
PAB **San Pablo** 86.15 44 *e*P P 17 43 51.5 +1.0
PAB *e*PP pP 17 44 39.3 +1.4
PAB pmax pmax
comp=Z,23nm,1.0s
PAB **San Pablo** 86.15 44 *e*P P 17 43 51.5 +1.0
comp=Z,23nm,1.0s
PAB *e*pP pP 17 44 39.3 +1.4
F04D **Rainier, OR** 86.32 325 P P 17 43 52.0 +1.0
baz=87
ESDC **Sonseca Array** 86.46 44 P P 17 43 53.0 +1.0
comp=Z,3.9nm,0.6s,baz=231,slow=4.7,SNR=25
ESDC pP pP 17 44 39.6 +0.2
comp=Z,13nm,1.0s,baz=240,slow=5.3,SNR=5.3
ESLA **Sonseca Array** 86.46 44 *e*P P 17 43 52.6 +0.7
comp=Z,2.9nm,0.9s
ESLA *e*pP pP 17 44 40.6 +1.1
F03A **Seaside** 86.51 324 *e*P P 17 43 53.0 +1.0
comp=Z,88nm,1.1s
D05A **Enumclaw** 86.51 326 *e*P P 17 43 52.2 +0.3
comp=Z,78nm,1.0s
MATP **Matopo** 86.64 111 P P 17 43 53.8 +0.3
comp=Z,57nm,0.8s,baz=245,slow=4.3,SNR=112
PNT **Penticton** 86.78 329 P P 17 43 53.5 +0.3
PNT **Penticton** 86.78 329 P P 17 43 53.5 +0.3
EDM **Edmonton** 86.84 334 *e*P P 17 43 52.3 -1.2
EDM pmax pmax
comp=Z,161nm,1.2s
EDM **Edmonton** 86.84 334 *e*P P 17 43 52.2 -1.2
comp=Z,160nm,1.2s
E03A **Lebam** 86.91 325 *e*P P 17 43 54.6 +0.8
comp=Z,80nm,0.9s
JCW **Jim Creek** 87.15 327 P P 17 43 54.7 -0.3
CMW **Cultus Mountai** 87.40 327 P P 17 43 56.2 -0.1
FRB **Frobisher Bay** 87.55 359 P P 17 43 56.4 0.0
comp=Z,8.8nm,0.9s,baz=194,slow=7.0,SNR=3.7
FRB **Frobisher Bay** 87.55 359 P P 17 43 56.4 0.0
FRB pmax pmax
comp=Z,9.0nm,0.9s
BLN **Blyn Mountain** 87.55 326 P P 17 43 57.6 +0.7
NLWA **Neilton Lookou** 87.61 325 *e*P P 17 43 58.0 +0.7
comp=Z,63nm,1.1s
MCW **Mount Constitu** 87.92 327 P P 17 43 59.1 +0.4
MCW **Mount Constitu** 87.92 327 P P 17 43 59.1 +0.4
PGC **Sidney** 88.21 326 *e*P P 17 44 00.6 +0.7
comp=Z,91nm,1.1s
LSZ **Lusaka** 88.48 106 P P 17 44 03.4 +1.1
comp=Z,30nm,0.9s,baz=300,slow=1.9,SNR=59
LSZ pP pP 17 44 49.0 -0.9
comp=Z,3.7nm,0.9s,baz=92,slow=20,SNR=1.1
LSZ PKKPbc PKKPbc 18 01 44.0 +1.5
comp=Z,1.9nm,0.5s,baz=44,slow=4.4,SNR=7.3
LSZ **Lusaka** 88.48 106 P P 17 44 03.4 +1.1
LSZ *PP pP 17 44 49.0 -0.9
LSZ pmax pmax
comp=Z,30nm,1.0s
LSZ pmax pmax
comp=Z,4.0nm,0.9s
LSZ pmax pmax
comp=Z,2.0nm,0.5s
LSZ **Lusaka** 88.48 106 *e*P P 17 44 04.4 +2.2
comp=Z,52nm,1.0s
LSZ pP pP 17 44 49.0 -0.9
LSZ PKKPbc PKKPbc 18 01 44.0 +1.5
CASY **Casey** 89.90 179 *e*P P 17 44 08.3 +0.6
comp=Z,85nm,0.9s
CASY *e*pP pP 17 44 57.0 +1.5
DYA **Yadsworthy** 92.72 35 *e*P P 17 44 25.9 +5.1
comp=Z,101nm,1.5s
BBB **Bella Bella** 92.75 327 P P 17 44 20.9 0.0
comp=Z,19nm,1.0s,baz=113,slow=3.8,SNR=4.4
BFZ **Birch Farm** 92.82 223 *e*PP PP 17 48 04.8 -1.4
KEST **Kesra** 93.47 52 P P 17 44 24.6 -0.2
comp=Z,2.3nm,1.0s,baz=241,slow=5.6,SNR=2.9
YKA **Yellowknife Ar** 94.21 340 P P 17 44 27.3 -0.1
comp=Z,11nm,0.5s,baz=133,slow=4.6,SNR=100
YKA pP pP 17 45 15.0 -0.3
comp=Z,6.0nm,0.8s,baz=135,slow=4.3,SNR=5.1
YKA **Yellowknife Ar** 94.21 340 P P 17 44 27.3 -0.1
YKA *PP pP 17 45 15.0 -0.3
YKA pmax pmax
comp=Z,11nm,0.5s
YKA pmax pmax
comp=Z,6.0nm,0.8s
YKW3 **Yellowknife Ar** 94.26 340 *e*P P 17 44 27.4 -0.3
comp=Z,0.3nm,0.6s
YKW3 *e*pP pP 17 45 15.7 +0.1
SSB **Saint Sauveur** 94.77 42 *e*P P 17 44 30.7 +0.2
SSB *e*PP pP 17 45 19.0 +0.6
SSB **Saint Sauveur** 94.77 42 *e*P P 17 44 30.7 +0.2
SSB *e*pP pP 17 45 19.0 +0.6
EKA **Eskdalemuir Ar** 95.91 31 P P 17 44 34.7 -0.7
comp=Z,1.2nm,0.4s,baz=240,slow=2.4,SNR=3.9
EKA pP pP 17 45 21.5 -1.8
comp=Z,4.8nm,1.1s,baz=216,slow=3.5,SNR=2.4
EKA **Eskdalemuir Ar** 95.91 31 P P 17 44 34.7 -0.7
EKA *PP pP 17 45 21.5 -1.8
EKA pmax pmax
comp=Z,1.0nm,0.4s
EKA pmax pmax
comp=Z,5.0nm,1.2s
DLBC **Dease Lake** 97.30 332 P P 17 44 41.6 -0.2
comp=Z,10nm,0.9s,baz=119,slow=3.3,SNR=15
DLBC pP pP 17 45 30.1 +0.4
comp=Z,3.5nm,0.8s,baz=140,slow=4.5,SNR=3.0
DLBC **Dease Lake** 97.30 332 *e*P Pdif 17 44 42.7 +0.9
comp=Z,19nm,1.1s
DLBC pP pP 17 45 30.1 +0.4
WLF **Walferdange** 97.84 39 *e*pPdiff pP 17 45 32.8 +0.6
TUE **Stuetta** 98.30 43 *e*pP pP 17 45 34.9 +0.2
BFO **Black Forest** 98.50 41 *e*pPdiff pP 17 45 35.2 -0.1
DAVOX **Davos/Dischmat** 98.76 43 P Pdif 17 44 49.0 +0.3
comp=Z,3.4nm,1.0s,baz=241,slow=8.4,SNR=4.1
DAVOX pP pP 17 45 35.9 -0.8
comp=Z,2.4nm,0.7s,baz=259,slow=4.8,SNR=2.4
DAVOX PKKPbc PKKPbc 18 01 15.7 -1.7
comp=Z,2.5nm,0.4s,baz=111,slow=14,SNR=7.3
DAVOX **Davos/Dischmat** 98.76 43 P Pdif 17 44 49.0 +0.3
DAVOX *PP pP 17 45 35.9 -0.8
DAVOX pmax pmax
comp=Z,3.0nm,1.0s
DAVOX pmax pmax
comp=Z,2.0nm,0.7s
DAVOX pmax pmax
comp=Z,3.0nm,0.4s
STU **Stuttgart** 99.22 41 *e*pPdiff pP 17 45 38.7 +0.2
BUG **Bochum--Univer** 99.30 38 *e*pPdiff pP 17 45 38.9 +0.2
KIP **Kipapa** 99.35 289 ‖ *e*P **Pdif** **17 44 47.8 -3.8**
KIP pmax pmax
comp=Z,68nm,1.4s
TNS **Taunus Mts** 99.42 39 *e*pPdiff pP 17 45 39.8 +0.4
BESE **Bessie Mountai** 99.51 331 *e*Pdif **Pdif** **17 44 52.6 +1.1**
comp=Z,4.8nm,1.0s
IBBN **Ibbenburen** 99.95 37 *e*pPdiff pP 17 45 42.0 +0.4
UBBA **Unterbreizbach** 100.57 39 *e*pPdiff pPdif 17 45 45.0 +0.8
GRF **Grafenberg Arr** 100.81 40 *e*pPdiff pPdif 17 45 46.2 +0.7
CLZ **Clausthal** 101.21 38 *e*pPdiff pPdif 17 45 48.1 +0.8
ROTZ **Rotzenmuhle** 101.42 41 *e*pPdiff pPdif 17 45 49.3 +1.1
MOX **Moxa** 101.43 40 *e*pPdiff pPdif 17 45 49.0 +0.8
MANZ **Manzenberg** 101.45 40 *e*pPdiff pPdif 17 45 49.4 +1.0
WET **Wettzell** 101.58 41 *e*pPdiff pPdif 17 45 49.5 +0.6
PLN **Plauen** 101.68 40 *e*pPdiff pPdif 17 45 50.3 +0.9
WERN **Wernitzgruen** 101.73 40 *e*pPdiff pPdif 17 45 50.7 +1.1
GUNZ **Gunzen** 101.74 40 *e*pPdiff pPdif 17 45 50.6 +1.0
NKC **Novy Kostel** 101.75 40 *e*SKS **SKSac** **17 55 24.4 +2.1**
NKC *e*SDIF **Sdif** **17 56 28.4 +2.4**
NKC *e*SP **SP** **17 58 01.3 +1.5**
WERD **Werda** 101.75 40 *e*pPdiff pPdif 17 45 50.4 +0.7
TANN **Tannenbergstha** 101.83 40 *e*pPdiff pPdif 17 45 51.1 +1.0
GERES **GERESS Array B** 101.96 42 P **Pdif** **17 45 08.7 +6.0**
comp=Z,0.2nm,0.2s,baz=223,slow=5.3,SNR=3.8
GERES pP pP 17 45 50.4 -0.5
comp=Z,0.6nm,0.8s,baz=211,slow=5.6,SNR=2.3
GERES PKiKP **PKiKP** **17 49 23.6 -0.9**
comp=Z,0.5nm,0.7s,baz=129,slow=1.4,SNR=3.9
GERES PKKPbc **PKKPbc** **18 01 06.3 -1.8**
comp=Z,0.8nm,0.5s,baz=84,slow=3.1,SNR=9.2
GERES **GERESS Array B** 101.96 42 P **Pdif** **17 45 08.7 +6.0**
GERES *i* 17 49 23.6
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES pmax pmax
comp=Z,1.0nm,0.5s
KHC **Kasperske Hory** 102.00 41 *e*pP pP 17 45 51.3 +0.3
KHC *e*SKS **SKSac** **17 55 24.4 +0.9**
KHC *e*SDIF **Sdif** **17 56 32.6 +4.5**
KHC *e*SP **SP** **17 57 59.5 -2.9**
BSEG **Bad Segeberg** 102.05 36 *e*pPdiff pPdif 17 45 51.4 +0.6
CLL **Collm** 102.50 39 *e*SKSac **SKSac** **17 55 27.0 +1.3**
CLL *e* 17 57 42.0
CLL *e*SP **SP** **17 58 05.0 -2.6**
CLL *e*PKKPdf **PKKPdf** **18 01 12.0 -1.9**
PRA **Prague** 102.87 41 *e*SKS **SKSac** **17 55 33.5 +6.0**
PRA *e*SDIF **Sdif** **17 56 38.5 +3.3**
PRA *e*SP **SP** **17 58 15.6 +4.1**
BRG **Berggiesshubel** 102.88 40 *e*pPdiff pPdif 17 45 55.6 +1.0
PRU **Pruhonice** 102.90 41 *e*pP **pPdif** **17 45 55.2 +0.4**
PRU *e*SKS **SKSac** **17 55 31.2 +3.6**
PRU *e*SDIF **Sdif** **17 56 35.4 -0.1**
PRU *ex* x 17 58 02.8
PRU *e*PKKP **PKKPbc** **18 01 04.3 -0.9**
GOPC **GO Pecny, Ondr** 103.02 41 *e*pP **pPdif** **17 45 57.0 +1.7**
GOPC *e*SKS **SKSac** **17 55 33.4 +5.1**
GOPC *e*SDIF **Sdif** **17 56 36.0 -0.5**
GOPC *e*SP **SP** **17 58 05.6 -7.6**
PVCC **Panska Ves** 103.12 40 *e*SKS **SKSac** **17 55 31.8 +3.2**
PVCC *e*SDIF **Sdif** **17 56 33.4 -3.9**
PVCC *e*SP **SP** **17 58 10.1 -4.0**
TREC **Trest** 103.22 42 *e*pP **pPdif** **17 45 57.2 +1.0**
TREC *e*SKS **SKSac** **17 55 29.5 +0.3**
TREC *e*SDIF **Sdif** **17 56 37.5 -0.7**
TREC *e*SP **SP** **17 58 09.5 -5.8**
INK **Inuvik** 103.97 339 Pdiff **Pdif** **17 45 10.7 -0.4**
comp=Z,0.8nm,0.3s,baz=5.3,slow=2.5,SNR=3.0
INK **Inuvik** 103.97 339 P **Pdif** **17 45 10.7 -0.4**
INK pmax pmax
comp=Z,1.0nm,0.3s
UPC **Upice** 103.97 41 *e*SKS **SKSac** **17 55 34.6 +2.0**
UPC *e*SDIF **Sdif** **17 56 46.3 +1.9**
UPC *e*SP **SP** **17 58 21.6 -1.5**
DPC **Dobruska-Polom** 104.10 41 *e*pP **pPdif** **17 46 00.7 +0.5**
DPC *e*SKS **SKSac** **17 55 33.7 +0.4**
DPC *e*SDIF **Sdif** **17 56 46.2 +0.6**
DPC *e*SP **SP** **17 58 25.9 +1.4**
DPC *e*PKKP **PKKPbc** **18 01 01.3 -0.5**
PKSM **Moragy** 104.12 46 ‖ *i*P **PKKPbc** **18 01 00.9 -0.5**
KRLC **Kraliky** 104.28 41 *e*pP pPdif 17 46 02.6 +1.6
OKC **Ostrava-Krasne** 105.03 42 *e*SKS **SKSac** **17 55 39.7 +2.3**
OKC *e*SKKS **SKKSac** **17 56 25.0 +1.2**
OKC *e*SDIF **Sdif** **17 56 55.7 +2.5**
OKC *e*SP **SP** **17 58 36.4 +2.3**
NB2 **NORSAR Subarra** 105.29 30 P **PKKPab** **18 01 12.9 +0.3**
comp=Z,2.9nm,0.9s,baz=71,slow=4.6
NOA **NORSAR Array B** 105.29 30 PKiKP **PKKPab** **18 01 12.1 -0.5**
comp=Z,1.9nm,0.8s,baz=69,slow=4.6,SNR=6.5
HFS **Hagfors** 106.11 31 PKKPbc PKKPbc 18 00 53.3 -2.6
comp=Z,1.3nm,0.7s,baz=97,slow=5.8,SNR=5.5
HFS PKKP **PKKPab** **18 01 09.3 +0.3**
comp=Z,4.4nm,0.9s,baz=90,slow=2.9,SNR=6.8
SIRR **Siria** 106.11 46 ‖ *i*P **PKKPab** **18 01 12.1 +2.6**
ILAR **Eielson Array** 107.33 334 Pdiff **Pdif** **17 45 25.3 -0.8**
comp=Z,0.6nm,0.8s,baz=134,slow=2.6,SNR=4.8
ILAR PKiKP **PKiKP** **17 49 33.5 -0.2**
comp=Z,1.0nm,0.8s,baz=134,slow=2.5,SNR=7.3
ILAR PP PP 17 49 50.5 -5.6
comp=Z,3.0nm,1.1s,baz=115,slow=5.6,SNR=5.4
ILAR PKPPKP P'P'df 18 09 23.2 +10
comp=Z,0.2nm,0.6s,baz=250,slow=1.8,SNR=2.6
MLR **Muntele Rosu** 108.76 48 PKiKP **PKiKP** **17 49 37.0 -0.1**
comp=Z,0.3nm,0.6s,baz=243,slow=2.3,SNR=3.9
MLR **Muntele Rosu** 108.76 48 ‖ *i*P **PKKPab** **18 00 58.4 +0.4**
BURAR **Bucovina Array** 108.83 46 ‖ *i*P **PKKPdf** **18 01 00.0 -2.0**
MLY **Manley** 108.98 334 *e*PP PP 17 50 10.3 +2.3
PPLA **Purkeypile** 109.01 331 *e*P **PKiKP** **17 49 36.5 -0.6**
VRI **Vrincioaia** 109.39 48 ‖ *i*P **PKKPdf** **18 00 58.1 -2.7**
TESR **Tescani** 109.50 47 ‖ *i*P **PKKPab** **18 00 56.0 +1.4**
EIL **Elat** 111.39 66 PKKPbc PKKPbc 18 00 37.4 -0.6
comp=Z,1.8nm,0.6s,baz=233,slow=6.4,SNR=3.0
EIL PKKPab **PKKPab** **18 00 48.6 +1.6**
comp=Z,5.4nm,1.0s,baz=257,slow=14,SNR=5.2
SPITS **Spitsbergen Ar** 112.05 13 PKKPbc PKKPbc 18 00 34.7 -2.6
comp=Z,4.8nm,0.8s,baz=248,slow=15,SNR=4.0
SPITS PKKPab **PKKPab** **18 00 42.8 +0.5**
comp=Z,20nm,1.2s,baz=96,slow=7.6,SNR=5.1
KIEV **Kiev** 112.09 43 *c i*PKiKP **PKiKP** **17 49 42.2 -0.9**
AKASG **Malin Array Be** 112.11 43 PKiKP **PKiKP** **17 49 42.3 -0.8**
comp=Z,1.3nm,0.5s,baz=261,slow=2.9,SNR=12
AKASG PP **PP** **17 50 27.9 -2.9**
comp=Z,0.2nm,0.2s,baz=256,slow=6.9,SNR=5.9
AKASG PKKPbc **PKKPbc** **18 00 34.8 -1.6**
comp=Z,1.6nm,0.5s,baz=67,slow=3.8,SNR=9.8
AKASG PKKPab **PKKPab** **18 00 43.4 +0.5**
comp=Z,2.8nm,0.6s,baz=66,slow=4.3,SNR=13

AKASG Malin Array Be 112.11 43 *i* PKIKP **PKiKP** 17 49 42.3 -0.8
AKASG 17 50 27.9
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 112.31 31 PKiKP **PKiKP** 17 49 42.6 -0.5
comp=Z,1.3nm,0.8s,baz=292,slow=0.7,SNR=4.5
FINES PKKPbc **PKKPbc** 18 00 33.2 -2.8
comp=Z,1.1nm,0.4s,baz=101,slow=4.5,SNR=20
FINES FINESS Array B 112.31 31 *i* PKIKP **PKiKP** 17 49 42.7 -0.5
FINES pmax pmax
comp=Z,1.0nm,0.8s
FINES pmax pmax
comp=Z,1.0nm,0.4s
MMAI Mount Meron Ar 112.65 63 PKKPab PKKPab 18 00 41.8 +0.4
comp=Z,3.2nm,0.9s,baz=24,slow=6.5,SNR=4.6
BRTR Keskin Array B 112.86 55 PKiKP **PKiKP** 17 49 44.9 -0.3
comp=Z,1.3nm,0.8s,baz=242,slow=2.6,SNR=6.2
BRTR PP **PP** 17 50 32.6 -4.1
comp=Z,1.4nm,1.0s,baz=234,slow=6.9,SNR=4.2
BRTR PKKPab **PKKPab** 18 00 41.0 +0.8
comp=Z,2.5nm,0.8s,baz=102,slow=1.9,SNR=12
BRTR Keskin Array B 112.86 55 *i* PKIKP **PKiKP** 17 49 44.9 -0.3
BRTR 17 50 32.7
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR pmax pmax
comp=Z,1.0nm,1.0s
BRTR pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 113.21 22 PKiKP **PKiKP** 17 49 44.2 -0.5
comp=Z,0.9nm,0.8s,baz=251,slow=2.8,SNR=3.6
ARCES PKKPbc **PKKPbc** 18 00 30.3 -3.0
comp=Z,1.9nm,0.4s,baz=90,slow=3.6,SNR=30
ARCES PKKPab **PKKPab** 18 00 38.1 +0.8
comp=Z,3.4nm,0.8s,baz=82,slow=6.5,SNR=8.3
ARCES ARCESS Array B 113.21 22 *i* PKIKP **PKiKP** 17 49 44.2 -0.5
ARCES pmax pmax
comp=Z,1.0nm,0.8s
ARCES pmax pmax
comp=Z,2.0nm,0.4s
ARCES pmax pmax
comp=Z,3.0nm,0.8s
MALT Malatya 116.22 58⇑ *i*P **PKKPab 18 00 27.1 +1.6**
ANN Anapa 116.57 50 *i* PKIKP **PKPdf 17 49 50.7 -1.2**
ANN *e* 17 51 00.1
ANN *e* 17 56 27.5
ANN pmax pmax
comp=Z,17nm,1.2s
OBN Obninsk 117.09 39 PKiKP **PKPdf 17 49 52.1 -0.4**
comp=Z,13nm,0.5s,baz=311,slow=9.0,SNR=4.2
OBN Obninsk 117.09 39*d i* PKIKP **PKPdf 17 49 52.1 -0.4**
OBN *e* 17 51 09.2
OBN pmax pmax
comp=Z,19nm,1.2s
STKA Stephens Creek 117.99 207 PKP **PKPdf 17 49 54.5 -0.7**
comp=Z,4.6nm,0.8s,baz=104,slow=4.2,SNR=6.5
STKA PKKPbc **PKKPbc** 18 00 14.9 -1.0
comp=Z,1.8nm,0.8s,baz=310,slow=8.2,SNR=4.8
STKA Stephens Creek 117.99 207 PKIKP **PKPdf 17 49 54.5 -0.7**
STKA pmax pmax
comp=Z,5.0nm,0.8s
STKA pmax pmax
comp=Z,2.0nm,0.8s
VSR Storozhevoye 118.40 43 *e*PKIKP **PKPdf 17 49 54.7 -0.5**
VSR pmax pmax
comp=N,7.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=E,8.0nm,0.8s
NEY Neytrino 120.17 53⇓ *i* PKIKP **PKPdf 17 49 59.4 +0.3**
KIV Kislovodsk 120.21 52 *d i* PKIKP **PKPdf 17 49 58.8 -0.3**
KIV *i* 17 51 25.3
KIV pmax pmax
comp=Z,19nm,1.2s
KIV Kislovodsk 120.21 52 *e*PKPdf **PKPdf 17 49 59.2 +0.2**
PRGR Permogore 121.64 31 *e*PKIKP **PKPdf 17 49 57.6 -3.5**
PRGR pmax pmax
comp=Z,15nm,0.9s
NWAO Narrogin (SRO) 123.16 184 PKP **PKPdf 17 50 04.0 -1.0**
comp=Z,6.1nm,0.5s,baz=150,slow=5.2,SNR=10
NWAO Narrogin (SRO) 123.16 184 PKIKP **PKPdf 17 50 04.1 -1.0**
NWAO pmax pmax
comp=Z,6.0nm,0.5s
CTA Charters Tower 125.43 219 PKP **PKPdf 17 50 09.8 0.0**
comp=Z,16nm,0.8s,baz=125,slow=2.2,SNR=14
CTA Charters Tower 125.43 219 PKIKP **PKPdf 17 50 09.8 0.0**
CTA pmax pmax
comp=Z,16nm,0.8s
BILL Bilibino 125.57 338*d i* PKIKP **PKPdf 17 50 08.5 0.0**
BILL *e* 17 52 03.5
BILL pmax pmax
comp=Z,19nm,1.2s
BILL Bilibino 125.57 338 *e*PKPdf **PKPdf 17 50 07.5 -1.0**
ASAR Alice Springs 128.37 205 PKhKP PKPpre 17 49 51.6
comp=Z,0.3nm,0.7s,baz=144,slow=2.9,SNR=5.3
ASAR PKP **PKPdf 17 50 14.4 -0.9**
comp=Z,24nm,0.7s,baz=150,slow=2.2,SNR=8.1
ASAR pPKP pPKPdf 17 51 04.0 -1.5
comp=Z,8.8nm,0.9s,baz=145,slow=1.9,SNR=6.5
ASAR PP **PP 17 52 19.0 -1.9**
comp=Z,2.6nm,1.1s,baz=148,slow=5.5,SNR=2.6
ASAR SKPbc SKiKP 17 53 16.8 -17
comp=Z,2.0nm,0.5s,baz=141,slow=3.3,SNR=9.8
ASAR PKKP **PKKPdf 18 00 22.7 -0.6**
comp=Z,0.3nm,0.9s,baz=356,slow=1.5,SNR=6.6
ASAR Alice Springs 128.37 205 PKHKP PKPpre 17 49 51.6
ASAR 17 50 14.5
ASAR 17 51 04.0
ASAR pmax pmax
comp=Z,24nm,0.7s
ASAR pmax pmax
comp=Z,9.0nm,0.9s
ASAR pmax pmax
comp=Z,3.0nm,1.1s
ASAR pmax pmax
comp=N,2.0nm,0.5s
ARU Arti 129.26 36 *i* PKIKP **PKPdf 17 50 16.7 +0.8**
ARU 17 52 27.6
ARU Arti 129.26 36 *e*PKPdf **PKPdf 17 50 16.3 +0.4**
SVE Sverdlovsk 130.23 35 *e*PKIKP **PKPdf 17 50 18.9 +1.2**
SVE pmax pmax
comp=Z,23nm,1.3s
AKTO Aktyubinsk 130.35 43 PKP **PKPdf 17 50 18.6 +0.5**
comp=Z,14nm,1.1s,baz=290,slow=2.6,SNR=21
AKTO pPKP **pPKPdf 17 51 08.5 +0.2**
comp=Z,0.8nm,0.5s,baz=331,slow=3.5,SNR=2.2
AKTO SKPbc **SKPab 17 53 25.7 +2.3**
comp=Z,20nm,1.1s,baz=294,slow=3.6,SNR=27
AKTO Aktyubinsk 130.35 43 PKIKP **PKPdf 17 50 18.6 +0.5**
AKTO 17 51 08.5
AKTO pmax pmax
comp=Z,14nm,1.1s
AKTO pmax pmax
comp=Z,1.0nm,0.5s
AKTO pmax pmax
comp=N,20nm,1.1s
WRA Warramunga Arr 131.54 207 PKhKP PKPpre 17 49 59.1
comp=N,0.4nm,0.4s,baz=159,slow=2.2,SNR=12
WRA PKP **PKPdf 17 50 20.8 -0.6**
comp=N,18nm,0.5s,baz=155,slow=1.7,SNR=120
WRA pPKP pPKPdf 17 51 11.0 -0.5
comp=N,6.2nm,1.0s,baz=157,slow=1.4,SNR=3.5
WRA PP **PP 17 52 38.8 -2.7**
comp=N,2.5nm,1.0s,baz=155,slow=5.5,SNR=5.1
WRA SKPbc **SKPbc 17 53 29.0 +0.2**
comp=N,7.0nm,0.5s,baz=153,slow=3.6,SNR=36
WRA Warramunga Arr 131.54 207 PKHKP PKPpre 17 49 59.1
WRA 17 50 20.8
WRA 17 51 11.0
WRA pmax pmax
comp=Z,18nm,0.5s
WRA pmax pmax
comp=Z,6.0nm,1.0s
WRA pmax pmax
comp=Z,3.0nm,1.0s
WRA pmax pmax
comp=N,7.0nm,0.5s
WRAB Tennant Creek 131.55 207*d i* PKIKP **PKPdf 17 50 21.0 -0.4**
WRAB pmax pmax
comp=Z,96nm,1.0s
WRAB Tennant Creek 131.55 207 *e*PKPdf **PKPdf 17 50 21.1 -0.3**
WRAB *e*SKPbc **SKPab 17 53 29.8 +0.3**
GEYT Alibeck 131.62 60 PKP **PKPdf 17 50 21.1 +0.1**
comp=Z,1.9nm,0.4s,baz=266,slow=4.3,SNR=7.1
GEYT pPKP **pPKPdf 17 51 10.5 -0.6**
comp=Z,0.7nm,0.3s,baz=305,slow=5.1,SNR=2.1
GEYT SKPbc **SKPab 17 53 30.6 +1.3**
comp=Z,6.0nm,0.7s,baz=266,slow=5.8,SNR=10
ABKAR Akbulak array 131.80 45 *e*PKPdf **PKPdf 17 50 21.5 +0.6**
ABKAR *e*SKPbc **SKPab 17 53 31.2 +1.6**
PMG Port Moresby 132.87 229‖ *i*PKIKP **PKPdf 17 50 24.6 +0.6**
SEY Seymchan 133.16 337 *i* PKhKP PKPpre 17 50 06.8
comp=Z,0.7nm,0.4s,baz=108,slow=3.2,SNR=9.6
SEY PKP **PKiKP 17 50 24.0 -0.3**
comp=Z,13nm,0.6s,baz=84,slow=3.0,SNR=42
SEY SKPbc **SKPbc 17 53 33.7 +0.8**
comp=Z,4.1nm,0.6s,baz=51,slow=2.2,SNR=10
SEY Seymchan 133.16 337*d i* PKIKP **PKPdf 17 50 23.7 +0.6**
MBWA Marble Bar 134.55 189 *e*PKPdf **PKPdf 17 50 26.8 -0.2**
MBWA *e*SKPbc **SKPbc 17 53 40.2 +1.3**
PEA0B Petropavlovsk- 135.68 323 *e*P **PKPdf 17 50 29.0 +0.9**
PETK Petropavlovsk- 135.68 323 PKhKP PKPpre 17 50 20.6
comp=Z,2.6nm,0.5s,baz=108,slow=2.3,SNR=13
PETK PKP **PKPdf 17 50 28.7 +0.6**
comp=Z,9.1nm,0.6s,baz=132,slow=2.6,SNR=18
PETK SKPbc **SKPbc 17 53 42.3 +0.9**
comp=Z,14nm,1.0s,baz=94,slow=4.6,SNR=5.6
PETK Petropavlovsk- 135.68 323 PKHKP PKPpre 17 50 20.6
PETK 17 50 28.7
PETK pmax pmax
comp=Z,3.0nm,0.5s
PETK pmax pmax
comp=Z,9.0nm,0.6s
PETK pmax pmax
comp=N,14nm,1.0s
FITZ Fitzroy Crossi 136.29 198 PKhKP PKPpre 17 50 16.5
comp=N,3.4nm,0.7s,baz=174,slow=5.5,SNR=12
FITZ PKP **PKPdf 17 50 30.2 -0.1**
comp=N,5.3nm,0.4s,baz=286,slow=1.7,SNR=15
BRVK Borovoye 136.80 37*d i* PKIKP **PKPdf 17 50 31.0 +0.8**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BRVK Borovoye 136.80 37 *e*PKPdf **PKPdf 17 50 30.7 +0.6**
BVA0 Borovoye Array 136.87 37 *i* PKIKP **PKPdf 17 50 31.0 +0.7**
BVA0 pmax pmax
comp=Z,25nm,1.4s
BVAR Borovoye Array 136.87 37 PKhKP PKPpre 17 50 25.0
comp=Z,0.4nm,0.5s,baz=272,slow=0.5,SNR=3.8
BVAR PKP **PKPdf 17 50 30.9 +0.6**
comp=Z,5.7nm,0.7s,baz=302,slow=1.1,SNR=3.8
BVAR pPKP pPKPdf 17 51 21.3 +0.9
comp=Z,2.8nm,0.9s,baz=297,slow=0.3,SNR=2.4
BVAR SKPbc **SKPbc 17 53 46.4 +1.5**
comp=Z,1.8nm,0.7s,baz=276,slow=2.6,SNR=5.0
KKAR Karatay Array 140.35 51 *e*PKPpre PKPpre 17 50 32.3
YAK Yakutsk 140.41 348 PKhKP PKPpre 17 50 27.5
comp=Z,1.3nm,0.4s,baz=28,slow=1.8,SNR=2.3
YAK PKP **PKPdf 17 50 35.5 -1.0**
comp=Z,3.0nm,0.4s,baz=13,slow=1.5,SNR=3.3
YAK Yakutsk 140.41 348 *e*PKHKP PKPpre 17 50 28.0
YAK pmax pmax
comp=Z,15nm,0.9s
KURK Kurchatov 142.45 36 PKIKP **PKPdf 17 50 36.9 -3.6**
KURK 17 51 29.1
KURK 17 53 54.2
KURK pmax pmax
comp=Z,3.0nm,0.5s
KURK pmax pmax
comp=Z,8.0nm,0.9s
KURK pmax pmax
comp=Z,1.0nm,0.6s
KURK pmax pmax
comp=Z,2.0nm,0.9s
KURK Kurchatov 142.45 36 PKPpre PKPpre 17 50 36.9
KURK PKP **PKPdf 17 50 41.0 +0.5**
KURK pPKP pPKPdf 17 51 29.1 -1.5
KURK PP **PP 17 53 54.2 +4.3**
KURBB Kurchatov Arra 142.45 36 PKhKP PKPpre 17 50 36.9
comp=Z,3.4nm,0.5s,baz=313,slow=3.1,SNR=26
KURBB PKP **PKPdf 17 50 41.0 +0.5**
comp=Z,7.8nm,0.9s,baz=308,slow=2.8,SNR=33
KURBB pPKP pPKPdf 17 51 29.1 -1.5
comp=Z,1.1nm,0.6s,baz=300,slow=3.3,SNR=1.1
KURBB PP **PP 17 53 54.2 +4.3**
comp=Z,2.0nm,0.9s,baz=296,slow=4.2,SNR=5.6
EKS2 Erkin-Say 142.78 50 *e*PKIKP **PKPdf 17 50 42.4 +0.9**
EKS2 Erkin-Say 142.78 50 *e*PKPdf **PKPdf 17 50 42.4 +0.9**
AAK Ala-Archa 143.29 50 *e*PKIKP PKPbc 17 50 41.1 +0.9
AAK Ala-Archa 143.29 50 *e*PKPdf PKPbc 17 50 41.1 +0.9
FRU Bishkek 143.32 50 *e*PKIKP **PKPdf 17 50 43.0 +0.6**
ZAA0 Zalesovo Array 143.47 28 *e*P PKPbc 17 50 40.1 +0.1
ZALV Zalesovo Beam 143.47 28 PKP PKPbc 17 50 39.9 -0.1
comp=Z,19nm,0.5s,baz=302,slow=3.7,SNR=97
ZALV pPKP pPKPdf 17 51 30.0 -2.4
comp=Z,5.9nm,0.7s,baz=293,slow=4.2,SNR=1.7
ZALV SKPbc **SKiKP 17 54 04.1 +0.6**
comp=Z,9.0nm,0.9s,baz=302,slow=3.3,SNR=4.4
ZALV Zalesovo Beam 143.47 28 PKIKP PKPbc 17 50 39.9 -0.1
ZALV 17 51 30.0
ZALV 17 54 04.1
ZALV pmax pmax
comp=Z,19nm,0.5s
ZALV pmax pmax
comp=Z,6.0nm,0.7s
ZALV pmax pmax
comp=N,9.0nm,0.9s
TKM2 Tokmak 2 143.97 49 *e*PKIKP PKPbc 17 50 42.7 +0.5
TKM2 Tokmak 2 143.97 49 *e*PKPdf PKPbc 17 50 42.7 +0.5
NKL Nikolayevsk 144.24 331 *i* PKHKP PKPpre 17 50 40.0
NKL pmax pmax
comp=E,400nm,2.0s
NKL pmax pmax
comp=Z,600nm,2.0s
SOEI Soe 144.60 199 *e*PKPdf **PKPdf 17 50 45.1 -0.4**
KUR Kuril'sk 144.79 316*d i* PKIKP **PKPab 17 50 44.4 +0.1**
KUR *i* 17 51 34.0
KUR *i* 17 54 02.9
KUR SS SS 18 12 37.4 +0.7
KUR pmax pmax
comp=E,49nm,1.5s
KUR pmax pmax
comp=Z,233nm,1.5s
KUR pmax pmax
comp=N,21nm,0.7s
PALK Pallekele 144.83 113 PKP PKPbc 17 50 45.0 -0.4
comp=N,30nm,1.0s,baz=246,slow=1.4,SNR=6.1
PALK Pallekele 144.83 113 PKIKP PKPbc 17 50 45.0 -0.4
PALK pmax pmax
comp=Z,31nm,1.0s
PALK Pallekele 144.83 113 *e*PKPbc **PKPdf 17 50 46.3 +0.5**
KRAR Krasnoyarsk 144.86 20*de*PKIKP PKPbc 17 50 43.3 -0.8
URV Uravakonda 145.19 98 *e*PKPab **PKPdf 17 50 44.7 -1.6**
KSH Kashi 145.25 55 PKPbc **PKPab 17 50 46.5 +0.1**
KSH pPKP **pPKPdf 17 51 39.0 +2.9**
KSH PKS PKSdf 17 54 16.0 -5.5
KSH SKS SKSdf 17 57 28.0 -9.0
KSH PPMZ
comp=Z,500nm,5.5s
KSH LN
comp=Z,120nm,4.9s
KSH LE
comp=Z,110nm,4.3s
KSH LZ
comp=Z,230nm,4.4s
KLRI Killari 145.58 93 *e*PKPab **PKPdf 17 50 46.4 -0.6**
CLNS Chul'man 146.16 348 *e*PKIKP **PKPdf 17 50 47.1 +0.3**
CLNS pmax pmax
comp=Z,62nm,0.9s
CLNS pmax pmax
comp=E,12nm,1.1s
CLNS pmax pmax
comp=N,20nm,0.9s
MMRI Maumere 146.25 197 *e*PKPdf **PKPdf 17 50 47.4 -0.9**
BOD Bodaibo 146.29 359 *e*PKIKP **PKPdf 17 50 46.7 -0.2**
BOD pmax pmax
comp=Z,64nm,1.1s
MK31 Makanchi Array 146.60 40 *i* PKIKP **PKPdf 17 50 48.0 +0.1**
MK31 pmax pmax
comp=Z,30nm,0.6s
MK31 Makanchi Array 146.60 40 *e*P **PKPdf 17 50 48.1 +0.2**
MKAR Makanchi Array 146.60 40 PKPbc **PKPdf 17 50 48.2 +0.3**
comp=Z,32nm,0.6s,baz=283,slow=1.8,SNR=154
MKAR pPKPbc pPKPbc 17 51 39.8 +0.5
comp=Z,35nm,1.0s,baz=345,slow=2.1,SNR=5.5
MKAR Makanchi Array 146.60 40 PKP2 **PKPdf 17 50 48.2 +0.3**
MKAR pmax pmax
comp=Z,32nm,0.6s
MKAR pmax pmax
comp=Z,35nm,1.0s
YUK Yuzh-Kuril'sk 146.60 315*d i* PKIKP **PKPdf 17 50 48.0 +0.1**
YUK SSS SSS 18 18 28.2
YUK pmax pmax
comp=N,69nm,1.4s
YUK pmax pmax
comp=E,48nm,1.4s
YUK pmax pmax
comp=Z,205nm,1.4s
RCLA Racherla 146.91 99 *e*PKPbc **PKPdf 17 50 49.7 +0.5**
RCLA *e*PKPab **PKPbc 17 50 51.4 -0.1**
SKHT Srikalahasti 146.95 102 *e*PKPdf **PKPdf 17 50 47.8 -1.5**
SKHT *e*PKiKP **PKPab 17 50 52.9 -0.6**
YSS Yuzh-Sakhalins 147.06 321⇑ *e*PKIKP **PKPdf 17 50 49.0 +0.5**
YSS *e* 17 50 51.0
YSS *e* 17 51 40.0
YSS Yuzh-Sakhalins 147.06 321 *e*PKPdf **PKPdf 17 50 49.5 +1.0**
SRLM Srisailam 147.07 98 *e*PKPdf **PKPdf 17 50 47.8 -1.7**
SRLM *e*PKPbc **PKPbc 17 50 49.9 -2.0**
HYBB Hyderabad (bro 147.17 95 *e*PKPab **PKPbc 17 50 51.5 -0.7**
HYBB *e*pPKPab **pPKPab 17 51 41.3 -1.6**
HYB Hyderabad 147.18 95 *i* PKP **PKPdf 17 50 50.0 +0.3**
HYB *e* 17 50 55.0
HYB *e* 17 51 41.0
SRSP Sriramsagar 147.41 92 *e*PKPbc **PKPdf 17 50 51.0 +1.0**
NJS Nagarjunasagar 147.59 97 *e*PKPbc **PKPdf 17 50 50.4 +0.1**
NDI New Delhi 147.70 74 *e*P **PKPdf 17 50 50.0 -0.2**
ADKI Addanki 147.96 99 *e*PKPdf **PKPdf 17 50 50.5 -0.5**
ADKI *e*PKPbc **PKPbc 17 50 52.6 -1.6**
ADKI *e*PKiKP **PKiKP 17 50 54.6 -1.3**
CISI Cisompet, Garu 148.14 170 *e*PKPbc **PKPbc 17 50 54.6 -0.3**
GUMO Guam 148.15 257 PKPbc **PKPbc 17 50 53.3 -1.5**
comp=Z,397nm,1.0s,baz=134,slow=5.6,SNR=12
GUMO Guam 148.15 257 PKIKP **PKPbc 17 50 53.3 -1.5**
GUMO pmax pmax
comp=Z,397nm,1.0s
GUMO Guam 148.15 257 *e*PKPbc **PKPbc 17 50 54.5 -0.3**
RPR Rampur 148.26 93 *e*PKPbc **PKPbc 17 50 54.1 -0.9**
ASAJ Asahikawa 148.64 317 *e*PKPdf **PKPdf 17 50 52.9 +1.7**
LEM Lembang 148.83 170 PKPbc **PKPbc 17 50 56.6 -0.1**
comp=Z,146nm,0.7s,baz=128,slow=4.0,SNR=23
LEM Lembang 148.83 170 PKP2 **PKPbc 17 50 56.7 -0.1**
LEM pmax pmax
comp=Z,146nm,0.7s
SMRI Semarang 148.95 175 *e*PKPbc **PKPbc 17 50 57.2 +0.3**
ERM Erimo 149.26 313*c i* PKP2 **PKPbc 17 50 56.9 +0.1**
ERM pmax pmax
comp=Z,127nm,1.2s
ERM Erimo 149.26 313 *e*PKPdf **PKPbc 17 50 54.6 -2.2**
SIJI Sorong 149.50 218 PKPbc **PKPbc 17 50 57.8 -0.6**
comp=Z,69nm,1.0s,baz=71,slow=4.8,SNR=17
PVM Polavaram 149.91 97 *e*PKPbc **PKPbc 17 50 57.6 -1.5**
HABR Khabarovsk 150.07 330 *e*PKIKP **PKPdf 17 50 52.3 -1.1**
HABR *e* 17 51 04.2
HABR *e* 17 51 41.9
HABR *e* 17 54 34.4
HABR *e* 17 57 42.2
HABR PPP PPP 17 57 57.0
HABR *e*SS SS 18 13 36.8 +1.6
HABR *e*SSS SSS 18 19 19.5
HABR pmax pmax
comp=Z,84nm,0.8s
HABR pmax pmax
comp=N,17nm,1.6s
HABR pmax pmax
comp=E,18nm,1.6s
KAPI Kappang 150.33 194 PKPbc **PKPbc 17 51 00.1 -0.1**
comp=E,65nm,0.4s,baz=197,slow=1.5,SNR=67
KAPI Kappang 150.33 194 *e*PKPdf **PKPdf 17 50 55.7 +0.8**
KLR Kul'dur 150.91 334 *e*PKIKP **PKPdf 17 50 51.7 -3.0**
KLR *e* 17 50 57.0
KLR *e* 17 51 39.7
MOY Mondy 150.96 15 *e*PKIKP **PKPdf 17 50 55.0 +0.1**
MOY pmax pmax
comp=Z,97nm,1.7s
WMQ Urumqi 151.42 40 PKPbc **PKPdf 17 50 55.3 -0.4**
WMQ LN
comp=Z,120nm,20.3s
WMQ LE
comp=Z,85nm,25.2s
WMQ LZ
comp=Z,85nm,23.2s
TLY Talaya 151.53 12 PKPbc **PKPbc 17 51 01.5 -0.5**
comp=Z,9.8nm,0.4s,baz=301,slow=2.0,SNR=15
TLY Talaya 151.53 12 PKIKP **PKPbc 17 51 01.5 -0.5**
TLY pmax pmax
comp=Z,10.0nm,0.4s
CIT Chita 152.11 359 *e*PKIKP **PKPdf 17 50 57.6 +1.1**
CIT pmax pmax
comp=Z,100nm,1.3s
CHLP Challavanipeta 152.50 96 *e*PKiKP **PKPbc 17 51 04.5 -0.6**
ZAK Zakamensk 152.69 14 *e*PKIKP **PKPdf 17 50 56.3 -1.2**
ZAK pmax pmax
comp=Z,10.0nm,1.2s
GSI Gunungsitoli 152.87 144 *e*PKPbc **PKPbc 17 51 06.6 +0.5**
TNTI Ternate 152.96 213 *e*PKPbc **PKPbc 17 51 04.8 -1.5**
LUWI Luwuk 153.28 202 *e*PKPdf **PKPdf 17 51 00.3 +1.0**
LUWI *e*PKPbc **PKiKP 17 51 07.5 +0.4**
JCJ Chichijima 153.53 283 PKPbc **PKPbc 17 51 05.8 -1.3**
comp=Z,18nm,0.5s,baz=284,slow=18,SNR=6.1
CBIJ Chichi jima 153.53 283 PKPbc **PKPbc 17 51 05.8 -1.3**
CBIJ *e*PKPab **PKPab 17 51 20.6 +0.2**
USRK Ussuriysk Ar. 154.63 327 PKP **PKPdf 17 51 00.4 +0.1**
comp=Z,8.7nm,1.0s,baz=286,slow=1.4,SNR=16
USRK PKPbc **PKPbc 17 51 08.6 -0.3**
comp=Z,9.7nm,0.7s,baz=38,slow=2.6,SNR=14
USRK PKPab **PKPab 17 51 23.9 -0.5**
comp=Z,2.4nm,0.5s,baz=33,slow=4.5,SNR=4.8
PSI Prapat 154.84 145 PKPab **PKPab 17 51 26.3 +0.1**
comp=Z,24nm,1.0s,baz=160,slow=12,SNR=6.4
PSI Prapat 154.84 145 PKP2 **PKPab 17 51 26.3 +0.1**
PSI pmax pmax
comp=Z,24nm,1.0s
PSI Prapat 154.84 145 *e*PKPab **PKPab 17 51 26.5 +0.3**
MJAR Matsushiro Arr 155.03 306 PKP **PKPdf 17 51 00.4 -0.7**
comp=Z,4.4nm,1.1s,baz=224,slow=2.7,SNR=12
MJAR PKPbc PKPbc 17 51 09.7
comp=Z,7.4nm,0.7s,baz=95,slow=1.0,SNR=18
MJAR PKPab **PKPab 17 51 26.4 0.0**
comp=Z,43nm,1.0s,baz=87,slow=1.5,SNR=30
MJAR PP **PP 17 55 02.9 -0.6**
comp=Z,0.7nm,0.6s,baz=78,slow=2.8,SNR=4.0
MJAR Matsushiro Arr 155.03 306 PKIKP **PKPdf 17 51 00.4 -0.7**
MJAR 17 51 09.7
MJAR 17 51 26.5
MJAR 17 55 02.9
MJAR pmax pmax
comp=Z,4.0nm,1.1s
MJAR pmax pmax
comp=Z,7.0nm,0.7s
MJAR pmax pmax
comp=Z,43nm,1.0s
MJAR pmax pmax
comp=Z,1.0nm,0.6s
MAJO Matsushiro 155.03 306 *e*PKIKP **PKPdf 17 51 01.2 +0.1**
MAJO *e* 17 51 27.0
MAJO Matsushiro 155.03 306 *e*PKPdf **PKPdf 17 51 01.2 +0.1**
MAJO *e*PKPab **PKPab 17 51 27.0 +0.5**
MAT Matsushiro 155.03 306 PKP **PKPdf 17 51 00.0 -1.1**
MDJ Mudanjiang 155.45 331 *e*PKPdf **PKPdf 17 51 01.9 +0.5**
SONM Songino Array 155.73 11 PKP **PKPdf 17 51 02.0 +0.2**
comp=Z,4.9nm,0.9s,baz=345,slow=0.5,SNR=17
SONM PKPab **PKPab 17 51 29.2 0.0**
comp=Z,3.7nm,0.6s,baz=310,slow=2.8,SNR=7.4
SONM pPKPab **pPKPab 17 52 18.1 +0.7**
comp=Z,1.4nm,0.8s,baz=332,slow=1.2,SNR=1.0
SONM Songino Array 155.73 11 PKIKP **PKPdf 17 51 02.0 +0.2**
SONM 17 51 29.2
SONM pmax pmax
comp=Z,5.0nm,1.0s
SONM pmax pmax
comp=Z,4.0nm,0.6s
SONM pmax pmax
comp=Z,1.0nm,0.8s
ULN Ulaanbaatar 155.81 10 *e*PKIKP **PKPdf 17 51 02.4 +0.4**
ULN Ulaanbaatar 155.81 10 *e*PKPdf **PKPdf 17 51 02.4 +0.4**
MYKOM Kota Tinggi 156.13 157 *e*PKPab **PKPab 17 51 31.3 -0.3**
KSM Kuching 157.37 173 *e*PKPab **PKPab 17 51 37.0 +0.1**
SBUM Sibu 158.47 178 *e*PKPab **PKPab 17 51 42.2 +0.6**
LSA Lhasa 159.74 69 *e*PKIKP **PKPdf 17 51 09.1 +1.3**
LSA Lhasa 159.74 69 *e*PKPdf **PKPdf 17 51 09.1 +1.3**
LSA *e*PKPab **PKPab 17 51 49.1 +1.4**

MYLDM	**Lahad Datu**	**160.47**	**197**	*e*PKPab	**PKPab**	**17 51 51.6**	**+1.3**
MYLDM				*ep*PKPdf	**pPKPdf**	**17 52 03.0**	**+4.2**
GTA	**Gaotai**	**161.09**	**33**	⇓PKP	**PKPdf**	**17 51 09.0**	**+0.5**
GTA				PKPab	**PKPab**	**17 51 53.5**	**+0.8**
GTA				pPKP	**pPKPdf**	**17 52 01.5**	**+2.5**
GTA				sPKP		17 52 21.0	
GTA				PP	**PP**	**17 55 39.3**	**+3.5**
GTA				SKS	**SKSdf**	**17 57 53.5**	**-2.0**
GTA				SKKS	**SKKSac**	**18 02 06.5**	**+0.6**
GTA				SS	**SS**	**18 15 35.5**	**+1.3**
GTA				PPMZ			
	comp=Z,180nm,8.6s						
GTA				LN			
	comp=Z,54nm,16.4s						
GTA				LE			
	comp=Z,90nm,18.0s						
GTA				LZ			
	comp=Z,110nm,17.6s						
KSRS	**Korea Array**	**161.54**	**320**	PKP	**PKPdf**	**17 51 08.8**	**0.0**
	comp=Z,9.1nm,1.1s,baz=78,slow=0.8,SNR=33						
KSRS				PKPab	**PKPab**	**17 51 54.1**	**-0.5**
	comp=Z,6.3nm,0.9s,baz=45,slow=4.3,SNR=12						
KSRS				PP	**PP**	**17 55 40.6**	**+2.4**
	comp=Z,1.7nm,1.0s,baz=27,slow=5.7,SNR=4.5						
KSRS	**Korea Array**	**161.54**	**320**	PKIKP	**PKPdf**	**17 51 08.9**	**0.0**
KSRS						17 51 54.1	
KSRS						17 55 40.7	
KSRS				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KSRS				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KSRS				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KSAR	**Wonju Array Be**	**161.57**	**320**	PKIKP	**PKPdf**	**17 51 08.9**	**0.0**
KSAR						17 51 54.1	
KSAR						17 55 40.7	
KSAR	**Wonju Array Be**	**161.57**	**320**	PKP	**PKPdf**	**17 51 08.8**	**0.0**
KSAR				PKPab	**PKPab**	**17 51 54.1**	**-0.6**
KSAR				PP	**PP**	**17 55 40.6**	**+2.2**
JNU	**Nakatsue**	**161.92**	**304**	PKPab	**PKPab**	**17 51 56.2**	**-0.3**
	comp=Z,14nm,1.0s,baz=53,slow=5.1,SNR=5.3						
JNU	**Nakatsue**	**161.92**	**304**	*e*PKPab	**PKPab**	**17 51 56.4**	**-0.1**
HHC	**Hu-ho-hao-te**	**163.25**	**4**	*e*PKP	**PKPdf**	**17 51 06.5**	**-4.1**
HHC				PP	**PP**	**17 55 48.3**	**+1.7**
HHC				SS	SS	18 16 00.8	+5.5
HHC				PPMZ			
	comp=Z,100nm,7.5s						
BJI	**Beijing**	**163.87**	**351**	PKP	**PKPdf**	**17 51 10.0**	**-1.0**
UTHA	**Uthaitani**	**164.69**	**121**	P	**PKPab**	**17 52 11.3**	**+2.3**
MHMT	**Maesarieng**	**164.77**	**110**	P	**PKPab**	**17 52 10.3**	**+0.9**
	comp=Z,15nm,1.3s						
LZH	**Lanzhou**	**165.67**	**31**	*e*PKP	**PKPdf**	**17 51 14.5**	**+1.5**
LZH				pPKP	**pPKPdf**	**17 52 05.3**	**+1.8**
LZH				sPKP		17 52 22.5	
LZH				PP	**PP**	**17 56 03.5**	**+3.6**
LZH				*e*SKKS		18 02 30.0	
LZH				*e*SS	**SS**	**18 16 22.5**	**+1.2**
LZH				PPMZ			
	comp=Z,99nm,5.9s						
CM31	**Chiang Mai Arr**	**165.76**	**110**	*e*P	**PKPdf**	**17 51 13.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**165.76**	**110**	PKP	**PKPdf**	**17 51 13.2**	**-0.2**
	comp=Z,4.6nm,1.0s,baz=260,slow=2.2,SNR=24						
CMAR				pPKP	**pPKPdf**	**17 52 03.5**	**-0.2**
	comp=Z,2.8nm,1.0s,baz=256,slow=2.4,SNR=5.1						
CMAR				PKPab	**PKPab**	**17 52 13.8**	**+0.1**
	comp=Z,7.0nm,0.8s,baz=246,slow=5.7,SNR=28						
CMAR				PP	**PP**	**17 56 00.3**	**-1.1**
	comp=Z,1.8nm,1.0s,baz=236,slow=4.2,SNR=3.6						
CMAR	**Chiang Mai Arr**	**165.76**	**110**	PKIKP	**PKPdf**	**17 51 13.2**	**-0.2**
CMAR						17 52 03.6	
CMAR						17 52 13.9	
CMAR						17 56 00.4	
CMAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CMAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CMAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CMAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CHTO	**Chiang Mai**	**165.91**	**109**	P	**PKPab**	**17 52 14.8**	**+0.4**
	comp=Z,105nm,1.4s						
CHTO	**Chiang Mai**	**165.91**	**109**	*e*PKIKP	**PKPdf**	**17 51 13.7**	**+0.3**
CHTO				*e*		17 52 04.6	
CHTO	**Chiang Mai**	**165.91**	**109**	*e*PKPdf	**PKPdf**	**17 51 13.7**	**+0.3**
CHTO				*ep*PKPdf	**pPKPdf**	**17 52 04.6**	**+0.7**
CMMT	**Chiang Mai**	**165.91**	**109**	P	**PKPab**	**17 52 14.8**	**+0.4**
	comp=Z,31nm,1.3s						
LAMP	**Lampang**	**166.37**	**111**	P	**PKPab**	**17 52 18.0**	**+1.6**
	comp=Z,7.1nm,0.9s,comp=Z,66nm						
CMAI	**Chiengmai2**	**166.42**	**105**	P	**PKPab**	**17 52 17.4**	**+0.5**
	comp=Z,29nm,1.3s						
UTTA	**Uttaradit**	**166.78**	**116**	P	**PKPab**	**17 52 21.3**	**+3.1**
	comp=Z,3.0nm,1.1s						
TIA	**Tai'an**	**167.41**	**345**	PKP	**PKPdf**	**17 51 14.5**	**+0.4**
CRAI	**Chiangrai**	**167.69**	**106**	P	**PKPab**	**17 52 19.9**	**-2.4**
KHON	**Khomkaen**	**167.73**	**127**	P	**PKPab**	**17 52 23.3**	**+0.9**
	comp=Z,6.3nm,1.1s,comp=Z,711nm						
SKNT	**Sakolnakorn**	**168.98**	**128**	P	**PKPab**	**17 52 28.7**	**+0.8**
	comp=Z,23nm,1.1s						
CD2	**Chengdu**	**169.35**	**48**	PKP	**PKPdf**	**17 51 14.8**	**-0.8**
CD2				pPKP	**pPKPdf**	**17 52 06.5**	**+0.4**
CD2				sPKP		17 52 27.0	
CD2				SKS	**SKSdf**	**17 57 59.5**	**-1.7**
CD2				SKKS	**SKKSac**	**18 02 45.0**	**-2.7**
CD2				PPMZ			
	comp=Z,160nm,5.2s						
XAN	**Xi'an**	**169.47**	**19**	PKP	**PKPdf**	**17 51 16.0**	**+0.4**
KMI	**Kunming**	**170.61**	**82**	PKP	**PKPdf**	**17 51 16.0**	**-0.7**
KMI				pPKP	**pPKPdf**	**17 52 07.3**	**+0.1**
KMI				sPKP		17 52 27.0	
GYA	**Guiyang**	**173.80**	**66**	PKP	**PKPdf**	**17 51 16.8**	**-1.2**
GYA				PKPab	**PKPab**	**17 52 49.5**	**+0.1**
GYA				PKS	**PKSdf**	**17 54 47.3**	**-3.1**
GYA				PP	**PP**	**17 56 42.8**	**+0.9**
GYA				PPMZ			
	comp=Z,140nm,8.6s						
QIZ	**Qiongzhong**	**174.17**	**149**	PKP	**PKPdf**	**17 51 16.3**	**-1.8**
QIZ				PP	**PP**	**17 56 43.0**	**+0.9**
QIZ				SS	SS	18 17 43.8	-1.0

IDC 26 17:33:53.5±1.6, 1°07.N×125°.83E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/24, mbtmp3.7/4, Error ellipse: s-maj=179.3km s-min=20.6km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.49**	**159**	P	P	17 38 54.4	-0.5
	1.3nm,0.4s,baz=337,slow=10,SNR=35						
ASAR	**Alice Springs**	**25.81**	**163**	P	P	17 39 26.9	+0.2
	0.7nm,0.4s,baz=343,slow=11,SNR=30						
MKAR	**Makanchi Array**	**59.24**	**327**	P	P	17 43 55.9	-0.9
	0.3nm,0.4s,baz=137,slow=6.4,SNR=5.6						
KURBB	**Kurchatov Arra**	**63.50**	**328**	P	P	17 44 26.3	+0.8
	0.5nm,0.4s,baz=129,slow=6.0,SNR=8.5						

JMA 26 17:49:10.7±0.3, 25°.40N×124°.86E, h12km, M3.2, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.59**	**143**	P	Pg	17 49 22.1	-0.1
JIKM				S	Sg	17 49 30.2	+0.2
JIRB	**Irabujima**	**0.64**	**153**	P	Pg	17 49 22.4	-0.7
JIRB				S	Sg	17 49 31.1	-0.4
JMJ	**Miyako jima 2**	**0.70**	**146**	P	Pg	17 49 24.2	-0.1
JMJ				S	Sg	17 49 33.7	+0.1
JTJ	**Tarama**	**0.77**	**191**	P	Pg	17 49 25.6	0.0
JTJ				*e*S	Sg	17 49 35.4	-0.3
JOGS	**Gusukube**	**0.81**	**142**	P	Pg	17 49 26.0	-0.3
JOGS				*e*S	Sg	17 49 36.7	-0.2
JISG	**Ishigakijimahi**	**0.95**	**212**	P	Pg	17 49 28.6	-0.4
JIJ	**Ishigaki jima**	**1.22**	**212**	P	Pn	17 49 32.5	-1.1
JIJ				*e*S	Sb	17 49 49.0	-0.4
JKRS	**Kuro-shima**	**1.39**	**214**	P	Pn	17 49 36.2	+0.3
IRIF	**Iriomote-Funau**	**1.48**	**224**	P	Pn	17 49 36.7	-0.4

*SJA **26** 17:50:09.9±1.4, 33°.75S×72°.61W, h6km±15km, ML3.7*
*GUC **26** 17:50:15.5±0.7, 34°.05S×72°.07W, h12km±2km, ML4.1*

ISC 26 17:50:15.0±2.2, 34°.08S±0°.04×72°.04W±0°.10, h9km±13km, n21, σ1°82/32, 6C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.54**	**77**	⇑*i*P	**Pg**	**17 50 26.6**	**+1.2**
TACH	**Talagante**	**1.01**	**65**	⇑*i*P	**Pb**	**17 50 33.5**	**-1.2**
IHA	**Instituto Hidr**	**1.10**	**18**	*e*P	**Pb**	**17 50 35.1**	**-1.1**
NICH	**Los Niches**	**1.14**	**144**	*e*P	**Pn**	**17 50 36.4**	**-0.7**
NICH				*i* S	**Sb**	**17 50 52.6**	**+0.9**
CHCH	**Chadas Angostu**	**1.16**	**83**	⇑*i*P	**Pn**	**17 50 36.3**	**-1.2**
SAN	**Santiago**	**1.31**	**62**	⇓*i*P	**Pn**	**17 50 38.5**	**-1.0**
SAN				*i* S	**Sb**	**17 50 56.2**	**-0.5**
PCH	**Pirque**	**1.35**	**71**	⇑*i*P	**Pn**	**17 50 39.5**	**-0.6**
TALC	**Talca**	**1.36**	**166**	⇑*i*P	**Pn**	**17 50 39.9**	**-0.2**
TALC				*i* S	**Sn**	**17 50 58.0**	**-0.3**
LACH	**Col Las Americ**	**1.41**	**64**	⇑*i*P	**Pn**	**17 50 39.7**	**-1.1**
CLCH	**Cerro Calan**	**1.43**	**62**	⇓*i*P	**Pn**	**17 50 40.4**	**-0.7**
CLCH				*i* S	**Sn**	**17 50 59.6**	**-0.5**
CLCH				AML	AML	17 51 03.6	
	comp=E,5μm,0.6s						
PEL	**Peldehue**	**1.47**	**51**	⇓*i*P	**Pn**	**17 50 41.2**	**-0.5**
PEL				*i* S	**Sn**	**17 51 00.7**	**-0.3**
PEL				AML	AML	17 51 06.4	
	comp=E,5μm,0.9s						
AAGR	**Agrelo**	**2.86**	**71**	*i* P	**Pn**	**17 51 03.7**	**+2.8**
ARCO	**CERRO ARCO**	**2.88**	**65**	*i* P	**Pb**	**17 51 04.8**	**-1.8**
ARCO				*i* S	**Sb**	**17 51 44.1**	**+2.1**
ARCO				AML	AML	17 51 47.6	
	comp=Z,175nm,0.5s						
AUSP	**Uspallata**	**2.90**	**51**	*i* P	**Pn**	**17 51 03.2**	**+1.6**
AUSP				*i* S	**Sb**	**17 51 42.4**	**-0.3**
ASAL	**Salagasta**	**3.07**	**62**	*i* P	**Pb**	**17 51 07.3**	**-2.5**
ASAL				*i* S	**Sb**	**17 51 48.4**	**+1.1**
RTLS	**Leoncito**	**3.24**	**46**	*i* P	**Pn**	**17 51 07.9**	**+1.6**
RTLS				*i* S	**Sb**	**17 51 50.0**	**-2.5**
RTCV	**Cerro Valdivia**	**3.68**	**54**	*i* P	**Pn**	**17 51 13.9**	**+1.8**
RTCV				*i* S	**Sb**	**17 52 00.6**	**-4.3**
CANA	**Caviahue**	**3.88**	**168**	*i* P	Pn	17 51 19.7	+4.7
CANA				*i* S	**Sb**	**17 52 11.5**	**+0.6**
RTLL	**Cerro Villicun**	**4.07**	**49**	*i* P	**Pn**	**17 51 18.8**	**+1.3**
RTLL				*i* S	**Sn**	**17 52 09.7**	**+4.4**
ACAN	**Cantantal**	**4.45**	**67**	*i* P	**Pn**	**17 51 24.6**	**+1.9**
AVFE	**Valle Fertil**	**5.17**	**50**	*i* P	**Pn**	**17 51 32.7**	**+0.1**

IDC 26 17:59:37.5±2.5, 5°.94S×150°.58E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.5/27, mbtmp3.8/4, ML1.9/1, Error ellipse: s-maj=77.8km s-min=37.8km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.83**	**224**	Pn	Pn	18 00 53.5	+2.0
	3.7nm,0.3s,baz=34,slow=5.3,SNR=14						
PMG				Sn	Sn	18 01 45.1	-3.2
	4.4nm,0.3s,baz=90,slow=16,SNR=3.8						
WRA	**Warramunga Arr**	**21.05**	**227**	P	P	18 04 22.9	-0.4
	1.2nm,0.4s,baz=51,slow=10,SNR=13						
ASAR	**Alice Springs**	**23.84**	**221**	P	P	18 04 52.6	0.0
	0.9nm,0.3s,baz=54,slow=9.3,SNR=78						
STKA	**Stephens Creek**	**27.14**	**197**	P	P	18 05 21.2	-1.3
	2.3nm,0.9s,baz=32,slow=16,SNR=3.6						
TORD	**Torodi Ar. Bea**	**148.52**	**285**	PKPbc	PKPbc	18 19 27.2	-0.2
	0.8nm,0.3s,baz=94,slow=2.5,SNR=14						

*DDA **26** 18:22:60.0, 39°.59N×39°.95E, h7km, MD2.8*
*ISK **26** 18:23:03.8, 39°.94N×39°.88E, h15km, MD2.4*
*CSEM **26** 18:23:03.5±0.6, 39°.87N×39°.95E, h8km, MD2.4, Error ellipse: s-maj=13.9km s-min=9.3km az=150.0*
*ISCJB **26** 18:23:04.0±0.6, 39°.91N±0°.04×39°.91E±0°.05, h7km±11km, Error ellipse: s-maj=7.9km s-min=4.9km az=138.5*

ISC 26 18:23:03.5±1.1, 39°.86N±0°.04×39°.91E±0°.03, h6km±14km, n14, σ1°37/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERZN	**Erzincan**	**0.31**	**207**	*e*PG	**Pb**	**18 23 11.8**	**+0.3**
ERZN				*e*SG	**Sb**	**18 23 17.4**	**+0.4**
EZC	**Erzincan**	**0.44**	**255**	*e*Pg	**Pg**	**18 23 11.9**	**-0.2**
EZC				*e*Sg	**Sg**	**18 23 17.4**	**-0.5**
KOPT	**Kop Dagi**	**0.48**	**71**	*i* P	**Pg**	**18 23 12.5**	**-0.3**
KOPT				*i* S	**Sg**	**18 23 19.6**	**+0.5**
KOPT	**Kop Dagi**	**0.48**	**71**	*i* P	**Pg**	**18 23 12.5**	**-0.3**
KOPT				*i* S	**Sg**	**18 23 19.6**	**+0.5**
BAYT	**Ayd¨–ntepe-Bay**	**0.56**	**19**	*e*PG	**Pg**	**18 23 14.5**	**+0.1**
BAYT				*e*SG	**Sg**	**18 23 21.4**	**-0.2**
BAYT	**Ayd¨–ntepe-Bay**	**0.56**	**19**	*e*Pg	**Pg**	**18 23 14.5**	**+0.1**
BAYT				*e*Sg	**Sg**	**18 23 21.4**	**-0.2**
KELT	**Kelkit**	**0.58**	**300**	*i* P	**Pb**	**18 23 16.3**	**+0.2**
KELT				*i* S	**Sb**	**18 23 25.9**	**+1.2**
KELT	**Kelkit**	**0.58**	**300**	*i* P	**Pb**	**18 23 16.3**	**+0.2**
KELT				*i* S	**Sb**	**18 23 25.9**	**+1.2**
GUMT	**Gumushane**	**0.68**	**331**	*e*PG	**Pg**	**18 23 16.2**	**-0.4**
GUMT	**Gumushane**	**0.68**	**331**	*e*Pg	**Pg**	**18 23 16.2**	**-0.4**
PTK	**Pertek**	**1.05**	**203**	*e*PN	**Pn**	**18 23 25.2**	**+0.2**
PTK	**Pertek**	**1.05**	**203**	*e*Pn	**Pn**	**18 23 25.2**	**+0.2**
KEMA	**Kemaliye**	**1.25**	**242**	*i* P	**Pg**	**18 23 28.6**	**+1.2**
KEMA				*i* S	**Sb**	**18 23 38.5**	**-5.3**
KEMA	**Kemaliye**	**1.25**	**242**	*i* P	**Pg**	**18 23 28.6**	**+1.2**

*CSEM **26** 18:26:58.4±0.5, 50°.41N×18°.85E, h1km*
PRU 26 18:26:59.5, 50°.34N×18°.87E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.61**	**101**	*e*Pg	Pg	18 27 10.8	-0.4
OJC				*e*Sg	Sg	18 27 19.5	+0.4
OJC	**Ojcow**	**0.61**	**101**	*e*Pg	Pg	18 27 10.8	-0.4
OKC	**Ostrava-Krasne**	**0.69**	**223**	*e*SG	Sg	18 27 21.1	-0.5
	comp=Z,4.3nm,0.4s						
OKC	**Ostrava-Krasne**	**0.69**	**223**	Sg	Sg	18 27 21.1	-0.5
	4.3nm,0.4s						
MORC	**Moravsky Berou**	**1.02**	**237**	*e*Sg	Sb	18 27 33.5	-0.8
MORC	**Moravsky Berou**	**1.02**	**237**	*e*Pg	Pg	18 27 19.7	+0.5
KRLC	**Kraliky**	**1.37**	**260**	*e*PG	Pg	18 27 24.5	-1.3
KRLC				*e*SG	Sg	18 27 43.3	-0.3
KRLC	**Kraliky**	**1.37**	**260**	Pg	Pg	18 27 24.5	-1.3
KRLC				Sg	Sg	18 27 43.3	-0.3
DPC	**Dobruska-Polom**	**1.63**	**271**	*e*PG	Pn	18 27 29.2	-0.4
DPC				*e*SG	Sb	18 27 51.9	+0.1
	comp=Z,1.6nm,0.4s						
DPC	**Dobruska-Polom**	**1.63**	**271**	Pg	Pn	18 27 29.2	-0.4
DPC				Sg	Sb	18 27 51.9	+0.1
	1.6nm,0.4s						
VRAC	**Vranov**	**1.80**	**236**	*e*Sg	Sg	18 27 57.0	-0.4
GOPC	**GO Pecny, Ondr**	**2.66**	**262**	*e*SG	Sg	18 28 24.5	-0.6
GOPC	**GO Pecny, Ondr**	**2.66**	**262**	Sg	Sg	18 28 24.5	-0.6
KHC	**Kasperske Hory**	**3.64**	**253**	*e*SG	Sg	18 28 55.2	-1.4
KHC	**Kasperske Hory**	**3.64**	**253**	Sg	Sg	18 28 55.2	-1.4

*ISCJB **26** 18:51:37.2±0.3, 8°.58S±0°.03×121°.70E±0°.03, h150km, mb4.1/9, Error ellipse: s-maj=5.2km s-min=3.6km az=144.0*
*KLM **26** 18:51:39.3, 8°.55S×121°.71E, h175km, mb4.6, ML3.2, MS5.1*
*DJA **26** 18:51:39.7±0.4, 9°S±3°×12°2E±°, h147km±5km, M4.6/21, mb4.7/11, mB5.0/7, MLv4.8/21, Mw(mB)4.3/7*
*IDC **26** 18:51:40.3±1.2, 8°.34S±121°.57E, h197km±12km, mb3.7/8, mb1 4.0/13, mb1mx3.7/38, mbtmp4.5/13, Error ellipse: s-maj=21.3km s-min=9.6km az=58.0*

ISC 26 18:51:37.5±0.5, 8°.50S±0°.05×121°.65E±0°.05, h150km, n64, σ1°72/62, mb4.2/9, 1C-2D, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.60**	**103**	P	Pn	18 52 03.1	+3.7
MMRI				S	**Sn**	**18 52 20.8**	**+4.7**
WSI	**Waingapu**	**1.77**	**229**	P	**Pn**	**18 52 11.8**	**+1.8**
WSI				S	**Sn**	**18 52 37.0**	**+2.1**
WSI	**Waingapu**	**1.77**	**229**	P	**Pn**	**18 52 11.9**	**+1.9**
	baz=1.8,SNR=47						
BSSI	**Bau Bau, Buton**	**2.61**	**334**	P	**Pn**	**18 52 21.2**	**+1.2**
SOEI	**Soe**	**2.87**	**116**	P	**Pn**	**18 52 25.8**	**+2.4**
SOEI				S	**Sn**	**18 53 02.3**	**+3.4**
SOEI	**Soe**	**2.87**	**116**	P	**Pn**	**18 52 26.3**	**+2.9**
	baz=2.9,SNR=102						
BKSI	**Bulukumba**	**3.50**	**334**	P	**Pn**	**18 52 33.0**	**+1.6**
KAPI	**Kappang**	**3.94**	**331**	P	**Pn**	**18 52 39.5**	**+2.4**
	54nm,0.3s,baz=141,slow=13,SNR=210						
KAPI				S	**Sn**	**18 53 26.3**	**+3.0**
	baz=183,slow=19,SNR=6.1						
KDI	**Kendari**	**4.62**	**12**	P	**Pn**	**18 52 47.8**	**+1.9**
SPSI	**Sidrap Palu**	**4.88**	**337**	P	**Pn**	**18 52 51.2**	**+1.8**
SRBI	**Singaraja**	**6.38**	**273**	P	**Pn**	**18 53 10.2**	**+0.9**
	56nm,0.7s,0.7nm						
IGBI	**Denpasar**	**6.43**	**267**	P	**Pn**	**18 53 11.0**	**+0.9**
	117nm,0.6s,32μm6.6nm						
LUWI	**Luwuk**	**7.50**	**9**	P	**Pn**	**18 53 26.3**	**+2.1**
	127nm,1.1s,857nm0.4nm						
LUWI	**Luwuk**	**7.50**	**9**	P	**Pn**	**18 53 26.1**	**+1.8**
	baz=7.5,SNR=9.0						
NLAI	**Namlea**	**7.53**	**46**	P	**Pn**	**18 53 27.3**	**+2.5**
	64nm,0.9s,616nm0.2nm						
APSI	**Ampana**	**7.54**	**0**	P	**Pn**	**18 53 27.0**	**+2.1**
	28nm,1.0s,0.1nm						
SANI	**Sanana**	**7.73**	**34**	P	**Pn**	**18 53 29.7**	**+2.3**
KMMI	**Kalianget**	**7.74**	**280**	P	**Pn**	**18 53 29.7**	**+2.1**
	116nm,1.4s,3μm0.4nm						
PCI	**Palu**	**7.76**	**346**	P	**Pn**	**18 53 29.7**	**+1.9**
	80nm,1.0s,603nm0.2nm						
KNRA	**Kununurra**	**9.96**	**136**	P	**Pn**	**18 53 56.0**	**-1.1**
	baz=10.0,SNR=242						
MTN	**Manton Dam**	**10.27**	**116**	P	**Pn**	**18 54 00.4**	**-0.8**
	baz=10,SNR=212						
UGM	**Wanagama**	**11.03**	**272**	P	**Pn**	**18 54 10.2**	**-1.0**
	baz=11,SNR=14						
SMRI	**Semarang**	**11.20**	**277**	P	**Pn**	**18 54 14.2**	**+0.8**
	baz=11,SNR=5.2						
KDU	**Kakadu**	**11.43**	**112**	P	**Pn**	**18 54 14.8**	**-1.6**
	baz=11,SNR=38						
FAKI	**Fak Fak**	**11.92**	**63**	P	**Pn**	**18 54 22.1**	**-0.7**
	baz=12,SNR=11						
SWI	**Sorong**	**12.22**	**52**	P	**Pn**	**18 54 26.3**	**-0.5**
	baz=12,SNR=5.6						
SIJI	**Sorong**	**12.22**	**52**	P	**Pn**	**18 54 25.9**	**-0.8**
	2.0nm,0.3s,baz=217,slow=9.9,SNR=14						
SIJI				S	Sn	18 56 49.5	+7.5
	1.9nm,0.3s,baz=82,slow=18,SNR=9.6						
CISI	**Cisompet, Garu**	**13.73**	**273**	P	Pn	18 54 43.1	-3.1
	baz=14,SNR=13						
LEM	**Lembang**	**14.00**	**276**	P	**Pn**	**18 54 48.5**	**-1.2**
	1.7nm,0.3s,baz=105,slow=11,SNR=5.8						
SDKM	**Sandakan**	**14.73**	**342**	⇓P	**P**	**18 55 01.2**	**+0.2**
KSM	**Kuching**	**15.03**	**311**	⇑P	**P**	**18 55 03.8**	**-0.4**
KKM	**Kota Kinabalu**	**15.43**	**339**	P	**Pn**	**18 55 08.3**	**+0.8**
	baz=16,SNR=6.2						
KKM	**Kota Kinabalu**	**15.43**	**339**	⇓P	**Pn**	**18 55 08.3**	**+0.8**
GIRL	**Giralia**	**15.76**	**206**	P	**P**	**18 55 14.0**	**+1.8**
	baz=16,SNR=11						
WRA	**Warramunga Arr**	**16.74**	**134**	P	**P**	**18 55 23.0**	**-0.1**
	7.9nm,0.3s,baz=310,slow=12,SNR=407						
WRA				S		18 58 21.3	-8.3
	1.8nm,0.3s,baz=317,slow=26,SNR=7.8						
WRKA	**Warakurna**	**17.63**	**160**	P	**Pn**	**18 55 34.2**	**+0.2**
	baz=18,SNR=22						
MEEK	**Meekatharra**	**18.27**	**189**	P	**P**	**18 55 40.5**	**+0.7**
	baz=18,SNR=5.7						
ASAR	**Alice Springs**	**19.11**	**144**	P	**P**	**18 55 49.9**	**+0.8**
	6.1nm,0.3s,baz=331,slow=12,SNR=542						
ASAR				S	**S**	**18 59 14.1**	**-3.8**
	baz=319,slow=19,SNR=9.7						
QIS	**Mount Isa**	**21.09**	**127**	P	**P**	**18 56 10.8**	**+0.5**
	baz=21,SNR=121						
MORW	**Morawa**	**21.13**	**194**	P	**P**	**18 56 10.4**	**-0.1**
	baz=21,SNR=9.2						
COEN	**Coen**	**21.79**	**106**	P	**P**	**18 56 17.0**	**-0.9**
	baz=22,SNR=9.2						
BLDU	**Ballidu**	**22.48**	**191**	P	**P**	**18 56 24.0**	**-0.5**
	baz=23,SNR=50						
MTSU	**Mount Surprise**	**24.02**	**116**	P	**P**	**18 56 39.1**	**+0.3**
	baz=24,SNR=68						
NWAO	**Narrogin (SRO)**	**24.65**	**189**	P	**P**	**18 56 44.1**	**-0.2**
	5.9nm,0.6s,baz=331,slow=7.9,SNR=9.6						
MANU	**Manus Island**	**26.39**	**77**	P	P	18 56 53.2	-7.1
	baz=26,SNR=3.3						
CTA	**Charters Tower**	**26.44**	**118**	P	**P**	**18 57 01.1**	**+0.4**
	5.7nm,0.8s,baz=299,slow=10,SNR=6.8						
BBOO	**Buckleboo**	**27.63**	**153**	P	**P**	**18 57 11.1**	**0.0**
	baz=28,SNR=12						
QLP	**Quilpie**	**27.97**	**133**	P	**P**	**18 57 15.0**	**+0.8**
	baz=28,SNR=7.2						
HTT	**Hallett**	**29.50**	**150**	P	**P**	**18 57 28.3**	**+0.6**
	baz=30,SNR=8.0						
STKA	**Stephens Creek**	**29.75**	**144**	P	**P**	**18 57 30.3**	**+0.4**
	14nm,0.5s,baz=320,slow=8.8,SNR=54						
STKA	**Stephens Creek**	**29.75**	**144**	P	**P**	**18 57 30.3**	**+0.4**
	baz=30,SNR=41						
RMQ	**Roma**	**31.32**	**128**	P	**P**	**18 57 45.3**	**+1.4**
	baz=31,SNR=4.3						
CMSA	**Cobar Meteorol**	**32.03**	**139**	P	**P**	**18 57 51.0**	**+1.0**
	baz=32,SNR=23	

KDU	**Kakadu**	**47.89**	**269**	P	**P**	**19 03 44.5**	**+0.3**
	baz=48,SNR=4.5						
MTN	**Manton Dam**	**49.13**	**269**	P	**P**	**19 03 53.4**	**+0.1**
	baz=49,SNR=3.3						
WRKA	**Warakurna**	**50.09**	**252**	P	**P**	**19 04 00.4**	**+0.1**
	baz=50,SNR=13						
KNRA	**Kununurra**	**50.80**	**264**	P	**P**	**19 04 05.6**	**+0.1**
	baz=51,SNR=4.5						
SIJI	**Sorong**	**52.62**	**283**	P	**P**	**19 04 19.1**	**+0.5**
	1.4nm,0.3s,baz=164,slow=23,SNR=5.2						
MEEK	**Meekatharra**	**58.66**	**249**	P	**P**	**19 04 59.6**	**-0.6**
	baz=58,SNR=3.9						
JHJ	**Hachijo jima 2**	**64.97**	**322**	P	**P**	**19 05 40.7**	**-0.1**
	11nm,0.3s,baz=88,slow=20,SNR=5.6						
MJAR	**Matsushiro Arr**	**68.31**	**323**	P	**P**	**19 06 01.1**	**-0.1**
	1.3nm,0.6s,baz=156,slow=6.3,SNR=4.0						
NVAR	**Mina Array Bea**	**79.37**	**44**	P	**P**	**19 07 02.3**	**-1.6**
	0.7nm,0.6s,baz=222,slow=8.1,SNR=4.9						
SEY	**Seymchan**	**84.09**	**347**	P	**P**	**19 07 26.1**	**-0.9**
	1.9nm,0.5s,baz=162,slow=5.2,SNR=13						
TXAR	**Lajitas Array**	**85.84**	**57**	P	**P**	**19 07 36.9**	**+0.5**
	1.8nm,0.8s,baz=218,slow=5.8,SNR=19						
ILAR	**Eielson Array**	**86.05**	**13**	P	**P**	**19 07 34.9**	**-1.6**
	0.8nm,0.4s,baz=221,slow=4.9,SNR=10						
PDAR	**Pinedale Array**	**87.30**	**43**	P	**P**	**19 07 42.3**	**-0.8**
	0.7nm,0.7s,baz=256,slow=2.7,SNR=3.7						
ARCES	**ARCESS Array B**	**126.62**	**350**	PKP	**PKPdf**	**19 13 52.0**	**-2.1**
	1.3nm,0.7s,baz=333,slow=1.6,SNR=6.4						
FINES	**FINESS Array B**	**133.52**	**344**	PKP	**PKPdf**	**19 14 05.9**	**-1.5**
	1.1nm,0.8s,baz=169,slow=3.7,SNR=3.7						
BRTR	**Keskin Array B**	**145.20**	**315**	PKPbc	**PKPdf**	**19 14 29.5**	**+0.1**
	0.8nm,0.7s,baz=49,slow=3.6,SNR=4.1						
GERES	**GERESS Array B**	**147.94**	**345**	PKPbc	**PKPdf**	**19 14 36.4**	**+2.8**
	0.9nm,0.6s,baz=22,slow=3.2,SNR=11						

*IDC **26** 19:03:30.4±2.7, 5.87N×125.62E, h138km±26km, mb3.7/5, mb1 3.9/6, mb1mx3.3/27, mbtmp4.2/6, Error ellipse: s-maj=85.8km s-min=14.1km az=62.0*
*MAN **26** 19:03:31, 5.64N×125.73E, h108km, mb4.7, ML3.6, MS3.6*
*DJA **26** 19:04:25.0±2.3, 1.1N±18.1×12.8E±1.7, h163km±8km, M3.5/5, MLv3.5/5*

ISC 26 19:03:32.1±0.9, 5.8N±0.1×125.6E±0.2, h150km, n21, σ1§48/22, mb3.9/5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**1.99**	**316**	*i* P	Pn	19 04 08.1	+0.9
CTBH				*i* S	**Sn**	**19 04 34.2**	**+0.1**
TNTI	**Ternate**	**5.27**	**161**	P	**Pn**	**19 04 49.1**	**-0.1**
TNTI				S	x	19 05 06.8	
KMSI	**Cibinong**	**5.43**	**198**	P	Px	19 05 19.7	
LUWI	**Luwuk**	**7.36**	**203**	P	Pn	19 05 22.6	+5.5
	baz=60,SNR=4.4						
SANI	**Sanana**	**7.79**	**177**	P	**Pn**	**19 05 19.9**	**-2.9**
SWI	**Sorong**	**8.66**	**139**	P	**Pn**	**19 05 34.1**	**-0.3**
	baz=8.9,SNR=4.1						
SIJI	**Sorong**	**8.67**	**139**	P	**Pn**	**19 05 34.1**	**-0.5**
	2.8nm,0.3s,baz=334,slow=16,SNR=17						
SIJI				S	**Sn**	**19 07 08.4**	**-2.7**
	0.2nm,0.3s,baz=253,slow=19,SNR=2.1						
NLAI	**Namlea**	**9.08**	**171**	P	Pn	19 05 31.2	-8.8
MTN	**Manton Dam**	**19.29**	**164**	P	**Pn**	**19 07 50.4**	**+2.2**
	baz=19,SNR=6.5						
KDU	**Kakadu**	**19.57**	**160**	P	**Pn**	**19 07 49.9**	**-1.5**
	baz=20,SNR=12						
KNRA	**Kununurra**	**21.55**	**172**	P	**P**	**19 08 10.9**	**+1.2**
	baz=21,SNR=16						
WRA	**Warramunga Arr**	**26.96**	**162**	P	**P**	**19 08 59.7**	**-0.2**
	1.3nm,0.6s,baz=338,slow=10.0,SNR=17						
WRA				PcP	**PcP**	**19 12 17.6**	**-0.4**
	0.5nm,0.7s,baz=343,slow=2.4,SNR=3.3						
ASAR	**Alice Springs**	**30.36**	**165**	P	**P**	**19 09 30.3**	**+0.3**
	1.5nm,0.5s,baz=341,slow=6.9,SNR=55						
ASAR				PcP	**PcP**	**19 12 26.3**	**-0.2**
	0.4nm,0.4s,baz=345,slow=2.5,SNR=7.5						
ASAR				ScP	**ScP**	**19 15 54.4**	**-0.7**
	0.5nm,1.0s,baz=331,slow=2.4,SNR=3.1						
MEEK	**Meekatharra**	**32.94**	**192**	P	**P**	**19 09 53.7**	**+1.1**
	baz=33,SNR=3.4						
BBOO	**Buckleboo**	**39.64**	**166**	P	**P**	**19 10 50.7**	**+1.4**
	baz=40,SNR=7.0						
STKA	**Stephens Creek**	**40.42**	**159**	P	**P**	**19 10 57.0**	**+1.2**
	4.2nm,0.5s,baz=341,slow=8.2,SNR=16						
STKA	**Stephens Creek**	**40.42**	**159**	P	**P**	**19 10 57.2**	**+1.4**
	baz=40,SNR=7.1						
HTT	**Hallett**	**40.98**	**163**	P	**P**	**19 11 02.3**	**+1.8**
	baz=41,SNR=5.3						
ARPS	**Mount Arapiles**	**44.96**	**162**	P	**P**	**19 11 34.2**	**+1.9**
	baz=45,SNR=10.0						
MKAR	**Makanchi Array**	**55.26**	**325**	P	**P**	**19 12 49.0**	**-0.8**
	0.8nm,0.4s,baz=120,slow=7.3,SNR=16						
KURBB	**Kurchatov Arra**	**59.44**	**327**	P	**P**	**19 13 17.4**	**-1.6**
	0.8nm,0.6s,baz=126,slow=6.2,SNR=8.4						

*DMN **26** 19:13:25.9±0.6, 27.08N×91.86E, h10km, Ml4.8/6, Error ellipse: s-maj=34.2km s-min=10.4km az=6.0*
*ISCJB **26** 19:13:26.3±0.4, 26.50N±0.06×91.44E±0.04, h33km, mb3.9/18, Error ellipse: s-maj=8.6km s-min=4.0km az=22.2*
*IDC **26** 19:13:27.0±0.6, 26.30N×91.29E, h30km±3km, mb3.7/18, mb1 3.8/19, mb1mx3.7/45, mbtmp3.9/19, ML3.7/1, Error ellipse: s-maj=19.4km s-min=11.2km az=47.0*

ISC 26 19:13:27.9±0.5, 26.47N±0.08×91.48E±0.06, h35km, n42, σ1§71/60, mb3.9/18, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**0.97**	**158**	*i* P	**Pn**	**19 13 47.0**	**+1.8**
SHL				*e*S	**Sn**	**19 13 58.0**	**+0.1**
GTK	**Gangtok**	**2.69**	**289**	*e*P	**Pn**	**19 14 08.5**	**-0.4**
GTK				*e*S	**Sn**	**19 14 36.5**	**-3.9**
SLGI	**Shiliguri**	**2.75**	**275**	*ex*	x	19 14 17.0	
IMP	**Imphal**	**2.78**	**127**	*e*P	**Pn**	**19 14 12.0**	**+2.0**
IMP				*ex*	x	19 14 22.0	
TAPN	**Taplejung**	**3.48**	**285**	*e*Pn	**Pn**	**19 14 22.1**	**+2.3**
TAPN				*e*Sn	**Sn**	**19 15 03.2**	**+3.3**
ODAN	**Odare**	**3.68**	**277**	*e*Pn	**Pn**	**19 14 25.3**	**+2.8**
ODAN				*e*Sn	**Sn**	**19 15 09.6**	**+4.8**
RAMN	**Ramite**	**4.39**	**277**	*e*Pn	**Pn**	**19 14 35.2**	**+2.9**
RAMN				*e*Sn	**Sn**	**19 15 26.1**	**+3.8**
	740nm,0.6s						
GUN	**Gumba**	**5.19**	**287**	*e*Pn	**Pn**	**19 14 45.2**	**+1.8**
GUN				*e*Sn	**Sn**	**19 15 43.2**	**+1.0**
	299nm,0.4s						
PKI	**Pulchoki**	**5.52**	**283**	*e*Pn	**Pn**	**19 14 49.0**	**+1.1**
PKI				*e*Sn	**Sn**	**19 15 50.9**	**+0.5**
	122nm,0.4s						
PKIN	**Phulchoki**	**5.53**	**283**	*e*Pn	**Pn**	**19 14 49.1**	**+1.1**
KKN	**Kakani**	**5.68**	**285**	*e*Pn	**Pn**	**19 14 51.2**	**+1.2**
KKN				*e*Sn	**Sn**	**19 15 55.1**	**+1.1**
	109nm,0.2s						
DMN	**Daman**	**5.79**	**283**	*e*Pn	**Pn**	**19 14 52.9**	**+1.3**
GKN	**Gorkha**	**6.28**	**286**	*e*Pn	**Pn**	**19 15 00.0**	**+1.8**
GKN				*e*Sn	**Sn**	**19 16 08.8**	**0.0**
	194nm,0.3s						
DANN	**Dangsing**	**7.11**	**287**	*e*Pn	**Pn**	**19 15 09.8**	**+0.1**
DANN				*e*Sn	**Sn**	**19 16 27.2**	**-2.2**
KOLN	**Koldanda**	**7.14**	**282**	*e*Pn	**Pn**	**19 15 10.5**	**+0.5**
KOLN				*e*Sn	**Sn**	**19 16 29.9**	**-0.1**
	154nm,0.6s						
CMAR	**Chiang Mai Arr**	**10.54**	**138**	Pn	**Pn**	**19 15 56.5**	**-0.2**
	0.2nm,0.3s,baz=314,slow=13,SNR=5.5						
JOSI	**Joshimath**	**11.24**	**294**	*e*P	Pn	19 16 01.8	-4.5
JOSI				*ex*	x	19 18 06.1	
JOSI				AML	AML	19 18 30.6	
	comp=N,75nm,0.5s						
JOSI				AML	AML	19 18 32.0	
	comp=E,55nm,0.5s						
AGRA	**Agra**	**12.11**	**277**	*ex*	Sn	19 18 23.5	-8.2
AGRA				AML	AML	19 20 09.2	
	comp=N,80nm,0.4s						
AGRA				AML	AML	19 20 13.3	
	comp=E,76nm,0.7s						
SMLA	**Simla**	**13.38**	**294**	*e*P	Pn	19 16 32.0	-3.2
SMLA				*e*S	Sn	19 18 48.9	-14
SMLA				AML	AML	19 19 14.1	
	comp=E,40nm,0.7s						
SMLA				AML	AML	19 19 14.7	
	comp=N,16nm,0.6s						
KUDL	**Kundal**	**13.43**	**281**	*e*S	Sn	19 18 48.0	-16
KUDL				AML	AML	19 20 59.6	
	comp=N,9.0nm,0.5s						
KUDL				AML	AML	19 21 00.7	
	comp=E,6.5nm,0.5s						
KHET	**Khetri**	**14.03**	**280**	*e*P	**Pn**	**19 16 42.3**	**-1.9**
KHET				*ex*	x	19 19 10.6	
KHET				AML	AML	19 19 17.9	
	comp=N,89nm,0.1s						
KHET				AML	AML	19 19 18.1	
	comp=E,67nm,0.0s						
DHRM	**DHARAMSHALA**	**14.43**	**297**	*e*P	**Pn**	**19 16 47.1**	**-2.7**
DHRM				*ex*	x	19 19 21.5	
DHRM				AML	AML	19 19 22.7	
	comp=E,30nm,0.8s						
DHRM				AML	AML	19 19 26.5	
	comp=N,26nm,0.2s						
MKAR	**Makanchi Array**	**21.55**	**343**	P	**P**	**19 18 14.7**	**+0.5**
	comp=N,4.2nm,0.6s,baz=156,slow=9.6,SNR=43						
SONM	**Songino Array**	**24.33**	**25**	P	**P**	**19 18 44.3**	**+1.9**
	comp=N,1.1nm,0.6s,baz=208,slow=9.6,SNR=8.4						
SONM				pP	**pP**	**19 18 54.2**	**+1.7**
	comp=N,1.3nm,0.6s,baz=212,slow=10,SNR=8.4						
KURBB	**Kurchatov Arra**	**26.08**	**341**	P	**P**	**19 18 59.0**	**+0.9**
	comp=N,1.4nm,0.7s,baz=158,slow=10.0,SNR=13						
KURBB				pP	**pP**	**19 19 08.2**	**+0.2**
	comp=N,1.8nm,0.8s,baz=158,slow=8.7,SNR=10						
ZALV	**Zalesovo Beam**	**27.89**	**352**	P	**P**	**19 19 15.2**	**+1.0**
	comp=N,1.4nm,0.6s,baz=177,slow=9.4,SNR=4.1						
ZALV				pP	**pP**	**19 19 24.8**	**+0.5**
	comp=N,1.5nm,0.4s,baz=178,slow=8.7,SNR=2.7						
GEYT	**Alibeck**	**30.30**	**300**	P	**P**	**19 19 36.8**	**+0.8**
	comp=N,1.8nm,0.7s,baz=134,slow=10,SNR=4.3						
ARU	**Arti**	**38.12**	**331**	P	**P**	**19 20 44.2**	**+0.8**
	baz=113,slow=7.7						
ARU				pP	**pP**	**19 20 52.6**	**-1.0**
	baz=111,slow=14						
MJAR	**Matsushiro Arr**	**40.75**	**64**	P	**P**	**19 21 06.0**	**+0.5**
	comp=N,1.6nm,0.7s,baz=266,slow=9.2,SNR=6.7						
BRTR	**Keskin Array B**	**49.44**	**301**	P	**P**	**19 22 14.7**	**0.0**
	comp=N,0.5nm,0.6s,baz=104,slow=10,SNR=4.0						
AKASG	**Malin Array Be**	**52.59**	**315**	P	**P**	**19 22 37.0**	**-1.0**
	comp=N,1.2nm,0.4s,baz=77,slow=7.2,SNR=5.4						
AKASG				pP	**pP**	**19 22 47.2**	**-1.3**
	comp=N,1.6nm,0.4s,baz=82,slow=6.7,SNR=4.9						
SEY	**Seymchan**	**53.59**	**30**	P	**P**	**19 22 46.4**	**+1.3**
	comp=N,1.6nm,1.0s,baz=90,slow=20,SNR=3.5						
SEY				pP	**pP**	**19 22 56.0**	**+0.3**
	comp=N,0.6nm,0.4s,baz=228,slow=13,SNR=2.0						
FINES	**FINESS Array B**	**55.38**	**328**	P	**P**	**19 22 57.6**	**-0.6**
	comp=N,1.2nm,0.6s,baz=96,slow=9.8,SNR=5.5						
FINES				pP	**pP**	**19 23 07.1**	**-1.7**
	comp=N,1.2nm,0.6s,baz=109,slow=7.5,SNR=2.7						
ARCES	**ARCESS Array B**	**57.09**	**338**	P	**P**	**19 23 10.9**	**+0.6**
	comp=N,0.7nm,0.4s,baz=102,slow=7.9,SNR=13						
ARCES				pP	**pP**	**19 23 21.3**	**+0.4**
	comp=N,1.5nm,0.9s,baz=102,slow=7.5,SNR=2.4						
WRA	**Warramunga Arr**	**62.11**	**134**	P	**P**	**19 23 45.6**	**0.0**
	comp=N,0.9nm,0.7s,baz=324,slow=7.1,SNR=11						
NB2	**NORSAR Subarra**	**62.54**	**327**	P	**P**	**19 23 47.3**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=84,slow=6.9						
NOA	**NORSAR Array B**	**62.54**	**327**	P	**P**	**19 23 46.8**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=84,slow=6.9,SNR=4.0						
NOA				pP	**pP**	**19 23 56.2**	**-2.5**
	comp=Z,1.2nm,0.8s,baz=86,slow=6.6,SNR=4.8						
GERES	**GERESS Array B**	**62.73**	**313**	P	**P**	**19 23 49.4**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=72,slow=6.3,SNR=14						
GERES				pP	**pP**	**19 23 58.2**	**-2.0**
	comp=Z,1.0nm,0.5s,baz=73,slow=6.7,SNR=8.0						
ASAR	**Alice Springs**	**64.55**	**137**	P	**P**	**19 24 02.0**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=316,slow=6.1,SNR=37						
ASAR				pP	**pP**	**19 24 10.9**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=314,slow=6.1,SNR=4.7						
STKA	**Stephens Creek**	**75.17**	**138**	P	**P**	**19 25 06.1**	**-0.7**
	comp=Z,1.5nm,1.0s,baz=341,slow=5.9,SNR=3.6						
ILAR	**Eielson Array**	**78.52**	**22**	P	**P**	**19 25 25.8**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=301,slow=6.4,SNR=5.4						
ILAR				pP	**PcP**	**19 25 35.1**	**+0.8**
	comp=Z,1.0nm,0.9s,baz=298,slow=5.9,SNR=5.7						
TORD	**Torodi Ar. Bea**	**84.06**	**282**	P	**P**	**19 25 53.1**	**-2.4**
	comp=Z,0.4nm,0.9s,baz=58,slow=4.0,SNR=3.8						

TAP 26 19:40:56.8, 23.33N×120.71E, h20km, ML2.4, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYT	**Tauyuan**	**0.17**	**166**	P	Pb	19 41 02.1	+0.1
	baz=163						
STYT				S	Sb	19 41 06.1	+0.4
	baz=163						
ALS	**Alishan**	**0.20**	**26**	*e*P	Pb	19 41 02.6	0.0
	baz=27						
ALS				S	Sb	19 41 06.6	+0.1
	baz=27						
TWK	**Hsinying**	**0.22**	**253**	P	Pb	19 41 02.4	0.0
	baz=250						
TWK				S	Sb	19 41 06.5	+0.2
	baz=250						
CHN1	**Nanshi**	**0.22**	**229**	*e*P	Pb	19 41 02.7	+0.2
	baz=229						
CHN1				*e*S	Sb	19 41 06.8	+0.5
	baz=229						
CHN5	**Tsauling**	**0.27**	**353**	*e*P	Pb	19 41 03.6	+0.4
	baz=353						
CHN5				*e*S	Sb	19 41 08.0	+0.6
	baz=353						
SGST	**Jiashian**	**0.28**	**206**	*e*P	Pb	19 41 03.4	+0.3
	baz=204						
CHN2	**Minshiung**	**0.29**	**312**	*e*P	Pb	19 41 04.0	+0.6
	baz=312						
CHN2				*e*S	Sb	19 41 09.4	+1.4
	baz=312						
CHY	**Chiayi**	**0.31**	**302**	*e*P	Pb	19 41 04.1	+0.5
	baz=302						
CHY				*e*S	Sb	19 41 09.5	+1.2
	baz=302						
ELDTW	**Lidau**	**0.32**	**117**	P	Pb	19 41 04.5	+0.7
	baz=116						
WGK	**Gukeng**	**0.38**	**339**	*e*P	Pb	19 41 05.3	+0.6
	baz=339						
WGK				*e*S	Sb	19 41 11.7	+1.5
	baz=339						
TWF1	**Yuli**	**0.54**	**88**	*e*P	Pb	19 41 08.3	+0.7
	baz=88						
TWF1				*e*S	Sb	19 41 16.4	+1.4
	baz=88						
SMLT	**Sun Moon Lake**	**0.57**	**17**	*e*P	Pb	19 41 08.6	+0.2
	baz=18						
SMLT				*e*S	Sb	19 41 17.4	+1.1
	baz=18						
TYC	**Yuchr**	**0.58**	**13**	*e*P	Pn	19 41 09.7	-0.3
	baz=14						
TYC				*e*S	Sn	19 41 17.8	-1.1
	baz=14						
EHY	**Hungye**	**0.59**	**73**	*e*P	Pn	19 41 09.4	-0.6
	baz=73						
EHY				*e*S	Sb	19 41 17.2	+0.8
	baz=73						
SSD	**Sandimen**	**0.59**	**187**	*e*P	Pb	19 41 09.2	+0.7
	baz=186						
SSD				*e*S	Sn	19 41 17.9	-1.2
	baz=186						
TWG	**Pinlang**	**0.61**	**147**	*e*P	Pn	19 41 09.8	-0.5
	baz=146						
TWG				*e*S	Sn	19 41 18.9	-0.6
	baz=146						
ECL	**Taimali**	**0.77**	**163**	*e*P	Pn	19 41 12.6	+0.1
	baz=162						
ESL	**Shilin**	**0.82**	**54**	*e*P	Pn	19 41 12.9	-0.3
	baz=54						
ESL				*e*S	Sn	19 41 24.4	-0.3
	baz=54						
EAST	**Anshuo**	**0.95**	**172**	*e*P	Pb	19 41 14.8	+0.2
	baz=171						
EAST				*e*S	Sn	19 41 29.2	+1.1
	baz=171						
TWT	**Tachien**	**1.01**	**25**	*e*S	Sb	19 41 29.2	+0.3
	baz=24						

IDC 26 20:00:39.5±2.2, 40.88N×112.71W, h0km, mb1 2.3/1, mb1mx2.3/27, mbtmp1.9/1, ML2.8/1, Error ellipse: s-maj=43.5km s-min=5.9km az=161.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELK	**Elko**	**1.93**	**267**	Pn	Pn	20 01 13.4	-0.5
	1.3nm,0.3s,baz=73,slow=14,SNR=20						
ELK				Lg	Lg	20 01 40.4	
	3.2nm,0.3s,baz=186,slow=21,SNR=12						
PDAR	**Pinedale Array**	**3.02**	**50**	Pn	Pn	20 01 28.2	-0.7
	0.1nm,0.3s,baz=219,slow=13,SNR=2.6						
PDAR				Pg	Pg	20 01 36.4	-1.3
	0.7nm,0.3s,baz=218,slow=13,SNR=7.8						
PDAR				Lg	Lg	20 02 14.4	
	0.5nm,0.3s,baz=225,slow=22,SNR=5.2						
I56US	**NEWPORT INFRAS**	**8.03**	**338**	*i*		20 44 00.0	
	baz=160,slow=310,SNR=3.8						
I53US	**FAIRBANKS INFR**	**31.33**	**332**	*i*		23 08 20.1	
	baz=104,slow=321						

*ISCJB **26** 20:01:35.7±0.9, 3.94S±0.06×141.2E±0.1, h33km, mb3.6/2, Error ellipse: s-maj=16.7km s-min=7.8km az=172.1*
*IDC **26** 20:01:38.0±1.8, 3.92S×141.17E, h48km±21km, mb3.1/3, mb1 3.5/5, mb1mx3.2/25, mbtmp3.5/5, ML3.0/2, Error ellipse: s-maj=51.2km s-min=13.3km az=72.0*

ISC 26 20:01:37.6±0.9, 3.88S±0.08×141.2E±0.1, h35km, n11, σ0§92/14, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.43**	**341**	P	**Pn**	**20 02 01.0**	**-0.1**
	18nm,0.3s,baz=179,slow=10,SNR=62						
JAY				S	**Sn**	**20 02 20.3**	**+1.5**
	37nm,0.3s,baz=338,slow=16,SNR=14						
JAY				LR	LR	20 02 39.3	
	comp=Z,75nm,18.9s,baz=72,slow=42						
JAY	**Jayapura**	**1.43**	**341**	P	**Pn**	**20 02 01.2**	**0.0**
	baz=1.4,SNR=10						
PMG	**Port Moresby**	**8.10**	**133**	P	**Pn**	**20 03 32.6**	**-0.2**
	1.8nm,0.3s,baz=56,slow=0.7,SNR=6.6						
PMG	**Port Moresby**	**8.10**	**133**	P	**Pn**	**20 03 33.5**	**+0.7**
	baz=8.2,SNR=4.0						
PMG				P	**Pn**	**20 03 33.5**	**+0.7**
	baz=8.2,SNR=4.0						
PMG				P	**Pn**	**20 03 33.5**	**+0.7**
	baz=8.2,SNR=4.0						
KDU	**Kakadu**	**12.27**	**224**	P	**Pn**	**20 04 30.9**	**+0.9**
	baz=12,SNR=16						
MTN	**Manton Dam**	**13.33**	**227**	P	**Pn**	**20 04 45.8**	**+1.3**
	baz=13,SNR=8.8						
KNRA	**Kununurra**	**16.92**	**225**	P	**P**	**20 05 33.4**	**-0.1**
	baz=17,SNR=3.8						
WRA	**Warramunga Arr**	**17.30**	**202**	P	**Pn**	**20 05 36.7**	**+0.1**
	0.2nm,0.3s,baz=20,slow=12,SNR=15						
ASAR	**Alice Springs**	**20.89**	**199**	P	**P**	**20 06 16.1**	**-0.9**
	0.4nm,0.8s,baz=22,slow=9.4,SNR=9.2						
CMAR	**Chiang Mai Arr**	**47.14**	**300**	P	**P**	**20 10 05.7**	**-1.3**
	0.4nm,0.6s,baz=129,slow=7.1,SNR=3.7						
MKAR	**Makanchi Array**	**72.21**	**322**	P	**P**	**20 12 58.6**	**-0.6**
	0.4nm,0.4s,baz=100,slow=4.8,SNR=8.8						

*NIED **26** 20:16:00, 25.70N×128.70E, h11km, Mw3.8 Best double couple: M0 5.84000×10^14 NP1: φs 29.00000°, δs 28.00000°, λs -155.00000°. NP2: φs 277.00000°, δ 79.00000°, λ -65.00000°.*
*IDC **26** 20:16:48.0±1.0, 25.60N×128.59E, h0km, mb3.7/10, mb1 3.8/13, mb1mx3.7/30, mbtmp3.7/13, ML3.2/3, MS2.9/3, Ms1 2.9/3, ms1mx2.6/32, Error ellipse: s-maj=36.0km s-min=18.8km az=78.0*
*ISCJB **26** 20:16:49.7±0.5, 25.69N±0.03×128.71E±0.04, h30km, mb3.5/10, MS3.4/1, Error ellipse: s-maj=5.7km s-min=3.8km az=39.1*
*JMA **26** 20:16:51.1±0.3, 25.74N×128.67E, h59km, M3.6*

ISC 26 20:16:51.2±0.7, 25.63N±0.05×128.72E±0.04, h30km, n35, σ2§12/48, mb3.7/10, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**1.01**	**300**	P	**Pb**	**20 17 08.3**	**-1.9**
JJT2				*e*S	**Sb**	**20 17 21.5**	**-1.6**
JNTH	**Nagotoyohara**	**1.08**	**325**	P	**Pn**	**20 17 08.6**	**-1.8**
JOW	**Kunigami**	**1.26**	**342**	P	**Pn**	**20 17 11.5**	**-1.3**
JOW				*e*S	**Sn**	**20 17 25.6**	**-3.2**
JIH	**Iheya**	**1.55**	**334**	P	**Pn**	**20 17 15.9**	**-0.9**
JIH				*e*S	**Sn**	**20 17 33.7**	**-2.2**
JAGN	**Aguni-jima**	**1.64**	**306**	P	**Pn**	**20 17 17.1**	**-0.8**
JAGN				*e*S	**Sn**	**20 17 36.5**	**-1.5**
JOKE	**Okinoerabujima**	**1.73**	**356**	P	**Pn**	**20 17 18.1**	**-1.1**
JOKE				S	**Sn**	**20 17 37.9**	**-2.4**
JKE	**Kume jima 2**	**1.88**	**292**	P	**Pn**	**20 17 19.9**	**-1.3**
JKE				*e*S	**Sn**	**20 17 41.5**	**-2.4**
JTK	**Tokunoshima**	**2.16**	**5**	P	**Pn**	**20 17 23.7**	**-1.4**
JTK				S	**Sn**	**20 17 47.1**	**-3.7**
JMZ	**Minamidaito 2**	**2.26**	**85**	P	**Pn**	**20 17 24.1**	**-2.4**
JMZ				*e*S	**Sn**	**20 17 48.8**	**-4.6**
JAMN	**Amaminishikomi**	**2.63**	**9**	P	**Pn**	**20 17 30.4**	**-1.3**
JAMN				*e*S	**Sn**	**20 18 00.2**	**-2.4**
JAM	**Amami Oshima**	**2.88**	**16**	P	**Pn**	**20 17 33.5**	**-1.5**
JAM				*e*S	**Sn**	**20 18 05.4**	**-3.3**
JZK	**Kikaishima**	**2.90**	**22**	P	**Pn**	**20 17 34.4**	**-0.9**
JZK				*e*S	**Sn**	**20 18 07.2**	**-1.9**
JOGS	**Gusukube**	**3.13**	**255**	P	**Pn**	**20 17 38.0**	**-0.4**
JMJ	**Miyako jima 2**	**3.21**	**256**	P	**Pn**	**20 17 39.2**	**-0.4**
JIKM	**Ikemajima**	**3.22**	**258**	P	**Pn**	**20 17 39.0**	**-0.8**
JIKM				*e*S	**Sn**	**20 18 14.8**	**-2.3**
JIRB	**Irabujima**	**3.31**	**257**	P	**Pn**	**20 17 39.8**	**-1.2**
JTAJ	**Takarajima**	**3.54**	**7**	P	**Pn**	**20 17 42.8**	**-1.3**
JTAJ				*e*S	**Sn**	**20 18 21.4**	**-3.4**
JTJ	**Tarama**	**3.77**	**256**	P	**Pn**	**20 17 46.0**	**-1.3**
JTJ				*e*S	**Sn**	**20 18 26.5**	**-4.3**
JISG	**Ishigakijimahi**	**4.13**	**256**	P	**Pn**	**20 17 50.3**	**-2.0**
JISG				*e*S	**Sn**	**20 18 35.1**	**-4.5**
JIJ	**Ishigaki jima**	**4.34**	**254**	P	**Pn**	**20 17 53.7**	**-1.5**
JNU	**Nakatsue**	**7.70**	**14**	Pn	**Pn**	**20 18 41.1**	**-0.2**
	1.0nm,0.3s,baz=196,slow=5.1,SNR=

MKAR	**Makanchi Array**	**59.40**	**325**	P	P	20 44 03.1	+0.2	
	0.3nm,0.4s,baz=114,slow=7.9,SNR=8.2							

*SJA **26** 20:53:50.5±0.3,24°.08S×67°.20W,h196km±9km, ML2.9*
*ISCJB **26** 20:53:52.6±0.7,24°.16S±0°.05×67°.13W±0°.06,h181km, mb3.6/1, Error ellipse: s-maj=9.0km s-min=6.2km az=146.7*
*IDC **26** 20:53:52.9±1.2,24°.19S×67°.06W,h178km±13km,mb3.5/1, mb1 3.6/6,mb1mx3.3/26,mbtmp4.0/6, Error ellipse: s-maj=20.4km s-min=17.3km az=28.0*

ISC 26 20:53:52.3±0.9, 24°21S±0°.06×67°.16W±0°.07, h181km, n15, σ1§55/22, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.59**	**109**	*i* P	**Pn**	**20 54 26.4**	**+1.0**
SLA				*i* S	**Sn**	**20 54 52.9**	**+1.8**
SLA				AML	AML	20 54 54.1	
	comp=Z,57nm,0.7s						
HJA	**Humahuaca**	**1.89**	**58**	*i* P	**Pn**	**20 54 28.7**	**0.0**
AZAP	**Zapla**	**1.91**	**91**	*i* P	**Pn**	**20 54 29.2**	**+0.4**
AZAP				*i* S	**Sn**	**20 54 58.0**	**+1.1**
FSA	**Cafayete**	**2.14**	**151**	*i* P	**Pn**	**20 54 33.0**	**+1.8**
FSA				*i* P	**Pn**	**20 54 33.0**	**+1.8**
LVC	**Limon Verde**	**2.26**	**314**	P	**Pn**	**20 54 34.6**	**+1.9**
	comp=Z,688nm,0.3s,baz=126,slow=9.5,SNR=279						
LVC				S	**Sn**	**20 55 05.4**	**+1.4**
	comp=Z,2µm,0.3s,baz=279,slow=19,SNR=44						
ASTB	**Santa Barbara**	**2.46**	**84**	*i* P	**Pn**	**20 54 35.4**	**+0.6**
CFAA	**Coronel Fontan**	**7.43**	**187**	P	**Pn**	**20 55 37.3**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=27,slow=14,SNR=3.8						
CFAA				S	**Sn**	**20 56 59.4**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=293,slow=20,SNR=10						
LPAZ	**La Paz**	**7.94**	**353**	P	**Pn**	**20 55 45.8**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=167,slow=9.5,SNR=21						
LPAZ				S	**Sn**	**20 57 12.8**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=344,slow=20,SNR=3.9						
CPUP	**Villa Florida**	**9.14**	**105**	P	**Pn**	**20 56 02.1**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=260,slow=11,SNR=2.1						
SIV	**San Ignacio**	**9.97**	**36**	P	**Pn**	**20 56 10.0**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=228,slow=12,SNR=7.9						
SIV				S	**Sn**	**20 57 59.8**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=134,slow=9.8,SNR=3.1						
BDFB	**Brasilia**	**19.90**	**68**	P	**P**	**20 58 09.8**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=242,slow=13,SNR=14						
TORD	**Torodi Ar. Bea**	**76.78**	**69**	P	**P**	**21 05 24.6**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=259,slow=5.7,SNR=12						
ASAR	**Alice Springs**	**128.21**	**205**	PKP	**PKPdf**	**21 12 38.8**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=146,slow=2.8,SNR=5.3						
WRA	**Warramunga Arr**	**131.37**	**207**	PKP	**PKPdf**	**21 12 45.2**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=154,slow=1.7,SNR=8.9						
MKAR	**Makanchi Array**	**146.78**	**40**	PKPbc	**PKPbc**	**21 13 12.7**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=301,slow=3.8,SNR=3.5						

*NEIC **26** 21:16:20.4±2.0,41°.41N×113°.57W,h0km,ML1.9, Error ellipse: s-maj=23.7km s-min=10.4km az=92.0, Suspected Mining explosion.*
NEIC 50 km [30 miles] SSW of Park Valley.
*ISCJB **26** 21:16:21.7±1.5,41°.42N±0°.05×113°.4W±0°.1,h0km, Error ellipse: s-maj=14.1km s-min=6.2km az=9.2*
*IDC **26** 21:16:27.3±3.7,41°.33N×113°.20W,h0km,mb1 2.8/1, mb1mx2.7/27,mbtmp2.3/1,ML2.7/1, Error ellipse: s-maj=72.9km s-min=26.7km az=151.0*

ISC 26 21:16:21.7±2.0, 41°.38N±0°.05×113°.4W±0°.1, h0km, n11, σ1§00/15, Utah

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BGU	**Big Grassy Mou**	**0.53**	**148**	*eP*	**Pb**	**21 16 33.5**	**-0.5**
BGU				*eS*	**Sg**	**21 16 40.4**	**+1.6**
SPUT	**South Promonto**	**0.72**	**95**	*eP*	**Pb**	**21 16 36.5**	**-0.8**
DUG	**Dugway**	**1.27**	**159**	*ePn*	**Pb**	**21 16 46.4**	**-0.1**
DUG				*eS*	**Sg**	**21 17 03.3**	**+1.0**
HWUT	**Hardware Ranch**	**1.40**	**80**	*ePn*	**Pb**	**21 16 49.5**	**+0.7**
HWUT				*eSn*	**Sg**	**21 17 07.0**	**+0.4**
CTU	**Camp Tracy**	**1.42**	**118**	*ePn*	**Pn**	**21 16 47.7**	**-1.3**
TCUT	**Toone Canyon**	**1.52**	**99**	*ePn*	**Pb**	**21 16 50.9**	**-0.1**
TCUT				*eSn*	**Sn**	**21 17 09.2**	**-1.9**
JLU	**Jordanelle**	**1.67**	**117**	*ePn*	**Pn**	**21 16 52.3**	**-0.1**
IMW	**Indian Meadow**	**3.10**	**35**	*ePn*	**Pn**	**21 17 11.4**	**-0.8**
BW06	**Boulder Array**	**3.18**	**63**	*ePn*	**Pn**	**21 17 13.3**	**+0.1**
PDAR	**Pinedale Array**	**3.18**	**63**	Pn	**Pb**	**21 17 19.1**	**0.0**
	0.1nm,0.3s,baz=224,slow=7.6,SNR=2.4						
PDAR				Pg	**Pg**	**21 17 23.6**	**+1.0**
	0.8nm,0.3s,baz=231,slow=13,SNR=9.4						
PDAR				Lg	Lg	21 18 03.9	
	0.6nm,0.3s,baz=238,slow=33,SNR=6.0						
I56US	**NEWPORT INFRAS**	**7.38**	**340**	*i*		22 00 00.0	
	baz=161,slow=308,SNR=2.8						

*ISCJB **26** 21:30:60.0±0.5,2°.64S±0°.06×126°.52E±0°.04,h33km, mb3.7/4, Error ellipse: s-maj=8.9km s-min=5.1km az=22.4*
*DJA **26** 21:31:00.6±0.5,3°S±3°×12°6E±°,h17km±5km,M4.4/7, mb5.2/2,mB5.1/2,MLv4.0/7,Mw(mB)4.4/2*
*IDC **26** 21:31:04.4±2.7,2°.70S×126°.72E,h60km±29km,mb3.4/4, mb1 3.7/7,mb1mx3.4/40,mbtmp3.8/7,ML3.8/3, Error ellipse: s-maj=20.6km s-min=17.8km az=111.0*

ISC 26 21:31:01.8±0.8, 2°.71S±0°.06×126°.47E±0°.06, h35km, n19, σ1§39/20, mb3.7/4, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANI	**Sanana**	**0.81**	**323**	P	Pn	21 31 14.4	-2.4
SANI				S	**Sn**	**21 31 24.7**	**-2.9**
NLAI	**Namlea**	**0.82**	**130**	P	**Pn**	**21 31 16.4**	**-0.4**
AAI	**Ambon**	**1.97**	**120**	P	**Pn**	**21 31 34.0**	**+1.3**
AAI	**Ambon**	**1.97**	**120**	P	**Pn**	**21 31 35.1**	**+2.4**
	baz=14,SNR=5.3						
LBMI	**Labuha**	**2.30**	**27**	P	**Pn**	**21 31 38.9**	**+1.7**
LBMI				S	**Sn**	**21 32 05.7**	**+1.4**
TNTI	**Ternate**	**3.57**	**14**	P	**Pn**	**21 31 54.3**	**-0.4**
LUWI	**Luwuk**	**4.05**	**294**	P	**Pn**	**21 32 01.1**	**-0.2**
LUWI				S	**Sn**	**21 32 47.4**	**-0.2**
SWI	**Sorong**	**5.12**	**69**	P	**Pn**	**21 32 16.6**	**+0.6**
	baz=17,SNR=5.2						
SIJI	**Sorong**	**5.13**	**69**	P	**Pn**	**21 32 15.8**	**-0.3**
	6.4nm,0.3s,baz=246,slow=23,SNR=29						
SIJI				S	**Sn**	**21 33 11.6**	**-2.5**
	1.5nm,0.3s,baz=99,slow=23,SNR=6.0						
APSI	**Ampana**	**5.14**	**290**	P	**Pn**	**21 32 17.7**	**+1.4**
	354nm,0.5s,4µm1.3nm						
MRSI	**Marisa**	**5.53**	**305**	P	**Pn**	**21 32 22.7**	**+1.1**
FAKI	**Fak Fak**	**5.77**	**92**	P	**Pn**	**21 32 24.4**	**-0.6**
	baz=18,SNR=6.6						
PCI	**Palu**	**6.87**	**285**	P	Pn	21 32 50.1	+10
KAPI	**Kappang**	**7.09**	**251**	P	Pn	21 32 48.0	+5.0
	2.6nm,0.3s,baz=158,slow=7.9,SNR=5.7						
KAPI				S	Sn	21 34 14.5	+12
	1.1nm,0.3s,baz=328,slow=19,SNR=3.6						
WRA	**Warramunga Arr**	**18.77**	**156**	P	**P**	**21 35 18.1**	**0.0**
	0.2nm,0.3s,baz=339,slow=11,SNR=16						
ASAR	**Alice Springs**	**22.04**	**162**	P	**P**	**21 35 53.4**	**-0.1**
	1.5nm,0.7s,baz=344,slow=12,SNR=12						
STKA	**Stephens Creek**	**32.32**	**155**	P	**P**	**21 37 26.8**	**-0.9**
	1.7nm,0.8s,baz=354,slow=10,SNR=2.8						
SONM	**Songino Array**	**53.31**	**343**	P	**P**	**21 40 17.7**	**+0.2**
	0.6nm,0.9s,baz=148,slow=8.5,SNR=3.4						
MKAR	**Makanchi Array**	**62.74**	**327**	P	**P**	**21 41 24.3**	**+0.9**
	0.5nm,0.6s,baz=123,slow=7.5,SNR=6.2						

*INMG **26** 22:38:43.4±1.2,34°.28N×4°.29W,h15km,ML2.4, Error ellipse: s-maj=5.4km s-min=4.0km az=163.0*
*MDD **26** 22:38:43.9±0.5,34°.40N×4°.32W,h3km±5km,mb3.9/14, Error ellipse: s-maj=4.5km s-min=2.9km az=115.0, PRXIMO*
*CSEM **26** 22:38:43.4±0.1,34°.41N×4°.37W,h10km,MD3.4, Error ellipse: s-maj=4.2km s-min=2.7km az=105.0*
*ISCJB **26** 22:38:43.9±0.5,34°.47N±0°.02×4°.42W±0°.03,h23km±5km, Error ellipse: s-maj=3.8km s-min=2.8km az=30.9*
*CNRM **26** 22:38:43.8,34°.40N×4°.33W,h0km,MD3.4*
*IGIL **26** 22:38:45.1,34°.39N×4°.58W,h0km*

ISC 26 22:38:43.1±1.0, 34°41N±0°.03×4°34W±0°.03, h13km±8km, n109, σ1§18/189, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TZK	**Tazeka**	**0.35**	**158**	P	**Pg**	**22 38 50.0**	**-0.3**
TZK				S	**Sg**	**22 38 55.0**	**-0.1**
TZK	**Tazeka**	**0.35**	**158**	*i* P	**Pg**	**22 38 50.0**	**-0.3**
TZK				*i* S	**Sg**	**22 38 55.0**	**-0.1**
TGT	**Taghat**	**0.68**	**240**	P	**Pg**	**22 38 57.0**	**+0.6**
TGT				S	**Sg**	**22 39 06.0**	**+0.6**
TGT	**Taghat**	**0.68**	**240**	*e*P	**Pg**	**22 38 57.0**	**+0.6**
TGT				*i* S	**Sg**	**22 39 06.0**	**+0.6**
TOU	**Touzarine**	**0.73**	**41**	P	**Pb**	**22 38 57.0**	**-0.9**
TOU				S	**Sb**	**22 39 07.0**	**-0.8**
TOU	**Touzarine**	**0.73**	**41**	*e*P	**Pb**	**22 38 57.0**	**-0.9**
TOU				*i* S	**Sb**	**22 39 07.0**	**-0.8**
MIF	**Mishlifen**	**1.24**	**217**	P	**Pn**	**22 39 06.0**	**-0.5**
MIF				S	**Sb**	**22 39 22.0**	**-0.6**
MIF	**Mishlifen**	**1.24**	**217**	*e*P	**Pn**	**22 39 06.0**	**-0.5**
MIF				*i* S	**Sb**	**22 39 22.0**	**-0.6**
EMEL	**Melilla**	**1.44**	**52**	P	**Pn**	**22 39 08.6**	**-0.4**
	50nm,0.2s,SNR=7.9						
EMEL				S	**Sn**	**22 39 27.4**	**-0.4**
	238nm,0.3s,SNR=7.9						
EMLI	**Melilla**	**1.45**	**52**	P	**Pn**	**22 39 08.6**	**-0.4**
	50nm,0.2s,SNR=7.9						
EMLI				S	**Sn**	**22 39 27.4**	**-0.5**
	238nm,0.3s,SNR=7.9						
MELI	**Melilla**	**1.45**	**52**	S	**Sn**	**22 39 27.4**	**-0.7**
	90nm,0.2s,SNR=7.9						
MELI	**Melilla**	**1.45**	**52**	S	**Sn**	**22 39 27.4**	**-0.7**
	90nm,0.2s,SNR=7.9						
CZD	**Col de Zad**	**1.50**	**203**	P	**Pn**	**22 39 10.0**	**0.0**
CZD				S	**Sn**	**22 39 30.0**	**+0.5**
CZD	**Col de Zad**	**1.50**	**203**	*e*P	**Pn**	**22 39 10.0**	**0.0**
CZD				*i* S	**Sn**	**22 39 30.0**	**+0.5**
EMIJ	**Mijas**	**2.17**	**351**	P	**Pn**	**22 39 17.3**	**-1.8**
	1.5nm,0.2s,SNR=16						
EMIJ				S	**Sn**	**22 39 47.0**	**+1.1**
	4.8nm,0.2s,SNR=5.0						
EMIJ	**Mijas**	**2.17**	**351**	P	**Pn**	**22 39 17.3**	**-1.8**
	1.5nm,0.2s,SNR=16						
EMIJ				S	**Sn**	**22 39 47.0**	**+1.1**
	4.8nm,0.2s,SNR=5.0						
KIB	**El Ksiba**	**2.32**	**218**	P	**Pn**	**22 39 22.0**	**+0.9**
KIB				S	**Sn**	**22 39 50.0**	**+0.5**
KIB	**El Ksiba**	**2.32**	**218**	*e*P	**Pn**	**22 39 22.0**	**+0.9**
KIB				*i* S	**Sn**	**22 39 50.0**	**+0.5**
ZFT	**Errachidia**	**2.37**	**180**	P	**Pn**	**22 39 23.0**	**+1.0**
ZFT				S	**Sn**	**22 39 52.0**	**+1.0**
ZFT	**Errachidia**	**2.37**	**180**	*i* P	**Pn**	**22 39 23.0**	**+1.0**
ZFT				*e*S	**Sn**	**22 39 52.0**	**+1.0**
ESPR	**Espera**	**2.74**	**334**	P	**Pn**	**22 39 28.4**	**+1.6**
	0.2nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**22 40 01.9**	**+2.0**
	1.5nm,0.1s,SNR=7.9						
ESPR	**Espera**	**2.74**	**334**	P	**Pn**	**22 39 28.4**	**+1.6**
	0.2nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**22 40 01.9**	**+2.0**
	1.5nm,0.1s,SNR=7.9						
EBER	**Berja**	**2.75**	**25**	P	**Pn**	**22 39 26.8**	**-0.3**
	1.7nm,0.2s,SNR=9.0						
EBER				S	**Sn**	**22 40 00.2**	**-0.1**
	11nm,0.5s						
EBER	**Berja**	**2.75**	**25**	P	**Pn**	**22 39 26.8**	**-0.3**
	1.7nm,0.2s,SNR=9.0						
EBER				S	**Sn**	**22 40 00.2**	**-0.1**
	11nm,0.5s						
SELV	**Sierra Elvira**	**2.86**	**10**	P	**Pn**	**22 39 29.2**	**+0.6**
	0.9nm,0.2s,SNR=7.9						
SELV				S	**Sn**	**22 40 04.9**	**+1.9**
	1.6nm,0.2s,SNR=7.9						
SELV	**Sierra Elvira**	**2.86**	**10**	P	**Pn**	**22 39 29.2**	**+0.6**
	0.9nm,0.2s,SNR=7.9						
SELV				S	**Sn**	**22 40 04.9**	**+1.9**
	1.6nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**2.88**	**14**	P	**Pn**	**22 39 30.7**	**+1.8**
	3.5nm,0.3s,SNR=8.5						
EQUE				S	**Sn**	**22 40 04.3**	**+0.9**
	1.5nm,0.2s						
EQUE	**Quentar**	**2.88**	**14**	P	**Pn**	**22 39 30.7**	**+1.8**
	3.5nm,0.3s,SNR=8.5						
EQUE				S	**Sn**	**22 40 04.3**	**+0.9**
	1.5nm,0.2s						
TZC	**Tazercounte**	**2.89**	**219**	P	**Pn**	**22 39 29.0**	**0.0**
TZC				S	**Sn**	**22 40 04.0**	**+0.3**
TZC	**Tazercounte**	**2.89**	**219**	*e*P	**Pn**	**22 39 29.0**	**0.0**
TZC				*e*S	**Sn**	**22 40 04.0**	**+0.3**
ECOG	**Cogollos-Vega**	**2.93**	**12**	P	**Pn**	**22 39 31.6**	**+2.1**
	6.5nm,0.5s,SNR=7.9						
ECOG				S	**Sn**	**22 40 04.4**	**-0.2**
	1.8nm,0.3s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.93**	**12**	P	**Pn**	**22 39 31.6**	**+2.1**
	6.5nm,0.5s,SNR=7.9						
ECOG				S	**Sn**	**22 40 04.4**	**-0.2**
	1.8nm,0.3s,SNR=7.9						
EQES	**Quesada**	**3.54**	**17**	P	**Pn**	**22 39 39.9**	**+2.0**
	4.7nm,0.3s,SNR=20						
EQES				S	**Sn**	**22 40 21.7**	**+2.1**
	4.4nm,0.3s						
EQES	**Quesada**	**3.54**	**17**	P	**Pn**	**22 39 39.9**	**+2.0**
	4.7nm,0.3s,SNR=20						
EQES				S	**Sn**	**22 40 21.7**	**+2.1**
	4.4nm,0.3s						
EHUE	**Huescar**	**3.68**	**22**	P	**Pn**	**22 39 42.2**	**+2.4**
	0.8nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**22 40 24.4**	**+1.3**
	1.0nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**3.68**	**22**	P	**Pn**	**22 39 42.2**	**+2.4**
	0.8nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**22 40 24.4**	**+1.3**
	1.0nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.75**	**357**	P	**Pn**	**22 39 42.3**	**+1.5**
	8.8nm,0.4s,SNR=25						
EADA				S	**Sn**	**22 40 26.6**	**+1.7**
	2.3nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.75**	**357**	P	**Pn**	**22 39 42.3**	**+1.5**
	8.8nm,0.4s,SNR=25						
EADA				S	**Sn**	**22 40 26.6**	**+1.7**
	2.3nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**3.76**	**347**	P	**Pn**	**22 39 42.0**	**+1.1**
	0.7nm,0.1s,SNR=11						
ECAB				S	**Sn**	**22 40 25.8**	**+0.8**
	1.4nm,0.1s,SNR=6.2						
ECAB	**El Cabril**	**3.76**	**347**	P	**Pn**	**22 39 42.0**	**+1.1**
	0.7nm,0.1s,SNR=11						
ECAB				S	**Sn**	**22 40 25.8**	**+0.8**
	1.4nm,0.1s,SNR=6.2						
EMIN	**Mina Concepcio**	**3.84**	**331**	P	**Pn**	**22 39 42.8**	**+0.8**
	2.0nm,0.1s,SNR=25						
EMIN				S	**Sn**	**22 40 25.9**	**-1.1**
	1.5nm,0.2s,SNR=5.9						
EMIN	**Mina Concepcio**	**3.84**	**331**	S	**Sn**	**22 40 25.9**	**-1.1**
	1.5nm,0.2s,SNR=5.9						
SESP	**Santiago Espad**	**3.98**	**21**	P	**Pn**	**22 39 45.1**	**+1.2**
	2.7nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**22 40 29.2**	**-1.3**
	6.3nm,0.4s,SNR=7.9						
SESP	**Santiago Espad**	**3.98**	**21**	P	**Pn**	**22 39 45.1**	**+1.2**
	2.7nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**22 40 29.2**	**-1.3**
	6.3nm,0.4s,SNR=7.9						
EGRO	**El Granado**	**4.02**	**322**	P	**Pn**	**22 39 44.7**	**+0.2**
	6.2nm,0.3s,SNR=22						
EGRO				S	**Sn**	**22 40 30.2**	**-1.2**
	5.3nm,0.2s						
EGRO	**El Granado**	**4.02**	**322**	P	**Pn**	**22 39 44.7**	**+0.2**
	6.2nm,0.3s,SNR=22						
EGRO				S	**Sn**	**22 40 30.2**	**-1.2**
	5.3nm,0.2s						
PVAQ	**Vaqueiros**	**4.05**	**318**	*e*Pn	**Pn**	**22 39 44.9**	**+0.1**
PVAQ				*e*Sn	**Sn**	**22 40 30.7**	**-1.4**
PVAQ				A	A	22 40 32.8	
	7.6nm,0.2s						
PVAQ	**Vaqueiros**	**4.05**	**318**	P	**Pn**	**22 39 44.9**	**+0.1**
PVAQ				S	**Sn**	**22 40 30.7**	**-1.4**
	7.6nm,0.2s						
PVAQ	**Vaqueiros**	**4.05**	**318**	P	**Pn**	**22 39 44.9**	**+0.1**
PVAQ				S	**Sn**	**22 40 30.7**	**-1.4**
	7.6nm,0.2s						
PBDV	**Barranco-do-Ve**	**4.06**	**315**	*e*Pn	**Pn**	**22 39 45.8**	**+0.8**
PBDV				*e*Sn	**Sn**	**22 40 31.2**	**-1.2**
PBDV				A	A	22 40 37.7	
	3.6nm,0.3s						
PBDV	**Barranco-do-Ve**	**4.06**	**315**	P	**Pn**	**22 39 45.8**	**+0.8**
PBDV				S	**Sn**	**22 40 31.2**	**-1.2**
	3.6nm,0.3s						
PBDV	**Barranco-do-Ve**	**4.06**	**315**	P	**Pn**	**22 39 45.8**	**+0.8**
PBDV				S	**Sn**	**22 40 31.2**	**-1.2**
	3.6nm,0.3s						
PBAR	**Barrancos**	**4.34**	**331**	*e*Pn	**Pn**	**22 39 49.9**	**+1.1**
PBAR				*e*Sn	**Sn**	**22 40 38.5**	**-0.8**
PBAR				A	A	22 40 41.8	
	10nm,0.3s						
PBAR	**Barrancos**	**4.34**	**331**	P	**Pn**	**22 39 49.9**	**+1.1**
PBAR				S	**Sn**	**22 40 38.5**	**-0.8**
	10nm,0.3s						
PBAR	**Barrancos**	**4.34**	**331**	P	**Pn**	**22 39 49.9**	**+1.1**
PBAR				S	**Sn**	**22 40 38.5**	**-0.8**
	10nm,0.3s						
PCVE	**Castro Verde**	**4.39**	**318**	*e*Pn	**Pn**	**22 39 50.4**	**+0.9**
PCVE				*e*Sn	**Sn**	**22 40 38.7**	**-1.9**
PCVE	**Castro Verde**	**4.39**	**318**	P	**Pn**	**22 39 50.4**	**+0.9**
PCVE				S	**Sn**	**22 40 38.7**	**-1.9**
PCVE	**Castro Verde**	**4.39**	**318**	P	**Pn**	**22 39 50.4**	**+0.9**
PCVE				S	**Sn**	**22 40 38.7**	**-1.9**
MORF	**Marmelete**	**4.54**	**311**	*e*P	**Pn**	**22 39 51.1**	**-0.4**
MORF	**Marmelete**	**4.54**	**311**	*e*Pn	**Pn**	**22 39 52.1**	**+0.5**
MORF				*e*Sn	**Sn**	**22 40 43.8**	**-0.4**
MORF				A	A	22 40 45.6	
	3.2nm,0.2s						
MORF	**Marmelete**	**4.54**	**311**	P	**Pn**	**22 39 52.1**	**+0.5**
MORF				S	**Sn**	**22 40 43.8**	**-0.4**
	3.2nm,0.2s						
MORF	**Marmelete**	**4.54**	**311**	P	**Pn**	**22 39 52.1**	**+0.5**
MORF				S	**Sn**	**22 40 43.8**	**-0.4**
	3.2nm,0.2s						
MESJ	**Messejana**	**4.64**	**319**	*e*P	**Pn**	**22 39 53.0**	**+0.1**
MESJ	**Messejana**	**4.64**	**319**	*e*Pn	**Pn**	**22 39 53.6**	**+0.6**
MESJ				*e*Sn	**Sn**	**22 40 45.5**	**-1.2**
MESJ				A	A	22 40 53.0	
	3.8nm,0.6s						
MESJ	**Messejana**	**4.64**	**319**	P	**Pn**	**22 39 53.6**	**+0.6**
MESJ				S	**Sn**	**22 40 45.5**	**-1.2**
	3.8nm,0.6s						
PTEO	**Sao Teotonio**	**4.73**	**313**	*e*Pn	**Pn**	**22 39 55.5**	**+1.3**
PTEO				*e*Sn	**Sn**	**22 40 49.2**	**+0.3**
PTEO				A	A	22 40 54.8	
	4.8nm,0.5s						
PTEO	**Sao Teotonio**	**4.73**	**313**	P	**Pn**	**22 39 55.5**	**+1.3**
PTEO				S	**Sn**	**22 40 49.2**	**+0.3**
	2.4nm,0.5s						
PTEO	**Sao Teotonio**	**4.73**	**313**	P	**Pn**	**22 39 55.5**	**+1.3**
PTEO				S	**Sn**	**22 40 49.2**	**+0.3**
	2.4nm,0.5s						
ETOB	**Tobarra**	**4.79**	**27**	P	**Pn**	**22 39 57.0**	**+2.0**
	1.6nm,0.2s,SNR=14						
ETOB				S	**Sn**	**22 40 49.5**	**-0.8**
	0.4nm,0.2s						
ETOB	**Tobarra**	**4.79**	**27**	P	**Pn**	**22 39 57.0**	**+2.0**
	1.6nm,0.2s,SNR=14						
EBAD	**Badajoz**	**4.84**	**334**	P	**Pn**	**22 39 56.8**	**+1.1**
	1.3nm,0.1s,SNR=19						
EBAD				S	**Sn**	**22 40 50.2**	**-1.3**
	3.8nm,0.2s						
EBAD	**Badajoz**	**4.84**	**334**	P	**Pn**	**22 39 56.8**	**+1.1**
	1.3nm,0.1s,SNR=19						
EBAD				S	**Sn**	**22 40 50.2**	**-1.3**
	3.8nm,0.2s						
PNCL	**Nicolau / Gran**	**5.01**	**319**	*e*Pn	**Pn**	**22 39 58.7**	**+0.7**
PNCL				*e*Sn	**Sn**	**22 40 54.1**	**-1.6**
PNCL				A	A	22 40 55.7	
	2.9nm,0.2s						
EVO	**Evora**	**5.06**	**325**	*e*Pn	**Pn**	**22 40 00.0**	**+1.2**
EVO				*e*Sn	**Sn**	**22 40 55.7**	**-1.4**
EVO				A	A	22 41 00.7	
	5.9nm,0.5s						
EVO	**Evora**	**5.06**	**325**	P	**Pn**	**22 40 00.0**	**+1.2**
EVO				S	**Sn**	**22 40 55.7**	**-1.4**
	5.9nm,0.5s						
EVO	**Evora**	**5.06**	**325**	P	**Pn**	**22 40 00.0**	**+1.2**
EVO				S	**Sn**	**22 40 55.7**	**-1.4**
	5.9nm,0.5s						
PAB	**San Pablo**	**5.12**	**360**	P	**Pn**	**22 40 00.2**	**+0.5**
	0.2nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**22 40 59.9**	**+1.2**
	0.8nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**5.12**	**360**	P	**Pn**	**22 40 00.2**	**+0.5**
	0.2nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**22 40 59.9**	**+1.2**
	0.8nm,0.2s,SNR=7.9						
PESTR	**Estremoz**	**5.16**	**331**	*e*Pn	**Pn**	**22 40 02.0**	**+2.0**
PESTR				*e*Sn	**Sn**	**22 40 58.1**	**-1.3**
PESTR				A	A	22 41 03.0	
	2.9nm,0.5s						
PMRV	**Marv??o**	**5.57**	**335**	*e*Pn	**Pn**	**22 40 07.3**	**+1.6**
PMRV				*e*Sn	**Sn**	**22 41 09.3**	**-0.3**
PMRV				A	A	22 41 09.3	
	2.3nm,0.9s						
PMRV	**Marv??o**	**5.57**	**335**	P	**Pn**	**22 40 07.3**	**+1.6**
PMRV				S	**Sn**	**22 41 09.3**	**-0.3**
	2.3nm,0.9s						
PMRV	**Marv??o**	**5.57**	**335**	P	**Pn**	**22 40 07.3**	**+1.6**
PMRV				S	**Sn**	**22 41 09.3**	**-0.3**
	2.3nm,0.9s						
PMTG	**Montagil

*CSEM **26** 22:46:17.0, 41.˚19N×42.˚21E, h21km, MD2.5*
DDA 26 22:46:17.0, 41.˚19N×42.˚21E, h21km, MD2.5, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARTV	**Artvin**	**0.21**	**268**	*i* P	Pb	22 46 22.2	-1.0
ARTV				*i* S	Sb	22 46 26.7	-0.8
ARTV	**Artvin**	**0.21**	**268**	*i* P	Pb	22 46 22.2	-1.0
ARTV				*i* S	Sb	22 46 26.7	-0.8
DBAD	**Bademkaya**	**0.43**	**246**	*i* P	Pb	22 46 25.8	0.0
DBAD				*i* S	Sb	22 46 32.6	+0.7
DBAD	**Bademkaya**	**0.43**	**246**	*i* P	Pb	22 46 25.8	-0.1
DBAD				*i* S	Sb	22 46 32.6	+0.7
DBOC	**Borcka**	**0.44**	**291**	*i* P	Pb	22 46 26.3	+0.3
DBOC				*i* S	Sb	22 46 32.4	+0.2
DBOC	**Borcka**	**0.44**	**291**	*i* P	Pb	22 46 26.3	+0.3
DBOC				*i* S	Sb	22 46 32.4	+0.3
DDEM	**Demirkent**	**0.46**	**229**	*i* P	Pb	22 46 26.5	+0.1
DDEM				*i* S	Sb	22 46 33.7	+0.8
DDEM	**Demirkent**	**0.46**	**229**	*i* P	Pb	22 46 26.5	0.0
DDEM				*i* S	Sb	22 46 33.7	+0.8

*IDC **26** 22:58:08.0±4.2, 36.˚11N×71.˚11E, h64km±37km, mb3.4/6, mb1 3.5/11, mb1mx3.2/51, mbtmp3.7/11, ML3.4/5, MS3.0/1, Ms1 3.0/1, ms1mx2.2/48, Error ellipse: s-maj=29.9km s-min=24.0km az=3.0*
*NNC **26** 22:58:17.1±3.0, 36.˚82N×70.˚72E, h145km±26km, mb3.2, mpv4.1, Error ellipse: s-maj=27.6km s-min=13.0km az=172.0*
ISC 26 22:58:14.3±1.8, 36.˚6N±0.˚1×70.˚87E±0.˚08, h100km, n33, σ1§06/29, mb3.7/5, 8C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.75**	**325**	⇑P	**Pn**	**22 58 57.5**	**+0.6**
DZET	12nm,0.2s			⇑S	**Sn**	**22 59 30.2**	**+0.7**
SFK	**Sufi-Kurgan**	**4.01**	**30**	⇑P	**Pn**	**22 59 15.4**	**+1.6**
SFK	102nm,0.4s			⇑S	**Sn**	**23 00 01.5**	**+1.6**
DLH	**Dalhousie**	**5.82**	**132**	*e*S	Sn	23 00 33.0	-11
AML	**Almayashu**	**5.96**	**21**	P	**Pn**	**22 59 40.5**	**+0.1**
KZA	SNR=43 **Kyzart**	**6.46**	**30**	P	**Pn**	**22 59 46.8**	**-0.4**
EKS2	SNR=8.4 **Erkin-Say**	**6.48**	**19**	P	**Pn**	**22 59 47.3**	**+0.2**
KK31	SNR=5.1 **Karatay Array**	**6.52**	**358**	⇓P	**Pn**	**22 59 48.0**	**+0.3**
KK31	4.6nm,0.2s,baz=173,slow=11,SNR=80 2.6nm,0.3s,baz=189,slow=25,SNR=6.0			⇓S	**Sn**	**23 00 59.8**	**-0.7**
AAK	**Ala-Archa**	**6.66**	**24**	P	**Pn**	**22 59 50.0**	**+0.3**
AAK	SNR=12 **Ala-Archa**	**6.66**	**24**	⇑P	**Pn**	**22 59 49.6**	**-0.1**
AAK	10nm,0.5s 9.5nm,0.6s			⇑S	**Sn**	**23 01 04.3**	**0.0**
CHMS	**Chumysh**	**7.07**	**24**	P	**Pn**	**22 59 55.2**	**0.0**
USP	SNR=14 **Ospenovka**	**7.24**	**22**	P	**Pn**	**22 59 57.0**	**-0.5**
TKM2	SNR=21 **Tokmak 2**	**7.31**	**28**	P	**Pn**	**22 59 58.4**	**-0.2**
TKM2	SNR=6.9 **Tokmak 2**	**7.31**	**28**	⇑P	**Pn**	**22 59 58.2**	**-0.3**
SMLA	6.1nm,0.5s **Simla**	**7.55**	**134**	*i* P	Pn	22 59 56.2	-5.5
SMLA				*i* S	Sn	23 01 12.6	-13
SMLA				*i* S	Sn	23 01 13.4	-12
SMLA	comp=E,958nm,0.2s			AML	AML	23 01 17.2	
SMLA	comp=N,676nm,0.3s			AML	AML	23 01 17.7	
KHET	**Khetri**	**9.45**	**152**	*e*P	Pn	23 00 19.6	-8.0
KHET				*e*S	Sn	23 01 51.4	-21
KHET				*e*S	Sn	23 01 52.6	-20
KUDL	**Kundal**	**9.66**	**149**	*e*S	Sn	23 02 00.5	-16
KUDL	comp=N,10nm,0.4s			AML	AML	23 02 04.9	
KUDL	comp=E,7.1nm,0.3s			AML	AML	23 02 05.0	
GEYT	**Alibeck**	**10.25**	**281**	P	**Pn**	**23 00 37.2**	**-1.3**
AGRA	comp=E,0.4nm,0.3s,baz=106,slow=9.2,SNR=3.4 **Agra**	**11.09**	**145**	*e*S	Sn	23 02 34.4	-17
AGRA	comp=E,39nm,0.3s			AML	AML	23 04 00.3	
AGRA	comp=N,32nm,0.2s			AML	AML	23 04 01.7	
MK31	**Makanchi Array**	**13.29**	**36**	⇑P	**P**	**23 01 23.3**	**-1.7**
MKAR	comp=N,0.5nm,0.6s,baz=208,slow=8.8,SNR=11 **Makanchi Array**	**13.29**	**36**	P	**Pn**	**23 01 17.3**	**-1.6**
AB31	comp=N,0.1nm,0.3s,baz=225,slow=12,SNR=3.3 **Akbulak array**	**14.96**	**331**	P	**Pn**	**23 01 38.9**	**-1.6**
AB31	comp=N,1.7nm,0.5s,baz=150,slow=10,SNR=36 comp=N,1.3nm,0.5s,baz=150,slow=24,SNR=8.3			⇓S	Sn	23 04 16.3	-9.1
KURBB	**Kurchatov Arra**	**15.08**	**19**	P	**P**	**23 01 43.6**	**-1.2**
BVAR	comp=N,0.1nm,0.3s,baz=209,slow=10,SNR=4.0 **Borovoye Array**	**16.45**	**359**	P	**Pn**	**23 01 58.6**	**-0.3**
AKTO	comp=N,0.2nm,0.3s,baz=154,slow=9.9,SNR=5.5 **Aktyubinsk**	**16.66**	**330**	⇓P	**Pn**	**23 02 01.2**	**-0.3**
AKTO	comp=N,3.9nm,0.8s comp=N,4.4nm,1.4s			⇓S	Sn	23 04 56.6	-10
AKTO	**Aktyubinsk**	**16.66**	**330**	P	**P**	**23 02 03.0**	**+0.8**
ZALV	comp=N,0.6nm,0.3s,baz=123,slow=10,SNR=8.4 **Zalesovo Beam**	**19.89**	**25**	P	**P**	**23 02 36.3**	**-1.2**
FINES	comp=N,1.6nm,0.3s,baz=215,slow=9.7,SNR=11 **FINESS Array B**	**37.36**	**326**	P	**P**	**23 05 18.1**	**+1.2**
ARCES	comp=N,0.8nm,0.6s,baz=125,slow=9.6,SNR=5.7 **ARCESS Array B**	**41.03**	**338**	P	**P**	**23 05 49.2**	**+1.9**
NB2	comp=N,1.1nm,0.6s,baz=104,slow=8.9,SNR=10 **NORSAR Subarra**	**44.25**	**323**	P	**P**	**23 06 14.5**	**+1.0**
NOA	comp=Z,0.6nm,0.5s,baz=98,slow=7.9 **NORSAR Array B**	**44.25**	**323**	P	**P**	**23 06 15.1**	**+1.6**
KEST	comp=Z,0.7nm,0.6s,baz=97,slow=7.7,SNR=7.1 **Kesra**	**48.91**	**288**	LR	LR	23 32 37.8	
TORD	comp=Z,14nm,18.2s,baz=264,slow=42 **Torodi Ar. Bea**	**65.61**	**269**	P	P	23 08 45.6	-2.3
WRA	comp=Z,0.3nm,0.6s,baz=41,slow=5.7,SNR=4.9 **Warramunga Arr**	**82.12**	**122**	P	P	23 10 20.1	-4.0
	comp=Z,0.2nm,0.4s,baz=326,slow=4.8,SNR=2.1						

*IDC **26** 22:58:14.8±0.6, 23.˚68S×176.˚13W, h0km, mb4.4/15, mb1 4.6/18, mb1mx4.4/38, mbtmp4.5/18, ML4.6/3, MS4.0/10, Ms1 4.0/10, ms1mx3.7/38, Error ellipse: s-maj=23.2km s-min=16.4km az=135.0*
*NEIC **26** 22:58:19.4±0.3, 23.˚97S×176.˚10W, h35km, mb5.0/14, Error ellipse: s-maj=10.0km s-min=6.4km az=116.0*
*SZGRF **26** 22:58:20.7, 23.˚09S×175.˚27W, h33km, Tonga Islands region*
ISC 26 22:58:19.2±0.9, 23.˚84S±0.˚06×176.˚2W±0.˚1, h30km±5km, h29km:pP-P, n100, σ1§28/101, mb4.4/21, MS4.1/9, 8C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.61**	**195**	Pn	**Pn**	**22 59 42.0**	**+1.4**
RAO	28nm,0.3s,baz=105,slow=20,SNR=3.2			Sn	**Sn**	**23 00 44.6**	**+0.7**
RAO	45nm,0.3s,baz=108,slow=20,SNR=2.6			LR	LR	23 00 51.3	
RAO	comp=Z,105nm,21.9s,baz=36,slow=27 **Raoul Island**	**5.61**	**195**	*e*Pn	**Pn**	**22 59 39.5**	**-1.0**
RAO				*e*Sn	**Sn**	**23 00 42.2**	**-1.7**
MSVF	**Nonsavu**	**8.11**	**317**	*e*Pn	Pn	23 00 22.9	+8.0
AFI	**Afiamalu**	**10.73**	**24**	Pn	Pn	23 00 45.4	-5.5
AFI	11nm,0.3s,baz=318,slow=4.8,SNR=5.7 5.6nm,0.3s,baz=60,slow=20,SNR=2.5			Sn	Sn	23 02 32.0	-18
RAR	**Rarotonga**	**15.41**	**83**	Pn	Pn	23 01 45.1	-9.4
RAR	11nm,0.3s,baz=236,slow=6.8,SNR=11 comp=Z,237nm,18.5s,baz=268,slow=37			LR	LR	23 07 41.5	
RAR	**Rarotonga**	**15.41**	**83**	*e*Pn	Pn	23 01 44.0	-11
URZ	139nm,0.8s **Urewera**	**15.47**	**200**	Pn	**Pn**	**23 01 56.4**	**+1.2**
URZ	0.7nm,0.3s,baz=331,slow=13,SNR=2.8 **Urewera**	**15.47**	**200**	*e*Pn	**Pn**	**23 01 53.8**	**-1.4**
	246nm,2.8s						

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**16.08**	**273**	*e*Pn	**Pn**	**23 02 02.4**	**-0.9**
BKZ	95nm,1.8s **Black Stump Fm**	**16.49**	**200**	*e*Pn	**Pn**	**23 02 04.8**	**-3.6**
BFZ	125nm,2.2s **Birch Farm**	**17.95**	**199**	*e*Pn	Pn	23 02 18.6	-7.9
KHZ	86nm,0.9s **Kahutara**	**20.39**	**202**	*e*P	**P**	**23 02 50.6**	**-3.0**
TBI	389nm,2.6s **Tubuai**	**24.51**	**94**	*e*LQ	LQ	23 08 13.4	
TBI	449nm,29.0s 581nm,27.8s			*e*LR	LR	23 09 27.6	
TBI	**Tubuai**	**24.51**	**94**	*e*T	T	23 28 31.8	
DCZ	17nm,0.4s **Deep Cove**	**25.46**	**208**	*e*P	**P**	**23 03 43.4**	**-1.1**
PAE	761nm,2.9s **Paea**	**25.62**	**81**	*e*T	T	23 29 48.6	
PPT2	7.8nm,0.3s **Papeete2**	**25.65**	**81**	*e*LQ	LQ	23 08 55.6	
PPT2	532nm,25.0s 586nm,24.5s			*e*LR	LR	23 09 58.4	
PPT	**Papeete**	**25.66**	**81**	LR	LR	23 11 02.6	
HNR	comp=Z,244nm,20.7s,baz=196,slow=30 **Honiara**	**26.90**	**298**	LR	LR	23 13 12.4	
CTAO	comp=Z,253nm,20.8s,baz=160,slow=33 **Charters Tower**	**34.95**	**269**	*e*P	**P**	**23 05 09.8**	**+1.0**
RKT	30nm,1.3s **Rikitea**	**37.73**	**97**	*e*LR	LR	23 15 32.2	
PMG	298nm,26.8s **Port Moresby**	**37.78**	**286**	P	**P**	**23 05 33.6**	**+0.6**
STKA	25nm,0.9s,baz=202,slow=4.5,SNR=2.9 **Stephens Creek**	**37.97**	**248**	P	**P**	**23 05 36.1**	**+1.7**
STKA	1.3nm,0.5s,baz=110,slow=10,SNR=4.5 comp=Z,297nm,19.3s,baz=58,slow=34			LR	LR	23 19 31.7	
STKA	**Stephens Creek** 22nm,2.5s	**37.97**	**248**	*e*P	**P**	**23 05 36.1**	**+1.7**
BBOO	**Buckleboo** 136nm,2.1s	**42.66**	**247**	*e*P	**P**	**23 06 14.1**	**+0.8**
AS12	**Alice Springs**	**45.47**	**260**	*e*P	**P**	**23 06 36.5**	**+0.6**
ASAR	**Alice Springs** 3.3nm,1.0s,baz=92,slow=8.1,SNR=15	**45.47**	**260**	P	**P**	**23 06 36.5**	**+0.6**
ASAR	comp=Z,282nm,18.5s,baz=116,slow=35			LR	LR	23 25 04.7	
WRA	**Warramunga Arr** 4.3nm,0.7s,baz=100,slow=8.4,SNR=22	**45.87**	**265**	P	**P**	**23 06 38.7**	**-0.5**
WRA	comp=Z,247nm,18.1s,baz=315,slow=36			LR	LR	23 25 40.2	
WAKE	**Wake Island** 302nm,1.4s	**46.00**	**337**	*e*P	**P**	**23 06 39.9**	**-0.1**
FITZ	**Fitzroy Crossi** 28nm,1.7s	**54.29**	**264**	*e*P	**P**	**23 07 43.3**	**+0.3**
VNDA	**Vanda** comp=Z,33nm,19.0s,baz=352,slow=36	**54.76**	**186**	LR	LR	23 31 11.3	
SIJI	**Sorong** 16nm,0.9s,baz=278,slow=3.9,SNR=3.9	**55.73**	**286**	P	**P**	**23 07 53.3**	**-0.2**
SIJI	comp=Z,123nm,19.4s,baz=135,slow=35			LR	LR	23 30 34.8	
LUWI	**Luwuk** baz=7.6	**63.20**	**282**	⇑P	**P**	**23 08 46.0**	**+1.0**
MJAR	**Matsushiro Arr** 1.4nm,0.7s,baz=160,slow=7.1,SNR=4.7	**73.87**	**323**	P	**P**	**23 09 51.0**	**-0.2**
MAJO	**Matsushiro**	**73.87**	**323**	*e*P	**P**	**23 09 51.0**	**-0.2**
MAJO				*e*PP	**PP**	**23 12 32.7**	**-3.9**
AMKA	**Amchitka**	**74.99**	**357**	*e*P	**P**	**23 09 57.0**	**-0.4**
JNU	**Nakatsue** comp=Z,309nm,18.0s,baz=68,slow=35	**75.83**	**316**	LR	LR	23 41 57.5	
MAW	**Mawson** 1.3nm,0.6s,baz=219,slow=6.5,SNR=3.6	**79.00**	**200**	P	**P**	**23 10 21.2**	**+1.4**
MAW	**Mawson** 3.7nm,1.4s	**79.00**	**200**	*e*P	**P**	**23 10 22.2**	**+2.4**
PEA2	**Petropavlovsk-**	**79.91**	**344**	*e*P	**P**	**23 10 25.2**	**+0.4**
PETK	**Petropavlovsk-** 20nm,1.0s,baz=139,slow=9.2,SNR=9.3	**79.91**	**344**	P	**P**	**23 10 25.2**	**+0.4**
KSRS	**Korea Array** 0.6nm,0.3s,baz=137,slow=5.8,SNR=5.0	**80.47**	**318**	P	**P**	**23 10 28.8**	**+0.5**
KS15	**Wonju Array Si**	**80.49**	**318**	*e*P	**P**	**23 10 28.8**	**+0.4**
KSAR	**Wonju Array Be**	**80.49**	**318**	P	**P**	**23 10 28.8**	**+0.4**
NV01	**Mina Array Sit**	**82.34**	**42**	*e*P	**P**	**23 10 38.2**	**-0.2**
NVAR	**Mina Array Bea** 1.0nm,0.7s,baz=222,slow=9.8,SNR=6.7	**82.34**	**42**	P	**P**	**23 10 38.2**	**-0.2**
USRK	**Ussuriysk Ar.** 3.0nm,0.9s,baz=62,slow=4.5,SNR=5.4	**82.64**	**325**	P	**P**	**23 10 40.0**	**+0.5**
SNAA	**Sanae**	**84.64**	**178**	P	**P**	**23 10 50.4**	**+0.8**
SNAA	**Sanae** 1.8nm,0.8s	**84.64**	**178**	*e*P	**P**	**23 10 49.6**	**0.0**
TXAR	**Lajitas Array** 2.1nm,1.0s,baz=218,slow=8.4,SNR=18	**87.48**	**56**	P	**P**	**23 11 04.3**	**0.0**
NEW	**Newport** comp=Z,71nm,19.1s,baz=191,slow=31	**89.12**	**35**	LR	LR	23 44 51.4	
SEY	**Seymchan** 1.4nm,0.4s,baz=123,slow=7.0,SNR=6.5	**89.99**	**346**	P	**P**	**23 11 15.5**	**+0.3**
PD31	**Pinedale Array**	**90.27**	**43**	*e*P	**P**	**23 11 17.1**	**-0.3**
PDAR	**Pinedale Array** 0.2nm,0.3s,baz=142,slow=4.6,SNR=3.3	**90.27**	**43**	P	**P**	**23 11 17.1**	**-0.3**
ILAR	**Eielson Array** 0.7nm,0.6s,baz=226,slow=5.6,SNR=9.0	**91.20**	**12**	P	**P**	**23 11 19.5**	**-1.4**
ILB	**Eielson Array**	**91.20**	**12**	*e*P	**P**	**23 11 19.4**	**-1.4**
ARA0	**ARCESS Array S**	**132.49**	**350**	*e*PKPdf	**PKPdf**	**23 17 29.0**	**-0.9**
ARCES	**ARCESS Array B** 1.1nm,0.8s,baz=322,slow=3.7,SNR=3.9	**132.49**	**350**	PKP	**PKPdf**	**23 17 29.0**	**-0.9**
HFS	**Hagfors** 0.7nm,0.5s,baz=0.0,slow=3.0,SNR=6.5	**143.07**	**352**	PKhKP	PKPpre	23 17 45.5	
AKASG	**Malin Array Be** 7.3nm,0.9s,baz=38,slow=3.3,SNR=24	**146.72**	**330**	PKPbc	**PKPbc**	**23 17 57.3**	**-0.6**
AKBB	**Malin Array Si**	**146.72**	**330**	*e*PKPdf	**PKPbc**	**23 17 57.3**	**-0.6**
EKA	**Eskdalemuir Ar** 4.7nm,0.9s,baz=346,slow=2.8,SNR=7.9	**148.12**	**8**	PKPbc	**PKPbc**	**23 18 01.2**	**-0.5**
BSEG	**Bad Segeberg**	**149.54**	**352**	*e*PKPbc	**PKPbc**	**23 18 05.5**	**+0.2**
ASF	**Jabal al Asfar** 1.0nm,0.3s,baz=298,slow=2.0,SNR=4.3	**149.71**	**293**	PKPbc	**PKPbc**	**23 18 06.6**	**+0.1**
BR101	**Keskin Array S**	**150.27**	**309**	*e*PKPbc	**PKPbc**	**23 18 07.0**	**-0.7**
BRTR	**Keskin Array B** 2.5nm,0.9s,baz=18,slow=1.6,SNR=8.2	**150.27**	**309**	PKPbc	**PKPbc**	**23 18 07.0**	**-0.7**
MMAI	**Mount Meron Ar** 4.7nm,0.7s,baz=46,slow=4.2,SNR=7.6	**150.82**	**295**	PKPbc	**PKPbc**	**23 18 10.0**	**+0.8**
CFR	**Carcaliu**	**150.95**	**323**	⇑*i*P	**PKPbc**	**23 18 09.7**	**+0.8**
KOLS	**Kolonicke sedl**	**151.02**	**334**	*e*PKP	**PKPbc**	**23 18 09.9**	**+0.9**
VRI	**Vrincioaia**	**151.25**	**326**	*e*P	**PKPab**	**23 18 18.2**	**+0.5**
IBBN	**Ibbenburen**	**151.41**	**355**	*e*PKPbc	**PKPbc**	**23 18 10.3**	**+0.5**
CLZ	**Clausthal**	**151.59**	**351**	*e*PKPbc	**PKPbc**	**23 18 10.6**	**+0.3**
EIL	**Elat**	**151.63**	**289**	*e*P	**PKPbc**	**23 18 08.8**	**-2.3**
EIL	**Elat** 4.9nm,1.1s,baz=86,slow=1.5,SNR=4.0	**151.63**	**289**	PKPbc	**PKPbc**	**23 18 12.0**	**+0.9**
CLL	**Collm**	**151.67**	**348**	*e*PKPbc	**PKPbc**	**23 18 10.6**	**+0.2**
CLL	**Collm** comp=Z,12nm,1.2s	**151.67**	**348**	*i* PKPbc	**PKPbc**	**23 18 10.3**	**-0.1**
CLL				*e*PKPab	**PKPab**	**23 18 19.0**	**-0.1**
CLL				*ep*PKPbc	**pPKPbc**	**23 18 22.0**	**+1.7**
CLL				*i* pPKPab	**pPKPab**	**23 18 27.3**	**-1.5**
CLL				*e*		23 18 41.0	
UPC	**Upice**	**151.73**	**343**	⇑*e*PKP	**PKPbc**	**23 18 10.6**	**0.0**
UPC				*e*PKPAB	**PKPab**	**23 18 21.5**	**+2.0**
DPC	**Dobruska-Polom**	**151.79**	**343**	⇑*e*PKP	**PKPbc**	**23 18 11.2**	**+0.4**
DPC				*ep*PKP	**pPKPdf**	**23 18 15.0**	**+0.7**
DPC				*ex*	x	23 18 17.0	
DPC				*e*PKPAB	**PKPab**	**23 18 20.5**	**+0.7**
DPC				*ex*	x	23 18 27.3	
BRG	**Berggiesshubel** comp=Z,8.4nm,1.2s	**151.88**	**346**	*e*P	**PKPbc**	**23 18 11.4**	**+0.4**
BRG	**Berggiesshubel**	**151.88**	**346**	*e*PKPbc	**PKPbc**	**23 18 11.4**	**+0.4**
KRLC	**Kraliky**	**151.91**	**342**	⇑*e*PKP	**PKPbc**	**23 18 11.3**	**+0.2**
KRLC				*ep*PKP	**pPKPdf**	**23 18 15.0**	**+0.5**
KRLC				*e*PKPAB	**PKPab**	**23 18 20.8**	**+0.5**
FBE	**Freiberg**	**151.96**	**347**	*e*PKPbc	**PKPbc**	**23 18 11.7**	**+0.6**
NEUB	**Neuenburg**	**151.99**	**349**	*e*PKPbc	**PKPbc**	**23 18 11.3**	**+0.2**
PVCC	**Panska Ves**	**152.07**	**345**	⇑*e*PKP	**PKPbc**	**23 18 11.9**	**+0.5**
PVCC				*ep*PKP	**pPKPdf**	**23 18 14.7**	**0.0**
PVCC				*e*PKPAB	**PKPab**	**23 18 23.8**	**+3.0**
MOX	**Moxa**	**152.56**	**349**	*e*PKPbc	**PKPbc**	**23 18 12.5**	**0.0**
PRU	**Pruhonice**	**152.58**	**345**	⇑*e*PKP	**PKPbc**	**23 18 12.4**	**-0.1**
PRU				*e*PKPAB	**PKPab**	**23 18 23.7**	**+0.7**
GOPC	**GO Pecny, Ondr**	**152.59**	**344**	⇑*e*PKP	**PKPbc**	**23 18 13.2**	**+0.6**
GOPC				*e*PKPAB	**PKPab**	**23 18 21.9**	**-1.2**
PLN	**Plauen**	**152.61**	**348**	*e*PKPbc	**PKPbc**	**23 18 12.8**	**+0.2**
WERD	**Werda**	**152.62**	**348**	*e*PKPbc	**PKPbc**	**23 18 12.7**	**0.0**
UBBA	**Unterbreizbach**	**152.64**	**351**	*e*PKPbc	**PKPbc**	**23 18 12.6**	**+0.1**
VYHS	**Vyhne**	**152.66**	**338**	*e*PKP	**PKPbc**	**23 18 16.7**	**+3.9**
ARR	**Arges**	**152.66**	**327**	*ij*P	**PKPbc**	**23 18 13.9**	**+0.9**
WERN	**Wernitzgruen**	**152.76**	**348**	*e*PKPbc	**PKPbc**	**23 18 13.3**	**+0.3**
MANZ	**Manzenberg**	**153.10**	**348**	*e*PKPbc	**PKPbc**	**23 18 13.6**	**-0.1**
KHC	**Kasperske Hory**	**153.60**	**345**	*e*PKPAB	**PKPab**	**23 18 27.8**	**+0.4**
KHC				*es*PKP		23 18 31.2	
ELL	**Elmali**	**154.13**	**306**	*e*P	**PKPab**	**23 18 26.0**	**-4.2**
KNT	**Kendrikon**	**156.46**	**322**	*e*P	**PKPab**	**23 18 40.3**	**+0.4**
AGG	**Agios Georgios**	**158.17**	**318**	*e*P	**PKPdf**	**23 18 17.4**	**+3.9**
TOA0	**Torodi Ar. Sit**	**169.18**	**169**	*e*PKPdf	**PKPdf**	**23 18 24.0**	**-0.3**
TOA0				*e*PKPab	**PKPab**	**23 19 36.6**	**+0.6**
TORD	**Torodi Ar. Bea**	**169.18**	**169**	PKP	**PKPdf**	**23 18 24.0**	**-0.3**
TORD	comp=Z,0.4nm,0.9s,baz=62,slow=2.7,SNR=3.0 comp=Z,1.4nm,1.1s,baz=178,slow=2.9,SNR=4.3			PKPab	**PKPab**	**23 19 36.6**	**+0.6**

*BJI **26** 23:06:43.8, 6.˚09N×123.˚59E, h626km, mb5.6/77, mB5.0/36*
*MAN **26** 23:06:48, 6.˚70N×123.˚14E, h648km, mb5.6, ML4.6, MS5.4*
*KLM **26** 23:06:49.2, 6.˚76N×123.˚51E, h618km, mb5.6, MS6.8*
*GCMT **26** 23:06:49.8±0.3, 6.˚76N×123.˚27E, h635km±2km, MW5.4/82, Moment Tensor Solution. s82,c117; Duration: 1§2 Moment tensor: Scale 10^17^Nm; Mrr-0.86±.04; Mθθ 0.60±.05; Mϕϕ 0.26±.07; Mrθ -0.65±.05; Mϕθ -0.93±.05; Mϕr 0.87±.06; Best double couple: Mo 1.57100×10^17^ NP1: ϕs 144.00000°, δ68.00000°, λ-75.00000°. NP2: ϕs 288.00000°, δ26.00000°, λ-123.00000°. Principal axes: T 1.7940, Plg22.0000°, Azm222.0000°; N -0.4470, Plg14.0000°, Azm318.0000°; P -1.3470, Plg64.0000°, Azm78.0000°; nsta1 refers to body waves, cutoff=40s.*
*ISCJB **26** 23:06:49.5±0.1, 6.˚63N±0.˚01×123.˚25E±0.˚02, h644km±2km, mb5.3/237 Error ellipse: s-maj=2.8km s-min=2.2km az=171.9*
*MOS **26** 23:06:49.6±0.9, 6.˚70N×123.˚21E, h640km, mb5.2/68, Error ellipse: s-maj=7.2km s-min=4.3km az=110.2*
*NEIC **26** 23:06:49.8±0.1, 6.˚67N×123.˚25E, mb5.3/129, Error ellipse: s-maj=3.6km s-min=2.9km az=84.0*
*IDC **26** 23:06:50.8±0.5, 6.˚66N×123.˚24E, h640km±5km, mb4.6/61, mb1 4.6/64, mb1mx4.6/70, mbtmp5.6/64, Error ellipse: s-maj=6.8km s-min=5.0km az=69.0*
*DJA **26** 23:06:50.6±0.2, 7.˚N±3.˚×12.˚3E±.˚, h647km±3km, M5.4/134, mb5.7/134, mB5.8/105, MLv6.0/13, Mw(mB)5.4/105, Mwp5.3/2*
ISC 26 23:06:49.9±0.2, 6.˚64N±0.˚02×123.˚26E±0.˚03, h632km±2km, h633km:pP-P, n1200, σ1§29/1486, mb5.2/255, 46C-77D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**1.14**	**59**	⇓*i*P	**P**	**23 08 05.3**	**+0.8**
IPIL	**Ipil**	**1.33**	**329**	⇑*e*P	**P**	**23 08 06.2**	**+1.2**
DAV	**Davao City (W)**	**2.34**	**79**	⇑*e*P	**P**	**23 08 07.9**	**-0.7**
DAV	**Davao City (W)**	**2.34**	**79**	⇑*e*S	**S**	**23 09 13.9**	**+1.4**
DAV	**Davao City (W)**	**2.34**	**79**	*e*P	**P**	**23 08 09.5**	**+0.9**
DAV				*e*S	**S**	**23 09 10.9**	**-1.7**
TBP	**Tagbilaran**	**3.09**	**11**	*e*P	**P**	**23 08 11.6**	**-0.6**
TBP				*e*S	**S**	**23 09 18.2**	**-1.1**
SGSI	**Sangihe**	**3.70**	**142**	P	**P**	**23 08 14.6**	**-1.3**
PLP	**Palo**	**4.81**	**21**	⇑*i*P	**P**	**23 08 23.1**	**-0.3**
MYLDM	**Lahad Datu**	**4.95**	**253**	*e*P	**P**	**23 08 26.8**	**+2.2**
MYLDM				*e*S	**S**	**23 09 47.3**	**+5.7**
PPR	**Puerto Princes**	**5.46**	**305**	⇓*i*P	**P**	**23 08 29.7**	**+1.3**
TSM	**Tawau**	**5.85**	**247**	⇑P	**P**	**23 08 32.2**	**+0.6**
TOLI	**Toli-Toli**	**6.01**	**204**	*e*P	**P**	**23 08 33.4**	**+0.4**
TOLI				*e*S	**S**	**23 09 53.4**	**-3.6**
KMSI	**Cibinong** 4µm,0.7s,36µm16nm	**6.07**	**173**	P	**P**	**23 08 34.1**	**+0.7**
SDKM	**Sandakan**	**6.11**	**261**	⇑P	**P**	**23 08 34.6**	**+0.8**
MRSI	**Marisa** 1µm,0.6s,9µm3.6nm	**6.26**	**192**	P	**P**	**23 08 35.7**	**+0.6**
KDM	**Kudat**	**6.39**	**273**	⇓P	**P**	**23 08 36.4**	**+0.3**
PVCP	**Virac**	**6.97**	**7**	⇑*e*P	**P**	**23 08 40.5**	**-0.6**
KKM	**Kota Kinabalu** baz=7.0	**7.03**	**266**	⇓P	**P**	**23 08 42.0**	**+0.2**
KKM	**Kota Kinabalu**	**7.03**	**266**	⇓P	**P**	**23 08 42.6**	**+0.9**
KKM	**Kota Kinabalu**	**7.03**	**266**	*e*P	**P**	**23 08 42.0**	**+0.2**
KKM				*e*S	**S**	**23 10 07.8**	**-5.4**
MPSI	**Mapaga** 310nm,0.9s,5µm2.5nm	**7.10**	**208**	P	**P**	**23 08 43.0**	**+0.6**
TNTI	**Ternate** 3µm,0.9s,28µm5µm9.9nm	**7.12**	**145**	P	**P**	**23 08 42.1**	**-0.5**
TNTI	**Ternate**	**7.12**	**145**	*e*P	**P**	**23 08 41.0**	**-1.5**
TNTI				*e*S	**S**	**23 10 11.2**	**-3.4**
GQP	**Guinayangan**	**7.26**	**354**	⇓*i*P	**P**	**23 08 43.6**	**-0.1**
LQP	**Lukban**	**7.62**	**347**	⇑*e*P	**P**	**23 08 47.5**	**+0.3**
LUWI	**Lu

		2µm,0.7s										
MMRI					*e*S		**S**			23 12 36.0	+3.3	
DLV	**T Lat**		**15.50**	**291**	*e*P		**P**			23 10 03.4	+1.7	
TWG	**Pinlang**		**16.23**	**353**	*e*P		**P**			23 10 08.1	+0.1	
		737nm,0.6s										
TWG	**Pinlang**		**16.23**	**353**	*e*P		**P**			23 10 07.8	-0.2	
		737nm,0.6s										
TWG					*e*S		**S**			23 12 51.2	+2.1	
BWJI	**Bawean**		**16.31**	**221**	P		**P**			23 10 10.0	+1.1	
		348nm,0.9s,5µm										
SOEI	**Soe**		**16.32**	**176**	⇑P		**P**			23 10 09.3	+0.2	
		baz=16										
SOEI	**Soe**		**16.32**	**176**	*e*P		**P**			23 10 09.3	+0.2	
		503nm,0.8s										
SOEI					*e*S		**S**			23 12 49.3	-1.7	
SOEI					*e*ScP		**ScP**			23 16 58.8	+0.3	
KMMI	**Kalianget**		**16.46**	**214**	P		**P**			23 10 11.6	+1.4	
		642nm,0.8s,6µm										
WSI	**Waingapu**		**16.47**	**190**	P		**P**			23 10 08.5	-1.8	
		3µm,0.8s,27µm										
WSI	**Waingapu**		**16.47**	**190**	P		**P**			23 10 08.9	-1.4	
		baz=16,SNR=4.9										
SAUI	**Saumlaki**		**16.59**	**151**	*e*P		**P**			23 10 11.3	-0.2	
		396nm,0.7s										
SRBI	**Singaraja**		**16.68**	**209**	P		**P**			23 10 12.5	+0.2	
		670nm,1.0s,7µm										
YULB	**Yu-li**		**16.76**	**354**	*e*P		**P**			23 10 11.2	-1.7	
		160nm,0.5s										
ABJI	**Asem Bagus**		**16.93**	**212**	P		**P**			23 10 15.4	+0.8	
		478nm,0.8s,6µm										
SSLB	**Suanglung**		**17.19**	**353**	*e*P		**P**			23 10 16.7	-0.2	
		202nm,0.6s										
SSLB					*e*S		**S**			23 13 03.9	-1.0	
GRJI	**Gresik**		**17.23**	**219**	P		**P**			23 10 18.4	+1.1	
		425nm,0.6s,4µm										
BLJI	**Banyuglugur**		**17.24**	**214**	P		**P**			23 10 17.6	+0.2	
		512nm,0.7s,14µm										
IGBI	**Denpasar**		**17.36**	**208**	P		**P**			23 10 18.9	+0.5	
		1µm,0.9s,13µm										
NACB	**Ninganchiao**		**17.51**	**355**	*e*P		**P**			23 10 18.9	-0.8	
		42nm,0.6s										
TBJI	**Tambak Boyo**		**17.56**	**221**	P		**P**			23 10 17.9	-2.4	
		11µm,0.9s,238µm										
SMPI	**Sarmi**		**17.65**	**119**	P		**P**			23 10 22.4	+1.3	
		339nm,0.7s										
YOJ	**Yonaguni jima**		**17.72**	**359**	*e*P		**P**			23 10 22.9	+1.3	
YOJ					pmax		pmax					
		comp=Z,205nm,0.7s										
YOJ	**Yonaguni jima**		**17.72**	**359**	*e*P		**P**			23 10 22.9	+1.3	
		comp=Z,205nm,0.7s										
QIZ	**Qiongzhong**		**17.95**	**315**	P		**P**			23 10 24.5	+0.7	
QIZ					sP		sP			23 12 48.0	-8.8	
QIZ					S		**S**			23 13 17.0	-0.1	
QIZ					PMZ							
		comp=Z,100nm,0.9s										
QIZ					PMZ							
		comp=Z,170nm,6.2s										
QIZ	**Qiongzhong**		**17.95**	**315**	*e*P		**P**			23 10 24.8	+1.0	
		comp=Z,81nm,0.8s										
YHNB	**Yeheng**		**18.02**	**354**	*e*P		**P**			23 10 24.3	-0.1	
		comp=Z,73nm,0.8s										
TPI	**Tanjungpandan**		**18.16**	**240**	P		**P**			23 10 26.1	+0.3	
		comp=Z,221nm,0.9s,comp=Z,3µm										
NGJI	**Ngawi**		**18.22**	**220**	P		**P**			23 10 27.9	+1.6	
		comp=Z,406nm,0.9s										
TATO	**Taipei**		**18.31**	**355**	*e*P		**P**			23 10 26.8	-0.2	
		comp=Z,2µm,2.6s										
PWJI	**Pagerwojo**		**18.51**	**218**	P		**P**			23 10 28.6	-0.3	
		comp=Z,108nm,0.9s										
SMRI	**Semarang**		**18.67**	**223**	P		**P**			23 10 32.2	+1.8	
		comp=Z,623nm,1.0s,comp=Z,7µm										
SMRI	**Semarang**		**18.67**	**223**	⇓P		**P**			23 10 31.7	+1.4	
		baz=19,SNR=10										
SMRI	**Semarang**		**18.67**	**223**	*e*P		**P**			23 10 31.8	+1.4	
		comp=Z,463nm,0.9s										
QZH	**Quanzhou**		**18.74**	**347**	⇓*i*P		**P**			23 10 31.8	+0.9	
QZH					S		**S**			23 13 31.0	+1.4	
QZH					PMZ							
		comp=Z,160nm,0.7s										
GZH	**Guangzhou**		**18.93**	**331**	*e*P		**P**			23 10 36.3	+3.6	
GZH					S		**S**			23 13 38.5	+5.8	
GZH					PMZ							
		comp=Z,340nm,0.9s										
PPBI	**Pangkal Pinang**		**19.20**	**243**	P		**P**			23 10 35.2	0.0	
GENI	**Genyem**		**19.21**	**118**	P		**P**			23 10 35.9	+0.6	
		comp=Z,900nm,0.9s,comp=Z,8µm										
UGM	**Wanagama**		**19.24**	**222**	P		**P**			23 10 36.7	+1.1	
		comp=Z,491nm,1.0s,comp=Z,7µm										
UGM	**Wanagama**		**19.24**	**222**	P		**P**			23 10 36.0	+0.3	
		baz=19,SNR=43										
UGM	**Wanagama**		**19.24**	**222**	*e*P		**P**			23 10 35.4	-0.3	
		comp=Z,280nm,0.8s										
UBPT	**Khong Chiam**		**19.45**	**298**	P		**P**			23 10 38.5	+1.1	
		comp=Z,78nm,1.1s										
JAY	**Jayapura**		**19.65**	**117**	P		**P**			23 10 39.9	+0.6	
		comp=Z,240nm,0.8s,comp=Z,10µm										
JAY	**Jayapura**		**19.65**	**117**	P		**P**			23 10 39.8	+0.5	
		comp=Z,29nm,0.3s,baz=255,slow=6.8,SNR=111										
JAY					ScP		**ScP**			23 17 04.2	-1.4	
		comp=Z,1.1nm,0.3s,baz=10,slow=5.1,SNR=5.9										
JAY	**Jayapura**		**19.65**	**117**	P		**P**			23 10 40.0	+0.6	
		baz=20,SNR=37										
JCJI	**Jatiwangi**		**19.84**	**229**	P		**P**			23 10 43.5	+2.5	
		comp=Z,1µm,1.2s,comp=Z,11µm										
MYKOM	**Kota Tinggi**		**19.94**	**257**	*e*P		**P**			23 10 43.0	+1.1	
		comp=Z,406nm,0.7s										
MYKOM					*e*ScP		**ScP**			23 17 05.0	-1.3	
BTDF	**Bukit Timah Da**		**20.13**	**256**	⇓P		**P**			23 10 44.5	+0.9	
		baz=20,SNR=39										
BTDF					⇓P		**P**			23 10 44.5	+0.9	
		baz=20,SNR=39										
LEM	**Lembang**		**20.55**	**230**	P		**P**			23 10 48.4	+0.8	
		comp=Z,934nm,0.9s,comp=Z,8µm										
LEM	**Lembang**		**20.55**	**230**	P		**P**			23 10 48.6	+1.1	
		comp=Z,694nm,0.8s,baz=17,slow=8.6,SNR=103										
LEM	**Lembang**		**20.55**	**230**	P		**P**			23 10 49.5	+1.9	
		baz=21,SNR=28										
CMJI	**Cimerak**		**20.58**	**226**	P		**P**			23 10 45.4	-2.2	
		comp=Z,363nm,0.6s,comp=Z,3µm										
JOW	**Kunigami**		**20.64**	**13**	*e*P		**P**			23 10 48.8	+0.8	
		comp=Z,45nm,0.6s										
JOW					*e*S		**S**			23 14 03.0	+3.3	
PMBI	**Palembang**		**20.76**	**243**	P		**P**			23 10 50.5	+1.3	
		comp=Z,290nm,1.1s										
MTN	**Manton Dam**		**20.88**	**158**	P		**P**			23 10 50.1	-0.2	
		baz=21,SNR=29										
CISI	**Cisompet, Garu**		**20.88**	**228**	P		**P**			23 10 48.8	-1.6	
		comp=Z,403nm,1.0s,comp=Z,5µm										
CISI	**Cisompet, Garu**		**20.88**	**228**	P		**P**			23 10 49.8	-0.6	
		baz=21,SNR=16										
CISI	**Cisompet, Garu**		**20.88**	**228**	*e*P		**P**			23 10 49.1	-1.2	
		comp=Z,313nm,0.9s										
CISI					*e*ScP		**ScP**			23 17 07.1	-1.6	
CBJI	**Citeko**		**20.89**	**232**	P		**P**			23 10 52.3	+1.9	
		comp=Z,6µm,0.9s,comp=Z,42µm										
CNJI	**Cibinong**		**21.23**	**230**	P		**P**			23 10 51.9	-1.5	
		comp=Z,1µm,0.9s,comp=Z,8µm										
JMBI	**JAMBI**		**21.24**	**248**	P		**P**			23 10 55.0	+1.5	
		comp=Z,3µm,0.8s,comp=Z,26µm										
KDU	**Kakadu**		**21.27**	**154**	⇑P		**P**			23 10 53.7	-0.1	
		baz=21,SNR=89										
SKNT	**Sakolnakorn**		**21.46**	**300**	P		**P**			23 10 56.5	+1.1	
		comp=Z,161nm,1.0s,comp=Z,1µm										
BLSI	**Bandar Lampung**		**21.58**	**237**	P		**P**			23 10 56.3	-0.2	
		comp=Z,3µm,0.7s,comp=Z,28µm										
KLI	**Kotabumi**		**21.63**	**239**	P		**P**			23 10 56.9	-0.1	
		comp=Z,2µm,0.8s,comp=Z,14µm										
KLSI			**21.65**	**239**	P		**P**			23 10 57.7	+0.5	
		comp=Z,3µm,0.9s,comp=Z,23µm										
CGJI	**Cibinong**		**21.92**	**233**	P		**P**			23 10 58.9	-0.7	
		comp=Z,1µm,0.8s,comp=Z,12µm										
MDSI	**Maura Dua**		**22.02**	**240**	P		**P**			23 11 00.2	-0.3	
		comp=Z,533nm,0.9s,comp=Z,4µm										
KHON	**Khonkaen**		**22.20**	**297**	P		**P**			23 11 03.2	+1.2	
		comp=Z,60nm,1.0s										
IPM	**Ipoh**		**22.23**	**266**	*e*P		**P**			23 11 03.0	+0.6	
		comp=Z,100nm,0.7s										
IPM					*e*ScP		**ScP**			23 17 11.8	-0.3	
LHSI	**Lahat**		**22.28**	**243**	P		**P**			23 11 02.7	0.0	
		comp=Z,455nm,0.8s,comp=Z,5µm										
KASI	**Kota Agung**		**22.29**	**238**	P		**P**			23 11 02.4	-0.4	
		comp=Z,1µm,0.8s,comp=Z,12µm										
GUMO	**Guam**		**22.35**	**70**	P		**P**			23 11 03.3	-0.1	
		comp=Z,44nm,0.3s,baz=172,slow=2.3,SNR=7.0										
GUMO					S		**S**			23 14 24.3	-2.7	
		comp=Z,48nm,0.5s,baz=49,slow=21,SNR=6.0										
GUMO	**Guam**		**22.35**	**70**	P		**P**			23 11 03.3	-0.1	
GUMO					S		**S**			23 11 14 24.3	-2.7	
GUMO					pmax		pmax					
		comp=Z,44nm,0.3s										
GUMO					smax		smax					
		comp=N,48nm,0.5s										
GUMO	**Guam**		**22.35**	**70**	*e*P		**P**			23 11 03.6	+0.2	
GUMO					*e*S		**S**			23 14 24.3	-2.7	
LWLI	**Liwa**		**22.39**	**239**	P		**P**			23 11 04.0	+0.1	
		comp=N,2µm,0.8s,comp=N,18µm										
KULM	**Kulin**		**22.53**	**268**	*e*P		**P**			23 11 05.6	+0.6	
		comp=N,99nm,0.9s										
KULM					*e*ScP		**ScP**			23 17 12.5	-0.4	
NONG	**Nongkai**		**22.66**	**302**	P		**P**			23 11 06.8	+0.7	
		comp=N,87nm,1.1s,comp=N,9µm										
KNRA	**Kununurra**		**22.83**	**166**	⇑P		**P**			23 11 08.1	+0.5	
		baz=23,SNR=27										
NAYO	**Nakonayok**		**22.86**	**291**	P		**P**			23 11 09.9	+2.0	
		comp=N,88nm,0.7s,comp=N,5µm										
PATY	**Pattaya**		**22.92**	**288**	P		**P**			23 11 10.2	+1.8	
		comp=N,18nm,0.8s										
KSI	**Kapahiang**		**23.02**	**244**	P		**P**			23 11 09.1	-0.4	
		comp=N,587nm,0.8s,comp=N,5µm										
MNAI	**Manna**		**23.03**	**242**	P		**P**			23 11 08.9	-0.5	
		comp=N,1µm,0.9s										
MNAI	**Manna**		**23.03**	**242**	⇑P		**P**			23 11 09.3	-0.2	
		baz=23,SNR=11										
MNAI	**Manna**		**23.03**	**242**	*e*P		**P**			23 11 09.2	-0.2	
		comp=N,866nm,0.8s										
BKNI	**Bangkinang**		**23.04**	**255**	P		**P**			23 11 09.8	+0.3	
		comp=N,473nm,0.8s,comp=N,4µm										
BKNI	**Bangkinang**		**23.04**	**255**	⇑P		**P**			23 11 09.9	+0.4	
		baz=23,SNR=8.0										
BKNI	**Bangkinang**		**23.04**	**255**	*e*P		**P**			23 11 10.0	+0.4	
		comp=N,328nm,0.6s										
SDSI	**Sungai Dareh**		**23.05**	**252**	P		**P**			23 11 10.0	+0.4	
		comp=N,247nm,0.9s										
TRTT	**Trang**		**23.41**	**274**	P		**P**			23 11 13.9	+1.1	
		comp=N,91nm,0.9s,comp=N,956nm										
SLVN	**Son La**		**23.75**	**310**	*e*P		**P**			23 11 16.8	+1.0	
		comp=N,44nm,0.9s										
PPI	**Padang Panjang**		**23.88**	**254**	P		**P**			23 11 17.1	+0.2	
		baz=24,SNR=56										
KRAB	**Krabi**		**23.91**	**275**	P		**P**			23 11 18.1	+0.9	
		comp=N,218nm,0.7s,comp=N,1µm										
PBKT	**Sadao Pong**		**23.93**	**296**	P		**P**			23 11 18.8	+1.5	
		comp=N,108nm,1.1s,comp=N,2µm										
MNSI	**Mandailing Nat**		**24.32**	**257**	P		**P**			23 11 20.0	-0.9	
		comp=N,247nm,0.7s,comp=N,2µm										
SURT	**Suratani**		**24.34**	**277**	P		**P**			23 11 22.3	+1.3	
		comp=N,48nm,0.7s										
PSI	**Prapat**		**24.55**	**262**	P		**P**			23 11 23.2	+0.3	
		comp=N,279nm,0.8s,baz=72,slow=6.0,SNR=14										
PSI					S		**S**			23 15 02.1	+0.4	
		comp=N,3.5nm,0.5s,baz=318,slow=15,SNR=5.9										
PSI					ScP		**ScP**			23 17 17.0	-1.6	
		comp=N,69nm,0.8s,baz=160,slow=2.1,SNR=24										
PSI	**Prapat**		**24.55**	**262**	*e*P		**P**			23 11 23.3	+0.3	
PSI					*e*S		**S**			23 15 02.1	+0.4	
PSI					pmax		pmax					
		comp=Z,266nm,0.7s										
PSI	**Prapat**		**24.55**	**262**	⇓P		**P**			23 11 23.6	+0.6	
		baz=25,SNR=77										
PSI	**Prapat**		**24.55**	**262**	*e*P		**P**			23 11 23.2	+0.3	
		comp=Z,266nm,0.7s										
PSI					*e*S		**S**			23 15 02.1	+0.4	
PSI					*e*ScP		**ScP**			23 17 16.7	-1.9	
PSI					*e*ScP		ScP			23 17 17.0	-1.6	
FITZ	**Fitzroy Crossi**		**24.70**	**175**	S		**S**			23 15 01.7	-1.9	
		baz=120,slow=20										
FITZ					ScP		**ScP**			23 17 17.0	-1.7	
		comp=Z,38nm,0.7s,baz=260,slow=5.8,SNR=7.6										
FITZ	**Fitzroy Crossi**		**24.70**	**175**	⇑P		**P**			23 11 24.4	+0.3	
		baz=25										
FITZ	**Fitzroy Crossi**		**24.70**	**175**	*e*P		**P**			23 11 24.4	+0.3	
		comp=Z,399nm,1.5s										
FITZ					*e*S		**S**			23 15 01.7	-1.9	
FITZ					*e*ScP		**ScP**			23 17 17.0	-1.7	
UTTA	**Uttaradit**		**24.75**	**299**	P		**P**			23 11 25.1	+0.5	
		comp=Z,23nm,0.9s,comp=Z,178nm										
PKDT	**Phuket**		**24.75**	**274**	P		**P**			23 11 25.9	+1.2	
		comp=Z,245nm,0.8s,comp=Z,2µm										
TSI	**Tuntungan**		**24.79**	**264**	P		**P**			23 11 25.6	+0.6	
		comp=Z,157nm,0.9s										
SRDT	**SRDT**		**24.92**	**290**	P		**P**			23 11 28.2	+2.1	
		comp=Z,345nm,0.8s,comp=Z,5µm										
UTHA	**Uthaitani**		**24.97**	**293**	P		**P**			23 11 28.3	+1.8	
		comp=Z,28nm,0.8s,comp=Z,192nm										
PPSI	**Pulau Pagai**		**25.02**	**249**	P		**P**			23 11 26.2	-0.8	
		comp=Z,820nm,0.8s,comp=Z,6µm										
WHN	**Wuhan**		**25.21**	**342**	⇓P		**P**			23 11 30.5	+2.1	
WHN					S		**S**			23 15 11.5	+0.2	
WHN					PMZ							
		comp=Z,190nm,0.8s										
GYA	**Guiyang**		**25.27**	**323**	⇓*i*P		**P**			23 11 30.8	+1.6	
GYA					sP		**sP**			23 14 17.3	-0.1	
GYA					PcP		**PcP**			23 14 40.3	+0.6	
GYA					S		**S**			23 15 16.0	+3.3	
GYA					ScP		**ScP**			23 17 23.8	+3.4	
GYA					ScS		**ScS**			23 21 08.8	-1.8	
GYA					PMZ							
		comp=Z,100nm,0.9s										
GYA					PMZ							
		comp=Z,210nm,5.0s										
SISI	**Saibi**		**25.39**	**253**	P		**P**			23 11 29.0	-1.2	
		comp=Z,1µm,0.7s,comp=Z,11µm										
KHLT	**Khaolaem Dam**		**25.54**	**291**	P		**P**			23 11 34.0	+2.5	
		comp=Z,32nm,0.8s										
KCSI	**Kotacane, Aceh**		**25.57**	**264**	P		**P**			23 11 31.5	-0.4	
		comp=Z,653nm,0.8s,comp=Z,5µm										
NJ2	**Nanjing**		**25.61**	**351**	*e*P		**P**			23 11 32.5	+0.6	
NJ2					S		**S**			23 15 19.5	+1.8	
NJ2					PMZ							
		comp=Z,160nm,0.9s										
UMPA	**Umpang Tak**		**25.71**	**294**	P		**P**			23 11 34.8	+1.8	
		comp=Z,35nm,1.0s,comp=Z,288nm										
PBSI	**Pulau Batu**		**25.80**	**256**	P		**P**			23 11 32.9	-0.9	
		comp=Z,132nm,0.8s										
LAMP	**Lampang**		**25.87**	**299**	P		**P**			23 11 30.1	-4.3	
		comp=Z,34nm,1.0s,comp=Z,274nm										
GSI	**Gunungsitoli**		**26.15**	**259**	P		**P**			23 11 35.7	-1.3	
		comp=Z,1µm,0.8s,comp=Z,13µm										
GSI	**Gunungsitoli**		**26.15**	**259**	⇑P		**P**			23 11 36.9	-0.1	
		baz=26										
GSI	**Gunungsitoli**		**26.15**	**259**	*e*P		**P**			23 11 36.4	-0.6	
		comp=Z,949nm,0.7s										
GSI					*e*S		**S**			23 15 24.3	-2.4	
GSI					*e*ScP		**ScP**			23 17 23.0	-0.1	
LHMI	**Lhok Sumawe**		**26.21**	**268**	P		**P**			23 11 37.1	-0.3	
		comp=Z,570nm,0.9s,comp=Z,6µm										
LHMI	**Lhok Sumawe**		**26.21**	**268**	⇑P		**P**			23 11 38.7	+1.3	
		baz=26,SNR=5.2										
LHMI	**Lhok Sumawe**		**26.21**	**268**	*e*P		**P**			23 11 37.8	+0.3	
		comp=Z,327nm,0.7s										
CM09	**Chiang Mai Arr**		**26.39**	**299**	⇓P		**P**			23 11 41.0	+2.0	
		baz=26										
CM31	**Chiang Mai Arr**		**26.44**	**299**	*e*P		**P**			23 11 41.4	+2.0	
CM31					*e*PcP		**PcP**			23 14 43.5	+1.0	
CM31					*e*ScP		**ScP**			23 17 23.2	-0.7	
CMAR	**Chiang Mai Arr**		**26.44**	**299**	P		**P**			23 11 41.4	+2.0	
		comp=Z,30nm,0.8s,baz=126,slow=7.7,SNR=72										
CMAR					PcP		**PcP**			23 14 43.5	+1.0	
		comp=Z,7.2nm,0.8s,baz=129,slow=1.7,SNR=7.7										
CMAR					ScP		**ScP**			23 17 23.2	-0.7	
		comp=Z,28nm,0.9s,baz=130,slow=1.3,SNR=32										
CHTO	**Chiang Mai**		**26.58**	**299**	P		**P**			23 11 41.7	+1.1	
		comp=Z,454nm,1.1s,comp=Z,4µm										
CHTO	**Chiang Mai**		**26.58**	**299**	*e*P		**P**			23 11 41.1	+0.5	
CHTO					pmax		pmax					
		comp=Z,172nm,1.3s										
CHTO	**Chiang Mai**		**26.58**	**299**	*e*P		**P**			23 11 41.1	+0.5	
		comp=Z,172nm,1.3s										
CHTO					*e*ScP		**ScP**			23 17 24.6	+0.3	
ENH	**Enshi**		**26.84**	**333**	*e*P		**P**			23 11 44.1	+1.4	
		comp=Z,65nm,0.8s										
KMI	**Kunming**		**26.89**	**315**	P		**P**			23 11 45.5	+2.0	
KMI					sP		**sP**			23 14 33.0	-1.4	
KMI					S		**S**			23 15 41.5	+3.2	
KMI					PMZ							
		comp=Z,230nm,3.4s										
CMAI	**Chiengmai2**		**26.96**	**302**	P		**P**			23 11 45.3	+1.2	
		comp=Z,64nm,1.2s										
CBI	**Chichi jima**		**27.16**	**39**	*e*P		**P**			23 11 44.8	-0.7	
CBI					*e*S		**S**			23 15 37.3	-4.5	
CBIJ	**Chichi jima**		**27.16**	**39**	*e*P		**P**			23 11 44.8	-0.7	
		comp=Z,138nm,0.9s										
CBIJ					*e*S		S			23 15 33.1	-8.8	
JCJ	**Chichijima**		**27.16**	**39**	P		**P**			23 11 44.8	-0.7	
		comp=Z,110nm,0.4s,baz=270,slow=22,SNR=52										
JCJ					S		**S**			23 15 37.3	-4.6	
		comp=Z,425nm,0.6s,baz=243,slow=23,SNR=13										
MHMT	**Maesarieng**		**27.22**	**297**	P		**P**			23 11 47.8	+1.6	
		comp=Z,73nm,1.0s,comp=Z,592nm										
JNU	**Nakatsue**		**27.29**	**14**	P		**P**			23 11 45.7	-0.9	
		comp=Z,18nm,0.6s,baz=253,slow=1.4,SNR=17										
JNU					PcP		**PcP**			23 14 43.9	-0.4	
		comp=Z,16nm,0.7s,baz=113,slow=1.2,SNR=5.4										
JNU					ScP		**ScP**			23 17 25.2	-1.0	
		comp=Z,7.0nm,0.7s,baz=122,slow=5.3,SNR=3.9										
JNU	**Nakatsue**		**27.29**	**14**	*e*P		**P**			23 11 46.7	+0.1	
		comp=Z,49nm,1.1s										
JNU					*e*sP		**PcP**			23 14 43.9	-0.4	
JNU					*e*ScP		**ScP**			23 17 25.2	-1.0	
KSWAN	**Wando**		**27.80**	**6**	P		**P**			23 11 51.8	+0.9	
		SNR=6.2										
KSWAN	**Wando**		**27.80**	**6**	P		**P**			23 11 51.8	+0.9	
		SNR=6.2										
KSJDO	**Jindo**		**27.84**	**5**	P		**P**			23 11 52.0	+0.6	
		SNR=11										
KSJDO	**Jindo**		**27.84**	**5**	P		**P**			23 11 52.0	+0.6	
		SNR=11										
MBWA	**Marble Bar**		**27.84**	**187**	*e*P		**P**			23 11 51.5	0.0	
		comp=Z,366nm,0.6s										
KSHUK	**Heuksando**		**27.98**	**4**	P		**P**			23 11 54.0	+1.4	
		SNR=6.0										
KSHUK	**Heuksando**		**27.98**	**4**	P		**P**			23 11 54.0	+1.4	
		SNR=6.0										
KSKOH	**Goheung**		**28.08**	**7**	P		**P**			23 11 54.5	+1.1	
		SNR=13										
KSKOH	**Goheung**		**28.08**	**7**	P		**P**			23 11 54.5	+1.1	
		SNR=13										
KSNAH	**Namhae**		**28.37**	**8**	P		**P**			23 11 57.2	+1.3	
		SNR=12										
KSNAH	**Namhae**		**28.37**	**8**	P		**P**			23 11 57.2	+1.3	
		SNR=12										
COEN	**Coen**		**28.45**	**136**	*e*P		**P**			23 11 56.4	-0.5	
		comp=Z,160nm,0.8s										
COEN					*e*PcP		**PcP**			23 14 49.0	+1.4	
COEN					*e*ScP		**ScP**			23 17 30.3	+0.1	
WB9	**Warramunga Arr**		**28.46**	**158**	⇑P		**P**

DL2 ScP **ScP** **23 17 42.3 +0.3**
DL2 PMZ
comp=N,410nm,0.6s
COCO **West Island** **32.25 235** *e*P **P** **23 12 28.6 -0.7**
COCO pmax pmax
comp=Z,349nm,0.8s
COCO **West Island** **32.25 235** *e*P **P** **23 12 28.6 -0.7**
comp=Z,349nm,0.8s
TIY **Taiyuan** **32.46 344** *e*P **P** **23 12 32.0 +1.2**
TIY S **S** **23 17 05.8 +2.8**
TIY PMZ
comp=Z,190nm,0.7s
MAJO **Matsushiro** **32.75 23** *e*P **P** **23 12 31.6 -1.7**
MAJO *e* 23 14 59.5
MAJO *e*S **S** **23 17 06.9 -0.5**
MAJO pmax pmax
comp=Z,48nm,0.8s
MAJO **Matsushiro** **32.75 23** *e*P **P** **23 12 31.6 -1.7**
comp=Z,48nm,0.8s
MAJO *e*PcP **PcP** **23 14 59.5 +0.6**
MAJO *e*S **S** **23 17 06.9 -0.5**
MJAR **Matsushiro Arr** **32.75 23** P **P** **23 12 32.6 -0.6**
comp=Z,45nm,0.9s,baz=199,slow=9.7,SNR=121
MJAR PcP **PcP** **23 14 59.5 +0.5**
comp=Z,15nm,0.7s,baz=186,slow=3.4,SNR=12
MJAR S **S** **23 17 06.9 -0.5**
comp=Z,3.8nm,0.9s,baz=182,slow=21,SNR=5.5
BJI **Beijing** **33.86 350** P **P** **23 12 43.0 +0.6**
BJI PcP **PcP** **23 15 02.5 +0.5**
BJI S **S** **23 17 23.8 0.0**
BJI ScP **ScP** **23 17 47.8 -0.2**
BJI ScS **ScS** **23 21 52.0 +0.3**
BJI PMZ
comp=Z,230nm,0.8s
LZH **Lanzhou** **34.28 331** ⇓P **P** **23 12 48.3 +2.1**
LZH sP **sP** **23 15 42.0 +1.5**
LZH *e*S **S** **23 17 34.3 +3.6**
LZH ScP **ScP** **23 17 50.0 +0.1**
LZH sS **sS** **23 20 42.0 +2.4**
LZH PMZ
comp=Z,310nm,1.0s
LZH PMZ
comp=Z,620nm,4.0s
CTA **Charters Tower** **34.89 140** P **P** **23 12 52.6 +1.3**
comp=Z,82nm,0.7s,baz=324,slow=11,SNR=64
CTA ScP **ScP** **23 17 52.1 0.0**
comp=Z,99nm,0.9s,baz=292,slow=6.2,SNR=27
CTAO **Charters Tower** **34.89 140** *e*P **P** **23 12 52.4 +1.1**
CTAO *e* 23 17 51.7
CTAO pmax pmax
comp=Z,89nm,0.8s
CTAO **Charters Tower** **34.89 140** *e*P **P** **23 12 52.4 +1.1**
comp=Z,89nm,0.8s
CTAO *e*ScP **ScP** **23 17 51.7 -0.5**
SHL **Shillong** **35.38 306** *e*P **P** **23 12 56.0 +0.5**
SHL AMB AMB 23 12 57.0
comp=Z,189nm,0.5s
SHL *i* x x 23 17 48.0
SHL *ex* x 23 21 50.0
HHC **Hu-ho-hao-te** **35.63 345** ⇓*i*P **P** **23 12 58.5 +1.3**
HHC S **S** **23 17 55.5 +4.9**
HHC sS **sS** **23 20 57.5 -3.0**
HHC SS **SS** **23 21 03.5 -5.1**
HHC PMZ
comp=Z,85nm,1.1s
HHC PMZ
comp=Z,100nm,7.5s
MSHR **Mys Shultsa** **36.47 10** *i* P **P** **23 13 04.9 +1.0**
CN2 **Changchun** **37.06 3** *e*P **P** **23 13 08.0 -0.7**
CN2 PMZ
comp=Z,30nm,0.5s
VLA **Vladivostok** **37.12 10***d i*P **P** **23 13 10.1 +1.0**
VLA pmax pmax
comp=Z,131nm,1.7s
FORT **Forrest** **37.49 173** *e*P **P** **23 13 12.9 +0.6**
comp=Z,692nm,0.6s
FORT *e*ScP **ScP** **23 18 01.0 -0.7**
FORT *e*S **S** **23 18 17.2 -0.8**
LSA **Lhasa** **37.93 311** P **P** **23 13 18.5 +1.9**
LSA PMZ
comp=Z,120nm,0.6s
LSA **Lhasa** **37.93 311** *e*P **P** **23 13 18.5 +1.9**
LSA *e*S **S** **23 18 27.6 +2.0**
LSA pmax pmax
comp=Z,75nm,0.6s
LSA **Lhasa** **37.93 311** *e*P **P** **23 13 18.5 +1.9**
comp=Z,74nm,0.6s
LSA *e*S **S** **23 18 27.6 +2.0**
USRK **Ussuriysk Ar.** **38.19 10** P **P** **23 13 18.6 +0.8**
comp=Z,46nm,0.6s,baz=196,slow=6.9,SNR=80
USRK PP **pP** **23 15 03.1 +1.0**
comp=Z,8.6nm,0.7s,baz=187,slow=7.6,SNR=6.3
USRK PcP **PcP** **23 15 15.2 +0.1**
comp=Z,12nm,0.5s,baz=194,slow=2.7,SNR=9.9
MDJ **Mudanjiang** **38.23 7** P **P** **23 13 19.5 +1.4**
MDJ PcP **PcP** **23 15 16.0 +0.7**
MDJ S **S** **23 18 29.3 +0.8**
MDJ PMZ
comp=Z,99nm,0.8s
MDJ PMZ
comp=Z,73nm,7.2s
MDJ **Mudanjiang** **38.23 7** *e*P **P** **23 13 16.8 -1.3**
comp=Z,121nm,1.1s
MDJ *e*PcP **PcP** **23 15 15.6 +0.3**
GTA **Gaotai** **38.86 331** ⇓*i*P **P** **23 13 25.0 +1.5**
GTA PcP **PcP** **23 15 18.5 +0.9**
GTA sP **sP** **23 16 15.3 -4.9**
GTA ScP **ScP** **23 18 06.5 -0.5**
GTA S **S** **23 18 43.3 +5.1**
GTA SS **SS** **23 21 58.5 -3.0**
GTA ScS **ScS** **23 22 18.5 -2.2**
GTA PMZ
comp=Z,240nm,1.2s
GTA PMZ
comp=Z,380nm,6.4s
ERM **Erimo** **39.41 24** P **P** **23 13 28.1 +0.5**
comp=Z,432nm,0.8s,SNR=11
ERM **Erimo** **39.41 24** *e*P **P** **23 13 28.8 +1.2**
ERM pmax pmax
comp=Z,49nm,0.7s
ERM **Erimo** **39.41 24** *e*P **P** **23 13 28.8 +1.2**
comp=Z,49nm,0.7s
TAPN **Taplejung** **39.52 306** *e*P **P** **23 13 30.3 +1.2**
ODAN **Odare** **39.58 305** *e*P **P** **23 13 30.6 +1.1**
BOK **Bokaro** **39.72 300** *e*P **P** **23 13 32.1 +1.7**
NWAO **Narrogin (SRO)** **39.76 188** P **P** **23 13 31.1 +0.5**
comp=Z,427nm,0.8s,baz=329,slow=4.6,SNR=256
NWAO **Narrogin (SRO)** **39.76 188** P **P** **23 13 31.1 +0.5**
NWAO pmax pmax
comp=Z,427nm,0.8s
NWAO **Narrogin (SRO)** **39.76 188** *e*P **P** **23 13 31.2 +0.6**
HNR **Honiara** **39.89 113** P **P** **23 13 32.4 +0.5**
comp=Z,305nm,0.5s,baz=232,slow=4.5,SNR=6.9
CHLP **Challavanipeta** **39.94 291** *e*P **P** **23 13 33.9 +1.6**
CHLP IAmb IAmb 23 13 35.4
comp=Z,75nm,0.9s
CHLP *ep*P **pP** **23 15 16.6 -1.4**
CHLP *e*PP **PP** **23 15 21.9 -0.2**
CHLP *e*ScP **ScP** **23 18 10.2 -1.3**
CHLP *e*S **S** **23 18 54.2 0.0**
RAMN **Ramite** **40.26 304** *e*P **P** **23 13 36.3 +1.3**
VIS **Vishakhapatnam** **40.46 289** *e*P **P** **23 13 36.1 -0.3**
ASAJ **Asahikawa** **40.99 21** P **P** **23 13 41.0 +0.9**
comp=Z,83nm,0.4s,baz=236,slow=11,SNR=82
ASAJ **Asahikawa** **40.99 21** P **P** **23 13 41.0 +0.9**
ASAJ pmax pmax
comp=Z,83nm,0.4s
ASAJ **Asahikawa** **40.99 21** *e*P **P** **23 13 40.6 +0.5**
comp=Z,139nm,0.7s
BBOO **Buckleboo** **41.08 164** *e*P **P** **23 13 41.6 +0.6**
comp=Z,210nm,0.9s
BBOO *e*S **S** **23 19 10.0 -0.2**
GUN **Gumba** **41.23 305** *e*P **P** **23 13 43.8 +1.1**
PKI **Pulchoki** **41.48 305** *e*P **P** **23 13 45.2 +0.6**
PKIN **Phulchoki** **41.49 305** *e*P **P** **23 13 45.3 +0.6**
KKN **Kakani** **41.67 305** *e*P **P** **23 13 46.7 +0.7**
comp=Z,148nm,0.5s
DMN **Daman** **41.74 305** *e*P **P** **23 13 47.4 +0.8**
EIDS **Eidsvold** **41.77 141** *e*P **P** **23 13 46.9 +0.4**
comp=Z,85nm,0.7s
EIDS *e*ScP **ScP** **23 18 18.6 0.0**
PVM **Polavaram** **41.98 288** *e*P **P** **23 13 49.0 +0.7**
PVM IAmb IAmb 23 13 50.7
comp=Z,50nm,0.6s
PVM *e*PcP **PcP** **23 15 28.4 +0.2**
PVM *ep*P **pP** **23 15 34.1 -1.7**
PVM *e*ScP **ScP** **23 18 18.0 -1.7**
PVM *e*S **S** **23 19 21.5 -2.1**
STKA **Stephens Creek** **42.11 156** P **P** **23 13 50.0 +0.9**
comp=Z,92nm,0.4s,baz=341,slow=7.0,SNR=337
STKA PP **PP** **23 15 40.6 -1.2**
comp=Z,21nm,0.6s,baz=306,slow=11,SNR=4.0
STKA ScP **ScP** **23 18 18.4 -1.4**
comp=Z,48nm,0.8s,baz=341,slow=5.3,SNR=12
STKA S **S** **23 19 24.7 -0.2**
comp=Z,18nm,0.8s,baz=112,slow=19,SNR=9.5
STKA **Stephens Creek** **42.11 156** *e*P **P** **23 13 50.0 +0.9**
STKA *e* 23 15 40.6
STKA *e*S **S** **23 19 24.7 -0.2**
STKA pmax pmax
comp=Z,22nm,0.8s
STKA **Stephens Creek** **42.11 156** *e*P **P** **23 13 50.0 +0.9**
comp=Z,22nm,0.8s
STKA *e*PP **PP** **23 15 40.6 -1.2**
STKA *e*ScP **ScP** **23 18 18.4 -1.4**
STKA *e*S **S** **23 19 24.7 -0.2**
YUK **Yuzh-Kuril'sk** **42.18 24***d i*P **P** **23 13 49.5 +0.1**
YUK *e* 23 15 26.8
YUK *i* *PP **pP** **23 15 37.4 +0.4**
YUK *e* 23 15 41.2
YUK *i* S **S** **23 19 26.0 +0.5**
YUK *i* *SS **SS** **23 22 55.7 +0.7**
YUK pmax pmax
comp=Z,109nm,1.4s
YUK pmax pmax
comp=N,33nm,0.7s
YUK pmax pmax
comp=E,33nm,0.7s
YUK pmax pmax
comp=Z,164nm,2.1s
H01W3 **Cape Leeuwin H** **42.19 191** P **P** **23 13 50.8 +1.5**
baz=17,slow=5.1,SNR=7.5
H01W1 **Cape Leeuwin H** **42.19 191** P **P** **23 13 50.3 +1.0**
baz=17,slow=5.1,SNR=5.6
H01W2 **Cape Leeuwin H** **42.20 191** P **P** **23 13 51.1 +1.7**
baz=17,slow=5.1,SNR=8.7
PALK **Pallekele** **42.24 273** P **P** **23 13 51.9 +1.5**
comp=Z,312nm,0.8s,SNR=8.1
PALK **Pallekele** **42.24 273** P **P** **23 13 51.2 +0.8**
comp=Z,40nm,0.9s,baz=84,slow=6.0,SNR=20
PALK ScP **ScP** **23 18 19.7 -1.1**
comp=Z,20nm,0.8s,baz=56,slow=4.1,SNR=5.8
PALK **Pallekele** **42.24 273** *e*P **P** **23 13 51.5 +1.0**
PALK pmax pmax
comp=Z,44nm,0.8s
PALK **Pallekele** **42.24 273** ⇑*i*P **P** **23 13 51.4 +1.0**
SNR=6.8
PALK **Pallekele** **42.24 273** *e*P **P** **23 13 51.5 +1.0**
comp=Z,44nm,0.8s
PALK *e*ScP **ScP** **23 18 19.7 -1.1**
GKN **Gorkha** **42.28 305** *e*P **P** **23 13 51.3 +0.6**
comp=Z,134nm,0.5s
HTT **Hallett** **42.53 160** P **P** **23 13 53.5 +1.1**
baz=43,SNR=40
HIA **Hailar** **42.59 357** *e*P **P** **23 13 53.4 +0.9**
HIA pmax pmax
comp=Z,178nm,0.9s
HIA **Hailar** **42.59 357** *e*P **P** **23 13 53.4 +0.9**
comp=Z,178nm,0.9s
HABR **Khabarovsk** **42.88 12** *e*P **P** **23 13 53.9 -0.8**
HABR *e* 23 15 29.7
HABR *e**PP **pP** **23 15 40.2 -2.6**
HABR *e* 23 15 47.5
HABR *e**SP **sP** **23 16 49.9 -3.7**
HABR *e*S **S** **23 19 35.8 +0.6**
HABR *e* 23 22 44.7
HABR *e**SS **sS** **23 22 50.6 -1.9**
HABR *e*SS **SS** **23 23 07.9 +1.9**
HABR pmax pmax
comp=Z,81nm,1.1s
HABR MLR MLR
comp=Z,70nm,20.0s
KOLN **Koldanda** **43.04 304** *e*P **P** **23 13 57.9 +1.3**
KLR **Kul'dur** **43.05 8**⇓*e*P P 23 13 52.5 -3.5
KLR *e* 23 15 39.0
KLR pmax pmax
comp=Z,90nm,1.4s
DANN **Dangsing** **43.12 305** *e*P **P** **23 13 58.4 +1.0**
comp=Z,85nm,0.5s
ULN **Ulaanbaatar** **43.34 344** *e*P **P** **23 13 59.4 +0.8**
ULN pmax pmax
comp=Z,142nm,0.7s
ULN **Ulaanbaatar** **43.34 344** *e*P **P** **23 13 59.4 +0.8**
comp=Z,142nm,0.7s
ULN *e*ScP **ScP** **23 18 24.4 -0.4**
ADKI **Addanki** **43.35 286** *e*P **P** **23 13 59.5 +0.6**
ADKI IAmb IAmb 23 14 01.4
comp=Z,35nm,0.7s
ADKI *e*ScP **ScP** **23 18 23.9 -1.4**
ADKI *e*S **S** **23 19 43.9 +0.8**
SKHT **Srikalahasti** **43.38 283** *e*P **P** **23 14 00.1 +0.9**
SKHT IAmb IAmb 23 14 01.6
comp=Z,56nm,0.6s
SKHT *ep*P **pP** **23 15 45.2 -2.5**
SKHT *e*ScP **ScP** **23 18 24.5 -1.0**
SKHT *e*S **S** **23 19 44.2 +0.7**
SONA0 **Songino Array** **43.50 344** *e*P **P** **23 14 00.6 +0.9**
SONA0 *e*PcP **PcP** **23 15 32.9 -0.1**
SONA0 *e*ScP **ScP** **23 18 24.4 -1.0**
SONA0 *e*S **S** **23 19 44.4 0.0**
SONM **Songino Array** **43.50 344** P **P** **23 14 00.6 +0.9**
comp=Z,111nm,0.8s,baz=159,slow=8.4,SNR=559
SONM PcP **PcP** **23 15 32.9 -0.1**
comp=Z,20nm,0.8s,baz=160,slow=3.9,SNR=7.0
SONM ScP **ScP** **23 18 24.4 -1.0**
comp=Z,9.0nm,0.7s,baz=153,slow=4.1,SNR=8.0
SONM S **S** **23 19 44.4 0.0**
comp=Z,2.5nm,1.1s,baz=157,slow=14,SNR=3.0
YSS **Yuzh-Sakhalins** **43.52 19**⇓*i*P **P** **23 13 59.8 +0.1**
YSS *e* 23 15 33.0
YSS pmax pmax
comp=Z,40nm,0.7s
YSS **Yuzh-Sakhalins** **43.52 19** *e*P **P** **23 13 60.0 +0.3**
comp=Z,49nm,1.0s
KUR **Kuril'sk** **43.99 25**⇓*i*P **P** **23 14 03.8 +0.4**
KUR *i* 23 15 34.6
KUR *i* *PP **pP** **23 15 50.6 -1.8**
KUR *i* 23 15 59.4
KUR *i* S **S** **23 19 50.0 -1.1**
KUR *e* 23 22 51.0
KUR *i* *SS **SS** **23 23 18.4 -5.5**
KUR pmax pmax
comp=Z,69nm,0.9s
KUR pmax pmax
comp=Z,109nm,0.9s
NJS **Nagarjunasagar** **44.08 287** *e*P **P** **23 14 04.9 +0.4**
NJS IAmb IAmb 23 14 06.4
comp=Z,53nm,0.6s
NJS *e*PcP **PcP** **23 15 35.5 0.0**
NJS *e*ScP **ScP** **23 18 27.3 -1.0**
NJS *e*S **S** **23 19 52.3 -1.0**
RCLA **Racherla** **44.28 285** *e*P **P** **23 14 05.9 -0.2**
RCLA IAmb IAmb 23 14 07.9
comp=Z,55nm,0.7s
RCLA *e*PcP **PcP** **23 15 36.2 +0.1**
RCLA *e*ScP **ScP** **23 18 27.9 -1.3**
RCLA *e*S **S** **23 19 56.2 +0.1**
SRLM **Srisailam** **44.41 286** *e*P **P** **23 14 07.5 +0.3**
SRLM IAmb IAmb 23 14 08.9
comp=Z,45nm,0.6s
SRLM *e*ScP **ScP** **23 18 28.3 -1.4**
SRLM *e*S **S** **23 19 55.4 -2.6**
RPR **Rampur** **44.44 290** *e*P **P** **23 14 07.8 +0.6**
RPR IAmb IAmb 23 14 09.7
comp=Z,89nm,0.7s
RPR *e*PcP **PcP** **23 15 36.7 0.0**
RPR *e*ScP **ScP** **23 18 28.2 -1.5**
RPR *e*S **S** **23 19 58.8 +0.5**
HYB **Hyderabad** **44.91 288** *i* P **P** **23 14 10.0 -0.9**
HYB *e* 23 14 57.5
HYB *e*ScP **ScP** **23 18 29.5 -2.3**
HYB **Hyderabad** **44.91 288** *e*P **P** **23 14 11.7 +0.8**
HYBB **Hyderabad (bro** **44.91 288** *e*P **P** **23 14 11.4 +0.4**
HYBB IAmb IAmb 23 14 12.6
comp=Z,48nm,0.7s
HYBB *e*ScP **ScP** **23 18 31.1 -0.6**
HYBB *e*S **S** **23 20 05.6 +0.6**
SRSP **Sriramsagar** **45.34 290** *e*P **P** **23 14 14.0 -0.2**
SRSP IAmb IAmb 23 14 15.9
comp=Z,79nm,0.8s
SRSP *e*PcP **PcP** **23 15 39.3 -0.5**
SRSP *e*ScP **ScP** **23 18 32.3 -1.2**
SRSP *e*S **S** **23 20 10.3 -0.6**
ARMA **Armidale** **45.80 145** *e*P **P** **23 14 19.6 +2.1**
comp=Z,124nm,0.6s
URV **Uravakonda** **45.86 284** *e*P **P** **23 14 18.2 +0.1**
URV IAmb IAmb 23 14 19.6
comp=Z,42nm,0.9s
URV *e*ScP **ScP** **23 18 34.1 -1.6**
URV *e*S **S** **23 20 16.5 -1.6**
TRD **Trivandrum** **45.91 275** *e*P **P** **23 14 19.4 +0.9**
CIT **Chita** **45.94 352** *e*P **P** **23 14 19.2 +1.0**
CIT *e* 23 15 41.9
CIT pmax pmax
comp=Z,237nm,1.4s
ZAK **Zakamensk** **46.69 343**⇑*i*P **P** **23 14 24.2 +0.3**
ZAK *e* 23 15 39.7
ZAK pmax pmax
comp=Z,30nm,1.4s
KLRI **Killari** **46.84 288** *e*P **P** **23 14 25.3 -0.2**
KLRI IAmb IAmb 23 14 26.9
comp=Z,97nm,0.8s
KLRI *e*PP **PP** **23 16 23.9 -1.0**
KLRI *e*ScP **ScP** **23 18 38.0 -1.9**
BHPL **Bhopal** **47.02 296** *e*P **P** **23 14 27.5 +0.7**
JOSI **Joshimath** **47.34 306** *e*P **P** **23 14 27.6 -1.7**
JOSI AMB AMB 23 14 29.2
comp=Z,990nm,1.1s
AGRA **Agra** **47.60 301** *e*P **P** **23 14 31.0 0.0**
TLY **Talaya** **47.74 344** P **P** **23 14 32.9 +1.3**
comp=Z,111nm,0.7s,baz=178,slow=5.4,SNR=190
TLY ScP **ScP** **23 18 42.2 -0.7**
comp=Z,3.5nm,0.6s,baz=245,slow=2.5,SNR=3.8
TLY **Talaya** **47.74 344** *e*P **P** **23 14 33.1 +1.5**
TLY pmax pmax
comp=Z,170nm,0.9s
TLY **Talaya** **47.74 344** P **P** **23 14 33.4 +1.8**
comp=Z,1μm,0.6s,SNR=55
TLY **Talaya** **47.74 344** *e*P **P** **23 14 32.9 +1.3**
comp=Z,19nm,0.7s
TLY *e*PcP **PcP** **23 15 47.3 -0.6**
TLY *e*ScP **ScP** **23 18 42.2 -0.7**
IRK **Irkutsk** **48.08 344** *e*P **P** **23 14 33.4 -0.6**
IRK pmax pmax
comp=Z,122nm,1.7s
CAN **Canberra** **48.27 152** *e*P **P** **23 14 37.0 +1.2**
CAN pmax pmax
comp=Z,68nm,0.7s
CAN **Canberra** **48.27 152** ⇓P **P** **23 14 37.4 +1.6**
baz=48
CAN **Canberra** **48.27 152** *e*P **P** **23 14 37.0 +1.2**
comp=Z,68nm,0.7s
WMQ **Urumqi** **48.38 326** P **P** **23 14 38.5 +2.0**
WMQ PcP **PcP** **23 15 51.0 +0.6**
WMQ pP **pP** **23 16 29.0 0.0**
WMQ PP **PP** **23 16 41.0 +2.7**
WMQ S **S** **23 20 55.0 +2.9**
WMQ ScS **ScS** **23 23 24.5 +2.9**
WMQ PMZ
comp=Z,180nm,1.0s
WMQ PMZ
comp=Z,150nm,4.0s
BISR **Bishrakh** **48.43 303** *e*P **P** **23 14 36.0 -1.1**
BISR AMB AMB 23 14 36.8
comp=Z,1μm,0.1s
DDI **Dehra Dun** **48.48 305** *e*P **P** **23 14 38.5 +1.0**
DDI AMB AMB 23 14 49.0
comp=Z,122nm,0.5s
NKL **Nikolayevsk** **48.51 14** *i* P **P** **23 14 36.0 -1.1**
NKL pmax pmax
comp=N,40nm,0.9s
NKL pmax pmax
comp=Z,100nm,0.9s
MOY **Mondy** **48.52 342** *e*P **P** **23 14 38.8 +1.4**
MOY pmax pmax
comp=Z,161nm,1.6s
AYAN **Aya Nagar** **48.66 302** *e*P **P** **23 14 38.0 -0.8**
KUDL **Kundal** **49.10 302** *e*P **P** **23 14 41.3 -0.7**
KUDL AMB AMB 23 14 42.5
comp=Z,110nm,0.3s
KKR **Kurukshetra** **49.37 304** *e*P **P** **23 14 44.5 +0.5**
KKR AMB AMB 23 14 45.2
comp=Z,1μm,0.4s
SMLA **Simla** **49.47 306** *e*P **P** **23 14 45.9 +1.2**
SMLA AMB AMB 23 14 46.5
comp=Z,224nm,0.7s
POO **Poona** **49.49 289** *e*P **P** **23 14 45.6 +0.5**
POO AMB AMB 23 15 05.3
comp=Z,76nm,3.2s
KHET **Khetri** **49.66 301** *e*P **P** **23 14 46.1 -0.1**
KHET AMB AMB 23 14 47.2
comp=Z,185nm,0.3s
TARA **Tarawa** **49.80 94** *e*P **P** **23 14 49.7 +2.3**
comp=Z,232nm,0.8s
CLNS **Chul'man** **50.08 1** *e*P **P** **23 14 49.4 +0.7**
CLNS *e* 23 15 56.8
CLNS *e**PP **pP** **23 16 47.4 +5.0**
CLNS *e* 23 16 55.4
CLNS *e*S **S** **23 21 13.8 -0.8**
CLNS pmax pmax
comp=Z,98nm,0.8s
CLNS pmax pmax
comp=E,34nm,0.9s
CLNS pmax pmax
comp=N,58nm,0.9s
CLNS pmax pmax
comp=N,7.0nm,0.8s
CLNS pmax pmax
comp=Z,8.0nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS smax smax
comp=N,97nm,11.8s
CLNS smax smax
comp=E,70nm,12.8s
DHRM **DHARAMSHALA** **50.54 307** *e*P **P** **23 14 53.1 +0.4**
DHRM AMB AMB 23 14 54.2
comp=Z,357nm,1.3s
DZM **Mont Dzumac** **51.03 125** *e*P **P** **23 14 57.7 +1.5**
comp=Z,66nm,0.7s
LHI **Lord Howe Isla** **51.08 140** ⇓P **P** **23 14 57.7 +1.4**
baz=51,SNR=11
LHI **Lord Howe Isla** **51.08 140** *e*P **P** **23 14 57.4 +1.2**
comp=Z,89nm,0.8s
BOD **Bodaibo** **51.56 354** *e*P **P** **23 14 59.7 +0.5**
BOD pmax pmax
comp=Z,100nm,0.8s
SKR **Severo-Kuril's** **51.72 26** *e*P P 23 14 56.0 -4.5
SKR *e* 23 21 31.0
SKR pmax pmax
comp=N,70nm,1.0s
SKR pmax pmax
comp=E,90nm,1.0s
SKR pmax pmax
comp=Z,160nm,1.0s
MK32 **Makanchi Array** **53.22 326** *e*P **P** **23 15 12.3 +1.0**
MK32 *e*PcP **PcP** **23 16 08.2 -0.3**
MK32 *e*ScP **ScP** **23 19 05.3 -1.4**
MK32 *e*S **S** **23 21 57.2 +0.6**
MKAR **Makanchi Array** **53.22 326** P **P** **23 15 12.3 +1.0**
comp=Z,155nm,0.5s,baz=121,slow=8.1,SNR=2767
MKAR PcP **PcP** **23 16 08.2 -0.3**
comp=Z,38nm,0.8s,baz=121,slow=5.8,SNR=9.9
MKAR ScP **ScP** **23 19 05.3 -1.4**
comp=Z,20nm,0.7s,baz=122,slow=5.0,SNR=12
MKAR S **S** **23 21 57.2 +0.6**
comp=Z,2.3nm,0.8s,baz=120,slow=13,SNR=5.2
MKAR **Makanchi Array** **53.22 326** P **P** **23 15 12.3 +1.0**
MKAR 23 16 08.2
MKAR S **S** **23 21 57.2 +0.6**
MKAR pmax pmax
comp=Z,155nm,0.5s
MKAR pmax pmax
comp=Z,38nm,0.8s
MKAR pmax pmax
comp=N,20nm,0.7s
MKAR smax smax
comp=N,2.0nm,0.8s
MKAR **Makanchi Array** **53.22 326** *e*P **P** **23 15 12.4 +1.1**
KSH **Kashi** **53.56 315** P **P** **23 15 15.8 +1.8**
KSH PMZ
comp=N,110nm,0.5s
TAU **Tasmania Unive** **53.95 158** *e*P **P** **23 15 18.5 +2.1**

TAU pmax pmax
comp=Z,509nm,2.6s
TAU Tasmania Unive 53.95 158 *e*P **P 23 15 18.5 +2.1**
comp=Z,509nm,2.6s
BHJ Bhuj 54.04 294 *e*P **P 23 15 18.6 +1.1**
PETK Petropavlovsk- 54.16 25 P **P 23 15 18.6 +0.9**
comp=Z,26nm,0.5s,baz=198,slow=3.6,SNR=26
PETK PcP **PcP 23 16 12.0 0.0**
comp=Z,28nm,0.7s,baz=218,slow=6.1,SNR=8.8
PEA2 Petropavlovsk- 54.16 25 *e*P **P 23 15 18.6 +0.9**
PEA2 *e*PcP **PcP 23 16 12.0 0.0**
PET Petropavlovsk 54.50 25k *i*P **P 23 15 20.9 +0.8**
PET *e* 23 16 12.0
PET *e**PP **pP 23 17 17.0 0.0**
PET *e**SP **sP 23 18 22.1 -2.9**
PET *e*S **S 23 22 13.2 +0.2**
PET pmax pmax
comp=Z,99nm,1.6s
PET pmax pmax
comp=Z,300nm,6.4s
PET pmax pmax
comp=Z,100nm,16.8s
PET Petropavlovsk 54.50 25 *e*P **P 23 15 20.0 -0.1**
comp=Z,295nm,1.7s
ULHL Ulahol 54.56 318 P **P 23 15 22.4 +1.4**
SNR=12
KRAR Krasnoyarsk 54.81 340⇑ *i*P **P 23 15 22.0 -0.2**
KRAR pmax pmax
comp=Z,112nm,1.7s
KZA Kyzart 55.15 318 P **P 23 15 27.2 +1.8**
SNR=41
TKM2 Tokmak 2 55.29 319 P **P 23 15 27.3 +1.2**
SNR=74
TKM2 Tokmak 2 55.29 319 *e*P **P 23 15 27.3 +1.2**
TKM2 pmax pmax
comp=Z,81nm,0.6s
TKM2 Tokmak 2 55.29 319 *e*P **P 23 15 27.2 +1.2**
comp=Z,81nm,0.6s
YAK Yakutsk 55.48 4 P **P 23 15 27.1 +0.4**
comp=Z,22nm,0.5s,baz=187,slow=21,SNR=30
YAK S **S 23 22 25.3 0.0**
comp=Z,3.6nm,0.4s,baz=288,slow=19,SNR=4.5
YAK Yakutsk 55.48 4 *e*P **P 23 15 26.4 -0.3**
YAK *e* 23 16 16.0
YAK *e**PP **pP 23 17 24.3 0.0**
YAK *e* 23 17 37.2
YAK *e*S **S 23 22 25.1 -0.2**
YAK *e* 23 24 06.7
YAK pmax pmax
comp=Z,248nm,0.9s
YAK pmax pmax
comp=E,16nm,1.3s
YAK pmax pmax
comp=N,58nm,1.1s
YAK pmax pmax
comp=Z,18nm,0.9s
YAK pmax pmax
comp=E,14nm,1.0s
YAK pmax pmax
comp=N,54nm,1.8s
YAK smax smax
comp=N,73nm,1.7s
YAK smax smax
comp=E,53nm,2.3s
YAK Yakutsk 55.48 4 *e*P **P 23 15 27.1 +0.4**
comp=E,318nm,0.7s
YAK *e*S **S 23 22 25.3 0.0**
KBK Karagaybulak 55.60 318 P **P 23 15 29.7 +1.5**
SNR=37
CHMS Chumysh 55.88 318 P **P 23 15 30.8 +0.9**
SNR=36
AAK Ala-Archa 55.89 318 P **P 23 15 31.5 +1.3**
SNR=17
AAK Ala-Archa 55.89 318 *e*P **P 23 15 31.5 +1.3**
AAK pmax pmax
comp=Z,150nm,1.7s
AAK Ala-Archa 55.89 318 *e*P **P 23 15 31.5 +1.3**
comp=Z,150nm,1.7s
USP Ospenovka 56.16 319 P **P 23 15 32.9 +1.0**
SNR=16
AML Almayashu 56.22 317 P **P 23 15 34.1 +1.4**
SNR=71
EKS2 Erkin-Say 56.38 318 P **P 23 15 34.8 +1.3**
SNR=54
EKS2 Erkin-Say 56.38 318 *e*P **P 23 15 34.9 +1.4**
EKS2 pmax pmax
comp=Z,95nm,0.8s
EKS2 Erkin-Say 56.38 318 *e*P **P 23 15 34.9 +1.4**
comp=Z,95nm,0.8s
ZALV Zalesovo Beam 56.46 334 P **P 23 15 33.2 -0.3**
comp=Z,65nm,0.8s,baz=125,slow=6.0,SNR=249
ZALV PcP **PcP 23 16 19.4 -1.6**
comp=Z,10.0nm,0.7s,baz=116,slow=3.4,SNR=3.9
ZALV S **S 23 22 35.1 -3.1**
comp=Z,3.4nm,1.0s,baz=139,slow=9.2,SNR=3.7
ZAA1 Zalesovo Array 56.46 334 *e*P **P 23 15 33.2 -0.3**
ZAA1 *e*PcP **PcP 23 16 19.4 -1.6**
ZAA1 *e*S **S 23 22 35.1 -3.1**
MA2 Magadan 56.82 16 *i*P **P 23 15 37.1 +1.2**
KBL Kabul 57.02 307 *e*P **P 23 15 38.6 +0.5**
KBL pmax pmax
comp=Z,73nm,0.7s
KBL Kabul 57.02 307⇑P **P 23 15 38.7 +0.6**
baz=57,SNR=42
KBL Kabul 57.02 307 *e*P **P 23 15 38.6 +0.5**
comp=Z,73nm,0.7s
KURBB Kurchatov Arra 57.45 328 P **P 23 15 40.8 +0.5**
comp=Z,210nm,0.7s,baz=125,slow=6.3,SNR=1448
KURK Kurchatov 57.45 328 *e*P **P 23 15 40.8 +0.4**
KURK Kurchatov 57.45 328 *e*P **P 23 15 40.8 +0.4**
NVS Novosibirsk 57.74 334⇓ *i*P **P 23 15 41.9 -0.4**
NVS *i* 23 16 23.8
NVS *e*S **S 23 22 52.1 -2.4**
NVS *e* 23 23 20.1
NVS pmax pmax
comp=N,44nm,0.8s
NVS pmax pmax
comp=E,49nm,0.8s
NVS pmax pmax
comp=Z,82nm,0.8s
NVS smax smax
comp=N,29nm,1.8s
NVS smax smax
comp=E,33nm,1.5s
KKAR Karatay Array 58.76 317 *e*P **P 23 15 49.7 +0.3**
KKAR Karatay Array 58.76 317 *e*P **P 23 15 49.7 +0.3**
MSVF Nonsavu 59.26 115 P **P 23 15 55.0 +1.8**
comp=E,521nm,1.1s,SNR=7.2
MSVF Nonsavu 59.26 115 *e*P **P 23 15 55.1 +1.8**
MSVF pmax pmax
comp=Z,74nm,0.9s
MSVF Nonsavu 59.26 115 *e*P **P 23 15 55.1 +1.9**
comp=Z,74nm,0.9s
SEY Seymchan 60.06 15 P **P 23 15 58.8 +1.3**
comp=Z,29nm,0.7s,baz=221,slow=5.0,SNR=63
SMY Shemya 61.79 32 *e*P **P 23 16 09.5 +0.5**
SMY pmax pmax
comp=Z,102nm,0.8s
SMY Shemya 61.79 32 *e*P **P 23 16 09.5 +0.5**
comp=Z,102nm,0.8s
BVAR Borovoye Array 63.02 327 P **P 23 16 17.2 +0.2**
comp=Z,83nm,0.9s,baz=133,slow=8.3,SNR=203
OUZ Omahuta 63.05 135 *e*P **P 23 16 19.9 +2.5**
comp=Z,22nm,0.7s
BRVK Borovoye 63.09 327 P **P 23 16 17.2 -0.2**
comp=Z,805nm,1.2s,SNR=37
BRVK Borovoye 63.09 327 *e*P **P 23 16 17.8 +0.5**
BRVK pmax pmax
comp=Z,150nm,1.0s
BRVK Borovoye 63.09 327 *e*P **P 23 16 17.8 +0.5**
comp=Z,150nm,1.0s
AMKA Amchitka 64.07 35 *e*P **P 23 16 24.1 +0.5**
IKOO Kooshah 64.77 303 *e*P **P 23 16 29.9 +1.1**
DCZ Deep Cove 65.04 147 *e*P **P 23 16 30.0 +0.3**
comp=Z,40nm,0.6s
IAKL Akhelmad 65.65 307 *e*P **P 23 16 34.4 +0.2**
RPZ Rata Peaks 66.12 144 *e*P **P 23 16 37.5 +0.9**
comp=Z,87nm,0.9s
ABKT Ailbek 66.39 308 P **P 23 16 39.3 +0.9**
comp=Z,292nm,1.1s,SNR=13
GEYT Alibeck 66.39 308 P **P 23 16 39.3 +0.9**
comp=Z,31nm,0.9s,baz=305,slow=1.8,SNR=52
UOSS Wadi Hilu 66.44 294 *e*P **P 23 16 38.4 -0.6**
comp=Z,27nm,1.4s
HATD Hatta, Dubai 66.50 294⇓P **P 23 16 39.5 +0.2**
ODZ Otahua Downs 66.68 145 *e*P **P 23 16 41.6 +1.7**
comp=Z,197nm,2.2s
KHZ Kahutara 66.87 142 *e*P **P 23 16 41.4 +0.2**
comp=Z,159nm,1.7s
FAQ Al Faqa, Dubai 66.98 294⇓P **P 23 16 42.1 -0.1**
SNZO South Karori 66.99 140 *e*P **P 23 16 41.5 -0.4**
comp=Z,101nm,0.6s
GSTR Great Sitkin T 67.02 36 *e*P **P 23 16 42.1 +0.1**
URZ Urewera 67.02 136 P **P 23 16 42.1 0.0**
comp=Z,29nm,0.7s,baz=249,slow=7.9
URZ Urewera 67.02 136 *e*P **P 23 16 42.4 +0.2**
BKZ Black Stump Fm 67.05 137 *e*P **P 23 16 42.9 +0.5**
comp=Z,195nm,0.7s
IBAF Bafgh 67.56 301 *e*P **P 23 16 46.1 +0.2**
AFI Afiamalu 67.62 108 P **P 23 16 46.4 0.0**
comp=Z,78nm,0.6s,baz=94,slow=5.6,SNR=6.5
AFI Afiamalu 67.62 108 *e*P **P 23 16 48.7 +2.4**
AFI pmax pmax
comp=Z,78nm,0.6s
AFI Afiamalu 67.62 108 *e*P **P 23 16 48.7 +2.4**
comp=Z,78nm,0.6s
BFZ Birch Farm 67.65 139 *e*P **P 23 16 45.8 -0.2**
comp=Z,97nm,0.7s
BILL Bilibino 67.69 16*d i*P **P 23 16 45.2 -0.5**
BILL *e* 23 17 06.2
BILL *i**PP **pP 23 18 49.4 -1.3**
BILL *e* 23 19 27.0
BILL *e**SP **sP 23 19 51.9 -4.3**
BILL pmax pmax
comp=Z,68nm,1.5s
BILL Bilibino 67.69 16 *e*P **P 23 16 44.7 -1.0**
comp=Z,54nm,1.1s
ABKAR Akbulak array 67.72 321⇑P **P 23 16 46.5 +0.2**
baz=68
ABKAR Akbulak array 67.72 321 *e*P **P 23 16 46.5 +0.2**
ATKA Atka Island 68.14 36 *e*P **P 23 16 48.6 0.0**
comp=Z,62nm,0.7s
ATKA *e*pP **pP 23 18 52.9 -1.0**
IMEH Mehriz 68.35 301 *e*P **P 23 16 50.3 -0.5**
ISAD Sadrabad 69.19 302 *e*P **P 23 16 55.7 -0.1**
AKTO Aktyubinsk 69.25 322 P **P 23 16 55.7 +0.3**
comp=Z,59nm,0.7s,baz=101,slow=8.4,SNR=251
AKTO S **S 23 25 09.9 -3.1**
comp=Z,1.1nm,0.8s,baz=211,slow=18,SNR=4.4
IGLO Ghaloghah 69.56 306 *e*P **P 23 16 57.9 +0.1**
SVE Sverdlovsk 69.69 329*c i*P **P 23 16 57.9 0.0**
SVE pmax pmax
comp=Z,114nm,0.8s
ISHM Shahmirzad 69.91 306 *e*P **P 23 17 00.8 +0.8**
MRIV Mauritius Mete 69.93 246 *e*P **P 23 16 59.8 -0.2**
ILAS Lasjerd 70.13 305 *e*P **P 23 17 01.3 0.0**
IFIR Firoozkooh 70.33 305 *e*P **P 23 17 02.9 +0.4**
IALA Alasht 70.33 306 *e*P **P 23 17 03.3 +0.8**
IZEF Zefreh 70.42 302 *e*P **P 23 17 00.9 -2.1**
IKAZ Kazeroun 70.61 299 *e*P **P 23 17 03.8 -0.5**
ARU Arti 70.65 328 P **P 23 17 03.2 -0.3**
baz=91,slow=6.9
ARU S **S 23 25 24.5 -4.0**
baz=130,slow=17
ARU Arti 70.65 328*d i*P **P 23 17 02.9 -0.6**
ARU 23 17 20.2
ARU 23 19 50.3
ARU S **S 23 25 26.3 -2.3**
ARU 23 26 00.3
ARU pmax pmax
comp=Z,112nm,1.0s
ARU Arti 70.65 328 P **P 23 17 03.8 +0.3**
comp=Z,836nm,0.6s,SNR=62
ARU Arti 70.65 328 *e*P **P 23 17 03.0 -0.5**
comp=Z,85nm,0.5s
ARU *e*S **S 23 25 24.5 -4.0**
IPRN Peran 70.72 306 *e*P **P 23 17 04.5 -0.1**
IDMV Damavand 70.91 305 *e*P **P 23 17 05.8 -0.1**
IVRN Varamin 71.10 305 *e*P **P 23 17 07.1 +0.4**
NIKH Nikolski High 71.48 36 *e*P **P 23 17 08.2 -0.2**
IPIR Pirpir 71.61 302 *e*P **P 23 17 08.5 -1.5**
SPIA Saint Paul Isl 71.81 32 *e*P **P 23 17 11.4 +1.2**
comp=Z,113nm,0.6s
IGZV Ghazvin 72.44 306 *e*P **P 23 17 14.9 +0.3**
IRAZ Razeghan 72.60 305 *e*P **P 23 17 15.5 0.0**
UNV Unalaska Valle 73.05 36 *e*P **P 23 17 17.2 -0.2**
comp=Z,121nm,0.8s
CASY Casey 73.32 185 *e*P **P 23 17 18.9 +0.2**
comp=Z,41nm,0.6s
AKUT Akutan 73.53 35 *e*P **P 23 17 19.9 -0.2**
comp=Z,225nm,0.9s
IKOM Komasi 74.52 304 *e*P **P 23 17 25.4 -0.9**
ISRB Sarab 74.58 307 *e*P **P 23 17 27.2 +0.5**
FALS False Pass 75.02 35 *e*P **P 23 17 28.1 -0.3**
comp=Z,150nm,0.6s
IVIS Veis 75.08 304 *e*P **P 23 17 28.1 -1.3**
IBST Bostanabad 75.19 307 *e*P **P 23 17 29.2 -0.9**
TNA Tin City 75.30 24 *e*P **P 23 17 30.2 +0.5**
comp=Z,16nm,0.7s
IDHR Dehrash 75.46 304 *e*P **P 23 17 30.4 -1.3**
IAZR Azarshahr 75.91 307 *e*P **P 23 17 34.7 +0.6**
IMRD Marand 76.17 308 *e*P **P 23 17 35.5 +0.1**
RAYN Ar Rayn 76.17 293 P **P 23 17 35.0 -0.6**
comp=Z,244nm,0.7s,SNR=25
RAYN Ar Rayn 76.17 293 *e*P **P 23 17 35.7 +0.2**
comp=Z,43nm,1.0s
RAYN *e*pP **pP 23 19 47.1 +2.2**
DGRG David-gareji 76.56 311 P **P 23 17 38.4 +1.0**
DGRG David-gareji 76.56 311 *e*P **P 23 17 38.3 +1.0**
SDPT Sand Point 76.76 35 *e*P **P 23 17 37.8 -0.2**
comp=Z,795nm,1.6s
GNI Garni 76.98 310 P **P 23 17 39.8 0.0**
comp=Z,2.7nm,0.6s,baz=206,slow=2.1,SNR=9.4
GNI Garni 76.98 310*d i*P **P 23 17 40.3 +0.6**
GNI pmax pmax
comp=Z,36nm,1.5s
GNI Garni 76.98 310⇓ *i*P **P 23 17 40.7 +1.0**
SNR=6.4
GNI Garni 76.98 310 *e*P **P 23 17 40.0 +0.3**
GNI *e*pP **pP 23 19 50.4 +0.9**
TBLG Delisi 77.05 311 *e*P **P 23 17 41.9 +2.0**
TBLG Delisi 77.05 311 P **P 23 17 39.6 -0.3**
TBLG Delisi 77.05 311 P **P 23 17 39.6 -0.3**
OPA Opana 77.13 69 *e*P **P 23 17 43.5 +2.8**
OPA Opana 77.13 69 *e*P **P 23 17 43.5 +2.8**
HKR Hakkari 77.68 307 *e*P **P 23 17 42.0 -1.6**
CUKT Cukurca 77.78 307 *e*P **P 23 17 42.7 -1.4**
CHGN Chignik 78.03 34 *e*P **P 23 17 44.0 -0.8**
ONI Oni 78.04 312 P **P 23 17 45.9 +0.7**
ONI Oni 78.04 312 *e*P **P 23 17 45.9 +0.7**
KARS Kars 78.26 310 *e*P **P 23 17 47.9 +1.3**
AGRB Hanur-Agry 78.31 309 *e*P **P 23 17 47.1 +0.2**
PRGR Permogore 78.31 332⇑ *i*P **P 23 17 45.6 -0.6**
PRGR *e*S **S 23 26 53.4 +2.3**
PRGR pmax pmax
comp=Z,102nm,0.6s
GOF Gofitskoye 78.42 315 *e*P **P 23 17 46.6 -0.6**
KBZ Khabaz 78.48 313 P **P 23 17 46.5 -0.9**
comp=Z,13nm,1.1s,baz=107,slow=2.9,SNR=18
NEY Neytrino 78.59 313⇑ *i*P **P 23 17 48.7 +0.3**
NEY pmax pmax
comp=Z,6.0nm,1.2s
KIV Kislovodsk 78.64 313 *e*P **P 23 17 47.8 -0.6**
KIV Kislovodsk 78.64 313*d i*P **P 23 17 48.0 -0.5**
KIV *e* 23 17 55.0
KIV *i**PP **pP 23 20 01.9 +2.9**
KIV *e* 23 20 58.3
KIV *i*S **S 23 26 54.5 -1.0**
KIV pmax pmax
comp=Z,43nm,1.5s
KIV Kislovodsk 78.64 313 P **P 23 17 48.8 +0.3**
comp=Z,158nm,0.8s,SNR=7.5
KIV Kislovodsk 78.64 313⇓ *i*P **P 23 17 48.5 0.0**
SNR=14
KIV Kislovodsk 78.64 313 *e*PKPdf **P 23 17 48.3 -0.2**
KIV Kislovodsk 78.64 313 *e*P **P 23 17 48.5 0.0**
comp=Z,20nm,0.8s
KIV *e*pP **pP 23 20 02.8 +3.8**
SIRT Sirnak 78.72 307 *e*P **P 23 17 46.4 -2.6**
OPO Ambohidratompo 79.02 250 P **P 23 17 50.6 -0.4**
comp=Z,16nm,0.6s,baz=69,slow=5.4,SNR=26
CHVG Ch'k'valeri 79.05 312 P **P 23 17 50.9 +0.3**
CHVG Ch'k'valeri 79.05 312⇑ *i*P **P 23 17 51.3 +0.7**
ABPO Ambohimpanom 79.07 249 *e*P **P 23 17 50.9 -0.4**
ABPO pmax pmax
comp=Z,30nm,0.9s
ABPO Ambohimpanom 79.07 249 *e*P **P 23 17 50.9 -0.4**
comp=Z,30nm,0.9s
BCA Borcka 79.38 311 *e*P **P 23 17 50.1 -2.3**
EZM Erzurum 79.57 309 *e*P **P 23 17 53.0 -0.7**
SVW2 Sparrevohn 79.95 29 *e*P **P 23 17 56.3 +1.4**
comp=Z,66nm,0.9s
SOC Sochi 80.79 313 *e*P P 23 17 55.6 -3.9
SOC *e**PP pP 23 20 06.5 -4.6
SOC *e* 23 21 22.8
SOC *e*PPP PPP 23 23 15.4
SOC *e*S S 23 27 09.9 -7.3
SOC *e*SS SS 23 32 58.2 +8.3
OHAK Old Harbor 80.91 33 *e*P **P 23 18 00.5 +0.6**
comp=Z,219nm,0.7s
GUMT Gumushane 81.00 310 *e*P P 23 17 56.9 -4.0
PTK Pertek 81.10 308 *e*P P 23 17 57.4 -4.1
IM04 Indian Mountai 81.10 24 *e*P **P 23 18 01.8 +1.0**
VSR Storozhevoye 81.16 321 *e*P **P 23 18 00.6 -0.7**
VSR *e* 23 27 16.1
VSR pmax pmax
comp=N,2.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,0.6s
VSR pmax pmax
comp=Z,50nm,0.6s
MNKR ALMNKUR 81.28 305 *i*P **P 23 18 03.1 +0.9**
RSO Redoubt South 81.30 30 *e*P **P 23 18 01.9 -0.1**
KDAK Kodiak Island 81.31 33 P **P 23 18 02.0 +0.2**
comp=Z,2µm,0.8s,SNR=64
KDAK Kodiak Island 81.31 33 P **P 23 18 02.6 +0.8**
comp=Z,191nm,0.7s,baz=262,slow=3.6,SNR=132
KDAK Kodiak Island 81.31 33 *e*P **P 23 18 02.7 +0.9**
KDAK pmax pmax
comp=Z,221nm,0.8s
KDAK Kodiak Island 81.31 33 *e*P **P 23 18 02.7 +0.9**
comp=Z,221nm,0.8s
PPLA Purkeypile 81.65 27 *e*P **P 23 18 04.2 +0.5**
comp=Z,74nm,0.6s
SPU Mount Spurr 81.66 29 *e*PKKPbc PKKPbc 23 36 35.1 +1.9
CAST Castle Rocks 81.71 27 *e*P **P 23 18 04.5 +0.6**
comp=Z,85nm,0.6s
MALT Malatya 81.88 308 *e*P **P 23 18 05.8 +0.4**
MALT Malatya 81.88 308⇓P P 23 18 01.7 -3.7
MALT Malatya 81.88 308⇓ *i*P P 23 18 01.7 -3.7
TMCR Tamitsa 81.98 334 *e*P **P 23 18 04.5 -0.6**
TMCR pmax pmax
comp=Z,129nm,1.0s
CNPM China Poot 82.04 31 *e*P **P 23 18 05.1 -0.5**
comp=Z,119nm,1.0s
MOS Moscow 82.10 325 *e*P **P 23 18 04.7 -1.2**
MOS pmax pmax
comp=Z,185nm,1.1s
MOS pmax pmax
comp=Z,200nm,1.1s
BPAW Bear Paw Mtn. 82.21 26 *e*P **P 23 18 06.7 +0.3**
comp=Z,30nm,0.8s
BPAW *e*pP **pP 23 20 17.6 -1.0**
BRLK Bradley Lake 82.22 31 *e*P **P 23 18 06.3 -0.2**
comp=Z,153nm,1.0s
SUA Susitna One 82.30 29 *e*P **P 23 18 07.1 +0.1**
comp=Z,92nm,0.7s
MLY Manley 82.33 25 *e*P **P 23 18 07.9 +0.9**
comp=Z,129nm,0.7s
MLY *e*pP **pP 23 20 19.2 0.0**
ANN Anapa 82.41 314*d i*P **P 23 18 06.9 -0.8**
ANN *e**PP **pP 23 20 22.1 +2.1**
ANN *e*S **S 23 27 28.6 -4.6**
ANN pmax pmax
comp=Z,134nm,1.0s
TRF Thorofare Moun 82.52 27 *e*P **P 23 18 08.1 -0.1**
comp=Z,81nm,0.9s
COLD Coldfoot 82.58 23 *e*P **P 23 18 09.6 +1.5**
comp=Z,125nm,1.0s
DARE Darende-Malaty 82.61 308 *e*P P 23 18 04.0 -5.0
RSDY Resadiye-TOKAT 82.65 310 *e*P P 23 18 02.5 -6.6
OBN Obninsk 82.71 325 P **P 23 18 08.6 -0.3**
comp=Z,110nm,0.6s,baz=78,slow=2.1,SNR=51
OBN Obninsk 82.71 325*d i*P **P 23 18 08.4 -0.5**
OBN *e**PP **pP 23 20 25.2 +3.9**
OBN *e**SP **sP 23 21 24.5 -0.3**
OBN *e* 23 21 32.1
OBN *e*S **SKSac 23 27 30.3 -0.6**
OBN pmax pmax
comp=Z,280nm,1.5s
OBN Obninsk 82.71 325 P **P 23 18 08.8 -0.1**
comp=Z,1µm,0.6s,SNR=13
OBN Obninsk 82.71 325 *e*P **P 23 18 08.6 -0.3**
comp=Z,18nm,0.7s
RC01 Rabbit Creek A 82.78 29 *e*P **P 23 18 08.9 -0.4**
comp=Z,67nm,0.6s
SVSK Karacayir 82.92 309 *e*P P 23 18 01.1 -9.3
SEW Seward 82.94 30 *e*P **P 23 18 10.2 +0.2**
comp=Z,48nm,0.6s
ZALF Zalf 83.02 302 *i*P **P 23 18 11.1 0.0**
PMR Palmer 83.07 29 *e*P **P 23 18 09.8 -0.8**
PMR pmax pmax
comp=Z,69nm,1.1s
PMR Palmer 83.07 29 *e*P **P 23 18 09.8 -0.8**
comp=Z,69nm,1.1s
MCK McKinley 83.12 27 *e*P **P 23 18 10.7 -0.2**
MCK pmax pmax
comp=Z,86nm,0.6s
MCK McKinley 83.12 27 *e*P **P 23 18 10.7 -0.2**
comp=Z,86nm,0.6s
RND Reindeer 83.16 27 *e*P **P 23 18 10.7 -0.5**
RND pmax pmax
comp=Z,87nm,1.2s
RND Reindeer 83.16 27 *e*P **P 23 18 10.7 -0.5**
comp=Z,87nm,1.2s
LVZ Lovozero 83.37 338*ce*P **P 23 18 10.7 -1.4**
LVZ pmax pmax
comp=Z,25nm,0.7s
LVZ Lovozero 83.37 338 P **P 23 18 11.8 -0.3**
comp=Z,202nm,0.7s,SNR=10
LVZ Lovozero 83.37 338 *e*P **P 23 18 11.2 -0.9**
comp=Z,26nm,0.7s
MDM Murphy Dome 83.40 25 *e*P **P 23 18 11.9 -0.4**
comp=Z,32nm,0.8s
ASF Jabal al Asfar 83.44 302 P **P 23 18 13.8 +0.6**
comp=Z,20nm,0.8s,baz=55,slow=4.4,SNR=31
SML Sawmill 83.44 29 *e*P **P 23 18 12.5 -0.1**
SML pmax pmax
comp=Z,38nm,1.7s
SML Sawmill 83.44 29 *e*P **P 23 18 12.5 -0.1**
comp=Z,38nm,1.7s
WRH Wood River Hil 83.47 26 *e*P **P 23 18 12.3 -0.3**
comp=Z,192nm,1.8s
COLA College 83.56 25 *e*P **P 23 18 12.9 -0.1**
COLA pmax pmax
comp=Z,24nm,0.7s
COLA College 83.56 25 *e*P **P 23 18 12.9 -0.1**
comp=Z,24nm,0.7s
KVT Kavak 83.59 311 *e*P **P 23 18 13.7 0.0**
CCB Clear Creek Bu 83.59 26 *e*P **P 23 18 12.3 -0.8**
comp=Z,43nm,0.6s
WRDH Warideh 83.63 305 *i*P **P 23 18 14.5 +0.4**
BIDA Albida 83.73 304 *i*P **P 23 18 14.3 -0.4**
TOTH TOTAH 83.75 303 *i*P **P 23 18 14.3 -0.5**
SLNF Slenfeh 83.78 305 *i*P **P 23 18 14.9 0.0**
DHY Denali Highway 83.84 27 *e*P **P 23 18 14.5 -0.2**
comp=Z,35nm,0.7s
APA Apatity 83.86 337⇓ *i*P **P 23 18 14.0 -0.4**
APA pmax pmax
comp=Z,25nm,0.6s
APA MLR MLR
comp=Z,200nm,12.0s
SCM Sheep Creek Mo 83.92 28 *e*P **P 23 18 15.4 +0.4**
SCM pmax pmax
comp=Z,41nm,0.9s
SCM Sheep Creek Mo 83.92 28 *e*P **P 23 18 15.4 +0.4**
comp=Z,40nm,0.9s
ARNB Al Arnab 83.96 305 *i*P **P 23 18 15.7 -0.1**
HDA Harding Lake 83.97 26 *e*P **P 23 18 14.1 -1.0**
comp=Z,57nm,0.6s
ILAR Eielson Array 83.98 26 P **P 23 18 13.7 -1.4**
comp=Z,15nm,0.5s,baz=243,slow=4.7,SNR=136
ILB Eielson Array 83.98 26 *e*P **P 23 18 13.7 -1.4**
CEYT Ceyhan 84.07 306 *e*P P 23 18 09.9 -6.2
BRBR Barbar 84.15 303 *i*P **P 23 18 16.4 -0.5**
FYU Fort Yukon 84.56 24 *e*P **P 23 18 19.3 +1.4**
comp=Z,43nm,0.5s
KLU Klutina 84.61 29 *e*P **P 23 18 18.4 +0.1**
comp=Z,33nm,0.7s
MMAI Mount Meron Ar 84.63 303 P **P 23 18 19.5 +0.4**
comp=Z,5.9nm,0.6s,baz=87,slow=10,SNR=13
DIV Divide 84.71 29 *e*P **P 23 18 19.2 +0.4**
comp=Z,50nm,0.8s
BMRM Bremner River 85.29 29 *e*P **P 23 18 21.8 +0.2**
comp=Z,41nm,0.8s

EIL Elat 85.29 299 P **P** **23 18 21.9 -0.3**
comp=Z,24nm,1.0s,baz=31,slow=2.3,SNR=20

MAW Mawson 85.30 200 P **P** **23 18 21.2 -0.1**
comp=Z,16nm,0.9s,baz=52,slow=5.3,SNR=24

MAW Mawson 85.30 200 P **P** **23 18 21.2 -0.1**
MAW pmax pmax
comp=Z,16nm,0.9s

MAW Mawson 85.30 200 *e*P **P** **23 18 20.8 -0.4**
comp=Z,6.6nm,1.1s

BR101 Keskin Array S 85.52 309 *e*P **P** **23 18 22.6 -0.7**
BRTR Keskin Array B 85.52 309 P **P** **23 18 22.6 -0.7**
comp=Z,18nm,0.9s,baz=133,slow=3.7,SNR=51

MENT Mentasta 85.52 27 *e*P **P** **23 18 22.2 -0.4**
YESY Yesilyurt 85.60 307 *e*P **P** **23 18 23.8 +0.2**
PUL Pulkovo 85.80 330⇑*i*P **P** **23 18 23.3 -0.6**
PUL pmax pmax
comp=Z,108nm,0.9s

KEV Kevo 85.98 340 *e*P **P** **23 18 23.5 -1.1**
KEV pmax pmax
comp=Z,18nm,0.9s

KEV Kevo 85.98 340 *e*P **P** **23 18 23.5 -1.1**
comp=Z,18nm,0.9s

KMBO Kilima Mbogo 86.16 268 P **P** **23 18 27.6 +0.6**
comp=Z,8.8nm,0.9s,baz=51,slow=7.7,SNR=22

KMBO Kilima Mbogo 86.16 268 *e*P **P** **23 18 27.5 +0.6**
KMBO *e**PP **pP** **23 20 41.8 +0.9**
KMBO pmax pmax
comp=Z,36nm,0.8s

KMBO Kilima Mbogo 86.16 268 ⇓P **P** **23 18 27.7 +0.8**
baz=86

KMBO Kilima Mbogo 86.16 268 *e*P **P** **23 18 27.5 +0.6**
comp=Z,36nm,0.8s

KMBO *e*pP **pP** **23 20 41.8 +0.9**
CSS Prodhromos 86.18 305 *e*pP pP 23 20 45.1 +4.8
EGAK Eagle 86.42 25 *e*P **P** **23 18 26.9 +0.1**
comp=Z,33nm,0.8s

ARA0 ARCESS Array S 86.54 340 *e*P **P** **23 18 26.2 -1.0**
ARA0 *e*PKiKP **PKiKP** **23 23 27.9 -1.0**
ARA0 *e*PKKPbc **PKKPbc** **23 36 18.8 -3.3**
ARCES ARCESS Array B 86.54 340 P **P** **23 18 26.2 -1.0**
comp=Z,34nm,0.8s,baz=82,slow=6.6,SNR=96

ARCES PKiKP **PKiKP** **23 23 27.9 -1.0**
comp=Z,1.0nm,0.5s,baz=122,slow=1.6,SNR=5.0

ARCES PKKPbc **PKKPbc** **23 36 18.8 -3.3**
comp=Z,1.6nm,0.9s,baz=255,slow=2.4,SNR=5.3

ARE0 ARCESS Array S 86.54 340 *e*P **P** **23 18 26.3 -1.0**
VNDA Vanda 86.75 172 P **P** **23 18 28.4 +0.4**
comp=Z,14nm,0.6s,baz=321,slow=6.4,SNR=94

VNDA PKKPbc **PKKPdf** **23 36 17.8 +3.4**
comp=Z,1.7nm,0.8s,baz=255,slow=1.3,SNR=8.1

HAMF Hammerfest 86.95 341 *e*P **P** **23 18 27.9 -1.2**
HAMF lAmb lAmb 23 18 28.9
comp=Z,63nm,0.7s

SPA0 Spitsbergen Ar 86.97 349 *e*P **P** **23 18 28.6 -0.6**
SPA0 lAmb lAmb 23 18 29.9
comp=Z,125nm,1.1s

SPA0 Spitsbergen Ar 86.97 349 *e*P **P** **23 18 28.5 -0.6**
SPITS Spitsbergen Ar 86.97 349 P **P** **23 18 28.5 -0.6**
comp=Z,61nm,0.6s,baz=100,slow=9.4,SNR=149

DAWY Dawson 87.29 26 *e*P **P** **23 18 31.4 +0.4**
comp=Z,29nm,1.0s

KTK1 Kautokeino 87.43 339 *e*P **P** **23 18 30.0 -1.4**
KTK1 lAmb lAmb 23 18 31.1
comp=Z,25nm,1.0s

AKASG Malin Array Be 87.47 321 P **P** **23 18 30.6 -1.3**
comp=Z,7.9nm,0.6s,baz=66,slow=4.7,SNR=24

AKASG PP **PP** **23 22 09.2 +0.4**
comp=Z,0.3nm,0.3s,baz=70,slow=6.9,SNR=4.6

AKBB Malin Array Si 87.47 321 *e*P **P** **23 18 30.7 -1.3**
AKBB *e* 23 22 09.3
AKBB Malin Array Si 87.47 321 *e*P **P** **23 18 30.6 -1.3**
AKBB *e*PP **PP** **23 22 09.2 +0.4**
KIEV Kiev 87.48 321*d*/P **P** **23 18 30.4 -1.6**
KIEV pmax pmax
comp=Z,19nm,1.0s

KIEV Kiev 87.48 321 *e*P **P** **23 18 29.9 -2.2**
comp=Z,13nm,0.7s

HSPB Hornsund (broa 87.51 348 *e*P **P** **23 18 30.8 -0.8**
HSPB lAmb lAmb 23 18 31.7
comp=Z,76nm,0.8s

KBS Kingsbay 87.54 350 *e*P **P** **23 18 31.1 -0.7**
KBS lAmb lAmb 23 18 32.1
comp=Z,21nm,0.7s

FIA0 FINESS Array S 87.65 332 *e*P **P** **23 18 31.5 -1.1**
FIA0 FINESS Array S 87.65 332 *e*P **P** **23 18 31.5 -1.1**
FINES FINESS Array B 87.65 332 P **P** **23 18 31.5 -1.1**
comp=Z,30nm,0.6s,baz=63,slow=4.6,SNR=178

VSU Vasula 87.80 328*d*/P **P** **23 18 31.8 -1.5**
VSU pmax pmax
comp=Z,153nm,0.8s

KIS Kishinev 88.22 317 *e*P **P** **23 18 35.0 -0.6**
KIS Kishinev 88.22 317 *e*P **P** **23 18 35.0 -0.6**
INK Inuvik 88.73 21 P **P** **23 18 37.6 +0.2**
comp=Z,24nm,0.8s,baz=288,slow=4.8,SNR=50

INK Inuvik 88.73 21 P **P** **23 18 37.7 +0.2**
INK pmax pmax
comp=Z,24nm,0.8s

INK Inuvik 88.73 21 *e*P **P** **23 18 37.1 -0.3**
comp=Z,28nm,0.8s

HYT Haines Junctio 88.74 29 *e*P **P** **23 18 38.6 +0.7**
TRO Tromso 88.77 340 *e*P P 23 18 34.3 -3.3
TRO lAmb lAmb 23 18 35.0
comp=Z,20nm,0.7s

TESR Tescani 89.77 317⇓*i*P **P** **23 18 42.4 -0.4**
VRI Vrincioaia 89.81 316⇑P **P** **23 18 42.8 -0.2**
VRI Vrincioaia 89.81 316⇑*i*P **P** **23 18 42.8 -0.2**
PLOR Plostina 89.87 316⇓P **P** **23 18 43.2 -0.1**
PLOR Plostina 89.87 316⇓*i*P **P** **23 18 43.2 -0.1**
MLR Muntele Rosu 90.42 316 P **P** **23 18 45.4 -0.5**
comp=Z,2.6nm,0.7s,baz=297,slow=1.6,SNR=14

MLR Muntele Rosu 90.42 316⇓*i*P **P** **23 18 45.5 -0.5**
BURAR Bucovina Array 90.54 318⇓P **P** **23 18 45.9 -0.6**
BURAR Bucovina Array 90.54 318⇓*i*P **P** **23 18 45.9 -0.6**
STEI Steigen 90.56 339 *e*P **P** **23 18 44.4 -1.5**
STEI lAmb lAmb 23 18 45.4
comp=Z,34nm,0.7s

SUW Suwalki 90.56 324 *i* P **P** **23 18 45.3 -1.0**
SUW Suwalki 90.56 324⇓*i*P **P** **23 18 45.4 -0.9**
LOF Lofoten 91.09 339 *e*P **P** **23 18 47.1 -1.3**
LOF lAmb lAmb 23 18 48.3
comp=Z,23nm,1.0s

MOR8 Moi Rana 91.44 337 *e*P **P** **23 18 47.2 -2.9**
MOR8 lAmb lAmb 23 18 47.8
comp=Z,14nm,0.7s

KWP Kalwaria Pacla 91.78 320 *e*P **P** **23 18 51.5 -0.5**
KWP Kalwaria Pacla 91.78 320 *e*P **P** **23 18 51.5 -0.5**
CJR Cluj-Napoca 91.80 317⇓P **P** **23 18 52.5 +0.3**
CJR Cluj-Napoca 91.80 317⇓*i*P **P** **23 18 52.5 +0.3**
LOT Lotru 91.93 316⇑*i*P **P** **23 18 52.6 -0.3**
RZN Rozhen 91.97 312 P **P** **23 18 51.9 -1.4**
KOLS Kolonicke sedl 92.21 320 *e*P **P** **23 18 53.7 -0.3**
KOLS Kolonicke sedl 92.21 320 *e*P **P** **23 18 53.7 -0.3**
TRPA Tarpa 92.21 319⇓*i*P **P** **23 18 53.4 -0.5**
TRPA Tarpa 92.21 319⇓*es*PKiKP **P** **23 18 53.3 -0.6**
UZH Uzhgorod 92.26 319⇓*i*P **P** **23 18 54.2 0.0**
DRGR 92.38 317⇓P **P** **23 18 54.5 -0.4**
DRGR 92.38 317⇓*i*P **P** **23 18 54.5 -0.4**
WRAK Wrangell Islan 92.39 33 *e*P **P** **23 18 55.3 +0.7**
comp=Z,56nm,0.8s

DEV Deva 92.44 317⇑P **P** **23 18 55.1 0.0**
DEV Deva 92.44 317⇑*i*P **P** **23 18 55.1 0.0**
BEL Belsk 92.46 323 *e*P **P** **23 18 54.6 -0.4**
BEL Belsk 92.46 323 *e*P **P** **23 18 54.6 -0.4**
MBAR Mbarara 92.57 270 *e*pP pP 23 21 16.7 +4.5
MMB Musomiste 92.72 312 P **P** **23 18 54.7 -1.8**
VTS Vitosha 92.90 313⇓P **P** **23 18 56.5 -1.0**
VTS Vitosha 92.90 313⇓*i*P **P** **23 18 56.5 -1.0**
VTS Vitosha 92.90 313 P **P** **23 18 56.3 -1.2**
IDI Anoyia 92.99 306 P **P** **23 18 56.7 -1.3**
comp=Z,7.2nm,0.8s,baz=130,slow=21,SNR=6.7

NSS Namsos 93.00 336 *e*P **P** **23 18 55.6 -1.7**
DLBC Dease Lake 93.01 30 P **P** **23 18 58.4 +0.8**
comp=Z,16nm,0.8s,baz=293,slow=5.3,SNR=38

DLBC Dease Lake 93.01 30 *e*P **P** **23 18 58.4 +0.8**
comp=Z,21nm,0.9s

SIRR Siria 93.20 317⇓*i*P **P** **23 18 58.2 -0.4**
NIE Niedzica 93.34 320 *e*P **P** **23 18 59.2 0.0**
NIE Niedzica 93.34 320 *e*P **P** **23 18 59.2 0.0**
BZS Buzias 93.38 316⇑P **P** **23 18 58.3 -1.1**
BZS Buzias 93.38 316⇑*i*P **P** **23 18 58.3 -1.1**
OJC Ojcow 93.47 321 *e*P **P** **23 18 59.1 -0.6**
OJC Ojcow 93.47 321 *e*P **P** **23 18 58.9 -0.8**
OJC pmax pmax
comp=Z,10.0nm,0.7s

OJC Ojcow 93.47 321 *e*P **P** **23 18 58.9 -0.8**
comp=Z,10nm,0.7s

HFS Hagfors 93.84 332 P **P** **23 18 59.5 -1.6**
comp=Z,7.9nm,0.5s,baz=108,slow=4.8,SNR=73

SYO Syowa Base 93.88 201⇑*e*P **P** **23 19 02.9 +1.9**
GKP Gorka Klasztor 94.18 325 *e*P **P** **23 19 02.1 -0.7**
GKP Gorka Klasztor 94.18 325 *e*P **P** **23 19 02.1 -0.7**
VYHS Vyhne 94.52 320 *e*P **P** **23 19 03.9 -0.6**
VYHS Vyhne 94.52 320 *e*P **P** **23 19 03.9 -0.6**
OKC Ostrava-Krasne 94.60 321 *e*P **P** **23 19 04.6 -0.2**
OKC *e*PP **PP** **23 23 06.3 +2.3**
OKC *e*S **S** **23 29 25.1 +0.6**
OKC *e*XS **sS** **23 33 29.0 +0.2**
OKC Ostrava-Krasne 94.60 321 *e*P **P** **23 19 04.6 -0.2**
OKC *e* 23 23 06.3
OKC *e*S **S** **23 29 25.1 +0.6**
NC602 NORSAR Array S 94.62 333 *e*P **P** **23 19 03.1 -1.6**
NB2 NORSAR Subarra 94.65 333 P **P** **23 19 03.0 -1.9**
comp=Z,9.9nm,0.8s,baz=68,slow=4.6
NB2 NORSAR Subarra 94.65 333 P pP 23 21 30.4 +10
comp=Z,2.5nm,0.8s,baz=64,slow=4.6
NB2 NORSAR Subarra 94.65 333 P **P** **23 19 03.0 -1.9**
baz=68,slow=4.6

NB200 NORSAR Array S 94.65 333 *e*P **P** **23 19 03.2 -1.7**
NB200 *e*PP **PP** **23 23 01.4 -2.7**
NB200 *e*PKKPdf **PKKPdf** **23 35 59.2 -0.2**
NOA NORSAR Array B 94.65 333 P **P** **23 19 03.2 -1.7**
comp=Z,9.1nm,0.8s,baz=69,slow=4.6,SNR=45

NOA PP **PP** **23 23 01.4 -2.7**
comp=Z,2.4nm,0.9s,baz=72,slow=7.0,SNR=5.5

NOA PKKPbc **PKKPdf** **23 35 59.2 -0.2**
comp=Z,0.9nm,0.7s,baz=251,slow=2.3,SNR=7.9

DIVS Divibare 94.85 315⇓*i*P **P** **23 19 05.4 -0.8**
MORC Moravsky Berou 94.99 321 *e*P **P** **23 19 06.8 +0.1**
MORC pmax pmax
comp=Z,20nm,0.7s

MORC Moravsky Berou 94.99 321 *e*P **P** **23 19 06.8 +0.1**
comp=Z,20nm,0.7s

PKSG 95.10 319⇓*es*PKPab **P** **23 19 06.5 -0.6**
CSKK Cs˘tkako 95.19 319⇓*e* **P** **23 19 04.6 -3.0**
PKSM Moragy 95.25 318⇓P **P** **23 19 07.2 -0.6**
PKSM Moragy 95.25 318⇓*i*P **P** **23 19 07.2 -0.6**
PKSM Moragy 95.25 318⇓*i* **P** **23 19 07.0 -0.8**
PKST T˘s 95.37 319⇓*es*PKPab **P** **23 19 07.6 -0.8**
KRLC Kraliky 95.38 322 *e*P **P** **23 19 07.9 -0.5**
KRLC *ex* x 23 21 34.8
KRLC *e*PP **PP** **23 23 12.0 +2.1**
KRLC Kraliky 95.38 322 *e*P **P** **23 19 07.9 -0.5**
KRLC *e* 23 23 12.0
KSP Ksiaz 95.45 322 *e*P **P** **23 19 08.6 -0.1**
KSP Ksiaz 95.45 322 *e*P **P** **23 19 08.6 -0.1**
RES Resolute Bay 95.56 9 P **P** **23 19 08.6 +0.1**
comp=Z,11nm,0.7s,baz=307,slow=5.3,SNR=10

RES Resolute Bay 95.56 9 *e*P **P** **23 19 08.7 +0.1**
RES pmax pmax
comp=Z,12nm,0.8s

RES Resolute Bay 95.56 9 *e*P **P** **23 19 08.7 +0.1**
comp=Z,12nm,0.8s

DPC Dobruska-Polom 95.58 322 *e*P **P** **23 19 09.2 -0.1**
DPC *ex* x 23 21 33.7
DPC *ex* x 23 22 31.3
DPC *e*PP **PP** **23 23 14.4 +3.0**
DPC *e*S **S** **23 29 29.4 -3.5**
DPC *e*XS sS 23 33 31.8 -5.9
DPC Dobruska-Polom 95.58 322 *e*P **P** **23 19 09.2 -0.1**
DPC *e* 23 22 31.3
DPC *e* 23 23 14.4
DPC *e*S **S** **23 29 29.4 -3.5**
VRAC Vranov 95.72 321 P **P** **23 19 09.9 0.0**
comp=Z,6.8nm,0.8s,baz=90,slow=4.3,SNR=9.5

UPC Upice 95.72 322 *e*P **P** **23 19 09.7 -0.2**
UPC *ex* x 23 19 13.0
UPC *e*PP **PP** **23 23 15.3 +2.8**
UPC *e*S **S** **23 29 29.1 -5.0**
UPC *e*XS **sS** **23 33 37.7 -1.2**
UPC Upice 95.72 322 *e*P **P** **23 19 09.7 -0.2**
UPC *e* 23 23 15.3
UPC *e*S **S** **23 29 29.1 -5.0**
AKN Aaknes 96.02 335 *e*P **P** **23 19 10.2 -0.7**
AKN lAmb lAmb 23 19 11.2
comp=Z,34nm,0.7s

TREC Trest 96.41 321 *e*P **P** **23 19 12.9 -0.1**
TREC *e*PP **PP** **23 23 17.4 -0.4**
TREC *e*S **S** **23 29 38.0 -2.0**
TREC *e*XS **sS** **23 33 43.2 -1.9**
TREC Trest 96.41 321 *e*P **P** **23 19 12.9 -0.1**
TREC *e* 23 23 17.4
TREC *e*S **S** **23 29 38.0 -2.0**
RUE Ruedersdorf 96.42 325 *e*Pdiff **P** **23 19 13.1 +0.2**
RUE Ruedersdorf 96.42 325 *e*P **P** **23 19 13.4 +0.5**
comp=Z,39nm,0.8s

QSPA South Pole Qui 96.53 180 P **P** **23 19 13.2 0.0**
comp=Z,1.3nm,0.4s,baz=250,slow=1.5

QSPA PKKPbc **PKKPdf** **23 35 54.1 -3.4**
comp=Z,5.1nm,0.8s,baz=176,slow=1.7,SNR=14

CONA Conrad Observa 96.59 320⇓*i*Pdiff **P** **23 19 13.4 -0.6**
comp=Z,3.7nm,1.1s

PVCC Panska Ves 96.59 323 *e*P **P** **23 19 14.0 +0.2**
PVCC *e*PP **PP** **23 23 20.9 +1.9**
PVCC Panska Ves 96.59 323 *e*P **P** **23 19 14.0 +0.2**
PVCC *e* 23 23 20.9
LSZ Lusaka 96.59 255 P **P** **23 19 13.3 -1.4**
comp=Z,6.3nm,0.7s,baz=72,slow=7.2,SNR=25

LSZ Lusaka 96.59 255 *e*P **P** **23 19 13.4 -1.2**
LSZ pmax pmax
comp=Z,6.0nm,0.7s

LSZ Lusaka 96.59 255 *e*P **P** **23 19 13.4 -1.2**
comp=Z,6.2nm,0.7s

GOPC GO Pecny, Ondr 96.65 322 *e*P **P** **23 19 14.2 +0.1**
GOPC *e*PP **PP** **23 23 22.4 +2.9**
GOPC *e*XS 23 33 43.5
MATP Matopo 96.73 250 P **P** **23 19 13.7 -1.5**
comp=Z,6.2nm,0.7s,baz=95,slow=4.3,SNR=23

PRU Pruhonice 96.78 322 *e*P **P** **23 19 14.6 0.0**
PRU *e*PP **PP** **23 23 23.0 +2.6**
PRU *e*S **S** **23 29 42.6 -0.4**
PRU *e*XS **sS** **23 33 44.9 -3.3**
PRU Pruhonice 96.78 322 *e*P **P** **23 19 14.6 0.0**
PRU *e* 23 23 23.0
PRU *e*S **S** **23 29 42.6 -0.4**
PRA Prague 96.82 322 *e*P **P** **23 19 14.5 -0.3**
PRA *e*PP **PP** **23 23 20.2 -0.5**
PRA Prague 96.82 322 *e*P **P** **23 19 14.5 -0.3**
PRA *e* 23 23 20.2
BRG Berggiesshubel 96.85 323 *e*PDIF **P** **23 19 14.4 -0.5**
comp=Z,16nm,1.0s

BRG *e*PP **PP** **23 23 25.6 +4.7**
comp=Z,6.6nm,1.2s

BRG Berggiesshubel 96.85 323 *e*Pdiff **P** **23 19 14.8 -0.1**
BRG Berggiesshubel 96.85 323 *e*P **P** **23 19 14.4 -0.5**
BRG *e* 23 23 25.6
BRG pmax pmax
comp=Z,16nm,1.0s

BRG pmax pmax
comp=Z,7.0nm,1.3s

FBE Freiberg 97.19 323 *e*Pdiff Pdiff 23 19 16.6 +0.2
CLL Collm 97.27 324 *e*Pdiff Pdiff 23 19 16.3 -0.4
CLL Collm 97.27 324 *i* P Pdiff 23 19 16.1 -0.6
CLL *e* 23 23 27.0
CLL *e*S **S** **23 29 43.0 -4.0**
CLL pmax pmax
comp=Z,6.0nm,0.8s

CLL pmax pmax
comp=Z,8.0nm,1.4s

CLL Collm 97.27 324 *i* Pdif Pdif 23 19 16.1 -0.6
comp=Z,6.0nm,0.8s

CLL *e*(pP) pP 23 21 37.0 +4.2
CLL *e*PP **PP** **23 23 27.0 +3.0**
CLL *e*PKiKP **PKiKP** **23 23 47.0 -0.7**
comp=Z,8.0nm,1.4s

CLL *e*Sdif **S** **23 29 43.0 -4.0**
CLL *e*SPP SPP 23 31 54.0
CLL *es*S sS 23 33 51.0 -1.4
CLL *e* 23 35 54.0
CLL *es*SS 23 40 06.0
CLL *e* 23 43 36.0
CLL *es*SSSS 23 47 00.0
BLS5 Blasjo 97.49 333 *e*P Pdif 23 19 17.1 -0.4
BLS5 lAmb lAmb 23 19 17.9
comp=Z,14nm,1.0s

MOA Molln 97.64 320⇑*i*Pdiff Pdif 23 19 18.1 -0.5
comp=Z,13nm,1.1s

KHC Kasperske Hory 97.65 321 *e*P Pdif 23 19 17.8 -0.8
KHC *ex* x 23 19 20.9
KHC *e*PP **PP** **23 23 27.7 +0.6**
KHC *e*S **S** **23 29 46.8 -3.7**
KHC *e*XS sS 23 33 51.4 -4.5
KHC Kasperske Hory 97.65 321 *e*P Pdif 23 19 17.8 -0.8
KHC *e* 23 23 27.7
KHC *e*S **S** **23 29 46.8 -3.7**
GEC2 GERESS Array S 97.67 321 *e*Pdiff Pdif 23 19 18.5 -0.3
GEC2 GERESS Array S 97.67 321 *e*P Pdif 23 19 18.7 -0.1
GEC2 *e* 23 23 31.0
GEC2 GERESS Array S 97.67 321 *e*Pdif Pdif 23 19 18.7 -0.1
GEC2 *e*PP **PP** **23 23 31.0 +3.7**
GEC2 *e*PKiKP **PKiKP** **23 23 48.9 +0.2**
GEC2 *e*PKKPbc **PKKPbc** **23 35 52.2 -1.2**
GERES GERESS Array B 97.67 321 P Pdif 23 19 18.2 -0.5
comp=Z,3.3nm,0.6s,baz=62,slow=5.7,SNR=18

GERES PP **PP** **23 23 27.9 +0.6**
comp=Z,3.2nm,0.9s,baz=75,slow=7.1,SNR=9.2

GERES PKiKP **PKiKP** **23 23 48.9 +0.2**
comp=Z,0.5nm,0.6s,baz=64,slow=2.3,SNR=4.2

GERES PKKPbc **PKKPbc** **23 35 52.2 -1.2**
comp=Z,1.0nm,0.7s,baz=227,slow=2.9,SNR=9.6

BSEG Bad Segeberg 97.83 327 *e*Pdiff **P** **23 19 19.3 +0.1**
TANN Tannenbergstha 97.90 323 *e*Pdiff Pdif 23 19 19.6 -0.1
NKC Novy Kostel 97.97 323 *e*P Pdif 23 19 19.7 -0.3
NKC *e*PP **PP** **23 23 32.3 +2.9**
NKC Novy Kostel 97.97 323 *e*P Pdif 23 19 19.7 -0.3
NKC *e* 23 23 32.3
WERD Werda 97.98 323 *e*Pdiff Pdif 23 19 19.9 -0.1
GUNZ Gunzen 97.99 323 *e*Pdiff **P** **23 19 20.1 0.0**
WERN Wernitzgruen 97.99 323 *e*Pdiff Pdif 23 19 20.0 -0.1
NEUB Neuenburg 98.02 324 *e*Pdiff Pdif 23 19 20.0 -0.1
PLN Plauen 98.05 323 *e*Pdiff Pdif 23 19 20.3 0.0
WET Wettzell 98.08 322 *e*Pdiff Pdif 23 19 20.5 0.0
YKA Yellowknife Ar 98.26 23 P **P** **23 19 20.9 0.0**
comp=Z,6.1nm,0.7s,baz=301,slow=4.5,SNR=22

YKA PKiKP **PKiKP** **23 23 48.9 -0.2**
comp=Z,1.0nm,0.6s,baz=300,slow=1.8,SNR=5.3

YKB5 Yellowknife Ar 98.26 23 *e*Pdif **P** **23 19 20.9 0.0**
YKB5 *e*PKiKP **PKiKP** **23 23 48.9 -0.2**
ROTZ Rotzenmuhle 98.28 322 *e*Pdiff **P** **23 19 21.7 +0.4**
MOX Moxa 98.32 323 *e*Pdiff Pdif 23 19 21.5 0.0
CLZ Clausthal 98.60 325 *e*Pdiff **P** **23 19 23.3 +0.5**
GRFO Grafenberg 98.90 322 *e*P PP 23 23 39.7 +3.3
FUR Furstenfeldbru 99.42 321 *e*Pdiff **Pdif** **23 19 26.3 -0.2**
WTTA Wattenberg 99.51 320⇓*i*Pdiff **Pdif** **23 19 26.3 -0.8**
comp=Z,9.1nm,0.8s

LBTB Lobatse 99.70 246 P **Pdif** **23 19 27.2 -1.1**
comp=Z,3.1nm,0.8s,baz=111,slow=7.5,SNR=4.4

LBTB Lobatse 99.70 246 *e*P **Pdif** **23 19 27.2 -1.1**
LBTB pmax pmax
comp=Z,14nm,1.2s

LBTB Lobatse 99.70 246 *e*Pdif **Pdif** **23 19 27.2 -1.1**
comp=Z,14nm,1.2s

MOTA Moosalm 99.82 320⇓*i*Pdiff **Pdif** **23 19 27.3 -1.1**
comp=Z,6.8nm,0.7s

IBBN Ibbenburen 99.90 326 *e*Pdiff **Pdif** **23 19 28.8 +0.4**
BOSA Boshof 100.16 242 PKKPbc PKKPbc 23 35 44.6 -1.1
comp=Z,2.1nm,0.5s,baz=287,slow=2.2,SNR=9.3

FETA Feichten 100.17 320⇑*i*Pdiff **Pdif** **23 19 28.9 -1.1**
comp=Z,7.0nm,0.9s

TNS Taunus Mts 100.35 324 *e*Pdiff **Pdif** **23 19 30.8 +0.2**
FUORN Ofenpass-Fuorn 100.62 320 *e*Pdif **Pdif** **23 19 32.2 +0.1**
DAVOX Davos/Dischmat 100.81 320 P **Pdif** **23 19 31.9 -0.9**
comp=Z,5.5nm,0.8s,baz=60,slow=2.8,SNR=8.5

DAVOX PP **PP** **23 23 52.2 +1.4**
comp=Z,4.1nm,0.7s,baz=32,slow=15,SNR=6.7

TUE Stuetta 101.26 320 *e*PP PP 23 23 59.2 +5.0
VLC Villacollemand 101.43 317 *e*PKiKP **PKiKP** **23 23 58.8 +3.3**
YBH Yreka Blue Hor 103.10 45 Pdiff **Pdif** **23 19 42.4 -0.7**
comp=Z,1.6nm,0.6s,baz=301,slow=4.2,SNR=6.3

J05D Fort Rock, OR 103.53 43 P **Pdif** **23 19 44.8 -0.2**
baz=103

M04C Macdoel 103.69 44 P **Pdif** **23 19 45.5 -0.2**
baz=104

NEW Newport 104.04 37 Pdiff **Pdif** **23 19 47.3 +0.2**
comp=Z,2.6nm,0.7s,baz=97,slow=0.7,SNR=4.3

NEW Newport 104.04 37 P **Pdif** **23 19 47.2 +0.2**
baz=104

EKA Eskdalemuir Ar 104.05 332 Pdiff **Pdif** **23 19 45.6 -1.2**
comp=Z,1.0nm,0.7s,baz=51,slow=3.3,SNR=3.8

EKA PP **PP** **23 24 14.7 +0.8**
comp=Z,2.6nm,0.9s,baz=54,slow=4.5,SNR=3.6

OHCM Honcut 104.84 47 *e*PKKPbc PKKPbc 23 35 30.4 -2.0
OHCM *e*PKKPdf **PKKPdf** **23 35 41.1 +0.6**
KEST Kesra 105.12 310 PP PP 23 24 23.8 +1.1
comp=Z,4.5nm,0.9s,baz=321,slow=8.3,SNR=6.2

WVOR Wild Horse Val 105.62 43 *e*P **Pdif** **23 19 54.5 +0.2**
WVOR Wild Horse Val 105.62 43 *e*Pdif **Pdif** **23 19 54.5 +0.2**
WVOR *e*PKKPdf **PKKPab** **23 35 48.7 -1.5**
MSO Missoula 106.62 37 P **PKiKP** **23 24 05.4 +0.3**
baz=106

SNAA Sanae 107.11 196 *e*PKKPbc PKKPbc 23 35 23.1 -3.4
SNAA *e*PKKPdf **PKKPab** **23 35 39.9 -2.4**
NV01 Mina Array Sit 107.48 46 *e*Pdif **Pdif** **23 20 03.0 +0.2**
NV01 *e*PKiKP **PKiKP** **23 24 08.1 +1.1**
NV01 *e*PKKPbc **PKKPbc** **23 35 24.0 -0.9**
NV01 *e*PKKPdf **PKKPab** **23 35 39.0 -2.9**
NVAR Mina Array Bea 107.48 46 Pdiff **Pdif** **23 20 03.0 +0.2**
comp=Z,2.7nm,0.8s,baz=274,slow=4.6,SNR=13

NVAR PKiKP **PKiKP** **23 24 08.1 +1.1**
comp=Z,1.9nm,0.8s,baz=228,slow=2.0,SNR=7.2

NVAR PKKPbc **PKKPbc** **23 35 24.0 -0.8**
comp=Z,0.4nm,0.5s,baz=128,slow=3.5,SNR=5.3

NVAR PKP **PKKPab** **23 35 39.0 -2.9**
comp=Z,1.9nm,0.8s,baz=134,slow=5.1,SNR=8.1

PKM Peak Mountain 107.72 50 P **PKiKP** **23 24 08.3 +0.7**
baz=108

HLID Hailey 107.90 40 P **PKiKP** **23 24 07.9 +0.3**
baz=108

HLID Hailey 107.90 40 *e*PKiKP **PKiKP** **23 24 08.8 +1.2**
MCMT McKenzie Canyo 108.27 38 *e*PKiKP **PKiKP** **23 24 09.3 +0.9**
EGMT Eagleton 108.42 34 P **PKiKP** **23 24 08.5 +0.1**
baz=108

EGMT Eagleton 108.42 34 *e*PKiKP **PKiKP** **23 24 08.8 +0.4**
BOZ Bozeman (W) 108.60 37 P **PKiKP** **23 24 09.2 +0.3**
baz=108

ELK Elko 108.64 43 Pdiff **Pdif** **23 20 08.2 +0.3**
comp=Z,0.4nm,0.3s,baz=343,slow=3.7,SNR=4.4

ELK PKiKP **PKiKP** **23 24 09.8 +0.6**
comp=Z,1.2nm,0.4s,baz=350,slow=1.1,SNR=10

MPMC Manual Prospec 109.03 48 P **PKiKP** **23 24 10.6 +0.6**
baz=109

EDW2 Edwards Air Fo 109.11 50 P **PKiKP** **23 24 10.8 +0.8**
baz=109

FURC Furnace Creek, 109.33 48 P **PKiKP** **23 24 10.9 +0.7**
baz=109

R11A Troy Canyon, C 109.46 46 *e*PKiKP **PKiKP** **23 24 11.4 +0.7**
baz=109

R11A Troy Canyon, C 109.46 46 *e*PKiKP **PKiKP** **23 24 11.8 +1.0**
R11A *e*PKKPdf **PKKPdf** **23 35 31.4 -0.9**
TPNV Topopah Spring 109.58 47 *e*P **Pdif** **23 20 16.9 +4.8**
TPNV *e* 23 24 54.8
TPNV Topopah Spring 109.58 47 P **PKiKP** **23 24 11.3 +0.3**
baz=110

TPNV Topopah Spring 109.58 47 *e*Pdif **Pdif** **23 20 16.9 +4.8**
TPNV *e*PKiKP **PKiKP** **23 24 11.6 +0.6**
TPNV *e*PP **PP** **23 24 54.8 +0.2**
GSC Goldstone 109.84 49 P **PKiKP** **23 24 12.2 +0.8**
baz=110

GSC Goldstone 109.84 49 *e*PKiKP **PKiKP** **23 24 12.5 +1.1**
FXWY Fox Creek 110.00 39 *e*PKiKP **PKiKP** **23 24 12.4 +0.7**
RLMT Red Lodge 110.29 37 P **PKiKP** **23 24 12.7 +0.5**
baz=110

HEC Hector,Ludlow 110.39 49 P **PKiKP** **23 24 12.9 +0.5**
baz=110

DUG Dugway 110.54 43 P **PKiKP** **23 24 13.1 +0.5**
baz=110

F20A Billings 110.57 36 P **PKiKP** **23 24 13.0 +0.5**
baz=110

E21A Keefer Ranch, 110.77 35 P **PKiKP** **23 24 13.3 +0.5**
baz=111

PFO Pinyon Flat Ob 110.78 50 PKiKP **PKiKP** **23 24 14.0 +0.7**
comp=Z,2.5nm,0.8s,baz=220,slow=3.3,SNR=4.8

PFO Pinyon Flat Ob 110.78 50 *e*PKiKP **PKiKP** **23 24 14.0 +0.7**
G20A Bridger 110.86 36 P **PKiKP** **23 24 13.2 +0.1**
baz=111

GMRC Granite Mounta 110.91 49 P **PKiKP** **23 24 14.6 +1.1**
baz=111

BELC Belle Mtn. Jos 110.97 50 P **PKiKP** **23 24 14.6 +0.9**
baz=111

I19A Meeteetse 111.04 38 P **PKiKP** **23 24 13.4 -0.2**
baz=111

MONP Monument Peak 111.09 51 P **PKiKP** **23 24 13.9 -0.1**
baz=111

LAO	LASA Array	111.16	34	P		PKiKP	23 24 14.2	+0.7		
	baz=111									
JLU	Jordanelle	111.25	42	*e*PKKPab		PKKPab	23 35 23.8	-1.4		
PD31	Pinedale Array	111.37	39	*e*PKiKP		PKiKP	23 24 14.2	0.0		
PD31				*e*SKPdf		SKPdf	23 26 49.8	-1.2		
PDAR	Pinedale Array	111.37	39	PKiKP		PKiKP	23 24 14.2	0.0		
	comp=Z,1.5nm,0.6s,baz=12,slow=2.8,SNR=11									
PDAR				SKP			23 26 49.8			
	comp=Z,0.8nm,0.6s,baz=354,slow=3.0,SNR=3.5									
CCUT	Cedar City	111.39	45	*e*PKKPab		PKKPab	23 35 23.8	-0.7		
H20A	Greybull	111.39	37	P		PKiKP	23 24 14.1	0.0		
	baz=111									
J19A	Crowheart	111.42	38	P		PKiKP	23 24 14.4	+0.2		
	baz=111									
A25A	Svangstu Ranch	111.44	31	P		PKiKP	23 24 14.0	0.0		
	baz=111									
E22A	Miles City	111.46	34	P		PKiKP	23 24 14.4	+0.3		
	baz=111									
IRM	Iron Mountain	111.55	49	P		PKiKP	23 24 14.9	+0.3		
	baz=111									
I20A	Worland	111.61	37	P		PKiKP	23 24 14.6	+0.1		
	baz=112									
F22A	Rosebud	111.67	35	P		PKiKP	23 24 14.7	+0.1		
	baz=112									
MSU	Marysvale	111.77	44	*e*PKiKP		PKiKP	23 24 16.7	+1.5		
MSU	Marysvale	111.77	44	*e*PKiKP		PKiKP	23 24 16.7	+1.5		
E23A	Ismay	111.78	34	P		PKiKP	23 24 15.2	+0.5		
	baz=112									
J20A	Shoshoni	111.97	38	P		PKiKP	23 24 15.4	+0.1		
	baz=112									
G22A	Birney	111.98	35	P		PKiKP	23 24 15.1	-0.1		
	baz=112									
F23A	Volborg	112.19	35	P		PKiKP	23 24 15.6	0.0		
	baz=112									
I21A	Big Trails, Te	112.19	37	P		PKiKP	23 24 15.1	-0.6		
	baz=112									
E24A	Baker	112.30	33	P		PKiKP	23 24 15.8	+0.1		
	baz=112									
H22A	Clearmont	112.30	36	P		PKiKP	23 24 15.9	0.0		
	baz=112									
TAM	Tamanrasset	112.48	298	*e*PKKPbc		PKKPbc	23 35 10.2	+1.8		
G23A	Biddle	112.50	35	P		PKiKP	23 24 15.8	-0.4		
	baz=112									
I22A	9 Mile Ranch,	112.63	37	P		PKiKP	23 24 15.9	-0.6		
	baz=112									
F24A	Ekalaka	112.65	34	P		PKiKP	23 24 16.3	-0.2		
	baz=112									
C26A	Wahner Farm, P	112.68	31	P		PKiKP	23 24 16.7	+0.3		
	baz=112									
J22A	Midwest	112.91	37	P		PKiKP	23 24 16.2	-0.9		
	baz=113									
G24A	Alzada	112.98	35	P		PKiKP	23 24 16.8	-0.3		
	baz=113									
ESDC	Sonseca Array	113.00	318	PKiKP		PKiKP	23 24 17.1	-0.1		
	comp=Z,0.6nm,0.8s,baz=15,slow=1.6,SNR=4.9									
ESDC				PP		PP	23 25 20.4	+2.1		
	comp=Z,1.7nm,0.8s,baz=57,slow=7.9,SNR=6.7									
ESDC				PKKPbc		PKKPbc	23 35 07.5	+0.3		
	comp=Z,1.1nm,0.8s,baz=254,slow=2.5,SNR=5.2									
C27A	Sayler Ranch,	113.06	31	P		PKiKP	23 24 17.2	+0.1		
	baz=113									
B28A	Dugan Ranch, T	113.15	30	P		PKiKP	23 24 17.4	+0.2		
	baz=113									
H24A	Dirks Ranch, A	113.25	35	P		PKiKP	23 24 17.0	-0.7		
	baz=113									
A29A	Manning Farm,	113.38	29	P		PKiKP	23 24 17.0	-0.7		
	baz=113									
O20A	White River Ci	113.60	41	P		PKiKP	23 24 18.9	+0.3		
	baz=113									
O20A	White River Ci	113.60	41	*e*PKiKP		PKiKP	23 24 19.2	+0.6		
G25A	Newell	113.62	34	P		PKiKP	23 24 18.0	-0.3		
	baz=113									
F26A	Lodgepole	113.63	33	P		PKiKP	23 24 18.2	0.0		
	baz=113									
B29A	Wagenman Farm,	113.63	29	P		PKiKP	23 24 18.0	-0.2		
	baz=113									
WUAZ	Wupatki	113.74	47	P		PKiKP	23 24 19.6	+0.7		
	baz=114									
WUAZ	Wupatki	113.74	47	*e*PKiKP		PKiKP	23 24 20.2	+1.2		
RSSD	Black Hills	113.92	35	*e*PKiKP		PKiKP	23 24 18.7	-0.4		
RSSD	Black Hills	113.92	35	*e*PKiKP		PKiKP	23 24 18.7	-0.4		
MDND	Maddock	113.93	30	*e*PKKPdf		PKKPdf	23 35 18.7	-5.0		
ULM	Lac du Bonnet	113.99	26	PKiKP		PKiKP	23 24 17.6	-1.2		
	comp=Z,7.6nm,0.6s,baz=344,slow=1.0,SNR=12									
ULM				SKP			23 26 52.8			
	comp=Z,4.6nm,0.7s,baz=236,slow=0.3,SNR=6.0									
ULM	Lac du Bonnet	113.99	26	*i* PKiKP		PKiKP	23 24 17.6	-1.2		
ULM				pmax		pmax				
	comp=Z,8.0nm,0.6s									
ULM				pmax		pmax				
	comp=N,5.0nm,0.7s									
ULM	Lac du Bonnet	113.99	26	*e*PKiKP		PKiKP	23 24 18.0	-0.7		
G26A	Maurine	114.02	34	P		PKiKP	23 24 18.7	-0.4		
	baz=114									
PV05	Paradox Valley	114.09	43	*e*PKiKP		PKiKP	23 24 20.6	+0.9		
G27A	Dupree	114.33	33	P		PKPdf	23 24 19.4	-0.2		
	baz=114									
PV15	Paradox Valley	114.38	43	*e*PKPdf		PKPdf	23 24 21.1	+0.9		
PV01	Paradox Valley	114.42	43	*e*PKPdf		PKPdf	23 24 20.9	+0.6		
PV01				*e*PKKPab		PKKPab	23 35 10.2	-0.9		
J25A	Sunshine Ranch	114.50	36	P		PKPdf	23 24 19.5	-0.6		
	baz=114									
POLO	Lamas de Olo	114.54	321	*e*PKPdf		PKPdf	23 24 20.3	+0.1		
PVRL	Vila Real	114.55	321	*e*PKPdf		PKPdf	23 24 20.9	+0.7		
H27A	Howes	114.72	34	P		PKPdf	23 24 19.9	-0.5		
	baz=114									
D30A	Buchanan	114.85	30	P		PKPdf	23 24 20.0	-0.5		
	baz=115									
MTE	Manteigas	114.93	320	*e*PKPdf		PKPdf	23 24 21.3	+0.3		
SMCO	Snowmass	114.94	41	*e*PKPdf		PKPdf	23 24 22.3	+0.8		
MVCO	Mesa Verde	114.94	44	*e*PKKPab		PKKPab	23 35 07.5	-1.3		
J26A	Sides Ranch, S	114.97	36	P		PKPdf	23 24 20.6	-0.3		
	baz=115									
PVIS	Viseu	114.98	321	*e*PKPdf		PKPdf	23 24 21.4	+0.4		
G28A	Parade	115.07	33	P		PKPdf	23 24 20.8	-0.3		
	baz=115									
I27A	Quinn	115.08	34	P		PKPdf	23 24 21.0	-0.2		
	baz=115									
F29A	Eureka	115.16	32	P		PKPdf	23 24 20.6	-0.6		
	baz=115									
E30A	Jud	115.18	31	P		PKPdf	23 24 20.9	-0.3		
	baz=115									
PCBR	Castelo Branco	115.20	320	*e*PKPdf		PKPdf	23 24 21.8	+0.4		
H28A	Mission Ridge	115.27	33	P		PKPdf	23 24 21.4	-0.1		
	baz=115									
AGMN	Agassiz Nation	115.41	28	P		PKPdf	23 24 20.7	-0.9		
	baz=115									
ISCO	Idaho Springs	115.48	40	*e*PKiKP		PKPdf	23 24 22.8	+0.5		
ISCO	Idaho Springs	115.48	40	P		PKPdf	23 24 22.1	-0.2		
	baz=115									
ISCO	Idaho Springs	115.48	40	*e*PKPdf		PKPdf	23 24 22.8	+0.5		
ISCO				*e*PKKPab		PKKPab	23 35 06.2	-0.4		
I28A	Midland	115.62	34	P		PKPdf	23 24 21.9	-0.2		
	baz=115									
S22A	4UR Ranch, Cre	115.80	42	P		PKPdf	23 24 23.4	+0.4		
	baz=116									
S22A	4UR Ranch, Cre	115.80	42	*e*PKPdf		PKPdf	23 24 24.1	+1.1		
S22A				*e*PP		PP	23 25 38.3	+0.3		
S22A				*e*PKKPab		PKKPab	23 35 03.7	-1.4		
PBAR	Barrancos	115.83	318	*e*PKPdf		PKPdf	23 24 22.9	+0.3		
PTOM	Tomar	115.92	320	*e*PKPdf		PKPdf	23 24 23.7	+0.9		
J28A	Allard Ranch,	115.95	35	P		PKPdf	23 24 22.5	-0.3		
	baz=116									
I29A	Vivian Onida	116.09	34	P		PKPdf	23 24 22.4	-0.7		
	baz=116									
Q24A	Divide	116.24	41	P		PKPdf	23 24 23.6	-0.2		
	baz=116									
K28A	Ten Mile Ranch	116.32	35	P		PKPdf	23 24 23.6	0.0		
	baz=116									
I30A	Oacoma	116.64	33	P		PKPdf	23 24 23.5	-0.6		
	baz=116									
SDCO	Great Sand Dun	116.69	42	P		PKPdf	23 24 25.0	+0.3		
	baz=116									
SDCO	Great Sand Dun	116.69	42	*e*PKPdf		PKPdf	23 24 25.2	+0.5		
SDCO				*e*PKKPbc		PKKPab	23 34 59.8	-1.3		
PVAQ	Vaqueiros	116.70	318	*e*PKPdf		PKPdf	23 24 25.1	+0.8		
PCVE	Castro Verde	116.79	318	*e*PKPdf		PKPdf	23 24 25.1	+0.6		
MESJ	Messejana	116.79	318	*e*PKPdf		PKPdf	23 24 24.6	+0.1		
N27A	Anderson Farm,	116.81	38	P		PKPdf	23 24 24.2	-0.4		
	baz=117									
MDT	Midelt	116.84	312	PKP		PKPdf	23 24 25.0	+0.1		
	comp=N,4.0nm,0.5s,baz=169,slow=1.1,SNR=11									
PNCL	Nicolau / Gran	116.84	319	*e*PKPdf		PKPdf	23 24 24.6	0.0		
PBDV	Barranco-do-Ve	116.93	318	*e*PKPdf		PKPdf	23 24 25.4	+0.6		
P26A	Davis Ranch, A	117.05	39	P		PKPdf	23 24 25.1	-0.1		
	baz=117									
PTEO	Sao Teotonio	117.29	318	*e*PKPdf		PKPdf	23 24 26.7	+1.2		
MORF	Marmelete	117.37	318	*e*PKPdf		PKPdf	23 24 25.2	-0.5		
ANMO	Albuquerque	117.53	45	PKP		PKPdf	23 24 27.0	+0.7		
	comp=N,6.3nm,0.8s,baz=205,slow=3.2,SNR=18									
ANMO				SKP			23 27 02.4			
	comp=N,1.5nm,0.7s,baz=201,slow=2.3,SNR=4.6									
ANMO	Albuquerque	117.53	45	PKiKP		PKPdf	23 24 27.0	+0.7		
ANMO				pmax		pmax				
	comp=Z,6.0nm,0.8s									
ANMO				pmax		pmax				
	comp=N,2.0nm,0.7s									
ANMO	Albuquerque	117.53	45	*e*PKPdf		PKPdf	23 24 27.3	+1.0		
ANMO				*e*SKPdf		SKPdf	23 27 02.3	-0.7		
EYMN	Ely	117.63	26	P		PKPdf	23 24 25.2	-0.6		
	baz=117									
EYMN	Ely	117.63	26	*e*PKPdf		PKPdf	23 24 25.4	-0.4		
R26A	Arlington	117.72	40	P		PKPdf	23 24 26.5	+0.1		
	baz=118									
LPM	Los Pinos Moun	117.73	46	*e*PKKPbc		PKKPbc	23 34 54.2	+3.0		
T25A	Trinidad	117.74	42	P		PKPdf	23 24 27.0	+0.3		
	baz=118									
T25A	Trinidad	117.74	42	*e*PKPdf		PKPdf	23 24 27.6	+0.9		
121A	Cookes Peak, D	117.78	48	P		PKPdf	23 24 27.7	+0.9		
	baz=118									
BNM	Barren Site	117.81	46	*e*PKPdf		PKPdf	23 24 27.8	+0.9		
BNM				*e*PKKPbc		PKKPab	23 34 55.0	-1.1		
R27A	Eads	118.14	40	P		PKPdf	23 24 27.4	+0.1		
	baz=118									
SCHQ	Schefferville	118.17	7	PKP		PKPdf	23 24 26.6	-0.1		
	comp=N,10nm,0.5s,baz=325,slow=1.7,SNR=22									
ECSD	EROS Data Cent	118.26	32	P		PKPdf	23 24 26.7	-0.4		
	baz=118									
ECSD	EROS Data Cent	118.26	32	*e*PKPdf		PKPdf	23 24 26.8	-0.4		
ECSD				*e*PKKPbc		PKKPbc	23 34 51.4	+1.9		
T26A	Comanche Natio	118.26	41	P		PKPdf	23 24 27.9	+0.3		
	baz=118									
M31A	Lambtecht Ranc	118.57	35	P		PKPdf	23 24 27.3	-0.6		
	baz=118									
TOA0	Torodi Ar. Sit	118.72	289	*e*P		PKPdf	23 24 27.0	-1.8		
TOA0	Torodi Ar. Sit	118.72	289	*e*PKP1		PKKPbc	23 34 47.0	+0.1		
TOA0	Torodi Ar. Sit	118.72	289	*e*PKPdf		PKPdf	23 24 28.1	-0.7		
TOA0				*e*SKPdf		SKPdf	23 27 04.2	-1.4		
TOA0				*e*PKKPbc		PKKPbc	23 34 47.8	+0.9		
TORD	Torodi Ar. Bea	118.72	289	PKP		PKPdf	23 24 28.1	-0.7		
	comp=N,8.6nm,0.7s,baz=50,slow=1.9,SNR=52									
TORD				SKP			23 27 04.2			
	comp=N,9.7nm,0.8s,baz=60,slow=1.5,SNR=15									
TORD				PKKPbc		PKKPbc	23 34 47.8	+0.9		
	comp=N,7.4nm,0.7s,baz=278,slow=3.3,SNR=30									
R28A	Tribune	118.73	39	P		PKPdf	23 24 28.6	+0.2		
	baz=119									
T27A	Campo	118.90	41	P		PKPdf	23 24 29.9	+1.1		
	baz=119									
Q29A	Oakley	118.92	38	P		PKPdf	23 24 29.0	+0.3		
	baz=119									
SPMN	St. Paul	119.09	28	P		PKPdf	23 24 28.8	0.0		
	baz=119									
SPMN	St. Paul	119.09	28	*e*PKPdf		PKPdf	23 24 28.6	-0.2		
R29A	Marienthal	119.11	39	P		PKPdf	23 24 29.0	-0.1		
	baz=119									
S28A	Manter	119.12	40	P		PKPdf	23 24 29.1	0.0		
	baz=119									
O31A	Wooden Ranch,	119.13	36	P		PKPdf	23 24 28.1	-0.9		
	baz=119									
U27A	Thompson Grove	119.20	42	P		PKPdf	23 24 29.3	-0.1		
	baz=119									
T28A	Walsh	119.26	41	P		PKPdf	23 24 29.1	-0.3		
	baz=119									
Q30A	Quinter	119.33	38	P		PKPdf	23 24 29.3	-0.1		
	baz=119									
P31A	Stockton	119.50	37	P		PKPdf	23 24 29.4	-0.4		
	baz=119									
V27A	Dan Oppiter Fa	119.57	42	P		PKPdf	23 24 30.2	+0.1		
	baz=119									
S29A	Ulysses	119.60	40	P		PKPdf	23 24 30.3	+0.3		
	baz=119									
L34A	Svendsen Farm,	119.61	33	P		PKPdf	23 24 29.0	-0.9		
	baz=119									
O32A	Brockman Farm,	119.68	36	P		PKPdf	23 24 29.7	-0.4		
	baz=120									
R30A	Dighton	119.73	39	P		PKPdf	23 24 30.2	-0.1		
	baz=120									
CBKS	Cedar Bluff	119.73	38	P		PKPdf	23 24 29.8	-0.5		
	baz=120									
T29A	Hugoton	119.77	40	P		PKPdf	23 24 30.5	+0.1		
	baz=120									
M34A	Aspy Farms, Fr	119.81	34	P		PKPdf	23 24 29.4	-0.9		
	baz=120									
N33A	J Bar K, Exete	119.84	35	P		PKPdf	23 24 29.2	-1.1		
	baz=120									
P32A	Huiting Farm,	119.90	36	P		PKPdf	23 24 30.2	-0.3		
	baz=120									
L35A	Bielow Farm, R	119.95	33	P		PKPdf	23 24 29.9	-0.6		
	baz=120									
V28A	Channing	119.98	42	P		PKPdf	23 24 31.2	+0.3		
	baz=120									
COWI	Conover	120.08	26	*e*PKPdf		PKPdf	23 24 30.6	0.0		
R31A	Burdett	120.19	38	P		PKPdf	23 24 31.0	-0.1		
	baz=120									
O33A	Hebron	120.20	35	P		PKPdf	23 24 30.2	-0.8		
	baz=120									
U29A	Oasis Ranch, S	120.20	41	P		PKPdf	23 24 31.1	-0.2		
	baz=120									
W28A	Vega	120.28	42	P		PKPdf	23 24 31.7	+0.2		
	baz=120									
M35A	Neola	120.32	33	P		PKPdf	23 24 30.6	-0.6		
	baz=120									
T30A	Plains	120.32	40	P		PKPdf	23 24 31.6	+0.2		
	baz=120									
Q32A	Meitler Ranch,	120.33	37	P		PKPdf	23 24 30.9	-0.4		
	baz=120									
V29A	Stinnett	120.38	42	P		PKPdf	23 24 31.8	+0.2		
	baz=120									
P33A	Williams Farm,	120.55	36	P		PKPdf	23 24 31.3	-0.5		
	baz=120									
U30A	WK&E Inc. Balk	120.56	40	P		PKPdf	23 24 32.0	+0.1		
	baz=120									
R32A	Long Quarter,	120.60	38	P		PKPdf	23 24 31.9	0.0		
	baz=120									
S32A	Newby Ranch, P	120.92	38	P		PKPdf	23 24 32.2	-0.3		
	baz=121									
P34A	Walnut Farm, R	120.98	36	P		PKPdf	23 24 31.8	-0.8		
	baz=121									
Y28A	McKinney Farm,	121.01	44	P		PKPdf	23 24 32.9	0.0		
	baz=121									
X29A	Tulia	121.08	43	P		PKPdf	23 24 32.9	-0.2		
	baz=121									
R33A	Olander Ranch,	121.11	37	P		PKPdf	23 24 32.8	-0.1		
	baz=121									
U31A	Nine Bar Ranch	121.17	40	P		PKPdf	23 24 33.2	+0.1		
	baz=121									
Q34A	Chapman	121.33	36	P		PKPdf	23 24 33.0	-0.2		
	baz=121									
Y29A	Porterfield Fa	121.44	44	P		PKPdf	23 24 34.0	+0.3		
	baz=121									
P35A	Duane Minner,	121.46	35	P		PKPdf	23 24 32.8	-0.7		
	baz=121									
R34A	Isabella, Hill	121.56	37	P		PKPdf	23 24 33.3	-0.4		
	baz=121									
128A	Castleberry Fa	121.56	45	P		PKPdf	23 24 33.7	-0.2		
	baz=121									
X30A	Coker Ranch, T	121.64	43	P		PKPdf	23 24 33.9	-0.1		
	baz=122									
U32A	Winter Ranch,	121.70	40	P		PKPdf	23 24 34.2	+0.1		
	baz=122									
T33A	Patterson Ranc	121.73	39	P		PKPdf	23 24 34.0	-0.1		
	baz=122									
Z29A	Hungry Hill Ra	121.75	44	P		PKPdf	23 24 34.2	-0.1		
	baz=122									
228A	UT Block 9, Go	121.76	46	P		PKPdf	23 24 34.0	-0.4		
	baz=122									
W31A	Holland Ranch,	121.82	41	P		PKPdf	23 24 34.7	+0.3		
	baz=122									
P36A	Good Intent, A	121.86	34	P		PKPdf	23 24 33.0	-1.2		
	baz=122									
Q35A	Mercer Eighty,	121.90	36	P		PKPdf	23 24 33.9	-0.5		
	baz=122									
Y30A	Stafford Cattl	121.95	43	P		PKPdf	23 24 34.8	+0.2		
	baz=122									
129A	Stewart Farms,	121.99	45	P		PKPdf	23 24 34.6	-0.1		
	baz=122									
S34A	Willow Spring	122.03	37	P		PKPdf	23 24 34.4	-0.2		
	baz=122									
JFWS	Jewell Farm	122.05	29	*e*PKiKP		PKPdf	23 24 33.8	-0.7		
JFWS	Jewell Farm	122.05	29	*e*PKPdf		PKPdf	23 24 33.8	-0.7		
V32A	Arapaho	122.08	40	P		PKPdf	23 24 35.4	+0.6		
	baz=122									
X31A	McDonald Ranch	122.13	42	P		PKPdf	23 24 35.1	+0.2		
	baz=122									
Z30A	Sanderson Ranc	122.13	44	P		PKPdf	23 24 34.7	-0.3		
	baz=122									
Q36A	Arnold C. Orve	122.16	35	P		PKPdf	23 24 33.9	-1.0		
	baz=122									
U33A	Lingo Farm, Me	122.23	39	P		PKPdf	23 24 34.7	-0.4		
	baz=122									
W32A	Sentinel	122.31	41	P		PKPdf	23 24 35.1	-0.2		
	baz=122									
Y31A	Rekieta Farm,	122.33	43	P		PKPdf	23 24 35.2	-0.2		
	baz=122									
229A	Bryant Ranch,	122.40	45	P		PKPdf	23 24 35.7	+0.1		
	baz=122									
T34A	McClaskey Farm	122.42	38	P		PKPdf	23 24 35.3	-0.1		
	baz=122									
TXAR	Lajitas Array	122.44	49	PKP		PKPdf	23 24 35.9	+0.1		
	comp=N,5.5nm,0.7s,baz=242,slow=1.1,SNR=66									
TXAR				SKP			23 27 11.8			
	comp=N,1.3nm,0.7s,baz=332,slow=1.7,SNR=5.2									
TXAR				PKKPbc		PKKPbc	23 34 33.5	-0.5		
	comp=N,0.9nm,0.7s,baz=111,slow=6.9,SNR=8.3									
V33A	Lossen Ranch,	122.50	40	P		PKPdf	23 24 35.4	-0.1		
	baz=122									
S35A	Otter Creek Ra	122.52	37	P		PKPdf	23 24 35.3	-0.3		
	baz=122									
329A	Wagon Wheel Ra	122.54	46	P		PKPdf	23 24 35.7	-0.2		
	baz=122									
R36A	Gordon, Harris	122.57	36	P		PKPdf	23 24 35.0	-0.6		
	baz=122									
U34A	Anderson Ranch	122.58	39	P		PKPdf	23 24 35.7	0.0		
	baz=122									
U34A	Anderson Ranch	122.58	39	*e*PKPdf		PKPdf	23 24 36.2	+0.4		
130A	Snyder	122.64	44	P		PKPdf	23 24 35.9	-0.1		
	baz=122									
Z31A	Sharp Cattle R	122.79	43	P		PKPdf	23 24 36.2	0.0		
	baz=123									
W33A	Caddo, Fort Co	122.80	40	P		PKPdf	23 24 36.5	+0.3		
	baz=123									
WMOK	Wichita Mounta	122.85	41	*e*PKiKP		PKPdf	23 24 36.4	+0.1		
WMOK	Wichita Mounta	122.85	41	*e*PKPdf		PKPdf	23 24 36.4	+0.1		
T35A	Sooner Cattle	122.90	38	P		PKPdf	23 24 36.0	-0.3		
	baz=123									
S36A	Lake Cedric, C	122.92	36	P		PKPdf	23 24 35.9	-0.4		
	baz=123									
230A	Sterling City	122.93	45	P		PKPdf	23 24 36.5	-0.1		
	baz=123									
R37A	Teagarden Farm	122.97	35	P		PKPdf	23 24 35.5	-0.9		
	baz=123									
V34A	Guthrie	122.98	39	P		PKPdf	23 24 36.6	+0.1		
	baz=123									
V34A	Guthrie	122.98	39	*e*PKPdf		PKPdf	23 24 37.1	+0.6		
131A	Roby	122.99	44	P		PKPdf	23 24 36.2	-0.5		
	baz=123									
429A	Davenport Ranc	123.07	47	P		PKPdf	23 24 36.6	-0.3		
	baz=123									
529A	Stev Forest Ra	123.10	48	P		PKPdf	23 24 37.0	0.0		
	baz=123									
U35A	Pawnee	123.12	38	P		PKPdf	23 24 36.7	0.0		
	baz=123									
330A	Mertzon	123.16	46	P		PKPdf	23 24 36.4	-0.7		
	baz=123									
T36A	Boggs Farm, Ca	123.19	37	P		PKPdf	23 24 36.7	-0.1		
	baz=123									
W34A	Bridge Creek,	123.19	40	*e*PKPdf		PKPdf	23 24 37.5	+0.6		
Z32A	Haskell	123.25	43	P		PKPdf	23 24 37.4	+0.3		
	baz=123									
S37A	Fort Scott	123.34	36	P		PKPdf	23 24 36.5	-0.7		
	baz=123									
V35A	Meyer Ranch, C	123.45	39	P		PKPdf	23 24 37.2	-0.2		
	baz=123									
430A	Baggett Ranch,	123.46	46	P		PKPdf	23 24 37.4	-0.2		
	baz=123									
231A	Bronte	123.47	45	P		PKPdf	23 24 37.1	-0.5		
	baz=123									
ABTX	Abilene, Hawle	123.53	44	P		PKPdf	23 24 37.5	-0.1		
	baz=123									
ABTX	Abilene, Hawle	123.53	44	*e*PKPdf		PKPdf	23 24 38.1	+0.5

732A	**Laxson Ranch,** baz=125	**125.50**	**48**	P		**PKPdf**	**23 24 41.5**	**0.0**
434A	**Burnet** baz=125	**125.54**	**45**	P		**PKPdf**	**23 24 41.1**	**-0.4**
633A	**Saathoff Ranch** baz=126	**125.68**	**46**	P		**PKPdf**	**23 24 42.1**	**+0.3**
136A	**Ennis** baz=126	**125.72**	**42**	P		**PKPdf**	**23 24 42.2**	**+0.4**
832A	**Faith Ranch, C** baz=126	**125.74**	**48**	P		**PKPdf**	**23 24 42.4**	**+0.4**
335A	**Moody** baz=126	**125.84**	**44**	P		**PKPdf**	**23 24 42.1**	**0.0**
534A	**Blanco** baz=126	**125.85**	**45**	P		**PKPdf**	**23 24 42.0**	**-0.1**
PQI	**Presque Isle**	**125.98**	**10**	*e*PKPdf		**PKPdf**	**23 24 41.8**	**-0.1**
236A	**Katherine and** baz=126	**126.01**	**42**	P		**PKPdf**	**23 24 43.1**	**+0.7**
833A	**Chaparral WMA,** baz=126	**126.15**	**48**	P		**PKPdf**	**23 24 43.5**	**+0.7**
137A	**Heron Place, G** baz=126	**126.15**	**41**	P		**PKPdf**	**23 24 43.9**	**+1.3**
336A	**Riesel** baz=126	**126.18**	**43**	P		**PKPdf**	**23 24 43.5**	**+0.8**
MIAR	**Mount Ida**	**126.26**	**38**	*e*PKIKP		**PKPdf**	**23 24 43.2**	**+0.4**
MIAR	**Mount Ida** baz=126	**126.26**	**38**	P		**PKPdf**	**23 24 42.8**	**0.0**
MIAR	**Mount Ida**	**126.26**	**38**	*e*PKPdf		**PKPdf**	**23 24 43.2**	**+0.4**
OLIL	**Olney**	**126.29**	**30**	*e*PKPdf		**PKPdf**	**23 24 43.1**	**+0.3**
Y39A	**Lockesburg** baz=126	**126.35**	**39**	P		**PKPdf**	**23 24 43.4**	**+0.4**
SIUC	**Southern Illin**	**126.49**	**32**	*e*PKPdf		**PKPdf**	**23 24 43.7**	**+0.6**
535A	**Dale** baz=126	**126.49**	**45**	P		**PKPdf**	**23 24 44.2**	**+0.9**
LONY	**Lake Ozonia**	**126.50**	**16**	*e*PKPdf		**PKPdf**	**23 24 43.5**	**+0.5**
PBMO	**Poplar Bluff**	**126.52**	**34**	*e*PKPdf		**PKPdf**	**23 24 41.7**	**-1.5**
DBIC	**Dimbokro** comp=N,11nm,0.8s,baz=88,slow=1.2,SNR=10	**126.57**	**283**	PKP		**PKPdf**	**23 24 44.1**	**+0.2**
DBIC				SKPbc		SKiKP	23 27 01.5	-20
635A	comp=N,15nm,0.7s,baz=70,slow=4.3,SNR=11 **Leesville** baz=127	**126.72**	**46**	P		**PKPdf**	**23 24 44.8**	**+1.0**
BLO	**Bloomington**	**126.72**	**29**	*e*PKIKP		**PKPdf**	**23 24 44.3**	**+0.7**
BLO	**Bloomington**	**126.72**	**29**	*e*PKPdf		**PKPdf**	**23 24 44.3**	**+0.7**
Z39A	**Irene McRaven,** baz=127	**126.75**	**39**	P		**PKPdf**	**23 24 44.8**	**+1.0**
536A	**Bastrop** baz=127	**126.81**	**44**	P		**PKPdf**	**23 24 45.3**	**+1.3**
337A	**Centerville** baz=127	**126.87**	**42**	P		**PKPdf**	**23 24 45.3**	**+1.3**
735A	**Kenedy** baz=127	**127.00**	**46**	P		**PKPdf**	**23 24 45.8**	**+1.5**
USIN	**University of**	**127.10**	**31**	*e*PKPdf		**PKPdf**	**23 24 45.0**	**+0.7**
636A	**Smothers Creek** baz=127	**127.17**	**45**	P		**PKPdf**	**23 24 46.3**	**+1.7**
MMNY	**Mt. Morris Dam**	**127.22**	**20**	*e*PKPdf		**PKPdf**	**23 24 44.8**	**+0.4**
338A	**Crockett** baz=127	**127.23**	**42**	P		**PKPdf**	**23 24 45.8**	**+1.0**
239A	**Gary** baz=127	**127.36**	**41**	P		**PKPdf**	**23 24 45.6**	**+0.7**
034A	**Hebbronville** baz=127	**127.37**	**49**	P		**PKPdf**	**23 24 46.4**	**+1.3**
MDV	**Middlebury**	**127.45**	**15**	*e*PKPdf		**PKPdf**	**23 24 45.2**	**+0.5**
ACSO	**Alum Creek Sta**	**127.46**	**25**	*e*PKPdf		**PKPdf**	**23 24 45.4**	**+0.5**
637A	**Eagle Lake** baz=128	**127.70**	**45**	P		**PKPdf**	**23 24 47.2**	**+1.6**
HKT	**Hockley**	**127.74**	**44**	*e*PKIKP		**PKPdf**	**23 24 44.2**	**-1.5**
HKT	**Hockley**	**127.74**	**44**	*e*PKPdf		**PKPdf**	**23 24 44.2**	**-1.5**
340A	**Bronson** baz=128	**128.12**	**41**	P		**PKPdf**	**23 24 47.5**	**+1.1**
SSPA	**Standing Stone**	**129.09**	**21**	*e*PKPdf		**PKPdf**	**23 24 47.6**	**-0.3**
HOPE	**Hope Point**	**129.75**	**195**	*e*PP		PP	23 27 12.2	+3.0
ODNJ	**Ogdensburg**	**129.76**	**18**	*e*PKPdf		**PKPdf**	**23 24 50.1**	**+0.8**
ODNJ				*e*PP		**PP**	**23 27 14.1**	**+4.9**
SWET	**Sewanee**	**130.10**	**31**	*e*PKPdf		**PKPdf**	**23 24 49.6**	**-0.6**
MVL	**Millersville**	**130.19**	**20**	*e*PKPdf		**PKPdf**	**23 24 50.5**	**+0.4**
MVL				*e*PP		**PP**	**23 27 15.3**	**+3.3**
TZTN	**Tazewell**	**130.23**	**28**	*e*PKPdf		**PKPdf**	**23 24 50.5**	**+0.1**
CPCT	**Cooper Cave**	**130.64**	**30**	*e*PKPdf		**PKPdf**	**23 24 52.0**	**+0.9**
CPCT				*e*PP		**PP**	**23 27 15.8**	**+0.7**
TKL	**Tuckaleechee C** comp=N,28nm,0.6s,baz=145,slow=5.0,SNR=28	**130.84**	**29**	PKP		**PKPdf**	**23 24 51.1**	**-0.4**
TKL				SKPbc		**SKPbc**	**23 27 16.9**	**-1.3**
	comp=N,35nm,0.7s,baz=141,slow=2.3,SNR=20							
TKL	**Tuckaleechee C**	**130.84**	**29**	PKIKP		**PKPdf**	**23 24 51.1**	**-0.4**
TKL							23 27 16.9	
TKL	comp=Z,29nm,0.6s			pmax	pmax			
TKL				pmax	pmax			
	comp=N,35nm,0.7s							
TKL	**Tuckaleechee C**	**130.84**	**29**	*e*PKPpre		PKPpre	23 24 37.6	
TKL				*e*PKPdf		**PKPdf**	**23 24 51.1**	**-0.4**
TKL				*e*SKPbc		**SKPbc**	**23 27 17.7**	**-0.4**
USHA	**Ushuaia** comp=N,9.5nm,0.7s,baz=172,slow=5.6,SNR=3.6	**131.03**	**171**	PKP		**PKPdf**	**23 24 51.1**	**-0.1**
USHA				SKPbc		**SKPbc**	**23 27 16.9**	**-1.2**
	comp=N,17nm,0.8s,baz=185,slow=6.5,SNR=8.2							
BLA	**Blacksburg**	**131.08**	**25**	*e*PKIKP		**PKPdf**	**23 24 53.0**	**+1.0**
BLA	**Blacksburg**	**131.08**	**25**	*e*PKPdf		**PKPdf**	**23 24 53.0**	**+1.0**
LRAL	**Lakeview Retre**	**131.18**	**34**	*e*PKPpre		PKPpre	23 24 37.5	
LRAL				*ep*PKPdf		**PP**	**23 27 18.8**	**0.0**
JSRW	**J. Sargeant Re**	**131.69**	**23**	*e*PKPdf		**PKPdf**	**23 24 53.2**	**+0.3**
JSRW				*ep*PKPdf		**PP**	**23 27 20.1**	**-1.4**
URVA	**University of**	**131.93**	**22**	*e*PKPdf		**PKPdf**	**23 24 54.6**	**+1.2**
BRAL	**Brewton**	**132.64**	**36**	*e*PKPdf		**PKPdf**	**23 24 56.2**	**+1.3**
GOGA	**Godfrey**	**132.78**	**31**	*e*PKHKP		PKPpre	23 24 44.3	
GOGA				*e*			23 24 55.5	
GOGA	**Godfrey**	**132.78**	**31**	*e*PKPpre		PKPpre	23 24 44.3	
GOGA				*e*PKPdf		**PKPdf**	**23 24 55.5**	**+0.3**
JSC	**Jenkinsville**	**133.16**	**28**	*e*PKIKP		**PKPdf**	**23 24 56.2**	**+0.4**
JSC	**Jenkinsville**	**133.16**	**28**	*e*PKPdf		**PKPdf**	**23 24 56.2**	**+0.4**
TIGA	**Tifton** baz=134	**134.26**	**33**	P		**PKPdf**	**23 24 59.8**	**+1.8**
TIGA	**Tifton**	**134.26**	**33**	*e*PKPdf		**PKPdf**	**23 25 00.2**	**+2.2**
CMIG	**Matias Romero** comp=N,6.8nm,0.7s,baz=9.8,slow=3.0,SNR=9.5	**135.53**	**57**	PKP		**PKPdf**	**23 25 00.4**	**-0.4**
CMIG				SKPbc		**SKPbc**	**23 27 32.4**	**-1.6**
	comp=N,6.4nm,0.7s,baz=294,slow=5.1,SNR=8.4							
JTS	**JuntasAbangare**	**147.26**	**59**	*e*PKP2		**PKPbc**	**23 25 25.2**	**+0.2**
JTS	**JuntasAbangare**	**147.26**	**59**	*e*PKPbc		**PKPbc**	**23 25 25.2**	**+0.2**
CVJ	**Coleyville**	**147.88**	**39**	*i* P		**PKPbc**	**23 25 26.9**	**+0.3**
BBJ	**Bamboo Saint A**	**147.93**	**39**	⇓ *i* P		**PKPbc**	**23 25 27.0**	**+0.3**
GTBY	**Guantanamo Bay**	**148.00**	**34**	*e*PKPbc		**PKPbc**	**23 25 27.3**	**+0.6**
TRQA	**Tornquist**	**148.37**	**172**	*e*PKPbc		**PKPbc**	**23 25 26.7**	**-0.4**
TRQA				*ep*PKPdf		**pPKPdf**	**23 27 5.1**	**+6.9**
STH	**Stony Hill**	**148.45**	**39**	*i* P		**PKPbc**	**23 25 28.5**	**+0.6**
GWJ	**Greenwich**	**148.50**	**38**	*i* P		**PKPbc**	**23 25 28.7**	**+0.6**
HOJ	**Hope**	**148.54**	**39**	*i* P		**PKPbc**	**23 25 28.3**	**+0.3**
GRTK	**Grand Turk**	**148.66**	**26**	*e*PKPbc		**PKPbc**	**23 25 28.7**	**+0.4**
LGNH	**LØogne**	**150.51**	**32**	*e*PKPbc		**PKPbc**	**23 25 34.2**	**+1.4**
SDDR	**Presa de Saban**	**150.78**	**29**	*e*PKPbc		**PKPbc**	**23 25 33.6**	**+0.2**
CFAA	**Coronel Fontan** comp=N,1.2nm,0.8s,baz=250,slow=3.4,SNR=16	**152.94**	**158**	PKP		**PKPdf**	**23 25 30.1**	**+0.1**
CFAA				PKPbc		**PKPbc**	**23 25 37.6**	**-0.2**
	comp=N,2.9nm,0.7s,baz=236,slow=3.5,SNR=23							
CPD	**Cerro la Pandu**	**153.86**	**20**	*e*PKP2		**PKPab**	**23 25 56.7**	**+0.2**
CPD	**Cerro la Pandu**	**153.86**	**20**	*e*PKPab		**PKPab**	**23 25 56.7**	**+0.2**
SMRT	**St. Maarten**	**154.68**	**14**	*e*PKPab		**PKPab**	**23 25 59.7**	**-0.2**
OTAV	**Otavalo**	**157.29**	**73**	*e*PKPdf		**PKPdf**	**23 25 37.6**	**+0.8**
OTAV				*e*PKPab		**PKPab**	**23 26 14.5**	**+2.3**
ATAH	**Atahualpa** comp=N,22nm,0.9s,baz=171,slow=2.0,SNR=9.5	**158.50**	**93**	PKP		**PKPdf**	**23 25 38.2**	**+0.1**
ATAH				PKPab		**PKPab**	**23 26 18.0**	**+0.6**
	comp=N,16nm,0.7s,baz=262,slow=2.0,SNR=7.1							
ROSC	**El Rosal** comp=N,9.3nm,0.6s,baz=253,slow=21,SNR=7.0	**159.06**	**57**	PKP		**PKPdf**	**23 25 38.4**	**-0.4**
ROSC	**El Rosal**	**159.06**	**57**	*e*PKPdf		**PKPdf**	**23 25 39.7**	**+0.9**
SDV	**Santo Domingo**	**159.27**	**42**	*e*PKPdf		**PKPdf**	**23 25 37.9**	**-0.8**
SDV				*e*PKPab		**PKPab**	**23 26 20.1**	**-0.2**
LVC	**Limon Verde** comp=N,16nm,0.9s,baz=278,slow=5.2,SNR=4.5	**160.25**	**145**	PKP		**PKPdf**	**23 25 39.4**	**-0.3**
LVC				PKPab		**PKPab**	**23 26 26.0**	**+1.5**
	comp=N,34nm,0.7s,baz=241,slow=7.4,SNR=8.3							
CPUP	**Villa Florida** comp=N,4.0nm,0.8s,baz=49,slow=0.4,SNR=9.0	**160.41**	**178**	PKP		**PKPdf**	**23 25 39.7**	**+0.3**
CPUP				PKPab		**PKPab**	**23 26 24.4**	**-0.2**
	comp=N,4.1nm,0.8s,baz=150,slow=3.8,SNR=5.2							
GRGR	**Grenville**	**160.72**	**15**	*e*PKPab		**PKPab**	**23 26 25.6**	**-0.6**
LPAZ	**La Paz** comp=N,14nm,0.8s,baz=352,slow=1.1,SNR=53	**165.29**	**132**	PKP		**PKPdf**	**23 25 45.6**	**+0.5**
LPAZ				PKPab		**PKPab**	**23 26 49.5**	**+2.2**
	comp=N,16nm,0.7s,baz=203,slow=4.0,SNR=20							
LPAZ	**La Paz**	**165.29**	**132**	PKIKP		**PKPdf**	**23 25 45.6**	**+0.5**
LPAZ	comp=Z,14nm,0.8s			pmax	pmax			
LPAZ	comp=Z,16nm,0.7s			pmax	pmax			
LPAZ	**La Paz**	**165.29**	**132**	*e*PKPdf		**PKPdf**	**23 25 46.0**	**+0.9**
LPAZ				*e*PKPab		**PKPab**	**23 26 46.5**	**-0.8**
BDFB	**Brasilia** comp=Z,5.2nm,0.9s,baz=65,slow=1.5,SNR=4.9	**167.62**	**223**	PKP		**PKPdf**	**23 25 44.8**	**-1.4**
BDFB				PKPab		**PKPab**	**23 26 56.2**	**-0.8**
	comp=Z,5.4nm,0.8s,baz=142,slow=2.6,SNR=7.4							
SIV	**San Ignacio** comp=Z,5.5nm,0.9s,baz=182,slow=1.3,SNR=13	**169.78**	**156**	PKP		**PKPdf**	**23 25 46.2**	**-1.3**
SIV				PKPab		**PKPab**	**23 27 05.5**	**-0.8**
	comp=Z,3.7nm,0.7s,baz=215,slow=3.9,SNR=9.0							
SAML	**Samuel**	**173.22**	**110**	*e*PKPdf		**PKPdf**	**23 25 49.2**	**0.0**
SAML				*e*PKPab		**PKPab**	**23 27 23.0**	**+1.0**
PTGA	**Pitinga** comp=Z,5.6nm,0.8s,baz=0.7,slow=1.1,SNR=12	**173.31**	**29**	PKP		**PKPdf**	**23 25 47.8**	**-1.4**
PTGA				PKPab		**PKPab**	**23 27 21.1**	**-0.9**
	comp=Z,18nm,0.7s,baz=334,slow=6.0,SNR=31							
PTGA	**Pitinga**	**173.31**	**29**	*e*PKPdf		**PKPdf**	**23 25 48.5**	**-0.7**
PTGA				*e*PKPab		**PKPab**	**23 27 21.7**	**-0.3**

*CSEM **26** 23:17:21.8, 43˚.45N×12˚.38E, h8km, MD1.7/11*
ROM 26 23:17:21.8±0.1, 43˚.45N×12˚.38E, h8km, Md1.7/11, MI1.2/6, Error ellipse: s-maj=0.6km s-min=0.4km az=48.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPI	**Pietralunga -**	**0.01**	**99**	Pg	Pg	23 17 23.4	0.0
ATPI				Sg	Sg	23 17 24.4	-0.1
	269nm,0.1s						
ATPI	**Pietralunga -**	**0.01**	**99**	Pg	Pg	23 17 23.4	0.0
ATPI				Sg	Sg	23 17 24.4	-0.1
	269nm,0.1s						
ATPC	**Poggio Castell**	**0.06**	**63**	Pg	Pg	23 17 24.1	+0.3
ATPC				Sg	Sg	23 17 25.6	+0.4
	358nm,0.1s						
ATPC	**Poggio Castell**	**0.06**	**63**	Pg	Pg	23 17 24.1	+0.3
ATPC				Sg	Sg	23 17 25.6	+0.4
	358nm,0.1s						
ATVO	**AVT- Monte Val**	**0.07**	**166**	Pg	Pg	23 17 24.4	+0.5
ATVO				Sg	Sg	23 17 25.9	+0.5
	292nm,0.2s						
ATVO	**AVT- Monte Val**	**0.07**	**166**	Pg	Pg	23 17 24.4	+0.5
ATVO				Sg	Sg	23 17 25.9	+0.5
	292nm,0.2s						
CDCA	**Citt' di Caste**	**0.11**	**273**	Pg	Pg	23 17 24.8	+0.5
CDCA				Sg	Sg	23 17 26.9	+0.8
	54nm,0.6s						
CDCA	**Citt' di Caste**	**0.11**	**273**	Pg	Pg	23 17 24.8	+0.5
CDCA				Sg	Sg	23 17 26.9	+0.8
	54nm,0.6s						
BADI	**Badiali**	**0.12**	**299**	Pg	Pg	23 17 24.9	+0.4
BADI				Sg	Sg	23 17 27.2	+0.8
	125nm,0.1s						
BADI	**Badiali**	**0.12**	**299**	Pg	Pg	23 17 24.9	+0.4
BADI				Sg	Sg	23 17 27.2	+0.8
	125nm,0.1s						
PIEI	**Pieia**	**0.14**	**53**	Pg	Pg	23 17 25.3	+0.4
PIEI				Sg	Sg	23 17 28.1	+1.0
	49nm,0.2s						
PIEI	**Pieia**	**0.14**	**53**	Pg	Pg	23 17 25.3	+0.4
PIEI				Sg	Sg	23 17 28.1	+1.0
	49nm,0.2s						
ATFO	**Monte Foce - G**	**0.16**	**122**	Pg	Pg	23 17 25.7	+0.3
ATFO				Sg	Sg	23 17 28.6	+0.8
	37nm,0.4s						
ATFO	**Monte Foce - G**	**0.16**	**122**	Pg	Pg	23 17 25.7	+0.3
ATFO				Sg	Sg	23 17 28.6	+0.8
	37nm,0.4s						
MURB	**Monte Urbino**	**0.22**	**151**	Pg	Pg	23 17 26.9	+0.6
MURB				Sg	Sg	23 17 30.8	+1.5
	67nm,0.3s						
MURB	**Monte Urbino**	**0.22**	**151**	Pg	Pg	23 17 26.9	+0.6
MURB				Sg	Sg	23 17 30.8	+1.5
	67nm,0.3s						
PARC	**Parchiule**	**0.22**	**332**	Pg	Pg	23 17 26.9	+0.5
PARC				Sg	Sg	23 17 30.9	+1.4
	18nm,0.2s						
PARC	**Parchiule**	**0.22**	**332**	Pg	Pg	23 17 26.9	+0.5
PARC				Sg	Sg	23 17 30.9	+1.4
	18nm,0.2s						
ARVD	**Arcevia**	**0.41**	**83**	Pg	Pg	23 17 30.3	+0.4
ARVD				Sg	Sb	23 17 36.9	-0.8
ARVD	**Arcevia**	**0.41**	**83**	Pg	Pg	23 17 30.3	+0.4
ARVD				Sg	Sb	23 17 36.9	-0.8
SNTG	**Esanatoglia**	**0.45**	**116**	Pg	Pg	23 17 31.2	+0.5
SNTG				Sg	Sb	23 17 38.6	-0.4
SNTG	**Esanatoglia**	**0.45**	**116**	Pg	Pg	23 17 31.2	+0.5
SNTG				Sg	Sb	23 17 38.6	-0.4

*SZGRF **26** 23:19:03.7, 24˚.72S×176˚.73W, h12km, South of Fiji Islands*
*MOS **26** 23:19:13.1±0.9, 24˚.30S×177˚.11W, h73km, mb5.3/13, Error ellipse: s-maj=10.5km s-min=9.6km az=75.5*
*BJI **26** 23:19:14.6, 24˚.39S×176˚.51W, h106km, mb5.2/24, mB5.3/19*
*ISCJB **26** 23:19:15.0±1.5, 24˚.39S±0˚.06×177˚.07W±0˚.04, h95km±14km, mb4.9/65, Error ellipse: s-maj=10.0km s-min=5.8km az=167.0*
*IDC **26** 23:19:17.3±2.4, 24˚.38S×177˚.02W, h104km±21km, mb4.5/27, mb1 4.6/30, mb1mx4.5/44, mbtmp4.9/30, MS3.5/5, Ms1 3.5/5, ms1mx3.1/36, Error ellipse: s-maj=13.6km s-min=12.3km az=59.0*
*NEIC **26** 23:19:18.2±0.9, 24˚.55S×176˚.93W, h117km±8km, mb5.0/36, Error ellipse: s-maj=7.5km s-min=6.0km az=132.0*
ISC 26 23:19:16.5±0.5, 24˚.41S±0˚.05×176˚.93W±0˚.06, h98km±3km, h98km:pP-P, n448, σ0s99/479, mb5.0/65, 53C-40D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.91**	**190**	P	**Pn**	**23 20 29.7**	**+1.9**
	98nm,0.3s,baz=216,slow=22,SNR=5.6						
RAO				S	**Sn**	**23 21 25.1**	**+1.8**
	443nm,0.3s,baz=252,slow=23,SNR=13						
RAO	**Raoul Island**	**4.91**	**190**	*e*P	**Pn**	**23 20 27.4**	**-0.5**
RAO				*e*Sn	**Sn**	**23 21 24.5**	**+1.1**
RAO	**Raoul Island**	**4.91**	**190**	*e*Pn	**Pn**	**23 20 27.4**	**-0.5**
RAO				*e*Sn	**Sn**	**23 21 24.5**	**+1.1**
MSVF	**Nonsavu**	**8.13**	**324**	Pn	Pn	23 21 18.2	+6.4
	2um,0.8s,SNR=18						
MSVF	**Nonsavu**	**8.13**	**324**	*e*Pn	Pn	23 21 17.9	+6.1
AFI	**Afiamalu**	**11.52**	**26**	P	Pn	23 21 54.6	-3.4
	14nm,0.3s,baz=54,slow=22,SNR=11						
AFI				S	Sn	23 23 51.3	-13
	14nm,0.3s,baz=34,slow=21,SNR=7.0						
AFI	**Afiamalu**	**11.52**	**26**	*e*Pn	Pn	23 21 51.1	-6.8
AFI				*e*Sn	Sn	23 23 51.6	-13
URZ	**Urewera**	**14.71**	**199**	P	**Pn**	**23 22 38.5**	**-1.1**
	2.4nm,0.3s,baz=203,slow=5.4,SNR=10						
URZ				S	Sn	23 25 06.0	-16
	5.9nm,0.3s,baz=303,slow=19,SNR=12						
URZ	**Urewera**	**14.71**	**199**	*e*Pn	**Pn**	**23 22 38.5**	**-1.1**
URZ				*e*Sn	Sn	23 25 06.0	-16
URZ				*e*Sn	Sn	23 25 09.2	-13
DZM	**Mont Dzumac**	**15.46**	**275**	LR	LR	23 27 01.4	
	comp=Z,123nm,18.9s,baz=181,slow=30						
DZM	**Mont Dzumac**	**15.46**	**275**	*e*P	**P**	**23 22 54.5**	**+2.9**
DZM	**Mont Dzumac**	**15.46**	**275**	*e*Pn	**P**	**23 22 55.5**	**+3.9**
	100nm,0.9s						
NOUC	**Port Laguerre**	**15.58**	**275**	*e*P	**P**	**23 22 55.8**	**+2.9**
BKZ	**Black Stump Fm**	**15.73**	**199**	*e*Pn	**Pn**	**23 22 49.4**	**-3.1**
	211nm,2.7s						
BKZ				*e*Sn	Sn	23 25 35.5	-11
RAR	**Rarotonga**	**16.14**	**82**	P	**P**	**23 22 59.3**	**+0.3**
	2.1nm,0.3s,baz=259,slow=9.9,SNR=6.2						
RAR				LR	LR	23 28 04.8	
	comp=Z,249nm,19.7s,baz=268,slow=32						
RAR	**Rarotonga**	**16.14**	**82**	P	**P**	**23 22 59.3**	**+0.3**
RAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
RAR				MLR	MLR		
	comp=Z,249nm,19.7s						
RAR	**Rarotonga**	**16.14**	**82**	*e*Pn	**Pn**	**23 22 56.2**	**-1.4**
	comp=Z,131nm,1.1s						
BFZ	**Birch Farm**	**17.21**	**198**	*e*P	**Pn**	**23 23 09.0**	**-1.6**
	comp=Z,67nm,1.0s						
RPZ	**Rata Peaks**	**21.64**	**204**	P	**P**	**23 23 58.0**	**-0.7**
	comp=Z,25nm,1.1s,baz=0.0,slow=2.0,SNR=4.8						
LHI	**Lord Howe Isla**	**22.33**	**246**	⇓P	**P**	**23 24 08.5**	**+2.3**
	baz=23,SNR=7.8						
TBI	**Tubuai** comp=Z,174nm,42.8s	**25.13**	**93**	*e*LR	LR	23 30 31.2	
TBI	**Tubuai** comp=Z,27nm,0.3s	**25.13**	**93**	*e*T	T	23 50 13.5	
PAE	**Paea** comp=Z,13nm,0.3s	**26.37**	**81**	*e*T	T	23 51 40.2	
PPT2	**Papeete2** comp=Z,197nm,21.8s	**26.39**	**80**	*e*LR	LR	23 31 34.6	
PPT	**Papeete** comp=Z,160nm,19.4s,baz=292,slow=31	**26.40**	**80**	LR	LR	23 33 07.3	
MEH	**Mehetia** comp=Z,40nm,0.3s	**27.66**	**82**	*e*T	T	23 53 14.9	
ARMA	**Armidale** baz=29,SNR=12	**28.49**	**251**	⇓P	**P**	**23 25 04.8**	**+2.1**
ARMA	**Armidale** comp=Z,26nm,0.8s	**28.49**	**251**	*e*P	**P**	**23 25 04.9**	**+2.3**
VAH	**Vaihoa** comp=Z,7.9nm,0.2s	**28.99**	**77**	*e*T	T	23 54 55.8	
EIDS	**Eidsvold** baz=30,SNR=6.3	**29.00**	**261**	⇓P	**P**	**23 25 08.1**	**+1.0**
EIDS	**Eidsvold** comp=Z,45nm,1.0s	**29.00**	**261**	*e*P	**P**	**23 25 08.6**	**+1.5**
MGCD	**Mangrove Creek** baz=30,SNR=7.5	**29.25**	**245**	⇓P	**P**	**23 25 11.7**	**+2.3**
RMQ	**Roma** baz=32,SNR=16	**31.00**	**259**	P	**P**	**23 25 26.8**	**+2.0**
CNB	**Canberra Magne** baz=32,SNR=10	**31.05**	**242**	⇑P	**P**	**23 25 26.8**	**+1.6**
CAN	**Canberra** baz=32	**31.34**	**242**	⇓P	**P**	**23 25 29.3**	**+1.5**
MILA	**Mila** baz=32,SNR=7.5	**31.59**	**238**	⇓P	**P**	**23 25 31.7**	**+1.8**
YNG	**Young** baz=32,SNR=5.7	**31.66**	**244**	⇓P	**P**	**23 25 31.7**	**+1.1**
CMSA	**Cobar Meteorol** baz=34,SNR=29	**33.65**	**249**	⇑P	**P**	**23 25 48.0**	**+0.1**
CTA	**Charters Tower** comp=Z,69nm,0.5s,baz=96,slow=11,SNR=108	**34.28**	**270**	P	**P**	**23 25 54.5**	**+0.9**
CTA	**Charters Tower** baz=35	**34.28**	**270**	⇑P	**P**	**23 25 54.3**	**+0.8**
CTAO	**Charters Tower**	**34.28**	**270**	*e*P	**P**	**23 25 54.1**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,77nm,0.5s						
CTAO	**Charters Tower** comp=Z,77nm,0.5s	**34.28**	**270**	*e*P	**P**	**23 25 54.1**	**+0.6**
TOO	**Toolangi** baz=35,SNR=5.2	**34.55**	**239**	P	**P**	**23 25 56.5**	**+0.8**
QLP	**Quilpie** baz=36,SNR=26	**35.03**	**258**	⇓P	**P**	**23 25 59.4**	**-0.5**
MTSU	**Mount Surprise** baz=37,SNR=11	**36.56**	**272**	P	**P**	**23 26 14.1**	**+1.1**
STKA	**Stephens Creek** comp=Z,13nm,0.5s,baz=97,slow=12,SNR=56	**37.15**	**249**	P	**P**	**23 26 17.8**	**-0.1**
STKA				PcP	**PcP**	**23 28 36.0**	**-0.1**
	comp=Z,7.0nm,0.7s,baz=171,slow=1.7,SNR=4.7						
STKA	**Stephens Creek**	**37.15**	**249**	*e*P	**P**	**23 26 17.6**	**-0.3**
STKA				*e*		23 28 36.0	
STKA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
STKA	**Stephens Creek** baz=38,SNR=68	**37.15**	**249**	⇓P	**P**	**23 26 17.4**	**-0.5**
STKA	**Stephens Creek** comp=Z,3.3nm,0.6s	**37.15**	**249**	*e*P	**P**	**23 26 17.6**	**-0.3**
STKA				*e*PcP	**PcP**	**23 28 36.0**	**-0.1**
ARPS	**Mount Arapiles** baz=38	**37.30**	**241**	⇑P	**P**	**23 26 19.1**	**0.0**
PMG	**Port Moresby** comp=Z,67nm,0.8s,baz=141,slow=4.4,SNR=9.9	**37.31**	**287**	P	**P**	**23 26 19.7**	**+0.3**
PMG				LR	LR	23 38 11.3	
	comp=Z,56nm,18.7s,baz=68,slow=30						
PMG	**Port Moresby**	**37.31**	**287**	*de*P	**P**	**23 26 19.6**	**+0.1**
PMG	comp=Z,285nm,0.9s			pmax	pmax		
PMG	**Port Moresby** baz=38,SNR=6.0	**37.31**	**287**	⇑P	**P**	**23 26 19.9**	**+0.5**
PMG	baz=38,SNR=6.0			⇑P	**P**	**23 26 19.9**	**+0.5**
PMG	baz=38,SNR=6.0			⇑P	**P**	**23 26 19.9**	**+0.5**
RKT	**Rikitea** comp=Z,3.0nm,0.3s	**38.32**	**97**	*e*T	T	00 06 30.6	
COEN	**Coen** baz=40,SNR=5.3	**38.96**	**278**	⇓P	**P**	**23 26 33.7**	**+0.4**
COEN	**Coen** comp=Z,40nm,1.1s	**38.96**	**278**	*e*

CASY	Casey	60.89	206	*eP*		P		23 29 17.9	-0.5	
	comp=Z,16nm,0.6s									
LUWI	Luwuk	62.67	282	*eP*		P		23 29 29.6	-1.6	
	comp=Z,52nm,0.7s									
KAPI	Kappang	63.67	277	P		P		23 29 37.7	-0.2	
	comp=Z,4.8nm,0.5s,baz=77,slow=15,SNR=4.4									
CBI	Chichi jima	64.64	320	*eP*		P		23 29 42.5	-1.3	
JCJ	Chichijima	64.64	320	P		P		23 29 42.5	-1.3	
	comp=Z,35nm,0.6s,baz=294,slow=5.0,SNR=9.8									
CBIJ	Chichi jima	64.64	320	P		P		23 29 42.5	-1.3	
QSPA	South Pole Qui	65.68	180	P		P		23 29 50.9	+0.7	
	comp=Z,9.7nm,0.7s,baz=318,slow=0.2,SNR=11									
MJAR	Matsushiro Arr	73.93	324	P		P		23 30 40.3	-0.7	
	comp=Z,4.9nm,0.6s,baz=164,slow=6.4,SNR=14									
MAJO	Matsushiro	73.93	324	*eP*		P		23 30 40.5	-0.5	
MAJO				pmax	pmax					
	comp=Z,2µm,0.7s									
MAJO	Matsushiro	73.93	324	*eP*		P		23 30 40.5	-0.5	
	comp=Z,2µm,0.7s									
MAT	Matsushiro	73.93	324	P		P		23 30 39.5	-1.5	
AMKA	Amchitka	75.53	358	*eP*		P		23 30 49.6	-0.2	
GSTR	Great Sitkin T	76.17	1	*eP*		P		23 30 54.5	+1.0	
ATKA	Atka Island	76.32	2	*eP*		P		23 30 54.3	0.0	
	comp=Z,5.8nm,0.7s									
NIKH	Nikolski High	77.37	5	*eP*		P		23 31 00.8	+0.6	
ASAJ	Asahikawa	77.62	331	P		P		23 31 01.6	-0.2	
	comp=Z,8.1nm,0.5s,baz=315,slow=19									
ASAJ	Asahikawa	77.62	331	P		P		23 31 01.6	-0.2	
ASAJ				pmax	pmax					
	comp=Z,8.0nm,0.5s									
ASAJ	Asahikawa	77.62	331	*eP*		P		23 31 01.6	-0.2	
	comp=Z,505nm,1.0s									
MAW	Mawson	78.24	200	P		P		23 31 05.7	+0.7	
	comp=Z,6.8nm,0.6s,baz=131,slow=7.7,SNR=18									
MAW	Mawson	78.24	200	P		P		23 31 05.7	+0.7	
MAW				pmax	pmax					
	comp=Z,7.0nm,0.6s									
MAW	Mawson	78.24	200	*eP*		P		23 31 05.5	+0.5	
	comp=Z,1.6nm,0.7s									
YSS	Yuzh-Sakhalins	79.81	333	*eP*		P		23 31 14.7	+0.9	
YSS				pmax	pmax					
	comp=Z,26nm,1.3s									
TJN	Taejon	80.10	317‖	*eP*		P		23 31 16.0	+0.4	
PEA2	Petropavlovsk-	80.28	345	*eP*		P		23 31 16.1	-0.1	
PETK	Petropavlovsk-	80.28	345	P		P		23 31 16.1	-0.1	
	comp=Z,24nm,0.8s,baz=139,slow=7.2,SNR=13									
KSRS	Korea Array	80.46	319	P		P		23 31 17.2	-0.2	
	comp=Z,2.3nm,0.6s,baz=132,slow=5.8,SNR=10									
KSRS	Korea Array	80.46	319	P		P		23 31 17.3	-0.2	
KSRS				pmax	pmax					
	comp=Z,2.0nm,0.6s									
KS15	Wonju Array Si	80.47	319	*eP*		P		23 31 17.2	-0.3	
KSAR	Wonju Array Be	80.47	319	P		P		23 31 17.3	-0.3	
KSAR	Wonju Array Be	80.47	319	P		P		23 31 17.2	-0.3	
MONP	Monument Peak	81.06	48	P		P		23 31 21.9	+0.9	
	baz=81									
VES	Vestal, Richgr	81.10	44	P		P		23 31 21.9	+1.0	
	baz=81									
IBP	Imperial Bould	81.14	48	P		P		23 31 22.8	+1.4	
	baz=81									
EDW2	Edwards Air Fo	81.21	45	P		P		23 31 22.6	+0.9	
	baz=82									
ISA	Isabella	81.38	45	P		P		23 31 24.2	+1.6	
	baz=82									
PFO	Pinyon Flat Ob	81.46	47	P		P		23 31 24.6	+1.5	
	baz=82									
BELC	Belle Mtn. Jos	82.00	47	P		P		23 31 27.0	+1.1	
	baz=82									
GSC	Goldstone	82.24	46	*eP*		P		23 31 27.9	+0.8	
GSC				pmax	pmax					
	comp=Z,8.0nm,1.2s									
GSC	Goldstone	82.24	46	P		P		23 31 27.9	+0.8	
	baz=83									
GSC	Goldstone	82.24	46	*eP*		P		23 31 27.9	+0.8	
	comp=Z,7.5nm,1.2s									
HEC	Hector,Ludlow	82.27	46	P		P		23 31 27.5	+0.3	
	baz=83									
WAKR	Walker	82.55	42	*eP*		P		23 31 30.2	+1.4	
IRM	Iron Mountain	82.66	47	P		P		23 31 30.1	+0.9	
	baz=83									
GMRC	Granite Mounta	82.68	47	P		P		23 31 30.3	+0.9	
	baz=83									
USRK	Ussuriysk Ar.	82.74	326	P		P		23 31 29.6	+0.3	
	comp=Z,7.5nm,0.9s,baz=132,slow=4.9,SNR=9.5									
TUQ	Turquoise Moun	82.90	46	P		P		23 31 31.8	+1.3	
	baz=83									
FURC	Furnace Creek,	82.91	45	P		P		23 31 31.5	+1.2	
	baz=83									
NJ2	Nanjing	83.12	310	*eP*		P		23 31 31.3	-0.3	
NJ2				PMZ						
	comp=Z,40nm,0.9s									
SYO	Syowa Base	83.15	192⇑	*eP*		P		23 31 29.0	-2.1	
NV01	Mina Array Sit	83.20	42	*eP*		P		23 31 33.1	+1.0	
NVAR	Mina Array Bea	83.20	42	P		P		23 31 33.1	+1.0	
	comp=Z,1.1nm,0.6s,baz=223,slow=7.6,SNR=8.3									
SNAA	Sanae	84.09	178	P		P		23 31 35.6	-0.5	
SNAA	Sanae	84.09	178	*c iP*		P		23 31 35.3	-0.8	
SNAA				*i* *PP		pP		23 31 59.7	-2.0	
SNAA				pmax	pmax					
	comp=Z,4.0nm,1.0s									
SNAA	Sanae	84.09	178	*eP*		P		23 31 35.5	-0.5	
	comp=Z,3.6nm,0.9s									
TUC	Tucson	84.63	51	*eP*		P		23 31 41.1	+1.7	
TUC				pmax	pmax					
	comp=Z,7.0nm,1.0s									
TUC	Tucson	84.63	51	*eP*		P		23 31 41.1	+1.7	
	comp=Z,6.5nm,1.0s									
R11A	Troy Canyon, C	84.85	44	P		P		23 31 42.3	+1.9	
	baz=85									
VNA1	Neumayer--Stat	84.87	176	P		P		23 31 39.8	0.0	
CN2	Changchun	85.98	322	*eP*		P		23 31 45.8	+0.1	
CN2				PMZ						
	comp=Z,20nm,1.0s									
WUAZ	Wupatki	85.98	48	P		P		23 31 47.8	+1.6	
	baz=86									
BHU	Blowhard Mount	86.16	46	*eP*		P		23 31 45.1	-2.1	
VGB	Gordon Butte	86.28	36	*eP*		P		23 31 47.6	+0.3	
VGB	Gordon Butte	86.28	36	*eP*		P		23 31 47.5	+0.3	
GSI	Gunungsitoli	86.43	273	*eP*		P		23 31 48.8	+0.1	
	comp=Z,15nm,0.8s									
SKNT	Sakolnakorn	87.37	290	P		P		23 31 53.6	+0.5	
	comp=Z,40nm,0.8s									
MA2	Magadan	87.80	344	*i* P		P		23 31 54.3	+0.2	
TXAR	Lajitas Array	88.34	57	P		P		23 31 58.0	+0.4	
	comp=Z,0.8nm,0.8s,baz=216,slow=7.5,SNR=5.9									
TXAR	Lajitas Array	88.34	57	P		P		23 31 58.0	+0.4	
ANMO	Albuquerque	89.08	51	P		P		23 32 01.9	+0.8	
	comp=Z,2.5nm,1.0s,baz=224,slow=3.2,SNR=4.9									
ANMO	Albuquerque	89.08	51	*eP*		P		23 32 02.2	+1.1	
ANMO				pmax	pmax					
	comp=Z,7.0nm,1.1s									
ANMO	Albuquerque	89.08	51	*eP*		P		23 32 02.2	+1.1	
	comp=Z,7.0nm,1.1s									
BJI	Beijing	89.35	315	P		P		23 32 03.0	+1.1	
BJI				PMZ						
	comp=Z,11nm,1.5s									
BJI				PMZ						
	comp=Z,94nm,4.3s									
GYA	Guiyang	89.43	299	P		P		23 32 02.0	-0.8	
GYA				pP		pP		23 32 28.5	-0.2	
GYA				sP		sP		23 32 38.0	-1.1	
GYA				PP		PP		23 35 37.5	+2.0	
GYA				SKS		SKSac		23 42 22.5	-1.9	
GYA				S		S		23 42 43.3	-2.0	
GYA				PMZ						
	comp=Z,20nm,1.0s									
GYA				PMZ						
	comp=Z,120nm,5.8s									
CAST	Castle Rocks	89.70	11	*eP*		P		23 32 02.4	-0.6	
	comp=Z,7.9nm,0.9s									
TNA	Tin City	89.95	4	*eP*		P		23 32 05.0	+0.9	
	comp=Z,6.2nm,0.9s									
TRF	Thorofare Moun	90.05	12	*eP*		P		23 32 04.3	-0.6	
	comp=Z,9.8nm,0.8s									
S22A	4UR Ranch, Cre	90.26	48	P		P		23 32 06.4	-0.2	
	baz=90									
S22A	4UR Ranch, Cre	90.26	48	*eP*		P		23 32 08.3	+1.7	
	comp=Z,4.6nm,1.3s									
RND	Reindeer	90.28	12	*eP*		P		23 32 06.5	+0.7	
RND				pmax	pmax					
	comp=Z,11nm,1.0s									
RND	Reindeer	90.28	12	*eP*		P		23 32 06.5	+0.7	
	comp=Z,11nm,1.0s									
429A	Davenport Ranc	90.31	56	P		P		23 32 06.7	0.0	
	baz=90									
SEY	Seymchan	90.39	346	P		P		23 32 06.7	+0.5	
	comp=Z,8.3nm,0.7s,baz=149,slow=5.1,SNR=18									
SEY	Seymchan	90.39	346‖	*eP*		P		23 32 06.9	+0.7	
530A	J-C Ranch, Com	90.51	57	P		P		23 32 08.0	+0.4	
	baz=91									
631A	Perdido Creek	90.75	58	P		P		23 32 09.4	+0.6	
	baz=91									
128A	Castleberry Fa	90.81	54	P		P		23 32 10.2	+1.2	
	baz=91									
PD31	Pinedale Array	91.13	43	*eP*		P		23 32 10.4	0.0	
PDAR	Pinedale Array	91.13	43	P		P		23 32 10.4	0.0	
	comp=Z,0.5nm,0.7s,baz=236,slow=4.5,SNR=3.2									
SDCO	Great Sand Dun	91.17	49	P		P		23 32 11.1	+0.2	
	baz=92									
XAN	Xi'an	91.27	307	P		P		23 32 11.5	+0.4	
XAN				PMZ						
	comp=Z,11nm,0.9s									
XAN				PMZ						
	comp=Z,46nm,4.2s									
WRH	Wood River Hil	91.39	12	*eP*		P		23 32 11.0	+0.2	
	comp=Z,8.8nm,1.1s									
MLY	Manley	91.42	11	*eP*		P		23 32 10.7	-0.3	
	comp=Z,47nm,3.0s									
HDA	Harding Lake	91.55	13	*eP*		P		23 32 12.4	+0.7	
	comp=Z,5.3nm,0.9s									
532A	Rocksprings	91.60	58	P		P		23 32 12.6	-0.2	
	baz=92									
CCB	Clear Creek Bu	91.61	12	*eP*		P		23 32 11.8	0.0	
	comp=Z,4.1nm,0.7s									
LAMP	Lampang	91.77	289	P		P		23 32 15.4	+1.7	
	comp=Z,5.3nm,0.8s									
COLA	College	91.80	12	*d iP*		P		23 32 12.6	-0.1	
COLA				pmax	pmax					
	comp=Z,26nm,1.2s									
IM04	Indian Mountai	91.82	9	*eP*		P		23 32 13.4	+0.6	
CRAI	Chiangrai	91.86	291	P		P		23 32 12.7	-1.4	
	comp=Z,184nm,0.9s									
ILAR	Eielson Array	91.89	12	P		P		23 32 13.1	-0.1	
	comp=Z,1.2nm,0.8s,baz=225,slow=5.6,SNR=9.6									
ILB	Eielson Array	91.89	12	*eP*		P		23 32 13.1	-0.1	
KMI	Kunming	91.99	297	P		P		23 32 16.0	+1.1	
KMI				pP		pP		23 32 40.8	0.0	
KMI				sP		sP		23 32 50.8	-0.4	
KMI				PP		PP		23 35 58.0	+2.0	
KMI				SKS		SKSac		23 42 38.8	-0.6	
KMI				S		S		23 43 07.5	-1.5	
KMI				PMZ						
	comp=Z,10.0nm,1.4s									
KMI				PMZ						
	comp=Z,76nm,3.5s									
KMI				LN						
	comp=Z,710nm,12.6s									
KMI				LE						
	comp=Z,1µm,13.7s									
KMI				LZ						
	comp=Z,1µm,14.7s									
432A	Menard	92.03	57	P		P		23 32 14.3	-0.4	
	baz=92									
231A	Bronte	92.11	56	P		P		23 32 14.5	-0.5	
	baz=92									
332A	Millersview	92.30	57	P		P		23 32 15.9	0.0	
	baz=92									
CM31	Chiang Mai Arr	92.34	289	*eP*		P		23 32 16.8	+0.4	
CMAR	Chiang Mai Arr	92.34	289	P		P		23 32 16.8	+0.4	
	comp=Z,3.9nm,0.8s,baz=137,slow=3.3,SNR=21									
131A	Roby	92.40	55	P		P		23 32 16.9	+0.5	
	baz=93									
CHTO	Chiang Mai	92.48	289	P		P		23 32 18.1	+1.1	
	comp=Z,42nm,1.0s									
CHTO	Chiang Mai	92.48	289	*eP*		P		23 32 17.7	+0.7	
CHTO				pmax	pmax					
	comp=Z,7.0nm,0.8s									
CHTO	Chiang Mai	92.48	289	*eP*		P		23 32 17.7	+0.7	
	comp=Z,6.5nm,0.8s									
433A	Art	92.51	57	P		P		23 32 16.8	-0.1	
	baz=93									
232A	Coleman	92.60	56	P		P		23 32 17.2	-0.1	
	baz=93									
534A	Blanco	92.66	58	P		P		23 32 17.6	0.0	
	baz=93									
HHC	Hu-ho-hao-te	92.77	314	*eP*		P		23 32 19.3	+1.3	
HHC				PMZ						
	comp=Z,21nm,1.3s									
HHC				PMZ						
	comp=Z,110nm,7.5s									
333A	Richland Sprin	92.85	57	P		P		23 32 18.2	-0.2	
	baz=93									
CMAI	Chiengmai2	92.86	290	P		P		23 32 19.9	+1.0	
	comp=Z,11nm,1.3s									
Z31A	Sharp Cattle R	92.88	55	P		P		23 32 18.7	+0.2	
	baz=93									
BILL	Bilibino	93.01	354‖	*eP*		P		23 32 18.8	+0.6	
BILL				pmax	pmax					
	comp=Z,7.0nm,0.9s									
EGAK	Eagle	93.12	15	*eP*		P		23 32 19.8	+1.0	
	comp=Z,25nm,2.0s									
Z32A	Haskell	93.37	55	P		P		23 32 21.4	+0.7	
	baz=94									
CD2	Chengdu	93.71	302	*eP*		P		23 32 22.0	-0.5	
CD2				pP		pP		23 32 46.5	-1.9	
CD2				PP		PP		23 36 08.3	-0.9	
CD2				SKS		SKSac		23 42 47.8	-0.5	
CD2				S		S		23 43 23.8	+0.2	
CD2				SS		SS		23 49 45.5	+0.9	
CD2				PMZ						
	comp=Z,10.0nm,0.5s									
CD2				PMZ						
	comp=Z,120nm,5.2s									
234A	Clairette	93.80	57	P		P		23 32 22.9	+0.1	
	baz=94									
LZH	Lanzhou	95.91	307	*eP*		P		23 32 34.8	+2.3	
LZH				pP		pP		23 32 59.0	+0.5	
LZH				sP		sP		23 33 09.8	+0.9	
LZH				PMZ						
	comp=Z,24nm,1.0s									
LZH				PMZ						
	comp=Z,110nm,5.1s									
YAK	Yakutsk	96.09	338	*eP*		P		23 32 30.7	-1.7	
YAK				pmax	pmax					
	comp=Z,23nm,0.9s									
YAK				pmax	pmax					
	comp=E,4.0nm,1.0s									
YAK				pmax	pmax					
	comp=N,3.0nm,1.0s									
ULN	Ulaanbaatar	98.94	319‖	*eP*		P		23 32 45.6	-0.3	
ULN				pmax	pmax					
	comp=Z,2.0nm,0.9s									
SONM	Songino Array	99.33	318	P		Pdif		23 32 47.5	-0.1	
	comp=Z,0.5nm,0.8s,baz=94,slow=5.3,SNR=3.0									
GTA	Gaotai	100.19	309	*eP*		Pdif		23 32 52.8	+1.2	
GTA				pP		pP		23 33 19.0	+1.3	
GTA				sP		sP		23 33 29.3	+1.2	
GTA				PMZ						
	comp=Z,3.0nm,1.4s									
WMQ	Urumqi	110.20	310	PKP		PKiKP		23 37 35.0	-1.9	
WMQ				LN						
	comp=Z,75nm,13.0s									
WMQ				LE						
	comp=Z,66nm,15.4s									
WMQ				LZ						
	comp=Z,33nm,17.0s									
URVA	University of	111.58	57	*e*Pdif		Pdif		23 33 46.4	+4.3	
ZALV	Zalesovo Beam	114.13	320	PKiKP		PKPdf		23 37 42.0	-1.9	
	comp=Z,1.5nm,0.4s,baz=132,slow=2.1,SNR=4.6									
ZAA1	Zalesovo Array	114.13	320	*e*PKiKP		PKPdf		23 37 42.0	-1.9	
MK32	Makanchi Array	114.56	312	*e*PKiKP		PKPdf		23 37 43.9	-1.2	
MKAR	Makanchi Array	114.56	312	PKiKP		PKPdf		23 37 43.9	-1.2	
	comp=Z,0.8nm,0.6s,baz=76,slow=10,SNR=6.5									
KURK	Kurchatov	117.50	316	*e*PKiKP		PKPdf		23 37 49.3	-1.2	
KURK	Kurchatov	117.50	316	*e*PKPdf		PKPdf		23 37 49.3	-1.2	
KURBB	Kurchatov Arra	117.55	316	PKP		PKPdf		23 37 49.3	-1.3	
	comp=Z,1.5nm,0.8s,baz=92,slow=1.9,SNR=12									
KKAR	Karatay Array	122.41	307	*e*PKiKP		PKPdf		23 37 59.5	-0.7	
KKAR	Karatay Array	122.41	307	*e*PKPdf		PKPdf		23 37 59.5	-0.7	
KBL	Kabul	122.57	297	*e*PKiKP		PKPdf		23 38 01.0	-0.1	
KBL	Kabul	122.57	297	*e*PKPdf		PKPdf		23 38 01.0	-0.1	
BVAR	Borovoye Array	122.67	319	PKP		PKPdf		23 37 59.4	-1.1	
	comp=Z,1.7nm,0.6s,baz=127,slow=1.9,SNR=5.0									
BOSA	Boshof	123.12	203	PKP		PKPdf		23 38 02.4	0.0	
	comp=Z,2.7nm,1.0s,baz=214,slow=7.3,SNR=3.1									
ARU	Arti	128.95	324	PKP		PKPdf		23 38 12.2	-0.1	
	baz=117,slow=6.8									
ARU	Arti	128.95	324	*i* PKiKP		PKPdf		23 38 11.6	-0.7	
ARU								23 40 16.9		
ARU	Arti	128.95	324	*e*PKPdf		PKPdf		23 38 11.9	-0.3	
GEYT	Alibeck	131.65	300	PKP		PKPdf		23 38 18.3	+0.2	
	comp=Z,2.7nm,0.9s,baz=300,slow=32,SNR=5.2									
ARA0	ARCESS Array S	132.93	349	*e*PKPdf		PKPdf		23 38 19.5	0.0	
ARCES	ARCESS Array B	132.93	349	PKP		PKPdf		23 38 19.5	0.0	
	comp=Z,4.6nm,0.8s,baz=0.0,slow=0.5,SNR=11									
FIA0	FINESS Array S	139.78	343	*e*PKPKP		PKPpre		23 38 22.9		
FIA0				*e*				23 38 32.3		
FIA0	FINESS Array S	139.78	343	*e*PKPpre		PKPpre		23 38 22.9		
FIA0				*e*PKPdf		PKPdf		23 38 32.2	-0.1	
FINES	FINESS Array B	139.78	343	PKhKP		PKPpre		23 38 22.9		
	comp=Z,2.1nm,0.8s,baz=85,slow=3.4,SNR=12									
FINES				PKP		PKPdf		23 38 32.2	-0.1	
	comp=Z,1.7nm,0.5s,baz=85,slow=1.5,SNR=9.4									
OBN	Obninsk	140.63	330‖	*e*PKIKP		PKPdf		23 38 33.4	-0.7	
VSR	Storozhevoye	141.52	323	*e*PKHKP		PKPpre		23 38 29.6		
VSR				pmax	pmax					
	comp=N,4.0nm,0.8s									
VSR				pmax	pmax					
	comp=E,2.0nm,0.8s									
VSR				pmax	pmax					
	comp=Z,6.0nm,0.8s									
GNI	Garni	141.80	304⇑	*i* PKIKP		PKPdf		23 38 37.5	+0.6	
GNI				pmax	pmax					
	comp=Z,5.0nm,1.0s									
NB2	NORSAR Subarra	142.96	353	PKP		PKPpre		23 38 33.9		
	comp=Z,4.0nm,0.6s,baz=8.4,slow=3.5									
NB200	NORSAR Array S	142.96	353	*e*PKPpre		PKPpre		23 38 34.2		
NOA	NORSAR Array B	142.96	353	PKhKP		PKPpre		23 38 34.2		
	comp=Z,3.9nm,0.6s,baz=8.1,slow=2.2,SNR=28									
HKR	Hakkari	143.03	301	*eP*		PKPbc		23 38 35.8	-0.6	
CUKT	Cukurca	143.18	300	*eP*		PKPab		23 38 35.9	+0.7	
MBAR	Mbarara	143.43	231	*e*PKIKP		PKPab		23 38 37.5	+0.6	
MBAR	Mbarara	143.43	231	*e*PKPdf		PKPbc		23 38 37.5	-0.5	
BCA	Borcka	143.80	308	*eP*		PKPbc		23 38 37.9	-0.3	
SIRT	Sirnak	144.06	301	*eP*		PKPbc		23 38 39.2	0.0	
EZM	Erzurum	144.39	305	*eP*		PKPdf		23 38 41.2	-0.5	
KONO	Kongsberg	144.49	354	*e*PKIKP		PKPab		23 38 39.4	0.0	
KONO	Kongsberg	144.49	354	*e*PKPdf		PKPab		23 38 39.4	0.0	
NACGM	Naroch	144.84	336	*eP*		PKPab		23 38 39.0	-1.8	
BNGB	Bing¶ll	145.12	304	*eP*		PKPdf		23 38 43.1	+0.4	
BAYT	Ayd¨–ntepe-Bay	145.17	306	*eP*		PKPdf		23 38 43.9	+1.0	
KTUT	Trabzon	145.27	307	*eP*		PKPbc		23 38 42.4	-0.3	
ANN	Anapa	145.52	315	*c i* PKIKP		PKPdf		23 38 42.9	-0.1	
ANN				pmax	pmax					
	comp=Z,84nm,1.5s									
MAZI	Mazidag	145.62	301	*eP*		PKPbc		23 38 44.3	+0.2	
GUMT	Gumushane	145.63	307	*eP*		PKPab		23 38 44.9	+0.4	
ERZN	Erzincan	145.69	305	*eP*		PKPdf		23 38 43.9	+0.1	
DYBB	Diyarbakir	145.76	302	*eP*		PKPbc		23 38 44.6	+0.1	
PTK	Pertek	146.12	304	*eP*		PKPab		23 38 46.7	+0.2	
SVRC	Sivrice-ELAZID	146.31	303	*eP*		PKPab		23 38 47.1	-0.1	
SUW	Suwalki	146.82	338	*e*PKP		PKPbc		23 38 46.4	-0.5	
SUW	Suwalki	146.82	338	*e*PKP2		PKPbc		23 38 46.5	-0.5	
MNKR	ALMNKUR	146.84	299	*eP*		PKPab		23 38 48.4	-0.7	
AKASG	Malin Array Be	146.88	329	PKPbc		PKPbc		23 38 46.3	-0.9	
	comp=Z,18nm,0.5s,baz=45,slow=4.1,SNR=8.0									
AKBB	Malin Array Si	146.88	329	*e*PKP2		PKPbc		23 38 46.3	-0.9	
AKBB	Malin Array Si	146.88	329	*e*PKPdf		PKPbc		23 38 46.3	-0.9	
KIEV	Kiev	146.89	329	*e*PKP2		PKPbc		23 38 46.4	-0.8	
KIEV	Kiev	146.89	329	*e*PKPdf		PKPbc		23 38 46.4	-0.8	
MALT	Malatya	146.99	303	*eP*		PKPab		23 38 49.1	-0.7	
MALT	Malatya	146.99	303	⇑PKP2		PKPbc		23 38 48.5	+0.4	
MALT	Malatya	146.99	303	⇑*i* P		PKPbc		23 38 48.5	+0.4	
KSRV	Kasrt alli	147.06	299	*eP*		PKPbc		23 38 48.8	+0.6	
RSDY	Resadiye-TOKAT	147.22	307	*eP*		PKPab		23 38 51.6	+1.1	
SIM	Simferopol'	147.56	317	*e*PKP2		PKPbc		23 38 49.5	+0.2	
SIM				pmax	pmax					
	comp=Z,68nm,0.9s									
SVSK	Karacayir	147.61	307	*eP*		PKPbc		23 38 50.6	+1.1	
DARE	Darende-Malaty	147.64	304	*eP*		PKPbc		23 38 50.7	+0.9	
MUD	Monsted U'grnd	147.68	354	*i* P		PKPbc		23 38 49.3	+0.1	
	comp=Z,14nm,0.8s									
MUD	Monsted U'grnd	147.68	354	*i* PKP2		PKPbc		23 38 49.3	+0.1	
MUD				pmax	pmax					
	comp=Z,14nm,0.8s									
KVT	Kavak	147.90	309	*eP*		PKPab		23 38 52.5	-0.7	

CLL				*e*pPKPbc	**PKiKP**	**23 39 03.1**	**+2.7**
CLL	**Collm**	**152.07 347**	⇑	*i* PKiKP	**PKPbc**	**23 38 59.9**	**-0.2**
CLL				*i*		23 39 08.4	
CLL				pmax	pmax		
	comp=Z,20nm,0.8s						
CLL				pmax	pmax		
	comp=Z,14nm,0.7s						
CLL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CLL	**Collm**	**152.07 347**		*e*PKPbc	**PKPbc**	**23 38 60.0**	**-0.2**
CLL	**Collm**	**152.07 347**	⇑	*i* PKPbc	**PKPbc**	**23 38 59.9**	**-0.2**
	comp=Z,20nm,0.8s						
CLL				*i* (PKiKP)		23 39 03.0	
	comp=Z,14nm,0.7s						
CLL				*i* PKPab	**PKPab**	**23 39 08.8**	**-1.1**
	comp=Z,8.0nm,0.7s						
UPC	**Upice**	**152.08 342**		*e*PKPDF	**PKPdf**	**23 38 53.9**	**+0.4**
UPC			⇑	*e*PKP	**PKPbc**	**23 38 59.9**	**-0.3**
UPC				*ex*	x	23 39 03.2	
UPC				*e*PKPAB	**PKPab**	**23 39 10.9**	**+1.0**
UPC	**Upice**	**152.08 342**		*e*PKIKP	**PKPdf**	**23 38 53.9**	**+0.4**
UPC				*e*		23 39 10.9	
DPC	**Dobruska-Polom**	**152.13 342**		*e*PKPDF	**PKPdf**	**23 38 54.0**	**+0.4**
DPC			⇑	*e*PKP	**PKPbc**	**23 39 00.3**	**0.0**
DPC				*e*PKPAB	**PKPab**	**23 39 08.7**	**-1.5**
DPC				*ex*	x	23 39 18.8	
DPC	**Dobruska-Polom**	**152.13 342**		*e*PKIKP	**PKPdf**	**23 38 54.0**	**+0.4**
DPC				*e*		23 39 08.7	
DPC				*e*		23 39 11.0	
DPC				*e*		23 39 18.8	
KRLC	**Kraliky**	**152.24 341**	⇑	*e*PKP	**PKPbc**	**23 39 00.4**	**-0.2**
KRLC				*e*PKPAB	**PKPab**	**23 39 11.2**	**+0.5**
KRLC				*ex*	x	23 39 18.4	
KRLC	**Kraliky**	**152.24 341**		*e*PKIKP	**PKPbc**	**23 39 00.4**	**-0.2**
KRLC				*e*		23 39 18.4	
MORC	**Moravsky Berou**	**152.27 340**	⇓	*i* P	**PKPbc**	**23 39 00.8**	**+0.1**
MORC	**Moravsky Berou**	**152.27 340**		*e*PKPbc	**PKPbc**	**23 39 00.6**	**0.0**
BRG	**Berggiesshubel**	**152.27 345**		*i* PKP	**PKPbc**	**23 39 00.5**	**-0.1**
	comp=Z,15nm,0.8s						
BRG				*i*		23 39 03.3	
	comp=Z,12nm,0.7s						
BRG	**Berggiesshubel**	**152.27 345**		*e*PKPbc	**PKPbc**	**23 39 00.2**	**-0.4**
BRG				*ep*PKPbc	**PKiKP**	**23 39 03.7**	**+2.9**
BRG	**Berggiesshubel**	**152.27 345**		*i* PKIKP	**PKPbc**	**23 39 00.5**	**-0.1**
BRG				pmax	pmax		
	comp=Z,15nm,0.8s						
CJR	**Cluj-Napoca**	**152.33 329**	⇓	*i* P	**PKPbc**	**23 39 00.7**	**-0.2**
FBE	**Freiberg**	**152.36 346**		*e*PKPbc	**PKPbc**	**23 39 00.6**	**-0.2**
FBE				*ep*PKPbc	**PKiKP**	**23 39 04.1**	**+3.1**
NEUB	**Neuenburg**	**152.41 348**		*e*PKPbc	**PKPbc**	**23 39 04.0**	**-0.5**
PVCC	**Panska Ves**	**152.44 344**	⇑	*e*PKP	**PKPbc**	**23 39 01.1**	**+0.1**
PVCC				*ex*	x	23 39 04.2	
PVCC				*e*PKPAB	**PKPab**	**23 39 11.8**	**+0.4**
PVCC				*ex*	x	23 39 16.0	
PVCC	**Panska Ves**	**152.44 344**		*e*PKIKP	**PKPbc**	**23 39 01.1**	**+0.1**
PVCC				*e*		23 39 11.8	
VOIR		**152.50 325**	⇑	*i* P	**PKPbc**	**23 39 01.3**	**-0.1**
DRGR		**152.69 330**	⇑	PKIKP	**PKPbc**	**23 39 01.0**	**-0.7**
DRGR		**152.69 330**	⇑	*i* P	**PKPbc**	**23 39 01.0**	**-0.7**
ARR	**Arges**	**152.77 326**	⇓	*i* P	**PKPbc**	**23 39 02.8**	**+0.8**
PRA	**Prague**	**152.90 344**	⇑	*e*PKP	**PKPbc**	**23 39 01.9**	**-0.1**
PRA				*ex*	x	23 39 05.9	
PRA				*e*PKPAB	**PKPab**	**23 39 14.4**	**+1.0**
PRA	**Prague**	**152.90 344**		*e*PKIKP	**PKPbc**	**23 39 01.9**	**-0.1**
VYHS	**Vyhne**	**152.93 337**		*e*PKP	**PKPbc**	**23 39 02.0**	**-0.1**
PRU	**Pruhonice**	**152.94 344**	⇑	*e*PKP	**PKPbc**	**23 39 01.8**	**-0.3**
PRU				*e*PKPAB	**PKPab**	**23 39 14.3**	**+0.7**
PRU	**Pruhonice**	**152.94 344**		*e*PKIKP	**PKPbc**	**23 39 01.8**	**-0.3**
GOPC	**GO Pecny, Ondr**	**152.95 343**	⇑	*e*PKP	**PKPbc**	**23 39 01.7**	**-0.4**
GOPC				*ex*	x	23 39 04.9	
GOPC				*e*PKPAB	**PKPab**	**23 39 14.3**	**+0.7**
VRAC	**Vranov**	**152.98 340**	⇑	*i* P	**PKPbc**	**23 39 14.8**	**+1.0**
MOX	**Moxa**	**152.98 348**		*e*PKPbc	**PKPbc**	**23 39 01.7**	**-0.5**
PSZ	**Piszkesteto**	**153.01 335**	⇑	*i* PKPab		23 39 08.4	-5.6
PSZ	**Piszkesteto**	**153.01 335**		*e*PKPab	**PKPab**	**23 39 15.1**	**+1.0**
PSZ	**Piszkesteto**	**153.01 335**		*e*	**PKPab**	**23 39 14.7**	**+0.7**
PLN	**Plauen**	**153.03 347**		*e*PKPbc	**PKPbc**	**23 39 01.7**	**-0.6**
PLN				*ep*PKPbc	**PKiKP**	**23 39 05.5**	**+3.1**
TANN	**Tannenbergstha**	**153.03 347**		*e*PKPbc	**PKPbc**	**23 39 01.9**	**-0.5**
WERD	**Werda**	**153.03 347**		*e*PKPbc	**PKPbc**	**23 39 01.8**	**-0.5**
WERD				*ep*PKPbc	**PKiKP**	**23 39 05.4**	**+2.9**
TVSB	**Tavsanli**	**153.17 310**		*e*P	**PKPbc**	**23 39 03.1**	**0.0**
WERN	**Wernitzgruen**	**153.17 347**		*e*PKPab	**PKPab**	**23 39 15.1**	**+0.5**
NKC	**Novy Kostel**	**153.21 347**	⇑	*e*PKP	**PKPbc**	**23 39 02.4**	**-0.3**
NKC				*e*PKPAB	**PKPab**	**23 39 13.6**	**-1.1**
NKC	**Novy Kostel**	**153.21 347**		*e*PKIKP	**PKPbc**	**23 39 02.4**	**-0.3**
NKC				*e*		23 39 13.6	
TREC	**Trest**	**153.32 342**	⇑	*e*PKP	**PKPbc**	**23 39 02.5**	**-0.5**
TREC				*ex*	x	23 39 05.0	
TREC				*e*PKPAB	**PKPab**	**23 39 15.2**	**0.0**
TREC	**Trest**	**153.32 342**		*e*PKIKP	**PKPbc**	**23 39 02.5**	**-0.5**
TREC				*e*		23 39 15.2	
JMB	**Yambol**	**153.50 319**		P	**PKPab**	**23 39 17.2**	**+0.9**
MANZ	**Manzenberg**	**153.51 347**		*e*PKPbc	**PKPbc**	**23 39 02.9**	**-0.5**
MANZ				*e*PKPab	**PKPab**	**23 39 16.1**	**+0.1**
MEM	**Membach**	**153.74 356**		PKPab	PKPab	23 39 11.2	-5.8
TNS	**Taunus Mts**	**153.89 352**		*e*PKPbc	**PKPbc**	**23 39 04.4**	**+0.2**
TNS				*e*PKPab	**PKPab**	**23 39 17.7**	**0.0**
ELL	**Elmali**	**153.92 304**		*e*P	**PKPbc**	**23 39 04.6**	**-0.2**
SNF	**Seneffe**	**153.93 358**		PKPab	**PKPab**	**23 39 18.2**	**+0.5**
GRF	**Grafenberg Arr**	**153.97 348**		*e*PKPab	**PKPab**	**23 39 18.5**	**+0.5**
KHC	**Kasperske Hory**	**153.98 344**		*e*PKPDF	**PKPdf**	**23 38 57.5**	**+1.2**
KHC			⇑	*e*PKP	**PKPbc**	**23 39 04.0**	**-0.4**
KHC				*ex*	x	23 39 07.2	
KHC				*e*PKPAB	**PKPab**	**23 39 18.2**	**+0.7**
KHC				*ex*	x	23 39 23.6	
KHC	**Kasperske Hory**	**153.98 344**		*e*PKIKP	**PKPdf**	**23 38 57.5**	**+1.2**
KHC				*e*		23 39 18.7	
KHC				*e*		23 39 23.6	
KHC	**Kasperske Hory**	**153.98 344**		*e*PKPbc	**PKPbc**	**23 39 04.3**	**-0.1**
KHC				*e*PKPab	**PKPab**	**23 39 18.8**	**+0.7**
PKSG		**154.02 336**		*e*PKPdf	**PKPab**	**23 39 18.5**	**+0.3**
BZS	**Buzias**	**154.07 329**	⇑	*i* P	**PKPbc**	**23 39 04.0**	**-0.7**
CSKK	**Cs˘tkako**	**154.09 336**	⇓	*e*	**PKPab**	**23 39 16.6**	**-1.9**
WET	**Wettzell**	**154.13 345**		*e*PKPab	**PKPab**	**23 39 19.3**	**+0.6**
GEC2	**GERESS Array S**	**154.21 344**		*e*PKIKP	**PKPdf**	**23 38 56.6**	**-0.2**
GEC2				*e*		23 39 18.3	
GEC2	**GERESS Array S**	**154.21 344**		*e*PKPdf	**PKPdf**	**23 38 56.6**	**-0.2**
GEC2				*e*PKPbc	**PKPbc**	**23 39 04.5**	**-0.5**
GEC2				*e*PKPab	**PKPab**	**23 39 18.3**	**-0.8**
GERES	**GERESS Array B**	**154.21 344**		PKP	**PKPdf**	**23 38 56.6**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=11,slow=3.2,SNR=2.4						
GERES				PKPbc	**PKPbc**	**23 39 04.5**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=48,slow=2.0,SNR=11						
GERES				PKPab	**PKPab**	**23 39 18.3**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=28,slow=4.4,SNR=8.4						
PKST	**T˘'s**	**154.26 336**	⇓	*e*	**PKPab**	**23 39 19.4**	**+0.1**
DOU	**Dourbes**	**154.33 358**		PKPab	**PKPab**	**23 39 19.3**	**-0.1**
SOP	**Sopron**	**154.41 339**		*e*PKPdf	**PKPab**	**23 39 21.0**	**+1.1**
CONA	**Conrad Observa**	**154.43 340**	⇑	*i* PKPab	**PKPab**	**23 39 20.8**	**+0.8**
	comp=Z,13nm,0.9s						
WLF	**Walferdange**	**154.67 355**		*e*PKPbc	**PKPbc**	**23 39 05.7**	**-0.1**
WLF				*e*PKPab	**PKPab**	**23 39 21.6**	**+0.7**
PLD	**Plovdiv**	**154.84 320**		P	**PKPab**	**23 39 22.3**	**+0.4**
PKSM	**Moragy**	**154.90 334**	⇓	*i* P	**PKPbc**	**23 39 05.7**	**-0.7**
PKSM	**Moragy**	**154.90 334**	⇓	*e*	**PKPab**	**23 39 21.6**	**-0.4**
RZN	**Rozhen**	**155.09 319**		P	**PKPab**	**23 39 23.3**	**0.0**
ARSA	**Arzberg**	**155.13 340**	⇑	*i* PKPab	**PKPab**	**23 39 23.3**	**+0.3**
	comp=Z,12nm,1.8s						
VTS	**Vitosha**	**155.39 322**	⇓	*i* P	**PKPab**	**23 39 25.4**	**+0.9**
VTS	**Vitosha**	**155.39 322**		P	**PKPab**	**23 39 25.3**	**+0.8**
FUR	**Furstenfeldbru**	**155.41 347**		*e*PKPab	**PKPab**	**23 39 24.6**	**+0.4**
MMB	**Musomiste**	**155.73 320**		P	**PKPab**	**23 39 26.4**	**+0.6**
SIGR	**SIGRI**	**155.75 313**		*e*P	**PKPab**	**23 39 25.9**	**0.0**
SOKA	**Soboth**	**155.79 340**	⇓	*i* PKPab	**PKPab**	**23 39 26.1**	**+0.1**
	comp=Z,13nm,1.1s						
MYKA	**Terra Mystica**	**156.26 342**	⇓	*i* PKPab	**PKPab**	**23 39 27.9**	**0.0**
	comp=Z,6.1nm,0.6s						
ABTA	**Abfaltersbach**	**156.46 344**	⇑	*i* PKPab	**PKPab**	**23 39 27.9**	**-0.8**
	comp=Z,8.8nm,1.3s						
FNA	**Florina**	**157.61 321**		*e*P	**PKPab**	**23 39 33.7**	**-0.2**
SENIN	**Lac Senin/Sane**	**157.83 352**		*e*PKPab	**PKPab**	**23 39 35.5**	**+0.6**
TIP	**Timpagrande**	**161.27 325**		*e*PKPab	**PKPab**	**23 39 50.6**	**+0.7**
KEST	**Kesra**	**167.48 336**		PKPab	**PKPab**	**23 40 17.4**	**+0.2**
	comp=Z,4.9nm,0.8s,baz=280,slow=4.3,SNR=12						
KEST	**Kesra**	**167.48 336**		*e*PKPab	**PKPab**	**23 40 18.1**	**+0.8**
TOA0	**Torodi Ar. Sit**	**168.72 173**		*e*PKPdf	**PKPdf**	**23 39 11.0**	**-1.6**
TOA0				*e*PKPab	**PKPab**	**23 40 22.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**168.72 173**		PKP	**PKPdf**	**23 39 11.0**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=197,slow=1.0,SNR=5.1						
TORD				PKPab	**PKPab**	**23 40 22.8**	**-0.2**
	comp=Z,3.3nm,0.9s,baz=190,slow=3.9,SNR=12						
TAM	**Tamanrasset**	**177.23 235**		*e*PKPab	PKPab	23 41 02.2	+1.0

CSEM ***26*** *23:26:24.5, 43.45N×12.38E, h6km, MD1.1/3*
ROM 26 23:26:24.5±0.1, 43.45N×12.38E, h6km, Md1.1/3, Error ellipse: s-maj=0.6km s-min=0.5km az=173.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPI	**Pietralunga -**	**0.02**	**100**	Pg	Pg	23 26 25.7	0.0
ATPI				Sg	Sg	23 26 26.6	+0.1
	25nm,0.2s						
ATPI	**Pietralunga -**	**0.02**	**100**	Pg	Pg	23 26 25.7	0.0
ATPI				Sg	Sg	23 26 26.6	+0.1
	25nm,0.2s						
ATPC	**Poggio Castell**	**0.07**	**66**	Pg	Pg	23 26 26.4	+0.2
ATPC				Sg	Sg	23 26 27.9	+0.5
	32nm,0.1s						
ATPC	**Poggio Castell**	**0.07**	**66**	Pg	Pg	23 26 26.4	+0.2
ATPC				Sg	Sg	23 26 27.9	+0.5
	32nm,0.1s						
ATVO	**AVT- Monte Val**	**0.07**	**163**	Pg	Pg	23 26 26.6	+0.3
ATVO				Sg	Sg	23 26 28.1	+0.5
	25nm,0.1s						
ATVO	**AVT- Monte Val**	**0.07**	**163**	Pg	Pg	23 26 26.6	+0.3
ATVO				Sg	Sg	23 26 28.1	+0.5
	25nm,0.1s						
CDCA	**Citt' di Caste**	**0.10**	**272**	Pg	Pg	23 26 27.2	+0.5
CDCA				Sg	Sg	23 26 29.1	+0.9
CDCA	**Citt' di Caste**	**0.10**	**272**	Pg	Pg	23 26 27.2	+0.5
CDCA				Sg	Sg	23 26 29.1	+0.9

NIED ***26*** *23:31:00, 39.00N×142.30E, h8km, Mw5.0 Best double couple: M03.97000×1016 NP1:φs331.00000°, δ33.00000°, λ58.00000°. NP2:φs188.00000°, δ63.00000°, λ109.00000°.*
IDC ***26*** *23:31:01.1±0.3, 38.94N×142.28E, h0km, mb4.9/57, mb1 4.9/64, mb1mx4.9/84, mbtmp4.9/64, ML3.8/5, MS4.2/27, Ms1 4.2/27, ms1mx4.1/38, Error ellipse: s-maj=9.5km s-min=7.5km az=111.0*
BJI ***26*** *23:31:01.2, 38.85N×142.39E, h18km, mb5.0/73, mB5.1/51, Ms5.0/79, Ms7 4.9/72*
MOS ***26*** *23:31:03.9±0.9, 39.00N×142.20E, h25km, mb5.5/98, MS4.6/49, Error ellipse: s-maj=5.7km s-min=3.8km az=96.1*
JMA ***26*** *23:31:03.1±0.1, 39.00N×142.31E, h25km±1km, M5.3 Broadband fault plane solution: P waves. NP1: φs182.00000°, δ51.00000°, λ54.00000°. NP2:φs50.00000°, δ51.00000°, λ126.00000°. Principal axes: T Plg63.0000°, Azm26.0000°; N Plg27.0000°, Azm206.0000°; P Plg0.0000°, Azm296.0000°;*
JMA Felt III J1.
ISCJB ***26*** *23:31:03.5±0.4, 38.98N±0.02×142.26E±0.02, h20km±3km, mb5.3/368, MS4.6/83 Error ellipse: s-maj=2.9km s-min=1.9km az=147.8*
GCMT ***26*** *23:31:04.7±0.2, 39.07N×142.20E, h15km, MW5.0/84, Moment Tensor Solution. s42,c51; s84,c129; Duration: 0 Moment tensor: Scale 1016Nm; Mrr3.88±.17; Mθθ0.34±.11; Mϕϕ-4.22±.12; Mrθ-1.37±.44; Mθϕ1.16±.08; Mϕr-1.06±.31; Best double couple: M04.56500×1016 NP1:φs187.00000°, δ54.00000°, λ117.00000°. NP2: φs326.00000°, δ44.00000°, λ58.00000°. Principal axes: T 4.5680, Plg68.0000°, Azm155.0000°; N -0.0050, Plg22.0000°, Azm350.0000°; P -4.5620, Plg5.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***26*** *23:31:04.7±0.1, 38.93N×142.16E, mb5.4/220, MW5.0(NIED) Error ellipse: s-maj=3.3km s-min=2.1km az=142.0*
NEIC Felt at Ichinoseki. Recorded [3 JMA] in Iwate and Miyagi; [2 JMA] in Akita, Fukushima, Niigata and Yamagata; [1 JMA] in Aomori, Ibaraki and Saitama.
SZGRF ***26*** *23:31:09.7, 39.97N×142.82E, h21km, mb5.0, MS4.6, Near east coast of eastern Honshu, Japan*
ISC 26 23:31:04.3±0.3, 38.98N±0.02×142.30E±0.03, h18km, h18km:pP-P, n1378, s1524/1458, mb5.4/371, MS4.6/85, 71C-53D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.50**	**282**	⇓P	**Pg**	**23 31 13.3**	**-1.1**
OFUJ				S	**Sg**	**23 31 20.1**	**-1.1**
MIYJ	**Miyakonagasawa**	**0.71**	**328**	⇓P	**Pb**	**23 31 16.0**	**-2.1**
MIYJ				S	**Sb**	**23 31 25.3**	**-2.1**
JMK	**Ichinoseki**	**0.84**	**269**	⇓P	**Pb**	**23 31 19.0**	**-1.4**
JMK				S	**Sb**	**23 31 30.2**	**-1.1**
JIO	**Ouri**	**0.91**	**235**	⇑P	**Pb**	**23 31 19.5**	**-2.0**
JIO				*e*S	**Sb**	**23 31 30.8**	**-2.4**
JOM	**Ohasama**	**0.93**	**303**	⇓P	**Pb**	**23 31 20.3**	**-1.5**
JOM				*e*S	**Sb**	**23 31 32.3**	**-1.5**
JTH	**Tanohata**	**1.02**	**341**	⇓P	**Pb**	**23 31 20.8**	**-2.6**
JTH				*e*S	**Sb**	**23 31 33.9**	**-2.5**
JKZ	**Kuzumaki**	**1.25**	**324**	⇓P	**Pn**	**23 31 25.3**	**-1.7**
JKZ				*e*S	**Sb**	**23 31 41.5**	**-1.8**
JRG	**Rokugo**	**1.36**	**288**	⇓P	**Pn**	**23 31 27.4**	**-1.0**
JRG				S	**Sn**	**23 31 46.0**	**+0.1**
JOU	**Okura**	**1.42**	**245**	⇓P	**Pn**	**23 31 28.0**	**-1.2**
JOU				*e*S	**Sn**	**23 31 46.2**	**-1.2**
JYK	**Kaneyama**	**1.51**	**268**	⇓P	**Pn**	**23 31 29.7**	**-0.8**
JANG	**Nango**	**1.52**	**337**	⇓P	**Pn**	**23 31 28.5**	**-2.1**
JYW	**Yuwa**	**1.72**	**290**	⇓P	**Pn**	**23 31 33.0**	**-0.3**
JAH	**Hinai**	**1.77**	**314**	⇓P	**Pn**	**23 31 33.2**	**-0.7**
JFK	**Kawauchi**	**1.96**	**215**	⇓P	**Pn**	**23 31 34.7**	**-2.0**
JFT	**Otama**	**2.12**	**227**	⇓P	**Pn**	**23 31 37.8**	**-1.1**
JNS	**Sasagawa**	**2.61**	**245**	⇓P	**Pn**	**23 31 45.2**	**-0.4**
JHO	**Hitachi**	**2.73**	**211**	⇓P	**Pn**	**23 31 44.8**	**-2.4**
ERM	**Erimo**	**3.10**	**12**	Pn	**Pn**	**23 31 52.2**	**-0.1**
	2μm,1.1s,SNR=21						
ERM	**Erimo**	**3.10**	**12**	*e*P	**Pn**	**23 31 52.3**	**-0.1**
ERM				*e*		23 32 30.3	
ERM	**Erimo**	**3.10**	**12**	*e*Pn	**Pn**	**23 31 52.3**	**-0.1**
ERM				*e*Sn	**Sn**	**23 32 30.3**	**+1.3**
JHK	**Hiroka**	**3.11**	**237**	⇓P	**Pn**	**23 31 52.1**	**-0.3**
JAG	**Ashikaga**	**3.40**	**222**	P	**Pn**	**23 31 55.8**	**-0.7**
JJN	**Nakama**	**3.76**	**241**	⇓P	**Pn**	**23 32 02.0**	**+0.6**
JRY	**Ryogami san**	**4.00**	**223**	⇓P	**Pn**	**23 32 04.3**	**-0.4**
MJAR	**Matsushiro Arr**	**4.05**	**234**	Pn	**Pn**	**23 32 04.9**	**-0.5**
	15nm,0.3s,baz=46,slow=12,SNR=195						
MJAR				Lg	Lg	23 33 08.4	
	baz=59,slow=31,SNR=3.0						
MJAR				LR	LR	23 33 37.4	
	comp=Z,1μm,20.0s,baz=50,slow=39						
MAJO	**Matsushiro**	**4.05**	**234**	*e*P	**Pn**	**23 32 06.2**	**+0.8**
MAJO				*e*		23 32 49.6	
MAJO	**Matsushiro**	**4.05**	**234**	*e*Pn	**Pn**	**23 32 06.2**	**+0.8**
MAJO				*e*Sn	**Sn**	**23 32 49.5**	**-2.8**
MAJO				*e*Lg	Lg	23 33 08.4	
MAT	**Matsushiro**	**4.05**	**234**	P	**Pn**	**23 32 05.9**	**+0.5**
MAT				S	**Sb**	**23 33 00.1**	**-3.6**
JNY	**Yasuok**	**5.06**	**226**	⇓P	**Pn**	**23 32 21.2**	**+1.9**
ASAJ	**Asahikawa**	**5.14**	**2**	Pn	**Pn**	**23 32 20.0**	**-0.3**
	0.8nm,0.3s,baz=188,slow=12,SNR=3.7						
ASAJ				Sn	**Sn**	**23 33 25.1**	**+5.9**
	baz=322,slow=19						
ASAJ				LR	LR	23 34 41.9	
	comp=Z,2μm,21.4s,slow=43						
ASAJ	**Asahikawa**	**5.14**	**2**	P	**Pn**	**23 32 20.0**	**-0.3**
ASAJ						23 33 25.1	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,2μm,21.5s						
YUK	**Yuzh-Kuril'sk**	**5.72**	**27**	*c* iP	**Pn**	**23 32 27.1**	**-1.1**
YUK				*i* S	**Sn**	**23 33 30.1**	**-3.2**
YUK				pmax	pmax		
	comp=N,202nm,0.5s						
YUK				pmax	pmax		
	comp=E,123nm,0.5s						
YUK				pmax	pmax		
	comp=Z,316nm,0.5s						
YUK				smax	smax		
	comp=E,832nm,0.8s						
YUK				smax	smax		
	comp=N,485nm,0.4s						
YUK				smax	smax		
	comp=N,3μm,2.0s						
YUK				smax	smax		
	comp=E,2μm,2.0s						
YUK				MLR	MLR		
	comp=N,3μm,16.0s						
YUK				MLR	MLR		
	comp=E,2μm,16.0s						
YUK				MLR	MLR		
	comp=Z,2μm,16.0s						
JEG	**Eigenji**	**6.08**	**233**	P	**Pn**	**23 32 35.5**	**+2.2**
JHJ2	**Mitsune**	**6.19**	**200**	*e*Pn	**Pn**	**23 32 33.9**	**-0.8**
JHJ2				*e*Sn	Sn	23 33 38.5	-6.5
JHJ	**Hachijo jima 2**	**6.19**	**200**	Pn	**Pn**	**23 32 33.8**	**-1.0**
	comp=Z,102nm,0.3s,baz=38,slow=5.6,SNR=23						
JHJ				Sn	**Sn**	**23 33 40.5**	**-4.5**
	comp=Z,131nm,0.3s,baz=73,slow=19,SNR=5.6						
KUR	**Kuril'sk**	**7.50**	**32**	⇑ *i* P	**Pn**	**23 32 52.0**	**-0.6**
KUR				*i* S	**Sn**	**23 34 13.1**	**-4.0**
KUR				pmax	pmax		
	comp=N,48nm,0.8s						
KUR				pmax	pmax		
	comp=E,59nm,0.8s						
KUR				pmax	pmax		
	comp=Z,138nm,0.8s						
KUR				smax	smax		
	comp=N,153nm,0.6s						
KUR				smax	smax		
	comp=E,110nm,0.6s						
YSS	**Yuzh-Sakhalins**	**7.98**	**2**	*e*P	**Pn**	**23 33 00.0**	**+0.7**
YSS				*i* S	**Sn**	**23 34 30.6**	**+1.6**
YSS				pmax	pmax		
	comp=N,60nm,1.0s						
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				smax	smax		
	comp=E,1μm,3.0s						
YSS				smax	smax		
	comp=E,170nm,1.1s						
YSS				MLR	MLR		
	comp=Z,3μm,13.0s						
YSS				MLR	MLR		
	comp=N,2μm,12.0s						
YSS				MLR	MLR		
	comp=E,3μm,14.0s						
YSS	**Yuzh-Sakhalins**	**7.98**	**2**	*e*Pn	**Pn**	**23 33 00.5**	**+1.2**
VLA	**Vladivostok**	**8.89**	**301**	*de*P	**Pn**	**23 33 12.2**	**+0.5**
MSHR	**Mys Shultsa**	**9.19**	**297**	*e*P	**Pn**	**23 33 15.4**	**-0.4**
USRK	**Ussuriysk Ar.**	**9.32**	**307**	Pn	**Pn**	**23 33 17.9**	**+0.3**
	comp=E,2.1nm,0.3s,baz=118,slow=15,SNR=24						
USRK				Sn	Sn	23 35 09.8	+7.9
	baz=139,slow=24,SNR=1.6						
USRK				LR	LR	23 36 45.0	
	comp=E,2μm,18.2s,baz=117,slow=37						
UGL	**Uglegorsk**	**10.10**	**359**	P	Pn	23 33 34.0	+5.7
UGL				MLR	MLR		
	comp=N,1μm,16.0s						
UGL				MLR	MLR		
	comp=E,4μm,16.0s						
UGL				MLR	MLR		
	comp=Z,2μm,16.0s						
KSULJ	**Uljin**	**10.45**	**261**	P	Pn	23 33 37.4	+4.3
	SNR=16						
KSULJ	**Uljin**	**10.45**	**261**	P	Pn	23 33 37.4	+4.3
	SNR=16						
KSPHA	**Pohang**	**10.63**	**259**	P	Pn	23 33 39.3	+3.7
	SNR=10						
KSPHA	**Pohang**	**10.63**	**259**	P	Pn	23 33 39.3	+3.7
	SNR=10						
KSJMJ	**Jumunjin**	**10.68**	**268**	P	**Pn**	**23 33 39.2**	**+2.8**
	SNR=10						
KSJMJ	**Jumunjin**	**10.68**	**268**	P	**Pn**	**23 33 39.4**	**+3.1**
	SNR=9.1						
KSTBA	**Taebaek**	**10.69**	**264**	P	**Pn**	**23 33 39.4**	**+2.9**
	SNR=16						
KSTBA	**Taebaek**	**10.69**	**264**	P	**Pn**	**23 33 39.4**	**+2.9**
	SNR=16						
HABR	**Khabarovsk**	**10.84**	**333**	*e*P	**Pn**	**23 33 36.4**	**-2.0**
HABR				*e*		23 35 36.8	
HABR				pmax	pmax		
	comp=Z,57nm,1.2s						
HABR				MLR	MLR		
	comp=Z,2μm,16.0s						
JNU	**Nakatsue**	**10.93**	**241**	Pn	**Pn**	**23 33 39.1**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=47,slow=10,SNR=20						
JNU	**Nakatsue**	**10.93**	**241**	*e*Pn	**Pn**	**23 33 40.2**	**+0.4**
SEHB	**SEOHWA**	**11.01**	**271**	P	Pn	23 33 44.4	+3.5
	SNR=16						
SEHB	**SEOHWA**	**11.01**	**271**	P	Pn	23 33 44.4	+3.5
	SNR=16						
MDJ	**Mudanji

SNR=7.2
INCN Inchon 12.41 268 P Pn 23 34 05.4 +5.3
KSSES Seosan 12.71 265 P **Pn** **23 34 07.1 +3.1**
SNR=18
KLR Kul'dur 12.73 327 *e*P **Pn** **23 34 01.8 -2.6**
KLR *e* 23 36 30.5
KLR MLR MLR
comp=Z,4μm,13.5s
CN2 Changchun 13.53 296 *e*P Pn 23 34 19.0 +3.7
CN2 *e*S **Sn** **23 36 47.0 +1.9**
CN2 PMZ
comp=Z,20nm,1.0s
CN2 PMZ
comp=Z,200nm,4.0s
CN2 LN
comp=Z,2μm,16.0s
CN2 LE
comp=Z,1μm,16.0s
CN2 LZ
comp=Z,700nm,17.0s
KSJDO Jindo 13.58 256 P **Pn** **23 34 18.9 +2.8**
SNR=8.5
KSHUK Heuksando 14.15 258 P **Pn** **23 34 26.7 +2.9**
SNR=7.4
NKL Nikolayevsk 14.22 356 *e*P **Pn** **23 34 25.0 +0.4**
NKL *e* 23 37 04.0
NKL pmax pmax
comp=Z,500nm,4.0s
NKL pmax pmax
comp=Z,43nm,1.0s
NKL MLR MLR
comp=N,2μm,12.0s
NKL MLR MLR
comp=Z,1μm,12.0s
SNY Shenyang 14.55 287 ⇑P **P** **23 34 33.0 -2.6**
SNY S **Sn** **23 37 13.3 +3.5**
SNY PMZ
comp=Z,65nm,2.0s
SNY LN
comp=Z,1μm,10.5s
SNY LE
comp=Z,2μm,11.1s
SNY LZ
comp=Z,2μm,10.9s
SKR Severo-Kuril's 15.24 35 *e*P Pn 23 34 31.0 -7.3
SKR pmax pmax
comp=Z,110nm,1.0s
SKR MLR MLR
comp=N,1μm,14.0s
SKR MLR MLR
comp=E,2μm,14.0s
SKR MLR MLR
comp=Z,2μm,14.0s
DL2 Dalian 16.09 276 P **Pn** **23 34 48.8 -0.6**
DL2 S **Sn** **23 37 49.8 +2.5**
DL2 PMZ
comp=Z,110nm,1.0s
DL2 PMZ
comp=Z,370nm,7.8s
DL2 LN
comp=Z,520nm,14.2s
DL2 LE
comp=Z,2μm,12.2s
DL2 LZ
comp=Z,2μm,12.3s
PETK Petropavlovsk- 17.66 32 P **Pn** **23 35 05.8 -3.4**
comp=Z,0.3nm,0.3s,baz=201,slow=12,SNR=4.5
PETK LR LR 23 41 41.9
comp=Z,173nm,19.6s,baz=220,slow=36
PEA2 Petropavlovsk- 17.67 32 *e*Pn **Pn** **23 35 05.8 -3.4**
PET Petropavlovsk 18.00 33 *d i*P **P** **23 35 16.6 +2.8**
PET *e*S **Sn** **23 38 34.5 +0.9**
PET pmax pmax
comp=Z,300nm,7.4s
PET pmax pmax
comp=Z,500nm,9.4s
PET pmax pmax
comp=Z,60nm,1.1s
PET MLR MLR
comp=Z,2μm,16.0s
PET MLR MLR
comp=Z,2μm,17.0s
PET Petropavlovsk 18.00 33 *e*Pn **P** **23 35 15.5 +1.7**
comp=Z,61nm,1.1s
SSE Sheshan 18.96 252 P **Pn** **23 35 25.3 +0.1**
SSE S **Sn** **23 38 56.3 -0.8**
SSE PMZ
comp=Z,170nm,1.1s
SSE PMZ
comp=Z,230nm,6.0s
SSE LN
comp=Z,1μm,20.3s
SSE LE
comp=Z,1μm,20.2s
SSE LZ
comp=Z,1μm,16.4s
HIA Hailar 19.11 310 *e*P **P** **23 35 23.7 -2.4**
HIA pmax pmax
comp=Z,45nm,1.0s
HIA Hailar 19.11 310 *e*P **P** **23 35 23.7 -2.4**
comp=Z,45nm,1.0s
TIA Tai'an 20.12 270 ⇑P **P** **23 35 35.8 -1.4**
TIA PP **PnPn** **23 36 00.5 +7.0**
TIA S S 23 39 15.0 -7.4
TIA SS SnSn 23 39 52.5 +13
TIA PMZ
comp=Z,60nm,1.3s
TIA PMZ
comp=Z,30nm,3.5s
TIA LN
comp=Z,390nm,10.1s
TIA LE
comp=Z,4μm,14.0s
TIA LZ
comp=Z,5μm,13.7s
BJI Beijing 20.17 281 P **P** **23 35 34.8 -2.8**
BJI S S 23 39 15.5 -7.7
BJI PMZ
comp=Z,17nm,1.6s
BJI PMZ
comp=Z,150nm,3.4s
BJI LN
comp=Z,3μm,14.8s
BJI LE
comp=Z,1μm,16.2s
BJI LZ
comp=Z,1μm,16.7s
BJT Baijiatuau 20.17 281 PFAKE 23 35 50.0 +10
BJT LR LR
comp=Z,1μm,21.0s
NJ2 Nanjing 20.27 257 *e*P **P** **23 35 39.3 +0.6**
NJ2 pP **pP** **23 35 43.8 -0.1**
NJ2 S **S** **23 39 25.5 +0.2**
NJ2 sS **sS** **23 39 34.5 +0.9**
NJ2 PMZ
comp=Z,60nm,0.8s
NJ2 PMZ
comp=Z,940nm,10.4s
NJ2 LN
comp=Z,3μm,11.7s
NJ2 LE
comp=Z,3μm,12.1s
NJ2 LZ
comp=Z,3μm,10.8s
CLNS Chul'man 21.23 333 *e*P **P** **23 35 51.5 +2.5**
CLNS *e**PP pP 23 36 02.5 +8.2
CLNS *e* 23 36 11.7
CLNS *e*S **S** **23 39 40.9 -3.3**
CLNS *e* 23 39 58.7
CLNS *e*SS **SnSn** **23 40 09.7 +3.3**
CLNS pmax pmax
comp=Z,28nm,1.0s
CLNS pmax pmax
comp=N,44nm,1.1s
CLNS pmax pmax
comp=E,21nm,0.8s
CLNS pmax pmax
comp=E,32nm,0.9s
CLNS pmax pmax
comp=N,39nm,0.9s
CLNS pmax pmax
comp=Z,41nm,1.2s
CLNS smax smax
comp=E,252nm,10.1s
CLNS smax smax
comp=N,454nm,10.3s
CLNS MLR MLR
comp=Z,1μm,12.0s
CLNS MLR MLR
comp=Z,1μm,14.0s
CLNS MLR MLR
comp=N,965nm,12.0s
MA2 Magadan 21.31 12 *e*P **P** **23 35 49.9 +0.1**
YHNB Yeheng 22.72 237 *e*P **P** **23 36 05.8 +0.5**
comp=N,44nm,0.7s
YHNB LR LR
comp=Z,1μm,22.0s
NACB Ninganchiao 22.92 236 *e*P **P** **23 36 04.5 -2.8**
comp=Z,70nm,0.8s
HHC Hu-ho-hao-te 23.59 284 *e*P **P** **23 36 16.3 +2.2**
HHC pP **pP** **23 36 21.3 +1.8**
HHC S **S** **23 40 27.5 -0.1**
HHC sS **sS** **23 40 32.5 -4.3**
HHC SS SnSn 23 41 16.0 +11
HHC PMZ
comp=Z,30nm,1.4s
HHC PMZ
comp=Z,200nm,4.1s
HHC LN
comp=Z,2μm,17.6s
HHC LE
comp=Z,2μm,15.6s
HHC LZ
comp=Z,3μm,15.5s
SSLB Suanglung 23.61 236 *e*P **P** **23 36 11.2 -3.0**
comp=Z,84nm,0.9s
YULB Yu-li 23.67 235 *e*P **P** **23 36 12.6 -2.2**
comp=Z,160nm,1.5s
CIT Chita 23.82 313 *e*P **P** **23 36 16.7 +0.6**
CIT *e* 23 36 25.9
CIT *e* 23 36 51.9
CIT *e* 23 37 05.3
CIT pmax pmax
comp=Z,158nm,1.6s
TWG Pinlang 24.22 235 *e*P **P** **23 36 19.4 -0.6**
comp=Z,642nm,0.9s
YAK Yakutsk 24.35 346 P **P** **23 36 19.9 -0.9**
comp=Z,4.6nm,0.3s,baz=343,slow=20,SNR=5.5
YAK S **S** **23 40 33.4 -5.6**
comp=Z,3.7nm,0.4s,baz=301,slow=18,SNR=2.2
YAK LR LR 23 47 40.3
comp=Z,592nm,19.5s,baz=148,slow=41
YAK Yakutsk 24.35 346 *e*P **P** **23 36 19.1 -1.7**
YAK *e**PP **pP** **23 36 26.8 +0.4**
YAK *e* 23 36 50.5
YAK *e* 23 40 00.0
YAK *e*S **S** **23 40 34.5 -4.5**
YAK *e**SS **sS** **23 40 45.7 -2.4**
YAK *e*SS **SnSn** **23 41 26.1 +3.6**
YAK pmax pmax
comp=Z,88nm,1.3s
YAK pmax pmax
comp=N,60nm,1.4s
YAK pmax pmax
comp=E,20nm,1.3s
YAK pmax pmax
comp=Z,69nm,0.9s
YAK pmax pmax
comp=N,63nm,1.4s
YAK pmax pmax
comp=E,30nm,1.0s
YAK smax smax
comp=N,160nm,2.2s
YAK smax smax
comp=E,221nm,3.0s
YAK MLR MLR
comp=Z,2μm,16.0s
YAK MLR MLR
comp=N,2μm,16.0s
YAK MLR MLR
comp=E,1μm,14.0s
YAK Yakutsk 24.35 346 *e*S **S** **23 40 33.4 -5.6**
YAK LR LR
comp=Z,1μm,19.0s
WHN Wuhan 24.38 258 ⇑P **P** **23 36 20.5 -0.9**
WHN S **S** **23 40 39.3 -0.8**
WHN LN
comp=Z,4μm,13.2s
WHN LE
comp=Z,5μm,13.8s
WHN LZ
comp=Z,5μm,13.0s
QZH Quanzhou 24.41 242 ⇑*i*P **P** **23 36 23.0 +1.3**
QZH S **S** **23 40 38.5 -2.1**
QZH LN
comp=Z,3μm,12.8s
QZH LE
comp=Z,3μm,14.2s
QZH LZ
comp=Z,4μm,14.4s
SEY Seymchan 24.75 11 P **P** **23 36 24.7 +0.2**
comp=Z,22nm,0.9s,baz=205,slow=7.2,SNR=30
SEY Seymchan 24.75 11 ⇑*e*P **P** **23 36 25.8 +1.3**
GUMO Guam 25.39 174 LR LR 23 45 11.3
comp=Z,316nm,19.9s,baz=356,slow=34
SMY Shemya 25.82 47 *e*P **P** **23 36 35.6 +1.3**
SMY pmax pmax
comp=Z,105nm,1.0s
SMY Shemya 25.82 47 *e*P **P** **23 36 35.5 +1.3**
comp=Z,105nm,1.0s
BOD Bodaibo 26.30 325 *e*P **P** **23 36 37.5 -1.0**
BOD pmax pmax
comp=Z,59nm,1.0s
ULN Ulaanbaatar 26.90 301 *de*P **P** **23 36 45.7 +1.4**
ULN pmax pmax
comp=Z,15nm,1.2s
ULN Ulaanbaatar 26.90 301 *e*P **P** **23 36 44.7 +0.4**
comp=Z,18nm,1.0s
ULN LR LR
comp=Z,529nm,20.0s
XAN Xi'an 27.18 270 P **P** **23 36 46.3 -0.5**
XAN pP **pP** **23 36 51.3 -1.1**
XAN sP **sP** **23 36 53.8 -0.9**
XAN S **S** **23 41 20.0 -4.7**
XAN PMZ
comp=Z,11nm,0.9s
XAN PMZ
comp=Z,39nm,3.6s
XAN LN
comp=Z,680nm,10.3s
XAN LE
comp=Z,2μm,12.2s
XAN LZ
comp=Z,2μm,12.0s
SONA0 Songino Array 27.34 301 *e*P **P** **23 36 47.9 -0.3**
SONA0 *e*ScS ScS 23 47 42.5 +4.5
SONM Songino Array 27.34 301 P **P** **23 36 47.9 -0.3**
comp=Z,4.3nm,0.7s,baz=94,slow=9.0,SNR=15
SONM LR LR 23 47 42.5
comp=Z,563nm,20.6s,baz=90,slow=37
ENH Enshi 28.24 262 *e*P **P** **23 36 54.8 -1.6**
comp=Z,33nm,0.8s
AMKA Amchitka 28.57 52 *e*P **P** **23 37 00.5 +1.6**
H11N2 WAKE ISLAND Hy 28.61 125 T T 00 07 15.0
baz=318,slow=75
H11N1 WAKE ISLAND Hy 28.62 125 T T 00 07 15.6
baz=318,slow=75
H11N3 WAKE ISLAND Hy 28.63 125 T T 00 06 57.3
baz=318,slow=75
IRK Irkutsk 29.36 309 *e*P **P** **23 37 07.7 +1.7**
IRK pmax pmax
comp=Z,62nm,1.3s
H11S1 WAKE ISLAND Hy 29.40 127 T T 00 08 12.5
baz=319,slow=76,SNR=9333
H11S3 WAKE ISLAND Hy 29.40 127 T T 00 08 28.0
baz=319,slow=76,SNR=8546
H11S2 WAKE ISLAND Hy 29.41 127 T T 00 08 18.1
baz=319,slow=76,SNR=4718
TLY Talaya 29.63 308 P **P** **23 37 08.0 -0.4**
comp=Z,8.4nm,0.8s,baz=125,slow=7.2,SNR=6.6
TLY LR LR 23 49 40.5
comp=Z,1μm,18.1s,baz=98,slow=38
TLY Talaya 29.63 308 *e*P **P** **23 37 10.0 +1.5**
TLY pmax pmax
comp=Z,18nm,0.9s
TLY MLR MLR
comp=Z,2μm,19.0s
TLY Talaya 29.63 308 P **P** **23 37 10.8 +2.3**
comp=Z,109nm,0.8s,SNR=5.4
TLY Talaya 29.63 308 *e*P **P** **23 37 09.3 +0.8**
comp=Z,17nm,0.8s
TLY LR LR
comp=Z,2μm,19.0s
ZAK Zakamensk 29.66 305 *e*P P 23 37 03.9 -4.9
ZAK pmax pmax
comp=Z,15nm,1.2s
LZH Lanzhou 30.48 277 ⇑P P 23 37 20.5 +4.2
LZH pP pP 23 37 27.5 +5.6
LZH sP sP 23 37 31.3 +7.1
LZH PP **PP** **23 38 21.0 -4.1**
LZH *e*S **S** **23 42 20.0 +3.2**
LZH sS sS 23 42 31.0 +5.0
LZH SS **ScP** **23 43 59.0 +2.3**
LZH PMZ
comp=Z,86nm,1.0s
LZH PMZ
comp=Z,140nm,5.0s
LZH LN
comp=Z,2μm,13.4s
LZH LE
comp=Z,3μm,13.8s
LZH LZ
comp=Z,3μm,15.6s
TGY Tagaytay City 31.13 223 P **P** **23 37 22.1 +0.1**
comp=Z,143nm,0.3s,baz=126,slow=8.7,SNR=2.2
MOY Mondy 31.26 308 *e*P P 23 37 26.4 +3.4
MOY pmax pmax
comp=Z,36nm,1.7s
GSTR Great Sitkin T 31.53 52 *e*P **P** **23 37 22.8 -2.4**
BILL Bilibino 31.97 17 *c i*P **P** **23 37 28.4 -0.4**
BILL pmax pmax
comp=Z,20nm,1.0s
BILL MLR MLR
comp=Z,373nm,18.0s
BILL Bilibino 31.97 17 *e*P **P** **23 37 29.3 +0.5**
comp=Z,40nm,1.0s
GYA Guiyang 32.27 258 ⇑*i*P **P** **23 37 30.0 -2.1**
GYA PP **PnPn** **23 38 41.0 +2.5**
GYA PcP **PcP** **23 40 21.3 +1.2**
GYA S **S** **23 42 42.3 -2.5**
GYA sS **sS** **23 42 53.5 -0.6**
GYA ScP **ScP** **23 44 03.8 +1.0**
GYA SS **SnSn** **23 44 37.0 +0.4**
GYA PMZ
comp=Z,100nm,1.0s
GYA PMZ
comp=Z,120nm,4.6s
GYA LN
comp=Z,1μm,13.9s
GYA LE
comp=Z,1μm,14.3s
GYA LZ
comp=Z,1μm,16.4s
CD2 Chengdu 32.41 268 ⇑P **P** **23 37 33.0 -0.2**
CD2 pP **pP** **23 37 38.5 -0.3**
CD2 sP **sP** **23 37 40.8 -0.3**
CD2 PcP **PcP** **23 40 20.5 +0.1**
CD2 S **S** **23 42 46.5 -0.3**
CD2 sS **sS** **23 42 56.0 -0.1**
CD2 PMZ
comp=Z,30nm,0.6s
CD2 PMZ
comp=Z,240nm,5.1s
CD2 LN
comp=Z,2μm,12.3s
CD2 LE
comp=Z,2μm,13.5s
CD2 LZ
comp=Z,3μm,13.1s
ATKA Atka Island 32.68 52 *e*P **P** **23 37 35.4 +0.2**
comp=Z,18nm,1.0s
GTA Gaotai 32.71 284 P **P** **23 37 37.8 +2.0**
GTA pP **pP** **23 37 42.0 +0.6**
GTA sP **sP** **23 37 44.8 +1.1**
GTA PcP **PcP** **23 40 22.0 +0.8**
GTA S **S** **23 42 54.0 +2.6**
GTA sS **sS** **23 43 02.5 +1.8**
GTA SS **SnSn** **23 44 54.5 +7.6**
GTA PMZ
comp=Z,15nm,1.6s
GTA PMZ
comp=Z,250nm,5.5s
GTA LN
comp=Z,2μm,18.0s
GTA LE
comp=Z,1μm,17.1s
GTA LZ
comp=Z,2μm,16.9s
QIZ Qiongzhong 34.39 244 P **P** **23 37 51.8 +1.4**
QIZ pP **pP** **23 37 55.0 -1.1**
QIZ PP **PP** **23 39 09.8 +1.4**
QIZ S **S** **23 43 20.0 +2.5**
QIZ sS **sS** **23 43 26.0 -0.8**
QIZ PMZ
comp=Z,60nm,4.3s
QIZ LN
comp=Z,940nm,15.2s
QIZ LZ
comp=Z,1μm,14.0s
KMI Kunming 35.98 259 P **P** **23 38 05.8 +1.4**
KMI pP **pP** **23 38 10.8 +0.8**
KMI sP **sP** **23 38 13.3 +1.0**
KMI PP **PP** **23 39 27.8 +1.7**
KMI PcP **PcP** **23 40 33.3 +2.4**
KMI S **S** **23 43 42.0 -0.3**
KMI sS **sS** **23 43 51.5 -0.1**
KMI SS **SnSn** **23 46 04.3 -2.3**
KMI PMZ
comp=Z,210nm,4.1s
KMI LN
comp=Z,720nm,13.4s
KMI LE
comp=Z,1μm,15.3s
KMI LZ
comp=Z,1μm,15.0s
NIKH Nikolski High 35.99 51 *e*P **P** **23 38 05.6 +1.7**
comp=Z,61nm,0.5s
KRAR Krasnoyarsk 36.58 314 ⇓*e*P **P** **23 38 09.2 +0.4**
KRAR pmax pmax
comp=Z,116nm,1.2s
SLVN Son La 37.24 253 *e*P P 23 38 18.2 +3.3
comp=Z,22nm,1.3s
TNA Tin City 38.83 30 *e*P **P** **23 38 29.3 +1.6**
comp=Z,90nm,1.0s
KDM Kudat 39.32 222 ⇑P **P** **23 38 33.1 +0.7**
SKNT Sakolnakorn 39.91 248 P **P** **23 38 40.3 +2.9**
comp=Z,34nm,1.6s,comp=Z,2μm
MYLDM Lahad Datu 39.96 219 ⇓P **P** **23 38 39.3 +1.6**
MYLDM Lahad Datu 39.96 219 *e*P **P** **23 38 40.3 +2.5**
comp=Z,104nm,1.0s
SDKM Sandakan 40.21 221 ⇓P **P** **23 38 40.6 +0.7**
DLV T Lat 40.30 237 *e*P P 23 38 44.2 +3.4
CRAI Chiangrai 40.54 255 P **P** **23 38 39.6 -3.0**
comp=Z,33nm,0.7s,comp=Z,8μm
WMQ Urumqi 40.62 295 P **P** **23 38 45.0 +1.9**
WMQ pP **pP** **23 38 49.5 +0.7**
WMQ sP **sP** **23 38 54.0 +3.0**
WMQ PP **PnPn** **23 40 22.5 +1.9**
WMQ S **S** **23 44 53.5 +1.6**
WMQ SS **SS** **23 47 48.5 -3.4**
WMQ PMZ
comp=Z,110nm,1.0s
WMQ PMZ
comp=Z,440nm,4.0s
WMQ LN
comp=Z,1μm,14.0s
WMQ LE
comp=Z,700nm,16.0s
WMQ LZ
comp=Z,400nm,16.8s
SMPI Sarmi 40.90 185 P **P** **23 38 47.0 +1.5**
comp=Z,97nm,1.2s
SWI Sorong 40.92 197 P **P** **23 38 46.2 +0.5**
comp=Z,57nm,1.0s
SIJI Sorong 40.93 197 P **P** **23 38 44.5 -1.3**
comp=Z,23nm,1.0s,baz=359,slow=14,SNR=4.1
ZAA1 Zalesovo Array 41.15 311 *e*P **P** **23 38 46.8 -0.4**
ZAA1 *e*PcP **PcP** **23 40 46.2 0.0**
ZALV Zalesovo Beam 41.15 311 P **P** **23 38 46.8 -0.4**
comp=Z,17nm,0.5s,baz=91,slow=8.0,SNR=67
ZALV PcP **PcP** **23 40 46.2 0.0**
comp=Z,12nm,1.0s,baz=143,slow=5.0,SNR=3.2
ZALV LR LR 23 56 35.8
comp=Z,792nm,18.0s,baz=70,slow=37
KHON Khomkaen 41.16 248 P **P** **23 38 48.3 +0.6**
comp=Z,19nm,0.8s,comp=Z,482nm
JAY Jayapura 41.31 182 P **P** **23 38 48.1 -0.8**

comp=Z,56nm,1.1s,baz=321,slow=4.0,SNR=7.4
GENI Genyem 41.41 183 P **P** **23 38 51.2 +1.5**
comp=Z,194nm,0.9s,comp=Z,2µm
LBMI Labuha 41.70 203 P **P** **23 38 55.2 +3.1**
comp=Z,99nm,1.0s,comp=Z,2µm
CMAI Chiengmai2 41.72 256 P **P** **23 38 53.0 +0.5**
comp=Z,43nm,0.7s
KMSI Cibinong 41.74 208 P P 23 38 56.3 +3.9
comp=Z,358nm,0.9s
UTTA Uttaradit 41.92 252 P **P** **23 38 55.0 +1.1**
comp=Z,7.3nm,1.0s,comp=Z,56nm
NVS Novosibirsk 42.03 312 *e*P **P** **23 38 53.7 -0.7**
NVS *e* 23 40 48.2
NVS *e*S **S** **23 45 07.1 -5.2**
NVS pmax pmax
comp=E,52nm,1.2s
NVS pmax pmax
comp=E,68nm,1.2s
NVS smax smax
comp=E,17nm,1.4s
LAMP Lampang 42.13 253 P **P** **23 38 56.5 +0.9**
comp=E,12nm,0.9s,comp=E,107nm
PBKT Sadao Pong 42.36 250 P **P** **23 38 58.3 +0.8**
comp=E,27nm,1.3s,comp=E,3µm
CMMT Chiang Mai 42.46 254 P **P** **23 38 58.3 -0.1**
comp=E,49nm,0.9s
CHTO Chiang Mai 42.47 254 P P **23 38 58.4 0.0**
comp=E,134nm,1.1s
CHTO Chiang Mai 42.47 254 *e*P **P** **23 38 58.2 -0.2**
CHTO pmax pmax
comp=Z,31nm,0.9s
CHTO MLR MLR
comp=Z,264nm,20.0s
CHTO Chiang Mai 42.47 254 *e*P **P** **23 38 58.2 -0.2**
comp=Z,31nm,0.9s
CHTO LR LR
comp=Z,264nm,20.0s
TOLI Toli-Toli 42.50 213 *e*P **P** **23 38 56.1 -2.5**
comp=Z,142nm,0.4s
MRSI Marisa 42.61 211 P **P** **23 39 00.0 +0.5**
comp=Z,88nm,0.7s
CM31 Chiang Mai Arr 42.68 254 *e*P **P** **23 38 59.8 -0.3**
CM31 *e*PcP **PcP** **23 40 52.6 +0.8**
CM31 *e*ScP **ScP** **23 44 42.5 +0.8**
CMAR Chiang Mai Arr 42.68 254 P **P** **23 38 59.9 -0.3**
comp=Z,5.7nm,0.9s,baz=45,slow=6.1,SNR=16
CMAR PcP **PcP** **23 40 52.6 +0.8**
comp=Z,4.7nm,0.9s,baz=338,slow=1.8,SNR=5.3
CMAR ScP **ScP** **23 44 42.5 +0.8**
comp=Z,3.0nm,1.0s,baz=14,slow=3.2,SNR=9.0
CMAR LR LR 23 56 55.4
comp=Z,129nm,20.5s,baz=61,slow=36
FAKI Fak Fak 42.71 195 P **P** **23 39 00.5 +0.2**
comp=Z,78nm,1.1s,comp=Z,1µm
FAKI Fak Fak 42.71 195 *e*P **P** **23 39 00.0 -0.3**
comp=Z,174nm,1.5s
LSA Lhasa 42.76 274 P **P** **23 39 02.0 +0.8**
LSA Lhasa 42.76 274 *e*P **P** **23 39 02.2 +1.0**
LSA pmax pmax
comp=Z,21nm,0.7s
LSA MLR MLR
comp=Z,714nm,20.0s
LSA Lhasa 42.76 274 *e*P **P** **23 39 02.2 +1.0**
comp=Z,21nm,0.7s
LSA LR LR
comp=Z,714nm,20.0s
SANI Sanana 43.50 204 P **P** **23 39 06.5 -0.2**
comp=Z,92nm,1.0s,comp=Z,1µm
SVW2 Sparrevohn 43.56 39 *e*P **P** **23 39 08.0 +1.2**
comp=Z,44nm,0.9s
NAYO Nakonayok 43.59 247 P **P** **23 39 10.1 +2.7**
comp=Z,40nm,0.8s
MPSI Mapaga 43.59 214 P **P** **23 39 07.5 +0.1**
comp=Z,32nm,1.1s,comp=Z,626nm
MHMT Maesarieng 43.62 255 P **P** **23 39 08.4 +0.7**
comp=Z,27nm,0.9s
LUWI Luwuk 43.68 209 P **P** **23 39 11.2 +3.1**
comp=Z,110nm,0.9s,comp=Z,6µm
LUWI Luwuk 43.68 209 *e*P **P** **23 39 10.2 +2.1**
comp=Z,94nm,0.9s
MK32 Makanchi Array 43.71 301 *e*P **P** **23 39 07.7 -0.4**
MK32 *e*S **S** **23 45 34.3 -3.0**
MKAR Makanchi Array 43.71 301 P **P** **23 39 07.7 -0.4**
comp=Z,26nm,0.7s,baz=78,slow=11,SNR=101
MKAR S **S** **23 45 34.3 -3.0**
comp=Z,0.6nm,0.9s,baz=67,slow=14,SNR=2.0
MKAR LR LR 23 58 01.1
comp=Z,347nm,18.4s,baz=78,slow=37
MKAR Makanchi Array 43.71 301 P **P** **23 39 07.7 -0.4**
MKAR S **S** **23 45 34.3 -3.0**
MKAR pmax pmax
comp=Z,26nm,0.7s
MKAR smax smax
comp=N,1.0nm,0.9s
MKAR MLR MLR
comp=Z,347nm,18.4s
APSI Ampana 43.99 211 P **P** **23 39 11.3 +0.6**
comp=Z,122nm,1.3s,comp=Z,1µm
UTHA Uthaitani 44.13 250 P **P** **23 39 14.5 +2.7**
comp=Z,10nm,1.0s,comp=Z,116nm
UMPA Umpang Tak 44.15 252 P **P** **23 39 14.9 +2.9**
comp=Z,15nm,1.2s,comp=Z,227nm
SHL Shillong 44.15 268 *e*P **P** **23 39 13.0 +0.8**
SHL *e*S **S** **23 45 40.0 -4.5**
IM04 Indian Mountai 44.62 32 *e*P **P** **23 39 16.2 +1.0**
OHAK Old Harbor 44.87 44 *e*P **P** **23 39 17.7 +0.5**
comp=Z,62nm,1.3s
RSO Redoubt South 44.95 39 *e*P **P** **23 39 19.6 +1.5**
SRDT SRDT 45.16 249 P P 23 39 23.9 +3.9
comp=Z,138nm,1.8s,comp=Z,17µm
PPLA Purkeypile 45.18 36 *e*P **P** **23 39 22.1 +2.3**
comp=Z,215nm,1.6s
KDAK Kodiak Island 45.20 43 P **P** **23 39 19.7 -0.1**
comp=Z,34nm,1.0s,baz=351,slow=6.5,SNR=3.7
KDAK Kodiak Island 45.20 43 *e*P **P** **23 39 20.5 +0.7**
KDAK pmax pmax
comp=Z,81nm,0.9s
KDAK Kodiak Island 45.20 43 *e*P **P** **23 39 20.5 +0.7**
comp=Z,82nm,0.9s
CAST Castle Rocks 45.23 35 *e*P **P** **23 39 22.0 +1.9**
comp=Z,56nm,1.2s
SPU Mount Spurr 45.27 38 *e*P **P** **23 39 22.0 +1.5**
KURK Kurchatov 45.31 307 *e*P **P** **23 39 20.7 -0.2**
KURK *e* 23 41 00.0
KURK *e*S **S** **23 45 56.1 -4.3**
KURK Kurchatov 45.31 307 *e*P **P** **23 39 20.6 -0.2**
KURK *e*PcP **PcP** **23 41 00.0 -0.3**
KURK *e*S **S** **23 45 56.0 -4.3**
KURBB Kurchatov Arra 45.38 307 P **P** **23 39 20.6 -0.8**
comp=Z,27nm,0.6s,baz=80,slow=8.3,SNR=73
KURBB PcP **PcP** **23 41 00.0 -0.5**
comp=Z,3.7nm,0.7s,baz=67,slow=4.8,SNR=2.5
KURBB S **S** **23 45 56.0 -5.4**
comp=Z,0.3nm,0.2s,baz=107,slow=23,SNR=3.5
SBUM Sibu 45.53 225 ⇓P **P** **23 39 21.8 -1.2**
BPAW Bear Paw Mtn. 45.73 34 *e*P **P** **23 39 25.4 +1.4**
comp=Z,28nm,1.6s
MLY Manley 45.84 33 *e*P **P** **23 39 26.6 +1.7**
comp=Z,60nm,1.0s
SUA Susitna One 45.89 38 *e*P **P** **23 39 24.1 -1.4**
comp=Z,84nm,0.9s
TRF Thorofare Moun 46.04 35 *e*P **P** **23 39 28.1 +1.5**
comp=Z,42nm,1.0s
COLD Coldfoot 46.12 30 *e*P **P** **23 39 28.9 +1.9**
comp=Z,27nm,1.1s
BWN Browne 46.39 34 *e*P **P** **23 39 31.8 +2.6**
comp=Z,368nm,1.2s
RC01 Rabbit Creek A 46.40 38 *e*P **P** **23 39 30.2 +0.8**
comp=Z,105nm,1.0s
TAPN Taplejung 46.53 273 *e*P **P** **23 39 31.2 +0.1**
comp=Z,65nm,0.8s
SEW Seward 46.62 40 *e*P **P** **23 39 31.8 +0.8**
comp=Z,76nm,1.2s
MCK McKinley 46.64 35 *e*P **P** **23 39 32.5 +1.3**
MCK pmax pmax
comp=Z,74nm,1.0s
MCK McKinley 46.64 35 *e*P **P** **23 39 32.5 +1.3**
comp=Z,74nm,1.0s
PMR Palmer 46.66 38 *e*P **P** **23 39 32.1 +0.8**
PMR pmax pmax
comp=Z,60nm,1.0s
PMR Palmer 46.66 38 *e*P **P** **23 39 32.1 +0.8**
comp=Z,60nm,1.0s
RND Reindeer 46.69 35 *e*P **P** **23 39 32.5 +0.9**
RND pmax pmax
comp=Z,129nm,1.1s
RND Reindeer 46.69 35 *e*P **P** **23 39 32.5 +0.9**
comp=Z,129nm,1.1s
MDM Murphy Dome 46.91 33 *e*P **P** **23 39 34.6 +1.4**
comp=Z,125nm,1.2s
WRH Wood River Hil 46.98 34 *e*P **P** **23 39 35.0 +1.2**
comp=Z,24nm,0.9s
ODAN Odare 47.01 272 *e*P **P** **23 39 34.5 -0.4**
comp=Z,77nm,0.8s
SML Sawmill 47.02 37 *e*P **P** **23 39 35.5 +1.3**
SML pmax pmax
comp=Z,16nm,0.9s
SML Sawmill 47.02 37 *e*P **P** **23 39 35.5 +1.3**
comp=Z,16nm,0.9s
COLA College 47.07 33 *e*P **P** **23 39 35.7 +1.2**
COLA *e**PP **pP** **23 39 41.8 +1.6**
COLA pmax pmax
comp=Z,31nm,0.7s
COLA College 47.07 33 *e*P **P** **23 39 35.7 +1.2**
comp=Z,31nm,0.7s
COLA *e*pP **pP** **23 39 41.8 +1.6**
CCB Clear Creek Bu 47.10 34 *e*P **P** **23 39 35.8 +1.1**
comp=Z,44nm,1.2s
HDA Harding Lake 47.48 34 *e*P **P** **23 39 38.5 +0.8**
comp=Z,67nm,0.8s
ILAR Eielson Array 47.49 33 P **P** **23 39 38.2 +0.4**
comp=Z,9.2nm,0.6s,baz=267,slow=5.7,SNR=90
ILAR LR LR 00 01 39.1
comp=Z,112nm,18.5s,baz=322,slow=39
ILB Eielson Array 47.49 33 *e*P **P** **23 39 38.2 +0.4**
SCM Sheep Creek Mo 47.49 37 *e*P **P** **23 39 39.6 +1.6**
SCM pmax pmax
comp=Z,96nm,0.9s
SCM Sheep Creek Mo 47.49 37 *e*P **P** **23 39 39.6 +1.6**
comp=Z,96nm,0.9s
SPSI Sidrap Palu 47.53 211 P **P** **23 39 38.9 +0.3**
comp=Z,35nm,1.1s,comp=Z,441nm
RAMN Ramite 47.58 273 *e*P **P** **23 39 38.9 -0.4**
comp=Z,223nm,1.0s
GUN Gumba 47.68 274 *e*P **P** **23 39 41.5 +1.3**
comp=Z,168nm,0.8s
STKI Sintang 47.92 224 P **P** **23 39 44.5 +2.8**
FYU Fort Yukon 48.08 31 *e*P **P** **23 39 42.3 0.0**
comp=Z,90nm,1.0s
KLU Klutina 48.20 38 *e*P **P** **23 39 45.0 +1.6**
comp=Z,101nm,1.0s
KKN Kakani 48.21 275 *e*P **P** **23 39 44.4 +0.3**
comp=Z,112nm,0.7s
PKI Pulchoki 48.21 274 *e*P **P** **23 39 44.0 -0.3**
comp=Z,35nm,0.7s
PKIN Phulchoki 48.22 274 *e*P **P** **23 39 43.9 -0.3**
comp=Z,77nm,1.0s
DIV Divide 48.31 38 *e*P **P** **23 39 45.9 +1.6**
comp=Z,89nm,0.8s
PMG Port Moresby 48.34 174 P **P** **23 39 43.8 -1.1**
comp=Z,21nm,0.8s,baz=152,slow=11,SNR=3.5
PMG Port Moresby 48.34 174⇓ *e*P **P** **23 39 46.8 +1.9**
PMG pmax pmax
comp=Z,225nm,1.2s
EYAK Cordova Ski Ar 48.40 39 *e*P **P** **23 39 45.8 +1.0**
comp=Z,69nm,0.9s
DMN Daman 48.43 274 *e*P **P** **23 39 46.7 +0.8**
comp=Z,91nm,1.0s
KAPI Kappang 48.49 211 P **P** **23 39 46.2 +0.2**
comp=Z,282nm,1.2s,SNR=6.5
KAPI Kappang 48.49 211 P **P** **23 39 45.9 -0.1**
comp=Z,25nm,1.0s,baz=47,slow=4.3,SNR=7.2
KAPI Kappang 48.49 211 *e*P **P** **23 39 46.5 +0.5**
comp=Z,61nm,1.0s
GKN Gorkha 48.60 275 *e*P **P** **23 39 47.6 +0.5**
comp=Z,69nm,0.6s
BKSI Bulukumba 48.62 210 P **P** **23 39 47.4 +0.4**
comp=Z,41nm,0.7s,comp=Z,408nm
BMRM Bremner River 48.90 38 *e*P **P** **23 39 50.5 +1.7**
comp=Z,106nm,0.9s
RAGM Ragged Mountai 48.95 39 *e*P **P** **23 39 51.9 +2.7**
comp=Z,86nm,1.0s
SURT Suratani 49.04 244 P P 23 39 55.3 +4.9
comp=Z,18nm,1.4s
MENT Mentasta 49.05 36 *e*P **P** **23 39 51.3 +1.4**
DANN Dangsing 49.12 276 *e*P **P** **23 39 52.4 +1.2**
TRTT Trang 49.21 242 P P 23 40 00.2 +8.6
comp=Z,33nm,1.2s
KRAB Krabi 49.28 243 P P 23 39 55.7 +3.5
comp=Z,78nm,1.0s,comp=Z,757nm
TKM2 Tokmak 2 49.34 297 P **P** **23 39 53.8 +1.1**
SNR=11
TKM2 Tokmak 2 49.34 297 *i* P **P** **23 39 53.0 +0.3**
TKM2 pmax pmax
comp=Z,108nm,0.8s
TKM2 Tokmak 2 49.34 297 *e*P **P** **23 39 52.4 -0.2**
comp=Z,105nm,0.8s
TKM2 LR LR
comp=Z,431nm,20.0s
KOLN Koldanda 49.52 275 *e*P **P** **23 39 55.7 +1.5**
comp=Z,70nm,0.8s
BVAR Borovoye Array 49.80 311 P **P** **23 39 55.2 -0.5**
comp=Z,11nm,0.6s,baz=71,slow=8.7,SNR=27
BVAR PcP **PcP** **23 41 15.8 -0.5**
comp=Z,6.3nm,0.8s,baz=63,slow=4.5,SNR=2.1
BRVK Borovoye 49.85 311 P **P** **23 39 56.7 +0.6**
comp=Z,266nm,0.8s,SNR=8.6
BRVK Borovoye 49.85 311 *e*P **P** **23 39 56.0 -0.1**
BRVK *e* 23 41 15.2
BRVK pmax pmax
comp=Z,37nm,0.9s
BRVK MLR MLR
comp=Z,495nm,19.0s
BRVK Borovoye 49.85 311 *e*P **P** **23 39 56.0 -0.1**
comp=Z,38nm,0.9s
BRVK *e*PcP **PcP** **23 41 15.2 -1.2**
BRVK LR LR
comp=Z,495nm,19.0s
KZA Kyzart 49.87 296 P P 23 40 03.4 +6.4
SNR=7.8
KBK Karagaybulak 49.88 297 P **P** **23 39 57.5 +0.8**
SNR=12
CHMS Chumysh 49.90 298 P P 23 40 01.9 +5.2
SNR=13
EGAK Eagle 49.93 33 *e*P **P** **23 39 57.0 +0.4**
comp=Z,105nm,1.8s
USP Ospenovka 49.99 298 P P 23 40 02.7 +5.3
SNR=9.8
FRU Bishkek 50.05 297⇑ *i*P P 23 40 02.0 +4.2
FRU pmax pmax
comp=Z,100nm,1.8s
PKDT Phuket 50.11 244 P P 23 40 05.4 +6.9
comp=Z,98nm,1.0s,comp=Z,3µm
AAK Ala-Archa 50.20 297 P **P** **23 39 59.4 +0.2**
SNR=8.8
AAK Ala-Archa 50.20 297 *e*P **P** **23 39 59.4 +0.2**
AAK pmax pmax
comp=Z,26nm,0.9s
AAK MLR MLR
comp=Z,373nm,20.0s
AAK Ala-Archa 50.20 297 *e*P **P** **23 39 59.4 +0.2**
comp=Z,26nm,0.9s
AAK LR LR
comp=Z,373nm,20.0s
KSH Kashi 50.27 293 P P 23 40 04.0 +4.3
KSH pP pP 23 40 11.0 +5.5
KSH PP PP 23 42 01.3 +6.4
KSH S **S** **23 47 15.8 +4.4**
KSH sS sS 23 47 25.5 +4.6
KSH ScS **ScS** **23 49 51.3 +1.2**
KSH PMZ
comp=Z,58nm,1.1s
KSH PMZ
comp=Z,200nm,4.0s
KSH LN
comp=Z,1µm,14.4s
KSH LE
comp=Z,1µm,12.9s
KSH LZ
comp=Z,700nm,14.3s
KULM Kulim 50.40 239 *e*P P 23 40 04.3 +3.6
comp=Z,58nm,1.2s
KULM LR LR
comp=Z,253nm,20.0s
EKS2 Erkin-Say 50.69 297 P **P** **23 40 03.3 +0.4**
SNR=12
EKS2 Erkin-Say 50.69 297 *e*P **P** **23 40 03.2 +0.4**
EKS2 pmax pmax
comp=Z,32nm,0.7s
EKS2 MLR MLR
comp=Z,343nm,20.0s
EKS2 Erkin-Say 50.69 297 *e*P **P** **23 40 03.2 +0.4**
comp=Z,32nm,0.7s
EKS2 LR LR
comp=Z,343nm,20.0s
IPM Ipoh 50.75 238 *e*P **P** **23 40 02.8 -0.6**
comp=Z,37nm,0.7s
MMRI Maumere 50.91 206 P **P** **23 40 05.4 +1.0**
comp=Z,125nm,1.1s
MMRI Maumere 50.91 206 *e*P **P** **23 40 04.5 +0.1**
comp=Z,73nm,0.8s
AML Almayashu 50.94 297 P P 23 40 11.3 +6.4
SNR=14
MYKOM Kota Tinggi 50.98 233 *e*P **P** **23 40 04.2 -0.9**
comp=Z,62nm,1.4s
KGM Kluang 51.14 234⇑P **P** **23 40 07.5 +1.2**
SOEI Soe 51.31 203 *e*P **P** **23 40 06.9 -0.6**
comp=Z,186nm,1.0s
SFK Sufi-Kurgan 51.85 294 *i* P **P** **23 40 11.6 0.0**
SFK pmax pmax
comp=Z,37nm,0.7s
HYT Haines Junctio 52.33 38 *e*P **P** **23 40 16.9 +2.2**
INK Inuvik 52.34 28 P **P** **23 40 15.2 +0.7**
comp=Z,14nm,1.0s,baz=275,slow=7.6,SNR=20
COEN Coen 52.66 179 *e*P **P** **23 40 18.0 +0.6**
comp=Z,79nm,0.8s
PPBI Pangkal Pinang 52.74 228 P **P** **23 40 21.1 +2.9**
KKAR Karatay Array 52.77 299 *e*P **P** **23 40 17.8 -0.4**
KKAR Karatay Array 52.77 299 *e*P **P** **23 40 17.8 -0.4**
PSI Prapat 53.39 239 P **P** **23 40 23.1 -0.1**
comp=Z,7.8nm,0.6s,baz=28,slow=0.8,SNR=6.2
PSI Prapat 53.39 239 P **P** **23 40 23.1 -0.1**
PSI pmax pmax
comp=Z,8.0nm,0.6s
PSI Prapat 53.39 239 *e*P **P** **23 40 23.6 +0.4**
KCSI Kotacane, Aceh 53.64 240 P P 23 40 28.9 +4.1
SKAG Skagway 53.74 39 *e*P **P** **23 40 27.5 +2.5**
BKNI Bangkinang 53.88 235 P P 23 40 33.0 +6.4
comp=Z,184nm,1.0s
BKNI Bangkinang 53.88 235 *e*P **P** **23 40 24.7 -1.9**
comp=Z,180nm,1.0s
NDI New Delhi 54.01 280 *e*P **P** **23 40 29.0 +1.6**
CHLP Challavanipeta 54.06 265 *e*P **P** **23 40 27.8 0.0**
SVE Sverdlovsk 54.17 318⇓ *i*P **P** **23 40 28.6 +0.4**
SVE *e*S **S** **23 48 03.4 -0.6**
SVE pmax pmax
comp=Z,174nm,0.9s
SVE MLR MLR
comp=Z,1µm,15.0s
BESE Bessie Mountai 54.24 40 *e*P **P** **23 40 30.8 +2.1**
comp=Z,27nm,1.3s
NGJI Ngawi 54.27 219 P **P** **23 40 32.4 +3.1**
comp=Z,78nm,1.3s
MNSI Mandailing Nat 54.46 236 P P 23 40 34.3 +3.5
comp=Z,27nm,0.6s,comp=Z,896nm
SMRI Semarang 54.50 220 P **P** **23 40 33.5 +2.5**
comp=Z,93nm,1.6s
UGM Wanagama 55.20 219 P **P** **23 40 39.1 +3.0**
comp=Z,152nm,1.8s
ARU Arti 55.38 318 P **P** **23 40 37.0 0.0**
baz=73,slow=3.9
ARU Arti 55.38 318*c i*P **P** **23 40 36.4 -0.6**
ARU 23 41 35.4
ARU S **S** **23 48 18.6 -1.7**
ARU 23 50 22.5
ARU SS **SS** **23 52 02.0 -2.3**
ARU SSS SSS 23 54 01.2
ARU pmax pmax
comp=Z,61nm,1.0s
ARU Arti 55.38 318 P **P** **23 40 36.2 -0.8**
comp=Z,948nm,0.9s,SNR=27
ARU Arti 55.38 318 *e*P **P** **23 40 35.5 -1.5**
comp=Z,144nm,0.9s
GSI Gunungsitoli 55.40 239 P **P** **23 40 38.8 +1.2**
comp=Z,116nm,0.9s
GSI Gunungsitoli 55.40 239 *e*P **P** **23 40 38.4 +0.7**
comp=Z,209nm,1.4s
KLSI 55.60 227 P **P** **23 40 40.3 +1.3**
comp=Z,147nm,1.4s
LHSI Lahat 55.61 229 P **P** **23 40 40.6 +1.5**
comp=Z,102nm,1.0s,comp=Z,3µm
KLI Kotabumi 55.67 227 P P 23 40 43.1 +3.6
MDSI Maura Dua 55.76 228 P **P** **23 40 39.9 -0.2**
comp=Z,62nm,1.3s,comp=Z,706nm
LEM Lembang 55.77 223 P **P** **23 40 43.0 +2.6**
comp=Z,89nm,1.5s
WRAK Wrangell Islan 56.23 42 *e*P **P** **23 40 41.4 -1.6**
comp=Z,59nm,1.7s
SISI Saibi 56.39 235 P P 23 40 50.3 +5.6
comp=Z,65nm,1.2s
PVM Polavaram 56.67 266 *e*P **P** **23 40 46.9 +0.2**
DLBC Dease Lake 56.67 39 P **P** **23 40 48.4 +2.1**
comp=Z,12nm,1.0s,baz=277,slow=7.6,SNR=8.1
DLBC Dease Lake 56.67 39 *e*P **P** **23 40 48.9 +2.6**
comp=Z,64nm,1.4s
ABKAR Akbulak array 57.23 309 *e*P **P** **23 40 49.7 -0.6**
RPR Rampur 57.57 269 *e*P **P** **23 40 54.9 +1.9**
AKTO Aktyubinsk 57.91 311 P **P** **23 40 54.9 -0.2**
comp=Z,22nm,0.8s,baz=78,slow=13,SNR=32
ALE Alert 58.13 4 P **P** **23 40 56.6 +0.5**
comp=Z,248nm,0.7s,SNR=6.6
SPA0 Spitsbergen Ar 58.76 349 *e*P **P** **23 41 00.8 +0.2**
SPITS Spitsbergen Ar 58.76 349 P **P** **23 41 00.8 +0.2**
comp=Z,2.8nm,0.5s,baz=39,slow=9.3,SNR=5.8
ADKI Addanki 58.78 265 *e*P **P** **23 41 01.0 -0.6**
KBS Kingsbay 58.87 350 *e*pP pP 23 41 08.1 +1.0
KBS Kingsbay 58.87 350 *e*P **P** **23 40 59.7 -1.6**
KBS pmax pmax
comp=Z,55nm,0.8s
KBS MLR MLR
comp=Z,284nm,19.0s
KBS Kingsbay 58.87 350 *e*P **P** **23 40 59.7 -1.6**
comp=Z,55nm,0.8s
KBS LR LR
comp=Z,284nm,19.0s
FITZ Fitzroy Crossi 58.88 199 P **P** **23 41 01.7 -0.3**
comp=Z,24nm,0.9s,baz=16,slow=6.8,SNR=24
FITZ Fitzroy Crossi 58.88 199 *e*P **P** **23 41 02.2 +0.2**
HYB Hyderabad 58.97 268 *i* P **P** **23 41 05.0 +2.1**
HYBB Hyderabad (bro 58.97 268 *e*P **P** **23 41 05.5 +2.6**
WRAB Tennant Creek 59.07 189 P **P** **23 41 02.9 -0.5**
comp=Z,658nm,0.9s,SNR=28
WRAB Tennant Creek 59.07 189*c i*P **P** **23 41 02.5 -0.8**
WRAB pmax pmax
comp=Z,328nm,1.2s
WRAB Tennant Creek 59.07 189 *e*P **P** **23 41 02.6 -0.7**
comp=Z,96nm,0.9s
WRA Warramunga Arr 59.08 189 P **P** **23 41 02.6 -0.8**
comp=Z,77nm,0.8s,baz=6.8,slow=3.7,SNR=170
PRGR Permogore 59.52 327 *e*P **P** **23 41 03.9 -2.2**
PRGR pmax pmax
comp=Z,99nm,0.9s
RCLA Racherla 59.79 266 *e*P **P** **23 41 08.1 -0.5**
KLRI Killari 60.12 270 *e*P **P** **23 41 09.8 -1.0**
SKHT Srikalahasti 60.23 264 *e*P **P** **23 41 11.3 -0.3**
RES Resolute Bay 60.55 15 P **P** **23 41 12.9 0.0**
comp=Z,7.4nm,1.0s,baz=310,slow=6.0,SNR=11
RES Resolute Bay 60.55 15 *e*P **P** **23 41 13.1 +0.2**
RES pmax pmax
comp=Z,40nm,0.8s
RES Resolute Bay 60.55 15 *e*P **P** **23 41 13.1 +0.2**
comp=Z,40nm,0.8s
LVZ Lovozero 60.63 336⇑ *e*P **P** **23 41 13.2 -0.4**
LVZ pmax pmax
comp=Z,30nm,1.7s
LVZ Lovozero 60.63 336 *e*P **P** **23 41 12.8 -0.8**
comp=Z,18nm,0.8s
LVZ LR LR
comp=Z,428nm,19.0s
APA Apatity 61.21 336⇓ *i*P **P** **23 41 17.6 +0.1**
APA *i* 23 42 06.0
APA MLR MLR
comp=Z,500nm,15.0s
TMCR Tamitsa 61.38 331 *e*P **P** **23 41 18.6 -0.1**
TMCR *e* 23 43 36.0
TMCR pmax pmax
comp=Z,195nm,1.4s
YKA Yellowknife Ar 61.78 31 P **P** **23 41 21.2 -0.2**
comp=Z,16nm,1.2s,baz=298,slow=6.5,SNR=18
YKA Yellowknife Ar 61.78 31 P **P** **23 41 21.2 -0.2**
YKA pmax pmax
comp=Z,16nm,1.2s
YKB5 Yellowknife Ar 61.78 31 *e*P **P** **23 41 21.2 -0.2**
KEV Kevo 61.88 339 *e*P **P** **23 41 22.3 +0.3**
KEV pmax pmax
comp=Z,23nm,0.8s
KEV MLR MLR
comp=Z,430nm,22.0s
KEV Kevo 61.88 339 *e*P **P** **23 41 22.3 +0.3**
comp=Z,22nm,0.8s

KEV LR LR
comp=Z,430nm,22.0s
ARA0 ARCESS Array S 62.43 339 *e*P **P** **23 41 25.7 0.0**
ARCES ARCESS Array B 62.43 339 P **P** **23 41 25.7 0.0**
comp=Z,3.4nm,0.5s,baz=55,slow=7.1,SNR=16
ARCES LR LR 00 13 18.1
comp=Z,368nm,18.1s,baz=41,slow=41
ARE0 ARCESS Array S 62.43 339 *e*P **P** **23 41 25.6 -0.1**
ARE0 *e*pP **pP** **23 41 30.4 -1.3**
AS12 Alice Springs 62.81 189 *e*P **P** **23 41 28.4 -0.4**
ASAR Alice Springs 62.81 189 P **P** **23 41 28.4 -0.4**
comp=Z,28nm,0.8s,baz=11,slow=6.6,SNR=182
ASAR LR LR 00 07 17.5
comp=Z,158nm,21.8s,baz=330,slow=35
IMYA Miami 62.93 296 *e*P **P** **23 41 28.6 -1.2**
KTK1 Kautokeino 63.39 339 *e*P **P** **23 41 32.4 +0.3**
KTK1 *e*pP **pP** **23 41 37.2 -0.8**
MBWA Marble Bar 63.45 204 *e*P **P** **23 41 32.4 -0.6**
comp=Z,26nm,0.8s
ABKT Ailbek 63.51 298 P **P** **23 41 33.2 -0.3**
comp=Z,318nm,0.8s,SNR=8.3
GEYT Alibeck 63.52 298 P **P** **23 41 33.2 -0.3**
comp=Z,20nm,0.9s,baz=64,slow=3.4,SNR=19
GEYT LR LR 00 10 18.5
comp=Z,303nm,19.0s,baz=345,slow=37
IAKL Akhelmad 63.74 297 *e*P **P** **23 41 35.4 +0.1**
DAG Danmarks Havn 63.90 355 *i* P **P** **23 41 35.4 +0.1**
comp=Z,18nm,1.0s
DAG *i* 23 41 40.7
DAG Danmarks Havn 63.90 355 *i* P P 23 41 40.8 +5.5
comp=Z,46nm,1.0s
DAG Danmarks Havn 63.90 355 *i* P **P** **23 41 35.4 +0.1**
DAG *i* 23 41 40.7
DAG pmax pmax
comp=Z,18nm,1.0s
EIDS Eidsvold 64.53 171 *e*P **P** **23 41 39.6 -0.5**
comp=Z,35nm,1.2s
EIDS *e*pP **pP** **23 41 46.1 +0.1**
DZM Mont Dzumac 64.80 155 *e*P **P** **23 41 41.6 -0.3**
comp=Z,55nm,1.1s
NLWA Neilton Lookou 64.90 48 *e*P **P** **23 41 44.0 +1.6**
comp=Z,59nm,1.1s
A05A Maple Falls 65.09 46 *e*P **P** **23 41 44.5 +0.9**
comp=Z,47nm,1.1s
E03A Lebam 65.51 49 *e*P **P** **23 41 49.0 +2.7**
comp=Z,80nm,1.2s
B06A Marblemount 65.68 46 *e*P **P** **23 41 48.7 +1.3**
comp=Z,87nm,1.5s
IKOO Kooshah 65.72 293 *e*P P 23 41 53.3 +5.1
KULLO Kullorsuaq 65.98 6 *i* P P 23 41 53.8 +4.9
comp=Z,27nm,0.8s
F04D Rainier, OR 66.08 49 P **P** **23 41 50.9 +0.9**
baz=66
D05A Enumclaw 66.10 48 *e*P **P** **23 41 52.3 +2.2**
comp=Z,200nm,1.8s
MOS Moscow 66.11 323 *e*P P 23 41 53.4 +3.4
MOS *e* 23 42 21.3
MOS pmax pmax
comp=Z,136nm,1.3s
MOS pmax pmax
comp=Z,200nm,1.3s
MOS MLR MLR
comp=Z,800nm,15.0s
MOS MLR MLR
comp=N,600nm,14.0s
MOS MLR MLR
comp=E,300nm,14.0s
STEI Steigen 66.27 341 *e*P P 23 41 54.5 +3.7
PNT Penticton 66.30 45 *e*P **P** **23 41 51.9 +0.5**
PNT Penticton 66.30 45 *e*P **P** **23 41 51.9 +0.5**
G03D McMinnville, O 66.39 50 P **P** **23 41 53.1 +1.0**
baz=66
LON Longmire 66.43 48 *e*P **P** **23 41 53.8 +1.4**
LON pmax pmax
comp=Z,13nm,1.0s
LON Longmire 66.43 48 *e*P **P** **23 41 53.8 +1.4**
comp=Z,13nm,1.0s
F04A Amboy 66.51 49 *e*P **P** **23 41 54.5 +1.7**
comp=Z,44nm,1.0s
LOF Lofoten 66.55 341 *e*P **P** **23 41 53.4 +0.9**
TWW Teanaway 66.77 48 P **P** **23 41 56.5 +2.0**
LTY Liberty 66.82 47 *e*P **P** **23 41 55.6 +0.8**
comp=Z,81nm,1.6s
OBN Obninsk 66.96 323 P **P** **23 41 54.7 -0.7**
comp=Z,21nm,0.8s,baz=129,slow=3.2,SNR=9.0
OBN Obninsk 66.96 323 *d i*P **P** **23 41 55.1 -0.3**
OBN *e* 23 42 22.5
OBN *e* 23 44 27.1
OBN *e*S **S** **23 50 45.6 -2.0**
OBN *e*SS **SS** **23 55 07.6 +2.3**
OBN pmax pmax
comp=Z,27nm,1.0s
OBN MLR MLR
comp=Z,613nm,14.0s
OBN Obninsk 66.96 323 *e*P **P** **23 41 55.2 -0.2**
comp=Z,72nm,0.9s
OBN LR LR
comp=Z,460nm,20.0s
B08A Colville Reser 66.98 46 *e*P **P** **23 41 56.6 +0.8**
comp=Z,84nm,1.5s
I03D Drain, OR 67.15 52 P **P** **23 41 58.3 +1.4**
baz=67,SNR=5.4
IGLO Ghaloghah 67.18 299 *e*P **P** **23 41 57.7 +0.2**
VLL Laurance Lake 67.20 49 P **P** **23 41 59.1 +1.8**
H04A Detroit Lake 67.32 50 *e*P **P** **23 41 59.0 +0.9**
comp=Z,54nm,1.2s
EDM Edmonton 67.40 39 *e*P **P** **23 41 58.4 +0.1**
EDM *e**PP **pP** **23 42 04.4 +0.1**
EDM pmax pmax
comp=Z,79nm,1.1s
EDM Edmonton 67.40 39 *e*P **P** **23 41 58.4 +0.1**
comp=Z,79nm,1.1s
EDM *e*pP **pP** **23 42 04.4 +0.1**
FIA0 FINESS Array S 67.42 332 *e*P **P** **23 41 57.7 -0.6**
FIA0 FINESS Array S 67.42 332 *e*P **P** **23 41 57.6 -0.6**
FINES FINESS Array B 67.42 332 P **P** **23 41 57.6 -0.6**
comp=Z,19nm,0.8s,baz=57,slow=7.0,SNR=47
FINES LR LR 00 13 06.5
comp=Z,279nm,18.7s,baz=36,slow=37
G05D Wamic, OR 67.54 49 P **P** **23 42 00.6 +1.2**
baz=67
I04A Tendick Farm, 67.67 51 P **P** **23 42 01.1 +0.8**
baz=68,SNR=6.1
E07A Sunnyside 67.67 48 *e*P **P** **23 41 59.9 -0.3**
comp=Z,129nm,1.7s
IANJ Anjilo 67.68 298 *e*P P 23 42 06.3 +5.6
MOR8 Moi Rana 67.79 340 *e*P **P** **23 41 58.9 -1.6**
MOR8 IAmb IAmb 23 42 05.6
comp=Z,65nm,0.6s
MAK Makhachkala 67.82 308 *e*P **P** **23 41 58.0 -3.1**
MAK *e* 23 44 29.6
MAK *e*S **S** **23 50 57.9 -0.3**
MAK pmax pmax
comp=Z,381nm,2.0s
MAK MLR MLR
comp=Z,570nm,14.0s
L02D Cave Junction, 67.82 53 P **P** **23 42 01.8 +0.7**
baz=68
OD2 Odessa Site #2 67.86 46 *e*P **P** **23 42 02.3 +1.0**
C09A Chrisman Ranch 67.88 46 *e*P **P** **23 42 02.4 +1.0**
comp=Z,83nm,1.3s
ISHM Shahmirzad 67.92 299 *e*P **P** **23 42 03.9 +1.6**
D08A Wollman Farm, 67.93 47 *e*P **P** **23 42 02.9 +1.2**
comp=Z,33nm,1.1s
VSR Storozhevoye 67.94 319 *e*P **P** **23 42 00.7 -1.0**
VSR *e*S **S** **23 50 57.1 -2.3**
VSR pmax pmax
comp=Z,60nm,0.9s
VSR pmax pmax
comp=N,10.0nm,0.7s
VSR pmax pmax
comp=E,30nm,0.9s
VSR smax smax
comp=E,40nm,2.2s
VSR smax smax
comp=Z,20nm,2.2s
VSR smax smax
comp=N,40nm,2.3s
VSR MLR MLR
comp=N,330nm,18.0s
VSR MLR MLR
comp=E,780nm,18.0s
VSR MLR MLR
comp=Z,1μm,18.0s
G06A Carlson Farm, 67.94 49 *e*P **P** **23 42 03.1 +1.2**
comp=Z,38nm,1.4s

HAWA Hanford 67.95 48 *e*P **P** **23 42 02.2 +0.4**
comp=Z,48nm,1.4s
VTHM Trough 68.02 49 P **P** **23 42 04.0 +1.6**
I05D Terrebonne, OR 68.02 50 P **P** **23 42 03.0 +0.6**
baz=68
J04D Umpqua Nationa 68.15 52 P **P** **23 42 03.8 +0.3**
baz=68
NEW Newport 68.26 45 P **P** **23 42 04.3 +0.4**
comp=Z,17nm,1.0s,baz=310,slow=6.1,SNR=8.5
NEW Newport 68.26 45 *e*P **P** **23 42 04.7 +0.8**
NEW pmax pmax
comp=Z,66nm,1.4s
NEW MLR MLR
comp=Z,163nm,19.0s
NEW Newport 68.26 45 P **P** **23 42 04.5 +0.7**
baz=68,SNR=19
NEW Newport 68.26 45 *e*P **P** **23 42 04.7 +0.8**
comp=Z,66nm,1.4s
NEW LR LR
comp=Z,163nm,19.0s
IPRN Peran 68.34 300 *e*P **P** **23 42 06.4 +1.8**
IFIR Firoozkooh 68.38 299 *e*P **P** **23 42 05.0 -0.2**
ILAS Lasjerd 68.38 298 *e*P **P** **23 42 05.6 +0.5**
YBH Yreka Blue Hor 68.61 53 P **P** **23 42 06.5 +0.3**
comp=Z,10nm,1.0s,baz=320,slow=4.3,SNR=5.3
YBH Yreka Blue Hor 68.61 53 P **P** **23 42 06.5 +0.3**
YBH pmax pmax
comp=Z,10.0nm,1.0s
YBH Yreka Blue Hor 68.61 53 *e*P **P** **23 42 07.9 +1.7**
comp=Z,18nm,1.0s
IBAF Bafgh 68.62 294 *e*P **P** **23 42 06.5 -0.1**
J05D Fort Rock, OR 68.66 51 P **P** **23 42 08.3 +1.7**
baz=69,SNR=12
E09A Wood Farm, Sta 68.67 47 *e*P **P** **23 42 07.8 +1.4**
comp=Z,105nm,1.5s
M02C Callahan 68.71 54 P **P** **23 42 08.3 +1.4**
baz=69
K04D Chiloquin, OR 68.71 52 P **P** **23 42 07.9 +1.0**
baz=69
G08A Pilot Rock 68.89 48 *e*P **P** **23 42 09.4 +1.4**
comp=Z,20nm,1.4s
IDMV Damavand 68.91 299 *e*P **P** **23 42 07.9 -0.5**
N02D Trinity Center 69.04 54 P **P** **23 42 10.1 +1.2**
baz=69,SNR=6.3
M04C Macdoel 69.13 53 P **P** **23 42 10.5 +1.0**
baz=69,SNR=9.3
VSU Vasula 69.14 330 *d i*P **P** **23 42 09.0 0.0**
VSU pmax pmax
comp=Z,84nm,1.0s
K05A Summer Lake 69.18 52 *e*P **P** **23 42 12.0 +2.1**
comp=Z,97nm,1.2s
KIPM Iron Peak 69.19 55 *e*P **P** **23 42 12.3 +2.4**
GOF Gofitskoye 69.33 312 ⇓ *i*P **P** **23 42 10.7 +0.2**
GOF *e*S **S** **23 51 16.2 0.0**
GOF pmax pmax
comp=Z,150nm,1.2s
WDC Whiskeytown Da 69.36 54 *e*P **P** **23 42 12.3 +1.5**
WDC pmax pmax
comp=Z,28nm,1.3s
WDC Whiskeytown Da 69.36 54 *e*P **P** **23 42 12.3 +1.5**
comp=Z,28nm,1.3s
IMEH Mehriz 69.41 294 *e*P **P** **23 42 10.6 -1.0**
IVRN Varamin 69.44 299 *e*P **P** **23 42 11.3 -0.1**
F10A Beach Ranch, E 69.50 47 *e*P **P** **23 42 13.1 +1.3**
comp=Z,15nm,1.1s
WALA Waterton Lakes 69.54 43 *e*P **P** **23 42 12.8 +0.8**
comp=Z,49nm,1.2s
ARMA Armidale 69.58 171 *e*P **P** **23 42 13.1 +1.0**
IGZV Ghazvin 69.69 301 *e*P **P** **23 42 13.0 -0.2**
NSS Namsos 69.71 339 *e*P **P** **23 42 12.4 -0.1**
BSMT Bassoo Peak 69.78 44 *e*P **P** **23 42 14.9 +1.4**
ISAD Sadrabad 69.78 295 *e*P P 23 42 18.6 +4.7
BLMT Blacktail Moun 69.91 44 *e*P **P** **23 42 15.9 +1.6**
DGRG David-gareji 69.97 307 P P 23 42 11.4 -3.2
MOD Modoc 70.01 52 *e*P P 23 42 11.5 -3.4
comp=Z,68nm,1.8s
JTMT Jette 70.11 44 *e*P **P** **23 42 16.9 +1.4**
KIV Kislovodsk 70.17 311 *e*P **P** **23 42 16.8 +1.0**
KIV Kislovodsk 70.17 311 *d i*P **P** **23 42 16.1 +0.3**
KIV *e* 23 42 38.1
KIV *e* 23 44 56.1
KIV *e*S **S** **23 51 22.6 -3.7**
KIV pmax pmax
comp=Z,46nm,1.0s
KIV Kislovodsk 70.17 311 P **P** **23 42 16.2 +0.4**
comp=Z,985nm,0.8s,SNR=14
KIV Kislovodsk 70.17 311 ⇑ *i*P P 23 42 21.0 +5.2
SNR=52
KIV Kislovodsk 70.17 311 *e*P **P** **23 42 16.2 +0.4**
comp=Z,159nm,0.9s
KIV LR LR
comp=Z,474nm,20.0s
KBZ Khabaz 70.17 311 P **P** **23 42 16.2 +0.5**
comp=Z,11nm,0.9s,baz=35,slow=2.5,SNR=17
IZEF Zefreh 70.19 297 *e*P **P** **23 42 16.0 -0.4**
YBMT Yellow Bay 70.19 44 *e*P **P** **23 42 16.7 +0.8**
TBLG Delisi 70.20 308 P P **23 42 13.8 -2.2**
TBLG Delisi 70.20 308 P P **23 42 13.8 -2.2**
SWMT Swartz Lake 70.41 44 *e*P **P** **23 42 18.1 +0.9**
IRAZ Razeghan 70.43 300 *e*P **P** **23 42 17.6 -0.1**
IKLH Kolahrood 70.47 297 *e*P **P** **23 42 18.7 +0.6**
NSHM Saint Helena R 70.47 56 *e*P **P** **23 42 19.6 +1.9**
ONI Oni 70.50 309 P P 23 42 22.8 +4.9
ONI Oni 70.50 309 *e*P P 23 42 22.7 +4.9
STKA Stephens Creek 70.50 181 P **P** **23 42 16.8 -0.8**
comp=Z,11nm,0.8s,baz=342,slow=7.8,SNR=18
STKA LR LR 00 15 40.5
comp=Z,48nm,19.2s,baz=22,slow=38
STKA Stephens Creek 70.50 181 P **P** **23 42 16.8 -0.8**
STKA pmax pmax
comp=Z,11nm,0.8s
STKA MLR MLR
comp=Z,48nm,19.2s
STKA Stephens Creek 70.50 181 *e*P **P** **23 42 17.5 -0.1**
comp=Z,4.0nm,1.0s
NEY Neytrino 70.55 310 ⇑ *i*P **P** **23 42 19.5 +1.2**
NEY pmax pmax
comp=Z,2.0nm,0.8s
ISRB Sarab 70.57 303 *e*P **P** **23 42 18.5 0.0**
FORT Forest 70.66 193 *e*P **P** **23 42 18.8 +0.2**
comp=Z,115nm,0.8s
WVOR Wild Horse Val 70.72 51 *e*P **P** **23 42 20.7 +1.4**
WVOR pmax pmax
comp=Z,41nm,1.4s
WVOR MLR MLR
comp=Z,147nm,20.0s
WVOR Wild Horse Val 70.72 51 *e*P **P** **23 42 20.7 +1.4**
comp=Z,41nm,1.4s
WVOR LR LR
comp=Z,147nm,20.0s
OHCM Honcut 70.73 55 *e*P **P** **23 42 19.2 0.0**
SLMT Seeley Lake 70.84 44 *e*P **P** **23 42 20.9 +1.0**
MSO Missoula 70.84 45 P **P** **23 42 20.4 +0.4**
baz=71
MSO Missoula 70.84 45 *e*P **P** **23 42 20.9 +1.0**
comp=Z,60nm,1.6s
GNI Garni 71.11 307 P **P** **23 42 21.8 +0.1**
comp=Z,2.2nm,0.5s,baz=228,slow=10,SNR=5.4
GNI Garni 71.11 307 *e*P **P** **23 42 22.6 +0.9**
GNI pmax pmax
comp=Z,68nm,1.4s
GNI MLR MLR
comp=Z,210nm,22.0s
GNI Garni 71.11 307 ⇓ *i*P P 23 42 27.4 +5.6
SNR=5.6
GNI Garni 71.11 307 *e*P **P** **23 42 22.6 +0.9**
comp=Z,68nm,1.4s
GNI LR LR
comp=Z,210nm,22.0s
IBST Bostanabad 71.14 303 *e*P **P** **23 42 21.1 -0.9**
CHMT Chamberlain Mo 71.17 45 *e*P **P** **23 42 22.7 +0.6**
CHVG Ch'k'valeri 71.24 310 P P **23 42 25.1 +2.8**
MICGM Minsk 71.28 326 *e* P 23 42 17.0 -5.3
MNK Minsk 71.30 326 *e*P P 23 42 17.0 -5.4
IPIR Pirpir 71.31 297 *e*P **P** **23 42 22.8 -0.5**
IMRD Marand 71.33 305 *e*P **P** **23 42 22.9 -0.2**
NACGM Naroch 71.49 327 *e*P **P** **23 42 22.0 -1.5**
BBOO Buckleboo 71.66 186 *e*P **P** **23 42 24.8 +0.2**
comp=Z,41nm,0.8s
ILULI Ilulissat 71.67 5 *i* P P 23 42 29.9 +5.5
comp=Z,35nm,0.8s
FFC Flin Flon 71.70 33 P **P** **23 42 25.0 +0.2**
comp=Z,315nm,1.1s,SNR=8.9
FFC Flin Flon 71.70 33 *e*P **P** **23 42 25.1 +0.2**
FFC pmax pmax
comp=Z,70nm,1.1s
FFC MLR MLR
comp=Z,159nm,19.0s
FFC Flin Flon 71.70 33 *e*P **P** **23 42 25.1 +0.2**
comp=Z,70nm,1.1s
FFC LR LR
comp=Z,159nm,19.0s
MFID Camas Ranch 71.81 49 *e*P **P** **23 42 26.8 +0.9**
comp=Z,60nm,1.6s
FCC Fort Churchill 71.95 27 *e*P **P** **23 42 27.2 +1.0**
FCC pmax pmax
comp=Z,71nm,1.2s
FCC Fort Churchill 71.95 27 *e*P **P** **23 42 27.2 +1.0**
comp=Z,71nm,1.2s
HATD Hatta, Dubai 72.01 288 ⇑ *i*P P 23 42 32.0 +4.8
SNR=8.7
HRY Holter Researc 72.07 44 *e*P **P** **23 42 28.6 +1.3**
SOC Sochi 72.12 312 *e*P **P** **23 42 26.9 -0.6**
SOC *e*PPP PPP 23 46 47.9
SOC *e*S **S** **23 51 46.6 -2.2**
SOC *e**SS SKiKP 23 52 16.7 +14
SOC *e*SS **SS** **23 56 30.0 +4.7**
SOC *e*SSS SSS 23 59 36.7
SOC pmax pmax
comp=Z,48nm,0.9s
SOC MLR MLR
comp=Z,295nm,16.0s
CMB Columbia Colle 72.18 55 *e*P **P** **23 42 28.9 +0.8**
CMB pmax pmax
comp=Z,55nm,1.6s
CMB Columbia Colle 72.18 55 *e*P **P** **23 42 28.9 +0.8**
comp=Z,55nm,1.6s
SAO San Andreas Ge 72.23 57 *e*P **P** **23 42 26.2 -2.1**
SAO pmax pmax
comp=Z,44nm,1.9s
SAO San Andreas Ge 72.23 57 *e*P **P** **23 42 26.2 -2.1**
comp=Z,44nm,1.9s
NAZ Nazwa, Dubai 72.26 288 ⇑ P P 23 42 34.5 +5.9
LRM Limekiln Ridge 72.28 45 *e*P **P** **23 42 29.3 +0.5**
EGMT Eagleton 72.36 42 P **P** **23 42 29.3 +0.3**
baz=72,SNR=20
EGMT Eagleton 72.36 42 *e*P **P** **23 42 30.0 +1.0**
comp=Z,90nm,1.4s
EGMT LR LR
comp=Z,183nm,19.0s
FAQ Al Faqa, Dubai 72.45 288 ⇑ P P 23 42 34.6 +4.8
DLMT Dillon 72.48 46 *e*P **P** **23 42 31.1 +1.3**
comp=Z,28nm,0.9s
WAKR Walker 72.51 54 *e*P **P** **23 42 31.5 +1.3**
HLID Hailey 72.55 48 P **P** **23 42 30.9 +0.6**
baz=72,SNR=11
HLID Hailey 72.55 48 *e*P **P** **23 42 31.8 +1.4**
comp=Z,26nm,1.4s
HLID LR LR
comp=Z,173nm,19.0s
HFS Hagfors 72.61 336 P **P** **23 42 29.9 -0.2**
comp=Z,8.8nm,0.6s,baz=52,slow=5.8,SNR=33
MCMT McKenzie Canyo 72.67 46 *e*P **P** **23 42 31.9 +0.8**
NB2 NORSAR Subarra 72.67 337 P **P** **23 42 30.1 -0.5**
comp=Z,34nm,0.8s,baz=38,slow=6.2
NB2 NORSAR Subarra 72.67 337 P **P** **23 42 30.1 -0.5**
baz=38,slow=6.2
NB200 NORSAR Array S 72.67 337 *e*P **P** **23 42 30.0 -0.5**
NOA NORSAR Array B 72.67 337 P **P** **23 42 30.0 -0.5**
comp=Z,16nm,1.0s,baz=38,slow=6.0,SNR=31
NOA LR LR 00 19 11.6
comp=Z,413nm,19.6s,baz=35,slow=40
ANN Anapa 72.69 314 *e*P **P** **23 42 30.3 -0.6**
ANN *e*S **S** **23 51 54.2 -0.9**
ANN pmax pmax
comp=Z,68nm,1.4s
ANN MLR MLR
comp=N,228nm,17.0s
ANN MLR MLR
comp=Z,295nm,17.0s
ANN MLR MLR
comp=E,228nm,17.0s
ASUD Al Ashush, Dub 72.72 288 ⇓ P P 23 42 36.7 +5.3
BMN Battle Mountai 72.75 52 *e*P **P** **23 42 31.3 -0.3**
BMN pmax pmax
comp=Z,91nm,1.8s
BMN Battle Mountai 72.75 52 *e*P **P** **23 42 31.3 -0.3**
comp=Z,91nm,1.8s
IKOM Komasi 72.76 300 *e*P P 23 42 35.8 +4.0
NC602 NORSAR Array S 72.81 337 *e*P **P** **23 42 31.2 -0.1**
BOZ Bozeman (W) 72.84 45 *e*P **P** **23 42 32.6 +0.6**
BOZ pmax pmax
comp=Z,99nm,1.7s
BOZ MLR MLR
comp=Z,144nm,19.0s
BOZ Bozeman (W) 72.84 45 P **P** **23 42 32.6 +0.6**
baz=73,SNR=15
BOZ Bozeman (W) 72.84 45 *e*P **P** **23 42 32.5 +0.6**
comp=Z,99nm,1.7s
BOZ LR LR
comp=Z,144nm,19.0s
AKN Aaknes 72.95 340 *e*P **P** **23 42 32.3 +0.2**
AKN *e*pP **pP** **23 42 37.6 -0.5**
AKN IAmb IAmb 23 42 38.4
comp=Z,27nm,0.9s
IVIS Veis 73.00 301 *e*P **P** **23 42 32.0 -1.1**
AKASG Malin Array Be 73.19 322 P **P** **23 42 33.5 -0.3**
comp=Z,12nm,0.5s,baz=44,slow=5.5,SNR=6.5
AKBB Malin Array Si 73.19 322 *e*P **P** **23 42 33.5 -0.3**
AKBB Malin Array Si 73.19 322 *e*P **P** **23 42 33.5 -0.3**
KIEV Kiev 73.20 322 *e*P **P** **23 42 33.1 -0.7**
KIEV pmax pmax
comp=Z,45nm,0.8s
KIEV MLR MLR
comp=Z,402nm,20.0s
KIEV Kiev 73.20 322 *e*P **P** **23 42 33.0 -0.7**
comp=Z,45nm,0.8s
KIEV LR LR
comp=Z,402nm,20.0s
IDHR Dehrash 73.21 301 *e*P **P** **23 42 33.7 -0.8**
NV01 Mina Array Sit 73.27 54 *e*P **P** **23 42 34.7 -0.1**
NVAR Mina Array Bea 73.27 54 P **P** **23 42 34.7 -0.1**
comp=Z,13nm,1.0s,baz=288,slow=6.1,SNR=50
MLAC Mammoth Lakes 73.41 55 P **P** **23 42 36.4 +0.8**
baz=73
QLMT Earthquake Lak 73.46 45 *e*P **P** **23 42 37.2 +1.5**
SUW Suwalki 73.63 327 *e*P **P** **23 42 35.3 -1.0**
SUW LMZ LR 00 17 04.6
SUW Suwalki 73.63 327 *e*P **P** **23 42 35.4 -0.9**
SUW MLR MLR
comp=Z,500nm,16.1s
ELK Elko 73.77 51 P **P** **23 42 38.1 +0.5**
comp=Z,4.3nm,1.0s,baz=286,slow=6.5,SNR=5.2
ELK Elko 73.77 51 *e*P **P** **23 42 39.3 +1.6**
ELK pmax pmax
comp=Z,49nm,2.0s
ELK Elko 73.77 51 *e*P **P** **23 42 39.2 +1.6**
comp=Z,49nm,2.0s
YMR Madison River 73.82 45 *e*P **P** **23 42 34.7 -3.2**
comp=Z,27nm,0.4s
SFJD Kangerlussuaq 73.89 5 *i* P P 23 42 42.3 +4.7
comp=Z,38nm,0.9s
SFJD Kangerlussuaq 73.89 5 P **P** **23 42 38.1 +0.5**
comp=Z,9.9nm,0.7s,baz=354,slow=3.1,SNR=8.4
SFJD Kangerlussuaq 73.89 5 *e*P **P** **23 42 38.1 +0.5**
SFJD *e**PP **pP** **23 42 43.3 -0.3**
SFJD MLR MLR
comp=Z,146nm,19.0s
SFJD Kangerlussuaq 73.89 5 *e*P **P** **23 42 38.1 +0.5**
SFJD *e*pP **pP** **23 42 43.3 -0.3**
SFJD LR LR
comp=Z,146nm,19.0s
RCTC Rector, Farmer 73.94 56 P **P** **23 42 38.9 +0.5**
baz=74
YFT Old Faithful 74.03 45 *e*P **P** **23 42 41.2 +2.0**
SMMC Simmler 74.04 57 P **P** **23 42 40.0 +0.9**
baz=74
TIN Tinemaha 74.14 55 P **P** **23 42 40.8 +1.0**
baz=74
TPH Tonopah 74.17 54 *e*P **P** **23 42 41.2 +1.2**
TPH pmax pmax
comp=Z,22nm,1.0s
TPH Tonopah 74.17 54 *e*P **P** **23 42 41.2 +1.2**
comp=Z,22nm,1.0s
KONO Kongsberg 74.26 337 *e*P **P** **23 42 40.2 +0.3**
KONO *e*pP **pP** **23 42 44.2 -1.7**
KONO IAMs_20 IAMs_20 00 18 11.8
comp=Z,537nm,18.4s
KONO Kongsberg 74.26 337 *e*P **P** **23 42 40.2 +0.3**
KONO pmax pmax
comp=Z,20nm,0.8s

KONO MLR MLR
comp=Z,524nm,20.0s
KONO Kongsberg 74.26 337 *eP* **P 23 42 40.2 +0.3**
comp=Z,200nm,0.8s
KONO LR LR
comp=Z,524nm,20.0s
IMW Indian Meadow 74.32 46 *eP* **P 23 42 42.7 +1.8**
comp=Z,12nm,0.7s
VES Vestal, Richgr 74.32 57 P **P 23 42 41.3 +0.6**
baz=74,SNR=7.4
FLWY Flagg Ranch 74.33 46 *eP* **P 23 42 42.4 +1.5**
comp=Z,70nm,1.6s
PKM Peak Mountain 74.40 58 P **P 23 42 42.7 +1.3**
baz=74,SNR=6.2
FXWY Fox Creek 74.43 46 *eP* **P 23 42 43.0 +1.5**
comp=Z,73nm,1.8s
SIM Simferopol' 74.43 316 *eP* **P 23 42 40.5 -0.7**
SIM *eS* **S 23 52 16.0 +1.1**
SIM MLR MLR
comp=Z,200nm,12.0s
RLMT Red Lodge 74.46 44 P **P 23 42 42.5 +0.9**
baz=74,SNR=9.4
RLMT Red Lodge 74.46 44 *eP* **P 23 42 42.2 +0.6**
comp=Z,28nm,1.1s
SUE Sulen 74.48 340 *e* P 23 42 45.7 +4.6
MOOW Moose Ponds 74.52 46 *eP* **P 23 42 44.0 +2.0**
comp=Z,30nm,1.3s
TPAW Teton Pass 74.57 46 *eP* **P 23 42 43.8 +1.5**
comp=Z,43nm,1.2s
HVU Hansel Valley 74.59 49 *eP* **P 23 42 44.1 +1.7**
HVU pmax pmax
comp=Z,8.0nm,0.7s
HVU Hansel Valley 74.59 49 *eP* **P 23 42 44.1 +1.7**
comp=Z,8.4nm,0.7s
CWC Cottonwood Cre 74.61 56 P **P 23 42 43.4 +0.9**
baz=74
F20A Billings 74.62 43 P **P 23 42 42.7 +0.3**
baz=74
LOHW Long Hollow 74.69 46 *eP* **P 23 42 43.7 +0.8**
comp=Z,55nm,1.8s
REDW Red Top Meadow 74.70 46 *eP* **P 23 42 44.2 +1.1**
comp=Z,36nm,1.3s
E21A Keefer Ranch, 74.71 42 P **P 23 42 43.3 +0.5**
baz=74
GRAC Grapevine Rang 74.72 55 P **P 23 42 44.5 +1.4**
baz=75
FRB Frobisher Bay 74.72 14 P **P 23 42 42.5 0.0**
comp=Z,43nm,0.9s,baz=339,slow=5.5,SNR=9.5
SBC Santa Barbara 74.74 58 P **P 23 42 43.9 +0.8**
baz=75
ISA Isabella 74.82 56 P **P 23 42 43.9 +0.2**
baz=75
ASK Askoy 74.84 340 *eP* **P 23 42 44.1 +0.9**
ASK *epP* **pP 23 42 49.7 +0.5**
H19A Powell 74.90 44 P **P 23 42 45.0 +0.9**
baz=75
ARVC Arvin 74.91 57 P **P 23 42 44.7 +0.6**
baz=75
AHID Auburn Hatcher 74.94 47 *eP* **P 23 42 42.5 -1.9**
DAC Darwin (Calif) 75.02 55 *eP* **P 23 42 46.0 +1.0**
DAC pmax pmax
comp=Z,27nm,1.5s
DAC Darwin (Calif) 75.02 55 *eP* **P 23 42 46.0 +1.0**
comp=Z,27nm,1.5s
R11A Troy Canyon, C 75.02 53 P **P 23 42 45.7 +0.8**
baz=75,SNR=22
R11A Troy Canyon, C 75.02 53 *eP* **P 23 42 45.9 +0.9**
comp=Z,35nm,1.3s
LAO LASA Array 75.05 42 P **P 23 42 45.7 +0.8**
baz=75,SNR=10
BSC Santa Cruz Isl 75.06 58 P **P 23 42 45.3 +0.2**
baz=75
A25A Svangstu Ranch 75.10 38 P **P 23 42 45.5 +0.5**
baz=75
F21A Absaloka Mine, 75.15 43 P **P 23 42 46.1 +0.7**
baz=75
MPMC Manual Prospec 75.22 56 P **P 23 42 46.8 +0.7**
baz=75,SNR=20
NWAO Narrogin (SRO) 75.23 202 P **P 23 42 45.7 0.0**
comp=Z,33nm,1.0s,baz=327,slow=3.5,SNR=7.3
OSI Osito Adit 75.29 57 P **P 23 42 47.7 +1.3**
baz=75
I19A Meeteetse 75.31 45 P **P 23 42 47.4 +0.9**
baz=75,SNR=6.5
E22A Miles City 75.36 42 P **P 23 42 47.2 +0.6**
baz=75,SNR=9.4
FURC Furnace Creek, 75.37 55 P **P 23 42 47.4 +0.7**
baz=75,SNR=5.9
C24A Savage 75.41 40 P **P 23 42 47.7 +0.8**
baz=75
HWUT Hardware Ranch 75.41 48 *eP* **P 23 42 48.7 +1.6**
comp=Z,102nm,1.6s
TPNV Topopah Spring 75.47 54 *eP* **P 23 42 47.8 +0.3**
TPNV pmax pmax
comp=Z,112nm,1.8s
TPNV Topopah Spring 75.47 54 P **P 23 42 48.2 +0.7**
baz=75,SNR=26
TPNV Topopah Spring 75.47 54 *eP* **P 23 42 47.8 +0.3**
comp=Z,112nm,1.8s
G21A Lodge Grass 75.50 43 P **P 23 42 47.5 0.0**
baz=75
B25A Knox Farm, Ray 75.53 39 P **P 23 42 48.1 +0.6**
baz=75
H20A Greybull 75.56 44 P **P 23 42 48.4 +0.5**
baz=75
DUG Dugway 75.56 50 *eP* **P 23 42 48.7 +0.7**
DUG Dugway 75.56 50 P **P 23 42 49.0 +1.1**
baz=75
DUG Dugway 75.56 50 *eP* **P 23 42 48.7 +0.7**
EDW2 Edwards Air Fo 75.61 57 P **P 23 42 48.9 +0.6**
baz=76,SNR=7.2
F22A Rosebud 75.64 42 P **P 23 42 48.3 +0.1**
baz=76
A26A Wade Farm, Ken 75.65 38 P **P 23 42 48.1 0.0**
baz=76
E23A Ismay 75.65 41 P **P 23 42 49.2 +1.0**
baz=76,SNR=12
D24A Glendive 75.74 40 P **P 23 42 49.3 +0.6**
baz=76
DECC Green Verdugo 75.77 57 P **P 23 42 49.7 +0.5**
baz=76
BORG Borgarnes 75.81 353 P **P 23 42 49.9 +1.2**
comp=Z,14nm,1.0s,baz=351,slow=2.1,SNR=2.5
BORG Borgarnes 75.81 353 *eP* **P 23 42 49.9 +1.2**
BORG pmax pmax
comp=Z,41nm,0.8s
BORG Borgarnes 75.81 353 *eP* **P 23 42 49.9 +1.2**
comp=Z,41nm,0.8s
BW06 Boulder Array 75.81 46 *eP* **P 23 42 50.0 +0.5**
comp=Z,16nm,1.0s
PD31 Pinedale Array 75.81 46 *eP* **P 23 42 49.9 +0.4**
PDAR Pinedale Array 75.81 46 P **P 23 42 49.9 +0.4**
comp=Z,6.9nm,1.0s,baz=304,slow=3.4,SNR=26
I20A Worland 75.84 45 P **P 23 42 50.4 +0.9**
baz=76,SNR=10
C25A Freed Ranch, W 75.87 39 P **P 23 42 49.4 0.0**
baz=76
KIS Kishinev 75.87 320 *eP* **P 23 42 52.0 +2.6**
comp=Z,100nm,1.4s
KIS *eL* L 00 12 10.0
KIS LRM MLR 00 19 00.0
comp=Z,1µm,16.0s
KIS Kishinev 75.87 320 *eP* **P 23 42 52.0 +2.6**
KIS *e* 23 43 04.0
KIS pmax pmax
comp=Z,110nm,1.4s
KIS MLR MLR
comp=Z,1µm,15.0s
KIS MLR MLR
comp=N,500nm,16.0s
KIS MLR MLR
comp=E,500nm,15.0s
KIS MLR MLR
comp=Z,1µm,16.0s
CTU Camp Tracy 75.88 49 *eP* **P 23 42 50.1 +0.3**
comp=Z,9.6nm,0.8s
B26A Jensen Ranch, 75.91 38 P **P 23 42 50.0 +0.3**
baz=76
MWC Mount Wilson 75.97 57 *eP* **P 23 42 51.9 +1.5**
MWC pmax pmax
comp=Z,23nm,1.3s
MWC Mount Wilson 75.97 57 *eP* **P 23 42 51.9 +1.5**
comp=Z,23nm,1.3s
H21A Big Horn, Sher 75.98 44 P **P 23 42 50.9 +0.6**
baz=76,SNR=13
A27A Ledoux Ranch, 75.99 37 P **P 23 42 50.7 +0.6**
baz=76
G22A Birney 75.99 43 P **P 23 42 50.6 +0.3**
baz=76
BSD Bornholm Skovb 76.06 332 ⇑*iP* **P 23 42 49.7 -0.6**
comp=Z,24nm,0.9s
BSD *i* 23 42 54.4
BSD Bornholm Skovb 76.06 332 ⇑*iP* **P 23 42 49.7 -0.6**
BSD *i* 23 42 54.4
BSD pmax pmax
comp=Z,24nm,0.9s
SHOC Shoshone 76.09 55 P **P 23 42 51.2 +0.3**
baz=76
JLU Jordanelle 76.11 49 *eP* **P 23 42 52.3 +1.1**
comp=Z,48nm,1.4s
FMP Fort Macarthur 76.12 58 P **P 23 42 51.5 +0.4**
baz=76
GSC Goldstone 76.12 56 *eP* **P 23 42 51.8 +0.6**
GSC pmax pmax
comp=Z,10.0nm,1.1s
GSC Goldstone 76.12 56 P **P 23 42 51.6 +0.5**
baz=76,SNR=7.2
GSC Goldstone 76.12 56 *eP* **P 23 42 51.8 +0.6**
comp=Z,10nm,1.1s
E24A Baker 76.12 41 P **P 23 42 51.4 +0.4**
baz=76
F23A Volborg 76.12 42 P **P 23 42 51.5 +0.6**
baz=76,SNR=12
MALT Malatya 76.13 308 ⇑P **P 23 42 52.1 +0.9**
MALT Malatya 76.13 308 ⇑*iP* **P 23 42 52.1 +0.9**
NLU North Lily Min 76.15 50 *eP* **P 23 42 53.5 +2.0**
BEL Belsk 76.20 327 *eP* **P 23 42 51.6 +0.4**
BEL Belsk 76.20 327 *eP* **P 23 42 51.6 +0.4**
D25A Fairfield 76.22 40 P **P 23 42 51.8 +0.3**
baz=76
LVV L'vov 76.22 324 *eP* **P 23 42 51.6 +0.2**
LVV *e* 23 42 55.6
LVV MLR MLR
comp=N,700nm,14.0s
LVV MLR MLR
comp=E,650nm,14.0s
LVV MLR MLR
comp=Z,800nm,14.0s
CIS Catalina Islan 76.23 58 P **P 23 42 52.0 +0.2**
baz=76
J20A Shoshoni 76.25 45 P **P 23 42 52.1 +0.3**
baz=76
RRX Edison Barstow 76.25 56 P **P 23 42 52.6 +0.7**
baz=76
C26A Wahner Farm, P 76.36 39 P **P 23 42 52.8 +0.6**
baz=76
B27A Peters Farms, 76.36 38 P **P 23 42 52.9 +0.7**
baz=76
H22A Clearmont 76.38 43 P **P 23 42 52.9 +0.4**
baz=76,SNR=8.4
MPU Maple Canyon 76.38 49 *eP* **P 23 42 54.4 +1.7**
comp=Z,55nm,1.5s
I21A Big Trails, Te 76.39 44 P **P 23 42 53.0 +0.4**
baz=76,SNR=32
SHPR Sheep Range 76.43 54 *eP* **P 23 42 54.2 +1.2**
A28A Rude Farm, Bot 76.48 37 P **P 23 42 53.3 +0.5**
baz=76
G23A Biddle 76.48 42 P **P 23 42 53.1 +0.1**
baz=76
F24A Ekalaka 76.54 41 P **P 23 42 53.8 +0.4**
baz=76,SNR=8.6
GKP Gorka Klasztor 76.59 330 *eP* **P 23 42 53.1 -0.2**
GKP Gorka Klasztor 76.59 330 *eP* **P 23 42 53.1 -0.2**
TUQ Turquoise Moun 76.61 55 P **P 23 42 54.6 +0.7**
baz=76
J21A Lysite 76.61 45 P **P 23 42 54.4 +0.4**
baz=76,SNR=9.7
E25A Miller Ranch, 76.62 40 P **P 23 42 53.7 -0.1**
baz=76
HEC Hector,Ludlow 76.72 56 P **P 23 42 55.3 +0.7**
baz=77,SNR=6.9
C27A Sayler Ranch, 76.72 39 P **P 23 42 54.8 +0.5**
baz=76
D26A Manning 76.74 39 P **P 23 42 54.9 +0.5**
baz=77
B28A Dugan Ranch, T 76.76 37 P **P 23 42 54.7 +0.2**
baz=77
I22A 9 Mile Ranch, 76.77 44 P **P 23 42 55.3 +0.5**
baz=77,SNR=13
CCUT Cedar City 76.89 52 *eP* **P 23 42 56.6 +1.0**
comp=Z,31nm,1.3s
G24A Alzada 76.90 42 P **P 23 42 55.3 -0.1**
baz=77
H23A Clabaugh Cattl 76.90 43 P **P 23 42 55.6 +0.2**
baz=77
MURC Murrieta 76.91 57 P **P 23 42 55.7 +0.1**
baz=77
A29A Manning Farm, 76.95 37 P **P 23 42 55.8 +0.2**
baz=77,SNR=14
KWP Kalwaria Pacla 76.96 325 *eP* **P 23 42 55.8 +0.3**
KWP Kalwaria Pacla 76.96 325 *eP* **P 23 42 55.8 +0.3**
MUD Monsted U'grnd 76.98 335 *iP* **P 23 42 55.3 -0.2**
MUD Monsted U'grnd 76.98 335 *eP* **P 23 42 55.3 -0.2**
F25A Bowman 76.99 41 P **P 23 42 56.2 +0.3**
baz=77
MSU Marysvale 77.01 51 *eP* **P 23 42 57.9 +1.6**
MSU Marysvale 77.01 51 *eP* **P 23 42 57.9 +1.6**
RGN Rugen 77.09 332 *eP* **P 23 42 55.8 -0.3**
comp=Z,80nm,1.0s
TMUT Trail Mountain 77.09 50 *eP* **P 23 42 57.9 +1.0**
comp=Z,45nm,1.5s
J22A Midwest 77.09 44 P **P 23 42 57.0 +0.4**
baz=77,SNR=37
TLCR 77.10 318 ⇑P P 23 43 00.4 +4.0
TLCR 77.10 318 ⇑*iP* P 23 43 00.4 +4.0
E26A Carlson Angus 77.11 40 P **P 23 42 56.7 +0.2**
baz=77
D27A Center 77.14 39 P **P 23 42 57.1 +0.5**
baz=77
GMRC Granite Mounta 77.18 56 P **P 23 42 58.0 +0.8**
baz=77
BURAR Bucovina Array 77.22 322 ⇑P **P 23 42 57.2 0.0**
BURAR Bucovina Array 77.22 322 ⇑*iP* **P 23 42 57.2 0.0**
B29A Wagenman Farm, 77.22 37 P **P 23 42 57.4 +0.4**
baz=77,SNR=6.1
H24A Dirks Ranch, A 77.22 42 P **P 23 42 57.2 -0.1**
baz=77,SNR=17
C28A Hasauer Farms 77.26 38 P **P 23 42 58.2 +0.9**
baz=77
TESR Tescani 77.29 320 ⇓*iP* **P 23 42 57.9 +0.4**
A30A Hoffart Farm, 77.37 36 P **P 23 42 58.1 +0.2**
baz=77,SNR=11
PFO Pinyon Flat Ob 77.39 57 P **P 23 42 59.2 +0.7**
comp=Z,6.4nm,1.0s,baz=271,slow=7.4,SNR=4.1
PFO Pinyon Flat Ob 77.39 57 *eP* **P 23 42 58.5 +0.1**
PFO pmax pmax
comp=Z,16nm,1.2s
PFO Pinyon Flat Ob 77.39 57 P **P 23 42 58.6 +0.1**
baz=77
PFO Pinyon Flat Ob 77.39 57 *eP* **P 23 42 58.5 +0.1**
comp=Z,16nm,1.2s
109C Camp Elliot, M 77.41 58 P **P 23 42 58.6 +0.3**
baz=77
F26A Lodgepole 77.44 40 P **P 23 42 58.5 +0.1**
baz=77
BELC Belle Mtn. Jos 77.45 56 P **P 23 42 58.9 +0.2**
baz=77
CFR Carcaliu 77.46 319 ⇑P **P 23 42 58.9 +0.5**
CFR Carcaliu 77.46 319 ⇑*iP* **P 23 42 58.9 +0.5**
ULM Lac du Bonnet 77.50 34 P **P 23 42 58.0 -0.5**
comp=Z,12nm,1.1s,baz=331,slow=8.4,SNR=7.8
ULM LR LR 00 20 49.6
comp=Z,108nm,18.2s,baz=304,slow=38
ULM Lac du Bonnet 77.50 34 *eP* **P 23 42 58.0 -0.5**
ULM pmax pmax
comp=Z,63nm,1.4s
ULM Lac du Bonnet 77.50 34 *eP* **P 23 42 58.0 -0.5**
comp=Z,63nm,1.4s
G25A Newell 77.51 41 P **P 23 42 58.7 0.0**
baz=77
D28A Regan 77.54 38 P **P 23 42 59.1 +0.2**
baz=77
MDND Maddock 77.54 37 P **P 23 42 59.2 +0.4**
baz=77
KNB Kanab 77.57 52 *eP* **P 23 43 01.3 +1.9**
KNB pmax pmax
comp=Z,73nm,1.5s
KNB Kanab 77.57 52 *eP* **P 23 43 01.3 +1.9**
comp=Z,73nm,1.5s
K22A Casper 77.58 45 P **P 23 42 59.6 +0.2**
baz=77,SNR=11
K22A Casper 77.58 45 *eP* **P 23 43 00.2 +0.8**
comp=Z,88nm,1.5s
E27A Carson 77.59 39 P **P 23 42 59.8 +0.6**
baz=77
SRU San Rafael 77.61 50 *eP* **P 23 43 00.2 +0.6**
SRU pmax pmax
comp=Z,24nm,0.8s
SRU San Rafael 77.61 50 *eP* **P 23 43 00.2 +0.6**
comp=Z,24nm,0.8s
KOLS Kolonicke sedl 77.66 324 *eP* **P 23 42 59.2 -0.3**
KOLS pmax pmax
comp=Z,7.0nm,1.0s
KOLS Kolonicke sedl 77.66 324 *eP* **P 23 42 59.2 -0.3**
VRI Vrincioaia 77.70 320 ⇑P **P 23 43 01.0 +1.2**
VRI Vrincioaia 77.70 320 ⇑*iP* **P 23 43 01.0 +1.2**
B30A Myrvik Farm, E 77.71 36 P **P 23 43 00.0 +0.2**
baz=78,SNR=12
PLOR Plostina 77.75 320 ⇑P **P 23 43 01.1 +1.0**
PLOR Plostina 77.75 320 ⇑*iP* **P 23 43 01.1 +1.0**
F27A Lemmon 77.75 40 P **P 23 43 00.6 +0.5**
baz=78
I24A Kuemmerle Ranc 77.79 43 P **P 23 43 00.2 -0.2**
baz=78
H25A Fruitdale 77.81 42 P **P 23 43 00.3 -0.2**
baz=78
OJC Ojcow 77.82 326 *eP* **P 23 43 00.4 +0.1**
OJC *eS* **S 23 52 49.8 -2.2**
OJC Ojcow 77.82 326 *eP* **P 23 43 00.4 +0.1**
OJC *eS* **S 23 52 49.8 -2.2**
OJC Ojcow 77.82 326 *eP* **P 23 43 00.5 +0.1**
comp=Z,93nm,1.1s
NEE2 Needles Airpor 77.86 55 P **P 23 43 01.5 +0.7**
baz=78
G26A Maurine 77.86 41 P **P 23 43 00.8 +0.1**
baz=78,SNR=16
MONP Monument Peak 77.86 58 P **P 23 43 01.6 +0.5**
baz=78
UZH Uzhgorod 77.87 324 *eP* **P 23 43 00.8 +0.2**
UZH *e* 23 43 05.0
UZH *e* 23 43 12.6
UZH *eS* **S 23 52 47.8 -4.7**
UZH MLR MLR
comp=N,380nm,13.0s
UZH MLR MLR
comp=E,600nm,13.0s
UZH MLR MLR
comp=Z,300nm,13.0s
IRM Iron Mountain 77.90 56 P **P 23 43 01.9 +0.8**
baz=78,SNR=6.3
E28A Huff 77.92 39 P **P 23 43 01.2 +0.2**
baz=78
RSSD Black Hills 77.92 42 *eP* **P 23 43 01.4 +0.1**
RSSD pmax pmax
comp=Z,15nm,0.8s
RSSD Black Hills 77.92 42 *eP* **P 23 43 01.4 +0.1**
comp=Z,15nm,0.8s
K23A Bowen Ranch, D 78.00 44 P **P 23 43 01.7 0.0**
baz=78
BMR Baia Mare 78.00 323 ⇓P **P 23 43 02.2 +0.8**
BMR Baia Mare 78.00 323 ⇓*iP* **P 23 43 02.2 +0.8**
ARCR ARCALIA 78.01 322 ⇑*iP* **P 23 43 02.6 +1.1**
BC3 Big Chuckawall 78.02 56 P **P 23 43 02.0 +0.1**
baz=78
BR101 Keskin Array S 78.09 312 *eP* **P 23 43 02.1 -0.1**
BR101 *ePP* **PP 23 46 03.1 +5.1**
BRTR Keskin Array B 78.09 312 P **P 23 43 02.1 -0.1**
comp=Z,1.7nm,0.5s,baz=82,slow=3.7,SNR=13
BRTR PP **PP 23 46 03.1 +5.1**
comp=Z,4.8nm,1.1s,baz=52,slow=7.0,SNR=5.0
BRTR LR LR 00 20 28.5
comp=Z,114nm,18.3s,baz=44,slow=38
D29A Pettibone, Tap 78.11 38 P **P 23 43 02.3 +0.2**
baz=78
TRPA Tarpa 78.12 324 ⇓*iP* **P 23 43 02.9 +0.9**
TRPA Tarpa 78.12 324 ⇑*e*SKPdf **P 23 43 02.4 +0.4**
J24A Dixon Ranch, L 78.13 43 P **P 23 43 02.2 -0.1**
baz=78
G27A Dupree 78.14 40 P **P 23 43 02.7 +0.5**
baz=78
C30A Mose, Pekin 78.18 37 P **P 23 43 02.3 -0.1**
baz=78
NIE Niedzica 78.18 326 *eP* **P 23 43 02.9 +0.5**
NIE *eS* S 23 53 06.8 +11
NIE Niedzica 78.18 326 *eP* **P 23 43 03.0 +0.5**
NIE *eS* S 23 53 06.8 +11
IBP Imperial Bould 78.22 58 P **P 23 43 03.3 +0.3**
baz=78
H26A Fairpoint 78.24 41 P **P 23 43 02.9 +0.1**
baz=78
SWSC Sam W. Stewart 78.24 57 P **P 23 43 03.5 +0.5**
baz=78
O20A White River Ci 78.28 48 P **P 23 43 03.4 +0.1**
baz=78,SNR=8.1
O20A White River Ci 78.28 48 *eP* **P 23 43 03.9 +0.5**
comp=Z,36nm,1.4s
DOPR Dopca 78.30 321 ⇓*iP* **P 23 43 04.6 +1.5**
ISR Istrita 78.31 319 ⇑P **P 23 43 04.7 +1.5**
ISR Istrita 78.31 319 ⇑*iP* **P 23 43 04.7 +1.5**
MLR Muntele Rosu 78.35 320 P **P 23 43 03.7 +0.2**
comp=Z,2.3nm,1.1s,baz=86,slow=7.9,SNR=4.8
MLR Muntele Rosu 78.35 320 ⇑P **P 23 43 04.6 +1.0**
MLR Muntele Rosu 78.35 320 ⇑*iP* **P 23 43 04.6 +1.0**
F28A McLaughlin 78.38 40 P **P 23 43 03.7 +0.1**
baz=78
E29A Napoleon 78.43 38 P **P 23 43 03.6 -0.3**
baz=78
PDMCI Parker Dam,Lak 78.46 55 P **P 23 43 04.9 +0.7**
baz=78
D30A Buchanan 78.47 38 P **P 23 43 04.3 +0.2**
baz=78
RUE Ruedersdorf 78.54 331 *eP* **P 23 43 04.3 +0.1**
comp=Z,32nm,1.1s
RUE *epP* **pP 23 43 10.4 +0.1**
RUE Ruedersdorf 78.54 331 *eP* **P 23 43 04.3 +0.1**
comp=Z,47nm,1.0s
J25A Sunshine Ranch 78.55 43 P **P 23 43 04.3 -0.3**
baz=78
Y12C Blythe 78.56 56 P **P 23 43 05.1 +0.3**
baz=78
H27A Howes 78.58 41 P **P 23 43 04.7 0.0**
baz=78
I26A New Underwood 78.60 42 P **P 23 43 04.9 +0.1**
baz=78
CJR Cluj-Napoca 78.64 322 ⇑P **P 23 43 05.7 +0.7**
CJR Cluj-Napoca 78.64 322 ⇑*iP* **P 23 43 05.7 +0.7**
BSEG Bad Segeberg 78.64 333 *eP* **P 23 43 04.9 +0.1**
comp=Z,27nm,1.0s
BSEG *epP* **pP 23 43 11.0 +0.2**
KECS Kecovo 78.80 325 *eP* P 23 43 11.7 +5.9
KECS pmax pmax
comp=Z,8.0nm,1.0s
KECS Kecovo 78.80 325 *epP* P 23 43 11.7 +5.9
GLA Glamis 78.80 57 *eP* **P 23 43 06.6 +0.4**
GLA pmax pmax
comp=Z,39nm,1.5s
GLA Glamis 78.80 57 P **P 23 43 06.6 +0.4**
baz=79
GLA Glamis 78.80 57 *eP* **P 23 43 06.6 +0.4**
comp=Z,39nm,1.5s
OKC Ostrava-Krasne 78.81 327 *eP* **P 23 43 05.9 +0.1**
OKC *epP* **pP 23 43 10.2 -1.7**
OKC *esP* **sP 23 43 14.8 +0.7**
OKC *eS* **S 23 53 02.6 0.0**
OKC AMS AMS 00 20 50.0
comp=Z,500nm,15.0s
OKC Ostrava-Krasne 78.81 327 *eP* **P 23 43 05.9 +0.1**
OKC *e**PP **pP 23 43 10.2 -1.7**
OKC *e* 23 43 14.8
OKC *eS* **S 23 53 02.6 0.0**
OKC MLR MLR
comp=Z,500nm,15.0s
KSP Ksiaz 78.82 328 *eP* **P 23 43 06.1 +0.3**
KSP Ksiaz 78.82 328 *eP* **P 23 43 06.1 +0.3**
E30A Jud 78.83 38 P **P 23 43 05.8 -0.3**
baz=79
PV09 Paradox Valley 78.84 49 *eP* **P 23 43 07.7 +1.1**
VOIR 78.84 320 ⇑P P 23 43 12.1 +5.9
VOIR 78.84 320 ⇑*iP* P 23 43 12.1 +5.9
G28A Parade 78.86 40 P **P 23 43 06.1 -0.2**
baz=79
F29A Eureka 78.87 39 P **P 23 43 06.4 +0.1**
baz=79
AGMN Agassiz Nation 78.95 35 P **P 23 43 06.0 -0.6**
baz=79,SNR=6.2
AGMN Agassiz Nation 78.95 35 *eP* **P 23 43 06.5 -0.1**
comp=Z,30nm,1.2s
PV10 Paradox Valley 78.97 49 *eP* **P 23 43 09.0 +1.7**
J26A Sides Ranch, S 78.98 43 P **P 23 43 07.3 +0.3**

baz=79,SNR=9.1
I27A Quinn 78.99 41 P P 23 43 07.3 +0.3
baz=79
DRGR 79.00 323 ⇓P P 23 43 07.5 +0.4
DRGR 79.00 323 ⇓iP P 23 43 07.5 +0.4
PV04 Paradox Valley 79.04 49 eP P 23 43 09.0 +1.4
K25A Mack Ranch, Ha 79.04 43 P P 23 43 07.5 +0.1
baz=79
PHWY Pilot Hill 79.07 45 eP P 23 43 08.0 +0.2
comp=Z,39nm,1.4s
N23A Red Feather La 79.08 46 P P 23 43 08.5 +0.7
baz=79,SNR=13
N23A Red Feather La 79.08 46 eP P 23 43 09.3 +1.5
comp=Z,76nm,1.5s
H28A Mission Ridge 79.09 40 P P 23 43 07.7 +0.2
baz=79,SNR=10
ARR Arges 79.09 321 ⇑iP P 23 43 09.1 +1.5
MORC Moravsky Berou 79.11 327 eP P 23 43 07.6 0.0
MORC pmax pmax
comp=Z,155nm,0.9s
MORC Moravsky Berou 79.11 327 ⇑iP P 23 43 08.2 +0.7
MORC Moravsky Berou 79.11 327 eP P 23 43 07.6 0.0
comp=Z,155nm,0.9s
PV05 Paradox Valley 79.13 50 eP P 23 43 09.4 +1.3
DPC Dobruska-Polom 79.18 328 eP P 23 43 07.9 0.0
DPC epP pP 23 43 12.7 -1.3
DPC ePP PP 23 46 10.6 +3.9
DPC eS S 23 53 04.4 -2.3
DPC AMS AMS 00 20 40.0
comp=Z,500nm,14.1s
DPC Dobruska-Polom 79.18 328 eP P 23 43 07.9 0.0
DPC e*PP pP 23 43 12.7 -1.3
DPC e 23 46 10.6
DPC eS S 23 53 04.4 -2.3
DPC MLR MLR
comp=Z,500nm,14.1s
UPC Upice 79.19 328 eP P 23 43 08.2 +0.3
UPC epP pP 23 43 12.3 -1.7
UPC eS S 23 53 05.0 -1.7
UPC AMS AMS 00 20 50.0
comp=Z,500nm,14.0s
UPC Upice 79.19 328 eP P 23 43 08.2 +0.3
UPC e*PP pP 23 43 12.3 -1.7
UPC eS S 23 53 05.0 -1.7
UPC MLR MLR
comp=Z,500nm,14.0s
KRLC Kraliky 79.20 328 eP P 23 43 08.1 +0.1
KRLC epP pP 23 43 12.1 -2.0
KRLC ePP PP 23 46 11.1 +4.2
KRLC Kraliky 79.20 328 eP P 23 43 08.1 +0.1
KRLC e*PP pP 23 43 12.1 -2.0
KRLC e 23 46 11.1
F30A Leola 79.26 39 P P 23 43 08.1 -0.3
baz=79
G29A Hoven 79.28 40 P P 23 43 08.2 -0.3
baz=79
L25A Engebretsen Ra 79.31 44 P P 23 43 09.1 +0.3
baz=79
PV15 Paradox Valley 79.33 49 eP P 23 43 08.6 -0.6
K26A Motz Farm, Whi 79.35 43 P P 23 43 09.1 0.0
baz=79
PV01 Paradox Valley 79.41 49 eP P 23 43 10.5 +0.9
WUAZ Wupatki 79.42 53 P P 23 43 10.6 +0.9
baz=79,SNR=16
WUAZ Wupatki 79.42 53 eP P 23 43 11.3 +1.6
comp=Z,40nm,1.3s
PSZ Piszkesteto 79.48 325 eP P 23 43 09.0 -0.6
PSZ pmax pmax
comp=Z,15nm,1.0s
PSZ MLR MLR
comp=Z,497nm,19.0s
PSZ Piszkesteto 79.48 325 ⇑iP P 23 43 09.5 -0.1
PSZ Piszkesteto 79.48 325 eP P 23 43 09.0 -0.6
comp=Z,15nm,1.0s
PSZ LR LR
comp=Z,497nm,19.0s
PSZ Piszkesteto 79.48 325 ⇑ePP P 23 43 10.0 +0.4
I28A Midland 79.49 41 P P 23 43 10.0 +0.2
baz=79,SNR=8.6
VYHS Vyhne 79.52 326 eP P 23 43 09.5 -0.3
VYHS pmax pmax
comp=Z,7.0nm,1.2s
VYHS Vyhne 79.52 326 eP P 23 43 09.5 -0.3
H29A Onida 79.53 40 P P 23 43 09.9 0.0
baz=79
J27A Elkhorn Farm, 79.58 42 P P 23 43 10.7 +0.4
baz=79
SMCO Snowmass 79.65 48 eP P 23 43 12.1 +1.0
comp=Z,13nm,0.9s
G30A Faulkton 79.71 39 P P 23 43 11.1 +0.2
baz=80
BRG Berggiesshubel 79.73 330 eP P 23 43 10.9 +0.1
comp=Z,15nm,1.0s
BRG i 23 43 15.6
comp=Z,30nm,0.9s
BRG Berggiesshubel 79.73 330 eP P 23 43 10.6 -0.2
comp=Z,15nm,1.0s
BRG epP pP 23 43 16.9 0.0
BRG Berggiesshubel 79.73 330 eP P 23 43 10.9 +0.1
BRG i 23 43 15.6
BRG pmax pmax
comp=Z,15nm,1.0s
M25A Palm-Egli Farm 79.75 44 P P 23 43 11.6 +0.2
baz=80
PVCC Panska Ves 79.76 329 eP P 23 43 11.1 +0.1
PVCC epP pP 23 43 15.2 -1.8
PVCC esP sP 23 43 17.4 -1.8
PVCC AMS AMS 00 21 30.0
comp=Z,700nm,13.8s
PVCC Panska Ves 79.76 329 eP P 23 43 11.1 +0.1
PVCC e*PP pP 23 43 15.2 -1.8
PVCC e 23 43 17.4
PVCC MLR MLR
comp=Z,700nm,13.8s
CLL Collm 79.76 330 eP P 23 43 10.5 -0.5
comp=Z,24nm,0.9s
CLL epP pP 23 43 16.8 -0.2
CLL Collm 79.76 330 eP P 23 43 10.5 -0.5
CLL pmax pmax
comp=Z,74nm,0.9s
CLL Collm 79.76 330 eP P 23 43 10.4 -0.5
comp=Z,74nm,0.9s
CLL Collm 79.76 330 ⇑iP P 23 43 10.5 -0.5
comp=Z,25nm,0.9s
CLL i pP pP 23 43 14.9 -2.1
CLL i sP sP 23 43 16.5 -2.7
comp=Z,65nm,0.9s
CLL eS S 23 53 06.0 -6.6
CLL e 23 59 36.0
CLL e 00 02 18.0
CLL LmH 00 15 00.0
comp=N,600nm,18.8s
CLL LmH 00 15 00.0
comp=E,700nm,19.3s
CLL LV 00 21 24.0
comp=Z,600nm,18.8s
K27A Flueckinger Fa 79.85 43 P P 23 43 12.0 +0.3
baz=80
J28A Allard Ranch, 79.86 41 P P 23 43 12.5 +0.7
baz=80,SNR=9.0
L26A Underwood Farm 79.86 43 P P 23 43 12.3 +0.4
baz=80
VRAC Vranov 79.87 327 P P 23 43 12.0 +0.3
comp=Z,15nm,1.0s,baz=52,slow=4.1,SNR=18
VRAC Vranov 79.87 327 ⇓P P 23 43 12.5 +0.9
VRAC Vranov 79.87 327 ⇓iP P 23 43 12.5 +0.9
I29A Vivian Onida 79.92 41 P P 23 43 12.0 0.0
baz=80
SZH Strazhica 79.92 318 P P 23 43 17.1 +5.1
FBE Freiberg 79.93 330 eP P 23 43 11.9 0.0
comp=Z,21nm,0.9s
FBE epP pP 23 43 18.1 +0.2
ISCO Idaho Springs 80.00 46 eP P 23 43 13.5 +0.6
ISCO pmax pmax
comp=Z,34nm,1.4s
ISCO Idaho Springs 80.00 46 P P 23 43 13.6 +0.6
baz=80,SNR=18
ISCO Idaho Springs 80.00 46 eP P 23 43 13.5 +0.6
comp=Z,34nm,1.4s
MVCO Mesa Verde 80.06 50 P P 23 43 13.9 +0.7
baz=80,SNR=7.8
MVCO Mesa Verde 80.06 50 eP P 23 43 13.7 +0.4
comp=Z,24nm,1.1s
GOPC GO Pecny, Ondr 80.15 329 eP P 23 43 13.6 +0.5
GOPC ex x 23 43 16.1
GOPC epP pP 23 43 18.2 -1.0
GOPC ex x 23 43 19.4
GOPC eS S 23 53 15.5 -1.4
GOPC AMS AMS 00 21 20.0
comp=Z,600nm,14.4s
PRA Prague 80.17 329 eP P 23 43 13.5 +0.3
PRA epP pP 23 43 17.5 -1.8
PRA eS S 23 53 17.6 +0.6
PRA AMS AMS 00 21 40.0
comp=Z,700nm,14.6s
PRA Prague 80.17 329 eP P 23 43 13.5 +0.3
PRA e*PP pP 23 43 17.5 -1.8
PRA eS S 23 53 17.6 +0.6
PRA MLR MLR
comp=Z,700nm,14.6s
PRU Pruhonice 80.19 329 eP P 23 43 13.2 -0.1
PRU epP pP 23 43 17.8 -1.6
PRU eS S 23 53 17.9 +0.7
PRU AMS AMS 00 21 30.0
comp=Z,700nm,16.5s
PRU Pruhonice 80.19 329 eP P 23 43 13.2 -0.1
PRU e*PP pP 23 43 17.8 -1.6
PRU eS S 23 53 17.9 +0.7
PRU MLR MLR
comp=Z,700nm,16.5s
BUD Budapest 80.20 325 ⇑ePP P 23 43 18.9 +5.5
M26A McRoberts Ranc 80.23 44 P P 23 43 14.2 +0.4
baz=80
L27A T5 Ranch, Ells 80.24 43 P P 23 43 14.3 +0.4
baz=80
K28A Ten Mile Ranch 80.30 42 P P 23 43 14.1 -0.1
baz=80
NEUB Neuenburg 80.31 331 eP P 23 43 13.6 -0.3
comp=Z,32nm,1.0s
NEUB epP pP 23 43 19.8 -0.2
CLZ Clausthal 80.32 332 eP P 23 43 14.1 +0.1
comp=Z,30nm,1.1s
CLZ epP pP 23 43 20.1 0.0
TREC Trest 80.34 328 eP P 23 43 14.2 0.0
TREC epP pP 23 43 18.9 -1.4
TREC esP sP 23 43 20.4 -2.1
TREC eS S 23 53 16.7 -2.2
TREC AMS AMS 00 23 10.0
comp=Z,400nm,13.1s
TREC Trest 80.34 328 eP P 23 43 14.2 0.0
TREC e 23 43 20.4
TREC eS S 23 53 16.7 -2.2
TREC MLR MLR
comp=Z,400nm,13.1s
BZS Buzias 80.38 322 ⇓P P 23 43 14.5 +0.1
BZS Buzias 80.38 322 ⇓iP P 23 43 14.5 +0.1
I30A Oacoma 80.44 40 P P 23 43 15.1 +0.2
baz=80
PKSG 80.55 325 ⇑ePP P 23 43 16.3 +1.0
RAYN Ar Rayn 80.56 292 P P 23 43 15.0 -0.9
comp=Z,132nm,0.7s,SNR=5.2
RAYN Ar Rayn 80.56 292 eP P 23 43 15.5 -0.4
comp=Z,20nm,0.9s
M27A Reverse DX Ran 80.59 43 P P 23 43 16.2 +0.4
baz=80
N26A Koester Ranch, 80.62 44 P P 23 43 16.0 0.0
baz=80
CSKK Cs˙tkako 80.63 325 ⇓e P 23 43 13.7 -2.0
TANN Tannenbergstha 80.68 330 eP P 23 43 15.8 -0.2
comp=Z,6.0nm,1.0s
TANN epP pP 23 43 22.0 -0.1
S22A 4UR Ranch, Cre 80.69 49 P P 23 43 17.7 +1.1
baz=81,SNR=16
S22A 4UR Ranch, Cre 80.69 49 eP P 23 43 18.0 +1.4
comp=Z,16nm,1.0s
W18A Petrified Fore 80.70 52 P P 23 43 17.4 +0.8
baz=81
WERD Werda 80.71 330 eP P 23 43 16.0 -0.2
comp=Z,10.0nm,1.1s
WERD epP pP 23 43 22.1 -0.1
PLN Plauen 80.74 330 eP P 23 43 16.2 -0.1
comp=Z,12nm,1.2s
PLN epP pP 23 43 22.2 -0.1
GUNZ Gunzen 80.77 330 eP P 23 43 16.5 0.0
comp=Z,14nm,1.0s
GUNZ epP pP 23 43 22.5 -0.1
K29A Lazy Trails An 80.81 41 P P 23 43 17.2 +0.3
baz=81
PKST T˙˙s 80.81 325 ⇑e P 23 43 16.7 0.0
214A Organ Pipe Nat 80.81 56 P P 23 43 17.6 +0.5
baz=81
WERN Wernitzgruen 80.81 330 eP P 23 43 16.7 0.0
comp=Z,18nm,1.0s
WERN epP pP 23 43 22.8 0.0
MOX Moxa 80.82 331 eP P 23 43 16.5 -0.2
comp=Z,13nm,1.1s
MOX epP pP 23 43 22.7 -0.1
MOX Moxa 80.82 331 eL L 00 18 42.9
comp=Z,195nm,19.2s
NKC Novy Kostel 80.83 330 eP P 23 43 16.5 -0.3
NKC epP pP 23 43 20.9 -1.9
NKC ex x 23 43 22.5
NKC ePP PP 23 46 22.4 +2.1
NKC eS S 23 53 22.3 -1.7
NKC AMS AMS 00 22 00.0
comp=Z,600nm,15.6s
NKC Novy Kostel 80.83 330 eP P 23 43 16.5 -0.3
NKC e 23 43 22.5
NKC e 23 46 22.4
NKC eS S 23 53 22.3 -1.7
NKC MLR MLR
comp=Z,600nm,15.6s
J30A Dallas 80.83 41 P P 23 43 17.0 +0.1
baz=81
Q24A Divide 80.84 47 P P 23 43 17.8 +0.4
baz=81
Q24A Divide 80.84 47 eP P 23 43 18.5 +1.1
comp=Z,19nm,1.4s
IBBN Ibbenburen 80.86 334 eP P 23 43 16.6 -0.3
comp=Z,23nm,0.9s
IBBN epP pP 23 43 22.8 -0.1
MPEP Malo Peshtene 80.98 320 P P 23 43 18.4 +0.7
O26A Horse Wrangler 80.98 45 P P 23 43 18.1 +0.1
baz=81
ASF Jabal al Asfar 81.00 304 P P 23 43 18.3 +0.2
comp=Z,1.7nm,0.4s,baz=356,slow=2.1,SNR=6.6
N27A Anderson Farm, 81.01 44 P P 23 43 18.3 +0.3
baz=81
EYMN Ely 81.13 33 P P 23 43 18.1 -0.3
baz=81,SNR=14
EYMN Ely 81.13 33 eP P 23 43 17.8 -0.7
comp=Z,55nm,1.3s
SOP Sopron 81.13 326 ⇑ePP P 23 43 19.0 +0.6
MANZ Manzenberg 81.16 330 eP P 23 43 18.4 -0.2
comp=Z,12nm,1.0s
MANZ epP pP 23 43 24.6 0.0
OGNE Ogallala 81.19 44 P P 23 43 19.1 +0.2
baz=81
L29A Maesberg Ranch 81.22 42 P P 23 43 19.3 +0.2
baz=81
M28A Bar X Bar Ranc 81.22 43 P P 23 43 19.0 -0.2
baz=81
K30A Basset 81.23 41 P P 23 43 19.1 -0.1
baz=81
CONA Conrad Observa 81.24 327 ⇑iP P 23 43 19.6 +0.5
comp=Z,47nm,1.0s,SNR=19
KHC Kasperske Hory 81.25 329 eP P 23 43 18.7 -0.4
KHC epP pP 23 43 24.3 -0.9
KHC ePP PP 23 46 27.6 +3.7
KHC eS S 23 53 28.1 -0.4
KHC AMS AMS 00 22 00.0
comp=Z,600nm,17.1s
KHC Kasperske Hory 81.25 329 eP P 23 43 18.7 -0.4
KHC e*PP pP 23 43 24.3 -0.9
KHC e 23 46 27.6
KHC eS S 23 53 28.1 -0.4
KHC MLR MLR
comp=Z,600nm,17.1s
KHC Kasperske Hory 81.25 329 eP P 23 43 18.9 -0.1
comp=Z,16nm,0.9s
UBBA Unterbreizbach 81.28 332 eP P 23 43 18.7 -0.3
comp=Z,17nm,1.7s
UBBA epP pP 23 43 24.7 -0.4
ROTZ Rotzenmuhle 81.29 330 eP P 23 43 19.6 +0.3
comp=Z,22nm,1.3s
ROTZ epP PcP 23 43 25.7 +0.3
PKSM Moragy 81.33 324 ⇓P P 23 43 19.4 -0.1
PKSM Moragy 81.33 324 ⇓iP P 23 43 19.4 -0.1
PKSM Moragy 81.33 324 ⇓ePP P 23 43 18.8 -0.7
CSS Prodhromos 81.42 308 eP P 23 43 19.6 -0.6
comp=Z,3.3nm,0.8s
CSS LR LR
comp=Z,53nm,20.0s
GEC2 GERESS Array S 81.43 329 eP P 23 43 19.8 -0.3
comp=Z,8.0nm,1.0s
GEC2 epP PcP 23 43 25.8 -0.3
GEC2 GERESS Array S 81.43 329 eP P 23 43 20.1 0.0
GEC2 GERESS Array S 81.43 329 eP P 23 43 20.1 0.0
GEC2 ePKKPbc PKKPbc 00 01 52.6 -0.5
GERES GERESS Array B 81.43 329 P P 23 43 20.1 0.0
comp=Z,5.2nm,0.6s,baz=45,slow=5.8,SNR=27
GERES PKKPbc PKKPbc 00 01 52.6 -0.5
comp=Z,0.1nm,0.3s,baz=36,slow=2.5,SNR=4.4
GERES LR LR 00 22 20.3
comp=Z,639nm,18.4s,baz=18,slow=38
P26A Davis Ranch, A 81.44 45 P P 23 43 20.4 0.0
baz=81
SDCO Great Sand Dun 81.47 48 P P 23 43 21.5 +0.7
baz=81,SNR=11
SDCO Great Sand Dun 81.47 48 eP P 23 43 21.7 +0.9
comp=Z,10nm,1.1s
O27A Beecher Island 81.48 44 P P 23 43 20.4 -0.1
baz=81
WTSB Winterswijk 81.48 334 eP P 23 43 19.9 -0.2
WET Wettzell 81.52 329 eP P 23 43 20.8 +0.3
comp=Z,16nm,1.2s
WET epP pP 23 43 26.7 +0.1
EKA Eskdalemuir Ar 81.53 341 P P 23 43 20.0 -0.4
comp=Z,4.4nm,0.9s,baz=27,slow=4.9,SNR=8.7
EKA Eskdalemuir Ar 81.53 341 eP P 23 43 20.0 -0.4
M29A Burnside Ranch 81.55 43 P P 23 43 20.8 -0.1
baz=81
ESK Eskdalemuir 81.56 341 iP P 23 43 23.5 +3.0
N28A Pribbeno Ranch 81.64 44 P P 23 43 21.3 -0.1
baz=82
RZN Rozhen 81.68 318 P P 23 43 26.1 +4.4
L30A Spencer Herefo 81.70 42 P P 23 43 21.4 -0.2
baz=82
GRF Grafenberg Arr 81.73 330 eP P 23 43 21.9 +0.3
comp=Z,34nm,1.0s
GRF epP pP 23 43 28.1 +0.4
GRF Grafenberg Arr 81.73 330 eL L 00 22 41.7
comp=Z,354nm,19.0s
GRFO Grafenberg 81.74 330 eP P 23 43 21.9 +0.3
GRFO pmax pmax
comp=Z,68nm,0.9s
GRFO Grafenberg 81.74 330 eP P 23 43 21.9 +0.3
comp=Z,68nm,0.9s
BUG Bochum--Univer 81.75 333 eP P 23 43 21.1 -0.5
comp=Z,13nm,0.9s
BUG epP PcP 23 43 27.0 -0.3
Q26A Hugo 81.78 46 P P 23 43 22.5 +0.2
baz=82
VTS Vitosha 81.80 319 ⇓P P 23 43 22.9 +0.6
VTS Vitosha 81.80 319 ⇓iP P 23 43 22.9 +0.6
VTS Vitosha 81.80 319 P P 23 43 22.9 +0.6
P27A Ficken Ranch, 81.87 45 P P 23 43 22.5 -0.1
baz=82
TUC Tucson 81.89 55 eP P 23 43 23.3 +0.5
TUC pmax pmax
comp=Z,16nm,1.3s
TUC Tucson 81.89 55 eP P 23 43 23.3 +0.5
comp=Z,16nm,1.3s
O28A Krutsinger Ran 81.91 44 P P 23 43 23.2 +0.4
baz=82
ARSA Arzberg 81.91 327 ⇑iP P 23 43 22.8 +0.2
comp=Z,32nm,1.4s,SNR=13
M30A Dale-Ortello V 81.92 42 P P 23 43 22.7 -0.1
baz=82
ECSD EROS Data Cent 81.96 39 P P 23 43 23.0 +0.1
baz=82,SNR=11
ECSD EROS Data Cent 81.96 39 eP P 23 43 22.9 0.0
comp=Z,12nm,0.7s
MOA Molln 81.98 328 ⇑iP P 23 43 22.9 -0.1
comp=Z,36nm,1.1s,SNR=23
L31A Butterfield Fa 81.99 41 P P 23 43 23.1 -0.1
baz=82
N29A Votaw Ranch, W 82.03 43 P P 23 43 23.5 +0.1
baz=82
KSCO Kaye Shedlock' 82.22 45 P P 23 43 24.5 0.0
baz=82
R26A Arlington 82.26 46 P P 23 43 25.0 +0.3
baz=82,SNR=11
MMB Musomiste 82.26 318 P P 23 43 25.3 +0.7
DIVS Divibare 82.28 322 ⇓iP P 23 43 24.9 +0.2
P28A Saint Francis 82.31 45 P P 23 43 24.6 -0.3
baz=82
N30A Hueftle Ranch, 82.33 43 P P 23 43 24.6 -0.3
baz=82
TNS Taunus Mts 82.34 332 eP P 23 43 24.6 -0.2
comp=Z,17nm,1.2s
TNS epP PcP 23 43 30.5 +0.4
KKB Krupnik 82.39 319 P P 23 43 25.6 +0.4
O29A 4D Ranch, Culb 82.43 44 P P 23 43 25.0 -0.6
baz=82
T25A Trinidad 82.51 48 P P 23 43 26.7 +0.5
baz=82,SNR=8.4
T25A Trinidad 82.51 48 eP P 23 43 27.4 +1.2
comp=Z,19nm,0.9s
M31A Lambtecht Ranc 82.52 42 P P 23 43 25.4 -0.5
baz=82
PERS Pernice 82.57 326 iP P 23 43 25.8 -0.3
PERS i 23 43 30.5
SOKA Soboth 82.57 326 ⇑iP P 23 43 25.9 -0.2
comp=Z,93nm,1.0s,SNR=27
Q28A Sharon Springs 82.62 45 P P 23 43 26.4 -0.2
baz=82
R27A Eads 82.63 46 P P 23 43 26.7 0.0
baz=82
SPMN St. Paul 82.64 36 P P 23 43 26.1 -0.3
baz=82
P29A Atwood 82.73 44 P P 23 43 27.3 +0.2
baz=83
LAZ Ladron 82.77 51 eP P 23 43 28.6 +1.1
LAZ ePP PP 23 46 34.5 -2.5
HGN Heimansgroeve 82.78 334 eP P 23 43 26.5 -0.5
O30A MW Ranch, Wils 82.79 43 P P 23 43 27.2 -0.2
baz=83
L33A Hoskins 82.79 40 P P 23 43 27.1 -0.2
baz=83
ANMO Albuquerque 82.81 51 P P 23 43 27.7 0.0
comp=Z,10.0nm,1.1s,baz=310,slow=7.9,SNR=12
ANMO Albuquerque 82.81 51 P P 23 43 27.7 0.0
ANMO pmax pmax
comp=Z,10.0nm,1.1s
ANMO Albuquerque 82.81 51 eP P 23 43 28.8 +1.0
comp=Z,26nm,1.3s
BEBN Eben Emael 82.84 334 P P 23 43 27.1 -0.2
MEM Membach 82.89 334 P P 23 43 27.4 -0.2
comp=Z,18nm,0.9s
MEM Membach 82.89 334 eP P 23 43 28.0 +0.4
MEM pmax pmax
comp=Z,29nm,0.8s
MEM Membach 82.89 334 eP P 23 43 27.9 +0.4
comp=Z,29nm,0.8s
BGNE Belgrade 82.90 41 P P 23 43 27.7 -0.2
baz=83
BGNE Belgrade 82.90 41 eP P 23 43 28.6 +0.7
N31A Bailey Ranch, 82.91 42 P P 23 43 27.9 -0.1
baz=83
OBKA Obir 82.91 327 ⇑iP P 23 43 27.3 -0.6
comp=Z,29nm,0.8s
FUR Furstenfeldbru 82.94 329 eP P 23 43 28.0 0.0
comp=Z,26nm,0.9s
FUR epP pP 23 43 34.3 +0.2
T26A Comanche Natio 82.96 47 P P 23 43 28.7 +0.2
baz=83,SNR=9.3
KBA Koelnbreinsper 82.97 328 ⇑iPcP P 23 43 29.1 +0.8
comp=Z,63nm,0.8s,SNR=25
S27A Las Animas 83.00 47 P P 23 43 28.6 0.0
baz=83
VAY Valandovo 83.06 319 iP P 23 43 29.2 +0.6
R28A Tribune 83.14 45 P P 23 43 29.5 +0.2
baz=83
P30A Selden 83.14 44 P P 23 43 28.9 -0.3
baz=83
SKO Skopje 83.15 320 iP P 23 43 30.0 +0.9
O31A Woolen Ranch, 83.20 43 P P 23 43 28.7 -0.8
baz=83
MYKA Terra Mystica 83.20 327 ⇑iP P 23 43 28.7 -0.7
comp=Z,29nm,0.7s,SNR=6.5
Q29A Oakley 83.21 45 P P 23 43 29.2 -0.4
baz=83
BNM Barren Site 83.25 51 eP P 23 43 31.1 +1.1
URZ Urewera 83.25 153 P P 23 43 28.3 -1.0
comp=Z,12nm,0.9s,baz=67,slow=4.2,SNR=3.1
STU Stuttgart 83.26 331 eP P 23 43 29.3 -0.2

STU comp=Z,22nm,1.2s ep P **pP**
STU Stuttgart 83.26 331 eP **P** 23 43 31.3 +1.8
STU pmax pmax
comp=Z,58nm,0.8s
STU Stuttgart 83.26 331 eP **P** 23 43 31.3 +1.8
comp=Z,58nm,0.8s
M33A Taylor Creek F 83.27 41 P **P** 23 43 29.6 -0.2
baz=83
SCHQ Schefferville 83.28 16 LR LR 00 25 42.7
comp=Z,68nm,18.5s,baz=15,slow=39
SCHQ Schefferville 83.28 16 eP **P** 23 43 29.6 0.0
comp=Z,17nm,0.9s
N32A Stulken Farm, 83.30 42 P **P** 23 43 29.0 -0.9
baz=83
GORS Gorjuse 83.30 327 i P **P** 23 43 29.7 -0.2
GORS i 23 43 33.8
VISS Visnje 83.34 326 i P **P** 23 43 29.3 -0.7
VISS i 23 43 33.6
CWF Charnwood Fore 83.35 339 eP **P** 23 43 29.2 -0.7
comp=Z,33nm,0.8s
L34A Svendsen Farm, 83.39 40 P **P** 23 43 30.0 -0.4
baz=83
BOJS Bojanci 83.39 326 i P **P** 23 43 29.7 -0.6
BOJS i 23 43 34.7
R29A Marienthal 83.46 45 P **P** 23 43 30.4 -0.4
baz=83
WATA Walderalm 83.49 329⇓ iP **P** 23 43 30.6 -0.4
comp=Z,25nm,0.9s
WTTA Wattenberg 83.53 329⇑ iP **P** 23 43 31.1 -0.1
comp=Z,29nm,0.8s,SNR=12
T27A Campo 83.53 47 P **P** 23 43 31.0 -0.4
baz=83
SNF Seneffe 83.56 335 P **P** 23 43 30.9 -0.1
Q30A Quinter 83.56 44 P **P** 23 43 31.2 -0.2
baz=83
ABTA Abfaltersbach 83.58 328⇑ iP **P** 23 43 30.1 -1.3
comp=Z,33nm,1.0s,SNR=15
COWI Conover 83.58 33 eP **P** 23 43 31.2 -0.1
comp=Z,23nm,1.4s
P31A Stockton 83.63 43 P **P** 23 43 31.4 -0.3
baz=84,SNR=7.2
121A Cookes Peak, D 83.63 53 P **P** 23 43 32.7 +0.7
baz=84,SNR=9.6
S28A Manter 83.63 46 P **P** 23 43 32.1 +0.3
baz=84
M34A Aspy Farms, Fr 83.63 40 P **P** 23 43 31.2 -0.4
baz=83
WLF Walferdange 83.63 333 P **P** 23 43 31.7 +0.3
WLF Walferdange 83.63 333 eP **P** 23 43 30.7 -0.7
WLF e*PP **pP** 23 43 37.3 -0.2
WLF pmax pmax
comp=Z,13nm,0.8s
WLF MLR MLR
comp=Z,364nm,20.0s
WLF Walferdange 83.63 333 eP **P** 23 43 30.7 -0.7
comp=Z,13nm,0.8s
WLF ep P **pP** 23 43 37.3 -0.2
WLF LR LR
comp=Z,364nm,20.0s
O32A Brockman Farm, 83.67 42 P **P** 23 43 31.5 -0.4
baz=84
MOTA Moosalm 83.67 329⇑ iP **P** 23 43 31.5 -0.4
comp=Z,74nm,0.9s,SNR=27
RETA Reutte 83.70 329⇑ iP **P** 23 43 31.9 -0.1
comp=Z,100nm,1.1s,SNR=38
N33A J Bar K, Exete 83.75 41 P **P** 23 43 31.7 -0.5
baz=84
DOU Dourbes 83.81 334 P **P** 23 43 32.2 -0.1
comp=Z,9.3nm,1.5s
T28A Walsh 83.84 46 P **P** 23 43 33.2 +0.3
baz=84
BKZ Black Stump Fm 83.85 154 eP **P** 23 43 32.1 -0.4
comp=Z,20nm,1.0s
TRI Trieste 83.88 327 eP **P** 23 43 31.7 -1.1
TRI pmax pmax
comp=Z,38nm,0.8s
TRI Trieste 83.88 327 eP **P** 23 43 31.6 -1.1
comp=Z,38nm,0.8s
EIL Elat 83.90 303 P **P** 23 43 32.9 -0.3
comp=Z,11nm,1.1s,baz=38,slow=2.2,SNR=7.4
U27A Thompson Grove 83.92 47 P **P** 23 43 33.8 +0.4
baz=84
CBKS Cedar Bluff 83.94 44 P **P** 23 43 32.9 -0.4
baz=84
BFO Black Forest 83.95 331 eP **P** 23 43 32.9 -0.2
comp=Z,27nm,1.2s
BFO ep P **pP** 23 43 38.8 -0.4
BFO Black Forest 83.95 331 P **P** 23 43 33.8 +0.7
comp=Z,260nm,1.3s,SNR=7.8
BFO Black Forest 83.95 331 eP **P** 23 43 33.2 +0.1
BFO pmax pmax
comp=Z,116nm,1.4s
BFO MLR MLR
comp=Z,226nm,20.0s
BFO Black Forest 83.95 331 eP **P** 23 43 33.2 +0.1
comp=Z,116nm,1.4s
BFO LR LR
comp=Z,226nm,20.0s
P32A Huiting Farm, 83.97 43 P **P** 23 43 33.0 -0.4
baz=84
Q31A Ellis 83.99 44 P **P** 23 43 33.3 -0.3
baz=84
R30A Dighton 84.03 45 P **P** 23 43 33.9 +0.1
baz=84
S29A Ulysses 84.04 46 P **P** 23 43 34.1 +0.2
baz=84
FETA Feichten 84.09 329⇑ iP **P** 23 43 33.8 -0.2
comp=Z,55nm,1.0s,SNR=22
M35A Neola 84.10 40 P **P** 23 43 34.2 +0.2
baz=84
OHR Ohrid 84.11 320 i P **P** 23 43 32.8 -1.3
N34A Lincoln 84.16 41 P **P** 23 43 33.7 -0.6
baz=84
O33A Hebron 84.17 42 P **P** 23 43 34.0 -0.4
baz=84
DAVA Damuels 84.21 330⇑ iP **P** 23 43 34.5 -0.1
comp=Z,90nm,0.9s,SNR=24
DSB Dublin 84.23 342 eP **P** 23 43 35.3 +0.9
comp=Z,34nm,0.9s
T29A Hugoton 84.27 46 P **P** 23 43 35.1 +0.1
baz=84
U28A Mallet 84.30 47 P **P** 23 43 35.7 +0.4
baz=84
PMOR Pomariorio Ree 84.33 114 eT T 01 16 25.6
comp=Z,128nm,0.2s
V27A Dan Oppiter Fa 84.39 48 P **P** 23 43 36.1 +0.4
baz=84
S30A Montezuma 84.39 45 P **P** 23 43 36.1 +0.4
baz=84
TIR Tirane 84.40 320 eP P 23 43 39.2 +3.7
TIR pmax pmax
comp=Z,48nm,1.0s
TIR MLR MLR
comp=Z,670nm,19.0s
TIR Tirane 84.40 320 eP P 23 43 39.2 +3.7
comp=Z,48nm,1.0s
TIR LR LR
comp=Z,670nm,19.0s
R31A Burdett 84.44 44 P **P** 23 43 35.4 -0.4
baz=84
Q32A Meitler Ranch, 84.45 43 P **P** 23 43 35.6 -0.3
baz=84
ECH Echery 84.48 332 eP **P** 23 43 35.7 -0.1
ECH pmax pmax
comp=Z,38nm,1.1s
ECH MLR MLR
comp=Z,217nm,19.0s
ECH Echery 84.48 332 eP **P** 23 43 35.7 -0.1
comp=Z,38nm,1.1s
ECH LR LR
comp=Z,217nm,19.0s
O34A Beatrice 84.55 41 P **P** 23 43 35.8 -0.5
baz=84
N35A Tabor 84.58 40 P **P** 23 43 37.1 +0.6
baz=84
P33A Williams Farm, 84.58 42 P **P** 23 43 36.5 0.0
baz=84
FUORN Ofenpass-Fuorn 84.60 329 eP **P** 23 43 36.7 0.0
comp=Z,97nm,0.8s
DAVOX Davos/Dischmat 84.62 329 P **P** 23 43 36.9 +0.1
comp=Z,12nm,0.9s,baz=36,slow=3.6,SNR=15
V28A Channing 84.74 48 P **P** 23 43 38.3 +0.8
baz=85
T30A Plains 84.78 46 P **P** 23 43 37.6 0.0
baz=85
R32A Long Quarter, 84.78 44 P **P** 23 43 37.4 -0.2
baz=85
U29A Oasis Ranch, S 84.79 46 P **P** 23 43 38.0 +0.3
baz=85
Q33A Connelly Farm, 84.83 43 P **P** 23 43 37.4 -0.4
baz=85
AGG Agios Georgios 84.86 317 eP **P** 23 43 38.9 +0.9
AGG pmax pmax
comp=Z,18nm,1.0s
AGG Agios Georgios 84.86 317 eP **P** 23 43 38.9 +0.9
comp=Z,18nm,1.0s
PPT Papeete 84.89 117 LR LR 00 22 47.4
comp=Z,78nm,18.4s,baz=320,slow=37
O35A Humboldt 84.89 41 P **P** 23 43 37.8 -0.3
baz=85
PPT2 Papeete2 84.90 117 eLR LR 00 10 06.5
comp=Z,347nm,24.8s
PPT2 Papeete2 84.90 117 eT T 01 17 07.4
comp=Z,56nm,0.4s
S31A Mullinville 84.94 45 P **P** 23 43 38.3 -0.2
baz=85
PAE Paea 84.95 117 eT T 01 17 09.9
comp=Z,15nm,0.4s
P34A Walnut Farm, R 84.95 42 P **P** 23 43 38.0 -0.4
baz=85
TIAR Tiarei 85.04 117 eT T 01 17 17.1
comp=Z,28nm,0.4s
V29A Stinnett 85.06 47 P **P** 23 43 39.1 +0.1
baz=85
U30A WK&E Inc. Balk 85.08 46 P **P** 23 43 39.0 -0.2
baz=85
TUE Stuetta 85.08 329 eP **P** 23 43 38.7 -0.4
comp=Z,36nm,0.9s
TUE LR LR
comp=Z,257nm,21.0s
W28A Vega 85.10 48 P **P** 23 43 40.2 +0.9
baz=85
S32A Newby Ranch, P 85.19 44 P **P** 23 43 39.7 +0.1
baz=85
R33A Olander Ranch, 85.25 43 P **P** 23 43 39.7 -0.3
baz=85
TVO Taravao 85.26 117 eT T 01 17 33.3
comp=Z,3.4nm,0.3s
Q34A Chapman 85.36 42 P **P** 23 43 40.1 -0.3
baz=85
P35A Duane Minner, 85.38 41 P **P** 23 43 40.1 -0.4
baz=85
O36A Bolckow 85.47 40 P **P** 23 43 41.2 +0.2
baz=85
W29A Amraillo 85.52 48 P **P** 23 43 41.8 +0.4
baz=85
T32A Huddler Ranch, 85.57 45 P **P** 23 43 41.8 +0.2
baz=85
JFWS Jewell Farm 85.60 36 eP **P** 23 43 40.9 -0.6
JFWS pmax pmax
comp=Z,7.0nm,0.5s
JFWS Jewell Farm 85.60 36 eP **P** 23 43 40.9 -0.6
comp=Z,7.2nm,0.5s
V30A Spur Ranch, Mi 85.61 47 P **P** 23 43 41.9 +0.1
baz=86
X28A Dimmitt 85.63 48 P **P** 23 43 42.5 +0.5
baz=86
U31A Nine Bar Ranch 85.64 46 P **P** 23 43 42.7 +0.7
baz=86
R34A Ubella, Hill 85.65 43 P **P** 23 43 42.0 +0.1
baz=86
P36A Good Intent, A 85.73 41 P **P** 23 43 42.0 -0.3
baz=86,SNR=7.8
S33A Kaszmaul Farm, 85.77 44 P **P** 23 43 42.7 +0.2
baz=86
Q35A Mercer Eighty, 85.87 42 P **P** 23 43 42.8 -0.2
baz=86,SNR=8.6
X29A Tulia 85.97 48 P **P** 23 43 44.1 +0.4
baz=86
SENIN Lac Senin/Sane 85.97 331 eP **P** 23 43 43.3 -0.3
comp=Z,33nm,0.8s
TAOE Nuku Hiva Isla 85.97 105 eT T 01 18 36.5
comp=Z,73nm,0.2s
T33A Patterson Ranc 86.01 44 P **P** 23 43 44.2 +0.5
baz=86
Y28A McKinney Farm, 86.03 49 P **P** 23 43 44.3 +0.3
baz=86
W30A Crockett Farms 86.09 47 P **P** 23 43 44.6 +0.4
baz=86
Q36A Arnold C. Orve 86.09 41 P **P** 23 43 44.0 0.0
baz=86
U32A Winter Ranch, 86.11 45 P **P** 23 43 44.7 +0.5
baz=86
MEH Mehetia 86.15 117 eT T 01 18 40.5
comp=Z,197nm,0.3s
S34A Willow Spring 86.17 43 P **P** 23 43 44.7 +0.2
baz=86
IDI Anoyia 86.17 313 P **P** 23 43 46.8 +2.2
comp=Z,8.1nm,0.5s,baz=17,slow=11,SNR=11
R35A Emporia Munici 86.19 42 P **P** 23 43 44.8 +0.2
baz=86,SNR=7.0
VAL Valentia 86.34 343 eP **P** 23 43 45.4 +0.4
Z28A Tucker Farm, M 86.39 49 P **P** 23 43 46.0 +0.3
baz=86
Y29A Porterfield Fa 86.40 49 P **P** 23 43 46.4 +0.6
baz=86
W31A Holland Ranch, 86.44 47 P **P** 23 43 46.5 +0.6
baz=86
X30A Coker Ranch, T 86.45 48 P **P** 23 43 46.3 +0.4
baz=86
R36A Gordon, Harris 86.55 42 P **P** 23 43 46.2 -0.2
baz=86,SNR=7.2
VLC Villacollemand 86.55 328 eP **P** 23 43 45.6 -0.6
comp=Z,16nm,0.9s
VLC LR LR
comp=Z,359nm,20.0s
U33A Lingo Farm, Me 86.56 45 P **P** 23 43 46.7 +0.2
baz=86
V32A Arapaho 86.56 46 P **P** 23 43 47.0 +0.5
baz=86
S35A Otter Creek Ra 86.60 43 P **P** 23 43 46.8 +0.2
baz=86,SNR=13
T34A McClaskey Farm 86.63 44 P **P** 23 43 46.7 0.0
baz=86
Q37A Longview Farm, 86.68 41 P **P** 23 43 46.4 -0.5
baz=86
AQU L'Aquila 86.69 325 eP **P** 23 43 46.8 -0.2
AQU pmax pmax
comp=Z,34nm,1.1s
AQU MLR MLR
comp=Z,462nm,19.0s
AQU L'Aquila 86.69 325 eP **P** 23 43 46.8 -0.2
comp=Z,34nm,1.1s
AQU LR LR
comp=Z,462nm,19.0s
128A Castleberry Fa 86.80 50 P **P** 23 43 48.1 +0.3
baz=87
Z29A Hungry Hill Ra 86.81 49 P **P** 23 43 48.1 +0.3
baz=87,SNR=11
Y30A Stafford Cattl 86.84 48 P **P** 23 43 48.0 +0.1
baz=87
U34A Anderson Ranch 86.87 44 P **P** 23 43 48.2 +0.2
baz=87
U34A Anderson Ranch 86.87 44 eP **P** 23 43 48.5 +0.6
comp=Z,88nm,1.5s
W32A Sentinel 86.88 46 P **P** 23 43 48.5 +0.5
baz=87
R37A Teagarden Farm 86.91 41 P **P** 23 43 48.2 +0.1
baz=87
V33A Lossen Ranch, 86.91 45 P **P** 23 43 48.4 +0.2
baz=87
S36A Lake Cedric, C 86.95 42 P **P** 23 43 48.3 0.0
baz=87
T35A Sooner Cattle 87.07 43 P **P** 23 43 49.6 +0.7
baz=87
228A UT Block 9, Go 87.09 50 P **P** 23 43 49.4 +0.2
baz=87
Z30A Sanderson Ranc 87.13 49 P **P** 23 43 49.4 +0.1
baz=87,SNR=7.5
Y31A Rekieta Farm, 87.15 48 P **P** 23 43 49.5 +0.1
baz=87
129A Stewart Farms, 87.16 49 P **P** 23 43 49.6 +0.1
baz=87
T36A Boggs Farm, Ca 87.30 43 P **P** 23 43 50.0 0.0
baz=87
W33A Caddo, Fort Co 87.30 46 P **P** 23 43 50.7 +0.6
baz=87
V34A Guthrie 87.33 45 P **P** 23 43 50.8 +0.6
baz=87
V34A Guthrie 87.33 45 eP **P** 23 43 50.4 +0.3
comp=Z,22nm,0.9s
S37A Fort Scott 87.33 42 P **P** 23 43 49.7 -0.4
baz=87,SNR=8.7
U35A Pawnee 87.36 44 P **P** 23 43 50.4 +0.1
baz=87
X32A Elmer 87.37 47 P **P** 23 43 50.8 +0.4
baz=87
WMOK Wichita Mounta 87.43 46 eP **P** 23 43 50.5 -0.2
WMOK pmax pmax
comp=Z,23nm,1.3s
WMOK Wichita Mounta 87.43 46 eP **P** 23 43 50.5 -0.2
comp=Z,23nm,1.3s
Y32A R-V Farms, Ver 87.59 47 P **P** 23 43 51.8 +0.4
baz=87
TIP Timpagrande 87.59 321 eP P 23 43 55.1 +3.6
comp=Z,8.7nm,1.0s
W34A Bridge Creek, 87.62 45 P **P** 23 43 52.1 +0.5
baz=88
W34A Bridge Creek, 87.62 45 eP **P** 23 43 50.6 -1.1
comp=Z,40nm,1.4s
Z31A Sharp Cattle R 87.68 48 P **P** 23 43 52.1 +0.1
baz=88,SNR=7.1
130A Snyder 87.72 49 P **P** 23 43 52.5 +0.4
baz=88
X33A Lawton 87.73 46 P **P** 23 43 52.5 +0.4
baz=88
V35A Meyer Ranch, C 87.75 44 P **P** 23 43 52.3 +0.1
baz=88
T37A Cheneyville 18 87.76 42 P **P** 23 43 52.1 -0.1
baz=88,SNR=7.8
U36A Oologah 87.88 43 P **P** 23 43 53.3 +0.5
baz=88
HDIL Hopedale 87.89 37 P **P** 23 43 52.7 -0.1
baz=88
HDIL Hopedale 87.89 37 eP **P** 23 43 52.4 -0.4
comp=Z,61nm,1.2s
SSB Saint Sauveur 87.92 332 eP **P** 23 43 53.4 +0.5
SSB pmax pmax
comp=Z,13nm,0.9s
SSB MLR MLR
comp=Z,249nm,19.0s
SSB Saint Sauveur 87.92 332 eP **P** 23 43 53.4 +0.5
comp=Z,13nm,0.9s
SSB LR LR
comp=Z,249nm,19.0s
131A Roby 88.00 49 P **P** 23 43 54.0 +0.5
baz=88
Y33A Hilltop Ranch, 88.05 47 P **P** 23 43 53.9 +0.3
baz=88
X34A Smith Ranch, M 88.06 46 P **P** 23 43 54.1 +0.4
baz=88
Z32A Haskell 88.07 48 P **P** 23 43 54.2 +0.4
baz=88
230A Sterling City 88.14 50 P **P** 23 43 54.3 +0.1
baz=88
W35A Tecumseh 88.18 45 P **P** 23 43 54.5 +0.3
baz=88
U37A Salina 88.19 43 P **P** 23 43 54.5 +0.2
baz=88
TUL1 Tulsa 88.20 44 P **P** 23 43 54.3 0.0
baz=88
TUL1 Tulsa 88.20 44 eP **P** 23 43 55.6 +1.2
comp=Z,34nm,1.4s
V36A Jenks 88.22 44 P **P** 23 43 54.8 +0.4
baz=88
TXAR Lajitas Array 88.39 53 P **P** 23 43 55.7 +0.2
comp=Z,4.2nm,0.9s,baz=290,slow=3.6,SNR=19
TXAR LR LR 00 22 08.3
comp=Z,30nm,19.0s,baz=0.0,slow=35
330A Mertzon 88.44 50 P **P** 23 43 55.6 0.0
baz=88
ABTX Abilene, Hawle 88.47 48 P **P** 23 43 56.1 +0.4
baz=88
ABTX Abilene, Hawle 88.47 48 eP **P** 23 43 56.5 +0.9
comp=Z,60nm,1.6s
Z33A Whitaker Ranch 88.49 47 P **P** 23 43 55.8 0.0
baz=88
W36A Wetumka 88.55 44 P **P** 23 43 56.2 +0.3
baz=88
U38A Gravette 88.55 42 P **P** 23 43 55.8 -0.2
baz=88,SNR=6.5
429A Davenport Ranc 88.57 51 P **P** 23 43 56.2 0.0
baz=88
231A Bronte 88.57 49 P **P** 23 43 56.5 +0.3
baz=88
Y34A Reagan Ranch, 88.57 46 P **P** 23 43 56.3 +0.1
baz=88
V37A Hulbert 88.57 43 P **P** 23 43 55.9 -0.1
baz=88,SNR=7.9
X35A Drake 88.68 45 P **P** 23 43 56.8 +0.1
baz=88
529A Stev Forest Ra 88.72 51 P **P** 23 43 57.0 0.0
baz=89,SNR=8.1
430A Baggett Ranch, 88.85 50 P **P** 23 43 57.7 +0.1
baz=89
X36A Centrahoma 88.90 45 P **P** 23 43 57.8 +0.1
baz=89,SNR=6.5
133A Hamilton Ranch 88.90 48 P **P** 23 43 58.1 +0.4
baz=89
Z34A Collier Ranch, 88.92 47 P **P** 23 43 58.0 +0.3
baz=89
TBI Tubuai 88.93 121 eLR LR 00 11 29.2
comp=Z,190nm,22.0s
TBI Tubuai 88.93 121 eT T 01 22 05.1
comp=Z,164nm,0.3s
SLM Saint Louis 88.96 38 eP **P** 23 43 56.4 -1.4
SLM pmax pmax
comp=Z,75nm,1.4s
SLM Saint Louis 88.96 38 eP **P** 23 43 56.4 -1.4
comp=Z,75nm,1.4s
331A San Angelo 88.96 50 P **P** 23 43 57.7 -0.4
baz=89
V38A Canehill 88.98 43 P **P** 23 43 57.6 -0.4
baz=89,SNR=11
W37A Quinton 88.98 44 P **P** 23 43 58.5 +0.5
baz=89
232A Coleman 89.00 49 P **P** 23 43 58.2 0.0
baz=89,SNR=6.9
Y35A Marietta 89.01 46 P **P** 23 43 58.3 +0.1
baz=89
SFIN Scholer Farm 89.04 35 P **P** 23 43 58.0 -0.2
baz=89
SFIN Scholer Farm 89.04 35 eP **P** 23 43 58.8 +0.6
comp=Z,20nm,0.8s
530A J-C Ranch, Com 89.24 51 P **P** 23 43 59.3 -0.1
baz=89
431A Sonora 89.30 50 P **P** 23 43 59.5 -0.1
baz=89
332A Millersview 89.31 49 P **P** 23 44 00.2 +0.5
baz=89,SNR=9.1
Z35A Perchaven, San 89.32 46 P **P** 23 43 59.5 -0.1
baz=89
233A Rising Star 89.34 48 P **P** 23 44 00.2 +0.4
baz=89
134A White-Moore Ra 89.41 47 P **P** 23 44 00.6 +0.5
baz=89
X37A Clayton 89.42 44 P **P** 23 43 60.0 -0.1
baz=89
Y36A Durant 89.44 45 P **P** 23 44 00.3 +0.1
baz=89
W38A Poteau 89.52 43 P **P** 23 44 00.5 0.0
baz=89
432A Menard 89.64 49 P **P** 23 44 01.4 +0.1
baz=90
X38A Whitesboro 89.66 44 P **P** 23 44 01.3 +0.1
baz=90,SNR=7.8
531A Rocksprings 89.71 50 P **P** 23 44 01.5 -0.1
baz=90,SNR=7.3
Y37A Hugo 89.74 45 P **P** 23 44 01.9 +0.3
baz=90
234A Clairette 89.79 48 P **P** 23 44 01.9 0.0
baz=90
333A Richland Sprin 89.80 49 P **P** 23 44 01.8 -0.1
baz=90,SNR=12
135A Vickery Place, 89.80 47 P **P** 23 44 02.3 +0.4
baz=90
Z36A Blue Ridge 89.82 46 P **P** 23 44 02.2 +0.3
baz=90
OLIL Olney 89.90 37 eP **P** 23 44 03.6 +1.3
comp=Z,58nm,1.3s
JCT Junction City 89.93 50 eP **P** 23 44 02.1 -0.5
JCT pmax pmax
comp=Z,10.0nm,0.8s
JCT Junction City 89.93 50 P **P** 23 44 02.5 -0.1
baz=90
JCT Junction City 89.93 50 eP **P** 23 44 02.1 -0.5
comp=Z,9.5nm,0.8s
532A Rocksprings 90.12 50 P **P** 23 44 03.6 +0.1
baz=90,SNR=7.3
433A Art 90.15 49 P **P** 23 44 03.6 0.0
baz=90
SIUC Southern Illin 90.18 38 eP **P** 23 44 03.3 -0.3

comp=Z,79nm,1.3s
WHTX Lake Whitney 90.19 47 P **P** **23 44 03.9 +0.2**
baz=90
334A Lometa 90.22 48 P **P** **23 44 03.8 -0.1**
baz=90,SNR=6.5
631A Perdido Creek 90.23 51 P **P** **23 44 04.3 +0.3**
baz=90
Y38A Idabel 90.27 44 P **P** **23 44 04.3 +0.3**
baz=90
PBMO Poplar Bluff 90.32 40 *e*P **P** **23 44 04.8 +0.6**
comp=Z,73nm,1.4s
Z37A Pogue Cattle C 90.33 45 P **P** **23 44 04.5 +0.1**
baz=90
MIAR Mount Ida 90.42 43 *e*P **P** **23 44 05.2 +0.4**
MIAR pmax pmax
comp=Z,40nm,1.3s
MIAR MLR MLR
comp=Z,138nm,21.0s
MIAR Mount Ida 90.42 43 P **P** **23 44 04.7 0.0**
baz=90,SNR=9.8
MIAR Mount Ida 90.42 43 *e*P **P** **23 44 05.2 +0.4**
comp=Z,40nm,1.3s
MIAR LR LR
comp=Z,138nm,21.0s
434A Burnet 90.59 49 P **P** **23 44 05.8 +0.1**
baz=90
Y39A Lockesburg 90.61 44 P **P** **23 44 06.1 +0.5**
baz=90
632A Uvalde 90.64 50 P **P** **23 44 06.4 +0.5**
baz=90
Z38A Mt. Pleasant 90.64 45 P **P** **23 44 06.3 +0.5**
baz=90
533A Kerrville 90.68 50 P **P** **23 44 06.7 +0.6**
baz=90
137A Heron Place, G 90.70 46 P **P** **23 44 06.6 +0.5**
baz=90
236A Katherine and 90.71 47 P **P** **23 44 06.5 +0.4**
baz=91
335A Moody 90.73 48 P **P** **23 44 06.7 +0.4**
baz=91
MMNY Mt. Morris Dam 90.86 28 *e*P **P** **23 44 07.2 +0.6**
comp=Z,50nm,0.8s
ACSO Alum Creek Sta 90.97 33 *e*P **P** **23 44 08.3 +1.2**
comp=Z,21nm,0.8s
336A Riesel 90.99 47 P **P** **23 44 07.8 +0.4**
baz=91
138A Matatall Enter 91.03 45 P **P** **23 44 08.5 +0.9**
baz=91
633A Saathoff Ranch 91.04 50 P **P** **23 44 08.1 +0.4**
baz=91
534A Blanco 91.04 49 P **P** **23 44 07.5 -0.2**
baz=91,SNR=9.1
732A Laxson Ranch, 91.09 51 P **P** **23 44 08.7 +0.7**
baz=91
237A Washetta, Mont 91.12 46 P **P** **23 44 07.6 -0.5**
baz=91
436A Wall Ranch, Ga 91.47 48 P **P** **23 44 10.5 +0.8**
baz=91
733A Divot King Ran 91.50 51 P **P** **23 44 10.6 +0.7**
baz=91
535A Dale 91.57 49 P **P** **23 44 10.8 +0.7**
baz=91
437A Phantom Ranch, 91.81 47 P **P** **23 44 10.9 -0.3**
baz=92
536A Bastrop 91.83 48 P **P** **23 44 11.7 +0.3**
baz=92
239A Gary 91.85 45 P **P** **23 44 11.8 +0.4**
baz=92
734A La Parita Cree 91.85 50 P **P** **23 44 12.2 +0.7**
baz=92
438A Sam Houston St 92.24 47 P **P** **23 44 14.4 +1.1**
baz=92
537A Green Hill Far 92.26 48 P **P** **23 44 14.1 +0.8**
baz=92
636A Smothers Creek 92.28 49 P **P** **23 44 14.3 +0.9**
baz=92
933A Laredo 92.32 51 P **P** **23 44 14.4 +0.7**
baz=92
339A Huntington 92.32 46 P **P** **23 44 13.9 +0.3**
baz=92
HKT Hockley 92.64 48 *e*P **P** **23 44 16.6 +1.6**
HKT pmax pmax
comp=Z,16nm,1.3s
HKT Hockley 92.64 48 *e*P **P** **23 44 16.6 +1.6**
comp=Z,16nm,1.3s
835A Beeville 92.70 50 P **P** **23 44 16.2 +0.8**
baz=93
934A Benavides 92.78 51 P **P** **23 44 16.7 +0.9**
baz=93
034A Hebbronville 93.08 51 P **P** **23 44 18.5 +1.3**
baz=93
738A Farr-Stevens R 93.57 48 P **P** **23 44 20.7 +1.3**
baz=93
SWET Sewanee 93.76 38 *e*P **P** **23 44 20.6 +0.4**
comp=Z,19nm,1.2s
TZTN Tazewell 93.78 35 *e*P **P** **23 44 21.2 +0.9**
comp=Z,35nm,1.4s
KEST Kesra 93.89 323 LR LR 00 31 26.7
comp=Z,222nm,18.1s,baz=236,slow=39
CPCT Cooper Cave 94.23 37 *e*P **P** **23 44 23.5 +1.1**
TKL Tuckaleechee C 94.41 36 P **P** **23 44 22.9 -0.2**
comp=Z,4.9nm,0.9s,baz=108,slow=3.7,SNR=4.9
TKL Tuckaleechee C 94.41 36 P **P** **23 44 23.0 -0.2**
TKL pmax pmax
comp=Z,5.0nm,0.9s
TKL Tuckaleechee C 94.41 36 *e*P **P** **23 44 23.9 +0.8**
PGAV Gavieira, Arco 95.10 338 *e*P P 23 44 32.1 +5.8
comp=Z,42nm,1.5s
PGAV Gavieira, Arco 95.10 338 *e*LQ LQ 00 21 27.2
PGAV *e*LR LR 00 27 00.4
comp=Z,176nm,18.0s
MVO Moncorvo 95.47 337 *e*P P 23 44 33.7 +5.7
MVO Moncorvo 95.47 337 *e*LR LR 00 25 32.3
MVO A A 00 33 16.4
comp=Z,406nm,18.0s
POLO Lamas de Olo 95.51 338 *e*P P 23 44 32.6 +4.4
comp=Z,15nm,1.5s
ESDC Sonseca Array 95.85 334 P **P** **23 44 28.9 -0.9**
comp=Z,1.1nm,0.7s,baz=25,slow=4.5,SNR=7.6
ESDC LR LR 00 33 15.3
comp=Z,336nm,18.1s,baz=5.0,slow=39
MTE Manteigas 96.33 337 *e*LQ LQ 00 19 45.4
MTE *e*LR LR 00 24 09.9
comp=Z,351nm,18.0s
PMRV Marv??o 97.18 337 *e*LQ LQ 00 22 09.4
PMRV *e*LR LR 00 27 54.2
comp=Z,212nm,18.0s
RKT Rikitea 98.84 112 *e*T T 23 44 48.2
comp=Z,3.8nm,0.3s
RKT Rikitea 98.84 112 *e*LR LR 00 16 44.1
comp=Z,263nm,26.0s
PVAQ Vaqueiros 99.13 336 *e*LQ LQ 00 22 06.3
PVAQ *e*LR LR 00 26 21.0
comp=Z,238nm,18.0s
TAM Tamanrasset 106.43 319 *e*PP PP 23 49 45.9 +4.7
TAM LR LR
comp=Z,184nm,20.0s
PAPH Port-au-Prince 114.27 36 *e*PP **PP** **23 50 35.3 -2.2**
TOA0 Torodi Ar. Sit 116.44 316 *e*PKPdf **PKPdf** **23 49 46.0 -1.3**
TOA0 *e*PP **PP** **23 50 54.3 +1.3**
TOA0 *e*PKKPbc **PKKPab** **00 00 20.9 -1.1**
TORD Torodi Ar. Bea 116.44 316 PKP **PKPdf** **23 49 46.0 -1.3**
comp=Z,0.8nm,0.8s,baz=21,slow=2.8,SNR=5.1
TORD PP **PP** **23 50 54.3 +1.3**
comp=Z,6.7nm,1.2s,baz=34,slow=7.2,SNR=7.2
TORD PKKPab **PKKPab** **00 00 20.9 -1.1**
comp=Z,0.9nm,1.0s,baz=219,slow=3.3,SNR=4.8
VNDA Vanda 116.85 175 PKP **PKPdf** **23 49 44.4 -1.9**
comp=Z,2.2nm,1.3s,baz=33,slow=4.4,SNR=3.0
LSZ Lusaka 118.12 273 PKP **PKPdf** **23 49 50.3 -0.4**
comp=Z,1.1nm,0.5s,baz=60,slow=16,SNR=3.1
LSZ Lusaka 118.12 273 PKIKP **PKPdf** **23 49 50.3 -0.4**
LSZ pmax pmax
comp=Z,1.0nm,0.5s
LSZ Lusaka 118.12 273 *e*PKPdf **PKPdf** **23 49 49.8 -0.9**
MATP Matopo 120.82 268 PKP **PKPdf** **23 49 55.2 -0.6**
comp=Z,1.6nm,0.3s,baz=96,slow=0.4,SNR=15
MAW Mawson 121.59 206 PKP **PKPdf** **23 49 54.9 -0.7**
comp=Z,3.7nm,0.9s,baz=336,slow=4.3,SNR=6.3
MAW Mawson 121.59 206 PKIKP **PKPdf** **23 49 54.9 -0.7**
MAW pmax pmax
comp=Z,4.0nm,0.9s
MAW Mawson 121.59 206 *e*PKPdf **PKPdf** **23 49 56.1 +0.5**
SDV Santo Domingo 123.39 40 *e*PKPdf **PKPdf** **23 50 00.9 -0.2**
ROSC El Rosal 124.80 46 PKP **PKPdf** **23 50 03.6 -0.4**
comp=Z,3.1nm,0.6s,baz=254,slow=20,SNR=2.4
DBIC Dimbokro 125.32 319 PKP **PKPdf** **23 50 04.4 -0.1**
comp=Z,2.1nm,0.5s,baz=43,slow=19,SNR=2.5
LBTB Lobatse 125.53 265 PKP **PKPdf** **23 50 04.9 +0.2**
comp=Z,7.9nm,0.9s,baz=130,slow=0.8,SNR=9.2
LBTB Lobatse 125.53 265 PKIKP **PKPdf** **23 50 04.9 +0.2**
LBTB pmax pmax
comp=Z,8.0nm,0.9s
LBTB Lobatse 125.53 265 *e*PKPdf **PKPdf** **23 50 04.8 +0.1**
BOSA Boshof 127.59 261 PKP **PKPdf** **23 50 08.3 -0.2**
comp=Z,3.6nm,0.8s,baz=140,slow=1.6,SNR=5.4
TSUM Tsumeb 128.63 276 PKP **PKPdf** **23 50 10.3 -0.4**
comp=Z,3.4nm,1.0s,baz=345,slow=3.2,SNR=6.3
TSUM Tsumeb 128.63 276 *e*PKPdf **PKPdf** **23 50 10.3 -0.4**
TSUM *e*PKPdf **PKiKP** **23 50 11.5 +0.1**
QSPA South Pole Qui 128.72 180 PKP **PKPdf** **23 50 08.2 -1.2**
comp=Z,7.4nm,1.1s,baz=345,slow=0.5,SNR=8.5
PTGA Pitinga 136.82 34 PKP **PKPdf** **23 50 26.1 -0.2**
comp=Z,5.3nm,0.9s,baz=318,slow=4.8,SNR=8.9
PTGA Pitinga 136.82 34 *e*PKPdf **PKPdf** **23 50 26.9 +0.6**
NVL N'Iazarevskaya 139.35 203 *e*PKIKP **PKPdf** **23 50 28.1 -1.0**
NVL pmax pmax
comp=Z,10.0nm,0.9s
SAML Samuel 142.37 44 *e*PKPpre PKPpre 23 50 33.3
SNAA Sanae 142.81 197 PKPdf PKPpre 23 50 31.3
SNAA Sanae 142.81 197 *e*PKHKP PKPpre 23 50 30.7
SNAA Sanae 142.81 197 *e*PKPpre PKPpre 23 50 30.7
VNA1 Neumayer--Stat 144.77 197 PKPab **PKPab** **23 50 37.6 -0.1**
LPAZ La Paz 145.09 58 PKPbc **PKPbc** **23 50 40.5 -0.6**
comp=Z,6.0nm,1.0s,baz=336,slow=5.7,SNR=12
LPAZ La Paz 145.09 58 PKIKP **PKPbc** **23 50 40.6 -0.6**
LPAZ pmax pmax
comp=Z,6.0nm,1.0s
LPAZ La Paz 145.09 58 *e*PKPbc **PKPbc** **23 50 40.8 -0.4**
RCBR Riachuelo 146.96 357 PKPbc **PKPdf** **23 50 44.0 -0.4**
comp=Z,37nm,0.8s,baz=310,slow=1.8,SNR=3.6
RCBR Riachuelo 146.96 357 *e*PKPdf **PKPdf** **23 50 44.0 -0.4**
RCBR *e*PKPdf **PKPbc** **23 50 46.3 +0.1**
LVC Limon Verde 148.82 68 PKPbc **PKPbc** **23 50 51.4 +0.1**
comp=Z,74nm,0.9s,baz=287,slow=6.5,SNR=7.3
LVC Limon Verde 148.82 68 *e*PKPbc **PKPbc** **23 50 52.1 +0.8**
SIV San Ignacio 149.28 48 PKPbc **PKPbc** **23 50 51.8 -0.5**
comp=Z,12nm,0.9s,baz=294,slow=1.7,SNR=17
LCO Las Campanas 151.03 80 *e*PKPbc **PKPbc** **23 50 56.8 +0.3**
CPUP Villa Florida 159.27 58 PKPab **PKPab** **23 51 38.2 -0.7**
comp=Z,1.5nm,0.8s,baz=351,slow=7.0,SNR=3.7

ROM 26 23:41:34.3±0.3, 42°43N×13°48E, h5km, Md1.6/3, Ml1.1/2, Error ellipse: s-maj=2.9km s-min=2.1km az=130.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AQU	**L'Aquila**	**0.09**	**217**	Pg	Pg	23 41 36.6	+0.2
AQU				Sg	Sg	23 41 38.1	+0.4
	192nm,0.4s						
T0104	**Madonna delle**	**0.12**	**237**	Pg	Pg	23 41 37.4	+0.5
T0104				Sg	Sg	23 41 39.3	+0.7
T0106	**Roio Piano**	**0.14**	**209**	Pg	Pg	23 41 37.5	+0.2
T0106				Sg	Sg	23 41 40.2	+0.9
	80nm,1.4s						

CSEM ***26*** *23:42:33.0, 39°33N×24°07E, h4km, MD2.5*
ATH 26 23:42:33.0, 39°33N×24°07E, h4km, MD2.5/7, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AOS	**Alonnisos**	**0.22**	**223**	P	Pg	23 42 36.9	-0.3
AOS	**Alonnisos**	**0.22**	**223**	*e*PG	Pg	23 42 37.1	-0.1
AOS				*e*SG	Sg	23 42 40.2	+0.1
AOS	**Alonnisos**	**0.22**	**223**	*e*Pg	Pg	23 42 37.1	-0.1
AOS				*e*Sg	Sg	23 42 40.2	+0.1
NEO	**Neokhori**	**0.66**	**268**	*e*PB	Pg	23 42 45.7	0.0
NEO				*e*SG	Sg	23 42 54.1	-0.2
NEO	**Neokhori**	**0.66**	**268**	*e*Pb	Pg	23 42 45.7	0.0
NEO				*e*Sg	Sg	23 42 54.1	-0.2
XOR	**Xorichti**	**0.68**	**273**	*e*PB	Pg	23 42 46.4	+0.2
XOR				*e*SG	Sg	23 42 55.3	+0.2
XOR	**Xorichti**	**0.68**	**273**	*e*Pb	Pg	23 42 46.4	+0.2
XOR				*e*Sg	Sg	23 42 55.3	+0.2
MRKA	**Markates**	**0.73**	**211**	*e*PG	Pg	23 42 46.2	-0.8
MRKA				*e*SG	Sg	23 42 56.4	-0.1
MRKA	**Markates**	**0.73**	**211**	*e*Pg	Pg	23 42 46.2	-0.8
MRKA				*e*Sg	Sg	23 42 56.4	-0.1
SMIA	**Simia**	**0.81**	**236**	*e*PB	Pg	23 42 48.4	-0.1
SMIA				*e*SG	Sg	23 42 59.4	+0.3
SMIA	**Simia**	**0.81**	**236**	*e*Pb	Pg	23 42 48.4	-0.1
SMIA				*e*Sg	Sg	23 42 59.4	+0.3
EREA	**Eretria**	**0.92**	**187**	*e*PG	Pg	23 42 50.9	+0.3
EREA				*e*SG	Sb	23 43 03.3	-0.7
EREA	**Eretria**	**0.92**	**187**	*e*Pg	Pg	23 42 50.9	+0.3
EREA				*e*Sg	Sb	23 43 03.3	-0.7
OUR	**Ouranopolis**	**1.00**	**356**	*e*PB	Pg	23 42 51.7	-0.6
OUR	**Ouranopolis**	**1.00**	**356**	*e*Pb	Pg	23 42 51.7	-0.6
AGG	**Agios Georgios**	**1.39**	**258**	*e*PB	Pn	23 42 58.9	-0.3
AGG				*e*SB	Sn	23 43 18.0	0.0
AGG	**Agios Georgios**	**1.39**	**258**	*e*Pb	Pn	23 42 58.9	-0.3
AGG				*e*Sb	Sn	23 43 18.0	0.0

IDC 26 23:57:46.4±11.0, 5°55S×129°26E, h420km±153km, mb2.9/2, mb1 3.2/4, mb1mx2.9/34, mbtmp3.8/4, Error ellipse: s-maj=91.2km s-min=49.4km az=37.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**7.47**	**166**	P	P	23 59 29.4	-6.5
	baz=4.4,SNR=4.3						
KDU	**Kakadu**	**7.76**	**156**	P	P	23 59 34.5	-4.6
	baz=4.3,SNR=5.8						
WRA	**Warramunga Arr**	**15.13**	**161**	P	P	00 00 59.7	0.0
	0.8nm,0.3s,baz=339,slow=12,SNR=10						
QIS	**Mount Isa**	**17.98**	**147**	P	P	00 01 35.6	+5.5
	baz=14,SNR=7.1						
ASAR	**Alice Springs**	**18.55**	**167**	P	P	00 01 35.9	-0.1
	0.5nm,0.3s,baz=344,slow=11,SNR=27						
MKAR	**Makanchi Array**	**66.62**	**327**	P	P	00 07 53.8	+0.2
	0.2nm,0.4s,baz=128,slow=8.6,SNR=2.8						
ILAR	**Eielson Array**	**92.36**	**25**	P	P	00 10 09.4	-0.8
	0.3nm,0.6s,baz=270,slow=3.6,SNR=4.1						

IDC ***27*** *00:33:44.0±1.0, 17°16N×147°64E, h0km, mb3.9/12, mb1 4.1/14, mb1mx3.9/39, mbtmp4.0/14, ML4.4/2, Error ellipse: s-maj=28.5km s-min=16.6km az=97.0*
NEIC ***27*** *00:33:48.0±2.2, 17°18N×147°60E, h25km±15km, mb4.2/2, Error ellipse: s-maj=12.7km s-min=4.9km az=91.0*
ISCJB ***27*** *00:33:49.2±0.7, 17°29N±0°04×147°3E±0°1, h41km, mb3.9/12, Error ellipse: s-maj=14.6km s-min=5.5km az=178.4*

ISC 27 00:33:50.4±0.9, 17°23N±0°06×147°5E±0°1, h41km, n28, σ0s82/28, mb4.0/12, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.39**	**215**	Pn	**Pn**	**00 34 54.0**	**-0.6**
	30nm,0.3s,baz=43,slow=19,SNR=5.2						
GUMO				Sn	**Sn**	**00 35 44.3**	**-0.3**
	24nm,0.3s,baz=24,slow=20,SNR=3.8						
CBI	**Chichi jima**	**10.96**	**334**	*e*Pn	**Pn**	**00 36 25.1**	**+0.4**
CBI				*e*Sn	**Sn**	**00 38 24.5**	**-1.4**
CBIJ	**Chichi jima**	**10.97**	**334**	*e*Pn	**Pn**	**00 36 24.2**	**-0.5**
CBIJ				Sn	**Sn**	**00 38 24.5**	**-1.6**
JCJ	**Chichijima**	**10.97**	**334**	Pn	**Pn**	**00 36 25.1**	**+0.3**
	1.4nm,0.3s,baz=288,slow=20,SNR=2.7						
JCJ				Sn	**Sn**	**00 38 24.5**	**-1.6**
	2.8nm,0.3s,baz=127,slow=20,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**18.60**	**79**	T	T	00 57 05.9	
	baz=265,slow=74,SNR=9.9						
H11N2	**WAKE ISLAND Hy**	**18.61**	**79**	T	T	00 57 00.7	
	baz=265,slow=74,SNR=8.0						
H11N3	**WAKE ISLAND Hy**	**18.62**	**79**	T	T	00 57 03.0	
	baz=265,slow=74,SNR=11						
MJAR	**Matsushiro Arr**	**20.91**	**339**	P	**P**	**00 38 29.7**	**+0.3**
	2.5nm,0.5s,baz=172,slow=10,SNR=10						
MAJO	**Matsushiro**	**20.91**	**339**	*e*P	Pn	00 38 34.0	+1.8
	7.6nm,0.7s						
KSRS	**Korea Array**	**26.49**	**323**	P	**P**	**00 39 25.0**	**+1.1**
	0.8nm,0.5s,baz=132,slow=8.7,SNR=3.2						
KS15	**Wonju Array Si**	**26.50**	**323**	*e*P	**P**	**00 39 25.0**	**+1.0**
KSAR	**Wonju Array Be**	**26.50**	**323**	P	**P**	**00 39 25.0**	**+1.0**
WRAB	**Tennant Creek**	**39.11**	**200**	*e*P	**P**	**00 41 13.7**	**-0.3**
	3.4nm,0.7s						
WRA	**Warramunga Arr**	**39.12**	**200**	P	**P**	**00 41 13.2**	**-0.8**
	1.6nm,0.6s,baz=20,slow=9.0,SNR=8.1						
AS12	**Alice Springs**	**42.75**	**198**	*e*P	**P**	**00 41 43.3**	**-0.6**
ASAR	**Alice Springs**	**42.75**	**198**	P	**P**	**00 41 43.3**	**-0.6**
	0.3nm,0.4s,baz=19,slow=7.3,SNR=5.1						
SONA0	**Songino Array**	**45.33**	**322**	*e*P	**P**	**00 42 05.0**	**+0.5**
SONM	**Songino Array**	**45.33**	**322**	P	**P**	**00 42 05.0**	**+0.5**
	0.7nm,0.6s,baz=133,slow=7.8,SNR=5.7						
CM31	**Chiang Mai Arr**	**46.09**	**279**	*e*P	**P**	**00 42 11.4**	**+0.7**
CMAR	**Chiang Mai Arr**	**46.09**	**279**	P	**P**	**00 42 11.4**	**+0.7**
	2.4nm,0.8s,baz=69,slow=6.9,SNR=11						
ZALV	**Zalesovo Beam**	**60.19**	**323**	P	**P**	**00 43 54.3**	**+0.3**
	0.8nm,0.5s,baz=90,slow=7.4,SNR=5.6						
ZAA1	**Zalesovo Array**	**60.20**	**323**	*e*P	**P**	**00 43 54.3**	**+0.3**
MK32	**Makanchi Array**	**60.68**	**314**	*e*P	**P**	**00 43 58.1**	**+0.5**
MKAR	**Makanchi Array**	**60.68**	**314**	P	**P**	**00 43 58.1**	**+0.5**
	0.8nm,0.5s,baz=93,slow=7.9,SNR=15						
ILAR	**Eielson Array**	**64.23**	**26**	P	**P**	**00 44 20.8**	**-0.1**
	0.2nm,0.5s,baz=260,slow=5.2,SNR=4.8						
NVAR	**Mina Array Bea**	**82.72**	**52**	P	**P**	**00 46 09.5**	**-0.9**
	0.4nm,0.5s,baz=272,slow=6.0,SNR=3.9						
ARCES	**ARCESS Array B**	**84.39**	**343**	P	**P**	**00 46 18.8**	**+0.7**
	1.4nm,0.7s,baz=39,slow=6.2,SNR=6.4						
FINES	**FINESS Array B**	**88.91**	**336**	P	**P**	**00 46 40.8**	**+0.6**
	2.4nm,1.0s,baz=66,slow=3.5,SNR=5.6						

MEX 27 00:43:43.8±0.6, 18°00N×100°51W, h54km±7km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.32**	**29**	*e*P	Pn	00 43 51.8	-1.7
ARIG				*i* S	Sn	00 43 58.7	-1.7
MEIG	**Mezcala**	**0.85**	**95**	*e*P	Pn	00 43 58.4	-1.4
MEIG				*e*S	Sn	00 44 09.6	-1.9
CAIG	**El Cayaco**	**0.98**	**166**	*e*P	Pn	00 43 59.3	-2.0
CAIG				*i* S	Sn	00 44 12.4	-1.9
ZIIG	**Zihuatanejo**	**0.99**	**247**	*i* P	Pn	00 43 59.8	-1.7
ZIIG				*e*S	Sn	00 44 12.8	-1.9
PLIG	**Platanillo**	**1.03**	**68**	*e*P	Pn	00 44 01.0	-1.2
PLIG				*i* S	Sn	00 44 13.2	-2.6
TLIG	**Tlapa**	**1.90**	**103**	*e*P	Pn	00 44 13.2	-0.9
TLIG				*e*S	Sn	00 44 35.0	-2.0

IDC 27 00:49:49.9±2.4, 6°33S×154°40E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/33, mbtmp3.5/2, MS2.7/2, Ms1 2.7/2, ms1mx2.4/16, Error ellipse: s-maj=116.8km s-min=42.1km az=126.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.30**	**120**	LR	LR	00 53 32.6	
	comp=Z,93nm,20.6s,baz=154,slow=35						
PMG	**Port Moresby**	**7.79**	**246**	LR	LR	00 54 02.0	
	comp=Z,35nm,19.2s,baz=252,slow=32						
WRA	**Warramunga Arr**	**23.72**	**233**	P	P	00 55 04.0	+0.1
	2.1nm,1.0s,baz=57,slow=9.4,SNR=6.9						
WRA				PcP	PcP	00 58 48.1	-0.2
	0.3nm,0.5s,baz=66,slow=2.6,SNR=2.7						
ASAR	**Alice Springs**	**26.18**	**227**	P	P	00 55 25.8	-0.7
	0.7nm,0.9s,baz=55,slow=8.1,SNR=5.0						
TORD	**Torodi Ar. Bea**	**152.27**	**286**	PKPbc	PKPbc	01 09 48.8	-0.1
	0.9nm,0.7s,baz=77,slow=2.0,SNR=8.0						
TORD				PKPab	PKPab	01 09 58.5	-0.2
	0.8nm,0.9s,baz=64,slow=3.3,SNR=6.1						

NIED ***27*** *00:54:00, 25°10N×122°40E, h5km, Mw4.4 Best double couple: M0=4.37000×10^15 NP1:φ=263.00000°, δ=26.00000°, λ=-69.00000°. NP2:φ=59.00000°, δ=66.00000°, λ=-100.00000°.*
NEIC ***27*** *00:54:55.7±1.7, 24°98N×122°42E, h2km±6km, mb4.7/4, Error ellipse: s-maj=7.6km s-min=1.7km az=157.0*
ISCJB ***27*** *00:54:56.9±0.6, 25°08N±0°02×122°43E±0°02, h12km±4km, mb4.1/16, MS3.4/16, Error ellipse: s-maj=3.3km s-min=2.6km az=166.9*
IDC ***27*** *00:54:56.0±0.7, 25°01N×122°27E, h0km, mb4.0/14, mb1 4.1/16, mb1mx3.9/42, mbtmp4.0/16, ML3.7/2, MS3.5/19, Ms1 3.5/19, ms1mx3.4/32, Error ellipse: s-maj=25.5km s-min=15.0km az=70.0*
TAP ***27*** *00:54:58.4, 25°01N×122°32E, h12km, ML4.4, C*
JMA ***27*** *00:54:58.0±0.1, 25°06N×122°38E, h42km±3km, M3.8*
BJI ***27*** *00:54:58.2, 25°01N×122°27E, h8km, mb4.2/13, mB4.6/5, ML4.4/4, Ms4.2/9, Ms7 3.9/9*
ISC 27 00:54:57.6±0.5, 24°99N±0°02×122°39E±0°02, h13km±3km, n117, σ1s15/154, mb4.1/16, MS3.4/16, 12C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.37**	**272**	⇑*i* P	**Pg**	**00 55 05.3**	**+0.3**
	baz=269						
TWB1				*i* S	**Sg**	**00 55 10.0**	**+0.1**
	baz=269						
EGS		**0.44**	**251**	⇑*i* P	**Pb**	**00 55 07.1**	**-0.2**
	baz=244						
EGS				S	**Sb**	**00 55 13.3**	**-0.5**
	baz=244						
NWF	**Wu-fen Shan**	**0.56**	**278**	*i* P	**Pb**	**00 55 09.3**	**0.0**
	baz=277						
NWF				*e*S	**Sb**	**00 55 16.7**	**-0.6**
	baz=277						
TWC	**Suao**	**0.62**	**232**	⇓*i* P	**Pg**	**00 55 10.1**	**+0.3**
	baz=214						
TWC				*e*S	**Sg**	**00 55 18.5**	**+0.4**
	baz=214						
ILA	**Ilan**	**0.63**	**249**	*e*P	**Pb**	**00 55 10.3**	**-0.2**
	baz=244						
ILA				*e*S	**Sb**	**00 55 20.5**	**+1.4**
	baz=244						
PCYT	**Pengchaiyu**	**0.70**	**335**	⇑*i* P	**Pb**	**00 55 12.2**	**+0.5**
	baz=347						
PCYT				S	**Sn**	**00 55 22.7**	**-1.2**
	baz=347						
TWE	**Neicheng**	**0.71**	**248**	P	**Pb**	**00 55 11.9**	**0.0**
	baz=243						
TWE				*i* S	**Sb**	**00 55 21.7**	**+0.1**
	baz=243						
TWA	**Mucha**	**0.73**	**269**	*i* P	**Pb**	**00 55 12.8**	**+0.5**
	baz=267						
TWA				S	**Sb**	**00 55 22.1**	**-0.2**
	baz=267						
JYNG	**Yonaguni jima**	**0.74**	**137**	P	**Pb**	**00 55 12.7**	**+0.4**
JYNG				*e*S	**Sb**	**00 55 23.8**	**+1.5**
TWY	**Chenhua**	**0.77**	**292**	⇑*i* P	**Pb**	**00 55 13.3**	**+0.4**
	baz=292						
TWY				*i* S	**Sb**	**00 55 24.1**	**+0.8**
	baz=292						
YOJ	**Yonaguni jima**	**0.77**	**133**	P	**Pb**	**00 55 13.2**	**+0.3**
YOJ				*e*S	**Sb**	**00 55 24.4**	**+1.1**
YOJ	**Yonaguni jima**	**0.77**	**133**	⇑*i* P	**Pb**	**00 55 13.3**	**+0.3**
	baz=118						
YOJ				*e*S	**Sb**	**00 55 24.5**	**+1.1**
	baz=118						
YOJ	**Yonaguni jima**	**0.77**	**133**	*e*Pn	**Pb**	**00 55 13.2**	**+0.3**
YOJ				*e*Sg	**Sg**	**00 55 19.0**	**-3.8**
TAP1	**Taipei**	**0.79**	**273**	⇑P	**Pn**	**00 55 13.8**	**-0.6**
	baz=272						
TAP1				S	**Sb**	**00 55 23.8**	**0.0**
	baz=272						
TAP	**Taipei**	**0.81**	**273**	P	**Pb**	**00 55 13.8**	**+0.4**
	baz=272						
TAP				*i* S	**Sb**	**00 55 24.4**	**+0.2**
	baz=272						
ENA	**Nanau**	**0.82**	**227**	P	**Pg**	**00 55 13.5**	**+0.1**
	baz=212						
ENA				*e*S	**Sg**	**00 55 24.2**	**+0.1**
	baz=212						
TATO	**Taipei**	**0.82**	**269**	*e*Pn	**Pb**	**00 55 14.0**	**+0.3**
TATO				*e*Sg	**Sg**	**00 55 23.3**	**-0.9**
ENTT	**Nioudou**	**0.83**	**245**	⇑*i* P	**Pb**	**00 55 13.8**	**0.0**
	baz=254						
ENTT				*e*S	**Sb**	**00 55 26.1**	**+1.1**
	baz=254						
TWS1	**Kuangyinshan**	**0.89**	**277**	⇑*i* P	**Pn**	**00 55 15.6**	**-0.3**
	baz=276						
TWS1				*e*S	**Sn**	**00 55 28.2**	**-0.5**
	baz=276						
EHP	**Heping Village**	**0.90**	**221**	*e*P	**Pn**	**00 55 16.3**	**+0.2**

EHP eS Sb 00 55 27.8 +0.8
baz=216
YHNB Yeheng 0.98 251 ePn Pb 00 55 16.5 0.0
YHNB eSg Sb 00 55 27.4 -2.0
NSK Sanguang 0.99 252 ⇑iP Pb 00 55 16.6 0.0
baz=264
NSK S Sb 00 55 28.6 -1.1
baz=264
NNS Nan Shan 1.08 239 *i* P Pb 00 55 18.4 +0.2
baz=224
NNS eS Sb 00 55 32.6 +0.3
baz=224
NACB Ninganchiao 1.09 222 ePn Pb 00 55 17.9 -0.5
NACB eSg Sb 00 55 31.6 -1.0
NCU National Centr 1.09 269 eP Pb 00 55 18.3 -0.1
baz=267
NCU eS Sn 00 55 34.8 +1.1
baz=267
TWD Chiawan 1.16 219 eP Pg 00 55 20.0 0.0
baz=215
TWD eS Sn 00 55 35.7 +0.3
baz=215
HWA Hwalien 1.24 215 eP Pg 00 55 22.2 +0.7
baz=213
HWA eS Sg 00 55 39.8 +2.2
baz=213
HSN Hsinchu 1.30 262 ⇑P Pn 00 55 21.2 -0.3
baz=261
HSN eS Sg 00 55 39.5 -0.2
baz=261
NSTT Nanjuang 1.31 254 ⇑iP Pn 00 55 21.8 +0.2
baz=252
NSTT eS Sb 00 55 38.4 -0.5
baz=252
WHF Hehuan Shan 1.33 231 ⇓iP Pb 00 55 22.8 +0.2
baz=227
WHF eS Sb 00 55 39.8 0.0
baz=227
TWT Tachien 1.33 237 ⇑iP Pb 00 55 23.1 +0.5
baz=223
IRIF Iriomote-Funau 1.38 118 P Pn 00 55 21.7 -0.9
ESL Shilin 1.46 217 eP Pn 00 55 24.3 +0.5
baz=216
ESL eS Sg 00 55 44.7 -0.1
baz=216
HATJ Hateruma jima 1.59 126 P Pn 00 55 25.3 -0.2
NSY Sanyi 1.59 249 eP Pn 00 55 26.0 +0.5
baz=263
TWQ1 Liyutan 1.61 247 eP Pn 00 55 25.7 -0.1
baz=261
JKRS Kuro-shima 1.65 117 P Pn 00 55 26.0 -0.3
JIJ Ishigaki jima 1.71 111 P Pn 00 55 26.5 -0.7
SMLT Sun Moon Lake 1.75 231 eP Pb 00 55 29.6 -0.1
baz=228
TYC Yuchr 1.77 233 eP Pb 00 55 30.2 +0.3
baz=231
TYC eS Sg 00 55 54.1 -0.5
baz=231
EHY Hungye 1.77 214 eP Pn 00 55 28.1 0.0
baz=212
TCU Taichung 1.77 242 eP Pb 00 55 29.3 -0.7
baz=241
SSLB Suanglung 1.78 228 ePn Pb 00 55 29.6 -0.5
SSLB eSn Sn 00 55 48.6 -2.0
JISG Ishigakijimahi 1.79 103 P Pn 00 55 27.7 -0.5
YULB Yu-li 1.88 212 ePn Pn 00 55 29.5 0.0
YULB eSn Sn 00 55 52.5 -0.6
WNT Mingjian 1.91 235 eP Pn 00 55 30.8 +0.9
baz=234
TWF1 Yuli 1.92 212 eP Pn 00 55 30.0 0.0
baz=210
ALS Alishan 2.07 225 eP Pb 00 55 34.6 -0.6
baz=210
ALS eS Sb 00 56 02.4 +1.4
baz=210
CHN5 Tsauling 2.09 229 eP Pb 00 55 34.3 -1.1
baz=228
CHKT Chengkung 2.11 207 eP Pn 00 55 31.6 -1.0
baz=188
JTJ Tarama 2.13 99 P Pn 00 55 33.5 +0.6
ELDTW Lidau 2.19 215 eP Pn 00 55 34.0 +0.1
baz=199
CHY Chiayi 2.33 231 eP Pb 00 55 38.2 -1.4
baz=231
STYT Tauyuan 2.36 220 eP Pb 00 55 38.4 -1.6
baz=219
WSF Szhu 2.40 236 eP Pn 00 55 37.2 +0.7
baz=236
TWK Hsinying 2.44 226 eP Pn 00 55 39.0 +1.7
baz=226
TWG Pinlang 2.48 209 eP Pn 00 55 37.5 -0.2
baz=193
TWG Pinlang 2.48 209 ePn Pn 00 55 37.6 -0.1
TWG eSn Sn 00 56 07.1 -0.7
CHN1 Nanshi 2.48 224 eP Pb 00 55 40.4 -1.7
baz=224
SGST Jiashian 2.52 221 eP Pb 00 55 41.5 -1.3
baz=221
CHN8 Yiju 2.58 231 eP Pb 00 55 42.8 -0.9
baz=232
ECL Taimali 2.73 209 eP Pb 00 55 44.2 -2.0
baz=208
SSD Sandimen 2.76 216 eP Pn 00 55 44.1 +2.5
baz=201
TWM1 Shoushan 2.81 220 eP Pn 00 55 45.0 +2.7
baz=221
PNG Penghu 2.95 242 eP Pn 00 55 44.6 +0.4
baz=241
EAST Anshuo 2.96 209 eP Pn 00 55 45.2 +0.9
baz=196
LAY Lan-yu 3.04 195 eP Pn 00 55 45.9 +0.4
baz=194
SCZT Fangliau 3.07 212 eP Pn 00 55 48.7 +2.8
baz=213
TWK1 Hengchun 3.37 206 eP Pn 00 55 50.2 +0.3
baz=195
TSEB Hengchuen, Pin 3.37 204 eP Pn 00 55 53.4 +3.5
baz=194
QZH Quanzhou 3.45 270 ⇓iPn Pn 00 55 53.0 -0.7
QZH Sn Sn 00 56 26.8 -5.0
QZH SMN
1μm,0.9s
QZH SME
470nm,1.0s
QZH LN
6μm,16.3s
QZH LE
3μm,12.5s
QZH LZ
3μm,6.5s
KNM Kinmen 3.65 262 eP Pn 00 55 54.5 +0.8
baz=261
NJ2 Nanjing 7.69 337 eP Pb 00 57 10.0 -0.8
NJ2 S Sb 00 58 40.5 -1.9
NJ2 pmax pmax
comp=Z,40nm,0.7s
NJ2 smax smax
comp=N,570nm,1.0s
NJ2 smax smax
comp=E,380nm,0.8s
NJ2 LR LR
comp=N,2μm,11.6s
NJ2 LR LR
comp=E,2μm,10.4s
NJ2 LR LR
comp=Z,3μm,7.6s
WHN Wuhan 9.01 310 eP Pn 00 57 05.8 -1.7
WHN S Sn 00 58 53.5 +4.6
JNU Nakatsue 10.98 41 LR LR 01 02 56.1
comp=Z,166nm,18.3s,baz=284,slow=44
KS15 Wonju Array Si 13.27 19 ePn Pn 00 58 06.5 +0.8
KSRS Korea Array 13.29 19 Pn Pn 00 58 06.5 +0.6
comp=Z,0.2nm,0.3s,baz=204,slow=14,SNR=3.0
KSRS LR LR 01 03 35.9
comp=Z,171nm,21.1s,baz=202,slow=39
XAN Xi'an 14.78 311 P P 00 58 31.3 -1.1
XAN PMZ
comp=Z,5.0nm,1.2s
XAN LN
comp=Z,520nm,13.8s
XAN LE
comp=Z,420nm,13.0s
XAN LZ
comp=Z,570nm,12.2s
CD2 Chengdu 17.48 294 eP Pn 00 59 00.5 -0.7
CD2 pP pP 00 59 04.8 -1.2
CD2 sP sP 00 59 06.0 -1.6
CD2 S Sn 01 02 15.0 -0.8
CD2 sS sS 01 02 28.0 -1.6
CD2 PMZ
comp=Z,10.0nm,0.5s
MAJO Matsushiro 17.78 46 ePn P 00 59 05.3 -0.4
comp=Z,4.4nm,0.7s
MJAR Matsushiro Arr 17.78 46 P P 00 59 05.3 -0.4
comp=Z,0.4nm,0.3s,baz=225,slow=12,SNR=2.8
MJAR LR LR 01 06 52.6
comp=Z,89nm,18.3s,baz=150,slow=40
USRK Ussuriysk Ar. 20.70 20 P Pn 00 59 39.9 +0.1
comp=Z,2.0nm,0.6s,baz=231,slow=12,SNR=6.8
USRK LR LR 01 07 58.0
comp=Z,140nm,19.3s,baz=158,slow=38
CM31 Chiang Mai Arr 22.72 258 eP P 01 00 00.1 +0.7
CMAR Chiang Mai Arr 22.72 258 P P 01 00 00.1 +0.7
comp=Z,1.0nm,0.4s,baz=61,slow=8.5,SNR=9.4
CMAR LR LR 01 10 09.3
comp=Z,44nm,19.7s,baz=80,slow=40
GTA Gaotai 23.82 313 eP P 01 00 11.5 +1.0
GTA pP pP 01 00 16.0 +1.6
GTA sP sP 01 00 18.8 +2.8
GTA S S 01 04 14.0 -12
GTA PMZ
comp=Z,8.0nm,1.4s
GTA PMZ
comp=Z,100nm,5.0s
GTA LN
comp=Z,280nm,15.2s
GTA LE
comp=Z,280nm,15.7s
GTA LZ
comp=Z,240nm,16.2s
GUMO Guam 24.02 114 LR LR 01 10 54.0
comp=Z,26nm,18.5s,baz=54,slow=40
ASAJ Asahikawa 25.20 36 LR LR 01 10 02.1
comp=Z,74nm,19.8s,baz=358,slow=36
SONA0 Songino Array 26.08 335 eP P 01 00 31.8 +0.8
SONM Songino Array 26.08 335 P P 01 00 31.8 +0.8
comp=Z,1.1nm,0.6s,baz=153,slow=10.0,SNR=10
SONM LR LR 01 11 21.6
comp=Z,183nm,19.6s,baz=101,slow=38
SIJI Sorong 27.11 160 LR LR 01 10 33.0
comp=Z,51nm,21.0s,baz=342,slow=34
KAPI Kappang 29.94 185 LR LR 01 12 58.5
comp=Z,63nm,20.6s,baz=29,slow=36
MK32 Makanchi Array 38.54 315 eP P 01 02 18.0 -1.9
MKAR Makanchi Array 38.54 315 P P 01 02 18.0 -1.9
comp=Z,1.3nm,0.5s,baz=106,slow=7.2,SNR=16
MKAR LR LR 01 18 41.9
comp=Z,43nm,20.8s,baz=100,slow=37
MKAR Makanchi Array 38.54 315 eP P 01 02 17.4 -2.5
PETK Petropavlovsk- 38.58 34 LR LR 01 17 23.0
comp=Z,33nm,20.9s,baz=208,slow=35
ZALV Zalesovo Beam 40.18 326 P P 01 02 32.7 -0.7
comp=Z,1.3nm,0.4s,baz=116,slow=6.7,SNR=10
ZALV LR LR 01 20 15.3
comp=Z,182nm,18.1s,baz=70,slow=38
ZAA1 Zalesovo Array 40.18 326 eP P 01 02 32.7 -0.7
KURK Kurchatov 42.19 319 eP P 01 02 50.1 +0.1
KURBB Kurchatov Arra 42.21 319 P P 01 02 50.1 -0.1
comp=Z,0.6nm,0.4s,baz=111,slow=9.5,SNR=4.6
WRA Warramunga Ar 46.15 164 P P 01 03 22.5 +0.4
comp=Z,2.0nm,0.4s,baz=347,slow=8.6,SNR=9.5
WRA PcP PcP 01 04 57.7 -0.3
comp=Z,0.5nm,0.4s,baz=348,slow=3.8,SNR=5.0
BVAR Borovoye Array 47.75 320 P P 01 03 34.0 -0.3
comp=Z,1.5nm,0.5s,baz=110,slow=8.7,SNR=16
BRVK Borovoye 47.83 320 eP P 01 03 35.5 +0.7
comp=Z,13nm,1.2s
ASAR Alice Springs 49.64 166 P P 01 03 50.8 +1.7
comp=Z,0.7nm,0.5s,baz=351,slow=6.6,SNR=9.3
ASAR PcP PcP 01 05 10.1 -0.4
comp=Z,0.5nm,0.4s,baz=344,slow=3.5,SNR=5.0
ABKAR Akbulak array 53.67 314 eP P 01 04 19.7 +0.7
ARU Arti 55.13 323 eP P 01 04 29.3 -0.2
comp=Z,11nm,1.2s
STKA Stephens Creek 59.45 161 LR LR 01 32 42.2
comp=Z,25nm,20.0s,baz=28,slow=38
MDM Murphy Dome 67.39 27 eP P 01 05 54.1 +1.6
comp=Z,4.1nm,1.0s
ARA0 ARCESS Array S 69.20 338 eP P 01 06 03.8 +0.1
ARCES ARCESS Array B 69.20 338 P P 01 06 03.8 +0.1
comp=Z,0.9nm,0.5s,baz=64,slow=8.2,SNR=14
ARCES LR LR 01 39 35.6
comp=Z,36nm,21.1s,baz=94,slow=39
FIA0 FINESS Array S 71.30 330 eP P 01 06 16.7 +0.1
FINES FINESS Array B 71.30 330 P P 01 06 16.7 +0.1
comp=Z,1.8nm,0.5s,baz=73,slow=4.7,SNR=28
FINES LR LR 01 40 45.0
comp=Z,137nm,18.4s,baz=38,slow=39
AKASG Malin Array Be 73.00 318 P P 01 06 26.4 -0.6
comp=Z,1.1nm,0.4s,baz=62,slow=6.6,SNR=6.7
AKBB Malin Array Si 73.00 318 eP P 01 06 26.4 -0.6
BRTR Keskin Array B 73.58 307 P P 01 06 31.4 +0.5
comp=Z,1.6nm,0.9s,baz=64,slow=3.4,SNR=6.1
BRTR LR LR 01 45 28.9
comp=Z,16nm,18.1s,baz=82,slow=41
NB200 NORSAR Array S 78.02 332 eP P 01 06 55.9 +0.2
NOA NORSAR Array B 78.02 332 P P 01 06 55.9 +0.2
comp=Z,0.4nm,0.7s,baz=55,slow=5.8,SNR=3.0
NOA LR LR 01 44 53.2
comp=Z,84nm,18.0s,baz=55,slow=38
GERES GERESS Array B 82.91 321 LR LR 01 47 46.3
comp=Z,52nm,18.9s,baz=70,slow=38

*ISCJB **27** 00:56:21.7±1.0,46.°63N±0.°09×152.°9E±0.°1, h40km, mb3.8/8, Error ellipse: s-maj=18.1km s-min=5.2km az=41.6*
*SKHL **27** 00:56:24.1±0.6,46.°61N×152.°80E, h58km±4km, mb4.7/4, Ms4.3/1*
*IDC **27** 00:57:17.7±19.0, 48.°32N×150.°25E, h423km±242km, mb3.1/8, mb1 3.2/8, mb1mx2.9/35, mbtmp3.8/8, Error ellipse: s-maj=118.4km s-min=40.8km az=23.0*
ISC 27 00:56:23.0±1.3, 46.°6N±0.°1×152.°9E±0.°1, h40km, n29, σ1s84/33, mb3.8/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.74**	**251**	*e*P	**Pn**	**00 57 20.4**	**+2.4**
KUR				AMB	AMB	00 57 23.1	
	20nm,0.2s						
KUR				AMB	AMB	00 57 23.1	
	40nm,0.2s						
KUR				AMB	AMB	00 57 23.1	
	200nm,0.2s						
KUR				*i* S	**Sn**	**00 58 03.1**	**+2.4**
KUR				A	A	00 58 11.2	
	210nm,0.5s						
KUR				A	A	00 58 11.2	
	80nm,0.5s						
SKR	**Severo-Kuril's**	**4.66**	**26**	*e*P	**Pn**	**00 57 31.7**	**+1.0**
SKR				AMB	AMB	00 57 32.2	
	70nm,0.3s						
SKR				*e*S	**Sn**	**00 58 22.0**	**-1.4**
SKR				A	A	00 58 42.1	
	150nm,0.4s						
SHO	**Shikotan**	**5.04**	**240**	*e*P	**Pn**	**00 57 36.7**	**+0.7**
SHO				AMB	AMB	00 57 37.4	
	70nm,1.0s						
SHO				*e*S	**Sn**	**00 58 33.4**	**+0.5**
SHO				A	A	00 58 35.8	
	70nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.55**	**246**	*e*P	**Pn**	**00 57 43.5**	**+0.5**
NEM2	**Nemuro 2**	**5.98**	**240**	P	**Pn**	**00 57 49.5**	**+0.7**
NEM2				*e*S	**Sn**	**00 58 53.5**	**-2.5**
JNK	**Nakash**	**6.49**	**246**	P	**Pn**	**00 57 58.5**	**+2.6**
JAK	**Akkeshi**	**6.82**	**241**	P	**Pn**	**00 58 01.3**	**+0.9**
JAK				*e*S	**Sn**	**00 59 13.6**	**-3.0**
YSS	**Yuzh-Sakhalins**	**6.96**	**277**	*e*P	**Pn**	**00 58 04.0**	**+1.7**
YSS				AMB	AMB	00 58 04.6	
	20nm,0.4s						
JMP	**Maruseppu**	**7.18**	**253**	P	Pn	00 58 09.6	+4.3
JAR	**Ashorobuto**	**7.23**	**247**	P	Pn	00 58 09.5	+3.4
JOB	**Onbets**	**7.40**	**244**	P	**Pn**	**00 58 10.5**	**+2.2**
JOB				*e*S	**Sn**	**00 59 28.9**	**-2.0**
JKK2	**Kamakawa 2**	**7.63**	**253**	P	Pn	00 58 15.7	+4.1
UGL	**Uglegorsk**	**7.70**	**293**	*e*P	**Pn**	**00 58 14.7**	**+2.3**
JCH	**Churui**	**7.85**	**243**	P	**Pn**	**00 58 15.8**	**+1.3**
JCH				*e*S	**Sn**	**00 59 39.1**	**-2.8**
TYV	**Tymovskoe**	**8.01**	**306**	*e*P	**Pn**	**00 58 16.9**	**+0.2**
MYR	**Moyori**	**8.08**	**242**	*e*P	**Pn**	**00 58 18.8**	**+1.2**
MYR				*e*S	**Sn**	**00 59 43.9**	**-3.7**
JEM	**Erimo**	**8.31**	**240**	P	**Pn**	**00 58 23.1**	**+2.2**
JNBK	**Urakawa-nobuka**	**8.41**	**243**	P	**Pn**	**00 58 23.2**	**+1.0**
JNBK				*e*S	**Sn**	**00 59 52.6**	**-3.1**
KLR	**Kul'dur**	**14.41**	**288**	AMS	AMS	01 12 21.5	
	500nm,13.0s						
KLR				AMS	AMS	01 12 21.5	
	900nm,13.0s						
YASR	**Yasnyy**	**17.33**	**302**	*e*P	**Pn**	**01 00 20.0**	**-1.6**
MKAR	**Makanchi Array**	**46.88**	**297**	P	**P**	**01 04 49.2**	**+0.1**
	0.3nm,0.5s,baz=51,slow=8.6,SNR=3.8						
KURBB	**Kurchatov Arra**	**47.42**	**304**	P	**P**	**01 04 52.4**	**-0.8**
	0.4nm,0.2s,baz=69,slow=8.8,SNR=4.3						
BVAR	**Borovoye Array**	**50.85**	**309**	P	**P**	**01 05 19.4**	**0.0**
	0.3nm,0.4s,baz=54,slow=7.5,SNR=3.1						
FINES	**FINESS Array B**	**64.14**	**335**	P	**P**	**01 06 53.2**	**+0.5**
	1.5nm,0.7s,baz=39,slow=7.3,SNR=5.0						
NB2	**NORSAR Subarra**	**68.36**	**341**	P	**P**	**01 07 20.7**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.36**	**341**	P	**P**	**01 07 20.4**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=27,slow=6.4,SNR=4.9						
AKASG	**Malin Array Be**	**71.61**	**326**	P	**P**	**01 07 40.1**	**+0.3**
	comp=Z,1.6nm,0.4s,baz=36,slow=6.1,SNR=4.9						
TXAR	**Lajitas Array**	**77.73**	**60**	P	P	01 08 33.2	+17
	comp=Z,0.6nm,0.7s,baz=304,slow=3.8,SNR=7.0						
GERES	**GERESS Array B**	**78.56**	**334**	P	**P**	**01 08 20.6**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=38,slow=6.8,SNR=4.1						

NNC 27 01:21:09.4±2.5, 37.°88N×71.°56E, h0km, mb3.5, mpv3.1, 6C-1D, Error ellipse: s-maj=24.4km s-min=6.9km az=162.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.34**	**294**	⇑Pn	Pn	01 21 48.8	-0.6
	1.7nm,0.4s						
DZET				⇓Sn	Sn	01 22 20.1	+1.2
	20nm,0.2s						
SFK	**Sufi-Kurgan**	**2.61**	**35**	⇑Pn	Pn	01 21 53.1	-0.2
	3.6nm,0.3s						
SFK				⇑Sn	Sn	01 22 27.5	+1.6
	8.6nm,0.2s						
AAK	**Ala-Archa**	**5.25**	**24**	⇑Sn	Sn	01 23 30.3	-0.6
	8.4nm,0.7s						
KK31	**Karatay Array**	**5.28**	**352**	Pn	Pn	01 22 29.5	-0.1
	3.8nm,0.5s,baz=178,slow=13,SNR=44						
KK31				Sn	Sn	01 23 31.6	+0.5
	1.5nm,0.2s,baz=191,slow=22,SNR=14						
AB31	**Akbulak array**	**14.13**	**327**	⇑P	Pn	01 24 25.0	-5.8
	0.3nm,0.5s,baz=120,slow=37,SNR=7.5						
AB31				⇑S	Sn	01 27 00.1	-8.1
	1.2nm,0.7s,baz=155,slow=23,SNR=4.5						

*KRNET **27** 01:27:27.6±0.1, 41.°19N×75.°34E, h0km, mb3.0*
*NNC **27** 01:27:27.9±0.7, 41.°08N×75.°40E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=7.7km s-min=3.6km az=122.0*
ISC 27 01:27:27.7±1.4, 41.°16N±0.°05×75.°37E±0.°03, h7km±12km, n32, σ1s15/43, 24C-16D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**0.55**	**60**	*i* P	**Pg**	**01 27 37.4**	**-0.9**
	baz=64						
NRN				*e*S	**Sg**	**01 27 46.1**	**+0.5**
	baz=64						
KZA	**Kyzart**	**0.92**	**354**	P	**Pg**	**01 27 45.4**	**-0.1**
	SNR=74						
KZA	**Kyzart**	**0.92**	**354**	⇑*i*P	**Pg**	**01 27 45.3**	**-0.2**
	baz=356						
KZA				⇑*i*S	**Sb**	**01 27 58.5**	**-0.5**
	baz=356						
ARLS	**Aral**	**1.05**	**312**	*i* P	**Pg**	**01 27 46.5**	**-1.5**
	baz=311						
ARLS				*e*S	**Sb**	**01 28 01.5**	**-1.0**
	baz=311						
ULHL	**Ulahol**	**1.27**	**31**	P	**Pn**	**01 27 51.4**	**-0.7**
	SNR=49						
ULHL	**Ulahol**	**1.27**	**31**	⇑*i*P	**Pn**	**01 27 51.4**	**-0.7**
	baz=32						
ULHL				⇑*i*S	**Sn**	**01 28 09.3**	**-0.2**
	baz=32						
KBK	**Karagaybulak**	**1.53**	**348**	P	**Pg**	**01 27 56.5**	**-0.5**
	SNR=57						
KBK	**Karagaybulak**	**1.53**	**348**	⇑*i*P	**Pg**	**01 27 56.6**	**-0.5**
	baz=349						
KBK				⇑*i*S	**Sg**	**01 28 18.1**	**+1.2**
	baz=349						
AML	**Almayashu**	**1.59**	**308**	P	**Pb**	**01 27 56.8**	**-0.9**
	SNR=59						
AML	**Almayashu**	**1.59**	**308**	⇑*i*P	**Pb**	**01 27 56.7**	**-0.9**
	baz=308						
AML				⇑*i*S	**Sg**	**01 28 19.0**	**+0.2**
	baz=308						
AAK	**Ala-Archa**	**1.61**	**336**	P	**Pg**	**01 27 57.9**	**-0.7**
	SNR=22						
AAK	**Ala-Archa**	**1.61**	**336**	⇓Pn	**Pg**	**01 27 57.8**	**-0.8**
	46nm,0.5s						
AAK				⇓Sn	**Sg**	**01 28 23.3**	**+3.7**
	91nm,0.3s						
AAK	**Ala-Archa**	**1.61**	**336**	⇑*i*P	**Pg**	**01 27 57.8**	**-0.8**
	baz=337						
AAK				⇑*i*S	**Sg**	**01 28 19.9**	**+0.4**
	baz=337						
TKM2	**Tokmak 2**	**1.77**	**5**	P	**Pg**	**01 28 00.8**	**-0.8**
	SNR=36						
TKM2	**Tokmak 2**	**1.77**	**5**	⇓Pn	**Pg**	**01 28 00.7**	**-0.8**
	30nm,0.5s						
TKM2				⇑Sn	**Sg**	**01 28 25.7**	**+1.1**
	80nm,0.3s						
TKM2	**Tokmak 2**	**1.77**	**5**	⇑*i*P	**Pg**	**01 28 00.8**	**-0.8**
	baz=6.0						
TKM2				⇑*i*S	**Sg**	**01 28 25.2**	**+0.6**
	baz=6.0						
SFK	**Sufi-Kurgan**	**1.83**	**232**	⇑Pn	**Pn**	**01 27 59.7**	**0.0**
	26nm,0.5s						
SFK				⇓Sn	**Sb**	**01 28 24.9**	**+0.2**
	117nm,1.0s						
SFK	**Sufi-Kurgan**	**1.83**	**232**	*e*P	**Pn**	**01 27 59.7**	**0.0**
	baz=231						
CHMS	**Chumysh**	**1.90**	**346**	P	**Pg**	**01 28 03.0**	**-1.1**
	SNR=28						
CHMS	**Chumysh**	**1.90**	**346**	⇑*i*P	**Pg**	**01 28 02.8**	**-1.2**
	baz=347						
CHMS				⇑*i*S	**Sg**	**01 28 29.2**	**+0.6**
	baz=347						
EKS2	**Erkin-Say**	**1.92**	**322**	P	**Pg**	**01 28 03.4**	**-1.0**
	SNR=18						
EKS2	**Erkin-Say**	**1.92**	**322**	⇑*i*P	**Pg**	**01 28 03.3**	**-1.1**
	baz=322						
EKS2				⇑*i*S	**Sg**	**01 28 29.2**	**-0.1**
	baz=322						
EKS	**Erkin-Say**	**1.92**	**322**	⇓*i*P	**Pg**	**01 28 03.5**	**-0.9**
	baz=322						
EKS				⇓*e*S	**Sg**	**01 28 30.2**	**+0.9**
	baz=322						
USP	**Ospenovka**	**2.20**	**343**	P	**Pg**	**01 28 08.4**	**-1.6**
	SNR=38						
KNDC	**Almaty**	**2.37**	**29**	⇓Pg	**Pg**	**01 28 12.9**	**-0.3**
	30nm,0.5s						
KNDC				⇓Lg	Lg	01 28 45.9	
	135nm,0.5s						
PDGK	**Podgornoye**	**3.75**	**53**	⇓Pn	**Pn**	**01 28 28.3**	**+2.4**
	4.0nm,1.1s						
PDGK				⇓Pg	**Pg**	**01 28 38.2**	**-1.3**
	7.8nm,0.6s						
PDGK				⇓Lg	Lg	01 29 26.8	
	22nm,0.6s						
KK31	**Karatay Array**	**4.10**	**300**	⇑Pn	Pn	01 28 34.5	+3.6
	0.2nm,0.3s,baz=138,slow=12,SNR=6.6						
KK31				⇑Pg	**Pb**	**01 28 42.2**	**+2.0**
	2.1nm,0.4s,baz=136,slow=14,SNR=26						
KK31				⇓Lg	Lg	01 29 38.5	
	4.6nm,0.2s,baz=38,slow=135,SNR=6.9						
DZET	**Dzherino**	**5.55**	**247**	⇑Pn	**Pn**	**01 28 52.3**	**+1.4**
	4.8nm,0.5s						
DZET				⇓Pg	Pg	01 29 10.2	-3.8
	2.5nm,0.4s						
DZET				⇑Lg	Lg	01 30 25.7	
	12nm,0.6s						
MK31	**Makanchi Array**	**7.52**	**39**	⇑Pg	Pg	01 29 46.6	-5.1
	0.5nm,0.5s,baz=225,slow=13,SNR=5.0						
MK31				⇓Lg	Lg	01 31 28.0	
	0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**9.72**	**12**	⇓Lg	Lg	01 32 37.4	
	23nm,0.8s						
BVA0	**Borovoye Array**	**12.34**	**346**	⇑Lg	Lg	01 34 01.6	
	7.2nm,1.4s,baz=164,slow=28,SNR=4.3						
BRVK	**Borovoye**	**12.39**	**346**	⇓Lg	Lg	01 34 03.8	

GUC 27 01:36:06.9±0.6, 30.90S×71.84W, h35km±4km, ML4.1, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSCH	**La Serena**	**1.12**	**28**	⇓*iP*	Pn	01 36 27.0	+1.0
LSCH				*i* S	Sn	01 36 41.4	+1.3
LCO	**Las Campanas**	**2.13**	**28**	⇓*iP*	Pn	01 36 41.8	+1.5
LCO				*i* S	Sn	01 37 08.8	+3.0
PEL	**Peldehue**	**2.44**	**157**	⇑*iP*	Pn	01 36 45.6	+1.2
PEL				*i* S	Sn	01 37 15.7	+2.6
PEL				AML	AML	01 37 21.7	
	comp=N,1μm,0.4s						
CLCH	**Cerro Calan**	**2.72**	**156**	⇑*iP*	Pn	01 36 49.8	+1.6
CLCH				*i* S	Sn	01 37 22.0	+2.0
CLCH				AML	AML	01 37 34.5	
	comp=N,650nm,0.7s						

*IDC **27** 01:38:10.8±1.8, 17.02N×101.58W, h0km, mb3.7/6, mb1 3.9/9, mb1mx3.7/29, mbtmp3.6/9, ML3.2/3, MS3.3/7, Ms1 3.3/7, ms1mx2.9/28, Error ellipse: s-maj=45.1km s-min=26.1km az=31.0*

*ISCJB **27** 01:38:15.7±0.8, 17.51N±0.08×101.26W±0.04, h30km±5km, mb3.6/6, MS3.2/5, Error ellipse: s-maj=13.6km s-min=5.8km az=15.0*

*NEIC **27** 01:38:17.8, 17.54N×101.29W, h30km, MD4.0(MEX), After MEX.*

*MEX **27** 01:38:17.8±0.5, 17.54N×101.29W, h30km±4km, MD4.0*

ISC 27 01:38:16.8±0.9, 17.51N±0.08×101.31W±0.04, h26km±6km, n22, σ2s18/30, mb3.7/6, MS3.2/5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.18**	**304**	*eP*	**Pb**	**01 38 22.5**	**+0.1**
ZIIG				*i* S	**Sb**	**01 38 26.4**	**+0.2**
ZIIG	**Zihuatanejo**	**0.18**	**304**	*eP*	**Pb**	**01 38 22.5**	**+0.1**
ZIIG				*i* S	**Sb**	**01 38 26.4**	**+0.2**
CAIG	**El Cayaco**	**1.09**	**114**	*eP*	**Pn**	**01 38 34.5**	**-2.0**
CAIG				*i* S	**Sn**	**01 38 48.2**	**-2.5**
CAIG	**El Cayaco**	**1.09**	**114**	*eP*	**Pn**	**01 38 34.5**	**-2.0**
CAIG				*i* S	**Sn**	**01 38 48.2**	**-2.5**
ARIG	**Puente Sto Nin**	**1.20**	**50**	*eP*	**Pn**	**01 38 35.5**	**-2.5**
ARIG				*eS*	**Sn**	**01 38 49.9**	**-3.5**
MEIG	**Mezcala**	**1.66**	**75**	*eP*	**Pn**	**01 38 43.1**	**-1.3**
MEIG				*i* S	**Sn**	**01 39 02.5**	**-2.5**
MEIG	**Mezcala**	**1.66**	**75**	*eP*	**Pn**	**01 38 43.1**	**-1.3**
MEIG				*i* S	**Sn**	**01 39 02.5**	**-2.5**
MMIG	**Aquila**	**2.09**	**292**	*i* P	**Pn**	**01 38 48.9**	**-1.3**
MMIG				*i* S	**Sn**	**01 39 13.4**	**-2.0**
MMIG	**Aquila**	**2.09**	**292**	*i* P	**Pn**	**01 38 48.9**	**-1.3**
MMIG				*i* S	**Sn**	**01 39 13.4**	**-2.0**
TLIG	**Tlapa**	**2.62**	**88**	*eP*	**Pn**	**01 38 56.9**	**-0.7**
TLIG				*i* S	**Sn**	**01 39 26.4**	**-2.2**
CMIG	**Matias Romero**	**6.15**	**93**	**Pn**	**Pn**	**01 39 46.1**	**0.0**
	0.5nm,0.3s,baz=262,slow=14,SNR=9.5						
CMIG				Sn	**Sn**	**01 41 00.9**	**+5.3**
	2.6nm,0.3s,baz=0.0,slow=20,SNR=3.2						
CMIG				Lg	Lg	01 41 26.4	
	5.6nm,0.3s,baz=15,slow=16,SNR=6.1						
CMIG				LR	LR	01 42 28.5	
	comp=Z,105nm,18.9s,baz=272,slow=40						
TXAR	**Lajitas Array**	**11.97**	**350**	Pn	Pn	01 41 10.1	+4.1
	0.0nm,0.3s,baz=161,slow=15,SNR=5.5						
ANMO	**Albuquerque**	**17.97**	**346**	P	**Pn**	**01 42 25.3**	**+0.2**
	0.1nm,0.3s,baz=152,slow=14,SNR=4.0						
ANMO				LR	LR	01 49 57.8	
	comp=Z,179nm,18.6s,baz=163,slow=38						
NVAR	**Mina Array Bea**	**25.61**	**328**	P	**P**	**01 43 43.8**	**-0.5**
	1.6nm,0.8s,baz=150,slow=11,SNR=8.2						
ELK	**Elko**	**26.09**	**335**	LR	LR	01 56 22.4	
	comp=Z,40nm,18.5s,baz=128,slow=41						
PDAR	**Pinedale Array**	**26.14**	**346**	P	**P**	**01 43 52.0**	**+2.9**
	0.7nm,0.9s,baz=168,slow=9.1,SNR=4.9						
PDAR				LR	LR	01 54 50.2	
	comp=Z,77nm,19.3s,baz=190,slow=38						
ULM	**Lac du Bonnet**	**32.96**	**6**	LR	LR	01 59 01.3	
	comp=Z,50nm,18.6s,baz=274,slow=37						
YKA	**Yellowknife Ar**	**45.90**	**351**	P	**P**	**01 46 39.9**	**+3.0**
	0.7nm,0.7s,baz=164,slow=7.5,SNR=3.3						
ILAR	**Eielson Array**	**56.20**	**338**	P	**P**	**01 47 54.0**	**-0.3**
	0.2nm,0.6s,baz=158,slow=6.4,SNR=5.0						
ILAR				LR	LR	02 13 02.0	
	comp=Z,39nm,18.6s,baz=104,slow=37						
NOA	**NORSAR Array B**	**85.22**	**27**	P	**P**	**01 50 51.8**	**+0.8**
	0.4nm,0.8s,baz=299,slow=4.6,SNR=2.4						
NOA				LR	LR	02 29 18.8	
	comp=Z,10nm,20.2s,baz=290,slow=36						
ARCES	**ARCESS Array B**	**85.48**	**16**	P	**P**	**01 50 52.6**	**+0.6**
	1.3nm,0.9s,baz=309,slow=5.7,SNR=3.4						
WRA	**Warramunga Arr**	**127.44**	**258**	PKP	**PKPdf**	**01 57 17.7**	**-2.5**
	1.0nm,1.0s,baz=82,slow=3.1,SNR=5.4						

*NNC **27** 01:48:21.3±1.3, 37.24N×71.35E, h158km±13km, mb2.9, mpv3.9, Error ellipse: s-maj=12.4km s-min=5.6km az=164.0*

ISC 27 01:48:19.1±3.5, 37.1N±0.2×71.2E±0.1, h100km, n12, σ1s16/15, 5C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.52**	**313**	⇑P	Pn	01 49 03.6	+5.0
	2.9nm,0.2s						
DZET				⇑S	Sn	01 49 36.1	+7.3
	54nm,0.3s						
SFK	**Sufi-Kurgan**	**3.44**	**31**	⇑P	**Pn**	**01 49 11.7**	**+0.7**
	14nm,0.3s						
SFK				⇓S	**Sn**	**01 49 52.7**	**+1.7**
AML	**Almayashu**	**5.40**	**20**	P	**Pn**	**01 49 37.8**	**+0.3**
	SNR=42						
EKS2	**Erkin-Say**	**5.91**	**19**	P	**Pn**	**01 49 44.9**	**+0.6**
	SNR=13						
KK31	**Karatay Array**	**6.03**	**355**	P	**Pn**	**01 49 47.8**	**+2.1**
	9.0nm,0.3s,baz=175,slow=13,SNR=159						
KK31				⇓S	**Sn**	**01 50 54.2**	**+1.0**
	1.8nm,0.3s,baz=172,slow=21,SNR=7.6						
AAK	**Ala-Archa**	**6.10**	**24**	P	**Pn**	**01 49 47.1**	**+0.3**
	SNR=12						
AAK	**Ala-Archa**	**6.10**	**24**	⇓P	**Pn**	**01 49 46.9**	**+0.1**
	11nm,0.4s						
AAK				⇓S	**Sn**	**01 50 54.3**	**-0.9**
	4.0nm,0.5s						
CHMS	**Chumysh**	**6.51**	**24**	P	**Pn**	**01 49 52.2**	**0.0**
	SNR=6.3						
USP	**Ospenovka**	**6.67**	**21**	P	**Pn**	**01 49 54.7**	**+0.2**
	SNR=8.0						
TKM2	**Tokmak 2**	**6.74**	**29**	P	**Pn**	**01 49 55.2**	**-0.4**
	SNR=5.9						
TKM2	**Tokmak 2**	**6.74**	**29**	⇑P	**Pn**	**01 49 54.8**	**-0.8**
	6.1nm,0.5s						
AB31	**Akbulak array**	**14.64**	**330**	P	**Pn**	**01 51 40.8**	**-0.2**
	0.4nm,0.5s,baz=135,slow=14,SNR=16						
AB31				⇑S	**Sn**	**01 54 19.9**	**-2.3**
	0.6nm,0.5s,baz=164,slow=22,SNR=3.8						

IDC 27 02:08:11.0±2.6, 5.55N×123.52E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.5/35, mbtmp3.8/3, Error ellipse: s-maj=335.8km s-min=27.4km az=63.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.48**	**157**	P	P	02 13 59.5	+0.3
	0.9nm,0.3s,baz=337,slow=9.6,SNR=7.4						
ASAR	**Alice Springs**	**30.76**	**161**	P	P	02 14 27.9	-0.4
	0.5nm,0.3s,baz=336,slow=7.1,SNR=5.7						
MKAR	**Makanchi Array**	**54.25**	**326**	P	P	02 17 38.8	-0.1
	0.3nm,0.4s,baz=111,slow=8.4,SNR=4.7						

*ISCJB **27** 02:55:09.1±0.3, 3.87S±0.04×141.34E±0.05, h54km, mb4.4/19, MS3.1/7, Error ellipse: s-maj=7.7km s-min=4.7km az=157.4*

*IDC **27** 02:55:11.7±1.2, 3.83S×141.32E, h60km±10km, mb4.0/16, mb1 4.1/18, mb1mx4.0/29, mbtmp4.3/18, MS3.1/7, Ms1 3.1/7, ms1mx2.9/19, Error ellipse: s-maj=19.7km s-min=8.5km az=78.0*

*NEIC **27** 02:55:11.0±0.8, 3.87S×141.38E, h58km±8km, mb4.8/5, Error ellipse: s-maj=10.7km s-min=6.0km az=85.0*

*DJA **27** 02:55:15.0±1.3, 4.5S×14.1E±1.1, h10km, M4.7/6, mb4.9/4, mB5.0/1, MLv4.7/6, Mw(mB)4.3/1*

ISC 27 02:55:11.0±0.5, 3.85S±0.05×141.32E±0.07, h54km, n51, σ1s24/53, mb4.5/19, MS2.9/7, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.46**	**335**	P	**Pn**	**02 55 34.4**	**-0.6**
JAY				S	**Sn**	**02 55 50.3**	**-2.8**
JAY	**Jayapura**	**1.46**	**335**	P	**Pn**	**02 55 34.8**	**-0.3**
	54nm,0.3s,baz=174,slow=9.2,SNR=182						
JAY				S	**Sn**	**02 55 54.4**	**+1.2**
	149nm,0.3s,baz=156,slow=20,SNR=18						
JAY				LR	LR	02 56 26.5	
	comp=Z,1μm,20.9s,baz=165,slow=52						
JAY	**Jayapura**	**1.46**	**335**	P	**Pn**	**02 55 34.0**	**-1.0**
	baz=1.4,SNR=13						
GENI	**Genyem**	**1.70**	**317**	P	**Pn**	**02 55 38.0**	**-0.2**
GENI				S	**Sn**	**02 55 56.2**	**-2.7**
SMPI	**Sarmi**	**3.19**	**305**	P	**Pn**	**02 56 00.4**	**+1.7**
BAKI	**Biak**	**5.84**	**297**	P	**Pn**	**02 56 36.0**	**+1.0**
	144nm,1.1s,0.6nm						
PMG	**Port Moresby**	**8.01**	**134**	P	**Pn**	**02 57 05.7**	**+1.0**
	15nm,0.3s,baz=311,slow=11,SNR=35						
PMG				S	**Sn**	**02 58 34.6**	**+0.7**
	2.1nm,0.3s,baz=274,slow=19,SNR=3.9						
PMG	**Port Moresby**	**8.01**	**134**	*e*Pn	**Pn**	**02 57 05.2**	**+0.5**
	135nm,0.6s						
PMG				*e*S	**Sn**	**02 58 31.3**	**-2.6**
FAKI	**Fak Fak**	**9.11**	**276**	P	**Pn**	**02 57 22.2**	**+2.4**
	38nm,1.6s,750nm						
FAKI	**Fak Fak**	**9.11**	**276**	P	**Pn**	**02 57 17.6**	**-2.2**
	baz=8.8,SNR=5.1						
SIJI	**Sorong**	**10.47**	**286**	P	**Pn**	**02 57 38.9**	**+0.3**
	1.2nm,0.3s,baz=105,slow=12,SNR=6.3						
SWI	**Sorong**	**10.48**	**286**	P	**Pn**	**02 57 40.6**	**+2.0**
KDU	**Kakadu**	**12.40**	**224**	P	**Pn**	**02 58 03.0**	**-1.9**
	baz=12,SNR=11						
MTN	**Manton Dam**	**13.47**	**228**	P	**Pn**	**02 58 18.7**	**-0.7**
	baz=13,SNR=14						
QIS	**Mount Isa**	**16.70**	**186**	P	**P**	**02 59 02.4**	**-0.5**
	baz=17,SNR=5.9						
KNRA	**Kununurra**	**17.06**	**226**	P	**Pn**	**02 59 05.2**	**-0.6**
	baz=17,SNR=4.6						
WRAB	**Tennant Creek**	**17.38**	**202**	*e*Pn	**Pn**	**02 59 08.8**	**-1.0**
	13nm,0.7s						
WRA	**Warramunga Arr**	**17.39**	**203**	P	**Pn**	**02 59 08.7**	**-1.3**
	0.9nm,0.3s,baz=22,slow=12,SNR=22						
WRA				S	**Sn**	**03 02 24.6**	**+1.8**
	0.2nm,0.3s,baz=18,slow=22,SNR=3.0						
SOEI	**Soe**	**17.92**	**250**	P	Pn	02 59 21.5	+4.9
	baz=18,SNR=3.3						
SOEI	**Soe**	**17.92**	**250**	*e*Pn	**Pn**	**02 59 18.7**	**+2.1**
	68nm,0.9s						
ASAR	**Alice Springs**	**20.97**	**199**	P	**P**	**02 59 49.8**	**+0.1**
	2.5nm,0.7s,baz=35,slow=11,SNR=18						
ASAR				LR	LR	03 08 08.8	
	comp=Z,126nm,19.3s,baz=41,slow=37						
EIDS	**Eidsvold**	**23.37**	**157**	P	**P**	**03 00 16.9**	**+2.0**
	baz=24,SNR=3.3						
EIDS	**Eidsvold**	**23.37**	**157**	P	**P**	**03 00 14.2**	**-0.7**
	46nm,1.5s						
WRKA	**Warakurna**	**24.52**	**210**	P	**P**	**03 00 25.2**	**-0.3**
	baz=24,SNR=5.4						
STKA	**Stephens Creek**	**27.89**	**180**	P	**P**	**03 00 55.2**	**-0.7**
	2.1nm,0.8s,baz=343,slow=10,SNR=3.5						
STKA				LR	LR	03 13 29.1	
	comp=Z,136nm,18.0s,baz=20,slow=39						
LHI	**Lord Howe Isla**	**32.19**	**151**	P	**P**	**03 01 34.9**	**+1.0**
	baz=32,SNR=4.4						
JNU	**Nakatsue**	**38.07**	**346**	LR	LR	03 15 33.0	
	comp=Z,15nm,20.7s,baz=118,slow=32						
MJAR	**Matsushiro Arr**	**40.28**	**356**	P	**P**	**03 02 42.6**	**-0.3**
	0.6nm,0.4s,baz=161,slow=7.7,SNR=3.4						
MJAR				LR	LR	03 18 20.9	
	comp=Z,15nm,20.6s,baz=125,slow=34						
KSAR	**Wonju Array Be**	**42.94**	**344**	P	**P**	**03 03 05.5**	**+1.0**
KSRS	**Korea Array**	**42.94**	**344**	P	**P**	**03 03 05.5**	**+1.0**
	2.2nm,0.6s,baz=147,slow=7.7,SNR=5.9						
KSRS				LR	LR	03 18 40.5	
	comp=Z,13nm,20.6s,baz=142,slow=33						
CMAR	**Chiang Mai Arr**	**47.26**	**299**	LR	LR	03 23 50.1	
	comp=Z,12nm,20.2s,baz=122,slow=36						
USRK	**Usuriysk Ar.**	**48.56**	**351**	P	**P**	**03 03 49.2**	**+0.4**
	4.6nm,0.8s,baz=179,slow=7.6,SNR=10						
PETK	**Petropavlovsk-**	**58.40**	**12**	P	**P**	**03 05 01.1**	**+0.3**
	3.8nm,0.7s,baz=176,slow=5.9,SNR=6.0						
SONM	**Songino Array**	**59.87**	**334**	P	**P**	**03 05 11.9**	**+0.6**
	0.6nm,0.6s,baz=146,slow=8.0,SNR=5.0						
YAK	**Yakutsk**	**66.30**	**354**	P	**P**	**03 05 54.2**	**+0.8**
	3.5nm,0.5s,baz=143,slow=4.6,SNR=5.2						
SEY	**Seymchan**	**67.12**	**5**	P	**P**	**03 05 58.8**	**+0.1**
	1.8nm,0.3s,baz=227,slow=4.1,SNR=7.6						
MK31	**Makanchi Array**	**72.28**	**322**	*e*P	**P**	**03 06 30.9**	**0.0**
MKAR	**Makanchi Array**	**72.28**	**322**	P	**P**	**03 06 31.2**	**+0.3**
	1.8nm,0.6s,baz=111,slow=7.9,SNR=19						
ZALV	**Zalesovo Beam**	**74.23**	**329**	P	**P**	**03 06 41.0**	**-1.0**
	1.9nm,0.8s,baz=102,slow=6.2,SNR=6.0						
ZALV				LR	LR	03 40 41.5	
	comp=Z,12nm,19.2s,baz=72,slow=37						
VNDA	**Vanda**	**74.44**	**175**	P	**P**	**03 06 42.9**	**-0.1**
	0.7nm,0.6s,baz=345,slow=5.6,SNR=6.1						
KDAK	**Kodiak Island**	**80.77**	**30**	P	**P**	**03 07 18.1**	**-0.4**
	7.3nm,0.8s,baz=214,slow=1.4,SNR=4.9						
BVAR	**Borovoye Array**	**81.73**	**325**	P	**P**	**03 07 24.0**	**+0.3**
	2.9nm,0.8s,baz=101,slow=6.2,SNR=13						
MAW	**Mawson**	**82.06**	**202**	P	**P**	**03 07 24.6**	**-0.6**
	2.8nm,0.8s,baz=66,slow=12,SNR=4.7						
MCK	**McKinley**	**84.60**	**25**	P	**P**	**03 07 36.8**	**-1.5**
	8.0nm,0.8s						
ILAR	**Eielson Array**	**85.79**	**24**	P	**P**	**03 07 42.5**	**-1.7**
	3.9nm,0.7s,baz=256,slow=5.0,SNR=60						
QSPA	**South Pole Qui**	**86.11**	**180**	*e*P	**P**	**03 07 45.4**	**-0.6**
	47nm,2.0s						
EGAK	**Eagle**	**88.16**	**25**	*e*P	**P**	**03 07 55.5**	**-0.2**
	5.9nm,0.9s						
LPAZ	**La Paz**	**144.67**	**125**	PKP	PKPbc	03 14 42.5	+0.2
	4.2nm,0.7s,baz=228,slow=1.7,SNR=23						
LPAZ	**La Paz**	**144.67**	**125**	*e*PKPdf	PKPbc	03 14 42.3	0.0
LPAZ				PKP	**PKPab**	**03 14 42.5**	**+0.3**
CPUP	**Villa Florida**	**144.99**	**150**	PKPbc	**PKPab**	**03 14 41.9**	**-0.5**
	2.6nm,0.9s,baz=65,slow=2.1,SNR=4.3						
DBIC	**Dimbokro**	**146.21**	**276**	PKPbc	**PKPbc**	**03 14 46.5**	**-0.1**
	4.0nm,0.8s,baz=140,slow=7.9,SNR=2.8						

WEL 27 03:02:24.9±0.3, 38.63S×175.80E, h155km±2km, ML3.6/11, 13C-3D, Error ellipse: s-maj=1.7km s-min=1.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWVZ	**Taurewa**	**0.53**	**212**	PN	Pn	03 02 47.1	0.0
OTVZ	**Oturere**	**0.55**	**191**	PN	Pn	03 02 47.1	-0.2
OTVZ				SN	Sn	03 03 04.4	-0.1
NGZ	**Ngauruhoe**	**0.57**	**196**	⇑PN	Pn	03 02 47.6	+0.2
COVZ	**Chateau Observ**	**0.61**	**199**	⇑PN	Pn	03 02 47.6	0.0
COVZ				SN	Sn	03 03 04.4	-0.5
COVZ				SN		03 03 04.4	
WPVZ	**Whakapapa**	**0.61**	**199**	⇑PN	Pn	03 02 47.6	+0.1
FWVZ	**Far West T-bar**	**0.66**	**197**	PN	Pn	03 02 47.7	-0.3
WHVZ	**Whangaehu Hut**	**0.68**	**194**	PN	Pn	03 02 48.0	-0.1
TRVZ	**Turoa**	**0.70**	**196**	PN	Pn	03 02 48.2	0.0
WNVZ	**Wahianoa**	**0.72**	**193**	⇑PN	Pn	03 02 48.3	0.0
HIZ	**Hauiti**	**0.75**	**278**	PN	Pn	03 02 48.3	+0.1
PKZ	**Pokaka**	**0.75**	**208**	PN	Pn	03 02 48.3	-0.1
BKZ	**Black Stump Fm**	**0.76**	**135**	PN	Pn	03 02 48.3	-0.1
BKZ				SN	Sn	03 03 05.2	-1.3
BKZ				AML	AML	03 03 05.5	
MOVZ	**Moawhango**	**0.78**	**183**	⇑PN	Pn	03 02 48.3	-0.3
MTVZ	**Mangateitei**	**0.80**	**199**	PN	Pn	03 02 48.6	-0.1
BHHZ	**Black Hill Sta**	**0.89**	**167**	⇑PN	Pn	03 02 49.2	-0.2
BHHZ				SN	Sn	03 03 06.4	-1.8
NMHZ	**Naumai**	**0.92**	**121**	PN	Pn	03 02 50.3	+0.7
NMHZ				SN	Sn	03 03 09.4	+0.9
TOZ	**Tahuroa Road**	**0.92**	**345**	PN	Pn	03 02 49.6	+0.1
VRZ	**Vera Road**	**0.96**	**238**	PN	Pn	03 02 49.7	0.0
RAHZ	**Arahi**	**1.04**	**107**	PN	Pn	03 02 51.0	+0.4
RAHZ				SN	Sn	03 03 10.3	+0.1
MCHZ	**McNeill Hill**	**1.07**	**140**	PN	Pn	03 02 51.6	+0.8
MCHZ				SN	Sn	03 03 10.9	+0.2
URZ	**Urewera**	**1.09**	**71**	⇓PN	Pn	03 02 50.2	-0.7
URZ				SN	Sn	03 03 08.8	-2.0
URZ				AML	AML	03 03 10.2	
KRHZ	**Kereru**	**1.11**	**157**	PN	Pn	03 02 51.1	0.0
ARHZ	**Aropaoanui**	**1.13**	**125**	PN	Pn	03 02 51.8	+0.6
ARHZ				SN	Sn	03 03 11.4	0.0
WHHZ	**Waihua**	**1.21**	**112**	SN	Sn	03 03 12.4	-0.3
WAZ	**Wanganui**	**1.30**	**209**	PN	Pn	03 02 52.5	-0.3
PNHZ	**Pukenui**	**1.32**	**167**	PN	Pn	03 02 52.9	-0.2
MWZ	**Matawai**	**1.39**	**78**	⇓PN	Pn	03 02 53.2	-0.5
MWZ				AML	AML	03 03 16.2	
MWZ				AML	AML	03 03 16.5	
MWZ				AML	AML	03 03 16.8	
CKHZ	**Cape Kidnapper**	**1.43**	**137**	PN	Pn	03 02 54.5	+0.4
CKHZ				SN	Sn	03 03 16.2	-0.4
KAHZ	**Kahuranaki**	**1.44**	**145**	⇑PN	Pn	03 02 54.5	+0.3
TSZ	**Takapari Road**	**1.44**	**175**	⇑PN	Pn	03 02 53.9	-0.3
TSZ				AML	AML	03 02 54.1	
TSZ				AML	AML	03 02 54.1	
KNZ	**Kokohu**	**1.51**	**106**	PN	Pn	03 02 54.8	-0.2
WPHZ	**Waipukurau**	**1.52**	**161**	PN	Pn	03 02 54.9	-0.2
WPHZ				SN	Sn	03 03 16.5	-1.9
RIGZ	**Rimuhau**	**1.54**	**94**	PN	Pn	03 02 55.2	0.0
RIGZ				SN	Sn	03 03 17.6	-1.0
TKGZ	**Te Karaka**	**1.62**	**84**	PN	Pn	03 02 56.0	-0.1
TKGZ				SN	Sn	03 03 19.3	-0.7
PXZ	**Pawanui**	**1.63**	**150**	⇑PN	Pn	03 02 56.0	-0.2
PXZ				AML	AML	03 03 21.3	
PXZ				AML	AML	03 03 21.4	
PXZ				AML	AML	03 03 22.3	
PXZ				AML	AML	03 03 22.4	
DVHZ	**Dannevirke**	**1.70**	**171**	PN	Pn	03 02 56.2	-0.8
DVHZ				SN	Sn	03 03 18.9	-2.8
PRHZ	**Porangahau**	**1.76**	**159**	⇑PN	Pn	03 02 57.3	-0.3
PRHZ				SN	Sn	03 03 21.2	-1.8
POWZ	**Post Office Ro**	**1.77**	**181**	PN	Pn	03 02 56.8	-0.9
HAZ	**Te Kaha**	**1.79**	**62**	⇓PN	Pn	03 02 56.6	-1.3
HAZ				SN	Sn	03 03 19.9	-3.3
ANWZ	**Angora Road**	**1.91**	**164**	PN	Pn	03 02 58.8	-0.5
PRWZ	**Pori Road**	**1.93**	**176**	PN	Pn	03 02 58.8	-0.8
PRWZ				SN	Sn	03 03 24.0	-2.3
MRZ	**Mangatainoka R**	**2.04**	**185**	⇑PN	Pn	03 02 59.5	-1.3
MRZ				AML	AML	03 03 28.1	
MRZ				AML	AML	03 03 28.1	
BFZ	**Birch Farm**	**2.08**	**171**	PN	Pn	03 03 00.2	-1.1
TIWZ	**Tintock**	**2.15**	**178**	PN	Pn	03 03 00.9	-1.2
TIWZ				AML	AML	03 03 01.8	
TIWZ				AML	AML	03 03 30.0	
WMGZ	**Waiomatatini S**	**2.21**	**69**	PN	Pn	03 03 01.9	-0.9
MXZ	**Matakaoa Point**	**2.24**	**63**	PN	Pn	03 03 02.5	-0.7
OGWZ	**Otaki Gorge**	**2.24**	**192**	PN	Pn	03 03 01.8	-1.3
HOWZ	**Holdsworth Sta**	**2.28**	**185**	PN	Pn	03 03 01.9	-1.7
CPWZ	**Castlepoint**	**2.30**	**172**	PN	Pn	03 03 03.1	-0.8
KIW	**Kapiti Island**	**2.34**	**197**	⇑PN	Pn	03 03 02.5	-1.8
KIW				AML	AML	03 03 03.5	
KIW				AML	AML	03 03 22.1	
TMWZ	**Te Maipa**	**2.48**	**178**	PN	Pn	03 03 04.4	-1.7
MTW	**Mount Morrison**	**2.54**	**185**	PN	Pn	03 03 04.7	-2.1
CAW	**Cannon Point**	**2.54**	**193**	PN	Pn	03 03 04.8	-2.0
CAW				AML	AML	03 03 05.8	
CAW				AML	AML	03 03 06.3	
DUWZ	**D'Urville Isla**	**2.62**	**213**	PN	Pn	03 03 05.6	-2.1
PAWZ	**Paruwai Farm**	**2.77**	**186**	PN	Pn	03 03 07.3	-2.3
TRWZ	**Traveller**	**2.77**	**182**	PN	Pn	03 03 07.6	-2.1
MSWZ	**Moikau Station**	**2.82**	**188**	⇑PN	Pn	03 03 07.8	-2.4
MSWZ				AML	AML	03 03 08.7	
MSWZ				AML	AML	03 03 42.9	
TCW	**Tory Channel**	**2.84**	**204**	PN	Pn	03 03 08.1	-2.3
TCW				AML	AML	03 03 44.3	
BHW	**Baring Head**	**2.87**	**194**	PN	Pn	03 03 08.4	-2.4
PLWZ	**Palliser**	**2.97**	**188**	PN	Pn	03 03 09.5	-2.6
TUWZ	**Tuamarina**	**3.15**	**206**	PN	Pn	03 03 11.6	-2.6
NNZ	**Nelson**	**3.19**	**215**	PN	Pn	03 03 12.2	-2.7
QRZ	**Quartz Range**	**3.35**	**228**	PN	Pn	03 03 13.7	-3.2
QRZ				SN	Sn	03 03 52.7	-4.5
BSWZ	**Blackbirch Sta**	**3.42**	**205**	PN	Pn	03 03 15.2	-2.6
THZ	**Tophouse**	**3.84**	**214**	PN	Pn	03 03 19.9	-3.4
THZ				SN	Sn	03 04 05.0	-3.7
KHZ	**Kahutara**	**4.16**	**204**	PN	Pn	03 03 24.5	-2.8
LTZ	**Lake Taylor**	**4.95**	**212**	PN	Pn	03 03 33.5	-4.2
OXZ	**Oxford**	**5.49**	**210**	PN	Pn	03 03 40.7	-4.2
MQZ	**McQueen's Vall**	**5.61**	**204**	PN	Pn	03 03 41.5	-4.9
MQZ				SN	Sn	03 04 40.9	-9.2
FOZ	**Fox Glacier**	**6.76**	**221**	SN	Sn	03 05 05.6	-12
**

BOD	**Bodaibo**	**3.08**	**39**	*e*Pn		**Pn**	**03 30 08.7**	**+0.2**
BOD				*e*Pg		**Pb**	**03 30 13.8**	**-0.7**
BOD				*e*Sn		**Sn**	**03 30 42.0**	**-3.8**
BOD				*e*			03 30 44.5	
BOD				*e*Sg		**Sb**	**03 30 53.6**	**+1.2**
BOD				Pmax				
	comp=E,7.0nm,0.3s							
BOD				Smax				
	comp=E,65nm,0.7s							
NLYR	**Nelyaty**	**3.15**	**69**	*e*Pn		**Pn**	**03 30 10.4**	**+0.9**
NLYR				*e*Pg		**Pb**	**03 30 15.0**	**-0.7**
NLYR				*e*PgPg		**PbPb**	**03 30 19.0**	**+0.2**
NLYR				*e*			03 30 42.9	
NLYR				*e*			03 30 49.9	
NLYR				*e*Sg		**Sb**	**03 30 56.2**	**+1.8**
NLYR				max				
	comp=E,22nm,0.7s							
NLYR				Smax				
	comp=E,134nm,0.9s							
TRG	**Tyrgan**	**3.61**	**223**	*e*Pn		**Pn**	**03 30 17.8**	**+1.9**
TRG				*e*Pg		**Pb**	**03 30 24.9**	**+1.3**
TRG				*e*Sg		**Sg**	**03 31 12.8**	**-2.3**
TRG				Pmax				
	comp=E,9.0nm,0.7s							
TRG				Smax				
	comp=E,87nm,0.8s							
CIT	**Chita**	**3.93**	**150**	*e*Sg		**Sg**	**03 31 22.5**	**-2.9**
CIT				Smax				
	comp=E,99nm,0.3s							
UUDB	**Ulan-Yde**	**3.96**	**205**	*e*		**Pb**	**03 30 28.5**	**-1.0**
UUDB				*e*			03 30 34.8	
UUDB				*e*Sg		**Sg**	**03 31 24.5**	**-1.8**
UUDB				Smax				
	comp=E,95nm,1.4s							
KAB	**Kabansk**	**4.08**	**214**	*e*Sg		**Sg**	**03 31 27.9**	**-2.4**
KAB				Smax				
	comp=E,209nm,0.3s							
HRMR	**Khuramsha**	**4.36**	**209**	*e*		Pn	03 30 20.2	-6.0
HRMR				*e*			03 30 27.5	
HRMR				*e*Pg		**Pb**	**03 30 38.3**	**+2.0**
HRMR				*e*			03 31 19.0	
HRMR				*e*Sg		**Sg**	**03 31 36.0**	**-3.2**
HRMR				*e*			03 31 43.5	
HRMR				Pmax				
	comp=E,13nm,0.1s							
HRMR				max				
	comp=E,160nm,0.5s							
CRS	**Chara**	**4.63**	**69**	*e*Pg		**Pb**	**03 30 43.1**	**+2.3**
CRS				⇑*i*			03 30 51.6	
CRS				*e*Sg		**Sb**	**03 31 42.1**	**+5.3**
CRS				Pmax				
	comp=E,1.0nm,0.1s							
CRS				Smax				
	comp=E,104nm,1.6s							
CRS	**Chara**	**4.63**	**69**	*e*PN		**Pb**	**03 30 44.0**	**+3.2**
CRS				*e*			03 31 42.2	
CRS				pmax	pmax			
	comp=Z,27nm,1.0s							
CRS				smax	smax			
	comp=E,87nm,1.0s							
IRK	**Irkutsk**	**4.86**	**231**	*e*Sg		**Sg**	**03 31 51.0**	**-4.1**
IRK				Smax				
	comp=E,165nm,0.3s							
LSTR	**Listvyanka**	**4.89**	**225**	*e*Pg		**Pb**	**03 30 47.7**	**+2.3**
LSTR				*e*Sg		**Sg**	**03 31 51.9**	**-4.4**
LSTR				Pmax				
	comp=E,3.0nm,0.4s							
LSTR				Smax				
	comp=E,52nm,1.4s							
TLY	**Talaya**	**5.53**	**229**	*e*Pg		**Pb**	**03 30 59.3**	**+3.1**
TLY				*e*			03 31 04.9	
TLY				*e*			03 31 49.1	
TLY				*e*Sg		**Sg**	**03 32 11.6**	**-5.1**
TLY				Pmax				
	comp=E,14nm,0.7s							
TLY				Smax				
	comp=E,39nm,1.1s							
TUP	**Tupik**	**5.61**	**97**	⇓*i*Pn		**Pn**	**03 30 44.0**	**+0.7**
TUP				*e*			03 30 59.3	
TUP				*e*Sn		**Sn**	**03 31 42.8**	**-5.2**
TUP				*e*Sg		Sg	03 32 13.9	-5.3
TUP				max				
	comp=E,2.0nm,0.4s							
TUP				Smax				
	comp=E,60nm,1.1s							
TUP	**Tupik**	**5.61**	**97**	*e*PN		**Pn**	**03 30 43.9**	**+0.7**
TUP				*e*			03 30 59.9	
TUP				*e*S		**Sn**	**03 31 47.2**	**-0.8**
TUP				*e*			03 32 13.0	
TUP				pmax	pmax			
	comp=Z,7.0nm,0.6s							
TUP				smax	smax			
	comp=N,59nm,0.9s							
KPC	**Khapcheranga**	**5.90**	**167**	*e*Pn		**Pn**	**03 30 48.2**	**+0.9**
KPC				*e*			03 30 59.6	
KPC				*e*Pg		Pb	03 31 06.6	+4.0
KPC				⇑*i*			03 31 08.8	
KPC				*e*Sg		**Sg**	**03 32 24.4**	**-4.2**
KPC				max				
	comp=N,5.0nm,0.7s							
KPC				Smax				
	comp=N,56nm,1.4s							
ARS	**Arshan**	**5.92**	**236**	*e*		**Sn**	**03 31 58.4**	**+2.6**
ARS				*e*Sg		**Sg**	**03 32 24.9**	**-4.3**
ARS				*e*			03 32 28.8	
ARS				max				
	comp=N,155nm,0.6s							
ZAK	**Zakamensk**	**6.67**	**223**	*e*		Pn	03 31 02.1	+4.2
ZAK				*e*Sg		**Sg**	**03 32 48.1**	**-5.0**
ZAK				*e*			03 32 57.6	
ZAK				max				
	comp=N,22nm,1.0s							
ZAK	**Zakamensk**	**6.67**	**223**	*e*PN		**Pn**	**03 31 00.7**	**+2.8**
ZAK				*e*S		Sg	03 32 46.4	-6.7
ZAK				pmax	pmax			
	comp=Z,2.0nm,0.2s							
ZAK				smax	smax			
	comp=N,23nm,0.9s							
MOY	**Mondy**	**6.77**	**240**	*e*Pn		**Pn**	**03 31 00.7**	**+1.4**
MOY				*e*			03 31 20.6	
MOY				*e*			03 32 18.6	
MOY				*e*Sg		Sg	03 32 49.3	-7.2
MOY				max				
	comp=N,12nm,0.8s							
MOY				Smax				
	comp=N,36nm,1.4s							
ORL	**Orlik**	**6.89**	**249**	⇑*i*Pn		Pn	03 31 04.1	+3.1
ORL				*e*Pg		Pb	03 31 25.0	+5.5
ORL				*e*			03 32 24.2	
ORL				*e*Sg		**Sg**	**03 32 55.5**	**-4.9**
ORL				max				
	comp=N,5.0nm,0.4s							
ORL				Smax				
	comp=N,52nm,2.0s							

DJA 27 03:40:49.5±0.8,1°N±6″×12°2E±°, h10km, M3.7/6, MLv3.7/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.99**	**175**	P	Pg	03 41 05.7	-2.9
MRSI				S	Sg	03 41 21.6	+0.1
MPSI	**Mapaga**	**2.25**	**240**	P	Pn	03 41 25.7	-1.2
KMSI	**Cibinong**	**2.31**	**113**	P	Pn	03 41 27.7	+0.1
APSI	**Ampana**	**2.37**	**185**	P	Pn	03 41 29.9	+1.4
LUWI	**Luwuk**	**2.66**	**160**	P	Pn	03 41 32.1	-0.4

IDC 27 03:49:45.3±1.2,6°02N×122°36E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/44, mbtmp3.7/4, MS2.4/1, Ms1 2.4/1, ms1mx2.1/30, Error ellipse: s-maj=168.9km s-min=20.7km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**11.26**	**193**	LR	LR	03 57 12.0	
	comp=Z,22nm,20.6s,baz=76,slow=40						
WRA	**Warramunga Arr**	**28.36**	**156**	P	P	03 55 40.8	-0.5
	0.5nm,0.3s,baz=333,slow=10.0,SNR=24						
ASAR	**Alice Springs**	**31.58**	**159**	P	P	03 56 10.5	+0.6
	0.3nm,0.3s,baz=329,slow=8.5,SNR=5.0						
SONM	**Songino Array**	**43.85**	**344**	P	P	03 57 53.1	-0.3
	0.3nm,0.4s,baz=153,slow=9.7,SNR=3.6						
MKAR	**Makanchi Array**	**53.23**	**326**	P	P	03 59 05.7	+0.1
	0.8nm,0.3s,baz=119,slow=8.4,SNR=11						

*IDC **27** 03:51:04.4±16.0, 52°.51N×172°.96W, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.3/45, mbtmp3.2/4, ML3.0/1, Error ellipse: s-maj=305.7km s-min=70.0km az=88.0*
*ISCJB **27** 03:51:19.9±1.2, 52°.6N±0°.1×169°.62W±0°.09, h6km±7km, mb3.2/3, Error ellipse: s-maj=19.0km s-min=4.2km az=153.1*
*NEIC **27** 03:51:21.6, 52°.72N×169°.66W, h5km, ML3.4(AEIC), After AEIC.*

ISC 27 03:51:21.4±1.6, 52°.8N±0°.2×169°.72W±0°.07, h5km±10km, n27, σ0.99/37, mb3.2/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.56**	**69**	P	**Pg**	**03 51 32.4**	**+0.2**
NIKH				S	**Sg**	**03 51 40.6**	**+1.1**
OKSO	**Okmok South**	**1.11**	**57**	P	**Pg**	**03 51 42.2**	**-0.4**
OKSO				S	**Sb**	**03 51 58.0**	**+0.2**
OKWR	**Okmok West Rim**	**1.13**	**53**	P	**Pg**	**03 51 43.3**	**+0.3**
OKCE	**Okmok Cone E**	**1.14**	**54**	P	**Pg**	**03 51 42.7**	**-0.6**
OKCE				S	**Sb**	**03 51 59.3**	**+0.5**
OKAK	**Okmok**	**1.15**	**45**	P	**Pg**	**03 51 41.6**	**-1.9**
OKTU	**Okmok Mt. Tuli**	**1.18**	**58**	P	**Pg**	**03 51 43.9**	**-0.2**
OKFG	**Magazine Ridge**	**1.26**	**59**	P	**Pg**	**03 51 44.4**	**-1.2**
OKFG				S	**Sb**	**03 52 02.5**	**+0.3**
MCIR	**Makushin Cirqu**	**2.06**	**54**	P	**Pn**	**03 51 57.8**	**+1.1**
MSW	**Makushin Switc**	**2.10**	**56**	P	**Pn**	**03 51 57.9**	**+0.8**
MSW				S	**Sn**	**03 52 24.4**	**+0.7**
MTBL	**Makushin Table**	**2.18**	**55**	P	**Pn**	**03 51 59.2**	**+0.9**
UNV	**Unalaska Valle**	**2.21**	**60**	*e*Pn	**Pn**	**03 51 58.6**	**0.0**
UNV				*e*S	**Sn**	**03 52 26.1**	**-0.2**
AKRB	**Akutan Reef Bi**	**2.57**	**57**	P	**Pn**	**03 52 05.0**	**+1.3**
AKRB				S	**Sn**	**03 52 37.6**	**+2.3**
ZRO	**Akutan Zero**	**2.60**	**58**	P	**Pn**	**03 52 05.1**	**+1.0**
AKGG	**Akutan Green G**	**2.65**	**56**	P	**Pn**	**03 52 05.0**	**+0.3**
AKUT	**Akutan**	**2.73**	**58**	*e*Pn	**Pn**	**03 52 06.8**	**+1.1**
AKUT				*e*S	**Sb**	**03 52 44.0**	**-0.3**
ATKA	**Atka Island**	**2.80**	**260**	P	**Pn**	**03 52 07.0**	**+0.3**
SSBA	**Shishaldin**	**3.88**	**57**	P	**Pn**	**03 52 21.9**	**+0.3**
GSTR	**Great Sitkin T**	**3.94**	**263**	*e*Pn	**Pn**	**03 52 23.2**	**+0.7**
GSTR				*e*S	**Sn**	**03 53 10.4**	**+1.4**
GSCK	**Great Sitkin C**	**4.02**	**262**	P	**Pn**	**03 52 24.1**	**+0.6**
FALS	**False Pass**	**4.28**	**58**	Pn	**Pn**	**03 52 25.8**	**-1.3**
ADAG	**Mount Adagdak**	**4.29**	**262**	P	**Pn**	**03 52 28.1**	**+0.8**
SDPT	**Sand Point**	**6.02**	**61**	*e*Pn	**Pn**	**03 52 51.3**	**+0.3**
SDPT				*e*S	**Sn**	**03 53 59.0**	**-1.2**
AMKA	**Amchitka**	**6.91**	**263**	*e*Pn	**Pn**	**03 53 04.2**	**+0.9**
	15nm,0.7s						
ILAR	**Eielson Array**	**16.74**	**35**	P	**Pn**	**03 55 16.1**	**-0.3**
	0.0nm,0.3s,baz=233,slow=8.9,SNR=3.4						
NVAR	**Mina Array Bea**	**37.88**	**91**	P	**P**	**03 58 38.1**	**-1.3**
	0.1nm,0.5s,baz=316,slow=7.6,SNR=2.3						
PDAR	**Pinedale Array**	**40.54**	**79**	P	**P**	**03 59 02.8**	**+1.3**
	0.2nm,0.4s,baz=307,slow=6.7,SNR=2.9						
TXAR	**Lajitas Array**	**52.95**	**89**	P	**P**	**04 00 37.5**	**-1.2**
	0.6nm,0.8s,baz=297,slow=5.5,SNR=7.2						

*IDC **27** 04:27:34.5±1.5, 10°.06S×161°.19E, h0km, mb3.6/4, mb1 4.0/6, mb1mx3.8/21, mbtmp3.9/6, ML4.3/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/29, Error ellipse: s-maj=28.0km s-min=24.8km az=39.0*
*ISCJB **27** 04:27:41.2±1.0, 10°.3S±0°.1×161°.1E±0°.1, h67km, mb3.3/4, Error ellipse: s-maj=19.6km s-min=12.3km az=143.4*

ISC 27 04:27:42.8±1.2, 10°.2S±0°.1×161°.1E±0°.1, h67km, n15, σ1.9/84/9, mb3.4/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.36**	**304**	Pn	Pn	04 28 02.7	-3.2
	184nm,0.3s,baz=199,slow=2.0,SNR=22						
HNR				Sn	**Sn**	**04 28 19.2**	**-3.9**
	386nm,0.3s,baz=184,slow=16,SNR=9.9						
HNR				LR	LR	04 28 42.9	
	comp=Z,186nm,19.2s,baz=230,slow=50						
HNR	**Honiara**	**1.36**	**304**	*e*P	**Pn**	**04 28 07.0**	**+1.2**
HNR				*i* S	**Sn**	**04 28 24.0**	**+0.9**
DZM	**Mont Dzumac**	**12.87**	**157**	Pn	**Pn**	**04 30 42.2**	**-0.8**
	1.2nm,0.3s,baz=4.6,slow=9.7,SNR=21						
PMG	**Port Moresby**	**13.75**	**272**	LR	LR	04 35 50.8	
	comp=Z,83nm,20.0s,baz=96,slow=36						
CTA	**Charters Tower**	**17.35**	**234**	P	**Pn**	**04 31 40.2**	**-0.5**
	0.9nm,0.3s,baz=63,slow=14,SNR=7.5						
WRA	**Warramunga Arr**	**27.54**	**246**	P	**P**	**04 33 23.8**	**+0.2**
	0.4nm,0.4s,baz=75,slow=9.3,SNR=8.3						
H11S2	**WAKE ISLAND Hy**	**29.05**	**11**	T	T	05 02 29.4	
	baz=201,slow=74,SNR=4.6						
H11S3	**WAKE ISLAND Hy**	**29.05**	**11**	T	T	05 02 30.7	
	baz=201,slow=74,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**29.06**	**11**	T	T	05 02 31.2	
	baz=201						
ASAR	**Alice Springs**	**29.18**	**239**	P	**P**	**04 33 39.5**	**+1.4**
	0.2nm,0.3s,baz=76,slow=9.1,SNR=2.7						
H11N1	**WAKE ISLAND Hy**	**30.27**	**11**	T	T	05 04 05.3	
	baz=193,slow=76,SNR=6.4						
H11N3	**WAKE ISLAND Hy**	**30.28**	**11**	T	T	05 04 03.6	
	baz=193,slow=76,SNR=5.9						
H11N2	**WAKE ISLAND Hy**	**30.29**	**11**	T	T	05 04 00.8	
	baz=193,slow=76,SNR=9.0						
SONM	**Songino Array**	**75.33**	**325**	P	**P**	**04 39 19.3**	**+0.2**
	0.6nm,0.8s,baz=137,slow=5.6,SNR=4.9						
ILAR	**Eielson Array**	**84.23**	**20**	P	**P**	**04 40 06.6**	**-0.1**
	0.3nm,0.8s,baz=246,slow=5.5,SNR=4.8						

*IDC **27** 04:39:25.6±5.0, 23°.10N×93°.87E, h80km±42km, mb3.3/4, mb1 3.5/5, mb1mx3.1/35, mbtmp3.5/5, ML4.0/1, MS2.5/1, Ms1 2.7/1, ms1mx2.2/33, Error ellipse: s-maj=74.9km s-min=20.0km az=69.0*

ISC 27 04:39:22.6±1.1, 22°.87N±0°.09×93°.4E±0°.1, h53km, n7, σ2.5/25/9, mb3.6/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.98**	**15**	*e*P	**Pn**	**04 39 54.0**	**+0.3**
IMP				*e*S	**Sn**	**04 40 20.0**	**+2.6**
SHL	**Shillong**	**3.01**	**334**	*e*P	**Pn**	**04 40 11.0**	**+3.0**
SHL				*e*S	**Sn**	**04 40 40.5**	**-2.4**
CMAR	**Chiang Mai Arr**	**6.82**	**129**	P	**Pn**	**04 41 00.3**	**+0.3**
	0.8nm,0.3s,baz=311,slow=13,SNR=6.2						
CMAR				LR	LR	04 44 08.5	
	comp=Z,36nm,18.2s,baz=188,slow=43						
MKAR	**Makanchi Array**	**25.49**	**342**	P	**P**	**04 44 45.4**	**-0.4**
	0.5nm,0.8s,baz=162,slow=9.7,SNR=4.8						
SONM	**Songino Array**	**27.01**	**20**	P	**P**	**04 44 57.2**	**-2.4**
	0.3nm,0.4s,baz=203,slow=10,SNR=3.0						
WRA	**Warramunga Arr**	**58.39**	**134**	P	**P**	**04 49 11.5**	**-1.4**
	0.5nm,0.4s,baz=321,slow=7.5,SNR=8.1						
ASAR	**Alice Springs**	**60.76**	**137**	P	**P**	**04 49 28.6**	**-0.6**
	0.5nm,0.4s,baz=321,slow=6.9,SNR=6.0						

*IDC **27** 04:47:24.8±2.5, 9°.94N×86°.60W, h0km, mb3.8/9, mb1 4.1/10, mb1mx3.8/35, mbtmp3.8/10, ML3.7/1, MS3.0/4, Ms1 3.0/4, ms1mx2.6/37, Error ellipse: s-maj=59.0km s-min=18.5km az=13.0*
*ISCJB **27** 04:47:27.2±0.7, 10°.04N±0°.07×86°.77W±0°.03, h17km, mb3.8/9, MS3.0/3, Error ellipse: s-maj=9.8km s-min=3.4km az=17.8*
*CASC **27** 04:47:29.8±2.5, 10°.16N×86°.67W, h18km±13km, MD4.0*

ISC 27 04:47:27.9±0.8, 10°.07N±0°.07×86°.65W±0°.04, h17km, n40, σ1.9/13/49, mb3.8/9, MS3.0/3, 2C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**1.00**	**87**	⇑*e*P	**Pg**	**04 47 48.0**	**+0.5**
VCR				*e*S	**Sn**	**04 48 02.2**	**+1.0**
GBS3	**Finca Las Im¨¡**	**1.37**	**59**	*i* P	**Pb**	**04 47 53.1**	**-0.1**
GBS3				*i* S	**Sg**	**04 48 12.8**	**+0.4**
LAPC	**Finca la Perla**	**1.39**	**60**	*i* P	**Pb**	**04 47 53.2**	**-0.3**
LAPC				*i* S	**Sg**	**04 48 12.4**	**-0.4**
GBS2	**Las Lilas**	**1.40**	**57**	*i* P	**Pb**	**04 47 53.5**	**-0.2**
BUEV	**Buena Vista**	**1.42**	**59**	*i* P	**Pb**	**04 47 53.8**	**-0.3**
GB1A	**Borinquen Arri**	**1.44**	**59**	*i* P	**Pb**	**04 47 54.0**	**-0.4**
GPS2	**Hotel Rinc˜‡n**	**1.45**	**62**	*i* P	**Pb**	**04 47 54.4**	**-0.1**
GPS1	**Guardaparques**	**1.46**	**61**	*i* P	**Pb**	**04 47 54.8**	**0.0**
GPS1				*i* S	**Sg**	**04 48 14.9**	**-0.3**
LIM1	**Limonal**	**1.51**	**65**	*i* P	**Pb**	**04 47 55.3**	**-0.3**
JCR	**Jicaral**	**1.53**	**98**	*e*P	**Pb**	**04 47 55.8**	**-0.2**
JCR				*e*S	**Sb**	**04 48 15.3**	**+0.3**
CUI	**Cuipilapa**	**1.57**	**68**	*i* P	**Pb**	**04 47 56.4**	**-0.3**
MESS	**Mesas**	**1.58**	**65**	*i* P	**Pb**	**04 47 56.2**	**-0.6**
HORNC	**Hornillas**	**1.58**	**66**	*i* P	**Pb**	**04 47 56.4**	**-0.5**
JTS	**JuntasAbangare**	**1.69**	**82**	Pn	**Pn**	**04 47 55.9**	**-0.7**
	10nm,0.3s,baz=320,slow=21,SNR=24						
JTS				Sn	**Sn**	**04 48 17.0**	**-0.9**
	59nm,0.3s,baz=312,slow=18,SNR=15						
CEDE	**Laguna Cede¨–o**	**1.96**	**78**	*i* P	**Pb**	**04 48 03.1**	**-0.2**
COPN	**Copaltepe**	**2.10**	**2**	*e*P	**Pn**	**04 48 02.7**	**+0.3**
CGA2	**Cerro Gallo 2**	**2.15**	**91**	*e*P	**Pb**	**04 48 06.6**	**0.0**
CGA2				*e*S	**Sb**	**04 48 33.3**	**+0.3**
QCR	**Quepos**	**2.53**	**104**	*e*P	**Pb**	**04 48 13.2**	**+0.2**
QCR				*e*S	**Sb**	**04 48 41.1**	**-2.8**
URSC	**Urasca**	**2.84**	**94**	*e*P	**Pb**	**04 48 17.1**	**-1.2**
URSC				*e*S	**Sb**	**04 48 52.0**	**-0.9**
BUS	**Buena Vista**	**2.90**	**100**	*e*P	**Pb**	**04 48 16.4**	**-3.1**
BUS				*e*S	**Sn**	**04 48 50.5**	**+2.1**
CNCH	**Conchagua**	**3.39**	**340**	⇑*e*P	**Pn**	**04 48 20.5**	**+0.2**
CNCH				*e*S	**Sn**	**04 48 57.0**	**-3.2**
BLLM	**Bellamira**	**3.70**	**335**	*e*P	**Pn**	**04 48 25.1**	**+0.6**
VSM	**San Miguel**	**3.70**	**335**	*e*P	**Pn**	**04 48 25.2**	**+0.6**
LFRS	**El Faro**	**4.25**	**326**	*e*P	**Pn**	**04 48 32.1**	**+0.1**
LBRS	**Las Brisas**	**4.33**	**328**	*e*P	**Pn**	**04 48 33.9**	**+0.7**
LFU	**La Fuente**	**4.38**	**327**	*e*P	**Pn**	**04 48 34.1**	**+0.3**
RBDL	**Robledal**	**5.00**	**324**	*e*P	**Pn**	**04 48 43.7**	**+1.3**
TEIG	**Tepich**	**10.22**	**351**	Pn	Pn	04 49 58.3	+4.4
	0.1nm,0.3s,baz=180,slow=20,SNR=1.8						
CMIG	**Matias Romero**	**10.62**	**312**	Pn	**Pn**	**04 49 59.5**	**+0.1**
	0.6nm,0.3s,baz=153,slow=12,SNR=12						
CMIG				Sn	**Sn**	**04 51 55.3**	**-2.7**
	0.1nm,0.3s,baz=209,slow=13,SNR=1.9						
ATAH	**Atahualpa**	**18.96**	**154**	LR	LR	04 57 58.4	
	comp=Z,39nm,19.2s,baz=30,slow=34						
TXAR	**Lajitas Array**	**24.92**	**323**	P	**P**	**04 52 50.8**	**+0.4**
	0.5nm,0.7s,baz=133,slow=9.3,SNR=8.6						
TXAR				LR	LR	05 04 44.9	
	comp=Z,19nm,18.0s,baz=0.0,slow=42						
TKL	**Tuckaleechee C**	**25.61**	**5**	P	**P**	**04 52 57.9**	**+1.4**
	2.1nm,0.7s,baz=185,slow=11,SNR=2.6						
PDAR	**Pinedale Array**	**38.23**	**332**	P	**P**	**04 54 47.4**	**0.0**
	0.5nm,0.7s,baz=113,slow=8.9,SNR=6.7						
NVAR	**Mina Array Bea**	**40.01**	**320**	P	**P**	**04 55 03.5**	**+1.2**
	0.4nm,0.6s,baz=141,slow=5.8,SNR=3.9						
SCHQ	**Schefferville**	**47.34**	**15**	P	**P**	**04 56 01.1**	**+0.4**
	5.2nm,1.0s,baz=247,slow=7.7,SNR=3.5						
SCHQ				LR	LR	05 15 33.0	
	comp=Z,46nm,19.2s,baz=34,slow=36						
YKA	**Yellowknife Ar**	**56.10**	**345**	P	**P**	**04 57 06.0**	**-0.1**
	0.5nm,0.6s,baz=130,slow=8.5,SNR=4.1						
ILAR	**Eielson Array**	**68.50**	**336**	P	**P**	**04 58 30.6**	**+1.4**
	1.6nm,1.0s,baz=117,slow=4.2,SNR=12						
NOA	**NORSAR Array B**	**85.06**	**29**	LR	LR	05 37 48.2	
	comp=Z,5.1nm,18.1s,baz=250,slow=36						
TORD	**Toronti Ar. Bea**	**86.16**	**77**	P	**P**	**05 00 09.2**	**+0.1**
	0.3nm,0.5s,baz=301,slow=4.7,SNR=5.1						
FINES	**FINESS Array B**	**91.75**	**26**	P	**P**	**05 00 32.7**	**-1.8**
	1.4nm,0.8s,baz=307,slow=10,SNR=2.5						

*KLM **27** 04:51:09.7, 6°.88N×124°.36E, h593km, mb4.9, MS5.6*
*BJI **27** 04:51:12.9, 6°.65N×123°.95E, h609km, mb4.9/56, mB4.7/30*
*ISCJB **27** 04:51:14.1±0.2, 6°.79N±0°.02×123°.77E±0°.03, h604km±3km, mb4.5/90, Error ellipse: s-maj=5.1km s-min=3.3km az=174.2*
*NEIC **27** 04:51:14.9±0.3, 6°.81N×123°.78E, h601km±3km, mb4.7/44, Error ellipse: s-maj=5.4km s-min=3.7km az=91.0*
*MOS **27** 04:51:14.3±0.8, 6°.82N×123°.74E, h611km, mb4.4/43, Error ellipse: s-maj=12.2km s-min=6.1km az=103.1*
*MAN **27** 04:51:16, 6°.83N×123°.79E, h572km, mb5.4, ML4.4, MS4.7*
*IDC **27** 04:51:16.2±0.8, 6°.79N×123°.86E, h619km±10km, mb3.8/31, mb1 3.9/33, mb1mx3.7/49, mbtmp4.8/33, Error ellipse: s-maj=10.1km s-min=5.7km az=81.0*
*DJA **27** 04:51:17.6±1.1, 7°N±12°×12°4E±°, h550km±14km, M4.9/4, mb4.8/4, mB5.2/3, MLv5.0/3, Mw(mB)4.5/3*

ISC 27 04:51:14.8±0.4, 6°.78N±0°.03×123°.80E±0°.05, h601km±3km, h602km: pP-P, n259, σ1.5/27/311, mb4.5/89, 14C-16D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.62**	**46**	⇓*i*P	**P**	**04 52 25.3**	**-0.1**
DAV	**Davao City (W)**	**1.79**	**81**	*e*P	**P**	**04 52 27.4**	**-1.0**
DAV				*e*S	S	04 53 35.8	+7.6
TBP	**Tagbilaran**	**2.89**	**1**	*e*P	**P**	**04 52 31.7**	**-1.7**
TBP				*e*S	**S**	**04 53 35.6**	**-1.8**
MYLDM	**Lahad Datu**	**5.50**	**253**	*e*P	**P**	**04 52 53.2**	**+1.4**
KMSI	**Cibinong**	**6.17**	**178**	P	**P**	**04 52 55.6**	**-1.9**
TOLI	**Toli-Toli**	**6.37**	**208**	*e*P	**P**	**04 52 58.8**	**-0.6**
TSM	**Tawau**	**6.39**	**248**	⇓P	**P**	**04 52 59.4**	**-0.1**
MRSI	**Marisa**	**6.53**	**197**	P	**P**	**04 52 58.8**	**-1.9**
SDKM	**Sandakan**	**6.66**	**261**	⇑P	**P**	**04 53 00.8**	**-1.1**
TNTI	**Ternate**	**6.95**	**149**	P	**P**	**04 53 03.4**	**-1.1**
	477nm,0.5s,11μm2.6nm						
TNTI	**Ternate**	**6.95**	**149**	*e*P	**P**	**04 53 04.3**	**-0.2**
TNTI				*e*S	S	04 54 20.0	-14
MPSI	**Mapaga**	**7.49**	**211**	P	**P**	**04 53 08.1**	**-1.4**
KKM	**Kota Kinabalu**	**7.57**	**265**	⇑P	**P**	**04 53 09.8**	**-0.5**
	baz=7.5,SNR=8.5						
KKM	**Kota Kinabalu**	**7.57**	**265**	⇑P	**P**	**04 53 10.5**	**+0.2**
KKM	**Kota Kinabalu**	**7.57**	**265**	*e*P	**P**	**04 53 09.8**	**-0.5**
KKM				*e*S	**S**	**04 54 39.9**

YOJ pmax pmax
comp=Z,19nm,0.5s
YOJ Yonaguni jima 17.59 358 *e*P **P** 04 54 45.5 -1.2
comp=Z,19nm,0.5s
YHNB Yeheng 17.93 353 *e*P **P** 04 54 49.8 -0.1
comp=Z,79nm,0.6s
YHNB *e*S **S** 04 57 47.9 +3.3
JAGI Jajag, Banyuwa 17.95 213 P **P** 04 54 51.8 +1.8
baz=18,SNR=4.5
JAGI Jajag, Banyuwa 17.95 213 *e*P **P** 04 54 50.6 +0.6
comp=Z,32nm,0.6s
QIZ Qiongzhong 18.23 313 P **P** 04 54 52.8 +0.2
QIZ PMZ
comp=Z,25nm,1.8s
QZH Quanzhou 18.73 345⇓*i*P **P** 04 54 58.0 +1.0
QZH PMZ
comp=Z,150nm,0.6s
UGM Wanagama 19.71 222 ⇓P **P** 04 55 07.3 +1.2
baz=20,SNR=5.7
MYKOM Kota Tinggi 20.49 257 *e*P **P** 04 55 13.4 +0.3
KTGM Kuala Trenggan 20.60 267 ⇓P **P** 04 55 14.6 +0.5
CISI Cisompet, Garu 21.38 228 P **P** 04 55 20.3 -0.8
baz=21,SNR=3.3
IPM Ipoh 22.77 265 *e*P **P** 04 55 33.5 0.0
comp=Z,30nm,1.1s
KNRA Kununurra 22.85 168 ⇑P **P** 04 55 34.7 +0.6
baz=23
NAYO Nakonayok 23.31 291 P **P** 04 55 40.5 +2.3
comp=Z,16nm,1.0s,comp=Z,686nm
MNAI Manna 23.57 243 P **P** 04 55 40.4 -0.1
baz=24,SNR=4.4
PBKT Sadao Pong 24.35 296 P **P** 04 55 48.4 +1.0
comp=Z,20nm,0.8s,comp=Z,8μm
PPI Padang Panjang 24.43 254 P **P** 04 55 47.9 -0.3
baz=24,SNR=7.1
FITZ Fitzroy Crossi 24.80 176 ⇓P **P** 04 55 51.3 +0.1
baz=25
PSI Prapat 25.09 262 P **P** 04 55 54.6 +0.4
comp=Z,35nm,0.6s,baz=80,slow=4.9,SNR=19
PSI Prapat 25.09 262 P **P** 04 55 54.6 +0.4
PSI pmax pmax
comp=Z,35nm,0.6s
PSI Prapat 25.09 262 P **P** 04 55 54.8 +0.6
baz=25,SNR=7.0
PSI Prapat 25.09 262 P **P** 04 55 54.6 +0.4
comp=Z,36nm,0.7s
SRDT SRDT 25.38 289 P **P** 04 55 58.2 +1.7
comp=Z,101nm,0.7s,comp=Z,14μm
UTHA Uthaitani 25.41 292 P **P** 04 55 57.7 +1.0
comp=Z,7.3nm,0.7s,comp=Z,71nm
GYA Guiyang 25.48 322 *e*P **P** 04 55 58.8 +1.4
GYA sP **sP** 04 58 39.0 -0.9
GYA PcP **PcP** 04 59 10.3 +2.2
GYA S **S** 04 59 46.5 +2.7
GYA ScP **ScP** 05 01 54.8 +3.3
GYA PcS **PcS** 05 02 50.5 +0.8
GYA ScS **ScS** 05 05 43.3 +1.4
GYA PMZ
comp=Z,10.0nm,0.8s
GYA PMZ
comp=Z,90nm,4.8s
NJ2 Nanjing 25.56 350 *e*P P 04 55 53.0 -4.8
NJ2 pmax pmax
comp=Z,70nm,0.8s
UMPA Umpang Tak 26.14 293 P **P** 04 56 04.4 +1.2
comp=Z,7.3nm,1.0s,comp=Z,929nm
GSI Gunungsitoli 26.70 259 *e*P **P** 04 56 07.1 -1.1
comp=Z,162nm,0.5s
JCJ Chichijima 26.71 39 P **P** 04 56 07.5 -0.6
comp=Z,58nm,0.4s,baz=17,slow=23,SNR=13
JCJ S **S** 04 59 59.0 -3.9
comp=Z,27nm,0.5s,baz=61,slow=23,SNR=11
CBIJ Chichi jima 26.71 39 *e*P **P** 04 56 07.3 -0.8
comp=Z,29nm,0.6s
CBIJ S **S** 04 59 59.0 -3.8
CMAR Chiang Mai Arr 26.84 298 P **P** 04 56 10.4 +1.1
comp=Z,4.9nm,0.6s,baz=113,slow=7.2,SNR=23
CMAR ScP **ScP** 05 01 55.0 -0.6
comp=Z,1.3nm,0.3s,baz=130,slow=2.3,SNR=8.6
CMAR Chiang Mai Arr 26.84 298 P **P** 04 56 10.4 +1.1
CMAR pmax pmax
comp=Z,5.0nm,0.6s
CMAR pmax pmax
comp=N,1.0nm,0.3s
CHTO Chiang Mai 26.98 299 P **P** 04 56 11.3 +0.8
comp=N,67nm,0.7s
CHTO Chiang Mai 26.98 299 *e*P **P** 04 56 11.0 +0.5
CHTO pmax pmax
comp=Z,10.0nm,0.5s
CHTO Chiang Mai 26.98 299 *e*P **P** 04 56 11.0 +0.5
comp=Z,10.0nm,0.5s
JNU Nakatsue 27.02 13 P **P** 04 56 10.2 -0.5
comp=Z,16nm,0.8s,baz=186,slow=3.5,SNR=9.6
KMI Kunming 27.17 314 P **P** 04 56 14.0 +1.6
KMI sP **sP** 04 58 55.8 -1.1
KMI S **S** 05 00 13.3 +2.8
KMI PMZ
comp=Z,10.0nm,1.1s
KMI PMZ
comp=Z,49nm,4.4s
MHMT Maesarieng 27.63 297 P **P** 04 56 17.3 +1.1
comp=Z,18nm,0.7s
MBWA Marble Bar 28.05 188 *e*P **P** 04 56 19.5 -0.3
comp=Z,34nm,0.6s
WB0 Warramunga Arr 28.37 159 ⇑P **P** 04 56 22.6 -0.1
baz=28
WRAB Tennant Creek 28.51 159 *e*P **P** 04 56 24.1 +0.3
WRAB pmax pmax
comp=Z,12nm,0.4s
WRAB Tennant Creek 28.51 159 *e*P **P** 04 56 24.1 +0.3
comp=Z,12nm,0.4s
WRA Warramunga Arr 28.51 159 P **P** 04 56 23.9 +0.1
comp=Z,7.2nm,0.4s,baz=341,slow=9.2,SNR=115
WRA PcP **PcP** 04 59 15.2 -0.4
comp=Z,2.3nm,0.6s,baz=325,slow=2.6,SNR=5.9
WRA S **S** 05 00 27.7 -3.3
comp=Z,10nm,0.9s,baz=334,slow=16,SNR=12
WRA ScP **ScP** 05 01 59.7 -1.1
comp=Z,13nm,0.6s,baz=341,slow=3.3,SNR=32
WRA Warramunga Arr 28.51 159 P **P** 04 56 23.9 +0.1
WRA 04 59 15.2
WRA S **S** 05 00 27.7 -3.3
WRA pmax pmax
comp=Z,7.0nm,0.4s
WRA pmax pmax
comp=Z,2.0nm,0.6s
WRA smax smax
comp=N,10.0nm,0.9s
WRA pmax pmax
comp=N,13nm,0.6s
KSBON Boeun 29.80 7 P **P** 04 56 35.9 +1.2
SNR=16
TIA Tai'an 29.92 349 ⇑P **P** 04 56 36.3 +0.6
TIA PMZ
comp=N,40nm,0.8s
KSCHJ Chungju 30.19 7 P **P** 04 56 38.8 +0.7
SNR=8.3
XAN Xi'an 30.41 335 P **P** 04 56 40.3 +0.2
XAN PMZ
comp=N,37nm,0.6s
XAN PMZ
comp=N,33nm,3.6s
CD2 Chengdu 30.47 324 P **P** 04 56 40.3 -0.3
CD2 PcP **PcP** 04 59 19.5 -1.1
CD2 S **S** 05 01 01.5 +0.5
CD2 PcS **PcS** 05 03 04.5 -0.9
CD2 SS **SS** 05 04 11.5 +1.5
CD2 PMZ
comp=N,20nm,0.5s
CD2 PMZ
comp=N,140nm,5.2s
GIRL Giralia 30.71 197 P **P** 04 56 43.8 +1.2
baz=31,SNR=18
KSAR Wonju Array Be 30.74 6 P **P** 04 56 43.7 +1.0
KSAR Wonju Array Be 30.74 6 P **P** 04 56 43.7 +1.0
KSRS Korea Array 30.76 6 P **P** 04 56 43.7 +0.8
comp=N,5.6nm,0.4s,baz=187,slow=10,SNR=30
KSRS Korea Array 30.76 6 P **P** 04 56 43.7 +0.8
KSRS pmax pmax
comp=Z,6.0nm,0.4s
KSCHC Chuncheon 31.07 6 P **P** 04 56 47.2 +1.7
SNR=7.3
KSDGY Daegwallycong 31.08 8 P **P** 04 56 47.4 +1.6
SNR=7.3
YNCB YEONCHEON 31.24 5 P **P** 04 56 49.5 +2.5
SNR=6.8

KSJMJ Jumunjin 31.28 8 P **P** 04 56 49.0 +1.6
SNR=10
KSIJA INJE 31.31 7 P **P** 04 56 49.7 +2.2
SNR=6.1
KSCWO Cheorwon 31.34 6 P **P** 04 56 49.5 +1.6
SNR=6.3
KSSKC Sokcho 31.66 7 P **P** 04 56 52.4 +1.9
SNR=7.8
ASAR Alice Springs 31.84 162 P **P** 04 56 53.1 +0.9
comp=Z,16nm,0.3s,baz=339,slow=7.5,SNR=338
ASAR PcP **PcP** 04 59 24.6 +0.2
comp=Z,2.7nm,0.4s,baz=345,slow=3.1,SNR=11
ASAR S **S** 05 01 20.9 -1.0
comp=Z,14nm,0.7s,baz=351,slow=24,SNR=31
ASAR ScP **ScP** 05 02 10.5 -1.2
comp=Z,5.7nm,0.7s,baz=347,slow=2.8,SNR=9.6
ASAR Alice Springs 31.84 162 P **P** 04 56 53.2 +0.9
ASAR 04 59 24.7
ASAR S **S** 05 01 20.9 -1.0
ASAR pmax pmax
comp=Z,16nm,0.3s
ASAR pmax pmax
comp=Z,3.0nm,0.4s
ASAR smax smax
comp=N,14nm,0.7s
ASAR pmax pmax
comp=N,6.0nm,0.7s
WRKA Warakurna 31.93 172 P **P** 04 56 53.9 +0.8
baz=32,SNR=16
DL2 Dalian 32.04 357 P **P** 04 56 54.3 +0.6
DL2 PMZ
comp=N,110nm,0.7s
MAJO Matsushiro 32.42 22*c i*P **P** 04 56 55.9 -1.1
MAJO pmax pmax
comp=Z,284nm,1.2s
MAJO Matsushiro 32.42 22 *e*P **P** 04 56 56.1 -1.0
comp=Z,32nm,0.9s
MAT Matsushiro 32.42 22 P **P** 04 56 56.2 -0.8
MAT S **S** 05 01 31.8 +1.4
MJAR Matsushiro Arr 32.42 22 P **P** 04 56 56.6 -0.4
comp=Z,24nm,0.8s,baz=197,slow=10.0,SNR=51
MJAR ScP **ScP** 05 02 12.4 -1.1
comp=Z,1.6nm,0.4s,baz=205,slow=5.9,SNR=7.6
MJAR Matsushiro Arr 32.42 22 P **P** 04 56 56.6 -0.4
MJAR pmax pmax
comp=Z,24nm,0.8s
MJAR pmax pmax
comp=N,2.0nm,0.4s
MEEK Meekatharra 33.60 188 P **P** 04 57 07.2 +0.1
baz=34,SNR=10
BJI Beijing 33.81 349 P **P** 04 57 09.0 +0.4
BJI PMZ
comp=N,45nm,0.9s
LZH Lanzhou 34.42 331 ⇓P **P** 04 57 15.8 +1.8
LZH pP **PP** 04 58 56.0 -1.5
LZH sP **sP** 05 00 03.0 +1.5
LZH PMZ
comp=N,56nm,1.3s
LZH PMZ
comp=N,150nm,4.0s
HHC Hu-ho-hao-te 35.64 344 *e*P **P** 04 57 24.8 +0.9
HHC pP **pP** 04 59 01.5 -1.7
HHC sP sP 05 00 18.3 +6.2
HHC S **S** 05 02 18.8 -0.1
HHC sS **sS** 05 05 19.3 -3.2
HHC SS **SS** 05 05 31.5 -4.4
HHC PMZ
comp=N,27nm,0.8s
HHC PMZ
comp=N,110nm,5.2s
MSHR Mys Shultsa 36.24 9 *e*P **P** 04 57 29.6 +0.9
MORW Morawa 36.42 191 P **P** 04 57 30.6 +0.3
baz=36,SNR=28
VLA Vladivostok 36.88 10⇑*e*P **P** 04 57 33.9 0.0
VLA pmax pmax
comp=Z,26nm,0.6s
CN2 Changchun 36.90 2 *e*P **P** 04 57 33.5 -0.6
CN2 PMZ
comp=Z,10.0nm,0.5s
FORT Forrest 37.57 174 P **P** 04 57 40.4 +0.7
baz=38,SNR=21
FORT Forrest 37.57 174 *e*P **P** 04 57 40.2 +0.5
comp=Z,66nm,0.5s
BLDU Ballidu 37.80 190 P **P** 04 57 41.4 -0.2
baz=38,SNR=7.8
USRK Ussuriysk Ar. 37.95 10 P **P** 04 57 43.2 +0.6
comp=Z,15nm,0.5s,baz=200,slow=7.7,SNR=37
KMBL Kambalda 37.98 183 P **P** 04 57 43.5 +0.5
baz=38,SNR=63
MDJ Mudanjiang 38.02 7 P **P** 04 57 44.0 +0.8
MDJ PMZ
comp=Z,32nm,0.7s
MDJ PMZ
comp=Z,23nm,3.7s
MDJ Mudanjiang 38.02 7 *e*P **P** 04 57 42.9 -0.3
comp=Z,18nm,0.6s
LSA Lhasa 38.24 311 *e*P **P** 04 57 47.0 +1.2
LSA pmax pmax
comp=Z,7.0nm,0.6s
LSA Lhasa 38.24 311 *e*P **P** 04 57 47.0 +1.2
comp=Z,6.9nm,0.6s
GTA Gaotai 39.00 330 ⇑P **P** 04 57 52.3 +1.0
GTA pP **pP** 04 59 35.5 +2.6
GTA PcP **PcP** 04 59 47.0 +1.1
GTA sP **sP** 05 00 41.8 +0.6
GTA ScP **ScP** 05 02 37.8 -0.2
GTA S **S** 05 03 10.5 +2.0
GTA sS **sS** 05 06 14.8 -0.4
GTA SS **SS** 05 06 25.8 -5.5
GTA PMZ
comp=Z,21nm,1.1s
GTA PMZ
comp=Z,53nm,5.5s
ERM Erimo 39.06 23*d i*P **P** 04 57 52.6 +1.0
ERM pmax pmax
comp=Z,18nm,0.9s
ERM Erimo 39.06 23 *e*P **P** 04 57 52.5 +0.9
comp=Z,18nm,0.7s
NWAO Narrogin (SRO) 39.98 189 P **P** 04 57 59.6 +0.5
comp=Z,26nm,0.4s,baz=329,slow=4.4,SNR=38
NWAO Narrogin (SRO) 39.98 189 P **P** 04 57 59.6 +0.5
NWAO pmax pmax
comp=Z,26nm,0.4s
NWAO Narrogin (SRO) 39.98 189 ⇓P **P** 04 57 59.4 +0.4
baz=40
NWAO ⇓P **P** 04 57 59.4 +0.4
baz=40
ASAJ Asahikawa 40.67 21 *e*P **P** 04 58 05.0 +0.7
comp=Z,17nm,0.8s
BBOO Buckleboo 41.07 164 P **P** 04 58 08.6 +0.9
baz=41,SNR=61
BBOO Buckleboo 41.07 164 *e*P **P** 04 58 08.6 +0.9
comp=Z,22nm,0.6s
RKGY Rocky Gully 41.67 188 P **P** 04 58 13.6 +1.2
baz=42,SNR=30
STKA Stephens Creek 42.03 157 P **P** 04 58 16.4 +1.1
comp=Z,11nm,0.5s,baz=336,slow=7.5,SNR=41
STKA Stephens Creek 42.03 157 P **P** 04 58 16.4 +1.1
STKA pmax pmax
comp=Z,11nm,0.5s
STKA Stephens Creek 42.03 157 ⇑P **P** 04 58 16.0 +0.7
baz=42
STKA Stephens Creek 42.03 157 *e*P **P** 04 58 16.4 +1.1
comp=Z,21nm,0.6s
HIA Hailar 42.48 356 *e*P **P** 04 58 19.0 +0.5
HIA pmax pmax
comp=Z,10.0nm,0.5s
HIA Hailar 42.48 356 *e*P **P** 04 58 19.0 +0.5
comp=Z,9.9nm,0.5s
HTT Hallett 42.49 161 P **P** 04 58 20.2 +1.2
baz=43,SNR=6.9
KLR Kul'dur 42.83 8 *e*P P 04 58 17.7 -3.5
YSS Yuzh-Sakhalins 43.21 19 *e*P **P** 04 58 23.6 -0.6
YSS pmax pmax
comp=Z,22nm,1.0s
ULN Ulaanbaatar 43.35 344 *e*P **P** 04 58 26.1 +0.6
ULN pmax pmax
comp=Z,32nm,1.2s
ULN Ulaanbaatar 43.35 344 *e*P **P** 04 58 26.1 +0.6
comp=Z,32nm,1.2s
CMSA Cobar Meteorol 43.47 152 P **P** 04 58 28.3 +1.8
baz=44,SNR=8.6
SONM Songino Array 43.52 343 P **P** 04 58 27.3 +0.6
comp=Z,13nm,0.8s,baz=159,slow=8.9,SNR=56
SONM ScP **ScP** 05 02 52.8 -3.1
comp=Z,1.3nm,0.6s,baz=148,slow=3.3,SNR=6.2

SONM Songino Array 43.52 343 P **P** 04 58 27.3 +0.6
SONM pmax pmax
comp=Z,13nm,0.8s
SONM pmax pmax
comp=N,1.0nm,0.6s
ARPS Mount Arapiles 46.51 160 P **P** 04 58 50.4 +0.9
baz=47,SNR=6.8
ZAK Zakamensk 46.72 342 *e*P **P** 04 58 51.0 0.0
ZAK pmax pmax
comp=Z,3.0nm,1.1s
TLY Talaya 47.76 343 P **P** 04 59 00.0 +1.4
comp=Z,12nm,0.7s,baz=168,slow=3.4,SNR=16
TLY Talaya 47.76 343 *i* P **P** 04 58 59.4 +0.7
TLY pmax pmax
comp=Z,13nm,0.7s
TLY Talaya 47.76 343 *e*P **P** 04 58 59.5 +0.8
comp=Z,14nm,0.7s
CNB Canberra Magne 48.31 152 ⇓P **P** 04 59 04.7 +1.6
baz=48
TOO Toolangi 48.55 157 P **P** 04 59 06.8 +2.0
baz=49,SNR=5.2
WMQ Urumqi 48.56 325 P **P** 04 59 05.8 +0.9
WMQ PMZ
comp=Z,27nm,0.7s
WMQ PMZ
comp=Z,110nm,4.6s
BOD Bodaibo 51.48 353 *e*P **P** 04 59 26.3 +0.6
BOD pmax pmax
comp=Z,16nm,0.7s
MK31 Makanchi Array 53.40 325 *e*P **P** 04 59 40.1 +0.4
MK31 pmax pmax
comp=Z,11nm,0.3s
MKAR Makanchi Array 53.40 325 P **P** 04 59 40.4 +0.7
comp=Z,23nm,0.4s,baz=120,slow=7.9,SNR=104
MKAR ScP **ScP** 05 03 34.7 -3.2
comp=Z,1.6nm,0.8s,baz=127,slow=5.3,SNR=4.6
MKAR Makanchi Array 53.40 325 P **P** 04 59 40.4 +0.7
MKAR pmax pmax
comp=Z,23nm,0.4s
MKAR pmax pmax
comp=N,2.0nm,0.8s
PETK Petropavlovsk- 53.80 25 P **P** 04 59 43.5 +1.1
comp=N,19nm,0.6s,baz=197,slow=4.1,SNR=32
PETK Petropavlovsk- 53.80 25 P **P** 04 59 43.5 +1.1
PETK pmax pmax
comp=Z,19nm,0.6s
KSH Kashi 53.83 315 P **P** 04 59 45.0 +2.0
KSH PMZ
comp=Z,240nm,5.9s
YAK Yakutsk 55.30 3 *e*P **P** 04 59 51.1 -1.5
YAK pmax pmax
comp=Z,41nm,0.9s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK Yakutsk 55.30 3 *e*P **P** 04 59 52.9 +0.3
comp=E,49nm,0.6s
TKM2 Tokmak 2 55.54 318 *e*P **P** 04 59 55.5 +0.6
TKM2 pmax pmax
comp=Z,4.0nm,0.3s
TKM2 Tokmak 2 55.54 318 *e*P **P** 04 59 55.5 +0.6
comp=Z,3.7nm,0.3s
SFK Sufi-Kurgan 55.78 314 P **P** 04 59 57.6 +0.9
SFK pmax pmax
comp=Z,4.0nm,0.4s
MA2 Magadan 56.53 16 *i* P **P** 05 00 02.1 +1.0
ZALV Zalesovo Beam 56.56 334 P **P** 05 00 00.9 -0.5
comp=Z,6.4nm,0.5s,baz=129,slow=6.6,SNR=9.4
ZALV Zalesovo Beam 56.56 334 P **P** 05 00 00.9 -0.5
ZALV pmax pmax
comp=Z,6.0nm,0.5s
KURBB Kurchatov Arra 57.61 328 P **P** 05 00 09.0 +0.3
comp=Z,17nm,0.5s,baz=127,slow=7.2,SNR=29
KURK Kurchatov 57.61 328 P **P** 05 00 09.0 +0.3
KURK pmax pmax
comp=Z,17nm,0.5s
KURK Kurchatov 57.61 328 P **P** 05 00 09.0 +0.3
NVS Novosibirsk 57.85 334 *e*P **P** 05 00 08.2 -2.0
NVS *e*S **S** 05 07 23.3 -1.5
NVS pmax pmax
comp=N,6.0nm,0.7s
NVS pmax pmax
comp=Z,10.0nm,0.7s
NVS pmax pmax
comp=E,4.0nm,0.5s
NVS smax smax
comp=E,14nm,1.1s
KK31 Karatay Array 59.02 317 *i* P **P** 05 00 18.4 +0.1
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 59.02 317 *e*P **P** 05 00 18.8 +0.5
KKAR pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 59.02 317 *e*P **P** 05 00 18.8 +0.5
comp=Z,2.8nm,0.7s
SEY Seymchan 59.78 15 P **P** 05 00 23.6 +0.7
comp=Z,5.0nm,0.5s,baz=239,slow=4.8,SNR=20
SEY Seymchan 59.78 15*c e*P **P** 05 00 24.2 +1.3
BVA0 Borovoye Array 63.18 327 *i* P **P** 05 00 44.3 -1.0
BVA0 pmax pmax
comp=Z,9.0nm,1.0s
BVAR Borovoye Array 63.18 327 P **P** 05 00 45.3 0.0
comp=Z,3.2nm,0.4s,baz=134,slow=8.5,SNR=18
BVAR Borovoye Array 63.18 327 P **P** 05 00 45.3 0.0
BVAR pmax pmax
comp=Z,3.0nm,0.4s
BRVK Borovoye 63.26 327 *e*P **P** 05 00 45.9 +0.2
BRVK pmax pmax
comp=Z,13nm,0.9s
BRVK Borovoye 63.26 327 *e*P **P** 05 00 45.9 +0.2
comp=Z,13nm,0.9s
AMKA Amchitka 63.65 35 *e*P **P** 05 00 48.7 +0.5
comp=Z,40nm,0.8s
GSTR Great Sitkin T 66.59 36 *e*P **P** 05 01 07.3 +0.6
comp=Z,18nm,0.7s
BILL Bilibino 67.40 16⇓*e*P **P** 05 01 11.7 +0.4
BILL *e**PP **pP** 05 03 14.8 +3.5
BILL *e* 05 03 47.6
BILL *e*S **S** 05 09 22.0 +1.6
BILL pmax pmax
comp=Z,15nm,1.6s
AB31 Akbulak array 67.95 321 P **P** 05 01 13.2 -1.8
AB31 pmax pmax
comp=Z,2.0nm,0.3s
ABKAR Akbulak array 67.95 321 *e*P **P** 05 01 14.8 -0.1
comp=Z,4.8nm,0.6s
AKTO Aktyubinsk 69.47 321 P **P** 05 01 24.1 +0.1
comp=Z,3.4nm,0.4s,baz=95,slow=9.7,SNR=9.8
AKTO Aktyubinsk 69.47 321 P **P** 05 01 24.2 +0.1
AKTO pmax pmax
comp=Z,3.0nm,0.4s
ARU Arti 70.81 328 P **P** 05 01 31.1 -0.7
baz=82,slow=7.1
ARU Arti 70.81 328*d i*P **P** 05 01 31.4 -0.5
ARU S **S** 05 10 00.5 +0.7
ARU pmax pmax
comp=Z,5.0nm,0.6s
ARU Arti 70.81 328 *e*P **P** 05 01 31.2 -0.6
comp=Z,5.9nm,0.6s
TNA Tin City 74.95 24 *e*P **P** 05 01 56.0 +0.7
SDPT Sand Point 76.34 35 *e*P **P** 05 02 02.9 -0.3
comp=Z,19nm,0.6s
RAYN Ar Rayn 76.61 292 *e*P **P** 05 02 05.2 -0.3
comp=Z,6.0nm,0.9s
PRGR Permogore 78.44 332 P **P** 05 02 12.9 -1.5
PRGR pmax pmax
comp=Z,8.0nm,0.4s
IM04 Indian Mountai 80.75 24 *e*P **P** 05 02 27.2 +0.8
KDAK Kodiak Island 80.90 33 *e*P **P** 05 02 28.2 +0.9
KDAK pmax pmax
comp=Z,19nm,0.7s
KDAK Kodiak Island 80.90 33 *e*P **P** 05 02 28.2 +0.9
comp=Z,19nm,0.7s
PPLA Purkeypile 81.27 27 *e*P **P** 05 02 30.1 +0.7
comp=Z,8.0nm,0.6s
BPAW Bear Paw Mtn. 81.85 26 *e*P **P** 05 02 33.0 +0.9
comp=Z,4.2nm,0.7s
TRF Thorofare Moun 82.15 27 *e*P **P** 05 02 34.0 +0.2
comp=Z,13nm,0.8s
COLD Coldfoot 82.24 23 *e*P **P** 05 02 35.2 +1.3
comp=Z,15nm,1.0s
RC01 Rabbit Creek A 82.40 29 *e*P **P** 05 02 34.3 -0.6
comp=Z,9.9nm,0.5s
ANN Anapa 82.69 314 *e*P **P** 05 02 36.6 -0.1
ANN pmax pmax

	comp=Z,10.0nm,0.7s							
MCK	**McKinley**	**82.75**	**27**	*e*P		**P**	**05 02 37.1**	**+0.4**
MCK				pmax		pmax		
	comp=Z,27nm,0.7s							
MCK	**McKinley**	**82.75**	**27**	*e*P		**P**	**05 02 37.1**	**+0.4**
	comp=Z,27nm,0.7s							
OBN	**Obninsk**	**82.90**	**325**⇓	*e*P		**P**	**05 02 37.3**	**-0.2**
OBN				*e**PP		**pP**	**05 04 45.0**	**+0.4**
OBN				*e*			05 05 50.2	
OBN				*e*S	S		05 11 57.5	-10
OBN				pmax	pmax			
	comp=Z,10.0nm,0.5s							
SML	**Sawmill**	**83.06**	**29**	*e*P		**P**	**05 02 38.3**	**0.0**
SML				pmax	pmax			
	comp=Z,1.0nm,0.7s							
SML	**Sawmill**	**83.06**	**29**	*e*P		**P**	**05 02 38.3**	**0.0**
	comp=Z,1.4nm,0.7s							
COLA	**College**	**83.21**	**25**⇑	*e*P		**P**	**05 02 40.4**	**+1.6**
COLA				pmax	pmax			
	comp=Z,12nm,0.6s							
ILAR	**Eielson Array**	**83.62**	**26**	P		**P**	**05 02 40.0**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=243,slow=4.7,SNR=36							
ILAR	**Eielson Array**	**83.62**	**26**	P		**P**	**05 02 40.0**	**-0.9**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MAW	**Mawson**	**85.61**	**200**	P		**P**	**05 02 50.2**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=49,slow=5.7,SNR=4.8							
MAW	**Mawson**	**85.61**	**200**	P		**P**	**05 02 50.2**	**-0.2**
MAW				pmax	pmax			
	comp=Z,2.0nm,0.5s							
BRTR	**Keskin Array B**	**85.84**	**309**	P		**P**	**05 02 51.3**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=140,slow=5.4,SNR=3.4							
BRTR	**Keskin Array B**	**85.84**	**309**	P		**P**	**05 02 51.3**	**-1.1**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
EGAK	**Eagle**	**86.07**	**25**	*e*P		**P**	**05 02 53.0**	**+0.2**
	comp=Z,5.1nm,1.2s							
ARCES	**ARCESS Array B**	**86.59**	**340**	P		**P**	**05 02 54.2**	**-0.9**
	comp=Z,3.0nm,0.7s,baz=81,slow=6.1,SNR=15							
ARCES	**ARCESS Array B**	**86.59**	**340**	P		**P**	**05 02 54.3**	**-0.9**
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.7s							
ARE0	**ARCESS Array S**	**86.59**	**340**	*e*P		**P**	**05 02 54.6**	**-0.6**
KMBO	**Kilima Mbogo**	**86.70**	**268**	P		**P**	**05 02 56.5**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=37,slow=11,SNR=7.8							
KMBO	**Kilima Mbogo**	**86.70**	**268**	P		**P**	**05 02 56.6**	**-0.5**
KMBO				pmax	pmax			
	comp=Z,2.0nm,0.6s							
VNDA	**Vanda**	**86.81**	**172**	P		**P**	**05 02 56.3**	**+0.3**
	comp=Z,3.8nm,0.5s,baz=321,slow=6.7,SNR=28							
VNDA	**Vanda**	**86.81**	**172**	P		**P**	**05 02 56.3**	**+0.3**
VNDA				pmax	pmax			
	comp=Z,4.0nm,0.5s							
DAWY	**Dawson**	**86.93**	**26**	*e*P		**P**	**05 02 57.2**	**+0.3**
	comp=Z,2.0nm,0.8s							
SPITS	**Spitsbergen Ar**	**86.93**	**349**	P		**P**	**05 02 55.7**	**-0.9**
	comp=Z,3.4nm,0.5s,baz=88,slow=8.4,SNR=10							
SPITS	**Spitsbergen Ar**	**86.93**	**349**	P		**P**	**05 02 55.7**	**-0.9**
SPITS				pmax	pmax			
	comp=Z,3.0nm,0.5s							
FINES	**FINESS Array B**	**87.78**	**332**	P		**P**	**05 02 59.5**	**-1.3**
	comp=Z,2.1nm,0.6s,baz=73,slow=3.6,SNR=15							
FINES	**FINESS Array B**	**87.78**	**332**	P		**P**	**05 02 59.5**	**-1.3**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.6s							
INK	**Inuvik**	**88.40**	**21**	*e*P		**P**	**05 03 03.5**	**-0.1**
INK				pmax	pmax			
	comp=Z,3.0nm,0.9s							
INK	**Inuvik**	**88.40**	**21**	*e*P		**P**	**05 03 03.5**	**-0.1**
	comp=Z,2.6nm,0.9s							
HFS	**Hagfors**	**93.97**	**332**	P		**P**	**05 03 28.0**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=108,slow=3.4,SNR=8.4							
HFS	**Hagfors**	**93.97**	**332**	P		**P**	**05 03 28.0**	**-1.4**
HFS				pmax	pmax			
	comp=Z,1.0nm,0.5s							
NB2	**NORSAR Subarra**	**94.77**	**333**	P		**P**	**05 03 31.5**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=66,slow=4.8							
NOA	**NORSAR Array B**	**94.77**	**333**	P		**P**	**05 03 31.6**	**-1.4**
	comp=Z,1.0nm,0.7s,baz=65,slow=4.6,SNR=5.4							
NOA	**NORSAR Array B**	**94.77**	**333**	P		**P**	**05 03 31.7**	**-1.4**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
QSPA	**South Pole Qui**	**96.67**	**180**	P		**P**	**05 03 40.4**	**-1.1**
	baz=254,slow=1.1							
YKA	**Yellowknife Ar**	**97.91**	**24**	P		Pdif	05 03 46.6	-0.4
	comp=Z,0.4nm,0.6s,baz=336,slow=20,SNR=4.1							
SCHQ	**Schefferville**	**117.97**	**7**	PKP		**PKPdf**	**05 08 53.9**	**-0.3**
	comp=Z,2.6nm,0.9s,baz=72,slow=6.4,SNR=3.4							
TORD	**Torodi Ar. Bea**	**119.18**	**289**	PKP		**PKPdf**	**05 08 56.8**	**-0.9**
	comp=Z,1.5nm,1.1s,baz=40,slow=2.2,SNR=9.4							
USHA	**Ushuaia**	**131.09**	**171**	SKPab		**SKPbc**	**05 11 47.5**	**-1.3**
	comp=Z,4.2nm,0.5s,baz=229,slow=13,SNR=7.0							
JTS	**JuntasAbangare**	**146.72**	**60**	PKPbc		**PKPbc**	**05 09 51.6**	**+0.1**
	comp=Z,3.1nm,0.3s,baz=210,slow=7.2,SNR=4.3							
JTS	**JuntasAbangare**	**146.72**	**60**	PKP2		**PKPbc**	**05 09 51.6**	**+0.1**
JTS				pmax	pmax			
	comp=Z,3.0nm,0.3s							
CFAA	**Coronel Fontan**	**152.87**	**157**	PKPbc		**PKPbc**	**05 10 05.8**	**+0.2**
	baz=197,slow=1.7							
PTGA	**Pitinga**	**172.91**	**32**	PKPab		**PKPab**	**05 11 47.7**	**-0.2**
	comp=Z,3.6nm,0.7s,baz=331,slow=8.4,SNR=7.2							

IDC ***27*** *05:02:33.8±10.0, 48.˚48N×154.˚12E, h0km, mb3.4/3, mb1 3.9/4, mb1mx3.4/44, mbtmp3.5/4, ML2.6/1, MS3.6/1, Mst1 3.6/1, ms1mx2.3/33, Error ellipse: s-maj=253.9km s-min=69.6km az=90.0*

KRSC ***27*** *05:02:58.6±2.1, 49.˚90N×155.˚91E, h159km±22km, ML4.0*

ISC 27 05:02:53.7±2.4, 49.˚1N±0.˚1×156.˚9E±0.˚1, h35km, n25, σ1ş92/25, mb3.6/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.69**	**342**	*e*P	**Pn**	**05 03 22.0**	**+1.4**
SKR				*e*S	**Sn**	**05 03 41.4**	**+0.5**
PAU	**Pauzhetka**	**2.39**	**358**	*e*P	**Pn**	**05 03 31.4**	**+1.2**
PAU				*e*S	**Sn**	**05 03 57.7**	**-0.5**
MIPR	**Malaya Ipel'ka**	**3.20**	**358**	*e*P	**Pn**	**05 03 39.5**	**-1.9**
MIPR				*e*S	Sn	05 04 10.5	-7.7
ASAK	**Asacha**	**3.36**	**10**	*e*P	**Pn**	**05 03 45.5**	**+1.8**
MTVR	**Mutnovka**	**3.49**	**13**	*e*S	**Sn**	**05 04 24.8**	**-0.9**
RUS	**Russkaya**	**3.50**	**16**	*e*P	**Pn**	**05 03 48.0**	**+2.5**
RUS				*e*S	**Sn**	**05 04 25.3**	**-0.3**
PETK	**Petropavlovsk-**	**4.06**	**6**	Pn	**Pn**	**05 03 52.4**	**-0.8**
	1.1nm,0.3s,baz=204,slow=15,SNR=11						
UGLR	**Uglovaya**	**4.30**	**15**	*e*P	**Pn**	**05 03 59.3**	**+2.7**
AVH	**Avacha**	**4.33**	**14**	*e*P	**Pn**	**05 04 00.1**	**+3.0**
SMAR	**Somma**	**4.34**	**15**	*e*P	**Pn**	**05 04 00.0**	**+2.7**
KOK	**Koryaka**	**4.34**	**14**	*e*P	**Pn**	**05 03 59.5**	**+2.3**
SDLR	**Sedlovina**	**4.37**	**15**	*e*P	**Pn**	**05 03 59.8**	**+2.2**
KRER	**Koryakskii**	**4.37**	**14**	*e*P	**Pn**	**05 04 00.4**	**+2.7**
KRX	**Arik**	**4.41**	**13**	*e*P	**Pn**	**05 04 00.1**	**+1.9**
SPN	**Mys Shipunski**	**4.46**	**25**	*e*P	Pn	05 04 02.3	+3.6
SPN				*e*S	**Sn**	**05 04 49.7**	**+0.3**
GNL	**Ganaly**	**4.66**	**7**	*e*P	**Pn**	**05 04 00.4**	**-1.2**
MKZ	**Mys Kozlova**	**6.23**	**27**	*e*P	**Pn**	**05 04 24.7**	**+1.7**
KZV	**Kizimen**	**6.38**	**18**	*e*P	**Pn**	**05 04 26.9**	**+1.7**
TUMR	**Tumrok**	**6.51**	**16**	*e*P	**Pn**	**05 04 27.5**	**+0.5**
KBTR	**Krutoberegovo**	**7.98**	**24**	*e*P	**Pn**	**05 04 46.4**	**-0.5**
BKI	**Bering**	**8.27**	**39**	*e*P	Pn	05 04 55.6	+4.7
BKI				*e*S	**Sn**	**05 06 19.8**	**-3.1**
BVAR	**Borovoye Array**	**51.36**	**309**	LR	LR	05 33 17.6	
	comp=Z,51nm,18.1s,baz=251,slow=37						
NVAR	**Mina Array Bea**	**59.09**	**66**	P	**P**	**05 12 49.8**	**-0.8**
	0.2nm,0.4s,baz=298,slow=8.1,SNR=2.7						
PDAR	**Pinedale Array**	**61.30**	**57**	P	P	05 13 02.8	-2.9
	0.4nm,0.8s,baz=346,slow=5.0,SNR=4.1						
TXAR	**Lajitas Array**	**74.12**	**64**	P	P	05 14 23.4	-3.1
	0.2nm,0.6s,baz=289,slow=3.0,SNR=4.5						

TRN 27 05:14:46.0, 16.˚34N×61.˚83W, h24km, MD3.6, M3.2(FDF), 8C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZG	**Guadaloupe-1**	**0.20**	**165**⇑	*i*P	Pn	05 14 53.1	-0.4
SSG	**Sans Toucher**	**0.28**	**150**⇑	*e*P	Pn	05 14 54.5	-0.4
MLG	**Mont-d'or**	**0.30**	**157**⇑	*i*P	Pn	05 14 54.8	-0.2
MLG				*e*S	Sn	05 15 00.0	-0.6
SEG	**Port Louis**	**0.32**	**78**⇓	*i*P	Pn	05 14 55.2	+0.1
SCG	**Saint Claude**	**0.34**	**155**⇑	*i*P	Pn	05 14 55.3	-0.2
DOG	**Dongo Capester**	**0.36**	**146**⇑	*i*P	Pn	05 14 55.9	+0.1
PHG	**Guadaloupe-2**	**0.37**	**151**⇑	*i*P	Pn	05 14 56.0	0.0
HMG	**Houelmont**	**0.37**	**161**⇑	*i*P	Pn	05 14 55.8	-0.2
HMG				*e*S	Sn	05 15 02.2	-0.3
TBG	**Guadaloupe-3**	**0.51**	**160**⇑	*i*P	Pn	05 14 57.8	0.0
TBG	**Guadaloupe-3**	**0.51**	**160**	*e*	Pn	05 15 05.9	+8.1
TBG				*e*S	Sn	05 15 07.7	+1.8
MGG	**Marie-Galante**	**0.64**	**130**	*e*P	Pn	05 15 00.7	+1.0
MGG				*e*S	Sn	05 15 10.6	+1.6
BBL	**Barber's Block**	**0.88**	**157**	*e*P	Pn	05 15 04.1	+1.3
DWS	**Wesley**	**0.91**	**147**	*e*P	Pn	05 15 05.3	+2.0
DWS				*e*S	Sn	05 15 18.7	+3.1
SKI	**Saint Kitts**	**1.32**	**319**	*e*P	Pb	05 15 09.8	-0.4
SKI				*e*S	Sb	05 15 28.0	+1.2
ANWB	**Willy Bob**	**1.33**	**2**	*e*P	Pn	05 15 09.0	0.0
ANWB				*e*S	Sn	05 15 25.8	-0.1
FDF	**Fort de France**	**1.72**	**158**	*e*P	Pb	05 15 16.7	-0.4
FDF				*e*S	Sb	05 15 40.6	+2.3
ZAM	**Aeronautique**	**1.92**	**156**	*e*P	Pb	05 15 19.6	-0.7
LPMF	**Morne Lapointe**	**1.94**	**155**	*e*P	Pb	05 15 19.8	-0.9
TRMF	**Trois Ilets**	**1.94**	**157**	*e*P	Pb	05 15 20.6	-0.1
MVM	**Montagne Vaucl**	**1.99**	**153**	*e*P	Pb	05 15 20.2	-1.3

CSEM ***27*** *05:46:13.5, 37.˚46N×25.˚43W, h5km, ML1.7*

PDA 27 05:46:13.5±0.8, 37.˚46N×25.˚43W, h5km±5km, MD3.6, ML1.7, Error ellipse: s-maj=4.4km s-min=3.6km az=157.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRON	**Grota Negra**	**0.32**	**345**	*e*P	Pg	05 46 18.8	-1.0
GRON				*e*S	Sg	05 46 23.5	-0.6
GRON				A	A	05 46 25.4	
	26nm,0.2s						
PDA	**Ponta Delgada**	**0.34**	**327**	*e*P	Pg	05 46 19.9	-0.3
PDA				*e*S	Sg	05 46 24.3	-0.4
PDA				A	A	05 46 27.4	
	17nm,0.2s						
PDA	**Ponta Delgada**	**0.34**	**327**	*e*P	Pg	05 46 19.9	-0.3
PDA				*e*S	Sg	05 46 24.3	-0.4
BART	**Pico Bartolome**	**0.38**	**33**	*e*P	Pg	05 46 20.5	-0.5
BART				*e*S	Sg	05 46 25.4	-0.7
BART				A	A	05 46 27.2	
	45nm,0.4s						
BART	**Pico Bartolome**	**0.38**	**33**	*e*P	Pg	05 46 20.5	-0.5
BART				*e*S	Sg	05 46 25.4	-0.7
PSET	**Sete Cidades**	**0.43**	**328**	*e*P	Pg	05 46 21.1	-0.8
PSET				*e*S	Sg	05 46 26.6	-1.0
PSET				A	A	05 46 29.3	
	52nm,0.4s						
PSET	**Sete Cidades**	**0.43**	**328**	*e*P	Pg	05 46 21.1	-0.8
PSET				*e*S	Sg	05 46 26.6	-1.0

ISCJB ***27*** *05:48:36.2±0.7, 46.˚57N±0.˚07×155.˚12E±0.˚10, h18km, mb3.9/15, MS3.4/3, Error ellipse: s-maj=12.2km s-min=5.8km az=43.3*

IDC ***27*** *05:48:39.9±6.7, 46.˚51N×155.˚31E, h33km±50km, mb3.6/9, mb1 3.8/12, mb1mx3.5/50, mbtmp3.8/12, ML3.9/1, MS3.2/2, Ms1 3.2/2, ms1mx2.4/34, Error ellipse: s-maj=24.6km s-min=20.8km az=114.0*

SKHL ***27*** *05:48:39.7±0.6, 46.˚55N×155.˚16E, h54km±4km, mb4.8/1*

MOS ***27*** *05:48:39.6±1.1, 46.˚60N×155.˚05E, h47km, mb4.0/8, Error ellipse: s-maj=14.7km s-min=10.2km az=78.5*

ISC 27 05:48:38.2±0.8, 46.˚60N±0.˚08×155.˚11E±0.˚08, h18km, n47, σ1ş19/54, mb3.9/15, MS3.6/3, 6C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.14**	**9**⇑	*e*PN	**Pn**	**05 49 41.5**	**+1.0**
SKR				*i* S	**Sn**	**05 50 27.4**	**-0.9**
SKR	**Severo-Kuril's**	**4.14**	**9**	*e*P	**Pn**	**05 49 41.5**	**+1.0**
SKR				*e*S	**Sn**	**05 50 27.4**	**-0.9**
SKR				A	A	05 50 31.5	
	50nm,0.3s						
KUR	**Kuril'sk**	**5.24**	**257**⇑	*i*PN	**Pn**	**05 49 56.9**	**+1.3**
KUR				*i* S	**Sn**	**05 50 55.0**	**-0.5**
KUR				pmax	pmax		
	comp=Z,27nm,0.7s						
KUR				pmax	pmax		
	comp=N,27nm,0.2s						
KUR				pmax	pmax		
	comp=E,25nm,0.2s						
KUR				smax	smax		
	comp=N,41nm,0.4s						
KUR				smax	smax		
	comp=E,30nm,0.5s						
KUR	**Kuril'sk**	**5.24**	**257**	*e*P	**Pn**	**05 49 56.7**	**+1.1**
KUR				AMB	AMB	05 49 57.9	
	comp=E,80nm,0.7s						
KUR				*i* S	**Sn**	**05 50 54.9**	**-0.5**
KUR				A	A	05 50 57.3	
	comp=E,80nm,0.4s						
KUR				A	A	05 50 57.3	
	comp=E,30nm,0.4s						
PETK	**Petropavlovsk-**	**6.72**	**13**	Pn	**Pn**	**05 50 18.7**	**+2.7**
	baz=196,slow=14,SNR=1.6						
YSS	**Yuzh-Sakhalins**	**8.49**	**277**	*e*P	**Pn**	**05 50 42.0**	**+1.8**
JKA	**Kamikawa-asahi**	**9.15**	**259**	*e*P	**Pn**	**05 50 50.7**	**+1.4**
ASAJ	**Asahikawa**	**9.16**	**259**	Pn	**Pn**	**05 50 50.6**	**+1.3**
	comp=E,14nm,0.3s,baz=222,slow=10,SNR=3.6						
ASAJ	**Asahikawa**	**9.16**	**259**	PN	**Pn**	**05 50 50.7**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**9.72**	**246**	*e*PN	**Pn**	**05 50 57.8**	**+0.8**
ERM				pmax	pmax		
	comp=Z,9.0nm,1.4s						
ERM	**Erimo**	**9.72**	**246**	*e*P	**Pn**	**05 50 57.8**	**+0.8**
EKMR	**Ekimchan**	**15.66**	**303**	*i* P	**P**	**05 52 20.8**	**-1.0**
MAJO	**Matsushiro**	**16.12**	**237**	*i* P	**Pn**	**05 52 23.5**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,33nm,1.0s						
MAJO	**Matsushiro**	**16.12**	**237**	*i* P	**Pn**	**05 52 23.5**	**-0.4**
MJAR	**Matsushiro Arr**	**16.12**	**237**	Pn	**P**	**05 52 28.5**	**+1.4**
	comp=Z,1.0nm,0.3s,baz=36,slow=9.2,SNR=6.2						
MJAR	**Matsushiro Arr**	**16.12**	**237**	P	**P**	**05 52 28.5**	**+1.4**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
USRK	**Ussuriysk Ar.**	**16.41**	**270**	Pn	**Pn**	**05 52 27.7**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=70,slow=14,SNR=4.6						
SEY	**Seymchan**	**16.44**	**356**⇓	*e*P	**Pn**	**05 52 27.3**	**-0.4**
SEY	**Seymchan**	**16.44**	**356**⇓	*e*P	**Pn**	**05 52 27.3**	**-0.4**
YAK	**Yakutsk**	**21.20**	**326**	*i* P	**P**	**05 53 21.1**	**-1.4**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.5s						
YAK	**Yakutsk**	**21.20**	**326**	*i* P	**P**	**05 53 21.1**	**-1.4**
HHC	**Hu-ho-hao-te**	**31.68**	**276**	*e*P	**P**	**05 55 00.0**	**-0.6**
HHC				PP	**PnPn**	**05 56 04.8**	**+0.4**
HHC				S	**S**	**06 00 05.3**	**-3.8**
HHC				SS	**SnSn**	**06 01 55.5**	**-0.1**
HHC				pmax	pmax		
	comp=Z,16nm,1.2s						
HHC				pmax	pmax		
	comp=Z,77nm,5.5s						
HHC				LR	LR		
	comp=N,120nm,11.6s						
HHC				LR	LR		
	comp=E,100nm,14.1s						
HHC				LR	LR		
	comp=Z,38nm,14.1s						
ULN	**Ulaanbaatar**	**32.24**	**290**⇑	*i*P	**P**	**05 55 04.4**	**-1.2**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ULN	**Ulaanbaatar**	**32.24**	**290**⇑	*i*P	**P**	**05 55 04.4**	**-1.2**
COLA	**College**	**35.40**	**38**	*e*P	**P**	**05 55 32.7**	**+0.2**
COLA				pmax	pmax		
	comp=Z,12nm,1.1s						
COLA	**College**	**35.40**	**38**	*e*P	**P**	**05 55 32.7**	**+0.2**
ZALV	**Zalesovo Beam**	**43.81**	**307**	P	**P**	**05 56 42.7**	**0.0**
	comp=Z,0.5nm,0.4s,baz=60,slow=8.5,SNR=2.7						
ZALV	**Zalesovo Beam**	**43.81**	**307**	P	**P**	**05 56 42.7**	**0.0**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**48.23**	**298**	P	**P**	**05 57 18.0**	**+0.4**
	comp=Z,0.1nm,0.4s,baz=74,slow=11,SNR=2.8						
KURK	**Kurchatov**	**48.59**	**304**	P	**P**	**05 57 21.1**	**+0.8**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KURK	**Kurchatov**	**48.59**	**304**	*e*P	**P**	**05 57 21.1**	**+0.8**
KURBB	**Kurchatov Arra**	**48.68**	**304**	P	**P**	**05 57 21.1**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=64,slow=8.0,SNR=5.6						
BVAR	**Borovoye Array**	**52.01**	**310**	P	**P**	**05 57 47.0**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=76,slow=6.3,SNR=4.7						
BVAR	**Borovoye Array**	**52.01**	**310**	P	**P**	**05 57 47.0**	**+0.8**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**53.68**	**258**	P	**P**	**05 58 00.5**	**+1.6**
	comp=Z,0.6nm,0.3s,baz=43,slow=8.6,SNR=4.2						
CMAR	**Chiang Mai Arr**	**53.68**	**258**	P	**P**	**05 58 00.5**	**+1.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HNR	**Honiara**	**55.95**	**174**	LR	LR	06 19 42.1	
	comp=Z,13nm,21.0s,baz=134,slow=33						
ARU	**Arti**	**56.05**	**318***c*	*i*P	**P**	**05 58 15.4**	**-0.2**
ARU						06 00 28.1	
ARU				S	**S**	**06 06 03.4**	**+0.5**
ARU				SS	**SS**	**06 09 49.2**	**+0.8**
ARU				pmax	pmax		
	comp=Z,7.0nm,2.5s						
ARU	**Arti**	**56.05**	**318**⇑	*i*P	**P**	**05 58 15.4**	**-0.2**
FINES	**FINESS Array B**	**64.75**	**336**	P	**P**	**05 59 16.2**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=46,slow=7.2,SNR=12						
FINES	**FINESS Array B**	**64.75**	**336**	P	**P**	**05 59 16.2**	**+1.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GEYT	**Alibeck**	**67.86**	**302**	LR	LR	06 30 49.8	
	comp=Z,32nm,18.3s,baz=140,slow=37						
WRA	**Warramunga Ar**	**68.84**	**201**	P	**P**	**05 59 40.0**	**-1.4**
	comp=Z,0.7nm,1.1s,baz=17,slow=6.4,SNR=3.5						
WRA	**Warramunga Ar**	**68.84**	**201**	P	**P**	**05 59 40.0**	**-1.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ASAR	**Alice Springs**	**72.53**	**200**	P	**P**	**06 00 04.0**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=8.9,slow=6.6,SNR=3.7						
TXAR	**Lajitas Array**	**76.36**	**62**	P	**P**	**06 00 24.9**	**-1.6**
	comp=Z,0.7nm,0.6s,baz=296,slow=4.1,SNR=13						
TXAR	**Lajitas Array**	**76.36**	**62**	P	**P**	**06 00 24.9**	**-1.6**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

BJI ***27*** *06:00:36.9, 7.˚47S×130.˚83E, h123km, mb4.7/22, mB5.0/16*

MOS ***27*** *06:00:42.7±0.9, 6.˚87S×130.˚13E, h125km, mb4.4/22, Error ellipse: s-maj=12.9km s-min=7.0km az=120.7*

NEIC ***27*** *06:00:44.8±0.5, 6.˚76S×130.˚19E, h125km±5km, mb4.7/15, Error ellipse: s-maj=5.8km s-min=4.4km az=222.0*

ISCJB ***27*** *06:00:44.2±0.3, 6.˚81S±0.˚02×130.˚30E±0.˚03, h135km±3km, mb4.3/40, Error ellipse: s-maj=5.6km s-min=3.6km az=154.7*

IDC ***27*** *06:00:44.5±2.0, 6.˚75S×130.˚18E, h120km±19km, mb4.1/16, mb1 4.3/21, mb1mx4.2/27, mbtmp4.6/21, MS3.1/2, Ms1 3.1/2, ms1mx2.6/26, Error ellipse: s-maj=15.9km s-min=10.7km az=57.0*

DJA ***27*** *06:00:46.0±0.2, 7.˚5S±2.˚×13.˚1E±.˚, h115km±4km, M5.1/16, mB5.5/7, mb4.9/16, MLv5.2/4, Mw(mB)5.0/7*

KLM ***27*** *06:00:49.2, 7.˚07S×129.˚77E, h123km, mb4.9, MS5.9*

ISC 27 06:00:45.1±0.3, 6.˚85S±0.˚04×130.˚26E±0.˚05, h132km±2km, n165, σ1ş66/187, mb4.4/40, 23C-11D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.52**	**138**	P	**Pn**	**06 01 14.1**	**+0.5**
BNDI	**Bandanaira**	**2.34**	**351**	P	**Pn**	**06 01 23.0**	**-0.4**
BNDI				S	**Sn**	**06 01 52.2**	**-0.6**
AAI	**Ambon**	**3.76**	**327**	P	**Pn**	**06 01 41.8**	**+0.1**
AAI				S	**Sn**	**06 02 27.6**	**+2.0**
FAKI	**Fak Fak**	**4.38**	**27**	P	**Pn**	**06 01 48.3**	**-1.7**
FAKI				S	**Sn**	**06 02 36.6**	**-3.7**
FAKI	**Fak Fak**	**4.38**	**27**	*e*Pn	**Pn**	**06 01 48.2**	**-1.7**
NLAI	**Namlea**	**4.77**	**319**	P	**Pn**	**06 01 57.3**	**+2.1**
MTN	**Manton Dam**	**6.02**	**172**⇑	P	**Pn**	**06 02 12.2**	**+0.4**
	baz=6.1						
MTN	**Manton Dam**	**6.02**	**172**	*e*Pn	**Pn**	**06 02 11.5**	**-0.4**
SIJI	**Sorong**	**6.03**	**10**	P	**Pn**	**06 02 09.8**	**-2.3**
	43nm,0.3s,baz=276,slow=22,SNR=60						
SIJI				S	Sn	06 03 13.2	-6.7
	51nm,0.3s,baz=212,slow=23,SNR=12						
SWI	**Sorong**	**6.03**	**10**	P	**Pn**	**06 02 09.8**	**-2.2**
KDU	**Kakadu**	**6.20**	**160**⇑	P	**Pn**	**06 02 14.0**	**-0.2**
	baz=6.4						
SANI	**Sanana**	**6.39**	**318**	P	**Pn**	**06 02 19.4**	**+2.4**
RKPI	**Ransiki, Papua**	**6.58**	**37**	P	**Pn**	**06 02 16.7**	**-2.8**
SOEI	**Soe**	**6.60**	**244**	P	**Pn**	**06 02 19.5**	**-0.2**
SOEI	**Soe**	**6.60**	**244**	*e*Pn	**Pn**	**06 02 19.6**	**-0.2**
LBMI	**Labuha**	**6.76**	**336**	P	**Pn**	**06 02 22.3**	**+0.4**
	107nm,0.8s,2μm0.7nm						
BAKI	**Biak**

comp=N,14nm,0.8s
MTSU Mount Surprise 17.70 131 ⇑P Pn 06 04 45.5 +2.0
baz=18
SDKM Sandakan 18.00 313 ⇓P Pn 06 04 48.4 +1.2
KKM Kota Kinabalu 18.99 312 ⇓P Pn 06 04 58.1 -0.7
KKM Kota Kinabalu 18.99 312 *eP* P 06 04 55.9 -0.8
comp=N,12nm,0.4s
SBUM Sibu 20.24 297 ⇑P P 06 05 11.7 +1.6
SBUM Sibu 20.24 297 *eP* P 06 05 10.2 +0.1
comp=N,40nm,0.9s
CTA Charters Tower 20.34 132 P Pn 06 05 13.5 -1.1
comp=N,15nm,0.6s,baz=307,slow=13,SNR=14
CTA Charters Tower 20.34 132 P Pn 06 05 13.5 -1.1
CTA pmax pmax
comp=Z,15nm,0.6s
CTA Charters Tower 20.34 132 ⇓P Pn 06 05 14.6 0.0
baz=21
CTAO Charters Tower 20.34 132 *eP* Pn 06 05 13.1 -1.5
CTAO pmax pmax
comp=Z,16nm,0.7s
CTAO Charters Tower 20.34 132 *eP* Pn 06 05 13.1 -1.5
comp=Z,16nm,0.7s
KSM Kuching 21.56 292 ⇑P P 06 05 25.6 +1.3
CISI Cisompet, Garu 22.28 267 *eP* P 06 05 29.3 -2.5
comp=Z,97nm,0.9s
LEM Lembang 22.48 269 P P 06 05 33.2 -0.7
comp=Z,47nm,0.7s,baz=42,slow=20,SNR=8.6
LEM Lembang 22.48 269 P P 06 05 33.2 -0.7
LEM pmax pmax
comp=Z,47nm,0.7s
QLP Quilpie 23.71 147 ⇓P P 06 05 46.9 +1.9
baz=24
FORT Forrest 23.89 185 ⇓P P 06 05 48.0 +1.3
baz=24
FORT Forrest 23.89 185 *eP* P 06 05 48.7 +2.0
comp=Z,68nm,0.8s
PPBI Pangkal Pinang 24.49 280 P P 06 05 52.4 +0.1
KMBL Kambalda 25.62 197 ⇑P P 06 06 02.6 +0.2
baz=26
BBOO Buckleboo 26.39 169 ⇑P P 06 06 10.3 +1.1
baz=27
BBOO Buckleboo 26.39 169 *eP* P 06 06 10.4 +1.2
comp=Z,117nm,2.0s
STKA Stephens Creek 27.05 158 P P 06 06 16.8 +1.6
comp=Z,14nm,0.5s,baz=335,slow=8.4,SNR=58
STKA Stephens Creek 27.05 158 P P 06 06 16.8 +1.6
STKA pmax pmax
comp=Z,14nm,0.5s
STKA Stephens Creek 27.05 158 ⇓P P 06 06 16.6 +1.4
baz=27
STKA Stephens Creek 27.05 158 *eP* P 06 06 16.7 +1.4
comp=Z,3.6nm,0.9s
HTT Hallett 27.64 164 ⇑P P 06 06 21.9 +1.4
baz=28
CMSA Cobar Meteorol 28.48 152 ⇑P P 06 06 29.8 +1.8
baz=29
ARPS Mount Arapiles 31.60 162 ⇑P P 06 06 57.2 +1.9
baz=32
YNG Young 32.04 151 ⇑P P 06 07 01.4 +2.1
baz=32
PSI Prapat 32.72 286 P P 06 07 05.2 -0.3
comp=Z,7.5nm,0.6s,baz=182,slow=0.2,SNR=4.2
PSI Prapat 32.72 286 P P 06 07 05.3 -0.3
PSI pmax pmax
comp=Z,8.0nm,0.6s
CAN Canberra 33.16 151 ⇑P P 06 07 11.6 +2.5
baz=34
CNB Canberra Magne 33.33 151 ⇑P P 06 07 13.0 +2.5
baz=34
TOO Toolangi 33.57 158 ⇓P P 06 07 15.3 +2.7
baz=34
UTTA Uttaradit 38.18 310 P P 06 07 52.2 +0.1
comp=Z,5.0nm,0.8s
SUKH Sukhothai 38.73 309 P P 06 07 57.3 +0.6
comp=Z,5.8nm,0.7s
LAMP Lampang 39.35 310 P P 06 08 07.8 +6.0
comp=Z,4.2nm,0.6s
CMAR Chiang Mai Arr 39.84 310 P P 06 08 05.2 -0.7
comp=Z,5.8nm,0.5s,baz=142,slow=7.6,SNR=17
CMAR Chiang Mai Arr 39.84 310 P P 06 08 05.2 -0.7
CMAR pmax pmax
comp=Z,6.0nm,0.5s
CHTO Chiang Mai 40.05 310 P P 06 08 08.1 +0.5
comp=Z,47nm,0.7s
CHTO Chiang Mai 40.05 310 *eP* P 06 08 06.4 -1.2
CHTO pmax pmax
comp=Z,7.0nm,0.6s
CHTO Chiang Mai 40.05 310 *eP* P 06 08 06.4 -1.2
comp=Z,7.0nm,0.6s
NJ2 Nanjing 40.19 345 *eP* P 06 08 08.8 +0.3
NJ2 PMZ
comp=Z,40nm,0.9s
GYA Guiyang 40.26 326 *eP* P 06 08 11.0 +1.7
GYA PMZ
comp=Z,10.0nm,0.8s
CMAI Chiengmai2 40.64 312 P P 06 08 13.5 +0.8
comp=Z,17nm,1.1s
KMI Kunming 41.56 321 P P 06 08 22.3 +2.1
KMI pP **pP** 06 08 50.8 +1.0
KMI sP **sP** 06 09 05.3 +0.6
KMI PP **PnPn** 06 10 03.3 -1.8
KMI S **S** 06 14 28.8 +2.1
KMI sS **sS** 06 15 18.5 +0.5
KMI PMZ
comp=Z,6.0nm,0.6s
KMI PMZ
comp=Z,110nm,4.8s
KMI LN
comp=Z,140nm,3.9s
KMI LE
comp=Z,120nm,3.8s
KMI LZ
comp=Z,74nm,5.3s
MJAR Matsushiro Arr 43.80 9 P P 06 08 37.0 -0.9
comp=Z,0.7nm,0.3s,baz=187,slow=9.8,SNR=5.4
MJAR Matsushiro Arr 43.80 9 P P 06 08 37.0 -0.9
MJAR pmax pmax
comp=Z,1.0nm,0.4s
KSAR Wonju Array Be 44.12 357 P P 06 08 40.7 +0.4
KSAR Wonju Array Be 44.12 357 P P 06 08 40.7 +0.4
KSRS Korea Array 44.13 357 P P 06 08 40.7 +0.3
comp=Z,1.2nm,0.5s,baz=173,slow=8.6,SNR=6.3
KSRS LR LR 06 28 03.1
comp=Z,36nm,18.5s,baz=174,slow=37
KSRS Korea Array 44.13 357 P P 06 08 40.7 +0.3
KSRS pmax pmax
comp=Z,1.0nm,0.5s
KSRS MLR MLR
comp=Z,36nm,18.5s
CD2 Chengdu 45.32 327 *eP* P 06 08 49.8 -0.2
CD2 pP **pP** 06 09 18.0 -2.0
CD2 sP **sP** 06 09 32.3 -2.5
CD2 PcP **PcP** 06 10 27.0 -0.6
CD2 PcS **PcS** 06 14 21.3 -0.5
CD2 S **S** 06 15 22.0 +1.1
CD2 SS **SS** 06 16 48.5 +2.0
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.0s
BJI Beijing 48.44 346 P P 06 09 13.5 -0.5
BJI PMZ
comp=Z,9.0nm,0.8s
MSHR Mys Shultsa 49.20 1 *i* P P 06 09 21.7 +1.9
LZH Lanzhou 49.40 332 *eP* P 06 09 26.8 +5.1
LZH pP pP 06 09 56.0 +3.9
LZH sP sP 06 10 09.0 +2.2
LZH PMZ
comp=Z,13nm,1.0s
HHC Hu-ho-hao-te 50.48 342 *eP* P 06 09 31.0 +1.3
HHC sP **sP** 06 10 16.0 +1.1
HHC PP **PP** 06 11 24.3 -2.5
HHC S **S** 06 16 35.0 +1.4
HHC sS **sS** 06 17 31.3 +4.9
HHC PMZ
comp=Z,19nm,1.1s
HHC PMZ
comp=Z,80nm,6.1s
CN2 Changchun 50.60 355 *eP* P 06 09 30.3 -0.1
USRK Ussuriysk Ar. 50.84 2 P P 06 09 32.5 +0.4
comp=Z,1.6nm,0.5s,baz=183,slow=6.1,SNR=5.9
RPZ Rata Peaks 51.19 143 P P 06 09 37.0 +2.0
comp=Z,13nm,0.9s,baz=264,slow=4.5,SNR=3.3
GTA Gaotai 53.97 331 *eP* P 06 09 55.5 0.0
GTA pP **pP** 06 10 25.0 -1.4
GTA sP **sP** 06 10 40.8 -0.2
GTA S **S** 06 17 19.8 -1.5
GTA PMZ
comp=Z,5.0nm,1.3s
GTA PMZ
comp=Z,58nm,7.1s
GTA LN
comp=Z,82nm,16.1s
GTA LE
comp=Z,110nm,17.1s
GTA LZ
comp=Z,77nm,14.2s
ULN Ulaanbaatar 58.20 342 *c iP* P 06 10 26.1 +0.6
ULN pmax pmax
comp=Z,7.0nm,0.8s
ULN Ulaanbaatar 58.20 342 *eP* P 06 10 25.3 -0.2
comp=Z,6.0nm,0.6s
SONM Songino Array 58.38 341 P P 06 10 27.1 +0.4
comp=Z,1.6nm,0.5s,baz=155,slow=7.5,SNR=9.5
SONM Songino Array 58.38 341 P P 06 10 27.1 +0.4
SONM pmax pmax
comp=Z,2.0nm,0.5s
CASY Casey 60.89 189 *eP* P 06 10 45.6 +2.1
ZAK Zakamensk 61.61 341 *eP* P 06 10 47.5 -1.2
ZAK pmax pmax
comp=Z,1.0nm,1.9s
TLY Talaya 62.62 342 *eP* P 06 10 56.1 +0.9
TLY pmax pmax
comp=Z,4.0nm,1.6s
WMQ Urumqi 63.41 327 P P 06 11 01.5 +0.8
WMQ pP **pP** 06 11 31.5 -1.1
WMQ sP **sP** 06 11 45.5 -1.4
WMQ PMZ
comp=Z,16nm,0.8s
WMQ PMZ
comp=Z,73nm,4.0s
WMQ LN
comp=Z,24nm,17.0s
WMQ LZ
comp=Z,17nm,17.0s
KSH Kashi 68.08 317 P P 06 11 32.0 +1.1
KSH pP **pP** 06 12 05.0 +1.9
KSH PP PP 06 14 08.3 +5.4
KSH S **S** 06 20 16.8 -3.5
KSH sS **sS** 06 21 16.3 +0.5
KSH SS **SS** 06 24 49.0 +3.5
KSH PMZ
comp=Z,240nm,4.6s
KSH LN
comp=Z,110nm,6.0s
KSH LE
comp=Z,140nm,4.5s
KSH LZ
comp=Z,300nm,5.7s
MK31 Makanchi Array 68.24 327 *eP* P 06 11 31.8 +0.2
MK31 pmax pmax
comp=Z,11nm,0.4s
MK31 Makanchi Array 68.24 327 *eP* P 06 11 31.9 +0.4
MKAR Makanchi Array 68.24 327 P P 06 11 31.9 +0.4
comp=Z,19nm,0.4s,baz=113,slow=8.6,SNR=171
MKAR Makanchi Array 68.24 327 P P 06 11 32.0 +0.4
MKAR pmax pmax
comp=Z,19nm,0.4s
SFK Sufi-Kurgan 69.99 317 P P 06 11 42.9 +0.1
SFK pmax pmax
comp=Z,5.0nm,0.7s
TKM2 Tokmak 2 70.03 320 P P 06 11 43.5 +0.5
SNR=9.8
TKM2 Tokmak 2 70.03 320 *eP* P 06 11 43.0 0.0
TKM2 pmax pmax
comp=Z,10.0nm,0.7s
TKM2 Tokmak 2 70.03 320 *eP* P 06 11 43.0 0.0
comp=Z,10nm,0.7s
AAK Ala-Archa 70.59 320 P P 06 11 47.3 +1.0
SNR=5.1
AAK Ala-Archa 70.59 320 P P 06 11 46.3 0.0
AAK pmax pmax
comp=Z,8.0nm,0.7s
AML Almayashu 70.87 319 P P 06 11 48.6 +0.4
SNR=10
USP Ospenovka 70.90 320 P P 06 11 48.6 +0.6
SNR=15
EKS2 Erkin-Say 71.07 319 P P 06 11 50.3 +1.1
SNR=11
EKS2 Erkin-Say 71.07 319 *eP* P 06 11 49.6 +0.4
EKS2 pmax pmax
comp=Z,10.0nm,0.7s
EKS2 Erkin-Say 71.07 319 *eP* P 06 11 49.6 +0.4
comp=Z,10nm,0.7s
ZALV Zalesovo Beam 71.56 334 P P 06 11 51.1 -0.5
comp=Z,3.1nm,0.5s,baz=121,slow=5.2,SNR=16
ZALV Zalesovo Beam 71.56 334 P P 06 11 51.2 -0.5
ZALV pmax pmax
comp=Z,3.0nm,0.5s
SEY Seymchan 71.61 10 ⇓ *iP* P 06 11 53.3 +1.5
VNDA Vanda 72.56 173 P P 06 11 57.5 +0.2
comp=Z,0.9nm,0.7s,baz=313,slow=8.6,SNR=5.5
VNDA Vanda 72.56 173 P P 06 11 57.5 +0.2
VNDA pmax pmax
comp=Z,1.0nm,0.7s
KK31 Karatay Array 73.40 319 *i* P P 06 12 02.6 -0.3
KK31 pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 73.40 319 *eP* P 06 12 02.5 -0.4
KKAR pmax pmax
comp=Z,8.0nm,0.9s
KKAR Karatay Array 73.40 319 *eP* P 06 12 02.5 -0.4
comp=Z,8.0nm,0.9s
BVA0 Borovoye Array 78.08 328 *i* P P 06 12 27.8 -1.4
BVA0 pmax pmax
comp=Z,3.0nm,0.9s
BRVK Borovoye 78.15 328 ⇑ *iP* P 06 12 29.4 -0.2
BRVK pmax pmax
comp=Z,2.0nm,0.6s
GEYT Alibeck 80.32 310 P P 06 12 41.4 -0.4
comp=Z,1.9nm,0.3s,baz=167,slow=7.2,SNR=3.6
AB31 Akbulak array 82.55 322 *i* P P 06 12 52.3 -0.9
AB31 pmax pmax
comp=Z,1.0nm,0.4s
ABKAR Akbulak array 82.55 322 *eP* P 06 12 52.6 -0.6
comp=Z,1.7nm,0.5s
AKTO Aktyubinsk 84.11 322 P P 06 13 00.2 -1.0
AKTO pmax pmax
comp=Z,4.0nm,1.0s
ARU Arti 85.72 328 *d iP* P 06 13 08.3 -0.8
ARU *PP pP 06 13 36.0 -6.6
ARU 06 16 25.6
ARU S S 06 23 21.6 -8.9
ARU SS **SS** 06 29 05.7 -4.5
ARU pmax pmax
comp=Z,9.0nm,1.7s
RAYN Ar Rayn 87.92 294 *eP* P 06 13 20.6 0.0
comp=Z,4.3nm,0.6s
KBZ Khabaz 92.78 314 P P 06 13 41.7 -1.0
comp=Z,0.7nm,0.4s,baz=90,slow=7.1,SNR=2.9
KBZ Khabaz 92.78 314 P P 06 13 41.7 -1.0
KBZ pmax pmax
comp=Z,1.0nm,0.4s
ILAR Eielson Array 93.10 25 P P 06 13 42.3 -1.4
comp=Z,0.5nm,0.7s,baz=255,slow=4.5,SNR=6.5
ILAR Eielson Array 93.10 25 P P 06 13 42.3 -1.4
ILAR pmax pmax
comp=Z,1.0nm,0.7s
TORD Torodi Ar. Bea 129.04 281 PKP PKPdf 06 19 38.6 +0.2
comp=Z,0.9nm,0.6s,baz=58,slow=1.0,SNR=6.6
CPUP Villa Florida 146.20 168 PKPbc PKPab 06 20 11.7 +0.1
comp=Z,0.7nm,0.4s,baz=148,slow=2.3,SNR=7.0
CPUP Villa Florida 146.20 168 PKP2 PKPab 06 20 11.7 +0.1
CPUP pmax pmax
comp=Z,1.0nm,0.4s
LPAZ La Paz 150.68 142 PKPbc PKPbc 06 20 25.5 +2.0
comp=Z,1.5nm,0.3s,baz=34,slow=4.7,SNR=22
LPAZ La Paz 150.68 142 PKIKP PKPbc 06 20 25.5 +2.0
LPAZ pmax pmax
comp=Z,2.0nm,0.4s
LPAZ La Paz 150.68 142 *e*PKPbc PKPbc 06 20 24.9 +1.5
ASAR Alice Springs 22.31 208 P P 06 29 24.9 -0.6
0.3nm,0.5s,baz=42,slow=8.4,SNR=4.4
ILAR Eielson Array 84.45 24 P P 06 37 00.7 +0.1
0.3nm,0.6s,baz=262,slow=5.0,SNR=4.9

*IDC **27** 06:28:16.1±8.9, 52.°79N×171.°53W, h0km, mb3.4/4, mb1 3.7/6, mb1mx3.5/31, mbtmp3.4/6, ML3.4/2, Error ellipse: s-maj=166.8km s-min=54.5km az=103.0*
*ISCJB **27** 06:28:24.5±1.2, 52.°9N±0.°1×169.°8W±0.°1, h2km±9km, mb3.3/4, Error ellipse: s-maj=26.3km s-min=6.3km az=158.7*
*NEIC **27** 06:28:25.8, 52.°84N×169.°58W, h2km, ML3.1(AEIC), After AEIC.*

ISC 27 06:28:25.0±1.9, 52.°9N±0.°1×169.°67W±0.°07, h1km±13km, n29,σ1°08/27, mb3.4/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.50**	**81**	P	**Pb**	**06 28 35.8**	**-0.8**
NIKH				S	**Sb**	**06 28 43.8**	**-0.6**
OKSO	**Okmok South**	**1.02**	**63**	P	**Pg**	**06 28 45.1**	**+0.6**
OKSO				S	**Sn**	**06 28 59.9**	**-1.6**
OKWR	**Okmok West Rim**	**1.03**	**58**	P	**Pn**	**06 28 46.5**	**-0.3**
OKWE	**Okmok W'ng Wal**	**1.03**	**56**	P	**Pb**	**06 28 45.7**	**0.0**
OKAK	**Okmok**	**1.04**	**49**	P	**Pg**	**06 28 44.7**	**-0.3**
OKCE	**Okmok Cone E**	**1.05**	**59**	P	**Pg**	**06 28 45.6**	**+0.5**
OKTU	**Okmok Mt. Tuli**	**1.09**	**63**	P	**Pb**	**06 28 46.7**	**-0.1**
OKRE	**Okmok R'deer P**	**1.10**	**55**	P	**Pn**	**06 28 47.7**	**+0.1**
OKFG	**Magazine Ridge**	**1.17**	**64**	P	**Pg**	**06 28 48.1**	**+0.5**
OKFG				S	**Sn**	**06 29 05.3**	**+0.1**
MCIR	**Makushin Cirqu**	**1.97**	**57**	P	**Pb**	**06 29 00.8**	**-0.9**
MSW	**Makushin Switc**	**2.00**	**58**	P	**Pn**	**06 29 00.4**	**+0.4**
MSW				S	**Sb**	**06 29 28.4**	**+0.6**
MTBL	**Makushin Table**	**2.08**	**58**	P	**Pb**	**06 29 02.4**	**-1.3**
UNV	**Unalaska Valle**	**2.12**	**62**	P	**Pb**	**06 29 02.7**	**-1.6**
UNV				S	**Sb**	**06 29 30.8**	**-0.2**
ZRO	**Akutan Zero**	**2.51**	**60**	P	**Pn**	**06 29 08.0**	**+1.1**
AKUT	**Akutan**	**2.63**	**60**	*e*Pn	**Pb**	**06 29 10.5**	**-2.5**
ATKA	**Atka Island**	**2.85**	**258**	P	**Pn**	**06 29 11.4**	**-0.2**
GSTR	**Great Sitkin T**	**3.99**	**261**	*e*Pn	**Pn**	**06 29 27.6**	**+0.3**
KDAK	**Kodiak Island**	**10.88**	**57**	Pn	Pn	06 31 08.6	+6.9
	0.3nm,0.3s,baz=283,slow=18,SNR=2.8						
ILAR	**Eielson Array**	**16.62**	**35**	P	**Pn**	**06 32 18.8**	**-0.2**
	0.1nm,0.3s,baz=227,slow=11,SNR=4.3						
DLBC	**Dease Lake**	**22.77**	**60**	P	**P**	**06 33 31.5**	**+2.8**
	1.4nm,0.8s,baz=302,slow=8.4,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**37.76**	**218**	T	T	07 14 27.7	
	baz=24,slow=76,SNR=5.2						
H11N3	**WAKE ISLAND Hy**	**37.77**	**218**	T	T	07 14 26.4	
	baz=24,slow=76,SNR=5.9						
H11N1	**WAKE ISLAND Hy**	**37.78**	**218**	T	T	07 14 26.4	
	baz=24,slow=76,SNR=6.7						
NVAR	**Mina Array Bea**	**37.86**	**91**	P	**P**	**06 35 44.4**	**+0.9**
	0.5nm,0.7s,baz=298,slow=7.9,SNR=4.6						
H11S1	**WAKE ISLAND Hy**	**38.95**	**217**	T	T	07 15 57.6	
	baz=23,slow=76,SNR=94						
H11S2	**WAKE ISLAND Hy**	**38.97**	**217**	T	T	07 15 58.7	
	baz=23,slow=76,SNR=70						
H11S3	**WAKE ISLAND Hy**	**38.97**	**217**	T	T	07 15 58.9	
	baz=23,slow=76,SNR=80						
PDAR	**Pinedale Array**	**40.48**	**80**	P	**P**	**06 36 05.6**	**+0.2**
	0.2nm,0.6s,baz=309,slow=5.7,SNR=3.1						
TXAR	**Lajitas Array**	**52.92**	**89**	P	**P**	**06 37 41.8**	**-1.0**
	0.2nm,0.3s,baz=294,slow=5.8,SNR=5.9						

IDC 27 06:24:26.2±1.8, 4.°10S×145.°20E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.3/32, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=119.5km s-min=29.9km az=118.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.98**	**213**	P	Pn	06 28 50.0	0.0
	0.1nm,0.3s,baz=34,slow=11,SNR=6.5						

IDC 27 06:35:06.5±5.6, 23.°11S×128.°85E, h0km, mb1 3.6/3, mb1mx3.4/22, mbtmp3.5/3, ML3.4/3, Error ellipse: s-maj=47.5km s-min=35.3km az=76.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**4.68**	**98**	Pn	Pn	06 36 20.1	+1.6
	0.5nm,0.3s,baz=281,slow=12,SNR=31						
ASAR				Sn	Sn	06 37 13.4	-0.2
	2.2nm,0.3s,baz=275,slow=24,SNR=16						
ASAR				Lg	Lg	06 37 35.4	
	3.2nm,0.3s,baz=277,slow=28,SNR=8.2						
WRA	**Warramunga Arr**	**6.01**	**59**	Pn	Pn	06 36 36.2	-0.6
	0.6nm,0.3s,baz=232,slow=12,SNR=39						
WRA				Pg	Pb	06 36 56.8	+4.6
	0.9nm,0.3s,baz=240,slow=15,SNR=5.8						
WRA				Sn	Sn	06 37 44.0	-2.3
	1.7nm,0.3s,baz=244,slow=21,SNR=8.3						
WRA				Lg	Lg	06 38 12.0	
	1.4nm,0.3s,baz=237,slow=28,SNR=5.3						
STKA	**Stephens Creek**	**14.28**	**130**	Pn	Pn	06 38 27.8	-2.2
	0.3nm,0.3s,baz=298,slow=14,SNR=5.3						
STKA				Sn	Sn	06 41 02.6	-6.7
	0.2nm,0.3s,baz=0.0,slow=20,SNR=2.7						

WEL 27 06:45:25.0±0.8, 46.°06S×165.°96E, h12km, ML3.7/10, 1D, Error ellipse: s-maj=6.9km s-min=3.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.52**	**102**	⇓P*	Pg	06 45 35.5	+0.4
PYZ				S*	Sg	06 45 42.4	+0.4
DCZ	**Deep Cove**	**1.02**	**56**	P*	Pb	06 45 43.8	-0.9
DCZ				S*	Sb	06 45 56.8	-1.2
DCZ				AML	AML	06 46 01.4	
WHZ	**Wether Hill Ro**	**1.40**	**84**	PN	Pn	06 45 49.4	-0.9
WHZ				AML	AML	06 46 11.7	
WHZ				AML	AML	06 46 13.1	
APZ	**The Paps**	**1.60**	**119**	PN	Pn	06 45 51.4	-1.8
APZ				SN	Sn	06 46 11.3	-2.6
APZ				AML	AML	06 46 12.5	
MLZ	**Mavora Lakes**	**1.71**	**66**	PN	Pn	06 45 55.0	+0.2
MLZ				AML	AML	06 46 21.6	
MLZ				AML	AML	06 46 26.8	
MSZ	**Milford Sound**	**1.97**	**46**	PN	Pn	06 45 58.5	+0.4
MSZ				AML	AML	06 46 37.5	
MSZ				AML	AML	06 46 37.5	
MSZ				AML	AML	06 46 40.2	
MSZ				AML	AML	06 46 40.2	
SYZ	**Scrubby Hill**	**2.26**	**103**	PN	Pn	06 46 01.4	-0.7
SYZ				AML	AML	06 46 34.4	
SYZ				AML	AML	06 46 35.6	
WKZ	**Wanaka**	**2.48**	**61**	PN	Pn	06 46 08.8	+1.5
WKZ				AML	AML	06 46 45.5	
WKZ				AML	AML	06 46 50.7	
EAZ	**Earnscleugh**	**2.49**	**72**	PN	Pn	06 46 06.4	+1.0
EAZ				AML	AML	06 46 43.0	
EAZ				AML	AML	06 46 45.6	
TUZ	**Tuapeka**	**2.56**	**89**	PN	Pn	06 46 06.4	0.0
JCZ	**Jackson Bay**	**2.81**	**46**	*e*PN	Pn	06 46 11.0	+1.1
JCZ				AML	AML	06 47 02.8	
JCZ				AML	AML	06 47 02.9	
LBZ	**Lake Benmore**	**3.43**	**62**	*e*PN	Pn	06 46 18.5	+0.2
LBZ				AML	AML	06 47 23.7	
ODZ	**Otahua Downs**	**3.45**	**75**	PN	Pn	06 46 17.7	-0.8
WVZ	**Waitaha Valley**	**4.54**	**51**	*e*PN	Pn	06 46 33.6	+0.1
OXZ	**Oxford**	**5.13**	**60**	*e*PN	Pn	06 46 40.5	-1.1

NNC 27 06:54:29.3±1.4, 48.°40N×68.°85E, h18km±17km, mb3.6, mpv3.1, 4C-4D, Error ellipse: s-maj=13.9km s-min=9.8km az=101.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BVA0	**Borovoye Array**	**4.74**	**11**	⇑Pg	Pb	06 55 55.7	+3.9
	1.2nm,0.5s,baz=187,slow=18,SNR=5.0						
BVA0				⇓Lg	Lg	06 56 58.3	
	2.7nm,0.6s,baz=188,slow=28,SNR=5.1						
BRVK	**Borovoye**	**4.76**	**10**	⇓Pg	Pg	06 55 56.8	-3.5
	3.5nm,0.7s						
BRVK				⇓Lg	Lg	06 56 59.9	
	4.7nm,0.6s						
KK31	**Karatay Array**	**5.42**	**167**	⇑Lg	Lg	06 57 20.9	
	0.7nm,0.5s,baz=340,slow=22,SNR=8.9						
AB31	**Akbulak array**	**5.95**	**282**	⇑Lg	Lg	06 57 37.2	
	1.0nm,0.7s,baz=89,slow=27,SNR=4.6						
AKTO	**Aktyubinsk**	**7.36**	**290**	⇓Lg	Lg	06 58 23.7	
	1.5nm,0.9s						
DZET	**Dzherino**	**9.59**	**180**	⇑Sn	Sn	06 58 34.9	+0.9
	1.9nm,0.2s						

IDC ***27*** *07:05:12.5±1.1,6˚34.5S×150˚93.6E, h0km, mb3.9/9, mb1 4.2/10, mb1mx3.9/35, mbtmp4.0/10, ML1.7/1, Error ellipse: s-maj=39.8km s-min=17.7km az=116.0*

ISCJB ***27*** *07:05:16.3±0.9,6˚4.5S±0˚.1×150˚.9E±0˚.2, h36km, mb3.9/9, Error ellipse: s-maj=30.6km s-min=9.8km az=38.5*

ISC 27 07:05:17.9±1.1,6˚4S±0˚.2×151˚.0E±0˚.2, h36km, n11, σ0§84/12, mb3.9/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.83**	**231**	Pn		**Pn**		**07 06 27.8**	**-0.3**
	2.1nm,0.3s,baz=48,slow=7.1,SNR=8.7								
PMG				Sn		**Sn**		**07 07 24.0**	**+1.2**
	8.0nm,0.3s,baz=147,slow=19,SNR=7.4								
WRA	**Warramunga Arr**	**21.04**	**229**	P		**P**		**07 09 58.1**	**-0.8**
	6.6nm,0.8s,baz=52,slow=11,SNR=34								
ASAR	**Alice Springs**	**23.76**	**222**	P		**P**		**07 10 27.1**	**-0.1**
	3.8nm,0.8s,baz=53,slow=9.2,SNR=34								
STKA	**Stephens Creek**	**26.83**	**198**	P		**P**		**07 10 54.5**	**-0.5**
	5.7nm,0.8s,baz=15,slow=9.0,SNR=8.4								
SONM	**Songino Array**	**66.73**	**329**	P		**P**		**07 16 06.3**	**+0.7**
	0.5nm,0.6s,baz=131,slow=5.9,SNR=3.3								
MKAR	**Makanchi Array**	**80.34**	**320**	P		**P**		**07 17 25.3**	**-0.3**
	0.5nm,0.9s,baz=107,slow=5.0,SNR=3.1								
ZALV	**Zalesovo Beam**	**81.48**	**327**	P		**P**		**07 17 30.6**	**-0.8**
	0.4nm,0.3s,baz=104,slow=6.1,SNR=2.4								
KURBB	**Kurchatov Arra**	**83.94**	**322**	P		**P**		**07 17 43.3**	**-1.0**
	0.6nm,0.8s,baz=108,slow=4.2,SNR=5.0								
ILAR	**Eielson Array**	**84.31**	**22**	P		**P**		**07 17 45.5**	**-0.4**
	1.3nm,0.9s,baz=250,slow=5.1,SNR=14								
NVAR	**Mina Array Bea**	**94.49**	**52**	P		**P**		**07 18 36.3**	**+1.2**
	0.3nm,0.7s,baz=233,slow=4.4,SNR=4.0								
TORD	**Torodi Ar. Bea**	**149.02**	**285**	PKPbc		**PKPbc**		**07 25 03.2**	**-0.1**
	1.3nm,0.7s,baz=41,slow=3.0,SNR=8.4								

IDC ***27*** *07:12:44.6±0.5, 11˚.45N×139˚.01E, h0km, mb4.5/21, mb1 4.6/21, mb1mx4.4/32, mbtmp4.5/21, MS3.9/29, Ms1 3.9/29, ms1mx3.8/37, Error ellipse: s-maj=21.5km s-min=10.1km az=89.0*

BJI ***27*** *07:12:47.5, 11˚.47N×139˚.33E, h36km, mb5.0/44, mB5.0/32, Ms4.4/26, Ms7 4.2/27*

MOS ***27*** *07:12:48.4±1.0, 11˚.58N×138˚.97E, h33km, mb4.8/27, Error ellipse: s-maj=16.0km s-min=7.1km az=106.4*

ISCJB ***27*** *07:12:49.0±0.3, 11˚.55N±0˚.03×139˚.05E±0˚.04, h33km, mb4.7/68, MS4.0/33, Error ellipse: s-maj=6.1km s-min=4.9km az=170.6*

NEIC ***27*** *07:12:51.2±0.3, 11˚.56N×139˚.02E, h35km, mb4.8/37, Error ellipse: s-maj=6.9km s-min=6.2km az=98.0*

ISC 27 07:12:50.8±0.4, 11˚.56N±0˚.04×139˚.13E±0˚.06, h35km, n171, σ1§54/186, mb4.8/68, MS4.0/33, 6C-2D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**14.07**	**174**	Pn		**Pn**		**07 16 08.8**	**+1.0**
	7.2nm,0.3s,baz=334,slow=6.7,SNR=14								
JAY				Sn		**Sn**		**07 18 44.0**	**+1.1**
	1.3nm,0.3s,baz=90,slow=20,SNR=6.9								
JAY				LR		LR		07 20 27.6	
	comp=Z,550nm,21.8s,baz=320,slow=33								
JAY	**Jayapura**	**14.07**	**174**	P		**Pn**		**07 16 08.9**	**+1.0**
JAY								07 18 44.0	
JAY				pmax		pmax			
	comp=Z,7.0nm,0.3s								
JAY				smax		smax			
	comp=N,1.0nm,0.3s								
JAY				MLR		MLR			
	comp=Z,550nm,21.8s								
DAV	**Davao City (W)**	**14.09**	**253**	*e*Pn		**Pn**		**07 16 09.7**	**+1.6**
SIJI	**Sorong**	**14.61**	**213**	LR		LR		07 21 01.1	
	comp=Z,350nm,19.1s,baz=126,slow=34								
CBIJ	**Chichi jima**	**15.72**	**10**	*e*P		**P**		**07 16 34.5**	**+1.2**
	comp=Z,22nm,1.0s								
JCJ	**Chichijima**	**15.72**	**10**	LR		LR		07 21 02.0	
	comp=Z,372nm,21.3s,baz=234,slow=31								
TNTI	**Ternate**	**15.85**	**228**	*e*P		**P**		**07 16 36.8**	**+1.9**
FAKI	**Fak Fak**	**15.93**	**206**	*e*P		**P**		**07 16 35.5**	**-0.2**
	comp=Z,30nm,1.1s								
GTOI	**Gorontalo**	**19.34**	**237**	P		Pn		07 17 23.2	+8.6
MRSI	**Marisa**	**20.31**	**238**	P		**P**		**07 17 23.7**	**-0.3**
MRSI				S		x		07 17 39.4	
LUWI	**Luwuk**	**20.52**	**233**	P		**P**		**07 17 25.5**	**-0.7**
LUWI				S		x		07 17 39.1	
LUWI	**Luwuk**	**20.52**	**233**	*e*P		**P**		**07 17 25.1**	**-1.1**
	comp=Z,96nm,0.8s								
TWG	**Pinlang**	**20.54**	**305**	*e*P		**P**		**07 17 25.4**	**-1.0**
	comp=Z,103nm,1.0s								
YULB	**Yu-li**	**20.65**	**307**	*e*P		**P**		**07 17 28.2**	**+0.6**
	comp=Z,467nm,2.5s								
NACB	**Ninganchiao**	**20.84**	**309**	*e*P		**P**		**07 17 30.1**	**+0.4**
	comp=Z,17nm,0.6s								
SSLB	**Suanglung**	**21.13**	**308**	*e*P		**P**		**07 17 33.4**	**+0.6**
	comp=Z,212nm,1.9s								
TPUB	**Ta-pu**	**21.13**	**306**	*e*P		**P**		**07 17 34.0**	**+1.1**
	comp=Z,36nm,0.7s								
YHNB	**Yeheng**	**21.29**	**310**	*e*P		**P**		**07 17 35.2**	**+0.6**
	comp=Z,136nm,1.2s								
APSI	**Ampana**	**21.34**	**236**	P		**P**		**07 17 32.5**	**-2.6**
MYLDM	**Lahad Datu**	**21.36**	**254**	*e*P		**P**		**07 17 36.5**	**+1.1**
	comp=Z,103nm,1.1s								
JHJ	**Hachijo jima 2**	**21.47**	**2**	LR		LR		07 24 07.8	
	comp=Z,623nm,20.4s,baz=231,slow=32								
PMG	**Port Moresby**	**22.31**	**159**	LR		LR		07 26 01.4	
	comp=Z,501nm,20.0s,baz=311,slow=36								
PMG	**Port Moresby**	**22.31**	**159**	*e*P		**P**		**07 17 46.3**	**+0.8**
PMG				pmax		pmax			
	comp=Z,49nm,1.1s								
PMG	**Port Moresby**	**22.31**	**159**	*e*P		**P**		**07 17 46.3**	**+0.8**
	comp=Z,49nm,1.1s								
JNU	**Nakatsue**	**22.76**	**342**	P		**P**		**07 17 48.6**	**-1.6**
	comp=Z,11nm,0.7s,baz=184,slow=5.5,SNR=8.9								
JNU				LR		LR		07 25 14.9	
	comp=Z,348nm,21.7s,baz=122,slow=33								
KKM	**Kota Kinabalu**	**23.29**	**258**	*e*P		**P**		**07 17 55.2**	**-0.6**
	comp=Z,20nm,0.9s								
MJAR	**Matsushiro Arr**	**24.89**	**358**	P		**P**		**07 18 09.0**	**-1.4**
	comp=Z,1.0nm,0.2s,baz=185,slow=10,SNR=4.4								
MJAR				LR		LR		07 26 40.0	
	comp=Z,203nm,19.0s,baz=210,slow=33								
MJAR	**Matsushiro Arr**	**24.89**	**358**	P		**P**		**07 18 09.0**	**-1.4**
MJAR				pmax		pmax			
	comp=Z,1.0nm,0.2s								
MJAR				MLR		MLR			
	comp=Z,203nm,19.0s								
H11S3	**WAKE ISLAND Hy**	**27.47**	**72**	T		T		07 47 09.3	
	baz=255,slow=75,SNR=16								
H11S1	**WAKE ISLAND Hy**	**27.48**	**72**	T		T		07 47 40.1	
	baz=255,slow=75,SNR=16								
H11S2	**WAKE ISLAND Hy**	**27.49**	**72**	T		T		07 47 09.0	
	baz=255,slow=75,SNR=18								
NJ2	**Nanjing**	**27.65**	**321**	*e*P		**P**		**07 18 37.3**	**+1.9**
NJ2				pP		**pP**		**07 18 45.0**	**-0.5**
NJ2				sP		**sP**		**07 18 49.0**	**-0.7**
NJ2				S		**S**		**07 23 16.0**	**+0.9**
NJ2				sS		**sS**		**07 23 30.5**	**-1.2**
NJ2				PMZ					
	comp=Z,50nm,0.8s								
NJ2				PMZ					
	comp=Z,530nm,5.9s								
NJ2				LN					
	comp=Z,790nm,28.8s								
NJ2				LE					
	comp=Z,800nm,19.9s								
NJ2				LZ					
	comp=Z,700nm,16.8s								
KSRS	**Korea Array**	**27.68**	**341**	P		**P**		**07 18 34.5**	**-1.0**
	comp=Z,4.7nm,0.8s,baz=164,slow=10,SNR=12								
KSRS				LR		LR		07 29 03.7	
	comp=Z,292nm,18.3s,baz=153,slow=35								
KSRS	**Korea Array**	**27.68**	**341**	P		**P**		**07 18 34.5**	**-1.0**
KSRS				pmax		pmax			
	comp=Z,5.0nm,0.8s								
KSRS				MLR		MLR			
	comp=Z,292nm,18.3s								
KSAR	**Wonju Array Be**	**27.68**	**340**	P		**P**		**07 18 34.5**	**-1.1**
KSAR	**Wonju Array Be**	**27.68**	**340**	P		**P**		**07 18 34.5**	**-1.1**
H11N1	**WAKE ISLAND Hy**	**27.91**	**70**	T		T		07 47 30.6	
	baz=254,slow=75,SNR=14								
H11N2	**WAKE ISLAND Hy**	**27.91**	**70**	T		T		07 47 50.8	
	baz=254,slow=75,SNR=6.0								
H11N3	**WAKE ISLAND Hy**	**27.92**	**70**	T		T		07 47 32.2	
	baz=254,slow=75,SNR=14								
SBUM	**Sibu**	**28.17**	**253**	*e*P		**P**		**07 18 38.8**	**-1.4**
	comp=Z,31nm,1.6s								
QIZ	**Qiongzhong**	**29.18**	**288**	P		**P**		**07 18 50.5**	**+1.3**
QIZ				S		**S**		**07 23 40.3**	**+0.9**
QIZ				LE					
	comp=Z,140nm,18.5s								
QIZ				LZ					
	comp=Z,360nm,19.4s								
HNR	**Honiara**	**29.38**	**134**	LR		LR		07 30 22.2	
	comp=Z,249nm,18.1s,baz=296,slow=36								
WHN	**Wuhan**	**29.74**	**313**	⇑P		**P**		**07 18 55.0**	**+1.0**
ERM	**Erimo**	**30.54**	**6**	*i* P		**P**		**07 19 02.0**	**+1.1**
ERM				pmax		pmax			
	comp=Z,10.0nm,1.1s								
TIA	**Tai'an**	**31.58**	**325**	⇑P		**P**		**07 19 09.0**	**-1.2**
TIA				PMZ					
	comp=Z,10.0nm,0.9s								
WRAB	**Tennant Creek**	**31.65**	**189**	*e*P		P		07 19 06.2	-4.7
WRAB				pmax		pmax			
	comp=Z,50nm,3.2s								
WRAB	**Tennant Creek**	**31.65**	**189**	*e*P		**P**		**07 19 11.3**	**+0.4**
	comp=Z,6.4nm,1.1s								
WRA	**Warramunga Arr**	**31.66**	**189**	P		**P**		**07 19 09.5**	**-1.5**
	comp=Z,1.8nm,1.0s,baz=13,slow=9.7,SNR=15								
WRA				S		**S**		**07 24 20.6**	**+2.5**
	comp=Z,0.4nm,0.7s,baz=4.3,slow=12,SNR=5.5								
WRA				LR		LR		07 33 02.3	
	comp=Z,106nm,18.1s,baz=15,slow=39								
WRA	**Warramunga Arr**	**31.66**	**189**	P		**P**		**07 19 09.5**	**-1.5**
WRA				S		**S**		**07 24 20.7**	**+2.5**
WRA				pmax		pmax			
	comp=Z,2.0nm,1.0s								
WRA				MLR		MLR			
	comp=Z,107nm,18.1s								
USRK	**Ussuriysk Ar.**	**33.10**	**351**	LR		LR		07 30 42.0	
	comp=Z,265nm,20.9s,baz=158,slow=32								
GYA	**Guiyang**	**33.96**	**301**	P		**P**		**07 19 32.0**	**+0.7**
GYA				pP		**pP**		**07 19 43.3**	**+1.9**
GYA				PP		**PP**		**07 20 47.5**	**-1.0**
GYA				S		**S**		**07 24 54.3**	**+0.1**
GYA				sS		**sS**		**07 25 12.0**	**+1.1**
GYA				ScP		**ScP**		**07 25 51.8**	**+0.3**
GYA				SS		**SnSn**		**07 27 01.8**	**-0.4**
GYA				PMZ					
	comp=Z,20nm,0.8s								
GYA				PMZ					
	comp=Z,120nm,4.9s								
GYA				LN					
	comp=Z,460nm,17.5s								
GYA				LE					
	comp=Z,420nm,18.0s								
GYA				LZ					
	comp=Z,430nm,17.8s								
CN2	**Changchun**	**34.23**	**342**	*e*P		**P**		**07 19 33.3**	**0.0**
CN2				PMZ					
	comp=Z,10.0nm,0.6s								
BJI	**Beijing**	**34.88**	**328**	P		**P**		**07 19 38.0**	**-0.9**
BJI				PP		**PP**		**07 21 01.5**	**+3.1**
BJI				S		**S**		**07 25 08.5**	**+0.7**
BJI				PMZ					
	comp=Z,38nm,1.0s								
BJI				LN					
	comp=Z,230nm,21.0s								
BJI				LE					
	comp=Z,200nm,17.5s								
BJI				LZ					
	comp=Z,220nm,24.5s								
SLVN	**Son La**	**35.08**	**291**	*e*P		**P**		**07 19 41.4**	**+0.4**
	comp=Z,12nm,0.8s								
ASAR	**Alice Springs**	**35.38**	**188**	P		**P**		**07 19 43.1**	**-0.3**
	comp=Z,2.9nm,0.5s,baz=17,slow=13,SNR=64								
ASAR				S		**S**		**07 25 11.4**	**-4.5**
	comp=Z,0.3nm,0.7s,baz=11,slow=11,SNR=2.9								
ASAR				LR		LR		07 33 42.5	
	comp=Z,126nm,21.3s,baz=333,slow=36								
ASAR	**Alice Springs**	**35.38**	**188**	P		**P**		**07 19 43.1**	**-0.3**
ASAR				S		**S**		**07 25 11.4**	**-4.5**
ASAR				pmax		pmax			
	comp=Z,3.0nm,0.5s								
ASAR				MLR		MLR			
	comp=Z,126nm,21.3s								
KMI	**Kunming**	**36.95**	**297**	P		**P**		**07 19 58.0**	**+0.9**
KMI				pP		**pP**		**07 20 09.5**	**+2.2**
KMI				sP		**sP**		**07 20 14.0**	**+2.5**
KMI				PP		**PnPn**		**07 21 23.8**	**+1.8**
KMI				S		**S**		**07 25 40.0**	**-0.3**
KMI				sS		**sS**		**07 25 58.8**	**+1.7**
KMI				PMZ					
	comp=Z,9.0nm,0.7s								
KMI				PMZ					
	comp=Z,110nm,5.6s								
KMI				LN					
	comp=Z,170nm,11.3s								
KMI				LE					
	comp=Z,200nm,13.1s								
KMI				LZ					
	comp=Z,240nm,17.0s								
PBKT	**Sadao Pong**	**37.31**	**282**	P		**P**		**07 20 00.2**	**+0.2**
	comp=Z,18nm,1.2s								
UTTA	**Uttaradit**	**37.77**	**284**	P		**P**		**07 20 03.9**	**0.0**
	comp=Z,3.4nm,0.8s								
HHC	**Hu-ho-hao-te**	**37.93**	**325**	*e*P		**P**		**07 20 05.0**	**-0.1**
HHC				sP		**sP**		**07 20 16.0**	**-3.5**
HHC				S		**S**		**07 25 50.0**	**-4.7**
HHC				sS		**sS**		**07 26 14.3**	**+2.8**
HHC				SS		**SnSn**		**07 28 33.8**	**-4.2**
HHC				PMZ					
	comp=Z,12nm,0.8s								
HHC				PMZ					
	comp=Z,93nm,5.3s								
HHC				LN					
	comp=Z,220nm,14.3s								
HHC				LE					
	comp=Z,200nm,14.4s								
HHC				LZ					
	comp=Z,150nm,13.6s								
CD2	**Chengdu**	**37.95**	**306**	*e*P		**P**		**07 20 05.0**	**-0.3**
CD2				pP		**pP**		**07 20 15.8**	**+0.3**
CD2				PP		**PP**		**07 21 32.0**	**-0.4**
CD2				PcP		**PcP**		**07 22 20.3**	**-0.5**
CD2				S		**S**		**07 25 54.8**	**-0.2**
CD2				PcS		**PcS**		**07 26 09.0**	**-0.8**
CD2				sS		**sS**		**07 26 13.0**	**+1.1**
CD2				PMZ					
	comp=Z,20nm,0.5s								
CD2				PMZ					
	comp=Z,160nm,5.0s								
CD2				LN					
	comp=Z,250nm,13.2s								
CD2				LZ					
	comp=Z,280nm,14.2s								
KLR	**Kul'dur**	**38.05**	**352**	*e*P		**P**		**07 20 02.8**	**-3.0**
KLR				pmax		pmax			
	comp=Z,38nm,1.2s								
CRAI	**Chiangrai**	**38.18**	**288**	P		**P**		**07 20 04.4**	**-3.0**
	comp=Z,12nm,1.0s								
CMAR	**Chiang Mai Arr**	**39.35**	**285**	P		**P**		**07 20 17.3**	**+0.1**
	comp=Z,15nm,0.8s,baz=92,slow=6.7,SNR=54								
CMAR				LR		LR		07 36 33.2	
	comp=Z,121nm,18.6s,baz=100,slow=36								
CMAR	**Chiang Mai Arr**	**39.35**	**285**	P		**P**		**07 20 17.3**	**+0.1**
CMAR				pmax		pmax			
	comp=Z,15nm,0.8s								
CMAR				MLR		MLR			
	comp=Z,121nm,18.7s								
CMMT	**Chiang Mai**	**39.37**	**286**	P		**P**		**07 20 17.9**	**+0.5**
	comp=Z,11nm,1.1s								
CHTO	**Chiang Mai**	**39.38**	**286**	P		**P**		**07 20 17.9**	**+0.5**
	comp=Z,38nm,1.1s								
CHTO	**Chiang Mai**	**39.38**	**286**	*e*P		**P**		**07 20 17.2**	**-0.2**
CHTO				pmax		pmax			
	comp=Z,3.0nm,0.7s								
CHTO	**Chiang Mai**	**39.38**	**286**	*e*P		**P**		**07 20 17.2**	**-0.2**
	comp=Z,2.7nm,0.7s								
CMAI	**Chiengmai2**	**39.38**	**287**	P		**P**		**07 20 17.7**	**0.0**
	comp=Z,42nm,0.9s								
LZH	**Lanzhou**	**40.12**	**313**	*e*P		**P**		**07 20 25.0**	**+1.4**
LZH				pP		**pP**		**07 20 35.5**	**+1.7**
LZH				sP		**sP**		**07 20 40.3**	**+2.3**
LZH				PMZ					
	comp=Z,26nm,1.0s								
LZH				PMZ					
	comp=Z,120nm,4.3s								
PSI	**Prapat**	**40.78**	**261**	P		**P**		**07 20 26.2**	**-3.0**
	comp=Z,2.5nm,0.4s,baz=94,slow=3.4,SNR=4.7								
PSI	**Prapat**	**40.78**	**261**	P		**P**		**07 20 26.2**	**-3.0**
PSI				pmax		pmax			
	comp=Z,3.0nm,0.4s								
STKA	**Stephens Creek**	**43.26**	**177**	P		**P**		**07 20 48.0**	**-1.0**
	comp=Z,2.3nm,0.9s,baz=343,slow=9.0,SNR=3.7								
STKA				LR		LR		07 39 31.8	
	comp=Z,238nm,18.2s,baz=23,slow=37								
STKA	**Stephens Creek**	**43.26**	**177**	P		**P**		**07 20 48.0**	**-1.0**
STKA				pmax		pmax			
	comp=Z,2.0nm,0.9s								
STKA				MLR		MLR			
	comp=Z,238nm,18.2s								
STKA	**Stephens Creek**	**43.26**	**177**	*e*P		**P**		**07 20 49.4**	**+0.4**
	comp=Z,1.1nm,1.0s								
FORT	**Forrest**	**43.42**	**194**	*e*P		**P**		**07 20 50.0**	**-0.3**
	comp=Z,21nm,0.6s								
PETK	**Petropavlovsk-**	**44.03**	**16**	LR		LR		07 40 13.8	
	comp=Z,27nm,19.3s,baz=215,slow=37								
GTA	**Gaotai**	**44.50**	**316**	⇑P		**P**		**07 20 59.0**	**-0.1**
GTA				pP		**pP**		**07 21 09.3**	**-0.2**
GTA				sP		**sP**		**07 21 12.8**	**-0.9**
GTA				S		**S**		**07 27 31.8**	**-0.5**
GTA				sS		**sS**		**07 27 48.5**	**-0.8**
GTA				SS		SS		07 30 43.0	-10
GTA				PMZ					
	comp=Z,23nm,1.3s								
GTA				PMZ					
	comp=Z,130nm,5.7s								
GTA				LN					
	comp=Z,100nm,19.0s								
GTA				LE					
	comp=Z,160nm,19.5s								
GTA				LZ					
	comp=Z,230nm,18.5s								
ULN	**Ulaanbaatar**	**45.06**	**330**	*c i*P		**P**		**07 21 03.6**	**0.0**
ULN				pmax		pmax			
	comp=Z,21nm,1.7s								
ULN	**Ulaanbaatar**	**45.06**	**330**	*e*P		**P**		**07 21 03.5**	**0.0**
	comp=Z,17nm,1.2s								
SONM	**Songino Array**	**45.37**	**329**	P		**P**		**07 21 05.9**	**0.0**
	comp=Z,6.4nm,1.0s,baz=137,slow=7.8,SNR=33								
SONM				PcP		**PcP**		**07 22 44.5**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=140,slow=3.7,SNR=2.9								
SONM				LR		LR		07 42 30.3	
	comp=Z,98nm,18.2s,baz=119,slow=39								
SONM	**Songino Array**	**45.37**	**329**	P		**P**		**07 21 05.9**	**0.0**
SONM								07 22 44.5	
SONM				pmax		pmax			
	comp=Z,6.0nm,1.0s								
SONM				pmax		pmax			
	comp=Z,1.0nm,0.6s								
SONM				MLR		MLR			
	comp=Z,98nm,18.2s								
ZAK	**Zakamensk**	**48.59**	**330**	*e*P		**P**		**07 21 30.1**	**-0.9**
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.8s								
TLY	**Talaya**	**49.26**	**332**	LR		LR		07 42 39.2	
	comp=Z,206nm,19.5s,baz=173,slow=36								
TLY	**Talaya**	**49.26**	**332**	*i* P		**P**		**07 21 36.4**	**+0.4**
TLY				pmax		pmax			
	comp=Z,12nm,1.7s								
TLY	**Talaya**	**49.26**	**332**	*e*P		**P**		**07 21 36.2**	**+0.2**
	comp=Z,6.4nm,0.9s								
BOD	**Bodaibo**	**49.98**	**343**	*e*P		**P**		**07 21 40.8**	**-0.6**
BOD				pmax		pmax			
	comp=Z,4.0nm,1.4s								
YAK	**Yakutsk**	**50.85**	**354**	LR		LR		07 40 53.0	
	comp=Z,74nm,21.7s,baz=194,slow=33								
YAK	**Yakutsk**	**50.85**	**354**	*e*P		**P**		**07 21 46.5**	**-1.3**
YAK				*e*				07 21 59.2	
YAK				pmax		pmax			
	comp=Z,18nm,1.0s								
YAK				pmax		pmax			
	comp=N,9.0nm,1.4s								
YAK				pmax		pmax			
	comp=E,2.0nm,1.1s								
AMKA	**Amchitka**	**51.36**	**31**	*e*P		**P**		**07 21 52.9**	**+1.1**
	comp=E,31nm,0.9s								
SEY	**Seymchan**	**52.16**	**8**	P		**P**		**07 21 58.4**	**+0.7**
	comp=E,2.5nm,0.6s,baz=173,slow=6.6,SNR=12								
SEY	**Seymchan**	**52.16**	**8**	⇑*i* P		**P**		**07 21 58.7**	**+1.0**
WMQ	**Urumqi**	**54.58**	**316**	P		**P**		**07 22 16.5**	**+0.6**
WMQ				pP		**pP**		**07 22 26.5**	**+0.1**
WMQ				sP		**sP**		**07 22 30.5**	**-0.1**
WMQ				PMZ					
	comp=E,33nm,1.0s								
WMQ				PMZ					
	comp=E,110nm,5.0s								
WMQ				LN					
	comp=E,68nm,21.4s								
WMQ				LE					
	comp=E,92nm,23.0s								
WMQ				LZ					
	comp=E,110nm,25.4s								
MK31	**Makanchi Array**	**59.14**	**318**	*e*P		**P**		**07 22 47.5**	**-0.6**
MK31	**Makanchi Array**	**59.14**	**318**	*e*P		**P**		**07 22 47.5**	**-0.6**
MKAR	**Makanchi Array**	**59.14**	**318**	P		**P**		**07 22 48.0**	**-0.1**
	comp=E,12nm,0.8s,baz=103,slow=9.2,SNR=57								
MKAR				LR		LR		07 47 23.7	
	comp=E,63nm,21.9s,baz=78,slow=35								
MKAR	**Makanchi Array**	**59.14**	**318**	P		**P**		**07 22 48.0**	**-0.1**
MKAR				pmax		pmax			
	comp=Z,12nm,0.8s								
BILL	**Bilibino**	**59.17**	**12**	⇑*i* P		**P**		**07 22 48.4**	**+0.5**
BILL				*e*				07 23 40.2	
BILL				pmax		pmax			
	comp=Z,5.0nm,1.2s								
ZAA0	**Zalesovo Array**	**60.09**	**326**	*e*P		**P**		**07 22 53.4**	**-1.1**
ZALV	**Zalesovo Beam**	**60.09**	**326**	P		**P**		**07 22 53.8**	**-0.7**
	comp=Z,6.3nm,0.7s,baz=112,slow=4.9,SNR=22								
ZALV				PcP		**PcP**		**07 23 38.6**	**-1.5**
	comp=Z,2.7nm,0.6s,baz=118,slow=2.9,SNR=4.6								
ZALV	**Zalesovo Beam**	**60.09**	**326**	P		**P**		**07 22 53.8**	**-0.7**
ZALV								07 23 38.6	
ZALV				pmax		pmax			
	comp=Z,6.0nm,0.7s								
ZALV				pmax		pmax			
	comp=Z,3.0nm,0.6s								
NVS	**Novosibirsk**	**61.30**	**327**	*e*P		**P**		**07 23 01.1**	**-1.5**
NVS				*e*S		S		07 31 12.3	-8.1
NVS				pmax		pmax			
	comp=N,9.0nm,1.5s								
NVS				pmax		pmax			
	comp=E,12nm,1.5s								
NVS	

TRF	**Thorofare Moun**	**71.08**	**27**	*e*P		**P**	07 24 05.6	+0.2
	comp=Z,13nm,1.2s							
PMR	**Palmer**	**71.23**	**29**	*e*P		**P**	07 24 06.5	+0.3
PMR					pmax	pmax		
	comp=Z,5.0nm,0.8s							
PMR	**Palmer**	**71.23**	**29**	*e*P		**P**	07 24 06.5	+0.3
	comp=Z,5.3nm,0.8s							
ILAR	**Eielson Array**	**72.80**	**26**	P		**P**	07 24 15.1	-0.4
	comp=Z,1.6nm,0.7s,baz=248,slow=5.9,SNR=36							
ILAR					LR	LR	07 51 39.8	
	comp=Z,31nm,20.7s,baz=288,slow=32							
ABKAR	**Akbulak array**	**74.28**	**318**	*e*P		**P**	07 24 24.0	-0.6
EGAK	**Eagle**	**75.23**	**26**	*e*P		**P**	07 24 31.1	+1.3
	comp=Z,7.6nm,1.3s							
ARU	**Arti**	**75.24**	**325**		LR	LR	07 58 37.0	
	comp=Z,203nm,20.9s,baz=102,slow=37							
ARU	**Arti**	**75.24**	**325**	*d*P		**P**	07 24 28.8	-1.1
ARU							07 27 16.3	
ARU					S	**S**	07 34 07.8	+1.3
ARU					SS	**SS**	07 38 51.8	-4.4
ARU					pmax	pmax		
	comp=Z,25nm,1.7s							
ARU					MLR	MLR		
	comp=Z,237nm,21.0s							
ARU	**Arti**	**75.24**	**325**	*e*P		**P**	07 24 28.9	-1.1
	comp=Z,12nm,0.6s							
AKTO	**Aktyubinsk**	**75.53**	**319**	P		**P**	07 24 30.2	-1.6
	comp=Z,1.4nm,0.5s,baz=88,slow=15,SNR=4.6							
AKTO	**Aktyubinsk**	**75.53**	**319**	P		**P**	07 24 30.2	-1.6
AKTO					pmax	pmax		
	comp=Z,1.0nm,0.5s							
GEYT	**Alibeck**	**75.94**	**306**		LR	LR	08 00 09.4	
	comp=Z,65nm,21.2s,baz=25,slow=38							
DAWY	**Dawson**	**75.95**	**27**	*e*P		**P**	07 24 35.5	+1.5
	comp=Z,11nm,1.1s							
PPT	**Papeete**	**76.11**	**111**		LR	LR	07 51 54.6	
	comp=Z,80nm,20.0s,baz=314,slow=31							
PPT2	**Papeete2**	**76.12**	**111**	*e*LR		LR	07 48 06.9	
	comp=Z,172nm,22.8s							
HYT	**Haines Junctio**	**76.76**	**30**	*e*P		**P**	07 24 40.7	+2.0
TBI	**Tubuai**	**77.96**	**117**	*e*LR		LR	07 48 56.7	
	comp=Z,189nm,30.5s							
INK	**Inuvik**	**78.36**	**22**	P		**P**	07 24 47.4	+0.1
	comp=Z,1.7nm,0.9s,baz=316,slow=4.9,SNR=6.2							
INK	**Inuvik**	**78.36**	**22**	P		**P**	07 24 47.4	+0.1
INK					pmax	pmax		
	comp=Z,2.0nm,0.9s							
PRGR	**Permogore**	**81.58**	**331**	P		**P**	07 25 03.1	-1.7
PRGR					pmax	pmax		
	comp=Z,12nm,0.6s							
NLWA	**Neilton Lookou**	**86.28**	**43**	*e*P		**P**	07 25 29.8	+0.6
	comp=Z,16nm,1.2s							
YKA	**Yellowknife Ar**	**87.20**	**27**	P		**P**	07 25 33.8	+0.5
	comp=Z,1.6nm,0.6s,baz=291,slow=4.9,SNR=13							
YKA	**Yellowknife Ar**	**87.20**	**27**	P		**P**	07 25 33.8	+0.5
YKA					pmax	pmax		
	comp=Z,2.0nm,0.6s							
ARCES	**ARCESS Array B**	**87.23**	**341**	P		**P**	07 25 32.2	-1.2
	comp=Z,2.9nm,0.6s,baz=81,slow=7.5,SNR=16							
ARCES					LR	LR	08 07 56.8	
	comp=Z,62nm,19.5s,baz=80,slow=38							
ARCES	**ARCESS Array B**	**87.23**	**341**	P		**P**	07 25 32.2	-1.2
ARCES					pmax	pmax		
	comp=Z,3.0nm,0.6s							
ARCES					MLR	MLR		
	comp=Z,62nm,19.5s							
OBN	**Obninsk**	**87.68**	**326**		LR	LR	08 05 53.0	
	comp=Z,121nm,21.1s,baz=90,slow=36							
OBN	**Obninsk**	**87.68**	**326**	i*e*P		**P**	07 25 33.3	-2.4
OBN				*e*			07 29 04.1	
OBN				*e*S		**SKSac**	07 35 58.8	-2.3
OBN					pmax	pmax		
	comp=Z,11nm,0.4s							
OBN					MLR	MLR		
	comp=Z,137nm,23.0s							
RAYN	**Ar Rayn**	**88.73**	**294**	*e*P		**P**	07 25 40.2	-1.3
	comp=Z,6.6nm,0.7s							
VNDA	**Vanda**	**89.87**	**175**		LR	LR	08 04 15.1	
	comp=Z,96nm,20.2s,baz=333,slow=34							
FINES	**FINESS Array B**	**90.56**	**334**	P		**P**	07 25 46.8	-2.4
	comp=Z,3.8nm,0.6s,baz=98,slow=5.8,SNR=14							
FINES					LR	LR	08 07 20.3	
	comp=Z,94nm,21.9s,baz=38,slow=36							
FINES	**FINESS Array B**	**90.56**	**334**	P		**P**	07 25 46.8	-2.4
FINES					pmax	pmax		
	comp=Z,4.0nm,0.6s							
FINES					MLR	MLR		
	comp=Z,94nm,21.9s							
RKT	**Rikitea**	**90.76**	**113**	*e*LR		LR	07 54 53.1	
	comp=Z,137nm,31.8s							
BSMT	**Bassoo Peak**	**92.05**	**40**	*e*P		**P**	07 25 58.2	+1.5
	comp=Z,1.8nm,0.9s							
NVAR	**Mina Array Bea**	**92.53**	**50**	P		**P**	07 26 00.2	+1.0
	comp=Z,0.4nm,0.6s,baz=273,slow=5.3,SNR=5.8							
MFID	**Camas Ranch**	**92.81**	**45**	*e*P		**P**	07 26 01.6	+1.5
	comp=Z,4.9nm,1.2s							
AKASG	**Malin Array Be**	**93.35**	**323**	LR		LR	08 10 58.8	
	comp=Z,63nm,19.0s,baz=75,slow=37							
HLID	**Hailey**	**93.73**	**44**	*e*P		**P**	07 26 05.3	+0.8
	comp=Z,4.0nm,1.0s							
LRM	**Limekiln Ridge**	**94.26**	**42**	*e*P		**P**	07 26 07.8	+0.9
	comp=Z,54nm,1.1s							
DLMT	**Dillon**	**94.33**	**42**	*e*P		**P**	07 26 08.7	+1.5
	comp=Z,8.3nm,1.4s							
QLMT	**Earthquake Lak**	**95.29**	**42**	*e*P		**P**	07 26 13.3	+1.6
	comp=Z,1.7nm,1.2s							
IMW	**Indian Meadow**	**95.97**	**43**	*e*P		**P**	07 26 17.4	+2.5
	comp=Z,2.4nm,0.9s							
RLMT	**Red Lodge**	**96.59**	**42**	*e*P		P	07 26 20.9	+3.3
	comp=Z,19nm,1.9s							
NOA	**NORSAR Array B**	**96.84**	**337**		LR	LR	08 14 25.5	
	comp=Z,50nm,19.3s,baz=90,slow=38							
OKC	**Ostrava-Krasne**	**100.07**	**326**		AMS	AMS	08 13 20.0	
	comp=Z,100nm,22.6s							
DPC	**Dobruska-Polom**	**100.79**	**327**		AMS	AMS	08 15 30.0	
UPC	**Upice**	**100.87**	**327**		AMS	AMS	08 13 20.0	
	comp=Z,200nm,23.9s							
PVCC	**Panska Ves**	**101.62**	**328**		AMS	AMS	08 15 50.0	
	comp=Z,300nm,21.0s							
TREC	**Trest**	**101.82**	**326**		AMS	AMS	08 15 10.0	
	comp=Z,200nm,20.8s							
GOPC	**GO Pecny, Ondr**	**101.86**	**327**		AMS	AMS	08 13 50.0	
PRU	**Pruhonice**	**101.94**	**327**		AMS	AMS	08 14 30.0	
	comp=Z,100nm,21.4s							
NKC	**Novy Kostel**	**102.90**	**328**		AMS	AMS	08 15 50.0	
	comp=Z,200nm,16.6s							
KHC	**Kasperske Hory**	**102.95**	**327**		AMS	AMS	08 15 10.0	
	comp=Z,100nm,21.6s							
TORD	**Torodi Ar. Bea**	**131.15**	**299**		PKP	**PKPdf**	07 31 59.8	-0.4
	comp=Z,0.2nm,0.5s,baz=88,slow=2.2,SNR=3.3							
TRQA	**Tornquist**	**147.56**	**148**	*e*PKPbc		**PKPbc**	07 32 31.5	-0.4
LPAZ	**La Paz**	**153.14**	**103**	PKPbc		**PKPbc**	07 32 47.0	+0.4
	comp=Z,0.9nm,0.7s,baz=254,slow=3.2,SNR=4.7							
LPAZ	**La Paz**	**153.14**	**103**	PKIKP		**PKPbc**	07 32 47.1	+0.4
LPAZ					pmax	pmax		
	comp=Z,1.0nm,0.7s							
LPAZ	**La Paz**	**153.14**	**103**	*e*PKPbc		**PKPbc**	07 32 47.7	+1.0

*NEIC **27** 07:17:08.3, 17°.49N×94°.72W, h151km, MD4.4(MEX), After MEX.*

MEX 27 07:17:08.5±0.5, 17°.54N×94°.73W, h148km±5km, MD4.4, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMIG	**Matias Romero**	**0.47**	**199**	*i*	P	Pn	07 17 28.1	-1.4
CMIG				*i*	S	Sn	07 17 43.3	-2.1
CMIG	**Matias Romero**	**0.47**	**199**	*i*	P	Pn	07 17 28.1	-1.4
CMIG				*i*	S	Sn	07 17 43.3	-2.1
TGIG		**1.71**	**116**	*i*	P	Pn	07 17 39.2	-1.1
TGIG				*e*	S	Sn	07 18 02.1	-2.5
TGIG		**1.71**	**116**	*i*	P	Pn	07 17 39.2	-1.1
TGIG				*e*	S	Sn	07 18 02.1	-2.5
VHO	**Vista Hermosa**	**1.97**	**257**	*e*	P	Pn	07 17 42.0	-1.5
VHO				*e*	S	Sn	07 18 08.8	-1.5
VHO	**Vista Hermosa**	**1.97**	**257**	*e*	P	Pn	07 17 42.0	-1.5
VHO				*e*	S	Sn	07 18 08.8	-1.5
HUIG	**Huatulco**	**2.20**	**217**	*i*	P	Pn	07 17 42.5	-3.5
HUIG				*i*	S	Sn	07 18 12.6	-2.2
HUIG	**Huatulco**	**2.20**	**217**	*i*	P	Pn	07 17 42.5	-3.5
HUIG				*e*	S	Sn	07 18 12.1	-2.7
PCIG		**2.33**	**141**	*i*	P	Pn	07 17 46.4	-1.1
PCIG				*i*	S	Sn	07 18 15.5	-1.9
PCIG		**2.33**	**141**	*i*	P	Pn	07 17 46.4	-1.1
PCIG				*i*	S	Sn	07 18 15.5	-1.9
PNIG	**Pinotepa**	**3.45**	**251**	*e*P		Pn	07 18 02.7	+1.1

*IDC **27** 07:17:11.3±4.4, 37°.08N×69°.56E, h0km, mb3.5/1, mb1 3.7/7, mb1mx3.4/47, mbtmp3.7/7, ML3.5/6, Error ellipse: s-maj=64.5km s-min=23.8km az=163.0*
*ISCJB **27** 07:17:18.9±0.7, 37°.82N±0°.06×69°.18E±0°.07, h27km, mb4.0/2, MS3.8/1, Error ellipse: s-maj=8.3km s-min=7.3km az=153.6*
*NNC **27** 07:17:21.2±1.5, 37°.72N×69°.42E, h19km±8km, mb4.5, mpv4.2, Error ellipse: s-maj=12.1km s-min=4.9km az=20.0*

ISC 27 07:17:20.9±0.9, 37°.74N±0°.07×69°.29E±0°.06, h27km, n28, σ1s68/34, 12C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZET	**Dzherino**	**1.13**	**341**		⇑P	**Pb**	07 17 42.8	+1.0
DZET	1μm,0.4s				⇑S	**Sb**	07 17 58.8	+2.7
	2μm,0.5s							
SFK	**Sufi-Kurgan**	**4.00**	**54**		⇑Pn	**Pn**	07 18 21.5	+0.8
	4.5nm,0.3s							
SFK	41nm,0.5s				⇓Pg	**Pb**	07 18 32.5	+1.6
SFK	30nm,0.4s				⇓Sn	**Sn**	07 19 08.3	+1.5
SFK	96nm,0.8s				⇓Lg	Lg	07 19 26.4	
CHCP	**Chirah Chowk**	**5.20**	**140**		P	**Pn**	07 18 38.0	+1.0
THW	**Thamme Wali**	**5.33**	**157**		P	**Pn**	07 18 40.6	+1.9
KK31	**Karatay Array**	**5.44**	**10**		Pn	**Pn**	07 18 41.5	+1.2
	1.8nm,0.5s,baz=31,slow=90,SNR=11							
KK31	13nm,0.7s,baz=187,slow=17,SNR=6.0				⇓Pg	Pb	07 19 00.8	+5.5
KK31	39nm,0.6s,baz=190,slow=27,SNR=11				⇓Lg	Lg	07 20 11.3	
KSH	**Kashi**	**5.53**	**69**		Pn	**Pn**	07 18 36.5	-5.1
KSH					Sn	Sn	07 19 33.8	-11
KSH					smax	smax		
	comp=N,140nm,1.0s							
KSH					smax	smax		
	comp=E,78nm,0.8s							
AML	**Almayashu**	**5.54**	**36**		P	**Pn**	07 18 42.8	+0.8
	SNR=33							
EKS2	**Erkin-Say**	**6.00**	**34**		P	**Pn**	07 18 49.9	+1.8
	SNR=15							
AAK	**Ala-Archa**	**6.31**	**38**		P	**Pn**	07 18 53.6	+1.3
	SNR=28							
AAK	**Ala-Archa**	**6.31**	**38**		⇑Pn	**Pn**	07 18 53.3	+1.0
	comp=E,19nm,0.3s							
AAK					⇑Pg	Pb	07 19 17.0	+7.0
	comp=E,6.7nm,0.4s							
AAK					⇓Lg	Lg	07 20 39.6	
	comp=E,31nm,0.9s							
KZA	**Kyzart**	**6.31**	**45**		P	**Pn**	07 18 52.7	+0.1
	SNR=24							
CHMS	**Chumysh**	**6.71**	**37**		P	**Pn**	07 18 58.3	+0.6
	SNR=11							
USP	**Ospenovka**	**6.80**	**34**		P	**Pn**	07 18 59.6	+0.6
	SNR=6.0							
TKM2	**Tokmak 2**	**7.07**	**41**		P	**Pn**	07 19 03.1	+0.2
	SNR=21							
TKM2	**Tokmak 2**	**7.07**	**41**		⇓Pn	**Pn**	07 19 02.9	0.0
	comp=E,13nm,0.5s							
TKM2					⇑Pg	Pb	07 19 30.3	+7.2
	comp=E,7.3nm,0.6s							
TKM2					⇑Sn	**Sn**	07 20 20.7	-1.7
	comp=E,11nm,0.8s							
TKM2					⇑Lg	Lg	07 21 03.9	
	comp=E,9.7nm,0.6s							
GEYT	**Alibeck**	**8.84**	**275**		Pn	**Pn**	07 19 26.0	-0.9
	comp=E,0.7nm,0.3s,baz=98,slow=10,SNR=3.5							
PDGK	**Podgornoye**	**9.56**	**51**		⇑Pg	Pn	07 20 15.0	+38
	comp=E,10nm,1.4s							
PDGK					⇑Lg	Lg	07 22 22.0	
	comp=E,12nm,0.9s							
MK31	**Makanchi Array**	**13.20**	**43**		P	**Pn**	07 20 24.4	-2.1
	comp=E,3.1nm,0.7s,baz=229,slow=13,SNR=22							
MKAR	**Makanchi Array**	**13.20**	**43**		Pn	**Pn**	07 20 24.8	-1.8
	comp=E,0.2nm,0.3s,baz=233,slow=14,SNR=26							
AB31	**Akbulak array**	**13.35**	**333**		⇑P	**Pn**	07 20 27.0	-1.5
	comp=E,2.9nm,0.6s,baz=164,slow=11,SNR=32							
AB31					S	Sn	07 22 50.4	-5.4
	comp=E,1.2nm,0.4s,baz=145,slow=25,SNR=5.3							
KURBB	**Kurchatov Arra**	**14.47**	**24**		Pn	**Pn**	07 20 41.1	-2.7
	comp=E,0.1nm,0.3s,baz=213,slow=13,SNR=7.7							
AKTO	**Aktyubinsk**	**15.03**	**331**		⇑P	**Pn**	07 20 50.3	-1.1
	comp=E,9.6nm,0.7s							
AKTO	**Aktyubinsk**	**15.03**	**331**		Pn	**Pn**	07 20 50.0	-1.4
	comp=E,0.3nm,0.3s,baz=142,slow=14,SNR=14							
BVAR	**Borovoye Array**	**15.31**	**3**		Pn	**Pn**	07 20 53.2	-1.8
	comp=E,0.3nm,0.3s,baz=186,slow=10,SNR=3.0							
ZALV	**Zalesovo Beam**	**19.42**	**28**		P	**P**	07 21 42.6	-2.3
	comp=E,0.5nm,0.3s,baz=224,slow=12,SNR=9.6							
ARU	**Arti**	**20.03**	**342**		P	**P**	07 21 51.9	+0.3
	baz=126,slow=14							
HHC	**Hu-ho-hao-te**	**32.64**	**71**	*e*	P	**P**	07 23 52.8	+2.2
HHC					PP	**PnPn**	07 25 00.5	+1.9
HHC					S	**S**	07 29 04.5	-0.5
HHC					sS	**sS**	07 29 14.0	-4.1
HHC					SS	**SnSn**	07 30 59.3	-1.2
HHC					pmax	pmax		
	comp=Z,13nm,1.2s							
HHC					pmax	pmax		
	comp=Z,50nm,5.4s							
HHC					LR	LR		
	comp=N,100nm,11.6s							
HHC					LR	LR		
	comp=E,180nm,17.1s							
HHC					LR	LR		
	comp=Z,140nm,15.1s							
NOA	**NORSAR Array B**	**42.57**	**322**		P	**P**	07 25 14.1	0.0
	comp=Z,0.3nm,0.3s,baz=99,slow=7.9,SNR=3.2							

*IDC **27** 07:27:54.6±1.9, 56°.42N×142°.87E, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.4/30, mbtmp3.5/5, ML3.0/2, MS3.6/1, Ms1 3.6/1, ms1mx2.5/30, Error ellipse: s-maj=46.3km s-min=27.5km az=165.0*
*ISCJB **27** 07:27:56.9±0.9, 56°.34N±0°.07×143°.0E±0°.2, h33km, mb3.5/3, MS3.6/1, Error ellipse: s-maj=17.9km s-min=8.9km az=12.2*
*MOS **27** 07:27:56.9±0.1, 56°.39N×142°.90E, h40km, mb4.0/1, Error ellipse: s-maj=57.4km s-min=29.0km az=83.4*

ISC 27 07:27:58.9±1.0, 56°.31N±0°.09×142°.8E±0°.1, h35km, n9, σ0s97/9, mb3.6/3, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OKH	**Okha**	**2.77**	**179**	*e*P		**Pn**	07 28 40.1	-0.6
OKH				*i*	S	**Sn**	07 29 13.0	+0.1
OKH					smax	smax		
	comp=N,1.0nm,0.5s							
SEY	**Seymchan**	**8.21**	**32**		Pn	**Pn**	07 29 55.0	-0.3
	comp=N,0.6nm,0.3s,baz=223,slow=19,SNR=8.0							
SEY					Lg	Lg	07 32 21.9	
	comp=N,0.1nm,0.3s,baz=179,slow=15,SNR=2.7							
SEY	**Seymchan**	**8.21**	**32**		P	**Pn**	07 29 55.0	-0.3
SEY					pmax	pmax		
	comp=Z,1.0nm,0.3s							
PETK	**Petropavlovsk-**	**9.19**	**104**		Pn	**Pn**	07 30 09.4	+0.7
	comp=Z,0.2nm,0.3s,baz=343,slow=8.6,SNR=5.1							
ILAR	**Eielson Array**	**33.82**	**46**		P	**P**	07 34 36.0	-1.2
	comp=Z,0.6nm,0.4s,baz=284,slow=8.4,SNR=13							
ILAR	**Eielson Array**	**33.82**	**46**		P	**P**	07 34 36.0	-1.2
ILAR					pmax	pmax		
	comp=Z,1.0nm,0.4s							
MKAR	**Makanchi Array**	**37.66**	**282**		P	**P**	07 35 11.2	+0.9
	comp=Z,0.2nm,0.6s,baz=61,slow=10,SNR=2.4							
BVAR	**Borovoye Array**	**40.24**	**297**		LR	LR	07 52 48.5	
	comp=Z,88nm,20.2s,baz=83,slow=37							
NVAR	**Mina Array Bea**	**63.48**	**60**		P	**P**	07 38 26.2	+0.9
	comp=Z,0.4nm,0.7s,baz=308,slow=4.5,SNR=4.5							

*KRNET **27** 07:44:05.5±0.1, 43°.11N×78°.30E, h35km, mb3.2*
*NNC **27** 07:44:09.5±1.3, 42°.64N×79°.33E, h3km±15km, mb2.7, mpv2.6, Error ellipse: s-maj=80.5km s-min=8.2km az=103.0*

ISC 27 07:44:01.8±2.3, 42°.1N±0°.1×79°.3E±0°.1, h10km, n8, σ2s06/9, 7C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PDGK	**Podgornoye**	**1.24**	**7**		⇑P	**Pn**	07 44 23.4	-1.7
	10nm,0.3s							
PDGK					⇓S	Sn	07 44 33.5	-8.4
	54nm,0.4s							
KDJ	**Kajisay**	**1.56**	**272**	*e*P		**Pn**	07 44 29.1	-0.7
	baz=220							
KDJ				*e*	S	Sn	07 44 43.1	-7.0
	baz=220							
NRN	**Naryn**	**2.54**	**256**	*e*P		**Pg**	07 44 50.0	-0.5
	baz=226							
NRN				*e*	S	**Sb**	07 45 18.4	-0.6
	baz=226							
TKM2	**Tokmak 2**	**2.84**	**288**		⇓Pn	**Pb**	07 44 53.8	+1.1
	8.1nm,0.7s							
TKM2					⇓Sn	**Sb**	07 45 27.9	+0.3
	52nm,0.6s							
AAK	**Ala-Archa**	**3.58**	**280**		⇑Sn	**Sb**	07 45 50.8	+1.9
	7.2nm,0.5s							
MK31	**Makanchi Array**	**5.17**	**24**		⇑Pn	**Pn**	07 45 22.0	+2.9
	0.2nm,0.3s,baz=200,slow=16,SNR=12							
MK31					⇑Sn	**Sn**	07 46 15.9	-2.9
	1.1nm,0.6s,baz=209,slow=23,SNR=5.4							
MK31					⇑Lg	Lg	07 46 37.1	
	3.2nm,0.7s,baz=212,slow=29,SNR=6.6							
KK31	**Karatay Array**	**6.54**	**282**		⇑Lg	Lg	07 47 34.1	
	1.5nm,0.5s,baz=92,slow=26,SNR=9.7							
KURBB	**Kurchatov Arra**	**8.54**	**357**		⇑Lg	Lg	07 48 24.6	
	8.1nm,0.8s							

*ISCJB **27** 07:45:29.3±0.6, 50°.33N±0°.06×18°.85E±0°.03, h0km, Error ellipse: s-maj=8.3km s-min=2.9km az=1.4*
*CSEM **27** 07:45:29.5±0.5, 50°.32N×18°.92E, h2km, ML2.6/6*
*PRU **27** 07:45:30.1,50°.23N×18°.97E, h0km*

ISC 27 07:45:30.5±0.9, 50°.21N±0°.04×18°.92E±0°.03, h0km, n21, σ0s73/40, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHZP	**Chorzow**	**0.09**	**28**	*e*Pg		**Pg**	07 45 32.6	+0.3
CHZP				*e*Sg		**Sg**	07 45 34.0	+0.5
OJC	**Ojcow**	**0.56**	**89**	*e*Pg		**Pg**	07 45 40.7	-0.6
OJC				*e*Sg		**Sg**	07 45 48.4	-0.1
OJC	**Ojcow**	**0.56**	**89**	*e*Pg		**Pg**	07 45 40.7	-0.6
OJC				*e*Sg		**Sg**	07 45 48.4	-0.1
OKC	**Ostrava-Krasne**	**0.62**	**234**	*e*PG		**Pg**	07 45 42.4	0.0
OKC				*e*SG		**Sg**	07 45 51.3	+0.8
	comp=Z,12nm,0.4s							
OKC	**Ostrava-Krasne**	**0.62**	**234**	Pg		**Pg**	07 45 42.4	0.0
OKC				Sg		**Sg**	07 45 51.3	+0.8
	12nm,0.4s							
MORC	**Moravsky Berou**	**0.99**	**245**	*e*Pg		**Pb**	07 45 50.3	-0.3
MORC				*e*Sg		**Sb**	07 46 04.4	+0.2
KRLC	**Kraliky**	**1.39**	**265**	*e*PG		**Pg**	07 45 56.3	-0.7
KRLC				*e*SG		**Sg**	07 46 15.7	+0.2
KRLC	**Kraliky**	**1.39**	**265**	Pg		**Pg**	07 45 56.3	-0.7
KRLC				Sg		**Sb**	07 46 15.7	+0.2
DPC	**Dobruska-Polom**	**1.68**	**276**	*e*PG		**Pn**	07 46 01.3	+0.2
DPC				*e*SG		**Sg**	07 46 24.7	+0.4
	comp=Z,10nm,0.6s							
DPC	**Dobruska-Polom**	**1.68**	**276**	Pg		**Pn**	07 46 01.3	+0.2
DPC				Sg		**Sg**	07 46 24.7	+0.4
	10nm,0.6s							
VRAC	**Vranov**	**1.76**	**240**	*e*Pn		**Pb**	07 46 03.7	+0.1
VRAC				*e*Sg		**Sg**	07 46 27.5	+0.5
UPC	**Upice**	**1.89**	**280**	*e*PG		**Pb**	07 46 05.3	-0.5
UPC				*e*SG		**Sg**	07 46 31.6	+0.5
	comp=Z,6.3nm,0.4s							
UPC	**Upice**	**1.89**	**280**	Pg		**Pb**	07 46 05.3	-0.5
UPC				Sg		**Sg**	07 46 31.6	+0.5
	6.3nm,0.4s							
GOPC	**GO Pecny, Ondr**	**2.68**	**265**	*e*PG		**Pb**	07 46 19.6	+0.2
GOPC				*e*SG		**Sg**	07 46 56.1	-0.5
	comp=Z,4.7nm,0.5s							
GOPC	**GO Pecny, Ondr**	**2.68**	**265**	Pg		**Pb**	07 46 19.6	+0.2
GOPC				Sg		**Sg**	07 46 56.1	-0.5
	4.7nm,0.5s							
PVCC	**Panska Ves**	**2.81**	**278**	*e*SG		**Sg**	07 47 00.7	+0.1
PVCC	**Panska Ves**	**2.81**	**278**	Sg		**Sg**	07 47 00.7	+0.1
PRU	**Pruhonice**	**2.83**	**267**	*e*SG		**Sg**	07 47 01.0	-0.4
	comp=Z,5.0nm,0.5s							
PRU	**Pruhonice**	**2.83**	**267**	Sg		**Sg**	07 47 01.0	-0.4
	5.0nm,0.5s							
KHC	**Kasperske Hory**	**3.64**	**255**	*e*PG		**Pb**	07 46 37.8	+2.2
KHC				*ex*		x	07 46 42.0	
KHC				*e*SN		**Sn**	07 47 10.9	-0.8
KHC				*e*SG		**Sg**	07 47 26.0	-1.2
	comp=Z,3.9nm,0.6s							
KHC	**Kasperske Hory**	**3.64**	**255**	Pg		**Pb**	07 46 37.8	+2.2
KHC				Sn		**Sn**	07 47 10.9	-0.8
KHC				Sg		**Sg**	07 47 26.0	-1.2
	3.9nm,0.6s							

IDC 27 07:54:32.6±60.0, 22°.22S×179°.73W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/21, mbtmp3.7/3, Error ellipse: s-maj=1085.0km s-min=151.7km az=85.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**35.61**	**246**	P		P	08 01 30.6	-1.6
	1.0nm,0.6s,baz=97,slow=16,SNR=3.9							
ASAR	**Alice Springs**	**42.58**	**259**	P		P	08 02 30.6	-0.1
	0.4nm,0.8s,baz=100,slow=7.7

SMF	**Signal de Mont**	**1.13**	**274**	*e*Pg	**Pb**	**08 07 47.4**	**+0.1**
SMF				*e*Sg	**Sb**	**08 08 01.5**	**-0.3**
	236nm,0.2s						
SMF	**Signal de Mont**	**1.13**	**274**	*e*Pn	**Pb**	**08 07 46.9**	**-0.4**
SMF	**Signal de Mont**	**1.13**	**274**	*e*Pg	**Pb**	**08 07 47.4**	**+0.1**
SMF				*e*Sg	**Sb**	**08 08 01.5**	**-0.3**
	118nm,0.2s						
GRYON	**Gryon**	**1.18**	**106**	*e*P	**Pb**	**08 07 48.4**	**+0.3**
	58nm,0.2s						
GRYON	**Gryon**	**1.18**	**106**	*e*P	**Pb**	**08 07 48.4**	**+0.3**
	58nm,0.2s						
RSL	**Roselend**	**1.20**	**138**	Pg	**Pb**	**08 07 48.0**	**-0.5**
RSL				Sg	**Sb**	**08 08 03.8**	**0.0**
RSL	**Roselend**	**1.20**	**138**	Pg	**Pb**	**08 07 48.0**	**-0.5**
RSL				Sg	**Sb**	**08 08 03.8**	**0.0**
LOMF	**Lomont**	**1.20**	**50**	Pn	**Pb**	**08 07 48.0**	**-0.5**
LOMF				Sg	**Sn**	**08 08 05.5**	**+1.1**
LOMF	**Lomont**	**1.20**	**50**	Pn	**Pb**	**08 07 48.0**	**-0.5**
LOMF				Sg	**Sn**	**08 08 05.5**	**+1.1**
SENIN	**Lac Senin/Sane**	**1.27**	**99**⇑	*i*P	**Pn**	**08 07 50.0**	**+0.5**
	277nm,0.5s						
SENIN	**Lac Senin/Sane**	**1.27**	**99**⇑	*i*P	**Pn**	**08 07 50.0**	**+0.5**
	277nm,0.5s						
LOR	**Lormes**	**1.31**	**302**	*e*Pn	**Pn**	**08 07 49.4**	**-0.4**
	baz=124						
LOR	**Lormes**	**1.31**	**302**	*e*Pg	**Pn**	**08 07 50.5**	**+0.7**
	baz=124						
LOR				*e*Sg	**Sb**	**08 08 07.5**	**+0.6**
	249nm,0.2s,baz=129						
LOR	**Lormes**	**1.31**	**302**	*e*Pn	**Pn**	**08 07 49.4**	**-0.4**
LOR	**Lormes**	**1.31**	**302**	*e*Pg	**Pn**	**08 07 50.5**	**+0.7**
LOR				*e*Sg	**Sb**	**08 08 07.5**	**+0.6**
	125nm,0.2s						
GRN	**Grenoble**	**1.35**	**172**	Pg	**Pn**	**08 07 51.2**	**+0.8**
GRN				Sg	**Sn**	**08 08 10.0**	**+1.8**
GRN	**Grenoble**	**1.35**	**172**	Pg	**Pn**	**08 07 51.2**	**+0.8**
GRN				Sg	**Sn**	**08 08 10.0**	**+1.8**
MRGE	**Morge**	**1.37**	**126**⇑	*i*P	**Pn**	**08 07 51.6**	**+0.9**
	937nm,0.5s						
MRGE	**Morge**	**1.37**	**126**⇑	*i*P	**Pn**	**08 07 51.6**	**+0.9**
	937nm,0.5s						
LPL	**La Plagne**	**1.38**	**140**	*e*Pn	**Pn**	**08 07 51.7**	**+0.8**
LPL	**La Plagne**	**1.38**	**140**	*e*P	**Pb**	**08 07 52.8**	**+1.2**
LPL				*e*Sg	**Sb**	**08 08 09.1**	**0.0**
	114nm,0.3s						
LPL	**La Plagne**	**1.38**	**140**	*e*Pn	**Pn**	**08 07 51.7**	**+0.8**
LPL	**La Plagne**	**1.38**	**140**	*e*P	**Pb**	**08 07 52.8**	**+1.2**
LPL				*e*Sg	**Sb**	**08 08 09.1**	**0.0**
	57nm,0.3s						
LPG	**La Plagne**	**1.40**	**140**	*e*Pn	**Pn**	**08 07 52.1**	**+0.8**
LPG	**La Plagne**	**1.40**	**140**	*e*P	**Pb**	**08 07 53.1**	**+1.1**
LPG				*e*Sg	**Sb**	**08 08 09.9**	**+0.1**
	186nm,0.3s						
LPG	**La Plagne**	**1.40**	**140**	*e*Pn	**Pn**	**08 07 52.1**	**+0.8**
LPG	**La Plagne**	**1.40**	**140**	*e*P	**Pb**	**08 07 53.1**	**+1.1**
LPG				*e*Sg	**Sb**	**08 08 09.9**	**+0.1**
	93nm,0.3s						
DIX	**Grande Dixence**	**1.43**	**110**	*e*P	**Pn**	**08 07 52.6**	**+1.0**
	308nm,0.4s						
DIX	**Grande Dixence**	**1.43**	**110**	*e*P	**Pn**	**08 07 52.6**	**+1.0**
	308nm,0.4s						
PLDF	**La Plantade**	**1.43**	**245**	Pn	**Pn**	**08 07 51.5**	**0.0**
PLDF	**La Plantade**	**1.43**	**245**	Pg	**Pn**	**08 07 53.3**	**+1.8**
PLDF				Sg	**Sb**	**08 08 12.6**	**+2.2**
PLDF	**La Plantade**	**1.43**	**245**	Pn	**Pn**	**08 07 51.5**	**0.0**
PLDF	**La Plantade**	**1.43**	**245**	Pg	**Pn**	**08 07 53.3**	**+1.8**
PLDF				Sg	**Sn**	**08 08 12.6**	**+2.2**
SSF	**Saint Saulge**	**1.44**	**290**	*e*Pn	**Pn**	**08 07 51.2**	**-0.4**
SSF	**Saint Saulge**	**1.44**	**290**	*e*Pg	**Pn**	**08 07 53.0**	**+1.4**
SSF				*e*Sn	**Sn**	**08 08 09.6**	**-0.6**
SSF				*e*Sg	**Sb**	**08 08 11.4**	**+0.8**
	108nm,0.2s						
SSF	**Saint Saulge**	**1.44**	**290**	*e*Pn	**Pn**	**08 07 51.2**	**-0.4**
SSF	**Saint Saulge**	**1.44**	**290**	*e*Pg	**Pn**	**08 07 53.0**	**+1.4**
SSF				*e*Sn	**Sn**	**08 08 09.6**	**-0.6**
SSF				*e*Sg	**Sb**	**08 08 11.4**	**+0.8**
	54nm,0.2s						
BOURR	**Bourrignon**	**1.45**	**55**	*e*P	**Pn**	**08 07 53.0**	**+1.3**
	348nm,0.4s						
BOURR	**Bourrignon**	**1.45**	**55**	*e*P	**Pn**	**08 07 53.0**	**+1.3**
	348nm,0.4s						
GDM	**Grand'Maison**	**1.45**	**162**	Pg	**Pn**	**08 07 52.8**	**+1.0**
GDM				Sg	**Sn**	**08 08 12.1**	**+1.5**
GDM	**Grand'Maison**	**1.45**	**162**	Pg	**Pn**	**08 07 52.8**	**+1.0**
GDM				Sg	**Sn**	**08 08 12.1**	**+1.5**
SSB	**Saint Sauveur**	**1.46**	**207**	Pn	**Pn**	**08 07 51.0**	**-0.9**
SSB	**Saint Sauveur**	**1.46**	**207**	Pg	**Pn**	**08 07 53.2**	**+1.3**
SSB				Sg	**Sn**	**08 08 12.5**	**+1.8**
SSB	**Saint Sauveur**	**1.46**	**207**	Pn	**Pn**	**08 07 51.0**	**-0.9**
SSB	**Saint Sauveur**	**1.46**	**207**	Pg	**Pn**	**08 07 53.2**	**+1.3**
SSB				Sg	**Sn**	**08 08 12.5**	**+1.8**
AVF	**Avril sur Loir**	**1.48**	**279**	*e*Pn	**Pn**	**08 07 51.8**	**-0.3**
AVF	**Avril sur Loir**	**1.48**	**279**	*e*Pg	**Pn**	**08 07 53.5**	**+1.4**
AVF				*e*Sg	**Sn**	**08 08 12.3**	**+1.1**
	76nm,0.3s						
AVF	**Avril sur Loir**	**1.48**	**279**	*e*Pn	**Pn**	**08 07 51.8**	**-0.3**
AVF	**Avril sur Loir**	**1.48**	**279**	*e*Pg	**Pn**	**08 07 53.5**	**+1.4**
AVF				*e*Sg	**Sn**	**08 08 12.3**	**+1.1**
	38nm,0.3s						
LKBD	**Leukerbad**	**1.50**	**97**	*e*P	**Pn**	**08 07 53.2**	**+0.7**
	103nm,0.8s						
LKBD	**Leukerbad**	**1.50**	**97**	*e*P	**Pn**	**08 07 53.2**	**+0.7**
	103nm,0.8s						
LKBD2	**Leukerbad 2**	**1.51**	**97**⇑	*i*P	**Pn**	**08 07 53.6**	**+0.9**
LKBD2	**Leukerbad 2**	**1.51**	**97**⇑	*i*P	**Pn**	**08 07 53.6**	**+0.9**
HAU	**Haudompre**	**1.54**	**22**	*e*Pn	**Pn**	**08 07 52.4**	**-0.6**
HAU	**Haudompre**	**1.54**	**22**	*e*Pg	**Pb**	**08 07 54.9**	**+0.6**
HAU				*e*Sg	**Sb**	**08 08 14.8**	**+1.2**
	614nm,0.2s						
HAU	**Haudompre**	**1.54**	**22**	*e*Pn	**Pn**	**08 07 52.4**	**-0.6**
HAU	**Haudompre**	**1.54**	**22**	*e*Pg	**Pb**	**08 07 54.9**	**+0.6**
HAU				*e*Sg	**Sb**	**08 08 14.8**	**+1.2**
	307nm,0.2s						
HINF	**Hinteralfeld**	**1.55**	**37**	*e*Pn	**Pn**	**08 07 52.3**	**-0.8**
HINF	**Hinteralfeld**	**1.55**	**37**	*e*Pg	**Pn**	**08 07 54.6**	**+1.5**
HINF				*e*Sg	**Sn**	**08 08 14.6**	**+1.6**
	162nm,0.2s						
HINF	**Hinteralfeld**	**1.55**	**37**	*e*Pn	**Pn**	**08 07 52.3**	**-0.8**
HINF	**Hinteralfeld**	**1.55**	**37**	*e*Pg	**Pn**	**08 07 54.6**	**+1.5**
HINF				*e*Sg	**Sn**	**08 08 14.6**	**+1.6**
	81nm,0.2s						
LSD	**Lago del Serru**	**1.61**	**134**	P	**Pn**	**08 07 55.6**	**+1.5**
BBS	**Basel-Blauen**	**1.64**	**57**	Pg	**Pb**	**08 07 56.5**	**+0.5**
BBS				Sg	**Sg**	**08 08 18.6**	**-0.3**
SFTF	**Sexfontaines**	**1.65**	**350**	*e*Pn	**Pn**	**08 07 54.5**	**0.0**
SFTF	**Sexfontaines**	**1.65**	**350**	*e*Pg	**Pb**	**08 07 57.2**	**+1.1**
	baz=163						
SFTF				*e*Sg	**Sb**	**08 08 18.8**	**+2.0**
	94nm,0.2s,baz=167						
SFTF	**Sexfontaines**	**1.65**	**350**	*e*Pn	**Pn**	**08 07 54.5**	**0.0**
SFTF	**Sexfontaines**	**1.65**	**350**	*e*Pg	**Pb**	**08 07 57.2**	**+1.1**
SFTF				*e*Sg	**Sb**	**08 08 18.8**	**+2.0**
	47nm,0.2s						
THEF	**They Montfort**	**1.68**	**12**	Pn	**Pn**	**08 07 54.6**	**-0.3**
THEF	**They Montfort**	**1.68**	**12**	Pn	**Pn**	**08 07 54.6**	**-0.3**
ORIF	**Oris-en-Rattie**	**1.69**	**170**	*e*Pn	**Pn**	**08 07 55.3**	**+0.2**
ORIF	**Oris-en-Rattie**	**1.69**	**170**	*e*Pg	**Pb**	**08 07 57.4**	**+0.6**
ORIF				*e*Sg	**Sb**	**08 08 18.9**	**+1.0**
	105nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.69**	**170**	*e*Pn	**Pn**	**08 07 55.3**	**+0.2**
ORIF	**Oris-en-Rattie**	**1.69**	**170**	*e*Pg	**Pb**	**08 07 57.4**	**+0.6**
ORIF				*e*Sg	**Sb**	**08 08 18.9**	**+1.0**
	52nm,0.2s						
MOF	**Molkenrain**	**1.70**	**41**	Pn	**Pn**	**08 07 54.0**	**-1.2**
MOF	**Molkenrain**	**1.70**	**41**	Pg	**Pb**	**08 07 57.8**	**+0.8**
MOF				Sg	**Sb**	**08 08 20.1**	**+1.9**
MOF	**Molkenrain**	**1.70**	**41**	Pn	**Pn**	**08 07 54.0**	**-1.2**
MOF	**Molkenrain**	**1.70**	**41**	Pg	**Pb**	**08 07 57.8**	**+0.8**
MOF				Sg	**Sb**	**08 08 20.1**	**+1.9**
CIRO	**Champorcher**	**1.75**	**123**	P	**Pn**	**08 07 57.3**	**+1.2**
SATI	**Passo dei Sala**	**1.80**	**112**	P	**Pn**	**08 07 58.3**	**+1.4**
VIVF	**Saint-Julien-l**	**1.82**	**198**	*e*Pn	**Pn**	**08 07 56.0**	**-0.8**
VIVF	**Saint-Julien-l**	**1.82**	**198**	*e*Pg	**Pb**	**08 07 59.5**	**+0.5**
VIVF				*e*Sg	**Sb**	**08 08 22.5**	**+0.9**
	84nm,0.2s						
VIVF	**Saint-Julien-l**	**1.82**	**198**	*e*Pn	**Pn**	**08 07 56.0**	**-0.8**
VIVF	**Saint-Julien-l**	**1.82**	**198**	*e*Pg	**Pb**	**08 07 59.5**	**+0.5**
VIVF				*e*Sg	**Sb**	**08 08 22.5**	**+0.9**
	42nm,0.2s						
BGF	**Bois d'Agland**	**1.82**	**270**	*e*Pn	**Pn**	**08 07 56.4**	**-0.4**
BGF	**Bois d'Agland**	**1.82**	**270**	*e*Pg	**Pb**	**08 07 59.8**	**+0.8**
BGF				*e*Sn	**Sn**	**08 08 18.6**	**-0.9**
BGF				*e*Sg	**Sb**	**08 08 22.7**	**+1.1**
	114nm,0.3s						
BGF	**Bois d'Agland**	**1.82**	**270**	*e*Pn	**Pn**	**08 07 56.4**	**-0.4**
BGF	**Bois d'Agland**	**1.82**	**270**	*e*Pg	**Pb**	**08 07 59.8**	**+0.8**
BGF				*e*Sn	**Sn**	**08 08 18.6**	**-0.9**
BGF				*e*Sg	**Sb**	**08 08 22.7**	**+1.1**
	57nm,0.3s						
RRL	**Rocca Remolon**	**1.90**	**151**	P	**Pn**	**08 07 59.6**	**+1.5**
RSP	**Reno Superiore**	**1.90**	**138**	P	**Pn**	**08 07 57.9**	**-0.1**
TRAV	**Traversella**	**1.91**	**123**	P	**Pn**	**08 07 58.9**	**+0.9**
PYM	**Petit Puy Mans**	**1.91**	**245**	Pn	**Pn**	**08 07 57.0**	**-0.5**
PYM	**Petit Puy Mans**	**1.91**	**245**	Pg	**Pb**	08 08 02.7	+2.1
PYM				Sg	**Sb**	**08 08 27.7**	**+3.4**
PYM	**Petit Puy Mans**	**1.91**	**245**	Pn	**Pn**	**08 07 57.6**	**-0.5**
PYM	**Petit Puy Mans**	**1.91**	**245**	Pg	**Pb**	08 08 02.7	+2.1
PYM				Sg	**Sb**	**08 08 27.7**	**+3.4**
MEZF	**Maizieres J'vi**	**1.94**	**352**	*e*Pn	**Pn**	**08 07 58.8**	**+0.3**
	baz=172						
MEZF	**Maizieres J'vi**	**1.94**	**352**	*e*Pg	**Pb**	**08 08 03.0**	**+1.9**
	baz=164						
MEZF				*e*Sg	**Sg**	**08 08 28.2**	**-0.3**
	105nm,0.4s						
MEZF	**Maizieres J'vi**	**1.94**	**352**	*e*Pn	**Pn**	**08 07 58.8**	**+0.3**
MEZF	**Maizieres J'vi**	**1.94**	**352**	*e*Pg	**Pb**	**08 08 03.0**	**+1.9**
MEZF				*e*Sg	**Sg**	**08 08 28.2**	**-0.3**
	52nm,0.4s						
PAGF	**Fort de Pagny**	**1.98**	**5**	*e*Pn	**Pn**	**08 07 59.2**	**+0.2**
	baz=185						
PAGF	**Fort de Pagny**	**1.98**	**5**	*e*Pg	**Pb**	**08 08 03.6**	**+1.8**
PAGF				*e*Sn	**Sn**	**08 08 22.7**	**-0.9**
PAGF				*e*Sg	**Sb**	**08 08 28.9**	**+2.7**
	25nm,0.4s,baz=186						
PAGF	**Fort de Pagny**	**1.98**	**5**	*e*Pn	**Pn**	**08 07 59.2**	**+0.2**
PAGF	**Fort de Pagny**	**1.98**	**5**	*e*Pg	**Pb**	**08 08 03.6**	**+1.8**
PAGF				*e*Sn	**Sn**	**08 08 22.7**	**-0.9**
PAGF				*e*Sg	**Sb**	**08 08 28.9**	**+2.7**
	12nm,0.4s						
ECH	**Echery**	**1.99**	**34**	Pn	**Pn**	**08 07 58.1**	**-1.1**
ECH	**Echery**	**1.99**	**34**	Pn	**Pn**	**08 07 58.1**	**-1.1**
OG22	**Abries**	**2.04**	**149**	Pn	**Pn**	**08 07 58.2**	**-1.7**
OG22	**Abries**	**2.04**	**149**	Pg	**Pb**	**08 08 03.8**	**+1.0**
OG22	**Abries**	**2.04**	**149**	Pn	**Pn**	**08 07 58.2**	**-1.7**
OG22	**Abries**	**2.04**	**149**	Pg	**Pb**	**08 08 03.8**	**+1.0**
LBL	**Lubilhac**	**2.06**	**230**	Pn	**Pn**	**08 07 59.4**	**-0.8**
LBL	**Lubilhac**	**2.06**	**230**	Pg	**Pb**	08 08 05.5	+2.3
LBL	**Lubilhac**	**2.06**	**230**	Pn	**Pn**	**08 07 59.4**	**-0.8**
LBL	**Lubilhac**	**2.06**	**230**	Pg	**Pb**	08 08 05.5	+2.3
HYF	**Humbligny**	**2.06**	**290**	*e*Pn	**Pn**	**08 08 00.1**	**-0.1**
HYF				*e*Sg	**Sb**	**08 08 31.3**	**+2.6**
HYF	**Humbligny**	**2.06**	**290**	*e*Pn	**Pn**	**08 08 00.1**	**-0.1**
HYF				*e*Sg	**Sb**	**08 08 31.3**	**+2.6**
MBDF	**Montbardon**	**2.06**	**154**	*e*Pn	**Pn**	**08 08 01.5**	**+1.2**
MBDF	**Montbardon**	**2.06**	**154**	*e*Pg	**Pb**	**08 08 04.0**	**+0.7**
MBDF				*e*Sn	**Sn**	**08 08 25.5**	**-0.3**
MBDF				*e*Sg	**Sb**	**08 08 30.8**	**+2.0**
	59nm,0.5s						
MBDF	**Montbardon**	**2.06**	**154**	*e*Pn	**Pn**	**08 08 01.5**	**+1.2**
MBDF	**Montbardon**	**2.06**	**154**	*e*Pg	**Pb**	**08 08 04.0**	**+0.7**
MBDF				*e*Sn	**Sn**	**08 08 25.5**	**-0.3**
MBDF				*e*Sg	**Sb**	**08 08 30.8**	**+2.0**
	30nm,0.5s						
LIBD	**Limburg**	**2.13**	**42**	Pg	**Pb**	**08 08 05.5**	**+1.2**
FELD	**Feldberg im Sc**	**2.15**	**52**	Pn	**Pn**	**08 08 00.1**	**-1.4**
CDF	**Champ du Feu**	**2.20**	**33**	*e*Pn	**Pn**	**08 08 00.7**	**-1.4**
CDF	**Champ du Feu**	**2.20**	**33**	*e*Pg	**Pb**	**08 08 06.7**	**+1.2**
CDF				*e*Sg	**Sg**	**08 08 35.6**	**-1.1**
	126nm,0.4s						
CDF	**Champ du Feu**	**2.20**	**33**	*e*Pn	**Pn**	**08 08 00.7**	**-1.4**
CDF	**Champ du Feu**	**2.20**	**33**	*e*Pg	**Pb**	**08 08 06.7**	**+1.2**
CDF				*e*Sg	**Sg**	**08 08 35.6**	**-1.1**
	63nm,0.4s						
FUSIO	**Fusio**	**2.20**	**92**⇑	*i*P	Pn	08 07 53.7	-8.5
	94nm,0.5s						
TCF	**Toulx Ste Croi**	**2.28**	**264**	*e*Pn	**Pn**	**08 08 02.6**	**-0.6**
TCF	**Toulx Ste Croi**	**2.28**	**264**	*e*Pg	**Pb**	**08 08 08.2**	**+1.3**
TCF				*e*Sg	**Sb**	**08 08 37.4**	**+2.5**
	23nm,0.3s						
TCF	**Toulx Ste Croi**	**2.28**	**264**	*e*Pn	**Pn**	**08 08 02.6**	**-0.6**
TCF	**Toulx Ste Croi**	**2.28**	**264**	*e*Pg	**Pb**	**08 08 08.2**	**+1.3**
TCF				*e*Sg	**Sb**	**08 08 37.4**	**+2.5**
	11nm,0.3s						
FRNF	**Fournols**	**2.36**	**241**	Pn	**Pn**	**08 08 03.8**	**-0.5**
FRNF	**Fournols**	**2.36**	**241**	Pg	**Pb**	08 08 10.9	+2.6
FRNF	**Fournols**	**2.36**	**241**	Pn	**Pn**	**08 08 03.8**	**-0.5**
FRNF	**Fournols**	**2.36**	**241**	Pg	**Pb**	08 08 10.9	+2.6
BFO	**Black Forest**	**2.61**	**47**	*e*Pg	**Pg**	**08 08 15.1**	**-0.8**
BFO				*e*Sg	**Sb**	**08 08 47.6**	**+3.3**
BFO	**Black Forest**	**2.61**	**47**	Pg	**Pg**	**08 08 15.1**	**-0.8**
BFO				Sg	**Sb**	**08 08 47.6**	**+3.3**
SMRF	**Simiane la Rot**	**2.61**	**179**	*e*Pn	**Pn**	**08 08 07.7**	**0.0**
SMRF	**Simiane la Rot**	**2.61**	**179**	*e*Pg	**Pb**	08 08 14.8	+2.3
SMRF				*e*Sn	**Sn**	**08 08 38.2**	**-0.9**
	6.5nm,0.4s						
SMRF				*e*Sg	**Sg**	**08 08 48.7**	**-1.1**
	22nm,0.5s						
SMRF	**Simiane la Rot**	**2.61**	**179**	*e*Pn	**Pn**	**08 08 07.7**	**0.0**
SMRF	**Simiane la Rot**	**2.61**	**179**	*e*Pg	**Pb**	08 08 14.8	+2.3
SMRF				*e*Sn	**Sn**	**08 08 38.2**	**-0.9**
	3.2nm,0.4s						
SMRF				*e*Sg	**Sg**	**08 08 48.7**	**-1.1**
	11nm,0.5s						
SPAK	**Spaichingen-Ko**	**2.71**	**55**	Pg	**Pg**	**08 08 17.5**	**-0.5**
SPAK				Sg	**Sg**	**08 08 53.8**	**+0.6**
LASF	**Ste Croix**	**2.76**	**205**	*e*Pn	**Pn**	**08 08 09.3**	**-0.4**
LASF	**Ste Croix**	**2.76**	**205**	*e*Pg	**Pb**	**08 08 16.9**	**+1.9**
LASF				*e*Sg	**Sb**	**08 08 51.6**	**+3.0**
	77nm,0.5s						
LASF	**Ste Croix**	**2.76**	**205**	*e*Pn	**Pn**	**08 08 09.3**	**-0.4**
LASF	**Ste Croix**	**2.76**	**205**	*e*Pg	**Pb**	**08 08 16.9**	**+1.9**
LASF				*e*Sg	**Sb**	**08 08 51.6**	**+3.0**
	38nm,0.5s						
LANF	**Langenberg**	**2.87**	**32**	Pg	**Pb**	**08 08 19.1**	**+2.3**
LANF	**Langenberg**	**2.87**	**32**	Pg	**Pb**	**08 08 19.1**	**+2.3**
CAF	**Calviac**	**2.91**	**237**	*e*Pn	**Pn**	**08 08 11.3**	**-0.5**
CAF				*e*Sg	**Sb**	**08 08 57.2**	**+4.2**
	25nm,0.4s						
CAF	**Calviac**	**2.91**	**237**	*e*Pn	**Pn**	**08 08 11.3**	**-0.5**
CAF				*e*Sg	**Sb**	**08 08 57.2**	**+4.2**
	12nm,0.4s						
RJF	**Les Rejaudoux**	**3.05**	**247**	*e*Pn	**Pn**	**08 08 13.2**	**-0.5**
RJF				*e*Sg	**Sb**	**08 09 01.2**	**+4.3**
	15nm,0.3s						
RJF	**Les Rejaudoux**	**3.05**	**247**	*e*Pn	**Pn**	**08 08 13.2**	**-0.5**
RJF				*e*Sg	**Sb**	**08 09 01.2**	**+4.3**
	7.6nm,0.3s						
SBF	**Sospel**	**3.05**	**152**	*e*Pn	**Pn**	**08 08 13.4**	**-0.4**
SBF	**Sospel**	**3.05**	**152**	*e*Pg	**Pn**	**08 08 22.4**	**+2.4**
SBF				*e*Sn	**Sn**	**08 08 47.9**	**-2.1**
	12nm,0.2s						
SBF				*e*Sg	**Sg**	**08 09 01.5**	**-2.5**
	41nm,0.5s						
SBF	**Sospel**	**3.05**	**152**	*e*Pn	**Pn**	**08 08 13.4**	**-0.4**
SBF	**Sospel**	**3.05**	**152**	*e*Pg	**Pb**	**08 08 22.4**	**+2.4**
SBF				*e*Sn	**Sn**	**08 08 47.9**	**-2.1**
	5.8nm,0.2s						
SBF				*e*Sg	**Sg**	**08 09 01.5**	**-2.5**
	20nm,0.5s						
DAVA	**Damuels**	**3.10**	**75**	*e*Pg	**Pg**	**08 08 24.1**	**-1.2**
DAVA				*e*Sg	**Sg**	**08 09 04.5**	**-0.9**
DAVA	**Damuels**	**3.10**	**75**	Pn	**Pb**	**08 08 18.8**	**-2.0**
DAVA	**Damuels**	**3.10**	**75**	Pg	**Pg**	**08 08 24.1**	**-1.2**
DAVA				Sg	**Sg**	**08 09 04.5**	**-0.9**
DAVA	**Damuels**	**3.10**	**75**⇓	*i*Pn	**Pb**	**08 08 18.8**	**-2.0**
DAVA				⇓*i*Sn	**Sb**	**08 09 00.0**	**+1.6**
FRF	**La Foret Royal**	**3.13**	**164**	*e*Pn	**Pn**	**08 08 14.9**	**+0.1**
FRF	**La Foret Royal**	**3.13**	**164**	*e*Pg	Pb	08 08 24.5	+3.1
FRF				*e*Sn	**Sn**	**08 08 50.2**	**-1.8**
	14nm,0.2s						
FRF				*e*Sg	**Sg**	**08 09 05.0**	**-1.6**
	9.2nm,0.3s						
FRF	**La Foret Royal**	**3.13**	**164**	*e*Pn	**Pn**	**08 08 14.9**	**+0.1**
FRF	**La Foret Royal**	**3.13**	**164**	*e*Pg	Pb	08 08 24.5	+3.1
FRF				*e*Sn	**Sn**	**08 08 50.2**	**-1.8**
	7.2nm,0.2s						
FRF				*e*Sg	**Sg**	**08 09 05.0**	**-1.6**
	4.6nm,0.3s						
LMR	**La Mourre**	**3.33**	**167**	*e*Pn	**Pn**	**08 08 17.2**	**-0.3**
LMR	**La Mourre**	**3.33**	**167**	*e*Pg	Pb	08 08 27.6	+2.9
LMR				*e*Sn	**Sn**	**08 08 54.4**	**-2.4**
	5.5nm,0.2s						
LMR				*e*Sg	**Sb**	**08 09 09.6**	**+4.6**
	16nm,0.6s						
LMR	**La Mourre**	**3.33**	**167**	*e*Pn	**Pn**	**08 08 17.2**	**-0.3**
LMR	**La Mourre**	**3.33**	**167**	*e*Pg	Pb	08 08 27.6	+2.9
LMR				*e*Sn	**Sn**	**08 08 54.4**	**-2.4**
	2.8nm,0.2s						
LMR				*e*Sg	**Sb**	**08 09 09.6**	**+4.6**
	7.8nm,0.6s						
GIVF	**Givet**	**3.55**	**353**	*e*Pn	**Pn**	**08 08 20.9**	**+0.4**
GIVF	**Givet**	**3.55**	**353**	*e*Pg	Pb	08 08 32.0	+3.5
GIVF				*e*Sn	**Sn**	**08 09 00.5**	**-1.7**
GIVF				*e*Sg	**Sg**	**08 09 17.9**	**-2.0**
	16nm,0.3s						
GIVF	**Givet**	**3.55**	**353**	*e*Pn	**Pn**	**08 08 20.9**	**+0.4**
GIVF	**Givet**	**3.55**	**353**	*e*Pg	Pb	08 08 32.0	+3.5
GIVF				*e*Sn	**Sn**	**08 09 00.5**	**-1.7**
GIVF				*e*Sg	**Sg**	**08 09 17.9**	**-2.0**
	8.1nm,0.3s						
BAIF	**Baives**	**3.58**	**347**	*e*Pn	**Pn**	**08 08 21.3**	**+0.3**
BAIF	**Baives**	**3.58**	**347**	*e*Pg	Pb	08 08 32.7	+3.7
BAIF				*e*Sn	**Sn**	**08 09 00.7**	**-2.3**
BAIF				*e*Sg	**Sg**	**08 09 19.0**	**-2.0**
	20nm,0.6s						
BAIF	**Baives**	**3.58**	**347**	*e*Pn	**Pn**	**08 08 21.3**	**+0.3**
BAIF	**Baives**	**3.58**	**347**	*e*Pg	Pb	08 08 32.7	+3.7
BAIF				*e*Sg	**Sg**	**08 09 19.0**	**-2.0**
	9.8nm,0.6s						
FETA	**Feichten**	**3.63**	**81**	Pn	**Pn**	**08 08 23.9**	**+2.1**
FETA	**Feichten**	**3.63**	**81**⇓	*i*Pn	**Pn**	**08 08 23.9**	**+2.1**
LFF	**La Frestale**	**3.70**	**245**	*e*Pn	**Pn**	**08 08 22.3**	**-0.4**
LFF				*e*Sg	Sb	08 09 22.0	+6.2
	14nm,0.3s						
LFF	**La Frestale**	**3.70**	**245**	*e*Pn	**Pn**	**08 08 22.3**	**-0.4**
LFF				*e*Sg	Sb	08 09 22.0	+6.2
	6.9nm,0.3s						
TOD	**Tromm**	**3.76**	**35**	Pg	Pb	08 08 35.5	+3.5
MFF	**Saint Martin d**	**3.88**	**272**	*e*Pn	**Pn**	**08 08 24.4**	**-0.7**
MFF	**Saint Martin d**	**3.88**	**272**	*e*Pg	Pb	08 08 37.5	+3.4
MFF				*e*Sn	**Sn**	**08 09 07.2**	**-3.2**
MFF				*e*Sg	Sb	08 09 27.2	+6.3
	9.7nm,0.3s						
MFF	**Saint Martin d**	**3.88**	**272**	*e*Pn	**Pn**	**08 08 24.4**	**-0.7**
MFF	**Saint Martin d**	**3.88**	**272**	*e*Pg	Pb	08 08 37.5	+3.4
MFF				*e*Sg	Sb	08 09 27.2	+6.3
	4.8nm,0.3s						
MOTA	**Moosalm**	**3.92**	**77**	Pn	**Pn**	**08 08 27.6**	**+1.7**
MOTA	**Moosalm**	**3.92**	**77**⇑	*i*Pn	**Pn**	**08 08 27.6**	**+1.7**
**M

4.3nm,0.3s,baz=31,slow=9.7,SNR=14
KAPI Sn **Sn** **08 14 25.9 +0.1**
2.8nm,0.3s,baz=221,slow=19,SNR=3.2
KAPI LR LR 08 15 02.5
comp=Z,196nm,19.9s,baz=58,slow=33
KAPI Kappang 4.87 206 *e*Pn **Pn** **08 13 28.2 -1.1**
KAPI Sn **Sn** **08 14 25.9 +0.1**
WRAB Tennant Creek 22.77 148 *e*P **P** **08 17 18.4 -0.4**
7.9nm,0.9s
WRA Warramunga Arr 22.77 148 P **P** **08 17 17.2 -1.6**
4.2nm,0.8s,baz=327,slow=11,SNR=14
ASAR Alice Springs 25.73 154 P **P** **08 17 47.5 +0.6**
2.1nm,0.9s,baz=346,slow=15,SNR=13
CMAR Chiang Mai Arr 29.44 311 P **P** **08 18 22.4 +2.2**
1.2nm,0.3s,baz=104,slow=1.8,SNR=5.9
STKA Stephens Creek 36.27 151 P **P** **08 19 19.1 -0.5**
3.1nm,1.0s,baz=324,slow=8.7,SNR=3.7
KSRS Korea Array 38.28 8 LR LR 08 36 14.6
comp=Z,14nm,19.2s,baz=198,slow=38
MJAR Matsushiro Arr 39.95 21 P **P** **08 19 48.5 -2.2**
0.9nm,0.4s,baz=192,slow=11,SNR=5.2
MJAR LR LR 08 35 03.1
comp=Z,13nm,21.6s,baz=220,slow=34
SONM Songino Array 50.09 346 P **P** **08 21 11.2 0.0**
2.3nm,1.0s,baz=166,slow=9.8,SNR=13
TLY Talaya 54.32 346 LR LR 08 46 31.8
comp=Z,21nm,18.3s,baz=178,slow=38
MK31 Makanchi Array 58.53 329 *e*P **P** **08 22 13.4 +0.7**
MKAR Makanchi Array 58.53 329 P **P** **08 22 12.8 +0.1**
5.5nm,0.8s,baz=124,slow=7.8,SNR=19
TKM2 Tokmak 2 59.95 322 *e*P **P** **08 22 25.7 +2.8**
4.4nm,0.7s
KBL Kabul 60.47 311 *e*P **P** **08 22 27.0 +0.5**
11nm,1.0s
ZAA0 Zalesovo Array 62.40 336 *e*P **P** **08 22 40.7 +1.8**
ZALV Zalesovo Beam 62.40 336 P **P** **08 22 38.6 -0.3**
3.6nm,0.8s,baz=130,slow=6.2,SNR=8.8
QSPA South Pole Qui 89.34 180 *e*P **P** **08 25 15.5 +2.9**
6.0nm,1.5s
TORD Torodi Ar. Bea 119.47 285 PKP **PKPdf** **08 31 07.5 +0.6**
0.2nm,0.6s,baz=33,slow=2.2,SNR=2.5

BUC 27 08:13:23.9±0.3, 45.12N×28.25E, h8km±4km, MD2.0/3, 4C-2D, Error ellipse: s-maj=4.6km s-min=1.8km az=357.0, Ukraine - Moldova - Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFR	**Carcaliu**	**0.10**	**305**	⇑*i*	P	08 13 26.4	+0.1
CFR				S	Sg	08 13 28.3	+0.4
CFR	**Carcaliu**	**0.10**	**305**	⇑*i*	P	08 13 26.4	+0.1
CFR				*i* S	Sg	08 13 28.3	+0.4
TLCR		**0.40**	**80**	⇓*i*	P	08 13 32.8	-0.5
TLCR		**0.40**	**80**	S	Sb	08 13 38.5	-1.1
TLCR		**0.40**	**80**	⇓*i*	P	08 13 32.8	-0.5
TLCR				*i* S	Sb	08 13 38.5	-1.1
TIRR	**Tirgusor**	**0.67**	**170**	⇑*i*	P	08 13 37.0	+0.2
TIRR	**Tirgusor**	**0.67**	**170**	⇑*i*	P	08 13 37.0	+0.2
TIRR				*i* S	Sg	08 13 46.1	+0.5
MSAB	**Monastry St. A**	**1.07**	**197**	S	Sn	08 13 59.8	-0.5
MSAB	**Monastry St. A**	**1.07**	**197**	*i* S	Sn	08 13 59.8	-0.5

GUC 27 08:14:13.3±0.6, 34.62S×73.75W, h20km±6km, ML3.6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**1.70**	**153**	*i* P	Pn	08 14 41.7	-0.2
COCH				*i* S	Sn	08 15 01.5	-1.5
TALC	**Talca**	**1.90**	**115**	*i* P	Pn	08 14 45.5	+1.0
TALC				*i* S	Sb	08 15 09.6	-1.0
NICH	**Los Niches**	**2.11**	**101**	*i* P	Pn	08 14 48.8	+1.4
NICH				*i* S	Sb	08 15 15.5	-1.1
CLCH	**Cerro Calan**	**2.93**	**66**	*i* P	Pn	08 14 59.3	+0.4
CLCH				*i* S	Sn	08 15 34.7	+1.0
CLCH				AML	AML	08 15 38.6	
	comp=N,122nm,0.2s						
PEL	**Peldehue**	**2.94**	**61**	*i* P	Pn	08 15 00.1	+1.1
PEL				*i* S	Sn	08 15 35.8	+1.9
PEL				AML	AML	08 15 38.7	
	comp=N,316nm,0.5s						

*KLM **27** 08:26:18.6, 3.62S×101.91E, h74km, mb4.9, ML4.7, MS5.3*
*ISCJB **27** 08:26:19.9±0.4, 3.49S±0.03×101.99E±0.03, h97km±3km, mb4.7/51, Error ellipse: s-maj=6.4km s-min=3.3km az=137.2*
*BJI **27** 08:26:19.2, 3.60S×101.90E, h90km, mb4.8/32, mB5.0/22, Ms4.5/13, Ms7 4.3/13*
*MOS **27** 08:26:19.8±1.3, 3.45S×101.99E, h96km, mb4.8/31, Error ellipse: s-maj=11.6km s-min=6.8km az=107.9*
*NEIC **27** 08:26:20.4±0.5, 3.59S×101.92E, h87km±4km, mb4.8/21, Error ellipse: s-maj=8.0km s-min=4.4km az=54.0*
NEIC Felt [III] at Bengkulu and Kapahiang; [II] at Argamakmur.
*DJA **27** 08:26:21.9±0.3, 3.5S±2×10.2E±1, h29km±2km, M4.6/10, mb4.7/10, mB5.1/4, MLv4.6/7, Mw(mB)4.4/4*
*IDC **27** 08:26:26.9±1.8, 3.37S×102.21E, h140km±15km, mb4.2/24, mb1 4.3/27, mb1mx4.2/33, mbtmp4.6/27, MS3.3/6, Ms1 3.3/6, ms1mx2.9/36, Error ellipse: s-maj=16.5km s-min=7.4km az=46.0*

ISC 27 08:26:21.2±0.4, 3.56S±0.04×102.02E±0.04, h92km±2km, n239, σ1s58/261, mb4.8/53, 24C-8D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASI	**Maura Aman, Be**	**0.47**	**28**	P	Pn	08 26 30.9	-5.1
MASI				S	Sn	08 26 37.0	-10
MNAI	**Manna**	**1.22**	**130**	P	**Pn**	**08 26 43.6**	**-0.1**
MNAI				S	**Sn**	**08 27 00.6**	**0.0**
MNAI	**Manna**	**1.22**	**130**	⇑P	**Pn**	**08 26 43.0**	**-0.7**
	baz=1.3,SNR=182						
MNAI	**Manna**	**1.22**	**130**	*e*Pn	**Pn**	**08 26 43.0**	**-0.7**
MNAI				*e*Sn	**Sn**	**08 26 59.8**	**-0.8**
LHSI	**Lahat**	**1.52**	**100**	P	**Pn**	**08 26 47.1**	**-0.2**
PPSI	**Pulau Pagai**	**2.16**	**291**	P	**Pn**	**08 26 55.5**	**-0.1**
PPSI				S	**Sn**	**08 27 23.7**	**+1.8**
MDSI	**Maura Dua**	**2.34**	**113**	P	**Pn**	**08 26 58.8**	**+0.9**
MDSI				S	**Sn**	**08 27 26.9**	**+0.8**
LWLI	**Liwa**	**2.49**	**126**	P	**Pn**	**08 27 01.5**	**+1.4**
LWLI				S	**Sn**	**08 27 31.5**	**+1.5**
JMBI	**JAMBI**	**2.51**	**40**	P	**Pn**	**08 26 58.9**	**-1.3**
JMBI				S	**Sn**	**08 27 27.4**	**-2.7**
SDSI	**Sungai Dareh**	**2.68**	**347**	P	**Pn**	**08 27 01.5**	**-1.0**
PMBI	**Palembang**	**2.82**	**77**	P	**Pn**	**08 27 03.4**	**-0.9**
PMBI	**Palembang**	**2.82**	**77**	P	**Pn**	**08 27 03.5**	**-0.8**
	baz=2.9,SNR=6.7						
KLSI		**2.92**	**113**	P	**Pn**	**08 27 07.1**	**+1.3**
KLI	**Kotabumi**	**3.11**	**115**	P	**Pn**	**08 27 09.8**	**+1.6**
KASI	**Kota Agung**	**3.14**	**128**	P	**Pn**	**08 27 09.3**	**+0.6**
SISI	**Saibi**	**3.68**	**307**	P	**Pn**	**08 27 17.1**	**+1.2**
BLSI	**Bandar Lampung**	**3.68**	**119**	P	**Pn**	**08 27 17.6**	**+1.6**
BKNI	**Bangkinang**	**3.98**	**346**	P	**Pn**	**08 27 20.3**	**+0.2**
BKNI	**Bangkinang**	**3.98**	**346**	⇑P	**Pn**	**08 27 19.4**	**-0.7**
	baz=3.9,SNR=4.7						
BKNI	**Bangkinang**	**3.98**	**346**	*e*Pn	**Pn**	**08 27 20.1**	**0.0**
PPBI	**Pangkal Pinang**	**4.34**	**71**	P	**Pn**	**08 27 25.1**	**+0.2**
CGJI	**Cibinong**	**4.75**	**130**	P	**Pn**	**08 27 29.2**	**-1.3**
MNSI	**Mandailing Nat**	**4.97**	**331**	P	**Pn**	**08 27 32.3**	**-1.1**
PBSI	**Pulau Batu**	**5.11**	**313**	P	**Pn**	**08 27 34.4**	**-1.0**
BTDF	**Bukit Timah Da**	**5.19**	**20**	P	**Pn**	**08 27 35.9**	**-0.6**
	baz=5.2,SNR=3.6						
BTDF				P	**Pn**	**08 27 35.9**	**-0.6**
	baz=5.2,SNR=3.6						
MYKOM	**Kota Tinggi**	**5.62**	**19**	⇑P	**Pn**	**08 27 41.9**	**-0.4**
MYKOM	**Kota Tinggi**	**5.62**	**19**	*e*Pn	**Pn**	**08 27 42.2**	**-0.2**
KGM	**Kluang**	**5.69**	**13**	⇑P	**Pn**	**08 27 43.2**	**-0.1**
LEM	**Lembang**	**6.45**	**120**	P	Pn	08 28 00.3	+6.6
	4.1nm,0.3s,baz=319,slow=20,SNR=2.2						
LEM	**Lembang**	**6.45**	**120**	P	Pn	08 28 00.4	+6.6
LEM				pmax	pmax		
	comp=Z,4.0nm,0.3s						
GSI	**Gunungsitoli**	**6.56**	**317**	*e*Pn	**Pn**	**08 27 53.4**	**-1.8**
FRIM	**Kepong**	**6.76**	**357**	⇑P	**Pn**	**08 27 56.7**	**-1.2**
CISI	**Cisompet, Garu**	**7.00**	**125**	*e*Pn	**Pn**	**08 28 00.4**	**-0.8**
PSI	**Prapat**	**7.04**	**334**	P	Pn	08 28 05.7	+3.9
	comp=Z,2.3nm,0.3s,baz=345,slow=12,SNR=5.6						
PSI	**Prapat**	**7.04**	**334**	*e*P	**Pn**	**08 28 00.3**	**-1.4**
PSI	**Prapat**	**7.04**	**334**	*e*Pn	**Pn**	**08 28 00.3**	**-1.4**
XMIS	**Christmas Isla**	**7.76**	**153**	*e*Pn	Pn	08 28 08.1	-3.4
IPM	**Ipoh**	**8.05**	**353**	⇑P	**Pn**	**08 28 14.2**	**-1.3**
IPM	**Ipoh**	**8.05**	**353**	*e*Pn	**Pn**	**08 28 16.6**	**+1.2**
KULM	**Kulim**	**8.90**	**351**	⇑P	**Pn**	**08 28 25.2**	**-1.8**
KULM	**Kulim**	**8.90**	**351**	*e*Pn	**Pn**	**08 28 26.8**	**-0.2**
KTGM	**Kuala Trenggan**	**8.90**	**7**	⇑P	**Pn**	**08 28 26.0**	**-1.0**
UGM	**Wanagama**	**9.50**	**117**	P	**Pn**	**08 28 36.1**	**+0.9**
	baz=9.6,SNR=9.8						
UGM	**Wanagama**	**9.50**	**117**	*e*Pn	**Pn**	**08 28 35.8**	**+0.6**
PBKI	**Pangkalan Bun**	**9.67**	**85**	P	**Pn**	**08 28 38.6**	**+1.1**
KSM	**Kuching**	**9.68**	**59**	⇑P	**Pn**	**08 28 37.0**	**-0.5**
COCO	**West Island**	**9.99**	**211**	*e*P	**Pn**	**08 28 40.9**	**-1.0**
COCO	**West Island**	**9.99**	**211**	*e*Pn	**Pn**	**08 28 40.9**	**-1.0**
STKI	**Sintang**	**10.11**	**69**	P	**Pn**	**08 28 44.3**	**+0.7**
SBUM	**Sibu**	**11.81**	**60**	⇑P	**Pn**	**08 29 06.1**	**-0.6**
SBUM	**Sibu**	**11.81**	**60**	*e*Pn	**Pn**	**08 29 09.0**	**+2.3**
ABJI	**Asem Bagus**	**12.86**	**110**	P	**Pn**	**08 29 21.9**	**+1.3**
JAGI	**Jajag, Banyuwa**	**13.01**	**113**	*e*Pn	**Pn**	**08 29 21.4**	**-1.2**
KKM	**Kota Kinabalu**	**17.09**	**56**	⇑P	**Pn**	**08 30 14.2**	**-0.3**
KKM	**Kota Kinabalu**	**17.09**	**56**	*e*P	**P**	**08 30 18.1**	**+3.2**
	comp=Z,11nm,0.7s						
TSM	**Tawau**	**17.66**	**64**	⇑P	**P**	**08 30 20.8**	**-0.2**
SDKM	**Sandakan**	**17.70**	**59**	⇑P	**Pn**	**08 30 21.9**	**0.0**
SPSI	**Sidrap Palu**	**17.71**	**92**	P	**Pn**	**08 30 24.3**	**+2.2**
	comp=Z,19nm,0.7s						
KAPI	**Kappang**	**17.74**	**95**	P	**Pn**	**08 30 23.3**	**+0.9**
	comp=Z,3.1nm,0.3s,baz=334,slow=1.8,SNR=7.5						
KAPI				S	**Sn**	**08 33 38.7**	**-1.4**
	comp=Z,0.9nm,0.3s,baz=122,slow=9.5,SNR=3.8						
KAPI	**Kappang**	**17.74**	**95**	*e*P	**Pn**	**08 30 23.6**	**+1.2**
	comp=Z,20nm,0.6s						
KAPI				S	**Sn**	**08 33 38.7**	**-1.4**
TTSI	**Tana Toraja**	**17.77**	**89**	P	**Pn**	**08 30 27.0**	**+4.2**
KDM	**Kudat**	**18.08**	**55**	⇑P	**P**	**08 30 25.2**	**-0.5**
BKSI	**Bulukumba**	**18.13**	**96**	P	**Pn**	**08 30 28.1**	**+1.0**
MPSI	**Mapaga**	**18.28**	**78**	P	**Pn**	**08 30 30.8**	**+1.9**
	comp=Z,41nm,0.7s,comp=Z,465nm						
MYLDM	**Lahad Datu**	**18.61**	**62**	⇑P	**P**	**08 30 30.8**	**-0.7**
MYLDM	**Lahad Datu**	**18.61**	**62**	*e*P	**Pn**	**08 30 36.3**	**+3.5**
	comp=Z,130nm,1.8s						
APSI	**Ampana**	**19.79**	**83**	P	**Pn**	**08 30 46.2**	**-0.5**
LUWI	**Luwuk**	**20.88**	**84**	P	Pn	08 31 00.3	+0.8
LUWI	**Luwuk**	**20.88**	**84**	*e*P	Pn	08 30 58.1	-1.4
	comp=Z,31nm,0.6s						
CMAR	**Chiang Mai Arr**	**22.09**	**352**	P	**P**	**08 31 08.2**	**-0.8**
	comp=Z,2.1nm,0.4s,baz=182,slow=8.9,SNR=11						
CMAR				LR	LR	08 39 16.0	
	comp=Z,55nm,19.0s,baz=172,slow=35						
CMAR	**Chiang Mai Arr**	**22.09**	**352**	P	**P**	**08 31 08.2**	**-0.8**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CMAR				MLR	MLR		
	comp=Z,55nm,19.0s						
CHTO	**Chiang Mai**	**22.44**	**352**	*e*P	**P**	**08 31 14.1**	**+1.4**
CHTO	**Chiang Mai**	**22.44**	**352**	*e*P	**P**	**08 31 14.1**	**+1.4**
SOEI	**Soe**	**22.93**	**107**	⇓P	**P**	**08 31 16.0**	**-1.9**
	baz=23,SNR=4.6						
SOEI	**Soe**	**22.93**	**107**	*e*P	**P**	**08 31 15.4**	**-2.5**
	comp=Z,51nm,1.1s						
QIZ	**Qiongzhong**	**23.73**	**19**	P	**P**	**08 31 26.8**	**+1.7**
QIZ				S	**S**	**08 35 37.3**	**+3.6**
QIZ				PMZ			
	comp=Z,22nm,2.4s						
KMI	**Kunming**	**28.52**	**1**	P	P	08 32 11.5	+3.1
KMI				pP	pP	08 32 31.3	+2.0
KMI				sP	sP	08 32 41.8	+1.8
KMI				PP	**PnPn**	**08 33 07.5**	**+4.4**
KMI				S	**S**	**08 36 53.5**	**+3.6**
KMI				sS	sS	08 37 27.8	+1.7
KMI				SS	**SnSn**	**08 38 26.3**	**+7.3**
KMI				PMZ			
	comp=Z,7.0nm,0.6s						
KMI				PMZ			
	comp=Z,69nm,6.8s						
KMI				LN			
	comp=Z,150nm,4.3s						
KMI				LE			
	comp=Z,160nm,5.2s						
KMI				LZ			
	comp=Z,150nm,7.5s						
KNRA	**Kununurra**	**28.93**	**116**	P	**P**	**08 32 11.4**	**-0.6**
	baz=29,SNR=3.5						
SIJI	**Sorong**	**29.34**	**85**	P	**P**	**08 32 16.0**	**+0.3**
	comp=Z,6.4nm,0.5s,baz=255,slow=20,SNR=3.7						
H08S2	**Diego Garcia H**	**29.66**	**261**	T	T	09 02 34.2	
	baz=84,slow=75,SNR=33						
H08S3	**Diego Garcia H**	**29.67**	**261**	T	T	09 02 38.2	
	baz=84,slow=75,SNR=163						
H08S1	**Diego Carcia H**	**29.68**	**261**	T	T	09 02 35.6	
	baz=84,slow=75,SNR=112						
GYA	**Guiyang**	**30.18**	**8**	P	**P**	**08 32 25.8**	**+2.8**
GYA				pP	**pP**	**08 32 46.3**	**+2.4**
GYA				sP	**sP**	**08 32 55.5**	**+0.9**
GYA				PP	**PnPn**	**08 33 28.0**	**+3.4**
GYA				S	**S**	**08 37 19.5**	**+3.8**
GYA				sS	**sS**	**08 37 54.8**	**+2.8**
GYA				ScP	**ScP**	**08 38 54.5**	**-1.9**
GYA				PMZ			
	comp=Z,20nm,0.8s						
GYA				PMZ			
	comp=Z,120nm,4.9s						
GYA				LN			
	comp=Z,480nm,17.8s						
GYA				LE			
	comp=Z,460nm,18.2s						
GYA				LZ			
	comp=Z,510nm,17.9s						
FAKI	**Fak Fak**	**30.18**	**90**	⇑P	**P**	**08 32 23.0**	**0.0**
	baz=30,SNR=6.0						
FAKI	**Fak Fak**	**30.18**	**90**	*e*P	**P**	**08 32 23.5**	**+0.4**
	comp=Z,28nm,1.1s						
MTN	**Manton Dam**	**30.22**	**109**	⇑P	**P**	**08 32 22.3**	**-1.0**
	baz=30,SNR=5.3						
KDU	**Kakadu**	**31.44**	**109**	P	**P**	**08 32 33.0**	**-1.1**
	baz=32,SNR=3.7						
NWAO	**Narrogin (SRO)**	**32.50**	**156**	P	**P**	**08 32 45.2**	**+2.1**
	comp=Z,6.9nm,0.9s,baz=329,slow=11,SNR=5.0						
NWAO	**Narrogin (SRO)**	**32.50**	**156**	P	**P**	**08 32 45.3**	**+2.1**
NWAO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
WRKA	**Warakurna**	**33.09**	**133**	P	**P**	**08 32 50.2**	**+1.7**
	baz=33,SNR=24						
H01W3	**Cape Leeuwin H**	**33.13**	**162**	T	T	09 07 02.7	
	baz=339,slow=76,SNR=28						
H01W2	**Cape Leeuwin H**	**33.15**	**162**	T	T	09 07 03.9	
	baz=339,slow=76,SNR=40						
H01W1	**Cape Leeuwin H**	**33.15**	**162**	T	T	09 07 07.2	
	baz=339,slow=76,SNR=23						
ODAN	**Odare**	**33.39**	**336**	*e*P	**P**	**08 32 49.1**	**-2.1**
	comp=Z,19nm,0.4s						
TAPN	**Taplejung**	**33.69**	**337**	*e*P	**P**	**08 32 51.6**	**-2.4**
	comp=Z,21nm,0.7s						
CD2	**Chengdu**	**34.32**	**3**	*e*P	**P**	**08 33 00.5**	**+1.5**
CD2				pP	**pP**	**08 33 20.5**	**+0.3**
CD2				PP	**PP**	**08 34 20.5**	**+1.9**
CD2				PcP	**PcP**	**08 35 33.3**	**-0.1**
CD2				S	**S**	**08 38 24.0**	**+4.2**
CD2				sS	**sS**	**08 38 59.0**	**+2.6**
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,160nm,5.2s						
PKI	**Pulchoki**	**34.85**	**334**	*e*P	**P**	**08 33 03.2**	**-0.8**
	comp=Z,8.0nm,0.4s						
PKIN	**Phulchoki**	**34.86**	**334**	*e*P	**P**	**08 33 03.5**	**-0.6**
	comp=Z,9.5nm,0.4s						
GUN	**Gumba**	**34.94**	**335**	*e*P	**P**	**08 33 04.0**	**-0.8**
	comp=Z,42nm,0.4s						
DMN	**Daman**	**35.02**	**333**	*e*P	**P**	**08 33 04.9**	**-0.5**
	comp=Z,5.5nm,0.3s						
KKN	**Kakani**	**35.10**	**334**	*e*P	**P**	**08 33 05.2**	**-0.8**
	comp=Z,15nm,0.4s						
WRA	**Warramunga Arr**	**35.47**	**120**	P	**P**	**08 33 08.8**	**-0.3**
	comp=Z,22nm,0.4s,baz=303,slow=8.9,SNR=399						
WRA				PcP	**PcP**	**08 35 37.0**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=310,slow=2.4,SNR=4.6						
WRA				S	**S**	**08 38 33.5**	**-4.2**
	comp=Z,2.2nm,0.9s,baz=292,slow=16,SNR=8.1						
WRA	**Warramunga Arr**	**35.47**	**120**	P	**P**	**08 33 08.8**	**-0.3**
WRA						08 35 37.0	
WRA				S	**S**	**08 38 33.6**	**-4.2**
WRA				pmax	pmax		
	comp=Z,22nm,0.4s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA				smax	smax		
	comp=N,2.0nm,1.0s						
WRAB	**Tennant Creek**	**35.47**	**120**	*d* iP	**P**	**08 33 09.4**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,24nm,0.9s						
WRAB	**Tennant Creek**	**35.47**	**120**	*e*P	**P**	**08 33 09.0**	**-0.1**
	comp=Z,27nm,0.4s						
GKN	**Gorkha**	**35.57**	**333**	*e*P	**P**	**08 33 09.9**	**-0.1**
	comp=Z,29nm,0.4s						
KOLN	**Koldanda**	**35.85**	**331**	*e*P	**P**	**08 33 12.4**	**-0.1**
	comp=Z,37nm,0.5s						
DANN	**Dangsing**	**36.27**	**332**	*e*P	**P**	**08 33 16.1**	**0.0**
	comp=Z,7.5nm,0.4s						
ASPA	**Alice Springs**	**36.70**	**126**	⇓P	**P**	**08 33 20.3**	**+0.6**
	baz=37						
ASAR	**Alice Springs**	**36.71**	**126**	P	**P**	**08 33 20.1**	**+0.4**
	comp=Z,3.9nm,0.3s,baz=299,slow=8.1,SNR=89						
ASAR				PcP	**PcP**	**08 35 41.5**	**+0.9**
	comp=Z,1.7nm,0.4s,baz=314,slow=2.6,SNR=7.9						
ASAR				S	**S**	**08 38 54.6**	**-2.1**
	comp=Z,1.4nm,0.6s,baz=299,slow=15,SNR=7.2						
ASAR	**Alice Springs**	**36.71**	**126**	P	**P**	**08 33 20.1**	**+0.4**
ASAR						08 35 41.6	
ASAR				S	**S**	**08 38 54.6**	**-2.1**
ASAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ASAR				smax	smax		
	comp=N,1.0nm,0.6s						
XAN	**Xi'an**	**37.96**	**9**	P	**P**	**08 33 29.0**	**-1.1**
XAN				PMZ			
	comp=N,9.0nm,0.5s						
XAN				PMZ			
	comp=N,33nm,4.5s						
JAY	**Jayapura**	**38.64**	**90**	P	**P**	**08 33 33.6**	**-2.5**
	comp=N,62nm,1.2s,baz=162,slow=20,SNR=6.0						
JAY	**Jayapura**	**38.64**	**90**	P	**P**	**08 33 33.6**	**-2.5**
JAY				pmax	pmax		
	comp=Z,62nm,1.3s						
NJ2	**Nanjing**	**38.86**	**23**	*e*P	**P**	**08 33 38.3**	**+0.7**
NJ2				PMZ			
	comp=Z,80nm,0.5s						
LZH	**Lanzhou**	**39.48**	**2**	*e*P	P	08 33 47.8	+4.9
LZH				pP	pP	08 34 08.5	+4.1
LZH				sP	sP	08 34 18.5	+3.5
LZH				PMZ			
	comp=Z,16nm,1.0s						
LZH				PMZ			
	comp=Z,90nm,4.1s						
NDI	**New Delhi**	**39.95**	**325**	*e*P	**P**	**08 33 45.5**	**-1.2**
QIS	**Mount Isa**	**40.29**	**118**	P	**P**	**08 33 49.7**	**0.0**
	baz=40,SNR=22						
GTA	**Gaotai**	**42.81**	**357**	*e*P	**P**	**08 34 10.0**	**-0.1**
GTA				pP	**pP**	**08 34 30.8**	**-1.1**
GTA				sP	**sP**	**08 34 41.0**	**-1.4**
GTA				S	**S**	**08 40 28.5**	**+0.9**
GTA				sS	**sS**	**08 41 04.5**	**-0.5**
GTA				SS	**SS**	**08 43 36.3**	**-5.8**
GTA				PMZ			
	comp=Z,8.0nm,1.2s						
GTA				PMZ			
	comp=Z,74nm,6.2s						
GTA				LN			
	comp=Z,74nm,15.2s						
GTA				LE			
	comp=Z,59nm,14.7s						
GTA				LZ			
	comp=Z,90nm,16.6s						
BBOO	**Buckleboo**	**43.13**	**136**	P	**P**	**08 34 13.8**	**+1.1**
	baz=43,SNR=12						
MTSU	**Mount Surprise**	**43.85**	**113**	⇑P	**P**	**08 34 18.9**	**+0.2**
	baz=44,SNR=17						
HHC	**Hu-ho-hao-te**	**45.05**	**10**	*e*P	P	08 34 32.8	+4.8
HHC				pP	pP	08 34 53.5	+3.5
HHC				sP	sP	08 35 03.0	+2.6
HHC				PP	**PP**	**08 36 16.0**	**+0.9**
HHC				S	S	08 41 06.5	+6.4
HHC				PMZ			
	comp=Z,14nm,1.0s						
HHC				PMZ			
	comp=Z,99nm,6.1s						
HHC				LN			
	comp=Z,84nm,15.1s						
HHC				LE			
	comp=Z,120nm,15.6s						
HHC				LZ			
	comp=Z,56nm,15.2s						
BJI	**Beijing**	**45.30**	**15**	P	**P**	**08 34 29.8**	**+0.1**
BJI				PMZ			
	comp=Z,16nm,0.5s						
BJI				PMZ			
	comp=Z,93nm,5.6s						
HTT	**Hallett**	**45.47**	**135**	P	**P**	**08 34 32.9**	**+1.5**
	baz=46,SNR=6.3						
JNU	**Nakatsue**	**45.57**	**35**	LR	LR	08 53 56.3	
	comp=Z,18nm,21.2s,baz=307,slow=36						
CTA	**Charters Tower**	**46.11**	**115**	P	**P**	**08 34 36.7**	**+0.1**
	comp=Z,9.0nm,0.8s,baz=287,slow=10,SNR=7.7						
CTA	**Charters Tower**	**46.11**	**115**	P	**P**	**08 34 36.7**	**+0.1**
CTA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CTAO	**Charters Tower**	**46.11**	**115**	*e*P	**P**	**08 34 36.9**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,15nm,1.0s						
CTAO	**Charters Tower**	**46.11**	**115**	*e*P	**P**	**08 34 36.9**	**+0.3**
	comp=Z,15nm,1.0s						
QLP	**Quilpie**	**46.41**	**124**	P	**P**	**08 34 40.0**	**+1.2**
	baz=47,SNR=18						
STKA	**Stephens Creek**	**46.61**	**132**	P	**P**	**08 34 41.5**	**+1.2**
	comp=Z,8.3nm,0.6s,baz=308,slow=7.2,SNR=30						
STKA	**Stephens Creek**	**46.61**	**132**	P	**P**	**08 34 41.5**	**+1.2**
STKA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
STKA	**Stephens Creek**	**46.61**	**132**	*e*P	**P**	**08 34 41.6**	**+1.2**
	comp=Z,1.6nm,0.7s						
KSAR	**Wonju Array Be**	**47.35**	**28**	P	**P**	**08 34 46.2**	**+0.3**
KSAR	**Wonju Array Be**	**47.35**	**28**	P	**P**	**08 34 46.1**	**+0.3**
KSRS	**Korea Array**	**47.38**	**28**	P	**P**	**08 34 46.1**	**+0.1**
	comp=Z,3.1n

CN2 epP **pP** **08 35 39.0 -1.9**
CN2 PMZ
comp=Z,10.0nm,0.6s
CN2 PMZ
comp=Z,200nm,4.0s
EIDS **Eidsvold** **51.83 120** P **P** **08 35 21.5 +1.3**
baz=52,SNR=5.2
EIDS **Eidsvold** **51.83 120** *eP* **P** **08 35 21.4 +1.1**
comp=Z,7.7nm,0.6s
TKM2 **Tokmak 2** **52.07 336** *eP* **P** **08 35 21.7 -0.2**
TKM2 pmax pmax
comp=Z,16nm,0.8s
TKM2 **Tokmak 2** **52.07 336** *eP* **P** **08 35 21.7 -0.2**
comp=Z,16nm,0.8s
MJAR **Matsushiro Arr** **52.25 37** P **P** **08 35 21.6 -1.6**
comp=Z,2.7nm,0.7s,baz=216,slow=8.8,SNR=8.0
MJAR **Matsushiro Arr** **52.25 37** P **P** **08 35 21.6 -1.6**
MJAR pmax pmax
comp=Z,3.0nm,0.7s
EKS2 **Erkin-Say** **52.63 334** *eP* **P** **08 35 26.4 +0.4**
EKS2 pmax pmax
comp=Z,12nm,0.7s
EKS2 **Erkin-Say** **52.63 334** *eP* **P** **08 35 26.4 +0.4**
comp=Z,12nm,0.7s
MK31 **Makanchi Array** **53.08 343** *eP* **P** **08 35 28.2 -0.9**
MK31 *e* 08 36 01.7
MK31 **Makanchi Array** **53.08 343** *eP* **P** **08 35 28.2 -0.9**
MK31 *e* 08 36 01.7
MKAR **Makanchi Array** **53.08 343** P **P** **08 35 28.4 -0.7**
comp=Z,14nm,0.5s,baz=149,slow=8.1,SNR=137
MKAR pP pP 08 36 01.5 +10
comp=Z,7.5nm,0.7s,baz=143,slow=8.4,SNR=4.3
MKAR **Makanchi Array** **53.08 343** P **P** **08 35 28.4 -0.7**
MKAR *PP pP 08 36 01.5 +10
MKAR pmax pmax
comp=Z,14nm,0.5s
MKAR pmax pmax
comp=Z,8.0nm,0.7s
ARMA **Armidale** **53.86 125** *eP* **P** **08 35 37.3 +2.1**
comp=Z,14nm,1.1s
KK31 **Karatay Array** **54.46 332** P **P** **08 35 38.1 -1.1**
KK31 pmax pmax
comp=Z,2.0nm,0.5s
KKAR **Karatay Array** **54.46 332** *eP* **P** **08 35 38.0 -1.2**
KKAR pmax pmax
comp=Z,2.0nm,0.5s
KKAR **Karatay Array** **54.46 332** *eP* **P** **08 35 38.0 -1.2**
comp=Z,1.7nm,0.5s
USRK **Ussuriysk Ar.** **54.62 26** P **P** **08 35 40.0 -0.3**
comp=Z,24nm,0.6s,baz=222,slow=5.5,SNR=77
GEYT **Alibeck** **57.93 320** P **P** **08 36 03.2 -0.8**
comp=Z,1.5nm,0.4s,baz=192,slow=2.7,SNR=3.6
ERM **Erimo** **58.73 35** *iP* **P** **08 36 09.2 -0.2**
ERM pmax pmax
comp=Z,14nm,1.3s
ZAA0 **Zalesovo Array** **59.08 348** P **P** **08 36 10.8 -0.8**
baz=59
ZAA0 **Zalesovo Array** **59.08 348** *eP* **P** **08 36 10.4 -1.3**
ZALV **Zalesovo Beam** **59.08 348** P **P** **08 36 10.7 -1.0**
comp=Z,11nm,0.3s,baz=173,slow=5.5,SNR=76
ZALV pP pP 08 36 44.9 +10
comp=Z,5.7nm,0.4s,baz=178,slow=5.5,SNR=2.8
ZALV LR LR 09 04 47.8
comp=Z,29nm,19.8s,baz=74,slow=39
ZALV **Zalesovo Beam** **59.08 348** P **P** **08 36 10.7 -1.0**
ZALV *PP pP 08 36 44.9 +10
ZALV pmax pmax
comp=Z,11nm,0.3s
ZALV pmax pmax
comp=Z,6.0nm,0.4s
ZALV MLR MLR
comp=Z,29nm,19.8s
ASAJ **Asahikawa** **59.79 33** *eP* **P** **08 36 16.9 +0.2**
comp=Z,5.4nm,0.8s
NVS **Novosibirsk** **60.25 348** *eP* **P** **08 36 17.6 -2.0**
YUK **Yuzh-Kuril'sk** **61.54 35** *eP* **P** **08 36 29.1 +0.5**
YSS **Yuzh-Sakhalins** **61.76 30** *iP* **P** **08 36 30.1 +0.1**
YSS pmax pmax
comp=Z,7.0nm,0.5s
YSS **Yuzh-Sakhalins** **61.76 30** *eP* **P** **08 36 29.6 -0.4**
comp=Z,20nm,0.6s
BOD **Bodaibo** **61.94 7** *eP* **P** **08 36 30.5 -0.5**
BOD pmax pmax
comp=Z,5.0nm,0.8s
BVA0 **Borovoye Array** **62.34 339** *iP* **P** **08 36 32.1 -1.7**
BVA0 pmax pmax
comp=Z,5.0nm,0.5s
BRVK **Borovoye** **62.41 339** *eP* **P** **08 36 33.1 -1.1**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
BRVK **Borovoye** **62.41 339** *eP* **P** **08 36 33.1 -1.1**
comp=Z,8.8nm,0.8s
KUR **Kuril'sk** **63.41 35** *eP* **P** **08 36 41.0 0.0**
AB31 **Akbulak array** **63.98 331** *iP* **P** **08 36 43.4 -1.3**
AB31 pmax pmax
comp=Z,10.0nm,0.4s
ABKAR **Akbulak array** **63.98 331** *eP* **P** **08 36 43.8 -0.9**
comp=Z,34nm,0.8s
DZM **Mont Dzumac** **64.99 113** P **P** **08 36 52.1 +0.1**
comp=Z,9.2nm,0.8s
AKTO **Aktyubinsk** **65.69 331** P **P** **08 36 54.4 -1.4**
AKTO pmax pmax
comp=Z,3.0nm,0.6s
YAK **Yakutsk** **68.75 14** *eP* **P** **08 37 13.7 -1.2**
YAK pmax pmax
comp=Z,17nm,0.7s
MAW **Mawson** **69.29 195** LR LR 09 01 25.4
comp=Z,49nm,21.6s,baz=64,slow=30
ARU **Arti** **69.44 336** *d iP* **P** **08 37 18.0 -1.3**
ARU 08 39 51.3
ARU S **S** **08 46 19.8 +0.6**
ARU SS **SS** **08 50 44.0 -4.4**
ARU pmax pmax
comp=Z,11nm,1.2s
ARU **Arti** **69.44 336** *eP* **P** **08 37 18.4 -0.8**
comp=Z,5.8nm,0.6s
KBZ **Khabaz** **70.80 319** P **P** **08 37 28.1 +0.2**
comp=Z,4.0nm,0.6s,baz=126,slow=5.8,SNR=12
KBZ **Khabaz** **70.80 319** P **P** **08 37 28.1 +0.2**
KBZ pmax pmax
comp=Z,4.0nm,0.6s
ANN **Anapa** **74.84 318** *eP* **P** **08 37 49.0 -2.7**
ANN pmax pmax
comp=Z,20nm,1.1s
BR131 **Keskin Array S** **75.86 312** *eP* **P** **08 37 57.6 -0.3**
comp=Z,1.4nm,0.6s
BRTR **Keskin Array B** **75.86 312** P **P** **08 37 57.5 -0.4**
comp=Z,3.0nm,0.7s,baz=132,slow=7.5,SNR=17
BRTR **Keskin Array B** **75.86 312** P **P** **08 37 57.5 -0.4**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
URZ **Urewera** **76.10 128** LR LR 09 14 20.4
comp=Z,53nm,18.7s,baz=298,slow=38
VSR **Storozhevoye** **76.21 325** *eP* **P** **08 37 58.6 -0.8**
VSR pmax pmax
comp=N,5.0nm,0.6s
VSR pmax pmax
comp=E,6.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
SEY **Seymchan** **76.32 21** P **P** **08 37 59.5 -0.3**
comp=Z,4.0nm,0.6s,baz=242,slow=5.1,SNR=16
SYO **Syowa Base** **77.06 199** *eP* **P** **08 38 24.0 -3.8**
PRGR **Permogore** **77.90 336** P **P** **08 38 05.1 -3.6**
PRGR pmax pmax
comp=Z,10.0nm,0.5s
VNDA **Vanda** **80.25 169** P **P** **08 38 23.4 +2.1**
comp=Z,0.7nm,0.7s,baz=260,slow=1.5,SNR=2.9
VNDA **Vanda** **80.25 169** P **P** **08 38 23.4 +2.1**
VNDA pmax pmax
comp=Z,1.0nm,0.7s
AKASG **Malin Array Be** **81.95 322** P **P** **08 38 29.4 -1.3**
comp=Z,0.7nm,0.4s,baz=90,slow=4.8,SNR=5.2
AKASG **Malin Array Be** **81.95 322** P **P** **08 38 29.4 -1.3**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
VRI **Vrincioaia** **82.36 317** *iP* **P** **08 38 33.9 +0.8**
MLR **Muntele Rosu** **82.81 317** *iP* **P** **08 38 36.3 +0.7**
BURAR **Bucovina Array** **83.76 318** *iP* **P** **08 38 41.5 +1.1**
BUR08 **Bucovina Ar. S** **83.78 319** *eP* **P** **08 38 41.6 +1.2**
KOLS **Kolonicke sedl** **85.94 319** *eP* **P** **08 38 52.1 +0.9**
KOLS pmax pmax
comp=Z,5.0nm,0.8s
KOLS **Kolonicke sedl** **85.94 319** *eP* **P** **08 38 52.1 +0.9**
FINES **FINESS Array B** **86.42 332** P **P** **08 38 52.9 -0.3**
comp=Z,2.8nm,0.5s,baz=114,slow=5.7,SNR=28
FINES **FINESS Array B** **86.42 332** P **P** **08 38 52.9 -0.3**
FINES pmax pmax
comp=Z,3.0nm,0.5s
GSTR **Great Sitkin T** **87.82 38** *eP* **P** **08 38 59.9 -0.3**
comp=Z,21nm,0.6s
ARCES **ARCESS Array B** **88.62 340** P **P** **08 39 03.4 -0.2**
comp=Z,2.1nm,0.6s,baz=98,slow=6.6,SNR=22
ARCES **ARCESS Array B** **88.62 340** P **P** **08 39 03.4 -0.2**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARSA **Arzberg** **90.21 317** *iPcP* **P** **08 39 12.9 +1.4**
comp=Z,4.4nm,0.9s
SOKA **Soboth** **90.50 317** *iPcP* **P** **08 39 14.6 +1.7**
comp=Z,2.7nm,1.2s
NB2 **NORSAR Subarra** **93.48 331** P **P** **08 39 26.0 -0.4**
comp=Z,0.4nm,0.5s,baz=84,slow=6.9
NOA **NORSAR Array B** **93.48 331** P **P** **08 39 25.2 -1.2**
comp=Z,0.9nm,0.8s,baz=92,slow=4.8,SNR=4.7
NOA **NORSAR Array B** **93.48 331** P **P** **08 39 25.2 -1.2**
NOA pmax pmax
comp=Z,1.0nm,0.8s
ILAR **Eielson Array** **102.10 24** P **Pdif** **08 40 03.3 -1.8**
comp=Z,0.1nm,0.6s,baz=294,slow=4.4,SNR=3.7
DLMT **Dillon** **128.52 31** *e*PKPdf **PKPdf** **08 45 18.9 +1.0**
NVAR **Mina Array Bea** **129.48 41** PKP **PKPdf** **08 45 20.7 +0.7**
comp=Z,0.5nm,0.6s,baz=301,slow=1.9,SNR=7.0
REDW **Red Top Meadow** **130.81 32** *e*PKPdf **PKPdf** **08 45 23.0 +0.6**
HWUT **Hardware Ranch** **131.63 34** *e*PKPdf **PKPdf** **08 45 24.9 +0.9**
PDAR **Pinedale Array** **131.90 31** PKP **PKPdf** **08 45 24.4 -0.1**
comp=Z,0.5nm,0.6s,baz=78,slow=0.6,SNR=8.6
CPUP **Villa Florida** **144.19 213** PKP PKPbc 08 45 46.2 +0.7
comp=Z,2.4nm,1.0s,baz=76,slow=17,SNR=4.2
CPUP **Villa Florida** **144.19 213** PKIKP PKPbc 08 45 46.2 +0.8
CPUP pmax pmax
comp=Z,2.0nm,1.0s
TXAR **Lajitas Array** **144.63 41** PKP PKPbc 08 45 47.4 +0.4
comp=Z,5.6nm,0.7s,baz=297,slow=1.2,SNR=82
TXAR **Lajitas Array** **144.63 41** PKIKP **PKPdf** **08 45 47.4 -0.6**
TXAR pmax pmax
comp=Z,6.0nm,0.7s
BDFB **Brasilia** **144.74 236** PKPbc **PKPdf** **08 45 49.3 +0.8**
comp=Z,1.3nm,0.3s,baz=110,slow=2.8,SNR=3.9
BDFB **Brasilia** **144.74 236** PKIKP **PKPdf** **08 45 49.3 +0.8**
BDFB pmax pmax
comp=Z,1.0nm,0.4s
PARMO **Parma** **145.32 17** *e*PKPdf **PKPbc** **08 45 48.6 -0.1**
MIAR **Mount Ida** **145.93 23** *e*PKP2 **PKPbc** **08 45 50.7 0.0**
MIAR **Mount Ida** **145.93 23** *e*PKPbc **PKPbc** **08 45 50.7 0.0**
UALR **University of** **146.20 22** *e*PKPbc **PKPbc** **08 45 51.2 -0.3**
JCT **Junction City** **146.21 35** *e*PKP2 **PKPbc** **08 45 51.4 -0.3**
JCT **Junction City** **146.21 35** *e*PKPbc **PKPbc** **08 45 51.4 -0.3**
SWET **Sewanee** **147.65 12** *e*PKPbc **PKPbc** **08 45 54.4 -1.2**
CPCT **Cooper Cave** **147.69 10** *e*PKPbc **PKPbc** **08 45 55.0 -0.7**
LRAL **Lakeview Retre** **149.49 15** *e*PKPbc **PKPbc** **08 45 59.3 -1.1**

*ISCJB **27** 08:36:27.6±0.8, 32.°10N±0.°05×104.°7E±0.°1, h15km, mb3.6/5, Error ellipse: s-maj=15.3km s-min=6.2km az=13.5*
*IDC **27** 08:36:27.2±1.1, 32.°01N×104.°59E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/28, mbtmp3.6/6, Error ellipse: s-maj=94.6km s-min=20.0km az=59.0*
*BJI **27** 08:36:32.7, 32.°14N×104.°56E, h16km, ML3.5/16, Ms3.5/2, Ms7 3.3/1*

ISC 27 08:36:31.3±0.7, 32.°10N±0.°04×104.°52E±0.°05, h15km, n11, σ1§75/20, mb3.9/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.35**	**209**	Pg	**Pb**	**08 36 56.5**	**+0.1**
CD2				Sg	**Sg**	**08 37 16.0**	**+1.0**
CD2				SMN			
	4μm,0.6s						
CD2				SME			
	2μm,0.6s						
LZH	**Lanzhou**	**4.01**	**352**	Pn	**Pn**	**08 37 34.0**	**+1.6**
LZH				Pg	**Pb**	**08 37 42.0**	**+0.2**
LZH				Sn	**Sn**	**08 38 20.3**	**+1.1**
LZH				Sg	**Sg**	**08 38 37.8**	**-2.4**
LZH				SMN			
	200nm,0.6s						
LZH				SME			
	260nm,0.9s						
XAN	**Xi'an**	**4.17**	**61**	Pn	**Pn**	**08 37 35.0**	**+0.6**
XAN				Pg	**Pb**	**08 37 43.8**	**-0.6**
XAN				Sn	**Sn**	**08 38 25.8**	**+2.8**
XAN				Sg	**Sb**	**08 38 36.5**	**+1.9**
XAN				SMN			
	180nm,0.8s						
XAN				SME			
	160nm,0.7s						
GTA	**Gaotai**	**8.23**	**334**	*eP*	Pn	08 38 23.0	-7.3
GTA				pP	pP	08 38 27.3	
GTA				sP		08 38 30.0	
GTA				S	Sn	08 39 53.8	-9.3
GTA				sS	sS	08 39 58.0	
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,40nm,4.5s						
GTA				LR	LR		
	comp=N,110nm,13.5s						
GTA				LR	LR		
	comp=E,110nm,12.8s						
GTA				LR	LR		
	comp=Z,63nm,12.8s						
SONM	**Songino Array**	**15.78**	**5**	Pn	**Pn**	**08 40 12.5**	**-0.5**
	baz=180,slow=10,SNR=3.8						
WMQ	**Urumqi**	**17.65**	**316**	P	**Pn**	**08 40 36.0**	**-0.6**
WMQ				pP	**pP**	**08 40 42.0**	**+0.2**
WMQ				sP	**sP**	**08 40 45.3**	**+1.6**
WMQ				PP	**PnPn**	**08 40 50.5**	**+3.4**
WMQ				LN			
	comp=Z,82nm,5.3s						
WMQ				LE			
	comp=Z,82nm,5.2s						
MKAR	**Makanchi Array**	**22.47**	**317**	P	**P**	**08 41 29.9**	**0.0**
	comp=Z,0.5nm,0.5s,baz=134,slow=6.2,SNR=5.6						
ZALV	**Zalesovo Beam**	**25.99**	**333**	P	**P**	**08 42 02.5**	**-0.7**
	comp=Z,2.5nm,0.5s,baz=132,slow=10,SNR=11						
FINES	**FINESS Array B**	**56.94**	**326**	P	**P**	**08 46 14.0**	**-1.6**
	comp=Z,0.7nm,0.5s,baz=97,slow=7.7,SNR=5.3						
WRA	**Warramunga Arr**	**59.11**	**147**	P	**P**	**08 46 29.0**	**-2.3**
	comp=Z,1.0nm,0.8s,baz=339,slow=7.8,SNR=7.6						
ASAR	**Alice Springs**	**62.16**	**149**	P	**P**	**08 46 49.6**	**-2.5**
	comp=Z,0.1nm,0.5s,baz=341,slow=7.4,SNR=3.2						

MAN 27 09:10:14, 8.°92N×125.°92E, h29km, mb4.3, ML3.1, MS2.9, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**1.30**	**249**	*eP*	Pn	09 10 36.0	-0.2

IDC 27 09:11:44.3±4.6, 3.°80S×145.°97E, h0km, mb3.2/1, mb1 3.9/3, mb1mx3.5/19, mbtmp3.7/3, ML4.0/1, Error ellipse: s-maj=73.8km s-min=56.5km az=61.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.70**	**168**	Pn	Pn	09 13 10.5	+0.3
	2.6nm,0.3s,baz=0.0,slow=5.1,SNR=10						
WRA	**Warramunga Arr**	**19.65**	**214**	P	Pn	09 16 16.1	-0.1
	0.5nm,0.3s,baz=35,slow=11,SNR=34						
ASAR	**Alice Springs**	**22.93**	**209**	P	P	09 16 49.1	-1.1
	0.5nm,0.5s,baz=44,slow=8.9,SNR=14						
TORD	**Torodi Ar. Bea**	**143.51**	**287**	PKP	PKPdf	09 31 22.1	0.0
	0.3nm,0.5s,baz=65,slow=3.4,SNR=5.3						

*IDC **27** 09:14:56.5±0.5, 60.°15N×152.°76W, h69km±4km, mb3.9/22, mb1 4.0/25, mb1mx3.9/37, mbtmp4.2/25, MS3.1/7, Ms1 3.1/7, ms1mx2.7/36, Error ellipse: s-maj=11.0km s-min=7.6km az=77.0*
*ISCJB **27** 09:14:58.0±0.2, 60.°09N±0.°02×152.°60W±0.°03, h98km±1km, mb4.2/40, Error ellipse: s-maj=3.0km s-min=2.4km az=143.1*
*NEIC **27** 09:14:60.0, 60.°05N×152.°61W, h88km, mb4.4/16, After AEIC.*
NEIC Felt at Ninilchik.

ISC 27 09:14:59.4±0.4, 60.°05N±0.°03×152.°67W±0.°03, h99km±3km, h98km:pP-P, n175, σ1§58/226, mb4.2/40, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILIM	**Iliamna**	**0.15**	**282**	P	**Pn**	**09 15 12.1**	**-1.3**
IVE	**Iliamna Volcan**	**0.18**	**260**	P	**Pn**	**09 15 12.2**	**-1.3**
IVE				S	**Sn**	**09 15 22.6**	**-1.4**
RSO	**Redoubt South**	**0.42**	**354**	*e*Pn	**Pn**	**09 15 13.4**	**-1.3**
RDN	**Redoubt North**	**0.47**	**354**	P	**Pn**	**09 15 13.8**	**-1.2**
OPT	**Oil Point**	**0.49**	**216**	P	**Pn**	**09 15 14.1**	**-0.8**
NCT	**North Crescent**	**0.53**	**346**	P	**Pn**	**09 15 14.0**	**-1.3**
DFR	**Drift River**	**0.55**	**359**	P	**Pn**	**09 15 14.2**	**-1.2**
HOM	**Homer**	**0.65**	**127**	P	**Pn**	**09 15 15.4**	**-0.8**
HOM				S	**Sn**	**09 15 28.3**	**-0.4**
AUL	**Augustine Lava**	**0.77**	**211**	P	**Pn**	**09 15 16.6**	**-0.7**
AUH	**Augustine H**	**0.79**	**210**	P	**Pn**	**09 15 17.0**	**-0.6**
PDB	**Pedro Bay**	**0.81**	**252**	P	**Pn**	**09 15 17.1**	**-0.6**
AUI	**Augustine Isla**	**0.81**	**209**	P	**Pn**	**09 15 17.0**	**-0.7**
CNPM	**China Poot**	**0.89**	**125**	P	**Pn**	**09 15 17.5**	**-1.1**
CNPM				S	**Sn**	**09 15 31.6**	**-1.4**
BRLK	**Bradley Lake**	**0.94**	**107**	*e*Pn	**Pn**	**09 15 17.7**	**-1.3**
BRLK				*e*Sn	**Sn**	**09 15 32.1**	**-1.9**
CKL	**Chakachamna La**	**1.16**	**8**	P	**Pn**	**09 15 20.7**	**-0.9**
SPU	**Mount Spurr**	**1.18**	**15**	*e*Pn	**Pn**	**09 15 20.8**	**-1.0**
SPU				*e*Sn	**Sn**	**09 15 36.4**	**-2.1**
CKN	**Chakachatna No**	**1.20**	**11**	P	**Pn**	**09 15 21.3**	**-0.7**
MCNL	**McNeil River**	**1.21**	**225**	P	**Pn**	**09 15 21.6**	**-0.5**
SPBG	**Spurr Blockage**	**1.22**	**7**	P	**Pn**	**09 15 21.5**	**-0.8**
SPBG				S	**Sn**	**09 15 38.8**	**-0.8**
BGL	**Barrier Glacie**	**1.23**	**6**	P	**Pn**	**09 15 21.6**	**-0.7**
SLKM	**Skilak Lake**	**1.30**	**68**	P	**Pn**	**09 15 22.2**	**-0.9**
VOGL	**Vogel Lake**	**1.46**	**48**	P	**Pn**	**09 15 25.5**	**+0.6**
VOGL				S	**Sn**	**09 15 44.8**	**+0.4**
STLK	**Strandline Lak**	**1.51**	**15**	P	**Pn**	**09 15 25.0**	**-0.7**
SEW	**Seward**	**1.61**	**87**	*e*Pn	**Pn**	**09 15 25.1**	**-1.8**
SEW				*e*Sn	**Sn**	**09 15 45.3**	**-2.6**
FIB	**Fire Island**	**1.66**	**47**	P	**Pn**	**09 15 28.0**	**+0.5**
KAPH	**Katmai Pasha**	**1.69**	**211**	P	**Pn**	**09 15 28.1**	**+0.1**
SUA	**Susitna One**	**1.71**	**33**	*e*Pn	**Pn**	**09 15 27.6**	**-0.6**
SUA				*e*Sn	**Sn**	**09 15 50.4**	**+0.3**
SVW2	**Sparrevohn**	**1.78**	**307**	*e*Pn	**Pn**	**09 15 28.1**	**-1.0**
SVW2				*e*Sn	**Sn**	**09 15 50.6**	**-1.1**
RC01	**Rabbit Creek A**	**1.78**	**53**	*e*Pn	**Pn**	**09 15 28.2**	**-0.9**
RC01				*e*Sn	**Sn**	**09 15 51.0**	**-0.7**
KAHG	**Katmai Hook Gl**	**1.83**	**213**	P	**Pn**	**09 15 29.7**	**-0.1**
KAHC	**Katmai Hardscr**	**1.85**	**221**	P	**Pn**	**09 15 29.6**	**-0.4**
SKT	**Skwentna**	**2.02**	**15**	P	**Pn**	**09 15 31.2**	**-0.8**
KAKN	**Katmai Knife C**	**2.15**	**216**	P	**Pn**	**09 15 33.7**	**-0.2**
KELA	**Mount Kelaz**	**2.26**	**226**	P	**Pn**	**09 15 35.0**	**-0.3**
KABR	**Katmai Barrier**	**2.26**	**213**	P	**Pn**	**09 15 35.8**	**+0.4**
KDAK	**Kodiak Island**	**2.27**	**179**	P	**Pn**	**09 15 33.8**	**-1.6**
	24nm,0.3s,baz=47,slow=9.3,SNR=237						
KDAK				S	**Sn**	**09 16 00.8**	**-2.1**
	104nm,0.3s,baz=161,slow=20,SNR=15						
KDAK	**Kodiak Island**	**2.27**	**179**	*e*Pn	**Pn**	**09 15 33.9**	**-1.5**
KDAK				*e*Sn	**Sn**	**09 15 59.8**	**-3.1**
PWL	**Port Wells**	**2.29**	**67**	P	**Pn**	**09 15 33.9**	**-1.8**
PMR	**Palmer**	**2.32**	**47**	*e*Pn	**Pn**	**09 15 34.6**	**-1.4**
PMR				*e*Sn	**Sn**	**09 16 02.2**	**-1.8**
CNTC	**Contact Creek**	**2.44**	**224**	P	**Pn**	**09 15 37.9**	**+0.3**
TRAP	**Trapper Creek**	**2.58**	**26**	P	**Pn**	**09 15 39.2**	**-0.2**
SML	**Sawmill**	**2.75**	**48**	*e*Pn	**Pn**	**09 15 40.4**	**-1.4**
SML				*e*Sn	**Sn**	**09 16 11.8**	**-2.6**
OHAK	**Old Harbor**	**2.85**	**187**	*e*Pn	**Pn**	**09 15 41.2**	**-1.8**
PPLA	**Purkeypile**	**2.87**	**4**	*e*Pn	**Pn**	**09 15 43.7**	**+0.4**
PLK1	**Peulik 1**	**3.04**	**224**	P	**Pn**	**09 15 45.9**	**+0.4**
SCM	**Sheep Creek Mo**	**3.16**	**53**	*e*Pn	**Pn**	**09 15 45.5**	**-1.4**
SCM				*e*Sn	**Sn**	**09 16 22.5**	**-1.6**
MID	**Middleton Isla**	**3.26**	**98**	*e*Pn	**Pn**	**09 15 47.6**	**-0.9**
MID				*e*Sn	**Sn**	**09 16 23.8**	**-2.7**
TT01	**Tatalina**	**3.29**	**332**	P	**Pn**	**09 15 48.1**	**-0.7**
TTA	**Tatalina**	**3.31**	**332**	P	**Pn**	**09 15 48.3**	**-0.8**
VLZ	**Valdez**	**3.31**	**68**	P	**Pn**	**09 15 47.4**	**-1.7**
CAST	**Castle Rocks**	**3.39**	**4**	*e*Pn	**Pn**	**09 15 49.9**	**-0.4**
EYAK	**Cordova Ski Ar**	**3.48**	**79**	P	**Pn**	**09 15 48.6**	**-2.9**
DIV	**Divide**	**3.57**	**69**	*e*Pn	**Pn**	**09 15 50.3**	**-2.4**
DIV				*e*Sn	**Sn**	**09 16 29.8**	**-4.2**
TRF	**Thorofare Moun**	**3.60**	**17**	*e*Pn	**Pn**	**09 15 53.2**	**+0.1**
TRF				*e*Sn	**Sn**	**09 16 32.1**	**-2.6**
KLU	**Klutina**	**3.61**	**63**	*e*Pn	**Pn**	**09 15 51.3**	**-1.9**
KLU				*e*Sn	**Sn**	**09 16 31.5**	**-3.5**
RND	**Reindeer**	**3.83**	**27**	*e*Pn	**Pn**	**09 15 56.0**	**-0.2**
RND				*e*Sn	**Sn**	**09 16 36.8**	**-3.3**
DHY	**Denali Highway**	**3.95**	**38**	P	**Pn**	**09 15 57.2**	**-0.7**
RAGM	**Ragged Mountai**	**4.00**	**82**	*e*Pn	**Pn**	**09 15 57.4**	**-1.1**
RAGM				*e*Sn	**Sn**	**09 16 40.4**	**-3.9**
PS11	**TAPS Pump St11**	**4.04**	**57**	P	**Pn**	**09 15 58.0**	**-1.0**
BMRM	**Bremner River**	**4.09**	**74**	*e*Pn	**Pn**	**09 15 57.2**	**-2.5**
BMRM				*e*Sn	**Sn**	**09 16 41.8**	**-4.8**
MCK	**McKinley**	**4.10**	**24**	*e*Pn	**Pn**	**09 15 59.7**	**0.0**
BPAW	**Bear Paw Mtn.**	**4.14**	**10**	*e*Pn	**Pn**	**09 15 60.0**	**-0.4**
ANNE	**Aniakchak Nort**	**4.23**	**224**	P	**Pn**	**09 16 03.0**	**+1.4**
ANNW	**Aniakchak Nort**	**4.25**	**226**	P	**Pn**	**09 16 02.1**	**+0.3**
HARP	**HAARP**	**4.33**	**54**	P	**Pn**	**09 16 01.7**	**-1.3**
BERG	**Berg Lake**	**4.49**	**82**	P	**Pn**	**09 16 03.9**	**-1.1**
PAX	**Paxson**	**4.52**	**47**	*e*Pn	**Pn**	**09 16 05.0**	**-0.6**
PAX				*e*Sn	**Sn**	**09 16 56.8**	**-0.3**
WASW	**Wrangell South**	**4.55**	**62**	P	**Pn**	**09 16 04.5**	**-1.5**
GLB	**Gilahina Butte**	**4.56**	**68**	P	**Pn**	**09 16 04.1**	**-2.0**
GRIN	**Grindle Hills**	**4.68**	**83**	P	**Pn**	**09 16 07.1**	**-0.5**
PS10	**TAPS Pump St10**	**4.71**	**41**	P	**Pn**	**09 16 08.2**	**+0.1**
CHGN	**Chignik**	**4.83**	**221**	*e*Pn	**Pn**	**09 16 09.4**	**-0.3**
CHGN				*e*Sn	**Sn**	**09 17 02.7**	**-1.7**
MCARA	**McCarthy VSAT**	**4.92**	**70**	P	**Pn**	**09 16 08.8**	**-2.1**
WRH	**Wood River Hil**	**4.92**	**24**	*e*Pn	**Pn**	**09 16 10.4**	**-0.6**
MLY	**Manley**	**5.08**	**9**	*e*Pn	**Pn**	**09 16 13.2**	**+0.2**
GCSA	**Galena City Sc**	**5.10**	**339**	P	**Pn**	**09 16 13.1**	**-0.2**
HDA	**Harding Lake**	**5.12**	**29**	*e*Pn	**Pn**	**09 16 12.9**	**-0.7**
HDA				*e*Sn	**Sn**	**09 17 07.9**	**-3.5**
CCB	**Clear Creek Bu**	**5.14**	**24**	*e*Pn	**Pn**	**09 16 12.9**	**-0.9**
CCB				*e*Sn	**Sn**	**09 17 07.2**	**-4.5**
ISLE	**Juniper Island**	**5.16**	**79**	P	**Pn**	**09 16 13.4**	**-0.9**
KIAG	**Kiagna River**	**5.17**	**76**	P	**Pn**	**09 16 13.7**	**-0.8**
MENT	**Mentasta**	**5.17**	**52**	*e*Pn	**Pn**	**09 16 12.6**	**-1.7**
MENT				*e*Sn	**Sn**	**09 17 12.3**	**-0.4**
BAGL	**Bagley Icefiel**	**5.29**	**81**	P	**Pn**	**09 16 14.8**	**-1.0**
COLA	**College**	**5.33**	**23**	P	**Pn**	**09 16 15.8**	**-0.6**
MDM	**Murphy Dome**	**5.34**	**21**	*e*Pn	**Pn**	**09 16 16.2**	**-0.4**
IL1	**Eielson Array**	**5.45**	**27**	P	**Pn**	**09 16 16.9**	**-1.1**
ILAR	**Eielson Array**	**5.45**	**27**	P	**Pn**	**09 16 16.9**	**-1.1**
	2.9nm,0.3s,baz=215,slow=14,SNR=75						
ILAR				S	**Sn**	**09 17 14.8**	**-4.5**
	6.1nm,0.3s,baz=192,slow=16,SNR=7.0						
ILB	**Eielson Array**	**5.45**	**27**	P	**Pn**	**09 16 17.0**	**-1.0**
YAH	**Yahtse**	**5.46**	**82**	P	**Pn**	**09 16 17.9**	**-0.5**
BARN	**Barnard Glacie**	**5.53**	**75**	P	**Pn**	**09 16 18.3**	**-1.0**
TABL	**Table Mountain**	**5.75**	**81**	P	**Pn**	**09 16 21.2**	**-1.2**
CHX	**Chaix

INK Inuvik 11.70 37 P **Pn** **09 17 43.1 +0.4**
0.6nm,0.3s,baz=256,slow=13,SNR=15
INK S Sn 09 19 58.4 +7.3
baz=213,slow=18,SNR=2.3
INK LR LR 09 22 15.9
comp=Z,49nm,18.3s,baz=254,slow=38
INK Inuvik 11.70 37 *e*Pn **Pn** **09 17 44.0 +1.3**
INK S Sn 09 19 58.4 +7.3
ATKA Atka Island 14.29 246 *e*Pn **P** **09 18 19.5 -1.5**
BBB Bella Bella 15.72 109 P **Pn** **09 18 35.1 +0.2**
0.3nm,0.3s,baz=308,slow=12,SNR=3.7
BBB S **Sn** **09 21 24.5 -3.9**
0.2nm,0.3s,baz=288,slow=6.4,SNR=3.2
BBB LR LR 09 23 20.7
comp=Z,66nm,20.3s,baz=274,slow=32
YKA Yellowknife Ar 18.28 66 P **P** **09 19 05.1 +0.2**
0.2nm,0.3s,baz=277,slow=10,SNR=12
YKA sP sP 09 19 26.7 -9.2
0.3nm,0.3s,baz=276,slow=10,SNR=11
YKA PcP **PcP** **09 23 32.2 0.0**
0.1nm,0.3s,baz=272,slow=1.1,SNR=6.7
YKA ScP **ScP** **09 26 59.2 +0.9**
0.1nm,0.3s,baz=283,slow=2.1,SNR=4.6
EDM Edmonton 22.39 90 *e*P **P** **09 19 50.8 +1.4**
EDM *e*pP **pP** **09 20 10.3 +1.7**
NEW Newport 23.60 104 P **P** **09 20 02.5 +1.5**
1.0nm,0.4s,baz=351,slow=5.2,SNR=4.5
RES Resolute Bay 25.17 32 P **P** **09 20 14.9 0.0**
2.1nm,0.8s,baz=266,slow=17,SNR=4.0
SEY Seymchan 25.71 300 P **P** **09 20 20.5 +0.6**
0.7nm,0.4s,baz=63,slow=16,SNR=5.8
YBH Yreka Blue Hor 25.97 121 LR LR 09 28 35.6
comp=Z,42nm,21.0s,baz=274,slow=31
PETK Petropavlovsk- 27.62 278 P **P** **09 20 37.6 +0.5**
2.8nm,0.5s,baz=78,slow=12,SNR=8.9
IMW Indian Meadow 29.73 104 *e*P **P** **09 20 58.7 +2.4**
5.3nm,0.8s
FXWY Fox Creek 29.88 104 *e*P **P** **09 21 00.0 +2.5**
2.6nm,0.8s
TPAW Teton Pass 30.02 105 *e*P **P** **09 21 01.5 +2.7**
4.3nm,0.8s
TPAW *e*pP **pP** **09 21 23.3 +2.3**
ELK Elko 30.10 113 P **P** **09 21 00.8 +1.3**
0.7nm,0.6s,baz=303,slow=21,SNR=6.3
ELK LR LR 09 33 08.4
comp=Z,29nm,18.7s,baz=298,slow=36
LOHW Long Hollow 30.10 104 *e*P **P** **09 21 02.0 +2.5**
3.1nm,0.9s
SNOW Snow King Moun 30.14 104 *e*P **P** **09 21 02.3 +2.5**
4.4nm,0.8s
REDW Red Top Meadow 30.17 105 *e*P **P** **09 21 02.6 +2.5**
45nm,2.8s
HVU Hansel Valley 30.45 109 *e*P P 09 21 05.7 +3.3
3.5nm,1.1s
NVAR Mina Array Bea 30.60 119 P **P** **09 21 05.7 +1.8**
0.9nm,0.7s,baz=315,slow=8.7,SNR=8.0
NVAR sP sP 09 21 30.6 -6.9
1.1nm,0.8s,baz=311,slow=8.0,SNR=5.5
NVAR PcP **PcP** **09 24 00.5 +0.6**
1.0nm,0.7s,baz=282,slow=3.0,SNR=6.8
PDAR Pinedale Array 31.24 104 P **P** **09 21 11.2 +1.7**
1.7nm,0.9s,baz=328,slow=5.5,SNR=12
PDAR sP sP 09 21 34.6 -8.5
1.3nm,0.9s,baz=334,slow=6.0,SNR=5.4
PDAR LR LR 09 35 02.0
comp=Z,32nm,18.4s,baz=294,slow=38
NLU North Lily Min 32.20 110 *e*P **P** **09 21 19.8 +1.9**
2.9nm,0.8s
ULM Lac du Bonnet 32.90 81 LR LR 09 34 15.5
comp=Z,46nm,18.5s,baz=232,slow=35
SRU San Rafael 33.60 109 *e*P **P** **09 21 32.3 +2.2**
6.1nm,0.7s
O20A White River Ci 33.89 106 *e*P **P** **09 21 34.6 +1.9**
4.2nm,0.7s
O20A *e*pP **pP** **09 21 57.3 +2.4**
AGMN Agassiz Nation 34.17 84 *e*P **P** **09 21 35.7 +0.9**
AGMN *e*pP **pP** **09 21 59.0 +1.9**
PV09 Paradox Valley 34.75 109 *e*P **P** **09 21 42.0 +1.8**
PV09 *e*pP **pP** **09 22 05.4 +2.9**
PV01 Paradox Valley 35.30 108 *e*P **P** **09 21 46.8 +1.9**
PV01 *e*pP **pP** **09 22 10.0 +2.7**
WUAZ Wupatki 36.12 114 *e*P **P** **09 21 54.4 +2.6**
WUAZ *e*pP **pP** **09 22 17.1 +2.9**
EYMN Ely 36.58 81 *e*P **P** **09 21 56.1 +0.7**
EYMN *e*pP **pP** **09 22 19.3 +1.3**
SDCO Great Sand Dun 37.09 105 *e*P **P** **09 22 02.1 +2.0**
3.0nm,0.8s
SDCO *e*pP **pP** **09 22 25.2 +2.5**
JFWS Jewell Farm 40.75 86 *e*P **P** **09 22 30.5 +0.2**
6.1nm,0.6s
WMOK Wichita Mounta 42.76 101 *e*P **P** **09 22 48.1 +1.4**
4.5nm,0.8s
TXAR Lajitas Array 44.84 111 P **P** **09 23 05.0 +1.4**
1.1nm,0.7s,baz=324,slow=6.3,SNR=18
TXAR sP sP 09 23 28.8 -9.0
0.8nm,0.8s,baz=351,slow=4.4,SNR=5.7
TXAR PcP **PcP** **09 24 44.0 +0.4**
0.3nm,0.7s,baz=289,slow=2.8,SNR=2.9
PBMO Poplar Bluff 45.31 92 *e*P **P** **09 23 07.0 0.0**
7.2nm,0.7s
MIAR Mount Ida 45.49 97 *e*P **P** **09 23 09.0 +0.5**
40nm,2.2s
JCT Junction City 45.73 106 *e*P **P** **09 23 11.8 +1.3**
19nm,0.8s
JCT *e*pP **pP** **09 23 35.6 +1.9**
USRK Ussuriysk Ar. 46.19 285 P **P** **09 23 12.9 -1.0**
1.8nm,0.7s,baz=53,slow=8.8,SNR=8.4
SWET Sewanee 48.79 89 *e*P **P** **09 23 34.1 0.0**
SWET *e*pP **pP** **09 23 58.4 +0.7**
CN2 Changchun 49.62 290 *e*P **P** **09 23 40.0 -0.3**
CN2 pmax pmax
comp=Z,20nm,0.7s
ARCES ARCESS Array B 50.70 1 PcP **PcP** **09 25 03.5 -0.4**
comp=Z,0.6nm,0.5s,baz=0.0,slow=4.1,SNR=5.8
KSRS Korea Array 53.33 283 P **P** **09 24 08.5 +0.5**
comp=Z,5.1nm,0.9s,baz=38,slow=6.7,SNR=15
KSAR Wonju Array Be 53.36 283 P **P** **09 24 08.5 +0.3**
SONM Songino Array 54.90 306 P **P** **09 24 20.5 +1.1**
comp=Z,4.8nm,0.5s,baz=42,slow=6.4,SNR=35
SONM sP sP 09 24 44.5 -10
comp=Z,1.6nm,0.8s,baz=41,slow=7.4,SNR=3.3
ZALV Zalesovo Beam 57.43 324 P **P** **09 24 37.0 -0.2**
comp=Z,2.2nm,0.4s,baz=31,slow=6.6,SNR=7.4
NB2 NORSAR Subarra 58.60 9 P **P** **09 24 43.6 -1.7**
comp=Z,0.6nm,0.7s,baz=351,slow=7.4
NOA NORSAR Array B 58.60 9 P **P** **09 24 44.0 -1.3**
comp=Z,0.7nm,0.7s,baz=352,slow=7.1,SNR=5.1
FINES FINESS Array B 58.83 1 P **P** **09 24 45.8 -1.0**
comp=Z,1.5nm,0.6s,baz=3.4,slow=5.5,SNR=6.6
HFS Hagfors 59.68 8 P **P** **09 24 51.1 -1.6**
comp=Z,0.8nm,0.4s,baz=46,slow=6.4,SNR=9.3
ARU Arti 61.26 341 P **P** **09 25 02.7 -0.8**
baz=346,slow=8.3
KURK Kurchatov 62.08 326 P **P** **09 25 09.0 -0.1**
KURBB Kurchatov Arra 62.19 326 P **P** **09 25 09.0 -0.8**
comp=Z,1.6nm,0.6s,baz=29,slow=6.9,SNR=4.3
EKA Eskdalemuir Ar 62.43 19 P **P** **09 25 10.5 -0.9**
comp=Z,0.6nm,0.3s,baz=348,slow=5.7,SNR=3.8
GTA Gaotai 64.54 305 *e*P **P** **09 25 26.3 +0.7**
GTA pP pP 09 25 31.5 -19
GTA sP sP 09 25 35.0 -26
GTA pmax pmax
comp=Z,6.0nm,1.2s
AKTO Aktyubinsk 67.11 339 P **P** **09 25 41.1 -0.7**
baz=17,slow=8.3
ABKAR Akbulak array 67.88 338 *e*P **P** **09 25 46.2 -0.4**
AKASG Malin Array Be 69.59 359 P **P** **09 25 56.0 -1.3**
comp=Z,0.6nm,0.3s,baz=0.4,slow=5.9,SNR=4.2
DPC Dobruska-Polom 69.59 8 *e*P **P** **09 25 56.9 -0.4**
DPC *e*pP **pP** **09 26 20.7 -1.5**
KRLC Kraliky 69.90 7 *e*P **P** **09 25 58.6 -0.6**
KHC Kasperske Hory 70.60 10 *e*P **P** **09 26 03.2 -0.3**
GERES GERESS Array B 70.90 9 P **P** **09 26 05.3 -0.1**
comp=Z,1.0nm,0.5s,baz=1.9,slow=4.0,SNR=7.6
DAVOX Davos/Dischmat 72.58 12 P **P** **09 26 15.4 -0.2**
comp=Z,2.5nm,0.6s,baz=342,slow=13,SNR=3.9
KEST Kesra 83.42 15 P **P** **09 27 14.9 -0.7**
comp=Z,0.9nm,0.5s,baz=242,slow=3.4,SNR=5.0
MDT Midelt 83.80 27 P **P** **09 27 17.9 +0.3**
comp=Z,3.7nm,0.9s,baz=340,slow=6.8,SNR=6.0
BOSA Boshof 148.54 4 PKPbc **PKPbc** **09 34 33.5 -0.8**
comp=Z,7.7nm,0.5s,baz=359,slow=2.6,SNR=32

*TIF **27** 09:22:25.8, 42°.59N×43°.50E, h13km±2km*
*CSEM **27** 09:22:26.4±0.8, 42°.67N×43°.37E, h2km, MD2.9, Error ellipse: s-maj=47.3km s-min=11.0km az=143.0*
*DDA **27** 09:22:27.7, 42°.62N×43°.01E, h6km, MD2.9*
ISC 27 09:22:26.7±3.1, 42°.6N±0°.2×43°.3E±0°.2, h1km±17km, n11, σ0s59/22, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.09**	**84**	P	**Pg**	**09 22 28.5**	**-0.1**
ONI				S	**Sg**	**09 22 30.0**	**+0.2**
ONI	**Oni**	**0.09**	**84**	P	**Pg**	**09 22 28.5**	**-0.1**
ONI				S	**Sg**	**09 22 30.0**	**+0.2**
ARTV	**Artvin**	**1.74**	**217**	*i* P	**Pn**	**09 22 58.8**	**+0.6**
ARTV				*i* S	**Sg**	**09 23 23.0**	**+0.3**
ARTV	**Artvin**	**1.74**	**217**	*i* P	**Pn**	**09 22 58.8**	**+0.6**
ARTV				*i* S	**Sg**	**09 23 23.0**	**+0.3**
DBOC	**Borcka**	**1.75**	**226**	*i* P	**Pn**	**09 22 58.8**	**+0.7**
DBOC				*i* S	**Sn**	**09 23 20.8**	**-0.3**
DBOC	**Borcka**	**1.75**	**226**	*i* P	**Pn**	**09 22 58.8**	**+0.7**
DBOC				*i* S	**Sn**	**09 23 20.8**	**-0.3**
DAGI	**Agillar**	**1.83**	**216**	*i* P	**Pb**	**09 23 00.4**	**-0.7**
DAGI				*i* S	**Sb**	**09 23 25.3**	**+0.7**
DBAD	**Bademkaya**	**1.98**	**219**	*i* P	**Pb**	**09 23 02.6**	**-1.0**
DBAD				*i* S	**Sb**	**09 23 29.2**	**+0.4**
DBAD	**Bademkaya**	**1.98**	**219**	*i* P	**Pb**	**09 23 02.6**	**-1.0**
DBAD				*i* S	**Sb**	**09 23 29.2**	**+0.4**
DDEM	**Demirkent**	**2.06**	**215**	*i* P	**Pb**	**09 23 04.5**	**-0.4**
DDEM				*i* S	**Sb**	**09 23 30.4**	**-0.6**
DDEM	**Demirkent**	**2.06**	**215**	*i* P	**Pb**	**09 23 04.5**	**-0.4**
DDEM				*i* S	**Sb**	**09 23 30.4**	**-0.6**

MEX 27 09:24:26.9±0.9, 15°.27N×92°.05W, h187km±9km, MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**1.01**	**355**	*i* P	Pn	09 24 54.4	-1.2
CCIG				*i* S	Sn	09 25 15.1	-2.9
PCIG		**1.21**	**291**	*i* P	Pn	09 24 55.9	-1.0
PCIG				*e*S	Sn	09 25 17.8	-2.3

*IDC **27** 09:44:41.0±6.7, 25°.11S×179°.71E, h464km±78km, mb3.0/6, mb1 3.3/7, mb1mx3.2/17, mbtmp3.9/7, Error ellipse: s-maj=36.1km s-min=22.2km az=29.0*
*ISCJB **27** 09:44:43.5±0.9, 25°.3S±0°.2×179°.6E±0°.2, h507km, mb3.4/6, Error ellipse: s-maj=26.2km s-min=19.9km az=146.2*
ISC 27 09:44:44.5±1.1, 25°.1S±0°.1×179°.6E±0°.2, h507km, n7, σ0s31/7, mb3.5/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**13.27**	**189**	P	P	09 47 33.0	-3.3
	1.1nm,0.3s,baz=56,slow=2.1,SNR=5.8						
URZ				S	**S**	**09 49 58.2**	**+0.3**
	1.0nm,0.3s,baz=80,slow=21,SNR=12						
STKA	**Stephens Creek**	**33.95**	**250**	P	**P**	**09 50 45.5**	**+0.2**
	0.8nm,0.5s,baz=83,slow=14,SNR=3.2						
ASAR	**Alice Springs**	**41.50**	**262**	P	**P**	**09 51 47.1**	**0.0**
	0.7nm,0.3s,baz=93,slow=8.4,SNR=28						
WRA	**Warramunga Arr**	**41.98**	**268**	P	**P**	**09 51 50.8**	**-0.2**
	1.7nm,0.4s,baz=102,slow=8.1,SNR=63						
VNDA	**Vanda**	**53.14**	**185**	P	**P**	**09 53 13.5**	**-0.4**
	0.6nm,0.7s,baz=11,slow=7.0,SNR=2.8						
NVAR	**Mina Array Bea**	**85.87**	**44**	P	**P**	**09 56 30.6**	**0.0**
	0.3nm,0.7s,baz=231,slow=8.0,SNR=4.2						
TXAR	**Lajitas Array**	**91.38**	**58**	P	**P**	**09 56 56.5**	**+0.2**
	0.6nm,0.9s,baz=212,slow=5.7,SNR=7.2						

BUC 27 09:49:36.7±0.9, 45°.28N×25°.34E, h5km, MD2.0/4, 12C, Error ellipse: s-maj=10.5km s-min=3.6km az=353.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTUR	**Matau**	**0.20**	**255**	↑*i* P	Pg	09 49 42.1	+1.3
MTUR	**Matau**	**0.20**	**255**	↑*i* P	Pg	09 49 42.1	+1.3
VOIR		**0.26**	**308**	↑*i* P	Pg	09 49 42.3	+0.4
VOIR		**0.26**	**308**	*i* S	Sg	09 49 46.7	+1.3
VOIR		**0.26**	**308**	↑*i* P	Pg	09 49 42.3	+0.4
VOIR				*i* S	Sg	09 49 46.7	+1.3
MLR	**Muntele Rosu**	**0.48**	**63**	↑*i* P	Pg	09 49 46.5	+0.4
MLR	**Muntele Rosu**	**0.48**	**63**	S	Sb	09 49 54.5	-0.8
MLR	**Muntele Rosu**	**0.48**	**63**	↑*i* P	Pg	09 49 46.5	+0.4
MLR				*i* S	Sb	09 49 54.5	-0.8
ARR	**Arges**	**0.50**	**280**	↑*i* P	Pb	09 49 47.9	-0.2
ARR	**Arges**	**0.50**	**280**	↑*i* P	Pb	09 49 47.9	-0.2
ARR				*i* S	Sb	09 49 54.6	-1.3
DOPR	**Dopca**	**0.69**	**3**	↑*i* P	Pb	09 49 50.7	-0.6
DOPR	**Dopca**	**0.69**	**3**	↑*i* P	Pb	09 49 50.7	-0.6
DOPR				*i* S	Sb	09 50 00.6	-0.5
LOT	**Lotru**	**1.12**	**279**	↑*i* P	Pn	09 49 59.5	+0.4
LOT	**Lotru**	**1.12**	**279**	↑*i* P	Pn	09 49 59.5	+0.4
LOT				*i* S	Sn	09 50 14.6	-0.4
VRI	**Vrincioaia**	**1.14**	**58**	S	Sn	09 50 15.7	+0.4
VRI	**Vrincioaia**	**1.14**	**58**	*i* S	Sn	09 50 15.7	+0.4

*IDC **27** 10:14:18.4±0.4, 30°.27N×94°.89E, h0km, mb4.5/37, mb1 4.6/40, mb1mx4.4/74, mbtmp4.5/40, ML4.0/3, MS3.1/8, Ms1 3.1/8, ms1mx2.9/37, Error ellipse: s-maj=15.5km s-min=8.3km az=60.0*
*ISCJB **27** 10:14:20.5±0.1, 30°.30N±0°.02×94°.84E±0°.02, h23km, mb4.7/106, MS3.3/8, Error ellipse: s-maj=3.1km s-min=2.8km az=175.9*
*BJI **27** 10:14:21.9, 30°.36N×94°.84E, h30km, mb4.7/43, mB4.8/30, ML4.4/2, Ms4.2/46, Ms7 3.9/43*
*MOS **27** 10:14:23.0±1.1, 30°.30N×94°.91E, h45km, mb5.1/34, Error ellipse: s-maj=8.7km s-min=4.3km az=120.3*
*NEIC **27** 10:14:24.7±0.7, 30°.31N×94°.89E, h42km±6km, mb4.8/27, Error ellipse: s-maj=5.8km s-min=4.3km az=221.0*
*SZGRF **27** 10:14:24.9, 30°.03N×94°.66E, h33km, mb5.0, Xizang*
ISC 27 10:14:22.7±0.3, 30°.28N±0°.03×94°.82E±0°.03, h23km, n301, σ1s48/338, mb4.7/108, MS3.1/8, 20C-16D, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**3.23**	**261**	Pg	**Pn**	**10 15 15.8**	**+3.2**
LSA				Sg	**Sb**	**10 15 59.3**	**+0.4**
LSA	**Lhasa**	**3.23**	**261**	*e*P	**Pn**	**10 15 15.7**	**+3.2**
LSA				*e*		10 15 52.5	
LSA	**Lhasa**	**3.23**	**261**	*e*Pn	**Pn**	**10 15 15.7**	**+3.2**
LSA				*e*Sn	**Sn**	**10 15 52.5**	**+2.0**
SHL	**Shillong**	**5.37**	**210**	*e*P	**Pn**	**10 15 42.7**	**+1.1**
SHL				AMB	AMB	10 16 12.3	
	comp=Z,108nm,0.7s						
TAPN	**Taplejung**	**6.88**	**247**	*e*P	**Pn**	**10 16 04.9**	**+2.3**
	comp=Z,105nm,0.9s						
ODAN	**Odare**	**7.37**	**244**	*e*P	**Pn**	**10 16 11.2**	**+2.1**
	comp=Z,51nm,0.4s						
CD2	**Chengdu**	**7.73**	**83**	*e*Pn	Pn	10 16 09.8	-4.2
CD2				Sn	**Sn**	**10 17 38.3**	**-2.6**
CD2				LN			
	comp=Z,1μm,6.0s						
CD2				LE			
	comp=Z,1μm,5.0s						
CD2				LZ			
	comp=Z,1μm,6.6s						
RAMN	**Ramite**	**7.95**	**247**	*e*P	**Pn**	**10 16 19.1**	**+2.0**
	comp=Z,41nm,0.5s						
GUN	**Gumba**	**8.17**	**255**	*e*P	**Pn**	**10 16 20.0**	**-0.2**
	comp=Z,182nm,0.8s						
PKI	**Pulchoki**	**8.67**	**254**	*e*P	**Pn**	**10 16 27.4**	**+0.2**
	comp=Z,71nm,0.8s						
PKIN	**Phulchoki**	**8.68**	**254**	*e*P	**Pn**	**10 16 27.4**	**+0.2**
	comp=Z,45nm,0.7s						
KMI	**Kunming**	**8.70**	**124**	P	Pn	10 16 31.0	+3.6
KMI				PP	**PnPn**	**10 16 39.0**	**+4.0**
KMI				sP		10 16 44.8	
KMI				S	**Sn**	**10 18 08.3**	**+3.4**
KMI				PMZ			
	comp=Z,11nm,1.1s						
KMI				PMZ			
	comp=Z,72nm,4.4s						
KMI				LN			
	comp=Z,970nm,4.7s						
KMI				LE			
	comp=Z,900nm,3.8s						
KMI				LZ			
	comp=Z,400nm,7.2s						
KKN	**Kakani**	**8.71**	**256**	*e*P	**Pn**	**10 16 26.9**	**-0.6**
	comp=Z,98nm,0.8s						
DMN	**Daman**	**8.91**	**255**	*e*P	**Pn**	**10 16 30.1**	**-0.3**
	comp=Z,113nm,0.9s						
GKN	**Gorkha**	**9.19**	**258**	*e*P	**Pn**	**10 16 32.4**	**-1.6**
	comp=Z,30nm,0.4s						
LZH	**Lanzhou**	**9.52**	**50**	*e*P	**Pn**	**10 16 40.5**	**+1.9**
LZH				pP		10 16 49.0	
LZH				sP		10 16 52.0	
LZH				PMZ			
	comp=Z,29nm,1.0s						
LZH				PMZ			
	comp=Z,76nm,4.0s						
LZH				LN			
	comp=Z,610nm,8.6s						
LZH				LE			
	comp=Z,680nm,6.4s						
LZH				LZ			
	comp=Z,470nm,8.1s						
DANN	**Dangsing**	**9.84**	**261**	*e*P	**Pn**	**10 16 41.8**	**-1.3**
	comp=Z,8.8nm,0.6s						
GTA	**Gaotai**	**9.99**	**23**	*e*P	**Pn**	**10 16 46.0**	**+1.0**
GTA				pP		10 16 50.5	
GTA				sP		10 16 53.5	
GTA				S	**Sn**	**10 18 37.5**	**+1.1**
GTA				sS		10 18 44.0	
GTA				PMZ			
	comp=Z,7.0nm,1.3s						
GTA				PMZ			
	comp=Z,54nm,4.3s						
GTA				LN			
	comp=Z,580nm,9.0s						
GTA				LE			
	comp=Z,370nm,7.6s						
GTA				LZ			
	comp=Z,470nm,10.0s						
KOLN	**Koldanda**	**10.13**	**258**	*e*P	**Pn**	**10 16 46.3**	**-0.7**
	comp=Z,151nm,0.7s						
BOK	**Bokaro**	**10.25**	**233**	*e*P	**Pn**	**10 16 46.7**	**-1.7**
BOK				AMB	AMB	10 17 28.7	
	comp=Z,28nm,2.8s						
CMAI	**Chiengmai2**	**10.99**	**159**	P	**Pn**	**10 17 01.0**	**+2.2**
	comp=Z,22nm,1.2s						
GYA	**Guiyang**	**11.11**	**107**	↑*i* P	**Pn**	**10 16 59.3**	**-1.0**
GYA				PP	**PnPn**	**10 17 12.5**	**+4.5**
GYA				sP		10 17 17.8	
GYA				S	**Sn**	**10 19 04.3**	**+0.5**
GYA				SS	**SnSn**	**10 19 19.0**	**+3.4**
GYA				PMZ			
	comp=Z,50nm,1.0s						
GYA				PMZ			
	comp=Z,130nm,4.5s						
GYA				LN			
	comp=Z,520nm,14.2s						
GYA				LE			
	comp=Z,490nm,15.0s						
GYA				LZ			
	comp=Z,540nm,14.6s						
CHTO	**Chiang Mai**	**12.02**	**161**	P	**Pn**	**10 17 14.9**	**+2.2**
	comp=Z,51nm,1.1s						
CHTO	**Chiang Mai**	**12.02**	**161**	*e*P	**Pn**	**10 17 14.8**	**+2.1**
CHTO				*e*		10 19 21.5	
CHTO	**Chiang Mai**	**12.02**	**161**	*e*Pn	**Pn**	**10 17 14.8**	**+2.1**
CHTO				*e*Sn	**Sn**	**10 19 21.5**	**-4.5**
CMMT	**Chiang Mai**	**12.02**	**161**	P	**Pn**	**10 17 14.9**	**+2.2**
	comp=Z,15nm,1.1s						
CMAR	**Chiang Mai Arr**	**12.35**	**161**	Pn	**Pn**	**10 17 17.3**	**0.0**
	comp=Z,0.3nm,0.3s,baz=332,slow=12,SNR=31						
CMAR				LR	LR	10 22 58.3	
	comp=Z,70nm,18.8s,baz=348,slow=42						
XAN	**Xi'an**	**12.52**	**69**	P	**Pn**	**10 17 18.3**	**-1.3**
XAN				PMZ			
	comp=Z,6.0nm,1.1s						
XAN				LN			
	comp=Z,160nm,5.6s						
XAN				LE			
	comp=Z,170nm,4.9s						
XAN				LZ			
	comp=Z,140nm,5.9s						
ENH	**Enshi**	**12.68**	**86**	*e*Pn	**Pn**	**10 17 21.8**	**0.0**
ENH				*e*Sn	**Sn**	**10 19 45.6**	**+3.3**
SUKH	**Sukhothai**	**13.48**	**160**	P	**P**	**10 17 43.4**	**+1.7**
UTTA	**Uttaradit**	**13.53**	**156**	P	Pn	10 17 37.7	+4.4
	comp=Z,4.4nm,1.4s,comp=Z,51nm						
DDI	**Dehra Dun**	**14.48**	**274**	*e*P	**Pn**	**10 17 48.0**	**+1.6**
DDI				AMB	AMB	10 17 52.5	
	comp=Z,48nm,1.5s						
UMPA	**Umpang Tak**	**14.49**	**164**	P	**P**	**10 17 55.8**	**+2.8**
WMQ	**Urumqi**	**14.65**	**339**	P	Pn	10 17 43.3	-5.4
WMQ				pP	**P**	**10 17 51.8**	**-2.9**
WMQ				sP		10 17 55.3	
WMQ				PP	**PnPn**	**10 18 00.0**	**+3.3**
WMQ				S	Sn	10 20 20.3	-10
WMQ				SS	**SnSn**	**10 20 39.3**	**-3.8**
WMQ	**Urumqi**	**14.65**	**339**	P	**Pn**	**10 17 50.5**	**+1.8**
WMQ				pP	P	10 17 59.5	+4.8
WMQ				PP	**PnPn**	**10 18 03.0**	**+6.3**
WMQ				sP		10 18 05.5	
WMQ				S	**Sn**	**10 20 31.5**	**+1.2**
WMQ				SS	**S**	**10 20 49.3**	**+0.3**
WMQ				PMZ			
	comp=Z,28nm,1.0s						
WMQ				PMZ			
	comp=Z,130nm,4.4s						
WMQ				LN			
	comp=Z,360nm,10.0s						
WMQ				LE			
	comp=Z,370nm,10.3s						
WMQ				LZ			
	comp=Z,210nm,6.0s						
PBKT	**Sadao Pong**	**14.76**	**156**	P	**P**	**10 17 55.2**	**-0.8**
	comp=Z,20nm,1.2s,comp=Z,1μm						
SMLA	**Simla**	**15.21**	**278**	*e*P	**Pn**	**10 17 58.4**	**+2.3**
SMLA				AMB	AMB	10 18 01.9	
	comp=Z,29nm,1.5s						
CHLP	**Challavanipeta**	**15.27**	**222**	*e*P	**Pn**	**10 17 55.4**	**-1.5**
CHLP				IAmb	IAmb	10 17 57.0	
	comp=Z,29nm,1.2s						
SKNT	**Sakolnakorn**	**15.67**	**146**	P	**P**	**10 18 07.0**	**+0.9**
	comp=Z,64nm,1.0s						
KHON	**Khomkaen**	**15.70**	**150**	P	**P**	**10 18 07.4**	**+1.0**
	comp=Z,12nm,0.9s						
KHLT	**Khaolaem Dam**	**15.80**	**166**	P	**P**	**10 18 09.2**	**+1.7**
	comp=Z,22nm,1.2s						
DHRM	**DHARAMSHALA**	**15.96**	**282**	*e*P	**P**	**10 18 08.2**	**-1.3**
DHRM				AMB	AMB	10 18 11.8	
	comp=Z,82nm,2.4s						
WHN	**Wuhan**	**16.86**	**84**	*e*P	**Pn**	**10 18 15.8**	**-1.4**
NAYO	**Nakonayok**	**16.98**	**158**	P	**P**	**10 18 23.2**	**+2.6**
	comp=Z,22nm,1.6s,comp=Z,1μm						
BHPL	**Bhopal**	**17.03**	**250**	*e*P	**Pn**	**10 18 20.4**	**+0.8**
BHPL				AMB	AMB	10 18 21.7	
	comp=Z,65nm,1.0s						
DGPR	**DIGLIPUR**	**17.11**	**186**	*e*P	**Pn**	**10 18 17.1**	**-3.4**
DGPR				AMB	AMB	10 18 18.5	
	comp=Z,172nm,2.2s						
HHC	**Hu-ho-hao-te**	**17.20**	**48**	*e*P	**P**	**10 18 22.5**	**-0.6**
HHC				pP	**pP**	**10 18 32.5**	**+3.1**
HHC				PP	**PnPn**	**10 18 37.8**	**+6.2**
HHC				S	**Sn**	**10 21 25.5**	**-6.8**
HHC				sS	**S**	**10 21 39.8**	**-1.4**
HHC				PMZ			
	comp=Z,36nm,0.8s						
HHC				PMZ			
	comp=Z,79nm,4.2s						
HHC				LN			
	comp=Z,270nm,7.5s						
HHC				LE			
	comp=Z,210nm,7.8s						
HHC				LZ			
	comp=Z,220nm,8.8s						
QIZ	**Qiongzhong**	**17.64**	**126**	P	**Pn**	**10 18 27.0**	**-0.1**
QIZ				S	**Sn**	**10 21 43.8**	**+0.7**
QIZ				LN			
	comp=Z,260nm,10.5s						
QIZ				LZ			
	comp=Z,250nm,9.0s						
PVM	**Polavaram**	**17.70**	**226**	*e*P	**P**	**10 18 30.0**	**+1.4**
PVM				IAmb	IAmb	10 18 33.3	
	comp=Z,28nm,1.4s						
UBPT	**Khong Chiam**	**17.85**	**144**	P	**P**	**10 18 31.5**	**+1.2**
	comp=Z,47nm,1.0s						
KSH	**Kashi**	**17.97**	**306**	P	**P**	**10 18 33.8**	**+2.2**
KSH				pP	pP	10 18 45.8	+7.9
KSH				PP

KSH SS SnSn 10 22 18.5 +14
KSH PcP **PcP** **10 23 08.0 +2.0**
KSH PMZ
comp=Z,93nm,1.4s
KSH LN
comp=Z,400nm,6.1s
KSH LE
comp=Z,190nm,4.6s
KSH LZ
comp=Z,310nm,5.5s
RPR Rampur 18.11 235 *e*P **P** **10 18 33.1 0.0**
RPR IAmb IAmb 10 18 36.1
comp=Z,19nm,0.9s
SRSP Sriramsagar 18.74 237 *e*P **P** **10 18 40.0 -0.1**
SRSP IAmb IAmb 10 18 48.3
comp=Z,360nm,2.7s
MK31 Makanchi Array 19.14 333 *e*P **P** **10 18 42.7 -1.6**
MK31 Makanchi Array 19.14 333 *e*P **P** **10 18 42.7 -1.6**
MKAR Makanchi Array 19.14 333 P **P** **10 18 42.6 -1.7**
comp=Z,0.4nm,0.3s,baz=143,slow=14,SNR=31
MKAR S **Sn** **10 22 19.2 +0.2**
comp=Z,0.0nm,0.3s,baz=140,slow=23,SNR=2.7
MKAR LR LR 10 26 41.9
comp=Z,42nm,18.3s,baz=166,slow=39
MKAR Makanchi Array 19.14 333 *e*P **P** **10 18 42.9 -1.4**
MKAR S **Sn** **10 22 19.2 +0.2**
HYB Hyderabad 19.60 233 *i*P **Pn** **10 18 51.0 +0.1**
HYB Hyderabad 19.60 233 *e*P **Pn** **10 18 50.3 -0.6**
HYB AMB AMB 10 19 16.2
comp=Z,52nm,4.7s
HYBB Hyderabad (bro 19.60 233 *e*P **Pn** **10 18 50.7 -0.2**
HYBB IAmb IAmb 10 18 52.9
comp=Z,15nm,0.9s
KZA Kyzart 19.65 312 P **Pn** **10 18 51.3 -0.5**
SNR=20
SONM Songino Array 19.66 24 P **P** **10 18 49.2 -0.8**
comp=Z,0.5nm,0.3s,baz=214,slow=11,SNR=65
SONM S **S** **10 22 26.8 -3.9**
comp=Z,0.1nm,0.3s,baz=201,slow=24,SNR=2.0
NJS Nagarjunasagar 19.70 230 *e*P **P** **10 18 50.1 -0.4**
NJS IAmb IAmb 10 18 51.7
comp=Z,39nm,1.0s
ADKI Addanki 19.79 227 *e*P **Pn** **10 18 52.6 -0.5**
ADKI IAmb IAmb 10 18 55.3
comp=Z,27nm,0.8s
TKM2 Tokmak 2 19.88 315 P **P** **10 18 53.2 +0.7**
SNR=10.0
TKM2 Tokmak 2 19.88 315 *e*P **P** **10 18 52.9 +0.3**
TKM2 pmax pmax
comp=Z,20nm,1.2s
TKM2 Tokmak 2 19.88 315 *e*P **P** **10 18 52.9 +0.3**
comp=Z,20nm,1.2s
SFK Sufi-Kurgan 19.91 305 P **P** **10 18 53.3 +0.3**
SFK pmax pmax
comp=Z,43nm,1.3s
ULN Ulaanbaatar 19.92 25 *e*P **P** **10 18 51.3 -1.6**
ULN pmax pmax
comp=Z,18nm,1.0s
ULN Ulaanbaatar 19.92 25 *e*P **P** **10 18 51.3 -1.6**
comp=Z,18nm,1.0s
BJI Beijing 19.95 55 P **P** **10 18 53.0 -0.1**
BJI S **S** **10 22 35.5 -1.0**
BJI PMZ
comp=Z,10.0nm,1.9s
BJI LN
comp=Z,280nm,10.1s
BJI LE
comp=Z,360nm,10.1s
KBK Karagaybulak 20.14 313 P Pn 10 19 00.1 +2.7
SNR=7.0
SRLM Srisailam 20.30 229 *e*P **P** **10 18 56.3 -0.9**
SRLM IAmb IAmb 10 18 58.5
comp=Z,94nm,0.9s
AAK Ala-Archa 20.41 313 P Pn 10 18 59.9 -0.7
SNR=31
FRU Bishkek 20.44 313⇑ *i*P **P** **10 18 59.0 +0.5**
FRU *i* 10 19 30.0
FRU pmax pmax
comp=Z,105nm,1.7s
CHMS Chumysh 20.44 314 P **P** **10 18 58.6 +0.1**
SNR=21
KLRI Killari 20.56 238 *e*P **P** **10 18 59.7 -0.2**
KLRI IAmb IAmb 10 19 00.8
comp=Z,98nm,1.1s
NJ2 Nanjing 20.64 79 *e*P **P** **10 18 59.3 -1.4**
NJ2 PMZ
comp=Z,70nm,1.0s
RCLA Racherla 20.73 228 *e*P **P** **10 19 01.1 -0.6**
RCLA IAmb IAmb 10 19 03.1
comp=Z,39nm,0.9s
USP Ospenovka 20.74 314 P **P** **10 19 02.0 +0.3**
SNR=17
EKS2 Erkin-Say 20.89 312 P **P** **10 19 04.3 +0.9**
SNR=14
EKS2 Erkin-Say 20.89 312 *e*P **P** **10 19 04.2 +0.7**
EKS2 pmax pmax
comp=Z,32nm,1.2s
EKS2 Erkin-Say 20.89 312 *e*P **P** **10 19 04.2 +0.7**
comp=Z,32nm,1.2s
ZAK Zakamensk 21.06 15 *e*P **P** **10 19 04.1 -1.1**
ZAK pmax pmax
comp=Z,25nm,1.0s
SKHT Srikalahasti 21.57 224 *e*P **P** **10 19 11.1 +0.3**
SKHT IAmb IAmb 10 19 12.7
comp=Z,31nm,1.0s
MOY Mondy 21.85 10 *e*P **P** **10 19 14.3 +0.6**
MOY pmax pmax
comp=Z,46nm,2.2s
KBL Kabul 22.15 288 *e*P **P** **10 19 17.4 +0.2**
KBL pmax pmax
comp=Z,125nm,1.1s
KBL Kabul 22.15 288 *e*P **P** **10 19 17.4 +0.2**
comp=Z,125nm,1.1s
URV Uravakonda 22.21 230 *e*P **P** **10 19 17.0 -0.7**
URV IAmb IAmb 10 19 20.7
comp=Z,28nm,1.0s
POO Poona 22.35 243 *e*P **P** **10 19 20.8 +1.5**
POO AMB AMB 10 19 29.1
comp=Z,82nm,2.6s
TLY Talaya 22.36 15 LR LR 10 28 37.8
comp=Z,70nm,20.4s,baz=180,slow=38
TLY Talaya 22.36 15 *e*P **P** **10 19 18.5 -0.6**
TLY pmax pmax
comp=Z,15nm,1.7s
TRTT Trang 22.79 167 P **P** **10 19 25.7 +1.8**
comp=Z,44nm,1.4s
IRK Irkutsk 23.03 15 *e*P **P** **10 19 24.0 -2.1**
IRK pmax pmax
comp=Z,139nm,1.3s
KK31 Karatay Array 23.22 310 P **P** **10 19 27.0 -1.1**
KK31 pmax pmax
comp=Z,39nm,1.3s
KKAR Karatay Array 23.22 310 *e*P **P** **10 19 27.9 -0.2**
KKAR pmax pmax
comp=Z,25nm,1.1s
KKAR Karatay Array 23.22 310 *e*P **P** **10 19 27.9 -0.2**
comp=Z,25nm,1.1s
KURBB Kurchatov Arra 23.70 334 P **P** **10 19 31.4 -1.4**
comp=Z,28nm,1.1s,baz=144,slow=10,SNR=76
KURBB PcP **PcP** **10 23 16.0 -0.4**
comp=Z,2.0nm,0.8s,baz=149,slow=1.9,SNR=6.1
KURBB S **S** **10 23 50.3 +4.0**
comp=Z,0.2nm,0.3s,baz=142,slow=15,SNR=3.7
KURK Kurchatov 23.74 334 P **P** **10 19 31.4 -1.7**
KURK 10 23 16.0
KURK S **S** **10 23 50.3 +3.3**
KURK Kurchatov 23.74 334 P **P** **10 19 31.4 -1.7**
KURK PcP **PcP** **10 23 16.0 -0.5**
KURK S **S** **10 23 50.3 +3.3**
ZAA0 Zalesovo Array 24.74 346 *e*P **P** **10 19 40.7 -1.5**
ZALV Zalesovo Beam 24.74 346 P **P** **10 19 41.1 -1.2**
comp=Z,7.3nm,0.6s,baz=163,slow=8.3,SNR=26
NVS Novosibirsk 25.92 345⇓ *i*P **P** **10 19 52.1 -0.8**
NVS pmax pmax
comp=N,42nm,1.5s
NVS pmax pmax
comp=Z,54nm,1.5s
NVS pmax pmax
comp=E,26nm,1.3s
CN2 Changchun 27.75 52⇓ P **P** **10 20 09.3 -0.3**
CN2 *es*P **sP** **10 20 22.8 +3.5**
CN2 *e*S **S** **10 24 47.0 -3.8**
CN2 PMZ
comp=E,20nm,1.2s
CN2 PMZ
comp=E,200nm,5.0s
CN2 LN
comp=E,200nm,15.0s
CN2 LE
comp=E,200nm,15.0s
CN2 LZ
comp=E,200nm,17.0s
KSRS Korea Array 28.30 66 LR LR 10 31 19.9
comp=E,34nm,18.4s,baz=266,slow=36
BVA0 Borovoye Array 28.89 329 *i*P **P** **10 20 18.7 -0.9**
BVA0 pmax pmax
comp=Z,22nm,1.4s
BVAR Borovoye Array 28.89 329 P **P** **10 20 19.6 0.0**
comp=Z,7.0nm,0.9s,baz=126,slow=9.3,SNR=34
BVAR PcP **PcP** **10 23 28.3 -0.1**
comp=Z,1.8nm,0.7s,baz=122,slow=5.4,SNR=5.5
BRVK Borovoye 28.96 329 P **P** **10 20 20.9 +0.7**
comp=Z,146nm,1.0s,SNR=11
BRVK Borovoye 28.96 329 P **P** **10 20 19.0 -1.2**
BRVK pmax pmax
comp=Z,59nm,1.3s
BRVK Borovoye 28.96 329 *e*P **P** **10 20 20.6 +0.3**
comp=Z,26nm,1.0s
BOD Bodaibo 30.57 20 *e*P **P** **10 20 34.7 +0.3**
BOD pmax pmax
comp=Z,6.0nm,1.4s
JNU Nakatsue 30.72 75 LR LR 10 33 14.2
comp=Z,37nm,18.5s,baz=304,slow=37
GEYT Ailbeck 31.18 294 P **P** **10 20 41.2 +1.1**
comp=Z,12nm,1.0s,baz=92,slow=4.5,SNR=17
ABKAR Akbulak array 32.44 316 *e*P **P** **10 20 51.2 +0.3**
comp=Z,0.6nm,0.3s
KLR Kul'dur 33.68 45 *e*P P 10 20 56.8 -5.0
KLR MLR MLR
comp=Z,700nm,12.0s
AKTO Aktyubinsk 34.04 317 P **P** **10 21 04.5 -0.5**
comp=Z,2.8nm,0.8s,baz=114,slow=8.6,SNR=11
SVE Sverdlovsk 35.66 328⇓ *e*P **P** **10 21 19.0 +0.2**
SVE pmax pmax
comp=Z,43nm,1.2s
MDSI Maura Dua 35.71 164 P **P** **10 21 19.9 +0.2**
ARU Arti 36.42 326 *c i*P **P** **10 21 25.0 -0.4**
ARU 10 22 46.3
ARU S **S** **10 27 06.3 +0.8**
ARU SS **SnSn** **10 29 34.9 +0.8**
ARU pmax pmax
comp=Z,33nm,1.2s
ARU Arti 36.42 326 *e*P **P** **10 21 26.3 +0.9**
comp=Z,26nm,1.1s
MJAR Matsushiro Arr 36.52 68 LR LR 10 37 18.8
comp=Z,21nm,19.5s,baz=155,slow=38
YAK Yakutsk 39.01 25 *i*P **P** **10 21 46.6 -0.5**
YAK pmax pmax
comp=Z,12nm,0.7s
YSS Yuzh-Sakhalins 40.32 52 *i*P **P** **10 21 58.9 +0.7**
YSS pmax pmax
comp=Z,55nm,1.3s
DGRG David-gareji 41.09 300 P **P** **10 22 06.2 +1.3**
DGRG David-gareji 41.09 300 *e*P **P** **10 22 06.1 +1.3**
GNI Garni 41.60 298 P **P** **10 22 10.3 +1.1**
comp=Z,4.9nm,0.4s,baz=139,slow=9.3,SNR=6.4
GNI Garni 41.60 298 P **P** **10 22 10.3 +1.1**
GNI pmax pmax
comp=Z,5.0nm,0.4s
GNI Garni 41.60 298 *e*P **P** **10 22 10.8 +1.7**
AKH Akhalkalaki 42.51 300 P **P** **10 22 18.0 +1.5**
AKH Akhalkalaki 42.51 300 *e*P **P** **10 22 18.0 +1.5**
ONI Oni 42.51 301 P **P** **10 22 18.2 +1.7**
ONI Oni 42.51 301 *e*P **P** **10 22 18.1 +1.7**
GOF Gofitskoye 42.84 305 *e*P **P** **10 22 18.8 -0.2**
GOF pmax pmax
comp=Z,80nm,1.3s
NEY Neytrino 43.04 302⇑ *e*P **P** **10 22 22.8 +1.9**
NEY pmax pmax
comp=Z,8.0nm,1.4s
RAYN Ar Rayn 44.22 274 *e*P **P** **10 22 29.9 -0.5**
comp=Z,6.9nm,1.0s
PRGR Permogore 44.70 329 *e*P **P** **10 22 32.1 -1.6**
PRGR pmax pmax
comp=Z,16nm,0.4s
SOC Sochi 45.23 303 *e*P **P** **10 22 37.2 -0.9**
SOC *e*S **S** **10 29 11.6 -5.2**
SOC pmax pmax
comp=Z,28nm,1.1s
VSR Storozhevoye 45.81 314 *e*P **P** **10 22 42.0 -0.6**
VSR pmax pmax
comp=N,10.0nm,1.4s
VSR pmax pmax
comp=E,40nm,1.4s
VSR pmax pmax
comp=Z,40nm,1.4s
ANN Anapa 46.82 305 *e*P **P** **10 22 49.4 -1.3**
ANN pmax pmax
comp=Z,69nm,1.3s
MOS Moscow 47.25 320 *e*P **P** **10 22 51.1 -2.7**
MOS *e* 10 23 00.0
MOS *e* 10 24 42.6
MOS pmax pmax
comp=Z,49nm,0.9s
MOS pmax pmax
comp=Z,100nm,1.4s
MA2 Magadan 47.28 35 *e*P **P** **10 22 53.6 -0.5**
OBN Obninsk 47.77 319 P **P** **10 22 57.6 -0.3**
comp=Z,13nm,0.3s,baz=65,slow=6.5,SNR=8.1
OBN Obninsk 47.77 319⇓ *e*P **P** **10 22 57.9 +0.1**
OBN *e* 10 24 27.3
OBN *e* 10 24 55.4
OBN pmax pmax
comp=Z,26nm,1.2s
OBN MLR MLR
comp=Z,42nm,17.0s
TMCR Tamitsa 48.80 331 *e*P **P** **10 23 05.9 +0.2**
TMCR pmax pmax
comp=Z,43nm,1.4s
SEY Seymchan 48.82 31 P **P** **10 23 05.3 -0.6**
comp=Z,1.5nm,0.7s,baz=276,slow=7.4,SNR=5.5
SEY Seymchan 48.82 31 *ce*P **P** **10 23 06.7 +0.8**
SOEI Soe 48.85 140 *e*P **P** **10 23 05.4 -1.4**
comp=Z,54nm,1.0s
ASF Jabal al Asfar 49.05 288 P **P** **10 23 08.1 -0.1**
comp=Z,4.2nm,1.0s,baz=31,slow=5.9,SNR=8.2
BR131 Keskin Array S 50.13 298 *e*P **P** **10 23 16.5 0.0**
comp=Z,6.7nm,1.0s
BRTR Keskin Array B 50.13 298 P **P** **10 23 15.8 -0.6**
comp=Z,5.2nm,0.9s,baz=111,slow=6.8,SNR=17
BRTR LR LR 10 46 18.9
comp=Z,22nm,19.0s,baz=114,slow=38
LVZ Lovozero 51.15 335⇓ P **P** **10 23 23.3 -0.3**
LVZ pmax pmax
comp=Z,10.0nm,1.4s
AKASG Malin Array Be 52.09 313 P **P** **10 23 28.9 -1.9**
comp=Z,1.6nm,0.4s,baz=79,slow=6.1,SNR=32
AKBB Malin Array Si 52.09 313 *e*P **P** **10 23 30.3 -0.4**
AKBB Malin Array Si 52.09 313 *e*P **P** **10 23 30.3 -0.4**
AK01 Malin Array Si 52.09 313 *e*P **P** **10 23 31.2 +0.4**
KIEV Kiev 52.09 313 *e*P **P** **10 23 30.1 -0.7**
KIEV pmax pmax
comp=Z,20nm,1.0s
KIEV Kiev 52.09 313 *e*P **P** **10 23 30.1 -0.7**
comp=Z,20nm,1.0s
AK02 Malin Array Si 52.10 313 *e*P **P** **10 23 30.2 -0.7**
TIRR Tirgusor 53.26 305 *e*P **P** **10 23 39.3 -0.2**
TIRR pmax pmax
comp=Z,26nm,1.4s
TIRR Tirgusor 53.26 305⇓ *i*P **P** **10 23 39.5 -0.1**
TIRR Tirgusor 53.26 305 *e*P **P** **10 23 39.3 -0.2**
comp=Z,26nm,1.4s
CFR Carcaliu 53.35 306⇓ *i*P **P** **10 23 39.8 -0.4**
VSU Vasula 53.38 323⇑ *e*P **P** **10 23 40.8 +0.6**
VSU pmax pmax
comp=Z,67nm,1.2s
MSAB Monastry St. A 53.74 305⇑ *i*P **P** **10 23 43.1 +0.1**
FINES FINESS Array B 53.79 326 P **P** **10 23 42.5 -0.7**
comp=Z,4.5nm,0.9s,baz=102,slow=8.2,SNR=12
PLOR Plostina 54.29 307⇓ *i*P **P** **10 23 47.3 +0.1**
ISR Istrita 54.48 306⇑ *i*P **P** **10 23 49.6 +1.1**
ARCES ARCESS Array B 54.75 336 P **P** **10 23 50.0 -0.1**
comp=Z,2.5nm,0.9s,baz=86,slow=6.2,SNR=6.8
ARCES PcP **PcP** **10 24 52.9 +0.5**
comp=Z,0.9nm,0.6s,baz=72,slow=5.2,SNR=4.9
ARCES ARCESS Array B 54.75 336 P **P** **10 23 50.0 -0.1**
ARCES 10 24 52.9
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES pmax pmax
comp=Z,1.0nm,0.6s
MLR Muntele Rosu 54.84 307 P **P** **10 23 51.4 +0.2**
comp=Z,5.3nm,1.1s,baz=40,slow=3.7,SNR=16
MLR Muntele Rosu 54.84 307⇓ *i*P **P** **10 23 51.9 +0.7**
BURAR Bucovina Array 55.01 309⇑ *i*P **P** **10 23 52.9 +0.5**
DOPR Dopca 55.14 307⇓ *i*P **P** **10 23 53.8 +0.5**
BILL Bilibino 55.37 26 *d i*P **P** **10 23 54.3 -0.2**
BILL *e* 10 24 54.9
BILL pmax pmax
comp=Z,19nm,2.5s
VOIR 55.47 307⇑ *i*P **P** **10 23 55.0 -0.7**
LVV L'vov 55.48 312 *e*P **P** **10 23 54.6 -1.1**
ARR Arges 55.77 307⇑ *i*P **P** **10 23 57.5 -0.4**
KWP Kalwaria Pacla 56.36 312 *e*P **P** **10 24 02.0 0.0**
KWP Kalwaria Pacla 56.36 312 *e*P **P** **10 24 02.0 0.0**
FITZ Fitzroy Crossi 56.52 144 P **P** **10 24 01.9 -1.5**
comp=Z,3.4nm,1.0s,baz=319,slow=11,SNR=2.8
TRPA Tarpa 56.71 310⇓ *i*P **P** **10 24 04.4 0.0**
KOLS Kolonicke sedl 56.75 311 *e*P **P** **10 24 04.2 -0.6**
KOLS pmax pmax
comp=Z,4.0nm,1.2s
KOLS Kolonicke sedl 56.75 311 *e*P **P** **10 24 04.2 -0.6**
UZH Uzhgorod 56.79 311 *e*P **P** **10 24 06.2 +1.2**
UZH *i* 10 24 25.0
VTS Vitosha 57.33 304⇑ *i*P **P** **10 24 08.8 -0.3**
SIRR Siria 57.64 308⇑ *i*P **P** **10 24 11.6 +0.5**
NIE Niedzica 57.94 312 *e*P **P** **10 24 13.7 +0.6**
NIE Niedzica 57.94 312 *e*P **P** **10 24 13.7 +0.6**
KECS Kecovo 58.00 311 *e*P **P** **10 24 13.8 +0.3**
KECS pmax pmax
comp=Z,3.0nm,0.8s
KECS Kecovo 58.00 311 *e*P **P** **10 24 13.8 +0.3**
OJC Ojcow 58.12 313 *e*P **P** **10 24 14.1 -0.3**
OJC Ojcow 58.12 313 *e*P **P** **10 24 14.9 +0.5**
OJC pmax pmax
comp=Z,28nm,1.5s
OJC Ojcow 58.12 313 *e*P **P** **10 24 14.8 +0.5**
comp=Z,28nm,1.5s
PSZ Piszkesteto 58.49 310⇑ *i*P **P** **10 24 17.2 +0.1**
AGG Agios Georgios 58.84 300 *e*P **P** **10 24 18.3 -1.4**
AGG pmax pmax
comp=Z,26nm,1.1s
AGG Agios Georgios 58.84 300 *e*P **P** **10 24 18.2 -1.4**
comp=Z,26nm,1.1s
VYHS Vyhne 59.07 311 *e*P **P** **10 24 21.1 +0.1**
VYHS pmax pmax
comp=Z,10.0nm,1.6s
VYHS Vyhne 59.07 311 *e*P **P** **10 24 21.1 +0.1**
OKC Ostrava-Krasne 59.24 313 *e*P **P** **10 24 22.9 +0.8**
OKC *ex* x 10 24 28.9
OKC Ostrava-Krasne 59.24 313 *e*P **P** **10 24 22.9 +0.8**
DIVS Divibare 59.27 306⇓ *i*P **P** **10 24 22.0 -0.6**
MORC Moravsky Berou 59.63 313 *e*P **P** **10 24 24.2 -0.7**
MORC pmax pmax
comp=Z,75nm,1.6s
MORC Moravsky Berou 59.63 313⇓ *i*P **P** **10 24 24.3 -0.7**
MORC Moravsky Berou 59.63 313 *e*P **P** **10 24 24.2 -0.7**
comp=Z,75nm,1.6s
PKSM Moragy 59.70 309⇑ *i*P **P** **10 24 24.9 -0.5**
HFS Hagfors 59.92 325 P **P** **10 24 26.0 -0.7**
comp=Z,5.7nm,0.9s,baz=67,slow=11,SNR=10
KRLC Kraliky 60.05 313 *e*P **P** **10 24 27.6 -0.2**
KRLC *ex* x 10 24 34.3
KRLC Kraliky 60.05 313 *e*P **P** **10 24 27.6 -0.2**
DPC Dobruska-Polom 60.28 314 *e*P **P** **10 24 29.5 +0.1**
DPC *ex* x 10 24 36.3
DPC Dobruska-Polom 60.28 314 *e*P **P** **10 24 29.5 +0.1**
VRAC Vranov 60.34 312 P **P** **10 24 30.1 +0.4**
comp=Z,1.6nm,0.4s,baz=69,slow=7.2,SNR=10
VRAC Vranov 60.34 312⇓ *i*P **P** **10 24 31.0 +1.2**
UPC Upice 60.44 314 *e*P **P** **10 24 30.3 -0.1**
UPC *ex* x 10 24 37.4
UPC Upice 60.44 314 *e*P **P** **10 24 30.3 -0.1**
NB2 NORSAR Subarra 60.98 326 P **P** **10 24 32.3 -1.6**
comp=Z,13nm,1.1s,baz=79,slow=6.9
NOA NORSAR Array B 60.98 326 P **P** **10 24 32.9 -1.1**
comp=Z,4.2nm,0.8s,baz=80,slow=7.0,SNR=12
NOA LR LR 10 53 04.3
comp=Z,14nm,21.8s,baz=160,slow=38
TREC Trest 61.05 313 *e*P **P** **10 24 34.6 0.0**
TREC Trest 61.05 313 *e*P **P** **10 24 34.6 0.0**
CONA Conrad Observa 61.13 311⇑ *i*P **P** **10 24 33.0 -2.3**
comp=Z,19nm,1.2s,SNR=9.6
GOPC GO Pecny, Ondr 61.34 313 *e*P **P** **10 24 36.8 +0.2**
GOPC *ex* x 10 24 43.7
PRU Pruhonice 61.48 314 *e*P **P** **10 24 37.4 -0.1**
PRU *ep*P **pP** **10 24 47.5 +2.7**
PRU Pruhonice 61.48 314 *e*P **P** **10 24 37.4 -0.1**
PRU *e* 10 24 47.5
BRG Berggiesshubel 61.64 315 *e*P **P** **10 24 38.9 +0.4**
BRG Berggiesshubel 61.64 315 *e*P **P** **10 24 38.5 0.0**
comp=Z,12nm,1.6s
BRG Berggiesshubel 61.64 315 *e*P **P** **10 24 38.9 +0.4**
GROS Grobnik 61.74 310 *e*P **P** **10 24 38.8 -0.6**
FBE Freiberg 61.99 315 *e*P **P** **10 24 41.1 +0.2**
comp=Z,12nm,1.3s
SOKA Soboth 62.00 310⇑ *i*P **P** **10 24 40.9 -0.2**
comp=Z,17nm,1.8s,SNR=5.8
CLL Collm 62.10 315 *e*P **P** **10 24 41.3 -0.3**
comp=Z,19nm,1.8s
CLL Collm 62.10 315 *e*P **P** **10 24 40.0 -1.6**
CLL pmax pmax
comp=Z,19nm,1.8s
CLL Collm 62.10 315 *e*P **P** **10 24 40.0 -1.6**
comp=Z,19nm,1.8s
CLL *e*PP **PP** **10 27 01.0 +2.9**
GEC2 GERESS Array S 62.30 313 *e*P **P** **10 24 43.3 +0.2**
comp=Z,19nm,1.5s
GEC2 GERESS Array S 62.30 313 *e*P **P** **10 24 43.0 -0.1**
GEC2 GERESS Array S 62.30 313 *e*P **P** **10 24 43.0 -0.1**
GERES GERESS Array B 62.30 313 P **P** **10 24 42.4 -0.7**
comp=Z,2.5nm,0.8s,baz=71,slow=5.8,SNR=19
KHC Kasperske Hory 62.30 313 *e*P **P** **10 24 42.9 -0.2**
KHC *ex* x 10 24 49.6
KHC *ex* x 10 24 53.2
KHC Kasperske Hory 62.30 313 *e*P **P** **10 24 42.9 -0.2**
KHC *e* 10 24 53.2
TANN Tannenbergstha 62.66 314 *e*P **P** **10 24 45.5 0.0**
comp=Z,13nm,1.6s
NKC Novy Kostel 62.72 314 *e*P **P** **10 24 47.0 +1.2**
NKC *ep*P **pP** **10 24 54.2 +1.1**
NKC Novy Kostel 62.72 314 *e*P **P** **10 24 47.0 +1.2**
WET Wettzell 62.74 313 *e*P **P** **10 24 46.2 +0.2**
comp=Z,12nm,1.4s
WERN Wernitzgruen 62.75 314 *e*P **P** **10 24 46.1 +0.1**
comp=Z,11nm,1.3s
WERD Werda 62.75 315 *e*P **P** **10 24 46.1 +0.1**
comp=Z,7.0nm,1.3s
WRAB Tennant Creek 62.76 138⇑ *i*P **P** **10 24 45.6 -0.8**
WRAB pmax pmax
comp=Z,15nm,1.1s
WRA Warramunga Arr 62.77 138 P **P** **10 24 45.4 -1.0**
comp=Z,3.0nm,0.9s,baz=324,slow=8.2,SNR=30
PLN Plauen 62.83 315 *e*P **P** **10 24 46.7 +0.1**
comp=Z,13nm,1.6s
ROTZ Rotzenmuhle 62.99 314 *e*P **P** **10 24 48.2 +0.6**
comp=Z,18nm,1.2s
BSEG Bad Segeberg 63.02 319 *e*P **P** **10 24 48.2 +0.5**
comp=Z,25nm,1.3s
RJOB Jochberg 63.18 311 *e*P **P** **10 24 49.0 0.0**
comp=Z,10.0nm,1.4s
CLZ Clausthal 63.55 316 *e*P **P** **10 24 51.5 +0.2**
comp=Z,26nm,1.5s
GRF Grafenberg Arr 63.63 314 *e*P **P** **10 24 52.5 +0.6**
comp=Z,17nm,1.1s
RETA Reutte 64.57 312⇓ *i*P **P** **10 24 57.3 -0.8**
comp=Z,11nm,1.4s
FETA Feichten 64.73 311⇑ *i*P **P** **10 24 58.4 -1.0**
comp=Z,14nm,1.2s,SNR=7.3
DAVOX Davos/Dischmat 65.36 311 P **P** **10 25 02.5 -1.0**
comp=Z,5.6nm,0.8s,baz=42,slow=11,SNR=9.9
ASAR Alice Springs 65.46 141 P **P** **10 25 03.7 -0.4**
comp=Z,2.8nm,0.7s,baz=324,slow=6.2,SNR=55
BFO Black Forest 65.86 313 *e*P **P** **10 25 06.0 -0.4**
comp=Z,13nm,1.5s
BFO Black Forest 65.86 313 *ce*P **P** **10 25 07.0 +0.6**
NWAO Narrogin (SRO) 66.35 160 P **P** **10 25 07.4 -2.2**
comp=Z,7.5nm,1.1s,baz=328,slow=9.1,SNR=2.4
WLF Walferdange 66.77 315 P **P** **10 25 13.1 +0.9**
comp=Z,19nm,1.5s
WLF Walferdange 66.77 315 *e*P **P** **10 25 12.9 +0.7**
comp=Z,40nm,1.4s
WLF Walferdange 66.77 315 *e*P **P** **10 25 12.4 +0.2**
WLF pmax pmax
comp=Z,48nm,1.5s

WLF	**Walferdange**	**66.77**	**315**	*e*P		**P**	**10 25 12.4**	**+0.2**
	comp=Z,48nm,1.5s							
SENIN	**Lac Senin/Sane**	**67.18**	**311**	*e*P		**P**	**10 25 15.1**	**-0.1**
	comp=Z,7.0nm,0.8s							
KEST	**Kesra**	**69.68**	**300**	P		**P**	**10 25 30.8**	**0.0**
	comp=Z,3.9nm,1.1s,baz=281,slow=1.9,SNR=4.4							
KEST	**Kesra**	**69.68**	**300**	*e*P		**P**	**10 25 31.1**	**+0.3**
EKA	**Eskdalemuir Ar**	**69.93**	**323**	P		**P**	**10 25 31.9**	**0.0**
	comp=Z,0.6nm,0.4s,baz=82,slow=6.2,SNR=7.0							
IM04	**Indian Mountai**	**70.82**	**24**	*e*P		**P**	**10 25 36.0**	**-1.2**
BPAW	**Bear Paw Mtn.**	**72.84**	**25**	*e*P		**P**	**10 25 49.3**	**-0.1**
	comp=Z,3.2nm,1.2s							
PPLA	**Purkeypile**	**73.07**	**26**	*e*P		**P**	**10 25 51.0**	**+0.1**
	comp=Z,47nm,1.3s							
COLA	**College**	**73.50**	**23**	*e*P		**P**	**10 25 52.4**	**-0.7**
COLA				pmax	pmax			
	comp=Z,30nm,1.6s							
COLA	**College**	**73.50**	**23**	*e*P		**P**	**10 25 52.4**	**-0.7**
	comp=Z,30nm,1.6s							
ILAR	**Eielson Array**	**73.89**	**23**	P		**P**	**10 25 54.1**	**-1.3**
	comp=Z,5.7nm,1.2s,baz=298,slow=4.1,SNR=25							
RES	**Resolute Bay**	**75.10**	**3**	P		**P**	**10 26 01.5**	**-0.8**
	comp=Z,5.8nm,1.1s,baz=320,slow=8.0,SNR=4.2							
SML	**Sawmill**	**75.17**	**26**	*e*P		**P**	**10 26 02.7**	**-0.3**
SML				pmax	pmax			
	comp=Z,7.0nm,1.3s							
SML	**Sawmill**	**75.17**	**26**	*e*P		**P**	**10 26 02.7**	**-0.3**
	comp=Z,6.8nm,1.3s							
INK	**Inuvik**	**75.41**	**17**	P		**P**	**10 26 03.4**	**-0.8**
	comp=Z,14nm,1.2s,baz=323,slow=8.0,SNR=10							
INK	**Inuvik**	**75.41**	**17**	P		**P**	**10 26 03.4**	**-0.8**
INK				pmax	pmax			
	comp=Z,14nm,1.2s							
INK	**Inuvik**	**75.41**	**17**	*e*P		**P**	**10 26 03.7**	**-0.5**
PAX	**Paxson**	**75.50**	**24**	*e*P		**P**	**10 26 04.7**	**-0.2**
PAX				pmax	pmax			
	comp=Z,5.0nm,1.2s							
PAX	**Paxson**	**75.50**	**24**	*e*P		**P**	**10 26 04.7**	**-0.2**
	comp=Z,5.3nm,1.2s							
EGAK	**Eagle**	**75.76**	**21**	*e*P		**P**	**10 26 06.0**	**-0.3**
	comp=Z,16nm,1.4s							
STKA	**Stephens Creek**	**76.09**	**140**	P		**P**	**10 26 06.8**	**-1.8**
	comp=Z,3.0nm,0.8s,baz=337,slow=3.0,SNR=5.0							
DAWY	**Dawson**	**76.81**	**21**	*e*P		**P**	**10 26 11.8**	**-0.5**
	comp=Z,4.9nm,1.1s							
ESDC	**Sonseca Array**	**77.46**	**309**	P		**P**	**10 26 16.1**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=48,slow=5.9,SNR=11							
LSZ	**Lusaka**	**78.47**	**245**	P		**P**	**10 26 21.1**	**-1.3**
	comp=Z,8.7nm,1.1s,baz=37,slow=8.7,SNR=12							
LSZ	**Lusaka**	**78.47**	**245**	P		**P**	**10 26 21.1**	**-1.3**
LSZ				pmax	pmax			
	comp=Z,9.0nm,1.1s							
LSZ	**Lusaka**	**78.47**	**245**	*e*P		**P**	**10 26 21.9**	**-0.5**
HYT	**Haines Junctio**	**79.73**	**23**	*e*P		**P**	**10 26 28.9**	**+0.2**
	comp=Z,9.4nm,1.2s							
MATP	**Matopo**	**81.27**	**240**	P		**P**	**10 26 36.8**	**-0.7**
	comp=Z,8.8nm,1.0s,baz=49,slow=7.6,SNR=14							
MDT	**Midelt**	**81.30**	**303**	P		**P**	**10 26 37.1**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=66,slow=10,SNR=3.1							
SKAG	**Skagway**	**81.47**	**23**	*e*P		**P**	**10 26 38.3**	**+0.5**
	comp=Z,27nm,1.4s							
DLBC	**Dease Lake**	**84.03**	**22**	P		**P**	**10 26 51.8**	**+0.5**
	comp=Z,5.3nm,1.2s,baz=349,slow=10,SNR=3.3							
YKA	**Yellowknife Ar**	**84.58**	**13**	P		**P**	**10 26 53.0**	**-0.8**
	comp=Z,1.8nm,1.0s,baz=337,slow=4.4,SNR=8.1							
TORD	**Torodi Ar. Bea**	**86.13**	**283**	P		**P**	**10 27 01.6**	**-0.8**
	comp=Z,4.8nm,1.1s,baz=54,slow=3.5,SNR=16							
TORD				PP		**PP**	**10 30 22.2**	**-0.6**
	comp=Z,1.2nm,1.0s,baz=56,slow=6.5,SNR=4.7							
LBTB	**Lobatse**	**86.13**	**238**	P		**P**	**10 27 01.9**	**-0.4**
LBTB	**Lobatse**	**86.13**	**238**	P		**P**	**10 27 01.9**	**-0.4**
LBTB				pmax	pmax			
	comp=Z,14nm,1.1s							
LBTB	**Lobatse**	**86.13**	**238**	*e*P		**P**	**10 27 02.2**	**-0.1**
TXAR	**Lajitas Array**	**118.15**	**18**	PKP		**PKPdf**	**10 33 07.9**	**-0.6**
	comp=Z,0.5nm,0.9s,baz=333,slow=1.7,SNR=4.8							
OTAV	**Otavalo**	**148.98**	**347**	*e*PKPdf		**PKPdf**	**10 34 04.2**	**-2.0**
OTAV				*e*PKPbc		**PKPbc**	**10 34 08.7**	**-1.5**
OTAV				*e*PKPab		**PKiKP**	**10 34 11.6**	**+0.1**
SAML	**Samuel**	**150.45**	**311**	*e*PKPdf		**PKPdf**	**10 34 07.2**	**-0.7**
SAML				*e*PKPbc		**PKPbc**	**10 34 12.4**	**-0.8**
SAML				*e*PKPab		**PKPab**	**10 34 20.0**	**+0.4**
SIV	**San Ignacio**	**153.74**	**297**	PKPbc		**PKPbc**	**10 34 21.1**	**+0.5**
	comp=Z,2.3nm,0.9s,baz=96,slow=1.0,SNR=4.1							

ISC 27 10:36:37.1±1.6, 51°51N±0°07×16°00E±0°04, h0km, n14, σ0§60/32, Poland

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
KSP	**Ksiaz**	**0.69**	**165**	*e*Pg	**Pg**		**10 36 51.1**	**+0.9**
KSP				*e*Sg	**Sb**		**10 37 01.5**	**-0.5**
UPC	**Upice**	**1.00**	**180**	*e*PG	**Pg**		**10 36 56.4**	**+0.2**
UPC				*e*SG	**Sb**		**10 37 09.9**	**-1.1**
	comp=Z,17nm,0.2s							
DPC	**Dobruska-Polom**	**1.18**	**170**	*e*PG	**Pg**		**10 36 59.4**	**-0.2**
DPC				*e*SG	**Sb**		**10 37 15.4**	**-0.6**
	comp=Z,14nm,0.3s							
PVCC	**Panska Ves**	**1.33**	**223**	*e*PG	**Pb**		**10 37 02.6**	**-0.3**
PVCC				*e*SG	**Sn**		**10 37 21.0**	**-0.4**
	comp=Z,49nm,0.2s							
BRG	**Berggiesshubel**	**1.44**	**245**	PG	**Pg**		**10 37 04.5**	**-0.2**
BRG				SG	**Sn**		**10 37 24.7**	**+0.6**
	26nm,0.3s							
KRLC	**Kraliky**	**1.52**	**161**	*e*PG	**Pn**		**10 37 05.4**	**-0.1**
KRLC				*e*SG	**Sn**		**10 37 26.1**	**+0.2**
PRA	**Prague**	**1.75**	**215**	*e*PG	**Pg**		**10 37 09.9**	**-0.7**
PRA				*e*SG	**Sg**		**10 37 34.2**	**+1.0**
	comp=Z,7.2nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.77**	**206**	*e*PG	**Pg**		**10 37 10.3**	**-0.7**
GOPC				*e*SG	**Sg**		**10 37 34.7**	**+0.8**
	comp=Z,2.9nm,0.2s							
PRU	**Pruhonice**	**1.78**	**212**	*e*PG	**Pg**		**10 37 10.5**	**-0.7**
PRU				*e*SG	**Sg**		**10 37 35.1**	**+0.9**
	comp=Z,8.1nm,0.3s							
CLL	**Collm**	**1.89**	**265**	*e*Pg	**Pb**		**10 37 13.0**	**+0.6**
CLL				*i* Sg	**Sg**		**10 37 37.5**	**-0.2**
	comp=Z,7.0nm,0.6s							
OKC	**Ostrava-Krasne**	**2.16**	**140**	*e*PG	**Pb**		**10 37 16.9**	**-0.1**
OKC				*e*SG	**Sg**		**10 37 46.4**	**+0.1**
	comp=Z,9.1nm,0.4s							
TREC	**Trest**	**2.24**	**189**	*e*PN	**Pn**		**10 37 15.3**	**-0.1**
TREC				*e*PG	**Pb**		**10 37 18.4**	**0.0**
TREC				*e*SG	**Sg**		**10 37 49.9**	**+1.0**
	comp=Z,5.1nm,0.2s							
NKC	**Novy Kostel**	**2.59**	**242**	*e*PN	**Pn**		**10 37 20.0**	**-0.2**
NKC				*e*PG	**Pb**		**10 37 25.0**	**+0.7**
NKC				*e*SG	**Sg**		**10 38 00.9**	**+0.8**
	comp=Z,11nm,0.3s							
KHC	**Kasperske Hory**	**2.84**	**214**	*e*PN	**Pn**		**10 37 23.4**	**-0.3**
KHC				*e*PG	**Pb**		**10 37 29.3**	**+0.7**
KHC				*e*SN	**Sn**		**10 37 58.1**	**-0.5**
KHC				*e*SG	**Sg**		**10 38 08.8**	**+0.5**
	comp=Z,2.9nm,0.3s							

MEX 27 10:38:40.8±0.4, 14°96N×93°15W, h73km±8km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.75**	**355**	*i* P	Pn	10 38 55.1	-1.4
PCIG				*e*S	Sn	10 39 06.3	-1.8
CCIG	**Comitan**	**1.64**	**36**	*e*P	Pn	10 39 06.5	-1.5
CCIG				*i* S	Sn	10 39 26.6	-1.9

*DJA **27** 11:09:05.7±1.4, 2°S±5°×13°8E±°, h102km±10km, M4.0/4, MLv4.0/4*
*IDC **27** 11:09:07.2±1.1, 2°72S×138°83E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/24, mbtmp3.8/5, ML4.1/1, MS2.9/2, Ms1 2.9/2, ms1mx2.4/33, Error ellipse: s-maj=25.6km s-min=23.3km az=158.0*
*ISCJB **27** 11:09:10.8±0.5, 2°75S±0°05×138°71E±0°06, h37km, mb3.7/4, MS2.8/1, Error ellipse: s-maj=8.6km s-min=6.5km az=30.6*

ISC 27 11:09:12.3±0.8, 2°70S±0°07×138°73E±0°05, h37km, n18, σ2§00/20, mb3.8/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
SMPI	**Sarmi**	**0.71**	**359**	P	**Pn**		**11 09 23.4**	**-2.5**
SMPI				S	**Sn**		**11 09 37.0**	**+1.5**
GENI	**Genyem**	**1.45**	**86**	P	**Pn**		**11 09 34.6**	**-1.4**
GENI				S	**Sn**		**11 09 58.3**	**+4.6**
JAY	**Jayapura**	**1.99**	**85**	P	**Pn**		**11 09 41.3**	**-2.1**
JAY				S	**Sn**		**11 10 10.1**	**+3.0**
JAY	**Jayapura**	**1.99**	**85**	Pn	**Pn**		**11 09 41.2**	**-2.3**
	12nm,0.3s,baz=244,slow=14,SNR=46							
JAY				Sn	**Sn**		**11 10 06.2**	**-1.0**
	20nm,0.3s,baz=118,slow=21,SNR=6.6							
JAY				LR	LR		11 10 42.1	
	comp=Z,160nm,20.6s,baz=304,slow=50							
JAY	**Jayapura**	**1.99**	**85**	P	**Pn**		**11 09 41.3**	**-2.1**
	baz=2.5,SNR=8.6							
FAKI	**Fak Fak**	**6.47**	**268**	P	**Pn**		**11 10 44.4**	**-0.7**
	baz=6.4,SNR=4.4							
SIJI	**Sorong**	**7.67**	**284**	LR	LR		11 15 00.9	
	comp=Z,94nm,18.3s,baz=118,slow=45							
KDU	**Kakadu**	**11.69**	**212**	P	**Pn**		**11 11 56.9**	**+0.2**
	baz=13,SNR=14							
MTN	**Manton Dam**	**12.57**	**216**	P	**Pn**		**11 12 09.5**	**+0.8**
	baz=14,SNR=13							
KNRA	**Kununurra**	**16.20**	**217**	P	**P**		**11 12 58.6**	**-1.4**
	baz=17,SNR=17							
MTSU	**Mount Surprise**	**16.29**	**161**	P	**P**		**11 13 01.0**	**0.0**
	baz=18,SNR=5.8							
WRA	**Warramunga Arr**	**17.66**	**194**	P	**Pn**		**11 13 13.9**	**-1.7**
	0.6nm,0.3s,baz=16,slow=13,SNR=38							
QIS	**Mount Isa**	**17.77**	**177**	P	**P**		**11 13 16.9**	**-0.6**
	baz=19,SNR=3.8							
ASAR	**Alice Springs**	**21.36**	**192**	P	**P**		**11 13 56.8**	**+0.2**
	1.3nm,0.4s,baz=21,slow=10.0,SNR=25							
PETK	**Petropavlovsk-**	**57.85**	**13**	LR	LR		11 40 28.2	
	comp=Z,7.3nm,21.4s,baz=144,slow=32							
MKAR	**Makanchi Array**	**69.79**	**322**	P	**P**		**11 20 21.4**	**+2.4**
	0.7nm,0.7s,baz=109,slow=9.4,SNR=4.1							
KURBB	**Kurchatov Arra**	**73.73**	**325**	P	**P**		**11 20 42.9**	**+0.4**
	0.2nm,0.4s,baz=116,slow=5.1,SNR=2.9							
ILAR	**Eielson Array**	**85.82**	**24**	P	**P**		**11 21 47.6**	**-0.1**
	0.8nm,0.8s,baz=270,slow=4.5,SNR=12							

NNC 27 11:27:11.4±4.4, 37°06N×71°08E, h0km, mb3.7, mpv3.3, 3C-2D, Error ellipse: s-maj=41.2km s-min=27.2km az=1.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
DZET	**Dzherino**	**2.49**	**315**	⇓P	Pn		11 27 52.8	-0.6
	10nm,0.5s							
DZET				⇑S	Sn		11 28 26.2	+1.5
	24nm,0.5s							
KK31	**Karatay Array**	**6.05**	**356**	⇑P	Pn		11 28 42.0	-0.2
	0.6nm,0.3s,baz=172,slow=14,SNR=6.7							
KK31				⇑S	Sn		11 29 52.4	+0.3
	0.9nm,0.4s							
TKM2	**Tokmak 2**	**6.80**	**29**	⇓Pn	Pn		11 28 54.2	+1.5
	2.5nm,0.7s							

*IDC **27** 11:48:51.2±1.4, 52°51N×169°48W, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.4/28, mbtmp3.4/5, ML3.1/1, Error ellipse: s-maj=60.2km s-min=26.7km az=146.0*
*ISCJB **27** 11:48:52.8±1.2, 52°6N±0°1×169°3W±0°1, h19km±8km, mb3.6/4, Error ellipse: s-maj=22.9km s-min=7.3km az=147.1*
*NEIC **27** 11:48:53.4, 52°74N×169°32W, h6km, ML3.2(AEIC), After AEIC.*

ISC 27 11:48:53.1±1.8, 52°6N±0°1×169°24W±0°08, h10km±11km, n30, σ0§74/31, mb3.6/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
NIKH	**Nikolski High**	**0.42**	**34**	P	**Pg**		**11 49 01.6**	**+0.3**
NIKH				S	**Sb**		**11 49 08.4**	**-0.5**
OKSP	**Okmok Steeple**	**0.85**	**42**	P	**Pg**		**11 49 09.5**	**+0.1**
OKSP				S	**Sb**		**11 49 21.9**	**+0.5**
OKSO	**Okmok South**	**0.98**	**41**	P	**Pg**		**11 49 11.3**	**-0.6**
OKSO				S	**Sg**		**11 49 25.1**	**+0.5**
OKWR	**Okmok West Rim**	**1.02**	**37**	P	**Pb**		**11 49 12.9**	**0.0**
OKCE	**Okmok Cone E**	**1.03**	**39**	P	**Pg**		**11 49 12.1**	**-0.8**
OKTU	**Okmok Mt. Tuli**	**1.05**	**43**	P	**Pg**		**11 49 12.7**	**-0.5**
OKRE	**Okmok R'deer P**	**1.10**	**36**	P	**Pg**		**11 49 13.7**	**-0.6**
OKFG	**Magazine Ridge**	**1.12**	**45**	P	**Pg**		**11 49 13.6**	**-1.0**
OKFG				S	**Sg**		**11 49 29.4**	**+0.3**
MSOM	**Makushin Julie**	**1.82**	**48**	P	**Pn**		**11 49 24.2**	**-0.2**
MCIR	**Makushin Cirqu**	**1.94**	**46**	P	**Pn**		**11 49 26.9**	**+0.8**
MSW	**Makushin Switc**	**1.96**	**48**	P	**Pn**		**11 49 26.1**	**-0.3**
MSW				S	**Sn**		**11 49 51.8**	**+0.8**
MTBL	**Makushin Table**	**2.04**	**48**	P	**Pn**		**11 49 27.4**	**-0.1**
UNV	**Unalaska Valle**	**2.05**	**52**	P	**Pn**		**11 49 27.2**	**-0.4**
UNV				S	**Sn**		**11 49 53.7**	**+0.5**
AKRB	**Akutan Reef Bi**	**2.42**	**50**	P	**Pn**		**11 49 33.9**	**+1.1**
ZRO	**Akutan Zero**	**2.44**	**52**	P	**Pn**		**11 49 33.4**	**+0.3**
AKGG	**Akutan Green G**	**2.50**	**50**	P	**Pn**		**11 49 34.3**	**+0.5**
AKUT	**Akutan**	**2.57**	**53**	*e*Pn	**Pn**		**11 49 35.6**	**+0.9**
AKUT				*e*Sn	**Sn**		**11 50 05.5**	**-0.1**
ATKA	**Atka Island**	**3.06**	**264**	P	**Pn**		**11 49 42.4**	**+0.9**
SPIA	**Saint Paul Isl**	**4.59**	**353**	P	**Pn**		**11 50 02.7**	**+0.2**
ILAR	**Eielson Array**	**16.69**	**35**	Pn	**Pn**		**11 52 46.1**	**-0.7**
	0.0nm,0.3s,baz=225,slow=11,SNR=4.1							
H11N2	**WAKE ISLAND Hy**	**37.71**	**219**	T	T		12 36 11.6	
	baz=24,slow=76,SNR=18							
H11N3	**WAKE ISLAND Hy**	**37.71**	**219**	T	T		12 36 09.6	
	baz=24,slow=76,SNR=27							
H11N1	**WAKE ISLAND Hy**	**37.72**	**219**	T	T		12 36 10.5	
	baz=24,slow=76,SNR=16							
H11S1	**WAKE ISLAND Hy**	**38.90**	**218**	T	T		12 37 40.9	
	baz=23,slow=76,SNR=707							
H11S2	**WAKE ISLAND Hy**	**38.91**	**218**	T	T		12 37 40.6	
	baz=23,slow=76,SNR=467							
H11S3	**WAKE ISLAND Hy**	**38.91**	**218**	T	T		12 37 41.6	
	baz=23,slow=76,SNR=275							
PDAR	**Pinedale Array**	**40.28**	**80**	P	**P**		**11 56 31.2**	**+0.8**
	0.5nm,0.7s,baz=304,slow=5.6,SNR=4.7							
TXAR	**Lajitas Array**	**52.67**	**89**	P	**P**		**11 58 08.1**	**+0.5**
	0.4nm,0.7s,baz=296,slow=5.0,SNR=8.2							
WRA	**Warramunga Arr**	**87.23**	**232**	P	**P**		**12 01 37.4**	**-2.1**
	0.4nm,0.9s,baz=37,slow=5.7,SNR=2.6							
ASAR	**Alice Springs**	**90.62**	**230**	P	**P**		**12 01 55.3**	**-0.3**
	0.4nm,0.8s,baz=12,slow=4.7,SNR=3.6							

NNC 27 11:58:38.0±3.3, 36°94N×71°04E, h0km, mb4.1, mpv3.7, 4C-2D, Error ellipse: s-maj=27.8km s-min=11.1km az=175.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
DZET	**Dzherino**	**2.55**	**317**	⇑P	Pn		11 59 20.7	-0.1
	32nm,0.3s							
DZET				⇑S	Sn		11 59 54.3	+1.5
	78nm,0.6s							
SFK	**Sufi-Kurgan**	**3.63**	**31**	⇓P	Pn		11 59 35.8	+0.1
	0.9nm,0.1s							
SFK				⇓S	Sn		12 00 20.9	+1.5
	24nm,0.4s							
KK31	**Karatay Array**	**6.17**	**356**	P	Pn		12 00 09.5	-0.8
	2.8nm,0.3s,baz=0.0,slow=0.1,SNR=63							
KK31				⇑S	Sn		12 01 20.8	-0.8
	2.6nm,0.5s,baz=184,slow=25,SNR=8.4							
AB31	**Akbulak array**	**14.71**	**330**	⇑P	Pn		12 02 04.3	-2.9
	0.6nm,0.5s,baz=148,slow=10,SNR=19							

*CSEM **27** 12:01:23.6±0.2, 48°83N×16°07E, h2km, ML1.9, Error ellipse: s-maj=7.2km s-min=2.2km az=122.0, Suspected Mining explosion.*

VIE 27 12:01:23.4±0.1, 48°82N×16°06E, h0km, mb1.8/5, ML1.9/5, 5C-3D, Error ellipse: s-maj=2.5km s-min=0.9km az=124.0, Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
VRAC	**Vranov**	**0.60**	**35**	*e*Pg	Pg		12 01 35.1	0.0
VRAC				*e*Sg	Sg		12 01 42.7	-0.3
CONA	**Conrad Observa**	**0.90**	**189**	Pg	Pg		12 01 41.1	+0.3
CONA				Sg	Sg		12 01 53.3	+0.8
	11nm,0.5s							
CONA	**Conrad Observa**	**0.90**	**189**	⇑*i*Pg	Pg		12 01 41.1	+0.3
CONA				⇑*i*Sg	Sg		12 01 53.3	+0.8
	11nm,0.5s							
MORC	**Moravsky Berou**	**1.37**	**45**	*e*Pg	Pg		12 01 49.6	-0.1
MOA	**Molln**	**1.54**	**232**	Pg	Pg		12 01 53.0	0.0
MOA				Sn	Sg		12 02 13.6	+0.6
MOA				Sg	Sb		12 02 14.5	+1.6
	5.6nm,0.4s							
MOA	**Molln**	**1.54**	**232**	⇑*i*Pg	Pg		12 01 53.0	+0.1
MOA				⇑*i*Sn	Sg		12 02 13.6	+0.6
MOA				⇓*i*Sg	Sb		12 02 14.5	+1.5
	5.6nm,0.4s							
ARSA	**Arzberg**	**1.61**	**193**	Pg	Pg		12 01 54.3	0.0
ARSA				Sn	Sg		12 02 15.2	0.0
ARSA				Sg	Sb		12 02 16.7	+1.8
	7.4nm,0.6s							
ARSA	**Arzberg**	**1.61**	**193**	⇑*i*Pg	Pg		12 01 54.3	0.0
ARSA				⇓*i*Sn	Sg		12 02 15.2	0.0
ARSA				⇓*i*Sg	Sb		12 02 16.7	+1.8
	7.4nm,0.6s							

*ISCJB **27** 12:02:08.7±2.1, 11°5S±0°2×166°0E±0°3, h37km, mb4.0/5, Error ellipse: s-maj=45.7km s-min=20.6km az=163.8*
*IDC **27** 12:02:13.7±7.5, 11°58S×166°19E, h75km±68km, mb3.8/5, mb1 4.0/6, mb1mx3.5/42, mbtmp4.1/6, ML3.4/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/29, Error ellipse: s-maj=59.6km s-min=48.6km az=142.0*

ISC 27 12:02:09.8±2.1, 11°3S±0°2×166°1E±0°3, h37km, n8, σ1§10/7, mb4.1/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
HNR	**Honiara**	**6.37**	**287**	LR	LR		12 06 19.0	
	comp=Z,101nm,19.7s,baz=90,slow=38							
DZM	**Mont Dzumac**	**10.67**	**178**	P	**Pn**		**12 04 40.6**	**+0.3**
	0.3nm,0.3s,baz=360,slow=15,SNR=3.0							
PMG	**Port Moresby**	**18.76**	**274**	LR	LR		12 13 09.4	
	comp=Z,65nm,18.6s,baz=105,slow=35							
STKA	**Stephens Creek**	**30.49**	**224**	P	**P**		**12 08 19.5**	**+0.1**
	2.0nm,0.6s,baz=69,slow=14,SNR=6.4							
WRA	**Warramunga Arr**	**31.73**	**250**	P	**P**		**12 08 30.2**	**-0.4**
	2.4nm,0.8s,baz=84,slow=8.8,SNR=15							
ASAR	**Alice Springs**	**32.99**	**244**	P	**P**		**12 08 41.0**	**-0.6**
	2.0nm,0.7s,baz=70,slow=9.4,SNR=33							
ASAR				PcP	**PcP**		**12 11 23.9**	**-1.2**
	0.4nm,0.8s,baz=75,slow=2.5,SNR=3.9							
CMAR	**Chiang Mai Arr**	**72.57**	**294**	P	**P**		**12 13 35.3**	**+1.6**
	0.4nm,0.4s,baz=118,slow=5.0,SNR=4.2							
MKAR	**Makanchi Array**	**93.99**	**317**	P	**P**		**12 15 23.5**	**-0.5**
	0.8nm,0.7s,baz=116,slow=5.5,SNR=4.4							

*IDC **27** 12:12:53.3±1.2, 35°85N×140°74E, h0km, mb3.3/4, mb1 3.4/6, mb1mx3.3/58, mbtmp3.3/6, ML2.8/2, MS3.5/1, Ms1 3.5/1, ms1mx2.2/19, Error ellipse: s-maj=26.7km s-min=19.7km az=79.0*
*ISCJB **27** 12:12:58.1±0.6, 35°84N±0°05×140°62E±0°07, h52km±6km, mb3.3/4, MS3.5/1, Error ellipse: s-maj=10.4km s-min=6.8km az=149.1*
*JMA **27** 12:12:59.9±0.1, 35°88N×140°49E, h35km±1km, M3.4*
JMA Felt I J1.

ISC 27 12:12:59.2±0.9, 35°86N±0°05×140°59E±0°07, h44km±9km, n11, σ0§97/16, mb3.4/4, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
CHOJ	**Chosi**	**0.27**	**125**	⇓P	**Pn**		**12 13 08.2**	**+0.7**
CHOJ				S	**Sn**		**12 13 13.9**	**+0.6**
JYT	**Yasato**	**0.49**	**319**	⇓P	**Pn**		**12 13 09.5**	**-0.6**
JYT				S	**Sn**		**12 13 15.9**	**-1.8**
JHO	**Hitachi**	**0.75**	**359**	⇓P	**Pn**		**12 13 13.5**	**0.0**
JHO				S	**Sn**		**12 13 23.0**	**-0.8**
MJAR	**Matsushiro Arr**	**2.05**	**290**	Pn	**Pn**		**12 13 31.8**	**+0.6**
	3.9nm,0.3s,baz=104,slow=9.1,SNR=40							
MJAR				Sn	**Sn**		**12 13 57.0**	**+1.5**
	3.9nm,0.3s,baz=23,slow=24,SNR=6.7							
MAT	**Matsushiro**	**2.05**	**290**	P	**Pn**		**12 13 32.0**	**+0.8**
MAT				S	**Sn**		**12 13 55.7**	**+0.1**
JHJ	**Hachijo jima 2**	**2.81**	**194**	Pn	**Pn**		**12 13 40.3**	**-1.4**
	3.1nm,0.3s,baz=72,slow=20,SNR=2.6							
JHJ				Sn	**Sn**		**12 14 13.8**	**-0.6**
	9.1nm,0.3s,baz=40,slow=23,SNR=8.1							
MKAR	**Makanchi Array**	**44.19**	**303**	P	**P**		**12 21 03.8**	**0.0**
	0.3nm,0.5s,baz=69,slow=7.9,SNR=2.5							
ILAR	**Eielson Array**	**50.84**	**32**	P	**P**		**12 21 54.9**	**-0.2**
	0.1nm,0.7s,baz=268,slow=5.3,SNR=2.3							
BVAR	**Borovoye Array**	**50.88**	**313**	LR	LR		12 43 41.4	
	comp=Z,46nm,19.9s,baz=81,slow=36							
WRA	**Warramunga Arr**	**55.81**	**187**	P	**P**		**12 22 32.7**	**+0.7**
	0.5nm,0.7s,baz=5.1,slow=7.6,SNR=6.5							
ASAR	**Alice Springs**	**59.54**	**187**	P	**P**	

SGD	Sagiada	1.96	64	P		Pn	12 17 58.9	-0.2
SGD				S		Sb	12 18 25.4	-0.7
SGD	Sagiada	1.96	64	P		Pn	12 17 58.9	-0.2
SGD				S		Sb	12 18 25.4	-0.7
IGT	Igoumenitsa	2.00	67	*e*P		Pn	12 17 59.7	0.0
IGT	Igoumenitsa	2.00	67	P		Pn	12 17 59.5	-0.2
IGT	Igoumenitsa	2.00	67	P		Pn	12 17 59.5	-0.2
LTRZ	Laterza 1µm,1.8s	2.03	335	Pg		Pn	12 17 59.8	-0.3
LTRZ	Laterza 1µm,1.8s	2.03	335	Pg		Pn	12 17 59.8	-0.3
CUC	Castrocucco 220nm,0.8s	2.06	307	Pg		Pn	12 18 01.8	+1.2
CUC	Castrocucco 220nm,0.8s	2.06	307	Pg		Pn	12 18 01.8	+1.2
PE1	Pezze di Greco	2.08	349	*e*Pn		Pn	12 18 00.5	-0.2
LKD2	Lefkada island	2.11	89	*e*P		Pn	12 18 01.7	+0.5
LKD2	Lefkada island	2.11	89	P		Pn	12 18 01.1	-0.1
LKD2	Lefkada island	2.11	89	P		Pn	12 18 01.1	-0.1
MATE	Matera 226nm,0.5s	2.11	333	Pg		Pn	12 18 01.2	0.0
MATE	Matera 226nm,0.5s	2.11	333	Pg		Pn	12 18 01.2	0.0
SIRI	Monte Sirino - 148nm,0.8s	2.15	312	Pg		Pn	12 18 03.1	+1.3
SIRI	Monte Sirino - 148nm,0.8s	2.15	312	Pg		Pn	12 18 03.1	+1.3
VLS	Valsamata	2.15	105	*e*P		Pn	12 18 01.6	-0.1
VLS	Valsamata	2.15	105	P		Pn	12 18 01.2	-0.5
VLS				S		Sn	12 18 28.9	+0.5
VLS	Valsamata	2.15	105	P		Pn	12 18 01.2	-0.5
VLS				S		Sn	12 18 28.9	+0.5
SG1	Sgolgore (BA)	2.29	335	*e*Pn		Pn	12 18 03.9	+0.2
KFL	Anninata	2.32	106	P		Pn	12 18 03.9	-0.2
KFL				S		Sn	12 18 32.6	+0.1
KFL	Anninata	2.32	106	P		Pn	12 18 03.9	-0.2
KFL				S		Sn	12 18 32.6	+0.1
BULG	Bulgheria - Ca 329nm,1.4s	2.39	304	Pg		Pn	12 18 04.8	-0.3
BULG	Bulgheria - Ca 329nm,1.4s	2.39	304	Pg		Pn	12 18 04.8	-0.3
JAN	Janina	2.42	68	*e*P		Pn	12 18 06.1	+0.7
JAN	Janina	2.42	68	P		Pn	12 18 05.5	+0.1
JAN	Janina	2.42	68	P		Pn	12 18 05.5	+0.1
DSL	Palaion Diasel	2.48	81	*e*P		Pn	12 18 07.0	+0.8
DSL	Palaion Diasel	2.48	81	P		Pn	12 18 06.6	+0.4
DSL				S		Sn	12 18 37.4	+0.9
DSL	Palaion Diasel	2.48	81	P		Pn	12 18 06.6	+0.4
DSL				S		Sn	12 18 37.4	+0.9
BAI	Bari	2.48	341	*e*Pn		Pn	12 18 07.5	+1.3
PDO	Prodromos	2.53	93	*e*P		Pn	12 18 07.7	+0.7
PDO	Prodromos	2.53	93	P		Pn	12 18 07.3	+0.3
PDO	Prodromos	2.53	93	P		Pn	12 18 07.3	+0.3
CDT	Castel del Mon	2.65	331	*e*Pn		Pn	12 18 08.5	-0.1
RLS	Riolos of Patr	2.85	103	*e*P		Pn	12 18 11.7	+0.4
RLS	Riolos of Patr	2.85	103	P		Pn	12 18 11.6	+0.3
RLS	Riolos of Patr	2.85	103	P		Pn	12 18 11.6	+0.3
NEST	Nestorio	2.90	54	*e*P		Pn	12 18 14.1	+1.9
EVR	Evrytania	3.01	86	*e*P		Pn	12 18 15.2	+1.5
EVR	Evrytania	3.01	86	P		Pn	12 18 14.3	+0.6
EVR	Evrytania	3.01	86	P		Pn	12 18 14.3	+0.6
DRO	Drossia	3.06	104	*e*P		Pn	12 18 15.0	+0.7
DRO	Drossia	3.06	104	P		Pn	12 18 14.7	+0.4
DRO	Drossia	3.06	104	P		Pn	12 18 14.7	+0.4
LAKA	Lakka	3.20	98	*e*P		Pn	12 18 17.4	+1.2
LAKA	Lakka	3.20	98	P		Pn	12 18 17.3	+1.1
LAKA	Lakka	3.20	98	P		Pn	12 18 17.3	+1.1
AMT	Artemida-Makis	3.21	111	*e*P		Pn	12 18 16.4	+0.1
AMT	Artemida-Makis	3.21	111	P		Pn	12 18 15.9	-0.4
AMT	Artemida-Makis	3.21	111	P		Pn	12 18 15.9	-0.4
TRIZ	Trizonia	3.25	96	*e*P		Pn	12 18 17.1	+0.2
TRIZ	Trizonia	3.25	96	P		Pn	12 18 17.1	+0.2
TRIZ	Trizonia	3.25	96	P		Pn	12 18 17.1	+0.2
THL	Klokotos Trika	3.25	75	*e*P		Pn	12 18 13.3	+1.4
THL	Klokotos Trika	3.25	75	P		Pn	12 18 18.0	+1.1
THL				S		Sn	12 18 56.8	+1.2
THL	Klokotos Trika	3.25	75	P		Pn	12 18 18.0	+1.1
THL				S		Sn	12 18 56.8	+1.2
MAKR	Makrakomi, Fth	3.27	84	*e*P		Pn	12 18 19.6	+2.5
FNA	Florina	3.32	52	*e*P		Pn	12 18 18.5	+0.7
FNA	Florina	3.32	52	P		Pn	12 18 18.5	+0.7
FNA	Florina	3.32	52	P		Pn	12 18 18.5	+0.7
KZN	Kozani	3.33	61	*e*P		Pn	12 18 19.3	+1.3
KZN	Kozani	3.33	61	P		Pn	12 18 19.2	+1.3
KZN				S		Sn	12 18 59.6	+2.1
KZN	Kozani	3.33	61	P		Pn	12 18 19.2	+1.3
KZN				S		Sn	12 18 59.6	+2.1
KLV	Kalavryta, Ach	3.37	101	*e*P		Pn	12 18 19.5	+0.9
KLV	Kalavryta, Ach	3.37	101	P		Pn	12 18 19.0	+0.4
KLV	Kalavryta, Ach	3.37	101	P		Pn	12 18 19.0	+0.4
AGG	Agios Georgios	3.42	84	*e*P		Pn	12 18 21.0	+1.7
AGG	Agios Georgios	3.42	84	P		Pn	12 18 20.5	+1.2
AGG	Agios Georgios	3.42	84	P		Pn	12 18 20.5	+1.2
PHP	Peshkopia	3.48	32	P		Pn	12 18 19.7	-0.4
PHP	Peshkopia	3.48	32	P		Pn	12 18 19.7	-0.4
ITM	Ithomi	3.52	116	P		Pn	12 18 21.3	+0.8
ITM				S		Sn	12 19 03.1	+1.0
ITM	Ithomi	3.52	116	P		Pn	12 18 21.3	+0.8
ITM				S		Sn	12 19 03.1	+1.0
PYL	PYLOS	3.53	121	*e*P		Pn	12 18 20.4	-0.3
PYL	PYLOS	3.53	121	P		Pn	12 18 20.5	-0.3
PYL	PYLOS	3.53	121	P		Pn	12 18 20.5	-0.3
GUR	Goura	3.55	102	*e*P		Pn	12 18 23.6	+2.6
DSF	Desfina	3.60	94	*e*P		Pn	12 18 23.4	+1.7
AXAR	Agios Charalam	3.68	89	*e*P		Pn	12 18 24.1	+1.4
AXAR	Agios Charalam	3.68	89	P		Pn	12 18 23.8	+1.1
AXAR	Agios Charalam	3.68	89	P		Pn	12 18 23.8	+1.1
LIT	Litokhoron	3.75	68	*e*P		Pn	12 18 24.7	+0.9
LIT	Litokhoron	3.75	68	P		Pn	12 18 24.3	+0.5
LIT	Litokhoron	3.75	68	P		Pn	12 18 24.3	+0.5
FYTO	Fytoko, Volos	3.93	79	P		Pn	12 18 27.2	+1.0
FYTO	Fytoko, Volos	3.93	79	P		Pn	12 18 27.2	+1.0
LKR	Lokris	3.95	90	*e*P		Pn	12 18 27.4	+1.0
LKR	Lokris	3.95	90	P		Pn	12 18 27.1	+0.7
LKR	Lokris	3.95	90	P		Pn	12 18 27.1	+0.7
GRG	Griva	4.06	56	*e*P		Pn	12 18 28.1	0.0
GRG	Griva	4.06	56	P		Pn	12 18 28.0	0.0
GRG	Griva	4.06	56	P		Pn	12 18 28.0	0.0
STON	Ston	4.11	357	*e*Pn		Pn	12 18 27.6	-1.0
STON				Sn		Sn	12 19 14.3	-2.2
STON	Ston	4.11	357	*e*Pn		Pn	12 18 27.5	-1.0
STON				Sn		Sn	12 19 14.3	-2.2
XOR	Xorichti	4.12	80	*e*P		Pn	12 18 29.4	+0.6
XOR	Xorichti	4.12	80	P		Pn	12 18 29.3	+0.5
XOR	Xorichti	4.12	80	P		Pn	12 18 29.3	+0.5
NEO	Neokhori	4.14	81	*e*P		Pn	12 18 29.9	+0.8
NEO	Neokhori	4.14	81	P		Pn	12 18 29.6	+0.5
NEO	Neokhori	4.14	81	P		Pn	12 18 29.6	+0.5
DIDY	Didyma	4.34	106	*e*P		Pn	12 18 33.7	+1.8
DIDY	Didyma	4.34	106	P		Pn	12 18 33.5	+1.6
DIDY	Didyma	4.34	106	P		Pn	12 18 33.5	+1.6
HORT	Hortiatis	4.37	64	*e*P		Pn	12 18 32.4	+0.1
HORT	Hortiatis	4.37	64	P		Pn	12 18 32.3	0.0
HORT	Hortiatis	4.37	64	P		Pn	12 18 32.3	0.0
MRKA	Markates	4.40	89	*e*P		Pn	12 18 33.5	+0.8
MRKA	Markates	4.40	89	P		Pn	12 18 33.2	+0.5
MRKA				S		Sn	12 18 33.2	+0.5
MRKA	Markates	4.40	89	P		Pn	12 18 33.2	+0.5
MRKA				S		Sn	12 19 25.6	+1.6
VLI	Veliai	4.45	116	*e*P		Pn	12 18 34.3	+0.9
VLI	Veliai	4.45	116	P		Pn	12 18 34.2	+0.9
VLI				S		Sn	12 19 26.6	+1.6
VLI	Veliai	4.45	116	P		Pn	12 18 34.2	+0.9
VLI				S		Sn	12 19 26.6	+1.6
PLG	Polygyros	4.54	68	P		Pn	12 18 34.5	-0.1
PLG	Polygyros	4.54	68	P		Pn	12 18 34.5	-0.1
AOS	Alonnisos	4.63	83	*e*P		Pn	12 18 36.7	+0.8
AOS	Alonnisos	4.63	83	P		Pn	12 18 36.7	+0.8
AOS	Alonnisos	4.63	83	P		Pn	12 18 36.7	+0.8
SOH	Sokhos	4.64	62	*e*P		Pn	12 18 36.6	+0.6
SOH	Sokhos	4.64	62	P		Pn	12 18 36.4	+0.4
SOH	Sokhos	4.64	62	P		Pn	12 18 36.4	+0.4
ATHU	Athens Univers	4.65	98	P		Pn	12 18 37.7	+1.6
ATHU	Athens Univers	4.65	98	P		Pn	12 18 37.7	+1.6
KYTH	Kithira	4.74	120	*e*P		Pn	12 18 38.7	+1.3
KYTH	Kithira	4.74	120	P		Pn	12 18 38.3	+0.9
KYTH	Kithira	4.74	120	P		Pn	12 18 38.3	+0.9
SJES	Sjenica	4.74	18	*e*Pn		Pn	12 18 39.6	+2.1
OUR	Ouranopolis	4.91	70	*e*P		Pn	12 18 40.2	+0.5
OUR	Ouranopolis	4.91	70	P		Pn	12 18 40.0	+0.3
OUR	Ouranopolis	4.91	70	P		Pn	12 18 40.0	+0.3
IVAS	Ivanjica	5.08	18	*e*Pn		Pn	12 18 41.3	-0.8
KARY	Karystos	5.14	96	P		Pn	12 18 43.2	+0.3
ANKY	Antikythira Is	5.15	123	P		Pn	12 18 44.7	+1.7
ANKY	Antikythira Is	5.15	123	P		Pn	12 18 44.7	+1.7
BBLS	Lazići	5.21	12	*e*Pn		Pn	12 18 43.4	-0.5
MMB	Musomiste	5.24	56	P		Pn	12 18 44.5	+0.2
MMB	Musomiste	5.24	56	P		Pn	12 18 44.5	+0.2
VTS	Vitosha	5.53	45	P		Pn	12 18 52.0	+3.7
VTS	Vitosha	5.53	45	*e*Pn		Pn	12 18 50.9	+2.6
DIVS	Divibare	5.54	15	*e*Pn		Pn	12 18 46.5	-1.9
TEKS	Tekeris	5.90	11	*e*Pn		Pn	12 18 51.4	-1.8
RZN	Rozhen	5.94	58	P		Pn	12 18 54.2	+0.2
RZN	Rozhen	5.94	58	P		Pn	12 18 54.2	+0.2
PGB	Panagyurishte	6.05	49	P		Pn	12 18 55.7	+0.4
PGB	Panagyurishte	6.05	49	P		Pn	12 18 55.7	+0.4
CHOS	Chios island	6.36	91	P		Pn	12 19 00.3	+0.7
CHOS	Chios island	6.36	91	P		Pn	12 19 00.3	+0.7
IDI	Anoyia 0.5nm,0.3s,baz=307,slow=18,SNR=2.8	6.54	120	Pn		Pn	12 19 01.7	-0.5
IDI				Sn		Sn	12 20 14.8	-2.0
	0.6nm,0.3s,baz=348,slow=20,SNR=3.6							
SOKA	Soboth	8.19	346	Pn		Pn	12 19 24.3	-0.5
SOKA	Soboth	8.19	346	⇓*i*Pn		Pn	12 19 24.3	-0.5
ARSA	Arzberg	8.66	349	Pn		Pn	12 19 30.9	-0.3
ARSA	Arzberg	8.66	349	⇑*i*Pn		Pn	12 19 30.9	-0.3
MLR	Muntele Rosu comp=Z,21nm,19.6s,baz=355,slow=48	8.96	39	LR		LR	12 24 36.6	
MOA	Molln	9.47	345	Pn		Pn	12 19 42.5	+0.3
MOA	Molln	9.47	345	⇑*i*Pn		Pn	12 19 42.5	+0.3
GERES	GERESS Array B 0.2nm,0.3s,baz=173,slow=13,SNR=2.8	10.53	344	Pn		Pn	12 19 57.0	+0.1
GERES				LR		LR	12 24 51.3	
	comp=Z,35nm,18.5s,baz=156,slow=42							
BRTR	Keskin Array B 0.1nm,0.3s,baz=269,slow=6.9,SNR=3.5	12.20	81	Pn		Pn	12 20 20.8	+1.0
HFS	Hagfors 1.2nm,0.7s,baz=184,slow=14,SNR=2.8	21.56	354	P		P	12 22 15.2	+0.1
NOA	NORSAR Array B 0.7nm,0.9s,baz=166,slow=10,SNR=2.8	22.69	351	P		P	12 22 26.6	-0.7
FINES	FINESS Array B 1.2nm,0.7s,baz=185,slow=12,SNR=4.9	23.25	10	P		P	12 22 32.3	-0.7
AKTO	Aktyubinsk comp=Z,11nm,19.4s,baz=269,slow=43	30.45	54	LR		LR	12 39 23.6	
ARU	Arti comp=Z,12nm,18.5s,baz=313,slow=36	31.98	43	LR		LR	12 36 40.6	
MKAR	Makanchi Array 0.6nm,0.5s,baz=282,slow=7.3,SNR=5.5	46.71	58	P		P	12 25 54.4	-0.4
ZALV	Zalesovo Beam 1.2nm,0.5s,baz=276,slow=8.1,SNR=5.9	46.80	48	P		P	12 25 55.1	-0.2
SONM	Songino Array 0.2nm,0.3s,baz=316,slow=12,SNR=2.8	61.63	50	P		P	12 27 43.2	-0.5
ASAR	Alice Springs 0.3nm,0.9s,baz=300,slow=1.4,SNR=4.5	124.23	94	PKP		PKPdf	12 36 23.9	-1.1

IDC 27 12:18:09.1±6.3, 21°.67S×68°.52W, h121km±33km, mb3.9/3, mb1 3.7/5, mb1mx3.3/26, mbtmp4.1/5, MS2.1/1, Ms1 2.2/1, ms1mx2.1/25, Error ellipse: s-maj=85.1km s-min=25.7km az=64.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	5.37	4	P	Pn	12 19 28.5	+0.7
	2.3nm,0.3s,baz=175,slow=5.2,SNR=48						
LPAZ				S	Sn	12 20 28.5	-0.6
	0.4nm,0.3s,baz=202,slow=11,SNR=4.0						
LPAZ				LR	LR	12 22 17.5	
	comp=Z,19nm,20.1s,baz=160,slow=46						
CPUP	Villa Florida 0.1nm,0.3s,baz=319,slow=11,SNR=2.7	11.23	117	P	Pn	12 20 45.4	-0.7
BDFB	Brasilia 1.5nm,0.3s,baz=257,slow=14,SNR=2.9	20.32	76	P	P	12 22 36.6	+0.7
DBIC	Dimbokro 3.2nm,0.7s,baz=229,slow=7.9,SNR=3.9	68.43	73	P	P	12 28 56.6	-1.8
TORD	Torodi Ar. Bea 2.9nm,0.5s,baz=254,slow=5.4,SNR=33	77.07	70	P	P	12 29 50.2	+0.8

CSEM 27 12:23:44.0, 42°.54N×13°.21E, h11km, ML1.4/3
ROM 27 12:23:44.0±0.1, 42°.54N×13°.21E, h11km, Ml1.4/3, Error ellipse: s-maj=0.8km s-min=0.5km az=20.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMA1	SAN MARTINO	0.13	46	Pg	Pg	12 23 47.8	+0.4
SMA1				Sg	Sg	12 23 50.3	+0.5
	94nm,0.4s						
SMA1	SAN MARTINO	0.13	46	Pg	Pg	12 23 47.8	+0.4
SMA1				Sg	Sg	12 23 50.3	+0.5
	94nm,0.4s						
LNSS	Leonessa	0.14	298	Pg	Pg	12 23 47.9	+0.5
LNSS				Sg	Sg	12 23 50.5	+0.6
LNSS	Leonessa	0.14	298	Pg	Pg	12 23 47.9	+0.5
LNSS				Sg	Sg	12 23 50.5	+0.6
CAMP	Campotosto 14nm,0.5s	0.15	91	Pg	Pg	12 23 48.1	+0.5
CAMP	Campotosto 14nm,0.5s	0.15	91	Pg	Pg	12 23 48.1	+0.5
T0106	Roio Piano	0.27	150	Pg	Pg	12 23 50.0	+0.4
NRCA	Norcia	0.30	347	Pg	Pg	12 23 50.7	+0.4
NRCA				Sg	Sg	12 23 55.6	+1.1
	86nm,0.1s						
NRCA	Norcia	0.30	347	Pg	Pg	12 23 50.7	+0.4
NRCA				Sg	Sg	12 23 55.6	+1.1
	86nm,0.1s						

BUC 27 12:26:58.4±0.5, 45°.51N×24°.22E, h4km±5km, MD2.6/3, 14C-10D, Error ellipse: s-maj=5.6km s-min=3.2km az=13.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARR	Arges	0.32	115	⇑*i*P	Pg	12 27 05.4	+0.7
ARR				*i* S	Sg	12 27 09.6	+0.6
ARR	Arges	0.32	115	⇑*i*P	Pg	12 27 05.4	+0.7
ARR				*i* S	Sg	12 27 09.6	+0.6
LOT	Lotru	0.32	260	⇑*i*P	Pg	12 27 05.2	+0.4
LOT	Lotru	0.32	260	*i* S	Sg	12 27 10.1	+0.9
LOT	Lotru	0.32	260	⇑*i*P	Pg	12 27 05.2	+0.4
LOT				*i* S	Sg	12 27 10.1	+0.9
VOIR		0.59	96	⇓*i*P	Pg	12 27 10.3	+0.5
VOIR		0.59	96	⇓*i*P	Pg	12 27 10.3	+0.5
VOIR				*i* S	Sg	12 27 18.0	+0.4
MDB	Medias	0.65	10	⇑*i*P	Pg	12 27 11.5	+0.6
MDB	Medias	0.65	10	⇑*i*P	Pg	12 27 11.5	+0.6
MDB				*i* S	Sb	12 27 21.4	-0.3
DOPR	Dopca	0.94	60	⇓*i*P	Pb	12 27 17.0	-0.3
DOPR	Dopca	0.94	60	⇓*i*P	Pb	12 27 17.0	-0.3
DEV	Deva	1.00	293	⇑*i*P	Pb	12 27 18.6	+0.3
DEV	Deva	1.00	293	⇑*i*P	Pb	12 27 18.6	+0.3
MLR	Muntele Rosu	1.21	90	⇑*i*P	Pn	12 27 22.7	+0.4
MLR	Muntele Rosu	1.21	90	⇑*i*P	Pn	12 27 22.7	+0.4
MLR				*i* S	Sn	12 27 39.3	0.0
CJR	Cluj-Napoca	1.28	340	⇑*i*P	Pg	12 27 23.0	-0.1
CJR	Cluj-Napoca	1.28	340	⇑*i*P	Pg	12 27 23.0	-0.1
CJR				*i* S	Sn	12 27 40.6	-0.3
DRGR		1.66	321	⇓*i*P	Pb	12 27 29.8	+0.1
DRGR		1.66	321	⇓*i*P	Pb	12 27 29.8	+0.1
DRGR				*i* S	Sg	12 27 51.9	-0.1
BZS	Buzias	1.83	274	⇓*i*P	Pn	12 27 31.0	+0.3
BZS	Buzias	1.83	274	⇓*i*P	Pn	12 27 31.0	+0.3
SIRR	Siria	1.94	294	⇑*i*P	Pb	12 27 33.5	-0.9
SIRR	Siria	1.94	294	⇑*i*P	Pb	12 27 33.5	-0.9
SIRR				*i* S	Sb	12 27 58.4	-0.7
BURAR	Bucovina Array	2.22	18	⇓*i*P	Pb	12 27 37.8	-1.4
BURAR	Bucovina Array	2.22	18	⇓*i*P	Pb	12 27 37.8	-1.4

ISCJB 27 12:29:23.8±0.5, 35°.99N±0°.06×74°.51E±0°.09, h10km, mb3.5/10, Error ellipse: s-maj=12.6km s-min=5.0km az=147.6
IDC 27 12:29:24.5±0.9, 36°.03N×74°.28E, h0km, mb3.7/10, mb1 3.9/14, mb1mx3.7/29, mbtmp3.7/14, ML3.4/4, Error ellipse: s-maj=28.5km s-min=17.6km az=51.0
NNC 27 12:29:33.7±2.5, 36°.55N×74°.06E, h1km±11km, mb4.2, mpv3.9, Error ellipse: s-maj=18.8km s-min=12.6km az=137.0
ISC 27 12:29:25.3±0.7, 36°.02N±0°.07×74°.23E±0°.09, h10km, n31, σ1§64/28, mb3.6/10, 7C-7D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	Sufi-Kurgan 25nm,1.0s	4.03	352	⇑Pn	Pn	12 30 29.9	+2.7
SFK				⇓Lg	Lg	12 31 24.4	
	92nm,1.3s						
DZET	Dzherino	5.12	304	⇑Pn	Pn	12 30 46.1	+4.0
DZET				⇓Pg	Pg	12 31 00.9	-2.5
	16nm,0.9s						
DZET				⇓Lg	Lg	12 32 05.1	
	40nm,1.3s						
AAK	Ala-Archa 13nm,0.7s	6.61	2	⇓Pg	Pb	12 31 23.5	+3.1
AAK				⇓Lg	Lg	12 32 44.5	
	18nm,1.2s						
TKM2	Tokmak 2 3.9nm,0.6s	6.97	8	⇑Pn	Pn	12 31 10.1	+2.5
TKM2				⇑Sn	Sn	12 32 26.9	-0.1
	13nm,0.9s						
KK31	Karatay Array 6.1nm,0.8s,baz=159,slow=13,SNR=48	7.63	339	⇑Pn	Pn	12 31 18.5	+1.9
KK31				⇑Sn	Sn	12 32 40.6	-2.4
	8.2nm,0.8s,baz=155,slow=22,SNR=7.4						
GKN	Gorkha 14nm,0.5s	11.90	129	*e*P	Pn	12 32 14.1	-1.1
KKN	Kakani 22nm,0.6s	12.46	128	*e*P	Pn	12 32 21.4	-1.5
DMN	Daman 18nm,0.6s	12.47	129	*e*P	Pn	12 32 21.6	-1.5
PKIN	Phulchoki 12nm,0.5s	12.68	128	*e*P	Pn	12 32 24.8	-1.2
PKI	Pulchoki 12nm,0.5s	12.69	128	*e*P	Pn	12 32 24.8	-1.4
GUN	Gumba	12.77	126	*e*P	Pn	12 32 23.8	-3.4
RAMN	Ramite	13.89	127	*e*P	Pn	12 32 39.2	-3.2
ODAN	Odare 16nm,0.6s	14.46	125	*e*P	Pn	12 32 46.2	-4.1
KURBB	Kurchatov Arra 6.0nm,0.7s	14.92	11	⇑P	P	12 32 59.7	-2.1
KURBB	Kurchatov Arra 0.0nm,0.3s,baz=198,slow=12,SNR=4.8	14.92	11	Pn	Pn	12 32 53.9	-2.3
AB31	Akbulak array 1.3nm,0.7s,baz=138,slow=12,SNR=12	16.86	326	P	Pn	12 33 20.6	-0.6
BVA0	Borovoye Array 4.7nm,0.8s,baz=162,slow=11,SNR=4.1	17.22	352	⇓P	P	12 33 29.1	+1.8
BVAR	Borovoye Array 1.2nm,0.3s,baz=160,slow=9.7,SNR=23	17.22	352	P	P	12 33 27.5	+0.2
AKTO	Aktyubinsk 3.5nm,0.8s	18.57	326	⇓P	Pn	12 33 44.1	+1.7
AKTO	Aktyubinsk 0.2nm,0.3s,baz=102,slow=10,SNR=7.6	18.57	326	P	P	12 33 41.4	-0.8
ZALV	Zalesovo Beam 0.2nm,0.3s,baz=219,slow=7.7,SNR=8.4	19.39	19	P	P	12 33 50.0	-1.1
SONM	Songino Array 0.3nm,0.5s,baz=242,slow=11,SNR=3.5	26.49	54	P	P	12 35 02.2	-0.6
CMAR	Chiang Mai Arr 1.2nm,0.7s,baz=309,slow=11,SNR=8.0	27.96	122	P	P	12 35 17.4	+1.4
FINES	FINESS Array B 0.9nm,0.5s,baz=124,slow=9.5,SNR=5.2	39.34	326	P	P	12 36 55.5	+1.1
ARCES	ARCESS Array B 1.8nm,0.7s,baz=97,slow=8.7,SNR=7.6	42.59	337	P	P	12 37 23.0	+1.9
NOA	NORSAR Array B 0.7nm,0.6s,baz=92,slow=7.6,SNR=4.7	46.33	323	P	P	12 37 51.5	+0.4
TORD	Torodi Ar. Bea 0.3nm,0.7s,baz=35,slow=5.3,SNR=3.3	68.33	271	P	P	12 40 27.2	+0.2
ILAR	Eielson Array 0.5nm,0.9s,baz=313,slow=3.6,SNR=7.6	74.50	17	P	P	12 41 04.9	+1.3
WRA	Warramunga Arr 0.6nm,1.0s,baz=303,slow=8.1,SNR=4.0	79.54	124	P	P	12 41 33.1	+0.6
YKA	Yellowknife Ar 0.7nm,0.6s,baz=348,slow=5.4,SNR=3.9	81.57	4	P	P	12 41 45.1	+2.3
ASAR	Alice Springs 0.3nm,0.8s,baz=322,slow=7.3,SNR=3.5	81.86	127	P	P	12 41 45.0	+0.1

MAN 27 12:31:18, 18°.83N×120°.71E, h19km, mb4.5, ML3.3, MS3.2, 3C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	Pasuquin	0.51	189	⇑*i*P	Pn	12 31 29.7	-0.6
PIP				*e*S	Sn	12 31 40.2	+1.7
SIPP	Brgy, Tapao	0.94	195	⇓*i*P	Pb	12 31 33.0	-2.6
SIPP				*e*S	Sb	12 31 42.2	-5.4
CVP	Callao Caves	1.55	136	⇑*i*P	Pn	12 31 43.7	-0.9
CVP				*i* S	Sb	12 32 06.

1.0nm,0.3s,baz=201,slow=6.5,SNR=6.2
KDAK Sn **Sn** 12 46 20.0 -4.3
0.3nm,0.3s,baz=255,slow=20,SNR=4.1
TRF **Thorofare Moun** 14.75 36 *e*Pn **Pn** 12 45 17.7 +2.7
6.1nm,0.9s
TRF *e*Sn Sn 12 48 05.9 +8.0
BPAW **Bear Paw Mtn.** 14.93 33 *e*Pn **P** 12 45 21.3 -1.4
1.9nm,0.7s
COLA **College** 16.47 34 *e*Pn **Pn** 12 45 38.5 +1.4
3.9nm,0.9s
ILAR **Eielson Array** 16.74 35 Pn **Pn** 12 45 39.8 -0.8
0.2nm,0.3s,baz=223,slow=11,SNR=16
EGAK **Eagle** 18.85 39 *e*P **P** 12 46 06.3 +0.3
2.7nm,0.6s
HYT **Haines Junctio** 19.18 52 *e*P **Pn** 12 46 11.1 +0.3
12nm,0.5s
PETK **Petropavlovsk-** 19.67 284 P **Pn** 12 46 15.9 -0.7
0.4nm,0.3s,baz=80,slow=15,SNR=3.7
SKAG **Skagway** 20.08 57 *e*P Pn 12 46 20.9 -0.4
14nm,0.6s
SEY **Seymchan** 22.37 312 P P 12 46 49.0 +4.9
1.7nm,0.5s,baz=115,slow=7.6,SNR=7.6
DLBC **Dease Lake** 22.81 60 P **P** 12 46 49.2 +0.2
2.7nm,0.8s,baz=267,slow=12,SNR=7.9
DLBC **Dease Lake** 22.81 60 *e*P **P** 12 46 50.6 +1.7
INK **Inuvik** 23.13 34 P **P** 12 46 49.6 -2.4
0.7nm,0.5s,baz=255,slow=8.2,SNR=5.2
INK LR LR 12 56 56.6
comp=Z,35nm,18.5s,baz=245,slow=39
YKA **Yellowknife Ar** 30.11 49 P **P** 12 47 55.5 +0.1
0.2nm,0.4s,baz=272,slow=7.6,SNR=4.1
KHMM **Horse Mountain** 32.98 92 *e*P **P** 12 48 19.1 -1.9
16nm,1.2s
MCMT **McKenzie Canyo** 37.32 79 *e*P **P** 12 48 59.2 +0.6
2.0nm,0.5s
BOZ **Bozeman (W)** 37.60 77 *e*P **P** 12 49 01.9 +1.1
2.2nm,0.6s
H11N2 **WAKE ISLAND Hy** 37.65 218 T T 13 28 45.8
baz=17
H11N3 **WAKE ISLAND Hy** 37.65 218 T T 13 28 39.5
baz=17
H11N1 **WAKE ISLAND Hy** 37.66 218 T T 13 28 42.4
baz=17
NVAR **Mina Array Bea** 37.78 91 P **P** 12 49 03.3 +0.9
0.7nm,0.7s,baz=295,slow=8.5,SNR=8.1
H11S1 **WAKE ISLAND Hy** 38.84 218 T T 13 30 17.7
baz=22,slow=76,SNR=163
H11S2 **WAKE ISLAND Hy** 38.85 218 T T 13 30 16.2
baz=22,slow=76,SNR=124
H11S3 **WAKE ISLAND Hy** 38.85 218 T T 13 30 18.1
baz=22,slow=76,SNR=111
RLMT **Red Lodge** 39.29 76 *e*P **P** 12 49 15.2 +0.1
3.1nm,0.8s
BW06 **Boulder Array** 40.45 79 *e*P **P** 12 49 25.2 +0.4
1.6nm,0.6s
PDAR **Pinedale Array** 40.45 79 P **P** 12 49 25.3 +0.5
1.4nm,0.5s,baz=346,slow=2.9,SNR=18
GSC **Goldstone** 40.73 94 *e*P **P** 12 49 28.5 +1.6
2.7nm,0.8s
O20A **White River Ci** 42.82 82 *e*P **P** 12 49 44.8 +0.7
4.6nm,0.7s
PV01 **Paradox Valley** 43.88 84 *e*P **P** 12 49 53.4 +0.6
236nm,0.6s
TXAR **Lajitas Array** 52.85 89 P **P** 12 51 02.5 +0.6
1.9nm,0.7s,baz=297,slow=5.7,SNR=31
WRA **Warramunga Arr** 87.12 231 P **P** 12 54 30.4 -1.5
0.7nm,0.7s,baz=36,slow=5.7,SNR=8.4
ASAR **Alice Springs** 90.52 230 P **P** 12 54 47.0 -1.0
1.3nm,0.7s,baz=33,slow=4.5,SNR=23

*SJA **27** 13:10:59.3±0.8, 35°.57S×72°.48W, h33km±45km, ML3.6*
*ISCJB **27** 13:11:12.2±1.5, 34°.74S±0°.06×71°.8W±0°.1, h29km, Error ellipse: s-maj=17.7km s-min=7.4km az=167.8*
*GUC **27** 13:11:12.6±0.5, 34°.80S×71°.74W, h44km±2km, ML4.1*
ISC 27 13:11:11.4±1.3, 34°.78S±0°.05×71°.90W±0°.08, h29km, n20, σ1§54/26, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.59**	**112**	⇓*i*P	**Pb**	**13 11 23.3**	**0.0**
NICH				*i* S	**Sb**	**13 11 31.2**	**-0.2**
TALC	**Talca**	**0.65**	**161**	⇑*i*P	**Pn**	**13 11 25.2**	**+0.5**
TALC				*i* S	**Sn**	**13 11 34.1**	**+0.1**
TACH	**Talagante**	**1.38**	**36**	⇓*i*P	**Pn**	**13 11 35.1**	**+0.4**
COCH	**Cobquecura**	**1.53**	**208**	*e*P	**Pb**	**13 11 38.8**	**-0.3**
PCH	**Pirque**	**1.63**	**45**	⇑*i*P	**Pn**	**13 11 38.4**	**+0.1**
PCH				*i* S	**Sn**	**13 11 58.5**	**+0.1**
CLCH	**Cerro Calan**	**1.79**	**40**	⇓*i*P	**Pn**	**13 11 41.0**	**+0.6**
CLCH				*i* S	**Sn**	**13 12 02.7**	**+0.5**
CLCH				AML	AML	13 12 04.9	
	comp=E,3μm,0.2s						
PEL	**Peldehue**	**1.92**	**32**	⇑*i*P	**Pn**	**13 11 43.4**	**+1.2**
PEL				AML	AML	13 12 12.2	
	comp=N,3μm,0.1s						
AAGR	**Agrelo**	**3.06**	**57**	*e*P	**Pn**	**13 11 59.9**	**+1.9**
ARCO	**CERRO ARCO**	**3.14**	**53**	*e*P	**Pn**	**13 12 00.8**	**+1.7**
ARCO				*i* S	**Sb**	**13 12 46.0**	**+1.5**
ARCO				AML	AML	13 12 46.9	
	comp=Z,67nm,0.5s						
AUSP	**Uspallata**	**3.30**	**40**	*i* P	**Pn**	**13 12 04.1**	**+2.6**
ASAL	**Salagasta**	**3.36**	**50**	*e*P	**Pn**	**13 12 04.3**	**+2.2**
RTLS	**Leoncito**	**3.69**	**37**	*e*P	**Pn**	**13 12 09.2**	**+2.5**
RTCV	**Cerro Valdivia**	**4.05**	**45**	*e*P	**Pn**	**13 12 12.7**	**+1.2**
RTLL	**Cerro Villicun**	**4.49**	**41**	*e*P	**Pn**	**13 12 18.1**	**+0.6**
RTLL				*e*S	**Sb**	**13 13 18.3**	**-4.8**
ACAN	**Cantantal**	**4.66**	**59**	*e*P	**Pn**	**13 12 20.0**	**+0.1**
AVFE	**Valle Fertil**	**5.56**	**44**	*e*P	**Pn**	**13 12 32.3**	**0.0**
MRA	**San Martin**	**5.67**	**67**	*e*P	**Pn**	**13 12 34.0**	**+0.2**
ACHE	**Chepes**	**5.69**	**52**	*e*P	**Pn**	**13 12 34.1**	**-0.1**
VCA	**Vinchina**	**6.80**	**29**	*e*P	**Pn**	**13 12 49.8**	**+0.4**
TCA	**Tanti**	**7.03**	**63**	*e*P	**Pn**	**13 12 52.0**	**-0.5**

*NIED **27** 13:29:00, 38°.20N×142°.90E, h5km, Mw3.6 Best double couple: M0 2.57000×10^14 NP1:φs270.00000°, δ16.00000°, λ143.00000°. NP2:φs36.00000°, δ80.00000°, λ77.00000°.*
JMA 27 13:29:34.4±0.1, 38°.23N×142°.91E, h16km±2km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.25**	**281**	P	Pn	13 29 57.1	-0.1
JIO				*e*S	Sb	13 30 13.2	-0.2
OFUJ	**Ofunato**	**1.29**	**312**	P	Pn	13 29 57.7	-0.1
OFUJ				*e*S	Sb	13 30 14.5	-0.2
JMK	**Ichinoseki**	**1.51**	**299**	P	Pn	13 30 01.0	+0.3
JMK				*e*S	Sn	13 30 20.3	+0.2
JMM	**Marumori**	**1.71**	**258**	P	Pn	13 30 04.0	+0.5
JMM				*e*S	Sn	13 30 25.0	-0.1
JOM	**Ohasama**	**1.77**	**315**	P	Pn	13 30 05.3	+0.9
JOM				*e*S	Sb	13 30 27.9	-0.6
JOU	**Okura**	**1.77**	**275**	P	Pn	13 30 05.4	+1.0
JOU				*e*S	Sb	13 30 28.1	-0.5
JFK	**Kawauchi**	**1.83**	**242**	P	Pn	13 30 05.4	+0.2
JFK				*e*S	Sn	13 30 28.1	0.0
JYK	**Kaneyama**	**2.11**	**290**	P	Pn	13 30 10.5	+1.4
JRG	**Rokugo**	**2.13**	**304**	P	Pb	13 30 11.0	-1.6
JFT	**Otama**	**2.16**	**252**	P	Pn	13 30 11.1	+1.4
JFT				*e*S	Sb	13 30 38.0	-1.6
JYS	**Shirataka**	**2.24**	**271**	P	Pb	13 30 12.8	-1.7
JYS				*e*S	Sb	13 30 41.1	-0.9

DJA 27 13:41:00.2±0.8, 6°S±5°×107°2E±°, h10km, M3.6/2, MLv3.6/2, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**1.63**	**18**	P	Pn	13 41 24.7	-4.2
MNAI				S	Sn	13 41 49.8	-0.2
LWLI	**Liwa**	**1.83**	**61**	P	Pn	13 41 31.2	-0.6
KASI	**Kota Agung**	**2.06**	**79**	P	Pn	13 41 35.8	+0.8
KASI				S	Sn	13 42 01.7	+0.9
MDSI	**Maura Dua**	**2.23**	**50**	P	Pn	13 41 37.7	+0.5
MDSI				S	Sn	13 42 05.1	+0.3
KSI	**Kapahiang**	**2.26**	**3**	P	Pg	13 41 43.3	-0.3
KSI				S	Sn	13 42 01.3	-4.4
LHSI	**Lahat**	**2.33**	**27**	P	Pn	13 41 37.7	-1.0
KLSI		**2.57**	**62**	P	Pn	13 41 43.3	+1.4
MASI	**Maura Aman, Be**	**2.77**	**355**	P	Pn	13 42 14.4	-3.9
MASI				S	Sn	13 42 14.2	-4.1
CGJI	**Cibinong**	**3.29**	**102**	P	Pn	13 41 50.9	-0.9
CGJI				S	Sn	13 42 32.1	+1.1

*IDC **27** 13:47:28.5±6.2, 48°.49S×126°.46E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.7/17, mbtmp3.9/4, ML2.1/1, Error ellipse: s-maj=117.8km s-min=61.8km az=163.0*
ISC 27 13:47:32.7±1.3, 48°.15S±0°.2×126°.4E±0°.4, h10km, n10, σ0§56/7, mb3.8/3, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**16.08**	**321**	T	T	14 08 16.0	
	baz=148,slow=74,SNR=8.1						
H01W2	**Cape Leeuwin H**	**16.08**	**321**	T	T	14 08 14.4	
	baz=148,slow=74,SNR=9.0						
H01W3	**Cape Leeuwin H**	**16.09**	**321**	T	T	14 08 15.3	
	baz=148,slow=74,SNR=8.5						
NWAO	**Narrogin (SRO)**	**16.70**	**332**	P	**P**	**13 51 29.6**	**+0.5**
	0.3nm,0.3s,baz=148,slow=15,SNR=3.9						
ASAR	**Alice Springs**	**25.13**	**16**	P	**P**	**13 52 58.4**	**+0.5**
	3.0nm,0.8s,baz=192,slow=8.9,SNR=38						
WRA	**Warramunga Arr**	**28.84**	**16**	P	**P**	**13 53 31.1**	**-0.1**
	0.8nm,1.0s,baz=193,slow=8.0,SNR=6.8						
SNAA	**Sanae**	**55.24**	**197**	P	**P**	**13 57 05.4**	**0.0**
VNA2	**Neumayer--Watz**	**56.72**	**196**	P	**P**	**13 57 15.8**	**-0.1**
	baz=152,slow=6.7						
VNA1	**Neumayer--Stat**	**57.11**	**196**	P	**P**	**13 57 19.1**	**+0.5**
CMAR	**Chiang Mai Arr**	**70.70**	**332**	P	**P**	**13 58 48.0**	**-0.7**
	0.6nm,0.7s,baz=176,slow=5.4,SNR=4.3						

*ISCJB **27** 13:59:58.1±0.7, 21°.52N±0°.07×143°.3E±0°.2, h311km, mb3.4/9, Error ellipse: s-maj=31.1km s-min=9.5km az=174.6*
*IDC **27** 13:59:59.9±2.3, 21°.57N×143°.23E, h314km±22km, mb3.1/10, mb1 3.3/11, mb1mx3.1/32, mbtmp3.8/11, Error ellipse: s-maj=26.7km s-min=11.6km az=86.0*
ISC 27 13:59:59.6±0.9, 21°.58N±0°.09×143°.2E±0°.3, h311km, n12, σ0§62/15, mb3.4/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.57**	**351**	P	**Pn**	**14 01 24.5**	**+0.4**
	4.7nm,0.3s,baz=324,slow=22,SNR=15						
JCJ				S	**S**	**14 02 31.3**	**-1.0**
	1.8nm,0.3s,baz=301,slow=19,SNR=2.9						
MJAR	**Matsushiro Arr**	**15.53**	**345**	P	**Pn**	**14 03 24.3**	**+0.5**
	0.2nm,0.3s,baz=157,slow=11,SNR=2.4						
KSRS	**Korea Array**	**20.62**	**323**	P	**P**	**14 04 16.5**	**+0.5**
	1.1nm,0.5s,baz=147,slow=8.7,SNR=9.1						
WRA	**Warramunga Arr**	**42.17**	**192**	P	**P**	**14 07 22.4**	**-0.2**
	0.2nm,0.3s,baz=17,slow=9.3,SNR=26						
ASAR	**Alice Springs**	**45.87**	**192**	P	**P**	**14 07 51.5**	**-0.4**
	0.1nm,0.3s,baz=12,slow=7.0,SNR=6.3						
STKA	**Stephens Creek**	**53.17**	**182**	P	**P**	**14 08 46.7**	**+0.3**
	1.2nm,0.8s,baz=3.6,slow=16,SNR=3.1						
ZALV	**Zelesovo Beam**	**54.31**	**322**	P	**P**	**14 08 54.1**	**-0.3**
	1.0nm,0.6s,baz=104,slow=9.9,SNR=4.4						
ZALV				PcP	**PcP**	**14 09 53.5**	**-0.6**
	0.5nm,0.4s,baz=127,slow=5.8,SNR=2.6						
MKAR	**Makanchi Array**	**54.79**	**313**	P	**P**	**14 08 58.5**	**+0.5**
	0.7nm,0.5s,baz=85,slow=8.5,SNR=8.3						
MKAR				PcP	**PcP**	**14 09 56.2**	**0.0**
	0.5nm,0.9s,baz=90,slow=4.3,SNR=2.9						
ILAR	**Eielson Array**	**62.14**	**27**	P	**P**	**14 09 47.6**	**-0.4**
	0.4nm,0.6s,baz=265,slow=5.5,SNR=8.7						
YKA	**Yellowknife Ar**	**76.55**	**28**	P	**P**	**14 11 16.3**	**+0.6**
	0.9nm,0.5s,baz=291,slow=5.9,SNR=4.8						
ARCES	**ARCESS Array B**	**79.04**	**342**	P	**P**	**14 11 29.9**	**+0.6**
	1.3nm,0.6s,baz=67,slow=8.2,SNR=9.8						
FINES	**FINESS Array B**	**83.30**	**334**	P	**P**	**14 11 50.5**	**-1.1**
	1.0nm,0.4s,baz=96,slow=4.9,SNR=8.1						

*ISCJB **27** 14:23:44.3±0.4, 23°.08N±0°.07×94°.31E±0°.06, h105km, mb4.1/8, Error ellipse: s-maj=12.2km s-min=3.7km az=39.5*
*IDC **27** 14:23:46.4±3.8, 23°.21N×94°.66E, h111km±36km, mb3.9/6, mb1 4.0/6, mb1mx3.3/41, mbtmp4.2/6, Error ellipse: s-maj=46.1km s-min=14.9km az=58.0*
*NEIC **27** 14:23:46.6±0.8, 23°.27N×94°.73E, h112km±8km, mb4.1/5, Error ellipse: s-maj=26.7km s-min=5.7km az=59.0*
ISC 27 14:23:45.9±0.7, 23°.04N±0°.09×94°.30E±0°.09, h105km, n27, σ1§70/40, mb4.2/8, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**1.77**	**349**	*e*PG	**Pn**	**14 24 18.0**	**+2.1**
IMP				*e*SG	**Sn**	**14 24 35.0**	**-3.7**
SHL	**Shillong**	**3.35**	**319**	*e*P	**Pn**	**14 24 38.5**	**+1.9**
SHL				*e*S	**Sn**	**14 25 15.0**	**-0.7**
CHTO	**Chiang Mai**	**6.04**	**133**	*e*P	**Pn**	**14 25 11.6**	**-1.3**
	6.1nm,0.8s						
CM31	**Chiang Mai Arr**	**6.29**	**136**	*e*P	**Pn**	**14 25 16.5**	**+0.2**
	4.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**6.29**	**136**	P	**Pn**	**14 25 15.4**	**-0.8**
	0.3nm,0.3s,baz=313,slow=14,SNR=5.1						
CMAR				S	Sn	14 26 40.0	+13
	baz=320,slow=29,SNR=2.5						
LSA	**Lhasa**	**7.21**	**338**	*e*Pn	**Pn**	**14 25 28.8**	**-0.3**
	13nm,0.4s						
ODAN	**Odare**	**7.34**	**303**	*e*Pn	**Pn**	**14 25 32.0**	**+1.4**
ODAN				*e*Sn	**Sn**	**14 26 51.5**	**-0.9**
	272nm,0.5s						
TAPN	**Taplejung**	**7.35**	**307**	*e*Pn	**Pn**	**14 25 31.8**	**+0.9**
TAPN				*e*Sn	**Sn**	**14 26 52.4**	**-0.5**
	133nm,0.5s						
RAMN	**Ramite**	**8.00**	**301**	*e*Pn	**Pn**	**14 25 41.7**	**+2.1**
RAMN				*e*Sn	**Sn**	**14 27 06.4**	**-2.2**
	104nm,0.4s						
GUN	**Gumba**	**9.02**	**304**	*e*Pn	**Pn**	**14 25 54.7**	**+1.1**
GUN				*e*Sn	**Sn**	**14 27 32.2**	**-1.4**
	109nm,0.4s						
PKI	**Pulchoki**	**9.22**	**301**	*e*Pn	**Pn**	**14 25 57.2**	**+0.9**
PKI				*e*Sn	**Sn**	**14 27 37.0**	**-1.5**
	44nm,0.4s						
PKIN	**Phulchoki**	**9.24**	**301**	*e*Pn	**Pn**	**14 25 57.9**	**+1.5**
PKIN				*e*Sn	**Sn**	**14 27 37.0**	**-1.7**
	101nm,0.5s						
KKN	**Kakani**	**9.43**	**302**	*e*Pn	**Pn**	**14 26 00.0**	**+1.0**
KKN				*e*Sn	**Sn**	**14 27 41.3**	**-2.0**
	32nm,0.2s						
DMN	**Daman**	**9.48**	**301**	*e*Pn	**Pn**	**14 26 00.3**	**+0.5**
DMN				*e*Sn	**Sn**	**14 27 42.9**	**-1.7**
	33nm,0.3s						
GKN	**Gorkha**	**10.03**	**302**	*e*Pn	**Pn**	**14 26 07.6**	**+0.5**
GKN				*e*Sn	**Sn**	**14 27 54.7**	**-3.1**
	99nm,0.3s						
KOLN	**Koldanda**	**10.76**	**298**	*e*Pn	**Pn**	**14 26 17.4**	**+0.3**
KOLN				*e*Sn	**Sn**	**14 28 11.8**	**-3.8**
	39nm,0.3s						
KULM	**Kulim**	**18.68**	**160**	*e*P	**Pn**	**14 27 58.1**	**+0.6**
MK31	**Makanchi Array**	**25.61**	**341**	*e*P	**P**	**14 29 05.2**	**-0.2**
MKAR	**Makanchi Array**	**25.61**	**341**	P	**P**	**14 29 05.1**	**-0.3**
	4.6nm,0.5s,baz=145,slow=10,SNR=51						
MKAR				pP	**pP**	**14 29 32.4**	**+4.0**
	1.8nm,0.8s,baz=148,slow=10.0,SNR=3.8						
ZALV	**Zalesovo Beam**	**31.69**	**349**	P	**P**	**14 29 57.4**	**-1.8**
	0.6nm,0.5s,baz=165,slow=12,SNR=4.9						
ABKAR	**Akbulak array**	**37.61**	**323**	*e*P	**P**	**14 30 50.8**	**+0.6**
	0.9nm,0.4s						
AKTO	**Aktyubinsk**	**39.28**	**323**	P	**P**	**14 31 05.2**	**+0.9**
	0.9nm,0.4s,baz=76,slow=8.3,SNR=4.2						
FITZ	**Fitzroy Crossi**	**51.08**	**141**	*e*P	**P**	**14 32 37.3**	**-0.6**
WRA	**Warramunga Arr**	**57.89**	**134**	P	**P**	**14 33 26.1**	**-1.1**
	2.1nm,0.7s,baz=323,slow=7.5,SNR=20						
WRAB	**Tennant Creek**	**57.89**	**134**	*e*P	**P**	**14 33 26.1**	**-1.0**
	3.2nm,0.8s						
ASAR	**Alice Springs**	**60.30**	**138**	P	**P**	**14 33 43.1**	**-0.6**
	2.3nm,0.7s,baz=319,slow=6.8,SNR=67						
BOSA	**Boshof**	**84.01**	**236**	P	**P**	**14 36 06.5**	**+1.4**
	2.9nm,0.5s,baz=50,slow=4.8,SNR=8.2						

*ISCJB **27** 14:27:07.0±0.7, 34°.82S±0°.05×71°.86W±0°.10, h51km±6km, mb3.7/2, Error ellipse: s-maj=13.9km s-min=6.6km az=17.8*
*NEIC **27** 14:27:07.0, 34°.80S×71°.81W, h43km, MG4.3(GUC), After GUC.*
NEIC Felt [IV] at Pichilemu; [III] at Licanten, Rancagua, San Fernando, San Javier, Talca and Vichuquen; [II] at Curico.
*IDC **27** 14:27:07.6±2.2, 34°.80S×71°.67W, h41km±7km, mb3.5/2, mb1 3.7/3, mb1mx3.5/15, mbtmp3.7/3, ML3.8/1, MS2.8/1, Ms1 2.8/1, ms1mx2.6/11, Error ellipse: s-maj=75.9km s-min=34.4km az=30.0*

*GUC **27** 14:27:07.4±0.5, 34°.80S×71°.81W, h43km±1km, ML4.3*
ISC 27 14:27:07.6±0.8, 34°.82S±0°.04×71°.83W±0°.08, h42km±6km, n21, σ0§71/26, 4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U65B	**HualaæØ**	**0.15**	**168**	*e*P	**Pn**	**14 27 14.9**	**+0.2**
U65B				*e*S	**Sn**	**14 27 20.5**	**+0.7**
U65B				AML	AML	14 27 21.6	
	comp=E,51μm,0.3s						
NICH	**Los Niches**	**0.52**	**111**	⇓*i*P	**Pn**	**14 27 18.6**	**-0.1**
NICH				*e*S	**Sn**	**14 27 26.9**	**+0.3**
TALC	**Talca**	**0.60**	**165**	*e*P	**Pn**	**14 27 20.3**	**+0.5**
TALC				*e*S	**Sn**	**14 27 29.2**	**+0.8**
U73B	**San Pedro**	**0.96**	**21**	⇓*e*P	**Pn**	**14 27 24.1**	**-0.5**
U73B				*e*S	**Sn**	**14 27 37.1**	**+0.1**
U73B				AML	AML	14 27 40.0	
	comp=N,17μm,0.2s						
TACH	**Talagante**	**1.37**	**33**	⇓*i*P	**Pn**	**14 27 30.7**	**+0.4**
TACH				*i* S	**Sn**	**14 27 48.5**	**+1.2**
COCH	**Cobquecura**	**1.53**	**211**	*e*P	**Pn**	**14 27 33.0**	**+0.6**
PCH	**Pirque**	**1.61**	**43**	⇓*i*P	**Pn**	**14 27 34.2**	**+0.5**
PCH				*i* S	**Sn**	**14 27 54.6**	**+1.3**
SAN	**Santiago**	**1.67**	**36**	*e*P	**Pn**	**14 27 34.9**	**+0.5**
LACH	**Col Las Americ**	**1.73**	**39**	*e*P	**Pn**	**14 27 35.5**	**+0.2**
LACH				AML	AML	14 28 00.7	
	comp=N,2μm,0.5s						
CLCH	**Cerro Calan**	**1.77**	**37**	*e*P	**Pn**	**14 27 36.4**	**+0.5**
CLCH				*e*S	**Sn**	**14 27 58.6**	**+1.4**
CLCH				AML	AML	14 28 02.9	
	comp=N,6μm,0.8s						
IHA	**Instituto Hidr**	**1.79**	**5**	*e*P	**Pn**	**14 27 36.1**	**+0.1**
PEL	**Peldehue**	**1.92**	**30**	*e*P	**Pn**	**14 27 38.5**	**+0.7**
PEL				AML	AML	14 28 06.5	
	comp=E,6μm,0.5s						
CPUP	**Villa Florida**	**15.07**	**60**	LR	LR	14 35 55.0	
	comp=E,39nm,20.9s,baz=196,slow=35						
LPAZ	**La Paz**	**18.75**	**11**	P	**P**	**14 31 23.4**	**-0.2**
	comp=E,0.2nm,0.3s,baz=194,slow=8.3,SNR=5.9						
TXAR	**Lajitas Array**	**70.53**	**331**	P	**P**	**14 38 18.4**	**+0.3**
	comp=E,0.2nm,0.4s,baz=154,slow=8.6,SNR=3.3						
TXAR				pP	**pP**	**14 38 30.7**	**+0.1**
	comp=E,0.5nm,0.5s,baz=148,slow=7.5,SNR=5.7						
TORD	**Torodi Ar. Bea**	**84.32**	**70**	P	**P**	**14 39 34.3**	**-1.1**
	comp=E,1.2nm,0.8s,baz=250,slow=4.2,SNR=6.0						
TORD				pP	**pP**	**14 39 47.9**	**-0.3**
	comp=E,0.7nm,0.7s,baz=251,slow=4.0,SNR=4.0						
TORD				sP	**sP**	**14 39 52.2**	**-0.7**
	comp=E,0.8nm,0.6s,baz=248,slow=3.3,SNR=4.1						
WRA	**Warramunga Arr**	**120.14**	**209**	pPKP	pPKPdf	14 46 06.3	-1.3
	comp=E,0.7nm,1.1s,baz=175,slow=1.7,SNR=2.2						
H11N3	**WAKE ISLAND Hy**	**26.36**	**270**	T	T	17 05 08.4	
	baz=120,slow=75,SNR=4.9						
H11N1	**WAKE ISLAND Hy**	**26.38**	**270**	T	T	17 05 09.2	
	baz=120,slow=75,SNR=13						
H11N2	**WAKE ISLAND Hy**	**26.38**	**270**	T	T	17 05 08.3	
	baz=120,slow=75,SNR=9.2						
BVAR	**Borovoye Array**	**147.75**	**44**	PKPbc	**PKPbc**	**14 46 46.9**	**-0.3**
	comp=E,0.4nm,0.6s,baz=296,slow=4.7,SNR=3.6						

*JMA **27** 14:34:29.9±0.2, 44°.03N×148°.13E, h0km, M3.9*
*SKHL **27** 14:34:30.7±0.4, 44°.63N×148°.33E, h83km±4km, mb4.8/3, msh5.1/3*
ISC 27 14:34:28.0±1.8, 44°.38N±0°.08×148°.5E±0°.1, h65km, n17, σ1§64/26, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.98**	**331**	⇓*i*P	**Pn**	**14 34 46.0**	**+0.1**
KUR				AMB	AMB	14 34 46.6	
	360nm,0.3s						
KUR				*i* S	**Sn**	**14 34 57.7**	**-1.6**
KUR				A	A	14 34 59.0	
	410nm,0.4s						
KUR				A	A	14 34 59.0	
	490nm,0.4s						
SHO	**Shikotan**	**1.33**	**248**	*e*P	**Pn**	**14 34 50.5**	**0.0**
SHO				AMB	AMB	14 34 51.6	
	300nm,0.2s						
SHO				*e*S	**Sn**	**14 35 04.9**	**-2.5**
SHO				A	A	14 35 05.4	
	500nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.96**	**261**	⇓*i*P	**Pn**	**14 34 59.5**	**+0.6**
YUK				AMB	AMB	14 35 01.0	
	30nm,0.3s						
YUK				AMB	AMB	14 35 01.0	
	20nm,0.3s						
YUK				AMB	AMB	14 35 01.0	
	90nm,0.3s						
YUK				*i* S	**Sn**	**14 35 20.7**	**-1.7**
YUK				A	A	14 35 26.0	
	120nm,0.5s						
YUK				A	A	14 35 26.0	
	160nm,0.5s						
NEM2	**Nemuro 2**	**2.26**	**244**	P	**Pn**	**14 35 03.3**	**+0.3**
NEM2				*e*S	**Sn**	**14 35 27.6**	**-2.2**
JRA	**Rausu**	**2.50**	**261**	P	**Pn**	**14 35 08.1**	**+1.9**
JRA				*e*S	**Sn**	**14 35 36.1**	**+0.5**
JNK	**Nakash**	**2.87**	**255**	P	**Pn**	**14 35 12.7**	**+1.4**
JNK				*e*S	**Sn**	**14 35 44.3**	**-0.4**
JAK	**Akkeshi**	**3.11**	**245**	P	**Pn**	**14 35 15.5**	**+0.9**
JAK				*e*S	**Sn**	**14 35 48.8**	**-1.8**
JAR	**Ashorobuto**	**3.62**	**254**	P	**Pn**	**14 35 23.8**	**+2.3**
JAR				*e*S	**Sn**	**14 36 03.8**	**+0.8**
JCH	**Churui**	**4.16**	**247**	P	**Pn**	**14 35 30.4**	**+1.5**
JCH				*e*S	**Sn**	**14 36 15.1**	**-1.2**
ERM	**Erimo**	**4.59**	**241**	*e*P	**Pn**	**14 35 38.7**	**+3.9**
JNBK	**Urakawa-nobuka**	**4.71**	**246**	P	**Pn**	**14 35 38.3**	**+1.8**
YSS	**Yuzh-Sakhalins**	**4.80**	**304**	*e*P	**Pn**	**14 35 38.3**	**+0.6

JYT	**Yasato**	**3.37**	**43**	P	**Pn**	**14 40 30.5**	**-0.6**
JYT				S	**S**	**14 41 19.9**	**-2.5**
JHO	**Hitachi**	**3.85**	**42**	P	**Pn**	**14 40 35.1**	**-0.7**
JHO				S	**S**	**14 41 27.7**	**-3.2**
JFK	**Kawauchi**	**4.58**	**38**	P	**Pn**	**14 40 42.9**	**-0.3**
JFK				S	**S**	**14 41 40.6**	**-3.8**
KSRS	**Korea Array**	**8.51**	**298**	P	**P**	**14 41 30.4**	**+0.7**
	0.1nm,0.3s,baz=121,slow=10,SNR=4.1						
SONM	**Songino Array**	**27.10**	**310**	P	**P**	**14 44 41.1**	**+2.5**
	0.4nm,0.4s,baz=106,slow=11,SNR=4.0						
MKAR	**Makanchi Array**	**43.12**	**305**	P	**P**	**14 46 53.8**	**+0.3**
	0.2nm,0.5s,baz=90,slow=12,SNR=4.4						
KURBB	**Kurchatov Arra**	**45.47**	**310**	P	**P**	**14 47 11.7**	**0.0**
	0.5nm,0.4s,baz=90,slow=7.5,SNR=6.0						
WRA	**Warramunga Arr**	**53.51**	**184**	P	**P**	**14 48 10.8**	**-1.3**
	0.2nm,0.3s,baz=358,slow=7.6,SNR=10						
ASAR	**Alice Springs**	**57.23**	**184**	P	**P**	**14 48 37.5**	**-0.8**
	0.2nm,0.8s,baz=356,slow=4.6,SNR=8.3						
FINES	**FINESS Array B**	**70.11**	**332**	P	**P**	**14 50 01.4**	**+0.4**
	0.4nm,0.4s,baz=69,slow=7.6,SNR=11						

TAP 27 15:00:09.3, 22.94N×120.89E, h6km, ML3.6, 1C-13D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**0.20**	**125**	⇓*i*P	Pg	15 00 14.4	+1.1
	baz=125						
TWG				*i* S	Sg	15 00 17.5	+1.4
	baz=125						
STYT	**Tauyuan**	**0.26**	**331**	*i* P	Pg	15 00 14.9	+0.5
	baz=335						
STYT				*i* S	Sg	15 00 18.6	+0.7
	baz=335						
ELDTW	**Lidau**	**0.28**	**25**	⇓*i*P	Pg	15 00 15.1	+0.3
	baz=27						
ELDTW				*i* S	Sg	15 00 19.2	+0.5
	baz=27						
TTN	**Taitung**	**0.30**	**127**	P	Pb	15 00 16.7	-0.3
	baz=128						
TTN				S	Sb	15 00 22.1	-0.1
	baz=128						
SSD	**Sandimen**	**0.30**	**231**	⇓*i*P	Pg	15 00 15.3	+0.1
	baz=230						
SGST	**Jiashian**	**0.32**	**297**	*i* P	Pb	15 00 16.5	-0.9
	baz=303						
SGST				*i* S	Sg	15 00 21.3	+1.5
	baz=303						
ECL	**Taimali**	**0.34**	**170**	P	Pg	15 00 16.5	+0.5
	baz=171						
ECL				S	Sg	15 00 20.7	+0.2
	baz=171						
WTP	**Ta-pu**	**0.40**	**320**	⇓*i*P	Pb	15 00 18.4	-0.5
	baz=323						
WTP				*e*S	Sb	15 00 24.3	-1.0
	baz=323						
CHN1	**Nanshi**	**0.41**	**307**	⇓P	Pb	15 00 18.8	-0.3
	baz=311						
CHN1				*e*S	Sb	15 00 26.1	+0.4
	baz=311						
SGLT	**Jiouru**	**0.42**	**240**	P	Pb	15 00 18.6	-0.6
	baz=234						
SGLT				*e*S	Sb	15 00 25.6	-0.3
	baz=234						
TWM1	**Shoushan**	**0.45**	**255**	⇓*i*P	Pb	15 00 19.6	0.0
	baz=255						
CHKT	**Chengkung**	**0.47**	**70**	⇓*i*P	Pb	15 00 20.0	+0.1
	baz=87						
CHKT				S	Sb	15 00 27.6	+0.5
	baz=87						
TWK	**Hsinying**	**0.49**	**312**	⇑P	Pb	15 00 20.9	+0.4
	baz=317						
TWK				S	Sb	15 00 28.8	+0.7
	baz=317						
CHN3	**Shinhua**	**0.50**	**286**	*e*P	Pb	15 00 21.4	+0.9
	baz=287						
EAST	**Anshuo**	**0.55**	**184**	⇓*i*P	Pg	15 00 20.6	+0.6
	baz=184						
EAST				*i* S	Sg	15 00 27.9	+0.7
	baz=184						
TWF1	**Yuli**	**0.56**	**42**	⇓*i*P	Pg	15 00 20.5	+0.4
	baz=48						
TWF1				S	Sg	15 00 27.6	+0.2
	baz=48						
ALS	**Alishan**	**0.58**	**352**	⇓*i*P	Pg	15 00 21.2	+0.5
	baz=355						
ALS				*e*S	Sb	15 00 30.8	-0.1
	baz=355						
TAW	**Tawu**	**0.58**	**179**	P	Pg	15 00 20.7	+0.4
	baz=179						
TAW				*e*S	Sg	15 00 28.2	+0.3
	baz=179						
SCZT	**Fangliau**	**0.61**	**204**	⇓*i*P	Pg	15 00 21.3	+0.2
	baz=194						
SCZT				*e*S	Sb	15 00 32.1	+0.8
	baz=194						
TAI1	**Yung-k'ang**	**0.62**	**280**	*e*P	Pn	15 00 24.2	-0.4
	baz=279						
KAU	**Kaohsiung**	**0.65**	**236**	*e*P	Pb	15 00 23.9	+0.8
	baz=225						
SCLT	**Jiali**	**0.68**	**290**	*e*P	Pn	15 00 24.6	-0.9
	baz=290						
SCLT				*e*S	Sn	15 00 37.3	+0.9
	baz=290						
CHN5	**Tsauling**	**0.69**	**344**	P	Pb	15 00 23.6	-0.1
	baz=354						
CHN5				S	Sb	15 00 35.0	+1.4
	baz=354						
EHY	**Hungye**	**0.69**	**35**	⇓*i*P	Pg	15 00 22.6	0.0
	baz=35						
EHY				*e*S	Sb	15 00 32.8	-0.8
	baz=35						
CHY	**Chiayi**	**0.70**	**323**	*e*P	Pb	15 00 24.8	+0.8
	baz=324						
CHY				*e*S	Sb	15 00 35.1	+1.1
	baz=324						
CHN2	**Minshiung**	**0.70**	**327**	*e*P	Pb	15 00 24.8	+0.9
	baz=329						
CHN2				*e*S	Sn	15 00 36.1	-0.9
	baz=329						
CHN8	**Yiju**	**0.75**	**303**	*e*P	Pn	15 00 25.7	-0.7
	baz=304						
CHN8				*e*S	Sn	15 00 38.6	+0.6
	baz=304						
TWP	**Hsiaoliuchiu**	**0.76**	**220**	*e*P	Pb	15 00 24.8	-0.2
	baz=220						
WGK	**Gukeng**	**0.80**	**338**	P	Pn	15 00 26.6	-0.6
	baz=341						
WGK				S	Sn	15 00 39.1	-0.3
	baz=341						
WSF	**Szhu**	**0.93**	**319**	*e*P	Pn	15 00 28.7	-0.2
	baz=321						
WSF				*e*S	Sn	15 00 42.5	0.0
	baz=321						
HEN	**Hengchun**	**0.94**	**189**	*e*P	Pn	15 00 28.9	-0.1
	baz=194						
HEN				*e*S	Sn	15 00 42.1	-0.6
	baz=194						
SMLT	**Sun Moon Lake**	**0.94**	**1**	P	Pb	15 00 27.9	-0.3
	baz=12						
SMLT				*e*S	Sn	15 00 43.4	+0.3
	baz=12						
TYC	**Yuchr**	**0.96**	**358**	⇓P	Pb	15 00 28.5	+0.1
	baz=8.0						
TYC				*e*S	Sn	15 00 44.4	+1.0
	baz=8.0						
TWK1	**Hengchun**	**0.99**	**185**	*e*P	Pn	15 00 29.7	-0.1
	baz=184						
ESL	**Shilin**	**1.00**	**30**	P	Pg	15 00 28.3	-0.3
	baz=36						
ESL				*e*S	Sb	15 00 42.4	-0.2
	baz=36						
TSEB	**Hengchuen, Pin**	**1.03**	**179**	*e*P	Pn	15 00 30.5	+0.2
	baz=191						
WTCT	**Ta-ch'eng**	**1.08**	**329**	*e*P	Pb	15 00 30.5	+0.2
	baz=332						
WTCT				*e*S	Sn	15 00 46.0	-0.2
	baz=332						
WDGT	**Dungji**	**1.18**	**286**	P	Pn	15 00 32.2	-0.1
	baz=285						
WDGT				*e*S	Sn	15 00 48.5	-0.2
	baz=285						
TCU	**Taichung**	**1.22**	**351**	*e*P	Pn	15 00 34.5	+1.6
	baz=340						
TCU				*e*S	Sn	15 00 51.7	+1.9
	baz=340						
HWA	**Hwalien**	**1.23**	**32**	*e*P	Pn	15 00 33.4	+0.4
	baz=34						
HWA				*e*S	Sn	15 00 51.4	+1.6
	baz=34						
WHF	**Hehuan Shan**	**1.25**	**16**	*e*P	Pg	15 00 32.3	-1.6
	baz=20						
WHF				*e*S	Sn	15 00 52.4	+0.9
	baz=20						
TWD	**Chiawan**	**1.31**	**30**	*e*P	Pn	15 00 33.8	-0.3
	baz=32						
TWD				*e*S	Sn	15 00 53.4	+1.4
	baz=32						
TWT	**Tachien**	**1.34**	**11**	*e*P	Pg	15 00 35.2	+0.1
	baz=7.0						
TWT				S	Sn	15 00 53.8	+0.8
	baz=7.0						
PNG	**Penghu**	**1.38**	**297**	*e*P	Pn	15 00 34.9	-0.1
	baz=297						
PNG				*e*S	Sn	15 00 54.0	+0.3
	baz=297						
TWQ1	**Liyutan**	**1.41**	**356**	*e*P	Pg	15 00 36.7	+0.4
	baz=360						
TWQ1				*e*S	Sg	15 00 56.9	+2.2
	baz=360						
NSY	**Sanyi**	**1.48**	**355**	*e*P	Pg	15 00 38.8	+1.1
	baz=2.0						
NSY				*e*S	Sg	15 01 00.1	+3.2
	baz=2.0						
NNS	**Nan Shan**	**1.56**	**16**	*e*P	Pb	15 00 38.3	-0.5
	baz=21						
NNS				*e*S	Sg	15 01 00.5	+0.7
	baz=21						
ENA	**Nanau**	**1.68**	**28**	*e*P	Pb	15 00 39.9	-0.6
	baz=31						
ENA				*e*S	Sg	15 01 02.9	-0.4
	baz=31						
NSTT	**Nanjuang**	**1.69**	**3**	*e*P	Pg	15 00 42.1	+0.4
	baz=10.0						
NSTT				*e*S	Sg	15 01 04.2	+0.6
	baz=10.0						
NSK	**Sanguang**	**1.78**	**14**	*e*P	Pb	15 00 42.5	0.0
	baz=20						
NSK				*e*S	Sg	15 01 06.5	-0.3
	baz=20						
ENTT	**Nioudou**	**1.81**	**20**	*e*P	Pb	15 00 42.1	-0.6
	baz=33						
ENTT				*e*S	Sg	15 01 07.1	-0.3
	baz=33						
TWC	**Suao**	**1.88**	**28**	*e*P	Pb	15 00 44.5	+0.4
	baz=31						
TWC				*e*S	Sb	15 01 08.7	+0.8
	baz=31						
TWE	**Neicheng**	**1.91**	**22**	*e*P	Pb	15 00 44.6	0.0
	baz=35						
TWE				*e*S	Sg	15 01 12.0	+1.2
	baz=35						
ILA	**Ilan**	**1.98**	**23**	*e*P	Pb	15 00 44.9	-0.9
	baz=36						
TWA	**Mucha**	**2.13**	**17**	*e*P	Pb	15 00 47.9	-0.4
	baz=22						
TWA				*e*S	Sg	15 01 19.6	+1.8
	baz=22						
TWS1	**Kuangyinshan**	**2.21**	**13**	*e*P	Pb	15 00 49.5	-0.1
	baz=21						
NWF	**Wu-fen Shan**	**2.27**	**21**	*e*P	Pb	15 00 51.3	+0.4
	baz=38						
NWF				*e*S	Sg	15 01 21.4	-1.2
	baz=38						
TWB1	**Santiao Chiao**	**2.29**	**26**	*e*P	Pb	15 00 49.4	-1.7
	baz=30						
TWB1				*e*S	Sb	15 01 19.7	0.0
	baz=30						

*OTT **27** 15:07:28.3±1.7, 76.36N×59.46W, h18km, ML4.3/2, western Greenland 481km southeast from Alexandra Fiord, Nu*

*ISCJB **27** 15:07:29.6±0.4, 76.07N±0.05×60.2W±0.2, h10km, mb3.7/20, MS3.2/26, Error ellipse: s-maj=7.5km s-min=5.6km az=10.8*

*IDC **27** 15:07:29.9±0.7, 76.02N×59.61W, h0km, mb3.6/14, mb1 3.9/16, mb1mx3.7/37, mbtmp3.7/16, ML4.0/2, MS3.3/32, Ms1 3.3/32, ms1mx3.2/49, Error ellipse: s-maj=21.5km s-min=13.5km az=161.0*

*NEIC **27** 15:07:31.4±0.4, 76.08N×59.82W, h10km, mb3.9/6, ML4.3(OTT), Error ellipse: s-maj=12.6km s-min=6.6km az=156.0*

ISC 27 15:07:31.0±0.6, 76.00N±0.05×60.15W±0.05, h10km, n55, σ1s86/42, mb3.8/20, MS3.2/26, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULLO	**Kullorsuaq**	**1.61**	**151**	*i* P	**Pn**	**15 07 57.9**	**-1.6**
KULLO				*e*S	**Sb**	**15 08 21.2**	**0.0**
KULLO	**Kullorsuaq**	**1.61**	**151**	PN	**Pn**	**15 07 59.4**	**-0.1**
KULLO				SN	**Sb**	**15 08 20.8**	**-0.4**
TULEG	**Thule**	**2.14**	**289**	PN	**Pn**	**15 08 06.7**	**0.0**
TULEG				SG	**Sb**	**15 08 36.1**	**-0.1**
TULEG	**Thule**	**2.14**	**289**	Pn	**Pn**	**15 08 06.7**	**0.0**
TULEG				Sg	**Sb**	**15 08 36.1**	**-0.1**
I18DK	**QAANAAQ INFRAS**	**2.57**	**309**	*i*		15 23 10.0	
	baz=120,slow=326,SNR=16						
GIFN	**Gifford Fjord,**	**8.65**	**237**	PN	**Pn**	**15 09 37.7**	**+1.7**
GIFN				SN	**Sn**	**15 11 08.6**	**-4.9**
GIFN				Trac		15 11 46.5	
	comp=Z,68nm,2.2s						
GIFN	**Gifford Fjord,**	**8.65**	**237**	Pn	**Pn**	**15 09 37.7**	**+1.7**
GIFN				Sn	**Sn**	**15 11 08.6**	**-4.9**
RES	**Resolute Bay**	**8.81**	**279**	Pn	**Pn**	**15 09 37.8**	**-0.4**
	2.1nm,0.3s,baz=72,slow=14,SNR=14						
RES				Sn	**Sn**	**15 11 13.5**	**-3.8**
	0.8nm,0.3s,baz=178,slow=18,SNR=4.6						
RES				LR	LR	15 13 10.7	
	comp=Z,298nm,20.7s,baz=41,slow=38						
RES	**Resolute Bay**	**8.81**	**279**	PN	Pn	15 09 31.7	-6.5
RES				SN	Sn	15 11 09.1	-8.2
RES				Trac		15 11 59.4	
	comp=Z,26nm,1.0s						
ILON	**Igloolik, Nuna**	**9.20**	**235**	PN	**Pn**	**15 09 44.6**	**+1.1**
ILON				SN	**Sn**	**15 11 25.7**	**-1.2**
ILON				Trac		15 11 56.9	
	comp=Z,37nm,1.2s						
ILON	**Igloolik, Nuna**	**9.20**	**235**	Pn	**Pn**	**15 09 44.6**	**+1.1**
ILON				Sn	**Sn**	**15 11 25.7**	**-1.2**
SFJD	**Kangerlussuaq**	**9.52**	**157**	LR	LR	15 13 20.6	
	comp=Z,221nm,21.7s,baz=352,slow=37						
LAIN	**Lailor River,**	**9.76**	**237**	PN	**Pn**	**15 09 52.8**	**+1.5**
LAIN				SN	Sn	15 11 32.9	-7.9
LAIN	**Lailor River,**	**9.76**	**237**	Pn	**Pn**	**15 09 52.8**	**+1.5**
LAIN				Sn	Sn	15 11 32.9	-7.9
QILN	**Qililugaq Expl**	**12.42**	**235**	PN	**Pn**	**15 10 25.4**	**-2.1**
QILN	**Qililugaq Expl**	**12.42**	**235**	Pn	**Pn**	**15 10 25.4**	**-2.1**
FRB	**Frobisher Bay**	**12.63**	**197**	LR	LR	15 15 11.1	
	comp=Z,139nm,20.7s,baz=15,slow=36						
JMIC	**Jan Mayen**	**15.02**	**83**	LR	LR	15 16 34.5	
	comp=Z,109nm,18.2s,baz=262,slow=37						
SPITS	**Spitsbergen Ar**	**16.10**	**46**	Pn	**Pn**	**15 11 14.5**	**-2.5**
	baz=287,slow=16,SNR=3.5						
SPITS				LR	LR	15 17 31.1	
	comp=Z,107nm,19.5s,baz=355,slow=38						
BORG	**Borgarnes**	**16.76**	**111**	LR	LR	15 17 21.3	
	comp=Z,83nm,18.3s,baz=352,slow=36						
SCHQ	**Schefferville**	**21.41**	**191**	P	**P**	**15 12 18.5**	**-0.1**
	6.3nm,0.9s,baz=348,slow=7.9,SNR=5.1						
SCHQ				LR	LR	15 20 18.1	
	comp=Z,83nm,21.8s,baz=64,slow=36						
INK	**Inuvik**	**22.14**	**289**	P	**P**	**15 12 27.0**	**+0.8**
	4.8nm,0.7s,baz=22,slow=14,SNR=12						
INK				LR	LR	15 22 08.7	
	comp=Z,45nm,21.9s,baz=55,slow=40						
ARCES	**ARCESS Array B**	**23.87**	**60**	P	**P**	**15 12 44.4**	**+0.3**
	1.3nm,0.8s,baz=321,slow=8.5,SNR=3.1						
ARCES				LR	LR	15 21 48.6	
	comp=Z,65nm,21.9s,baz=318,slow=36						
NOA	**NORSAR Array B**	**27.73**	**82**	LR	LR	15 23 32.8	
	comp=Z,43nm,20.4s,baz=345,slow=35						
ILAR	**Eielson Array**	**28.08**	**295**	P	**P**	**15 13 23.6**	**+1.4**
	0.3nm,0.7s,baz=30,slow=9.3,SNR=4.2						
ILAR				LR	LR	15 26 52.0	
	comp=Z,42nm,18.8s,baz=14,slow=41						
HFS	**Hagfors**	**29.12**	**81**	LR	LR	15 24 37.1	
	comp=Z,86nm,20.8s,baz=326,slow=35						
ULM	**Lac du Bonnet**	**29.48**	**230**	LR	LR	15 25 12.2	
	comp=Z,58nm,19.7s,baz=358,slow=36						
DLBC	**Dease Lake**	**29.66**	**274**	LR	LR	15 26 30.2	
	comp=Z,47nm,20.1s,baz=10,slow=38						

FINES	**FINESS Array B**	**30.87**	**69**	LR	LR	15 25 20.6	
	comp=Z,50nm,19.2s,baz=316,slow=35						
KDAK	**Kodiak Island**	**35.56**	**293**	LR	LR	15 31 09.7	
	comp=Z,56nm,19.2s,baz=49,slow=40						
GCMT	**Greycliff**	**36.53**	**243**	*e*P	P	15 14 39.8	+3.4
	1.9nm,0.7s						
DLMT	**Dillon**	**37.58**	**246**	*e*P	**P**	**15 14 46.9**	**+1.5**
	2.3nm,0.8s						
BFO	**Black Forest**	**38.56**	**95**	P	**P**	**15 14 54.6**	**+1.3**
	1.4nm,0.6s						
GERES	**GERESS Array B**	**39.39**	**90**	P	**P**	**15 14 58.4**	**-2.0**
	0.2nm,0.4s,baz=334,slow=8.7,SNR=2.1						
GERES				LR	LR	15 32 36.1	
	comp=Z,26nm,18.0s,baz=298,slow=38						
PDAR	**Pinedale Array**	**39.39**	**242**	P	**P**	**15 15 02.4**	**+1.7**
	0.5nm,0.7s,baz=33,slow=6.9,SNR=4.0						
PDAR				LR	LR	15 31 27.6	
	comp=Z,50nm,18.2s,baz=28,slow=36						
HLID	**Hailey**	**39.70**	**247**	*e*P	**P**	**15 15 04.9**	**+1.8**
	1.7nm,0.9s						
AKASG	**Malin Array Be**	**41.39**	**74**	LR	LR	15 31 47.2	
	comp=Z,26nm,19.3s,baz=345,slow=35						
DUG	**Dugway**	**42.56**	**244**	*e*P	**P**	**15 15 28.3**	**+1.7**
	1.6nm,0.6s						
ELK	**Elko**	**42.57**	**247**	LR	LR	15 34 58.1	
	comp=Z,39nm,18.4s,baz=3.5,slow=39						
YBH	**Yreka Blue Hor**	**43.35**	**255**	LR	LR	15 34 28.2	
	comp=Z,68nm,18.8s,baz=20,slow=37						
ESDC	**Sonseca Array**	**43.84**	**112**	P	**P**	**15 15 36.1**	**-0.8**
	0.3nm,0.3s,baz=342,slow=8.6,SNR=3.7						
NVAR	**Mina Array Bea**	**45.47**	**249**	P	**P**	**15 15 51.5**	**+1.3**
	1.1nm,0.7s,baz=16,slow=6.6,SNR=6.5						
ANMO	**Albuquerque**	**46.27**	**235**	LR	LR	15 34 55.2	
	comp=Z,30nm,18.4s,baz=50,slow=36						
ISA	**Isabella**	**48.16**	**248**	*e*P	**P**	**15 16 13.6**	**+2.6**
	3.7nm,1.2s						
ZALV	**Zalesovo Beam**	**48.35**	**27**	P	**P**	**15 16 11.3**	**-0.8**
	1.3nm,0.8s,baz=357,slow=7.4,SNR=4.6						
ZALV				LR	LR	15 38 20.4	
	comp=Z,34nm,20.3s,baz=70,slow=38						
PETK	**Petropavlovsk-**	**48.86**	**331**	LR	LR	15 39 54.5	
	comp=Z,22nm,18.3s,baz=11,slow=40						
PFO	**Pinyon Flat Ob**	**49.68**	**246**	LR	LR	15 38 06.9	
	comp=Z,62nm,19.7s,baz=78,slow=37						
KEST	**Kesra**	**50.71**	**100**	LR	LR	15 37 51.9	
	comp=Z,29nm,18.9s,baz=217,slow=36						
TXAR	**Lajitas Array**	**51.18**	**231**	P	**P**	**15 16 36.6**	**+2.5**
	0.2nm,0.6s,baz=38,slow=4.6,SNR=2.8						
TXAR				LR	LR	15 38 52.5	
	comp=Z,43nm,19.6s,baz=0.0,slow=37						
BRTR	**Keskin Array B**	**52.77**	**75**	P	**P**	**15 16 46.0**	**+0.1**
	0.5nm,0.7s,baz=328,slow=5.1,SNR=2.8						
BRTR				LR	LR	15 39 08.3	
	comp=Z,23nm,20.9s,baz=357,slow=36						
MKAR	**Makanchi Array**	**55.10**	**31**	P	**P**	**15 17 02.4**	**-0.2**
	0.5nm,0.6s,baz=2.0,slow=5.2,SNR=7.2						
MKAR				LR	LR	15 44 36.5	
	comp=Z,20nm,18.2s,baz=352,slow=40						
SONM	**Songino Array**	**56.13**	**11**	P	**P**	**15 17 12.0**	**+1.8**
	0.5nm,0.6s,baz=345,slow=7.4,SNR=3.8						
CMIG	**Matias Romero**	**61.67**	**218**	LR	LR	15 47 39.2	
	comp=Z,21nm,19.4s,baz=10.0,slow=39						
KSRS	**Korea Array**	**66.70**	**353**	LR	LR	15 49 20.4	
	comp=Z,13nm,18.0s,baz=358,slow=38						
CMAR	**Chiang Mai Arr**	**84.87**	**20**	P	**P**	**15 20 04.7**	**-1.0**
	0.7nm,0.8s,baz=349,slow=6.3,SNR=5.6						
CMAR				LR	LR	16 00 11.8	
	comp=Z,29nm,18.2s,baz=290,slow=37						

*ISCJB **27** 15:21:35.6±0.6, 47.45±0.1×12.0W±0.2, h10km, mb3.9/9, MS3.6/5, Error ellipse: s-maj=16.5km s-min=14.6km az=24.8*

*IDC **27** 15:21:35.9±0.7, 47.52S×11.89W, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.9/23, mbtmp3.9/7, MS3.6/5, Ms1 3.5/5, ms1mx3.2/14, Error ellipse: s-maj=28.1km s-min=20.9km az=116.0*

*NEIC **27** 15:21:37.1±0.4, 47.50S×11.96W, h10km, mb4.2/3, Error ellipse: s-maj=14.1km s-min=12.5km az=139.0*

ISC 27 15:21:37.3±0.7, 47.55S±0.1×12.0W±0.1, h10km, n20, σ0s93/18, mb4.0/9, MS3.5/5, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**23.32**	**177**	P	**P**	**15 26 47.3**	**+2.2**
SNAA	**Sanae**	**24.65**	**173**	P	**P**	**15 26 57.8**	**0.0**
SNAA	**Sanae**	**24.65**	**173**	*e*P	**P**	**15 26 57.5**	**-0.3**
	1.4nm,0.9s						
BOSA	**Boshof**	**34.41**	**70**	P	**P**	**15 28 24.3**	**-0.6**
	2.6nm,0.8s,baz=210,slow=8.1,SNR=3.4						
BOSA				LR	LR	15 39 04.8	
	comp=Z,78nm,21.3s,baz=243,slow=30						
BOSA	**Boshof**	**34.41**	**70**	*e*P	**P**	**15 28 23.7**	**-1.3**
	6.1nm,1.0s						
LBTB	**Lobatse**	**37.17**	**66**	P	**P**	**15 28 48.6**	**+0.1**
	2.6nm,0.7s,baz=240,slow=7.1,SNR=3.2						
TRQA	**Tornquist**	**37.33**	**266**	*e*P	**P**	**15 28 48.5**	**-1.2**
H10S2	**ASCENSION HYDR**	**38.45**	**356**	T	T	16 10 11.0	
	baz=180						
H10S3	**ASCENSION HYDR**	**38.45**	**356**	T	T	16 10 04.4	
	baz=180						
H10S1	**ASCENSION HYDR**	**38.46**	**356**	T	T	16 10 15.7	
	baz=180						
QSPA	**South Pole Qui**	**42.79**	**180**	P	**P**	**15 29 34.6**	**-0.3**
	2.8nm,0.8s,baz=224,slow=3.9,SNR=11						
QSPA				PcP	**PcP**	**15 31 25.4**	**-0.5**
	2.3nm,1.1s,baz=203,slow=2.3,SNR=4.1						
QSPA				LR	LR	15 45 55.8	
	comp=Z,64nm,18.4s,baz=216,slow=34						
CFAA	**Coronel Fontan**	**45.20**	**270**	P	**P**	**15 29 54.7**	**+0.2**
	0.2nm,0.3s,baz=151,slow=6.1,SNR=3.9						
VNDA	**Vanda**	**55.23**	**178**	P	**P**	**15 31 09.9**	**+0.1**
	1.0nm,0.9s,baz=205,slow=6.1,SNR=5.1						
VNDA				LR	LR	15 52 42.5	
	comp=Z,72nm,20.7s,baz=170,slow=34						
SAML	**Samuel**	**57.76**	**294**	*e*P	**P**	**15 31 28.5**	**-0.1**
	1.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**61.57**	**15**	P	**P**	**15 31 55.0**	**+0.3**
	1.0nm,0.7s,baz=196,slow=8.7,SNR=8.4						
TORD				LR	LR	15 53 46.6	
	comp=Z,33nm,19.5s,baz=145,slow=31						
ESDC	**Sonseca Array**	**87.06**	**6**	P	**P**	**15 34 24.2**	**+1.6**
	0.2nm,0.3s,baz=172,slow=6.1,SNR=6.1						
GERES	**GERESS Array B**	**98.49**	**17**	LR	LR	16 16 15.9	
	comp=Z,23nm,19.1s,baz=316,slow=33						
MKAR	**Makanchi Array**	**124.64**	**56**	PKP	**PKPdf**	**15 40 35.0**	**-1.3**
	0.3nm,0.6s,baz=278,slow=4.2,SNR=2.4						
ILAR	**Eielson Array**	**150.35**	**322**	PKPbc	**PKPbc**	**15 41 27.4**	**-0.1**
	1.4nm,0.9s,baz=342,slow=1.7,SNR=13						
ILAR				PKPab	**PKPab**	**15 41 34.2**	**+0.2**
	1.3nm,0.9s,baz=70,slow=1.1,SNR=8.4						
TRF	**Thorofare Moun**	**152.13**	**320**	*e*PKPbc	**PKPbc**	**15 41 31.9**	**0.0**

**IDC 27 15:29:38

PDGK	**Podgornoye**	**8.21**	**43**	⇓Pn	Pg	15 34 30.3	+1.4		
	0.7nm,0.3s								
PDGK				⇑Sn	Sn	15 34 59.5	-26		
	1.3nm,0.5s								

*NEIC **27** 15:35:20.9, 32°.21N × 115°.26W, h10km, ML2.7(PAS), ML3.0(ECX), After ECX.*

ECX 27 15:35:20.9±0.5, 32°.21N×115°.26W, h10km, MD2.7, ML2.8, 6C-9D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.21**	**350**	⇓*e*P	Pg	15 35 24.8	-0.6
CPBX				*e*P	Pg	15 35 24.8	-0.5
CPBX				*e*S	Sg	15 35 28.1	-0.2
CPBX	**Cerro Prieto**	**0.21**	**350**	*e*P	Pg	15 35 24.8	-0.5
CPBX				*e*S	Sg	15 35 28.1	-0.2
EMSC	**East Mesa**	**0.58**	**24**	⇑*i*P	Pg	15 35 31.8	-0.3
EMSC	**East Mesa**	**0.58**	**24**	⇑*i*P	Pg	15 35 31.8	-0.3
SGL	**Mount Signal**	**0.59**	**318**	⇓*i*P	Pg	15 35 31.4	-1.0
SGL	**Mount Signal**	**0.59**	**318**	⇓*i*P	Pg	15 35 31.4	-1.0
RDX	**Rancho Dawling**	**0.64**	**244**	⇑*e*P	Pg	15 35 32.4	-1.3
RDX				*e*S	Sg	15 35 41.2	-1.1
RDX				IAML		15 35 43.0	
	comp=N,336nm,0.4s						
RDX	**Rancho Dawling**	**0.64**	**244**	⇑*e*P	Pg	15 35 32.4	-1.3
RDX				*e*S	Sg	15 35 41.2	-1.1
RDX				AML	AML	15 35 43.3	
	comp=N,302nm,0.5s						
RDX				⇓*e*		15 35 43.3	
WESC	**Westside Schoo**	**0.68**	**324**	*e*P	Pg	15 35 33.2	-0.8
WESC	**Westside Schoo**	**0.68**	**324**	*e*P	Pg	15 35 33.2	-0.8
YMD	**Yuma Desert**	**0.70**	**60**	⇑*i*P	Pg	15 35 33.0	-1.3
YMD	**Yuma Desert**	**0.70**	**60**	⇑*i*P	Pg	15 35 33.0	-1.3
YUH	**Yuha Desert**	**0.71**	**308**	⇓*i*P	Pg	15 35 33.3	-1.4
YUH	**Yuha Desert**	**0.71**	**308**	⇓*i*P	Pg	15 35 33.3	-1.4
RMX	**La Rumorosa**	**0.80**	**300**	*e*P	Pg	15 35 34.9	-1.6
RMX				*e*S	Sg	15 35 45.6	-1.5
RMX				IAML		15 35 46.7	
	comp=N,406nm,0.1s						
RMX				⇓*e*		15 35 46.7	
RMX	**La Rumorosa**	**0.80**	**300**	*e*P	Pg	15 35 34.9	-1.6
RMX				*e*S	Sg	15 35 45.6	-1.5
GLA	**Glamis**	**0.92**	**23**	*e*Pg	Pg	15 35 35.0	-3.7
GLA				*e*Sg	Sg	15 35 47.7	-3.0
ZAX	**El Zacaton**	**1.10**	**231**	*e*P	Pb	15 35 40.3	-1.9
ZAX				*e*S	Sg	15 35 55.2	-1.6
ZAX				IAML		15 35 57.6	
	comp=N,279nm,0.6s						
ZAX				⇓*e*		15 35 57.6	
ZAX	**El Zacaton**	**1.10**	**231**	*e*P	Pb	15 35 40.3	-1.9
ZAX				*e*S	Sg	15 35 55.2	-1.6
SPX	**San Pedro Mart**	**1.17**	**189**	*e*P	Pb	15 35 41.2	-2.6
SPX				*e*S	Sb	15 35 57.0	-2.3
SPX				IAML		15 35 58.5	
	comp=E,153nm,0.4s						
SPX	**San Pedro Mart**	**1.17**	**189**	*e*P	Pb	15 35 41.2	-2.6
SPX				*e*S	Sb	15 35 57.0	-2.3
SPX				AML	AML	15 35 58.8	
	comp=E,149nm,0.5s						
SPX				⇓*e*		15 35 58.8	
ECNX	**Esteban Cantu**	**1.26**	**245**	*e*P	Pn	15 35 43.1	-1.6
ECNX				*e*S	Sb	15 36 00.0	-1.4
ECNX	**Esteban Cantu**	**1.26**	**245**	*e*P	Pn	15 35 43.1	-1.6
ECNX				*e*S	Sb	15 36 00.0	-1.4
BAR	**Barrett**	**1.28**	**292**	*e*Pn	Pn	15 35 42.6	-2.3
BAR				*e*S	Sb	15 35 59.5	-2.3
BAR	**Barrett**	**1.28**	**292**	*e*P	Pn	15 35 43.1	-1.9
BAR	**Barrett**	**1.28**	**292**	*e*P	Pn	15 35 43.1	-1.9
PBX	**Punta Banda**	**1.33**	**250**	*e*P	Pn	15 35 43.8	-1.8
PBX				*e*S	Sb	15 36 01.9	-1.2
PBX	**Punta Banda**	**1.33**	**250**	*e*P	Pn	15 35 43.9	-1.7
PBX				*e*S	Sb	15 36 01.9	-1.2
PFO	**Pinyon Flat Ob**	**1.72**	**325**	*e*Pn	Pn	15 35 47.8	-3.3
214A	**Organ Pipe Nat**	**2.10**	**96**	*e*Pn	Pn	15 35 53.0	-3.1

*IDC **27** 15:42:38.1±1.5, 8°.37S × 111°.82E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.5/33, mbtmp3.5/6, ML3.5/1, MS2.6/1, Ms1 2.6/1, ms1mx2.3/24, Error ellipse: s-maj=62.6km s-min=20.6km az=46.0*

*ISCJB **27** 15:42:42.4±0.7, 9°.15S±0°.07 × 111°.25E±0°.03, h58km, mb3.4/5, Error ellipse: s-maj=10.5km s-min=4.0km az=11.9*

*DJA **27** 15:42:42.9±0.5, 9°S±5° × 11°1E±°, h54km, M3.9/5, MLv3.9/5*

ISC 27 15:42:42.7±1.0, 9°22S±0°.08 × 111°20E±0°.04, h58km, n25, σ1§88/29, mb3.7/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.46**	**333**	P	**Pn**	**15 43 05.7**	**-1.2**
UGM				S	**Sn**	**15 43 22.4**	**-2.6**
NGJI	**Ngawi**	**1.86**	**8**	P	**Pn**	**15 43 14.2**	**+2.0**
NGJI				S	**Sn**	**15 43 38.7**	**+4.1**
SMRI	**Semarang**	**2.28**	**341**	P	**Pn**	**15 43 18.6**	**+0.6**
TBJI	**Tambak Boyo**	**2.47**	**15**	P	**Pn**	**15 43 20.6**	**0.0**
BLJI	**Banyuglugur**	**2.79**	**58**	P	**Pn**	**15 43 24.2**	**-0.7**
BLJI				S	**Sn**	**15 43 57.1**	**-0.3**
UWJI	**Ujung Watu**	**2.79**	**355**	P	**Pn**	**15 43 25.4**	**+0.4**
JAGI	**Jajag, Banyuwa**	**3.01**	**76**	P	**Pn**	**15 43 27.8**	**-0.2**
JAGI				S	**Sn**	**15 44 03.9**	**+1.0**
CMJI	**Cimerak**	**3.07**	**297**	P	**Pn**	**15 43 29.6**	**+0.8**
CMJI				S	**Sn**	**15 44 06.7**	**+2.4**
ABJI	**Asem Bagus**	**3.32**	**65**	P	**Pn**	**15 43 33.3**	**+1.1**
KMMI	**Kalianget**	**3.49**	**52**	P	**Pn**	**15 43 33.9**	**-0.6**
BWJI	**Bawean**	**3.65**	**23**	P	**Pn**	**15 43 36.1**	**-0.6**
CISI	**Cisompet, Garu**	**3.73**	**296**	P	**Pn**	**15 43 39.6**	**+1.7**
CISI				S	**Sn**	**15 44 16.2**	**-4.5**
IGBI	**Denpasar**	**3.92**	**84**	P	**Pn**	**15 43 41.7**	**+1.3**
IGBI				S	**Sn**	**15 44 24.4**	**-0.8**
DNP	**Denpasar**	**4.00**	**83**	P	**Pn**	**15 43 40.5**	**-1.0**
SRBI	**Singaraja**	**4.13**	**74**	P	**Pn**	**15 43 42.7**	**-0.5**
LEM	**Lembang**	**4.27**	**304**	Pn	Pn	15 43 48.4	+3.0
	2.5nm,0.3s,baz=165,slow=20,SNR=4.7						
LEM				Sn	**Sn**	**15 44 37.0**	**+2.9**
	2.0nm,0.3s,baz=72,slow=20,SNR=3.3						
LEM				LR	LR	15 45 22.2	
	comp=Z,70nm,19.3s,baz=21,slow=37						
CNJI	**Cibinong**	**4.45**	**295**	P	**Pn**	**15 43 47.5**	**-0.2**
WRA	**Warramunga Arr**	**24.77**	**118**	P	**P**	**15 48 00.6**	**+1.3**
	0.4nm,0.8s,baz=294,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**26.03**	**126**	P	**P**	**15 48 13.9**	**+3.2**
	0.2nm,0.6s,baz=301,slow=8.9,SNR=6.3						
H08S2	**Diego Garcia H**	**38.31**	**269**	T	T	16 30 57.0	
	baz=98						
H08S3	**Diego Garcia H**	**38.32**	**269**	T	T	16 30 53.0	
	baz=98						
H08S1	**Diego Carcia H**	**38.32**	**269**	T	T	16 30 56.8	
	baz=98						
SONM	**Songino Array**	**56.96**	**356**	P	**P**	**15 52 21.0**	**-1.2**
	0.4nm,0.6s,baz=175,slow=7.5,SNR=2.8						
MKAR	**Makanchi Array**	**61.44**	**338**	P	**P**	**15 52 51.7**	**-1.4**
	0.3nm,0.4s,baz=150,slow=8.1,SNR=6.3						
ZALV	**Zalesovo Beam**	**66.77**	**343**	P	**P**	**15 53 26.4**	**-1.4**
	0.5nm,0.3s,baz=151,slow=6.6,SNR=3.9						

MAN 27 15:52:17, 7°.73N × 121°.91E, h30km, mb4.3, ML3.2, MS3.0, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**0.66**	**85**	⇑*i*P	Pb	15 52 30.1	+0.1
IPIL				*i*S	Sb	15 52 38.6	-0.2
ZMPH	**Zamboanga City**	**0.79**	**169**	⇓*i*P	Pb	15 52 32.9	+0.7
ZMPH				*i*S	Sn	15 52 44.0	+1.2
DCPH	**Dipolog City**	**1.66**	**59**	*e*P	Pb	15 52 47.7	+0.8
CTBH	**Cotabato--PC H**	**2.37**	**102**	⇑*i*P	Pn	15 52 54.5	+0.6

*NSSC **27** 16:07:40.6±1.0, 35°.16N × 32°.93E, h35km±37km, ML3.3*

*ISCJB **27** 16:07:41.6±0.1, 35°.04N±0°.01 × 33°.05E±0°.02, h73km±2km, mb3.8/7, Error ellipse: s-maj=2.9km s-min=1.8km az=136.6*

*ISK **27** 16:07:41.1, 34°.95N × 33°.08E, h63km, ML4.0*

*DDA **27** 16:07:42.1, 35°.22N × 33°.09E, h8km, ML4.2*

*HLW **27** 16:07:42.8, 35°.04N × 32°.93E, h34km±14km, Ml4.2*

*CSEM **27** 16:07:43.3±0.1, 35°.07N × 33°.07E, h60km, ML4.0, Mw3.1, Error ellipse: s-maj=3.2km s-min=2.1km az=40.0*

*NEIC **27** 16:07:43.9±0.8, 34°.99N × 32°.89E, h35km, ML4.1(ISK), ML4.5(THE), Error ellipse: s-maj=15.5km s-min=7.9km az=185.0*

NEIC Felt at Nicosia and Tala.

*NIC **27** 16:07:44.0, 35°.20N × 33°.15E, h54km, ML4.0 Felt I=II MM at Nicosia.*

NIC Felt II MM at Nicosia.

*IDC **27** 16:07:44.4±5.0, 35°.14N × 33°.03E, h67km±46km, mb3.4/6, mb1 3.4/8, mb1mx3.3/27, mbtmp3.6/8, ML3.7/2, MS2.2/1, Ms1 2.3/1, ms1mx1.9/18, Error ellipse: s-maj=37.2km s-min=20.6km az=150.0*

*THE **27** 16:07:46.3, 35°.06N × 32°.99E, h74km±3km, ML4.5/3, Error ellipse: s-maj=3.9km s-min=1.5km az=77.0*

*GII **27** 16:07:47.1±0.0, 34°.81N × 33°.37E, h15km, MD3.6/12, Mm3.1/9*

ISC 27 16:07:42.7±0.6, 35°.10N±0°.03 × 33°.06E±0°.03, h58km±4km, n254, σ1§56/358, mb3.6/7, 2C-8D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEF	**Lefka**	**0.14**	**277**	*e*PG	**Pn**	**16 07 52.4**	**+0.8**
LEF				*e*SG	**Sn**	**16 07 58.9**	**+0.9**
LEF	**Lefka**	**0.14**	**277**	*e*Pg	**Pn**	**16 07 52.4**	**+0.8**
LEF				*e*Sg	**Sn**	**16 07 58.9**	**+0.9**
MAMC	**Mammari**	**0.15**	**62**	*i*P	**Pn**	**16 07 52.6**	**+0.9**
	baz=297						
MAMC	**Mammari**	**0.15**	**62**	*i*P	**Pn**	**16 07 52.6**	**+0.9**
AKDN	**Akdeniz- K¯-br**	**0.21**	**339**	*e*PG	**Pn**	**16 07 52.6**	**+0.6**
AKDN				*e*SG	**Sn**	**16 08 01.0**	**+2.4**
AKDN	**Akdeniz- K¯-br**	**0.21**	**339**	*e*Pg	**Pn**	**16 07 52.6**	**+0.6**
AKDN				*e*Sg	**Sn**	**16 08 01.0**	**+2.4**
CSS	**Prodhromos**	**0.26**	**122**	*i*P	**Pn**	**16 07 53.3**	**+0.9**
	baz=328						
CSS	**Prodhromos**	**0.26**	**122**	Pg	**Pn**	**16 07 52.7**	**+0.3**
CSS	**Prodhromos**	**0.26**	**122**	Pg	**Pn**	**16 07 52.7**	**+0.3**
CSS	**Prodhromos**	**0.26**	**122**	*i*P	**Pn**	**16 07 53.3**	**+0.9**
CSS	**Prodhromos**	**0.26**	**122**	*e*Pn	**Pn**	**16 07 52.7**	**+0.3**
SZAC	**Souni-Zanaja**	**0.37**	**203**	⇓*i*P	**Pn**	**16 07 55.4**	**+2.1**
	baz=26						
SZAC				S	**Sn**	**16 08 04.7**	**+3.8**
SZAC	**Souni-Zanaja**	**0.37**	**203**	⇓*i*P	**Pn**	**16 07 55.4**	**+2.1**
ALFC	**Alevga**	**0.38**	**278**	⇓*e*P	**Pn**	**16 07 55.0**	**+1.6**
	baz=84						
ALFC				S	**Sn**	**16 08 03.6**	**+2.5**
ALFC	**Alevga**	**0.38**	**278**	⇓*e*P	**Pn**	**16 07 55.0**	**+1.6**
ALFC				S	**Sn**	**16 08 03.6**	**+2.5**
LFK	**Lefkose**	**0.42**	**65**	*e*PG	**Pn**	**16 07 53.9**	**+0.1**
LFK				*e*SG	**Sn**	**16 08 03.2**	**+1.4**
LFK	**Lefkose**	**0.42**	**65**	*e*Pg	**Pn**	**16 07 53.9**	**+0.1**
LFK				*e*Sg	**Sn**	**16 08 03.2**	**+1.4**
AKMC	**Akamas**	**0.60**	**263**	⇓*i*P	**Pn**	**16 07 58.3**	**+2.6**
	baz=75						
AKMC	**Akamas**	**0.60**	**263**	⇓*i*P	**Pn**	**16 07 58.3**	**+2.6**
PPCY	**Paphos**	**0.63**	**250**	⇓*i*P	**Pn**	**16 07 58.6**	**+2.7**
	baz=64						
PPCY	**Paphos**	**0.63**	**250**	⇓*i*P	**Pn**	**16 07 58.6**	**+2.7**
PHNC	**Paralimni**	**0.80**	**97**	P	**Pn**	**16 07 59.5**	**+1.4**
	baz=285						
PHNC	**Paralimni**	**0.80**	**97**	P	**Pn**	**16 07 59.5**	**+1.4**
EREN	**Erenkoy**	**1.00**	**64**	*e*PG	**Pn**	**16 08 00.9**	**+0.2**
EREN	**Erenkoy**	**1.00**	**64**	*e*Pg	**Pn**	**16 08 00.9**	**+0.2**
GAZI	**Gazipasa**	**1.28**	**332**	*i*P	**Pn**	**16 08 05.0**	**+0.5**
GAZI				*i*S	**Sn**	**16 08 19.5**	**-1.2**
GAZI	**Gazipasa**	**1.28**	**332**	*i*P	**Pn**	**16 08 05.0**	**+0.5**
GAZI				*i*S	**Sn**	**16 08 19.5**	**-1.2**
ERMK	**Ermenek**	**1.54**	**356**	*i*P	**Pn**	**16 08 09.4**	**+1.3**
ERMK				*i*S	**Sn**	**16 08 27.8**	**+0.6**
ERMK	**Ermenek**	**1.54**	**356**	*i*P	**Pn**	**16 08 09.4**	**+1.3**
ERMK				*i*S	**Sn**	**16 08 27.8**	**+0.6**
HDMB	**Hadim**	**1.92**	**346**	*e*PN	**Pn**	**16 08 14.7**	**+1.5**
HDMB	**Hadim**	**1.92**	**346**	*e*Pn	**Pn**	**16 08 14.7**	**+1.5**
KRTS	**Karatas**	**2.39**	**51**	*e*PN	**Pn**	**16 08 20.5**	**+1.1**
KRTS	**Karatas**	**2.39**	**51**	*e*Pn	**Pn**	**16 08 20.5**	**+1.1**
BHL	**Bhannes**	**2.45**	**118**	*e*P	**Pn**	**16 08 19.0**	**-1.4**
BHL	**Bhannes**	**2.45**	**118**	*e*P	**Pn**	**16 08 19.0**	**-1.4**
ARNB	**Al Arnab**	**2.49**	**71**	*e*P	**Pn**	**16 08 20.1**	**-0.9**
ARNB				*e*S	**Sn**	**16 08 49.0**	**-1.3**
ARNB				AML	AML	16 08 54.9	
	comp=N,528nm,0.7s						
ARNB				AML	AML	16 08 55.8	
	comp=E,672nm,0.9s						
ARNB	**Al Arnab**	**2.49**	**71**	*e*P	**Pn**	**16 08 20.1**	**-0.9**
	SNR=90						
ARNB				*e*S	**Sn**	**16 08 49.0**	**-1.3**
	comp=E,672nm,0.9s,SNR=90						
DQRL	**Deir Qamar**	**2.50**	**123**	*e*P	**Pn**	**16 08 19.0**	**-2.1**
DQRL	**Deir Qamar**	**2.50**	**123**	*e*P	**Pn**	**16 08 19.0**	**-2.1**
HWQ	**Hawqa**	**2.52**	**108**	*e*P	**Pn**	**16 08 20.8**	**-0.5**
HWQ	**Hawqa**	**2.52**	**108**	*e*P	**Pn**	**16 08 20.8**	**-0.5**
NAQL	**Naqoura**	**2.63**	**138**	*e*P	**Pn**	**16 08 22.5**	**-0.2**
NAQL	**Naqoura**	**2.63**	**138**	*e*P	**Pn**	**16 08 22.5**	**-0.2**
ANTB	**Antalya**	**2.65**	**313**	*e*PN	**Pn**	**16 08 24.9**	**+1.9**
ANTB	**Antalya**	**2.65**	**313**	*e*Pn	**Pn**	**16 08 24.9**	**+1.9**
YAYL	**Yayladag**	**2.65**	**69**	*i*P	**Pn**	**16 08 20.8**	**-2.4**
YAYL	**Yayladag**	**2.65**	**69**	*i*P	**Pn**	**16 08 20.8**	**-2.4**
HNTI	**Hanita**	**2.67**	**138**	Pn	**Pn**	**16 08 23.0**	**-0.3**
HNTI	**Hanita**	**2.67**	**138**	Pn	**Pn**	**16 08 23.0**	**-0.3**
BIDA	**Albida**	**2.68**	**91**	*e*P	**Pn**	**16 08 22.7**	**-0.8**
BIDA				AML	AML	16 08 53.6	
	comp=E,378nm,0.2s						
BIDA				*e*S	**Sn**	**16 08 53.6**	**-1.2**
BIDA				AML	AML	16 08 54.0	
	comp=N,969nm,0.3s						
BIDA				AML	AML	16 09 02.4	
	comp=Z,850nm,0.4s						
BIDA	**Albida**	**2.68**	**91**	*e*P	**Pn**	**16 08 22.7**	**-0.8**
	SNR=90						
BIDA				*e*S	**Sn**	**16 08 53.6**	**-1.2**
	comp=Z,850nm,0.4s,SNR=90						
KARA	**Karaisali**	**2.69**	**36**	*e*PN	**Pn**	**16 08 25.2**	**+1.6**
KARA	**Karaisali**	**2.69**	**36**	*e*Pn	**Pn**	**16 08 25.2**	**+1.6**
YURE	**YUREGIR**	**2.70**	**50**	*i*P	**Pn**	**16 08 23.9**	**+0.1**
YURE				*i*S	Sn	16 08 47.8	-7.5
YURE	**YUREGIR**	**2.70**	**50**	*i*P	**Pn**	**16 08 23.9**	**+0.1**
RCY	**Rachaya**	**2.80**	**124**	*e*P	**Pn**	**16 08 24.8**	**-0.4**
RCY	**Rachaya**	**2.80**	**124**	*e*P	**Pn**	**16 08 24.8**	**-0.4**
MMB3	**Mount Meron ar**	**2.84**	**136**	Pn	**Pn**	**16 08 25.2**	**-0.5**
MMB3	**Mount Meron ar**	**2.84**	**136**	Pn	**Pn**	**16 08 25.2**	**-0.5**
TAHT	**Tahtakopru-Hat**	**2.84**	**63**	*e*PN	**Pn**	**16 08 26.4**	**+0.7**
TAHT	**Tahtakopru-Hat**	**2.84**	**63**	*e*Pn	**Pn**	**16 08 26.4**	**+0.7**
KSDI	**Kefar Szold**	**2.88**	**131**	Pn	**Pn**	**16 08 25.9**	**-0.2**
KSDI				Sn	**Sn**	**16 08 57.3**	**-2.2**
CEYT	**Ceyhan**	**2.89**	**48**	*e*PN	**Pn**	**16 08 28.2**	**+1.9**
CEYT	**Ceyhan**	**2.89**	**48**	*e*Pn	**Pn**	**16 08 28.2**	**+1.9**
KORT	**Korkueli**	**2.90**	**312**	*i*P	**Pn**	**16 08 29.2**	**+2.6**
KORT				*i*S	Sn	16 09 11.0	+11
KORT	**Korkueli**	**2.90**	**312**	*i*P	**Pn**	**16 08 29.2**	**+2.6**
OFRI	**'Ofer**	**2.95**	**147**	Pn	**Pn**	**16 08 26.9**	**-0.2**
BLGI	**Bet Lehem HaGe**	**2.95**	**143**	Pn	**Pn**	**16 08 27.4**	**+0.2**
BLGI	**Bet Lehem HaGe**	**2.95**	**143**	Pn	**Pn**	**16 08 27.4**	**+0.2**
AKAS	**Kas**	**3.03**	**293**	*i*P	**Pn**	**16 08 27.8**	**-0.5**
AKAS				*i*S	**Sn**	**16 09 00.6**	**-2.9**
AKAS	**Kas**	**3.03**	**293**	*i*P	**Pn**	**16 08 27.8**	**-0.5**
AKAS				*i*S	**Sn**	**16 09 00.6**	**-2.9**
QASN	**Qassioun**	**3.09**	**120**	*e*P	**Pn**	**16 08 30.0**	**+0.9**
QASN				*e*S	**Sn**	**16 09 04.4**	**-0.4**
QASN				AML	AML	16 09 09.3	
	comp=N,761nm,0.2s						
QASN				AML	AML	16 09 09.3	
	comp=E,1μm,0.4s						
QASN	**Qassioun**	**3.09**	**120**	*e*P	**Pn**	**16 08 30.0**	**+0.9**
	SNR=90						
QASN				*e*S	**Sn**	**16 09 04.4**	**-0.4**
	comp=E,1μm,0.4s,SNR=90						
KSHT	**Keshet**	**3.11**	**132**	Pn	**Pn**	**16 08 29.9**	**+0.5**
SULT	**Sultanhani-AKS**	**3.11**	**7**	*e*PN	**Pn**	**16 08 31.9**	**+2.5**
SULT	**Sultanhani-AKS**	**3.11**	**7**	*e*Pn	**Pn**	**16 08 31.9**	**+2.5**
NIG	**Nigde**	**3.25**	**22**	*e*PN	**Pn**	**16 08 33.4**	**+1.9**
NIG	**Nigde**	**3.25**	**22**	*e*Pn	**Pn**	**16 08 33.4**	**+1.9**
KOZT	**Kozan**	**3.26**	**42**	*e*PN	**Pn**	**16 08 33.0**	**+1.6**
KOZT	**Kozan**	**3.26**	**42**	*e*Pn	**Pn**	**16 08 33.0**	**+1.6**
TOTH	**TOTAH**	**3.29**	**121**	*e*P	**Pn**	**16 08 32.1**	**+0.3**
TOTH				*e*S	**Sn**	**16 09 09.0**	**-0.7**
TOTH				AML	AML	16 09 11.4	
	comp=E,592nm,0.2s						
TOTH	**TOTAH**	**3.29**	**121**	*e*P	**Pn**	**16 08 32.1**	**+0.3**
	SNR=90						
TOTH				*e*S	**Sn**	**16 09 09.0**	**-0.7**
	comp=E,592nm,0.2s,SNR=90						
SLTI	**Sal'it**	**3.30**	**149**	Pn	**Pn**	**16 08 31.7**	**-0.2**
SLTI				Sn	**Sn**	**16 09 07.9**	**-2.0**
SLTI	**Sal'it**	**3.30**	**149**	Pn	**Pn**	**16 08 31.7**	**-0.2**
SLTI				Sn	**Sn**	**16 09 07.9**	**-2.0**
MMLI	**Mount Malkishu**	**3.31**	**143**	Pn	**Pn**	**16 08 32.4**	**+0.4**
MMLI				Sn	**Sn**	**16 09 08.5**	**-1.6**
MMLI	**Mount Malkishu**	**3.31**	**143**	Pn	**Pn**	**16 08 32.4**	**+0.4**
MMLI				Sn	**Sn**	**16 09 08.5**	**-1.6**
ISP	**Isparta**	**3.40**	**324**	P	**Pn**	**16 08 35.7**	**+2.3**
ISP				S	**Sn**	**16 09 14.3**	**+1.8**
ISP	**Isparta**	**3.40**	**324**	P	**Pn**	**16 08 35.7**	**+2.3**
ISP				S	**Sn**	**16 09 14.3**	**+1.8**
ISP	**Isparta**	**3.40**	**324**	P	**Pn**	**16 08 35.7**	**+2.3**
ISP				S	**Sn**	**16 09 14.3**	**+1.8**
BAGO	**Egridir - ISPA**	**3.41**	**328**	*i*P	**Pn**	**16 08 36.0**	**+2.4**
BAGO				*i*S	**Sn**	**16 09 14.4**	**+1.6**
TCHB	**Talchebab**	**3.43**	**134**	*e*P	**Pn**	**16 08 33.8**	**+0.1**
TCHB				*e*S	**Sn**	**16 09 12.0**	**-1.1**
TCHB	**Talchebab**	**3.43**	**134**	*e*P	**Pn**	**16 08 33.8**	**+0.1**
	SNR=90						
TCHB				*e*S	**Sn**	**16 09 12.0**	**-1.1**
	SNR=90						
RABH	**Abou Rabah**	**3.48**	**100**	*e*P	**Pn**	**16 08 35.1**	**+0.7**
RABH				*e*S	**Sn**	**16 09 13.6**	**-0.7**
RABH				AML	AML	16 09 16.2	
	comp=N,124nm,0.3s						
RABH				AML	AML	16 09 17.3	
	comp=E,89nm,0.2s						
RABH	**Abou Rabah**	**3.48**	**100**	*e*P	**Pn**	**16 08 35.1**	**+0.7**
	SNR=90						
RABH				*e*S	**Sn**	**16 09 13.6**	**-0.7**
	comp=E,89nm,0.2s,SNR=90						
KDHN	**Kadinhani**	**3.50**	**348**	*i*P	**Pn**	**16 08 36.1**	**+1.4**
KDHN				*i*S	Sn	16 09 27.8	+13
KDHN	**Kadinhani**	**3.50**	**348**	*i*P	**Pn**	**16 08 36.1**	**+1.4**
HMDT	**Nahal Hemdat**	**3.51**	**143**	Pn	**Pn**	**16 08 35.3**	**+0.6**
HMDT				Sn	**Sn**	**16 09 13.2**	**-1.8**
HMDT	**Nahal Hemdat**	**3.51**	**143**	Pn	**Pn**	**16 08 35.3**	**+0.6**
HMDT				Sn	**Sn**	**16 09 13.2**	**-1.8**
GOLH	**Golhisar**	**3.54**	**308**	*i*P	**Pn**	**16 08 37.9**	**+2.6**
GOLH				*i*S	**Sn**	**16 09 18.4**	**+2.4**
GOLH	**Golhisar**	**3.54**	**308**	*i*P	**Pn**	**16 08 37.9**	**+2.6**
GOLH				*i*S	**Sn**	**16 09 18.4**	**+2.4**
ROOS	**tl_alroos**	**3.61**	**104**	*e*P	**Pn**	**16 08 37.3**	**+1.1**
ROOS				*e*S	**Sn**	**16 09 17.3**	**-0.3**
ROOS				AML	AML	16 09 20.1	
	comp=E,177nm,0.4s						
ROOS				AML	AML	16 09 25.7	
	comp=N,274nm,0.6s						
ROOS	**tl_alroos**	**3.61**	**104**	*e*P	**Pn**	**16 08 37.3**	**+1.1**
	SNR=90						
ROOS				*e*S	**Sn**	**16 09 17.3**	**-0.3**
	comp=N,274nm,0.6s,SNR=90						
ANDN	**Andirin**	**3.63**	**46**	*i*P	**Pn**	**16 08 37.2**	**+0.7**
ANDN				*i*S	**Sn**	**16 09 17.5**	**-0.6**
ANDN	**Andirin**	**3.63**	**46**	*i*P	**Pn**	**16 08 37.2**	**+0.7**
ANDN				*i*S	**Sn**	**16 09 17.5**	**-0.6**
KUZU	**Kuzuini**	**3.66**	**62**	*i*P	**Pn**	**16 08 36.9**	**0.0**
KUZU				*i*S	**Sn**	**16 09 15.3**	**-3.5**
KUZU	**Kuzuini**	**3.66**	**62**	*i*P	**Pn**	**16 08 36.9**	**0.0**
KUZU				*i*S	**Sn**	**16 09 15.3**	**-3.5**
HCB	**Kahramanmara¯**	**3.83**	**53**	*i*P	**Pn**	**16 08 39.2**	**0.0**
HCB				*i*S	**Sn**	**16 09 22.5**	**-0.5**
SALA	**Sala**	**3.87**	**127**	*e*P	**Pn**	**16 08 40.6**	**+0.6**
SALA				*e*S	**Sn**	**16 09 23.4**	**-0.9**
SALA				AML	AML	16 09 26.7	
	comp=E,40nm,0.3s						
SALA				AML	AML	16 09 28.9	
	comp=N,360nm,0.3s						
SALA	**Sala**	**3.87**	**127**	*e*P	**Pn**	**16 08 40.6**	**+0.6**
	SNR=90						
SALA				*e*S	**Sn**	**16 09 23.4**	**-0.9**
	comp=N,360nm,0.3s,SNR=90						
KIZT	**

AYDN	**Tasoluk**	**4.90**	**303**	*i* P		**Pn**	**16 08 54.2**	**+0.4**
KULA	**Kula-Manisa**	**4.91**	**315**	P		**Pn**	**16 08 55.2**	**+1.2**
KULA				S		**Sn**	**16 09 48.9**	**-0.5**
KULA	**Kula-Manisa**	**4.91**	**315**	P		**Pn**	**16 08 55.2**	**+1.2**
KULA				S		**Sn**	**16 09 48.9**	**-0.5**
KULA	**Kula-Manisa**	**4.91**	**315**	P		**Pn**	**16 08 55.2**	**+1.2**
KULA				S		**Sn**	**16 09 48.9**	**-0.5**
KSRV	**Kasrt alli**	**4.91**	**79**	*e*P		**Pn**	**16 08 54.6**	**+0.7**
KSRV				*e*S		**Sn**	**16 09 46.5**	**-2.9**
KSRV				AML	AML	16 10 13.2		
	comp=Z,28nm,0.6s							
KSRV				AML	AML	16 10 16.7		
	comp=E,39nm,0.5s							
KSRV				AML	AML	16 10 17.1		
	comp=N,41nm,0.6s							
KSRV	**Kasrt alli**	**4.91**	**79**	*e*P		**Pn**	**16 08 54.6**	**+0.7**
	SNR=90							
KSRV				*e*S		**Sn**	**16 09 46.5**	**-2.9**
	comp=N,41nm,0.6s,SNR=90							
MANT	**Manisa**	**4.95**	**314**	*i* P		**Pn**	**16 08 55.7**	**+1.0**
MANT				*i* S		**Sn**	**16 09 50.0**	**-0.7**
MANT	**Manisa**	**4.95**	**314**	*i* P		**Pn**	**16 08 55.7**	**+1.0**
MANT				*i* S		**Sn**	**16 09 50.0**	**-0.7**
BDRM	**Kayabasi**	**4.95**	**295**	*i* P		**Pn**	**16 08 54.9**	**+0.3**
BDRM				*i* S		Sn	16 09 38.9	-12
BDRM	**Kayabasi**	**4.95**	**295**	*i* P		**Pn**	**16 08 54.9**	**+0.3**
NIS1	**Nisyros lsl.**	**5.01**	**289**	P		**Pn**	**16 08 55.5**	**+0.2**
NIS1				S		**Sn**	**16 09 49.6**	**-2.2**
NIS1	**Nisyros lsl.**	**5.01**	**289**	P		**Pn**	**16 08 55.5**	**+0.2**
NIS1				S		**Sn**	**16 09 49.6**	**-2.2**
NIS1	**Nisyros lsl.**	**5.01**	**289**	P		**Pn**	**16 08 55.5**	**+0.2**
NIS1				S		**Sn**	**16 09 49.6**	**-2.2**
PRNI	**Paran**	**5.01**	**160**	Pn		**Pn**	**16 08 56.6**	**+1.2**
PRNI				Sn		**Sn**	**16 09 50.6**	**-1.4**
PRNI	**Paran**	**5.01**	**160**	Pn		**Pn**	**16 08 56.6**	**+1.2**
PRNI				Sn		**Sn**	**16 09 50.6**	**-1.4**
MNKR	**ALMNKUR**	**5.13**	**79**⇑	*e*P		**Pn**	**16 08 56.9**	**-0.1**
MNKR				*e*S		**Sn**	**16 09 52.3**	**-2.7**
MNKR				AML	AML	16 10 21.6		
	comp=N,222nm,0.3s							
MNKR				AML	AML	16 10 26.2		
	comp=E,183nm,0.4s							
MNKR				AML	AML	16 10 32.1		
	comp=Z,52nm,0.6s							
MNKR	**ALMNKUR**	**5.13**	**79**⇑	*e*P		**Pn**	**16 08 56.9**	**-0.1**
	SNR=90							
MNKR				*e*S		**Sn**	**16 09 52.3**	**-2.7**
	comp=Z,88nm,0.6s,SNR=90							
KRMI	**Paran Flat**	**5.17**	**164**	Pn		**Pn**	**16 08 59.0**	**+1.5**
KRMI	**Paran Flat**	**5.17**	**164**	Pn		**Pn**	**16 08 59.0**	**+1.5**
HNKL	**Nakhl**	**5.22**	**171**	P		**Pn**	**16 08 58.7**	**+0.5**
	baz=169							
HNKL				S		**Sn**	**16 09 54.1**	**-3.0**
	baz=169							
HNKL				AMP			16 10 00.0	
	comp=E,80μm,0.4s,logA/T=5.3,baz=169							
HNKL	**Nakhl**	**5.22**	**171**	P		**Pn**	**16 08 58.7**	**+0.5**
HNKL				S		**Sn**	**16 09 54.1**	**-3.0**
HRFI	**Mount Harif**	**5.32**	**161**	Pn		**Pn**	**16 09 00.7**	**+1.1**
HRFI				Sn		**Sn**	**16 09 56.9**	**-2.7**
HRFI	**Mount Harif**	**5.32**	**161**	Sn		**Pn**	**16 09 00.7**	**+1.1**
HRFI				Sn		**Sn**	**16 09 56.9**	**-2.7**
MBH	**Mount Berech**	**5.52**	**163**	Pn		**Pn**	**16 09 03.6**	**+1.2**
MBH	**Mount Berech**	**5.52**	**163**	Pn		**Pn**	**16 09 03.6**	**+1.2**
GLL	**Jalalah**	**5.63**	**192**	P		**Pn**	**16 09 04.0**	**+0.2**
	baz=192							
GLL	**Jalalah**	**5.63**	**192**	P		**Pn**	**16 09 04.0**	**+0.2**
EIL	**Elat**	**5.65**	**163**	Pn		**Pn**	**16 09 05.4**	**+1.3**
EIL				Sn		**Sn**	**16 10 06.2**	**-1.4**
EIL	**Elat**	**5.65**	**163**	Pn		**Pn**	**16 09 05.4**	**+1.3**
EIL				Sn		**Sn**	**16 10 06.2**	**-1.4**
SMG	**Samos**	**5.65**	**299**	P		**Pn**	**16 09 03.8**	**-0.3**
SMG				S		**Sn**	**16 10 06.3**	**-1.4**
SMG	**Samos**	**5.65**	**299**	P		**Pn**	**16 09 03.8**	**-0.3**
SMG	**Samos**	**5.65**	**299**	P		**Pn**	**16 09 03.8**	**-0.3**
SMG				S		**Sn**	**16 10 06.3**	**-1.4**
DURS	**Dursunbey**	**5.79**	**322**	*i* P		**Pn**	**16 09 07.4**	**+1.4**
DURS	**Dursunbey**	**5.79**	**322**	*i* P		**Pn**	**16 09 07.4**	**+1.4**
SFNV	**Sufian**	**5.88**	**75**	AML	AML	16 10 45.3		
	comp=E,31nm,0.8s							
SFNV				AML	AML	16 10 46.4		
	comp=Z,54nm,0.5s							
SFNV				AML	AML	16 10 50.4		
	comp=N,88nm,0.6s							
ULDT	**Uludag**	**5.92**	**329**	*i* P		**Pn**	**16 09 08.5**	**+0.6**
ULDT				*i* S		**Sn**	**16 10 16.3**	**+1.9**
ULDT	**Uludag**	**5.92**	**329**	*i* P		**Pn**	**16 09 08.5**	**+0.6**
ULDT				*i* S		**Sn**	**16 10 16.3**	**+1.9**
HBST	**Basata**	**6.04**	**166**	P		**Pn**	**16 09 10.2**	**+0.8**
	baz=164							
HBST	**Basata**	**6.04**	**166**	P		**Pn**	**16 09 10.2**	**+0.8**
URLA	**Izmir**	**6.12**	**304**	*i* P		**Pn**	**16 09 10.3**	**-0.3**
URLA	**Izmir**	**6.12**	**304**	*i* P		**Pn**	**16 09 10.3**	**-0.3**
ZEY	**¯zmir**	**6.13**	**303**	*i* P		**Pn**	**16 09 10.1**	**-0.5**
MATC	**Matruh**	**6.16**	**234**	P		**Pn**	**16 09 10.8**	**-0.2**
	baz=234							
LAST	**Lasithi**	**6.21**	**273**	P		**Pn**	**16 09 12.0**	**+0.1**
LAST	**Lasithi**	**6.21**	**273**	P		**Pn**	**16 09 12.0**	**+0.1**
LAST				S		**Sn**	**16 10 18.7**	**-2.9**
LAST	**Lasithi**	**6.21**	**273**	P		**Pn**	**16 09 12.0**	**+0.1**
LAST				S		**Sn**	**16 10 18.7**	**-2.9**
KBSD	**Kabsdagh**	**6.35**	**70**	*e*P		**Pn**	**16 09 13.9**	**+0.2**
KBSD				*e*S		**Sn**	**16 10 21.2**	**-3.7**
KBSD				AML	AML	16 10 41.8		
	comp=E,39nm,0.4s							
KBSD				AML	AML	16 10 59.7		
	comp=N,30nm,0.4s							
KBSD				AML	AML	16 11 06.0		
	comp=Z,17nm,0.5s							
KBSD	**Kabsdagh**	**6.35**	**70**	*e*P		**Pn**	**16 09 13.9**	**+0.2**
	SNR=90							
THR6	**Thira Island,**	**6.36**	**284**	P		**Pn**	**16 09 13.9**	**+0.1**
THR6	**Thira Island,**	**6.36**	**284**	P		**Pn**	**16 09 13.9**	**+0.1**
THR6	**Thira Island,**	**6.36**	**284**	P		**Pn**	**16 09 13.9**	**+0.1**
THR3	**Thira Island,**	**6.36**	**284**	P		**Pn**	**16 09 13.6**	**-0.2**
THR3	**Thira Island,**	**6.36**	**284**	P		**Pn**	**16 09 13.6**	**-0.2**
THR3	**Thira Island,**	**6.36**	**284**	P		**Pn**	**16 09 13.6**	**-0.2**
HMAT	**Matruh**	**6.40**	**233**	AMP			16 10 00.0	
	comp=E,280μm,0.2s,logA/T=6.2,baz=233							
APE	**Apeiranthos**	**6.41**	**290**	P		**Pn**	**16 09 14.2**	**-0.3**
APE	**Apeiranthos**	**6.41**	**290**	P		**Pn**	**16 09 14.2**	**-0.3**
APE	**Apeiranthos**	**6.41**	**290**	P		**Pn**	**16 09 14.2**	**-0.3**
THR5	**Thira Island,**	**6.41**	**284**	P		**Pn**	**16 09 14.8**	**+0.3**
THR5	**Thira Island,**	**6.41**	**284**	P		**Pn**	**16 09 14.8**	**+0.3**
CHOS	**Chios island**	**6.51**	**302**	P		**Pn**	**16 09 16.0**	**+0.1**
CHOS	**Chios island**	**6.51**	**302**	P		**Pn**	**16 09 16.0**	**+0.1**
CHOS				S		**Sn**	**16 10 25.0**	**-3.8**
CHOS	**Chios island**	**6.51**	**302**	P		**Pn**	**16 09 16.0**	**+0.1**
CHOS				S		**Sn**	**16 10 25.0**	**-3.8**
HKAT	**Jabal Katrina**	**6.61**	**173**	P		**Pn**	**16 09 17.9**	**+0.5**
	baz=171							
HKAT	**Jabal Katrina**	**6.61**	**173**	P		**Pn**	**16 09 17.9**	**+0.5**
IDI	**Anoyia**	**6.69**	**274**	P		**Pn**	**16 09 18.4**	**0.0**
IDI	**Anoyia**	**6.69**	**274**	P		**Pn**	**16 09 18.4**	**0.0**
IDI				S		**Sn**	**16 10 29.3**	**-4.0**
IDI	**Anoyia**	**6.69**	**274**	P		**Pn**	**16 09 18.4**	**0.0**
IDI				S		**Sn**	**16 10 29.3**	**-4.0**
SIVA	**Sivas**	**6.77**	**272**	P		**Pn**	**16 09 19.4**	**0.0**
SIVA	**Sivas**	**6.77**	**272**	P		**Pn**	**16 09 19.4**	**0.0**
SIVA				S		**Sn**	**16 10 31.0**	**-4.0**
SIVA	**Sivas**	**6.77**	**272**	P		**Pn**	**16 09 19.4**	**0.0**
SIVA				S		**Sn**	**16 10 31.0**	**-4.0**
VAM	**Vamos**	**7.26**	**275**	P		**Pn**	**16 09 25.8**	**-0.3**
VAM	**Vamos**	**7.26**	**275**	P		**Pn**	**16 09 25.8**	**-0.3**
VAM				S		**Sn**	**16 10 43.3**	**-3.8**
VAM	**Vamos**	**7.26**	**275**	P		**Pn**	**16 09 25.8**	**-0.3**
VAM				S		**Sn**	**16 10 43.3**	**-3.8**
SLUM		**7.49**	**243**	P		**Pn**	**16 09 29.5**	**+0.2**
	baz=244							
SLUM				S		Sn	16 10 42.1	-11
	baz=244							
SLUM		**7.49**	**243**	P		**Pn**	**16 09 29.5**	**+0.2**
ANKY	**Antikythira Is**	**8.00**	**278**	P		**Pn**	**16 09 35.1**	**-1.1**
ANKY	**Antikythira Is**	**8.00**	**278**	P		**Pn**	**16 09 35.1**	**-1.1**
ANKY	**Antikythira Is**	**8.00**	**278**	P		**Pn**	**16 09 35.1**	**-1.1**
ANKY				S		**Sn**	**16 11 00.2**	**-5.0**
KYTH	**Kithira**	**8.24**	**281**	P		**Pn**	**16 09 38.3**	**-1.3**
KYTH	**Kithira**	**8.24**	**281**	P		**Pn**	**16 09 38.3**	**-1.3**
KYTH	**Kithira**	**8.24**	**281**	P		**Pn**	**16 09 38.3**	**-1.3**
VLI	**Veliai**	**8.37**	**284**	P		**Pn**	**16 09 39.9**	**-1.4**
VLI	**Veliai**	**8.37**	**284**	P		**Pn**	**16 09 39.9**	**-1.4**
VLI	**Veliai**	**8.37**	**284**	P		**Pn**	**16 09 39.9**	**-1.4**
VLI				S		**Sn**	**16 11 08.7**	**-5.7**
GERES	**GERESS Array B**	**19.82**	**320**	P		**P**	**16 12 08.8**	**+0.3**
	comp=E,0.2nm,0.3s,baz=118,slow=12,SNR=7.6							
KHC	**Kasperske Hory**	**20.05**	**320**	*e*P		**P**	**16 12 11.0**	**0.0**
KHC				*ep*P		**pP**	**16 12 21.3**	**-2.4**
KHC				*es*P		sP	16 12 25.4	-5.6
KHC				*ex*		x	16 12 32.8	
FINES	**FINESS Array B**	**26.73**	**353**	P		**P**	**16 13 16.6**	**+0.1**
	comp=E,0.7nm,0.4s,baz=158,slow=12,SNR=6.4							
NOA	**NORSAR Array B**	**29.49**	**338**	LR		LR	16 26 10.6	
	comp=E,5.6nm,21.9s,baz=10,0,slow=38							
ARCES	**ARCESS Array B**	**34.74**	**355**	P		**P**	**16 14 27.7**	**+0.8**
	comp=E,0.5nm,0.6s,baz=163,slow=9.4,SNR=4.2							
TORD	**Torodi Ar. Bea**	**35.77**	**240**	P		**P**	**16 14 37.0**	**+0.7**
	comp=E,1.1nm,0.7s,baz=43,slow=9.7,SNR=8.6							
MKAR	**Makanchi Array**	**38.39**	**57**	P		**P**	**16 14 58.3**	**0.0**
	comp=E,0.4nm,0.5s,baz=269,slow=8.2,SNR=4.8							
ZALV	**Zalesovo Beam**	**40.38**	**46**	P		**P**	**16 15 15.9**	**+1.1**
	comp=E,0.4nm,0.3s,baz=257,slow=9.9,SNR=3.0							
SONM	**Songino Array**	**54.45**	**52**	P		**P**	**16 17 04.9**	**+0.6**
	comp=E,0.3nm,0.6s,baz=302,slow=8.3,SNR=2.2							
HHC	**Hu-ho-hao-te**	**60.20**	**59**	*e*P		**P**	**16 17 45.8**	**+0.9**
HHC				PP		**PP**	**16 20 00.5**	**+2.7**
HHC				S		**S**	**16 25 52.0**	**-2.4**
HHC				sS		**sS**	**16 26 19.3**	**-1.3**
HHC				ScS		SKKSac	16 27 27.0	-3.3
HHC	**Hu-ho-hao-te**	**60.20**	**59**	SS		SS	16 29 50.3	-1.6
HHC				pmax		pmax		
	comp=Z,14nm,1.2s							
HHC				pmax		pmax		
	comp=Z,81nm,5.6s							
HHC				LR		LR		
	comp=N,100nm,12.9s							
HHC				LR		LR		
	comp=E,87nm,13.3s							
HHC				LR		LR		
	comp=Z,72nm,14.1s							

SJA 27 16:16:47.3±0.6, 31°.84S×70°.07W, h86km±5km, ML3.5,
Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**0.66**	**87**	*i* P		Pn	16 17 04.6	+1.2
AUSP	**Uspallata**	**0.69**	**124**	*i* P		Pn	16 17 05.1	+1.3
AUSP				*i* S		Sn	16 17 18.0	+1.9
ASAL	**Salagasta**	**1.28**	**126**	*i* P		Pn	16 17 11.6	+1.3
ARCO	**CERRO ARCO**	**1.39**	**136**	*i* P		Pn	16 17 13.2	+1.5
ARCO				*i* S		Sn	16 17 31.6	+1.5
ARCO				AML	AML	16 17 34.9		
	comp=Z,615nm,0.8s							
RTLL	**Cerro Villicun**	**1.45**	**70**	*i* P		Pn	16 17 13.3	+0.9
RTLL				*i* S		Sn	16 17 33.0	+1.8
AAGR	**Agrelo**	**1.62**	**140**	*i* P		Pn	16 17 15.7	+1.0
AAGR				*i* P		Pn	16 17 15.7	+1.0

DJA 27 16:36:15.3±0.3, 1°.S±3°×113°.4E±°, h10km, M3.5/2, MLv3.5/2,
Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAKI	**Biak**	**2.07**	**86**	P		Pn	16 36 49.8	-0.4
BAKI				S		Sn	16 37 17.2	+1.1
FAKI	**Fak Fak**	**2.39**	**229**	P		Pn	16 36 53.9	-0.6
FAKI				S		Sn	16 37 24.5	+0.6
SWI	**Sorong**	**2.82**	**279**	P		Pn	16 37 00.3	-0.1
SWI				S		Sn	16 37 36.1	+1.6
SMPI	**Sarmi**	**4.71**	**98**	P		Pn	16 37 26.4	-0.1
AAI	**Ambon**	**6.29**	**248**	P		Pn	16 37 35.4	-13

*IDC **27** 16:38:54.4±0.7, 30°.32N×94°.86E, h0km, mb4.1/15, mb1 4.2/18, mb1mx4.0/44, mbtmp4.1/18, ML3.6/3, MS3.4/3, Ms1 3.4/3, ms1mx2.8/38, Error ellipse: s-maj=22.6km s-min=14.4km az=55.0*

*ISCJB **27** 16:38:56.2±0.3, 30°.29N±0°.04×94°.88E±0°.04, h23km, mb4.3/37, MS3.8/3, Error ellipse: s-maj=6.5km s-min=4.3km az=144.3*

*BJI **27** 16:38:57.7, 30°.38N×94°.84E, h18km, mb4.4/15, mB4.4/7, ML4.0/3, Ms3.8/12, Ms7 3.7/11*

*MOS **27** 16:38:57.9±0.9, 30°.28N×94°.91E, h35km, mb4.7/17, Error ellipse: s-maj=10.4km s-min=6.3km az=110.2*

*NEIC **27** 16:39:00.1±1.0, 30°.33N×94°.92E, h39km±10km, mb4.4/14, Error ellipse: s-maj=8.4km s-min=6.8km az=55.0*

ISC 27 16:38:58.3±0.5, 30°.30N±0°.07×94°.87E±0°.05, h23km, n100,
σ1⇑31/107, mb4.4/37, MS4.3/3, 6C-5D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**3.28**	**260**	*e*P		**Pn**	**16 39 50.6**	**+1.8**
LSA	**Lhasa**	**3.28**	**260**	*e*P		**Pn**	**16 39 50.6**	**+1.8**
SHL	**Shillong**	**5.41**	**210**	*e*P		**Pn**	**16 40 19.5**	**+1.8**
SHL				*e*S		Sb	16 41 45.0	+8.3
IMP	**Imphal**	**5.56**	**189**	*e*P		**Pn**	**16 40 20.0**	**+0.3**
IMP				*e*S		x	16 40 45.0	
TAPN	**Taplejung**	**6.94**	**247**	*e*P		**Pn**	**16 40 40.6**	**+1.8**
	17nm,0.5s							
ODAN	**Odare**	**7.42**	**244**	*e*P		**Pn**	**16 40 46.2**	**+0.8**
	31nm,0.7s							
CD2	**Chengdu**	**7.68**	**83**	*e*Pn		Pn	16 40 44.8	-4.1
CD2				Sn		**Sn**	**16 42 13.0**	**-2.3**
CD2				LN				
	530nm,7.8s							
CD2				LZ				
	390nm,7.4s							
RAMN	**Ramite**	**8.00**	**247**	*e*P		**Pn**	**16 40 54.8**	**+1.4**
	18nm,0.6s							
GUN	**Gumba**	**8.22**	**255**	*e*P		**Pn**	**16 40 57.3**	**+0.8**
	38nm,0.5s							
PKI	**Pulchoki**	**8.72**	**254**	*e*P		**Pn**	**16 41 03.6**	**+0.2**
	18nm,0.7s							
PKIN	**Phulchoki**	**8.73**	**254**	*e*P		**Pn**	**16 41 03.3**	**-0.2**
	13nm,0.7s							
KKN	**Kakani**	**8.76**	**256**	*e*P		**Pn**	**16 41 03.5**	**-0.3**
	32nm,0.9s							
DMN	**Daman**	**8.96**	**255**	*e*P		**Pn**	**16 41 07.0**	**+0.3**
GKN	**Gorkha**	**9.24**	**258**	*e*P		**Pn**	**16 41 10.3**	**0.0**
	16nm,0.5s							
KOLN	**Koldanda**	**10.18**	**258**	*e*P		**Pn**	**16 41 21.7**	**-1.6**
	43nm,0.7s							
CMAR	**Chiang Mai Arr**	**12.36**	**162**	Pn		**Pn**	**16 41 53.5**	**+0.6**
	0.1nm,0.3s,baz=333,slow=13,SNR=12							
WMQ	**Urumqi**	**14.65**	**339**	P		Pn	16 42 18.3	-5.9
WMQ				pP		P	16 42 21.8	-8.5
WMQ				sP			16 42 25.8	
WMQ				pmax		pmax		
	comp=Z,6.0nm,0.6s							
WMQ				pmax		pmax		
	comp=Z,58nm,4.0s							
WMQ				LR		LR		
	comp=N,110nm,6.0s							
WMQ				LR		LR		
	comp=E,66nm,5.4s							
WMQ				LR		LR		
	comp=Z,29nm,10.0s							
HHC	**Hu-ho-hao-te**	**17.15**	**48**	*e*P		**P**	**16 42 57.5**	**-0.6**
HHC				PP		**PnPn**	**16 43 12.8**	**+6.2**
HHC				S		**Sn**	**16 46 03.8**	**-2.9**
HHC				SS		**SnSn**	**16 46 25.5**	**+5.4**
HHC				PMZ				
	comp=Z,20nm,1.1s							
HHC				PMZ				
	comp=Z,48nm,5.6s							
HHC				LN				
	comp=Z,86nm,10.2s							
HHC				LE				
	comp=Z,92nm,9.0s							
HHC				LZ				
	comp=Z,49nm,12.8s							
MKAR	**Makanchi Array**	**19.14**	**333**	P		**P**	**16 43 17.9**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=139,slow=13,SNR=23							
SONM	**Songino Array**	**19.62**	**24**	P		**P**	**16 43 24.8**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=214,slow=12,SNR=30							
SONM				LR		LR	16 51 46.3	
	comp=Z,44nm,20.0s,baz=191,slow=39							
ULN	**Ulaanbaatar**	**19.88**	**25**	*e*P		**P**	**16 43 27.9**	**-0.2**
ULN				pmax		pmax		
	comp=Z,7.0nm,1.0s							
ULN	**Ulaanbaatar**	**19.88**	**25**	*e*P		**P**	**16 43 27.9**	**-0.2**
	comp=Z,7.2nm,1.0s							
TKM2	**Tokmak 2**	**19.89**	**315**	*e*P		**Pn**	**16 43 29.4**	**-0.6**
TKM2				pmax		pmax		
	comp=Z,9.0nm,1.3s							
TKM2	**Tokmak 2**	**19.89**	**315**	*e*P		**Pn**	**16 43 29.4**	**-0.6**
	comp=Z,8.6nm,1.3s							
FRU	**Bishkek**	**20.46**	**313**	*i* P		**P**	**16 43 34.0**	**-0.3**
FRU				*e*			16 44 02.0	
FRU				pmax		pmax		
	comp=Z,40nm,1.9s							
EKS2	**Erkin-Say**	**20.91**	**312**	*e*P		**P**	**16 43 40.3**	**+1.1**
EKS2				pmax		pmax		
	comp=Z,12nm,1.2s							
EKS2	**Erkin-Say**	**20.91**	**312**	*e*P		**P**	**16 43 40.3**	**+1.1**
	comp=Z,12nm,1.2s							
ZAK	**Zakamensk**	**21.03**	**15**⇓	*i*P		**P**	**16 43 41.0**	**+0.5**
ZAK				pmax		pmax		
	comp=Z,11nm,1.1s							
TLY	**Talaya**	**22.33**	**14**	P		**P**	**16 43 53.3**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=68,slow=10.0,SNR=3.4							
TLY				LR		LR	16 53 39.6	
	comp=Z,30nm,18.2s,baz=179,slow=40							
TLY	**Talaya**	**22.33**	**14**	*e*P		**P**	**16 43 55.1**	**+0.8**
TLY				pmax		pmax		
	comp=Z,9.0nm,1.9s							
IRK	**Irkutsk**	**23.00**	**15**	*e*P		**P**	**16 44 01.9**	**+0.6**
IRK				pmax		pmax		
	comp=Z,26nm,1.5s							
KKAR	**Karatay Array**	**23.24**	**310**	*e*P		**P**	**16 44 03.4**	**-0.5**
KKAR				pmax		pmax		
	comp=Z,14nm,1.4s							
KKAR	**Karatay Array**	**23.24**	**310**	*e*P		**P**	**16 44 03.4**	**-0.5**
	comp=Z,14nm,1.4s							
KURBB	**Kurchatov Arra**	**23.70**	**334**	P		**P**	**16 44 06.5**	**-1.8**
	comp=Z,9.2nm,1.1s,baz=142,slow=10,SNR=37							
KURBB				PcP		**PcP**	**16 47 52.2**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=133,slow=1.1,SNR=6.3							
KURK	**Kurchatov**	**23.75**	**334**	P		**P**	**16 44 06.5**	**-2.2**
KURK							16 47 52.2	
KURK	**Kurchatov**	**23.75**	**334**	P		**P**	**16 44 06.5**	**-2.2**
KURK				PcP		**PcP**	**16 47 52.2**	**+0.1**
ZAA0	**Zalesovo Array**	**24.73**	**346**	*e*P		**P**	**16 44 17.4**	**-0.3**
ZALV	**Zalesovo Beam**	**24.73**	**346**	P		**P**	**16 44 17.4**	**-0.3**
	comp=Z,3.0nm,0.7s,baz=163,slow=9.8,SNR=19							
NVS	**Novosibirsk**	**25.91**	**345**⇓	*i*P		**P**	**16 44 27.3**	**-1.1**
NVS				pmax		pmax		
	comp=N,15nm,1.6s							
NVS				pmax		pmax		
	comp=Z,23nm,1.6s							
NVS				pmax		pmax		
	comp=E,10.0nm,1.4s							
HIA	**Hailar**	**26.71**	**38**	*e*P		**P**	**16 44 36.1**	**+0.3**
HIA	**Hailar**	**26.71**	**38**	*e*P		**P**	**16 44 36.1**	**+0.3**
CN2	**Changchun**	**27.70**	**52**	*e*P		**P**	**16 44 45.8**	**+1.1**
CN2				PMZ				
	comp=E,10.0nm,0.8s							
BVAR	**Borovoye Array**	**28.89**	**329**	P		**P**	**16 44 55.3**	**0.0**
	comp=E,3.0nm,0.9s,baz=128,slow=9.6,SNR=14							
BVAR				PcP		**PcP**	**16 48 04.6**	**+0.5**
	comp=E,0.3nm,0.5s,baz=94,slow=1.9,SNR=3.9							
BRVK	**Borovoye**	**28.96**	**329**	*d* iP		**P**	**16 44 56.4**	**+0.5**
BRVK				pmax		pmax		
	comp=Z,12nm,1.2s							
BRVK	**Borovoye**	**28.96**	**329**	*e*P		**P**	**16 44 56.7**	**+0.8**
	comp=Z,10nm,1.0s							
GEYT	**Alibeck**	**31.21**	**294**	P		**P**	**16 45 16.4**	**+0.4**
	comp=Z,4.4nm,0.9s,baz=101,slow=7.7,SNR=11							
MSHR	**Mys Shultsa**	**31.42**	**57**	*e*P		**P**	**16 45 18.9**	**+1.2**
ABKAR	**Akbulak array**	**32.45**	**316**	*e*P		**P**	**16 45 27.6**	**+0.9**
	comp=Z,0.8nm,0.7s							
KLR	**Kul'dur**	**33.63**	**45**	*e*P		P	16 45 32.2	-4.8
SVE	**Sverdlovsk**	**35.67**	**328**⇑	*e*P		**P**	**16 45 55.6**	**+1.1**
SVE				pmax		pmax		
	comp=Z,19nm,1.3s							
ARU	**Arti**	**36.43**	**326**	*d* iP		**P**	**16 46 01.4**	**+0.4**
ARU							16 47 18.5	
ARU				S		**S**	**16 51 42.9**	**+1.7**
ARU				pmax		pmax		
	comp=Z,16nm,1.7s							
ARU	**Arti**	**36.43**	**326**	*e*P		**P**	**16 46 01.0**	**0.0**
	comp=Z,14nm,1.2s							
MAJO	**Matsushiro**	**36.47**	**68**⇑	*i*P		**P**	**16 46 02.4**	**+0.8**
MAJO				pmax		pmax		
	comp=Z,45nm,1.5s							
YAK	**Yakutsk**	**38.97**	**25**	*i* P		**P**	**16 46 23.3**	**+0.9**
YAK				pmax		pmax		
	comp=Z,10.0nm,1.0s							
YAK	**Yakutsk**	**38.97**	**25**	*e*P		**P**	**16 46 22.0**	**-0.4**
	comp=Z,8.9nm,0.8s							
GNI	**Garni**	**41.64**	**298**⇑	*e*P		**P**	**16 46 44.6**	**-0.4**
GNI				pmax		pmax		
	comp=Z,12nm,1.1s	

COLA					pmax	pmax					
	comp=Z,22nm,1.1s										
ILAR	**Eielson Array**	**73.85**	**23**	P		**P**	**16 50 30.6**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=296,slow=5.1,SNR=15										
INK	**Inuvik**	**75.38**	**17**	*e*P		**P**	**16 50 39.8**	**+0.2**
INK					pmax	pmax					
	comp=Z,4.0nm,1.0s										
INK	**Inuvik**	**75.38**	**17**	*e*P		**P**	**16 50 39.8**	**+0.2**
	comp=Z,3.6nm,1.0s										
EGAK	**Eagle**	**75.73**	**22**	P		**P**	**16 50 40.7**	**-1.0**
	comp=Z,3.0nm,1.0s										
ESDC	**Sonseca Array**	**77.48**	**309**	P		**P**	**16 50 51.6**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=26,slow=5.4,SNR=6.3										
LSZ	**Lusaka**	**78.53**	**245**	*e*P		**P**	**16 50 58.4**	**+0.1**
LSZ					pmax	pmax					
	comp=Z,7.0nm,1.1s										
LSZ	**Lusaka**	**78.53**	**245**	*e*P		**P**	**16 50 58.4**	**+0.1**
	comp=Z,7.0nm,1.1s										
TORD	**Torodi Ar. Bea**	**86.17**	**283**	P		**P**	**16 51 37.8**	**-0.4**
	comp=Z,3.5nm,1.0s,baz=56,slow=2.8,SNR=12										
SAML	**Samuel**	**150.47**	**311**	*e*PKPbc		**PKPbc**	**16 58 49.1**	**+0.3**

MEX 27 16:40:14.4±0.4, 14°.15N×92°.14W, h27^{km}±17^{km}, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	
PCIG		**1.87**	**326**	*i* P		Pn	16 40 42.9	-1.7
PCIG				*e*S		Sn	16 41 04.2	-3.1
CCIG	**Comitan**	**2.12**	**360**	*i* P		Pn	16 40 45.8	-2.6
CCIG				*i* S		Sn	16 41 11.1	-2.9

BJI **27** *16:54:08.1, 7°.67S×126°.75E, h379^{km}, mb4.5/58, mB4.6/41*
MOS **27** *16:54:09.7±1.1, 7°.28S×126°.38E, h355^{km}, mb4.7/34, Error ellipse: s-maj=10.7km s-min=6.2km az=107.2*
ISCJB **27** *16:54:11.9±0.2, 7°.35S±0°.02×126°.42E±0°.02, h383^{km}±2^{km}, mb4.5/70, Error ellipse: s-maj=3.9km s-min=3.1km az=148.2*
IDC **27** *16:54:11.9±0.7, 7°.29S×126°.38E, h366^{km}±7^{km}, mb4.2/25, mb1 4.3/30, mb1mx4.2/40, mbtmp5.0/30, Error ellipse: s-maj=9.8km s-min=6.2km az=70.0*
NEIC **27** *16:54:12.8±0.3, 7°.32S×126°.39E, h378^{km}±3^{km}, mb4.9/26, Error ellipse: s-maj=5.1km s-min=3.7km az=52.0*
GCMT **27** *16:54:12.8±0.2, 7°.23S×126°.38E, h377^{km}±1^{km}, MW5.5/97, Moment Tensor Solution. s97,c160; Duration: 1§4 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.04±.04; $M_{\theta\theta}$2.19±.06; $M_{\phi\phi}$-1.15±.08; $M_{r\theta}$-0.27±.07; $M_{r\phi}$1.01±.06; $M_{\theta\phi}$1.09±.06; Best double couple: M_o2.42400×10^{17} NP1:ϕ_s217.00000°, δ63.00000°, λ-149.00000°. NP2: ϕ_s112.00000°, δ62.00000°, λ-30.00000°. Principal axes: T 2.4720, Plg1.0000°, Azm344.0000°; N -0.0970, Plg50.0000°, Azm254.0000°; P -2.3750, Plg40.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s.*
DJA **27** *16:54:13.0±0.1, 7°.5S×12°.6E±°, h376^{km}±2^{km}, M5.0/89, mb5.1/89, mB5.5/69, MLv5.7/19, Mw(mB)5.0/69, Mwp5.6/6*
KLM **27** *16:54:15.0, 7°.31S×126°.50E, h438^{km}, mb5.4, MS6.2*
ISC 27 16:54:12.9±0.3, 7°.34S±0°.03×126°.45E±0°.04, h379^{km}±2^{km}, h380^{km}:pP-P, n313, σ1§64/443, mb4.6/70, 31C-24D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	
SOEI	**Soe**	**3.23**	**222**	P		**Pn**	**16 55 15.4**	**-1.2**
SOEI				S		**S**	**16 56 05.7**	**-2.3**
SOEI	**Soe**	**3.23**	**222**	*e*Pn		**Pn**	**16 55 17.1**	**+0.5**
AAI	**Ambon**	**4.02**	**26**	P		**Pn**	**16 55 24.6**	**+0.6**
NLAI	**Namlea**	**4.13**	**9**	P		**Pn**	**16 55 25.6**	**+0.6**
MMRI	**Maumere**	**4.37**	**253**	P		**Pn**	**16 55 26.4**	**-1.0**
MMRI	**Maumere**	**4.37**	**253**	*e*Pn		**Pn**	**16 55 26.2**	**-1.1**
SAUI	**Saumlaki**	**4.85**	**98**	*e*Pn		**Pn**	**16 55 33.3**	**+0.9**
KDI	**Kendari**	**5.08**	**311**	P		**Pn**	**16 55 34.7**	**-0.1**
	494nm,0.9s,4μm2.2nm							
SANI	**Sanana**	**5.28**	**355**	P		**Pn**	**16 55 37.5**	**+0.6**
	647nm,0.8s,13μm21μm2.8nm							
BSSI	**Bau Bau, Buton**	**6.04**	**281**	P		**Pn**	**16 55 44.7**	**-0.5**
	2μm,0.9s,29μm6.3nm							
BKSI	**Bulukumba**	**6.60**	**287**	P		**Pn**	**16 55 51.2**	**-0.3**
	1μm,0.7s,8μm3.0nm							
LBMI	**Labuha**	**6.74**	**9**	P		**P**	**16 55 54.0**	**-0.1**
	1μm,0.7s,17μm3.8nm							
KAPI	**Kappang**	**7.05**	**289**	P		**P**	**16 55 56.9**	**-0.7**
	9.1nm,0.3s,baz=122,slow=6.8,SNR=86							
KAPI				S		**S**	**16 57 20.6**	**-0.7**
	6.3nm,0.3s,baz=240,slow=20,SNR=2.5							
KAPI	**Kappang**	**7.05**	**289**	*e*Pn		**P**	**16 55 57.4**	**-0.2**
KAPI				S		**S**	**16 57 20.6**	**-0.7**
MTN	**Manton Dam**	**7.15**	**140**	P		**Pn**	**16 55 58.1**	**+0.4**
	baz=7.2,SNR=1000							
LUWI	**Luwuk**	**7.25**	**329**	P		**Pn**	**16 55 59.3**	**+0.3**
	739nm,2.1s,18μm20μm3.3nm							
LUWI	**Luwuk**	**7.25**	**329**	⇑P		**P**	**16 55 59.9**	**0.0**
	baz=7.3,SNR=10							
LUWI	**Luwuk**	**7.25**	**329**	*e*Pn		**P**	**16 55 59.5**	**-0.4**
FAKI	**Fak Fak**	**7.25**	**53**	P		**Pn**	**16 55 57.0**	**-2.0**
FAKI	**Fak Fak**	**7.25**	**53**	⇑P		**Pn**	**16 55 57.1**	**-2.0**
	baz=7.3,SNR=398							
FAKI	**Fak Fak**	**7.25**	**53**	*e*Pn		**Pn**	**16 55 56.7**	**-2.3**
SPSI	**Sidrap Palu**	**7.45**	**296**	P		**Pn**	**16 56 01.2**	**0.0**
	298nm,1.2s,4μm2.2nm							
TTSI	**Tana Toraja**	**7.86**	**303**	P		**Pn**	**16 56 06.2**	**+0.2**
	388nm,1.5s,6μm1.9nm							
KDU	**Kakadu**	**7.96**	**132**	P		**Pn**	**16 56 07.0**	**-0.1**
	baz=8.0,SNR=225							
APSI	**Ampana**	**7.98**	**323**	P		**P**	**16 56 07.8**	**-0.3**
	444nm,2.0s,9μm1.9nm							
SIJI	**Sorong**	**8.02**	**37**	P		**Pn**	**16 56 06.1**	**-1.8**
	25nm,0.3s,baz=210,slow=11,SNR=67							
SIJI				S		S	16 57 35.7	-6.2
	13nm,0.3s,baz=204,slow=19,SNR=15							
SWI	**Sorong**	**8.02**	**37**	P		**Pn**	**16 56 06.1**	**-1.8**
	105nm,0.7s,2μm							
SWI	**Sorong**	**8.02**	**37**	P		**Pn**	**16 56 06.3**	**-1.6**
	baz=8.1,SNR=35							
TNTI	**Ternate**	**8.11**	**6**	P		**Pn**	**16 56 08.7**	**-0.1**
	582nm,1.4s,11μm25μm							
TNTI	**Ternate**	**8.11**	**6**	*e*Pn		**Pn**	**16 56 08.8**	**-0.1**
KMSI	**Cibinong**	**8.24**	**342**	P		**P**	**16 56 11.0**	**-0.6**
	2μm,0.8s,16μm15μm							
KNRA	**Kununurra**	**8.59**	**165**	P		**P**	**16 56 14.9**	**-0.5**
	baz=8.7,SNR=385							
MRSI	**Marisa**	**8.97**	**330**	P		**P**	**16 56 19.4**	**-0.4**
	1μm,0.7s,16μm							
PCI	**Palu**	**9.19**	**314**	P		**P**	**16 56 21.7**	**-0.5**
	638nm,0.9s,10μm							
MPSI	**Mapaga**	**10.04**	**319**	P		**P**	**16 56 31.9**	**+0.2**
	555nm,1.8s,15μm							
TOLI	**Toli-Toli**	**10.12**	**326**	*e*Pn		**P**	**16 56 33.4**	**+0.8**
FITZ	**Fitzroy Crossi**	**10.73**	**184**	⇑P		**Pn**	**16 56 39.5**	**+0.1**
	baz=11							
KBKI	**Kotabaru**	**11.00**	**291**	P		**Pn**	**16 56 42.7**	**0.0**
	160nm,1.1s,2μm							
SRBI	**Singaraja**	**11.16**	**265**	P		**P**	**16 56 42.9**	**-1.2**
	707nm,1.1s,7μm							
DNP	**Denpasar**	**11.21**	**262**	P		**P**	**16 56 44.4**	**-0.2**
	715nm,0.7s,14μm							
BKB	**Balikpapan**	**11.28**	**302**	P		**Pn**	**16 56 46.8**	**+0.8**
	2μm,1.3s,21μm							
IGBI	**Denpasar**	**11.29**	**262**	P		**P**	**16 56 43.5**	**-2.0**
	441nm,0.9s,12μm							
BAKI	**Biak**	**11.40**	**58**	P		**Pn**	**16 56 48.4**	**+1.0**
	1μm,1.8s,20μm							
ABJI	**Asem Bagus**	**12.12**	**267**	P		**P**	**16 56 54.6**	**-0.1**
	568nm,0.9s,5μm							
JAGI	**Jajag, Banyuwa**	**12.23**	**264**	P		**P**	**16 56 53.3**	**-2.7**
	238nm,1.0s,5μm							
JAGI	**Jajag, Banyuwa**	**12.23**	**264**	⇓P		**P**	**16 56 53.2**	**-2.7**
	baz=12,SNR=107							
JAGI	**Jajag, Banyuwa**	**12.23**	**264**	*e*P		**P**	**16 56 53.5**	**-2.5**
KMMI	**Kalianget**	**12.39**	**271**	P		**Pn**	**16 56 59.1**	**+0.1**
	351nm,1.8s,5μm							
WAMI	**Wamena**	**12.67**	**75**	P		**Pn**	**16 57 04.1**	**+1.8**
	144nm,1.3s,6μm							
BLJI	**Banyuglugur**	**12.75**	**267**	P		**Pn**	**16 57 02.2**	**-1.0**
	1μm,0.8s,9μm							
SMPI	**Sarmi**	**13.32**	**67**	P		**Pn**	**16 57 09.4**	**-0.4**
	100nm,2.1s,4μm							
GRJI	**Gresik**	**13.87**	**271**	P		**Pn**	**16 57 15.3**	**-0.9**
	173nm,0.8s,2μm							
TSM	**Tawau**	**14.38**	**323**	⇓P		**P**	**16 57 20.6**	**+1.1**
GENI	**Genyem**	**14.45**	**72**	P		**P**	**16 57 21.7**	**+1.3**
	168nm,1.1s,5μm							
PWJI	**Pagerwojo**	**14.53**	**266**	P		**P**	**16 57 21.2**	**0.0**
	243nm,0.7s,3μm							
WB9	**Warramunga Arr**	**14.57**	**149**	⇓P		**P**	**16 57 21.4**	**-0.2**
	baz=15							
CTBH	**Cotabato--PC H**	**14.63**	**351**	⇓*i*P		**Pn**	**16 57 23.6**	**-1.2**
WRAB	**Tennant Creek**	**14.68**	**149**	*e*P		**P**	**16 57 22.5**	**-0.2**
WRAB	**Tennant Creek**	**14.68**	**149**	*e*P		**P**	**16 57 22.5**	**-0.2**
WRA	**Warramunga Arr**	**14.68**	**149**	P		**P**	**16 57 22.4**	**-0.3**
	18nm,0.3s,baz=327,slow=12,SNR=294							
WRA						S	**S**	16 59 56.5	-3.5
	baz=321,slow=21,SNR=15							
WRA	**Warramunga Arr**	**14.68**	**149**	P		**P**	**16 57 22.5**	**-0.3**
WRA						S	**S**	**16 59 56.5**	**-3.5**
WRA					pmax	pmax					
	comp=Z,18nm,0.3s										
MYLDM	**Lahad Datu**	**14.75**	**327**	⇑P		**Pn**	**16 57 25.8**	**-0.3**
MYLDM	**Lahad Datu**	**14.75**	**327**	*e*P		**Pn**	**16 57 24.9**	**-1.2**
NGJI	**Ngawi**	**14.87**	**269**	P		**P**	**16 57 25.1**	**+0.2**
	comp=Z,138nm,0.8s										
JAY	**Jayapura**	**14.98**	**72**	P		**P**	**16 57 27.4**	**+1.2**
	comp=Z,138nm,2.1s,comp=Z,4μm										
JAY	**Jayapura**	**14.98**	**72**	P		**P**	**16 57 27.4**	**+1.2**
	comp=Z,3.8nm,0.3s,baz=230,slow=9.3,SNR=23										
JAY	**Jayapura**	**14.98**	**72**	P		**P**	**16 57 27.4**	**+1.2**
JAY					pmax	pmax					
	comp=Z,4.0nm,0.3s										
MBWA	**Marble Bar**	**15.20**	**205**	*e*P		**P**	**16 57 28.0**	**-0.3**
	comp=Z,204nm,0.9s										
PBKI	**Pangkalan Bun**	**15.43**	**287**	P		**P**	**16 57 31.2**	**+0.3**
	comp=Z,1μm,1.0s,comp=Z,8μm										
CGP	**Cagayan de Oro**	**15.79**	**354**	*e*P		**P**	**16 57 33.8**	**-1.1**
UGM	**Wanagama**	**15.80**	**267**	*e*P		**P**	**16 57 34.2**	**-0.8**
	comp=Z,712nm,1.8s										
UGM					*e*S		**S**	**17 00 27.1**	**+4.6**
SDKM	**Sandakan**	**15.86**	**324**	⇑P		**P**	**16 57 36.5**	**+0.7**
PALU	**Palau**	**16.64**	**29**	⇓P		**P**	**16 57 44.0**	**0.0**
	baz=17										
STKI	**Sintang**	**16.65**	**296**	P		**P**	**16 57 44.4**	**+0.3**
	comp=Z,72nm,1.5s,comp=Z,1μm										
KKM	**Kota Kinabalu**	**16.77**	**322**	⇑P		**P**	**16 57 46.3**	**+0.8**
	baz=17										
KKM	**Kota Kinabalu**	**16.77**	**322**	⇑P		**P**	**16 57 44.9**	**-0.6**
KKM	**Kota Kinabalu**	**16.77**	**322**	*e*P		**P**	**16 57 44.7**	**-0.8**
	comp=Z,352nm,1.5s										
BTM	**Bintulu**	**16.96**	**308**	⇓P		**P**	**16 57 49.1**	**+1.7**
KDM	**Kudat**	**17.11**	**326**	⇑P		**P**	**16 57 46.1**	**-2.9**
SBUM	**Sibu**	**17.21**	**304**	⇓P		**P**	**16 57 51.1**	**+0.9**
SBUM	**Sibu**	**17.21**	**304**	*e*P		**P**	**16 57 50.2**	**+0.1**
	comp=Z,243nm,1.5s										
COEN	**Coen**	**17.69**	**113**	⇑P		**P**	**16 57 55.1**	**-0.2**
	baz=18										
COEN	**Coen**	**17.69**	**113**	*e*P		**P**	**16 57 54.8**	**-0.4**
	comp=Z,123nm,1.1s										
COEN					*e*S		**S**	**17 00 59.5**	**0.0**
AS14	**Alice Springs**	**17.73**	**157**	P		**P**	**16 57 56.1**	**+0.5**
	baz=18										
ASAR	**Alice Springs**	**17.74**	**157**	P		**P**	**16 57 55.8**	**+0.1**
	comp=Z,20nm,0.3s,baz=338,slow=13,SNR=828										
ASAR						S	**S**	**17 00 57.8**	**-2.5**
	comp=Z,2.1nm,0.3s,baz=335,slow=19,SNR=18										
ASAR	**Alice Springs**	**17.74**	**157**	P		**P**	**16 57 55.8**	**+0.1**
ASAR						S	**S**	**17 00 57.8**	**-2.5**
ASAR					pmax	pmax					
	comp=Z,20nm,0.3s										
ASAR					smax	smax					
	comp=N,2.0nm,0.3s										
CMJI	**Cimerak**	**17.85**	**267**	P		**P**	**16 57 54.4**	**-2.5**
	comp=N,224nm,0.9s										
KSM	**Kuching**	**18.33**	**298**	⇓P		**P**	**16 58 01.5**	**-0.6**
KSM	**Kuching**	**18.33**	**298**	*e*P		**P**	**16 58 00.8**	**-1.3**
	comp=N,265nm,1.7s										
CISI	**Cisompet, Garu**	**18.48**	**268**	P		**P**	**16 58 03.4**	**-0.3**
	comp=N,302nm,0.9s,comp=N,3μm										
CISI	**Cisompet, Garu**	**18.48**	**268**	*e*P		**P**	**16 58 00.7**	**-3.1**
	comp=N,209nm,0.8s										
LEM	**Lembang**	**18.70**	**270**	P		**P**	**16 58 05.8**	**-0.4**
	comp=N,172nm,1.0s										
LEM	**Lembang**	**18.70**	**270**	P		**P**	**16 58 04.6**	**-1.6**
	comp=N,4.2nm,0.3s,baz=63,slow=13,SNR=20										
LEM	**Lembang**	**18.70**	**270**	P		**P**	**16 58 04.6**	**-1.6**
LEM					pmax	pmax					
	comp=Z,4.0nm,0.3s										
CNJI	**Cibinong**	**19.16**	**269**	P		**P**	**16 58 08.0**	**-2.8**
	comp=Z,414nm,1.1s,comp=Z,4μm										
TPI	**Tanjungpandan**	**19.27**	**283**	P		**P**	**16 58 11.9**	**0.0**
	comp=Z,108nm,1.4s,comp=Z,2μm										
CBJI	**Citeko**	**19.48**	**271**	P		**P**	**16 58 11.9**	**-2.1**
	comp=Z,463nm,1.1s										
MEEK	**Meekatharra**	**20.59**	**200**	⇓P		**P**	**16 58 23.8**	**-0.5**
	baz=21										
PMG	**Port Moresby**	**20.59**	**97**	P		**P**	**16 58 25.3**	**+0.9**
	comp=Z,54nm,0.8s,baz=334,slow=2.1,SNR=17										
PMG	**Port Moresby**	**20.59**	**97**	P		**P**	**16 58 25.3**	**+0.9**
PMG					pmax	pmax					
	comp=Z,54nm,0.8s										
PMG	**Port Moresby**	**20.59**	**97**	*e*P		**P**	**16 58 25.9**	**+1.5**
	comp=Z,1μm,1.4s										
CGJI	**Cibinong**	**20.62**	**271**	P		**P**	**16 58 21.6**	**-3.0**
PPBI	**Pangkal Pinang**	**20.88**	**283**	P		**P**	**16 58 27.4**	**+0.4**
	comp=Z,144nm,1.2s,comp=Z,2μm										
KLSI		**21.76**	**276**	P		**P**	**16 58 35.3**	**+0.3**
	comp=Z,49nm,2.3s,comp=Z,2μm										
KASI	**Kota Agung**	**21.89**	**273**	P		**P**	**16 58 33.8**	**-2.4**
	comp=Z,71nm,1.1s,comp=Z,2μm										
TGY	**Tagaytay City**	**22.00**	**346**	P		**P**	**16 58 36.1**	**-1.1**
	comp=Z,39nm,0.4s,baz=180,slow=2.0,SNR=5.2										
TGY	**Tagaytay City**	**22.00**	**346**	P		**P**	**16 58 36.1**	**-1.1**
TGY					pmax	pmax					
	comp=Z,39nm,0.4s										
MDSI	**Maura Dua**	**22.33**	**276**	P		**P**	**16 58 39.2**	**-1.0**
	comp=Z,24nm,1.5s,comp=Z,583nm										
CTA	**Charters Tower**	**23.00**	**125**	P		**P**	**16 58 46.5**	**+0.4**
	comp=Z,19nm,0.9s,baz=308,slow=12,SNR=14										
CTA	**Charters Tower**	**23.00**	**125**	P		**P**	**16 58 46.6**	**+0.4**
CTA					pmax	pmax					
	comp=Z,19nm,0.9s										
CTA	**Charters Tower**	**23.00**	**125**	⇓P		**P**	**16 58 46.7**	**+0.5**
	baz=23										
CTAO	**Charters Tower**	**23.00**	**125**	*e*P		**P**	**16 58 47.4**	**+1.2**
CTAO					pmax	pmax					
	comp=Z,48nm,1.3s										
CTAO	**Charters Tower**	**23.00**	**125**	*e*P		**P**	**16 58 47.4**	**+1.2**
	comp=Z,48nm,1.3s										
LHSI	**Lahat**	**23.08**	**277**	P		**P**	**16 58 47.1**	**+0.1**
	comp=Z,59nm,1.3s										
FORT	**Forrest**	**23.37**	**177**	⇑P		**P**	**16 58 49.4**	**0.0**
	baz=24										
FORT	**Forrest**	**23.37**	**177**	*e*P		**P**	**16 58 49.3**	**0.0**
	comp=Z,549nm,0.7s										
MORW	**Morawa**	**23.74**	**203**	⇓P		**P**	**16 58 52.7**	**-0.1**
	baz=24										
KSI	**Kapahiang**	**24.03**	**277**	P		**P**	**16 58 59.0**	**+3.4**
KMBL	**Kambalda**	**24.28**	**190**	⇑P		**P**	**16 58 57.5**	**-0.1**
	baz=24										
MYKOM	**Kota Tinggi**	**24.31**	**291**	⇓P		**P**	**16 58 56.8**	**-1.2**
MYKOM	**Kota Tinggi**	**24.31**	**291**	*e*P		**P**	**16 58 58.7**	**+0.6**
	comp=Z,164nm,1.6s										
KGM	**Kluang**	**24.88**	**291**	⇑P		**P**	**16 59 02.8**	**-0.5**
BLDU	**Ballidu**	**24.89**	**200**	⇓P		**P**	**16 59 02.7**	**-0.3**
	baz=25										
QLP	**Quilpie**	**25.54**	**141**	⇓P		**P**	**16 59 09.8**	**+0.9**
	baz=26										
KTGM	**Kuala Trenggan**	**26.45**	**298**	⇑P		**P**	**16 59 14.1**	**-3.1**
NWAO	**Narrogin (SRO)**	**26.86**	**197**	P		**P**	**16 59 20.1**	**-0.4**
	comp=Z,97nm,0.6s,baz=330,slow=5.2,SNR=82										
NWAO	**Narrogin (SRO)**	**26.86**	**197**	P		**P**	**16 59 20.1**	**-0.4**
NWAO					pmax	pmax					
	comp=Z,97nm,0.6s										
NWAO	**Narrogin (SRO)**	**26.86**	**197**	⇓P		**P**	**16 59 20.4**	**-0.1**
	baz=27										
NWAO					⇓P		**P**	**16 59 20.4**	**-0.1**
	baz=27										
BBOO	**Buckleboo**	**26.87**	**162**	⇑P		**P**	**16 59 20.9**	**+0.3**
	baz=27										
BBOO	**Buckleboo**	**26.87**	**162**	*e*P		**P**	**16 59 21.1**	**+0.5**
	comp=Z,291nm,1.4s										
GUMO	**Guam**	**27.69**	**41**	P		**P**	**16 59 27.6**	**-0.5**
	comp=Z,22nm,0.3s,baz=259,slow=5.2,SNR=9.0										
GUMO	**Guam**	**27.69**	**41**	P		**P**	**16 59 27.6**	**-0.5**
GUMO					pmax	pmax					
	comp=Z,22nm,0.3s										
IPM	**Ipoh**	**27.96**	**294**	*e*P		**P**	**16 59 30.9**	**+0.3**
	comp=Z,43nm,1.1s										
MNSI	**Mandailing Nat**	**28.00**	**286**	P		**P**	**16 59 30.3**	**-0.5**
	comp=Z,38nm,0.8s,comp=Z,980nm										
STKA	**Stephens Creek**	**28.20**	**152**	P		**P**	**16 59 33.1**	**+0.7**
	comp=Z,52nm,0.6s,baz=328,slow=8.1,SNR=135										
STKA					pP	**pP**	**17 00 41.6**	**-0.3**
	comp=Z,50nm,0.9s,baz=318,slow=9.0,SNR=4.8										
STKA	**Stephens Creek**	**28.20**	**152**	P		**P**	**16 59 33.1**	**+0.7**
STKA					*PP	**pP**	**17 00 41.6**	**-0.3**
STKA					pmax	pmax					
	comp=Z,52nm,0.6s										
STKA					pmax	pmax					
	comp=Z,50nm,0.9s										
STKA	**Stephens Creek**	**28.20**	**152**	*e*P		**P**	**16 59 33.1**	**+0.7**
	comp=Z,36nm,1.4s										
STKA					pP	**pP**	**17 00 41.6**	**-0.3**
HTT	**Hallett**	**28.42**	**158**	⇑P		**P**	**16 59 35.4**	**+1.1**
	baz=29										
RKGY	**Rocky Gully**	**28.51**	**197**	⇑P		**P**	**16 59 36.5**	**+1.4**
	baz=29										
PSI	**Prapat**	**29.26**	**289**	P		**P**	**16 59 40.6**	**-1.5**
	comp=Z,21nm,1.0s,baz=148,slow=6.2,SNR=14										
PSI	**Prapat**	**29.26**	**289**	*e*P		**P**	**16 59 40.9**	**-1.2**
PSI					pmax	pmax					
	comp=Z,86nm,1.3s										
PSI	**Prapat**	**29.26**	**289**	⇓P		**P**	**16 59 41.2**	**-0.9**
	baz=29										
PSI	**Prapat**	**29.26**	**289**	*e*P		**P**	**16 59 40.9**	**-1.2**
	comp=Z,86nm,1.3s										
CMSA	**Cobar Meteorol**	**30.04**	**146**	⇑P		**P**	**16 59 49.5**	**+1.0**
	baz=30										
QIZ	**Qiongzhong**	**30.90**	**328**	P		**P**	**16 59 57.3**	**+1.1**
QIZ					pP	**pP**	**17 01 05.8**	**-0.6**
QIZ					sP	**sP**	**17 01 49.3**	**-1.1**
QIZ					S	**S**	**17 04 31.5**	**-0.6**
QIZ					sS	**sS**	**17 06 42.5**	**+1.5**
QIZ					PMZ						
	comp=Z,100nm,3.7s										
ARPS	**Mount Arapiles**	**32.48**	**157**	⇑P		**P**	**17 00 11.0**	**+1.4**
	baz=33										
ARMA	**Armidale**	**32.92**	**137**	⇓P		**P**	**17 00 15.8**	**+2.1**
	baz=33										
ARMA	**Armidale**	**32.92**	**137**	*e*P		**P**	**17 00 15.0**	**+1.3**
KHON	**Khomkaen**	**33.17**	**315**	P		**P**	**17 00 16.9**	**+1.1**
	comp=Z,8.4nm,0.8s										
YNG	**Young**	**33.60**	**146**	⇑P		**P**	**17 00 21.1**	**+1.7**
	baz=34										
SRDT	**SRDT**	**34.63**	**308**	P		**P**	**17 00 29.8**	**+1.5**
	comp=Z,59nm,1.1s										
PBKT	**Sadao Pong**	**34.64**	**313**	P		**P**	**17 00 29.1**	**+0.8**
	comp=Z,14nm,0.7s										
CAN	**Canberra**	**34.70**	**147**	*e*P		**P**	**17 00 30.0**	**+1.4**
CAN					pmax	pmax					
	comp=Z,44nm,1.0s										
CAN	**Canberra**	**34.70**	**147**	⇓P		**P**	**17 00 30.6**	**+2.0**
	baz=35										
CAN	**Canberra**	**34.70**	**147**	*e*P		**P**	**17 00 30.0**	**+1.4**
	comp=Z,44nm,1.0s										
TOO	**Toolangi**	**34.70**	**153**	⇑P		**P**	**17 00 30.7**	**+2.1**
	baz=35										
UTHA	**Uthaitani**	**35.12**	**310**	P		**P**	**17 00 32.8**	**+0.4**
	comp=Z,8.0nm,1.0s,comp=Z,71nm										
UTTA	**Uttaradit**	**35.72**	**315**	P		**P**	**17 00 37.4**	**0.0**
	comp=Z,8.6nm,0.8s,comp=Z,66nm										
LAMP	**Lampang**	**36.88**	**314**	P		**P**	**17 00 48.3**	**+1.1**
	comp=Z,6.9nm,0.9s,comp=Z,61nm										
CMAR	**Chiang Mai Arr**	**37.33**	**314**	P		**P**	**17 00 50.4**	**-0.5**
	comp=Z,8.4nm,0.8s,baz=143,slow=6.6,SNR=11										
CMAR					ScP	**ScP**	**17 06 11.9**	**+0.4**
	comp=Z,3.5nm,1.0s,baz=169,slow=2.4,SN

KSRS 17 03 24.9
KSRS pmax pmax
comp=Z,22nm,1.2s
KSRS pmax pmax
comp=Z,2.0nm,0.7s
KSRS pmax pmax
comp=N,1.0nm,0.5s
MJAR Matsushiro Arr 45.02 13 P **P 17 01 51.2 -1.3**
comp=N,7.3nm,0.9s,baz=191,slow=8.7,SNR=13
MJAR PcP **PcP 17 03 26.0 0.0**
comp=N,3.3nm,0.8s,baz=212,slow=4.5,SNR=4.9
MJAR Matsushiro Arr 45.02 13 P **P 17 01 51.2 -1.3**
MJAR 17 03 26.0
MJAR pmax pmax
comp=Z,7.0nm,0.9s
MJAR pmax pmax
comp=Z,3.0nm,0.8s
MAJO Matsushiro 45.02 13⇑*iP* **P 17 01 52.4 -0.1**
MAJO pmax pmax
comp=Z,83nm,1.5s
MAJO Matsushiro 45.02 13 *e*P **P 17 01 51.9 -0.6**
MAT Matsushiro 45.02 13 P **P 17 01 51.3 -1.2**
MAT S **S 17 07 59.4 -2.7**
BJI Beijing 48.09 349 P **P 17 02 15.5 -0.4**
BJI pP **pP 17 03 31.8 -0.5**
BJI PcP **PcP 17 03 38.3 +1.5**
BJI PP **PP 17 04 16.8 +4.3**
BJI S S 17 08 38.3 -6.7
BJI sS **sS 17 11 00.5 -1.7**
BJI ScS **ScS 17 11 27.3 -0.2**
BJI SS **SS 17 12 26.0 +5.9**
BJI PMZ
comp=Z,13nm,1.7s
BJI PMZ
comp=Z,120nm,3.7s
LZH Lanzhou 48.14 335 *e*P **P 17 02 18.0 +1.4**
LZH pP **pP 17 03 35.0 +1.9**
LZH sP **sP 17 04 16.3 +0.9**
LZH S **S 17 08 45.0 -1.3**
LZH sS **sS 17 11 01.0 -2.5**
LZH SS **SS 17 12 20.0 -1.4**
LZH PMZ
comp=Z,130nm,1.3s
LZH PMZ
comp=Z,380nm,4.0s
MSHR Mys Shultsa 49.87 5 *e*P **P 17 02 31.0 +1.9**
HHC Hu-ho-hao-te 49.87 345 *e*P **P 17 02 29.8 +0.4**
HHC pP **pP 17 03 47.0 +0.5**
HHC sP **sP 17 04 24.0 -4.7**
HHC PP **PP 17 04 31.3 +2.5**
HHC S **S 17 09 09.5 -0.3**
HHC sS **sS 17 11 31.8 +3.7**
HHC SS **SS 17 12 46.0 -2.5**
HHC PMZ
comp=Z,22nm,1.0s
HHC PMZ
comp=Z,84nm,6.4s
LSA Lhasa 50.08 319 *e*P **P 17 02 30.9 -0.7**
LSA pmax pmax
comp=Z,89nm,1.4s
LSA Lhasa 50.08 319 *e*P **P 17 02 30.9 -0.7**
comp=Z,89nm,1.4s
ODAN Odare 50.88 313 *e*P **P 17 02 36.8 -0.5**
comp=Z,42nm,0.6s
CN2 Changchun 50.91 359 *e*P **P 17 02 36.5 -0.4**
CN2 *e*S **S 17 09 23.8 +0.1**
CN2 ScS **ScS 17 11 44.5 -2.1**
CN2 PMZ
comp=Z,10.0nm,0.9s
CN2 PMZ
comp=Z,200nm,5.0s
TAPN Taplejung 50.94 314 *e*P **P 17 02 37.2 -0.6**
comp=Z,35nm,0.5s
RAMN Ramite 51.50 313 *e*P **P 17 02 41.6 -0.3**
comp=Z,107nm,0.6s
USRK Ussuriysk Ar. 51.54 5 P **P 17 02 40.8 -0.7**
comp=Z,3.6nm,0.6s,baz=182,slow=8.4,SNR=10
MDJ Mudanjiang 51.79 3 P **P 17 02 45.5 +2.2**
MDJ PcP **PcP 17 03 52.5 +2.0**
MDJ PP **PP 17 04 46.5 +0.6**
MDJ S **S 17 09 36.5 +0.9**
MDJ sS **ScS 17 11 53.3 +0.5**
MDJ SS **SS 17 13 19.3 +0.8**
MDJ PMZ
comp=Z,27nm,1.0s
MDJ PMZ
comp=Z,75nm,4.2s
MDJ Mudanjiang 51.79 3 *e*P **P 17 02 43.8 +0.5**
comp=Z,45nm,1.3s
GUN Gumba 52.58 314 *e*P **P 17 02 49.2 -0.6**
comp=Z,93nm,0.8s
GTA Gaotai 52.66 334⇑P **P 17 02 50.0 +0.1**
GTA pP **pP 17 04 09.0 +1.0**
GTA sP **sP 17 04 50.8 +0.9**
GTA S **S 17 09 45.8 -1.9**
GTA sS **sS 17 12 04.8 -2.7**
GTA SS **SS 17 13 30.5 -2.0**
GTA PMZ
comp=Z,42nm,2.0s
GTA PMZ
comp=Z,160nm,6.6s
PKI Pulchoki 52.72 313 *e*P **P 17 02 50.0 -0.9**
comp=Z,45nm,0.5s
PKIN Phulchoki 52.73 313 *e*P **P 17 02 50.0 -0.9**
comp=Z,36nm,0.5s
KKN Kakani 52.94 313 *e*P **P 17 02 51.7 -0.6**
comp=Z,35nm,0.6s
DMN Daman 52.97 313 *e*P **P 17 02 52.1 -0.4**
RPZ Rata Peaks 53.17 140 P **P 17 02 54.4 +0.9**
comp=Z,49nm,0.8s,baz=305,slow=3.0,SNR=19
RPZ Rata Peaks 53.17 140 *e*P **P 17 02 55.0 +1.5**
GKN Gorkha 53.53 313 *e*P **P 17 02 55.9 -0.6**
comp=Z,53nm,0.5s
YUK Yuzh-Kuril'sk 54.07 17*d iP* **P 17 03 00.5 +0.8**
YUK *i* 17 05 03.9
YUK *i* S **S 17 10 06.1 0.0**
YUK *i* 17 12 08.1
YUK *e**SS sS 17 12 21.0 -5.5
KOLN Koldanda 54.16 312 *e*P **P 17 03 00.7 -0.3**
comp=Z,50nm,0.6s
DANN Dangsing 54.36 313 *e*P **P 17 03 02.2 -0.4**
URZ Urewera 55.02 132 P **P 17 03 07.0 +0.2**
comp=Z,13nm,1.0s,baz=263,slow=8.1,SNR=5.2
KUR Kuril'sk 55.76 18 *e*P **P 17 03 10.9 -0.8**
KUR *e* 17 04 07.6
KUR *i* S **S 17 10 29.4 +1.1**
KUR *i* 17 12 22.1
KUR SS **SS 17 14 19.8 -1.1**
KUR pmax pmax
comp=Z,177nm,2.2s
YSS Yuzh-Sakhalins 55.97 13 *e*P **P 17 03 14.0 +0.9**
YSS *e*S **S 17 10 28.0 -3.0**
YSS smax smax
comp=E,800nm,10.0s
HABR Khabarovsk 56.09 7*c e*P **P 17 03 13.3 -0.6**
HABR 17 04 06.7
HABR *e**PP **pP 17 04 30.5 -2.7**
HABR *e**SP **sP 17 05 11.3 -3.5**
HABR *e* 17 05 22.8
HABR *e*PPP PPP 17 06 45.0
HABR *e*S **S 17 10 32.7 +0.2**
HABR *e* 17 12 23.2
HABR *e*SS **SS 17 14 26.3 +0.4**
HABR pmax pmax
comp=N,25nm,1.8s
HABR pmax pmax
comp=Z,22nm,1.8s
HABR pmax pmax
comp=E,9.0nm,0.9s
HABR MLR MLR
comp=Z,76nm,15.0s
ULN Ulaanbaatar 57.58 345⇑*iP* **P 17 03 25.2 +0.7**
ULN pmax pmax
comp=Z,33nm,1.8s
ULN Ulaanbaatar 57.58 345 *e*P **P 17 03 24.8 +0.3**
comp=Z,22nm,1.2s
SONM Songino Array 57.73 344 P **P 17 03 25.5 0.0**
comp=Z,4.6nm,0.8s,baz=157,slow=7.5,SNR=27
SONM ScP **ScP 17 07 36.3 -0.2**
comp=Z,2.5nm,1.0s,baz=157,slow=5.5,SNR=3.5
SONM PKP2bc 17 33 14.6
comp=Z,0.9nm,1.1s,baz=262,slow=0.5,SNR=4.7
TYV Tymovskoe 59.64 12 *e*P P 17 03 44.0 +5.7
TYV *e*S **S 17 11 20.0 +1.9**
TYV smax smax
comp=E,2μm,8.0s
CASY Casey 59.87 187 *e*P **P 17 03 39.9 +0.2**
comp=E,28nm,1.0s
ZAK Zakamensk 60.90 343 *e*P **P 17 03 48.0 +1.1**
ZAK *e* 17 11 34.6
ZAK *e* 17 12 55.4
ZAK pmax pmax
comp=Z,7.0nm,2.0s
WMQ Urumqi 61.82 329 P **P 17 03 54.5 +1.4**
WMQ pP **pP 17 05 19.0 +4.8**
WMQ sP **sP 17 05 57.0 +1.7**
WMQ S **S 17 11 46.5 +0.6**
WMQ ScS **SKSac 17 13 04.8 -1.6**
WMQ sS **sS 17 14 10.0 -0.3**
WMQ SS **SS 17 15 58.0 +2.0**
WMQ PMZ
comp=Z,33nm,1.2s
WMQ PMZ
comp=Z,82nm,4.0s
TLY Talaya 61.97 344 *i* P **P 17 03 55.5 +1.6**
TLY pmax pmax
comp=Z,20nm,2.0s
IRK Irkutsk 62.31 345 *e*P **P 17 03 56.1 0.0**
IRK pmax pmax
comp=Z,48nm,2.1s
BOD Bodaibo 65.72 353 *e*P **P 17 04 17.8 -0.1**
BOD pmax pmax
comp=Z,17nm,1.2s
PETK Petropavlovsk- 65.80 20 P **P 17 04 19.4 +1.0**
comp=Z,12nm,0.7s,baz=187,slow=8.6,SNR=16
PETK PcP **PcP 17 04 45.9 -0.3**
comp=Z,2.4nm,0.6s,baz=190,slow=3.8,SNR=5.3
PETK Petropavlovsk- 65.80 20 P **P 17 04 19.5 +1.0**
PETK 17 04 45.9
PETK pmax pmax
comp=Z,12nm,0.7s
PETK pmax pmax
comp=Z,2.0nm,0.6s
KSH Kashi 65.93 319 P **P 17 04 20.5 +0.7**
KSH pP **pP 17 05 45.0 +2.9**
KSH PP **PP 17 06 54.5 +3.7**
KSH PcS 17 08 52.3
KSH S **S 17 12 31.0 -5.4**
KSH sS **sS 17 15 06.8 +4.0**
KSH SS **SS 17 17 03.3 +3.1**
KSH PMZ
comp=Z,37nm,0.7s
PET Petropavlovsk 66.06 21*d iP* **P 17 04 18.3 -1.8**
PET *i* S **S 17 12 40.0 +3.0**
PET pmax pmax
comp=Z,300nm,5.3s
PET pmax pmax
comp=Z,100nm,15.3s
PET MLR MLR
comp=Z,100nm,17.0s
MKAR Makanchi Array 66.63 329 P **P 17 04 23.7 -0.2**
comp=Z,6.1nm,0.6s,baz=128,slow=7.0,SNR=53
MKAR pP **pP 17 05 44.7 -1.8**
comp=Z,1.1nm,0.5s,baz=126,slow=7.3,SNR=1.3
MKAR S **S 17 12 41.3 -2.9**
comp=Z,1.4nm,1.1s,baz=128,slow=16,SNR=3.5
MKAR Makanchi Array 66.63 329 P **P 17 04 23.7 -0.2**
MKAR *PP **pP 17 05 44.7 -1.8**
MKAR S **S 17 12 41.3 -2.9**
MKAR pmax pmax
comp=Z,6.0nm,0.6s
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR smax smax
comp=N,1.0nm,1.2s
MKAR Makanchi Array 66.63 329 P **P 17 04 23.8 -0.1**
baz=67
KZA Kyzart 67.79 321 P **P 17 04 32.6 +0.9**
SNR=12
SFK Sufi-Kurgan 67.81 319 *e*P **P 17 04 32.5 +0.9**
TKM2 Tokmak 2 68.05 322 P **P 17 04 33.2 +0.1**
SNR=12
TKM2 Tokmak 2 68.05 322 *e*P **P 17 04 32.4 -0.6**
TKM2 pmax pmax
comp=Z,33nm,1.4s
TKM2 Tokmak 2 68.05 322 *e*P **P 17 04 32.4 -0.6**
comp=Z,33nm,1.4s
KBK Karagaybulak 68.30 322 P **P 17 04 35.6 +1.1**
SNR=5.8
AAK Ala-Archa 68.57 321 P **P 17 04 36.4 +0.2**
SNR=7.3
FRU Bishkek 68.60 322 *e*P **P 17 04 36.0 -0.2**
FRU *e* 17 05 58.0
FRU *e* 17 06 29.0
FRU *e*S **S 17 13 07.0 -0.6**
FRU pmax pmax
comp=Z,37nm,1.9s
FRU smax smax
comp=E,100nm,2.4s
AML Almayashu 68.80 321 P **P 17 04 38.8 +0.9**
SNR=11
USP Osgenovka 68.91 322 P **P 17 04 40.4 +2.3**
SNR=13
EKS2 Erkin-Say 69.03 321 P **P 17 04 40.0 +1.1**
SNR=9.4
EKS2 Erkin-Say 69.03 321 *e*P **P 17 04 39.3 +0.4**
EKS2 pmax pmax
comp=Z,22nm,1.2s
EKS2 Erkin-Say 69.03 321 *e*P **P 17 04 39.3 +0.4**
comp=Z,22nm,1.2s
YAK Yakutsk 69.21 2 *e*P **P 17 04 38.7 -0.7**
YAK pmax pmax
comp=Z,21nm,0.8s
YAK pmax pmax
comp=N,10.0nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK Yakutsk 69.21 2 *e*P **P 17 04 38.6 -0.7**
comp=E,26nm,0.8s
MA2 Magadan 69.47 13 *i* P **P 17 04 42.3 +1.3**
ZALV Zalesovo Beam 70.38 335 P **P 17 04 45.7 -0.9**
comp=E,9.7nm,0.5s,baz=139,slow=5.2,SNR=56
ZALV pP **pP 17 06 06.6 -3.6**
comp=E,2.1nm,0.7s,baz=143,slow=5.0,SNR=1.4
ZALV S S 17 13 21.5 -6.1
comp=E,0.4nm,0.3s,baz=123,slow=10,SNR=5.0
ZALV PKP2bc 17 32 41.4
comp=E,0.2nm,0.3s,baz=285,slow=5.7,SNR=5.7
ZALV Zalesovo Beam 70.38 335 P **P 17 04 45.7 -0.9**
ZALV *PP **pP 17 06 06.6 -3.6**
ZALV S S 17 13 21.5 -6.1
ZALV pmax pmax
comp=Z,10.0nm,0.5s
ZALV pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 71.31 320 *e*P **P 17 04 53.0 +0.5**
KKAR pmax pmax
comp=Z,17nm,1.4s
KKAR Karatay Array 71.31 320 *e*P **P 17 04 53.0 +0.5**
comp=Z,17nm,1.4s
NVS Novosibirsk 71.66 335⇑*iP* **P 17 04 53.1 -1.1**
NVS *i* *PP **pP 17 06 15.7 -2.5**
NVS *e*PPP PPP 17 09 29.1
NVS *i* S **S 17 13 36.4 -5.8**
NVS pmax pmax
comp=N,11nm,1.0s
NVS pmax pmax
comp=E,11nm,1.0s
NVS pmax pmax
comp=Z,27nm,1.0s
NVS smax smax
comp=N,21nm,1.5s
NVS smax smax
comp=E,28nm,1.5s
VNDA Vanda 72.56 172 P **P 17 04 59.4 +0.2**
comp=E,9.5nm,0.8s,baz=327,slow=5.8,SNR=54
VNDA S **S 17 13 50.1 -1.6**
comp=E,1.4nm,1.2s,baz=92,slow=18,SNR=9.4
VNDA Vanda 72.56 172 P **P 17 04 59.4 +0.2**
VNDA S **S 17 13 50.1 -1.6**
VNDA pmax pmax
comp=Z,10.0nm,0.8s
VNDA smax smax
comp=N,1.0nm,1.2s
SEY Seymchan 72.83 12 P **P 17 05 01.2 +0.3**
comp=N,18nm,0.7s,baz=206,slow=4.5,SNR=113
SEY S **S 17 13 54.5 -0.5**
comp=N,0.6nm,0.9s,baz=29,slow=22,SNR=9.3
SEY Seymchan 72.83 12⇑*iP* **P 17 05 01.9 +1.0**
MAW Mawson 73.36 201 P **P 17 05 04.9 +0.9**
comp=N,17nm,0.9s,baz=60,slow=7.2,SNR=17
MAW Mawson 73.36 201 P **P 17 05 04.9 +0.9**
MAW pmax pmax
comp=Z,17nm,0.9s
SBA Scott Base 73.48 172 *e*P **P 17 05 05.7 +1.1**
SBA pmax pmax
comp=Z,25nm,1.4s
SBA Scott Base 73.48 172 *e*P **P 17 05 05.7 +1.1**
comp=Z,26nm,1.4s
BRVK Borovoye 76.58 329⇑*iP* **P 17 05 22.3 -0.1**
BRVK pmax pmax
comp=Z,20nm,1.5s
BRVK Borovoye 76.58 329 *e*P **P 17 05 21.8 -0.6**
comp=Z,6.9nm,0.8s
GEYT Alibeck 77.77 311 P **P 17 05 30.1 +0.7**
comp=Z,3.6nm,0.8s,baz=132,slow=2.2,SNR=9.3
BILL Bilibino 80.27 14‖*eP* **P 17 05 42.7 +0.6**
BILL *e* 17 08 49.3
BILL pmax pmax
comp=Z,3.0nm,0.6s
ABKAR Akbulak array 80.61 322 *e*P **P 17 05 43.4 -0.9**
comp=Z,1.1nm,0.5s
SYO Syowa Base 82.07 201⇑*eP* **P 17 05 50.4 -1.1**
PPT2 Papeete2 82.10 107 *e*S S 17 15 28.3 -7.3
comp=Z,301nm,25.0s
PPT2 *e*LR LR 17 32 17.4
comp=Z,130nm,23.5s
QSPA South Pole Qui 82.64 180 P **P 17 05 54.6 -0.1**
comp=Z,26nm,1.0s,baz=317,slow=1.5,SNR=76
SVE Sverdlovsk 83.26 330‖*eP* **P 17 05 58.2 +0.4**
SVE *e*S S 17 15 36.3 -9.2
SVE pmax pmax
comp=Z,18nm,1.8s
ARU Arti 84.15 329*c iP* **P 17 06 02.4 +0.2**
ARU *PP **pP 17 07 26.0 -3.2**
ARU 17 09 28.6
ARU S **S 17 15 48.6 -5.8**
ARU pmax pmax
comp=Z,20nm,2.5s
NVL N'lazarevskaya 90.98 198 *e*P **P 17 06 34.8 +0.3**
NVL pmax pmax
comp=Z,6.0nm,0.9s
SNAA Sanae 94.49 194 P **P 17 06 51.5 +0.8**
SNAA Sanae 94.49 194 *e*P **P 17 06 51.6 +0.9**
SNAA pmax pmax
comp=Z,6.0nm,1.2s
SNAA Sanae 94.49 194 *e*P **P 17 06 51.5 +0.9**
comp=Z,6.4nm,1.2s
ILAR Eielson Array 95.16 25 P **P 17 06 51.6 -2.0**
comp=Z,0.4nm,0.6s,baz=267,slow=4.7,SNR=4.1
ILAR PKKPbc **PKKPdf 17 23 46.5 -1.7**
comp=Z,0.5nm,0.9s,baz=112,slow=1.0,SNR=5.6
VNA1 Neumayer--Stat 96.48 194 P **P 17 07 00.5 +0.9**
ARCES ARCESS Array B 100.67 339 P **Pdif 17 07 17.7 -0.6**
comp=Z,1.7nm,1.0s,baz=94,slow=8.3,SNR=4.1
ARCES PKKPbc **PKKPbc 17 23 30.9 -3.2**
comp=Z,0.3nm,0.4s,baz=272,slow=3.4,SNR=9.1
OKC Ostrava-Krasne 107.36 320 *e*SP SP 17 21 02.4 -1.6
OKC *ex* x 17 21 56.6
DPC Dobruska-Polom 108.43 321 *e*PP PP 17 12 31.5 +3.0
DPC *e*SKS **SKSac 17 17 55.4 0.0**
DPC *e*XSKS 17 20 34.1
DPC *ex* x 17 21 05.6
DPC *e*PS **PS 17 22 02.1 +1.7**
UPC Upice 108.59 321 *e*PP PP 17 12 32.5 +2.9
UPC *e*SKS **SKSac 17 17 54.2 -1.8**
UPC *e*SP **SP 17 21 10.0 -6.3**
UPC *e*PS **PS 17 22 01.1 -0.7**
UPC *e*PKKP **PKKPbc 17 23 11.0 +1.4**
TREC Trest 109.17 320 *e*SP SP 17 21 21.2 -0.6
GOPC GO Pecny, Ondr 109.48 320 *e*SKS **SKSac 17 17 58.9 -0.9**
GOPC *e*SP **SP 17 21 21.0 -3.7**
GOPC *e*PS **PS 17 22 11.4 +1.4**
GOPC *ex* x 17 23 33.1
GOPC *e*SKKS SKKSdf 17 29 44.5 -13
YKA Yellowknife Ar 109.59 26 PKKPbc PKKPbc 17 23 03.8 -3.0
comp=Z,1.4nm,0.7s,baz=115,slow=3.3,SNR=4.7
PRU Pruhonice 109.62 321 *e*PP PP 17 12 39.6 +2.6
PRU *e*SP SP 17 21 23.4 -2.5
PRU *e*PS **PS 17 22 10.6 -0.7**
PRU *e*SKKS SKKSdf 17 29 48.9 -8.0
CLL Collm 110.28 322 *e*PP PP 17 12 49.0 +7.4
CLL *es*PP 17 14 39.0
CLL *e*PPPP 17 17 00.0
CLL *e*Sdif Sdif 17 19 32.0 -10
CLL *e*(SP) 17 21 26.0
CLL *e*PS **PS 17 22 21.0 +3.8**
CLL *e*PPS PPS 17 23 32.0
CLL *es*PS 17 24 13.0
CLL *es*PPS 17 25 01.0
CLL *e*SS **SS 17 27 36.0 -2.5**
CLL *es*SS 17 29 56.0
CLL *e*SSS SSS 17 31 54.0
CLL *e* 17 32 54.0
CLL *e* 17 34 27.0
CLL *e* 17 39 05.0
CLL *e* 17 40 18.0
GERES GERESS Array B 110.41 319 PKiKP **PKiKP 17 12 00.9 +0.1**
comp=Z,0.2nm,0.5s,baz=119,slow=2.0,SNR=3.7
KHC Kasperske Hory 110.42 320 *e*SKS **SKSac 17 18 03.2 -0.5**
KHC *e*SP **SP 17 21 27.7 -5.6**
KHC *e*PS **PS 17 22 15.4 -3.3**
KHC *ex* x 17 23 34.1
KHC *e*SKKS **SKKSdf 17 29 50.6 -4.9**
NVAR Mina Array Bea 114.26 51 PKiKP **PKiKP 17 12 10.2 +1.5**
comp=Z,0.3nm,0.5s,baz=335,slow=4.0,SNR=2.5
REDW Red Top Meadow 118.53 44 *e*PKPdf **PKPdf 17 12 17.1 +0.3**
PDAR Pinedale Array 119.62 45 PKP **PKPdf 17 12 18.8 -0.1**
comp=Z,1.0nm,0.7s,baz=11,slow=1.1,SNR=5.5
PDAR PKKPbc **PKKPbc 17 22 32.8 +0.4**
comp=Z,0.6nm,0.6s,baz=100,slow=4.2,SNR=4.9
PV01 Paradox Valley 121.77 49 *e*PKPdf **PKPdf 17 12 24.0 +0.9**
ANMO Albuquerque 124.32 53⇑*i*PKIKP **PKPdf 17 12 29.7 +1.6**
ANMO pmax pmax
comp=Z,41nm,2.5s
ANMO Albuquerque 124.32 53 *e*PKPdf **PKPdf 17 12 29.5 +1.4**
TORD Torodi Ar. Bea 125.42 281 PKP **PKPdf 17 12 30.4 -0.1**
comp=Z,2.1nm,0.7s,baz=81,slow=1.8,SNR=12
TXAR Lajitas Array 128.11 58 PKP **PKPdf 17 12 35.9 +0.5**
comp=Z,0.8nm,0.6s,baz=224,slow=2.3,SNR=16
TXAR SKPbc SKiKP 17 15 19.1 -16
comp=Z,0.6nm,0.7s,baz=269,slow=1.3,SNR=5.2
TXAR Lajitas Array 128.11 58 PKIKP **PKPdf 17 12 35.9 +0.5**
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR pmax pmax
comp=N,1.0nm,0.7s
JCT Junction City 131.01 56 *e*PKIKP **PKPdf 17 12 42.2 +1.4**
JCT Junction City 131.01 56 *e*PKPdf **PKPdf 17 12 42.2 +1.4**
SCHQ Schefferville 131.46 10 PKP **PKPdf 17 12 41.0 +0.2**
comp=N,1.3nm,0.4s,baz=6.3,slow=9.2,SNR=3.8
DBIC Dimbokro 131.69 272 SKPbc **SKPbc 17 15 31.4 -0.6**
comp=N,14nm,1.1s,baz=133,slow=4.5,SNR=4.2
TEIG Tepich 144.02 66 *e*PKPdf **PKPdf 17 13 04.7 -0.1**
CNNC Cliffs of the 144.36 35 *e*PKP PKPbc 17 13 04.3 0.0
CPUP Villa Florida 146.33 174 PKPbc **PKPbc 17 13 11.0 +0.5**
comp=N,27nm,1.0s,baz=198,slow=2.4,SNR=31
CPUP SKPbc **SKPbc 17 16 12.4 0.0**
comp=N,3.9nm,0.8s,baz=175,slow=1.8,SNR=2.8
CPUP Villa Florida 146.33 174 PKP2 **PKPbc 17 13 11.0 +0.5**
CPUP pmax pmax
comp=Z,27nm,1.0s
CPUP pmax pmax
comp=N,4.0nm,0.8s
LVC Limon Verde 146.65 154 *e*PKPbc **PKPbc 17 13 12.2 +0.4**
JTS JuntasAbangare 148.84 82 *e*PKP2 **PKPbc 17 13 17.7 +0.2**
JTS JuntasAbangare 148.84 82 *e*PKPbc **PKPbc 17 13 17.7 +0.2**
LPAZ La Paz 152.44 148 PKP **PKPdf 17 13 20.4 +1.1**
comp=N,2.5nm,1.0s,baz=208,slow=1.3,SNR=7.5
LPAZ PKPbc **PKiKP 17 13 27.3 +0.6**
comp=N,4.2nm,0.6s,baz=251,slow=4.7,SNR=14
LPAZ PKPab **PKPab 17 13 39.9 +1.7**
comp=N,3.6nm,0.6s,baz=217,slow=5.1,SNR=7.4
LPAZ La Paz 152.44 148 PKIKP **PKPdf 17 13 20.4 +1.1**
LPAZ pmax pmax
comp=Z,3.0nm,1.0s
LPAZ pmax pmax
comp=Z,4.0nm,0.6s
LPAZ pmax pmax
comp=Z,4.0nm,0.6s
OTAV Otavalo 154.19 105 *e*PKPdf **PKPdf 17 13 22.1 +0.4**

*IDC **27** 17:05:31.2±0.9, 5.˙94S×150.˙67E, h0km, mb3.9/8,*

mb1 4.2/9, mb1mx3.9/35, mbtmp4.0/9, ML2.6/1, Error ellipse: s-maj=29.4km s-min=18.7km az=95.0
ISCJB 27 17:05:36.2±0.7, 6°01'S±0.08×150°5E±0.1, h48km, mb4.0/9, Error ellipse: s-maj=16.7km s-min=9.5km az=30.6
NEIC 27 17:05:36.2±0.7, 5°.955S×150°.58E, h35km, mb4.7/3, Error ellipse: s-maj=15.7km s-min=12.1km az=107.0

ISC 27 17:05:37.8±0.8, 6.0S±0.1×150.5E±0.1, h48km, n17, σ0.90/18, mb4.0/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.78**	**224**	Pn	**Pn**	**17 06 48.1**	**+0.8**
	16nm,0.3s,baz=46,slow=11,SNR=68						
PMG				Sn	**Sn**	**17 07 41.3**	**0.0**
	36nm,0.3s,baz=338,slow=22,SNR=16						
PMG	**Port Moresby**	**4.78**	**224**	Pn	**Pn**	**17 06 48.1**	**+0.8**
PMG				*e*Sn	**Sn**	**17 07 41.0**	**-0.4**
WRAB	**Tennant Creek**	**20.98**	**227**	*e*P	**P**	**17 10 16.6**	**-0.5**
	18nm,0.6s						
WRA	**Warramunga Arr**	**20.99**	**227**	P	**P**	**17 10 16.9**	**-0.4**
	13nm,0.5s,baz=51,slow=10.0,SNR=26						
DZM	**Mont Dzumac**	**22.18**	**138**	P	**P**	**17 10 29.2**	**-1.0**
	6.0nm,0.5s,baz=270,slow=20,SNR=12						
ASAR	**Alice Springs**	**23.78**	**221**	P	**P**	**17 10 46.0**	**-0.2**
	3.8nm,0.5s,baz=54,slow=8.9,SNR=44						
STKA	**Stephens Creek**	**27.09**	**197**	P	**P**	**17 11 17.4**	**+1.3**
	3.2nm,0.8s,baz=19,slow=14,SNR=5.7						
STKA	**Stephens Creek**	**27.09**	**197**	P	**P**	**17 11 16.8**	**+0.7**
MBWA	**Marble Bar**	**33.44**	**240**	*e*P	**P**	**17 12 11.8**	**-0.6**
	4.1nm,0.7s						
KKM	**Kota Kinabalu**	**36.29**	**289**	*e*P	**P**	**17 12 35.4**	**-1.7**
KSRS	**Korea Array**	**48.09**	**336**	P	**P**	**17 14 14.0**	**+1.3**
	0.9nm,0.6s,baz=162,slow=8.7,SNR=4.2						
KSAR	**Wonju Array Be**	**48.10**	**336**	P	**P**	**17 14 14.0**	**+1.2**
KULM	**Kulim**	**51.05**	**282**	P	P	17 14 44.7	+9.0
	20nm,1.1s						
VNDA	**Vanda**	**71.75**	**177**	P	**P**	**17 16 54.8**	**+0.2**
	0.6nm,0.7s,baz=332,slow=7.7,SNR=4.3						
MKAR	**Makanchi Array**	**79.75**	**320**	P	**P**	**17 17 41.4**	**+0.6**
	0.1nm,0.5s,baz=87,slow=6.1,SNR=2.7						
ILAR	**Eielson Array**	**84.10**	**22**	P	**P**	**17 18 02.7**	**-0.6**
	0.3nm,0.8s,baz=245,slow=6.5,SNR=3.1						
TORD	**Torodi Ar. Bea**	**148.49**	**285**	PKPbc	**PKPbc**	**17 25 20.2**	**-0.1**
	4.6nm,0.7s,baz=60,slow=3.0,SNR=22						

IDC 27 17:34:41.1±51.0, 22°.72S×176°.07W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/38, mbtmp3.9/3, Error ellipse: s-maj=951.5km s-min=158.7km az=87.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.51**	**247**	P	P	17 42 05.5	+0.2
	1.4nm,0.8s,baz=95,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**45.80**	**259**	P	P	17 43 04.8	-0.1
	1.1nm,0.7s,baz=96,slow=7.4,SNR=14						
WRA	**Warramunga Arr**	**46.11**	**264**	P	P	17 43 07.0	-0.4
	1.2nm,0.4s,baz=103,slow=8.3,SNR=23						

IDC 27 17:36:01.9±1.0, 5°.43N×126°.89E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.7/36, mbtmp3.8/7, ML3.7/1, Error ellipse: s-maj=126.6km s-min=16.3km az=67.0
NEIC 27 17:36:03.9±1.0, 5°.32N×126°.38E, h10km, mb4.1/3, Error ellipse: s-maj=144.0km s-min=10.2km az=68.0
ISCJB 27 17:36:07.0±0.8, 5°.6N±0°.1×127°.2E±0°.2, h53km, mb3.8/8, Error ellipse: s-maj=27.8km s-min=8.2km az=142.4
MAN 27 17:36:08, 5°.60N×127°.29E, h19km, mb5.0, ML3.9, MS4.0

ISC 27 17:36:08.5±0.9, 5°.5N±0°.2×127°.1E±0°.2, h53km, n15, σ1.925/14, mb4.0/8, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.22**	**316**	Pn	Pn	17 36 34.6	-8.4
DAV				*e*Sg	**Sn**	**17 37 08.0**	**-1.2**
GSPH	**General Santos**	**2.25**	**286**	*e*P	**Pn**	**17 36 43.3**	**-0.2**
CTBH	**Cotabato--PC H**	**3.36**	**302**	||*i*P	Pn	17 37 02.4	+3.9
SIJI	**Sorong**	**7.52**	**147**	Pn	**Pn**	**17 37 53.2**	**-2.4**
	1.3nm,0.3s,baz=324,slow=19,SNR=8.8						
SIJI				Sn	Sn	17 39 11.2	-8.4
	0.2nm,0.3s,baz=163,slow=20,SNR=2.7						
WRAB	**Tennant Creek**	**26.21**	**164**	*e*P	**P**	**17 41 40.1**	**+1.6**
	4.4nm,0.8s						
WRA	**Warramunga Arr**	**26.22**	**164**	P	**P**	**17 41 39.9**	**+1.2**
	1.8nm,0.7s,baz=344,slow=10,SNR=20						
ASAR	**Alice Springs**	**29.69**	**167**	P	**P**	**17 42 10.6**	**+0.9**
	0.2nm,0.5s,baz=354,slow=7.8,SNR=7.2						
ASAR				PcP	**PcP**	**17 45 12.2**	**-0.8**
	0.1nm,0.3s,baz=354,slow=2.1,SNR=2.9						
STKA	**Stephens Creek**	**39.60**	**161**	P	**P**	**17 43 36.2**	**+1.3**
	2.6nm,0.8s,baz=340,slow=8.6,SNR=6.3						
STKA	**Stephens Creek**	**39.60**	**161**	P	**P**	**17 43 36.0**	**+1.0**
	1.4nm,1.1s						
ULN	**Ulaanbaatar**	**45.62**	**341**	*e*P	P	17 44 28.3	+4.6
	2.8nm,0.8s						
SONM	**Songino Array**	**45.81**	**341**	P	**P**	**17 44 26.4**	**+1.2**
	0.7nm,0.7s,baz=143,slow=7.4,SNR=7.1						
MKAR	**Makanchi Array**	**56.38**	**324**	P	**P**	**17 45 44.1**	**-0.4**
	0.6nm,0.4s,baz=118,slow=7.2,SNR=10.0						
ZALV	**Zalesovo Beam**	**59.24**	**332**	P	**P**	**17 46 04.2**	**-0.1**
	0.5nm,0.3s,baz=116,slow=7.3,SNR=4.3						
BRVK	**Borovoye**		**66.17**	**326**	P	**P**	**17 46 50.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**122.74**	**289**	PKP	**PKPdf**	**17 54 59.6**	**0.0**
	0.2nm,0.4s,baz=67,slow=2.8,SNR=3.1						

IDC 27 17:47:06.9±0.6, 5°.66N×127°.22E, h0km, mb4.0/15, mb1 4.0/16, mb1mx3.9/30, mbtmp4.0/16, ML3.8/1, Error ellipse: s-maj=22.8km s-min=13.1km az=79.0
MAN 27 17:47:07, 5°.32N×127°.72E, h32km, mb4.9, ML3.9, MS4.0
NEIC 27 17:47:12.5±1.1, 5°.68N×127°.22E, h40km±10km, mb4.1/8, Error ellipse: s-maj=10.9km s-min=6.2km az=74.0
ISCJB 27 17:47:14.9±0.4, 5°.53N±0°.05×127°.21E±0°.06, h84km, mb3.9/23, Error ellipse: s-maj=8.7km s-min=6.2km az=161.3

ISC 27 17:47:16.7±0.5, 5°.51N±0°.06×127°.18E±0°.09, h84km, n33, σ1.912/32, mb4.2/23, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.22**	**314**	Pn	Pn	17 47 44.6	-7.0
GSPH	**General Santos**	**2.29**	**285**	||*e*P	Pn	17 47 48.2	-4.5
GSPH				*e*S	**Sn**	**17 48 19.0**	**-1.2**
CTBH	**Cotabato--PC H**	**3.37**	**300**	||*e*P	**Pn**	**17 48 05.9**	**-1.3**
CGP	**Cagayan de Oro**	**3.83**	**320**	*e*P	**Pn**	**17 48 14.6**	**+1.2**
TNTI	**Ternate**	**4.71**	**178**	*e*P	**Pn**	**17 48 23.7**	**-1.8**
TNTI				*e*Sn	**Sn**	**17 49 17.2**	**-1.7**
SIJI	**Sorong**	**7.54**	**147**	Pn	Pn	17 48 58.3	-5.7
	1.4nm,0.3s,baz=339,slow=18,SNR=8.6						
SIJI				Sn	Sn	17 50 17.2	-11
	0.1nm,0.3s,baz=195,slow=20,SNR=2.0						
KSM	**Kuching**	**17.31**	**257**	*e*Pn	**P**	**17 51 13.1**	**-0.2**
	6.8nm,0.6s						
LEM	**Lembang**	**23.05**	**238**	P	**P**	**17 52 16.4**	**+1.1**
	6.7nm,0.4s,baz=356,slow=16,SNR=3.5						
CBIJ	**Chichi jima**	**25.79**	**32**	P	**P**	**17 52 39.1**	**-0.9**
JCJ	**Chichijima**	**25.79**	**32**	P	**P**	**17 52 39.1**	**-0.9**
	19nm,0.4s,baz=184,slow=18,SNR=14						
WRAB	**Tennant Creek**	**26.25**	**165**	*e*P	**P**	**17 52 45.4**	**+1.2**
	3.8nm,0.5s						
WRA	**Warramunga Arr**	**26.26**	**165**	P	**P**	**17 52 45.4**	**+1.1**
	3.7nm,0.5s,baz=343,slow=10,SNR=32						
MBWA	**Marble Bar**	**27.50**	**195**	P	**P**	**17 52 56.4**	**+1.1**
	7.4nm,1.0s						
ASAR	**Alice Springs**	**29.73**	**167**	P	**P**	**17 53 16.6**	**+1.3**
	0.2nm,0.5s,baz=351,slow=6.6,SNR=6.5						
ASAR				PcP	**PcP**	**17 56 17.9**	**+0.5**
	0.3nm,0.4s,baz=350,slow=2.3,SNR=8.7						
CMAR	**Chiang Mai Arr**	**30.41**	**297**	P	**P**	**17 53 20.6**	**-0.7**
	0.4nm,0.6s,baz=109,slow=7.1,SNR=4.4						
MJAR	**Matsushiro Arr**	**32.50**	**17**	P	**P**	**17 53 37.6**	**-1.9**
	0.8nm,0.7s,baz=177,slow=11,SNR=3.6						
USRK	**Ussuriysk Ar.**	**38.75**	**6**	P	**P**	**17 54 32.5**	**-0.4**
	1.4nm,0.4s,baz=179,slow=7.0,SNR=5.5						
STKA	**Stephens Creek**	**39.64**	**161**	P	**P**	**17 54 42.6**	**+2.2**
	2.7nm,0.5s,baz=339,slow=8.8,SNR=16						
STKA	**Stephens Creek**	**39.64**	**161**	*e*P	**P**	**17 54 42.0**	**+1.6**
	1.1nm,0.9s						
ULN	**Ulaanbaatar**	**45.58**	**341**	*e*P	P	17 55 33.7	+5.2
	1.1nm,0.6s						
SONM	**Songino Array**	**45.77**	**341**	P	**P**	**17 55 30.0**	**0.0**
	0.2nm,0.3s,baz=155,slow=7.8,SNR=3.1						
PETK	**Petropavlovsk-**	**53.62**	**22**	P	**P**	**17 56 29.6**	**+0.3**
	2.1nm,0.8s,baz=182,slow=5.6,SNR=4.6						
MKAR	**Makanchi Array**	**56.37**	**324**	P	**P**	**17 56 49.6**	**+0.4**
	0.7nm,0.3s,baz=115,slow=7.4,SNR=36						
ZALV	**Zalesovo Beam**	**59.22**	**332**	P	**P**	**17 57 08.9**	**-0.1**
	1.4nm,0.7s,baz=125,slow=8.0,SNR=3.9						
BVAR	**Borovoye Array**	**66.08**	**326**	P	**P**	**17 57 55.4**	**+0.6**
	2.5nm,0.8s,baz=120,slow=8.7,SNR=14						
BRVK	**Borovoye**		**66.16**	**326**	*e*P	**P**	**17 57 55.5**	**+0.2**
	2.6nm,0.8s						
ABKAR	**Akbulak array**	**71.07**	**320**	*e*P	**P**	**17 58 26.2**	**+0.4**
	0.6nm,0.3s						
ARU	**Arti**	**73.68**	**327**	*e*P	**P**	**17 58 40.9**	**-0.4**
	3.5nm,0.8s						
ILAR	**Eielson Array**	**83.31**	**25**	P	**P**	**17 59 34.0**	**-0.1**
	0.3nm,0.5s,baz=239,slow=5.1,SNR=4.0						
ARCES	**ARCESS Array B**	**88.94**	**340**	P	P	**18 00 00.1**	**-1.5**
	0.9nm,0.8s,baz=99,slow=5.6,SNR=4.5						
BRTR	**Keskin Array B**	**89.24**	**310**	P	**P**	**18 00 05.1**	**+1.2**
	0.5nm,0.6s,baz=132,slow=2.1,SNR=3.0						
FINES	**FINESS Array B**	**90.48**	**332**	P	**P**	**18 00 08.0**	**-1.0**
	0.4nm,0.5s,baz=66,slow=5.0,SNR=3.9						
TORD	**Torodi Ar. Bea**	**122.77**	**289**	PKP	**PKPdf**	**18 06 04.8**	**+0.8**
	0.5nm,0.6s,baz=24,slow=2.5,SNR=3.9						

SJA 27 17:57:06.6±0.4, 27°.39S×63°.26W, h598km±6km, ML2.8
ISCJB 27 17:57:12.1±0.8, 27°.1S±0°.2×63°.4W±0°.2, h561km, mb3.2/1, Error ellipse: s-maj=33.3km s-min=12.2km az=153.5
IDC 27 17:57:16.0±4.1, 27°.81S×62°.70W, h589km±35km, mb3.0/1, mb1 3.0/2, mb1mx2.7/22, mbtmp3.8/2, Error ellipse: s-maj=172.2km s-min=48.8km az=141.0

ISC 27 17:57:12.4±0.9, 27°.2S±0°.2×63°.4W±0°.2, h561km, n16, σ0.993/19, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHML	**Horco Molle**	**1.80**	**283**	*i* P	**P**	**17 58 22.6**	**+0.2**
CYA	**Choya**	**2.49**	**240**	*i* P	**P**	**17 58 25.1**	**-0.4**
CYA				*i* S	**S**	**17 59 23.6**	**-1.4**
CYA				AML	AML	17 59 25.2	
	comp=Z,3.3nm,0.4s						
ACLC	**CERRO LA CRUZ**	**3.87**	**234**	*i* P	**P**	**17 58 34.4**	**+0.2**
APLL	**PUNTA DE LOS L**	**4.23**	**220**	*i* P	**P**	**17 58 36.6**	**-0.1**
APLL				*i* P	**P**	**17 58 36.6**	**-0.1**
VCA	**Vinchina**	**4.55**	**249**	*i* P	**P**	**17 58 40.4**	**+1.0**
VCA				*i* S	**S**	**17 59 49.4**	**-1.0**
ACHE	**Chepes**	**4.90**	**215**	*i* P	**P**	**17 58 42.2**	**+0.1**
AVFE	**Valle Fertil**	**4.98**	**225**	*i* P	**P**	**17 58 43.5**	**+0.8**
CPUP	**Villa Florida**	**5.46**	**82**	P	**P**	**17 58 48.3**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=254,slow=8.8,SNR=14						
ACAN	**Cantantal**	**6.06**	**212**	*i* P	**P**	**17 58 52.4**	**+0.4**
RTLL	**Cerro Villicun**	**6.08**	**226**	*i* P	**P**	**17 58 53.5**	**+1.3**
ASAL	**Salagasta**	**7.17**	**220**	*i* P	**P**	**17 59 04.5**	**+2.1**
TORD	**Torodi Ar. Bea**	**74.74**	**66**	P	**P**	**18 07 55.4**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=250,slow=5.5,SNR=7.0						
ASAR	**Alice Springs**	**126.76**	**200**	PKP	**PKPdf**	**18 15 13.0**	**-0.3**
	comp=Z,0.1nm,0.4s,baz=144,slow=1.8,SNR=3.3						
WRA	**Warramunga Arr**	**130.10**	**202**	PKP	**PKPdf**	**18 15 19.6**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=154,slow=1.4,SNR=4.0						
ZALV	**Zalesovo Beam**	**144.49**	**32**	PKP	**PKPdf**	**18 15 44.8**	**0.0**
	comp=Z,0.4nm,0.3s,baz=302,slow=2.6,SNR=4.1						
MKAR	**Makanchi Array**	**146.68**	**45**	PKPbc	**PKPbc**	**18 15 51.8**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=286,slow=4.1,SNR=9.6						

DJA 27 17:58:04.8±0.4, 0°S±4°×124°E±°, h101km±6km, M4.0/9, mb4.0/3, mB4.8/2, MLv3.9/9, Mw(mB)4.1/2, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.71**	**2**	P	Pn	17 58 23.9	+1.5
KMSI				S	Sn	17 58 37.8	+2.2
LUWI	**Luwuk**	**1.49**	**233**	P	Pn	17 58 30.4	-0.6
LUWI				S	Sn	17 58 51.5	+0.7
MRSI	**Marisa**	**2.11**	**287**	P	Pn	17 58 37.8	-1.0
APSI	**Ampana**	**2.44**	**252**	P	Pn	17 58 42.5	-0.6
SANI	**Sanana**	**2.78**	**133**	P	Pn	17 58 46.1	-1.5
TNTI	**Ternate**	**3.52**	**75**	P	Pn	17 58 57.7	+0.1
TNTI				S	Sn	17 59 39.2	+0.7
LBMI	**Labuha**	**3.58**	**98**	P	Pn	17 58 58.2	-0.1
LBMI				S	Sn	17 59 38.1	-1.6
MPSI	**Mapaga**	**4.09**	**277**	P	Pn	17 59 04.4	-0.8
NLAI	**Namlea**	**4.40**	**134**	P	Pn	17 59 08.6	-0.8
TTSI	**Tana Toraja**	**5.05**	**235**	P	Pn	17 59 18.1	-0.1
AAI	**Ambon**	**5.51**	**130**	P	Pn	17 59 24.2	-0.2
SPSI	**Sidrap Palu**	**5.65**	**228**	P	Pn	17 59 26.6	+0.2
	26nm,0.5s,0.1nm						

ISCJB 27 18:14:22.8±0.5, 39°.12S±0°.04×174°.70E±0°.05, h226km±4km, mb3.3/2, Error ellipse: s-maj=8.1km s-min=4.3km az=139.0
WEL 27 18:14:25.6±0.3, 39°.09S×174°.84E, h210km±2km, ML4.5/22, Error ellipse: s-maj=1.7km s-min=1.4km az=90.0
IDC 27 18:14:25.8±2.2, 38°.29S×174°.96E, h211km±27km, mb3.1/2, mb1 3.4/2, mb1mx3.1/16, mbtmp3.7/2, Error ellipse: s-maj=223.5km s-min=40.0km az=2.0

ISC 27 18:14:23.7±1.0, 39°.14S±0°.06×174°.78E±0°.05, h221km±6km, n113, σ1.901/121, 22C-38D, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VRZ	**Vera Road**	**0.02**	**295**	PN	**Pn**	**18 14 52.3**	**-0.1**
VRZ				SN	**S**	**18 15 12.6**	**-2.1**
MHEZ	**Mangahewa**	**0.36**	**279**	↑PN	**Pn**	**18 14 53.5**	**+0.7**
MHEZ				SN	**S**	**18 15 15.0**	**-0.5**
LREZ	**Lake Rotokare**	**0.44**	**222**	↑PN	**Pn**	**18 14 53.7**	**+0.8**
DREZ	**Durham Road**	**0.46**	**263**	↑PN	**Pn**	**18 14 53.7**	**+0.6**
DREZ				SN	**S**	**18 15 15.3**	**-0.7**
PKVZ	**Pokaka**	**0.47**	**110**	↓PN	**Pn**	**18 14 53.6**	**+0.4**
PKVZ				SN	**S**	**18 15 14.2**	**-2.0**
TWVZ	**Taurewa**	**0.51**	**83**	PN	**Pn**	**18 14 53.5**	**+0.1**
NEZ	**North Egmont**	**0.55**	**255**	↑PN	**Pn**	**18 14 54.2**	**+0.7**
NEZ				SN	**S**	**18 15 16.0**	**-0.8**
MTVZ	**Mangateitei**	**0.59**	**115**	↓PN	**Pn**	**18 14 54.1**	**+0.5**
COVZ	**Chateau Observ**	**0.59**	**97**	PN	**Pn**	**18 14 54.0**	**+0.3**
FWVZ	**Far West T-bar**	**0.61**	**102**	PN	**Pn**	**18 14 54.3**	**+0.4**
KHEZ	**Kahui Hut**	**0.62**	**255**	PN	**Pn**	**18 14 54.3**	**+0.6**
HIZ	**Hauiti**	**0.62**	**5**	↓PN	**Pn**	**18 14 53.6**	**-0.1**
DRZ	**Dome Shelter**	**0.62**	**103**	↑PN	**Pn**	**18 14 54.5**	**+0.4**
WTVZ	**West Tongariro**	**0.63**	**89**	↓PN	**Pn**	**18 14 54.3**	**+0.5**
NGZ	**Ngauruhoe**	**0.64**	**94**	↓PN	**Pn**	**18 14 54.3**	**+0.4**
WAZ	**Wanganui**	**0.64**	**166**	↑PN	**Pn**	**18 14 54.7**	**+1.0**
WHVZ	**Whangaehu Hut**	**0.64**	**104**	↓PN	**Pn**	**18 14 54.5**	**+0.4**
WNVZ	**Wahianoa**	**0.66**	**107**	PN	**Pn**	**18 14 54.5**	**+0.4**
WNVZ				SN	**S**	**18 15 15.2**	**-2.5**
KRVZ	**Karewarewa**	**0.67**	**87**	PN	**Pn**	**18 14 54.4**	**+0.4**
TUVZ	**Tukino**	**0.69**	**101**	↓PN	**Pn**	**18 14 54.8**	**+0.6**
NWEZ	**Newall Road**	**0.72**	**259**	PN	**Pn**	**18 14 54.9**	**+0.8**
NMEZ	**Namu Road**	**0.76**	**248**	↑PN	**Pn**	**18 14 55.1**	**+0.9**
NMEZ				SN	**S**	**18 15 18.1**	**0.0**
MOVZ	**Moawhango**	**0.80**	**110**	↓PN	**Pn**	**18 14 54.8**	**+0.2**
RATZ	**Rangitukua**	**0.81**	**71**	↓PN	**Pn**	**18 14 54.7**	**+0.1**
RITZ	**Rihia Road**	**0.85**	**80**	PN	**Pn**	**18 14 55.2**	**+0.3**
WATZ	**Wairara**	**0.85**	**61**	↓PN	**Pn**	**18 14 55.2**	**+0.3**
TLZ	**Tolley Road**	**1.00**	**37**	↓PN	**Pn**	**18 14 55.6**	**-0.2**
KUTZ	**Kaahu Road**	**1.04**	**52**	↓PN	**Pn**	**18 14 56.2**	**+0.3**
BHHZ	**Black Hill Sta**	**1.05**	**110**	||*e*PN	**Pn**	**18 14 56.3**	**+0.2**
WPRZ	**Whakapapataran**	**1.24**	**61**	PN	**Pn**	**18 14 57.2**	**-0.1**
TSZ	**Takapari Road**	**1.30**	**136**	PN	**Pn**	**18 14 58.5**	**+0.9**
TSZ				AML	AML	18 15 23.4	
TSZ				AML	AML	18 15 23.9	
KWHZ	**Kaweka Forest**	**1.31**	**103**	PN	**Pn**	**18 14 58.6**	**+0.8**
BKZ	**Black Stump Fm**	**1.33**	**92**	↓PN	**Pn**	**18 14 58.1**	**+0.1**
BKZ				AML	AML	18 15 21.9	
BKZ				AML	AML	18 15 23.4	
KRHZ	**Kereru**	**1.33**	**113**	↓PN	**Pn**	**18 14 58.6**	**+0.6**
PNHZ	**Pukenui**	**1.34**	**126**	↓PN	**Pn**	**18 14 58.8**	**+0.7**
PRRZ	**Plateau Road**	**1.41**	**64**	PN	**Pn**	**18 14 58.2**	**-0.4**
POWZ	**Post Office Ro**	**1.47**	**149**	PN	**Pn**	**18 14 59.7**	**+0.7**
TOZ	**Tahuroa Road**	**1.51**	**22**	PN	**Pn**	**18 14 59.1**	**-0.3**
MCHZ	**McNeill Hill**	**1.52**	**102**	↓PN	**Pn**	**18 15 00.1**	**+1.2**
RRRZ	**Republican Roa**	**1.57**	**60**	↓PN	**Pn**	**18 14 59.7**	**-0.2**
NMHZ	**Naumai**	**1.57**	**89**	PN	**Pn**	**18 15 01.0**	**+1.1**
DVHZ	**Dannevirke**	**1.58**	**138**	↓PN	**Pn**	**18 15 00.6**	**+0.7**
WPHZ	**Waipukurau**	**1.58**	**127**	↓PN	**Pn**	**18 15 00.9**	**+1.0**
TARZ	**Mount Tarawera**	**1.62**	**57**	↓PN	**Pn**	**18 15 00.4**	**0.0**
MRZ	**Mangatainoka R**	**1.65**	**158**	↑PN	**Pn**	**18 15 01.0**	**+0.6**
MRZ				AML	AML	18 15 27.5	
MRZ				AML	AML	18 15 27.9	
PRWZ	**Pori Road**	**1.69**	**148**	↑PN	**Pn**	**18 15 01.9**	**+1.1**
OGWZ	**Otaki Gorge**	**1.71**	**170**	↑PN	**Pn**	**18 15 02.0**	**+1.0**
ARHZ	**Aropaoanui**	**1.73**	**95**	↓PN	**Pn**	**18 15 02.0**	**+0.9**
KIW	**Kapiti Island**	**1.73**	**177**	↑PN	**Pn**	**18 15 01.8**	**+0.6**
KIW				AML	AML	18 15 30.3	
KIW				AML	AML	18 15 30.8	
KAHZ	**Kahuranaki**	**1.75**	**113**	↓PN	**Pn**	**18 15 02.6**	**+1.1**
DUWZ	**D'Urville Isla**	**1.79**	**201**	↑PN	**Pn**	**18 15 02.4**	**+0.6**
RAHZ	**Arahi**	**1.81**	**84**	↓PN	**Pn**	**18 15 02.5**	**+0.5**
PRHZ	**Porangahau**	**1.82**	**129**	PN	**Pn**	**18 15 03.0**	**+0.9**
PXZ	**Pawanui**	**1.84**	**120**	↓PN	**Pn**	**18 15 03.1**	**+0.9**
PXZ				AML	AML	18 15 31.2	
PXZ				AML	AML	18 15 31.3	
PXZ				AML	AML	18 15 32.5	
PXZ				AML	AML	18 15 32.6	
TIWZ	**Tintock**	**1.85**	**153**	PN	**Pn**	**18 15 03.0**	**+0.6**
TIWZ				AML	AML	18 15 32.7	
TIWZ				AML	AML	18 15 33.1	
HOWZ	**Holdsworth Sta**	**1.85**	**163**	↑PN	**Pn**	**18 15 02.8**	**+0.5**
CKHZ	**Cape Kidnapper**	**1.85**	**107**	↓PN	**Pn**	**18 15 03.5**	**+1.1**
ANWZ	**Angora Road**	**1.86**	**136**	↓PN	**Pn**	**18 15 03.4**	**+1.0**
WHHZ	**Waihua**	**1.91**	**89**	↓PN	**Pn**	**18 15 03.5**	**+0.6**
BFZ	**Birch Farm**	**1.91**	**144**	↓PN	**Pn**	**18 15 03.4**	**+0.5**
CAW	**Cannon Point**	**1.98**	**174**	↑PN	**Pn**	**18 15 04.2**	**+0.6**
CAW				AML	AML	18 15 34.9	
CAW				AML	AML	18 15 35.8	
URZ	**Urewera**	**2.02**	**65**	PN	**Pn**	**18 15 03.1**	**-0.9**
URZ				AML	AML	18 15 33.9	
URZ				AML	AML	18 15 34.8	
URZ	**Urewera**	**2.02**	**65**	P	**Pn**	**18 15 03.1**	**-0.9**
	53nm,0.3s,baz=254,slow=7.6,SNR=722						
URZ				S	**S**	**18 15 30.5**	**-4.7**
	28nm,0.3s,baz=245,slow=6.0,SNR=21						
SNGZ	**Shannon Statio**	**2.02**	**81**	↓PN	**Pn**	**18 15 04.3**	**+0.3**
CPWZ	**Castlepoint**	**2.08**	**149**	PN	**Pn**	**18 15 05.6**	**+1.1**
MTW	**Mount Morrison**	**2.10**	**165**	↑PN	**Pn**	**18 15 05.0**	**+0.3**
MTW				AML	AML	18 15 36.4	
MTW				AML	AML	18 15 36.4	
TCW	**Tory Channel**	**2.11**	**190**	↑PN	**Pn**	**18 15 05.6**	**+0.8**
TCW				AML	AML	18 15 38.4	
TCW				AML	AML	18 15 38.5	
TMWZ	**Te Maipa**	**2.15**	**157**	PN	**Pn**	**18 15 05.7**	**+0.4**
WEL	**Wellington**	**2.15**	**180**	PN	**Pn**	**18 15 05.6**	**+0.4**
WEL				AML	AML	18 15 37.6	
WEL				AML	AML	18 15 37.8	
RAUZ	**Rawiri**	**2.15**	**74**	↓PN	**Pn**	**18 15 05.2**	**-0.2**
KNZ	**Kokohu**	**2.25**	**88**	↓PN	**Pn**	**18 15 06.5**	**+0.2**
BHW	**Baring Head**	**2.27**	**178**	PN	**Pn**	**18 15 05.9**	**-0.5**
BHW				AML	AML	18 15 39.8	
BHW				AML	AML	18 15 40.1	
MWZ	**Matawai**	**2.29**	**70**	↓PN	**Pn**	**18 15 06.2**	**-0.6**
MWZ				AML	AML	18 15 39.4	
MWZ				AML	AML	18 15 39.5	
MWZ				AML	AML	18 15 39.6	
MWZ				AML	AML	18 15 39.7	
PAWZ	**Paruwai Farm**	**2.30**	**168**	PN	**Pn**	**18 15 07.1**	**+0.3**
PAWZ				AML	AML	18 15 40.0	
PAWZ		

MTVR	**Mutnovka**	**3.93**	**236**	*e*S	Sn	18 42 49.6	+2.9
ASAK	**Asacha**	**4.13**	**236**	*e*P	Pn	18 42 09.1	+4.7
SKR	**Severo-Kuril's**	**6.10**	**230**	*e*S	Sn	18 43 41.0	+1.5

IDC 27 18:42:13.4±3.4, 6°01'S×150°43'E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.3/31, mbtmp3.5/3, ML1.7/1, Error ellipse: s-maj=121.0km s-min=42.8km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.68**	**224**	Pn	Pn	18 43 26.9	+1.6
	2.5nm,0.3s,baz=37,slow=7.8,SNR=9.7						
PMG				Sn	Sn	18 44 16.5	-3.8
	1.9nm,0.3s,baz=114,slow=18,SNR=4.3						
WRA	**Warramunga Arr**	**20.89**	**227**	P	P	18 46 56.9	-0.5
	1.7nm,0.5s,baz=53,slow=11,SNR=29						
ASAR	**Alice Springs**	**23.69**	**220**	P	P	18 47 26.4	-0.6
	0.3nm,0.6s,baz=54,slow=9.1,SNR=14						
TORD	**Torodi Ar. Bea**	**148.39**	**285**	PKPbc	PKPbc	19 02 02.7	-0.3
	0.2nm,0.5s,baz=98,slow=1.9,SNR=4.4						

*IDC **27** 18:43:47.3±1.3, 27°81N×57°07E, h0km, mb3.6/11, mb1 3.7/11, mb1mx3.5/37, mbtmp3.7/11, MS2.7/2, Ms1 2.7/2, ms1mx2.3/40, Error ellipse: s-maj=30.0km s-min=21.5km az=165.0*
*CSEM **27** 18:43:49.5±0.5, 28°03N×57°29E, h2km, ML3.6, Error ellipse: s-maj=15.3km s-min=8.0km az=80.0*
*ISCJB **27** 18:43:50.8±0.4, 28°01N±0°04×57°27E±0°09, h24km, mb3.5/11, MS2.6/1, Error ellipse: s-maj=11.2km s-min=5.2km az=13.8*
*OMAN **27** 18:43:52.9±99.0, 28°02N×57°28E, h35km±234km, Error ellipse: s-maj=354.3km s-min=26.6km az=4.0*
*DSN **27** 18:43:53.9±1.5, 28°02N×56°66E, h15km, mb3.4/7, ML4.0/1, Error ellipse: s-maj=44.3km s-min=13.6km az=99.0*
*THR **27** 18:43:53.1±0.3, 28°08N×56°99E, h15km, ML3.6*
ISC 27 18:43:52.0±0.7, 28°00N±0°05×57°22E±0°08, h24km, n39, σ1§09/39, mb3.4/11, 5C-6D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.11**	**237**	*e*Pg	**Pn**	**18 44 11.8**	**-0.3**
BNDS				AML	AML	18 44 29.2	
	comp=E,2μm,0.4s						
BNDS				AML	AML	18 44 29.6	
	comp=N,2μm,0.2s						
BNDS	**Bandar-Abbas**	**1.11**	**237**	*e*Pg	**Pn**	**18 44 11.8**	**-0.3**
	comp=N,2μm,0.2s						
KRBR	**Kerman**	**2.01**	**349**	*e*Pg	**Pb**	**18 44 28.0**	**-0.1**
KRBR				AML	AML	18 45 07.0	
	comp=E,420nm,1.7s						
KRBR	**Kerman**	**2.01**	**349**	*e*Pg	**Pb**	**18 44 28.0**	**-0.1**
	comp=E,420nm,1.7s						
BANOM	**Banah**	**2.23**	**202**	⇓P	**Pn**	**18 44 27.4**	**-0.1**
BANOM				⇓S	**Sn**	**18 44 55.3**	**+1.0**
BANOM	**Banah**	**2.23**	**202**	P	**Pn**	**18 44 27.4**	**-0.1**
BANOM				S	**Sn**	**18 44 55.3**	**+1.0**
HATD	**Hatta, Dubai**	**3.31**	**197**	P	**Pn**	**18 44 45.0**	**+2.7**
HATD	**Hatta, Dubai**	**3.31**	**197**	⇑P	**Pn**	**18 44 45.0**	**+2.7**
NAZ	**Nazwa, Dubai**	**3.31**	**205**	P	**Pn**	**18 44 43.3**	**+1.0**
NAZ	**Nazwa, Dubai**	**3.31**	**205**	⇑P	**Pn**	**18 44 43.3**	**+1.0**
ASHO	**Ashiyiah**	**3.47**	**198**	⇓P	**Pn**	**18 44 45.7**	**+1.2**
ASHO	**Ashiyiah**	**3.47**	**198**	P	**Pn**	**18 44 45.7**	**+1.2**
FAQ	**Al Faqa, Dubai**	**3.56**	**205**	P	**Pn**	**18 44 46.0**	**+0.3**
FAQ	**Al Faqa, Dubai**	**3.56**	**205**	⇑P	**Pn**	**18 44 46.0**	**+0.3**
GHIR	**Ghir-Karzin**	**3.75**	**275**	*e*Pn	**Pn**	**18 44 49.7**	**+1.3**
GHIR				AML	AML	18 45 53.4	
	comp=E,60nm,0.6s						
GHIR	**Ghir-Karzin**	**3.75**	**275**	*e*Pn	**Pn**	**18 44 49.7**	**+1.3**
	comp=E,60nm,0.6s						
ASUD	**Al Ashush, Dub**	**3.77**	**207**	P	**Pn**	**18 44 49.4**	**+0.8**
ASUD	**Al Ashush, Dub**	**3.77**	**207**	⇑P	**Pn**	**18 44 49.4**	**+0.8**
HOQ	**Hoqain**	**4.40**	**179**	⇓P	**Pn**	**18 44 56.3**	**-1.1**
HOQ	**Hoqain**	**4.40**	**179**	P	**Pn**	**18 44 56.3**	**-1.1**
ARQ	**Araqi**	**4.69**	**188**	⇑P	**Pn**	**18 45 01.7**	**+0.4**
ARQ	**Araqi**	**4.69**	**188**	P	**Pn**	**18 45 01.7**	**+0.4**
SMDO	**Samad**	**4.98**	**171**	⇓P	**Pn**	**18 45 05.7**	**+0.3**
SMDO	**Samad**	**4.98**	**171**	P	**Pn**	**18 45 05.7**	**+0.3**
BSY	**Bisya**	**5.24**	**180**	⇓P	**Pn**	**18 45 09.6**	**+0.7**
BSYO	**Bisya**	**5.25**	**180**	P	**Pn**	**18 45 09.6**	**+0.6**
GEYT	**Alibeck**	**9.93**	**4**	Pn	Pn	18 46 18.8	+5.7
	comp=E,0.2nm,0.3s,baz=158,slow=12,SNR=2.2						
GNI	**Garni**	**15.90**	**323**	LR	LR	18 54 23.8	
	comp=E,20nm,21.4s,baz=98,slow=40						
AKTO	**Aktyubinsk**	**22.41**	**1**	P	**P**	**18 48 50.0**	**+1.2**
	comp=E,3.0nm,0.5s,baz=175,slow=10,SNR=7.6						
AKTO				LR	LR	18 59 01.6	
	comp=E,25nm,19.5s,baz=170,slow=40						
BRTR	**Keskin Array B**	**22.73**	**307**	P	**P**	**18 48 51.9**	**-0.6**
	comp=E,0.7nm,0.6s,baz=115,slow=10,SNR=4.8						
BVAR	**Borovoye Array**	**26.84**	**18**	P	**P**	**18 49 31.5**	**+1.1**
	comp=E,0.6nm,0.6s,baz=211,slow=8.1,SNR=4.7						
MKAR	**Makanchi Array**	**27.17**	**40**	P	**P**	**18 49 35.0**	**+1.5**
	comp=E,0.4nm,0.7s,baz=216,slow=4.3,SNR=3.4						
KURBB	**Kurchatov Arra**	**27.78**	**30**	P	**P**	**18 49 40.2**	**+1.4**
	comp=E,0.2nm,0.3s,baz=231,slow=8.7,SNR=6.2						
ZALV	**Zalesovo Beam**	**32.87**	**30**	P	**P**	**18 50 24.1**	**+0.3**
	comp=E,0.8nm,0.3s,baz=244,slow=12,SNR=5.1						
GERES	**GERESS Array B**	**39.26**	**314**	P	**P**	**18 51 17.7**	**-1.1**
	comp=E,0.6nm,0.7s,baz=96,slow=7.2,SNR=5.8						
FINES	**FINESS Array B**	**39.35**	**337**	P	**P**	**18 51 18.8**	**-0.3**
	comp=E,0.7nm,0.5s,baz=142,slow=11,SNR=11						
TORD	**Torodi Ar. Bea**	**53.62**	**266**	P	**P**	**18 53 09.7**	**-2.0**
	comp=E,0.8nm,0.6s,baz=65,slow=7.0,SNR=7.0						
SEY	**Seymchan**	**67.73**	**29**	P	**P**	**18 54 47.2**	**0.0**
	comp=E,0.4nm,0.6s,baz=318,slow=2.3,SNR=7.0						
WRA	**Warramunga Arr**	**88.45**	**113**	P	**P**	**18 56 42.3**	**-0.3**
	comp=E,0.2nm,0.9s,baz=316,slow=4.0,SNR=2.7						

GUC 27 18:54:19.4±0.6, 34°50S×72°07W, h9km±1km, ML4.2, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.85**	**126**	⇑*i*P	Pg	18 54 35.9	0.0
NICH				*i* S	Sb	18 54 47.7	-0.3
TALC	**Talca**	**0.96**	**158**	⇓*i*P	Pg	18 54 37.4	-0.6
TALC				*i* S	Sg	18 54 50.2	-0.3
TACH	**Talagante**	**1.27**	**48**	⇑*i*P	Pn	18 54 41.8	-1.5
CHCH	**Chadas Angostu**	**1.31**	**65**	*e*P	Pn	18 54 42.9	-1.0
PCH	**Pirque**	**1.56**	**56**	⇑*i*P	Pn	18 54 46.9	-0.6
PCH				*i* S	Sn	18 55 08.0	0.0
SAN	**Santiago**	**1.57**	**49**	*e*P	Pn	18 54 46.8	-0.8
SAN				*e*S	Sn	18 55 08.0	0.0
CLCH	**Cerro Calan**	**1.69**	**50**	⇓*i*P	Pn	18 54 48.7	-0.4
CLCH				*i* S	Sn	18 55 11.2	+0.2
CLCH				AML	AML	18 55 17.2	
	comp=N,3μm,0.7s						
COCH	**Cobquecura**	**1.73**	**200**	*e*P	Pn	18 54 49.3	-0.3
COCH				*e*S	Sn	18 55 11.9	+0.2
PEL	**Peldehue**	**1.78**	**41**	⇑*i*P	Pn	18 54 50.2	-0.3
PEL				*e*S	Sn	18 55 13.8	+0.5
PEL				AML	AML	18 55 19.1	
	comp=N,5μm,0.3s						

IDC 27 19:14:01.0±1.7, 6°78S×129°28E, h0km, mb3.5/1, mb1 3.5/4, mb1mx3.3/25, mbtmp3.3/4, ML3.4/3, Error ellipse: s-maj=65.3km s-min=28.5km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.85**	**38**	P	Pn	19 15 17.1	+1.8
	baz=4.4,SNR=4.1						
SIJI	**Sorong**	**6.20**	**19**	Pn	Pn	19 15 36.0	+2.1
	0.5nm,0.3s,baz=226,slow=23,SNR=21						
SIJI				Sn	Sn	19 16 39.5	-6.0
	1.5nm,0.3s,baz=248,slow=23,SNR=8.4						
MTN	**Manton Dam**	**6.29**	**163**	P	Pn	19 15 42.6	+7.4
	baz=6.5,SNR=5.4						
KDU	**Kakadu**	**6.66**	**152**	P	Pn	19 15 44.4	+4.2
	baz=6.8,SNR=56						
LUWI	**Luwuk**	**8.64**	**311**	P	Pn	19 16 10.2	+2.8
	baz=8.7,SNR=6.5						
WRA	**Warramunga Arr**	**13.97**	**160**	Pn	Pn	19 17 20.3	-0.2
	0.2nm,0.3s,baz=348,slow=14,SNR=21						
WRA				Sn	Sn	19 19 45.6	-11
	0.3nm,0.3s,baz=336,slow=22,SNR=9.0						
ASAR	**Alice Springs**	**17.36**	**166**	P	P	19 18 05.7	-0.7
	0.1nm,0.3s,baz=341,slow=8.9,SNR=8.8						
ASAR				S	Sn	19 21 09.4	-10
	0.1nm,0.3s,baz=349,slow=26,SNR=4.9						
MKAR	**Makanchi Array**	**67.65**	**327**	P	P	19 24 59.4	-0.6
	0.3nm,0.6s,baz=112,slow=6.0,SNR=3.3						

*IDC **27** 19:38:11.9±0.8, 32°19N×70°89E, h0km, mb4.2/17, mb1 4.3/20, mb1mx4.0/44, mbtmp4.2/20, ML3.9/3, MS3.4/13, Ms1 3.4/13, ms1mx3.2/39, Error ellipse: s-maj=19.3km s-min=16.1km az=24.0*
*NDI **27** 19:38:15.5±2.5, 32°05N×70°63E, h33km, ML4.2, mb4.3(NEIC)*
*ISCJB **27** 19:38:16.6±0.3, 32°37N±0°03×70°95E±0°04, h42km, mb4.1/20, MS3.3/13, Error ellipse: s-maj=4.9km s-min=3.9km az=43.1*
*MOS **27** 19:38:17.9±1.1, 32°42N×70°91E, h49km, mb4.5/4, Error ellipse: s-maj=12.7km s-min=6.7km az=90.9*
*NEIC **27** 19:38:18.4±1.3, 32°34N×70°88E, h42km±11km, mb4.3/9, Error ellipse: s-maj=9.7km s-min=7.1km az=192.0*
*NNC **27** 19:38:21.1±2.1, 32°45N×70°84E, h67km±17km, mb4.2, mpv4.5, Error ellipse: s-maj=16.5km s-min=15.7km az=88.0*
*BJI **27** 19:38:21.2, 32°81N×71°51E, h10km, mb4.0/11, mB4.5/8, Ms3.8/6, Ms7 3.6/4*
ISC 27 19:38:18.0±0.5, 32°26N±0°06×70°89E±0°05, h42km, n106, σ1§45/110, mb4.2/20, MS3.3/13, 7C-11D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**4.30**	**85**	*e*P	**Pn**	**19 39 21.0**	**-0.1**
DLH				*e*S	**Sn**	**19 40 11.0**	**+0.9**
PONG	**Pong**	**4.30**	**93**	*e*P	**Pn**	**19 39 20.5**	**-0.4**
PONG				*e*x	x	19 40 30.5	
DHRM	**DHARAMSHALA**	**4.58**	**89**	*e*P	**Pn**	**19 39 25.6**	**+0.6**
DHRM				*e*S	**Sn**	**19 40 15.9**	**-1.1**
DHRM				AML	AML	19 40 42.8	
	comp=E,2μm,0.3s						
DHRM				AML	AML	19 40 45.6	
	comp=N,1μm,0.2s						
BHK	**Bhakra**	**4.78**	**99**	*e*P	Pn	19 39 34.0	+6.6
BHK				*e*S	Sn	19 40 27.8	+6.2
SDNR	**Sundarnagar**	**5.22**	**97**	*e*P	**Pn**	**19 39 35.0**	**+1.4**
SDNR				*e*x	x	19 40 36.0	
SMLA	**Simla**	**5.46**	**100**	*i* P	**Pn**	**19 39 37.5**	**+0.7**
SMLA				*e*S	**Sn**	**19 40 35.2**	**-3.3**
SMLA				AML	AML	19 40 41.9	
	comp=N,368nm,0.8s						
SMLA				AML	AML	19 40 43.3	
	comp=E,275nm,0.5s						
NDI	**New Delhi**	**6.52**	**122**	*e*P	**Pn**	**19 39 49.0**	**-2.4**
NDI				*e*x	x	19 41 34.0	
BISR	**Bishrakh**	**6.74**	**121**	*e*x	**Pn**	**19 39 54.5**	**+0.1**
BISR				*e*x	**Sn**	**19 41 06.1**	**-3.9**
DZET	**Dzherino**	**6.75**	**346**	⇑P	**Pn**	**19 39 55.3**	**+0.7**
	comp=E,4.5nm,0.2s						
DZET				⇑S	**Sn**	**19 41 08.7**	**-1.4**
	comp=E,46nm,0.5s						
AGRA	**Agra**	**7.92**	**127**	*e*x	Sn	19 41 30.4	-8.3
AGRA				AML	AML	19 42 41.0	
	comp=E,104nm,0.4s						
AGRA				AML	AML	19 42 41.2	
	comp=N,140nm,0.5s						
SFK	**Sufi-Kurgan**	**8.02**	**15**	⇑P	**Pn**	**19 40 14.3**	**+2.2**
	comp=N,11nm,0.2s						
SFK				⇓S	**Sn**	**19 41 42.8**	**+1.1**
	comp=N,42nm,0.3s						
KSH	**Kashi**	**8.33**	**28**	Pn	**Pn**	**19 40 14.0**	**-2.3**
KSH				Sn	Sn	19 41 38.5	-11
LGTI	**Lohaghat**	**8.51**	**107**	*e*P	**Pn**	**19 40 18.4**	**-0.3**
AML	**Almayashu**	**10.10**	**12**	P	**Pn**	**19 40 40.6**	**-0.3**
	SNR=189						
KZA	**Kyzart**	**10.40**	**18**	P	**Pn**	**19 40 45.6**	**+0.8**
	SNR=8.6						
EKS2	**Erkin-Say**	**10.63**	**12**	P	**Pn**	**19 40 48.0**	**+0.2**
	SNR=33						
EKS2	**Erkin-Say**	**10.63**	**12**	*e*P	**Pn**	**19 40 47.6**	**-0.2**
EKS2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
EKS2	**Erkin-Say**	**10.63**	**12**	*e*Pn	**Pn**	**19 40 47.6**	**-0.2**
	comp=Z,9.7nm,0.6s						
EKS2				*e*Sn	Sn	19 42 34.8	-11
AAK	**Ala-Archa**	**10.74**	**14**	P	**Pn**	**19 40 49.5**	**+0.1**
	SNR=11						
AAK	**Ala-Archa**	**10.74**	**14**	⇓P	**Pn**	**19 40 49.7**	**+0.4**
	comp=Z,10nm,0.5s						
AAK				⇓S	**Sn**	**19 42 47.2**	**-1.1**
	comp=Z,30nm,0.9s						
KK31	**Karatay Array**	**10.83**	**359**	⇓P	**Pn**	**19 40 49.1**	**-1.3**
	comp=Z,9.5nm,0.7s,baz=185,slow=13,SNR=161						
KK31				⇑S	**Sn**	**19 42 48.1**	**-2.1**
	comp=Z,5.6nm,0.5s,baz=46,slow=36,SNR=6.5						
KKAR	**Karatay Array**	**10.83**	**359**	*e*P	**Pn**	**19 40 49.0**	**-1.4**
KKAR				*e*		19 42 47.6	
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.4s						
KKAR	**Karatay Array**	**10.83**	**359**	*e*Pn	**Pn**	**19 40 49.0**	**-1.4**
	comp=Z,6.6nm,0.4s						
KKAR				*e*Sn	**Sn**	**19 42 47.6**	**-2.6**
KBK	**Karagaybulak**	**10.87**	**16**	P	**Pn**	**19 40 53.1**	**+2.1**
	SNR=9.6						
FRU	**Bishkek**	**10.96**	**15**	*e*P	**Pn**	**19 40 53.5**	**+1.3**
FRU				*e*S	**Sn**	**19 42 53.0**	**-0.4**
FRU				pmax	pmax		
	comp=N,100nm,2.1s						
CHMS	**Chumysh**	**11.15**	**15**	P	**Pn**	**19 40 54.4**	**-0.4**
	SNR=14						
TKM2	**Tokmak 2**	**11.28**	**18**	P	**Pn**	**19 40 57.6**	**+0.9**
	SNR=11						
TKM2	**Tokmak 2**	**11.28**	**18**	⇑P	**Pn**	**19 40 57.1**	**+0.4**
	comp=N,13nm,0.7s						
TKM2				⇓S	**Sn**	**19 42 59.9**	**-1.5**
	comp=N,9.3nm,0.8s						
TKM2	**Tokmak 2**	**11.28**	**18**	*e*P	**Pn**	**19 40 56.6**	**-0.1**
TKM2				*e*		19 42 52.9	
TKM2				pmax	pmax		
	comp=Z,13nm,0.6s						
TKM2	**Tokmak 2**	**11.28**	**18**	*e*Pn	**Pn**	**19 40 56.6**	**-0.1**
	comp=Z,13nm,0.6s						
TKM2				*e*Sn	Sn	19 42 52.9	-8.5
DANN	**Dangsing**	**11.78**	**106**	*e*P	**Pn**	**19 41 02.2**	**-1.5**
KOLN	**Koldanda**	**11.88**	**109**	*e*P	**Pn**	**19 41 02.6**	**-2.5**
	comp=Z,21nm,0.3s						
GEYT	**Alibeck**	**11.89**	**302**	Pn	**Pn**	**19 41 03.0**	**-2.0**
	comp=Z,0.6nm,0.3s,baz=129,slow=21,SNR=12						
GKN	**Gorkha**	**12.63**	**106**	*e*P	**Pn**	**19 41 12.5**	**-2.7**
	comp=Z,22nm,0.3s						
PDGK	**Podgornoye**	**12.96**	**29**	⇓P	**Pn**	**19 41 19.3**	**-0.1**
	comp=Z,14nm,1.1s						
DMN	**Daman**	**13.17**	**107**	*e*P	Pn	19 41 18.7	-3.9
	comp=Z,17nm,0.4s						
KKN	**Kakani**	**13.23**	**106**	*e*P	Pn	19 41 20.3	-3.2
	comp=Z,66nm,0.6s						
PKIN	**Phulchoki**	**13.41**	**107**	*e*P	Pn	19 41 21.6	-4.4
	comp=Z,30nm,0.4s						
PKI	**Pulchoki**	**13.43**	**107**	*e*P	Pn	19 41 22.4	-3.9
	comp=Z,20nm,0.5s						
GUN	**Gumba**	**13.68**	**105**	*e*P	**Pn**	**19 41 26.7**	**-3.0**
	comp=Z,24nm,0.3s						
RAMN	**Ramite**	**14.65**	**107**	*e*P	Pn	19 41 38.0	-4.7
	comp=Z,35nm,0.7s						
ODAN	**Odare**	**15.33**	**106**	*e*P	Pn	19 41 46.5	-5.2
	comp=Z,12nm,0.5s						
TAPN	**Taplejung**	**15.39**	**104**	*e*P	**Pn**	**19 41 47.9**	**-4.7**
	comp=Z,12nm,0.4s						
OTUK	**Ortayu**	**16.00**	**4**	⇓P	**Pn**	**19 41 59.2**	**-0.8**
	comp=Z,3.6nm,0.5s						
MK31	**Makanchi Array**	**16.94**	**28**	⇓P	**P**	**19 42 12.8**	**-0.6**
	comp=Z,2.1nm,0.5s						
MK31	**Makanchi Array**	**16.94**	**28**	P	**Pn**	**19 42 12.3**	**+0.4**
MK31	**Makanchi Array**	**16.94**	**28**	Pn	**Pn**	**19 42 12.3**	**+0.4**
MKAR	**Makanchi Array**	**16.94**	**28**	P	**Pn**	**19 42 11.4**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=212,slow=10,SNR=40						
MKAR				LR	LR	19 49 24.6	
	comp=Z,78nm,19.0s,baz=213,slow=40						
LSA	**Lhasa**	**17.56**	**93**	*e*P	**P**	**19 42 21.9**	**+1.1**
LSA				*e*		19 45 36.4	
LSA				pmax	pmax		
	comp=Z,44nm,1.6s						
LSA	**Lhasa**	**17.56**	**93**	*e*Pn	**P**	**19 42 21.9**	**+1.1**
	comp=Z,44nm,1.6s						
LSA				*e*Sn	**Sn**	**19 45 36.4**	**+1.6**
AB31	**Akbulak array**	**18.86**	**337**	P	**P**	**19 42 33.1**	**-1.3**
	comp=Z,2.0nm,0.5s,baz=149,slow=11,SNR=59						
ABKAR	**Akbulak array**	**18.86**	**337**	*e*Pn	**P**	**19 42 33.3**	**-1.1**
	comp=Z,2.4nm,0.4s						
KURBB	**Kurchatov Arra**	**19.20**	**15**	⇓P	**P**	**19 42 36.7**	**-1.5**
	comp=Z,7.1nm,0.7s						
KURBB	**Kurchatov Arra**	**19.20**	**15**	P	**P**	**19 42 37.1**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=130,slow=24,SNR=24						
KURK	**Kurchatov**	**19.31**	**15**	P	**P**	**19 42 37.2**	**-2.1**
KURK	**Kurchatov**	**19.31**	**15**	P	**P**	**19 42 37.1**	**-2.1**
AKTO	**Aktyubinsk**	**20.52**	**336**	⇑P	**P**	**19 42 52.6**	**+0.1**
	comp=Z,19nm,0.8s						
AKTO	**Aktyubinsk**	**20.52**	**336**	P	**P**	**19 42 52.3**	**-0.2**
	comp=Z,13nm,0.6s,baz=148,slow=11,SNR=52						
AKTO				LR	LR	19 52 16.0	
	comp=Z,122nm,18.3s,baz=147,slow=41						
BVA0	**Borovoye Array**	**20.76**	**359**	P	**P**	**19 42 54.4**	**-0.6**
	comp=Z,7.0nm,0.7s,baz=147,slow=4.3,SNR=62						
BVAR	**Borovoye Array**	**20.76**	**359**	P	**P**	**19 42 54.3**	**-0.7**
	comp=Z,4.5nm,0.5s,baz=159,slow=9.8,SNR=47						
BVAR				LR	LR	19 51 54.4	
	comp=Z,103nm,19.0s,baz=228,slow=40						
BRVK	**Borovoye**	**20.79**	**359**	⇓P	**P**	**19 42 54.4**	**-1.0**
	comp=Z,27nm,1.4s						
BRVK	**Borovoye**	**20.79**	**359**	*e*P	**P**	**19 42 54.5**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BRVK	**Borovoye**	**20.79**	**359**	*e*P	**P**	**19 42 54.5**	**-1.0**
	comp=Z,7.1nm,0.6s						
MAK	**Makhachkala**	**21.32**	**307**	P	**P**	**19 43 02.6**	**+1.4**
MAK				MLR	MLR		
	comp=Z,261nm,13.0s						
GNI	**Garni**	**22.47**	**298**	LR	LR	19 53 56.2	
	comp=Z,55nm,20.9s,baz=104,slow=42						
GNI	**Garni**	**22.47**	**298**	P	**P**	**19 43 14.5**	**+0.7**
GNI	**Garni**	**22.47**	**298**	P	**P**	**19 43 14.4**	**+0.7**
ZAA0	**Zalesovo Array**	**23.86**	**21**	*e*P	**P**	**19 43 25.9**	**-1.3**
ZALV	**Zalesovo Beam**	**23.86**	**21**	P	**P**	**19 43 26.6**	**-0.6**
	comp=Z,4.2nm,0.5s,baz=223,slow=10,SNR=28						
ZALV				LR	LR	19 53 30.0	
	comp=Z,126nm,18.4s,baz=250,slow=38						
RAYN	**Ar Rayn**	**24.02**	**255**	*e*P	**P**	**19 43 28.8**	**-0.3**
	comp=Z,2.4nm,0.7s						
NVS	**Novosibirsk**	**24.21**	**18**	*e*P	**P**	**19 43 28.4**	**-2.0**
GTA	**Gaotai**	**24.44**	**65**	P	**P**	**19 43 36.5**	**+3.6**
GTA				pP	**pP**	**19 43 41.3**	**-2.9**
GTA				sP	sP	19 43 43.5	-5.8
GTA				PMZ			
	comp=Z,7.0nm,1.9s						
GTA				PMZ			
	comp=Z,59nm,4.0s						
GTA				LN			
	comp=Z,150nm,13.8s						
GTA				LE			
	comp=Z,76nm,15.2s						
GTA				LZ			
	comp=Z,78nm,14.7s						
ARU	**Arti**	**25.64**	**344**	LR	LR	19 53 58.2	
	comp=Z,54nm,18.9s,baz=151,slow=37						
ARU	**Arti**	**25.64**	**344**	*e*P	**P**	**19 43 44.6**	**+1.1**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ARU	**Arti**	**25.64**	**344**	*e*P	**P**	**19 43 44.6**	**+1.1**
	comp=Z,5.6nm,0.9s						
PALK	**Pallekele**	**26.49**	**158**	LR	LR	19 53 29.7	
	comp=Z,96nm,19.3s,baz=300,slow=35						
CMAR	**Chiang Mai Arr**	**28.73**	**112**	PcP	**PcP**	**19 47 21.6**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=287,slow=4.2,SNR=8.0						
CMAR				LR	LR	19 56 43.4	
	comp=Z,47nm,18.4s,baz=322,slow=39						
BRTR	**Keskin Array B**	**30.88**	**295**	P	**P**	**19 44 30.9**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=90,slow=9.6,SNR=3.1						
SONM	**Songino Array**	**30.99**	**49**	P	**P**	**19 44 31.3**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=246,slow=8.9,SNR=10						
HHC	**Hu-ho-hao-te**	**33.53**	**64**	*e*P	**P**	**19 44 55.5**	**+1.7**
HHC				PP	**PnPn**	**19 46 07.8**	**+1.9**
HHC				S	**S**	**19 50 15.8**	**+2.8**
HHC				ScS	**ScS**	**19 55 19.0**	**+2.8**
HHC				PMZ			
	comp=Z,23nm,1.1s						
HHC				PMZ			
	comp=Z,40nm,5.4s						
HHC				LN			
	comp=Z,54nm,12.8s						
HHC				LE			
	comp=Z,69nm,12.9s						
HHC				LZ			
	comp=Z,42nm,13.5s						
AKASG	**Malin Array Be**	**35.67**	**314**	P	**P**	**19 45 12.8**	**+0.9**
	comp=Z,2.5nm,0.6s,baz=94,slow=7.2,SNR=7.7						
AKASG				LR	LR	20 01 57.3	
	comp=Z,62nm,21.4s,baz=190,slow=40						
MLR	**Muntele Rosu**	**36.93**	**304**	⇑*i*P	**P**	**19 45 24.9**	**+1.9**
BURAR	**Bucovina Array**	**37.66**	**308**	⇓*i*P	**P**	**19 45 29.2**	**+0.1**
FINES	**FINESS Array B**	**41.01**	**329**	P	**P**	**19 45 57.1**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=122,slow=7.2,SNR=8.4						
PSZ	**Piszkesteto**	**41.26**	**308**	P	**P**	**19 45 59.8**	**+0.8**
PSZ	**Piszkesteto**	**41.26**	**308**	P	**P**	**19 45 59.8**	**+0.8**
KEV	**Kevo**	**44.72**	**340**	P	**P**	**19 46 25.8**	**-0

*DDA **27** 19:58:17.9, 39°14.N × 33°.23E, h13km, MD3.3*
*ISK **27** 19:58:17.2, 39°.12N × 33°.23E, h2km, ML3.3*
*CSEM **27** 19:58:18.3±0.1, 39°.11N × 33°.26E, h2km, ML3.3, Error ellipse: s-maj=3.2km s-min=2.8km az=41.0*

ISC 27 19:58:17.8±1.1, 39°.13N±0°.02 × 33°.27E±0°.02, h8km±10km, n84, σ1§31/108, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
AFSR	**Afʼar-Bala (A**	**0.35**	**334**	*e*PG	**Pg**		**19 58 24.6**	**-0.1**
AFSR				*e*SG	**Sb**		**19 58 30.7**	**-1.3**
AFSR	**Afʼar-Bala (A**	**0.35**	**334**	*e*Pg	**Pg**		**19 58 24.6**	**-0.1**
AFSR				*e*Sg	**Sb**		**19 58 30.7**	**-1.3**
BBAL	**Bala**	**0.42**	**345**	*i* P	**Pg**		**19 58 26.2**	**+0.1**
BBAL				*i* S	**Sg**		**19 58 32.0**	**+0.3**
BBAL	**Bala**	**0.42**	**345**	*i* P	**Pg**		**19 58 26.2**	**+0.1**
BBAL				*i* S	**Sg**		**19 58 32.0**	**+0.3**
LOD	**Lodumlu**	**0.85**	**333**	*e*PG	**Pb**		**19 58 34.6**	**-0.3**
LOD	**Lodumlu**	**0.85**	**333**	*e*Pg	**Pb**		**19 58 34.6**	**-0.3**
SULT	**Sultanhani-AKS**	**0.95**	**168**	*e*PG	**Pb**		**19 58 36.2**	**-0.4**
SULT	**Sultanhani-AKS**	**0.95**	**168**	*e*Pg	**Pb**		**19 58 36.2**	**-0.4**
CDAG	**Cicekdag**	**0.99**	**60**	*i* P	**Pb**		**19 58 35.4**	**-1.8**
CDAG				*i* S	**Sb**		**19 58 49.8**	**-0.6**
CDAG	**Cicekdag**	**0.99**	**60**	*i* P	**Pb**		**19 58 35.4**	**-1.8**
CDAG				*i* S	**Sb**		**19 58 49.8**	**-0.6**
KDHN	**Kadinhani**	**1.09**	**236**	*i* P	**Pn**		**19 58 37.3**	**-1.6**
KDHN				*i* S	**Sn**		**19 58 54.0**	**-0.7**
KDHN	**Kadinhani**	**1.09**	**236**	*i* S	**Sn**		**19 58 54.0**	**-0.7**
KIZT	**Kizilcal**	**1.11**	**257**	*e*PG	**Pb**		**19 58 38.6**	**-0.7**
KIZT	**Kizilcal**	**1.11**	**257**	*e*Pg	**Pb**		**19 58 38.6**	**-0.7**
AVNT	**Avonos**	**1.29**	**105**	*i* P	**Pn**		**19 58 41.5**	**-0.8**
AVNT				*i* S	**Sb**		**19 58 58.7**	**-0.4**
AVNT	**Avonos**	**1.29**	**105**	*i* P	**Pn**		**19 58 41.5**	**-0.8**
AVNT				*i* S	**Sb**		**19 58 58.7**	**-0.4**
ELDT	**Eldivan**	**1.36**	**5**	*i* P	**Pn**		**19 58 43.0**	**-0.3**
ELDT				*i* S	**Sg**		**19 59 02.2**	**+0.6**
AUSIV	**SIVRIHISAR**	**1.38**	**283**	*i* P	**Pb**		**19 58 43.3**	**-0.5**
AUSIV				*i* S	**Sg**		**19 59 02.0**	**0.0**
KONT	**Konya--Tatoy**	**1.38**	**211**	*e*PN	**Pb**		**19 58 43.7**	**-0.2**
KONT	**Konya--Tatoy**	**1.38**	**211**	*e*Pn	**Pb**		**19 58 43.7**	**-0.2**
SVRH	**Sivrihisar-ESK**	**1.39**	**284**	*e*PN	**Pg**		**19 58 44.0**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.39**	**284**	*e*Pn	**Pg**		**19 58 44.0**	**-0.4**
NIG	**Nigde**	**1.47**	**134**	*e*PN	**Pb**		**19 58 45.8**	**+0.3**
NIG	**Nigde**	**1.47**	**134**	*e*Pn	**Pb**		**19 58 45.8**	**+0.3**
CANT	**Cankiri**	**1.50**	**10**	*e*PN	**Pb**		**19 58 46.0**	**+0.1**
AUMIH	**MIHALICIK**	**1.56**	**299**	*i* P	**Pb**		**19 58 46.7**	**-0.4**
AUMIH				*i* S	**Sg**		**19 59 09.9**	**+1.8**
YOZ	**Yozgat**	**1.67**	**72**	*e*PN	**Pb**		**19 58 48.6**	**-0.3**
YOZ	**Yozgat**	**1.67**	**72**	*e*Pn	**Pb**		**19 58 48.6**	**-0.3**
BOLV	**Bolvadin**	**1.85**	**258**	*i* P	**Pn**		**19 58 50.4**	**+0.4**
BOLV				*i* S	**Sb**		**19 59 15.6**	**+0.3**
CTKT	**Corum**	**1.90**	**38**	*i* P	**Pn**		**19 58 51.5**	**+0.9**
CTKT				*i* S	**Sg**		**19 59 19.3**	**+0.6**
ESKT	**Eskisehir**	**1.91**	**282**	*e*PN	**Pb**		**19 58 52.0**	**-1.0**
ESKT	**Eskisehir**	**1.91**	**282**	*e*Pn	**Pb**		**19 58 52.0**	**-1.0**
SEYT	**Eskypehyr**	**1.91**	**282**	*i* P	**Pn**		**19 58 48.8**	**-1.9**
SEYT				*i* S	**Sg**		**19 59 21.0**	**+1.7**
BCAM	**Yenicaga**	**1.92**	**332**	*i* P	**Pb**		**19 58 53.3**	**+0.2**
BCAM				*i* S	**Sg**		**19 59 19.2**	**-0.2**
BCAM	**Yenicaga**	**1.92**	**332**	*i* P	**Pb**		**19 58 53.3**	**+0.2**
BCAM				*i* S	**Sg**		**19 59 19.2**	**-0.2**
ILGA	**Ilgaz**	**1.95**	**10**	*i* P	**Pb**		**19 58 53.3**	**-0.4**
ILGA				*i* S	**Sg**		**19 59 20.3**	**-0.1**
ILGA	**Ilgaz**	**1.95**	**10**	*i* P	**Pb**		**19 58 53.3**	**-0.4**
ILGA				*i* S	**Sg**		**19 59 20.3**	**-0.1**
TOS	**Tosya**	**1.99**	**17**	*e*PN	**Pb**		**19 58 53.4**	**-0.9**
TOS	**Tosya**	**1.99**	**17**	*e*Pn	**Pb**		**19 58 53.4**	**-0.9**
MDUB	**Mudurnu**	**2.08**	**311**	*e*PN	**Pb**		**19 58 54.1**	**-1.7**
MDUB	**Mudurnu**	**2.08**	**311**	*e*Pn	**Pb**		**19 58 54.1**	**-1.7**
SAFT	**Safranbolu**	**2.15**	**348**	*e*PN	**Pb**		**19 58 55.8**	**-1.2**
SAFT	**Safranbolu**	**2.15**	**348**	*e*Pn	**Pb**		**19 58 55.8**	**-1.2**
HDMB	**Hadim**	**2.25**	**196**	*e*PN	**Pn**		**19 58 56.4**	**+0.9**
HDMB	**Hadim**	**2.25**	**196**	*e*Pn	**Pn**		**19 58 56.4**	**+0.9**
CUSAR	**Sarkisla-SIVAS**	**2.33**	**82**	*i* P	**Pn**		**19 58 57.3**	**+0.8**
CUSAR				*i* S	**Sb**		**19 59 30.9**	**+1.8**
KARA	**Karaisali**	**2.34**	**142**	*e*PN	**Pn**		**19 58 58.1**	**+1.6**
KARA	**Karaisali**	**2.34**	**142**	*e*Pn	**Pn**		**19 58 58.1**	**+1.6**
GULT	**Gulveren**	**2.49**	**302**	*e*PN	**Pn**		**19 58 59.6**	**+1.0**
GULT	**Gulveren**	**2.49**	**302**	*e*Pn	**Pn**		**19 58 59.6**	**+1.0**
ERMK	**Ermenek**	**2.50**	**187**	*i* P	**Pn**		**19 58 59.3**	**+0.3**
ERMK				*i* S	Sg		19 59 59.6	+21
ERMK	**Ermenek**	**2.50**	**187**	*i* P	**Pn**		**19 58 59.3**	**+0.3**
BYBT	**Boyabat**	**2.60**	**26**	*e*PN	**Pb**		**19 59 02.2**	**-2.4**
BYBT	**Boyabat**	**2.60**	**26**	*e*Pn	**Pb**		**19 59 02.2**	**-2.4**
KOZT	**Kozan**	**2.60**	**129**	*e*PN	**Pn**		**19 59 02.0**	**+1.8**
KOZT	**Kozan**	**2.60**	**129**	*e*Pn	**Pn**		**19 59 02.0**	**+1.8**
ANDN	**Andirin**	**2.87**	**122**	*i* P	**Pn**		**19 59 05.7**	**+1.7**
ANDN				*i* S	**Sg**		**19 59 48.5**	**-1.6**
ANDN	**Andirin**	**2.87**	**122**	*i* P	**Pn**		**19 59 05.7**	**+1.7**
BZK	**Bozkurt**	**2.88**	**11**	*e*PN	**Pn**		**19 59 06.0**	**+2.0**
BZK	**Bozkurt**	**2.88**	**11**	*e*Pn	**Pn**		**19 59 06.0**	**+2.0**
CEYT	**Ceyhan**	**2.88**	**136**	*e*PN	**Pn**		**19 59 05.9**	**+1.9**
CEYT	**Ceyhan**	**2.88**	**136**	*e*Pn	**Pn**		**19 59 05.9**	**+1.9**
KVT	**Kavak**	**2.89**	**47**	*e*PN	**Pn**		**19 59 06.2**	**+2.1**
KVT	**Kavak**	**2.89**	**47**	*e*Pn	**Pn**		**19 59 06.2**	**+2.1**
DIKM	**Dikmen**	**2.94**	**31**	*e*PN	**Pn**		**19 59 06.8**	**+2.0**
DIKM	**Dikmen**	**2.94**	**31**	*e*Pn	**Pn**		**19 59 06.8**	**+2.0**
SVSK	**Karacayir**	**2.99**	**74**	*e*PN	**Pn**		**19 59 07.6**	**+2.2**
SVSK	**Karacayir**	**2.99**	**74**	*e*Pn	**Pn**		**19 59 07.6**	**+2.2**
ADVT	**Abdulvahap**	**3.01**	**297**	*e*PN	**Pn**		**19 59 07.3**	**+1.5**
ADVT	**Abdulvahap**	**3.01**	**297**	*e*Pn	**Pn**		**19 59 07.3**	**+1.5**
IZI	**Iznik**	**3.16**	**294**	*e*PN	**Pn**		**19 59 09.4**	**+1.5**
IZI	**Iznik**	**3.16**	**294**	*e*Pn	**Pn**		**19 59 09.4**	**+1.5**
HRT	**Hereke**	**3.24**	**303**	*e*PN	**Pn**		**19 59 10.8**	**+1.8**
HRT	**Hereke**	**3.24**	**303**	*e*Pn	**Pn**		**19 59 10.8**	**+1.8**
CUKAN	**kangal_SIVAS**	**3.27**	**85**	*i* P	**Pb**		**19 59 13.2**	**-2.9**
CUKAN				*i* S	**Sg**		**20 00 02.2**	**-0.5**
RSDY	**Resadiye-TOKAT**	**3.38**	**67**	*e*PN	**Pn**		**19 59 13.2**	**+2.4**
RSDY	**Resadiye-TOKAT**	**3.38**	**67**	*e*Pn	**Pn**		**19 59 13.2**	**+2.4**
SILT	**Sile**	**3.43**	**307**	*e*PN	**Pn**		**19 59 13.6**	**+2.0**
SILT	**Sile**	**3.43**	**307**	*e*Pn	**Pn**		**19 59 13.6**	**+2.0**
ARMT	**Armutlu**	**3.68**	**294**	*e*PN	**Pn**		**19 59 16.7**	**+1.7**
ARMT	**Armutlu**	**3.68**	**294**	*e*Pn	**Pn**		**19 59 16.7**	**+1.7**
AKCD	**Akcadag**	**3.74**	**101**	*i* P	**Pb**		**19 59 23.4**	**-0.7**
AKCD				*i* S	**Sg**		**20 00 18.0**	**+0.2**
DURS	**Dursunbey**	**3.74**	**279**	*i* P	**Pn**		**19 59 17.0**	**+1.1**
DURS				*i* S	**Sg**		**20 00 18.0**	**-0.1**
DURS	**Dursunbey**	**3.74**	**279**	*i* P	**Pn**		**19 59 17.0**	**+1.1**

IDC 27 19:59:13.3±7.4, 2°.70S × 129°.07E, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.5/31, mbtmp3.8/4, ML3.4/2, Error ellipse: s-maj=163.6km s-min=30.3km az=112.0, Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SIJI	**Sorong**	**2.85**	**50**	Pn	**Pn**		**20 00 00.0**	**-0.2**
	7.8nm,0.3s,baz=29,slow=20,SNR=95							
SIJI				Sn	Sn		20 00 31.3	-4.0
	6.9nm,0.3s,baz=322,slow=2.7,SNR=4.0							
WRA	**Warramunga Arr**	**17.90**	**164**	P	P		20 03 24.9	+0.3
	0.1nm,0.3s,baz=346,slow=12,SNR=9.4							
ASAR	**Alice Springs**	**21.36**	**168**	P	P		20 04 02.4	-0.2
	2.2nm,0.6s,baz=345,slow=8.9,SNR=20							
STKA	**Stephens Creek**	**31.33**	**159**	P	P		20 05 35.4	-0.2
	1.1nm,0.5s,baz=331,slow=13,SNR=4.8							

*IDC **27** 20:27:57.9±11.0, 8°.57S × 128°.18E, h184km±86km, mb3.5/1, mb1 3.8/3, mb1mx3.1/28, mbtmp4.2/3, Error ellipse: s-maj=131.9km s-min=79.5km az=72.0*

ISC 27 20:27:59.1±3.2, 8°.6S±0°.2 × 128°.2E±0°.2, h200km, n6, σ1§44/8, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
MTN	**Manton Dam**	**5.08**	**146**	P	**Pn**		**20 29 13.9**	**-0.7**
	baz=5.6,SNR=24							
KDU	**Kakadu**	**5.82**	**134**	P	**Pn**		**20 29 22.6**	**-1.5**
	baz=6.4,SNR=108							
KNRA	**Kununurra**	**7.01**	**175**	P	**Pn**		**20 29 38.0**	**-1.5**
	baz=7.3,SNR=18							
WRA	**Warramunga Arr**	**12.71**	**153**	P	**Pn**		**20 30 52.5**	**-0.6**
	0.6nm,0.3s,baz=338,slow=17,SNR=12							
WRA				S	**S**		**20 33 15.6**	**+0.6**
	1.5nm,0.3s,baz=329,slow=22,SNR=17							
ASAR	**Alice Springs**	**15.91**	**161**	P	**Pn**		**20 31 34.5**	**+2.0**
	1.4nm,0.3s,baz=338,slow=11,SNR=9.7							
ASAR				S	**Sn**		**20 34 30.8**	**-0.5**
	0.2nm,0.3s,baz=327,slow=18,SNR=4.0							
STKA	**Stephens Creek**	**26.26**	**154**	P	**P**		**20 33 16.5**	**+0.5**
	2.0nm,0.8s,baz=318,slow=9.6,SNR=4.1							

WEL 27 20:57:13.9±0.1, 37°.79S × 176°.81E, h5km, ML3.5/10, 6C-4D, Error ellipse: s-maj=0.8km s-min=0.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.21**	**253**	⇓PG	**Pg**		20 57 18.4	+0.3
OPRZ				SG	Sg		20 57 21.8	+1.0
MARZ	**Manawahe**	**0.23**	**208**	⇑PG	**Pg**		20 57 18.5	+0.1
MARZ				SG	Sg		20 57 22.2	+0.7
EDRZ	**Edgecumbe**	**0.33**	**190**	PG	Pg		20 57 20.3	-0.1
EDRZ				AML	AML		20 57 28.6	
EDRZ				AML	AML		20 57 30.3	
WIZ	**White Island**	**0.39**	**49**	PG	Pg		20 57 21.8	+0.3
LIRZ	**Lichensteins R**	**0.40**	**237**	PG	Pg		20 57 22.5	+0.8
TGRZ	**Tauranga**	**0.44**	**277**	⇑PG	Pg		20 57 22.9	+0.5
TGRZ				SG	Sg		20 57 29.4	+1.2
TGRZ				AML	AML		20 57 31.7	
MKRZ	**Makatiti**	**0.45**	**218**	PG	Pg		20 57 23.3	+0.8
MKRZ				AML	AML		20 57 32.0	
MKRZ				AML	AML		20 57 32.7	
OMRZ	**Omania**	**0.47**	**227**	PG	Pg		20 57 23.3	+0.2
KARZ	**Kaharoa**	**0.51**	**242**	⇓PG	Pg		20 57 24.1	+0.4
TARZ	**Mount Tarawera**	**0.51**	**208**	PG	Pg		20 57 24.3	+0.5
URZ	**Urewera**	**0.53**	**154**	⇑PG	Pg		20 57 23.6	-0.5
URZ				AML	AML		20 57 34.9	
URZ				AML	AML		20 57 35.0	
RRRZ	**Republican Roa**	**0.60**	**203**	P*	Pg		20 57 25.6	+0.1
MYRZ	**Mayor Island**	**0.68**	**318**	P*	Pg		20 57 27.0	+0.1
HAZ	**Te Kaha**	**0.77**	**88**	⇓P*	Pg		20 57 28.4	-0.2
PRRZ	**Plateau Road**	**0.79**	**205**	P*	Pg		20 57 28.8	-0.2
MWZ	**Matawai**	**0.79**	**134**	P*	Pg		20 57 28.2	-0.9
MWZ				AML	AML		20 57 41.1	
MWZ				AML	AML		20 57 41.1	
MWZ				AML	AML		20 57 42.0	
MWZ				AML	AML		20 57 42.0	
RAGZ	**Rawiri**	**0.85**	**146**	⇑P*	Pg		20 57 29.9	-0.6
ALRZ	**Allen Road**	**0.86**	**205**	P*	Pg		20 57 30.1	-0.4
TWGZ	**Tauwhareparae**	**1.00**	**113**	⇓P*	Pg		20 57 33.0	-0.2
TOZ	**Tahuroa Road**	**1.04**	**273**	⇑P*	Pg		20 57 33.1	-0.8
TKGZ	**Te Karaka**	**1.05**	**129**	P*	Pb		20 57 34.5	0.0
SNGZ	**Shannon Statio**	**1.08**	**157**	⇑P*	Pg		20 57 34.3	-0.3
RAHZ	**Arahi**	**1.15**	**169**	P*	Pg		20 57 34.6	-1.4
RIGZ	**Rimuhau**	**1.19**	**141**	*e*P*	Pg		20 57 36.5	-0.2
MXZ	**Matakaoa Point**	**1.21**	**80**	*e*P*	Pg		20 57 35.7	-1.3
MXZ				AML	AML		20 57 59.9	
MXZ				AML	AML		20 58 03.4	
WMGZ	**Waiomatatini S**	**1.27**	**92**	*e*P*	Pg		20 57 37.3	-1.0
NMHZ	**Naumai**	**1.31**	**180**	*e*P*	Pn		20 57 37.2	-1.7
KUZ	**Kuaotunu**	**1.35**	**320**	PN	Pn		20 57 37.9	-1.5
KUZ				AML	AML		20 57 57.5	
KUZ				AML	AML		20 57 57.5	
KUZ				AML	AML		20 58 00.2	
KUZ				AML	AML		20 58 04.0	
BKZ	**Black Stump Fm**	**1.40**	**190**	P*	Pn		20 57 37.8	-2.4
BKZ				AML	AML		20 58 06.9	
BKZ				AML	AML		20 58 15.2	
MKAZ	**Moumakai**	**1.47**	**297**	PN	Pn		20 57 38.2	-2.9
MKAZ				AML	AML		20 57 44.7	
MKAZ				AML	AML		20 58 07.7	
HIZ	**Hauiti**	**1.71**	**244**	AML	AML		20 58 12.7	
GRZ	**Great Barrier**	**1.88**	**324**	PN	Pn		20 57 43.6	-3.0

*IDC **27** 21:09:09.9±1.4, 5°.92S × 150°.89E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.6/34, mbtmp3.8/5, ML1.2/1, MS2.8/2, Ms1 2.8/2, ms1mx2.4/24, Error ellipse: s-maj=74.2km s-min=22.4km az=124.0*

ISC 27 21:09:15.4±1.5, 5°.8S±0°.3 × 150°.7E±0°.4, h43km, n6, σ1§49/7, mb3.6/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PMG	**Port Moresby**	**5.04**	**224**	Pn	**Pn**		**21 10 28.6**	**+0.1**
	0.6nm,0.3s,baz=12,slow=9.3,SNR=2.1							
PMG				Sn	**Sn**		**21 11 26.7**	**+1.1**
	4.5nm,0.3s,baz=216,slow=14,SNR=3.5							
PMG				LR	LR		21 12 25.9	
	comp=Z,66nm,21.4s,baz=62,slow=39							
WRA	**Warramunga Arr**	**21.25**	**227**	P	**P**		**21 13 57.9**	**-0.3**
	1.7nm,0.7s,baz=52,slow=11,SNR=16							
ASAR	**Alice Springs**	**24.05**	**221**	P	**P**		**21 14 27.2**	**+0.4**
	1.3nm,0.5s,baz=57,slow=9.0,SNR=23							
STKA	**Stephens Creek**	**27.35**	**197**	P	**P**		**21 14 55.5**	**-1.0**
	1.5nm,0.7s,baz=355,slow=12,SNR=3.4							
STKA				LR	LR		21 24 37.1	
	comp=Z,36nm,18.7s,baz=32,slow=34							
ILAR	**Eielson Array**	**83.83**	**22**	P	**P**		**21 21 41.5**	**+1.4**
	0.4nm,0.8s,baz=232,slow=5.6,SNR=3.5							
TORD	**Torodi Ar. Bea**	**148.57**	**286**	PKPbc	**PKPab**		**21 29 00.2**	**-2.1**
	0.6nm,0.5s,baz=81,slow=2.6,SNR=11							

*ISCJB **27** 21:37:34.1±0.6, 50°.13N±0°.04 × 19°.01E±0°.03, h0km, Error ellipse: s-maj=5.2km s-min=2.8km az=15.4*
*CSEM **27** 21:37:35.1±0.3, 50°.16N × 19°.07E, h2km, ML2.8/10, Error ellipse: s-maj=7.6km s-min=3.9km az=11.0*
*PRU **27** 21:37:35.7, 50°.15N × 19°.11E, h0km*

ISC 27 21:37:35.9±0.8, 50°.05N±0°.03 × 19°.08E±0°.02, h0km, n36, σ1§05/63, Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
CHZP	**Chorzow**	**0.25**	**347**	*e*Pg	**Pg**		**21 37 41.9**	**+1.3**
CHZP				*e*Sg	**Sg**		**21 37 47.9**	**+4.1**
OJC	**Ojcow**	**0.49**	**70**	*e*Pg	**Pg**		**21 37 44.4**	**-1.0**
OJC				*e*Sg	**Sg**		**21 37 50.2**	**-1.6**
OJC	**Ojcow**	**0.49**	**70**	*e*Pg	**Pg**		**21 37 44.4**	**-1.0**
OJC				*e*Sg	**Sg**		**21 37 50.2**	**-1.6**
OKC	**Ostrava-Krasne**	**0.64**	**251**	*e*PG	**Pg**		**21 37 48.5**	**+0.4**
OKC				*e*SG	**Sb**		**21 37 58.1**	**-1.2**
	comp=Z,18nm,0.3s							
OKC	**Ostrava-Krasne**	**0.64**	**251**	Pg	**Pg**		**21 37 48.5**	**+0.4**
OKC				Sg	**Sb**		**21 37 58.1**	**-1.2**
	18nm,0.3s							
LANS	**Liptovska Anna**	**0.94**	**164**	*e*Pg	**Pb**		**21 37 55.5**	**+0.4**
LANS				*e*Sg	**Sb**		**21 38 08.8**	**+0.8**
LANS	**Liptovska Anna**	**0.94**	**164**	*e*PG	**Pb**		**21 37 55.5**	**+0.4**
LANS				*e*SG	**Sb**		**21 38 08.8**	**+0.8**
MORC	**Moravsky Berou**	**1.03**	**255**	*e*Pg	**Pn**		**21 37 57.2**	**-0.4**
MORC				*e*Sg	**Sn**		**21 38 12.0**	**-0.8**
KRLC	**Kraliky**	**1.48**	**272**	*e*PG	**Pn**		**21 38 02.8**	**-1.0**
KRLC				*e*SG	**Sg**		**21 38 23.4**	**0.0**
KRLC	**Kraliky**	**1.48**	**272**	Pg	**Pn**		**21 38 02.8**	**-1.0**
KRLC				Sg	**Sg**		**21 38 23.4**	**0.0**
VYHS	**Vyhne**	**1.57**	**186**	*e*Pg	**Pn**		**21 38 05.3**	**+0.3**
VYHS				*e*Sg	**Sb**		**21 38 26.8**	**+0.7**
VYHS	**Vyhne**	**1.57**	**186**	*e*PG	**Pn**		**21 38 05.3**	**+0.3**
VYHS				*e*SG	**Sb**		**21 38 26.8**	**+0.7**
VRAC	**Vranov**	**1.78**	**246**	*e*Pn	**Pb**		**21 38 09.3**	**0.0**
VRAC				*e*Sg	**Sg**		**21 38 34.6**	**+1.7**
DPC	**Dobruska-Polom**	**1.79**	**281**	*e*PG	**Pn**		**21 38 08.1**	**-0.1**
DPC				*e*SG	**Sb**		**21 38 32.9**	**+0.2**
	comp=Z,14nm,0.4s							
DPC	**Dobruska-Polom**	**1.79**	**281**	Pg	**Pn**		**21 38 08.1**	**-0.1**
DPC				Sg	**Sb**		**21 38 32.9**	**+0.2**
	14nm,0.4s							
UPC	**Upice**	**2.02**	**284**	*e*PG	**Pb**		**21 38 12.0**	**-1.5**
UPC				*e*SG	**Sb**		**21 38 39.5**	**+0.4**
	comp=Z,9.9nm,0.5s							
UPC	**Upice**	**2.02**	**284**	Pg	**Pb**		**21 38 12.0**	**-1.5**
UPC				Sg	**Sb**		**21 38 39.5**	**+0.4**
	9.9nm,0.5s							
KOLS	**Kolonicke sedl**	**2.37**	**117**	*e*Pn	**Pn**		**21 38 17.0**	**+1.0**
KOLS	**Kolonicke sedl**	**2.37**	**117**	*e*PN	**Pn**		**21 38 17.0**	**+1.0**
TREC	**Trest**	**2.45**	**253**	*e*SG	**Sg**		**21 38 55.0**	**+0.4**
	comp=Z,5.8nm,0.3s							
TREC	**Trest**	**2.45**	**253**	Sg	**Sg**		**21 38 55.0**	**+0.4**
	5.8nm,0.3s							
GOPC	**GO Pecny, Ondr**	**2.77**	**269**	*e*PN	**Pn**		**21 38 21.4**	**-0.2**
GOPC				*e*PG	**Pb**		**21 38 27.4**	**+1.1**
GOPC				*e*SG	**Sg**		**21 39 03.8**	**-1.1**
	comp=Z,5.1nm,0.4s							
GOPC	**GO Pecny, Ondr**	**2.77**	**269**	Pn	**Pn**		**21 38 21.4**	**-0.2**
GOPC	**GO Pecny, Ondr**	**2.77**	**269**	Pg	**Pb**		**21 38 27.4**	**+1.1**
GOPC				Sg	**Sg**		**21 39 03.8**	**-1.1**
	5.1nm,0.4s							
PRU	**Pruhonice**	**2.92**	**270**	*e*SG	**Sg**		**21 39 09.1**	**-0.7**
	comp=Z,3.1nm,0.3s							
PRU	**Pruhonice**	**2.92**	**270**	Sg	**Sg**		**21 39 09.1**	**-0.7**
	3.1nm,0.3s							

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PVCC	**Panska Ves**	**2.93**	**281**	*e*PG	**Pb**		**21 38 29.9**	**+0.9**
PVCC				*e*SG	**Sg**		**21 39 08.8**	**-1.2**
	comp=Z,12nm,0.4s							
PVCC	**Panska Ves**	**2.93**	**281**	Pg	**Pb**		**21 38 29.9**	**+0.9**
PVCC				Sg	**Sg**		**21 39 08.8**	**-1.2**
	12nm,0.4s							
PRA	**Prague**	**2.99**	**272**	*e*SG	**Sg**		**21 39 11.2**	**-0.8**
	comp=Z,4.9nm,0.3s							
PRA	**Prague**	**2.99**	**272**	Sg	**Sg**		**21 39 11.2**	**-0.8**
	4.9nm,0.3s							
BRG	**Berggiesshubel**	**3.38**	**286**	SG	**Sg**		**21 39 25.3**	**+0.8**
	4.7nm,0.6s							
KHC	**Kasperske Hory**	**3.69**	**258**	*e*PN	**Pn**		**21 38 34.0**	**-0.3**
KHC				*e*PG	**Pb**		**21 38 43.2**	**+1.2**
KHC				*e*SN	**Sn**		**21 39 17.8**	**-0.7**
KHC				*e*SG	**Sg**		**21 39 34.3**	**-0.2**
	comp=Z,5.0nm,0.4s							
KHC	**Kasperske Hory**	**3.69**	**258**	Pn	**Pn**		**21 38 34.0**	**-0.3**
KHC				Sn	**Sn**		**21 39 17.8**	**-0.7**
KHC				Sg	**Sg**		**21 39 34.3**	**-0.2**
	5.0nm,0.4s							
CLL	**Collm**	**4.06**	**290**	*e*Sg	**Sg**		**21 39 48.0**	**+1.7**
	comp=Z,6.0nm,0.9s							
NKC	**Novy Kostel**	**4.27**	**275**	*e*SG	**Sg**		**21 39 51.4**	**-1.5**
	comp=Z,2.9nm,0.4s							
NKC	**Novy Kostel**	**4.27**	**275**	Sg	**Sg**		**21 39 51.4**	**-1.5**
	comp=Z,2.9nm,0.4s							

*ISCJB **27** 22:12:30.8±0.6, 13°.7N±0°.1 × 120°.8E±0°.1, h150km, mb3.7/14, Error ellipse: s-maj=19.0km s-min=12.6km az=43.8*
*IDC **27** 22:12:30.4±0.8, 13°.70N × 120°.84E, h131km±7km, mb3.5/14, mb1 3.6/14, mb1mx3.4/49, mbtmp3.9/14, Error ellipse: s-maj=27.9km s-min=14.4km az=63.0*
*MAN **27** 22:12:31, 13°.74N × 120°.59E, h102km, mb4.6, ML3.5, MS3.5*

ISC 27 22:12:32.5±0.8, 13°.7N±0°.2 × 120°.8E±0°.1, h150km, n18, σ0§58/16, mb3.7/14, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.44**	**14**	P	Pn		22 12 49.9	-3.8
	576nm,0.3s,baz=230,slow=2.7,SNR=50							
TGY	**Tagaytay City**	**0.44**	**14**	⇑*i*P	Pn		22 12 49.8	-3.9
TGY				*i* S	Sn		22 13 02.1	-7.7
GQP	**Guinayangan**	**1.59**	**81**	*e*P	**Pn**		**22 13 03.0**	**0.0**
CMAR	**Chiang Mai Ar

ODZ				*e*Sn		**Sn**	**22 14 22.5**	**-2.8**
HHSZ	**Highcliff Hill**	**2.38**	**112**	PN		**Pn**	**22 13 59.5**	**+0.7**
HHSZ	**Highcliff Hill**	**2.38**	**112**	Pn		**Pn**	**22 13 59.7**	**+0.8**
RPZ	**Rata Peaks**	**2.90**	**64**	PN		**Pn**	**22 14 05.1**	**-0.7**
RPZ				SN		**Sn**	**22 14 37.8**	**-2.4**
RPZ				AML		AML	22 14 40.5	
RPZ	**Rata Peaks**	**2.90**	**64**	P		**Pn**	**22 14 05.3**	**-0.6**
	15nm,0.3s,baz=215,slow=4.6,SNR=37							
RPZ				S		**Sn**	**22 14 39.1**	**-1.1**
	108nm,0.3s,baz=333,slow=22,SNR=59							
WVZ	**Waitaha Valley**	**3.08**	**52**	PN		**Pn**	**22 14 07.3**	**-0.7**
WVZ				AML		AML	22 14 45.8	
WVZ	**Waitaha Valley**	**3.08**	**52**	Pn		**Pn**	**22 14 07.4**	**-0.7**
OXZ	**Oxford**	**3.72**	**64**	*e*PN		**Pn**	**22 14 15.0**	**-1.7**
MQZ	**McQueen's Vall**	**3.96**	**72**	*e*PN		**Pn**	**22 14 19.0**	**-0.9**
MQZ	**McQueen's Vall**	**3.96**	**72**	Pn		**Pn**	**22 14 19.3**	**-0.6**
LTZ	**Lake Taylor**	**4.15**	**59**	PN		**Pn**	**22 14 21.1**	**-1.4**
LTZ				AML		AML	22 15 11.3	
LTZ				AML		AML	22 15 13.3	
DSZ	**Denniston Nort**	**4.57**	**46**	PN		**Pn**	**22 14 27.4**	**-0.8**
DSZ	**Denniston Nort**	**4.57**	**46**	Pn		**Pn**	**22 14 27.8**	**-0.4**
KHZ	**Kahutara**	**5.13**	**62**	*e*PN		**Pn**	**22 14 35.5**	**-0.2**
KHZ	**Kahutara**	**5.13**	**62**	Pn		**Pn**	**22 14 35.7**	**0.0**
THZ	**Tophouse**	**5.15**	**53**	AML		AML	22 15 32.7	
THZ				AML		AML	22 15 35.0	
CAW	**Cannon Point**	**6.82**	**58**	Pn		**Pn**	**22 14 56.9**	**-1.8**
STKA	**Stephens Creek**	**24.01**	**294**	P		**P**	**22 18 26.9**	**+0.9**
	3.6nm,1.1s,baz=104,slow=19,SNR=2.1							
ASAR	**Alice Springs**	**34.58**	**297**	P		**P**	**22 20 00.7**	**+0.9**
	0.3nm,0.3s,baz=126,slow=5.4,SNR=5.6							
WRA	**Warramunga Arr**	**37.07**	**302**	P		**P**	**22 20 20.4**	**-0.7**
	0.5nm,0.6s,baz=135,slow=8.1,SNR=7.9							
WRA				PcP		**PcP**	**22 22 39.1**	**-0.4**
	0.3nm,0.6s,baz=138,slow=2.9,SNR=6.6							
H01W1	**Cape Leeuwin H**	**41.41**	**265**	T		T	23 04 51.7	
	baz=121,slow=75,SNR=106							
H01W2	**Cape Leeuwin H**	**41.42**	**265**	T		T	23 04 52.5	
	baz=121,slow=75,SNR=100							
H01W3	**Cape Leeuwin H**	**41.43**	**265**	T		T	23 04 53.1	
	baz=121,slow=75,SNR=103							
H08S2	**Diego Garcia H**	**88.14**	**261**	T		T	00 03 11.6	
	baz=135,slow=76,SNR=34							
H08S1	**Diego Garcia H**	**88.15**	**261**	T		T	00 03 22.8	
	baz=135,slow=76,SNR=27							
H08S3	**Diego Garcia H**	**88.16**	**261**	T		T	00 03 23.2	
	baz=135,slow=76,SNR=31							
CMAR	**Chiang Mai Arr**	**88.58**	**298**	P		**P**	**22 26 03.1**	**+1.0**
	0.5nm,0.4s,baz=144,slow=3.4,SNR=3.4							
BRTR	**Keskin Array B**	**145.83**	**278**	PKPbc		**PKPdf**	**22 32 48.0**	**+0.9**
	0.5nm,0.6s,baz=138,slow=5.8,SNR=3.7							
TORD	**Torodi Ar. Bea**	**145.98**	**205**	PKPbc		**PKPdf**	**22 32 48.4**	**+0.6**
	1.0nm,0.6s,baz=152,slow=2.4,SNR=13							
ARCES	**ARCESS Array B**	**148.92**	**335**	PKPbc		**PKPbc**	**22 32 55.1**	**0.0**
	1.1nm,0.9s,baz=57,slow=4.5,SNR=5.4							
FINES	**FINESS Array B**	**152.20**	**320**	PKPbc		**PKPbc**	**22 33 02.7**	**-0.4**
	0.9nm,0.6s,baz=98,slow=2.9,SNR=8.1							

IDC ***27*** *22:21:20.1±31.0, 20.°70S×178.°07W, h520km±302km, mb3.4/4, mb1 3.6/4, mb1mx3.1/28, mbtmp4.3/4, Error ellipse: s-maj=187.3km s-min=59.2km az=92.0*

ISC 27 22:21:18.1±6.8, 20.°8S±0.°5×178.°0W±1.0, h500km, n13, σ0s28/11, mb3.8/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMSA	**Cobar Meteorol**	**34.21**	**244**	P	**P**	**22 27 21.5**	**+0.2**
	baz=35,SNR=11						
QLP	**Quilpie**	**35.02**	**253**	P	**P**	**22 27 28.4**	**+0.2**
	baz=36,SNR=3.4						
STKA	**Stephens Creek**	**37.71**	**244**	P	**P**	**22 27 50.6**	**+0.2**
	1.2nm,0.5s,baz=94,slow=8.4,SNR=8.2						
STKA	**Stephens Creek**	**37.71**	**244**	P	**P**	**22 27 50.7**	**+0.2**
	baz=38,SNR=5.1						
ASAR	**Alice Springs**	**44.50**	**257**	P	**P**	**22 28 44.5**	**-0.1**
	6.6nm,0.5s,baz=98,slow=7.8,SNR=66						
WRA	**Warramunga Arr**	**44.60**	**262**	P	**P**	**22 28 45.0**	**-0.5**
	2.9nm,0.7s,baz=96,slow=8.0,SNR=109						
KDU	**Kakadu**	**47.99**	**271**	P	**P**	**22 29 11.4**	**+0.1**
	baz=49,SNR=3.5						
WRKA	**Warakurna**	**49.43**	**254**	P	**P**	**22 29 21.9**	**-0.1**
	baz=50,SNR=12						
KNRA	**Kununurra**	**50.68**	**266**	P	**P**	**22 29 31.4**	**+0.3**
	baz=52,SNR=4.6						
MEEK	**Meekatharra**	**57.87**	**251**	P	**P**	**22 30 21.5**	**-0.4**
	baz=59,SNR=4.1						
SMRI	**Semarang**	**70.36**	**270**	P	P	22 31 32.7	-9.0
	baz=71,SNR=3.6						
MJAR	**Matsushiro Arr**	**70.44**	**324**	P	**P**	**22 31 41.6**	**0.0**
	0.4nm,0.3s,baz=156,slow=13,SNR=4.2						
AKASG	**Malin Array Be**	**143.26**	**331**	PKP	PKPab	22 39 53.2	+0.6
	1.2nm,0.4s,baz=41,slow=4.2,SNR=8.6						

NIED ***27*** *22:24:00, 33.°60N×140.°90E, h62km, Mw3.8 Best double couple: M0≈4.81000×10^14 NP1:φs≈310.00000°, δ64.00000°, λ9.00000°. NP2:φs≈216.00000°, δ82.00000°, λ154.00000°.*

ISCJB ***27*** *22:24:34.9±0.8, 33.°52N±0.°04×140.°86E±0.°08, h74km±7km, mb3.7/5, Error ellipse: s-maj=11.2km s-min=6.4km az=175.0*

IDC ***27*** *22:24:34.0±0.9, 32.°76N×138.°91E, h0km, mb3.8/5, mb1 3.9/8, mb1mx3.6/34, mbtmp3.9/8, ML3.8/3, MS2.7/3, Ms1 2.8/3, ms1mx2.4/28, Error ellipse: s-maj=18.2km s-min=15.2km az=165.0*

JMA ***27*** *22:24:35.8±0.1, 33.°56N×140.°86E, h61km±4km, M4.1*

ISC 27 22:24:34.4±1.4, 33.°49N±0.°05×140.°99E±0.°09, h56km±14km, n30, σ1s28/34, mb3.7/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.05**	**250**	P	**Pn**	**22 24 54.0**	**+1.0**
JHJ2				*e*S	**Sn**	**22 25 07.3**	**+0.6**
JHJ	**Hachijo jima 2**	**1.07**	**250**	Pn	**Pn**	**22 24 53.5**	**+0.2**
	4μm,0.3s,baz=87,slow=21,SNR=2727						
JHJ				Sn	**Sn**	**22 25 07.2**	**-0.1**
	2μm,0.3s,baz=36,slow=19,SNR=55						
JHCJ	**Hachijojimakas**	**1.08**	**248**	P	**Pn**	**22 24 54.2**	**+0.8**
JHCJ				*e*S	**Sn**	**22 25 07.2**	**-0.2**
BSO1	**Boso 1**	**1.17**	**360**	P	**Pn**	**22 24 55.5**	**+1.5**
BSO3	**Boso 3**	**1.37**	**343**	P	**Pn**	**22 24 58.0**	**+0.9**
BSO4	**Boso 4**	**1.59**	**340**	P	**Pn**	**22 25 01.3**	**+1.1**
JNIO	**Niijimaoohara**	**1.67**	**302**	P	**Pn**	**22 25 01.3**	**0.0**
JNIO				*e*S	**Sn**	**22 25 20.1**	**-1.5**
JKO	**Kozu shima**	**1.69**	**295**	P	**Pn**	**22 25 02.2**	**+0.6**
JKO				*e*S	**Sn**	**22 25 21.0**	**-1.2**
JIM2	**Oshima 3**	**1.78**	**314**	P	**Pn**	**22 25 02.9**	**0.0**
JIM2				*e*S	**Sn**	**22 25 22.4**	**-2.1**
JIZS	**Izushimoda**	**2.14**	**306**	P	**Pn**	**22 25 08.4**	**+0.7**
JIZS				*e*S	**Sn**	**22 25 32.3**	**-0.8**
JOD2	**Odawara 2**	**2.37**	**319**	P	**Pn**	**22 25 11.1**	**+0.2**
JOD2				*e*S	**Sn**	**22 25 36.9**	**-1.9**
TK02	**Tokai 2**	**2.73**	**281**	P	**Pn**	**22 25 17.2**	**+1.6**
TK04	**Tokai 4**	**2.74**	**290**	P	**Pn**	**22 25 17.5**	**+1.7**
TK04				*e*S	**Sn**	**22 25 47.8**	**+0.1**
JYN	**Shimob**	**2.85**	**316**	P	**Pn**	**22 25 18.5**	**+1.0**
MJAR	**Matsushiro Arr**	**3.81**	**324**	Pn	**Pn**	**22 25 31.9**	**+1.3**
	16nm,0.3s,baz=161,slow=13,SNR=84						
MJAR				Sn	**Sn**	**22 26 13.5**	**-0.6**
	5.8nm,0.3s,baz=181,slow=33,SNR=5.8						
MJAR				LR	LR	22 27 08.6	
	comp=Z,23nm,19.9s,baz=140,slow=41						
MAT	**Matsushiro**	**3.81**	**324**	P	**Pn**	**22 25 32.0**	**+1.4**
MAT				S	**Sn**	**22 26 13.4**	**-0.7**
JCJ	**Chichijima**	**6.45**	**170**	Pn	**Pn**	**22 26 06.3**	**-0.5**
	22nm,0.3s,baz=12,slow=17,SNR=61						
JCJ				Sn	**Sn**	**22 27 15.1**	**-4.0**
	4.5nm,0.3s,baz=195,slow=20,SNR=2.3						
GUMO	**Guam**	**20.12**	**169**	LR	LR	22 35 08.7	
	comp=Z,24nm,21.1s,baz=89,slow=32						
H11N2	**WAKE ISLAND Hy**	**26.82**	**114**	T	T	22 59 16.4	
	baz=306,slow=75,SNR=22						
H11N1	**WAKE ISLAND Hy**	**26.83**	**114**	T	T	22 59 16.7	
	baz=306,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**26.84**	**114**	T	T	22 59 17.8	
	baz=306,slow=75,SNR=28						
H11S3	**WAKE ISLAND Hy**	**27.40**	**117**	T	T	22 59 55.8	
	baz=307,slow=75,SNR=4.5						
H11S1	**WAKE ISLAND Hy**	**27.41**	**117**	T	T	22 59 57.7	
	baz=307,slow=75,SNR=5.2						
H11S2	**WAKE ISLAND Hy**	**27.42**	**117**	T	T	22 59 57.5	
	baz=307,slow=75,SNR=4.5						
SONM	**Songino Array**	**29.62**	**309**	P	**P**	**22 30 34.1**	**-0.3**
	0.4nm,0.6s,baz=111,slow=9.1,SNR=3.5						
MKAR	**Makanchi Array**	**45.79**	**305**	P	**P**	**22 32 49.5**	**-1.0**
	0.7nm,0.8s,baz=79,slow=11,SNR=4.9						
KURBB	**Kurchatov Arra**	**47.97**	**311**	P	**P**	**22 33 07.8**	**+0.4**
	0.3nm,0.4s,baz=91,slow=7.2,SNR=8.1						
WRA	**Warramunga Arr**	**53.51**	**188**	P	**P**	**22 33 49.9**	**+0.6**
	1.7nm,0.3s,baz=6.7,slow=7.6,SNR=52						
ASAR	**Alice Springs**	**57.23**	**188**	P	**P**	**22 34 16.7**	**+0.7**
	0.3nm,0.4s,baz=5.5,slow=6.7,SNR=6.0						
STKA	**Stephens Creek**	**65.02**	**179**	LR	LR	23 02 19.8	
	comp=Z,30nm,19.2s,baz=26,slow=35						

WEL 27 22:31:30.0±0.3, 45.°04S×167.°41E, h117km±2km, ML3.7/10, 6C-3D, Error ellipse: s-maj=2.6km s-min=1.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.48**	**202**	⇑PN	Pn	22 31 47.0	-0.4
DCZ				SN	Sn	22 31 59.6	-0.9
DCZ				AML	AML	22 32 00.0	
DCZ				AML	AML	22 32 00.0	
MSZ	**Milford Sound**	**0.52**	**46**	⇑PN	Pn	22 31 47.8	+0.2
MSZ				SN	Sn	22 32 00.7	-0.2
MSZ				AML	AML	22 32 01.8	
MSZ				AML	AML	22 32 01.9	
MSZ				AML	AML	22 32 01.9	
MLZ	**Mavora Lakes**	**0.62**	**120**	⇑PN	Pn	22 31 48.1	-0.3
MLZ				AML	AML	22 32 02.3	
MLZ				AML	AML	22 32 02.7	
WHZ	**Wether Hill Ro**	**0.94**	**157**	⇑PN	Pn	22 31 51.0	-0.1
WHZ				AML	AML	22 32 06.6	
WHZ				AML	AML	22 32 07.6	
WKZ	**Wanaka**	**1.16**	**80**	⇑PN	Pn	22 31 53.4	0.0
WKZ				AML	AML	22 32 11.6	
WKZ				AML	AML	22 32 11.6	
WKZ				AML	AML	22 32 11.9	
WKZ				AML	AML	22 32 11.9	
PYZ	**Puysegur Point**	**1.24**	**204**	PN	Pn	22 31 54.3	+0.1
EAZ	**Earnscleugh**	**1.36**	**99**	⇑PN	Pn	22 31 55.3	-0.2
EAZ				AML	AML	22 32 13.7	
EAZ				AML	AML	22 32 13.7	
EAZ				AML	AML	22 32 13.8	
EAZ				AML	AML	22 32 14.0	
JCZ	**Jackson Bay**	**1.36**	**46**	⇓PN	Pn	22 31 55.2	-0.5
JCZ				AML	AML	22 32 16.8	
JCZ				AML	AML	22 32 18.0	
TUZ	**Tuapeka**	**1.81**	**121**	⇓PN	Pn	22 32 00.6	-0.2
APZ	**The Paps**	**1.84**	**168**	PN	Pn	22 32 01.0	-0.3
APZ				AML	AML	22 32 25.8	
APZ				AML	AML	22 32 29.4	
SYZ	**Scrubby Hill**	**1.93**	**142**	⇓PN	Pn	22 32 02.2	-0.1
SYZ				AML	AML	22 32 25.7	
SYZ				AML	AML	22 32 25.8	
SYZ				AML	AML	22 32 27.3	
SYZ				AML	AML	22 32 27.3	
LBZ	**Lake Benmore**	**2.08**	**73**	PN	Pn	22 32 02.9	-1.4
LBZ				SN	Sn	22 32 27.2	-3.3
LBZ				AML	AML	22 32 28.3	
FOZ	**Fox Glacier**	**2.20**	**49**	*e*PN	Pn	22 32 04.8	-0.9
ODZ	**Otahua Downs**	**2.29**	**91**	PN	Pn	22 32 05.8	-1.1
ODZ				SN	Sn	22 32 31.3	-4.0
HHSZ	**Highcliff Hill**	**2.40**	**112**	PN	Pn	22 32 07.6	-0.7
WVZ	**Waitaha Valley**	**3.10**	**52**	*e*PN	Pn	22 32 13.9	-3.4
OXZ	**Oxford**	**3.74**	**64**	*e*PN	Pn	22 32 24.7	-1.3
MQZ	**McQueen's Vall**	**3.98**	**72**	*e*PN	Pn	22 32 27.6	-1.6
DSZ	**Denniston Nort**	**4.59**	**46**	*e*PN	Pn	22 32 34.8	-2.6
THZ	**Tophouse**	**5.17**	**53**	*e*PN	Pn	22 32 41.6	-3.6

ISCJB ***27*** *22:41:23.2±0.4, 50.°87S±0.°06×29.°0E±0.°2, h10km, mb4.4/17, MS3.3/4, Error ellipse: s-maj=17.1km s-min=8.5km az=169.3*

IDC ***27*** *22:41:23.1±0.6, 50.°87S×29.°06E, h0km, mb4.2/12, mb1 4.4/12, mb1mx4.2/22, mbtmp4.2/12, MS3.4/4, Ms1 3.3/4, ms1mx3.0/23, Error ellipse: s-maj=24.2km s-min=14.9km az=75.0*

NEIC ***27*** *22:41:25.2±0.3, 50.°89S×28.°96E, h10km, mb4.8/12, Error ellipse: s-maj=13.5km s-min=8.1km az=75.0*

AWI ***27*** *22:41:45.9, 53.°26S×28.°89E*

ISC 27 22:41:24.9±0.5, 50.°86S±0.°08×29.°0E±0.°1, h10km, n50, σ0s84/54, mb4.5/18, MS3.4/4, 1C, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYO	**Syowa Base**	**18.91**	**168**	⇑*e*P	**P**	**22 45 44.0**	**-1.3**
SUR	**Sutherland**	**19.43**	**339**	*e*P	**Pn**	**22 45 53.8**	**+1.1**
	48nm,2.8s						
BOSA	**Boshof**	**22.40**	**351**	P	**P**	**22 46 22.2**	**-1.4**
	3.2nm,0.8s,baz=166,slow=11,SNR=6.9						
BOSA				LR	LR	22 53 39.8	
	comp=Z,62nm,20.6s,baz=162,slow=33						
BOSA	**Boshof**	**22.40**	**351**	*e*P	**P**	**22 46 24.3**	**+0.7**
SNAA	**Sanae**	**25.29**	**203**	P	**P**	**22 46 51.2**	**+0.1**
SNAA	**Sanae**	**25.29**	**203**	*e*P	**P**	**22 46 51.1**	**+0.1**
	4.6nm,0.9s						
LBTB	**Lobatse**	**25.94**	**353**	P	**P**	**22 46 57.1**	**-0.3**
	4.1nm,0.7s,baz=192,slow=8.6,SNR=6.1						
LBTB				LR	LR	22 55 06.3	
	comp=Z,103nm,20.9s,baz=167,slow=32						
LBTB	**Lobatse**	**25.94**	**353**	*e*P	**P**	**22 46 57.1**	**-0.3**
	54nm,2.0s						
VNA1	**Neunayer--Stat**	**26.18**	**207**	P	**P**	**22 46 59.8**	**+0.8**
TSUM	**Tsumeb**	**32.86**	**340**	P	**P**	**22 47 59.2**	**+0.2**
	4.6nm,0.7s,baz=158,slow=9.2,SNR=7.4						
LSZ	**Lusaka**	**35.50**	**359**	P	**P**	**22 48 20.9**	**-1.0**
	1.0nm,0.7s,baz=48,slow=13,SNR=3.1						
LSZ	**Lusaka**	**35.50**	**359**	*e*P	**P**	**22 48 20.9**	**-1.0**
	22nm,1.8s						
QSPA	**South Pole Qui**	**39.36**	**180**	P	**P**	**22 48 53.6**	**-0.6**
	17nm,0.8s,baz=251,slow=3.9,SNR=49						
CASY	**Casey**	**41.83**	**143**	*e*P	**P**	**22 49 16.6**	**+2.3**
	94nm,3.0s						
VNDA	**Vanda**	**48.60**	**168**	P	**P**	**22 50 07.5**	**-0.5**
	2.1nm,0.6s,baz=243,slow=6.4,SNR=27						
VNDA				LR	LR	23 11 31.0	
	comp=Z,39nm,18.3s,baz=222,slow=37						
VNDA	**Vanda**	**48.60**	**168**	*e*P	**P**	**22 50 08.2**	**+0.3**
	2.9nm,0.8s						
SBA	**Scott Base**	**48.96**	**169**	*e*P	**P**	**22 50 11.9**	**+1.2**
	9.7nm,0.8s						
TRQA	**Tornquist**	**62.20**	**243**	*e*P	**P**	**22 51 46.6**	**+0.2**
	6.6nm,0.8s						
CPUP	**Villa Florida**	**67.81**	**255**	P	**P**	**22 52 22.9**	**-0.1**
	11nm,0.7s,baz=130,slow=5.5,SNR=30						
CPUP				LR	LR	23 17 57.3	
	comp=Z,23nm,20.2s,baz=178,slow=32						
CPUP	**Villa Florida**	**67.81**	**255**	*e*P	**P**	**22 52 23.1**	**+0.1**
TOA0	**Torodi Ar. Sit**	**68.05**	**331**	*e*P	**P**	**22 52 25.3**	**+0.8**
TORD	**Torodi Ar. Bea**	**68.05**	**331**	P	**P**	**22 52 25.3**	**+0.8**
	0.8nm,0.6s,baz=179,slow=6.3,SNR=10						
LVC	**Limon Verde**	**77.57**	**250**	*e*P	**P**	**22 53 19.9**	**-1.5**
	81nm,2.5s						
STKA	**Stephens Creek**	**78.50**	**127**	P	**P**	**22 53 25.2**	**-0.9**
	1.0nm,0.6s,baz=104,slow=18,SNR=3.6						
STKA	**Stephens Creek**	**78.50**	**127**	*e*P	**P**	**22 53 25.2**	**-0.9**
	22nm,2.8s						
AS12	**Alice Springs**	**80.83**	**116**	*e*P	**P**	**22 53 39.0**	**0.0**
ASAR	**Alice Springs**	**80.83**	**116**	P	**P**	**22 53 39.0**	**0.0**
	1.1nm,0.7s,baz=205,slow=5.0,SNR=9.1						
LPAZ	**La Paz**	**81.94**	**254**	P	**P**	**22 53 45.0**	**-0.7**
	0.8nm,0.4s,baz=156,slow=2.9,SNR=5.7						
LPAZ	**La Paz**	**81.94**	**254**	*e*P	**P**	**22 53 42.9**	**-2.7**
	46nm,2.8s						
WRA	**Warramunga Arr**	**84.00**	**114**	P	**P**	**22 53 54.9**	**-0.7**
	0.5nm,0.7s,baz=211,slow=3.8,SNR=7.2						
SAML	**Samuel**	**84.51**	**263**	*e*P	**P**	**22 53 58.4**	**+0.2**
	7.4nm,1.1s						
TUC	**Tucson**	**145.21**	**253**	*e*PKPbc	**PKPdf**	**23 01 02.7**	**+0.3**
SDCO	**Great Sand Dun**	**145.45**	**266**	*e*PKPdf	**PKPab**	**23 01 03.5**	**+0.2**
S22A	**4JR Ranch, Cre**	**146.29**	**264**	*e*PKPdf	**PKPab**	**23 01 06.5**	**+0.1**
SMCO	**Snowmass**	**147.23**	**266**	*e*PKPbc	**PKPab**	**23 01 09.4**	**-0.8**
N23A	**Red Feather La**	**147.55**	**270**	*e*PKPbc	**PKPbc**	**23 01 09.6**	**+0.6**
WUAZ	**Wupatki**	**147.73**	**257**	*e*PKPbc	**PKPbc**	**23 01 10.2**	**+0.7**
SEY	**Seymchan**	**147.93**	**46**	PKPbc	**PKPbc**	**23 01 09.1**	**+0.1**
	2.7nm,0.8s,baz=281,slow=4.3,SNR=5.7						
RSSD	**Black Hills**	**148.01**	**276**	*e*PKPbc	**PKPbc**	**23 01 10.6**	**+0.5**
SHPR	**Sheep Range**	**150.70**	**255**	*e*PKPbc	**PKPbc**	**23 01 17.9**	**+0.9**
PD31	**Pinedale Array**	**150.83**	**270**	*e*PKPbc	**PKPbc**	**23 01 16.3**	**-0.9**
PD31				*e*PKPab	**PKPab**	**23 01 24.1**	**-0.3**
PDAR	**Pinedale Array**	**150.83**	**270**	PKPbc	**PKPbc**	**23 01 16.3**	**-0.9**
	1.6nm,0.7s,baz=88,slow=3.4,SNR=9.0						
PDAR				PKPab	**PKPab**	**23 01 24.1**	**-0.3**
	3.0nm,0.5s,baz=105,slow=6.6,SNR=15						
JLU	**Jordanelle**	**150.87**	**265**	*e*PKPbc	**PKPbc**	**23 01 18.4**	**+1.0**
HWUT	**Hardware Ranch**	**151.49**	**267**	*e*PKPbc	**PKPbc**	**23 01 18.6**	**-0.1**
TPNV	**Topopah Spring**	**151.65**	**254**	*e*PKPab	**PKPab**	**23 01 28.9**	**+0.9**
LOHW	**Long Hollow**	**151.91**	**271**	*e*PKPab	**PKPab**	**23 01 29.3**	**+0.4**
MOOW	**Moose Ponds**	**152.07**	**271**	*e*PKPab	**PKPab**	**23 01 29.5**	**-0.1**
FXWY	**Fox Creek**	**152.19**	**271**	*e*PKPbc	**PKPbc**	**23 01 20.5**	**+0.2**
NV01	**Mina Array Sit**	**153.85**	**254**	*e*PKPbc	**PKPbc**	**23 01 24.5**	**+0.4**
NV01				*e*PKPab	**PKPab**	**23 01 37.4**	**+0.1**
NVAR	**Mina Array Bea**	**153.85**	**254**	PKPbc	**PKPbc**	**23 01 24.5**	**+0.4**
	0.6nm,0.6s,baz=147,slow=2.8,SNR=5.9						
NVAR				PKPab	**PKPab**	**23 01 37.4**	**+0.1**
	2.3nm,0.6s,baz=137,slow=4.8,SNR=18						

NIED ***27*** *23:06:00, 42.°30N×143.°80E, h35km, Mw4.6 Best double couple: M0≈8.18000×10^15 NP1:φs≈94.00000°, δ11.00000°, λ102.00000°. NP2:φs≈262.00000°, δ79.00000°, λ88.00000°.*

BJI ***27*** *23:06:42.5, 42.°20N×143.°87E, h49km, mb4.7/50, mB4.9/34, Ms4.2/26, Ms7 3.9/26*

ISCJB ***27*** *23:06:43.2±0.4, 42.°31N±0.°02×143.°82E±0.°03, h45km±2km, mb4.6/110, MS4.0/28, Error ellipse: s-maj=4.7km s-min=2.8km az=142.4*

JMA ***27*** *23:06:43.8±0.1, 42.°34N×143.°80E, h56km±2km, M4.5*

JMA Felt III J1.

MOS ***27*** *23:06:43.5±1.0, 42.°35N×143.°77E, h49km, mb5.0/29, Error ellipse: s-maj=6.8km s-min=4.6km az=91.5*

IDC ***27*** *23:06:45.0±0.4, 42.°33N×143.°81E, h48km±3km, mb4.2/40, mb1 4.4/46, mb1mx4.3/72, mbtmp4.5/46, MS3.7/22, Ms1 3.7/22, ms1mx3.6/34, Error ellipse: s-maj=9.0km s-min=7.4km az=62.0*

NEIC ***27*** *23:06:45.6±0.4, 42.°33N×143.°74E, h52km±3km, mb4.6/53, MW4.5(NIED), Error ellipse: s-maj=5.2km s-min=3.2km az=146.0*

NEIC Recorded [3 JMA] in southeastern Hokkaido. Also recorded [1 JMA] in Aomori and Iwate, Honshu.

ISC 27 23:06:45.0±0.3, 42.°38N±0.°03×143.°84E±0.°03, h48km±2km, h48km:pP-P, n333, σ1s28/394, mb4.6/110, MS4.0/29, 29C-21D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCH	**Churui**	**0.42**	**304**	⇑P	**Pn**	**23 06 54.7**	**-0.6**
JCH				*e*S	**Sn**	**23 07 02.1**	**-0.4**
JOB	**Onbets**	**0.53**	**360**	⇓P	**Pn**	**23 06 56.4**	**-0.1**
JOB				*e*S	**Sn**	**23 07 05.3**	**+0.6**
JEM	**Erimo**	**0.62**	**235**	P	**Pn**	**23 06 56.2**	**-1.4**
ERM	**Erimo**	**0.62**	**234**	*e*PN	**Pn**	**23 06 59.0**	**+1.3**
ERM				*e*		23 07 06.4	
ERM	**Erimo**	**0.62**	**234**	*e*Pn	**Pn**	**23 06 59.0**	**+1.3**
ERM				*e*Sn	**Sn**	**23 07 06.4**	**-0.4**
JNBK	**Urakawa-nobuka**	**0.81**	**263**	⇑P	**Pn**	**23 06 58.8**	**-1.3**
JAK	**Akkeshi**	**0.89**	**45**	⇑P	**Pn**	**23 07 00.0**	**-1.1**
JAR	**Ashorobuto**	**0.92**	**357**	⇓P	**Pn**	**23 07 01.3**	**-0.3**
JAR				*e*S	**Sn**	**23 07 13.5**	**-0.3**
JBT2	**Biratori 2**	**1.16**	**291**	P	**Pn**	**23 07 03.5**	**-1.3**
JFR	**Furan**	**1.21**	**311**	P	**Pn**	**23 07 04.3**	**-1.2**
JFR				*e*S	**Sn**	**23 07 19.5**	**-1.2**
JNK	**Nakash**	**1.37**	**28**	P	**Pn**	**23 07 06.6**	**-1.1**
JTKR	**Abashiri--Toko**	**1.59**	**2**	⇓P	**Pn**	**23 07 11.2**	**+0.5**
JTKR				*e*S	**Sn**	**23 07 31.2**	**+1.1**
JAB	**Ashibetsu**	**1.63**	**314**	⇓P	**Pn**	**23 07 12.0**	**+0.7**
ASAJ	**Asahikawa**	**1.96**	**333**	P	**Pn**	**23 07 16.4**	**+0.6**
	baz=179,slow=12						
ASAJ				S	**Sn**	**23 07 41.1**	**+2.0**
	baz=338,slow=19						
ASAJ				LR	LR	23 08 31.3	
	comp=Z,3μm,20.8s,baz=143,slow=53						
ASAJ	**Asahikawa**	**1.96**	**333**	*e*Pn	**Pn**	**23 07 16.5**	**

comp=Z,80nm,0.5s
SKR pmax pmax
comp=E,80nm,0.9s
SKR MLR MLR
comp=N,700nm,20.0s
SKR MLR MLR
comp=Z,1µm,20.0s
KSRS Korea Array 13.16 253 P **Pn 23 09 49.2 0.0**
comp=Z,0.4nm,0.3s,baz=69,slow=13,SNR=16
KSRS S Sn 23 12 20.3 +6.3
comp=Z,0.7nm,0.3s,baz=69,slow=24,SNR=7.1
KSRS LR LR 23 14 51.1
comp=Z,185nm,18.9s,baz=68,slow=37
KSRS Korea Array 13.16 253 PN **Pn 23 09 49.2 0.0**
KSRS S Sn 23 12 20.3 +6.3
KSRS smax smax
comp=N,1.0nm,0.3s
KSRS MLR MLR
comp=Z,185nm,18.9s
KS15 Wonju Array Si 13.20 253 *e*Pn **Pn 23 09 49.2 -0.4**
KS15 *e*Sn **Sn 23 12 20.3 +5.5**
KSAR Wonju Array Be 13.20 253 PN **Pn 23 09 49.2 -0.4**
KSAR Wonju Array Be 13.20 253 P **Pn 23 09 49.2 -0.4**
CN2 Changchun 13.52 282 *e*P **Pn 23 09 55.0 +1.0**
CN2 PMZ
comp=Z,10.0nm,0.7s
JNU Nakatsue 13.79 232 P **Pn 23 09 55.3 -2.4**
comp=Z,0.5nm,0.3s,baz=315,slow=4.4,SNR=4.3
TJN Taejon 14.07 250 *i*P **Pn 23 10 01.5 0.0**
PETK Petropavlovsk- 14.19 36 P **Pn 23 10 03.4 +0.3**
comp=Z,4.4nm,0.3s,baz=200,slow=13,SNR=16
PETK LR LR 23 16 17.0
comp=Z,163nm,19.9s,baz=236,slow=40
PEA2 Petropavlovsk- 14.20 36 *e*Pn **Pn 23 10 03.4 +0.3**
PET Petropavlovsk 14.56 38 *e*P **Pn 23 10 10.3 +2.4**
PET pmax pmax
comp=Z,29nm,0.7s
PET MLR MLR
comp=Z,400nm,18.0s
PET Petropavlovsk 14.56 38 *e*Pn **P 23 10 11.2 -2.2**
CBIJ Chichi jima 15.31 186 *e*Pn **Pn 23 10 13.3 -4.5**
comp=Z,65nm,1.0s
CBIJ *e*Sn Sn 23 12 49.2 -17
JCJ Chichijima 15.31 186 P Pn 23 10 12.3 -5.6
comp=Z,11nm,0.3s,baz=290,slow=23,SNR=8.8
JCJ S Sn 23 12 49.2 -17
comp=Z,12nm,0.3s,baz=255,slow=21,SNR=5.7
JCJ LR LR 23 17 41.3
comp=Z,60nm,20.8s,baz=41,slow=43
CBI Chichi jima 15.31 186 *e*Pn Pn 23 10 12.3 -5.6
CBI *e*Sn Sn 23 12 49.2 -17
MA2 Magadan 17.75 12 *i*P **P 23 10 48.8 +0.2**
BJI Beijing 20.91 273 P **P 23 11 21.8 -1.5**
BJI S Sn 23 15 17.8 -3.5
BJI PMZ
comp=Z,6.0nm,1.2s
BJI PMZ
comp=Z,60nm,3.3s
BJI LN
comp=Z,140nm,18.7s
BJI LE
comp=Z,160nm,24.6s
SEY Seymchan 21.20 11 P **P 23 11 23.8 -2.4**
comp=Z,18nm,0.7s,baz=190,slow=8.1,SNR=48
SEY Seymchan 21.20 11*c i*P **P 23 11 24.1 -2.0**
YAK Yakutsk 21.42 342 *e*P **P 23 11 24.9 -3.6**
YAK *e* 23 11 42.2
YAK *e*S **S 23 15 16.4 -6.9**
YAK *e* 23 15 30.1
YAK *e**SS Sn 23 15 31.1 -2.0
YAK *e* 23 22 50.7
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=Z,38nm,0.9s
YAK pmax pmax
comp=N,25nm,1.0s
YAK pmax pmax
comp=E,15nm,1.0s
YAK smax smax
comp=N,86nm,1.4s
YAK smax smax
comp=E,75nm,1.5s
YAK MLR MLR
comp=Z,268nm,20.0s
YAK MLR MLR
comp=N,213nm,22.0s
YAK MLR MLR
comp=E,168nm,19.0s
TIA Tai'an 21.52 262 ⇓P **P 23 11 27.8 -2.1**
TIA PMZ
comp=E,30nm,0.6s
NJ2 Nanjing 22.33 251 *e*P **P 23 11 39.0 +0.4**
NJ2 sS Sn 23 15 57.0 +1.4
NJ2 PMZ
comp=E,40nm,0.9s
NJ2 PMZ
comp=E,440nm,4.2s
NJ2 LN
comp=E,540nm,20.1s
NJ2 LE
comp=E,760nm,22.0s
NJ2 LZ
comp=E,830nm,24.8s
HHC Hu-ho-hao-te 24.10 277 *e*P **P 23 11 55.5 -0.6**
HHC sP **sP 23 12 14.0 -0.4**
HHC PP **PnPn 23 12 29.5 +2.5**
HHC S S 23 16 02.5 -8.0
HHC SS **SnSn 23 17 01.8 +6.9**
HHC PMZ
comp=E,29nm,0.8s
HHC PMZ
comp=E,110nm,4.7s
HHC LN
comp=E,120nm,11.6s
HHC LE
comp=E,120nm,10.8s
HHC LZ
comp=E,130nm,10.5s
BOD Bodaibo 24.32 320 *e*P **P 23 11 55.1 -2.7**
BOD pmax pmax
comp=Z,3.0nm,0.9s
ULN Ulaanbaatar 26.35 295 *i*P **P 23 12 16.6 +0.1**
ULN pmax pmax
comp=Z,5.0nm,1.4s
ULN Ulaanbaatar 26.35 295 *e*P **P 23 12 15.0 -1.6**
comp=Z,6.1nm,1.0s
SONA0 Songino Array 26.80 295 *e*P **P 23 12 20.8 +0.2**
SONM Songino Array 26.80 295 P **P 23 12 20.8 +0.2**
comp=Z,11nm,0.9s,baz=82,slow=8.2,SNR=24
SONM LR LR 23 23 53.0
comp=Z,182nm,19.6s,baz=93,slow=38
XAN Xi'an 28.51 265 P P 23 12 31.3 -4.6
XAN PMZ
comp=Z,4.0nm,0.9s
XAN PMZ
comp=Z,59nm,4.9s
TLY Talaya 28.61 303 P **P 23 12 38.2 +1.6**
comp=Z,5.7nm,0.8s,baz=108,slow=6.4,SNR=7.9
TLY Talaya 28.61 303 *i*P **P 23 12 38.2 +1.6**
TLY pmax pmax
comp=Z,11nm,1.2s
H11N2 WAKE ISLAND Hy 29.82 132 T T 23 44 08.5
baz=324,slow=75,SNR=2375
H11N1 WAKE ISLAND Hy 29.83 132 T T 23 44 20.0
baz=324,slow=75,SNR=4383
H11N3 WAKE ISLAND Hy 29.84 132 T T 23 44 18.5
baz=324,slow=75,SNR=2311
H11S1 WAKE ISLAND Hy 30.71 134 T T 23 45 28.4
baz=325,slow=76,SNR=3646
H11S3 WAKE ISLAND Hy 30.71 134 T T 23 45 13.4
baz=325,slow=76,SNR=2679
H11S2 WAKE ISLAND Hy 30.73 134 T T 23 45 19.5
baz=325,slow=76,SNR=3227
LZH Lanzhou 31.39 272 *e*P **P 23 13 03.0 +1.5**
LZH pP **pP 23 13 16.0 +1.9**
LZH sP **sP 23 13 21.0 +1.2**
LZH PP **PnPn 23 14 07.3 +1.9**
LZH S **S 23 18 05.0 -0.7**
LZH SS **SnSn 23 19 53.3 +0.6**
LZH PMZ
comp=Z,41nm,1.6s
LZH PMZ
comp=Z,110nm,4.0s
LZH LN
comp=Z,110nm,14.4s
LZH LE
comp=Z,120nm,14.3s
LZH LZ
comp=Z,160nm,14.9s
GTA Gaotai 33.13 280 *e*P **P 23 13 17.3 +0.6**
GTA pP **pP 23 13 29.5 +0.2**
GTA sP **sP 23 13 34.5 -0.5**
GTA S **S 23 18 32.0 -0.7**
GTA sS **sS 23 18 52.0 -1.9**
GTA SS **SnSn 23 20 33.8 -1.1**
GTA PMZ
comp=Z,8.0nm,1.5s
GTA PMZ
comp=Z,89nm,5.2s
GTA LN
comp=Z,74nm,17.1s
GTA LE
comp=Z,110nm,18.5s
GTA LZ
comp=Z,93nm,17.3s
CD2 Chengdu 33.84 264 *e*P **P 23 13 22.5 -0.3**
CD2 pP **pP 23 13 35.0 -0.5**
CD2 PP **PP 23 14 39.5 -0.5**
CD2 PcP **PcP 23 16 00.8 0.0**
CD2 S **S 23 18 43.3 -0.3**
CD2 sS **sS 23 19 05.0 +0.1**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
GYA Guiyang 34.22 254 *e*P **P 23 13 26.8 +0.6**
GYA PMZ
comp=Z,10.0nm,0.8s
QIZ Qiongzhong 36.98 242 P **P 23 13 49.8 0.0**
QIZ S **S 23 19 33.0 +1.2**
QIZ LZ
comp=Z,63nm,24.1s
KMI Kunming 37.84 256 P **P 23 13 58.3 +1.0**
KMI pP **pP 23 14 10.8 +0.7**
KMI sP **sP 23 14 16.3 +0.5**
KMI PP **PnPn 23 15 27.0 +1.1**
KMI S **S 23 19 44.5 -0.7**
KMI ScP **ScP 23 19 57.0 +0.7**
KMI sS **sS 23 20 06.8 +0.1**
KMI SS **SnSn 23 22 20.8 -8.5**
KMI PMZ
comp=Z,27nm,1.6s
KMI PMZ
comp=Z,59nm,3.1s
KMI LN
comp=Z,120nm,6.2s
KMI LE
comp=Z,110nm,4.4s
KMI LZ
comp=Z,120nm,13.7s
ZAA1 Zalesovo Array 39.90 308 *e*P **P 23 14 13.6 -0.3**
ZAA1 *e*PcP **PcP 23 16 19.2 +0.6**
ZALV Zalesovo Beam 39.90 308 P **P 23 14 13.6 -0.3**
comp=Z,7.6nm,0.7s,baz=87,slow=7.8,SNR=26
ZALV PcP **PcP 23 16 19.2 +0.6**
comp=Z,3.4nm,0.6s,baz=86,slow=2.3,SNR=6.3
ZALV pPcP 23 16 34.2
comp=Z,3.6nm,0.7s,baz=91,slow=2.5,SNR=4.6
ZALV ScP **ScP 23 20 04.1 +0.7**
comp=Z,1.5nm,0.8s,baz=90,slow=3.0,SNR=4.8
ZALV LR LR 23 30 14.9
comp=Z,69nm,20.5s,baz=70,slow=35
WMQ Urumqi 40.34 292 P **P 23 14 20.3 +2.5**
WMQ pP **pP 23 14 32.5 +1.8**
WMQ sP **sP 23 14 37.8 +1.4**
WMQ PMZ
comp=Z,9.0nm,0.8s
WMQ PMZ
comp=Z,110nm,4.4s
WMQ LN
comp=Z,120nm,21.8s
WMQ LE
comp=Z,81nm,20.1s
WMQ LZ
comp=Z,130nm,18.3s
NVS Novosibirsk 40.70 309 *e*P **P 23 14 20.2 -0.3**
IM04 Indian Mountai 41.12 33 *e*P **P 23 14 24.0 +0.1**
PPLA Purkeypile 41.77 38 *e*P **P 23 14 30.7 +1.4**
comp=Z,42nm,1.9s
KDAK Kodiak Island 41.95 46 P **P 23 14 29.9 -0.9**
comp=Z,3.6nm,0.6s,baz=298,slow=5.4,SNR=5.0
KDAK Kodiak Island 41.95 46 *e*P **P 23 14 29.9 -0.9**
KDAK pmax pmax
comp=Z,116nm,2.5s
KDAK Kodiak Island 41.95 46 *e*P **P 23 14 29.9 -0.9**
comp=Z,116nm,2.5s
BPAW Bear Paw Mtn. 42.28 36 *e*P **P 23 14 34.2 +0.8**
comp=Z,1.1nm,0.9s
MLY Manley 42.37 35 *e*P **P 23 14 35.4 +1.3**
comp=Z,7.2nm,1.0s
SUA Susitna One 42.52 40 *e*P **P 23 14 38.0 +2.6**
comp=Z,4.7nm,0.7s
TRF Thorofare Moun 42.61 37 *e*P **P 23 14 37.6 +1.3**
comp=Z,5.5nm,1.0s
CRAI Chiangrai 42.62 253 P **P 23 14 34.8 -1.8**
comp=Z,152nm,1.0s
BWN Browne 42.94 36 *e*P **P 23 14 40.7 +2.0**
comp=Z,31nm,1.0s
MK32 Makanchi Array 43.07 298 *e*P **P 23 14 39.8 -0.2**
MKAR Makanchi Array 43.07 298 P **P 23 14 39.8 -0.2**
comp=Z,3.3nm,0.5s,baz=81,slow=10,SNR=29
MKAR LR LR 23 33 28.0
comp=Z,65nm,18.1s,baz=80,slow=37
MKAR Makanchi Array 43.07 298 P **P 23 14 39.8 -0.2**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR MLR MLR
comp=Z,65nm,18.1s
MKAR Makanchi Array 43.07 298 *e*P **P 23 14 40.6 +0.6**
RND Reindeer 43.26 37 *e*P **P 23 14 41.9 +0.6**
RND pmax pmax
comp=Z,5.0nm,0.7s
RND Reindeer 43.26 37 *e*P **P 23 14 41.9 +0.6**
comp=Z,5.4nm,0.7s
MDM Murphy Dome 43.44 35 *e*P **P 23 14 41.9 -0.8**
comp=Z,13nm,1.1s
WRH Wood River Hil 43.52 36 *e*P **P 23 14 44.3 +0.9**
comp=Z,9.5nm,1.1s
KHON Khomkaen 43.57 246 P **P 23 14 45.7 +1.4**
comp=Z,18nm,0.9s
COLA College 43.60 35 *e*P P 23 14 48.5 +4.5
COLA pmax pmax
comp=Z,26nm,1.0s
COLA College 43.60 35 *e*P P 23 14 48.5 +4.5
comp=Z,26nm,1.0s
CCB Clear Creek Bu 43.63 35 *e*P **P 23 14 45.8 +1.5**
comp=Z,3.7nm,0.7s
SML Sawmill 43.63 40 *e*P **P 23 14 43.9 -0.5**
SML pmax pmax
comp=Z,4.0nm,1.0s
SML Sawmill 43.63 40 *e*P **P 23 14 43.9 -0.5**
comp=Z,4.1nm,1.0s
CMAI Chiengmai2 43.75 253 P **P 23 14 47.4 +1.4**
comp=Z,18nm,0.7s
HDA Harding Lake 44.02 36 *e*P **P 23 14 48.2 +0.8**
comp=Z,5.7nm,0.5s
ILAR Eielson Array 44.02 35 P **P 23 14 48.1 +0.7**
comp=Z,8.2nm,0.8s,baz=266,slow=6.6,SNR=33
ILAR LR LR 23 36 00.6
comp=Z,41nm,18.6s,baz=290,slow=40
ILB Eielson Array 44.02 35 *e*P **P 23 14 48.1 +0.7**
SCM Sheep Creek Mo 44.10 39 *e*P **P 23 14 49.8 +1.6**
SCM pmax pmax
comp=Z,22nm,1.3s
SCM Sheep Creek Mo 44.10 39 *e*P **P 23 14 49.8 +1.6**
comp=Z,22nm,1.3s
UTTA Uttaradit 44.15 250 P **P 23 14 50.0 +1.0**
comp=Z,7.4nm,0.7s
LAMP Lampang 44.27 251 P **P 23 14 51.3 +1.4**
comp=Z,8.8nm,0.7s
SIJI Sorong 44.52 198 P **P 23 14 51.0 -0.9**
comp=Z,11nm,0.6s,baz=38,slow=10.0,SNR=7.8
CMMT Chiang Mai 44.56 252 P **P 23 14 53.1 +0.8**
comp=Z,24nm,0.9s
CHTO Chiang Mai 44.56 252 P **P 23 14 53.2 +0.9**
comp=Z,82nm,0.9s
CHTO Chiang Mai 44.56 252 *e*P **P 23 14 52.5 +0.2**
CHTO pmax pmax
comp=Z,12nm,0.8s
CHTO Chiang Mai 44.56 252 *e*P **P 23 14 52.5 +0.2**
comp=Z,12nm,0.8s
PBKT Sadao Pong 44.67 248 P **P 23 14 55.2 +2.1**
comp=Z,11nm,1.4s
CM31 Chiang Mai Arr 44.80 252 *e*P **P 23 14 54.9 +0.7**
CMAR Chiang Mai Arr 44.80 252 P **P 23 14 54.9 +0.7**
comp=Z,5.4nm,0.7s,baz=43,slow=7.6,SNR=31
CMAR LR LR 23 35 18.4
comp=Z,91nm,19.0s,baz=45,slow=38
KLU Klutina 44.82 40 *e*P **P 23 14 54.4 +0.5**
comp=Z,21nm,1.3s
DIV Divide 44.94 40 *e*P P 23 14 59.7 +4.8
comp=Z,26nm,1.4s
BMRM Bremner River 45.53 40 *e*P P 23 15 04.0 +4.5
comp=Z,9.5nm,1.0s
MHMT Maesarieng 45.70 253 P **P 23 15 02.9 +1.6**
EGAK Eagle 46.46 35 *e*P **P 23 15 07.2 +0.6**
comp=Z,7.1nm,0.8s
TAPN Taplejung 47.60 270 *e*P **P 23 15 17.4 +0.9**
comp=Z,21nm,0.7s
ODAN Odare 48.11 270 *e*P **P 23 15 21.1 +0.7**
comp=Z,16nm,0.5s
BVAR Borovoye Array 48.49 309 P **P 23 15 23.0 +0.4**
comp=Z,3.8nm,0.4s,baz=81,slow=8.9
BRVK Borovoye 48.54 309*c i*P **P 23 15 23.5 +0.5**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BRVK Borovoye 48.54 309 *e*P **P 23 15 24.0 +0.9**
comp=Z,8.4nm,0.8s
RAMN Ramite 48.65 271 *e*P **P 23 15 24.9 +0.4**
comp=Z,37nm,0.9s
GUN Gumba 48.65 272 *e*P **P 23 15 25.1 +0.4**
comp=Z,29nm,0.4s
INK Inuvik 48.80 29 P **P 23 15 25.3 +0.6**
comp=Z,5.3nm,0.5s,baz=289,slow=7.4,SNR=8.5
INK Inuvik 48.80 29 *e*P **P 23 15 25.4 +0.6**
INK pmax pmax
comp=Z,7.0nm,0.6s
INK Inuvik 48.80 29 *e*P **P 23 15 25.4 +0.6**
comp=Z,6.9nm,0.6s
TKM2 Tokmak 2 48.89 295 *e*P **P 23 15 26.3 +0.1**
TKM2 pmax pmax
comp=Z,10.0nm,0.8s
TKM2 Tokmak 2 48.89 295 *e*P **P 23 15 26.2 +0.1**
comp=Z,10nm,0.8s
HYT Haines Junctio 48.94 40 *e*P **P 23 15 28.1 +1.9**
KKN Kakani 49.16 273 *e*P **P 23 15 28.7 +0.3**
comp=Z,25nm,0.7s
PKI Pulchoki 49.19 272 *e*P **P 23 15 28.8 +0.1**
comp=Z,7.7nm,0.4s
PKIN Phulchoki 49.19 272 *e*P **P 23 15 28.6 -0.1**
comp=Z,7.6nm,0.5s
DMN Daman 49.39 272 *e*P **P 23 15 30.7 +0.5**
comp=Z,22nm,0.8s
GKN Gorkha 49.52 273 *e*P **P 23 15 31.2 +0.1**
comp=Z,7.8nm,0.3s
DANN Dangsing 49.98 274 *e*P **P 23 15 35.5 +0.8**
comp=Z,8.1nm,0.6s
KSH Kashi 50.09 291 P P 23 15 39.3 +4.1
KSH PMZ
comp=Z,150nm,5.1s
KOLN Koldanda 50.42 274 *e*P **P 23 15 38.4 +0.5**
comp=Z,19nm,0.5s
PMG Port Moresby 51.62 176 *i*P **P 23 15 47.3 +0.6**
KAPI Kappang 52.00 211 *e*P **P 23 15 49.6 0.0**
comp=Z,2µm,1.2s
KKAR Karatay Array 52.20 297 *e*P **P 23 15 51.1 +0.3**
KKAR Karatay Array 52.20 297 *e*P **P 23 15 51.1 +0.3**
SVE Sverdlovsk 52.47 316 ⇓*i*P **P 23 15 53.1 +0.5**
SVE pmax pmax
comp=Z,27nm,1.0s
SVE MLR MLR
comp=Z,145nm,20.0s
DLBC Dease Lake 53.32 41 P **P 23 15 59.9 +0.9**
comp=Z,1.9nm,0.4s,baz=152,slow=13,SNR=5.2
DLBC Dease Lake 53.32 41 *e*P **P 23 15 59.8 +0.9**
comp=Z,92nm,3.0s
ARU Arti 53.68 317 P **P 23 16 01.8 +0.3**
ARU Arti 53.68 317*d i*P **P 23 16 00.9 -0.6**
ARU *PP **pP 23 16 12.5 -2.3**
ARU 23 18 04.4
ARU S **S 23 23 33.2 +1.6**
ARU SS **SS 23 27 17.9 +5.8**
ARU pmax pmax
comp=Z,19nm,1.0s
ARU Arti 53.68 317 *e*P **P 23 16 01.5 0.0**
comp=Z,27nm,1.2s
SPA0 Spitsbergen Ar 55.66 349 *e*P **P 23 16 14.4 -1.1**
SPITS Spitsbergen Ar 55.66 349 P **P 23 16 14.4 -1.1**
comp=Z,1.8nm,0.5s,baz=73,slow=8.8,SNR=12
ABKAR Akbulak array 56.02 308 *e*P **P 23 16 18.8 +0.3**
AKTO Aktyubinsk 56.58 310 P **P 23 16 22.2 -0.3**
comp=Z,2.0nm,0.4s,baz=59,slow=7.9,SNR=8.1
RES Resolute Bay 56.96 16 P **P 23 16 24.5 -0.3**
comp=Z,9.6nm,0.5s,baz=307,slow=6.8,SNR=15
RES Resolute Bay 56.96 16 P **P 23 16 24.5 -0.3**
RES pmax pmax
comp=Z,10.0nm,0.5s
RES Resolute Bay 56.96 16 *e*P **P 23 16 24.9 +0.1**
comp=Z,13nm,0.6s
PRGR Permogore 57.35 326 *e*P **P 23 16 26.8 -0.9**
PRGR pmax pmax
comp=Z,10.0nm,1.1s
KBL Kabul 57.35 289 *e*P **P 23 16 28.1 -0.4**
KBL pmax pmax
comp=Z,6.0nm,0.8s
KBL Kabul 57.35 289 *e*P **P 23 16 28.1 -0.4**
comp=Z,5.8nm,0.8s
YKA Yellowknife Ar 58.28 32 P **P 23 16 34.8 +0.6**
comp=Z,2.8nm,0.8s,baz=303,slow=6.5,SNR=7.0
YKB5 Yellowknife Ar 58.28 32 *e*P **P 23 16 34.8 +0.6**
ARCES ARCESS Array B 59.67 339 LR LR 23 47 41.2
comp=Z,70nm,18.6s,baz=40,slow=41
WRAB Tennant Creek 62.61 190 *i*P **P 23 17 03.5 -0.8**
WRAB pmax pmax
comp=Z,44nm,1.3s
WRA Warramunga Arr 62.62 190 P **P 23 17 03.5 -0.8**
comp=Z,6.1nm,0.5s,baz=7.4,slow=6.8,SNR=101
GEYT Aibeck 62.95 298 P **P 23 17 07.0 +0.5**
comp=Z,3.9nm,0.6s,baz=64,slow=3.4,SNR=9.8
GEYT LR LR 23 46 48.7
comp=Z,95nm,18.3s,baz=320,slow=38
VGB Gordon Butte 64.62 51 *e*P **P 23 17 16.0 -1.4**
VGB Gordon Butte 64.62 51 *e*P **P 23 17 15.9 -1.4**
OBN Obninsk 64.96 323 P **P 23 17 18.8 -0.5**
comp=Z,7.2nm,0.4s,baz=38,slow=22,SNR=4.6
OBN Obninsk 64.96 323*de*P **P 23 17 19.3 0.0**
OBN *e* 23 17 48.7
OBN *e* 23 19 44.3
OBN pmax pmax
comp=Z,21nm,1.3s
OBN MLR MLR
comp=Z,136nm,19.0s
FIA0 FINESS Array S 64.97 332 *e*P **P 23 17 18.9 -0.4**
FIA0 FINESS Array S 64.97 332 *e*P **P 23 17 18.9 -0.4**
FINES FINESS Array B 64.97 332 P **P 23 17 18.9 -0.4**
comp=Z,12nm,0.6s,baz=54,slow=6.7,SNR=116
FINES LR LR 23 48 25.6
comp=Z,234nm,20.8s,baz=51,slow=38
NEW Newport 65.05 47 P **P 23 17 19.4 -0.7**
comp=Z,2.8nm,0.9s,baz=313,slow=3.1,SNR=4.6
NEW Newport 65.05 47 P **P 23 17 19.5 -0.7**
NEW pmax pmax
comp=Z,3.0nm,0.9s
NEW Newport 65.05 47 *e*P **P 23 17 21.1 +0.9**
comp=Z,5.6nm,1.0s
YBH Yreka Blue Hor 65.67 55 P **P 23 17 24.8 +0.5**
comp=Z,1.8nm,0.6s,baz=40,slow=7.5,SNR=7.7
YBH Yreka Blue Hor 65.67 55 *e*P **P 23 17 24.8 +0.5**
YBH pmax pmax
comp=Z,14nm,1.6s
YBH Yreka Blue Hor 65.67 55 *e*P **P 23 17 24.8 +0.5**
comp=Z,14nm,1.6s
VSR Storozhevoye 66.17 318 *e*P P 23 17 24.0 -3.2
VSR pmax pmax
comp=N,8.0nm,0.7s
VSR pmax pmax
comp=E,5.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s
K05A Summer Lake 66.18 53 *e*P **P 23 17 29.6 +1.9**
comp=Z,112nm,2.5s
AS12 Alice Springs 66.35 190 *e*P **P 23 17 28.6 0.0**
ASAR Alice Springs 66.35 190 P **P 23 17 28.6 0.0**

comp=Z,4.2nm,0.6s,baz=6.9,slow=5.9,SNR=43
ASAR LR LR 23 46 57.8
comp=Z,54nm,20.6s,baz=68,slow=36
SWMT Swartz Lake 67.18 46 *e*P **P 23 17 35.1 +1.2**
GOF Gofitskoye 67.95 311 *e*P **P 23 17 37.4 -1.3**
GOF pmax pmax
comp=Z,20nm,1.2s
EGMT Eagleton 69.07 44 *e*P **P 23 17 46.2 +0.5**
comp=Z,19nm,1.4s
LRM Limekiln Ridge 69.07 47 *e*P **P 23 17 47.0 +1.0**
CMB Columbia Colle 69.32 57 *e*P **P 23 17 48.6 +1.2**
CMB pmax pmax
comp=Z,13nm,1.5s
CMB Columbia Colle 69.32 57 *e*P **P 23 17 48.6 +1.2**
comp=Z,13nm,1.5s
WAKR Walker 69.62 56 *e*P **P 23 17 51.0 +1.6**
BMN Battle Mountai 69.76 53 *e*P **P 23 17 51.8 +1.6**
BMN pmax pmax
comp=Z,4.0nm,0.7s
BMN Battle Mountai 69.76 53 *e*P **P 23 17 51.8 +1.6**
comp=Z,4.1nm,0.7s
NB2 NORSAR Subarra 69.97 338 P **P 23 17 50.8 -0.2**
comp=Z,4.2nm,0.6s,baz=34,slow=6.5
NB200 NORSAR Array S 69.97 338 *e*P **P 23 17 50.9 -0.1**
NOA NORSAR Array B 69.97 338 P **P 23 17 50.9 -0.1**
comp=Z,5.3nm,0.7s,baz=36,slow=6.1,SNR=23
NOA LR LR 23 52 31.7
comp=Z,70nm,20.6s,baz=60,slow=39
HFS Hagfors 69.98 336 P **P 23 17 49.9 -1.1**
comp=Z,5.6nm,0.6s,baz=54,slow=7.5,SNR=38
NV01 Mina Array Sit 70.36 56 *e*P **P 23 17 55.1 +1.1**
NVAR Mina Array Bea 70.36 56 P **P 23 17 55.1 +1.1**
comp=Z,2.8nm,0.6s,baz=296,slow=6.5,SNR=33
NVAR pP **pP 23 18 09.1 +1.3**
comp=Z,4.7nm,0.7s,baz=292,slow=6.1,SNR=15
ELK Elko 70.74 52 P **P 23 17 56.8 +0.5**
comp=Z,0.4nm,0.3s,baz=355,slow=5.5,SNR=3.5
ELK Elko 70.74 52 *e*P **P 23 17 56.8 +0.5**
ELK pmax pmax
comp=Z,2.0nm,1.0s
ELK Elko 70.74 52 *e*P **P 23 17 56.8 +0.5**
comp=Z,2.3nm,1.0s
IMW Indian Meadow 71.14 47 *e*P **P 23 18 00.5 +1.8**
comp=Z,5.0nm,0.7s
FRB Frobisher Bay 71.14 15 P **P 23 17 57.5 -0.5**
comp=Z,4.9nm,0.5s,baz=341,slow=7.6,SNR=8.5
AKASG Malin Array Be 71.21 322 P **P 23 17 58.3 -0.3**
comp=Z,3.6nm,0.5s,baz=41,slow=5.9,SNR=20
AKASG pP **pP 23 18 11.7 -0.8**
comp=Z,5.1nm,0.6s,baz=42,slow=5.9,SNR=7.3
AKBB Malin Array Si 71.21 322 *e*P **P 23 17 58.3 -0.3**
AKBB Malin Array Si 71.21 322 *e*P **P 23 17 58.3 -0.3**
KIEV Kiev 71.23 322 *i* P **P 23 17 59.2 +0.5**
KIEV *i* *PP **pP 23 18 11.9 -0.6**
KIEV pmax pmax
comp=Z,12nm,1.4s
KIEV Kiev 71.23 322 *e*P **P 23 17 57.6 -1.1**
comp=Z,8.7nm,0.8s
TPH Tonopah 71.25 55 *e*P **P 23 18 00.8 +1.4**
TPH pmax pmax
comp=Z,5.0nm,0.5s
TPH Tonopah 71.25 55 *e*P **P 23 18 00.8 +1.4**
comp=Z,4.9nm,0.5s
FXWY Fox Creek 71.26 48 *e*P **P 23 18 01.2 +1.8**
comp=Z,3.1nm,0.6s
MOOW Moose Ponds 71.34 48 *e*P **P 23 18 00.5 +0.6**
comp=Z,3.3nm,0.8s
TPAW Teton Pass 71.40 48 *e*P **P 23 18 02.0 +1.8**
comp=Z,6.8nm,1.0s
TPAW *e*pP **pP 23 18 15.8 +1.7**
REDW Red Top Meadow 71.53 48 *e*P **P 23 18 02.6 +1.5**
comp=Z,4.0nm,0.8s
R11A Troy Canyon, C 72.06 54 *e*P **P 23 18 05.2 +0.9**
comp=Z,4.1nm,1.2s
BW06 Boulder Array 72.64 48 *e*P **P 23 18 08.3 +0.7**
comp=Z,3.6nm,0.6s
PD31 Pinedale Array 72.64 48 *e*P **P 23 18 08.0 +0.3**
PDAR Pinedale Array 72.64 48 P **P 23 18 08.0 +0.3**
comp=Z,1.6nm,0.5s,baz=21,slow=2.5,SNR=15
PDAR pP **pP 23 18 21.7 +0.2**
comp=Z,3.6nm,0.6s,baz=14,slow=2.0,SNR=12
SHPR Sheep Range 73.51 56 *e*pP pP 23 18 28.5 +1.8
BSD Bornholm Skovb 73.61 332 *i* P **P 23 18 11.5 -1.3**
comp=Z,30nm,1.5s
BSD Bornholm Skovb 73.61 332 *e*P **P 23 18 11.5 -1.3**
BSD pmax pmax
comp=Z,30nm,1.5s
STKA Stephens Creek 73.92 182 P **P 23 18 14.7 0.0**
comp=Z,3.0nm,0.7s,baz=334,slow=4.4,SNR=8.2
STKA Stephens Creek 73.92 182 *e*P **P 23 18 14.7 0.0**
STKA pmax pmax
comp=Z,10.0nm,2.2s
STKA Stephens Creek 73.92 182 *e*P **P 23 18 14.7 0.0**
comp=Z,9.9nm,2.2s
LVV L'vov 74.15 324 *e*P **P 23 18 17.3 +1.2**
SRU San Rafael 74.54 51 *e*P **P 23 18 19.9 +1.1**
SRU pmax pmax
comp=Z,5.0nm,0.9s
SRU San Rafael 74.54 51 *e*P **P 23 18 19.9 +1.1**
comp=Z,5.0nm,0.9s
MALT Malatya 74.94 308 ⇑P **P 23 18 22.6 +1.5**
MALT Malatya 74.94 308 ⇑*i*P **P 23 18 22.6 +1.5**
BURAR Bucovina Array 75.26 322 ⇑P **P 23 18 23.1 +0.3**
BURAR Bucovina Array 75.26 322 ⇑*i*P **P 23 18 23.0 +0.3**
TESR Tescani 75.41 321 ⇑*i*P **P 23 18 23.8 +0.3**
KOLS Kolonicke sedl 75.58 325 *e*P **P 23 18 24.7 +0.3**
KOLS Kolonicke sedl 75.58 325 *e*P **P 23 18 24.7 +0.3**
CFR Carcaliu 75.67 319 ⇓P **P 23 18 25.4 +0.5**
CFR Carcaliu 75.67 319 ⇓*i*P **P 23 18 25.4 +0.5**
TRPA Tarpa 76.07 324 ⇑*i*P **P 23 18 28.1 +0.9**
MLR Muntele Rosu 76.50 320 P **P 23 18 30.4 +0.6**
comp=Z,0.3nm,0.6s,baz=114,slow=9.8,SNR=3.1
MLR Muntele Rosu 76.50 320 ⇑*i*P **P 23 18 30.3 +0.5**
OKC Ostrava-Krasne 76.59 327 *e*P **P 23 18 31.6 +1.5**
OKC *ex* x 23 18 37.1
OKC Ostrava-Krasne 76.59 327 *e*P **P 23 18 31.6 +1.5**
MSAB Monastry St. A 76.61 318 ⇑*i*P **P 23 18 30.9 +0.6**
BR101 Keskin Array S 76.69 312 *e*P **P 23 18 31.1 0.0**
BRTR Keskin Array B 76.69 312 P **P 23 18 31.1 0.0**
comp=Z,1.1nm,0.6s,baz=83,slow=4.4,SNR=7.8
BRTR pP **pP 23 18 44.4 -0.7**
comp=Z,1.5nm,0.8s,baz=108,slow=2.9,SNR=5.9
BRTR LR LR 23 57 00.9
comp=Z,30nm,18.9s,baz=21,slow=39
MORC Moravsky Berou 76.88 328 *e*P **P 23 18 32.4 +0.6**
MORC pmax pmax
comp=Z,33nm,0.5s
MORC Moravsky Berou 76.88 328 ⇓*i*P **P 23 18 32.8 +1.0**
MORC Moravsky Berou 76.88 328 *e*P **P 23 18 32.4 +0.6**
comp=Z,33nm,0.5s
UPC Upice 76.90 329 *e*P **P 23 18 32.7 +0.8**
UPC *e*pP **PcP 23 18 44.0 +1.2**
UPC AMS AMS 23 55 20.0
comp=Z,200nm,17.8s
UPC Upice 76.90 329 *e*P **P 23 18 32.7 +0.8**
UPC *e* 23 18 44.0
UPC MLR MLR
comp=Z,200nm,17.8s
DPC Dobruska-Polom 76.90 329 *e*P **P 23 18 32.6 +0.7**
DPC *ex* x 23 18 39.4
DPC *e*pP **pP 23 18 46.1 +0.2**
DPC *e*sP **sP 23 18 51.2 -0.1**
DPC AMS AMS 23 55 00.0
comp=Z,100nm,20.7s
DPC Dobruska-Polom 76.90 329 *e*P **P 23 18 32.6 +0.7**
DPC *e**PP **pP 23 18 46.1 +0.2**
DPC *e* 23 18 51.2
DPC MLR MLR
comp=Z,100nm,20.7s
KRLC Kraliky 76.94 328 *e*P **P 23 18 33.6 +1.4**
KRLC *e*pP **pP 23 18 46.3 +0.2**
KRLC *e*sP **sP 23 18 51.4 -0.2**
KRLC Kraliky 76.94 328 *e*P **P 23 18 33.6 +1.4**
KRLC *e**PP **pP 23 18 46.3 +0.2**
KRLC *e* 23 18 51.4
VOIR 76.96 321 ⇑P **P 23 18 32.9 +0.5**
VOIR 76.96 321 ⇑*i*P **P 23 18 32.9 +0.5**
DRGR 77.01 323 ⇑P **P 23 18 33.7 +1.1**
DRGR 77.01 323 ⇑*i*P **P 23 18 33.7 +1.1**
VYHS Vyhne 77.37 326 *e*P **P 23 18 35.5 +1.0**
VYHS pmax pmax
comp=Z,2.0nm,1.0s
VYHS Vyhne 77.37 326 *e*P **P 23 18 35.5 +1.0**
CLL Collm 77.37 331 *e*P **P 23 18 34.0 -0.5**
CLL *e**PP **pP 23 18 47.0 -1.4**
CLL *eS* **S 23 28 20.0 -0.9**
CLL pmax pmax
comp=Z,5.0nm,0.6s
CLL Collm 77.37 331 *e*P **P 23 18 34.7 +0.2**
comp=Z,8.1nm,0.9s
CLL Collm 77.37 331 *e*P **P 23 18 34.0 -0.5**
comp=Z,5.0nm,0.6s
CLL *i* Pmax 23 18 39.1
comp=Z,6.0nm,0.7s
CLL *i* pP **pP 23 18 48.4 0.0**
CLL *es*P **sP 23 18 54.0 +0.2**
CLL *eS* **S 23 28 20.0 -0.9**
CLL Lm MLR 23 55 00.0
comp=N,100nm,21.0s
CLL Lm MLR 23 55 00.0
comp=E,100nm,22.0s
CLL Lm MLR 23 55 00.0
comp=Z,200nm,20.4s
PVCC Panska Ves 77.43 330 *e*P **P 23 18 36.4 +1.6**
PVCC *e*PCP **PcP 23 18 43.4 -1.7**
PVCC *e*pP **pP 23 18 49.9 +1.1**
PVCC AMS AMS 23 55 30.0
comp=Z,200nm,14.9s
PVCC Panska Ves 77.43 330 *e*P **P 23 18 36.4 +1.6**
PVCC *e* 23 18 43.4
PVCC *e**PP **pP 23 18 49.9 +1.1**
PVCC MLR MLR
comp=Z,200nm,14.9s
VRAC Vranov 77.63 328 P **P 23 18 36.3 +0.4**
comp=Z,1.2nm,0.4s,baz=5.2,slow=7.3,SNR=5.9
VRAC Vranov 77.63 328 ⇓*i*P **P 23 18 37.5 +1.5**
GOPC GO Pecny, Ondr 77.84 329 *e*P **P 23 18 37.9 +0.7**
GOPC *e*pP **pP 23 18 51.1 0.0**
GOPC AMS AMS 23 55 30.0
comp=Z,100nm,20.5s
PRA Prague 77.85 329 *e*P **P 23 18 37.4 +0.2**
PRA *e*pP **pP 23 18 51.0 -0.1**
PRA *e*sP **sP 23 18 56.1 -0.5**
PRA AMS AMS 23 55 20.0
comp=Z,200nm,20.8s
PRA Prague 77.85 329 *e*P **P 23 18 37.4 +0.2**
PRA *e**PP **pP 23 18 51.0 -0.1**
PRA *e* 23 18 56.1
PRA MLR MLR
comp=Z,200nm,20.8s
PRU Pruhonice 77.88 329 *e*P **P 23 18 38.4 +1.1**
PRU *e*PCP **PcP 23 18 44.8 -2.3**
PRU *e*pP **pP 23 18 51.3 0.0**
PRU *e*sP **sP 23 18 57.0 +0.3**
PRU AMS AMS 23 55 00.0
comp=Z,100nm,15.3s
PRU Pruhonice 77.88 329 *e*P **P 23 18 38.4 +1.1**
PRU *e* 23 18 44.8
PRU *e**PP **pP 23 18 51.3 0.0**
PRU *e* 23 18 57.0
PRU MLR MLR
comp=Z,100nm,15.3s
TREC Trest 78.07 328 *e*P **P 23 18 39.4 +0.9**
TREC AMS AMS 23 55 50.0
comp=Z,100nm,14.9s
TREC Trest 78.07 328 *e*P **P 23 18 39.4 +0.9**
TREC MLR MLR
comp=Z,100nm,14.9s
BZS Buzias 78.40 323 ⇓P **P 23 18 40.8 +0.5**
BZS Buzias 78.40 323 ⇓*i*P **P 23 18 40.8 +0.5**
NKC Novy Kostel 78.45 331 *e*P **P 23 18 39.9 -0.7**
NKC Novy Kostel 78.45 331 *e*P **P 23 18 39.9 -0.7**
EKA Eskdalemuir Ar 78.69 341 P **P 23 18 41.9 +0.2**
comp=Z,1.3nm,0.5s,baz=25,slow=5.3,SNR=9.4
EKA pP **pP 23 18 55.5 -0.2**
comp=Z,1.8nm,0.5s,baz=23,slow=4.8,SNR=5.3
KHC Kasperske Hory 78.94 329 *e*P **P 23 18 43.9 +0.7**
KHC *e*PCP **PcP 23 18 48.9 -2.9**
KHC *e*pP **pP 23 18 57.2 -0.1**
KHC *es*P **sP 23 19 02.0 -0.7**
KHC AMS AMS 23 56 20.0
comp=Z,200nm,20.9s
KHC Kasperske Hory 78.94 329 *e*P **P 23 18 43.9 +0.7**
KHC *e* 23 18 48.9
KHC *e**PP **pP 23 18 57.2 -0.1**
KHC *e* 23 19 02.0
KHC MLR MLR
comp=Z,200nm,20.9s
KHC Kasperske Hory 78.94 329 *e*P **P 23 18 44.0 +0.7**
comp=Z,2.2nm,0.6s
CONA Conrad Observa 79.03 327 ⇑*i*P **P 23 18 42.3 -1.5**
comp=Z,3.5nm,0.8s
GEC2 GERESS Array S 79.13 329 *e*P **P 23 18 44.5 +0.1**
GEC2 GERESS Array S 79.13 329 *e*P **P 23 18 44.5 +0.1**
GERES GERESS Array B 79.13 329 P **P 23 18 44.5 +0.1**
comp=Z,0.8nm,0.3s,baz=45,slow=5.8,SNR=16
GERES pP **pP 23 18 58.1 -0.3**
comp=Z,1.4nm,0.5s,baz=38,slow=5.0,SNR=6.5
GERES LR LR 23 56 47.4
comp=Z,141nm,21.2s,baz=47,slow=38
PKSM Moragy 79.24 325 ⇑P **P 23 18 43.4 -1.5**
PKSM Moragy 79.24 325 ⇑*i*P **P 23 18 43.4 -1.5**
SCHQ Schefferville 79.69 17 P **P 23 18 47.6 +0.4**
comp=Z,2.2nm,0.6s,baz=25,slow=11,SNR=4.0
SCHQ LR LR 23 56 25.8
comp=Z,43nm,20.0s,baz=310,slow=37
SCHQ Schefferville 79.69 17 *e*P **P 23 18 47.6 +0.4**
comp=Z,300nm,2.8s
ANMO Albuquerque 79.77 52 P **P 23 18 48.5 +0.3**
comp=Z,1.4nm,0.9s,baz=47,slow=9.7,SNR=4.4
ANMO Albuquerque 79.77 52*ce*P **P 23 18 49.8 +1.6**
ANMO pmax pmax
comp=Z,14nm,1.2s
ANMO Albuquerque 79.77 52 *e*P **P 23 18 48.5 +0.3**
comp=Z,3.7nm,1.1s
RDO Rodhopi 79.93 318 *e*P **P 23 18 49.7 +1.0**
comp=Z,24nm,1.0s
VTS Vitosha 79.98 320 ⇑P **P 23 18 49.8 +0.6**
VTS Vitosha 79.98 320 ⇑*i*P **P 23 18 49.8 +0.6**
RAYN Ar Rayn 80.33 293 *e*P **P 23 18 51.8 +0.6**
comp=Z,18nm,1.5s
SOKA Soboth 80.37 327 ⇓*i*P **P 23 18 51.6 +0.5**
comp=Z,4.9nm,0.8s
WATA Walderalm 81.18 329 ⇓*i*P **P 23 18 55.8 +0.3**
comp=Z,2.7nm,0.5s
WTTA Wattenberg 81.22 329 ⇑*i*P **P 23 18 56.4 +0.6**
comp=Z,5.1nm,0.5s
MOTA Moosalm 81.35 330 ⇑*i*P **P 23 18 56.8 +0.3**
comp=Z,8.8nm,0.9s
RETA Reutte 81.36 330 ⇑*i*P **P 23 18 56.7 +0.3**
comp=Z,8.9nm,1.4s
BFO Black Forest 81.52 332 *i* P **P 23 18 59.9 +2.7**
FETA Feichten 81.76 330 ⇓*i*P **P 23 18 59.0 +0.4**
comp=Z,4.1nm,0.9s
DAVA Damuels 81.85 330 ⇓*i*P **P 23 18 59.5 +0.4**
comp=Z,7.7nm,1.1s
FUORN Ofenpass-Fuorn 82.27 330 *e*P **P 23 19 02.2 +0.8**
comp=Z,9.6nm,0.9s
DAVOX Davos/Dischmat 82.28 330 P **P 23 19 02.4 +1.0**
comp=Z,1.0nm,0.3s,baz=180,slow=1.0,SNR=4.9
PMOR Pomariorio Ree 84.70 116 *e*T T 00 52 10.7
comp=Z,20nm,0.2s
SADO Sadowa 85.11 29 LR LR 00 00 00.9
comp=Z,37nm,18.3s,baz=341,slow=38
TXAR Lajitas Array 85.43 54 P **P 23 19 18.5 +0.9**
comp=Z,2.6nm,0.6s,baz=299,slow=3.5,SNR=43
TXAR pP **pP 23 19 32.5 +0.7**
comp=Z,2.0nm,0.6s,baz=299,slow=3.7,SNR=8.6
PPT Papeete 85.45 119 LR LR 23 47 28.8
comp=Z,59nm,21.9s,baz=331,slow=29
PPT2 Papeete2 85.46 119 *e*LR LR 23 46 12.5
comp=Z,133nm,25.0s
TBI Tubuai 89.73 122 *e*T T 00 58 25.3
comp=Z,25nm,0.3s
ESDC Sonseca Array 93.26 336 P **P 23 19 54.5 0.0**
comp=Z,0.2nm,0.4s,baz=358,slow=3.4,SNR=4.0
ESDC LR LR 00 07 07.0
comp=Z,71nm,19.7s,baz=125,slow=39
CMIG Matias Romero 99.89 56 LR LR 00 00 43.2
comp=Z,16nm,21.5s,baz=330,slow=32
TOA0 Torodi Ar. Sit 114.71 319 *e*PKiKP **PKiKP 23 25 19.4 -1.0**
TOA0 *e* 23 25 34.0
TORD Torodi Ar. Bea 114.71 319 PKP PKPdf 23 25 19.4 -1.0
comp=Z,0.3nm,0.5s,baz=15,slow=2.1,SNR=11
TORD pPKP pPKiKP 23 25 34.0 -1.2
comp=Z,0.4nm,0.6s,baz=22,slow=1.8,SNR=2.3
VNDA Vanda 120.14 176 PKP **PKPdf 23 25 28.5 -0.5**
comp=Z,1.1nm,0.7s,baz=339,slow=3.8,SNR=5.7
QSPA South Pole Qui 132.11 180 PKP **PKPdf 23 25 51.5 -0.6**
comp=Z,2.5nm,0.6s,baz=302,slow=1.3,SNR=24
SIV San Ignacio 146.12 47 PKPbc **PKPbc 23 26 20.2 +0.1**
comp=Z,4.1nm,0.5s,baz=316,slow=3.7,SNR=24
LVC Limon Verde 146.37 64 PKPbc **PKPab 23 26 21.8 -0.1**
comp=Z,20nm,0.8s,baz=279,slow=7.1,SNR=6.7
SNAA Sanae 146.40 198 PKPdf **PKPbc 23 26 19.5 +0.1**
VNA1 Neumayer--Stat 148.37 197 PKPdf **PKPbc 23 26 25.3 +0.7**
BDFB Brasilia 151.47 24 PKPbc **PKPbc 23 26 33.6 -0.4**
comp=Z,3.8nm,1.0s,baz=157,slow=5.0,SNR=3.8
BDFB pPKPbc **pPKPbc 23 26 49.0 +0.3**
comp=Z,3.5nm,0.8s,baz=179,slow=17,SNR=3.4
CFAA Coronel Fontan 152.37 78 PKPbc **PKPbc 23 26 34.4 -1.2**
comp=Z,0.4nm,0.5s,baz=314,slow=3.4,SNR=7.1

*ISCJB **27** 23:16:07.7±0.4,32.°18N±0.°02×115.°13W±0.°03,h23km±4km, Error ellipse: s-maj=4.7km s-min=3.7km az=173.1*
*NEIC **27** 23:16:09.3,32.°16N×115.°21W,h10km,ML3.1(PAS), ML3.2(ECX), After ECX.*
*MEX **27** 23:16:09.3±0.9,32.°28N×115.°43W,h11km,MD4.2*
*ECX **27** 23:16:09.3±0.5,32.°16N×115.°21W,h10km,MD3.0,ML3.3*
ISC 27 23:16:07.1±1.0,32.°16N±0.°02×115.°16W±0.°03,h12km±8km, n33,σ0995/53,2C-4D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.25**	**352**	*e*P		**Pb**		**23 16 14.5**	**+0.9**
MBIG				*i* S		**Sg**		**23 16 16.7**	**+0.9**
CPBX	**Cerro Prieto**	**0.28**	**334**⇓	*e*P		**Pb**		**23 16 14.5**	**+0.3**
CPBX				*e*S		**Sb**		**23 16 18.2**	**-0.6**
CPBX				IAML				23 16 21.0	
	comp=E,15μm,0.2s								
CPBX				⇓*e*				23 16 21.0	
EMSC	**East Mesa**	**0.59**	**14**	*e*P		**Pb**		**23 16 20.2**	**+0.7**
YMD	**Yuma Desert**	**0.65**	**53**⇑	*i*P		**Pb**		**23 16 21.0**	**+0.6**
SGL	**Mount Signal**	**0.68**	**316**⇓	*i*P		**Pg**		**23 16 20.7**	**+0.3**
ECBX	**El Chinero**	**0.69**	**172**	*e*P		**Pg**		**23 16 20.9**	**+0.3**
ECBX				*e*S		**Sb**		**23 16 30.8**	**+0.1**
COA	**Coachella**	**0.70**	**2**	*e*P		**Pb**		**23 16 21.4**	**+0.2**
RDX	**Rancho Dawling**	**0.71**	**251**⇑	*e*P		**Pb**		**23 16 21.4**	**-0.1**
RDX				*e*S		**Sg**		**23 16 30.2**	**+0.1**
RDX				⇓*e*				23 16 32.0	
RDX				IAML				23 16 32.0	
	comp=N,1μm,0.4s								
WESC	**Westside Schoo**	**0.77**	**321**	*e*P		**Pb**		**23 16 22.8**	**+0.4**
YUH	**Yuha Desert**	**0.81**	**307**	*e*P		**Pg**		**23 16 22.5**	**-0.2**
RMX	**La Rumorosa**	**0.90**	**300**	*e*P		**Pg**		**23 16 24.2**	**-0.2**
RMX				*e*S		**Sg**		**23 16 36.1**	**-0.1**
RMX				IAML				23 16 36.8	
	comp=N,629nm,0.1s								
RMX				*e*				23 16 36.8	
GLA	**Glamis** baz=0.9,SNR=34	**0.93**	**17**	P		**Pg**		**23 16 24.4**	**-0.7**
GLA				S		**Sg**		**23 16 36.5**	**-0.8**
	baz=0.9								
GLA	**Glamis**	**0.93**	**17**	*e*P		**Pg**		**23 16 24.4**	**-0.7**
GLA				*e*S		**Sg**		**23 16 35.9**	**-1.4**
IBP	**Imperial Bould** baz=0.9,SNR=58	**0.94**	**302**	P		**Pg**		**23 16 25.1**	**0.0**
IBP				S		**Sg**		**23 16 37.4**	**0.0**
	baz=0.9								
SWSC	**Sam W. Stewart** baz=0.9,SNR=21	**0.95**	**325**	P		**Pg**		**23 16 24.5**	**-0.9**
SWSC				S		**Sg**		**23 16 37.0**	**-0.7**
	baz=0.9								
SPIG	**San Pedro Mart**	**1.14**	**193**	*e*P		**Pb**		**23 16 28.7**	**-0.3**
SPIG				*e*S		**Sn**		**23 16 45.1**	**+0.1**
SPIG	**San Pedro Mart**	**1.14**	**193**	*e*P		**Pb**		**23 16 28.7**	**-0.3**
SPIG				*e*S		**Sn**		**23 16 45.1**	**+0.1**
SPX	**San Pedro Mart**	**1.14**	**193**	*e*P		**Pb**		**23 16 28.7**	**-0.3**
ZAX	**El Zacaton**	**1.15**	**236**	*e*P		**Pb**		**23 16 28.4**	**-0.5**
ZAX				*e*S		**Sb**		**23 16 43.6**	**-0.2**
MONP	**Monument Peak** baz=1.3,SNR=40	**1.29**	**305**	P		**Pn**		**23 16 30.3**	**-0.8**
MONP				S		**Sb**		**23 16 47.4**	**-0.7**
	baz=1.3								
ECNX	**Esteban Cantu**	**1.32**	**248**	*e*P		**Pn**		**23 16 31.6**	**+0.1**
ECNX				*e*S		**Sb**		**23 16 49.1**	**+0.2**
BAR	**Barrett**	**1.38**	**292**	*e*Pn		**Pn**		**23 16 31.6**	**-0.6**
BAR				*e*Sn		**Sn**		**23 16 49.1**	**-1.3**
PBX	**Punta Banda**	**1.40**	**253**	*e*P		**Pn**		**23 16 32.6**	**+0.2**
PBX				*e*S		**Sn**		**23 16 50.9**	**+0.1**
BC3	**Big Chuckawall** baz=1.5	**1.51**	**351**	P		**Pn**		**23 16 33.0**	**-1.1**
109C	**Camp Elliot, M** baz=1.8	**1.80**	**294**	Pb		**Pb**		**23 16 39.8**	**-0.1**
109C				Sb		**Sb**		**23 17 02.9**	**+0.4**
	baz=1.8								
PFO	**Pinyon Flat Ob** baz=1.8	**1.81**	**323**	P		**Pn**		**23 16 37.1**	**-1.1**
PFO				S		**Sn**		**23 16 59.0**	**-2.1**
	baz=1.8								
PFO	**Pinyon Flat Ob**	**1.81**	**323**	*e*Pn		**Pn**		**23 16 36.9**	**-1.3**
PFO				*e*Sn		**Sn**		**23 17 01.8**	**+0.6**
214A	**Organ Pipe Nat** baz=2.0	**2.00**	**95**	P		**Pn**		**23 16 40.2**	**-0.6**
214A	**Organ Pipe Nat**	**2.00**	**95**	*e*Pn		**Pn**		**23 16 39.8**	**-0.9**
MURC	**Murrieta** baz=2.2	**2.24**	**310**	Sb		**Sb**		**23 17 16.8**	**+1.6**
CIS	**Catalina Islan** baz=3.0	**3.00**	**295**	Sb		**Sb**		**23 17 39.2**	**+2.0**
MWC	**Mount Wilson**	**3.19**	**311**	*e*Pn		**Pn**		**23 16 59.6**	**+2.4**
MWC				*e*Sn		**Sn**		**23 17 37.6**	**+2.5**
TUC	**Tucson**	**3.71**	**87**	*e*P		**Pb**		**23 17 14.3**	**+1.7**

*ATH **27** 23:18:02.2,39.°01N×21.°71E,h15km±7km,MD2.5/4*
*CSEM **27** 23:18:03.1±0.1,39.°04N×21.°77E,h8km,ML1.8,Error ellipse: s-maj=3.0km s-min=2.3km az=122.0*
THE 27 23:18:03.5,39.°04N×21.°79E,h8km±1km,ML1.8/5,Error ellipse: s-maj=1.4km s-min=0.4km az=191.0,Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.12**	**173**	P		Pg		23 18 05.7	-0.6
EVR				S		Sg		23 18 08.0	-0.3
EVR	**Evrytania**	**0.12**	**173**	P		Pg		23 18 05.7	-0.6
EVR				S		Sg		23 18 08.0	-0.3
MAKR	**Makrakomi, Fth**	**0.27**	**95**	*e*PB		Pg		23 18 09.0	+0.1
MAKR				*e*SB		Sb		23 18 14.1	-1.3
MAKR	**Makrakomi, Fth**	**0.27**	**95**	*e*Pb		Pg		23 18 09.0	+0.1
MAKR				S		Sg		23 18 13.4	+0.9
MAKR				*e*Sb		Sb		23 18 14.1	-1.3
MAKR	**Makrakomi, Fth**	**0.27**	**95**	P		Pg		23 18 08.9	0.0
MAKR				S		Sg		23 18 13.4	+0.9
AGG	**Agios Georgios**	**0.42**	**92**	*e*PB		Pg		23 18 11.6	-0.2
AGG				*e*SB		Sg		23 18 18.4	+1.0
AGG	**Agios Georgios**	**0.42**	**92**	P		Pg		23 18 11.5	-0.3
AGG				S		Sg		23 18 18.1	+0.7
AGG	**Agios Georgios**	**0.42**	**92**	P		Pg		23 18 11.5	-0.3
AGG				S		Sg		23 18 18.1	+0.7
PVO	**Paravola**	**0.47**	**206**	P		Pg		23 18 11.8	-0.8
PVO				S		Sg		23 18 19.5	+0.8
PVO	**Paravola**	**0.47**	**206**	P		Pg		23 18 11.8	-0.8
PVO				S		Sg		23 18 19.5	+0.8
DSL	**Palaion Diasel**	**0.55**	**281**	P		Pg		23 18 13.2	-1.0
DSL				S		Sb		23 18 22.5	-1.0
DSL	**Palaion Diasel**	**0.55**	**281**	P		Pg		23 18 13.2	-1.0
DSL				S		Sb		23 18 22.5	-1.0
THL	**Klokotos Trika**	**0.56**	**18**	*e*PB		Pg		23 18 13.6	-0.7
THL				*e*SN		Sg		23 18 22.3	+0.7
THL	**Klokotos Trika**	**0.56**	**18**	P		Pg		23 18 13.7	-0.6
THL				*e*Sn		Sg		23 18 22.3	+0.7
THL	**Klokotos Trika**	**0.56**	**18**	P		Pg		23 18 13.7	-0.6
THL				S		Sg		23 18 22.3	+0.7
EFP	**Efpalio**	**0.61**	**171**	*e*PG		Pg		23 18 14.8	-0.6
EFP				*e*SG		Sg		23 18 22.1	-1.3
EFP	**Efpalio**	**0.61**	**171**	*e*Pg		Pg		23 18 14.8	-0.6
EFP				*e*Sg		Sg		23 18 22.1	-1.3
EFP	**Efpalio**	**0.61**	**171**	P		Pg		23 18 14.6	-0.8
EFP				S		Sg		23 18 24.1	+0.7
EFP	**Efpalio**	**0.61**	**171**	P		Pg		23 18 14.6	-0.8
EFP				S		Sg		23 18 24.1	+0.7
PDO	**Prodromos**	**0.64**	**228**	P		Pg		23 18 15.8	-0.1
PDO				S		Sb		23 18 25.5	-0.6
PDO	**Prodromos**	**0.64**	**228**	P		Pg		23 18 15.8	-0.1
PDO				S		Sb		23 18 25.5	-0.6
KALE	**Kalithea**	**0.70**	**157**	*e*PG		Pg		23 18 17.1	0.0
KALE				*e*SG		Sg		23 18 25.6	-0.7
KALE	**Kalithea**	**0.70**	**157**	*e*Pg		Pg		23 18 17.1	0.0
KALE				*e*Sg		Sg		23 18 25.6	-0.7
KALE	**Kalithea**	**0.70**	**157**	P		Pg		23 18 16.9	-0.2

KALE				S	Sg	23 18 26.5	+0.2		
KALE	**Kalithea**	**0.70**	**157**	P	Pg	23 18 16.9	-0.2		
KALE				S	Sg	23 18 26.5	+0.2		
TRIZ	**Trizonia**	**0.70**	**162**	P	Pg	23 18 16.3	-0.8		
TRIZ				S	Sg	23 18 26.7	+0.5		
TRIZ	**Trizonia**	**0.70**	**162**	P	Pg	23 18 16.3	-0.8		
TRIZ				S	Sg	23 18 26.7	+0.5		
LAKA	**Lakka**	**0.81**	**169**	*e*PB	Pg	23 18 19.0	-0.1		
LAKA				*e*SG	Sg	23 18 29.0	-0.6		
LAKA	**Lakka**	**0.81**	**169**	*e*Pb	Pg	23 18 19.0	-0.1		
LAKA				*e*Sg	Sg	23 18 29.0	-0.6		
LAKA	**Lakka**	**0.81**	**169**	P	Pg	23 18 18.5	-0.6		
LAKA				S	Sb	23 18 30.8	-0.1		
LAKA	**Lakka**	**0.81**	**169**	P	Pg	23 18 18.5	-0.6		
LAKA				S	Sb	23 18 30.8	-0.1		
DSF	**Desfina**	**0.85**	**137**	*e*PB	Pb	23 18 21.1	+0.5		
DSF	**Desfina**	**0.85**	**137**	*e*Pb	Pb	23 18 21.1	+0.5		
DESF	**Desfina**	**0.85**	**137**	*e*PG	Pb	23 18 20.9	+0.3		
DESF	**Desfina**	**0.85**	**137**	*e*Pg	Pb	23 18 20.9	+0.3		
LKD2	**Lefkada island**	**0.92**	**255**	P	Pg	23 18 20.9	-0.3		
LKD2	**Lefkada island**	**0.92**	**255**	P	Pg	23 18 20.9	-0.3		
RLS	**Riolos of Patr**	**1.01**	**195**	*e*PB	Pg	23 18 21.8	-1.1		
RLS	**Riolos of Patr**	**1.01**	**195**	*e*Pb	Pg	23 18 21.8	-1.1		
RLS	**Riolos of Patr**	**1.01**	**195**	P	Pg	23 18 22.7	-0.2		
RLS	**Riolos of Patr**	**1.01**	**195**	P	Pg	23 18 22.7	-0.2		
KLV	**Kalavryta, Ach**	**1.03**	**164**	*e*PG	Pg	23 18 23.4	0.0		
KLV	**Kalavryta, Ach**	**1.03**	**164**	*e*Pg	Pg	23 18 23.4	0.0		
KLV	**Kalavryta, Ach**	**1.03**	**164**	P	Pg	23 18 22.1	-1.3		
KLV				S	Sn	23 18 38.7	-0.3		
KLV	**Kalavryta, Ach**	**1.03**	**164**	P	Pg	23 18 22.1	-1.3		
KLV				S	Sn	23 18 38.7	-0.3		
DRO	**Drossia**	**1.08**	**183**	P	Pg	23 18 23.5	-0.8		
DRO				S	Sn	23 18 39.8	-0.4		
DRO	**Drossia**	**1.08**	**183**	P	Pg	23 18 23.5	-0.8		
DRO				S	Sn	23 18 39.8	-0.4		
XOR	**Xorichti**	**1.14**	**73**	P	Pg	23 18 24.7	-0.7		
XOR				S	Sn	23 18 41.4	-0.2		
XOR	**Xorichti**	**1.14**	**73**	P	Pg	23 18 24.7	-0.7		
XOR				S	Sn	23 18 41.4	-0.2		
GUR	**Goura**	**1.18**	**158**	*e*PG	Pn	23 18 26.5	0.0		
GUR	**Goura**	**1.18**	**158**	*e*Pg	Pn	23 18 26.5	0.0		
LIT	**Litokhoron**	**1.19**	**27**	*e*PN	Pb	23 18 26.4	-0.1		
LIT				*e*SN	Sn	23 18 42.9	-0.1		
LIT	**Litokhoron**	**1.19**	**27**	P	Pb	23 18 25.6	-0.9		
LIT	**Litokhoron**	**1.19**	**27**	*e*Pn	Pb	23 18 26.4	-0.1		
LIT				*e*Sn	Sn	23 18 42.9	-0.1		
LIT	**Litokhoron**	**1.19**	**27**	P	Pb	23 18 25.6	-0.9		
LIT				S	Sn	23 18 42.9	-0.1		

*CSEM **27** 23:18:38.6±0.8,50°.07N×18°.43E, h1km, ML2.1/6, Error ellipse: s-maj=11.2km s-min=6.9km az=65.0*
*IPEC **27** 23:18:38.8±0.2,50°.09N×18°.45E, h0km, ML1.1/3, Error ellipse: s-maj=2.0km s-min=1.1km az=160.0*

PRU 27 23:18:39.5,50°.07N×18°.42E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.15**	**275**	*e*Pg	Pg	23 18 43.0	+0.7
RAC				*e*Sg	Sg	23 18 46.0	+1.8
OKC	**Ostrava-Krasne**	**0.29**	**217**	*e*PG	Pg	23 18 45.1	0.0
OKC				*e*SG	Sg	23 18 49.2	+0.3
	comp=Z,6.4nm,0.4s						
OKC	**Ostrava-Krasne**	**0.29**	**217**	Pg	Pg	23 18 45.1	0.0
OKC				Sg	Sg	23 18 49.2	+0.3
	6.4nm,0.4s						
OKC	**Ostrava-Krasne**	**0.29**	**217**	*e*pP	Pg	23 18 44.8	-0.3
OKC	**Ostrava-Krasne**	**0.29**	**217**	*e**PP	Pg	23 18 44.8	-0.3
MORC	**Moravsky Berou**	**0.64**	**243**	*e*Pg	Pg	23 18 51.6	-0.2
MORC				*e*Sg	Sg	23 18 59.6	-0.6
	7.2nm,0.4s,baz=62						
KRLC	**Kraliky**	**1.06**	**271**	*e*PG	Pg	23 18 58.5	-1.3
KRLC				*e*SG	Sg	23 19 13.0	-0.6
KRLC	**Kraliky**	**1.06**	**271**	Pg	Pg	23 18 58.5	-1.3
KRLC				Sg	Sg	23 19 13.0	-0.6
DPC	**Dobruska-Polom**	**1.38**	**283**	*e*PG	Pg	23 19 04.4	-1.6
DPC				*e*SG	Sg	23 19 23.1	-0.8
	comp=Z,4.9nm,0.5s						
DPC	**Dobruska-Polom**	**1.38**	**283**	Pg	Pg	23 19 04.4	-1.6
DPC				Sg	Sg	23 19 23.1	-0.8
	4.9nm,0.5s						
VRAC	**Vranov**	**1.41**	**238**	*e*Pg	Pn	23 19 05.4	-1.1
VRAC				*e*Sg	Sg	23 19 23.7	-1.2
	2.9nm,0.3s,baz=56						
UPC	**Upice**	**1.60**	**287**	*e*SG	Sn	23 19 30.3	-0.3
	comp=Z,1.3nm,0.2s						
UPC	**Upice**	**1.60**	**287**	Sg	Sn	23 19 30.3	-0.3
	1.3nm,0.2s						
KRUC	**Moravsky**	**1.66**	**233**	*e*Pg	Pn	23 19 09.6	-0.3
	baz=52						
KRUC				*e*Sg	Sn	23 19 31.8	-0.1
	1.0nm,0.2s,baz=52						
GOPC	**GO Pecny, Ondr**	**2.35**	**268**	*e*SG	Sb	23 19 53.7	+1.4
GOPC	**GO Pecny, Ondr**	**2.35**	**268**	Sg	Sb	23 19 53.7	+1.4
KHC	**Kasperske Hory**	**3.29**	**255**	*e*SG	Sg	23 20 23.6	-1.6
	comp=Z,1.0nm,0.4s						
KHC	**Kasperske Hory**	**3.29**	**255**	Sg	Sg	23 20 23.6	-1.6
	1.0nm,0.4s						

NNC 27 23:43:42.1±2.9, 36°.71N×70°.69E, h0km, mb4.0, mpv3.7, 7C-2D, Error ellipse: s-maj=24.1km s-min=10.9km az=1.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.56**	**325**	⇓P	Pn	23 44 25.3	+0.2
	31nm,0.4s						
DZET				⇓S	Sn	23 44 58.3	+1.2
	94nm,0.5s						
SFK	**Sufi-Kurgan**	**3.97**	**33**	⇑P	Pn	23 44 46.3	+1.7
	3.5nm,0.4s						
SFK				⇑S	Sn	23 45 33.0	+0.8
	13nm,0.4s						
KK31	**Karatay Array**	**6.39**	**359**	P	Pn	23 45 15.0	-2.5
	1.2nm,0.3s,baz=184,slow=12,SNR=62						
KK31				⇑S	Sn	23 46 32.4	+1.2
	1.3nm,0.5s,baz=191,slow=3,SNR=3.7						
AAK	**Ala-Archa**	**6.61**	**25**	⇑P	Pn	23 45 19.4	-1.3
	2.4nm,0.6s						
AAK				⇑S	Sn	23 46 38.6	+1.7
	9.0nm,1.1s						
TKM2	**Tokmak 2**	**7.26**	**30**	⇑P	Pn	23 45 28.5	-1.3
	8.8nm,0.5s						
AB31	**Akbulak array**	**14.78**	**331**	⇑P	Pn	23 47 06.1	-6.2
	0.4nm,0.3s,baz=148,slow=12,SNR=29						

*IDC **27** 23:43:58.4±0.7,6°.16S×150°.89E, h0km, mb4.4/13, mb1 4.5/14, mb1mx4.2/40, mbtmp4.4/14, ML2.3/1, MS3.4/13, Ms1 3.4/13, ms1mx3.2/30, Error ellipse: s-maj=26.7km s-min=12.9km az=113.0*
*ISCJB **27** 23:44:02.6±0.5,6°.24S±0°.06×150°.83E±0°.09, h43km, mb4.6/20, MS3.4/11, Error ellipse: s-maj=14.3km s-min=6.8km az=29.3*
*NEIC **27** 23:44:03.7±0.3,6°.17S×150°.87E, h35km, mb4.6/7, Error ellipse: s-maj=12.3km s-min=6.3km az=113.0*

ISC 27 23:44:04.4±0.7, 6°.20S±0°.09×150°.9E±0°.1, h43km, n46, σ1°.39/42, mb4.5/20, MS3.4/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.88**	**229**	Pn	**Pn**	**23 45 14.9**	**-0.5**
	7.7nm,0.3s,baz=51,slow=10,SNR=8.9						
PMG				Sn	**Sn**	**23 46 07.9**	**-2.7**
	34nm,0.3s,baz=252,slow=23,SNR=14						
HNR	**Honiara**	**9.53**	**110**	LR	LR	23 49 35.1	
	comp=Z,233nm,21.4s,baz=148,slow=35						
JAY	**Jayapura**	**10.79**	**289**	LR	LR	23 50 54.5	
	comp=Z,172nm,18.3s,baz=278,slow=39						
COEN	**Coen**	**10.82**	**224**	*e*Pn	Pn	23 46 33.9	-3.0
EIDS	**Eidsvold**	**19.07**	**179**	*e*P	**P**	**23 48 22.0**	**-1.4**
	41nm,1.5s						
GUMO	**Guam**	**20.54**	**343**	LR	LR	23 54 52.8	
	comp=Z,63nm,20.1s,baz=140,slow=32						
WRAB	**Tennant Creek**	**21.09**	**228**	*e*P	**P**	**23 48 46.0**	**+0.6**
	20nm,0.6s						
WRA	**Warramunga Arr**	**21.10**	**228**	P	**P**	**23 48 45.8**	**+0.2**
	12nm,0.5s,baz=52,slow=11,SNR=113						
AS12	**Alice Springs**	**23.85**	**221**	*e*P	**P**	**23 49 14.5**	**+0.6**
AS12				*e*S	**S**	**23 53 31.4**	**+4.2**
ASAR	**Alice Springs**	**23.85**	**221**	P	**P**	**23 49 14.5**	**+0.6**
	5.8nm,0.5s,baz=56,slow=8.7,SNR=58						
ASAR				S	**S**	**23 53 31.4**	**+4.2**
	1.6nm,1.0s,baz=36,slow=18,SNR=5.5						
STKA	**Stephens Creek**	**26.99**	**198**	P	**P**	**23 49 42.6**	**+0.3**
	12nm,0.7s,baz=19,slow=7.6,SNR=7.0						
STKA				LR	LR	00 00 37.6	
	comp=Z,131nm,18.2s,baz=28,slow=37						
STKA	**Stephens Creek**	**26.99**	**198**	*e*P	**P**	**23 49 43.0**	**+0.6**
	2.5nm,0.8s						
BBOO	**Buckleboo**	**29.87**	**206**	*e*P	**P**	**23 50 07.0**	**-1.0**
	124nm,2.4s						
JCJ	**Chichijima**	**34.15**	**346**	LR	LR	00 03 06.2	
	comp=Z,68nm,21.1s,baz=108,slow=34						
UGM	**Wanagama**	**40.09**	**265**	*e*P	**P**	**23 51 37.1**	**+0.9**
	2μm,1.9s						
CISI	**Cisompet, Garu**	**42.77**	**266**	*e*P	**P**	**23 51 57.1**	**-1.2**
	83nm,0.7s						
LEM	**Lembang**	**42.99**	**267**	P	**P**	**23 52 00.5**	**+0.3**
	37nm,0.7s,baz=80,slow=8.3,SNR=7.6						
JNU	**Nakatsue**	**43.47**	**335**	P	**P**	**23 52 04.1**	**+0.5**
	13nm,0.9s,baz=152,slow=1.9,SNR=5.1						
JNU				LR	LR	00 08 45.0	
	comp=Z,28nm,19.2s,baz=120,slow=34						
JNU	**Nakatsue**	**43.47**	**335**	*e*P	**P**	**23 52 04.1**	**+0.5**
	83nm,1.8s						
MJAR	**Matsushiro Arr**	**44.14**	**345**	LR	LR	00 07 00.9	
	comp=Z,31nm,22.0s,baz=155,slow=31						
KSRS	**Korea Array**	**48.42**	**335**	P	**P**	**23 52 43.1**	**+0.7**
	3.1nm,0.7s,baz=150,slow=7.8,SNR=10						
KSRS				LR	LR	00 11 05.0	
	comp=Z,44nm,20.7s,baz=146,slow=34						
KS15	**Wonju Array Si**	**48.43**	**335**	*e*P	**P**	**23 52 43.1**	**+0.6**
KSAR	**Wonju Array Be**	**48.43**	**335**	P	**P**	**23 52 43.1**	**+0.6**
PEA2	**Petropavlovsk-**	**59.36**	**5**	*e*P	**P**	**23 54 01.5**	**-0.7**
PETK	**Petropavlovsk-**	**59.36**	**5**	P	**P**	**23 54 01.5**	**-0.7**
	0.8nm,0.5s,baz=170,slow=8.8,SNR=3.5						
PETK				LR	LR	00 16 11.7	
	comp=Z,23nm,20.6s,baz=185,slow=33						
SONA0	**Songino Array**	**66.51**	**329**	*e*P	**P**	**23 54 49.7**	**-0.2**
SONM	**Songino Array**	**66.51**	**329**	P	**P**	**23 54 49.7**	**-0.2**
	0.8nm,0.4s,baz=147,slow=5.3,SNR=4.7						
SONM				LR	LR	00 26 30.9	
	comp=Z,21nm,18.1s,baz=172,slow=38						
VNDA	**Vanda**	**71.52**	**178**	P	**P**	**23 55 20.4**	**+0.1**
	0.8nm,0.6s,baz=335,slow=6.8,SNR=11						
MK32	**Makanchi Array**	**80.13**	**320**	*e*P	**P**	**23 56 09.1**	**-1.1**
MKAR	**Makanchi Array**	**80.13**	**320**	P	**P**	**23 56 09.1**	**-1.1**
	0.3nm,0.5s,baz=96,slow=8.2,SNR=5.7						
MKAR				LR	LR	00 32 10.9	
	comp=Z,16nm,18.2s,baz=26,slow=36						
ZALV	**Zalesovo Beam**	**81.26**	**327**	P	**P**	**23 56 15.1**	**-0.9**
	1.3nm,0.6s,baz=102,slow=5.3,SNR=7.1						
ZALV				LR	LR	00 31 35.2	
	comp=Z,18nm,20.4s,baz=72,slow=35						
ZAA1	**Zalesovo Array**	**81.26**	**327**	*e*P	**P**	**23 56 15.1**	**-0.9**
RND	**Reindeer**	**82.75**	**23**	*e*P	**P**	**23 56 23.9**	**+0.3**
	8.7nm,1.6s						
MLY	**Manley**	**82.86**	**21**	*e*P	**P**	**23 56 24.8**	**+0.6**
	2.1nm,0.5s						
ILAR	**Eielson Array**	**84.16**	**22**	P	**P**	**23 56 30.1**	**-0.7**
	1.2nm,0.6s,baz=250,slow=5.3,SNR=15						
ILB	**Eielson Array**	**84.16**	**22**	*e*P	**P**	**23 56 30.1**	**-0.7**
NV01	**Mina Array Sit**	**94.44**	**52**	*e*P	**P**	**23 57 22.1**	**+1.5**
NVAR	**Mina Array Bea**	**94.44**	**52**	P	**P**	**23 57 22.1**	**+1.5**
	1.5nm,0.7s,baz=252,slow=6.3,SNR=11						
AKTO	**Aktyubinsk**	**96.56**	**320**	LR	LR	00 41 00.7	
	comp=Z,28nm,18.6s,baz=36						
GLA	**Glamis**	**96.92**	**58**	*e*P	**P**	**23 57 29.1**	**-2.6**
	7.1nm,0.8s						
PDAR	**Pinedale Array**	**101.19**	**48**	P	**Pdif**	**23 57 52.2**	**+1.3**
	0.5nm,0.7s,baz=259,slow=1.5,SNR=4.1						
CLL	**Collm**	**123.12**	**330**	*e*PKPdf	**PKPdf**	**00 02 57.0**	**+0.6**
KHC	**Kasperske Hory**	**124.11**	**327**	*e*PKPdf	**PKPdf**	**00 02 59.6**	**+1.2**
GEC2	**GERESS Array S**	**124.21**	**327**	*e*PKPdf	**PKPdf**	**00 03 00.0**	**+1.3**
GERES	**GERESS Array B**	**124.21**	**327**	PKP	**PKPdf**	**00 03 00.0**	**+1.3**
	1.3nm,0.6s,baz=66,slow=1.6,SNR=10						
TORD	**Torodi Ar. Bea**	**148.88**	**285**	PKPbc	**PKPbc**	**00 03 49.0**	**+0.4**
	3.8nm,0.4s,baz=92,slow=2.5,SNR=120						

IDC 27 23:49:00.7±7.0, 1°.99N×96°.29E, h0km, mb3.9/3, mb1 3.9/5, mb1mx3.5/43, mbtmp3.8/5, ML3.5/2, MS2.4/1, Ms1 2.4/1, ms1mx2.1/45, Error ellipse: s-maj=133.4km s-min=40.1km az=15.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.76**	**73**	Pn	Pn	23 49 46.4	-0.1
	0.8nm,0.3s,baz=194,slow=8.3,SNR=2.7						
PSI				LR	LR	23 50 33.2	
	comp=Z,74nm,21.4s,slow=34						
CMAR	**Chiang Mai Arr**	**16.57**	**9**	Pn	Pn	23 52 55.1	+0.4
	0.3nm,0.3s,baz=196,slow=12,SNR=11						
H08S2	**Diego Garcia H**	**25.59**	**248**	T	T	00 21 17.0	
	baz=71						
H08S3	**Diego Garcia H**	**25.59**	**248**	T	T	00 21 20.0	
	baz=71						
H08S1	**Diego Carcia H**	**25.61**	**248**	T	T	00 21 21.6	
	baz=71						
MKAR	**Makanchi Array**	**46.27**	**347**	P	P	23 57 28.7	+0.7
	1.0nm,0.6s,baz=160,slow=9.7,SNR=8.1						
SONM	**Songino Array**	**46.50**	**9**	P	P	23 57 29.1	-0.8
	0.7nm,0.7s,baz=186,slow=7.2,SNR=3.5						
ZALV	**Zalesovo Beam**	**52.65**	**351**	P	P	23 58 15.9	-0.6
	1.0nm,0.4s,baz=165,slow=6.2,SNR=7.9						

*ISCJB **27** 23:49:48.0±0.3,6°.65N±0°.06×123°.59E±0°.07, h600km, mb4.1/17, Error ellipse: s-maj=10.9km s-min=5.1km az=144.6*
*IDC **27** 23:49:49.8±1.1,6°.53N×123°.53E, h611km±14km, mb3.4/15, mb1 3.5/17, mb1mx3.2/42, mbtmp4.4/17, Error ellipse: s-maj=24.2km s-min=6.9km az=63.0*
*DJA **27** 23:49:50.4±0.6,7°.N±9°×12°.4E±°, h594km±8km, M4.7/15, mb4.6/15, mB4.9/9, MLv5.3/3, Mw(mB)4.2/9, Mwp6.6/1*

ISC 27 23:49:48.9±0.5,6°.62N±0°.08×123°.6E±0°.1, h600km, n52, σ0°.95/59, mb3.9/17, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.87**	**46**	⇓P	**P**	**23 50 58.8**	**-1.1**
MPSI	**Mapaga**	**7.26**	**211**	P	**P**	**23 51 40.5**	**-0.9**
	245nm,0.5s,40μm686μm3.0nm						
KKM	**Kota Kinabalu**	**7.38**	**266**	P	**P**	**23 51 41.9**	**-0.7**
	baz=7.3,SNR=28						
LUWI	**Luwuk**	**7.65**	**186**	P	**P**	**23 51 46.5**	**+1.4**
	baz=7.6,SNR=4.0						
TGY	**Tagaytay City**	**7.89**	**341**	P	**P**	**23 51 47.8**	**+0.5**
	68nm,0.3s,baz=208,slow=7.3,SNR=3.3						
SWI	**Sorong**	**10.65**	**134**	P	**P**	**23 52 14.7**	**+0.5**
	46nm,0.7s,2μm						
SWI	**Sorong**	**10.65**	**134**	P	**P**	**23 52 14.7**	**+0.5**
	baz=11,SNR=3.5						
SIJI	**Sorong**	**10.66**	**134**	P	**P**	**23 52 14.6**	**+0.3**
	7.6nm,0.3s,baz=336,slow=7.1,SNR=16						
FAKI	**Fak Fak**	**12.81**	**137**	P	**P**	**23 52 35.9**	**0.0**
	107nm,0.7s,1μm						
FAKI	**Fak Fak**	**12.81**	**137**	P	**P**	**23 52 36.0**	**0.0**
	baz=13,SNR=18						
BAKI	**Biak**	**14.68**	**121**	P	**P**	**23 52 55.5**	**+1.2**
	112nm,0.7s,1μm						
JAY	**Jayapura**	**19.32**	**117**	P	**P**	**23 53 39.2**	**+2.4**
	1.4nm,0.3s,baz=210,slow=16,SNR=5.5						
KLSI		**21.95**	**240**	P	**P**	**23 54 01.6**	**+1.3**
	44nm,1.1s						
MDSI	**Maura Dua**	**22.32**	**241**	P	**P**	**23 54 05.3**	**+1.7**
	11nm,1.1s,726nm						
CMAR	**Chiang Mai Arr**	**26.76**	**298**	P	**P**	**23 54 43.0**	**+0.2**
	2.3nm,0.6s,baz=121,slow=7.8,SNR=11						
COEN	**Coen**	**28.19**	**137**	P	**P**	**23 54 54.5**	**-0.7**
	baz=28,SNR=9.5						
WRA	**Warramunga Arr**	**28.42**	**158**	P	**P**	**23 54 56.6**	**-0.6**
	5.7nm,0.5s,baz=332,slow=11,SNR=76						
WRA				PcP	**PcP**	**23 57 49.5**	**+0.1**
	0.9nm,0.4s,baz=333,slow=2.5,SNR=6.8						
WRA				S	**S**	**23 59 00.1**	**-3.6**
	4.1nm,0.6s,baz=334,slow=15,SNR=16						
WRA				ScP	**ScP**	**00 00 34.4**	**-0.3**
	2.8nm,0.6s,baz=341,slow=3.5,SNR=12						
GIRL	**Giralia**	**30.50**	**197**	P	**P**	**23 55 16.5**	**+1.5**
	baz=30,SNR=3.4						
QIS	**Mount Isa**	**31.24**	**150**	P	**P**	**23 55 21.7**	**+0.3**
	baz=31,SNR=8.2						
ASAR	**Alice Springs**	**31.73**	**162**	P	**P**	**23 55 25.6**	**+0.1**
	2.8nm,0.3s,baz=340,slow=7.8,SNR=25						
ASAR				PcP	**PcP**	**23 57 58.4**	**+0.1**
	1.5nm,0.5s,baz=345,slow=2.6,SNR=10						
ASAR				S	**S**	**23 59 53.0**	**-1.4**
	8.7nm,0.8s,baz=350,slow=22,SNR=26						
ASAR				ScP	**ScP**	**00 00 45.5**	**-0.1**
	2.1nm,0.6s,baz=337,slow=3.0,SNR=6.9						
WRKA	**Warakurna**	**31.79**	**172**	P	**P**	**23 55 26.9**	**+0.8**
	baz=32,SNR=10						
MEEK	**Meekatharra**	**33.41**	**188**	P	**P**	**23 55 39.7**	**+0.1**
	baz=34,SNR=9.2						
CTA	**Charters Tower**	**34.64**	**140**	P	**P**	**23 55 50.4**	**+0.3**
	3.4nm,0.5s,baz=332,slow=8.4,SNR=6.0						
MORW	**Morawa**	**36.22**	**191**	P	**P**	**23 56 03.2**	**+0.3**
	baz=36,SNR=8.6						
BLDU	**Ballidu**	**37.61**	**190**	P	**P**	**23 56 14.2**	**0.0**
	baz=38,SNR=5.4						
KMBL	**Kambalda**	**37.80**	**182**	P	**P**	**23 56 16.1**	**+0.4**
	baz=38,SNR=19						
QLP	**Quilpie**	**38.59**	**150**	P	**P**	**23 56 22.8**	**+0.7**
	baz=39,SNR=3.3						
NWAO	**Narrogin (SRO)**	**39.79**	**188**	P	**P**	**23 56 31.6**	**-0.1**
	9.3nm,0.4s,baz=329,slow=4.2,SNR=13						
TAPN	**Taplejung**	**39.82**	**305**	*e*P	**P**	**23 56 33.0**	**+0.5**
	11nm,0.5s						
ODAN	**Odare**	**39.88**	**305**	*e*P	**P**	**23 56 33.5**	**+0.6**
	22nm,0.6s						
RAMN	**Ramite**	**40.57**	**304**	*e*P	**P**	**23 56 39.2**	**+0.9**
	12nm,0.5s						
BBOO	**Buckleboo**	**40.96**	**164**	P	**P**	**23 56 41.6**	**+0.7**
	baz=41,SNR=8.3						
GUN	**Gumba**	**41.53**	**305**	*e*P	**P**	**23 56 46.7**	**+0.6**
	18nm,0.4s						
PKI	**Pulchoki**	**41.78**	**305**	*e*P	**P**	**23 56 47.8**	**-0.2**
	6.7nm,0.5s						
PKIN	**Phulchoki**	**41.80**	**305**	*e*P	**P**	**23 56 47.9**	**-0.1**
	4.1nm,0.4s						
STKA	**Stephens Creek**	**41.95**	**157**	P	**P**	**23 56 49.1**	**+0.4**
	2.0nm,0.5s,baz=329,slow=8.9,SNR=8.6						
STKA	**Stephens Creek**	**41.95**	**157**	P	**P**	**23 56 49.6**	**+0.8**
	baz=42,SNR=7.2						
KKN	**Kakani**	**41.98**	**305**	*e*P	**P**	**23 56 49.4**	**0.0**
	9.6nm,0.5s						
DMN	**Daman**	**42.05**	**304**	*e*P	**P**	**23 56 50.3**	**+0.3**
GKN	**Gorkha**	**42.58**	**305**	*e*P	**P**	**23 56 53.8**	**-0.2**
	6.1nm,0.4s						
KOLN	**Koldanda**	**43.35**	**304**	*e*P	**P**	**23 57 00.7**	**+0.7**
	32nm,0.5s						
DANN	**Dangsing**	**43.43**	**305**	*e*P	**P**	**23 56 59.8**	**-1.0**
	4.9nm,0.5s						
SONM	**Songino Array**	**43.62**	**343**	P	**P**	**23 57 02.2**	**+0.4**
	1.2nm,0.6s,baz=156,slow=8.7,SNR=6.6						
TLY	**Talaya**	**47.87**	**343**	P	**P**	**23 57 33.5**	**-0.2**
	2.5nm,0.7s,baz=236,slow=7.3,SNR=4.1						
MKAR	**Makanchi Array**	**53.44**	**326**	P	**P**	**23 58 14.7**	**+0.6**
	8.0nm,0.5s,baz=121,slow=7.8,SNR=114						
MKAR				PcP	**PcP**	**23 59 10.9**	**-0.4**
	1.6nm,0.6s,baz=128,slow=3.7,SNR=5.9						
ZALV	**Zalesovo Beam**	**56.63**	**334**	P	**P**	**23 58 35.6**	**-0.5**
	1.1nm,0.4s,baz=148,slow=6.0,SNR=6.7						
GEYT	**Alibeck**	**66.68**	**308**	P	**P**	**23 59 42.5**	**+0.8**
	2.2nm,0.7s,baz=116,slow=3.4,SNR=5.8						
BRTR	**Keskin Array B**	**85.80**	**309**	P	**P**	**00 01 25.4**	**-1.0**
	0.8nm,0.4s,baz=135,slow=3.9,SNR=6.8						
VNDA	**Vanda**	**86.67**	**172**	P	**P**	**00 01 29.9**	**+0.4**
	1.2nm,0.5s,baz=319,slow=8.8,SNR=17						
ARCES	**ARCESS Array B**	**86.68**	**340**	P	**P**	**00 01 28.0**	**-1.7**
	1.2nm,0.7s,baz=78,slow=6.0,SNR=10.0						
FINES	**FINESS Array B**	**87.84**	**332**	P	**P**	**00 01 34.0**	**-1.2**
	0.9nm,0.5s,baz=68,slow=4.6,SNR=13						
TORD	**Torodi Ar. Bea**	**119.07**	**289**	PKP	**PKPdf**	**00 07 30.8**	**-0.7**
	0.6nm,0.4s,baz=63,slow=1.8,SNR=17						

*IDC **27** 23:56:21.3±2.2, 35°.01N×23°.57E, h0km, mb3.3/1, mb1 3.5/3, mb1mx3.2/36, mbtmp3.3/3, ML3.8/1, Error ellipse: s-maj=53.0km s-min=31.3km az=130.0*
*ISCJB **27** 23:56:27.8±0.7, 35°.37N±0°.05×23°.43E±0°.05, h24km, mb3.1/1, Error ellipse: s-maj=8.9km s-min=3.2km az=38.7*
*ATH **27** 23:56:27.0, 35°.30N×23°.35E, h44km±1km, MD3.3/16, ML3.1*
*THE **27** 23:56:28.5, 35°.29N×23°.41E, h48km±3km, ML3.1/2, Error ellipse: s-maj=4.0km s-min=0.9km az=30.0*
*CSEM **27** 23:56:28.2±0.2, 35°.30N×23°.39E, h30km, MD3.3, Error ellipse: s-maj=

GUR	Goura	2.75	342	eP	Pn	23 57 10.7	-0.2
GUR	Goura	2.75	342	P	Pn	23 57 10.9	0.0
KLV	Kalavryta, Ach	2.90	340	eP	Pn	23 57 12.7	-0.2
KLV	Kalavryta, Ach	2.90	340	eP	Pn	23 57 12.7	-0.2
KLV	Kalavryta, Ach	2.90	340	P	Pn	23 57 12.3	-0.6
KARP	Karpathos	3.07	85	eP	Pn	23 57 14.8	-0.4
KARP	Karpathos	3.07	85	eP	Pn	23 57 14.8	-0.4
EREA	Eretria	3.12	8	eP	Pn	23 57 15.6	-0.3
EREA	Eretria	3.12	8	eP	Pn	23 57 15.6	-0.3
DSF	Desfina	3.17	347	eP	Pn	23 57 16.0	-0.5
DSF	Desfina	3.17	347	P	Pn	23 57 16.1	-0.5
DSF	Desfina	3.17	347	P	Pn	23 57 16.1	-0.5
EFP	Efpalio	3.33	339	eP	Pn	23 57 18.8	+0.1
EFP	Efpalio	3.33	339	eP	Pn	23 57 18.8	+0.1
ATAL	Atalanti	3.38	355	P	Pn	23 57 19.1	-0.4
ATAL	Atalanti	3.38	355	P	Pn	23 57 19.1	-0.4
MRKA	Markates	3.38	2	P	Pn	23 57 19.1	-0.4
MRKA	Markates	3.38	2	P	Pn	23 57 19.1	-0.4
SMIA	Simia	3.56	357	P	Pn	23 57 21.5	-0.4
SMIA	Simia	3.56	357	P	Pn	23 57 21.5	-0.4
SMG	Samos	3.65	48	eP	Pn	23 57 23.3	+0.2
SMG	Samos	3.65	48	eP	Pn	23 57 23.3	+0.2
EVR	Evrytania	3.81	341	eP	Pn	23 57 25.6	+0.1
EVR	Evrytania	3.81	341	eP	Pn	23 57 25.6	+0.1
ARG	Arkhangelos	3.94	75	eP	Pn	23 57 26.8	-0.3
ARG	Arkhangelos	3.94	75	eP	Pn	23 57 26.8	-0.3
ARG				S	Sn	23 58 11.7	-0.8
ARG	Arkhangelos	3.94	75	P	Pn	23 57 26.3	-0.8
ARG				S	Sn	23 58 11.7	-0.8
BRTR	Keskin Array B 0.0nm,0.3s,baz=241,slow=13,SNR=5.9	9.24	59	Pn	Pn	23 58 38.8	-1.2
GERES	GERESS Array B 0.2nm,0.3s,baz=142,slow=14,SNR=3.5	15.30	335	Pn	Pn	00 00 04.0	+1.4
TORD	Torodi Ar. Bea 0.2nm,0.5s,baz=37,slow=9.4,SNR=4.2	29.52	227	P	P	00 02 26.5	-4.3

IDC 28 00:03:11.9±3.0, 34°.95S×73°.75W, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.6/21, mbtmp3.5/3, ML3.5/1, MS3.2/1, Ms1 3.2/1, ms1mx2.8/15, Error ellipse: s-maj=82.8km s-min=54.7km az=36.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	Villa Florida	16.52	63	LR	LR	00 13 29.4	
	comp=Z,84nm,18.7s,baz=194,slow=37						
LPAZ	La Paz	19.25	17	P	P	00 07 38.5	-0.2
	0.1nm,0.3s,baz=200,slow=9.2,SNR=3.7						
TXAR	Lajitas Array	69.89	332	P	P	00 14 24.8	0.0
	0.2nm,0.5s,baz=163,slow=8.2,SNR=3.9						
TORD	Torodi Ar. Bea	85.86	71	P	P	00 15 53.8	0.0
	0.7nm,1.0s,baz=235,slow=5.1,SNR=3.2						

MEX 28 00:06:16.9±0.6, 15°.96N×97°.53W, h16km±23km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.71	307	eP	Pg	00 06 28.4	-2.5
PNIG				i S	Sg	00 06 37.0	-3.4
VHO	Vista Hermosa	1.34	35	eP	Pn	00 06 37.7	-3.6
VHO				i S	Sn	00 06 53.2	-5.8

IDC 28 00:10:01.4±2.0, 1°.24N×126°.66E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/21, mbtmp3.8/5, Error ellipse: s-maj=115.8km s-min=21.7km az=60.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.36	161	P	P	00 15 01.4	+0.2
	1.1nm,0.4s,baz=338,slow=10,SNR=27						
ASAR	Alice Springs	25.74	165	P	P	00 15 34.3	+0.5
	1.8nm,1.0s,baz=352,slow=15,SNR=7.3						
CMAR	Chiang Mai Arr	32.13	304	P	P	00 16 31.3	+0.5
	0.6nm,0.5s,baz=100,slow=10,SNR=4.2						
MKAR	Makanchi Array	59.56	326	P	P	00 20 06.7	-0.1
	0.6nm,0.8s,baz=116,slow=7.1,SNR=4.2						
VNDA	Vanda	80.98	173	P	P	00 22 16.4	-1.0
	0.6nm,0.6s,baz=317,slow=6.0,SNR=3.8						

*ISCJB **28** 00:12:33.8±0.6, 30°.95S±0°.05×178°.7W±0°.1, h100km, mb4.7/9, Error ellipse: s-maj=16.3km s-min=5.4km az=15.5*

*NEIC **28** 00:12:34.8±0.9, 30°.93S×178°.55W, h111km±9km, mb4.9/10, Error ellipse: s-maj=20.5km s-min=9.6km az=108.0*

*IDC **28** 00:12:38.5±1.2, 30°.55S×178°.54W, h139km±13km, mb4.2/4, mb1 4.3/4, mb1mx3.7/36, mbtmp4.6/4, Error ellipse: s-maj=23.6km s-min=21.7km az=153.0*

ISC 28 00:12:35.1±0.8, 30°.93S±0°.08×178°.6W±0°.1, h100km, n33, σ1s46/35, mb4.9/9, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.78	20	P	Pn	00 13 05.5	+0.7
	158nm,0.3s,baz=198,slow=20,SNR=24						
RAO				S	Sn	00 13 27.2	-0.3
	563nm,0.3s,baz=74,slow=23,SNR=22						
MXZ	Matakaoa Point	7.09	200	ePN	Pn	00 14 15.2	-1.0
MXZ				SN	Sn	00 15 36.6	+1.5
HAZ	Te Kaha	7.43	203	PN	Pn	00 14 20.0	-0.8
TWGZ	Tauwhareparae	7.75	200	PN	Pn	00 14 24.4	-0.8
TWGZ				SN	Sn	00 15 52.9	+1.6
URZ	Urewera	8.11	205	P	Pn	00 14 28.4	-1.7
	0.4nm,0.3s,baz=272,slow=5.5,SNR=8.1						
URZ				S	Sn	00 15 58.6	-1.5
	7.3nm,0.3s,baz=199,slow=21,SNR=23						
URZ	Urewera	8.11	205	PN	Pn	00 14 28.4	-1.7
URZ				SN	Sn	00 16 00.0	-0.1
BKZ	Black Stump Fm	9.14	205	ePn	Pn	00 14 44.1	0.0
BKZ				eSn	Sn	00 16 07.5	-18
BFZ	Birch Farm	10.58	202	eSN	Sn	00 16 50.7	-9.4
MRZ	Mangatainoka R	10.79	204	eSN	Sn	00 16 56.9	-8.3
THZ	Tophouse	12.78	210	ePN	Pn	00 15 31.2	-1.9
THZ				eSN	Sn	00 17 44.5	-9.2
KHZ	Kahutara	13.07	207	ePn	Pn	00 15 35.5	-1.2
KHZ				eSn	Sn	00 17 49.7	-11
RPZ	Rata Peaks 46nm,1.3s	15.16	210	ePn	Pn	00 16 04.1	+0.3
ODZ	Otahua Downs 139nm,1.8s	16.41	208	ePn	Pn	00 16 19.4	0.0
LHI	Lord Howe Isla 147nm,1.6s	19.10	262	eP	P	00 16 52.4	+2.4
CTAO	Charters Tower 30nm,1.4s	33.37	280	eP	P	00 19 04.0	0.0
STKA	Stephens Creek 18nm,0.7s,baz=101,slow=10,SNR=36	33.85	258	P	P	00 19 10.0	+1.9
STKA	Stephens Creek 3.3nm,0.7s	33.85	258	eP	P	00 19 09.8	+1.7
BBOO	Buckleboo 48nm,1.5s	38.32	255	eP	P	00 19 45.2	-1.0
AS12	Alice Springs	42.56	268	eP	P	00 20 20.8	-0.5
ASAR	Alice Springs 1.2nm,0.4s,baz=103,slow=7.3,SNR=17	42.56	268	P	P	00 20 20.8	-0.5
WRAB	Tennant Creek 2.3nm,0.5s	43.59	273	eP	P	00 20 29.2	-0.4
WRA	Warramunga Arr 3.0nm,0.4s,baz=111,slow=8.1,SNR=63	43.60	273	P	P	00 20 28.9	-0.7
FORT	Forrest 32nm,1.1s	45.40	256	eP	P	00 20 41.8	-2.0
CASY	Casey 85nm,2.8s	54.42	208	eP	P	00 21 50.7	-0.8
QSPA	South Pole Qui 8.9nm,0.9s,baz=55,slow=2.9,SNR=37	59.18	180	P	P	00 22 27.5	+2.2
QSPA	South Pole Qui 8.0nm,0.8s	59.18	180	eP	P	00 22 26.5	+1.2
SNAA	Sanae	77.64	179	P	P	00 24 23.9	+3.9
FINES	FINESS Array B 3.8nm,0.7s,baz=55,slow=3.6,SNR=26	145.46	339	PKPbc	PKPdf	00 31 58.1	-2.6
NB2	NORSAR Subarra comp=Z,0.6nm,0.7s,baz=17,slow=2.6	149.19	351	PKP	PKPdf	00 32 08.7	+1.7
NOA	NORSAR Array B comp=Z,0.3nm,0.6s,baz=15,slow=4.2,SNR=3.7	149.19	351	PKPbc	PKPdf	00 32 08.6	+1.7
HFS	Hagfors comp=Z,1.4nm,0.8s,baz=29,slow=3.4,SNR=4.1	149.66	348	PKPbc	PKPdf	00 32 09.9	+2.2
BRTR	Keskin Array B comp=Z,0.2nm,0.5s,baz=147,slow=7.3,SNR=3.2	152.38	297	PKPbc	PKPbc	00 32 17.5	-2.1
BRTR				PKPab	PKPab	00 32 28.3	-1.8
	comp=Z,0.3nm,0.5s,baz=147,slow=3.5,SNR=3.7						
TORD	Torodi Ar. Bea comp=Z,0.4nm,0.7s,baz=179,slow=3.1,SNR=4.6	162.30	181	PKPab	PKPab	00 33 12.0	-1.0

*ISCJB **28** 01:11:27.6±0.7, 36°.02N±0°.02×23°.53E±0°.03, h8km±5km, Error ellipse: s-maj=4.5km s-min=2.4km az=145.0*

*ATH **28** 01:11:27.4, 36°.04N×23°.52E, h17km±1km, MD3.5/31, ML2.7*

*THE **28** 01:11:28.6, 36°.02N×23°.52E, h6km±1km, ML3.0/6, Error ellipse: s-maj=2.2km s-min=0.7km az=226.0*

*CSEM **28** 01:11:28.0±0.1, 36°.05N×23°.57E, h2km, ML3.0, Error ellipse: s-maj=3.1km s-min=1.6km az=47.0*

ISC 28 01:11:28.0±1.1, 36°.05N±0°.02×23°.54E±0°.02, h5km±10km, n144, σ0s55/184, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	Antikythira Is	0.27	228	ePB	Pg	01 11 33.5	+0.3
ANKY				eSB	Sg	01 11 36.5	-0.2
ANKY	Antikythira Is	0.27	228	P	Pg	01 11 33.5	+0.3
ANKY				eSb	Sg	01 11 36.5	-0.2
ANKY	Antikythira Is	0.27	228	P	Pg	01 11 33.5	+0.3
ANKY				S	Sg	01 11 36.3	-0.4
KYTH	Kithira	0.47	300	ePB	Pb	01 11 38.2	-0.6
KYTH	Kithira	0.47	300	P	Pb	01 11 38.4	-0.4
KYTH	Kithira	0.47	300	P	Pb	01 11 38.4	-0.4
IMMV	Iera Moni Meta	0.69	149	ePN	Pg	01 11 41.2	0.0
IMMV				eSN	Sg	01 11 50.7	+0.6
IMMV	Iera Moni Meta	0.69	149	ePn	Pg	01 11 41.2	0.0
IMMV				eSn	Sg	01 11 50.7	+0.6
VLI	Veliai	0.83	324	ePN	Pg	01 11 43.2	-0.7
VLI				eSN	Sg	01 11 55.3	+0.6
VLI	Veliai	0.83	324	ePn	Pg	01 11 43.2	-0.7
VLI	Veliai	0.83	324	P	Pb	01 11 44.9	0.0
VLI				eSn	Sg	01 11 55.3	+0.6
VLI	Veliai	0.83	324	P	Pb	01 11 44.9	0.0
VLI				S	Sb	01 11 55.6	-0.8
VAM	Vamos	0.83	140	ePN	Pg	01 11 44.4	+0.4
VAM				eSN	Sg	01 11 55.2	+0.4
VAM	Vamos	0.83	140	P	Pb	01 11 44.6	-0.4
VAM				S	Sg	01 11 55.4	+0.6
VAM	Vamos	0.83	140	P	Pb	01 11 44.6	-0.4
VAM				S	Sg	01 11 55.4	+0.6
GVD	Gavdhos	1.28	160	ePN	Pg	01 11 51.6	-1.1
GVD				eSN	Sg	01 12 09.3	0.0
GVD	Gavdhos	1.28	160	ePn	Pg	01 11 51.6	-1.1
GVD				eSn	Sg	01 12 09.3	0.0
KRND	KRANIDI	1.37	347	ePN	Sg	01 11 54.2	-0.1
KRND				eSN	Sn	01 12 12.8	+0.5
KRND	KRANIDI	1.37	347	ePn	Pg	01 11 54.2	-0.1
KRND				eSn	Sn	01 12 12.8	+0.5
KRND	KRANIDI	1.37	347	P	Pn	01 11 54.0	+0.2
KRND				S	Sn	01 12 13.0	+0.7
IACM	Heraklion	1.45	120	ePN	Pn	01 11 54.6	-0.2
IACM	Heraklion	1.45	120	ePn	Pn	01 11 54.6	-0.2
DIDY	Didyma	1.45	350	ePN	Pn	01 11 55.0	0.0
DIDY				eSN	Sb	01 12 14.4	0.0
DIDY	Didyma	1.45	350	P	Pn	01 11 54.7	-0.3
DIDY	Didyma	1.45	350	ePn	Pn	01 11 55.0	0.0
DIDY				eSn	Sb	01 12 14.4	0.0
DIDY	Didyma	1.45	350	P	Pn	01 11 54.7	-0.3
DIDY				S	Sg	01 12 14.7	0.0
SIVA	Sivas	1.46	134	ePN	Pn	01 11 55.3	+0.3
SIVA				eSN	Sg	01 12 14.8	+0.1
SIVA	Sivas	1.46	134	ePn	Pn	01 11 55.3	+0.3
SIVA	Sivas	1.46	134	P	Pb	01 11 55.7	+0.1
SIVA				S	Sb	01 12 14.5	+0.1
SIVA	Sivas	1.46	134	P	Pb	01 11 55.7	+0.1
SIVA				S	Sb	01 12 14.5	+0.1
DID	Didima	1.48	351	ePN	Pn	01 11 55.2	-0.1
DID				eSN	Sb	01 12 14.9	-0.2
DID	Didima	1.48	351	ePn	Pn	01 11 55.2	-0.1
DID				eSn	Sb	01 12 14.9	-0.2
DID	Didima	1.48	351	P	Pn	01 11 55.0	-0.3
DID				S	Sb	01 12 15.1	0.0
THR5	Thira Island,	1.50	75	P	Pn	01 11 55.6	-0.1
THR5	Thira Island,	1.50	75	P	Pn	01 11 55.6	-0.1
THR6	Thira Island,	1.53	78	P	Pn	01 11 55.7	-0.3
THR6	Thira Island,	1.53	78	P	Pn	01 11 55.7	-0.3
THR3	Thira Island,	1.54	76	P	Pn	01 11 56.1	-0.1
THR3	Thira Island,	1.54	76	P	Pn	01 11 56.1	-0.1
SANT	Santorini	1.58	78	ePN	Pn	01 11 56.8	0.0
SANT				eSN	Sb	01 12 18.5	+0.4
SANT	Santorini	1.58	78	ePn	Pn	01 11 56.8	0.0
SANT				eSn	Sb	01 12 18.5	+0.4
VLX	Vlachokerasia	1.62	325	ePN	Pb	01 11 57.9	-0.5
VLX	Vlachokerasia	1.62	325	P	Pn	01 11 57.3	0.0
VLX	Vlachokerasia	1.62	325	ePn	Pb	01 11 57.9	-0.5
VLX	Vlachokerasia	1.62	325	P	Pn	01 11 57.3	0.0
PYL	PYLOS	1.68	301	ePN	Pn	01 11 58.4	+0.3
PYL				eSN	Sb	01 12 21.1	+0.2
PYL	PYLOS	1.68	301	P	Pn	01 11 57.6	-0.5
PYL	PYLOS	1.68	301	ePn	Pn	01 11 58.4	+0.3
PYL				S	Sn	01 12 19.9	-0.1
PYL				eSn	Sb	01 12 21.1	+0.2
PYL	PYLOS	1.68	301	P	Pn	01 11 57.6	-0.5
PYL				S	Sn	01 12 19.9	-0.1
ITM	Ithomi	1.72	311	ePN	Pn	01 11 58.5	-0.2
ITM	Ithomi	1.72	311	ePn	Pn	01 11 58.5	-0.2
ITM	Ithomi	1.72	311	P	Pg	01 12 00.6	-0.5
ITM	Ithomi	1.72	311	P	Pg	01 12 00.6	-0.5
LAST	Lasithi	1.81	119	ePN	Pn	01 11 59.5	-0.4
LAST				eSN	Sb	01 12 24.8	+0.1
LAST	Lasithi	1.81	119	P	Pn	01 11 58.7	-1.2
LAST	Lasithi	1.81	119	ePn	Pn	01 11 59.5	-0.4
LAST				eSn	Sb	01 12 24.8	+0.1
LAST	Lasithi	1.81	119	P	Pn	01 11 58.7	-1.2
NPS	Neapolis	1.86	114	ePB	Pn	01 11 59.8	-0.7
NPS	Neapolis	1.86	114	ePb	Pn	01 11 59.8	-0.7
APE	Apeiranthos	1.90	57	ePB	Pn	01 12 00.8	-0.3
APE	Apeiranthos	1.90	57	P	Pn	01 12 00.9	-0.2
APE	Apeiranthos	1.90	57	P	Pn	01 12 00.9	-0.2
ATH	Athens Observa	1.93	4	ePN	Pn	01 12 02.5	+1.1
ATH	Athens Observa	1.93	4	ePn	Pn	01 12 02.5	+1.1
LTK	Loutraki	2.02	347	ePN	Pn	01 12 03.9	+1.1
LTK	Loutraki	2.02	347	P	Pn	01 12 03.9	+1.1
LTK	Loutraki	2.02	347	ePn	Pn	01 12 03.9	+1.1
LTK	Loutraki	2.02	347	P	Pn	01 12 02.9	+0.1
AMT	Artemida-Makis	2.09	316	ePN	Pn	01 12 04.5	+0.8
AMT	Artemida-Makis	2.09	316	ePn	Pn	01 12 04.5	+0.8
KARY	Karystos	2.11	20	P	Pn	01 12 03.7	-0.2
THAL	Thalero	2.11	341	ePN	Pn	01 12 04.6	+0.7
THAL	Thalero	2.11	341	P	Pn	01 12 03.7	-0.2
THAL	Thalero	2.11	341	ePn	Pn	01 12 04.6	+0.7
THAL	Thalero	2.11	341	P	Pn	01 12 03.7	-0.2
GUR	Goura	2.12	333	ePN	Pn	01 12 04.8	+0.6
GUR				eSN	Sn	01 12 30.9	0.0
GUR	Goura	2.12	333	P	Pn	01 12 04.2	0.0
GUR	Goura	2.12	333	ePn	Pn	01 12 04.8	+0.6
GUR				S	Sn	01 12 30.7	-0.2
GUR	Goura	2.12	333	P	Pn	01 12 04.2	0.0
GUR				S	Sn	01 12 30.7	-0.2
VILL	Villia	2.12	355	ePn	Pn	01 12 04.4	+0.2
VILL				eSn	Sn	01 12 30.6	-0.4
VIL2	Platees	2.17	354	ePN	Pn	01 12 04.4	-0.5
VIL2				eSN	Sn	01 12 30.6	-1.6
KLV	Kalavryta, Ach	2.28	331	ePN	Pn	01 12 07.2	+0.8
KLV				eSN	Sn	01 12 35.6	+0.6
KLV	Kalavryta, Ach	2.28	331	P	Pn	01 12 06.3	-0.1
KLV	Kalavryta, Ach	2.28	331	ePn	Pn	01 12 07.2	+0.8
KLV				eSn	Sn	01 12 35.6	+0.6
KLV	Kalavryta, Ach	2.28	331	P	Pn	01 12 06.3	-0.1
EREA	Eretria	2.39	7	ePB	Pn	01 12 07.7	-0.1
EREA	Eretria	2.39	7	ePb	Pn	01 12 07.7	-0.1
EREA	Eretria	2.39	7	P	Pn	01 12 07.6	-0.2
DRO	Drossia	2.40	323	ePN	Pn	01 12 08.5	+0.5
DRO	Drossia	2.40	323	P	Pn	01 12 08.0	0.0
DRO	Drossia	2.40	323	ePn	Pn	01 12 08.5	+0.5
DRO	Drossia	2.40	323	P	Pn	01 12 08.0	0.0
DESF	Desfina	2.50	341	ePN	Pn	01 12 09.7	+0.4
DESF	Desfina	2.50	341	ePn	Pn	01 12 09.7	+0.4
DSF	Desfina	2.50	341	ePN	Pn	01 12 09.5	+0.2
DSF	Desfina	2.50	341	P	Pn	01 12 09.2	-0.1
DSF	Desfina	2.50	341	ePn	Pn	01 12 09.5	+0.2
DSF	Desfina	2.50	341	P	Pn	01 12 09.2	-0.1
LAKA	Lakka	2.52	331	ePB	Pn	01 12 10.8	+1.1
LAKA	Lakka	2.52	331	ePb	Pn	01 12 10.8	+1.1
KALE	Kalithea	2.59	335	ePB	Pn	01 12 11.4	+0.7
KALE	Kalithea	2.59	335	ePb	Pn	01 12 11.4	+0.7
LKR	Lokris	2.63	351	ePN	Pn	01 12 11.2	0.0
LKR	Lokris	2.63	351	P	Pn	01 12 10.8	-0.4
LKR	Lokris	2.63	351	ePn	Pn	01 12 11.2	0.0
LKR	Lokris	2.63	351	P	Pn	01 12 10.8	-0.4
MRKA	Markates	2.65	1	ePN	Pn	01 12 11.5	0.0
MRKA	Markates	2.65	1	ePn	Pn	01 12 11.5	0.0
EFP	Efpalio	2.71	332	ePB	Pn	01 12 13.1	+0.9
EFP	Efpalio	2.71	332	ePb	Pn	01 12 13.1	+0.9
AXAR	Agios Charalam	2.80	346	ePN	Pn	01 12 14.3	+0.7
AXAR	Agios Charalam	2.80	346	ePn	Pn	01 12 14.3	+0.7
SMIA	Simia	2.84	355	ePN	Pn	01 12 14.4	+0.4
SMIA	Simia	2.84	355	ePn	Pn	01 12 14.4	+0.4
KARP	Karpathos	2.98	99	ePN	Pn	01 12 15.8	-0.2
KARP	Karpathos	2.98	99	ePn	Pn	01 12 15.8	-0.2
CHOS	Chios island	3.08	40	ePN	Pn	01 12 17.3	-0.1
CHOS	Chios island	3.08	40	ePn	Pn	01 12 17.3	-0.1
SMG	Samos	3.12	57	ePN	Pn	01 12 17.9	0.0
SMG	Samos	3.12	57	ePn	Pn	01 12 17.9	0.0
AGG	Agios Georgios	3.12	342	ePN	Pn	01 12 18.5	+0.6
AGG	Agios Georgios	3.12	342	ePn	Pn	01 12 18.5	+0.6
MAKR	Makrakomi, Fth	3.17	340	ePN	Pn	01 12 19.3	+0.8
MAKR	Makrakomi, Fth	3.17	340	ePn	Pn	01 12 19.3	+0.8
PDO	Prodromos	3.17	324	ePN	Pn	01 12 19.0	+0.5
PDO	Prodromos	3.17	324	ePn	Pn	01 12 19.0	+0.5
EVR	Evrytania	3.18	335	ePN	Pn	01 12 20.1	+1.3
EVR	Evrytania	3.18	335	ePn	Pn	01 12 20.1	+1.3
NEO	Neokhori	3.26	356	ePN	Pn	01 12 20.3	+0.4
NEO	Neokhori	3.26	356	ePn	Pn	01 12 20.3	+0.4
XOR	Xorichti	3.33	355	ePN	Pn	01 12 21.2	+0.5
XOR	Xorichti	3.33	355	ePn	Pn	01 12 21.2	+0.5
DSL	Palaion Diasel	3.64	328	ePN	Pn	01 12 25.4	+0.3

DSL	**Palaion Diasel**	**3.64**	**328**	*e*Pn	**Pn**	**01 12 25.4**	**+0.3**
SIGR	**SIGRI**	**3.65**	**29**	*e*PN	**Pn**	**01 12 25.7**	**+0.5**
SIGR	**SIGRI**	**3.65**	**29**	*e*Pn	**Pn**	**01 12 25.7**	**+0.5**
ARG	**Arkhangelos**	**3.71**	**86**	*e*PN	**Pn**	**01 12 27.0**	**+1.0**
ARG	**Arkhangelos**	**3.71**	**86**	*e*Pn	**Pn**	**01 12 27.0**	**+1.0**
THL	**Klokotos Trika**	**3.71**	**341**	*e*PN	**Pn**	**01 12 26.3**	**+0.3**
THL	**Klokotos Trika**	**3.71**	**341**	*e*Pn	**Pn**	**01 12 26.3**	**+0.3**
IGT	**Igoumenitsa**	**4.31**	**325**	*e*PN	**Pn**	**01 12 35.5**	**+1.3**
IGT	**Igoumenitsa**	**4.31**	**325**	*e*Pn	**Pn**	**01 12 35.5**	**+1.3**
SGD	**Sagiada**	**4.42**	**325**	*e*PN	**Pn**	**01 12 37.3**	**+1.6**
SGD	**Sagiada**	**4.42**	**325**	*e*Pn	**Pn**	**01 12 37.3**	**+1.6**

IDC 28 01:36:54.9±55.0, 14°82S×168°10E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/19, mbtmp3.8/3, Error ellipse: s-maj=932.1km s-min=113.1km az=67.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.55**	**230**	P	P	01 43 01.6	+0.1
	1.1nm,0.4s,baz=86,slow=12,SNR=6.0						
WRA	**Warramunga Arr**	**32.59**	**256**	P	P	01 43 28.4	-0.1
	0.2nm,0.3s,baz=90,slow=9.1,SNR=6.0						
ASAR	**Alice Springs**	**33.40**	**249**	P	P	01 43 35.4	-0.2
	0.6nm,0.4s,baz=75,slow=8.8,SNR=9.2						

MEX 28 01:50:39.5±0.6, 14°06N×92°02W, h20km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**2.01**	**325**	*i* P	Pn	01 51 09.8	-2.5
PCIG				*e*S	Sn	01 51 32.6	-4.1
CCIG	**Comitan**	**2.21**	**357**	*e*P	Pn	01 51 12.1	-3.2
CCIG				*i* S	Sn	01 51 38.2	-4.1

IDC 28 01:57:20.2±3.4, 7°33S×118°29E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.4/22, mbtmp3.6/3, ML3.7/1, Error ellipse: s-maj=257.2km s-min=28.1km az=54.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.99**	**130**	P	P	02 01 54.9	+0.4
	0.2nm,0.3s,baz=307,slow=12,SNR=10.0						
ASAR	**Alice Springs**	**22.10**	**139**	P	P	02 02 16.9	-0.4
	0.6nm,0.6s,baz=317,slow=9.1,SNR=7.2						
ZALV	**Zalesovo Beam**	**67.24**	**339**	P	P	02 08 16.3	0.0
	0.6nm,0.3s,baz=136,slow=4.5,SNR=4.0						

*NEIC **28** 02:20:13.7, 15°81N×95°65W, h20km, MD4.3(MEX), After MEX.*

MEX 28 02:20:13.6±0.5, 15°83N×95°68W, h12km±6km, MD4.3, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.41**	**262**	*i* P	Pg	02 20 21.2	-0.6
HUIG				*e*S	Sg	02 20 27.4	+0.1
HUIG	**Huatulco**	**0.41**	**262**	*i* P	Pg	02 20 21.2	-0.6
HUIG				*e*S	Sg	02 20 27.4	+0.1
PANG	**Puerto Angel**	**0.78**	**258**	*i* P	Pg	02 20 25.8	-2.9
PANG				*i* S	Sg	02 20 36.1	-2.8
VHO	**Vista Hermosa**	**1.60**	**321**	*i* P	Pn	02 20 38.5	-3.6
VHO				*i* S	Sn	02 20 57.7	-5.1
VHO	**Vista Hermosa**	**1.60**	**321**	*i* P	Pn	02 20 38.5	-3.6
VHO				*i* S	Sn	02 20 57.7	-5.1
PCIG		**2.38**	**93**	*e*P	Pn	02 20 50.3	-2.1
PCIG				*i* S	Sn	02 21 17.0	-4.5
PCIG		**2.38**	**93**	*e*P	Pn	02 20 48.8	-3.6
PCIG				*i* S	Sn	02 21 16.2	-5.3
PNIG	**Pinotepa**	**2.42**	**284**	*e*P	Pn	02 20 49.2	-3.8
PNIG				*i* S	Sn	02 21 18.6	-4.0
PNIG	**Pinotepa**	**2.42**	**284**	*e*P	Pn	02 20 49.2	-3.8
PNIG				*e*S	Sn	02 21 14.3	-8.4
TLIG	**Tlapa**	**3.26**	**302**	*i* P	Pn	02 21 02.5	-2.3
TLIG				*i* S	Sn	02 21 40.3	-3.4

*SKHL **28** 02:26:44.3±0.1, 45°85N×149°42E, h147km±4km, mb4.6/3, msh5.0/3*
*ISCJB **28** 02:26:45.8±1.0, 45°86N±0°08×149°0E±0°2, h147km, Error ellipse: s-maj=17.9km s-min=6.9km az=33.8*
*JMA **28** 02:26:47.9±0.3, 45°11N×149°50E, h147km, M3.4*

ISC 28 02:26:45.5±1.4, 45°7N±0°1×149°1E±0°1, h147km, n19, σ2°81/21, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.96**	**242**	⇑*i* P	**Pn**	**02 27 12.4**	**+2.8**
KUR				AMB	AMB	02 27 13.0	
	150nm,0.4s						
KUR				*i* S	**Sn**	**02 27 33.4**	**+5.4**
KUR				A	A	02 27 37.3	
	140nm,0.5s						
KUR				A	A	02 27 37.3	
	380nm,0.5s						
SHO	**Shikotan**	**2.42**	**222**	*e*P	**Pn**	**02 27 27.7**	**+2.2**
SHO				AMB	AMB	02 27 33.9	
	90nm,0.9s						
SHO				*e*S	**Sn**	**02 27 58.0**	**+1.8**
SHO				A	A	02 27 58.8	
	90nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.82**	**235**	⇑*i* P	Pn	02 27 34.4	+4.0
YUK				AMB	AMB	02 27 35.2	
	20nm,0.3s						
YUK				AMB	AMB	02 27 35.2	
	40nm,0.3s						
YUK				AMB	AMB	02 27 35.2	
	80nm,0.3s						
YUK				*i* S	Sn	02 28 12.1	+7.0
YUK				A	A	02 28 14.8	
	70nm,0.5s						
YUK				A	A	02 28 14.8	
	90nm,0.5s						
JRA	**Rausu**	**3.31**	**240**	P	Pn	02 27 40.4	+3.7
NEM2	**Nemuro 2**	**3.33**	**227**	P	**Pn**	**02 27 38.3**	**+1.4**
NEM2				*e*S	**Sn**	**02 28 17.2**	**+0.5**
JAK	**Akkeshi**	**4.14**	**231**	P	**Pn**	**02 27 49.2**	**+1.8**
JAK				*e*S	**Sn**	**02 28 36.9**	**+1.4**
YSS	**Yuzh-Sakhalins**	**4.56**	**288**	*e*P	**Pn**	**02 27 53.0**	**+0.1**
JOB	**Onbets**	**4.68**	**235**	P	**Pn**	**02 27 57.5**	**+2.9**
JOB				*e*S	**Sn**	**02 28 51.3**	**+2.9**
JCH	**Churui**	**5.13**	**235**	P	**Pn**	**02 28 03.1**	**+2.5**
JCH				*e*S	**Sn**	**02 29 00.9**	**+1.8**
ERM	**Erimo**	**5.64**	**231**	*e*P	Pn	02 28 11.7	+4.4
JNBK	**Urakawa-nobuka**	**5.69**	**235**	*e*S	**Sn**	**02 29 13.1**	**+0.6**
SKR	**Severo-Kuril's**	**6.86**	**41**	*e*P	Pn	02 28 20.0	-3.5
JTM	**Tenmabayashi**	**7.63**	**233**	*e*S	**Sn**	**02 29 55.7**	**-3.2**
JANG	**Nango**	**7.67**	**229**	*e*S	**Sn**	**02 29 56.0**	**-4.0**
JTH	**Tanohata**	**7.82**	**225**	*e*S	**Sn**	**02 29 59.3**	**-4.2**
JIO	**Ouri**	**9.23**	**221**	*e*S	**Sn**	**02 30 33.7**	**-3.9**
EKMR	**Ekimchan**	**12.82**	**311**	*e*P	**Pn**	**02 29 40.7**	**-1.7**
ILAR	**Eielson Array**	**39.11**	**38**	*e*P	**P**	**02 33 57.7**	**-0.3**
FINES	**FINESS Array B**	**63.77**	**333**	*e*P	**P**	**02 36 59.9**	**-1.3**

IDC 28 02:37:40.7±4.7, 24°34S×67°92W, h0km, mb3.7/1, mb1 3.5/2, mb1mx3.4/17, mbtmp3.5/2, ML3.3/1, Error ellipse: s-maj=145.6km s-min=55.6km az=66.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**8.02**	**359**	Pn	Pn	02 39 39.1	-0.2
	0.2nm,0.3s,baz=177,slow=8.0,SNR=6.4						
TORD	**Torodi Ar. Bea**	**77.47**	**69**	P	P	02 49 38.6	+0.1
	0.3nm,0.5s,baz=253,slow=6.1,SNR=8.5						
MKAR	**Makanchi Array**	**147.32**	**39**	PKPbc	PKPbc	02 57 25.5	-0.8
	0.3nm,0.4s,baz=326,slow=4.5,SNR=3.1						

CASC 28 02:50:48.0±1.9, 11°68N×86°63W, h35km±12km, MD4.0, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBS2	**Las Lilas**	**1.43**	**126**	*i* P	Pn	02 51 11.6	0.0
GBS3	**Finca Las Imˆ¡**	**1.46**	**128**	*i* P	Pn	02 51 11.9	-0.1
GB1A	**Borinquen Arri**	**1.48**	**125**	*i* P	Pn	02 51 12.2	-0.2
GB1A				*i* S	Sn	02 51 30.9	+0.2
LAPC	**Finca la Perla**	**1.49**	**127**	*i* P	Pn	02 51 12.1	-0.2
LAPC				*i* S	Sn	02 51 30.4	-0.2
BUEV	**Buena Vista**	**1.49**	**126**	*i* P	Pn	02 51 12.3	-0.1
CUI	**Cuipilapa**	**1.77**	**125**	*i* P	Pn	02 51 16.1	-0.1
VCR	**Vista de Mar**	**1.83**	**147**	*e*P	Pn	02 51 18.0	+0.8
VCR				*e*S	Sn	02 51 38.6	-0.7
CNCH	**Conchagua**	**1.97**	**324**	*e*P	Pn	02 51 18.6	-0.6
JCR	**Jicaral**	**2.36**	**140**	*e*P	Pn	02 51 25.1	+0.8
JCR				*e*S	Sn	02 51 53.2	+1.1
CGA2	**Cerro Gallo 2**	**2.70**	**128**	*e*P	Pn	02 51 30.3	+1.2
CGA2				*e*S	Sn	02 52 00.9	+0.2
LFRS	**El Faro**	**3.06**	**309**	*i* P	Pn	02 51 34.1	+0.1
LFRS				*e*S	Sn	02 52 09.4	-0.1
BOQS	**Boqueron**	**3.29**	**309**	*e*P	Pn	02 51 38.3	+0.9
BOQS				*e*S	Sn	02 52 16.3	+0.8
URSC	**Urasca**	**3.35**	**123**	*e*P	Pn	02 51 37.5	-0.7
URSC				*e*S	Sn	02 52 19.9	+2.9
BUS	**Buena Vista**	**3.53**	**126**	*e*P	Pn	02 51 41.2	+0.3
BUS				*e*S	Sn	02 52 22.2	+0.3
SBLS	**San Blas**	**3.62**	**307**	*e*P	Pn	02 51 42.4	+0.5
RTR	**El Retiro**	**3.67**	**307**	*e*P	Pn	02 51 44.3	+1.7
RBDL	**Robledal**	**3.83**	**309**	*e*P	Pn	02 51 45.7	+0.9

*ISCJB **28** 03:02:08.9±1.9, 52°51N±0°08×169°36W±0°09, h9km±13km, mb3.6/4, Error ellipse: s-maj=15.2km s-min=5.4km az=146.2*
*IDC **28** 03:02:09.0±1.4, 52°26N×169°46W, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.4/28, mbtmp3.4/5, ML3.1/1, Error ellipse: s-maj=60.5km s-min=26.4km az=142.0*
*NEIC **28** 03:02:10.3, 52°52N×169°20W, h7km, ML3.3(AEIC), After AEIC.*

ISC 28 03:02:10.4±2.0, 52°6N±0°1×169°33W±0°07, h8km±12km, n30, σ1°06/31, mb3.6/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.47**	**38**	P	**Pb**	**03 02 20.6**	**-0.3**
NIKH				S	**Sb**	**03 02 28.7**	**+0.7**
OKSP	**Okmok Steeple**	**0.91**	**44**	P	**Pg**	**03 02 28.2**	**+0.4**
OKSP				S	**Sb**	**03 02 41.1**	**+0.5**
OKSO	**Okmok South**	**1.03**	**43**	P	**Pg**	**03 02 29.5**	**-0.8**
OKSO				S	**Sg**	**03 02 44.2**	**+0.5**
OKWR	**Okmok West Rim**	**1.07**	**39**	P	**Pg**	**03 02 31.4**	**+0.3**
OKCE	**Okmok Cone E**	**1.08**	**40**	P	**Pg**	**03 02 30.6**	**-0.7**
OKTU	**Okmok Mt. Tuli**	**1.10**	**44**	P	**Pg**	**03 02 31.3**	**-0.3**
OKAK	**Okmok**	**1.14**	**31**	P	**Pg**	**03 02 30.0**	**-2.2**
OKRE	**Okmok R'deer P**	**1.16**	**37**	P	**Pg**	**03 02 32.7**	**+0.1**
OKFG	**Magazine Ridge**	**1.18**	**46**	P	**Pg**	**03 02 31.8**	**-1.2**
OKFG				S	**Sg**	**03 02 47.8**	**-0.5**
MSOM	**Makushin Julie**	**1.88**	**49**	P	**Pn**	**03 02 42.3**	**-0.4**
MCIR	**Makushin Cirqu**	**1.99**	**46**	P	**Pn**	**03 02 44.5**	**+0.1**
MTBL	**Makushin Table**	**2.10**	**48**	P	**Pn**	**03 02 45.6**	**-0.3**
UNV	**Unalaska Valle**	**2.11**	**53**	*e*Pn	**Pn**	**03 02 46.2**	**-0.7**
UNV				*e*S	**Sb**	**03 03 15.7**	**+0.7**
AKUT	**Akutan**	**2.63**	**53**	*e*Pn	**Pn**	**03 02 51.7**	**-1.3**
AKUT				*e*Pg	**Pb**	**03 02 58.4**	**+0.7**
AKUT				*e*S	**Sb**	**03 03 30.9**	**+0.9**
ATKA	**Atka Island**	**3.01**	**264**	P	**Pn**	**03 02 59.2**	**+0.9**
GSTR	**Great Sitkin T**	**4.16**	**266**	*e*Pn	**Pn**	**03 03 15.3**	**+1.3**
GSTR				*e*S	**Sn**	**03 04 01.2**	**-1.7**
SPIA	**Saint Paul Isl**	**4.61**	**354**	P	**Pn**	**03 03 21.4**	**+1.2**
KDAK	**Kodiak Island**	**10.88**	**55**	Pn	**Pn**	**03 04 48.4**	**+2.3**
	0.2nm,0.3s,baz=214,slow=11,SNR=2.1						
ILAR	**Eielson Array**	**16.74**	**35**	Pn	**P**	**03 06 07.1**	**-0.1**
	0.0nm,0.3s,baz=236,slow=11,SNR=2.7						
H02S1	**DAWSON INLET T**	**22.09**	**74**	T	T	03 29 56.2	
	SNR=9.6						
H11N2	**WAKE ISLAND Hy**	**37.65**	**218**	T	T	03 49 25.9	
	baz=23,slow=76,SNR=22						
H11N3	**WAKE ISLAND Hy**	**37.66**	**218**	T	T	03 49 27.3	
	baz=23,slow=76,SNR=25						
H11N1	**WAKE ISLAND Hy**	**37.67**	**218**	T	T	03 49 30.1	
	baz=23,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**38.84**	**218**	T	T	03 50 51.1	
	baz=23,slow=76,SNR=395						
H11S2	**WAKE ISLAND Hy**	**38.86**	**218**	T	T	03 50 52.1	
	baz=23,slow=76,SNR=237						
H11S3	**WAKE ISLAND Hy**	**38.86**	**218**	T	T	03 50 54.9	
	baz=23,slow=76,SNR=214						
PDAR	**Pinedale Array**	**40.34**	**79**	P	**P**	**03 09 49.5**	**+1.0**
	0.3nm,0.6s,baz=283,slow=5.5,SNR=2.8						
TXAR	**Lajitas Array**	**52.72**	**89**	P	**P**	**03 11 25.7**	**+0.2**
	0.5nm,0.7s,baz=306,slow=4.2,SNR=3.7						
WRA	**Warramunga Arr**	**87.17**	**232**	P	**P**	**03 14 55.1**	**-1.8**
	0.2nm,0.5s,baz=35,slow=5.8,SNR=3.0						
ASAR	**Alice Springs**	**90.56**	**230**	P	**P**	**03 15 12.0**	**-0.8**
	0.4nm,0.5s,baz=32,slow=4.6,SNR=4.2						

NNC 28 03:09:53.0±7.1, 36°94N×70°57E, h0km, mb4.4, mpv3.9, 3C-3D, Error ellipse: s-maj=59.5km s-min=24.3km az=2.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.32**	**324**	⇓P	Pn	03 10 32.7	0.0
	1.3nm,0.3s						
DZET				⇑S	Sb	03 11 03.8	-1.5
	23nm,0.5s						
SFK	**Sufi-Kurgan**	**3.83**	**36**	⇑P	Pn	03 10 53.3	-0.4
	0.6nm,0.2s						
SFK				⇑S	Sn	03 11 41.8	+2.1
	5.5nm,0.4s						
KK31	**Karatay Array**	**6.16**	**360**	⇓P	Pn	03 11 23.0	-2.3
	0.5nm,0.3s,baz=180,slow=12,SNR=20						
KK31				⇓S	Sn	03 12 33.5	-2.9
	0.2nm,0.3s,baz=185,slow=22,SNR=4.3						

*ISCJB **28** 03:13:40.7±1.2, 52°49N±0°07×169°41W±0°09, h4km±7km, mb3.7/8, MS2.8/3, Error ellipse: s-maj=14.0km s-min=5.2km az=146.6*
*IDC **28** 03:13:40.6±1.3, 52°64N×169°75W, h0km, mb3.7/8, mb1 4.0/10, mb1mx3.7/30, mbtmp3.7/10, ML3.5/2, MS2.8/5, Ms1 2.8/5, ms1mx2.5/37, Error ellipse: s-maj=42.6km s-min=21.3km az=140.0*
*NEIC **28** 03:13:43.5, 52°61N×169°28W, h5km, ML3.5(AEIC), After AEIC.*

ISC 28 03:13:41.7±1.8, 52°6N±0°1×169°48W±0°06, h3km±11km, n40, σ1°07/38, mb3.7/8, MS2.8/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.52**	**47**	P	**Pb**	**03 13 52.9**	**-0.6**
NIKH				S	**Sb**	**03 14 01.0**	**-0.5**
OKSP	**Okmok Steeple**	**0.96**	**48**	P	**Pb**	**03 14 01.4**	**+0.4**
OKSP				S	**Sb**	**03 14 14.0**	**-0.1**
OKSO	**Okmok South**	**1.09**	**47**	P	**Pg**	**03 14 02.9**	**+0.4**
OKSO				S	**Sg**	**03 14 17.4**	**+0.8**
OKWR	**Okmok West Rim**	**1.12**	**43**	P	**Pn**	**03 14 04.7**	**+0.2**
OKCE	**Okmok Cone E**	**1.13**	**44**	P	**Pg**	**03 14 03.7**	**+0.3**
OKTU	**Okmok Mt. Tuli**	**1.16**	**48**	P	**Pb**	**03 14 04.6**	**+0.1**
OKAK	**Okmok**	**1.17**	**35**	P	**Pg**	**03 14 02.9**	**-1.3**
OKFG	**Magazine Ridge**	**1.23**	**50**	P	**Pg**	**03 14 05.1**	**-0.3**
OKFG				S	**Sg**	**03 14 22.0**	**+0.6**
MCIR	**Makushin Cirqu**	**2.05**	**48**	P	**Pn**	**03 14 17.1**	**0.0**
MSW	**Makushin Switc**	**2.08**	**50**	P	**Pn**	**03 14 17.1**	**-0.4**
MSW				S	**Sn**	**03 14 43.6**	**-0.3**
MTBL	**Makushin Table**	**2.16**	**50**	P	**Pn**	**03 14 18.0**	**-0.6**
UNV	**Unalaska Valle**	**2.17**	**54**	*e*Pn	**Pn**	**03 14 18.0**	**-0.7**
UNV				*e*Pg	**Pg**	**03 14 23.0**	**-0.3**
UNV				*e*S	**Sb**	**03 14 48.2**	**-0.8**
AKRB	**Akutan Reef Bi**	**2.54**	**52**	P	**Pn**	**03 14 24.3**	**+0.4**
AKGG	**Akutan Green G**	**2.62**	**52**	P	**Pn**	**03 14 25.5**	**+0.5**
AKUT	**Akutan**	**2.69**	**54**	*e*Pn	**Pn**	**03 14 26.2**	**+0.3**
AKUT				*e*S	**Sb**	**03 15 02.9**	**-1.0**
ATKA	**Atka Island**	**2.92**	**264**	P	**Pb**	**03 14 32.5**	**-1.8**
GSTR	**Great Sitkin T**	**4.07**	**265**	*e*Pn	**Pn**	**03 14 47.4**	**+2.5**
GSTR				*e*S	**Sn**	**03 15 34.7**	**+1.7**
SPIA	**Saint Paul Isl**	**4.59**	**355**	P	**Pn**	**03 14 54.1**	**+2.2**
KDAK	**Kodiak Island**	**10.94**	**55**	Pn	**Pn**	**03 16 21.4**	**+2.4**
	0.5nm,0.3s,baz=297,slow=16,SNR=4.3						
ILAR	**Eielson Array**	**16.78**	**35**	Pn	**Pn**	**03 17 36.7**	**-0.8**
	0.1nm,0.3s,baz=233,slow=12,SNR=5.6						
ILAR				LR	LR	03 24 35.8	
	comp=Z,30nm,18.1s,baz=220,slow=39						
PETK	**Petropavlovsk-**	**19.73**	**285**	LR	LR	03 25 36.6	
	comp=Z,13nm,20.1s,baz=120,slow=37						
H02S1	**DAWSON INLET T**	**22.17**	**74**	T	T	03 41 34.5	
	SNR=7.4						
DLBC	**Dease Lake**	**22.82**	**60**	P	**P**	**03 18 47.0**	**+1.4**
	2.8nm,1.1s,baz=312,slow=14,SNR=3.2						
INK	**Inuvik**	**23.17**	**34**	P	**P**	**03 18 48.5**	**-0.5**
	0.8nm,0.5s,baz=302,slow=4.1,SNR=3.1						
INK				LR	LR	03 29 35.7	
	comp=Z,22nm,18.3s,baz=182,slow=41						
YKA	**Yellowknife Ar**	**30.13**	**49**	P	**P**	**03 19 52.2**	**-0.1**
	0.6nm,0.7s,baz=270,slow=7.7,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**37.61**	**218**	T	T	04 00 50.8	
	baz=24,slow=76,SNR=52						
H11N3	**WAKE ISLAND Hy**	**37.62**	**218**	T	T	04 00 50.6	
	baz=24,slow=76,SNR=90						
H11N1	**WAKE ISLAND Hy**	**37.63**	**218**	T	T	04 00 52.6	
	baz=24,slow=76,SNR=33						
NVAR	**Mina Array Bea**	**37.74**	**91**	P	**P**	**03 21 00.3**	**+1.4**
	0.6nm,0.7s,baz=300,slow=7.0,SNR=5.4						
H11S1	**WAKE ISLAND Hy**	**38.80**	**218**	T	T	04 02 22.6	
	baz=23,slow=76,SNR=1426						
H11S2	**WAKE ISLAND Hy**	**38.81**	**218**	T	T	04 02 26.2	
	baz=23,slow=76,SNR=669						
H11S3	**WAKE ISLAND Hy**	**38.82**	**218**	T	T	04 02 26.3	
	baz=23,slow=76,SNR=636						
MJAR	**Matsushiro Arr**	**39.64**	**267**	LR	LR	03 34 46.6	
	comp=Z,15nm,21.8s,baz=140,slow=32						
PDAR	**Pinedale Array**	**40.42**	**79**	P	**P**	**03 21 21.4**	**+0.1**
	1.3nm,0.7s,baz=323,slow=6.1,SNR=13						
JNU	**Nakatsue**	**46.40**	**270**	LR	LR	03 43 17.4	
	comp=Z,17nm,18.5s,baz=121,slow=38						
SONM	**Songino Array**	**51.11**	**301**	PcP	**PcP**	**03 24 00.8**	**-0.4**
	0.9nm,0.8s,baz=75,slow=2.2,SNR=4.5						
TXAR	**Lajitas Array**	**52.81**	**89**	P	**P**	**03 22 58.8**	**+0.4**
	1.9nm,0.6s,baz=298,slow=5.4,SNR=22						
H06N1	**SOCORRO T-PHAS**	**56.19**	**104**	T	T	04 24 11.1	
	SNR=13						
WRA	**Warramunga Arr**	**87.11**	**231**	P	**P**	**03 26 27.3**	**-1.5**
	0.4nm,0.9s,baz=37,slow=5.8,SNR=2.7						
ASAR	**Alice Springs**	**90.50**	**230**	P	**P**	**03 26 43.7**	**-1.1**
	0.5nm,0.7s,baz=26,slow=5.1,SNR=3.6						

*DJA **28** 03:33:13.8±0.8, 3°N±6°×12°9E±°, h109km±11km, M4.4/7, mb4.3/2, MLv4.5/7*
*IDC **28** 03:33:18.0±0.8, 2°26N×128°79E, h0km, mb4.0/8, mb1 4.1/10, mb1mx3.9/24, mbtmp4.0/10, ML3.9/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/26, Error ellipse: s-maj=39.3km s-min=14.6km az=77.0*
*ISCJB **28** 03:33:21.2±0.6, 2°31N±0°06×128°96E±0°07, h35km, mb4.0/8, Error ellipse: s-maj=9.6km s-min=8.0km az=162.1*

ISC 28 03:33:22.8±0.8, 2°33N±0°08×128°94E±0°07, h35km, n21, σ1°87/17, mb4.1/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.21**	**225**	P	**Pn**	**03 33 54.7**	**-2.3**
TNTI				S	**Sn**	**03 34 24.5**	**+1.4**
LBMI	**Labuha**	**3.28**	**206**	P	**Pn**	**03 34 11.2**	**-0.6**
LBMI				S	**Sn**	**03 34 55.0**	**+5.4**
SWI	**Sorong**	**3.93**	**144**	P	**Pn**	**03 34 20.4**	**-0.4**
SIJI	**Sorong**	**3.94**	**144**	Pn	**Pn**	**03 34 21.5**	**+0.6**
	5.1nm,0.3s,baz=292,slow=24,SNR=21						
SIJI				Sn	**Sn**	**03 35 04.9**	**-1.1**
	4.4nm,0.3s,baz=197,slow=19,SNR=4.4						
KMSI	**Cibinong**	**5.25**	**251**	P	Pn	03 34 30.6	-8.3
	198nm,0.9s,1.1nm						
KAPI	**Kappang**	**11.72**	**231**	Pn	**Pn**	**03 36 06.1**	**-1.6**
	1.2nm,0.3s,baz=19,slow=16,SNR=5.1						
KAPI				LR	LR	03 40 35.3	
	comp=Z,45nm,20.6s,baz=37,slow=38						
WRA	**Warramunga Arr**	**22.76**	**167**	P	**P**	**03 38 21.7**	**-0.7**
	2.3nm,0.8s,baz=345,slow=11,SNR=28						
ASAR	**Alice Springs**	**26.29**	**170**	P	**P**	**03 38 55.5**	**+0.2**
	0.5nm,0.5s,baz=351,slow=6.9,SNR=8.3						
KSRS	**Korea Array**	**34.96**	**359**	P	**P**	**03 40 13.8**	**+2.1**
	1.8nm,0.8s,baz=178,slow=9.6,SNR=5.8						
MJAR	**Matsushiro Arr**	**35.10**	**13**	P	**P**	**03 40 13.1**	**+0.2**
	2.2nm,0.9s,baz=191,slow=10,SNR=7.3						
STKA	**Stephens Creek**	**36.08**	**162**	P	**P**	**03 40 21.9**	**+0.6**
	2.0nm,0.5s,baz=336,slow=9.1,SNR=7.5						
H11S3	**WAKE ISLAND Hy**	**40.32**	**64**	T	T	04 24 16.7	
	baz=251,slow=75,SNR=55						
H11S2	**WAKE ISLAND Hy**	**40.33**	**64**	T	T	04 24 15.1	
	baz=251,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy**	**40.33**	**64**	T	T	04 24 17.8	
	baz=251,slow=75,SNR=22						
H11N1	**WAKE ISLAND Hy**	**40.91**	**62**	T	T	04 24 58.6	
	baz=249,slow=75,SNR=122						
H11N2	**WAKE ISLAND Hy**	**40.92**	**62**	T	T	04 24 59.6	
	baz=249,slow=75,SNR=68						
H11N3	**WAKE ISLAND Hy**	**40.92**	**62**	T	T	04 24 59.9	
	baz=249,slow=75,SNR=127						
SONM	**Songino Array**	**49.33**	**340**	P	**P**	**03 42 09.5**	**+0.8**
	1.4nm,0.7s,baz=154,slow=9.2,SNR=9.3						
MKAR	**Makanchi Array**	**59.96**	**325**	P	**P**	**03 43 25.9**	**+0.2**
	1.0nm,0.4s,baz=111,slow=8.3,SNR=12						
VNDA	**Vanda**	**81.78**	**173**	P	**P**	**03 45 36.6**	**-0.9**
	0.9nm,0.9s,baz=305,slow=6.1,SNR=4.3						
TORD

DZET ⇑S Sn 03 56 58.0 -2.9
144nm,0.4s
DZET Dzherino 2.80 345 ⇑P Pn 03 56 27.8 +0.7
108nm,0.3s
DZET ⇑S Sn 03 56 58.0 -2.9
144nm,0.4s
CEP Cherat 2.87 142 ⇓P Pn 03 56 32.5 +4.5
CEP S Sn 03 57 08.0 +5.5
CHCP Chirah Chowk 3.76 129 ⇓P Pn 03 56 43.7 +4.0
SARP Sargodha 4.81 149 ⇓P Pn 03 56 56.6 +2.9
SARP S **Sn 03 57 50.0 +1.5**
SFK Sufi-Kurgan 4.88 36 ⇓P **Pn 03 56 55.9 +1.2**
32nm,0.4s
SFK ⇑S Sn 03 57 50.7 +0.3
118nm,0.5s
SFK Sufi-Kurgan 4.88 36 ⇓P **Pn 03 56 55.9 +1.2**
32nm,0.4s
SFK ⇑S **Sn 03 57 50.7 +0.3**
118nm,0.5s
AML Almayashu 6.74 26 P **Pn 03 57 19.9 0.0**
SNR=53
KK31 Karatay Array 7.01 4 ⇓P Pn 03 57 23.1 -0.1
26nm,0.5s,baz=187,slow=14,SNR=240
KK31 ⇑S Sn 03 58 37.2 -4.3
10nm,0.5s,baz=189,slow=26,SNR=7.7
KK31 Karatay Array 7.01 4 ⇓P **Pn 03 57 23.1 -0.1**
26nm,0.5s,baz=187,slow=14,SNR=240
KK31 ⇑S **Sn 03 58 37.2 -4.3**
10nm,0.5s,baz=189,slow=26,SNR=7.7
EKS2 Erkin-Say 7.24 24 P **Pn 03 57 26.6 +0.2**
SNR=13
KZA Kyzart 7.32 34 P **Pn 03 57 27.5 -0.3**
SNR=22
AAK Ala-Archa 7.47 28 P **Pn 03 57 29.9 +0.3**
SNR=16
AAK Ala-Archa 7.47 28 ⇓P **Pn 03 57 29.8 +0.3**
9.4nm,0.3s
AAK S **Sn 03 58 50.3 -2.4**
53nm,0.8s
AAK Ala-Archa 7.47 28 ⇓P **Pn 03 57 29.8 +0.3**
9.4nm,0.3s
AAK S **Sn 03 58 50.3 -2.4**
53nm,0.8s
SDNR Sundarnagar 7.54 125 *e*P Pn 03 57 34.0 +3.6
SDNR *e*S **Sn 03 58 53.0 -1.4**
KBK Karagaybulak 7.67 30 P **Pn 03 57 33.0 +0.8**
SNR=9.4
CHMS Chumysh 7.88 28 P **Pn 03 57 35.1 +0.1**
SNR=17
SMLA Simla 7.91 127 *i* P **Pn 03 57 37.4 +2.0**
SMLA *i* S **Sn 03 59 01.5 -1.7**
SMLA AML AML 03 59 04.7
comp=E,1μm,0.2s
SMLA AML AML 03 59 05.0
comp=N,925nm,0.2s
USP Ospenovka 8.02 25 P **Pn 03 57 36.3 -0.6**
SNR=11
TKM2 Tokmak 2 8.15 32 P **Pn 03 57 38.9 +0.1**
SNR=35
TKM2 Tokmak 2 8.15 32 ⇓P **Pn 03 57 38.7 -0.1**
comp=N,25nm,0.7s
TKM2 ⇑S **Sn 03 59 09.3 -0.1**
comp=N,17nm,0.8s
TKM2 Tokmak 2 8.15 32 ⇓P **Pn 03 57 38.7 -0.1**
comp=N,25nm,0.7s
TKM2 ⇑S **Sn 03 59 09.3 -0.1**
comp=N,17nm,0.8s
KHET Khetri 9.50 146 *e*P **Pn 03 57 57.8 +1.0**
GEYT Alibeck 9.51 285 P **Pn 03 57 56.0 -0.9**
comp=N,2.1nm,0.3s,baz=94,slow=15,SNR=5.5
GEYT S **Sn 03 59 40.0 -1.9**
baz=104,slow=15,SNR=2.9
BHGR Bahadurgarh 9.55 139 *e*P **Pn 03 57 59.8 +2.3**
NDI New Delhi 9.71 138 *e*P **Pn 03 58 00.0 +0.4**
NDI *e*S **Sn 03 59 42.0 -4.8**
KUDL Kundal 9.76 143 *e*P **Pn 03 58 00.8 +0.4**
KUDL *e*S **Sn 03 59 43.6 -4.5**
JOSI Joshimath 9.87 121 *e*P **Pn 03 58 00.5 -1.6**
JOSI *e*S Sn 03 59 43.1 -8.0
JOSI AML AML 03 59 49.9
comp=N,161nm,0.6s
JOSI AML AML 03 59 51.3
comp=E,110nm,0.4s
ASOR Ausora 9.96 135 *e*S Sn 03 59 46.2 -6.8
AGRA Agra 11.25 140 *e*S Sn 04 00 15.0 -9.1
AGRA AML AML 04 00 37.9
comp=E,86nm,0.1s
AGRA AML AML 04 00 41.7
comp=N,114nm,0.7s
DANN Dangsing 14.12 119 *e*P **Pn 03 58 58.1 +0.1**
MK31 Makanchi Array 14.19 37 P **P 03 59 03.2 +1.1**
comp=N,4.1nm,0.6s,baz=210,slow=10,SNR=33
MK31 Makanchi Array 14.19 37 P **P 03 59 03.2 +1.1**
comp=N,4.1nm,0.6s,baz=210,slow=10,SNR=33
MKAR Makanchi Array 14.19 37 P **Pn 03 58 57.1 -1.4**
comp=N,0.2nm,0.3s,baz=225,slow=14,SNR=5.9
KOLN Koldanda 14.37 121 *e*P **Pn 03 59 00.4 -0.6**
comp=N,15nm,0.3s
GKN Gorkha 14.95 119 *e*P **Pn 03 59 07.9 -0.4**
comp=N,20nm,0.2s
AB31 Akbulak array 14.98 334 ⇓P **Pn 03 59 07.2 -1.2**
comp=N,3.0nm,0.4s,baz=149,slow=12,SNR=190
AB31 S Sn 04 01 42.2 -12
comp=N,1.8nm,0.5s,baz=158,slow=23,SNR=5.6
AB31 Akbulak array 14.98 334 ⇓P **Pn 03 59 07.2 -1.2**
comp=N,3.0nm,0.4s,baz=149,slow=12,SNR=190
AB31 S Sn 04 01 42.2 -12
comp=N,1.8nm,0.5s,baz=158,slow=23,SNR=5.6
DMN Daman 15.52 119 *e*P **Pn 03 59 15.3 -0.2**
comp=N,22nm,0.4s
KKN Kakani 15.54 118 *e*P **Pn 03 59 15.9 +0.2**
comp=N,13nm,0.2s
PKIN Phulchoki 15.74 118 *e*P **P 03 59 18.7 -1.0**
comp=N,10nm,0.2s
PKI Pulchoki 15.76 118 *e*P **Pn 03 59 18.2 -0.3**
comp=N,16nm,0.3s
KURBB Kurchatov Arra 15.82 21 ⇑P **Pn 03 59 18.3 -0.5**
comp=N,11nm,0.6s
KURBB Kurchatov Arra 15.82 21 ⇑P **Pn 03 59 18.3 -0.5**
comp=N,11nm,0.6s
KURBB Kurchatov Arra 15.82 21 P **Pn 03 59 17.4 -1.4**
comp=N,0.4nm,0.3s,baz=211,slow=11,SNR=43
GUN Gumba 15.90 116 *e*P **Pn 03 59 20.5 +0.2**
comp=N,16nm,0.3s
AKTO Aktyubinsk 16.66 333 ⇑S Sn 04 02 23.4 -11
comp=N,2.6nm,0.6s
AKTO Aktyubinsk 16.66 333 ⇑S Sn 04 02 23.4 -11
comp=N,2.6nm,0.6s
AKTO Aktyubinsk 16.66 333 P **P 03 59 29.4 0.0**
comp=N,0.9nm,0.3s,baz=137,slow=13,SNR=29
AKTO S Sn 04 02 23.4 -11
comp=N,0.3nm,0.3s,baz=336,slow=20,SNR=4.2
BVA0 Borovoye Array 16.92 1 ⇑P **P 03 59 31.9 -0.3**
comp=N,4.2nm,0.6s,baz=219,slow=43,SNR=39
BVA0 Borovoye Array 16.92 1 ⇑P **P 03 59 31.9 -0.3**
comp=N,4.2nm,0.6s,baz=219,slow=43,SNR=39
BVAR Borovoye Array 16.92 1 P **P 03 59 31.4 -0.8**
comp=N,1.6nm,0.3s,baz=175,slow=9.3,SNR=19
RAMN Ramite 16.98 118 *e*P **Pn 03 59 33.6 +0.2**
comp=N,49nm,0.7s
TAPN Taplejung 17.55 115 *e*P **Pn 03 59 41.1 +0.7**
comp=N,59nm,0.6s
ODAN Odare 17.60 117 *e*P **Pn 03 59 41.5 +0.6**
comp=N,33nm,0.5s
GNI Garni 20.09 289 P Pn 04 00 09.4 -0.7
comp=N,3.8nm,0.5s,baz=354,slow=7.5,SNR=4.0
ZALV Zalesovo Beam 20.69 26 P **P 04 00 13.5 +0.3**
comp=N,22nm,0.5s,baz=220,slow=11,SNR=47
BRTR Keskin Array B 28.62 288 P **P 04 01 30.8 +2.9**
comp=N,0.5nm,0.6s,baz=98,slow=9.9,SNR=3.3
SONM Songino Array 29.37 55 P **P 04 01 35.5 +1.0**
comp=N,0.3nm,0.6s,baz=270,slow=8.5,SNR=3.4
FINES FINESS Array B 37.27 327 P **P 04 02 44.4 +1.8**
comp=N,0.3nm,0.3s,baz=113,slow=11,SNR=4.1
ARCES ARCESS Array B 41.14 338 P **P 04 03 16.0 +1.4**
comp=N,0.9nm,0.6s,baz=113,slow=8.0,SNR=6.9
NB2 NORSAR Subarra 44.11 323 P **P 04 03 39.4 +0.6**
comp=Z,0.5nm,0.4s,baz=98,slow=8.6
NOA NORSAR Array B 44.11 323 P **P 04 03 39.7 +0.9**
comp=Z,0.6nm,0.5s,baz=99,slow=8.0,SNR=4.4
TORD Torodi Ar. Bea 64.72 268 P **P 04 06 08.9 +0.5**
comp=Z,0.6nm,0.8s,baz=51,slow=6.1,SNR=13
INK Inuvik 74.45 9 P **P 04 07 08.4 +1.2**
comp=Z,1.5nm,0.6s,baz=358,slow=5.3,SNR=3.9
ILAR Eielson Array 75.42 15 P **P 04 07 13.3 +0.4**
comp=Z,0.4nm,0.8s,baz=321,slow=4.4,SNR=7.8
YKA Yellowknife Ar 81.68 2 P **P 04 07 48.3 +1.1**
comp=Z,0.7nm,0.7s,baz=352,slow=5.2,SNR=5.0
WRA Warramunga Arr 82.62 121 P **P 04 07 52.6 -0.1**
comp=Z,0.6nm,0.9s,baz=325,slow=4.9,SNR=8.0
ASAR Alice Springs 84.84 124 P **P 04 08 03.5 -0.6**
comp=Z,0.2nm,0.5s,baz=308,slow=4.6,SNR=2.9

*IDC **28** 04:07:51.4±0.6, 52.°58N×169.°58W, h0km, mb4.0/18, mb1 4.3/20, mb1mx4.1/33, mbtmp4.0/20, ML3.8/2, MS3.4/13, Ms1 3.4/13, ms1mx3.2/34, Error ellipse: s-maj=21.5km s-min=12.3km az=171.0*
*BJI **28** 04:07:52.9, 52.°66N×170.°02W, h10km, mb4.8/8, mB4.8/7, Ms4.4/3, Ms7 4.0/4*
*NEIC **28** 04:07:53.2±1.0, 52.°69N×169.°54W, h6km±5km, mb4.4/40, ML4.1(AEIC), Error ellipse: s-maj=8.6km s-min=4.2km az=166.0*
*ISCJB **28** 04:07:54.4±0.8, 52.°68N±0.°04×169.°52W±0.°04, h29km±5km, mb4.3/49, MS3.4/12, Error ellipse: s-maj=6.8km s-min=3.6km az=165.5*

ISC 28 04:07:54.0±0.6, 52.°64N±0.°07×169.°45W±0.°04, h17km±2km, n353,σ1s06/357, mb4.4/49, MS3.4/12, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.49**	**47**	P		**Pg**		**04 08 03.0**	**-0.8**
NIKH				S		**Sb**		**04 08 11.1**	**0.0**
OKSP	**Okmok Steeple**	**0.93**	**48**	P		**Pb**		**04 08 11.1**	**-0.7**
OKSP				S		**Sb**		**04 08 23.8**	**0.0**
OKSO	**Okmok South**	**1.06**	**47**	P		**Pb**		**04 08 13.2**	**-0.7**
OKSO				S		**Sb**		**04 08 27.7**	**+0.2**
OKWR	**Okmok West Rim**	**1.09**	**43**	P		**Pb**		**04 08 14.0**	**-0.5**
OKCE	**Okmok Cone E**	**1.11**	**44**	P		**Pb**		**04 08 13.4**	**-1.3**
OKWE	**Okmok W'ng Wal**	**1.11**	**41**	P		**Pb**		**04 08 14.2**	**-0.5**
OKTU	**Okmok Mt. Tuli**	**1.13**	**48**	P		**Pb**		**04 08 14.2**	**-0.9**
OKRE	**Okmok R'deer P**	**1.17**	**41**	P		**Pn**		**04 08 15.6**	**-0.1**
OKFG	**Magazine Ridge**	**1.21**	**50**	P		**Pn**		**04 08 14.9**	**-1.2**
OKFG				S		**Sb**		**04 08 31.1**	**-0.6**
MSOM	**Makushin Julie**	**1.91**	**51**	P		**Pn**		**04 08 25.4**	**-0.3**
MCIR	**Makushin Cirqu**	**2.02**	**48**	P		**Pn**		**04 08 27.6**	**+0.3**
MSW	**Makushin Switc**	**2.05**	**50**	P		**Pn**		**04 08 28.0**	**+0.3**
MSW				S		**Sn**		**04 08 54.2**	**+1.3**
MTBL	**Makushin Table**	**2.13**	**50**	P		**Pn**		**04 08 28.9**	**0.0**
UNV	**Unalaska Valle**	**2.14**	**54**	P		**Pn**		**04 08 28.4**	**-0.6**
UNV				*e*S		**Sn**		**04 08 54.3**	**-0.9**
UNV				S		**Sb**		**04 08 56.4**	**-2.2**
AKRB	**Akutan Reef Bi**	**2.52**	**52**	P		**Pn**		**04 08 35.0**	**+0.9**
ZRO	**Akutan Zero**	**2.54**	**54**	P		**Pn**		**04 08 35.6**	**+1.2**
AKGG	**Akutan Green G**	**2.59**	**52**	P		**Pn**		**04 08 36.1**	**+1.0**
AKUT	**Akutan**	**2.66**	**54**	*e*Pn		**Pn**		**04 08 37.1**	**+1.1**
AKUT				*e*S		**Sb**		**04 09 12.3**	**-1.2**
ATKA	**Atka Island**	**2.94**	**263**	P		**Pn**		**04 08 39.7**	**-0.2**
WESP	**Westdahl Peak**	**3.38**	**55**	P		**Pn**		**04 08 47.0**	**+1.0**
WEBT	**Westdahl Beart**	**3.41**	**53**	P		**Pn**		**04 08 48.6**	**+2.1**
GSTR	**Great Sitkin T**	**4.09**	**265**	*e*Pn		**Pn**		**04 08 56.1**	**+0.4**
GSMY	**Great Sitkin M**	**4.10**	**264**	P		**Pn**		**04 08 56.9**	**+1.1**
GSCK	**Great Sitkin C**	**4.17**	**264**	P		**Pn**		**04 08 57.5**	**+0.7**
FALS	**False Pass**	**4.21**	**56**	*e*Pn		**Pn**		04 09 00.8	+3.4
SPIA	**Saint Paul Isl**	**4.57**	**355**	P		**Pn**		**04 09 03.1**	**+0.8**
SDPT	**Sand Point**	**5.95**	**59**	*e*Pn		Pn		04 09 24.4	+3.2
AMKA	**Amchitka**	**7.06**	**264**	*e*Pn		**Pn**		**04 09 38.3**	**+1.8**
CHGN	**Chignik**	**7.40**	**56**	*e*Pn		Pn		04 09 44.4	+3.3
OHAK	**Old Harbor**	**10.36**	**57**	*e*Pn		**Pn**		**04 10 20.8**	**-0.9**
KDAK	**Kodiak Island** 1.0nm,0.3s,baz=243,slow=8.3,SNR=9.5	**10.91**	**55**	Pn		**Pn**		**04 10 28.2**	**-1.0**
KDAK	baz=90,slow=20,SNR=1.6			Sn		Sn		04 12 21.8	-9.0
KDAK	**Kodiak Island**	**10.91**	**55**	*e*Pn		**Pn**		**04 10 30.8**	**+1.6**
KDAK				Sn		Sn		04 12 21.8	-9.0
SVW2	**Sparrevohn**	**11.35**	**36**	*e*Pn		Pn		04 10 39.5	+4.3
RSO	**Redoubt South**	**12.06**	**43**	*e*Pn		**Pn**		**04 10 47.6**	**+2.5**
SEW	**Seward** 12nm,0.9s	**13.33**	**48**	*e*Pn		**Pn**		**04 11 02.5**	**+0.4**
SEW				*e*S		**Sn**		**04 13 30.9**	**+1.2**
PPLA	**Purkeypile**	**13.75**	**35**	*e*Pn		Pn		04 11 12.1	+4.0
CAST	**Castle Rocks**	**14.13**	**33**	*e*Pn		**Pn**		**04 11 16.0**	**+2.9**
SML	**Sawmill** 3.1nm,1.0s	**14.60**	**43**	*e*Pn		**Pn**		**04 11 19.9**	**+0.3**
TRF	**Thorofare Moun**	**14.77**	**35**	*e*Pn		**P**		**04 11 25.5**	**-2.4**
BPAW	**Bear Paw Mtn.**	**14.95**	**33**	*e*Pn		**Pn**		**04 11 26.3**	**+2.0**
EYAK	**Cordova Ski Ar** 8.6nm,0.9s	**15.20**	**49**	*e*Pn		**Pn**		**04 11 27.6**	**0.0**
MCK	**McKinley** 12nm,1.0s	**15.42**	**36**	*e*Pn		**Pn**		**04 11 30.8**	**+0.3**
KLU	**Klutina** 10nm,0.8s	**15.48**	**46**	*e*Pn		**Pn**		**04 11 29.2**	**-2.2**
BWN	**Browne** 57nm,1.3s	**15.50**	**34**	*e*Pn		**Pn**		**04 11 32.3**	**+0.7**
IM04	**Indian Mountai**	**15.51**	**24**	*e*Pn		**P**		**04 11 33.9**	**-2.1**
DHY	**Denali Highway** 4.8nm,0.6s	**15.63**	**39**	*e*Pn		**P**		**04 11 35.6**	**-1.9**
BMRM	**Bremner River** 22nm,1.2s	**15.87**	**49**	*e*Pn		**Pn**		**04 11 34.6**	**-1.8**
HARP	**HAARP** 25nm,1.1s	**16.20**	**43**	*e*Pn		**Pn**		**04 11 39.2**	**-1.4**
CCB	**Clear Creek Bu** 10nm,1.2s	**16.36**	**34**	*e*Pn		**Pn**		**04 11 42.1**	**-0.5**
COLA	**College** 11nm,1.0s	**16.49**	**34**	*e*Pn		**Pn**		**04 11 44.6**	**+0.5**
HDA	**Harding Lake** 5.8nm,0.8s	**16.52**	**36**	*e*Pn		**Pn**		**04 11 44.5**	**-0.1**
ILAR	**Eielson Array** 0.2nm,0.3s,baz=227,slow=11,SNR=29	**16.76**	**35**	Pn		**Pn**		**04 11 46.5**	**-1.1**
ILAR	0.1nm,0.3s,baz=284,slow=3.8,SNR=5.2			PcP		**PcP**		**04 16 34.6**	**-0.6**
HYT	**Haines Junctio**	**19.17**	**52**	*e*P		**Pn**		**04 12 18.2**	**+0.7**
DAWY	**Dawson**	**19.26**	**42**	*e*P		**P**		**04 12 16.9**	**-0.5**
PETK	**Petropavlovsk-** 0.8nm,0.3s,baz=93,slow=13,SNR=8.6	**19.75**	**285**	P		**P**		**04 12 23.1**	**+0.4**
PETK	comp=Z,56nm,21.5s,baz=94,slow=34			LR		LR		04 18 56.6	
SKAG	**Skagway** 23nm,0.7s	**20.06**	**57**	*e*P		Pn		04 12 27.9	0.0
H02S1	**DAWSON INLET T** SNR=26	**22.14**	**74**	T		T		04 35 41.0	
SEY	**Seymchan** 4.4nm,0.8s,baz=113,slow=11,SNR=8.4	**22.45**	**312**	P		**P**		**04 12 52.4**	**+0.6**
DLBC	**Dease Lake** 27nm,1.1s,baz=270,slow=9.9,SNR=28	**22.79**	**60**	P		**P**		**04 12 59.1**	**+3.6**
INK	**Inuvik** 7.4nm,0.8s,baz=241,slow=9.2,SNR=7.2	**23.15**	**34**	P		**P**		**04 12 57.0**	**-2.0**
YKA	**Yellowknife Ar** 1.9nm,0.6s,baz=272,slow=7.8,SNR=11	**30.10**	**49**	P		**P**		**04 14 02.1**	**-0.1**
B08A	**Colville Reser** 4.1nm,0.8s	**31.64**	**77**	*e*P		**P**		**04 14 17.8**	**+1.8**
I04A	**Tendick Farm,** baz=32	**32.05**	**87**	P		**P**		**04 14 21.1**	**+1.4**
ASAJ	**Asahikawa** comp=Z,84nm,20.9s,baz=357,slow=35	**32.44**	**274**	LR		LR		04 26 50.8	
NEW	**Newport** 4.2nm,0.8s,baz=302,slow=8.4,SNR=7.6	**32.99**	**76**	P		**P**		**04 14 29.0**	**+1.1**
NEW	**Newport** baz=33	**32.99**	**76**	P		**P**		**04 14 29.0**	**+1.1**
NEW	**Newport** 4.9nm,0.8s	**32.99**	**76**	*e*P		**P**		**04 14 28.6**	**+0.7**
J05D	**Fort Rock, OR** baz=33	**33.05**	**87**	P		**P**		**04 14 30.5**	**+2.0**
K05A	**Summer Lake** 8.5nm,1.0s	**33.57**	**87**	*e*P		P		04 14 36.4	+3.2
BLMT	**Blacktail Moun**	**34.74**	**75**	*e*P		**P**		**04 14 44.6**	**+1.3**
MSO	**Missoula** baz=36	**35.57**	**77**	P		**P**		**04 14 51.7**	**+1.3**
MSO	**Missoula** 15nm,1.8s	**35.57**	**77**	*e*P		**P**		**04 14 51.3**	**+1.0**
MFID	**Camas Ranch** 4.2nm,1.1s	**36.26**	**83**	*e*P		**P**		**04 14 58.0**	**+1.8**
WAKR	**Walker**	**36.98**	**92**	*e*P		**P**		**04 15 05.0**	**+2.5**
HLID	**Hailey** baz=37	**37.03**	**82**	P		**P**		**04 15 04.1**	**+1.2**
HLID	**Hailey** 8.4nm,1.8s	**37.03**	**82**	*e*P		**P**		**04 15 04.6**	**+1.7**
MCMT	**McKenzie Canyo**	**37.27**	**79**	*e*P		**P**		**04 15 05.9**	**+0.9**
EGMT	**Eagleton** baz=37	**37.43**	**72**	P		**P**		**04 15 07.2**	**+1.0**
BOZ	**Bozeman (W)** baz=38,SNR=5.1	**37.56**	**77**	P		**P**		**04 15 08.3**	**+1.0**
BOZ	**Bozeman (W)** 16nm,1.8s	**37.56**	**77**	*e*P		**P**		**04 15 08.6**	**+1.3**
H11N2	**WAKE ISLAND Hy** baz=23,slow=76,SNR=63	**37.64**	**218**	T		T		04 55 07.6	
H11N3	**WAKE ISLAND Hy** baz=23,slow=76,SNR=104	**37.64**	**218**	T		T		04 55 08.2	
H11N1	**WAKE ISLAND Hy** baz=23,slow=76,SNR=82	**37.65**	**218**	T		T		04 55 09.1	
NVAR	**Mina Array Bea** 1.9nm,0.7s,baz=303,slow=8.6,SNR=12	**37.72**	**91**	P		**P**		**04 15 10.4**	**+1.7**
NVAR	0.5nm,0.6s,baz=338,slow=2.1,SNR=4.7			PcP		**PcP**		**04 17 26.9**	**+1.3**
H11S1	**WAKE ISLAND Hy** baz=22,slow=76,SNR=1149	**38.83**	**218**	T		T		04 56 36.9	
H11S2	**WAKE ISLAND Hy** baz=22,slow=76,SNR=1042	**38.84**	**218**	T		T		04 56 38.1	
H11S3	**WAKE ISLAND Hy** baz=22,slow=76,SNR=643	**38.84**	**218**	T		T		04 56 42.0	
VES	**Vestal, Richgr** baz=39	**38.92**	**95**	P		**P**		**04 15 20.0**	**+1.4**
IMW	**Indian Meadow** 3.2nm,0.9s	**38.93**	**79**	*e*P		**P**		**04 15 20.8**	**+1.7**
FXWY	**Fox Creek** 16nm,2.3s	**39.02**	**79**	*e*P		**P**		**04 15 21.4**	**+1.6**
RLMT	**Red Lodge** baz=39,SNR=8.9	**39.24**	**76**	P		**P**		**04 15 22.7**	**+1.2**
RLMT	**Red Lodge** 9.1nm,0.9s	**39.24**	**76**	*e*P		**P**		**04 15 22.8**	**+1.2**
ISA	**Isabella** baz=39	**39.41**	**95**	P		**P**		**04 15 24.4**	**+1.6**
R11A	**Troy Canyon, C** baz=39,SNR=14	**39.42**	**89**	P		**P**		**04 15 24.7**	**+1.6**
R11A	**Troy Canyon, C** 5.9nm,1.0s	**39.42**	**89**	*e*P		**P**		**04 15 24.4**	**+1.3**
F20A	**Billings** baz=39	**39.53**	**75**	P		**P**		**04 15 24.4**	**+0.6**
H19A	**Powell** baz=40	**39.66**	**77**	P		**P**		**04 15 26.1**	**+1.2**
MJAR	**Matsushiro Arr** 1.0nm,0.4s,baz=41,slow=6.0,SNR=4.2	**39.66**	**267**	P		**P**		**04 15 24.0**	**-0.8**
MJAR	0.7nm,0.3s,baz=64,slow=2.8,SNR=4.6			PcP		**PcP**		**04 17 32.4**	**+0.9**
MPMC	**Manual Prospec** baz=40	**39.74**	**93**	P		**P**		**04 15 27.3**	**+1.5**
G20A	**Bridger** baz=40	**39.81**	**75**	P		**P**		**04 15 27.0**	**+0.9**
FURC	**Furnace Creek,** baz=40	**39.85**	**92**	P		**P**		**04 15 27.8**	**+1.4**
TPNV	**Topopah Spring** baz=40,SNR=8.7	**39.91**	**91**	P		**P**		**04 15 28.8**	**+1.7**
DUG	**Dugway** baz=40,SNR=5.5	**39.97**	**85**	P		**P**		**04 15 28.9**	**+1.3**
DUG	**Dugway** 8.4nm,1.1s	**39.97**	**85**	*e*P		**P**		**04 15 29.4**	**+1.9**
I19A	**Meeteetse** baz=40	**40.01**	**77**	P		**P**		**04 15 28.9**	**+0.9**
LAO	**LASA Array** baz=40	**40.17**	**72**	P		**P**		**04 15 30.2**	**+1.1**
G21A	**Lodge Grass** baz=40	**40.40**	**75**	P		**P**		**04 15 31.9**	**+0.9**
PDAR	**Pinedale Array** 3.1nm,0.7s,baz=321,slow=5.2,SNR=26	**40.40**	**79**	P		**P**		**04 15 31.6**	**+0.4**
PDAR	comp=Z,36nm,18.9s,baz=322,slow=34			LR		LR		04 30 54.0	
J19A	**Crowheart** baz=40	**40.41**	**78**	P		**P**		**04 15 32.3**	**+1.1**
E22A	**Miles City** baz=40	**40.47**	**72**	P		**P**		**04 15 32.2**	**+0.7**
I20A	**Worland** baz=40	**40.57**	**77**	P		**P**		**04 15 33.4**	**+0.9**
F22A	**Rosebud** baz=40	**40.65**	**73**	P		**P**		**04 15 33.9**	**+0.8**
GSC	**Goldstone** baz=41,SNR=5.4	**40.66**	**94**	P		**P**		**04 15 34.9**	**+1.6**
GSC	**Goldstone** 7.8nm,1.0s	**40.66**	**94**	*e*P		**P**		**04 15 35.4**	**+2.1**
A25A	**Svangstu Ranch** baz=41	**40.77**	**68**	P		**P**		**04 15 35.0**	**+1.1**
E23A	**Ismay** baz=41	**40.81**	**72**	P		**P**		**04 15 35.1**	**+0.8**
J20A	**Shoshoni** baz=41	**40.94**	**78**	P		**P**		**04 15 36.2**	**+0.7**
D24A	**Glendive** baz=41,SNR=7.5	**41.04**	**71**	P		**P**		**04 15 37.3**	**+1.1**
F23A	**Volborg** baz=41	**41.18**	**73**	P		**P**		**04 15 38.2**	**+0.8**
HEC	**Hector,Ludlow** baz=41	**41.27**	**94**	P		**P**		**04 15 39.9**	**+1.6**
E24A	**Baker** baz=41	**41.35**	**71**	P		**P**		**04 15 39.9**	**+1.1**
A26A	**Wade Farm, Ken** baz=41	**41.39**	**67**	P		**P**		**04 15 39.3**	**+0.2**
G23A	**Biddle** baz=41	**41.48**	**74**	P		**P**		**04 15 40.4**	**+0.6**
I22A	**9 Mile Ranch,** baz=42	**41.58**	**76**	P		**P**		**04 15 41.2**	**+0.4**
P17A	**Butcher Ranch,**	**41.67**	**84**	*e*P		**P**		**04 15 43.5**	**+1.9**
F24A	**Ekalaka** baz=42	**41.67**	**72**	P		**P**		**04 15 42.1**	**+0.6**
GMRC	**Granite Mounta** baz=42	**41.71**	**93**	P		**P**		**04 15 42.5**	**+0.6**
J22A	**Midwest** baz=42,SNR=7.6	**41.86**	**77**	P		**P**		**04 15 44.0**	**+0.9**
G24A	**Alzada** baz=42	**41.98**	**73**	P		**P**		**04 15 44.6**	**+0.6**
PFO	**Pinyon Flat Ob** baz=42	**42.02**	**95**	P		**P**		**04 15 45.8**	**+1.3**
SRU	**San Rafael** 5.2nm,1.0s	**42.02**	**84**	*e*P		**P**		**04 15 45.8**	**+1.2**
BELC	**Belle Mtn. Jos** baz=42	**42.03**	**95**	P		**P**		**04 15 45.9**	**+1.3**
B27A	**Peters Farms,** baz=42	**42.09**	**67**	P		**P**		**04 15 45.7**	**+1.0**
F25A	**Bowman** baz=42	**42.20**	**72**	P		**P**		**04 15 46.9**	**+1.2**
H24A	**Dirks Ranch, A** baz=42	**42.23**	**74**	P		**P**		**04 15 46.8**	**+0.7**
K22A	**Casper** baz=42	**42.28**	**78**	P		**P**		**04 15 47.2**	**+0.6**
A28A	**Rude Farm, Bot** baz=42	**42.38**	**66**	P		**P**		**04 15 47.8**	**+0.7**
IRM	**Iron Mountain** baz=42	**42.43**	**94**	P		**P**		**04 15 49.2**	**+1.4**
E26A	**Carlson Angus** baz=42	**42.47**	**70**	P		**P**		**04 15 48.7**	**+0.8**
MONP	**Monument Peak** baz=42	**42.53**	**96**	P		**P**		**04 15 49.0**	**+0.3**
B28A	**Dugan Ranch, T** baz=42	**42.57**	**67**	P		**P**		**04 15 49.4**	**+0.7**
BC3	**Big Chuckawall** baz=42	**42.59**	**94**	P		**P**		**04 15 49.7**	**+0.6**
G25A	**Newell** baz=42	**42.63**	**73**	P		**P**		**04 15 49.7**	**+0.4**
F26A	**Lodgepole** baz=43	**42.69**	**71**	P		**P**		**04 15 50.8**	**+1.1**
I24A	**Kuemmerle Ranc** baz=43	**42.69**	**75**	P		**P**		**04 15 50.7**	**+0.8**
O20A	**White River Ci** baz=43,SNR=6.9	**42.77**	**82**	P		**P**		**04 15 51.5**	**+0.9**
O20A	**White River Ci** 8.7nm,0.8s	**42.77**	**82**	*e*P		**P**		**04 15 51.7**	**+1.1**
H25A	**Fruitdale** baz=43	**42.85**	**73**	P		**P**		**04 15 52.1**	**+1.0**
RSSD	**Black Hills** 7.4nm,1.0s	**42.89**	**74**	*e*P		**P**		**04 15 52.5**	**+0.9**
CN2	**Changchun**	**42.90**	**285**	*e*P		**P**		**04 15 52.0**	**+0.7**
A29A	**Manning Farm,** baz=43	**42.95**	**66**	P		**P**		**04 15 51.8**	**+0.1**
PDMCI	**Parker Dam,Lak** baz=43	**42.95**	**93**	P		**P**		**04 15 53.1**	**+1.2**
E27A	**Carson** baz=43	**43.00**	**70**	P		**P**		**04 15 52.8**	**+0.5**
G26A	**Maurine** baz=43	**43.05**	**72**	P		**P**		**04 15 52.9**	**+0.2**
F27A	**Lemmon** baz=43	**43.06**	**71**	P		**P**		**04 15 53.3**	**+0.6**
Y12C	**Blythe** baz=43	**43.09**	**94**	P		**P**		**04 15 54.4**	**+1.3**
G27A	**Dupree** baz=43	**43.39**	**71**	P		**P**		**04 15 55.7**	**+0.3**
E28A	**Huff** baz=43	**43.42**	**69**	P		**P**		**04 15 55.9**	**+0.3**
PV04	**Paradox Valley**	**43.46

	baz=44						
D30A	**Buchanan**	44.22	68	P	P	04 16 02.1	+0.2
	baz=44						
H28A	**Mission Ridge**	44.32	72	P	P	04 16 03.0	+0.1
	baz=44						
MVCO	**Mesa Verde**	44.46	85	P	P	04 16 04.7	+0.4
	baz=44						
ISCO	**Idaho Springs**	44.56	80	P	P	04 16 06.0	+0.8
	baz=44						
ISCO	**Idaho Springs**	44.56	80	*e*P	P	04 16 07.0	+1.8
	14nm,1.9s						
I28A	**Midland**	44.63	73	P	P	04 16 06.3	+0.9
	baz=44						
H29A	**Onida**	44.82	71	P	P	04 16 07.8	+1.0
	baz=45						
J28A	**Allard Ranch,**	44.94	73	P	P	04 16 08.3	+0.4
	baz=45						
W18A	**Petrified Fore**	45.09	88	P	P	04 16 10.0	+0.7
	baz=45						
I29A	**Vivian Onida**	45.12	72	P	P	04 16 09.8	+0.6
	baz=45						
S22A	**4UR Ranch, Cre**	45.13	83	P	P	04 16 10.5	+0.8
	baz=45						
G30A	**Faulkton**	45.14	70	P	P	04 16 10.0	+0.6
	baz=45						
K28A	**Ten Mile Ranch**	45.29	74	P	P	04 16 11.2	+0.5
	baz=45						
KSRS	**Korea Array**	45.33	276	LR	LR	04 35 02.4	
	comp=Z,38nm,18.6s,baz=34,slow=36						
214A	**Organ Pipe Nat**	45.37	94	P	P	04 16 12.8	+1.4
	baz=45						
J29A	**Okreek**	45.48	73	P	P	04 16 12.9	+0.8
	baz=45						
O26A	**Horse Wrangler**	45.66	78	P	P	04 16 14.2	+0.6
	baz=46						
SDCO	**Great Sand Dun**	45.93	82	P	P	04 16 17.4	+1.4
	baz=46,SNR=6.1						
SDCO	**Great Sand Dun**	45.93	82	*e*P	P	04 16 17.5	+1.4
J30A	**Dallas**	46.01	72	P	P	04 16 17.1	+0.8
	baz=46						
P26A	**Davis Ranch, A**	46.07	79	P	P	04 16 18.3	+1.4
	baz=46,SNR=6.9						
O27A	**Beecher Island**	46.19	78	P	P	04 16 18.8	+1.0
	baz=46						
K30A	**Basset**	46.34	73	P	P	04 16 19.8	+0.9
	baz=46						
TUC	**Tucson**	46.36	92	*e*P	P	04 16 21.1	+1.9
	6.4nm,1.1s						
Q26A	**Hugo**	46.37	80	P	P	04 16 19.9	+0.6
	baz=46						
R26A	**Arlington**	46.81	80	P	P	04 16 23.6	+0.8
	baz=47						
KSCO	**Kaye Shedlock'**	46.85	79	P	P	04 16 24.0	+1.0
	baz=47						
KSCO	**Kaye Shedlock'**	46.85	79	*e*P	P	04 16 24.5	+1.5
	18nm,1.0s						
T25A	**Trinidad**	46.99	82	P	P	04 16 25.7	+1.5
	baz=47,SNR=5.4						
ANMO	**Albuquerque**	47.20	86	*e*P	P	04 16 27.0	+1.1
	4.6nm,1.4s						
R27A	**Eads**	47.21	80	P	P	04 16 26.9	+1.1
	baz=47						
ECSD	**EROS Data Cent**	47.42	70	P	P	04 16 26.6	-0.7
	baz=47,SNR=5.3						
ECSD	**EROS Data Cent**	47.42	70	*e*P	P	04 16 26.7	-0.7
	5.6nm,0.9s						
T26A	**Comanche Natio**	47.46	82	P	P	04 16 28.3	+0.5
	baz=47						
P29A	**Atwood**	47.48	77	P	P	04 16 28.6	+0.7
	baz=47						
EYMN	**Ely**	47.74	63	P	P	04 16 29.8	+0.1
	baz=48						
R28A	**Tribune**	47.77	79	P	P	04 16 30.6	+0.4
	baz=48						
Q29A	**Oakley**	47.91	78	P	P	04 16 31.6	+0.4
	baz=48						
121A	**Cookes Peak, D**	48.03	89	P	P	04 16 34.1	+1.7
	baz=48,SNR=7.0						
T27A	**Campo**	48.06	81	P	P	04 16 32.5	+0.1
	baz=48						
R29A	**Marienthal**	48.12	79	P	P	04 16 33.6	+0.7
	baz=48						
S28A	**Manter**	48.20	80	P	P	04 16 34.4	+0.9
	baz=48						
Q30A	**Quinter**	48.30	77	P	P	04 16 34.6	+0.3
	baz=48						
T28A	**Walsh**	48.38	81	P	P	04 16 35.3	+0.3
	baz=48						
U27A	**Thompson Grove**	48.42	82	P	P	04 16 35.8	+0.5
	baz=48						
P31A	**Stockton**	48.45	76	P	P	04 16 35.5	+0.1
	baz=48						
SPMN	**St. Paul**	48.67	66	P	P	04 16 37.3	+0.4
	baz=48						
R30A	**Dighton**	48.72	78	P	P	04 16 38.2	+0.8
	baz=49						
U28A	**Mallet**	48.81	81	P	P	04 16 38.3	+0.1
	baz=49						
P32A	**Huiting Farm,**	48.85	76	P	P	04 16 38.7	+0.3
	baz=49						
T29A	**Hugoton**	48.85	80	P	P	04 16 39.1	+0.6
	baz=49						
O33A	**Hebron**	49.16	75	P	P	04 16 41.6	+0.8
	baz=49						
R31A	**Burdett**	49.16	78	P	P	04 16 41.4	+0.5
	baz=49						
Q32A	**Meitler Ranch,**	49.28	76	P	P	04 16 42.2	+0.5
	baz=49						
N34A	**Lincoln**	49.30	73	P	P	04 16 41.9	+0.1
	baz=49						
SPITS	**Spitsbergen Ar**	49.40	358	PcP	PcP	04 18 02.0	-2.2
	4.9nm,0.9s,baz=3.8,slow=2.5,SNR=4.7						
O34A	**Beatrice**	49.61	74	P	P	04 16 44.2	0.0
	baz=50						
U30A	**WK&E Inc. Balk**	49.65	80	P	P	04 16 45.2	+0.6
	baz=50						
Q33A	**Connelly Farm,**	49.71	76	P	P	04 16 45.5	+0.5
	baz=50						
N35A	**Tabor**	49.79	73	P	P	04 16 45.8	+0.3
	baz=50						
T31A	**Randall Ranch,**	49.86	79	P	P	04 16 46.5	+0.4
	baz=50						
P34A	**Walnut Farm, R**	49.94	75	P	P	04 16 47.7	+0.9
	baz=50						
X28A	**Dimmitt**	50.07	83	P	P	04 16 49.3	+1.4
	baz=50						
U31A	**Nine Bar Ranch**	50.24	80	P	P	04 16 49.8	+0.7
	baz=50						
T32A	**Huddler Ranch,**	50.25	78	P	P	04 16 49.5	+0.4
	baz=50						
Y28A	**McKinney Farm,**	50.46	84	P	P	04 16 51.3	+0.5
	baz=50						
R34A	**Isabella, Hill**	50.51	76	P	P	04 16 51.2	+0.1
	baz=50						
V31A	**Spring Creek L**	50.64	80	P	P	04 16 52.9	+0.7
	baz=50						
BJI	**Beijing**	50.65	287	P	P	04 16 51.3	-0.7
BJI				PMZ			
	140nm,3.9s						
O36A	**Bolckow**	50.65	73	P	P	04 16 52.6	+0.5
	baz=50						
Z28A	**Tucker Farm, M**	50.80	85	P	P	04 16 53.9	+0.6
	baz=51						
P36A	**Good Intent, A**	50.84	73	P	P	04 16 53.5	0.0
	baz=51						
Q35A	**Mercer Eighty,**	50.86	75	P	P	04 16 54.2	+0.5
	baz=51						
W31A	**Holland Ranch,**	50.98	81	P	P	04 16 55.3	+0.6
	baz=51						
S34A	**Willow Spring**	50.99	77	P	P	04 16 54.8	+0.1
	baz=51						
SONM	**Songino Array**	51.12	301	P	P	04 16 53.7	-2.0
	0.3nm,0.4s,baz=69,slow=4.8,SNR=3.0						
SONM				PcP	PcP	04 18 10.2	-0.9
	1.4nm,0.8s,baz=43,slow=1.9,SNR=7.1						
SONM				LR	LR	04 42 12.6	
	comp=Z,42nm,18.2s,baz=76,slow=40						
Q36A	**Arnold C. Orve**	51.13	74	P	P	04 16 55.8	+0.1
	baz=51						
128A	**Castleberry Fa**	51.20	85	P	P	04 16 57.4	+1.0
	baz=51,SNR=7.5						
Z29A	**Hungry Hill Ra**	51.23	84	P	P	04 16 57.3	+0.7
	baz=51						
Y30A	**Stafford Cattl**	51.30	83	P	P	04 16 57.6	+0.6
	baz=51						
X31A	**McDonald Ranch**	51.33	81	P	P	04 16 57.8	+0.5
	baz=51						
T34A	**McClaskey Farm**	51.39	77	P	P	04 16 58.0	+0.3
	baz=51						
W32A	**Sentinel**	51.44	81	P	P	04 16 58.2	+0.1
	baz=51						
S35A	**Otter Creek Ra**	51.47	76	P	P	04 16 57.8	-0.5
	baz=51						
228A	**UT Block 9, Go**	51.48	86	P	P	04 16 58.5	0.0
	baz=51						
R36A	**Gordon, Harris**	51.52	75	P	P	04 16 58.6	-0.1
	baz=51						
U34A	**Anderson Ranch**	51.58	78	P	P	04 16 59.2	+0.1
	baz=52						
T35A	**Sooner Cattle**	51.87	77	P	P	04 17 01.4	+0.2
	baz=52						
X32A	**Elmer**	51.90	81	P	P	04 17 02.1	+0.6
	baz=52						
V34A	**Guthrie**	51.99	79	P	P	04 17 02.8	+0.6
	baz=52						
Y32A	**R-V Farms, Ver**	52.09	82	P	P	04 17 03.7	+0.8
	baz=52						
U35A	**Pawnee**	52.10	78	P	P	04 17 03.1	+0.1
	baz=52						
Z31A	**Sharp Cattle R**	52.13	83	P	P	04 17 04.1	+0.8
	baz=52						
130A	**Snyder**	52.14	84	P	P	04 17 04.2	+0.8
	baz=52						
T36A	**Boggs Farm, Ca**	52.14	76	P	P	04 17 03.7	+0.4
	baz=52						
W34A	**Bridge Creek,**	52.25	79	P	P	04 17 04.9	+0.7
	baz=52						
329A	**Wagon Wheel Ra**	52.29	86	P	P	04 17 05.0	+0.4
	baz=52						
S37A	**Fort Scott**	52.30	75	P	P	04 17 03.4	-1.0
	baz=52,SNR=5.4						
V35A	**Meyer Ranch, C**	52.45	78	P	P	04 17 05.8	+0.2
	baz=52						
230A	**Sterling City**	52.54	85	P	P	04 17 06.9	+0.5
	baz=52						
Z32A	**Haskell**	52.55	82	P	P	04 17 06.9	+0.5
	baz=52,SNR=6.5						
Y33A	**Hilltop Ranch,**	52.58	81	P	P	04 17 07.0	+0.5
	baz=52						
X34A	**Smith Ranch, M**	52.65	80	P	P	04 17 08.1	+1.0
	baz=52						
HHC	**Hu-ho-hao-te**	52.78	291	*e*P	P	04 17 08.0	-0.1
HHC				sP	sP	04 17 16.0	+0.6
HHC				PP	PP	04 19 08.0	+0.8
HHC				S	S	04 24 33.0	-2.6
HHC				sS	sS	04 24 40.0	-4.2
HHC				ScS	ScS	04 26 54.0	-3.0
HHC				PMZ			
	12nm,0.7s						
HHC				PMZ			
	64nm,6.4s						
HHC				LN			
	120nm,15.7s						
HHC				LE			
	150nm,15.9s						
HHC				LZ			
	46nm,16.0s						
TXAR	**Lajitas Array**	52.79	89	P	P	04 17 09.1	+0.8
	5.4nm,0.8s,baz=300,slow=5.3,SNR=51						
TXAR				LR	LR	04 37 31.5	
	comp=Z,32nm,20.0s,baz=0.0,slow=34						
330A	**Mertzon**	52.84	85	P	P	04 17 09.1	+0.5
	baz=53						
W35A	**Tecumseh**	52.84	79	P	P	04 17 08.8	+0.3
	baz=53						
ABTX	**Abilene, Hawle**	52.92	83	P	P	04 17 09.8	+0.6
	baz=53						
ABTX	**Abilene, Hawle**	52.92	83	*e*P	P	04 17 10.7	+1.5
	8.8nm,1.0s						
429A	**Davenport Ranc**	52.95	87	P	P	04 17 09.7	+0.2
	baz=53						
TUL1	**Tulsa**	52.97	77	P	P	04 17 09.5	+0.1
	baz=53						
Z33A	**Whitaker Ranch**	52.99	82	P	P	04 17 09.8	+0.2
	baz=53						
231A	**Bronte**	52.99	84	P	P	04 17 10.2	+0.5
	baz=53						
U37A	**Salina**	53.04	76	P	P	04 17 10.3	+0.4
	baz=53						
529A	**Stev Forest Ra**	53.11	87	P	P	04 17 11.3	+0.7
	baz=53						
Y34A	**Reagan Ranch,**	53.13	81	P	P	04 17 11.1	+0.5
	baz=53						
430A	**Baggett Ranch,**	53.24	86	P	P	04 17 12.0	+0.5
	baz=53						
W36A	**Wetumka**	53.24	78	P	P	04 17 11.6	+0.2
	baz=53						
331A	**San Angelo**	53.36	85	P	P	04 17 12.5	0.0
	baz=53						
133A	**Hamilton Ranch**	53.37	83	P	P	04 17 12.8	+0.4
	baz=53						
V37A	**Hulbert**	53.38	77	P	P	04 17 12.7	+0.3
	baz=53						
232A	**Coleman**	53.43	84	P	P	04 17 13.5	+0.6
	baz=53						
Z34A	**Collier Ranch,**	53.44	81	P	P	04 17 13.4	+0.5
	baz=53						
U38A	**Gravette**	53.45	76	P	P	04 17 13.0	0.0
	baz=53						
X36A	**Centrahoma**	53.55	79	P	P	04 17 14.2	+0.5
	baz=54						
Y35A	**Marietta**	53.60	80	P	P	04 17 14.8	+0.7
	baz=54						
530A	**J-C Ranch, Com**	53.63	87	P	P	04 17 15.2	+0.8
	baz=54,SNR=11						
HDIL	**Hopedale**	53.64	69	P	P	04 17 14.5	+0.2
	baz=54						
HDIL	**Hopedale**	53.64	69	*e*P	P	04 17 14.3	+0.1
	12nm,0.8s						
431A	**Sonora**	53.69	86	P	P	04 17 15.2	+0.3
	baz=54,SNR=8.7						
W37A	**Quinton**	53.72	78	P	P	04 17 15.3	+0.4
	baz=54						
V38A	**Canehill**	53.83	76	P	P	04 17 15.4	-0.4
	baz=54						
134A	**White-Moore Ra**	53.90	82	P	P	04 17 17.1	+0.9
	baz=54						
432A	**Menard**	54.05	85	P	P	04 17 17.7	+0.2
	baz=54						
Y36A	**Durant**	54.06	80	P	P	04 17 18.1	+0.7
	baz=54						
531A	**Rocksprings**	54.10	86	P	P	04 17 18.1	+0.3
	baz=54						
X37A	**Clayton**	54.13	78	P	P	04 17 18.2	+0.2
	baz=54						
333A	**Richland Sprin**	54.23	84	P	P	04 17 19.0	+0.2
	baz=54						
234A	**Clairette**	54.26	83	P	P	04 17 19.2	+0.2
	baz=54						
W38A	**Poteau**	54.30	77	P	P	04 17 19.3	+0.1
	baz=54						
JCT	**Junction City**	54.33	85	P	P	04 17 19.9	+0.4
	baz=54						
JCT	**Junction City**	54.33	85	*e*P	P	04 17 19.9	+0.4
	15nm,1.3s						
X38A	**Whitesboro**	54.40	78	P	P	04 17 20.2	+0.3
	baz=54						
Z36A	**Blue Ridge**	54.40	80	P	P	04 17 20.5	+0.5
	baz=54						
532A	**Rocksprings**	54.52	85	P	P	04 17 21.0	+0.1
	baz=54						
433A	**Art**	54.56	84	P	P	04 17 21.4	+0.3
	baz=54						
631A	**Perdido Creek**	54.62	87	P	P	04 17 21.9	+0.3
	baz=54						
334A	**Lometa**	54.67	83	P	P	04 17 22.6	+0.7
	baz=55						
WHTX	**Lake Whitney**	54.68	82	P	P	04 17 22.8	+0.8
	baz=55						
Z37A	**Pogue Cattle C**	54.94	80	P	P	04 17 23.8	0.0
	baz=55						
SFIN	**Scholer Farm**	55.00	68	P	P	04 17 24.0	-0.1
	baz=55						
434A	**Burnet**	55.02	84	P	P	04 17 25.0	+0.5
	baz=55						
632A	**Uvalde**	55.03	86	P	P	04 17 25.1	+0.5
	baz=55						
533A	**Kerrville**	55.08	85	P	P	04 17 25.6	+0.6
	baz=55						
MIAR	**Mount Ida**	55.23	77	P	P	04 17 26.4	+0.5
	baz=55						
MIAR	**Mount Ida**	55.23	77	*e*P	P	04 17 26.1	+0.2
	8.1nm,1.1s						
SCHQ	**Schefferville**	55.27	43	LR	LR	04 42 12.6	
	comp=Z,78nm,19.0s,baz=24,slow=37						
534A	**Blanco**	55.45	84	P	P	04 17 28.1	+0.5
	baz=55						
732A	**Laxson Ranch,**	55.47	87	P	P	04 17 28.2	+0.5
	baz=55						
336A	**Riesel**	55.48	82	P	P	04 17 28.4	+0.7
	baz=55						
832A	**Faith Ranch, C**	55.79	87	P	P	04 17 31.2	+1.1
	baz=56						
833A	**Chaparral WMA,**	56.12	87	P	P	04 17 33.5	+1.1
	baz=56						
H06N1	**SOCORRO T-PHAS**	56.18	104	T	T	05 18 22.8	
	SNR=31						
H06E1	**SOCORRO T-PHAS**	56.27	104	T	T	05 18 25.5	
	SNR=24						
635A	**Leesville**	56.34	84	P	P	04 17 35.1	+1.2
	baz=56						
ARCES	**ARCESS Array B**	57.65	354	P	P	04 17 44.6	+2.0
	1.1nm,0.8s,baz=354,slow=7.3,SNR=2.9						
ARCES				LR	LR	04 44 47.0	
	comp=Z,18nm,18.2s,baz=334,slow=38						
SSPA	**Standing Stone**	59.89	62	*e*P	P	04 17 58.6	0.0
	7.4nm,1.0s						
GTA	**Gaotai**	60.31	297	*e*P	P	04 18 03.3	+1.6
GTA				pP	pP	04 18 06.5	-0.6
GTA				sP	sP	04 18 09.3	+0.2
GTA				PMZ			
	2.0nm,1.1s						
LZH	**Lanzhou**	60.44	292	*e*P	P	04 18 04.3	+1.6
LZH				pP	pP	04 18 08.0	0.0
LZH				sP	sP	04 18 10.0	-0.1
LZH				PMZ			
	14nm,1.0s						
BLA	**Blacksburg**	60.94	66	*e*P	P	04 18 06.7	+0.7
	16nm,1.0s						
LUPA	**Lehigh Univers**	61.25	60	*e*P	P	04 18 08.4	+0.4
	2.0nm,0.9s						
KMSC	**Kings Mountain**	61.92	68	P	P	04 18 12.1	-0.4
	baz=62						
WMQ	**Urumqi**	63.33	308	*e*P	P	04 18 24.0	+2.1
WMQ				pP	pP	04 18 29.0	+1.8
WMQ				sP	sP	04 18 31.0	+1.8
WMQ				PMZ			
	12nm,0.8s						
WMQ				PMZ			
	52nm,4.4s						
WMQ				LN			
	29nm,26.0s						
WMQ				LZ			
	29nm,20.0s						
MKAR	**Makanchi Array**	63.59	313	P	P	04 18 24.8	+1.3
	0.2nm,0.5s,baz=36,slow=5.9,SNR=2.8						
MKAR				LR	LR	04 50 10.8	
	comp=Z,28nm,18.5s,baz=14,slow=40						
CD2	**Chengdu**	64.24	288	*e*P	P	04 18 27.3	-0.8
CD2				PMZ			
	10.0nm,0.5s						
FINES	**FINESS Array B**	65.59	352	P	P	04 18 36.8	+0.5
	0.4nm,0.5s,baz=189,slow=35,SNR=2.5						
FINES				LR	LR	04 48 56.8	
	comp=Z,15nm,20.4s,baz=100,slow=38						
NOA	**NORSAR Array B**	66.67	360	P	P	04 18 43.1	-0.2
	0.5nm,0.7s,baz=1.2,slow=6.4,SNR=3.1						
ABKAR	**Akbulak array**	70.18	328	*e*P	P	04 19 05.2	-0.1
SIJI	**Sorong**	72.59	244	P	P	04 19 20.2	-0.1
	3.9nm,0.3s,baz=19,slow=11,SNR=3.9						
CMAR	**Chiang Mai Arr**	76.51	283	P	P	04 19 43.3	+0.1
	0.4nm,0.4s,baz=32,slow=5.4,SNR=2.7						
CMAR				LR	LR	04 57 01.5	
	comp=Z,14nm,18.9s,baz=98,slow=39						
WRA	**Warramunga Arr**	87.14	232	P	P	04 20 38.3	-0.6
	0.9nm,0.6s,baz=36,slow=5.8,SNR=13						
ESDC	**Sonseca Array**	87.20	11	P	P	04 20 38.8	-0.4
	0.3nm,0.5s,baz=337,slow=5.5,SNR=3.4						
PSI	**Prapat**	88.79	273	P	P	04 20 46.8	-0.4
	16nm,1.0s,baz=33,slow=13,SNR=5.0						
ROSC	**El Rosal**	89.28	83	LR	LR	05 02 32.4	
	comp=Z,18nm,18.7s,baz=35,slow=37						
ASAR	**Alice Springs**	90.53	230	P	P	04 20 54.5	-0.3
	2.1nm,0.6s,baz=26,slow=4.9,SNR=16						
TORD	**Torodi Ar. Bea**	114.04	9	PKP	PKPdf	04 26 30.8	-1.5
	0.2nm,0.6s,baz=338,slow=2.1,SNR=3.5						
TORD				PKKPab	**PKKPab**	04 37 18.4	-4.3
	1.2nm,0.8s,baz=190,slow=4.3,SNR=5.7						
QSPA	**South Pole Qui**	142.40	180	PKhKP	PKPpre	04 27 19.4	
	1.9nm,0.6s,baz=53,slow=1.9,SNR=18						
QSPA				PKP	**PKPdf**	04 27 22.8	-1.5
	1.9nm,0.6s,baz=59,slow=0.4,SNR=18						
BOSA	**Boshof**	153.64	330	PKPbc	**PKPbc**	04 27 51.4	-0.3
	1.4nm,0.4s,baz=18,slow=3.2,SNR=5.8						

IDC ***28*** *04:15:24.9±1.1,21.79N×119.90E,h0km,mb3.5/6, mb1 3.7/7,mb1mx3.5/26,mbtmp3.5/7,ML3.9/1,MS2.8/2, Ms1 2.9/2,ms1mx2.3/34,Error ellipse: s-maj=33.8km s-min=21.6km az=66.0*

TAP ***28*** *04:15:28.8,21.90N×119.78E,h24km±1km,ML3.7,D*

ISCJB ***28*** *04:15:29.1±0.5,21.86N±0.03×119.75E±0.04,h44km, mb3.5/6,Error ellipse: s-maj=5.0km s-min=4.1km az=33.4*

ISC 28 04:15:30.4±0.9,21.86N±0.06×119.77E±0.06,h44km,n53, σ0.993/83,mb3.5/6,6D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWP	**Hsiaoliuchiu**	0.74	48	*e*P		Pn	04 15 42.8	-1.6
	baz=50							
TWP				*e*S		Sn	04 15 53.1	-1.5
	baz=50							
KAU	**Kaohsiung**	0.87	35	*e*P		Pn	04 15 45.4	-0.8
	baz=36							
KAU				*e*S		Sn	04 15 57.3	-0.5
	baz=36							
HEN	**Hengchun**	0.92	80	*e*P		Pn	04 15 46.2	-0.6
	baz=83							
HEN				S		Sn	04 15 59.4	+0.5
	baz=83							
SCZT	**Fangliau**	0.94	57	⇓*i*P		Pn	04 15 46.1	-1.1
	baz=59							
SCZT				S		Sn	04 15 58.9	-0.8
	baz=59							
TWK1	**Hengchun**	0.97	85	*i* P		Pn	04 15 46.6	-1.0
	baz=87							
TWK1				S		Sn	04 16 00.2	0.0
	baz=87							
TSEB	**Hengchuen, Pin**	1.05	87	*i* P		Pn	04 15 47.5	-1.2
	baz=89							
TSEB				S		Sn	04 16 01.7	-0.6
	baz=89							
SGLT	**Jiouru**	1.10	38	*e*P		Pn	04 15 48.8	-0.6
	baz=39							
SGLT				*e*S		Sn	04 16 03.6	+0.3
	baz=39							
EAST	**Anshuo**	1.13	62	⇓*i*P		Pn	04 15 49.0	-0.8
	baz=64							
EAST				S		Sn	04 16 03.1	-1.2
	baz=64							
TWM1	**Shoushan**	1.14	32	*e*P		Pn	04 15 49.2	-0.7
	baz=33							
TWM1				*e*S		Sn	04 16 03.6	-0.8
	baz=33							
TAW	**Tawu**	1.16	64	P		Pn	04 15 49.2	-1.0
	baz=66							
TAI1	**Yung-k'ang**	1.25	20	*e*P		Pn	04 15 50.1	-1.3
	baz=20							
TAI1				*e*S		Sn	04 16 06.5	-0.7
	baz=20							
ECL	**Taimali**	1.33	56	*e*P		Pn	04 15 51.6	-0.9
	baz=57							
CHN3	**Shinhua**	1.34	24	*e*P		Pn	04 15 52.5	-0.1
	baz=24							
SCLT	**Jiali**	1.37	17	*e*P		Pn	04 15 52.2	-0.9
	baz=17							
SCLT				*e*S		Sn	04 16 09.3	-0.8
	baz=17							
WDGT	**Dungji**	1.40	356	*e*P		Pn	04 15 51.5	-2.0
	baz=355							
SGST	**Jiashian**	1.44	32	*e*P		Pn	04 15 53.0	-1.0
	baz=32							
SGST				*e*S		Sn	04 16 10.7	-1.0
	baz=32							
CHN1	**Nanshi**	1.50	28	⇓P		Pn	04 15 53.9	-1.0
	baz=28							
CHN1				*i* S		Sn	04 16 12.3	-1.0
	baz=28							
TWG	**Pinlang**	1.54	51	⇓*i*P		Pn	04 15 55.2	-0.3
	baz=52							
TWG				*i* S		Sn	04 16 13.1	-1.2
	baz=52							
TWK	**Hsinying**	1.56	25	P		Pn	04 15 54.8	-0.9

	baz=26							
TWK					*e*S	**Sn**	**04 16 14.1**	**-0.6**
	baz=26							
WTP	**Ta-pu**	**1.59**	**29**	⇓P		**Pn**	**04 15 55.1**	**-1.1**
	baz=30							
WTP					*e*S	**Sn**	**04 16 14.5**	**-1.1**
	baz=30							
STYT	**Tauyuan**	**1.59**	**35**	P		**Pn**	**04 15 55.3**	**-0.9**
	baz=36							
STYT					*e*S	**Sn**	**04 16 15.2**	**-0.4**
	baz=36							
LAY	**Lan-yu**	**1.67**	**83**	*e*P		**Pn**	**04 15 55.1**	**-2.1**
	baz=85							
PNG	**Penghu**	**1.71**	**354**	*e*P		**Pn**	**04 15 56.2**	**-1.6**
	baz=353							
CHY	**Chiayi**	**1.74**	**20**	*e*P		**Pn**	**04 15 55.8**	**-2.4**
	baz=20							
ELDTW	**Lidau**	**1.76**	**41**	*e*P		**Pn**	**04 15 57.5**	**-1.0**
	baz=41							
ELDTW					*e*S	**Sn**	**04 16 19.3**	**-0.5**
	baz=41							
CHN2	**Minshiung**	**1.79**	**21**	*e*P		**Pn**	**04 15 58.0**	**-0.9**
	baz=21							
WSF	**Szhu**	**1.82**	**13**	*e*P		**Pn**	**04 15 57.2**	**-2.1**
	baz=13							
ALS	**Alishan**	**1.91**	**30**	*e*P		**Pn**	**04 15 59.8**	**-1.0**
	baz=30							
ALS					*e*S	**Sn**	**04 16 23.1**	**-0.6**
	baz=30							
CHN5	**Tsauling**	**1.93**	**26**	*e*P		**Pn**	**04 15 59.8**	**-1.1**
	baz=26							
CHN5					*e*S	**Sn**	**04 16 22.7**	**-1.2**
	baz=26							
CHKT	**Chengkung**	**1.93**	**50**	P		**Pn**	**04 16 00.6**	**-0.2**
	baz=51							
CHKT					*i* S	**Sn**	**04 16 23.9**	**+0.1**
	baz=51							
TWF1	**Yuli**	**2.06**	**43**	⇓P		**Pn**	**04 16 02.3**	**-0.2**
	baz=44							
TWF1					S	**Sn**	**04 16 25.8**	**-1.1**
	baz=44							
EHY	**Hungye**	**2.18**	**41**	P		**Pn**	**04 16 04.3**	**0.0**
	baz=41							
EHY					*e*S	**Sn**	**04 16 29.6**	**-0.5**
	baz=41							
SMLT	**Sun Moon Lake**	**2.27**	**27**	P		**Pn**	**04 16 05.3**	**-0.3**
	baz=27							
SMLT					S	**Sn**	**04 16 31.8**	**-0.7**
	baz=27							
TYC	**Yuchr**	**2.27**	**26**	*e*P		**Pn**	**04 16 05.1**	**-0.4**
	baz=26							
TYC					*e*S	**Sn**	**04 16 31.8**	**-0.5**
	baz=26							
TCU	**Taichung**	**2.43**	**20**	*e*P		**Pn**	**04 16 08.2**	**+0.6**
	baz=20							
ESL	**Shilin**	**2.48**	**38**	P		**Pn**	**04 16 08.3**	**-0.1**
	baz=38							
ESL					*e*S	**Sn**	**04 16 36.5**	**-1.0**
	baz=38							
WHF	**Hehuan Shan**	**2.67**	**31**	*e*P		**Pn**	**04 16 11.3**	**0.0**
	baz=31							
WHF					*e*S	**Sn**	**04 16 42.6**	**0.0**
	baz=31							
TWT	**Tachien**	**2.72**	**28**	*e*P		**Pn**	**04 16 11.7**	**-0.1**
	baz=28							
TWT					*e*S	**Sn**	**04 16 42.6**	**-0.9**
	baz=28							
TWD	**Chiawan**	**2.78**	**37**	*e*P		**Pn**	**04 16 12.4**	**0.0**
	baz=37							
NNS	**Nan Shan**	**2.97**	**30**	*e*P		**Pn**	**04 16 15.7**	**+0.5**
	baz=30							
NNS					*e*S	**Sn**	**04 16 49.4**	**-0.2**
	baz=30							
ENA	**Nanau**	**3.14**	**35**	*e*P		**Pn**	**04 16 17.8**	**+0.4**
	baz=35							
NSK	**Sanguang**	**3.17**	**27**	*e*P		**Pn**	**04 16 17.9**	**+0.1**
	baz=27							
NSK					*e*S	**Sn**	**04 16 54.2**	**-0.2**
	baz=27							
ENTT	**Nioudou**	**3.23**	**31**	*e*P		**Pn**	**04 16 19.1**	**+0.5**
	baz=31							
ENTT					*e*S	**Sn**	**04 16 55.7**	**-0.2**
	baz=31							
TWC	**Suao**	**3.34**	**35**	*e*P		**Pn**	**04 16 20.7**	**+0.6**
	baz=35							
TWE	**Neicheng**	**3.35**	**31**	*e*P		**Pn**	**04 16 20.2**	**0.0**
	baz=31							
JNU	**Nakatsue**	**14.93**	**39**	LR		LR	04 25 14.9	
	comp=Z,47nm,20.3s,baz=119,slow=40							
CMAR	**Chiang Mai Arr**	**19.84**	**264**	P		**Pn**	**04 19 59.2**	**-0.3**
	0.2nm,0.3s,baz=80,slow=8.9,SNR=3.3							
CMAR					LR	LR	04 26 36.0	
	comp=Z,22nm,21.5s,baz=122,slow=34							
MJAR	**Matsushiro Arr**	**21.70**	**44**	P		**P**	**04 20 17.9**	**+0.2**
	0.8nm,0.3s,baz=249,slow=9.0,SNR=3.1							
SONM	**Songino Array**	**28.06**	**341**	P		**P**	**04 21 18.6**	**+0.9**
	0.4nm,0.6s,baz=156,slow=7.4,SNR=2.7							
MKAR	**Makanchi Array**	**39.15**	**319**	P		**P**	**04 22 55.6**	**+1.7**
	0.4nm,0.6s,baz=125,slow=9.2,SNR=4.5							
ZALV	**Zalesovo Beam**	**41.53**	**329**	P		**P**	**04 23 14.5**	**+1.2**
	1.1nm,0.6s,baz=120,slow=8.8,SNR=5.9							
WRA	**Warramunga Arr**	**43.92**	**160**	P		**P**	**04 23 32.0**	**-1.0**
	0.4nm,0.6s,baz=342,slow=9.0,SNR=3.1							
ASAR	**Alice Springs**	**47.29**	**162**	P		**P**	**04 23 59.8**	**0.0**
	0.3nm,0.3s,baz=354,slow=7.8,SNR=3.9							

MAN 28 04:16:17.8±99N×126°09E.h25km,mb4.5,ML3.4,MS3.3, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**1.48**	**249**	*e*P	Pn	04 16 41.0	-1.0
CGP				*i* S	Sn	04 17 01.2	+0.7
TBP	**Tagbilaran**	**2.30**	**288**	*e*P	Pn	04 16 53.8	+0.4
TBP				*e*S	Sn	04 17 22.7	+1.8
CTBH	**Cotabato--PC H**	**2.53**	**226**	⇓*i*P	Pn	04 16 56.5	0.0
CTBH				*i* S	Sn	04 17 07.7	-19

*ISCJB **28** 04:22:44.9±0.4, 46°06N±0°02×7°67E±0°04, h5km×7km, Error ellipse: s-maj=4.9km s-min=3.6km az=176.3*
*GEN **28** 04:22:44.5, 46°09N×7°67E, h3km, ML1.1*
*CSEM **28** 04:22:44.8±0.0, 46°07N×7°68E, h5km, ML1.9/4, Error ellipse: s-maj=1.0km s-min=0.6km az=100.0*
*ROM **28** 04:22:44.3±0.3, 46°06N×7°68E, h8km±3km, Md1.7/6, Ml1.0/2, Error ellipse: s-maj=4.4km s-min=1.8km az=16.0*
*ZUR **28** 04:22:45.1, 46°07N×7°69E, h2km±2km, ML1.3/8*

ISC 28 04:22:45.0±1.1, 46°07N±0°02×7°69E±0°02, h9km±9km, n32, σ0°82/51, 10C-2D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANNI	**Vissoie, Val d**	**0.15**	**336**	⇑*i*Pg	**Pg**	**04 22 48.4**	**0.0**
	443nm,0.4s						
VANNI				*e*Sg	**Sg**	**04 22 50.2**	**-0.5**
	443nm,0.4s						
VANNI	**Vissoie, Val d**	**0.15**	**336**	⇑*i*Pg	**Pg**	**04 22 48.4**	**0.0**
	443nm,0.4s						
VANNI				*e*Sg	**Sg**	**04 22 50.2**	**-0.5**
	443nm,0.4s						
EMBD	**Embd, Matterta**	**0.18**	**35**	⇑*i*Pg	**Pg**	**04 22 48.8**	**+0.1**
	163nm,0.2s						
EMBD				*i* Sg	**Sg**	**04 22 51.0**	**-0.4**
	163nm,0.2s						
EMBD	**Embd, Matterta**	**0.18**	**35**	⇑*i*Pg	**Pg**	**04 22 48.8**	**+0.1**
	163nm,0.2s						
EMBD				*i* Sg	**Sg**	**04 22 51.0**	**-0.4**
	163nm,0.2s						
DIX	**Grande Dixence**	**0.19**	**272**	*i* Sg	**Sg**	**04 22 49.2**	**-2.8**
	196nm,0.1s						
DIX	**Grande Dixence**	**0.19**	**272**	⇑*i*Pg	**Pg**	**04 22 51.7**	**+2.6**
	196nm,0.1s						
DIX	**Grande Dixence**	**0.19**	**272**	Pg	**Pg**	**04 22 49.1**	**0.0**
DIX				Sg	**Pg**	**04 22 51.7**	**+2.6**
DIX	**Grande Dixence**	**0.19**	**272**	Pg	**Pg**	**04 22 49.1**	**0.0**
DIX				Sg	**Pg**	**04 22 51.7**	**+2.6**
MMK	**Mattmark**	**0.20**	**96**	⇑*i*Pg	**Pg**	**04 22 49.1**	**0.0**
	62nm,0.0s						
MMK	**Mattmark**	**0.20**	**96**	Pg	**Pg**	**04 22 49.2**	**+0.1**
MMK				Sg	**Sg**	**04 22 51.8**	**-0.2**
MMK	**Mattmark**	**0.20**	**96**	Pg	**Pg**	**04 22 49.2**	**+0.1**
MMK				Sg	**Sg**	**04 22 51.8**	**-0.2**
SATI	**Passo dei Sala**	**0.23**	**147**	Pg	**Pg**	**04 22 50.2**	**+0.3**
SATI				Sg	**Sg**	**04 22 53.4**	**+0.2**
	29nm,0.2s						
SATI	**Passo dei Sala**	**0.23**	**147**	P	**Pg**	**04 22 50.1**	**+0.2**
SATI				S	**Sg**	**04 22 53.4**	**+0.2**
LKBD2	**Leukerbad 2**	**0.30**	**355**	⇑*i*Pg	**Pg**	**04 22 51.2**	**+0.1**
	20nm,0.2s						
LKBD2	**Leukerbad 2**	**0.30**	**355**	⇑*i*Pg	**Pg**	**04 22 51.2**	**+0.1**
	20nm,0.2s						
LKBD	**Leukerbad**	**0.32**	**353**	⇑*i*P	**Pg**	**04 22 51.3**	**0.0**
	13nm,0.3s						
LKBD				*i* Sg	**Sg**	**04 22 56.0**	**+0.4**
	13nm,0.3s						
LKBD	**Leukerbad**	**0.32**	**353**	⇑*i*P	**Pg**	**04 22 51.3**	**0.0**
	13nm,0.3s						
LKBD				*i* Sg	**Sg**	**04 22 56.0**	**+0.4**
	13nm,0.3s						
SENIN	**Lac Senin/Sane**	**0.40**	**317**	*e*Pg	**Pg**	**04 22 52.9**	**+0.1**
	13nm,0.2s						
SENIN	**Lac Senin/Sane**	**0.40**	**317**	*e*Pg	**Pg**	**04 22 52.9**	**+0.1**
	13nm,0.2s						
FIESA	**Fiescheralp**	**0.47**	**39**	⇓*i*Pg	**Pg**	**04 22 54.2**	**+0.1**
	23nm,0.2s						
FIESA	**Fiescheralp**	**0.47**	**39**	⇓*i*Pg	**Pg**	**04 22 54.2**	**+0.1**
	23nm,0.2s						
CIRO	**Champorcher**	**0.48**	**190**	Pg	**Pg**	**04 22 54.2**	**-0.1**
CIRO				Sg	**Sg**	**04 23 00.5**	**-0.1**
	7.0nm,0.2s						
CIRO	**Champorcher**	**0.48**	**190**	P	**Pg**	**04 22 54.2**	**-0.1**
CIRO				Sg	**Sg**	**04 23 00.5**	**-0.1**
	7.0nm,0.2s						
TRAV	**Traversella**	**0.56**	**176**	Pg	**Pg**	**04 22 55.7**	**-0.1**
TRAV				Sg	**Sg**	**04 23 03.7**	**+0.5**
TRAV	**Traversella**	**0.56**	**176**	P	**Pg**	**04 22 55.7**	**-0.1**
TRAV				Sg	**Sg**	**04 23 03.7**	**+0.5**
LSD	**Lago del Serru**	**0.72**	**212**	Pg	**Pg**	**04 22 58.9**	**-0.1**
LSD				Sg	**Sg**	**04 23 07.7**	**-0.7**
LSD	**Lago del Serru**	**0.72**	**212**	P	**Pg**	**04 22 58.5**	**-0.5**
LSD	**Lago del Serru**	**0.72**	**212**	Pg	**Pg**	**04 22 58.9**	**-0.1**
LSD				Sg	**Sg**	**04 23 07.7**	**-0.7**
RSP	**Reno Superiore**	**0.97**	**198**	P	**Pg**	**04 23 03.4**	**-0.2**
RSP				S	**Sg**	**04 23 15.9**	**-0.3**
BHB	**Bricherasio**	**1.27**	**194**	P	**Pg**	**04 23 09.1**	**-0.1**
RRL	**Rocca Remolon**	**1.31**	**209**	P	**Pg**	**04 23 09.8**	**-0.3**
PZZ	**Stroppo**	**1.62**	**195**	P	**Pn**	**04 23 14.1**	**+0.3**

*IDC **28** 04:22:43.9±1.9, 27°08N×21°01W, h0km, mb3.7/5, mb1 3.7/7, mb1mx3.5/29, mbtmp3.6/7, ML5.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/24, Error ellipse: s-maj=48.0km s-min=26.9km az=64.0*
*INMG **28** 04:22:54.9±2.5, 27°69N×20°62W, h10km, ML4.1, Error ellipse: s-maj=21.8km s-min=12.5km az=74.0*

ISC 28 04:22:46.5±1.3, 27°4N±0°1×21°0W±0°2, h10km, n33, σ1°§55/30, mb3.7/5, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMOZ	**Porto Moniz, M**	**6.29**	**30**	*e*P	Pn	04 24 16.0	-3.5
PMOZ				*e*S	Sn	04 25 17.7	-14
PMOZ				A	A	04 25 29.0	
	298nm,0.3s						
PMAR	**Madeira**	**6.34**	**33**	*e*P	Pn	04 24 17.0	-3.3
PMAR				*e*S	Sn	04 25 18.4	-15
PMAR				A	A	04 25 28.1	
	212nm,0.3s						
PMPS	**Porto Santo**	**6.90**	**34**	*e*P	Pn	04 24 25.1	-2.6
PMPS				*e*S	Sn	04 25 31.8	-14
PMPS				A	A	04 25 43.1	
	83nm,0.3s						
PMPST	**Porto Santo, M**	**6.92**	**34**	*e*P	Pn	04 24 24.3	-3.7
PMPST				*e*S	Sn	04 25 32.0	-15
PMPST				A	A	04 25 42.6	
	102nm,0.4s						
PSMN	**Pico do Norte,**	**10.15**	**341**	*e*P	**Pn**	**04 25 11.4**	**-0.9**
PSMA	**Santa Maria**	**10.16**	**341**	*e*P	**Pn**	**04 25 11.9**	**-0.6**
BART	**Pico Bartolome**	**10.90**	**342**	*e*P	**Pn**	**04 25 22.4**	**-0.3**
GRON	**Grota Negra**	**11.00**	**341**	*e*P	**Pn**	**04 25 23.1**	**-0.9**
PDA	**Ponta Delgada**	**11.02**	**340**	*e*P	**Pn**	**04 25 23.7**	**-0.5**
PSET	**Sete Cidades**	**11.11**	**340**	*e*P	**Pn**	**04 25 24.7**	**-0.7**
ADH	**Angra Heroismo**	**12.36**	**337**	*e*P	**Pn**	**04 25 42.0**	**-0.5**
PMAN	**Manadas**	**12.66**	**334**	*e*P	**Pn**	**04 25 47.1**	**+0.5**
PCAN	**Candelaria**	**12.68**	**332**	*e*P	**Pn**	**04 25 47.1**	**+0.2**
ROSA	**Rosais**	**12.79**	**333**	*e*P	**Pn**	**04 25 48.8**	**+0.3**
CALA	**Caldeira**	**12.87**	**332**	*e*P	**Pn**	**04 25 50.2**	**+0.7**
PCED	**Cedros**	**12.90**	**332**	*e*P	**Pn**	**04 25 50.4**	**+0.4**
PGRA	**Graciosa**	**12.96**	**335**	*e*P	**Pn**	**04 25 50.9**	**+0.1**
PBDV	**Barranco-do-Ve**	**14.73**	**45**	*e*P	**Pn**	**04 26 13.5**	**-1.5**
PCVE	**Castro Verde**	**14.90**	**44**	*e*P	**Pn**	**04 26 16.7**	**-0.6**
PCVE				*e*S	Sn	04 28 48.1	-14
PNCL	**Nicolau / Gran**	**14.92**	**41**	*e*P	**Pn**	**04 26 16.7**	**-0.8**
PNCL				*e*S	Sn	04 28 49.6	-13
MESJ	**Messejana**	**14.93**	**43**	*e*P	**Pn**	**04 26 16.8**	**-0.8**
PVAQ	**Vaqueiros**	**14.96**	**45**	*e*P	**Pn**	**04 26 16.2**	**-1.9**
PVAQ				*e*S	Sn	04 28 48.9	-15
MDT	**Midelt**	**15.14**	**65**	Pn	**Pn**	**04 26 23.0**	**+2.3**
	0.1nm,0.3s,baz=261,slow=8.7,SNR=3.3						
MDT				Sn	Sn	04 28 58.5	-10
	0.1nm,0.3s,baz=50,slow=17,SNR=2.4						
EVO	**Evora**	**15.51**	**41**	*e*P	**Pn**	**04 26 23.6**	**-1.7**
EVO				*e*S	Sn	04 29 04.3	-13
PMTG	**Montargil**	**15.75**	**39**	*e*P	**Pn**	**04 26 28.1**	**-0.3**
PMTG				*e*S	Sn	04 29 16.4	-6.5
PBAR	**Barrancos**	**15.86**	**44**	*e*P	**Pn**	**04 26 28.9**	**-1.0**
PBAR				*e*S	Sn	04 29 11.8	-14
PMRV	**Marv??o**	**16.46**	**40**	*e*P	**Pn**	**04 26 37.9**	**+0.3**
PMRV				*e*S	Sn	04 29 24.6	-16
ESDC	**Sonseca Array**	**18.68**	**45**	P	**Pn**	**04 27 06.6**	**+1.4**
	1.0nm,0.3s,baz=236,slow=12,SNR=14						
TORD	**Torodi Ar. Bea**	**25.51**	**119**	P	**P**	**04 28 12.2**	**-3.1**
	0.4nm,0.6s,baz=308,slow=9.0,SNR=7.0						
TORD				S	**S**	**04 32 47.6**	**+4.7**
	0.4nm,0.5s,baz=303,slow=22,SNR=2.8						
TORD				LR	LR	04 37 34.8	
	comp=Z,51nm,18.3s,baz=210,slow=35						
DBIC	**Dimbokro**	**25.70**	**141**	P	**P**	**04 28 14.6**	**-2.5**
	2.7nm,0.8s,baz=0.0,slow=8.1,SNR=2.4						
ARCES	**ARCESS Array B**	**49.90**	**19**	P	**P**	**04 31 41.5**	**+1.6**
	0.8nm,0.8s,baz=240,slow=9.1,SNR=2.6						
MKAR	**Makanchi Array**	**78.89**	**43**	P	**P**	**04 34 50.2**	**+0.1**
	0.7nm,0.7s,baz=318,slow=4.9,SNR=3.7						
ILAR	**Eielson Array**	**79.01**	**339**	P	**P**	**04 34 51.3**	**+0.9**
	0.3nm,0.6s,baz=37,slow=4.0,SNR=4.6						

*ISCJB **28** 04:24:44.9±1.4, 52°58N±0°09×169°4W±0°1, h8km±8km, mb3.4/6, Error ellipse: s-maj=19.4km s-min=7.6km az=140.1*
*NEIC **28** 04:24:46.6, 52°70N×169°34W, h5km, ML3.4(AEIC), After AEIC.*
*IDC **28** 04:24:52.0±1.4, 52°72N×168°16W, h0km, mb3.5/6, mb1 3.7/8, mb1mx3.5/33, mbtmp3.4/8, ML3.3/2, Error ellipse: s-maj=33.1km s-min=23.1km az=168.0*

ISC 28 04:24:46.3±2.0, 52°7N±0°1×169°34W±0°08, h3km±12km, n34, σ0°§90/30, mb3.4/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.39**	**50**	P	**Pb**	**04 24 55.3**	**-0.6**
NIKH				S	**Sb**	**04 25 03.3**	**+1.1**
OKSP	**Okmok Steeple**	**0.83**	**50**	P	**Pb**	**04 25 03.0**	**-0.4**
OKSP				S	**Sn**	**04 25 16.8**	**-0.9**
OKSO	**Okmok South**	**0.95**	**48**	P	**Pb**	**04 25 05.3**	**-0.2**
OKSO				S	**Sn**	**04 25 19.6**	**-1.2**
OKWR	**Okmok West Rim**	**0.99**	**44**	P	**Pb**	**04 25 06.5**	**+0.4**
OKCE	**Okmok Cone E**	**1.00**	**45**	P	**Pb**	**04 25 05.7**	**-0.6**
OKWE	**Okmok W'ng Wal**	**1.00**	**41**	P	**Pb**	**04 25 06.3**	**0.0**
OKTU	**Okmok Mt. Tuli**	**1.03**	**50**	P	**Pb**	**04 25 06.7**	**0.0**
OKAK	**Okmok**	**1.04**	**34**	P	**Pg**	**04 25 04.8**	**-1.4**
OKRE	**Okmok R'deer P**	**1.07**	**41**	P	**Pn**	**04 25 08.1**	**-0.1**
OKFG	**Magazine Ridge**	**1.10**	**51**	P	**Pg**	**04 25 07.3**	**-0.2**
OKFG				S	**Sn**	**04 25 24.1**	**-0.3**
MCIR	**Makushin Cirqu**	**1.92**	**49**	P	**Pn**	**04 25 20.7**	**+0.8**
MSW	**Makushin Switc**	**1.94**	**51**	P	**Pn**	**04 25 21.0**	**+0.7**
MTBL	**Makushin Table**	**2.03**	**51**	P	**Pn**	**04 25 22.1**	**+0.6**
UNV	**Unalaska Valle**	**2.04**	**56**	*e*Pn	**Pn**	**04 25 20.8**	**-0.8**
UNV				S	**Sb**	**04 25 49.6**	**-0.2**
AKUT	**Akutan**	**2.56**	**55**	*e*Pn	**Pn**	**04 25 29.1**	**+0.4**
AKUT				*e*S	**Sg**	**04 26 09.4**	**+0.9**
ATKA	**Atka Island**	**3.01**	**262**	P	**Pn**	**04 25 35.1**	**+0.2**
SPIA	**Saint Paul Isl**	**4.49**	**354**	P	**Pn**	**04 25 55.6**	**+0.4**
SDPT	**Sand Point**	**5.85**	**60**	Pn	**Pn**	**04 26 16.0**	**+2.2**
KDAK	**Kodiak Island**	**10.81**	**55**	Pn	**Pn**	**04 27 22.2**	**+0.4**
	0.1nm,0.3s,baz=270,slow=15,SNR=2.2						
ILAR	**Eielson Array**	**16.65**	**35**	Pn	**Pn**	**04 28 41.7**	**+1.3**
	0.1nm,0.3s,baz=228,slow=10,SNR=4.4						
SEY	**Seymchan**	**22.44**	**312**	P	P	04 29 56.4	+10
	1.2nm,0.8s,baz=125,slow=9.4,SNR=3.8						
DLBC	**Dease Lake**	**22.69**	**60**	P	**P**	**04 29 49.6**	**+0.8**
	0.7nm,0.6s,baz=279,slow=16,SNR=2.2						
NVAR	**Mina Array Bea**	**37.66**	**91**	P	**P**	**04 32 03.8**	**+1.0**
	0.1nm,0.3s,baz=302,slow=7.4,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**37.74**	**218**	T	T	05 12 12.6	
	baz=23,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**37.75**	**218**	T	T	05 12 11.9	
	baz=23,slow=76,SNR=15						
H11N1	**WAKE ISLAND Hy**	**37.76**	**218**	T	T	05 12 12.6	
	baz=23,slow=76,SNR=21						
H11S1	**WAKE ISLAND Hy**	**38.93**	**218**	T	T	05 13 41.4	
	baz=22,slow=76,SNR=331						
H11S2	**WAKE ISLAND Hy**	**38.95**	**218**	T	T	05 13 41.4	
	baz=22,slow=76,SNR=196						
H11S3	**WAKE ISLAND Hy**	**38.95**	**218**	T	T	05 13 41.6	
	baz=22,slow=76,SNR=116						
PDAR	**Pinedale Array**	**40.32**	**80**	P	**P**	**04 32 23.9**	**-1.1**
	0.3nm,0.6s,baz=322,slow=6.9,SNR=3.2						
TXAR	**Lajitas Array**	**52.73**	**89**	P	**P**	**04 34 01.2**	**-1.2**
	0.6nm,0.9s,baz=300,slow=7.2,SNR=4.6						
H06N1	**SOCORRO T-PHAS**	**56.14**	**104**	T	T	05 35 27.0	
	SNR=18						
H06E1	**SOCORRO T-PHAS**	**56.23**	**104**	T	T	05 35 28.3	
	SNR=10						
ASAR	**Alice Springs**	**90.64**	**230**	P	P	04 37 59.8	+10
	0.9nm,0.9s,baz=30,slow=5.8,SNR=4.6						

*ISCJB **28** 04:28:35.5±1.2, 52°51N±0°07×169°38W±0°08, h6km±7km, mb3.7/8, MS2.6/1, Error ellipse: s-maj=14.1km s-min=4.6km az=148.2*
*IDC **28** 04:28:35.5±1.2, 52°58N×169°78W, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.7/29, mbtmp3.7/8, ML3.6/1, MS2.6/1, Ms1 2.6/1, ms1mx2.2/43, Error ellipse: s-maj=47.4km s-min=21.9km az=144.0*
*NEIC **28** 04:28:36.4, 52°59N×169°45W, h5km, ML3.7(AEIC), After AEIC.*

ISC 28 04:28:37.4±1.8, 52°6N±0°1×169°41W±0°06, h8km±10km, n43, σ1°§14/44, mb3.6/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.48**	**44**	P	**Pg**	**04 28 47.3**	**+0.6**
NIKH				S	**Sb**	**04 28 55.2**	**-0.1**
OKSP	**Okmok Steeple**	**0.92**	**47**	P	**Pb**	**04 28 55.5**	**-0.1**
OKSP				S	**Sg**	**04 29 07.8**	**+0.9**
OKSO	**Okmok South**	**1.05**	**46**	P	**Pg**	**04 28 56.5**	**-1.0**
OKSO				S	**Sg**	**04 29 11.7**	**+0.7**
OKWR	**Okmok West Rim**	**1.08**	**42**	P	**Pb**	**04 28 58.7**	**+0.2**
OKCE	**Okmok Cone E**	**1.09**	**43**	P	**Pg**	**04 28 57.7**	**-0.7**
OKWE	**Okmok W'ng Wal**	**1.10**	**40**	P	**Pg**	**04 28 58.5**	**0.0**
OKTU	**Okmok Mt. Tuli**	**1.12**	**47**	P	**Pg**	**04 28 58.5**	**-0.3**
OKAK	**Okmok**	**1.14**	**33**	P	**Pg**	**04 28 56.8**	**-2.4**
OKRE	**Okmok R'deer P**	**1.16**	**40**	P	**Pg**	**04 28 59.7**	**0.0**
OKFG	**Magazine Ridge**	**1.19**	**49**	P	**Pg**	**04 28 59.0**	**-1.3**
OKFG				S	**Sg**	**04 29 15.9**	**+0.2**
MSOM	**Makushin Julie**	**1.89**	**50**	P	**Pn**	**04 29 10.0**	**+0.1**
MCIR	**Makushin Cirqu**	**2.00**	**48**	P	**Pn**	**04 29 11.6**	**0.0**
MSW	**Makushin Switc**	**2.03**	**50**	P	**Pn**	**04 29 12.1**	**+0.2**
MSW				S	**Sn**	**04 29 38.6**	**+1.1**
MTBL	**Makushin Table**	**2.11**	**50**	P	**Pn**	**04 29 13.1**	**0.0**
UNV	**Unalaska Valle**	**2.13**	**54**	*e*Pn	**Pn**	**04 29 12.5**	**-0.7**
UNV				*e*S	**Sn**	**04 29 41.5**	**+1.8**
ZRO	**Akutan Zero**	**2.52**	**53**	P	**Pn**	**04 29 19.2**	**+0.5**
AKGG	**Akutan Green G**	**2.58**	**51**	P	**Pn**	**04 29 20.3**	**+0.9**
AKUT	**Akutan**	**2.65**	**54**	*e*Pn	**Pn**	**04 29 20.6**	**+0.3**
AKUT				*e*S	**Sb**	**04 29 56.5**	**-1.0**
ATKA	**Atka Island**	**2.96**	**264**	P	**Pn**	**04 29 24.6**	**-0.1**
GSTR	**Great Sitkin T**	**4.11**	**265**	*e*Pn	**Pn**	**04 29 41.0**	**+0.5**
GSTR				*e*S	**Sn**	**04 30 30.7**	**+1.9**
SPIA	**Saint Paul Isl**	**4.58**	**354**	P	**Pn**	**04 29 47.7**	**+0.9**
SDPT	**Sand Point**	**5.93**	**59**	*e*Pn	**Pn**	**04 30 05.3**	**-0.1**
SDPT				*e*S	**Sn**	**04 31 12.3**	**-1.1**
AMKA	**Amchitka**	**7.08**	**264**	*e*Pn	**Pn**	**04 30 22.8**	**+1.6**
KDAK	**Kodiak Island**	**10.90**	**55**	Pn	**Pn**	**04 31 13.5**	**+0.1**
	0.4nm,0.3s,baz=252,slow=13,SNR=3.9						
ILAR	**Eielson Array**	**16.75**	**35**	Pn	**Pn**	**04 32 30.7**	**-1.3**
	0.1nm,0.3s,baz=227,slow=11,SNR=9.9						
DLBC	**Dease Lake**	**22.77**	**60**	P	**P**	**04 33 43.2**	**+3.2**
	4.6nm,0.9s,baz=262,slow=9.5,SNR=8.8						
INK	**Inuvik**	**23.14**	**34**	P	**P**	**04 33 41.5**	**-2.2**
	2.0nm,0.9s,baz=183,slow=18,SNR=

2.6nm,0.3s,baz=90,slow=5.7,SNR=4.2
PMG LR LR 04 42 20.4
comp=Z,165nm,19.8s,baz=54,slow=37
PMG Port Moresby 8.03 251 *e*Pn **Pn 04 39 21.4 -1.4**
PMG *e*S **Sn 04 40 52.6 +0.2**
WRAB Tennant Creek 23.76 235 *e*P **P 04 42 36.9 -0.7**
3.4nm,0.6s
WRA Warramunga Arr 23.78 235 P **P 04 42 37.7 +0.1**
3.0nm,0.7s,baz=58,slow=9.9,SNR=19
WRA PcP **PcP 04 46 21.4 +0.7**
0.3nm,0.4s,baz=60,slow=2.8,SNR=6.3
ASAR Alice Springs 26.15 228 P **P 04 42 57.5 -1.8**
1.7nm,0.8s,baz=59,slow=8.8,SNR=11
ASAR PcP **PcP 04 46 26.5 +0.5**
0.3nm,0.6s,baz=68,slow=2.4,SNR=3.2
STKA Stephens Creek 27.79 205 P **P 04 43 12.4 -1.4**
1.5nm,0.7s,baz=20,slow=14,SNR=4.1
CMAR Chiang Mai Arr 60.61 296 P **P 04 47 37.0 +1.2**
1.3nm,0.3s,baz=127,slow=5.9,SNR=4.2
SONM Songino Array 69.17 327 P **P 04 48 30.7 -0.3**
0.4nm,0.7s,baz=134,slow=6.2,SNR=2.6
VNDA Vanda 70.70 178 P **P 04 48 40.9 +1.0**
0.4nm,0.7s,baz=324,slow=5.9,SNR=2.4
QSPA South Pole Qui 83.10 180 *e*P **P 04 49 50.6 +0.7**
3.5nm,1.0s
MKAR Makanchi Array 83.23 319 P **P 04 49 50.4 -0.4**
0.6nm,0.5s,baz=110,slow=4.5,SNR=5.4
ILAR Eielson Array 83.31 22 P **P 04 49 49.0 -1.8**
0.4nm,0.6s,baz=256,slow=5.5,SNR=6.7
ZALV Zalesovo Beam 84.01 326 P **P 04 49 55.6 +1.0**
0.6nm,0.4s,baz=101,slow=7.5,SNR=2.8
NVAR Mina Array Bea 91.75 52 P **P 04 50 33.9 +1.3**
1.1nm,0.8s,baz=263,slow=4.5,SNR=6.3
YKA Yellowknife Ar 96.29 28 P **P 04 50 52.3 -0.3**
0.6nm,0.8s,baz=268,slow=4.7,SNR=3.7
GERES GERESS Array B 126.80 329 PKP **PKPdf 04 56 28.3 0.0**
0.2nm,0.3s,baz=46,slow=2.8,SNR=2.2
TORD Torodi Ar. Bea 152.87 285 PKPbc **PKPbc 04 57 22.1 -0.4**
2.3nm,0.8s,baz=76,slow=1.8,SNR=17

*IDC **28** 04:50:39.3±0.6,6.°84S×154.°87E,h0km,mb4.1/12, mb1 4.3/13,mb1mx4.2/20,mbtmp4.1/13,ML2.4/1,MS3.3/10, Ms1 3.3/10,ms1mx3.1/28,Error ellipse: s-maj=26.2km s-min=16.8km az=122.0*
*ISCJB **28** 04:50:44.3±0.5,6.°82S±0.°07×154.°83E±0.°08,h41km, mb4.0/12,MS3.3/7,Error ellipse: s-maj=13.3km s-min=8.3km az=34.2*
ISC 28 04:50:45.7±0.6,6.°8S±0.°1×154.°9E±0.°1,h41km,n40, σ1°15/39,mb4.1/12,MS3.3/7,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.69 118**		LR	LR	04 54 22.5	
	comp=Z,403nm,19.7s,baz=172,slow=40						
PMG	**Port Moresby**	**8.05 251**		Pn	**Pn**	**04 52 37.2**	**-3.0**
	2.6nm,0.3s,baz=72,slow=6.4,SNR=3.6						
PMG				Sn	**Sn**	**04 54 11.6**	**+1.7**
	1.1nm,0.3s,baz=128,slow=18,SNR=4.2						
PMG				LR	LR	04 55 47.9	
	comp=Z,202nm,20.9s,baz=52,slow=38						
COEN	**Coen**	**13.51 237**		P	**P**	**04 54 05.5**	**+2.2**
	baz=15,SNR=6.1						
JAY	**Jayapura**	**14.72 286**		LR	LR	05 00 53.4	
	comp=Z,241nm,18.0s,baz=12,slow=42						
CTA	**Charters Tower**	**15.63 211**		Pn	**Pn**	**04 54 23.6**	**+0.3**
	0.2nm,0.3s,baz=27,slow=11,SNR=3.0						
QIS	**Mount Isa**	**20.14 226**		P	**P**	**04 55 17.0**	**+0.4**
	baz=22,SNR=9.4						
RMQ	**Roma**	**20.43 196**		P	Pn	04 55 21.5	-0.6
	baz=22,SNR=16						
GUMO	**Guam**	**22.54 334**		LR	LR	05 04 09.0	
	comp=Z,26nm,20.8s,baz=131,slow=36						
WRA	**Warramunga Arr**	**23.82 235**		P	**P**	**04 55 54.3**	**-0.9**
	6.6nm,0.7s,baz=58,slow=9.9,SNR=41						
WRA				PcP	**PcP**	**04 59 38.5**	**+0.5**
	0.7nm,0.7s,baz=63,slow=2.6,SNR=4.8						
WRA				ScP	**ScP**	**05 03 15.7**	**+2.5**
	0.8nm,0.9s,baz=65,slow=3.1,SNR=4.7						
WRA				LR	LR	05 05 07.4	
	comp=Z,83nm,20.5s,baz=35,slow=36						
CMSA	**Cobar Meteorol**	**26.07 198**		P	**P**	**04 56 17.1**	**+1.5**
	baz=28,SNR=8.4						
ASAR	**Alice Springs**	**26.20 228**		P	**P**	**04 56 15.9**	**-1.0**
	2.8nm,0.7s,baz=62,slow=8.5,SNR=26						
ASAR				PcP	**PcP**	**04 59 43.3**	**+0.1**
	0.2nm,0.3s,baz=45,slow=4.6,SNR=2.7						
ASAR				ScP	**ScP**	**05 03 22.1**	**+2.2**
	0.9nm,0.8s,baz=45,slow=3.6,SNR=6.1						
STKA	**Stephens Creek**	**27.86 205**		P	**P**	**04 56 30.4**	**-1.2**
	1.6nm,0.6s,baz=12,slow=11,SNR=4.4						
STKA				LR	LR	05 07 44.3	
	comp=Z,104nm,18.5s,baz=30,slow=37						
SOEI	**Soe**	**30.40 262**		P	P	04 56 50.7	-3.9
	baz=32,SNR=4.1						
MILA	**Mila**	**30.57 189**		P	P	04 56 49.6	-6.1
	baz=32,SNR=44						
WRKA	**Warakurna**	**31.21 231**		P	**P**	**04 57 00.4**	**-1.1**
	baz=33,SNR=4.4						
PETK	**Petropavlovsk-**	**59.72 2**		P	**P**	**05 00 47.7**	**+1.6**
	5.2nm,0.8s,baz=176,slow=9.7,SNR=4.9						
PETK				LR	LR	05 21 36.4	
	comp=Z,12nm,21.6s,baz=138,slow=31						
CMAR	**Chiang Mai Arr**	**60.57 296**		P	**P**	**05 00 53.8**	**+1.1**
	1.9nm,0.7s,baz=127,slow=5.3,SNR=9.5						
SONM	**Songino Array**	**69.09 327**		P	**P**	**05 01 47.5**	**-0.2**
	0.5nm,0.6s,baz=134,slow=4.2,SNR=3.9						
SONM				LR	LR	05 33 48.5	
	comp=Z,16nm,18.2s,baz=113,slow=37						
VNDA	**Vanda**	**70.79 178**		P	**P**	**05 01 57.5**	**0.0**
	0.7nm,0.8s,baz=340,slow=6.3,SNR=5.4						
TAPN	**Taplejung**	**73.17 301**	*e*P		**P**	**05 02 13.5**	**+0.4**
	19nm,0.7s						
ODAN	**Odare**	**73.31 301**	*e*P		**P**	**05 02 14.3**	**+0.5**
	44nm,0.7s						
RAMN	**Ramite**	**74.01 300**	*e*P		**P**	**05 02 18.3**	**+0.4**
	5.8nm,0.4s						
GUN	**Gumba**	**74.89 301**	*e*P		**P**	**05 02 23.7**	**+0.5**
	35nm,0.7s						
PKI	**Pulchoki**	**75.20 301**	*e*P		**P**	**05 02 25.1**	**+0.2**
PKIN	**Phulchoki**	**75.21 301**	*e*P		**P**	**05 02 25.0**	**+0.1**
	8.0nm,0.6s						
KKN	**Kakani**	**75.37 301**	*e*P		**P**	**05 02 26.1**	**+0.3**
	19nm,0.7s						
DMN	**Daman**	**75.47 301**	*e*P		**P**	**05 02 26.8**	**+0.4**
	30nm,0.9s						
GKN	**Gorkha**	**75.97 301**	*e*P		**P**	**05 02 29.3**	**+0.2**
	23nm,0.9s						
KOLN	**Koldanda**	**76.80 300**	*e*P		**P**	**05 02 34.1**	**+0.2**
	16nm,0.7s						
MKAR	**Makanchi Array**	**83.16 319**	P		**P**	**05 03 07.5**	**-0.1**
	1.7nm,0.7s,baz=104,slow=6.0,SNR=14						
ILAR	**Eielson Array**	**83.23 22**	P		**P**	**05 03 07.1**	**-0.5**
	0.8nm,0.8s,baz=242,slow=5.5,SNR=9.9						
ILAR				LR	LR	05 38 57.5	
	comp=Z,32nm,18.9s,baz=268,slow=35						
ZALV	**Zalesovo Beam**	**83.97 326**	P		**P**	**05 03 09.5**	**-1.8**
	0.6nm,0.5s,baz=125,slow=4.5,SNR=3.5						
NVAR	**Mina Array Bea**	**91.70 52**	P		**P**	**05 03 50.2**	**+0.7**
	1.2nm,0.8s,baz=252,slow=6.9,SNR=10						
YKA	**Yellowknife Ar**	**96.22 28**	P		**P**	**05 04 08.6**	**-0.8**
	0.6nm,0.7s,baz=260,slow=4.7,SNR=5.5						
PDAR	**Pinedale Array**	**98.67 48**	LR		LR	05 45 00.3	
	comp=Z,16nm,19.0s,baz=260,slow=33						
AKASG	**Malin Array Be**	**117.29 324**	PKP		**PKPdf**	**05 09 25.7**	**-1.0**
	0.3nm,0.3s,baz=50,slow=2.2,SNR=3.1						
BRTR	**Keskin Array B**	**118.14 312**	PKP		**PKPdf**	**05 09 28.0**	**-1.0**
	0.5nm,0.6s,baz=78,slow=2.1,SNR=3.0						
GERES	**GERESS Array B**	**126.80 329**	PKP		**PKPdf**	**05 09 45.6**	**+0.3**
	0.9nm,0.7s,baz=48,slow=2.0,SNR=5.3						
BDFB	**Brasilia**	**148.22 135**	PKPbc		**PKPbc**	**05 10 27.9**	**-0.6**
	2.5nm,0.7s,baz=143,slow=5.2,SNR=4.6						
TORD	**Torodi Ar. Bea**	**152.83 286**	PKP		**PKPdf**	**05 10 31.7**	**-0.6**
	0.3nm,0.7s,baz=48,slow=2.1,SNR=2.6						
TORD				PKPbc	**PKPbc**	**05 10 39.0**	**-0.5**
	4.3nm,0.7s,baz=91,slow=1.9,SNR=28						

*IDC **28** 05:00:44.4±4.4,36.°39N×74.°51E,h0km,mb3.6/6, mb1 3.8/7,mb1mx3.6/27,mbtmp3.6/7,ML3.1/1,MS2.9/2, Ms1 2.9/2,ms1mx2.4/35,Error ellipse: s-maj=101.8km s-min=29.0km az=180.0*
ISC 28 05:00:50.7±3.3,36.°6N±0.°5×74.°5E±0.°2,h35km,n9,σ1°02/8, mb3.6/6,Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**18.78 19**		P	**Pn**	**05 05 07.4**	**0.0**
	0.3nm,0.3s,baz=216,slow=11,SNR=7.0						
ZALV				LR	LR	05 13 16.7	
	comp=Z,22nm,21.7s,baz=74,slow=40						
SONM	**Songino Array**	**25.98 54**		P	**P**	**05 06 20.5**	**+0.4**
	0.4nm,0.3s,baz=239,slow=10.0,SNR=3.4						
AKASG	**Malin Array Be**	**35.08 308**		P	**P**	**05 07 41.0**	**+0.7**
	0.6nm,0.3s,baz=91,slow=9.3,SNR=6.9						
FINES	**FINESS Array B**	**38.99 325**		P	**P**	**05 08 13.6**	**+0.4**
	0.7nm,0.6s,baz=99,slow=8.6,SNR=2.9						
NB2	**NORSAR Subarra**	**46.00 323**		P	**P**	**05 09 08.3**	**-2.0**
	comp=Z,0.5nm,0.6s,baz=92,slow=7.9						
NOA	**NORSAR Array B**	**46.00 323**		P	**P**	**05 09 10.1**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=92,slow=7.6,SNR=4.3						
KAPI	**Kappang**	**59.15 124**		LR	LR	05 38 26.4	
	comp=Z,17nm,21.6s,baz=102,slow=38						
ILAR	**Eielson Array**	**73.89 17**		P	**P**	**05 12 21.1**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=316,slow=5.0,SNR=4.3						
YKA	**Yellowknife Ar**	**80.98 4**		P	**P**	**05 13 01.6**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=347,slow=4.9,SNR=4.0						

*IDC **28** 05:22:00.9±1.4,37.°42S×177.°48E,h0km,mb4.1/3, mb1 4.3/3,mb1mx3.9/16,mbtmp4.1/3,MS3.3/6,Ms1 3.3/6, ms1mx3.1/20,Error ellipse: s-maj=37.4km s-min=11.5km az=99.0*
*WEL **28** 05:22:03.1±0.2,37.°38S×177.°30E,h5km,ML4.3/28,Error ellipse: s-maj=1.5km s-min=1.3km az=0.0*
WEL Felt in the Bay of Plenty region, maximum reported intensity MM 4.
*ISCJB **28** 05:22:04.1±0.5,37.°47S±0.°03×177.°21E±0.°03,h19km±3km, mb4.0/3,MS3.3/4,Error ellipse: s-maj=5.6km s-min=3.8km az=18.7*
*NEIC **28** 05:22:04.3,37.°42S×177.°28E,h11km,ML4.2(WEL),After WEL.*
NEIC Felt in Ohiwa.
ISC 28 05:22:03.7±0.9,37.°45S±0.°03×177.°28E±0.°02,h15km±5km, n148,σ0°87/136,mb4.0/3,MS3.3/4,5C-4D,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.10 224**		⇑PG	**Pg**	**05 22 07.1**	**+0.1**
WIZ				SG	**Sg**	**05 22 09.4**	**+0.2**
WIZ	**White Island**	**0.10 224**		Pg	**Pg**	**05 22 07.1**	**+0.1**
HAZ	**Te Kaha**	**0.50 127**		⇑PG	**Pg**	**05 22 13.1**	**-0.5**
HAZ				SG	**Sg**	**05 22 20.5**	**+0.1**
OPRZ	**Ohinepanea**	**0.70 235**		P*	**Pg**	**05 22 17.3**	**0.0**
OPRZ	**Ohinepanea**	**0.70 235**		P*	**Pg**	**05 22 17.3**	**0.0**
MARZ	**Manawahe**	**0.72 222**		⇑P*	**Pb**	**05 22 18.0**	**+0.1**
MARZ	**Manawahe**	**0.72 222**		P*	**Pb**	**05 22 18.0**	**+0.1**
EDRZ	**Edgecumbe**	**0.78 213**		P*	**Pb**	**05 22 19.1**	**+0.1**
EDRZ				AML	AML	05 22 44.4	
EDRZ				AML	AML	05 22 52.9	
EDRZ	**Edgecumbe**	**0.78 213**		P*	**Pb**	**05 22 19.1**	**+0.1**
URZ	**Urewera**	**0.82 189**		⇓P*	**Pg**	**05 22 19.0**	**-0.6**
URZ				AML	AML	05 22 31.0	
URZ				AML	AML	05 22 34.3	
URZ	**Urewera**	**0.82 189**		Pg	**Pg**	**05 22 19.1**	**-0.6**
	469nm,0.3s,baz=295,slow=3.8,SNR=2211						
URZ				Lg	Lg	05 22 29.4	
	562nm,0.3s,baz=68,slow=19,SNR=75						
URZ	**Urewera**	**0.82 189**		*e*Pg	**Pg**	**05 22 19.4**	**-0.2**
URZ				Lg	Lg	05 22 29.4	
URZ				*e*Sg	**Sb**	**05 22 30.8**	**+0.3**
MXZ	**Matakaoa Point**	**0.82 98**		P*	**Pg**	**05 22 18.7**	**-1.0**
MXZ				S*	**Sn**	**05 22 33.7**	**+1.1**
MXZ				AML	AML	05 22 39.7	
MXZ				AML	AML	05 22 45.7	
MXZ				AML	AML	05 22 45.7	
MXZ	**Matakaoa Point**	**0.82 98**		P*	**Pg**	**05 22 18.7**	**-1.0**
MYRZ	**Mayor Island**	**0.84 281**		P*	**Pn**	**05 22 20.9**	**-0.1**
TGRZ	**Tauranga**	**0.85 251**		P*	**Pg**	**05 22 20.2**	**-0.1**
TGRZ				AML	AML	05 22 41.5	
TGRZ				AML	AML	05 22 49.8	
TGRZ	**Tauranga**	**0.85 251**		P*	**Pg**	**05 22 20.3**	**0.0**
MWZ	**Matawai**	**0.90 167**		⇓P*	**Pg**	**05 22 20.3**	**-0.9**
MWZ				AML	AML	05 22 35.6	
MWZ				AML	AML	05 22 35.6	
MWZ				AML	AML	05 22 35.7	
MWZ				AML	AML	05 22 35.7	
MWZ	**Matawai**	**0.90 167**		P*	**Pg**	**05 22 19.8**	**-1.4**
TWGZ	**Tauwhareparae**	**0.91 143**		P*	**Pb**	**05 22 21.2**	**0.0**
TWGZ				S*	**Sn**	**05 22 36.0**	**+1.0**
OMRZ	**Omania**	**0.97 227**		P*	**Pb**	**05 22 22.3**	**0.0**
OMRZ	**Omania**	**0.97 227**		P*	**Pb**	**05 22 22.3**	**0.0**
WMGZ	**Waiomatatini S**	**0.97 112**		P*	**Pb**	**05 22 22.8**	**+0.6**
PUZ	**Puketiti**	**0.99 129**		P*	**Pb**	**05 22 22.7**	**+0.1**
PUZ				AML	AML	05 22 43.5	
PUZ				AML	AML	05 22 45.3	
PUZ	**Puketiti**	**0.99 129**		P*	**Pb**	**05 22 22.9**	**+0.3**
TARZ	**Mount Tarawera**	**0.99 218**		P*	**Pg**	**05 22 22.8**	**-0.1**
TARZ	**Mount Tarawera**	**0.99 218**		P*	**Pg**	**05 22 22.8**	**-0.1**
KARZ	**Kaharoa**	**1.00 235**		P*	**Pb**	**05 22 22.2**	**-0.5**
KARZ	**Kaharoa**	**1.00 235**		P*	**Pb**	**05 22 22.4**	**-0.4**
RAGZ	**Rawiri**	**1.05 174**		⇑P*	**Pb**	**05 22 23.2**	**-0.4**
RRRZ	**Republican Roa**	**1.07 214**		P*	**Pb**	**05 22 23.7**	**-0.3**
RRRZ	**Republican Roa**	**1.07 214**		P*	**Pb**	**05 22 23.7**	**-0.3**
TKGZ	**Te Karaka**	**1.08 156**		P*	**Pb**	**05 22 24.3**	**+0.2**
HRRZ	**Handcock Road**	**1.22 220**		P*	**Pg**	**05 22 28.2**	**+0.9**
HRRZ	**Handcock Road**	**1.22 220**		P*	**Pg**	**05 22 28.2**	**+0.9**
CNGZ	**Carnagh Statio**	**1.27 145**		P*	**Pg**	**05 22 28.6**	**+0.5**
CNGZ	**Carnagh Statio**	**1.27 145**		Pn	**Pg**	**05 22 28.7**	**+0.6**
RIGZ	**Rimuhau**	**1.31 163**		PN	**Pb**	**05 22 28.3**	**+0.3**
SNGZ	**Shannon Statio**	**1.33 178**		PN	**Pn**	**05 22 27.5**	**-0.2**
ALRZ	**Allen Road**	**1.33 213**		P*	**Pn**	**05 22 27.9**	**+0.1**
ALRZ	**Allen Road**	**1.33 213**		P*	**Pn**	**05 22 27.9**	**+0.1**
KUZ	**Kuaotunu**	**1.43 299**		⇑PN	**Pn**	**05 22 28.3**	**-0.8**
KUZ				AML	AML	05 22 47.0	
KUZ				AML	AML	05 22 47.0	
KUZ				AML	AML	05 22 59.1	
KUZ				AML	AML	05 22 59.1	
KUZ	**Kuaotunu**	**1.43 299**		Pn	**Pn**	**05 22 28.3**	**-0.8**
TOZ	**Tahuroa Road**	**1.44 258**		P*	**Pn**	**05 22 28.5**	**-1.1**
TOZ	**Tahuroa Road**	**1.44 258**		P*	**Pn**	**05 22 28.5**	**-0.7**
RAHZ	**Arahi**	**1.47 186**		PN	**Pn**	**05 22 29.7**	**0.0**
RAHZ	**Arahi**	**1.47 186**		Pn	**Pn**	**05 22 29.7**	**0.0**
PRGZ	**Paritu Road**	**1.54 162**		PN	**Pb**	**05 22 32.0**	**-0.1**
PRGZ	**Paritu Road**	**1.54 162**		Pn	**Pb**	**05 22 32.0**	**-0.1**
KNZ	**Kokohu**	**1.60 169**		PN	**Pn**	**05 22 32.3**	**+0.9**
KNZ	**Kokohu**	**1.60 169**		Pn	**Pn**	**05 22 32.3**	**+0.9**
WHHZ	**Waihua**	**1.62 181**		PN	**Pb**	**05 22 33.1**	**-0.2**
TLZ	**Tolley Road**	**1.63 237**		P*	**Pn**	**05 22 31.2**	**-0.7**
NMHZ	**Naumai**	**1.69 193**		PN	**Pn**	**05 22 33.4**	**+0.8**
NMHZ	**Naumai**	**1.69 193**		Pn	**Pn**	**05 22 33.5**	**+0.8**
MKAZ	**Moumakai**	**1.72 281**		⇓PN	**Pn**	**05 22 32.8**	**-0.2**
MKAZ				AML	AML	05 23 07.4	
MKAZ				AML	AML	05 23 10.2	
MKAZ	**Moumakai**	**1.72 281**		Pn	**Pn**	**05 22 32.9**	**-0.2**
BKZ	**Black Stump Fm**	**1.82 200**		P*	**Pn**	**05 22 34.4**	**-0.1**
BKZ				AML	AML	05 23 18.6	
BKZ				AML	AML	05 23 19.8	
ARHZ	**Aropaoanui**	**1.82 187**		PN	**Pb**	**05 22 36.1**	**-0.7**
GRZ	**Great Barrier**	**1.89 309**		PN	**Pn**	**05 22 35.0**	**-0.4**
ETAZ	**East Tamaki Re**	**1.94 284**		PN	**Pn**	**05 22 36.5**	**+0.4**
MCHZ	**McNeill Hill**	**2.04 193**		PN	**Pb**	**05 22 39.2**	**-1.3**
MCHZ	**McNeill Hill**	**2.04 193**		Pn	**Pb**	**05 22 39.2**	**-1.3**
KWHZ	**Kaweka Forest**	**2.08 199**		P*	**Pn**	**05 22 38.5**	**+0.4**
KRVZ	**Karewarewa**	**2.09 218**		P*	**Pb**	**05 22 41.0**	**-0.4**
KRVZ				AML	AML	05 23 22.6	
KRVZ				AML	AML	05 23 25.6	
KRVZ	**Karewarewa**	**2.09 218**		P*	**Pb**	**05 22 41.0**	**-0.4**
OTVZ	**Oturere**	**2.13 216**		P*	**Pn**	**05 22 39.9**	**+1.0**
OTVZ				AML	AML	05 23 35.4	
OTVZ				AML	AML	05 23 39.9	
OTVZ	**Oturere**	**2.13 216**		P*	**Pn**	**05 22 39.9**	**+1.0**
NGZ	**Ngauruhoe**	**2.17 217**		P*	**Pb**	**05 22 42.1**	**-0.6**
NGZ				AML	AML	05 23 22.1	
NGZ				AML	AML	05 23 42.7	
NGZ	**Ngauruhoe**	**2.17 217**		P*	**Pb**	**05 22 42.1**	**-0.6**
HIZ	**Hauiti**	**2.19 240**		PN	**Pn**	**05 22 39.5**	**0.0**
HIZ				AML	AML	05 23 28.8	
HIZ				AML	AML	05 23 29.9	
HIZ	**Hauiti**	**2.19 240**		Pn	**Pn**	**05 22 39.7**	**+0.2**
TUVZ	**Tukino**	**2.22 215**		P*	**Pn**	**05 22 41.9**	**+1.8**
TUVZ				AML	AML	05 23 30.5	
TUVZ				AML	AML	05 23 35.1	
TUVZ	**Tukino**	**2.22 215**		P*	**Pn**	**05 22 41.9**	**+1.8**
WPVZ	**Whakapapa**	**2.22 217**		P*	**Pb**	**05 22 43.0**	**-0.6**
WPVZ				AML	AML	05 23 19.6	
WPVZ				AML	AML	05 23 30.4	
WPVZ	**Whakapapa**	**2.22 217**		P*	**Pb**	**05 22 43.0**	**-0.6**
BHHZ	**Black Hill Sta**	**2.25 205**		P*	**Pn**	**05 22 40.5**	**+0.1**
BHHZ	**Black Hill Sta**	**2.25 205**		P*	**Pn**	**05 22 40.8**	**+0.4**
FWVZ	**Far West T-bar**	**2.25 216**		P*	**Pb**	**05 22 42.8**	**-1.5**
FWVZ				AML	AML	05 23 22.8	
FWVZ				AML	AML	05 23 40.5	
FWVZ	**Far West T-bar**	**2.25 216**		P*	**Pb**	**05 22 42.8**	**-1.5**
WHVZ	**Whangaehu Hut**	**2.26 216**		P*	**Pb**	**05 22 42.8**	**-1.5**
RVAZ	**Riverhead Bore**	**2.26 287**		PN	**Pn**	**05 22 41.5**	**+0.9**
MOVZ	**Moawhango**	**2.29 211**		P*	**Pn**	**05 22 41.6**	**+0.5**
MOVZ				AML	AML	05 23 13.5	
MOVZ				AML	AML	05 23 14.3	
MOVZ	**Moawhango**	**2.29 211**		P*	**Pn**	**05 22 41.6**	**+0.5**
TRVZ	**Turoa**	**2.29 216**		P*	**Pb**	**05 22 44.7**	**-0.2**
TRVZ				AML	AML	05 23 22.9	
TRVZ				AML	AML	05 23 33.7	
TRVZ	**Turoa**	**2.29 216**		P*	**Pb**	**05 22 43.6**	**-1.3**
WNVZ	**Wahianoa**	**2.29 215**		P*	**Pn**	**05 22 42.7**	**+1.6**
WNVZ	**Wahianoa**	**2.29 215**		P*	**Pn**	**05 22 42.7**	**+1.6**
KRHZ	**Kereru**	**2.30 198**		PN	**Pn**	**05 22 42.1**	**+0.9**
KAHZ	**Kahuranaki**	**2.36 188**		PN	**Pn**	**05 22 42.5**	**+0.6**
KAHZ	**Kahuranaki**	**2.36 188**		Pn	**Pn**	**05 22 42.5**	**+0.6**
PKVZ	**Pokaka**	**2.38 219**		P*	**Pb**	**05 22 45.4**	**-0.9**
PKVZ				AML	AML	05 23 58.4	
PKVZ				AML	AML	05 24 01.2	
PKVZ	**Pokaka**	**2.38 219**		P*	**Pb**	**05 22 45.4**	**-0.9**
MTVZ	**Mangateitei**	**2.40 216**		P*	**Pb**	**05 22 45.2**	**-1.4**
MTVZ				AML	AML	05 23 18.5	
MTVZ				AML	AML	05 23 31.9	
MTVZ	**Mangateitei**	**2.40 216**		P*	**Pb**	**05 22 45.2**	**-1.4**
PXZ	**Pawanui**	**2.60 187**		PN	**Pn**	**05 22 44.4**	**-0.7**
PXZ				AML	AML	05 23 51.2	
PXZ				AML	AML	05 23 57.2	
PXZ	**Pawanui**	**2.60 187**		Pn	**Pn**	**05 22 44.4**	**-0.7**
PNHZ	**Pukenui**	**2.60 199**		PN	**Pn**	**05 22 45.8**	**+0.6**
PNHZ	**Pukenui**	**2.60 199**		Pn	**Pn**	**05 22 45.9**	**+0.6**
TSZ	**Takapari Road**	**2.80 201**		PN	**Pn**	**05 22 48.4**	**+0.4**
TSZ				AML	AML	05 23 02.9	
TSZ				AML	AML	05 23 57.3	
TSZ	**Takapari Road**	**2.80 201**		Pn	**Pn**	**05 22 48.4**	**+0.4**
WCZ	**Waipu Caves**	**2.80 302**		PN	**Pn**	**05 22 48.2**	**+0.2**
WCZ	**Waipu Caves**	**2.80 302**		Pn	**Pn**	**05 22 48.2**	**+0.2**
PRHZ	**Porangahau**	**2.86 190**		PN	**Pn**	**05 22 48.4**	**-0.4**
PRHZ	**Porangahau**	**2.86 190**		Pn	**Pn**	**05 22 48.4**	**-0.4**
WAZ	**Wanganui**	**2.92 217**		PN	**Pn**	**05 22 52.4**	**+2.8**
WAZ				AML	AML	05 23 07.2	
WAZ				AML	AML	05 23 31.7	
WAZ	**Wanganui**	**2.92 217**		Pn	**Pn**	**05 22 52.4**	**+2.8**
BFZ	**Birch Farm**	**3.32 194**		PN	**Pn**	**05 22 54.3**	**-0.9**
BFZ	**Birch Farm**	**3.32 194**		Pn	**Pn**	**05 22 54.3**	**-0.9**
MRZ	**Mangatainoka R**	**3.47 202**		⇓PN	**Pn**	**05 22 56.3**	**-0.8**
MRZ				AML	AML	05 24 10.9	
MRZ				AML	AML	05 24 14.3	
MRZ	**Mangatainoka R**	**3.47 202**		Pn	**Pn**	**05 22 56.3**	**-0.8**
TIWZ	**Tintock**	**3.49 198**		PN	**Pn**	**05 22 57.6**	**+0.1**
TIWZ				AML	AML	05 23 39.9	
TIWZ				AML	AML	05 24 12.9	
TIWZ	**Tintock**	**3.49 198**		Pn	**Pn**	**05 22 57.6**	**+0.1**
HOWZ	**Holdsworth Sta**	**3.70 201**		PN	**Pn**	**05 22 59.1**	**-1.3**
HOWZ	**Holdsworth Sta**	**3.70 201**		Pn	**Pn**	**05 22 59.1**	**-1.3**
OUZ	**Omahuta**	**3.71 306**		PN	**Pn**	**05 23 01.3**	**+0.9**
OUZ	**Omahuta**	**3.71 306**	*e*Pn		**Pn**	**05 23 01.4**	**+0.9**
KIW	**Kapiti Island**	**3.87 208**		PN	**Pn**	**05 23 02.6**	**-0.1**
KIW				AML	AML	05 24 20.2	
KIW	**Kapiti Island**	**3.87 208**		Pn	**Pn**	**05 23 02.6**	**-0.1**
MTW	**Mount Morrison**	**3.95 200**		AML	AML	05 23 30.2	
MTW				AML	AML	05 23 43.5	
PLWZ	**Palliser**	**4.40 200**		PN	**Pn**	**05 23 08.5**	**-1.5**
PLWZ	**Palliser**	**4.40 200**		Pn	**Pn**	**05 23 08.5**	**-1.5**
TCW	**Tory Channel**	**4.42

UNV				S	**Sn**	**05 26 26.2**	**-0.3**
ATKA	**Atka Island**	**2.97**	**260**	P	**Pn**	**05 26 13.1**	**0.0**
ILAR	**Eielson Array**	**16.62**	**35**	P	**Pn**	**05 29 18.8**	**0.0**
	0.0nm,0.3s,baz=227,slow=11,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**37.77**	**218**	T	T	06 12 30.5	
	baz=24,slow=76,SNR=17						
H11N3	**WAKE ISLAND Hy**	**37.77**	**218**	T	T	06 12 31.6	
	baz=24,slow=76,SNR=21						
H11N1	**WAKE ISLAND Hy**	**37.78**	**218**	T	T	06 12 32.7	
	baz=24,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy**	**38.96**	**218**	T	T	06 14 02.4	
	baz=23,slow=76,SNR=341						
H11S2	**WAKE ISLAND Hy**	**38.97**	**218**	T	T	06 14 01.3	
	baz=23,slow=76,SNR=186						
H11S3	**WAKE ISLAND Hy**	**38.98**	**218**	T	T	06 14 01.9	
	baz=23,slow=76,SNR=98						
PDAR	**Pinedale Array**	**40.36**	**80**	P	**P**	**05 33 05.9**	**+1.7**
	0.2nm,0.6s,baz=333,slow=5.3,SNR=2.3						
TXAR	**Lajitas Array**	**52.78**	**89**	P	**P**	**05 34 40.3**	**-1.2**
	0.3nm,0.6s,baz=291,slow=7.5,SNR=5.8						

*IDC **28** 05:42:26.5±0.9,52.°75N×169.°80W,h0km,mb3.7/8, mb1 4.0/10,mb1mx3.8/31,mbtmp3.7/10,ML3.5/2,MS3.0/1, Ms1 3.2/1,ms1mx2.4/30,Error ellipse: s-maj=29.4km s-min=18.3km az=161.0*
*ISCJB **28** 05:42:27.4±1.7,52.°64N±0.°10×169.°6W±0.°1,h13km±11km, mb3.7/9,Error ellipse: s-maj=19.1km s-min=6.4km az=147.5*
*NEIC **28** 05:42:28.6,52.°62N×169.°39W,h7km,ML3.7(AEIC),After AEIC.*

ISC 28 05:42:28.3±1.9,52.°7N±0.°1×169.°54W±0.°08,h9km±11km, n44,σ1°17/41,mb3.7/9,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.50**	**56**	P	**Pg**	**05 42 38.5**	**+0.5**
NIKH				S	**Sb**	**05 42 46.3**	**-0.4**
OKSP	**Okmok Steeple**	**0.94**	**53**	P	**Pg**	**05 42 46.1**	**-0.3**
OKSO	**Okmok South**	**1.07**	**51**	P	**Pg**	**05 42 48.2**	**-0.6**
OKSO				S	**Sb**	**05 43 02.9**	**-0.1**
OKWR	**Okmok West Rim**	**1.10**	**47**	P	**Pg**	**05 42 49.7**	**+0.3**
OKCE	**Okmok Cone E**	**1.11**	**48**	P	**Pg**	**05 42 48.9**	**-0.7**
OKAK	**Okmok**	**1.14**	**38**	P	**Pg**	**05 42 48.0**	**-2.2**
OKTU	**Okmok Mt. Tuli**	**1.14**	**52**	P	**Pg**	**05 42 49.7**	**-0.4**
OKRE	**Okmok R'deer P**	**1.17**	**44**	P	**Pg**	**05 42 50.5**	**-0.3**
OKFG	**Magazine Ridge**	**1.22**	**53**	P	**Pg**	**05 42 50.0**	**-1.6**
OKFG				S	**Sg**	**05 43 07.1**	**-0.4**
MGOD	**Makushin Gods**	**1.95**	**54**	P	**Pn**	**05 43 00.9**	**-0.7**
MCIR	**Makushin Cirqu**	**2.03**	**50**	P	**Pn**	**05 43 02.8**	**+0.1**
MSW	**Makushin Switc**	**2.06**	**52**	P	**Pn**	**05 43 03.4**	**+0.3**
MSW				S	**Sb**	**05 43 31.5**	**0.0**
MTBL	**Makushin Table**	**2.14**	**52**	P	**Pn**	**05 43 04.4**	**+0.1**
UNV	**Unalaska Valle**	**2.16**	**56**	P	**Pn**	**05 43 03.8**	**-0.5**
UNV				S	**Sn**	**05 43 31.6**	**+0.4**
AKRB	**Akutan Reef Bi**	**2.53**	**54**	P	**Pn**	**05 43 10.6**	**+1.1**
ZRO	**Akutan Zero**	**2.55**	**55**	P	**Pn**	**05 43 11.1**	**+1.2**
AKGG	**Akutan Green G**	**2.60**	**53**	P	**Pn**	**05 43 11.6**	**+1.1**
AKUT	**Akutan**	**2.68**	**56**	P	**Pn**	**05 43 11.9**	**+0.4**
ATKA	**Atka Island**	**2.89**	**262**	P	**Pn**	**05 43 16.1**	**+1.6**
SPIA	**Saint Paul Isl**	**4.51**	**355**	P	**Pn**	**05 43 39.1**	**+2.4**
KDAK	**Kodiak Island**	**10.93**	**55**	Pn	**Pn**	**05 45 04.6**	**-0.1**
	0.4nm,0.3s,baz=253,slow=4.7,SNR=4.3						
BPAW	**Bear Paw Mtn.**	**14.93**	**33**	Pn	**Pn**	**05 46 00.9**	**+1.6**
	1.0nm,0.7s						
ILAR	**Eielson Array**	**16.75**	**35**	Pn	**Pn**	**05 46 21.9**	**-0.8**
	0.1nm,0.3s,baz=227,slow=12,SNR=8.4						
ILAR				LR	LR	05 52 57.4	
	comp=Z,55nm,18.9s,baz=278,slow=38						
PETK	**Petropavlovsk-**	**19.68**	**284**	P	P	05 46 54.0	-3.3
	0.7nm,0.3s,baz=89,slow=14,SNR=4.6						
H02S1	**DAWSON INLET T**	**22.18**	**74**	T	T	06 10 17.3	
DLBC	**Dease Lake**	**22.81**	**60**	P	**P**	**05 47 34.4**	**+3.2**
	5.5nm,1.0s,baz=277,slow=13,SNR=7.4						
INK	**Inuvik**	**23.14**	**34**	P	**P**	**05 47 32.3**	**-2.0**
	2.1nm,0.8s,baz=249,slow=4.8,SNR=5.5						
YKA	**Yellowknife Ar**	**30.11**	**49**	P	**P**	**05 48 37.5**	**-0.2**
	0.3nm,0.5s,baz=273,slow=7.8,SNR=7.5						
H11N2	**WAKE ISLAND Hy**	**37.64**	**218**	T	T	06 29 35.8	
	baz=24,slow=76,SNR=48						
H11N3	**WAKE ISLAND Hy**	**37.65**	**218**	T	T	06 29 39.4	
	baz=24,slow=76,SNR=50						
H11N1	**WAKE ISLAND Hy**	**37.66**	**218**	T	T	06 29 37.1	
	baz=24,slow=76,SNR=42						
NVAR	**Mina Array Bea**	**37.77**	**91**	P	**P**	**05 49 45.9**	**+1.2**
	0.6nm,0.7s,baz=308,slow=6.9,SNR=5.5						
NVAR				PcP	**PcP**	**05 52 01.9**	**+0.6**
	0.3nm,0.7s,baz=306,slow=5.4,SNR=2.5						
H11S1	**WAKE ISLAND Hy**	**38.83**	**218**	T	T	06 31 08.7	
	baz=23,slow=76,SNR=409						
H11S2	**WAKE ISLAND Hy**	**38.85**	**218**	T	T	06 31 09.8	
	baz=23,slow=76,SNR=229						
H11S3	**WAKE ISLAND Hy**	**38.85**	**218**	T	T	06 31 09.4	
	baz=23,slow=76,SNR=333						
PDAR	**Pinedale Array**	**40.45**	**79**	P	**P**	**05 50 07.5**	**+0.5**
	1.1nm,0.7s,baz=323,slow=5.0,SNR=12						
SONM	**Songino Array**	**51.05**	**300**	PcP	**PcP**	**05 52 44.1**	**-2.3**
	0.6nm,0.7s,baz=58,slow=3.3,SNR=3.0						
TXAR	**Lajitas Array**	**52.85**	**89**	P	**P**	**05 51 44.7**	**+0.5**
	1.4nm,0.7s,baz=305,slow=4.4,SNR=18						
TXAR				PcP	**PcP**	**05 52 53.5**	**+0.1**
	0.2nm,0.5s,baz=308,slow=4.4,SNR=2.1						
H06N1	**SOCORRO T-PHAS**	**56.24**	**104**	T	T	06 52 59.6	
	SNR=13						
H06E1	**SOCORRO T-PHAS**	**56.34**	**104**	T	T	06 52 59.1	
	SNR=18						
KURBB	**Kurchatov Arra**	**62.17**	**318**	P	**P**	**05 52 48.7**	**-0.8**
	0.2nm,0.5s,baz=40,slow=7.3,SNR=2.7						
WRA	**Warramunga Arr**	**87.12**	**231**	P	**P**	**05 55 13.6**	**-0.8**
	0.4nm,0.8s,baz=36,slow=5.6,SNR=4.7						
ASAR	**Alice Springs**	**90.52**	**230**	P	**P**	**05 55 30.2**	**-0.1**
	0.8nm,0.7s,baz=34,slow=5.4,SNR=7.9						
QSPA	**South Pole Qui**	**142.45**	**180**	PKhKP	PKPpre	06 01 53.3	
	0.9nm,0.8s,baz=118,slow=1.2,SNR=5.7						
QSPA				PKP	**PKPdf**	**06 01 58.7**	**-1.3**
	0.8nm,0.7s,baz=111,slow=1.4,SNR=6.0						

IDC 28 05:53:10.3±2.5,54.°14N×86.°44E,h0km,mb1 3.3/2, mb1mx3.1/31,mbtmp3.3/2,ML3.1/2,Error ellipse: s-maj=19.9km s-min=12.0km az=59.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**260**	*i*		05 59 20.0	
	baz=80,slow=320,SNR=3.9						
ZALV	**Zalesovo Beam**	**0.97**	**260**	Pg	Pg	05 53 27.6	-1.4
	2.0nm,0.3s,baz=80,slow=17,SNR=16						
ZALV				Lg	Lg	05 53 42.8	
	2.1nm,0.3s,baz=79,slow=31,SNR=10						
ZALV				Rg	Rg	05 53 47.4	
	5.6nm,0.4s,baz=72,slow=28,SNR=14						
KURBB	**Kurchatov Arra**	**5.98**	**237**	Pn	Pn	05 54 40.5	+0.5
	0.2nm,0.3s,baz=54,slow=13,SNR=15						
KURBB				Lg	Lg	05 56 21.5	
	0.0nm,0.3s,baz=54,slow=31,SNR=5.1						
MKAR	**Makanchi Array**	**7.81**	**201**	Pn	Pn	05 55 06.3	+1.2
	0.5nm,0.3s,baz=23,slow=15,SNR=9.6						
MKAR				Sn	Sn	05 56 34.4	+0.1
	baz=20,slow=27,SNR=3.2						
MKAR				Lg	Lg	05 57 18.3	
	0.1nm,0.3s,baz=20,slow=32,SNR=5.7						

*SKHL **28** 06:50:04.6±0.3,48.°25N×155.°77E,h30km±5km,mb4.9/2 MOS **28** 06:50:05.9±2.5,48.°28N×156.°75E,h15km,mb4.4/1,Error ellipse: s-maj=64.7km s-min=7.2km az=82.1*
*KRSC **28** 06:50:06.0±2.4,48.°28N×156.°76E,h15km±7km,ML4.3*

ISC 28 06:50:04.3±2.4,48.°0N±0.°2×155.°9E±0.°1,h35km,n45, σ1°85/47,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.69**	**3**	*e*P	**Pn**	**06 50 45.5**	**+0.4**
SKR				*e*S	**Sn**	**06 51 15.9**	**-0.5**
SKR	**Severo-Kuril's**	**2.69**	**3**	*e*PN	Pn	06 50 40.0	-5.1
SKR				pmax	pmax		
	comp=Z,110nm,0.4s						
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,40nm,0.4s						
SKR	**Severo-Kuril's**	**2.69**	**3**	*e*P	Pn	06 50 40.0	-5.1
SKR				AMB	AMB	06 50 42.0	
	comp=E,80nm,0.4s						
SKR				AMB	AMB	06 50 42.0	
	comp=E,40nm,0.4s						
SKR				AMB	AMB	06 50 42.0	
	comp=E,110nm,0.4s						
SKR				*e*S	Sn	06 51 06.8	-10
SKR				A	A	06 51 11.9	
	comp=E,270nm,0.2s						
SKR				A	A	06 51 11.9	
	comp=E,300nm,0.2s						
PAU	**Pauzhetka**	**3.52**	**9**	*e*P	**Pn**	**06 50 57.5**	**+1.0**
PAU				*e*S	**Sn**	**06 51 37.0**	**+0.2**
PAU	**Pauzhetka**	**3.52**	**9**	PN	**Pn**	**06 50 57.5**	**+1.0**
PAU				S	**Sn**	**06 51 37.0**	**+0.2**
MIPR	**Malaya Ipel'ka**	**4.32**	**7**	*e*P	**Pn**	**06 51 08.0**	**+0.6**
ASAK	**Asacha**	**4.57**	**15**	*e*P	**Pn**	**06 51 13.2**	**+2.2**
MTVR	**Mutnovka**	**4.72**	**17**	*e*P	**Pn**	**06 51 15.0**	**+1.9**
MTVR				*e*S	**Sn**	**06 52 06.5**	**-0.1**
RUS	**Russkaya**	**4.74**	**20**	*e*P	**Pn**	**06 51 14.3**	**+1.1**
RUS				*e*S	**Sn**	**06 52 05.6**	**-1.3**
RUS	**Russkaya**	**4.74**	**20**	PN	**Pn**	**06 51 14.3**	**+1.1**
RUS				S	**Sn**	**06 52 05.6**	**-1.3**
RUS	**Russkaya**	**4.74**	**20**	*e*P	**Pn**	**06 51 14.3**	**+1.1**
RUS				*e*S	**Sn**	**06 52 05.6**	**-1.3**
APC	**Apacha**	**5.00**	**9**	*e*P	**Pn**	**06 51 19.4**	**+2.7**
APC	**Apacha**	**5.00**	**9**	PN	**Pn**	**06 51 19.4**	**+2.7**
PET	**Petropavlovsk**	**5.33**	**18**	*e*S	**Sn**	**06 52 22.6**	**+1.3**
PET	**Petropavlovsk**	**5.33**	**18**	*e*P	**Pn**	**06 51 18.9**	**-2.3**
PET				AMB	AMB	06 51 19.5	
	comp=E,220nm,0.9s						
UGLR	**Uglovaya**	**5.54**	**18**	*e*P	Pn	06 51 27.7	+3.5
AVH	**Avacha**	**5.57**	**18**	*e*P	Pn	06 51 28.7	+4.0
AVH	**Avacha**	**5.57**	**18**	PN	Pn	06 51 28.7	+4.0
AVH	**Avacha**	**5.57**	**18**	*e*P	Pn	06 51 28.7	+4.0
KOK	**Koryaka**	**5.58**	**17**	*e*P	**Pn**	**06 51 27.7**	**+2.9**
KOK	**Koryaka**	**5.58**	**17**	PN	**Pn**	**06 51 27.7**	**+2.9**
KOK	**Koryaka**	**5.58**	**17**	*e*P	**Pn**	**06 51 27.7**	**+2.9**
SMAR	**Somma**	**5.58**	**18**	*e*P	Pn	06 51 28.7	+3.7
SMAR	**Somma**	**5.58**	**18**	PN	Pn	06 51 28.7	+3.7
KRER	**Koryakskii**	**5.61**	**18**	*e*P	**Pn**	**06 51 27.8**	**+2.5**
SDLR	**Sedlovina**	**5.62**	**19**	*e*P	**Pn**	**06 51 26.8**	**+1.5**
SDLR				*e*S	**Sn**	**06 52 26.8**	**-1.8**
SDLR	**Sedlovina**	**5.62**	**19**	PN	**Pn**	**06 51 26.8**	**+1.5**
SDLR				S	**Sn**	**06 52 26.8**	**-1.8**
KRX	**Arik**	**5.64**	**17**	*e*P	**Pn**	**06 51 28.7**	**+3.0**
SPN	**Mys Shipunski**	**5.74**	**26**	*e*P	**Pn**	**06 51 29.1**	**+2.2**
SPN				*e*S	**Sn**	**06 52 29.8**	**-1.7**
SPN	**Mys Shipunski**	**5.74**	**26**	PN	**Pn**	**06 51 29.1**	**+2.2**
SPN				S	**Sn**	**06 52 29.8**	**-1.7**
SPN	**Mys Shipunski**	**5.74**	**26**	*e*P	**Pn**	**06 51 29.1**	**+2.2**
SPN				*e*S	**Sn**	**06 52 29.8**	**-1.7**
GNL	**Ganaly**	**5.85**	**12**	*e*P	**Pn**	**06 51 31.0**	**+2.5**
GNL	**Ganaly**	**5.85**	**12**	PN	**Pn**	**06 51 31.0**	**+2.5**
KUR	**Kuril'sk**	**6.19**	**246**	*e*P	**Pn**	**06 51 34.9**	**+1.7**
KUR				*e*S	**Sn**	**06 52 40.8**	**-1.9**
KUR				A	A	06 52 47.2	
	comp=E,60nm,0.6s						
MKZ	**Mys Kozlova**	**7.51**	**27**	*e*P	**Pn**	**06 51 51.9**	**+0.7**
MKZ	**Mys Kozlova**	**7.51**	**27**	PN	**Pn**	**06 51 51.9**	**+0.7**
MKZ	**Mys Kozlova**	**7.51**	**27**	*e*P	**Pn**	**06 51 51.9**	**+0.7**
KZV	**Kizimen**	**7.63**	**19**	*e*P	Pn	06 51 57.5	+4.5
TUMR	**Tumrok**	**7.75**	**18**	*e*P	**Pn**	**06 51 56.6**	**+1.9**
TUMR	**Tumrok**	**7.75**	**18**	PN	**Pn**	**06 51 56.6**	**+1.9**
YSS	**Yuzh-Sakhalins**	**8.97**	**268**	*e*P	Pn	06 52 18.7	+7.4
KBTR	**Krutoberegovo**	**9.25**	**25**	*e*P	**Pn**	**06 52 16.1**	**+1.1**
KBTR	**Krutoberegovo**	**9.25**	**25**	PN	**Pn**	**06 52 16.1**	**+1.1**
BKI	**Bering**	**9.54**	**37**	*e*S	Sn	06 53 58.5	-6.4
EKMR	**Ekimchan**	**15.43**	**298**	*e*P	**Pn**	**06 53 36.9**	**-2.2**

*SKHL **28** 06:55:57.4±1.1,48.°41N×155.°58E,h15km±4km,mb4.8/2 KRSC **28** 06:55:58.2±2.0,48.°32N×156.°45E,h15km±7km,ML4.2 MOS **28** 06:55:58.1±2.9,48.°32N×156.°45E,h15km,mb4.3/1,Error ellipse: s-maj=69.3km s-min=7.1km az=80.6*
*ISCJB **28** 06:55:59.1±1.2,48.°26N±0.°10×155.°7E±0.°2,h33km,Error ellipse: s-maj=19.5km s-min=6.8km az=42.9*

ISC 28 06:56:00.6±2.2,48.°2N±0.°2×155.°9E±0.°1,h35km,n43, σ1°24/50,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.50**	**3**	*e*P	**Pn**	**06 56 37.1**	**-1.6**
SKR				*e*S	**Sn**	**06 57 05.5**	**-2.4**
SKR	**Severo-Kuril's**	**2.50**	**3**	*e*PN	Pn	06 56 32.2	-6.5
SKR				pmax	pmax		
	comp=Z,120nm,0.4s						
SKR				pmax	pmax		
	comp=N,140nm,0.2s						
SKR				pmax	pmax		
	comp=E,60nm,0.2s						
SKR	**Severo-Kuril's**	**2.50**	**3**	*e*P	Pn	06 56 32.2	-6.5
SKR				AMB	AMB	06 56 34.5	
	comp=E,140nm,0.3s						
SKR				AMB	AMB	06 56 34.5	
	comp=E,60nm,0.3s						
SKR				AMB	AMB	06 56 34.5	
	comp=E,120nm,0.3s						
SKR				*e*S	Sn	06 56 59.3	-8.6
SKR				A	A	06 57 09.0	
	comp=E,120nm,0.5s						
SKR				A	A	06 57 09.0	
	comp=E,190nm,0.5s						
PAU	**Pauzhetka**	**3.33**	**10**	*e*P	**Pn**	**06 56 49.8**	**-0.3**
PAU				*e*S	**Sn**	**06 57 28.8**	**+0.4**
PAU	**Pauzhetka**	**3.33**	**10**	PN	**Pn**	**06 56 49.8**	**-0.3**
PAU				S	**Sn**	**06 57 28.8**	**+0.4**
MIPR	**Malaya Ipel'ka**	**4.12**	**7**	*e*P	**Pn**	**06 57 00.6**	**-0.5**
ASAK	**Asacha**	**4.38**	**16**	*e*P	**Pn**	**06 57 04.7**	**0.0**
MTVR	**Mutnovka**	**4.53**	**18**	*e*P	**Pn**	**06 57 07.2**	**+0.4**
MTVR				*e*S	**Sn**	**06 57 58.9**	**+0.6**
RUS	**Russkaya**	**4.56**	**20**	*e*P	**Pn**	**06 57 06.5**	**-0.5**
RUS				*e*S	**Sn**	**06 57 57.7**	**-1.0**
RUS	**Russkaya**	**4.56**	**20**	PN	**Pn**	**06 57 06.5**	**-0.5**
RUS				S	**Sn**	**06 57 57.7**	**-1.0**
RUS	**Russkaya**	**4.56**	**20**	*e*P	**Pn**	**06 57 06.5**	**-0.5**
RUS				*e*S	**Sn**	**06 57 57.7**	**-1.0**
APC	**Apacha**	**4.80**	**9**	*e*P	**Pn**	**06 57 11.9**	**+1.5**
APC	**Apacha**	**4.80**	**9**	PN	**Pn**	**06 57 11.9**	**+1.5**
PET	**Petropavlovsk**	**5.14**	**19**	*e*S	**Sn**	**06 58 12.8**	**-0.2**
UGLR	**Uglovaya**	**5.35**	**19**	*e*P	**Pn**	**06 57 19.4**	**+1.4**
AVH	**Avacha**	**5.38**	**18**	*e*P	**Pn**	**06 57 20.8**	**+2.4**
AVH	**Avacha**	**5.38**	**18**	PN	**Pn**	**06 57 20.8**	**+2.4**
AVH	**Avacha**	**5.38**	**18**	*e*P	**Pn**	**06 57 20.8**	**+2.4**
KOK	**Koryaka**	**5.39**	**18**	*e*P	**Pn**	**06 57 20.2**	**+1.7**
KOK	**Koryaka**	**5.39**	**18**	PN	**Pn**	**06 57 20.2**	**+1.7**
KOK	**Koryaka**	**5.39**	**18**	*e*P	**Pn**	**06 57 20.2**	**+1.7**
SMAR	**Somma**	**5.40**	**19**	*e*P	**Pn**	**06 57 20.7**	**+2.0**
SMAR	**Somma**	**5.40**	**19**	PN	**Pn**	**06 57 20.7**	**+2.0**
KRER	**Koryakskii**	**5.42**	**18**	*e*P	**Pn**	**06 57 20.2**	**+1.1**
SDLR	**Sedlovina**	**5.43**	**19**	*e*P	**Pn**	**06 57 19.0**	**-0.1**
SDLR	**Sedlovina**	**5.43**	**19**	PN	**Pn**	**06 57 19.0**	**-0.1**
KRX	**Arik**	**5.46**	**17**	*e*P	**Pn**	**06 57 20.5**	**+1.0**
SPN	**Mys Shipunski**	**5.56**	**26**	*e*P	**Pn**	**06 57 21.3**	**+0.5**
SPN				*e*S	**Sn**	**06 58 23.4**	**0.0**
SPN	**Mys Shipunski**	**5.56**	**26**	PN	**Pn**	**06 57 21.3**	**+0.5**
SPN				S	**Sn**	**06 58 23.4**	**0.0**
SPN	**Mys Shipunski**	**5.56**	**26**	*e*P	**Pn**	**06 57 21.3**	**+0.5**
SPN				*e*S	**Sn**	**06 58 23.4**	**0.0**
GNL	**Ganaly**	**5.66**	**12**	*e*P	**Pn**	**06 57 23.6**	**+1.4**
GNL	**Ganaly**	**5.66**	**12**	PN	**Pn**	**06 57 23.6**	**+1.4**
KUR	**Kuril'sk**	**6.28**	**245**	*e*P	Pn	06 57 27.0	-3.7
KUR				AMB	AMB	06 57 27.6	
	comp=E,60nm,0.6s						
KUR				*e*S	Sn	06 58 35.0	-6.2
KUR				A	A	06 58 47.2	
	comp=E,130nm,0.3s						
MKZ	**Mys Kozlova**	**7.33**	**27**	*e*P	**Pn**	**06 57 44.2**	**-0.9**
MKZ	**Mys Kozlova**	**7.33**	**27**	PN	**Pn**	**06 57 44.2**	**-0.9**
MKZ	**Mys Kozlova**	**7.33**	**27**	*e*P	**Pn**	**06 57 44.2**	**-0.9**
KZV	**Kizimen**	**7.44**	**20**	*e*P	**Pn**	**06 57 47.0**	**+0.3**
TUMR	**Tumrok**	**7.57**	**19**	*e*P	**Pn**	**06 57 49.8**	**+1.4**
TUMR	**Tumrok**	**7.57**	**19**	PN	**Pn**	**06 57 49.8**	**+1.4**
YSS	**Yuzh-Sakhalins**	**8.99**	**267**	*e*P	**Pn**	**06 58 07.2**	**-0.7**
TYV	**Tymovskoe**	**9.04**	**292**	*e*P	**Pn**	**06 58 08.4**	**-0.1**
KBTR	**Krutoberegovo**	**9.07**	**25**	*e*P	**Pn**	**06 58 10.5**	**+1.6**
KBTR	**Krutoberegovo**	**9.07**	**25**	PN	**Pn**	**06 58 10.5**	**+1.6**

*IDC **28** 07:19:07.7±2.9,14.°80N×94.°21W,h0km,mb3.5/5, mb1 3.9/7,mb1mx3.7/23,mbtmp3.5/7,ML3.3/2,MS3.2/3, Ms1 3.2/3,ms1mx2.6/24,Error ellipse: s-maj=61.0km s-min=35.5km az=170.0*
*NEIC **28** 07:19:10.8,14.°61N×94.°35W,h16km,MD4.1(MEX),After MEX.*
*MEX **28** 07:19:11.0±0.6,14.°66N×94.°36W,h16km±6km,MD4.1*

ISC 28 07:19:10.7±1.3,14.°7N±0.°1×94.°33W±0.°04,h23km,n19, σ1°45/27,mb3.7/5,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.44**	**48**	*i* P	**Pn**	**07 19 34.0**	**-1.3**
PCIG				*i* S	**Sn**	**07 19 51.7**	**-1.8**
PCIG		**1.44**	**48**	*i* P	**Pn**	**07 19 34.0**	**-1.3**
PCIG				*i* S	**Sn**	**07 19 52.5**	**-1.0**
HUIG	**Huatulco**	**2.00**	**301**	*e*P	**Pn**	**07 19 40.9**	**-2.2**
HUIG				*i* S	**Sn**	**07 20 04.5**	**-2.9**
HUIG	**Huatulco**	**2.00**	**301**	*e*P	**Pn**	**07 19 41.3**	**-1.8**
HUIG				*i* S	**Sn**	**07 20 04.9**	**-2.5**
CMIG	**Matias Romero**	**2.40**	**347**	*i* P	**Pn**	**07 19 47.9**	**-0.7**
CMIG				*i* S	**Sn**	**07 20 15.4**	**-1.8**
CMIG	**Matias Romero**	**2.40**	**347**	*i* P	**Pn**	**07 19 48.1**	**-0.5**
CMIG				*e*S	**Sn**	**07 20 17.2**	**0.0**
VHO	**Vista Hermosa**	**3.27**	**315**	*e*P	**Pn**	**07 20 00.5**	**-0.3**
VHO				*i* S	**Sn**	**07 20 38.2**	**-1.0**
VHO	**Vista Hermosa**	**3.27**	**315**	*e*P	**Pn**	**07 20 01.8**	**+1.0**
VHO				*i* S	**Sn**	**07 20 37.9**	**-1.4**
TEIG	**Tepich**	**7.94**	**46**	Pn	**Pn**	**07 21 03.4**	**-1.4**
	0.3nm,0.3s,baz=188,slow=23,SNR=13						
TEIG				Sn	**Sn**	**07 22 32.0**	**-2.0**
	baz=180,slow=20,SNR=2.3						
TEIG	**Tepich**	**7.94**	**46**	*e*Pn	**Pn**	**07 21 04.1**	**-0.7**
	1.4nm,0.4s						
TXAR	**Lajitas Array**	**16.89**	**331**	Pn	**Pn**	**07 23 07.8**	**+1.9**
	0.0nm,0.3s,baz=138,slow=15,SNR=5.8						
TXAR				LR	LR	07 30 09.6	
	comp=Z,40nm,20.3s,baz=0.0,slow=39						
PDAR	**Pinedale Array**	**30.85**	**338**	P	**P**	**07 25 26.2**	**+0.8**
	0.3nm,0.8s,baz=138,slow=9.6,SNR=2.9						
NVAR	**Mina Array Bea**	**31.70**	**323**	P	**P**	**07 25 32.9**	**0.0**
	0.6nm,0.9s,baz=152,slow=8.1,SNR=2.2						
NVAR				PcP	**PcP**	**07 28 25.1**	**+0.7**
	0.3nm,0.8s,baz=116,slow=4.2,SNR=3.2						
RPN	**Rapa Nui**	**44.09**	**199**	LR	LR	07 40 46.4	
	comp=Z,76nm,21.0s,baz=329,slow=29						
YKA	**Yellowknife Ar**	**49.81**	**348**	P	**P**	**07 28 01.6**	**+0.1**
	0.6nm,0.6s,baz=154,slow=6.6,SNR=4.2						
CPUP	**Villa Florida**	**54.42**	**138**	LR	LR	07 51 08.4	
	comp=Z,24nm,18.3s,baz=195,slow=35						
ILAR	**Eielson Array**	**61.28**	**337**	P	**P**	**07 29 24.9**	**+1.0**
	0.5nm,0.8s,baz=144,slow=4.9,SNR=7.7						
NB2	**NORSAR Subarra**	**84.56**	**28**	P	**P**	**07 31 43.0**	**+1.0**
	comp=Z,1.0nm,0.9s,baz=292,slow=4.8						
NOA	**NORSAR Array B**	**84.56**	**28**	P	**P**	**07 31 42.1**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=291,slow=4.9,SNR=3.9						

*ISCJB **28** 07:21:59.0±0.4,32.°17N±0.°02×115.°17W±0.°03,h22km±5km, Error ellipse: s-maj=4.4km s-min=3.8km az=28.2*
*ECX **28** 07:22:00.1±0.4,32.°16N×115.°20W,h10km,MD3.4,ML3.6*
*NEIC **28** 07:22:00.2,32.°16N×115.°21W,h10km,ML3.4(PAS), ML3.5(ECX),After ECX.*
*MEX **28** 07:22:01.5±0.4,32.°21N×115.°35W,h18km±286km,MD4.1*

ISC 28 07:21:58.4±1.1,32.°16N±0.°02×115.°19W±0.°03, h10km±10km,n24,σ0°71/37,5C,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.28**	**339**	*e*P	**Pb**	**07 22 05.4**	**0.0**
CPBX				*e*S	**Sb**	**07 22 09.7**	**-0.4**
CPBX				*e*		07 22 11.1	
CPBX				IAML		07 22 11.1	
	comp=N,23μm,0.2s						
EMSC	**East Mesa**	**0.60**	**16**	*e*P	**Pb**	**07 22 11.2**

ASAR				PcP	**PcP**	07 39 11.4	+0.4	
	0.4nm,0.6s,baz=48,slow=1.4,SNR=3.9							
ASAR				ScP	**ScP**	07 42 46.7	-0.4	
	0.2nm,0.7s,baz=69,slow=3.6,SNR=4.1							
STKA	**Stephens Creek**	**27.46 197**		P	**P**	07 36 01.1	+0.9	
	3.2nm,1.0s,baz=18,slow=12,SNR=4.0							
STKA				LR	LR	07 47 16.4		
	comp=Z,52nm,18.1s,baz=20,slow=37							
KSRS	**Korea Array**	**47.86 335**		P	**P**	07 38 54.0	+2.1	
	2.2nm,0.9s,baz=161,slow=8.3,SNR=5.5							
LHMI	**Lhok Sumawe**	**54.77 280**		P	P	07 39 39.7	-4.5	
	baz=55,SNR=3.5							
VNDA	**Vanda**	**72.07 177**		P	**P**	07 41 37.7	+0.1	
	0.7nm,1.0s,baz=338,slow=9.2,SNR=2.6							
MKAR	**Makanchi Array**	**79.61 319**		P	**P**	07 42 20.8	-0.4	
	0.3nm,0.7s,baz=96,slow=8.9,SNR=1.9							
ZALV	**Zalesovo Beam**	**80.71 327**		P	**P**	07 42 26.2	-0.7	
	0.4nm,0.4s,baz=108,slow=4.7,SNR=1.7							
PCRV	**Puerto La Cruz**	**144.71 80**		PKP	**PKPab**	07 49 50.0	-0.5	
	3.6nm,0.8s,baz=214,slow=3.6,SNR=3.1							
TORD	**Torodi Ar. Bea**	**148.57 286**		PKPbc	**PKPbc**	07 50 01.6	-0.2	
	4.2nm,0.7s,baz=62,slow=2.5,SNR=31							
TORD				pPKPbc	**pPKPbc**	07 50 11.9	-1.3	
	2.1nm,0.5s,baz=68,slow=3.7,SNR=9.2							

*CSEM **28** 07:31:42.7,46.21N×7.49E, h4km, ML0.7/3*

ZUR 28 07:31:42.7,46.21N×7.49E,h4km±3km,ML0.7/3,4C, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANNI	**Vissoie, Val d**	**0.08**	**91**	⇑*i*Pg	Pg	07 31 44.6	0.0
	47nm,0.2s						
VANNI				*e*Sg	Sg	07 31 45.9	0.0
	47nm,0.2s						
VANNI	**Vissoie, Val d**	**0.08**	**91**	⇑*i*Pg	Pg	07 31 44.6	0.0
	47nm,0.2s						
VANNI				*e*Sg	Sg	07 31 45.9	0.0
	47nm,0.2s						
DIX	**Grande Dixence**	**0.14**	**202**	*e*Pg	Pg	07 31 45.9	0.0
	31nm,0.2s						
DIX				*e*Sg	Sg	07 31 48.0	0.0
	31nm,0.2s						
DIX	**Grande Dixence**	**0.14**	**202**	*e*Pg	Pg	07 31 45.9	0.0
	31nm,0.2s						
DIX				*e*Sg	Sg	07 31 48.0	0.0
	31nm,0.2s						
LKBD2	**Leukerbad 2**	**0.20**	**34**	⇑*i*Pg	Pg	07 31 49.9	+3.0
LKBD2	**Leukerbad 2**	**0.20**	**34**	⇑*i*Pg	Pg	07 31 49.9	+3.0
SENIN	**Lac Senin/Sane**	**0.20**	**320**	*e*Pg	Pg	07 31 46.8	-0.2
	13nm,0.3s						
SENIN				*i* Sg	Sg	07 31 46.9	-2.9
	13nm,0.3s						
SENIN	**Lac Senin/Sane**	**0.20**	**320**	*e*Pg	Pg	07 31 46.8	-0.2
	13nm,0.3s						

IDC 28 07:34:41.9±1.5,53.76N×90.70E,h0km,mb1 3.2/4, mb1mx3.1/33,mbtmp3.2/4,ML2.9/3,4C-1D,Error ellipse: s-maj=22.7km s-min=11.2km az=172.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.49**	**276**	*i*		07 56 10.3	
	baz=91,slow=318,SNR=19						
ZALV	**Zalesovo Beam**	**3.49**	**276**	Pn	Pn	07 35 37.9	+0.5
	0.3nm,0.3s,baz=91,slow=13,SNR=3.0						
ZALV				Pg	Pb	07 35 43.6	-1.0
	1.7nm,0.3s,baz=89,slow=15,SNR=17						
ZALV				Lg	Lg	07 36 33.4	
	2.4nm,0.3s,baz=88,slow=23,SNR=12						
KURBB	**Kurchatov Arra**	**8.11**	**252**	⇓Pn	Pn	07 36 41.7	+0.8
	0.7nm,0.3s						
KURBB				⇑Sn	Sn	07 38 11.6	-1.6
	16nm,0.9s						
KURBB				⇑Lg	Lg	07 39 04.7	
	39nm,0.9s						
KURBB	**Kurchatov Arra**	**8.11**	**252**	Pn	Pn	07 36 41.3	+0.5
	0.2nm,0.3s,baz=67,slow=15,SNR=9.9						
KURBB				Sn	Sn	07 38 10.2	-2.9
	0.0nm,0.3s,baz=68,slow=25,SNR=4.2						
KURBB				Lg	Lg	07 38 59.2	
	0.1nm,0.3s,baz=67,slow=34,SNR=5.5						
TLY	**Talaya**	**8.13**	**100**	Pn	Pn	07 36 42.2	+1.0
	0.0nm,0.3s,baz=293,slow=15,SNR=4.2						
TLY				Lg	Lg	07 38 48.9	
	0.0nm,0.3s,baz=211,slow=19,SNR=5.0						
MK31	**Makanchi Array**	**8.80**	**221**	⇑Pn	Pn	07 36 50.9	+0.4
	0.8nm,0.6s,baz=36,slow=14,SNR=7.2						
MK31				Sn	Sn	07 38 31.6	+1.3
	2.3nm,0.9s,baz=39,slow=26,SNR=4.5						
MK31				⇑Lg	Lg	07 39 19.5	
	6.7nm,1.0s,baz=56,slow=31,SNR=6.2						
MKAR	**Makanchi Array**	**8.80**	**221**	Pn	Pn	07 36 50.5	+0.1
	0.2nm,0.3s,baz=42,slow=14,SNR=8.9						
MKAR				Sn	Sn	07 38 31.0	+0.7
	0.1nm,0.3s,baz=40,slow=25,SNR=3.8						
MKAR				Lg	Lg	07 39 19.7	
	0.1nm,0.3s,baz=38,slow=31,SNR=5.6						
SONM	**Songino Array**	**11.55**	**115**	Lg	Lg	07 40 34.1	
	baz=299,slow=33,SNR=3.4						

WEL 28 07:36:44.4±0.2,40.71S×176.60E,h12km,ML3.5/32, 9C-6D,Error ellipse: s-maj=2.7km s-min=1.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWZ	**Angora Road**	**0.26**	**339**	⇑Pg	Pg	07 36 50.3	+0.4
ANWZ				SG	Sg	07 36 53.5	0.0
BFZ	**Birch Farm**	**0.27**	**275**	⇓Pg	Pb	07 36 51.7	+0.5
BFZ				SG	Sb	07 36 55.2	-0.6
CPWZ	**Castlepoint**	**0.36**	**236**	PG	Pn	07 36 56.3	+0.8
PRHZ	**Porangahau**	**0.44**	**4**	⇑Pg	Pb	07 36 54.1	-0.1
PRHZ				SG	Sb	07 37 00.3	-0.4
PRWZ	**Pori Road**	**0.50**	**287**	⇑Pg	Pg	07 36 54.7	+0.4
DVHZ	**Dannevirke**	**0.52**	**321**	⇓Pg	Pg	07 36 53.7	-1.1
DVHZ				SG	Sg	07 36 59.3	-2.4
TIWZ	**Tintock**	**0.55**	**262**	⇑PG	Pb	07 36 56.8	+0.8
TIWZ				AML	AML	07 37 05.3	
TIWZ				AML	AML	07 37 09.9	
WPHZ	**Waipukurau**	**0.65**	**349**	P*	Pg	07 36 57.0	-0.1
TMWZ	**Te Maipa**	**0.67**	**233**	P*	Pn	07 37 00.0	+0.3
PXZ	**Pawanui**	**0.70**	**17**	P*	Pb	07 36 58.8	+0.2
PXZ				AML	AML	07 37 14.8	
PXZ				AML	AML	07 37 14.8	
PXZ				AML	AML	07 37 15.4	
PXZ				AML	AML	07 37 15.5	
POWZ	**Post Office Ro**	**0.71**	**296**	⇑P*	Pg	07 36 57.6	-0.5
MRZ	**Mangatainoka R**	**0.78**	**273**	⇓P*	Pg	07 36 59.4	-0.1
MRZ				AML	AML	07 37 10.5	
MRZ				AML	AML	07 37 10.5	
TSZ	**Takapari Road**	**0.81**	**323**	⇑P*	Pg	07 36 58.7	-1.4
TSZ				AML	AML	07 37 08.6	
TSZ				AML	AML	07 37 09.1	
HOWZ	**Holdsworth Sta**	**0.84**	**257**	⇑P*	Pb	07 37 01.2	+0.1
PNHZ	**Pukenui**	**0.85**	**339**	⇑P*	Pg	07 36 59.8	-1.1
KAHZ	**Kahuranaki**	**0.94**	**13**	P*	Pg	07 37 02.1	-0.5
MTW	**Mount Morrison**	**0.94**	**241**	⇑P*	Pb	07 37 02.9	+0.2
MTW				AML	AML	07 37 24.0	
MTW				AML	AML	07 37 24.5	
TRWZ	**Traveller**	**0.98**	**225**	P*	Pn	07 37 04.7	+0.8
TRWZ				AML	AML	07 37 28.9	
TRWZ				AML	AML	07 37 32.6	
KRHZ	**Kereru**	**1.08**	**351**	P*	Pb	07 37 03.5	-1.5
OGWZ	**Otaki Gorge**	**1.09**	**264**	P*	Pb	07 37 04.4	-0.8
PAWZ	**Paruwai Farm**	**1.11**	**232**	P*	Pb	07 37 05.5	-0.1
PAWZ				AML	AML	07 37 31.3	
PAWZ				AML	AML	07 37 33.1	
CAW	**Cannon Point**	**1.23**	**250**	P*	Pn	07 37 06.5	-0.9
CAW				AML	AML	07 37 26.2	
CAW				AML	AML	07 37 29.4	
MSWZ	**Moikau Station**	**1.24**	**235**	P*	Pn	07 37 06.9	-0.7
MSWZ				AML	AML	07 37 36.9	
MSWZ				AML	AML	07 37 37.9	
MCHZ	**McNeill Hill**	**1.26**	**3**	⇓P*	Pn	07 37 06.8	-1.1
BHHZ	**Black Hill Sta**	**1.28**	**341**	PN	Pn	07 37 06.6	-1.7
KWHZ	**Kaweka Forest**	**1.29**	**354**	PN	Pn	07 37 07.2	-1.2
KIW	**Kapiti Island**	**1.29**	**263**	P*	Pn	07 37 07.3	-1.0
KIW				AML	AML	07 37 27.7	
KIW				AML	AML	07 37 28.7	
PLWZ	**Palliser**	**1.33**	**229**	P*	Pn	07 37 07.9	-1.0
MOVZ	**Moawhango**	**1.45**	**333**	PN	Pn	07 37 09.6	-0.9
MOVZ				AML	AML	07 37 27.5	
MOVZ				AML	AML	07 37 27.8	
ARHZ	**Aropaoanui**	**1.48**	**12**	PN	Pn	07 37 09.7	-1.1
BHW	**Baring Head**	**1.48**	**241**	P*	Pn	07 37 10.3	-0.6
BHW				AML	AML	07 37 29.8	
BHW				AML	AML	07 37 43.0	
BKZ	**Black Stump Fm**	**1.54**	**357**	⇓PN	Pn	07 37 10.2	-1.6
BKZ				AML	AML	07 37 41.3	
BKZ				AML	AML	07 37 46.8	
WAZ	**Wanganui**	**1.56**	**307**	⇓PN	Pn	07 37 11.5	-0.4
WAZ				AML	AML	07 37 33.0	
WAZ				AML	AML	07 37 34.2	
WNVZ	**Wahianoa**	**1.58**	**331**	PN	Pn	07 37 11.8	-0.6
MTVZ	**Mangateitei**	**1.58**	**326**	PN	Pn	07 37 11.8	-0.5
MTVZ				AML	AML	07 37 34.7	
MTVZ				AML	AML	07 37 34.7	
TUVZ	**Tukino**	**1.61**	**333**	PN	Pn	07 37 12.5	-0.4
TUVZ				AML	AML	07 37 39.1	
TUVZ				AML	AML	07 37 41.3	
NMHZ	**Naumai**	**1.61**	**6**	PN	Pn	07 37 11.7	-1.1
TRVZ	**Turoa**	**1.62**	**330**	PN	Pn	07 37 12.6	-0.6
TRVZ				AML	AML	07 37 33.6	
TRVZ				AML	AML	07 37 35.9	
WHVZ	**Whangaehu Hut**	**1.62**	**331**	PN	Pn	07 37 12.6	-0.6
DRZ	**Dome Shelter**	**1.64**	**331**	PN	Pn	07 37 13.4	0.0
DRZ				AML	AML	07 37 37.4	
DRZ				AML	AML	07 37 42.2	
FWVZ	**Far West T-bar**	**1.66**	**331**	PN	Pn	07 37 13.3	-0.3
FWVZ				AML	AML	07 37 38.2	
FWVZ				AML	AML	07 37 40.3	
OTVZ	**Oturere**	**1.70**	**335**	PN	Pn	07 37 13.9	-0.2
OTVZ				AML	AML	07 37 44.4	
OTVZ				AML	AML	07 37 47.0	
WPVZ	**Whakapapa**	**1.70**	**331**	PN	Pn	07 37 14.2	+0.1
WPVZ				AML	AML	07 37 38.5	
WPVZ				AML	AML	07 37 41.1	
NGZ	**Ngauruhoe**	**1.71**	**333**	PN	Pn	07 37 14.1	-0.2
NGZ				AML	AML	07 37 44.5	
NGZ				AML	AML	07 37 44.8	
COVZ	**Chateau Observ**	**1.71**	**331**	PN	Pn	07 37 14.5	+0.3
PKVZ	**Pokaka**	**1.71**	**325**	PN	Pn	07 37 14.2	+0.1
PKVZ				AML	AML	07 37 36.1	
PKVZ				AML	AML	07 37 42.9	
WTVZ	**West Tongariro**	**1.77**	**334**	PN	Pn	07 37 15.5	+0.5
WTVZ				AML	AML	07 37 41.3	
WTVZ				AML	AML	07 37 43.0	
KRVZ	**Karewarewa**	**1.77**	**335**	PN	Pn	07 37 15.9	+0.8
KRVZ				AML	AML	07 37 44.4	
KRVZ				AML	AML	07 37 44.9	
RITZ	**Rihia Road**	**1.82**	**342**	PN	Pn	07 37 14.8	-0.8
RITZ				AML	AML	07 37 52.7	
RAHZ	**Arahi**	**1.83**	**12**	PN	Pn	07 37 14.4	-1.3
TCW	**Tory Channel**	**1.83**	**253**	PN	Pn	07 37 14.4	-1.2
TCW				AML	AML	07 37 41.0	
TCW				AML	AML	07 37 46.1	
TWVZ	**Taurewa**	**1.86**	**331**	PN	Pn	07 37 17.1	+0.8
KNZ	**Kokohu**	**1.88**	**27**	PN	Pn	07 37 14.6	-1.7
RATZ	**Rangitukua**	**1.94**	**341**	PN	Pn	07 37 17.0	-0.3
RATZ				AML	AML	07 37 48.6	
DUWZ	**D'Urville Isla**	**2.04**	**266**	PN	Pn	07 37 18.0	-0.5
DUWZ				AML	AML	07 37 51.5	
VRZ	**Vera Road**	**2.12**	**318**	PN	Pn	07 37 19.9	+0.2
VRZ				AML	AML	07 37 54.1	
VRZ				AML	AML	07 38 00.9	
TUWZ	**Tuamarina**	**2.13**	**249**	PN	Pn	07 37 18.5	-1.3
TUWZ				AML	AML	07 38 00.5	
BSWZ	**Blackbirch Sta**	**2.29**	**243**	PN	Pn	07 37 20.6	-1.4
RAGZ	**Rawiri**	**2.30**	**16**	PN	Pn	07 37 20.5	-1.8
NEZ	**North Egmont**	**2.40**	**306**	PN	Pn	07 37 23.7	+0.1
KHEZ	**Kahui Hut**	**2.44**	**305**	PN	Pn	07 37 25.2	+1.1
TKGZ	**Te Karaka**	**2.46**	**24**	PN	Pn	07 37 22.3	-2.1
MWZ	**Matawai**	**2.48**	**17**	PN	Pn	07 37 22.3	-2.3
URZ	**Urewera**	**2.48**	**9**	PN	Pn	07 37 22.4	-2.1
NNZ	**Nelson**	**2.49**	**257**	PN	Pn	07 37 23.8	-0.9
HIZ	**Hauiti**	**2.57**	**328**	AML	AML	07 38 04.9	
THZ	**Tophouse**	**2.98**	**248**	PN	Pn	07 37 29.7	-1.8
HAZ	**Te Kaha**	**3.09**	**18**	PN	Pn	07 37 31.4	-1.5
QRZ	**Quartz Range**	**3.09**	**266**	PN	Pn	07 37 32.0	-1.1
WMGZ	**Waiomatatini S**	**3.21**	**27**	PN	Pn	07 37 32.9	-1.8
MXZ	**Matakaoa Point**	**3.41**	**23**	PN	Pn	07 37 35.3	-2.0

*ISCJB **28** 07:38:21.2±0.3,15.96N±0.05×92.51W±0.04,h230km±3km, mb3.6/7, Error ellipse: s-maj=9.3km s-min=4.3km az=31.6*
*NEIC **28** 07:38:22.7,16.03N×92.59W,h235km,mb4.6/1, MD4.4(MEX), After MEX.*
*MEX **28** 07:38:22.7±0.6,16.06N×92.57W,h233km±6km,MD4.4*
*CASC **28** 07:38:24.1±1.1,15.81N×92.23W,h230km±8km,MD4.0, ML3.2*
*IDC **28** 07:38:25.7±3.3,16.15N×91.93W,h267km±31km,mb3.3/7, mb1 3.6/9,mb1mx3.2/34,mbtmp4.0/9,Error ellipse: s-maj=37.8km s-min=12.1km az=57.0*

ISC 28 07:38:21.7±0.6,15.99N±0.06×92.53W±0.04,h229km±6km, n160,σ1§42/176,mb3.9/7,1C,Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.47**	**53**	*i* P	Pn	07 38 52.3	0.0
CCIG				*i* S	S	07 39 14.9	-1.5
PCIG		**0.72**	**247**	*i* P	Pn	07 38 52.7	-0.3
PCIG				*i* S	S	07 39 16.9	-0.6
PCIG		**0.72**	**247**	*i* P	Pn	07 38 52.7	-0.3
PCIG				*i* S	S	07 39 16.9	-0.6
JAT	**Jato**	**1.88**	**153**	*e*P	Pn	07 39 42.4	+1.0
JAT				*e*S	S	07 39 28.0	-4.3
FUG	**Fuego 3**	**2.24**	**133**	*e*P	Pn	07 39 06.0	+0.9
FUG				*e*S	S	07 39 43.2	+4.3
CMIG	**Matias Romero**	**2.51**	**296**	*e*P	Pn	07 39 07.4	-0.2
CMIG				*i* S	S	07 39 41.1	-2.4
CMIG	**Matias Romero**	**2.51**	**296**	*e*P	Pn	07 39 07.4	-0.2
CMIG				*i* S	S	07 39 41.1	-2.4
MRL	**Marmol**	**2.89**	**108**	⇑*e*P	Pn	07 39 11.4	-0.5
MRL				*e*S	S	07 39 49.4	-1.8
RBDL	**Robledal**	**3.32**	**124**	*e*P	Pn	07 39 16.6	-0.3
RBDL				*e*S	S	07 39 57.7	-2.4
HUIG	**Huatulco**	**3.45**	**267**	*i* P	Pn	07 39 17.3	-0.8
HUIG				*i* S	S	07 40 00.8	-1.6
HUIG	**Huatulco**	**3.45**	**267**	*i* P	Pn	07 39 17.3	-0.8
HUIG				*i* S	S	07 40 00.8	-1.6
RTR	**El Retiro**	**3.48**	**126**	*e*P	Pn	07 39 18.7	0.0
SNJE	**San Jose**	**3.53**	**126**	*e*P	Pn	07 39 19.1	-0.2
SBLS	**San Blas**	**3.53**	**127**	*e*P	Pn	07 39 19.1	-0.3
BOQS	**Boqueron**	**3.86**	**125**	*e*P	Pn	07 39 23.2	-0.1
SNET	**Serv Nac Est T**	**3.93**	**125**	*e*P	Pn	07 39 23.3	-0.6
SNET				AML	AML	07 39 24.3	
	comp=Z,69nm,0.6s						
LFU	**La Fuente**	**3.99**	**124**	*e*P	Pn	07 39 24.2	-0.4
LFRS	**El Faro**	**4.10**	**125**	*e*P	Pn	07 39 26.5	+0.5
VHO	**Vista Hermosa**	**4.17**	**285**	*e*P	Pn	07 39 27.2	+0.3
VHO				*e*S	S	07 40 16.0	-2.3
VHO	**Vista Hermosa**	**4.17**	**285**	*e*P	Pn	07 39 27.6	+0.6
VHO				*e*S	S	07 40 16.0	-2.3
VSM	**San Miguel**	**4.84**	**121**	*e*P	Pn	07 39 35.5	+0.2
PNIG	**Pinotepa**	**5.39**	**275**	*e*P	Pn	07 39 41.9	+0.1
PNIG				*i* S	S	07 40 42.4	-3.0
PNIG	**Pinotepa**	**5.39**	**275**	*e*P	Pn	07 39 41.9	+0.1
PNIG				*i* S	S	07 40 42.4	-3.0
TEIG	**Tepich**	**5.84**	**43**	P	Pn	07 39 45.7	-1.7
	comp=Z,0.5nm,0.3s,baz=196,slow=23,SNR=15						
TEIG	**Tepich**	**5.84**	**43**	*e*Pn	Pn	07 39 45.4	-2.0
JTS	**JuntasAbangare**	**9.30**	**127**	*e*Pn	Pn	07 40 30.8	-1.0
	comp=Z,18nm,0.3s						
933A	**Laredo**	**13.14**	**333**	P	**P**	07 41 22.8	+0.5
	baz=13						
833A	**Chaparral WMA,**	**13.81**	**334**	P	**P**	07 41 30.3	+0.6
	baz=14						
832A	**Faith Ranch, C**	**14.04**	**332**	P	**P**	07 41 33.0	+0.9
	baz=14						
636A	**Smothers Creek**	**14.06**	**344**	P	**P**	07 41 32.1	-0.2
	baz=14						
733A	**Divot King Ran**	**14.12**	**335**	P	**P**	07 41 34.4	+1.4
	baz=14,SNR=9.2						
732A	**Laxson Ranch,**	**14.42**	**333**	P	**P**	07 41 37.5	+1.2
	baz=14						
535A	**Dale**	**14.72**	**343**	P	**P**	07 41 41.8	+2.2
	baz=15						
633A	**Saathoff Ranch**	**14.73**	**337**	P	**P**	07 41 41.3	+1.5
	baz=15,SNR=6.4						
632A	**Uvalde**	**15.02**	**335**	P	**P**	07 41 45.0	+2.0
	baz=15,SNR=6.2						
533A	**Kerrville**	**15.23**	**338**	P	**Pn**	07 41 48.0	+2.4
	baz=15,SNR=5.9						
631A	**Perdido Creek**	**15.27**	**332**	P	**Pn**	07 41 47.7	+1.7
	baz=15,SNR=11						
340A	**Bronson**	**15.40**	**356**	P	**Pn**	07 41 48.9	+1.3
	baz=15						
338A	**Crockett**	**15.50**	**351**	P	**Pn**	07 41 49.8	+1.0
	baz=16						
532A	**Rocksprings**	**15.61**	**336**	P	**Pn**	07 41 52.8	+2.6
	baz=16,SNR=5.2						
434A	**Burnet**	**15.66**	**341**	P	**Pn**	07 41 52.2	+1.5
	baz=16						
336A	**Riesel**	**15.82**	**346**	P	**Pn**	07 41 53.7	+1.1
	baz=16						
433A	**Art**	**15.87**	**339**	P	**Pn**	07 41 55.8	+2.5
	baz=16,SNR=9.7						
JCT	**Junction City**	**15.88**	**336**	P	**Pn**	07 41 55.8	+2.4
	baz=16						
531A	**Rocksprings**	**15.91**	**344**	P	**Pn**	07 41 56.7	+3.0
	baz=16,SNR=14						
334A	**Lometa**	**16.13**	**342**	P	**Pn**	07 41 57.6	+1.2
	baz=16						
432A	**Menard**	**16.23**	**337**	P	**Pn**	07 42 00.2	+2.6
	baz=16,SNR=11						
530A	**J-C Ranch, Com**	**16.24**	**332**	P	**Pn**	07 42 00.2	+2.5
	baz=16,SNR=14						
236A	**Katherine and**	**16.35**	**348**	P	**Pn**	07 41 59.9	+1.1
	baz=16						
333A	**Richland Sprin**	**16.36**	**340**	P	**Pn**	07 42 00.4	+1.4
	baz=16						
431A	**Sonora**	**16.38**	**335**	P	**Pn**	07 42 02.0	+2.6
	baz=16,SNR=8.1						
529A	**Stev Forest Ra**	**16.64**	**329**	P	**Pn**	07 42 04.9	+2.5
	baz=17,SNR=8.2						
332A	**Millersview**	**16.67**	**338**	P	**Pn**	07 42 05.5	+2.7
	baz=17,SNR=19						
430A	**Baggett Ranch,**	**16.74**	**333**	P	**Pn**	07 42 06.5	+2.9
	baz=17,SNR=11						
TXAR	**Lajitas Array**	**16.77**	**324**	P	**Pn**	07 42 05.9	+1.9
	comp=Z,0.5nm,0.3s,baz=153,slow=11,SNR=46						
TXAR				PcP	**PcP**	07 46 36.6	-1.2
	comp=Z,0.0nm,0.3s,baz=130,slow=3.6,SNR=2.6						
331A	**San Angelo**	**16.86**	**336**	P	**Pn**	07 42 06.3	+1.3
	baz=17,SNR=11						
429A	**Davenport Ranc**	**16.90**	**331**	P	**Pn**	07 42 09.2	+3.7
	baz=17,SNR=21						
135A	**Vickery Place,**	**17.07**	**346**	P	**Pn**	07 42 07.4	0.0
	baz=17						
232A	**Coleman**	**17.10**	**339**	P	**Pn**	07 42 07.9	+0.2
	baz=17						
330A	**Mertzon**	**17.25**	**334**	P	**Pn**	07 42 10.1	+0.5
	baz=17,SNR=11						
231A	**Bronte**	**17.38**	**337**	P	**Pn**	07 42 11.5	+0.5
	baz=17						
TIGA	**Tifton**	**17.40**	**26**	P	**Pn**	07 42 10.6	-0.7
	baz=18						
133A	**Hamilton Ranch**	**17.53**	**342**	P	**Pn**	07 42 12.2	-0.5
	baz=18						
Z36A	**Blue Ridge**	**17.56**	**349**	P	**P**	07 42 11.9	+1.1
	baz=18						
230A	**Sterling City**	**17.65**	**335**	P	**Pn**	07 42 14.5	+0.3
	baz=18						
329A	**Wagon Wheel Ra**	**17.67**	**332**	P	**Pn**	07 42 15.1	+0.6
	baz=18						
ABTX	**Abilene, Hawle**	**17.77**	**340**	P	**Pn**	07 42 15.5	-0.1
	baz=18						
Z34A	**Collier Ranch,**	**17.98**	**345**	P	**P**	07 42 16.7	+1.3
	baz=18						
229A	**Bryant Ranch,**	**18.00**	**334**	P	**Pn**	07 42 18.3	-0.1
	baz=18						
131A	**Roby**	**18.07**	**338**	P	**Pn**	07 42 18.6	-0.6
	baz=18						
Z33A	**Whitaker Ranch**	**18.12**	**343**	P	**Pn**	07 42 18.9	-0.8
	baz=18						
Y36A	**Durant**	**18.15**	**350**	P	**P**	07 42 18.1	+0.9
	baz=18						
130A	**Snyder**	**18.21**	**337**	P	**Pn**	07 42 19.8	-1.0
	baz=18						
Y35A	**Marietta**	**18.29**	**348**	P	**P**	07 42 20.4	+1.6
	baz=18,SNR=12						
Z32A	**Haskell**	**18.35**	**341**	P	**Pn**	07 42 21.2	-1.2
	baz=18						
228A	**UT Block 9, Go**	**18.48**	**332**	P	**Pn**	07 42 22.8	-1.1
	baz=18						
Y34A	**Reagan Ranch,**	**18.50**	**346**	P	**P**	07 42 21.8	+0.8
	baz=18,SNR=5.0						
MIAR	**Mount Ida**	**18.50**	**357**	P	**P**	07 42 21.7	+0.7
	baz=18						
Z31A	**Sharp Cattle R**	**18.57**	**340**	P	**P**	07 42 23.5	+1.6
	baz=19						
129A	**Stewart Farms,**	**18.60**	**335**	P	**Pn**	07 42 24.4	-1.0
	baz=19,SNR=13						
X37A	**Clayton**	**18.69**	**353**	P	**P**	07 42 23.9	+0.8
	baz=19						
X38A	**Whitesboro**	**18.71**	**354**	P	**P**	07 42 24.2	+0.9
	baz=19						
X35A	**Drake**	**18.76**	**349**	P	**P**	07 42 24.8	+0.9
	baz=19						
Y33A	**Hilltop Ranch,**	**18.76**	**344**	P	**P**	07 42 24.4	+0.6
	baz=19						
X36A	**Centrahoma**	**18.82**	**350**	P	**P**	07 42 25.3	+0.9
	baz=19						
128A	**Castleberry Fa**	**18.86**	**333**	P	**P**	07 42 26.8	+1.7
	baz=19,SNR=9.8			

V32A	**Arapaho** baz=20	**20.49**	**345**	P		**P**	**07 42 42.6**	**+0.2**
U35A	**Pawnee** baz=21	**20.64**	**350**	P		**P**	**07 42 44.2**	**+0.3**
W29A	**Amraillo** baz=21	**20.73**	**338**	P		**P**	**07 42 45.6**	**+0.6**
V31A	**Spring Creek L** baz=21	**20.75**	**343**	P		**P**	**07 42 46.0**	**+0.8**
U34A	**Anderson Ranch** baz=21	**20.84**	**349**	P		**P**	**07 42 45.8**	**-0.3**
V30A	**Spur Ranch, Mi** baz=21	**20.99**	**341**	P		**P**	**07 42 48.3**	**+0.5**
TKL	**Tuckaleechee C** comp=Z,2.0nm,0.5s,baz=180,slow=12,SNR=6.0	**21.09**	**20**	P		**P**	**07 42 47.2**	**-1.5**
T35A	**Sooner Cattle** baz=21	**21.14**	**351**	P		**P**	**07 42 48.9**	**-0.2**
T37A	**Cheneyville 18** baz=21	**21.15**	**355**	P		**P**	**07 42 48.8**	**-0.4**
T36A	**Boggs Farm, Ca** baz=21	**21.19**	**353**	P		**P**	**07 42 49.3**	**-0.3**
U31A	**Nine Bar Ranch** baz=21	**21.32**	**344**	P		**P**	**07 42 51.1**	**+0.2**
T34A	**McClaskey Farm** baz=21	**21.35**	**350**	P		**P**	**07 42 49.7**	**-1.5**
V29A	**Stinnett** baz=21	**21.36**	**340**	P		**P**	**07 42 52.3**	**+0.8**
V28A	**Channing** baz=22	**21.50**	**338**	P		**P**	**07 42 53.6**	**+0.8**
121A	**Cookes Peak, D** baz=22	**21.51**	**323**	P		**P**	**07 42 56.2**	**+3.2**
U30A	**WK&E Inc. Balk** baz=22	**21.69**	**342**	P		**P**	**07 42 55.6**	**+0.9**
S37A	**Fort Scott** baz=22	**21.78**	**355**	P		**P**	**07 42 54.1**	**-1.2**
S35A	**Otter Creek Ra** baz=22	**21.86**	**352**	P		**P**	**07 42 55.3**	**-0.9**
T31A	**Randall Ranch,** baz=22	**21.95**	**345**	P		**P**	**07 42 57.4**	**+0.3**
U27A	**Thompson Grove** baz=22,SNR=5.3	**22.31**	**338**	P		**P**	**07 43 02.4**	**+1.9**
T29A	**Hugoton** baz=22	**22.46**	**341**	P		**P**	**07 43 03.1**	**+1.3**
T28A	**Walsh** baz=23	**22.69**	**340**	P		**P**	**07 43 04.8**	**+0.9**
R33A	**Olander Ranch,** baz=23	**22.74**	**349**	P		**P**	**07 43 04.4**	**+0.2**
S29A	**Ulysses** baz=23,SNR=9.1	**22.84**	**342**	P		**P**	**07 43 07.1**	**+1.9**
Q35A	**Mercer Eighty,** baz=23	**22.99**	**353**	P		**P**	**07 43 06.7**	**+0.2**
R32A	**Long Quarter,** baz=23	**23.00**	**347**	P		**P**	**07 43 07.2**	**+0.7**
R31A	**Burdett** baz=23	**23.05**	**346**	P		**P**	**07 43 07.9**	**+0.9**
S28A	**Manter** baz=23	**23.05**	**341**	P		**P**	**07 43 08.7**	**+1.6**
R30A	**Dighton** baz=23	**23.23**	**344**	P		**P**	**07 43 10.1**	**+1.5**
Q32A	**Meitler Ranch,** baz=24	**23.51**	**348**	P		**P**	**07 43 11.6**	**+0.4**
P35A	**Duane Minner,** baz=24	**23.64**	**353**	P		**P**	**07 43 11.9**	**-0.5**
R28A	**Tribune** baz=24,SNR=5.3	**23.72**	**342**	P		**P**	**07 43 15.2**	**+2.1**
Q30A	**Quinter** baz=24	**23.87**	**345**	P		**P**	**07 43 15.9**	**+1.4**
R27A	**Eads** baz=24	**23.98**	**340**	P		**P**	**07 43 18.3**	**+2.7**
O20A	**White River Ci** baz=28	**27.67**	**333**	P		**P**	**07 43 50.1**	**+1.3**
ECSD	**EROS Data Cent** baz=28	**27.87**	**354**	P		**P**	**07 43 49.7**	**-0.5**
R11A	**Troy Canyon, C** baz=30	**30.12**	**322**	P		**P**	**07 44 13.1**	**+2.7**
E26A	**Carlson Angus** baz=32	**31.50**	**347**	P		**P**	**07 44 22.3**	**+0.1**
NVAR	**Mina Array Bea** comp=Z,0.6nm,0.6s,baz=124,slow=8.7,SNR=7.4	**31.82**	**320**	P		P	07 44 28.7	+3.4
NVAR				PcP		**PcP**	**07 47 11.3**	**+0.7**
A26A	**Wade Farm, Ken** comp=Z,0.4nm,0.6s,baz=151,slow=3.9,SNR=3.9	**33.73**	**349**	P		**P**	**07 44 41.2**	**-0.2**
LPAZ	**La Paz** comp=Z,2.6nm,0.6s,baz=335,slow=5.2,SNR=19	**40.11**	**142**	P		**P**	**07 45 35.2**	**-0.9**
LPAZ				PcP		**PcP**	**07 47 35.5**	**-0.7**
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.4s,baz=135,slow=9.0,SNR=28	**48.98**	**347**	P		**P**	**07 46 44.8**	**0.0**
BDFB	**Brasilia** comp=Z,1.2nm,0.3s,baz=281,slow=10,SNR=2.9	**54.03**	**123**	P		P	07 47 19.6	-3.4
INK	**Inuvik** comp=Z,1.6nm,0.9s,baz=105,slow=6.1,SNR=3.4	**58.39**	**343**	P		**P**	**07 47 53.5**	**+0.6**
ILAR	**Eielson Array** comp=Z,0.2nm,0.6s,baz=110,slow=6.1,SNR=6.9	**60.82**	**336**	P		**P**	**07 48 09.5**	**0.0**
WRA	**Warramunga Arr** comp=Z,0.5nm,0.6s,baz=87,slow=2.6,SNR=15	**135.35**	**258**	PKP		**PKPdf**	**07 57 14.9**	**-0.2**
ASAR	**Alice Springs** comp=Z,0.1nm,0.4s,baz=98,slow=3.7,SNR=3.3	**135.81**	**252**	PKhKP		PKPpre	07 57 05.9	
ASAR				PKP		**PKPdf**	**07 57 15.4**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=89,slow=1.4,SNR=4.0							

IDC 28 08:04:42.6±8.1,**13°99.N×89°.11W,h179**km±52km,**mb3.2**/5, **mb1 3.6**/5,**mb1mx3.2**/22,**mbtmpg3.8**/5,**MS2.8**/1,**Ms1 2.8**/1, **ms1mx2.2**/20,**Error ellipse: s-maj=74.8km s-min=35.9km az=172.0,El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEIG	**Tepich** 0.1nm,0.3s,baz=163,slow=20,SNR=6.8	**6.25**	**7**	P	P	08 06 12.8	-0.2
TXAR	**Lajitas Array** 1.7nm,0.6s,baz=144,slow=9.2,SNR=22	**20.36**	**321**	P	P	08 09 05.3	-0.2
TKL	**Tuckaleechee C** 3.0nm,0.8s,baz=179,slow=12,SNR=6.2	**22.11**	**12**	P	P	08 09 24.5	+1.0
TKL	comp=Z,22nm,18.5s,baz=322,slow=40			LR	LR	08 19 38.7	
NVAR	**Mina Array Bea** 0.5nm,0.7s,baz=135,slow=7.3,SNR=5.0	**35.48**	**319**	P	P	08 11 22.4	0.0
NVAR	0.2nm,0.5s,baz=132,slow=1.3,SNR=3.1			PcP	PcP	08 13 47.8	0.0
SCHQ	**Schefferville** 2.5nm,0.6s,baz=212,slow=14,SNR=3.1	**44.31**	**18**	P	P	08 12 33.6	-0.9
YKA	**Yellowknife Ar** 0.3nm,0.5s,baz=146,slow=6.8,SNR=4.7	**51.72**	**345**	P	P	08 13 31.0	-0.1
WRA	**Warramunga Arr** 0.4nm,0.9s,baz=91,slow=2.4,SNR=3.3	**138.11**	**256**	PKP	PKPdf	08 23 47.8	+0.7
CMAR	**Chiang Mai Arr** 0.9nm,0.3s,baz=20,slow=2.9,SNR=3.0	**146.79**	**346**	PKPbc	PKPdf	08 24 03.1	+0.6

DJA 28 08:04:51.8±0.6,**1°N.5°×10°.0E**±°,**h12**km±6km,**M3.9**/7, **MLv3.9**/7,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.56**	**284**	P	Pg	08 05 02.8	+0.1
BKNI	**Bangkinang**	**0.98**	**110**	P	Pg	08 05 09.9	-0.8
PPI	**Padang Panjang**	**1.14**	**166**	P	Pb	08 05 11.3	-2.2
PPI				S	Sb	08 05 27.6	-0.7
PBSI	**Pulau Batu**	**1.97**	**249**	P	Pn	08 05 24.7	-0.3
PBSI				S	Sn	08 05 50.8	+1.1
RGRI	**Rengat**	**2.43**	**114**	P	Pn	08 05 32.5	+1.1
GSI	**Gunungsitoli**	**2.62**	**284**	P	Pn	08 05 33.1	-0.9
KRJI	**Kerinci**	**3.04**	**154**	P	Pn	08 05 36.0	-4.0
JMBI	**JAMBI**	**4.19**	**123**	P	Pn	08 05 54.1	-1.5

*MOS **28** 08:07:03.5±0.9,6°.93N×126°.72E,h156km,mb4.8/31,Error ellipse: s-maj=12.7km s-min=6.5km az=112.3*
*BJI **28** 08:07:04.9,6°.69N×126°.86E,h188km,mb4.9/48,mB4.7/30*
*ISCJB **28** 08:07:05.8±0.3,6°.88N±0°.02×126°.77E±0°.04,h178km±3km, mb4.7/74,Error ellipse: s-maj=5.9km s-min=3.5km az=163.4*
*IDC **28** 08:07:06.9±1.6,6°.88N×126°.78E,h176km±14km,mb4.3/27, mb1 4.3/30,mb1mx4.3/33,mbtmp4.7/30,MS2.9/3, Ms1 2.9/3,ms1mx2.5/42,Error ellipse: s-maj=13.5km s-min=7.3km az=80.0*
*NEIC **28** 08:07:07.8±0.7,6°.91N×126°.71E,h181km±6km,mb4.8/33, Error ellipse: s-maj=6.9km s-min=5.8km az=85.0*
*MAN **28** 08:07:08,6°.95N×126°.67E,h160km,mb5.4,ML4.4,MS4.7*
*DJA **28** 08:07:10.4±0.7,7°N±5°×12°7E±°,h139km±9km,M4.9/11, mb4.9/11,mB5.2/9,MLv5.3/7,Mw(mB)4.6/9*
ISC 28 08:07:08.2±0.3,**6°.84N**±0°.03×**126°.77E**±0°.05,**h189**km±2km, **h189**km:**pP-P,n233,**σ1**43/286,mb4.7**/75,**11C-4D,**

Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.20**	**281**	*e*Pn	**Pn**	**08 07 36.3**	**-2.1**
DMPH	**Davao City--Mi**	**1.27**	**281**	⇓*i*P	**Pn**	**08 07 37.0**	**-1.9**
DMPH				*i* S	**Sn**	**08 08 00.5**	**-2.2**
BIPH	**Bislig**	**1.40**	**343**	⇓*i*P	**Pn**	**08 07 37.7**	**-2.3**
BIPH				*i* S	Sn	08 07 58.5	-6.3
GSPH	**General Santos**	**1.96**	**248**	*e*P	Pn	08 07 41.8	-3.8
GSPH				*e*S	**Sn**	**08 08 09.1**	**-5.5**
CTBH	**Cotabato--PC H**	**2.53**	**279**	⇑*i*P	**Pn**	**08 07 49.0**	**-2.8**
CGP	**Cagayan de Oro**	**2.61**	**308**	*e*P	**Pn**	**08 07 49.6**	**-3.1**
CGP				*i* S	**Sn**	**08 08 23.3**	**-4.0**
SGSI	**Sangihe**	**3.37**	**202**	P	**Pn**	**08 08 00.9**	**-0.9**
SGSI				S	**Sn**	**08 08 39.7**	**-4.0**
TBP	**Tagbilaran**	**4.04**	**315**	*e*P	**Pn**	**08 08 08.1**	**-2.0**
TNTI	**Ternate** 184nn,1.0s,2μm1.0nm	**6.06**	**174**	P	**Pn**	**08 08 35.3**	**-0.8**
TNTI	184nn,1.0s,2μm1.0nm			S	**Sn**	**08 09 41.4**	**-4.2**
TNTI	**Ternate**	**6.06**	**174**	*e*Pn	**Pn**	**08 08 35.0**	**-1.1**
KMSI	**Cibinong** 493nn,1.1s,9μm2.8nm	**6.82**	**204**	P	**Pn**	**08 08 45.5**	**-0.5**
KMSI	493nn,1.1s,9μm2.8nm			S	**Sn**	**08 10 08.6**	**+5.1**
LBMI	**Labuha** 105nn,0.9s,2μm0.9nm	**7.46**	**174**	P	**Pn**	**08 08 55.2**	**+0.7**
LBMI	105nn,0.9s,2μm0.9nm			S	**Sn**	**08 10 13.8**	**-5.0**
PALU	**Palau** baz=7.6,SNR=4.6	**7.66**	**86**	P	Pn	08 08 47.4	-10
MRSI	**Marisa** 158nn,0.8s,2μm1.0nm	**7.95**	**218**	P	**Pn**	**08 09 00.4**	**-0.4**
MYLDM	**Lahad Datu**	**8.39**	**259**	*e*Pn	**Pn**	**08 09 06.5**	**-0.1**
LUWI	**Luwuk** 165nn,0.8s,3μm	**8.79**	**207**	P	**Pn**	**08 09 11.4**	**-0.5**
LUWI	165nn,0.8s,3μm			S	**Sn**	**08 10 48.9**	**-1.4**
LUWI	**Luwuk**	**8.79**	**207**	*e*Pn	**Pn**	**08 09 14.2**	**+2.4**
SANI	**Sanana** 56nn,1.0s,2μm	**8.86**	**185**	P	Pn	08 09 08.1	-4.8
SWI	**Sorong**	**8.87**	**149**	S	**Sn**	**08 10 47.9**	**-4.3**
SIJI	**Sorong** 1.6nm,0.3s,baz=330,slow=20,SNR=3.4	**8.88**	**149**	P	**Pn**	**08 09 12.8**	**-0.2**
SIJI	1.4nm,0.3s,baz=90,slow=21,SNR=3.8			S	**Sn**	**08 10 48.2**	**-4.2**
SIJI	comp=Z,123nm,19.2s,baz=195,slow=41			LR	LR	08 13 08.6	
APSI	**Ampana** 190nn,1.1s,1μm	**9.24**	**214**	P	**Pn**	**08 09 18.5**	**+0.7**
MPSI	**Mapaga** 18nn,0.8s	**9.42**	**227**	P	**Pn**	**08 09 20.9**	**+0.8**
MPSI	18nn,0.8s			S	**Sn**	**08 11 07.8**	**+2.4**
NLAI	**Namlea** 65nn,0.9s,1μm	**10.02**	**178**	P	**Pn**	**08 09 25.7**	**-2.2**
TTSI	**Tana Toraja**	**12.02**	**215**	P	**Pn**	**08 09 53.9**	**+0.1**
KAPI	**Kappang** 0.9nn,0.3s,baz=108,slow=5.7,SNR=5.0	**13.70**	**211**	P	**Pn**	**08 10 14.2**	**-0.7**
KAPI	**Kappang**	**13.70**	**211**	*e*Pn	**Pn**	**08 10 14.7**	**-0.3**
SBUM	**Sibu** 151nn,0.7s	**15.14**	**254**	*e*P	**P**	**08 10 33.2**	**-0.3**
SOEI	**Soe** baz=17,SNR=4.1	**16.67**	**189**	P	**Pn**	**08 10 54.0**	**+2.6**
SOEI	**Soe** 55nn,0.9s	**16.67**	**189**	*e*Pn	**Pn**	**08 10 53.7**	**+2.3**
JAY	**Jayapura** 0.9nn,0.3s,baz=242,slow=8.5,SNR=4.5	**16.73**	**123**	P	**P**	**08 10 50.8**	**-0.3**
JAY	**Jayapura** comp=Z,1.0nm,0.3s	**16.73**	**123**	P	**P**	**08 10 50.8**	**-0.3**
JAY				pmax	pmax		
KSM	**Kuching** baz=17,SNR=12	**17.25**	**253**	P	**Pn**	**08 10 57.7**	**-0.5**
KSM	**Kuching** comp=Z,74nn,0.9s	**17.25**	**253**	*e*P	**P**	**08 10 57.0**	**+0.2**
MTN	**Manton Dam** baz=20,SNR=4.7	**20.03**	**167**	P	**P**	**08 11 27.9**	**+1.1**
KDU	**Kakadu** baz=20,SNR=7.4	**20.21**	**164**	P	**P**	**08 11 30.6**	**+1.8**
QIZ	**Qiongzhong**	**20.44**	**308**	P	**P**	**08 11 30.5**	**-0.7**
QIZ				sP	**sP**	**08 12 24.3**	**-2.8**
QIZ				S	**S**	**08 15 08.3**	**-1.5**
QIZ	comp=Z,26nm,1.0s			PMZ			
LEM	**Lembang** comp=Z,29nn,0.5s,baz=78,slow=7.0,SNR=2.4	**23.44**	**235**	P	**P**	**08 12 01.5**	**+0.6**
LEM	**Lembang**	**23.44**	**235**	P	**P**	**08 12 01.5**	**+0.6**
LEM	comp=Z,23nm,0.5s			pmax	pmax		
CBIJ	**Chichi jima**	**24.91**	**34**	*e*P	**P**	**08 12 12.4**	**-1.6**
JCJ	**Chichijima** comp=Z,46nm,0.5s,baz=206,slow=3.9,SNR=16	**24.91**	**34**	P	**P**	**08 12 11.9**	**-2.1**
JNU	**Nakatsue** comp=Z,19nm,0.8s,baz=148,slow=1.1,SNR=8.7	**26.43**	**8**	P	**P**	**08 12 26.1**	**-1.5**
JNU	**Nakatsue**	**26.43**	**8**	*e*P	**P**	**08 12 26.7**	**-0.9**
PBKT	**Sadao Pong** comp=Z,29nn,0.8s	**27.02**	**293**	P	**P**	**08 12 33.1**	**+0.1**
GYA	**Guiyang**	**27.34**	**318**	P	**P**	**08 12 36.8**	**+0.9**
GYA				pP	**pP**	**08 13 14.5**	**+0.2**
GYA				PP	**PnPn**	**08 13 32.0**	**+0.3**
GYA				sP	**sP**	**08 13 36.3**	**0.0**
GYA				PcP	**PcP**	**08 15 51.5**	**+1.1**
GYA				S	**S**	**08 17 00.3**	**-1.5**
GYA				sS	**sS**	**08 18 09.5**	**-1.0**
GYA				ScP	**ScP**	**08 19 13.0**	**-0.2**
GYA	comp=Z,20nm,0.8s			PMZ			
GYA	comp=Z,110nm,4.8s			PMZ			
WRA	**Warramunga Arr** comp=Z,1.2nm,0.6s,baz=342,slow=8.4,SNR=14	**27.64**	**165**	P	**P**	**08 12 37.9**	**-0.6**
WRA				PcP	**PcP**	**08 15 51.1**	**0.0**
WRA	comp=Z,1.5nm,0.7s,baz=336,slow=2.6,SNR=4.7			ScP	**ScP**	**08 19 14.9**	**+0.9**
WRA	comp=Z,2.6nm,0.8s,baz=345,slow=3.7,SNR=12			P3KPbc		08 45 03.0	
WRA	comp=Z,0.3nm,0.6s,baz=169,slow=4.4,SNR=5.4 **Warramunga Arr**	**27.64**	**165**	P	**P**	**08 12 37.9**	**-0.6**
WRA						08 15 51.1	
WRA	comp=Z,1.0nm,0.6s			pmax	pmax		
WRA	comp=Z,2.0nm,0.7s			pmax	pmax		
WRA	comp=N,3.0nm,0.9s			pmax	pmax		
ENH	**Enshi**	**28.41**	**327**	*e*P	**P**	**08 12 45.4**	**+0.1**
KMI	**Kunming**	**29.30**	**311**	P	**P**	**08 12 54.0**	**+0.5**
KMI				pP	**pP**	**08 13 35.8**	**+3.6**
KMI	comp=N,22nm,0.8s			PMZ			
KMI	comp=N,72nm,4.7s			PMZ			
CMAR	**Chiang Mai Arr** comp=N,2.1nm,0.4s,baz=121,slow=7.6,SNR=11	**29.45**	**296**	P	**P**	**08 12 53.5**	**-1.1**
CMAR				PcP	**PcP**	**08 15 56.0**	**+0.3**
CMAR	comp=N,1.3nm,0.4s,baz=127,slow=0.6,SNR=8.1 **Chiang Mai Arr**	**29.45**	**296**	P	**P**	**08 12 53.5**	**-1.1**
CMAR						08 15 56.0	
CMAR	comp=Z,2.0nm,0.4s			pmax	pmax		
CMAR	comp=Z,1.0nm,0.4s			pmax	pmax		
CHTO	**Chiang Mai**	**29.57**	**296**	*e*P	**P**	**08 12 55.4**	**-0.3**
CHTO	comp=Z,7.0nm,1.0s			pmax	pmax		
CHTO	**Chiang Mai** comp=Z,6.8nm,1.0s	**29.57**	**296**	*e*P	**P**	**08 12 55.4**	**-0.3**
GSI	**Gunungsitoli** comp=Z,28nm,0.7s	**29.62**	**261**	*e*P	**P**	**08 12 54.5**	**-1.7**
QIS	**Mount Isa** baz=30,SNR=6.5	**30.01**	**155**	P	**P**	**08 12 59.8**	**+0.3**
KSAR	**Wonju Array Be**	**30.48**	**2**	P	**P**	**08 13 02.6**	**-0.8**
KSAR						08 15 58.7	
KSAR	**Wonju Array Be**	**30.48**	**2**	P	**P**	**08 13 02.6**	**-0.8**
KSAR				PcP	**PcP**	**08 15 58.6**	**+0.7**
KSRS	**Korea Array** comp=Z,2.4nm,0.7s,baz=182,slow=10,SNR=8.4	**30.49**	**2**	P	**P**	**08 13 02.6**	**-0.9**
KSRS				PcP	**PcP**	**08 15 58.6**	**+0.7**
KSRS	comp=Z,3.0nm,0.5s,baz=184,slow=2.4,SNR=8.7 **Korea Array**	**30.49**	**2**	P	**P**	**08 13 02.6**	**-0.9**
KSRS						08 15 58.7	
KSRS	comp=Z,2.0nm,0.7s			pmax	pmax		
KSRS	comp=Z,3.0nm,0.5s			pmax	pmax		

ASAR	**Alice Springs** comp=Z,1.4nm,0.4s,baz=349,slow=7.2,SNR=15	**31.11**	**167**	P		**P**	**08 13 09.2**	**+0.1**
ASAR				PcP		**PcP**	**08 16 00.3**	**+0.4**
ASAR	comp=Z,2.3nm,0.6s,baz=350,slow=2.7,SNR=13			S		**S**	**08 17 59.7**	**-1.1**
ASAR	comp=Z,1.2nm,1.0s,baz=341,slow=11,SNR=4.1			ScP		**ScP**	**08 19 25.9**	**+0.8**
ASAR	comp=Z,1.5nm,0.9s,baz=347,slow=2.3,SNR=8.2			P3KPbc			08 44 48.0	
ASAR	comp=Z,0.2nm,0.6s,baz=161,slow=3.4,SNR=4.2 **Alice Springs**	**31.11**	**167**	P		**P**	**08 13 09.2**	**+0.1**
ASAR							08 16 00.3	
ASAR				S		**S**	**08 17 59.7**	**-1.1**
ASAR	comp=Z,1.0nm,0.4s			pmax	pmax			
ASAR	comp=Z,2.0nm,0.6s			pmax	pmax			
ASAR	comp=N,1.0nm,1.0s			smax	smax			
ASAR	comp=N,2.0nm,0.9s			pmax	pmax			
MJAR	**Matsushiro Arr** comp=N,2.4nm,0.7s,baz=189,slow=9.5,SNR=6.5	**31.36**	**18**	P		**P**	**08 13 09.1**	**-2.1**
MJAR				PcP		**PcP**	**08 16 00.9**	**+0.5**
MJAR	comp=N,2.3nm,0.6s,baz=188,slow=3.8,SNR=6.8			LR		LR	08 26 52.4	
MJAR	comp=N,7.2nm,20.5s,baz=185,slow=38 **Matsushiro Arr**	**31.36**	**18**	P		**P**	**08 13 09.1**	**-2.1**
MJAR							08 16 00.9	
MJAR	comp=Z,2.0nm,0.7s			pmax	pmax			
MJAR	comp=Z,2.0nm,0.6s			pmax	pmax			
MJAR	comp=Z,7.0nm,20.5s			MLR	MLR			
XAN	**Xi'an**	**31.70**	**331**	P		**P**	**08 13 14.0**	**-0.3**
XAN	comp=Z,64nm,0.9s			PMZ				
XAN	comp=Z,16nm,1.5s			PMZ				
WRKA	**Warakurna** baz=32,SNR=8.8	**31.72**	**177**	P		**P**	**08 13 15.0**	**+0.5**
CD2	**Chengdu**	**32.22**	**321**	*e*P		**P**	**08 13 18.8**	**0.0**
CD2				pP		**pP**	**08 13 57.5**	**-0.4**
CD2				PP		**PP**	**08 14 35.3**	**-0.4**
CD2				PcP		**PcP**	**08 16 03.0**	**+0.1**
CD2				S		**S**	**08 18 17.8**	**-0.2**
CD2				sS		**ScP**	**08 19 27.5**	**-1.3**
CD2	comp=Z,10.0nm,0.5s			PMZ				
CD2	comp=Z,160nm,5.2s			PMZ				
MEEK	**Meekatharra** baz=35,SNR=6.1	**34.20**	**193**	P		**P**	**08 13 36.3**	**+0.3**
BJI	**Beijing**	**34.40**	**346**	P		**P**	**08 13 37.0**	**-0.4**
BJI				pP		**pP**	**08 14 16.5**	**-0.3**
BJI				sP		**sP**	**08 14 37.3**	**-1.2**
BJI				S		**S**	**08 18 57.0**	**+5.8**
BJI	comp=Z,17nm,1.0s			PMZ				
BJI	comp=Z,130nm,3.6s			PMZ				
LZH	**Lanzhou**	**35.89**	**327**	P		**P**	**08 13 51.5**	**+1.0**
LZH				pP		**pP**	**08 14 31.0**	**+0.9**
LZH				sP		**sP**	**08 14 53.3**	**+1.6**
LZH	comp=Z,49nm,1.0s			PMZ				
LZH	comp=Z,120nm,4.3s			PMZ				
HHC	**Hu-ho-hao-te**	**36.49**	**340**	*e*P		**P**	**08 13 56.5**	**+1.1**
HHC				pP		**pP**	**08 14 37.0**	**+1.9**
HHC				sP		**sP**	**08 14 59.5**	**+2.8**
HHC				PP		**PnPn**	**08 15 27.5**	**+2.5**
HHC				S		**S**	**08 19 22.8**	**-0.6**
HHC				sS		**sS**	**08 20 33.8**	**+0.4**
HHC				ScS		**ScS**	**08 23 50.3**	**-0.6**
HHC	comp=Z,20nm,0.6s			PMZ				
HHC	comp=Z,63nm,6.4s			PMZ				
CN2	**Changchun**	**36.83**	**358**	*e*P		**P**	**08 13 58.5**	**+0.3**
CN2				*es*P		**sP**	**08 14 56.3**	**-3.2**
CN2	comp=Z,10.0nm,0.9s			PMZ				
FORT	**Forrest** baz=38,SNR=10.0	**37.42**	**178**	P		**P**	**08 14 03.9**	**+0.6**
USRK	**Ussuriysk Ar.** comp=Z,6.3nm,0.5s,baz=177,slow=8.0,SNR=17	**37.49**	**6**	P		**P**	**08 14 03.5**	**-0.2**
MDJ	**Mudanjiang**	**37.71**	**3**	P		**P**	**08 14 06.0**	**+0.5**
MDJ	comp=Z,15nm,0.7s			PMZ				
MDJ	comp=Z,33nm,5.7s			PMZ				
BLDU	**Ballidu** baz=39,SNR=11	**38.47**	**194**	P		**P**	**08 14 12.6**	**+0.6**
BBOO	**Buckleboo** baz=41,SNR=16	**40.41**	**168**	P		**P**	**08 14 28.6**	**+0.6**
LSA	**Lhasa**	**40.48**	**309**	*e*P		**P**	**08 14 28.4**	**-0.9**
LSA	comp=Z,5.0nm,0.4s			pmax	pmax			
LSA	**Lhasa** comp=Z,5.5nm,0.4s	**40.48**	**309**	*e*P		**P**	**08 14 28.4**	**-0.9**
GTA	**Gaotai**	**40.49**	**327**	⇑P		**P**	**08 14 29.5**	**+0.7**
GTA				pP		**pP**	**08 15 10.5**	**+1.3**
GTA				sP		**sP**	**08 15 31.8**	**+1.2**
GTA				PcP		**PcP**	**08 16 28.8**	**+1.1**
GTA				S		**S**	**08 20 24.5**	**+0.9**
GTA				sS		**sS**	**08 21 36.0**	**+1.5**
GTA				SS		**SS**	**08 23 27.0**	**-4.2**
GTA	comp=Z,57nm,1.1s			PMZ				
GTA	comp=Z,96nm,5.7s			PMZ				
GTA	comp=Z,56nm,16.6s			LN				
GTA	comp=Z,80nm,15.7s			LE				
GTA	comp=Z,84nm,16.1s			LZ				
H11S3	**WAKE ISLAND Hy** baz=262,slow=75,SNR=22	**40.53**	**70**	T	T	08 58 38.1		
H11S1	**WAKE ISLAND Hy** baz=262,slow=75,SNR=14	**40.55**	**70**	T	T	08 58 37.7		
H11S2	**WAKE ISLAND Hy** baz=262,slow=75,SNR=7.3	**40.55**	**70**	T	T	08 58 38.8		
NWAO	**Narrogin (SRO)** comp=Z,17nm,0.9s,baz=329,slow=5.5,SNR=5.3	**40.57**	**192**	P	P	**08 14 29.8**	**+0.4**
NWAO	**Narrogin (SRO)**	**40.57**	**192**	P	P	**08 14 29.8**	**+0.4**
NWAO	comp=Z,17nm,0.9s			pmax	pmax			
H11N1	**WAKE ISLAND Hy** baz=265,slow=74,SNR=20	**40.97**	**68**	T	T	08 59 09.4		
H11N2	**WAKE ISLAND Hy** baz=265,slow=74,SNR=11	**40.98**	**68**	T	T	08 59 10.0		
H11N3	**WAKE ISLAND Hy** baz=265,slow=74,SNR=17	**40.99**	**68**	T	T	08 59 09.2		
STKA	**Stephens Creek** comp=Z,6.6nm,0.8s,baz=345,slow=9.3,SNR=10.0	**41.02**	**161**	P	P	**08 14 33.3**	**+0.2**
STKA	**Stephens Creek**	**41.02**	**161**	P	P	**08 14 33.3**	**+0.2**
STKA	comp=Z,7.0nm,0.8s			pmax	pmax			
STKA	**Stephens Creek** baz=41,SNR=4.2	**41.02**	**161**	P	P	**08 14 36.2**	**+3.2**
STKA	**Stephens Creek**	**41.02**	**161**	*e*P	P	**08 14 36.0**	**+2.9**
HTT	**Hallett** baz=42,SNR=4.1	**41.68**	**165**	P	P	**08 14 40.7**	**+2.2**
TAPN	**Taplejung** comp=Z,14nm,0.4s	**42.28**	**304**	*e*P	P	**08 14 42.9**	**-0.9**
ODAN	**Odare**	**42.37**	**303**	*e*P	P	**08 14 44.1**	**-0.3**
KUR	**Kuril'sk**	**42.41**	**22**	*ce*P	P	**08 14 45.0**	**+0.9**
RAMN	**Ramite** comp=Z,45nn,0.6s	**43.06**	**303**	*e*P	P	**08 14 49.9**	**-0.1**
GUN	**Gumba** comp=Z,41nn,0.6s	**43.99**	**303**	*e*P	P	**08 14 57.0**	**-0.6**
ULN	**Ulaanbaatar** comp=Z,20nn,1.0s	**44.20**	**341**	*ce*P	P	**08 14 58.6**	**-0.1**
ULN				pmax	pmax			
ULN	**Ulaanbaatar** comp=Z,18nn,1.0s	**44.20**	**341**	*e*P	P	**08 14 59.0**	**+0.3**
PKI	**Pulchoki** comp=Z,16nn,0.6s	**44.27**	**303**	*e*P	P	**08 14 58.9**	**-0.8**
PKIN	**Phulchoki** comp=

comp=Z,5.3nm,0.7s,baz=160,slow=3.1,SNR=14
SONM Songino Array 44.39 340 P **P** **08 14 59.9 -0.2**
SONM 08 16 40.1
SONM pmax pmax
comp=Z,5.0nm,0.9s
SONM pmax pmax
comp=Z,5.0nm,0.7s
KKN Kakani 44.45 303 *eP* **P** **08 15 00.3 -0.7**
comp=Z,21nm,0.7s
DMN Daman 44.53 303 *eP* **P** **08 15 01.1 -0.7**
comp=Z,23nm,0.8s
GKN Gorkha 45.06 303 *eP* **P** **08 15 05.0 -0.8**
comp=Z,14nm,0.6s
KOLN Koldanda 45.85 302 *eP* **P** **08 15 11.7 -0.3**
comp=Z,48nm,0.5s
DANN Dangsing 45.90 303 *eP* **P** **08 15 12.1 -0.5**
comp=Z,7.9nm,0.6s
ZAK Zakamensk 47.63 340 *eP* **P** **08 15 25.1 -0.2**
ZAK pmax pmax
comp=Z,3.0nm,1.6s
TLY Talaya 48.61 341 *eP* **P** **08 15 33.3 +0.5**
TLY pmax pmax
comp=Z,10.0nm,0.8s
MOY Mondy 49.50 339 *eP* **P** **08 15 40.3 +0.7**
WMQ Urumqi 50.24 324 P **P** **08 15 46.5 +1.3**
WMQ pP **pP** **08 16 28.8 +1.6**
WMQ sP **sP** **08 16 50.0 +1.8**
WMQ PMZ
comp=Z,24nm,0.9s
WMQ PMZ
comp=Z,64nm,4.2s
WMQ LN
comp=Z,75nm,19.0s
WMQ LZ
comp=Z,23nm,20.5s
BOD Bodaibo 51.81 351 *eP* **P** **08 15 56.3 -0.3**
BOD pmax pmax
comp=Z,7.0nm,1.1s
PETK Petropavlovsk- 52.56 23 P **P** **08 16 02.4 +0.1**
comp=Z,5.3nm,0.6s,baz=187,slow=5.0,SNR=10
PETK PcP **PcP** **08 17 10.2 +0.4**
comp=Z,4.9nm,0.8s,baz=190,slow=7.5,SNR=4.6
PETK Petropavlovsk- 52.56 23 P **P** **08 16 02.4 +0.1**
PETK 08 17 10.2
PETK pmax pmax
comp=Z,5.0nm,0.6s
PETK pmax pmax
comp=Z,5.0nm,0.8s
MK31 Makanchi Array 55.06 324 *eP* **P** **08 16 20.5 0.0**
MK31 pmax pmax
comp=Z,20nm,0.6s
MK31 Makanchi Array 55.06 324 P **P** **08 16 20.8 +0.3**
baz=55,SNR=30
MKAR Makanchi Array 55.06 324 P **P** **08 16 20.7 +0.2**
comp=Z,23nm,0.6s,baz=125,slow=8.2,SNR=233
MKAR PcP **PcP** **08 17 19.5 -0.1**
comp=Z,7.7nm,0.7s,baz=108,slow=4.0,SNR=8.7
MKAR Makanchi Array 55.06 324 P **P** **08 16 20.7 +0.2**
MKAR 08 17 19.5
MKAR pmax pmax
comp=Z,23nm,0.6s
MKAR pmax pmax
comp=Z,8.0nm,0.7s
MKAR Makanchi Array 55.06 324 *eP* **P** **08 16 20.3 -0.2**
MKAR PcP **PcP** **08 17 19.5 -0.1**
YAK Yakutsk 55.12 2 *eP* **P** **08 16 19.7 -0.9**
YAK pmax pmax
comp=Z,17nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=N,6.0nm,0.9s
KSH Kashi 55.91 314 P **P** **08 16 28.0 +1.2**
KSH pP **pP** **08 17 13.3 +3.6**
KSH PP PP 08 18 39.3 +5.7
KSH PcS **PcS** **08 21 25.0 +1.1**
KSH S **S** **08 23 57.8 -2.1**
KSH sS **sS** **08 25 17.3 +2.7**
KSH SS **SS** **08 27 49.0 +0.2**
KSH PMZ
comp=N,16nm,0.4s
KSH PMZ
comp=N,150nm,5.0s
KSH LN
comp=N,140nm,5.5s
KSH LE
comp=N,95nm,5.3s
KSH LZ
comp=N,290nm,6.2s
ULHL Ulahol 56.77 317 P **P** **08 16 33.7 +0.7**
SNR=9.6
KZA Kyzart 57.39 316 P **P** **08 16 38.4 +0.9**
SNR=15
TKM2 Tokmak 2 57.48 317 P **P** **08 16 38.2 +0.3**
SNR=11
TKM2 Tokmak 2 57.48 317 *eP* **P** **08 16 38.1 +0.1**
TKM2 pmax pmax
comp=Z,10.0nm,0.7s
TKM2 Tokmak 2 57.48 317 *eP* **P** **08 16 38.0 +0.1**
comp=Z,9.9nm,0.7s
ZALV Zalesovo Beam 57.86 332 P **P** **08 16 39.5 -0.5**
comp=Z,23nm,0.5s,baz=120,slow=6.3,SNR=134
ZALV Zalesovo Beam 57.86 332 P **P** **08 16 39.6 -0.5**
ZALV pmax pmax
comp=Z,23nm,0.5s
SFK Sufi-Kurgan 57.87 313 P **P** **08 16 40.7 0.0**
SFK pmax pmax
comp=Z,7.0nm,0.6s
CHMS Chumysh 58.08 317 P **P** **08 16 41.9 0.0**
SNR=5.8
USP Ospenovka 58.35 317 P **P** **08 16 44.0 +0.1**
SNR=8.0
AML Almayashu 58.48 316 P **P** **08 16 45.7 +0.6**
SNR=15
EKS2 Erkin-Say 58.62 316 P **P** **08 16 46.3 +0.6**
SNR=21
EKS2 Erkin-Say 58.62 316 *eP* **P** **08 16 46.0 +0.3**
EKS2 pmax pmax
comp=Z,21nm,0.8s
EKS2 Erkin-Say 58.62 316 *eP* **P** **08 16 46.0 +0.3**
comp=Z,21nm,0.8s
SEY Seymchan 59.02 13 P **P** **08 16 48.2 +0.3**
comp=Z,1.8nm,0.7s
SEY PcP **PcP** **08 17 35.7 +1.0**
SEY Seymchan 59.02 13 *ceP* **P** **08 16 48.8 +0.9**
NVS Novosibirsk 59.14 332 ⇑*iP* **P** **08 16 48.0 -0.9**
NVS pmax pmax
comp=Z,42nm,0.6s
NVS pmax pmax
comp=N,27nm,0.8s
NVS pmax pmax
comp=E,23nm,0.6s
KK31 Karatay Array 61.02 316 P **P** **08 17 01.5 -0.5**
KK31 pmax pmax
comp=Z,16nm,0.7s
BRVK Borovoye 64.83 326 *ciP* **P** **08 17 26.8 -0.1**
BRVK pmax pmax
comp=Z,100nm,1.2s
BRVK Borovoye 64.83 326 *eP* **P** **08 17 27.1 +0.2**
comp=Z,60nm,0.8s
ATKA Atka Island 65.94 35 *eP* **P** **08 17 34.1 +0.1**
comp=Z,44nm,0.6s
GEYT Alibeck 69.01 308 P **P** **08 17 54.2 +0.6**
comp=Z,15nm,0.8s,baz=145,slow=3.6,SNR=20
GEYT PcP **PcP** **08 18 17.2 +0.8**
comp=Z,4.0nm,0.7s,baz=116,slow=3.4,SNR=4.3
ABKAR Akbulak array 69.79 320 *eP* **P** **08 17 57.6 -0.5**
UNV Unalaska Valle 70.87 35 *eP* **P** **08 18 04.8 +0.4**
comp=Z,22nm,0.8s
AKTO Aktyubinsk 71.27 321 LR LR 08 54 15.3
comp=Z,9.9nm,18.6s,slow=40
SVE Sverdlovsk 71.36 328 *diP* **P** **08 18 07.5 +0.1**
SVE pmax pmax
comp=Z,56nm,0.7s
ARU Arti 72.35 327 *ciP* **P** **08 18 12.7 -0.6**
ARU 08 20 51.3
ARU S **S** **08 27 20.2 -0.9**
ARU pmax pmax
comp=Z,43nm,0.6s
ARU Arti 72.35 327 *eP* **P** **08 18 12.9 -0.4**
comp=Z,57nm,0.6s
OHAK Old Harbor 78.84 33 *eP* **P** **08 18 51.0 +0.9**
comp=Z,11nm,0.7s
KDAK Kodiak Island 79.26 33 *eP* **P** **08 18 54.2 +1.8**
KDAK pmax pmax
comp=Z,16nm,0.6s
KDAK Kodiak Island 79.26 33 *eP* **P** **08 18 54.2 +1.8**
comp=Z,16nm,0.6s
RAYN Ar Rayn 79.32 293 *eP* **P** **08 18 53.0 -0.5**
comp=Z,11nm,0.8s
IM04 Indian Mountai 79.49 24 *eP* **P** **08 18 54.4 +0.9**
GNI Garni 79.54 309 ||*iP* **P** **08 18 56.0 +1.4**
GNI pmax pmax
comp=Z,20nm,1.4s
PRGR Permogore 79.81 331 ⇑*iP* **P** **08 18 55.1 -0.2**
PRGR *PP **pP** **08 19 38.0 -3.1**
PRGR pmax pmax
comp=Z,43nm,0.6s
PPLA Purkeypile 79.87 27 *eP* **P** **08 18 56.9 +1.1**
comp=Z,4.8nm,0.8s
CAST Castle Rocks 79.96 27 *eP* **P** **08 18 56.9 +0.8**
comp=Z,14nm,1.0s
BRLK Bradley Lake 80.27 31 *eP* **P** **08 18 58.1 +0.2**
comp=Z,11nm,0.7s
BPAW Bear Paw Mtn. 80.50 26 *eP* **P** **08 18 59.9 +0.9**
comp=Z,24nm,1.1s
TRF Thorofare Moun 80.77 27 *eP* **P** **08 19 01.0 +0.3**
comp=Z,16nm,1.0s
KBZ Khabaz 80.89 313 P **P** **08 19 01.0 -0.4**
comp=Z,5.7nm,1.0s,baz=63,slow=3.5,SNR=7.8
KBZ Khabaz 80.89 313 P **P** **08 19 01.0 -0.4**
KBZ pmax pmax
comp=Z,6.0nm,1.0s
NEY Neytrino 81.02 313 ⇑*iP* P 08 19 06.1 +3.7
NEY pmax pmax
comp=Z,4.0nm,1.5s
COLD Coldfoot 81.03 23 *eP* **P** **08 19 03.6 +1.9**
BWN Browne 81.17 26 *eP* **P** **08 19 04.7 +2.2**
comp=Z,23nm,0.8s
MCK McKinley 81.38 27 *eP* **P** **08 19 04.0 +0.3**
MCK pmax pmax
comp=Z,29nm,1.0s
MCK McKinley 81.38 27 *eP* **P** **08 19 04.0 +0.3**
comp=Z,29nm,1.0s
COLA College 81.89 25 *eP* **P** **08 19 06.0 -0.2**
COLA pmax pmax
comp=Z,5.0nm,0.8s
COLA College 81.89 25 *eP* **P** **08 19 06.0 -0.2**
comp=Z,5.2nm,0.8s
CCB Clear Creek Bu 81.90 26 *eP* **P** **08 19 06.5 +0.2**
comp=Z,16nm,1.4s
ILAR Eielson Array 82.30 26 P **P** **08 19 07.7 -0.7**
comp=Z,4.0nm,0.6s,baz=245,slow=5.0,SNR=86
ILAR Eielson Array 82.30 26 P **P** **08 19 07.7 -0.7**
ILAR pmax pmax
comp=Z,4.0nm,0.6s
KLU Klutina 82.75 29 *eP* **P** **08 19 12.3 +1.4**
comp=Z,9.1nm,0.8s
DIV Divide 82.83 29 *eP* **P** **08 19 12.9 +1.6**
comp=Z,39nm,1.2s
EYAK Cordova Ski Ar 82.86 30 *eP* **P** **08 19 12.8 +1.4**
comp=Z,14nm,1.1s
PAX Paxson 82.94 27 *eP* **P** **08 19 12.7 +0.8**
PAX pmax pmax
comp=Z,15nm,1.2s
PAX Paxson 82.94 27 *eP* **P** **08 19 12.7 +0.8**
comp=Z,15nm,1.2s
VSR Storozhevoye 83.22 321 *eP* **P** **08 19 13.0 -0.4**
VSR pmax pmax
comp=N,4.0nm,0.6s
VSR pmax pmax
comp=E,7.0nm,0.6s
VSR pmax pmax
comp=Z,20nm,0.6s
TMCR Tamitsa 83.34 334 *eP* **P** **08 19 13.5 -0.2**
TMCR pmax pmax
comp=Z,104nm,1.4s
BMRM Bremner River 83.41 29 *eP* **P** **08 19 15.7 +1.4**
comp=Z,29nm,1.0s
MOS Moscow 83.92 325 *eP* P 08 19 12.8 -4.1
MOS pmax pmax
comp=Z,54nm,1.0s
OBN Obninsk 84.56 325 *ciP* **P** **08 19 19.9 -0.2**
OBN pmax pmax
comp=Z,85nm,1.3s
OBN Obninsk 84.56 325 *eP* **P** **08 19 20.3 +0.2**
comp=Z,54nm,0.9s
ANN Anapa 84.76 314 *eP* P 08 19 16.3 -5.0
ANN pmax pmax
comp=Z,68nm,1.3s
VNDA Vanda 86.48 173 P **P** **08 19 29.6 +0.6**
comp=Z,3.5nm,0.9s,baz=310,slow=6.0,SNR=18
VNDA Vanda 86.48 173 P **P** **08 19 29.7 +0.6**
VNDA pmax pmax
comp=Z,4.0nm,0.9s
SPA0 Spitsbergen Ar 87.46 349 *eP* **P** **08 19 33.9 0.0**
ARCES ARCESS Array B 87.56 340 P **P** **08 19 33.8 -0.7**
comp=Z,10nm,0.6s,baz=85,slow=5.8,SNR=85
ARCES ARCESS Array B 87.56 340 P **P** **08 19 33.8 -0.7**
ARCES pmax pmax
comp=Z,10.0nm,0.6s
ARE0 ARCESS Array S 87.56 340 *eP* **P** **08 19 34.0 -0.5**
BRTR Keskin Array B 88.08 310 P **P** **08 19 36.9 -0.9**
comp=Z,2.9nm,0.9s,baz=97,slow=5.2,SNR=12
BRTR Keskin Array B 88.08 310 P **P** **08 19 36.9 -0.9**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
SKAG Skagway 88.17 30 *eP* **P** **08 19 38.7 +1.1**
comp=Z,9.7nm,1.4s
KTK1 Kautokeino 88.47 339 *eP* **P** **08 19 37.7 -1.2**
KTK1 IAmb IAmb 08 19 38.4
comp=Z,7.4nm,0.7s
FINES FINESS Array B 89.13 332 P **P** **08 19 41.4 -0.6**
comp=Z,4.0nm,0.5s,baz=85,slow=4.1,SNR=36
FINES FINESS Array B 89.13 332 P **P** **08 19 41.4 -0.6**
FINES pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 89.52 321 P **P** **08 19 43.4 -0.7**
comp=Z,6.6nm,0.6s,baz=69,slow=4.0,SNR=26
AKASG Malin Array Be 89.52 321 P **P** **08 19 43.4 -0.7**
AKASG pmax pmax
comp=Z,7.0nm,0.6s
KIEV Kiev 89.53 321 *eP* **P** **08 19 42.6 -1.6**
KIEV pmax pmax
comp=Z,9.0nm,0.9s
KIEV Kiev 89.53 321 *eP* **P** **08 19 42.5 -1.6**
comp=Z,9.4nm,0.9s
TRO Tromso 89.75 341 *eP* **P** **08 19 42.3 -2.4**
UZH Uzhgorod 94.37 320 *eP* **P** **08 20 05.7 -0.8**
NB2 NORSAR Subarra 96.03 334 P **P** **08 20 12.4 -1.5**
comp=Z,4.6nm,0.8s,baz=66,slow=4.6
NB2 NORSAR Subarra 96.03 334 P **P** **08 20 12.4 -1.5**
baz=66,slow=4.6
NOA NORSAR Array B 96.03 334 P **P** **08 20 12.3 -1.6**
comp=Z,3.5nm,0.7s,baz=65,slow=4.6,SNR=17
NOA NORSAR Array B 96.03 334 P **P** **08 20 12.3 -1.6**
NOA pmax pmax
comp=Z,4.0nm,0.7s
YKA Yellowknife Ar 96.67 24 P **P** **08 20 16.9 +0.2**
comp=Z,4.1nm,0.8s,baz=300,slow=4.9,SNR=24
YKA Yellowknife Ar 96.67 24 P **P** **08 20 16.9 +0.2**
YKA pmax pmax
comp=Z,4.0nm,0.8s
QSPA South Pole Qui 96.72 180 PKKPbc PKKPbc 08 36 59.1 -3.6
comp=Z,0.6nm,0.5s,baz=252,slow=1.1,SNR=6.8
AKN Aaknes 97.29 336 *eP* **P** **08 20 18.9 -0.7**
AKN IAmb IAmb 08 20 20.2
comp=Z,9.2nm,0.8s
DPC Dobruska-Polom 97.55 323 *eP* Pdif 08 20 21.3 +0.2
DPC Dobruska-Polom 97.55 323 *eP* Pdif 08 20 21.3 +0.2
BRG Berggiesshubel 98.77 324 *eP* Pdif 08 20 26.8 +0.4
comp=Z,7.2nm,1.1s
BRG Berggiesshubel 98.77 324 *eP* Pdif 08 20 26.8 +0.4
BRG pmax pmax
comp=Z,7.0nm,1.1s
CLL Collm 99.16 324 *eP* **Pdif** **08 20 28.0 -0.1**
CLL Collm 99.16 324 *ePdif* **Pdif** **08 20 28.0 -0.1**
KHC Kasperske Hory 99.65 322 *eP* **Pdif** **08 20 30.7 +0.3**
KHC Kasperske Hory 99.65 322 *eP* **Pdif** **08 20 30.7 +0.3**
GERES GERESS Array B 99.68 322 P **Pdif** **08 20 30.5 -0.1**
comp=Z,1.6nm,0.7s,baz=64,slow=6.1,SNR=12
GERES GERESS Array B 99.68 322 P **Pdif** **08 20 30.5 -0.1**
GERES pmax pmax
comp=Z,2.0nm,0.7s
NVAR Mina Array Bea 104.80 47 Pdiff **Pdif** **08 20 53.4 -0.5**
comp=Z,0.5nm,0.7s,baz=288,slow=5.1,SNR=5.2
PDAR Pinedale Array 108.99 40 PKiKP **PKiKP** **08 25 15.7 -0.2**
comp=Z,0.1nm,0.3s,baz=24,slow=6.9,SNR=3.1
PDAR PKKPab **PKKPab** **08 36 34.8 -3.3**
comp=Z,0.2nm,0.7s,baz=112,slow=8.8,SNR=3.7
SCHQ Schefferville 117.51 9 PKP **PKPdf** **08 25 31.7 +0.2**
comp=Z,2.1nm,0.5s,baz=292,slow=2.3,SNR=3.5
TXAR Lajitas Array 119.64 51 PKP **PKPdf** **08 25 37.0 +0.5**
comp=Z,0.8nm,0.7s,baz=194,slow=1.0,SNR=14
TXAR Lajitas Array 119.64 51 PKIKP **PKPdf** **08 25 37.0 +0.5**
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TORD Torodi Ar. Bea 121.94 290 PKP **PKPdf** **08 25 40.7 -0.4**
comp=Z,3.6nm,0.6s,baz=43,slow=1.7,SNR=25
TKL Tuckaleechee C 128.89 32 PKP **PKPdf** **08 25 53.6 -0.3**
comp=Z,3.3nm,0.6s,baz=156,slow=6.9,SNR=9.4
TKL Tuckaleechee C 128.89 32 PKIKP **PKPdf** **08 25 53.7 -0.3**
TKL pmax pmax
comp=Z,3.0nm,0.6s
CPUP Villa Florida 160.23 169 PKP **PKPdf** **08 26 46.3 +0.5**
comp=Z,1.8nm,0.8s,baz=122,slow=4.2,SNR=4.2
CPUP PKPab **PKPab** **08 27 27.4 +0.6**
comp=Z,1.7nm,0.9s,baz=172,slow=12,SNR=3.1
CPUP Villa Florida 160.23 169 PKIKP **PKPdf** **08 26 46.3 +0.5**
CPUP 08 27 27.5
CPUP pmax pmax
comp=Z,2.0nm,0.9s
CPUP pmax pmax
comp=Z,2.0nm,0.9s
LPAZ La Paz 162.66 124 PKP **PKPdf** **08 26 50.1 +0.7**
comp=Z,1.8nm,0.9s,baz=92,slow=6.9,SNR=4.1
LPAZ PKPab **PKPab** **08 27 40.5 +1.7**
comp=Z,2.1nm,0.7s,baz=269,slow=2.0,SNR=7.5
LPAZ La Paz 162.66 124 PKIKP **PKPdf** **08 26 50.1 +0.7**
LPAZ pmax pmax
comp=Z,2.0nm,1.0s
LPAZ pmax pmax
comp=Z,2.0nm,0.7s

IDC 28 08:16:53.0±3.9, 53.56N×87.78E, h0km, mb1 3.2/1, mb1mx3.0/30, mbtmp3.2/1, ML2.9/1, Error ellipse: s-maj=42.7km s-min=18.7km az=87.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.80**	**284**	*i*		08 28 10.0	
	baz=100,slow=321,SNR=11						
ZALV	**Zalesovo Beam**	**1.80**	**284**	Pn	Pn	08 17 25.1	-0.2
	3.0nm,0.3s,baz=99,slow=14,SNR=25						
ZALV				Sn	Sb	08 17 49.5	-0.5
	2.4nm,0.3s,baz=100,slow=24,SNR=7.3						
MKAR	**Makanchi Array**	**7.63**	**210**	Pn	Pn	08 18 47.1	+1.7
	0.2nm,0.3s,baz=26,slow=13,SNR=3.7						
MKAR				Sn	Sn	08 20 12.2	-0.4
	0.1nm,0.3s,baz=27,slow=28,SNR=3.9						
MKAR				Lg	Lg	08 20 52.1	
	0.1nm,0.3s,baz=32,slow=30,SNR=5.6						

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*ISCJB **28** 08:20:21.2±0.4, 6.77N±0.05×73.01W±0.05, h166km, mb3.5/11, Error ellipse: s-maj=8.8km s-min=5.4km az=42.5*
*IDC **28** 08:20:21.2±1.3, 6.76N×72.87W, h157km±13km, mb3.3/11, mb1 3.5/14, mb1mx3.3/36, mbtmp3.8/14, Error ellipse: s-maj=16.3km s-min=13.0km az=55.0*
*FUNV **28** 08:20:23.3, 6.82N±73.12W, h167km, MW3.4*

ISC 28 08:20:22.0±0.6, 6.80N±0.06×72.98W±0.07, h166km, n32, σ1§19/37, mb3.4/11, 3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.25**	**32**	*eP*	**Pn**	**08 20 51.9**	**+1.3**
CAPV				*eS*	**Sn**	**08 21 13.1**	**+0.3**
ROSC	**El Rosal**	**2.35**	**215**	P	**Pn**	**08 21 03.7**	**+1.1**
	84nm,0.3s,baz=92,slow=17,SNR=146						
ROSC				S	**Sn**	**08 21 32.6**	**-1.4**
	48nm,0.3s,baz=86,slow=15,SNR=5.5						
SOCV	**Socops**	**2.57**	**55**	*eP*	**Pn**	**08 21 06.7**	**+1.9**
SOCV				*eS*	**Sn**	**08 21 38.0**	**+0.1**
VIGV	**El Vigia**	**2.58**	**38**	‖*eP*	**Pn**	**08 21 06.3**	**+1.4**
VIGV				*eS*	**Sn**	**08 21 38.2**	**-0.1**
ELOV	**Elorza**	**3.48**	**86**	*eP*	**Pn**	**08 21 18.0**	**+2.0**
VIRV	**Villa del Rosa**	**3.72**	**9**	*eP*	**Pn**	**08 21 18.8**	**-0.4**
VIRV				*iS*	**Sn**	**08 22 00.6**	**-3.2**
QARV	**Quebrada Arrib**	**4.17**	**35**	‖*iP*	**Pn**	**08 21 26.2**	**+1.3**
SANV	**Sanarito**	**4.34**	**52**	*eP*	**Pn**	**08 21 28.2**	**+1.0**
CURV	**Curarigua**	**4.37**	**43**	*eP*	**Pn**	**08 21 28.4**	**+0.9**
DABV	**Dabajuro**	**4.70**	**29**	*eP*	**Pn**	**08 21 32.9**	**+1.0**
SIQV	**Siquisique**	**4.94**	**39**	‖*eP*	**Pn**	**08 21 35.2**	**+0.2**
BAUV	**El Baul**	**5.33**	**66**	*eP*	**Pn**	**08 21 40.5**	**+0.4**
MAPV	**Macapo**	**5.39**	**56**	*eP*	**Pn**	**08 21 41.6**	**+0.8**
MONV	**Montecano**	**5.92**	**30**	*eP*	**Pn**	**08 21 47.9**	**+0.1**
TURV	**Turiamo**	**6.24**	**54**	*eP*	**Pn**	**08 21 52.8**	**+0.7**
BIRV	**Birongo**	**7.57**	**61**	*eP*	**Pn**	**08 22 11.1**	**+1.4**
CUPV	**Cœpira**	**7.81**	**65**	*eP*	**Pn**	**08 22 13.4**	**+0.5**
PCRV	**Puerto La Cruz**	**8.91**	**67**	P	**Pn**	**08 22 27.1**	**-0.3**
	0.2nm,0.3s,baz=214,slow=7.3,SNR=2.1						
PTGA	**Pitinga**	**14.98**	**119**	P	**Pn**	**08 23 43.9**	**-1.7**
	0.5nm,0.3s,baz=235,slow=9.1,SNR=4.2						
LPAZ	**La Paz**	**23.44**	**168**	P	**P**	**08 25 16.5**	**-0.6**
	0.4nm,0.3s,baz=325,slow=8.1,SNR=5.0						
SIV	**San Ignacio**	**25.53**	**153**	P	**P**	**08 25 34.6**	**-0.9**
	0.7nm,0.7s,baz=350,slow=3.1,SNR=3.1						
TXAR	**Lajitas Array**	**36.58**	**312**	P	**P**	**08 27 13.6**	**+1.3**
	0.5nm,0.6s,baz=123,slow=8.3,SNR=6.5						
ULM	**Lac du Bonnet**	**47.35**	**340**	P	**P**	**08 28 39.2**	**+0.2**
	2.2nm,0.5s,baz=186,slow=10,SNR=2.7						
SCHQ	**Schefferville**	**48.15**	**5**	P	**P**	**08 28 45.7**	**+0.5**
	1.5nm,0.6s,baz=209,slow=13,SNR=3.0						
PDAR	**Pinedale Array**	**48.18**	**324**	P	**P**	**08 28 47.1**	**+1.3**
	0.4nm,0.7s,baz=103,slow=9.9,SNR=4.8						
NVAR	**Mina Array Bea**	**51.60**	**315**	P	**P**	**08 29 13.4**	**+1.7**
	0.3nm,0.7s,baz=118,slow=6.0,SNR=3.7						
YBH	**Yreka Blue Hor**	**56.05**	**316**	P	**P**	**08 29 43.9**	**0.0**
	0.6nm,0.7s,baz=108,slow=6.4,SNR=3.3						
YKA	**Yellowknife Ar**	**63.33**	**340**	P	**P**	**08 30 33.1**	**+0.1**
	1.2nm,0.6s,baz=132,slow=6.5,SNR=13						
TORD	**Torodi Ar. Bea**	**73.60**	**78**	P	**P**	**08 31 37.8**	**+0.1**
	0.4nm,0.9s,baz=270,slow=5.7,SNR=2.3						
KEST	**Kesra**	**79.84**	**55**	P	**P**	**08 32 10.3**	**-2.1**
	0.6nm,0.4s,baz=0.0,slow=4.0,SNR=4.9						
ASAR	**Alice Springs**	**149.21**	**234**	PKPbc	**PKPbc**	**08 39 52.1**	**+0.3**
	0.1nm,0.3s,baz=131,slow=3.3,SNR=4.3						
WRA	**Warramunga Arr**	**150.45**	**241**	PKPbc	**PKPbc**	**08 39 55.7**	**+0.8**
	0.2nm,0.3s,baz=107,slow=2.7,SNR=20						

IDC 28 08:27:40.2±5.9, 55.61N×86.17E, h0km, mb1 2.6/1, mb1mx2.5/30, mbtmp2.6/1, ML2.5/1, Error ellipse: s-maj=53.3km s-min=32.2km az=27.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.84**	**206**	*i*		08 39 26.9	
	baz=22,slow=326,SNR=8.8						
ZALV	**Zalesovo Beam**	**1.84**	**206**	Pn	Pb	08 28 13.9	-0.7
	2.2nm,0.3s,baz=24,slow=17,SNR=18						
ZALV				Sn	Sg	08 28 39.1	-0.2
	1.1nm,0.3s,baz=26,slow=25,SNR=3.6						
MKAR	**Makanchi Array**	**9.16**	**197**	Pn	Pn	08 29 52.8	-0.7
	0.1nm,0.3s,baz=20,slow=15,SNR=2.2						
MKAR				Lg	Lg	08 32 29.3	
	0.1nm,0.3s,baz=20,slow=31,SNR=2.6						

IDC 28 08:37:18.3±2.0, 6.73N×123.57E, h617km±26km, mb2.8/6, mb1 2.9/6, mb1mx2.7/26, mbtmp3.9/6, Error ellipse: s-maj=126.5km s-min=11.0km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.54**	**158**	P	P	08 42 26.3	-0.4
	1.5nm,0.4s,baz=332,slow=11,SNR=37						
WRA				PcP	PcP	08 45 17.0	-0.5
	0.8nm,1.2s,baz=330,slow=2.7,SNR=2.7						
WRA				S	S	08 46 29.9	-3.3
	0.3nm,0.7s,baz=334,slow=16,SNR=3.7						
WRA				ScP	ScP	08 48 01.7	+0.4
	0.8nm,1.2s,baz=339,slow=3.0,SNR=3.7						
ASAR	**Alice Springs**	**31.85**	**162**	P	P	08 42 55.6	+0.6
	0.9nm,0.3s,baz=340,slow=7.4,SNR=33						
ASAR				PcP	PcP	08 45 26.4	+0.1
	0.1nm,0.5s,baz=347,slow=3.8,SNR=3.1						
ASAR				S	S	08 47 23.6	-0.2
	0.6nm,0.9s,baz=354,slow=22,SNR=5.0						
STKA	**Stephens Creek**	**42.07**	**157**	P	P	08 44 18.2	+0.3
	0.5nm,0.4s,baz=327,slow=8.0,SNR=4.3						
SONM	**Songino Array**	**43.51**	**343**	P	P	08 44 28.5	-0.5
	0.3nm,0.6s,baz=169,slow=7.4,SNR=2.2						
MKAR	**Makanchi Array**	**53.32**	**326**	P	P	08 45 41.5	+0.1

1.0nm,0.5s,baz=116,slow=7.8,SNR=7.3
KURBB **Kurchatov Arra** 57.54 328 P P 08 46 10.4 +0.1
0.8nm,0.5s,baz=130,slow=6.7,SNR=7.8
TORD **Torodi Ar. Bea** 118.99 289 PKP PKPdf 08 54 58.3 -0.8
0.1nm,0.5s,baz=83,slow=4.0,SNR=2.2

*TAP **28** 08:40:20.9,24˚.45N×121˚.92E,h31km,ML4.0,B*
*JMA **28** 08:40:20.2±0.1,24˚.40N×121˚.89E,h51km±2km,M3.1*
*ISCJB **28** 08:40:21.5±0.3,24˚.45N±0˚.02×122˚.00E±0˚.02,h21km±3km, Error ellipse: s-maj=3.4km s-min=2.3km az=157.5*
ISC 28 08:40:21.6±0.9,24˚.48N±0˚.02×121˚.97E±0˚.02,h28km±6km, n60,σ0°88/105,11C-4D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.17**	**320**	⇑*i*P	**Pb**	**08 40 27.2**	**-0.1**
	baz=340						
TWC				*i* S	**Sb**	**08 40 31.2**	**+0.1**
	baz=340						
ENA	**Nanau**	**0.21**	**256**	⇑*i*P	**Pb**	**08 40 27.1**	**-0.6**
	baz=261						
ENA				*e*S	**Sb**	**08 40 31.2**	**-0.6**
	baz=261						
EHP	**Heping Village**	**0.27**	**231**	*e*P	**Pb**	**08 40 28.4**	**0.0**
	baz=227						
ILA	**Ilan**	**0.35**	**325**	*e*P	**Pb**	**08 40 29.1**	**-0.4**
	baz=330						
ILA				*e*S	**Sn**	**08 40 36.2**	**-0.7**
	baz=330						
EGS		**0.37**	**355**	⇑P	**Pn**	**08 40 30.4**	**-0.7**
	baz=359						
EGS				*e*S	**Sn**	**08 40 37.0**	**-0.4**
	baz=359						
TWE	**Neicheng**	**0.37**	**311**	⇑*i*P	**Pb**	**08 40 29.6**	**-0.2**
	baz=316						
TWE				S	**Sb**	**08 40 35.2**	**-0.1**
	baz=316						
ENTT	**Nioudou**	**0.40**	**294**	⇑*i*P	**Pb**	**08 40 29.9**	**-0.5**
	baz=300						
ENTT				*i* S	**Sb**	**08 40 36.1**	**-0.2**
	baz=300						
TWD	**Chiawan**	**0.52**	**221**	⇑*i*P	**Pb**	**08 40 31.2**	**-1.1**
	baz=227						
TWD				S	**Sb**	**08 40 39.6**	**0.0**
	baz=227						
TWB1	**Santiao Chiao**	**0.53**	**2**	*e*P	**Pn**	**08 40 32.9**	**-0.4**
	baz=7.0						
NNS	**Nan Shan**	**0.54**	**266**	⇑*i*P	**Pb**	**08 40 31.8**	**-1.0**
	baz=269						
NNS				S	**Sb**	**08 40 39.6**	**-0.7**
	baz=269						
NSK	**Sanguang**	**0.59**	**290**	⇑*i*P	**Pb**	**08 40 32.7**	**-0.7**
	baz=294						
NSK				*i* S	**Sb**	**08 40 40.8**	**-0.8**
	baz=294						
HWA	**Hwalien**	**0.60**	**214**	*e*P	**Pb**	**08 40 32.5**	**-1.0**
	baz=211						
HWA				*e*S	**Sb**	**08 40 42.4**	**+0.7**
	baz=211						
TWA	**Mucha**	**0.61**	**325**	P	**Pn**	**08 40 34.0**	**-0.5**
	baz=323						
TWA				*e*S	**Sn**	**08 40 42.6**	**-0.7**
	baz=323						
NWF	**Wu-fen Shan**	**0.61**	**344**	⇓P	**Pn**	**08 40 34.2**	**-0.4**
	baz=341						
NWF				*e*S	**Sn**	**08 40 43.5**	**-0.1**
	baz=341						
TAP1	**Taipei**	**0.69**	**324**	P	**Pn**	**08 40 35.4**	**-0.1**
	baz=327						
TAP1				S	**Sn**	**08 40 45.1**	**-0.1**
	baz=327						
TAP	**Taipei**	**0.70**	**323**	*e*P	**Pn**	**08 40 35.7**	**0.0**
	baz=327						
TAP				*e*S	**Sn**	**08 40 45.4**	**-0.1**
	baz=327						
WHF	**Hehuan Shan**	**0.72**	**243**	⇑*i*P	**Pb**	**08 40 34.9**	**-1.0**
	baz=243						
WHF				S	**Sb**	**08 40 44.9**	**-0.7**
	baz=243						
TWT	**Tachien**	**0.76**	**253**	⇑*i*P	**Pb**	**08 40 35.6**	**-0.7**
	baz=254						
TWT				S	**Sb**	**08 40 46.4**	**+0.1**
	baz=254						
TWS1	**Kuangyinshan**	**0.80**	**321**	⇓P	**Pn**	**08 40 37.1**	**+0.1**
	baz=334						
TWS1				S	**Sn**	**08 40 48.9**	**+0.9**
	baz=334						
ESL	**Shilin**	**0.82**	**217**	*e*P	**Pb**	**08 40 35.3**	**-2.0**
	baz=228						
ESL				*e*S	**Sb**	**08 40 47.0**	**-1.0**
	baz=228						
TWY	**Chenhua**	**0.86**	**337**	*e*P	**Pn**	**08 40 37.9**	**0.0**
	baz=340						
TWY				*e*S	**Sn**	**08 40 49.8**	**+0.2**
	baz=340						
NCU	**National Centr**	**0.86**	**305**	*e*P	**Pb**	**08 40 37.2**	**-0.7**
	baz=307						
NCU				*e*S	**Sn**	**08 40 50.8**	**+1.2**
	baz=307						
JYNG	**Yonagunijimaku**	**0.89**	**92**	P	**Pb**	**08 40 37.6**	**-0.8**
JYNG				S	**Sn**	**08 40 50.6**	**+0.4**
NSTT	**Nanjuang**	**0.89**	**280**	P	**Pn**	**08 40 38.4**	**+0.1**
	baz=282						
NSTT				S	**Sn**	**08 40 50.1**	**-0.3**
	baz=282						
YOJ	**Yonaguni jima**	**0.95**	**91**	P	**Pb**	**08 40 38.5**	**-0.9**
YOJ				S	**Sn**	**08 40 52.4**	**+0.7**
YOJ	**Yonaguni jima**	**0.95**	**91**	*i* P	**Pb**	**08 40 39.1**	**-0.3**
	baz=81						
YOJ				*e*S	**Sn**	**08 40 52.2**	**+0.4**
	baz=81						
HSN	**Hsinchu**	**0.96**	**290**	*e*P	**Pn**	**08 40 39.3**	**0.0**
	baz=294						
HSN				*e*S	**Sn**	**08 40 52.9**	**+0.8**
	baz=294						
TWQ1	**Liyutan**	**1.10**	**263**	⇓P	**Pb**	**08 40 42.3**	**+0.4**
	baz=265						
TWQ1				*e*S	**Sn**	**08 40 56.6**	**+1.2**
	baz=265						
NSY	**Sanyi**	**1.10**	**267**	*e*P	**Pb**	**08 40 42.1**	**+0.1**
	baz=268						
NSY				*e*S	**Sn**	**08 40 58.1**	**+2.5**
	baz=268						
EHY	**Hungye**	**1.13**	**212**	*e*P	**Pn**	**08 40 39.4**	**-2.2**
	baz=210						
SMLT	**Sun Moon Lake**	**1.14**	**239**	*e*P	**Pn**	**08 40 41.4**	**-0.5**
	baz=230						
TYC	**Yuchr**	**1.17**	**241**	⇑P	**Pn**	**08 40 41.7**	**-0.3**
	baz=230						
TYC				*e*S	**Sn**	**08 40 58.0**	**+0.9**
	baz=230						
TCU	**Taichung**	**1.22**	**255**	*e*P	**Pb**	**08 40 44.3**	**+0.2**
	baz=255						
TCU				*e*S	**Sb**	**08 41 00.3**	**+0.8**
	baz=255						
TWF1	**Yuli**	**1.28**	**209**	*e*P	**Pn**	**08 40 41.6**	**-2.1**
	baz=218						
ALS	**Alishan**	**1.44**	**228**	*e*P	**Pn**	**08 40 46.1**	**+0.1**
	baz=218						
ALS				*e*S	**Sb**	**08 41 06.4**	**+0.6**
	baz=218						
CHN5	**Tsauling**	**1.47**	**234**	*e*P	**Pn**	**08 40 47.2**	**+0.8**
	baz=234						
CHN5				*e*S	**Sb**	**08 41 07.1**	**+0.4**
	baz=234						
WGK	**Gukeng**	**1.51**	**239**	*e*P	**Pb**	**08 40 48.1**	**-0.8**
	baz=238						
WGK				*e*S	**Sb**	**08 41 08.2**	**+0.5**
	baz=238						
ELDTW	**Lidau**	**1.55**	**214**	*e*P	**Pn**	**08 40 45.7**	**-1.8**
	baz=203						
IRIF	**Iriomote-Funau**	**1.61**	**95**	P	**Pn**	**08 40 48.1**	**-0.1**
IRIF				S	**Sn**	**08 41 08.9**	**+0.8**
WTCT	**Ta-ch'eng**	**1.66**	**249**	*e*P	**Pn**	**08 40 49.1**	**+0.3**
	baz=262						
WTCT				*e*S	**Sn**	**08 41 09.9**	**+0.7**
	baz=262						
CHN2	**Minshiung**	**1.66**	**236**	*e*P	**Pb**	**08 40 50.3**	**-1.2**
	baz=235						
CHN2				*e*S	**Sb**	**08 41 12.6**	**+0.6**
	baz=235						
STYT	**Tauyuan**	**1.72**	**221**	*e*P	**Pn**	**08 40 49.8**	**+0.1**
	baz=219						
CHY	**Chiayi**	**1.72**	**236**	*e*P	**Pb**	**08 40 51.2**	**-1.3**
	baz=235						
CHY				*e*S	**Sb**	**08 41 14.2**	**+0.5**
	baz=235						
HATJ	**Hateruma jima**	**1.73**	**104**	P	**Pn**	**08 40 50.2**	**+0.4**
WTP	**Ta-pu**	**1.74**	**226**	*e*P	**Pn**	**08 40 50.9**	**+0.9**
	baz=225						
WTP				*e*S	**Sb**	**08 41 15.2**	**+0.7**
	baz=225						
WSF	**Szhu**	**1.80**	**243**	*e*P	**Pn**	**08 40 52.0**	**+1.2**
	baz=242						
WSF				*e*S	**Sn**	**08 41 13.8**	**+1.0**
	baz=242						
TWK	**Hsinying**	**1.81**	**229**	⇓P	**Pn**	**08 40 52.3**	**+1.3**
	baz=228						
TWK				*e*S	**Sb**	**08 41 16.2**	**-0.3**
	baz=228						
CHN1	**Nanshi**	**1.84**	**226**	*e*P	**Pn**	**08 40 52.1**	**+0.7**
	baz=226						
CHN1				*e*S	**Sb**	**08 41 16.4**	**-0.9**
	baz=226						
JKRS	**Kuro-shima**	**1.88**	**97**	P	**Pn**	**08 40 52.5**	**+0.7**
JKRS				*e*S	**Sn**	**08 41 15.4**	**+0.8**
SGST	**Jiashian**	**1.88**	**223**	*e*P	**Pn**	**08 40 53.7**	**+1.8**
	baz=222						
JIJ	**Ishigaki jima**	**1.98**	**93**	P	**Pn**	**08 40 53.6**	**+0.3**
JIJ				S	**Sn**	**08 41 18.0**	**+0.7**
SCLT	**Jiali**	**2.08**	**232**	*e*P	**Pb**	**08 40 56.9**	**-1.7**
	baz=218						
SCLT				*e*S	**Sb**	**08 41 22.2**	**-1.8**
	baz=218						
SSD	**Sandimen**	**2.12**	**216**	*e*P	**Pn**	**08 40 56.7**	**+1.6**
	baz=202						
JISG	**Ishigakijimahi**	**2.14**	**87**	P	**Pn**	**08 40 55.5**	**+0.1**
JISG				S	**Sn**	**08 41 21.1**	**+0.1**
EAST	**Anshuo**	**2.33**	**206**	*e*P	**Pn**	**08 40 59.1**	**+1.0**
	baz=197						
PNG	**Penghu**	**2.39**	**248**	*e*P	**Pn**	**08 40 59.6**	**+0.8**
	baz=245						
SCZT	**Fangliau**	**2.44**	**211**	*e*P	**Pn**	**08 41 00.2**	**+0.6**
	baz=199						
WDGT	**Dungji**	**2.44**	**241**	*e*P	**Pn**	**08 40 59.3**	**-0.3**
	baz=237						
JTJ	**Tarama**	**2.49**	**86**	P	**Pn**	**08 41 01.1**	**+0.8**
JTJ				*e*S	**Sn**	**08 41 31.5**	**+1.7**
KNM	**Kinmen**	**3.22**	**270**	*e*P	**Pn**	**08 41 11.3**	**+0.9**
	baz=266						

*CASC **28** 08:43:17.6±1.3,12˚.71N×88˚.73W,h17km±6km,MD4.2, ML3.8*
*ISCJB **28** 08:43:18.3±0.8,12˚.78N±0˚.09×88˚.63W±0˚.08,h67km±6km, mb3.6/6,Error ellipse: s-maj=17.6km s-min=6.6km az=39.1*
*IDC **28** 08:43:23.1±9.4,12˚.92N×88˚.44W,h95km±61km,mb3.3/6, mb1 3.7/6,mb1mx3.4/22,mbtmp3.6/6,ML2.6/1,MS3.0/2, Ms1 3.0/2,ms1mx2.4/16,Error ellipse: s-maj=77.5km s-min=49.4km az=174.0*
ISC 28 08:43:19.2±1.5,12.8N±0˚.1×88.64W±0˚.07,h59km±11km, n27,σ1°02/32,mb3.5/6,3C-6D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSM	**San Miguel**	**0.73**	**29**	⇓*i*P	**Pn**	**08 43 33.4**	**-0.7**
SNVI	**San Vicente**	**0.85**	**347**	⇑*i*P	**Pn**	**08 43 34.7**	**-0.7**
SNVI				*e*S	**Sn**	**08 43 47.9**	**+0.6**
CNCH	**Conchagua**	**0.92**	**58**	*i* P	**Pn**	**08 43 35.1**	**-1.2**
LFRS	**El Faro**	**0.93**	**334**	⇓*i*P	**Pn**	**08 43 35.3**	**-1.2**
LBRS	**Las Brisas**	**1.03**	**337**	⇓*i*P	**Pn**	**08 43 37.1**	**-0.6**
CAHU	**Cacacuatique**	**1.06**	**23**	⇓*i*P	**Pn**	**08 43 38.5**	**+0.2**
LFU	**La Fuente**	**1.06**	**334**	⇓*i*P	**Pn**	**08 43 37.5**	**-0.7**
LFU				*e*S	**Sn**	**08 43 52.9**	**+0.6**
SNET	**Serv Nac Est T**	**1.07**	**327**	*i* P	**Pn**	**08 43 37.1**	**-1.2**
SNET				*e*S	**Sn**	**08 43 51.9**	**-0.5**
SNET				AML	AML	08 43 55.9	
	comp=Z,3μm,0.2s						
BOQS	**Boqueron**	**1.13**	**326**	*i* P	**Pn**	**08 43 38.5**	**-0.7**
BOQS				*e*S	**Sn**	**08 43 53.7**	**-0.4**
SBLS	**San Blas**	**1.42**	**318**	⇑*i*P	**Pn**	**08 43 42.6**	**-0.5**
SBLS				*e*S	**Sn**	**08 44 02.8**	**+1.8**
SNJE	**San Jose**	**1.43**	**319**	⇓*i*P	**Pn**	**08 43 42.6**	**-0.6**
RTR	**El Retiro**	**1.48**	**318**	⇑*i*P	**Pn**	**08 43 43.6**	**-0.2**
RTR				*e*S	**Sn**	**08 44 02.9**	**+0.7**
RBDL	**Robledal**	**1.67**	**322**	*i* P	**Pn**	**08 43 46.5**	**+0.1**
VCR	**Vista de Mar**	**3.96**	**132**	*e*P	Pn	08 44 25.8	+8.2
VCR				*e*S	Sn	08 45 24.9	+22
JCR	**Jicaral**	**4.52**	**130**	*e*P	**Pn**	**08 44 25.0**	**-0.3**
JCR				*e*S	Sn	08 45 36.4	+20
CGA2	**Cerro Gallo 2**	**4.93**	**124**	*e*P	**Pn**	**08 44 32.3**	**+1.3**
URSC	**Urasca**	**5.59**	**121**	*e*P	**Pn**	**08 44 42.0**	**+1.9**
TEIG	**Tepich**	**7.41**	**3**	P	**Pn**	**08 45 06.3**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=180,slow=20,SNR=5.0						
TXAR	**Lajitas Array**	**21.59**	**322**	P	**P**	**08 48 06.2**	**+1.9**
	comp=Z,1.2nm,0.6s,baz=145,slow=9.2,SNR=15						
ATAH	**Atahualpa**	**22.25**	**152**	LR	LR	08 55 49.3	
	comp=Z,54nm,21.4s,baz=354,slow=34						
SJG	**San Juan**	**22.30**	**73**	LR	LR	08 56 26.0	
	comp=Z,33nm,20.1s,baz=262,slow=36						
TKL	**Tuckaleechee C**	**23.19**	**10**	P	**P**	**08 48 21.3**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=184,slow=14,SNR=5.1						
PDAR	**Pinedale Array**	**34.94**	**333**	P	**P**	**08 50 04.8**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=128,slow=10,SNR=2.4						
PDAR				PcP	**PcP**	**08 52 37.1**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=126,slow=4.0,SNR=3.6						
NVAR	**Mina Array Bea**	**36.69**	**319**	P	**P**	**08 50 21.6**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=139,slow=7.0,SNR=3.5						
NVAR				PcP	**PcP**	**08 52 43.8**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=139,slow=3.3,SNR=4.3						
YKA	**Yellowknife Ar**	**52.99**	**345**	P	**P**	**08 52 29.1**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=136,slow=8.1,SNR=15						
ILAR	**Eielson Array**	**65.25**	**336**	P	**P**	**08 53 53.0**	**-1.4**
	comp=Z,0.5nm,0.9s,baz=170,slow=5.1,SNR=7.0						
CMAR	**Chiang Mai Arr**	**148.07**	**346**	PKPbc	**PKPdf**	**09 02 55.7**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=1.0,slow=5.0,SNR=3.8						

*IDC **28** 08:49:56.4±6.2,7˚.35S×127˚.77E,h82km±55km,mb3.5/4, mb1 3.9/6,mb1mx3.6/20,mbtmp4.1/6,ML4.3/2,Error ellipse: s-maj=149.6km s-min=22.9km az=65.0*
ISC 28 08:50:03.8±1.1,7.4S±0.3×128.0E±0.5,h151km,n9, σ1°02/8,mb3.6/4,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDU	**Kakadu**	**6.85**	**141**	P	**Pn**	**08 51 41.6**	**-0.3**
	baz=8.3,SNR=42						
KNRA	**Kununurra**	**8.28**	**175**	P	Pn	08 51 56.4	-4.6
	baz=9.8,SNR=46						
WRA	**Warramunga Arr**	**13.91**	**155**	P	Pn	08 53 10.5	-4.1
	1.1nm,0.3s,baz=328,slow=13,SNR=33						
WRA				S	Sn	08 55 34.6	-14
	3.2nm,0.3s,baz=330,slow=23,SNR=15						
ASAR	**Alice Springs**	**17.15**	**161**	P	**Pn**	**08 53 54.0**	**-0.5**
	2.6nm,0.3s,baz=338,slow=11,SNR=223						
ASAR				S	S	08 56 52.1	-13
	1.0nm,0.3s,baz=326,slow=22,SNR=9.9						
STKA	**Stephens Creek**	**27.46**	**154**	P	**P**	**08 55 35.8**	**0.0**
	2.3nm,0.5s,baz=326,slow=8.8,SNR=12						
MKAR	**Makanchi Array**	**67.49**	**328**	P	**P**	**09 00 42.7**	**-0.8**
	0.7nm,0.7s,baz=130,slow=7.0,SNR=6.5						
ZALV	**Zalesovo Beam**	**71.07**	**335**	P	**P**	**09 01 04.7**	**-0.6**
	0.4nm,0.3s,baz=126,slow=7.4,SNR=2.8						
VNDA	**Vanda**	**72.32**	**173**	P	**P**	**09 01 12.9**	**+0.4**
	0.2nm,0.5s,baz=321,slow=8.5,SNR=5.3						
LPAZ	**La Paz**	**151.56**	**146**	PKPbc	**PKPbc**	**09 09 43.2**	**+1.3**
	0.4nm,0.7s,baz=288,slow=9.6,SNR=2.3						
LPAZ				PKPab	**PKPab**	**09 09 52.2**	**+1.4**
	0.3nm,0.5s,baz=252,slow=1.6,SNR=4.3						

*NEIC **28** 08:52:03.2,45˚.16S×167˚.33E,h120km,MG4.0(WEL), After WEL.*
WEL 28 08:52:03.4±0.2,45˚.16S×167˚.34E,h119km±1km,ML4.0/12, 3C-9D,Error ellipse: s-maj=2.2km s-min=1.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.34**	**203**	PN	Pn	08 52 19.9	-0.4
DCZ				SN	Sn	08 52 32.4	-0.7
DCZ				AML	AML	08 52 32.6	
DCZ				AML	AML	08 52 32.6	
DCZ				AML	AML	08 52 32.9	
DCZ	**Deep Cove**	**0.34**	**203**	Pn	Pn	08 52 19.9	-0.4
DCZ				Sn	Sn	08 52 32.4	-0.7
MLZ	**Mavora Lakes**	**0.62**	**108**	PN	Pn	08 52 21.7	-0.3
MLZ				SN	Sn	08 52 35.3	-0.7
MLZ				AML	AML	08 52 36.1	
MLZ	**Mavora Lakes**	**0.62**	**108**	Pn	Pn	08 52 21.7	-0.3
MSZ	**Milford Sound**	**0.64**	**41**	⇑PN	Pn	08 52 22.2	0.0
MSZ				SN	Sn	08 52 35.9	-0.3
MSZ				AML	AML	08 52 37.0	
MSZ				AML	AML	08 52 38.3	
MSZ				AML	AML	08 52 38.3	
MSZ	**Milford Sound**	**0.64**	**41**	Pn	Pn	08 52 22.2	0.0
WHZ	**Wether Hill Ro**	**0.85**	**150**	⇓PN	Pn	08 52 23.8	0.0
WHZ				SN	Sn	08 52 38.7	-0.6
WHZ				AML	AML	08 52 39.5	
WHZ	**Wether Hill Ro**	**0.85**	**150**	Pn	Pn	08 52 23.8	0.0
PYZ	**Puysegur Point**	**1.11**	**204**	⇓PN	Pn	08 52 26.2	-0.1
PYZ	**Puysegur Point**	**1.11**	**204**	Pn	Pn	08 52 26.2	-0.1
WKZ	**Wanaka**	**1.24**	**75**	⇑PN	Pn	08 52 27.7	-0.1
WKZ				AML	AML	08 52 46.1	
WKZ				AML	AML	08 52 48.4	
WKZ				AML	AML	08 52 48.5	
WKZ				AML	AML	08 52 50.1	
WKZ	**Wanaka**	**1.24**	**75**	Pn	Pn	08 52 27.7	-0.1
EAZ	**Earnscleugh**	**1.39**	**94**	⇑PN	Pn	08 52 29.2	-0.2
EAZ				AML	AML	08 52 48.9	
EAZ				AML	AML	08 52 48.9	
EAZ				AML	AML	08 52 49.5	
EAZ				AML	AML	08 52 49.6	
EAZ	**Earnscleugh**	**1.39**	**94**	Pn	Pn	08 52 29.2	-0.2
JCZ	**Jackson Bay**	**1.49**	**43**	⇓PN	Pn	08 52 30.0	-0.7
JCZ				SN	Sn	08 52 49.4	-2.0
JCZ				AML	AML	08 52 52.4	
JCZ	**Jackson Bay**	**1.49**	**43**	Pn	Pn	08 52 30.1	-0.7
JCZ				Sn	Sn	08 52 49.8	-1.6
APZ	**The Paps**	**1.73**	**165**	⇓PN	Pn	08 52 33.2	-0.3
APZ				AML	AML	08 52 56.1	
APZ				AML	AML	08 52 57.7	
APZ	**The Paps**	**1.73**	**165**	Pn	Pn	08 52 33.2	-0.3
APZ				Sn	Sn	08 52 56.5	0.0
TUZ	**Tuapeka**	**1.79**	**117**	⇓PN	Pn	08 52 34.0	-0.2
TUZ	**Tuapeka**	**1.79**	**117**	Pn	Pn	08 52 34.0	-0.2
SYZ	**Scrubby Hill**	**1.86**	**138**	⇓PN	Pn	08 52 34.9	-0.1
SYZ				AML	AML	08 52 59.3	
SYZ				AML	AML	08 52 59.5	
SYZ				AML	AML	08 52 59.6	
SYZ				AML	AML	08 52 59.7	
SYZ	**Scrubby Hill**	**1.86**	**138**	Pn	Pn	08 52 34.9	-0.1
LBZ	**Lake Benmore**	**2.17**	**70**	⇓PN	Pn	08 52 37.2	-1.7
LBZ				AML	AML	08 53 03.0	
LBZ				AML	AML	08 53 03.1	
LBZ				AML	AML	08 53 03.6	
LBZ				AML	AML	08 53 03.6	
LBZ	**Lake Benmore**	**2.17**	**70**	Pn	Pn	08 52 37.2	-1.7
FOZ	**Fox Glacier**	**2.32**	**47**	PN	Pn	08 52 39.9	-0.9
FOZ				AML	AML	08 53 11.1	
FOZ				AML	AML	08 53 11.2	
FOZ				AML	AML	08 53 11.8	
FOZ				AML	AML	08 53 11.8	
FOZ	**Fox Glacier**	**2.32**	**47**	Pn	Pn	08 52 39.9	-0.9
ODZ	**Otahua Downs**	**2.34**	**88**	PN	Pn	08 52 39.9	-1.2
ODZ	**Otahua Downs**	**2.34**	**88**	*e*Pn	Pn	08 52 41.0	0.0
RPZ	**Rata Peaks**	**3.03**	**63**	⇓PN	Pn	08 52 47.5	-2.5
RPZ				AML	AML	08 53 23.1	
RPZ				AML	AML	08 53 25.5	
RPZ	**Rata Peaks**	**3.03**	**63**	Pn	Pn	08 52 47.5	-2.5
WVZ	**Waitaha Valley**	**3.21**	**51**	PN	Pn	08 52 49.7	-2.8
WVZ	**Waitaha Valley**	**3.21**	**51**	Pn	Pn	08 52 49.6	-2.8
OXZ	**Oxford**	**3.84**	**63**	PN	Pn	08 52 57.8	-3.0
MQZ	**McQueen's Vall**	**4.07**	**71**	PN	Pn	08 53 02.1	-1.7
MQZ	**McQueen's Vall**	**4.07**	**71**	Pn	Pn	08 53 02.1	-1.7
LTZ	**Lake Taylor**	**4.28**	**58**	PN	Pn	08 53 01.7	-5.0
LTZ	**Lake Taylor**	**4.28**	**58**	Pn	Pn	08 53 01.7	-5.0
DSZ	**Denniston Nort**	**4.71**	**45**	PN	Pn	08 53 09.6	-2.9
DSZ	**Denniston Nort**	**4.71**	**45**	Pn	Pn	08 53 09.6	-2.9
KHZ	**Kahutara**	**5.26**	**61**	PN	Pn	08 53 18.0	-1.8
KHZ	**Kahutara**	**5.26**	**61**	Pn	Pn	08 53 18.0	-1.8
THZ	**Tophouse**	**5.29**	**52**	⇓PN	Pn	08 53 16.9	-3.3
THZ	**Tophouse**	**5.29**	**52**	Pn	Pn	08 53 16.9	-3.3
QRZ	**Quartz Range**	**5.77**	**43**	PN	Pn	08 53 24.1	-2.5
QRZ	**Quartz Range**	**5.77**	**43**	Pn	Pn	08 53 24.1	-2.5
NNZ	**Nelson**	**5.92**	**50**	PN	Pn	08 53 26.6	-2.0
NNZ	**Nelson**	**5.92**	**50**	Pn	Pn	08 53 26.6	-2.0
TUWZ	**Tuamarina**	**6.09**	**55**	PN	Pn	08 53 29.6	-1.4
TUWZ	**Tuamarina**	**6.09**	**55**	Pn	Pn	08 53 29.6	-1.4
CAW	**Cannon Point**	**6.95**	**57**	PN	Pn	08 53 39.2	-3.5
CAW	**Cannon Point**	**6.95**	**57**	Pn	Pn	08 53 39.2	-3.5

*UPP **28** 09:00:34.4,64˚.52N×32˚.21E,h0km,ML1.4,Suspected Mining explosion.*
*ISCJB **28** 09:00:37.9±0.9,64˚.56N±0˚.03×30˚.4E±0˚.1,h0km,Error ellipse: s-maj=8.5km s-min=3.9km az=18.6*
*HEL **28** 09:00:39.4±0.5,64˚.60N×30˚.76E,h0km,ML1.9, ML1.4(UPP),Explosion*
*HEL **28** 09:00:39.4,64˚.60N×30˚.76E,h0km,ML1.9,Explosion*
*NAO **28** 09:00:42.8±1.5,64˚.69N×30˚.03E,ML2.4*
*CSEM **28** 09:00:42.4±0.8,64˚.77N×30˚.39E,h2km,ML1.9,Error ellipse: s-maj=18.2km s-min=11.5km az=111.0,Mining explosion.*
*IDC **28** 09:00:43.1±2.0,64˚.63N×30˚.41E,h0km,mb1 2.8/4, mb1mx2.8/30,mbtmp2.8/4,ML2.4/4,Error ellipse: s-maj=27.1km s-min=9.0km az=107.0*
*BER **28** 09:00:44.8±4.2,64˚.71N×29˚.96E,h0km,ML2.4(NAO), Suspected explosion*
ISC 28 09:00:40.0±1.0,64˚.69N±0˚.03×30˚.62E±0˚.06,h0km,n42, σ1°74/51,1D,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KU6	**Riekki**	**1.37**	**347**	*e*PG	**Pn**	**09 01 06.1**	**-0.3**
	baz=165						
KU6				MSG		09 01 23.7	
	comp=Z,10nm,0.2s						
KU6				*e*S	**Sg**	**09 01 24.8**	**+0.6**
KU6	**Riekki**	**1.37**	**347**	Pg	**Pn**	**09 01 06.1**	**-0.3**
KU6				S	**Sg**	**09 01 24.7**	**+0.6**
MSF	**

	SNR=50							
FIA0					Lg	Lg	09 02 39.2	
FINES	**FINESS Array B**	**3.86**	**214**		Pn	**Pn**	**09 01 41.9**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=31,slow=13,SNR=7.1							
FINES					Sn	**Sn**	**09 02 23.2**	**-3.3**
	comp=Z,0.2nm,0.3s,baz=30,slow=23,SNR=2.8							
FINES					Lg	Lg	09 02 39.4	
	comp=Z,1.3nm,0.3s,baz=33,slow=27,SNR=10							
VAF	**Ylistaro**	**3.89**	**248**	*e*P	B	Pn	09 01 44.4	+3.5
	baz=53							
VAF	**Ylistaro**	**3.89**	**248**		Pb	Pn	09 01 44.4	+3.5
ERTU	**Ertsjaerv**	**3.96**	**302**	*e*P		**Pn**	**09 01 44.5**	**+2.5**
	baz=119							
ERTU	**Ertsjaerv**	**3.96**	**302**	P		**Pn**	**09 01 44.4**	**+2.5**
BURU	**Burvik**	**3.98**	**273**	*e*P		**Pn**	**09 01 43.4**	**+1.3**
	baz=90							
BURU	**Burvik**	**3.98**	**273**	P		**Pn**	**09 01 43.4**	**+1.3**
HARU	**Harads**	**4.29**	**294**	*e*P		**Pn**	**09 01 49.5**	**+3.0**
HARU	**Harads**	**4.29**	**294**	P		**Pn**	**09 01 49.4**	**+3.0**
LANU	**Lannavaara**	**4.84**	**318**	*e*P		**Pn**	**09 01 55.4**	**+1.4**
LANU				*e*S		Sn	09 02 57.3	+6.7
LANU	**Lannavaara**	**4.84**	**318**	P		**Pn**	**09 01 55.3**	**+1.4**
ARA0	**ARCESS Array S**	**5.26**	**340**	Pn		**Pn**	**09 02 00.5**	**+0.8**
	baz=153,slow=16							
ARA0					Sn	**Sn**	**09 02 59.3**	**-1.6**
	baz=158,slow=28							
ARA0					Lg	Lg	09 03 20.2	
	baz=153,slow=28							
ARA0	**ARCESS Array S**	**5.26**	**340**	Pn		**Pn**	**09 02 00.5**	**+0.8**
	baz=153,slow=16							
ARA0					Sn	**Sn**	**09 02 59.3**	**-1.6**
	baz=158,slow=28							
ARA0					Lg	Lg	09 03 20.2	
	baz=153,slow=28							
ARA0	**ARCESS Array S**	**5.26**	**340**	Pn		**Pn**	**09 02 00.5**	**+0.8**
	SNR=50							
ARA0					Sn	**Sn**	**09 02 59.3**	**-1.6**
	SNR=50							
ARCES	**ARCESS Array B**	**5.26**	**340**	Pn		**Pn**	**09 02 00.7**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=151,slow=13,SNR=56							
ARCES					Sn	**Sn**	**09 02 58.8**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=157,slow=16,SNR=3.5							
ARCES					Lg	Lg	09 03 23.1	
	comp=Z,1.0nm,0.3s,baz=155,slow=28,SNR=6.4							
HFS	**Hagfors**	**9.07**	**248**		Lg	Lg	09 05 18.6	
	baz=63,slow=28							
HFS	**Hagfors**	**9.07**	**248**		Lg	Lg	09 05 18.6	
	baz=63,slow=28							
HFS	**Hagfors**	**9.07**	**248**		Pn	**Pn**	**09 02 51.6**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=52,slow=14,SNR=7.1							
HFS					Sn	Sn	09 04 27.3	-7.4
	comp=Z,0.1nm,0.3s,baz=59,slow=25,SNR=2.7							
HFS					Lg	Lg	09 05 20.6	
	comp=Z,0.2nm,0.3s,baz=56,slow=26,SNR=3.5							
HFS	**Hagfors**	**9.07**	**248**		Lg	Lg	09 05 18.6	
	SNR=55							
NB2	**NORSAR Subarra**	**9.57**	**256**		Pn	**Pn**	**09 02 56.4**	**-2.5**
NB2	**NORSAR Subarra**	**9.57**	**256**		Pn	**Pn**	**09 02 56.4**	**-2.5**
NOA	**NORSAR Array B**	**9.57**	**256**		Pn	**Pn**	**09 02 56.9**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=57,slow=12,SNR=2.3							
NOA					Lg	Lg	09 05 36.0	
	comp=Z,0.2nm,0.3s,baz=62,slow=22,SNR=3.6							
KURBB	**Kurchatov Arra**	**28.41**	**97**	⇓Lg		Lg	09 06 56.8	
	comp=Z,3.7nm,0.6s							

IDC ***28*** *09:10:42.1±3.6,* **54°.56N×86°.33E, h0km, mb1 2.8/1, mb1mx2.7/40, mbtmp2.8/1, ML2.8/1, Error ellipse: s-maj=25.8km s-min=14.4km az=46.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.08**	**236**	*i*		09 17 50.0	
	baz=55,slow=321,SNR=3.8						
ZALV	**Zalesovo Beam**	**1.08**	**236**	Pg	Pg	09 11 02.5	-0.2
	1.1nm,0.3s,baz=54,slow=16,SNR=19						
ZALV				Lg	Lg	09 11 17.3	
	6.4nm,0.3s,baz=56,slow=27,SNR=36						
MKAR	**Makanchi Array**	**8.19**	**200**	Pn	Pn	09 12 43.0	+0.8
	0.1nm,0.3s,baz=20,slow=11,SNR=2.7						
MKAR					Sn	Sn	09 14 14.9	-0.4
	0.1nm,0.3s,baz=12,slow=21,SNR=7.8						
MKAR					Lg	Lg	09 15 03.1	
	0.2nm,0.3s,baz=21,slow=33,SNR=7.5							

WEL 28 09:15:25.1±0.9, 46°.49S×165°.69E, h33km, ML3.5/7, 1C-4D, Error ellipse: s-maj=10.5km s-min=4.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.76**	**65**	PN	Pn	09 15 38.3	-1.3
DCZ	**Deep Cove**	**1.44**	**46**	⇓PN	Pn	09 15 48.2	-0.6
DCZ				SN	Sn	09 16 04.8	-1.7
DCZ				AML	AML	09 16 05.6	
DCZ				AML	AML	09 16 16.2	
APZ	**The Paps**	**1.62**	**103**	⇓PN	Pn	09 15 50.3	-1.1
APZ				AML	AML	09 15 08.8	
APZ				AML	AML	09 16 09.8	
WHZ	**Wether Hill Ro**	**1.68**	**70**	⇓PN	Pn	09 15 52.0	-0.2
WHZ				SN	Sn	09 16 11.4	-1.2
WHZ				AML	AML	09 16 13.4	
MLZ	**Mavora Lakes**	**2.08**	**57**	⇓PN	Pn	09 15 58.6	+0.9
MLZ				AML	AML	09 16 33.2	
MLZ				AML	AML	09 16 35.7	
SYZ	**Scrubby Hill**	**2.38**	**92**	PN	Pn	09 16 02.2	+0.4
SYZ				SN	Sn	09 16 27.9	-1.9
SYZ				AML	AML	09 16 29.8	
SYZ				AML	AML	09 16 29.9	
SYZ				AML	AML	09 16 32.1	
MSZ	**Milford Sound**	**2.41**	**42**	PN	Pn	09 16 03.8	+1.7
MSZ				AML	AML	09 16 51.2	
MSZ				AML	AML	09 16 57.3	
TUZ	**Tuapeka**	**2.79**	**80**	PN	Pn	09 16 07.4	0.0
TUZ				SN	Sn	09 16 32.7	-2.0
EAZ	**Earnscleugh**	**2.83**	**65**	PN	Pn	09 16 08.4	+0.5
EAZ				AML	AML	09 16 43.6	
EAZ				AML	AML	09 16 44.8	
WKZ	**Wanaka**	**2.87**	**56**	PN	Pn	09 16 10.8	+2.2
JCZ	**Jackson Bay**	**3.25**	**43**	PN	Pn	09 16 16.3	+2.4
ODZ	**Otahua Downs**	**3.76**	**69**	⇑PN	Pn	09 16 19.4	-1.3
LBZ	**Lake Benmore**	**3.80**	**58**	PN	Pn	09 16 20.6	-0.7
FOZ	**Fox Glacier**	**4.08**	**46**	PN	Pn	09 16 28.7	+3.6

IDC 28 09:45:15.3±1.9, 7°.06S×150°.89E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.4/18, mbtmp3.3/4, Error ellipse: s-maj=87.7km s-min=30.9km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.53**	**230**	P	P	09 49 55.7	+0.2
	0.5nm,0.5s,baz=55,slow=11,SNR=10						
ASAR	**Alice Springs**	**23.21**	**223**	P	P	09 50 24.0	-0.1
	0.2nm,0.4s,baz=56,slow=9.7,SNR=8.1						
STKA	**Stephens Creek**	**26.17**	**198**	P	P	09 50 51.2	-0.3
	0.9nm,0.6s,baz=16,slow=7.4,SNR=2.9						
ILAR	**Eielson Array**	**84.96**	**22**	P	P	09 57 52.2	+0.1
	0.1nm,0.7s,baz=259,slow=4.1,SNR=3.0						

NNC ***28*** *09:50:06.8±0.6,43°.32N×78°.60E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=33.7km s-min=3.0km az=176.0*
ISCJB ***28*** *09:50:08.5±0.6,43°.3N±0°.1×78°.68E±0°.06, h10km, Error ellipse: s-maj=18.7km s-min=4.6km az=167.5*
KRNET ***28*** *09:50:08.8±0.1,41°.72N×78°.45E, h0km, mb3.2*
ISC 28 09:50:07.2±1.1, 43°.2N±0°.1×78°.62E±0°.04, h10km, n18, σ0s81/17, 15C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**0.65**	**75**	⇑P	**Pg**	**09 50 19.6**	**-0.2**
	8.2nm,0.2s						
PDGK				⇑S	**Sg**	**09 50 28.2**	**-0.2**
	199nm,0.4s						
KNDC	**Almaty**	**1.21**	**273**	⇑P	**Pg**	**09 50 30.2**	**-0.2**
	35nm,0.3s						
KNDC				⇓S	**Sb**	**09 50 45.1**	**-0.8**
	47nm,0.3s						
KDJ	**Kajisay**	**1.48**	**226**	*e*P	Pn	09 50 27.0	-7.0
	baz=294						
KDJ				*e*S	Sn	09 50 41.7	-12
	baz=294						
ULHL	**Ulahol**	**1.98**	**243**	P	**Pb**	**09 50 43.1**	**-0.2**
	SNR=28						
ULHL	**Ulahol**	**1.98**	**243**	⇑*i*P	**Pb**	**09 50 43.1**	**-0.2**
	baz=288						
ULHL				⇑*i*S	**Sb**	**09 51 09.1**	**+1.0**
	baz=288						
TKM2	**Tokmak 2**	**2.23**	**265**	P	**Pb**	**09 50 47.5**	**-0.2**
	SNR=20						
TKM2	**Tokmak 2**	**2.23**	**265**	⇓Pn	**Pb**	**09 50 46.9**	**-0.8**
	6.5nm,0.2s						
TKM2				⇑Sn	**Sb**	**09 51 16.0**	**+0.6**
	21nm,0.2s						
TKM2	**Tokmak 2**	**2.23**	**265**	⇑*i*P	**Pb**	**09 50 47.1**	**-0.5**
	baz=300						
TKM2				⇑*i*S	**Sg**	**09 51 18.0**	**-0.8**
	baz=300						
KZA	**Kyzart**	**2.71**	**248**	P	**Pb**	**09 50 55.4**	**-0.6**
	SNR=10						
KBK	**Karagaybulak**	**2.74**	**261**	P	**Pb**	**09 50 56.2**	**-0.2**
	SNR=12						
CHMS	**Chumysh**	**2.84**	**268**	P	Sn	09 51 34.6	+7.7
	SNR=13						
USP	**Ospenovka**	**3.01**	**273**	P	Sn	09 51 39.0	+7.9
	SNR=7.8						
AAK	**Ala-Archa**	**3.08**	**262**	P	**Pb**	**09 51 03.1**	**+1.0**
	SNR=6.8						
AAK	**Ala-Archa**	**3.08**	**262**	⇑Pg	**Pb**	**09 51 02.5**	**+0.4**
	4.4nm,0.3s						
AAK				⇓Lg	Lg	09 51 42.0	
	25nm,0.6s						
MK31	**Makanchi Array**	**4.47**	**34**	⇑Pn	Pn	09 51 17.3	+2.3
	0.9nm,0.2s,baz=214,slow=13,SNR=14						
MK31				Lg	Lg	09 52 25.2	
	1.4nm,0.3s,baz=212,slow=26,SNR=8.2						
MNAS	**Manas**	**4.55**	**264**	⇑Pg	**Pb**	**09 51 29.1**	**+2.0**
	0.9nm,0.5s						
MNAS				⇑Lg	Lg	09 52 29.2	
	7.6nm,0.6s						
SFK	**Sufi-Kurgan**	**4.96**	**232**	⇑Lg	Lg	09 52 45.4	
	5.4nm,0.5s						
KK31	**Karatay Array**	**5.93**	**272**	⇑Pg	Pb	09 51 54.9	+4.3
	1.6nm,0.5s,baz=82,slow=15,SNR=20						
KK31				⇑Lg	Lg	09 53 11.9	
	3.9nm,0.5s,baz=78,slow=28						

ISCJB ***28*** *09:53:58.6±0.8, 16°.3S×0°.2×176°.5W±0°.2, h379km, mb3.4/5, Error ellipse: s-maj=34.6km s-min=10.8km az=150.2*
IDC ***28*** *09:53:59.7±1.6, 16°.25S×176°.30W, h384km±30km, mb3.2/5, mb1 3.4/6, mb1mx3.1/20, mbtmp3.9/6, Error ellipse: s-maj=38.1km s-min=22.8km az=122.0*
ISC 28 09:53:59.6±0.9, 16°.2S±0°.3×176°.4W±0°.2, h379km, n6, σ0s48/7, mb3.2/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.99**	**63**	P	**Pn**	**09 55 20.9**	**+0.3**
	5.4nm,0.3s,baz=265,slow=0.9,SNR=8.1						
AFI				S	**S**	**09 56 26.1**	**-0.1**
	1.3nm,0.3s,baz=249,slow=8.6,SNR=2.1						
URZ	**Urewera**	**22.69**	**193**	P	**P**	**09 58 29.4**	**-0.4**
	6.3nm,0.9s,baz=52,slow=12,SNR=8.2						
STKA	**Stephens Creek**	**41.16**	**240**	P	**P**	**10 01 09.3**	**+0.5**
	0.9nm,0.7s,baz=49,slow=9.3,SNR=1.9						
WRA	**Warramunga Arr**	**46.88**	**258**	P	**P**	**10 01 53.4**	**-0.5**
	0.6nm,0.6s,baz=94,slow=7.3,SNR=21						
ASAR	**Alice Springs**	**47.15**	**253**	P	**P**	**10 01 56.0**	**+0.1**
	2.8nm,0.4s,baz=87,slow=8.1,SNR=82						
ILAR	**Eielson Array**	**83.83**	**12**	P	**P**	**10 05 46.8**	**-0.3**
	0.2nm,0.5s,baz=214,slow=4.9,SNR=4.9						

ISCJB ***28*** *10:05:10.2±0.9, 40°.53N±0°.06×51°.68E±0°.07, h10km, Error ellipse: s-maj=10.1km s-min=4.8km az=38.4*
AZER ***28*** *10:05:10.0±17.0, 40°.57N×51°.89E, h50km, Error ellipse: s-maj=9.6km s-min=6.5km az=255.0*
CSEM ***28*** *10:05:11.0±0.6, 40°.56N×51°.70E, h10km, ML3.6, Error ellipse: s-maj=17.2km s-min=6.7km az=42.0*
TEH ***28*** *10:05:35.6, 38°.90N×51°.96E, h18km, ML3.6*
ISC 28 10:05:09.8±1.5, 40°.58N±0°.07×51°.76E±0°.07, h10km, n29, σ1s43/49, 8C-12D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIZA	**Siyzn**	**2.23**	**284**	⇓P	**Pb**	**10 05 49.5**	**-0.6**
SIZA				⇓S	**Sb**	**10 06 18.6**	**+0.6**
SIZA	**Siyzn**	**2.23**	**284**	P	**Pb**	**10 05 49.5**	**-0.8**
SIZA				S	**Sb**	**10 06 18.6**	**+0.6**
PQL	**Pirkuli**	**2.42**	**276**	⇓P	**Pn**	**10 05 50.4**	**+0.8**
PQL				⇓S	**Sn**	**10 06 20.4**	**+1.0**
PQL	**Pirkuli**	**2.42**	**276**	P	**Pn**	**10 05 50.4**	**+0.8**
PQL				S	**Sn**	**10 06 20.4**	**+1.0**
QUBA	**Quba, Azerbaij**	**2.60**	**288**	⇑P	**Pn**	**10 05 50.9**	**-1.0**
QUBA				⇑S	**Sn**	**10 06 25.7**	**+2.2**
QUBA	**Quba, Azerbaij**	**2.60**	**288**	P	**Pn**	**10 05 50.9**	**-1.0**
QUBA				S	**Sn**	**10 06 25.7**	**+2.2**
GLBA	**Clilabad**	**2.92**	**244**	⇑P	**Pn**	**10 05 57.8**	**+1.6**
GLBA				⇓S	**Sn**	**10 06 31.9**	**+0.6**
GLBA	**Clilabad**	**2.92**	**244**	P	**Pn**	**10 05 57.8**	**+1.6**
GLBA				S	**Sn**	**10 06 31.9**	**+0.6**
LKRN	**Lenkeran, Azer**	**2.96**	**232**	⇓P	**Pn**	**10 05 57.0**	**+0.1**
LKRN				⇑S	**Sn**	**10 06 31.6**	**-0.9**
LKRN	**Lenkeran, Azer**	**2.96**	**232**	P	**Pn**	**10 05 57.0**	**+0.1**
LKRN				S	**Sn**	**10 06 31.6**	**-0.9**
LRK	**Lerik**	**3.27**	**235**	⇓P	**Pn**	**10 06 02.5**	**+1.2**
LRK				⇑S	**Sn**	**10 06 39.0**	**-1.4**
LRK	**Lerik**	**3.27**	**235**	P	**Pn**	**10 06 02.5**	**+1.2**
LRK				S	**Sn**	**10 06 39.0**	**-1.4**
SEKA	**Sheki**	**3.52**	**282**	⇓P	**Pn**	**10 06 05.9**	**+1.3**
SEKA				⇓S	**Sn**	**10 06 46.7**	**+0.4**
SEKA	**Sheki**	**3.52**	**282**	P	**Pn**	**10 06 05.9**	**+1.3**
SEKA				S	**Sn**	**10 06 46.7**	**+0.4**
ZKTA	**Zakatala**	**4.03**	**287**	⇓P	**Pn**	**10 06 10.9**	**-0.6**
ZKTA				⇑S	**Sn**	**10 06 59.8**	**+1.0**
GANJ	**Ganja**	**4.14**	**273**	⇓P	**Pn**	**10 06 12.6**	**-0.5**
GANJ				⇓S	**Sn**	**10 06 59.4**	**-2.3**
GANJ	**Ganja**	**4.14**	**273**	P	**Pn**	**10 06 12.6**	**-0.5**
GANJ				S	**Sn**	**10 06 59.4**	**-2.3**
IPRN	**Peran**	**4.35**	**174**	*e*Pn	**Pn**	**10 06 17.1**	**+1.0**
IPRN				*e*		10 07 07.4	
	comp=Z,3μm,0.0s						
IPRN	**Peran**	**4.35**	**174**	*e*Pn	**Pn**	**10 06 17.1**	**+1.0**
IGZV	**Ghazvin**	**4.36**	**197**	*e*Pn	**Pn**	**10 06 17.1**	**+0.8**
IGZV				*e*		10 07 06.4	
	comp=Z,1μm,0.1s						
IGZV	**Ghazvin**	**4.36**	**197**	*e*Pn	**Pn**	**10 06 17.1**	**+0.8**
IGLO	**Ghaloghah**	**4.38**	**158**	*e*Pn	**Pn**	**10 06 17.6**	**+1.0**
IGLO				*e*Sg	**Sn**	**10 07 03.6**	**-4.2**
IGLO				*e*		10 07 09.3	
	comp=Z,2μm,0.1s						
QZX	**Qazax, Azerbai**	**4.87**	**278**	⇓P	**Pn**	**10 06 22.7**	**-0.5**
QZX				⇑S	**Sn**	**10 07 18.1**	**-1.6**
QZX	**Qazax, Azerbai**	**4.87**	**278**	P	**Pn**	**10 06 22.7**	**-0.5**
QZX				S	**Sn**	**10 07 18.1**	**-1.6**
ISHM	**Shahmirzad**	**4.91**	**165**	*e*Pn	**Pn**	**10 06 25.5**	**+1.5**
ISHM				*e*		10 07 23.5	
	comp=Z,2μm,0.1s						
IFIR	**Firoozkooh**	**4.99**	**171**	*e*Pn	**Pn**	**10 06 27.3**	**+2.3**
IFIR				*e*		10 07 28.1	
	comp=Z,748nm,0.1s						
IFIR	**Firoozkooh**	**4.99**	**171**	*e*Pn	**Pn**	**10 06 27.3**	**+2.3**
ILAS	**Lasjerd**	**5.27**	**169**	*e*Pn	**Pn**	**10 06 30.8**	**+1.9**
ILAS				*e*		10 07 34.6	
	comp=N,912nm,0.1s						
ILAS	**Lasjerd**	**5.27**	**169**	*e*Pn	**Pn**	**10 06 30.8**	**+1.9**

BJI ***28*** *10:09:15.3,3°.99S×100°.74E, h35km, mb4.8/27, mB5.0/18, Ms4.6/13, Ms7 4.2/14*
IDC ***28*** *10:09:19.4±0.6,2°.87S×101°.11E, h0km, mb4.5/21, mb1 4.6/21, mb1mx4.5/27, mbtmp4.5/21, MS3.3/14, Ms1 3.3/14, ms1mx3.1/44, Error ellipse: s-maj=24.1km s-min=13.4km az=46.0*
ISCJB ***28*** *10:09:22.9±0.2,3°.08S±0°.03×100°.81E±0°.03, h33km, mb4.6/43, MS3.3/14, Error ellipse: s-maj=4.7km s-min=2.8km az=137.6*
NEIC ***28*** *10:09:24.2±0.5,3°.17S×100°.83E, h35km, mb4.8/10, Error ellipse: s-maj=12.3km s-min=7.1km az=48.0*
NEIC Felt [II] at Mukomuko.
KLM ***28*** *10:09:27.8,3°.02S×100°.85E, h69km, mb4.8, ML4.6, MS5.5*
MOS ***28*** *10:09:27.5±0.9,2°.75S×101°.25E, h73km, mb4.9/31, Error ellipse: s-maj=15.2km s-min=7.1km az=107.9*
DJA ***28*** *10:09:27.4±0.4,3°.S±2°×10°.1E±°, h15km±6km, M4.8/16, mb5.0/3, mB5.5/2, MLv4.7/16, Mw(mB)4.9/2*
ISC 28 10:09:25.6±0.4, 3°.01S±0°.04×100°.87E±0°.05, h43km±2km, h43km:pP-P, n200, σ1s63/203, mb4.7/43, MS3.3/14, 9C-8D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPSI	**Pulau Pagai**	**0.90**	**286**	P	Pn	10 09 45.4	+3.7
PPSI				S	Sn	10 10 03.0	+9.4
KRJI	**Kerinci**	**1.08**	**33**	P	**Pn**	**10 09 43.1**	**-1.4**
KRJI				S	**Sn**	**10 09 58.2**	**-0.2**
MASI	**Maura Aman, Be**	**1.37**	**96**	P	**Pn**	**10 09 47.2**	**-1.1**
MASI				S	**Sn**	**10 10 03.3**	**-2.0**
KSI	**Kapahiang**	**1.83**	**110**	P	**Pn**	**10 09 55.6**	**+0.9**
SDSI	**Sungai Dareh**	**2.14**	**15**	P	**Pn**	**10 09 59.6**	**+0.8**
SDSI				S	**Sn**	**10 10 23.5**	**-0.6**
SISI	**Saibi**	**2.44**	**313**	P	Pn	10 10 07.4	+4.4
MNAI	**Manna**	**2.48**	**123**	P	Pn	10 10 06.0	+2.5
MNAI				S	**Sn**	**10 10 34.7**	**+2.2**
MNAI	**Manna**	**2.48**	**123**	P	**Pn**	**10 10 03.6**	**+0.2**
	baz=2.4,SNR=12						
MNAI	**Manna**	**2.48**	**123**	*e*Pn	**Pn**	**10 10 03.3**	**-0.1**
MNAI				*e*Sn	**Sn**	**10 10 32.8**	**+0.3**
PPI	**Padang Panjang**	**2.58**	**349**	P	**Pn**	**10 10 07.2**	**+2.3**
PPI				S	**Sn**	**10 10 39.3**	**+4.3**
PPI	**Padang Panjang**	**2.58**	**349**	P	**Pn**	**10 10 06.5**	**+1.7**
	baz=2.8,SNR=48						
LHSI	**Lahat**	**2.77**	**107**	P	Pn	10 10 10.3	+2.8
RGRI	**Rengat**	**3.02**	**29**	P	**Pn**	**10 10 11.4**	**+0.5**
JMBI	**JAMBI**	**3.09**	**64**	P	Pn	10 10 20.3	+8.5
BKNI	**Bangkinang**	**3.32**	**3**	P	**Pn**	**10 10 16.9**	**+1.9**
BKNI	**Bangkinang**	**3.32**	**3**	P	Pn	10 10 19.1	+4.0
	baz=3.5,SNR=3.2						
BKNI	**Bangkinang**	**3.32**	**3**	*e*Pn	**Pn**	**10 10 17.0**	**+1.9**
MDSI	**Maura Dua**	**3.61**	**114**	P	**Pn**	**10 10 21.1**	**+2.0**
MDSI				S	**Sn**	**10 11 03.3**	**+2.8**
LWLI	**Liwa**	**3.75**	**122**	P	**Pn**	**10 10 23.4**	**+2.3**
LWLI				S	**Sn**	**10 11 07.9**	**+3.7**
PBSI	**Pulau Batu**	**3.91**	**319**	P	Pn	10 10 28.9	+5.7
MNSI	**Mandailing Nat**	**3.99**	**341**	P	**Pn**	**10 10 26.2**	**+1.9**
KLSI		**4.20**	**114**	P	**Pn**	**10 10 28.5**	**+1.4**
KLI	**Kotabumi**	**4.38**	**115**	P	**Pn**	**10 10 31.5**	**+1.8**
KASI	**Kota Agung**	**4.39**	**125**	P	**Pn**	**10 10 31.7**	**+1.9**
KASI				S	**Sn**	**10 11 23.5**	**+3.7**
DSRI	**Dabo**	**4.47**	**56**	P	**Pn**	**10 10 30.5**	**-0.5**
BTDF	**Bukit Timah Da**	**5.22**	**34**	P	**Pn**	**10 10 41.5**	**+0.3**
	baz=5.4,SNR=9.8						
BTDF				P	**Pn**	**10 10 41.5**	**+0.3**
	baz=5.4,SNR=9.8						
PPBI	**Pangkal Pinang**	**5.33**	**81**	P	**Pn**	**10 10 41.5**	**-1.1**
TPRI	**Tanjung Pinang**	**5.34**	**43**	P	**Pn**	**10 10 42.8**	**-0.1**
GSI	**Gunungsitoli**	**5.40**	**322**	P	**Pn**	**10 10 46.8**	**+3.1**
GSI	**Gunungsitoli**	**5.40**	**322**	*e*Pn	**Pn**	**10 10 45.1**	**+1.4**
GSI				*e*Sn	**Sn**	**10 11 47.4**	**+2.7**
KGM	**Kluang**	**5.56**	**26**	⇓P	**Pn**	**10 10 46.6**	**+0.7**
MYKOM	**Kota Tinggi**	**5.62**	**32**	⇑P	**Pn**	**10 10 47.3**	**+0.6**
MYKOM	**Kota Tinggi**	**5.62**	**32**	*e*Pn	**Pn**	**10 10 47.2**	**+0.5**
CGJI	**Cibinong**	**5.99**	**127**	P	Pn	10 10 54.9	+3.1
PSI	**Prapat**	**6.09**	**341**	Pn	**Pn**	**10 10 54.9**	**+1.6**
	2.6nm,0.3s,baz=170,slow=17,SNR=4.3						
PSI				Sn	**Sn**	**10 12 03.1**	**+1.4**
	1.4nm,0.3s,baz=159,slow=14,SNR=2.3						
PSI	**Prapat**	**6.09**	**341**	P	**Pn**	**10 10 54.9**	**+1.6**
PSI						10 12 03.1	
PSI				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PSI				smax	smax		
	comp=N,1.0nm,0.3s						
FRIM	**Kepong**	**6.25**	**7**	⇓P	**Pn**	**10 10 57.1**	**+1.8**
TNG	**Tangerang**	**6.56**	**119**	P	**Pn**	**10 11 01.8**	**+2.2**
IPM	**Ipoh**	**7.44**	**1**	⇑P	Pn	10 11 16.1	+4.4
IPM	**Ipoh**	**7.44**	**1**	*e*Pn	Pn	10 11 15.2	+3.5
IPM				*e*Sn	**Sn**	**10 12 36.8**	**+2.0**
KULM	**Kulim**	**8.25**	**358**	⇑P	Pn	10 11 26.6	+3.9
KULM	**Kulim**	**8.25**	**358**	*e*Pn	**Pn**	**10 11 24.5**	**+1.8**
CISI	**Cisompet, Garu**	**8.26**	**123**	P	**Pn**	**10 11 21.2**	**-1.7**
	baz=8.2,SNR=9.1						
KTGM	**Kuala Trenggan**	**8.58**	**15**	⇑P	Pn	10 11 31.0	+3.6
XMIS	**Christmas Isla**	**8.81**	**148**	P	Pn	10 11 24.2	-6.3
	baz=8.7,SNR=3.7						
LHMI	**Lhok Sumawe**	**9.07**	**334**	*e*Pn	**Pn**	**10 11 34.2**	**+0.2**
COCO	**West Island**	**9.96**	**203**	*e*P	**Pn**	**10 11 46.7**	**+0.5**
COCO	**West Island**	**9.96**	**203**	*e*Pn	**Pn**	**10 11 46.7**	**+0.5**
STKI	**Sintang**	**11.03**	**74**	P	Pn	**10 12 02.7**	**+1.8**
SBUM	**Sibu**	**12.57**	**65**	⇓P	Pn	10 12 25.4	+3.4
SBUM	**Sibu**	**12.57**	**65**	*e*Pn	**Pn**	**10 12 23.6**	**+1.6**
JAGI	**Jajag, Banyuwa**	**14.28**	**113**	P	**Pn**	**10 12 42

PKIN	**Phulchoki**	**33.87**	**335**	*e*P		**P**		**10 16 05.3**	**+0.7**
	comp=Z,14nm,0.5s								
GUN	**Gumba**	**33.96**	**336**	*e*P		**P**		**10 16 06.7**	**+1.2**
	comp=Z,105nm,0.4s								
DMN	**Daman**	**34.02**	**334**	*e*P		**P**		**10 16 07.2**	**+1.2**
	comp=Z,9.2nm,0.3s								
H01W3	**Cape Leeuwin H**	**34.03**	**160**	T		T		10 52 03.0	
	baz=336,slow=76,SNR=9.2								
H01W2	**Cape Leeuwin H**	**34.04**	**160**	T		T		10 52 03.0	
	baz=336,slow=76,SNR=11								
H01W1	**Cape Leeuwin H**	**34.04**	**160**	T		T		10 52 01.6	
	baz=336,slow=76,SNR=5.6								
KKN	**Kakani**	**34.10**	**335**	*e*P		**P**		**10 16 07.6**	**+1.0**
	comp=Z,40nm,0.5s								
WRKA	**Warakurna**	**34.31**	**132**	P		**P**		**10 16 08.3**	**+0.1**
	baz=34,SNR=6.0								
GKN	**Gorkha**	**34.57**	**334**	*e*P		**P**		**10 16 11.5**	**+0.9**
	comp=Z,31nm,0.4s								
KOLN	**Koldanda**	**34.83**	**333**	*e*P		**P**		**10 16 14.2**	**+1.3**
	comp=Z,32nm,0.6s								
DANN	**Dangsing**	**35.25**	**333**	*e*P		**P**		**10 16 17.8**	**+1.2**
WRA	**Warramunga Arr**	**36.74**	**120**	P		**P**		**10 16 27.6**	**-1.6**
	comp=Z,5.6nm,0.6s,baz=306,slow=9.0,SNR=85								
WRA				PcP		**PcP**		**10 18 50.4**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=306,slow=2.5,SNR=4.8								
WRA				S		S		10 22 00.4	-10
	comp=Z,0.4nm,0.6s,baz=291,slow=14,SNR=2.8								
WRA	**Warramunga Arr**	**36.74**	**120**	P		**P**		**10 16 27.6**	**-1.6**
WRA								10 18 50.4	
WRA				S		S		10 22 00.4	-10
WRA				pmax		pmax			
	comp=Z,6.0nm,0.6s								
WRA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
WRAB	**Tennant Creek**	**36.74**	**120**	⇑*i*P		**P**		**10 16 27.2**	**-2.0**
WRAB				pmax		pmax			
	comp=Z,13nm,0.6s								
WRAB	**Tennant Creek**	**36.74**	**120**	*e*P		**P**		**10 16 27.6**	**-1.6**
	comp=Z,10nm,0.7s								
XAN	**Xi'an**	**37.62**	**11**	P		**P**		**10 16 34.5**	**-2.0**
XAN				PMZ					
	comp=Z,21nm,0.6s								
ASAR	**Alice Springs**	**37.96**	**126**	P		**P**		**10 16 38.3**	**-1.2**
	comp=Z,2.1nm,0.5s,baz=299,slow=7.9,SNR=33								
ASAR				PcP		**PcP**		**10 18 54.5**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=306,slow=2.6,SNR=8.1								
ASAR				S		S		10 22 21.6	-7.2
	comp=Z,0.6nm,0.6s,baz=300,slow=15,SNR=7.9								
ASAR	**Alice Springs**	**37.96**	**126**	P		**P**		**10 16 38.3**	**-1.2**
ASAR								10 18 54.6	
ASAR				S		S		10 22 21.6	-7.2
ASAR				pmax		pmax			
	comp=Z,2.0nm,0.5s								
ASAR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
ASAR				smax		smax			
	comp=N,1.0nm,0.6s								
NJ2	**Nanjing**	**38.83**	**25**	*e*P		**P**		**10 16 48.0**	**+1.5**
NJ2				PMZ					
	comp=N,40nm,0.9s								
NDI	**New Delhi**	**38.85**	**326**	*e*P		P		10 16 50.5	+3.7
LZH	**Lanzhou**	**38.99**	**4**	*e*P		P		10 16 51.5	+3.4
LZH				pP		pP		10 17 02.0	+2.1
LZH				sP		sP		10 17 04.5	-0.4
LZH				PMZ					
	comp=N,14nm,1.0s								
QIS	**Mount Isa**	**41.57**	**118**	P		**P**		**10 17 07.7**	**-1.8**
	baz=42,SNR=5.0								
GTA	**Gaotai**	**42.22**	**359**	*e*P		**P**		**10 17 15.5**	**+0.8**
GTA				pP		**pP**		**10 17 25.5**	**-1.0**
GTA				sP		**sP**		**10 17 29.5**	**-2.1**
GTA				PMZ					
	comp=N,2.0nm,1.1s								
BBOO	**Buckleboo**	**44.32**	**136**	P		P		10 17 38.4	+6.7
	baz=44,SNR=5.4								
HHC	**Hu-ho-hao-te**	**44.73**	**12**	*e*P		P		10 17 39.0	+4.2
HHC				pP		pP		10 17 48.8	+2.0
HHC				sP		sP		10 17 52.8	+1.0
HHC				S		S		10 24 14.8	+6.0
HHC				sS		sS		10 24 31.3	+2.6
HHC				PMZ					
	comp=N,20nm,0.6s								
HHC				PMZ					
	comp=N,57nm,6.4s								
HHC				LN					
	comp=N,120nm,14.9s								
HHC				LE					
	comp=N,110nm,13.9s								
HHC				LZ					
	comp=N,54nm,15.1s								
BJI	**Beijing**	**45.08**	**17**	P		**P**		**10 17 39.5**	**+2.0**
BJI				PMZ					
	comp=N,7.0nm,0.5s								
BJI				LZ					
	comp=N,67nm,19.1s								
MTSU	**Mount Surprise**	**45.12**	**113**	P		**P**		**10 17 36.4**	**-1.9**
	baz=45,SNR=3.9								
JNU	**Nakatsue**	**45.78**	**36**	LR		LR		10 37 09.3	
	comp=N,25nm,20.9s,slow=37								
MANU	**Manus Island**	**46.46**	**90**	P		**P**		**10 17 50.8**	**+2.0**
	baz=46,SNR=5.8								
HTT	**Hallett**	**46.67**	**135**	P		**P**		**10 17 50.4**	**+0.1**
	baz=47,SNR=6.5								
KSAR	**Wonju Array Be**	**47.42**	**29**	P		**P**		**10 17 53.7**	**-2.3**
KSAR	**Wonju Array Be**	**47.42**	**29**	P		**P**		**10 17 53.6**	**-2.3**
KSRS	**Korea Array**	**47.45**	**29**	P		**P**		**10 17 53.6**	**-2.5**
	comp=N,2.2nm,1.0s,baz=224,slow=8.5,SNR=6.5								
KSRS				LR		LR		10 39 59.4	
	comp=N,26nm,18.4s,baz=252,slow=39								
KSRS	**Korea Array**	**47.45**	**29**	P		**P**		**10 17 53.7**	**-2.5**
KSRS				pmax		pmax			
	comp=Z,2.0nm,1.0s								
KSRS				MLR		MLR			
	comp=Z,26nm,18.4s								
QLP	**Quilpie**	**47.67**	**124**	P		**P**		**10 17 57.5**	**-0.7**
	baz=48,SNR=4.4								
STKA	**Stephens Creek**	**47.83**	**132**	P		**P**		**10 17 58.9**	**-0.4**
	comp=Z,4.4nm,0.6s,baz=308,slow=7.6,SNR=18								
STKA	**Stephens Creek**	**47.83**	**132**	*e*P		**P**		**10 17 59.0**	**-0.4**
STKA				pmax		pmax			
	comp=Z,30nm,2.9s								
STKA	**Stephens Creek**	**47.83**	**132**	P		**P**		**10 17 59.0**	**-0.4**
	baz=48,SNR=12								
STKA	**Stephens Creek**	**47.83**	**132**	*e*P		**P**		**10 17 59.0**	**-0.4**
	comp=Z,30nm,2.9s								
WMQ	**Urumqi**	**48.10**	**347**	P		**P**		**10 18 02.0**	**+0.8**
WMQ				pP		**pP**		**10 18 10.0**	**-3.2**
WMQ				sP		**sP**		**10 18 16.0**	**-2.2**
WMQ				PMZ					
	comp=Z,58nm,0.8s								
WMQ				PMZ					
	comp=Z,120nm,3.8s								
WMQ				LN					
	comp=Z,78nm,30.0s								
WMQ				LZ					
	comp=Z,29nm,20.4s								
KSH	**Kashi**	**48.11**	**334**	P		**P**		**10 18 00.8**	**-0.7**
KSH				pP		**pP**		**10 18 14.0**	**+0.5**
KSH				PP		**PP**		**10 19 56.3**	**+2.2**
KSH				S		**S**		**10 24 54.5**	**-2.9**
KSH				sS		**sS**		**10 25 15.8**	**-1.6**
KSH				SS		**SS**		**10 28 22.3**	**-4.8**
KSH				PMZ					
	comp=Z,24nm,0.6s								
KSH				PMZ					
	comp=Z,150nm,4.4s								
KSH				LN					
	comp=Z,160nm,4.9s								
KSH				LE					
	comp=Z,200nm,5.2s								
KSH				LZ					
	comp=Z,350nm,7.4s								
SFK	**Sufi-Kurgan**	**49.63**	**332**	P		**P**		**10 18 13.8**	**+0.6**
SFK				pmax		pmax			
	comp=Z,17nm,0.9s								
JCJ	**Chichijima**	**49.83**	**50**	LR		LR		10 38 16.8	
	comp=Z,7.5nm,20.9s,baz=224,slow=35								
CMSA	**Cobar Meteorol**	**50.80**	**129**	P		**P**		**10 18 22.1**	**+0.1**
	baz=51,SNR=6.6								
SONM	**Songino Array**	**50.86**	**5**	P		**P**		**10 18 22.0**	**-0.3**
	comp=Z,16nm,0.8s,baz=183,slow=9.4,SNR=93								
SONM				PcP		**PcP**		**10 19 37.2**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=189,slow=4.6,SNR=5.3								
SONM				LR		LR		10 41 56.8	
	comp=Z,43nm,19.5s,baz=210,slow=39								
SONM	**Songino Array**	**50.86**	**5**	P		**P**		**10 18 22.0**	**-0.3**
SONM								10 19 37.2	
SONM				pmax		pmax			
	comp=Z,16nm,0.8s								
SONM				pmax		pmax			
	comp=Z,1.0nm,0.5s								
SONM				MLR		MLR			
	comp=Z,43nm,19.5s								
ULN	**Ulaanbaatar**	**50.95**	**5**	⇑*i*P		**P**		**10 18 22.2**	**-0.8**
ULN				pmax		pmax			
	comp=Z,9.0nm,0.8s								
ULN	**Ulaanbaatar**	**50.95**	**5**	*e*P		**P**		**10 18 22.5**	**-0.4**
	comp=Z,7.7nm,0.8s								
TKM2	**Tokmak 2**	**51.10**	**336**	P		**P**		**10 18 24.7**	**+0.5**
TKM2				pmax		pmax			
	comp=Z,8.0nm,0.5s								
TKM2	**Tokmak 2**	**51.10**	**336**	*e*P		**P**		**10 18 25.1**	**+0.9**
	comp=Z,35nm,1.2s								
CN2	**Changchun**	**51.57**	**23**	*e*P		**P**		**10 18 25.0**	**-2.4**
CN2				*e*sP		sP		10 18 39.0	-5.6
EKS2	**Erkin-Say**	**51.64**	**335**	*e*P		**P**		**10 18 28.7**	**+0.5**
EKS2				pmax		pmax			
	comp=Z,21nm,0.8s								
EKS2	**Erkin-Say**	**51.64**	**335**	*e*P		**P**		**10 18 28.7**	**+0.5**
	comp=Z,21nm,0.8s								
MK31	**Makanchi Array**	**52.23**	**344**	*i* P		**P**		**10 18 31.6**	**-0.8**
MK31				pmax		pmax			
	comp=Z,5.0nm,0.4s								
MK31	**Makanchi Array**	**52.23**	**344**	P		**P**		**10 18 32.4**	**0.0**
	baz=53,SNR=11								
MKAR	**Makanchi Array**	**52.23**	**344**	P		**P**		**10 18 32.1**	**-0.3**
	comp=Z,12nm,0.6s,baz=147,slow=8.1,SNR=91								
MKAR				LR		LR		10 45 19.1	
	comp=Z,20nm,18.1s,baz=166,slow=41								
MKAR	**Makanchi Array**	**52.23**	**344**	P		**P**		**10 18 32.1**	**-0.3**
MKAR				pmax		pmax			
	comp=Z,12nm,0.6s								
MKAR				MLR		MLR			
	comp=Z,20nm,18.1s								
MKAR	**Makanchi Array**	**52.23**	**344**	*e*P		**P**		**10 18 32.5**	**+0.1**
MJAR	**Matsushiro Arr**	**52.52**	**38**	P		**P**		**10 18 32.4**	**-2.3**
	comp=Z,2.5nm,0.7s,baz=207,slow=8.3,SNR=12								
MJAR				LR		LR		10 41 54.4	
	comp=Z,12nm,18.6s,baz=200,slow=37								
MJAR	**Matsushiro Arr**	**52.52**	**38**	P		**P**		**10 18 32.4**	**-2.3**
MJAR				pmax		pmax			
	comp=Z,3.0nm,0.7s								
MJAR				MLR		MLR			
	comp=Z,12nm,18.6s								
EIDS	**Eidsvold**	**53.10**	**120**	P		**P**		**10 18 39.0**	**-0.3**
	baz=53,SNR=3.3								
ZAK	**Zakamensk**	**53.22**	**2**	*e*P		**P**		**10 18 38.1**	**-1.6**
ZAK				pmax		pmax			
	comp=Z,2.0nm,0.9s								
KK31	**Karatay Array**	**53.44**	**333**	P		**P**		**10 18 41.2**	**-0.2**
KK31				pmax		pmax			
	comp=Z,1.0nm,0.3s								
KKAR	**Karatay Array**	**53.44**	**333**	*e*P		**P**		**10 18 42.0**	**+0.6**
KKAR	**Karatay Array**	**53.44**	**333**	*e*P		**P**		**10 18 42.0**	**+0.6**
TLY	**Talaya**	**54.53**	**2**	*i* P		**P**		**10 18 48.7**	**-0.5**
TLY				pmax		pmax			
	comp=Z,4.0nm,0.8s								
USRK	**Ussuriysk Ar.**	**54.64**	**27**	P		**P**		**10 18 48.9**	**-1.2**
	comp=Z,8.3nm,0.6s,baz=223,slow=5.6,SNR=18								
GEYT	**Alibeck**	**56.77**	**320**	P		**P**		**10 19 05.8**	**+0.2**
	comp=Z,3.2nm,0.5s,baz=147,slow=8.5,SNR=4.9								
GEYT				LR		LR		10 45 29.2	
	comp=Z,33nm,21.0s,baz=225,slow=38								
ZALV	**Zalesovo Beam**	**58.32**	**349**	P		**P**		**10 19 15.2**	**-0.8**
	comp=Z,44nm,0.8s,baz=174,slow=5.5,SNR=146								
ZALV				LR		LR		10 45 42.0	
	comp=Z,31nm,18.0s,baz=72,slow=38								
ZALV	**Zalesovo Beam**	**58.32**	**349**	P		**P**		**10 19 15.2**	**-0.8**
ZALV				pmax		pmax			
	comp=Z,44nm,0.8s								
ZALV				MLR		MLR			
	comp=Z,31nm,18.0s								
NVS	**Novosibirsk**	**59.47**	**348**	*e*P		**P**		**10 19 22.3**	**-1.7**
NVS				pmax		pmax			
	comp=Z,10.0nm,0.9s								
NVS				pmax		pmax			
	comp=N,5.0nm,0.8s								
NVS				pmax		pmax			
	comp=E,4.0nm,0.8s								
BVA0	**Borovoye Array**	**61.42**	**340**	P		**P**		**10 19 36.3**	**-1.1**
BVA0				pmax		pmax			
	comp=Z,5.0nm,0.6s								
BRVK	**Borovoye**	**61.49**	**340**	⇑*i*P		**P**		**10 19 37.0**	**-0.9**
BRVK				pmax		pmax			
	comp=Z,4.0nm,0.7s								
BRVK	**Borovoye**	**61.49**	**340**	*e*P		**P**		**10 19 37.1**	**-0.8**
	comp=Z,5.5nm,0.6s								
BOD	**Bodaibo**	**61.55**	**8**	*e*P		**P**		**10 19 37.0**	**-1.1**
BOD				pmax		pmax			
	comp=Z,4.0nm,0.8s								
AB31	**Akbulak array**	**62.94**	**331**	P		**P**		**10 19 47.2**	**-0.4**
AB31				pmax		pmax			
	comp=Z,10.0nm,0.6s								
ABKAR	**Akbulak array**	**62.94**	**331**	*e*P		**P**		**10 19 46.8**	**-0.9**
KUR	**Kuril'sk**	**63.62**	**35**	P		**P**		**10 19 51.1**	**-1.1**
KUR				pmax		pmax			
	comp=Z,60nm,1.8s								
AKTO	**Aktyubinsk**	**64.65**	**331**	LR		LR		10 49 43.2	
	comp=Z,14nm,21.2s,baz=146,slow=38								
DGRG	**David-gareji**	**66.99**	**318**	P		**P**		**10 20 16.3**	**+2.0**
DGRG	**David-gareji**	**66.99**	**318**	*e*P		**P**		**10 20 16.2**	**+2.0**
SVE	**Sverdlovsk**	**67.94**	**337**	*e*P		**P**		**10 20 19.8**	**0.0**
SVE				pmax		pmax			
	comp=Z,22nm,0.9s								
ARU	**Arti**	**68.47**	**336**	*d i*P		**P**		**10 20 22.6**	**-0.6**
ARU								10 22 57.1	
ARU				S		**S**		**10 29 24.7**	**+2.8**
ARU				SS		**SS**		**10 33 46.8**	**+0.4**
ARU				pmax		pmax			
	comp=Z,9.0nm,1.0s								
ARU	**Arti**	**68.47**	**336**	*e*P		**P**		**10 20 22.6**	**-0.6**
	comp=Z,11nm,1.1s								
YAK	**Yakutsk**	**68.50**	**14**	*e*P		**P**		**10 20 20.3**	**-2.9**
YAK				pmax		pmax			
	comp=Z,15nm,0.8s								
YAK				pmax		pmax			
	comp=N,4.0nm,1.0s								
YAK				pmax		pmax			
	comp=E,4.0nm,1.0s								
KBZ	**Khabaz**	**69.64**	**319**	P		**P**		**10 20 31.0**	**+0.4**
	comp=E,3.7nm,0.7s,baz=126,slow=7.0,SNR=9.1								
KBZ	**Khabaz**	**69.64**	**319**	P		**P**		**10 20 31.0**	**+0.4**
KBZ				pmax		pmax			
	comp=Z,4.0nm,0.7s								
ASF	**Jabal al Asfar**	**69.88**	**306**	LR		LR		10 53 49.5	
	comp=Z,62nm,18.8s,baz=249,slow=38								
EIL	**Elat**	**70.80**	**303**	P		**P**		**10 20 39.6**	**+1.5**
	comp=Z,6.6nm,0.7s,baz=164,slow=7.4,SNR=4.5								
MMAI	**Mount Meron Ar**	**71.33**	**306**	P		**P**		**10 20 43.6**	**+2.3**
	comp=Z,1.0nm,0.3s,baz=97,slow=9.3,SNR=3.0								
PETK	**Petropavlovsk-**	**73.27**	**32**	P		**P**		**10 20 50.6**	**-1.8**
	comp=Z,3.2nm,0.7s,baz=197,slow=4.4,SNR=2.5								
PETK	**Petropavlovsk-**	**73.27**	**32**	P		**P**		**10 20 50.6**	**-1.8**
PETK				pmax		pmax			
	comp=Z,3.0nm,0.7s								
MA2	**Magadan**	**73.59**	**24**	*i* P		**P**		**10 20 53.1**	**-1.0**
BRTR	**Keskin Array B**	**74.64**	**312**	P		**P**		**10 21 00.8**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=136,slow=7.2,SNR=18								
BRTR	**Keskin Array B**	**74.64**	**312**	P		**P**		**10 21 00.8**	**-0.1**
BRTR				pmax		pmax			
	comp=Z,3.0nm,0.7s								
BOSA	**Boshof**	**75.94**	**241**	LR		LR		10 48 00.1	
	comp=Z,33nm,20.6s,baz=132,slow=30								
SEY	**Seymchan**	**76.23**	**22**	⇓*i*P		**P**		**10 21 07.9**	**-1.4**
PRGR	**Permogore**	**76.94**	**336**	*e*P		P		10 21 09.2	-4.1
PRGR				pmax		pmax			
	comp=Z,16nm,0.7s								
OBN	**Obninsk**	**78.11**	**328**	⇓*e*P		**P**		**10 21 20.5**	**+0.5**
OBN				pmax		pmax			
	comp=Z,12nm,0.5s								
AKASG	**Malin Array Be**	**80.81**	**322**	P		**P**		**10 21 34.8**	**0.0**
	comp=Z,0.4nm,0.4s,baz=95,slow=3.3,SNR=5.1								
KOLS	**Kolonicke sedl**	**84.78**	**320**	*e*P		**P**		**10 21 57.1**	**+1.6**
KOLS				pmax		pmax			
	comp=Z,6.0nm,0.9s								
KOLS	**Kolonicke sedl**	**84.78**	**320**	*e*P		**P**		**10 21 57.1**	**+1.6**
FINES	**FINESS Array B**	**85.40**	**332**	P		**P**		**10 21 58.4**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=117,slow=6.4,SNR=14								
FINES	**FINESS Array B**	**85.40**	**332**	P		**P**		**10 21 58.4**	**+0.1**
FINES				pmax		pmax			
	comp=Z,2.0nm,0.7s								
ARCES	**ARCESS Array B**	**87.71**	**340**	P		**P**		**10 22 09.3**	**-0.2**
	comp=Z,4.6nm,0.8s,baz=76,slow=5.1,SNR=10								
ARCES				LR		LR		11 04 43.5	
	comp=Z,20nm,21.3s,baz=325,slow=38								
ARCES	**ARCESS Array B**	**87.71**	**340**	P		**P**		**10 22 09.3**	**-0.2**
ARCES				pmax		pmax			
	comp=Z,5.0nm,0.8s								
ARCES				MLR		MLR			
	comp=Z,20nm,21.3s								
GERES	**GERESS Array B**	**90.38**	**319**	P		**P**		**10 22 23.4**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=100,slow=5.5,SNR=7.4								
GERES	**GERESS Array B**	**90.38**	**319**	P		**P**		**10 22 23.4**	**+0.8**
GERES				pmax		pmax			
	comp=Z,1.0nm,0.5s								
CLL	**Collm**	**90.99**	**321**	*e*P		**P**		**10 22 24.0**	**-1.2**
CLL	**Collm**	**90.99**	**321**	*e*P		**P**		**10 22 24.0**	**-1.2**
CLL				*e*pP		**pP**		**10 22 37.0**	**-1.2**
NB2	**NORSAR Subarra**	**92.44**	**331**	P		**P**		**10 22 31.4**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=95,slow=4.4								
NB2	**NORSAR Subarra**	**92.44**	**331**	P		**P**		**10 22 31.4**	**-0.4**
	baz=95,slow=4.4								
NOA	**NORSAR Array B**	**92.44**	**331**	P		**P**		**10 22 31.6**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=95,slow=4.8,SNR=5.9								
NOA				LR		LR		11 08 19.3	
	comp=Z,17nm,19.0s,baz=110,slow=38								
NVAR	**Mina Array Bea**	**129.81**	**40**	PKP		**PKPdf**		**10 28 31.3**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=323,slow=2.0,SNR=6.0								
PDAR	**Pinedale Array**	**132.02**	**30**	PKP		**PKPdf**		**10 28 34.4**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=316,slow=2.5,SNR=3.4								
CPUP	**Villa Florida**	**144.01**	**215**	PKP		PKPbc		10 28 56.0	+0.8
	comp=Z,2.1nm,1.0s,baz=192,slow=8.3,SNR=3.3								
CPUP	**Villa Florida**	**144.01**	**215**	PKIKP		PKPbc		10 28 56.0	+0.8
CPUP				pmax		pmax			
	comp=Z,2.0nm,1.0s								
TXAR	**Lajitas Array**	**144.95**	**39**	PKP		**PKPab**		**10 28 57.8**	**-0.5**
	comp=Z,4.6nm,0.6s,baz=259,slow=1.3,SNR=75								
TXAR	**Lajitas Array**	**144.95**	**39**	PKIKP		**PKPab**		**10 28 57.8**	**-0.5**
TXAR				pmax		pmax			
	comp=Z,5.0nm,0.6s								
MIAR	**Mount Ida**	**145.86**	**22**	*e*PKP2		**PKPdf**		**10 28 59.9**	**-0.4**
MIAR	**Mount Ida**	**145.86**	**22**	*e*PKPbc		**PKPdf**		**10 28 59.9**	**-0.4**
JCT	**Junction City**	**146.40**	**33**	*e*PKP2		**PKPdf**		**10 29 02.1**	**+0.7**
JCT	**Junction City**	**146.40**	**33**	*e*PKPbc		**PKPdf**		**10 29 02.1**	**+0.7**
CPCT	**Cooper Cave**	**147.34**	**8**	*e*PKPbc		**PKPdf**		**10 29 04.0**	**+1.2**
KMSC	**Kings Mountain**	**147.96**	**3**	*e*PKPbc		**PKPdf**		**10 29 05.5**	**+1.7**

SKO ***28*** *10:19:40.5,41.˚81N×23.˚29E,h0km,M1.6,ML1.7*
BEO ***28*** *10:19:41.0±1.0,41.˚79N×23.˚17E,h0km,ML1.6/2*
CSEM 28 10:19:40.1±0.2,41.˚86N×23.˚27E,h10km,ML1.6,Error ellipse: s-maj=3.7km s-min=3.1km az=122.0, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VTS	**Vitosha**	**0.74**	**357**	*e*Pg		Pg	10 19 54.6	0.0
VTS	**Vitosha**	**0.74**	**357**	*e*Pg		Pg	10 19 54.6	0.0
VAY	**Valandovo**	**0.75**	**225**	*i* Pg		Pg	10 19 54.8	+0.3
VAY				*i* Sg		Sg	10 20 04.2	-0.1
VAY				*e*Lg		Lg	10 20 04.7	
	comp=N,17nm,0.2s							
VAY				*e*Lg		Lg	10 20 04.8	
	comp=E,18nm,0.2s							
VAY	**Valandovo**	**0.75**	**225**	*i* Pg		Pg	10 19 54.8	+0.3
VAY				*i* Sg		Sg	10 20 04.1	-0.2
VAY				*e*Lg		Lg	10 20 04.6	
	comp=E,17nm,0.2s							
PLD	**Plovdiv**	**1.10**	**76**	*e*Pg		Pg	10 20 01.3	0.0
PLD				*e*Sg		Sn	10 20 19.6	+2.7
PLD	**Plovdiv**	**1.10**	**76**	*e*Pg		Pg	10 20 01.3	0.0
BARS	**Barje**	**1.44**	**312**	*e*Pg		Pb	10 20 07.3	+0.2
BARS				*e*Sg		Sg	10 20 26.6	0.0
BARS	**Barje**	**1.44**	**312**	*e*Pg		Pb	10 20 07.3	+0.2
BARS				*e*Sg		Sg	10 20 26.6	0.0
ZAPS	**Zavoj**	**1.49**	**342**	*e*Sg		Sg	10 20 30.0	+1.7

IDC ***28*** *10:35:11.8±15.0,52.˚55N×170.˚02W,h0km,mb3.4/4, mb1 3.7/5,mb1mx3.4/58,mbtmp3.3/5,ML3.3/1,Error ellipse: s-maj=286.4km s-min=43.7km az=84.0*
NEIC ***28*** *10:35:16.4,52.˚65N×169.˚32W,h5km,ML3.2(AEIC),After AEIC.*
ISC 28 10:35:14.7±1.6,52.˚8N±0.˚1×169.˚73W±0.˚07,h11km±10km, n30,σ0°88/30,mb3.3/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIKH	**Nikolski High**	**0.55**	**73**	P		**Pg**	**10 35 25.6**	**0.0**
NIKH				S		**Sb**	**10 35 33.3**	**-1.1**
OKSP	**Okmok Steeple**	**0.97**	**63**	P		**Pg**	**10 35 33.5**	**0.0**
OKSP				S		**Sg**	**10 35 46.2**	**0.0**
OKSO	**Okmok South**	**1.09**	**60**	P		**Pb**	**10 35 35.5**	**-0.1**
OKSO				S		**Sn**	**10 35 51.2**	**0.0**
OKWR	**Okmok West Rim**	**1.11**	**55**	P		**Pn**	**10 35 36.8**	**+0.4**
OKWE	**Okmok W'ng Wal**	**1.11**	**53**	P		**Pg**	**10 35 36.5**	**+0.4**
OKAK	**Okmok**	**1.12**	**47**	P		**Pb**	**10 35 35.1**	**-1.1**
OKCE	**

	70nm,0.2s								
YUK				*i* S		**Sg**	**10 55 05.5**	**0.0**	
YUK				A		A	10 55 09.7		
	40nm,0.4s								
YUK				A		A	10 55 09.7		
	140nm,0.4s								
NEM2	**Nemuro 2**	**1.78**	**244**	P		**Pn**	**10 54 48.9**	**-0.2**	
NEM2				*e*S		**Sb**	**10 55 11.5**	**-1.9**	
JRA	**Rausu**	**2.04**	**265**	P		**Pn**	**10 54 53.8**	**+1.1**	
JRA				*e*S		**Sn**	**10 55 20.0**	**+1.2**	
JNK	**Nakash**	**2.40**	**257**	P		**Pn**	**10 54 58.2**	**+0.5**	
JNK				*e*S		**Sn**	**10 55 28.3**	**+0.7**	
JAK	**Akkeshi**	**2.63**	**245**	P		**Pn**	**10 55 01.1**	**+0.3**	
JTKR	**Abashiri--Toko**	**2.91**	**268**	P		**Pn**	**10 55 06.9**	**+2.2**	
JAR	**Ashorobuto**	**3.14**	**255**	P		**Pn**	**10 55 09.5**	**+1.6**	
JNBK	**Urakawa-nobuka**	**4.23**	**245**	P		**Pn**	**10 55 24.3**	**+1.5**	
YSS	**Yuzh-Sakhalins**	**4.58**	**309**	*e*P		**Pn**	**10 55 26.9**	**-0.8**	
JKB	**Kayabe**	**5.55**	**248**	*e*S		**Sn**	**10 56 45.1**	**-0.2**	

IDC 28 10:55:33.8±2.3, 5.10S×151.25E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, ML1.1/1, Error ellipse: s-maj=157.2km s-min=27.4km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.90**	**223**	Pn	Pn	10 57 03.3	+0.7
	0.3nm,0.3s,baz=128,slow=18,SNR=1.7						
PMG				Sn	Sn	10 58 08.6	-2.3
	1.1nm,0.3s,baz=323,slow=20,SNR=4.0						
WRA	**Warramunga Arr**	**22.11**	**227**	P	P	11 00 31.0	-0.1
	0.9nm,0.5s,baz=52,slow=10,SNR=14						
ASAR	**Alice Springs**	**24.91**	**220**	P	P	11 00 58.5	-0.3
	0.4nm,0.5s,baz=56,slow=8.8,SNR=6.9						
ILAR	**Eielson Array**	**83.02**	**22**	P	P	11 08 00.9	+0.1
	0.1nm,0.6s,baz=243,slow=6.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**148.92**	**287**	PKPbc	PKPbc	11 15 24.2	-0.6
	0.7nm,0.7s,baz=71,slow=2.4,SNR=3.5						

IDC 28 10:57:59.9±4.4, 5.86S×130.41E, h141km±61km, mb3.1/1, mb1 3.0/4, mb1mx2.9/20, mbtmp3.4/4, Error ellipse: s-maj=119.9km s-min=20.6km az=82.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.03**	**10**	P	Pn	10 59 14.8	+1.2
	1.9nm,0.3s,baz=283,slow=23,SNR=17						
SIJI				S	Sn	11 00 10.8	-0.3
	1.1nm,0.3s,baz=253,slow=19,SNR=4.2						
WRA	**Warramunga Arr**	**14.51**	**165**	P	Pn	11 01 17.4	-1.3
	0.1nm,0.3s,baz=345,slow=11,SNR=10						
WRA				S	Sn	11 03 43.5	-16
	0.1nm,0.3s,baz=336,slow=22,SNR=5.1						
ASAR	**Alice Springs**	**18.02**	**170**	P	P	11 02 00.6	+0.4
	0.1nm,0.3s,baz=345,slow=11,SNR=5.9						
MKAR	**Makanchi Array**	**67.50**	**326**	P	P	11 08 40.8	0.0
	0.2nm,0.3s,baz=110,slow=6.5,SNR=2.5						

IDC 28 11:00:59.3±4.9, 3.26N×128.25E, h156km±60km, mb3.2/3, mb1 3.3/4, mb1mx3.0/35, mbtmp3.6/4, Error ellipse: s-maj=129.2km s-min=25.8km az=70.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.09**	**144**	P	Pn	11 02 14.2	+0.1
	1.8nm,0.3s,baz=241,slow=22,SNR=6.8						
SIJI				S	Sn	11 03 12.8	+0.4
	2.3nm,0.3s,baz=194,slow=23,SNR=4.1						
WRA	**Warramunga Arr**	**23.82**	**166**	P	P	11 05 58.1	0.0
	0.8nm,0.6s,baz=346,slow=10,SNR=8.2						
MKAR	**Makanchi Array**	**58.81**	**325**	P	P	11 10 41.2	-0.1
	0.7nm,0.6s,baz=122,slow=7.6,SNR=6.3						
ZALV	**Zalesovo Beam**	**61.70**	**333**	P	P	11 11 00.7	-0.1
	0.3nm,0.3s,baz=134,slow=10,SNR=2.8						

*IDC **28** 11:14:43.0±1.2, 27.81N×91.70E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.5/35, mbtmp3.6/7, Error ellipse: s-maj=50.5km s-min=19.0km az=63.0*
*ISCJB **28** 11:14:43.2±0.8, 27.45N±0.08×91.14E±0.3, h33km, mb3.5/6, Error ellipse: s-maj=40.5km s-min=8.4km az=167.2*

ISC 28 11:14:45.7±1.0, 27.42N±0.10×91.16E±0.3, h35km, n8, σ2s18/8, mb3.6/6, Bhutan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**1.87**	**171**	*i* PN	**Pn**	**11 15 13.8**	**-1.5**
SHL				*e*SN	**Sn**	**11 15 37.0**	**-0.8**
MKAR	**Makanchi Array**	**20.68**	**342**	P	**P**	**11 19 20.9**	**-1.6**
	1.9nm,0.5s,baz=146,slow=14,SNR=17						
SONM	**Songino Array**	**23.45**	**26**	P	**P**	**11 19 50.5**	**-1.4**
	0.6nm,0.9s,baz=211,slow=9.9,SNR=3.1						
KURBB	**Kurchatov Arra**	**25.21**	**340**	P	**P**	**11 20 06.6**	**-1.4**
	0.4nm,0.2s,baz=160,slow=8.4,SNR=4.8						
ZALV	**Zalesovo Beam**	**26.97**	**351**	P	**P**	**11 20 22.4**	**-1.4**
	0.6nm,0.4s,baz=176,slow=7.3,SNR=4.3						
GERES	**GERESS Array B**	**62.14**	**313**	P	**P**	**11 25 05.3**	**+2.0**
	0.6nm,0.5s,baz=69,slow=5.4,SNR=3.6						
WRA	**Warramunga Arr**	**62.71**	**134**	P	**P**	**11 25 10.2**	**+2.9**
	0.9nm,1.2s,baz=325,slow=6.6,SNR=2.8						
ASAR	**Alice Springs**	**65.19**	**137**	P	P	11 25 28.6	+4.9
	0.4nm,1.0s,baz=314,slow=6.0,SNR=3.1						

*IDC **28** 11:30:26.7±0.7, 52.74N×169.46W, h0km, mb4.0/15, mb1 4.3/17, mb1mx3.9/66, mbtmp4.0/17, ML3.9/2, MS5.0/1, Ms1 4.9/1, ms1mx3.7/29, Error ellipse: s-maj=23.1km s-min=12.8km az=175.0*
*NEIC **28** 11:30:28.1, 52.62N×169.36W, h6km, mb4.1/42, ML4.6(AEIC), After AEIC.*
*ISCJB **28** 11:30:29.7±0.7, 52.79N±0.04×169.52W±0.04, h29km±5km, mb4.2/52, MS5.0/1, Error ellipse: s-maj=7.7km s-min=3.4km az=162.8*

ISC 28 11:30:28.6±1.6, 52.73N±0.10×169.45W±0.05, h11km±9km, n265, σ086/261, mb4.1/52, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.44**	**56**	P	**Pb**	**11 30 38.0**	**-0.5**
NIKH				S	**Sb**	**11 30 44.9**	**-0.1**
OKSO	**Okmok South**	**1.00**	**51**	P	**Pg**	**11 30 47.1**	**-0.9**
OKSO				S	**Sg**	**11 31 01.7**	**+0.7**
OKWR	**Okmok West Rim**	**1.03**	**46**	P	**Pg**	**11 30 48.9**	**+0.4**
OKCE	**Okmok Cone E**	**1.05**	**48**	P	**Pg**	**11 30 48.2**	**-0.6**
OKCE				S	**Sn**	**11 31 05.0**	**+1.1**
OKTU	**Okmok Mt. Tuli**	**1.08**	**52**	P	**Pg**	**11 30 49.0**	**-0.3**
OKAK	**Okmok**	**1.08**	**37**	P	**Pg**	**11 30 47.5**	**-1.9**
OKFG	**Magazine Ridge**	**1.15**	**53**	P	**Pg**	**11 30 49.7**	**-1.1**
MSOM	**Makushin Julie**	**1.86**	**53**	P	**Pn**	**11 31 00.7**	**+0.3**
MCIR	**Makushin Cirqu**	**1.96**	**50**	P	**Pn**	**11 31 01.8**	**-0.1**
MSW	**Makushin Switc**	**2.00**	**52**	P	**Pn**	**11 31 02.7**	**+0.3**
MSW				S	**Sn**	**11 31 28.6**	**+1.3**
MTBL	**Makushin Table**	**2.08**	**52**	P	**Pn**	**11 31 03.5**	**0.0**
UNV	**Unalaska Valle**	**2.10**	**57**	P	**Pn**	**11 31 02.8**	**-0.9**
UNV				S	**Sn**	**11 31 29.6**	**-0.2**
AKRB	**Akutan Reef Bi**	**2.46**	**54**	P	**Pn**	**11 31 09.3**	**+0.6**
ZRO	**Akutan Zero**	**2.49**	**55**	P	**Pn**	**11 31 09.9**	**+0.8**
AKGG	**Akutan Green G**	**2.54**	**53**	P	**Pn**	**11 31 10.4**	**+0.6**
AKUT	**Akutan**	**2.62**	**56**	P	**Pn**	**11 31 11.4**	**+0.6**
ATKA	**Atka Island**	**2.95**	**262**	P	**Pn**	**11 31 15.7**	**+0.4**
WESP	**Westdahl Peak**	**3.33**	**56**	P	**Pn**	**11 31 22.0**	**+1.3**
WESN	**West Dahl Nort**	**3.44**	**56**	P	**Pn**	**11 31 22.6**	**+0.5**
GSTR	**Great Sitkin T**	**4.09**	**264**	*e*Pn	**Pn**	**11 31 31.8**	**+0.6**
GSMY	**Great Sitkin M**	**4.10**	**263**	P	**Pn**	**11 31 32.0**	**+0.7**
GSTD	**Great Sitkin T**	**4.15**	**263**	P	**Pn**	**11 31 32.5**	**+0.5**
FALS	**False Pass**	**4.17**	**57**	*e*Pn	Pn	11 31 35.4	+3.3
FALS				*e*Sn	**Sn**	**11 32 20.8**	**+0.1**
GSCK	**Great Sitkin C**	**4.17**	**263**	P	**Pn**	**11 31 33.4**	**+1.1**
ADAG	**Mount Adagdak**	**4.45**	**263**	P	**Pn**	**11 31 37.0**	**+1.1**
SPIA	**Saint Paul Isl**	**4.48**	**354**	P	**Pn**	**11 31 38.6**	**+2.2**
KIKV	**Kanaga Island**	**4.81**	**263**	P	**Pn**	**11 31 41.4**	**+0.4**
KICM	**Kanaga Island**	**4.82**	**263**	P	**Pn**	**11 31 43.3**	**+2.2**
DTNA	**Dutton South F**	**4.90**	**57**	P	**Pn**	**11 31 43.5**	**+1.4**
SDPT	**Sand Point**	**5.90**	**60**	*e*Pn	**Pn**	**11 31 56.5**	**+0.6**
	91nm,0.8s						
AMKA	**Amchitka**	**7.07**	**263**	*e*Pn	**Pn**	**11 32 13.7**	**+1.8**
	75nm,0.5s						
AMKA				*e*Sn	**Sn**	**11 33 30.8**	**-1.4**
CHGN	**Chignik**	**7.35**	**57**	*e*Pn	**Pn**	**11 32 14.4**	**-1.4**
CHGN				*e*Sn	Sn	11 33 33.5	-5.6
OHAK	**Old Harbor**	**10.32**	**58**	*e*Pn	**Pn**	**11 32 55.0**	**-1.4**
	7.4nm,0.5s						
KDAK	**Kodiak Island**	**10.87**	**56**	Pn	**Pn**	**11 33 02.8**	**-1.1**
	1.5nm,0.3s,baz=237,slow=6.5,SNR=12						
SEW	**Seward**	**13.27**	**48**	*e*Pn	**Pn**	**11 33 37.0**	**+0.3**
	12nm,0.8s						
PPLA	**Purkeypile**	**13.68**	**35**	*e*Pn	**Pn**	**11 33 43.3**	**+0.9**
	68nm,0.6s						
PMR	**Palmer**	**14.10**	**43**	*e*Pn	**Pn**	**11 33 46.6**	**-1.4**
	38nm,1.8s						
SML	**Sawmill**	**14.53**	**43**	*e*Pn	**Pn**	**11 33 54.9**	**+0.8**
	4.2nm,1.1s						
TRF	**Thorofare Moun**	**14.70**	**36**	*e*Pn	**Pn**	**11 33 58.4**	**+2.0**
	3.6nm,1.0s						
BPAW	**Bear Paw Mtn.**	**14.87**	**33**	*e*Pn	**Pn**	**11 34 01.2**	**+2.6**
	260nm,0.3s						
DIV	**Divide**	**15.34**	**47**	*e*Pn	**Pn**	**11 34 04.5**	**-0.4**
	11nm,1.0s						
BMRM	**Bremner River**	**15.81**	**49**	*e*Pn	**Pn**	**11 34 10.7**	**-0.4**
	20nm,1.0s						
PAX	**Paxson**	**16.26**	**42**	Pn	**Pn**	**11 34 16.7**	**-0.2**
	9.9nm,1.1s						
COLA	**College**	**16.41**	**34**	*e*Pn	**Pn**	**11 34 17.9**	**-0.7**
	7.2nm,0.9s						
ILAR	**Eielson Array**	**16.68**	**35**	Pn	**Pn**	**11 34 20.9**	**-1.2**
	0.3nm,0.3s,baz=228,slow=11,SNR=36						
MENT	**Mentasta**	**16.96**	**43**	*e*Pn	**Pn**	**11 34 25.9**	**+0.2**
COLD	**Coldfoot**	**17.31**	**26**	*e*P	**P**	**11 34 31.9**	**+0.5**
	39nm,1.6s						
EGAK	**Eagle**	**18.79**	**39**	*e*P	**P**	**11 34 47.1**	**-0.6**
	22nm,1.0s						
HYT	**Haines Junctio**	**19.12**	**52**	*e*P	**Pn**	**11 34 53.2**	**+0.9**
	0.9nm,0.5s						
DAWY	**Dawson**	**19.20**	**42**	*e*P	**P**	**11 34 51.3**	**-0.9**
	9.0nm,1.1s						
PETK	**Petropavlovsk-**	**19.72**	**284**	P	**P**	**11 34 59.4**	**+1.5**
	0.6nm,0.3s,baz=92,slow=13,SNR=4.0						
H02S1	**DAWSON INLET T**	**22.12**	**74**	T	T	11 58 11.6	
SEY	**Seymchan**	**22.39**	**312**	P	**P**	**11 35 26.8**	**+0.1**
	1.7nm,0.8s,baz=133,slow=19,SNR=2.2						
DLBC	**Dease Lake**	**22.75**	**60**	P	**P**	**11 35 33.1**	**+2.5**
	14nm,1.1s,baz=278,slow=10,SNR=10.0						
INK	**Inuvik**	**23.08**	**34**	P	**P**	**11 35 32.1**	**-1.7**
	2.3nm,0.7s,baz=170,slow=9.3,SNR=7.7						
YKA	**Yellowknife Ar**	**30.05**	**49**	P	**P**	**11 36 35.4**	**-1.9**
	1.1nm,0.4s,baz=273,slow=7.6,SNR=17						
I04A	**Tendick Farm,**	**32.05**	**87**	P	**P**	**11 36 57.2**	**+2.0**
	baz=32						
I05D	**Terrebonne, OR**	**32.41**	**85**	P	**P**	**11 37 00.1**	**+1.7**
	baz=32						
NEW	**Newport**	**32.97**	**76**	P	**P**	**11 37 04.0**	**+0.7**
	3.1nm,0.6s,baz=291,slow=6.6,SNR=6.3						
J05D	**Fort Rock, OR**	**33.05**	**87**	P	**P**	**11 37 05.7**	**+1.6**
	baz=33,SNR=5.0						
M02C	**Callahan**	**33.15**	**91**	P	**P**	**11 37 06.3**	**+1.5**
	baz=33						
M04C	**Macdoel**	**33.53**	**90**	P	**P**	**11 37 10.4**	**+2.0**
	baz=33						
MOD	**Modoc**	**34.40**	**88**	*e*P	**P**	**11 37 17.1**	**+1.2**
	2.2nm,0.6s						
WALA	**Waterton Lakes**	**34.49**	**73**	*e*P	**P**	**11 37 17.1**	**+0.6**
	15nm,1.5s						
BSMT	**Bassoo Peak**	**34.55**	**76**	*e*P	**P**	**11 37 17.1**	**0.0**
	2.4nm,0.6s						
WVOR	**Wild Horse Val**	**35.10**	**86**	*e*P	**P**	**11 37 22.3**	**+0.4**
	5.6nm,1.1s						
MSO	**Missoula**	**35.55**	**77**	P	**P**	**11 37 26.7**	**+1.0**
	baz=35						
CHMT	**Chamberlain Mo**	**35.92**	**76**	*e*P	**P**	**11 37 28.6**	**-0.4**
	1.9nm,0.6s						
MFID	**Camas Ranch**	**36.25**	**83**	*e*P	**P**	**11 37 32.4**	**+0.7**
	2.1nm,0.9s						
HRY	**Holter Researc**	**36.86**	**76**	*e*P	**P**	**11 37 36.9**	**0.0**
	2.4nm,0.5s						
HLID	**Hailey**	**37.02**	**82**	P	**P**	**11 37 39.3**	**+1.0**
	baz=37						
HLID	**Hailey**	**37.02**	**82**	*e*P	**P**	**11 37 39.1**	**+0.8**
	4.0nm,1.4s						
MCMT	**McKenzie Canyo**	**37.26**	**79**	*e*P	**P**	**11 37 40.4**	**-0.1**
	2.0nm,0.5s						
EGMT	**Eagleton**	**37.41**	**73**	P	**P**	**11 37 42.8**	**+1.3**
	baz=37						
EGMT	**Eagleton**	**37.41**	**73**	*e*P	**P**	**11 37 40.7**	**-0.8**
	15nm,1.2s						
BOZ	**Bozeman (W)**	**37.54**	**77**	P	**P**	**11 37 43.1**	**+0.4**
	baz=37,SNR=5.4						
BOZ	**Bozeman (W)**	**37.54**	**77**	*e*P	**P**	**11 37 43.0**	**+0.3**
	2.3nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**37.70**	**218**	T	T	12 17 46.8	
	baz=14						
H11N3	**WAKE ISLAND Hy**	**37.71**	**218**	T	T	12 17 48.3	
	baz=14						
H11N1	**WAKE ISLAND Hy**	**37.72**	**218**	T	T	12 17 47.0	
	baz=14						
NVAR	**Mina Array Bea**	**37.72**	**91**	P	**P**	**11 37 45.5**	**+1.1**
	1.0nm,0.8s,baz=299,slow=7.4,SNR=9.5						
ELK	**Elko**	**38.16**	**86**	*e*P	**P**	**11 37 49.2**	**+1.1**
	2.8nm,0.9s						
TPH	**Tonopah**	**38.60**	**91**	*e*P	**P**	**11 37 52.1**	**+0.3**
	3.2nm,1.0s						
LKWY	**Lake**	**38.86**	**78**	*e*P	**P**	**11 37 53.9**	**-0.1**
	6.1nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**38.90**	**218**	T	T	12 19 17.2	
	baz=17						
H11S2	**WAKE ISLAND Hy**	**38.91**	**218**	T	T	12 19 16.4	
	baz=17						
H11S3	**WAKE ISLAND Hy**	**38.91**	**218**	T	T	12 19 18.5	
	baz=17						
IMW	**Indian Meadow**	**38.91**	**79**	*e*P	**P**	**11 37 55.2**	**+0.7**
	1.4nm,0.7s						
VES	**Vestal, Richgr**	**38.93**	**95**	P	**P**	**11 37 55.3**	**+1.0**
	baz=39						
PKM	**Peak Mountain**	**39.12**	**97**	P	**P**	**11 37 58.7**	**+2.5**
	baz=39						
GRAC	**Grapevine Rang**	**39.21**	**92**	P	**P**	**11 37 58.3**	**+1.6**
	baz=39						
RLMT	**Red Lodge**	**39.22**	**76**	P	**P**	**11 37 57.8**	**+0.8**
	baz=39						
RLMT	**Red Lodge**	**39.22**	**76**	*e*P	**P**	**11 37 56.8**	**-0.1**
	5.5nm,1.0s						
BGU	**Big Grassy Mou**	**39.39**	**84**	*e*P	**P**	**11 37 59.1**	**+0.8**
	3.7nm,1.1s						
ISA	**Isabella**	**39.42**	**95**	P	**P**	**11 37 59.7**	**+1.2**
	baz=39						
R11A	**Troy Canyon, C**	**39.43**	**89**	P	**P**	**11 37 59.3**	**+0.6**
	baz=39,SNR=13						
R11A	**Troy Canyon, C**	**39.43**	**89**	*e*P	**P**	**11 37 59.1**	**+0.4**
	4.0nm,0.9s						
H19A	**Powell**	**39.64**	**77**	P	**P**	**11 38 01.4**	**+1.1**
	baz=40						
MPMC	**Manual Prospec**	**39.75**	**94**	P	**P**	**11 38 02.7**	**+1.3**
	baz=40						
G20A	**Bridger**	**39.79**	**75**	P	**P**	**11 38 02.1**	**+0.5**
	baz=40						
FURC	**Furnace Creek,**	**39.86**	**93**	P	**P**	**11 38 03.7**	**+1.6**
	baz=40						
TPNV	**Topaah Spring**	**39.92**	**92**	P	**P**	**11 38 03.9**	**+1.1**
	baz=40						
DUG	**Dugway**	**39.96**	**85**	P	**P**	**11 38 04.2**	**+1.1**
	baz=40,SNR=9.2						
DUG	**Dugway**	**39.96**	**85**	*e*P	**P**	**11 38 04.2**	**+1.1**
	11nm,1.3s						
I19A	**Meeteetse**	**39.99**	**78**	P	**P**	**11 38 03.6**	**+0.3**
	baz=40						
LAO	**LASA Array**	**40.15**	**72**	P	**P**	**11 38 05.9**	**+1.4**
	baz=40						
EDW2	**Edwards Air Fo**	**40.23**	**95**	P	**P**	**11 38 07.1**	**+1.8**
	baz=40						
BW06	**Boulder Array**	**40.39**	**79**	*e*P	**P**	**11 38 05.9**	**-0.8**
	2.3nm,0.7s						
PDAR	**Pinedale Array**	**40.39**	**79**	P	**P**	**11 38 05.6**	**-1.1**
	2.4nm,0.6s,baz=315,slow=4.9,SNR=25						
J19A	**Crowheart**	**40.40**	**79**	P	**P**	**11 38 07.5**	**+0.8**
	baz=40						
NLU	**North Lily Min**	**40.56**	**85**	*e*P	**P**	**11 38 08.7**	**+0.6**
	3.7nm,1.0s						
GSC	**Goldstone**	**40.67**	**94**	P	**P**	**11 38 09.7**	**+0.8**
	baz=40,SNR=5.8						
GSC	**Goldstone**	**40.67**	**94**	*e*P	**P**	**11 38 09.8**	**+0.8**
	4.2nm,1.0s						
H21A	**Big Horn, Sher**	**40.81**	**76**	P	**P**	**11 38 11.0**	**+0.9**
	baz=41						
SHPR	**Sheep Range**	**40.87**	**91**	*e*P	**P**	**11 38 10.9**	**+0.2**
	2.5nm,1.1s						
G22A	**Birney**	**40.92**	**74**	P	**P**	**11 38 11.1**	**+0.2**
	baz=41						
J20A	**Shoshoni**	**40.92**	**78**	P	**P**	**11 38 11.7**	**+0.7**
	baz=41						
B25A	**Knox Farm, Ray**	**41.06**	**69**	P	**P**	**11 38 13.3**	**+1.3**
	baz=41						
I21A	**Big Trails, Te**	**41.13**	**77**	P	**P**	**11 38 13.1**	**+0.4**
	baz=41						
F23A	**Volborg**	**41.16**	**73**	P	**P**	**11 38 13.4**	**+0.6**
	baz=41						
HEC	**Hector,Ludlow**	**41.27**	**94**	P	**P**	**11 38 15.5**	**+1.6**
	baz=41						
CCUT	**Cedar City**	**41.29**	**89**	*e*P	**P**	**11 38 14.9**	**+0.8**
	2.3nm,1.0s						
BBRC	**Big Bear Solar**	**41.30**	**95**	P	**P**	**11 38 15.4**	**+1.1**
	baz=41						
J21A	**Lysite**	**41.31**	**77**	P	**P**	**11 38 14.5**	**+0.3**
	baz=41						
E24A	**Baker**	**41.33**	**71**	P	**P**	**11 38 15.2**	**+1.0**
	baz=41						
MSU	**Marysvale**	**41.40**	**86**	*e*P	**P**	**11 38 15.2**	**+0.1**
	1.5nm,0.7s						
G23A	**Biddle**	**41.46**	**74**	P	**P**	**11 38 15.8**	**+0.5**
	baz=41						
MURC	**Murrieta**	**41.59**	**96**	P	**P**	**11 38 18.3**	**+1.9**
	baz=41						
F24A	**Ekalaka**	**41.65**	**72**	P	**P**	**11 38 17.6**	**+0.7**
	baz=42						
GMRC	**Granite Mounta**	**41.72**	**94**	P	**P**	**11 38 18.8**	**+1.2**
	baz=42						
J22A	**Midwest**	**41.84**	**77**	P	**P**	**11 38 18.6**	**0.0**
	baz=42,SNR=6.0						
LDFC	**Landfair**	**41.85**	**93**	*e*P	**P**	**11 38 18.5**	**-0.1**
	11nm,1.1s						
G24A	**Alzada**	**41.95**	**73**	P	**P**	**11 38 19.9**	**+0.5**
	baz=42						
PFO	**Pinyon Flat Ob**	**42.03**	**95**	P	**P**	**11 38 20.4**	**+0.2**
	2.3nm,0.8s,baz=100,slow=3.2,SNR=3.7						
BELC	**Belle Mtn. Jos**	**42.04**	**95**	P	**P**	**11 38 20.8**	**+0.6**
	baz=42						
K22A	**Casper**	**42.26**	**78**	P	**P**	**11 38 22.2**	**+0.2**
	baz=42						
IRM	**Iron Mountain**	**42.45**	**94**	P	**P**	**11 38 24.6**	**+1.2**
	baz=42						
MONP	**Monument Peak**	**42.55**	**96**	P	**P**	**11 38 25.7**	**+1.2**
	baz=42						
O20A	**White River Ci**	**42.76**	**82**	P	**P**	**11 38 26.1**	**0.0**
	baz=43,SNR=6.4						
O20A	**White River Ci**	**42.76**	**82**	*e*P	**P**	**11 38 25.8**	**-0.3**
	7.7nm,0.7s						
H25A	**Fruitdale**	**42.83**	**73**	P	**P**	**11 38 27.2**	**+0.6**
	baz=43						
A29A	**Manning Farm,**	**42.91**	**66**	P	**P**	**11 38 27.8**	**+0.7**
	baz=43						
PDMCI	**Parker Dam,Lak**	**42.96**	**93**	P	**P**	**11 38 28.6**	**+1.1**
	baz=43						
G27A	**Dupree**	**43.36**	**72**	P	**P**	**11 38 31.3**	**+0.5**
	baz=43						
PV04	**Paradox Valley**	**43.45**	**84**	*e*P	**P**	**11 38 31.8**	**+0.1**
N23A	**Red Feather La**	**43.67**	**79**	P	**P**	**11 38 33.8**	**+0.3**
	baz=44						
PV01	**Paradox Valley**	**43.82**	**84**	*e*P	**P**	**11 38 34.5**	**-0.2**
	320nm,0.7s						
WUAZ	**Wupatki**	**43.83**	**89**	P	**P**	**11 38 35.8**	**+1.0**
	baz=44,SNR=7.8						
WUAZ	**Wupatki**	**43.83**	**89**	*e*P	**P**	**11 38 35.7**	**+1.0**
	7.1nm,0.9s						
ULM	**Lac du Bonnet**	**44.03**	**62**	LR	LR	11 59 04.6	
	comp=Z,2μm,18.1s,baz=316,slow=39						
D30A	**Buchanan**	**44.19**	**68**	P	**P**	**11 38 37.4**	**+0.1**
	baz=44						
MVCO	**Mesa Verde**	**44.46**	**85**	P	**P**	**11 38 40.0**	**+0.1**
	baz=44						
ISCO	**Idaho Springs**	**44.55**	**80**	P	**P**	**11 38 40.7**	**0.0**
	baz=44						
I28A	**Midland**	**44.61**	**73**	P	**P**	**11 38 41.2**	**+0.4**
	baz=44						
H29A	**Onida**	**44.79**	**71**	P	**P**	**11 38 43.0**	**+0.8**
	baz=45						
J28A	**Allard Ranch,**	**44.92**	**73**	P	**P**	**11 38 44.0**	**+0.8**
	baz=45						
W18A	**Petrified Fore**	**45.09**	**88**	P	**P**	**11 38 45.4**	**+0.6**
	baz=45						
S22A	**4UR Ranch, Cre**	**45.12**	**83**	P	**P**	**11 38 46.1**	**+0.9**
	baz=45,SNR=5.1						
KSRS	**Korea Array**	**45.31**	**276**	P	**P**	**11 38 47.4**	**+1.1**
	0.6nm,0.6s,baz=116,slow=13,SNR=3.0						
KSAR	**Wonju Array Be**	**45.34**	**276**	P	**P**	**11 38 47.5**	**+0.9**
214A	**Organ Pipe Nat**	**45.38**	**94**	P	**P**	**11 38 48.0**	**+1.0**
	baz=45						
J29A	**Okreek**	**45.46**	**73**	P	**P**	**11 38 48.1**	**+0.6**
	baz=45						
SDCO	**Great Sand Dun**	**45.93**	**82**	P	**P**	**11 38 51.8**	**+0.2**
	baz=46,SNR=6.3						
SDCO	**Great Sand Dun**	**45.93**	**82**	*e*P	**P**	**11 38 51.5**	**-0.1**
	2.5nm,0.9s						
J30A	**Dallas**	**45.99**	**72**	P	**P**	**11 38 52.4**	**+0.7**
	baz=46						
P26A	**Davis Ranch, A**	**46.05**	**79**	P	**P**	**11 38 53.4**	**+0.9**
	baz=46,SNR=5.7

baz=52
329A Wagon Wheel Ra 52.29 86 P **P** **11 39 40.5 +0.3**
baz=52
131A Roby 52.43 84 P **P** **11 39 41.2 +0.1**
baz=52
T37A Cheneyville 18 52.65 76 P **P** **11 39 41.9 -0.8**
baz=52
TXAR Lajitas Array 52.79 89 P **P** **11 39 43.8 -0.1**
3.7nm,0.7s,baz=298,slow=5.3,SNR=46
W35A Tecumseh 52.83 79 P **P** **11 39 43.8 -0.2**
baz=53
330A Mertzon 52.84 85 P **P** **11 39 44.1 -0.1**
baz=53
ABTX Abilene, Hawle 52.91 83 P **P** **11 39 44.9 +0.3**
baz=53
429A Davenport Ranc 52.95 87 P **P** **11 39 44.9 -0.1**
baz=53
Z33A Whitaker Ranch 52.98 82 P **P** **11 39 45.3 +0.2**
baz=53
231A Bronte 52.99 84 P **P** **11 39 46.0 +0.8**
baz=53
529A Stev Forest Ra 53.11 87 P **P** **11 39 46.8 +0.6**
baz=53
Y34A Reagan Ranch, 53.12 81 P **P** **11 39 46.5 +0.3**
baz=53
430A Baggett Ranch, 53.24 86 P **P** **11 39 47.4 +0.2**
baz=53
X35A Drake 53.29 80 P **P** **11 39 47.2 -0.2**
baz=53
331A San Angelo 53.36 85 P **P** **11 39 48.2 +0.2**
baz=53
133A Hamilton Ranch 53.36 83 P **P** **11 39 47.7 -0.2**
baz=53
V37A Hulbert 53.36 77 P **P** **11 39 47.5 -0.3**
baz=53
232A Coleman 53.42 84 P **P** **11 39 48.4 -0.1**
baz=53
U38A Gravette 53.43 76 P **P** **11 39 47.6 -0.8**
baz=53
Y35A Marietta 53.59 80 P **P** **11 39 49.9 +0.3**
baz=53
530A J-C Ranch, Com 53.63 87 P **P** **11 39 49.6 -0.4**
baz=53,SNR=8.8
431A Sonora 53.69 86 P **P** **11 39 50.0 -0.4**
baz=54,SNR=6.3
W37A Quinton 53.70 78 P **P** **11 39 50.4 0.0**
baz=54
332A Millersview 53.72 84 P **P** **11 39 50.5 -0.2**
baz=54
V38A Canehill 53.81 77 P **P** **11 39 50.7 -0.5**
baz=54
134A White-Moore Ra 53.89 82 P **P** **11 39 52.0 +0.2**
baz=54
Y36A Durant 54.05 80 P **P** **11 39 53.1 +0.2**
baz=54
432A Menard 54.05 85 P **P** **11 39 53.1 +0.1**
baz=54
531A Rocksprings 54.10 86 P **P** **11 39 53.5 +0.1**
baz=54
X37A Clayton 54.11 78 P **P** **11 39 53.5 +0.1**
baz=54
333A Richland Sprin 54.22 84 P **P** **11 39 54.5 +0.2**
baz=54
W38A Poteau 54.29 77 P **P** **11 39 54.3 -0.4**
baz=54
JCT Junction City 54.32 85 P **P** **11 39 54.8 -0.3**
baz=54
JCT Junction City 54.32 85 *e*P **P** **11 39 54.4 -0.7**
3.3nm,0.7s
X38A Whitesboro 54.38 78 P **P** **11 39 55.1 -0.3**
baz=54
Z36A Blue Ridge 54.39 80 P **P** **11 39 55.8 +0.3**
baz=54
532A Rocksprings 54.51 86 P **P** **11 39 56.3 -0.1**
baz=54
433A Art 54.56 84 P **P** **11 39 56.5 -0.3**
baz=54
631A Perdido Creek 54.62 87 P **P** **11 39 56.8 -0.4**
baz=54
334A Lometa 54.67 83 P **P** **11 39 57.9 +0.4**
baz=54
WHTX Lake Whitney 54.67 82 P **P** **11 39 57.7 +0.2**
baz=54
434A Burnet 55.02 84 P **P** **11 40 00.1 +0.1**
baz=55
632A Uvalde 55.03 86 P **P** **11 40 00.3 +0.2**
baz=55
533A Kerrville 55.08 85 P **P** **11 40 00.1 -0.4**
baz=55
MIAR Mount Ida 55.21 77 P **P** **11 40 01.2 -0.2**
baz=55
732A Laxson Ranch, 55.47 87 P **P** **11 40 03.6 +0.3**
baz=55
832A Faith Ranch, C 55.79 87 P **P** **11 40 06.1 +0.4**
baz=56
833A Chaparral WMA, 56.12 87 P **P** **11 40 08.6 +0.7**
baz=56
H06N1 SOCORRO T-PHAS 56.20 104 T T 12 40 52.1
H06E1 SOCORRO T-PHAS 56.30 104 T T 12 40 57.0
933A Laredo 56.70 87 P **P** **11 40 12.5 +0.3**
baz=56
ARCES ARCESS Array B 57.56 354 PcP **PcP** **11 41 10.8 -0.1**
0.5nm,0.4s,baz=46,slow=3.9,SNR=4.8
KURK Kurchatov 62.07 318 P **P** **11 40 47.8 -1.1**
KURBB Kurchatov Arra 62.18 318 P **P** **11 40 47.8 -1.9**
0.3nm,0.3s,baz=42,slow=7.5,SNR=2.4
AKASG Malin Array Be 75.74 348 P **P** **11 42 14.1 +0.2**
0.5nm,0.4s,baz=342,slow=5.8,SNR=4.1
CMAR Chiang Mai Arr 76.49 283 P **P** **11 42 20.0 +1.3**
0.8nm,0.3s,baz=38,slow=7.2,SNR=5.4
ESDC Sonseca Array 87.11 11 P **P** **11 43 12.3 -2.1**
0.2nm,0.3s,baz=12,slow=3.6,SNR=3.4
WRA Warramunga Arr 87.19 232 P **P** **11 43 12.9 -1.8**
0.7nm,0.6s,baz=34,slow=5.7,SNR=5.1
PSI Prapat 88.78 273 P **P** **11 43 21.9 -0.9**
7.8nm,0.6s,baz=182,slow=8.0,SNR=3.7
ASAR Alice Springs 90.59 230 P **P** **11 43 30.1 -0.7**
2.0nm,1.0s,baz=29,slow=4.4,SNR=24
MATP Matopo 144.89 330 PKP **PKPbc** **11 50 04.0 -0.9**
2.0nm,0.6s,baz=296,slow=5.5,SNR=5.8
TSUM Tsumeb 146.09 348 PKPbc **PKPbc** **11 50 09.1 +0.3**
2.4nm,0.5s,baz=354,slow=6.1,SNR=8.8
LBTB Lobatse 150.07 332 PKPbc **PKPbc** **11 50 19.4 +0.2**
5.9nm,0.6s,baz=355,slow=1.5,SNR=8.9

IDC ***28*** *11:31:44.4±0.3,52.˚70N×169.˚44W,h0km,mb4.8/52, mb1 4.8/54,mb1mx4.8/69,mbtmp4.7/54,ML4.6/2,MS5.0/11, Ms1 5.1/11,ms1mx4.6/31,Error ellipse: s-maj=11.3km s-min=7.9km az=162.0*

NEIC ***28*** *11:31:46.5±0.1,52.˚67N×169.˚41W,h10km,mb5.2/199, MS5.2/148,ML5.1(AEIC),Error ellipse: s-maj=4.5km s-min=2.4km az=170.0*

MOS ***28*** *11:31:46.1±1.4,52.˚69N×169.˚43W,h20km,mb5.3/86, MS5.0/51,Error ellipse: s-maj=6.7km s-min=5.0km az=77.1*

GCMT ***28*** *11:31:46.5±0.1,52.˚58N×169.˚39W,h12km,MW5.6/128, Moment Tensor Solution. s108,c189; s128,c340; Duration: 1s6 Moment tensor: Scale 10^17^Nm; Mrr-3.17±.03; Mθθ0.96±.04; Mφφ2.21±.03; Mrθ-0.28±.10; Mθφ-1.81±.03; Mφr0.96±.10; Best double couple: M○3.48500×10^17^ NP1:φs150.00000°,δ53.00000°, λ-83.00000°. NP2:φs318.00000°,δ37.00000°, λ-100.00000°. Principal axes: T 3.6330, Plg8.0000°, Azm235.0000°; N -0.2950, Plg6.0000°, Azm326.0000°; P -3.3370, Plg80.0000°, Azm93.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISCJB ***28*** *11:31:48.6±0.4,52.˚64N±0.˚03×169.˚23W±0.˚02,h39km±3km, mb5.1/311,MS5.1/183 Error ellipse: s-maj=4.6km s-min=2.1km az=4.4*

BJI ***28*** *11:31:52.6,53.˚36N×170.˚36W,h30km,mb4.8/49, mB5.2/44,Ms5.5/55,Ms7 5.2/53*

SZGRF ***28*** *11:31:56.2,53.˚77N×169.˚46W,h33km,mb4.9,MS4.9,Fox Islands, Aleutian Islands, United States*

ISC 28 11:31:48.3±0.4,**52.˚68N**±0.˚04×**169.˚42W**±0.˚03,**h20**km±3km, **h20**km:**pP-P,n1199,**σ1§**56**/1183,**mb5.2**/315,**MS5.1**/186, **17C-19D,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.46**	**49**	P	**Pb**	**11 31 55.4**	**-2.2**
NIKH				S	**Sb**	**11 32 02.6**	**-1.3**
OKCF	**Okmok Cone F**	**1.06**	**47**	P	**Pb**	**11 32 06.5**	**-1.4**
OKCE	**Okmok Cone E**	**1.07**	**45**	P	**Pb**	**11 32 07.2**	**-0.9**
OKAK	**Okmok**	**1.11**	**35**	P	Pn	11 32 04.3	-4.3
OKFG	**Magazine Ridge**	**1.17**	**50**	P	**Pn**	**11 32 08.2**	**-1.3**
OKFG				S	**Sn**	**11 32 25.9**	**+1.1**
MGOD	**Makushin Gods**	**1.90**	**53**	P	**Pn**	**11 32 18.4**	**-1.1**
MSW	**Makushin Switc**	**2.01**	**51**	P	**Pn**	**11 32 20.6**	**-0.5**
UNV	**Unalaska Valle**	**2.11**	**55**	P	**Pn**	**11 32 21.4**	**-0.9**
UNV				S	**Sn**	**11 32 47.5**	**-0.5**
AKRB	**Akutan Reef Bi**	**2.48**	**53**	P	**Pn**	**11 32 27.0**	**-0.5**
AKRB				S	**Sn**	**11 32 57.6**	**+0.5**
WESP	**Westdahl Peak**	**3.34**	**55**	P	**Pn**	**11 32 39.4**	**+0.1**
SSBA	**Shishaldin**	**3.78**	**54**	P	**Pn**	**11 32 45.2**	**-0.2**
GSTR	**Great Sitkin T**	**4.11**	**264**	P	**Pn**	**11 32 52.2**	**+2.3**
GSMY	**Great Sitkin M**	**4.12**	**264**	P	**Pn**	**11 32 52.4**	**+2.5**
GSTD	**Great Sitkin T**	**4.17**	**264**	P	**Pn**	**11 32 52.1**	**+1.4**
ADAG	**Mount Adagdak**	**4.46**	**264**	P	**Pn**	**11 32 56.5**	**+1.9**
SPIA	**Saint Paul Isl**	**4.54**	**354**	P	**Pn**	**11 32 58.1**	**+2.4**
KIKV	**Kanaga Island**	**4.83**	**264**	P	**Pn**	**11 33 01.4**	**+1.7**
SMY	**Shemya**	**10.01**	**277**	*e*P	**Pn**	**11 34 10.2**	**-0.5**
SMY				*e*S			
	comp=Z,562nm,1.3s			pmax	pmax		
SMY	**Shemya**	**10.01**	**277**	*e*Pn	**Pn**	**11 34 10.2**	**-0.5**
	comp=Z,562nm,1.3s						
OHAK	**Old Harbor**	**10.33**	**57**	*e*Pn	**Pn**	**11 34 13.8**	**-1.2**
KDAK	**Kodiak Island**	**10.88**	**55**	Pn	**Pn**	**11 34 22.2**	**-0.4**
	comp=Z,639nm,0.8s,SNR=8.3						
KDAK	**Kodiak Island**	**10.88**	**55**	Pn	**Pn**	**11 34 20.9**	**-1.7**
	comp=Z,5.9nm,0.3s,baz=221,slow=8.0,SNR=14						
KDAK				Sn	**Sn**	**11 36 20.2**	**-3.3**
	comp=Z,0.5nm,0.3s,baz=227,slow=19,SNR=2.0						
KDAK	**Kodiak Island**	**10.88**	**55**	P	**Pn**	**11 34 20.9**	**-1.7**
KDAK						11 36 20.2	
KDAK				pmax	pmax		
	comp=Z,6.0nm,0.3s						
KDAK				smax	smax		
	comp=N,1.0nm,0.3s						
SVW2	**Sparrevohn**	**11.31**	**36**	*e*Pn	Pn	11 34 32.4	+3.8
RSO	**Redoubt South**	**12.03**	**43**	*e*Pn	**Pn**	**11 34 40.4**	**+1.9**
	comp=N,396nm,1.0s						
BRLK	**Bradley Lake**	**12.49**	**48**	*e*Pn	**Pn**	**11 34 46.5**	**+1.9**
TNA	**Tin City**	**12.95**	**3**	*e*Pn	**Pn**	**11 34 53.1**	**+2.3**
	comp=N,120nm,1.1s						
TNA				*e*Sn	Sn	11 37 25.5	+11
SEW	**Seward**	**13.29**	**48**	*e*Pn	**Pn**	**11 34 55.4**	**-0.1**
	comp=N,120nm,0.9s						
RC01	**Rabbit Creek A**	**13.62**	**44**	*e*Pn	**Pn**	**11 35 00.6**	**+0.7**
	comp=N,32nm,0.4s						
RC01				*e*Sn	**Sn**	**11 37 30.4**	**-0.1**
PMR	**Palmer**	**14.12**	**43**	*e*P	**Pn**	**11 35 07.0**	**+0.2**
PMR				*e*S			
	comp=Z,538nm,2.0s			pmax	pmax		
PMR	**Palmer**	**14.12**	**43**	*e*Pn	**Pn**	**11 35 07.0**	**+0.2**
	comp=Z,538nm,2.0s						
PMR				*e*S	**S**	**11 38 01.3**	**-2.3**
MID	**Middleton Isla**	**14.51**	**53**	*e*P	**Pn**	**11 35 10.5**	**-1.6**
MID				pmax	pmax		
	comp=Z,227nm,0.9s						
MID	**Middleton Isla**	**14.51**	**53**	*e*Pn	**Pn**	**11 35 10.5**	**-1.6**
	comp=Z,227nm,0.9s						
SML	**Sawmill**	**14.56**	**43**	*e*P	**Pn**	**11 35 13.3**	**+0.4**
SML	**Sawmill**	**14.56**	**43**	*e*Pn	**Pn**	**11 35 13.3**	**+0.4**
SML				*e*S	**S**	**11 38 14.4**	**+1.8**
EYAK	**Cordova Ski Ar**	**15.16**	**49**	*e*Pn	**Pn**	**11 35 20.4**	**-0.5**
DIV	**Divide**	**15.37**	**47**	*e*Pn	**Pn**	**11 35 22.3**	**-1.4**
	comp=Z,87nm,1.1s						
DIV				*e*S	**S**	**11 38 30.6**	**+1.4**
MCK	**McKinley**	**15.38**	**36**	*e*P	**Pn**	**11 35 24.0**	**+0.2**
MCK				pmax	pmax		
	comp=Z,354nm,1.6s						
MCK	**McKinley**	**15.38**	**36**	*e*Pn	**Pn**	**11 35 24.0**	**+0.2**
	comp=Z,354nm,1.6s						
BWN	**Browne**	**15.46**	**34**	*e*Pn	**Pn**	**11 35 26.3**	**+1.5**
	comp=Z,1μm,1.8s						
IM04	**Indian Mountai**	**15.47**	**24**	*e*Pn	**Pn**	**11 35 26.4**	**+1.5**
DHY	**Denali Highway**	**15.59**	**39**	*e*P	**P**	**11 35 29.4**	**-1.4**
	comp=Z,100nm,1.2s						
BMRM	**Bremner River**	**15.83**	**49**	*e*Pn	**Pn**	**11 35 29.0**	**-0.7**
	comp=Z,251nm,1.1s						
HARP	**HAARP**	**16.16**	**43**	*e*Pn	**Pn**	**11 35 34.4**	**+0.5**
	comp=Z,193nm,1.0s						
PAX	**Paxson**	**16.29**	**41**	*e*P	**Pn**	**11 35 36.6**	**+1.0**
PAX				pmax	pmax		
	comp=Z,63nm,1.0s						
PAX	**Paxson**	**16.29**	**41**	*e*Pn	**Pn**	**11 35 36.6**	**+1.0**
	comp=Z,63nm,1.0s						
COLA	**College**	**16.45**	**34**	*i* P	**Pn**	**11 35 36.7**	**-0.8**
COLA	**College**	**16.45**	**34**	*e*Pn	**Pn**	**11 35 36.5**	**-1.0**
	comp=Z,63nm,0.8s						
HDA	**Harding Lake**	**16.48**	**36**	*e*Pn	**Pn**	**11 35 38.3**	**+0.4**
	comp=Z,74nm,1.0s						
ILAR	**Eielson Array**	**16.72**	**35**	Pn	**Pn**	**11 35 38.9**	**-2.0**
	comp=Z,1.7nm,0.3s,baz=229,slow=11,SNR=22						
ILAR				PcP	**PcP**	**11 40 28.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=283,slow=3.1,SNR=4.7						
ILAR				LR	LR	11 42 16.3	
	comp=Z,9μm,20.6s,baz=231,slow=38						
MENT	**Mentasta**	**16.99**	**43**	*e*Pn	**Pn**	**11 35 45.3**	**+0.9**
COLD	**Coldfoot**	**17.35**	**25**	*e*P	**P**	**11 35 50.8**	**+0.7**
	comp=Z,157nm,1.2s						
PET	**Petropavlovsk**	**19.20**	**284**	*c* iP	**P**	**11 36 08.4**	**-2.2**
PET				pmax	pmax		
	comp=Z,2μm,12.5s						
PET				pmax	pmax		
	comp=Z,2μm,15.7s						
PET				pmax	pmax		
	comp=Z,54nm,0.9s						
PET				MLR	MLR		
	comp=Z,4μm,21.0s						
PET				MLR	MLR		
	comp=Z,3μm,18.0s						
PET	**Petropavlovsk**	**19.20**	**284**	*e*P	**Pn**	**11 36 12.2**	**+0.6**
	comp=Z,60nm,1.1s						
BILL	**Bilibino**	**19.31**	**332**	*e*P	**Pn**	**11 36 15.9**	**+3.1**
BILL				pmax	pmax		
	comp=Z,273nm,1.3s						
BILL	**Bilibino**	**19.31**	**332**	*e*Pn	**Pn**	**11 36 15.9**	**+3.1**
	comp=Z,273nm,1.3s						
PETK	**Petropavlovsk-**	**19.75**	**284**	P	**P**	**11 36 16.5**	**-0.1**
	comp=Z,3.1nm,0.3s,baz=96,slow=13,SNR=17						
PETK				LR	LR	11 42 55.0	
	comp=Z,3μm,22.0s,baz=92,slow=34						
PETK	**Petropavlovsk-**	**19.75**	**284**	P	**P**	**11 36 16.5**	**-0.1**
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,3μm,22.0s						
SKAG	**Skagway**	**20.03**	**57**	*e*P	**P**	**11 36 19.8**	**+0.2**
	comp=Z,228nm,0.7s						
BESE	**Bessie Mountai**	**20.22**	**59**	*e*P	**P**	**11 36 22.2**	**+0.5**
	comp=Z,214nm,1.6s						
CRAG	**Craig**	**21.33**	**68**	*e*P	**P**	**11 36 34.6**	**+1.1**
	comp=Z,65nm,1.1s						
SKR	**Severo-Kuril's**	**21.34**	**278**	*e*P	P	11 36 26.0	-7.8
SKR				*e*		11 37 04.0	
SKR				*e*S	Sn	11 40 36.0	-1.5
SKR				pmax	pmax		
	comp=E,20nm,0.7s						
SKR				pmax	pmax		
	comp=Z,30nm,0.7s						
SKR				pmax	pmax		
	comp=N,600nm,14.0s						
SKR				pmax	pmax		
	comp=E,1μm,14.0s						
SKR				pmax	pmax		
	comp=Z,1μm,14.0s						
SKR				MLR	MLR		
	comp=N,3μm,18.0s						
SKR				MLR	MLR		
	comp=E,3μm,18.0s						
SKR				MLR	MLR		
	comp=Z,2μm,18.0s						
WRAK	**Wrangell Islan**	**21.65**	**65**	*e*P	**P**	**11 36 39.1**	**+2.1**
	comp=Z,81nm,1.0s						
WRAK				LR	LR		
	comp=Z,5μm,21.0s						
H02N1	**VAN INLET T-PH**	**22.07**	**74**	P	**P**	**11 36 40.8**	**-0.9**
H02N1				T	T	11 59 36.1	
	SNR=23						
H02S1	**DAWSON INLET T**	**22.12**	**74**	P	**P**	**11 36 39.8**	**-2.3**
H02S1				T	T	11 59 36.8	
SEY	**Seymchan**	**22.44**	**312**	P	**P**	**11 36 45.0**	**-0.4**
	comp=Z,18nm,0.8s,baz=84,slow=8.0,SNR=31						
SEY				PcP	**PcP**	**11 40 40.5**	**+1.4**
	comp=Z,5.6nm,0.6s,baz=82,slow=4.3,SNR=8.8						
SEY				ScP	**ScP**	**11 44 15.9**	**+0.7**
	comp=Z,6.5nm,0.7s,baz=113,slow=4.4,SNR=8.5						
SEY	**Seymchan**	**22.44**	**312**	*i* P	**P**	**11 36 45.8**	**+0.4**
DLBC	**Dease Lake**	**22.76**	**60**	P	**P**	**11 36 49.5**	**+0.6**
	comp=Z,60nm,1.0s,baz=269,slow=9.5,SNR=25						
DLBC				LR	LR	11 45 29.8	
	comp=Z,3μm,20.3s,baz=286,slow=36						
DLBC	**Dease Lake**	**22.76**	**60**	*e*P	**P**	**11 36 49.6**	**+0.6**
DLBC				*e*S	**S**	**11 41 02.3**	**+5.8**
MA2	**Magadan**	**22.95**	**303**	*i* P	**P**	**11 36 52.7**	**+1.9**
INK	**Inuvik**	**23.11**	**34**	P	**P**	**11 36 50.0**	**-2.4**
	comp=Z,16nm,0.5s,baz=246,slow=12,SNR=22						
INK				PcP	**PcP**	**11 40 41.6**	**+1.2**
	comp=Z,4.4nm,0.6s,baz=281,slow=1.1,SNR=4.0						
INK				LR	LR	11 46 27.7	
	comp=Z,8μm,20.0s,baz=242,slow=38						
INK	**Inuvik**	**23.11**	**34**	P	**P**	**11 36 50.0**	**-2.4**
INK						11 40 41.6	
INK				pmax	pmax		
	comp=Z,16nm,0.5s						
INK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
INK				MLR	MLR		
	comp=Z,8μm,20.0s						
BBB	**Bella Bella**	**24.95**	**74**	P	**P**	**11 37 07.8**	**-2.0**
	comp=Z,12nm,0.8s,baz=326,slow=11,SNR=2.6						
BBB				LR	LR	11 44 37.0	
	comp=Z,2μm,21.1s,baz=290,slow=31						
MIDW	**Midway**	**25.14**	**197**	PFAKE		11 37 20.0	+8.3
MIDW				LR	LR		
	comp=Z,4μm,21.0s						
KUR	**Kuril'sk**	**28.66**	**272**	*d* iP	**P**	**11 37 44.0**	**+0.7**
KUR				*e*		11 38 30.3	
KUR				*i* S	**S**	**11 42 31.8**	**+0.9**
KUR				pmax	pmax		
	comp=N,64nm,1.6s						
KUR				pmax	pmax		
	comp=E,41nm,1.6s						
KUR				pmax	pmax		
	comp=Z,110nm,1.6s						
KUR				MLR	MLR		
	comp=N,2μm,16.0s						
KUR				MLR	MLR		
	comp=E,994nm,16.0s						
NLWA	**Neilton Lookou**	**29.34**	**82**	*e*P	**P**	**11 37 49.4**	**0.0**
	comp=E,83nm,1.7s						
NLWA				LR	LR		
	comp=Z,4μm,20.0s						
NKL	**Nikolayevsk**	**29.60**	**291**	*e*P	P	11 37 56.0	+4.4
NKL				*e*		11 38 50.0	
NKL				*e*		11 42 45.0	
NKL				pmax	pmax		
	comp=Z,400nm,5.0s						
NKL				MLR	MLR		
	comp=N,1μm,19.0s						
NKL				MLR	MLR		
	comp=E,4μm,19.0s						
NKL				MLR	MLR		
	comp=Z,6μm,19.0s						
E03A	**Lebam**	**29.92**	**83**	*e*P	**P**	**11 37 56.9**	**+2.3**
	comp=Z,54nm,0.9s						
YKA	**Yellowknife Ar**	**30.07**	**49**	P	**P**	**11 37 53.9**	**-1.7**
	comp=Z,2.0nm,0.4s,baz=79,slow=7.2,SNR=25						
YKA				PcP	**PcP**	**11 40 56.2**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=287,slow=3.2,SNR=5.3						
YKA	**Yellowknife Ar**	**30.07**	**49**	P	**P**	**11 37 53.9**	**-1.7**
YKA						11 40 56.2	
YKA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
B06A	**Marblemount**	**30.26**	**78**	*e*P	**P**	**11 37 58.9**	**+1.4**
	comp=Z,13nm,0.8s						
F04D	**Rainier, OR**	**30.48**	**84**	P	**P**	**11 37 59.5**	**0.0**
	baz=30						
YUK	**Yuzh-Kuril'sk**	**30.51**	**272**	*d* iP	**P**	**11 37 57.3**	**-2.4**
YUK				*i* S	**S**	**11 42 59.8**	**-0.1**
YUK				*i* SS	**SnSn**	**11 44 34.2**	**-2.2**
YUK				pmax	pmax		
	comp=N,99nm,1.5s						
YUK				pmax	pmax		
	comp=Z,107nm,1.5s						
YUK				pmax	pmax		
	comp=E,63nm,0.7s						
YUK				pmax	pmax		
	comp=Z,164nm,1.7s						
D05A	**Enumclaw**	**30.57**	**81**	*e*P	**P**	**11 38 01.6**	**+1.4**
	comp=Z,53nm,1.0s						
G03D	**McMinnville, O**	**30.77**	**85**	P	**P**	**11 38 02.7**	**+0.7**
	baz=31						
TDL	**Tradedollar La**	**30.83**	**83**	P	**P**	**11 38 03.8**	**+1.1**
LVP	**Lakeview Peak**	**30.86**	**83**	P	**P**	**11 38 05.8**	**+2.9**
LON	**Longmire**	**30.88**	**82**	*e*P	**P**	**11 38 04.4**	**+1.3**
LON				pmax	pmax		
	comp=Z,15nm,0.9s						
LON	**Longmire**	**30.88**	**82**	*e*P	**P**	**11 38 04.4**	**+1.3**
	comp=Z,14nm,0.9s						
YSS	**Yuzh-Sakhalins**	**30.91**	**279**	PFAKE		11 38 20.0	+17
YSS				LR	LR		
	comp=Z,2μm,21.0s						
COR	**Corvallis**	**31.07**	**86**	*e*P	**P**	**11 38 05.7**	**+1.0**
COR				pmax	pmax		
	comp=Z,61nm,0.9s						
COR	**Corvallis**	**31.07**	**86**	*e*P	**P**	**11 38 05.7**	**+1.0**
	comp=Z,61nm,0.9s						
NAC	**Naches**	**31.48**	**81**	P	**P**	**11 38 09.3**	**+0.9**
I03D	**Drain, OR**	**31.52**	**88**	P	**P**	**11 38 09.7**	**+1.1**
	baz=31						
B08A	**Colville Reser**	**31.61**	**77**	*e*P	**P**	**11 38 09.7**	**+0.2**
	comp=Z,33nm,0.8s						
VFP	**Flag Point**	**31.80**	**84**	P	**P**	**11 38 12.3**	**+0.9**
G05D	**Wamic, OR**	**31.93**	**84**	P	**P**	**11 38 12.8**	**+0.5**
	baz=32						
I04A	**Tendick Farm,**	**32.04**	**87**	P	**P**	**11 38 13.7**	**+0.4**
	baz=32,SNR=16						
L02D	**Cave Junction,**	**32.22**	**90**	P	**P**	**11 38 15.8**	**+0.9**
	baz=32						
I05D	**Terrebonne, OR**	**32.39**	**85**	P	**P**	**11 38 16.8**	**+0.4**
	baz=32,SNR=21						
VTHM	**Trough**	**32.42**	**83**	P	**P**	**11 38 17.4**	**+0.7**
HAWA	**Hanford**	**32.43**	**81**	*e*P	**P**	**11 38 16.5**	**-0.1**
	comp=Z,39nm,0.9s						
HAWA				LR	LR		
	comp=Z,3μm,20.0s						
ASAJ	**Asahikawa**	**32.45**	**274**	P	**P**	**11 38 17.0**	**+0.2**
	baz=53,slow=10						
ASAJ				LR	LR	11 51 36.9	
	comp=Z,3μm,19.9s,baz=80,slow=37						
ASAJ	**Asahikawa**	**32.45**	**274**	P	**P**	**11 38 17.0**	**+0.2**
ASAJ				MLR	MLR		
	comp=Z,3μm,19.9s						
D08A	**Wolliman Farm,**	**32.47**	**79**	*e*P	**P**	**11 38 17.1**	**+0.1**
	comp=Z,22nm,0.9s						
J04D	**Umpqua Nationa**	**32.52**	**88**	P	**P**	**11 38 18.2**	**+0.5**
	baz=32						
KHMM	**Horse Mountain**	**32.90**	**92**	*e*P	**P**	**11 38 23.3**	**+2.3**
	comp=Z,28nm,1.0s						
YAK	**Yakutsk**	**32.95**	**311**	*e*P	**P**	**11 38 21.5**	**+0.6**
YAK				*e**PP	pP	11 38 31.0	+3.9
YAK				*e*		11 39 29.1	
YAK				*e*		11 41 05.1	
YAK				*e*S	**S**	**11 43 32.9**	**-4.6**
YAK				*e*SS	**SnSn**	**11 45 33.4**	**-1.7**
YAK				*e*SSS	SSS	11 46 03.0	
YAK				*e*		11 48 44.4	
YAK				pmax	pmax		
	comp=E,9.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,28nm,0.9s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,19nm,0.9s						
YAK				pmax	pmax		
	comp=E,15nm,1.1s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.1s						
YAK				smax	smax		
	comp=N,98nm,3.5s						
YAK				smax	smax		
	comp=E,131nm,4.1s						
YAK				MLR	MLR		
	comp=Z,3μm,18.0s						
YAK				MLR	MLR		
	comp=N,2μm,19.0s						
YAK				MLR	MLR		
	comp=E,2μm,17.0s						

YAK	**Yakutsk**	**32.95**	**311**	*e*P		**P**		**11 38 22.1**	**+1.1**
	comp=E,32nm,0.8s								
YAK				*e*PcP		**PcP**		**11 41 05.3**	**+0.7**
YAK				LR		LR			
	comp=Z,3µm,20.0s								
NEW	**Newport**	**32.97**	**76**	P		**P**		**11 38 20.9**	**-0.4**
	comp=Z,31nm,0.7s,baz=299,slow=7.0,SNR=46								
NEW				PcP		**PcP**		**11 41 06.6**	**+1.6**
	comp=Z,4.0nm,0.7s,baz=279,slow=5.2,SNR=4.3								
NEW	**Newport**	**32.97**	**76**	*e*P		**P**		**11 38 21.0**	**-0.4**
NEW								11 41 06.6	
NEW				pmax		pmax			
	comp=Z,36nm,0.8s								
NEW				MLR		MLR			
	comp=Z,2µm,19.0s								
NEW	**Newport**	**32.97**	**76**	P		**P**		**11 38 21.2**	**-0.2**
	baz=33,SNR=38								
NEW	**Newport**	**32.97**	**76**	*e*P		**P**		**11 38 21.0**	**-0.4**
	comp=Z,36nm,0.8s								
NEW				PcP		**PcP**		**11 41 06.6**	**+1.6**
NEW				LR		LR			
	comp=Z,2µm,19.0s								
YBH	**Yreka Blue Hor**	**33.01**	**90**	P		**P**		**11 38 23.6**	**+1.7**
	comp=Z,9.9nm,0.9s,baz=320,slow=7.3,SNR=13								
YBH				LR		LR		11 48 33.3	
	comp=Z,4µm,20.4s,baz=300,slow=30								
J05D	**Fort Rock, OR**	**33.03**	**87**	P		**P**		**11 38 23.1**	**+1.1**
	baz=33,SNR=21								
EDM	**Edmonton**	**33.05**	**66**	*e*P		**P**		**11 38 21.5**	**-0.5**
EDM	**Edmonton**	**33.05**	**66**	*e*P		**P**		**11 38 21.5**	**-0.5**
K04D	**Chiloquin, OR**	**33.08**	**88**	P		**P**		**11 38 22.3**	**-0.3**
	baz=33								
M02C	**Callahan**	**33.12**	**91**	P		**P**		**11 38 23.7**	**+0.9**
	baz=33								
ERM	**Erimo**	**33.28**	**271**	‖ *i*P		P		11 38 27.7	+3.6
ERM				pmax		pmax			
	comp=Z,43nm,1.4s								
ERM	**Erimo**	**33.28**	**271**	PFAKE				11 38 40.0	+16
ERM				LR		LR			
	comp=Z,2µm,19.0s								
KMRM	**Mail Ridge**	**33.30**	**93**	*e*P		P		11 38 28.0	+3.6
	comp=Z,364nm,2.4s								
G08A	**Pilot Rock**	**33.33**	**82**	*e*P		**P**		**11 38 24.8**	**+0.1**
	comp=Z,23nm,1.2s								
N02D	**Trinity Center**	**33.46**	**91**	P		**P**		**11 38 27.0**	**+1.2**
	baz=33								
M04C	**Macdoel**	**33.52**	**90**	P		**P**		**11 38 27.1**	**+0.8**
	baz=33								
K05A	**Summer Lake**	**33.55**	**87**	*e*P		**P**		**11 38 28.2**	**+1.5**
	comp=Z,79nm,1.2s								
KIPM	**Iron Peak**	**33.69**	**94**	*e*P		**P**		**11 38 27.6**	**-0.3**
	comp=Z,37nm,1.3s								
KCPM	**Cahto Peak**	**33.71**	**94**	*e*P		**P**		**11 38 29.1**	**+1.2**
	comp=Z,21nm,1.2s								
WDC	**Whiskeytown Da**	**33.80**	**92**	*e*P		**P**		**11 38 30.0**	**+1.4**
WDC				pmax		pmax			
	comp=Z,21nm,1.1s								
WDC	**Whiskeytown Da**	**33.80**	**92**	*e*P		**P**		**11 38 30.0**	**+1.4**
	comp=Z,21nm,1.1s								
MOD	**Modoc**	**34.38**	**88**	*e*P		**P**		**11 38 34.8**	**+0.9**
	comp=Z,47nm,1.1s								
WALA	**Waterton Lakes**	**34.48**	**73**	*e*P		**P**		**11 38 34.3**	**-0.3**
	comp=Z,39nm,1.2s								
WALA				*e*PcP		**PcP**		**11 41 11.2**	**+1.9**
BSMT	**Bassoo Peak**	**34.54**	**76**	*e*P		**P**		**11 38 35.1**	**-0.2**
	comp=Z,26nm,0.7s								
BSMT				*e*PcP		**PcP**		**11 41 10.6**	**+0.9**
POHA	**Pohakuloa**	**34.59**	**157**	PFAKE				11 38 50.0	+14
POHA				LR		LR			
	comp=Z,952nm,22.0s								
BLMT	**Blacktail Moun**	**34.72**	**75**	*e*P		**P**		**11 38 36.6**	**-0.2**
HABR	**Khabarovsk**	**34.77**	**286**	*ce*P		**P**		**11 38 36.7**	**-0.2**
HABR				*e**PP		**pP**		**11 38 46.5**	**+3.4**
HABR								11 39 54.5	
HABR				*e*PPP		PPP		11 40 07.2	
HABR				*e*				11 41 08.7	
HABR				*e*S		**S**		**11 44 06.1**	**+0.1**
HABR				*e*SS		**SnSn**		**11 46 23.4**	**+3.8**
HABR				*e*SSS		SSS		11 46 40.3	
HABR				*e*				11 48 55.8	
HABR				pmax		pmax			
	comp=N,4.0nm,0.8s								
HABR				pmax		pmax			
	comp=E,13nm,0.8s								
HABR				pmax		pmax			
	comp=Z,13nm,0.8s								
HABR				MLR		MLR			
	comp=Z,3µm,16.0s								
JTMT	**Jette**	**34.89**	**75**	*e*P		**P**		**11 38 37.7**	**-0.5**
YBMT	**Yellow Bay**	**34.99**	**75**	*e*P		**P**		**11 38 38.7**	**-0.3**
	comp=Z,16nm,0.8s								
WVOR	**Wild Horse Val**	**35.09**	**86**	*e*P		**P**		**11 38 39.5**	**-0.4**
WVOR				pmax		pmax			
	comp=Z,50nm,0.9s								
WVOR				MLR		MLR			
	comp=Z,3µm,21.0s								
WVOR	**Wild Horse Val**	**35.09**	**86**	*e*P		**P**		**11 38 39.5**	**-0.4**
	comp=Z,50nm,0.9s								
WVOR				LR		LR			
	comp=Z,3µm,21.0s								
SWMT	**Swartz Lake**	**35.17**	**76**	*e*P		**P**		**11 38 40.1**	**-0.5**
	comp=Z,5.5nm,0.6s								
MSO	**Missoula**	**35.55**	**77**	P		**P**		**11 38 42.7**	**-1.1**
	baz=35,SNR=24								
MSO	**Missoula**	**35.55**	**77**	*e*P		**P**		**11 38 43.2**	**-0.6**
	comp=Z,48nm,1.5s								
MSO				*e*PcP		**PcP**		**11 41 14.1**	**+1.6**
SLMT	**Seeley Lake**	**35.60**	**76**	*e*P		**P**		**11 38 43.5**	**-0.9**
	comp=Z,16nm,0.7s								
SLMT				*e*PcP		**PcP**		**11 41 13.6**	**+0.9**
CHMT	**Chamberlain Mo**	**35.91**	**76**	*e*P		**P**		**11 38 46.1**	**-1.0**
	comp=Z,12nm,0.6s								
RES	**Resolute Bay**	**36.11**	**26**	P		**P**		**11 38 47.0**	**-1.1**
	comp=Z,2.3nm,0.8s,baz=236,slow=15,SNR=2.4								
RES				PcP		**PcP**		**11 41 13.4**	**0.0**
	comp=Z,6.4nm,0.8s,baz=337,slow=3.5,SNR=5.1								
RES	**Resolute Bay**	**36.11**	**26**	P		**P**		**11 38 47.0**	**-1.1**
RES								11 41 13.4	
RES				pmax		pmax			
	comp=Z,2.0nm,0.8s								
RES				pmax		pmax			
	comp=Z,6.0nm,0.8s								
MFID	**Camas Ranch**	**36.24**	**83**	*e*P		**P**		**11 38 49.7**	**-0.1**
	comp=Z,26nm,0.9s								
MFID				*e*ScP		**ScP**		**11 44 53.3**	**-6.2**
CMB	**Columbia Colle**	**36.69**	**94**	*e*P		**P**		**11 38 55.6**	**+2.0**
CMB	**Columbia Colle**	**36.69**	**94**	*e*P		**P**		**11 38 55.6**	**+2.0**
HRY	**Holter Researc**	**36.86**	**76**	*e*P		**P**		**11 38 54.5**	**-0.5**
	comp=Z,27nm,0.6s								
LRM	**Limekiln Ridge**	**36.95**	**77**	*e*P		**P**		**11 38 55.8**	**-0.2**
	comp=Z,89nm,1.0s								
HLID	**Hailey**	**37.01**	**82**	P		**P**		**11 38 55.9**	**-0.5**
	baz=37,SNR=24								
HLID	**Hailey**	**37.01**	**82**	*e*P		**P**		**11 38 56.2**	**-0.2**
	comp=Z,21nm,1.0s								
HLID				*e*ScP		**ScP**		**11 44 56.9**	**-5.6**
HLID				LR		LR			
	comp=Z,3µm,21.0s								
DLMT	**Dillon**	**37.11**	**78**	*e*P		**P**		**11 38 58.7**	**+1.5**
	comp=Z,114nm,2.5s								
DLMT				*e*PcP		**PcP**		**11 41 19.6**	**+2.4**
BMN	**Battle Mountai**	**37.12**	**88**	*e*P		**P**		**11 38 58.0**	**+0.6**
BMN				pmax		pmax			
	comp=Z,39nm,1.0s								
BMN	**Battle Mountai**	**37.12**	**88**	*e*P		**P**		**11 38 58.0**	**+0.6**
	comp=Z,39nm,1.0s								
MCMT	**McKenzie Canyo**	**37.25**	**79**	*e*P		**P**		**11 38 58.1**	**-0.4**
EGMT	**Eagleton**	**37.40**	**73**	P		**P**		**11 38 58.4**	**-1.2**
	baz=37,SNR=41								
EGMT	**Eagleton**	**37.40**	**73**	*e*P		**P**		**11 38 59.1**	**-0.5**
	comp=Z,82nm,0.9s								
EGMT				*e*PcP		**PcP**		**11 41 19.7**	**+1.7**
EGMT				LR		LR			
	comp=Z,2µm,21.0s								
BOZ	**Bozeman (W)**	**37.53**	**77**	*e*P		**P**		**11 39 00.5**	**-0.3**
BOZ				pmax		pmax			
	comp=Z,24nm,0.6s								
BOZ				MLR		MLR			
	comp=Z,1µm,19.0s								
BOZ	**Bozeman (W)**	**37.53**	**77**	P		**P**		**11 39 00.3**	**-0.5**
	baz=37,SNR=35								
BOZ	**Bozeman (W)**	**37.53**	**77**	*e*P		**P**		**11 39 00.5**	**-0.3**
	comp=Z,24nm,0.6s								
BOZ				LR		LR			
	comp=Z,1µm,19.0s								
H11N2	**WAKE ISLAND Hy**	**37.67**	**218**	T		T		12 19 02.9	
	baz=24,slow=76								
H11N3	**WAKE ISLAND Hy**	**37.68**	**218**	T		T		12 19 02.5	
	baz=24,slow=76,SNR=8400								
H11N1	**WAKE ISLAND Hy**	**37.69**	**218**	T		T		12 19 04.4	
	baz=24,slow=76,SNR=8413								
NVAR	**Mina Array Bea**	**37.70**	**91**	P		**P**		**11 39 02.6**	**+0.2**
	comp=Z,15nm,0.8s,baz=309,slow=8.8,SNR=27								
NVAR				PcP		**PcP**		**11 41 19.9**	**+0.7**
	comp=Z,4.6nm,0.7s,baz=298,slow=2.6,SNR=5.2								
MLAC	**Mammoth Lakes**	**37.89**	**93**	P		**P**		**11 39 05.2**	**+1.2**
	baz=38								
QLMT	**Earthquake Lak**	**38.09**	**78**	*e*P		**P**		**11 39 05.3**	**-0.3**
	comp=Z,1.6nm,0.6s								
QLMT				*e*PcP		**PcP**		**11 41 22.9**	**+2.5**
ELK	**Elko**	**38.14**	**86**	*e*P		**P**		**11 39 05.9**	**-0.2**
ELK				*e*				11 40 34.3	
ELK				pmax		pmax			
	comp=Z,29nm,0.8s								
ELK	**Elko**	**38.14**	**86**	*e*P		**P**		**11 39 05.9**	**-0.2**
	comp=Z,29nm,0.8s								
ELK				*e*PP		**PnPn**		**11 40 34.3**	**-0.5**
WAKE	**Wake Island**	**38.17**	**218**	PFAKE				11 39 20.0	+14
WAKE				LR		LR			
	comp=Z,5µm,21.0s								
YMR	**Madison River**	**38.46**	**78**	*e*P		**P**		**11 39 08.4**	**-0.3**
	comp=Z,40nm,0.7s								
YMR				*e*PcP		**PcP**		**11 41 24.5**	**+3.0**
RCTC	**Rector, Farmer**	**38.50**	**95**	P		**P**		**11 39 09.1**	**+0.3**
	baz=38								
TPH	**Tonopah**	**38.58**	**91**	*e*P		**P**		**11 39 09.9**	**+0.1**
TPH				*e*				11 41 22.9	
TPH				pmax		pmax			
	comp=Z,29nm,1.1s								
TPH	**Tonopah**	**38.58**	**91**	*e*P		**P**		**11 39 09.9**	**+0.1**
	comp=Z,29nm,1.1s								
TPH				*e*PcP		**PcP**		**11 41 22.9**	**+0.9**
FFC	**Flin Flon**	**38.59**	**59**	P		**P**		**11 39 08.1**	**-1.3**
	comp=Z,140nm,0.9s,SNR=6.5								
FFC	**Flin Flon**	**38.59**	**59**	*e*P		**P**		**11 39 09.3**	**-0.1**
FFC				pmax		pmax			
	comp=Z,23nm,0.9s								
FFC				MLR		MLR			
	comp=Z,4µm,20.0s								
FFC	**Flin Flon**	**38.59**	**59**	*e*P		**P**		**11 39 09.2**	**-0.1**
	comp=Z,23nm,0.9s								
FFC				LR		LR			
	comp=Z,4µm,20.0s								
YNR	**Norris Junctio**	**38.60**	**78**	*e*P		**P**		**11 39 11.6**	**+1.6**
	comp=Z,40nm,0.8s								
GCMT	**Greycliff**	**38.62**	**76**	*e*P		**P**		**11 39 09.6**	**-0.3**
	comp=Z,12nm,0.7s								
TIN	**Tinemaha**	**38.63**	**93**	P		**P**		**11 39 10.7**	**+0.6**
	baz=38								
YFT	**Old Faithful**	**38.66**	**78**	*e*P		**P**		**11 39 12.3**	**+1.9**
	comp=Z,19nm,0.6s								
YFT				*e*PcP		**PcP**		**11 41 24.8**	**+2.6**
SMMC	**Simmler**	**38.70**	**97**	P		**P**		**11 39 11.6**	**+1.0**
	baz=39								
USRK	**Ussuriysk Ar.**	**38.80**	**282**	P		**P**		**11 39 10.1**	**-1.1**
	comp=Z,2.0nm,0.6s,baz=12,slow=7.4,SNR=2.9								
USRK				PcP		**PcP**		**11 41 22.3**	**+0.1**
	comp=Z,5.7nm,0.8s,baz=48,slow=2.0,SNR=7.2								
H17A	**Grant Village**	**38.84**	**78**	*e*P		**P**		**11 39 12.6**	**+0.6**
	comp=Z,28nm,0.7s								
H17A				*e*PcP		**PcP**		**11 41 26.2**	**+3.5**
H17A				*e*S		**S**		**11 45 12.2**	**+3.5**
LKWY	**Lake**	**38.85**	**78**	*e*P		**P**		**11 39 13.0**	**+0.9**
LKWY				pmax		pmax			
	comp=Z,50nm,0.8s								
LKWY				MLR		MLR			
	comp=Z,2µm,19.0s								
LKWY	**Lake**	**38.85**	**78**	*e*P		**P**		**11 39 13.0**	**+0.9**
	comp=Z,50nm,0.8s								
LKWY				LR		LR			
	comp=Z,2µm,19.0s								
H11S1	**WAKE ISLAND Hy**	**38.87**	**218**	T		T		12 20 31.3	
	baz=23,slow=76								
H11S2	**WAKE ISLAND Hy**	**38.88**	**218**	T		T		12 20 33.9	
	baz=23,slow=76								
H11S3	**WAKE ISLAND Hy**	**38.88**	**218**	T		T		12 20 34.7	
	baz=23,slow=76								
IMW	**Indian Meadow**	**38.90**	**79**	*e*P		**P**		**11 39 12.6**	**+0.1**
	comp=Z,20nm,0.9s								
VES	**Vestal, Richgr**	**38.90**	**95**	P		**P**		**11 39 11.9**	**-0.3**
	baz=39,SNR=14								
FLWY	**Flagg Ranch**	**38.94**	**78**	*e*P		**P**		**11 39 12.9**	**+0.1**
	comp=Z,27nm,0.9s								
FLWY				S		**S**		**11 45 14.2**	**+4.1**
FXWY	**Fox Creek**	**39.00**	**79**	*e*P		**P**		**11 39 13.8**	**+0.5**
	comp=Z,8.1nm,0.7s								
HVU	**Hansel Valley**	**39.02**	**83**	*e*P		**P**		**11 39 13.5**	**+0.1**
HVU	**Hansel Valley**	**39.02**	**83**	*e*P		**P**		**11 39 13.5**	**+0.1**
PKM	**Peak Mountain**	**39.09**	**97**	P		**P**		**11 39 15.0**	**+0.9**
	baz=39,SNR=6.1								
MOOW	**Moose Ponds**	**39.10**	**79**	*e*P		**P**		**11 39 14.0**	**-0.1**
	comp=Z,32nm,1.6s								
CWC	**Cottonwood Cre**	**39.12**	**94**	P		**P**		**11 39 14.1**	**-0.1**
	baz=39								
TPAW	**Ten Pass**	**39.13**	**79**	*e*P		**P**		**11 39 14.8**	**+0.4**
	comp=Z,12nm,0.6s								
TPAW				*e*PP		**PP**		**11 40 45.1**	**+1.1**
TPAW				*e*				11 45 08.7	
GRAC	**Grapevine Rang**	**39.19**	**92**	P		**P**		**11 39 15.2**	**+0.6**
	baz=39,SNR=12								
RLMT	**Red Lodge**	**39.22**	**76**	P		**P**		**11 39 13.9**	**-1.1**
	baz=39,SNR=69								
RLMT	**Red Lodge**	**39.22**	**76**	*e*P		**P**		**11 39 14.6**	**-0.4**
	comp=Z,65nm,0.9s								
RLMT				LR		LR			
	comp=Z,1µm,20.0s								
REDW	**Red Top Meadow**	**39.26**	**80**	*e*P		**P**		**11 39 15.8**	**+0.4**
	comp=Z,30nm,1.2s								
SNOW	**Snow King Moun**	**39.26**	**79**	*e*P		**P**		**11 39 14.8**	**-0.7**
	comp=Z,10nm,0.6s								
SNOW				*e*PP		**PnPn**		**11 40 49.6**	**+1.5**
LOHW	**Long Hollow**	**39.27**	**79**	*e*P		**P**		**11 39 15.5**	**0.0**
	comp=Z,9.9nm,0.8s								
LOHW				*e*PP		**PnPn**		**11 40 48.1**	**-0.1**
BGU	**Big Grassy Mou**	**39.37**	**84**	*e*P		**P**		**11 39 15.9**	**-0.5**
	comp=Z,31nm,1.1s								
ISA	**Isabella**	**39.39**	**95**	*e*P		**P**		**11 39 17.1**	**+0.7**
ISA				pmax		pmax			
	comp=Z,59nm,1.8s								
ISA	**Isabella**	**39.39**	**95**	P		**P**		**11 39 15.8**	**-0.7**
	baz=39								
ISA	**Isabella**	**39.39**	**95**	*e*P		**P**		**11 39 17.1**	**+0.7**
	comp=Z,59nm,1.8s								
R11A	**Troy Canyon, C**	**39.41**	**89**	P		**P**		**11 39 16.3**	**-0.3**
	baz=39,SNR=37								
R11A	**Troy Canyon, C**	**39.41**	**89**	*e*P		**P**		**11 39 16.3**	**-0.3**
	comp=Z,33nm,1.0s								
AHID	**Auburn Hatcher**	**39.45**	**80**	*e*P		**P**		**11 39 16.9**	**-0.2**
	comp=Z,24nm,1.0s								
AHID				LR		LR			
	comp=Z,3µm,21.0s								
SBC	**Santa Barbara**	**39.46**	**97**	P		**P**		**11 39 16.8**	**-0.1**
	baz=39								
SPUT	**South Promonto**	**39.50**	**83**	*e*P		**P**		**11 39 16.8**	**-0.5**
	comp=Z,32nm,1.3s								
SPUT				*e*PP		**PnPn**		**11 40 50.7**	**-0.2**
F20A	**Billings**	**39.51**	**75**	P		**P**		**11 39 16.7**	**-0.6**
	baz=39,SNR=8.8								
DAC	**Darwin (Calif)**	**39.52**	**93**	*e*P		**P**		**11 39 17.2**	**-0.4**
DAC				*e*				11 41 26.2	
DAC				pmax		pmax			
	comp=Z,11nm,0.8s								
DAC	**Darwin (Calif)**	**39.52**	**93**	*e*P		**P**		**11 39 17.2**	**-0.4**
	comp=Z,11nm,0.8s								
DAC				*e*PcP		**PcP**		**11 41 26.2**	**+1.3**
ARVC	**Arvin**	**39.53**	**96**	P		**P**		**11 39 17.9**	**+0.4**
	baz=39								
H19A	**Powell**	**39.63**	**77**	P		**P**		**11 39 17.7**	**-0.7**
	baz=40,SNR=32								
MAJO	**Matsushiro**	**39.68**	**267**	*e*P		**P**		**11 39 19.3**	**+0.6**
MAJO				pmax		pmax			
	comp=Z,27nm,0.9s								
MAJO				MLR		MLR			
	comp=Z,6µm,22.0s								
MAJO	**Matsushiro**	**39.68**	**267**	*e*P		**P**		**11 39 19.2**	**+0.6**
	comp=Z,27nm,0.9s								
MAJO				LR		LR			
	comp=Z,6µm,22.0s								
MAT	**Matsushiro**	**39.68**	**267**	P		**P**		**11 39 18.3**	**-0.4**
MAT				S		**S**		**11 45 19.2**	**-1.7**
MJAR	**Matsushiro Arr**	**39.68**	**267**	P		**P**		**11 39 18.9**	**+0.2**
	comp=Z,5.9nm,0.6s,baz=42,slow=6.1,SNR=17								
MJAR				PcP		**PcP**		**11 41 25.5**	**+0.4**
	comp=Z,3.7nm,0.8s,baz=140,slow=1.7,SNR=4.1								
MJAR	**Matsushiro Arr**	**39.68**	**267**	P		**P**		**11 39 18.9**	**+0.2**
MJAR								11 41 25.5	
MJAR				pmax		pmax			
	comp=Z,6.0nm,0.6s								
MJAR				pmax		pmax			
	comp=Z,4.0nm,0.8s								
MPMC	**Manual Prospec**	**39.73**	**94**	P		**P**		**11 39 19.2**	**-0.2**
	baz=40,SNR=26								
E21A	**Keefer Ranch,**	**39.73**	**73**	P		**P**		**11 39 18.3**	**-0.9**
	baz=40								
G20A	**Bridger**	**39.78**	**75**	P		**P**		**11 39 18.9**	**-0.7**
	baz=40,SNR=43								
BSC	**Santa Cruz Isl**	**39.82**	**98**	P		**P**		**11 39 20.8**	**+0.9**
	baz=40								
FURC	**Furnace Creek,**	**39.84**	**93**	P		**P**		**11 39 20.4**	**+0.4**
	baz=40,SNR=34								
HWUT	**Hardware Ranch**	**39.85**	**82**	*e*P		**P**		**11 39 20.5**	**+0.1**
	comp=Z,263nm,2.8s								
HWUT				LR		LR			
	comp=Z,2µm,22.0s								
TPNV	**Topopah Spring**	**39.90**	**91**	P		**P**		**11 39 20.7**	**-0.1**
	baz=40,SNR=30								
OSI	**Osito Adit**	**39.95**	**96**	P		**P**		**11 39 21.9**	**+0.9**
	baz=40								
DUG	**Dugway**	**39.95**	**85**	*e*P		**P**		**11 39 21.3**	**+0.2**
DUG				pmax		pmax			
	comp=Z,63nm,1.1s								
DUG				MLR		MLR			
	comp=Z,3µm,22.0s								
DUG	**Dugway**	**39.95**	**85**	P		**P**		**11 39 20.8**	**-0.3**
	baz=40,SNR=54								
DUG	**Dugway**	**39.95**	**85**	*e*P		**P**		**11 39 21.3**	**+0.2**
	comp=Z,63nm,1.1s								
DUG				LR		LR			
	comp=Z,3µm,22.0s								
I19A	**Meeteetse**	**39.98**	**77**	P		**P**		**11 39 20.5**	**-1.0**
	baz=40,SNR=14								
MDJ	**Mudanjiang**	**39.99**	**284**	PFAKE				11 39 30.0	+8.8
MDJ				LR		LR			
	comp=Z,3µm,20.0s								
BLG	**Laguna Peak**	**40.08**	**97**	P		**P**		**11 39 22.0**	**-0.1**
	baz=40								
F21A	**Absaloka Mine,**	**40.09**	**74**	P		**P**		**11 39 20.5**	**-1.7**
	baz=40								
LAO	**LASA Array**	**40.15**	**72**	P		**P**		**11 39 21.9**	**-0.7**
	baz=40,SNR=9.6								
LAO	**LASA Array**	**40.15**	**72**	*e*P		**P**		**11 39 20.9**	**-1.7**
	comp=Z,34nm,1.0s								
LAO				LR		LR			
	comp=Z,2µm,19.0s								
EDW2	**Edwards Air Fo**	**40.21**	**95**	P		**P**		**11 39 23.3**	**+0.1**
	baz=40								
TCUT	**Toone Canyon**	**40.24**	**83**	*e*P		**P**		**11 39 23.4**	**-0.3**
	comp=Z,59nm,1.3s								
CTU	**Camp Tracy**	**40.29**	**84**	*e*P		**P**		**11 39 24.6**	**+0.6**
	comp=Z,20nm,1.0s								
H20A	**Greybull**	**40.32**	**76**	P		**P**		**11 39 22.7**	**-1.4**
	baz=40,SNR=16								
BW06	**Boulder Array**	**40.38**	**79**	*e*P		**P**		**11 39 23.8**	**-0.9**
	comp=Z,27nm,0.7s								
BW06				LR		LR			
	comp=Z,2µm,21.0s								
PDAR	**Pinedale Array**	**40.38**	**79**	P		**P**		**11 39 23.9**	**-0.8**
	comp=Z,30nm,0.8s,baz=318,slow=5.3,SNR=72								
J19A	**Crowheart**	**40.39**	**78**	P		**P**		**11 39 24.0**	**-0.8**
	baz=40,SNR=22								
DECC	**Green Verdugo**	**40.43**	**96**	P		**P**		**11 39 24.4**	**-0.6**
	baz=40								
E22A	**Miles City**	**40.44**	**73**	P		**P**		**11 39 23.8**	**-1.2**
	baz=40,SNR=9.7								
JLU	**Jordanelle**	**40.52**	**83**	*e*P		**P**		**11 39 26.1**	**+0.2**
	comp=Z,26nm,1.1s								
NLU	**North Lily Min**	**40.54**	**85**	*e*P		**P**		**11 39 26.1**	**0.0**
	comp=Z,26nm,0.9s								
I20A	**Worland**	**40.55**	**77**	P		**P**		**11 39 25.2**	**-0.8**
	baz=40,SNR=15								
SHOC	**Shoshone**	**40.57**	**93**	P		**P**		**11 39 25.6**	**-0.6**
	baz=40								
MWC	**Mount Wilson**	**40.61**	**96**	*e*P		**P**		**11 39 27.0**	**+0.3**
MWC				pmax		pmax			
	comp=Z,31nm,1.1s								
MWC	**Mount Wilson**	**40.61**	**96**	*e*P		**P**		**11 39 27.0**	**+0.3**
	comp=Z,31nm,1.1s								
F22A	**Rosebud**	**40.62**	**74**	P		**P**		**11 39 25.4**	**-1.1**
	baz=40,SNR=16								
GSC	**Goldstone**	**40.65**	**94**	*e*P		**P**		**11 39 27.3**	**+0.4**
GSC				pmax		pmax			
	comp=Z,36nm,0.9s								
GSC	**Goldstone**	**40.65**	**94**	P		**P**		**11 39 26.6**	**-0.2**
	baz=40,SNR=39								
GSC	**Goldstone**	**40.65**	**94**	*e*P		**P**		**11 39 27.3**	**+0.4**
	comp=Z,36nm,0.9s								
C24A	**Savage**	**40.73**	**70**	P		**P**		**11 39 27.1**	**-0.3**
	baz=41,SNR=8.0								
A25A	**Svangstu Ranch**	**40.74**	**68**	P		**P**		**11 39 26.6**	**-0.8**
	baz=41								
FCC	**Fort Churchill**	**40.77**	**51**	*e*P		**P**		**11 39 27.7**	**+0.3**
FCC				pmax		pmax			
	comp=Z,35nm,1.0s								
FCC	**Fort Churchill**	**40.77**	**51**

F24A Ekalaka 41.64 72 P P 11 39 34.0 -1.0
baz=42,SNR=15
P17A Butcher Ranch, 41.65 84 eP P 11 39 36.2 +1.1
GMRC Granite Mounta 41.69 93 P P 11 39 35.2 -0.3
baz=42,SNR=38
BOD Bodaibo 41.78 309 eP P 11 39 34.8 -0.9
BOD pmax pmax
comp=Z,22nm,0.9s
A27A Ledoux Ranch, 41.78 67 P P 11 39 34.3 -1.7
baz=42
H23A Clabaugh Cattl 41.81 75 P P 11 39 34.7 -1.6
baz=42
LDFC Landfair 41.83 93 eP P 11 39 36.5 -0.1
comp=Z,44nm,0.9s
J22A Midwest 41.84 77 P P 11 39 35.3 -1.4
baz=42,SNR=64
E25A Miller Ranch, 41.88 71 P P 11 39 36.0 -0.9
baz=42,SNR=8.8
C26A Wahner Farm, P 41.90 69 P P 11 39 36.1 -0.8
baz=42,SNR=6.1
G24A Alzada 41.95 73 P P 11 39 36.1 -1.3
baz=42,SNR=11
PFO Pinyon Flat Ob 42.01 95 P P 11 39 38.8 +0.7
comp=Z,102nm,1.1s,SNR=7.6
PFO Pinyon Flat Ob 42.01 95 P P 11 39 36.4 -1.7
comp=Z,9.5nm,0.8s,baz=315,slow=8.8,SNR=14
PFO Pinyon Flat Ob 42.01 95 eP P 11 39 37.8 -0.3
PFO pmax pmax
comp=Z,17nm,0.9s
PFO MLR MLR
comp=Z,2µm,20.0s
PFO Pinyon Flat Ob 42.01 95 P P 11 39 37.4 -0.7
baz=42
PFO Pinyon Flat Ob 42.01 95 eP P 11 39 37.8 -0.3
comp=Z,17nm,0.9s
PFO LR LR
comp=Z,2µm,20.0s
SRU San Rafael 42.01 85 eP P 11 39 38.4 +0.3
SRU pmax pmax
comp=Z,58nm,1.2s
SRU San Rafael 42.01 85 eP P 11 39 38.4 +0.3
comp=Z,58nm,1.2s
BELC Belle Mtn. Jos 42.02 95 P P 11 39 37.4 -0.7
baz=42,SNR=16
B27A Peters Farms, 42.06 67 P P 11 39 37.4 -0.9
baz=42
109C Camp Elliot, M 42.11 97 P P 11 39 38.8 +0.1
baz=42
I23A Meade Ranch, G 42.12 75 P P 11 39 36.6 -2.3
baz=42
D26A Manning 42.14 70 P P 11 39 37.9 -1.1
baz=42
F25A Bowman 42.17 72 P P 11 39 38.1 -1.2
baz=42,SNR=7.4
H24A Dirks Ranch, A 42.20 74 P P 11 39 38.3 -1.2
baz=42,SNR=9.0
K22A Casper 42.26 78 P P 11 39 38.5 -1.6
baz=42,SNR=20
K22A Casper 42.26 78 eP P 11 39 39.0 -1.1
comp=Z,44nm,1.1s
C27A Sayler Ranch, 42.30 68 P P 11 39 39.4 -0.8
baz=42
NEE2 Needles Airpor 42.33 93 P P 11 39 40.1 -0.4
baz=42
A28A Rude Farm, Bot 42.35 66 P P 11 39 39.4 -1.2
baz=42,SNR=14
J23A Dilts Ranch, B 42.39 76 P P 11 39 39.5 -1.6
baz=42
IRM Iron Mountain 42.42 94 P P 11 39 41.3 0.0
baz=42,SNR=17
E26A Carlson Angus 42.44 70 P P 11 39 39.9 -1.5
baz=42,SNR=10
BAR Barrett 42.52 97 eP P 11 39 43.0 +0.9
comp=Z,22nm,1.0s
MONP Monument Peak 42.52 96 P P 11 39 42.4 0.0
baz=42,SNR=10
B28A Dugan Ranch, T 42.54 67 P P 11 39 41.0 -1.2
baz=42
BC3 Big Chuckawall 42.58 95 P P 11 39 41.8 -1.0
baz=42,SNR=12
G25A Newell 42.61 73 P P 11 39 41.6 -1.2
baz=42,SNR=11
D27A Center 42.62 69 P P 11 39 41.5 -1.4
baz=42
F26A Lodgepole 42.67 71 P P 11 39 41.4 -1.9
baz=42,SNR=8.0
I24A Kuemmerle Ranc 42.67 75 P P 11 39 41.0 -2.4
baz=42
K23A Bowen Ranch, D 42.73 77 P P 11 39 42.5 -1.4
baz=43,SNR=16
O20A White River Ci 42.75 82 P P 11 39 43.2 -1.0
baz=43,SNR=60
O20A White River Ci 42.75 82 eP P 11 39 43.6 -0.5
comp=Z,83nm,0.8s
H25A Fruitdale 42.83 73 P P 11 39 42.9 -1.7
baz=43,SNR=16
RSSD Black Hills 42.86 74 eP P 11 39 43.2 -1.9
RSSD pmax pmax
comp=Z,27nm,1.1s
RSSD Black Hills 42.86 74 eP P 11 39 43.1 -1.9
comp=Z,27nm,1.1s
SWSC Sam W. Stewart 42.87 96 P P 11 39 44.4 -0.5
baz=43
IBP Imperial Bould 42.88 96 P P 11 39 44.9 -0.2
baz=43
CN2 Changchun 42.90 285 eP P 11 39 44.0 -1.1
CN2 esP sP 11 40 02.8 +8.9
CN2 eS S 11 46 04.8 -3.7
CN2 PMZ
comp=Z,10.0nm,0.9s
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,2µm,19.0s
CN2 LE
comp=Z,2µm,19.0s
CN2 LZ
comp=Z,800nm,19.0s
A29A Manning Farm, 42.92 66 P P 11 39 44.6 -0.6
baz=43,SNR=14
C28A Hausauer Farms 42.93 68 P P 11 39 43.7 -1.6
baz=43
PDMCI Parker Dam,Lak 42.94 93 P P 11 39 45.0 -0.5
baz=43,SNR=19
J24A Dixon Ranch, L 42.96 76 P P 11 39 44.8 -0.9
baz=43,SNR=7.4
E27A Carson 42.98 70 P P 11 39 44.1 -1.7
baz=43,SNR=6.8
G26A Maurine 43.02 72 P P 11 39 44.5 -1.6
baz=43,SNR=17
F27A Lemmon 43.03 71 P P 11 39 45.1 -1.1
baz=43,SNR=9.1
Y12C Blythe 43.08 94 P P 11 39 45.7 -0.9
baz=43,SNR=16
HIA Hailar 43.09 295 PFAKE 11 40 00.0 +13
HIA LR LR
comp=Z,4µm,21.0s
B29A Wagenman Farm, 43.10 66 P P 11 39 45.6 -1.1
baz=43
D28A Regan 43.12 69 P P 11 39 45.4 -1.4
baz=43
K24A Anderson Ranch 43.23 76 P P 11 39 45.6 -2.3
baz=43
MDND Maddock 43.30 67 P P 11 39 46.2 -2.0
baz=43
MDND Maddock 43.30 67 eP P 11 39 50.0 +1.8
comp=Z,87nm,0.9s
H26A Fairpoint 43.31 73 P P 11 39 46.8 -1.7
baz=43,SNR=11
G27A Dupree 43.36 71 P P 11 39 47.2 -1.7
baz=43,SNR=17
GLA Glamis 43.38 95 eP P 11 39 48.9 -0.2
GLA pmax pmax
comp=Z,37nm,1.0s
GLA Glamis 43.38 95 P P 11 39 48.7 -0.4
baz=43,SNR=11
GLA Glamis 43.38 95 eP P 11 39 48.9 -0.2
comp=Z,38nm,1.0s
E28A Huff 43.39 69 P P 11 39 47.6 -1.4
baz=43
A30A Hoffart Farm, 43.42 65 P P 11 39 47.8 -1.5
baz=43
J25A Sunshine Ranch 43.43 75 P P 11 39 47.1 -2.4
baz=43
PV04 Paradox Valley 43.44 84 eP P 11 39 49.0 -0.7
I26A New Underwood 43.60 74 P P 11 39 49.0 -1.9
baz=43
N23A Red Feather La 43.66 79 P P 11 39 50.0 -1.6
baz=44,SNR=25
B30A Myrvik Farm, E 43.68 66 P P 11 39 49.3 -2.0
baz=44,SNR=14
PHWY Pilot Hill 43.70 78 eP P 11 39 52.0 +0.1
comp=Z,2.8nm,0.5s
H27A Howes 43.71 72 P P 11 39 49.3 -2.3
baz=44
D29A Pettibone, Tap 43.74 68 P P 11 39 50.0 -1.9
baz=44
F28A McLaughlin 43.74 70 P P 11 39 50.3 -1.6
baz=44,SNR=9.8
PV01 Paradox Valley 43.81 84 eP P 11 39 52.5 -0.3
comp=Z,3µm,0.6s
WUAZ Wupatki 43.81 89 P P 11 39 52.6 -0.1
baz=44,SNR=36
WUAZ Wupatki 43.81 89 eP P 11 39 52.8 +0.1
WUAZ comp=Z,58nm,0.9s LR LR
comp=Z,3µm,21.0s
K25A Mack Ranch, Ha 43.85 76 P P 11 39 51.3 -1.7
baz=44
J26A Sides Ranch, S 43.90 75 P P 11 39 52.2 -1.1
baz=44
CBIJ Chichi jima 43.96 254 P P 11 39 53.3 -0.5
JCJ Chichijima 43.96 254 P P 11 39 53.3 -0.5
comp=Z,52nm,0.6s,baz=344,slow=8.3,SNR=3.8
E29A Napoleon 43.99 69 P P 11 39 52.0 -1.9
baz=44
C30A Mose, Pekin 44.01 67 P P 11 39 52.5 -1.5
baz=44
ULM Lac du Bonnet 44.03 62 P P 11 39 51.5 -2.6
comp=Z,10.0nm,0.8s,baz=290,slow=8.5,SNR=7.3
ULM PcP PcP 11 41 38.0 -1.2
comp=Z,5.0nm,0.5s,baz=266,slow=4.4,SNR=5.2
ULM Lac du Bonnet 44.03 62 P P 11 39 51.6 -2.6
ULM 11 41 38.0
ULM pmax pmax
comp=Z,10.0nm,0.8s
ULM pmax pmax
comp=Z,5.0nm,0.5s
ULM Lac du Bonnet 44.03 62 eP P 11 39 53.0 -1.2
ULM PcP PcP 11 41 38.0 -1.2
I27A Quinn 44.05 73 P P 11 39 52.8 -1.7
baz=44,SNR=6.3
L25A Engebretsen Ra 44.07 77 P P 11 39 52.8 -1.9
baz=44
SMCO Snowmass 44.11 82 eP P 11 39 55.2 -0.2
SMCO comp=Z,13nm,0.9s e 11 41 38.8
G28A Parade 44.12 71 P P 11 39 52.7 -2.3
baz=44
D30A Buchanan 44.19 68 P P 11 39 53.9 -1.5
baz=44,SNR=20
H28A Mission Ridge 44.30 72 P P 11 39 55.0 -1.4
baz=44,SNR=6.8
F29A Eureka 44.31 70 P P 11 39 55.0 -1.4
baz=44
E30A Jud 44.45 68 P P 11 39 55.4 -2.1
baz=44
MVCO Mesa Verde 44.45 85 P P 11 39 57.2 -0.7
baz=44,SNR=14
MVCO Mesa Verde 44.45 85 eP P 11 39 57.3 -0.6
comp=Z,26nm,1.0s
MVCO LR LR
comp=Z,2µm,20.0s
M25A Palm-Egli Farm 44.46 77 P P 11 39 57.3 -0.6
baz=44,SNR=16
ISCO Idaho Springs 44.54 80 eP P 11 39 59.1 +0.4
ISCO pmax pmax
comp=Z,16nm,1.0s
ISCO MLR MLR
comp=Z,3µm,21.0s
ISCO Idaho Springs 44.54 80 P P 11 39 57.9 -0.8
baz=44,SNR=17
ISCO Idaho Springs 44.54 80 eP P 11 39 59.1 +0.4
comp=Z,16nm,1.0s
ISCO LR LR
comp=Z,3µm,21.0s
J27A Elkhorn Farm, 44.56 74 P P 11 39 57.2 -1.3
baz=44,SNR=8.2
I28A Midland 44.61 73 P P 11 39 57.1 -1.8
baz=44,SNR=19
G29A Hoven 44.63 71 P P 11 39 57.0 -2.0
baz=44
L26A Underwood Farm 44.67 76 P P 11 39 56.9 -2.5
baz=44
K27A Flueckinger Fa 44.76 75 P P 11 39 58.2 -1.9
baz=45
F30A Leola 44.77 69 P P 11 39 57.9 -2.1
baz=45
H29A Onida 44.79 71 P P 11 39 58.9 -1.5
baz=45,SNR=20
J28A Allard Ranch, 44.91 73 P P 11 40 00.1 -1.3
baz=45,SNR=7.7
M26A McRoberts Ranc 44.98 77 P P 11 40 00.3 -1.6
baz=45,SNR=5.6
W18A Petrified Fore 45.07 88 P P 11 40 01.9 -0.9
baz=45,SNR=17
W18A Petrified Fore 45.07 88 eP P 11 40 02.7 -0.2
comp=Z,41nm,0.9s
L27A T5 Ranch, Ells 45.09 76 P P 11 40 00.8 -2.0
baz=45
I29A Vivian Onida 45.10 72 P P 11 40 00.8 -1.9
baz=45,SNR=13
G30A Faulkton 45.11 70 P P 11 40 00.9 -1.9
baz=45,SNR=12
S22A 4UR Ranch, Cre 45.11 83 P P 11 40 02.0 -1.3
baz=45,SNR=23
AGMN Agassiz Nation 45.13 65 P P 11 40 00.6 -2.3
baz=45,SNR=15
AGMN Agassiz Nation 45.13 65 eP P 11 40 01.3 -1.6
comp=Z,29nm,0.9s
AGMN LR LR
comp=Z,2µm,20.0s
K28A Ten Mile Ranch 45.26 74 P P 11 40 02.8 -1.4
baz=45,SNR=12
N26A Koester Ranch, 45.32 78 P P 11 40 03.3 -1.4
baz=45,SNR=5.9
KSRS Korea Array 45.34 276 P P 11 40 03.5 -1.2
comp=Z,7.7nm,0.7s,baz=52,slow=7.6,SNR=16
KSRS PcP PcP 11 41 42.4 -1.5
comp=Z,2.9nm,0.8s,baz=56,slow=4.2,SNR=4.4
KSRS ScP ScP 11 45 37.0 +1.8
comp=Z,0.7nm,0.6s,baz=79,slow=6.5,SNR=4.2
KSRS Korea Array 45.34 276 P P 11 40 03.5 -1.2
KSRS 11 41 42.4
KSRS pmax pmax
comp=Z,8.0nm,0.7s
KSRS pmax pmax
comp=Z,3.0nm,0.8s
KSRS pmax pmax
comp=N,1.0nm,0.6s
Q24A Divide 45.34 81 P P 11 40 04.0 -1.1
baz=45
KULLO Kullorsuaq 45.35 20 i P P 11 40 03.7 -0.6
comp=Z,3µm,17.0s
214A Organ Pipe Nat 45.36 94 P P 11 40 04.4 -0.6
baz=45,SNR=19
214A Organ Pipe Nat 45.36 94 eP P 11 40 04.5 -0.5
comp=Z,32nm,0.8s
KSAR Wonju Array Be 45.37 276 P P 11 40 03.5 -1.4
KSAR 11 41 42.4
KSAR Wonju Array Be 45.37 276 P P 11 40 03.5 -1.4
KSAR PcP PcP 11 41 42.4 -1.7
KSAR ScP ScP 11 45 37.0 +1.7
M27A Reverse DX Ran 45.39 76 P P 11 40 02.7 -2.4
baz=45
J29A Okreek 45.45 73 P P 11 40 03.7 -1.9
baz=45,SNR=31
L28A Connealy Angus 45.60 75 P P 11 40 05.3 -1.6
baz=45
O26A Horse Wrangler 45.64 78 P P 11 40 06.0 -1.2
baz=46
I30A Oacoma 45.67 72 P P 11 40 05.5 -1.8
baz=46
N27A Anderson Farm, 45.74 77 P P 11 40 06.8 -1.3
baz=46,SNR=14
K29A Lazy Trails An 45.85 74 P P 11 40 07.1 -1.7
baz=46
SDCO Great Sand Dun 45.91 82 P P 11 40 08.8 -0.8
baz=46,SNR=43
SDCO Great Sand Dun 45.91 82 eP P 11 40 09.4 -0.2
comp=Z,28nm,1.0s
SDCO LR LR
comp=Z,2µm,21.0s
OGNE Ogallala 45.96 77 P P 11 40 07.8 -1.8
baz=46
OGNE Ogallala 45.96 77 eP P 11 40 08.8 -0.9
comp=Z,47nm,0.8s
OGNE LR LR
comp=Z,1µm,20.0s
J30A Dallas 45.99 72 P P 11 40 08.3 -1.5
baz=46,SNR=16
P26A Davis Ranch, A 46.05 79 P P 11 40 09.6 -0.9
baz=46,SNR=50
M28A Bar X Bar Ranc 46.07 76 P P 11 40 08.5 -2.0
baz=46
INCN Inchon 46.10 277 PFAKE 11 40 20.0 +9.3
INCN LR LR
comp=Z,2µm,20.0s
O27A Beecher Island 46.16 78 P P 11 40 09.8 -1.6
baz=46,SNR=13
L29A Maesberg Ranch 46.18 74 P P 11 40 09.5 -1.9
baz=46
K30A Basset 46.31 73 P P 11 40 11.1 -1.3
baz=46,SNR=12
TUC Tucson 46.35 92 eP P 11 40 12.7 -0.1
TUC pmax pmax
comp=Z,25nm,0.8s
TUC MLR MLR
comp=Z,1µm,19.0s
TUC Tucson 46.35 92 eP P 11 40 12.7 -0.1
comp=Z,25nm,0.8s
TUC LR LR
comp=Z,1µm,19.0s
Q26A Hugo 46.35 80 P P 11 40 11.8 -1.1
baz=46,SNR=11
N28A Pribbeno Ranch 46.41 77 P P 11 40 11.4 -1.8
baz=46
JNU Nakatsue 46.43 270 P P 11 40 12.4 -1.0
comp=Z,13nm,0.7s,baz=22,slow=6.3,SNR=9.0
M29A Burnside Ranch 46.44 75 P P 11 40 11.7 -1.7
baz=46
P27A Ficken Ranch, 46.51 78 P P 11 40 12.7 -1.4
baz=46
O28A Krutsinger Ran 46.62 77 P P 11 40 13.7 -1.3
baz=46,SNR=8.0
L30A Spencer Herefo 46.70 74 P P 11 40 14.0 -1.4
baz=46
R26A Arlington 46.79 80 P P 11 40 14.9 -1.4
baz=47,SNR=36
KSCO Kaye Shedlock' 46.83 79 P P 11 40 15.2 -1.4
baz=47,SNR=20
KSCO Kaye Shedlock' 46.83 79 eP P 11 40 16.5 -0.1
comp=Z,78nm,0.9s
M30A Dale-Ortello V 46.86 75 P P 11 40 15.6 -1.2
baz=47
N29A Votaw Ranch, W 46.87 76 P P 11 40 15.1 -1.7
baz=47
T25A Trinidad 46.97 82 P P 11 40 17.0 -0.8
baz=47,SNR=50
P28A Saint Francis 46.99 78 P P 11 40 16.5 -1.3
baz=47,SNR=11
L31A Butterfield Fa 47.07 73 P P 11 40 16.4 -1.9
baz=47
LAZ Ladron 47.13 87 eP P 11 40 19.5 +0.4
comp=Z,19nm,0.9s
ANMO Albuquerque 47.18 86 ceP P 11 40 18.5 -1.0
ANMO pmax pmax
comp=Z,79nm,1.4s
ANMO Albuquerque 47.18 86 eP P 11 40 17.9 -1.5
comp=Z,16nm,1.1s
ANMO LR LR
comp=Z,3µm,22.0s
R27A Eads 47.19 80 P P 11 40 18.5 -0.9
baz=47,SNR=23
N30A Hueftle Ranch, 47.19 76 P P 11 40 17.9 -1.4
baz=47
O29A 4D Ranch, Culb 47.20 77 P P 11 40 18.7 -0.7
baz=47,SNR=12
Q28A Sharon Springs 47.27 78 P P 11 40 18.5 -1.5
baz=47,SNR=9.4
LENM Lemitar 47.39 87 eP P 11 40 20.8 -0.3
comp=Z,78nm,1.0s
ECSD EROS Data Cent 47.40 70 P P 11 40 18.2 -2.6
baz=47,SNR=15
ECSD EROS Data Cent 47.40 70 eP P 11 40 18.8 -2.0
comp=Z,36nm,1.3s
ECSD LR LR
comp=Z,2µm,21.0s
T26A Comanche Natio 47.44 82 P P 11 40 20.0 -1.4
baz=47,SNR=20
P29A Atwood 47.46 77 P P 11 40 19.5 -1.9
baz=47,SNR=10
Y22D IRIS PASSCAL I 47.49 87 P P 11 40 21.0 -0.8
baz=47,SNR=6.6
LPM Los Pinos Moun 47.50 87 eP P 11 40 21.6 -0.4
comp=Z,20nm,0.9s
M31A Lambtecht Ranc 47.51 74 P P 11 40 19.6 -2.1
baz=47
S27A Las Animas 47.52 81 P P 11 40 20.4 -1.6
baz=47
O30A MW Ranch, Wils 47.61 76 P P 11 40 20.6 -1.9
baz=47
EYMN Ely 47.71 63 P P 11 40 21.9 -1.3
baz=48
EYMN Ely 47.71 63 eP P 11 40 22.2 -1.0
EYMN comp=Z,38nm,1.0s LR LR
comp=Z,3µm,19.0s
R28A Tribune 47.74 79 P P 11 40 21.8 -1.9
baz=48,SNR=12
N31A Bailey Ranch, 47.85 75 P P 11 40 22.8 -1.6
baz=48
Q29A Oakley 47.89 78 P P 11 40 23.3 -1.4
baz=48,SNR=7.4
P30A Selden 47.90 77 P P 11 40 23.2 -1.6
baz=48,SNR=22
BGNE Belgrade 47.95 74 P P 11 40 22.5 -2.7
baz=48
L33A Hoskins 47.99 72 P P 11 40 23.1 -2.3
baz=48
121A Cookes Peak, D 48.02 89 P P 11 40 25.4 -0.6
baz=48,SNR=39
121A Cookes Peak, D 48.02 89 eP P 11 40 25.6 -0.3
comp=Z,36nm,0.8s
T27A Campo 48.03 81 P P 11 40 24.7 -1.3
baz=48
O31A Woolen Ranch, 48.06 76 P P 11 40 24.4 -1.6
baz=48,SNR=6.7
R29A Marienthal 48.09 79 P P 11 40 25.0 -1.3
baz=48,SNR=7.0
DL2 Dalian 48.18 282 P P 11 40 31.5 +4.6
DL2 ScS ScS 11 50 16.0 -2.5
DL2 PMZ
comp=Z,21nm,0.5s
DL2 PMZ
comp=Z,160nm,7.1s
DL2 LN
comp=Z,870nm,17.1s
DL2 LE
comp=Z,660nm,17.4s
DL2 LZ
comp=Z,960nm,21.9s
S28A Manter 48.18 80 P P 11 40 25.4 -1.6
baz=48,SNR=16
N32A Stulken Farm, 48.27 74 P P 11 40 25.9 -1.8
baz=48
Q30A Quinter 48.28 77 P P 11 40 26.3 -1.5
baz=48,SNR=15
T28A Walsh 48.36 81 P P 11 40 26.3 -2.1
baz=48,SNR=18
U27A Thompson Grove 48.40 82 P P 11 40 27.5 -1.3
baz=48,SNR=21
M33A Taylor Creek F 48.41 73 P P 11 40 26.3 -2.4
baz=48,SNR=8.4
P31A Stockton 48.43 76 P P 11 40 27.7 -1.2
baz=48,SNR=15
O32A Brockman Farm, 48.61 75 P P 11 40 28.4 -1.8
baz=48
S29A Ulysses 48.63 79 P P 11 40 28.7 -1.9
baz=48,SNR=5.9
L34A Svendsen Farm, 48.63 72 P P 11 40 28.3 -2.1
baz=48,SNR=9.3
SPMN St. Paul 48.64 66 P P 11 40 28.3 -2.1
baz=48,SNR=7.4
SPMN St. Paul 48.64 66 eP P 11 40 28.8 -1.6
comp=Z,25nm,0.9s
KBS Kingsbay 48.65 360 PFAKE 11 40 40.0 +10
KBS LR LR
comp=Z,1µm,21.0s
CBKS Cedar Bluff 48.67 77 eP P 11 40 30.2 -0.6
CBKS pmax pmax
comp=Z,80nm,0.8s
CBKS MLR MLR
comp=Z,1µm,19.0s

CBKS	**Cedar Bluff**	**48.67**	**77**	P		**P**	**11 40 29.0**	**-1.7**	
	baz=48,SNR=28								
CBKS	**Cedar Bluff**	**48.67**	**77**	*e*P		**P**	**11 40 30.2**	**-0.6**	
	comp=Z,80nm,0.8s								
CBKS				LR		LR			
	comp=Z,1µm,19.0s								
R30A	**Dighton**	**48.70**	**78**	P		**P**	**11 40 29.2**	**-1.8**	
	baz=48,SNR=27								
FRB	**Frobisher Bay**	**48.75**	**36**	LR		LR	12 02 58.4		
	comp=Z,8µm,19.2s,baz=276,slow=38								
Q31A	**Ellis**	**48.75**	**77**	P		**P**	**11 40 29.7**	**-1.7**	
	baz=49								
U28A	**Mallet**	**48.78**	**81**	P		**P**	**11 40 30.1**	**-1.6**	
	baz=49,SNR=14								
N33A	**J Bar K, Exete**	**48.79**	**74**	P		**P**	**11 40 29.4**	**-2.2**	
	baz=49								
M34A	**Aspy Farms, Fr**	**48.81**	**73**	P		**P**	**11 40 29.6**	**-2.1**	
	baz=49								
P32A	**Huiting Farm,**	**48.83**	**76**	P		**P**	**11 40 29.3**	**-2.6**	
	baz=49,SNR=9.4								
T29A	**Hugoton**	**48.83**	**80**	P		**P**	**11 40 30.1**	**-2.0**	
	baz=49								
V27A	**Dan Oppiter Fa**	**48.83**	**83**	P		**P**	**11 40 29.6**	**-2.5**	
	baz=49,SNR=13								
S30A	**Montezuma**	**49.01**	**79**	P		**P**	**11 40 31.8**	**-1.6**	
	baz=49,SNR=13								
L35A	**Bielow Farm, R**	**49.02**	**71**	P		**P**	**11 40 31.6**	**-1.8**	
	baz=49								
O33A	**Hebron**	**49.13**	**75**	P		**P**	**11 40 32.0**	**-2.3**	
	baz=49,SNR=16								
R31A	**Burdett**	**49.14**	**78**	P		**P**	**11 40 32.2**	**-2.1**	
	baz=49,SNR=21								
V28A	**Channing**	**49.20**	**82**	P		**P**	**11 40 33.6**	**-1.4**	
	baz=49,SNR=8.0								
Q32A	**Meitler Ranch,**	**49.26**	**76**	P		**P**	**11 40 33.6**	**-1.7**	
	baz=49,SNR=20								
N34A	**Lincoln**	**49.28**	**73**	P		**P**	**11 40 32.9**	**-2.4**	
	baz=49								
U29A	**Oasis Ranch, S**	**49.31**	**81**	P		**P**	**11 40 34.0**	**-1.7**	
	baz=49								
M35A	**Neola**	**49.34**	**72**	P		**P**	**11 40 33.3**	**-2.5**	
	baz=49								
T30A	**Plains**	**49.36**	**80**	P		**P**	**11 40 34.0**	**-2.1**	
	baz=49								
SPITS	**Spitsbergen Ar**	**49.36**	**358**	P		**P**	**11 40 35.0**	**-0.5**	
	comp=Z,5.7nm,0.8s,baz=51,slow=5.5,SNR=9.9								
SPITS				PcP		**PcP**	**11 41 55.9**	**-1.7**	
	comp=Z,5.2nm,0.7s,baz=56,slow=5.1,SNR=5.3								
SPITS				LR		LR	12 02 00.3		
	comp=Z,2µm,19.3s,baz=5.0,slow=37								
SPITS	**Spitsbergen Ar**	**49.36**	**358**	P		**P**	**11 40 35.0**	**-0.5**	
SPITS							11 41 55.9		
SPITS				pmax		pmax			
	comp=Z,6.0nm,0.8s								
SPITS				pmax		pmax			
	comp=Z,5.0nm,0.7s								
SPITS				MLR		MLR			
	comp=Z,2µm,19.3s								
P33A	**Williams Farm,**	**49.48**	**75**	P		**P**	**11 40 34.7**	**-2.2**	
	baz=49								
IRK	**Irkutsk**	**49.48**	**306**	*e*P		P	11 40 47.2	+10	
IRK				*e*			11 41 57.8		
IRK				pmax		pmax			
	comp=Z,23nm,1.6s								
DAG	**Danmarks Havn**	**49.49**	**9**	*i* P		**P**	**11 40 35.8**	**-0.7**	
	comp=Z,3µm,17.0s								
DAG	**Danmarks Havn**	**49.49**	**9**	*i* P		**P**	**11 40 35.8**	**-0.7**	
DAG				MLR		MLR			
	comp=Z,3µm,17.0s								
R32A	**Long Quarter,**	**49.54**	**77**	P		**P**	**11 40 35.4**	**-2.0**	
	baz=49,SNR=16								
V29A	**Stinnett**	**49.55**	**81**	P		**P**	**11 40 35.9**	**-1.6**	
	baz=49								
W28A	**Vega**	**49.55**	**83**	P		**P**	**11 40 35.5**	**-2.1**	
	baz=49								
O34A	**Beatrice**	**49.59**	**74**	P		**P**	**11 40 35.6**	**-2.1**	
	baz=49,SNR=10								
S31A	**Mullinville**	**49.61**	**78**	P		**P**	**11 40 36.4**	**-1.5**	
	baz=49,SNR=15								
U30A	**WK&E Inc. Balk**	**49.63**	**80**	P		**P**	**11 40 36.7**	**-1.5**	
	baz=50,SNR=13								
Q33A	**Connelly Farm,**	**49.68**	**76**	P		**P**	**11 40 36.6**	**-1.9**	
	baz=50,SNR=19								
N35A	**Tabor**	**49.76**	**73**	P		**P**	**11 40 37.4**	**-1.6**	
	baz=50,SNR=12								
T31A	**Randall Ranch,**	**49.84**	**79**	P		**P**	**11 40 37.8**	**-1.9**	
	baz=50,SNR=13								
S32A	**Newby Ranch, P**	**49.88**	**78**	P		P	11 40 36.5	-3.5	
	baz=50								
P34A	**Walnut Farm, R**	**49.92**	**75**	P		**P**	**11 40 38.2**	**-2.0**	
	baz=50								
W29A	**Amraillo**	**49.98**	**82**	P		**P**	**11 40 38.1**	**-2.7**	
	baz=50								
O35A	**Humboldt**	**49.99**	**73**	P		**P**	**11 40 38.6**	**-2.2**	
	baz=50								
R33A	**Olander Ranch,**	**50.05**	**77**	P		**P**	**11 40 39.1**	**-2.2**	
	baz=50,SNR=11								
X28A	**Dimmitt**	**50.05**	**83**	P		**P**	**11 40 39.7**	**-1.7**	
	baz=50,SNR=8.8								
COWI	**Conover**	**50.12**	**63**	*e*P		**P**	**11 40 40.4**	**-1.3**	
	comp=Z,14nm,0.6s								
COWI				LR		LR			
	comp=Z,2µm,19.0s								
V30A	**Spur Ranch, Mi**	**50.12**	**81**	P		**P**	**11 40 39.9**	**-2.0**	
	baz=50								
TLY	**Talaya**	**50.13**	**306**	P		**P**	**11 40 43.3**	**+1.6**	
	comp=Z,10nm,0.6s,baz=46,slow=5.4,SNR=3.7								
TLY				PcP		**PcP**	**11 42 00.4**	**-0.5**	
	comp=Z,6.7nm,0.6s,baz=0.0,slow=2.0,SNR=2.4								
TLY	**Talaya**	**50.13**	**306**	P		**P**	**11 40 43.3**	**+1.6**	
TLY							11 42 00.4		
TLY				pmax		pmax			
	comp=Z,11nm,0.6s								
TLY				pmax		pmax			
	comp=Z,7.0nm,0.6s								
TLY	**Talaya**	**50.13**	**306**	P		**P**	**11 40 43.3**	**+1.6**	
TLY				PcP		**PcP**	**11 42 00.4**	**-0.5**	
TLY				LR		LR			
	comp=Z,1µm,19.0s								
U31A	**Nine Bar Ranch**	**50.22**	**80**	P		**P**	**11 40 40.3**	**-2.3**	
	baz=50								
T32A	**Hudler Ranch,**	**50.23**	**78**	P		**P**	**11 40 40.9**	**-1.8**	
	baz=50,SNR=12								
Q34A	**Chapman**	**50.26**	**75**	P		**P**	**11 40 40.8**	**-2.1**	
	baz=50,SNR=5.8								
KSU1	**Kansas State U**	**50.34**	**75**	P		**P**	**11 40 41.4**	**-2.0**	
	baz=50								
KSU1	**Kansas State U**	**50.34**	**75**	PFAKE			11 41 00.0	+17	
KSU1				LR		LR			
	comp=Z,2µm,20.0s								
ILULI	**Ilulissat**	**50.37**	**24**	*i* P		P	11 40 46.5	+3.3	
ILULI				*i*			11 42 48.4		
	comp=Z,2µm,17.0s								
X29A	**Tulia**	**50.40**	**83**	P		**P**	**11 40 42.1**	**-2.0**	
	baz=50								
P35A	**Duane Minner,**	**50.40**	**74**	P		**P**	**11 40 41.3**	**-2.6**	
	baz=50,SNR=9.9								
Y28A	**McKinney Farm,**	**50.44**	**84**	P		**P**	**11 40 42.4**	**-1.9**	
	baz=50,SNR=15								
R34A	**Isabella, Hill**	**50.49**	**76**	P		P	11 40 41.2	-3.4	
	baz=50,SNR=17								
S33A	**Kaszmaul Farm,**	**50.51**	**77**	P		**P**	**11 40 42.5**	**-2.2**	
	baz=50,SNR=11								
W30A	**Crocket Farms**	**50.58**	**81**	P		**P**	**11 40 43.7**	**-1.7**	
	baz=50								
V31A	**Spring Creek L**	**50.62**	**80**	P		**P**	**11 40 43.4**	**-2.3**	
	baz=50,SNR=12								
O36A	**Bolckow**	**50.63**	**73**	P		**P**	**11 40 43.4**	**-2.2**	
	baz=50								
BJI	**Beijing**	**50.66**	**287**	P		**P**	**11 40 46.0**	**+0.2**	
BJI				PP		**PP**	**11 42 43.0**	**+1.5**	
BJI				S		**S**	**11 47 56.0**	**-3.4**	
BJI				PMZ					
	comp=Z,8.0nm,0.7s								
BJI				PMZ					
	comp=Z,230nm,5.8s								
BJI				LN					
	comp=Z,2µm,21.0s								
BJI				LE					
	comp=Z,3µm,20.2s								
BJI				LZ					
	comp=Z,3µm,25.0s								
T33A	**Patterson Ranc**	**50.70**	**78**	P		**P**	**11 40 43.7**	**-2.5**	
	baz=50								
U32A	**Winter Ranch,**	**50.72**	**79**	P		**P**	**11 40 44.3**	**-2.0**	
	baz=51,SNR=13								
ULN	**Ulaanbaatar**	**50.75**	**300**	*e*P		**P**	**11 40 47.2**	**+0.6**	
ULN				pmax		pmax			
	comp=Z,6.0nm,0.7s								
ULN				MLR		MLR			
	comp=Z,3µm,19.0s								
ULN	**Ulaanbaatar**	**50.75**	**300**	*e*P		**P**	**11 40 47.2**	**+0.6**	
	comp=Z,5.7nm,0.7s								
ULN				LR		LR			
	comp=Z,3µm,19.0s								
Z28A	**Tucker Farm, M**	**50.78**	**85**	P		**P**	**11 40 45.3**	**-1.6**	
	baz=51,SNR=15								
P36A	**Good Intent, A**	**50.82**	**74**	P		**P**	**11 40 44.9**	**-2.2**	
	baz=51,SNR=12								
Y29A	**Porterfield Fa**	**50.82**	**84**	P		**P**	**11 40 45.4**	**-1.8**	
	baz=51,SNR=19								
Q35A	**Mercer Eighty,**	**50.83**	**75**	P		**P**	**11 40 45.1**	**-2.0**	
	baz=51								
X30A	**Coker Ranch, T**	**50.90**	**82**	P		**P**	**11 40 46.0**	**-1.8**	
	baz=51								
W31A	**Holland Ranch,**	**50.96**	**81**	P		**P**	**11 40 46.1**	**-2.0**	
	baz=51,SNR=13								
S34A	**Willow Spring**	**50.96**	**77**	P		**P**	**11 40 45.6**	**-2.5**	
	baz=51,SNR=12								
R35A	**Emporia Munici**	**51.09**	**75**	P		**P**	**11 40 46.9**	**-2.2**	
	baz=51								
Q36A	**Arnold C. Orve**	**51.10**	**74**	P		**P**	**11 40 47.2**	**-2.0**	
	baz=51								
SONM	**Songino Array**	**51.12**	**301**	P		**P**	**11 40 46.8**	**-2.5**	
	comp=Z,1.6nm,0.7s,baz=95,slow=2.8,SNR=5.2								
SONM				PcP		**PcP**	**11 42 02.4**	**-2.3**	
	comp=Z,17nm,0.7s,baz=44,slow=3.0,SNR=23								
SONM				ScP		**ScP**	**11 46 00.5**	**+0.7**	
	comp=Z,0.6nm,0.5s,baz=24,slow=2.9,SNR=4.5								
SONM	**Songino Array**	**51.12**	**301**	P		**P**	**11 40 46.8**	**-2.5**	
SONM							11 42 02.4		
SONM				pmax		pmax			
	comp=Z,2.0nm,0.7s								
SONM				pmax		pmax			
	comp=Z,17nm,0.7s								
SONM				pmax		pmax			
	comp=N,1.0nm,0.5s								
V32A	**Arapaho**	**51.14**	**80**	P		**P**	**11 40 48.1**	**-1.4**	
	baz=51								
128A	**Castleberry Fa**	**51.18**	**85**	P		**P**	**11 40 48.2**	**-1.7**	
	baz=51,SNR=44								
Z29A	**Hungry Hill Ra**	**51.21**	**84**	P		**P**	**11 40 48.7**	**-1.5**	
	baz=51,SNR=50								
U33A	**Lingo Farm, Me**	**51.21**	**79**	P		**P**	**11 40 47.8**	**-2.2**	
	baz=51,SNR=15								
Y30A	**Stafford Cattl**	**51.27**	**83**	P		**P**	**11 40 49.3**	**-1.3**	
	baz=51,SNR=11								
X31A	**McDonald Ranch**	**51.31**	**82**	P		**P**	**11 40 49.5**	**-1.4**	
	baz=51,SNR=9.7								
T34A	**McClaskey Farm**	**51.37**	**77**	P		**P**	**11 40 48.7**	**-2.6**	
	baz=51,SNR=39								
W32A	**Sentinel**	**51.42**	**81**	P		**P**	**11 40 49.9**	**-1.8**	
	baz=51,SNR=16								
S35A	**Otter Creek Ra**	**51.45**	**76**	P		**P**	**11 40 49.9**	**-1.9**	
	baz=51,SNR=21								
228A	**UT Block 9, Go**	**51.46**	**86**	P		**P**	**11 40 50.6**	**-1.5**	
	baz=51,SNR=6.8								
R36A	**Gordon, Harris**	**51.50**	**75**	P		**P**	**11 40 49.9**	**-2.3**	
	baz=51,SNR=20								
JFWS	**Jewell Farm**	**51.52**	**67**	*e*P		**P**	**11 40 50.6**	**-1.7**	
JFWS				pmax		pmax			
	comp=Z,21nm,0.7s								
JFWS				MLR		MLR			
	comp=Z,3µm,19.0s								
JFWS	**Jewell Farm**	**51.52**	**67**	*e*P		**P**	**11 40 50.6**	**-1.7**	
	comp=Z,21nm,0.7s								
JFWS				LR		LR			
	comp=Z,3µm,19.0s								
V33A	**Lossen Ranch,**	**51.52**	**79**	P		P	11 40 49.2	-3.2	
	baz=51								
Z30A	**Sanderson Ranc**	**51.54**	**84**	P		**P**	**11 40 51.0**	**-1.6**	
	baz=51,SNR=35								
129A	**Stewart Farms,**	**51.55**	**85**	P		**P**	**11 40 50.7**	**-2.0**	
	baz=51,SNR=16								
U34A	**Anderson Ranch**	**51.56**	**78**	P		**P**	**11 40 50.4**	**-2.2**	
	baz=51,SNR=22								
U34A	**Anderson Ranch**	**51.56**	**78**	*e*P		**P**	**11 40 52.9**	**+0.2**	
	comp=Z,84nm,0.8s								
Y31A	**Rekieta Farm,**	**51.60**	**82**	P		**P**	**11 40 51.4**	**-1.6**	
	baz=51								
Q37A	**Longview Farm,**	**51.75**	**74**	P		**P**	**11 40 51.2**	**-2.8**	
	baz=52								
T35A	**Sooner Cattle**	**51.84**	**77**	P		**P**	**11 40 52.5**	**-2.3**	
	baz=52,SNR=13								
S36A	**Lake Cedric, C**	**51.85**	**76**	P		**P**	**11 40 52.6**	**-2.2**	
	baz=52,SNR=9.6								
W33A	**Caddo, Fort Co**	**51.87**	**80**	P		**P**	**11 40 53.5**	**-1.5**	
	baz=52,SNR=7.0								
X32A	**Elmer**	**51.87**	**81**	P		**P**	**11 40 53.3**	**-1.7**	
	baz=52,SNR=17								
R37A	**Teagarden Farm**	**51.90**	**75**	P		**P**	**11 40 52.3**	**-2.9**	
	baz=52								
WMOK	**Wichita Mounta**	**51.96**	**81**	*e*P		**P**	**11 40 55.4**	**-0.3**	
WMOK				pmax		pmax			
	comp=Z,45nm,0.8s								
WMOK				MLR		MLR			
	comp=Z,2µm,21.0s								
WMOK	**Wichita Mounta**	**51.96**	**81**	*e*P		**P**	**11 40 55.4**	**-0.3**	
	comp=Z,44nm,0.8s								
WMOK				LR		LR			
	comp=Z,2µm,21.0s								
V34A	**Guthrie**	**51.97**	**79**	P		**P**	**11 40 53.6**	**-2.1**	
	baz=52,SNR=7.1								
V34A	**Guthrie**	**51.97**	**79**	*e*P		**P**	**11 40 53.8**	**-1.9**	
	comp=Z,66nm,0.9s								
229A	**Bryant Ranch,**	**52.04**	**85**	P		**P**	**11 40 54.5**	**-1.9**	
	baz=52								
Y32A	**R-V Farms, Ver**	**52.07**	**82**	P		**P**	**11 40 54.4**	**-2.1**	
	baz=52,SNR=13								
U35A	**Pawnee**	**52.08**	**78**	P		**P**	**11 40 54.7**	**-1.8**	
	baz=52,SNR=10								
SFJD	**Kangerlussuaq**	**52.11**	**26**	*i* P		**P**	**11 40 57.2**	**+0.9**	
SFJD	**Kangerlussuaq**	**52.11**	**26**	*i* P		**P**	**11 40 57.2**	**+0.9**	
SFJD	**Kangerlussuaq**	**52.11**	**26**	PFAKE			11 41 10.0	+14	
SFJD				LR		LR			
	comp=Z,2µm,22.0s								
Z31A	**Sharp Cattle R**	**52.12**	**83**	P		**P**	**11 40 55.1**	**-1.7**	
	baz=52,SNR=17								
130A	**Snyder**	**52.12**	**84**	P		**P**	**11 40 54.8**	**-2.1**	
	baz=52,SNR=6.7								
T36A	**Boggs Farm, Ca**	**52.12**	**76**	P		**P**	**11 40 54.7**	**-2.1**	
	baz=52,SNR=9.4								
W34A	**Bridge Creek,**	**52.23**	**79**	P		**P**	**11 40 55.8**	**-1.9**	
	baz=52								
W34A	**Bridge Creek,**	**52.23**	**79**	*e*P		**P**	**11 40 56.9**	**-0.7**	
	comp=Z,34nm,0.8s								
X33A	**Lawton**	**52.26**	**81**	P		**P**	**11 40 55.9**	**-2.0**	
	baz=52								
S37A	**Fort Scott**	**52.27**	**75**	P		**P**	**11 40 55.5**	**-2.4**	
	baz=52,SNR=46								
329A	**Wagon Wheel Ra**	**52.28**	**86**	P		**P**	**11 40 56.6**	**-1.5**	
	baz=52,SNR=23								
131A	**Roby**	**52.41**	**84**	P		**P**	**11 40 57.8**	**-1.3**	
	baz=52,SNR=13								
V35A	**Meyer Ranch, C**	**52.43**	**78**	P		**P**	**11 40 57.4**	**-1.7**	
	baz=52,SNR=9.7								
JOW	**Kunigami**	**52.48**	**266**	*e*P		P	11 41 03.4	+3.8	
	comp=Z,70nm,1.3s								
230A	**Sterling City**	**52.52**	**85**	P		**P**	**11 40 58.0**	**-1.9**	
	baz=52,SNR=26								
Z32A	**Haskell**	**52.52**	**82**	P		**P**	**11 40 58.4**	**-1.5**	
	baz=52,SNR=17								
Y33A	**Hilltop Ranch,**	**52.55**	**81**	P		**P**	**11 40 58.9**	**-1.2**	
	baz=52,SNR=6.5								
X34A	**Smith Ranch, M**	**52.62**	**80**	P		**P**	**11 40 58.7**	**-1.8**	
	baz=52								
TIA	**Tai'an**	**52.64**	**283**	⇓P		**P**	**11 41 02.5**	**+1.8**	
TIA				S		**S**	**11 48 23.5**	**-3.4**	
TIA				sS		sS	11 48 40.8	+3.3	
TIA				PMZ					
	comp=Z,10.0nm,0.8s								
TIA				LN					
	comp=Z,1µm,22.6s								
TIA				LE					
	comp=Z,1µm,22.0s								
TIA				LZ					
	comp=Z,800nm,24.4s								
T37A	**Cheneyville 18**	**52.65**	**76**	P		**P**	**11 40 58.4**	**-2.3**	
	baz=52,SNR=21								
U36A	**Oologah**	**52.66**	**77**	P		**P**	**11 40 58.2**	**-2.6**	
	baz=52								
TXAR	**Lajitas Array**	**52.77**	**89**	P		**P**	**11 41 01.2**	**-0.7**	
	comp=Z,37nm,0.7s,baz=305,slow=4.4,SNR=77								
TXAR				PcP		**PcP**	**11 42 10.1**	**-1.1**	
	comp=Z,9.2nm,0.9s,baz=270,slow=1.8,SNR=1.7								
TXAR	**Lajitas Array**	**52.77**	**89**	P		**P**	**11 41 01.2**	**-0.7**	
TXAR							11 42 10.1		
TXAR				pmax		pmax			
	comp=Z,37nm,0.7s								
TXAR				pmax		pmax			
	comp=Z,9.0nm,0.9s								
HHC	**Hu-ho-hao-te**	**52.78**	**291**	*e*P		**P**	**11 41 00.3**	**-1.5**	
HHC				pP		**pP**	**11 41 10.5**	**+2.3**	
HHC				sP		sP	11 41 14.0	+3.3	
HHC				S		**S**	**11 48 24.8**	**-4.1**	
HHC				sS		**sS**	**11 48 40.5**	**+1.0**	
HHC				ScS		**ScS**	**11 50 45.0**	**-5.2**	
HHC				PMZ					
	comp=Z,20nm,0.6s								
HHC				PMZ					
	comp=Z,62nm,6.6s								
HHC				LN					
	comp=Z,2µm,16.7s								
HHC				LE					
	comp=Z,1µm,19.0s								
HHC				LZ					
	comp=Z,3µm,19.2s								
W35A	**Tecumseh**	**52.82**	**79**	P		**P**	**11 41 00.5**	**-1.6**	
	baz=53,SNR=19								
330A	**Mertzon**	**52.82**	**85**	P		**P**	**11 41 00.2**	**-2.0**	
	baz=53,SNR=11								
ABTX	**Abilene, Hawle**	**52.90**	**83**	P		**P**	**11 41 01.4**	**-1.3**	
	baz=53,SNR=22								
ABTX	**Abilene, Hawle**	**52.90**	**83**	*e*P		**P**	**11 41 01.9**	**-0.7**	
	comp=Z,54nm,1.1s								
429A	**Davenport Ranc**	**52.94**	**87**	P		**P**	**11 41 01.4**	**-1.6**	
	baz=53,SNR=31								
V36A	**Jenks**	**52.94**	**78**	P		**P**	**11 41 00.9**	**-2.0**	
	baz=53,SNR=12								
TUL1	**Tulsa**	**52.95**	**77**	P		**P**	**11 40 60.0**	**-3.0**	
	baz=53,SNR=8.7								
TUL1	**Tulsa**	**52.95**	**77**	*e*P		**P**	**11 41 02.6**	**-0.3**	
	comp=Z,34nm,0.9s								
Z33A	**Whitaker Ranch**	**52.97**	**82**	P		**P**	**11 41 01.2**	**-1.9**	
	baz=53,SNR=17								
231A	**Bronte**	**52.97**	**84**	P		**P**	**11 41 01.3**	**-1.9**	
	baz=53,SNR=12								
U37A	**Salina**	**53.01**	**76**	P		**P**	**11 41 01.5**	**-2.0**	
	baz=53,SNR=18								
529A	**Stev Forest Ra**	**53.09**	**87**	P		**P**	**11 41 03.2**	**-1.0**	
	baz=53,SNR=37								
Y34A	**Reagan Ranch,**	**53.11**	**81**	P		**P**	**11 41 02.2**	**-1.9**	
	baz=53,SNR=20								
W36A	**Wetumka**	**53.22**	**78**	P		**P**	**11 41 03.1**	**-1.8**	
	baz=53,SNR=9.6								
430A	**Baggett Ranch,**	**53.22**	**86**	P		**P**	**11 41 03.5**	**-1.6**	
	baz=53,SNR=52								
GUMO	**Guam**	**53.23**	**240**	P		**P**	**11 41 03.2**	**-2.0**	
	comp=Z,73nm,0.7s,baz=24,slow=7.6,SNR=6.1								
GUMO	**Guam**	**53.23**	**240**	P		**P**	**11 41 03.2**	**-2.0**	
GUMO				pmax		pmax			
	comp=Z,73nm,0.7s								
X35A	**Drake**	**53.28**	**80**	P		**P**	**11 41 04.0**	**-1.4**	
	baz=53,SNR=18								
331A	**San Angelo**	**53.34**	**85**	P		**P**	**11 41 03.9**	**-2.1**	
	baz=53,SNR=27								
133A	**Hamilton Ranch**	**53.35**	**83**	P		**P**	**11 41 04.9**	**-1.1**	
	baz=53,SNR=29								
V37A	**Hulbert**	**53.35**	**77**	P		**P**	**11 41 03.7**	**-2.2**	
	baz=53,SNR=10								
GLMI	**Grayling**	**53.38**	**62**	PFAKE			11 41 20.0	+14	
GLMI				LR		LR			
	comp=Z,4µm,20.0s								
232A	**Coleman**	**53.41**	**84**	P		**P**	**11 41 04.7**	**-1.8**	
	baz=53,SNR=18								
Z34A	**Collier Ranch,**	**53.42**	**81**	P		**P**	**11 41 04.7**	**-1.8**	
	baz=53,SNR=8.7								
U38A	**Gravette**	**53.42**	**76**	P		**P**	**11 41 03.6**	**-2.8**	
	baz=53,SNR=16								
X36A	**Centrahoma**	**53.53**	**79**	P		**P**	**11 41 06.0**	**-1.3**	
	baz=53,SNR=11								
Y35A	**Marietta**	**53.58**	**80**	P		**P**	**11 41 06.4**	**-1.2**	
	baz=53,SNR=38								
HDIL	**Hopedale**	**53.61**	**69**	P		**P**	**11 41 05.2**	**-2.5**	
	baz=53,SNR=10								
HDIL	**Hopedale**	**53.61**	**69**	*e*P		**P**	**11 41 05.8**	**-1.9**	
	comp=Z,47nm,0.6s								
HDIL				LR		LR			
	comp=Z,2µm,21.0s								
530A	**J-C Ranch, Com**	**53.61**	**87**	P		**P**	**11 41 06.9**	**-1.1**	
	baz=54,SNR=58								
431A	**Sonora**	**53.68**	**86**	P		**P**	**11 41 06.6**	**-1.8**	
	baz=54,SNR=50								
W37A	**Quinton**	**53.69**	**78**	P		**P**	**11 41 07.1**	**-1.4**	
	baz=54,SNR=18								
332A	**Millersview**	**53.71**	**84**	P		**P**	**11 41 07.0**	**-1.6**	
	baz=54,SNR=25								
SSE	**Sheshan**	**53.73**	**275**	*e*P		**P**	**11 41 09.5**	**+0.7**	
SSE				pP		pP	11 41 21.0	+5.8	
SSE				S		**S**	**11 48 41.5**	**-0.3**	
SSE				sS		sS	11 48 58.5	+6.1	
SSE				PMZ					
	comp=Z,35nm,0.7s								
SSE				PMZ					
	comp=Z,88nm,3.6s								
SSE				LN					
	comp=Z,680nm,19.9s								
SSE				LE					
	comp=Z,1µm,19.9s								
SSE				LZ					
	comp=Z,2µm,20.6s								
V38A	**Canehill**	**53.80**	**76**	P		**P**	**11 41 06.7**	**-2.6**	
	baz=54,SNR=29								
Z35A	**Perchaven, San**	**53.85**	**81**	P		**P**	**11 41 07.4**	**-2.2**	
	baz=54								
134A	**White-Moore Ra**	**53.88**	**82**	P		**P**	**11 41 08.4**	**-1.4**	
	baz=54,SNR=17								
432A	**Menard**	**54.03**	**85**	P		**P**	**11 41 09.3**	**-1.7**	
	baz=54,SNR=11								
Y36A	**Durant**	**54.03**	**80**	P		**P**	**11

baz=54,SNR=33
631A **Perdido Creek** 54.60 87 P P 11 41 12.9 -2.3
baz=54,SNR=28
334A **Lometa** 54.65 83 P P 11 41 13.7 -1.9
baz=54,SNR=26
WHTX **Lake Whitney** 54.66 82 P P 11 41 14.3 -1.2
baz=54,SNR=14
WHTX **Lake Whitney** 54.66 82 eP P 11 41 15.6 +0.1
comp=Z,63nm,0.8s
136A **Ennis** 54.88 81 P P 11 41 15.2 -1.9
baz=55
Z37A **Pogue Cattle C** 54.92 80 P P 11 41 14.6 -2.7
baz=55
Y38A **Idabel** 54.94 78 P P 11 41 15.1 -2.5
baz=55
SFIN **Scholer Farm** 54.97 68 P P 11 41 14.8 -2.8
baz=55,SNR=10
SFIN **Scholer Farm** 54.97 68 eP P 11 41 15.9 -1.7
comp=Z,38nm,0.9s
434A **Burnet** 55.00 84 P P 11 41 16.0 -2.1
baz=55,SNR=42
632A **Uvalde** 55.01 86 P P 11 41 16.1 -2.1
baz=55,SNR=28
533A **Kerrville** 55.06 85 P P 11 41 16.1 -2.4
baz=55,SNR=21
335A **Moody** 55.18 83 P P 11 41 17.3 -1.9
baz=55
MIAR **Mount Ida** 55.20 77 eP P 11 41 18.1 -1.3
MIAR pmax pmax
comp=Z,35nm,0.9s
MIAR MLR MLR
comp=Z,2µm,19.0s
MIAR **Mount Ida** 55.20 77 P P 11 41 17.7 -1.7
baz=55,SNR=22
MIAR **Mount Ida** 55.20 77 eP P 11 41 18.1 -1.3
comp=Z,35nm,0.9s
MIAR LR LR
comp=Z,2µm,19.0s
236A **Katherine and** 55.21 81 P P 11 41 18.7 -0.8
baz=55,SNR=8.8
SCHQ **Schefferville** 55.23 43 P P 11 41 18.7 -0.7
comp=Z,7.9nm,0.9s,baz=325,slow=11,SNR=5.5
137A **Heron Place, G** 55.26 80 P P 11 41 18.0 -1.8
baz=55
Z38A **Mt. Pleasant** 55.26 79 P P 11 41 18.1 -1.7
baz=55
Y39A **Lockesburg** 55.32 78 P P 11 41 18.3 -1.9
baz=55
633A **Saathoff Ranch** 55.41 86 P P 11 41 19.0 -2.1
baz=55,SNR=7.8
534A **Blanco** 55.43 85 P P 11 41 19.5 -1.6
baz=55,SNR=15
435B **Jarrell** 55.44 83 P P 11 41 19.9 -1.3
baz=55,SNR=5.4
336A **Riesel** 55.46 82 P P 11 41 19.8 -1.4
baz=55,SNR=11
732A **Laxson Ranch,** 55.46 87 P P 11 41 19.9 -1.4
baz=55,SNR=13
PBMO **Poplar Bluff** 55.51 73 eP P 11 41 19.6 -2.0
comp=Z,63nm,1.6s
OLIL **Olney** 55.52 70 eP P 11 41 19.8 -1.9
comp=Z,42nm,0.8s
SIUC **Southern Illin** 55.57 71 eP P 11 41 20.0 -2.0
comp=Z,22nm,0.6s
AAM **Ann Arbor** 55.58 64 PFAKE 11 41 30.0 +8.0
AAM LR LR
comp=Z,2µm,19.0s
138A **Matatall Enter** 55.62 80 P P 11 41 20.6 -1.8
baz=56
237A **Washetta, Mont** 55.65 81 P P 11 41 21.3 -1.3
baz=56
Z39A **Irene McRaven,** 55.75 79 P P 11 41 21.9 -1.4
baz=56
UALR **University of** 55.77 76 eP P 11 41 23.7 +0.2
comp=Z,11nm,0.7s
832A **Faith Ranch, C** 55.77 87 P P 11 41 22.2 -1.4
baz=56,SNR=27
733A **Divot King Ran** 55.88 86 P P 11 41 23.2 -1.1
baz=56,SNR=10
436A **Wall Ranch, Ga** 55.92 83 P P 11 41 23.2 -1.4
baz=56
634A **China Grove, S** 55.97 85 P P 11 41 23.1 -1.9
baz=56
535A **Dale** 55.98 84 P P 11 41 23.9 -1.1
baz=56,SNR=5.6
PARMO **Parma** 55.98 73 eP P 11 41 23.9 -1.1
139A **Bunkhouse Ranc** 56.02 79 P P 11 41 23.6 -1.7
baz=56
238A **Jacksonville** 56.06 80 P P 11 41 23.6 -1.9
baz=56
833A **Chaparral WMA,** 56.10 87 P P 11 41 24.8 -1.2
baz=56,SNR=32
BLO **Bloomington** 56.11 68 eP P 11 41 26.3 +0.4
BLO pmax pmax
comp=Z,92nm,1.5s
BLO **Bloomington** 56.11 68 eP P 11 41 26.3 +0.4
comp=Z,92nm,1.5s
H06N1 **SOCORRO T-PHAS** 56.17 104 T T 12 42 13.2
SNR=102
734A **La Parita Cree** 56.23 86 P P 11 41 25.9 -1.0
baz=56,SNR=6.7
536A **Bastrop** 56.25 83 P P 11 41 26.0 -1.0
baz=56
H06E1 **SOCORRO T-PHAS** 56.27 104 T T 12 42 18.9
SNR=214
437A **Phantom Ranch,** 56.28 82 P P 11 41 26.1 -1.0
baz=56
H06S1 **SOCORRO T** 56.28 104 T T 12 42 17.1
SNR=10
USIN **University of** 56.29 70 eP P 11 41 25.2 -2.0
comp=Z,60nm,0.6s
635A **Leesville** 56.32 85 P P 11 41 26.2 -1.3
baz=56,SNR=17
338A **Crockett** 56.40 81 P P 11 41 26.9 -1.2
baz=56
239A **Gary** 56.44 80 P P 11 41 26.3 -2.0
baz=56
NATX **Nacogdoches** 56.51 80 P P 11 41 26.7 -2.0
baz=56
NATX **Nacogdoches** 56.51 80 eP P 11 41 30.4 +1.6
comp=Z,41nm,0.7s
NATX LR LR
comp=Z,3µm,20.0s
735A **Kenedy** 56.68 85 P P 11 41 28.8 -1.2
baz=56
636A **Smothers Creek** 56.69 84 P P 11 41 29.4 -0.7
baz=56
933A **Laredo** 56.69 87 P P 11 41 29.6 -0.5
baz=57,SNR=5.7
537A **Green Hill Far** 56.70 83 P P 11 41 29.7 -0.5
baz=57
438A **Sam Houston St** 56.73 82 P P 11 41 29.5 -0.9
baz=57
834A **Tilden** 56.75 86 P P 11 41 29.9 -0.7
baz=57
339A **Huntington** 56.87 81 P P 11 41 30.1 -1.3
baz=57
736A **Circle Diamond** 57.06 84 P P 11 41 32.8 +0.1
baz=57
835A **Beeville** 57.08 85 P P 11 41 32.7 -0.2
baz=57,SNR=6.0
HKT **Hockley** 57.09 83 eP P 11 41 32.5 -0.3
HKT pmax pmax
comp=Z,72nm,1.6s
HKT **Hockley** 57.09 83 eP P 11 41 32.5 -0.3
comp=Z,72nm,1.6s
538A **Harpers Horsep** 57.10 82 P P 11 41 32.0 -1.0
baz=57
439A **Center Grove,** 57.13 81 P P 11 41 31.7 -1.5
baz=57
637A **Eagle Lake** 57.15 83 P P 11 41 33.1 -0.3
baz=57
934A **Benavides** 57.15 87 P P 11 41 33.2 -0.2
baz=57,SNR=7.2
NVS **Novosibirsk** 57.17 319 eP P 11 41 33.5 +0.3
NVS e 11 42 28.7
ZALV **Zalesovo Beam** 57.17 317 P P 11 41 32.5 -0.7
comp=Z,1.7nm,0.6s,baz=28,slow=6.7,SNR=8.4
ZALV PcP PcP 11 42 28.1 +0.5
comp=Z,5.4nm,0.7s,baz=44,slow=3.0,SNR=7.6
ZALV **Zalesovo Beam** 57.17 317 P P 11 41 32.5 -0.7
ZALV 11 42 28.1
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV pmax pmax
comp=Z,5.0nm,0.7s
340A **Bronson** 57.21 80 P P 11 41 32.4 -1.4
baz=57

KEV **Kevo** 57.29 353 PFAKE 11 41 50.0 +16
KEV LR LR
comp=Z,966nm,21.0s
ACSO **Alum Creek Sta** 57.37 65 eP P 11 41 33.5 -1.3
ACSO LR LR
comp=Z,2µm,21.0s
034A **Hebbronville** 57.44 87 P P 11 41 34.4 -1.0
baz=57
KVTX **Kingsville** 57.58 86 PFAKE 11 41 50.0 +14
KVTX LR LR
comp=Z,2µm,21.0s
ARCES **ARCESS Array B** 57.61 354 P P 11 41 35.9 -0.2
comp=Z,3.9nm,0.9s,baz=14,slow=8.4,SNR=8.2
ARCES PcP PcP 11 42 29.2 +0.1
comp=Z,4.8nm,0.7s,baz=13,slow=5.1,SNR=7.5
ARCES ScP ScP 11 46 28.9 +1.3
comp=Z,1.7nm,0.8s,baz=15,slow=5.0,SNR=3.9
ARCES **ARCESS Array B** 57.61 354 P P 11 41 35.9 -0.2
ARCES 11 42 29.2
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES pmax pmax
comp=Z,5.0nm,0.7s
ARCES pmax pmax
comp=N,2.0nm,0.8s
440A **Kirbyville** 57.65 81 P P 11 41 36.3 -0.6
baz=58
035A **Encino** 57.89 87 P P 11 41 37.9 -0.7
baz=58
WHN **Wuhan** 58.25 280 P P 11 41 39.0 -2.1
WHN S S 11 49 34.3 -7.6
WHN LN
comp=N,2µm,15.6s
WHN LE
comp=N,4µm,18.7s
WHN LZ
comp=N,5µm,22.4s
035Z **Hargill** 58.26 87 P P 11 41 40.5 -0.7
baz=58
YHNB **Yeheng** 58.27 270 PFAKE 11 41 50.0 +8.6
YHNB LR LR
comp=Z,3µm,22.0s
MMNY **Mt. Morris Dam** 58.37 60 eP P 11 41 42.6 +0.8
comp=Z,54nm,0.8s
LVZ **Lovozero** 58.41 350 ceP P 11 41 42.0 +0.3
LVZ pmax pmax
comp=Z,21nm,1.0s
LVZ **Lovozero** 58.41 350 eP P 11 41 42.1 +0.4
comp=Z,24nm,1.0s
LVZ LR LR
comp=Z,863nm,19.0s
VBMS **Vicksburg** 58.65 77 P P 11 41 41.9 -1.9
baz=58
LONY **Lake Ozonia** 58.76 56 eP P 11 41 43.1 -1.4
comp=Z,43nm,1.0s
LONY LR LR
comp=Z,3µm,19.0s
APA **Apatity** 58.86 350 eP P 11 41 50.0 +5.2
APA MLR MLR
comp=Z,1µm,20.0s
XAN **Xi'an** 58.98 287 P P 11 41 47.8 +1.6
XAN pP pP 11 41 58.0 +5.3
XAN sP sP 11 42 02.5 +7.3
XAN PP PP 11 43 59.0 +2.7
XAN S S 11 49 47.0 -4.4
XAN sS sS 11 50 04.3 +2.2
XAN SS SS 11 53 41.8 -2.9
XAN PMZ
comp=Z,7.0nm,0.8s
XAN PMZ
comp=Z,150nm,7.3s
XAN LN
comp=Z,1µm,17.5s
XAN LE
comp=Z,1µm,16.3s
XAN LZ
comp=Z,2µm,19.9s
SSLB **Suanglung** 59.18 269 eP P 11 41 47.5 -0.2
comp=Z,76nm,0.8s
SWET **Sewanee** 59.21 71 eP P 11 41 46.1 -1.7
comp=Z,9.4nm,0.7s
YULB **Yu-li** 59.26 269 eP P 11 41 48.0 -0.3
comp=Z,62nm,1.2s
NCB **Newcomb** 59.40 57 PFAKE 11 42 00.0 +11
NCB LR LR
comp=Z,2µm,19.0s
MCWV **Mont Chateau** 59.49 64 eP P 11 41 48.8 -0.8
comp=Z,16nm,0.9s
TZTN **Tazewell** 59.63 69 eP P 11 41 49.6 -1.0
comp=Z,34nm,1.2s
TPUB **Ta-pu** 59.74 269 eP P 11 41 53.5 +1.9
QZH **Quanzhou** 59.76 272 P P 11 41 54.8 +3.2
QZH S S 11 50 02.0 +0.5
QZH LN
comp=Z,4µm,22.1s
QZH LE
comp=Z,1µm,14.5s
QZH LZ
comp=Z,4µm,24.9s
CPCT **Cooper Cave** 59.85 70 eP P 11 41 51.1 -1.0
SSPA **Standing Stone** 59.85 62 eP P 11 41 50.5 -1.5
comp=Z,33nm,1.0s
ACCN **Adirondack Com** 60.10 57 eP P 11 41 53.8 0.0
comp=Z,42nm,1.2s
LRAL **Lakeview Retre** 60.14 74 eP P 11 41 52.9 -1.2
comp=Z,21nm,0.8s
GTA **Gaotai** 60.31 297 eP P 11 41 56.5 +1.1
GTA pP pP 11 42 01.0 -0.9
GTA S S 11 50 08.0 -0.6
GTA sS sS 11 50 16.0 -3.4
GTA PMZ
comp=Z,5.0nm,1.1s
GTA PMZ
comp=Z,150nm,5.5s
GTA LN
comp=Z,3µm,20.0s
GTA LE
comp=Z,4µm,19.5s
GTA LZ
comp=Z,3µm,21.4s
KSPA **Keystone Colle** 60.32 60 eP P 11 41 55.0 -0.3
comp=Z,20nm,0.8s
BORG **Borgarnes** 60.34 15 iP P 11 42 05.0 +10
BORG **Borgarnes** 60.34 15 PFAKE 11 42 10.0 +15
BORG LR LR
comp=Z,2µm,19.0s
LZH **Lanzhou** 60.44 292 eP P 11 41 57.0 +0.6
LZH S S 11 50 08.0 -2.5
LZH sS sS 11 50 16.3 -4.9
LZH PMZ
comp=Z,15nm,1.0s
LZH PMZ
comp=Z,150nm,6.5s
LZH LN
comp=Z,2µm,16.4s
LZH LE
comp=Z,2µm,16.6s
LZH LZ
comp=Z,2µm,18.3s
TRY **Troy** 60.57 57 eP P 11 41 56.8 -0.2
comp=Z,23nm,0.9s
HNH **Hanover** 60.57 56 eP P 11 41 55.6 -1.3
comp=Z,15nm,1.0s
BLA **Blacksburg** 60.91 66 eP P 11 41 57.8 -1.6
BLA pmax pmax
comp=Z,49nm,0.8s
BLA MLR MLR
comp=Z,2µm,20.0s
BLA **Blacksburg** 60.91 66 eP P 11 41 57.8 -1.6
comp=Z,49nm,0.8s
BLA LR LR
comp=Z,2µm,20.0s
LUPA **Lehigh Univers** 61.22 60 eP P 11 42 00.4 -1.0
comp=Z,6.6nm,0.9s
WVL **Waterville** 61.25 53 eP P 11 42 00.5 -1.0
comp=Z,23nm,1.0s
ODNJ **Ogdensburg** 61.27 59 eP P 11 42 01.3 -0.5
comp=Z,23nm,0.8s
SDMD **Soldier's Deli** 61.29 62 eP P 11 42 00.4 -1.5
comp=Z,84nm,0.9s
ENH **Enshi** 61.35 283 PFAKE 11 42 10.0 +7.5
ENH LR LR
comp=Z,842nm,21.0s
TMCR **Tamitsa** 61.56 347 eP P 11 42 03.8 +0.5
TMCR pmax pmax
comp=Z,30nm,0.4s

BRAL **Brewton** 61.57 75 eP P 11 42 03.7 -0.2
comp=Z,110nm,0.8s
BRAL LR LR
comp=Z,2µm,19.0s
BRNJ **Basking Ridge** 61.58 59 eP P 11 42 02.8 -1.0
comp=Z,28nm,0.7s
PAL **Palisades** 61.69 59 eP P 11 42 03.5 -1.1
PAL pmax pmax
comp=Z,41nm,1.0s
PAL **Palisades** 61.69 59 eP P 11 42 03.5 -1.1
comp=Z,41nm,1.0s
HRV **Adam Dziewonsk** 61.81 56 eP P 11 42 05.7 +0.3
HRV pmax pmax
comp=Z,33nm,1.0s
HRV **Adam Dziewonsk** 61.81 56 eP P 11 42 05.7 +0.3
comp=Z,33nm,1.0s
CBN **Corbin** 61.87 63 eP P 11 42 04.8 -1.1
CBN LR LR
comp=Z,3µm,20.0s
KMSC **Kings Mountain** 61.89 68 eP P 11 42 04.3 -1.7
comp=Z,24nm,0.8s
GOGA **Godfrey** 61.92 71 eP P 11 42 03.7 -2.5
GOGA pmax pmax
comp=Z,15nm,0.8s
GOGA MLR MLR
comp=Z,1µm,20.0s
GOGA **Godfrey** 61.92 71 eP P 11 42 03.7 -2.5
comp=Z,15nm,0.8s
GOGA LR LR
comp=Z,1µm,20.0s
JSRW **J. Sargeant Re** 61.97 64 eP P 11 42 05.1 -1.3
KURK **Kurchatov** 62.12 318 P P 11 42 06.5 -0.8
KURK pmax pmax
comp=Z,7.0nm,0.9s
KURK **Kurchatov** 62.12 318 P P 11 42 06.5 -0.8
EMMW **East Machias** 62.21 52 eP P 11 42 06.8 -1.2
comp=Z,44nm,1.0s
KURBB **Kurchatov Arra** 62.23 318 P P 11 42 06.5 -1.5
comp=Z,6.7nm,0.9s,baz=44,slow=7.1,SNR=29
BRYW **Bryant College** 62.25 57 eP P 11 42 09.0 +0.7
comp=Z,34nm,1.1s
JSC **Jenkinsville** 62.55 69 eP P 11 42 08.8 -1.6
JSC pmax pmax
comp=Z,45nm,1.2s
JSC **Jenkinsville** 62.55 69 eP P 11 42 08.8 -1.6
comp=Z,45nm,1.2s
PRGR **Permogore** 62.68 342 eP P 11 42 09.5 -1.4
PRGR pmax pmax
comp=Z,19nm,1.2s
TIGA **Tifton** 63.28 73 P P 11 42 14.5 -0.9
baz=63
TIGA **Tifton** 63.28 73 eP P 11 42 14.8 -0.6
comp=Z,14nm,0.6s
WMQ **Urumqi** 63.32 308 P P 11 42 18.5 +3.0
WMQ pP pP 11 42 28.5 +6.4
WMQ sP sP 11 42 32.5 +8.0
WMQ PcP PcP 11 42 55.0 +2.5
WMQ S S 11 50 47.3 +0.9
WMQ PMZ
comp=Z,12nm,1.2s
WMQ PMZ
comp=Z,230nm,9.0s
WMQ LN
comp=Z,4µm,16.6s
WMQ LE
comp=Z,2µm,17.4s
WMQ LZ
comp=Z,2µm,20.2s
SVE **Sverdlovsk** 63.40 332 eP P 11 42 14.6 -1.1
SVE eS S 11 50 51.4 +4.5
SVE pmax pmax
comp=Z,26nm,1.2s
SVE MLR MLR
comp=Z,1µm,19.0s
BVAR **Borovoye Array** 63.43 324 P P 11 42 15.0 -1.0
comp=Z,8.9nm,0.6s,baz=53,slow=6.8,SNR=27
BVAR **Borovoye Array** 63.43 324 P P 11 42 15.0 -1.0
BVAR pmax pmax
comp=Z,9.0nm,0.6s
BRVK **Borovoye** 63.45 324 P P 11 42 16.1 0.0
comp=Z,66nm,0.8s,SNR=5.2
BRVK **Borovoye** 63.45 324 ceP P 11 42 16.2 +0.1
BRVK pmax pmax
comp=Z,13nm,1.0s
BRVK **Borovoye** 63.45 324 eP P 11 42 15.6 -0.5
comp=Z,11nm,1.0s
BRVK LR LR
comp=Z,4µm,19.0s
MKAR **Makanchi Array** 63.57 313 P P 11 42 16.5 -0.6
comp=Z,1.6nm,0.7s,baz=49,slow=5.6,SNR=8.3
MKAR **Makanchi Array** 63.57 313 P P 11 42 16.5 -0.6
MKAR pmax pmax
comp=Z,2.0nm,0.7s
CNNC **Cliffs of the** 63.75 66 eP P 11 42 17.6 -0.8
CNNC LR LR
comp=Z,3µm,20.0s
NHSC **New Hope** 64.03 69 eP P 11 42 19.9 -0.3
comp=Z,74nm,0.7s
NHSC LR LR
comp=Z,3µm,19.0s
SZP **Santa** 64.20 265 eP P 11 42 21.2 -0.3
comp=Z,129nm,0.9s
CD2 **Chengdu** 64.25 288 P P 11 42 21.0 -0.8
CD2 pP pP 11 42 31.5 +3.2
CD2 sP sP 11 42 36.0 +5.2
CD2 PcP PcP 11 42 55.5 -1.0
CD2 S S 11 50 56.0 -2.2
CD2 sS sS 11 51 14.0 +4.9
CD2 SS SS 11 55 06.8 -0.5
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,5.4s
CD2 LN
comp=Z,2µm,27.0s
CD2 LE
comp=Z,2µm,16.2s
CD2 LZ
comp=Z,1µm,18.1s
ARU **Arti** 64.33 333 P P 11 42 21.1 -0.7
baz=40,slow=4.0
ARU **Arti** 64.33 333 diP P 11 42 20.8 -1.1
ARU 11 43 00.6
ARU 11 44 42.7
ARU S S 11 50 56.8 -1.6
ARU 11 52 06.5
ARU SSS SSS 11 58 01.1
ARU pmax pmax
comp=Z,22nm,1.2s
ARU **Arti** 64.33 333 eP P 11 42 21.8 -0.1
comp=Z,15nm,1.0s
ARU LR LR
comp=Z,2µm,19.0s
FINES **FINESS Array B** 65.56 352 P P 11 42 29.4 -0.3
comp=Z,9.7nm,0.8s,baz=35,slow=7.0,SNR=21
FINES **FINESS Array B** 65.56 352 P P 11 42 29.5 -0.3
FINES pmax pmax
comp=Z,10.0nm,0.9s
TAOE **Nuku Hiva Isla** 66.20 148 eT T 12 54 25.8
comp=Z,310nm,0.2s
TGY **Tagaytay City** 66.57 262 P P 11 42 37.2 +0.2
comp=Z,179nm,0.3s,baz=164,slow=10,SNR=4.4
TGY **Tagaytay City** 66.57 262 P P 11 42 37.2 +0.2
TGY pmax pmax
comp=Z,179nm,0.3s
NB2 **NORSAR Subarra** 66.63 360 P P 11 42 35.0 -1.7
comp=Z,3.3nm,0.8s,baz=359,slow=6.2
NOA **NORSAR Array B** 66.63 360 P P 11 42 35.2 -1.5
comp=Z,2.2nm,0.8s,baz=0.0,slow=6.2,SNR=8.5
NOA LR LR 12 11 15.5
comp=Z,344nm,19.7s,baz=355,slow=36
DWPF **Disney** 67.00 74 eP P 11 42 39.1 -0.4
comp=Z,35nm,0.8s
HNR **Honiara** 67.18 213 PFAKE 11 42 50.0 +9.3
HNR LR LR
comp=Z,1µm,20.0s
HFS **Hagfors** 67.52 358 P P 11 42 41.2 -1.1
comp=Z,2.0nm,0.4s,baz=36,slow=5.4,SNR=2.5
HFS **Hagfors** 67.52 358 P P 11 42 41.2 -1.1
HFS pmax pmax
comp=Z,2.0nm,0.4s
KONO **Kongsberg** 68.03 1 PFAKE 11 43 00.0 +14
KONO LR LR
comp=Z,826nm,21.0s
VSU **Vasula** 68.44 351 iP P 11 42 48.2 +0.1
VSU pmax pmax

comp=Z,82nm,1.0s
TEIG Tepich 68.86 84 *e*P **P** **11 42 52.0 +0.7**
comp=Z,36nm,1.0s
TEIG LR LR
comp=Z,81nm,22.0s
KMI Kunming 69.16 284 P **P** **11 42 54.8 +1.4**
KMI pP pP 11 43 05.8 +5.8
KMI sP sP 11 43 12.5 +10
KMI S **S** **11 51 56.5 -1.7**
KMI PMZ
comp=Z,10.0nm,0.8s
KMI PMZ
comp=Z,360nm,6.1s
KMI LN
comp=Z,1µm,23.3s
KMI LE
comp=Z,500nm,26.2s
KMI LZ
comp=Z,2µm,23.3s
DAV Davao City (W) 69.37 254 PFAKE 11 43 10.0 +16
DAV LR LR
comp=Z,2µm,21.0s
GENI Genyem 69.39 235 P **P** **11 42 57.4 +2.8**
comp=Z,58nm,1.1s
QIZ Qiongzhong 69.52 275 P **P** **11 42 57.0 +1.6**
QIZ pP pP 11 43 06.0 +3.9
QIZ sP sP 11 43 09.8 +5.3
QIZ S **S** **11 52 02.5 +0.4**
QIZ sS sS 11 52 18.8 +5.8
QIZ SS **SS** **11 56 30.5 +1.1**
QIZ PMZ
comp=Z,17nm,1.1s
QIZ LN
comp=Z,930nm,22.7s
QIZ LZ
comp=Z,990nm,27.1s
QIZ Qiongzhong 69.52 275 PFAKE 11 43 10.0 +15
QIZ LR LR
comp=Z,961nm,20.0s
TKM2 Tokmak 2 69.55 315 *e*P **P** **11 42 56.1 +0.5**
TKM2 pmax pmax
comp=Z,4.0nm,0.9s
TKM2 MLR MLR
comp=Z,2µm,20.0s
TKM2 Tokmak 2 69.55 315 *e*P **P** **11 42 56.0 +0.5**
comp=Z,3.5nm,0.9s
TKM2 LR LR
comp=Z,2µm,20.0s
MOS Moscow 69.67 344 *e*P **P** **11 42 58.4 +2.7**
MOS *e* 11 43 17.7
AKTO Aktyubinsk 69.73 330 P **P** **11 42 55.7 -0.6**
comp=Z,7.0nm,0.7s,baz=42,slow=6.0,SNR=22
AKTO Aktyubinsk 69.73 330 P **P** **11 42 55.7 -0.6**
AKTO pmax pmax
comp=Z,7.0nm,0.7s
PMOR Pomariorio Ree 69.92 158 *e*T T 12 59 07.7
comp=Z,50nm,0.3s
FRU Bishkek 70.05 315 *e*P **PcP** **11 43 16.0 -4.5**
ABKAR Akbulak array 70.16 328 *e*P **P** **11 42 58.0 -0.9**
AAK Ala-Archa 70.26 315 PFAKE 11 43 10.0 +10
AAK LR LR
comp=Z,1µm,19.0s
OBN Obninsk 70.44 345 P **P** **11 42 58.6 -1.9**
comp=Z,14nm,0.4s,baz=131,slow=22,SNR=2.9
OBN Obninsk 70.44 345 ⇓*i*P **P** **11 43 01.3 +0.8**
OBN pmax pmax
comp=Z,11nm,0.6s
OBN Obninsk 70.44 345 P **P** **11 42 58.6 -1.9**
OBN LR LR
comp=Z,970nm,20.0s
EKS2 Erkin-Say 70.54 316 *e*P **P** **11 43 01.1 -0.5**
EKS2 pmax pmax
comp=Z,7.0nm,0.7s
EKS2 MLR MLR
comp=Z,2µm,19.0s
EKS2 Erkin-Say 70.54 316 *e*P **P** **11 43 01.1 -0.5**
comp=Z,7.4nm,0.7s
EKS2 LR LR
comp=Z,2µm,19.0s
MSVF Nonsavu 70.95 193 *e*P P 11 43 07.6 +3.6
MSVF pmax pmax
comp=Z,56nm,1.2s
MSVF MLR MLR
comp=Z,2µm,22.0s
MSVF Nonsavu 70.95 193 *e*P P 11 43 07.6 +3.6
comp=Z,56nm,1.2s
MSVF LR LR
comp=Z,2µm,22.0s
MUD Monsted U'grnd 71.23 1 *i*P **P** **11 43 07.9 +2.7**
comp=Z,800nm,19.0s
MUD Monsted U'grnd 71.23 1 *i*P **P** **11 43 07.9 +2.7**
MUD MLR MLR
comp=Z,810nm,19.0s
EKA Eskdalemuir Ar 71.76 8 P **P** **11 43 07.3 -1.2**
baz=352,slow=4.3
ESK Eskdalemuir 71.77 8 PFAKE 11 43 20.0 +11
ESK LR LR
comp=Z,1µm,20.0s
COP Copenhagen 71.99 359 *i*P **P** **11 43 08.8 -1.1**
comp=Z,380nm,21.0s
COP Copenhagen 71.99 359 *i*P **P** **11 43 08.8 -1.1**
COP MLR MLR
comp=Z,380nm,21.0s
PPT2 Papeete2 72.06 160 *e*S **S** **11 52 32.2 +0.8**
comp=Z,1µm,26.2s
PPT2 *e*LQ LQ 12 01 34.5
comp=Z,2µm,26.2s
PPT2 *e*LR LR 12 04 53.2
comp=Z,2µm,31.5s,baz=342
PPT2 Papeete2 72.06 160 *e*T T 13 01 48.8
comp=Z,12nm,0.3s
TIAR Tiarei 72.08 160 *e*T T 13 01 49.7
comp=Z,8.5nm,0.2s
PMG Port Moresby 72.08 225 PFAKE 11 43 20.0 +9.1
PMG LR LR
comp=Z,2µm,20.0s
PAE Paea 72.13 160 *e*T T 13 01 53.7
comp=Z,3.2nm,0.3s
KSH Kashi 72.14 312 P P 11 43 15.3 +4.0
KSH pP **PcP** **11 43 26.0 -3.6**
KSH PP PP 11 45 57.0 +5.9
KSH S **S** **11 52 34.0 +1.6**
KSH sS **SKiKP** **11 52 53.0 +6.8**
KSH SKS **SKSac** **11 53 13.3 -1.1**
KSH PMZ
comp=Z,17nm,0.7s
KSH PMZ
comp=Z,600nm,5.0s
KSH LN
comp=Z,2µm,14.1s
KSH LE
comp=Z,1µm,11.8s
KSH LZ
comp=Z,3µm,14.9s
LSA Lhasa 72.29 296 PFAKE 11 43 20.0 +7.3
LSA LR LR
comp=Z,2µm,21.0s
BSD Bornholm Skovb 72.52 357 *i*P **P** **11 43 11.6 -1.4**
comp=Z,700nm,21.0s
BSD Bornholm Skovb 72.52 357 *i*P **P** **11 43 11.6 -1.4**
BSD MLR MLR
comp=Z,700nm,21.0s
SWI Sorong 72.61 244 P P 11 43 17.9 +3.7
comp=Z,86nm,1.2s,comp=Z,1µm
SIJI Sorong 72.62 244 P **P** **11 43 13.7 -0.5**
comp=Z,37nm,0.9s,baz=52,slow=12,SNR=6.8
BBSR BB Station 73.04 59 PFAKE 11 43 30.0 +13
BBSR LR LR
comp=Z,970nm,20.0s
BSEG Bad Segeberg 73.76 0 *e*P **P** **11 43 21.3 +0.9**
comp=Z,18nm,1.3s
FAKI Fak Fak 73.79 242 *e*P **P** **11 43 22.0 +0.9**
comp=Z,106nm,1.5s
CRAI Chiangrai 74.30 283 P **P** **11 43 22.2 -1.9**
comp=Z,13nm,0.8s,comp=Z,585nm
LBMI Labuha 74.52 248 P P 11 43 28.7 +3.3
comp=Z,46nm,1.8s,comp=Z,856nm
SKNT Sakolnakorn 74.65 278 P **P** **11 43 27.3 +1.1**
comp=Z,68nm,0.9s,comp=Z,2µm
UBPT Khong Chiam 75.06 276 P **P** **11 43 29.3 +0.8**
comp=Z,44nm,1.0s
MYLDM Lahad Datu 75.06 259 *e*P **P** **11 43 29.5 +1.0**
CMAI Chiengmai2 75.31 284 P **P** **11 43 32.6 +2.4**
comp=Z,144nm,1.3s,comp=Z,10µm
IBBN Ibbenburen 75.36 2 *e*P **P** **11 43 30.5 +0.8**
comp=Z,32nm,1.2s

KKM Kota Kinabalu 75.75 261 PFAKE 11 43 40.0 +7.4
KKM LR LR
comp=Z,1µm,22.0s
AKASG Malin Array Be 75.80 348 P **P** **11 43 30.1 -2.2**
comp=Z,6.4nm,0.6s,baz=14,slow=5.7,SNR=4.4
AKASG Malin Array Be 75.80 348 P **P** **11 43 30.1 -2.2**
AKASG pmax pmax
comp=Z,6.0nm,0.6s
KIEV Kiev 75.81 348 *e*P **P** **11 43 31.3 -1.0**
KIEV pmax pmax
comp=Z,38nm,1.7s
KIEV MLR MLR
comp=Z,1µm,19.0s
KIEV Kiev 75.81 348 *e*P **P** **11 43 31.2 -1.0**
comp=Z,38nm,1.7s
KIEV LR LR
comp=Z,1µm,19.0s
DLV T Lat 75.81 271 *e*P **P** **11 43 34.5 +1.4**
KHON Khomkaen 75.84 278 P **P** **11 43 35.7 +2.7**
comp=Z,24nm,0.9s
CLZ Clausthal 75.86 0 *e*P **P** **11 43 33.6 +1.0**
comp=Z,19nm,1.3s
LAMP Lampang 76.06 282 P P 11 43 38.5 +4.3
comp=Z,6.8nm,0.9s,comp=Z,61nm
UTTA Uttaradit 76.11 281 P **P** **11 43 36.4 +1.9**
comp=Z,8.9nm,0.9s,comp=Z,66nm
CMMT Chiang Mai 76.24 283 P **P** **11 43 38.1 +2.8**
comp=Z,12nm,1.1s
CHTO Chiang Mai 76.24 283 P **P** **11 43 38.2 +2.9**
comp=Z,95nm,0.9s
CHTO Chiang Mai 76.24 283 *e*P **P** **11 43 36.0 +0.7**
CHTO pmax pmax
comp=Z,22nm,1.6s
CHTO MLR MLR
comp=Z,1µm,19.0s
CHTO Chiang Mai 76.24 283 *e*P **P** **11 43 36.0 +0.7**
comp=Z,22nm,1.6s
CHTO LR LR
comp=Z,1µm,19.0s
CLL Collm 76.37 358 *e*P **P** **11 43 37.0 +1.5**
CLL *e*S **S** **11 53 17.0 -2.1**
CLL pmax pmax
comp=Z,7.0nm,1.1s
CLL MLR MLR
comp=Z,1µm,18.6s
CLL Collm 76.37 358 *e*P **P** **11 43 37.0 +1.5**
comp=Z,7.0nm,1.1s
CLL *e*S **S** **11 53 17.0 -2.1**
CLL *e*PS **PnS** **11 54 00.0 +2.8**
CLL *e*SS **SS** **11 58 17.0 +5.0**
CLL *e*SSS SSS 12 01 30.0
CLL *e* 12 02 30.0
CLL Lm MLR 12 24 00.0
comp=N,1µm,20.1s
CLL Lm MLR 12 24 00.0
comp=E,400nm,19.6s
CLL Lm MLR 12 24 00.0
comp=Z,1µm,18.6s
CMAR Chiang Mai Arr 76.52 283 P **P** **11 43 36.8 -0.1**
comp=Z,5.0nm,0.8s,baz=23,slow=5.5,SNR=18
CMAR Chiang Mai Arr 76.52 283 P **P** **11 43 36.8 -0.1**
CMAR pmax pmax
comp=Z,5.0nm,0.8s
SANI Sanana 76.53 248 P P 11 43 40.4 +3.5
comp=Z,44nm,1.3s,comp=Z,771nm
FBE Freiberg 76.75 358 *e*P **P** **11 43 38.5 +0.8**
comp=Z,20nm,1.3s
PBKT Sadao Pong 76.77 280 P **P** **11 43 41.2 +2.9**
comp=Z,16nm,0.9s
BRG Berggiesshubel 76.79 358 *e*P **P** **11 43 39.1 +1.2**
comp=Z,21nm,1.7s
BRG *e* 11 44 26.0
comp=Z,14nm,1.4s
BRG S **S** **11 53 22.0 -1.7**
BRG SS **SS** **11 58 16.0 -2.3**
comp=Z,881nm,25.0s
comp=N,588nm,23.4s
comp=E,370nm,23.4s
BRG Berggiesshubel 76.79 358 *e*P **P** **11 43 38.3 +0.4**
comp=Z,21nm,1.7s
BRG Berggiesshubel 76.79 358 *e*P **P** **11 43 39.1 +1.2**
BRG S **S** **11 53 22.0 -1.7**
BRG SS **SS** **11 58 16.0 -2.3**
BRG pmax pmax
comp=Z,21nm,1.7s
BRG pmax pmax
comp=Z,14nm,1.4s
BRG MLR MLR
comp=Z,881nm,25.0s
BRG MLR MLR
comp=N,588nm,23.4s
BRG MLR MLR
comp=E,370nm,23.4s
MRSI Marisa 76.80 253 P P 11 43 34.0 -4.4
MTDJ Mount Denham 76.85 77 PFAKE 11 43 50.0 +11
MTDJ LR LR
comp=Z,871nm,19.0s
GTBY Guantanamo Bay 76.96 74 PFAKE 11 43 50.0 +11
GTBY LR LR
comp=Z,1µm,19.0s
MEM Membach 77.02 3 P **P** **11 43 40.6 +1.4**
comp=Z,9.5nm,1.3s
MOX Moxa 77.05 359 *e*P **P** **11 43 40.2 +0.8**
comp=Z,15nm,1.4s
MOX *e*L L 12 21 06.8
comp=Z,600nm,21.3s
UPC Upice 77.09 356 *e*P **P** **11 43 38.2 -1.4**
UPC *e*S **S** **11 53 25.4 -1.6**
UPC *ex* x 11 58 46.4
UPC AMS AMS 12 24 10.0
comp=Z,700nm,20.0s
UPC Upice 77.09 356 *e*P **P** **11 43 38.2 -1.4**
UPC *e*S **S** **11 53 25.4 -1.6**
UPC MLR MLR
comp=Z,700nm,20.0s
PVCC Panska Ves 77.11 357 AMS AMS 12 28 10.0
comp=Z,700nm,16.7s
DPC Dobruska-Polom 77.23 356 *e*P **P** **11 43 39.1 -1.4**
DPC AMS AMS 12 24 30.0
comp=Z,800nm,19.0s
DPC Dobruska-Polom 77.23 356 *e*P **P** **11 43 39.1 -1.4**
DPC MLR MLR
comp=Z,800nm,19.0s
WERD Werda 77.24 359 *e*P **P** **11 43 42.0 +1.5**
comp=Z,6.0nm,1.1s
DZM Mont Dzumac 77.34 203 P **P** **11 43 40.5 -0.8**
comp=Z,8.0nm,0.9s,baz=90,slow=20,SNR=2.7
WERN Wernitzgruen 77.40 359 *e*P **P** **11 43 42.4 +1.0**
comp=Z,11nm,1.3s
NKC Novy Kostel 77.45 359 *e*P **P** **11 43 43.6 +1.9**
NKC AMS AMS 12 21 20.0
comp=Z,800nm,18.6s
NKC Novy Kostel 77.45 359 *e*P **P** **11 43 43.6 +1.9**
NKC MLR MLR
comp=Z,800nm,18.6s
TNS Taunus Mts 77.46 1 *e*P **P** **11 43 42.4 +0.6**
comp=Z,14nm,1.4s
DOU Dourbes 77.48 4 P **P** **11 43 43.4 +1.6**
comp=Z,6.1nm,1.4s
LUWI Luwuk 77.55 251 P **P** **11 43 40.3 -2.3**
comp=Z,168nm,1.3s,comp=Z,2µm
LUWI Luwuk 77.55 251 *e*P **P** **11 43 42.2 -0.4**
comp=Z,100nm,0.8s
PRU Pruhonice 77.66 357 *e*P **P** **11 43 40.5 -2.3**
PRU *e*S **S** **11 53 32.7 -0.4**
PRU *ex* x 11 58 24.9
PRU AMS AMS 12 21 20.0
comp=Z,700nm,19.5s
PRU Pruhonice 77.66 357 *e*P **P** **11 43 40.5 -2.3**
PRU *e*S **S** **11 53 32.7 -0.4**
PRU MLR MLR
comp=Z,700nm,19.5s
OKC Ostrava-Krasne 77.66 355 *e*P **P** **11 43 44.6 +1.8**
OKC *e*S **S** **11 53 32.1 -1.1**
OKC AMS AMS 12 28 20.0
comp=Z,700nm,16.9s
OKC Ostrava-Krasne 77.66 355 *e*P **P** **11 43 44.6 +1.8**
OKC *e*S **S** **11 53 32.1 -1.1**
OKC MLR MLR
comp=Z,700nm,16.9s
TBI Tubuai 77.68 161 *e*S **S** **11 53 35.6 +1.9**
comp=Z,740nm,31.8s
TBI Tubuai 77.68 161 *e*LQ LQ 12 03 53.9
comp=Z,723nm,26.2s
TBI *e*LR LR 12 07 37.6
comp=Z,857nm,30.5s,baz=346

TBI Tubuai 77.68 161 *e*T T 13 08 50.0
comp=Z,75nm,0.3s
GOPC GO Pecny, Ondr 77.72 357 *e*P **P** **11 43 44.8 +1.6**
GOPC *ex* x 11 53 24.2
GOPC AMS AMS 12 21 20.0
comp=Z,900nm,23.6s
MORC Moravsky Berou 77.75 355 *e*P **P** **11 43 41.5 -1.9**
MORC pmax pmax
comp=Z,102nm,1.6s
MORC Moravsky Berou 77.75 355 ⇓*i*P **P** **11 43 44.7 +1.3**
MORC Moravsky Berou 77.75 355 *e*P **P** **11 43 41.5 -1.9**
comp=Z,102nm,1.6s
ROTZ Rotzenmuhle 77.92 359 *e*P **P** **11 43 45.5 +1.2**
comp=Z,11nm,1.4s
WLF Walferdange 77.97 3 *e*P **P** **11 43 45.5 +1.0**
comp=Z,15nm,1.2s
WLF Walferdange 77.97 3 PFAKE 11 44 00.0 +15
WLF LR LR
comp=Z,1µm,19.0s
GRF Grafenberg Arr 78.01 360 *e*P **P** **11 43 46.0 +1.2**
comp=Z,45nm,1.5s
GRF *e*L L 12 25 05.4
comp=Z,566nm,20.0s
GRTK Grand Turk 78.03 70 PFAKE 11 44 00.0 +15
GRTK LR LR
comp=Z,1µm,20.0s
MPSI Mapaga 78.11 255 P **P** **11 43 45.9 +0.1**
comp=Z,52nm,1.1s
VRAC Vranov 78.26 356 P **P** **11 43 44.8 -1.4**
comp=Z,5.7nm,0.6s,baz=354,slow=8.2,SNR=4.4
VRAC Vranov 78.26 356 P **P** **11 43 44.8 -1.4**
VRAC pmax pmax
comp=Z,6.0nm,0.6s
VRAC Vranov 78.26 356 ⇑*i*P **P** **11 43 48.1 +1.9**
KOLS Kolonicke sedl 78.28 352 *e*P **P** **11 43 46.0 -0.3**
KOLS pmax pmax
comp=Z,3.0nm,0.8s
KOLS Kolonicke sedl 78.28 352 *e*P **P** **11 43 46.0 -0.3**
KOLS *e* 11 43 47.4
UTHA Uthaitani 78.47 280 P **P** **11 43 50.3 +2.5**
comp=Z,6.5nm,0.8s
KHC Kasperske Hory 78.54 358 *e*P **P** **11 43 48.1 +0.3**
KHC *e*S **S** **11 53 38.6 -4.2**
KHC AMS AMS 12 20 20.0
comp=Z,900nm,23.9s
KHC Kasperske Hory 78.54 358 *e*P **P** **11 43 48.1 +0.3**
KHC *e*S **S** **11 53 38.6 -4.2**
KHC MLR MLR
comp=Z,900nm,23.9s
KHC Kasperske Hory 78.54 358 *e*P **P** **11 43 46.8 -1.0**
comp=Z,8.1nm,1.4s
WET Wettzell 78.54 358 *e*P **P** **11 43 48.8 +1.1**
comp=Z,19nm,1.7s
JTS JuntasAbangare 78.55 88 PFAKE 11 44 00.0 +12
JTS LR LR
comp=Z,644nm,20.0s
UZH Uzhgorod 78.58 352 *e*P **P** **11 43 49.7 +1.8**
UZH *e* 11 43 52.3
UZH *e*S **S** **11 53 39.7 -3.4**
UZH MLR MLR
comp=N,850nm,21.0s
UZH MLR MLR
comp=E,1µm,21.0s
GOF Gofitskoye 78.73 337 *e*P **P** **11 43 51.0 +2.2**
GOF pmax pmax
comp=Z,50nm,1.0s
GEC2 GERESS Array S 78.82 358 *e*P **P** **11 43 50.0 +0.6**
comp=Z,12nm,1.4s
GEC2 GERESS Array S 78.82 358 *e*P **P** **11 43 51.6 +2.2**
GEC2 GERESS Array S 78.82 358 *e*P **P** **11 43 51.6 +2.2**
GERES GERESS Array B 78.82 358 P **P** **11 43 47.6 -1.7**
comp=Z,1.2nm,0.6s,baz=0.0,slow=4.3,SNR=8.8
GERES PKKPbc **PKKPbc** **12 02 42.9 +2.0**
comp=Z,0.3nm,0.3s,baz=219,slow=3.4,SNR=4.1
VYHS Vyhne 78.96 354 *e*P **P** **11 43 48.7 -1.4**
VYHS pmax pmax
comp=Z,2.0nm,1.2s
VYHS Vyhne 78.96 354 *e*P **P** **11 43 48.7 -1.4**
TRPA Tarpa 79.05 352 ⇑*i*P **P** **11 43 51.2 +0.7**
PCI Palu 79.14 254 P P 11 43 58.3 +6.8
comp=Z,56nm,1.4s,comp=Z,761nm
BURAR Bucovina Array 79.31 350 ⇓*i*P **P** **11 43 52.6 +0.5**
BFO Black Forest 79.35 2 *e*P **P** **11 43 52.9 +0.7**
comp=Z,12nm,1.3s
BFO Black Forest 79.35 2 *i*P **P** **11 43 54.3 +2.1**
BFO Black Forest 79.35 2 PFAKE 11 44 00.0 +7.8
BFO LR LR
comp=Z,704nm,19.0s
ECH Echery 79.44 2 *e*P **P** **11 43 51.2 -1.5**
ECH pmax pmax
comp=Z,16nm,1.1s
ECH MLR MLR
comp=Z,623nm,19.0s
ECH Echery 79.44 2 *e*P **P** **11 43 51.2 -1.5**
comp=Z,16nm,1.1s
ECH LR LR
comp=Z,623nm,19.0s
PSZ Piszkesteto 79.47 354 ⇑*i*P **P** **11 43 54.2 +1.3**
PSZ Piszkesteto 79.47 354 PFAKE 11 44 00.0 +7.1
PSZ LR LR
comp=Z,613nm,19.0s
KIS Kishinev 79.49 347 *e*P **P** **11 43 50.0 -2.9**
KIS Kishinev 79.49 347 *e*PP PP 11 46 40.0 -12
KIS Kishinev 79.49 347 *e*P **P** **11 43 50.0 -2.9**
KIS *e*PPP PPP 11 48 38.0
KIS *e*S **S** **11 53 50.0 -2.8**
KIS *e*PS **SKSac** **11 54 13.0 +5.0**
MAK Makhachkala 79.55 333 *e*P P 11 44 04.1 +11
CONA Conrad Observa 79.67 356 ⇓*i*pP **P** **11 43 54.1 +0.1**
comp=Z,18nm,1.1s,SNR=7.1
MOA Molln 79.80 357 ⇓*i*pP **P** **11 43 55.1 +0.5**
comp=Z,6.4nm,1.4s
SDDR Presa de Saban 79.92 72 *e*P **P** **11 43 57.4 +1.6**
comp=Z,92nm,1.6s
SDDR LR LR
comp=Z,1µm,20.0s
RJOB Jochberg 79.95 358 *e*P **P** **11 43 56.3 +0.8**
comp=Z,6.0nm,1.1s
KBZ Khabaz 80.02 337 P **P** **11 43 55.1 -0.7**
comp=Z,5.8nm,1.0s,baz=84,slow=2.1,SNR=7.8
KBZ Khabaz 80.02 337 P **P** **11 43 55.1 -0.7**
KBZ pmax pmax
comp=Z,6.0nm,1.0s
MOTA Moosalm 80.36 360 ⇑*i*P **P** **11 43 56.7 -1.2**
comp=Z,18nm,1.1s
ARSA Arzberg 80.36 357 ⇓*i*pP **P** **11 43 57.9 +0.2**
comp=Z,9.2nm,1.1s
DAVA Damuels 80.41 0 ⇑*i*P **P** **11 43 57.3 -0.8**
comp=Z,11nm,1.1s
WTTA Wattenberg 80.43 359 ⇓*i*P **P** **11 43 56.7 -1.6**
comp=Z,23nm,1.5s
KBA Koelnbreinsper 80.59 358 ⇓*i*P **P** **11 43 58.9 -0.3**
comp=Z,46nm,1.1s,SNR=14
SIM Simferopol' 80.67 343 P **P** **11 44 01.9 +2.5**
SIM pmax pmax
comp=Z,95nm,8.7s
FETA Feichten 80.68 360 ⇓*i*pP **P** **11 44 00.2 +0.6**
comp=Z,27nm,1.2s,SNR=14
GEYT Alibeck 80.76 324 P **P** **11 43 59.6 -0.5**
comp=Z,7.3nm,0.9s,baz=316,slow=4.1,SNR=7.5
TTSI Tana Toraja 80.88 253 P **P** **11 44 02.9 +2.1**
comp=Z,58nm,1.5s,comp=Z,913nm
SOC Sochi 80.88 339 *e*P **P** **11 44 00.1 -0.4**
SOC *e* 11 47 01.2
SOC *e*PPP PPP 11 48 57.7
SOC *e*S **S** **11 54 03.0 -4.6**
SOC *e*SS **SS** **11 59 22.3 +2.3**
SOC *e*SSS SSS 12 02 47.4
SOC pmax pmax
comp=Z,3.0nm,0.2s
SOC MLR MLR
comp=Z,1µm,19.0s
DAVOX Davos/Dischmat 80.92 0 P **P** **11 44 01.8 +0.9**
comp=Z,5.3nm,0.7s,baz=334,slow=9.4
DAVOX Davos/Dischmat 80.92 0 P **P** **11 44 01.8 +0.9**
DAVOX pmax pmax
comp=Z,5.0nm,0.7s
SMN1 Samana, DR 80.92 70 *e*P **P** **11 44 02.2 +1.0**
ABTA Abfaltersbach 80.94 359 ⇓*i*P **P** **11 44 00.2 -0.7**
comp=Z,17nm,1.3s,SNR=6.2
SOKA Soboth 80.95 357 ⇑*i*P **P** **11 44 00.3 -0.7**
comp=Z,25nm,1.4s,SNR=8.6
SIRR Siria 80.98 352 ⇑*i*P P 11 44 06.8 +5.8
PERS Pernice 80.99 357 *i*P **P** **11 44 02.0 +0.9**
FUORN Ofenpass-Fuorn 81.08 0 *e*P **P** **11 44 02.5 +0.7**
comp=Z,16nm,1.2s

TUE	**Stuetta**	**81.22**	**1**	*e*P		**P**		**11 44 02.8**	**+0.2**
	comp=Z,3.1nm,0.5s								
TUE				LR		LR			
	comp=Z,633nm,20.0s								
RKT	**Rikitea**	**81.22**	**148**	*e*S		**S**		**11 54 12.4**	**+1.1**
	comp=Z,322nm,37.8s								
RKT	**Rikitea**	**81.22**	**148**	*e*LQ		LQ		12 05 30.0	
	comp=Z,385nm,35.8s								
RKT				*e*LR		LR		12 09 08.7	
	comp=Z,649nm,32.0s,baz=336								
RKT	**Rikitea**	**81.22**	**148**	*e*T		T		13 13 12.0	
	comp=Z,9.2nm,0.3s								
MLR	**Muntele Rosu**	**81.33**	**349**	P		**P**		**11 44 04.1**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=74,slow=7.4,SNR=3.3								
MLR	**Muntele Rosu**	**81.33**	**349**	P		**P**		**11 44 04.1**	**+1.1**
MLR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
MLR	**Muntele Rosu**	**81.33**	**349**	⇑*i*P		**P**		**11 44 04.8**	**+1.8**
GORS	**Gorjuse**	**81.34**	**358**	*i* P		**P**		**11 44 05.6**	**+2.6**
CFR	**Carcaliu**	**81.36**	**348**	⇑*i*P		**P**		**11 44 03.3**	**+0.3**
VOIR		**81.48**	**350**	‖*i*P		**P**		**11 44 04.7**	**+0.9**
BZS	**Buzias**	**81.63**	**352**	‖*i*P		**P**		**11 44 04.2**	**-0.2**
SPSI	**Sidrap Palu**	**81.65**	**252**	P		P		11 44 13.9	+9.0
TIRR	**Tirgusor**	**82.03**	**347**	⇑*i*P		**P**		**11 44 07.1**	**+0.5**
CTA	**Charters Tower**	**82.03**	**222**	P		**P**		**11 44 06.2**	**-0.5**
	comp=Z,20nm,0.9s,baz=47,slow=8.2,SNR=11								
CTA	**Charters Tower**	**82.03**	**222**	P		**P**		**11 44 06.3**	**-0.5**
CTA				pmax		pmax			
	comp=Z,20nm,0.9s								
CTAO	**Charters Tower**	**82.03**	**222**	PFAKE				11 44 20.0	+13
CTAO				LR		LR			
	comp=Z,1µm,21.0s								
BOJS	**Bojanci**	**82.12**	**357**	*e*P		**P**		**11 44 06.9**	**-0.1**
SSB	**Saint Sauveur**	**82.28**	**4**	*e*P		**P**		**11 44 07.2**	**-0.8**
SSB				pmax		pmax			
	comp=Z,11nm,0.9s								
SSB				MLR		MLR			
	comp=Z,514nm,19.0s								
SSB	**Saint Sauveur**	**82.28**	**4**	*e*P		**P**		**11 44 07.2**	**-0.8**
	comp=Z,11nm,0.9s								
SSB				LR		LR			
	comp=Z,514nm,19.0s								
KAPI	**Kappang**	**82.51**	**252**	P		**P**		**11 44 09.3**	**-0.1**
	comp=Z,12nm,0.6s,baz=107,slow=1.4,SNR=11								
KAPI	**Kappang**	**82.51**	**252**	P		**P**		**11 44 09.3**	**-0.1**
KAPI				LR		LR			
	comp=Z,528nm,22.0s								
BCIP	**Isla Barro Col**	**82.54**	**85**	PFAKE				11 44 20.0	+10
BCIP				LR		LR			
	comp=Z,665nm,20.0s								
BKSI	**Bulukumba**	**82.55**	**251**	P		**P**		**11 44 10.5**	**+0.9**
	comp=Z,47nm,1.4s,comp=Z,688nm								
MTN	**Manton Dam**	**82.72**	**238**	*e*P		**P**		**11 44 09.7**	**-0.7**
	comp=Z,35nm,0.8s								
KSM	**Kuching**	**82.93**	**263**	*e*P		**P**		**11 44 11.7**	**0.0**
	comp=Z,154nm,1.6s								
KSM				LR		LR			
	comp=Z,688nm,20.0s								
DIVS	**Divibare**	**83.26**	**353**	⇑*i*P		**P**		**11 44 14.3**	**+1.2**
STKI	**Sintang**	**83.34**	**261**	P		**P**		**11 44 15.2**	**+1.4**
	comp=Z,51nm,0.7s								
CELP	**Cerrillos**	**83.35**	**69**	*e*P		**P**		**11 44 13.6**	**-0.2**
OBIP	**Obispado Ponce**	**83.36**	**69**	*e*P		**P**		**11 44 13.8**	**0.0**
	comp=Z,62nm,1.1s								
VLC	**Villacollemand**	**83.54**	**0**	PFAKE				11 44 30.0	+16
VLC				LR		LR			
	comp=Z,796nm,21.0s								
SJG	**San Juan**	**83.56**	**69**	*e*P		**P**		**11 44 14.2**	**-0.7**
SJG				pmax		pmax			
	comp=Z,36nm,1.0s								
SJG				MLR		MLR			
	comp=Z,1µm,22.0s								
SJG	**San Juan**	**83.56**	**69**	*e*P		**P**		**11 44 14.2**	**-0.7**
	comp=Z,36nm,1.0s								
SJG				LR		LR			
	comp=Z,1µm,22.0s								
SOEI	**Soe**	**83.82**	**245**	P		P		11 44 21.1	+4.8
	comp=Z,73nm,1.4s								
SOEI	**Soe**	**83.82**	**245**	*e*P		**P**		**11 44 16.3**	**0.0**
PAYG	**Puerto Ayora**	**83.94**	**99**	PFAKE				11 44 30.0	+13
PAYG				LR		LR			
	comp=Z,1µm,21.0s								
PGAV	**Gavieira, Arco**	**84.33**	**14**	*e*S		**S**		**11 54 48.3**	**+5.1**
PGAV	**Gavieira, Arco**	**84.33**	**14**	*e*LR		LR		12 16 05.1	
	comp=Z,1µm,20.0s								
TRTT	**Trang**	**84.37**	**275**	P		**P**		**11 44 20.9**	**+1.8**
	comp=Z,33nm,1.3s								
PBRG	**Braganca**	**84.71**	**13**	*e*P		**P**		**11 44 21.4**	**+0.9**
	comp=Z,21nm,1.9s								
MVO	**Moncorvo**	**85.30**	**13**	*e*P		**P**		**11 44 23.4**	**-0.1**
	comp=Z,68nm,0.8s								
MVO	**Moncorvo**	**85.30**	**13**	*e*S		S		11 54 59.1	+6.4
MVO	**Moncorvo**	**85.30**	**13**	*e*LQ		LQ		12 09 13.1	
MVO				*e*LR		LR		12 14 50.5	
	comp=Z,989nm,22.0s								
AQU	**L'Aquila**	**85.32**	**358**	PFAKE				11 44 30.0	+6.5
AQU				LR		LR			
	comp=Z,910nm,20.0s								
KULM	**Kulim**	**85.79**	**273**	*e*P		**P**		**11 44 26.2**	**+0.1**
	comp=Z,37nm,0.9s								
KULM				LR		LR			
	comp=Z,688nm,20.0s								
BRTR	**Keskin Array B**	**85.82**	**342**	P		**P**		**11 44 25.8**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=48,slow=2.4,SNR=7.9								
BRTR				PKKPbc		PKKPbc		**12 02 26.0**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=170,slow=4.3,SNR=4.1								
BRTR	**Keskin Array B**	**85.82**	**342**	P		**P**		**11 44 25.8**	**-0.4**
BRTR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
ANTO	**Ankara**	**85.83**	**343**	PFAKE				11 44 40.0	+14
ANTO				LR		LR			
	comp=Z,792nm,19.0s								
MTE	**Manteigas**	**85.98**	**14**	*e*S		**S**		**11 55 02.7**	**+3.3**
MTE	**Manteigas**	**85.98**	**14**	*e*LQ		LQ		12 09 27.2	
MTE				*e*LR		LR		12 18 12.1	
	comp=Z,1µm,20.0s								
MTE	**Manteigas**	**85.98**	**14**	PFAKE				11 44 40.0	+13
MTE				LR		LR			
	comp=Z,1µm,22.0s								
TIR	**Tirane**	**86.01**	**353**	PFAKE				11 44 40.0	+13
TIR				LR		LR			
	comp=Z,896nm,21.0s								
IPM	**Ipoh**	**86.20**	**272**	*e*P		**P**		**11 44 28.1**	**-0.2**
MALT	**Malatya**	**86.20**	**338**	‖*i*P		**P**		**11 44 30.2**	**+2.1**
ANWB	**Willy Bob**	**86.36**	**66**	PFAKE				11 44 40.0	+11
ANWB				LR		LR			
	comp=Z,974nm,20.0s								
PMRV	**Marv??o**	**86.95**	**14**	*e*S		**S**		**11 55 12.8**	**+4.0**
PMRV	**Marv??o**	**86.95**	**14**	*e*LQ		LQ		12 09 35.3	
PMRV				*e*LR		LR		12 17 17.1	
	comp=Z,863nm,20.0s								
WRAB	**Tennant Creek**	**87.16**	**232**	P		**P**		**11 44 31.6**	**-1.0**
	comp=Z,124nm,1.1s,SNR=5.9								
WRAB	**Tennant Creek**	**87.16**	**232**	*ce*P		**P**		**11 44 32.1**	**-0.5**
WRAB				pmax		pmax			
	comp=Z,73nm,1.7s								
WRAB	**Tennant Creek**	**87.16**	**232**	*e*P		**P**		**11 44 31.4**	**-1.2**
WRAB				LR		LR			
	comp=Z,2µm,22.0s								
ESDC	**Sonseca Array**	**87.16**	**11**	P		**P**		**11 44 30.8**	**-1.9**
	comp=Z,5.1nm,0.7s,baz=346,slow=4.5,SNR=25								
WRA	**Warramunga Arr**	**87.17**	**232**	P		**P**		**11 44 30.8**	**-1.9**
	comp=Z,11nm,0.9s,baz=32,slow=6.0,SNR=42								
WRA	**Warramunga Arr**	**87.17**	**232**	P		**P**		**11 44 30.8**	**-1.9**
WRA				pmax		pmax			
	comp=Z,11nm,0.9s								
PAB	**San Pablo**	**87.24**	**12**	PFAKE				11 44 40.0	+6.9
PAB				LR		LR			
	comp=Z,1µm,19.0s								
LIS	**Lisbon**	**87.38**	**15**	*e*P		**P**		**11 44 34.8**	**+1.1**
LIS				AMS		AMS		12 26 50.7	
	comp=Z,1µm,22.0s								
LIS	**Lisbon**	**87.38**	**15**	*e*P		**P**		**11 44 34.7**	**+1.1**
PVM	**Polavaram**	**87.43**	**295**	*e*P		**P**		**11 44 33.8**	**-0.4**
CUC	**Castrocucco**	**87.59**	**356**	PFAKE				11 44 50.0	+15
CUC				LR		LR			
	comp=Z,530nm,19.0s								
SRSP	**Sriramsagar**	**87.84**	**299**	*e*P		**P**		**11 44 35.6**	**-0.6**
DSRI	**Dabo**	**87.94**	**267**	P		P		11 44 44.3	+7.6
	comp=Z,186nm,1.1s,comp=Z,4µm								
VSL	**Villasalto**	**88.20**	**1**	PFAKE				11 44 50.0	+12
VSL				LR		LR			
	comp=Z,727nm,22.0s								
ISP	**Isparta**	**88.22**	**344**	PFAKE				11 44 50.0	+12
ISP				LR		LR			
	comp=Z,566nm,19.0s								
PBAR	**Barrancos**	**88.23**	**14**	*e*P		**P**		**11 44 36.6**	**-1.1**
	comp=Z,36nm,1.7s								
SDV	**Santo Domingo**	**88.29**	**78**	PFAKE				11 44 50.0	+11
SDV				LR		LR			
	comp=Z,745nm,21.0s								
TIP	**Timpagrande**	**88.36**	**355**	PFAKE				11 44 50.0	+12
TIP				LR		LR			
	comp=Z,541nm,22.0s								
MESJ	**Messejana**	**88.38**	**15**	*e*P		**P**		**11 44 39.0**	**+0.5**
MESJ				*e*PP		**PP**		**11 48 06.8**	**+1.6**
MESJ				*e*SS		SS		12 01 16.4	+5.9
MESJ				AMS		AMS		12 26 53.4	
	comp=Z,1µm,20.2s								
MESJ	**Messejana**	**88.38**	**15**	*e*P		**P**		**11 44 38.9**	**+0.5**
MESJ				*e*				11 48 06.7	
TSI	**Tuntungan**	**88.47**	**274**	P		**P**		**11 44 40.5**	**+1.4**
	comp=Z,123nm,0.8s								
PSI	**Prapat**	**88.80**	**273**	P		**P**		**11 44 40.9**	**0.0**
	comp=Z,91nm,0.7s,baz=17,slow=7.4								
PSI	**Prapat**	**88.80**	**273**	P		**P**		**11 44 40.9**	**0.0**
PSI				pmax		pmax			
	comp=Z,91nm,0.7s								
MORF	**Marmelete**	**88.84**	**15**	*e*P		**P**		**11 44 41.2**	**+0.5**
MORF				*e*PP		**PP**		**11 48 10.9**	**+2.0**
MORF				AMS		AMS		12 28 06.8	
	comp=N,937nm,14.7s								
MORF	**Marmelete**	**88.84**	**15**	*e*P		**P**		**11 44 41.1**	**+0.5**
MORF				*e*				11 48 10.8	
PVAQ	**Vaqueiros**	**88.89**	**14**	*e*LQ		LQ		12 11 14.3	
PVAQ	**Vaqueiros**	**88.89**	**14**	*e*LR		LR		12 21 59.9	
	comp=N,1µm,18.0s								
HYBB	**Hyderabad (bro**	**88.97**	**298**	*e*P		**P**		**11 44 41.5**	**0.0**
HYB	**Hyderabad**	**88.97**	**298**	*i* P		**P**		**11 44 41.0**	**-0.6**
FDF	**Fort de France**	**89.10**	**67**	PFAKE				11 44 50.0	+7.8
FDF				LR		LR			
	comp=Z,1µm,20.0s								
ROSC	**El Rosal**	**89.26**	**83**	P		**P**		**11 44 44.5**	**+1.1**
	comp=Z,8.7nm,0.4s,baz=108,slow=19,SNR=2.8								
NJS	**Nagarjunasagar**	**89.27**	**297**	*e*P		**P**		**11 44 42.3**	**-0.6**
BKNI	**Bangkinang**	**89.46**	**270**	P		P		11 44 47.2	+3.4
	comp=Z,113nm,1.1s,comp=Z,2µm								
BKNI	**Bangkinang**	**89.46**	**270**	*e*P		**P**		**11 44 44.4**	**+0.5**
	comp=Z,152nm,1.1s								
KLRI	**Killari**	**89.48**	**300**	*e*P		**P**		**11 44 43.4**	**-0.6**
ADKI	**Addanki**	**89.49**	**296**	*e*P		**P**		**11 44 43.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**89.98**	**239**	P		**P**		**11 44 45.2**	**-0.8**
	comp=Z,6.8nm,0.8s,baz=28,slow=4.9,SNR=16								
CLTB	**Caltabellotta**	**90.09**	**358**	PFAKE				11 45 00.0	+13
CLTB				LR		LR			
	comp=Z,450nm,19.0s								
OTAV	**Otavalo**	**90.40**	**89**	*e*P		**P**		**11 44 50.0**	**+1.2**
OTAV				*e*PP		**PP**		**11 48 27.2**	**+4.1**
OTAV				LR		LR			
	comp=Z,507nm,21.0s								
PPI	**Padang Panjang**	**90.47**	**270**	P		**P**		**11 44 50.0**	**+1.5**
	comp=Z,21nm,1.2s								
CSS	**Prodhromos**	**90.50**	**341**	PFAKE				11 45 00.0	+12
CSS				LR		LR			
	comp=Z,185nm,22.0s								
ASAR	**Alice Springs**	**90.57**	**230**	P		**P**		**11 44 47.5**	**-1.2**
	comp=Z,14nm,0.6s,baz=31,slow=4.2,SNR=82								
ASAR	**Alice Springs**	**90.57**	**230**	P		**P**		**11 44 47.5**	**-1.2**
ASAR				pmax		pmax			
	comp=Z,14nm,0.6s								
GRGR	**Grenville**	**90.92**	**69**	PFAKE				11 45 00.0	+9.3
GRGR				LR		LR			
	comp=Z,2µm,21.0s								
KLSI		**91.17**	**264**	P		P		11 44 58.8	+7.0
	comp=Z,24nm,1.9s								
BBGH	**Gun Hill**	**91.28**	**66**	PFAKE				11 45 00.0	+7.7
BBGH				LR		LR			
	comp=Z,2µm,20.0s								
URZ	**Urewera**	**91.32**	**191**	P		**P**		**11 44 50.9**	**-0.8**
	comp=Z,9.9nm,0.9s,baz=63,slow=6.8,SNR=2.5								
MDSI	**Maura Dua**	**91.35**	**264**	P		**P**		**11 44 55.3**	**+2.7**
PMOZ	**Porto Moniz, M**	**91.47**	**23**	*e*LR		LR		12 15 19.6	
	comp=Z,1µm,22.0s								
WDD	**Wield Dalam**	**91.76**	**357**	PFAKE				11 45 10.0	+16
WDD				LR		LR			
	comp=Z,483nm,19.0s								
MMAI	**Mount Meron Ar**	**91.96**	**339**	P		**P**		**11 44 55.9**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=4.0,slow=6.2,SNR=3.6								
RTC	**Rabat Centre**	**92.37**	**14**	PFAKE				11 45 10.0	+13
RTC				LR		LR			
	comp=Z,3µm,20.0s								
MDT	**Midelt**	**93.84**	**13**	P		**P**		**11 45 03.0**	**-1.1**
	comp=Z,4.6nm,0.9s,baz=360,slow=7.2								
SNZO	**South Karori**	**94.61**	**192**	PFAKE				11 45 20.0	+13
SNZO				LR		LR			
	comp=Z,1µm,19.0s								
CAN	**Canberra**	**94.82**	**213**	PFAKE				11 45 20.0	+12
CAN				LR		LR			
	comp=Z,1µm,22.0s								
MBWA	**Marble Bar**	**95.64**	**242**	PFAKE				11 45 20.0	+7.9
MBWA				LR		LR			
	comp=Z,899nm,22.0s								
PALK	**Pallekele**	**96.06**	**290**	P		**P**		**11 45 13.0**	**-1.4**
	comp=Z,9.4nm,0.8s,baz=300,slow=8.1,SNR=4.1								
PALK	**Pallekele**	**96.06**	**290**	P		**P**		**11 45 13.0**	**-1.4**
PALK				pmax		pmax			
	comp=Z,9.0nm,0.8s								
RAYN	**Ar Rayn**	**98.25**	**328**	PFAKE				11 45 40.0	+16
RAYN				LR		LR			
	comp=Z,973nm,20.0s								
NNA	**Nana**	**100.98**	**95**	PFAKE				11 45 50.0	+14
NNA				LR		LR			
	comp=Z,516nm,21.0s								
TAU	**Tasmania Unive**	**102.26**	**211**	PFAKE				11 45 50.0	+8.8
TAU				LR		LR			
	comp=Z,710nm,20.0s								
TAM	**Tamanrasset**	**104.73**	**5**	PFAKE				11 46 00.0	+6.9
TAM				LR		LR			
	comp=Z,662nm,19.0s								
NWAO	**Narrogin (SRO)**	**106.40**	**237**	PFAKE				11 50 20.0	
NWAO				LR		LR			
	comp=Z,1.0nm,19.0s								
SACV	**Santiago Islan**	**106.45**	**34**	PFAKE				11 50 20.0	
SACV				LR		LR			
	comp=Z,1µm,19.0s								
SAML	**Samuel**	**106.91**	**82**	PFAKE				11 50 20.0	
SAML				LR		LR			
	comp=Z,856nm,20.0s								
LVC	**Limon Verde**	**113.95**	**96**	PFAKE				11 50 40.0	
LVC				LR		LR			
	comp=Z,372nm,19.0s								
TORD	**Torodi Ar. Bea**	**114.00**	**9**	PKKPbc		PKKPbc		12 01 06.7	+1.6
	comp=Z,0.6nm,0.5s,baz=187,slow=1.8,SNR=8.4								
DBIC	**Dimbokro**	**119.44**	**18**	PKP		**PKPdf**		**11 50 35.8**	**-0.6**
	comp=Z,2.4nm,0.4s,baz=355,slow=3.3,SNR=7.3								
DBIC	**Dimbokro**	**119.44**	**18**	PKIKP		**PKPdf**		**11 50 35.8**	**-0.6**
DBIC				pmax		pmax			
	comp=Z,2.0nm,0.4s								
MSEY	**Mahe Island**	**119.61**	**306**	PFAKE				11 50 50.0	+13
MSEY				LR		LR			
	comp=Z,846nm,19.0s								
RCBR	**Riachuelo**	**119.81**	**56**	PFAKE				11 50 50.0	+13
RCBR				LR		LR			
	comp=Z,799nm,21.0s								
CPUP	**Villa Florida**	**123.74**	**90**	PKP		**PKPdf**		**11 50 44.3**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=325,slow=3.6,SNR=3.7								
CPUP	**Villa Florida**	**123.74**	**90**	PKIKP		**PKPdf**		**11 50 44.3**	**+0.2**
CPUP				pmax		pmax			
	comp=Z,2.0nm,0.6s								
KMBO	**Kilima Mbogo**	**124.02**	**327**	PKP		**PKPdf**		**11 50 46.1**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=352,slow=4.1,SNR=3.8								
KMBO	**Kilima Mbogo**	**124.02**	**327**	PKIKP		**PKPdf**		**11 50 46.1**	**+0.6**
KMBO				pmax		pmax			
	comp=Z,1.0nm,0.5s								
KMBO	**Kilima Mbogo**	**124.02**	**327**	PKP		**PKPdf**		**11 50 46.1**	**+0.6**
KMBO				LR		LR			
	comp=Z,402nm,20.0s								
MBAR	**Mbarara**	**125.44**	**335**	PFAKE				11 51 00.0	+12
MBAR				LR		LR			
	comp=Z,667nm,21.0s								
TRQA	**Tornquist**	**129.13**	**104**	PFAKE				11 51 10.0	+16
TRQA				LR		LR			
	comp=Z,479nm,20.0s								
ASCN	**Ascension**	**130.97**	**34**	PFAKE				11 51 10.0	+12
ASCN				LR		LR			
	comp=Z,1µm,22.0s								
SBA	**Scott Base**	**131.09**	**187**	PFAKE				11 51 10.0	+13
SBA				LR		LR			
	comp=Z,856nm,19.0s								
VNDA	**Vanda**	**131.16**	**188**	PKP		**PKPdf**		**11 50 56.2**	**-0.6**
	comp=Z,1.3nm,0.9s,baz=354,slow=3.2,SNR=6.2								
VNDA	**Vanda**	**131.16**	**188**	PKIKP		**PKPdf**		**11 50 56.2**	**-0.6**
VNDA				pmax		pmax			
	comp=Z,1.0nm,0.9s								
CASY	**Casey**	**133.07**	**213**	PFAKE				11 51 10.0	+9.4
CASY				LR		LR			
	comp=Z,998nm,22.0s								
ABPO	**Ambohimpanom**	**135.98**	**306**	PFAKE				11 51 20.0	+12
ABPO				LR		LR			
	comp=Z,469nm,19.0s								
LSZ	**Lusaka**	**140.16**	**333**	PKhKP		PKPpre		11 51 06.9	
	comp=Z,2.1nm,0.5s,baz=94,slow=5.8,SNR=4.1								
LSZ	**Lusaka**	**140.16**	**333**	PKHKP		PKPpre		11 51 06.9	
LSZ				pmax		pmax			
	comp=Z,2.0nm,0.5s								
LSZ	**Lusaka**	**140.16**	**333**	PKPpre		PKPpre		11 51 06.9	
LSZ				LR		LR			
	comp=Z,876nm,22.0s								
SHEL	**Horse Pasture**	**141.16**	**26**	PFAKE				11 51 30.0	+13
SHEL				LR		LR			
	comp=Z,551nm,20.0s								
QSPA	**South Pole Qui**	**142.44**	**180**	PKhKP		PKPpre		11 51 11.2	
	comp=Z,11nm,0.6s,baz=337,slow=0.6,SNR=52								
QSPA	**South Pole Qui**	**142.44**	**180**	PKPpre		PKPpre		11 51 11.2	
QSPA				*e*PKPdf		**PKPdf**		**11 51 14.3**	**-3.7**
QSPA				LR		LR			
	comp=Z,748nm,20.0s								
MATP	**Matopo**	**144.94**	**330**	PKP		**PKPab**		**11 51 21.1**	**-2.1**
	comp=Z,30nm,0.7s,baz=15,slow=3.4,SNR=51								
TSUM	**Tsumeb**	**146.15**	**348**	PKPbc		**PKPdf**		**11 51 25.8**	**-0.2**
	comp=Z,30nm,0.7s,baz=347,slow=6.6,SNR=47								
TSUM	**Tsumeb**	**146.15**	**348**	*e*PKPdf		**PKPdf**		**11 51 25.6**	**-0.4**
TSUM				PKPbc		**PKPdf**		**11 51 25.8**	**-0.2**
TSUM				LR		LR			
	comp=Z,847nm,22.0s								
LBTB	**Lobatse**	**150.13**	**332**	PKPbc		**PKPbc**		**11 51 36.6**	**-0.8**
	comp=Z,75nm,0.7s,baz=25,slow=1.6,SNR=55								
LBTB	**Lobatse**	**150.13**	**332**	PKIKP		**PKPbc**		**11 51 36.6**	**-0.8**
LBTB				pmax		pmax			
	comp=Z,75nm,0.7s								
MAW	**Mawson**	**151.09**	**219**	PKPbc		**PKPbc**		**11 51 37.3**	**-0.9**
	comp=Z,22nm,0.9s,baz=95,slow=3.9,SNR=9.7								
MAW	**Mawson**	**151.09**	**219**	PKIKP		**PKPbc**		**11 51 37.3**	**-0.9**
MAW				pmax		pmax			
	comp=Z,22nm,0.9s								
BOSA	**Boshof**	**153.61**	**330**	PKPbc		**PKPbc**		**11 51 43.7**	**-1.6**
	comp=Z,11nm,0.8s,baz=3.1,slow=3.9,SNR=8.9								
BOSA	**Boshof**	**153.61**	**330**	PKIKP		**PKPbc**		**11 51 43.7**	**-1.6**
BOSA				pmax		pmax			
	comp=Z,11nm,0.8s								
SYO	**Syowa Base**	**158.72**	**209**	‖*e*PKPdf		**PKPdf**		**11 51 42.0**	**-0.7**
VNA2	**Neumayer--Watz**	**159.98**	**163**	PKPab		**PKPab**		**11 52 24.3**	**+0.3**
	baz=222,slow=4.0								
VNA2	**Neumayer--Watz**	**159.98**	**163**	PKPdf		**PKPdf**		**11 51 43.9**	**-0.3**
	baz=287,slow=1.2								
SNAA	**Sanae**	**160.03**	**168**	PKPab		**PKPab**		**11 52 24.4**	**+0.1**
SNAA	**Sanae**	**160.03**	**168**	PKPdf		**PKPdf**		**11 51 43.8**	**-0.5**
VNA1	**Neumayer--Stat**	**160.05**	**162**	PKPab		**PKPab**		**11 52 25.5**	**+1.3**
VNA1	**Neumayer--Stat**	**160.05**	**162**	PKPdf		**PKPdf**		**11 51 44.3**	**+0.1**

*ISCJB **28** 11:37:43.8±0.3,52°62N±0°05×169°52W±0°05,h10km, mb4.2/41, Error ellipse: s-maj=7.4km s-min=3.3km az=154.7*

*IDC **28** 11:37:43.4±0.5,52°67N×169°49W,h0km,mb4.0/31, mb1 4.2/33,mb1mx4.1/88,mbtmp4.0/33,ML3.8/2, Error ellipse: s-maj=16.4km s-min=10.1km az=176.0*

*NEIC **28** 11:37:46.8,52°73N×169°40W,h10km,mb4.2/10, ML4.0(AEIC), After AEIC.*

ISC 28 11:37:45.3±0.5,52°70N±0°08×169°43W±0°05,h10km,n95, σ1s14/67,mb4.1/41,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.45**	**52**	P	**Pg**	**11 37 55.0**	**+1.0**
NIKH				S	**Sb**	**11 38 03.2**	**+1.2**
OKSO	**Okmok South**	**1.01**	**49**	P	**Pg**	**11 38 05.0**	**+0.2**
OKSO				S	**Sb**	**11 38 19.5**	**+1.1**
OKCF	**Okmok Cone F**	**1.05**	**48**	P	**Pb**	**11 38 06.5**	**+0.9**
OKCE	**Okmok Cone E**	**1.06**	**46**	P	**Pg**	**11 38 05.8**	**+0.2**
OKAK	**Okmok**	**1.09**	**36**	P	**Pg**	**11 38 04.6**	**-1.8**
OKFG	**Magazine Ridge**	**1.16**	**51**	P	**Pb**	**11 38 07.2**	**-0.3**
OKFG				S	**Sg**	**11 38 23.4**	**+0.7**
MSOM	**Makushin Julie**	**1.86**	**52**	P	**Pn**	**11 38 17.5**	**+0.3**
MSW	**Makushin Switc**	**2.00**	**51**	P	**Pn**	**11 38 19.9**	**+0.7**
**U

	8.4nm,1.4s								
LDFC	**Landfair**		41.83	93	*e*P	P		11 45 35.9	+0.6
SRU	**San Rafael**		42.01	85	*e*P	P		11 45 37.8	+1.0
	8.9nm,1.2s								
PV01	**Paradox Valley**		43.81	84	*e*P	P		11 45 51.6	+0.1
	1µm,1.2s								
WUAZ	**Wupatki**		43.81	89	*e*P	P		11 45 52.4	+1.0
MVCO	**Mesa Verde**		44.45	85	*e*P	P		11 45 58.0	+1.4
KSRS	**Korea Array**		45.33	276	P	P		11 46 02.7	-0.6
	0.8nm,0.5s,baz=54,slow=7.9,SNR=3.1								
KSAR	**Wonju Array Be**		45.36	276	P	P		11 46 02.7	-0.9
SDCO	**Great Sand Dun**		45.91	82	*e*P	P		11 46 12.2	+3.9
	2.0nm,0.9s								
TUC	**Tucson**		46.35	92	*e*P	P		11 46 12.3	+0.8
ANMO	**Albuquerque**		47.18	86	P	P		11 46 18.0	-0.2
	4.3nm,1.2s,baz=312,slow=11,SNR=4.7								
ANMO					PcP	PcP		11 47 49.4	-0.2
	1.4nm,0.5s,baz=321,slow=4.1,SNR=5.9								
SONM	**Songino Array**		51.10	301	P	P		11 46 48.6	+0.6
	0.8nm,0.8s,baz=67,slow=4.8,SNR=2.4								
SONM					PcP	PcP		11 48 02.6	-0.9
	4.9nm,0.8s,baz=44,slow=1.5,SNR=12								
TXAR	**Lajitas Array**		52.78	89	P	P		11 47 00.7	+0.1
	7.6nm,0.8s,baz=305,slow=4.4,SNR=20								
H06N1	**SOCORRO T-PHAS**		56.18	104	T	T		12 48 09.8	
	SNR=26								
H06E1	**SOCORRO T-PHAS**		56.28	104	T	T		12 48 13.7	
	SNR=16								
ZALV	**Zalesovo Beam**		57.16	317	P	P		11 47 32.3	+0.5
	0.4nm,0.3s,baz=142,slow=49,SNR=2.2								
ZALV					PcP	PcP		11 48 25.4	-1.0
	0.7nm,0.4s,baz=106,slow=3.1,SNR=3.0								
KURK	**Kurchatov**		62.10	318	P	P		11 48 06.4	+0.5
KURBB	**Kurchatov Arra**		62.21	318	P	P		11 48 06.4	-0.3
	0.9nm,0.7s,baz=43,slow=7.3,SNR=4.7								
BVAR	**Borovoye Array**		63.41	324	P	P		11 48 14.5	-0.1
	1.4nm,0.5s,baz=56,slow=7.9,SNR=4.3								
MKAR	**Makanchi Array**		63.55	319	P	P		11 48 14.3	-1.4
	0.2nm,0.5s,baz=47,slow=8.5,SNR=2.5								
FINES	**FINESS Array B**		65.54	352	P	P		11 48 26.8	-1.5
	1.3nm,0.8s,baz=355,slow=7.0,SNR=3.3								
HFS	**Hagfors**		67.49	358	P	P		11 48 40.5	-0.4
	1.0nm,0.4s,baz=0.0,slow=2.9,SNR=3.9								
AKASG	**Malin Array Be**		75.78	348	P	P		11 49 29.4	-1.5
	0.6nm,0.4s,baz=16,slow=5.6,SNR=3.1								
CMAR	**Chiang Mai Arr**		76.51	283	P	P		11 49 35.6	0.0
	0.8nm,0.7s,baz=19,slow=5.7,SNR=4.1								
GERES	**GERESS Array B**		78.80	358	P	P		11 49 47.1	-0.9
	0.3nm,0.2s,baz=11,slow=6.0,SNR=2.0								
KBZ	**Khabaz**		79.99	337	P	P		11 49 55.6	+1.1
	2.1nm,0.8s,baz=52,slow=12,SNR=3.6								
CTA	**Charters Tower**		82.05	222	P	P		11 50 04.3	-1.3
	3.6nm,0.8s,baz=63,slow=4.5,SNR=3.6								
BRTR	**Keskin Array B**		85.80	342	P	P		11 50 26.2	+1.3
	0.2nm,0.4s,baz=8.8,slow=10,SNR=2.5								
ESDC	**Sonseca Array**		87.14	11	P	P		11 50 30.1	-1.3
	0.5nm,0.6s,baz=19,slow=3.9,SNR=2.6								
WRA	**Warramunga Arr**		87.18	232	P	P		11 50 30.1	-1.4
	1.8nm,0.7s,baz=37,slow=5.7,SNR=24								
PSI	**Prapat**		88.79	273	P	P		11 50 38.7	-1.0
	32nm,0.8s,baz=73,slow=2.6,SNR=13								
FITZ	**Fitzroy Crossi**		89.99	239	P	P		11 50 43.6	-1.3
	4.7nm,1.1s,baz=9.0,slow=5.1,SNR=5.7								
ASAR	**Alice Springs**		90.58	230	P	P		11 50 46.8	-0.8
	4.0nm,0.6s,baz=27,slow=4.7,SNR=42								
STKA	**Stephens Creek**		94.42	220	P	P		11 51 04.6	-0.5
	1.8nm,0.8s,baz=29,slow=10,SNR=3.0								
TORD	**Torodi Ar. Bea**		113.98	9	PKKPbc	PKKPbc		12 07 01.9	-2.1
	0.3nm,0.4s,baz=166,slow=2.5,SNR=6.7								
QSPA	**South Pole Qui**		142.46	180	PKhKP	PKPpre		11 57 10.2	
	2.8nm,0.5s,baz=244,slow=5.5,SNR=16								
MATP	**Matopo**		144.92	330	PKP	PKPab		11 57 21.5	-0.4
	3.1nm,0.6s,baz=355,slow=1.8,SNR=8.3								
TSUM	**Tsumeb**		146.12	348	PKPbc	PKPdf		11 57 25.5	+0.7
	8.9nm,1.0s,baz=5.6,slow=8.9,SNR=7.8								
LBTB	**Lobatse**		150.11	332	PKPbc	PKPbc		11 57 36.2	0.0
	21nm,0.9s,baz=16,slow=2.5,SNR=16								
MAW	**Mawson**		151.11	219	PKPbc	PKPbc		11 57 37.6	+0.6
	5.0nm,0.8s,baz=185,slow=11,SNR=2.9								

NEIC 28 11:38:30.5, 52.61N×169.18W, h6km, ML3.8(AEIC), **After AEIC., Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	0.42	28	P	Pg	11 38 39.3	+0.7
NIKH				S	Sb	11 38 46.5	-0.3
OKSO	**Okmok South**	0.97	39	P	Pg	11 38 49.2	0.0
OKSO				S	Sb	11 39 03.3	+0.4
OKWR	**Okmok West Rim**	1.02	35	P	Pg	11 38 50.4	+0.2
OKCE	**Okmok Cone E**	1.02	36	P	Pg	11 38 50.2	-0.1
OKCE				S	Sn	11 39 06.8	+0.7
OKAK	**Okmok**	1.09	26	P	Pg	11 38 48.8	-2.7
OKAK				S	Sg	11 39 02.3	-3.3
OKFG	**Magazine Ridge**	1.11	43	P	Pg	11 38 51.1	-0.7
OKFG				S	Sb	11 39 07.0	+0.2

*IDC **28** 11:39:34.2±0.5, 52.70N×169.67W, h0km, mb4.2/22, mb1 4.3/24, mb1mx4.1/88, mbtmp4.1/24, ML3.7/2, Error ellipse: s-maj=17.8km s-min=11.9km az=167.0*
*NEIC **28** 11:39:36.3, 52.54N×169.17W, h7km, mb4.3/9, ML4.0(AEIC), After AEIC.*
*ISCJB **28** 11:39:37.2±1.0, 52.71N±0.07×169.48W±0.07, h30km±6km, mb4.2/29, Error ellipse: s-maj=12.9km s-min=5.4km az=155.4*

ISC 28 11:39:38.2±1.4, **52.71N**±0.09×**169.38W**±0.06, **h25**km±9km, **n73**,σ1°**20**/69, **mb4.2**/29, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	0.41	50	P	Pb	11 39 46.1	-0.9
NIKH				S	Sb	11 39 53.8	+0.9
OKSO	**Okmok South**	0.98	48	P	Pn	11 39 55.7	-0.7
OKSO				S	Sn	11 40 09.7	+0.2
OKWR	**Okmok West Rim**	1.01	44	P	Pb	11 39 57.1	0.0
OKCE	**Okmok Cone E**	1.03	45	P	Pn	11 39 56.4	-0.6
OKTU	**Okmok Mt. Tuli**	1.05	49	P	Pn	11 39 57.2	-0.2
OKAK	**Okmok**	1.07	35	P	Pn	11 39 55.6	-1.9
OKRE	**Okmok R'deer P**	1.09	41	P	Pb	11 39 58.4	-0.1
OKFG	**Magazine Ridge**	1.13	51	P	Pn	11 39 57.6	-0.8
OKFG				S	Sb	11 40 13.5	+0.2
MSOM	**Makushin Julie**	1.83	52	P	Pn	11 40 08.0	-0.1
MGOD	**Makushin Gods**	1.86	53	P	Pn	11 40 07.9	-0.5
MSW	**Makushin Switc**	1.97	51	P	Pn	11 40 10.1	+0.1
MSW				S	Sn	11 40 34.9	+1.0
UNV	**Unalaska Valle**	2.07	55	P	Pn	11 40 10.6	-0.7
UNV				S	Sn	11 40 36.6	+0.4
ATKA	**Atka Island**	2.99	262	P	Pn	11 40 25.2	+1.2
SPIA	**Saint Paul Isl**	4.51	354	P	Pn	11 40 47.3	+2.5
AMKA	**Amchitka**	7.11	264	*e*Pn	Pn	11 41 22.1	+1.6
KDAK	**Kodiak Island**	10.84	55	Pn	Pn	11 42 11.5	-0.1
	1.4nm,0.3s,baz=279,slow=10.0,SNR=3.2						
SEW	**Seward**	13.25	48	*e*Pn	Pn	11 42 44.1	-0.4
	25nm,0.9s						
BPAW	**Bear Paw Mtn.**	14.87	33	*e*P	P	11 43 12.5	+0.4
	3.3nm,0.7s						
ILAR	**Eielson Array**	16.67	35	Pn	Pn	11 43 29.0	-0.8
	0.2nm,0.3s,baz=213,slow=8.5,SNR=5.0						
HYT	**Haines Junctio**	19.09	52	*e*P	Pn	11 44 00.9	+1.1
	16nm,0.7s						
PETK	**Petropavlovsk-**	19.77	284	P	P	11 44 02.8	-3.3
	0.6nm,0.3s,baz=90,slow=14,SNR=5.5						
SKAG	**Skagway**	19.99	57	*e*P	Pn	11 44 10.3	+0.1
	52nm,1.0s						
H02N1	**VAN INLET T-PH**	22.03	74	T	T	12 07 17.4	
H02S1	**DAWSON INLET T**	22.08	74	T	T	12 07 25.2	
SEY	**Seymchan**	22.44	312	ScP	ScP	11 52 05.3	+1.3
	0.9nm,0.6s,baz=89,slow=2.2,SNR=5.3						
DLBC	**Dease Lake**	22.72	60	P	P	11 44 40.6	+2.6
	8.7nm,1.0s,baz=266,slow=9.4,SNR=4.3						
DLBC	**Dease Lake**	22.72	60	*e*P	P	11 44 41.6	+3.7
INK	**Inuvik**	23.07	34	P	P	11 44 42.1	+0.8
	3.8nm,0.8s,baz=228,slow=6.5,SNR=3.9						
YKA	**Yellowknife Ar**	30.02	49	P	P	11 45 44.1	-0.4
	0.6nm,0.4s,baz=273,slow=7.4,SNR=4.5						
YKA					PcP	PcP	11 48 48.0	+2.1
	1.0nm,0.9s,baz=288,slow=2.1,SNR=4.3						
NEW	**Newport**	32.93	76	P	P	11 46 09.8	-0.6
	2.9nm,0.7s,baz=296,slow=1.5,SNR=4.3						
BSMT	**Bassoo Peak**	34.51	76	*e*P	P	11 46 24.6	+0.4
	4.2nm,0.8s						
JTMT	**Jette**	34.86	76	*e*P	P	11 46 27.9	+0.7
	4.6nm,1.1s						
WVOR	**Wild Horse Val**	35.06	86	*e*P	P	11 46 30.2	+1.2
HRY	**Holter Researc**	36.82	76	*e*P	P	11 46 44.1	0.0
	2.2nm,0.5s						
EGMT	**Eagleton**	37.37	73	*e*P	P	11 46 49.5	+0.9
	15nm,1.0s						
BOZ	**Bozeman (W)**	37.50	77	*e*P	P	11 46 50.8	+0.9
	1.9nm,0.8s						
NVAR	**Mina Array Bea**	37.67	91	P	P	11 46 54.0	+2.5
	2.5nm,0.8s,baz=296,slow=6.6,SNR=8.7						
NVAR					PcP	PcP	11 49 08.9	+0.5
	0.9nm,0.9s,baz=270,slow=1.8,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	37.72	218	T	T	12 26 48.7	
	baz=24,slow=76,SNR=8.7						
H11N3	**WAKE ISLAND Hy**	37.72	218	T	T	12 26 48.2	
	baz=24,slow=76,SNR=8.4						
H11N1	**WAKE ISLAND Hy**	37.73	218	T	T	12 26 50.0	
	baz=24,slow=76,SNR=9.9						
ELK	**Elko**	38.11	86	P	P	11 46 56.2	+1.1
	3.6nm,0.9s,baz=291,slow=9.1,SNR=8.9						
IMW	**Indian Meadow**	38.87	79	*e*P	P	11 47 03.0	+1.5
	4.6nm,1.1s						
H11S1	**WAKE ISLAND Hy**	38.91	218	T	T	12 28 19.2	
	baz=22,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	38.92	218	T	T	12 28 20.5	
	baz=22,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	38.92	218	T	T	12 28 19.3	
	baz=22,slow=76,SNR=25						
MJAR	**Matsushiro Arr**	39.71	267	P	P	11 47 07.7	-0.6
	2.1nm,0.8s,baz=43,slow=6.3,SNR=6.0						
MJAR					PcP	PcP	11 49 14.0	-0.5
	0.8nm,0.7s,baz=85,slow=2.7,SNR=2.8						
PDAR	**Pinedale Array**	40.34	80	P	P	11 47 14.6	+0.8
	3.0nm,0.9s,baz=328,slow=4.5,SNR=8.6						
ANMO	**Albuquerque**	47.15	86	PcP	PcP	11 49 40.6	+0.7
	2.8nm,0.9s,baz=236,slow=3.6,SNR=4.6						
SPITS	**Spitsbergen Ar**	49.33	358	P	P	11 48 26.1	+1.5
	13nm,1.0s,baz=328,slow=14,SNR=3.6						
SPITS					PcP	PcP	11 49 45.4	-1.4
	13nm,1.0s,baz=20,slow=4.6,SNR=3.3						
SONM	**Songino Array**	51.12	301	PcP	PcP	11 49 53.8	-0.2
	2.1nm,0.8s,baz=49,slow=1.6,SNR=6.5						
WMOK	**Wichita Mounta**	51.93	81	*e*P	P	11 48 45.1	+0.4
	4.0nm,0.9s						
TXAR	**Lajitas Array**	52.75	89	P	P	11 48 51.6	+0.6
	5.4nm,0.7s,baz=292,slow=3.9,SNR=12						
H06N1	**SOCORRO T-PHAS**	56.15	104	T	T	12 50 01.4	
	SNR=15						
H06E1	**SOCORRO T-PHAS**	56.25	104	T	T	12 50 04.1	
ZALV	**Zalesovo Beam**	57.17	317	P	P	11 49 20.2	-2.3
	0.3nm,0.3s,baz=57,slow=5.3,SNR=2.9						
KURK	**Kurchatov**	62.12	318	P	P	11 49 56.5	-0.1
KURBB	**Kurchatov Arra**	62.22	318	P	P	11 49 56.5	-0.8
	1.6nm,0.9s,baz=44,slow=6.9,SNR=6.2						
BVAR	**Borovoye Array**	63.42	324	P	P	11 50 04.9	-0.3
	0.8nm,0.5s,baz=62,slow=6.6,SNR=4.5						
FINES	**FINESS Array B**	65.53	352	P	P	11 50 19.1	+0.2
	2.1nm,0.8s,baz=352,slow=6.6,SNR=4.4						
HFS	**Hagfors**	67.48	358	P	P	11 50 31.5	+0.2
	0.6nm,0.3s,baz=42,slow=4.5,SNR=5.2						
AKASG	**Malin Array Be**	75.77	348	P	P	11 51 21.1	-0.3
	0.5nm,0.4s,baz=6.7,slow=4.7,SNR=2.8						
CMAR	**Chiang Mai Arr**	76.54	283	P	P	11 51 25.6	-0.6
	1.7nm,0.9s,baz=26,slow=4.3,SNR=3.4						
KIS	**Kishinev**	79.46	347	*e*PS		11 54 43.0	
KIS				LRM	MLR	12 24 44.0	
	800nm,18.0s						
CTA	**Charters Tower**	82.08	222	P	P	11 51 55.8	-0.5
	4.2nm,0.8s,baz=32,slow=9.5,SNR=2.9						
BRTR	**Keskin Array B**	85.80	342	P	P	11 52 14.1	-1.3
	0.2nm,0.4s,baz=291,slow=6.0,SNR=2.6						
WRA	**Warramunga Arr**	87.21	232	P	P	11 52 20.8	-1.4
	1.8nm,0.7s,baz=35,slow=6.0,SNR=9.1						
FITZ	**Fitzroy Crossi**	90.02	240	P	P	11 52 34.9	-0.5
	1.4nm,0.6s,baz=54,slow=8.7,SNR=3.5						
ASAR	**Alice Springs**	90.61	230	P	P	11 52 37.5	-0.6
	4.6nm,0.8s,baz=32,slow=4.7,SNR=19						
TORD	**Torodi Ar. Bea**	113.96	10	PKKPbc	PKKPbc	12 08 59.4	+4.9
	1.4nm,0.7s,baz=165,slow=3.8,SNR=6.7						
QSPA	**South Pole Qui**	142.47	180	PKhKP	PKPpre	11 59 01.6	
	2.0nm,0.6s,baz=136,slow=1.1,SNR=6.2						
TSUM	**Tsumeb**	146.12	348	PKPbc	PKPdf	11 59 13.8	-1.4
	0.9nm,0.4s,baz=34,slow=7.3,SNR=3.3						
LBTB	**Lobatse**	150.11	332	PKPbc	PKPbc	11 59 26.6	0.0
	13nm,0.8s,baz=35,slow=2.5,SNR=4.4						
MAW	**Mawson**	151.14	219	PKPbc	PKPbc	11 59 27.5	0.0
	4.1nm,0.7s,baz=300,slow=8.1,SNR=2.7						

*IDC **28** 11:43:37.5±1.2, 40.62N×47.18E, h0km, mb3.6/6, mb1 3.7/9, mb1mx3.5/69, mbtmp3.6/9, ML3.4/3, MS3.9/1, Ms1 3.9/1, ms1mx2.5/52, Error ellipse: s-maj=22.4km s-min=11.4km az=164.0*
*NSSP **28** 11:43:38.7, 40.72N×46.93E, h10km, Ms3.6*
*AZER **28** 11:43:39.5±0.0, 40.63N×47.14E, h27km, Error ellipse: s-maj=1.2km s-min=0.7km az=241.0*
*TIF **28** 11:43:40.8, 40.70N×47.02E, h15km±4km*
*ISCJB **28** 11:43:41.7±0.3, 40.59N±0.02×47.17E±0.02, h26km±3km, mb3.5/6, MS3.8/1, Error ellipse: s-maj=3.4km s-min=2.8km az=28.6*
*MOS **28** 11:43:41.9±0.8, 40.55N×47.22E, h37km, mb4.0/2, Error ellipse: s-maj=13.1km s-min=8.4km az=102.9*
*CSEM **28** 11:43:41.2±0.2, 40.62N×47.25E, h15km, mb4.0, Error ellipse: s-maj=4.1km s-min=3.8km az=29.0*

ISC 28 11:43:40.9±0.8, **40.61N**±0.02×**47.13E**±0.02, **h32**km±6km, **n88**,σ1°**81**/131, **mb3.6**/6, **27C-18D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNGR	**Mingechevir, A**	0.17	348	↑P	Pn	11 43 46.4	-0.8
MNGR				↓S	Sb	11 43 51.9	+0.5
MNGR	**Mingechevir, A**	0.17	348	P	Pn	11 43 46.4	-0.8
MNGR				S	Sb	11 43 51.9	+0.5
BRDA	**Brd**	0.35	174	↑P	Pn	11 43 48.8	-0.9
BRDA				↓S	Sn	11 43 56.4	+0.9
BRDA	**Brd**	0.35	174	P	Pn	11 43 48.8	-0.9
SEKA	**Sheki**	0.60	5	↑P	Pn	11 43 52.3	-1.0
SEKA				↑S	Sn	11 44 02.1	+0.1
SEKA	**Sheki**	0.60	5	P	Pn	11 43 52.3	-1.0
SEKA				S	Sn	11 44 02.1	+0.1
GANJ	**Ganja**	0.62	274	↓P	Pb	11 43 52.1	-1.3
GANJ				↑S	Sn	11 44 01.1	-1.2
IML	**Ismayilli**	0.82	77	↓P	Pn	11 43 55.4	-0.9
IML				↓S	Sn	11 44 08.4	+1.1
IML	**Ismayilli**	0.82	77	P	Pn	11 43 55.4	-0.9
KDMR	**Kurdemir**	0.84	106	↑P	Pn	11 43 55.7	-0.7
KDMR				↑S	Sn	11 44 08.9	+1.3
KDMR	**Kurdemir**	0.84	106	P	Pn	11 43 55.7	-0.7
STKZ		0.85	200	↑*i*P	Pn	11 44 00.7	+4.0
STKZ				↑*i*S	Sn	11 44 11.7	+3.7
STKZ		0.85	200	↑P	Pn	11 44 00.7	+4.0
STKZ				S	Sn	11 44 11.7	+3.7
AKT	**Akhty**	0.98	27	*i*P	Pb	11 43 59.0	-0.5
AKT				*i*S	Sn	11 44 13.0	+1.6
AKT				pmax	pmax		
	comp=Z,650nm,0.1s						
AKT	**Akhty**	0.98	27	*i*P	Pb	11 43 59.0	-0.5
	comp=Z,650nm,0.1s						
AKT				*i*S	Sn	11 44 13.0	+1.6
ZKTA	**Zakatala**	1.10	340	↑P	Pb	11 44 00.7	-0.7
ZKTA				↑S	Sb	11 44 16.8	+1.4
PQL	**Pirkuli**	1.13	80	↓P	Pb	11 44 00.8	-1.2
PQL				↓S	Sb	11 44 16.5	+0.1
PQL	**Pirkuli**	1.13	80	P	Pb	11 44 00.8	-1.2
PQL				S	Sb	11 44 16.5	+0.1
VADZ	**Vardenis**	1.14	248	*e*P	Pn	11 43 56.4	-4.5
VADZ				*e*S	Sn	11 44 11.4	-4.2
SAAT	**Saatly**	1.24	127	↓P	Pn	11 44 00.9	-1.1
SAAT				↑S	Sn	11 44 17.1	-0.5
SAAT	**Saatly**	1.24	127	P	Pn	11 44 00.9	-1.1
SAAT				S	Sn	11 44 17.1	-0.5
KSMR	**Kasumkent**	1.25	37	*e*P	Pb	11 44 03.5	-0.4
KSMR				*e*S	Sb	11 44 20.0	+0.3
KSMR				pmax	pmax		
	comp=Z,337nm,0.1s						
KSMR	**Kasumkent**	1.25	37	*e*P	Pb	11 44 03.5	-0.4
	comp=Z,337nm,0.1s						
KSMR				*e*S	Sb	11 44 20.0	+0.3
GRS	**Goris**	1.27	209	↑*i*P	Pb	11 44 07.0	+2.7
GRS				↓*i*S	Sb	11 44 24.0	+3.7
GRS	**Goris**	1.27	209	↑P	Pb	11 44 07.0	+2.7
GRS				S	Sb	11 44 24.0	+3.7
QUBA	**Quba, Azerbaij**	1.27	54	↓Pg	Pb	11 44 03.7	-0.7
QUBA				↑Sg	Sb	11 44 20.7	+0.3
QUBA	**Quba, Azerbaij**	1.27	54	Pg	Pb	11 44 03.7	-0.7
QUBA				Sg	Sb	11 44 20.7	+0.3
ATGJ	**Altiaghaj**	1.40	79	↑Pg	Pb	11 44 05.8	-0.7
ATGJ				↑Sg	Sb	11 44 25.0	+1.0
ATGJ	**Altiaghaj**	1.40	79	Pg	Pb	11 44 05.8	-0.7
ATGJ				Sg	Sb	11 44 25.0	+1.0
QZX	**Qazax, Azerbai**	1.41	289	↑Pn	Pb	11 44 04.9	-1.7
QZX				↑Sn	Sb	11 44 24.7	+0.5
SIZA	**Siyzn**	1.42	70	↑Pn	Pb	11 44 06.1	-0.8
SIZA				↓Sn	Sb	11 44 25.4	+0.7
SIZA	**Siyzn**	1.42	70	Pn	Pb	11 44 06.1	-0.8
SIZA				Sn	Sb	11 44 25.4	+0.7
KMKR	**Kumukh**	1.52	359	↑*i*P	Pb	11 44 08.0	-0.7
KMKR				*e*S	Sb	11 44 29.0	+1.3
KMKR				pmax	pmax		
	comp=Z,279nm,0.2s						
KMKR	**Kumukh**	1.52	359	*i*P	Pb	11 44 08.0	-0.7
	comp=Z,279nm,0.2s						
KMKR				*e*S	Sb	11 44 29.0	+1.3
DGRG	**David-gareji**	1.57	303	P	Pb	11 44 08.8	-0.7
DGRG				S	Sb	11 44 31.7	+2.7
DGRG	**David-gareji**	1.57	303	*e*P	Pb	11 44 08.7	-0.7
DGRG				*e*S	Sb	11 44 31.7	+2.7
DGRG	**David-gareji**	1.57	303	*e*P	Pb	11 44 08.7	-0.7
DGRG				S	Sb	11 44 31.7	+2.7
ALIB	**Äli-Bayra**	1.58	114	↓Pn	Pb	11 44 09.4	0.0
ALIB	**Äli-Bayra**	1.58	114	Pn	Pb	11 44 09.4	0.0
URKR	**Urkarakh**	1.60	14	*e*P	Pb	11 44 10.0	0.0
URKR				*i*S	Sb	11 44 30.0	+0.2
URKR				pmax	pmax		
	comp=Z,100nm,0.2s						
URKR	**Urkarakh**	1.60	14	*e*P	Pb	11 44 10.0	0.0
	comp=Z,100nm,0.2s						
URKR				*i*S	Sb	11 44 30.0	+0.2
GLBA	**Clilabad**	1.68	144	↓Pn	Pb	11 44 08.8	-2.3
GLBA				↓Sn	Sb	11 44 31.3	-0.6
GLBA	**Clilabad**	1.68	144	Pn	Pb	11 44 08.8	-2.3
GLBA				Sn	Sb	11 44 31.3	-0.6
GNBR	**Gunib**	1.78	356	↑*i*P	Pb	11 44 12.8	-0.2
GNBR				*i*S	Sb	11 44 37.4	+2.4
GNBR	**Gunib**	1.78	356	*i*P	Pb	11 44 12.8	-0.2
GNBR				*i*S	Sb	11 44 37.4	+2.4
GNI	**Garni**	1.88	257	Pn	Pb	11 44 14.0	-0.7
	comp=Z,66nm,0.3s,baz=212,slow=0.7,SNR=79						
GNI				Sn	Sb	11 44 40.6	+2.7
	comp=Z,20nm,0.3s,baz=3.8,slow=20,SNR=6.0						
GNI	**Garni**	1.88	257	*e*P	Pb	11 44 13.6	-1.1
	comp=Z,355nm,1.2s						
GNI				LR	LR		
	comp=Z,1µm,19.0s						
NAX	**Nakhchivan**	1.91	222	↑Pn	Pb	11 44 14.1	-1.0
NAX	**Nakhchivan**	1.91	222	Pn	Pb	11 44 14.1	-1.0
GOBA	**Gobu**	2.00	95	↓Sn	Sn	11 44 36.6	+0.4
GOBA	**Gobu**	2.00	95	Sn	Sn	11 44 36.6	+0.4
SEAG	**Tbilisi Sea**	2.10	304	P	Pb	11 44 15.0	-3.4
SEAG				S	Sb	11 44 43.2	-0.9
SEAG	**Tbilisi Sea**	2.10	304	P	Pb	11 44 15.0	-3.4
SEAG				S	Sb	11 44 43.2	-0.9
STEZ	**Stepenevan**	2.11	282	↓*i*P	Pn	11 44 15.0	+0.9
TBLG	**Delisi**	2.12	303	P	Pb	11 44 16.8	-2.0
TBLG				S	Sb	11 44 45.1	+0.3
TBLG	**Delisi**	2.12	303	P	Pb	11 44 16.8	-2.0
TBLG				S	Sb	11 44 45.1	+0.4
TBLG	**Delisi**	2.12	303	P	Pb	11 44 16.8	-2.0
TBLG				S	Sb	11 44 45.1	+0.4
STE	**Stepanavan**	2.13	281	↓P	Pn	11 44 15.0	+0.6
LRK	**Lerik**	2.18

PDAR	**Pinedale Array**	**40.40**	**80**	P		**P**	**11 58 48.5**	**+0.1**
	0.7nm,0.6s,baz=314,slow=4.5,SNR=8.6							
TXAR	**Lajitas Array**	**52.84**	**89**	P		**P**	**12 00 25.6**	**-0.3**
	1.0nm,0.6s,baz=296,slow=4.0,SNR=13							
WRA	**Warramunga Arr**	**87.28**	**231**	P		**P**	**12 03 56.4**	**-0.4**
	0.5nm,1.0s,baz=30,slow=6.0,SNR=2.7							
ASAR	**Alice Springs**	**90.69**	**230**	P		**P**	**12 04 12.3**	**-0.5**
	0.4nm,0.7s,baz=26,slow=4.5,SNR=5.0							

*IDC **28** 11:51:53.4±22.0, 24°.05S×179°.99E, h560km±252km, mb3.3/5, mb1 3.4/5, mb1mx3.0/38, mbtmp4.3/5, Error ellipse: s-maj=151.4km s-min=55.2km az=52.0*

ISC 28 11:51:50.5±4.0, 24°.1S±0°.5×179°.9W±0°.4, h526km, n14, σ0°77/13, mb3.9/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NFK	**Norfolk Island**	**11.93**	**243**	P	P	11 54 19.9	-8.2
	baz=17,SNR=3.3						
CMSA	**Cobar Meteorol**	**31.21**	**249**	P	**P**	**11 57 26.7**	**0.0**
	baz=37,SNR=7.1						
CTA	**Charters Tower**	**31.54**	**271**	P	**P**	**11 57 30.7**	**+1.0**
	8.1nm,0.4s,baz=92,slow=11,SNR=17						
QLP	**Quilpie**	**32.42**	**258**	P	**P**	**11 57 37.5**	**+0.3**
	baz=38,SNR=4.9						
MTSU	**Mount Surprise**	**33.81**	**273**	P	**P**	**11 57 50.3**	**+1.3**
	baz=40,SNR=8.0						
STKA	**Stephens Creek**	**34.72**	**248**	P	**P**	**11 57 56.0**	**-0.4**
	1.7nm,0.6s,baz=98,slow=11,SNR=8.9						
STKA	**Stephens Creek**	**34.72**	**248**	P	**P**	**11 57 56.6**	**+0.2**
	baz=40,SNR=7.2						
BBOO	**Buckleboo**	**39.43**	**247**	P	**P**	**11 58 34.3**	**-0.8**
	baz=45,SNR=7.0						
ASAR	**Alice Springs**	**42.07**	**261**	P	**P**	**11 58 56.2**	**0.0**
	0.6nm,0.4s,baz=94,slow=7.7,SNR=15						
WRA	**Warramunga Arr**	**42.46**	**266**	P	**P**	**11 58 59.0**	**-0.4**
	1.8nm,0.3s,baz=97,slow=8.4,SNR=38						
WRKA	**Warakurna**	**46.86**	**258**	P	**P**	**11 59 32.9**	**-0.3**
	baz=52,SNR=19						
KNRA	**Kununurra**	**48.75**	**270**	P	**P**	**11 59 48.0**	**+0.6**
	baz=55,SNR=6.7						
QSPA	**South Pole Qui**	**66.00**	**180**	P	**P**	**12 01 44.9**	**+0.4**
	2.0nm,0.6s,baz=31,slow=0.9,SNR=9.0						
CISI	**Cisompet, Garu**	**70.78**	**270**	P	**P**	**12 02 13.2**	**-1.2**
	baz=77,SNR=4.0						

*IDC **28** 11:52:44.7±1.1, 33°.14N×96°.54E, h0km, mb3.7/5, mb1 3.8/8, mb1mx3.5/55, mbtmp3.7/8, ML3.5/3, MS4.4/1, Ms1 4.4/1, ms1mx3.3/62, Error ellipse: s-maj=69.0km s-min=18.2km az=63.0*

*ISCJB **28** 11:52:47.7±0.8, 33°.13N±0°.1×96°.5E±0°.2, h33km, mb3.7/5, MS4.4/1, Error ellipse: s-maj=29.3km s-min=11.4km az=161.5*

ISC 28 11:52:49.4±1.0, 33°.2N±0°.1×96°.6E±0°.3, h35km, n9, σ1°03/8, mb4.0/5, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**14.86**	**171**	Pn	**Pn**	**11 56 15.8**	**-1.1**
	0.1nm,0.3s,baz=345,slow=14,SNR=4.6						
SONM	**Songino Array**	**16.35**	**24**	Pn	**P**	**11 56 37.5**	**-1.2**
	0.2nm,0.3s,baz=229,slow=15,SNR=4.1						
MKAR	**Makanchi Array**	**17.40**	**325**	P	**P**	**11 56 50.7**	**+0.3**
	0.1nm,0.3s,baz=119,slow=13,SNR=5.0						
KURBB	**Kurchatov Arra**	**21.89**	**328**	P	**P**	**11 57 38.7**	**-0.4**
	1.0nm,0.8s,baz=140,slow=10,SNR=9.6						
ZALV	**Zalesovo Beam**	**22.35**	**341**	P	**P**	**11 57 44.6**	**+0.5**
	1.0nm,0.7s,baz=144,slow=10,SNR=5.1						
IDI	**Anoyia**	**58.10**	**294**	LR	LR	12 31 37.3	
	comp=Z,328nm,19.9s,baz=14,slow=40						
WRA	**Warramunga Arr**	**63.96**	**140**	P	**P**	**12 03 19.5**	**+0.3**
	1.3nm,0.8s,baz=331,slow=7.6,SNR=14						
ASAR	**Alice Springs**	**66.81**	**143**	P	**P**	**12 03 38.0**	**+0.4**
	0.9nm,0.5s,baz=325,slow=6.5,SNR=19						
STKA	**Stephens Creek**	**77.41**	**142**	P	**P**	**12 04 42.1**	**+1.3**
	1.5nm,0.7s,baz=327,slow=7.3,SNR=3.0						

*IDC **28** 11:53:42.6±1.2, 52°.54N×169°.78W, h0km, mb3.6/7, mb1 3.9/8, mb1mx3.5/58, mbtmp3.5/8, ML3.3/1, Error ellipse: s-maj=46.3km s-min=21.3km az=148.0*

*NEIC **28** 11:53:45.2, 52°.56N×168°.97W, h3km, ML3.6(AEIC), After AEIC.*

ISC 28 11:53:45.7±1.0, 52°.62N±0°.08×169°.06W±0°.07, h10km, n23, σ1°07/24, mb3.6/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.38**	**20**	P	**Pg**	**11 53 54.1**	**+1.0**
NIKH				S	**Sb**	**11 54 01.8**	**+1.4**
OKSO	**Okmok South**	**0.92**	**36**	P	**Pg**	**11 54 02.7**	**-0.7**
OKSO				S	**Sn**	**11 54 17.8**	**-0.2**
OKWR	**Okmok West Rim**	**0.97**	**32**	P	**Pn**	**11 54 05.5**	**+0.1**
OKCE	**Okmok Cone E**	**0.98**	**33**	P	**Pg**	**11 54 04.4**	**-0.1**
OKTU	**Okmok Mt. Tuli**	**0.99**	**38**	P	**Pb**	**11 54 05.0**	**+0.1**
OKAK	**Okmok**	**1.05**	**24**	P	**Pb**	**11 54 03.6**	**-2.3**
OKRE	**Okmok R'deer P**	**1.05**	**31**	P	**Pb**	**11 54 06.1**	**+0.1**
OKFG	**Magazine Ridge**	**1.06**	**41**	P	**Pg**	**11 54 05.6**	**-0.4**
OKFG				S	**Sn**	**11 54 21.7**	**+0.5**
MSOM	**Makushin Julie**	**1.75**	**46**	P	**Pn**	**11 54 15.9**	**-0.1**
MCIR	**Makushin Cirqu**	**1.87**	**43**	P	**Pn**	**11 54 18.4**	**+0.7**
UNV	**Unalaska Valle**	**1.97**	**50**	P	**Pn**	**11 54 19.0**	**-0.1**
UNV				S	**Sb**	**11 54 45.1**	**-1.1**
AKGG	**Akutan Green G**	**2.43**	**48**	P	**Pn**	**11 54 25.7**	**+0.4**
AKUT	**Akutan**	**2.49**	**51**	*e*Pn	**Pn**	**11 54 27.2**	**+1.0**
ATKA	**Atka Island**	**3.17**	**265**	P	**Pn**	**11 54 36.6**	**+1.1**
SPIA	**Saint Paul Isl**	**4.62**	**352**	P	**Pn**	**11 54 55.1**	**-0.3**
ILAR	**Eielson Array**	**16.64**	**34**	Pn	**Pn**	**11 57 39.0**	**+0.3**
	0.0nm,0.3s,baz=223,slow=10,SNR=4.1						
YKA	**Yellowknife Ar**	**29.94**	**49**	P	**P**	**11 59 54.9**	**+1.5**
	0.2nm,0.4s,baz=277,slow=7.0,SNR=5.5						
NVAR	**Mina Array Bea**	**37.48**	**92**	P	P	12 01 02.4	+2.9
	0.4nm,0.8s,baz=302,slow=8.4,SNR=3.6						
ELK	**Elko**	**37.93**	**86**	P	P	12 01 06.7	+3.4
	0.7nm,0.6s,baz=239,slow=5.1,SNR=6.2						
PDAR	**Pinedale Array**	**40.17**	**80**	P	**P**	**12 01 22.6**	**+0.6**
	0.7nm,0.7s,baz=347,slow=6.1,SNR=3.9						
TXAR	**Lajitas Array**	**52.56**	**89**	P	**P**	**12 02 60.0**	**+0.7**
	0.5nm,0.7s,baz=308,slow=6.2,SNR=5.6						
WRA	**Warramunga Arr**	**87.30**	**232**	P	P	12 06 28.7	-3.7
	0.3nm,0.7s,baz=37,slow=5.9,SNR=4.3						
ASAR	**Alice Springs**	**90.70**	**230**	P	**P**	**12 06 45.6**	**-2.8**
	0.7nm,0.8s,baz=23,slow=4.8,SNR=9.2						

*IDC **28** 11:54:29.0±0.7, 52°.74N×169°.60W, h0km, mb4.0/15, mb1 4.2/17, mb1mx3.9/56, mbtmp4.0/17, ML3.6/2, Error ellipse: s-maj=24.4km s-min=12.9km az=174.0*

*ISCJB **28** 11:54:31.8±1.1, 52°.77N±0°.08×169°.52W±0°.07, h28km±6km, mb4.2/25, Error ellipse: s-maj=13.5km s-min=6.3km az=160.3*

*NEIC **28** 11:54:32.6, 52°.68N×169°.06W, h3km, mb4.1/11, ML3.6(AEIC), After AEIC.*

ISC 28 11:54:30.7±2.2, 52°.8N±0°.1×169°.50W±0°.06, h9km±13km, n59, σ0°86/53, mb4.1/25, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.43**	**66**	P	**Pb**	**11 54 40.3**	**-0.2**
NIKH				S	**Sb**	**11 54 47.7**	**+0.6**
OKSO	**Okmok South**	**0.98**	**55**	P	**Pb**	**11 54 50.3**	**+0.4**
OKSO				S	**Sb**	**11 55 04.2**	**+1.2**
OKWR	**Okmok West Rim**	**1.01**	**50**	P	**Pn**	**11 54 51.1**	**-0.1**
OKAK	**Okmok**	**1.04**	**41**	P	**Pg**	**11 54 50.0**	**-0.7**
OKRE	**Okmok R'deer P**	**1.08**	**48**	P	**Pn**	**11 54 52.4**	**+0.3**
OKFG	**Magazine Ridge**	**1.14**	**57**	P	**Pb**	**11 54 52.3**	**-0.2**
OKFG				S	**Sb**	**11 55 08.0**	**+0.6**
MCIR	**Makushin Cirqu**	**1.94**	**53**	P	**Pn**	**11 55 05.0**	**+1.1**
MSW	**Makushin Switc**	**1.97**	**55**	P	**Pn**	**11 55 04.1**	**-0.2**
MSW				S	**Sn**	**11 55 29.3**	**+0.1**
UNV	**Unalaska Valle**	**2.08**	**59**	P	**Pn**	**11 55 06.2**	**+0.4**
UNV				S	**Sn**	**11 55 30.4**	**-1.4**
ATKA	**Atka Island**	**2.93**	**260**	P	**Pb**	**11 55 23.8**	**+0.7**
SPIA	**Saint Paul Isl**	**4.41**	**355**	P	Pn	11 55 41.5	+3.8
AMKA	**Amchitka**	**7.05**	**263**	*e*Pn	Pn	11 56 17.4	+3.4
	36nm,0.6s						
KDAK	**Kodiak Island**	**10.85**	**56**	Pn	**Pn**	**11 57 05.7**	**-0.3**
	0.7nm,0.3s,baz=253,slow=3.7,SNR=4.2						
SEW	**Seward**	**13.24**	**49**	*e*Pn	**Pn**	**11 57 39.1**	**+0.4**
	6.3nm,0.7s						
PPLA	**Purkeypile**	**13.63**	**35**	*e*Pn	**P**	**11 57 54.1**	**+0.9**
	27nm,1.4s						
SML	**Sawmill**	**14.50**	**43**	Pn	**Pn**	**11 57 57.6**	**+1.7**
	0.7nm,0.5s						
TRF	**Thorofare Moun**	**14.65**	**36**	*e*P	**P**	**11 58 02.9**	**-1.6**
	9.0nm,1.3s						
ILAR	**Eielson Array**	**16.64**	**35**	Pn	**Pn**	**11 58 23.2**	**-0.7**
	0.1nm,0.3s,baz=224,slow=11,SNR=7.4						
COLD	**Coldfoot**	**17.26**	**26**	P	**P**	**11 58 35.6**	**+2.5**
	9.6nm,1.1s						
HYT	**Haines Junctio**	**19.10**	**53**	*e*P	**Pn**	**11 58 55.4**	**+1.0**
	9.6nm,0.6s						
PETK	**Petropavlovsk-**	**19.67**	**284**	P	**P**	**11 58 58.9**	**-0.9**
	0.4nm,0.3s,baz=86,slow=14,SNR=3.1						
SKAG	**Skagway**	**20.00**	**57**	*e*P	Pn	11 59 05.2	+0.2
	16nm,0.9s						
H02S1	**DAWSON INLET T**	**22.13**	**74**	T	T	12 22 16.7	
	SNR=6.7						
SEY	**Seymchan**	**22.32**	**312**	P	**P**	**11 59 28.5**	**+0.3**
	1.3nm,0.8s,baz=78,slow=8.4,SNR=6.6						
DLBC	**Dease Lake**	**22.73**	**60**	P	**P**	**11 59 34.2**	**+1.4**
	2.5nm,0.8s,baz=271,slow=11,SNR=4.7						
INK	**Inuvik**	**23.03**	**34**	P	**P**	**11 59 34.5**	**-1.2**
	2.7nm,0.8s,baz=211,slow=6.2,SNR=4.5						
BBB	**Bella Bella**	**24.96**	**75**	P	**P**	**11 59 54.2**	**0.0**
	8.9nm,0.9s,baz=357,slow=6.7,SNR=3.1						
YKA	**Yellowknife Ar**	**30.02**	**49**	P	**P**	**12 00 38.7**	**-0.7**
	0.5nm,0.5s,baz=272,slow=7.7,SNR=8.5						
NEW	**Newport**	**32.98**	**76**	P	**P**	**12 01 06.0**	**+0.2**
	3.4nm,0.6s,baz=316,slow=6.6,SNR=7.4						
WVOR	**Wild Horse Val**	**35.13**	**86**	*e*P	**P**	**12 01 25.4**	**+0.9**
	4.6nm,1.2s						
CHMT	**Chamberlain Mo**	**35.93**	**76**	*e*P	**P**	**12 01 31.1**	**-0.3**
	1.6nm,0.6s						
HRY	**Holter Researc**	**36.87**	**76**	*e*P	**P**	**12 01 39.6**	**+0.2**
	1.7nm,0.5s						
MCMT	**McKenzie Canyo**	**37.27**	**79**	*e*P	**P**	**12 01 43.1**	**+0.2**
	1.6nm,0.5s						
BOZ	**Bozeman (W)**	**37.55**	**77**	*e*P	**P**	**12 01 45.5**	**+0.3**
	1.6nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**37.74**	**218**	T	T	12 41 45.2	
	baz=24,slow=76,SNR=32						
H11N3	**WAKE ISLAND Hy**	**37.75**	**218**	T	T	12 41 45.8	
	baz=24,slow=76,SNR=7.1						
NVAR	**Mina Array Bea**	**37.75**	**91**	P	**P**	**12 01 47.0**	**0.0**
	1.2nm,0.8s,baz=299,slow=8.3,SNR=8.8						
NVAR				PcP	**PcP**	**12 04 03.9**	**+0.1**
	0.2nm,0.6s,baz=277,slow=2.2,SNR=4.1						
H11N1	**WAKE ISLAND Hy**	**37.76**	**218**	T	T	12 41 48.0	
	baz=24,slow=76,SNR=39						
LKWY	**Lake**	**38.87**	**78**	*e*P	**P**	**12 01 57.7**	**+1.2**
	5.7nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**38.94**	**218**	T	T	12 43 13.6	
	baz=23,slow=76,SNR=130						
H11S2	**WAKE ISLAND Hy**	**38.95**	**218**	T	T	12 43 15.1	
	baz=23,slow=76,SNR=95						
H11S3	**WAKE ISLAND Hy**	**38.95**	**218**	T	T	12 43 15.0	
	baz=23,slow=76,SNR=110						
RLMT	**Red Lodge**	**39.23**	**76**	*e*P	**P**	**12 01 60.0**	**+0.6**
	3.2nm,0.8s						
PDAR	**Pinedale Array**	**40.40**	**80**	P	**P**	**12 02 09.4**	**+0.3**
	2.3nm,0.7s,baz=320,slow=5.5,SNR=19						
O20A	**White River Ci**	**42.78**	**82**	*e*P	**P**	**12 02 28.6**	**0.0**
	4.4nm,0.7s						
PV01	**Paradox Valley**	**43.84**	**84**	*e*P	**P**	**12 02 37.2**	**-0.1**
	262nm,0.7s						
ANMO	**Albuquerque**	**47.22**	**86**	PcP	**PcP**	**12 04 36.7**	**+1.4**
	1.5nm,0.8s,baz=333,slow=4.5,SNR=5.1						
SONM	**Songino Array**	**51.01**	**300**	PcP	**PcP**	**12 04 49.1**	**+0.3**
	1.5nm,0.8s,baz=58,slow=3.1,SNR=8.5						
TXAR	**Lajitas Array**	**52.82**	**89**	P	**P**	**12 03 46.5**	**0.0**
	3.5nm,0.7s,baz=299,slow=5.2,SNR=26						
H06N1	**SOCORRO T-PHAS**	**56.25**	**104**	T	T	13 04 53.4	
	SNR=42						
SADO	**Sadowa**	**56.29**	**59**	P	**P**	**12 04 11.4**	**+0.1**
	4.0nm,0.9s,baz=301,slow=5.4,SNR=3.9						
H06E1	**SOCORRO T-PHAS**	**56.35**	**104**	T	T	13 04 59.3	
	SNR=32						
KURK	**Kurchatov**	**62.00**	**318**	P	**P**	**12 04 51.1**	**+0.3**
KURBB	**Kurchatov Arra**	**62.10**	**318**	P	**P**	**12 04 51.1**	**-0.5**
	0.6nm,0.8s,baz=46,slow=7.9,SNR=3.4						
BVAR	**Borovoye Array**	**63.30**	**324**	P	**P**	**12 04 59.4**	**-0.1**
	0.6nm,0.5s,baz=58,slow=5.8,SNR=3.8						
CMAR	**Chiang Mai Arr**	**76.44**	**283**	P	**P**	**12 06 19.2**	**-1.6**
	0.3nm,0.3s,baz=28,slow=4.1,SNR=2.4						
WRA	**Warramunga Arr**	**87.21**	**231**	P	**P**	**12 07 16.1**	**-1.2**
	0.7nm,0.7s,baz=32,slow=6.1,SNR=5.9						
PSI	**Prapat**	**88.75**	**273**	P	**P**	**12 07 26.0**	**+1.0**
	7.8nm,0.7s,baz=14,slow=9.1,SNR=4.0						
ASAR	**Alice Springs**	**90.61**	**230**	P	**P**	**12 07 33.0**	**-0.3**
	1.4nm,0.7s,baz=34,slow=4.7,SNR=14						

IDC 28 12:02:18.8±3.0, 54°.03N×87°.86E, h0km, mb1 2.7/2, mb1mx2.7/53, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=26.8km s-min=18.3km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.79**	**269**	*i*		12 12 35.0	
	baz=83,slow=320,SNR=10.0						
ZALV	**Zalesovo Beam**	**1.79**	**269**	Pn	Pb	12 02 52.1	-0.4
	1.4nm,0.3s,baz=87,slow=14,SNR=21						
ZALV				Lg	Lg	12 03 15.2	
	2.6nm,0.3s,baz=84,slow=26,SNR=16						
KURBB	**Kurchatov Arra**	**6.66**	**243**	Pn	Pn	12 03 59.0	+1.3
	0.1nm,0.3s,baz=57,slow=15,SNR=4.8						
KURBB				Lg	Lg	12 05 49.5	
	0.0nm,0.3s,baz=54,slow=32,SNR=8.9						
MKAR	**Makanchi Array**	**8.07**	**208**	Pn	Pn	12 04 17.6	+0.4
	0.1nm,0.3s,baz=36,slow=15,SNR=3.0						
MKAR				Lg	Lg	12 06 34.1	
	0.1nm,0.3s,baz=24,slow=30,SNR=6.6						

*ISCJB **28** 12:03:00.9±1.3, 52°.57N±0°.09×169°.36W±0°.10, h9km±7km, mb3.5/6, Error ellipse: s-maj=17.0km s-min=4.9km az=148.9*

*NEIC **28** 12:03:01.7, 52°.65N×169°.39W, h7km, ML3.7(AEIC), After AEIC.*

*IDC **28** 12:03:05.5±2.1, 53°.34N×168°.52W, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.4/57, mbtmp3.4/7, ML3.4/2, Error ellipse: s-maj=40.0km s-min=27.6km az=24.0*

ISC 28 12:03:01.6±1.9, 52°.6N±0°.1×169°.25W±0°.06, h5km±12km, n38, σ1°13/36, mb3.5/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.45**	**32**	P	**Pg**	**12 03 11.2**	**+0.9**
NIKH				S	**Sb**	**12 03 18.6**	**-0.6**
OKSP	**Okmok Steeple**	**0.88**	**41**	P	**Pg**	**12 03 18.6**	**+0.1**
OKSO	**Okmok South**	**1.01**	**40**	P	**Pg**	**12 03 21.0**	**0.0**
OKSO				S	**Sg**	**12 03 35.0**	**+0.8**
OKWR	**Okmok West Rim**	**1.05**	**36**	P	**Pb**	**12 03 22.5**	**0.0**
OKCE	**Okmok Cone E**	**1.06**	**38**	P	**Pg**	**12 03 21.5**	**-0.5**
OKTU	**Okmok Mt. Tuli**	**1.08**	**42**	P	**Pb**	**12 03 22.3**	**-0.6**
OKAK	**Okmok**	**1.13**	**28**	P	**Pb**	**12 03 20.8**	**-2.8**
OKRE	**Okmok R'deer P**	**1.14**	**35**	P	**Pn**	**12 03 24.0**	**-0.3**
OKFG	**Magazine Ridge**	**1.15**	**44**	P	**Pb**	**12 03 23.1**	**-0.9**
OKFG				S	**Sb**	**12 03 38.9**	**-0.4**
MSOM	**Makushin Julie**	**1.85**	**48**	P	**Pn**	**12 03 33.6**	**-0.4**
MCIR	**Makushin Cirqu**	**1.96**	**45**	P	**Pn**	**12 03 36.4**	**+0.7**
MSW	**Makushin Switc**	**1.99**	**47**	P	**Pn**	**12 03 35.3**	**-0.7**
MSW				S	**Sn**	**12 04 00.6**	**-0.7**
MTBL	**Makushin Table**	**2.07**	**47**	P	**Pn**	**12 03 37.0**	**-0.2**
UNV	**Unalaska Valle**	**2.08**	**52**	P	**Pn**	**12 03 36.4**	**-0.8**
UNV				S	**Sb**	**12 04 05.2**	**-0.7**
AKRB	**Akutan Reef Bi**	**2.45**	**50**	P	**Pn**	**12 03 42.2**	**-0.1**
AKRB				S	**Sb**	**12 04 15.1**	**-1.6**
AKGG	**Akutan Green G**	**2.53**	**49**	P	**Pn**	**12 03 44.3**	**+0.9**
AKUT	**Akutan**	**2.59**	**52**	*e*Pn	**Pn**	**12 03 45.7**	**+1.4**
ATKA	**Atka Island**	**3.05**	**265**	P	**Pn**	**12 03 49.3**	**-1.3**
GSCK	**Great Sitkin C**	**4.28**	**265**	P	**Pn**	**12 04 07.0**	**-0.5**
ADAG	**Mount Adagdak**	**4.55**	**265**	P	**Pn**	**12 04 10.7**	**-0.5**
SPIA	**Saint Paul Isl**	**4.63**	**353**	P	**Pn**	**12 04 12.4**	**+0.2**
AMKA	**Amchitka**	**7.17**	**265**	P	**Pn**	**12 04 47.1**	**-0.1**
KDAK	**Kodiak Island**	**10.84**	**55**	Pn	**Pn**	**12 05 35.1**	**-2.3**
	0.3nm,0.3s,baz=180,slow=14,SNR=1.4						
ILAR	**Eielson Array**	**16.73**	**35**	Pn	Pn	12 06 46.7	-10
	0.1nm,0.3s,baz=232,slow=8.9,SNR=10.0						
PETK	**Petropavlovsk-**	**19.87**	**285**	P	**Pn**	**12 07 35.3**	**+0.3**
	1.0nm,0.5s,baz=96,slow=11,SNR=4.8						
SEY	**Seymchan**	**22.57**	**312**	P	**P**	**12 08 05.5**	**+3.0**
	1.1nm,0.9s,baz=103,slow=9.8,SNR=4.7						
DLBC	**Dease Lake**	**22.71**	**59**	P	**P**	**12 08 05.6**	**+1.5**
	2.8nm,1.1s,baz=217,slow=9.3,SNR=3.8						
YKA	**Yellowknife Ar**	**30.04**	**49**	P	**P**	**12 09 10.2**	**-1.0**
	0.2nm,0.5s,baz=273,slow=8.5,SNR=2.0						
NVAR	**Mina Array Bea**	**37.60**	**91**	P	**P**	**12 10 18.7**	**+1.4**
	0.3nm,0.6s,baz=316,slow=8.9,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**37.67**	**219**	T	T	12 50 16.8	
	baz=24,slow=76,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**37.68**	**219**	T	T	12 50 16.9	
	baz=24,slow=76,SNR=7.2						
H11N1	**WAKE ISLAND Hy**	**37.69**	**219**	T	T	12 50 17.7	
	baz=24,slow=76,SNR=8.1						
H11S1	**WAKE ISLAND Hy**	**38.86**	**218**	T	T	12 51 49.2	
	baz=23,slow=76,SNR=25						
H11S2	**WAKE ISLAND Hy**	**38.88**	**218**	T	T	12 51 47.5	
	baz=23,slow=76,SNR=29						
H11S3	**WAKE ISLAND Hy**	**38.88**	**218**	T	T	12 51 47.4	
	baz=23,slow=76,SNR=34						
PDAR	**Pinedale Array**	**40.29**	**79**	P	**P**	**12 10 40.1**	**+0.3**
	0.8nm,0.6s,baz=324,slow=4.2,SNR=8.1						
TXAR	**Lajitas Array**	**52.67**	**89**	P	**P**	**12 12 17.0**	**0.0**
	1.2nm,0.8s,baz=296,slow=6.8,SNR=11						
H06N1	**SOCORRO T-PHAS**	**56.05**	**104**	T	T	13 13 27.7	
	SNR=9.1						

NEIC 28 12:07:12.3, 52°.61N×169°.08W, h15km, ML2.6(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.39**	**21**	P	Pg	12 07 19.4	-0.8
NIKH				S	Sb	12 07 26.9	+0.2
OKCF	**Okmok Cone F**	**0.97**	**36**	P	Pb	12 07 30.9	0.0
OKWR	**Okmok West Rim**	**0.98**	**32**	P	Pb	12 07 30.8	-0.3
OKTU	**Okmok Mt. Tuli**	**1.00**	**39**	P	Pb	12 07 31.1	-0.2
OKFG	**Magazine Ridge**	**1.07**	**41**	P	Pb	12 07 31.3	-1.2
OKFG				S	Sn	12 07 47.2	-0.1
MCIR	**Makushin Cirqu**	**1.88**	**44**	P	Pn	12 07 44.6	+0.7
UNV	**Unalaska Valle**	**1.98**	**50**	P	Pn	12 07 44.6	-0.7
ZRO	**Akutan Zero**	**2.38**	**50**	P	Pn	12 07 51.3	+0.6
LVA	**Lava Point**	**2.40**	**48**	P	Pn	12 07 51.3	+0.3
AKGG	**Akutan Green G**	**2.44**	**48**	P	Pn	12 07 52.0	+0.4
AHB	**Akutan Harbor**	**2.47**	**51**	P	Pn	12 07 51.7	-0.3
ATKA	**Atka Island**	**3.16**	**265**	P	Pn	12 08 01.9	+0.5
SPIA	**Saint Paul Isl**	**4.63**	**352**	P	Pn	12 08 20.7	-0.8

*ISCJB **28** 12:07:35.9±0.8, 52°.8N±0°.2×169°.3W±0°.1, h10km, mb3.9/9, Error ellipse: s-maj=23.7km s-min=8.6km az=157.3*

*IDC **28** 12:07:35.5±0.8, 52°.67N×169°.41W, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.8/59, mbtmp3.8/10, ML3.8/2, Error ellipse: s-maj=26.6km s-min=14.6km az=154.0*

ISC 28 12:07:37.5±0.8, 52°.7N±0°.2×169°.45W±0°.10, h10km, n19, σ0°99/22, mb4.0/9, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**10.86**	**56**	Pn	**Pn**	**12 10 14.2**	**+1.5**
	0.7nm,0.3s,baz=250,slow=7.0,SNR=4.0						
KDAK				Sn	**Sn**	**12 12 13.8**	**-0.2**
	0.7nm,0.3s,baz=317,slow=19,SNR=2.3						
KDAK	**Kodiak Island**	**10.86**	**56**	Sn	**Sn**	**12 12 13.8**	**-0.2**
ILAR	**Eielson Array**	**16.67**	**35**	Pn	**Pn**	**12 11 30.2**	**-0.6**
	0.1nm,0.3s,baz=231,slow=10,SNR=8.6						
PETK	**Petropavlovsk-**	**19.72**	**284**	P	**Pn**	**12 12 09.4**	**+1.0**
	0.4nm,0.3s,baz=97,slow=13,SNR=9.9						
DLBC	**Dease Lake**	**22.74**	**60**	P	**P**	**12 12 38.5**	**-0.9**
	1.4nm,0.9s,baz=287,slow=17,SNR=2.1						
INK	**Inuvik**	**23.06**	**34**	P	**P**	**12 12 42.0**	**-0.6**
	2.0nm,0.6s,baz=249,slow=7.3,SNR=6.5						
YKA	**Yellowknife Ar**

TAFP	Tanaga Falls P	5.33	265	P		Pn		12 09 04.4	+1.4
SDPT	Sand Point	5.91	59	P		Pn		12 09 12.5	+1.6
VNWF	Veniaminof 8	6.72	55	P		Pn		12 09 23.8	+1.6
VNKR	Veniaminof 5	6.77	56	P		Pn		12 09 23.8	+1.1
CEAP	Semis' Anvil P	6.80	269	P		Pn		12 09 24.7	+1.6
VNSS	Veniaminof 8	6.81	54	P		Pn		12 09 25.2	+1.8
AMKA	Amchitka	7.10	264	*e*Pn		Pn		12 09 24.3	-2.9
	267nm,0.6s								
CHGN	Chignik	7.37	56	*e*Pn		Pn		12 09 29.3	-1.5
CHGN				*e*Sn		Sn		12 10 51.5	-2.3
SMY	Shemya	10.03	277	*e*P		Pn		12 10 05.9	-1.5
SMY				pmax	pmax				
	comp=Z,34nm,0.6s								
SMY	Shemya	10.03	277	*e*Pn		Pn		12 10 05.9	-1.5
	comp=Z,34nm,0.6s								
OHAK	Old Harbor	10.33	57	*e*Pn		Pn		12 10 11.2	-0.2
KDAK	Kodiak Island	10.88	55	Pn		Pn		12 10 19.0	+0.1
	comp=Z,427nm,0.5s,SNR=10								
KDAK	Kodiak Island	10.88	55	Pn		Pn		12 10 19.3	+0.4
	comp=Z,5.2nm,0.3s,baz=246,slow=6.5,SNR=21								
KDAK				Sn		Sn		12 12 19.2	-0.7
	comp=Z,1.0nm,0.3s,baz=322,slow=18,SNR=3.6								
KDAK	Kodiak Island	10.88	55	P		Pn		12 10 19.3	+0.4
KDAK								12 12 19.2	
KDAK				pmax	pmax				
	comp=Z,5.0nm,0.3s								
KDAK				smax	smax				
	comp=N,1.0nm,0.3s								
KDAK	Kodiak Island	10.88	55	Pn		Pn		12 10 19.3	+0.4
KDAK				Sn		Sn		12 12 19.2	-0.7
SVW2	Sparrevohn	11.32	36	*e*Pn		Pn		12 10 26.4	+1.4
RSO	Redoubt South	12.03	43	*e*Pn		Pn		12 10 33.6	-1.3
	comp=N,130nm,0.6s								
BRLK	Bradley Lake	12.49	48	*e*Pn		Pn		12 10 41.9	+0.8
TNA	Tin City	12.98	3	*e*Pn		Pn		12 10 47.5	0.0
	comp=N,40nm,0.7s								
SEW	Seward	13.29	48	Pn		Pn		12 10 47.3	-4.6
	comp=N,62nm,0.7s								
SEW				*e*Sn		Sn		12 13 21.3	+2.3
RC01	Rabbit Creek A	13.62	44	*e*Pn		Pn		12 10 54.3	-2.1
	comp=N,22nm,0.5s								
PPLA	Purkeypile	13.72	35	*e*Pn		Pn		12 10 58.1	+0.3
CAST	Castle Rocks	14.10	33	*e*Pn		Pn		12 11 05.3	+2.4
PMR	Palmer	14.13	43	*e*P		Pn		12 11 03.6	+0.3
PMR				pmax	pmax				
	comp=Z,15nm,0.6s								
PMR	Palmer	14.13	43	*e*Pn		Pn		12 11 03.6	+0.3
	comp=Z,15nm,0.6s								
MID	Middleton Isla	14.51	53	*e*P		Pn		12 11 08.9	+0.4
MID				pmax	pmax				
	comp=Z,79nm,0.7s								
MID	Middleton Isla	14.51	53	*e*Pn		Pn		12 11 08.9	+0.4
	comp=Z,79nm,0.7s								
SML	Sawmill	14.57	43	*e*P		Pn		12 11 08.1	-1.2
SML				pmax	pmax				
	comp=Z,9.0nm,0.8s								
SML	Sawmill	14.57	43	*e*Pn		Pn		12 11 08.1	-1.2
	comp=Z,9.5nm,0.8s								
TRF	Thorofare Moun	14.74	35	*e*Pn		Pn		12 11 12.7	+0.9
BPAW	Bear Paw Mtn.	14.92	33	*e*Pn		Pn		12 11 14.5	+0.4
EYAK	Cordova Ski Ar	15.16	49	*e*Pn		Pn		12 11 15.4	-1.9
DIV	Divide	15.37	47	*e*Pn		Pn		12 11 17.6	-2.5
MCK	McKinley	15.39	36	*e*P		Pn		12 11 22.1	+1.8
MCK	McKinley	15.39	36	*e*Pn		Pn		12 11 22.1	+1.8
KLU	Klutina	15.45	46	*e*Pn		Pn		12 11 14.8	-6.3
BWN	Browne	15.48	34	*e*Pn		Pn		12 11 22.4	+1.0
IM04	Indian Mountai	15.49	24	*e*Pn		Pn		12 11 23.5	+2.0
DHY	Denali Highway	15.60	39	*e*Pn		Pn		12 11 24.2	+1.1
	comp=Z,40nm,1.2s								
BMRM	Bremner River	15.84	49	*e*Pn		Pn		12 11 24.4	-1.7
	comp=Z,78nm,1.0s								
HARP	HAARP	16.17	43	*e*Pn		Pn		12 11 30.4	+0.1
	comp=Z,148nm,1.2s								
PAX	Paxson	16.30	41	*e*P		Pn		12 11 30.4	-1.7
PAX				pmax	pmax				
	comp=Z,23nm,0.9s								
PAX	Paxson	16.30	41	*e*Pn		Pn		12 11 30.4	-1.7
	comp=Z,23nm,0.9s								
CCB	Clear Creek Bu	16.34	34	*e*Pn		Pn		12 11 31.9	-0.5
	comp=Z,56nm,1.1s								
COLA	College	16.46	34	*e*P		Pn		12 11 34.0	0.0
COLA				pmax	pmax				
	comp=Z,102nm,1.3s								
COLA	College	16.46	34	*e*Pn		Pn		12 11 34.0	0.0
	comp=Z,102nm,1.3s								
HDA	Harding Lake	16.49	36	*e*Pn		Pn		12 11 34.2	-0.2
	comp=Z,43nm,1.1s								
ILAR	Eielson Array	16.73	35	Pn		Pn		12 11 33.8	-3.6
	comp=Z,0.7nm,0.3s,baz=230,slow=11,SNR=17								
ILAR				ScP		ScP		12 19 58.9	+0.1
	comp=Z,0.0nm,0.3s,baz=266,slow=2.9,SNR=8.9								
MENT	Mentasta	17.00	43	*e*Pn		Pn		12 11 40.8	-0.1
COLD	Coldfoot	17.37	25	*e*P		P		12 11 47.5	+0.8
	comp=Z,44nm,0.9s								
EGAK	Eagle	18.83	39	*e*P		P		12 12 01.8	-1.0
	comp=Z,33nm,1.0s								
HYT	Haines Junctio	19.14	52	*e*P		P		12 12 03.2	-3.1
DAWY	Dawson	19.23	42	*e*P		P		12 12 06.6	-0.6
PET	Petropavlovsk	19.23	284	*e*P		Pn		12 12 11.8	+3.5
PET				*e*S		Sn		12 15 42.3	-0.9
PET				pmax	pmax				
	comp=Z,28nm,0.7s								
PET				MLR	MLR				
	comp=Z,1μm,19.0s								
BILL	Bilibino	19.35	332	*c i*P		Pn		12 12 13.4	+3.8
BILL				pmax	pmax				
	comp=Z,45nm,1.3s								
BILL	Bilibino	19.35	332	*e*Pn		Pn		12 12 13.0	+3.4
	comp=Z,99nm,1.3s								
PETK	Petropavlovsk-	19.78	285	P		P		12 12 12.7	-0.6
	comp=Z,1.9nm,0.3s,baz=94,slow=12,SNR=28								
PETK	Petropavlovsk-	19.78	285	P		P		12 12 12.7	-0.6
PETK				pmax	pmax				
	comp=Z,2.0nm,0.3s								
SKAG	Skagway	20.03	57	*e*Pn		P		12 12 12.6	-3.3
	comp=Z,111nm,1.0s								
BESE	Bessie Mountai	20.22	59	*e*P		P		12 12 16.3	-1.7
	comp=Z,104nm,1.5s								
WRAK	Wrangell Islan	21.64	65	*e*P		P		12 12 35.2	+1.9
	comp=Z,51nm,1.2s								
H02N1	VAN INLET T-PH	22.05	74	P		P		12 12 36.6	-1.3
H02N1				T		T		12 35 32.2	
	SNR=27								
H02S1	DAWSON INLET T	22.11	74	P		P		12 12 38.7	+0.4
H02S1				T		T		12 35 34.7	
	SNR=184								
SEY	Seymchan	22.48	312	P		P		12 12 42.4	+0.1
	comp=Z,3.6nm,0.7s,baz=90,slow=10,SNR=17								
SEY				ScP		ScP		12 20 12.6	+0.6
	comp=Z,5.5nm,0.7s,baz=94,slow=5.1,SNR=18								
SEY	Seymchan	22.48	312	*c e*P		P		12 12 42.0	-0.2
DLBC	Dease Lake	22.75	60	P		P		12 12 48.0	+2.7
	comp=Z,24nm,0.9s,baz=265,slow=7.0,SNR=40								
DLBC	Dease Lake	22.75	60	*e*P		P		12 12 44.0	-1.3
MA2	Magadan	22.98	303	*e*P		P		12 12 50.2	+2.6
INK	Inuvik	23.12	34	P		P		12 12 47.0	-1.9
	comp=Z,27nm,0.8s,baz=225,slow=16,SNR=28								
INK				S		S		12 17 00.7	+1.7
	comp=Z,3.3nm,0.9s,baz=256,slow=31,SNR=5.6								
INK	Inuvik	23.12	34	P		P		12 12 47.0	-1.9
INK				S		S		12 17 00.7	+1.7
INK				pmax	pmax				
	comp=Z,27nm,0.8s								
INK				smax	smax				
	comp=N,3.0nm,0.9s								
BBB	Bella Bella	24.94	74	P		P		12 13 03.8	-2.3
	comp=N,14nm,1.0s,baz=275,slow=10,SNR=3.3								
VDB	Vedder Mountai	29.66	78	P		P		12 13 49.9	+1.4
E03A	Lebam	29.90	83	*e*P		P		12 13 52.0	+1.3
	comp=N,34nm,0.9s								
YKW3	Yellowknife Ar	30.05	49	*e*P		P		12 13 50.5	-1.4
	comp=N,0.1nm,0.6s								
YKA	Yellowknife Ar	30.07	49	P		P		12 13 51.6	-0.4
	comp=N,3.5nm,0.6s,baz=272,slow=7.7,SNR=25								
YKA				PcP		PcP		12 16 52.9	-0.3
	comp=N,2.1nm,0.8s,baz=302,slow=2.2,SNR=4.8								
YKA				ScP		ScP		12 20 35.0	+0.8
	comp=N,1.2nm,0.8s,baz=289,slow=3.3,SNR=4.7								
YKA	Yellowknife Ar	30.07	49	P		P		12 13 51.6	-0.4
YKA								12 16 52.9	
YKA				pmax	pmax				
	comp=Z,4.0nm,0.6s								
YKA				pmax	pmax				
	comp=Z,2.0nm,0.8s								
YKA				pmax	pmax				
	comp=N,1.0nm,0.8s								
D05A	Enumclaw	30.55	81	*e*P		P		12 13 59.5	+3.0
	comp=N,60nm,1.1s								
G03D	McMinnville, O	30.75	85	P		P		12 13 59.5	+1.2
	baz=31								
TDL	Tradedollar La	30.81	83	P		P		12 14 01.4	+2.5
LON	Longmire	30.86	82	*e*P		P		12 14 01.6	+2.3
LON				pmax	pmax				
	comp=Z,10.0nm,0.9s								
LON	Longmire	30.86	82	*e*P		P		12 14 01.6	+2.3
	comp=Z,9.6nm,0.9s								
ETW	Entiat	31.35	79	P		P		12 14 05.3	+1.6
I03D	Drain, OR	31.50	88	P		P		12 14 06.2	+1.4
	baz=31								
WTV	Waterville	31.53	79	P		P		12 14 06.4	+1.2
VLL	Laurance Lake	31.58	84	P		P		12 14 08.1	+2.4
B08A	Colville Reser	31.60	77	*e*P		P		12 14 05.5	-0.2
	comp=Z,21nm,0.8s								
B08A				*e*PcP		PcP		12 16 59.0	+1.4
SAW	Saint Andrews	31.86	79	P		P		12 14 09.2	+1.2
G05D	Wamic, OR	31.91	84	P		P		12 14 10.1	+1.6
	baz=32,SNR=12								
I04A	Tendick Farm,	32.01	87	P		P		12 14 11.5	+2.0
	baz=32,SNR=11								
L02D	Cave Junction,	32.20	90	P		P		12 14 12.6	+1.5
	baz=32								
I05D	Terrebonne, OR	32.37	85	P		P		12 14 14.2	+1.6
	baz=32								
RSW	Rattlesnake Hi	32.37	81	P		P		12 14 14.5	+1.9
HAWA	Hanford	32.41	81	*e*P		P		12 14 13.1	+0.3
	comp=Z,23nm,0.8s								
OD2	Odessa Site #2	32.42	79	P		P		12 14 14.1	+1.2
D08A	Wollman Farm,	32.45	79	*e*P		P		12 14 13.9	+0.6
	comp=Z,14nm,1.0s								
J04D	Umpqua Nationa	32.50	88	P		P		12 14 15.0	+1.1
	baz=32								
KHMM	Horse Mountain	32.87	92	*e*P		P		12 14 18.6	+1.5
	comp=Z,70nm,1.8s								
NEW	Newport	32.95	76	P		P		12 14 17.8	+0.2
	comp=Z,16nm,0.6s,baz=300,slow=7.3,SNR=42								
NEW				PcP		PcP		12 17 00.5	-0.8
	comp=Z,3.1nm,0.8s,baz=329,slow=5.9,SNR=2.5								
NEW	Newport	32.95	76	P		P		12 14 17.8	+0.2
NEW								12 17 00.5	
NEW				pmax	pmax				
	comp=Z,17nm,0.6s								
NEW				pmax	pmax				
	comp=Z,3.0nm,0.9s								
NEW	Newport	32.95	76	P		P		12 14 18.7	+1.1
	baz=33,SNR=22								
YAK	Yakutsk	32.98	311	*e*P		P		12 14 19.1	+1.4
YAK				*e**PP		pP		12 14 26.7	+3.4
YAK				*e*				12 15 27.5	
YAK				*e*PPP		PPP		12 15 42.3	
YAK				*e*				12 17 00.9	
YAK				*e*S		S		12 19 37.5	+2.8
YAK				*e*				12 24 41.5	
YAK				pmax	pmax				
	comp=Z,13nm,0.9s								
YAK				pmax	pmax				
	comp=N,2.0nm,1.1s								
YAK				pmax	pmax				
	comp=E,8.0nm,1.3s								
YAK				pmax	pmax				
	comp=Z,53nm,2.8s								
YAK				pmax	pmax				
	comp=N,45nm,3.2s								
YAK				pmax	pmax				
	comp=E,46nm,3.2s								
YAK				smax	smax				
	comp=E,94nm,5.2s								
YAK				smax	smax				
	comp=N,63nm,5.4s								
YAK				MLR	MLR				
	comp=Z,699nm,18.0s								
YAK				MLR	MLR				
	comp=E,261nm,15.0s								
YAK				MLR	MLR				
	comp=N,449nm,16.0s								
YBH	Yreka Blue Hor	32.99	90	P		P		12 14 20.2	+2.1
	comp=N,8.0nm,0.9s,baz=273,slow=7.0,SNR=15								
YBH	Yreka Blue Hor	32.99	90	*e*P		P		12 14 18.7	+0.6
YBH				pmax	pmax				
	comp=Z,14nm,1.1s								
YBH	Yreka Blue Hor	32.99	90	*e*P		P		12 14 18.6	+0.6
	comp=Z,14nm,1.1s								
J05D	Fort Rock, OR	33.01	87	P		P		12 14 20.7	+2.4
	baz=33,SNR=19								
EDM	Edmonton	33.04	66	*e*P		P		12 14 18.4	0.0
EDM	Edmonton	33.04	66	*e*P		P		12 14 18.4	0.0
K04D	Chiloquin, OR	33.06	88	P		P		12 14 20.3	+1.6
	baz=33								
M02C	Callahan	33.10	91	P		P		12 14 21.0	+1.9
	baz=33								
KMRM	Mail Ridge	33.28	93	*e*P		P		12 14 23.6	+3.0
	comp=Z,121nm,2.0s								
G08A	Pilot Rock	33.31	82	*e*P		P		12 14 21.6	+0.7
	comp=Z,12nm,1.0s								
N02D	Trinity Center	33.44	91	P		P		12 14 23.5	+1.6
	baz=33								
M04C	Macdoel	33.49	90	P		P		12 14 24.6	+2.1
	baz=33								
K05A	Summer Lake	33.53	87	*e*P		P		12 14 25.1	+2.2
	comp=Z,52nm,1.2s								
K05A				*e*PcP		PcP		12 17 04.7	+1.4
WDC	Whiskeytown Da	33.77	92	*e*P		P		12 14 27.4	+2.6
WDC				pmax	pmax				
	comp=Z,95nm,2.4s								
WDC	Whiskeytown Da	33.77	92	*e*P		P		12 14 27.4	+2.6
	comp=Z,95nm,2.4s								
MOD	Modoc	34.36	88	*e*P		P		12 14 31.8	+1.8
	comp=Z,171nm,2.5s								
WALA	Waterton Lakes	34.47	73	*e*P		P		12 14 31.8	+0.8
	comp=Z,16nm,1.0s								
BSMT	Bassoo Peak	34.53	76	*e*P		P		12 14 32.5	+1.0
	comp=Z,17nm,0.7s								
BLMT	Blacktail Moun	34.70	75	*e*P		P		12 14 33.2	+0.2
JTMT	Jette	34.88	75	*e*P		P		12 14 35.0	+0.6
YBMT	Yellow Bay	34.98	75	*e*P		P		12 14 35.5	+0.2
	comp=Z,9.8nm,0.7s								
WVOR	Wild Horse Val	35.07	86	*e*P		P		12 14 37.0	+0.9
WVOR				pmax	pmax				
	comp=Z,20nm,0.8s								
WVOR	Wild Horse Val	35.07	86	*e*P		P		12 14 37.0	+0.9
	comp=Z,20nm,0.8s								
SWMT	Swartz Lake	35.16	76	*e*P		P		12 14 37.3	+0.4
	comp=Z,4.8nm,0.7s								
MSO	Missoula	35.53	77	P		P		12 14 40.6	+0.5
	baz=35,SNR=13								
MSO	Missoula	35.53	77	*e*P		P		12 14 39.8	-0.3
	comp=Z,37nm,1.5s								
MSO				*e*PcP		PcP		12 17 09.1	+0.3
SLMT	Seeley Lake	35.59	76	*e*P		P		12 14 41.1	+0.5
	comp=Z,11nm,0.7s								
CHMT	Chamberlain Mo	35.90	76	*e*P		P		12 14 43.8	+0.4
	comp=Z,11nm,0.5s								
RES	Resolute Bay	36.13	26	P		P		12 14 45.5	+0.8
	comp=Z,3.0nm,0.9s,baz=239,slow=12,SNR=2.9								
RES				PcP		PcP		12 17 10.1	+0.2
	comp=Z,4.2nm,0.8s,baz=286,slow=5.0,SNR=2.6								
RES				ScP		ScP		12 20 57.7	+2.6
	comp=Z,2.3nm,0.8s,baz=285,slow=4.1,SNR=3.7								
RES	Resolute Bay	36.13	26	P		P		12 14 45.5	+0.8
RES								12 17 10.1	
RES				pmax	pmax				
	comp=Z,3.0nm,0.9s								
RES				pmax	pmax				
	comp=Z,4.0nm,0.8s								
RES				pmax	pmax				
	comp=N,2.0nm,0.8s								
MFID	Camas Ranch	36.22	83	*e*P		P		12 14 47.6	+1.6
	comp=N,26nm,1.2s								
CMB	Columbia Colle	36.66	94	*e*P		P		12 14 52.1	+2.3
CMB				pmax	pmax				
	comp=Z,113nm,2.8s								
CMB	Columbia Colle	36.66	94	*e*P		P		12 14 52.1	+2.3
	comp=Z,113nm,2.8s								
HRY	Holter Researc	36.84	76	*e*P		P		12 14 52.2	+1.0
	comp=Z,7.6nm,0.4s								
LRM	Limekiln Ridge	36.94	77	*e*P		P		12 14 49.3	-3.0
	comp=Z,67nm,1.0s								
WAKR	Walker	36.94	92	*e*P		P		12 14 54.2	+1.9
HLID	Hailey	36.99	82	P		P		12 14 53.9	+1.3
	baz=37,SNR=21								
HLID	Hailey	36.99	82	*e*P		P		12 14 54.0	+1.3
	comp=Z,18nm,1.1s								
DLMT	Dillon	37.09	78	*e*P		P		12 14 54.5	+1.0
	comp=Z,44nm,1.9s								
DLMT				*e*PcP		PcP		12 17 14.5	+0.9
BMN	Battle Mountai	37.10	88	*e*P		P		12 14 55.7	+2.1
BMN				pmax	pmax				
	comp=Z,25nm,1.3s								
BMN	Battle Mountai	37.10	88	*e*P		P		12 14 55.7	+2.1
	comp=Z,25nm,1.3s								
MCMT	McKenzie Canyo	37.23	79	*e*P		P		12 14 55.0	+0.3
EGMT	Eagleton	37.39	73	P		P		12 14 56.4	+0.5
	baz=37,SNR=46								
EGMT	Eagleton	37.39	73	*e*P		P		12 14 56.4	+0.5
	comp=Z,87nm,1.0s								
EGMT				*e*PcP		PcP		12 17 15.1	+0.8
BOZ	Bozeman (W)	37.52	77	*e*P		P		12 14 56.6	-0.5
BOZ				pmax	pmax				
	comp=Z,15nm,0.7s								
BOZ	Bozeman (W)	37.52	77	P		P		12 14 57.7	+0.7
	baz=37,SNR=34								
BOZ	Bozeman (W)	37.52	77	*e*P		P		12 14 56.6	-0.5
	comp=Z,15nm,0.7s								
H11N2	WAKE ISLAND Hy	37.66	218	T		T		12 54 56.0	
	baz=24,slow=76,SNR=235								
H11N3	WAKE ISLAND Hy	37.67	218	T		T		12 54 57.0	
	baz=24,slow=76,SNR=237								
NVAR	Mina Array Bea	37.68	91	P		P		12 14 59.5	+0.9
	comp=Z,11nm,0.8s,baz=298,slow=7.7,SNR=56								
NVAR				PcP		PcP		12 17 16.1	+0.5
	comp=Z,4.7nm,0.8s,baz=308,slow=2.2,SNR=7.3								
NVAR				ScP		ScP		12 21 03.3	+1.5
	comp=Z,0.8nm,0.7s,baz=277,slow=3.3,SNR=5.5								
NVAR	Mina Array Bea	37.68	91	P		P		12 14 59.5	+0.9
NVAR				PcP		PcP		12 17 16.1	+0.5
NVAR				ScP		ScP		12 21 03.3	+1.5
H11N1	WAKE ISLAND Hy	37.68	218	T		T		12 55 02.0	
	baz=24,slow=76,SNR=250								
MLAC	Mammoth Lakes	37.86	93	P		P		12 15 02.1	+1.9
	baz=38								
QLMT	Earthquake Lak	38.08	78	*e*P		P		12 15 02.0	+0.1
	comp=Z,1.6nm,0.9s								
ELK	Elko	38.12	86	*e*P		P		12 15 03.0	+0.7
ELK				pmax	pmax				
	comp=Z,13nm,0.8s								
ELK	Elko	38.12	86	*e*P		P		12 15 03.0	+0.7
	comp=Z,13nm,0.8s								
YMR	Madison River	38.44	78	*e*P		P		12 15 06.3	+1.3
	comp=Z,14nm,0.3s								
RCTC	Rector, Farmer	38.47	95	P		P		12 15 06.5	+1.4
	baz=38								
TPH	Tonopah	38.56	91	*e*P		P		12 15 07.3	+1.3
TPH				pmax	pmax				
	comp=Z,18nm,1.0s								
TPH	Tonopah	38.56	91	*e*P		P		12 15 07.3	+1.3
	comp=Z,18nm,1.0s								
FFC	Flin Flon	38.59	59	P		P		12 15 06.9	+1.1
	comp=Z,76nm,0.8s,SNR=6.5								
FFC	Flin Flon	38.59	59	*e*P		P		12 15 06.0	+0.2
FFC				pmax	pmax				
	comp=Z,14nm,0.9s								
FFC	Flin Flon	38.59	59	*e*P		P		12 15 06.0	+0.2
	comp=Z,14nm,0.9s								
YNR	Norris Junctio	38.59	78	*e*P		P		12 15 08.3	+2.1
	comp=Z,28nm,0.8s								
GCMT	Greycliff	38.60	76	*e*P		P		12 15 07.2	+1.0
	comp=Z,8.3nm,0.8s								
TIN	Tinemaha	38.60	93	P		P		12 15 07.5	+1.2
	baz=38								
YFT	Old Faithful	38.64	78	*e*P		P		12 15 08.5	+1.8
	comp=Z,15nm,0.8s								
SMMC	Simmler	38.68	97	P		P		12 15 08.7	+1.9
	baz=39								
H17A	Grant Village	38.83	78	*e*P		P		12 15 09.0	+0.8
	comp=Z,13nm,0.7s								
USRK	Ussuriysk Ar.	38.83	282	P		P		12 15 09.0	+1.1
	comp=Z,1.3nm,0.6s,baz=73,slow=9.8,SNR=3.5								
USRK				PcP		PcP		12 17 19.8	+1.1
	comp=Z,2.2nm,0.6s,baz=197,slow=3.2,SNR=4.3								
LKWY	Lake	38.84	78	*e*P		P		12 15 11.0	+2.7
LKWY				pmax	pmax				
	comp=Z,32nm,0.8s								
LKWY	Lake	38.84	78	*e*P		P		12 15 11.0	+2.7
	comp=Z,32nm,0.8s								
H11S1	WAKE ISLAND Hy	38.85	218	T		T		12 56 25.3	
	baz=23,slow=76,SNR=2260								
H11S2	WAKE ISLAND Hy	38.87	218	T		T		12 56 26.4	
	baz=23,slow=76,SNR=288								
H11S3	WAKE ISLAND Hy	38.87	218	T		T		12 56 26.4	
	baz=23,slow=76,SNR=152								
VES	Vestal, Richgr	38.88	95	P		P		12 15 09.2	+0.8
	baz=39								
IMW	Indian Meadow	38.89	79	*e*P		P		12 15 09.0	+0.2
	comp=Z,15nm,0.8s								
FLWY	Flagg Ranch	38.93	78	*e*P		P		12 15 10.4	+1.4
	comp=Z,20nm,0.9s								
FXWY	Fox Creek	38.98	79	*e*P		P		12 15 10.9	+1.4
	comp=Z,5.7nm,0.8s								
HVU	Hansel Valley	39.00	83	*e*P		P		12 15 10.4	+0.8
HVU	Hansel Valley	39.00	83	*e*P		P		12 15 10.4	+0.8
PKM	Peak Mountain	39.07	97	P		P		12 15 12.2	+2.0
	baz=39,SNR=5.8								
MOOW	Moose Ponds	39.09	79	*e*P		P		12 15 11.4	+1.0
	comp=Z,4.4nm,0.9s								
CWC	Cottonwood Cre	39.09	94	P		P		12 15 11.8	+1.4
	baz=39								
TP

baz=40
DUG **Dugway** 39.93 85 eP P 12 15 17.6 +0.3
DUG pmax pmax
comp=Z,31nm,1.0s
DUG **Dugway** 39.93 85 P P 12 15 18.7 +1.4
baz=40,SNR=38
DUG **Dugway** 39.93 85 eP P 12 15 17.6 +0.3
comp=Z,31nm,1.0s
I19A **Meeteetse** 39.97 77 P P 12 15 18.4 +0.7
baz=40,SNR=9.6
BLG **Laguna Peak** 40.06 97 P P 12 15 19.0 +0.7
baz=40
F21A **Absaloka Mine,** 40.08 74 P P 12 15 19.1 +0.6
baz=40
LAO **LASA Array** 40.14 72 P P 12 15 19.6 +0.7
baz=40,SNR=7.1
LAO **LASA Array** 40.14 72 eP P 12 15 19.3 +0.4
comp=Z,16nm,0.8s
EDW2 **Edwards Air Fo** 40.19 95 P P 12 15 20.4 +0.9
baz=40
TCUT **Toone Canyon** 40.22 83 eP P 12 15 21.2 +1.3
comp=Z,36nm,1.2s
CTU **Camp Tracy** 40.27 84 eP P 12 15 21.6 +1.4
comp=Z,18nm,1.1s
H20A **Greybull** 40.31 76 P P 12 15 20.9 +0.5
baz=40,SNR=10
BW06 **Boulder Array** 40.36 79 eP P 12 15 20.9 -0.1
comp=Z,19nm,0.8s
PDAR **Pinedale Array** 40.36 79 P P 12 15 22.1 +1.1
comp=Z,22nm,0.8s,baz=325,slow=4.6,SNR=102
J19A **Crowheart** 40.37 78 P P 12 15 22.0 +1.0
baz=40,SNR=15
DECC **Green Verdugo** 40.41 96 P P 12 15 22.0 +0.8
baz=40
E22A **Miles City** 40.43 73 P P 12 15 21.7 +0.4
baz=40
JLU **Jordanelle** 40.51 83 eP P 12 15 23.0 +0.7
comp=Z,13nm,0.9s
NLU **North Lily Min** 40.52 85 eP P 12 15 23.0 +0.7
comp=Z,19nm,0.9s
I20A **Worland** 40.53 77 P P 12 15 23.0 +0.8
baz=40,SNR=6.2
SHOC **Shoshone** 40.54 93 P P 12 15 23.6 +1.3
baz=40,SNR=7.7
MWC **Mount Wilson** 40.59 96 eP P 12 15 23.8 +0.9
MWC pmax pmax
comp=Z,21nm,1.1s
MWC **Mount Wilson** 40.59 96 eP P 12 15 23.8 +0.9
comp=Z,21nm,1.1s
F22A **Rosebud** 40.61 74 P P 12 15 23.2 +0.4
baz=40,SNR=11
GSC **Goldstone** 40.62 94 eP P 12 15 24.1 +1.1
GSC pmax pmax
comp=Z,27nm,1.0s
GSC **Goldstone** 40.62 94 P P 12 15 24.2 +1.1
baz=40,SNR=27
GSC **Goldstone** 40.62 94 eP P 12 15 24.1 +1.1
comp=Z,27nm,1.0s
C24A **Savage** 40.72 70 P P 12 15 24.5 +0.8
baz=40,SNR=9.8
MPU **Maple Canyon** 40.75 84 eP P 12 15 25.2 +1.0
comp=Z,38nm,0.9s
E23A **Ismay** 40.77 72 P P 12 15 25.3 +1.2
baz=41,SNR=16
RRX **Edison Barstow** 40.79 94 P P 12 15 25.7 +1.4
baz=41
H21A **Big Horn, Sher** 40.79 75 P P 12 15 24.8 +0.3
baz=41,SNR=9.4
FMP **Fort Macarthur** 40.79 97 P P 12 15 25.1 +0.8
baz=41
SHPR **Sheep Range** 40.83 91 eP P 12 15 26.4 +1.6
G22A **Birney** 40.90 74 P P 12 15 25.4 +0.1
baz=41,SNR=9.3
J20A **Shoshoni** 40.90 78 P P 12 15 26.2 +0.9
baz=41,SNR=21
CIS **Catalina Islan** 40.94 97 P P 12 15 26.4 +0.8
baz=41
D24A **Glendive** 41.00 71 P P 12 15 27.3 +1.3
baz=41,SNR=20
B25A **Knox Farm, Ray** 41.05 69 P P 12 15 27.0 +0.6
baz=41,SNR=7.5
TUQ **Turquoise Moun** 41.07 93 P P 12 15 27.9 +1.2
baz=41
I21A **Big Trails, Te** 41.11 77 P P 12 15 27.1 +0.1
baz=41,SNR=17
F23A **Volborg** 41.14 73 P P 12 15 27.5 +0.3
baz=41,SNR=16
H22A **Clearmont** 41.22 75 P P 12 15 28.2 +0.3
baz=41,SNR=6.2
HEC **Hector,Ludlow** 41.23 94 P P 12 15 29.0 +1.0
baz=41,SNR=6.4
CCUT **Cedar City** 41.25 88 eP P 12 15 29.7 +1.4
comp=Z,13nm,0.7s
BBRC **Big Bear Solar** 41.25 95 P P 12 15 29.2 +0.7
baz=41
J21A **Lysite** 41.28 77 P P 12 15 28.9 +0.3
baz=41,SNR=25
C25A **Freed Ranch, W** 41.30 69 P P 12 15 28.7 +0.3
baz=41
E24A **Baker** 41.31 71 P P 12 15 29.7 +1.0
baz=41,SNR=8.5
A26A **Wade Farm, Ken** 41.35 67 P P 12 15 29.2 +0.4
baz=41,SNR=12
MSU **Marysvale** 41.36 86 eP P 12 15 30.2 +1.0
MSU pmax pmax
comp=Z,11nm,0.7s
MSU **Marysvale** 41.36 86 eP P 12 15 30.2 +1.0
comp=Z,11nm,0.7s
G23A **Biddle** 41.44 74 P P 12 15 29.9 +0.2
baz=41,SNR=7.9
B26A **Jensen Ranch,** 41.52 68 P P 12 15 30.5 +0.2
baz=41
MURC **Murrieta** 41.53 96 P P 12 15 31.7 +1.2
baz=41
I22A **9 Mile Ranch,** 41.54 76 P P 12 15 31.4 +0.8
baz=41,SNR=9.3
D25A **Fairfield** 41.56 70 P P 12 15 31.3 +0.6
baz=41
P17A **Butcher Ranch,** 41.63 84 eP P 12 15 33.0 +1.6
F24A **Ekalaka** 41.63 72 P P 12 15 31.8 +0.5
baz=42,SNR=8.8
GMRC **Granite Mounta** 41.67 93 P P 12 15 32.7 +1.0
baz=42,SNR=16
A27A **Ledoux Ranch,** 41.77 67 P P 12 15 32.5 +0.2
baz=42
LDFC **Landfair** 41.80 93 eP P 12 15 31.4 -1.4
comp=Z,32nm,1.0s
BOD **Bodaibo** 41.81 309 eP P 12 15 32.0 -0.5
BOD pmax pmax
comp=Z,8.0nm,0.7s
J22A **Midwest** 41.82 77 P P 12 15 33.4 +0.4
baz=42,SNR=30
E25A **Miller Ranch,** 41.87 71 P P 12 15 33.8 +0.7
baz=42,SNR=8.0
C26A **Wahner Farm, P** 41.89 69 P P 12 15 33.8 +0.5
baz=42,SNR=5.4
G24A **Alzada** 41.94 73 P P 12 15 33.7 -0.1
baz=42,SNR=6.2
PFO **Pinyon Flat Ob** 41.98 95 P P 12 15 35.2 +1.0
comp=Z,9.4nm,1.0s,baz=315,slow=8.7,SNR=8.5
PFO **Pinyon Flat Ob** 41.98 95 P P 12 15 35.3 +1.0
PFO pmax pmax
comp=Z,9.0nm,1.0s
PFO **Pinyon Flat Ob** 41.98 95 P P 12 15 35.2 +1.0
baz=42
SRU **San Rafael** 41.98 85 eP P 12 15 35.3 +0.9
SRU **San Rafael** 41.98 85 eP P 12 15 35.3 +0.9
BELC **Belle Mtn. Jos** 41.99 95 P P 12 15 35.1 +0.7
baz=42,SNR=7.3
B27A **Peters Farms,** 42.05 67 P P 12 15 35.1 +0.5
baz=42
109C **Camp Elliot, M** 42.08 97 P P 12 15 36.0 +1.1
baz=42
I23A **Meade Ranch, G** 42.10 75 P P 12 15 34.6 -0.6
baz=42
F25A **Bowman** 42.16 72 P P 12 15 35.8 +0.3
baz=42
H24A **Dirks Ranch, A** 42.19 74 P P 12 15 35.6 -0.2
baz=42,SNR=6.4
K22A **Casper** 42.24 78 P P 12 15 36.4 +0.1
baz=42,SNR=12
K22A **Casper** 42.24 78 eP P 12 15 35.9 -0.4
comp=Z,18nm,0.8s
C27A **Sayler Ranch,** 42.29 68 P P 12 15 36.9 +0.4
baz=42,SNR=5.2
NEE2 **Needles Airpor** 42.31 93 P P 12 15 37.7 +0.9
baz=42
A28A **Rude Farm, Bot** 42.34 66 P P 12 15 37.2 +0.3
baz=42,SNR=10
J23A **Dilts Ranch, B** 42.37 76 P P 12 15 37.2 -0.2
baz=42
IRM **Iron Mountain** 42.40 94 P P 12 15 38.5 +1.0
baz=42,SNR=11
E26A **Carlson Angus** 42.43 70 P P 12 15 37.8 +0.1
baz=42,SNR=12
BAR **Barrett** 42.49 97 eP P 12 15 40.1 +1.8
comp=Z,14nm,1.0s
MONP **Monument Peak** 42.49 96 P P 12 15 39.9 +1.3
baz=42,SNR=7.5
B28A **Dugan Ranch, T** 42.53 67 P P 12 15 39.1 +0.6
baz=42,SNR=5.7
BC3 **Big Chuckawall** 42.55 95 P P 12 15 39.4 +0.5
baz=42
G25A **Newell** 42.59 73 P P 12 15 39.1 +0.1
baz=42,SNR=7.0
D27A **Center** 42.61 69 P P 12 15 39.4 +0.3
baz=42
F26A **Lodgepole** 42.66 71 P P 12 15 39.8 +0.3
baz=42
I24A **Kuemmerle Ranc** 42.66 75 P P 12 15 39.2 -0.4
baz=42
K23A **Bowen Ranch, D** 42.71 77 P P 12 15 40.3 +0.1
baz=42,SNR=8.8
O20A **White River Ci** 42.73 82 P P 12 15 41.1 +0.7
baz=43,SNR=18
O20A **White River Ci** 42.73 82 eP P 12 15 40.6 +0.2
comp=Z,46nm,0.8s
H25A **Fruitdale** 42.82 73 P P 12 15 41.1 +0.2
baz=43,SNR=11
SWSC **Sam W. Stewart** 42.84 96 P P 12 15 42.0 +0.9
baz=43
RSSD **Black Hills** 42.85 74 eP P 12 15 41.6 +0.2
RSSD pmax pmax
comp=Z,38nm,1.6s
RSSD **Black Hills** 42.85 74 eP P 12 15 41.5 +0.2
comp=Z,38nm,1.6s
IBP **Imperial Bould** 42.85 96 P P 12 15 42.5 +1.2
baz=43
A29A **Manning Farm,** 42.91 66 P P 12 15 41.5 -0.1
baz=43,SNR=11
PDMCI **Parker Dam,Lak** 42.92 93 P P 12 15 42.6 +0.9
baz=43,SNR=12
C28A **Hausauer Farms** 42.92 68 P P 12 15 41.5 -0.1
baz=43
CN2 **Changchun** 42.93 285 eP P 12 15 41.3 -0.4
CN2 epP pP 12 15 50.5 +3.0
CN2 ePP PP 12 17 23.5 +2.3
CN2 eS S 12 22 03.5 -2.1
CN2 PMZ
comp=Z,10.0nm,0.6s
CN2 PMZ
comp=Z,200nm,4.0s
CN2 LN
comp=Z,600nm,17.0s
CN2 LE
comp=Z,600nm,17.0s
CN2 LZ
comp=Z,300nm,17.0s
J24A **Dixon Ranch, L** 42.94 76 P P 12 15 42.4 +0.4
baz=43,SNR=5.5
E27A **Carson** 42.97 70 P P 12 15 42.2 +0.1
baz=43,SNR=5.5
G26A **Maurine** 43.01 72 P P 12 15 42.9 +0.4
baz=43,SNR=7.9
F27A **Lemmon** 43.02 71 P P 12 15 42.8 +0.3
baz=43,SNR=9.8
Y12C **Blythe** 43.06 94 P P 12 15 44.1 +1.2
baz=43,SNR=8.3
B29A **Wagenman Farm,** 43.09 66 P P 12 15 42.9 0.0
baz=43
D28A **Regan** 43.11 69 P P 12 15 43.6 +0.5
baz=43,SNR=6.1
K24A **Anderson Ranch** 43.21 76 P P 12 15 43.7 -0.6
baz=43
MDND **Maddock** 43.29 67 P P 12 15 44.7 +0.1
baz=43,SNR=7.1
MDND **Maddock** 43.29 67 eP P 12 15 45.6 +1.0
comp=Z,55nm,0.8s
H26A **Fairpoint** 43.30 73 P P 12 15 45.0 +0.2
baz=43,SNR=6.9
G27A **Dupree** 43.35 71 P P 12 15 45.3 +0.2
baz=43,SNR=8.6
GLA **Glamis** 43.35 95 eP P 12 15 46.3 +1.0
GLA pmax pmax
comp=Z,19nm,1.0s
GLA **Glamis** 43.35 95 P P 12 15 46.4 +1.0
baz=43
GLA **Glamis** 43.35 95 eP P 12 15 46.3 +1.0
comp=Z,19nm,1.0s
E28A **Huff** 43.38 69 P P 12 15 45.9 +0.5
baz=43
J25A **Sunshine Ranch** 43.41 75 P P 12 15 44.9 -0.9
baz=43
A30A **Hoffart Farm,** 43.41 65 P P 12 15 44.7 -0.9
baz=43
PV04 **Paradox Valley** 43.42 84 eP P 12 15 45.7 -0.3
I26A **New Underwood** 43.59 74 P P 12 15 46.6 -0.6
baz=43
N23A **Red Feather La** 43.64 79 P P 12 15 48.2 +0.4
baz=44,SNR=16
B30A **Myrvik Farm, E** 43.67 66 P P 12 15 47.7 +0.1
baz=44,SNR=9.0
PHWY **Pilot Hill** 43.69 78 eP P 12 15 48.1 -0.1
comp=Z,6.6nm,0.8s
H27A **Howes** 43.70 72 P P 12 15 47.7 -0.3
baz=44
D29A **Pettibone, Tap** 43.73 68 P P 12 15 47.9 -0.3
baz=44
F28A **McLaughlin** 43.73 70 P P 12 15 48.4 +0.1
baz=44
WUAZ **Wupatki** 43.79 89 P P 12 15 50.4 +1.5
baz=44,SNR=34
WUAZ **Wupatki** 43.79 89 eP P 12 15 50.0 +1.0
comp=Z,32nm,0.9s
PV01 **Paradox Valley** 43.79 84 eP P 12 15 48.6 -0.4
comp=Z,57nm,0.4s
K25A **Mack Ranch, Ha** 43.84 76 P P 12 15 49.5 +0.3
baz=44
J26A **Sides Ranch, S** 43.89 75 P P 12 15 49.2 -0.4
baz=44
CBIJ **Chichi jima** 43.97 254 P P 12 15 50.2 -0.1
JCJ **Chichijima** 43.97 254 P P 12 15 50.2 -0.1
comp=Z,30nm,0.6s,baz=266,slow=21,SNR=7.9
E29A **Napoleon** 43.98 69 P P 12 15 49.7 -0.5
baz=44
C30A **Mose, Pekin** 44.00 67 P P 12 15 50.3 0.0
baz=44
ULM **Lac du Bonnet** 44.03 62 P P 12 15 50.3 -0.1
comp=Z,12nm,0.8s,baz=301,slow=7.6,SNR=9.2
ULM **Lac du Bonnet** 44.03 62 eP P 12 15 50.4 -0.1
ULM pmax pmax
comp=Z,24nm,1.4s
ULM **Lac du Bonnet** 44.03 62 eP P 12 15 50.4 -0.1
comp=Z,24nm,1.4s
I27A **Quinn** 44.04 73 P P 12 15 50.6 -0.2
baz=44
L25A **Engebretsen Ra** 44.05 77 P P 12 15 52.1 +1.1
baz=44,SNR=6.3
SMCO **Snowmass** 44.09 82 eP P 12 15 52.2 +0.6
comp=Z,10nm,1.0s
G28A **Parade** 44.11 71 P P 12 15 51.2 -0.1
baz=44
D30A **Buchanan** 44.18 68 P P 12 15 51.5 -0.3
baz=44,SNR=10
H28A **Mission Ridge** 44.28 72 P P 12 15 53.1 +0.4
baz=44,SNR=6.2
F29A **Eureka** 44.30 70 P P 12 15 52.9 +0.1
baz=44
MVCO **Mesa Verde** 44.42 85 P P 12 15 54.5 +0.3
baz=44,SNR=14
MVCO **Mesa Verde** 44.42 85 eP P 12 15 55.0 +0.8
comp=Z,44nm,1.5s
E30A **Jud** 44.44 68 P P 12 15 53.5 -0.4
baz=44
M25A **Palm-Egli Farm** 44.44 77 P P 12 15 54.9 +0.8
baz=44,SNR=8.8
ISCO **Idaho Springs** 44.52 80 eP P 12 15 56.6 +1.6
ISCO pmax pmax
comp=Z,10.0nm,1.0s
ISCO **Idaho Springs** 44.52 80 P P 12 15 55.7 +0.7
baz=44,SNR=10.0
ISCO **Idaho Springs** 44.52 80 eP P 12 15 56.5 +1.6
comp=Z,10nm,1.0s
J27A **Elkhorn Farm,** 44.55 74 P P 12 15 54.4 -0.5
baz=44
I28A **Midland** 44.59 73 P P 12 15 55.5 +0.3
baz=44,SNR=12
G29A **Hoven** 44.62 71 P P 12 15 54.9 -0.3
baz=44
L26A **Underwood Farm** 44.65 76 P P 12 15 55.3 -0.4
baz=44
K27A **Flueckinger Fa** 44.74 75 P P 12 15 56.1 -0.3
baz=45
F30A **Leola** 44.76 69 P P 12 15 56.0 -0.4
baz=45
H29A **Onida** 44.78 71 P P 12 15 56.3 -0.3
baz=45,SNR=12
J28A **Allard Ranch,** 44.90 73 P P 12 15 57.3 -0.3
baz=45,SNR=8.0
M26A **McRoberts Ranc** 44.96 77 P P 12 15 58.7 +0.4
baz=45
W18A **Petrified Fore** 45.05 88 P P 12 16 00.5 +1.4
baz=45,SNR=9.7
W18A **Petrified Fore** 45.05 88 eP P 12 15 59.8 +0.7
comp=Z,23nm,0.9s
I29A **Vivian Onida** 45.09 72 P P 12 15 59.1 +0.1
baz=45,SNR=12
S22A **4UR Ranch, Cre** 45.09 83 P P 12 16 00.3 +0.8
baz=45,SNR=21
G30A **Faulkton** 45.10 70 P P 12 15 59.0 -0.1
baz=45,SNR=6.7
AGMN **Agassiz Nation** 45.12 65 P P 12 15 58.9 -0.4
baz=45,SNR=16
AGMN **Agassiz Nation** 45.12 65 eP P 12 15 58.8 -0.4
comp=Z,25nm,0.8s
K28A **Ten Mile Ranch** 45.25 74 P P 12 16 00.8 +0.3
baz=45,SNR=8.1
N26A **Koester Ranch,** 45.31 78 P P 12 16 01.6 +0.6
baz=45
Q24A **Divide** 45.33 81 P P 12 16 01.9 +0.5
baz=45
214A **Organ Pipe Nat** 45.33 94 P P 12 16 02.1 +0.9
baz=45,SNR=14
KSRS **Korea Array** 45.36 276 P P 12 16 01.6 +0.3
comp=Z,3.7nm,0.7s,baz=49,slow=7.6,SNR=5.9
KSRS PcP PcP 12 17 41.8 +1.3
comp=Z,1.1nm,0.5s,baz=56,slow=4.2,SNR=4.2
KSRS **Korea Array** 45.36 276 P P 12 16 01.6 +0.3
KSRS 12 17 41.8
KSRS pmax pmax
comp=Z,4.0nm,0.7s
KSRS pmax pmax
comp=Z,1.0nm,0.5s
M27A **Reverse DX Ran** 45.37 76 P P 12 16 01.9 +0.5
baz=45
KSAR **Wonju Array Be** 45.40 276 P P 12 16 01.6 0.0
KSAR 12 17 41.8
KSAR **Wonju Array Be** 45.40 276 P P 12 16 01.6 0.0
KSAR PcP PcP 12 17 41.8 +1.2
J29A **Okreek** 45.44 73 P P 12 16 02.0 +0.1
baz=45,SNR=20
O26A **Horse Wrangler** 45.62 78 P P 12 16 04.0 +0.5
baz=45
I30A **Oacoma** 45.66 72 P P 12 16 03.3 -0.3
baz=46
N27A **Anderson Farm,** 45.73 77 P P 12 16 04.9 +0.6
baz=46,SNR=10
K29A **Lazy Trails An** 45.84 74 P P 12 16 05.0 -0.1
baz=46
SDCO **Great Sand Dun** 45.89 82 P P 12 16 06.9 +1.1
baz=46,SNR=20
SDCO **Great Sand Dun** 45.89 82 eP P 12 16 05.9 0.0
comp=Z,13nm,0.9s
OGNE **Ogallala** 45.94 77 P P 12 16 06.1 +0.1
baz=46,SNR=7.0
OGNE **Ogallala** 45.94 77 eP P 12 16 06.9 +0.9
comp=Z,27nm,0.8s
J30A **Dallas** 45.97 72 P P 12 16 05.9 -0.2
baz=46,SNR=7.9
P26A **Davis Ranch, A** 46.03 79 P P 12 16 07.6 +0.8
baz=46,SNR=21
M28A **Bar X Bar Ranc** 46.05 76 P P 12 16 06.9 +0.1
baz=46
O27A **Beecher Island** 46.15 78 P P 12 16 07.9 +0.2
baz=46,SNR=6.7
L29A **Maesberg Ranch** 46.17 74 P P 12 16 07.6 -0.1
baz=46
K30A **Basset** 46.30 73 P P 12 16 09.2 +0.6
baz=46,SNR=9.9
TUC **Tucson** 46.32 92 eP P 12 16 09.5 +0.5
TUC pmax pmax
comp=Z,18nm,0.9s
TUC **Tucson** 46.32 92 eP P 12 16 09.5 +0.5
comp=Z,18nm,0.9s
Q26A **Hugo** 46.33 80 P P 12 16 10.0 +0.9
baz=46,SNR=6.5
N28A **Pribbeno Ranch** 46.40 77 P P 12 16 09.4 -0.1
baz=46
M29A **Burnside Ranch** 46.43 75 P P 12 16 09.9 +0.2
baz=46
JNU **Nakatsue** 46.46 270 P P 12 16 09.8 -0.2
comp=Z,9.9nm,0.8s,baz=233,slow=5.4,SNR=7.8
P27A **Ficken Ranch,** 46.49 78 P P 12 16 10.8 +0.5
baz=46
O28A **Krutsinger Ran** 46.61 77 P P 12 16 11.3 +0.1
baz=46,SNR=5.3
L30A **Spencer Herefo** 46.68 74 P P 12 16 11.7 -0.1
baz=46
R26A **Arlington** 46.77 80 P P 12 16 13.0 +0.4
baz=47,SNR=10
KSCO **Kaye Shedlock'** 46.81 79 P P 12 16 13.3 +0.5
baz=47,SNR=9.3
KSCO **Kaye Shedlock'** 46.81 79 eP P 12 16 13.9 +1.1
comp=Z,60nm,1.0s
M30A **Dale-Ortello V** 46.85 75 P P 12 16 13.2 +0.2
baz=47
T25A **Trinidad** 46.95 82 P P 12 16 14.9 +0.9
baz=47,SNR=22
P28A **Saint Francis** 46.97 78 P P 12 16 14.7 +0.6
baz=47
L31A **Butterfield Fa** 47.06 73 P P 12 16 14.9 +0.3
baz=47
ANMO **Albuquerque** 47.16 86 P P 12 16 16.0 +0.3
comp=Z,5.4nm,1.0s,baz=324,slow=6.7,SNR=15
ANMO PcP PcP 12 17 48.0 +0.9
comp=Z,8.7nm,0.9s,baz=315,slow=5.1,SNR=9.3
ANMO **Albuquerque** 47.16 86 P P 12 16 16.0 +0.3
ANMO 12 17 48.0
ANMO pmax pmax
comp=Z,5.0nm,1.0s
ANMO pmax pmax
comp=Z,9.0nm,0.9s
R27A **Eads** 47.17 80 P P 12 16 16.5 +0.8
baz=47,SNR=14
O29A **4D Ranch, Culb** 47.19 77 P P 12 16 16.2 +0.5
baz=47,SNR=11
Q28A **Sharon Springs** 47.25 78 P P 12 16 16.4 +0.1
baz=47
LENM **Lemitar** 47.37 87 eP P 12 16 19.3 +2.0
comp=Z,54nm,0.9s
ECSD **EROS Data Cent** 47.39 70 P P 12 16 16.5 -0.6
baz=47,SNR=13
ECSD **EROS Data Cent** 47.39 70 eP P 12 16 16.6 -0.6
comp=Z,11nm,0.6s
T26A **Comanche Natio** 47.42 82 P P 12 16 17.9 +0.3
baz=47,SNR=12
P29A **Atwood** 47.44 77 P P 12 16 18.1 +0.4
baz=47,SNR=9.7
LPM **Los Pinos Moun** 47.48 87 eP P 12 16 19.4 +1.2
comp=Z,9.6nm,0.9s
M31A **Lambtecht Ranc** 47.49 74 P P 12 16 17.9 -0.2
baz=47
S27A **Las Animas** 47.50 81 P P 12 16 18.3 0.0
baz=47
O30A **MW Ranch, Wils** 47.59 76 P P 12 16 19.0 +0.1
baz=47
EYMN **Ely** 47.71 63 P P 12 16 19.3 -0.3
baz=48,SNR=7.2
EYMN **Ely** 47.71 63 eP P 12 16 19.6 0.0
comp=Z,20nm,0.8s
R28A **Tribune** 47.73 79 P P 12 16 20.6 +0.7
baz=48,SNR=12
Q29A **Oakley** 47.87 78 P P 12 16 21.7 +0.7
baz=48,SNR=6.9
P30A **Selden** 47.89 77 P P 12 16 21.8 +0.6
baz=48,SNR=14
BGNE **Belgrade** 47.94 74 P P 12 16 21.7 +0.2
baz=48
BGNE **Belgrade** 47.94 74 eP P 12 16 21.9 +0.5
comp=Z,67nm,0.8s
L33A **Hoskins** 47.98 72 P P 12 16 21.3 -0.5
baz=48
121A **Cookes Peak, D** 47.99 89 P P 12 16 23.6 +1.4
baz=48,SNR=21

T27A **Campo** 48.02 81 P P 12 16 22.8 +0.6
baz=48
O31A **Woolen Ranch,** 48.04 76 P P 12 16 22.1 -0.2
baz=48
R29A **Marienthal** 48.08 79 P P 12 16 23.3 +0.7
baz=48,SNR=13
S28A **Manter** 48.16 80 P P 12 16 23.7 +0.3
baz=48
Q30A **Quinter** 48.27 77 P P 12 16 24.4 +0.3
baz=48,SNR=8.3
T28A **Walsh** 48.34 81 P P 12 16 24.8 +0.1
baz=48,SNR=13
U27A **Thompson Grove** 48.38 82 P P 12 16 25.0 0.0
baz=48,SNR=15
M33A **Taylor Creek F** 48.39 73 P P 12 16 24.4 -0.6
baz=48
P31A **Stockton** 48.42 76 P P 12 16 25.3 +0.1
baz=48,SNR=8.1
O32A **Brockman Farm,** 48.59 75 P P 12 16 26.3 -0.3
baz=48
S29A **Ulysses** 48.61 79 P P 12 16 27.0 +0.2
baz=48
L34A **Svendsen Farm,** 48.62 72 P P 12 16 26.0 -0.7
baz=48,SNR=8.1
SPMN **St. Paul** 48.63 66 P P 12 16 26.4 -0.3
baz=48,SNR=5.1
SPMN **St. Paul** 48.63 66 *e*P P 12 16 26.7 0.0
CBKS **Cedar Bluff** 48.66 77 *e*P P 12 16 27.6 +0.5
CBKS pmax pmax
comp=Z,46nm,0.8s
CBKS **Cedar Bluff** 48.66 77 P P 12 16 27.4 +0.3
baz=48,SNR=15
CBKS **Cedar Bluff** 48.66 77 *e*P P 12 16 27.6 +0.5
comp=Z,46nm,0.8s
R30A **Dighton** 48.68 78 P P 12 16 27.7 +0.4
baz=48,SNR=15
Q31A **Ellis** 48.74 77 P P 12 16 28.1 +0.4
baz=49
U28A **Mallet** 48.77 81 P P 12 16 28.1 +0.1
baz=49,SNR=8.2
N33A **J Bar K, Exete** 48.77 74 P P 12 16 27.6 -0.3
baz=49
M34A **Aspy Farms, Fr** 48.79 73 P P 12 16 27.6 -0.4
baz=49
P32A **Huiting Farm,** 48.81 76 P P 12 16 27.5 -0.7
baz=49
T29A **Hugoton** 48.81 80 P P 12 16 28.3 0.0
baz=49
S30A **Montezuma** 48.99 79 P P 12 16 30.0 +0.3
baz=49,SNR=11
O33A **Hebron** 49.12 75 P P 12 16 30.1 -0.5
baz=49,SNR=8.5
R31A **Burdett** 49.13 78 P P 12 16 31.0 +0.3
baz=49,SNR=11
V28A **Channing** 49.19 82 P P 12 16 31.0 -0.2
baz=49
Q32A **Meitler Ranch,** 49.24 76 P P 12 16 31.6 0.0
baz=49
N34A **Lincoln** 49.26 73 P P 12 16 30.6 -1.0
baz=49
U29A **Oasis Ranch, S** 49.29 81 P P 12 16 32.3 +0.2
baz=49
M35A **Neola** 49.33 72 P P 12 16 31.8 -0.3
baz=49,SNR=6.6
T30A **Plains** 49.34 80 P P 12 16 31.8 -0.5
baz=49
SPITS **Spitsbergen Ar** 49.39 358 P P 12 16 32.0 -0.2
comp=Z,5.1nm,0.7s,baz=12,slow=4.3,SNR=6.3
SPITS PcP PcP 12 17 53.1 -1.1
comp=Z,6.4nm,0.8s,baz=58,slow=5.4,SNR=3.7
SPITS **Spitsbergen Ar** 49.39 358 P P 12 16 32.0 -0.2
SPITS 12 17 53.1
SPITS pmax pmax
comp=Z,5.0nm,0.7s
SPITS pmax pmax
comp=Z,6.0nm,0.8s
P33A **Williams Farm,** 49.47 75 P P 12 16 32.7 -0.5
baz=49
R32A **Long Quarter,** 49.52 77 P P 12 16 33.8 +0.1
baz=49,SNR=7.6
W28A **Vega** 49.53 83 P P 12 16 34.3 +0.4
baz=49
V29A **Stinnett** 49.53 81 P P 12 16 33.2 -0.6
baz=49
O34A **Beatrice** 49.57 74 P P 12 16 32.7 -1.3
baz=49,SNR=8.4
S31A **Mullinville** 49.59 78 P P 12 16 33.9 -0.3
baz=49,SNR=9.7
U30A **WK&E Inc. Balk** 49.61 80 P P 12 16 34.3 -0.1
baz=49,SNR=6.4
Q33A **Connelly Farm,** 49.67 76 P P 12 16 34.3 -0.5
baz=50,SNR=13
N35A **Tabor** 49.75 73 P P 12 16 34.8 -0.5
baz=50,SNR=5.4
T31A **Randall Ranch,** 49.82 79 P P 12 16 36.5 +0.5
baz=50,SNR=9.5
S32A **Newby Ranch, P** 49.86 78 P P 12 16 35.9 -0.4
baz=50
P34A **Walnut Farm, R** 49.90 75 P P 12 16 35.4 -1.1
baz=50
W29A **Amraillo** 49.96 82 P P 12 16 36.6 -0.5
baz=50
O35A **Humboldt** 49.98 73 P P 12 16 35.9 -1.1
baz=50
R33A **Olander Ranch,** 50.03 77 P P 12 16 36.7 -0.8
baz=50,SNR=5.8
X28A **Dimmitt** 50.03 83 P P 12 16 37.9 +0.2
baz=50
V30A **Spur Ranch, Mi** 50.10 81 P P 12 16 38.2 0.0
baz=50
COWI **Conover** 50.11 63 *e*P P 12 16 37.7 -0.3
comp=Z,12nm,0.8s
TLY **Talaya** 50.17 306 P P 12 16 39.0 +0.6
comp=Z,4.5nm,0.7s,baz=313,slow=8.7,SNR=4.8
TLY PcP PcP 12 17 56.1 -1.4
comp=Z,1.8nm,0.3s,baz=101,slow=5.2,SNR=4.0
TLY **Talaya** 50.17 306 *e*P P 12 16 39.1 +0.7
TLY pmax pmax
comp=Z,4.0nm,0.6s
U31A **Nine Bar Ranch** 50.20 80 P P 12 16 38.5 -0.4
baz=50
T32A **Huddler Ranch,** 50.22 78 P P 12 16 38.7 -0.3
baz=50
Q34A **Chapman** 50.24 75 P P 12 16 38.7 -0.5
baz=50
KSU1 **Kansas State U** 50.32 75 P P 12 16 38.9 -0.8
baz=50
X29A **Tulia** 50.38 83 P P 12 16 40.7 +0.3
baz=50
P35A **Duane Minner,** 50.39 74 P P 12 16 39.4 -0.9
baz=50,SNR=6.6
Y28A **McKinney Farm,** 50.42 84 P P 12 16 40.7 +0.1
baz=50,SNR=5.8
R34A **Isabella, Hill** 50.47 76 P P 12 16 40.7 -0.2
baz=50,SNR=12
S33A **Kaszmaul Farm,** 50.49 77 P P 12 16 40.6 -0.4
baz=50,SNR=6.3
W30A **Crocket Farms** 50.56 81 P P 12 16 41.7 0.0
baz=50
V31A **Spring Creek L** 50.60 80 P P 12 16 42.2 +0.3
baz=50,SNR=7.4
O36A **Bolckow** 50.61 73 P P 12 16 41.6 -0.3
baz=50
T33A **Patterson Ranc** 50.69 78 P P 12 16 41.9 -0.6
baz=50
BJI **Beijing** 50.69 287 P P 12 16 41.5 -0.9
BJI PMZ
comp=Z,6.0nm,0.5s
U32A **Winter Ranch,** 50.70 79 P P 12 16 42.5 -0.1
baz=50,SNR=6.9
Z28A **Tucker Farm, M** 50.76 85 P P 12 16 43.1 -0.1
baz=51
ULN **Ulaanbaatar** 50.79 300 *ce*P P 12 16 45.0 +1.7
ULN pmax pmax
comp=Z,3.0nm,0.8s
Y29A **Porterfield Fa** 50.80 84 P P 12 16 43.6 +0.1
baz=51
P36A **Good Intent, A** 50.81 74 P P 12 16 42.5 -0.9
baz=51,SNR=9.0
Q35A **Mercer Eighty,** 50.82 75 P P 12 16 42.4 -1.1
baz=51
X30A **Coker Ranch, T** 50.88 82 P P 12 16 43.9 -0.1
baz=51
W31A **Holland Ranch,** 50.94 81 P P 12 16 44.7 +0.2
baz=51,SNR=6.9
S34A **Willow Spring** 50.95 77 P P 12 16 43.2 -1.3
baz=51,SNR=6.8
R35A **Emporia Munici** 51.08 75 P P 12 16 44.3 -1.1
baz=51
Q36A **Arnold C. Orve** 51.09 74 P P 12 16 44.3 -1.2
baz=51
V32A **Arapaho** 51.12 80 P P 12 16 45.6 -0.2
baz=51
SONM **Songino Array** 51.15 301 P P 12 16 46.3 +0.3
comp=Z,1.6nm,0.6s,baz=66,slow=6.0,SNR=7.5
SONM PcP PcP 12 18 01.2 -0.1
comp=Z,11nm,0.7s,baz=56,slow=2.3,SNR=21
SONM ScP ScP 12 21 57.4 +0.9
comp=Z,1.7nm,0.7s,baz=109,slow=3.2,SNR=4.3
SONM **Songino Array** 51.15 301 P P 12 16 46.3 +0.3
SONM 12 18 01.2
SONM pmax pmax
comp=Z,2.0nm,0.6s
SONM pmax pmax
comp=Z,11nm,0.7s
SONM pmax pmax
comp=N,2.0nm,0.7s
SONM **Songino Array** 51.15 301 P P 12 16 46.3 +0.3
SONM PcP PcP 12 18 01.2 -0.1
SONM ScP ScP 12 21 57.4 +0.9
128A **Castleberry Fa** 51.16 85 P P 12 16 46.9 +0.7
baz=51,SNR=20
Z29A **Hungry Hill Ra** 51.19 84 P P 12 16 46.8 +0.4
baz=51,SNR=29
U33A **Lingo Farm, Me** 51.20 79 P P 12 16 45.9 -0.5
baz=51,SNR=7.8
Y30A **Stafford Cattl** 51.26 83 P P 12 16 47.2 +0.3
baz=51,SNR=6.2
X31A **McDonald Ranch** 51.30 82 P P 12 16 47.2 +0.1
baz=51
T34A **McClaskey Farm** 51.35 77 P P 12 16 47.0 -0.5
baz=51,SNR=20
W32A **Sentinel** 51.40 81 P P 12 16 47.7 -0.2
baz=51,SNR=8.2
S35A **Otter Creek Ra** 51.43 76 P P 12 16 47.5 -0.6
baz=51,SNR=15
228A **UT Block 9, Go** 51.44 86 P P 12 16 48.6 +0.3
baz=51
R36A **Gordon, Harris** 51.48 75 P P 12 16 47.3 -1.2
baz=51,SNR=19
V33A **Lossen Ranch,** 51.51 79 P P 12 16 48.0 -0.7
baz=51
JFWS **Jewell Farm** 51.51 67 *e*P P 12 16 47.7 -0.9
JFWS pmax pmax
comp=Z,22nm,0.9s
JFWS **Jewell Farm** 51.51 67 *e*P P 12 16 47.7 -0.9
comp=Z,22nm,0.9s
Z30A **Sanderson Ranc** 51.52 84 P P 12 16 49.1 +0.3
baz=51,SNR=18
129A **Stewart Farms,** 51.53 85 P P 12 16 48.7 -0.2
baz=51,SNR=7.8
U34A **Anderson Ranch** 51.54 78 P P 12 16 48.7 -0.2
baz=51,SNR=5.1
U34A **Anderson Ranch** 51.54 78 *e*P P 12 16 49.0 +0.1
Y31A **Rekieta Farm,** 51.58 82 P P 12 16 48.9 -0.4
baz=51
Q37A **Longview Farm,** 51.74 74 P P 12 16 49.8 -0.5
baz=52
T35A **Sooner Cattle** 51.83 77 P P 12 16 50.1 -0.9
baz=52,SNR=8.8
S36A **Lake Cedric, C** 51.83 76 P P 12 16 49.9 -1.2
baz=52,SNR=5.8
W33A **Caddo, Fort Co** 51.85 80 P P 12 16 51.7 +0.4
baz=52
X32A **Elmer** 51.86 81 P P 12 16 50.9 -0.4
baz=52,SNR=6.8
R37A **Teagarden Farm** 51.89 75 P P 12 16 50.3 -1.2
baz=52
WMOK **Wichita Mounta** 51.94 81 *e*P P 12 16 51.3 -0.7
WMOK pmax pmax
comp=Z,24nm,0.9s
WMOK **Wichita Mounta** 51.94 81 *e*P P 12 16 51.3 -0.7
comp=Z,24nm,0.9s
V34A **Guthrie** 51.96 79 P P 12 16 50.9 -1.1
baz=52
V34A **Guthrie** 51.96 79 *e*P P 12 16 51.3 -0.7
comp=Z,30nm,0.6s
229A **Bryant Ranch,** 52.02 85 P P 12 16 52.7 +0.1
baz=52
Y32A **R-V Farms, Ver** 52.05 82 P P 12 16 52.7 0.0
baz=52,SNR=13
U35A **Pawnee** 52.06 78 P P 12 16 52.2 -0.6
baz=52,SNR=5.8
Z31A **Sharp Cattle R** 52.10 83 P P 12 16 53.1 0.0
baz=52,SNR=10
130A **Snyder** 52.10 84 P P 12 16 53.1 -0.1
baz=52,SNR=6.3
T36A **Boggs Farm, Ca** 52.10 76 P P 12 16 52.6 -0.5
baz=52,SNR=5.1
W34A **Bridge Creek,** 52.21 79 P P 12 16 53.5 -0.5
baz=52
W34A **Bridge Creek,** 52.21 79 *e*P P 12 16 54.4 +0.5
comp=Z,15nm,0.6s
X33A **Lawton** 52.25 81 P P 12 16 54.3 +0.1
baz=52
329A **Wagon Wheel Ra** 52.26 86 P P 12 16 54.3 0.0
baz=52,SNR=6.5
S37A **Fort Scott** 52.26 75 P P 12 16 53.3 -0.9
baz=52,SNR=25
131A **Roby** 52.39 84 P P 12 16 55.3 -0.1
baz=52
V35A **Meyer Ranch, C** 52.41 78 P P 12 16 54.7 -0.7
baz=52,SNR=5.2
230A **Sterling City** 52.50 85 P P 12 16 56.1 -0.1
baz=52,SNR=15
Z32A **Haskell** 52.51 82 P P 12 16 56.2 0.0
baz=52,SNR=31
X34A **Smith Ranch, M** 52.61 80 P P 12 16 57.2 +0.3
baz=52
T37A **Cheneyville 18** 52.63 76 P P 12 16 56.0 -1.0
baz=52,SNR=20
U36A **Oologah** 52.64 77 P P 12 16 56.6 -0.5
baz=52
TXAR **Lajitas Array** 52.75 89 P P 12 16 58.9 +0.8
comp=Z,23nm,0.7s,baz=306,slow=4.5,SNR=16
TXAR PcP PcP 12 18 08.0 +0.5
comp=Z,4.8nm,0.9s,baz=316,slow=2.5,SNR=1.5
TXAR **Lajitas Array** 52.75 89 P P 12 16 58.9 +0.8
TXAR 12 18 08.0
TXAR pmax pmax
comp=Z,23nm,0.7s
TXAR pmax pmax
comp=Z,5.0nm,0.9s
TXAR **Lajitas Array** 52.75 89 P P 12 16 58.9 +0.8
TXAR PcP PcP 12 18 08.0 +0.5
330A **Mertzon** 52.80 85 P P 12 16 58.5 +0.1
baz=53,SNR=7.8
W35A **Tecumseh** 52.80 79 P P 12 16 58.5 +0.2
baz=53,SNR=12
HHC **Hu-ho-hao-te** 52.81 291 *e*P P 12 16 59.5 +1.1
HHC pP pP 12 17 10.3 +6.0
HHC sP sP 12 17 13.3 +6.8
HHC PP **PP** **12 19 00.5 +2.9**
HHC S **S** **12 24 26.0 +0.1**
HHC sS sS 12 24 40.0 +4.5
HHC ScS **ScS** **12 26 43.5 -3.6**
HHC PMZ
comp=Z,22nm,0.7s
HHC PMZ
comp=Z,98nm,6.2s
HHC LN
comp=Z,470nm,18.8s
HHC LE
comp=Z,550nm,20.6s
HHC LZ
comp=Z,280nm,18.2s
ABTX **Abilene, Hawle** 52.88 83 P P 12 16 58.9 -0.1
baz=53,SNR=11
ABTX **Abilene, Hawle** 52.88 83 *e*P P 12 16 58.9 -0.1
comp=Z,41nm,1.1s
429A **Davenport Ranc** 52.91 87 P P 12 16 59.0 -0.2
baz=53,SNR=23
V36A **Jenks** 52.93 78 P P 12 16 58.9 -0.4
baz=53,SNR=7.7
TUL1 **Tulsa** 52.93 77 P P 12 16 58.8 -0.5
baz=53
TUL1 **Tulsa** 52.93 77 *e*P P 12 16 59.3 +0.1
comp=Z,22nm,0.9s
Z33A **Whitaker Ranch** 52.95 82 P P 12 16 59.5 0.0
baz=53,SNR=9.0
231A **Bronte** 52.95 84 P P 12 16 58.9 -0.5
baz=53
U37A **Salina** 53.00 76 P P 12 16 59.2 -0.5
baz=53,SNR=18
529A **Stev Forest Ra** 53.07 87 P P 12 17 00.4 0.0
baz=53,SNR=14
Y34A **Reagan Ranch,** 53.09 81 P P 12 17 00.7 +0.2
baz=53,SNR=11
430A **Baggett Ranch,** 53.20 86 P P 12 17 01.4 0.0
baz=53,SNR=19
W36A **Wetumka** 53.20 78 P P 12 17 01.0 -0.2
baz=53,SNR=8.7
X35A **Drake** 53.26 80 P P 12 17 01.3 -0.4
baz=53,SNR=10
331A **San Angelo** 53.32 85 P P 12 17 02.0 -0.3
baz=53,SNR=10
133A **Hamilton Ranch** 53.33 83 P P 12 17 02.4 +0.2
baz=53,SNR=15
V37A **Hulbert** 53.34 77 P P 12 17 01.5 -0.7
baz=53,SNR=5.7
232A **Coleman** 53.39 84 P P 12 17 02.3 -0.4
baz=53,SNR=11
Z34A **Collier Ranch,** 53.40 81 P P 12 17 02.5 -0.2
baz=53
U38A **Gravette** 53.41 76 P P 12 17 01.6 -1.2
baz=53,SNR=11
X36A **Centrahoma** 53.52 79 P P 12 17 03.5 -0.1
baz=53,SNR=6.0
Y35A **Marietta** 53.56 80 P P 12 17 04.3 +0.4
baz=53,SNR=16
530A **J-C Ranch, Com** 53.59 87 P P 12 17 04.9 +0.7
baz=53,SNR=37
HDIL **Hopedale** 53.60 69 P P 12 17 03.2 -0.9
baz=53,SNR=7.9
HDIL **Hopedale** 53.60 69 *e*P P 12 17 03.5 -0.6
comp=Z,51nm,0.8s
431A **Sonora** 53.66 86 P P 12 17 04.7 0.0
baz=54,SNR=30
W37A **Quinton** 53.68 78 P P 12 17 04.5 -0.2
baz=54,SNR=16
332A **Millersview** 53.69 84 P P 12 17 04.6 -0.3
baz=54,SNR=16
V38A **Canehill** 53.79 76 P P 12 17 04.4 -1.2
baz=54,SNR=16
Z35A **Perchaven, San** 53.83 81 P P 12 17 05.6 -0.2
baz=54
134A **White-Moore Ra** 53.86 82 P P 12 17 06.3 +0.2
baz=54,SNR=10.0
432A **Menard** 54.01 85 P P 12 17 07.4 +0.1
baz=54
Y36A **Durant** 54.02 80 P P 12 17 07.1 -0.2
baz=54,SNR=13
531A **Rocksprings** 54.06 86 P P 12 17 07.3 -0.4
baz=54,SNR=14
X37A **Clayton** 54.09 78 P P 12 17 07.9 +0.2
baz=54,SNR=19
333A **Richland Sprin** 54.19 84 P P 12 17 08.3 -0.3
baz=54,SNR=12
234A **Clairette** 54.22 83 P P 12 17 08.8 +0.1
baz=54
W38A **Poteau** 54.27 77 P P 12 17 08.5 -0.5
baz=54,SNR=15
135A **Vickery Place,** 54.27 82 P P 12 17 09.5 +0.4
baz=54
JCT **Junction City** 54.29 85 *e*P P 12 17 08.6 -0.7
JCT pmax pmax
comp=Z,28nm,0.8s
JCT **Junction City** 54.29 85 P P 12 17 08.9 -0.4
baz=54,SNR=17
JCT **Junction City** 54.29 85 *e*P P 12 17 08.6 -0.7
comp=Z,28nm,0.8s
X38A **Whitesboro** 54.36 78 P P 12 17 09.5 -0.2
baz=54,SNR=5.7
Z36A **Blue Ridge** 54.37 80 P P 12 17 09.5 -0.3
baz=54,SNR=5.3
532A **Rocksprings** 54.48 86 P P 12 17 10.2 -0.5
baz=54,SNR=8.4
NJ2 **Nanjing** 54.50 278 *e*P P 12 17 11.8 +1.1
NJ2 PMZ
comp=Z,20nm,0.6s
433A **Art** 54.52 84 P P 12 17 10.6 -0.4
baz=54,SNR=14
631A **Perdido Creek** 54.58 87 P P 12 17 10.7 -0.7
baz=54,SNR=15
334A **Lometa** 54.63 83 P P 12 17 11.6 -0.2
baz=54,SNR=15
WHTX **Lake Whitney** 54.64 82 P P 12 17 12.0 +0.2
baz=54
WHTX **Lake Whitney** 54.64 82 *e*P P 12 17 12.8 +1.0
comp=Z,43nm,0.8s
136A **Ennis** 54.86 81 P P 12 17 13.0 -0.3
baz=55
Z37A **Pogue Cattle C** 54.90 80 P P 12 17 13.4 -0.3
baz=55
Y38A **Idabel** 54.93 78 P P 12 17 13.0 -0.8
baz=55
SFIN **Scholer Farm** 54.96 68 P P 12 17 13.6 -0.4
baz=55,SNR=11
SFIN **Scholer Farm** 54.96 68 *e*P P 12 17 13.8 -0.2
comp=Z,34nm,0.8s
434A **Burnet** 54.98 84 P P 12 17 14.5 +0.2
baz=55,SNR=14
632A **Uvalde** 54.99 86 P P 12 17 13.8 -0.6
baz=55,SNR=12
533A **Kerrville** 55.04 85 P P 12 17 14.0 -0.8
baz=55
335A **Moody** 55.16 83 P P 12 17 16.0 +0.5
baz=55
MIAR **Mount Ida** 55.19 77 *e*P P 12 17 14.5 -1.2
MIAR pmax pmax
comp=Z,25nm,1.0s
MIAR **Mount Ida** 55.19 77 P P 12 17 15.6 -0.1
baz=55,SNR=18
MIAR **Mount Ida** 55.19 77 *e*P P 12 17 14.5 -1.2
comp=Z,25nm,1.0s
236A **Kathrine and** 55.20 81 P P 12 17 16.2 +0.4
baz=55,SNR=5.4
SCHQ **Schefferville** 55.24 43 P P 12 17 15.6 -0.3
comp=Z,5.1nm,0.8s,baz=301,slow=12,SNR=3.6
137A **Heron Place, G** 55.24 80 P P 12 17 15.9 -0.2
baz=55
Z38A **Mt. Pleasant** 55.25 79 P P 12 17 16.1 0.0
baz=55
Y39A **Lockesburg** 55.30 78 P P 12 17 16.0 -0.6
baz=55
633A **Saathoff Ranch** 55.40 86 P P 12 17 16.4 -0.9
baz=55
534A **Blanco** 55.41 85 P P 12 17 17.1 -0.4
baz=55,SNR=7.5
435B **Jarrell** 55.42 83 P P 12 17 17.7 +0.2
baz=55
732A **Laxson Ranch,** 55.44 87 P P 12 17 17.6 0.0
baz=55,SNR=5.9
336A **Riesel** 55.44 82 P P 12 17 17.5 0.0
baz=55
OLIL **Olney** 55.51 70 *e*P P 12 17 16.6 -1.3
comp=Z,33nm,0.8s
138A **Matatall Enter** 55.60 80 P P 12 17 18.9 +0.2
baz=55
237A **Washetta, Mont** 55.63 81 P P 12 17 19.2 +0.3
baz=56
832A **Faith Ranch, C** 55.75 87 P P 12 17 20.2 +0.4
baz=56,SNR=12
733A **Divot King Ran** 55.85 86 P P 12 17 20.8 +0.2
baz=56
436A **Wall Ranch, Ga** 55.90 83 P P 12 17 21.3 +0.4
baz=56
535A **Dale** 55.96 84 P P 12 17 21.4 0.0
baz=56
139A **Bunkhouse Ranc** 56.00 79 P P 12 17 21.4 -0.1
baz=56
238A **Jacksonville** 56.04 80 P P 12 17 22.0 +0.1
baz=56
833A **Chaparral WMA,** 56.08 87 P P 12 17 22.3 +0.1
baz=56,SNR=8.7
H06N1 **SOCORRO T-PHAS** 56.14 104 T T 13 18 08.7
SNR=133
734A **La Parita Cree** 56.21 86 P P 12 17 23.5 +0.3
baz=56
536A **Bastrop** 56.23 83 P P 12 17 23.0 -0.2
baz=56
H06E1 **SOCORRO T-PHAS** 56.24 104 T T 13 18 16.3
SNR=55
H06S1 **SOCORRO T** 56.26 104 T T 13 18 12.6
SNR=4.4
437A **Phantom Ranch,** 56.26 82 P P 12 17 24.1 +0.7
baz=56
USIN **University of** 56.28 70 *e*P P 12 17 23.1 -0.4
comp=Z,55nm,0.8s
635A **Leesville** 56.30 85 P P 12 17 23.8 +0.1
baz=56,SNR=6.0
338A **Crockett** 56.38 81 P P 12 17 24.2 -0.1
baz=56

239A	**Gary**	56.42	80	P		P	12 17 24.8	+0.3
	baz=56							
NATX	**Nacogdoches**	56.49	80	P		P	12 17 25.3	+0.3
	baz=56							
735A	**Kenedy**	56.66	85	P		P	12 17 27.4	+1.1
	baz=56							
933A	**Laredo**	56.66	87	P		P	12 17 26.8	+0.4
	baz=56							
636A	**Smothers Creek**	56.66	84	P		P	12 17 27.4	+1.0
	baz=56							
537A	**Green Hill Far**	56.69	83	P		P	12 17 27.6	+1.1
	baz=56							
438A	**Sam Houston St**	56.72	82	P		P	12 17 27.6	+1.0
	baz=56							
834A	**Tilden**	56.73	86	P		P	12 17 27.5	+0.6
	baz=57							
339A	**Huntington**	56.85	81	P		P	12 17 27.8	+0.2
	baz=57							
835A	**Beeville**	57.05	85	P		P	12 17 29.9	+0.7
	baz=57							
HKT	**Hockley**	57.07	83	*e*P		P	12 17 30.4	+1.3
HKT				pmax	pmax			
	comp=Z,74nm,1.9s							
HKT	**Hockley**	57.07	83	*e*P		P	12 17 30.4	+1.3
	comp=Z,74nm,1.9s							
934A	**Benavides**	57.13	87	P		P	12 17 30.6	+0.9
	baz=57							
340A	**Bronson**	57.20	80	P		P	12 17 30.2	+0.2
	baz=57							
ZALV	**Zalesovo Beam**	57.21	317	P		P	12 17 29.2	-0.7
	comp=Z,0.8nm,0.5s,baz=28,slow=6.4,SNR=4.0							
ZALV				PcP		PcP	12 18 23.6	-0.5
	comp=Z,2.2nm,0.6s,baz=45,slow=6.5,SNR=6.4							
ZALV				ScP		ScP	12 22 23.3	+0.6
	comp=Z,1.0nm,0.7s,baz=56,slow=3.6,SNR=4.3							
ZALV	**Zalesovo Beam**	57.21	317	P		P	12 17 29.2	-0.7
ZALV							12 18 23.7	
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ZALV				pmax	pmax			
	comp=N,1.0nm,0.7s							
034A	**Hebbronville**	57.42	87	P		P	12 17 32.3	+0.5
	baz=57							
ARCES	**ARCESS Array B**	57.65	354	P		P	12 17 32.6	-0.1
	comp=N,3.1nm,1.0s,baz=17,slow=10,SNR=5.9							
ARCES				PcP		PcP	12 18 24.3	-1.3
	comp=N,1.7nm,0.5s,baz=35,slow=3.3,SNR=7.6							
ARCES				ScP		ScP	12 22 23.7	-0.7
	comp=N,2.8nm,0.7s,baz=14,slow=5.4,SNR=8.2							
ARCES	**ARCESS Array B**	57.65	354	P		P	12 17 32.6	-0.1
ARCES							12 18 24.3	
ARCES				pmax	pmax			
	comp=Z,3.0nm,1.0s							
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.5s							
ARCES				pmax	pmax			
	comp=N,3.0nm,0.7s							
035A	**Encino**	57.87	87	P		P	12 17 35.7	+0.8
	baz=58							
035Z	**Hargill**	58.24	87	P		P	12 17 37.8	+0.3
	baz=58							
WHN	**Wuhan**	58.28	280	P		P	12 17 39.5	+1.8
MMNY	**Mt. Morris Dam**	58.36	60	*e*P		P	12 17 43.2	+5.0
	comp=N,59nm,1.1s							
VBMS	**Vicksburg**	58.64	77	P		P	12 17 40.0	-0.2
	baz=58							
LONY	**Lake Ozonia**	58.76	56	*e*P		P	12 17 40.1	-0.8
	comp=N,12nm,0.7s							
SSLB	**Suanglung**	59.20	269	*e*P		P	12 17 43.6	-0.6
	comp=N,52nm,0.7s							
MCWV	**Mont Chateau**	59.48	64	*e*P		P	12 17 46.0	0.0
	comp=N,12nm,0.8s							
TZTN	**Tazewell**	59.62	69	*e*P		P	12 17 46.8	-0.1
	comp=N,12nm,0.8s							
SSPA	**Standing Stone**	59.85	62	*e*P		P	12 17 47.5	-1.0
	comp=N,20nm,0.8s							
LRAL	**Lakeview Retre**	60.13	74	*e*P		P	12 17 49.3	-1.2
	comp=N,17nm,0.8s							
KSPA	**Keystone Colle**	60.32	60	*e*P		P	12 17 51.5	-0.2
	comp=N,18nm,1.0s							
GTA	**Gaotai**	60.34	297	*e*P		P	12 17 52.0	-0.1
GTA				pP		pP	12 17 57.0	-1.0
GTA				sP		sP	12 17 59.0	-1.2
GTA				S		S	12 26 03.0	-2.7
GTA				sS		sS	12 26 10.5	-4.9
GTA				SS		SS	12 30 01.0	-1.7
GTA				PMZ				
	comp=N,4.0nm,1.6s							
GTA				PMZ				
	comp=N,980nm,5.2s							
GTA				LN				
	comp=N,510nm,17.1s							
GTA				LE				
	comp=N,770nm,20.0s							
GTA				LZ				
	comp=N,780nm,18.1s							
LZH	**Lanzhou**	60.48	292	⇑P		P	12 17 55.0	+1.9
LZH				pP		pP	12 18 05.5	+6.5
LZH				sP		sP	12 18 08.8	+7.6
LZH				PMZ				
	comp=N,39nm,1.2s							
LZH				PMZ				
	comp=N,140nm,4.5s							
BLA	**Blacksburg**	60.90	66	*e*P		P	12 17 55.4	-0.4
BLA				pmax	pmax			
	comp=Z,47nm,0.8s							
BLA	**Blacksburg**	60.90	66	*e*P		P	12 17 55.4	-0.4
	comp=Z,47nm,0.8s							
LUPA	**Lehigh Univers**	61.21	60	*e*P		P	12 17 58.2	+0.5
	comp=Z,2.8nm,0.8s							
ODNJ	**Ogdensburg**	61.27	59	*e*P		P	12 17 58.4	+0.3
	comp=Z,25nm,1.0s							
BRNJ	**Basking Ridge**	61.58	60	*e*P		P	12 18 00.1	-0.1
	comp=Z,24nm,0.8s							
KMSC	**Kings Mountain**	61.88	68	*e*P		P	12 18 01.4	-0.9
	comp=Z,26nm,0.9s							
JSRW	**J. Sargeant Re**	61.96	64	*e*P		P	12 18 02.7	-0.1
KURK	**Kurchatov**	62.16	318	P		P	12 18 03.9	-0.1
KURK							12 18 43.1	
KURK				pmax	pmax			
	comp=Z,6.0nm,0.7s							
KURK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KURK				pmax	pmax			
	comp=N,2.0nm,0.9s							
KURK	**Kurchatov**	62.16	318	P		P	12 18 03.9	-0.1
KURK				PcP		PcP	12 18 43.1	-0.9
KURK				ScP		ScP	12 22 45.7	+1.0
KURBB	**Kurchatov Arra**	62.27	318	P		P	12 18 03.9	-0.9
	comp=N,6.1nm,0.7s,baz=44,slow=7.2,SNR=15							
KURBB				PcP		PcP	12 18 43.1	-1.3
	comp=N,1.8nm,0.8s,baz=41,slow=6.2,SNR=4.1							
KURBB				ScP		ScP	12 22 45.7	+0.5
	comp=N,1.5nm,0.9s,baz=35,slow=4.3,SNR=5.5							
JSC	**Jenkinsville**	62.54	69	*e*P		P	12 18 06.7	-0.1
JSC				pmax	pmax			
	comp=Z,28nm,1.1s							
JSC	**Jenkinsville**	62.54	69	*e*P		P	12 18 06.7	-0.1
	comp=Z,28nm,1.1s							
PRGR	**Permogore**	62.72	342	*e*P		P	12 18 03.0	-4.5
WMQ	**Urumqi**	63.35	308	P		P	12 18 14.8	+2.6
WMQ				pP		pP	12 18 24.8	+6.7
WMQ				sP		sP	12 18 28.8	+8.5
WMQ				PMZ				
	comp=Z,8.0nm,0.7s							
WMQ				PMZ				
	comp=Z,92nm,6.0s							
WMQ				LN				
	comp=Z,770nm,17.6s							
WMQ				LE				
	comp=Z,550nm,20.0s							
WMQ				LZ				
	comp=Z,420nm,20.6s							
SVE	**Sverdlovsk**	63.44	332	*e*P		P	12 18 12.4	0.0
SVE				pmax	pmax			
	comp=Z,10.0nm,0.9s							
BVAR	**Borovoye Array**	63.47	324	P		P	12 18 12.2	-0.5
	comp=Z,5.3nm,0.5s,baz=54,slow=7.5,SNR=24							
BVAR				ScP			12 22 51.3	
	comp=Z,2.9nm,0.8s,baz=57,slow=5.5,SNR=7.2							
BVAR	**Borovoye Array**	63.47	324	P		P	12 18 12.2	-0.5
BVAR				pmax	pmax			
	comp=Z,5.0nm,0.5s							
BVAR				pmax	pmax			
	comp=N,3.0nm,0.8s							

BRVK	**Borovoye**	63.48	324	⇓*i*P		P	12 18 12.3	-0.5
BRVK				pmax	pmax			
	comp=Z,6.0nm,1.0s							
MKAR	**Makanchi Array**	63.61	313	P		P	12 18 12.2	-1.6
	comp=Z,1.8nm,0.7s,baz=53,slow=6.2,SNR=9.9							
MKAR	**Makanchi Array**	63.61	313	P		P	12 18 12.2	-1.6
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
CD2	**Chengdu**	64.28	288	*e*P		P	12 18 16.8	-1.6
CD2				PcP		PcP	12 18 52.0	-1.0
CD2				PP		PP	12 20 37.5	-2.0
CD2				S		S	12 26 53.8	-1.5
CD2				SKS		SKSac	12 28 10.5	-1.0
CD2				SS		SS	12 31 03.8	-0.5
CD2				PMZ				
	comp=Z,10.0nm,0.5s							
CD2				PMZ				
	comp=Z,120nm,5.2s							
ARU	**Arti**	64.37	333	P		P	12 18 17.0	-1.6
	baz=18,slow=6.4							
ARU	**Arti**	64.37	333	*d*iP		P	12 18 17.5	-1.0
ARU				S		S	12 26 52.4	-3.1
ARU				SS		SS	12 31 06.0	+1.6
ARU				pmax	pmax			
	comp=Z,10.0nm,1.0s							
FINES	**FINESS Array B**	65.59	352	P		P	12 18 24.9	-1.5
	comp=Z,5.0nm,0.8s,baz=30,slow=5.3,SNR=16							
FINES	**FINESS Array B**	65.59	352	P		P	12 18 24.9	-1.5
FINES				pmax	pmax			
	comp=Z,5.0nm,0.8s							
GYA	**Guiyang**	65.86	282	P		P	12 18 28.8	0.0
GYA				PP		PP	12 20 54.3	+0.7
GYA				ScP			12 23 00.5	
GYA				S		S	12 27 13.0	-2.0
GYA				SKS		SKSac	12 28 21.0	-2.8
GYA				SS		SS	12 31 27.8	-1.5
GYA				PMZ				
	comp=Z,20nm,1.0s							
GYA				PMZ				
	comp=Z,120nm,5.0s							
GYA				LN				
	comp=Z,520nm,19.4s							
GYA				LE				
	comp=Z,490nm,20.0s							
GYA				LZ				
	comp=Z,540nm,19.6s							
TAOE	**Nuku Hiva Isla**	66.16	148	*e*T		T	13 30 20.0	
	comp=Z,162nm,0.3s							
NB2	**NORSAR Subarra**	66.66	360	P		P	12 18 32.3	-1.1
	comp=Z,3.0nm,0.9s,baz=1.7,slow=6.5							
NOA	**NORSAR Array B**	66.66	360	P		P	12 18 32.2	-1.1
	comp=Z,0.8nm,0.6s,baz=0.5,slow=6.3,SNR=7.5							
NOA	**NORSAR Array B**	66.66	360	P		P	12 18 32.2	-1.1
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
KMI	**Kunming**	69.19	284	P		P	12 18 49.5	-0.5
KMI				pP	pP		12 19 02.5	+6.5
KMI				PMZ				
	comp=Z,6.0nm,0.7s							
AKTO	**Aktyubinsk**	69.77	330	P		P	12 18 50.7	-2.2
	comp=Z,5.1nm,0.7s,baz=49,slow=5.7,SNR=6.7							
AKTO	**Aktyubinsk**	69.77	330	P		P	12 18 50.7	-2.2
AKTO				pmax	pmax			
	comp=Z,5.0nm,0.7s							
PMOR	**Pomariorio Ree**	69.88	158	*e*T		T	13 35 01.1	
	comp=Z,16nm,0.3s							
ABKAR	**Akbulak array**	70.20	328	*e*P		P	12 18 54.9	-0.6
	comp=Z,4.4nm,0.5s							
PPT2	**Papeete2**	72.02	160	*e*S		S	12 28 26.6	-1.0
	comp=Z,382nm,24.5s							
PPT2				*e*LQ		LQ	12 37 31.0	
	comp=Z,591nm,26.2s							
PPT2				*e*LR		LR	12 40 52.1	
	comp=Z,442nm,23.2s							
PPT2	**Papeete2**	72.02	160	*e*T		T	13 37 41.9	
	comp=Z,5.3nm,0.3s							
TIAR	**Tiarei**	72.04	160	*e*T		T	13 37 43.0	
	comp=Z,4.9nm,0.3s							
SIJI	**Sorong**	72.62	244	P		P	12 19 09.9	-0.8
	comp=Z,12nm,0.6s,baz=350,slow=8.7,SNR=4.2							
SKNT	**Sakolnakorn**	74.67	278	P		P	12 19 23.4	+0.7
	comp=Z,32nm,0.9s							
UBPT	**Khong Chiam**	75.08	276	P		P	12 19 26.4	+1.3
	comp=Z,37nm,1.0s							
CMAI	**Chiengmai2**	75.34	284	P		P	12 19 28.2	+1.4
	comp=Z,47nm,0.9s,comp=Z,5μm							
AKASG	**Malin Array Be**	75.83	348	P		P	12 19 26.4	-2.5
	comp=Z,3.8nm,0.6s,baz=12,slow=5.5,SNR=9.5							
AKASG	**Malin Array Be**	75.83	348	P		P	12 19 26.4	-2.5
AKASG				pmax	pmax			
	comp=Z,4.0nm,0.6s							
KHON	**Khomkaen**	75.87	278	P		P	12 19 31.4	+1.8
	comp=Z,16nm,0.8s,comp=Z,640nm							
UTTA	**Uttaradit**	76.14	281	P		P	12 19 36.6	+5.5
	comp=Z,5.0nm,0.9s							
CLL	**Collm**	76.40	358	*e*P		P	12 19 30.0	-2.1
CLL	**Collm**	76.40	358	*e*P		P	12 19 33.0	+0.9
CMAR	**Chiang Mai Arr**	76.55	283	P		P	12 19 33.4	-0.1
	comp=Z,2.2nm,0.5s,baz=25,slow=5.9,SNR=14							
CMAR	**Chiang Mai Arr**	76.55	283	P		P	12 19 33.4	-0.1
CMAR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
PBKT	**Sadao Pong**	76.80	280	P		P	12 19 39.6	+4.7
	comp=Z,12nm,1.1s							
DPC	**Dobruska-Polom**	77.27	356	*e*P		P	12 19 36.9	-0.2
DPC				*e*pP		pP	12 19 42.3	-0.8
TBI	**Tubuai**	77.64	161	*e*LR		LR	12 43 30.8	
	comp=Z,456nm,29.0s							
TBI	**Tubuai**	77.64	161	*e*T		T	13 44 43.1	
	comp=Z,18nm,0.2s							
PRU	**Pruhonice**	77.69	357	*e*P		P	12 19 40.1	+0.7
GOPC	**GO Pecny, Ondr**	77.76	357	*e*P		P	12 19 39.9	+0.1
VRAC	**Vranov**	78.30	356	⇑P		P	12 19 44.2	+1.4
VRAC	**Vranov**	78.30	356	⇑*i*P		P	12 19 44.2	+1.4
KOLS	**Kolonicke sedl**	78.31	352	*e*P		P	12 19 43.8	+0.9
KOLS				pmax	pmax			
	comp=Z,9.0nm,1.9s							
KOLS	**Kolonicke sedl**	78.31	352	*e*P		P	12 19 43.8	+0.9
KHC	**Kasperske Hory**	78.57	358	*e*P		P	12 19 45.4	+1.0
KHC				*e*pP		pP	12 19 50.2	-0.2
KHC	**Kasperske Hory**	78.57	358	*e*P		P	12 19 44.9	+0.5
KHC				pmax	pmax			
	comp=Z,5.0nm,1.5s							
KHC	**Kasperske Hory**	78.57	358	*e*P		P	12 19 44.9	+0.5
	comp=Z,5.2nm,1.5s							
GOF	**Gofitskoye**	78.77	337	*e*P		P	12 19 44.4	-1.0
GERES	**GERESS Array B**	78.85	358	P		P	12 19 45.4	-0.6
	comp=Z,1.4nm,0.8s,baz=343,slow=4.2,SNR=8.0							
GERES	**GERESS Array B**	78.85	358	P		P	12 19 45.4	-0.6
GERES				pmax	pmax			
	comp=Z,1.0nm,0.8s							
VYHS	**Vyhne**	79.00	354	*e*P		P	12 19 46.0	-0.7
VYHS				pmax	pmax			
	comp=Z,3.0nm,1.2s							
VYHS	**Vyhne**	79.00	354	*e*P		P	12 19 46.0	-0.7
TRPA	**Tarpa**	79.09	352	⇑*i*P		P	12 19 47.8	+0.7
BURAR	**Bucovina Array**	79.34	350	⇓P		P	12 19 49.1	+0.4
BURAR	**Bucovina Array**	79.34	350	⇓*i*P		P	12 19 49.1	+0.4
BFO	**Black Forest**	79.38	2	*i*P		P	12 19 49.3	+0.5
ECH	**Echery**	79.47	2	*e*P		P	12 19 48.6	-0.7
ECH				pmax	pmax			
	comp=Z,8.0nm,0.9s							
ECH	**Echery**	79.47	2	*e*P		P	12 19 48.6	-0.7
	comp=Z,8.5nm,0.9s							
CONA	**Conrad Observa**	79.70	356	⇑*i*P		P	12 19 50.7	+0.1
	comp=Z,7.7nm,0.9s							
SDDR	**Presa de Saban**	79.91	72	*e*P		P	12 19 53.1	+0.9
KBZ	**Khabaz**	80.05	337	P		P	12 19 52.4	-0.1
	comp=Z,3.7nm,0.9s,baz=35,slow=4.8,SNR=6.2							
KBZ	**Khabaz**	80.05	337	P		P	12 19 52.4	-0.1
KBZ				pmax	pmax			
	comp=Z,4.0nm,0.9s							
ARSA	**Arzberg**	80.39	357	⇑*i*P		P	12 19 54.9	+0.6
	comp=Z,4.5nm,0.7s							
KBA	**Koelnbreinsper**	80.63	358	⇑*i*P		P	12 19 55.5	-0.3
	comp=Z,21nm,1.1s							
FETA	**Feichten**	80.71	360	⇓*i*P		P	12 19 55.9	-0.3
	comp=Z,9.9nm,0.8s							
GEYT	**Allbeck**	80.80	324	P		P	12 19 56.0	-0.7
	comp=Z,5.8nm,0.9s,baz=318,slow=6.0,SNR=5.4							
SMN1	**Samana, DR**	80.91	70	*e*P		P	12 19 58.0	+0.5
PLOR	**Plostina**	80.92	349	⇑P		P	12 20 04.4	+7.2
PLOR	**Plostina**	80.92	349	⇑*i*P		P	12 20 04.4	+7.2
SOKA	**Soboth**	80.98	357	⇑*i*P		P	12 19 57.2	-0.3
	comp=Z,14nm,1.2s							

RKT	**Rikitea**	81.19	148	*e*LR		LR	12 45 20.8	
	comp=Z,320nm,27.2s							
RKT	**Rikitea**	81.19	148	*e*T		T	13 49 06.3	
	comp=Z,4.2nm,0.3s							
MLR	**Muntele Rosu**	81.36	349	⇑P		P	12 20 05.9	+6.3
MLR	**Muntele Rosu**	81.36	349	⇑*i*P		P	12 20 05.9	+6.3
CTA	**Charters Tower**	82.03	222	P		P	12 20 02.4	-0.7
	comp=Z,10nm,1.1s,baz=30,slow=8.0,SNR=5.6							
CTA	**Charters Tower**	82.03	222	P		P	12 20 02.4	-0.7
CTA				pmax	pmax			
	comp=Z,10.0nm,1.1s							
TIRR	**Tirgusor**	82.07	347	⇓P		P	12 20 03.7	+0.5
TIRR	**Tirgusor**	82.07	347	⇓*i*P		P	12 20 03.7	+0.5
SSB	**Saint Sauveur**	82.31	4	*e*P		P	12 20 04.9	+0.4
SSB				pmax	pmax			
	comp=Z,7.0nm,0.9s							
SSB	**Saint Sauveur**	82.31	4	*e*P		P	12 20 04.9	+0.4
	comp=Z,7.3nm,0.9s							
KSM	**Kuching**	82.95	263	*e*P		P	12 20 08.5	+0.4
	comp=Z,46nm,1.4s							
DIVS	**Divibare**	83.30	353	⇓*i*P		P	12 20 09.6	-0.1
CELP	**Cerrillos**	83.33	69	*e*P		P	12 20 10.8	+0.6
KULM	**Kulim**	85.81	273	*e*P		P	12 20 22.5	-0.2
	comp=Z,26nm,0.9s							
BRTR	**Keskin Array B**	85.86	342	P		P	12 20 20.9	-1.8
	comp=Z,1.2nm,0.7s,baz=343,slow=7.5,SNR=2.5							
BRTR				PKKP		PKKPdf	12 38 12.9	+0.5
	comp=Z,0.3nm,0.3s,baz=215,slow=4.8,SNR=2.9							
BRTR				PKKPbc		PKKPbc	12 38 20.1	-1.3
	comp=Z,0.7nm,0.7s,baz=180,slow=2.3,SNR=3.4							
BRTR	**Keskin Array B**	85.86	342	P		P	12 20 21.0	-1.8
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
WRAB	**Tennant Creek**	87.16	232	*i* P		P	12 20 33.2	+4.1
WRA	**Warramunga Arr**	87.17	232	P		P	12 20 28.0	-1.1
	comp=Z,3.8nm,0.7s,baz=33,slow=5.9,SNR=13							
WRA	**Warramunga Arr**	87.17	232	P		P	12 20 28.0	-1.1
WRA				pmax	pmax			
	comp=Z,4.0nm,0.7s							
ESDC	**Sonseca Array**	87.19	11	P		P	12 20 27.4	-1.8
	comp=Z,2.2nm,0.6s,baz=349,slow=4.8,SNR=15							
PVM	**Polavaram**	87.47	295	*e*P		P	12 20 31.0	+0.2
SRSP	**Sriramsagar**	87.88	299	*e*P		P	12 20 33.0	+0.2
HYBB	**Hyderabad (bro**	89.00	298	*e*P		P	12 20 38.0	-0.1
HYB	**Hyderabad**	89.00	298	*i* P		P	12 20 41.0	+2.8
ROSC	**El Rosal**	89.24	83	P		P	12 20 39.4	-0.3
	comp=Z,7.0nm,0.5s,baz=90,slow=20,SNR=3.4							
KLRI	**Killari**	89.51	300	*e*P		P	12 20 40.3	-0.3
OTAV	**Otavalo**	90.38	89	*e*P		P	12 20 45.8	+0.7
	comp=Z,5.7nm,0.7s							
ASAR	**Alice Springs**	90.56	230	P		P	12 20 45.1	+0.1
	comp=Z,8.6nm,0.7s,baz=32,slow=4.8,SNR=31							
ASAR	**Alice Springs**	90.56	230	P		P	12 20 45.2	+0.1
ASAR				pmax	pmax			
	comp=Z,9.0nm,0.7s							
STKA	**Stephens Creek**	94.40	220	P		P	12 21 02.5	-0.1
	comp=Z,2.3nm,0.6s,baz=345,slow=4.8,SNR=5.5							
STKA	**Stephens Creek**	94.40	220	P		P	12 21 02.5	-0.1
STKA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
TORD	**Torodi Ar. Bea**	114.03	10	Pdiff		Pdif	12 22 30.5	-0.3
	comp=Z,0.8nm,0.7s,baz=261,slow=4.5,SNR=5.0							
TORD				PKiKP		PKPdf	12 26 22.7	+0.4
	comp=Z,0.4nm,0.6s,baz=319,slow=2.0,SNR=4.3							
TORD				PKKPbc		PKKPbc	12 37 01.4	-0.1
	comp=Z,1.4nm,0.7s,baz=175,slow=3.6,SNR=5.0							
TORD				PKKPab		PKKPab	12 37 13.0	+0.2
	comp=Z,4.5nm,0.8s,baz=170,slow=3.7,SNR=10							
QSPA	**South Pole Qui**	142.41	180	*e*PKPdf		PKPdf	12 27 09.0	-5.3
TSUM	**Tsumeb**	146.18	348	*e*PKPbc		PKPdf	12 27 22.6	0.0
MAW	**Mawson**	151.08	219	PKPbc		PKPbc	12 27 34.5	-0.1
	comp=Z,12nm,0.9s,baz=166,slow=1.5,SNR=8.5							
MAW	**Mawson**	151.08	219	PKIKP		PKPbc	12 27 34.5	-0.1
MAW				pmax	pmax			
	comp=Z,13nm,0.9s							
BOSA	**Boshof**	153.65	330	PKPbc		PKPbc	12 27 42.5	+0.7
	comp=Z,7.8nm,0.8s,baz=26,slow=1.9,SNR=10.0							
BOSA	**Boshof**	153.65	330	PKIKP		PKPbc	12 27 42.5	+0.7
BOSA				pmax	pmax			
	comp=Z,8.0nm,0.8s							
VNA2	**Neumayer--Watz**	159.94	163	PKPab		PKPab	12 28 21.5	+1.3
	baz=242,slow=4.0							
VNA2	**Neumayer--Watz**	159.94	163	PKPdf		PKPdf	12 27 40.5	-0.1
	baz=350,slow=0.9							
SNAA	**Sanae**	160.00	168	PKPab		PKPab	12 28 21.3	+0.7
SNAA	**Sanae**	160.00	168	PKPdf		PKPdf	12 27 40.8	+0.1
VNA1	**Neumayer--Stat**	160.01	162	PKPab		PKPab	12 28 20.3	-0.2
VNA1	**Neumayer--Stat**	160.01	162	PKPdf		PKPdf	12 27 43.1	+2.5

*IDC **28** 12:10:29.9±1.0,52.62N×169.81W,h0km,mb4.2/7, mb1 4.3/9,mb1mx3.8/72,mbtmp4.1/9,ML3.5/2,Error ellipse: s-maj=29.5km s-min=19.9km az=165.0*
*NEIC **28** 12:10:32.7,52.63N×169.18W,h3km,ML3.7(AEIC),After AEIC.*

ISC 28 12:10:30.3±2.3,52.6N±0.1×169.43W±0.08,h3km±13km, n26,σ1s02/28,mb4.2/7,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	0.52	43	P	**Pb**	12 10 41.8	-0.2
NIKH				S	**Sb**	12 10 49.9	0.0
OKSO	**Okmok South**	1.08	45	P	**Pg**	12 10 51.0	0.0
OKSO				S	**Sg**	12 11 05.4	+0.4
OKWR	**Okmok West Rim**	1.12	41	P	**Pn**	12 10 52.8	-0.1
OKCE	**Okmok Cone E**	1.13	42	P	**Pg**	12 10 52.1	+0.2
OKTU	**Okmok M

0.6nm,0.3s,baz=31,slow=12,SNR=14
CTAO Charters Tower 16.34 207 ePn Pn 12 14 10.1 -1.3
30nm,1.0s
NOUC Port Laguerre 20.20 146 eP P 12 14 51.5 -2.0
DZM Mont Dzumac 20.25 145 P P 12 14 54.3 0.0
45nm,0.6s,baz=0.0,slow=19,SNR=46
DZM Mont Dzumac 20.25 145 eP P 12 14 53.3 -1.0
SIJI Sorong 23.32 281 P P 12 15 25.3 0.0
13nm,0.7s,baz=74,slow=15,SNR=4.2
WRA Warramunga Arr 23.98 232 P P 12 15 31.8 +0.5
29nm,0.5s,baz=56,slow=10,SNR=334
ASAR Alice Springs 26.52 225 P P 12 15 54.4 +0.1
2.6nm,0.4s,baz=57,slow=9.1,SNR=63
STKA Stephens Creek 28.68 203 P P 12 16 12.7 -0.7
4.2nm,0.6s,baz=37,slow=13,SNR=14
URZ Urewera 38.64 151 P P 12 17 39.8 +0.6
5.3nm,0.4s,baz=252,slow=2.8,SNR=13
RPZ Rata Peaks 40.80 161 P P 12 17 57.5 +0.5
28nm,1.0s,baz=300,slow=1.1,SNR=6.3
KSM Kuching 44.34 278 eP P 12 18 26.7 +0.6
9.1nm,0.8s
JNU Nakatsue 44.38 332 P P 12 18 25.9 -0.1
19nm,0.8s,baz=73,slow=5.4,SNR=8.7
MJAR Matsushiro Arr 44.48 342 P P 12 18 25.6 -1.2
1.0nm,0.5s,baz=172,slow=7.8,SNR=5.1
KSRS Korea Array 49.30 332 P P 12 19 04.2 0.0
3.9nm,0.8s,baz=151,slow=8.6,SNR=10
KSAR Wonju Array Be 49.31 332 P P 12 19 04.2 0.0
USRK Ussuriysk Ar. 53.42 340 P P 12 19 34.7 0.0
2.1nm,0.5s,baz=152,slow=5.2,SNR=5.7
PETK Petropavlovsk- 58.54 3 P P 12 20 11.4 +0.4
3.8nm,0.8s,baz=186,slow=2.9,SNR=7.1
SONM Songino Array 67.70 327 P P 12 21 12.7 +1.0
3.1nm,0.5s,baz=146,slow=5.6,SNR=18
VNDA Vanda 72.01 178 P P 12 21 38.3 +1.0
2.4nm,0.8s,baz=325,slow=6.6,SNR=16
ILAR Eielson Array 82.37 22 P P 12 22 34.1 -1.1
0.8nm,0.5s,baz=252,slow=4.6,SNR=25
ILAR pP pP 12 23 03.5 -9.2
0.6nm,0.6s,baz=248,slow=5.6,SNR=3.5
ZALV Zalesovo Beam 82.55 326 P P 12 22 36.0 -0.4
1.9nm,0.4s,baz=118,slow=5.4,SNR=9.6
QSPA South Pole Qui 84.39 180 eP P 12 22 46.3 +0.6
19nm,0.7s
KURK Kurchatov 85.21 322 P P 12 22 50.0 +0.1
KURBB Kurchatov Arra 85.24 322 P P 12 22 50.0 0.0
1.0nm,0.5s,baz=98,slow=4.7,SNR=11
MAW Mawson 85.37 203 P P 12 22 50.1 -0.3
3.5nm,0.6s,baz=127,slow=5.1,SNR=5.4
INK Inuvik 88.70 21 P P 12 23 06.3 -0.1
0.9nm,0.5s,baz=188,slow=4.4,SNR=4.9
NVAR Mina Array Bea 91.50 52 P P 12 23 21.2 +0.7
0.8nm,0.8s,baz=257,slow=6.3,SNR=5.8
SYO Syowa Base 93.38 199 eX PKiKP PKiKP 12 28 12.6 -0.9
TORD Torodi Ar. Bea 151.83 287 PKPbc PKPbc 12 30 07.6 -0.9
0.4nm,0.3s,baz=74,slow=2.5,SNR=7.4
TORD PKPab PKPab 12 30 18.1 +0.1
1.7nm,0.6s,baz=79,slow=3.8,SNR=8.8
TORD pPKPbc pPKPbc 12 30 37.8 -10
2.3nm,0.9s,baz=69,slow=1.9,SNR=6.0

*IDC **28** 12:19:47.1±1.2,52°.63N×169°.51W,h0km,mb3.7/6, mb1 4.0/8,mb1mx3.5/64,mbtmp3.6/8,ML3.7/2,Error ellipse: s-maj=46.7km s-min=20.0km az=146.0*
*NEIC **28** 12:19:49.5,52°.63N×169°.25W,h6km,ML3.5(AEIC),After AEIC.*
*ISCJB **28** 12:19:50.2±1.1,52°.7N±0°.1×169°.3W±0°.1,h27km±7km, mb3.6/6,Error ellipse: s-maj=19.9km s-min=6.1km az=152.2*

ISC 28 12:19:49.6±1.9,**52°.7N**±0°.1×**169°.28W**±0°.07,**h11**km±12km, **n38**,σ0s**97**/35,**mb3.7**/6,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	Nikolski High	0.41	39	P	Pg	12 19 58.3	+0.6
NIKH				S	Sb	12 20 05.6	+0.5
OKSP	Okmok Steeple	0.85	45	P	Pb	12 20 06.3	0.0
OKSP				S	Sb	12 20 18.6	+0.9
OKSO	Okmok South	0.98	44	P	Pg	12 20 08.4	-0.1
OKSO				S	Sb	12 20 22.4	+1.0
OKWR	Okmok West Rim	1.01	39	P	Pn	12 20 10.2	+0.3
OKCE	Okmok Cone E	1.02	41	P	Pg	12 20 09.2	-0.2
OKTU	Okmok Mt. Tuli	1.04	45	P	Pb	12 20 09.8	+0.1
OKAK	Okmok	1.08	31	P	Pg	12 20 08.0	-2.4
OKRE	Okmok R'deer P	1.10	38	P	Pg	12 20 10.7	-0.1
OKFG	Magazine Ridge	1.12	47	P	Pg	12 20 10.3	-0.9
OKFG				S	Sb	12 20 26.2	+0.6
MSOM	Makushin Julie	1.82	49	P	Pn	12 20 19.9	-0.9
MCIR	Makushin Cirqu	1.93	47	P	Pn	12 20 23.6	+1.1
MSW	Makushin Switc	1.96	49	P	Pn	12 20 22.7	-0.1
MTBL	Makushin Table	2.04	49	P	Pn	12 20 23.9	0.0
UNV	Unalaska Valle	2.05	53	P	Pn	12 20 23.3	-0.6
UNV				S	Sn	12 20 49.7	+0.1
AKRB	Akutan Reef Bi	2.42	51	P	Pn	12 20 29.7	+0.5
ZRO	Akutan Zero	2.45	53	P	Pn	12 20 30.4	+1.0
AKGG	Akutan Green G	2.50	51	P	Pn	12 20 30.7	+0.5
AKUT	Akutan	2.57	53	ePn	Pn	12 20 31.5	+0.4
ATKA	Atka Island	3.04	263	P	Pn	12 20 37.6	0.0
GSMY	Great Sitkin M	4.20	264	P	Pn	12 20 54.0	+0.5
GSCK	Great Sitkin C	4.27	264	P	Pn	12 20 55.9	+1.4
SPIA	Saint Paul Isl	4.56	353	P	Pn	12 20 59.3	+0.8
KDAK	Kodiak Island	10.82	55	Pn	Pn	12 22 26.8	+2.5
	0.9nm,0.3s,baz=238,slow=9.5,SNR=5.3						
ILAR	Eielson Array	16.68	35	Pn	Pn	12 23 41.9	-1.2
	0.1nm,0.3s,baz=217,slow=8.1,SNR=5.1						
H02S1	DAWSON INLET T	22.04	74	T	T	12 47 35.4	
	SNR=5.4						
YKA	Yellowknife Ar	30.01	49	P	P	12 25 57.9	0.0
	0.3nm,0.4s,baz=273,slow=7.6,SNR=5.0						
NVAR	Mina Array Bea	37.62	91	P	P	12 27 04.9	+0.5
	0.1nm,0.3s,baz=285,slow=8.3,SNR=2.7						
H11N2	WAKE ISLAND Hy	37.71	218	T	T	13 07 01.5	
	baz=24,slow=76,SNR=17						
H11N3	WAKE ISLAND Hy	37.72	218	T	T	13 07 03.0	
	baz=24,slow=76,SNR=27						
H11N1	WAKE ISLAND Hy	37.73	218	T	T	13 07 03.5	
	baz=24,slow=76,SNR=14						
H11S1	WAKE ISLAND Hy	38.90	218	T	T	13 08 30.8	
	baz=23,slow=76,SNR=404						
H11S2	WAKE ISLAND Hy	38.92	218	T	T	13 08 31.9	
	baz=23,slow=76,SNR=188						
H11S3	WAKE ISLAND Hy	38.92	218	T	T	13 08 32.1	
	baz=23,slow=76,SNR=159						
PDAR	Pinedale Array	40.30	80	P	P	12 27 27.1	+0.3
	0.7nm,0.6s,baz=336,slow=4.8,SNR=7.8						
TXAR	Lajitas Array	52.69	89	P	P	12 29 04.5	+0.4
	1.2nm,0.7s,baz=292,slow=3.9,SNR=12						
H06N1	SOCORRO T-PHAS	56.08	104	T	T	13 30 15.7	
	SNR=21						
WRA	Warramunga Arr	87.22	232	P	P	12 32 34.0	-1.8
	0.5nm,0.8s,baz=35,slow=5.8,SNR=3.9						
ASAR	Alice Springs	90.62	230	P	P	12 32 51.0	-0.9
	0.5nm,0.7s,baz=30,slow=4.7,SNR=8.6						

*IDC **28** 12:22:21.7±0.5,4°.77N×82°.35W,h0km,mb4.3/20, mb1 4.4/25,mb1mx4.2/50,mbtmp4.3/25,ML4.1/4,Error ellipse: s-maj=23.4km s-min=11.8km az=56.0*
*ISCJB **28** 12:22:22.2±0.3,4°.70N±0°.05×82°.30W±0°.06,h10km, mb4.4/62,Error ellipse: s-maj=10.6km s-min=4.5km az=140.7*
*BJI **28** 12:22:23.1,4°.80N×82°.40W,h10km,Ms4.3/1,Ms7 4.2/1*
*NEIC **28** 12:22:24.0±0.3,4°.74N×82°.32W,h10km,mb4.5/46,Error ellipse: s-maj=11.4km s-min=5.0km az=51.0*
NEIC Felt at Golfito, Costa Rica.

ISC 28 12:22:23.4±0.4,**4°.74N**±0°.07×**82°.4W**±0°.1,**h10**km,**n208**, σ1s**21**/210,**mb4.4**/63,**South of Panama**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTAV	Otavalo	5.94	139	ePn	Pn	12 23 53.7	+1.8
OTAV				eSn	Sn	12 24 58.1	-2.2
JTS	JuntasAbangare	6.08	335	Pn	Pn	12 23 50.8	-2.7
	9.8nm,0.3s,baz=314,slow=21,SNR=40						
JTS				Sn	Sn	12 24 58.1	-5.2
	8.3nm,0.3s,baz=260,slow=24,SNR=11						
JTS	JuntasAbangare	6.08	335	ePn	Pn	12 23 50.2	-3.3
JTS				eSn	Sn	12 24 58.8	-4.5
ROSC	El Rosal	8.01	89	Pn	Pn	12 24 20.2	-0.2
	0.7nm,0.3s,baz=107,slow=13,SNR=2.7						
ATAH	Atahualpa	12.44	161	Pn	Pn	12 25 20.7	-0.4
	0.7nm,0.3s,baz=122,slow=19,SNR=3.3						
NNA	Nana	17.50	162	Pn	Pn	12 26 28.3	+0.5
	0.6nm,0.3s,baz=359,slow=13,SNR=2.7						
PCRV	Puerto La Cruz	18.39	72	P	P	12 26 39.0	+0.1
	0.7nm,0.3s,baz=263,slow=4.3,SNR=3.6						
DWPF	Disney	23.26	2	eP	P	12 27 33.7	+2.5
	35nm,1.0s						
SAML	Samuel	23.47	125	eP	P	12 27 36.1	+2.7
	12nm,1.2s						
LPAZ	La Paz	25.20	146	P	P	12 27 51.9	+1.8
	1.9nm,0.5s,baz=292,slow=4.7,SNR=7.4						
LPAZ	La Paz	25.20	146	eP	P	12 27 52.0	+1.8
	4.4nm,1.1s						
532A	Rocksprings	30.20	329	P	P	12 28 34.7	+0.4
	baz=30						
LVC	Limon Verde	30.20	155	P	P	12 28 34.1	-0.5
	5.8nm,0.8s,baz=277,slow=8.1,SNR=2.3						
530A	J-C Ranch, Com	30.98	327	P	P	12 28 42.7	+1.6
	baz=31						
332A	Millersview	31.13	330	P	P	12 28 43.3	+0.9
	baz=31						
MIAR	Mount Ida	31.43	342	P	P	12 28 45.1	+0.1
	baz=32						
429A	Davenport Ranc	31.65	327	P	P	12 28 47.7	+0.7
	baz=32,SNR=5.4						
TXAR	Lajitas Array	31.70	323	P	P	12 28 47.8	+0.2
	0.4nm,0.6s,baz=156,slow=9.6,SNR=4.8						
TXAR				PcP	PcP	12 31 39.8	+0.4
	0.8nm,0.7s,baz=152,slow=4.1,SNR=6.3						
T37A	Cheneyville 18	34.22	342	P	P	12 29 10.2	+0.8
	baz=34						
T36A	Boggs Farm, Ca	34.47	341	P	P	12 29 13.1	+1.5
	baz=35						
ACSO	Alum Creek Sta	35.34	359	eP	P	12 29 19.5	+0.5
	11nm,0.7s						
SSPA	Standing Stone	35.97	6	eP	P	12 29 26.0	+1.6
	12nm,1.3s						
R34A	Isabella, Hill	36.05	340	P	P	12 29 25.5	+0.3
	baz=36						
R33A	Olander Ranch,	36.32	339	P	P	12 29 28.1	+0.7
	baz=36						
121A	Cookes Peak, D	36.46	322	P	P	12 29 30.6	+1.7
	baz=37,SNR=10						
121A	Cookes Peak, D	36.46	322	eP	P	12 29 30.6	+1.7
	6.0nm,0.8s						
P36A	Good Intent, A	36.62	343	P	P	12 29 30.4	+0.4
	baz=37						
BNM	Barren Site	36.93	325	eP	P	12 29 34.9	+1.9
P34A	Walnut Farm, R	37.04	341	P	P	12 29 34.5	+0.9
	baz=37						
KSPA	Keystone Colle	37.14	8	eP	P	12 29 36.4	+2.1
	12nm,1.0s						
P33A	Williams Farm,	37.23	340	P	P	12 29 37.0	+1.8
	baz=37						
LAZ	Ladron	37.40	325	eP	P	12 29 38.8	+1.8
ANMO	Albuquerque	37.42	327	P	P	12 29 38.1	+1.0
	4.4nm,0.9s,baz=145,slow=10,SNR=8.1						
ANMO	Albuquerque	37.42	327	eP	P	12 29 38.8	+1.6
	4.2nm,0.8s						
O34A	Beatrice	37.58	342	P	P	12 29 38.5	+0.3
	baz=38						
P31A	Stockton	37.90	338	P	P	12 29 42.0	+1.1
	baz=38						
T25A	Trinidad	38.05	331	P	P	12 29 43.8	+1.4
	baz=38						
T25A	Trinidad	38.05	331	eP	P	12 29 44.4	+2.0
	5.8nm,0.9s						
TUC	Tucson	38.20	319	eP	P	12 29 44.6	+1.0
	2.3nm,0.9s						
P30A	Selden	38.24	337	P	P	12 29 45.5	+1.7
	baz=38						
SDCO	Great Sand Dun	39.06	330	P	P	12 29 52.2	+1.2
	baz=39,SNR=12						
SDCO	Great Sand Dun	39.06	330	eP	P	12 29 52.6	+1.6
	10nm,1.0s						
CPUP	Villa Florida	39.27	143	P	P	12 29 52.0	-0.5
	1.4nm,0.7s,baz=313,slow=12,SNR=3.0						
W18A	Petrified Fore	39.42	324	P	P	12 29 55.4	+1.5
	baz=40						
W18A	Petrified Fore	39.42	324	eP	P	12 29 55.5	+1.5
	21nm,1.2s						
S22A	4UR Ranch, Cre	39.72	329	P	P	12 29 57.6	+1.0
	baz=40,SNR=7.8						
S22A	4UR Ranch, Cre	39.72	329	eP	P	12 29 58.2	+1.6
	4.7nm,1.0s						
L31A	Butterfield Fa	40.07	341	P	P	12 30 00.3	+1.2
	baz=40						
MVCO	Mesa Verde	40.20	327	eP	P	12 30 02.1	+1.6
	11nm,1.1s						
WUAZ	Wupatki	40.67	323	P	P	12 30 05.6	+1.3
	baz=41,SNR=13						
WUAZ	Wupatki	40.67	323	eP	P	12 30 05.8	+1.5
	13nm,1.9s						
ISCO	Idaho Springs	40.73	332	P	P	12 30 05.7	+0.8
	baz=41						
ISCO	Idaho Springs	40.73	332	eP	P	12 30 06.5	+1.6
	3.2nm,0.9s						
K30A	Basset	40.77	340	P	P	12 30 05.8	+1.0
	baz=41						
PV01	Paradox Valley	40.92	328	eP	P	12 30 08.1	+1.7
PV01				ePP	PnPn	12 31 54.9	+10
PV05	Paradox Valley	41.16	327	eP	P	12 30 09.7	+1.3
PV04	Paradox Valley	41.29	328	eP	P	12 30 10.8	+1.4
J30A	Dallas	41.31	341	P	P	12 30 10.2	+0.9
	baz=42						
J29A	Okreek	41.66	340	P	P	12 30 12.7	+0.6
	baz=42						
N23A	Red Feather La	41.76	333	P	P	12 30 14.8	+1.5
	baz=42						
J28A	Allard Ranch,	41.99	339	P	P	12 30 16.1	+1.3
	baz=42						
J27A	Elkhorn Farm,	42.11	339	P	P	12 30 17.5	+1.6
	baz=42						
BC3	Big Chuckawall	42.12	317	P	P	12 30 16.8	+0.7
	baz=42						
I29A	Vivian Onida	42.20	341	P	P	12 30 16.9	+0.4
	baz=42						
IRM	Iron Mountain	42.21	318	P	P	12 30 18.1	+1.2
	baz=42						
MONP	Monument Peak	42.34	316	P	P	12 30 18.5	+0.4
	baz=42						
I28A	Midland	42.47	340	P	P	12 30 20.3	+1.6
	baz=43						
KNB	Kanab	42.54	323	eP	P	12 30 21.4	+1.8
	8.3nm,1.0s						
J26A	Sides Ranch, S	42.56	338	P	P	12 30 21.5	+1.9
	baz=43						
SRU	San Rafael	42.68	327	eP	P	12 30 22.0	+1.2
	10nm,1.1s						
BELC	Belle Mtn. Jos	42.69	317	P	P	12 30 21.7	+0.9
	baz=43						
GMRC	Granite Mounta	42.92	318	P	P	12 30 23.6	+1.0
	baz=43						
K23A	Bowen Ranch, D	43.12	335	P	P	12 30 25.9	+1.7
	baz=43						
MSU	Marysvale	43.17	325	eP	P	12 30 26.2	+1.4
J24A	Dixon Ranch, L	43.20	336	P	P	12 30 27.2	+2.4
	baz=43						
ARGU	Argyle Ridge	43.20	328	eP	P	12 30 26.5	+1.4
CCUT	Cedar City	43.21	323	eP	P	12 30 27.0	+1.9
	5.7nm,1.1s						
MURC	Murrieta	43.28	316	P	P	12 30 26.4	+0.9
	baz=43						
H27A	Howes	43.34	339	P	P	12 30 26.2	+0.4
	baz=44,SNR=6.3						
HEC	Hector,Ludlow	43.39	318	P	P	12 30 27.7	+1.2
	baz=44						
BBRC	Big Bear Solar	43.46	317	P	P	12 30 28.2	+1.0
	baz=44						
TUQ	Turquoise Moun	43.48	319	P	P	12 30 28.6	+1.3
	baz=44						
RSSD	Black Hills	43.62	337	eP	P	12 30 30.0	+1.8
	15nm,1.5s						
SHPR	Sheep Range	43.65	321	eP	P	12 30 29.8	+1.3
H25A	Fruitdale	43.88	338	P	P	12 30 31.9	+1.7
	baz=44						
GSC	Goldstone	43.98	318	P	P	12 30 32.3	+1.1
	baz=44						
GSC	Goldstone	43.98	318	eP	P	12 30 32.4	+1.1
J22A	Midwest	44.02	335	P	P	12 30 32.5	+1.1
	baz=44						
NLU	North Lily Min	44.12	327	eP	P	12 30 34.6	+2.2
	4.4nm,1.1s						
G25A	Newell	44.30	339	P	P	12 30 34.8	+1.2
	baz=44						
H24A	Dirks Ranch, A	44.34	337	P	P	12 30 35.5	+1.5
	baz=44						
J21A	Lysite	44.39	334	P	P	12 30 35.7	+1.2
	baz=44,SNR=5.6						
I22A	9 Mile Ranch,	44.41	335	P	P	12 30 35.7	+1.1
	baz=45						
D30A	Buchanan	44.52	344	P	P	12 30 36.4	+1.2
	baz=45						
EDW2	Edwards Air Fo	44.54	317	P	P	12 30 35.9	+0.2
	baz=45						
TPNV	Topopah Spring	44.61	321	P	P	12 30 37.2	+0.9
	baz=45,SNR=5.5						
TPNV	Topopah Spring	44.61	321	eP	P	12 30 37.8	+1.5
	3.7nm,1.0s						
J20A	Shoshoni	44.68	333	P	P	12 30 37.8	+1.1
	baz=45						
DUG	Dugway	44.69	327	P	P	12 30 37.7	+0.8
	baz=45						
DUG	Dugway	44.69	327	eP	P	12 30 38.2	+1.3
	41nm,2.8s						
I21A	Big Trails, Te	44.69	334	P	P	12 30 37.6	+0.8
	baz=45						
FURC	Furnace Creek,	44.71	320	P	P	12 30 37.4	+0.6
	baz=45,SNR=5.5						
D29A	Pettibone, Tap	44.71	343	P	P	12 30 38.5	+1.7
	baz=45						
BLG	Laguna Peak	44.86	315	P	P	12 30 39.3	+1.2
	baz=45						
PDAR	Pinedale Array	44.90	332	P	P	12 30 38.0	-0.6
	1.6nm,1.0s,baz=120,slow=8.9,SNR=9.7						
PDAR				PcP	PcP	12 32 19.5	-0.7
	0.6nm,0.8s,baz=115,slow=4.3,SNR=4.0						
HWUT	Hardware Ranch	45.03	329	eP	P	12 30 40.3	+0.7
	9.4nm,1.0s						
HWUT				ePP	PcP	12 32 20.8	+0.2
J19A	Crowheart	45.05	332	P	P	12 30 40.4	+0.7
	baz=45						
R11A	Troy Canyon, C	45.07	323	P	P	12 30 40.8	+0.8
	baz=45,SNR=13						
R11A	Troy Canyon, C	45.07	323	eP	P	12 30 41.2	+1.3
	12nm,1.5s						
E26A	Carlson Angus	45.08	340	P	P	12 30 41.0	+1.3
	baz=45						
I20A	Worland	45.17	334	P	P	12 30 41.6	+1.1
	baz=45						
F24A	Ekalaka	45.23	338	P	P	12 30 41.8	+0.8
	baz=45						
H21A	Big Horn, Sher	45.24	335	P	P	12 30 42.1	+0.9
	baz=45						
ISA	Isabella	45.31	318	P	P	12 30 42.4	+0.6
	baz=45						
ISA	Isabella	45.31	318	eP	P	12 30 42.8	+1.1
	3.0nm,0.9s						
BGU	Big Grassy Mou	45.32	327	eP	P	12 30 42.6	+0.7
GRAC	Grapevine Rang	45.35	320	P	P	12 30 43.0	+0.9
	baz=46,SNR=8.2						
E25A	Miller Ranch,	45.42	340	P	P	12 30 42.9	+0.4
	baz=46						
MDND	Maddock	45.43	344	P	P	12 30 43.5	+1.0
	baz=46						
MDND	Maddock	45.43	344	eP	P	12 30 43.2	+0.8
	27nm,1.1s						
F23A	Volborg	45.49	337	P	P	12 30 44.1	+1.0
	baz=46						
H20A	Greybull	45.54	334	P	P	12 30 44.3	+0.9
	baz=46						
D26A	Manning	45.56	341	P	P	12 30 44.4	+0.9
	baz=46						
I19A	Meeteetse	45.62	333	P	P	12 30 46.0	+1.7
	baz=46						
HVU	Hansel Valley	45.79	328	eP	P	12 30 46.5	+0.9
	3.7nm,1.0s						
E24A	Baker	45.79	339	P	P	12 30 46.8	+1.4
	baz=46						
PKM	Peak Mountain	45.81	316	P	P	12 30 46.9	+1.1
	baz=46						
VES	Vestal, Richgr	45.82	317	P	P	12 30 46.8	+1.1
	baz=46						
F22A	Rosebud	45.87	337	P	P	12 30 46.8	+0.8
	baz=46						
TPH	Tonopah	45.91	321	eP	P	12 30 47.6	+1.0
	8.1nm,1.3s						
B29A	Wagenman Farm,	45.92	344	P	P	12 30 47.3	+0.9
	baz=46						
D25A	Fairfield	45.96	340	P	P	12 30 48.0	+1.3
	baz=46						
REDW	Red Top Meadow	45.97	331	eP	P	12 30 48.0	+0.9
	9.7nm,1.3s						
E23A	Ismay	46.10	338	P	P	12 30 48.6	+0.7
	baz=46						
TPAW	Teton Pass	46.12	331	eP	P	12 30 49.4	+1.1
	4.1nm,1.0s						
C26A	Wahner Farm, P	46.15	342	P	P	12 30 49.1	+0.9
	baz=46						
SMMC	Simmler	46.15	316	P	P	12 30 49.4	+0.9
	baz=46						
MOOW	Moose Ponds	46.21	332	eP	P	12 30 49.6	+0.6
	4.5nm,1.4s						
G20A	Bridger	46.22	335	P	P	12 30 48.6	-0.3
	baz=46,SNR=6.0						
FXWY	Fox Creek	46.26	331	eP	P	12 30 50.3	+0.9
	31nm,2.9s						
D24A	Glendive	46.27	339	P	P	12 30 50.2	+1.0
	baz=46,SNR=5.6						
E22A	Miles City	46.30	338	P	P	12 30 49.8	+0.4
	baz=46						
IMW	Indian Meadow	46.42	331	eP	P	12 30 51.2	+0.6
	4.5nm,1.3s						
ELK	Elko	46.42	325	P	P	12 30 51.2	+0.5
	3.4nm,0.8s,baz=138,slow=7.0,SNR=7.8						
ELK	Elko	46.42	325	eP	P	12 30 51.7	+1.0
	3.3nm,0.8s						
RLMT	Red Lodge	46.59	334	P	P	12 30 52.8	+0.8
	baz=47						
F20A	Billings	46.65	335	P	P	12 30 53.2	+0.9
	baz=47						
C24A	Savage	46.66	340	P	P	12 30 53.2	+0.9
	baz=47,SNR=5.3						
NVAR	Mina Array Bea	46.80	321	P	P	12 30 54.4	+0.7
	5.0nm,0.8s,baz=136,slow=7.7,SNR=45						
NVAR				PcP	PcP	12 32 27.1	+0.3
	1.0nm,0.7s,baz=127,slow=3.9,SNR=5.0						
B25A	Knox Farm, Ray	46.88	341	P	P	12 30 55.5	+1.6
	baz=47						
BMN	Battle Mountai	47.37	324	eP	P	12 30 58.9	+0.9
	18nm,1.3s						
WAKR	Walker	47.56	320	eP	P	12 31 00.7	+1.1
HLID	Hailey	47.90	329	P	P	12 31 02.0	-0.1
	baz=48,SNR=6.5						
HLID	Hailey	47.90	329	eP	P	12 31 02.6	+0.5
	2.5nm,0.8s						
BOZ	Bozeman (W)	48.06	333	P	P	12 31 03.2	0.0
	baz=46,SNR=7.9						
EGMT	Eagleton	49.09	336	P	P	12 31 11.8	+0.7
	baz=49						
WVOR	Wild Horse Val	49.46	325	eP	P	12 31 13.7	-0.3
	19nm,1.1s						
MSO	Missoula	50.01	332	P	P	12 31 18.9	+0.7
	baz=50						
MSO	Missoula	50.01	332	eP	P	12 31 18.7	+0.5
	4.3nm,1.0s						
M04C	Macdoel	50.96	322	P	P	12 31 26.2	+0.8
	baz=51						
F10A	Beach Ranch, E	51.02	329	eP	P	12 31 28.3	+2.6
	59nm,3.0s						
G08A	Pilot Rock	51.47	327	eP	P	12 31 29.9	+0.8
	3.9nm,0.9s						
YBH	Yreka Blue Hor	51.47	322	P	P	12 31 27.7	-1.6
	2.8nm,0.8s,baz=103,slow=9.5,SNR=7.5						
J05D	Fort Rock, OR	51.49	324	P	P	12 31 30.0	+0.6
	baz=52						
SCHQ	Scheiferville	51.51	11	P	P	12 31 28.9	-0.2
	9.1nm,1.0s,baz=170,slow=6.2,SNR=4.5						
E09A	Wood Farm, Sta	51.85

INK	**Inuvik**	**72.03**	**342**	P		**P**	**12 33 47.7**	**+0.5**
	4.3nm,1.1s,baz=123,slow=2.7,SNR=6.0							
ILAR	**Eielson Array**	**75.06**	**336**	P		**P**	**12 34 05.3**	**+0.1**
	1.4nm,0.8s,baz=119,slow=4.0,SNR=17							
ESDC	**Sonseca Array**	**78.07**	**51**	P		**P**	**12 34 23.4**	**+0.6**
	1.3nm,0.8s,baz=270,slow=6.7,SNR=6.3							
EKA	**Eskdalemuir Ar**	**79.99**	**35**	P		**P**	**12 34 32.5**	**-0.4**
	4.4nm,0.7s,baz=260,slow=5.0,SNR=12							
TORD	**Torodi Ar. Bea**	**83.17**	**77**	P		**P**	**12 34 49.9**	**-0.7**
	1.7nm,1.1s,baz=250,slow=3.7,SNR=5.8							
NOA	**NORSAR Array B**	**87.63**	**29**	P		**P**	**12 35 10.2**	**-1.8**
	2.1nm,0.9s,baz=273,slow=4.7,SNR=5.2							
GERES	**GERESS Array B**	**90.46**	**41**	P		**P**	**12 35 25.9**	**+0.2**
	0.3nm,0.3s,baz=270,slow=4.9,SNR=4.2							
QSPA	**South Pole Qui**	**94.75**	**180**	P		**P**	**12 35 45.1**	**0.0**
	2.6nm,0.6s,baz=152,slow=0.9,SNR=24							
MKAR	**Makanchi Array**	**126.93**	**13**	PKP		**PKPdf**	**12 41 26.9**	**-1.0**
	1.0nm,0.8s,baz=306,slow=2.9,SNR=7.9							
SONM	**Songino Array**	**127.09**	**353**	PKP		**PKPdf**	**12 41 27.6**	**-0.8**
	1.1nm,0.7s,baz=332,slow=1.4,SNR=6.3							
KSRS	**Korea Array**	**129.43**	**329**	PKP		**PKPdf**	**12 41 31.5**	**-1.4**
	1.3nm,0.7s,baz=0.0,slow=2.5,SNR=5.2							
KSAR	**Wonju Array Be**	**129.46**	**329**	PKP		**PKPdf**	**12 41 31.5**	**-1.5**
STKA	**Stephens Creek**	**130.80**	**231**	PKP		**PKPdf**	**12 41 33.6**	**-2.1**
	2.5nm,0.9s,baz=60,slow=5.5,SNR=4.4							
WMQ	**Urumqi**	**130.84**	**10**	PKP		**PKPdf**	**12 41 36.8**	**+1.3**
WMQ				LN				
	37nm,21.5s							
WMQ				LZ				
	55nm,23.6s							
HHC	**Hu-ho-hao-te**	**132.87**	**346**	*e*PKP		**PKPdf**	**12 41 41.8**	**+2.3**
NJ2	**Nanjing**	**138.21**	**333**	*e*PKP		**PKPdf**	**12 41 51.0**	**+1.5**
LZH	**Lanzhou**	**138.98**	**352**	*e*PKP		**PKPdf**	**12 41 48.3**	**-2.8**
LZH				sPKP			12 41 55.0	
ASAR	**Alice Springs**	**140.30**	**238**	PKhKP		PKPpre	12 41 43.5	
	0.5nm,0.7s,baz=113,slow=2.4,SNR=3.7							
ASAR				PKP		**PKPdf**	**12 41 52.2**	**-1.5**
	2.2nm,0.8s,baz=114,slow=1.7,SNR=12							
WRA	**Warramunga Arr**	**141.21**	**244**	PKhKP		PKPpre	12 41 47.4	
	0.5nm,0.4s,baz=115,slow=2.7,SNR=18							
WRA				PKP		**PKPdf**	**12 41 54.1**	**-1.3**
	2.9nm,0.7s,baz=105,slow=2.2,SNR=27							
DANN	**Dangsing**	**144.50**	**21**	*e*P		**PKPdf**	**12 42 01.5**	**+0.2**
KOLN	**Koldanda**	**144.96**	**22**	*e*P		**PKPab**	**12 42 01.1**	**-0.1**
	20nm,0.9s							
GKN	**Gorkha**	**145.12**	**20**	*e*P		**PKPbc**	**12 42 01.6**	**-0.1**
	52nm,1.0s							
KKN	**Kakani**	**145.54**	**20**	*e*P		**PKPbc**	**12 42 03.1**	**0.0**
	35nm,0.7s							
GUN	**Gumba**	**145.62**	**19**	*e*P		**PKPdf**	**12 42 03.8**	**+0.4**
	130nm,1.1s							
DMN	**Daman**	**145.65**	**20**	*e*P		**PKPdf**	**12 42 03.6**	**+0.3**
	99nm,1.5s							
PKIN	**Phulchoki**	**145.77**	**20**	*e*P		**PKPdf**	**12 42 03.2**	**-0.3**
	13nm,0.8s							
PKI	**Pulchoki**	**145.78**	**20**	*e*P		**PKPdf**	**12 42 03.7**	**+0.1**
	40nm,1.2s							
H01W1	**Cape Leeuwin H**	**146.32**	**205**	T		T	15 25 56.3	
	baz=150,slow=76,SNR=4.4							
H01W2	**Cape Leeuwin H**	**146.32**	**205**	T		T	15 25 56.4	
	baz=150,slow=76,SNR=4.3							
H01W3	**Cape Leeuwin H**	**146.33**	**205**	T		T	15 26 04.6	
	baz=150,slow=76,SNR=4.0							
RAMN	**Ramite**	**146.74**	**18**	*e*P		**PKPdf**	**12 42 05.6**	**+0.4**
	15nm,0.7s							
KMI	**Kunming**	**149.91**	**351**	PKPbc		**PKPdf**	**12 42 10.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**156.92**	**357**	PKP		**PKPdf**	**12 42 19.2**	**-1.0**
	0.7nm,0.6s,baz=342,slow=3.6,SNR=5.3							
CMAR				PKPab		**PKPab**	**12 42 48.5**	**-1.3**
	1.1nm,0.7s,baz=355,slow=3.6,SNR=4.8							

*ISCJB **28** 12:26:14.0±1.4,52.7°N±0.1°×169.3°W±0.1°,1,h26km±7km, mb3.5/3,Error ellipse: s-maj=21.6km s-min=9.0km az=152.0*
*NEIC **28** 12:26:13.2,52.60°N×169.14°W,h5km,ML3.3(AEIC),After AEIC.*
*IDC **28** 12:26:20.2±8.3,52.79°N×167.70°W,h0km,mb3.6/3, mb1 3.8/5,mb1mx3.3/64,mbtmp3.4/5,ML3.3/2,Error ellipse: s-maj=146.6km s-min=39.2km az=92.0*

ISC 28 12:26:13.6±1.9,52.7°N±0.1°×169.33°W±0.10°,h10km±11km, n22,σ1§87/27,mb3.5/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIKH	**Nikolski High**	**0.38**	**49**	P		**Pg**	**12 26 21.9**	**+0.8**
NIKH				S		**Sb**	**12 26 38.9**	**+0.5**
OKSO	**Okmok South**	**0.95**	**48**	P		**Pg**	**12 26 31.8**	**-0.1**
OKSO				S		**Sb**	**12 26 45.5**	**+0.8**
OKWR	**Okmok West Rim**	**0.98**	**43**	P		**Pb**	**12 26 33.3**	**+0.6**
OKCE	**Okmok Cone E**	**0.99**	**45**	P		**Pb**	**12 26 33.3**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**1.02**	**49**	P		**Pb**	**12 26 33.4**	**+0.1**
OKAK	**Okmok**	**1.04**	**34**	P		**Pg**	**12 26 31.3**	**-2.2**
OKRE	**Okmok R'deer P**	**1.06**	**41**	P		**Pg**	**12 26 34.0**	**0.0**
OKFG	**Magazine Ridge**	**1.10**	**51**	P		**Pg**	**12 26 33.5**	**-1.1**
OKFG				S		**Sb**	**12 26 49.5**	**+0.6**
MCIR	**Makushin Cirqu**	**1.91**	**49**	P		**Pn**	**12 26 46.4**	**+0.2**
MSW	**Makushin Switc**	**1.94**	**51**	P		**Pn**	**12 26 46.0**	**-0.6**
MSW				S		**Sn**	**12 27 10.9**	**0.0**
MTBL	**Makushin Table**	**2.02**	**51**	P		**Pn**	**12 26 47.5**	**-0.2**
UNV	**Unalaska Valle**	**2.04**	**55**	P		**Pn**	**12 26 46.5**	**-1.3**
UNV				S		**Sn**	**12 27 12.4**	**-0.9**
AKRB	**Akutan Reef Bi**	**2.41**	**53**	P		**Pn**	**12 26 53.5**	**+0.5**
AKGG	**Akutan Green G**	**2.48**	**52**	P		**Pn**	**12 26 54.5**	**+0.5**
AKUT	**Akutan**	**2.55**	**55**	*e*Pn		**Pn**	**12 26 55.1**	**+0.1**
ATKA	**Atka Island**	**3.02**	**262**	P		**Pn**	**12 27 01.9**	**+0.5**
SPIA	**Saint Paul Isl**	**4.49**	**354**	P		**Pn**	**12 27 22.9**	**+1.3**
KDAK	**Kodiak Island**	**10.80**	**55**	Pn		**Pn**	**12 28 47.7**	**-0.4**
	0.2nm,0.3s,baz=216,slow=14,SNR=1.9							
ILAR	**Eielson Array**	**16.64**	**35**	Pn		**Pn**	**12 30 06.0**	**-0.6**
	0.1nm,0.3s,baz=228,slow=11,SNR=5.5							
NVAR	**Mina Array Bea**	**37.65**	**91**	P		**P**	**12 33 30.3**	**+1.4**
	0.3nm,0.8s,baz=307,slow=8.9,SNR=2.8							
PDAR	**Pinedale Array**	**40.31**	**80**	P		**P**	**12 33 50.6**	**-0.5**
	0.6nm,0.6s,baz=316,slow=4.1,SNR=4.0							
TXAR	**Lajitas Array**	**52.72**	**89**	P		**P**	**12 35 27.8**	**-0.6**
	0.8nm,0.7s,baz=316,slow=5.2,SNR=10							

*IDC **28** 12:27:53.4±6.7,52.75°N×169.03°W,h0km,mb3.6/3, mb1 3.9/5,mb1mx3.4/59,mbtmp3.5/5,ML3.4/2,Error ellipse: s-maj=122.6km s-min=43.8km az=93.0*
*NEIC **28** 12:27:53.9,52.75°N×169.35°W,h6km,ML3.4(AEIC),After AEIC.*

ISC 28 12:27:53.6±1.2,52.8N±0.1°×169.46W±0.08,h10km,n21, σ1§25/25,mb3.5/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIKH	**Nikolski High**	**0.40**	**69**	P		**Pg**	**12 28 01.9**	**+0.5**
NIKH				S		**Sb**	**12 28 09.2**	**+0.4**
OKSO	**Okmok South**	**0.94**	**56**	P		**Pg**	**12 28 11.7**	**-0.1**
OKSO				S		**Sb**	**12 28 25.5**	**+0.9**
OKWR	**Okmok West Rim**	**0.97**	**51**	P		**Pb**	**12 28 13.3**	**+0.7**
OKCE	**Okmok Cone E**	**0.98**	**52**	P		**Pg**	**12 28 12.4**	**-0.1**
OKAK	**Okmok**	**1.00**	**41**	P		**Pg**	**12 28 11.5**	**-1.4**
OKTU	**Okmok Mt. Tuli**	**1.02**	**57**	P		**Pg**	**12 28 13.2**	**-0.1**
OKFG	**Magazine Ridge**	**1.10**	**58**	P		**Pb**	**12 28 13.9**	**-0.8**
OKFG				S		**Sg**	**12 28 29.1**	**+0.1**
MCIR	**Makushin Cirqu**	**1.90**	**53**	P		**Pn**	**12 28 26.9**	**+0.7**
MSW	**Makushin Switc**	**1.94**	**55**	P		**Pn**	**12 28 27.6**	**+1.0**
MTBL	**Makushin Table**	**2.02**	**55**	P		**Pn**	**12 28 28.9**	**+1.1**
UNV	**Unalaska Valle**	**2.04**	**59**	P		**Pn**	**12 28 28.5**	**+0.5**
UNV				S		**Sb**	**12 28 55.7**	**-0.6**
ZRO	**Akutan Zero**	**2.43**	**57**	P		**Pn**	**12 28 34.4**	**+1.0**
AKGG	**Akutan Green G**	**2.48**	**55**	P		**Pn**	**12 28 35.8**	**+1.7**
AKUT	**Akutan**	**2.56**	**58**	P		**Pn**	**12 28 36.2**	**+1.1**
ATKA	**Atka Island**	**2.96**	**260**	P		**Pn**	**12 28 43.1**	**+2.5**
SPIA	**Saint Paul Isl**	**4.38**	**354**	P		**Pn**	**12 29 03.1**	**+3.1**
KDAK	**Kodiak Island**	**10.81**	**56**	Pn		**Pn**	**12 30 30.0**	**+1.7**
	0.3nm,0.3s,baz=182,slow=17,SNR=2.7							
ILAR	**Eielson Array**	**16.60**	**35**	Pn		**Pn**	**12 31 44.6**	**-1.5**
	0.1nm,0.3s,baz=226,slow=11,SNR=6.8							
YKA	**Yellowknife Ar**	**29.98**	**49**	P		**P**	**12 34 00.9**	**-0.9**
	0.4nm,0.6s,baz=274,slow=7.0,SNR=2.8							
PDAR	**Pinedale Array**	**40.37**	**80**	P		**P**	**12 35 31.4**	**-0.3**
	0.6nm,0.5s,baz=330,slow=4.6,SNR=3.6							
TXAR	**Lajitas Array**	**52.80**	**89**	P		**P**	**12 37 08.3**	**-0.7**
	0.6nm,0.5s,baz=316,slow=5.2,SNR=7.3							

*ISCJB **28** 12:35:18.9±0.3,52.66°N±0.05°×169.42W±0.05,h10km, mb4.2/33,MS3.4/1,Error ellipse: s-maj=7.9km*
s-min=3.1km az=155.2
*IDC **28** 12:35:18.3±0.7,52.58N×169.55W,h0km,mb4.0/17, mb1 4.2/20,mb1mx4.0/54,mbtmp4.0/20,ML3.6/3,MS3.4/1, Ms1 3.4/1,ms1mx2.9/42,Error ellipse: s-maj=22.3km s-min=12.0km az=179.0*
*NEIC **28** 12:35:20.2,52.69N×169.37W,h6km,mb4.3/21, ML4.1(AEIC),After AEIC.*

ISC 28 12:35:20.1±0.6,52.69N±0.09°×169.34W±0.05,h10km,n88, σ1§15/85,mb4.2/33,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIKH	**Nikolski High**	**0.41**	**46**	P		**Pb**	**12 35 29.3**	**-0.1**
NIKH				S		**Sb**	**12 35 35.8**	**+0.1**
OKSO	**Okmok South**	**0.98**	**46**	P		**Pg**	**12 35 38.4**	**-0.5**
OKSO				S		**Sb**	**12 35 53.0**	**+0.8**
OKWR	**Okmok West Rim**	**1.01**	**42**	P		**Pn**	**12 35 40.5**	**0.0**
OKCE	**Okmok Cone E**	**1.03**	**43**	P		**Pg**	**12 35 39.6**	**-0.2**
OKTU	**Okmok Mt. Tuli**	**1.05**	**48**	P		**Pg**	**12 35 40.5**	**+0.3**
OKFG	**Magazine Ridge**	**1.13**	**49**	P		**Pb**	**12 35 41.0**	**-0.6**
OKFG				S		**Sg**	**12 35 56.8**	**+0.5**
MSOM	**Makushin Julie**	**1.83**	**51**	P		**Pn**	**12 35 51.1**	**-0.5**
MCIR	**Makushin Cirqu**	**1.94**	**48**	P		**Pn**	**12 35 54.4**	**+1.2**
MSW	**Makushin Switc**	**1.97**	**50**	P		**Pn**	**12 35 53.6**	**+0.1**
MTBL	**Makushin Table**	**2.05**	**50**	P		**Pn**	**12 35 54.9**	**+0.3**
UNV	**Unalaska Valle**	**2.06**	**55**	P		**Pn**	**12 35 54.4**	**-0.4**
UNV				S		**Sn**	**12 36 20.8**	**+0.3**
AKRB	**Akutan Reef Bi**	**2.43**	**52**	P		**Pn**	**12 36 00.7**	**+0.9**
ZRO	**Akutan Zero**	**2.46**	**54**	P		**Pn**	**12 36 01.4**	**+1.2**
AKGG	**Akutan Green G**	**2.51**	**52**	P		**Pn**	**12 36 01.8**	**+0.9**
AKUT	**Akutan**	**2.58**	**54**	P		**Pn**	**12 36 02.9**	**+1.1**
ATKA	**Atka Island**	**3.01**	**263**	P		**Pn**	**12 36 08.0**	**+0.3**
WESP	**Westdahl Peak**	**3.29**	**55**	P		**Pn**	**12 36 13.9**	**+2.1**
WEBT	**Westdahl Beart**	**3.33**	**53**	P		**Pn**	**12 36 14.0**	**+1.8**
FALS	**False Pass**	**4.13**	**56**	*e*Pn		**Pn**	**12 36 25.8**	**+2.6**
GSTR	**Great Sitkin T**	**4.16**	**264**	*e*Pn		**Pn**	**12 36 23.8**	**+0.3**
GSTR				*e*Sn		**Sn**	**12 37 13.5**	**+1.3**
GSCK	**Great Sitkin C**	**4.24**	**264**	P		**Pn**	**12 36 25.0**	**+0.4**
ADAG	**Mount Adagdak**	**4.51**	**264**	P		**Pn**	**12 36 29.6**	**+1.2**
SPIA	**Saint Paul Isl**	**4.53**	**354**	P		**Pn**	**12 36 30.3**	**+1.6**
DTNA	**Dutton South F**	**4.86**	**57**	P		**Pn**	**12 36 35.5**	**+2.2**
SDPT	**Sand Point**	**5.87**	**59**	*e*Pn		**Pn**	**12 36 49.1**	**+2.1**
	65nm,0.7s							
AMKA	**Amchitka**	**7.13**	**264**	*e*Pn		**Pn**	**12 37 07.0**	**+2.6**
	85nm,0.6s							
CHGN	**Chignik**	**7.32**	**56**	*e*Pn		**Pn**	**12 37 07.5**	**+0.6**
OHAK	**Old Harbor**	**10.28**	**57**	*e*Pn		**Pn**	**12 37 47.9**	**+0.4**
	7.6nm,0.8s							
KDAK	**Kodiak Island**	**10.83**	**55**	Pn		Pn	12 38 00.3	+5.3
	0.9nm,0.3s,baz=313,slow=9.0,SNR=6.3							
SEW	**Seward**	**13.24**	**48**	*e*Pn		**Pn**	**12 38 28.4**	**+0.5**
	10nm,0.8s							
PPLA	**Purkeypile**	**13.67**	**35**	*e*Pn		**P**	**12 38 39.8**	**-3.0**
	48nm,1.5s							
SML	**Sawmill**	**14.52**	**43**	*e*Pn		**Pn**	**12 38 45.2**	**-0.2**
	1.7nm,0.8s							
TRF	**Thorofare Moun**	**14.69**	**35**	Pn		**Pn**	**12 38 49.4**	**+1.5**
	6.2nm,0.8s							
BPAW	**Bear Paw Mtn.**	**14.87**	**33**	*e*P		**Pn**	**12 38 51.1**	**+0.9**
	3.6nm,0.7s							
BMRM	**Bremner River**	**15.79**	**49**	*e*Pn		**Pn**	**12 39 00.9**	**-1.4**
	9.8nm,1.0s							
PAX	**Paxson**	**16.25**	**41**	*e*Pn		**Pn**	**12 39 08.5**	**+0.3**
	2.7nm,0.7s							
COLA	**College**	**16.41**	**34**	*e*Pn		**Pn**	**12 39 10.7**	**+0.5**
	8.8nm,0.9s							
ILAR	**Eielson Array**	**16.68**	**35**	Pn		**Pn**	**12 39 13.2**	**-0.5**
	0.1nm,0.3s,baz=228,slow=11,SNR=16							
MENT	**Mentasta**	**16.95**	**43**	*e*Pn		**Pn**	**12 39 17.9**	**+0.8**
EGAK	**Eagle**	**18.78**	**39**	*e*P		**P**	**12 39 38.4**	**-0.7**
	2.8nm,0.5s							
HYT	**Haines Junctio**	**19.09**	**52**	*e*P		**Pn**	**12 39 44.4**	**+0.9**
	20nm,0.7s							
DAWY	**Dawson**	**19.18**	**42**	*e*P		**P**	**12 39 42.9**	**-0.7**
	6.3nm,1.0s							
PETK	**Petropavlovsk-**	**19.80**	**284**	P		**P**	**12 39 50.7**	**+0.3**
	0.2nm,0.3s,baz=94,slow=12,SNR=4.1							
SKAG	**Skagway**	**19.98**	**57**	*e*P		**Pn**	**12 39 54.2**	**+0.2**
	28nm,0.9s							
H02S1	**DAWSON INLET T**	**22.07**	**74**	T		T	13 03 05.9	
	SNR=7.0							
SEY	**Seymchan**	**22.47**	**312**	P		**P**	**12 40 19.2**	**+0.1**
	2.4nm,0.9s,baz=117,slow=9.4,SNR=13							
SEY				PcP		**PcP**	**12 44 12.7**	**-0.1**
	0.9nm,0.6s,baz=107,slow=5.4,SNR=7.0							
DLBC	**Dease Lake**	**22.71**	**60**	P		**P**	**12 40 24.4**	**+2.6**
	5.2nm,1.0s,baz=261,slow=11,SNR=8.3							
INK	**Inuvik**	**23.07**	**34**	P		**P**	**12 40 22.9**	**-2.4**
	2.5nm,0.6s,baz=270,slow=11,SNR=6.6							
YKA	**Yellowknife Ar**	**30.02**	**49**	P		**P**	**12 41 29.6**	**+1.0**
	0.5nm,0.6s,baz=272,slow=7.6,SNR=6.9							
NEW	**Newport**	**32.92**	**76**	P		**P**	**12 41 55.0**	**+0.7**
	3.4nm,0.7s,baz=298,slow=8.2,SNR=8.8							
EDM	**Edmonton**	**33.00**	**66**	*e*P		**P**	**12 41 55.6**	**+0.6**
	4.0nm,0.6s							
BSMT	**Bassoo Peak**	**34.49**	**76**	*e*P		**P**	**12 42 09.1**	**+0.8**
	2.2nm,0.7s							
WVOR	**Wild Horse Val**	**35.04**	**86**	*e*P		**P**	**12 42 14.7**	**+1.8**
	8.7nm,1.2s							
MCMT	**McKenzie Canyo**	**37.20**	**79**	*e*P		**P**	**12 42 31.9**	**+0.4**
	1.4nm,0.6s							
NVAR	**Mina Array Bea**	**37.65**	**91**	P		**P**	**12 42 36.9**	**+1.5**
	1.3nm,0.8s,baz=300,slow=8.1,SNR=10							
NVAR				PcP		**PcP**	**12 44 52.3**	**-0.4**
	0.8nm,0.7s,baz=311,slow=1.9,SNR=5.2							
H11N2	**WAKE ISLAND Hy**	**37.71**	**218**	T		T	13 22 34.0	
	baz=24,slow=76,SNR=41							
H11N3	**WAKE ISLAND Hy**	**37.72**	**218**	T		T	13 22 34.5	
	baz=24,slow=76,SNR=32							
H11N1	**WAKE ISLAND Hy**	**37.73**	**218**	T		T	13 22 35.4	
	baz=24,slow=76,SNR=41							
ELK	**Elko**	**38.09**	**86**	*e*P		**P**	**12 42 40.4**	**+1.3**
	4.1nm,1.0s							
H11S1	**WAKE ISLAND Hy**	**38.90**	**218**	T		T	13 24 03.4	
	baz=23,slow=76,SNR=153							
H11S2	**WAKE ISLAND Hy**	**38.92**	**218**	T		T	13 24 04.5	
	baz=23,slow=76,SNR=448							
H11S3	**WAKE ISLAND Hy**	**38.92**	**218**	T		T	13 24 03.5	
	baz=23,slow=76,SNR=139							
MJAR	**Matsushiro Arr**	**39.73**	**267**	LR		LR	12 57 02.5	
	comp=Z,60nm,21.9s,baz=20,slow=33							
DUG	**Dugway**	**39.90**	**85**	*e*P		**P**	**12 42 54.9**	**+0.8**
	8.4nm,1.2s							
PDAR	**Pinedale Array**	**40.33**	**80**	P		**P**	**12 42 58.4**	**+0.7**
	2.9nm,0.7s,baz=326,slow=4.9,SNR=13							
GSC	**Goldstone**	**40.60**	**94**	*e*P		**P**	**12 43 01.2**	**+1.3**
	2.8nm,0.8s							
LDFC	**Landfair**	**41.78**	**93**	*e*P		**P**	**12 43 10.6**	**+0.9**
	8.0nm,0.9s							
O20A	**White River Ci**	**42.70**	**82**	*e*P		**P**	**12 43 17.4**	**+0.3**
	7.3nm,0.8s							
PV01	**Paradox Valley**	**43.76**	**84**	*e*P		**P**	**12 43 26.1**	**+0.3**
	288nm,0.7s							
WUAZ	**Wupatki**	**43.76**	**89**	*e*P		**P**	**12 43 27.2**	**+1.5**
	4.7nm,0.8s							
TUC	**Tucson**	**46.30**	**92**	*e*P		**P**	**12 43 46.5**	**+0.7**
	3.4nm,0.9s							
LAZ	**Ladron**	**47.08**	**87**	*e*P		**P**	**12 43 53.4**	**+1.3**
	4.2nm,1.2s							
121A	**Cookes Peak, D**	**47.97**	**89**	*e*P		**P**	**12 43 59.8**	**+0.8**
	5.8nm,1.1s							
SONM	**Songino Array**	**51.15**	**301**	P		**P**	**12 44 24.1**	**+1.1**
	0.4nm,0.5s,baz=93,slow=5.8,SNR=2.9							
SONM				PcP		**PcP**	**12 45 38.2**	**-0.3**
	3.6nm,0.9s,baz=76,slow=2.8,SNR=12							
TXAR	**Lajitas Array**	**52.73**	**89**	P		**P**	**12 44 35.4**	**+0.5**
	4.8nm,0.7s,baz=305,slow=4.4,SNR=49							
MIAR	**Mount Ida**	**55.15**	**77**	*e*P		**P**	**12 44 52.2**	**-0.3**
	5.5nm,1.0s							
H06N1	**SOCORRO T-PHAS**	**56.13**	**104**	T		T	13 45 41.6	
	SNR=33							
H06S1	**SOCORRO T**	**56.24**	**104**	T		T	13 44 31.5	
	SNR=8.9							
ZALV	**Zalesovo Beam**	**57.20**	**317**	P		**P**	**12 45 06.6**	**-0.2**
	0.2nm,0.3s,baz=52,slow=9.3,SNR=2.2							
KURK	**Kurchatov**	**62.15**	**318**	P		**P**	**12 45 42.1**	**+1.2**
KURBB	**Kurchatov Arra**	**62.25**	**318**	P		**P**	**12 45 42.1**	**+0.5**
	1.0nm,0.7s,baz=45,slow=7.2,SNR=5.4							
MKAR	**Makanchi Array**	**63.60**	**313**	P		**P**	**12 45 50.4**	**-0.3**
	0.2nm,0.5s,baz=51,slow=8.3,SNR=2.1							
FINES	**FINESS Array B**	**65.56**	**352**	P		**P**	**12 46 02.2**	**-1.0**
	1.6nm,0.9s,baz=228,slow=20,SNR=3.5							
AKTO	**Aktyubinsk**	**69.74**	**330**	P		**P**	**12 46 28.9**	**-1.0**
	1.2nm,0.6s,baz=16,slow=6.7,SNR=5.6							
CMAR	**Chiang Mai Arr**	**76.56**	**283**	P		**P**	**12 47 08.2**	**-2.4**
	0.4nm,0.4s,baz=35,slow=5.3,SNR=3.5							
ESDC	**Sonseca Array**	**87.14**	**11**	P		**P**	**12 48 05.7**	**-0.4**
	0.4nm,0.6s,baz=349,slow=4.4,SNR=4.2							
WRA	**Warramunga Arr**	**87.22**	**232**	P		**P**	**12 48 05.2**	**-1.3**
	1.2nm,0.7s,baz=38,slow=5.7,SNR=8.7							
ASAR	**Alice Springs**	**90.61**	**230**	P		**P**	**12 48 22.1**	**-0.3**
	2.9nm,0.7s,baz=33,slow=4.6,SNR=19							

IDC 28 12:39:53.2±2.0,54.22N×85.91E,h0km,mb1 3.5/3, mb1mx3.2/48,mbtmp3.5/3,ML3.3/3,2C-2D,Error ellipse: s-maj=16.3km s-min=10.3km az=58.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.70**	**248**	*i*			12 44 30.0	
	baz=66,slow=324,SNR=3.0							
ZALV	**Zalesovo Beam**	**0.70**	**248**	Pg		Pg	12 40 04.8	-1.8
	3.3nm,0.3s,baz=107,slow=7.0,SNR=6.0							
ZALV				Lg		Lg	12 40 17.1	
	10nm,0.3s,baz=65,slow=28,SNR=12							
ZALV				Rg		Rg	12 40 24.1	
	198nm,1.2s,baz=64,slow=27,SNR=9.3							
KURBB	**Kurchatov Arra**	**5.77**	**234**	⇓Pn		Pn	12 41 21.6	+1.5
	4.8nm,0.7s							
KURBB				⇑Lg		Lg	12 43 02.0	
	6.9nm,0.6s							
KURBB	**Kurchatov Arra**	**5.77**	**234**	Pn		Pn	12 41 20.5	+0.4
	0.4nm,0.3s,baz=52,slow=13,SNR=20							
KURBB				Lg		Lg	12 42 54.7	
	0.1nm,0.3s,baz=140,slow=34,SNR=1.7							
MK31	**Makanchi Array**	**7.78**	**199**	⇓Pn		Pn	12 41 48.3	+0.7
	1.5nm,0.5s,baz=25,slow=12,SNR=16							
MK31				⇑Sn		Sn	12 43 17.5	+1.1
	0.8nm,0.6s							
MK31				Lg		Lg	12 43 59.5	
	3.3nm,0.9s,baz=20,slow=30,SNR=6.3							
MKAR	**Makanchi Array**	**7.78**	**199**	Pn		Pn	12 41 48.5	+0.8
	0.9nm,0.3s,baz=24,slow=13,SNR=14							
MKAR				Lg		Lg	12 43 59.1	
	0.1nm,0.3s,baz=23,slow=28,SNR=8.1							
BVAR	**Borovoye Array**	**9.30**	**269**	Pn		Pn	12 42 09.0	+0.5
	0.3nm,0.3s,baz=78,slow=16,SNR=3.6							

IDC 28 12:41:13.9±11.0,5.79S×149.92E,h118km±103km, mb3.4/6,mb1 3.5/6,mb1mx3.3/32,mbtmp3.8/6,Error ellipse: s-maj=71.7km s-min=29.6km az=100.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.67**	**226**	P		P	12 45 44.0	-0.7
	0.9nm,0.4s,baz=48,slow=11,SNR=22							
WRA				pP		pP	12 46 12.4	+5.9
	0.8n

NIKH				S	**Sb**	**12 46 08.4**	**+0.8**
OKSO	**Okmok South**	**0.90**	**57**	P	**Pg**	**12 46 11.5**	**0.0**
OKSO				S	**Sb**	**12 46 25.1**	**+1.9**
OKWR	**Okmok West Rim**	**0.92**	**52**	P	**Pb**	**12 46 12.9**	**+1.1**
OKAK	**Okmok**	**0.95**	**42**	P	**Pg**	**12 46 10.5**	**-1.9**
OKTU	**Okmok Mt. Tuli**	**0.97**	**58**	P	**Pg**	**12 46 13.0**	**+0.2**
OKRE	**Okmok R'deer P**	**0.99**	**49**	P	**Pb**	**12 46 14.2**	**+1.2**
OKFG	**Magazine Ridge**	**1.05**	**59**	P	**Pg**	**12 46 13.4**	**-1.0**
OKFG				S	**Sb**	**12 46 29.1**	**+1.4**
MGOD	**Makushin Gods**	**1.78**	**58**	S	**Pn**	**12 46 24.6**	**+0.2**
MSW	**Makushin Switc**	**1.89**	**56**	P	**Pn**	**12 46 26.8**	**+0.9**
MSW				S	**Sb**	**12 46 52.2**	**+0.5**
UNV	**Unalaska Valle**	**2.00**	**60**	P	**Pn**	**12 46 28.9**	**+1.6**
UNV				S	**Sn**	**12 46 52.2**	**+0.1**
ATKA	**Atka Island**	**2.99**	**259**	P	**Pn**	**12 46 42.8**	**+1.8**
FALS	**False Pass**	**4.07**	**59**	*e*Pn	**Pn**	**12 46 58.8**	**+3.0**
AMKA	**Amchitka**	**7.11**	**262**	*e*Pn	**Pn**	**12 47 38.0**	**+0.5**
	25nm,0.6s						
KDAK	**Kodiak Island**	**10.76**	**56**	Pn	**Pn**	**12 48 27.2**	**-0.3**
	0.5nm,0.3s,baz=297,slow=2.3,SNR=2.7						
ILAR	**Eielson Array**	**16.55**	**35**	Pn	**Pn**	**12 49 43.8**	**-1.5**
	0.2nm,0.3s,baz=226,slow=11,SNR=12						
PETK	**Petropavlovsk-**	**19.70**	**284**	P	**P**	**12 50 22.0**	**-0.6**
	0.3nm,0.3s,baz=90,slow=13,SNR=5.0						
SEY	**Seymchan**	**22.30**	**312**	P	**P**	**12 50 50.5**	**-0.1**
	1.8nm,0.9s,baz=101,slow=9.1,SNR=7.7						
DLBC	**Dease Lake**	**22.65**	**60**	P	**P**	**12 50 56.0**	**+1.5**
	12nm,1.0s,baz=277,slow=8.7,SNR=7.6						
INK	**Inuvik**	**22.94**	**34**	P	**P**	**12 50 55.1**	**-2.1**
	3.0nm,0.7s,baz=225,slow=13,SNR=3.8						
YKA	**Yellowknife Ar**	**29.93**	**50**	P	P	12 51 59.2	-1.9
	0.8nm,0.6s,baz=272,slow=8.1,SNR=6.5						
NVAR	**Mina Array Bea**	**37.71**	**92**	P	P	12 53 06.0	-3.1
	0.9nm,0.7s,baz=310,slow=8.5,SNR=7.4						
H11N2	**WAKE ISLAND Hy**	**37.84**	**218**	T	T	13 33 08.7	
H11N3	**WAKE ISLAND Hy**	**37.84**	**218**	T	T	13 33 08.7	
H11N1	**WAKE ISLAND Hy**	**37.85**	**218**	T	T	13 33 08.7	
H11S1	**WAKE ISLAND Hy**	**39.03**	**218**	T	T	13 34 36.7	
	baz=23,slow=76,SNR=88						
H11S2	**WAKE ISLAND Hy**	**39.04**	**218**	T	T	13 34 37.5	
	baz=23,slow=76,SNR=34						
H11S3	**WAKE ISLAND Hy**	**39.05**	**218**	T	T	13 34 39.2	
	baz=23,slow=76,SNR=30						
PDAR	**Pinedale Array**	**40.34**	**80**	P	**P**	**12 53 30.1**	**-1.1**
	1.5nm,0.7s,baz=329,slow=5.4,SNR=10						
JCJ	**Chichijima**	**44.02**	**254**	LR	LR	13 12 02.7	
	comp=Z,33nm,20.5s,baz=335,slow=36						
TXAR	**Lajitas Array**	**52.77**	**89**	P	**P**	**12 55 07.3**	**-1.3**
	2.1nm,0.7s,baz=299,slow=5.2,SNR=17						
H06N1	**SOCORRO T-PHAS**	**56.22**	**104**	T	T	13 56 17.7	
	SNR=29						
WRA	**Warramunga Arr**	**87.30**	**232**	P	P	12 58 36.6	-3.6
	0.8nm,0.9s,baz=36,slow=5.7,SNR=5.4						
ASAR	**Alice Springs**	**90.70**	**230**	P	P	12 58 53.5	-2.6
	1.3nm,0.8s,baz=42,slow=4.7,SNR=11						

*ISCJB **28** 12:49:26.9±1.7,52.˚5N±0.˚1×169.˚3W±0.˚1,h26km±11km, mb3.4/4,Error ellipse: s-maj=22.9km s-min=8.2km az=152.6*
*NEIC **28** 12:49:26.8,52.˚60N×169.˚30W,h6km,ML3.3(AEIC),After AEIC.*
*IDC **28** 12:49:33.3±2.4,52.˚62N×167.˚39W,h0km,mb3.5/4, mb1 3.7/6,mb1mx3.4/48,mbtmp3.4/6,ML3.3/2,Error ellipse: s-maj=46.2km s-min=29.8km az=16.0*

ISC 28 12:49:27.5±1.9,52.˚6N±0.˚1×169.˚29W±0.˚08,h13km±12km, n23,σ0°90/26,mb3.4/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.42**	**39**	P		**Pg**		**12 49 36.6**	**+0.7**
NIKH				S		**Sb**		**12 49 44.1**	**+1.0**
OKSP	**Okmok Steeple**	**0.86**	**44**	P		**Pg**		**12 49 44.5**	**+0.4**
OKSP				S		**Sb**		**12 49 56.5**	**+0.7**
OKSO	**Okmok South**	**0.99**	**43**	P		**Pg**		**12 49 46.5**	**-0.1**
OKSO				S		**Sb**		**12 50 00.6**	**+1.1**
OKWR	**Okmok West Rim**	**1.03**	**39**	P		**Pb**		**12 49 47.9**	**+0.6**
OKCE	**Okmok Cone E**	**1.04**	**40**	P		**Pg**		**12 49 46.9**	**-0.6**
OKTU	**Okmok Mt. Tuli**	**1.06**	**45**	P		**Pg**		**12 49 47.6**	**-0.2**
OKAK	**Okmok**	**1.09**	**31**	P		**Pg**		**12 49 46.1**	**-2.4**
OKRE	**Okmok R'deer P**	**1.11**	**37**	P		**Pb**		**12 49 49.1**	**+0.5**
OKFG	**Magazine Ridge**	**1.13**	**47**	P		**Pg**		**12 49 48.2**	**-1.1**
OKFG				S		**Sg**		**12 50 03.9**	**-0.2**
MSOM	**Makushin Julie**	**1.83**	**49**	P		**Pn**		**12 49 58.5**	**-0.1**
MTBL	**Makushin Table**	**2.06**	**49**	P		**Pn**		**12 50 02.6**	**+0.9**
UNV	**Unalaska Valle**	**2.06**	**53**	P		**Pn**		**12 50 01.4**	**-0.4**
UNV				S		**Sb**		**12 50 30.2**	**-0.1**
ZRO	**Akutan Zero**	**2.46**	**53**	P		**Pn**		**12 50 08.3**	**+1.0**
AKUT	**Akutan**	**2.58**	**53**	P		**Pn**		**12 50 09.8**	**+0.8**
ATKA	**Atka Island**	**3.03**	**264**	P		**Pn**		**12 50 15.4**	**+0.2**
GSTR	**Great Sitkin T**	**4.18**	**265**	P		**Pn**		**12 50 31.7**	**+0.7**
SPIA	**Saint Paul Isl**	**4.58**	**353**	P		**Pn**		**12 50 37.1**	**+0.8**
KDAK	**Kodiak Island**	**10.83**	**55**	Pn		**Pn**		**12 52 01.6**	**-0.4**
	0.2nm,0.3s,baz=221,slow=11,SNR=1.7								
ILAR	**Eielson Array**	**16.70**	**35**	Pn		**Pn**		**12 53 19.5**	**-1.4**
	0.1nm,0.3s,baz=235,slow=11,SNR=2.7								
SEY	**Seymchan**	**22.52**	**312**	P		P		12 54 43.4	+17
	0.9nm,0.6s,baz=164,slow=22,SNR=3.8								
YKA	**Yellowknife Ar**	**30.03**	**49**	P		**P**		**12 55 35.0**	**-0.6**
	0.3nm,0.7s,baz=274,slow=7.3,SNR=2.1								
PDAR	**Pinedale Array**	**40.31**	**79**	P		P		12 57 01.6	-2.9
	0.5nm,0.7s,baz=335,slow=6.7,SNR=4.4								
TXAR	**Lajitas Array**	**52.70**	**89**	P		**P**		**12 58 41.8**	**+0.1**
	0.6nm,0.6s,baz=305,slow=4.4,SNR=5.2								

*IDC **28** 12:54:52.4±1.3,52.˚95N×170.˚09W,h0km,mb3.7/6, mb1 4.0/7,mb1mx3.6/47,mbtmp3.7/7,ML3.6/1,MS3.7/1, Ms1 3.7/1,ms1mx2.8/36,Error ellipse: s-maj=67.7km s-min=21.4km az=152.0*
*NEIC **28** 12:54:56.9,52.˚53N×169.˚19W,h14km,ML3.3(AEIC),After AEIC.*
*ISCJB **28** 12:54:57.5±1.2,52.˚6N±0.˚1×169.˚4W±0.˚1,h29km±7km, mb3.6/6,MS3.7/1,Error ellipse: s-maj=20.3km s-min=8.1km az=146.9*

ISC 28 12:54:58.0±1.9,52.˚6N±0.˚1×169.˚30W±0.˚08,h18km±11km, n32,σ1°05/28,mb3.6/6,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.43**	**39**	P		**Pg**		**12 55 06.7**	**0.0**
NIKH				S		**Sb**		**12 55 14.1**	**+1.0**
OKSP	**Okmok Steeple**	**0.86**	**45**	P		**Pb**		**12 55 14.0**	**-0.4**
OKSP				S		**Sb**		**12 55 26.7**	**+1.1**
OKSO	**Okmok South**	**0.99**	**44**	P		**Pb**		**12 55 16.0**	**-0.6**
OKSO				S		**Sb**		**12 55 30.2**	**+0.9**
OKWE	**Okmok W'ng Wal**	**1.05**	**37**	P		**Pb**		**12 55 17.6**	**0.0**
OKTU	**Okmok Mt. Tuli**	**1.06**	**45**	P		**Pb**		**12 55 17.5**	**-0.3**
OKAK	**Okmok**	**1.09**	**31**	P		**Pn**		**12 55 16.4**	**-2.0**
OKRE	**Okmok R'deer P**	**1.11**	**38**	P		**Pn**		**12 55 18.8**	**+0.1**
OKFG	**Magazine Ridge**	**1.14**	**47**	P		**Pn**		**12 55 18.1**	**-0.9**
OKFG				S		**Sb**		**12 55 34.0**	**+0.6**
MSOM	**Makushin Julie**	**1.84**	**49**	P		**Pn**		**12 55 27.7**	**-0.9**
MCIR	**Makushin Cirqu**	**1.95**	**47**	P		**Pn**		**12 55 30.1**	**-0.1**
UNV	**Unalaska Valle**	**2.07**	**53**	P		**Pn**		**12 55 30.6**	**-1.1**
UNV				S		**Sn**		**12 55 57.2**	**+0.2**
AKRB	**Akutan Reef Bi**	**2.44**	**51**	P		**Pn**		**12 55 36.2**	**-0.7**
AKGG	**Akutan Green G**	**2.52**	**50**	P		**Pn**		**12 55 38.8**	**+0.8**
AKUT	**Akutan**	**2.59**	**53**	*e*Pn		**Pn**		**12 55 40.4**	**+1.5**
ATKA	**Atka Island**	**3.03**	**264**	P		**Pn**		**12 55 45.5**	**+0.5**
SPIA	**Saint Paul Isl**	**4.58**	**354**	P		**Pn**		**12 56 07.0**	**+0.9**
KDAK	**Kodiak Island**	**10.84**	**55**	Pn		**Pn**		**12 57 32.1**	**+0.2**
	0.4nm,0.3s,baz=282,slow=5.2,SNR=3.0								
ILAR	**Eielson Array**	**16.70**	**35**	Pn		**Pn**		**12 58 48.7**	**-2.0**
	0.1nm,0.3s,baz=233,slow=11,SNR=6.5								
YKA	**Yellowknife Ar**	**30.03**	**49**	P		**P**		**13 01 05.5**	**+0.2**
	0.2nm,0.5s,baz=274,slow=7.2,SNR=4.0								
NVAR	**Mina Array Bea**	**37.63**	**91**	P		**P**		**13 02 13.3**	**+1.5**
	0.4nm,0.7s,baz=190,slow=23,SNR=4.5								
H11N2	**WAKE ISLAND Hy**	**37.70**	**218**	T		T		13 42 12.2	
	baz=24,slow=76,SNR=10								
H11N3	**WAKE ISLAND Hy**	**37.70**	**218**	T		T		13 42 09.2	
	baz=24,slow=76,SNR=8.1								
H11N1	**WAKE ISLAND Hy**	**37.71**	**218**	T		T		13 42 04.9	
	baz=24,slow=76,SNR=9.0								
H11S1	**WAKE ISLAND Hy**	**38.88**	**218**	T		T		13 43 38.9	
	baz=23,slow=76,SNR=18								
H11S2	**WAKE ISLAND Hy**	**38.90**	**218**	T		T		13 43 40.4	
	baz=23,slow=76,SNR=24								
H11S3	**WAKE ISLAND Hy**	**38.90**	**218**	T		T		13 43 40.6	
	baz=23,slow=76,SNR=21								
PDAR	**Pinedale Array**	**40.31**	**79**	P		**P**		**13 02 34.5**	**+0.3**
	0.9nm,0.8s,baz=326,slow=5.7,SNR=8.3								
PFO	**Pinyon Flat Ob**	**41.93**	**95**	LR		LR		13 17 56.9	
	comp=Z,92nm,19.8s,baz=337,slow=33								
TXAR	**Lajitas Array**	**52.70**	**89**	P		**P**		**13 04 12.1**	**+0.7**
	1.3nm,0.6s,baz=305,slow=4.4,SNR=12								
H06N1	**SOCORRO T-PHAS**	**56.09**	**104**	T		T		14 05 20.9	
	SNR=4.7								
WRA	**Warramunga Arr**	**87.21**	**232**	P		P		13 07 37.9	-5.1
	0.6nm,1.1s,baz=36,slow=5.7,SNR=3.7								
ASAR	**Alice Springs**	**90.60**	**230**	P		**P**		**13 07 56.9**	**-2.1**
	0.4nm,0.8s,baz=27,slow=5.3,SNR=6.7								

*IDC **28** 13:12:53.5±1.3,52.˚93N×169.˚66W,h0km,mb3.6/5, mb1 3.8/7,mb1mx3.6/28,mbtmp3.5/7,ML3.4/2,Error ellipse: s-maj=49.3km s-min=21.7km az=144.0*
*NEIC **28** 13:12:57.0,52.˚65N×169.˚23W,h6km,ML3.4(AEIC),After AEIC.*
*ISCJB **28** 13:12:57.0±1.2,52.˚6N±0.˚1×169.˚3W±0.˚1,h27km±8km, mb3.8/6,Error ellipse: s-maj=20.2km s-min=6.3km az=151.5*

ISC 28 13:12:57.1±1.8,52.˚6N±0.˚1×169.˚17W±0.˚08,h15km±11km, n36,σ0°77/33,mb3.6/6,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.45**	**26**	P		**Pg**		**13 13 05.7**	**-0.4**
NIKH				S		**Sb**		**13 13 13.4**	**+0.3**
OKSP	**Okmok Steeple**	**0.86**	**38**	P		**Pb**		**13 13 13.5**	**-0.4**
OKSP				S		**Sg**		**13 13 26.1**	**+0.8**
OKSO	**Okmok South**	**1.00**	**38**	P		**Pb**		**13 13 15.5**	**-0.5**
OKSO				S		**Sb**		**13 13 29.3**	**+0.3**
OKWR	**Okmok West Rim**	**1.04**	**34**	P		**Pb**		**13 13 16.8**	**-0.1**
OKCE	**Okmok Cone E**	**1.05**	**35**	P		**Pb**		**13 13 15.9**	**-1.1**
OKTU	**Okmok Mt. Tuli**	**1.06**	**40**	P		**Pb**		**13 13 17.2**	**0.0**
OKAK	**Okmok**	**1.12**	**26**	P		Pn		13 13 14.8	-3.5
OKRE	**Okmok R'deer P**	**1.13**	**32**	P		**Pn**		**13 13 18.1**	**-0.3**
OKFG	**Magazine Ridge**	**1.13**	**42**	P		**Pn**		**13 13 17.4**	**-1.1**
OKFG				S		**Sn**		**13 13 33.4**	**-0.3**
MSOM	**Makushin Julie**	**1.83**	**46**	P		**Pn**		**13 13 27.5**	**-0.4**
MCIR	**Makushin Cirqu**	**1.94**	**44**	P		**Pn**		**13 13 30.7**	**+1.0**
MSW	**Makushin Switc**	**1.97**	**46**	P		**Pn**		**13 13 30.0**	**+0.1**
MTBL	**Makushin Table**	**2.05**	**46**	P		**Pn**		**13 13 31.2**	**+0.1**
UNV	**Unalaska Valle**	**2.05**	**51**	P		**Pn**		**13 13 30.7**	**-0.3**
UNV				S		**Sn**		**13 13 57.0**	**+0.7**
AKRB	**Akutan Reef Bi**	**2.43**	**49**	P		**Pn**		**13 13 37.1**	**+0.9**
ZRO	**Akutan Zero**	**2.45**	**50**	P		**Pn**		**13 13 37.6**	**+1.2**
AKGG	**Akutan Green G**	**2.51**	**48**	P		**Pn**		**13 13 38.2**	**+0.9**
AKUT	**Akutan**	**2.57**	**51**	*e*Pn		**Pn**		**13 13 39.1**	**+1.0**
ATKA	**Atka Island**	**3.10**	**265**	P		**Pn**		**13 13 46.1**	**+0.7**
GSTR	**Great Sitkin T**	**4.25**	**266**	*e*Pn		**Pn**		**13 14 01.2**	**-0.1**
SPIA	**Saint Paul Isl**	**4.66**	**353**	P		**Pn**		**13 14 06.8**	**+0.1**
AMKA	**Amchitka**	**7.22**	**265**	*e*Pn		**Pn**		**13 14 42.2**	**+0.2**
	20nm,0.6s								
KDAK	**Kodiak Island**	**10.81**	**55**	Pn		**Pn**		**13 15 31.0**	**-0.1**
	0.5nm,0.3s,baz=265,slow=10,SNR=3.5								
ILAR	**Eielson Array**	**16.71**	**34**	Pn		Pn		13 16 44.6	-5.8
	0.1nm,0.3s,baz=230,slow=10,SNR=4.5								
YKA	**Yellowknife Ar**	**30.02**	**49**	P		**P**		**13 19 04.2**	**-0.7**
	0.4nm,0.6s,baz=270,slow=8.0,SNR=4.2								
NVAR	**Mina Array Bea**	**37.55**	**91**	P		**P**		**13 20 11.8**	**+1.0**
	0.3nm,0.7s,baz=311,slow=8.2,SNR=2.7								
H11N2	**WAKE ISLAND Hy**	**37.69**	**219**	T		T		14 00 09.5	
	baz=24,slow=76,SNR=22								
H11N3	**WAKE ISLAND Hy**	**37.70**	**219**	T		T		14 00 10.1	
	baz=24,slow=76,SNR=30								
H11N1	**WAKE ISLAND Hy**	**37.71**	**219**	T		T		14 00 10.2	
	baz=24,slow=76,SNR=28								
H11S1	**WAKE ISLAND Hy**	**38.88**	**218**	T		T		14 01 38.8	
	baz=23,slow=76,SNR=448								
H11S2	**WAKE ISLAND Hy**	**38.89**	**218**	T		T		14 01 40.6	
	baz=23,slow=76,SNR=278								
H11S3	**WAKE ISLAND Hy**	**38.89**	**218**	T		T		14 01 39.1	
	baz=23,slow=76,SNR=298								
PDAR	**Pinedale Array**	**40.25**	**79**	P		**P**		**13 20 34.3**	**+1.0**
	0.6nm,0.5s,baz=319,slow=4.3,SNR=6.9								
TXAR	**Lajitas Array**	**52.62**	**89**	P		**P**		**13 22 11.1**	**+0.7**
	9.7nm,0.3s,baz=306,slow=6.2,SNR=17								
WRA	**Warramunga Arr**	**87.22**	**232**	P		**P**		**13 25 41.2**	**-1.5**
	0.4nm,0.9s,baz=34,slow=5.8,SNR=3.1								
ASAR	**Alice Springs**	**90.62**	**230**	P		**P**		**13 25 57.4**	**-1.3**
	0.6nm,0.8s,baz=33,slow=4.3,SNR=6.6								

GUC 28 13:18:37.7±0.5,35.˚32S×72.˚67W,h15km±3km,ML4.2,2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.81**	**187**	*i*	P	Pg		13 18 52.3	-1.2
COCH				*i*	S	Sg		13 19 03.3	-0.9
TALC	**Talca**	**0.85**	**95**	*i*	P	Pb		13 18 53.1	-1.0
TALC				*i*	S	Sb		13 19 04.3	-1.0
NICH	**Los Niches**	**1.22**	**75**	*i*	S	Sb		13 19 15.2	-0.9
CLCH	**Cerro Calan**	**2.61**	**43**	*e*	P	Pn		13 19 20.6	+1.2
CLCH				*e*	S	Sn		13 19 52.8	+1.9
CLCH				AML		AML		13 20 06.0	
	comp=N,1μm,0.7s								
PEL	**Peldehue**	**2.72**	**38**	*e*	P	Pn		13 19 22.3	+1.3
PEL				AML		AML		13 20 03.6	
	comp=N,1μm,0.4s								

*INMG **28** 13:20:20.6±0.7,32.˚46N×7.˚68W,h0km,ML2.5,Error ellipse: s-maj=10.1km s-min=6.0km az=85.0*

MDD 28 13:20:18.8±3.4,32.˚32N×7.˚57W,h0km,mb3.7/4,Error ellipse: s-maj=49.0km s-min=30.2km az=100.0,PRXIMO, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**5.06**	**350**	*e*Pn		Pn		13 21 34.8	-1.1
MORF	**Marmelete**	**5.06**	**350**	P		Pn		13 21 34.8	-1.1
PVAQ	**Vaqueiros**	**5.08**	**359**	*e*Pn		Pn		13 21 34.9	-1.2
PVAQ				*e*Sn		Sn		13 22 30.9	-4.6
PVAQ				A		A		13 22 32.1	
	4.7nm,0.5s								
PVAQ	**Vaqueiros**	**5.08**	**359**	P		Pn		13 21 34.9	-1.2
PVAQ				S		Sn		13 22 30.9	-4.6
	4.7nm,0.5s								
EGRO	**El Granado**	**5.21**	**1**	P		Pn		13 21 36.5	-1.3
	1.0nm,0.4s,SNR=7.9								
EGRO				S		Sn		13 22 34.3	-4.3
	2.2nm,0.3s,SNR=7.9								
PCVE	**Castro Verde**	**5.32**	**356**	*e*Pn		Pn		13 21 38.1	-1.3
PCVE				*e*Sn		Sn		13 22 36.7	-4.7
PCVE	**Castro Verde**	**5.32**	**356**	P		Pn		13 21 38.1	-1.3
PCVE				S		Sn		13 22 36.7	-4.7
EMIN	**Mina Concepcio**	**5.49**	**7**	P		Pn		13 21 40.1	-1.7
	0.7nm,0.2s,SNR=7.9								
EMIN				S		Sn		13 22 40.0	-5.7
	3.9nm,0.5s,SNR=9.1								
PNCL	**Nicolau / Gran**	**5.84**	**352**	*e*Pn		Pn		13 21 45.2	-1.3
PBAR	**Barrancos**	**5.86**	**4**	*e*Pn		Pn		13 21 45.8	-1.1
PBAR				*e*Sn		Sn		13 22 50.0	-4.8
PBAR				A		A		13 22 52.8	
	4.5nm,0.5s								
PBAR	**Barrancos**	**5.86**	**4**	P		Pn		13 21 45.8	-1.1
PBAR				S		Sn		13 22 50.0	-4.8
	4.5nm,0.5s								
ECAB	**El Cabril**	**6.01**	**16**	P		Pn		13 21 47.8	-1.1
	0.4nm,0.1s,SNR=5.9								
ECAB				S		Sn		13 22 53.1	-5.4
	0.8nm,0.2s,SNR=7.9								
EADA	**Adamuz**	**6.33**	**22**	P		Pn		13 21 52.5	-0.9
	0.8nm,0.2s,SNR=7.9								
EADA				S		Sn		13 23 00.4	-6.0
	1.0nm,0.3s,SNR=7.9								
PMRV	**Marv??o**	**7.10**	**1**	*e*Pn		Pn		13 22 02.8	-1.1
PMRV	**Marv??o**	**7.10**	**1**	P		Pn		13 22 02.8	-1.1

*IDC **28** 13:21:06.3±1.3,52.˚78N×169.˚42W,h0km,mb3.6/4, mb1 3.8/6,mb1mx3.5/29,mbtmp3.5/6,ML2.9/2,Error ellipse: s-maj=56.8km s-min=22.5km az=143.0*
*NEIC **28** 13:21:09.5,52.˚62N×169.˚23W,h7km,ML3.3(AEIC),After AEIC.*

ISC 28 13:21:07.6±2.3,52.˚6N±0.˚1×169.˚19W±0.˚08,h3km±14km, n34,σ1°21/33,mb3.7/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.44**	**27**	P		**Pg**		**13 21 18.3**	**+0.3**
NIKH				S		**Sb**		**13 21 25.7**	**+0.7**
OKSO	**Okmok South**	**0.99**	**38**	P		**Pb**		**13 21 28.1**	**+0.6**
OKSO				S		**Sn**		**13 21 42.5**	**-0.5**
OKWR	**Okmok West Rim**	**1.04**	**34**	P		**Pn**		**13 21 29.7**	**+0.5**
OKCE	**Okmok Cone E**	**1.05**	**36**	P		**Pb**		**13 21 28.6**	**+0.2**
OKWE	**Okmok W'ng Wal**	**1.06**	**32**	P		**Pn**		**13 21 30.0**	**+0.6**
OKTU	**Okmok Mt. Tuli**	**1.06**	**40**	P		**Pn**		**13 21 29.9**	**+0.5**
OKAK	**Okmok**	**1.12**	**26**	P		**Pg**		**13 21 28.1**	**-0.8**
OKRE	**Okmok R'deer P**	**1.12**	**33**	P		**Pn**		**13 21 30.6**	**+0.3**
OKFG	**Magazine Ridge**	**1.13**	**42**	P		**Pb**		**13 21 30.0**	**+0.2**
OKFG				S		**Sn**		**13 21 46.5**	**+0.1**
MSOM	**Makushin Julie**	**1.83**	**47**	P		**Pn**		**13 21 40.0**	**+0.2**
MCIR	**Makushin Cirqu**	**1.94**	**44**	P		**Pb**		**13 21 43.3**	**-0.4**
MSW	**Makushin Switc**	**1.97**	**46**	P		**Pn**		**13 21 42.4**	**+0.6**
MSW				S		**Sn**		**13 22 07.6**	**+0.6**
MTBL	**Makushin Table**	**2.05**	**46**	P		**Pn**		**13 21 43.9**	**+0.9**
UNV	**Unalaska Valle**	**2.05**	**51**	P		**Pn**		**13 21 43.2**	**+0.2**
UNV				S		**Sn**		**13 22 09.2**	**+0.1**
AKRB	**Akutan Reef Bi**	**2.43**	**49**	P		**Pn**		**13 21 49.7**	**+1.6**
ZRO	**Akutan Zero**	**2.45**	**51**	P		**Pn**		**13 21 50.4**	**+2.0**
AKGG	**Akutan Green G**	**2.51**	**49**	P		**Pn**		**13 21 50.8**	**+1.6**
AKUT	**Akutan**	**2.57**	**51**	*e*Pn		**Pn**		**13 21 51.4**	**+1.3**
ATKA	**Atka Island**	**3.09**	**265**	P		**Pn**		**13 21 58.5**	**+1.3**
SPIA	**Saint Paul Isl**	**4.64**	**353**	P		**Pn**		**13 22 19.4**	**+0.9**
KDAK	**Kodiak Island**	**10.82**	**55**	Pn		**Pn**		**13 23 44.4**	**+1.3**
	0.4nm,0.3s,baz=238,slow=9.6,SNR=2.8								
SEW	**Seward**	**13.25**	**48**	*e*Pn		**Pn**		**13 24 16.7**	**+0.4**
RC01	**Rabbit Creek A**	**13.59**	**44**	*e*Pn		**Pn**		**13 24 22.7**	**+1.8**
ILAR	**Eielson Array**	**16.71**	**34**	Pn		**Pn**		**13 24 58.5**	**-4.0**
	0.0nm,0.3s,baz=230,slow=11,SNR=3.0								
H11N2	**WAKE ISLAND Hy**	**37.69**	**219**	T		T		14 08 22.3	
	baz=23,slow=76,SNR=34								
H11N3	**WAKE ISLAND Hy**	**37.70**	**219**	T		T		14 08 23.1	
	baz=23,slow=76,SNR=46								
H11N1	**WAKE ISLAND Hy**	**37.71**	**219**	T		T		14 08 22.5	
	baz=23,slow=76,SNR=30								
H11S1	**WAKE ISLAND Hy**	**38.88**	**218**	T		T		14 09 52.0	
	baz=23,slow=76,SNR=1438								
H11S2	**WAKE ISLAND Hy**	**38.89**	**218**	T		T		14 09 53.0	
	baz=23,slow=76,SNR=750								
H11S3	**WAKE ISLAND Hy**	**38.90**	**218**	T		T		14 09 53.2	
	baz=23,slow=76,SNR=579								
PDAR	**Pinedale Array**	**40.26**	**79**	P		**P**		**13 28 44.7**	**-1.1**
	0.5nm,0.7s,baz=320,slow=5.8,SNR=5.5								
TXAR	**Lajitas Array**	**52.63**	**89**	P		**P**		**13 30 24.0**	**+1.0**
	0.8nm,0.7s,baz=316,slow=6.3,SNR=7.7								
WRA	**Warramunga Arr**	**87.22**	**232**	P		**P**		**13 33 54.0**	**-1.2**
	0.5nm,1.0s,baz=35,slow=5.7,SNR=2.9								
ASAR	**Alice Springs**	**90.62**	**230**	P		**P**		**13 34 10.4**	**-0.8**
	0.3nm,0.7s,baz=36,slow=4.9,SNR=7.4								

*ISCJB **28** 13:32:10.7±0

HLID	**Hailey** baz=37	36.96	82	P	P	13 39 22.6	+1.0
MCMT	**McKenzie Canyo** 2.8nm,0.6s	37.21	79	eP	P	13 39 24.3	+0.6
EGMT	**Eagleton** baz=37	37.37	73	P	P	13 39 25.0	+0.1
BOZ	**Bozeman (W)** baz=37	37.49	77	P	P	13 39 26.8	+0.8
NVAR	**Mina Array Bea** 1.3nm,0.7s,baz=298,slow=8.9,SNR=10	37.65	91	P	P	13 39 27.6	+0.1
NVAR	0.3nm,0.5s,baz=307,slow=3.3,SNR=4.0			PcP	PcP	13 41 45.1	+0.3
H11N2	**WAKE ISLAND Hy** baz=23,slow=76,SNR=92	37.67	218	T	T	14 19 26.9	
H11N3	**WAKE ISLAND Hy** baz=23,slow=76,SNR=104	37.68	218	T	T	14 19 27.1	
H11N1	**WAKE ISLAND Hy** baz=23,slow=76,SNR=105	37.69	218	T	T	14 19 27.1	
ELK	**Elko** 2.5nm,0.8s	38.09	86	eP	P	13 39 32.9	+1.6
H17A	**Grant Village** 3.6nm,0.4s	38.80	78	eP	P	13 39 39.0	+1.8
H11S1	**WAKE ISLAND Hy** baz=23,slow=76,SNR=2764	38.86	218	T	T	14 20 55.0	
H11S2	**WAKE ISLAND Hy** baz=23,slow=76,SNR=1485	38.88	218	T	T	14 20 54.8	
H11S3	**WAKE ISLAND Hy** baz=23,slow=76,SNR=1387	38.88	218	T	T	14 20 55.0	
PKM	**Peak Mountain** baz=39	39.04	97	P	P	13 39 41.7	+2.6
RLMT	**Red Lodge** baz=39,SNR=5.2	39.18	76	P	P	13 39 41.1	+0.7
RLMT	**Red Lodge** 7.0nm,1.0s	39.18	76	eP	P	13 39 41.0	+0.7
ISA	**Isabella** baz=39	39.34	95	P	P	13 39 42.8	+1.3
R11A	**Troy Canyon, C** baz=39,SNR=15	39.36	89	P	P	13 39 43.1	+1.3
R11A	**Troy Canyon, C** 4.8nm,1.0s	39.36	89	eP	P	13 39 42.7	+0.9
F20A	**Billings** baz=39	39.47	75	P	P	13 39 42.6	0.0
MPMC	**Manual Prospec** baz=40	39.67	94	P	P	13 39 46.3	+1.8
MJAR	**Matsushiro Arr** 1.3nm,0.7s,baz=48,slow=6.5,SNR=6.1	39.73	268	P	P	13 39 44.0	-0.7
MJAR	comp=Z,54nm,22.0s,baz=70,slow=33			LR	LR	13 54 04.5	
G20A	**Bridger** baz=40,SNR=5.1	39.75	75	P	P	13 39 45.0	+0.1
TPNV	**Topopah Spring** baz=40,SNR=6.8	39.85	91	P	P	13 39 47.1	+1.2
DUG	**Dugway** baz=40,SNR=7.0	39.90	85	P	P	13 39 47.7	+1.4
DUG	**Dugway** 11nm,1.3s	39.90	85	eP	P	13 39 47.7	+1.4
I19A	**Meeteetse** baz=40	39.95	77	P	P	13 39 47.2	+0.5
BW06	**Boulder Array** 3.1nm,0.7s	40.34	79	eP	P	13 39 50.4	+0.4
PDAR	**Pinedale Array** 3.7nm,0.7s,baz=312,slow=5.2,SNR=37	40.34	79	P	P	13 39 50.5	+0.6
J19A	**Crowheart** baz=40	40.35	78	P	P	13 39 50.9	+0.9
E22A	**Miles City** baz=40	40.41	73	P	P	13 39 50.1	-0.2
GSC	**Goldstone** baz=40	40.59	94	P	P	13 39 53.2	+1.2
E23A	**Ismay** baz=41	40.75	72	P	P	13 39 54.0	+0.8
J20A	**Shoshoni** baz=41	40.88	78	P	P	13 39 55.2	+0.9
G22A	**Birney** baz=41	40.88	74	P	P	13 39 53.9	-0.3
D24A	**Glendive** baz=41	40.98	71	P	P	13 39 56.0	+0.9
I21A	**Big Trails, Te** baz=41	41.08	77	P	P	13 39 56.6	+0.5
F23A	**Volborg** baz=41	41.12	73	P	P	13 39 56.3	+0.1
J21A	**Lysite** baz=41	41.26	77	P	P	13 39 58.1	+0.6
MSU	**Marysvale** 3.6nm,1.1s	41.33	86	eP	P	13 39 59.9	+1.7
A26A	**Wade Farm, Ken** baz=41	41.34	67	P	P	13 39 58.4	+0.6
G23A	**Biddle** baz=41	41.42	74	P	P	13 39 59.7	+1.0
I22A	**9 Mile Ranch,** baz=41	41.52	76	P	P	13 40 00.9	+1.3
GMRC	**Granite Mounta** baz=42	41.64	93	P	P	13 40 02.8	+2.1
LDFC	**Landfair** 7.5nm,0.8s	41.77	93	eP	P	13 40 02.8	+1.1
J22A	**Midwest** baz=42,SNR=5.7	41.80	77	P	P	13 40 02.0	+0.1
BELC	**Belle Mtn. Jos** baz=42	41.96	95	P	P	13 40 04.3	+0.9
K22A	**Casper** baz=42	42.22	78	P	P	13 40 05.6	+0.3
A28A	**Rude Farm, Bot** baz=42	42.32	66	P	P	13 40 06.2	+0.3
IRM	**Iron Mountain** baz=42	42.37	94	P	P	13 40 08.8	+2.3
BC3	**Big Chuckawall** baz=42	42.53	95	P	P	13 40 09.0	+1.1
O20A	**White River Ci** baz=42	42.70	82	P	P	13 40 10.3	+0.9
PDMC	**Parker Dam,Lak** baz=43	42.89	93	P	P	13 40 11.6	+1.0
G26A	**Maurine** baz=43	42.99	72	P	P	13 40 10.9	-0.6
A30A	**Hoffart Farm,** baz=43	43.40	65	P	P	13 40 14.8	+0.2
N23A	**Red Feather La** baz=44	43.62	79	P	P	13 40 17.1	+0.3
WUAZ	**Wupatki** baz=44,SNR=6.3	43.76	89	P	P	13 40 19.2	+1.3
WUAZ	**Wupatki** 8.1nm,1.0s	43.76	89	eP	P	13 40 19.2	+1.3
PV01	**Paradox Valley** 405nm,0.7s	43.76	84	eP	P	13 40 18.6	+0.7
D30A	**Buchanan** baz=44	44.16	68	P	P	13 40 19.8	-1.0
MVCO	**Mesa Verde** baz=44	44.40	85	P	P	13 40 23.6	+0.5
M25A	**Palm-Egli Farm** baz=44	44.42	77	P	P	13 40 23.5	+0.4
H29A	**Onida** baz=45	44.76	71	P	P	13 40 25.9	+0.3
S22A	**4UR Ranch, Cre** baz=45	45.07	83	P	P	13 40 29.9	+1.4
K28A	**Ten Mile Ranch** baz=45	45.23	74	P	P	13 40 29.6	+0.2
214A	**Organ Pipe Nat** baz=45	45.31	94	P	P	13 40 31.2	+1.1
KSRS	**Korea Array** 1.0nm,0.8s,baz=59,slow=6.9,SNR=3.2	45.39	276	P	P	13 40 31.9	+1.2
KSAR	**Wonju Array Be**	45.42	276	P	P	13 40 31.9	+1.0
SDCO	**Great Sand Dun** baz=46,SNR=7.0	45.87	82	P	P	13 40 35.1	+0.3
SDCO	**Great Sand Dun** 2.7nm,0.8s	45.87	82	eP	P	13 40 35.9	+1.1
P26A	**Davis Ranch, A** baz=46	46.01	79	P	P	13 40 36.2	+0.4
O27A	**Beecher Island** baz=46	46.13	78	P	P	13 40 36.7	0.0
TUC	**Tucson** 3.3nm,0.8s	46.29	92	eP	P	13 40 39.5	+1.5
Q26A	**Hugo** baz=46	46.31	80	P	P	13 40 39.0	+0.9
R26A	**Arlington** baz=47	46.75	80	P	P	13 40 42.0	+0.4
T25A	**Trinidad** baz=47,SNR=5.5	46.92	82	P	P	13 40 43.8	+0.7
R27A	**Eads** baz=47	47.15	80	P	P	13 40 45.0	+0.4
ECSD	**EROS Data Cent** baz=47	47.36	70	P	P	13 40 45.5	-0.7
T26A	**Comanche Natio** baz=47	47.39	82	P	P	13 40 47.4	+0.7
P29A	**Atwood** baz=47	47.42	77	P	P	13 40 47.0	+0.3
R28A	**Tribune** baz=48	47.70	79	P	P	13 40 48.7	-0.3
121A	**Cookes Peak, D** baz=48	47.97	89	P	P	13 40 52.1	+0.9
121A	**Cookes Peak, D** 5.8nm,0.8s	47.97	89	eP	P	13 40 52.5	+1.4
R29A	**Marienthal** baz=48	48.05	79	P	P	13 40 52.2	+0.5
U27A	**Thompson Grove** baz=48	48.35	82	P	P	13 40 54.4	+0.3
U28A	**Mallet** baz=49	48.74	81	P	P	13 40 57.5	+0.5
O33A	**Hebron** baz=49	49.09	75	P	P	13 40 59.1	-0.5
R31A	**Burdett** baz=49	49.10	78	P	P	13 40 59.6	-0.1
Q32A	**Meitler Ranch,** baz=49	49.22	76	P	P	13 41 00.3	-0.2
Q33A	**Connelly Farm,** baz=50	49.65	76	P	P	13 41 03.8	0.0
R34A	**Isabella, Hill** baz=50	50.45	76	P	P	13 41 09.8	-0.1
U32A	**Winter Ranch,** baz=50	50.68	79	P	P	13 41 11.9	+0.2
128A	**Castleberry Fa** baz=51	51.13	85	P	P	13 41 15.8	+0.6
Z29A	**Hungry Hill Ra** baz=51	51.16	84	P	P	13 41 15.9	+0.5
SONM	**Songino Array** 1.7nm,0.6s,baz=53,slow=3.0,SNR=9.6	51.18	301	PcP	PcP	13 42 30.4	-0.3
T34A	**McClaskey Farm** baz=51	51.33	77	P	P	13 41 16.2	-0.3
S35A	**Otter Creek Ra** baz=51	51.41	76	P	P	13 41 16.8	-0.3
R36A	**Gordon, Harris** baz=51	51.46	75	P	P	13 41 16.6	-0.9
Z30A	**Sanderson Ranc** baz=51	51.50	84	P	P	13 41 18.5	+0.6
WMOK	**Wichita Mounta** 5.1nm,0.8s	51.92	81	eP	P	13 41 21.4	+0.4
130A	**Snyder** baz=52	52.07	84	P	P	13 41 22.3	+0.2
T36A	**Boggs Farm, Ca** baz=52	52.08	76	P	P	13 41 21.4	-0.7
329A	**Wagon Wheel Ra** baz=52	52.23	86	P	P	13 41 23.3	-0.1
S37A	**Fort Scott** baz=52,SNR=5.9	52.23	75	P	P	13 41 21.4	-1.8
Z32A	**Haskell** baz=52	52.48	82	P	P	13 41 25.2	0.0
T37A	**Cheneyville 18** baz=52	52.61	76	P	P	13 41 25.3	-0.8
TXAR	**Lajitas Array** 4.4nm,0.6s,baz=300,slow=5.2,SNR=66	52.73	89	P	P	13 41 27.5	+0.4
330A	**Mertzon** baz=53	52.77	85	P	P	13 41 27.2	-0.2
ABTX	**Abilene, Hawle** baz=53	52.85	83	P	P	13 41 28.4	+0.4
429A	**Davenport Ranc** baz=53	52.89	87	P	P	13 41 28.2	0.0
V36A	**Jenks** baz=53	52.91	78	P	P	13 41 27.9	-0.4
Z33A	**Whitaker Ranch** baz=53	52.93	82	P	P	13 41 28.6	+0.1
U37A	**Salina** baz=53	52.98	77	P	P	13 41 28.5	-0.3
529A	**Stev Forest Ra** baz=53,SNR=5.8	53.04	87	P	P	13 41 29.5	+0.1
Y34A	**Reagan Ranch,** baz=53	53.07	81	P	P	13 41 29.5	0.0
430A	**Baggett Ranch,** baz=53	53.17	86	P	P	13 41 30.6	+0.2
331A	**San Angelo** baz=53	53.30	85	P	P	13 41 31.0	-0.3
133A	**Hamilton Ranch** baz=53	53.30	83	P	P	13 41 30.9	-0.3
232A	**Coleman** baz=53	53.37	84	P	P	13 41 31.3	-0.5
U38A	**Gravette** baz=53	53.38	76	P	P	13 41 30.9	-0.9
Y35A	**Marietta** baz=53	53.54	80	P	P	13 41 33.7	+0.8
530A	**J-C Ranch, Com** baz=53,SNR=7.7	53.56	87	P	P	13 41 33.8	+0.6
431A	**Sonora** baz=54,SNR=6.2	53.63	86	P	P	13 41 33.8	+0.1
W37A	**Quinton** baz=54	53.65	78	P	P	13 41 33.6	-0.2
332A	**Millersview** baz=54	53.66	84	P	P	13 41 34.1	+0.2
V38A	**Canehill** baz=54	53.76	77	P	P	13 41 33.7	-0.9
134A	**White-Moore Ra** baz=54	53.84	82	P	P	13 41 35.6	+0.4
Y36A	**Durant** baz=54	53.99	80	P	P	13 41 36.4	+0.1
531A	**Rocksprings** baz=54	54.03	86	P	P	13 41 37.4	+0.7
X37A	**Clayton** baz=54	54.06	78	P	P	13 41 36.7	0.0
333A	**Richland Sprin** baz=54	54.16	84	P	P	13 41 37.9	+0.4
W38A	**Poteau** baz=54	54.24	77	P	P	13 41 37.5	-0.6
JCT	**Junction City** baz=54	54.26	85	P	P	13 41 38.4	+0.1
X38A	**Whitesboro** baz=54	54.33	78	P	P	13 41 38.6	-0.1
Z36A	**Blue Ridge** baz=54	54.34	80	P	P	13 41 38.9	+0.1
532A	**Rocksprings** baz=54	54.45	86	P	P	13 41 39.8	+0.1
433A	**Art** baz=54	54.50	84	P	P	13 41 39.9	-0.1
631A	**Perdido Creek** baz=54	54.55	87	P	P	13 41 40.2	-0.2
334A	**Lometa** baz=54	54.61	83	P	P	13 41 40.4	-0.4
WHTX	**Lake Whitney** baz=54	54.62	82	P	P	13 41 40.6	-0.2
SFIN	**Scholer Farm** baz=55	54.94	68	P	P	13 41 40.3	-2.7
434A	**Burnet** baz=55	54.96	84	P	P	13 41 43.4	0.0
632A	**Uvalde** baz=55	54.96	86	P	P	13 41 43.3	-0.1
MIAR	**Mount Ida** baz=55	55.16	77	P	P	13 41 43.6	-1.2
832A	**Faith Ranch, C** baz=56	55.73	87	P	P	13 41 48.9	0.0
JMIC	**Jan Mayen** comp=Z,30nm,19.3s,baz=242,slow=37	55.92	7	LR	LR	14 06 56.6	
ARCES	**ARCESS Array B** 1.1nm,0.7s,baz=53,slow=5.0,SNR=4.5	57.66	354	PcP	PcP	13 42 53.4	-1.6
MKAR	**Makanchi Array** 0.5nm,0.8s,baz=40,slow=7.7,SNR=2.5	63.64	313	P	P	13 42 43.5	+0.3
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=29,slow=7.5,SNR=3.2	76.58	283	P	P	13 44 03.8	+0.9
WRA	**Warramunga Arr** 1.4nm,0.7s,baz=36,slow=5.7,SNR=11	87.18	232	P	P	13 44 57.2	-1.3
ASAR	**Alice Springs** 4.0nm,0.9s,baz=34,slow=4.4,SNR=25	90.58	230	P	P	13 45 14.2	-0.3
UNV	**Unalaska Valle**	2.19	61	P	Pn	13 41 19.5	-0.6
UNV				S	Sn	13 41 45.8	-1.4
AKGG	**Akutan Green G**	2.63	57	P	Pn	13 41 27.3	+1.2
ATKA	**Atka Island**	2.80	259	P	Pb	13 41 33.2	-0.5
SPIA	**Saint Paul Isl**	4.38	356	P	Pn	13 41 55.5	+5.3
ILAR	**Eielson Array** 0.1nm,0.3s,baz=233,slow=11,SNR=3.4	16.71	35	Pn	Pn	13 44 37.9	+0.3
H11N2	**WAKE ISLAND Hy** baz=24,slow=76,SNR=4.5	37.67	218	T	T	14 27 55.7	
H11N3	**WAKE ISLAND Hy** baz=24,slow=76,SNR=4.2	37.68	218	T	T	14 27 59.0	
H11N1	**WAKE ISLAND Hy** baz=24,slow=76,SNR=4.1	37.69	218	T	T	14 27 58.8	
H11S1	**WAKE ISLAND Hy** baz=23,slow=76,SNR=34	38.86	217	T	T	14 29 26.2	
H11S2	**WAKE ISLAND Hy** baz=23,slow=76,SNR=27	38.88	217	T	T	14 29 28.0	
H11S3	**WAKE ISLAND Hy** baz=23,slow=76,SNR=28	38.88	217	T	T	14 29 28.2	
PDAR	**Pinedale Array** 0.4nm,0.6s,baz=316,slow=6.4,SNR=2.9	40.54	79	P	P	13 48 23.1	+0.1
TXAR	**Lajitas Array** 0.6nm,0.7s,baz=303,slow=5.0,SNR=5.6	52.96	89	P	P	13 50 01.5	+1.3
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=37,slow=5.7,SNR=5.7	87.11	231	P	P	13 53 28.9	-0.6
ASAR	**Alice Springs** 0.5nm,0.6s,baz=30,slow=4.5,SNR=13	90.51	230	P	P	13 53 45.1	-0.4

*IDC **28** 13:40:42.3±1.2,52°.58N×169°.80W,h0km,mb3.7/4, mb1 3.9/5,mb1mx3.4/40,mbtmp3.5/5,ML3.4/1,Error ellipse: s-maj=58.1km s-min=23.7km az=145.0*
*NEIC **28** 13:40:45.5,52°.57N×169°.23W,h12km,ML3.2(AEIC),After AEIC.*

ISC 28 13:40:43.8±1.6,52°.8N±0°.2×169°.73W±0°.08,h12km±10km, n28,σ0°69/27,mb3.6/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	0.55	73	P	Pb	13 40 55.2	-0.3
NIKH				S	Sg	13 41 02.1	+0.1
OKSP	**Okmok Steeple**	0.97	63	P	Pg	13 41 02.3	-0.3
OKSP				S	Sg	13 41 15.0	-0.3
OKSO	**Okmok South**	1.09	59	P	Pb	13 41 04.0	-0.7
OKSO				S	Sb	13 41 19.0	+0.1
OKWR	**Okmok West Rim**	1.11	55	P	Pn	13 41 05.9	+0.5
OKCF	**Okmok Cone F**	1.12	58	P	Pn	13 41 05.6	+0.1
OKCE	**Okmok Cone E**	1.12	56	P	Pb	13 41 05.0	-0.3
OKAK	**Okmok**	1.13	47	P	Pb	13 41 04.5	-0.8
OKTU	**Okmok Mt. Tuli**	1.17	60	P	Pb	13 41 05.7	-0.3
OKRE	**Okmok R'deer P**	1.18	52	P	Pg	13 41 07.1	+0.7
OKFG	**Magazine Ridge**	1.25	61	P	Pn	13 41 06.3	-0.8
OKFG				S	Sb	13 41 22.9	-0.5
MSOM	**Makushin Julie**	1.95	58	P	Pn	13 41 16.9	+0.2
MCIR	**Makushin Cirqu**	2.05	55	P	Pn	13 41 18.2	+0.1
MSW	**Makushin Switc**	2.08	57	P	Pn	13 41 19.8	+1.2
MSW				S	Sn	13 41 44.4	-0.1

*ISCJB **28** 13:55:27.3±0.5,37°.46N±0°.02×23°.35E±0°.02,h13km±3km, mb3.5/4,Error ellipse: s-maj=2.9km s-min=2.2km az=137.4*
*CSEM **28** 13:55:27.8±0.1,37°.45N×23°.31E,h15km,MD3.1, Error ellipse: s-maj=2.5km s-min=1.9km az=121.0*
*THE **28** 13:55:27.9,37°.47N×23°.30E,h8km,ML3.7/19, Error ellipse: s-maj=0.6km s-min=0.3km az=73.0*
*ATH **28** 13:55:27.7,37°.47N×23°.32E,h29km,MD3.1/42,ML3.6*

ISC 28 13:55:27.8±0.8,37°.46N±0°.01×23°.30E±0°.02,h17km±5km, n183,σ0°67/269,mb3.6/4,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DIDY	**Didyma**	0.07	283	ePB	Pg	13 55 31.2	0.0
DIDY	**Didyma**	0.07	283	ePb	Pg	13 55 31.2	0.0
KRND	**KRANIDI**	0.14	236	ePB	Pb	13 55 32.2	+0.2
KRND	**KRANIDI**	0.14	236	P	Pg	13 55 31.7	-0.1
KRND	**KRANIDI**	0.14	236	ePb	Pb	13 55 32.2	+0.2
KRND				S	Sg	13 55 33.7	-0.7
KRND	**KRANIDI**	0.14	236	P	Pg	13 55 31.7	-0.1
KRND				S	Sg	13 55 33.7	-0.7
NAIG	**Nisos Aigina**	0.33	27	ePB	Pb	13 55 35.4	+0.1
NAIG				eSB	Sb	13 55 42.1	+1.7
NAIG	**Nisos Aigina**	0.33	27	ePb	Pb	13 55 35.4	+0.1
NAIG				eSb	Sb	13 55 42.1	+1.7
ACOR	**Acrocorinthos**	0.55	322	P	Pg	13 55 38.4	-0.3
ACOR				S	Sg	13 55 46.2	+0.2
LOUT	**Loutraki**	0.58	334	ePN	Pg	13 55 39.6	+0.2
LOUT				eSN	Sb	13 55 48.6	+0.9
LOUT	**Loutraki**	0.58	334	ePn	Pg	13 55 39.6	+0.2
LOUT				S	Sg	13 55 47.3	+0.1
LOUT				eSn	Sb	13 55 48.6	+0.9
LOUT	**Loutraki**	0.58	334	P	Pg	13 55 39.5	+0.2
LOUT				S	Sg	13 55 47.3	+0.1
ATH	**Athens Observa**	0.61	33	ePN	Pb	13 55 40.1	+0.1
ATH				eSN	Sb	13 55 49.1	+0.8
ATH	**Athens Observa**	0.61	33	P	Pg	13 55 39.3	-0.6
ATH	**Athens Observa**	0.61	33	ePn	Pb	13 55 40.1	+0.1
ATH				S	Sb	13 55 48.2	-0.1
ATH				eSn	Sb	13 55 49.1	+0.8
ATH	**Athens Observa**	0.61	33	P	Pg	13 55 39.3	-0.6
ATH				S	Sb	13 55 48.2	-0.1
LTK	**Loutraki**	0.62	335	ePN	Pg	13 55 40.2	+0.2
LTK				eSN	Sb	13 55 48.8	+0.1
LTK	**Loutraki**	0.62	335	ePn	Pg	13 55 40.2	+0.2
LTK				eSn	Sb	13 55 48.8	+0.1
ATHU	**Athens Univers**	0.64	37	P	Pg	13 55 40.1	-0.3
ATHU				S	Sb	13 55 49.4	+0.3
ATHU	**Athens Univers**	0.64	37	P	Pg	13 55 40.1	-0.3
ATHU				S	Sb	13 55 49.4	+0.3
VILL	**Villia**	0.70	1	P	Pg	13 55 41.1	-0.5
VILL	**Villia**	0.70	1	ePn	Pb	13 55 41.8	+0.1
VILL				S	Sb	13 55 51.2	+0.1
VILL				eSn	Sg	13 55 52.3	+1.4
VILL	**Villia**	0.70	1	P	Pg	13 55 41.1	-0.5
VILL				S	Sb	13 55 51.2	+0.1
VLX	**Vlachokerasia**	0.74	263	ePN	Pg	13 55 42.2	0.0
VLX				eSN	Sn	13 55 53.9	-0.5
VLX	**Vlachokerasia**	0.74	263	P	Pg	13 55 41.9	-0.3
VLX	**Vlachokerasia**	0.74	263	ePn	Pg	13 55 42.2	0.0
VLX				S	Sb	13 55 52.6	+0.5
VLX				eSn	Sn	13 55 53.9	-0.5
VLX	**Vlachokerasia**	0.74	263	P	Pg	13 55 41.9	-0.3
VLX				S	Sb	13 55 52.6	+0.5
PTL	**Penteli**	0.74	37	ePN	Pb	13 55 42.6	+0.3
PTL				eSN	Sb	13 55 52.2	+0.1
PTL	**Penteli**	0.74	37	P	Pg	13 55 41.9	-0.4
PTL	**Penteli**	0.74	37	ePn	Pb	13 55 42.6	+0.3
PTL				eSn	Sb	13 55 52.2	+0.1
PTL	**Penteli**	0.74	37	P	Pg	13 55 41.9	-0.4
PTL				S	Sb	13 55 52.8	+0.7
VIL2	**Platees**	0.75	358	ePN	Pg	13 55 41.8	-0.7
VIL2				eSN	Sg	13 55 52.3	-0.1
THAL	**Thalero**	0.76	319	ePN	Pb	13 55 42.7	0.0
THAL				eSN	Sn	13 55 54.8	-0.2
THAL	**Thalero**	0.76	319	P	Pb	13 55 42.7	-0.3
THAL	**Thalero**	0.76	319	ePn	Pb	13 55 42.7	0.0
THAL				S	Sg	13 55 53.1	+0.3
THAL				eSn	Sn	13 55 54.8	-0.2
THAL	**Thalero**	0.76	319	P	Pb	13 55 42.4	-0.3
THAL				S	Sg	13 55 53.1	+0.3
VLI	**Veliai**	0.80	201	ePN	Pb	13 55 43.2	0.0
VLI				eSN	Sn	13 55 55.4	-0.4
VLI	**Veliai**	0.80	201	P	Pb	13 55 42.9	-0.3
VLI	**Veliai**	0.80	201	ePn	Pb	13 55 43.2	0.0
VLI				S	Sg	13 55 54.5	+0.7
VLI				eSn	Sn	13 55 55.4	-0.4
VLI	**Veliai**	0.80	201	P	Pb	13 55 42.9	-0.3
VLI				S	Sg	13 55 54.5	+0.7
GUR	**Goura**	0.89	302	ePB	Pb	13 55 44.4	-0.5
GUR				eSN	Sg	13 55 58.0	+1.0
GUR	**Goura**	0.89	302	P	Pb	13 55 44.1	-0.8
GUR	**Goura**	0.89	302	ePb	Pb	13 55 44.4	-0.5
GUR				S	Sg	13 55 57.7	+0.7
GUR				eSn	Sg	13 55 58.0	+1.0
GUR	**Goura**	0.89	302	P	Pb	13 55 44.1	-0.8
GUR				S	Sg	13 55 57.7	+0.7
KARY	**Karystos**	1.07	57	P	Pb	13 55 47.8	-0.1
KARY				S	Sn	13 56 02.6	+0.1
KLV	**Kalavryta, Ach**	1.08	303	ePN	Pn	13 55 48.4	+0.2
KLV				eSN	Sg	13 56 03.4	+0.6
KLV	**Kalavryta, Ach**	1.08	303	P	Pb	13 55 47.6	-0.5
KLV	**Kalavryta, Ach**	1.08	303	ePn	Pn	13 55 48.4	+0.2
KLV				eSn	Sg	13 56 03.4	+0.6
KLV	**Kalavryta, Ach**	1.08	303	P	Pb	13 55 47.6	-0.5
KLV				S	Sg	13 56 03.5	+0.6
EREA	**Eretria**	1.08	28	ePN	Pn	13 55 48.3	+0.1
EREA				eSN	Sg	13 56 02.7	-0.2
EREA	**Eretria**	1.08	28	ePn	Pn	13 55 48.3	+0.1
EREA				eSn	Sg	13 56 02.7	-0.2
EREA				S	Sn	13 56 03.2	+0.3
EREA	**Eretria**	1.08	28	P	Pb	13 55 48.1	0.0
EREA				S	Sn	13 56 03.2	+0.3
DESF	**Desfina**	1.13	328	ePN	Pn	13 55 49.0	+0.1
DESF				eSN	Sg	13 56 05.1	+0.7
DESF	**Desfina**	1.13	328	ePn	Pn	13 55 49.0	+0.1
DESF				eSn	Sg	13 56 05.1	+0.7
DSF	**Desfina**	1.13	328	ePN	Pb	13 55 49.1	+0.2
DSF				eSN	Sn	13 56 04.3	+0.3
DSF	**Desfina**	1.13	328	P	Pn	13 55 48.8	-0.1
DSF	**Desfina**	1.13	328	ePn	Pb	13 55 49.1	+0.2
DSF				eSn	Sn	13 56 04.3	+0.3
DSF				S	Sg	13 56 05.7	+1.3
DSF	**Desfina**	1.13	328	P	Pn	13 55 48.8	-0.1
DSF				S	Sg	13 56 05.7	+1.3
ITM	**Ithomi**	1.13	256	ePN	Pb	13 55 49.2	+0.3
ITM				eSN	Sg	13 56 05.2	+0.8
ITM	**Ithomi**	1.13	256	ePn	Pb	13 55 49.2	+0.3
ITM				eSn	Sg	13 56 05.2	+0.8
ITM	**Ithomi**	1.13	256	P	Pb	13 55 49.1	+0.2
KYTH	**Kithira**	1.20	190	ePN	Pb	13 55 50.5	+0.4

KYTH	**Kithira**	**1.20 190**	P		**Pb**	**13 55 50.1 0.0**
KYTH	**Kithira**	**1.20 190**	*e*Pn		**Pb**	**13 55 50.5 +0.4**
KYTH	**Kithira**	**1.20 190**	P		**Pb**	**13 55 50.1 0.0**
LKR	**Lokris**	**1.21 349**	*e*PN		**Pn**	**13 55 49.9 -0.1**
LKR			*e*Sn		**Sn**	**13 56 06.2 +0.2**
LKR	**Lokris**	**1.21 349**	*e*Pn		**Pn**	**13 55 49.9 -0.1**
LKR			*e*Sn		**Sn**	**13 56 06.2 +0.2**
LKR	**Lokris**	**1.21 349**	P		**Pn**	**13 55 49.8 -0.2**
ATAL	**Atalanti**	**1.25 350**	P		**Pn**	**13 55 50.3 -0.2**
ATAL			S		**Sg**	**13 56 08.0 -0.2**
ATAL	**Atalanti**	**1.25 350**	P		**Pn**	**13 55 50.3 -0.2**
ATAL			S		**Sg**	**13 56 08.0 -0.2**
MRKA	**Markates**	**1.26 10**	*e*PN		**Pn**	**13 55 50.8 0.0**
MRKA			*e*Sn		**Sn**	**13 56 07.6 +0.2**
MRKA	**Markates**	**1.26 10**	P		**Pn**	**13 55 50.5 -0.3**
MRKA	**Markates**	**1.26 10**	*e*Pn		**Pn**	**13 55 50.8 0.0**
MRKA			*e*Sn		**Sn**	**13 56 07.6 +0.2**
MRKA	**Markates**	**1.26 10**	P		**Pn**	**13 55 50.5 -0.3**
AMT	**Artemida-Makis**	**1.27 274**	*e*PN		**Pg**	**13 55 52.2 0.0**
AMT			*e*SN		**Sg**	**13 56 09.1 +0.4**
AMT	**Artemida-Makis**	**1.27 274**	P		**Pn**	**13 55 50.9 +0.1**
AMT	**Artemida-Makis**	**1.27 274**	*e*Pn		**Pg**	**13 55 52.2 0.0**
AMT			S		**Sg**	**13 56 08.8 +0.1**
AMT			*e*Sn		**Sg**	**13 56 09.1 +0.4**
AMT	**Artemida-Makis**	**1.27 274**	P		**Pn**	**13 55 50.9 +0.1**
AMT			S		**Sg**	**13 56 08.8 +0.1**
LAKA	**Lakka**	**1.30 307**	*e*PN		**Pb**	**13 55 51.9 0.0**
LAKA			*e*SN		**Sg**	**13 56 10.1 +0.2**
LAKA	**Lakka**	**1.30 307**	P		**Pn**	**13 55 51.6 +0.3**
LAKA	**Lakka**	**1.30 307**	*e*Pn		**Pb**	**13 55 51.9 0.0**
LAKA			*e*Sn		**Sg**	**13 56 10.1 +0.2**
LAKA	**Lakka**	**1.30 307**	P		**Pn**	**13 55 51.6 +0.3**
LAKA			S		**Sg**	**13 56 10.3 +0.4**
KALE	**Kalithea**	**1.30 316**	*e*PN		**Pn**	**13 55 51.7 +0.4**
KALE			*e*SN		**Sg**	**13 56 10.4 +0.4**
KALE	**Kalithea**	**1.30 316**	*e*Pn		**Pn**	**13 55 51.7 +0.4**
KALE			*e*Sn		**Sg**	**13 56 10.4 +0.4**
KALE	**Kalithea**	**1.30 316**	P		**Pn**	**13 55 51.5 +0.2**
TRIZ	**Trizonia**	**1.32 313**	*e*PN		**Pb**	**13 55 52.3 0.0**
TRIZ	**Trizonia**	**1.32 313**	P		**Pb**	**13 55 52.2 0.0**
TRIZ	**Trizonia**	**1.32 313**	P		**Pb**	**13 55 52.2 0.0**
DRO	**Drossia**	**1.35 292**	*e*PN		**Pb**	**13 55 52.8 +0.1**
DRO	**Drossia**	**1.35 292**	P		**Pn**	**13 55 52.0 +0.1**
DRO	**Drossia**	**1.35 292**	*e*Pn		**Pb**	**13 55 52.8 +0.1**
DRO			S		**Sg**	**13 56 11.1 -0.4**
DRO	**Drossia**	**1.35 292**	P		**Pn**	**13 55 52.0 +0.1**
DRO			S		**Sg**	**13 56 11.1 -0.4**
PYL	**PYLOS**	**1.36 246**	*e*PN		**Pb**	**13 55 53.3 +0.4**
PYL			*e*SN		**Sg**	**13 56 11.6 -0.3**
PYL	**PYLOS**	**1.36 246**	P		**Pb**	**13 55 52.8 -0.1**
PYL	**PYLOS**	**1.36 246**	*e*Pn		**Pb**	**13 55 53.3 +0.4**
PYL			*e*Sn		**Sg**	**13 56 11.6 -0.3**
PYL	**PYLOS**	**1.36 246**	P		**Pb**	**13 55 52.8 -0.1**
PYL			S		**Sg**	**13 56 11.5 -0.3**
AXAR	**Agios Charalam**	**1.40 339**	*e*PN		**Pb**	**13 55 53.7 +0.2**
AXAR	**Agios Charalam**	**1.40 339**	P		**Pb**	**13 55 53.4 -0.1**
AXAR	**Agios Charalam**	**1.40 339**	*e*Pn		**Pb**	**13 55 53.7 +0.2**
AXAR	**Agios Charalam**	**1.40 339**	P		**Pb**	**13 55 53.4 -0.1**
SMIA	**Simia**	**1.42 357**	*e*PN		**Pn**	**13 55 53.2 +0.3**
SMIA	**Simia**	**1.42 357**	P		**Pn**	**13 55 52.9 0.0**
SMIA	**Simia**	**1.42 357**	*e*Pn		**Pn**	**13 55 53.2 +0.3**
SMIA			S		**Sb**	**13 56 12.3 +0.7**
SMIA	**Simia**	**1.42 357**	P		**Pn**	**13 55 52.9 0.0**
SMIA			S		**Sb**	**13 56 12.3 +0.7**
UPR	**University Cam**	**1.45 305**	*e*PN		**Pb**	**13 55 55.2 +0.8**
UPR	**University Cam**	**1.45 305**	*e*Pn		**Pb**	**13 55 55.2 +0.8**
EFP	**Efpalio**	**1.46 312**	*e*PN		**Pb**	**13 55 54.7 +0.1**
EFP	**Efpalio**	**1.46 312**	P		**Pn**	**13 55 53.9 +0.5**
EFP	**Efpalio**	**1.46 312**	*e*Pn		**Pb**	**13 55 54.7 +0.1**
EFP			S		**Sb**	**13 56 13.4 +0.5**
EFP	**Efpalio**	**1.46 312**	P		**Pn**	**13 55 53.9 +0.5**
EFP			S		**Sb**	**13 56 13.4 +0.5**
RLS	**Riolos of Patr**	**1.57 293**	*e*PN		**Pb**	**13 55 56.3 -0.1**
RLS	**Riolos of Patr**	**1.57 293**	P		**Pn**	**13 55 55.4 +0.5**
RLS	**Riolos of Patr**	**1.57 293**	*e*Pn		**Pb**	**13 55 56.3 -0.1**
RLS	**Riolos of Patr**	**1.57 293**	P		**Pn**	**13 55 55.4 +0.5**
ANKY	**Antikythira Is**	**1.59 180**	P		**Pn**	**13 55 55.6 +0.4**
ANKY			S		**Sb**	**13 56 17.1 +0.5**
ANKY	**Antikythira Is**	**1.59 180**	P		**Pn**	**13 55 55.6 +0.4**
ANKY			S		**Sb**	**13 56 17.1 +0.5**
AGG	**Agios Georgios**	**1.73 334**	*e*PN		**Pb**	**13 55 58.5 -0.7**
AGG	**Agios Georgios**	**1.73 334**	P		**Pn**	**13 55 58.0 +0.8**
AGG	**Agios Georgios**	**1.73 334**	*e*Pn		**Pb**	**13 55 58.5 -0.7**
AGG	**Agios Georgios**	**1.73 334**	P		**Pn**	**13 55 58.0 +0.8**
AOS	**Alonnisos**	**1.77 15**	*e*PB		**Pn**	**13 55 57.2 -0.4**
AOS	**Alonnisos**	**1.77 15**	P		**Pn**	**13 55 57.2 -0.4**
AOS	**Alonnisos**	**1.77 15**	P		**Pn**	**13 55 57.2 -0.4**
MAKR	**Makrakomi, Fth**	**1.80 330**	*e*PN		**Pb**	**13 55 59.7 -0.7**
MAKR	**Makrakomi, Fth**	**1.80 330**	P		**Pn**	**13 55 59.2 +1.1**
MAKR	**Makrakomi, Fth**	**1.80 330**	*e*Pn		**Pb**	**13 55 59.7 -0.7**
MAKR	**Makrakomi, Fth**	**1.80 330**	P		**Pn**	**13 55 59.2 +1.1**
APE	**Apeiranthos**	**1.82 102**	*e*PB		**Pn**	**13 55 58.4 0.0**
APE	**Apeiranthos**	**1.82 102**	P		**Pn**	**13 55 58.5 0.0**
APE	**Apeiranthos**	**1.82 102**	P		**Pn**	**13 55 58.5 0.0**
NEO	**Neokhori**	**1.84 358**	*e*PN		**Pn**	**13 55 58.9 +0.2**
NEO			*e*SN		**Sn**	**13 56 20.8 -0.9**
NEO	**Neokhori**	**1.84 358**	P		**Pn**	**13 55 58.6 -0.1**
NEO	**Neokhori**	**1.84 358**	*e*Pn		**Pn**	**13 55 58.9 +0.2**
NEO			*e*Sn		**Sn**	**13 56 20.8 -0.9**
NEO	**Neokhori**	**1.84 358**	P		**Pn**	**13 55 58.6 -0.1**
EVR	**Evrytania**	**1.87 322**	P		**Pn**	**13 55 59.6 +0.5**
EVR			S		**Sn**	**13 56 23.6 +1.2**
EVR	**Evrytania**	**1.87 322**	P		**Pn**	**13 55 59.6 +0.5**
EVR			S		**Sn**	**13 56 23.6 +1.2**
XOR	**Xorichti**	**1.90 358**	*e*PN		**Pn**	**13 55 59.8 +0.2**
XOR	**Xorichti**	**1.90 358**	P		**Pn**	**13 55 59.5 -0.1**
XOR	**Xorichti**	**1.90 358**	*e*Pn		**Pn**	**13 55 59.8 +0.2**
XOR	**Xorichti**	**1.90 358**	P		**Pn**	**13 55 59.5 -0.1**
FYTO	**Fytoko, Volos**	**1.96 352**	P		**Pn**	**13 56 00.3 -0.1**
FYTO	**Fytoko, Volos**	**1.96 352**	P		**Pn**	**13 56 00.3 -0.1**
VAM	**Vamos**	**2.18 160**	P		**Pn**	**13 56 04.0 +0.7**
VAM	**Vamos**	**2.18 160**	P		**Pn**	**13 56 04.0 +0.7**
VLS	**Valsamata**	**2.26 289**	*e*PB		**Pb**	**13 56 06.7 -1.5**
VLS	**Valsamata**	**2.26 289**	*e*Pb		**Pb**	**13 56 06.7 -1.5**
THL	**Klokotos Trika**	**2.33 335**	*e*PN		**Pn**	**13 56 06.3 +0.9**
THL	**Klokotos Trika**	**2.33 335**	P		**Pn**	**13 56 06.0 +0.6**
THL	**Klokotos Trika**	**2.33 335**	*e*Pn		**Pn**	**13 56 06.3 +0.9**
THL	**Klokotos Trika**	**2.33 335**	P		**Pn**	**13 56 06.0 +0.6**
CHOS	**Chios island**	**2.37 66**	P		**Pn**	**13 56 06.0 0.0**
CHOS	**Chios island**	**2.37 66**	P		**Pn**	**13 56 06.0 0.0**
LIT	**Litokhoron**	**2.71 347**	*e*PN		**Pn**	**13 56 11.3 +0.7**
LIT	**Litokhoron**	**2.71 347**	P		**Pn**	**13 56 10.8 +0.2**
LIT	**Litokhoron**	**2.71 347**	*e*Pn		**Pn**	**13 56 11.3 +0.7**
LIT	**Litokhoron**	**2.71 347**	P		**Pn**	**13 56 10.8 +0.2**
SMG	**Samos**	**2.82 84**	*e*PN		**Pn**	**13 56 12.7 +0.5**
SMG	**Samos**	**2.82 84**	*e*Pn		**Pn**	**13 56 12.7 +0.5**
OUR	**Ouranopolis**	**2.92 10**	*e*PN		**Pn**	**13 56 13.4 -0.1**
OUR	**Ouranopolis**	**2.92 10**	*e*Pn		**Pn**	**13 56 13.4 -0.1**
OUR	**Ouranopolis**	**2.92 10**	P		**Pn**	**13 56 13.3 -0.2**
PRK	**Paraskevi**	**2.94 52**	*e*PB		**Pn**	**13 56 15.9 +2.1**
PRK	**Paraskevi**	**2.94 52**	*e*Pb		**Pn**	**13 56 15.9 +2.1**
IGT	**Igoumenitsa**	**3.11 313**	*e*PN		**Pn**	**13 56 17.5 +1.4**
IGT	**Igoumenitsa**	**3.11 313**	*e*Pn		**Pn**	**13 56 17.5 +1.4**
HORT	**Hortiatis**	**3.14 357**	*e*PN		**Pn**	**13 56 17.4 +0.9**
HORT	**Hortiatis**	**3.14 357**	*e*Pn		**Pn**	**13 56 17.4 +0.9**
SOH	**Sokhos**	**3.36 1**	*e*PN		**Pn**	**13 56 20.6 +1.1**
SOH	**Sokhos**	**3.36 1**	*e*Pn		**Pn**	**13 56 20.6 +1.1**
GRG	**Griva**	**3.56 349**	*e*PN		**Pn**	**13 56 24.2 +1.9**
GRG	**Griva**	**3.56 349**	*e*Pn		**Pn**	**13 56 24.2 +1.9**
KNT	**Kendrikon**	**3.71 355**	*e*PN		**Pn**	**13 56 25.6 +1.2**
KNT	**Kendrikon**	**3.71 355**	*e*Pn		**Pn**	**13 56 25.6 +1.2**
BARS	**Barje**	**5.47 348**	*e*Pn		**Pn**	**13 56 49.9 +1.4**
IVAS	**Ivanjica**	**6.56 340**	*e*Pn		**Pn**	**13 57 05.1 +1.5**
STON	**Ston**	**6.89 323**	*e*Pn		**Pn**	**13 57 07.6 -0.5**
STON			Sn		**Sn**	**13 58 21.3 -4.8**
STON	**Ston**	**6.89 323**	*e*Pn		**Pn**	**13 57 07.6 -0.5**
BBLS	**Lazići**	**7.05 336**	*e*Pn		**Pn**	**13 57 10.9 +0.6**
NB2	**NORSAR Subarra**	**24.80 346**	P		**P**	**14 00 47.2 -1.5**
	comp=Z,1.1nm,0.8s,baz=159,slow=10					
NB2	**NORSAR Subarra**	**24.80 346**	P		**P**	**14 00 47.2 -1.5**
	comp=Z,1.1nm,0.8s,SNR=3.2					
KURBB	**Kurchatov Arra**	**40.90 53**	P		**P**	**14 03 09.3 +0.4**
	comp=Z,0.4nm,0.5s,baz=277,slow=8.8,SNR=5.4					
MKAR	**Makanchi Array**	**43.80 58**	P		P	**14 03 32.5 -0.2**
	comp=Z,0.5nm,0.5s,baz=281,slow=7.7,SNR=4.6					
ZALV	**Zalesovo Beam**	**44.54 48**	P		P	14 03 42.4 +4.0
	comp=Z,0.4nm,0.3s,baz=273,slow=10.0,SNR=3.9					

NEIC 28 14:03:48.7, 52.78N×169.21W, h15km, ML3.2(AEIC), **After AEIC., Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski Hig**	**0.29**	**47**	P	Pg	14 03 54.5	-0.3
NIKH				S	Sb	14 04 01.1	+0.8
OKSP	**Okmok Steeple**	**0.73**	**49**	P	Pg	14 04 02.9	-0.1
OKSP				S	Sn	14 04 14.7	-0.8
OKSO	**Okmok South**	**0.86**	**47**	P	Pb	14 04 04.3	-1.1
OKSO				S	Sn	14 04 19.1	+0.4
OKWR	**Okmok West Rim**	**0.89**	**42**	P	Pg	14 04 06.5	+0.4
OKCE	**Okmok Cone E**	**0.91**	**43**	P	Pb	14 04 06.0	-0.1
OKTU	**Okmok Mt. Tuli**	**0.93**	**49**	P	Pb	14 04 06.6	0.0
OKAK	**Okmok**	**0.95**	**32**	P	Pb	14 04 04.1	-2.8
OKRE	**Okmok R'deer P**	**0.97**	**40**	P	Pb	14 04 07.3	0.0
OKFG	**Magazine Ridge**	**1.01**	**50**	P	Pb	14 04 06.6	-1.2
OKFG				S	Sn	14 04 22.5	+0.3
MSOM	**Makushin Julie**	**1.71**	**52**	P	Pn	14 04 17.9	0.0
MSW	**Makushin Switc**	**1.85**	**51**	P	Pn	14 04 20.6	+0.7
MTBL	**Makushin Table**	**1.93**	**51**	P	Pn	14 04 21.1	0.0
UNV	**Unalaska Valle**	**1.94**	**55**	P	Pn	14 04 21.6	+0.4
AKUT	**Akutan**	**2.46**	**55**	*e*Pn	Pn	14 04 23.0	-5.3
ATKA	**Atka Island**	**3.10**	**261**	P	Pn	14 04 38.4	+1.3
SPIA	**Saint Paul Isl**	**4.45**	**353**	P	Pn	14 04 55.6	+0.1

IDC 28 14:04:05.1±1.1, 52.68N×169.51W, h0km, mb3.6/7, mb1 3.9/8, mb1mx3.6/29, mbtmp3.6/8, ML3.6/1, Error ellipse: s-maj=33.2km s-min=21.8km az=168.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILAR	**Eielson Array**	**16.75**	**35**	Pn	Pn	14 07 59.4	-1.4
	0.1nm,0.3s,baz=231,slow=11,SNR=6.9						
SEY	**Seymchan**	**22.40**	**312**	P	P	14 09 04.7	-0.1
	0.9nm,0.9s,baz=115,slow=12,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**37.64**	**218**	T	T	14 51 25.9	
	baz=23,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**37.65**	**218**	T	T	14 51 25.9	
	baz=23,slow=76,SNR=16						
H11N1	**WAKE ISLAND Hy**	**37.66**	**218**	T	T	14 51 26.2	
	baz=23,slow=76,SNR=12						
NVAR	**Mina Array Bea**	**37.75**	**91**	P	P	14 11 23.5	+0.7
	0.3nm,0.5s,baz=311,slow=8.2,SNR=3.1						
H11S1	**WAKE ISLAND Hy**	**38.83**	**218**	T	T	14 52 55.0	
	baz=23,slow=76,SNR=50						
H11S2	**WAKE ISLAND Hy**	**38.85**	**218**	T	T	14 52 55.6	
	baz=23,slow=76,SNR=38						
H11S3	**WAKE ISLAND Hy**	**38.85**	**218**	T	T	14 52 55.6	
	baz=23,slow=76,SNR=39						
PDAR	**Pinedale Array**	**40.43**	**79**	P	P	14 11 45.3	+0.1
	0.3nm,0.5s,baz=302,slow=8.4,SNR=3.9						
ULM	**Lac du Bonnet**	**44.08**	**62**	P	P	14 12 12.5	-2.0
	2.4nm,0.3s,baz=333,slow=6.8,SNR=3.3						
TXAR	**Lajitas Array**	**52.83**	**89**	P	P	14 13 22.5	+0.1
	0.4nm,0.6s,baz=309,slow=6.0,SNR=6.2						
WRA	**Warramunga Arr**	**87.13**	**231**	P	P	14 16 52.7	0.0
	0.4nm,0.9s,baz=34,slow=5.7,SNR=3.1						
ASAR	**Alice Springs**	**90.53**	**230**	P	P	14 17 08.9	+0.2
	0.4nm,1.0s,baz=47,slow=4.1,SNR=4.8						

*IDC **28** 14:09:24.8±1.4, 52.39N×169.54W, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.5/28, mbtmp3.4/5, ML3.3/1, Error ellipse: s-maj=62.3km s-min=26.5km az=144.0*
*ISCJB **28** 14:09:27.0±1.4, 52.6N±0.1×169.4W±0.1, h25km±8km, mb3.5/4, Error ellipse: s-maj=22.6km s-min=8.1km az=148.8*
*NEIC **28** 14:09:26.3, 52.59N×169.30W, h5km, ML3.2(AEIC), After AEIC.*

ISC 28 14:09:26.8±4.0, 52.6N±0.1×169.32W±0.08, h11km±26km, n30, σ0.94/29, mb3.6/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.46**	**38**	P	**Pb**	**14 09 36.3**	**-0.6**
NIKH				S	**Sb**	**14 09 43.8**	**+0.1**
OKSP	**Okmok Steeple**	**0.89**	**44**	P	**Pb**	**14 09 44.2**	**-0.1**
OKSP				S	**Sb**	**14 09 56.9**	**+0.6**
OKSO	**Okmok South**	**1.02**	**43**	P	**Pb**	**14 09 46.0**	**-0.5**
OKSO				S	**Sb**	**14 10 00.2**	**+0.3**
OKWR	**Okmok West Rim**	**1.06**	**39**	P	**Pb**	**14 09 47.5**	**+0.3**
OKCE	**Okmok Cone E**	**1.07**	**40**	P	**Pb**	**14 09 46.5**	**-0.9**
OKTU	**Okmok Mt. Tuli**	**1.09**	**45**	P	**Pn**	**14 09 47.3**	**-0.8**
OKAK	**Okmok**	**1.13**	**31**	P	**Pn**	**14 09 45.7**	**-2.8**
OKRE	**Okmok R'deer P**	**1.15**	**37**	P	**Pn**	**14 09 48.9**	**+0.1**
OKFG	**Magazine Ridge**	**1.17**	**46**	P	**Pn**	**14 09 47.8**	**-1.2**
OKFG				S	**Sb**	**14 10 04.3**	**+0.2**
MSOM	**Makushin Julie**	**1.87**	**49**	P	**Pn**	**14 09 57.6**	**-1.0**
MCIR	**Makushin Cirqu**	**1.98**	**47**	P	**Pn**	**14 10 01.1**	**+0.9**
MSW	**Makushin Switc**	**2.00**	**49**	P	**Pn**	**14 10 01.3**	**+0.8**
MTBL	**Makushin Table**	**2.09**	**48**	P	**Pn**	**14 10 01.6**	**-0.1**
UNV	**Unalaska Valle**	**2.10**	**53**	P	**Pn**	**14 10 01.3**	**-0.5**
UNV				S	**Sn**	**14 10 27.7**	**-0.2**
ZRO	**Akutan Zero**	**2.49**	**52**	P	**Pn**	**14 10 07.7**	**+0.4**
AKGG	**Akutan Green G**	**2.55**	**50**	P	**Pn**	**14 10 08.1**	**+0.1**
AKUT	**Akutan**	**2.62**	**53**	*e*Pn	**Pn**	**14 10 09.5**	**+0.6**
ATKA	**Atka Island**	**3.01**	**264**	P	**Pn**	**14 10 14.5**	**+0.2**
SPIA	**Saint Paul Isl**	**4.60**	**354**	P	**Pn**	**14 10 37.1**	**+0.9**
ILAR	**Eielson Array**	**16.73**	**35**	Pn	**Pn**	**14 13 21.6**	**+0.7**
	0.0nm,0.3s,baz=225,slow=11,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**37.66**	**218**	T	T	14 56 36.1	
	baz=23,slow=76,SNR=17						
H11N3	**WAKE ISLAND Hy**	**37.67**	**218**	T	T	14 56 36.7	
	baz=23,slow=76,SNR=21						
H11N1	**WAKE ISLAND Hy**	**37.68**	**218**	T	T	14 56 35.1	
	baz=23,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**38.85**	**218**	T	T	14 58 07.5	
	baz=23,slow=76,SNR=164						
H11S2	**WAKE ISLAND Hy**	**38.87**	**218**	T	T	14 58 07.7	
	baz=23,slow=76,SNR=173						
H11S3	**WAKE ISLAND Hy**	**38.87**	**218**	T	T	14 58 08.3	
	baz=23,slow=76,SNR=98						
PDAR	**Pinedale Array**	**40.33**	**79**	P	**P**	**14 17 05.2**	**+0.9**
	0.2nm,0.6s,baz=293,slow=4.7,SNR=2.6						
TXAR	**Lajitas Array**	**52.72**	**89**	P	**P**	**14 18 42.2**	**+0.8**
	0.7nm,0.7s,baz=316,slow=6.3,SNR=4.4						
WRA	**Warramunga Arr**	**87.18**	**232**	P	**P**	**14 22 10.9**	**-2.0**
	0.3nm,0.8s,baz=37,slow=5.8,SNR=2.8						
ASAR	**Alice Springs**	**90.58**	**230**	P	**P**	**14 22 28.1**	**-0.7**
	0.4nm,0.6s,baz=30,slow=5.8,SNR=5.4						

IDC 28 14:11:29.8±2.9, 53.68N×88.08E, h0km, mb1 3.0/2, mb1mx2.9/37, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=25.1km s-min=18.5km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.95**	**279**	*i*		14 23 40.0	
	baz=93,slow=325,SNR=6.0						
ZALV	**Zalesovo Beam**	**1.95**	**279**	Pn	Pn	14 12 04.2	0.0
	2.4nm,0.3s,baz=98,slow=16,SNR=30						
ZALV				Lg	Lg	14 12 31.5	
	4.5nm,0.3s,baz=99,slow=28,SNR=15						
KURBB	**Kurchatov Arra**	**6.63**	**246**	Pn	Pn	14 13 09.0	+0.6
	0.2nm,0.3s,baz=63,slow=15,SNR=16						
KURBB				Sn	Sn	14 14 23.8	-0.8
	baz=62,slow=24,SNR=3.3						
KURBB				Lg	Lg	14 14 59.6	
	0.1nm,0.3s,baz=62,slow=33,SNR=4.1						
MKAR	**Makanchi Array**	**7.83**	**211**	Pn	Pn	14 13 25.9	+1.0
	0.1nm,0.3s,baz=26,slow=15,SNR=4.6						
MKAR				Lg	Lg	14 15 38.1	
	0.0nm,0.3s,baz=29,slow=30,SNR=3.1						

*IDC **28** 14:27:10.3±0.7, 13.04N×120.61E, h0km, mb4.1/13, mb1 4.2/13, mb1mx3.9/53, mbtmp4.1/13, MS3.5/12, Ms1 3.5/12, ms1mx3.2/50, Error ellipse: s-maj=20.8km s-min=10.6km az=95.0*
*NEIC **28** 14:27:11.8±1.7, 13.08N×120.66E, h10km±10km, mb4.1/1, Error ellipse: s-maj=15.2km s-min=7.8km az=66.0*
NEIC Felt [III PIVS] at Abra de Ilog, Mamburao and Santa Cruz; [II PIVS] at Puerto Galera.
*ISCJB **28** 14:27:13.0±0.4, 13.08N±0.04×120.69E±0.06, h27km, mb4.1/14, MS3.5/11, Error ellipse: s-maj=8.2km s-min=5.1km az=20.7*
*MAN **28** 14:27:14, 13.14N×120.60E, h27km, mb4.6, ML3.4, MS3.4*

MAN INTENSITY III - MAMBURAO; STA CRUZ ABRA DE ILOG OCCIDENTAL MINDORO; INTENSITY II - PUERTO GALERA ORIENTAL MINDORO.

ISC 28 14:27:14.7±0.6, 13.13N±0.05×120.69E±0.06, h27km, n38, σ0.72/36, mb4.1/14, MS3.6/11, 3C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.99**	**14**	Pg	**Pn**	**14 27 32.0**	**-1.0**
	1μm,0.3s,baz=194,slow=5.2,SNR=38						
TGY				Lg	Lg	14 27 46.6	
	4μm,0.3s,baz=217,slow=20,SNR=26						
TGY	**Tagaytay City**	**0.99**	**14**	*i*P	**Pn**	**14 27 33.1**	**+0.2**
TGY				*i* S	**Sn**	**14 27 46.2**	**0.0**
LQP	**Lukban**	**1.28**	**40**	*i*eP	**Pn**	**14 27 36.4**	**-0.5**
GQP	**Guinayangan**	**1.87**	**66**	*i*eP	**Pn**	**14 27 46.0**	**+1.1**
GQP				*e*S	**Sb**	**14 28 12.6**	**+1.4**
BCPH	**Baguio City Da**	**3.23**	**358**	*i*P	**Pn**	**14 28 03.9**	**+0.1**
BCPH				*i* S	**Sn**	**14 28 42.5**	**+0.9**
PVCP	**Virac**	**3.40**	**82**	*i*P	**Pn**	**14 28 05.5**	**-0.4**
PVCP				*i* S	x	14 28 11.8	
PPR	**Puerto Princes**	**3.85**	**210**	*i*P	**Pn**	**14 28 13.4**	**+1.3**
PPR				*i* S	**Sn**	**14 28 55.8**	**-0.7**
SZP	**Santa**	**4.40**	**357**	Pn	Pn	14 28 13.2	-6.5
KAPI	**Kappang**	**18.05**	**183**	LR	LR	14 39 10.3	
	comp=Z,38nm,18.6s,baz=53,slow=40						
CMAR	**Chiang Mai Arr**	**21.58**	**287**	P	**P**	**14 32 01.9**	**-0.6**
	6.4nm,0.8s,baz=96,slow=8.2,SNR=29						
CMAR				LR	LR	14 40 51.7	
	comp=Z,68nm,19.4s,baz=130,slow=38						
GUMO	**Guam**	**23.52**	**86**	LR	LR	14 41 29.3	
	comp=Z,65nm,20.1s,baz=262,slow=36						
PSI	**Prapat**	**23.85**	**246**	LR	LR	14 41 06.2	
	comp=Z,82nm,21.4s,baz=53,slow=35						
JCJ	**Chichijima**	**24.45**	**52**	LR	LR	14 40 46.6	
	comp=Z,47nm,21.2s,baz=252,slow=33						
KSAR	**Wonju Array Be**	**25.05**	**14**	P	**P**	**14 32 36.7**	**0.0**
KSRS	**Korea Array**	**25.07**	**14**	P	**P**	**14 32 36.7**	**-0.2**
	1.4nm,0.9s,baz=186,slow=11,SNR=4.5						
TAPN	**Taplejung**	**33.90**	**300**	*e*P	**P**	**14 33 56.7**	**+0.8**
	16nm,0.7s						
ODAN	**Odare**	**34.02**	**299**	*e*P	**P**	**14 33 57.4**	**+0.5**
	23nm,0.6s						
RAMN	**Ramite**	**34.73**	**299**	*e*P	**P**	**14 34 04.2**	**+1.2**
	33nm,0.7s						
WRA	**Warramunga Arr**	**35.50**	**158**	P	**P**	**14 34 08.6**	**-0.8**
	5.9nm,1.0s,baz=337,slow=9.5,SNR=30						
GUN	**Gumba**	**35.62**	**300**	*e*P	**P**	**14 34 11.8**	**+1.0**
	45nm,0.8s						
PKIN	**Phulchoki**	**35.93**	**299**	*e*P	**P**	**14 34 13.7**	**+0.3**
	12nm,0.7s						
KKN	**Kakani**	**36.09**	**299**	*e*P	**P**	**14 34 14.5**	**-0.2**
	17nm,0.9s						
DMN	**Daman**	**36.19**	**299**	*e*P	**P**	**14 34 16.6**	**+1.1**
	13nm,0.6s						
SONM	**Songino Array**	**36.60**	**344**	P	**P**	**14 34 18.9**	**+0.2**
	1.6nm,0.6s,baz=166,slow=8.8,SNR=13						
SONM				LR	LR	14 49 19.8	
	comp=Z,90

SEYT	**Eskypehyr**	**1.44**	**135**	*i* P	**Pn**	**14 28 14.5**	**-1.0**
SEYT				*i* S	**Sg**	**14 28 36.8**	**+2.2**
SEYT	**Eskypehyr**	**1.44**	**135**	*i* P	**Pn**	**14 28 14.5**	**-1.0**
SEYT				*i* S	**Sg**	**14 28 36.8**	**+2.2**
GDZ	**Gediz**	**1.46**	**182**	*i* P	**Pn**	**14 28 15.4**	**-0.3**
GDZ				*i* S	**Sg**	**14 28 36.0**	**+0.8**
GDZ	**Gediz**	**1.46**	**182**	*i* P	**Pn**	**14 28 15.4**	**-0.3**
GDZ				*i* S	**Sg**	**14 28 36.0**	**+0.8**
MRMT	**Marmara Adasi**	**1.48**	**273**	*e*PN	**Pn**	**14 28 15.8**	**-0.2**
MRMT	**Marmara Adasi**	**1.48**	**273**	*e*Pn	**Pn**	**14 28 15.8**	**-0.2**
BALB	**Balikesir**	**1.56**	**235**	*e*PN	**Pn**	**14 28 17.0**	**0.0**
BALB	**Balikesir**	**1.56**	**235**	*e*Pn	**Pn**	**14 28 17.0**	**0.0**
DEMI	**Demirci**	**1.63**	**203**	*i* P	**Pn**	**14 28 17.2**	**-0.8**
DEMI				*i* S	**Sb**	**14 28 40.2**	**+0.1**
DEMI	**Demirci**	**1.63**	**203**	*i* P	**Pn**	**14 28 17.2**	**-0.8**
DEMI				*i* S	**Sb**	**14 28 40.2**	**+0.1**
KDZE	**Karadeniz Ereo**	**1.64**	**61**	*e*PN	**Pn**	**14 28 17.8**	**-0.3**
KDZE	**Karadeniz Ereo**	**1.64**	**61**	*e*Pn	**Pn**	**14 28 17.8**	**-0.3**
BALY	**Balya**	**1.68**	**242**	*i* P	**Pb**	**14 28 19.8**	**-0.1**
BALY				*i* S	**Sg**	**14 28 43.1**	**+0.9**
BALY	**Balya**	**1.68**	**242**	*i* P	**Pb**	**14 28 19.8**	**-0.1**
BALY				*i* S	**Sg**	**14 28 43.1**	**+0.9**
SART	**Tekirdag**	**1.80**	**275**	*i* P	**Pn**	**14 28 20.9**	**+0.5**
SART				*i* S	**Sg**	**14 28 45.9**	**-0.2**
SART	**Tekirdag**	**1.80**	**275**	*i* P	**Pn**	**14 28 20.9**	**+0.5**
SART				*i* S	**Sg**	**14 28 45.9**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.80**	**275**	*e*PN	**Pn**	**14 28 20.2**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.80**	**275**	*e*Pn	**Pn**	**14 28 20.2**	**-0.2**
SVRH	**Sivrihisar-ESK**	**1.88**	**125**	*e*PN	**Pn**	**14 28 21.8**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.88**	**125**	*e*Pn	**Pn**	**14 28 21.8**	**+0.3**
BCAM	**Yenicaga**	**1.94**	**81**	*i* P	**Pb**	**14 28 23.9**	**-0.6**
BCAM				*i* S	**Sg**	**14 28 50.8**	**0.0**
BCAM	**Yenicaga**	**1.94**	**81**	*i* P	**Pb**	**14 28 23.9**	**-0.6**
BCAM				*i* S	**Sg**	**14 28 50.8**	**0.0**
KULA	**Kula-Manisa**	**2.14**	**199**	*e*PN	**Pn**	**14 28 24.9**	**-0.1**
KULA	**Kula-Manisa**	**2.14**	**199**	*e*Pn	**Pn**	**14 28 24.9**	**-0.1**
MANT	**Manisa**	**2.19**	**201**	*i* P	**Pb**	**14 28 29.2**	**+0.5**
MANT				*i* S	**Sb**	**14 28 56.1**	**-0.2**
MANT	**Manisa**	**2.19**	**201**	*i* P	**Pb**	**14 28 29.2**	**+0.5**
MANT				*i* S	**Sb**	**14 28 56.1**	**-0.2**
GELI	**Tayfur-Gelibol**	**2.34**	**267**	*e*PN	**Pn**	**14 28 28.3**	**+0.6**
GELI	**Tayfur-Gelibol**	**2.34**	**267**	*e*Pn	**Pn**	**14 28 28.3**	**+0.6**

MAN 28 14:29:57.1, 13°.54N × 119°.98E, h13^{km}, mb3.7, ML2.4, MS2.0, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.08**	**59**	*i*P	Pb	14 30 17.4	-0.3
TGY				*i* S	Sn	14 30 33.3	+0.3
LQP	**Lukban**	**1.62**	**69**	*e*P	Sn	14 30 42.8	-3.6
GQP	**Guinayangan**	**2.42**	**81**	*e*P	Pn	14 30 37.0	+0.7

*IDC **28** 14:30:28.9±1.0, 52°.55N × 169°.64W, h0^{km}, mb3.6/6, mb1 3.9/7, mb1mx3.5/55, mbtmp3.5/7, ML3.4/1, Error ellipse: s-maj=33.3km s-min=21.2km az=168.0*
*ISCJB **28** 14:30:29.3±1.7, 52°.62N±0°.09 × 169°.5W±0°.1, h12^{km}±11^{km}, mb3.5/6, Error ellipse: s-maj=18.3km s-min=6.8km az=142.0*
*NEIC **28** 14:30:31.5, 52°.72N × 169°.32W, h5^{km}, ML3.6(AEIC), After AEIC.*

ISC 28 14:30:29.7±1.6, 52°.8N±0°.1 × 169°.66W±0°.07, h6^{km}±10^{km}, n33, σ0°.74/32, mb3.6/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.51**	**71**	P	**Pg**	**14 30 39.7**	**+0.1**
NIKH				S	**Sg**	**14 30 46.9**	**+0.6**
OKSP	**Okmok Steeple**	**0.94**	**61**	P	**Pg**	**14 30 47.8**	**+0.1**
OKSO	**Okmok South**	**1.06**	**58**	P	**Pg**	**14 30 49.7**	**-0.3**
OKSO				S	**Sg**	**14 31 04.1**	**+0.5**
OKWR	**Okmok West Rim**	**1.07**	**54**	P	**Pb**	**14 30 51.0**	**+0.2**
OKCE	**Okmok Cone E**	**1.09**	**55**	P	**Pg**	**14 30 50.3**	**-0.3**
OKCE				S	**Sn**	**14 31 07.0**	**0.0**
OKAK	**Okmok**	**1.10**	**45**	P	**Pg**	**14 30 49.4**	**-1.4**
OKTU	**Okmok Mt. Tuli**	**1.13**	**59**	P	**Pg**	**14 30 51.0**	**-0.4**
OKRE	**Okmok R'deer P**	**1.15**	**51**	P	**Pn**	**14 30 52.5**	**+0.1**
OKFG	**Magazine Ridge**	**1.21**	**59**	P	**Pg**	**14 30 51.7**	**-1.3**
OKFG				S	**Sg**	**14 31 08.1**	**-0.5**
MSOM	**Makushin Julie**	**1.91**	**57**	P	**Pn**	**14 31 02.4**	**-0.5**
MCIR	**Makushin Cirqu**	**2.01**	**54**	P	**Pn**	**14 31 05.1**	**+0.8**
MSW	**Makushin Switc**	**2.05**	**56**	P	**Pn**	**14 31 04.5**	**-0.2**
MSW				S	**Sn**	**14 31 30.3**	**-0.3**
MTBL	**Makushin Table**	**2.13**	**56**	P	**Pn**	**14 31 05.7**	**-0.2**
UNV	**Unalaska Valle**	**2.16**	**60**	P	**Pn**	**14 31 05.1**	**-1.1**
UNV				S	**Sn**	**14 31 32.8**	**-0.5**
AKRB	**Akutan Reef Bi**	**2.52**	**57**	P	**Pn**	**14 31 11.7**	**+0.5**
ZRO	**Akutan Zero**	**2.55**	**58**	P	**Pn**	**14 31 12.7**	**+1.1**
AKGG	**Akutan Green G**	**2.59**	**56**	P	**Pn**	**14 31 12.7**	**+0.5**
AKUT	**Akutan**	**2.67**	**59**	*e*Pn	**Pn**	**14 31 13.9**	**+0.6**
ATKA	**Atka Island**	**2.84**	**259**	P	**Pb**	**14 31 20.8**	**-0.1**
SPIA	**Saint Paul Isl**	**4.39**	**356**	P	Pn	14 31 41.2	+4.3
ILAR	**Eielson Array** 0.1nm,0.3s,baz=227,slow=11,SNR=5.5	**16.69**	**35**	Pn	**Pn**	**14 34 24.1**	**+0.1**
SEY	**Seymchan** 0.8nm,0.8s,baz=93,slow=9.4,SNR=5.6	**22.24**	**312**	P	**P**	**14 35 29.0**	**+2.1**
H11N2	**WAKE ISLAND Hy 37.69** baz=24,slow=76,SNR=19	**218**		T	T	15 17 44.3	
H11N3	**WAKE ISLAND Hy 37.70** baz=24,slow=76,SNR=25	**218**		T	T	15 17 46.1	
H11N1	**WAKE ISLAND Hy 37.71** baz=24,slow=76,SNR=24	**218**		T	T	15 17 46.0	
NVAR	**Mina Array Bea** 0.3nm,0.6s,baz=309,slow=5.7,SNR=3.5	**37.85**	**91**	P	**P**	**14 37 47.7**	**+0.4**
H11S1	**WAKE ISLAND Hy 38.85** baz=23,slow=76,SNR=276	**217**		T	T	15 19 14.9	
H11S2	**WAKE ISLAND Hy 38.90** baz=23,slow=76,SNR=175	**217**		T	T	15 19 16.1	
H11S3	**WAKE ISLAND Hy 38.90** baz=23,slow=76,SNR=156	**217**		T	T	15 19 16.8	
PDAR	**Pinedale Array** 0.4nm,0.6s,baz=317,slow=6.1,SNR=5.8	**40.49**	**79**	P	**P**	**14 38 09.1**	**-0.3**
TXAR	**Lajitas Array** 1.0nm,0.8s,baz=308,slow=6.2,SNR=9.4	**52.91**	**89**	P	**P**	**14 39 46.4**	**-0.3**
WRA	**Warramunga Arr** 0.6nm,1.0s,baz=37,slow=5.7,SNR=3.5	**87.14**	**231**	P	**P**	**14 43 15.5**	**-1.0**
ASAR	**Alice Springs** 0.6nm,0.8s,baz=28,slow=4.7,SNR=8.6	**90.55**	**230**	P	**P**	**14 43 32.0**	**-0.5**

*IDC **28** 14:33:43.9±1.1, 58°.37S × 28°.02W, h0^{km}, mb4.0/2, mb1 4.0/2, mb1mx3.7/15, mbtmp3.9/2, Error ellipse: s-maj=68.8km s-min=50.1km az=94.0*

ISC 28 14:33:44.1±1.4, 59°.7S±0°.2 × 24°.5W±0°.5, h10^{km}, n9, σ2°.23/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.84**	**155**	P	**Pn**	**14 36 46.4**	**0.0**
VNA2	**Neumayer--Watz** baz=315,slow=15	**13.24**	**155**	P	**Pn**	**14 36 51.5**	**-0.3**
SNAA	**Sanae**	**14.79**	**153**	P	**Pn**	**14 37 12.5**	**-0.6**
TORD	**Torodi Ar. Bea** 0.7nm,0.7s,baz=198,slow=6.6,SNR=6.0	**75.63**	**26**	P	**P**	**14 45 28.3**	**-0.8**
ASAR	**Alice Springs** 0.3nm,0.8s,baz=185,slow=4.7,SNR=6.9	**95.04**	**160**	P	P	14 47 16.3	+9.3
YKA	**Yellowknife Ar** 0.3nm,0.6s,baz=132,slow=2.4,SNR=2.9	**139.83**	**314**	PKP	**PKPdf**	**14 53 08.1**	**-2.6**
SONM	**Songino Array** 1.1nm,0.9s,baz=219,slow=1.8,SNR=5.1	**149.37**	**91**	PKPbc	**PKPab**	**14 53 38.8**	**+1.7**
INK	**Inuvik** 2.2nm,0.6s,baz=79,slow=2.1,SNR=6.9	**149.52**	**316**	PKPbc	**PKPdf**	**14 53 26.9**	**-0.3**
ILAR	**Eielson Array** 0.8nm,0.7s,baz=134,slow=2.6,SNR=12	**153.55**	**306**	PKPbc	**PKPdf**	**14 53 37.2**	**+3.7**

MAN 28 14:35:09, 13°.21N × 120°.77E, h34^{km}, mb4.7, ML3.6, MS3.6, Mindoro

IDC 28 14:36:31.8±2.1, 31°.00S × 178°.25W, h11^{km}±15^{km}, mb3.5/3, mb1 3.6/4, mb1mx3.4/18, mbtmp3.9/4, Error ellipse: s-maj=55.0km s-min=14.6km az=108.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 46nm,0.3s,baz=105,slow=20,SNR=9.6	**1.77**	**9**	P	Pn	14 37 03.5	+1.2
RAO				S	Sn	14 37 25.7	+0.1
URZ	**Urewera** 0.2nm,0.3s,baz=27,slow=2.3,SNR=9.1	**8.19**	**207**	P	Pn	14 38 26.9	-0.7
URZ				S	Sn	14 39 58.0	-0.4
STKA	**Stephens Creek** 4.5nm,0.8s,baz=96,slow=9.9,SNR=7.0	**34.14**	**258**	P	P	14 43 07.2	+1.8
ASAR	**Alice Springs** 0.2nm,0.3s,baz=105,slow=7.3,SNR=12	**42.87**	**268**	P	P	14 44 18.2	-0.3
WRA	**Warramunga Arr** 0.6nm,0.6s,baz=112,slow=7.9,SNR=16	**43.91**	**273**	P	P	14 44 25.8	-1.1
FINES	**FINESS Array B** 0.6nm,0.4s,baz=62,slow=3.6,SNR=5.6	**145.63**	**339**	PKPbc	PKPdf	14 55 54.6	-0.7

*IDC **28** 14:37:22.6±1.7, 37°.67S × 73°.46W, h0^{km}, mb3.6/3, mb1 3.8/4, mb1mx3.7/20, mbtmp3.6/4, ML2.8/1, MS2.3/1, Ms1 2.3/1, ms1mx2.2/27, Error ellipse: s-maj=50.7km s-min=38.5km az=119.0*

ISC 28 14:37:25.9±1.5, 37°.7S±0°.2 × 73°.5W±0°.3, h23^{km}, n6, σ0°.75/7, mb3.5/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan** 0.2nm,0.3s,baz=216,slow=13,SNR=11	**7.44**	**37**	Pn	**Pn**	**14 39 12.2**	**-0.9**
CFAA				Sn	**Sn**	**14 40 37.7**	**+0.9**
CFAA	0.1nm,0.3s,baz=300,slow=20,SNR=2.2			LR	LR	14 42 14.2	
LPAZ	**La Paz** 0.8nm,0.6s,baz=179,slow=13,SNR=3.2	**21.83**	**14**	P	**P**	**14 42 17.3**	**0.0**
TXAR	**Lajitas Array** 0.3nm,0.6s,baz=168,slow=9.2,SNR=3.9	**72.42**	**333**	P	**P**	**14 48 50.5**	**+0.2**
TORD	**Torodi Ar. Bea** 0.7nm,0.5s,baz=234,slow=4.6,SNR=6.4	**86.54**	**71**	P	**P**	**14 50 07.9**	**+0.5**
BVAR	**Borovoye Array** 1.7nm,0.6s,baz=287,slow=3.6,SNR=12	**150.71**	**47**	PKPbc	**PKPbc**	**14 57 15.8**	**+0.3**
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=289,slow=3.7,SNR=4.1	**159.94**	**55**	PKPab	**PKPab**	**14 58 01.8**	**-0.5**

*IDC **28** 14:52:16.2±1.0, 52°.70N × 169°.43W, h0^{km}, mb3.7/8, mb1 3.9/11, mb1mx3.7/32, mbtmp3.7/11, ML3.4/3, Error ellipse: s-maj=30.6km s-min=17.3km az=164.0*
*ISCJB **28** 14:52:17.3±1.2, 52°.55N±0°.10 × 169°.42W±0°.09, h17^{km}±8^{km}, mb3.6/8, Error ellipse: s-maj=17.6km s-min=5.3km az=155.2*
*NEIC **28** 14:52:17.6, 52°.62N × 169°.40W, h5^{km}, ML3.6(AEIC), After AEIC.*

ISC 28 14:52:17.2±1.9, 52°.6N±0°.1 × 169°.40W±0°.06, h5^{km}±12^{km}, n43, σ1°.06/44, mb3.6/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.47**	**45**	P	**Pb**	**14 52 27.7**	**-0.2**
NIKH				S	**Sb**	**14 52 34.7**	**-0.3**
OKSP	**Okmok Steeple**	**0.90**	**47**	P	**Pb**	**14 52 35.5**	**+0.1**
OKSP				S	**Sb**	**14 52 48.0**	**+0.3**
OKSO	**Okmok South**	**1.03**	**46**	P	**Pg**	**14 52 37.3**	**+0.3**
OKSO				S	**Sb**	**14 52 52.7**	**+1.3**
OKWR	**Okmok West Rim**	**1.07**	**42**	P	**Pb**	**14 52 38.8**	**+0.5**
OKCE	**Okmok Cone E**	**1.08**	**43**	P	**Pg**	**14 52 38.0**	**+0.1**
OKCE				S	**Sn**	**14 52 54.7**	**+0.3**
OKWE	**Okmok W'ng Wal**	**1.08**	**40**	P	**Pn**	**14 52 39.1**	**+0.1**
OKTU	**Okmok Mt. Tuli**	**1.10**	**47**	P	**Pb**	**14 52 38.8**	**+0.1**
OKAK	**Okmok**	**1.13**	**33**	P	**Pg**	**14 52 37.3**	**-1.5**
OKRE	**Okmok R'deer P**	**1.15**	**40**	P	**Pn**	**14 52 40.0**	**0.0**
OKFG	**Magazine Ridge**	**1.18**	**49**	P	**Pg**	**14 52 39.5**	**-0.3**
OKFG				S	**Sb**	**14 52 55.9**	**+0.2**
MSOM	**Makushin Julie**	**1.88**	**50**	P	**Pn**	**14 52 49.9**	**-0.1**
MCIR	**Makushin Cirqu**	**1.99**	**48**	P	**Pn**	**14 52 52.9**	**+1.3**
MSW	**Makushin Switc**	**2.02**	**50**	P	**Pn**	**14 52 52.0**	**0.0**
MSW				S	**Sb**	**14 53 20.1**	**+0.3**
MTBL	**Makushin Table**	**2.10**	**50**	P	**Pn**	**14 52 53.5**	**+0.4**
UNV	**Unalaska Valle**	**2.12**	**54**	P	**Pn**	**14 52 52.8**	**-0.4**
UNV				S	**Sn**	**14 53 19.9**	**+0.1**
AKRB	**Akutan Reef Bi**	**2.49**	**52**	P	**Pn**	**14 52 59.5**	**+1.2**
ZRO	**Akutan Zero**	**2.51**	**53**	P	**Pn**	**14 53 00.2**	**+1.6**
AKGG	**Akutan Green G**	**2.56**	**51**	P	**Pn**	**14 53 00.6**	**+1.2**
AKUT	**Akutan**	**2.63**	**54**	P	**Pn**	**14 53 01.8**	**+1.4**
ATKA	**Atka Island**	**2.97**	**263**	P	**Pn**	**14 53 04.7**	**-0.3**
GSTR	**Great Sitkin T**	**4.12**	**265**	*e*Pn	**Pn**	**14 53 20.9**	**+0.1**
GSCK	**Great Sitkin C**	**4.20**	**264**	P	**Pn**	**14 53 23.2**	**+1.4**
SPIA	**Saint Paul Isl**	**4.57**	**354**	P	**Pn**	**14 53 28.2**	**+1.4**
SDPT	**Sand Point** 19nm,0.6s	**5.92**	**59**	*e*P	**Pn**	**14 53 46.9**	**+1.5**
AMKA	**Amchitka** 14nm,0.4s	**7.09**	**264**	*e*Pn	**Pn**	**14 54 03.5**	**+2.0**
KDAK	**Kodiak Island** 0.4nm,0.3s,baz=228,slow=6.6,SNR=2.9	**10.88**	**55**	Pn	**Pn**	**14 54 54.2**	**+0.7**
SEW	**Seward**	**13.30**	**48**	*e*Pn	**Pn**	**14 55 26.7**	**+0.3**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=226,slow=12,SNR=7.0	**16.73**	**35**	Pn	**Pn**	**14 56 08.0**	**-4.1**
PETK	**Petropavlovsk-** 0.2nm,0.3s,baz=99,slow=13,SNR=4.8	**19.77**	**285**	P	**P**	**14 56 48.4**	**+0.5**
SEY	**Seymchan** 0.5nm,0.6s,baz=85,slow=11,SNR=2.9	**22.47**	**312**	P	**P**	**14 57 16.5**	**-0.4**
DLBC	**Dease Lake** 3.2nm,0.8s,baz=284,slow=10,SNR=4.5	**22.76**	**60**	P	**P**	**14 57 21.0**	**+0.9**
YKA	**Yellowknife Ar** 0.3nm,0.4s,baz=273,slow=7.4,SNR=4.3	**30.07**	**49**	P	**P**	**14 58 26.6**	**-0.4**
H11N2	**WAKE ISLAND Hy 37.66** baz=23,slow=76,SNR=24	**218**		T	T	15 39 30.0	
H11N3	**WAKE ISLAND Hy 37.67** baz=23,slow=76,SNR=36	**218**		T	T	15 39 30.8	
H11N1	**WAKE ISLAND Hy 37.68** baz=23,slow=76,SNR=28	**218**		T	T	15 39 30.2	
NVAR	**Mina Array Bea** 0.4nm,0.6s,baz=308,slow=7.9,SNR=4.8	**37.69**	**91**	P	**P**	**14 59 33.7**	**+0.2**
H11S1	**WAKE ISLAND Hy 38.85** baz=23,slow=76,SNR=649	**218**		T	T	15 41 01.2	
H11S2	**WAKE ISLAND Hy 38.86** baz=23,slow=76,SNR=326	**218**		T	T	15 41 02.9	
H11S3	**WAKE ISLAND Hy 38.87** baz=23,slow=76,SNR=268	**218**		T	T	15 41 02.9	
PDAR	**Pinedale Array** 0.9nm,0.7s,baz=324,slow=5.4,SNR=8.9	**40.37**	**79**	P	**P**	**14 59 55.9**	**-0.1**
TXAR	**Lajitas Array** 1.2nm,0.6s,baz=302,slow=7.3,SNR=12	**52.76**	**89**	P	**P**	**15 01 33.5**	**+0.3**
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=34,slow=5.7,SNR=4.9	**87.16**	**232**	P	**P**	**15 05 03.0**	**-1.2**
ASAR	**Alice Springs** 0.8nm,0.8s,baz=32,slow=4.2,SNR=6.0	**90.56**	**230**	P	**P**	**15 05 19.8**	**-0.4**

*IDC **28** 15:04:24.6±0.6, 38°.28S × 93°.19W, h0^{km}, mb4.4/8, mb1 4.6/8, mb1mx4.3/31, mbtmp4.4/8, MS3.7/12, Ms1 3.7/12, ms1mx3.5/25, Error ellipse: s-maj=26.1km s-min=16.5km az=86.0*
*ISCJB **28** 15:04:25.8±0.4, 38°.41S±0°.07 × 93°.2W±0°.1, h13^{km}, mb4.3/18, MS3.6/12, Error ellipse: s-maj=13.7km s-min=9.8km az=158.1*
*NEIC **28** 15:04:26.5±0.3, 38°.39S × 93°.19W, h10^{km}, mb4.4/8, Error ellipse: s-maj=14.1km s-min=9.7km az=74.0*

ISC 28 15:04:26.7±0.5, 38°.38S±0°.1 × 93°.3W±0°.1, h13^{km}, n53, σ1°.16/39, mb4.4/18, MS3.7/12, 1C, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan** 0.2nm,0.5s,baz=265,slow=11,SNR=2.7	**21.59**	**79**	P	**P**	**15 09 14.8**	**-1.4**
CFAA	comp=Z,42nm,20.7s,baz=227,slow=32			LR	LR	15 15 43.4	
USHA	**Ushuaia** 8.1nm,0.9s,baz=315,slow=13,SNR=3.5	**23.53**	**142**	P	**P**	**15 09 36.2**	**-0.1**
TRQA	**Tornquist**	**24.56**	**99**	*e*P	**P**	**15 09 45.1**	**-1.1**
NNA	**Nana** comp=Z,208nm,21.2s,baz=190,slow=30	**30.11**	**34**	LR	LR	15 19 24.6	
LPAZ	**La Paz** comp=Z,70nm,18.7s,baz=220,slow=32	**31.20**	**52**	LR	LR	15 21 02.6	
CPUP	**Villa Florida** comp=Z,224nm,19.1s,baz=247,slow=34	**32.49**	**79**	LR	LR	15 22 47.3	
ATAH	**Atahualpa** 12nm,0.9s,baz=185,slow=11,SNR=7.0	**33.91**	**27**	P	**P**	**15 11 09.7**	**-0.3**
SIV	**San Ignacio** comp=Z,136nm,20.5s,baz=214,slow=33	**36.04**	**61**	LR	LR	15 24 23.6	
RKT	**Rikitea** 191nm,26.8s	**38.56**	**281**	*e*LR	LR	15 22 26.4	
RKT	**Rikitea** 1.6nm,0.2s	**38.56**	**281**	*e*T	T	15 54 17.8	
SAML	**Samuel**	**39.91**	**51**	P	**P**	**15 12 02.2**	**+1.7**
BDFB	**Brasilia**	**45.71**	**73**	LR	LR	15 30 38.1	
	comp=Z,214nm,20.6s,baz=225,slow=34						
ROSC	**El Rosal** comp=Z,68nm,18.8s,baz=214,slow=35	**46.49**	**27**	LR	LR	15 31 21.1	
TBI	**Tubuai** 80nm,26.8s	**49.76**	**271**	*e*S	**S**	**15 20 25.7**	**-2.2**
TBI	497nm,27.2s			*e*LR	LR	15 27 33.3	
TBI	**Tubuai** 5.0nm,0.2s	**49.76**	**271**	*e*T	T	16 07 37.7	
QSPA	**South Pole Qui** 3.7nm,1.0s,baz=125,slow=1.3,SNR=9.9	**51.84**	**180**	P	**P**	**15 13 35.0**	**+0.7**
QSPA	comp=Z,76nm,18.2s,baz=172,slow=32			LR	LR	15 31 41.4	
TVO	**Taravao** 0.9nm,0.3s	**52.62**	**277**	*e*T	T	16 11 35.1	
VNA1	**Neumayer--Stat**	**52.73**	**155**	P	**P**	**15 13 42.0**	**+1.4**
VNA2	**Neumayer--Watz** baz=261,slow=6.8	**52.96**	**156**	P	**P**	**15 13 43.6**	**+1.2**
PPT2	**Papeete2** 103nm,26.8s	**52.98**	**277**	*e*S	**S**	**15 21 13.2**	**+0.5**
PPT2	250nm,25.8s			*e*LR	LR	15 28 54.4	
PPT	**Papeete** comp=Z,114nm,21.7s,baz=142,slow=29	**52.99**	**277**	LR	LR	15 29 50.0	
SNAA	**Sanae**	**54.23**	**157**	P	**P**	**15 13 52.2**	**+0.5**
SNAA	**Sanae** 2.2nm,1.0s	**54.23**	**157**	*e*P	**P**	**15 13 52.0**	**+0.2**
CMIG	**Matias Romero** comp=Z,27nm,21.0s,baz=226,slow=28	**55.20**	**358**	LR	LR	15 30 11.1	
VNDA	**Vanda** 2.2nm,1.0s,baz=108,slow=7.3,SNR=7.3	**55.96**	**195**	P	**P**	**15 14 05.0**	**+0.9**
VNDA	comp=Z,58nm,19.2s,baz=130,slow=32			LR	LR	15 33 49.0	
SYO	**Syowa Base**	**67.42**	**163**	*e*P	**P**	**15 15 18.3**	**-3.0**
TXAR	**Lajitas Array** 1.4nm,0.7s,baz=169,slow=8.9,SNR=13	**68.06**	**350**	P	**P**	**15 15 24.7**	**-1.2**
TXAR	comp=Z,41nm,19.6s,baz=0.0,slow=31			LR	LR	15 39 39.3	
MAW	**Mawson** 2.4nm,0.4s,baz=202,slow=12,SNR=4.8	**72.80**	**171**	P	**P**	**15 15 55.0**	**+0.6**
OLIL	**Olney** 15nm,0.5s	**76.89**	**4**	*e*P	**P**	**15 16 20.1**	**+1.9**
BLO	**Bloomington** 39nm,0.6s	**77.43**	**5**	*e*P	**P**	**15 16 22.8**	**+1.5**
CCUT	**Cedar City** 5.6nm,1.1s	**77.79**	**344**	*e*P	**P**	**15 16 25.1**	**+1.5**
R11A	**Troy Canyon, C** 2.8nm,1.0s	**79.06**	**342**	*e*P	**P**	**15 16 31.8**	**+1.3**
NVAR	**Mina Array Bea** 2.2nm,0.7s,baz=167,slow=6.1,SNR=20	**79.82**	**340**	P	**P**	**15 16 34.8**	**0.0**
DUG	**Dugway** 5.2nm,1.1s	**80.22**	**345**	*e*P	**P**	**15 16 37.8**	**+1.1**
ELK	**Elko** 2.7nm,1.0s	**81.26**	**343**	*e*P	**P**	**15 16 43.1**	**+0.6**
BW06	**Boulder Array** 4.2nm,0.9s	**82.11**	**348**	*e*P	**P**	**15 16 47.3**	**+0.5**
PDAR	**Pinedale Array** 3.4nm,0.8s,baz=148,slow=4.5,SNR=24	**82.11**	**348**	P	**P**	**15 16 46.9**	**0.0**
FLWY	**Flagg Ranch** 7.4nm,1.1s	**83.58**	**347**	*e*P	**P**	**15 16 55.6**	**+1.1**
HLID	**Hailey**	**83.78**	**345**	P	**P**	**15 16 56.8**	**+1.3**
H01W1	**Cape Leeuwin H** baz=154	**102.77**	**203**	T	T	17 13 56.7	
H01W2	**Cape Leeuwin H** baz=154	**102.77**	**203**	T	T	17 13 57.3	
H01W3	**Cape Leeuwin H** baz=154	**102.78**	**203**	T	T	17 13 56.7	
NOA	**NORSAR Array B** 0.6nm,0.8s,baz=190,slow=0.6,SNR=2.8	**129.50**	**38**	PKP	**PKPdf**	**15 23 33.6**	**-0.7**
YAK	**Yakutsk**	**144.72**	**326**	*e*PKPdf	**PKPab**	**15 24 00.6**	**-0.4**
USRK	**Ussuriysk Ar.** 8.8nm,0.9s,baz=132,slow=3.9,SNR=13	**145.81**	**295**	PKPbc	**PKPbc**	**15 24 04.6**	**-0.6**
KBZ	**Khabaz** 2.6nm,0.8s,baz=72,slow=3.2,SNR=4.1	**146.85**	**67**	PKPbc	**PKPbc**	**15 24 07.3**	**-0.9**
KSRS	**Korea Array** 3.6nm,1.0s,baz=119,slow=4.0,SNR=9.2	**147.65**	**281**	PKPbc	**PKPbc**	**15 24 10.4**	**-0.3**
KSAR	**Wonju Array Be**	**147.67**	**281**	PKPbc	**PKPbc**	**15 24 10.4**	**-0.4**
CMAR	**Chiang Mai Arr** 0.7nm,0.8s,baz=187,slow=3.6,SNR=3.7	**157.45**	**212**	PKPab	**PKPab**	**15 24 55.5**	**+1.1**
GEYT	**Alibeck** 1.2nm,0.6s,baz=290,slow=4.2,SNR=2.5	**157.56**	**82**	PKPab	**PKPab**	**15 24 53.5**	**-1.1**
ABKAR	**Akbulak array**	**157.97**	**52**	*e*PKPdf	**PKPdf**	**15 24 23.0**	**+0.4**
SONM	**Songino Array** 1.4nm,1.1s,baz=107,slow=4.0,SNR=6.1	**162.83**	**310**	PKPab	**PKPab**	**15 25 16.8**	**-0.6**
MKAR	**Makanchi Array** 0.4nm,0.8s,baz=337,slow=2.8,SNR=3.7	**170.99**	**20**	PKP	**PKPdf**	**15 24 33.7**	**-0.5**
MKAR	0.4nm,0.7s,baz=352,slow=4.4,SNR=3.7			PKPab	**PKPab**	**15 25 51.9**	**-1.3**

*ISCJB **28** 15:14:25.8±0.6, 52°.48N±0°.07 × 169°.25W±0°.10, h10^{km}, mb3.5/3, Error ellipse: s-maj=12.3km s-min=5.0km az=141.5*
*IDC **28** 15:14:25.6±1.7, 52°.33N × 169°.40W, h0^{km}, mb3.6/3, mb1 3.8/4, mb1mx3.4/28, mbtmp3.4/4, ML3.4/1, MS2.7/1, Ms1 2.8/1, ms1mx2.2/37, Error ellipse

*DJA **28** 15:15:49.7±0.5,3°S±4′×12°8E±°, h39km±8km, M4.5/13, mb5.0/5, mB5.2/4, MLv4.3/13, Mw(mB)4.5/4*

ISC 28 15:15:50.7±0.6, 2°86S±0.04×128°00E±0.04, h38km, n32, σ1°13/37, mb3.9/6, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.85**	**167**	P	**Pn**	**15 16 05.9**	**-0.3**
AAI				S	**Sn**	**15 16 17.6**	**+0.2**
AAI	**Ambon**	**0.85**	**167**	P	**Pn**	**15 16 06.0**	**-0.1**
	baz=0.9,SNR=236						
NLAI	**Namlea**	**0.97**	**247**	P	**Pn**	**15 16 08.0**	**+0.1**
NLAI				S	**Sn**	**15 16 22.1**	**+1.6**
SANI	**Sanana**	**2.16**	**292**	P	**Pn**	**15 16 22.8**	**-1.4**
SANI				S	**Sn**	**15 16 48.0**	**-1.8**
LBMI	**Labuha**	**2.26**	**347**	P	**Pn**	**15 16 25.2**	**-0.4**
LBMI				S	**Sn**	**15 16 52.7**	**+0.5**
SWI	**Sorong**	**3.81**	**59**	P	Pn	15 16 43.2	-3.7
SWI				S	**Sn**	**15 17 29.9**	**-0.7**
SWI	**Sorong**	**3.81**	**59**	P	**Pn**	**15 16 47.4**	**+0.4**
	baz=3.8,SNR=43						
SIJI	**Sorong**	**3.82**	**59**	Pn	**Pn**	**15 16 46.2**	**-0.7**
	22nm,0.3s,baz=215,slow=23,SNR=140						
SIJI					Sn	**15 17 30.7**	**0.0**
	26nm,0.3s,baz=35,slow=22,SNR=18						
FAKI	**Fak Fak**	**4.25**	**91**	P	**Pn**	**15 16 53.2**	**+0.3**
FAKI				S	**Sn**	**15 17 41.6**	**+0.4**
FAKI	**Fak Fak**	**4.25**	**91**	P	**Pn**	**15 16 53.2**	**+0.3**
	baz=4.2,SNR=26						
KMSI	**Cibinong**	**5.27**	**310**	P	**Pn**	**15 17 06.3**	**-0.6**
	154nm,0.7s,0.6nm						
LUWI	**Luwuk**	**5.53**	**289**	P	**Pn**	**15 17 10.6**	**+0.1**
	122nm,0.7s,1μm0.3nm						
LUWI	**Luwuk**	**5.53**	**289**	P	**Pn**	**15 17 10.6**	**+0.1**
	baz=5.5,SNR=12						
APSI	**Ampana**	**6.63**	**287**	P	**Pn**	**15 17 25.8**	**+0.1**
	418nm,0.6s,4μm1.4nm						
MRSI	**Marisa**	**6.90**	**299**	P	**Pn**	**15 17 28.7**	**-0.7**
KAPI	**Kappang**	**8.50**	**255**	LR	LR	15 21 36.0	
	comp=Z,76nm,19.3s,baz=84,slow=41						
MTN	**Manton Dam**	**10.40**	**163**	P	Pn	15 18 20.3	+2.9
	baz=10,SNR=6.2						
KDU	**Kakadu**	**10.72**	**156**	P	**P**	**15 18 23.4**	**+1.6**
	baz=11,SNR=7.8						
KNRA	**Kununurra**	**12.76**	**177**	P	**P**	**15 19 01.3**	**+1.1**
	baz=13,SNR=4.9						
FITZ	**Fitzroy Crossi**	**15.33**	**189**	Pn	**Pn**	**15 19 23.0**	**-1.4**
	baz=4.8,slow=12,SNR=2.2						
WRA	**Warramunga Arr**	**18.08**	**160**	P	**Pn**	**15 19 57.8**	**-1.3**
	0.5nm,0.3s,baz=342,slow=12,SNR=60						
WRA				S	**Sn**	**15 23 18.9**	**-0.9**
	0.1nm,0.3s,baz=344,slow=21,SNR=3.9						
LEM	**Lembang**	**20.68**	**258**	LR	LR	15 29 02.0	
	comp=Z,83nm,18.4s,baz=69,slow=38						
QIS	**Mount Isa**	**20.92**	**148**	P	**P**	**15 20 28.5**	**-1.7**
	baz=21,SNR=4.7						
ASAR	**Alice Springs**	**21.46**	**165**	P	**P**	**15 20 35.4**	**-0.6**
	3.4nm,0.5s,baz=342,slow=11,SNR=66						
ASAR				S	**S**	**15 24 28.7**	**-3.5**
	1.1nm,0.8s,baz=352,slow=22,SNR=6.3						
WRKA	**Warakurna**	**22.05**	**179**	P	**P**	**15 20 44.5**	**+2.2**
	baz=22,SNR=9.9						
MEEK	**Meekatharra**	**25.30**	**200**	P	**P**	**15 21 13.9**	**0.0**
	baz=26,SNR=3.6						
STKA	**Stephens Creek**	**31.58**	**158**	P	**P**	**15 22 09.6**	**-0.2**
	1.3nm,0.6s,baz=354,slow=5.1,SNR=4.7						
CMAR	**Chiang Mai Arr**	**35.60**	**308**	P	**P**	**15 22 45.8**	**+0.9**
	0.5nm,0.5s,baz=123,slow=6.6,SNR=3.4						
LHI	**Lord Howe Isla**	**40.85**	**138**	P	**P**	**15 23 27.8**	**-1.2**
	baz=41,SNR=3.8						
SONM	**Songino Array**	**53.91**	**342**	P	**P**	**15 25 10.9**	**+0.4**
	0.3nm,0.6s,baz=142,slow=7.3,SNR=3.2						
MKAR	**Makanchi Array**	**63.69**	**327**	P	**P**	**15 26 18.7**	**+0.3**
	0.6nm,0.7s,baz=128,slow=7.9,SNR=6.4						
SEY	**Seymchan**	**68.15**	**12**	P	**P**	**15 26 47.7**	**+1.0**
	1.2nm,0.8s,baz=239,slow=4.4,SNR=6.2						

MEX 28 15:33:32.9±0.8, 15°02N×91°42W, h231km±10km, MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**1.44**	**331**	*i* P	Pn	15 34 08.3	-0.8
CCIG				*i* S	S	15 34 34.5	-3.1
PCIG		**1.87**	**292**	*i* P	Pn	15 34 11.7	-0.9
PCIG				*i* S	S	15 34 40.7	-2.8
TGIG		**2.40**	**317**	*e*P	Pn	15 34 17.0	-0.8
TGIG				*i* S	S	15 34 49.9	-3.2

*IDC **28** 15:34:59.3±1.1, 40°92N×69°42E, h0km, mb3.7/4, mb1 3.7/10, mb1mx3.5/31, mbtmp3.6/10, ML3.3/6, MS2.9/3, Ms1 2.9/3, ms1mx2.4/55, Error ellipse: s-maj=18.3km s-min=15.1km az=143.0*

*NNC **28** 15:35:02.5±1.2, 41°10N×69°23E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=13.5km s-min=9.1km az=115.0*

ISC 28 15:35:01.8±0.7, 41°09N±0.06×69°10E±0.07, h10km, n30, σ1°53/25, mb3.7/4, 12C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**2.27**	**27**	⇑Pn	**Pb**	**15 35 42.2**	**-0.7**
	21nm,0.3s,baz=212,slow=17,SNR=259						
KK31				⇓Lg	Lg	15 36 13.8	
	186nm,0.3s,baz=209,slow=26,SNR=25						
DZET	**Dzherino**	**2.29**	**185**	⇑Pn	**Pb**	**15 35 43.6**	**+0.3**
	42nm,0.5s						
DZET				⇑Lg	Lg	15 36 15.0	
	273nm,0.5s						
MNAS	**Manas**	**2.91**	**60**	⇓Pn	**Pn**	**15 35 48.5**	**+0.2**
	24nm,0.4s						
MNAS				⇓Lg	Lg	15 36 32.0	
	79nm,0.5s						
SFK	**Sufi-Kurgan**	**3.52**	**106**	⇑Pn	**Pn**	**15 35 54.6**	**-2.2**
	12nm,0.4s						
SFK				⇑Lg	Lg	15 36 49.3	
	84nm,0.4s						
AML	**Almayashu**	**3.60**	**72**	P	**Pn**	**15 35 58.4**	**+0.4**
	SNR=6.8						
EKS2	**Erkin-Say**	**3.83**	**64**	P	**Pn**	**15 36 02.6**	**+1.6**
	SNR=14						
AAK	**Ala-Archa**	**4.32**	**67**	⇑Pn	**Pn**	**15 36 08.5**	**+0.8**
	9.9nm,0.5s						
AAK				⇓Lg	Lg	15 37 15.4	
	21nm,0.5s						
USP	**Ospenovka**	**4.57**	**60**	P	**Pb**	**15 36 23.8**	**+1.7**
	SNR=7.4						
CHMS	**Chumysh**	**4.62**	**64**	P	**Pn**	**15 36 12.6**	**+0.8**
	SNR=6.3						
KBK	**Karagaybulak**	**4.64**	**68**	P	**Pn**	**15 36 13.7**	**+1.5**
	SNR=8.1						
KZA	**Kyzart**	**4.72**	**76**	P	**Pn**	**15 36 15.1**	**+1.6**
	SNR=11						
TKM2	**Tokmak 2**	**5.18**	**67**	P	**Pb**	**15 36 34.5**	**+1.9**
	SNR=6.3						
TKM2	**Tokmak 2**	**5.18**	**67**	⇑Pn	**Pn**	**15 36 20.4**	**+0.9**
	0.7nm,0.3s						
TKM2				⇑Lg	Lg	15 37 39.7	
	134nm,0.6s						
KNDC	**Almaty**	**6.22**	**67**	⇑Lg	Lg	15 38 15.3	
	68nm,0.7s						
PDGK	**Podgornoye**	**8.03**	**70**	⇓Pg	Pg	15 37 27.6	-7.9
	4.9nm,0.6s						
PDGK				⇓Lg	Lg	15 39 13.4	
	19nm,0.8s						
GEYT	**Alibeck**	**9.05**	**253**	Pn	**Pn**	**15 37 14.0**	**+1.4**
	0.2nm,0.3s,baz=58,slow=9.7,SNR=2.6						
GEYT				Sn	**Sn**	**15 38 54.8**	**+0.2**
	1.0nm,0.3s,baz=51,slow=19,SNR=3.6						
AB31	**Akbulak array**	**10.41**	**325**	⇑Pn	**Pn**	**15 37 30.3**	**-0.7**
	0.9nm,0.3s,baz=146,slow=12,SNR=75						
AB31				⇑Sn	Sn	15 39 19.6	-8.1
	4.7nm,0.6s,baz=149,slow=23,SNR=3.6						
MKAR	**Makanchi Array**	**11.09**	**55**	Pn	Pn	15 37 36.8	-3.6
	0.1nm,0.3s,baz=246,slow=12,SNR=9.4						
MKAR				Lg	Lg	15 40 48.6	
	0.2nm,0.3s,baz=244,slow=33,SNR=4.0						
MK31	**Makanchi Array**	**11.09**	**55**	⇓Pn	**Pn**	**15 37 40.3**	**-0.1**
	0.8nm,0.6s,baz=239,slow=14,SNR=7.9						
MK31				Lg	Lg	15 40 56.5	
	3.6nm,0.7s,baz=245,slow=27,SNR=3.0						
KURBB	**Kurchatov Arra**	**11.57**	**31**	⇑Lg	Lg	15 41 13.8	
	24nm,1.0s						
KURBB	**Kurchatov Arra**	**11.57**	**31**	Pn	**Pn**	**15 37 43.8**	**-3.2**
	0.1nm,0.3s,baz=220,slow=13,SNR=7.5						
KURBB				Lg	Lg	15 41 07.8	
	0.1nm,0.3s,baz=218,slow=29,SNR=12						
BVAR	**Borovoye Array**	**11.97**	**4**	Pn	**Pn**	**15 37 51.0**	**-1.5**
	0.4nm,0.3s,baz=174,slow=13,SNR=5.6						
BVAR				Sn	Sn	15 39 58.1	-8.0
	0.4nm,0.3s,baz=169,slow=24,SNR=3.6						
BVAR				Lg	Lg	15 41 24.8	
	0.4nm,0.3s,baz=175,slow=26,SNR=3.6						
AKTO	**Aktyubinsk**	**12.12**	**324**	Pn	**Pn**	**15 37 56.4**	**+1.9**
	0.5nm,0.3s,baz=115,slow=14,SNR=6.9						
AKTO				Sn	Sn	15 40 04.2	-5.4
	0.5nm,0.3s,baz=319,slow=19,SNR=6.6						
AKTO				Lg	Lg	15 41 38.0	
	0.1nm,0.3s,baz=227,slow=24,SNR=4.1						
AKTO				LR	LR	15 43 13.8	
	comp=Z,21nm,20.8s,baz=145,slow=40						
ZALV	**Zalesovo Beam**	**16.63**	**34**	Pn	**Pn**	**15 38 53.5**	**-1.4**
	0.4nm,0.3s,baz=224,slow=12,SNR=17						
ARU	**Arti**	**16.82**	**339**	LR	LR	15 44 45.0	
	comp=Z,18nm,18.5s,baz=31,slow=34						
ARCES	**ARCESS Array B**	**36.35**	**336**	P	**P**	**15 42 06.5**	**+1.0**
	2.9nm,0.7s,baz=104,slow=10,SNR=4.2						
TORD	**Torodi Ar. Bea**	**64.47**	**265**	P	**P**	**15 45 38.2**	**-0.7**
	0.3nm,0.6s,baz=53,slow=6.6,SNR=2.3						
WRA	**Warramunga Arr**	**85.65**	**121**	P	**P**	**15 47 39.3**	**-1.6**
	0.3nm,0.8s,baz=327,slow=4.6,SNR=5.7						
PMG	**Port Moresby**	**87.25**	**105**	LR	LR	16 31 13.2	
	comp=Z,45nm,20.9s,baz=9.0,slow=39						
ASAR	**Alice Springs**	**88.07**	**124**	P	**P**	**15 47 50.3**	**-2.3**
	0.4nm,1.0s,baz=319,slow=4.1,SNR=3.9						

*IDC **28** 15:39:20.4±2.7, 27°83N×57°61E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.4/44, mbtmp3.6/7, Error ellipse: s-maj=65.5km s-min=23.4km az=155.0*

*ISCJB **28** 15:39:22.1±0.8, 27°80N±0.06×57°84E±0.07, h10km, mb3.5/7, Error ellipse: s-maj=10.2km s-min=6.9km az=138.2*

*TEH **28** 15:39:24.4, 27°59N×57°84E, h18km, ML3.5*

*THR **28** 15:39:27.0±0.6, 27°86N×57°63E, h16km±6km, ML3.5*

*CSEM **28** 15:39:27.2±0.4, 27°74N×57°60E, h15km, ML3.5, Error ellipse: s-maj=10.1km s-min=7.1km az=117.0*

*DSN **28** 15:39:28.4±1.9, 27°52N×57°83E, h15km, mb3.4/2, Error ellipse: s-maj=43.8km s-min=11.3km az=148.0*

ISC 28 15:39:22.6±0.8, 27°74N±0.04×57°83E±0.05, h10km, n35, σ1°66/39, mb3.5/7, 2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**1.51**	**257**	*e*Pg	**Pg**	**15 39 52.2**	**+0.6**
BNDS				*e*Sg	**Sb**	**15 40 11.2**	**+1.0**
BNDS				AML	AML	15 40 13.6	
	comp=E,423nm,0.4s						
BNDS	**Bandar-Abbas**	**1.51**	**257**	*e*Pg	**Pg**	**15 39 52.2**	**+0.6**
BNDS				*e*Sg	**Sb**	**15 40 11.2**	**+1.0**
	comp=E,423nm,0.4s						
CHMN	**Cheshme madani**	**2.12**	**353**	*e*Pn	**Pb**	**15 40 01.6**	**+0.2**
CHMN	**Cheshme madani**	**2.12**	**353**	*e*Pn	**Pb**	**15 40 01.6**	**+0.2**
NGRK	**Negar Kerman**	**2.13**	**333**	*e*Pn	**Pn**	**15 40 00.7**	**+2.2**
NGRK	**Negar Kerman**	**2.13**	**333**	*e*Pn	**Pn**	**15 40 00.7**	**+2.2**
KRBR	**Kerman**	**2.42**	**337**	*e*Pn	**Pb**	**15 40 06.0**	**-0.4**
KRBR				*e*Sg	**Sb**	**15 40 38.0**	**+1.5**
KRBR				AML	AML	15 40 44.5	
	comp=N,453nm,0.7s						
KRBR				AML	AML	15 40 48.6	
	comp=E,326nm,0.6s						
KRBR	**Kerman**	**2.42**	**337**	*e*Pn	**Pb**	**15 40 06.0**	**-0.4**
KRBR				*e*Sg	**Sb**	**15 40 38.0**	**+1.5**
	comp=E,326nm,0.6s						
KHGB	**Koh Gabri**	**2.88**	**336**	*e*Pn	**Pb**	**15 40 13.1**	**-1.1**
KHGB	**Koh Gabri**	**2.88**	**336**	*e*Pn	**Pb**	**15 40 13.1**	**-1.1**
ZHSF	**Zahedan**	**3.19**	**54**	*e*Pn	**Pb**	**15 40 19.9**	**+0.5**
ZHSF	**Zahedan**	**3.19**	**54**	*e*Pn	**Pb**	**15 40 19.9**	**+0.5**
HATD	**Hatta, Dubai**	**3.28**	**208**	P	**Pn**	**15 40 16.6**	**+2.5**
HATD	**Hatta, Dubai**	**3.28**	**208**	⇓P	**Pn**	**15 40 16.6**	**+2.5**
FAQ	**Al Faqa, Dubai**	**3.60**	**214**	P	**Pn**	**15 40 20.4**	**+2.0**
FAQ	**Al Faqa, Dubai**	**3.60**	**214**	⇓P	**Pn**	**15 40 20.4**	**+2.0**
GHIR	**Ghir-Karzin**	**4.32**	**278**	*e*Pn	**Pn**	**15 40 31.4**	**+3.0**
GHIR	**Ghir-Karzin**	**4.32**	**278**	*e*Pn	**Pn**	**15 40 31.4**	**+3.0**
ISRV	**Sarvestan**	**4.46**	**293**	*e*Pn	**Pn**	**15 40 32.1**	**+1.6**
ISRV				*e*		15 42 06.7	
	comp=Z,542nm,0.5s						
ISRV	**Sarvestan**	**4.46**	**293**	*e*Pn	**Pn**	**15 40 32.1**	**+1.6**
IMEH	**Mehriz**	**4.59**	**323**	*e*Pn	**Pn**	**15 40 34.6**	**+2.4**
IMEH				*e*		15 41 57.8	
	comp=Z,290nm,0.3s						
IMEH	**Mehriz**	**4.59**	**323**	*e*Pn	**Pn**	**15 40 34.7**	**+2.4**
ICHK	**Chekchek**	**5.38**	**327**	*e*Pn	Pb	15 40 51.8	-5.0
ICHK				*e*		15 42 15.2	
	comp=Z,177nm,0.3s						
ICHK				*e*Sg	**Sg**	**15 42 16.3**	**+0.9**
ICHK	**Chekchek**	**5.38**	**327**	*e*Pn	Pb	15 40 51.8	-5.0
ICHK				*e*Sg	**Sg**	**15 42 16.3**	**+0.9**
IKAZ	**Kazeroun**	**5.64**	**293**	*e*Pn	**Pn**	**15 40 47.8**	**+1.0**
IKAZ				*e*		15 41 55.8	
	comp=Z,624nm,0.1s						
IKAZ	**Kazeroun**	**5.64**	**293**	*e*Pn	**Pn**	**15 40 47.8**	**+1.0**
IPIR	**Pirpir**	**7.76**	**311**	*e*Pn	**Pn**	**15 41 16.9**	**+0.9**
IPIR				*e*		15 42 45.7	
	comp=Z,930nm,0.2s						
IPIR	**Pirpir**	**7.76**	**311**	*e*Pn	**Pn**	**15 41 16.9**	**+0.9**
BRTR	**Keskin Array B**	**23.32**	**307**	P	**P**	**15 44 27.6**	**-3.4**
	comp=Z,0.1nm,0.3s,baz=94,slow=8.7,SNR=2.3						
BVAR	**Borovoye Array**	**26.92**	**17**	P	**P**	**15 45 02.8**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=210,slow=8.6,SNR=4.7						
MKAR	**Makanchi Array**	**27.03**	**39**	P	**P**	**15 45 04.9**	**0.0**
	comp=Z,0.3nm,0.3s,baz=224,slow=7.7,SNR=6.4						
KURBB	**Kurchatov Arra**	**27.74**	**29**	P	**P**	**15 45 10.8**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=227,slow=8.3,SNR=3.9						
ZALV	**Zalesovo Beam**	**32.82**	**30**	P	**P**	**15 45 55.2**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=228,slow=9.7,SNR=7.4						
ARCES	**ARCESS Array B**	**45.82**	**345**	P	**P**	**15 47 43.2**	**-1.1**
	comp=Z,1.8nm,0.9s,baz=134,slow=7.8,SNR=3.0						
TORD	**Torodi Ar. Bea**	**54.15**	**266**	P	**P**	**15 48 46.3**	**-2.0**
	comp=Z,0.2nm,0.4s,baz=55,slow=6.6,SNR=3.8						

*ISCJB **28** 15:43:49.0±0.7, 6°07S±0.06×149°9E±0.1, h52km, mb3.8/9, MS3.4/4, Error ellipse: s-maj=14.9km s-min=8.6km az=6.5*

*IDC **28** 15:43:49.7±2.4, 6°08S×149°92E, h41km±18km, mb3.7/10, mb1 3.9/11, mb1mx3.8/19, mbtmp3.9/11, ML2.7/1, MS3.5/4, Ms1 3.4/4, ms1mx3.0/28, Error ellipse: s-maj=31.0km s-min=13.5km az=105.0*

ISC 28 15:43:51.0±0.8, 6°06S±0.08×149°9E±0.1, h52km, n29, σ0°88/30, mb3.8/9, MS3.4/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.29**	**219**	P	**Pn**	**15 44 53.9**	**+0.1**
MANU	**Manus Island**	**4.72**	**328**	P	Pn	15 45 07.7	+8.1
	baz=5.0,SNR=3.4						
JAY	**Jayapura**	**9.81**	**291**	P	**Pn**	**15 46 10.3**	**+0.7**
	0.1nm,0.3s,baz=108,slow=20,SNR=1.6						
COEN	**Coen**	**10.26**	**220**	P	**Pn**	**15 46 15.1**	**-0.5**
	baz=9.8,SNR=10						
MTSU	**Mount Surprise**	**13.18**	**204**	P	**Pn**	**15 46 55.2**	**-0.4**
	baz=13,SNR=13						
QIS	**Mount Isa**	**17.53**	**214**	P	**Pn**	**15 47 51.1**	**-0.8**
	baz=17,SNR=9.3						
KDU	**Kakadu**	**18.40**	**248**	P	**Pn**	**15 48 01.9**	**-0.5**
	baz=18,SNR=7.7						
EIDS	**Eidsvold**	**19.24**	**177**	P	**P**	**15 48 11.6**	**+0.5**
	baz=19,SNR=3.4						
MTN	**Manton Dam**	**19.68**	**249**	P	**Pn**	**15 48 17.5**	**-0.3**
	baz=19,SNR=3.1						
RMQ	**Roma**	**20.34**	**183**	P	**P**	**15 48 24.0**	**+0.9**
	baz=20,SNR=15						
WRA	**Warramunga Arr**	**20.47**	**226**	P	**P**	**15 48 22.9**	**-1.6**
	12nm,0.6s,baz=51,slow=11,SNR=88						
WRA				PcP	**PcP**	**15 52 35.4**	**+0.3**
	0.9nm,0.7s,baz=54,slow=2.0,SNR=4.7						
WRA				LR	LR	15 55 52.3	
	comp=Z,128nm,21.3s,baz=185,slow=35						
WRA				ScP	**ScP**	**15 56 10.3**	**+2.9**
	0.5nm,1.0s,baz=41,slow=2.2,SNR=3.9						
QLP	**Quilpie**	**21.11**	**194**	P	**P**	**15 48 31.5**	**+0.1**
	baz=21,SNR=16						
KNRA	**Kununurra**	**22.82**	**244**	P	**P**	**15 48 49.6**	**-0.2**
	baz=22,SNR=25						
ASAR	**Alice Springs**	**23.30**	**220**	P	**P**	**15 48 54.2**	**-0.4**
	1.5nm,0.5s,baz=55,slow=8.7,SNR=80						
ASAR				PcP	**PcP**	**15 52 41.0**	**+0.4**
	0.6nm,0.7s,baz=49,slow=2.7,SNR=3.7						
ASAR				S	**S**	**15 53 04.1**	**+0.7**
	1.1nm,1.0s,baz=37,slow=23,SNR=4.7						
STKA	**Stephens Creek**	**26.83**	**196**	P	**P**	**15 49 26.7**	**+0.1**
	2.6nm,0.7s,baz=4.9,slow=11,SNR=5.4						
STKA				LR	LR	16 00 37.6	
	comp=Z,110nm,18.8s,baz=25,slow=38						
STKA	**Stephens Creek**	**26.83**	**196**	P	**P**	**15 49 28.5**	**+1.9**
	baz=26,SNR=4.8						
WRKA	**Warakurna**	**28.00**	**225**	P	**P**	**15 49 36.6**	**-0.6**
	baz=28,SNR=29						
MEEK	**Meekatharra**	**36.15**	**232**	P	**P**	**15 50 48.3**	**-0.2**
	baz=36,SNR=14						
URZ	**Urewera**	**40.46**	**146**	LR	LR	16 04 58.8	
	comp=Z,112nm,21.2s,baz=3.0,slow=31						
CISI	**Cisompet, Garu**	**41.80**	**265**	P	P	15 51 43.2	+7.2
	baz=42,SNR=4.7						
MJAR	**Matsushiro Arr**	**43.77**	**346**	P	**P**	**15 51 50.9**	**-0.7**
	1.1nm,0.5s,baz=167,slow=6.3,SNR=5.2						
MJAR				LR	LR	16 07 40.6	
	comp=Z,23nm,21.0s,baz=155,slow=33						
KSRS	**Korea Array**	**47.90**	**336**	P	**P**	**15 52 24.2**	**+0.2**
	0.8nm,0.6s,baz=162,slow=8.9,SNR=4.2						
SONM	**Songino Array**	**65.89**	**329**	P	**P**	**15 54 31.8**	**+0.3**
	0.6nm,0.6s,baz=148,slow=6.1,SNR=5.1						
VNDA	**Vanda**	**71.70**	**177**	P	**P**	**15 55 06.5**	**-0.5**
	1.4nm,0.8s,baz=323,slow=6.6,SNR=10.0						
MKAR	**Makanchi Array**	**79.39**	**320**	P	**P**	**15 55 51.7**	**+0.1**
	0.3nm,0.6s,baz=102,slow=6.5,SNR=4.5						
ZALV	**Zalesovo Beam**	**80.61**	**327**	P	**P**	**15 55 57.4**	**-0.5**
	0.6nm,0.5s,baz=108,slow=6.9,SNR=3.3						
ILAR	**Eielson Array**	**84.42**	**23**	P	**P**	**15 56 16.9**	**-0.6**
	0.4nm,0.6s,baz=242,slow=5.5,SNR=5.2						
GERES	**GERESS Array B**	**123.56**	**327**	PKP	**PKPdf**	**16 02 42.8**	**-0.1**
	0.6nm,0.6s,baz=57,slow=3.6,SNR=5.0						
TORD	**Torodi Ar. Bea**	**147.89**	**285**	PKPbc	**PKPbc**	**16 03 31.1**	**-0.4**
	3.9nm,0.5s,baz=85,slow=2.5,SNR=52						

*NEIC **28** 15:46:11.8±0.5, 23°99S×66°67W, h187km±5km, mb4.2/26, Error ellipse: s-maj=7.6km s-min=5.7km az=76.0*

*ISCJB **28** 15:46:12.1±0.2, 23°93S±0.04×66°80W±0.05, h200km, mb4.2/35, Error ellipse: s-maj=7.3km s-min=5.0km az=44.4*

*IDC **28** 15:46:12.2±1.0, 23°92S×66°70W, h191km±7km, mb4.0/10, mb1 4.1/15, mb1mx3.9/30, mbtmp4.4/15, Error ellipse: s-maj=14.7km s-min=11.4km az=24.0*

*SJA **28** 15:46:13.3±0.7, 23°82S×66°75W, h206km±7km, ML3.6*

ISC 28 15:46:12.3±0.5, 24°04S±0.06×66°78W±0.06, h200km, n273, σ1°19/274, mb4.2/35, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.34**	**120**	*i* P	Pn	15 46 47.6	+2.8
SLA				*i* S	**Sn**	**15 47 13.4**	**+3.3**
SLA				AML	AML	15 47 16.4	
	comp=Z,518nm,0.6s						
HJA	**Humahuaca**	**1.51**	**57**	*i* P	Pn	15 46 48.3	+1.8
HJA				*i* S	**Sn**	**15 47 12.9**	**0.0**
AZAP	**Zapla**	**1.58**	**97**	*i* P	Pn	15 46 49.1	+2.1
AZAP				AML	AML	15 47 18.1	
	comp=Z,195nm,0.5s						
ASTB	**Santa Barbara**	**2.10**	**88**	*i* P	Pn	15 46 54.0	+1.9
ASTB				*i* P	Pn	15 46 54.0	+1.9
LVC	**Limon Verde**	**2.42**	**306**	P	**Pn**	**15 46 55.6**	**0.0**
	comp=Z,15μm,0.3s,baz=120,slow=6.7,SNR=3422						
LVC				S	**Sn**	**15 47 28.4**	**-0.9**
	comp=Z,7μm,0.3s,baz=241,slow=22,SNR=17						
LVC	**Limon Verde**	**2.42**	**306**	*e*Pn	**Pn**	**15 46 56.2**	**+0.6**
LVC				S	**Sn**	**15 47 28.4**	**-0.9**
LVC				*e*S	**Sn**	**15 47 28.6**	**-0.7**
LVC	**Limon Verde**	**2.42**	**306**	*i* P	**Pn**	**15 46 56.3**	**+0.7**
LVC				*i* S	**Sn**	**15 47 28.6**	**-0.7**
LCO	**Las Campanas**	**6.07**	**215**	*e*Pn	**Pn**	**15 47 39.5**	**-1.1**
	comp=Z,38nm,0.3s						
LCO				*e*Sn	Sn	15 48 39.6	-11
CFAA	**Coronel Fontan**	**7.64**	**189**	P	**Pn**	**15 48 01.1**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=9.7,slow=5.6,SNR=73						
CFAA				S	**Sn**	**15 49 22.0**	**-5.4**
	comp=Z,5.8nm,0.3s,baz=185,slow=16,SNR=32						
LPAZ	**La Paz**	**7.82**	**350**	P	**Pn**	**15 48 02.6**	**-1.2**
	comp=Z,3.4nm,0.3s,baz=126,slow=4.7,SNR=51						
LPAZ				S	**Sn**	**15 49 29.1**	**-3.3**
	comp=Z,2.3nm,0.3s,baz=320,slow=17,SNR=7.6						
CPUP	**Villa Florida**	**8.86**	**107**	P	**

133A	**Hamilton Ranch** baz=64	64.14 330	P	P	15 56 25.9	+0.5
X38A	**Whitesboro** baz=64	64.17 334	P	P	15 56 26.3	+0.8
231A	**Bronte** baz=64	64.23 329	P	P	15 56 26.4	+0.4
X37A	**Clayton** baz=65	64.32 334	P	P	15 56 27.4	+1.0
Z34A	**Collier Ranch,** baz=65	64.34 331	P	P	15 56 27.5	+0.9
W38A	**Poteau** baz=65	64.40 335	P	P	15 56 27.9	+0.9
ABTX	**Abilene, Hawle** baz=65	64.49 330	P	P	15 56 28.6	+0.9
230A	**Sterling City** baz=65	64.58 328	P	P	15 56 29.2	+0.9
Z33A	**Whitaker Ranch** baz=65	64.64 331	P	P	15 56 29.6	+0.9
329A	**Wagon Wheel Ra** baz=65	64.68 327	P	P	15 56 29.6	+0.6
Y34A	**Reagan Ranch,** baz=65	64.77 332	P	P	15 56 29.7	+0.3
X35A	**Drake** baz=65	64.81 333	P	P	15 56 29.6	0.0
W37A	**Quinton** baz=65	64.82 334	P	P	15 56 30.2	+0.5
131A	**Roby** baz=65	64.88 329	P	P	15 56 30.7	+0.5
Z32A	**Haskell** baz=65	64.98 330	P	P	15 56 31.4	+0.6
130A	**Snyder** baz=65,SNR=5.3	65.09 328	P	P	15 56 31.9	+0.3
W36A	**Wetumka** baz=65	65.14 334	P	P	15 56 32.1	+0.3
Y33A	**Hilltop Ranch,** baz=66	65.19 331	P	P	15 56 32.5	+0.3
Z31A	**Sharp Cattle R** baz=66,SNR=5.6	65.30 330	P	P	15 56 33.3	+0.4
Y32A	**R-V Farms, Ver** baz=66	65.55 330	P	P	15 56 35.2	+0.7
129A	**Stewart Farms,** baz=66	65.55 328	P	P	15 56 34.9	+0.3
V36A	**Jenks** baz=66	65.59 334	P	P	15 56 35.1	+0.4
Z30A	**Sanderson Ranc** baz=66,SNR=5.7	65.73 329	P	P	15 56 36.1	+0.4
128A	**Castleberry Fa** baz=66	65.85 327	P	P	15 56 36.9	+0.4
Y31A	**Rekieta Farm,** baz=66	65.89 330	P	P	15 56 37.3	+0.7
Z29A	**Hungry Hill Ra** baz=66	65.99 328	P	P	15 56 37.8	+0.4
W33A	**Caddo, Fort Co** baz=66	66.09 332	P	P	15 56 38.5	+0.6
QSPA	**South Pole Qui** comp=Z,4.7nm,1.0s	66.16 180	*e*P	P	15 56 40.6	+2.5
X31A	**McDonald Ranch** baz=67	66.32 330	P	P	15 56 39.8	+0.4
T37A	**Cheneyville 18** baz=67,SNR=6.5	66.36 336	P	P	15 56 40.2	+0.6
W32A	**Sentinel** baz=67	66.41 331	P	P	15 56 40.7	+0.8
Y29A	**Porterfield Fa** baz=67	66.46 329	P	P	15 56 40.7	+0.3
X30A	**Coker Ranch, T** baz=67	66.57 330	P	P	15 56 41.7	+0.7
V33A	**Lossen Ranch,** baz=67	66.58 332	P	P	15 56 41.6	+0.6
T36A	**Boggs Farm, Ca** baz=67	66.68 335	P	P	15 56 42.1	+0.6
W31A	**Holland Ranch,** baz=67	66.77 331	P	P	15 56 42.9	+0.7
Y28A	**McKinney Farm,** baz=67	66.78 328	P	P	15 56 42.7	+0.4
U34A	**Anderson Ranch** baz=67	66.80 333	P	P	15 56 43.0	+0.7
T35A	**Sooner Cattle** baz=67	66.80 334	P	P	15 56 42.3	0.0
SFIN	**Scholer Farm** baz=67	66.83 343	P	P	15 56 41.7	-0.7
S37A	**Fort Scott** baz=67	66.89 336	P	P	15 56 43.3	+0.4
X29A	**Tulia** baz=67	66.96 329	P	P	15 56 43.8	+0.3
X28A	**Dimmitt** baz=68	67.25 329	P	P	15 56 45.5	+0.1
R37A	**Teagarden Farm** baz=68	67.38 336	P	P	15 56 46.2	+0.2
S35A	**Otter Creek Ra** baz=68	67.39 335	P	P	15 56 45.7	-0.3
HDIL	**Hopedale** baz=68	67.60 342	P	P	15 56 46.6	-0.7
R36A	**Gordon, Harris** baz=68	67.64 336	P	P	15 56 48.1	+0.5
Q37A	**Longview Farm,** baz=68	67.74 337	P	P	15 56 48.7	+0.5
Q35A	**Mercer Eighty,** baz=69	68.31 336	P	P	15 56 52.4	+0.7
121A	**Cookes Peak, D** baz=69	68.53 323	P	P	15 56 55.0	+1.6
P36A	**Good Intent, A** baz=69	68.67 337	P	P	15 56 53.8	-0.2
P35A	**Duane Minner,** baz=69	68.89 336	P	P	15 56 55.1	-0.2
P34A	**Walnut Farm, R** baz=70	69.21 336	P	P	15 56 58.0	+0.8
T28A	**Walsh** baz=70	69.35 330	P	P	15 56 58.4	+0.1
S28A	**Manter** baz=70	69.64 331	P	P	15 57 00.7	+0.7
ANMO	**Albuquerque** comp=Z,3.4nm,0.8s	69.69 326	*e*P	P	15 57 02.1	+1.5
CBKS	**Cedar Bluff** baz=70	69.73 333	P	P	15 57 01.4	+0.9
O33A	**Hebron** baz=70	69.95 335	P	P	15 57 02.8	+0.9
T26A	**Comanche Natio** baz=70,SNR=5.5	70.07 329	P	P	15 57 04.0	+1.1
Q30A	**Quinter** baz=70	70.07 333	P	P	15 57 03.8	+1.2
P31A	**Stockton** baz=70	70.19 334	P	P	15 57 04.1	+0.8
N34A	**Lincoln** baz=70	70.21 336	P	P	15 57 03.6	+0.2
Q29A	**Oakley** baz=71	70.32 332	P	P	15 57 05.2	+1.1
O32A	**Brockman Farm,** baz=71	70.38 335	P	P	15 57 05.4	+1.0
T25A	**Trinidad** baz=71	70.42 329	P	P	15 57 06.2	+1.2
R26A	**Arlington** baz=71	70.92 330	P	P	15 57 08.8	+0.9
L35A	**Bielow Farm, R** baz=71	70.99 338	P	P	15 57 08.5	+0.4
L34A	**Svendsen Farm,** baz=72	71.16 337	P	P	15 57 09.1	+0.1
BGNE	**Belgrade** baz=72	71.32 336	P	P	15 57 11.1	+1.0
BGNE	**Belgrade** comp=Z,64nm,1.0s	71.32 336	*e*P	P	15 57 10.9	+0.8
SDCO	**Great Sand Dun** baz=72,SNR=10	71.43 328	P	P	15 57 12.3	+1.2
SDCO	**Great Sand Dun** comp=Z,3.0nm,0.6s	71.43 328	*e*P	P	15 57 12.2	+1.1
O28A	**Krutsinger Ran** baz=72	71.69 332	P	P	15 57 13.3	+0.9
O27A	**Beecher Island** baz=72	72.04 332	P	P	15 57 16.0	+1.5
S22A	**4UR Ranch, Cre** baz=72	72.07 328	P	P	15 57 16.6	+1.6
Q24A	**Divide** baz=72	72.24 329	P	P	15 57 16.9	+0.9
L31A	**Butterfield Fa** baz=72	72.24 336	P	P	15 57 16.3	+0.7
MVCO	**Mesa Verde** baz=73	72.49 326	P	P	15 57 18.6	+1.2
N27A	**Anderson Farm,** baz=73	72.58 332	P	P	15 57 18.9	+1.3
WUAZ	**Wupatki** baz=73	72.73 323	P	P	15 57 20.3	+1.5
WUAZ	**Wupatki** comp=Z,3.2nm,0.8s	72.73 323	*e*P	P	15 57 20.9	+2.1
ECSD	**EROS Data Cent** baz=73	72.79 338	P	P	15 57 19.2	+0.4
ECSD	**EROS Data Cent** comp=Z,8.7nm,0.8s	72.79 338	*e*P	P	15 57 18.5	-0.3
ISCO	**Idaho Springs** baz=73	73.12 330	P	P	15 57 22.2	+1.1
L28A	**Connealy Angus** baz=73	73.15 334	P	P	15 57 22.4	+1.4
Y12C	**Blythe** baz=74	73.25 320	P	P	15 57 23.9	+2.3
PDMCI	**Parker Dam,Lak** baz=74	73.42 321	P	P	15 57 24.4	+1.8
IBP	**Imperial Bould** baz=74	73.43 318	P	P	15 57 24.6	+1.8
K28A	**Ten Mile Ranch** baz=74	73.68 334	P	P	15 57 25.3	+1.2
BC3	**Big Chuckawall** baz=74	73.73 319	P	P	15 57 26.6	+2.0
MONP	**Monument Peak** baz=74	73.79 318	P	P	15 57 27.4	+2.3
J29A	**Okreek** baz=74	73.86 335	P	P	15 57 26.1	+1.1
IRM	**Iron Mountain** baz=74	73.91 320	P	P	15 57 27.8	+2.3
I30A	**Oacoma** baz=74	73.96 336	P	P	15 57 26.5	+0.9
N23A	**Red Feather La** baz=74	74.15 330	P	P	15 57 28.2	+1.2
J28A	**Allard Ranch,** baz=74	74.23 335	P	P	15 57 28.9	+1.7
BELC	**Belle Mtn. Jos** baz=75	74.30 319	P	P	15 57 29.6	+1.7
I29A	**Vivian Onida** baz=75	74.38 336	P	P	15 57 28.9	+0.9
J27A	**Elkhorn Farm,** baz=75	74.39 334	P	P	15 57 29.7	+1.5
GMRC	**Granite Mounta** baz=75	74.64 320	P	P	15 57 31.5	+1.7
I28A	**Midland** baz=75	74.69 335	P	P	15 57 30.8	+1.0
H29A	**Onida** baz=75	74.86 336	P	P	15 57 31.6	+0.9
J26A	**Sides Ranch, S** baz=75	74.87 333	P	P	15 57 32.8	+1.9
HEC	**Hector,Ludlow** baz=75	75.07 320	P	P	15 57 34.4	+2.2
I27A	**Quinn** baz=75	75.09 334	P	P	15 57 33.1	+1.0
H28A	**Mission Ridge** baz=76	75.20 335	P	P	15 57 33.5	+0.8
J25A	**Sunshine Ranch** baz=76	75.24 333	P	P	15 57 34.9	+1.8
TUQ	**Turquoise Moun** baz=76	75.25 320	P	P	15 57 35.4	+2.1
CCUT	**Cedar City** comp=Z,4.8nm,0.9s	75.31 323	*e*P	P	15 57 36.1	+2.4
MSU	**Marysvale** comp=Z,4.3nm,0.9s	75.38 325	*e*P	P	15 57 36.1	+2.0
F30A	**Leola** baz=76	75.47 337	P	P	15 57 35.0	+0.9
K23A	**Bowen Ranch, D** baz=76	75.50 331	P	P	15 57 36.1	+1.5
G28A	**Parade** baz=76	75.50 336	P	P	15 57 35.9	+1.5
J24A	**Dixon Ranch, L** baz=76	75.55 332	P	P	15 57 36.6	+1.7
H27A	**Howes** baz=76	75.58 335	P	P	15 57 36.2	+1.3
GSC	**Goldstone** baz=76	75.68 320	P	P	15 57 37.8	+2.1
F29A	**Eureka** baz=76	75.75 337	P	P	15 57 36.1	+0.3
K22A	**Casper** baz=76	75.81 331	P	P	15 57 38.3	+1.9
H26A	**Fairpoint** baz=76	75.83 334	P	P	15 57 37.5	+1.1
I24A	**Kuemmerle Ranc** baz=76	75.97 333	P	P	15 57 38.3	+1.1
E30A	**Jud** baz=76	76.00 338	P	P	15 57 38.3	+1.1
EDW2	**Edwards Air Fo** baz=76	76.10 319	P	P	15 57 39.9	+1.8
G27A	**Dupree** baz=76	76.14 335	P	P	15 57 38.9	+0.8
H25A	**Fruitdale** baz=76	76.17 334	P	P	15 57 39.5	+1.3
E29A	**Napoleon** baz=77	76.32 337	P	P	15 57 39.8	+0.8
G26A	**Maurine** baz=77	76.33 335	P	P	15 57 39.7	+0.6
TORD	**Torodi Ar. Bea** comp=Z,2.4nm,0.6s,baz=254,slow=5.6,SNR=25	76.39 69	P	P	15 57 40.1	0.0
J22A	**Midwest** baz=77	76.40 331	P	P	15 57 41.1	+1.5
D30A	**Buchanan** baz=77,SNR=6.8	76.48 338	P	P	15 57 40.7	+0.9
TPNV	**Topopah Spring** baz=77	76.50 321	P	P	15 57 42.7	+2.3
BSC	**Santa Cruz Isl** baz=77	76.51 317	P	P	15 57 42.5	+2.1
FURC	**Furnace Creek,** baz=77	76.52 321	P	P	15 57 42.2	+1.9
G25A	**Newell** baz=77	76.57 334	P	P	15 57 41.2	+0.8
AGMN	**Agassiz Nation** baz=77	76.59 341	P	P	15 57 41.2	+0.8
AGMN	**Agassiz Nation** comp=Z,8.1nm,0.8s	76.59 341	*e*P	P	15 57 40.7	+0.3
F27A	**Lemmon** baz=77	76.59 336	P	P	15 57 41.7	+1.1
MPMC	**Manual Prospec** baz=77	76.60 320	P	P	15 57 42.8	+1.7
H24A	**Dirks Ranch, A** baz=77,SNR=5.7	76.66 333	P	P	15 57 42.6	+1.6
E28A	**Huff** baz=77	76.70 337	P	P	15 57 42.0	+0.9
D29A	**Pettibone, Tap** baz=77	76.72 338	P	P	15 57 42.2	+0.9
J21A	**Lysite** baz=77	76.77 331	P	P	15 57 43.3	+1.5
I22A	**9 Mile Ranch,** baz=77	76.78 332	P	P	15 57 43.1	+1.3
F26A	**Lodgepole** baz=77	76.82 335	P	P	15 57 43.3	+1.4
C30A	**Mose, Pekin** baz=77	76.90 339	P	P	15 57 43.6	+1.4
ISA	**Isabella** baz=77	76.92 319	P	P	15 57 44.4	+1.7
ISA	**Isabella** comp=Z,4.9nm,1.1s	76.92 319	*e*P	P	15 57 44.2	+1.6
DUG	**Dugway** baz=77	76.95 326	P	P	15 57 44.0	+1.1
J20A	**Shoshoni** baz=77	77.06 330	P	P	15 57 45.2	+1.8
I21A	**Big Trails, Te** baz=77	77.07 331	P	P	15 57 44.4	+1.0
R11A	**Troy Canyon, C** baz=77	77.11 323	P	P	15 57 46.0	+2.2
D28A	**Regan** baz=78	77.18 337	P	P	15 57 44.8	+1.0
GRAC	**Grapevine Rang** baz=77	77.18 321	P	P	15 57 46.2	+2.1
PKM	**Peak Mountain** baz=78	77.22 318	P	P	15 57 46.8	+2.3
PDAR	**Pinedale Array** comp=Z,1.2nm,0.5s,baz=118,slow=7.9,SNR=16	77.29 329	P	P	15 57 45.5	+0.8
HWUT	**Hardware Ranch** comp=Z,3.2nm,0.6s	77.37 327	*e*P	P	15 57 46.4	+1.2
G23A	**Biddle** baz=78	77.38 333	P	P	15 57 45.9	+0.9
MDND	**Maddock** baz=78,SNR=5.6	77.40 338	P	P	15 57 46.1	+1.1
VES	**Vestal, Richgr** baz=78	77.41 319	P	P	15 57 47.2	+2.0
J19A	**Crowheart** baz=78	77.44 330	P	P	15 57 47.0	+1.5
TSUM	**Tsumeb**	77.45 106	*e*P	P	15 57 46.3	+0.1
B30A	**Myrvik Farm, E** baz=78	77.50 339	P	P	15 57 46.6	+1.1
F24A	**Ekalaka** baz=78	77.52 334	P	P	15 57 46.7	+0.9
I20A	**Worland** baz=78	77.55 331	P	P	15 57 47.3	+1.3
C28A	**Hausauer Farms** baz=78	77.56 337	P	P	15 57 47.1	+1.3
H21A	**Big Horn, Sher** baz=78	77.61 332	P	P	15 57 47.6	+1.2
E25A	**Miller Ranch,** baz=78	77.65 335	P	P	15 57 47.1	+0.7
D26A	**Manning** baz=78	77.72 336	P	P	15 57 47.9	+1.1
G22A	**Birney** baz=78	77.77 333	P	P	15 57 48.2	+1.0
F23A	**Volborg** baz=78	77.80 333	P	P	15 57 48.3	+0.9
RCTC	**Rector, Farmer** baz=78	77.81 319	P	P	15 57 49.3	+1.9
B29A	**Wagenman Farm,** baz=78	77.85 338	P	P	15 57 48.5	+1.0
H20A	**Greybull** baz=78	77.92 331	P	P	15 57 49.3	+1.3
I19A	**Meeteetse** baz=78	78.01 330	P	P	15 57 50.4	+1.7
E24A	**Baker** baz=78,SNR=5.8	78.05 335	P	P	15 57 50.2	+1.6
D25A	**Fairfield** baz=78	78.16 335	P	P	15 57 50.4	+1.2
B28A	**Dugan Ranch, T** baz=78	78.18 338	P	P	15 57 50.1	+0.8
F22A	**Rosebud** baz=78	78.20 333	P	P	15 57 50.5	+1.0
A29A	**Manning Farm,** baz=78,SNR=5.8	78.21 339	P	P	15 57 49.7	+0.3
C26A	**Wahner Farm, P** baz=79	78.27 337	P	P	15 57 50.7	+1.0
ULM	**Lac du Bonnet** comp=Z,8.7nm,0.7s,baz=154,slow=6.5,SNR=7.9	78.33 341	P	P	15 57 50.1	+0.1
E23A	**Ismay** baz=79	78.39 334	P	P	15 57 51.6	+1.0
LOHW	**Long Hollow** comp=Z,2.6nm,0.6s	78.43 329	*e*P	P	15 57 52.6	+1.6
B27A	**Peters Farms,** baz=79	78.46 337	P	P	15 57 51.7	+1.0
H19A	**Powell** baz=79	78.50 331	P	P	15 57 52.6	+1.3
D24A	**Glendive** baz=79	78.51 335	P	P	15 57 52.3	+1.1
SCHQ	**Schefferville** comp=Z,4.7nm,0.7s,baz=193,slow=5.2,SNR=5.7	78.55 360	P	P	15 57 51.1	0.0
G20A	**Bridger** baz=79	78.59 332	P	P	15 57 52.8	+1.1
NVAR	**Mina Array Bea** comp=Z,0.8nm,0.6s,baz=155,slow=6.4,SNR=7.2	78.70 321	P	P	15 57 53.9	+1.3
IMW	**Indian Meadow** comp=Z,2.2nm,0.6s	78.80 329	*e*P	P	15 57 54.8	+1.6
C24A	**Savage** baz=79	78.89 335	P	P	15 57 54.5	+1.3
LAO	**LASA Array** baz=79	78.92 334	P	P	15 57 54.0	+0.6
RLMT	**Red Lodge** baz=79	78.98 331	P	P	15 57 55.3	+1.4
RLMT	**Red Lodge** comp=Z,2.5nm,0.4s	78.98 331	*e*P	P	15 57 55.2	+1.3
A26A	**Wade Farm, Ken** baz=79	79.15 337	P	P	15 57 55.8	+1.2
E21A	**Keefer Ranch,** baz=79	79.15 333	P	P	15 57 55.3	+0.6
A25A	**Svangstu Ranch** baz=80	79.57 337	P	P	15 57 58.5	+1.7
GCMT	**Greycliff** comp=Z,1.1nm,0.4s	79.67 331	*e*P	P	15 57 59.0	+1.4
HLID	**Hailey** baz=80	80.23 327	P	P	15 58 02.6	+1.9
HLID	**Hailey** comp=Z,10nm,0.1s	80.23 327	*e*P	P	15 58 02.5	+1.9
MCMT	**McKenzie Canyo** comp=Z,6.1nm,1.3s	80.40 329	*e*P	P	15 58 03.5	+1.8
BOZ	**Bozeman (W)** baz=81	80.45 330	P	P	15 58 03.0	+1.2
BOSA	**Boshof** comp=Z,3.4nm,1.0s,baz=248,slow=7.4,SNR=4.0	80.53 117	P	P	15 58 03.8	+1.0
DLMT	**Dillon** comp=Z,4.3nm,1.0s	80.68 329	P	P	15 58 03.3	+0.3
LRM	**Limekiln Ridge** comp=Z,22nm,0.9s	80.96 330	*e*P	P	15 58 06.2	+1.6
EGMT	**Eagleton** baz=82	81.44 332	P	P	15 58 07.6	+0.8
CHMT	**Chamberlain Mo** comp=Z,1.5nm,1.1s	82.14 330	*e*P	P	15 58 11.9	+1.2
MSO	**Missoula** baz=83	82.40 329	P	P	15 58 13.3	+1.4
M04C	**Macdoel** baz=83	82.95 322	P	P	15 58 16.3	+1.3
JTMT	**Jette** comp=Z,2.4nm,0.6s	83.23 330	*e*P	P	15 58 17.6	+1.4
J05D	**Fort Rock, OR** baz=84	83.61 323	P	P	15 58 19.9	+1.7
I04A	**Tendick Farm,** baz=85	84.59 323	P	P	15 58 24.5	+1.5
ESDC	**Sonseca Array** comp=Z,0.9nm,0.6s,baz=239,slow=4.0,SNR=6.8	86.29 43	P	P	15 58 32.2	+0.6
YKA	**Yellowknife Ar** comp=Z,2.6nm,0.5s,baz=135,slow=4.5,SNR=31	94.23 340	P	P	15 59 08.0	0.0
ASAR	**Alice Springs** comp=Z,1.9nm,0.7s,baz=154,slow=2.0,SNR=36	128.50 204	PKP	PKPdf	16 04 57.0	+1.0
WRA	**Warramunga Arr** comp=Z,1.2nm,0.5s,baz=163,slow=1.6,SNR=42	131.68 207	PKP	PKPdf	16 05 03.2	+1.1
WRA			SKPbc	SKPab	16 08 10.0	+0.2
ZALV	**Zalesovo Beam** comp=Z,5.5nm,0.7s,baz=300,slow=4.2,SNR=32	143.34 28	PKP	PKPdf	16 05 21.0	-1.3
MK31	**Makanchi Array**	146.43 40	*e*PKPbc	PKPab	16 05 29.5	-1.5
MKAR	**Makanchi Array** comp=Z,7.7nm,0.6s,baz=322,slow=2.2,SNR=72	146.43 40	PKPbc	PKPab	16 05 29.3	-1.8
MJAR	**Matsushiro Arr** comp=Z,1.7nm,0.8s,baz=75,slow=3.2,SNR=3.7	155.17 306	PKPab	PKPab	16 06 08.1	+0.5
SONM	**Songino Array** comp=Z,0.7nm,0.8s,baz=174,slow=1.3,SNR=4.7	155.64 11	PKP	PKPdf	16 05 42.0	-0.1
SONM	comp=Z,1.6nm,0.7s,baz=324,slow=4.0,SNR=11		PKPab	PKPab	16 06 09.2	0.0

IDC ***28*** *16:12:03.6±0.5, 43.79N×125.78W, h0km, mb4.6/24, mb1 4.8/33, mb1mx4.7/45, mbtmp4.6/33, ML4.2/10, MS4.3/39, Ms1 4.3/39, ms1mx4.2/48, Error ellipse: s-maj=13.7km s-min=6.4km az=45.0*

ISCJB ***28*** *16:12:04.8±0.1, 43.87N±0.02×125.66W±0.02, h10km, mb5.0/130, MS4.3/44, Error ellipse: s-maj=2.6km s-min=1.7km az=44.5*

MOS ***28*** *16:12:04.0±1.1, 43.81N×125.80W, h10km, mb5.3/47, MS4.4/22, Error ellipse: s-maj=6.7km s-min=4.3km az=118.3*

NEIC ***28*** *16:12:05.6±0.2, 43.76N×125.82W, h10km, mb5.2/92, Error ellipse: s-maj=3.9km s-min=2.1km az=218.0*

NEIC Felt [II] at Newport. Also felt at Coos Bay, Eugene, Portland, Tangent and Warm Springs. Felt at Battle Ground, Bellevue and Woodinville, Washington.

GCMT ***28*** *16:12:05.6±0.2, 43.72N×126.03W, h12km, MW5.2/106, Moment Tensor Solution. s66,c93; s106,c189; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr-2.33±.13; Mθθ-3.63±.12; Mϕϕ5.97±.13; Mrθ-2.14±.35; Mθϕ-5.02±.12; Mϕr-0.46±.28; Best double couple: M07.47100×10^16 NP1:ϕs115.00000°, δ74.00000°, λ-160.00000°. NP2:ϕs19.00000°, δ70.00000°, λ-17.00000°. Principal axes: T 8.1330, Plg2.0000°, Azm246.0000°; N -1.3140, Plg64.0000°, Azm152.0000°; P -6.8090, Plg26.0000°, Azm338.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***28*** *16:12:07.3, 44.67N×126.40W, h10km, mb5.1/42, mB5.3/33, Ms5.0/21, Ms7 4.6/26*

ISC 28 16:12:06.1±0.4, 43.78N±0.04×125.86W±0.04, h15km±1km, h14km:pP-P, n835, σ1s36/846, mb5.1/132, **MS4.4**/46, **9C-11D, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	1.44	129	*e*Pn	P	Pn	16 12 28.5	-3.1
I03D	**Drain, OR** baz=1.8,SNR=741	1.82	92	P	P	Pn	16 12 35.2	-1.6
I03D	baz=1.8			S	S	Sn	16 12 57.8	-1.8
KBO	**Bosley Butte**	1.97	142	*e*Pn		Pn	16 12 35.7	-3.4
COR	**Corvallis**	2.00	65	*e*P	P	Pn	16 12 38.5	-0.9
COR	**Corvallis**	2.00	65	*e*Pn	P	Pn	16 12 38.5	-0.9
L02D	**Cave Junction,** baz=2.3,SNR=53	2.32	134	P	P	Pn	16 12 41.3	-2.4
L02D	baz=2.3			S	S	Sn	16 13 07.8	-4.2
G03D	**McMinnville, O** baz=2.3,SNR=224	2.34	51	P	P	Pn	16 12 43.3	-0.7
HUMO	**Hull Mountain**	2.42	118	*e*Pn		Pn	16 12 43.0	-2.1
I04A	**Tendick Farm,** baz=2.5,SNR=201	2.49	89	P	P	Pn	16 12 45.3	-0.9
I04A	baz=2.5			S	S	Sn	16 13 14.8	-1.5
J04D	**Umpqua Nationa**	2.78	100	P	P	Pn	16 12 50.2	0.0

baz=2.7,SNR=566
F04D **Rainier, OR** 3.06 40 P Pn 16 12 53.8 -0.1
baz=3.1,SNR=41
F04D S Sn 16 13 30.3 0.0
baz=3.1
YBH **Yreka Blue Hor** 3.09 130 Pn Pn 16 12 53.5 -1.0
3.9nm,0.3s,baz=323,slow=13,SNR=75
YBH LR LR 16 13 25.2
comp=Z,1μm,21.6s,baz=156,slow=27
YBH Sn Sn 16 13 30.3 -0.9
55nm,0.3s,baz=120,slow=20,SNR=12
YBH **Yreka Blue Hor** 3.09 130 P Pn 16 12 53.5 -1.0
YBH 16 13 30.3
YBH pmax pmax
comp=Z,4.0nm,0.3s
YBH MLR MLR
comp=Z,1μm,21.6s
YBH smax smax
comp=N,55nm,0.3s
K04D **Chiloquin, OR** 3.21 110 P Pn 16 12 55.4 -0.7
baz=3.2,SNR=32
M02C **Callahan** 3.26 136 P Pn 16 12 55.3 -1.4
baz=3.2,SNR=92
I05D **Terrebonne, OR** 3.30 79 P Pn 16 12 57.0 -0.3
baz=3.3,SNR=229
KHMM **Horse Mountain** 3.31 151 ePn Pn 16 12 53.7 -3.8
J05D **Fort Rock, OR** 3.40 97 P Pn 16 12 57.9 -0.8
baz=3.4,SNR=286
G05D **Wamic, OR** 3.56 64 P Pn 16 13 01.2 +0.4
baz=3.5,SNR=340
M04C **Macdoel** 3.57 123 P Pn 16 13 00.5 -0.5
baz=3.5,SNR=36
N02D **Trinity Center** 3.65 139 P Pn 16 13 00.3 -1.8
baz=3.6,SNR=20
NLWA **Neilton Lookou** 3.87 20 ePn Pn 16 13 04.2 -0.8
WDC **Whiskeytown Da** 4.04 141 eP Pn 16 13 05.8 -1.6
WDC **Whiskeytown Da** 4.04 141 ePn Pn 16 13 05.8 -1.6
LON **Longmire** 4.12 42 eP Pn 16 13 09.3 +0.8
LON **Longmire** 4.12 42 ePn Pn 16 13 09.3 +0.8
KIPM **Iron Peak** 4.35 155 ePn Pn 16 13 10.8 -0.9
KCPM **Cahto Peak** 4.43 157 ePn Pn 16 13 11.2 -1.7
MOD **Modoc** 4.49 113 ePn Pn 16 13 12.6 -1.2
PGC **Sidney** 5.15 18 ePn Pn 16 13 21.5 -1.1
PGC eSn Sn 16 14 19.0 -2.6
HAWA **Hanford** 5.18 58 ePn Pn 16 13 23.4 +0.3
WVOR **Wild Horse Val** 5.45 102 eP Pn 16 13 25.3 -1.6
WVOR **Wild Horse Val** 5.45 102 ePn Pn 16 13 25.3 -1.6
MCCM **Marconi Confer** 6.07 157 ePn Pn 16 13 33.8 -1.4
SAC **San Andreas** 6.72 156 eP Pn 16 13 43.6 -0.6
SAC **San Andreas** 6.72 156 ePn Pn 16 13 43.6 -0.6
CMB **Columbia Colle** 7.08 142 eP Pn 16 13 50.3 +1.1
CMB **Columbia Colle** 7.08 142 ePn Pn 16 13 50.3 +1.1
WAKR **Walker** 7.16 135 ePn Pn 16 13 51.3 +0.9
MFID **Camas Ranch** 7.29 89 ePn Pn 16 13 51.2 -1.0
NEW **Newport** 7.55 51 Pn Pn 16 13 55.3 -0.3
comp=N,9.7nm,0.3s,baz=226,slow=12,SNR=290
NEW LR LR 16 17 00.8
comp=N,7μm,20.1s,baz=240,slow=40
NEW **Newport** 7.55 51 eP Pn 16 13 55.6 0.0
NEW **Newport** 7.55 51 P Pn 16 13 55.7 0.0
baz=7.5
NEW **Newport** 7.55 51 ePn Pn 16 13 55.6 0.0
NVAR **Mina Array Bea** 7.81 131 Pn Pn 16 13 59.4 -0.1
comp=N,1.4nm,0.3s,baz=302,slow=14,SNR=67
MLAC **Mammoth Lakes** 8.13 137 P Pn 16 14 04.5 +0.7
baz=8.1
HLID **Hailey** 8.30 88 P Pn 16 14 06.5 +0.5
baz=8.2
HLID **Hailey** 8.30 88 ePn Pn 16 14 04.3 -1.8
ELK **Elko** 8.44 107 Pn Pn 16 14 08.9 +0.9
comp=N,0.4nm,0.3s,baz=290,slow=11,SNR=52
ELK LR LR 16 17 47.1
comp=N,2μm,20.5s,baz=286,slow=41
ELK **Elko** 8.44 107 ePn Pn 16 14 09.2 +1.2
BBB **Bella Bella** 8.54 351 Pn Pn 16 14 09.5 +0.3
comp=N,2.4nm,0.3s,baz=181,slow=13,SNR=34
BBB LR LR 16 16 55.7
comp=N,2μm,19.7s,baz=175,slow=34
TPH **Tonopah** 8.67 128 eP Pn 16 14 12.1 +0.9
TPH **Tonopah** 8.67 128 ePn Pn 16 14 12.1 +0.9
BSMT **Bassoo Peak** 8.73 58 ePn Pn 16 14 11.2 -0.8
TIN **Tinemaha** 8.88 137 P Pn 16 14 15.8 +1.8
baz=8.8
MSO **Missoula** 8.93 66 P Pn 16 14 14.2 -0.4
baz=8.9
JTMT **Jette** 9.01 60 ePn Pn 16 14 15.2 -0.4
BLMT **Blacktail Moun** 9.06 58 ePn Pn 16 14 16.2 -0.3
SWMT **Swartz Lake** 9.10 62 ePn Pn 16 14 15.8 -1.2
YBMT **Yellow Bay** 9.22 60 ePn Pn 16 14 17.7 -0.9
SLMT **Seeley Lake** 9.34 64 ePn Pn 16 14 19.4 -1.0
MCMT **McKenzie Canyo** 9.39 79 ePn Pn 16 14 21.4 +0.4
CHMT **Chamberlain Mo** 9.41 66 ePn Pn 16 14 20.8 -0.5
CWC **Cottonwood Cre** 9.44 138 P Pn 16 14 23.5 +1.8
baz=9.4
R11A **Troy Canyon, C** 9.46 122 P Pn 16 14 21.2 -0.8
baz=9.4
R11A **Troy Canyon, C** 9.46 122 ePn Pn 16 14 22.8 +0.8
VES **Vestal, Richgr** 9.48 144 P Pn 16 14 23.8 +1.6
baz=9.4
SMMC **Simmler** 9.59 150 P Pn 16 14 24.0 +0.3
baz=9.6
DLMT **Dillon** 9.60 76 ePn Pn 16 14 24.1 +0.3
LRM **Limekiln Ridge** 9.74 73 ePn Pn 16 14 25.8 -0.1
WALA **Waterton Lakes** 9.79 53 ePn Pn 16 14 27.0 +0.6
DAC **Darwin (Calif)** 9.81 137 eP Pn 16 14 30.0 +3.2
DAC **Darwin (Calif)** 9.81 137 ePn Pn 16 14 29.9 +3.2
HVU **Hansel Valley** 9.82 97 eP Pn 16 14 28.1 +1.2
HVU **Hansel Valley** 9.82 97 ePn Pn 16 14 28.1 +1.2
ISA **Isabella** 9.90 143 eP Pn 16 14 30.7 +2.8
ISA **Isabella** 9.90 143 P Pn 16 14 29.1 +1.2
baz=9.9
ISA **Isabella** 9.90 143 ePn Pn 16 14 30.7 +2.8
BGU **Big Grassy Mou** 9.91 102 ePn Pn 16 14 29.2 +1.0
TPNV **Topopah Spring** 10.01 130 P Pn 16 14 28.6 -0.9
baz=10.0
PKM **Peak Mountain** 10.03 150 P Pn 16 14 30.5 +0.7
baz=10.0
SPUT **South Promonto** 10.20 99 ePn Pn 16 14 33.2 +1.2
ARVC **Arvin** 10.20 146 P Pn 16 14 33.7 +1.7
baz=10
BOZ **Bozeman (W)** 10.30 75 eP Pn 16 14 33.4 0.0
BOZ **Bozeman (W)** 10.30 75 P Pn 16 14 33.3 0.0
baz=10
BOZ **Bozeman (W)** 10.30 75 ePn Pn 16 14 33.4 0.0
HRY **Holter Researc** 10.31 69 ePn Pn 16 14 32.9 -0.7
DUG **Dugway** 10.35 106 eP Pn 16 14 34.4 +0.3
DUG **Dugway** 10.35 106 P Pn 16 14 35.0 +0.9
baz=10
DUG **Dugway** 10.35 106 ePn Pn 16 14 34.4 +0.3
QLMT **Earthquake Lak** 10.39 79 ePn Pn 16 14 35.7 +0.9
OSI **Osito Adit** 10.69 147 P Pn 16 14 40.9 +2.2
baz=11
OSI **Osito Adit** 10.69 147 Pn Pn 16 14 40.0 +1.2
YMR **Madison River** 10.73 80 ePn Pn 16 14 40.5 +1.1
HWUT **Hardware Ranch** 10.74 97 ePn Pn 16 14 41.0 +1.5
EDW2 **Edwards Air Fo** 10.77 143 P Pn 16 14 41.7 +1.9
baz=11
SHOC **Shoshone** 10.77 134 P Pn 16 14 41.2 +1.4
baz=11
IMW **Indian Meadow** 10.78 84 ePn Pn 16 14 41.5 +1.3
AHID **Auburn Hatcher** 10.81 90 ePn Pn 16 14 41.0 +0.6
TPAW **Teton Pass** 10.81 86 ePn Pn 16 14 42.3 +1.8
YFT **Old Faithful** 10.82 81 ePn Pn 16 14 43.2 +2.5
REDW **Red Top Meadow** 10.90 87 ePn Pn 16 14 43.6 +1.9
CTU **Camp Tracy** 10.90 102 ePn Pn 16 14 42.1 +0.3
BSC **Santa Cruz Isl** 10.90 152 P Pn 16 14 44.6 +2.9
baz=11
YNR **Norris Junctio** 10.93 80 ePn Pn 16 14 44.1 +1.9
MOOW **Moose Ponds** 10.93 85 ePn Pn 16 14 43.4 +1.3
FLWY **Flagg Ranch** 10.94 83 ePn Pn 16 14 44.0 +1.8
SHPR **Sheep Range** 10.94 128 ePn Pn 16 14 44.3 +2.1
SNOW **Snow King Moun** 10.96 86 ePn Pn 16 14 43.6 +1.1
NLU **North Lily Min** 10.96 106 ePn Pn 16 14 42.8 +0.3
GSC **Goldstone** 10.97 137 eP Pn 16 14 46.3 +3.7
GSC **Goldstone** 10.97 137 ePn Pn 16 14 46.3 +3.7
TCUT **Toone Canyon** 11.00 99 ePn Pn 16 14 44.4 +1.2
LOHW **Long Hollow** 11.05 86 ePn Pn 16 14 45.3 +1.6
LKWY **Lake** 11.13 81 eP Pn 16 14 47.9 +3.0
LKWY **Lake** 11.13 81 ePn Pn 16 14 47.9 +3.0
JLU **Jordanelle** 11.15 102 ePn Pn 16 14 45.3 +0.1
DECC **Green Verdugo** 11.17 146 P Pn 16 14 46.4 +1.1
baz=11
RRX **Edison Barstow** 11.22 139 P Pn 16 14 48.9 +3.0
baz=11
MPU **Maple Canyon** 11.25 105 ePn Pn 16 14 46.9 +0.4
PASC **Pasadena Art C** 11.29 146 ePn Pn 16 14 48.6 +1.7
MWC **Mount Wilson** 11.30 145 eP Pn 16 14 48.0 +0.8
MWC **Mount Wilson** 11.30 145 ePn Pn 16 14 48.0 +0.8
TUQ **Turquoise Moun** 11.31 134 P Pn 16 14 49.7 +2.4
baz=11
CCUT **Cedar City** 11.34 119 ePn Pn 16 14 48.6 +0.8
MSU **Marysvale** 11.57 112 eP Pn 16 14 52.3 +1.3
MSU **Marysvale** 11.57 112 ePn Pn 16 14 52.3 +1.3
HEC **Hector,Ludlow** 11.58 137 P Pn 16 14 52.6 +1.7
baz=12
GCMT **Grcliff** 11.68 74 ePn Pn 16 14 52.7 +0.4
TMUT **Trail Mountain** 11.85 107 Pn Pn 16 14 55.6 +0.8
BW06 **Boulder Array** 11.93 89 ePn Pn 16 14 56.7 +1.0
PDAR **Pinedale Array** 11.93 89 Pn Pn 16 14 57.2 +1.4
comp=N,0.4nm,0.3s,baz=279,slow=10,SNR=113
RLMT **Red Lodge** 11.93 78 P Pn 16 14 56.7 +0.9
baz=12
RLMT **Red Lodge** 11.93 78 ePn Pn 16 14 56.7 +0.9
GMRC **Granite Mounta** 11.96 135 P Pn 16 14 59.6 +3.5
baz=12
EGMT **Eagleton** 11.99 64 P Pn 16 14 56.0 -0.5
baz=12
EGMT **Eagleton** 11.99 64 ePn Pn 16 14 55.6 -0.8
H19A **Powell** 12.14 80 P Pn 16 15 00.5 +1.9
baz=12
I19A **Meeteetse** 12.17 83 P Pn 16 15 01.8 +2.8
baz=12
MURC **Murrieta** 12.20 144 P Pn 16 15 00.6 +1.2
baz=12
SCI **San Clemente I** 12.21 150 P Pn 16 15 01.1 +1.7
baz=12
J19A **Crowheart** 12.21 87 P Pn 16 15 01.3 +1.7
baz=12
SRU **San Rafael** 12.41 107 eP Pn 16 15 03.2 +0.8
SRU **San Rafael** 12.41 107 ePn Pn 16 15 03.2 +0.8
BELC **Belle Mtn. Jos** 12.41 139 P Pn 16 15 04.5 +2.1
baz=12
NEE2 **Needles Airpor** 12.51 132 P Pn 16 15 05.4 +1.8
baz=12
PFO **Pinyon Flat Ob** 12.52 141 Pn Pn 16 15 06.6 +2.8
comp=N,98nm,1.0s,SNR=7.3
PFO **Pinyon Flat Ob** 12.52 141 Pn Pn 16 15 05.8 +1.9
comp=N,0.4nm,0.3s,baz=321,slow=10,SNR=8.9
PFO LR LR 16 19 52.9
comp=N,2μm,18.2s,baz=7.5,slow=38
PFO **Pinyon Flat Ob** 12.52 141 P Pn 16 15 06.0 +2.2
baz=12
EDM **Edmonton** 12.55 37 eP Pn 16 15 02.4 -1.6
EDM **Edmonton** 12.55 37 ePn Pn 16 15 02.4 -1.6
CRAG **Craig** 12.60 341 ePn Pn 16 15 07.4 +2.7
G20A **Bridger** 12.68 77 P Pn 16 15 06.3 +0.3
baz=13
IRM **Iron Mountain** 12.70 136 P Pn 16 15 07.7 +1.5
baz=13
F20A **Billings** 12.74 75 P Pn 16 15 06.5 -0.3
baz=13
I20A **Worland** 12.80 83 P Pn 16 15 08.1 +0.6
baz=13
H20A **Greybull** 12.85 81 P Pn 16 15 09.6 +1.3
baz=13
109C **Camp Elliot, M** 12.85 145 P Pn 16 15 10.6 +2.3
baz=13
J20A **Shoshoni** 12.90 86 P Pn 16 15 10.3 +1.3
baz=13
BC3 **Big Chuckawall** 12.96 138 P Pn 16 15 12.1 +2.4
baz=13
PDMCI **Parker Dam,Lak** 13.12 132 P Pn 16 15 13.3 +1.4
baz=13
MONP **Monument Peak** 13.14 143 P Pn 16 15 14.3 +1.9
baz=13
BAR **Barrett** 13.22 144 ePn Pn 16 15 14.7 +1.5
WRAK **Wrangell Islan** 13.31 344 ePn Pn 16 15 17.4 +3.1
Y12C **Blythe** 13.35 135 P Pn 16 15 16.7 +1.7
baz=13
J21A **Lysite** 13.36 86 P Pn 16 15 15.2 -0.1
baz=13
SWSC **Sam W. Stewart** 13.38 141 P Pn 16 15 18.5 +3.0
baz=13
I21A **Big Trails, Te** 13.41 83 P Pn 16 15 16.3 +0.3
baz=13
F21A **Absaloka Mine,** 13.46 75 P Pn 16 15 15.8 -0.8
baz=13
IBP **Imperial Bould** 13.48 142 P Pn 16 15 18.7 +1.8
baz=13
H21A **Big Horn, Sher** 13.53 80 P Pn 16 15 17.7 +0.2
baz=14
E21A **Keefer Ranch,** 13.54 72 P Pn 16 15 16.3 -1.2
baz=14
O20A **White River Ci** 13.60 99 P Pn 16 15 18.6 0.0
baz=14
O20A **White River Ci** 13.60 99 ePn Pn 16 15 18.2 -0.4
GLA **Glamis** 13.75 137 eP Pn 16 15 22.8 +2.3
GLA **Glamis** 13.75 137 P Pn 16 15 22.5 +1.9
baz=14
GLA **Glamis** 13.75 137 ePn Pn 16 15 22.8 +2.3
PV04 **Paradox Valley** 13.86 107 ePn Pn 16 15 21.8 -0.4
WUAZ **Wupatki** 13.86 122 P Pn 16 15 24.0 +1.8
baz=14
WUAZ **Wupatki** 13.86 122 ePn Pn 16 15 24.2 +2.0
I22A **9 Mile Ranch,** 13.99 83 P Pn 16 15 23.7 -0.1
baz=14
H22A **Clearmont** 14.02 80 P Pn 16 15 23.5 -0.7
baz=14
G22A **Birney** 14.04 77 P Pn 16 15 23.9 -0.6
baz=14
J22A **Midwest** 14.05 85 P Pn 16 15 23.6 -1.1
baz=14
F22A **Rosebud** 14.06 75 P Pn 16 15 22.9 -1.9
baz=14
LAO **LASA Array** 14.13 71 P Pn 16 15 24.5 -1.3
baz=14
LAO **LASA Array** 14.13 71 ePn Pn 16 15 24.1 -1.6
K22A **Casper** 14.14 88 P Pn 16 15 24.4 -1.6
baz=14
K22A **Casper** 14.14 88 ePn Pn 16 15 23.9 -2.0
PV01 **Paradox Valley** 14.22 107 ePn Pn 16 15 26.2 -0.9
E22A **Miles City** 14.30 72 P Pn 16 15 26.4 -1.7
baz=14
F23A **Volborg** 14.66 75 P Pn 16 15 30.9 -2.0
baz=15
G23A **Biddle** 14.68 77 P Pn 16 15 31.4 -1.7
baz=15
H23A **Clabaugh Cattl** 14.70 80 P Pn 16 15 32.4 -1.1
baz=15
I23A **Meade Ranch, G** 14.71 82 P Pn 16 15 32.3 -1.4
baz=15
J23A **Dilts Ranch, B** 14.72 84 P Pn 16 15 32.2 -1.7
baz=15
MVCO **Mesa Verde** 14.73 111 P Pn 16 15 33.3 -0.8
baz=15
MVCO **Mesa Verde** 14.73 111 Pn Pn 16 15 33.0 -1.2
E23A **Ismay** 14.75 72 P Pn 16 15 32.1 -2.0
baz=15
K23A **Bowen Ranch, D** 14.78 87 P Pn 16 15 32.3 -2.3
baz=15
SMCO **Snowmass** 14.88 102 ePn Pn 16 15 34.9 -1.3
DLBC **Dease Lake** 14.90 351 Pn Pn 16 15 37.6 +1.4
comp=N,0.3nm,0.3s,baz=199,slow=9.4,SNR=22
DLBC LR LR 16 20 36.7
comp=N,1μm,21.5s,baz=166,slow=34
DLBC **Dease Lake** 14.90 351 ePn Pn 16 15 38.9 +2.7
comp=N,108nm,1.0s
N23A **Red Feather La** 15.00 94 P Pn 16 15 36.0 -1.8
baz=15
W18A **Petrified Fore** 15.14 119 P Pn 16 15 38.7 -0.9
baz=15
W18A **Petrified Fore** 15.14 119 Pn Pn 16 15 39.4 -0.3
comp=N,42nm,1.2s
PHWY **Pilot Hill** 15.24 92 ePn Pn 16 15 37.4 -3.5
comp=N,19nm,0.8s
H24A **Dirks Ranch, A** 15.29 79 P Pn 16 15 39.6 -1.9
baz=15
I24A **Kuemmerle Ranc** 15.32 82 P Pn 16 15 39.4 -2.5
baz=15
F24A **Ekalaka** 15.33 75 P Pn 16 15 39.3 -2.6
baz=15
G24A **Alzada** 15.36 77 P Pn 16 15 39.5 -2.9
baz=15
K24A **Anderson Ranch** 15.37 87 P Pn 16 15 40.4 -2.1
baz=15
C24A **Savage** 15.44 68 P Pn 16 15 42.4 -0.9
baz=15
E24A **Baker** 15.44 72 P Pn 16 15 41.6 -1.8
baz=15
D24A **Glendive** 15.46 70 P Pn 16 15 42.0 -1.7
baz=15
ISCO **Idaho Springs** 15.61 98 eP Pn 16 15 43.8 -2.0
ISCO pmax pmax
comp=Z,35nm,1.0s
ISCO **Idaho Springs** 15.61 98 P Pn 16 15 43.9 -1.9
baz=16
ISCO **Idaho Springs** 15.61 98 ePn Pn 16 15 43.8 -2.0
comp=Z,35nm,1.0s
S22A **4UR Ranch, Cre** 15.61 106 P Pn 16 15 45.2 -0.7
baz=16
214A **Organ Pipe Nat** 15.64 135 P Pn 16 15 46.4 +0.4
baz=16
214A **Organ Pipe Nat** 15.64 135 ePn Pn 16 15 43.9 -2.1
comp=Z,121nm,1.5s
RSSD **Black Hills** 15.72 81 eP Pn 16 15 43.3 -3.8
RSSD pmax pmax
comp=Z,28nm,1.0s
RSSD **Black Hills** 15.72 81 ePn Pn 16 15 43.3 -3.8
comp=Z,28nm,1.0s
H25A **Fruitdale** 15.98 79 P Pn 16 15 49.1 -1.2
baz=16
J25A **Sunshine Ranch** 15.98 84 P Pn 16 15 47.9 -2.5
baz=16
F25A **Bowman** 16.02 75 P Pn 16 15 48.5 -2.3
baz=16
E25A **Miller Ranch,** 16.07 72 P Pn 16 15 49.4 -2.1
baz=16
G25A **Newell** 16.07 77 P Pn 16 15 49.4 -2.1
baz=16
K25A **Mack Ranch, Ha** 16.07 87 P Pn 16 15 49.2 -2.4
baz=16
L25A **Engebretsen Ra** 16.10 88 P Pn 16 15 49.5 -2.5
baz=16
D25A **Fairfield** 16.15 70 P Pn 16 15 51.0 -1.5
baz=16
M25A **Palm-Egli Farm** 16.22 91 P Pn 16 15 51.2 -2.2
baz=16
C25A **Freed Ranch, W** 16.24 68 P Pn 16 15 52.5 -1.1
baz=16
Q24A **Divide** 16.26 100 P Pn 16 15 52.7 -1.5
baz=16
B25A **Knox Farm, Ray** 16.37 66 P Pn 16 15 53.5 -1.7
baz=16
TUC **Tucson** 16.46 129 eP Pn 16 15 57.7 +1.1
TUC pmax pmax
comp=Z,89nm,1.3s
TUC **Tucson** 16.46 129 ePn Pn 16 15 57.7 +1.1
comp=Z,89nm,1.3s
A25A **Svangstu Ranch** 16.50 64 P Pn 16 15 55.5 -1.4
baz=16
J26A **Sides Ranch, S** 16.52 84 P Pn 16 15 54.8 -2.5
baz=16
SDCO **Great Sand Dun** 16.54 104 P Pn 16 15 57.4 -0.3
baz=16
SDCO **Great Sand Dun** 16.54 104 ePn Pn 16 15 56.6 -1.2
comp=Z,284nm,1.8s
H26A **Fairpoint** 16.57 79 P Pn 16 15 56.4 -1.5
baz=16
I26A **New Underwood** 16.57 81 P Pn 16 15 56.1 -1.7
baz=16
F26A **Lodgepole** 16.57 75 P Pn 16 15 55.9 -2.0
baz=16
G26A **Maurine** 16.64 77 P Pn 16 15 57.3 -1.5
baz=17
E26A **Carlson Angus** 16.71 73 P Pn 16 15 57.8 -1.8
baz=17
SKAG **Skagway** 16.74 343 eP P 16 16 02.6 +0.6
comp=Z,529nm,1.6s
D26A **Manning** 16.75 71 P Pn 16 15 58.3 -1.8
baz=17
L26A **Underwood Farm** 16.77 88 P Pn 16 15 57.1 -3.3
baz=17
M26A **McRoberts Ranc** 16.87 90 P Pn 16 15 58.9 -2.8
baz=17
N26A **Koester Ranch,** 16.99 92 P Pn 16 16 01.1 -2.2
baz=17
B26A **Jensen Ranch,** 17.00 66 P Pn 16 16 01.3 -1.9
baz=17
F27A **Lemmon** 17.02 75 P Pn 16 16 01.2 -2.3
baz=17
C26A **Wahner Farm, P** 17.03 68 P Pn 16 16 02.0 -1.6
baz=17
H27A **Howes** 17.06 79 P Pn 16 16 02.6 -1.5
baz=17
G27A **Dupree** 17.11 76 P Pn 16 16 02.5 -2.1
baz=17
O26A **Horse Wrangler** 17.11 94 P Pn 16 16 03.1 -1.7
baz=17
I27A **Quinn** 17.14 81 P Pn 16 16 03.5 -1.6
baz=17
A26A **Wade Farm, Ken** 17.19 64 P Pn 16 16 03.8 -1.8
baz=17
K27A **Flueckinger Fa** 17.23 85 P Pn 16 16 05.6 -0.6
baz=17
LAZ **Ladron** 17.25 117 ePn Pn 16 16 07.1 +0.4
comp=Z,28nm,1.5s
J27A **Elkhorn Farm,** 17.30 83 P Pn 16 16 05.8 -1.3
baz=17
L27A **T5 Ranch, Ells** 17.31 87 P Pn 16 16 04.2 -3.1
baz=17
P26A **Davis Ranch, A** 17.32 96 P Pn 16 16 06.1 -1.4
baz=17
E27A **Carson** 17.33 73 P Pn 16 16 05.4 -2.1
baz=17
ANMO **Albuquerque** 17.37 114 P Pn 16 16 07.6 -0.5
comp=Z,0.4nm,0.3s,baz=312,slow=12,SNR=45
ANMO LR LR 16 22 45.2
comp=Z,2μm,19.6s,baz=306,slow=37
ANMO **Albuquerque** 17.37 114 ePn Pn 16 16 07.9 -0.2
D27A **Center** 17.37 70 P Pn 16 16 06.2 -1.7
baz=17
M27A **Reverse DX Ran** 17.40 89 P Pn 16 16 05.1 -3.2
baz=17
C27A **Sayler Ranch,** 17.42 68 P Pn 16 16 06.7 -1.8
baz=17
Q26A **Hugo** 17.44 98 P Pn 16 16 07.9 -1.0
baz=17
N27A **Anderson Farm,** 17.49 92 P Pn 16 16 07.2 -2.3
baz=17
LENM **Lemitar** 17.51 117 eP P 16 16 11.5 +0.6
comp=Z,223nm,1.4s
T25A **Trinidad** 17.59 105 P Pn 16 16 10.1 -0.8
baz=18
Y22D **IRIS PASSCAL I** 17.60 117 P Pn 16 16 10.5 -0.4
baz=18
LPM **Los Pinos Moun** 17.64 116 eP P 16 16 12.2 -0.2
comp=Z,26nm,1.2s
B27A **Peters Farms,** 17.64 66 P Pn 16 16 09.7 -1.5
baz=18
A27A **Ledoux Ranch,** 17.72 64 P Pn 16 16 11.1 -1.1
baz=18
O27A **Beecher Island** 17.73 94 P Pn 16 16 10.4 -2.0
baz=18
R26A **Arlington** 17.75 100 P Pn 16 16 11.3 -1.4
baz=18
I28A **Midland** 17.78 81 P Pn 16 16 11.4 -1.6
baz=18
H28A **Mission Ridge** 17.81 78 P Pn 16 16 11.3 -2.0
baz=18
OGNE **Ogallala** 17.82 91 P Pn 16 16 11.0 -2.6
baz=18
OGNE **Ogallala** 17.82 91 eP Pn 16 16 11.4 -2.1
comp=Z,322nm,1.4s
J28A **Allard Ranch,** 17.82 83 P Pn 16 16 12.7 -0.9
baz=18
G28A **Parade** 17.84 77 P Pn 16 16 12.0 -1.7
baz=18
K28A **Ten Mile Ranch** 17.86 85 P Pn 16 16 12.5 -1.5
baz=18
F28A **McLaughlin** 17.88 75 P Pn 16 16 12.4 -1.7
baz=18
P27A **Ficken Ranch,** 17.88 96 P Pn 16 16 12.3 -2.0
baz=18
L28A **Connealy Angus** 17.91 87 P Pn 16 16 11.9 -2.7
baz=18
E28A **Huff** 17.94 72 P Pn 16 16 12.9 -1.9
baz=18
D28A **Regan** 18.03 70 P Pn 16 16 14.4 -1.6
baz=18
KSCO **Kaye Shedlock'** 18.05 97 P Pn 16 16 14.3 -2.1
baz=18
KSCO **Kaye Shedlock'** 18.05 97 P Pn 16 16 16.0 -0.4
comp=Z,85nm,1.0s
121A **Cookes Peak, D** 18.07 122 P P 16 16 18.0 +0.9
baz=18
121A **Cookes Peak, D** 18.07 122 eP P 16 16 17.9 +0.9
comp=Z,63nm,1.3s
T26A **Comanche Natio** 18.15 104 P Pn 16 16 16.1 -1.7
baz=18

M28A	Bar X Bar Ranc	18.17	89	P		Pn	16 16 14.6	-3.2	
	baz=18								
C28A	Hausauer Farms	18.17	69	P		Pn	16 16 16.2	-1.5	
	baz=18								
R27A	Eads	18.22	100	P		Pn	16 16 16.9	-1.6	
	baz=18								
B28A	Dugan Ranch, T	18.24	66	P		Pn	16 16 17.0	-1.6	
	baz=18								
N28A	Pribbeno Ranch	18.25	91	P		Pn	16 16 16.3	-2.6	
	baz=18								
O28A	Krutsinger Ran	18.26	93	P		Pn	16 16 16.7	-2.3	
	baz=18								
A28A	Rude Farm, Bot	18.35	65	P		P	16 16 19.0	-1.0	
	baz=18								
H29A	Onida	18.39	78	P		P	16 16 19.0	-1.3	
	baz=18								
I29A	Vivian Onida	18.40	80	P		P	16 16 18.7	-1.8	
	baz=18								
S27A	Las Animas	18.41	101	P		P	16 16 18.9	-1.9	
	baz=18								
P28A	Saint Francis	18.47	95	P		P	16 16 19.1	-2.3	
	baz=18								
J29A	Okreek	18.48	82	P		P	16 16 18.9	-2.5	
	baz=18								
G29A	Hoven	18.53	77	P		P	16 16 20.5	-1.5	
	baz=18								
F29A	Eureka	18.56	75	P		P	16 16 20.1	-2.1	
	baz=18								
Q28A	Sharon Springs	18.60	96	P		P	16 16 20.9	-1.9	
	baz=18								
K29A	Lazy Trails An	18.61	84	P		P	16 16 21.1	-1.8	
	baz=18								
L29A	Maesberg Ranch	18.65	86	P		P	16 16 21.0	-2.3	
	baz=19								
M29A	Burnside Ranch	18.65	88	P		P	16 16 20.6	-2.8	
	baz=19								
E29A	Napoleon	18.66	72	P		P	16 16 21.8	-1.6	
	baz=19								
D29A	Pettibone, Tap	18.69	71	P		P	16 16 22.5	-1.2	
	baz=19								
MDND	Maddock	18.71	68	P		P	16 16 23.2	-0.7	
	baz=19								
MDND	Maddock	18.71	68	eP		P	16 16 22.7	-1.2	
	comp=Z,165nm,1.0s								
T27A	Campo	18.82	103	P		P	16 16 24.1	-1.2	
	baz=19								
N29A	Votaw Ranch, W	18.87	90	P		P	16 16 23.2	-2.6	
	baz=19								
R28A	Tribune	18.90	98	P		P	16 16 24.0	-2.1	
	baz=19								
B29A	Wagenman Farm,	18.91	66	P		P	16 16 25.3	-0.8	
	baz=19								
FFC	Flin Flon	18.95	46	P		P	16 16 24.5	-1.9	
	comp=Z,680nm,0.9s,SNR=39								
FFC	Flin Flon	18.95	46	eP		P	16 16 24.2	-2.2	
FFC				pmax		pmax			
	comp=Z,106nm,0.9s								
FFC	Flin Flon	18.95	46	eP		P	16 16 24.2	-2.2	
	comp=Z,106nm,0.9s								
O29A	4D Ranch, Culb	18.97	92	P		P	16 16 24.5	-2.3	
	baz=19								
A29A	Manning Farm,	19.03	65	P		P	16 16 26.3	-1.2	
	baz=19								
I30A	Oacoma	19.04	80	P		P	16 16 25.8	-1.8	
	baz=19								
P29A	Atwood	19.05	94	P		P	16 16 26.1	-1.7	
	baz=19								
U27A	Thompson Grove	19.05	105	P		P	16 16 26.8	-1.0	
	baz=19								
G30A	Faulkton	19.09	77	P		P	16 16 26.8	-1.3	
	baz=19								
J30A	Dallas	19.09	82	P		P	16 16 27.1	-1.0	
	baz=19								
F30A	Leola	19.12	74	P		P	16 16 26.9	-1.5	
	baz=19								
K30A	Basset	19.13	84	P		P	16 16 28.0	-0.7	
	baz=19								
S28A	Manter	19.16	101	P		P	16 16 27.9	-1.1	
	baz=19								
E30A	Jud	19.17	72	P		P	16 16 27.8	-1.1	
	baz=19								
M30A	Dale-Ortello V	19.22	88	P		P	16 16 27.8	-1.8	
	baz=19								
T28A	Walsh	19.22	102	P		P	16 16 28.5	-1.2	
	baz=19								
L30A	Spencer Herefo	19.22	86	P		P	16 16 28.3	-1.3	
	baz=19								
N30A	Hueftle Ranch,	19.26	90	P		P	16 16 29.8	-0.2	
	baz=19								
D30A	Buchanan	19.26	71	P		P	16 16 29.1	-0.9	
	baz=19								
Q29A	Oakley	19.28	96	P		P	16 16 28.6	-1.7	
	baz=19								
R29A	Marienthal	19.35	98	P		P	16 16 29.9	-1.1	
	baz=19								
V27A	Dan Oppiter Fa	19.38	107	P		P	16 16 31.6	+0.2	
	baz=19								
C30A	Mose, Pekin	19.46	69	P		P	16 16 32.0	-0.1	
	baz=19								
O30A	MW Ranch, Wils	19.49	92	P		P	16 16 31.2	-1.3	
	baz=19								
U28A	Mallet	19.50	104	P		P	16 16 31.9	-0.8	
	baz=19								
P30A	Selden	19.57	94	P		P	16 16 31.7	-1.7	
	baz=20								
B30A	Myrvik Farm, E	19.59	67	P		P	16 16 33.4	-0.2	
	baz=20								
A30A	Hoffart Farm,	19.65	65	P		P	16 16 34.1	-0.1	
	baz=20								
S29A	Ulysses	19.70	100	P		P	16 16 34.8	-0.1	
	baz=20								
T29A	Hugoton	19.78	101	P		P	16 16 36.1	+0.3	
	baz=20								
Q30A	Quinter	19.79	95	P		P	16 16 35.1	-0.8	
	baz=20								
L31A	Butterfield Fa	19.80	85	P		P	16 16 35.0	-0.9	
	baz=20								
V28A	Channing	19.81	106	P		P	16 16 36.4	+0.3	
	baz=20								
YKA	Yellowknife Ar	19.86	15	P		P	16 16 36.7	+0.4	
	comp=Z,0.5nm,0.3s,baz=204,slow=12,SNR=61								
YKA	Yellowknife Ar	19.86	15	P		P	16 16 36.7	+0.4	
YKA				pmax		pmax			
	comp=Z,1.0nm,0.3s								
M31A	Lambtecht Ranc	19.92	88	P		P	16 16 37.4	+0.2	
	baz=20								
R30A	Dighton	20.02	97	P		P	16 16 38.2	-0.1	
	baz=20								
O31A	Woolen Ranch,	20.02	91	P		P	16 16 37.1	-1.2	
	baz=20								
MID	Middleton Isla	20.04	329	eP		Pn	16 16 40.5	+0.4	
MID				pmax		pmax			
	comp=Z,230nm,1.4s								
MID	Middleton Isla	20.04	329	eP		Pn	16 16 40.5	+0.4	
	comp=Z,230nm,1.4s								
W28A	Vega	20.08	107	P		P	16 16 39.3	+0.2	
	baz=20								
N31A	Bailey Ranch,	20.08	89	P		P	16 16 38.3	-0.8	
	baz=20								
U29A	Oasis Ranch, S	20.13	103	P		P	16 16 38.9	-0.7	
	baz=20								
S30A	Montezuma	20.16	99	P		P	16 16 40.1	+0.3	
	baz=20								
P31A	Stockton	20.20	93	P		P	16 16 39.3	-0.9	
	baz=20								
CBKS	Cedar Bluff	20.20	95	eP		P	16 16 39.8	-0.5	
CBKS				pmax		pmax			
	comp=Z,163nm,1.0s								
CBKS	Cedar Bluff	20.20	95	P		P	16 16 40.5	+0.2	
	baz=20								
CBKS	Cedar Bluff	20.20	95	eP		P	16 16 39.8	-0.5	
	comp=Z,163nm,1.0s								
V29A	Stinnett	20.24	105	P		P	16 16 41.0	+0.3	
	baz=20								
T30A	Plains	20.38	101	P		P	16 16 42.6	+0.4	
	baz=20								
Q31A	Ellis	20.38	94	P		P	16 16 41.9	-0.3	
	baz=20								
X28A	Dimmitt	20.49	109	P		P	16 16 44.5	+1.0	
	baz=20								
BGNE	Belgrade	20.50	87	P		P	16 16 43.2	-0.3	
	baz=20								
BGNE	Belgrade	20.50	87	eP		P	16 16 42.7	-0.8	
	comp=Z,409nm,1.1s								
U30A	WK&E Inc. Balk	20.53	102	P		P	16 16 44.4	+0.4	
	baz=20								
BMRM	Bremner River	20.54	333	eP		Pn	16 16 45.5	-0.5	
	comp=Z,82nm,1.1s								
W29A	Amraillo	20.54	107	P		P	16 16 44.7	+0.7	
	baz=20								
R31A	Burdett	20.56	96	P		P	16 16 45.2	+1.0	
	baz=20								
N32A	Stulken Farm,	20.58	89	P		P	16 16 45.1	+0.7	
	baz=20								
CLNB	Carlsbad	20.72	116	eP		Pn	16 16 47.7	-0.7	
	comp=Z,9.8nm,1.2s								
P32A	Huiting Farm,	20.73	92	P		P	16 16 45.3	-0.7	
	baz=21								
O32A	Brockman Farm,	20.75	90	P		P	16 16 46.4	+0.1	
	baz=21								
Y28A	McKinney Farm,	20.80	110	P		Pn	16 16 48.3	-1.1	
	baz=21								
S31A	Mullinville	20.87	98	P		P	16 16 48.4	+0.9	
	baz=21								
X29A	Tulia	20.87	108	P		Pn	16 16 49.1	-1.1	
	baz=21								
V30A	Spur Ranch, Mi	20.88	104	P		P	16 16 48.7	+1.0	
	baz=21								
L33A	Hoskins	20.94	84	P		P	16 16 48.2	0.0	
	baz=21								
T31A	Randall Ranch,	20.96	100	P		P	16 16 48.8	+0.3	
	baz=21								
Q32A	Meitler Ranch,	20.99	94	P		P	16 16 48.6	-0.2	
	baz=21								
DIV	Divide	21.04	333	eP		P	16 16 50.9	+1.7	
	comp=Z,136nm,1.1s								
Z28A	Tucker Farm, M	21.07	112	P		P	16 16 49.6	-0.2	
	baz=21								
ECSD	EROS Data Cent	21.08	80	P		P	16 16 49.8	+0.1	
	baz=21								
ECSD	EROS Data Cent	21.08	80	eP		P	16 16 49.0	-0.7	
	comp=Z,277nm,1.0s								
R32A	Long Quarter,	21.10	95	P		P	16 16 50.6	+0.6	
	baz=21								
M33A	Taylor Creek F	21.14	86	P		P	16 16 50.3	-0.2	
	baz=21								
U31A	Nine Bar Ranch	21.18	102	P		P	16 16 50.8	0.0	
	baz=21								
N33A	J Bar K, Exete	21.20	88	P		P	16 16 50.7	-0.4	
	baz=21								
Y29A	Porterfield Fa	21.22	110	P		P	16 16 52.1	+0.6	
	baz=21								
S32A	Newby Ranch, P	21.23	97	P		P	16 16 51.8	+0.4	
	baz=21								
AGMN	Agassiz Nation	21.23	67	P		P	16 16 51.7	+0.4	
	baz=21								
AGMN	Agassiz Nation	21.23	67	eP		P	16 16 51.5	+0.2	
	comp=Z,662nm,1.0s								
W30A	Crocket Farms	21.25	105	P		P	16 16 52.2	+0.4	
	baz=21								
O33A	Hebron	21.31	90	P		P	16 16 52.5	+0.3	
	baz=21								
ULM	Lac du Bonnet	21.34	62	P		P	16 16 52.5	+0.1	
	comp=Z,168nm,0.9s,baz=271,slow=11,SNR=109								
ULM				LR		LR	16 25 30.7		
	comp=Z,2µm,20.1s,baz=265,slow=38								
ULM	Lac du Bonnet	21.34	62	P		P	16 16 52.6	+0.1	
ULM				pmax		pmax			
	comp=Z,169nm,0.9s								
ULM				MLR		MLR			
	comp=Z,2µm,20.1s								
128A	Castleberry Fa	21.41	113	P		P	16 16 54.1	+0.7	
	baz=21								
X30A	Coker Ranch, T	21.44	107	P		P	16 16 54.7	+1.0	
	baz=21								
P33A	Williams Farm,	21.45	92	P		P	16 16 54.3	+0.5	
	baz=21								
V31A	Spring Creek L	21.47	103	P		P	16 16 54.8	+0.7	
	baz=21								
Q33A	Connelly Farm,	21.51	93	P		P	16 16 54.6	+0.2	
	baz=21								
Z29A	Hungry Hill Ra	21.55	111	P		P	16 16 55.0	+0.1	
	baz=22								
M34A	Aspy Farms, Fr	21.61	86	P		P	16 16 54.8	-0.6	
	baz=22								
L34A	Svendsen Farm,	21.63	85	P		P	16 16 54.9	-0.8	
	baz=22								
228A	UT Block 9, Go	21.65	115	P		P	16 16 56.9	+0.8	
	baz=22								
R33A	Olander Ranch,	21.67	95	P		P	16 16 56.7	+0.6	
	baz=22								
SEW	Seward	21.68	327	eP		P	16 16 57.4	+1.4	
	comp=Z,185nm,1.1s								
W31A	Holland Ranch,	21.70	104	P		P	16 16 57.4	+0.9	
	baz=22								
DAWY	Dawson	21.74	344	eP		P	16 16 58.5	+1.8	
	comp=Z,102nm,1.0s								
Y30A	Stafford Cattl	21.74	109	P		P	16 16 57.6	+0.6	
	baz=22								
KDAK	Kodiak Island	21.76	319	P		P	16 16 58.3	+1.5	
	comp=Z,1µm,0.9s,SNR=49								
KDAK	Kodiak Island	21.76	319	P		P	16 16 58.5	+1.7	
	comp=Z,148nm,0.9s,baz=125,slow=7.0,SNR=122								
KDAK				LR		LR	16 23 24.6		
	comp=Z,1µm,18.5s,baz=135,slow=31								
KDAK	Kodiak Island	21.76	319	P		P	16 16 58.5	+1.7	
KDAK				pmax		pmax			
	comp=Z,148nm,0.9s								
KDAK				MLR		MLR			
	comp=Z,1µm,18.5s								
KDAK	Kodiak Island	21.76	319	eP		P	16 16 58.3	+1.5	
	comp=Z,168nm,0.9s								
U32A	Winter Ranch,	21.77	101	P		P	16 16 57.6	+0.3	
	baz=22								
MENT	Mentasta	21.81	338	eP		P	16 16 59.6	+2.2	
129A	Stewart Farms,	21.81	113	P		P	16 16 57.8	0.0	
	baz=22								
OHAK	Old Harbor	21.84	318	eP		P	16 16 58.8	+1.1	
	comp=Z,126nm,1.1s								
N34A	Lincoln	21.86	88	P		P	16 16 58.1	0.0	
	baz=22								
O34A	Beatrice	21.92	89	P		P	16 16 58.4	-0.4	
	baz=22								
Z30A	Sanderson Ranc	21.92	110	P		P	16 16 59.1	+0.2	
	baz=22								
S33A	Kaszmaul Farm,	21.95	97	P		P	16 16 59.0	-0.1	
	baz=22								
X31A	McDonald Ranch	21.96	106	P		P	16 17 00.1	+0.8	
	baz=22								
T33A	Patterson Ranc	21.99	98	P		P	16 16 59.1	-0.5	
	baz=22								
P34A	Walnut Farm, R	22.04	91	P		P	16 16 60.0	-0.1	
	baz=22								
V32A	Arapaho	22.06	102	P		P	16 17 00.6	+0.2	
	baz=22								
Y31A	Rekieta Farm,	22.13	108	P		P	16 17 01.0	-0.1	
	baz=22								
Q34A	Chapman	22.18	93	P		P	16 17 01.5	-0.1	
	baz=22								
L35A	Bielow Farm, R	22.19	84	P		P	16 17 01.3	-0.4	
	baz=22								
R34A	Isabella, Hill	22.20	94	P		P	16 17 01.9	+0.1	
	baz=22								
W32A	Sentinel	22.22	104	P		P	16 17 02.4	+0.4	
	baz=22								
M35A	Neola	22.26	85	P		P	16 17 01.8	-0.6	
	baz=22								
229A	Bryant Ranch,	22.26	114	P		P	16 17 02.7	+0.2	
	baz=22								
PAX	Paxson	22.33	336	eP		P	16 17 04.8	+1.8	
PAX				pmax		pmax			
	comp=Z,34nm,1.2s								
PAX	Paxson	22.33	336	eP		P	16 17 04.8	+1.8	
	comp=Z,34nm,1.2s								
KSU1	Kansas State U	22.36	92	P		P	16 17 03.2	-0.2	
	baz=22								
KSU1	Kansas State U	22.36	92	eP		P	16 17 03.7	+0.3	
	comp=Z,176nm,0.8s								
U33A	Lingo Farm, Me	22.38	100	P		P	16 17 04.1	+0.3	
	baz=22								
SML	Sawmill	22.39	332	eP		P	16 17 05.2	+1.5	
SML				pmax		pmax			
	comp=Z,39nm,1.1s								
SML	Sawmill	22.39	332	eP		P	16 17 05.2	+1.5	
	comp=Z,39nm,1.1s								
RC01	Rabbit Creek A	22.42	329	eP		P	16 17 05.2	+1.3	
	comp=Z,104nm,1.1s								
130A	Snyder	22.44	111	P		P	16 17 04.6	+0.1	
	baz=22								
329A	Wagon Wheel Ra	22.45	115	P		P	16 17 04.8	+0.2	
	baz=22								
O35A	Humboldt	22.46	89	P		P	16 17 04.7	+0.1	
	baz=22								
N35A	Tabor	22.47	87	P		P	16 17 05.1	+0.4	
	baz=22								
PMR	Palmer	22.52	330	eP		P	16 17 06.6	+1.6	
PMR				pmax		pmax			
	comp=Z,112nm,1.0s								
PMR	Palmer	22.52	330	eP		P	16 17 06.6	+1.6	
	comp=Z,112nm,1.0s								
S34A	Willow Spring	22.54	96	P		P	16 17 05.7	+0.2	
	baz=22								
V33A	Lossen Ranch,	22.55	101	P		P	16 17 05.5	-0.1	
	baz=22								
X32A	Elmer	22.56	105	P		P	16 17 06.0	+0.3	
	baz=22								
Z31A	Sharp Cattle R	22.57	109	P		P	16 17 05.9	0.0	
	baz=22								
P35A	Duane Minner,	22.63	91	P		P	16 17 06.0	-0.4	
	baz=22								
Y32A	R-V Farms, Ver	22.68	107	P		P	16 17 06.8	-0.2	
	baz=23								
EGAK	Eagle	22.73	343	eP		P	16 17 08.4	+1.2	
	comp=Z,35nm,1.0s								
WMOK	Wichita Mounta	22.75	104	eP		P	16 17 07.2	-0.5	
WMOK				pmax		pmax			
	comp=Z,116nm,1.0s								
WMOK	Wichita Mounta	22.75	104	eP		P	16 17 07.2	-0.5	
	comp=Z,116nm,1.0s								
W33A	Caddo, Fort Co	22.75	103	P		P	16 17 08.2	+0.5	
	baz=23								
230A	Sterling City	22.77	113	P		P	16 17 08.2	+0.1	
	baz=23								
T34A	McClaskey Farm	22.78	97	P		P	16 17 08.0	0.0	
	baz=23								
131A	Roby	22.78	111	P		P	16 17 08.0	-0.1	
	baz=23								
U34A	Anderson Ranch	22.79	99	P		P	16 17 08.4	+0.3	
	baz=23								
U34A	Anderson Ranch	22.79	99	eP		P	16 17 08.0	-0.1	
	comp=Z,424nm,1.6s								
TXAR	Lajitas Array	22.83	122	P		P	16 17 09.3	+0.6	
	comp=Z,19nm,1.0s,baz=316,slow=3.8,SNR=86								
TXAR				LR		LR	16 26 52.4		
	comp=Z,839nm,20.2s,baz=0.0,slow=39								
TXAR	Lajitas Array	22.83	122	P		P	16 17 09.3	+0.6	
TXAR				pmax		pmax			
	comp=Z,19nm,1.0s								
TXAR				MLR		MLR			
	comp=Z,839nm,20.2s								
Q35A	Mercer Eighty,	22.86	92	P		P	16 17 09.2	+0.4	
	baz=23								
R35A	Emporia Munici	22.95	94	P		P	16 17 09.3	-0.4	
	baz=23								
330A	Mertzon	23.03	114	P		P	16 17 11.1	+0.3	
	baz=23								
Z32A	Haskell	23.04	108	P		P	16 17 10.8	+0.1	
	baz=23								
X33A	Lawton	23.04	104	P		P	16 17 10.6	-0.2	
	baz=23								
429A	Davenport Ranc	23.07	117	P		P	16 17 11.4	+0.3	
	baz=23								
V34A	Guthrie	23.09	100	P		P	16 17 11.2	0.0	
	baz=23								
V34A	Guthrie	23.09	100	eP		P	16 17 11.6	+0.3	
	comp=Z,199nm,1.1s								
S35A	Otter Creek Ra	23.12	95	P		P	16 17 11.4	-0.1	
	baz=23								
P36A	Good Intent, A	23.19	90	P		P	16 17 12.0	-0.2	
	baz=23								
O36A	Bolckow	23.19	88	P		P	16 17 12.0	-0.2	
	baz=23								
529A	Stev Forest Ra	23.19	118	P		P	16 17 12.4	0.0	
	baz=23								
W34A	Bridge Creek,	23.20	102	P		P	16 17 12.1	-0.3	
	baz=23								
W34A	Bridge Creek,	23.20	102	eP		P	16 17 12.8	+0.5	
	comp=Z,206nm,1.1s								
RSO	Redoubt South	23.23	325	eP		P	16 17 13.7	+1.1	
	comp=Z,127nm,1.0s								
Q36A	Arnold C. Orve	23.24	91	P		P	16 17 12.3	-0.4	
	baz=23								
Y33A	Hilltop Ranch,	23.24	106	P		P	16 17 12.1	-0.7	
	baz=23								
231A	Bronte	23.28	112	P		P	16 17 12.8	-0.4	
	baz=23								
T35A	Sooner Cattle	23.31	97	P		P	16 17 13.2	-0.3	
	baz=23								
ABTX	Abilene, Hawle	23.32	110	P		P	16 17 12.8	-0.8	
	baz=23								
ABTX	Abilene, Hawle	23.32	110	eP		P	16 17 13.2	-0.4	
	comp=Z,50nm,1.0s								
430A	Baggett Ranch,	23.39	115	P		P	16 17 14.4	0.0	
	baz=23								
U35A	Pawnee	23.40	98	P		P	16 17 14.4	+0.1	
	baz=23								
LPIG	La Paz	23.41	142	P		P	16 17 15.6	+1.1	
	comp=Z,26nm,0.3s,baz=11,slow=8.6,SNR=4.3								
LPIG				LR		LR	16 26 44.1		
	comp=Z,1µm,18.3s,baz=332,slow=38								
R36A	Gordon, Harris	23.45	93	P		P	16 17 14.3	-0.5	
	baz=23								
X34A	Smith Ranch, M	23.48	103	P		P	16 17 16.0	+0.9	
	baz=23								
SPMN	St. Paul	23.53	75	P		P	16 17 16.1	+0.5	
	baz=23								
SPMN	St. Paul	23.53	75	eP		P	16 17 15.9	+0.4	
	comp=Z,313nm,0.8s								
Z33A	Whitaker Ranch	23.54	107	P		P	16 17 15.6	-0.2	
	baz=24								
331A	San Angelo	23.59	113	P		P	16 17 16.5	+0.2	
	baz=24								
V35A	Meyer Ranch, C	23.61	100	P		P	16 17 16.1	-0.2	
	baz=24								
S36A	Lake Cedric, C	23.63	94	P		P	16 17 16.5	-0.1	
	baz=24								
T36A	Boggs Farm, Ca	23.70	96	P		P	16 17 17.1	-0.2	
	baz=24								
530A	J-C Ranch, Com	23.74	117	P		P	16 17 18.5	+0.7	
	baz=24								
232A	Coleman	23.76	111	P		P	16 17 17.5	-0.4	
	baz=24								
133A	Hamilton Ranch	23.83	109	P		P	16 17 18.5	0.0	
	baz=24								
431A	Sonora	23.87	115	P		P	16 17 19.1	+0.1	
	baz=24								
Y34A	Reagan Ranch,	23.88	105	P		P	16 17 19.3	+0.4	
	baz=24								
W35A	Tecumseh	23.88	101	P		P	16 17 18.8	-0.2	
	baz=24								
MCK	McKinley	23.94	335	eP		P	16 17 20.8	+1.4	
MCK				pmax		pmax			
	comp=Z,73nm,0.9s								
MCK	McKinley	23.94	335	eP		P	16 17 20.8	+1.4	
	comp=Z,73nm,0.9s								
R37A	Teagarden Farm	23.94	92	P		P	16 17 19.4	-0.2	
	baz=24								
332A	Millersview	24.00	112	P		P	16 17 20.2	0.0	
	baz=24								
Q37A	Longview Farm,	24.00	91	P		P	16 17 20.8	+0.7	
	baz=24								
Z34A	Collier Ranch,	24.09	106	P		P	16 17 21.0	+0.1	
	baz=24								
U36A	Oologah	24.11	98	P		P	16 17 20.9	-0.2	
	baz=24								
CHGN	Chignik	24.12	313	eP		P	16 17 21.6	+0.6	
ILAR	Eielson Array	24.12	338	P		P	16 17 22.1	+1.2	
	comp=Z,34nm,0.8s,baz=150,slow=8.9,SNR=295								
ILAR	Eielson Array	24.12	338	P		P	16 17 22.2	+1.2	
ILAR				pmax		pmax			
	comp=Z,35nm,0.8s								
EYMN	Ely	24.16	68	P		P	16 17 21.5	0.0	
	baz=24								
EYMN	Ely	24.16	68	eP		P	16 17 21.6	0.0	
	comp=Z,658nm,1.7s								
S37A	Fort Scott	24.17	94	P		P	16 17 22.1	+0.4	
	baz=24								
TRF	Thorofare Moun	24.18	333	eP		P	16 17 22.9	+1.1	
	comp=Z,169nm,1.3s				

baz=24
Y35A Marietta 24.41 104 P **P** 16 17 25.1 +1.1
baz=24
134A White-Moore Ra 24.42 108 P **P** 16 17 24.9 +0.9
baz=24
PPLA Purkeypile 24.46 331 *e*P **P** 16 17 25.5 +1.2
comp=Z,166nm,1.0s
COLA College 24.46 337 *d* iP **P** 16 17 25.2 +1.1
COLA pmax pmax
comp=Z,182nm,1.2s
COLA College 24.46 337 *e*P **P** 16 17 25.1 +1.0
comp=Z,45nm,1.1s
JCT Junction City 24.53 114 *e*P **P** 16 17 25.1 0.0
JCT pmax pmax
comp=Z,71nm,1.4s
JCT Junction City 24.53 114 P **P** 16 17 25.4 +0.3
baz=24
JCT Junction City 24.53 114 *e*P **P** 16 17 25.1 0.0
comp=Z,71nm,1.4s
U37A Salina 24.54 97 P **P** 16 17 25.6 +0.5
baz=24
X36A Centrahoma 24.55 102 P **P** 16 17 26.0 +0.9
baz=24
333A Richland Sprin 24.55 111 P **P** 16 17 25.2 0.0
baz=24
Z35A Perchaven, San 24.57 105 P **P** 16 17 25.4 +0.1
baz=24
FCC Fort Churchill 24.58 41 *e*P **P** 16 17 26.1 +0.9
FCC pmax pmax
comp=Z,89nm,1.1s
FCC Fort Churchill 24.58 41 *e*P **P** 16 17 26.1 +0.9
comp=Z,89nm,1.1s
532A Rocksprings 24.69 115 P **P** 16 17 27.2 +0.7
baz=25
234A Clairette 24.71 109 P **P** 16 17 27.1 +0.4
baz=25
631A Perdido Creek 24.73 117 P **P** 16 17 27.5 +0.7
baz=25
V37A Hulbert 24.77 98 P **P** 16 17 27.7 +0.5
baz=25
433A Art 24.83 113 P **P** 16 17 28.1 +0.3
baz=25
BPAW Bear Paw Mtn. 24.85 334 *e*P **P** 16 17 28.7 +1.0
comp=Z,24nm,0.8s
135A Vickery Place, 24.89 107 P **P** 16 17 29.2 +0.9
baz=25
INK Inuvik 24.91 353 P **P** 16 17 28.4 +0.4
comp=Z,45nm,1.1s,baz=166,slow=10,SNR=36
INK LR LR 16 26 53.0
comp=Z,366nm,20.1s,baz=160,slow=36
INK Inuvik 24.91 353 P **P** 16 17 28.5 +0.4
INK pmax pmax
comp=Z,45nm,1.1s
INK MLR MLR
comp=Z,366nm,20.1s
W37A Quinton 24.92 100 P **P** 16 17 29.1 +0.6
baz=25
Y36A Durant 24.94 103 P **P** 16 17 29.8 +1.0
baz=25
SDPT Sand Point 24.99 310 *e*P **P** 16 17 28.1 -0.8
comp=Z,116nm,1.1s
334A Lometa 25.05 110 P **P** 16 17 30.0 +0.2
baz=25
U38A Gravette 25.05 96 P **P** 16 17 30.4 +0.6
baz=25
632A Uvalde 25.18 116 P **P** 16 17 32.0 +1.1
baz=25
Z36A Blue Ridge 25.18 105 P **P** 16 17 31.4 +0.6
baz=25
WHTX Lake Whitney 25.19 108 P **P** 16 17 31.5 +0.6
baz=25
WHTX Lake Whitney 25.19 108 *e*P **P** 16 17 31.0 0.0
X37A Clayton 25.23 101 P **P** 16 17 32.5 +1.1
baz=25
533A Kerrville 25.30 114 P **P** 16 17 32.7 +0.7
baz=25
V38A Canehill 25.30 97 P **P** 16 17 32.8 +0.8
baz=25
434A Burnet 25.34 111 P **P** 16 17 33.2 +0.8
baz=25
136A Ennis 25.55 106 P **P** 16 17 35.0 +0.8
baz=26
732A Laxson Ranch, 25.58 117 P **P** 16 17 35.9 +1.4
baz=26
X38A Whitesboro 25.58 100 P **P** 16 17 36.0 +1.5
baz=26
W38A Poteau 25.60 99 P **P** 16 17 35.9 +1.2
baz=26
633A Saathoff Ranch 25.61 115 P **P** 16 17 35.6 +0.8
baz=26
335A Moody 25.63 110 P **P** 16 17 36.3 +1.3
baz=26
534A Blanco 25.70 113 P **P** 16 17 36.4 +0.7
baz=26
Z37A Pogue Cattle C 25.78 104 P **P** 16 17 36.8 +0.5
baz=26
JFWS Jewell Farm 25.79 79 *e*P **P** 16 17 37.2 +0.8
JFWS pmax pmax
comp=Z,163nm,1.0s
JFWS Jewell Farm 25.79 79 *e*P **P** 16 17 37.1 +0.8
comp=Z,163nm,1.0s
236A Katherine and 25.82 107 P **P** 16 17 37.6 +0.9
baz=26
435B Jarrell 25.83 111 P **P** 16 17 37.8 +1.0
baz=26
832A Faith Ranch, C 25.88 118 P **P** 16 17 38.6 +1.4
baz=26
COWI Conover 25.95 72 *e*P **P** 16 17 37.8 0.0
comp=Z,80nm,0.9s
336A Riesel 25.97 109 P **P** 16 17 39.5 +1.4
baz=26
733A Divot King Ran 26.02 116 P **P** 16 17 39.9 +1.3
baz=26
137A Heron Place, G 26.02 105 P **P** 16 17 39.8 +1.2
baz=26
Y38A Idabel 26.02 102 P **P** 16 17 39.6 +1.0
baz=26
634A China Grove, S 26.20 114 P **P** 16 17 41.3 +1.1
baz=26
Z38A Mt. Pleasant 26.20 103 P **P** 16 17 41.5 +1.3
baz=26
833A Chaparral WMA, 26.22 117 P **P** 16 17 42.0 +1.6
baz=26
535A Dale 26.30 112 P **P** 16 17 43.4 +2.3
baz=26
237A Washetta, Mont 26.32 106 P **P** 16 17 42.9 +1.6
baz=26
436A Wall Ranch, Ga 26.37 110 P **P** 16 17 43.9 +2.2
baz=26
734A La Parita Cree 26.41 115 P **P** 16 17 43.3 +1.2
baz=26
138A Matatall Enter 26.45 104 P **P** 16 17 43.1 +0.7
baz=26
Y39A Lockesburg 26.47 101 P **P** 16 17 43.5 +0.9
baz=26
MIAR Mount Ida 26.54 99 P **P** 16 17 43.8 +0.7
baz=26
635A Leesville 26.58 113 P **P** 16 17 45.2 +1.6
baz=26
536A Bastrop 26.62 111 P **P** 16 17 45.8 +1.9
baz=26
Z39A Irene McRaven, 26.78 102 P **P** 16 17 47.2 +1.9
baz=27
437A Phantom Ranch, 26.78 109 P **P** 16 17 47.1 +1.7
baz=27
933A Laredo 26.79 118 P **P** 16 17 47.7 +2.3
baz=27
238A Jacksonville 26.80 106 P **P** 16 17 47.4 +1.9
baz=27
COLD Coldfoot 26.88 339 *e*P **P** 16 17 46.5 +0.5
comp=Z,49nm,1.5s
834A Tilden 26.90 116 P **P** 16 17 50.2 +3.7
baz=27
735A Kenedy 26.90 114 P **P** 16 17 50.1 +3.6
baz=27
139A Bunkhouse Ranc 26.93 104 P **P** 16 17 47.4 +0.7
baz=27
338A Crockett 27.04 107 P **P** 16 17 49.1 +1.4
baz=27
537A Green Hill Far 27.12 110 P **P** 16 17 50.7 +2.3
baz=27
SLM Saint Louis 27.14 89 *e*P **P** 16 17 48.4 -0.2
SLM pmax pmax
comp=Z,235nm,1.4s
SLM Saint Louis 27.14 89 *e*P **P** 16 17 48.4 -0.2
comp=Z,235nm,1.4s
HDIL Hopedale 27.15 84 P **P** 16 17 48.2 -0.4
baz=27
HDIL Hopedale 27.15 84 *e*P **P** 16 17 48.9 +0.2
comp=Z,402nm,1.3s
239A Gary 27.25 105 P **P** 16 17 51.0 +1.5
baz=27
NATX Nacogdoches 27.26 106 P **P** 16 17 51.7 +2.0
baz=27
NATX Nacogdoches 27.26 106 *e*P **P** 16 17 50.5 +0.8
comp=Z,92nm,1.1s
835A Beeville 27.26 115 P **P** 16 17 53.2 +3.4
baz=27
934A Benavides 27.28 117 P **P** 16 17 54.0 +4.1
baz=27
438A Sam Houston St 27.29 108 P **P** 16 17 52.1 +2.2
baz=27
UALR University of 27.30 98 P **P** 16 17 50.2 +0.1
comp=Z,25nm,1.1s
736A Circle Diamond 27.33 113 P **P** 16 17 54.9 +4.6
baz=27
637A Eagle Lake 27.51 111 P **P** 16 17 54.9 +2.9
baz=27
HKT Hockley 27.53 110 *e*P **P** 16 17 53.9 +1.8
HKT pmax pmax
comp=Z,43nm,1.4s
HKT Hockley 27.53 110 *e*P **P** 16 17 53.9 +1.8
comp=Z,43nm,1.4s
034A Hebbronville 27.55 118 P **P** 16 17 55.6 +3.3
baz=28
339A Huntington 27.58 106 P **P** 16 17 54.4 +1.9
baz=28
439A Center Grove, 27.75 107 P **P** 16 17 54.3 +0.2
baz=28
340A Bronson 28.00 105 P **P** 16 17 57.0 +0.7
baz=28
UNV Unalaska Valle 28.23 305 *e*P **P** 16 17 58.9 +0.8
comp=Z,127nm,1.1s
SIUC Southern Illin 28.25 90 *e*P **P** 16 17 58.1 -0.3
comp=Z,123nm,1.0s
PARMO Parma 28.30 92 P **P** 16 17 58.9 -0.1
GNAR Gosnell 28.42 94 *e*P **P** 16 18 01.1 +1.1
OLIL Olney 28.66 87 *e*P **P** 16 18 01.8 -0.3
comp=Z,183nm,1.3s
SFIN Scholer Farm 28.79 83 P **P** 16 18 02.6 -0.7
baz=29
SFIN Scholer Farm 28.79 83 *e*P **P** 16 18 03.5 +0.2
comp=Z,36nm,1.0s
GLAT Glass 28.81 92 *e*P **P** 16 18 04.1 +0.6
USIN University of 29.27 88 *e*P **P** 16 18 08.0 +0.5
comp=Z,149nm,1.1s
BLO Bloomington 29.63 85 *e*P **P** 16 18 10.9 +0.1
BLO pmax pmax
comp=Z,52nm,0.8s
BLO Bloomington 29.63 85 *e*P **P** 16 18 10.9 +0.1
comp=Z,52nm,0.8s
SWET Sewanee 31.72 92 *e*P **P** 16 18 29.3 0.0
comp=Z,127nm,1.7s
ACSO Lum Creek Sta 31.79 81 *e*P **P** 16 18 30.2 +0.3
comp=Z,45nm,0.8s
LRAL Lakeview Retre 32.02 96 *e*P **P** 16 18 32.0 +0.2
comp=Z,30nm,1.3s
CPCT Cooper Cave 32.63 90 *e*P **P** 16 18 37.3 +0.1
TKL Tuckaleechee C 33.08 90 P **P** 16 18 41.2 0.0
comp=Z,9.0nm,0.9s,baz=284,slow=4.3,SNR=14
TKL LR LR 16 33 12.0
comp=Z,1µm,18.8s,baz=300,slow=38
TKL Tuckaleechee C 33.08 90 P **P** 16 18 41.2 0.0
TKL pmax pmax
comp=Z,9.0nm,0.9s
TKL MLR MLR
comp=Z,1µm,18.8s
SADO Sadowa 33.10 72 LR LR 16 33 04.0
comp=Z,1µm,18.2s,baz=310,slow=38
GOGA Godfrey 34.38 93 *e*P **P** 16 18 52.6 +0.1
GOGA pmax pmax
comp=Z,67nm,1.1s
GOGA Godfrey 34.38 93 *e*P **P** 16 18 52.6 +0.1
comp=Z,67nm,1.1s
BLA Blacksburg 34.82 85 *e*P **P** 16 18 57.1 +0.8
BLA pmax pmax
comp=Z,49nm,1.1s
BLA Blacksburg 34.82 85 *e*P **P** 16 18 57.0 +0.8
comp=Z,49nm,1.1s
VWCC Virginia Weste 35.12 85 *e*P **P** 16 18 59.1 +0.2
SSPA Standing Stone 35.28 78 *e*P **P** 16 19 00.3 +0.1
comp=Z,54nm,1.4s
TIGA Tifton 35.31 96 *e*P **P** 16 18 59.9 -0.7
comp=Z,16nm,0.6s
LONY Lake Ozonia 36.27 70 *e*P **P** 16 19 08.3 -0.3
comp=Z,45nm,1.3s
JSRW J. Sargeant Re 36.44 83 *e*P **P** 16 19 10.7 +0.5
SDMD Soldier's Deli 36.49 80 *e*P **P** 16 19 11.1 +0.6
comp=Z,40nm,0.8s
CBN Corbin 36.59 82 *e*P **P** 16 19 12.0 +0.6
NHSC New Hope 36.91 91 *e*P **P** 16 19 14.7 +0.5
comp=Z,155nm,1.3s
AMKA Amchitka 37.00 302 *e*P **P** 16 19 13.7 -1.1
comp=Z,85nm,0.9s
ACCN Adirondack Com 37.28 72 *e*P **P** 16 19 17.2 -0.1
comp=Z,41nm,1.5s
CMIG Matias Romero 37.31 126 P **P** 16 19 17.5 -0.3
comp=Z,6.1nm,0.8s,baz=304,slow=8.1,SNR=8.6
MDV Middlebury 37.42 71 *e*P **P** 16 19 17.8 -0.6
TRY Troy 37.50 73 *e*P **P** 16 19 18.7 -0.4
comp=Z,32nm,0.9s
HNH Hanover 38.12 71 *e*P **P** 16 19 25.3 +0.9
comp=Z,65nm,1.4s
FFD Franklin Falls 38.64 71 *e*P **P** 16 19 29.8 +1.1
comp=Z,23nm,0.2s
SCHQ Schefferville 38.92 52 P **P** 16 19 30.0 -1.0
comp=Z,7.5nm,0.9s,baz=275,slow=9.6,SNR=5.2
SCHQ LR LR 16 35 14.6
comp=Z,825nm,18.6s,baz=282,slow=36
TEIG Tepich 39.10 115 P **P** 16 19 32.5 -0.4
comp=Z,2.2nm,0.9s,baz=355,slow=24,SNR=6.4
TEIG LR LR 16 39 36.7
comp=Z,34nm,18.2s,baz=265,slow=42
TEIG Tepich 39.10 115 *e*P **P** 16 19 32.7 -0.1
BRYW Bryant College 39.27 73 *e*P **P** 16 19 34.8 +0.8
comp=Z,18nm,1.0s
WVL Waterville 39.63 69 *e*P **P** 16 19 35.7 -1.2
comp=Z,20nm,0.9s
BILL Bilibino 42.14 329 *d* iP **P** 16 19 57.9 +0.5
BILL *i* 16 21 39.6
BILL pmax pmax
comp=Z,49nm,1.2s
JTS JuntasAbangare 48.61 121 LR LR 16 42 54.7
comp=Z,404nm,19.6s,baz=318,slow=38
SEY Seymchan 48.66 323 P **P** 16 20 48.5 -0.5
comp=Z,13nm,0.9s,baz=106,slow=7.4,SNR=70
SEY Seymchan 48.66 323 *d* iP **P** 16 20 49.0 0.0
PET Petropavlovsk 48.77 309 *e*P **P** 16 20 49.1 -0.9
PET *e*S **S** 16 27 48.7 -3.5
PET pmax pmax
comp=Z,53nm,1.0s
PET pmax pmax
comp=Z,100nm,11.3s
PET Petropavlovsk 48.77 309 *e*P **P** 16 20 49.8 -0.3
comp=Z,52nm,1.1s
PETK Petropavlovsk- 49.27 309 P **P** 16 20 53.8 -0.2
comp=Z,15nm,0.8s,baz=88,slow=12,SNR=17
PETK LR LR 16 39 16.0
comp=Z,115nm,20.6s,baz=76,slow=33
PETK Petropavlovsk- 49.27 309 P **P** 16 20 53.8 -0.2
PETK pmax pmax
comp=Z,15nm,0.8s
PETK MLR MLR
comp=Z,115nm,20.6s
MA2 Magadan 50.50 319 *i* P **P** 16 21 03.2 0.0
SKR Severo-Kuril's 51.13 307 *ce*P **P** 16 21 07.3 -0.7
YAK Yakutsk 58.48 328 *d* iP **P** 16 22 00.9 -0.2
YAK *e*PPP PPP 16 25 33.5
YAK *e*S **S** 16 30 06.0 +2.5
YAK *e* 16 31 42.3
YAK *e*SS **SS** 16 33 58.1 +2.9
YAK pmax pmax
comp=Z,42nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,12nm,1.1s
YAK pmax pmax
comp=Z,27nm,2.2s
YAK pmax pmax
comp=N,11nm,2.3s
YAK pmax pmax
comp=E,20nm,2.2s
YAK smax smax
comp=E,64nm,3.7s
YAK smax smax
comp=N,21nm,3.3s
YAK MLR MLR
comp=Z,377nm,20.0s
YAK MLR MLR
comp=E,263nm,21.0s
YAK MLR MLR
comp=N,121nm,19.0s
YAK Yakutsk 58.48 328 *e*P **P** 16 22 00.8 -0.2
comp=N,49nm,0.9s
SDV Santo Domingo 59.06 109 *e*P **P** 16 22 06.5 +0.5
ROSC El Rosal 59.53 115 LR LR 16 51 32.5
comp=N,94nm,20.3s,baz=20,slow=40
H11N3 WAKE ISLAND Hy 60.31 269 T T 17 27 29.5
baz=50,slow=75,SNR=89
H11N2 WAKE ISLAND Hy 60.31 269 T T 17 27 39.1
baz=50,slow=75,SNR=62
H11N1 WAKE ISLAND Hy 60.33 269 T T 17 27 29.3
baz=50,slow=75,SNR=56
OTAV Otavalo 60.46 122 *e*P **P** 16 22 17.0 +1.1
comp=N,33nm,1.4s
H11S1 WAKE ISLAND Hy 61.24 269 T T 17 28 36.1
baz=50,slow=75,SNR=115
H11S2 WAKE ISLAND Hy 61.24 269 T T 17 28 43.6
baz=50,slow=75,SNR=38
H11S3 WAKE ISLAND Hy 61.26 269 T T 17 28 39.1
baz=50,slow=75,SNR=50
PMOR Pomariorio Ree 61.87 204 *e*T T 17 28 54.3
comp=N,6.7nm,0.4s
HABR Khabarovsk 63.99 313 *ce*P **P** 16 22 37.3 -1.3
HABR *e**PP **pP** 16 22 40.5 -2.9
HABR *e**SP **sP** 16 22 41.9 -3.4
HABR *e* 16 23 13.0
HABR *e* 16 24 57.7
HABR *e*PPP PPP 16 26 27.6
HABR *e*S **S** 16 31 13.9 -0.1
HABR *e* 16 32 31.6
HABR *e*SS **SS** 16 35 23.8 +1.9
HABR pmax pmax
comp=E,23nm,1.1s
HABR pmax pmax
comp=Z,27nm,1.1s
HABR pmax pmax
comp=N,10.0nm,1.1s
HABR MLR MLR
comp=Z,172nm,19.0s
MEH Mehetia 64.64 203 *e*T T 17 32 22.0
comp=Z,22nm,0.3s
TIAR Tiarei 64.72 205 *e*T T 17 32 27.4
comp=Z,3.9nm,0.3s
PPT Papeete 64.81 205 LR LR 16 44 41.2
comp=Z,135nm,21.4s,baz=8.0,slow=30
PPT2 Papeete2 64.83 205 *e*S **S** 16 31 25.5 +0.6
comp=Z,42nm,26.0s
PPT2 *e*LQ LQ 16 38 59.8
comp=Z,2µm,32.0s
PPT2 *e*LR LR 16 42 01.2
comp=Z,510nm,25.5s,baz=16
ARCES ARCESS Array B 65.05 11 P **P** 16 22 45.2 +0.1
comp=Z,3.6nm,1.0s,baz=27,slow=8.1,SNR=6.1
ARCES LR LR 16 51 45.3
comp=Z,341nm,19.6s,baz=338,slow=37
ARCES ARCESS Array B 65.05 11 P **P** 16 22 45.3 +0.1
ARCES pmax pmax
comp=Z,4.0nm,1.0s
ARCES MLR MLR
comp=Z,341nm,19.6s
KLR Kul'dur 65.24 315 *e*P P 16 22 42.6 -4.2
KLR pmax pmax
comp=Z,40nm,1.6s
RKT Rikitea 67.10 189 *e*LQ LQ 16 40 05.9
comp=Z,600nm,31.2s
RKT *e*LR LR 16 43 08.0
BOD Bodaibo 67.18 330 *e*P **P** 16 22 57.6 -1.5
BOD pmax pmax
comp=Z,23nm,1.0s
LVZ Lovozero 67.68 8 *ce*P **P** 16 23 03.5 +1.4
LVZ pmax pmax
comp=Z,37nm,1.7s
USRK Ussuriysk Ar. 68.33 311 P **P** 16 23 06.0 -0.5
comp=Z,12nm,1.1s,baz=45,slow=2.7,SNR=15
USRK LR LR 16 49 27.8
comp=Z,101nm,21.7s,baz=41,slow=33
MJAR Matsushiro Arr 69.61 301 P **P** 16 23 14.1 -0.6
comp=Z,1.7nm,0.8s,baz=30,slow=5.6,SNR=5.9
MJAR LR LR 16 48 41.0
comp=Z,49nm,21.1s,baz=45,slow=32
MJAR Matsushiro Arr 69.61 301 P **P** 16 23 14.1 -0.6
MJAR pmax pmax
comp=Z,2.0nm,0.8s
MJAR MLR MLR
comp=Z,49nm,21.1s
MAJO Matsushiro 69.61 301 P **P** 16 23 14.1 -0.6
MAJO pmax pmax
comp=Z,4.0nm,0.7s
MAJO Matsushiro 69.61 301 P **P** 16 23 14.1 -0.6
comp=Z,3.7nm,0.7s
MAT Matsushiro 69.61 301 P **P** 16 23 13.9 -0.8
MAT S S 16 32 28.6 +6.2
NB2 NORSAR Subarra 69.87 21 P **P** 16 23 16.3 +0.4
comp=Z,8.1nm,1.1s,baz=326,slow=6.2
NOA NORSAR Array B 69.87 21 P **P** 16 23 14.5 -1.3
comp=Z,2.7nm,1.0s,baz=326,slow=6.3,SNR=5.4
NOA LR LR 16 52 44.6
comp=Z,164nm,20.8s,baz=335,slow=35
NOA NORSAR Array B 69.87 21 P **P** 16 23 14.5 -1.3
NOA pmax pmax
comp=Z,3.0nm,1.0s
NOA MLR MLR
comp=Z,164nm,20.8s
TBI Tubuai 70.23 203 *e*LQ LQ 16 40 55.7
comp=Z,493nm,32.5s
TBI *e*LR LR 16 44 38.1
comp=Z,375nm,28.8s,baz=7.4
TMCR Tamitsa 71.65 7 *e*P **P** 16 23 27.1 +0.6
TMCR pmax pmax
comp=Z,19nm,1.0s
CIT Chita 71.68 326 *e*P **P** 16 23 27.4 +0.3
CIT pmax pmax
comp=Z,60nm,2.1s
FINES FINESS Array B 72.69 14 P **P** 16 23 32.6 -0.2
comp=Z,4.7nm,0.8s,baz=354,slow=7.0,SNR=7.3
FINES LR LR 16 56 20.6
comp=Z,272nm,18.7s,baz=340,slow=37
FINES FINESS Array B 72.69 14 P **P** 16 23 32.6 -0.2
FINES pmax pmax
comp=Z,5.0nm,0.8s
FINES MLR MLR
comp=Z,272nm,18.7s
JCJ Chichijima 73.12 291 LR LR 16 50 16.2
comp=Z,96nm,20.5s,baz=30,slow=31
PRGR Permogore 74.71 4 *e*P **P** 16 23 44.1 -0.6
PRGR pmax pmax
comp=Z,29nm,1.0s
KSRS Korea Array 75.14 308 P **P** 16 23 47.0 -0.6
comp=Z,2.2nm,0.8s,baz=64,slow=6.8,SNR=6.8
KSRS LR LR 16 55 21.5
comp=Z,32nm,18.8s,baz=57,slow=34
KSRS Korea Array 75.14 308 P **P** 16 23 47.0 -0.6
KSRS pmax pmax
comp=Z,2.0nm,0.8s
KSRS MLR MLR
comp=Z,32nm,18.8s
KSAR Wonju Array Be 75.17 308 P **P** 16 23 47.0 -0.8
KSAR Wonju Array Be 75.17 308 P **P** 16 23 47.0 -0.8
BSEG Bad Segeberg 75.69 25 *e*P **P** 16 23 52.3 +1.8
comp=Z,40nm,2.1s
BSEG *es*P **sP** 16 23 58.5 +1.3
TLY Talaya 75.72 331 *i* P **P** 16 23 51.6 +0.9
TLY pmax pmax
comp=Z,23nm,1.0s
TLY Talaya 75.72 331 *e*P **P** 16 23 51.4 +0.6
comp=Z,19nm,1.0s
MOY Mondy 76.65 332 *e*P **P** 16 23 57.1 +0.9
MOY pmax pmax
comp=Z,30nm,2.1s
ZAK Zakamensk 76.92 330 *e*P **P** 16 23 58.1 +0.4
ZAK pmax pmax
comp=Z,8.0nm,1.3s
SAML Samuel 77.17 116 *e*P **P** 16 23 58.3 -1.1
comp=Z,7.9nm,1.0s
CLZ Clausthal 77.51 26 *e*P **P** 16 24 02.9 +2.0
comp=Z,9.0nm,1.2s
CLZ *es*P **sP** 16 24 09.3 +1.7
ULN Ulaanbaatar 77.55 327 *d* iP **P** 16 24 01.5 +0.2
ULN pmax pmax

comp=Z,15nm,1.0s
ULN Ulaanbaatar 77.55 327 *e*P **P 16 24 00.9 -0.4**
comp=Z,11nm,0.9s
SONM Songino Array 77.83 327 P **P 16 24 02.7 -0.2**
SONM LR LR 16 58 33.4
comp=Z,115nm,19.0s,baz=34,slow=36
SONM Songino Array 77.83 327 P **P 16 24 02.7 -0.2**
SONM pmax pmax
comp=Z,13nm,1.0s
SONM MLR MLR
comp=Z,115nm,19.0s
WLF Walferdange 77.93 30 *e*P **P 16 24 05.4 +2.2**
comp=Z,34nm,2.1s
WLF *es*P **sP 16 24 11.6 +1.7**
TNS Taunus Mts 78.26 28 *e*P **P 16 24 06.8 +1.7**
comp=Z,27nm,2.4s
TNS *es*P **sP 16 24 13.1 +1.3**
UBBA Unterbreizbach 78.27 27 *e*P **P 16 24 06.5 +1.6**
comp=Z,3.0nm,1.1s
UBBA *es*P **sP 16 24 12.9 +1.3**
NVS Novosibirsk 78.68 343⇓*i*P **P 16 24 07.2 0.0**
NVS pmax pmax
comp=N,13nm,1.1s
NVS pmax pmax
comp=Z,69nm,1.1s
NVS pmax pmax
comp=E,22nm,1.2s
CLL Collm 78.79 25 *e*P **P 16 24 09.2 +1.3**
comp=Z,12nm,1.6s
CLL *es*P **sP 16 24 15.6 +1.0**
CLL Collm 78.79 25 *i* P **P 16 24 09.0 +1.1**
CLL *i* 16 24 15.9
CLL *e*S **S 16 34 07.0 +2.1**
CLL pmax pmax
comp=Z,12nm,1.6s
CLL MLR MLR
comp=Z,200nm,20.3s
CLL Collm 78.79 25 *i* P **P 16 24 09.0 +1.1**
comp=Z,12nm,1.6s
CLL *i* PcP **PcP 16 24 15.9 -0.8**
comp=Z,22nm,1.8s
CLL *e* 16 24 26.0
CLL *e*PP **PP 16 27 03.0 -2.5**
CLL *e*S **S 16 34 07.0 +2.1**
CLL *e* 16 36 08.0
CLL *e*SS SS 16 39 17.0 +8.9
CLL *e* 16 44 24.0
CLL LmV 16 58 00.0
comp=Z,200nm,20.3s
MOX Moxa 78.94 26 *e*P **P 16 24 10.1 +1.3**
comp=Z,18nm,2.1s
MOX *es*P **sP 16 24 16.7 +1.2**
MOX *e*L L 16 56 50.1
comp=Z,205nm,21.3s
ZALV Zalesovo Beam 79.17 342 P **P 16 24 09.8 -0.1**
comp=Z,9.8nm,0.7s,baz=19,slow=5.4,SNR=48
ZALV LR LR 17 01 51.9
comp=Z,128nm,18.3s,baz=70,slow=38
ZALV Zalesovo Beam 79.17 342 P **P 16 24 09.8 -0.1**
ZALV pmax pmax
comp=Z,10.0nm,0.7s
ZALV MLR MLR
comp=Z,128nm,18.3s
FBE Freiberg 79.24 25 *e*P **P 16 24 12.1 +1.7**
comp=Z,32nm,2.2s
FBE *es*P **sP 16 24 18.4 +1.3**
PLN Plauen 79.25 26 *e*P **P 16 24 12.0 +1.5**
comp=Z,7.0nm,1.6s
PLN *es*P **sP 16 24 18.2 +1.0**
TANN Tannenbergstha 79.41 26 *e*P **P 16 24 12.7 +1.3**
comp=Z,48nm,2.9s
TANN *es*P **sP 16 24 19.1 +1.0**
BRG Berggiesshubel 79.46 25 *i* P **P 16 24 12.8 +1.2**
comp=Z,5.6nm,0.8s
BRG *i* 16 24 19.7
comp=Z,10nm,1.1s
BRG Berggiesshubel 79.46 25 *e*P **P 16 24 13.1 +1.5**
comp=Z,6.0nm,0.9s
BRG *es*P **sP 16 24 19.5 +1.2**
BRG Berggiesshubel 79.46 25 *i* P **P 16 24 12.8 +1.2**
BRG *i* 16 24 19.7
BRG pmax pmax
comp=Z,6.0nm,0.9s
BRG pmax pmax
comp=Z,10.0nm,1.1s
WERN Wernitzgruen 79.49 26 *e*P **P 16 24 13.2 +1.4**
comp=Z,8.0nm,1.3s
WERN *es*P **sP 16 24 19.6 +1.0**
BJI Beijing 79.57 316 P **P 16 24 10.5 -1.9**
BJI S **S 16 34 14.5 +1.0**
BJI SS **SS 16 39 19.5 -0.9**
BJI PMZ
comp=Z,6.0nm,1.5s
BJI PMZ
comp=Z,130nm,5.2s
BJI LN
comp=Z,130nm,15.5s
BJI LE
comp=Z,190nm,23.7s
BJI LZ
comp=Z,160nm,23.7s
SVE Sverdlovsk 79.61 356⇓*i*P **P 16 24 12.9 +0.6**
SVE pmax pmax
comp=Z,36nm,1.4s
GRF Grafenberg Arr 79.64 27 *e*P **P 16 24 14.5 +1.9**
comp=Z,11nm,1.5s
GRF *es*P **sP 16 24 20.9 +1.6**
GRF *e*L L 17 01 09.8
comp=Z,339nm,18.1s
MANZ Manzenberg 79.67 26 *e*P **P 16 24 14.1 +1.3**
comp=Z,42nm,3.1s
MANZ *es*P **sP 16 24 20.4 +0.9**
LPAZ La Paz 79.67 124 P **P 16 24 13.3 -0.5**
comp=Z,3.1nm,0.9s,baz=342,slow=6.7,SNR=8.1
LPAZ La Paz 79.67 124 P **P 16 24 13.4 -0.5**
LPAZ pmax pmax
comp=Z,3.0nm,0.9s
BFO Black Forest 79.83 29 *e*P **P 16 24 15.3 +1.6**
comp=Z,7.0nm,1.4s
BFO *es*P **sP 16 24 21.5 +1.1**
BFO Black Forest 79.83 29 P **P 16 24 14.0 +0.3**
BFO pmax pmax
comp=Z,15nm,1.5s
BFO Black Forest 79.83 29 P **P 16 24 14.0 +0.3**
comp=Z,15nm,1.5s
MOS Moscow 79.87 9 *e*P **P 16 24 11.9 -1.8**
MOS pmax pmax
comp=Z,32nm,1.0s
ROTZ Rotzenmuhle 79.89 26 *e*P **P 16 24 15.6 +1.6**
comp=Z,7.0nm,1.7s
ROTZ *es*P **sP 16 24 22.0 +1.3**
ARU Arti 80.09 358 *d i*P **P 16 24 14.7 -0.2**
ARU PPP PPP 16 29 07.1
ARU S **S 16 34 20.2 +1.7**
ARU SS **SS 16 39 25.5 -1.7**
ARU pmax pmax
comp=Z,26nm,1.0s
ARU Arti 80.09 358 P **P 16 24 14.1 -0.8**
comp=Z,113nm,1.0s,SNR=8.1
ARU Arti 80.09 358 *e*P **P 16 24 14.7 -0.2**
comp=Z,24nm,1.1s
GUMO Guam 80.22 279 LR LR 16 52 04.5
comp=Z,143nm,20.4s,baz=54,slow=30
OBN Obninsk 80.35 10⇑*i*P **P 16 24 16.6 +0.3**
OBN *i* 16 27 19.0
OBN *e*S **S 16 34 25.5 +4.3**
OBN pmax pmax
comp=Z,20nm,1.7s
OBN MLR MLR
comp=Z,219nm,18.0s
OBN Obninsk 80.35 10 P **P 16 24 16.0 -0.3**
UPC Upice 80.39 24 *e*pP **pP 16 24 25.1 +3.5**
UPC AMS AMS 16 56 10.0
comp=Z,300nm,23.5s
UPC Upice 80.39 24 *e*P pP 16 24 25.1 +3.5
UPC MLR MLR
comp=Z,300nm,23.5s
PRU Pruhonice 80.42 25 *e*pP **pP 16 24 25.0 +3.2**
PRU AMS AMS 16 57 00.0
comp=Z,300nm,24.7s
PRU Pruhonice 80.42 25 *e*P pP 16 24 25.0 +3.2
PRU MLR MLR
comp=Z,300nm,24.7s
GOPC GO Pecny, Ondr 80.56 25 AMS AMS 17 02 40.0
comp=Z,300nm,17.5s

DPC Dobruska-Polom 80.62 23 *e*P **P 16 24 19.5 +1.5**
DPC *ex* x 16 24 26.3
DPC AMS AMS 16 56 40.0
comp=Z,300nm,25.8s
DPC Dobruska-Polom 80.62 23 *e*P **P 16 24 19.5 +1.5**
DPC *e* 16 24 26.3
DPC MLR MLR
comp=Z,300nm,25.8s
WET Wettzell 80.65 26 *e*P **P 16 24 19.7 +1.6**
comp=Z,4.0nm,1.4s
WET *es*P **sP 16 24 26.0 +1.2**
KHC Kasperske Hory 80.88 26 *e*pP **pP 16 24 26.9 +2.6**
KHC *ex* x 16 24 35.0
KHC AMS AMS 16 59 10.0
comp=Z,300nm,17.6s
KHC Kasperske Hory 80.88 26 *e*P **pP 16 24 26.9 +2.6**
KHC *e* 16 24 35.0
KHC MLR MLR
comp=Z,300nm,17.6s
KRLC Kraliky 81.00 23 *e*P P 16 24 28.3 +8.3
GEC2 GERESS Array S 81.17 26 *e*P **P 16 24 22.2 +1.2**
comp=Z,7.0nm,1.7s
GEC2 *es*P **sP 16 24 28.6 +0.9**
GERES GERESS Array B 81.17 26 P **P 16 24 21.5 +0.5**
comp=Z,0.8nm,0.7s,baz=320,slow=7.7,SNR=4.7
GERES LR LR 17 01 12.9
comp=Z,317nm,18.3s,baz=328,slow=36
GERES GERESS Array B 81.17 26 P **P 16 24 21.5 +0.5**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES MLR MLR
comp=Z,317nm,18.3s
HHC Hu-ho-hao-te 81.18 320 *e*P **P 16 24 21.0 -0.2**
HHC pP **pP 16 24 25.8 -0.3**
HHC sP **sP 16 24 29.0 +1.1**
HHC PP **PP 16 27 27.8 +2.0**
HHC S **S 16 34 27.8 -2.9**
HHC SKS **SKSac 16 34 33.8 -6.1**
HHC sS **sS 16 34 35.3 -3.5**
HHC PMZ
comp=Z,14nm,0.7s
HHC PMZ
comp=Z,75nm,6.3s
HHC LN
comp=Z,180nm,17.1s
HHC LE
comp=Z,170nm,15.9s
HHC LZ
comp=Z,80nm,15.2s
OKC Ostrava-Krasne 81.60 23 AMS AMS 17 04 30.0
comp=Z,200nm,15.8s
VRAC Vranov 81.64 24⇓*i*P **P 16 24 24.5 +1.2**
ESDC Sonseca Array 81.77 41 P **P 16 24 24.4 +0.1**
comp=Z,0.3nm,0.4s,baz=308,slow=4.2,SNR=7.3
ESDC LR LR 16 58 32.1
comp=Z,292nm,18.4s,baz=320,slow=34
FETA Feichten 81.78 28⇑*i*PcP P 16 24 29.6 +5.2
comp=Z,6.3nm,1.1s
BRVK Borovoye 82.54 350 P **P 16 24 28.1 +0.1**
comp=Z,246nm,0.9s,SNR=19
BRVK Borovoye 82.54 350 *d i*P **P 16 24 29.0 +1.0**
BRVK pmax pmax
comp=Z,51nm,1.0s
BRVK Borovoye 82.54 350 *e*P **P 16 24 28.3 +0.3**
comp=Z,30nm,1.1s
VYHS Vyhne 83.01 23 *e*P **P 16 24 31.1 +0.5**
VYHS pmax pmax
comp=Z,3.0nm,1.4s
VYHS Vyhne 83.01 23 *e*P **P 16 24 31.0 +0.5**
LVV L'vov 83.14 19 *e*P **P 16 24 30.5 -0.7**
LVV MLR MLR
comp=Z,230nm,20.0s
KIEV Kiev 83.43 16⇓*i*P **P 16 24 32.4 -0.2**
KIEV pmax pmax
comp=Z,10.0nm,2.0s
KOLS Kolonicke sedl 83.53 21 *e*P **P 16 24 32.4 -0.8**
KOLS pmax pmax
comp=Z,13nm,2.2s
KOLS Kolonicke sedl 83.53 21 *e*P **P 16 24 32.4 -0.8**
UZH Uzhgorod 83.81 21 *e*P P 16 24 26.3 -8.3
UZH *e* 16 24 30.9
PSZ Piszkesteto 83.83 22 *e*P **P 16 24 35.2 +0.3**
PSZ pmax pmax
comp=Z,23nm,1.4s
PSZ Piszkesteto 83.83 22⇑*i*P **P 16 24 35.7 +0.8**
PSZ Piszkesteto 83.83 22 *e*P **P 16 24 35.2 +0.3**
comp=Z,23nm,1.4s
NJ2 Nanjing 84.18 309 *e*P **P 16 24 37.5 +0.7**
NJ2 PMZ
comp=Z,20nm,0.6s
VSR Storozhevoye 84.49 9 *e*P **P 16 24 36.9 -1.1**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=E,8.0nm,0.8s
PKSM Moragy 85.03 24⇑*i*P **P 16 24 41.2 +0.4**
HNR Honiara 85.28 252 LR LR 16 54 15.5
comp=E,265nm,21.6s,baz=66,slow=30
BURAR Bucovina Array 85.48 19⇑*i*P **P 16 24 44.5 +1.3**
MKAR Makanchi Array 86.44 341 P **P 16 24 47.1 -0.8**
comp=E,3.0nm,0.8s,baz=19,slow=5.1,SNR=25
MKAR LR LR 17 05 29.5
comp=E,114nm,22.0s,baz=18,slow=37
MKAR Makanchi Array 86.44 341 P **P 16 24 47.1 -0.8**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR MLR MLR
comp=Z,114nm,22.0s
ABKAR Akbulak array 87.21 356 *e*P **P 16 24 51.8 +0.3**
comp=Z,20nm,1.2s
DIVS Divibare 87.35 24⇑*i*P **P 16 24 53.0 +0.6**
GTA Gaotai 87.48 326 *e*P **P 16 24 53.8 +0.5**
GTA pP **pP 16 24 58.5 +0.3**
GTA sP **sP 16 25 00.8 +0.8**
GTA S **S 16 35 33.5 -0.4**
GTA sS **sS 16 35 41.5 -0.6**
GTA PMZ
comp=Z,6.0nm,1.5s
GTA PMZ
comp=Z,69nm,5.5s
GTA LN
comp=Z,110nm,19.5s
GTA LE
comp=Z,140nm,19.5s
GTA LZ
comp=Z,140nm,22.3s
WMQ Urumqi 87.78 336 P **P 16 24 55.5 +1.0**
WMQ pP **pP 16 25 00.0 +0.5**
WMQ sP **sP 16 25 02.5 +1.3**
WMQ S **S 16 35 35.8 -0.5**
WMQ PMZ
comp=Z,26nm,0.8s
WMQ PMZ
comp=Z,81nm,4.8s
WMQ LN
comp=Z,150nm,22.0s
WMQ LE
comp=Z,110nm,23.7s
WMQ LZ
comp=Z,180nm,23.6s
WHN Wuhan 87.81 311 P P 16 24 51.0 -3.8
WHN S **S 16 35 33.3 -3.6**
WHN LZ
comp=Z,230nm,12.7s
XAN Xi'an 87.86 317 P **P 16 24 54.3 -0.8**
XAN PMZ
comp=Z,11nm,1.0s
XAN PMZ
comp=Z,59nm,5.8s
LZH Lanzhou 88.58 322 P **P 16 24 58.3 -0.2**
LZH pP **pP 16 25 02.0 -1.5**
LZH sP **sP 16 25 03.8 -1.5**
LZH PMZ
comp=Z,53nm,1.6s
LZH PMZ
comp=Z,150nm,5.0s
LZH LN
comp=Z,350nm,15.9s
LZH LE
comp=Z,330nm,16.5s
LZH LZ
comp=Z,500nm,17.5s
KEST Kesra 90.99 35 LR LR 17 04 14.8
comp=Z,148nm,20.7s,baz=262,slow=34
TKM2 Tokmak 2 91.57 344 *e*P **P 16 25 12.6 +0.1**
TKM2 pmax pmax
comp=Z,19nm,1.4s
TKM2 Tokmak 2 91.57 344 *e*P **P 16 25 12.6 +0.1**
comp=Z,19nm,1.4s
BDFB Brasilia 92.16 110 LR LR 17 11 07.0
comp=Z,162nm,18.8s,baz=313,slow=38
KKAR Karatay Array 92.27 348 *e*P **P 16 25 15.6 +0.2**
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 92.27 348 *e*P **P 16 25 15.6 +0.2**
comp=Z,1.5nm,0.6s
KBZ Khabaz 92.30 8 LR LR 17 09 12.7
comp=Z,121nm,18.4s,baz=324,slow=37
CD2 Chengdu 92.92 319 *e*P **P 16 25 18.5 -0.2**
CD2 pP **pP 16 25 22.0 -1.7**
CD2 PP **PP 16 29 00.0 -0.5**
CD2 SKS **SKSac 16 35 51.8 -0.5**
CD2 S **S 16 36 23.5 -0.6**
CD2 sS **ScS 16 36 29.0 +2.9**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,140nm,5.2s
CPUP Villa Florida 93.80 123 LR LR 17 11 48.2
comp=Z,101nm,18.5s,baz=338,slow=38
BRTR Keskin Array B 94.83 16 LR LR 17 09 43.5
comp=Z,110nm,19.7s,baz=330,slow=36
GYA Guiyang 95.14 314 P **P 16 25 29.0 -0.1**
GYA PP **PP 16 29 20.5 +2.5**
GYA SKS **SKSac 16 36 02.8 -1.8**
GYA S **S 16 36 40.3 -3.5**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.8s
GYA LZ
comp=Z,560nm,20.6s
KMI Kunming 98.23 317 P **P 16 25 42.8 -0.4**
KMI PMZ
comp=Z,4.0nm,1.0s
KMI PMZ
comp=Z,75nm,4.5s
GEYT Alibeck 98.59 357 LR LR 17 16 49.6
comp=Z,81nm,18.1s,baz=235,slow=39
QIZ Qiongzhong 99.36 308 P **Pdif 16 25 47.5 -0.6**
QIZ S **S 16 37 18.0 -2.0**
QIZ LZ
comp=Z,75nm,25.8s
ASAR Alice Springs 113.16 259 PKKPbc PKKPbc 16 41 35.5 +7.9
comp=Z,0.4nm,0.8s,baz=236,slow=2.4,SNR=4.6
BOSA Boshof 152.38 66 PKPbc **PKPbc 16 32 03.0 +1.4**
comp=Z,3.5nm,0.9s,baz=256,slow=4.2,SNR=3.3
BOSA Boshof 152.38 66 PKIKP **PKPbc 16 32 03.0 +1.4**
BOSA pmax pmax
comp=Z,4.0nm,0.9s

MAN 28 16:13:29,13.51N×120.63E,h94km,mb4.2,ML3.0,MS2.8, Mindoro

ISCJB ***28*** *16:29:35.1±1.3,14.5N±0.2×122.25E±0.08,h10km, mb3.3/3,MS3.8/1,Error ellipse: s-maj=24.5km s-min=10.8km az=176.8*
IDC ***28*** *16:29:35.7±1.7,14.40N×122.14E,h0km,mb3.2/3, mb1 3.4/3,mb1mx3.2/40,mbtmp3.2/3,MS3.8/1,Ms1 3.8/1, ms1mx2.6/21,Error ellipse: s-maj=30.9km s-min=15.1km az=2.0*
MAN ***28*** *16:29:40,13.36N×120.20E,h5km,mb4.1,ML2.9,MS2.7*
ISC 28 16:29:36.9±1.6,14.4N±0.2×122.2E±0.1,h10km,n6, σ0.61/6,mb3.4/3,1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TGY	**Tagaytay City**	**1.22**	**255**	Pg		**Pg**	**16 30 00.1**	**-0.2**
	102nm,0.3s,baz=207,slow=11,SNR=15							
TGY				Lg		Lg	16 30 14.4	
	281nm,0.3s,baz=96,slow=22,SNR=14							
TGY	**Tagaytay City**	**1.22**	**255**	⇓*i*P		**Pg**	**16 30 01.2**	**+0.8**
TGY				*i* S		**Sn**	**16 30 16.1**	**-0.5**
WRA	**Warramunga Arr**	**36.20**	**160**	P		**P**	**16 36 40.2**	**+0.2**
	0.2nm,0.4s,baz=332,slow=10,SNR=3.2							
ASAR	**Alice Springs**	**39.56**	**163**	P		**P**	**16 37 08.2**	**-0.3**
	0.4nm,1.0s,baz=342,slow=7.2,SNR=4.2							
TLY	**Talaya**	**40.03**	**342**	LR		LR	16 54 22.6	
	comp=Z,152nm,21.8s,baz=18,slow=37							
MKAR	**Makanchi Array**	**46.30**	**322**	P		**P**	**16 38 02.9**	**0.0**
	0.2nm,0.5s,baz=107,slow=4.8,SNR=4.3							

MAN 28 16:30:56,13.12N×120.67E,h23km,mb4.6,ML3.4,MS3.4, 1C-1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TGY	**Tagaytay City**	**1.01**	**15**	⇑*i*P		Pb	16 31 15.2	+0.2
TGY				*i* S		Sn	16 31 28.8	+0.4
LQP	**Lukban**	**1.30**	**40**	*e*P		Pb	16 31 35.3	+15
GQP	**Guinayangan**	**1.89**	**66**	⇓*e*P		Pb	16 31 29.0	-0.9
GQP				*e*S		Sn	16 31 38.4	-12

IDC ***28*** *16:46:54.4±26.0,52.73N×169.00W,h0km,mb3.6/2, mb1 3.9/3,mb1mx3.3/47,mbtmp3.4/3,ML3.3/1,Error ellipse: s-maj=489.6km s-min=48.9km az=87.0*
NEIC ***28*** *16:46:55.8,52.73N×169.26W,h7km,mb3.6/1, ML3.2(AEIC),After AEIC.*
ISC 28 16:46:53.8±2.3,52.7N±0.1×169.25W±0.08,h5km±15km, n19,σ1.912/21,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIKH	**Nikolski High**	**0.35**	**44**	P		**Pb**	**16 47 03.0**	**+0.5**
NIKH				S		**Sb**	**16 47 10.1**	**+1.8**
OKSP	**Okmok Steeple**	**0.79**	**47**	P		**Pn**	**16 47 11.4**	**-0.2**
OKSP				S		**Sn**	**16 47 23.0**	**-0.9**
OKSO	**Okmok South**	**0.91**	**46**	P		**Pn**	**16 47 13.4**	**0.0**
OKSO				S		**Sn**	**16 47 26.0**	**-1.0**
OKWE	**Okmok W'ng Wal**	**0.96**	**39**	P		**Pn**	**16 47 15.2**	**+1.1**
OKAK	**Okmok**	**1.01**	**32**	P		**Pg**	**16 47 12.8**	**-0.4**
OKRE	**Okmok R'deer P**	**1.03**	**39**	P		**Pn**	**16 47 15.8**	**+0.8**
OKFG	**Magazine Ridge**	**1.06**	**49**	P		**Pb**	**16 47 14.8**	**+0.1**
OKFG				S		**Sn**	**16 47 30.2**	**-0.4**
UNV	**Unalaska Valle**	**2.00**	**55**	P		**Pb**	**16 47 30.3**	**-0.3**
UNV				S		**Sb**	**16 47 54.6**	**-1.2**
AKUT	**Akutan**	**2.52**	**54**	*e*Pn		**Pn**	**16 47 37.2**	**+1.9**
ATKA	**Atka Island**	**3.07**	**262**	P		**Pn**	**16 47 44.2**	**+1.2**
GSTR	**Great Sitkin T**	**4.22**	**264**	*e*Pn		**Pn**	**16 47 58.4**	**-0.4**
SPIA	**Saint Paul Isl**	**4.50**	**353**	P		**Pn**	**16 48 03.5**	**+0.9**
ILAR	**Eielson Array**	**16.62**	**35**	Pn		**Pn**	**16 50 45.0**	**-2.2**
	0.0nm,0.3s,baz=226,slow=12,SNR=3.9							
HYT	**Haines Junctio**	**19.02**	**52**	*e*P		**Pn**	**16 51 18.3**	**+1.1**
	2.4nm,0.6s							
H11S1	**WAKE ISLAND Hy**	**38.97**	**218**	T		T	17 35 35.2	
	baz=23,slow=76,SNR=244							
H11S2	**WAKE ISLAND Hy**	**38.98**	**218**	T		T	17 35 35.8	
	baz=23,slow=76,SNR=107							
H11S3	**WAKE ISLAND Hy**	**38.98**	**218**	T		T	17 35 33.6	
	baz=23,slow=76,SNR=99							
PDAR	**Pinedale Array**	**40.27**	**80**	P		**P**	**16 54 31.8**	**0.0**
	0.5nm,0.6s,baz=344,slow=4.8,SNR=4.5							
TXAR	**Lajitas Array**	**52.67**	**89**	P		**P**	**16 56 09.2**	**+0.1**
	0.5nm,0.6s,baz=300,slow=5.7,SNR=7.1							

SKHL ***28*** *16:47:23.3±7.5,51.38N×153.00E,h489km±39km,mb4.0/3, msh4.2/2*
MOS ***28*** *16:47:26.0±1.8,52.11N×152.95E,h434km,mb4.4/1,Error ellipse: s-maj=29.4km s-min=14.4km az=49.6*
KRSC ***28*** *16:47:26.4±1.9,52.13N×153.59E,h470km±31km,ML4.3*
ISCJB ***28*** *16:47:27.6±0.6,52.3N±0.1×153.21E±0.08,h447km, mb3.2/3,Error ellipse: s-maj=15.2km s-min=6.7km az=175.3*
IDC ***28*** *16:47:27.4±7.6,52.10N×152.95E,h442km±19km,mb2.7/3, mb1 2.9/5,mb1mx2.5/47,mbtmp3.5/5,Error ellipse: s-maj=137.7km s-min=48.2km az=52.0*
ISC 28 16:47:29.5±1.0,52.4N±0.1×153.51E±0.09,h447km,n45, σ1.961/53,mb2.9/3,1C,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**2.00**	**92**	*eP*	**P**	**16 48 29.6**	**-0.1**
PAU	**Pauzhetka**	**2.25**	**113**	*eP*	**P**	**16 48 31.2**	**+0.1**
PAU	**Pauzhetka**	**2.25**	**113**	PN	**P**	**16 48 31.2**	**+0.1**
SKR	**Severo-Kuril's**	**2.37**	**135**	*eP*	**P**	**16 48 30.3**	**-1.6**
SKR				*eS*	**S**	**16 49 23.1**	**+0.6**
SKR	**Severo-Kuril's**	**2.37**	**135**	*e*PN	P	16 48 24.7	-7.2
SKR				pmax	pmax		
	comp=Z,30nm,0.5s						
SKR	**Severo-Kuril's**	**2.37**	**135**	*eP*	P	16 48 24.7	-7.2
SKR				AMB	AMB	16 48 25.1	
	comp=Z,30nm,0.5s						
SKR				*e*S	S	16 49 12.6	-10
SKR				A	A	16 49 15.5	
	comp=Z,30nm,1.0s						
SKR				A	A	16 49 15.5	
	comp=Z,60nm,1.0s						
PETK	**Petropavlovsk-**	**2.65**	**73**	P	**P**	**16 48 34.2**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=221,slow=4.9,SNR=15						
PETK	**Petropavlovsk-**	**2.65**	**73**	PN	**P**	**16 48 34.2**	**+0.6**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAK	**Asacha**	**2.69**	**89**	*eP*	**P**	**16 48 35.4**	**+1.3**
GNL	**Ganaly**	**2.98**	**62**	*eP*	**P**	**16 48 36.8**	**+0.7**
GNL	**Ganaly**	**2.98**	**62**	PN	**P**	**16 48 36.8**	**+0.7**
RUS	**Russkaya**	**3.06**	**87**	*eP*	**P**	**16 48 36.8**	**+0.2**
RUS				*e*S	**S**	**16 49 30.3**	**-1.0**
RUS	**Russkaya**	**3.06**	**87**	PN	**P**	**16 48 36.8**	**+0.2**
RUS				S	**S**	**16 49 30.3**	**-1.0**
RUS	**Russkaya**	**3.06**	**87**	*eP*	**P**	**16 48 36.8**	**+0.2**
RUS				*e*S	**S**	**16 49 30.3**	**-1.0**
PET	**Petropavlovsk**	**3.19**	**77**	*eP*	**P**	**16 48 38.6**	**+1.0**
PET				*e*S	**S**	**16 49 33.7**	**+0.6**
PET	**Petropavlovsk**	**3.19**	**77**	PN	**P**	**16 48 38.6**	**+1.0**
PET				S	**S**	**16 49 33.7**	**+0.6**
PET	**Petropavlovsk**	**3.19**	**77**	*i*P	**P**	**16 48 38.8**	**+1.2**
PET				AMB	AMB	16 48 39.0	
	comp=Z,20nm,0.6s						
PET				*e*S	**S**	**16 49 33.7**	**+0.6**
PET				A	A	16 49 36.5	
	comp=Z,30nm,0.7s						
UGLR	**Uglovaya**	**3.33**	**74**	*eP*	**P**	**16 48 40.3**	**+1.5**
SDLR	**Sedlovina**	**3.38**	**73**	*eP*	**P**	**16 48 37.9**	**-1.3**
SDLR				*e*S	**S**	**16 49 33.7**	**-2.3**
SDLR	**Sedlovina**	**3.38**	**73**	PN	**P**	**16 48 37.9**	**-1.3**
SDLR				S	**S**	**16 49 33.7**	**-2.3**
SPN	**Mys Shipunski**	**4.02**	**77**	*eP*	**P**	**16 48 44.2**	**-0.3**
SPN				*e*S	**S**	**16 49 42.3**	**-3.4**
SPN	**Mys Shipunski**	**4.02**	**77**	PN	**P**	**16 48 44.2**	**-0.3**
SPN				S	**S**	**16 49 42.3**	**-3.4**
SPN	**Mys Shipunski**	**4.02**	**77**	*eP*	**P**	**16 48 44.2**	**-0.3**
KZV	**Kizimen**	**4.86**	**53**	*eP*	**P**	**16 48 54.1**	**+1.8**
TUMR	**Tumrok**	**4.88**	**51**	*eP*	**P**	**16 48 55.2**	**+2.7**
TUMR	**Tumrok**	**4.88**	**51**	PN	**P**	**16 48 55.2**	**+2.7**
MKZ	**Mys Kozlova**	**5.37**	**63**	*eP*	**P**	**16 48 56.9**	**-0.2**
MKZ				*e*S	**S**	**16 50 04.9**	**-3.8**
MKZ	**Mys Kozlova**	**5.37**	**63**	PN	**P**	**16 48 56.9**	**-0.2**
MKZ				S	**S**	**16 50 04.9**	**-3.8**
MKZ	**Mys Kozlova**	**5.37**	**63**	*eP*	**P**	**16 48 56.9**	**-0.2**
KBTR	**Krutoberegovo**	**6.65**	**51**	*eP*	**P**	**16 49 10.3**	**0.0**
KBTR	**Krutoberegovo**	**6.65**	**51**	PN	**P**	**16 49 10.3**	**0.0**
TYV	**Tymovskoe**	**6.93**	**262**	*eP*	P	16 49 08.0	-5.3
TYV				AMB	AMB	16 49 14.0	
	comp=Z,10.0nm,0.7s						
NKL	**Nikolayevsk**	**7.82**	**281**	*eP*	**P**	**16 49 20.4**	**-2.3**
BKI	**Bering**	**7.90**	**64**	*eP*	P	16 49 26.4	+2.9
BKI				*e*S	**S**	**16 50 56.7**	**-0.5**
BKI	**Bering**	**7.90**	**64**	PN	P	16 49 26.4	+2.9
BKI				S	**S**	**16 50 56.7**	**-0.5**
KUR	**Kuril'sk**	**8.07**	**210**	*eP*	P	16 49 09.1	-17
SEY	**Seymchan**	**10.58**	**357**	P	**P**	**16 49 54.0**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=173,slow=12,SNR=12						
SEY	**Seymchan**	**10.58**	**357**	PN	**P**	**16 49 54.0**	**+1.4**
SEY	**Seymchan**	**10.58**	**357**	*eP*	**P**	**16 49 54.0**	**+1.4**
EKMR	**Ekimchan**	**12.48**	**281**	*eP*	**P**	**16 50 11.2**	**-2.2**
BMKR	**Bomnak**	**14.82**	**289**	*eP*	**P**	**16 50 36.0**	**-2.5**
YASR	**Yasnyy**	**15.43**	**283**	*eP*	P	16 50 38.1	-6.9
ILAR	**Eielson Array**	**32.13**	**44**	P	**P**	**16 53 19.4**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=275,slow=11,SNR=4.7						
INK	**Inuvik**	**36.84**	**36**	P	**P**	**16 53 59.2**	**+1.7**
	comp=Z,1.5nm,0.5s,baz=309,slow=6.5,SNR=3.9						
PDAR	**Pinedale Array**	**61.30**	**56**	P	**P**	**16 57 01.8**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=300,slow=4.1,SNR=3.0						

*IDC **28** 16:51:56.4±1.5, 10°.35S×118°.46E, h0km, mb3.9/4, mb1 4.0/8, mb1mx3.8/32, mbtmp3.9/8, ML3.8/4, MS3.5/1, Ms1 3.5/1, ms1mx2.7/27, Error ellipse: s-maj=50.0km s-min=22.3km az=50.0*

*AUST **28** 16:52:00.9, 10°.49S×118°.95E, h0km*

*ISCJB **28** 16:52:02.2±0.3, 10°.21S±0°.03×118°.81E±0°.03, h41km, mb3.9/4, Error ellipse: s-maj=4.5km s-min=3.8km az=12.9*

*DJA **28** 16:52:05.6±0.4, 10°.S±4°×11°.9E±°, h61km±12km, M4.4/19, mb4.4/8, mB4.7/4, MLv4.5/19, Mw(mB)4.0/4*

ISC 28 16:52:02.8±0.7, 10°.29S±0°.06×118°.78E±0°.04, h41km, n37, σ1°93/42, mb4.1/4, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.62**	**68**	P	**Pn**	**16 52 30.5**	**+1.7**
WSI				S	**Sn**	**16 52 52.2**	**+3.7**
WSI	**Waingapu**	**1.62**	**68**	P	**Pn**	**16 52 28.4**	**-0.4**
	baz=1.6,SNR=115						
MMRI	**Maumere**	**3.79**	**65**	P	**Pn**	**16 52 59.9**	**+1.2**
MMRI				S	**Sn**	**16 53 41.9**	**-0.1**
DNP	**Denpasar**	**3.87**	**294**	P	**Pn**	**16 53 00.8**	**+1.0**
DNP				S	**Sn**	**16 53 47.1**	**+3.0**
IGBI	**Denpasar**	**3.87**	**292**	P	**Pn**	**16 53 01.9**	**+2.1**
IGBI				S	**Sn**	**16 53 45.5**	**+1.4**
SRBI	**Singaraja**	**4.15**	**302**	P	**Pn**	**16 53 05.3**	**+1.7**
BSSI	**Bau Bau, Buton**	**4.45**	**22**	P	**Pn**	**16 53 07.9**	**0.0**
BSSI				S	**Sn**	**16 53 57.8**	**-0.7**
JAGI	**Jajag, Banyuwa**	**4.91**	**291**	P	**Pn**	**16 53 16.3**	**+2.1**
JAGI				S	**Sn**	**16 54 10.6**	**+0.8**
JAGI	**Jajag, Banyuwa**	**4.91**	**291**	P	**Pn**	**16 53 14.4**	**+0.2**
	baz=5.1,SNR=29						
BKSI	**Bulukumba**	**5.11**	**15**	P	**Pn**	**16 53 16.9**	**0.0**
BKSI				S	**Sn**	**16 54 14.5**	**-0.2**
KAPI	**Kappang**	**5.33**	**10**	Pn	**Pn**	**16 53 20.2**	**+0.3**
	9.4nm,0.3s,baz=205,slow=4.1,SNR=38						
KAPI				Sn	**Sn**	**16 54 17.8**	**-2.3**
	7.9nm,0.3s,baz=292,slow=19,SNR=5.2						
KAPI				LR	LR	16 55 32.0	
	comp=Z,518nm,20.3s,baz=239,slow=40						
SOEI	**Soe**	**5.43**	**85**	P	**Pn**	**16 53 23.8**	**+2.4**
	83nm,1.2s,0.5nm						
SOEI	**Soe**	**5.43**	**85**	P	**Pn**	**16 53 23.4**	**+2.0**
	baz=5.3,SNR=11						
BLJI	**Banyuglugur**	**5.71**	**296**	P	**Pn**	**16 53 26.6**	**+1.5**
	42nm,0.5s,0.3nm						
KMMI	**Kalianget**	**5.75**	**304**	P	**Pn**	**16 53 25.6**	**0.0**
	34nm,1.8s,0.2nm						
SPSI	**Sidrap Palu**	**6.36**	**9**	P	**Pn**	**16 53 34.6**	**+0.6**
	31nm,0.5s,453nm0.2nm						
PWJI	**Pagerwojo**	**7.25**	**288**	P	**Pn**	**16 53 48.5**	**+2.3**
	32nm,2.5s,0.2nm						
PWJI				S	**Sn**	**16 55 04.2**	**-3.1**
	32nm,2.5s,0.2nm						
TTSI	**Tana Toraja**	**7.27**	**8**	P	**Pn**	**16 53 48.5**	**+1.9**
	40nm,1.6s,533nm0.1nm						
TTSI				S	**Sn**	**16 55 10.1**	**+2.2**
	40nm,1.6s,533nm0.1nm						
KNRA	**Kununurra**	**11.10**	**120**	P	**Pn**	**16 54 40.5**	**+1.4**
	baz=11,SNR=5.4						
MTN	**Manton Dam**	**12.37**	**103**	P	**Pn**	**16 54 56.5**	**+0.2**
	baz=12,SNR=8.8						
GIRL	**Giralia**	**13.03**	**199**	P	Pn	16 55 08.1	+2.6
	baz=13,SNR=14						
KDU	**Kakadu**	**13.63**	**101**	P	**Pn**	**16 55 14.8**	**+1.2**
	baz=13,SNR=4.9						
SWI	**Sorong**	**15.54**	**54**	P	**P**	**16 55 41.5**	**-1.4**
	baz=16,SNR=3.5						
SIJI	**Sorong**	**15.54**	**54**	Pn	**Pn**	**16 55 41.2**	**+2.0**
	0.9nm,0.3s,baz=288,slow=13,SNR=4.4						
MEEK	**Meekatharra**	**16.26**	**181**	P	**P**	**16 55 49.9**	**-1.1**
	baz=16,SNR=42						
WRKA	**Warakurna**	**17.23**	**150**	P	**P**	**16 56 04.2**	**+2.5**
	baz=17,SNR=11						
WRA	**Warramunga Arr**	**17.81**	**124**	P	**P**	**16 56 07.2**	**-0.9**
	0.2nm,0.3s,baz=299,slow=13,SNR=17						
WRA				S	Sn	16 59 16.9	-8.6
	0.2nm,0.3s,baz=291,slow=24,SNR=4.9						
MORW	**Morawa**	**18.86**	**187**	P	Pn	16 56 24.6	+4.2
	baz=19,SNR=28						
ASAR	**Alice Springs**	**19.62**	**135**	P	**Pn**	**16 56 30.2**	**+0.6**
	0.2nm,0.3s,baz=309,slow=10.0,SNR=20						
ASAR				S	**S**	**17 00 01.4**	**-6.1**
	0.1nm,0.3s,baz=302,slow=22,SNR=4.1						
BLDU	**Ballidu**	**20.32**	**185**	P	Pn	16 56 40.0	+2.3
	baz=20,SNR=12						
CMAR	**Chiang Mai Arr**	**34.63**	**325**	P	**P**	**16 58 48.4**	**0.0**
	0.3nm,0.5s,baz=160,slow=6.8,SNR=6.3						
H08S2	**Diego Garcia H**	**45.77**	**269**	T	T	17 49 30.4	
	baz=96,slow=75,SNR=33						
H08S3	**Diego Garcia H**	**45.78**	**269**	T	T	17 49 25.7	
	baz=96,slow=75,SNR=30						
H08S1	**Diego Garcia H**	**45.79**	**269**	T	T	17 49 25.8	
	baz=96,slow=75,SNR=30						
SONM	**Songino Array**	**58.90**	**350**	P	**P**	**17 01 57.2**	**-0.6**
	1.0nm,0.5s,baz=166,slow=8.6,SNR=13						
MKAR	**Makanchi Array**	**65.50**	**333**	P	**P**	**17 02 41.0**	**-0.9**
	0.7nm,0.5s,baz=150,slow=6.5,SNR=14						
ZALV	**Zalesovo Beam**	**70.16**	**339**	P	**P**	**17 03 08.8**	**-2.2**
	1.2nm,0.4s,baz=145,slow=5.4,SNR=9.5						

*IDC **28** 16:58:53.4±0.8, 52°.80N×169°.53W, h0km, mb4.0/10, mb1 4.2/13, mb1mx3.9/42, mbtmp4.0/13, ML3.7/3, MS3.5/12, Ms1 3.5/12, ms1mx3.2/37, Error ellipse: s-maj=25.1km s-min=14.8km az=167.0*

*ISCJB **28** 16:58:54.8±0.4, 52°.66N±0°.06×169°.41W±0°.06, h10km, mb4.1/19, MS3.5/11, Error ellipse: s-maj=9.6km s-min=3.6km az=151.5*

*NEIC **28** 16:58:56.5, 52°.78N×169°.37W, h5km, mb4.2/16, ML4.1(AEIC), After AEIC.*

ISC 28 16:58:55.8±0.7, 52°.80N±0°.09×169°.45W±0°.06, h10km, n79, σ1°44/65, mb4.1/19, MS3.5/11, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.40**	**64**	P	**Pb**	**16 59 04.5**	**-0.5**
NIKH				S	**Sb**	**16 59 11.3**	**+0.1**
OKWR	**Okmok West Rim**	**0.99**	**49**	P	**Pb**	**16 59 15.6**	**+0.6**
OKCE	**Okmok Cone E**	**1.00**	**50**	P	**Pg**	**16 59 15.1**	**+0.1**
OKAK	**Okmok**	**1.02**	**40**	P	**Pg**	**16 59 14.1**	**-1.4**
OKTU	**Okmok Mt. Tuli**	**1.03**	**55**	P	**Pg**	**16 59 15.8**	**+0.1**
OKFG	**Magazine Ridge**	**1.11**	**56**	P	**Pb**	**16 59 16.6**	**-0.5**
OKFG				S	**Sb**	**16 59 32.1**	**+0.4**
MCIR	**Makushin Cirqu**	**1.92**	**52**	P	**Pn**	**16 59 29.6**	**+1.1**
MSW	**Makushin Switc**	**1.95**	**54**	P	**Pn**	**16 59 29.9**	**+0.9**
MSW				S	**Sb**	**16 59 56.7**	**+0.9**
MTBL	**Makushin Table**	**2.04**	**54**	P	**Pn**	**16 59 30.7**	**+0.6**
UNV	**Unalaska Valle**	**2.06**	**58**	P	**Pn**	**16 59 30.1**	**-0.3**
UNV				S	**Sn**	**16 59 56.6**	**+0.5**
AKRB	**Akutan Reef Bi**	**2.42**	**55**	P	**Pn**	**16 59 37.3**	**+1.9**
ZRO	**Akutan Zero**	**2.45**	**57**	P	**Pn**	**16 59 37.4**	**+1.5**
AKGG	**Akutan Green G**	**2.50**	**54**	P	**Pn**	**16 59 38.2**	**+1.8**
AKUT	**Akutan**	**2.58**	**57**	P	**Pn**	**16 59 39.3**	**+1.8**
AKSA	**Akutan Strait**	**2.62**	**58**	P	**Pn**	**16 59 39.2**	**+1.2**
ATKA	**Atka Island**	**2.96**	**260**	P	**Pn**	**16 59 45.3**	**+2.6**
GSTR	**Great Sitkin T**	**4.10**	**263**	*e*Pn	**Pn**	**17 00 00.1**	**+1.6**
GSMY	**Great Sitkin M**	**4.11**	**262**	P	**Pn**	**17 00 00.2**	**+1.5**
FALS	**False Pass**	**4.13**	**58**	*e*Pn	**Pn**	**17 00 01.9**	**+3.1**
GSCK	**Great Sitkin C**	**4.18**	**262**	P	**Pn**	**17 00 01.3**	**+1.7**
SPIA	**Saint Paul Isl**	**4.42**	**354**	P	**Pn**	**17 00 05.0**	**+2.3**
ADAG	**Mount Adagdak**	**4.46**	**262**	P	**Pn**	**17 00 06.2**	**+2.8**
DTNA	**Dutton South F**	**4.86**	**58**	P	**Pn**	**17 00 10.9**	**+2.1**
SDPT	**Sand Point**	**5.87**	**61**	*e*Pn	Pn	17 00 26.3	+3.5
AMKA	**Amchitka**	**7.08**	**263**	P	**Pn**	**17 00 41.9**	**+2.6**
CHGN	**Chignik**	**7.32**	**57**	Pn	Pn	17 00 46.0	+3.4
KDAK	**Kodiak Island**	**10.83**	**56**	Pn	**Pn**	**17 01 31.5**	**+0.9**
	0.6nm,0.3s,baz=245,slow=6.7,SNR=4.7						
KDAK	**Kodiak Island**	**10.83**	**56**	*e*Pn	**Pn**	**17 01 31.3**	**+0.6**
	10nm,1.0s						
SEW	**Seward**	**13.22**	**49**	*e*Pn	**Pn**	**17 02 05.2**	**+1.8**
	21nm,1.0s						
RC01	**Rabbit Creek A**	**13.54**	**44**	P	**Pn**	**17 02 07.2**	**-0.5**
	62nm,1.8s						
PPLA	**Purkeypile**	**13.62**	**35**	*e*Pn	**Pn**	**17 02 09.2**	**+0.3**
	73nm,1.5s						
SML	**Sawmill**	**14.48**	**43**	*e*Pn	**Pn**	**17 02 22.7**	**+2.0**
	4.3nm,1.2s						
TRF	**Thorofare Moun**	**14.64**	**36**	*e*P	**P**	**17 02 26.8**	**-2.5**
	76nm,1.6s						
BPAW	**Bear Paw Mtn.**	**14.82**	**33**	*e*P	**Pn**	**17 02 26.1**	**+1.0**
	3.8nm,0.9s						
MCK	**McKinley**	**15.29**	**36**	P	**Pn**	**17 02 33.5**	**+2.1**
	32nm,1.4s						
BMRM	**Bremner River**	**15.77**	**49**	*e*P	**Pn**	**17 02 39.9**	**+2.1**
	8.3nm,0.8s						
PAX	**Paxson**	**16.21**	**42**	*e*Pn	**Pn**	**17 02 45.0**	**+1.6**
	3.1nm,0.5s						
ILAR	**Eielson Array**	**16.63**	**35**	Pn	**Pn**	**17 02 46.3**	**-2.4**
	0.3nm,0.3s,baz=229,slow=12,SNR=11						
ILAR				LR	LR	17 09 36.8	
	comp=Z,169nm,20.0s,baz=228,slow=39						
COLD	**Coldfoot**	**17.25**	**26**	*e*P	**P**	**17 02 59.2**	**+1.3**
	79nm,1.7s						
EGAK	**Eagle**	**18.74**	**39**	*e*P	**P**	**17 03 14.2**	**-0.2**
	5.3nm,0.6s						
DAWY	**Dawson**	**19.14**	**42**	*e*P	**P**	**17 03 18.2**	**-0.7**
	17nm,1.5s						
PETK	**Petropavlovsk-**	**19.70**	**284**	P	**P**	**17 03 25.2**	**+0.2**
	0.3nm,0.3s,baz=96,slow=12,SNR=6.9						
SEY	**Seymchan**	**22.34**	**312**	P	**P**	**17 03 53.5**	**+0.1**
	6.8nm,1.1s,baz=229,slow=12,SNR=15						
DLBC	**Dease Lake**	**22.71**	**60**	P	**P**	**17 03 57.5**	**0.0**
	5.2nm,0.3s,baz=298,slow=11,SNR=2.0						
INK	**Inuvik**	**23.02**	**34**	P	**P**	**17 03 58.6**	**-1.9**
	1.8nm,0.6s,baz=215,slow=11,SNR=5.9						
INK	**Inuvik**	**23.02**	**34**	*e*P	**P**	**17 03 58.5**	**-1.9**
	9.1nm,1.1s						
YKA	**Yellowknife Ar**	**30.00**	**49**	P	**P**	**17 05 03.2**	**-0.9**
	0.7nm,0.5s,baz=271,slow=7.9,SNR=6.9						
YBH	**Yreka Blue Hor**	**33.03**	**91**	LR	LR	17 15 33.0	
	comp=Z,68nm,18.4s,baz=296,slow=30						
WVOR	**Wild Horse Val**	**35.10**	**86**	P	**P**	**17 05 50.4**	**+1.2**
	3.3nm,0.9s						
CHMT	**Chamberlain Mo**	**35.90**	**76**	*e*P	**P**	**17 05 56.4**	**+0.3**
NVAR	**Mina Array Bea**	**37.72**	**91**	P	**P**	**17 06 11.4**	**-0.3**
	0.7nm,0.8s,baz=298,slow=8.1,SNR=1.9						
H11N2	**WAKE ISLAND Hy**	**37.76**	**218**	T	T	17 46 15.5	
	baz=24,slow=76,SNR=67						
H11N3	**WAKE ISLAND Hy**	**37.77**	**218**	T	T	17 46 21.3	
	baz=24,slow=76,SNR=85						
H11N1	**WAKE ISLAND Hy**	**37.78**	**218**	T	T	17 46 15.7	
	baz=24,slow=76,SNR=53						
ELK	**Elko**	**38.15**	**86**	*e*P	**P**	**17 06 15.3**	**0.0**
	2.3nm,0.9s						
H11S1	**WAKE ISLAND Hy**	**38.95**	**218**	T	T	17 47 44.2	
	baz=23,slow=76,SNR=1495						
H11S2	**WAKE ISLAND Hy**	**38.96**	**218**	T	T	17 47 45.7	
	baz=23,slow=76,SNR=788						
H11S3	**WAKE ISLAND Hy**	**38.97**	**218**	T	T	17 47 45.4	
	baz=23,slow=76,SNR=683						
RLMT	**Red Lodge**	**39.21**	**76**	*e*P	P	17 06 20.4	-3.7
	3.5nm,0.9s						
R11A	**Troy Canyon, C**	**39.42**	**89**	*e*P	**P**	**17 06 27.2**	**+1.2**
	7.4nm,1.3s						
MJAR	**Matsushiro Arr**	**39.66**	**267**	LR	LR	17 20 46.3	
	comp=Z,94nm,21.9s,baz=85,slow=33						
DUG	**Dugway**	**39.95**	**85**	P	**P**	**17 06 31.0**	**+0.8**
	4.4nm,1.1s						
PDAR	**Pinedale Array**	**40.37**	**80**	P	**P**	**17 06 33.0**	**-0.8**
	2.2nm,0.7s,baz=342,slow=4.4,SNR=7.5						
PDAR				LR	LR	17 22 42.6	
	comp=Z,59nm,18.5s,baz=345,slow=35						
ULM	**Lac du Bonnet**	**43.99**	**62**	LR	LR	17 25 25.1	
	comp=Z,31nm,21.2s,baz=6.0,slow=36						
AGMN	**Agassiz Nation**	**45.09**	**65**	P	**P**	**17 07 11.4**	**-0.3**
	5.6nm,0.9s						
KSRS	**Korea Array**	**45.31**	**276**	LR	LR	17 24 24.8	
	comp=Z,44nm,21.8s,baz=54,slow=34						
SDCO	**Great Sand Dun**	**45.91**	**83**	*e*P	**P**	**17 07 20.5**	**+1.7**
	2.7nm,1.1s						
TLY	**Talaya**	**50.05**	**306**	LR	LR	17 31 46.7	
	comp=Z,38nm,18.3s,baz=350,slow=40						
SONM	**Songino Array**	**51.04**	**300**	PcP	**PcP**	**17 09 13.6**	**-0.1**
	0.7nm,0.7s,baz=34,slow=3.6,SNR=3.8						
WMOK	**Wichita Mounta**	**51.96**	**81**	*e*P	**P**	**17 08 05.5**	**+0.7**
	3.6nm,0.8s						
TXAR	**Lajitas Array**	**52.79**	**89**	P	**P**	**17 08 11.9**	**+0.7**
	1.9nm,0.8s,baz=305,slow=4.4,SNR=13						
TXAR				LR	LR	17 27 59.1	
	comp=Z,22nm,18.6s,baz=0.0,slow=33						
SCHQ	**Schefferville**	**55.16**	**43**	LR	LR	17 34 51.5	
	comp=Z,60nm,18.6s,baz=282,slow=39						
MIAR	**Mount Ida**	**55.20**	**77**	P	**P**	**17 08 28.0**	**-0.6**
	7.2nm,1.1s						
MKAR	**Makanchi Array**	**63.47**	**313**	P	**P**	**17 09 23.5**	**-2.2**
	0.3nm,0.7s,baz=29,slow=3.3,SNR=3.5						
JAY	**Jayapura**	**69.11**	**235**	LR	LR	17 36 32.9	
	comp=Z,42nm,20.6s,slow=33						
CMAR	**Chiang Mai Arr**	**76.47**	**283**	LR	LR	17 46 11.4	
	comp=Z,21nm,20.1s,baz=75,slow=37						
WRA	**Warramunga Arr**	**87.23**	**232**	P	**P**	**17 11 40.3**	**-1.9**
	2.0nm,1.0s,baz=35,slow=6.0,SNR=11						
ASAR	**Alice Springs**	**90.63**	**230**	P	**P**	**17 11 57.6**	**-0.7**
	3.1nm,0.9s,baz=36,slow=4.4,SNR=21						
STKA	**Stephens Creek**	**94.49**	**220**	LR	LR	17 50 07.3	
	comp=Z,64nm,20.8s,baz=21,slow=32						

*IDC **28** 17:17:59.1±3.5, 53°.08N×169°.93W, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.4/46, mbtmp3.5/5, Error ellipse: s-maj=257.8km s-min=24.8km az=163.0*

*ISCJB **28** 17:18:02.2±1.4, 52°.6N±0°.1×169°.5W±0°.1, h19km±9km, mb3.5/5, Error ellipse: s-maj=22.9km s-min=9.1km az=146.8*

*NEIC **28** 17:18:04.1, 52°.66N×169°.35W, h10km, ML3.2(AEIC), After AEIC.*

ISC 28 17:18:03.3±1.9, 52°.7N±0°.1×169°.45W±0°.08, h9km±12km, n20, σ1°93/24, mb3.6/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.46**	**52**	P	**Pg**	**17 18 12.8**	**+0.5**
NIKH				S	**Sb**	**17 18 20.7**	**+0.3**
OKSP	**Okmok Steeple**	**0.90**	**51**	P	**Pg**	**17 18 20.9**	**+0.3**
OKSP				S	**Sb**	**17 18 33.8**	**+0.7**
OKSO	**Okmok South**	**1.02**	**49**	P	**Pg**	**17 18 22.3**	**-0.7**
OKSO				S	**Sb**	**17 18 37.0**	**+0.2**
OKWR	**Okmok West Rim**	**1.05**	**45**	P	**Pg**	**17 18 24.2**	**+0.6**
OKCE	**Okmok Cone E**	**1.07**	**46**	P	**Pg**	**17 18 23.2**	**-0.6**
OKTU	**Okmok Mt. Tuli**	**1.09**	**50**	P	**Pb**	**17 18 24.3**	**-0.2**
OKAK	**Okmok**	**1.10**	**36**	P	**Pb**	**17 18 22.3**	**-2.2**
OKRE	**Okmok R'deer P**	**1.13**	**42**	P	**Pb**	**17 18 25.1**	**0.0**
OKFG	**Magazine Ridge**	**1.17**	**52**	P	**Pb**	**17 18 24.8**	**-1.0**
OKFG				S	**Sb**	**17 18 41.0**	**0.0**
MSW	**Makushin Switc**	**2.01**	**51**	P	**Pn**	**17 18 37.9**	**+0.4**
MSW				S	**Sn**	**17 19 02.8**	**+0.1**
MTBL	**Makushin Table**	**2.10**	**51**	P	**Pn**	**17 18 39.4**	**+0.7**
UNV	**Unalaska Valle**	**2.11**	**56**	P	**Pn**	**17 18 39.6**	**+0.8**
UNV				S	**Sn**	**17 19 06.2**	**+1.1**
AKUT	**Akutan**	**2.63**	**55**	*e*P	**Pn**	**17 18 48.2**	**+2.3**
ATKA	**Atka Island**	**2.95**	**262**	P	**Pn**	**17 18 51.5**	**+1.3**
SPIA	**Saint Paul Isl**	**4.52**	**354**	P	**Pn**	**17 19 12.9**	**+1.1**
NVAR	**Mina Array Bea**	**37.72**	**91**	P	**P**	**17 25 18.4**	**-0.9**
	0.1nm,0.3s,baz=291,slow=3.6,SNR=2.5						
PDAR	**Pinedale Array**	**40.39**	**79**	P	**P**	**17 25 40.4**	**-1.2**
	0.6nm,1.0s,baz=336,slow=5.9,SNR=2.5						
TXAR	**Lajitas Array**	**52.79**	**89**	P	**P**	**17 27 18.6**	**-0.1**
	0.8nm,0.6s,baz=310,slow=5.9,SNR=9.8						
WRA	**Warramunga Arr**	**87.17**	**232**	P	P	17 30 46.9	-2.7
	0.3nm,0.9s,baz=37,slow=5.6,SNR=3.1						
ASAR	**Alice Springs**	**90.57**	**230**	P	P	17 31 03.0	-2.7
	0.3nm,0.6s,baz=28,slow=5.1,SNR=8.3						

*IDC **28** 17:30:20.1±1.1, 0°.68S×121°.81E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.6/34, mbtmp3.8/6, ML3.2/1, MS2.5/1, Ms1 2.5/1, ms1mx2.3/36, Error ellipse: s-maj=56.6km s-min=18.9km az=69.0*

*DJA **28** 17:30:21.9±0.2, 1°S±2°×12°2E±°, h10km, M4.2/2, mb4.2/1, MLv4.2/2*

*ISC

MAJO	**Matsushiro**	**5.53**	**320**	*eP*	**Pn**	**17 37 55.7**	**-0.4**
	54nm,0.8s						
MAT	**Matsushiro**	**5.53**	**320**	P	**Pn**	**17 37 55.8**	**-0.4**
MAT				S	**Sn**	**17 38 56.9**	**-1.5**
MAT	**Matsushiro**	**5.53**	**320**	P	**Pn**	**17 37 55.9**	**-0.3**
MAT				S	**Sn**	**17 38 57.6**	**-0.8**
JNU	**Nakatsue**	**9.89**	**278**	LR	LR	17 42 28.7	
	comp=Z,47nm,20.5s,baz=120,slow=35						
ASAJ	**Asahikawa**	**11.75**	**0**	Pn	Pn	17 39 16.7	-4.5
	1.3nm,0.3s,baz=222,slow=9.2,SNR=8.9						
KSRS	**Korea Array**	**13.07**	**297**	Pn	**Pn**	**17 39 41.7**	**+2.5**
	0.1nm,0.3s,baz=107,slow=14,SNR=7.6						
KSRS				LR	LR	17 46 06.4	
	comp=Z,36nm,18.1s,baz=73,slow=43						
KSAR	**Wonju Array Be**	**13.09**	**297**	Pn	**Pn**	**17 39 41.7**	**+2.1**
SONM	**Songino Array**	**31.38**	**310**	P	**P**	**17 42 54.3**	**+2.0**
	3.5nm,0.9s,baz=118,slow=8.1,SNR=13						
ZALV	**Zalesovo Beam**	**45.86**	**316**	P	**P**	**17 44 53.6**	**+0.4**
	0.6nm,0.5s,baz=102,slow=6.2,SNR=4.9						
MKAR	**Makanchi Array**	**47.54**	**306**	P	**P**	**17 45 07.0**	**+0.4**
	1.0nm,0.4s,baz=83,slow=9.1,SNR=13						
ODAN	**Odare**	**47.87**	**278**	*eP*	**P**	**17 45 10.3**	**+0.7**
	9.0nm,0.7s						
RAMN	**Ramite**	**48.50**	**279**	*eP*	**P**	**17 45 15.3**	**+0.8**
	15nm,0.6s						
GUN	**Gumba**	**48.77**	**280**	*eP*	**P**	**17 45 18.4**	**+1.7**
	27nm,0.7s						
PKI	**Pulchoki**	**49.27**	**280**	*eP*	**P**	**17 45 21.3**	**+0.7**
	4.3nm,0.4s						
PKIN	**Phulchoki**	**49.28**	**280**	*eP*	**P**	**17 45 21.4**	**+0.8**
KKN	**Kakani**	**49.31**	**280**	*eP*	**P**	**17 45 22.1**	**+1.4**
	17nm,0.7s						
DMN	**Daman**	**49.52**	**280**	*eP*	**P**	**17 45 23.3**	**+1.0**
	5.3nm,0.4s						
GKN	**Gorkha**	**49.77**	**281**	*eP*	**P**	**17 45 25.1**	**+1.0**
	18nm,0.6s						
DANN	**Dangsing**	**50.38**	**282**	*eP*	**P**	**17 45 30.8**	**+1.9**
	5.0nm,0.6s						
KOLN	**Koldanda**	**50.71**	**281**	*eP*	**P**	**17 45 32.5**	**+1.2**
	23nm,0.8s						
WRAB	**Tennant Creek**	**52.58**	**190**	*eP*	P	17 45 41.4	-3.5
WRA	**Warramunga Arr**	**52.59**	**190**	P	**P**	**17 45 43.2**	**-1.8**
	1.4nm,0.4s,baz=8.3,slow=7.7,SNR=44						
ASAR	**Alice Springs**	**56.32**	**190**	P	**P**	**17 46 10.2**	**-1.9**
	0.4nm,0.5s,baz=6.5,slow=6.3,SNR=20						
KKAR	**Karatay Array**	**56.40**	**303**	*eP*	**P**	**17 46 13.2**	**+0.7**
	1.5nm,0.6s						
ABKAR	**Akbulak array**	**61.75**	**312**	*eP*	**P**	**17 46 49.8**	**+0.4**
	0.8nm,0.4s						
FINES	**FINESS Array B**	**73.41**	**333**	P	**P**	**17 48 02.0**	**-0.6**
	4.2nm,1.0s,baz=64,slow=4.1,SNR=14						
NB2	**NORSAR Subarra**	**78.88**	**338**	P	**P**	**17 48 33.9**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=40,slow=5.6						
NOA	**NORSAR Array B**	**78.88**	**338**	P	**P**	**17 48 33.2**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=40,slow=5.5,SNR=8.6						
BRTR	**Keskin Array B**	**82.70**	**313**	P	**P**	**17 48 55.4**	**+0.6**
	comp=Z,1.3nm,1.0s,baz=52,slow=2.0,SNR=5.0						
BRTR				LR	LR	18 30 17.1	
	comp=Z,10nm,19.7s,baz=128,slow=39						

*IDC **28** 17:40:59.5±1.2,52.17N×169.98W,h0km,mb3.5/4, mb1 3.8/5,mb1mx3.8/34,mbtmp3.4/5,ML3.4/1,Error ellipse: s-maj=52.3km s-min=23.9km az=149.0*
*ISCJB **28** 17:41:00.1±1.7,52.9N±0.2×169.7W±0.2,h25km±10km, mb3.5/4,Error ellipse: s-maj=37.8km s-min=11.0km az=146.7*
*NEIC **28** 17:41:00.8,52.55N×169.13W,h12km,ML3.1(AEIC),After AEIC.*

ISC 28 17:41:00.6±1.7,52°9N±0.2×169°7W±0.1,h19km±5km,n19, σ0§93/22,mb3.5/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.51**	**82**	P	**Pb**	**17 41 10.1**	**-0.8**
NIKH				S	**Sb**	**17 41 18.1**	**+0.2**
OKSP	**Okmok Steeple**	**0.91**	**67**	P	**Pb**	**17 41 17.3**	**-0.5**
OKSP				S	**Sb**	**17 41 30.0**	**+0.4**
OKSO	**Okmok South**	**1.03**	**63**	P	**Pb**	**17 41 18.8**	**-0.9**
OKSO				S	**Sb**	**17 41 33.5**	**+0.7**
OKWR	**Okmok West Rim**	**1.04**	**59**	P	**Pn**	**17 41 20.7**	**+0.5**
OKAK	**Okmok**	**1.05**	**49**	P	**Pb**	**17 41 19.2**	**-0.9**
OKCE	**Okmok Cone E**	**1.06**	**60**	P	**Pb**	**17 41 19.8**	**-0.5**
OKTU	**Okmok Mt. Tuli**	**1.10**	**64**	P	**Pn**	**17 41 20.6**	**-0.4**
OKRE	**Okmok R'deer P**	**1.11**	**55**	P	**Pg**	**17 41 21.9**	**-0.2**
OKFG	**Magazine Ridge**	**1.19**	**64**	P	**Pn**	**17 41 21.0**	**-1.1**
OKFG				S	**Sn**	**17 41 37.9**	**+0.3**
MCIR	**Makushin Cirqu**	**1.98**	**57**	P	**Pn**	**17 41 33.7**	**+0.6**
MSW	**Makushin Switc**	**2.01**	**59**	P	**Pn**	**17 41 34.4**	**+0.9**
MTBL	**Makushin Table**	**2.09**	**58**	P	**Pn**	**17 41 34.6**	**0.0**
UNV	**Unalaska Valle**	**2.13**	**62**	P	**Pn**	**17 41 34.2**	**-0.9**
UNV				S	**Sn**	**17 41 59.5**	**-1.5**
AKUT	**Akutan**	**2.64**	**61**	*eP*	**Pn**	**17 41 42.8**	**+0.7**
ILAR	**Eielson Array**	**16.62**	**35**	Pn	P	17 45 01.1	+6.6
	0.1nm,0.3s,baz=206,slow=8.0,SNR=3.1						
NVAR	**Mina Array Bea**	**37.87**	**91**	P	P	17 48 20.4	+4.1
	0.4nm,0.6s,baz=302,slow=5.2,SNR=2.8						
TXAR	**Lajitas Array**	**52.93**	**89**	P	**P**	**17 50 17.7**	**+2.1**
	0.4nm,0.6s,baz=294,slow=6.8,SNR=3.6						
WRA	**Warramunga Arr**	**87.19**	**231**	P	**P**	**17 53 44.1**	**-1.2**
	0.2nm,0.7s,baz=30,slow=5.7,SNR=2.9						
ASAR	**Alice Springs**	**90.59**	**230**	P	**P**	**17 54 01.1**	**-0.2**
	0.3nm,0.6s,baz=24,slow=5.2,SNR=9.6						

JMA 28 17:45:41.0±0.7,32°18N×142°64E,h37km,M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.56**	**292**	*eS*	Sn	17 46 52.1	+2.4
BSO1	**Boso 1**	**2.83**	**331**	*eS*	Sn	17 46 57.7	+2.4
BSO2	**Boso 2**	**3.01**	**329**	*eS*	Sn	17 47 04.3	+4.0
JRY	**Ryogami san**	**4.92**	**322**	P	Pn	17 46 55.3	+2.8
JRY				*eS*	Sn	17 47 51.1	+2.9
JAG	**Ashikaga**	**4.99**	**329**	*eS*	Sn	17 47 48.8	-0.9

*ISCJB **28** 17:51:40.0±0.7,33°73S±0.05×178°5W±0.1,h150km, mb3.3/3,Error ellipse: s-maj=16.5km s-min=5.2km az=20.0*
*IDC **28** 17:51:45.1±1.5,33°20S×179°80E,h97km±19km,mb3.2/3, mb1 3.5/3,mb1mx3.3/28,mbtmp3.5/3,Error ellipse: s-maj=34.6km s-min=11.2km az=114.0*

ISC 28 17:51:42.0±1.2,33°67S±0.07×178°8W±0.1,h150km,n102, σ1§81/90,mb3.3/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.47**	**10**	P	**Pn**	**17 52 49.6**	**+1.2**
	71nm,0.3s,baz=39,slow=20,SNR=9.1						
RAO				S	**Sn**	**17 53 40.0**	**-0.1**
	286nm,0.3s,baz=263,slow=23,SNR=7.9						
MXZ	**Matakaoa Point**	**4.55**	**211**	PN	**Pn**	**17 52 51.4**	**+2.0**
MXZ				SN	**Sn**	**17 53 43.8**	**+1.9**
WMGZ	**Waiomatatini S**	**4.72**	**208**	*e*PN	Pn	17 52 54.9	+3.3
WMGZ				SN	**Sn**	**17 53 50.8**	**+4.7**
HAZ	**Te Kaha**	**4.94**	**213**	PN	**Pn**	**17 52 56.4**	**+1.9**
PUZ	**Puketiti**	**5.00**	**208**	PN	**Pn**	**17 52 57.8**	**+2.4**
PUZ				SN	**Sn**	**17 53 54.6**	**+1.9**
WIZ	**White Island**	**5.05**	**219**	PN	Pn	17 52 59.0	+3.0
WIZ				SN	**Sn**	**17 53 55.2**	**+1.4**
TWGZ	**Tauwhareparae**	**5.20**	**209**	PN	**Pn**	**17 53 00.3**	**+2.2**
GRZ	**Great Barrier**	**5.38**	**240**	PN	**Pn**	**17 52 59.6**	**-0.8**
CNGZ	**Carnagh Statio**	**5.38**	**200**	PN	**Pn**	**17 53 02.7**	**+2.3**
MYRZ	**Mayor Island**	**5.42**	**207**	*e*PN	Pn	17 53 04.2	+3.2
KUZ	**Kuaotunu**	**5.44**	**234**	PN	**Pn**	**17 53 02.2**	**+0.9**
TKGZ	**Te Karaka**	**5.48**	**209**	PN	**Pn**	**17 53 03.2**	**+1.5**
MWZ	**Matawai**	**5.53**	**212**	PN	**Pn**	**17 53 03.8**	**+1.4**
MWZ				SN	**Sn**	**17 54 06.8**	**+1.5**
OPRZ	**Ohinepanea**	**5.63**	**221**	PN	**Pn**	**17 53 04.9**	**+1.2**
OPRZ				SN	**Sn**	**17 54 08.5**	**+0.9**
URZ	**Urewera**	**5.66**	**215**	P	**Pn**	**17 53 05.7**	**+1.6**
	42nm,0.3s,baz=258,slow=4.5,SNR=190						
URZ				S	**Sn**	**17 54 06.2**	**-2.1**
	83nm,0.3s,baz=16,slow=18,SNR=8.7						
URZ	**Urewera**	**5.66**	**215**	PN	**Pn**	**17 53 04.4**	**+0.3**
RAGZ	**Rawiri**	**5.71**	**211**	PN	**Pn**	**17 53 06.0**	**+1.1**
TGRZ	**Tauranga**	**5.71**	**223**	PN	**Pn**	**17 53 07.0**	**+2.2**
RIGZ	**Rimuhau**	**5.75**	**208**	PN	**Pn**	**17 53 06.6**	**+1.3**
PRGZ	**Paritu Road**	**5.89**	**206**	PN	**Pn**	**17 53 09.0**	**+1.8**
TARZ	**Mount Tarawera**	**5.94**	**219**	PN	Pn	17 53 11.2	+3.3
SNGZ	**Shannon Statio**	**5.98**	**210**	PN	**Pn**	**17 53 09.8**	**+1.3**
MKAZ	**Moumakai**	**6.01**	**233**	PN	**Pn**	**17 53 10.1**	**+1.3**
KNZ	**Kokohu**	**6.05**	**207**	PN	**Pn**	**17 53 10.1**	**+0.8**
WCZ	**Waipu Caves**	**6.09**	**246**	PN	**Pn**	**17 53 08.5**	**-1.3**
TOZ	**Tahuroa Road**	**6.16**	**227**	PN	**Pn**	**17 53 12.5**	**+1.7**
RAHZ	**Arahi**	**6.21**	**211**	PN	**Pn**	**17 53 12.0**	**+0.6**
WHHZ	**Waihua**	**6.28**	**210**	PN	**Pn**	**17 53 12.7**	**+0.4**
NMHZ	**Naumai**	**6.48**	**212**	PN	**Pn**	**17 53 15.3**	**+0.3**
KUTZ	**Kaahu Road**	**6.49**	**221**	PN	**Pn**	**17 53 17.5**	**+2.3**
ARHZ	**Aropaoanui**	**6.53**	**210**	PN	**Pn**	**17 53 16.3**	**+0.6**
BKZ	**Black Stump Fm**	**6.67**	**213**	PN	**Pn**	**17 53 17.0**	**-0.7**
WATZ	**Wairara**	**6.70**	**220**	PN	**Pn**	**17 53 20.0**	**+2.0**
RATZ	**Rangitukua**	**6.80**	**219**	PN	**Pn**	**17 53 21.3**	**+2.0**
MCHZ	**McNeill Hill**	**6.81**	**211**	PN	**Pn**	**17 53 19.7**	**+0.2**
KWHZ	**Kaweka Forest**	**6.91**	**213**	PN	**Pn**	**17 53 20.5**	**-0.4**
KAHZ	**Kahuranaki**	**7.03**	**208**	PN	**Pn**	**17 53 22.6**	**+0.1**
HIZ	**Hauiti**	**7.06**	**225**	*e*PN	**Pn**	**17 53 24.3**	**+1.5**
OTVZ	**Oturere**	**7.07**	**218**	PN	**Pn**	**17 53 23.0**	**-0.1**
KRHZ	**Kereru**	**7.12**	**212**	PN	**Pn**	**17 53 22.1**	**-1.5**
BHHZ	**Black Hill Sta**	**7.13**	**214**	PN	**Pn**	**17 53 23.1**	**-0.7**
TUVZ	**Tukino**	**7.16**	**217**	PN	**Pn**	**17 53 24.5**	**+0.3**
COVZ	**Chateau Observ**	**7.16**	**218**	PN	**Pn**	**17 53 24.3**	**+0.1**
WPVZ	**Whakapapa**	**7.17**	**218**	PN	**Pn**	**17 53 24.5**	**+0.2**
FWVZ	**Far West T-bar**	**7.20**	**218**	PN	**Pn**	**17 53 23.8**	**-1.0**
WHVZ	**Whangaehu Hut**	**7.20**	**217**	PN	**Pn**	**17 53 24.4**	**-0.5**
DRZ	**Dome Shelter**	**7.21**	**217**	PN	**Pn**	**17 53 26.2**	**+1.2**
MOVZ	**Moawhango**	**7.22**	**216**	PN	**Pn**	**17 53 24.6**	**-0.4**
WNVZ	**Wahianoa**	**7.23**	**217**	PN	**Pn**	**17 53 24.9**	**-0.3**
PXZ	**Pawanui**	**7.24**	**208**	PN	**Pn**	**17 53 24.5**	**-0.7**
PKVZ	**Pokaka**	**7.33**	**218**	PN	**Pn**	**17 53 27.2**	**+0.7**
MTVZ	**Mangateitei**	**7.34**	**217**	PN	**Pn**	**17 53 27.1**	**+0.5**
PNHZ	**Pukenui**	**7.42**	**211**	PN	**Pn**	**17 53 26.1**	**-1.4**
WPHZ	**Waipukurau**	**7.44**	**210**	PN	**Pn**	**17 53 27.6**	**-0.3**
VRZ	**Vera Road**	**7.53**	**222**	PN	**Pn**	**17 53 30.2**	**+1.2**
PRHZ	**Porangahau**	**7.53**	**208**	PN	**Pn**	**17 53 28.4**	**-0.7**
PRWZ	**Pori Road**	**8.04**	**210**	*e*PN	**Pn**	**17 53 34.6**	**-1.3**
KHEZ	**Kahui Hut**	**8.06**	**224**	PN	**Pn**	**17 53 38.4**	**+2.1**
TIWZ	**Tintock**	**8.27**	**209**	*e*PN	**Pn**	**17 53 37.5**	**-1.4**
MRZ	**Mangatainoka R**	**8.30**	**211**	PN	**Pn**	**17 53 36.8**	**-2.5**
MRZ				*e*SN	**Sn**	**17 55 05.8**	**-5.9**
HOWZ	**Holdsworth Sta**	**8.52**	**211**	PN	**Pn**	**17 53 39.7**	**-2.5**
OGWZ	**Otaki Gorge**	**8.61**	**212**	PN	**Pn**	**17 53 40.8**	**-2.5**
MTW	**Mount Morrison**	**8.74**	**210**	PN	**Pn**	**17 53 42.6**	**-2.6**
KIW	**Kapiti Island**	**8.76**	**213**	PN	**Pn**	**17 53 42.8**	**-2.6**
WEL	**Wellington**	**9.16**	**212**	PN	**Pn**	**17 53 49.1**	**-1.7**
DUWZ	**D'Urville Isla**	**9.19**	**217**	PN	**Pn**	**17 53 48.9**	**-2.2**
PLWZ	**Palliser**	**9.19**	**209**	PN	**Pn**	**17 53 48.6**	**-2.6**
BHW	**Baring Head**	**9.22**	**211**	PN	**Pn**	**17 53 48.9**	**-2.6**
TCW	**Tory Channel**	**9.33**	**214**	PN	**Pn**	**17 53 50.2**	**-2.8**
TUWZ	**Tuamarina**	**9.65**	**215**	PN	**Pn**	**17 53 54.3**	**-3.0**
NNZ	**Nelson**	**9.77**	**217**	PN	Pn	17 53 54.8	-4.0
NNZ				*e*SN	Sn	17 55 37.3	-10
CMWZ	**Cape Campbell**	**9.78**	**212**	PN	**Pn**	**17 53 57.8**	**-1.2**
BSWZ	**Blackbirch Sta**	**9.91**	**214**	PN	**Pn**	**17 53 58.6**	**-2.1**
QRZ	**Quartz Range**	**9.94**	**222**	PN	Pn	17 53 57.1	-4.0
THZ	**Tophouse**	**10.41**	**217**	PN	Pn	17 54 03.5	-3.9
THZ				*e*SN	Sn	17 55 53.9	-8.7
KHZ	**Kahutara**	**10.62**	**212**	PN	**Pn**	**17 54 07.4**	**-2.6**
DSZ	**Denniston Nort**	**10.97**	**220**	*e*SN	Sn	17 56 03.2	-13
LTZ	**Lake Taylor**	**11.49**	**215**	PN	Pn	17 54 17.4	-4.2
CRLZ	**Canterbury Las**	**11.95**	**212**	PN	Pn	17 54 24.2	-3.3
OXZ	**Oxford**	**12.01**	**214**	PN	Pn	17 54 23.7	-4.6
MQZ	**McQueen's Vall**	**12.04**	**211**	PN	Pn	17 54 24.7	-4.0
WVZ	**Waitaha Valley**	**12.47**	**218**	PN	Pn	17 54 29.4	-4.8
RPZ	**Rata Peaks**	**12.78**	**215**	P	Pn	17 54 33.9	-4.4
	8.1nm,0.3s,baz=220,slow=1.3,SNR=57						
RPZ				S	Sn	17 56 44.5	-15
	5.2nm,0.3s,baz=308,slow=22,SNR=10						
RPZ	**Rata Peaks**	**12.78**	**215**	PN	Pn	17 54 34.1	-4.1
FOZ	**Fox Glacier**	**13.36**	**219**	PN	Pn	17 54 40.4	-5.1
LBZ	**Lake Benmore**	**13.70**	**215**	PN	Pn	17 54 46.3	-3.6
ODZ	**Otahua Downs**	**13.98**	**213**	PN	**Pn**	**17 54 50.8**	**-2.7**
WKZ	**Wanaka**	**14.59**	**217**	*e*PN	Pn	17 54 56.6	-4.6
ASAR	**Alice Springs**	**42.38**	**271**	P	**P**	**17 59 19.2**	**-2.4**
	0.4nm,0.5s,baz=111,slow=7.8,SNR=20						
WRA	**Warramunga Arr**	**43.66**	**276**	P	**P**	**17 59 31.6**	**-0.4**
	0.3nm,0.3s,baz=118,slow=7.9,SNR=13						
VNDA	**Vanda**	**44.78**	**186**	P	P	17 59 51.5	+11
	0.3nm,0.5s,baz=6.2,slow=6.5,SNR=3.9						
SNAA	**Sanae**	**74.91**	**179**	P	P	18 03 17.3	+11
VNA1	**Neumayer--Stat**	**75.75**	**177**	P	P	18 03 22.7	+12
FINES	**FINESS Array B**	**147.94**	**338**	PKPbc	**PKPab**	**18 11 14.7**	**+2.9**
	1.6nm,0.7s,baz=67,slow=4.7,SNR=7.7						

*IDC **28** 17:56:27.8±5.4,52°94N×169°66W,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.3/50,mbtmp3.7/3,Error ellipse: s-maj=427.0km s-min=34.8km az=161.0*
*ISCJB **28** 17:56:28.8±0.7,52°50N±0.07×169°3W±0.1,h10km, mb3.6/3,Error ellipse: s-maj=13.5km s-min=5.4km az=138.5*
*NEIC **28** 17:56:30.5,52°58N×169°21W,h11km,ML3.1(AEIC),After AEIC.*

ISC 28 17:56:30.3±1.0,52°60N±0.10×169°24W±0.07,h10km,n27, σ0§76/25,mb3.7/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.44**	**31**	P	**Pg**	**17 56 39.9**	**+0.9**
NIKH				S	**Sb**	**17 56 47.2**	**+0.4**
OKSP	**Okmok Steeple**	**0.87**	**41**	P	**Pg**	**17 56 47.7**	**+0.6**
OKSO	**Okmok South**	**1.00**	**40**	P	**Pg**	**17 56 48.7**	**-0.9**
OKSO				S	**Sb**	**17 57 03.9**	**+0.9**
OKWR	**Okmok West Rim**	**1.04**	**36**	P	**Pg**	**17 56 50.8**	**+0.4**
OKCE	**Okmok Cone E**	**1.05**	**37**	P	**Pg**	**17 56 50.1**	**-0.5**
OKTU	**Okmok Mt. Tuli**	**1.07**	**42**	P	**Pg**	**17 56 50.8**	**-0.1**
OKAK	**Okmok**	**1.12**	**28**	P	**Pb**	**17 56 49.3**	**-2.4**
OKRE	**Okmok R'deer P**	**1.13**	**35**	P	**Pb**	**17 56 51.6**	**-0.3**
OKFG	**Magazine Ridge**	**1.14**	**44**	P	**Pb**	**17 56 51.3**	**-0.8**
OKFG				S	**Sn**	**17 57 08.0**	**0.0**
MSOM	**Makushin Julie**	**1.84**	**47**	P	**Pn**	**17 57 01.5**	**-0.4**
MCIR	**Makushin Cirqu**	**1.96**	**45**	P	**Pn**	**17 57 03.9**	**+0.3**
MSW	**Makushin Switc**	**1.98**	**47**	P	**Pn**	**17 57 03.9**	**+0.1**
MTBL	**Makushin Table**	**2.06**	**47**	P	**Pn**	**17 57 04.9**	**-0.2**
UNV	**Unalaska Valle**	**2.07**	**52**	P	**Pn**	**17 57 04.6**	**-0.4**
UNV				S	**Sn**	**17 57 30.7**	**-0.1**
ZRO	**Akutan Zero**	**2.46**	**51**	P	**Pn**	**17 57 11.0**	**+0.6**
GSCK	**Great Sitkin C**	**4.29**	**265**	P	**Pn**	**17 57 35.5**	**-0.1**
ADAG	**Mount Adagdak**	**4.56**	**265**	P	**Pn**	**17 57 39.9**	**+0.5**
SPIA	**Saint Paul Isl**	**4.63**	**353**	P	**Pn**	**17 57 40.8**	**+0.7**
H11N2	**WAKE ISLAND Hy**	**37.68**	**219**	T	T	18 43 38.5	
	baz=24,slow=76,SNR=9.6						
H11N3	**WAKE ISLAND Hy**	**37.69**	**219**	T	T	18 43 39.4	
	baz=24,slow=76,SNR=9.2						
H11N1	**WAKE ISLAND Hy**	**37.70**	**219**	T	T	18 43 43.8	
	baz=24,slow=76,SNR=7.4						
H11S1	**WAKE ISLAND Hy**	**38.87**	**218**	T	T	18 45 11.2	
	baz=23,slow=76,SNR=73						
H11S2	**WAKE ISLAND Hy**	**38.89**	**218**	T	T	18 45 12.5	
	baz=23,slow=76,SNR=50						
H11S3	**WAKE ISLAND Hy**	**38.89**	**218**	T	T	18 45 12.6	
	baz=23,slow=76,SNR=46						
PDAR	**Pinedale Array**	**40.28**	**79**	P	**P**	**18 04 08.3**	**+0.7**
	0.4nm,0.6s,baz=309,slow=5.4,SNR=4.4						
TXAR	**Lajitas Array**	**52.66**	**89**	P	**P**	**18 05 45.3**	**+0.6**
	0.7nm,0.6s,baz=302,slow=5.7,SNR=9.2						
ASAR	**Alice Springs**	**90.60**	**230**	P	**P**	**18 09 31.8**	**-0.8**
	0.4nm,0.9s,baz=21,slow=4.8,SNR=3.6						

IDC 28 18:01:10.0±3.2,5°95S×150°19E,h0km,mb2.9/2, mb1 3.3/3,mb1mx3.1/37,mbtmp3.1/3,ML1.1/1,Error ellipse: s-maj=128.6km s-min=36.0km az=120.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.56**	**221**	Pn	Pn	18 02 21.8	+1.5
	0.7nm,0.3s,baz=315,slow=10.0,SNR=5.5						
PMG				Sn	Sn	18 03 12.9	-1.1
	2.1nm,0.3s,baz=104,slow=17,SNR=4.4						
WRA	**Warramunga Arr**	**20.75**	**226**	P	P	18 05 52.7	+0.1
	0.4nm,0.5s,baz=52,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**23.57**	**220**	P	P	18 06 22.0	-0.5
	0.3nm,0.9s,baz=55,slow=9.4,SNR=4.9						
TORD	**Torodi Ar. Bea**	**148.14**	**285**	PKPbc	PKPbc	18 20 58.2	-0.7
	0.2nm,0.3s,baz=95,slow=3.2,SNR=3.3						

*IDC **28** 18:04:13.5±2.0,11°23S×163°51E,h0km,mb3.8/4, mb1 3.8/5,mb1mx3.5/41,mbtmp3.8/5,ML3.6/1,MS2.8/1, Ms1 2.8/1,ms1mx2.4/26,Error ellipse: s-maj=64.8km s-min=33.9km az=88.0*
*ISCJB **28** 18:04:17.0±1.2,11°4S±0.2×163°3E±0.2,h35km,mb3.7/4, MS2.7/1,Error ellipse: s-maj=31.2km s-min=11.6km az=135.5*

ISC 28 18:04:18.8±1.4,11°3S±0.2×163°4E±0.2,h35km,n7, σ1§49/6,mb4.0/4,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.86**	**299**	*eP*	Pn	18 05 20.0	+4.2
HNR				*eS*	**Sn**	**18 05 59.0**	**-0.9**
DZM	**Mont Dzumac**	**11.09**	**165**	Pn	**Pn**	**18 06 54.4**	**-0.6**
	0.4nm,0.3s,baz=90,slow=24,SNR=15						
ASAR	**Alice Springs**	**30.60**	**242**	P	**P**	**18 10 30.9**	**+1.1**
	0.3nm,0.7s,baz=61,slow=10,SNR=5.6						
GUMO	**Guam**	**30.81**	**323**	LR	LR	18 22 43.6	
	comp=Z,17nm,18.3s,baz=144,slow=36						
SONM	**Songino Array**	**77.53**	**325**	P	**P**	**18 16 12.5**	**+1.3**
	1.1nm,0.6s,baz=139,slow=4.6,SNR=10						
MKAR	**Makanchi Array**	**92.14**	**317**	P	**P**	**18 17 23.2**	**-1.5**
	0.3nm,0.6s,baz=104,slow=6.8,SNR=3.6						
ZALV	**Zalesovo Beam**	**92.42**	**325**	P	**P**	**18 17 25.5**	**-0.3**
	0.2nm,0.3s,baz=90,slow=7.2,SNR=3.0						

*ISCJB **28** 18:05:58.0±0.5,30°11S±0.03×179°31W±0.09,h350km, mb4.2/11,Error ellipse: s-maj=10.1km s-min=4.0km az=0.6*
*NEIC **28** 18:05:58.9±0.8,29°90S×179°48W,h338km±8km,mb4.3/6, Error ellipse: s-maj=15.1km s-min=12.0km az=69.0*
*IDC **28** 18:05:59.0±0.5,29°94S×179°52W,h337km±6km,mb4.1/8, mb1 4.0/11,mb1mx3.6/37,mbtmp4.7/11,Error ellipse: s-maj=14.2km s-min=13.7km az=96.0*

ISC 28 18:05:59.7±0.6,30°14S±0.06×179°50W±0°10,h350km, n102,σ1§49/108,mb4.3/11,1C,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.64**	**58**	P	**Pn**	**18 06 46.5**	**-2.2**
	850nm,0.3s,baz=180,slow=2.6,SNR=35						
RAO				S	**S**	**18 07 23.9**	**-4.0**
	312nm,0.3s,baz=348,slow=23,SNR=6.8						
MXZ	**Matakaoa Point**	**7.63**	**193**	PN	**Pn**	**18 07 49.1**	**-0.2**
MXZ				SN	**S**	**18 09 17.6**	**-1.1**
WMGZ	**Waiomatatini S**	**7.86**	**192**	PN	**Pn**	**18 07 52.7**	**+0.7**
WMGZ				SN	**S**	**18 09 24.1**	**+0.5**
HAZ	**Te Kaha**	**7.93**	**196**	PN	**Pn**	**18 07 53.6**	**+0.8**
HAZ				*e*SN	**S**	**18 09 24.2**	**-0.9**
PUZ	**Puketiti**	**8.13**	**193**	*e*PN	**Pn**	**18 07 54.9**	**-0.4**
PUZ				SN	**S**	**18 09 28.4**	**-1.2**
TWGZ	**Tauwhareparae**	**8.29**	**194**	PN	**Pn**	**18 07 57.0**	**-0.1**
MWZ	**Matawai**	**8.54**	**196**	PN	**Pn**	**18 08 00.1**	**-0.1**
MWZ				*e*SN	**S**	**18 09 37.3**	**-1.3**
URZ	**Urewera**	**8.57**	**198**	P	**Pn**	**18 08 01.3**	**+0.7**
	5.7nm,0.3s,baz=278,slow=5.2,SNR=34						
URZ			

SBA	**Scott Base**	**48.21 184**	*e*P	P		18 14 10.1	+4.5	
MTN	**Manton Dam**	**48.66 280**	P	**P**		**18 14 10.3**	**+0.4**	
	baz=49,SNR=4.1							
KNRA	**Kununurra**	**49.39 275**	P	**P**		**18 14 16.1**	**+0.8**	
	baz=50,SNR=18							
MEEK	**Meekatharra**	**53.97 257**	P	**P**		**18 14 49.2**	**+0.3**	
	baz=54,SNR=3.3							
BLDU	**Balliuu**	**54.34 252**	P	**P**		**18 14 52.1**	**+0.6**	
	baz=55,SNR=4.9							
MBWA	**Marble Bar**	**54.96 264**	*e*P	**P**		**18 14 55.9**	**0.0**	
	6.7nm,0.7s							
SIJI	**Sorong**	**55.03 292**	P	**P**		**18 14 56.4**	**-0.1**	
	5.8nm,0.4s,baz=153,slow=7.7,SNR=16							
SWI	**Sorong**	**55.04 292**	P	**P**		**18 14 57.1**	**+0.6**	
	baz=56,SNR=4.0							
MORW	**Morawa**	**55.36 254**	P	**P**		**18 14 59.3**	**+0.6**	
	baz=56,SNR=5.5							
QSPA	**South Pole Qui**	**59.97 180**	P	**P**		**18 15 32.6**	**+2.6**	
	13nm,0.6s,baz=343,slow=0.5,SNR=106							
QSPA	**South Pole Qui**	**59.97 180**	*e*P	**P**		**18 15 33.1**	**+3.0**	
	16nm,0.7s							
JCJ	**Chichijima**	**67.69 323**	P	**P**		**18 16 18.6**	**-1.7**	
	16nm,0.7s,baz=88,slow=23,SNR=4.6							
CBIJ	**Chichi jima**	**67.69 323**	P	**P**		**18 16 18.6**	**-1.7**	
SYO	**Syowa Base**	**77.07 193**⇑	*e*P	**P**		**18 17 14.2**	**-0.3**	
SNAA	**Sanae**	**78.45 179**	P	**P**		**18 17 24.0**	**+1.9**	
SNAA	**Sanae**	**78.45 179**	*e*P	**P**		**18 17 23.7**	**+1.5**	
	4.5nm,1.4s							
CMAR	**Chiang Mai Arr**	**92.09 290**	P	**P**		**18 18 31.5**	**+1.3**	
	0.7nm,0.7s,baz=122,slow=4.4,SNR=5.4							
MKAR	**Makanchi Array**	**116.61 310**	PKP	**PKPdf**		**18 24 01.6**	**-0.7**	
	0.5nm,0.6s,baz=59,slow=0.8,SNR=6.3							
ARCES	**ARCESS Array B**	**138.05 347**	PKhKP	PKPpre		18 24 32.3		
	1.2nm,0.8s,baz=38,slow=2.2,SNR=5.0							
ARCES			PKP	**PKPdf**		**18 24 41.5**	**-0.8**	
	0.9nm,0.6s,baz=90,slow=1.2,SNR=7.0							
KBZ	**Khabaz**	**143.89 304**	PKP	**PKPdf**		**18 24 53.0**	**-0.5**	
	2.8nm,0.8s,baz=91,slow=3.8,SNR=4.7							
FINES	**FINESS Array B**	**144.44 339**	PKP	**PKPab**		**18 24 52.6**	**-0.8**	
	13nm,0.7s,baz=68,slow=3.4,SNR=78							
MZRK	**Al-Mazaregh**	**146.01 290**	*e*P	**PKPab**		**18 25 00.4**	**0.0**	
KBSD	**Kabsdagh**	**146.13 292**	*e*P	**PKPbc**		**18 24 59.6**	**+0.3**	
NB2	**NORSAR Subarra**	**148.28 350**	PKP	**PKPbc**		**18 25 03.7**	**-0.6**	
	comp=Z,5.3nm,0.9s,baz=11,slow=2.6							
NOA	**NORSAR Array B**	**148.28 350**	PKPbc	**PKPbc**		**18 25 03.7**	**-0.6**	
	comp=Z,2.7nm,0.7s,baz=15,slow=4.2,SNR=12							
ZALF	**Zalf**	**148.58 285**	*e*P	**PKPbc**		**18 25 07.1**	**+1.1**	
SALA	**Sala**	**149.07 284**	*e*P	**PKPbc**		**18 25 08.5**	**+1.1**	
BRBR	**Barbar**	**149.77 285**	*e*P	**PKPbc**		**18 25 09.8**	**+0.7**	
ARNB	**Al Arnab**	**149.82 290**	*e*P	**PKPbc**		**18 25 09.4**	**+0.5**	
BRTR	**Keskin Array B**	**151.33 298**	PKPbc	**PKPbc**		**18 25 12.6**	**+0.1**	
	comp=Z,1.0nm,0.5s,baz=145,slow=6.0,SNR=5.8							
BRTR			PKPab	**PKPab**		**18 25 22.1**	**-0.1**	
	comp=Z,1.5nm,0.7s,baz=116,slow=5.6,SNR=6.1							
CLL	**Collm**	**156.89 340**	*e*PKPab	**PKPab**		**18 25 45.0**	**-0.2**	
TORD	**Torodi Ar. Bea**	**163.06 184**	PKPab	**PKPab**		**18 26 14.2**	**+1.4**	
	comp=Z,3.0nm,0.6s,baz=179,slow=3.7,SNR=22							

*IDC **28** 18:15:56.7±2.5,24°.43N×125°.87E,h0km,mb3.5/5, mb1 3.6/5,mb1mx3.4/41,mbtmp3.5/5, Error ellipse: s-maj=178.8km s-min=20.0km az=66.0*

*JMA **28** 18:16:01.4±0.2,23°.84N×125°.01E,h22km,M3.4*

*ISCJB **28** 18:16:03.4±0.9,23°.97N±0°.08×124°.97E±0°.05,h56km±9km, mb3.3/5, Error ellipse: s-maj=14.5km s-min=5.5km az=156.4*

ISC 28 18:16:04.6±1.6,24°.0N±0°.1×124°.95E±0°.06,h51km±15km, n18,σ1°00/28,mb3.3/5,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTJ	**Tarama**	**0.67**	**340**	P	**Pn**	**18 16 17.1**	**-0.9**
JTJ				S	**Sn**	**18 16 28.4**	**+0.7**
JIJ	**Ishigaki jima**	**0.82**	**296**	P	**Pn**	**18 16 18.7**	**-1.2**
JIJ				*e*S	**Sn**	**18 16 31.4**	**+0.3**
JISG	**Ishigakijimahi**	**0.82**	**315**	P	**Pn**	**18 16 19.8**	**-0.1**
JISG				S	**Sn**	**18 16 31.9**	**+0.8**
JIRB	**Irabujima**	**0.84**	**14**	P	**Pn**	**18 16 19.1**	**-1.2**
JIRB				S	**Sn**	**18 16 32.5**	**+0.8**
JOGS	**Gusukube**	**0.86**	**29**	P	**Pn**	**18 16 19.7**	**-0.8**
JOGS				*e*S	**Sn**	**18 16 33.1**	**+1.1**
JMJ	**Miyako jima 2**	**0.86**	**21**	P	**Pn**	**18 16 19.8**	**-0.7**
JMJ				S	**Sn**	**18 16 33.5**	**+1.3**
JKRS	**Kuro-shima**	**0.89**	**285**	P	**Pn**	**18 16 20.1**	**-0.8**
JKRS				*e*S	**Sn**	**18 16 33.3**	**+0.5**
JIKM	**Ikemajima**	**0.95**	**17**	P	**Pn**	**18 16 21.7**	**0.0**
JIKM				S	**Sn**	**18 16 35.3**	**+1.0**
HATJ	**Hateruma jima**	**1.05**	**273**	P	**Pn**	**18 16 21.6**	**-1.4**
IRIF	**Iriomote-Funau**	**1.16**	**286**	P	**Pn**	**18 16 23.9**	**-0.6**
YOJ	**Yonaguni jima**	**1.82**	**285**	P	**Pn**	**18 16 33.1**	**-0.5**
YOJ				*e*S	**Sn**	**18 16 56.9**	**+1.4**
JYNG	**Yonagunijimaku**	**1.88**	**284**	P	**Pn**	**18 16 33.7**	**-0.6**
JYNG				*e*S	**Sn**	**18 16 57.5**	**+0.6**
JKE	**Kume jima 2**	**2.84**	**35**	*e*S	**Sn**	**18 17 19.7**	**-0.9**
SONM	**Songino Array**	**27.98**	**333**	P	**P**	**18 21 48.9**	**-1.7**
	0.2nm,0.6s,baz=148,slow=9.8,SNR=2.6						
MKAR	**Makanchi Array**	**40.88**	**315**	P	**P**	**18 23 43.3**	**+1.6**
	0.6nm,0.6s,baz=99,slow=8.6,SNR=11						
ZALV	**Zalesovo Beam**	**42.30**	**326**	P	**P**	**18 23 53.0**	**-0.2**
	1.1nm,0.6s,baz=122,slow=8.1,SNR=7.1						
WRA	**Warramunga Arr**	**44.63**	**167**	P	**P**	**18 24 12.6**	**+0.3**
	0.4nm,0.8s,baz=348,slow=8.6,SNR=4.0						
ASAR	**Alice Springs**	**48.18**	**169**	P	**P**	**18 24 41.2**	**+1.1**
	0.2nm,0.7s,baz=353,slow=12,SNR=5.0						

*IDC **28** 18:21:04.9±0.4,12°.24S×165°.59E,h0km,mb5.1/25, mb1 5.2/27,mb1mx5.2/30,mbtmp5.1/27,ML2.6/1,MS4.2/26, Ms1 4.2/26,ms1mx4.2/28,Error ellipse: s-maj=14.6km s-min=11.9km az=102.0*

*ISCJB **28** 18:21:06.4±1.8,12°.23S±0°.03×165°.49E±0°.03,h15km±12km, mb5.3/183,MS4.5/128,Error ellipse: s-maj=5.7km s-min=4.1km az=169.7*

*MOS **28** 18:21:09.7±1.2,12°.12S×165°.41E,h33km,mb5.4/75, MS4.2/33,Error ellipse: s-maj=7.4km s-min=7.0km az=122.6*

*GCMT **28** 18:21:09.7±0.1,12°.22S×165°.37E,h12km,MW5.2/94, Moment Tensor Solution. s66,c87; s94,c155; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=6.81±.11; $M_{\theta\theta}$1.04±.12; $M_{\phi\phi}$5.77±.10; $M_{r\theta}$-0.56±.32; $M_{r\phi}$-2.29±.09; $M_{\theta r}$-0.91±.31; Best double couple: M=6.83600×10^{16} NP1:ϕ_s345.00000°,δ48.00000°,λ-81.00000°. NP2: ϕ_s151.00000°,δ43.00000°,λ-100.00000°. Principal axes: T 6.7270, Plg3.0000°, Azm68.0000°; N 0.2180, Plg7.0000°, Azm159.0000°; P -6.9450, Plg83.0000°, Azm317.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **28** 18:21:09.7±1.8,12°.24S×165°.52E,h29km±12km, mb5.3/130,MS4.6/102 Error ellipse: s-maj=4.1km s-min=3.9km az=153.0*

*BJI **28** 18:21:16.7,11°.63S×165°.44E,h78km,mb5.3/60,mB5.3/37, Ms4.9/35,Ms7 4.5/34*

ISC 28 18:21:11.6±0.9,12°.24S±0°.05×165°.51E±0°.05,h44km±7km, n737,σ0°.99/704,mb5.3/183,MS4.5/129,37C-39D,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.13**	**296**	*e*P	**Pn**	**18 22 38.0**	**-1.7**
HNR				*e*		18 23 47.0	
HNR				pmax	pmax		
	comp=Z,615nm,0.6s						
HNR	**Honiara**	**6.13**	**296**	*e*P	Pn	18 22 44.0	+4.3
HNR				*i* S	**Sn**	**18 23 52.0**	**+3.3**
HNR	**Honiara**	**6.13**	**296**	*e*Pn	**Pn**	**18 22 38.0**	**-1.7**
	comp=Z,615nm,0.6s						
HNR				*e*Sn	**Sn**	**18 23 47.0**	**-1.7**
DZM	**Mont Dzumac**	**9.82**	**175**	Pn	**Pn**	**18 23 28.5**	**-1.8**
	comp=Z,10nm,0.3s,baz=0.3,slow=8.7,SNR=54						
DZM	**Mont Dzumac**	**9.82**	**175**	*e*P	**Pn**	**18 23 29.1**	**-1.2**
MSVF	**Nonsavu**	**13.29**	**116**	*e*P	Pn	18 24 20.8	+3.0
MSVF				pmax	pmax		
	comp=Z,155nm,1.4s						
MSVF	**Nonsavu**	**13.29**	**116**	*e*P	Pn	18 24 20.8	+3.0
	comp=Z,155nm,1.4s						
PMG	**Port Moresby**	**18.24**	**277**	Pn	**P**	**18 25 21.4**	**0.0**
	comp=Z,0.7nm,0.3s,baz=29,slow=8.2,SNR=5.3						
PMG				LR	LR	18 31 50.5	
	comp=Z,2μm,18.9s,baz=126,slow=35						
PMG	**Port Moresby**	**18.24**	**277**	P	**P**	**18 25 21.4**	**0.0**
PMG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PMG				MLR	MLR		
	comp=Z,2μm,18.9s						
PMG	**Port Moresby**	**18.24**	**277**	*e*P	**Pn**	**18 25 22.9**	**+1.3**
	comp=Z,90nm,1.4s						
EIDS	**Eidsvold**	**18.88**	**224**	P	**Pn**	**18 25 29.2**	**0.0**
	baz=19,SNR=18						
EIDS	**Eidsvold**	**18.88**	**224**	*e*P	**P**	**18 25 28.8**	**+0.5**
	comp=Z,62nm,0.8s						
CTA	**Charters Tower**	**20.06**	**245**	P	**P**	**18 25 41.8**	**+0.4**
	comp=Z,39nm,0.7s,baz=78,slow=13,SNR=53						
CTA				LR	LR	18 33 18.5	
	comp=Z,2μm,19.7s,baz=73,slow=36						
CTA	**Charters Tower**	**20.06**	**245**	P	**P**	**18 25 41.8**	**+0.4**
CTA				pmax	pmax		
	comp=Z,39nm,0.7s						
CTA				MLR	MLR		
	comp=Z,2μm,19.7s						
CTAO	**Charters Tower**	**20.06**	**245**	*e*P	**P**	**18 25 41.3**	**0.0**
CTAO				pmax	pmax		
	comp=Z,94nm,1.3s						
CTAO				MLR	MLR		
	comp=Z,2μm,22.0s						
CTAO	**Charters Tower**	**20.06**	**245**	*e*P	**P**	**18 25 41.3**	**0.0**
	comp=Z,94nm,1.3s						
CTAO				LR	LR		
	comp=Z,2μm,22.0s						
PATS	**Pohnpei**	**20.26**	**339**	P	**P**	**18 25 44.5**	**+1.0**
	baz=20,SNR=11						
RMQ	**Roma**	**21.19**	**226**	P	**P**	**18 25 54.7**	**+1.2**
	baz=21,SNR=23						
MTSU	**Mount Surprise**	**21.27**	**251**	P	**P**	**18 25 54.6**	**+0.2**
	baz=21,SNR=14						
COEN	**Coen**	**21.82**	**263**	P	**P**	**18 26 01.7**	**+1.3**
	baz=22,SNR=5.4						
COEN	**Coen**	**21.82**	**263**	*e*P	**P**	**18 26 01.3**	**+1.0**
	comp=Z,35nm,0.8s						
AFI	**Afiamalu**	**22.19**	**97**	LR	LR	18 33 10.3	
	comp=Z,519nm,19.5s,baz=275,slow=33						
ARMA	**Armidale**	**22.20**	**213**	⇓P	**P**	**18 26 04.8**	**+0.4**
	baz=22,SNR=15						
ARMA	**Armidale**	**22.20**	**213**	*e*P	**P**	**18 26 04.4**	**+0.1**
	comp=Z,44nm,0.9s						
OUZ	**Omahuta**	**24.03**	**164**	*e*P	**P**	**18 26 24.0**	**+1.6**
	comp=Z,144nm,1.2s						
QLP	**Quilpie**	**24.57**	**231**	P	**P**	**18 26 29.8**	**+2.3**
	baz=25,SNR=3.3						
QIS	**Mount Isa**	**26.16**	**248**	P	**P**	**18 26 43.4**	**+1.3**
	baz=26,SNR=14						
JAY	**Jayapura**	**26.40**	**289**	P	**P**	**18 26 45.1**	**+0.8**
	comp=Z,12nm,0.8s,baz=155,slow=19,SNR=3.6						
JAY				LR	LR	18 38 43.1	
	comp=Z,665nm,18.1s,baz=79,slow=40						
JAY	**Jayapura**	**26.40**	**289**	P	**P**	**18 26 45.1**	**+0.8**
JAY				pmax	pmax		
	comp=Z,12nm,0.8s						
JAY				MLR	MLR		
	comp=Z,665nm,18.1s						
JAY	**Jayapura**	**26.40**	**289**	⇓P	**P**	**18 26 44.1**	**-0.3**
	baz=27,SNR=3.3						
CMSA	**Cobar Meteorol**	**26.51**	**220**	⇓P	**P**	**18 26 45.2**	**+0.2**
	baz=27,SNR=26						
GENI	**Genyem**	**26.87**	**289**	P	sP	18 27 06.2	+0.8
CNB	**Canberra Magne**	**27.24**	**210**	P	**P**	**18 26 52.7**	**+1.0**
	baz=27,SNR=6.7						
CAN	**Canberra**	**27.42**	**210**	PFAKE		18 27 10.0	+17
CAN				LR	LR		
	comp=Z,1μm,22.0s						
URZ	**Urewera**	**27.91**	**160**	P	**P**	**18 26 57.3**	**-0.2**
	comp=Z,17nm,0.5s,baz=316,slow=3.9,SNR=4.2						
URZ				LR	LR	18 36 52.2	
	comp=Z,518nm,19.9s,baz=344,slow=34						
URZ	**Urewera**	**27.91**	**160**	*e*P	**P**	**18 26 57.2**	**-0.3**
SMPI	**Sarmi**	**28.44**	**289**	P	**P**	**18 27 03.2**	**+0.7**
	comp=Z,53nm,0.8s,comp=Z,1μm						
STKA	**Stephens Creek**	**29.43**	**225**	P	**P**	**18 27 11.2**	**+0.1**
	comp=Z,26nm,0.7s,baz=26,slow=8.3,SNR=33						
STKA				PcP	**PcP**	**18 30 16.9**	**+0.6**
	comp=Z,2.8nm,0.6s,baz=40,slow=4.7,SNR=3.1						
STKA				PKiKP	**PKiKP**	**18 37 48.6**	**-1.2**
	comp=Z,1.6nm,0.7s,baz=169,slow=6.9,SNR=4.8						
STKA				LR	LR	18 37 55.0	
	comp=Z,1μm,21.8s,baz=66,slow=34						
STKA	**Stephens Creek**	**29.43**	**225**	P	**P**	**18 27 11.8**	**+0.6**
	baz=30,SNR=44						
STKA	**Stephens Creek**	**29.43**	**225**	*e*P	**P**	**18 27 11.7**	**+0.5**
	comp=Z,9.6nm,0.7s						
STKA				PcP	**PcP**	**18 30 16.9**	**+0.6**
STKA				PKiKP	**PKiKP**	**18 37 48.6**	**-1.2**
WRAB	**Tennant Creek**	**30.86**	**252**	P	**P**	**18 27 23.0**	**-1.0**
	comp=Z,120nm,0.9s,SNR=9.2						
WRAB	**Tennant Creek**	**30.86**	**252**	*ce*P	**P**	**18 27 24.6**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,104nm,1.7s						
WRAB	**Tennant Creek**	**30.86**	**252**	*e*P	**P**	**18 27 22.3**	**-1.7**
	comp=Z,12nm,0.6s						
WRAB				LR	LR		
	comp=Z,852nm,19.0s						
KHZ	**Kahutara**	**30.87**	**168**	*e*P	**P**	**18 27 21.8**	**-2.0**
	comp=Z,65nm,1.1s						
WRA	**Warramunga Arr**	**30.87**	**252**	P	**P**	**18 27 22.6**	**-1.5**
	comp=Z,14nm,0.8s,baz=79,slow=9.1,SNR=66						
WRA				PcP	**PcP**	**18 30 20.9**	**+0.6**
	comp=Z,6.1nm,1.0s,baz=70,slow=2.5,SNR=6.6						
WRA				PKiKP	**PKiKP**	**18 37 49.8**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=317,slow=0.2,SNR=6.3						
WRA				LR	LR	18 39 18.4	
	comp=Z,644nm,18.2s,baz=75,slow=35						
TOO	**Toolangi**	**30.94**	**212**	P	**P**	**18 27 25.7**	**+1.2**
	baz=31,SNR=7.8						
RPZ	**Rata Peaks**	**31.73**	**172**	P	**P**	**18 27 31.0**	**-0.3**
	comp=Z,42nm,0.7s,baz=291,slow=2.6,SNR=19						
RPZ	**Rata Peaks**	**31.73**	**172**	*e*P	**P**	**18 27 32.0**	**+0.7**
	comp=Z,38nm,0.8s						
ASAR	**Alice Springs**	**32.07**	**245**	P	**P**	**18 27 32.9**	**-1.8**
	comp=Z,18nm,0.8s,baz=70,slow=9.0,SNR=169						
ASAR				PcP	**PcP**	**18 30 23.7**	**+0.2**
	comp=Z,5.1nm,0.8s,baz=71,slow=3.1,SNR=7.3						
ASAR				PKiKP	**PKiKP**	**18 37 50.6**	**-1.2**
	comp=Z,0.9nm,1.0s,baz=130,slow=1.7,SNR=4.4						
ASAR				LR	LR	18 39 34.2	
	comp=Z,824nm,18.6s,baz=74,slow=34						
HTT	**Hallett**	**32.16**	**225**	P	**P**	**18 27 35.6**	**+0.2**
	baz=32,SNR=24						
KDU	**Kakadu**	**32.25**	**266**	P	**P**	**18 27 35.3**	**-0.9**
	baz=32,SNR=22						
ARPS	**Mount Arapiles**	**32.39**	**217**	⇓P	**P**	**18 27 37.3**	**+0.1**
	baz=32,SNR=6.9						
MTN	**Manton Dam**	**33.55**	**265**	P	**P**	**18 27 47.0**	**-0.6**
	baz=34,SNR=19						
BBOO	**Buckleboo**	**33.86**	**228**	P	**P**	**18 27 49.4**	**-0.6**
	baz=34,SNR=12						
BBOO	**Buckleboo**	**33.86**	**228**	*e*P	**P**	**18 27 48.6**	**-1.5**
	comp=Z,23nm,0.8s						
SIJI	**Sorong**	**35.79**	**286**	P	**P**	**18 28 06.2**	**-0.8**
	comp=Z,12nm,0.7s,baz=110,slow=7.8,SNR=13						
SWI	**Sorong**	**35.80**	**286**	P	**P**	**18 28 08.3**	**+1.3**
	comp=Z,30nm,1.4s						
SWI	**Sorong**	**35.80**	**286**	P	**P**	**18 28 07.6**	**+0.6**
	baz=36,SNR=3.9						
KNRA	**Kununurra**	**35.80**	**260**	P	**P**	**18 28 06.6**	**-0.4**
	baz=36,SNR=45						
WRKA	**Warakurna**	**37.36**	**245**	P	**P**	**18 28 18.8**	**-1.5**
	baz=38,SNR=55						
FITZ	**Fitzroy Crossi**	**38.86**	**256**	*e*P	**P**	**18 28 32.3**	**-0.7**
	comp=Z,27nm,0.6s						
NLAI	**Namlea**	**39.05**	**280**	P	P	18 28 36.5	+1.9
	comp=Z,41nm,1.1s,comp=Z,544nm						
FORT	**Forrest**	**39.18**	**236**	P	**P**	**18 28 35.0**	**-0.5**
	baz=39,SNR=8.8						
FORT	**Forrest**	**39.18**	**236**	*e*P	**P**	**18 28 34.0**	**-1.5**
	comp=Z,35nm,0.8s						
LBMI	**Labuha**	**39.42**	**284**	P	**P**	**18 28 38.2**	**+0.5**
SANI	**Sanana**	**40.44**	**281**	P	**P**	**18 28 47.5**	**+1.3**
	comp=Z,42nm,0.9s,comp=Z,636nm						
MMRI	**Maumere**	**42.67**	**270**	P	**P**	**18 29 05.9**	**+1.4**
	comp=Z,45nm,0.9s,comp=Z,831nm						
KMSI	**Cibinong**	**43.14**	**284**	P	**P**	**18 29 09.5**	**+1.3**
	comp=Z,283nm,0.9s,comp=Z,3μm						
MIDW	**Midway**	**43.50**	**22**	PFAKE		18 29 20.0	+9.2
MIDW				LR	LR		
	comp=Z,520nm,20.0s						
PPT	**Papeete**	**43.65**	**103**	LR	LR	18 43 30.7	
	comp=Z,324nm,21.1s,baz=276,slow=31						
PPT2	**Papeete2**	**43.65**	**103**	*e*S	S	18 35 50.8	+11
	comp=Z,322nm,27.5s						
PPT2				*e*LQ	LQ	18 39 41.9	
	comp=Z,1μm,27.0s						
PPT2				*e*LR	LR	18 41 30.6	
	comp=Z,3μm,31.0s,baz=272						
LUWI	**Luwuk**	**43.81**	**281**	P	P	18 29 16.4	+2.8
	comp=Z,109nm,0.9s,comp=Z,1μm						
LUWI	**Luwuk**	**43.81**	**281**	*e*P	**P**	**18 29 12.4**	**-1.2**
	comp=Z,86nm,0.9s						
DAV	**Davao City (W)**	**44.09**	**294**	PFAKE		18 29 30.0	+14
DAV				LR	LR		
	comp=Z,478nm,21.0s						
TBI	**Tubuai**	**44.11**	**111**	*e*S	S	18 36 00.6	+15
	comp=Z,198nm,26.8s						
TBI				*e*LQ	LQ	18 39 50.7	
	comp=Z,847nm,29.2s						
TBI				*e*LR	LR	18 41 46.0	
	comp=Z,1μm,32.0s,baz=287						
KMBL	**Kambalda**	**44.41**	**238**	P	**P**	**18 29 17.9**	**-0.3**
	baz=44,SNR=7.2						
MBWA	**Marble Bar**	**44.61**	**252**	*e*P	**P**	**18 29 19.5**	**-0.4**
	comp=Z,59nm,1.1s						
MBWA				LR	LR		
	comp=Z,712nm,19.0s						
APSI	**Ampana**	**44.92**	**281**	P	**P**	**18 29 22.9**	**+0.4**
MRSI	**Marisa**	**45.05**	**283**	P	**P**	**18 29 22.8**	**-0.7**
	comp=Z,34nm,0.9s						
KAPI	**Kappang**	**45.75**	**275**	*e*P	**P**	**18 29 28.5**	**-0.7**
	comp=Z,44nm,1.3s						
KAPI				LR	LR		
	comp=Z,218nm,20.0s						
MEEK	**Meekatharra**	**46.23**	**245**	P	**P**	**18 29 32.4**	**-0.3**
	baz=46,SNR=32						
PCI	**Palu**	**46.66**	**280**	P	P	18 29 38.6	+2.3
	comp=Z,90nm,1.2s,comp=Z,1μm						
MPSI	**Mapaga**	**46.95**	**282**	P	**P**	**18 29 38.2**	**-0.4**
	comp=Z,55nm,0.8s,comp=Z,564nm						
NWAO	**Narrogin (SRO)**	**48.62**	**237**	P	**P**	**18 29 49.5**	**-1.6**
	comp=Z,26nm,0.8s,baz=148,slow=3.0,SNR=9.3						
NWAO	**Narrogin (SRO)**	**48.62**	**237**	P	**P**	**18 29 49.6**	**-1.6**
NWAO				pmax	pmax		
	comp=Z,26nm,0.8s						
MORW	**Morawa**	**48.86**	**242**	P	**P**	**18 29 52.8**	**-0.3**
	baz=49,SNR=16						
POHA	**Pohakuloa**	**49.82**	**51**	PFAKE		18 30 10.0	+9.2
POHA				LR	LR		
	comp=Z,743nm,20.0s						
SDKM	**Sandakan**	**51.21**	**288**	⇑P	**P**	**18 30 11.5**	**+0.2**
KKM	**Kota Kinabalu**	**52.27**	**288**	⇑P	**P**	**18 30 19.1**	**-0.1**
	baz=52,SNR=24						
KKM	**Kota Kinabalu**	**52.27**	**288**	⇑P	**P**	**18 30 19.9**	**+0.8**
KKM	**Kota Kinabalu**	**52.27**	**288**	*e*P	**P**	**18 30 19.6**	**+0.4**
	comp=Z,115nm,1.0s						
KKM				LR	LR		
	comp=Z,239nm,21.0s						
PWJI	**Pagerwojo**	**52.97**	**269**	P	P	18 30 27.6	+3.4
	comp=Z,43nm,1.0s						
NGJI	**Ngawi**	**53.41**	**270**	P	pP	18 30 41.5	+1.6
BTM	**Bintulu**	**54.30**	**283**	⇑P	**P**	**18 30 35.3**	**+1.3**
SBUM	**Sibu**	**54.91**	**282**	⇑P	**P**	**18 30 39.5**	**+1.0**
MJAR	**Matsushiro Arr**	**54.92**	**333**	P	**P**	**18 30 36.5**	**-1.6**
	comp=Z,15nm,0.8s,baz=169,slow=9.0,SNR=44						
MJAR				LR	LR	18 52 19.2	
	comp=Z,118nm,21.7s,baz=165,slow=34						
MJAR	**Matsushiro Arr**	**54.92**	**333**	P	**P**	**18 30 36.5**	**-1.6**
MJAR				pmax	pmax		
	comp=Z,15nm,0.8s						
MJAR				MLR	MLR		
	comp=Z,118nm,21.7s						
MAJO	**Matsushiro**	**54.92**	**333**	*d*P	**P**	**18 30 37.5**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,162nm,0.8s						
MAJO	**Matsushiro**	**54.92**	**333**	*e*P	**P**	**18 30 37.3**	**-0.8**
	comp=Z,20nm,0.8s						
MAJO				LR	LR		
	comp=Z,202nm,19.0s						
MAT	**Matsushiro**	**54.92**	**333**	P	**P**	**18 30 36.9**	**-1.2**
MAT				S	**S**	**18 38 18.2**	**+1.5**
STKI	**Sintang**	**54.98**	**279**	P	**P**	**18 30 39.9**	**+1.0**
	comp=Z,34nm,0.9s,comp=Z,5μm						
YULB	**Yu-li**	**55.90**	**309**	*e*P	**P**	**18 30 44.8**	**-0.5**
	comp=Z,41nm,0.8s						
TPUB	**Ta-pu**	**56.36**	**309**	*e*P	**P**	**18 30 48.3**	**-0.3**
	comp=Z,30nm,0.8s						
SSLB	**Suanglung**	**56.38**	**309**	*e*P	**P**	**18 30 48.4**	**-0.4**
	comp=Z,20nm,0.8s						
KSM	**Kuching**	**56.47**	**280**	⇓P	**P**	**18 30 49.2**	**-0.4**
	baz=57,SNR=8.2						
KSM	**Kuching**	**56.47**	**280**	*e*P	**P**	**18 30 49.7**	**0.0**
	comp=Z,40nm,1.0s						
KSM				LR	LR		
	comp=Z,111nm,19.0s						
YHNB	**Yeheng**	**56.57**	**311**	*e*P	**P**	**18 30 50.5**	**+0.3**
	comp=Z,140nm,1.4s						
YHNB				LR	LR		
	comp=Z,384nm,19.0s					

NJ2 LE
comp=Z,600nm,17.2s
NJ2 LZ
comp=Z,630nm,17.9s
MYKOM **Kota Tinggi** **62.79 278** ⇑P **P** **18 31 34.4 +1.3**
QIZ **Qiongzhong** **63.04 299** P **P** **18 31 36.0 +1.3**
QIZ sP sP 18 32 02.5 +10
QIZ S **S** **18 40 02.5 -0.1**
QIZ sS sS 18 40 33.3 +10
QIZ PMZ
comp=Z,34nm,1.4s
QIZ PMZ
comp=Z,220nm,4.1s
QIZ LN
comp=Z,210nm,24.6s
QIZ LZ
comp=Z,270nm,28.8s
QIZ **Qiongzhong** **63.04 299** PFAKE 18 31 50.0 +15
QIZ LR LR
comp=Z,224nm,21.0s
SKR **Severo-Kuril's** **63.19 353** *e*P P 18 31 29.5 -5.5
SKR pmax pmax
comp=Z,60nm,0.9s
KGM **Kluang** **63.36 279** ⇓P **P** **18 31 38.2 +1.3**
USRK **Ussuriysk Ar.** **63.91 334** P **P** **18 31 40.7 +0.8**
comp=Z,25nm,0.8s,baz=132,slow=6.5,SNR=51
USRK LR LR 18 57 20.5
comp=Z,82nm,21.4s,baz=144,slow=34
KTGM **Kuala Trenggan** **64.41 282** ⇑P **P** **18 31 45.1 +1.3**
AMKA **Amchitka** **64.47 10** *e*P **P** **18 31 43.7 +0.3**
comp=Z,126nm,0.9s
WHN **Wuhan** **65.01 312** P **P** **18 31 48.0 +0.6**
WHN PMZ
comp=Z,50nm,0.9s
WHN LZ
comp=Z,650nm,20.9s
SMY **Shemya** **65.12 6** *e*P **P** **18 31 48.0 +0.4**
SMY pmax pmax
comp=Z,262nm,1.1s
SMY **Shemya** **65.12 6** *e*P **P** **18 31 48.0 +0.4**
comp=Z,262nm,1.1s
BKNI **Bangkinang** **65.16 276** P **P** **18 31 50.1 +1.3**
comp=Z,168nm,1.1s,comp=Z,7μm
BKNI **Bangkinang** **65.16 276** *e*P **P** **18 31 49.8 +1.1**
comp=Z,119nm,1.0s
CASY **Casey** **65.19 201** *e*P **P** **18 31 47.1 -0.9**
comp=Z,43nm,1.3s
CASY LR LR
comp=Z,382nm,21.0s
PET **Petropavlovsk** **65.26 355** *d i*P **P** **18 31 47.9 -0.6**
PET *e*S **S** **18 40 26.7 -2.0**
PET pmax pmax
comp=Z,49nm,1.1s
PET pmax pmax
comp=Z,100nm,8.0s
PET MLR MLR
comp=Z,100nm,18.0s
PET **Petropavlovsk** **65.26 355** *e*P **P** **18 31 48.3 -0.2**
comp=Z,47nm,1.0s
PET LR LR
comp=Z,112nm,20.0s
DL2 **Dalian** **65.29 323** P **P** **18 31 49.5 +0.5**
DL2 PMZ
comp=Z,77nm,0.9s
MDJ **Mudanjiang** **65.29 333** P **P** **18 31 50.0 +1.1**
MDJ pP pP 18 32 06.5 +4.8
MDJ PMZ
comp=Z,30nm,0.8s
MDJ PMZ
comp=Z,160nm,7.6s
MDJ LN
comp=Z,110nm,22.2s
MDJ LE
comp=Z,110nm,22.2s
MDJ LZ
comp=Z,200nm,22.2s
MDJ **Mudanjiang** **65.29 333** *e*P **P** **18 31 49.4 +0.5**
comp=Z,25nm,0.9s
MDJ LR LR
comp=Z,179nm,20.0s
VNDA **Vanda** **65.31 181** P **P** **18 31 48.6 +0.1**
comp=Z,6.0nm,0.9s,baz=357,slow=6.7,SNR=15
VNDA LR LR 18 58 19.3
comp=Z,184nm,18.0s,baz=5.0,slow=34
VNDA **Vanda** **65.31 181** P **P** **18 31 48.7 +0.1**
VNDA pmax pmax
comp=Z,6.0nm,0.9s
VNDA MLR MLR
comp=Z,184nm,18.0s
VNDA **Vanda** **65.31 181** *e*P **P** **18 31 48.5 -0.1**
comp=Z,17nm,1.1s
UBPT **Khong Chiam** **65.42 293** P **P** **18 31 51.8 +1.5**
comp=Z,28nm,1.3s,comp=Z,1μm
PETK **Petropavlovsk-** **65.43 355** P **P** **18 31 49.2 -0.4**
comp=Z,26nm,0.8s,baz=154,slow=9.6,SNR=26
PETK LR LR 18 55 07.4
comp=Z,28nm,20.6s,baz=170,slow=31
PETK **Petropavlovsk-** **65.43 355** P **P** **18 31 49.2 -0.4**
PETK pmax pmax
comp=Z,26nm,0.9s
PETK MLR MLR
comp=Z,28nm,20.6s
PPI **Padang Panjang** **65.60 275** P **P** **18 31 52.4 +0.8**
comp=Z,49nm,1.1s,comp=Z,653nm
SBA **Scott Base** **65.62 180** *e*P **P** **18 31 51.4 +0.8**
SBA pmax pmax
comp=Z,14nm,0.9s
SBA MLR MLR
comp=Z,163nm,19.0s
SBA **Scott Base** **65.62 180** *e*P **P** **18 31 51.4 +0.8**
comp=Z,14nm,0.9s
SBA LR LR
comp=Z,163nm,19.0s
GSTR **Great Sitkin T** **66.02 12** *e*P **P** **18 31 53.5 0.0**
comp=Z,47nm,0.8s
HABR **Khabarovsk** **66.20 338** *de*P **P** **18 31 52.7 -2.0**
HABR *e* 18 32 22.2
HABR 18 34 19.1
HABR *e*PPP PPP 18 35 54.0
HABR *e*S S 18 40 35.0 -5.3
HABR *e*S **SPn** **18 40 59.5 +0.3**
HABR *e**SS sS 18 41 11.0 +9.4
HABR *e* 18 41 41.2
HABR *e*SS **SS** **18 44 53.1 -4.2**
HABR pmax pmax
comp=Z,33nm,1.0s
HABR pmax pmax
comp=N,10.0nm,1.0s
HABR pmax pmax
comp=E,6.0nm,0.7s
HABR MLR MLR
comp=Z,103nm,21.0s
IPM **Ipoh** **66.20 280** *e*P **P** **18 31 55.8 +0.2**
comp=Z,26nm,0.8s
TIA **Tai'an** **66.35 319** ⇓P **P** **18 31 56.0 0.0**
TIA PMZ
comp=Z,30nm,1.1s
MNSI **Mandailing Nat** **66.69 276** P **P** **18 31 58.2 -0.4**
comp=Z,104nm,0.8s,comp=Z,972nm
KULM **Kulim** **66.78 281** *e*P **P** **18 31 59.4 +0.3**
comp=Z,21nm,1.1s
KULM LR LR
comp=Z,266nm,21.0s
SKNT **Sakolnakorn** **67.36 294** P **P** **18 32 03.5 +0.7**
comp=Z,91nm,1.2s
PSI **Prapat** **67.80 278** LR LR 19 06 31.4
comp=Z,70nm,18.7s,baz=105,slow=40
PSI **Prapat** **67.80 278** P **P** **18 32 05.4 -0.5**
baz=68,SNR=5.3
KHON **Khomkaen** **68.17 293** P P 18 32 10.4 +2.5
comp=Z,10nm,0.8s,comp=Z,533nm
ENH **Enshi** **68.47 310** *e*P **P** **18 32 09.5 -0.1**
comp=Z,25nm,0.8s
NKL **Nikolayevsk** **68.52 344** *e*P **P** **18 32 08.0 -1.2**
NKL pmax pmax
comp=Z,43nm,1.0s
GSI **Gunungsitoli** **68.75 276** P **P** **18 32 12.6 +1.0**
comp=Z,82nm,1.0s
GSI **Gunungsitoli** **68.75 276** *e*P **P** **18 32 11.6 -0.1**
comp=Z,47nm,0.8s
PATY **Pattaya** **68.82 289** P P 18 32 17.2 +5.3
GYA **Guiyang** **68.90 305** ⇑*i*P **P** **18 32 13.3 +0.9**
GYA pP **PcP** **18 32 35.0 -1.6**
GYA PP PP 18 34 50.5 +5.3
GYA ScP 18 36 33.0
GYA S **S** **18 41 11.3 -2.6**
GYA sS sS 18 41 47.5 +12
GYA SKS **SKiKP** **18 42 02.8 +2.0**
GYA PMZ
comp=Z,30nm,0.7s
GYA PMZ
comp=Z,140nm,5.4s
GYA LN
comp=Z,780nm,20.8s
GYA LE
comp=Z,660nm,21.2s
GYA LZ
comp=Z,720nm,20.4s
SLVN **Son La** **69.07 299** *e*P **P** **18 32 14.8 +1.3**
comp=Z,25nm,1.3s
KCSI **Kotacane, Aceh** **69.10 279** P **P** **18 32 13.3 -0.5**
comp=Z,28nm,1.0s
BJI **Beijing** **69.26 321** P **P** **18 32 14.8 +0.6**
BJI pP **PcP** **18 32 35.5 -2.1**
BJI sP sP 18 32 42.5 +10
BJI S **S** **18 41 19.5 +2.1**
BJI PMZ
comp=Z,35nm,0.9s
BJI PMZ
comp=Z,350nm,6.3s
BJI LN
comp=Z,170nm,25.2s
BJI LE
comp=Z,130nm,24.2s
PBKT **Sadao Pong** **69.92 293** P **P** **18 32 19.9 +1.2**
comp=Z,34nm,1.0s
UTTA **Uttaradit** **70.70 294** P **P** **18 32 24.9 +1.5**
comp=Z,7.2nm,0.9s,comp=Z,158nm
XAN **Xi'an** **70.75 313** P **P** **18 32 24.0 +0.4**
XAN PMZ
comp=Z,56nm,0.8s
XAN PMZ
comp=Z,150nm,4.6s
UTHA **Uthaitani** **70.97 291** P **P** **18 32 26.6 +1.5**
comp=Z,12nm,1.0s,comp=Z,121nm
KMI **Kunming** **71.55 302** P **P** **18 32 30.3 +1.5**
KMI pP **PcP** **18 32 49.5 +1.5**
KMI sP sP 18 33 00.0 +13
KMI S S 18 41 41.8 -3.3
KMI SS **SS** **18 46 17.8 -3.4**
KMI PMZ
comp=Z,48nm,1.4s
KMI PMZ
comp=Z,280nm,5.1s
KMI LN
comp=Z,77nm,18.1s
KMI LE
comp=Z,140nm,19.6s
KMI LZ
comp=Z,200nm,23.5s
CRAI **Chiangrai** **71.72 296** P **P** **18 32 27.9 -1.8**
comp=Z,31nm,1.4s,comp=Z,3μm
LAMP **Lampang** **71.79 294** P **P** **18 32 31.3 +1.2**
comp=Z,19nm,0.8s,comp=Z,147nm
CMAR **Chiang Mai Arr** **72.38 294** P **P** **18 32 34.9 +1.3**
comp=Z,19nm,0.8s,baz=124,slow=4.7,SNR=110
CMAR LR LR 19 04 08.8
comp=Z,60nm,21.1s,baz=126,slow=36
CMAR **Chiang Mai Arr** **72.38 294** P **P** **18 32 34.9 +1.3**
CMAR pmax pmax
comp=Z,19nm,0.8s
CMAR MLR MLR
comp=Z,60nm,21.2s
CHTO **Chiang Mai** **72.50 294** P **P** **18 32 35.3 +1.0**
comp=Z,146nm,1.3s
CHTO **Chiang Mai** **72.50 294** *e*P **P** **18 32 35.0 +0.7**
CHTO pmax pmax
comp=Z,33nm,1.1s
CHTO MLR MLR
comp=Z,132nm,21.0s
CHTO **Chiang Mai** **72.50 294** *e*P **P** **18 32 35.0 +0.7**
comp=Z,33nm,1.1s
CHTO LR LR
comp=Z,132nm,21.0s
MA2 **Magadan** **72.55 352** *i*P **P** **18 32 33.1 -0.6**
HHC **Hu-ho-hao-te** **72.59 320** *e*P **P** **18 32 35.8 +1.3**
HHC pP PcP 18 32 56.0 +4.1
HHC sP sP 18 33 04.0 +12
HHC PP PP 18 35 20.8 +4.2
HHC S **S** **18 41 53.8 -2.5**
HHC sS SKSac 18 42 28.0 -8.2
HHC ScS **SKKSac** **18 42 33.3 -3.0**
HHC PMZ
comp=Z,27nm,0.7s
HHC PMZ
comp=Z,220nm,6.2s
HHC LN
comp=Z,140nm,17.5s
HHC LE
comp=Z,160nm,15.9s
HHC LZ
comp=Z,110nm,15.9s
CMAI **Chiengmai2** **72.79 295** P **P** **18 32 37.4 +1.2**
comp=Z,28nm,1.5s,comp=Z,3μm
CD2 **Chengdu** **73.14 308** *e*P **P** **18 32 38.0 0.0**
CD2 PcP **PcP** **18 32 54.0 -0.4**
CD2 pP pP 18 32 58.5 +7.6
CD2 S **S** **18 42 00.5 -2.3**
CD2 sS SKSac 18 42 36.3 -4.4
CD2 SS **SS** **18 46 44.5 -0.6**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,140nm,5.2s
CD2 LZ
comp=Z,190nm,12.7s
SDPT **Sand Point** **73.14 20** *e*P **P** **18 32 35.7 -1.6**
comp=Z,46nm,0.7s
MHMT **Maesarieng** **73.19 293** P **P** **18 32 40.1 +1.7**
comp=Z,20nm,1.4s,comp=Z,255nm
HIA **Hailar** **73.29 331** *e*P **P** **18 32 38.7 +0.3**
HIA pmax pmax
comp=Z,68nm,1.4s
HIA MLR MLR
comp=Z,187nm,22.0s
HIA **Hailar** **73.29 331** *e*P **P** **18 32 38.7 +0.3**
comp=Z,68nm,1.4s
HIA LR LR
comp=Z,187nm,22.0s
BTO **Baotou** **73.43 319** *e*P **P** **18 32 40.0 +0.5**
CHGN **Chignik** **74.60 20** *e*P **P** **18 32 44.0 -1.8**
LZH **Lanzhou** **75.39 313** ⇑P P 18 32 53.3 +2.2
LZH pP PcP 18 33 14.5 +10
LZH sP sP 18 33 23.8 +15
LZH S **S** **18 42 25.3 -2.8**
LZH sS **ScS** **18 43 01.5 +0.4**
LZH PMZ
comp=Z,60nm,1.0s
LZH PMZ
comp=Z,300nm,4.0s
LZH LN
comp=Z,110nm,18.4s
LZH LE
comp=Z,470nm,16.8s
LZH LZ
comp=Z,300nm,18.9s
SEY **Seymchan** **75.63 354** *ce*P **P** **18 32 50.9 -0.7**
OHAK **Old Harbor** **77.09 22** *e*P **P** **18 32 59.5 -0.5**
comp=Z,67nm,0.8s
KDAK **Kodiak Island** **77.77 21** P **P** **18 33 03.3 -0.5**
comp=Z,251nm,0.7s,SNR=13
KDAK **Kodiak Island** **77.77 21** *e*P **P** **18 33 03.7 0.0**
KDAK pmax pmax
comp=Z,31nm,0.8s
KDAK MLR MLR
comp=Z,218nm,20.0s
KDAK **Kodiak Island** **77.77 21** *e*P **P** **18 33 03.7 0.0**
comp=Z,32nm,0.8s
KDAK LR LR
comp=Z,218nm,20.0s
QSPA **South Pole Qui** **77.77 180** *e*P **P** **18 33 04.1 0.0**
comp=Z,38nm,0.9s
QSPA LR LR
comp=Z,173nm,20.0s
CIT **Chita** **78.07 330** *e*P **P** **18 33 06.7 +1.0**
CIT *e* 18 33 23.0
CIT pmax pmax
comp=Z,114nm,1.4s
ULN **Ulaanbaatar** **79.13 324** *e*P **P** **18 33 12.6 +0.8**
ULN pmax pmax
comp=Z,40nm,0.9s
ULN MLR MLR
comp=Z,134nm,22.0s
ULN **Ulaanbaatar** **79.13 324** *e*P **P** **18 33 12.6 +0.8**
comp=Z,40nm,0.9s
ULN LR LR
comp=Z,134nm,22.0s
YAK **Yakutsk** **79.17 344** *e*P **P** **18 33 11.4 0.0**
YAK *e* 18 33 21.2
YAK *e* 18 36 06.5
YAK *e*PPP PPP 18 38 07.8
YAK *e*S **S** **18 43 05.7 -1.9**
YAK *e* 18 43 23.7
YAK *e**SS sS 18 43 48.1 +19
YAK *e*SS **SS** **18 48 13.4 -1.5**
YAK *e*SSS SSS 18 51 38.5
YAK pmax pmax
comp=E,8.0nm,1.4s
YAK pmax pmax
comp=Z,30nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=Z,37nm,2.4s
YAK pmax pmax
comp=E,25nm,2.5s
YAK pmax pmax
comp=N,24nm,2.3s
YAK smax smax
comp=E,35nm,3.0s
YAK smax smax
comp=N,42nm,3.3s
YAK **Yakutsk** **79.17 344** *e*P **P** **18 33 11.9 +0.5**
comp=N,35nm,0.8s
YAK LR LR
comp=Z,124nm,20.0s
SONM **Songino Array** **79.49 324** P **P** **18 33 14.4 +0.7**
comp=Z,20nm,1.0s,baz=137,slow=5.7,SNR=87
SONM LR LR 19 07 23.2
comp=Z,82nm,20.1s,baz=94,slow=35
SONM **Songino Array** **79.49 324** P **P** **18 33 14.4 +0.7**
SONM pmax pmax
comp=Z,20nm,1.0s
SONM MLR MLR
comp=Z,82nm,20.1s
GTA **Gaotai** **79.72 314** ⇓P **P** **18 33 16.5 +1.4**
GTA pP pP 18 33 33.0 +4.8
GTA sP sP 18 33 40.3 +7.1
GTA S **S** **18 43 12.8 -1.9**
GTA sS **ScS** **18 43 41.8 +5.8**
GTA PMZ
comp=Z,59nm,1.9s
GTA PMZ
comp=Z,310nm,6.2s
GTA LN
comp=Z,110nm,16.2s
GTA LE
comp=Z,130nm,17.1s
GTA LZ
comp=Z,130nm,17.6s
RSO **Redoubt South** **79.72 20** *e*P **P** **18 33 13.8 -1.0**
comp=Z,66nm,0.7s
SEW **Seward** **80.58 21** *e*P **P** **18 33 19.2 +0.1**
comp=Z,27nm,0.7s
RC01 **Rabbit Creek A** **81.18 20** *e*P **P** **18 33 22.2 -0.2**
comp=Z,22nm,0.7s
BOD **Bodaibo** **81.50 335** *e*P **P** **18 33 23.7 -0.4**
BOD pmax pmax
comp=Z,11nm,1.4s
PPLA **Purkeypile** **81.72 18** *e*P **P** **18 33 24.6 -0.7**
comp=Z,13nm,0.8s
PMR **Palmer** **81.75 20** *e*P **P** **18 33 25.5 +0.2**
PMR pmax pmax
comp=Z,40nm,0.8s
PMR **Palmer** **81.75 20** *e*P **P** **18 33 25.5 +0.2**
comp=Z,40nm,0.8s
SML **Sawmill** **82.17 20** *e*P **P** **18 33 27.5 -0.1**
SML pmax pmax
comp=Z,7.0nm,0.8s
SML **Sawmill** **82.17 20** *e*P **P** **18 33 27.5 -0.1**
comp=Z,6.7nm,0.8s
ZAK **Zakamensk** **82.54 325** *e*P **P** **18 33 30.3 +0.4**
ZAK pmax pmax
comp=Z,27nm,1.2s
TRF **Thorofare Moun** **82.72 18** *e*P **P** **18 33 29.7 -0.9**
comp=Z,51nm,0.8s
LSA **Lhasa** **82.79 302** *e*P **P** **18 33 33.2 +1.1**
LSA pmax pmax
comp=Z,13nm,0.8s
LSA MLR MLR
comp=Z,171nm,22.0s
LSA **Lhasa** **82.79 302** *e*P **P** **18 33 33.2 +1.1**
comp=Z,13nm,0.8s
LSA LR LR
comp=Z,171nm,22.0s
BMRM **Bremner River** **82.91 22** *e*P **P** **18 33 31.5 0.0**
comp=Z,31nm,0.7s
IRK **Irkutsk** **82.93 327** *e*P **P** **18 33 31.5 -0.2**
IRK pmax pmax
comp=Z,44nm,1.5s
BPAW **Bear Paw Mtn.** **82.98 18** *e*P **P** **18 33 30.6 -1.2**
comp=Z,5.7nm,1.0s
TLY **Talaya** **82.98 326** *e*P **P** **18 33 32.0 0.0**
TLY pmax pmax
comp=Z,16nm,0.7s
TLY **Talaya** **82.98 326** P **P** **18 33 32.7 +0.7**
comp=Z,107nm,1.6s,SNR=10.0
TLY **Talaya** **82.98 326** *e*P **P** **18 33 32.8 +0.7**
comp=Z,40nm,1.3s
TLY LR LR
comp=Z,103nm,20.0s
MCK **McKinley** **83.34 19** *e*P **P** **18 33 33.5 -0.1**
MCK pmax pmax
comp=Z,33nm,0.9s
MCK **McKinley** **83.34 19** *e*P **P** **18 33 33.5 -0.1**
comp=Z,33nm,0.9s
MCCM **Marconi Confer** **83.47 49** *e*P **P** **18 33 34.6 -0.2**
comp=Z,24nm,0.8s
KCPM **Cahto Peak** **83.52 47** *e*P **P** **18 33 35.3 +0.1**
comp=Z,21nm,0.8s
MAW **Mawson** **83.54 202** P **P** **18 33 34.8 +0.2**
comp=Z,16nm,1.2s,baz=97,slow=9.5,SNR=8.2
MAW LR LR 19 03 48.0
comp=Z,220nm,20.9s,baz=74,slow=31
MAW **Mawson** **83.54 202** P **P** **18 33 34.8 +0.2**
MAW pmax pmax
comp=Z,16nm,1.2s
MAW MLR MLR
comp=Z,220nm,20.9s
MAW **Mawson** **83.54 202** *e*P **P** **18 33 35.2 +0.6**
comp=Z,11nm,1.5s
KIPM **Iron Peak** **83.64 47** *e*P **P** **18 33 36.8 +0.9**
comp=Z,67nm,1.3s
KHMM **Horse Mountain** **83.86 46** *e*P **P** **18 33 35.2 -1.8**
comp=Z,38nm,1.4s
PAX **Paxson** **83.94 20** *e*P **P** **18 33 36.5 -0.3**
PAX pmax pmax
comp=Z,29nm,1.2s
PAX **Paxson** **83.94 20** *e*P **P** **18 33 36.5 -0.3**
comp=Z,29nm,1.2s
L02D **Cave Junction,** **84.42 45** P P 18 33 40.8 +1.2
baz=84
MOY **Mondy** **84.42 326** *e*P **P** **18 33 40.1 +0.6**
MOY pmax pmax
comp=Z,50nm,3.7s
COLA **College** **84.48 18** *d i*P **P** **18 33 38.8 -0.5**
COLA pmax pmax
comp=Z,350nm,0.7s
COLA **College** **84.48 18** *e*P **P** **18 33 39.0 -0.4**
comp=Z,88nm,0.8s
COLA LR LR
comp=Z,199nm,22.0s
MENT **Mentasta** **84.52 21** *e*P **P** **18 33 40.5 +0.8**
WDC **Whiskeytown Da** **84.59 47** *e*P **P** **18 33 41.1 +0.6**
WDC pmax pmax
comp=Z,19nm,1.3s
WDC **Whiskeytown Da** **84.59 47** *e*P **P** **18 33 41.1 +0.6**
comp=Z,19nm,1.3s
N02D **Trinity Center** **84.62 46** P **P** **18 33 41.5 +0.8**
baz=85,SNR=14
M02C **Callahan** **84.66 46** P **P** **18 33 41.9 +0.9**
baz=85,SNR=10
SMMC **Simmler** **84.69 52** P **P** **18 33 42.1 +0.9**
baz=85
PKM **Peak Mountain** **84.69 53** P **P** **18 33 42.1 +0.7**
baz=85
ILAR **Eielson Array** **84.71 19** P **P** **18 33 40.1 -0.4**
comp=Z,42nm,1.0s,baz=223,slow=5.0,SNR=165
ILAR PKKPbc **PKKPbc** **18 51 53.0 -0.2**

comp=Z,0.6nm,0.9s,baz=9.5,slow=1.1,SNR=5.5
ILAR LR LR 19 07 36.0
comp=Z,83nm,19.8s,baz=234,slow=33
ILAR Eielson Array 84.71 19 P P 18 33 40.1 -0.4
ILAR pmax pmax
comp=Z,42nm,1.0s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR MLR MLR
comp=Z,83nm,19.8s
YBH Yreka Blue Hor 84.89 46 *e*P **P 18 33 42.9 +0.8**
YBH pmax pmax
comp=Z,24nm,1.0s
YBH Yreka Blue Hor 84.89 46 *e*P **P 18 33 42.9 +0.8**
comp=Z,24nm,1.0s
TAPN Taplejung 84.98 299 *e*P **P 18 33 43.6 +0.5**
comp=Z,62nm,0.9s
HUMO Hull Mountain 85.03 45 *e*P **P 18 33 43.5 +0.8**
comp=Z,22nm,1.0s
BLG Laguna Peak 85.03 54 P **P 18 33 43.8 +0.9**
baz=85
ODAN Odare 85.12 299 *e*P **P 18 33 44.3 +0.6**
comp=Z,153nm,0.7s
I03D Drain, OR 85.17 44 P **P 18 33 44.0 +0.8**
baz=85
CMB Columbia Colle 85.28 50 *e*P **P 18 33 44.0 -0.1**
CMB pmax pmax
comp=Z,19nm,0.8s
CMB Columbia Colle 85.28 50 *e*P **P 18 33 44.0 -0.1**
comp=Z,19nm,0.8s
WRAK Wrangell Islan 85.48 30 *e*P **P 18 33 44.2 -0.3**
comp=Z,32nm,0.8s
WRAK LR LR
comp=Z,154nm,19.0s
COLD Coldfoot 85.50 16 *e*P P 18 33 45.9 +1.4
comp=Z,31nm,1.0s
M04C Macdoel 85.51 46 P **P 18 33 45.6 +0.3**
baz=86,SNR=5.6
HYT Haines Junctio 85.56 24 *e*P **P 18 33 44.7 -0.4**
comp=Z,21nm,0.8s
VES Vestal, Richgr 85.56 52 P **P 18 33 45.6 +0.2**
baz=86
SKAG Skagway 85.71 26 *e*P **P 18 33 45.6 +0.1**
comp=Z,24nm,1.0s
RAMN Ramite 85.82 299 *e*P **P 18 33 47.5 +0.2**
comp=Z,145nm,1.5s
I04A Tendick Farm, 85.84 44 P **P 18 33 47.1 +0.3**
baz=86
J04D Umpqua Nationa 85.84 44 P **P 18 33 47.2 +0.3**
baz=86
K04D Chiloquin, OR 85.87 45 P **P 18 33 47.3 +0.4**
baz=86
ISA Isabella 85.98 52 *e*P **P 18 33 47.9 +0.3**
ISA pmax pmax
comp=Z,17nm,1.0s
ISA Isabella 85.98 52 P **P 18 33 47.9 +0.3**
baz=86,SNR=20
ISA Isabella 85.98 52 *e*P **P 18 33 47.9 +0.3**
comp=Z,18nm,1.0s
EDW2 Edwards Air Fo 86.12 53 P **P 18 33 48.6 +0.3**
baz=86,SNR=20
WAKR Walker 86.14 49 *e*P **P 18 33 48.5 0.0**
comp=Z,32nm,1.2s
NLWA Neilton Lookou 86.22 40 PFAKE 18 34 00.0 +11
NLWA LR LR
comp=Z,317nm,22.0s
109C Camp Elliot, M 86.23 55 P **P 18 33 48.8 0.0**
baz=86
MURC Murrieta 86.36 55 P **P 18 33 49.6 +0.1**
baz=86
J05D Fort Rock, OR 86.46 44 P **P 18 33 50.3 +0.4**
baz=87
PALK Pallekele 86.49 278 LR LR 19 12 11.7
comp=Z,69nm,21.9s,baz=116,slow=35
PALK Pallekele 86.49 278 *i* P P 18 33 52.7 +2.1
EGAK Eagle 86.57 20 *e*P **P 18 33 49.9 +0.1**
comp=Z,55nm,0.7s
EGAK LR LR
comp=Z,324nm,21.0s
MOD Modoc 86.63 46 *e*P **P 18 33 51.1 +0.3**
comp=Z,26nm,1.2s
LVP Lakeview Peak 86.66 42 P **P 18 33 51.3 +0.5**
GUN Gumba 86.69 299 *e*P **P 18 33 52.4 +0.7**
comp=Z,159nm,1.4s
DAWY Dawson 86.74 21 *e*P **P 18 33 50.5 -0.2**
comp=Z,16nm,0.8s
I05D Terrebonne, OR 86.75 43 P **P 18 33 51.5 +0.3**
baz=87
MONP Monument Peak 86.78 56 P **P 18 33 52.0 +0.2**
baz=87,SNR=9.2
DAC Darwin (Calif) 86.85 52 *e*P **P 18 33 51.9 -0.1**
DAC pmax pmax
comp=Z,26nm,1.3s
DAC Darwin (Calif) 86.85 52 *e*P **P 18 33 51.9 -0.1**
comp=Z,26nm,1.3s
MPMC Manual Prospec 86.86 52 P **P 18 33 52.3 +0.2**
baz=87,SNR=22
PFO Pinyon Flat Ob 86.96 55 P **P 18 33 52.9 +0.3**
comp=Z,81nm,0.8s,SNR=5.4
PFO Pinyon Flat Ob 86.96 55 *e*P **P 18 33 52.9 +0.3**
PFO pmax pmax
comp=Z,29nm,1.4s
PFO MLR MLR
comp=Z,417nm,20.0s
PFO Pinyon Flat Ob 86.96 55 P **P 18 33 52.3 -0.3**
baz=87,SNR=7.4
PFO Pinyon Flat Ob 86.96 55 *e*P **P 18 33 52.9 +0.3**
comp=Z,29nm,1.4s
PFO LR LR
comp=Z,417nm,20.0s
NVAR Mina Array Bea 86.96 50 P **P 18 33 51.9 -0.7**
comp=Z,17nm,1.0s,baz=233,slow=7.7,SNR=71
IBP Imperial Bould 86.98 56 P **P 18 33 52.9 +0.3**
baz=87
PKI Pulchoki 87.01 299 *e*P **P 18 33 53.2 0.0**
comp=Z,111nm,1.2s
VFP Flag Point 87.01 43 P **P 18 33 53.0 +0.4**
PKIN Phulchoki 87.02 299 *e*P **P 18 33 52.9 -0.3**
comp=Z,84nm,1.2s
G05D Wamic, OR 87.08 43 P **P 18 33 53.2 +0.4**
baz=87
GSC Goldstone 87.17 53 *e*P **P 18 33 53.8 +0.3**
GSC pmax pmax
comp=Z,7.0nm,1.0s
GSC Goldstone 87.17 53 P **P 18 33 53.6 +0.1**
baz=87,SNR=6.0
GSC Goldstone 87.17 53 *e*P **P 18 33 53.8 +0.3**
comp=Z,7.0nm,1.0s
KKN Kakani 87.17 299 *e*P **P 18 33 53.9 0.0**
comp=Z,124nm,1.3s
GRAC Grapevine Rang 87.23 51 P **P 18 33 54.0 +0.3**
baz=87
DMN Daman 87.28 299 *e*P **P 18 33 55.0 +0.6**
comp=Z,182nm,1.1s
LON Longmire 87.29 41 *e*P **P 18 33 53.7 -0.1**
LON pmax pmax
comp=Z,15nm,1.3s
LON Longmire 87.29 41 *e*P **P 18 33 53.7 -0.1**
comp=Z,15nm,1.3s
SWSC Sam W. Stewart 87.30 56 P **P 18 33 54.3 +0.3**
baz=87,SNR=5.6
HEC Hector,Ludlow 87.41 54 P **P 18 33 54.4 -0.2**
baz=88,SNR=6.1
BELC Belle Mtn. Jos 87.43 55 P **P 18 33 54.9 +0.1**
baz=88,SNR=17
FURC Furnace Creek, 87.47 52 P **P 18 33 55.0 +0.3**
baz=88,SNR=7.2
DLBC Dease Lake 87.56 28 *e*P **P 18 33 54.2 -0.6**
comp=Z,20nm,1.1s
VTHM Trough 87.56 43 P **P 18 33 55.4 +0.3**
TPH Tonopah 87.67 50 *e*P **P 18 33 56.2 +0.2**
TPH pmax pmax
comp=Z,4.0nm,0.3s
TPH Tonopah 87.67 50 *e*P **P 18 33 56.2 +0.2**
comp=Z,3.9nm,0.3s
SHOC Shoshone 87.75 53 P **P 18 33 56.2 0.0**
baz=88
BC3 Big Chuckawall 87.77 55 P **P 18 33 56.5 +0.1**
baz=88,SNR=11
GKN Gorkha 87.78 299 *e*P **P 18 33 56.6 -0.1**
comp=Z,154nm,1.1s
TUQ Turquoise Moun 87.90 53 P **P 18 33 57.1 0.0**
baz=88,SNR=14
GMRC Granite Mounta 87.92 54 P **P 18 33 57.3 +0.1**
baz=88,SNR=11
WVOR Wild Horse Val 87.98 46 PFAKE 18 34 10.0 +13
WVOR LR LR
comp=Z,244nm,21.0s

TPNV Topopah Spring 88.08 52 P **P 18 33 58.0 +0.1**
baz=88,SNR=15
RPW Rockport 88.08 40 P **P 18 33 57.6 +0.1**
GLA Glamis 88.11 56 *e*P **P 18 33 58.5 +0.6**
GLA pmax pmax
comp=Z,71nm,1.4s
GLA Glamis 88.11 56 P **P 18 33 58.6 +0.6**
baz=88,SNR=12
GLA Glamis 88.11 56 *e*P **P 18 33 58.5 +0.6**
comp=Z,71nm,1.4s
IRM Iron Mountain 88.15 55 P **P 18 33 58.3 +0.1**
baz=88,SNR=19
TBM Table Mountain 88.22 41 P **P 18 33 58.8 +0.5**
BMN Battle Mountai 88.37 48 *e*P **P 18 33 59.8 +0.6**
BMN pmax pmax
comp=Z,25nm,1.4s
BMN Battle Mountai 88.37 48 *e*P **P 18 33 59.8 +0.6**
comp=Z,25nm,1.4s
LDFC Landfair 88.44 54 *e*P **P 18 33 59.9 +0.3**
comp=Z,32nm,0.4s
ETW Entiat 88.54 41 P **P 18 34 00.2 +0.4**
Y12C Blythe 88.54 55 P **P 18 34 00.0 +0.1**
baz=89,SNR=6.5
KOLN Koldanda 88.61 299 *e*P **P 18 34 00.3 -0.4**
comp=Z,56nm,0.9s
DANN Dangsing 88.62 299 *e*P **P 18 34 00.5 -0.3**
comp=Z,12nm,0.7s
HAWA Hanford 88.65 42 *e*P **P 18 34 00.7 +0.5**
comp=Z,25nm,0.9s
HAWA LR LR
comp=Z,183nm,19.0s
NEE2 Needles Airpor 88.74 54 P **P 18 34 00.9 0.0**
baz=89
SHPR Sheep Range 88.79 52 *e*P **P 18 34 02.1 +0.8**
comp=Z,28nm,1.2s
R11A Troy Canyon, C 88.98 51 P **P 18 34 02.3 +0.1**
baz=89,SNR=30
R11A Troy Canyon, C 88.98 51 *e*P **P 18 34 02.3 +0.1**
comp=Z,16nm,1.1s
PDMCI Parker Dam,Lak 89.00 55 P **P 18 34 02.3 +0.2**
baz=89,SNR=17
214A Organ Pipe Nat 89.47 57 P **P 18 34 04.5 +0.2**
baz=90
214A Organ Pipe Nat 89.47 57 *e*P P 18 34 05.8 +1.4
comp=Z,36nm,1.3s
LPIG La Paz 89.71 65 LR LR 19 06 41.9
comp=Z,206nm,19.7s,baz=230,slow=30
WMQ Urumqi 89.77 315 P **P 18 34 06.0 +0.4**
WMQ pP pP 18 34 26.5 +7.7
WMQ sP sP 18 34 33.3 +10
WMQ S **SKKSac 18 44 49.0 +3.2**
WMQ SS **SS 18 50 50.0 -2.4**
WMQ PMZ
comp=Z,44nm,0.9s
WMQ PMZ
comp=Z,190nm,4.0s
WMQ LN
comp=Z,70nm,23.6s
WMQ LE
comp=Z,58nm,25.6s
WMQ LZ
comp=Z,100nm,22.5s
ELK Elko 89.91 48 LR LR 19 06 55.7
comp=Z,213nm,21.1s,baz=227,slow=31
ELK Elko 89.91 48 *e*P **P 18 34 06.5 0.0**
ELK pmax pmax
comp=Z,17nm,1.0s
ELK Elko 89.91 48 *e*P **P 18 34 06.5 0.0**
comp=Z,17nm,1.0s
MFID Camas Ranch 90.24 46 *e*P **P 18 34 08.2 +0.4**
comp=Z,17nm,0.8s
CCUT Cedar City 90.46 52 *e*P **P 18 34 09.7 +0.6**
comp=Z,24nm,1.1s
SYO Syowa Base 90.58 197 *e*P **P 18 34 07.4 -1.4**
NEW Newport 90.79 41 P **P 18 34 09.8 -0.5**
baz=242,slow=3.3
NEW Newport 90.79 41 *e*P **P 18 34 10.3 +0.1**
NEW pmax pmax
comp=Z,34nm,1.2s
NEW MLR MLR
comp=Z,207nm,21.0s
NEW Newport 90.79 41 P **P 18 34 10.1 -0.1**
baz=91
NEW Newport 90.79 41 *e*P **P 18 34 10.3 +0.1**
comp=Z,34nm,1.2s
NEW LR LR
comp=Z,207nm,21.0s
INK Inuvik 91.10 19 P **P 18 34 10.9 -0.1**
comp=Z,4.2nm,0.9s,baz=281,slow=1.9,SNR=8.7
INK PKKPbc **PKKPdf 18 51 34.3 +0.1**
comp=Z,1.1nm,0.7s,baz=87,slow=2.7,SNR=3.3
INK Inuvik 91.10 19 *e*P **P 18 34 10.6 -0.4**
INK pmax pmax
comp=Z,10.0nm,1.1s
INK Inuvik 91.10 19 *e*P **P 18 34 10.6 -0.4**
comp=Z,10.0nm,1.1s
INK PKKPbc **PKKPdf 18 51 34.3 +0.1**
TUC Tucson 91.22 57 PFAKE 18 34 20.0 +7.4
TUC LR LR
comp=Z,398nm,20.0s
HLID Hailey 91.27 46 PFAKE 18 34 20.0 +7.3
HLID LR LR
comp=Z,167nm,20.0s
WUAZ Wupatki 91.50 54 P **P 18 34 14.4 +0.5**
baz=92
WUAZ Wupatki 91.50 54 *e*P **P 18 34 14.8 +0.8**
comp=Z,14nm,0.9s
WUAZ LR LR
comp=Z,283nm,20.0s
DUG Dugway 91.55 49 *e*P **P 18 34 14.5 +0.5**
DUG pmax pmax
comp=Z,5.0nm,0.8s
DUG MLR MLR
comp=Z,340nm,21.0s
DUG Dugway 91.55 49 P **P 18 34 14.1 +0.1**
baz=92
DUG Dugway 91.55 49 *e*P **P 18 34 14.5 +0.5**
comp=Z,4.7nm,0.8s
DUG LR LR
comp=Z,340nm,21.0s
BGU Big Grassy Mou 91.57 49 *e*P **P 18 34 14.2 +0.1**
comp=Z,18nm,1.3s
HVU Hansel Valley 91.97 48 *e*P **P 18 34 16.6 +0.6**
HVU pmax pmax
comp=Z,35nm,1.2s
HVU Hansel Valley 91.97 48 *e*P **P 18 34 16.6 +0.6**
comp=Z,35nm,1.2s
NLU North Lily Min 92.04 50 *e*P **P 18 34 16.8 +0.4**
comp=Z,14nm,1.3s
BSMT Bassoo Peak 92.18 42 *e*P **P 18 34 16.9 +0.1**
comp=Z,21nm,0.8s
MPU Maple Canyon 92.38 50 *e*P **P 18 34 18.5 +0.5**
comp=Z,38nm,1.1s
MSO Missoula 92.46 43 P **P 18 34 17.4 -0.7**
baz=93
JTMT Jette 92.48 42 *e*P **P 18 34 17.7 -0.4**
comp=Z,8.1nm,1.1s
BLMT Blacktail Moun 92.49 41 *e*P **P 18 34 18.0 -0.3**
comp=Z,8.9nm,0.9s
SWMT Swartz Lake 92.60 42 *e*P **P 18 34 17.9 -0.8**
comp=Z,8.5nm,1.1s
JLU Jordanelle 92.66 49 *e*P **P 18 34 18.5 -0.8**
comp=Z,4.3nm,0.8s
YBMT Yellow Bay 92.68 42 *e*P **P 18 34 18.6 -0.5**
comp=Z,2.5nm,0.3s
MCMT McKenzie Canyo 92.69 45 *e*P **P 18 34 19.7 +0.4**
comp=Z,2.0nm,0.7s
W18A Petrified Fore 92.71 55 P **P 18 34 19.6 0.0**
baz=93
W18A Petrified Fore 92.71 55 *e*P **P 18 34 20.4 +0.8**
comp=Z,8.5nm,1.0s
HWUT Hardware Ranch 92.81 48 *e*P **P 18 34 20.4 +0.4**
comp=Z,11nm,1.4s
HWUT LR LR
comp=Z,178nm,20.0s
SLMT Seeley Lake 92.86 42 *e*P **P 18 34 19.0 -0.9**
comp=Z,4.1nm,0.9s
CHMT Chamberlain Mo 92.94 43 P **P 18 34 20.3 -0.1**
DLMT Dillon 92.99 44 *e*P **P 18 34 20.9 +0.3**
comp=Z,20nm,1.0s
SRU San Rafael 93.00 51 *e*P **P 18 34 21.1 +0.2**
SRU pmax pmax
comp=Z,6.0nm,0.8s
SRU San Rafael 93.00 51 *e*P **P 18 34 21.1 +0.2**
comp=Z,5.7nm,0.8s
WALA Waterton Lakes 93.06 41 *e*P **P 18 34 21.0 +0.2**
comp=Z,21nm,1.1s

LRM Limekiln Ridge 93.20 44 *e*P **P 18 34 21.8 +0.1**
comp=Z,73nm,0.9s
AHID Auburn Hatcher 93.42 47 PFAKE 18 34 30.0 +7.3
AHID LR LR
comp=Z,205nm,19.0s
TPAW Teton Pass 93.69 46 *e*P **P 18 34 24.3 +0.3**
comp=Z,3.1nm,0.7s
BOZ Bozeman (W) 93.72 44 *e*P **P 18 34 23.8 -0.2**
BOZ pmax pmax
comp=Z,6.0nm,0.8s
BOZ MLR MLR
comp=Z,258nm,20.0s
BOZ Bozeman (W) 93.72 44 P **P 18 34 24.1 +0.1**
baz=94
BOZ Bozeman (W) 93.72 44 *e*P **P 18 34 23.8 -0.2**
comp=Z,6.4nm,0.8s
BOZ LR LR
comp=Z,258nm,20.0s
121A Cookes Peak, D 93.74 58 P **P 18 34 24.8 +0.4**
baz=94
121A Cookes Peak, D 93.74 58 *e*P **P 18 34 25.1 +0.7**
comp=Z,9.4nm,0.8s
HRY Holter Researc 93.83 43 *e*P **P 18 34 24.7 +0.3**
comp=Z,4.9nm,0.7s
LOHW Long Hollow 93.96 46 *e*P **P 18 34 25.3 +0.1**
comp=Z,1.4nm,0.8s
PV04 Paradox Valley 94.08 52 *e*P **P 18 34 26.0 +0.1**
MVCO Mesa Verde 94.14 53 P **P 18 34 26.0 -0.2**
baz=94
MVCO Mesa Verde 94.14 53 PFAKE 18 34 40.0 +14
MVCO LR LR
comp=Z,255nm,19.0s
MKAR Makanchi Array 94.23 317 P **P 18 34 26.6 +0.5**
comp=Z,35nm,0.8s,baz=98,slow=6.3,SNR=269
MKAR PKiKP **PKiKP 18 39 09.9 0.0**
comp=Z,1.0nm,0.8s,baz=22,slow=0.7,SNR=3.6
MKAR PKKPbc **PKKPdf 18 51 25.7 -2.4**
comp=Z,1.4nm,0.7s,baz=288,slow=1.2,SNR=10
MKAR LR LR 19 17 35.2
comp=Z,56nm,19.8s,baz=108,slow=36
MKAR Makanchi Array 94.23 317 P **P 18 34 26.6 +0.5**
MKAR pmax pmax
comp=Z,35nm,0.8s
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR MLR MLR
comp=Z,56nm,19.8s
PV01 Paradox Valley 94.28 52 *e*P **P 18 34 26.9 +0.1**
comp=Z,357nm,0.9s
LKWY Lake 94.32 45 PFAKE 18 34 40.0 +13
LKWY LR LR
comp=Z,216nm,21.0s
ZALV Zalesovo Beam 94.38 324 P **P 18 34 25.4 -1.1**
comp=Z,20nm,0.8s,baz=119,slow=4.1,SNR=99
ZALV LR LR 19 15 31.7
comp=Z,74nm,21.9s,baz=70,slow=35
ZALV Zalesovo Beam 94.38 324 P **P 18 34 25.4 -1.1**
ZALV pmax pmax
comp=Z,20nm,0.8s
ZALV MLR MLR
comp=Z,74nm,21.9s
EDM Edmonton 94.46 37 *e*P **P 18 34 26.7 -0.3**
EDM pmax pmax
comp=Z,18nm,1.1s
EDM Edmonton 94.46 37 *e*P **P 18 34 26.6 -0.3**
comp=Z,18nm,1.1s
BW06 Boulder Array 94.52 47 *e*P **P 18 34 27.4 -0.4**
comp=Z,3.3nm,0.9s
BW06 LR LR
comp=Z,190nm,22.0s
PDAR Pinedale Array 94.53 47 P **P 18 34 27.4 -0.4**
comp=Z,3.3nm,0.8s,baz=306,slow=1.9,SNR=22
J19A Crowheart 94.99 47 P **P 18 34 29.1 -0.8**
baz=95
I19A Meeteetse 95.19 46 P **P 18 34 30.7 -0.1**
baz=95
RLMT Red Lodge 95.23 45 P **P 18 34 30.8 -0.2**
baz=95
RLMT Red Lodge 95.23 45 PFAKE 18 34 40.0 +9.0
RLMT LR LR
comp=Z,240nm,21.0s
NVL N'lazarevskaya 95.26 188 *e*P P 18 34 26.5 -3.9
NVL pmax pmax
comp=Z,13nm,0.7s
ANMO Albuquerque 95.31 56 LR LR 19 08 51.8
comp=Z,252nm,21.8s,baz=237,slow=30
ANMO Albuquerque 95.31 56 *ce*P **P 18 34 31.1 -0.5**
ANMO pmax pmax
comp=Z,17nm,1.2s
ANMO Albuquerque 95.31 56 *e*P **P 18 34 30.8 -0.7**
comp=Z,3.1nm,1.0s
H19A Powell 95.33 46 P **P 18 34 31.3 0.0**
baz=95
NVS Novosibirsk 95.50 325 *i*P **P 18 34 30.8 -0.8**
NVS pmax pmax
comp=Z,26nm,1.4s
NVS pmax pmax
comp=N,6.0nm,1.2s
NVS pmax pmax
comp=E,18nm,1.5s
EGMT Eagleton 95.50 42 P **P 18 34 32.0 +0.1**
baz=96
EGMT Eagleton 95.50 42 *e*P **P 18 34 32.3 +0.3**
comp=E,14nm,0.9s
EGMT LR LR
comp=Z,144nm,19.0s
S22A 4UR Ranch, Cre 95.55 53 P **P 18 34 32.1 -0.7**
baz=96
J20A Shoshoni 95.70 47 P **P 18 34 32.8 -0.2**
baz=96
SNAA Sanae 95.92 184 P **P 18 34 32.8 -0.6**
SNAA Sanae 95.92 184 *e*P **P 18 34 32.0 -1.5**
SNAA pmax pmax
comp=Z,3.0nm,0.8s
SNAA Sanae 95.92 184 *e*P **P 18 34 32.0 -1.5**
comp=Z,2.8nm,0.8s
YKA Yellowknife Ar 96.13 27 P **P 18 34 33.2 -1.2**
comp=Z,7.6nm,0.6s,baz=258,slow=4.7,SNR=44
YKA Yellowknife Ar 96.13 27 P **P 18 34 33.2 -1.2**
YKA pmax pmax
comp=Z,8.0nm,0.6s
J21A Lysite 96.16 47 P **P 18 34 35.5 +0.3**
baz=96
I21A Big Trails, Te 96.36 47 P **P 18 34 35.9 -0.1**
baz=96
SDCO Great Sand Dun 96.59 53 P **P 18 34 37.3 -0.1**
baz=97
SDCO Great Sand Dun 96.59 53 PFAKE 18 34 50.0 +13
SDCO LR LR
comp=Z,312nm,21.0s
TXAR Lajitas Array 96.60 62 P **P 18 34 37.0 -0.4**
comp=Z,1.7nm,0.8s,baz=216,slow=6.2,SNR=13
TXAR Lajitas Array 96.60 62 P **P 18 34 37.0 -0.4**
TXAR pmax pmax
comp=Z,2.0nm,0.8s
N23A Red Feather La 96.81 50 P **P 18 34 38.2 -0.1**
baz=97
ISCO Idaho Springs 96.86 51 P **P 18 34 38.5 -0.1**
baz=97
ISCO Idaho Springs 96.86 51 PFAKE 18 34 50.0 +11
ISCO LR LR
comp=Z,490nm,22.0s
J22A Midwest 96.86 47 P **P 18 34 38.6 +0.3**
baz=97
VNA1 Neumayer--Stat 97.20 182 P **P 18 34 39.0 -0.2**
LAO LASA Array 97.61 44 PFAKE 18 34 50.0 +8.4
LAO LR LR
comp=Z,250nm,20.0s
TKM2 Tokmak 2 98.15 312 *e*P **P 18 34 44.0 -0.3**
TKM2 pmax pmax
comp=Z,3.0nm,0.8s
TKM2 MLR MLR
comp=Z,69nm,20.0s
TKM2 Tokmak 2 98.15 312 *e*P **P 18 34 44.0 -0.3**
comp=Z,2.7nm,0.8s
TKM2 LR LR
comp=Z,69nm,20.0s
R26A Arlington 98.28 53 Pdiff **P 18 34 44.9 +0.1**
baz=98
429A Davenport Ranc 98.33 60 Pdiff Pdif 18 34 45.4 +0.2
baz=98
U27A Thompson Grove 98.48 55 Pdiff **P 18 34 45.7 -0.1**
baz=98
T27A Campo 98.66 54 Pdiff **P 18 34 46.4 -0.1**
baz=99

AAK **Ala-Archa** 98.91 312 PFAKE 18 35 00.0 +12
AAK LR LR
comp=Z,100nm,19.0s
T28A **Walsh** 99.15 54 Pdiff **Pdif** 18 34 48.7 -0.1
baz=99
531A **Rocksprings** 99.41 61 Pdiff **Pdif** 18 34 50.2 +0.3
baz=100
EKS2 **Erkin-Say** 99.44 312 PFAKE 18 35 00.0 +10
EKS2 LR LR
comp=Z,101nm,20.0s
OGNE **Ogallala** 99.74 50 PFAKE 18 35 00.0 +8.7
OGNE LR LR
comp=Z,529nm,22.0s
A25A **Svangstu Ranch** 100.01 42 Pdiff **Pdif** 18 34 52.6 +0.4
baz=100
JCT **Junction City** 100.09 61 PFAKE 18 35 00.0 +7.0
JCT LR LR
comp=Z,354nm,20.0s
K28A **Ten Mile Ranch** 100.46 48 Pdiff **Pdif** 18 34 54.8 +0.4
baz=100
A26A **Wade Farm, Ken** 100.71 42 Pdiff **Pdif** 18 34 55.5 +0.2
baz=101
D27A **Center** 100.86 44 Pdiff **Pdif** 18 34 56.5 +0.5
baz=101
P30A **Selden** 100.92 52 Pdiff **Pdif** 18 34 56.8 +0.3
baz=101
534A **Blanco** 101.17 62 Pdiff **Pdif** 18 34 57.7 0.0
baz=101
CBKS **Cedar Bluff** 101.23 53 PFAKE 18 35 10.0 +12
CBKS LR LR
comp=Z,189nm,19.0s
FFC **Flin Flon** 101.33 36 *e*P **Pdif** 18 34 57.5 -0.4
FFC pmax pmax
comp=Z,6.0nm,0.9s
FFC MLR MLR
comp=Z,397nm,22.0s
FFC **Flin Flon** 101.33 36 *e*P **Pdif** 18 34 57.5 -0.4
comp=Z,5.7nm,0.9s
FFC LR LR
comp=Z,397nm,22.0s
WMOK **Wichita Mounta** 101.51 57 PFAKE 18 35 10.0 +11
WMOK LR LR
comp=Z,349nm,20.0s
KKAR **Karatay Array** 101.88 312 *e*P **Pdif** 18 35 00.4 -0.2
KKAR pmax pmax
comp=Z,4.0nm,0.9s
KKAR **Karatay Array** 101.88 312 *e*P **Pdif** 18 35 00.4 -0.2
comp=Z,4.2nm,0.9s
Y34A **Reagan Ranch,** 102.26 58 Pdiff **Pdif** 18 35 02.5 0.0
baz=102
A29A **Manning Farm,** 102.56 42 Pdiff **Pdif** 18 35 03.8 +0.4
baz=103
BVAR **Borovoye Array** 102.74 322 P **Pdif** 18 35 03.0 -1.2
BVAR PP **PP** 18 39 15.8 -2.5
comp=Z,2.1nm,0.7s,baz=98,slow=4.5,SNR=12
comp=Z,1.0nm,0.7s,baz=147,slow=8.8,SNR=3.7
BVAR PKIKP **PKiKP** 18 39 25.3 +0.5
comp=Z,1.5nm,0.7s,baz=17,slow=1.5,SNR=6.2
BVAR **Borovoye Array** 102.74 322 P **Pdif** 18 35 03.0 -1.2
BVAR 18 39 15.8
BVAR pmax pmax
comp=Z,2.0nm,0.7s
BVAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR pmax pmax
comp=Z,2.0nm,0.7s
BRVK **Borovoye** 102.81 322 *e*P **Pdif** 18 35 04.3 -0.2
BRVK MLR MLR
comp=Z,127nm,19.0s
BRVK **Borovoye** 102.81 322 *e*P **Pdif** 18 35 04.3 -0.2
BRVK LR LR
comp=Z,127nm,19.0s
X35A **Drake** 102.95 57 Pdiff **Pdif** 18 35 05.6 0.0
baz=103
KSU1 **Kansas State U** 103.69 52 PFAKE 18 35 20.0 +11
KSU1 LR LR
comp=Z,257nm,21.0s
ECSD **EROS Data Cent** 104.02 48 PFAKE 18 35 20.0 +10
ECSD LR LR
comp=Z,201nm,20.0s
339A **Huntington** 104.67 61 Pdiff **Pdif** 18 35 13.5 +0.2
baz=105
AGMN **Agassiz Nation** 104.76 43 PFAKE 18 35 20.0 +6.7
AGMN LR LR
comp=Z,192nm,20.0s
MIAR **Mount Ida** 105.77 57 PFAKE 18 39 40.0
MIAR LR LR
comp=Z,404nm,21.0s
EYMN **Ely** 107.68 43 *e*P **Pdif** 18 35 24.7 -1.6
EYMN LR LR
comp=Z,212nm,20.0s
JFWS **Jewell Farm** 108.64 49 PFAKE 18 39 50.0
JFWS LR LR
comp=Z,211nm,19.0s
ARU **Arti** 109.48 326 *e*PKiKP **PKiKP** 18 39 37.2 +0.1
ARU LR LR
comp=Z,93nm,20.0s
BRAL **Brewton** 111.06 61 PFAKE 18 39 50.0
BRAL LR LR
comp=Z,178nm,19.0s
GEYT **Alibeck** 111.10 306 PKiKP **PKiKP** 18 39 41.1 +0.4
comp=Z,2.4nm,0.8s,baz=297,slow=6.5,SNR=4.1
GOGA **Godfrey** 114.13 59 PFAKE 18 40 00.0 +13
GOGA LR LR
comp=Z,208nm,22.0s
ACSO **Alum Creek Sta** 114.20 51 PFAKE 18 40 00.0 +13
ACSO LR LR
comp=Z,273nm,20.0s
PRGR **Permogore** 114.69 333 *e*PKIKP PKPdf 18 39 42.4 -4.4
PRGR pmax pmax
comp=Z,6.0nm,0.6s
OTAV **Otavalo** 115.47 96 PFAKE 18 40 00.0 +10
OTAV LR LR
comp=Z,129nm,19.0s
LVZ **Lovozero** 115.91 341 PFAKE 18 40 00.0 +11
LVZ LR LR
comp=Z,103nm,22.0s
BLA **Blacksburg** 116.43 54 PFAKE 18 40 00.0 +9.0
BLA LR LR
comp=Z,278nm,20.0s
KEV **Kevo** 116.89 345 PFAKE 18 40 00.0 +9.2
KEV LR LR
comp=Z,109nm,22.0s
NHSC **New Hope** 116.89 59 PFAKE 18 40 00.0 +8.1
NHSC LR LR
comp=Z,202nm,20.0s
ARCES **ARCESS Array B** 117.42 345 PKP **PKPdf** 18 39 51.9 0.0
comp=Z,8.4nm,0.7s,baz=84,slow=1.4,SNR=60
ARCES PKKPbc **PKKPbc** 18 50 16.8 -0.8
comp=Z,1.7nm,0.8s,baz=348,slow=3.0,SNR=4.5
ARCES **ARCESS Array B** 117.42 345 PKiKP **PKPdf** 18 39 51.9 0.0
ARCES pmax pmax
comp=Z,8.0nm,0.7s
ARCES pmax pmax
comp=Z,2.0nm,0.8s
CNNC **Cliffs of the** 118.64 57 PFAKE 18 40 10.0 +15
CNNC LR LR
comp=Z,313nm,21.0s
CBN **Corbin** 118.73 53 PFAKE 18 40 10.0 +15
CBN LR LR
comp=Z,522nm,22.0s
LONY **Lake Ozonia** 119.70 45 PFAKE 18 40 10.0 +13
LONY LR LR
comp=Z,223nm,20.0s
LPAZ **La Paz** 119.86 117 PKP **PKPdf** 18 39 58.2 -0.6
comp=Z,1.7nm,0.9s,baz=338,slow=2.9,SNR=6.5
LPAZ PKKPbc **PKKPbc** 18 50 08.0 -0.2
comp=Z,1.2nm,0.9s,baz=89,slow=6.0,SNR=3.8
LPAZ **La Paz** 119.86 117 PKiKP **PKPdf** 18 39 58.3 -0.6
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
LPAZ pmax pmax
comp=Z,1.0nm,0.9s
GNI **Garni** 121.24 310 *e*PKiKP **PKPdf** 18 40 01.6 +1.3
GNI **Garni** 121.24 310 *e*PKPdf **PKPdf** 18 40 01.6 +1.3
OBN **Obninsk** 121.69 328 ⇓*i*PKiKP **PKPdf** 18 40 00.5 0.0
OBN *e*PS **PS** 18 51 33.0 +5.6
OBN *e*SS SS 18 58 21.3 +15
OBN pmax pmax
comp=Z,20nm,0.9s
OBN MLR MLR
comp=Z,73nm,19.0s
OBN **Obninsk** 121.69 328 PFAKE 18 40 10.0 +10
OBN LR LR
comp=Z,110nm,19.0s
KBZ **Khabaz** 121.80 314 PKP **PKPdf** 18 40 01.2 +0.2
comp=Z,3.9nm,0.8s,baz=120,slow=3.8,SNR=7.7
KBZ **Khabaz** 121.80 314 PKIKP **PKPdf** 18 40 01.3 +0.2
KBZ pmax pmax
comp=Z,4.0nm,0.8s
VSR **Storozhevoye** 121.88 323 *e*PKIKP **PKPdf** 18 40 00.8 -0.2
VSR pmax pmax
comp=N,7.0nm,0.9s
VSR pmax pmax
comp=E,8.0nm,0.9s
VSR pmax pmax
comp=Z,20nm,0.9s
NEY **Neytrino** 122.05 314⇑*i*PKIKP **PKPdf** 18 40 02.9 +1.1
NEY pmax pmax
comp=Z,4.0nm,0.9s
RAYN **Ar Rayn** 122.16 290 *e*PKPdf **PKPdf** 18 40 02.7 +0.3
RAYN LR LR
comp=Z,141nm,19.0s
CHVG **Ch'k'valeri** 122.63 313⇑*i*P **PKPdf** 18 40 03.8 +1.1
FINES **FINESS Array B** 122.79 338 PKP **PKPdf** 18 40 01.7 -0.7
comp=Z,9.0nm,0.9s,baz=108,slow=6.2,SNR=24
FINES PKKPbc **PKKPab** 18 49 55.1 +0.2
comp=Z,3.3nm,1.0s,baz=190,slow=9.7,SNR=5.0
FINES **FINESS Array B** 122.79 338 PKIKP **PKPdf** 18 40 01.7 -0.7
FINES pmax pmax
comp=Z,9.0nm,0.9s
FINES pmax pmax
comp=Z,3.0nm,1.0s
CPUP **Villa Florida** 123.39 133 PKP **PKPdf** 18 40 03.6 -1.0
comp=Z,2.8nm,0.8s,baz=240,slow=1.8,SNR=7.4
CPUP **Villa Florida** 123.39 133 PKIKP **PKPdf** 18 40 03.7 -1.0
CPUP pmax pmax
comp=Z,3.0nm,0.8s
SOC **Sochi** 124.07 315 *i* PKIKP **PKPdf** 18 40 04.3 -1.1
SOC *e* 18 41 54.0
SOC *e*PPP PPP 18 44 37.1
SOC pmax pmax
comp=Z,20nm,1.0s
BOSA **Boshof** 124.09 223 PKP **PKPdf** 18 40 05.9 -0.3
comp=Z,8.6nm,0.9s,baz=350,slow=1.0,SNR=8.9
BOSA **Boshof** 124.09 223 PKIKP **PKPdf** 18 40 05.9 -0.3
BOSA pmax pmax
comp=Z,9.0nm,0.9s
SDV **Santo Domingo** 124.78 88 *e*PKPdf **PKPdf** 18 40 07.8 -0.1
SDV LR LR
comp=Z,60nm,19.0s
SDDR **Presa de Saban** 125.08 75 PFAKE 18 40 20.0 +12
SDDR LR LR
comp=Z,138nm,22.0s
KBSD **Kabsdagh** 125.08 307 *e*P **PKPdf** 18 40 06.2 -1.4
GRTK **Grand Turk** 125.26 72 PFAKE 18 40 20.0 +12
GRTK LR LR
comp=Z,156nm,19.0s
SFNV **Sufian** 125.54 306 *e*P PKPdf 18 40 13.8 +5.2
MNKR **ALMNKUR** 126.30 306 *e*P **PKPdf** 18 40 11.0 +1.0
MALT **Malatya** 126.42 309⇑PKIKP **PKPdf** 18 40 11.3 +1.0
MALT **Malatya** 126.42 309⇑*i*P **PKPdf** 18 40 11.3 +1.0
KSRV **Kasrt alli** 126.53 306 *e*P **PKPdf** 18 40 11.8 +1.4
KMBO **Kilima Mbogo** 126.95 259 PKP **PKPdf** 18 40 12.6 +0.4
comp=Z,2.4nm,0.7s,baz=53,slow=6.7,SNR=7.0
KMBO **Kilima Mbogo** 126.95 259 PKIKP **PKPdf** 18 40 12.6 +0.4
KMBO pmax pmax
comp=Z,2.0nm,0.7s
KMBO **Kilima Mbogo** 126.95 259 *e*PKPdf **PKPdf** 18 40 13.6 +1.4
KMBO LR LR
comp=Z,162nm,20.0s
SAML **Samuel** 127.23 111 *e*PKPdf **PKPdf** 18 40 11.6 -0.8
SAML LR LR
comp=Z,180nm,21.0s
KIEV **Kiev** 127.74 326 PFAKE 18 40 20.0 +7.8
KIEV LR LR
comp=Z,109nm,21.0s
NB2 **NORSAR Subarra** 127.78 345 PKPdf **PKPdf** 18 40 11.7 -0.4
comp=Z,8.4nm,1.1s,baz=31,slow=1.9
NB2 **NORSAR Subarra** 127.78 345 PKPdf **PKPdf** 18 40 11.7 -0.4
baz=31,slow=1.9
NOA **NORSAR Array B** 127.78 345 PKP **PKPdf** 18 40 10.9 -1.1
comp=Z,5.1nm,0.8s,baz=36,slow=2.0,SNR=20
NOA **NORSAR Array B** 127.78 345 PKIKP **PKPdf** 18 40 11.0 -1.1
NOA pmax pmax
comp=Z,5.0nm,0.9s
ROOS **tl_alroos** 128.26 304 *e*P **PKPdf** 18 40 16.9 +3.1
ZALF **Zalf** 128.47 302 *e*P **PKPdf** 18 40 15.2 +1.0
BIDA **Albida** 128.85 305 *e*P PKPdf 18 40 09.5 -5.5
SALA **Sala** 129.01 302 *e*P **PKPdf** 18 40 16.5 +1.0
BRBR **Barbar** 129.51 303 *e*P **PKPdf** 18 40 16.9 +0.5
BRTR **Keskin Array B** 129.59 312 PKP **PKPdf** 18 40 15.8 -0.5
comp=Z,11nm,1.2s,baz=147,slow=2.5,SNR=20
BRTR PP **PP** 18 42 29.8 +3.0
comp=Z,0.6nm,0.8s,baz=46,slow=5.3,SNR=3.6
BRTR **Keskin Array B** 129.59 312 PKIKP **PKPdf** 18 40 15.8 -0.5
BRTR 18 42 29.8
BRTR pmax pmax
comp=Z,11nm,1.2s
BRTR pmax pmax
comp=Z,1.0nm,0.8s
LSZ **Lusaka** 129.68 238 *e*PKIKP **PKPdf** 18 40 17.5 +0.4
LSZ MLR MLR
comp=Z,427nm,20.0s
LSZ **Lusaka** 129.68 238 *e*PKPdf **PKPdf** 18 40 17.5 +0.4
LSZ LR LR
comp=Z,427nm,20.0s
BBSR **BB Station** 129.92 58 PFAKE 18 40 30.0 +13
BBSR LR LR
comp=Z,190nm,22.0s
SJG **San Juan** 129.93 77 *e*PKIKP **PKPdf** 18 40 17.2 -0.1
SJG MLR MLR
comp=Z,110nm,20.0s
SJG **San Juan** 129.93 77 *e*PKPdf **PKPdf** 18 40 17.2 -0.1
SJG LR LR
comp=Z,110nm,20.0s
LVV **L'vov** 130.99 328 *e*PKIKP **PKPdf** 18 40 18.1 -0.3
CFR **Carcaliu** 131.12 321 ⇓PKIKP **PKPdf** 18 40 19.0 +0.2
CFR **Carcaliu** 131.12 321 ⇓*i*P **PKPdf** 18 40 19.0 +0.2
CSS **Prodhromos** 131.24 306 PFAKE 18 40 30.0 +11
CSS LR LR
comp=Z,68nm,22.0s
TIRR **Tirgusor** 131.28 320⇑PKIKP **PKPdf** 18 40 20.1 +1.0
TIRR **Tirgusor** 131.28 320⇑*i*P **PKPdf** 18 40 20.1 +1.0
TESR **Tescani** 131.36 323⇓*i*P **PKPdf** 18 40 20.2 +0.9
HARR **Harsova** 131.48 320 ⇓PKIKP **PKPdf** 18 40 21.6 +2.1
HARR **Harsova** 131.48 320 ⇓*i*P **PKPdf** 18 40 21.6 +2.1
BURAR **Bucovina Array** 131.60 325⇑PKIKP **PKPdf** 18 40 21.7 +1.9
BURAR **Bucovina Array** 131.60 325⇑*i*P **PKPdf** 18 40 21.7 +1.9
MSAB **Monastry St. A** 131.83 319⇓*i*P **PKPdf** 18 40 21.2 +1.0
MLR **Muntele Rosu** 132.31 322 ⇓PKIKP **PKPdf** 18 40 21.8 +0.5
MLR **Muntele Rosu** 132.31 322 ⇓*i*P **PKPdf** 18 40 21.8 +0.5
DOPR **Dopca** 132.39 323⇑*i*P **PKPdf** 18 40 21.8 +0.5
KOLS **Kolonicke sedl** 132.44 328 *e*PKIKP **PKPdf** 18 40 22.7 +1.5
KOLS **Kolonicke sedl** 132.44 328 *e*PKP **PKPdf** 18 40 22.7 +1.5
TRPA **Tarpa** 132.78 327⇓*i*P **PKPdf** 18 40 20.3 -1.5
TRPA **Tarpa** 132.78 327⇓*e*PKPdf **PKPdf** 18 40 22.4 +0.6
OJC **Ojcow** 132.86 330 *e*PKP **PKPdf** 18 40 22.7 +0.8
OJC **Ojcow** 132.86 330 *e*PKIKP **PKPdf** 18 40 22.8 +0.8
VOIR 132.87 322 ⇓PKIKP **PKPdf** 18 40 23.7 +1.4
VOIR 132.87 322 ⇓*i*P **PKPdf** 18 40 23.7 +1.4
CJR **Cluj-Napoca** 133.02 325 ⇓PKIKP **PKPdf** 18 40 23.8 +1.3
CJR **Cluj-Napoca** 133.02 325 ⇓*i*P **PKPdf** 18 40 23.8 +1.3
NIE **Niedzica** 133.13 329 *e*PKP **PKPdf** 18 40 24.1 +1.5
NIE **Niedzica** 133.13 329 *e*PKIKP **PKPdf** 18 40 24.1 +1.5
ARR **Arges** 133.16 322⇑*i*P **PKPdf** 18 40 24.2 +1.4
DRGR 133.47 325 ⇓PKIKP **PKPdf** 18 40 24.5 +1.2
DRGR 133.47 325 ⇓*i*P **PKPdf** 18 40 24.5 +1.2
OKC **Ostrava-Krasne** 133.91 331 *e*PKPdf **PKPdf** 18 40 25.3 +1.4
OKC **Ostrava-Krasne** 133.91 331 *e*PKIKP **PKPdf** 18 40 25.3 +1.4
BSEG **Bad Segeberg** 133.99 340 *e*PKPdf **PKPdf** 18 40 24.3 +0.4
KSP **Ksiaz** 134.05 333 *e*PKP **PKPdf** 18 40 25.1 +0.9
KSP **Ksiaz** 134.05 333 *e*PKIKP **PKPdf** 18 40 25.1 +0.9
MORC **Moravsky Berou** 134.24 331 *e*PKIKP **PKPdf** 18 40 25.5 +0.9
MORC **Moravsky Berou** 134.24 331⇑*i*P **PKPdf** 18 40 24.6 0.0
MORC **Moravsky Berou** 134.24 331 *e*PKPdf **PKPdf** 18 40 25.5 +0.9
PSZ **Piszkesteto** 134.31 328 *e*PKIKP **PKPdf** 18 40 25.5 +0.6
PSZ MLR MLR
comp=Z,67nm,21.0s
PSZ **Piszkesteto** 134.31 328⇓*i*P **PKPdf** 18 40 25.5 +0.6
PSZ **Piszkesteto** 134.31 328 *e*PKPdf **PKPdf** 18 40 25.5 +0.6
PSZ LR LR
comp=Z,67nm,21.0s
PSZ **Piszkesteto** 134.31 328⇓*e*PKPdf **PKPdf** 18 40 25.4 +0.6
SIRR **Siria** 134.37 325⇑*i*P **PKPdf** 18 40 26.1 +1.1
DPC **Dobruska-Polom** 134.39 333 *e*PKPdf **PKPdf** 18 40 25.9 +1.0
DPC **Dobruska-Polom** 134.39 333 *e*PKIKP **PKPdf** 18 40 25.9 +1.0
UPC **Upice** 134.42 333 *e*PKPdf **PKPdf** 18 40 25.6 +0.7
UPC **Upice** 134.42 333 *e*PKIKP **PKPdf** 18 40 25.6 +0.7
VYHS **Vyhne** 134.47 329 *e*PKIKP **PKPdf** 18 40 25.6 +0.5
VYHS **Vyhne** 134.47 329 *e*PKP **PKPdf** 18 40 25.6 +0.5
BZS **Buzias** 134.78 324⇑PKIKP **PKPdf** 18 40 26.1 +0.4
BZS **Buzias** 134.78 324⇑*i*P **PKPdf** 18 40 26.1 +0.4
VRAC **Vranov** 135.01 331⇑PKIKP **PKPdf** 18 40 27.3 +1.2
VRAC **Vranov** 135.01 331⇑*i*P **PKPdf** 18 40 27.3 +1.2
PVCC **Panska Ves** 135.03 334 *e*PKPdf **PKPdf** 18 40 27.0 +1.0
PVCC **Panska Ves** 135.03 334 *e*PKIKP **PKPdf** 18 40 27.0 +1.0
BRG **Berggiesshubel** 135.04 335 *i* PKP **PKPdf** 18 40 26.9 +0.9
comp=Z,11nm,1.1s
BRG *e* 18 40 35.8
comp=Z,11nm,1.2s
BRG **Berggiesshubel** 135.04 335 *e*PKPdf **PKPdf** 18 40 26.5 +0.5
BRG **Berggiesshubel** 135.04 335 *i* PKIKP **PKPdf** 18 40 26.9 +0.9
BRG *e* 18 40 35.8
BRG pmax pmax
comp=Z,11nm,1.1s
BRG pmax pmax
comp=Z,11nm,1.2s
CLL **Collm** 135.09 336 *e*PKPdf **PKPdf** 18 40 26.4 +0.3
CLL **Collm** 135.09 336⇓*i*PKIKP **PKPdf** 18 40 26.6 +0.5
CLL pmax pmax
comp=Z,10.0nm,1.6s
CLL **Collm** 135.09 336 *e*PKPpre PKPpre 18 40 22.0
CLL ⇓*i*PKPdf **PKPdf** 18 40 26.6 +0.5
comp=Z,10.0nm,1.6s
CLL *i* PKiKP **PKiKP** 18 40 28.2 +0.6
comp=Z,7.0nm,0.7s
CLL *i* 18 40 29.9
comp=Z,7.0nm,0.8s
CLL *i* pPKiKP pPKiKP 18 40 37.3 -4.0
CLL *e* 18 40 55.0
CLL *e*PP **PP** 18 43 01.0 0.0
CLL Lm MLR 19 43 00.0
comp=Z,100nm,21.1s
FBE **Freiberg** 135.25 335 *e*PKPdf **PKPdf** 18 40 27.2 +0.8
GOPC **GO Pecny, Ondr** 135.39 333 *e*PKPdf **PKPdf** 18 40 28.2 +1.4
PRU **Pruhonice** 135.44 333 *e*PKPdf **PKPdf** 18 40 27.4 +0.6
PRU **Pruhonice** 135.44 333 *e*PKIKP **PKPdf** 18 40 27.4 +0.6
VTS **Vitosha** 135.50 320⇑PKIKP **PKPdf** 18 40 29.1 +1.7
VTS **Vitosha** 135.50 320⇑*i*P **PKPdf** 18 40 29.0 +1.7
TSUM **Tsumeb** 135.56 226 PFAKE 18 40 40.0 +12
TSUM LR LR
comp=Z,462nm,20.0s
CLZ **Clausthal** 135.68 338 *e*PKPdf **PKPdf** 18 40 27.8 +0.5
TANN **Tannenbergstha** 136.00 335 *e*PKPdf **PKPdf** 18 40 28.5 +0.6
WERD **Werda** 136.04 335 *e*PKPdf **PKPdf** 18 40 29.6 +1.6
PKSM **Moragy** 136.06 327 ⇓PKIKP **PKPdf** 18 40 28.5 +0.5
PKSM **Moragy** 136.06 327⇓*i*P **PKPdf** 18 40 28.5 +0.5
PKSM **Moragy** 136.06 327⇓*e*PKPdf **PKPdf** 18 40 28.6 +0.5
PLN **Plauen** 136.07 336 *e*PKPdf **PKPdf** 18 40 28.5 +0.5
WERN **Wernitzgruen** 136.13 335 *e*PKPdf **PKPdf** 18 40 28.9 +0.7
SOP **Sopron** 136.15 330⇓*e*PKPdf **PKPdf** 18 40 28.9 +0.7
MOX **Moxa** 136.16 336 *e*PKPdf **PKPdf** 18 40 28.6 +0.4
IBBN **Ibbenburen** 136.20 340 *e*PKPdf **PKPdf** 18 40 28.8 +0.7
CONA **Conrad Observa** 136.32 331 *i* PKiKP **PKPdf** 18 40 29.6 +1.0
comp=Z,7.6nm,0.7s,SNR=5.8
MANZ **Manzenberg** 136.48 335 *e*PKPdf **PKPdf** 18 40 29.3 +0.5
KHC **Kasperske Hory** 136.50 333 *e*PKPdf **PKPdf** 18 40 29.2 +0.3
KHC **Kasperske Hory** 136.50 333 *e*PKIKP **PKPdf** 18 40 29.2 +0.3
KHC **Kasperske Hory** 136.50 333 *e*PKPdf **PKPdf** 18 40 29.8 +0.9
DIVS **Divibare** 136.60 324⇓*i*P **PKPdf** 18 40 29.8 +0.5
ROTZ **Rotzenmuhle** 136.60 335 *e*PKPdf **PKPdf** 18 40 29.7 +0.7
UBBA **Unterbreizbach** 136.65 337 *e*PKPdf **PKPdf** 18 40 29.6 +0.7
GEC2 **GERESS Array S** 136.66 333 *e*PKPdf **PKPdf** 18 40 29.5 +0.2
GERES **GERESS Array B** 136.66 333 PKP **PKPdf** 18 40 29.1 -0.1
comp=Z,3.6nm,0.7s,baz=150,slow=1.1,SNR=4.0
GERES **GERESS Array B** 136.66 333 PKIKP **PKPdf** 18 40 29.1 -0.1
GERES pmax pmax
comp=Z,4.0nm,0.7s
BDFB **Brasilia** 136.78 129 PKP **PKPdf** 18 40 30.5 +0.1
comp=Z,5.7nm,0.8s,baz=208,slow=3.6,SNR=5.2
BDFB **Brasilia** 136.78 129 PKIKP **PKPdf** 18 40 30.5 +0.1
BDFB pmax pmax
comp=Z,6.0nm,0.8s
WET **Wettzell** 136.80 334 *e*PKPdf **PKPdf** 18 40 29.9 +0.5
GRF **Grafenberg Arr** 137.07 336 *e*PKPdf **PKPdf** 18 40 30.4 +0.5
BUG **Bochum--Univer** 137.10 340 *e*PKPdf **PKPdf** 18 40 30.3 +0.5
MOA **Molln** 137.13 332⇑*i*PKPdf **PKPdf** 18 40 30.1 0.0
comp=Z,6.5nm,1.0s
SOKA **Soboth** 137.60 330⇑*i*PKiKP **PKPdf** 18 40 31.8 +0.7
comp=Z,13nm,1.1s,SNR=7.6
MEM **Membach** 138.22 340 PKP **PKPdf** 18 40 32.9 +1.0
WTTA **Wattenberg** 138.76 333⇑*i*PKiKP **PKPdf** 18 40 34.1 +0.8
comp=Z,27nm,1.1s
SNF **Seneffe** 138.86 342 PKP **PKPdf** 18 40 35.9 +2.8
MOTA **Moosalm** 138.94 333⇑*i*PKPdf **PKPdf** 18 40 33.4 -0.2
comp=Z,15nm,0.8s,SNR=7.1
WLF **Walferdange** 138.98 340 E **PKiKP** 18 40 37.2 +1.6
DOU **Dourbes** 139.12 341 PKP **PKPdf** 18 40 33.3 -0.3
FETA **Feichten** 139.35 333⇑*i*PKiKP **PKPdf** 18 40 35.1 +0.7
comp=Z,22nm,1.1s
TUE **Stuetta** 140.37 334 *e*PKPdf **PKPdf** 18 40 37.0 +0.8
TUE LR LR
comp=Z,85nm,19.0s
AQU **L'Aquila** 141.43 326 PFAKE 18 40 50.0 +12
AQU LR LR
comp=Z,108nm,20.0s
TIP **Timpagrande** 141.45 320 *e*PKPpre PKPpre 18 40 34.5
TIP LR LR
comp=Z,73nm,19.0s
VLC **Villacollemand** 141.68 331 PFAKE 18 40 50.0 +12
VLC LR LR
comp=Z,81nm,19.0s
SSB **Saint Sauveur** 143.28 337 *e*PKIKP PKPbc 18 40 38.8 +0.4
SSB MLR MLR
comp=Z,97nm,22.0s
SSB **Saint Sauveur** 143.28 337 *e*PKPpre PKPbc 18 40 38.8 +0.4
SSB LR LR
comp=Z,97nm,22.0s
CLTB **Caltabellotta** 144.64 320 *e*PKPdf **PKPdf** 18 40 43.8 -0.2
CLTB LR LR
comp=Z,75nm,19.0s
VSL **Villasalto** 145.60 326 *e*PKPdf **PKPbc** 18 40 45.8 +0.1
VSL LR LR
comp=Z,81nm,20.0s
KEST **Kesra** 148.21 321 PKPbc **PKPbc** 18 40 54.3 +0.9
comp=Z,16nm,0.9s,baz=308,slow=2.3,SNR=36
CMAH **Djebel Manchou** 148.73 325 P **PKPbc** 18 40 55.0 +0.3
ABSA **Djebel Ababsia** 148.94 324 P **PKPbc** 18 40 55.5 +0.2
H07N1 **FLORES T-PHASB** 148.95 25 *e*PKPdf **PKPbc** 18 40 56.6 +1.5
H07S1 **FLORES T-PHASB** 149.17 26 *e*PKPdf **PKPbc** 18 40 56.2 +0.5
CKFL **Kef-Lekhel** 149.28 325 P **PKPbc** 18 40 57.0 +0.8
CASM **Ain Smara** 149.51 325 P **PKPbc** 18 40 57.5 +0.9
DFRA **Djebel Bou Aff** 149.64 326 P **PKPbc** 18 40 58.8 +1.8
CTEI **Djebel Teioual** 149.70 325 P **PKPbc** 18 40 58.0 +0.8
PBRG **Braganca** 149.78 348 *e*PKPab **PKPab** 18 41 02.6 +0.2
PGAV **Gavieira, Arco** 149.89 351 *e*PKPbc **PKPbc** 18 40 58.3 +0.9
PCAB **Cabril** 150.10 350 *e*PKPbc **PKPbc** 18 40 57.5 -0.4
SET **Setif** 150.16 326 P **PKPdf** 18 40 54.0 +0.8
CKHR **Kef el Ahmar** 150.23 326 P **PKPbc** 18 40 59.0 +0.5
POLO **Lamas de Olo** 150.39 350 *e*PKPdf **PKPdf** 18 40 54.0 +0.6
POLO **Lamas de Olo** 150.39 350 *e*PKPbc **PKPbc** 18 40 59.6 +0.9
MVO **Moncorvo** 150.45 349 *e*PKPbc **PKPbc** 18 40 59.1 +0.3
PVRL **Vila Real** 150.47 350 *e*PKPdf **PKPdf** 18 40 52.5 -1.0
PVRL **Vila Real** 150.47 350 *e*PKPbc **PKPbc** 18 40 59.9 +1.1
PTO **Porto** 150.75 351 *e*PKPbc **PKPbc** 18 41 00.5 +1.1
PCED **Cedros** 150.83 23 *e*PKPdf **PKPbc** 18 41 01.6 +1.9
ROSA **Rosais** 150.93 22 *e*PKPdf **PKPbc** 18 41 01.5 +1.6
PVIS **Viseu** 151.04 350 *e*PKPbc **PKPbc** 18 41 01.0 +0.8
PCAN **Candelaria** 151.06 23 *e*PKPdf **PKPbc** 18 41 01.0 +0.8
PMAN **Manadas** 151.06 22 *e*PKPdf **PKPbc** 18 41 01.7 +1.5
ESDC **Sonseca Array** 151.13 343 PKP **PKPdf** 18 40 54.0 -0.5
comp=Z,0.2nm,0.3s,baz=23,slow=2.8,SNR=6.5
ESDC PKPbc **PKPbc** 18 41 00.6 +0.1
comp=Z,11nm,0.8s,baz=15,slow=2.6,SNR=20
MTE **Manteigas** 151.29 349 *e*PKPdf **PKPdf** 18 40 56.1 +1.3
MTE **Manteigas** 151.29 349 *e*PKPbc **PKPbc** 18 41 01.6 +0.9
MTE **Manteigas** 151.29 349 *e*PKPdf **PKPdf** 18 40 55.6 +0.8
MTE *e*PKPbc **PKPbc** 18 41 01.7 +0.9
MTE LR LR
comp=Z,176nm,22.0s
ADH **Angra Heroismo** 151.35 21 *e*PKPdf **PKPbc** 18 41 02.9 +2.1
PAB **San Pablo** 151.36 344 *e*PKIKP **PKPdf** 18 40 55.9 +0.9
PAB MLR MLR
comp=Z,141nm,19.0s
PAB **San Pablo** 151.36 344 *e*PKPdf **PKPdf** 18 40 55.9 +0.9
PAB LR LR
comp=Z,141nm,19.0s
PCAS **Casmilo, Conde** 151.79 350 *e*PKPbc **PKPbc** 18 41 02.5 +0.6
PCBR **Castelo Branco** 151.82 349 *e*PKPdf **PKPdf** 18 40 55.8 +0.3
PCBR **Castelo Branco** 151.82 349 *e*PKPbc **PKPbc** 18 41 02.7 +0.8
PMRV **Marv??o** 152.20 348 *e*PKPdf **PKPdf** 18 40 57.4 +1.3
PMRV **Marv??o** 152.20 348 *e*PKPbc **PKPbc** 18 41 03.8 +1.0

PTOM	**Tomar**	**152.20**	**350**	*e*PKPdf	**PKPdf**	**18 40 57.1**	**+1.0**
PTOM	**Tomar**	**152.20**	**350**	*e*PKPbc	**PKPbc**	**18 41 03.5**	**+0.7**
PSET	**Sete Cidades**	**152.61**	**20**	*e*PKPdf	**PKPbc**	**18 41 01.1**	**-2.7**
PDA	**Ponta Delgada**	**152.70**	**20**	*e*PKPdf	**PKPbc**	**18 41 02.7**	**-1.2**
PMTG	**Montargil**	**152.70**	**349**	*e*PKPdf	**PKPdf**	**18 40 57.7**	**+0.9**
PMTG	**Montargil**	**152.70**	**349**	*e*PKPbc	**PKPbc**	**18 41 04.5**	**+0.6**
EVO	**Evora**	**153.19**	**349**	*e*PKPdf	**PKPdf**	**18 40 58.7**	**+1.1**
EVO	**Evora**	**153.19**	**349**	*e*PKPbc	**PKPbc**	**18 41 05.8**	**+0.8**
PBAR	**Barrancos**	**153.33**	**347**	*e*PKPbc	**PKPbc**	**18 41 06.1**	**+0.8**
PBAR	**Barrancos**	**153.33**	**347**	*e*PKPab	**PKPab**	**18 41 18.8**	**+1.6**
PSMN	**Pico do Norte,**	**153.57**	**19**	*e*PKPdf	**PKPbc**	**18 41 03.8**	**-2.1**
PNCL	**Nicolau / Gran**	**153.69**	**349**	*e*PKPdf	**PKPdf**	**18 40 59.4**	**+1.1**
PNCL	**Nicolau / Gran**	**153.69**	**349**	*e*PKPab	**PKPab**	**18 41 20.4**	**+1.7**
MESJ	**Messejana**	**153.90**	**349**	*e*P	**PKPdf**	**18 40 58.3**	**-0.3**
MESJ				AMS	AMS	19 51 24.2	
	comp=Z,93nm,19.6s						
MESJ	**Messejana**	**153.90**	**349**	*e*PKPdf	**PKPdf**	**18 41 00.0**	**+1.4**
MESJ	**Messejana**	**153.90**	**349**	*e*PKPbc	**PKPbc**	**18 41 07.7**	**+1.1**
MESJ	**Messejana**	**153.90**	**349**	*e*PKIKP	**PKPdf**	**18 40 58.3**	**-0.3**
PCVE	**Castro Verde**	**154.06**	**348**	*e*PKPdf	**PKPdf**	**18 41 00.7**	**+1.9**
PVAQ	**Vaqueiros**	**154.22**	**348**	*e*PKPbc	**PKPbc**	**18 41 08.4**	**+1.1**
PTEO	**Sao Teotonio**	**154.27**	**349**	*e*PKPdf	**PKPdf**	**18 40 59.0**	**-0.1**
PBDV	**Barranco-do-Ve**	**154.41**	**348**	*e*PKPbc	**PKPbc**	**18 41 08.2**	**+0.5**
MORF	**Marmelete**	**154.49**	**349**	*e*P	**PKPdf**	**18 40 58.0**	**-1.5**
MORF	**Marmelete**	**154.49**	**349**	*e*PKPdf	**PKPdf**	**18 40 58.4**	**-1.1**
MORF	**Marmelete**	**154.49**	**349**	*e*PKIKP	**PKPdf**	**18 40 58.0**	**-1.5**
PFVI	**Vila Bisbo**	**154.69**	**349**	*e*PKPdf	**PKPdf**	**18 41 02.5**	**+2.8**
RTC	**Rabat Centre**	**157.26**	**343**	PFAKE		18 41 10.0	+6.8
RTC				LR	LR		
	comp=Z,690nm,22.0s						
MDT	**Midelt**	**157.60**	**338**	PKP	**PKPdf**	**18 41 04.2**	**+0.4**
	comp=Z,5.1nm,0.9s,baz=79,slow=2.7,SNR=4.9						
MDT				PKPab	**PKPab**	**18 41 36.4**	**+0.5**
	comp=Z,6.1nm,0.9s,baz=56,slow=7.5,SNR=4.4						
TAM	**Tamanrasset**	**158.25**	**302**	*e*PKIKP	**PKPdf**	**18 41 06.1**	**+1.1**
TAM				MLR	MLR		
	comp=Z,175nm,21.0s						
TAM	**Tamanrasset**	**158.25**	**302**	*e*PKPdf	**PKPdf**	**18 41 06.1**	**+1.1**
TAM				LR	LR		
	comp=Z,175nm,21.0s						
TORD	**Torodi Ar. Bea**	**164.18**	**275**	PKP	**PKPdf**	**18 41 11.2**	**0.0**
	comp=Z,7.2nm,0.9s,baz=48,slow=0.5,SNR=28						
TORD				PKPab	**PKPab**	**18 42 05.6**	**+0.5**
	comp=Z,13nm,0.9s,baz=82,slow=4.9,SNR=15						

WEL 28 18:23:18.4±0.1, 37.88S×177.52E, h49km±1km, ML3.5/5, 2C-24D, Error ellipse: s-maj=1.0km s-min=0.8km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**0.24**	**59**	P*	Pn	18 23 26.2	-0.7
HAZ				S*	Sn	18 23 32.5	-0.5
WIZ	**White Island**	**0.44**	**323**	P*	Pn	18 23 28.6	-0.3
MWZ	**Matawai**	**0.45**	**179**	⇓P*	Pn	18 23 28.4	-0.7
MWZ				S*	Sn	18 23 36.5	-0.3
MWZ				AML	AML	18 23 36.9	
MWZ				AML	AML	18 23 37.2	
MWZ				AML	AML	18 23 37.2	
TWGZ	**Tauwhareparae**	**0.47**	**129**	⇑PN	Pn	18 23 29.6	+0.3
TWGZ				SN	Sn	18 23 39.2	+2.1
URZ	**Urewera**	**0.50**	**221**	⇓P*	Pn	18 23 29.0	-0.5
URZ				AML	AML	18 23 37.6	
URZ				AML	AML	18 23 37.7	
PUZ	**Puketiti**	**0.61**	**108**	⇓PN	Pn	18 23 30.6	-0.4
PUZ				AML	AML	18 23 43.3	
PUZ				AML	AML	18 23 44.5	
TKGZ	**Te Karaka**	**0.61**	**155**	PN	Pn	18 23 30.9	0.0
RAGZ	**Rawiri**	**0.62**	**188**	⇓P*	Pn	18 23 30.9	-0.3
EDRZ	**Edgecumbe**	**0.66**	**250**	⇓P*	Pn	18 23 31.5	-0.1
MARZ	**Manawahe**	**0.68**	**261**	⇓P*	Pn	18 23 31.4	-0.4
MARZ				S*	Sn	18 23 41.8	+0.2
MXZ	**Matakaoa Point**	**0.70**	**63**	⇑P*	Pn	18 23 32.3	+0.2
MXZ				AML	AML	18 23 47.1	
MXZ				AML	AML	18 23 47.1	
WMGZ	**Waiomatatini S**	**0.71**	**85**	⇓PN	Pn	18 23 32.2	0.0
OPRZ	**Ohinepanea**	**0.77**	**272**	⇓P*	Pn	18 23 32.5	-0.4
CNGZ	**Carnagh Statio**	**0.81**	**138**	PN	Pn	18 23 33.3	-0.2
RIGZ	**Rimuhau**	**0.84**	**167**	PN	Pn	18 23 33.6	-0.5
MKRZ	**Makatiti**	**0.87**	**252**	P*	Pn	18 23 34.7	+0.4
TARZ	**Mount Tarawera**	**0.88**	**246**	P*	Pn	18 23 34.5	-0.1
LIRZ	**Lichensteins R**	**0.91**	**262**	P*	Pn	18 23 34.2	-0.6
SNGZ	**Shannon Statio**	**0.91**	**189**	PN	Pn	18 23 35.2	+0.3
RRRZ	**Republican Roa**	**0.92**	**240**	⇓P*	Pn	18 23 34.6	-0.4
OMRZ	**Omania**	**0.94**	**256**	⇓P*	Pn	18 23 35.1	-0.2
HLRZ	**Highlands Stat**	**0.99**	**248**	P*	Pn	18 23 35.9	-0.1
TGRZ	**Tauranga**	**1.01**	**278**	⇓P*	Pn	18 23 35.8	-0.4
KARZ	**Kaharoa**	**1.02**	**262**	⇓P*	Pn	18 23 36.1	-0.3
PRGZ	**Paritu Road**	**1.08**	**165**	PN	Pn	18 23 36.6	-0.6
PRRZ	**Plateau Road**	**1.08**	**235**	⇓P*	Pn	18 23 36.8	-0.4
RAHZ	**Arahi**	**1.09**	**198**	⇓PN	Pn	18 23 37.3	-0.1
HSRZ	**Hossack Road**	**1.09**	**247**	P*	Pn	18 23 37.4	+0.1
HRRZ	**Handcock Road**	**1.10**	**242**	P*	Pn	18 23 37.0	-0.5
KNZ	**Kokohu**	**1.14**	**174**	PN	Pn	18 23 37.2	-0.8
ALRZ	**Allen Road**	**1.15**	**233**	P*	Pn	18 23 37.7	-0.5
NMHZ	**Naumai**	**1.34**	**205**	PN	Pn	18 23 40.9	+0.1
ARHZ	**Aropaoanui**	**1.44**	**196**	PN	Pn	18 23 41.9	-0.1
KUTZ	**Kaahu Road**	**1.47**	**245**	⇓P*	Pn	18 23 42.4	-0.1
BKZ	**Black Stump Fm**	**1.52**	**212**	⇓P*	Pn	18 23 42.4	-0.7
BKZ				AML	AML	18 24 06.9	
BKZ				AML	AML	18 24 08.6	
TOZ	**Tahuroa Road**	**1.61**	**275**	⇓P*	Pn	18 23 44.0	-0.3
TLZ	**Tolley Road**	**1.63**	**253**	⇓P*	Pn	18 23 44.3	-0.4
MCHZ	**McNeill Hill**	**1.69**	**202**	PN	Pn	18 23 45.5	0.0
RITZ	**Rihia Road**	**1.70**	**230**	P*	Pn	18 23 45.7	0.0
KWHZ	**Kaweka Forest**	**1.76**	**209**	P*	Pn	18 23 46.1	-0.5
KATZ	**Kakaramea**	**1.80**	**232**	P*	Pn	18 23 46.9	-0.3
KUZ	**Kuaotunu**	**1.83**	**308**	⇓PN	Pn	18 23 46.7	-0.7
KRVZ	**Karewarewa**	**1.91**	**230**	P*	Pn	18 23 48.4	-0.3
OTVZ	**Oturere**	**1.94**	**228**	⇓P*	Pn	18 23 48.8	-0.3
WTVZ	**West Tongariro**	**1.95**	**230**	P*	Pn	18 23 49.2	-0.1
BHHZ	**Black Hill Sta**	**1.97**	**215**	P*	Pn	18 23 48.8	-0.6
KAHZ	**Kahuranaki**	**1.98**	**195**	PN	Pn	18 23 48.3	-1.2
KRHZ	**Kereru**	**1.98**	**207**	PN	Pn	18 23 48.7	-0.8
NGZ	**Ngauruhoe**	**1.98**	**229**	P*	Pn	18 23 49.5	-0.2
TUVZ	**Tukino**	**2.02**	**226**	P*	Pn	18 23 49.7	-0.4
TWVZ	**Taurewa**	**2.02**	**233**	P*	Pn	18 23 51.3	+1.2
MKAZ	**Moumakai**	**2.02**	**292**	PN	Pn	18 23 49.9	-0.1
WPVZ	**Whakapapa**	**2.04**	**229**	P*	Pn	18 23 50.3	-0.1
MOVZ	**Moawhango**	**2.06**	**222**	P*	Pn	18 23 49.9	-0.7
WHVZ	**Whangaehu Hut**	**2.06**	**227**	⇓P*	Pn	18 23 50.3	-0.5
DRZ	**Dome Shelter**	**2.07**	**227**	P*	Pn	18 23 52.2	+1.2
WNVZ	**Wahianoa**	**2.09**	**226**	⇓P*	Pn	18 23 50.6	-0.5
HIZ	**Hauiti**	**2.19**	**252**	⇓PN	Pn	18 23 52.9	+0.5
MTVZ	**Mangateitei**	**2.20**	**226**	P*	Pn	18 23 52.2	-0.3
PXZ	**Pawanui**	**2.21**	**193**	PN	Pn	18 23 50.3	-2.3
PKVZ	**Pokaka**	**2.21**	**230**	P*	Pn	18 23 53.1	+0.4
ETAZ	**East Tamaki Re**	**2.26**	**293**	⇓PN	Pn	18 23 53.5	+0.2
PNHZ	**Pukenui**	**2.28**	**207**	PN	Pn	18 23 52.2	-1.4
GRZ	**Great Barrier**	**2.32**	**314**	PN	Pn	18 23 53.8	-0.3
PRHZ	**Porangahau**	**2.48**	**196**	PN	Pn	18 23 54.1	-2.2
TSZ	**Takapari Road**	**2.49**	**209**	PN	Pn	18 23 55.0	-1.5
VRZ	**Vera Road**	**2.50**	**239**	P*	Pn	18 23 57.2	+0.7
WAZ	**Wanganui**	**2.73**	**226**	PN	Pn	18 24 00.1	+0.5
BFZ	**Birch Farm**	**2.97**	**199**	PN	Pn	18 24 00.3	-2.7
NEZ	**North Egmont**	**3.02**	**242**	PN	Pn	18 24 05.9	+2.0
TIWZ	**Tintock**	**3.16**	**203**	PN	Pn	18 24 02.7	-2.9
MRZ	**Mangatainoka R**	**3.16**	**208**	PN	Pn	18 24 02.5	-3.1
WCZ	**Waipu Caves**	**3.20**	**306**	PN	Pn	18 24 06.4	+0.3
HOWZ	**Holdsworth Sta**	**3.39**	**207**	PN	Pn	18 24 05.5	-3.3
OGWZ	**Otaki Gorge**	**3.45**	**211**	PN	Pn	18 24 06.7	-2.9
KIW	**Kapiti Island**	**3.60**	**213**	PN	Pn	18 24 08.8	-2.8
MTW	**Mount Morrison**	**3.63**	**205**	PN	Pn	18 24 08.3	-3.7
TCW	**Tory Channel**	**4.17**	**216**	PN	Pn	18 24 15.9	-3.5
TUWZ	**Tuamarina**	**4.49**	**217**	PN	Pn	18 24 20.3	-3.5
BSWZ	**Blackbirch Sta**	**4.75**	**215**	PN	Pn	18 24 24.7	-2.7
QRZ	**Quartz Range**	**4.86**	**231**	PN	Pn	18 24 26.6	-2.3
THZ	**Tophouse**	**5.26**	**221**	PN	Pn	18 24 30.7	-3.7
MQZ	**McQueen's Vall**	**6.89**	**211**	PN	Pn	18 24 51.0	-5.7
ODZ	**Otahua Downs**	**8.82**	**214**	PN	Pn	18 25 17.4	-5.8

*BJI **28** 18:51:20.1, 7.78S×124.61E, h396km, mb4.4/19, mB4.4/14*
*MOS **28** 18:51:21.7±0.9, 7.63S×124.29E, h394km, mb4.4/18, Error ellipse: s-maj=12.7km s-min=7.7km az=109.1*
*ISCJB **28** 18:51:22.8±0.2, 7.69S±0.02×124.25E±0.02, h404km±3km, mb4.4/41, Error ellipse: s-maj=4.1km s-min=3.5km az=43.3*

*DJA **28** 18:51:23.8±0.2, 8.3S×122.4E, h384km±3km, M4.7/41, mb4.9/41, mB5.2/22, MLv5.1/8, Mw(mB)4.5/22*
*IDC **28** 18:51:23.8±0.6, 7.65S×124.32E, h397km±6km, mb4.1/21, mb1 4.1/27, mb1mx4.0/36, mbtmp4.9/27, Error ellipse: s-maj=10.7km s-min=6.1km az=64.0*
*NEIC **28** 18:51:23.7±0.2, 7.67S×124.31E, mb4.8/23, Error ellipse: s-maj=6.5km s-min=4.5km az=59.0*
*KLM **28** 18:51:24.3, 7.93S×124.11E, h404km, mb4.8, ML4.8, MS5.9*

ISC 28 18:51:23.4±0.4, 7.67S±0.04×124.29E±0.04, h395km±4km, h396km; pP-P, n217, σ1934/245, mb4.4/41, 9C-5D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**2.07**	**181**	P	**Pn**	**18 52 19.5**	**0.0**
SOEI				S	**S**	**18 53 02.4**	**-2.4**
SOEI	**Soe**	**2.07**	**181**	P	**Pn**	**18 52 19.5**	**0.0**
	baz=2.1,SNR=332						
SOEI	**Soe**	**2.07**	**181**	*e*Pn	**Pn**	**18 52 19.1**	**-0.4**
SOEI				*e*Sn	**S**	**18 53 01.9**	**-2.9**
MMRI	**Maumere**	**2.24**	**245**	P	**Pn**	**18 52 19.9**	**-0.6**
MMRI	**Maumere**	**2.24**	**245**	*e*Pn	**Pn**	**18 52 19.5**	**-1.0**
KDI	**Kendari**	**4.04**	**336**	P	**Pn**	**18 52 36.2**	**+0.5**
BSSI	**Bau Bau, Buton**	**4.06**	**292**	P	**Pn**	**18 52 36.3**	**+0.5**
WSI	**Waingapu**	**4.42**	**243**	P	**Pn**	**18 52 38.0**	**-1.2**
WSI				S	**S**	**18 53 35.3**	**-5.4**
WSI	**Waingapu**	**4.42**	**243**	P	**Pn**	**18 52 37.4**	**-1.8**
	baz=4.4,SNR=38						
BKSI	**Bulukumba**	**4.75**	**299**	P	**Pn**	**18 52 43.4**	**+0.8**
NLAI	**Namlea**	**5.22**	**33**	P	**Pn**	**18 52 49.1**	**+1.6**
KAPI	**Kappang**	**5.22**	**300**	P	**Pn**	**18 52 48.7**	**+1.2**
	18nm,0.3s,baz=144,slow=6.3,SNR=128						
AAI	**Ambon**	**5.55**	**45**	P	**Pn**	**18 52 52.4**	**+1.4**
AAI	**Ambon**	**5.55**	**45**	P	**Pn**	**18 52 52.7**	**+1.7**
	baz=5.6,SNR=90						
SPSI	**Sidrap Palu**	**5.81**	**309**	P	**Pn**	**18 52 54.0**	**+0.2**
	121nm,0.9s,972nm0.4nm						
SANI	**Sanana**	**5.84**	**17**	P	**Pn**	**18 52 55.5**	**+1.4**
TTSI	**Tana Toraja**	**6.39**	**316**	P	**Pn**	**18 53 00.3**	**+0.1**
	126nm,0.9s,1μm0.3nm						
BNDI	**Bandanaira**	**6.40**	**61**	P	**Pn**	**18 53 00.5**	**+0.2**
	1μm,0.7s,9μm4.6nm						
BNDI				S	**S**	**18 54 22.0**	**+2.7**
	1μm,0.7s,9μm4.6nm						
LBMI	**Labuha**	**7.69**	**25**	P	**P**	**18 53 16.3**	**+0.9**
PCI	**Palu**	**8.05**	**326**	P	**P**	**18 53 21.1**	**+1.5**
	83nm,1.1s,794nm						
KMSI	**Cibinong**	**8.20**	**358**	P	**P**	**18 53 22.9**	**+1.8**
MRSI	**Marisa**	**8.43**	**344**	P	**P**	**18 53 24.8**	**+1.1**
MTN	**Manton Dam**	**8.47**	**128**	P	**P**	**18 53 24.4**	**+0.2**
	baz=8.6,SNR=112						
TNTI	**Ternate**	**8.93**	**20**	P	**P**	**18 53 30.9**	**+1.6**
	68nm,1.1s						
TNTI	**Ternate**	**8.93**	**20**	*e*Pn	Pn	18 53 21.9	-7.2
	56nm,0.8s						
SRBI	**Singaraja**	**9.00**	**267**	P	**Pn**	**18 53 28.8**	**-1.1**
DNP	**Denpasar**	**9.04**	**263**	P	**Pn**	**18 53 30.2**	**-0.1**
DNP				S	**S**	**18 55 10.2**	**-4.4**
MPSI	**Mapaga**	**9.08**	**331**	P	**P**	**18 53 34.1**	**+3.1**
	19nm,1.2s						
KNRA	**Kununurra**	**9.08**	**152**	P	**P**	**18 53 31.2**	**+0.3**
	baz=9.2,SNR=35						
IGBI	**Denpasar**	**9.12**	**262**	P	**P**	**18 53 33.0**	**+1.6**
	238nm,0.5s,7μm						
FAKI	**Fak Fak**	**9.22**	**60**	P	**Pn**	**18 53 30.6**	**-1.9**
	260nm,0.9s,2μm						
FAKI	**Fak Fak**	**9.22**	**60**	P	**Pn**	**18 53 30.6**	**-1.9**
	baz=9.3,SNR=64						
FAKI	**Fak Fak**	**9.22**	**60**	*e*Pn	**Pn**	**18 53 30.3**	**-2.2**
	160nm,0.8s						
KDU	**Kakadu**	**9.47**	**122**	P	**P**	**18 53 35.0**	**-0.2**
	baz=9.6,SNR=62						
SIJI	**Sorong**	**9.70**	**46**	P	**P**	**18 53 37.1**	**-0.7**
	56nm,0.3s,baz=207,slow=10,SNR=291						
SIJI				S	**S**	**18 55 23.1**	**-5.2**
	11nm,0.3s,baz=117,slow=23,SNR=24						
SWI	**Sorong**	**9.70**	**46**	P	**P**	**18 53 36.9**	**-0.9**
	429nm,0.7s,4μm						
SWI	**Sorong**	**9.70**	**46**	P	**P**	**18 53 37.2**	**-0.6**
	baz=9.8,SNR=141						
ABJI	**Asem Bagus**	**9.96**	**269**	P	**P**	**18 53 40.7**	**-0.1**
	221nm,0.8s						
JAGI	**Jajag, Banyuwa**	**10.07**	**265**	P	**P**	**18 53 40.5**	**-1.4**
	137nm,0.9s,3μm						
JAGI	**Jajag, Banyuwa**	**10.07**	**265**	P	**P**	**18 53 39.2**	**-2.7**
	baz=10.0,SNR=34						
JAGI	**Jajag, Banyuwa**	**10.07**	**265**	*e*Pn	**P**	**18 53 39.0**	**-2.9**
	132nm,0.8s						
KMMI	**Kalianget**	**10.26**	**273**	P	**Pn**	**18 53 47.5**	**+3.1**
	159nm,0.9s						
FITZ	**Fitzroy Crossi**	**10.45**	**173**	*e*Pn	**Pn**	**18 53 46.4**	**-0.2**
	31nm,0.5s						
BLJI	**Banyuglugur**	**10.60**	**269**	P	**P**	**18 53 47.7**	**-0.1**
	578nm,0.8s,6μm						
GRJI	**Gresik**	**11.74**	**273**	P	**Pn**	**18 54 03.0**	**+1.3**
	206nm,0.8s,2μm						
PWJI	**Pagerwojo**	**12.37**	**268**	P	**P**	**18 54 07.0**	**-0.4**
	151nm,0.8s						
NGJI	**Ngawi**	**12.72**	**271**	P	**Pn**	**18 54 14.3**	**+1.2**
	139nm,0.9s						
NGJI				S	**S**	**18 56 32.1**	**+2.0**
	139nm,0.9s						
WOJI	**Wonogiri, Jawa**	**13.24**	**268**	P	**P**	**18 54 17.9**	**+0.9**
	149nm,1.2s,4μm						
BAKI	**Biak**	**13.42**	**62**	P	**Pn**	**18 54 22.2**	**+1.0**
	112nm,0.9s,2μm						
BAKI				S	**S**	**18 56 45.7**	**+1.4**
	112nm,0.9s,2μm						
PBKI	**Pangkalan Bun**	**13.50**	**291**	P	**Pn**	**18 54 24.2**	**+2.1**
	156nm,0.9s						
TSM	**Tawau**	**13.50**	**331**	⇑P	**Pn**	**18 54 23.2**	**+1.1**
UGM	**Wanagama**	**13.64**	**268**	P	**P**	**18 54 20.8**	**-0.6**
	baz=14,SNR=5.1						
MYLDM	**Lahad Datu**	**14.01**	**335**	⇓P	**Pn**	**18 54 28.9**	**+1.2**
MBWA	**Marble Bar**	**14.11**	**198**	*e*Pn	**P**	**18 54 26.3**	**-0.1**
	23nm,0.5s						
STKI	**Sintang**	**14.91**	**300**	P	**Pn**	**18 54 36.9**	**-1.0**
	31nm,0.7s						
SDKM	**Sandakan**	**15.00**	**332**	⇑P	**Pn**	**18 54 39.8**	**+0.8**
SMPI	**Sami**	**15.44**	**69**	P	**Pn**	**18 54 42.7**	**-1.3**
	74nm,1.1s,854nm						
BTM	**Bintulu**	**15.54**	**314**	⇑P	**Pn**	**18 54 44.4**	**-0.8**
WRA	**Warramunga Arr**	**15.61**	**142**	P	**P**	**18 54 42.4**	**-0.4**
	6.5nm,0.3s,baz=313,slow=13,SNR=390						
WRA				S	**S**	**18 57 24.3**	**-3.5**
	0.4nm,0.3s,baz=310,slow=20,SNR=7.3						
WRA	**Warramunga Arr**	**15.61**	**142**	P	**P**	**18 54 42.4**	**-0.4**
WRA				S	**S**	**18 57 24.3**	**-3.5**
WRA				pmax	pmax		
	comp=Z,7.0nm,0.3s						
WRAB	**Tennant Creek**	**15.61**	**142**	*d*iP	**P**	**18 54 42.7**	**0.0**
WRAB				pmax	pmax		
	comp=Z,182nm,1.2s						
WRAB	**Tennant Creek**	**15.61**	**142**	*e*P	**P**	**18 54 42.5**	**-0.3**
	comp=Z,42nm,0.6s						
SBUM	**Sibu**	**15.69**	**309**	⇓P	**Pn**	**18 54 45.9**	**-1.0**
CMJI	**Cimerak**	**15.70**	**269**	P	**P**	**18 54 43.9**	**+0.2**
	comp=Z,162nm,0.7s						
KKM	**Kota Kinabalu**	**15.83**	**329**	P	**Pn**	**18 54 47.0**	**-1.6**
	baz=16,SNR=5.1						
KKM	**Kota Kinabalu**	**15.83**	**329**	*e*P	**P**	**18 54 46.1**	**+0.9**
	comp=Z,34nm,0.8s						
CISI	**Cisompet, Garu**	**16.33**	**269**	P	**P**	**18 54 50.9**	**+0.3**
	comp=Z,126nm,0.7s,comp=Z,3μm						
CISI	**Cisompet, Garu**	**16.33**	**269**	P	**P**	**18 54 47.9**	**-2.6**
	baz=16,SNR=17						
CISI	**Cisompet, Garu**	**16.33**	**269**	*e*P	**P**	**18 54 47.5**	**-3.1**
	comp=Z,82nm,0.4s						
LEM	**Lembang**	**16.56**	**272**	P	**P**	**18 54 52.9**	**-0.2**
	comp=Z,79nm,0.9s						
LEM	**Lembang**	**16.56**	**272**	P	**P**	**18 54 52.1**	**-1.0**
	comp=Z,5.3nm,0.3s,baz=86,slow=7.1,SNR=16						
LEM	**Lembang**	**16.56**	**272**	P	**P**	**18 54 52.1**	**-1.0**
LEM				pmax	pmax		
	comp=Z,5.0nm,0.3s						
LEM	**Lembang**	**16.56**	**272**	P	**P**	**18 54 52.6**	**-0.5**
	baz=16,SNR=6.6						
GENI	**Genyem**	**16.60**	**73**	P	**P**	**18 54 54.1**	**+0.7**
	comp=Z,70nm,1.1s						
KSM	**Kuching**	**16.64**	**303**	*e*P	**P**	**18 54 54.2**	**+0.3**
	comp=Z,29nm,0.8s						
JAY	**Jayapura**	**17.13**	**73**	P	**P**	**18 55 01.0**	**+1.9**
	comp=Z,35nm,0.9s,comp=Z,7μm						
JAY	**Jayapura**	**17.13**	**73**	P	**P**	**18 54 58.6**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=224,slow=12,SNR=9.5						
JAY	**Jayapura**	**17.13**	**73**	P	**P**	**18 54 58.6**	**-0.5**
JAY				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JAY	**Jayapura**	**17.13**	**73**	P	**P**	**18 54 59.8**	**+0.7**
	baz=17,SNR=7.4						
TPI	**Tanjungpandan**	**17.27**	**286**	P	**P**	**18 55 01.8**	**+1.3**
	comp=Z,56nm,1.4s,comp=Z,621nm						
CBJI	**Citeko**	**17.35**	**273**	P	**P**	**18 55 00.1**	**-1.3**
	comp=Z,490nm,1.1s						
SKJI	**Sukabumi**	**17.60**	**271**	P	**P**	**18 55 04.2**	**+0.2**
WRKA	**Warakurna**	**17.69**	**168**	P	**P**	**18 55 05.1**	**+0.2**
	baz=18,SNR=41						
GIRL	**Giralia**	**17.75**	**212**	P	**P**	**18 55 06.1**	**+0.5**
	baz=18,SNR=32						
PALU	**Palau**	**18.05**	**34**	P	**P**	**18 55 08.4**	**-0.3**
	baz=18,SNR=34						
ASAR	**Alice Springs**	**18.39**	**151**	P	**P**	**18 55 12.6**	**+0.2**
	comp=Z,3.9nm,0.3s,baz=324,slow=8.4,SNR=349						
ASAR				S	**S**	**18 58 22.1**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=330,slow=19,SNR=16						
ASAR				ScP	**ScP**	**19 02 19.0**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=345,slow=1.8,SNR=8.3						
ASAR	**Alice Springs**	**18.39**	**151**	P	**P**	**18 55 12.6**	**+0.2**
ASAR				S	**S**	**18 58 22.2**	**+0.8**
ASAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAR				smax	smax		
	comp=N,1.0nm,0.3s						
ASAR				pmax	pmax		
	comp=N,1.0nm,0.3s						
XMIS	**Christmas Isla**	**18.61**	**260**	P	**P**	**18 55 12.3**	**-2.5**
	baz=18,SNR=6.7						
COEN	**Coen**	**19.57**	**110**	P	**P**	**18 55 24.0**	**-0.3**
	baz=20,SNR=171						
COEN	**Coen**	**19.57**	**110**	*e*P	**P**	**18 55 23.7**	**-0.6**
	comp=N,101nm,0.6s						
QIS	**Mount Isa**	**19.59**	**132**	P	**P**	**18 55 24.6**	**+0.2**
	baz=20,SNR=53						
MEEK	**Meekatharra**	**19.62**	**195**	P	**P**	**18 55 24.3**	**-0.4**
	baz=20,SNR=274						
TGY	**Tagaytay City**	**21.89**	**351**	P	**P**	**18 55 45.1**	**-0.4**
	comp=N,27nm,0.4s,baz=309,slow=2.2,SNR=3.7						
TGY	**Tagaytay City**	**21.89**	**351**	P	**P**	**18 55 45.1**	**-0.4**
TGY				pmax	pmax		
	comp=Z,27nm,0.4s						
MTSU	**Mount Surprise**	**22.09**	**120**	P	**P**	**18 55 48.3**	**+0.9**
	baz=22,SNR=80						
MORW	**Morawa**	**22.66**	**199**	P	**P**	**18 55 52.4**	**0.0**
	baz=23,SNR=24						
PMG	**Port Moresby**	**22.68**	**96**	P	**P**	**18 55 52.7**	**-0.1**
	comp=Z,28nm,0.7s,baz=208,slow=4.5,SNR=10						
PMG	**Port Moresby**	**22.68**	**96**	P	**P**	**18 55 52.7**	**-0.1**
PMG				pmax	pmax		
	comp=Z,28nm,0.7s						
KGM	**Kluang**	**23.02**	**294**	⇑P	**P**	**18 55 57.0**	**+1.1**
FORT	**Forrest**	**23.26**	**172**	P	**P**	**18 55 58.0**	**+0.3**

MJAR				PcP	**PcP**	**19 00 38.0**	**+0.2**
	comp=Z,2.2nm,0.9s,baz=216,slow=8.5,SNR=4.6						
MJAR				ScP	**ScP**	**19 03 52.0**	**-0.6**
	comp=Z,2.9nm,0.8s,baz=190,slow=4.8,SNR=7.4						
MJAR	**Matsushiro Arr**	**45.88**	**16**	P	**P**	**18 59 07.6**	**-0.7**
MJAR						19 00 38.0	
MJAR				pmax	pmax		
	comp=Z,16nm,0.7s						
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MJAR				pmax	pmax		
	comp=N,3.0nm,0.8s						
MAJO	**Matsushiro**	**45.88**	**16**	*e*P	**P**	**18 59 07.3**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,18nm,0.7s						
MAJO	**Matsushiro**	**45.88**	**16**	*e*P	**P**	**18 59 07.2**	**-1.0**
	comp=Z,18nm,0.7s						
MAT	**Matsushiro**	**45.88**	**16**	P	**P**	**18 59 07.5**	**-0.8**
LSA	**Lhasa**	**48.95**	**321**	*e*P	**P**	**18 59 32.8**	**+0.5**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
LSA	**Lhasa**	**48.95**	**321**	*e*P	**P**	**18 59 32.8**	**+0.5**
	comp=Z,4.5nm,0.7s						
ODAN	**Odare**	**49.57**	**315**	*e*P	**P**	**18 59 36.7**	**0.0**
	comp=Z,11nm,0.6s						
HHC	**Hu-ho-hao-te**	**49.68**	**347**	*e*P	P	18 59 43.0	+5.9
HHC				PP	PP	19 01 44.0	+7.6
HHC				S	S	19 06 23.5	+8.3
RAMN	**Ramite**	**50.18**	**315**	*e*P	**P**	**18 59 41.0**	**-0.2**
	comp=Z,21nm,0.6s						
GUN	**Gumba**	**51.27**	**315**	*e*P	P	18 59 46.1	-3.3
	comp=Z,14nm,0.5s						
PKI	**Pulchoki**	**51.40**	**315**	*e*P	**P**	**18 59 49.8**	**-0.5**
	comp=Z,8.3nm,0.6s						
PKIN	**Phulchoki**	**51.41**	**315**	*e*P	**P**	**18 59 49.9**	**-0.4**
	comp=Z,8.9nm,0.5s						
KKN	**Kakani**	**51.62**	**315**	*e*P	**P**	**18 59 51.1**	**-0.7**
	comp=Z,5.7nm,0.6s						
DMN	**Daman**	**51.63**	**314**	*e*P	**P**	**18 59 51.7**	**-0.2**
	comp=Z,5.6nm,0.7s						
GTA	**Gaotai**	**52.05**	**336**	⇓P	**P**	**18 59 55.3**	**+0.7**
GTA				S	**S**	**19 06 46.0**	**-1.4**
GTA				PMZ			
	comp=Z,13nm,1.2s						
USRK	**Ussuriysk Ar.**	**52.10**	**7**	P	**P**	**18 59 54.8**	**+0.1**
	comp=Z,21nm,0.8s,baz=192,slow=6.4,SNR=40						
GKN	**Gorkha**	**52.20**	**314**	*e*P	**P**	**18 59 54.2**	**-1.8**
	comp=Z,8.2nm,0.4s						
MDJ	**Mudanjiang**	**52.26**	**5**	*e*P	**P**	**18 59 56.3**	**+0.4**
	comp=Z,38nm,0.9s						
KOLN	**Koldanda**	**52.80**	**314**	*e*P	**P**	**19 00 00.4**	**0.0**
	comp=Z,9.9nm,0.5s						
RPZ	**Rata Peaks**	**54.30**	**139**	P	**P**	**19 00 11.7**	**+1.1**
	comp=Z,46nm,0.8s,baz=264,slow=3.1,SNR=20						
RPZ	**Rata Peaks**	**54.30**	**139**	*e*P	**P**	**19 00 11.5**	**+0.9**
	comp=Z,61nm,1.0s						
HABR	**Khabarovsk**	**56.70**	**9**	*ce*P	**P**	**19 00 24.9**	**-2.4**
HABR						19 01 17.5	
HABR						19 02 34.8	
HABR				*e*S	**S**	**19 07 48.8**	**+0.5**
HABR				*e*		19 09 38.4	
HABR				*e*SS	**SS**	**19 11 43.5**	**-0.3**
HABR				*e*SSS	SSS	19 14 26.0	
HABR				pmax	pmax		
	comp=E,13nm,1.3s						
HABR				pmax	pmax		
	comp=Z,29nm,1.3s						
HABR				pmax	pmax		
	comp=N,3.0nm,0.6s						
HABR				MLR	MLR		
	comp=Z,78nm,19.0s						
HIA	**Hailar**	**56.84**	**356**	*e*P	**P**	**19 00 28.5**	**+0.2**
HIA				pmax	pmax		
	comp=Z,19nm,0.9s						
HIA	**Hailar**	**56.84**	**356**	*e*P	**P**	**19 00 28.5**	**+0.2**
	comp=Z,19nm,0.9s						
ULN	**Ulaanbaatar**	**57.36**	**346**	*e*P	**P**	**19 00 32.3**	**+0.2**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ULN	**Ulaanbaatar**	**57.36**	**346**	*e*P	**P**	**19 00 32.3**	**+0.2**
	comp=Z,4.7nm,0.6s						
SONM	**Songino Array**	**57.49**	**346**	P	**P**	**19 00 33.2**	**+0.3**
	comp=Z,8.1nm,0.6s,baz=164,slow=8.5,SNR=62						
SONM				ScP	**ScP**	**19 04 42.5**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=168,slow=5.7,SNR=3.6						
PAF	**Port-aux-Franc**	**61.27**	**217**	R		19 01 00.0	
TLY	**Talaya**	**61.72**	**346**	*i* P	**P**	**19 01 01.5**	**+0.2**
TLY				pmax	pmax		
	comp=Z,11nm,2.5s						
MOY	**Mondy**	**62.40**	**344**	*e*P	**P**	**19 01 06.7**	**+0.8**
MOY				pmax	pmax		
	comp=Z,13nm,1.6s						
BOD	**Bodaibo**	**65.80**	**354**	⇑*i*P	**P**	**19 01 27.4**	**0.0**
BOD				pmax	pmax		
	comp=Z,19nm,0.8s						
MKAR	**Makanchi Array**	**65.81**	**330**	P	**P**	**19 01 28.0**	**+0.2**
	comp=Z,4.7nm,0.6s,baz=128,slow=7.7,SNR=60						
MKAR				pP	**pP**	**19 02 55.2**	**+2.2**
	comp=Z,0.9nm,0.7s,baz=129,slow=7.6,SNR=1.3						
MKAR	**Makanchi Array**	**65.81**	**330**	P	**P**	**19 01 28.0**	**+0.2**
MKAR				*PP	**pP**	**19 02 55.2**	**+2.2**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PETK	**Petropavlovsk-**	**66.86**	**21**	P	**P**	**19 01 34.3**	**+0.2**
	comp=Z,22nm,0.7s,baz=195,slow=6.4,SNR=20						
PETK	**Petropavlovsk-**	**66.86**	**21**	P	**P**	**19 01 34.3**	**+0.2**
PETK				pmax	pmax		
	comp=Z,22nm,0.7s						
KBL	**Kabul**	**66.95**	**313**	P	**P**	**19 01 34.9**	**-0.5**
	baz=67,SNR=3.7						
PET	**Petropavlovsk**	**67.14**	**22**	*e*P	**P**	**19 01 36.3**	**+0.5**
PET				pmax	pmax		
	comp=Z,22nm,0.8s						
YAK	**Yakutsk**	**69.62**	**3**	*e*P	**P**	**19 01 50.3**	**-0.5**
YAK				*e*		19 02 10.1	
YAK				*e**PP	**pP**	**19 03 15.5**	**-1.7**
YAK				*e*PPP	PPP	19 06 10.6	
YAK				*e*S	**S**	**19 10 23.0**	**-3.2**
YAK				*e*		19 11 10.9	
YAK				*e*SSS	SSS	19 18 09.8	
YAK				pmax	pmax		
	comp=Z,39nm,0.9s						
YAK				pmax	pmax		
	comp=N,12nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,18nm,1.7s						
YAK				pmax	pmax		
	comp=E,13nm,1.9s						
YAK				pmax	pmax		
	comp=N,11nm,2.0s						
YAK				smax	smax		
	comp=E,46nm,2.8s						
YAK				smax	smax		
	comp=N,26nm,2.7s						
YAK	**Yakutsk**	**69.62**	**3**	*e*P	**P**	**19 01 51.0**	**+0.2**
	comp=N,46nm,0.8s						
ZALV	**Zalesovo Beam**	**69.80**	**336**	P	**P**	**19 01 51.3**	**-0.8**
	comp=N,4.0nm,0.6s,baz=134,slow=4.3,SNR=21						
ZALV				pP	**pP**	**19 03 20.4**	**+1.8**
	comp=N,0.9nm,0.7s,baz=97,slow=6.1,SNR=2.7						
ZALV	**Zalesovo Beam**	**69.80**	**336**	P	**P**	**19 01 51.3**	**-0.8**
ZALV				*PP	**pP**	**19 03 20.4**	**+1.8**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MA2	**Magadan**	**70.28**	**14**	*i* P	**P**	**19 01 55.4**	**+0.5**
NVS	**Novosibirsk**	**71.08**	**336**	*e*P	**P**	**19 01 58.7**	**-1.1**
NVS				*e*S	**S**	**19 10 38.5**	**-4.8**
NVS				pmax	pmax		
	comp=Z,9.0nm,1.4s						
NVS				pmax	pmax		
	comp=N,5.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.4s						
NVS				smax	smax		
	comp=N,10.0nm,1.8s						
NVS				smax	smax		
	comp=E,17nm,1.8s						
MAW	**Mawson**	**72.29**	**201**	P	**P**	**19 02 07.1**	**+0.4**
	comp=E,2.1nm,0.3s,baz=94,slow=19,SNR=6.4						
MAW	**Mawson**	**72.29**	**201**	P	**P**	**19 02 07.1**	**+0.4**
MAW				pmax	pmax		
	comp=Z,2.0nm,0.3s						
VNDA	**Vanda**	**72.52**	**172**	P	**P**	**19 02 08.0**	**0.0**
	comp=Z,0.6nm,0.4s,baz=314,slow=9.1,SNR=6.5						
VNDA	**Vanda**	**72.52**	**172**	P	**P**	**19 02 08.0**	**0.0**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SEY	**Seymchan**	**73.62**	**13**	*ce*P	**P**	**19 02 14.3**	**-0.1**
BRVK	**Borovoye**	**75.77**	**330**	*ce*P	**P**	**19 02 26.6**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GEYT	**Alibeck**	**76.38**	**312**	P	**P**	**19 02 31.5**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=240,slow=2.8,SNR=3.6						
GSTR	**Great Sitkin T**	**78.19**	**33**	*e*P	**P**	**19 02 40.8**	**+0.5**
	comp=Z,17nm,0.5s						
ABKAR	**Akbulak array**	**79.57**	**323**	*e*P	**P**	**19 02 47.5**	**-0.2**
	comp=Z,2.7nm,0.8s						
ABKAR				*e*pP	**pP**	**19 04 18.8**	**+2.1**
SVE	**Sverdlovsk**	**82.47**	**330**	*e*P	**P**	**19 03 02.9**	**+0.3**
RAYN	**Ar Rayn**	**82.86**	**295**	*e*P	**P**	**19 03 05.4**	**0.0**
	comp=Z,5.9nm,0.8s						
ILAR	**Eielson Array**	**96.38**	**26**	P	**P**	**19 04 06.0**	**-2.0**
	comp=Z,1.0nm,0.9s,baz=264,slow=3.9,SNR=7.4						
ILAR	**Eielson Array**	**96.38**	**26**	P	**P**	**19 04 06.1**	**-2.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ARCES	**ARCESS Array B**	**100.22**	**339**	P	**Pdif**	**19 04 23.8**	**-1.3**
	comp=Z,1.5nm,0.9s,baz=76,slow=6.4,SNR=3.9						
ARCES	**ARCESS Array B**	**100.22**	**339**	P	**Pdif**	**19 04 23.8**	**-1.3**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
HLID	**Hailey**	**117.73**	**45**	*e*PKPdf	**PKPdf**	**19 09 25.0**	**+1.1**
TORD	**Torodi Ar. Bea**	**123.37**	**281**	PKP	**PKPdf**	**19 09 35.5**	**+0.3**
	comp=Z,2.1nm,0.6s,baz=54,slow=1.9,SNR=15						
TORD				SKP		19 12 31.4	
	comp=Z,0.8nm,0.8s,baz=45,slow=1.5,SNR=3.5						
ESDC	**Sonseca Array**	**123.91**	**313**	PKP	**PKPdf**	**19 09 36.1**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=357,slow=4.0,SNR=3.9						
ANMO	**Albuquerque**	**126.22**	**52**	PKP	**PKPdf**	**19 09 41.0**	**+0.5**
	comp=Z,1.8nm,0.9s,baz=302,slow=1.6,SNR=3.8						
ANMO	**Albuquerque**	**126.22**	**52**	*c i*PKIKP	**PKPdf**	**19 09 42.5**	**+2.1**
ANMO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
DBIC	**Dimbokro**	**129.55**	**272**	SKPbc	SKPab	19 12 31.3	0.0
	comp=Z,4.0nm,0.8s,baz=81,slow=4.1,SNR=6.3						
TXAR	**Lajitas Array**	**130.11**	**58**	PKP	**PKPdf**	**19 09 48.9**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=193,slow=4.9,SNR=4.2						
TXAR				SKPbc	**SKPab**	**19 12 33.7**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=220,slow=3.3,SNR=10						
TXAR	**Lajitas Array**	**130.11**	**58**	PKIKP	**PKPdf**	**19 09 48.9**	**+1.0**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR				pmax	pmax		
	comp=N,1.0nm,0.6s						
SCHQ	**Schefferville**	**132.13**	**9**	PKP	**PKPdf**	**19 09 51.9**	**+1.1**
	comp=N,2.9nm,0.4s,baz=321,slow=2.7,SNR=9.4						
SCHQ				SKPbc	**SKPbc**	**19 12 39.8**	**+0.2**
	comp=N,11nm,0.9s,baz=38,slow=3.6,SNR=7.0						
TKL	**Tuckaleechee C**	**142.12**	**39**	PKP	**PKPdf**	**19 10 09.3**	**-0.5**
	comp=N,4.3nm,0.7s,baz=149,slow=3.7,SNR=8.1						
TKL	**Tuckaleechee C**	**142.12**	**39**	PKIKP	**PKPdf**	**19 10 09.3**	**-0.5**
TKL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GOGA	**Godfrey**	**143.74**	**41**	*e*PKIKP	PKPab	19 10 10.6	-0.3
GOGA	**Godfrey**	**143.74**	**41**	*e*PKPpre	PKPab	19 10 10.6	-0.3
JSRW	**J. Sargeant Re**	**143.99**	**31**	*e*PKPdf	PKPab	19 10 11.2	-0.5
TIGA	**Tifton**	**144.86**	**44**	*e*PKPdf	**PKPab**	**19 10 15.1**	**0.0**
TEIG	**Tepich**	**146.10**	**65**	PKPbc	**PKPdf**	**19 10 17.8**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=360,slow=23,SNR=3.5						
CPUP	**Villa Florida**	**146.16**	**177**	PKPbc	**PKPbc**	**19 10 18.2**	**-0.5**
	comp=Z,4.3nm,0.8s,baz=150,slow=1.9,SNR=9.5						
CPUP	**Villa Florida**	**146.16**	**177**	PKP2	**PKPbc**	**19 10 18.3**	**-0.5**
CPUP				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LPAZ	**La Paz**	**153.21**	**153**	PKPbc	**PKPbc**	**19 10 37.0**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=181,slow=6.9,SNR=6.6						
LPAZ	**La Paz**	**153.21**	**153**	PKIKP	**PKPbc**	**19 10 37.0**	**+0.1**
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						

*IDC **28** 19:04:01.4±4.5, 19°.49N×109°.14W, h0km, mb3.2/5, mb1 3.7/8, mb1mx3.7/24, mbtmp3.4/8, ML3.4/2, MS3.5/2, Ms1 3.5/2, ms1mx3.0/15, Error ellipse: s-maj=89.0km s-min=25.7km az=130.0*
*ISCJB **28** 19:04:03.6±2.1, 19°.6N±0°.2×109°.2W±0°.3, h26km, mb3.3/4, MS3.3/1, Error ellipse: s-maj=43.8km s-min=9.0km az=38.3*

ISC 28 19:04:05.3±2.4, 19°.5N±0°.2×109°.4W±0°.3, h26km, n13, σ1§40/11, mb3.3/4, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H06E1	**SOCORRO T-PHAS**	**1.62**	**242**	Pn	**Pb**	**19 04 33.5**	**-1.0**
H06E1				T	T	19 06 37.3	
	SNR=204						
H06N1	**SOCORRO T-PHAS**	**1.63**	**246**	Pn	**Pn**	**19 04 32.8**	**+0.5**
H06N1				T	T	19 06 36.6	
	SNR=43						
H06S1	**SOCORRO T**	**1.67**	**241**	Pn	**Pb**	**19 04 33.7**	**-1.6**
H06S1				T	T	19 06 39.8	
	SNR=22						
LPIG	**La Paz**	**4.61**	**350**	Pn	**Pn**	**19 05 12.8**	**-0.5**
	baz=90,slow=23,SNR=4.3						
TXAR	**Lajitas Array**	**11.06**	**27**	Pn	**Pn**	**19 06 40.9**	**-1.1**
	0.1nm,0.3s,baz=210,slow=14,SNR=13						
PFO	**Pinyon Flat Ob**	**15.35**	**337**	LR	LR	19 12 47.9	
	comp=Z,182nm,21.9s,baz=151,slow=34						
ANMO	**Albuquerque**	**15.57**	**9**	Pn	**Pn**	**19 07 41.2**	**-2.0**
	0.1nm,0.3s,baz=194,slow=7.4,SNR=1.9						
NVAR	**Mina Array Bea**	**20.34**	**340**	P	**P**	**19 08 41.1**	**+1.2**
	1.7nm,0.9s,baz=154,slow=9.5,SNR=12						
ELK	**Elko**	**21.71**	**348**	P	**P**	**19 08 55.6**	**+0.9**
	1.0nm,0.9s,baz=140,slow=8.1,SNR=3.1						
PDAR	**Pinedale Array**	**23.16**	**360**	P	**P**	**19 09 10.4**	**+0.5**
	0.4nm,0.3s,baz=163,slow=16,SNR=2.8						
YBH	**Yreka Blue Hor**	**24.84**	**336**	LR	LR	19 18 48.0	
	comp=Z,101nm,19.0s,baz=172,slow=36						
YKA	**Yellowknife Ar**	**43.07**	**356**	P	**P**	**19 12 03.0**	**+0.3**
	0.4nm,0.7s,baz=170,slow=7.5,SNR=2.8						
ILAR	**Eielson Array**	**51.60**	**341**	P	**P**	**19 13 11.2**	**+2.0**
	0.2nm,0.6s,baz=140,slow=5.9,SNR=3.1						

IDC 28 19:05:29.7±3.2, 0°.14N×96°.38E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/38, mbtmp3.4/5, ML3.9/1, Error ellipse: s-maj=125.5km s-min=22.4km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.38**	**8**	P	P	19 09 47.1	+0.9
	0.1nm,0.3s,baz=197,slow=12,SNR=5.6						
WRA	**Warramunga Arr**	**42.19**	**120**	P	P	19 13 25.3	+0.7
	0.4nm,1.0s,baz=306,slow=9.2,SNR=2.8						
ASAR	**Alice Springs**	**43.43**	**126**	P	P	19 13 33.7	-1.0
	0.2nm,0.7s,baz=300,slow=7.4,SNR=3.6						
MKAR	**Makanchi Array**	**48.08**	**347**	P	P	19 14 10.8	-0.3
	0.4nm,0.7s,baz=155,slow=9.2,SNR=5.5						
ZALV	**Zalesovo Beam**	**54.48**	**352**	P	P	19 14 58.7	-0.2
	1.0nm,0.6s,baz=176,slow=6.4,SNR=6.2						

*TEH **28** 19:14:58.6, 31°.01N×49°.90E, h7km, ML3.6*
*ISCJB **28** 19:14:59.4±0.6, 30°.95N±0°.04×50°.07E±0°.06, h10km, Error ellipse: s-maj=7.9km s-min=6.4km az=177.1*
*THR **28** 19:14:59.1±0.3, 30°.90N×50°.10E, h15km±4km, ML3.6*
*CSEM **28** 19:15:01.8±0.2, 30°.94N×50°.10E, h20km, ML3.6, Error ellipse: s-maj=6.4km s-min=4.6km az=85.0*

ISC 28 19:15:00.6±1.4, 30°.94N±0°.04×50°.11E±0°.05, h10km, n31, σ0°.65/35, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**1.61**	**316**	*e*Pg	**Pn**	**19 15 29.0**	**-0.1**
SHGR				AML	AML	19 15 55.4	
	comp=E,939nm,0.6s						
SHGR				AML	AML	19 15 58.9	
	comp=N,889nm,0.7s						
SHGR	**Shooshtar-Gavs**	**1.61**	**316**	*e*Pg	**Pn**	**19 15 29.0**	**-0.1**
	comp=N,889nm,0.7s						
IPIR	**Pirpir**	**1.86**	**21**	*e*Pn	**Pn**	**19 15 31.2**	**-1.6**
IPIR				*e*Sg	**Sn**	**19 15 56.9**	**+0.4**
IPIR				*e*		19 16 00.2	
	comp=Z,3μm,0.2s						
IKAZ	**Kazeroun**	**1.89**	**127**	*e*Pn	**Pn**	**19 15 33.8**	**+0.5**
IKAZ				*e*		19 16 07.7	
	comp=Z,12μm,0.4s						
IKAZ	**Kazeroun**	**1.89**	**127**	*e*Pn	**Pn**	**19 15 33.8**	**+0.5**
AHBU	**AHRAM**	**2.31**	**153**	*e*Pn	**Pn**	**19 15 38.2**	**-0.6**
IKLH	**Kolahrood**	**2.68**	**27**	*e*Pn	**Pn**	**19 15 44.6**	**+0.6**
IKLH				*e*		19 16 30.6	
	comp=Z,1μm,0.3s						
IKLH	**Kolahrood**	**2.68**	**27**	*e*Pn	**Pn**	**19 15 44.6**	**+0.6**
IZEF	**Zefreh**	**2.71**	**44**	*e*Pn	**Pn**	**19 15 45.0**	**+0.5**
IZEF				*e*		19 16 41.1	
	comp=Z,538nm,0.4s						
IZEF	**Zefreh**	**2.71**	**44**	*e*Pn	**Pn**	**19 15 45.0**	**+0.5**
IPAR	**Pars**	**2.77**	**113**	*e*Pn	**Pn**	**19 15 46.4**	**+1.1**
IPAR				*e*		19 16 23.9	
	comp=Z,2μm,0.4s						
IPAR	**Pars**	**2.77**	**113**	*e*Pn	**Pn**	**19 15 46.4**	**+1.1**
KHMZ	**Khomeyn**	**2.79**	**357**	*e*Pn	**Pn**	**19 15 46.0**	**+0.4**
KHMZ	**Khomeyn**	**2.79**	**357**	*e*Pn	**Pn**	**19 15 46.0**	**+0.4**
ISRV	**Sarvestan**	**3.03**	**120**	*e*Pn	**Pn**	**19 15 49.4**	**+0.4**
ISRV				*e*		19 17 07.2	
	comp=Z,3μm,0.5s						
ISRV	**Sarvestan**	**3.03**	**120**	*e*Pn	**Pn**	**19 15 49.4**	**+0.4**
ISAD	**Sadrabad**	**3.21**	**72**	*e*Pn	**Pn**	**19 15 51.5**	**+0.2**
ISAD				*e*		19 16 32.8	
	comp=Z,2μm,0.3s						
ISAD	**Sadrabad**	**3.21**	**72**	*e*Pn	**Pn**	**19 15 51.5**	**+0.2**
KFJS		**3.33**	**215**	P	**Pn**	**19 15 53.0**	**+0.2**
KFJS		**3.33**	**215**	P	**Pn**	**19 15 53.0**	**+0.2**
ASAO	**Ashtian**	**3.59**	**359**	*e*Pn	**Pn**	**19 15 57.2**	**+0.6**
ASAO				AML	AML	19 16 58.7	
	comp=N,59nm,0.7s						
ASAO	**Ashtian**	**3.59**	**359**	*e*Pn	**Pn**	**19 15 57.2**	**+0.6**
	comp=N,59nm,0.7s						
GHIR	**Ghir-Karzin**	**3.65**	**136**	*e*Pn	**Pn**	**19 15 56.7**	**-0.5**
GHIR	**Ghir-Karzin**	**3.65**	**136**	*e*Pn	**Pn**	**19 15 56.7**	**-0.5**
IMEH	**Mehriz**	**3.88**	**82**	*e*Pn	**Pn**	**19 16 00.6**	**0.0**
IMEH				*e*		19 16 54.3	
	comp=Z,396nm,0.3s						
IMEH	**Mehriz**	**3.88**	**82**	*e*Pn	**Pn**	**19 16 00.6**	**0.0**
ICHK	**Chekchek**	**3.89**	**69**	*e*Pn	**Pn**	**19 16 00.2**	**-0.4**
ICHK				*e*Sn	**Sn**	**19 16 45.9**	**-0.6**
ICHK				*e*		19 16 49.2	
	comp=Z,986nm,0.3s						
ICHK	**Chekchek**	**3.89**	**69**	*e*Pn	**Pn**	**19 16 00.2**	**-0.4**
ICHK				*e*Sn	**Sn**	**19 16 45.9**	**-0.6**
BOQSS		**5.10**	**187**	P	**Pn**	**19 16 17.0**	**-0.1**
BOQSS		**5.10**	**187**	P	**Pn**	**19 16 16.9**	**-0.1**

*IDC **28** 19:49:23.6±1.0, 52°.70N×169°.53W, h0km, mb3.7/8, mb1 4.0/10, mb1mx3.6/49, mbtmp3.7/10, ML3.7/2, MS3.0/5, Ms1 3.0/5, ms1mx2.7/38, Error ellipse: s-maj=30.1km s-min=18.4km az=154.0*
*ISCJB **28** 19:49:24.3±1.8, 52°.65N±0°.09×169°.53W±0°.08, h12km±12km, mb3.6/8, MS3.0/5, Error ellipse: s-maj=16.3km s-min=3.8km az=153.4*
*NEIC **28** 19:49:25.5, 52°.69N×169°.52W, h14km, mb4.0/1, ML3.9(AEIC), After AEIC.*

ISC 28 19:49:25.1±1.9, 52°.8N±0°.1×169°.52W±0°.07, h6km±12km, n53, σ0°.90/46, mb3.8/8, MS2.8/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.46**	**62**	P	**Pb**	**19 49 35.2**	**-0.3**
NIKH				S	**Sb**	**19 49 42.5**	**0.0**
OKSO	**Okmok South**	**1.01**	**54**	P	**Pg**	**19 49 44.3**	**-0.2**
OKSO				S	**Sb**	**19 49 59.3**	**+0.7**
OKWR	**Okmok West Rim**	**1.04**	**49**	P	**Pb**	**19 49 46.0**	**+0.5**
OKCE	**Okmok Cone E**	**1.05**	**50**	P	**Pg**	**19 49 45.2**	**0.0**
OKCE				S	**Sn**	**19 50 01.6**	**+0.3**
OKAK	**Okmok**	**1.08**	**40**	P	**Pg**	**19 49 44.4**	**-1.3**
OKTU	**Okmok Mt. Tuli**	**1.09**	**55**	P	**Pg**	**19 49 46.1**	**+0.2**
OKFG	**Magazine Ridge**	**1.17**	**56**	P	**Pg**	**19 49 46.9**	**-0.5**
OKFG				S	**Sb**	**19 50 03.0**	**0.0**
MCIR	**Makushin Cirqu**	**1.98**	**52**	P	**Pn**	**19 49 59.7**	**+0.6**
MSW	**Makushin Switc**	**2.01**	**54**	P	**Pn**	**19 49 59.4**	**0.0**
MTBL	**Makushin Table**	**2.09**	**54**	P	**Pn**	**19 50 00.9**	**+0.2**
UNV	**Unalaska Valle**	**2.11**	**58**	P	**Pn**	**19 50 00.5**	**-0.4**
UNV				S	**Sn**	**19 50 27.4**	**0.0**
AKRB	**Akutan Reef Bi**	**2.48**	**55**	P	**Pn**	**19 50 06.8**	**+0.9**
ZRO	**Akutan Zero**	**2.50**	**56**	P	**Pn**	**19 50 07.0**	**+0.7**
AKGG	**Akutan Green G**	**2.55**	**54**	P	**Pn**	**19 50 07.7**	**+0.7**
AKUT	**Akutan**	**2.63**	**57**	P	**Pn**	**19 50 08.6**	**+0.7**
AKUT				S	**Sb**	**19 50 44.7**	**-0.3**
ATKA	**Atka Island**	**2.91**	**261**	P	**Pn**	**19 50 11.0**	**-0.8**
WESP	**Westdahl Peak**	**3.34**	**57**	P	**Pn**	**19 50 19.1**	**+1.3**
GSTR	**Great Sitkin T**	**4.06**	**263**	*e*Pn	**Pn**	**19 50 27.3**	**-0.4**
GSMY	**Great Sitkin M**	**4.07**	**262**	P	**Pn**	**19 50 27.9**	**+0.2**
GSTD	**Great Sitkin T**	**4.12**	**263**	P	**Pn**	**19 50 28.8**	**+0.2**
GSCK	**Great Sitkin C**	**4.14**	**262**	P	**Pn**	**19 50 28.5**	**-0.3**
ADAG	**Mount Adagdak**	**4.41**	**263**	P	**Pn**	**19 50 33.6**	**+1.1**
SPIA	**Saint Paul Isl**	**4.44**	**355**	P	**P

0.3nm,0.5s,baz=92,slow=8.4,SNR=9.1
ASAR Alice Springs 44.33 252 P P 19 59 04.3 -0.6
0.9nm,0.6s,baz=83,slow=8.3,SNR=22

*ISCJB **28** 20:02:53.9±0.7,35°.41N±0°.07×137°.40E±0°.06, h292km±5km, mb3.3/2, Error ellipse: s-maj=12.1km s-min=6.8km az=150.8*
*IDC **28** 20:02:54.4±0.8,35°.48N×137°.37E, h293km±11km, mb3.1/2, mb1 3.2/4, mb1mx2.7/40, mbtmp3.7/4, Error ellipse: s-maj=32.6km s-min=14.8km az=63.0*
*JMA **28** 20:02:54.8±0.2,35°.42N×137°.35E, h287km±2km, M2.9*
ISC 28 20:02:54.2±1.2, 35°.44N±0°.07×137°.36E±0°.06, h289km±8km, n26, σ1§00/37, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JGF	**Kuroka**	**0.17**	**359**	P	**Pn**	**20 03 31.3**	**+0.2**
JAO	**Obara**	**0.19**	**207**	P	**Pn**	**20 03 31.7**	**+0.5**
JNY	**Yasuok**	**0.42**	**100**	P	**Pn**	**20 03 32.0**	**+0.5**
HMMJ	**Hamamatsu 2**	**0.65**	**153**	S	**S**	**20 04 02.0**	**-0.2**
JYN	**Shimob**	**0.97**	**86**	P	**Pn**	**20 03 34.1**	**+0.7**
JIE	**Ise**	**1.17**	**208**	P	**Pn**	**20 03 34.7**	**+0.3**
JKG	**Kaga**	**1.19**	**315**	P	**Pn**	**20 03 35.1**	**+0.8**
MAT	**Matsushiro**	**1.30**	**32**	P	**Pn**	**20 03 36.1**	**+1.0**
MAT				S	**S**	**20 04 07.1**	**-0.4**
MAT	**Matsushiro**	**1.30**	**32**	P	**Pn**	**20 03 36.0**	**+1.0**
MJAR	**Matsushiro Arr**	**1.30**	**32**	P	**Pn**	**20 03 36.2**	**+1.2**
	5.4nm,0.3s,baz=212,slow=8.5,SNR=58						
MJAR				S	**S**	**20 04 08.1**	**+0.6**
	baz=61,slow=28,SNR=4.7						
JRY	**Ryogami san**	**1.38**	**65**	P	**Pn**	**20 03 36.8**	**+1.2**
JRY				S	**S**	**20 04 08.5**	**+0.1**
JKN2	**Miekihoku**	**1.49**	**217**	P	**Pn**	**20 03 36.4**	**+0.1**
JKN2				S	**S**	**20 04 08.1**	**-1.7**
TK02	**Tokai 2**	**1.52**	**168**	P	**Pn**	**20 03 37.5**	**+1.2**
JWT	**Wachi**	**1.61**	**265**	P	**Pn**	**20 03 37.6**	**+0.5**
JWT				S	**S**	**20 04 10.0**	**-1.1**
JHU	**Hanno**	**1.62**	**75**	P	**Pn**	**20 03 37.9**	**+0.8**
JHU				S	**S**	**20 04 10.7**	**-0.5**
JWY	**Kouya**	**1.90**	**231**	P	**Pn**	**20 03 39.4**	**+0.1**
JAG	**Ashikaga**	**1.96**	**59**	P	**Pn**	**20 03 40.0**	**+0.3**
JAG				S	**S**	**20 04 15.2**	**-0.7**
JYT	**Yasato**	**2.43**	**70**	P	**Pn**	**20 03 43.6**	**-0.1**
JYT				eS	**S**	**20 04 20.7**	**-2.4**
BSO3	**Boso 3**	**2.66**	**103**	S	**S**	**20 04 25.5**	**-1.0**
JSD	**Sado**	**2.69**	**15**	P	**Pn**	**20 03 47.8**	**+1.7**
JHO	**Hitachi**	**2.85**	**65**	P	**Pn**	**20 03 47.7**	**0.0**
JHO				eS	**S**	**20 04 29.2**	**-1.2**
JHJ	**Hachijo jima 2**	**3.06**	**138**	P	**Pn**	**20 03 50.3**	**+0.4**
	3.2nm,0.3s,baz=307,slow=20,SNR=4.2						
JHJ				S	**S**	**20 04 36.3**	**+2.0**
	4.8nm,0.3s,baz=321,slow=23,SNR=7.6						
JFK	**Kawauchi**	**3.43**	**55**	P	**Pn**	**20 03 54.1**	**+0.5**
JFK				S	**S**	**20 04 39.4**	**-1.7**
JNU	**Nakatsue**	**5.84**	**249**	P	**Pn**	**20 04 21.8**	**+0.4**
	0.5nm,0.3s,baz=73,slow=17,SNR=5.3						
WRA	**Warramunga Arr**	**55.15**	**183**	P	**P**	**20 11 57.0**	**-0.2**
	0.6nm,0.3s,baz=360,slow=7.6,SNR=32						
ASAR	**Alice Springs**	**58.87**	**184**	P	**P**	**20 12 23.2**	**+0.1**
	0.2nm,0.3s,baz=355,slow=5.5,SNR=8.7						

*ISCJB **28** 20:03:37.7±0.5,6°.81N±0°.06×72°.88W±0°.04, h166km, mb3.7/9, Error ellipse: s-maj=8.5km s-min=5.0km az=149.0*
*IDC **28** 20:03:37.9±1.3,6°.72N×72°.92W, h163km±14km, mb3.5/10, mb1 3.8/12, mb1mx3.6/22, mbtmp4.0/12, Error ellipse: s-maj=19.3km s-min=18.2km az=117.0*
*FUNV **28** 20:03:39.6,6°.90N×73°.06W, h173km, MW4.2*
ISC 28 20:03:38.5±0.7, 6°.90N±0°.06×72°.95W±0°.07, h166km, n38, σ1§80/49, mb3.7/9, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.15**	**33**	*eP*	**Pn**	**20 04 07.5**	**+1.2**
CAPV				eS	**Sn**	**20 04 28.5**	**+0.7**
ROSC	**El Rosal**	**2.45**	**214**	P	**Pn**	**20 04 19.4**	**-0.9**
	238nm,0.3s,baz=283,slow=7.2,SNR=282						
ROSC				S	**Sn**	**20 04 49.0**	**-3.6**
	201nm,0.3s,baz=91,slow=19,SNR=7.2						
VIGV	**El Vigia**	**2.49**	**39**	*eP*	**Pn**	**20 04 21.8**	**+1.5**
VIGV				*eS*	**Sn**	**20 04 53.0**	**+0.2**
SOCV	**Socops**	**2.49**	**56**	*eP*	**Pn**	**20 04 22.3**	**+2.0**
SOCV				*eS*	**Sn**	**20 04 53.3**	**+0.5**
ELOV	**Elorza**	**3.44**	**88**	*eP*	**Pn**	**20 04 33.5**	**+1.4**
VIRV	**Villa del Rosa**	**3.62**	**8**	*eP*	**Pn**	**20 04 34.3**	**-0.1**
VIRV				eS	**Sn**	**20 05 14.9**	**-3.1**
QARV	**Quebrada Arrib**	**4.07**	**36**	*eP*	**Pn**	**20 04 41.7**	**+1.5**
QARV				eS	**Sn**	**20 05 26.9**	**-1.4**
SANV	**Sanarito**	**4.25**	**52**	*eP*	**Pn**	**20 04 43.5**	**+0.9**
SANV				eS	**Sn**	**20 05 30.4**	**-2.3**
CURV	**Curarigua**	**4.28**	**43**	*eP*	**Pn**	**20 04 44.1**	**+1.1**
CURV				eS	**Sn**	**20 05 30.8**	**-2.4**
DABV	**Dabajuro**	**4.61**	**30**	*eP*	**Pn**	**20 04 47.5**	**+0.4**
DABV				eS	**Sn**	**20 05 37.5**	**-3.2**
SIQV	**Siquisique**	**4.85**	**40**	*eP*	**Pn**	**20 04 51.0**	**+0.7**
SIQV				eS	**Sn**	**20 05 43.8**	**-2.7**
MAPV	**Macapo**	**5.31**	**56**	*eP*	**Pn**	**20 04 57.3**	**+0.9**
MONV	**Montecano**	**5.82**	**30**	*eP*	**Pn**	**20 05 03.4**	**+0.4**
MONV				eS	**Sn**	**20 06 04.4**	**-5.0**
TURV	**Turiamo**	**6.16**	**55**	*eP*	**Pn**	**20 05 07.5**	**0.0**
BIRV	**Birongo**	**7.50**	**61**	*eP*	**Pn**	**20 05 25.1**	**-0.1**
CUPV	**Cœpira**	**7.74**	**66**	*eP*	**Pn**	**20 05 28.3**	**-0.3**
PCRV	**Puerto La Cruz**	**8.84**	**68**	P	**Pn**	**20 05 43.3**	**+0.2**
	3.7nm,0.3s,baz=260,slow=4.4,SNR=3.9						
GUNV	**Guanoco**	**10.41**	**71**	*eP*	**Pn**	**20 06 02.6**	**-1.1**
PCJ	**Portland Cotta**	**11.54**	**340**	*i* P	**Pn**	**20 06 21.4**	**+3.0**
GWJ	**Greenwich**	**11.71**	**342**	*i* P	**P**	**20 06 24.5**	**-2.7**
STH	**Stony Hill**	**11.73**	**342**	*i* P	**Pn**	**20 06 23.8**	**+2.8**
CVJ	**Coleyville**	**12.12**	**339**	*i* P	**P**	**20 06 29.1**	**-2.7**
BBJ	**Bamboo Saint A**	**12.17**	**340**	*i* P	**P**	**20 06 29.9**	**-2.4**
TEIG	**Tepich**	**19.92**	**313**	P	**P**	**20 07 58.8**	**+1.2**
	1.0nm,0.5s,baz=176,slow=23,SNR=5.3						
LPAZ	**La Paz**	**23.52**	**168**	pP	pP	20 09 04.9	-1.2
	3.7nm,0.7s,baz=347,slow=11,SNR=15						
SIV	**San Ignacio**	**25.60**	**153**	pP	pP	20 09 24.5	-2.3
	1.2nm,0.5s,baz=330,slow=10,SNR=5.1						
TXAR	**Lajitas Array**	**36.54**	**311**	P	**P**	**20 10 29.1**	**+0.6**
	0.8nm,0.5s,baz=129,slow=9.9,SNR=12						
ULM	**Lac du Bonnet**	**47.27**	**340**	P	**P**	**20 11 55.3**	**+0.3**
	3.9nm,0.4s,baz=171,slow=9.8,SNR=5.7						
SCHQ	**Schefferville**	**48.05**	**5**	P	**P**	**20 12 02.5**	**+1.6**
	1.1nm,0.3s,baz=196,slow=7.4,SNR=5.5						
PDAR	**Pinedale Array**	**48.12**	**324**	P	**P**	**20 12 02.8**	**+0.8**
	0.8nm,0.4s,baz=121,slow=9.5,SNR=3.7						
NVAR	**Mina Array Bea**	**51.55**	**314**	P	**P**	**20 12 29.0**	**+1.1**
	0.6nm,0.6s,baz=118,slow=7.3,SNR=4.9						
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**20 13 49.4**	**+0.3**
	2.8nm,0.5s,baz=134,slow=6.6,SNR=19						
TORD	**Torodi Ar. Bea**	**73.55**	**78**	P	**P**	**20 14 53.4**	**-0.6**
	0.3nm,0.6s,baz=283,slow=7.0,SNR=4.2						
ILAR	**Eielson Array**	**76.97**	**335**	P	**P**	**20 15 12.7**	**+0.2**
	0.2nm,0.5s,baz=114,slow=4.2,SNR=4.3						
ARCES	**ARCESS Array B**	**86.54**	**20**	P	**P**	**20 16 03.4**	**+0.9**
	1.1nm,0.9s,baz=288,slow=5.0,SNR=3.6						
MKAR	**Makanchi Array**	**122.19**	**20**	PKP	**PKPdf**	**20 22 13.6**	**-0.2**
	0.4nm,0.8s,baz=346,slow=2.9,SNR=3.3						
ASAR	**Alice Springs**	**149.30**	**234**	PKPbc	**PKPbc**	**20 23 07.6**	**-0.9**
	0.2nm,0.3s,baz=108,slow=3.8,SNR=5.7						
ASAR				pPKPbc	**pPKPbc**	**20 23 49.7**	**-2.3**
	0.2nm,0.4s,baz=114,slow=3.3,SNR=3.3						
WRA	**Warramunga Arr**	**150.53**	**241**	PKPbc	**PKPbc**	**20 23 11.0**	**-0.6**
	0.4nm,0.4s,baz=106,slow=2.7,SNR=31						
WRA				pPKPbc	**pPKPbc**	**20 23 54.3**	**-0.7**
	0.3nm,0.4s,baz=107,slow=2.8,SNR=5.9						

*IDC **28** 20:19:45.9±2.8, 10°.97N×87°.00W, h0km, mb3.3/1, mb1 3.9/2, mb1mx3.4/29, mbtmp3.5/2, ML3.5/1, Error ellipse: s-maj=127.7km s-min=23.7km az=29.0*
*CASC **28** 20:19:52.5±2.8, 11°.66N×86°.18W, h0km±23km, MD4.0*
ISC 28 20:19:48.5±1.8, 11°.4N±0°.1×86°.6W±0°.1, h18km±5km, n14, σ1§05/20, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GBS2	**Las Lilas**	**1.23**	**117**	*i* P	**Pg**	**20 20 12.8**	**+0.6**
GPS2	**Hotel Rinc`‡n**	**1.35**	**118**	*i* P	**Pg**	**20 20 14.5**	**-0.1**
GPS2				*i* S	**Sg**	**20 20 33.3**	**+1.0**
LIM1	**Limonal**	**1.47**	**118**	*i* P	**Pg**	**20 20 16.4**	**-0.3**
MESS	**Mesas**	**1.50**	**116**	*i* P	**Pg**	**20 20 17.7**	**+0.4**
CUI	**Cuipilapa**	**1.56**	**118**	*i* P	**Pg**	**20 20 17.8**	**-0.7**
JTS	**JuntasAbangare**	**1.93**	**125**	Pn	**Pb**	**20 20 22.8**	**-0.3**
	16nm,0.3s,baz=310,slow=17,SNR=30						
JTS				Sn	**Sg**	**20 20 50.5**	**-0.2**
	21nm,0.3s,baz=307,slow=21,SNR=7.4						
JCR	**Jicaral**	**2.10**	**137**	*eP*	**Pn**	**20 20 23.8**	**+1.0**
JCR				*eS*	**Sg**	**20 20 56.6**	**+0.5**
CAO	**Cobano**	**2.21**	**139**	*eP*	**Pg**	**20 20 29.6**	**-1.4**
CAO				*eS*	**Sg**	**20 21 01.5**	**+1.7**
CGA2	**Cerro Gallo 2**	**2.48**	**123**	*eP*	**Pb**	**20 20 32.9**	**+0.3**
CGA2				*eS*	**Sb**	**20 21 03.2**	**+0.4**
URSC	**Urasca**	**3.15**	**119**	*eP*	**Pb**	**20 20 42.4**	**-1.6**
URSC				*eS*	**Sg**	**20 21 27.8**	**-1.9**
BUS	**Buena Vista**	**3.31**	**123**	*eP*	**Pb**	**20 20 46.6**	**-0.4**
TXAR	**Lajitas Array**	**23.93**	**321**	P	**P**	**20 25 02.6**	**+0.9**
	0.6nm,0.6s,baz=138,slow=9.6,SNR=8.1						
ASAR	**Alice Springs**	**139.67**	**247**	PKP	**PKPdf**	**20 39 15.1**	**-1.0**
	0.2nm,0.7s,baz=100,slow=2.3,SNR=3.2						
WRA	**Warramunga Arr**	**139.79**	**253**	PKP	**PKPdf**	**20 39 15.7**	**-0.7**
	0.2nm,0.6s,baz=93,slow=1.9,SNR=5.5						

*IDC **28** 20:20:16.4±0.9, 52°.71N×172°.15W, h118km±8km, mb3.7/20, mb1 4.0/22, mb1mx3.8/42, mbtmp4.1/22, MS2.7/2, Ms1 2.7/2, ms1mx2.4/39, Error ellipse: s-maj=16.9km s-min=10.2km az=174.0*
*NEIC **28** 20:20:18.1, 52°.31N×171°.99W, h62km, ML4.2(AEIC), After AEIC.*
ISC 28 20:20:15.2±0.5, 52°.7N±0°.1×172°.19W±0°.04, h100km, n76, σ1§97/80, mb4.0/20, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**2.04**	**82**	P	**Pn**	**20 20 49.0**	**+0.9**
NIKH				S	**Sn**	**20 21 13.5**	**+0.2**
OKSP	**Okmok Steeple**	**2.41**	**76**	P	**Pn**	**20 20 55.4**	**+2.3**
GSTR	**Great Sitkin T**	**2.45**	**256**	P	**Pn**	**20 20 56.2**	**+2.6**
OKAK	**Okmok**	**2.46**	**68**	P	**Pn**	**20 20 55.0**	**+1.3**
GSMY	**Great Sitkin M**	**2.47**	**255**	P	**Pn**	**20 20 55.4**	**+1.6**
OKWR	**Okmok West Rim**	**2.50**	**72**	P	**Pn**	**20 20 56.9**	**+2.6**
OKSO	**Okmok South**	**2.51**	**74**	P	**Pn**	**20 20 56.1**	**+1.7**
OKSO				S	**Sn**	**20 21 26.8**	**+2.3**
GSTD	**Great Sitkin T**	**2.52**	**256**	P	**Pn**	**20 20 56.1**	**+1.6**
GSTD				S	**Sn**	**20 21 27.4**	**+2.7**
OKCE	**Okmok Cone E**	**2.53**	**72**	P	**Pn**	**20 20 56.5**	**+1.9**
GSCK	**Great Sitkin C**	**2.54**	**255**	P	**Pn**	**20 20 56.4**	**+1.6**
OKTU	**Okmok Mt. Tuli**	**2.59**	**74**	P	**Pn**	**20 20 57.8**	**+2.4**
OKFG	**Magazine Ridge**	**2.67**	**74**	P	**Pn**	**20 20 58.2**	**+1.7**
OKFG				S	**Sn**	**20 21 31.5**	**+3.3**
ETKA	**Kagalaska Isla**	**2.73**	**253**	P	**Pn**	**20 20 59.3**	**+2.0**
ADAG	**Mount Adagdak**	**2.81**	**256**	P	**Pn**	**20 21 01.3**	**+3.0**
KIRH	**Kanaga Island**	**3.12**	**256**	P	**Pn**	**20 21 05.2**	**+2.7**
KIKV	**Kanaga Island**	**3.17**	**256**	P	**Pn**	**20 21 05.0**	**+1.8**
KICM	**Kanaga Island**	**3.18**	**257**	P	**Pn**	**20 21 06.0**	**+2.8**
MSOM	**Makushin Julie**	**3.33**	**69**	P	**Pn**	**20 21 07.3**	**+2.1**
MCIR	**Makushin Cirqu**	**3.40**	**67**	P	**Pn**	**20 21 08.3**	**+2.0**
MSW	**Makushin Switc**	**3.45**	**68**	P	**Pn**	**20 21 08.7**	**+1.8**
MTBL	**Makushin Table**	**3.53**	**67**	P	**Pn**	**20 21 09.7**	**+1.7**
TAPA	**Tanaga Point A**	**3.57**	**257**	P	**Pn**	**20 21 10.9**	**+2.3**
UNV	**Unalaska Valle**	**3.59**	**70**	P	**Pn**	**20 21 10.4**	**+1.6**
UNV				S	**Sn**	**20 21 52.9**	**+2.7**
TAFL	**Tanaga Flats**	**3.64**	**257**	P	**Pn**	**20 21 11.8**	**+2.4**
TAFP	**Tanaga Falls P**	**3.65**	**259**	P	**Pn**	**20 21 12.5**	**+2.9**
TAFP				S	**Sn**	**20 21 54.7**	**+3.0**
AKRB	**Akutan Reef Bi**	**3.92**	**67**	P	**Pn**	**20 21 15.6**	**+2.4**
AKRB				S	**Sn**	**20 22 00.6**	**+2.5**
ZRO	**Akutan Zero**	**3.96**	**67**	P	**Pn**	**20 21 16.2**	**+2.5**
AKGG	**Akutan Green G**	**3.98**	**66**	P	**Pn**	**20 21 16.2**	**+2.2**
AKUT	**Akutan**	**4.09**	**67**	*ePn*	**Pn**	**20 21 16.9**	**+1.5**
GANE	**Gareloi Northe**	**4.15**	**260**	P	**Pn**	**20 21 19.1**	**+2.9**
WESP	**Westdahl Peak**	**4.78**	**65**	P	**Pn**	**20 21 27.4**	**+2.5**
WESN	**West Dahl Nort**	**4.88**	**65**	P	**Pn**	**20 21 28.3**	**+2.1**
CERAA	**Semis' Rag'd T**	**5.05**	**264**	P	**Pn**	**20 21 31.3**	**+2.8**
CEAP	**Semis' Anvil P**	**5.10**	**265**	P	Pn	20 21 32.5	+3.4
CESW	**Semis' Southwe**	**5.13**	**264**	P	**Pn**	**20 21 32.2**	**+2.7**
ISNN	**Isanotski Nort**	**5.41**	**64**	P	**Pn**	**20 21 36.4**	**+3.0**
AMKA	**Amchitka**	**5.42**	**259**	P	**Pn**	**20 21 35.1**	**+1.6**
AMKA				S	**Sn**	**20 22 35.8**	**+1.3**
FALS	**False Pass**	**5.62**	**64**	P	**Pn**	**20 21 38.5**	**+2.3**
LSPA	**Little Sitkin**	**5.71**	**266**	P	Pn	20 21 40.8	+3.3
LSNW	**Little Sitkin**	**5.75**	**266**	P	**Pn**	**20 21 40.6**	**+2.7**
DT1	**Dutton Round H**	**6.32**	**64**	P	**Pn**	**20 21 46.8**	**+1.1**
DTNA	**Dutton South F**	**6.35**	**64**	P	**Pn**	**20 21 47.5**	**+1.4**
PS4A	**Pavlof South-4**	**6.63**	**63**	P	**Pn**	**20 21 50.8**	**+1.0**
SDPT	**Sand Point**	**7.38**	**65**	*eP*	**Pn**	**20 21 59.9**	**-0.1**
	104nm,0.3s						
OHAK	**Old Harbor**	**11.74**	**60**	*eP*	Pn	20 22 55.6	-3.6
	17nm,0.3s						
KDAK	**Kodiak Island**	**12.26**	**58**	*eP*	Pn	20 22 58.2	-7.8
ILAR	**Eielson Array**	**17.66**	**37**	P	**P**	**20 24 13.2**	**-0.8**
	2.3nm,0.3s,baz=238,slow=9.5,SNR=54						
PETK	**Petropavlovsk-**	**18.10**	**283**	P	**P**	**20 24 19.3**	**+0.5**
	1.8nm,0.3s,baz=90,slow=14,SNR=17						
SEY	**Seymchan**	**21.16**	**313**	P	**P**	**20 24 54.0**	**+2.2**
	2.0nm,0.7s,baz=100,slow=11,SNR=12						
SEY				PcP	**PcP**	**20 28 52.5**	**-0.7**
	1.4nm,0.6s,baz=56,slow=7.3,SNR=6.6						
INK	**Inuvik**	**24.01**	**35**	P	**P**	**20 25 20.2**	**+0.1**
	16nm,0.6s,baz=253,slow=9.7,SNR=47						
DLBC	**Dease Lake**	**24.18**	**60**	P	**P**	**20 25 23.2**	**+1.3**
	3.8nm,0.5s,baz=285,slow=10,SNR=11						
YKA	**Yellowknife Ar**	**31.30**	**49**	P	**P**	**20 26 24.2**	**-1.1**
	0.2nm,0.3s,baz=262,slow=9.1,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**36.72**	**214**	T	T	21 05 11.1	
	baz=21,slow=76,SNR=10						
H11N3	**WAKE ISLAND Hy**	**36.73**	**214**	T	T	21 05 31.0	
	baz=21,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**36.74**	**214**	T	T	21 05 22.1	
	baz=21,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**37.93**	**214**	T	T	21 06 54.4	
	baz=19,slow=74						
H11S2	**WAKE ISLAND Hy**	**37.94**	**214**	T	T	21 06 52.2	
	baz=19,slow=74						
H11S3	**WAKE ISLAND Hy**	**37.94**	**214**	T	T	21 06 54.6	
	baz=19						
MJAR	**Matsushiro Arr**	**38.00**	**265**	P	**P**	**20 27 23.1**	**-0.2**
	1.3nm,0.5s,baz=54,slow=6.7,SNR=5.1						
MJAR				LR	LR	20 41 42.6	
	comp=Z,10nm,21.5s,baz=175,slow=34						
NVAR	**Mina Array Bea**	**39.39**	**89**	P	**P**	**20 27 34.7**	**-0.4**
	2.1nm,0.7s,baz=295,slow=8.6,SNR=10						
NVAR				pP	**pP**	**20 28 01.1**	**+3.0**
	1.7nm,0.8s,baz=301,slow=7.0,SNR=3.3						
PDAR	**Pinedale Array**	**42.02**	**78**	P	**P**	**20 27 56.1**	**-0.6**
	2.6nm,0.7s,baz=328,slow=5.3,SNR=18						
PDAR				pP	**pP**	**20 28 21.9**	**+2.0**
	1.7nm,0.9s,baz=323,slow=5.8,SNR=3.8						
KSRS	**Korea Array**	**43.66**	**274**	P	**P**	**20 28 10.4**	**+0.8**
	1.1nm,0.8s,baz=58,slow=6.9,SNR=4.1						
ULM	**Lac du Bonnet**	**45.49**	**61**	P	**P**	**20 28 23.1**	**-1.0**
	6.8nm,0.6s,baz=304,slow=6.2,SNR=7.1						
SONM	**Songino Array**	**49.62**	**299**	P	**P**	**20 28 56.3**	**+0.1**
	0.5nm,0.6s,baz=54,slow=6.7,SNR=5.3						
SONM				PcP	**PcP**	**20 30 15.1**	**-1.1**
	0.5nm,0.5s,baz=60,slow=4.1,SNR=5.2						
SONM				ScP	**ScP**	**20 33 58.7**	**-3.5**
	0.5nm,0.6s,baz=47,slow=3.4,SNR=6.1						
TXAR	**Lajitas Array**	**54.46**	**87**	P	**P**	**20 29 31.6**	**-0.6**
	3.3nm,0.5s,baz=308,slow=6.9,SNR=40						
TXAR				pP	**pP**	**20 29 58.8**	**+2.4**
	2.4nm,0.8s,baz=308,slow=4.4,SNR=7.5						
ZALV	**Zalesovo Beam**	**55.98**	**316**	P	**P**	**20 29 42.2**	**-0.4**
	0.3nm,0.3s,baz=34,slow=5.6,SNR=2.4						
ZALV				PcP	**PcP**	**20 30 38.3**	**-1.6**
	0.8nm,0.6s,baz=52,slow=3.9,SNR=5.9						
ARCES	**ARCESS Array B**	**57.36**	**353**	P	**P**	**20 29 51.2**	**-1.0**
	1.5nm,0.9s,baz=14,slow=5.0,SNR=3.1						
MKAR	**Makanchi Array**	**62.29**	**312**	P	**P**	**20 30 25.6**	**-0.7**
	0.4nm,0.5s,baz=44,slow=5.5,SNR=8.9						
FINES	**FINESS Array B**	**65.25**	**350**	P	**P**	**20 30 43.8**	**-1.6**
	1.8nm,1.0s,baz=26,slow=6.7,SNR=2.5						
NOA	**NORSAR Array B**	**66.54**	**358**	P	**P**	**20 30 52.3**	**-1.5**
	0.3nm,0.5s,baz=3.5,slow=6.7,SNR=2.9						
NOA				LR	LR	21 00 48.0	
	comp=Z,4.8nm,18.2s,baz=315,slow=36						
CMAR	**Chiang Mai Arr**	**74.86**	**281**	P	**P**	**20 31 44.6**	**-0.2**
	3.0nm,0.7s,baz=26,slow=6.6,SNR=28						
WRA	**Warramunga Arr**	**85.91**	**229**	P	P	20 32 41.8	-2.0
	0.8nm,0.4s,baz=32,slow=5.7,SNR=33						
ASAR	**Alice Springs**	**89.33**	**228**	P	**P**	**20 32 59.0**	**-1.1**
	3.7nm,0.7s,baz=29,slow=4.8,SNR=53						
STKA	**Stephens Creek**	**93.39**	**218**	P	**P**	**20 33 17.2**	**-1.5**
	2.0nm,1.0s,baz=321,slow=6.5,SNR=3.0						
MAW	**Mawson**	**150.08**	**219**	PKPbc	**PKPbc**	**20 39 51.5**	**-1.0**
	2.7nm,0.5s,baz=234,slow=1.8,SNR=4.9						
BOSA	**Boshof**	**152.66**	**325**	PKPbc	**PKPbc**	**20 39 58.8**	**-1.1**
	2.7nm,0.6s,baz=29,slow=2.6,SNR=8.0						

IDC 28 20:36:52.6±1.9, 6°.15S×106°.99E, h301km±15km, mb2.9/4, mb1 3.0/4, mb1mx2.7/23, mbtmp3.6/4, Error ellipse: s-maj=155.5km s-min=17.7km az=52.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LEM	**Lembang**	**0.92**	**137**	P	Pn	20 37 33.1	0.0
	4.6nm,0.3s,baz=302,slow=19,SNR=5.1						
WRA	**Warramunga Arr**	**29.89**	**120**	P	P	20 42 32.8	-0.6
	0.5nm,1.0s,baz=294,slow=9.9,SNR=4.7						
ASAR	**Alice Springs**	**31.20**	**127**	P	P	20 42 44.8	+0.1
	0.2nm,0.4s,baz=301,slow=7.9,SNR=6.0						
STKA	**Stephens Creek**	**41.22**	**133**	P	P	20 44 09.0	+0.1
	1.4nm,0.8s,baz=291,slow=14,SNR=2.7						
MKAR	**Makanchi Array**	**57.09**	**340**	P	P	20 46 08.0	-0.1
	0.4nm,0.4s,baz=155,slow=8.6,SNR=9.4						

IDC 28 20:58:59.3±2.2, 1°.61N×127°.37E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/43, mbtmp3.4/3, MS4.0/1, Ms1 4.0/1, ms1mx2.6/14, Error ellipse: s-maj=167.5km s-min=26.0km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.48**	**163**	P	P	21 04 01.0	+0.5
	0.5nm,0.4s,baz=341,slow=10,SNR=7.7						
ASAR	**Alice Springs**	**25.91**	**166**	P	P	21 04 32.8	-0.6
	0.2nm,0.5s,baz=1.3,slow=7.9,SNR=3.1						
CTA	**Charters Tower**	**28.42**	**140**	LR	LR	21 16 54.4	
	comp=Z,293nm,19.4s,baz=262,slow=38						
MKAR	**Makanchi Array**	**59.66**	**326**	P	P	21 09 05.5	+0.1
	0.3nm,0.4s,baz=116,slow=7.1,SNR=5.5						

*ISCJB **28** 21:04:34.4±0.8, 6°.6S±0°.2×128°.0E±0°.4, h353km, mb3.1/3, Error ellipse: s-maj=58.4km s-min=10.2km az=156.7*
*IDC **28** 21:04:36.3±5.1, 6°.71S×127°.81E, h357km±59km, mb2.8/3, mb1 3.2/5, mb1mx3.0/20, mbtmp3.9/5, Error ellipse: s-maj=137.8km s-min=15.4km az=70.0*
ISC 28 21:04:35.7±1.1, 6°.7S±0°.2×127°.9E±0°.3, h353km, n7, σ1§21/9, mb3.1/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDU	**Kakadu**	**7.46**	**143**	P	**P**	**21 06 24.1**	**-0.7**
	baz=2.0,SNR=6.4						
KNRA	**Kununurra**	**8.95**	**175**	P	**P**	**21 06 42.6**	**-0.8**
	baz=3.4,SNR=6.5						
WRA	**Warramunga Arr**	**14.57**	**155**	P	**P**	**21 07 46.1**	**+0.6**
	2.1nm,0.3s,baz=330,slow=12,SNR=86		

*IDC **28** 21:19:19.5±1.0,52°.51N×169°.60W,h0ᵏᵐ,mb3.7/6, mb1 4.0/7,mb1mx3.6/37,mbtmp3.7/7,ML3.8/1,Error ellipse: s-maj=34.0km s-min=21.3km az=166.0*
*NEIC **28** 21:19:23.2,52°.86N×169°.29W,h5ᵏᵐ,ML3.4(AEIC),After AEIC.*

ISC 28 21:19:23.0±1.7,52°.9N±0°.1×169°.35W±0°.06,h10ᵏᵐ±11ᵏᵐ, n30,σ0°.94/27,mb3.7/6,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.32**	**72**	P		**Pg**	**21 19 29.6**	**+0.2**
NIKH				S		**Sb**	**21 19 36.9**	**+0.9**
OKSO	**Okmok South**	**0.87**	**56**	P		**Pb**	**21 19 40.4**	**+0.3**
OKSO				S		**Sn**	**21 19 54.6**	**+0.7**
OKWR	**Okmok West Rim**	**0.89**	**51**	P		**Pb**	**21 19 40.8**	**+0.3**
OKCE	**Okmok Cone E**	**0.90**	**52**	P		**Pg**	**21 19 40.0**	**-0.4**
OKAK	**Okmok**	**0.92**	**40**	P		**Pg**	**21 19 39.2**	**-1.6**
OKTU	**Okmok Mt. Tuli**	**0.94**	**57**	P		**Pg**	**21 19 40.7**	**-0.4**
OKFG	**Magazine Ridge**	**1.02**	**58**	P		**Pg**	**21 19 41.6**	**-1.0**
OKFG				S		**Sn**	**21 19 57.5**	**-0.2**
MCIR	**Makushin Cirqu**	**1.82**	**53**	P		**Pn**	**21 19 54.8**	**+0.3**
MSW	**Makushin Switc**	**1.86**	**55**	P		**Pn**	**21 19 55.5**	**+0.7**
MSW				S		**Sb**	**21 20 21.2**	**+1.0**
MTBL	**Makushin Table**	**1.94**	**55**	P		**Pn**	**21 19 56.6**	**+0.6**
UNV	**Unalaska Valle**	**1.97**	**59**	P		**Pn**	**21 19 56.4**	**+0.1**
UNV				S		**Sb**	**21 20 23.7**	**+0.4**
AKRB	**Akutan Reef Bi**	**2.33**	**56**	P		**Pn**	**21 20 02.2**	**+0.9**
ZRO	**Akutan Zero**	**2.36**	**58**	P		**Pn**	**21 20 02.3**	**+0.6**
AKGG	**Akutan Green G**	**2.40**	**55**	P		**Pn**	**21 20 03.8**	**+1.4**
AKUT	**Akutan**	**2.48**	**58**	P		**Pn**	**21 20 04.3**	**+0.9**
ATKA	**Atka Island**	**3.03**	**259**	P		**Pn**	**21 20 12.1**	**+1.1**
SPIA	**Saint Paul Isl**	**4.34**	**354**	P		**Pn**	**21 20 30.2**	**+1.3**
ILAR	**Eielson Array**	**16.53**	**35**	Pn		**Pn**	**21 23 15.3**	**+0.8**
	0.2nm,0.3s,baz=215,slow=9.3,SNR=5.3							
SEY	**Seymchan**	**22.34**	**312**	P		**P**	**21 24 20.0**	**-0.5**
	1.5nm,0.2s,baz=179,slow=22,SNR=3.8							
NVAR	**Mina Array Bea**	**37.66**	**92**	P		**P**	**21 26 39.3**	**+0.9**
	0.2nm,0.3s,baz=304,slow=7.2,SNR=2.6							
H11N2	**WAKE ISLAND Hy**	**37.86**	**218**	T		T	22 06 38.0	
	baz=23,slow=76,SNR=26							
H11N3	**WAKE ISLAND Hy**	**37.87**	**218**	T		T	22 06 39.9	
	baz=23,slow=76,SNR=21							
H11N1	**WAKE ISLAND Hy**	**37.88**	**218**	T		T	22 06 40.8	
	baz=23,slow=76,SNR=22							
H11S1	**WAKE ISLAND Hy**	**39.05**	**218**	T		T	22 08 06.8	
	baz=23,slow=76,SNR=304							
H11S2	**WAKE ISLAND Hy**	**39.06**	**218**	T		T	22 08 06.1	
	baz=23,slow=76,SNR=179							
H11S3	**WAKE ISLAND Hy**	**39.07**	**218**	T		T	22 08 08.0	
	baz=23,slow=76,SNR=184							
PDAR	**Pinedale Array**	**40.30**	**80**	P		**P**	**21 26 59.0**	**-1.4**
	0.3nm,0.3s,baz=320,slow=3.5,SNR=3.4							
TXAR	**Lajitas Array**	**52.73**	**89**	P		**P**	**21 28 36.2**	**-1.7**
	0.5nm,0.6s,baz=302,slow=5.1,SNR=7.3							
WRA	**Warramunga Arr**	**87.33**	**232**	P		P	21 32 06.1	-3.8
	0.4nm,0.8s,baz=39,slow=5.5,SNR=8.5							
ASAR	**Alice Springs**	**90.73**	**230**	P		P	21 32 22.9	-3.0
	0.7nm,0.9s,baz=26,slow=4.6,SNR=8.5							

*ISCJB **28** 21:36:39.5±0.5,9°.06S±0°.05×112°.16E±0°.03,h82ᵏᵐ±7ᵏᵐ, mb1.1/9,Error ellipse: s-maj=8.1km s-min=4.1km az=10.0*
*DJA **28** 21:36:40.9±0.3,9°.5S×11°.2E±°,h58ᵏᵐ±6ᵏᵐ,M4.5/28, mb4.5/5,mB5.0/2,MLv4.5/28,Mw(mB)4.4/2*
*IDC **28** 21:36:43.6±2.8,8°.90S×112°.09E,h103ᵏᵐ±31ᵏᵐ,mb3.6/8, mb1 3.6/9,mb1mx3.5/29,mbtmp3.9/9,MS2.8/3,Ms1 2.8/3, ms1mx2.5/37,Error ellipse: s-maj=37.4km s-min=13.2km az=47.0*

ISC 28 21:36:40.9±1.0,9°.06S±0°.06×112°.18E±0°.03,h76ᵏᵐ±11ᵏᵐ, n48,σ1ᵍ23/50,mb4.1/9,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WOJI	**Wonogiri, Jawa**	**1.73**	**314**	P		**Pn**	**21 37 08.8**	**-0.3**
NGJI	**Ngawi**	**1.82**	**337**	P		**Pn**	**21 37 11.0**	**+0.7**
BLJI	**Banyuglugur**	**1.92**	**47**	P		**Pn**	**21 37 11.6**	**0.0**
BLJI				S		**Sn**	**21 37 35.0**	**+0.1**
UGM	**Wanagama**	**1.99**	**305**	P		**Pn**	**21 37 12.6**	**0.0**
UGM				S		**Sn**	**21 37 36.6**	**-0.2**
UGM	**Wanagama**	**1.99**	**305**	P		**Pn**	**21 37 12.4**	**-0.2**
	baz=2.1,SNR=55							
JAGI	**Jajag, Banyuwa**	**2.04**	**74**	P		**Pn**	**21 37 12.1**	**-1.1**
JAGI				S		**Sn**	**21 37 35.9**	**-2.0**
JAGI	**Jajag, Banyuwa**	**2.04**	**74**	P		**Pn**	**21 37 11.8**	**-1.5**
	baz=2.1,SNR=833							
GRJI	**Gresik**	**2.15**	**8**	P		**Pn**	**21 37 14.9**	**+0.2**
TBJI	**Tambak Boyo**	**2.25**	**352**	P		**Pn**	**21 37 16.2**	**+0.2**
TBJI				S		**Sn**	**21 37 43.7**	**+0.8**
ABJI	**Asem Bagus**	**2.39**	**59**	P		**Pn**	**21 37 17.6**	**-0.4**
SMRI	**Semarang**	**2.63**	**319**	P		**Pn**	**21 37 21.2**	**0.0**
SMRI	**Semarang**	**2.63**	**319**	P		**Pn**	**21 37 22.2**	**+1.0**
	baz=2.7,SNR=18							
KMMI	**Kalianget**	**2.67**	**42**	P		**Pn**	**21 37 21.3**	**-0.4**
IGBI	**Denpasar**	**2.94**	**86**	P		**Pn**	**21 37 24.5**	**-0.9**
IGBI				S		**Sn**	**21 37 58.0**	**-1.8**
DNP	**Denpasar**	**3.02**	**83**	P		**Pn**	**21 37 26.0**	**-0.5**
DNP				S		**Sn**	**21 38 01.2**	**-0.5**
SRBI	**Singaraja**	**3.16**	**72**	P		**Pn**	**21 37 27.9**	**-0.4**
BWJI	**Bawean**	**3.22**	**9**	P		**Pn**	**21 37 29.4**	**+0.2**
BWJI				S		**Sn**	**21 38 06.1**	**-0.4**
CMJI	**Cimerak**	**3.90**	**289**	P		**Pn**	**21 37 37.9**	**-0.5**
CISI	**Cisompet, Garu**	**4.56**	**289**	P		**Pn**	**21 37 46.7**	**-0.9**
CISI	**Cisompet, Garu**	**4.56**	**289**	P		**Pn**	**21 37 47.0**	**-0.6**
	baz=4.6,SNR=38							
JCJI	**Jatiwangi**	**4.63**	**303**	S		**Sn**	**21 38 38.7**	**-2.3**
LEM	**Lembang**	**5.03**	**296**	P		**Pn**	**21 37 54.9**	**+0.9**
	35nm,0.8s,0.3nm							
LEM	**Lembang**	**5.03**	**296**	P		**Pn**	**21 37 55.9**	**+1.9**
	2.6nm,0.3s,baz=288,slow=20,SNR=3.2							
LEM				S		**Sn**	**21 38 50.4**	**-0.6**
	6.1nm,0.3s,baz=360,slow=23,SNR=4.0							
CNJI	**Cibinong**	**5.29**	**289**	P		**Pn**	**21 37 56.9**	**-0.5**
	51nm,1.4s,2µm0.5nm							
XMI	**Christmas Isla**	**6.54**	**257**	P		**Pn**	**21 38 12.6**	**-1.9**
	baz=6.5,SNR=5.9							
XMIS	**Christmas Isla**	**6.58**	**257**	P		**Pn**	**21 38 12.9**	**-2.2**
	baz=6.6,SNR=28							
CGJI	**Cibinong**	**6.87**	**290**	P		**Pn**	**21 38 18.8**	**-0.2**
	41nm,0.6s,1µm0.3nm							
KAPI	**Kappang**	**8.52**	**62**	LR		LR	21 43 13.7	
	comp=Z,26nm,18.6s,baz=228,slow=46							
STKI	**Sintang**	**9.09**	**356**	P		**Pn**	**21 38 50.4**	**+1.0**
SOEI	**Soe**	**11.95**	**94**	P		**Pn**	**21 39 29.1**	**+0.6**
	baz=12,SNR=3.9							
KNRA	**Kununurra**	**17.48**	**114**	P		**P**	**21 40 41.9**	**+1.9**
	baz=17,SNR=4.9							
MEEK	**Meekatharra**	**18.52**	**162**	P		**Pn**	**21 40 53.0**	**+0.7**
	baz=18,SNR=8.7							
MTN	**Manton Dam**	**18.99**	**103**	P		P	21 40 50.0	-6.5
	baz=19,SNR=4.5							
WRKA	**Warakurna**	**22.10**	**138**	P		**P**	**21 41 32.8**	**+2.8**
	baz=22,SNR=3.5							
WRA	**Warramunga Arr**	**24.00**	**119**	P		**P**	**21 41 49.3**	**+0.6**
	0.3nm,0.5s,baz=297,slow=11,SNR=11							
TGY	**Tagaytay City**	**24.60**	**21**	P		**P**	**21 41 53.9**	**-0.2**
	312nm,0.5s,baz=84,slow=4.6,SNR=4.9							
TGY				LR		LR	21 53 59.0	
	comp=Z,4.8nm,20.1s,baz=57,slow=42							
ASAR	**Alice Springs**	**25.35**	**128**	P		**P**	**21 42 03.1**	**+2.1**
	0.4nm,0.5s,baz=301,slow=8.9,SNR=9.0							
STKA	**Stephens Creek**	**35.50**	**134**	P		**P**	**21 43 32.1**	**+1.7**
	1.6nm,0.5s,baz=316,slow=8.9,SNR=5.4							
STKA	**Stephens Creek**	**35.50**	**134**	P		**P**	**21 43 32.5**	**+2.1**
	baz=36,SNR=5.0							
H08S2	**Diego Garcia H**	**39.27**	**269**	T		T	22 26 00.9	
	baz=95,slow=75,SNR=8.3							
H08S3	**Diego Garcia H**	**39.28**	**269**	T		T	22 25 54.8	
	baz=95,slow=75,SNR=11							
H08S1	**Diego Carcia H**	**39.29**	**269**	T		T	22 25 59.9	
	baz=95,slow=75,SNR=10							
USRK	**Ussuriysk Ar.**	**55.97**	**17**	P		**P**	**21 46 10.2**	**-1.0**
	1.6nm,0.8s,baz=198,slow=12,SNR=4.5							
SONM	**Songino Array**	**56.87**	**355**	P		**P**	**21 46 16.4**	**-1.4**
	0.5nm,0.4s,baz=178,slow=8.2,SNR=7.8							
MKAR	**Makanchi Array**	**61.66**	**337**	P		**P**	**21 46 49.5**	**-1.3**
	2.8nm,0.5s,baz=147,slow=7.1,SNR=26							
ZALV	**Zalesovo Beam**	**66.90**	**343**	P		**P**	**21 47 22.8**	**-2.1**
	2.1nm,0.6s,baz=159,slow=4.6,SNR=14							
RAO	**Raoul Island**	**68.13**	**118**	LR		LR	22 15 38.0	
	comp=Z,69nm,21.9s,baz=268,slow=34							
BRTR	**Keskin Array B**	**87.03**	**311**	P		**P**	**21 49 18.0**	**-0.3**
	0.7nm,0.8s,baz=147,slow=7.3,SNR=3.7							

*IDC **28** 21:50:54.8±1.5,5°.67S×153°.26E,h0ᵏᵐ,mb4.0/10, mb1 4.1/11,mb1mx4.0/21,mbtmp4.0/11,ML2.1/1,MS3.1/2, Ms1 3.2/2,ms1mx2.6/31,Error ellipse: s-maj=46.1km s-min=17.8km az=104.0*
*ISCJB **28** 21:51:00.6±0.9,5°.60S±0°.10×152°.8E±0°.2,h37ᵏᵐ, mb4.1/12,MS3.1/2,Error ellipse: s-maj=23.7km s-min=11.1km az=22.5*
*NEIC **28** 21:51:04.6±3.4,5°.79S×152°.87E,h65ᵏᵐ±29ᵏᵐ,mb4.7/5, Error ellipse: s-maj=25.3km s-min=15.8km az=86.0*

ISC 28 21:51:01.7±0.9,5°.7S±0°.1×153°.0E±0°.2,h37ᵏᵐ,n28, σ1ᵍ35/29,mb4.0/12,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.82**	**237**	Pn		**Pn**	**21 52 41.3**	**+2.0**
	1.9nm,0.3s,baz=45,slow=17,SNR=4.8							
PMG				Sn		Sn	21 54 03.9	+8.1
	3.8nm,0.3s,baz=90,slow=20,SNR=4.2							
EIDS	**Eidsvold**	**19.63**	**185**	*eP*		**P**	**21 55 24.2**	**-3.0**
	55nm,1.9s							
GUMO	**Guam**	**20.79**	**337**	LR		LR	22 04 22.6	
	comp=Z,27nm,18.6s,baz=92,slow=39							
WRA	**Warramunga Arr**	**22.98**	**230**	P		**P**	**21 56 02.3**	**-1.0**
	0.9nm,0.8s,baz=57,slow=9.6,SNR=5.3							
WRA				PcP		**PcP**	**21 59 52.8**	**+0.2**
	0.6nm,0.9s,baz=60,slow=2.4,SNR=5.1							
AS12	**Alice Springs**	**25.60**	**224**	*eP*		**P**	**21 56 26.9**	**-0.8**
AS12				*ePcP*		**PcP**	**21 59 59.0**	**+0.7**
ASAR	**Alice Springs**	**25.60**	**224**	P		**P**	**21 56 26.9**	**-0.8**
	2.1nm,0.9s,baz=57,slow=9.0,SNR=14							
ASAR				PcP		**PcP**	**21 59 59.0**	**+0.7**
	0.4nm,0.7s,baz=55,slow=2.5,SNR=3.5							
STKA	**Stephens Creek**	**28.12**	**201**	P		**P**	**21 56 51.4**	**+1.1**
	1.4nm,0.9s,baz=18,slow=9.6,SNR=3.3							
STKA	**Stephens Creek**	**28.12**	**201**	*eP*		**P**	**21 56 51.4**	**+1.1**
	10nm,2.1s							
FITZ	**Fitzroy Crossi**	**29.38**	**243**	*eP*		**P**	**21 57 01.0**	**-0.6**
	66nm,2.5s							
KSM	**Kuching**	**43.19**	**278**	*eP*		**P**	**21 58 58.3**	**-1.2**
	18nm,1.1s							
JNU	**Nakatsue**	**43.94**	**333**	P		**P**	**21 59 04.4**	**-0.8**
	11nm,0.8s,baz=226,slow=5.6,SNR=6.4							
JNU	**Nakatsue**	**43.94**	**333**	*eP*		**P**	**21 59 04.4**	**-0.8**
	84nm,1.7s							
KSRS	**Korea Array**	**48.88**	**333**	P		**P**	**21 59 43.3**	**-0.6**
	0.7nm,0.7s,baz=154,slow=7.7,SNR=5.0							
KS15	**Wonju Array Si**	**48.88**	**333**	*eP*		**P**	**21 59 43.3**	**-0.6**
KSAR	**Wonju Array Be**	**48.88**	**333**	P		**P**	**21 59 43.3**	**-0.6**
USRK	**Ussuriysk Ar.**	**53.15**	**341**	P		**P**	**22 00 14.7**	**-1.2**
	1.7nm,0.5s,baz=157,slow=5.6,SNR=6.3							
CM31	**Chiang Mai Arr**	**58.41**	**296**	*eP*		**P**	**22 00 55.8**	**+1.7**
CMAR	**Chiang Mai Arr**	**58.41**	**296**	P		**P**	**22 00 55.8**	**+1.7**
	0.3nm,0.3s,baz=128,slow=6.3,SNR=4.7							
SONA0	**Songino Array**	**67.17**	**328**	*eP*		**P**	**22 01 52.3**	**+0.2**
SONM	**Songino Array**	**67.17**	**328**	P		**P**	**22 01 52.3**	**+0.2**
	0.8nm,0.5s,baz=139,slow=6.8,SNR=7.1							
MK32	**Makanchi Array**	**81.11**	**319**	*eP*		**P**	**22 03 13.2**	**-0.1**
MKAR	**Makanchi Array**	**81.11**	**319**	P		**P**	**22 03 13.2**	**-0.2**
	0.7nm,0.7s,baz=101,slow=6.0,SNR=6.6							
ZALV	**Zalesovo Beam**	**81.99**	**326**	P		**P**	**22 03 16.1**	**-1.6**
	1.8nm,0.6s,baz=115,slow=5.7,SNR=11							
ZAA1	**Zalesovo Array**	**81.99**	**326**	*eP*		**P**	**22 03 16.1**	**-1.6**
ILAR	**Eielson Array**	**82.94**	**22**	LR		LR	22 36 50.4	
	comp=Z,19nm,19.3s,baz=204,slow=33							
DGR	**Domenigoni Val**	**93.15**	**57**	*eP*		**P**	**22 04 14.5**	**+2.1**
CBKC	**Canebrake**	**93.72**	**57**	*eP*		**P**	**22 04 16.8**	**+1.8**
TORD	**Torodi Ar. Bea**	**150.73**	**287**	PKPbc		**PKPbc**	**22 10 49.0**	**-2.1**
	1.6nm,0.7s,baz=76,slow=2.7,SNR=19							

CASC 28 21:53:39.7±3.0,8°.57N×83°.19W,h6ᵏᵐ±7ᵏᵐ,MD4.0,1C-6D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.09**	**14**	*iP*		Pg	21 53 42.2	+0.5
CTCR	**Cotoan**	**0.53**	**53**	*iP*		Pg	21 53 50.2	-0.1
BRU2	**Volcan**	**0.54**	**66**	*iP*		Pg	21 53 50.2	-0.2
BRU2				*eS*		Sb	21 54 01.2	+1.2
TBS2		**0.57**	**67**	*eP*		Pb	21 53 52.3	0.0
TBS2				*eS*		Sb	21 54 01.9	+1.0
BUS	**Buena Vista**	**1.13**	**330**	*eP*		Pg	21 53 59.3	-2.7
BUS				*eS*		Sg	21 54 16.1	-1.0
QCR	**Quepos**	**1.28**	**311**	*eP*		Pn	21 54 02.0	-2.2
QCR				*eS*		Sg	21 54 20.0	-1.1
URSC	**Urasca**	**1.39**	**335**	*eP*		Pn	21 54 03.3	-2.6
CGA2	**Cerro Gallo 2**	**1.91**	**319**	*eP*		Pn	21 54 12.0	-1.0
CGA2				*eS*		Sn	21 54 36.9	-0.7
CAO	**Cobano**	**2.20**	**301**	*eP*		Pn	21 54 16.4	-0.4
JCR	**Jicaral**	**2.29**	**304**	*eP*		Pn	21 54 17.0	-1.0
JTS	**JuntasAbangare**	**2.44**	**315**	*eP*		Pn	21 54 20.4	+0.3
JTS				*eS*		Sn	21 54 38.7	-1.7
AMAS	**Alto Masis**	**2.70**	**319**	*iP*		Pn	21 54 25.7	+1.9
PNME	**Penonome**	**2.83**	**91**	*eP*		Pn	21 54 26.0	+0.5
CUI	**Cuipilapa**	**2.84**	**317**	*iP*		Pn	21 54 26.9	+1.1
VCR	**Vista de Mar**	**2.86**	**303**	*eP*		Pn	21 54 25.2	-0.9
COLC	**Colonia**	**2.88**	**317**	*iP*		Pn	21 54 27.3	+1.1
HORNC	**Hornillas**	**2.90**	**318**	*iP*		Pn	21 54 27.1	+0.6
MESS	**Mesas**	**2.93**	**318**	*iP*		Pn	21 54 28.3	+1.4
MESS				*iS*		Sn	21 55 03.8	+1.3
AZU	**Azuero**	**2.99**	**105**	*eP*		Pn	21 54 28.0	+0.4
AZU				*eS*		Sn	21 55 03.6	-0.2
LAPC	**Finca la Perla**	**3.11**	**315**	*iP*		Pn	21 54 30.1	+0.7
BUEV	**Buena Vista**	**3.11**	**316**	*iP*		Pn	21 54 30.7	+1.2
GB1A	**Borinquen Arri**	**3.12**	**316**	*iP*		Pn	21 54 30.5	+0.9
BCIP	**Isla Barro Col**	**3.37**	**80**	*eP*		Pn	21 54 32.3	-0.5
BCIP				*eS*		Sn	21 55 10.9	-2.2

*IDC **28** 22:00:37.2±1.2,11°.26S×164°.39E,h0ᵏᵐ,mb4.0/6, mb1 4.3/9,mb1mx4.0/35,mbtmp4.2/9,ML4.7/3,MS3.4/11, Ms1 3.4/11,ms1mx3.1/37,Error ellipse: s-maj=34.1km s-min=23.1km az=136.0*
*ISCJB **28** 22:00:40.6±0.8,11°.43S±0°.07×164°.4E±0°.1,h33ᵏᵐ, mb3.9/6,MS3.4/9,Error ellipse: s-maj=16.3km s-min=8.9km az=156.8*

ISC 28 22:00:42.5±0.9,11°.33S±0°.09×164°.4E±0°.1,h35ᵏᵐ,n25, σ0ᵍ49/10,mb3.9/6,MS3.4/9,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.73**	**293**	Pn		**Pn**	**22 01 51.5**	**+0.1**
	129nm,0.3s,baz=137,slow=6.9,SNR=15							
HNR				LR		LR	22 03 23.9	
	comp=Z,264nm,21.2s,baz=59,slow=35							
HNR	**Honiara**	**4.73**	**293**	*eP*		Pn	22 01 55.0	+3.6
DZM	**Mont Dzumac**	**10.86**	**170**	Pn		**Pn**	**22 03 16.2**	**+0.5**
	6.8nm,0.3s,baz=270,slow=24,SNR=33							
DZM				Sn		**Sn**	**22 05 15.6**	**-0.5**
	0.6nm,0.3s,baz=270,slow=20,SNR=2.8							
PMG	**Port Moresby**	**17.02**	**275**	LR		LR	22 10 56.1	
	comp=Z,461nm,18.4s,baz=108,slow=36							
CTA	**Charters Tower**	**19.46**	**241**	P		**Pn**	**22 05 08.4**	**+0.6**
	0.4nm,0.3s,baz=77,slow=14,SNR=3.5							
AFI	**Afiamalu**	**23.43**	**99**	LR		LR	22 12 16.9	
	comp=Z,66nm,21.1s,baz=122,slow=30							
STKA	**Stephens Creek**	**29.30**	**222**	LR		LR	22 17 31.1	
	comp=Z,128nm,18.1s,baz=28,slow=34							
H11S2	**WAKE ISLAND Hy**	**29.73**	**5**	T		T	22 37 55.1	
	baz=184							
H11S3	**WAKE ISLAND Hy**	**29.73**	**4**	T		T	22 38 02.8	
	baz=184,slow=74							
H11S1	**WAKE ISLAND Hy**	**29.74**	**4**	T		T	22 37 57.1	
	baz=184,slow=74							
WRA	**Warramunga Arr**	**30.10**	**250**	P		**P**	**22 06 48.7**	**-0.3**
	0.5nm,0.5s,baz=79,slow=9.2,SNR=23							
H11N1	**WAKE ISLAND Hy**	**30.95**	**5**	T		T	22 39 27.7	
	baz=185,slow=75							
H11N3	**WAKE ISLAND Hy**	**30.96**	**5**	T		T	22 39 26.7	
	baz=185							
H11N2	**WAKE ISLAND Hy**	**30.97**	**5**	T		T	22 39 26.5	
	baz=185,slow=75							
GUMO	**Guam**	**31.41**	**322**	LR		LR	22 18 43.3	
	comp=Z,92nm,21.6s,baz=142,slow=35							
ASAR	**Alice Springs**	**31.45**	**243**	P		**P**	**22 07 00.2**	**-0.7**
	1.2nm,0.7s,baz=62,slow=10,SNR=11							
PPT	**Papeete**	**44.95**	**104**	LR		LR	22 24 20.3	
	comp=Z,63nm,19.0s,baz=318,slow=32							
MJAR	**Matsushiro Arr**	**53.61**	**334**	LR		LR	22 31 23.9	
	comp=Z,22nm,21.7s,baz=145,slow=34							
KSRS	**Korea Array**	**59.35**	**327**	LR		LR	22 34 21.0	
	comp=Z,31nm,19.8s,baz=100,slow=34							
CMAR	**Chiang Mai Arr**	**70.98**	**294**	LR		LR	22 43 37.6	
	comp=Z,9.1nm,18.9s,baz=225,slow=36							
SONM	**Songino Array**	**78.10**	**324**	P		**P**	**22 12 37.9**	**-0.1**
	0.4nm,0.3s,baz=116,slow=3.4,SNR=3.7							
SONM				LR		LR	22 44 14.8	
	comp=Z,20nm,22.0s,baz=113,slow=34							
ILAR	**Eielson Array**	**84.22**	**19**	P		**P**	**22 13 10.3**	**+0.3**
	0.8nm,0.8s,baz=245,slow=5.0,SNR=5.4							
NVAR	**Mina Array Bea**	**87.25**	**50**	P		**P**	**22 13 25.7**	**-0.2**
	0.6nm,0.8s,baz=255,slow=6.5,SNR=3.7							
MKAR	**Makanchi Array**	**92.80**	**317**	P		**P**	**22 13 51.5**	**0.0**
	0.6nm,0.9s,baz=96,slow=4.5,SNR=3.2							
TXAR	**Lajitas Array**	**97.17**	**62**	LR		LR	22 51 48.9	
	comp=Z,22nm,19.0s,baz=0.0,slow=32							

*IDC **28** 22:16:28.1±0.8,2°.73S×137°.38E,h0ᵏᵐ,mb3.9/8, mb1 4.1/11,mb1mx4.0/20,mbtmp4.0/11,ML4.1/3,Error ellipse: s-maj=25.8km s-min=17.1km az=61.0*
*ISCJB **28** 22:16:31.9±0.4,2°.83S±0°.04×137°.35E±0°.04,h35ᵏᵐ, mb3.7/7,Error ellipse: s-maj=6.0km s-min=4.9km az=26.4*
*DJA **28** 22:16:34.8±0.4,3°.S±4°×13°.7E±°,h41ᵏᵐ±25ᵏᵐ,M4.1/8, mb4.3/2,MLv4.0/8*

ISC 28 22:16:33.4±0.6,2°.73S±0°.06×137°.41E±0°.04,h35ᵏᵐ,n27, σ1ᵍ31/32,mb3.8/8,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**1.44**	**306**	P		**Pn**	**22 16 57.8**	**+0.7**
SRPI				S		**Sn**	**22 17 16.4**	**+1.6**
SMPI	**Sarmi**	**1.49**	**61**	P		**Pn**	**22 16 57.0**	**-0.8**
SMPI				S		**Sn**	**22 17 18.2**	**+2.1**
BAKI	**Biak**	**2.00**	**320**	P		**Pn**	**22 17 04.5**	**-0.3**
BAKI				S		**Sn**	**22 17 29.4**	**+0.7**
GENI	**Genyem**	**2.76**	**87**	P		**Pn**	**22 17 14.8**	**-0.4**
JAY	**Jayapura**	**3.30**	**86**	P		**Pn**	**22 17 20.9**	**-1.8**
JAY	**Jayapura**	**3.30**	**86**	Pn		**Pn**	**22 17 22.4**	**-0.3**
	2.7nm,0.3s,baz=353,slow=22,SNR=15							
JAY				Sn		**Sn**	**22 18 04.4**	**+3.6**
	2.9nm,0.3s,baz=95,slow=18,SNR=2.7							
JAY	**Jayapura**	**3.30**	**86**	P		**Pn**	**22 17 25.0**	**+2.3**
	baz=3.3,SNR=4.1							
FAKI	**Fak Fak**	**5.16**	**268**	P		**Pn**	**22 17 49.3**	**+1.1**
	33nm,1.2s,0.1nm							
FAKI	**Fak Fak**	**5.16**	**268**	P		**Pn**	**22 17 50.8**	**+2.6**
	baz=5.3,SNR=7.4							
SIJI	**Sorong**	**6.41**	**287**	Pn		**Pn**	**22 18 04.7**	**-0.8**
	2.7nm,0.3s,baz=90,slow=20,SNR=10							
SWI	**Sorong**	**6.42**	**287**	P		**Pn**	**22 18 04.2**	**-1.3**
MTN	**Manton Dam**	**11.81**	**211**	P		**Pn**	**22 19 19.3**	**-0.2**
	baz=11,SNR=10.0							
COEN	**Coen**	**12.53**	**153**	P		**Pn**	**22 19 28.7**	**-0.7**
	baz=12,SNR=6.2							
KNRA	**Kununurra**	**15.43**	**213**	P		**Pn**	**22 20 07.6**	**-1.0**
	baz=15,SNR=9.8							
MTSU	**Mount Surprise**	**16.74**	**157**	P		**Pn**	**22 20 26.5**	**+1.1**
	baz=16,SNR=6.0							
WRA	**Warramunga Arr**	**17.37**	**190**	P	

mb3.9/9, Error ellipse: s-maj=17.7km s-min=5.6km az=41.4

*DJA **28** 22:50:01.3±0.6, 5°S±4°×10°3E±°, h36km±6km, M4.0/12, MLv4.0/12*

ISC 28 22:50:00.9±1.3, **4°97S**±0°09×**102°99E**±0°08, **h59**km±11km, **n30**, σ0°**78**/**29**, **mb4.0**/9, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**0.61**	**357**	P	**Pn**	**22 50 13.6**	**-0.5**
MNAI				S	**Sn**	**22 50 23.6**	**-0.1**
LWLI	**Liwa**	**1.07**	**92**	P	**Pn**	**22 50 20.4**	**+0.4**
LWLI				S	**Sn**	**22 50 33.4**	**-0.7**
LHSI	**Lahat**	**1.26**	**25**	P	**Pn**	**22 50 23.1**	**+0.7**
MDSI	**Maura Dua**	**1.28**	**68**	P	**Pn**	**22 50 23.2**	**+0.5**
MDSI				S	**Sn**	**22 50 39.2**	**+0.2**
KSI	**Kapahiang**	**1.37**	**343**	P	**Pn**	**22 50 24.7**	**+0.8**
KSI				S	**Sn**	**22 50 41.5**	**+0.4**
KASI	**Kota Agung**	**1.60**	**110**	P	**Pn**	**22 50 27.8**	**+0.8**
KASI				S	**Sn**	**22 50 46.6**	**0.0**
KLSI		**1.76**	**81**	P	**Pn**	**22 50 30.1**	**+1.0**
KLI	**Kotabumi**	**1.87**	**87**	P	**Pn**	**22 50 31.5**	**+0.9**
BLSI	**Bandar Lampung**	**2.28**	**100**	P	**Pn**	**22 50 36.0**	**-0.3**
BLSI				S	**Pn**	**22 50 36.9**	**+0.6**
CGJI	**Cibinong**	**3.15**	**121**	P	**Pn**	**22 50 48.7**	**+0.6**
CGJI				S	**Sn**	**22 51 22.9**	**-1.6**
PPSI	**Pulau Pagai**	**3.69**	**306**	P	**Pn**	**22 50 56.4**	**+0.9**
TNG	**Tangerang**	**3.83**	**108**	P	**Pn**	**22 50 58.0**	**+0.5**
H08S2	**Diego Garcia H**	**30.42**	**263**	T	T	23 28 19.6	
	baz=86,slow=76,SNR=4.5						
H08S3	**Diego Garcia H**	**30.43**	**263**	T	T	23 28 24.0	
	baz=86,slow=76,SNR=4.4						
H08S1	**Diego Garcia H**	**30.44**	**263**	T	T	23 28 18.4	
	baz=86,slow=76,SNR=4.6						
H01W3	**Cape Leeuwin H**	**31.50**	**162**	T	T	23 29 48.9	
	baz=340,slow=76,SNR=12						
H01W2	**Cape Leeuwin H**	**31.52**	**162**	T	T	23 29 49.9	
	baz=340,slow=76,SNR=11						
H01W1	**Cape Leeuwin H**	**31.52**	**162**	T	T	23 29 40.7	
	baz=340,slow=76,SNR=13						
WRA	**Warramunga Arr**	**33.94**	**119**	P	**P**	**22 56 38.7**	**-0.2**
	0.7nm,0.4s,baz=304,slow=8.9,SNR=16						
ASAR	**Alice Springs**	**35.11**	**125**	P	**P**	**22 56 49.6**	**+0.7**
	1.5nm,0.7s,baz=284,slow=8.7,SNR=3.4						
STKA	**Stephens Creek**	**44.96**	**131**	P	**P**	**22 58 11.6**	**+1.1**
	1.5nm,0.7s,baz=284,slow=8.7,SNR=3.4						
SONM	**Songino Array**	**52.67**	**3**	P	**P**	**22 59 09.3**	**0.0**
	0.6nm,0.5s,baz=186,slow=8.1,SNR=5.2						
MKAR	**Makanchi Array**	**54.70**	**343**	P	**P**	**22 59 23.1**	**-1.0**
	0.9nm,0.7s,baz=148,slow=7.2,SNR=8.0						
TLY	**Talaya**	**56.44**	**0**	LR	LR	23 24 39.5	
	comp=Z,66nm,18.3s,baz=179,slow=37						
ZALV	**Zalesovo Beam**	**60.65**	**348**	P	**P**	**23 00 04.6**	**-1.1**
	1.1nm,0.4s,baz=166,slow=5.1,SNR=7.0						
BVAR	**Borovoye Array**	**64.00**	**339**	P	**P**	**23 00 26.8**	**-1.3**
	0.9nm,0.6s,baz=129,slow=8.8,SNR=4.0						
ARU	**Arti**	**71.11**	**336**	LR	LR	23 34 34.2	
	comp=Z,37nm,21.8s,baz=94,slow=38						
FINES	**FINESS Array B**	**88.11**	**332**	P	**P**	**23 02 45.0**	**+0.1**
	0.4nm,0.4s,baz=128,slow=5.6,SNR=6.0						
ARCES	**ARCESS Array B**	**90.27**	**340**	P	**P**	**23 02 54.5**	**-0.3**
	0.6nm,0.8s,baz=98,slow=6.5,SNR=3.6						
TXAR	**Lajitas Array**	**145.03**	**43**	PKPbc	**PKPab**	**23 09 32.0**	**+0.1**
	0.3nm,0.4s,baz=347,slow=1.2,SNR=3.3						

*IDC **28** 22:51:28.3±0.4, 14°93N×146°92E, h0km, mb4.6/31, mb1 4.7/35, mb1mx4.6/49, mbtmp4.6/35, ML4.5/4, MS3.8/15, Ms1 3.8/15, ms1mx3.6/35, Error ellipse: s-maj=14.7km s-min=10.5km az=103.0*

*MOS **28** 22:51:31.5±1.3, 14°97N×146°73E, h29km, mb4.9/51, Error ellipse: s-maj=10.0km s-min=6.5km az=93.3*

*ISCJB **28** 22:51:32.2±0.2, 14°92N±0°03×146°81E±0°03, h32km, mb4.8/118, MS3.9/15, Error ellipse: s-maj=4.7km s-min=3.9km az=165.4*

*BJI **28** 22:51:32.2, 15°03N×147°26E, h45km, mb4.8/46, mB5.0/37, Ms4.5/42, Ms7 4.2/42*

*NEIC **28** 22:51:33.3±2.3, 14°91N×146°82E, h30km±15km, mb4.9/85, Error ellipse: s-maj=6.2km s-min=4.1km az=105.0*

ISC 28 22:51:33.3±0.3, **14°85N**±0°04×**146°97E**±0°05, **h32**km, **n327**, σ1§**43**/350, **mb4.9**/118, **MS3.8**/16, **4C-3D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.39**	**239**	P	**Pn**	**22 52 10.1**	**-0.1**
	144nm,0.3s,baz=80,slow=2.2,SNR=37						
GUMO				Sn	**Sn**	**22 52 39.6**	**+1.2**
	127nm,0.3s,baz=158,slow=5.3,SNR=7.4						
GUMO				LR	LR	22 52 54.2	
	comp=Z,942nm,21.0s,baz=154,slow=36						
GUMO	**Guam**	**2.39**	**239**	P	**Pn**	**22 52 10.1**	**-0.1**
GUMO						22 52 39.6	
GUMO				pmax	pmax		
	comp=Z,144nm,0.3s						
GUMO				smax	smax		
	comp=N,127nm,0.3s						
GUMO				MLR	MLR		
	comp=Z,943nm,21.0s						
GUMO	**Guam**	**2.39**	**239**	*e*Pn	**Pn**	**22 52 10.4**	**+0.1**
GUMO				*e*Sn	**Sb**	**22 52 43.1**	**-1.7**
CBI	**Chichi jima**	**12.97**	**341**	*e*Pn	**Pn**	**22 54 33.1**	**-2.4**
CBIJ	**Chichi jima**	**12.98**	**341**	*e*Pn	**Pn**	**22 54 32.8**	**-2.7**
JCJ	**Chichijima**	**12.98**	**341**	Pn	**Pn**	**22 54 33.1**	**-2.5**
	comp=Z,8.1nm,0.3s,baz=285,slow=21,SNR=6.0						
JCJ				LR	LR	22 59 04.7	
	comp=Z,241nm,19.9s,baz=134,slow=35						
JAY	**Jayapura**	**18.33**	**200**	P	**Pn**	**22 55 46.1**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=25,slow=7.8,SNR=7.0						
H11S3	**WAKE ISLAND Hy**	**19.23**	**76**	T	T	23 15 43.2	
	baz=268,slow=72,SNR=25						
H11S1	**WAKE ISLAND Hy**	**19.25**	**76**	T	T	23 15 49.7	
	baz=268,slow=72,SNR=24						
H11S2	**WAKE ISLAND Hy**	**19.25**	**76**	T	T	23 15 42.9	
	baz=268,slow=72,SNR=18						
JHJ2	**Mitsune**	**19.31**	**342**	*e*P	**P**	**22 55 53.4**	**-2.3**
	comp=Z,675nm,2.0s						
JHJ	**Hachijo jima 2**	**19.33**	**342**	P	**P**	**22 55 54.5**	**-1.4**
	comp=Z,12nm,0.3s,baz=64,slow=20,SNR=5.1						
H11N1	**WAKE ISLAND Hy**	**19.62**	**73**	T	T	23 16 11.7	
	baz=258,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hy**	**19.63**	**73**	T	T	23 16 22.1	
	baz=258,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**19.64**	**73**	T	T	23 16 20.1	
	baz=258,slow=75,SNR=16						
JOW	**Kunigami**	**21.12**	**307**	*e*P	**P**	**22 56 16.0**	**+0.5**
	comp=Z,308nm,1.8s						
SIJI	**Sorong**	**22.03**	**226**	P	**P**	**22 56 26.3**	**+0.9**
	comp=Z,53nm,1.0s,baz=28,slow=12,SNR=23						
SIJI				LR	LR	23 04 52.2	
	comp=Z,313nm,19.9s,baz=350,slow=36						
FAKI	**Fak Fak**	**22.89**	**221**	*e*P	**P**	**22 56 35.9**	**+1.3**
	comp=Z,363nm,1.8s						
MJAR	**Matsushiro Arr**	**22.98**	**342**	P	P	22 56 30.4	-4.8
	comp=Z,2.5nm,0.5s,baz=170,slow=11,SNR=11						
MJAR	**Matsushiro Arr**	**22.98**	**342**	P	P	22 56 30.4	-4.8
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MAJO	**Matsushiro**	**22.98**	**342**	*e*P	P	22 56 30.1	-5.2
MAJO				pmax	pmax		
	comp=Z,20nm,0.9s						
MAJO	**Matsushiro**	**22.98**	**342**	*e*P	P	22 56 30.1	-5.2
	comp=Z,20nm,0.9s						
MAT	**Matsushiro**	**22.98**	**342**	P	P	22 56 29.3	-6.0
MAT				*e*S	**S**	**23 00 41.6**	**-2.0**
JNU	**Nakatsue**	**23.33**	**324**	P	**P**	**22 56 38.2**	**-0.7**
	comp=Z,9.2nm,0.4s,baz=153,slow=9.0,SNR=17						
JNU	**Nakatsue**	**23.33**	**324**	*e*P	**P**	**22 56 37.9**	**-1.0**
	comp=Z,32nm,1.1s						
PMG	**Port Moresby**	**24.10**	**180**	P	**P**	**22 56 46.5**	**+0.3**
	comp=Z,70nm,1.0s,baz=349,slow=7.4,SNR=7.7						
PMG				LR	LR	23 06 07.5	
	comp=Z,133nm,20.6s,baz=338,slow=36						
PMG	**Port Moresby**	**24.10**	**180**	*ce*P	**P**	**22 56 45.4**	**-0.8**
PMG				pmax	pmax		
	comp=Z,307nm,1.0s						
PMG	**Port Moresby**	**24.10**	**180**	*e*P	**P**	**22 56 46.5**	**+0.3**
	comp=Z,76nm,0.9s						
YULB	**Yu-li**	**25.67**	**293**	*e*P	**P**	**22 57 01.6**	**+1.1**
	comp=Z,190nm,2.6s						
SSLB	**Suanglung**	**26.07**	**294**	*e*P	**P**	**22 57 04.6**	**+0.4**
	comp=Z,18nm,1.0s						
ERM	**Erimo**	**27.27**	**354**	*e*P	**P**	**22 57 14.2**	**-0.5**
ERM				pmax	pmax		
	comp=Z,53nm,1.4s						
ERM	**Erimo**	**27.27**	**354**	*e*P	**P**	**22 57 14.2**	**-0.5**
	comp=Z,53nm,1.4s						
KSRS	**Korea Array**	**28.16**	**327**	P	**P**	**22 57 21.4**	**-1.3**
	comp=Z,5.0nm,0.6s,baz=146,slow=9.5,SNR=14						
KSRS	**Korea Array**	**28.16**	**327**	P	**P**	**22 57 21.4**	**-1.3**
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KS15	**Wonju Array Si**	**28.17**	**327**	*e*P	**P**	**22 57 21.4**	**-1.5**
KSAR	**Wonju Array Be**	**28.17**	**327**	P	**P**	**22 57 21.4**	**-1.5**
KSAR	**Wonju Array Be**	**28.17**	**327**	P	**P**	**22 57 21.4**	**-1.5**
COEN	**Coen**	**28.86**	**188**	*e*P	**P**	**22 57 29.4**	**+0.3**
	comp=Z,129nm,2.2s						
YUK	**Yuzh-Kuril'sk**	**29.11**	**358**	*e*P	**P**	**22 57 32.2**	**+1.2**
YUK				*e*		22 58 26.8	
YUK				*e*		23 00 41.0	
YUK				*e*S	**S**	**23 02 21.5**	**+0.7**
YUK				*e*SS	**SnSn**	**23 03 49.0**	**+2.5**
YUK				MLR	MLR		
	comp=Z,217nm,18.0s						
ASAJ	**Asahikawa**	**29.41**	**354**	*e*P	**P**	**22 57 34.1**	**+0.3**
	comp=Z,67nm,1.5s						
NJ2	**Nanjing**	**30.82**	**309**	*e*P	**P**	**22 57 47.5**	**+1.1**
NJ2				PMZ			
	comp=Z,30nm,1.0s						
NJ2				LN			
	comp=Z,730nm,17.5s						
NJ2				LE			
	comp=Z,2μm,25.2s						
NJ2				LZ			
	comp=Z,790nm,19.6s						
USRK	**Ussuriysk Ar.**	**31.92**	**339**	P	**P**	**22 57 55.1**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=135,slow=9.2,SNR=4.7						
USRK				LR	LR	23 11 02.7	
	comp=Z,198nm,18.6s,baz=144,slow=37						
SOEI	**Soe**	**33.23**	**224**	*e*P	**P**	**22 58 07.0**	**-0.9**
	comp=Z,28nm,0.8s						
WHN	**Wuhan**	**33.75**	**303**	P	**P**	**22 58 12.8**	**+0.7**
WHN				S	S	23 03 40.5	+6.8
WHN				LZ			
	comp=Z,690nm,17.2s						
TIA	**Tai'an**	**34.09**	**314**	⇓P	**P**	**22 58 14.5**	**-0.6**
TIA				PMZ			
	comp=Z,10.0nm,0.5s						
TIA				LN			
	comp=Z,480nm,19.0s						
TIA				LE			
	comp=Z,430nm,19.6s						
TIA				LZ			
	comp=Z,90nm,4.2s						
QIZ	**Qiongzhong**	**35.71**	**282**	P	**P**	**22 58 29.5**	**+0.2**
QIZ				PP	**PP**	**22 59 52.3**	**+1.6**
QIZ				S	**S**	**23 04 02.8**	**-1.5**
QIZ				sS	sS	23 04 25.5	+5.8
QIZ				LN			
	comp=Z,250nm,17.0s						
QIZ				LZ			
	comp=Z,190nm,17.2s						
SBUM	**Sibu**	**36.42**	**254**	*e*P	**P**	**22 58 33.4**	**-2.0**
	comp=Z,68nm,2.6s						
KLR	**Kul'dur**	**36.49**	**343**	*e*P	P	22 58 28.8	-6.7
WRAB	**Tennant Creek**	**36.72**	**200**	P	**P**	**22 58 37.6**	**-0.2**
	comp=Z,166nm,0.9s,SNR=5.6						
WRAB	**Tennant Creek**	**36.72**	**200**	*ce*P	**P**	**22 58 37.4**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,99nm,1.2s						
WRAB	**Tennant Creek**	**36.72**	**200**	*e*P	**P**	**22 58 38.0**	**+0.2**
	comp=Z,34nm,1.0s						
WRA	**Warramunga Arr**	**36.73**	**200**	P	**P**	**22 58 37.5**	**-0.4**
	comp=Z,17nm,0.8s,baz=22,slow=9.8,SNR=62						
WRA				PcP	**PcP**	**23 00 59.9**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=22,slow=3.6,SNR=5.3						
WRA	**Warramunga Arr**	**36.73**	**200**	P	**P**	**22 58 37.5**	**-0.4**
WRA						23 00 59.9	
WRA				pmax	pmax		
	comp=Z,17nm,0.8s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BJI	**Beijing**	**36.78**	**319**	P	**P**	**22 58 36.5**	**-1.6**
BJI				PP	**PnPn**	**23 00 07.5**	**+5.2**
BJI				S	**S**	**23 04 18.3**	**-1.8**
BJI				PMZ			
	comp=Z,12nm,1.4s						
BJI				LN			
	comp=Z,230nm,17.7s						
BJI				LE			
	comp=Z,230nm,14.3s						
BJI				LZ			
	comp=Z,180nm,16.9s						
FITZ	**Fitzroy Crossi**	**38.91**	**213**	*e*P	**P**	**22 58 57.0**	**+0.8**
	comp=Z,8.8nm,1.0s						
PET	**Petropavlovsk**	**39.20**	**11**	*e*P	**P**	**22 59 00.3**	**+2.0**
PET				*e*S	**S**	**23 04 59.2**	**+2.9**
PET				MLR	MLR		
	comp=Z,100nm,13.0s						
XAN	**Xi'an**	**39.26**	**306**	P	P	22 59 03.8	+4.6
XAN				pP	pP	22 59 16.0	+7.4
XAN				sP	sP	22 59 21.8	+9.3
XAN				PP	**PnPn**	**23 00 39.0**	**+6.6**
XAN				S	**S**	**23 05 03.5**	**+5.5**
XAN				PMZ			
	comp=Z,6.0nm,1.1s						
XAN				PMZ			
	comp=Z,77nm,7.4s						
XAN				LN			
	comp=Z,100nm,14.3s						
XAN				LE			
	comp=Z,140nm,19.9s						
XAN				LZ			
	comp=Z,210nm,18.0s						
GYA	**Guiyang**	**39.29**	**294**	P	**P**	**22 59 00.5**	**+0.9**
GYA				pP	**pP**	**22 59 11.8**	**+2.8**
GYA				PP	**PnPn**	**23 00 34.5**	**+1.6**
GYA				PcP	**PcP**	**23 01 10.3**	**+2.2**
GYA				S	**S**	**23 04 57.0**	**-1.7**
GYA				sS	**sS**	**23 05 18.0**	**+3.7**
GYA				SS	**SS**	**23 07 44.3**	**-8.5**
GYA				PMZ			
	comp=Z,20nm,0.8s						
GYA				PMZ			
	comp=Z,120nm,4.9s						
GYA				LN			
	comp=Z,680nm,17.4s						
GYA				LE			
	comp=Z,560nm,18.0s						
GYA				LZ			
	comp=Z,640nm,17.6s						
HHC	**Hu-ho-hao-te**	**40.20**	**317**	*e*P	**P**	**22 59 08.5**	**+1.6**
HHC				PP	**PnPn**	**23 00 44.5**	**+1.1**
HHC				S	**S**	**23 05 15.5**	**+3.6**
HHC				SS	**SS**	**23 08 05.8**	**-4.8**
HHC				PMZ			
	comp=Z,21nm,1.2s						
HHC				PMZ			
	comp=Z,50nm,5.2s						
HHC				LN			
	comp=Z,150nm,12.9s						
HHC				LE			
	comp=Z,270nm,15.5s						
HHC				LZ			
	comp=Z,140nm,15.1s						
AS12	**Alice Springs**	**40.35**	**199**	*e*P	**P**	**22 59 08.3**	**0.0**
ASAR	**Alice Springs**	**40.35**	**199**	P	**P**	**22 59 08.3**	**0.0**
	comp=Z,5.1nm,0.9s,baz=24,slow=7.2,SNR=33						
ASAR				LR	LR	23 18 14.5	
	comp=Z,146nm,18.0s,baz=12,slow=40						
ASAR	**Alice Springs**	**40.35**	**199**	P	**P**	**22 59 08.3**	**0.0**
ASAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ASAR				MLR	MLR		
	comp=Z,146nm,18.0s						
BTO	**Baotou**	**41.10**	**316**	*e*P	**P**	**22 59 13.8**	**-0.6**
CD2	**Chengdu**	**42.61**	**300**	*e*P	**P**	**22 59 27.0**	**+0.1**
CD2				pP	**pP**	**22 59 38.5**	**+2.1**
CD2				PP	**PP**	**23 01 06.3**	**+0.3**
CD2				PcP	**PcP**	**23 01 18.8**	**0.0**
CD2				PcS	**PcS**	**23 05 11.0**	**0.0**
CD2				S	**S**	**23 05 47.5**	**-0.4**
CD2				sS	**sS**	**23 06 07.0**	**+3.4**
CD2				PMZ			
	comp=Z,20nm,0.5s						
CD2				PMZ			
	comp=Z,160nm,5.2s						
KMI	**Kunming**	**42.64**	**291**	P	**P**	**22 59 28.5**	**+1.2**
KMI				pP	**pP**	**22 59 37.8**	**+1.0**
KMI				sP	**sP**	**22 59 41.8**	**+1.1**
KMI				PP	**PP**	**23 01 07.5**	**+1.0**
KMI				S	**S**	**23 05 49.5**	**+0.8**
KMI				PMZ			
	comp=Z,6.0nm,0.7s						
KMI				PMZ			
	comp=Z,140nm,4.2s						
KMI				LN			
	comp=Z,120nm,16.5s						
KMI				LE			
	comp=Z,220nm,17.1s						
KMI				LZ			
	comp=Z,180nm,17.6s						
LZH	**Lanzhou**	**43.86**	**307**	⇓P	**P**	**22 59 38.0**	**+1.0**
LZH				pP	**pP**	**22 59 48.5**	**+2.0**
LZH				sP	**sP**	**22 59 53.3**	**+2.9**
LZH				S	**S**	**23 06 05.0**	**-1.3**
LZH				sS	**sS**	**23 06 24.5**	**+2.5**
LZH				SS	SS	23 09 11.5	-12
LZH				PMZ			
	comp=Z,34nm,1.0s						
LZH				PMZ			
	comp=Z,120nm,4.8s						
LZH				LN			
	comp=Z,620nm,14.9s						
LZH				LE			
	comp=Z,410nm,15.2s						
LZH				LZ			
	comp=Z,350nm,15.9s						
MBWA	**Marble Bar**	**44.67**	**217**	*e*P	**P**	**22 59 43.5**	**+0.2**
	comp=Z,166nm,2.8s						
AMKA	**Amchitka**	**44.72**	**28**	*e*P	**P**	**22 59 44.2**	**+0.8**
ARMA	**Armidale**	**45.23**	**174**	*e*P	**P**	**22 59 46.9**	**-0.9**
	comp=Z,121nm,1.9s						
CM31	**Chiang Mai Arr**	**46.05**	**281**	*e*P	**P**	**22 59 54.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**46.05**	**281**	P	**P**	**22 59 54.6**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=82,slow=6.0,SNR=13						
CMAR				LR	LR	23 19 55.2	
	comp=Z,79nm,18.5s,baz=100,slow=37						
CMAR	**Chiang Mai Arr**	**46.05**	**281**	P	**P**	**22 59 54.6**	**+0.1**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CMAR				MLR	MLR		
	comp=Z,79nm,18.5s						
ULN	**Ulaanbaatar**	**46.55**	**323**	*e*P	**P**	**22 59 57.5**	**-0.7**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ULN	**Ulaanbaatar**	**46.55**	**323**	*e*P	**P**	**22 59 57.5**	**-0.7**
	comp=Z,5.1nm,0.8s						
STKA	**Stephens Creek**	**46.74**	**186**	P	**P**	**22 59 59.5**	**-0.1**
	comp=Z,7.3nm,1.0s,baz=343,slow=9.6,SNR=7.1						
STKA	**Stephens Creek**	**46.74**	**186**	P	**P**	**22 59 59.5**	**-0.1**
STKA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
STKA	**Stephens Creek**	**46.74**	**186**	*e*P	**P**	**22 59 59.8**	**+0.2**
	comp=Z,34nm,2.9s						
SONA0	**Songino Array**	**46.92**	**323**	*e*P	**P**	**22 59 59.9**	**-1.1**
SONM	**Songino Array**	**46.92**	**323**	P	**P**	**22 59 59.9**	**-1.1**
	comp=Z,4.5nm,0.6s,baz=126,slow=8.0,SNR=27						
SONM				LR	LR	23 20 15.0	
	comp=Z,124nm,18.4s,baz=121,slow=37						
GSTR	**Great Sitkin T**	**47.39**	**30**	*e*P	**P**	**23 00 04.4**	**0.0**
MNAI	**Manna**	**47.60**	**250**	*e*P	**P**	**23 00 04.7**	**-1.9**
	comp=Z,2μm,2.5s						
GTA	**Gaotai**	**47.90**	**310**	*e*P	**P**	**23 00 09.5**	**+0.7**
GTA				pP	**pP**	**23 00 21.0**	**+2.6**
GTA				sP	**sP**	**23 00 26.3**	**+4.1**
GTA				S	**S**	**23 07 02.0**	**-2.2**
GTA				sS	**sS**	**23 07 22.5**	**+2.5**
GTA				SS	SS	23 10 24.8	-8.3
GTA				PMZ			
	comp=Z,6.0nm,1.1s						
GTA				PMZ			
	comp=Z,80nm,5.0s						
GTA				LN			
	comp=Z,130nm,15.2s						
GTA				LE			
	comp=Z,280nm,17.6s						
GTA				LZ			
	comp=Z,320nm,16.2s						
SEY	**Seymchan**	**48.18**	**3**	P	**P**	**23 00 10.9**	**+0.6**
	comp=Z,10nm,0.7s,baz=172,slow=5.6,SNR=34						
SEY	**Seymchan**	**48.18**	**3**	*ce*P	**P**	**23 00 10.7**	**+0.4**
ATKA	**Atka Island**	**48.37**	**31**	*e*P	**P**	**23 00 12.4**	**+0.4**
	comp=Z,18nm,0.8s						
BBOO	**Buckleboo**	**48.52**	**192**	*e*P	**P**	**23 00 14.0**	**+0.6**
	comp=Z,25nm,0.8s						
YAK	**Yakutsk**	**48.71**	**349**	*e*P	P	23 00 21.5	+7.1
YAK				pmax	pmax		
	comp=Z,22nm,0.8s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.0s						
FORT	**Forrest**	**48.87**	**202**	*e*P	**P**	**23 00 17.0**	**+0.9**
	comp=N,19nm,0.7s						
BOD	**Bodaibo**	**49.51**	**337**	*e*P	**P**	**23 00 18.2**	**-2.5**
ZAK	**Zakamensk**	**49.96**	**325**	⇓*i*P	**P**	**23 00 23.0**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TLY	**Talaya**	**50.41**	**326**	*e*P	**P**	**23 00 26.3**	**-1.4**
TLY				pmax	pmax		
	comp=Z,8.0nm,1.0s						
LSA	**Lhasa**	**53.26**	**296**	*e*P	**P**	**23 00 50.8**	**+1.0**
LSA				pmax	pmax		
	comp=Z,13nm,0.6s						
LSA	**Lhasa**	**53.26**	**296**	*e*P	**P**	**23 00 50.8**	**+1.0**
	comp=Z,13nm,0.6s						
TAPN	**Taplejung**	**56.22**	**293**	*e*P	**P**	**23 01 10.6**	**-0.5**
	comp=Z,67nm,0.9s						
ODAN	**Odare**	**56.50**	**293**	*e*P	**P**	**23 01 13.1**	**0.0**
	comp=Z,56nm,0.9s						
SDPT	**Sand Point**	**56.99**	**33**	*e*P	**P**	**23 01 14.1**	**-1.5**
	comp=Z,37nm,0.8s						
RAMN	**Ramite**	**57.21**	**293**	*e*P	**P**	**23 01 18.7**	**+0.6**
	comp=Z,29nm,0.8s						
WMQ	**Urumqi**	**57.77**	**313**	P	**P**	**23 01 22.5**	**+1.0**
WMQ				pP	**pP**	**23 01 35.5**	**+4.2**
WMQ				sP	sP	23 01 40.5	+5.4
WMQ				S	**S**	**23 09 16.3**	**-2.4**
WMQ				ScS	**ScS**	**23 11 04.5**	**-4.4**
WMQ				SS	**SS**	**23 13 08.3**	**-1.1**
WMQ				PMZ			
	comp=Z,22nm,1.0s						
WMQ				PMZ			
	comp=Z,98nm,5.0s						
WMQ				LN			
	comp=Z,75nm,20.4s						
WMQ				LE			
	comp=Z,83nm,17.4s						
WMQ				LZ			
	comp=Z,66nm,17.4s						
GUN	**Gumba**	**57.84**	**294**	*e*P	**P**	**23 01 22.5**	**-0.1**
	comp=Z,48nm,0.7s						
PKI	**Pulchoki**	**58.26**	**293**	*e*P	**P**	**23 01 25.5**	**-0.1**
	comp=Z,20nm,0.6s						
PKIN	**Phulchoki**	**58.27**	**293**	*e*P	**P**	**23 01 24.8**	**-0.8**
	comp=Z,12nm,0.5s						
KKN	**Kakani**	**58.37**	**294**	*e*P	**P**	**23 01 25.7**	**-0.5**
	comp=Z,19nm,0.7s						
CHGN	**Chignik**	**58.43**	**32**	*e*P	**P**	**23 01 25.7**	**-0.1**
DMN	**Da

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MKAR	Makanchi Array	62.02	315	P	P	23 01 50.2	-0.4
	comp=Z,8.7nm,0.5s,baz=90,slow=8.6,SNR=126						
MKAR				LR	LR	23 29 18.1	
	comp=Z,55nm,20.0s,baz=95,slow=37						
MKAR	Makanchi Array	62.02	315	P	P	23 01 50.2	-0.4
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,55nm,20.0s						
MKAR	Makanchi Array	62.02	315	eP	P	23 01 50.9	+0.3
NVS	Novosibirsk	62.92	324	eP	P	23 01 54.6	-1.8
NVS				pmax	pmax		
	comp=Z,18nm,1.5s						
NVS				pmax	pmax		
	comp=N,6.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.3s						
PPLA	Purkeypile	63.76	26	eP	P	23 02 02.8	+0.8
	comp=E,21nm,1.5s						
CAST	Castle Rocks	63.98	26	eP	P	23 02 04.1	+0.7
	comp=E,8.0nm,0.6s						
IM04	Indian Mountai	64.23	23	eP	P	23 02 04.4	-0.6
RC01	Rabbit Creek A	64.30	29	eP	P	23 02 06.6	+1.2
	comp=E,8.6nm,0.7s						
BPAW	Bear Paw Mtn.	64.67	25	eP	P	23 02 08.5	+0.6
	comp=E,9.2nm,1.1s						
KURK	Kurchatov	64.95	319	P	P	23 02 09.0	-0.9
KURK				pmax	pmax		
	comp=Z,26nm,0.6s						
KURK	Kurchatov	64.95	319	eP	P	23 02 09.1	-0.9
KURBB	Kurchatov Arra	65.00	319	P	P	23 02 09.0	-1.1
	comp=Z,26nm,0.6s,baz=96,slow=7.3,SNR=222						
MLY	Manley	65.08	24	eP	P	23 02 11.2	+0.7
	comp=Z,7.5nm,1.1s						
SML	Sawmill	65.14	28	eP	P	23 02 11.2	+0.2
SML				pmax	pmax		
	comp=Z,17nm,1.0s						
SML	Sawmill	65.14	28	eP	P	23 02 11.2	+0.2
	comp=Z,17nm,1.0s						
RND	Reindeer	65.36	26	eP	P	23 02 12.8	+0.4
RND				pmax	pmax		
	comp=Z,5.0nm,0.8s						
RND	Reindeer	65.36	26	eP	P	23 02 12.8	+0.4
	comp=Z,5.2nm,0.8s						
HYB	Hyderabad	65.45	283	i P	P	23 02 13.0	-0.8
SCM	Sheep Creek Mo	65.61	28	eP	P	23 02 14.7	+0.6
SCM				pmax	pmax		
	comp=Z,17nm,0.9s						
SCM	Sheep Creek Mo	65.61	28	eP	P	23 02 14.7	+0.6
	comp=Z,17nm,0.9s						
DHY	Denali Highway	65.91	27	eP	P	23 02 17.4	+1.4
	comp=Z,33nm,2.1s						
WRH	Wood River Hil	65.99	25	eP	P	23 02 15.9	-0.5
	comp=Z,5.5nm,0.9s						
COLD	Coldfoot	66.02	22	eP	P	23 02 18.2	+1.7
	comp=Z,8.6nm,1.1s						
MDM	Murphy Dome	66.07	25	eP	P	23 02 18.2	+1.3
	comp=Z,9.9nm,0.5s						
KSH	Kashi	66.11	307	P	P	23 02 22.5	+4.7
KSH				pP	pP	23 02 35.3	+7.6
KSH				PP	PP	23 04 50.0	+6.6
KSH				S	S	23 11 07.0	+2.7
KSH				sS	sS	23 11 29.3	+8.6
KSH				ScS	SKSac	23 12 10.5	-1.4
KSH				PMZ			
	comp=Z,94nm,3.5s						
KSH				LN			
	comp=Z,210nm,4.4s						
KSH				LE			
	comp=Z,200nm,4.4s						
KSH				LZ			
	comp=Z,340nm,6.8s						
CCB	Clear Creek Bu	66.15	25	eP	P	23 02 17.4	0.0
	comp=Z,4.3nm,0.8s						
TKM2	Tokmak 2	66.44	311	eP	P	23 02 20.2	+0.2
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TKM2	Tokmak 2	66.44	311	eP	P	23 02 20.2	+0.2
	comp=Z,4.7nm,0.9s						
RAGM	Ragged Mountai	66.54	30	eP	P	23 02 20.2	+0.2
	comp=Z,25nm,1.7s						
ILAR	Eielson Array	66.57	25	P	P	23 02 18.6	-1.5
	comp=Z,1.5nm,0.5s,baz=250,slow=5.8,SNR=21						
ILAR				LR	LR	23 27 26.6	
	comp=Z,64nm,22.0s,baz=277,slow=32						
ILAR	Eielson Array	66.57	25	P	P	23 02 18.6	-1.5
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ILAR				MLR	MLR		
	comp=Z,64nm,22.0s						
ILB	Eielson Array	66.57	25	eP	P	23 02 18.6	-1.5
EKS2	Erkin-Say	67.78	310	eP	P	23 02 29.1	+0.8
EKS2				pmax	pmax		
	comp=Z,8.0nm,1.4s						
EKS2	Erkin-Say	67.78	310	eP	P	23 02 29.1	+0.8
	comp=Z,7.6nm,1.4s						
EGAK	Eagle	68.96	26	eP	P	23 02 36.2	+1.0
	comp=Z,24nm,1.7s						
DAWY	Dawson	69.61	27	eP	P	23 02 40.1	+0.9
	comp=Z,5.5nm,1.0s						
HYT	Haines Junctio	70.10	30	eP	P	23 02 43.8	+1.4
KKAR	Karatay Array	70.17	311	eP	P	23 02 43.0	-0.1
KKAR	Karatay Array	70.17	311	eP	P	23 02 43.0	-0.1
BVAR	Borovoye Array	70.21	321	P	P	23 02 42.2	-0.9
	comp=Z,8.0nm,0.5s,baz=106,slow=7.5,SNR=34						
BVAR	Borovoye Array	70.21	321	P	P	23 02 42.2	-0.9
BVAR				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BRVK	Borovoye	70.28	321	eP	P	23 02 42.5	-1.0
BRVK				pmax	pmax		
	comp=Z,13nm,1.0s						
BRVK	Borovoye	70.28	321	eP	P	23 02 42.5	-1.0
	comp=Z,13nm,1.0s						
PPT	Papeete	70.38	115	LR	LR	23 25 60.0	
	comp=Z,159nm,20.0s,baz=300,slow=29						
KBL	Kabul	71.90	302	eP	P	23 02 51.3	-2.6
KBL				pmax	pmax		
	comp=Z,14nm,1.5s						
KBL	Kabul	71.90	302	eP	P	23 02 51.3	-2.6
	comp=Z,14nm,1.5s						
INK	Inuvik	72.43	23	P	P	23 02 57.7	+1.5
	comp=Z,2.7nm,0.6s,baz=297,slow=10,SNR=7.1						
INK	Inuvik	72.43	23	P	P	23 02 57.7	+1.5
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	Inuvik	72.43	23	eP	P	23 02 58.4	+2.2
	comp=Z,8.6nm,0.9s						
DLBC	Dease Lake	73.83	33	P	P	23 03 05.6	+0.8
	comp=Z,2.3nm,0.6s,baz=311,slow=11,SNR=7.0						
DLBC	Dease Lake	73.83	33	eP	P	23 03 05.8	+1.0
	comp=Z,12nm,1.4s						
SVE	Sverdlovsk	75.72	326	eP	P	23 03 16.4	+0.8
SVE				pmax	pmax		
	comp=Z,14nm,1.0s						
ARU	Arti	76.90	325c	i P	P	23 03 21.6	-0.7
ARU				S	S	23 13 07.2	-0.7
ARU				pmax	pmax		
	comp=Z,12nm,1.7s						
ARU	Arti	76.90	325	P	P	23 03 21.7	-0.6
	comp=Z,52nm,0.7s,SNR=6.6						
ARU	Arti	76.90	325	eP	P	23 03 21.2	-1.1
	comp=Z,6.6nm,0.8s						
ABKAR	Akbulak array	76.98	318	eP	P	23 03 21.7	-1.3
AKTO	Aktyubinsk	78.05	319	LR	LR	23 38 55.7	
	comp=Z,92nm,20.3s,slow=36						
IMYA	Miami	78.88	305	eP	P	23 03 33.7	-0.2
IPAY	Payeh	79.73	305	eP	P	23 03 38.2	-0.5
IKRD	Kardeh	80.05	305	eP	P	23 03 36.7	-3.8
GEYT	Alibeck	80.14	307	P	P	23 03 39.8	-0.9
	comp=Z,5.8nm,0.9s,baz=316,slow=8.3,SNR=9.5						
KCPM	Cahto Peak	80.26	52	eP	P	23 03 43.1	+1.7
	comp=Z,7.7nm,1.0s						
I04A	Tendick Farm,	80.33	47	P	P	23 03 41.9	+0.3
	baz=80						
M02C	Callahan	80.48	50	P	P	23 03 43.4	+1.0
	baz=80						
YBH	Yreka Blue Hor	80.51	49	P	P	23 03 43.1	+0.5
	comp=Z,2.3nm,0.6s,baz=98,slow=4.7,SNR=7.3						
YBH	Yreka Blue Hor	80.51	49	P	P	23 03 43.1	+0.5
YBH				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	Yellowknife Ar	80.81	28	P	P	23 03 42.9	-0.7
	comp=Z,1.4nm,0.5s,baz=283,slow=5.3,SNR=7.4						
YKA	Yellowknife Ar	80.81	28	P	P	23 03 42.9	-0.7
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKB5	Yellowknife Ar	80.81	28	eP	P	23 03 42.9	-0.7
LTY	Liberty	80.83	44	eP	P	23 03 44.8	+0.6
	comp=Z,21nm,1.8s						
M04C	Macdoel	81.14	49	P	P	23 03 46.3	+0.3
	baz=81						
NSHM	Saint Helena R	81.24	53	eP	P	23 03 47.9	+1.4
J05D	Fort Rock, OR	81.27	48	P	P	23 03 47.5	+0.8
	baz=81						
B08A	Colville Reser	81.48	42	eP	P	23 03 48.2	+0.7
	comp=Z,6.9nm,0.8s						
K05A	Summer Lake	81.63	48	eP	P	23 03 49.7	+1.0
	comp=Z,74nm,2.2s						
PRGR	Permogore	82.36	332	eP	P	23 03 49.7	-2.1
PRGR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
G08A	Pilot Rock	82.42	45	eP	P	23 03 53.3	+0.6
	comp=Z,9.2nm,1.4s						
NEW	Newport	82.94	42	P	P	23 03 55.1	-0.1
	comp=Z,3.8nm,0.8s,baz=272,slow=4.6,SNR=5.9						
NEW	Newport	82.94	42	P	P	23 03 55.1	-0.1
NEW				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NEW	Newport	82.94	42	P	P	23 03 55.9	+0.6
	baz=83						
NEW	Newport	82.94	42	eP	P	23 03 55.8	+0.6
	comp=Z,7.8nm,1.0s						
CMB	Columbia Colle	83.05	53	eP	P	23 03 56.5	+0.5
CMB				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CMB	Columbia Colle	83.05	53	eP	P	23 03 56.5	+0.5
	comp=Z,6.1nm,1.0s						
WVOR	Wild Horse Val	83.32	48	eP	P	23 03 58.3	+0.9
WVOR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WVOR	Wild Horse Val	83.32	48	eP	P	23 03 58.3	+0.9
	comp=Z,4.2nm,0.8s						
PKM	Peak Mountain	84.23	56	P	P	23 04 03.1	+0.8
	baz=84						
NV01	Mina Array Sit	84.55	52	eP	P	23 04 04.3	+0.4
NVAR	Mina Array Bea	84.55	52	P	P	23 04 04.3	+0.4
	comp=Z,2.9nm,0.7s,baz=266,slow=5.9,SNR=21						
BSMT	Bassoo Peak	84.56	42	eP	P	23 04 04.6	+0.9
TMCR	Tamitsa	84.75	335	eP	P	23 04 04.1	0.0
TMCR				pmax	pmax		
	comp=Z,14nm,1.0s						
BLMT	Blacktail Moun	84.79	42	eP	P	23 04 05.7	+0.8
BMN	Battle Mountai	84.85	50	eP	P	23 04 06.3	+1.0
BMN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BMN	Battle Mountai	84.85	50	eP	P	23 04 06.2	+1.0
	comp=Z,3.4nm,0.7s						
MFID	Camas Ranch	85.07	47	eP	P	23 04 07.1	+0.8
	comp=Z,6.3nm,0.8s						
ISA	Isabella	85.11	55	P	P	23 04 06.6	0.0
	baz=85						
TPH	Tonopah	85.46	52	eP	P	23 04 09.2	+0.7
TPH				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TPH	Tonopah	85.46	52	eP	P	23 04 09.2	+0.7
	comp=Z,4.4nm,1.0s						
MPMC	Manual Prospec	85.78	54	P	P	23 04 10.3	+0.2
	baz=86						
HLID	Hailey	86.01	46	P	P	23 04 11.3	+0.2
	baz=86						
HLID	Hailey	86.01	46	eP	P	23 04 11.5	+0.4
	comp=Z,3.0nm,0.8s						
ELK	Elko	86.22	49	eP	P	23 04 13.2	+0.9
ELK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ELK	Elko	86.22	49	eP	P	23 04 13.2	+0.9
	comp=Z,4.1nm,0.8s						
TPNV	Topopah Spring	86.51	53	eP	P	23 04 14.4	+0.8
TPNV				pmax	pmax		
	comp=Z,8.0nm,1.3s						
TPNV	Topopah Spring	86.51	53	P	P	23 04 13.2	-0.4
	baz=86						
TPNV	Topopah Spring	86.51	53	eP	P	23 04 14.4	+0.8
	comp=Z,7.7nm,1.3s						
ARA0	ARCESS Array S	86.51	343	eP	P	23 04 11.4	-1.3
ARCES	ARCESS Array B	86.51	343	P	P	23 04 11.4	-1.4
	comp=Z,4.2nm,0.7s,baz=67,slow=6.5,SNR=26						
ARCES	ARCESS Array B	86.51	343	P	P	23 04 11.4	-1.4
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GSC	Goldstone	86.52	55	eP	P	23 04 14.4	+0.8
GSC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GSC	Goldstone	86.52	55	P	P	23 04 13.8	+0.2
	baz=86						
GSC	Goldstone	86.52	55	eP	P	23 04 14.4	+0.8
	comp=Z,5.5nm,1.0s						
R11A	Troy Canyon, C	86.63	51	P	P	23 04 14.8	+0.6
	baz=87						
R11A	Troy Canyon, C	86.63	51	eP	P	23 04 15.6	+1.4
	comp=Z,4.7nm,1.3s						
LRM	Limekiln Ridge	86.68	44	eP	P	23 04 14.9	+0.5
DLMT	Dillon	86.73	44	eP	P	23 04 15.0	+0.5
	comp=Z,4.2nm,0.6s						
TUQ	Turquoise Moun	87.18	54	P	P	23 04 17.5	+0.6
	baz=87						
BOZ	Bozeman (W)	87.28	44	P	P	23 04 17.4	+0.2
	baz=87						
SHPR	Sheep Range	87.47	53	eP	P	23 04 20.1	+1.7
BELC	Belle Mtn. Jos	87.52	56	P	P	23 04 18.8	+0.2
	baz=88						
GMRC	Granite Mounta	87.57	55	P	P	23 04 19.3	+0.5
	baz=88						
HVU	Hansel Valley	87.69	47	eP	P	23 04 20.4	+1.1
HVU				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HVU	Hansel Valley	87.69	47	eP	P	23 04 20.4	+1.1
	comp=Z,4.8nm,0.8s						
BGU	Big Grassy Mou	87.77	48	eP	P	23 04 20.4	+0.7
	comp=Z,2.7nm,0.8s						
LDFC	Landfair	87.92	54	eP	P	23 04 20.6	+0.2
YMR	Madison River	88.04	44	eP	P	23 04 22.8	+1.8
	comp=Z,19nm,0.4s						
SPUT	South Promonto	88.07	48	eP	P	23 04 22.0	+0.9
DUG	Dugway	88.15	49	eP	P	23 04 22.0	+0.5
DUG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
DUG	Dugway	88.15	49	P	P	23 04 21.8	+0.3
	baz=88						
DUG	Dugway	88.15	49	eP	P	23 04 22.0	+0.5
	comp=Z,7.7nm,0.8s						
IMW	Indian Meadow	88.31	45	eP	P	23 04 24.0	+1.6
	comp=Z,6.5nm,0.6s						
FXWY	Fox Creek	88.33	45	eP	P	23 04 23.4	+1.0
	comp=Z,11nm,1.5s						
FLWY	Flagg Ranch	88.41	45	eP	P	23 04 24.4	+1.6
	comp=Z,12nm,0.6s						
TPAW	Teton Pass	88.43	45	eP	P	23 04 24.4	+1.4
	comp=Z,21nm,1.8s						
CCUT	Cedar City	88.54	52	eP	P	23 04 24.9	+1.4
	comp=Z,3.6nm,0.9s						
HWUT	Hardware Ranch	88.61	47	eP	P	23 04 24.4	+0.7
	comp=Z,3μm,1.2s						
LOHW	Long Hollow	88.63	45	eP	P	23 04 24.7	+1.0
	comp=Z,2.2nm,0.8s						
NLU	North Lily Min	88.76	49	eP	P	23 04 25.4	+0.9
CTU	Camp Tracy	88.77	48	eP	P	23 04 25.5	+1.1
	comp=Z,6.1nm,0.7s						
RLMT	Red Lodge	89.03	43	P	P	23 04 26.4	+0.8
	baz=89						
KNB	Kanab	89.11	52	eP	P	23 04 27.6	+1.5
KNB				pmax	pmax		
	comp=Z,14nm,1.2s						
KNB	Kanab	89.11	52	eP	P	23 04 27.6	+1.5
	comp=Z,14nm,1.2s						
MSU	Marysvale	89.14	50	eP	P	23 04 27.5	+1.2
MSU	Marysvale	89.14	50	eP	P	23 04 27.5	+1.2
VSR	Storozhevoye	89.31	323	eP	P	23 04 23.6	-2.9
VSR				pmax	pmax		
	comp=N,4.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,1.0nm,0.6s						
VSR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
H19A	Powell	89.37	44	P	P	23 04 27.9	+0.7
	baz=89						
I19A	Meeteetse	89.59	44	P	P	23 04 28.3	+0.1
	baz=90						
PD31	Pinedale Array	89.64	46	eP	P	23 04 27.6	-0.9
PDAR	Pinedale Array	89.64	46	P	P	23 04 27.6	-0.9
	comp=Z,1.2nm,0.7s,baz=343,slow=1.5,SNR=6.1						
PDAR				LR	LR	23 37 15.4	
	comp=Z,74nm,21.8s,baz=284,slow=31						
G20A	Bridger	89.69	43	P	P	23 04 28.5	-0.1
	baz=90						
J19A	Crowheart	89.81	45	P	P	23 04 29.7	+0.4
	baz=90						
I20A	Worland	90.20	44	P	P	23 04 31.2	+0.2
	baz=90						
J20A	Shoshoni	90.44	45	P	P	23 04 32.4	+0.3
	baz=90						
214A	Organ Pipe Nat	90.67	57	P	P	23 04 34.2	+0.9
	baz=91						
H21A	Big Horn, Sher	90.68	43	P	P	23 04 34.2	+1.0
	baz=91						
WUAZ	Wupatki	90.70	53	P	P	23 04 34.6	+1.1
	baz=91						
WUAZ	Wupatki	90.70	53	eP	P	23 04 35.2	+1.7
	comp=Z,5.8nm,0.8s						
E22A	Miles City	90.72	41	P	P	23 04 33.5	+0.3
	baz=91						
F22A	Rosebud	90.77	42	P	P	23 04 33.8	+0.3
	baz=91						
I21A	Big Trails, Te	90.82	44	P	P	23 04 33.8	-0.1
	baz=91						
FIA0	FINESS Array S	90.87	336	eP	P	23 04 31.3	-2.2
FIA0	FINESS Array S	90.87	336	eP	P	23 04 31.3	-2.2
FINES	FINESS Array B	90.87	336	P	P	23 04 31.3	-2.2
	comp=Z,3.8nm,0.4s,baz=76,slow=4.2,SNR=37						
FINES	FINESS Array B	90.87	336	P	P	23 04 31.3	-2.2
FINES				pmax	pmax		
	comp=Z,4.0nm,0.4s						
J21A	Lysite	90.88	45	P	P	23 04 35.1	+0.8
	baz=91						
O20A	White River Ci	91.48	48	P	P	23 04 37.2	+0.1
	baz=91						
O20A	White River Ci	91.48	48	eP	P	23 04 37.9	+0.8
	comp=Z,5.0nm,0.8s						
J22A	Midwest	91.51	44	P	P	23 04 37.3	+0.1
	baz=91						
PV04	Paradox Valley	91.60	50	eP	P	23 04 38.9	+1.2
K22A	Casper	91.77	45	P	P	23 04 38.6	+0.3
	baz=92						
K23A	Bowen Ranch, D	92.34	45	P	P	23 04 40.8	-0.2
	baz=92						
VNDA	Vanda	92.59	177	P	P	23 04 41.4	+0.4
	comp=Z,1.0nm,0.8s,baz=331,slow=6.6,SNR=5.2						
VNDA	Vanda	92.59	177	P	P	23 04 41.4	+0.4
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
N23A	Red Feather La	92.83	47	P	P	23 04 44.1	+0.6
	baz=93						
N23A	Red Feather La	92.83	47	eP	P	23 04 44.6	+1.2
	comp=Z,5.8nm,0.8s						
RSSD	Black Hills	92.87	43	eP	P	23 04 43.7	+0.2
RSSD				pmax	pmax		
	comp=Z,13nm,1.4s						
RSSD	Black Hills	92.87	43	eP	P	23 04 43.7	+0.2
	comp=Z,13nm,1.4s						
E26A	Carlson Angus	92.91	40	P	P	23 04 43.6	+0.2
	baz=93						
J25A	Sunshine Ranch	93.32	44	P	P	23 04 45.2	-0.2
	baz=93						
S22A	4UR Ranch, Cre	93.36	50	P	P	23 04 46.3	+0.3
	baz=93						
S22A	4UR Ranch, Cre	93.36	50	eP	P	23 04 46.6	+0.6
	comp=Z,2.9nm,0.8s						
G27A	Dupree	93.71	41	P	P	23 04 46.9	-0.2
	baz=94						
SDCO	Great Sand Dun	94.34	49	P	P	23 04 50.2	-0.3
	baz=94						
G28A	Parade	94.49	41	P	P	23 04 50.7	0.0
	baz=94						
B30A	Myrvik Farm, E	94.53	37	P	P	23 04 50.8	0.0
	baz=94						
ANMO	Albuquerque	94.67	52	P	P	23 04 51.9	-0.1
	comp=Z,0.8nm,0.7s,baz=323,slow=5.1,SNR=7.1						
ANMO	Albuquerque	94.67	52	P	P	23 04 51.9	-0.1
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ANMO	Albuquerque	94.67	52	eP	P	23 04 51.9	-0.1
	comp=Z,3.8nm,1.4s						
D30A	Buchanan	94.91	39	P	P	23 04 52.4	-0.1
	baz=95						
NB2	NORSAR Subarra	96.59	340	P	P	23 04 57.6	-2.3
	comp=Z,0.5nm,0.5s,baz=42,slow=4.6						
NB200	NORSAR Array S	96.59	340	eP	P	23 04 57.6	-2.3
NOA	NORSAR Array B	96.59	340	P	P	23 04 57.6	-2.3
	comp=Z,0.5nm,0.5s,baz=45,slow=4.9,SNR=4.9						
NOA	NORSAR Array B	96.59	340	P	P	23 04 57.6	-2.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BR101	Keskin Array S	97.66	314	eP	Pdif	23 05 06.4	+1.0
BRTR	Keskin Array B	97.66	314	P	Pdif	23 05 06.4	+1.0
	comp=Z,0.5nm,0.7s,baz=44,slow=6.4,SNR=3.2						
BRTR				LR	LR	23 54 12.8	
	comp=Z,28nm,19.8s,baz=64,slow=39						
BRTR	Keskin Array B	97.66	314	P	Pdif	23 05 06.4	+1.0
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR				MLR	MLR		
	comp=Z,28nm,19.8s						
TXAR	Lajitas Array	98.97	57	LR	LR	23 42 05.8	
	comp=Z,82nm,21.9s,baz=0.0,slow=31						
VYHS	Vyhne	101.95	328	eP	Pdif	23 05 23.3	-0.8
VYHS	Vyhne	101.95	328	PDIF	Pdif	23 05 23.3	-0.8
CLL	Collm	102.90	332	ePP	PP	23 09 43.0	+1.2
CLL				Lm	MLR	23 54 00.0	
	comp=Z,100nm,19.8s						
TOA0	Torodi Ar. Sit	135.78	307	ePKPdf	PKPdf	23 10 50.7	-1.1
TORD	Torodi Ar. Bea	135.78	307	PKP	PKPdf	23 10 50.7	-1.1
	comp=Z,0.7nm,0.8s,baz=51,slow=1.7,SNR=11						
DBIC	Dimbokro	144.82	305	PKP	PKPab	23 11 06.9	-0.2
	comp=Z,5.2nm,0.5s,baz=45,slow=3.5,SNR=21						
DBIC	Dimbokro	144.82	305	PKIKP	PKPab	23 11 06.9	-0.2
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KIC	Kosan Boka	144.92	305	ePKP2	PKPab	23 11 07.2	-0.2
	comp=Z,180nm,1.8s						
TIC	Toumodi	144.97	306	ePKP2	PKPbc	23 11 07.7	+0.1
LIC	Lamto	145.23	305	ePKP2	PKPab	23 11 08.6	0.0
	comp=Z,32nm,0.8s						
TRQA	Tornquist	145.52	138	ePKPdf	PKPab	23 11 09.1	+0.1
LPAZ	La Paz	146.18	97	PKPbc	PKPab	23 11 12.6	-0.2
	comp=Z,2.4nm,0.5s,baz=347,slow=3.9,SNR=12						
LPAZ	La Paz	146.18	97	PKP2	PKPab	23 11 12.6	-0.2
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.5s						
PTGA	Pitinga	149.92	65	ePKPbc	PKPbc	23 11 22.0	+0.5
SAML	Samuel	149.94	82	ePKPbc	PKPbc	23 11 22.0	+0.5

*NEIC **28** 23:17:35.2, 15°.42N×95°.44W, h16km, MD4.1(MEX), After MEX.*

MEX 28 23:17:35.2±0.5**, 15°.42N×95°.44W, h16**km±12km**, MD4.1, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.73	298	eP	Pg	23 17 46.9	-2.7
HUIG				i S	Sg	23 17 55.7	-3.6
HUIG	Huatulco	0.73	298	eP	Pg	23 17 46.9	-2.7
HUIG				i S	Sg	23 17 55.7	-3.6
VHO	Vista Hermosa	2.06	323	eP	Pn	23 18 05.8	-3.6
VHO				eS	Sn	23 18 30.4	-4.6
VHO	Vista Hermosa	2.06	323	eP	Pn	23 18 05.8	-3.6
VHO				eS	Sn	23 18 30.4	-4.6
PCIG		2.15	82	i P	Pn	23 18 07.1	-3.3
PCIG				eS	Sn	23 18 31.8	-5.1
PCIG		2.15	82	i P	Pn	23 18 07.1	-3.3
PCIG				eS	Sn	23 18 31.8	-5.1
CCIG	Comitan	3.29	74	eP	Pn	23 18 24.4	-2.0
CCIG				i S	Sn	23 19 00.9	-4.4
CCIG	Comitan	3.29	74	eP	Pn	23 18 24.4	-2.0
CCIG				i S	Sn	23 19 00.9	-4.4

KRSC 28 23:18:03.2±1.7**, 52°.65N×160°.59E, h51**km±16km**, ML3.9, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.56	323	eP	Pn	23 18 16.3	+1.0
SPN				eS	Sn	23 18 23.5	-0.5
UGLR	Uglovaya	1.21	298	eP	Pn	23 18 25.9	+2.0
UGLR				eS	Sn	23 18 40.1	+0.8
SDLR	Sedlovina	1.21	302	eP	Pn	23 18 25.7	+1.7
SDLR				eS	Sn	23 18 39.8	+0.4
PET	Petropavlovsk	1.23	288	eP	Pn	23 18 25.9	+1.8

PET				*e*S	Sn	23 18 40.2	+0.5
SMAR	**Somma**	**1.25**	**300**	*e*P	Pn	23 18 26.0	+1.4
AVH	**Avacha**	**1.28**	**299**	*e*P	Pn	23 18 27.0	+2.1
AVH				*e*S	Sn	23 18 41.7	+0.7
RUS	**Russkaya**	**1.29**	**261**	*e*P	Pn	23 18 26.8	+1.9
RUS				*e*S	Sn	23 18 42.3	+1.3
KRER	**Koryakskii**	**1.29**	**301**	*e*P	Pn	23 18 27.2	+2.0
KOK	**Koryaka**	**1.35**	**299**	*e*P	Pn	23 18 27.9	+2.1
KRX	**Arik**	**1.37**	**302**	*e*P	Pn	23 18 27.9	+1.7
KRX				*e*S	Sn	23 18 43.4	0.0
MTVR	**Mutnovka**	**1.48**	**264**	*e*P	Pn	23 18 30.0	+2.3
MTVR				*e*S	Sn	23 18 48.0	+2.0
ASAK	**Asacha**	**1.67**	**262**	*e*P	Pn	23 18 33.0	+2.9
ASAK				*e*S	Sn	23 18 52.9	+2.4
GNL	**Ganaly**	**1.91**	**304**	*e*P	Pn	23 18 36.9	+3.4
MKZ	**Mys Kozlova**	**2.02**	**19**	*e*P	Pn	23 18 38.0	+3.1
MKZ				*e*S	Sn	23 19 01.6	+2.7
APC	**Apacha**	**2.10**	**279**	*e*P	Pn	23 18 39.7	+3.7
APC				*e*S	Sn	23 19 04.7	+3.8
MIPR	**Malaya Ipel'ka**	**2.38**	**262**	*e*P	Pn	23 18 43.4	+3.7
MIPR				*e*S	Sn	23 19 11.3	+3.6
KZV	**Kizimen**	**2.47**	**356**	*e*P	Pn	23 18 45.3	+4.0
KZV				*e*S	Sn	23 19 13.5	+3.1
PAU	**Pauzhetka**	**2.62**	**245**	*e*P	Pn	23 18 46.6	+3.6
TUMR	**Tumrok**	**2.65**	**354**	*e*P	Pn	23 18 48.2	+4.6
TUMR				*e*S	Sn	23 19 18.7	+4.1
SKR	**Severo-Kuril's**	**3.41**	**237**	*e*P	Pn	23 18 56.4	+2.5
SKR				*e*S	Sn	23 19 33.6	+0.5
ESO	**Esso**	**3.46**	**342**	*e*P	Pn	23 18 59.0	+4.4
KBTR	**Krutoberegovo**	**3.79**	**19**	*e*P	Pn	23 19 02.4	+3.3
BKI	**Bering**	**4.08**	**49**	*e*P	Pn	23 19 06.6	+3.6
BKI				*e*S	Sn	23 19 49.1	-0.3

ISCJB ***28*** *23:20:34.5±0.6, 32°.19N±0°.03×115°.12W±0°.05, h25km±5km, Error ellipse: s-maj=6.9km s-min=5.3km az=177.7*
ECX ***28*** *23:20:37.3±0.4, 32°.16N×115°.25W, h8km, ML2.8*
NEIC ***28*** *23:20:37.3, 32°.16N×115°.25W, h10km, ML2.8(PAS), ML2.9(ECX), After ECX.*
MEX ***28*** *23:20:37.3±0.6, 32°.23N×115°.08W, h17km±5.3km, MD3.4*

ISC 28 23:20:34.0±1.0, 32°.20N±0°.03×115°.12W±0°.05, h28km±9km, n12, σ0°.61/22, 1C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.22**	**343**	*e*P	**Pn**	**23 20 41.8**	**+0.4**
MBIG				*i* S	**Sb**	**23 20 44.1**	**-0.5**
CPBX	**Cerro Prieto**	**0.27**	**325**	*e*P	**Pn**	**23 20 42.0**	**-0.2**
CPBX				*e*S	**Sb**	**23 20 46.0**	**+0.4**
CPBX				⇓*e*		23 20 49.1	
CPBX				IAML		23 20 49.1	
	comp=N,6μm,0.4s						
ECBX	**El Chinero**	**0.72**	**175**	*e*P	**Pb**	**23 20 47.6**	**-0.4**
ECBX				*e*S	**Sb**	**23 20 57.4**	**-0.2**
RDX	**Rancho Dawling**	**0.74**	**249**	⇑*e*P	**Pb**	**23 20 48.5**	**-0.1**
RDX				*e*S	**Sb**	**23 20 57.2**	**-1.3**
RDX				IAML		23 20 59.9	
	comp=N,321nm,0.5s						
RDX				⇓*e*		23 20 59.9	
GLA	**Glamis**	**0.89**	**16**	*e*Pn	**Pn**	**23 20 49.4**	**-1.3**
GLA				*e*S	**Sn**	**23 21 02.1**	**-0.6**
RMX	**La Rumorosa**	**0.91**	**297**	*e*P	**Pb**	**23 20 51.7**	**+0.5**
RMX				*e*S	**Sb**	**23 21 03.4**	**+0.4**
RMX				IAML		23 21 04.6	
	comp=N,212nm,0.1s						
RMX				⇓*e*		23 21 04.6	
SPIG	**San Pedro Mart**	**1.18**	**194**	*i* P	**Pb**	**23 20 56.2**	**+0.3**
SPIG				*i* S	**Sb**	**23 21 11.2**	**+0.2**
SPIG	**San Pedro Mart**	**1.18**	**194**	*i* P	**Pb**	**23 20 56.2**	**+0.3**
SPIG				*i* S	**Sb**	**23 21 11.2**	**+0.2**
ZAX	**El Zacaton**	**1.19**	**236**	*e*P	**Pb**	**23 20 56.3**	**+0.3**
ZAX				*e*S	**Sb**	**23 21 10.9**	**-0.2**
BAR	**Barrett**	**1.40**	**291**	*e*Pn	**Pb**	**23 21 00.0**	**+0.6**
BAR				*e*S	**Sn**	**23 21 15.1**	**0.0**
PFO	**Pinyon Flat Ob**	**1.80**	**322**	*e*Pn	**Pb**	**23 21 06.8**	**+0.4**
214A	**Organ Pipe Nat**	**1.98**	**96**	*e*Pn	**Pn**	**23 21 06.6**	**+1.0**

IDC 29 00:05:24.3±2.4, 15°.66S×69°.20W, h182km±46km, mb3.5/2, mb1 3.4/2, mb1mx3.1/22, mbtmp4.1/2, Error ellipse: s-maj=238.4km s-min=43.6km az=11.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.21**	**121**	P	Pn	00 05 54.2	-0.4
	63nm,0.3s,baz=296,slow=6.1,SNR=1388						
LPAZ				S	Sn	00 06 18.0	0.0
	baz=17,slow=19						
BDFB	**Brasilia**	**20.41**	**93**	P	P	00 09 49.1	+1.4
	1.9nm,0.5s,baz=270,slow=3.0,SNR=3.2						
TORD	**Torodi Ar. Bea**	**75.73**	**72**	P	P	00 16 49.9	-0.6
	1.6nm,0.6s,baz=259,slow=5.5,SNR=31						
SONM	**Songino Array**	**147.71**	**6**	PKPbc	PKPbc	00 24 47.8	+0.1
	0.5nm,0.5s,baz=344,slow=2.8,SNR=5.1						

IDC ***29*** *00:28:12.2±0.8, 6°.30S×151°.18E, h0km, mb4.0/13, mb1 1.4/14, mb1mx4.0/31, mbtmp4.0/14, ML2.1/1, MS3.0/3, Ms1 3.0/3, ms1mx2.6/32, Error ellipse: s-maj=33.2km s-min=15.0km az=98.0*
ISCJB ***29*** *00:28:17.6±0.8, 6°.2S±0°.1×150°.7E±0°.2, h36km, mb3.9/13, MS3.0/3, Error ellipse: s-maj=24.6km s-min=8.7km az=31.7*

ISC 29 00:28:18.4±0.7, 6°.3S±0°.1×150°.9E±0°.2, h36km, n19, σ1s22/19, mb3.9/14, MS2.9/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.82**	**230**	Pn	**Pn**	**00 29 29.3**	**+0.9**
	4.5nm,0.3s,baz=84,slow=6.6,SNR=6.8						
PMG				Sn	**Sn**	**00 30 21.9**	**-1.1**
	7.4nm,0.3s,baz=271,slow=23,SNR=9.6						
WRA	**Warramunga Arr**	**21.03**	**228**	P	**P**	**00 32 59.9**	**+0.5**
	5.8nm,0.5s,baz=51,slow=10,SNR=53						
ASAR	**Alice Springs**	**23.77**	**222**	P	**P**	**00 33 28.4**	**+0.6**
	4.9nm,0.5s,baz=55,slow=9.1,SNR=82						
STKA	**Stephens Creek**	**26.88**	**198**	P	**P**	**00 33 56.9**	**+0.9**
	4.4nm,0.7s,baz=336,slow=7.2,SNR=6.7						
STKA				LR	LR	00 44 40.2	
	comp=Z,81nm,18.2s,baz=44,slow=37						
JNU	**Nakatsue**	**43.59**	**335**	P	**P**	**00 36 18.9**	**-0.3**
	3.3nm,0.5s,baz=0.0,slow=0.0,SNR=3.1						
MJAR	**Matsushiro Arr**	**44.26**	**345**	LR	LR	00 53 35.6	
	comp=Z,11nm,19.3s,baz=145,slow=34						
KSRS	**Korea Array**	**48.54**	**336**	P	**P**	**00 36 57.9**	**-0.1**
	0.7nm,0.6s,baz=170,slow=8.7,SNR=3.0						
KSRS				LR	LR	00 55 08.1	
	comp=Z,14nm,21.1s,baz=136,slow=33						
PETK	**Petropavlovsk-**	**59.48**	**5**	P	**P**	**00 38 15.7**	**-2.0**
	1.9nm,0.7s,baz=120,slow=2.9,SNR=2.5						
SONM	**Songino Array**	**66.62**	**329**	P	**P**	**00 39 06.4**	**+1.0**
	0.3nm,0.5s,baz=132,slow=3.3,SNR=3.5						
VNDA	**Vanda**	**71.40**	**178**	P	**P**	**00 39 31.8**	**-2.6**
	0.7nm,0.9s,baz=37,slow=10,SNR=4.3						
MKAR	**Makanchi Array**	**80.23**	**320**	P	**P**	**00 40 25.8**	**+0.3**
	0.3nm,0.6s,baz=118,slow=5.7,SNR=2.7						
ZALV	**Zalesovo Beam**	**81.37**	**327**	P	**P**	**00 40 29.9**	**-1.4**
	0.4nm,0.5s,baz=122,slow=5.2,SNR=3.1						
MAW	**Mawson**	**83.46**	**203**	P	**P**	**00 40 41.9**	**-0.1**
	1.2nm,0.7s,baz=297,slow=4.5,SNR=2.9						
KURBB	**Kurchatov Arra**	**83.83**	**322**	P	**P**	**00 40 44.5**	**+0.3**
	0.1nm,0.3s,baz=97,slow=3.3,SNR=2.5						
ILAR	**Eielson Array**	**84.27**	**22**	P	**P**	**00 40 45.8**	**-0.4**
	0.4nm,0.6s,baz=251,slow=5.7,SNR=5.3						
NVAR	**Mina Array Bea**	**94.50**	**52**	P	**P**	**00 41 37.9**	**+2.2**
	0.4nm,0.7s,baz=243,slow=6.5,SNR=4.2						
GERES	**GERESS Array B**	**124.32**	**327**	PKP	**PKPdf**	**00 47 14.1**	**+0.3**
	0.6nm,0.5s,baz=81,slow=1.8,SNR=7.6						
TORD	**Torodi Ar. Bea**	**148.92**	**285**	PKPbc	**PKPbc**	**00 48 04.1**	**+0.5**
	1.3nm,0.3s,baz=93,slow=2.6,SNR=64						
BDFB	**Brasilia**	**151.25**	**140**	PKPbc	**PKPbc**	**00 48 10.2**	**+0.9**
	1.9nm,0.4s,baz=80,slow=0.9,SNR=3.7						

CSEM ***29*** *00:55:18.9±0.2, 33°.78N×54°.20E, h2km, ML3.9, Error ellipse: s-maj=4.3km s-min=3.6km az=43.0*
ISCJB ***29*** *00:55:19.3±0.4, 33°.84N±0°.03×54°.22E±0°.04, h10km, Error ellipse: s-maj=5.6km s-min=4.3km az=152.6*
THR ***29*** *00:55:19.7±0.3, 33°.86N×54°.22E, h18km±5km, ML3.5*
TEH ***29*** *00:55:19.8, 33°.78N×54°.18E, h6km, ML3.9*

ISC 29 00:55:19.8±1.0, 33°.78N±0°.03×54°.20E±0°.03, h10km, n57, σ0s72/72, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ICHK	**Chekchek**	**1.54**	**174**	*e*Pn	**Pn**	**00 55 46.7**	**-0.9**
ICHK				*e*		00 56 11.8	
	comp=Z,14μm,0.1s						
ICHK	**Chekchek**	**1.54**	**174**	*e*Pn	**Pn**	**00 55 46.7**	**-0.9**
IANJ	**Anjilo**	**1.70**	**352**	*e*Sg	**Sb**	**00 56 12.9**	**0.0**
IANJ	**Anjilo**	**1.70**	**352**	*e*Sg	**Sb**	**00 56 12.9**	**0.0**
IZEF	**Zefreh**	**1.80**	**241**	*e*Pn	**Pn**	**00 55 50.8**	**-0.4**
IZEF				*e*Sg	**Sb**	**00 56 15.9**	**+0.1**
IZEF				*e*		00 56 17.8	
	comp=Z,17μm,0.2s						
IZEF	**Zefreh**	**1.80**	**241**	*e*Pn	**Pn**	**00 55 50.8**	**-0.4**
IZEF				*e*Sg	**Sb**	**00 56 15.9**	**+0.1**
ILAS	**Lasjerd**	**1.90**	**328**	*e*Pn	**Pn**	**00 55 53.0**	**+0.5**
ILAS				*e*Sg	**Sb**	**00 56 19.0**	**+0.4**
ILAS				*e*		00 56 25.7	
	comp=Z,9μm,0.2s						
ILAS	**Lasjerd**	**1.90**	**328**	*e*Pn	**Pn**	**00 55 53.0**	**+0.5**
ILAS				*e*Sg	**Sb**	**00 56 19.0**	**+0.4**
ISAD	**Sadrabad**	**1.91**	**193**	*e*Pn	**Pn**	**00 55 53.0**	**+0.3**
ISAD				*e*Sg	**Sb**	**00 56 19.6**	**+0.6**
ISAD				*e*		00 56 21.1	
	comp=Z,19μm,0.2s						
ISAD	**Sadrabad**	**1.91**	**193**	*e*Pn	**Pn**	**00 55 53.0**	**+0.3**
ISAD				*e*Sg	**Sb**	**00 56 19.6**	**+0.6**
ISHM	**Shahmirzad**	**2.16**	**340**	*e*Pn	**Pn**	**00 55 55.7**	**-0.4**
ISHM				*e*Sg	**Sb**	**00 56 26.9**	**+0.8**
ISHM				*e*		00 56 28.7	
	comp=Z,15μm,0.2s						
IFIR	**Firoozkooh**	**2.21**	**328**	*e*Pn	**Pn**	**00 55 56.5**	**-0.3**
IFIR				*e*Sg	**Sb**	**00 56 27.8**	**+0.3**
IFIR				*e*		00 56 32.8	
	comp=Z,6μm,0.2s						
IFIR	**Firoozkooh**	**2.21**	**328**	*e*Pn	**Pn**	**00 55 56.5**	**-0.3**
IFIR				*e*Sg	**Sb**	**00 56 27.8**	**+0.3**
IKLH	**Kolahrood**	**2.24**	**259**	*e*Pn	**Pn**	**00 55 57.1**	**-0.1**
IKLH				*e*Sg	**Sb**	**00 56 28.2**	**-0.2**
IKLH				*e*		00 56 30.8	
	comp=Z,9μm,0.2s						
IKLH	**Kolahrood**	**2.24**	**259**	*e*Pn	**Pn**	**00 55 57.1**	**-0.1**
IVRN	**Varamin**	**2.38**	**301**	*e*Pn	**Pn**	**00 55 59.2**	**+0.2**
IVRN				*e*		00 56 49.2	
	comp=Z,3μm,0.2s						
IVRN	**Varamin**	**2.38**	**301**	*e*Pn	**Pn**	**00 55 59.2**	**+0.2**
IMEH	**Mehriz**	**2.41**	**172**	*e*Pn	**Pn**	**00 55 60.0**	**+0.5**
IMEH				*e*		00 56 38.8	
	comp=Z,4μm,0.1s						
IMEH	**Mehriz**	**2.41**	**172**	*e*Pn	**Pn**	**00 56 00.0**	**+0.5**
TABS	**Tabas**	**2.43**	**92**	*e*Pn	**Pn**	**00 56 00.5**	**+0.7**
TABS				*e*Sg	**Sb**	**00 56 35.7**	**+1.9**
TABS				AML	AML	00 56 40.8	
	comp=N,196nm,1.0s						
TABS	**Tabas**	**2.43**	**92**	*e*Pn	**Pn**	**00 56 00.5**	**+0.7**
TABS				*e*Sg	**Sb**	**00 56 35.7**	**+1.9**
	comp=N,196nm,1.0s						
GHVR	**GHOM**	**2.51**	**287**	*e*Pn	**Pn**	**00 56 02.1**	**+1.3**
GHVR				AML	AML	00 56 42.2	
	comp=N,254nm,0.4s						
GHVR				AML	AML	00 56 54.9	
	comp=E,235nm,0.6s						
GHVR	**GHOM**	**2.51**	**287**	*e*Pn	**Pn**	**00 56 02.1**	**+1.3**
	comp=E,235nm,0.6s						
IDMV	**Damavand**	**2.53**	**316**	*e*Pn	**Pn**	**00 56 01.2**	**-0.1**
IDMV				*e*Sg	**Sb**	**00 56 38.4**	**+1.5**
IDMV				*e*		00 56 43.3	
	comp=Z,3μm,0.2s						
IDMV	**Damavand**	**2.53**	**316**	*e*Pn	**Pn**	**00 56 01.2**	**-0.1**
IDMV				*e*Sg	**Sb**	**00 56 38.4**	**+1.5**
IALA	**Alasht**	**2.57**	**334**	*e*Pn	**Pn**	**00 56 01.9**	**+0.1**
IALA				*e*		00 56 46.5	
	comp=Z,4μm,0.2s						
IALA	**Alasht**	**2.57**	**334**	*e*Pn	**Pn**	**00 56 01.9**	**+0.1**
DAMV	**Damavand**	**2.61**	**316**	*e*Pn	**Pn**	**00 56 02.5**	**+0.2**
DAMV				AML	AML	00 56 42.9	
	comp=E,214nm,0.4s						
DAMV				AML	AML	00 56 54.2	
	comp=N,200nm,0.6s						
DAMV	**Damavand**	**2.61**	**316**	*e*Pn	**Pn**	**00 56 02.5**	**+0.2**
	comp=N,200nm,0.6s						
SHRO	**Shahrood**	**2.66**	**33**	*e*Pn	**Pn**	**00 56 03.0**	**+0.1**
SHRO	**Shahrood**	**2.66**	**33**	*e*Pn	**Pn**	**00 56 03.0**	**+0.1**
IGLO	**Ghaloghah**	**2.73**	**354**	*e*Pn	**Pn**	**00 56 04.3**	**+0.3**
IGLO				*e*		00 56 50.9	
	comp=Z,2μm,0.2s						
IPRN	**Peran**	**2.89**	**329**	*e*	Sg	00 56 59.5	+6.7
	comp=Z,3μm,0.2s						
IPRN				*e*Pn	**Pn**	**00 56 08.1**	**+2.0**
IAFJ	**Afjeh**	**2.91**	**316**	*e*Pn	**Pn**	**00 56 06.4**	**-0.1**
IAFJ				*e*		00 57 04.9	
	comp=Z,3μm,0.2s						
IAFJ	**Afjeh**	**2.91**	**316**	*e*Pn	**Pn**	**00 56 06.4**	**-0.1**
IPIR	**Pirpir**	**2.98**	**249**	*e*	**Sg**	**00 56 56.5**	**+0.8**
	comp=Z,3μm,0.2s						
IPIR				*e*Pn	**Pn**	**00 56 07.6**	**+0.1**
CHTH	**Charan**	**3.30**	**311**	*e*Pn	**Pn**	**00 56 12.2**	**+0.4**
CHTH				AML	AML	00 57 13.1	
	comp=N,98nm,0.5s						
CHTH				AML	AML	00 57 17.8	
	comp=E,96nm,0.5s						
CHTH	**Charan**	**3.30**	**311**	*e*Pn	**Pn**	**00 56 12.2**	**+0.4**
	comp=E,96nm,0.5s						
IR5	**Iran Long-Peri**	**3.32**	**297**	*e*Pn	**Pn**	**00 56 11.7**	**-0.2**
IR5	**Iran Long-Peri**	**3.32**	**297**	*e*Pn	**Pn**	**00 56 11.7**	**-0.2**
KHMZ	**Khomeyn**	**3.54**	**271**	*e*Pn	**Pn**	**00 56 16.3**	**+1.3**
KHMZ	**Khomeyn**	**3.54**	**271**	*e*Pn	**Pn**	**00 56 16.3**	**+1.3**
	comp=E,69nm,0.8s						
ASAO	**Ashtian**	**3.55**	**284**	*e*Pn	**Pn**	**00 56 16.1**	**+0.9**
ASAO				AML	AML	00 57 19.7	
	comp=N,66nm,0.5s						
ASAO				AML	AML	00 57 19.8	
	comp=E,69nm,0.8s						
ASAO	**Ashtian**	**3.55**	**284**	*e*Pn	**Pn**	**00 56 16.1**	**+0.9**
	comp=E,66nm,0.5s						
IRAZ	**Razeghan**	**3.88**	**296**	*e*Pn	**Pn**	**00 56 19.2**	**-0.5**
IRAZ				*e*		00 57 28.9	
	comp=Z,1μm,0.2s						
IRAZ	**Razeghan**	**3.88**	**296**	*e*Pn	**Pn**	**00 56 19.2**	**-0.5**
ITEG	**Tejag**	**3.91**	**102**	*e*Pn	**Pn**	**00 56 19.8**	**-0.2**
ITEG				*e*		00 57 27.9	
	comp=Z,2μm,0.3s						
ITEG	**Tejag**	**3.91**	**102**	*e*Pn	**Pn**	**00 56 19.8**	**-0.2**
MRVT	**Maraveh tapeh**	**4.16**	**21**	*e*Pn	**Pn**	**00 56 23.5**	**0.0**
MRVT	**Maraveh tapeh**	**4.16**	**21**	*e*Pn	**Pn**	**00 56 23.5**	**0.0**
IGZV	**Ghazvin**	**4.18**	**310**	*e*Pn	**Pn**	**00 56 23.9**	**+0.1**
IGZV				*e*		00 56 46.9	
	comp=Z,1μm,0.2s						
IGZV	**Ghazvin**	**4.18**	**310**	*e*Pn	**Pn**	**00 56 23.9**	**+0.1**
IKOO	**Kooshah**	**4.25**	**107**	*e*Pn	**Pn**	**00 56 25.0**	**+0.1**
IKOO				*e*		00 57 43.4	
	comp=Z,1μm,0.2s						
IKOO	**Kooshah**	**4.25**	**107**	*e*Pn	**Pn**	**00 56 25.0**	**+0.1**
IKRD	**Kardeh**	**4.62**	**48**	*e*Pn	**Pb**	**00 56 39.3**	**-1.8**
IKRD				*e*		00 58 28.2	
	comp=Z,213nm,0.3s						
IPAY	**Payeh**	**4.75**	**55**	*e*Pn	**Pn**	**00 56 31.5**	**-0.1**
IPAY				*e*		00 57 59.5	
	comp=Z,317nm,0.3s						
IPAY	**Payeh**	**4.75**	**55**	*e*Pn	**Pn**	**00 56 31.5**	**-0.1**

ISCJB ***29*** *00:59:47.0±0.6, 6°.22S±0°.05×130°.6E±0°.2, h146km, mb3.6/4, Error ellipse: s-maj=26.8km s-min=6.4km az=174.8*
IDC ***29*** *00:59:50.6±3.6, 6°.04S×130°.62E, h153km±42km, mb3.5/4, mb1 3.5/6, mb1mx3.3/20, mbtmp3.9/6, Error ellipse: s-maj=80.8km s-min=23.2km az=80.0*

ISC 29 00:59:48.9±0.9, 6°.20S±0°.07×130°.5E±0°.2, h146km, n10, σ1s82/11, mb3.7/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.34**	**8**	P	**Pn**	**01 01 07.9**	**+1.0**
	11nm,0.3s,baz=39,slow=4.5,SNR=59						
SIJI				S	**Sn**	**01 02 05.3**	**-2.5**
	22nm,0.3s,baz=254,slow=23,SNR=18						
MTN	**Manton Dam**	**6.64**	**175**	P	**Pn**	**01 01 23.4**	**-0.7**
	baz=17,SNR=22						
KDU	**Kakadu**	**6.74**	**163**	P	**Pn**	**01 01 25.6**	**+0.2**
	baz=17,SNR=11						

KNRA	**Kununurra**	**9.58**	**190**	P	**Pn**	**01 02 00.6**	**-2.8**
	baz=20,SNR=24						
WRA	**Warramunga Arr**	**14.17**	**165**	P	**Pn**	**01 03 00.3**	**-2.9**
	0.5nm,0.3s,baz=356,slow=13,SNR=30						
WRA				S	Sn	01 05 28.5	-12
	2.2nm,0.3s,baz=341,slow=22,SNR=14						
ASAR	**Alice Springs**	**17.68**	**170**	P	**Pn**	**01 03 47.2**	**+1.0**
	0.3nm,0.3s,baz=344,slow=9.6,SNR=16						
ASAR				S	S	01 06 52.9	-8.4
	0.4nm,0.3s,baz=348,slow=26,SNR=8.0						
CMAR	**Chiang Mai Arr**	**39.61**	**309**	P	**P**	**01 07 06.9**	**+0.5**
	1.1nm,0.3s,baz=129,slow=7.1,SNR=4.3						
MKAR	**Makanchi Array**	**67.83**	**326**	P	**P**	**01 10 32.5**	**+1.3**
	0.8nm,0.3s,baz=118,slow=6.7,SNR=10						
ZALV	**Zalesovo Beam**	**71.09**	**333**	P	**P**	**01 10 51.4**	**+0.3**
	0.2nm,0.3s,baz=132,slow=4.1,SNR=2.3						
KURBB	**Kurchatov Arra**	**72.09**	**328**	P	**P**	**01 10 57.0**	**-0.2**
	0.3nm,0.4s,baz=125,slow=4.5,SNR=4.7						

IDC ***29*** *01:03:17.6±1.4, 1°.02N×98°.29E, h0km, mb3.6/8, mb1 3.7/9, mb1mx3.6/28, mbtmp3.6/9, ML4.3/1, MS3.0/1, Ms1 3.2/1, ms1mx2.4/42, Error ellipse: s-maj=35.9km s-min=26.7km az=82.0*
DJA ***29*** *01:03:20.1±0.3, 1°.N±2°×10°.0E±°, h10km, M4.3/10, MLv4.3/10*
ISCJB ***29*** *01:03:22.1±0.5, 1°.04N±0°.04×99°.50E±0°.05, h70km±8km, mb3.5/8, Error ellipse: s-maj=9.0km s-min=6.3km az=154.8*

ISC 29 01:03:22.7±1.1, 1°.04N±0°.04×99°.51E±0°.05, h58km±13km, n25, σ1s49/24, mb3.6/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**0.25**	**164**	P	Pn	01 03 23.6	-8.7
MNSI				S	Sn	01 03 28.1	-11
PBSI	**Pulau Batu**	**1.64**	**229**	P	**Pn**	**01 03 47.4**	**-1.9**
PBSI				S	**Sn**	**01 04 10.0**	**+0.6**
BKNI	**Bangkinang**	**1.69**	**115**	P	**Pn**	**01 03 47.9**	**-2.0**
BKNI				S	**Sn**	**01 04 11.5**	**+1.0**
BKNI	**Bangkinang**	**1.69**	**115**	P	**Pn**	**01 03 48.1**	**-1.8**
	baz=32,SNR=61						
PPI	**Padang Panjang**	**1.73**	**149**	P	**Pn**	**01 03 49.6**	**-1.0**
PPI				S	**Sn**	**01 04 12.8**	**+1.2**
PPI	**Padang Panjang**	**1.73**	**149**	P	**Pn**	**01 03 49.7**	**-0.9**
	baz=32,SNR=35						
PSI	**Prapat**	**1.84**	**341**	Pn	**Pn**	**01 03 50.2**	**-2.1**
	61nm,0.3s,baz=151,slow=7.4,SNR=94						
PSI				Sn	**Sn**	**01 04 15.8**	**+1.3**
	35nm,0.3s,baz=277,slow=17,SNR=10						
PSI	**Prapat**	**1.84**	**341**	P	**Pn**	**01 03 50.1**	**-2.1**
	baz=33,SNR=55						
GSI	**Gunungsitoli**	**1.95**	**278**	P	**Pn**	**01 03 54.4**	**+0.9**
SISI	**Saibi**	**2.39**	**190**	P	**Pn**	**01 03 58.9**	**-0.6**
SISI				S	**Sn**	**01 04 28.9**	**+1.3**
TSI	**Tuntungan**	**2.62**	**339**	P	**Pn**	**01 04 05.1**	**+2.4**
SDSI	**Sungai Dareh**	**2.74**	**136**	P	**Pn**	**01 04 07.3**	**+3.0**
KCSI	**Kotacane, Aceh**	**3.02**	**325**	P	**Pn**	**01 04 07.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**17.32**	**358**	P	**Pn**	**01 07 20.8**	**+0.1**
	0.4nm,0.3s,baz=194,slow=11,SNR=4.2						
CMAR				LR	LR	01 13 58.5	
	comp=Z,46nm,18.8s,baz=182,slow=37						
H08S2	**Diego Garcia H**	**28.29**	**252**	T	T	01 36 52.2	
	baz=72,slow=75,SNR=18						
H08S3	**Diego Garcia H**	**28.30**	**252**	T	T	01 36 50.0	
	baz=72,slow=75,SNR=14						
H08S1	**Diego Carcia H**	**28.31**	**252**	T	T	01 36 51.2	
	baz=72,slow=75,SNR=19						
WRA	**Warramunga Arr**	**40.00**	**123**	P	P	01 11 03.1	+11
	0.2nm,0.6s,baz=302,slow=8.8,SNR=2.2						
SONM	**Songino Array**	**46.99**	**6**	P	P	01 11 52.2	+3.9
	0.4nm,0.6s,baz=178,slow=10,SNR=2.5						
MKAR	**Makanchi Array**	**47.99**	**344**	P	**P**	**01 11 56.2**	**+0.3**
	1.1nm,0.7s,baz=159,slow=9.0,SNR=4.6						
KURBB	**Kurchatov Arra**	**52.52**	**343**	P	**P**	**01 12 29.6**	**-0.4**
	0.4nm,0.5s,baz=160,slow=6.6,SNR=2.6						
ZALV	**Zalesovo Beam**	**54.11**	**349**	P	**P**	**01 12 41.8**	**+0.2**
	0.7nm,0.5s,baz=170,slow=4.5,SNR=4.8						
BVAR	**Borovoye Array**	**57.18**	**340**	P	**P**	**01 13 03.4**	**-0.3**
	0.3nm,0.6s,baz=148,slow=8.5,SNR=3.3						
BRTR	**Keskin Array B**	**70.93**	**312**	P	**P**	**01 14 33.5**	**-0.9**
	0.4nm,0.6s,baz=163,sl

FINES	**FINESS Array B**	**75.21**	**333**	P	**P**	**01 21 13.3**	**-0.4**
	0.7nm,0.6s,baz=98,slow=5.8,SNR=8.8						
NOA	**NORSAR Array B**	**80.98**	**337**	P	**P**	**01 21 44.6**	**-0.5**
	0.3nm,0.6s,baz=31,slow=5.8,SNR=3.1						
NVAR	**Mina Array Bea**	**81.20**	**51**	P	**P**	**01 21 48.1**	**+1.2**
	1.1nm,0.5s,baz=288,slow=5.7,SNR=15						
BRTR	**Keskin Array B**	**82.99**	**312**	P	**P**	**01 21 55.6**	**-0.3**
	0.7nm,0.7s,baz=74,slow=5.3,SNR=3.7						
PDAR	**Pinedale Array**	**84.53**	**44**	P	**P**	**01 22 03.7**	**+0.1**
	21nm,0.3s,baz=30,slow=2.5,SNR=16						
TORD	**Torodi Ar. Bea**	**121.57**	**310**	PKP	**PKPdf**	**01 28 19.4**	**-1.9**
	0.3nm,1.0s,baz=99,slow=0.5,SNR=3.7						

PDG ***29*** *01:19:16.2±0.4, 42.88N×20.68E, h11km, MD2.7/1, ML2.7/11, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
CSEM ***29*** *01:19:16.5±0.1, 42.87N×20.66E, h2km, ML2.8, Error ellipse: s-maj=2.4km s-min=2.1km az=29.0*
BEO ***29*** *01:19:17.1±0.2, 42.86N×20.67E, h3km±1km, ML2.7/2*
SKO ***29*** *01:19:17.1, 42.86N×20.67E, h0km, M2.4, ML2.8*
THE ***29*** *01:19:18.7, 42.84N×20.91E, h0km±1km, ML2.6/4, Error ellipse: s-maj=2.4km s-min=1.1km az=333.0*
SOF ***29*** *01:19:22.4, 42.98N×21.22E, h15km, MD2.7*

ISC 29 01:19:16.3±1.0, 42.88N±0.01×20.68E±0.01, h9km±8km, n149, σ1±13/230, 27C-13D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SMRK	**Smrekonice**	**0.19**	**93**		P		**Pg**	**01 19 20.4**	**+0.2**
PEJK	**Peje**	**0.38**	**231**		P		**Pg**	**01 19 23.2**	**-0.6**
PEJK					S		**Sg**	**01 19 28.8**	**-0.1**
ZATK	**Zatriq**	**0.44**	**186**		P		**Pg**	**01 19 23.8**	**-1.0**
SELS	**Selova**	**0.46**	**43**	*e*	Pg		**Pg**	**01 19 25.3**	**0.0**
BEY	**Berane**	**0.58**	**269**	↑	*i* Pg		**Pg**	**01 19 26.9**	**-0.7**
BEY	**Berane**	**0.58**	**269**		P		**Pg**	**01 19 27.2**	**-0.4**
BEY					*e* Sg		**Sb**	**01 19 36.2**	**-0.9**
IVA	**Berane**	**0.58**	**269**	↑	*i* Pg		**Pg**	**01 19 26.9**	**-0.7**
IVA					*e* Sg		**Sb**	**01 19 36.2**	**-0.9**
PVY	**Plav**	**0.61**	**242**	↑	*i* Pg		**Pg**	**01 19 27.0**	**-1.0**
PVY					*e* Sg		**Sg**	**01 19 36.2**	**+0.2**
PVY	**Plav**	**0.61**	**242**	↑	*i* Pg		**Pg**	**01 19 27.0**	**-1.0**
PVY					*e* Sg		**Sg**	**01 19 36.2**	**+0.2**
SJES	**Sjenica**	**0.64**	**306**	*e*	Pg		**Pg**	**01 19 28.4**	**-0.3**
SJES					*e* Sg		**Sg**	**01 19 37.7**	**+0.5**
GJIK	**Gjilan**	**0.70**	**127**		P		**Pg**	**01 19 29.2**	**-0.5**
GJIK					S		**Sg**	**01 19 38.8**	**0.0**
IVAS	**Ivanjica**	**0.80**	**331**	*e*	Pg		**Pg**	**01 19 31.5**	**-0.1**
IVAS					*e* Sg		**Sg**	**01 19 41.9**	**-0.1**
IVAS	**Ivanjica**	**0.80**	**331**	*e*	Pg		**Pg**	**01 19 31.5**	**-0.1**
IVAS					*e* Sg		**Sg**	**01 19 41.9**	**-0.1**
BARS	**Barje**	**0.83**	**94**	*e*	Pg		**Pg**	**01 19 32.4**	**+0.1**
BARS					*e* Sg		**Sb**	**01 19 44.0**	**-0.3**
GRUS	**Gruza**	**1.01**	**1**	*e*	Pg		**Pg**	**01 19 35.3**	**-0.3**
GRUS					*e* Sg		**Sn**	**01 19 50.2**	**-0.7**
GRUS	**Gruza**	**1.01**	**1**	*e*	Pg		**Pg**	**01 19 35.3**	**-0.3**
GRUS					*e* Sg		**Sn**	**01 19 50.2**	**-0.7**
PLE	**Pljevlja**	**1.05**	**296**	↑	*i* Pg		**Pb**	**01 19 34.9**	**-1.8**
PLE					*e* Sg		**Sn**	**01 19 52.0**	**-0.2**
PLE	**Pljevlja**	**1.05**	**296**	↑	*i* Pg		**Pb**	**01 19 34.9**	**-1.8**
PLE					*e* Sg		**Sn**	**01 19 52.0**	**-0.2**
SKO	**Skopje**	**1.07**	**148**	*i*	Pg		**Pb**	**01 19 36.5**	**-0.5**
SKO				*i*	Sg		**Sn**	**01 19 51.3**	**-1.1**
SKO	**Skopje**	**1.07**	**148**	*e*	Pg		**Pb**	**01 19 36.1**	**-0.9**
SKO					*e* Sg		**Sn**	**01 19 51.4**	**-1.1**
SKO	**Skopje**	**1.07**	**148**	*e*	Pg		**Pb**	**01 19 36.1**	**-0.9**
SKO	**Skopje**	**1.07**	**148**		P		**Pb**	**01 19 36.5**	**-0.5**
SKO				*i*	Sg		**Sn**	**01 19 51.3**	**-1.1**
SKO	**Skopje**	**1.07**	**148**		P		**Pb**	**01 19 36.5**	**-0.5**
SKO					S		**Sn**	**01 19 51.5**	**-1.0**
PDG	**Podgorica**	**1.15**	**247**	*e*	Pg		**Pb**	**01 19 37.2**	**-1.0**
PDG					*e* Sg		**Sg**	**01 19 53.1**	**-0.1**
PDG	**Podgorica**	**1.15**	**247**		P		**Pb**	**01 19 37.3**	**-1.0**
PDG					*e* Sg		**Sg**	**01 19 53.1**	**-0.1**
PDG	**Podgorica**	**1.15**	**247**		P		**Pb**	**01 19 37.3**	**-1.0**
TTG	**Podgorica**	**1.15**	**247**	↑	*i* Pg		**Pb**	**01 19 36.5**	**-1.8**
TTG					*e* Sg		**Sn**	**01 19 54.9**	**+0.5**
PHP	**Peshkopia**	**1.21**	**189**		P		**Pn**	**01 19 38.3**	**-1.2**
PHP	**Peshkopia**	**1.21**	**189**		P		**Pn**	**01 19 38.3**	**-1.2**
NKY	**Niksic**	**1.25**	**267**	↓	*i* Pg		**Pb**	**01 19 39.8**	**-0.2**
NKY					*e* Sg		**Sg**	**01 19 58.6**	**+2.2**
NKY	**Niksic**	**1.25**	**267**	↓	*i* Pg		**Pb**	**01 19 39.8**	**-0.2**
NKY					*e* Sg		**Sg**	**01 19 58.6**	**+2.2**
NKME	**Niksic**	**1.28**	**265**	↑	*i* Pg		**Pn**	**01 19 40.0**	**-0.4**
NKME					*e* Sg		**Sg**	**01 19 59.4**	**+2.0**
NKME	**Niksic**	**1.28**	**265**	↑	*i* Pg		**Pn**	**01 19 40.0**	**-0.4**
NKME					*e* Sg		**Sg**	**01 19 59.4**	**+2.0**
DRME	**Dracevica, Mon**	**1.31**	**238**	↓	*i* Pg		**Pn**	**01 19 40.4**	**-0.4**
DRME					*e* Sg		**Sg**	**01 20 00.8**	**+2.4**
DRME	**Dracevica, Mon**	**1.31**	**238**	↓	*i* Pg		**Pn**	**01 19 40.4**	**-0.4**
DRME					*e* Sg		**Sg**	**01 20 00.8**	**+2.4**
DIVS	**Divibare**	**1.31**	**338**	*e*	Pg		**Pb**	**01 19 41.1**	**-0.2**
DIVS					*e* Sg		**Sg**	**01 19 59.0**	**+0.4**
DIVS	**Divibare**	**1.31**	**338**	↑	*i* P		**Pb**	**01 19 41.1**	**-0.2**
DIVS	**Divibare**	**1.31**	**338**		S		**Sg**	**01 19 59.5**	**+0.9**
DIVS	**Divibare**	**1.31**	**338**		P		**Pb**	**01 19 41.0**	**-0.2**
DIVS					*e* Sg		**Sg**	**01 19 59.0**	**+0.4**
DIVS	**Divibare**	**1.31**	**338**		P		**Pb**	**01 19 41.0**	**-0.2**
BOLS	**Boljevac**	**1.32**	**44**	*e*	Pg		**Pg**	**01 19 41.8**	**+0.1**
BOLS					*e* Sg		**Sg**	**01 19 59.3**	**+0.4**
BOLS	**Boljevac**	**1.32**	**44**	*e*	Pg		**Pg**	**01 19 41.8**	**+0.1**
BOLS					*e* Sg		**Sg**	**01 19 59.3**	**+0.4**
UPM	**Unac-Piva**	**1.34**	**284**	↓	*i* Pg		**Pb**	**01 19 41.4**	**-0.3**
UPM					*e* Sg		**Sg**	**01 20 01.6**	**+2.1**
UPM	**Unac-Piva**	**1.34**	**284**		P		**Pb**	**01 19 41.5**	**-0.3**
UPM					*e* Sg		**Sg**	**01 20 01.6**	**+2.1**
BBLS	**Lazići**	**1.35**	**317**	*e*	Pg		**Pn**	**01 19 41.0**	**-0.5**
BBLS					*e* Sg		**Sg**	**01 20 00.2**	**+0.3**
BBLS	**Lazići**	**1.35**	**317**	*e*	Pg		**Pn**	**01 19 41.0**	**-0.5**
BBLS					*e* Sg		**Sg**	**01 20 00.2**	**+0.3**
TRUS	**Trudelj**	**1.35**	**352**	*e*	Pg		**Pn**	**01 19 41.1**	**-0.3**
TRUS					*e* Sg		**Sg**	**01 20 00.9**	**+1.0**
TRUS	**Trudelj**	**1.35**	**352**	*e*	Pg		**Pn**	**01 19 41.1**	**-0.3**
TRUS					*e* Sg		**Sg**	**01 20 00.9**	**+1.0**
ULC	**Ulcinj**	**1.41**	**230**	↑	*i* Pg		**Pb**	**01 19 42.2**	**-0.6**
ULC					*e* Sg		**Sg**	**01 20 04.2**	**+2.7**
ULC	**Ulcinj**	**1.41**	**230**	↑	*i* Pg		**Pb**	**01 19 42.2**	**-0.6**
ULC					*e* Sg		**Sg**	**01 20 04.2**	**+2.7**
SVIS	**Svilajnac**	**1.44**	**15**	*e*	Pn		**Pg**	**01 19 44.2**	**+0.4**
SVIS					*e* Sn		**Sg**	**01 20 03.7**	**+1.3**
BUM	**Brajici-Budva**	**1.44**	**247**	↑	*i* Pg		**Pb**	**01 19 42.8**	**-0.6**
BUM					*e* Sg		**Sg**	**01 20 04.8**	**+2.1**
BUM	**Brajici-Budva**	**1.44**	**247**	↑	*i* Pg		**Pb**	**01 19 42.8**	**-0.6**
BUM					*e* Sg		**Sg**	**01 20 04.8**	**+2.1**
ZAPS	**Zavoj**	**1.48**	**74**	*e*	Pg		**Pb**	**01 19 44.3**	**+0.3**
ZAPS					*e* Sg		**Sg**	**01 20 04.9**	**+1.0**
ZAPS	**Zavoj**	**1.48**	**74**	*e*	Pg		**Pb**	**01 19 44.3**	**+0.3**
ZAPS					*e* Sg		**Sg**	**01 20 04.9**	**+1.0**
BRY	**Bratogost**	**1.58**	**271**	↓	*i* Pg		**Pb**	**01 19 45.2**	**-0.5**
BRY					*e* Sg		**Sg**	**01 20 07.8**	**+0.8**
BRY	**Bratogost**	**1.58**	**271**	↓	*i* Pg		**Pb**	**01 19 45.2**	**-0.5**
BRY					*e* Sg		**Sg**	**01 20 07.8**	**+0.8**
TIR	**Tirane**	**1.65**	**202**	*e*	Pn		**Pb**	**01 19 46.7**	**-0.2**
TIR	**Tirane**	**1.65**	**202**	*e*	Pn		**Pb**	**01 19 46.7**	**-0.2**
TIR	**Tirane**	**1.65**	**202**		P		**Pg**	**01 19 48.1**	**+0.2**
TIR	**Tirane**	**1.65**	**202**		P		**Pg**	**01 19 48.1**	**+0.2**
TIR					S		**Sg**	**01 20 11.8**	**+2.5**
HCY	**Herceg Novi**	**1.67**	**256**	↑	*i* Pn		**Pb**	**01 19 46.9**	**-0.4**
HCY					*e* Sn		**Sg**	**01 20 10.6**	**+0.6**
HCY	**Herceg Novi**	**1.67**	**256**	↑	*i* Pn		**Pb**	**01 19 46.9**	**-0.4**
HCY					*e* Sn		**Sg**	**01 20 10.6**	**+0.6**
KUBS	**Kucevo**	**1.69**	**25**	*e*	Pn		**Pb**	**01 19 47.6**	**0.0**
KUBS					*e* Sn		**Sg**	**01 20 10.2**	**-0.4**
KUBS	**Kucevo**	**1.69**	**25**	*e*	Pn		**Pb**	**01 19 47.6**	**0.0**
KUBS					*e* Sn		**Sg**	**01 20 10.2**	**-0.4**
OHR	**Ohrid**	**1.77**	**177**	*i*	Pn		**Pg**	**01 19 50.0**	**-0.2**
OHR	**Ohrid**	**1.77**	**177**	*i*	Pn		**Pg**	**01 19 50.0**	**-0.2**
TEKS	**Tekeris**	**1.86**	**334**	*e*	Pn		**Pb**	**01 19 49.4**	**-1.2**
TEKS					*e* Sn		**Sb**	**01 20 14.4**	**+0.4**
TEKS	**Tekeris**	**1.86**	**334**	*e*	Pn		**Pb**	**01 19 49.4**	**-1.2**
TEKS					*e* Sn		**Sb**	**01 20 14.4**	**+0.4**
VTS	**Vitosha**	**1.88**	**98**	*e*	Pn		**Pn**	**01 19 49.4**	**+0.6**
VTS					*e* Sn		**Sb**	**01 20 13.9**	**-0.7**
VTS	**Vitosha**	**1.88**	**98**	↓	*i* P		**Pn**	**01 19 49.4**	**+0.6**
VTS	**Vitosha**	**1.88**	**98**		S		**Sb**	**01 20 14.3**	**-0.3**
VTS	**Vitosha**	**1.88**	**98**		P		**Pn**	**01 19 49.5**	**+0.6**
VTS	**Vitosha**	**1.88**	**98**		P		**Pn**	**01 19 49.5**	**+0.6**
VTS					S		**Sn**	**01 20 13.1**	**+0.3**
VTS	**Vitosha**	**1.88**	**98**		P		**Pn**	**01 19 49.4**	**+0.6**
VTS					S		**Sn**	**01 20 13.1**	**+0.3**
BEO	**Beograd**	**1.93**	**356**	*e*	Pn		**Pb**	**01 19 51.5**	**-0.2**
BEO				*e*	Sn		**Sb**	**01 20 16.5**	**+0.6**
KKB	**Krupnik**	**2.05**	**119**		P		**Pb**	**01 19 53.6**	**-0.1**
KKB	**Krupnik**	**2.05**	**119**		P		**Pb**	**01 19 53.6**	**-0.1**
VAY	**Valandovo**	**2.10**	**137**	*i*	Pn		**Pb**	**01 19 53.0**	**-1.5**
VAY					*e* Lg		Lg	01 20 24.1	
VAY	comp=E,27nm,0.5s				*e* Lg		Lg	01 20 28.4	
VAY	comp=N,25nm,0.5s								
VAY	**Valandovo**	**2.10**	**137**	*e*	Pn		**Pb**	**01 19 53.2**	**-1.3**
VAY				*e*	Sn		**Sb**	**01 20 20.1**	**-0.6**
VAY	**Valandovo**	**2.10**	**137**		P		**Pn**	**01 19 52.5**	**+0.9**
VAY	**Valandovo**	**2.10**	**137**	*i*	Pn		**Pb**	**01 19 53.0**	**-1.5**
VAY					*e* Sn		**Sb**	**01 20 20.1**	**-0.6**
VAY					*e* Lg		Lg	01 20 28.4	
VAY	comp=N,25nm,0.5s								
VAY	**Valandovo**	**2.10**	**137**		P		**Pn**	**01 19 52.5**	**+0.9**
FNA	**Florina**	**2.16**	**166**	*e*	P		**Pb**	**01 19 55.3**	**-0.3**
FNA	**Florina**	**2.16**	**166**		P		**Pb**	**01 19 54.3**	**-1.3**
FNA					S		**Sb**	**01 20 22.4**	**-0.1**
FNA	**Florina**	**2.16**	**166**		P		**Pb**	**01 19 54.3**	**-1.3**
FNA					S		**Sb**	**01 20 22.4**	**-0.1**
STON	**Ston**	**2.19**	**271**	*e*	Pn		**Pb**	**01 19 56.3**	**+0.2**
STON					Sn		**Sb**	**01 20 24.5**	**+1.1**
STON	**Ston**	**2.19**	**271**	*e*	Pn		**Pb**	**01 19 54.9**	**-1.2**
STON					*e* Sn		**Sb**	**01 20 21.6**	**-1.8**
STON	**Ston**	**2.19**	**271**	*e*	Pn		**Pb**	**01 19 54.9**	**-1.2**
STON					*e* Sn		**Sb**	**01 20 21.6**	**-1.8**
DJES	**Djerdap**	**2.22**	**36**	*e*	Pn		**Pb**	**01 19 55.1**	**-1.6**
DJES					*e* Sn		**Sb**	**01 20 23.3**	**-1.0**
GRG	**Griva**	**2.31**	**146**	*e*	P		**Pn**	**01 19 55.3**	**+0.7**
GRG	**Griva**	**2.31**	**146**		P		**Pn**	**01 19 55.6**	**+1.0**
GRG	**Griva**	**2.31**	**146**		P		**Pn**	**01 19 55.6**	**+1.0**
FGSL	**Fruska Gora**	**2.36**	**345**	*e*	Pn		**Pb**	**01 19 57.6**	**-1.4**
FGSL					*e* Sn		**Sb**	**01 20 27.1**	**-1.1**
FRGS	**Fruska Gora**	**2.36**	**345**	*e*	Pn		**Pb**	**01 19 57.6**	**-1.4**
FRGS					*e* Sn		**Sb**	**01 20 27.1**	**-1.2**
KNT	**Kendrikon**	**2.38**	**135**	*e*	P		**Pn**	**01 19 55.9**	**+0.4**
KNT	**Kendrikon**	**2.38**	**135**		P		**Pn**	**01 19 56.0**	**+0.4**
KNT					S		**Sn**	**01 20 24.9**	**0.0**
KNT	**Kendrikon**	**2.38**	**135**		P		**Pn**	**01 19 56.0**	**+0.4**
KNT					S		**Sn**	**01 20 24.9**	**0.0**
NEST	**Nestorio**	**2.48**	**174**	*e*	P		**Pn**	**01 19 57.7**	**+0.7**
NEST	**Nestorio**	**2.48**	**174**		P		**Pb**	**01 19 59.3**	**-1.8**
NEST					S		**Sb**	**01 20 30.7**	**-1.1**
NEST	**Nestorio**	**2.48**	**174**		P		**Pb**	**01 19 59.3**	**-1.8**
NEST					S		**Sb**	**01 20 30.7**	**-1.1**
BANR	**Banloc**	**2.52**	**7**	↓	*i* P		**Pb**	**01 20 01.5**	**-0.2**
BANR	**Banloc**	**2.52**	**7**		S		**Sg**	**01 20 37.6**	**+0.4**
BANR	**Banloc**	**2.52**	**7**	↓	*i* P		**Pb**	**01 20 01.5**	**-0.2**
MMB	**Musomiste**	**2.60**	**119**		P		**Pb**	**01 20 01.7**	**-1.5**
MMB	**Musomiste**	**2.60**	**119**		P		**Pb**	**01 20 01.7**	**-1.5**
BZS	**Buzias**	**2.81**	**13**	*e*	Pn		**Pn**	**01 20 03.3**	**+1.8**
BZS					*e* Sn		**Sb**	**01 20 38.7**	**-2.6**
BZS	**Buzias**	**2.81**	**13**	↓	*i* P		**Pb**	**01 20 06.2**	**-0.5**
BZS	**Buzias**	**2.81**	**13**		S		**Sg**	**01 20 46.2**	**-0.5**
BZS	**Buzias**	**2.81**	**13**	*e*	Pn		**Pn**	**01 20 03.3**	**+1.8**
BZS	**Buzias**	**2.81**	**13**	↓	*i* P		**Pb**	**01 20 06.2**	**-0.5**
BZS					*e* Sn		**Sb**	**01 20 38.7**	**-2.6**
NVR	**Nevrokopi**	**2.82**	**122**	*e*	P		**Pn**	**01 20 01.6**	**0.0**
NVR	**Nevrokopi**	**2.82**	**122**		P		**Pn**	**01 20 02.0**	**+0.4**
NVR					S		**Sn**	**01 20 35.9**	**+0.2**
NVR	**Nevrokopi**	**2.82**	**122**		P		**Pn**	**01 20 02.0**	**+0.4**
NVR					S		**Sn**	**01 20 35.9**	**+0.2**
SOH	**Sokhos**	**2.87**	**135**	*e*	P		**Pn**	**01 20 03.6**	**+1.4**
HORT	**Hortiatis**	**2.91**	**141**	*e*	P		**Pn**	**01 20 03.3**	**+0.4**
PLD	**Plovdiv**	**3.07**	**103**	*e*	Pn		**Pn**	**01 20 06.7**	**+1.7**
PLD					*e* Sn		**Sn**	**01 20 43.5**	**+1.6**
PLD	**Plovdiv**	**3.07**	**103**	*e*	Pn		**Pn**	**01 20 06.7**	**+1.7**
PLD					*e* Sn		**Sn**	**01 20 43.5**	**+1.6**
LIT	**Litokhoron**	**3.09**	**153**	*e*	P		**Pn**	**01 20 06.6**	**+1.3**
BLY	**Banja Luka**	**3.15**	**308**	*e*	Pn		**Pn**	**01 20 07.8**	**+1.8**
BLY					*e* Sn		**Sn**	**01 20 45.9**	**+2.2**
BLY	**Banja Luka**	**3.15**	**308**	*e*	Pn		**Pn**	**01 20 07.8**	**+1.8**
BLY					*e* Sn		**Sn**	**01 20 45.9**	**+2.2**
PLG	**Polygyros**	**3.25**	**140**	*e*	P		**Pn**	**01 20 08.0**	**+0.5**
IGT	**Igoumenitsa**	**3.36**	**185**	*e*	P		**Pn**	**01 20 10.0**	**+1.0**
LOT	**Lotru**	**3.39**	**40**	↑	*i* P		**Pb**	**01 20 15.2**	**-1.4**
LOT	**Lotru**	**3.39**	**40**		S		**Sg**	**01 21 02.1**	**-2.1**
LOT	**Lotru**	**3.39**	**40**	↑	*i* P		**Pb**	**01 20 15.2**	**-1.4**
DEV	**Deva**	**3.40**	**27**		S		**Sg**	**01 21 02.2**	**-3.1**
SIRR	**Siria**	**3.46**	**11**	↑	*i* P		**Pn**	**01 20 13.2**	**+2.9**
SIRR	**Siria**	**3.46**	**11**		S		**Sb**	**01 21 01.0**	**+1.2**
SIRR	**Siria**	**3.46**	**11**	↑	*i* P		**Pn**	**01 20 13.2**	**+2.9**
PKSM	**Moragy**	**3.63**	**337**	*e*	Pn		**Pn**	**01 20 14.2**	**+1.5**
PKSM					*e* Sg		**Sg**	**01 21 13.7**	**+0.7**
PKSM	**Moragy**	**3.63**	**337**	↑	*i* P		**Pn**	**01 20 13.1**	**+0.4**
PKSM	**Moragy**	**3.63**	**337**	↑	*i* Pn		**Pn**	**01 20 13.1**	**+0.4**
PKSM	**Moragy**	**3.63**	**337**	*e*	Pn		**Pn**	**01 20 14.2**	**+1.5**
PKSM					*e* Sg		**Sg**	**01 21 13.7**	**+0.7**
PKSM	**Moragy**	**3.63**	**337**	↑	*e*		**Pn**	**01 20 13.1**	**+0.4**
MAKR	**Makrakomi, Fth**	**4.02**	**164**	*e*	P		**Pn**	**01 20 19.6**	**+1.5**
AGG	**Agios Georgios**	**4.05**	**162**	*e*	P		**Pn**	**01 20 19.4**	**+0.9**
EVR	**Evrytania**	**4.05**	**167**	*e*	P		**Pn**	**01 20 20.6**	**+2.0**
DRGR		**4.17**	**20**	*e*	Pn		**Pn**	**01 20 21.4**	**+1.3**
DRGR		**4.17**	**20**	↑	*i* P		Pb	01 20 25.1	-4.7
DRGR		**4.17**	**20**		S		**Sb**	**01 21 20.2**	**-0.1**
DRGR		**4.17**	**20**	*e*	Pn		**Pn**	**01 20 21.4**	**+1.3**
DRGR		**4.17**	**20**	↑	*i* P		Pb	01 20 25.1	-4.7
SOKA	**Soboth**	**5.53**	**315**		Pn		**Pn**	**01 20 40.6**	**+1.7**
SOKA	**Soboth**	**5.53**	**315**	↓	*i* Pn		**Pn**	**01 20 40.6**	**+1.7**
ARSA	**Arzberg**	**5.69**	**322**		Pn		**Pn**	**01 20 42.3**	**+1.2**
ARSA					*e* Sn		**Sn**	**01 21 46.1**	**-0.5**
ARSA	**Arzberg**	**5.69**	**322**	↑	*i* Pn		**Pn**	**01 20 42.3**	**+1.2**
ARSA					↑ *i* Sn		**Sn**	**01 21 44.2**	**-2.4**
VYHS	**Vyhne**	**5.76**	**348**	*e*	Sn		**Sn**	**01 21 47.8**	**-0.3**
VYHS	**Vyhne**	**5.76**	**348**	*e*	SN		**Sn**	**01 21 47.8**	**-0.3**

NIED ***29*** *01:20:00, 47.00N×152.20E, h56km, Mw4.2 Best double couple: M0 2.27000×10^15 NP1:ϕs232.00000°, δ35.00000°, λ-34.00000°. NP2:ϕs352.00000°, δ71.00000°, λ-120.00000°.*
JMA ***29*** *01:20:12.5±0.6, 46.97N×152.17E, h30km, M4.9*
ISCJB ***29*** *01:20:13.5±0.3, 46.91N±0.03×152.05E±0.03, h115km±3km, mb4.3/84, Error ellipse: s-maj=5.7km s-min=2.6km az=150.8*
BJI ***29*** *01:20:13.4, 47.19N×152.11E, h122km, mb4.8/47, mB4.8/26*
SKHL ***29*** *01:20:14.7±0.9, 46.81N×152.29E, h124km±5km, mb6.4/1, msh5.0/3*
MOS ***29*** *01:20:14.7±1.0, 47.08N×151.88E, h124km, mb4.3/24, Error ellipse: s-maj=9.3km s-min=6.9km az=63.7*
IDC ***29*** *01:20:15.1±0.7, 47.17N×151.87E, h110km±5km, mb3.8/29, mb1 4.0/32, mb1mx4.0/34, mbtmp4.2/32, MS2.9/10, Ms1 2.9/10, ms1mx2.7/33, Error ellipse: s-maj=14.1km s-min=9.0km az=159.0*
NEIC ***29*** *01:20:17.0±0.4, 47.16N×151.84E, h126km±3km, mb4.5/50, Error ellipse: s-maj=6.3km s-min=2.5km az=153.0*

ISC 29 01:20:15.3±0.4, 46.94N±0.05×152.08E±0.04, h121km±2km, h120km:pP-P, n441, σ1939/479, mb4.3/85, 11C-12D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.39**	**241**	*d*	iPN		**Pn**	**01 21 08.2**	**+1.5**
KUR				*i*	S		**Sn**	**01 21 47.8**	**+1.4**
KUR					pmax	pmax			
KUR	comp=N,55nm,0.5s				pmax	pmax			
KUR	comp=Z,123nm,0.5s				pmax	pmax			
KUR	comp=E,32nm,0.2s				smax	smax			
KUR	comp=N,436nm,0.4s				smax	smax			
KUR	comp=E,156nm,0.4s				smax	smax			
KUR	comp=E,1μm,2.6s				smax	smax			
KUR	comp=N,1μm,2.0s								
KUR	**Kuril'sk**	**3.39**	**241**	↓	*i* P		**Pn**	**01 21 08.2**	**+1.5**
KUR					AMB	AMB		01 21 08.8	
KUR	comp=N,510nm,0.9s				AMB	AMB		01 21 10.0	
KUR	comp=N,2μm,0.5s								
KUR				*i*	S		**Sn**	**01 21 47.8**	**+1.4**
KUR					A	A		01 21 51.0	
KUR	comp=N,1μm,2.5s				A	A		01 21 51.0	
KUR	comp=N,1μm,2.5s				A	A		01 21 51.5	
KUR	comp=N,920nm,0.6s				A	A		01 21 51.5	
KUR	comp=N,630nm,0.6s				A	A		01 21 51.5	
SKR	**Severo-Kuril's**	**4.60**	**34**	*e*	PN		**Pn**	01 21 16.1	-6.6
SKR					*e* S		Sn	01 22 07.1	-8.0
SKR	comp=Z,110nm,0.8s				pmax	pmax			
SKR	comp=N,40nm,0.4s				pmax	pmax			
SKR	comp=E,70nm,0.4s				pmax	pmax			
SKR	comp=N,190nm,0.3s				smax	smax			
SKR	comp=E,100nm,0.3s				smax	smax			
SKR	comp=N,800nm,6.0s				smax	smax			
SKR	comp=E,1μm,8.0s				smax	smax			
SKR	**Severo-Kuril's**	**4.60**	**34**	*e*	P		**Pn**	**01 21 21.9**	**-0.8**
SKR					AMB	AMB		01 21 22.5	
SKR	comp=E,40nm,0.8s				AMB	AMB		01 21 22.5	
SKR	comp=E,70nm,0.8s				AMB	AMB		01 21 22.5	
SKR	comp=E,110nm,0.8s				*e* S		**Sn**	**01 22 13.0**	**-2.1**
SKR					A	A		01 22 14.8	
SKR	comp=E,190nm,0.3s				A	A		01 22 14.8	
SKR	comp=E,100nm,0.3s				A	A		01 22 15.0	
SKR	comp=E,800nm,7.0s				A	A		01 22 15.0	
SKR	comp=E,1μm,7.0s								
SHO	**Shikotan**	**4.80**	**232**	*e*	P		**Pn**	**01 21 24.0**	**-1.5**
SHO					AMB	AMB		01 21 27.1	
SHO	comp=E,120nm,0.5s				*e* S		**Sn**	**01 22 15.7**	**-4.5**
SHO	comp=E,300nm,0.6s				A	A		01 22 17.4	
YUK	**Yuzh-Kuril'sk**	**5.25**	**239**	*d*	iPN		**Pn**	**01 21 31.9**	**+0.4**
YUK				*i*	S		**Sn**	**01 22 30.1**	**-0.8**
YUK	comp=N,63nm,0.4s				pmax	pmax			
YUK	comp=E,101nm,0.4s				pmax	pmax			
YUK	comp=Z,141nm,0.4s				pmax	pmax			
YUK	comp=E,176nm,0.3s				smax	smax			
YUK	comp=N,276nm,0.6s				smax	smax			
YUK	comp=N,601nm,2.8s				smax	smax			
YUK	comp=E,394nm,2.0s				smax	smax			
YUK	**

NKL Nikolayevsk 9.61 314⇑ *e*P Pn 01 22 33.6 +3.4
NKL AMB AMB 01 22 35.4
comp=Z,20nm,0.8s
JYM2 Yakumo 2 9.65 244 P **Pn** **01 22 29.4 -1.5**
JSR Shiriuchi 9.96 241 P **Pn** **01 22 32.4 -2.7**
JTM Tenmabayashi 10.05 236 P Pn 01 22 32.6 -3.7
JTM *e*S Sn 01 24 16.1 -11
JANG Nango 10.08 233 P Pn 01 22 31.9 -4.8
JANG *e*S Sn 01 24 16.2 -12
JTH Tanohata 10.20 230 P Pn 01 22 33.3 -5.1
JTH *e*S Sn 01 24 21.3 -10
JOSM Okushiri--Mats 10.23 246 P **Pn** **01 22 37.1 -1.6**
OFUJ Ofunato 10.94 228 P Pn 01 22 43.7 -4.6
TEY Ternei 10.94 266⇓ *i*P **Pn** **01 22 49.0 +0.8**
TEY AMB AMB 01 22 50.3
comp=Z,30nm,0.7s
JRG Rokugo 11.25 232 P Pn 01 22 48.2 -4.2
JRG *e*S Sn 01 24 47.6 -8.6
JIO Ouri 11.58 227 P Pn 01 22 52.5 -4.2
HABR Khabarovsk 11.58 284 *e*PN **Pn** **01 22 56.2 -0.5**
HABR *e*S **Sn** **01 25 05.3 +1.3**
HABR pmax pmax
comp=Z,116nm,1.9s
HABR MLR MLR
comp=Z,39nm,18.0s
HABR Khabarovsk 11.58 284 *e*P **Pn** **01 22 56.2 -0.5**
HABR AMB AMB 01 22 57.6
comp=Z,120nm,1.9s
HABR AMS AMS 01 28 12.5
comp=Z,100nm,18.0s
JYA Atsumi 12.32 232 P Pn 01 23 02.8 -3.8
JFY Yanaizu 13.21 228 P **Pn** **01 23 16.3 -1.9**
EKMR Ekimchan 13.73 304 *e*P **P** **01 23 28.3 -0.9**
EKMR AMB AMB 01 23 31.8
comp=Z,10.0nm,0.6s
KLR Kul'dur 13.78 287 *e*P **Pn** **01 23 22.2 -3.2**
KLR pmax pmax
comp=E,45nm,1.6s
KLR pmax pmax
comp=Z,50nm,1.6s
KLR Kul'dur 13.78 287 *e*P **Pn** **01 23 22.2 -3.2**
KLR AMB AMB 01 23 24.8
comp=Z,50nm,1.6s
USRK Ussuriysk Ar. 14.34 266 P **Pn** **01 23 32.7 +0.2**
comp=Z,2.7nm,0.3s,baz=71,slow=12,SNR=42
MAJO Matsushiro 14.65 230*d i*P **Pn** **01 23 34.9 -1.6**
MAJO pmax pmax
comp=Z,122nm,0.6s
MAJO Matsushiro 14.65 230 *e*P **Pn** **01 23 34.9 -1.6**
MAT Matsushiro 14.65 230 P **Pn** **01 23 35.1 -1.4**
MJAR Matsushiro Arr 14.65 230 P **Pn** **01 23 34.2 -2.3**
comp=Z,0.5nm,0.3s,baz=31,slow=13,SNR=14
MJAR LR LR 01 30 02.7
comp=Z,27nm,20.4s,baz=45,slow=40
MDJ Mudanjiang 15.85 270 P **Pn** **01 23 51.5 0.0**
MDJ PMZ
comp=Z,49nm,0.9s
MDJ PMZ
comp=Z,53nm,4.2s
MDJ LN
comp=Z,53nm,32.6s
MDJ LE
comp=Z,22nm,32.6s
MDJ LZ
comp=Z,66nm,20.3s
MDJ Mudanjiang 15.85 270 *e*Pn **Pn** **01 23 51.3 -0.2**
comp=Z,36nm,0.8s
SEY Seymchan 16.03 0 P **Pn** **01 23 52.3 -1.1**
comp=Z,0.1nm,0.3s,baz=174,slow=10.0,SNR=10
BMKR Bomnak 16.56 307 *e*P **P** **01 24 00.5 0.0**
BMKR AMB AMB 01 24 03.4
comp=Z,20nm,0.7s
YASR Yasnyy 16.67 301⇓ *i*P **Pn** **01 23 57.5 -3.9**
YASR AMB AMB 01 23 59.5
comp=Z,10.0nm,0.7s
ZEA Zeya 17.19 302 *e*P **Pn** **01 24 07.4 -0.4**
ZEA AMB AMB 01 24 08.1
comp=Z,10.0nm,0.6s
ZEA AMS AMS 01 30 28.0
comp=Z,700nm,15.0s
AMKA Amchitka 18.30 66 *e*P **Pn** **01 24 21.1 +0.1**
comp=Z,24nm,1.0s
CN2 Changchun 18.94 270 *e*P **P** **01 24 24.0 -2.7**
CN2 PMZ
comp=Z,10.0nm,0.8s
YAK Yakutsk 19.78 328 *e*P **Pn** **01 24 38.1 -0.2**
YAK pmax pmax
comp=E,13nm,1.0s
YAK pmax pmax
comp=N,15nm,1.3s
YAK Yakutsk 19.78 328 *e*P **Pn** **01 24 38.1 -0.2**
KSRS Korea Array 20.18 251 P Pn 01 24 41.7 -1.5
comp=N,13nm,0.6s,baz=53,slow=11,SNR=25
KSRS LR LR 01 31 54.3
comp=N,26nm,19.7s,baz=76,slow=35
KSRS Korea Array 20.18 251 P Pn 01 24 41.7 -1.5
KSRS pmax pmax
comp=Z,13nm,0.6s
KSRS MLR MLR
comp=Z,26nm,19.7s
KSAR Wonju Array Be 20.22 251 P **P** **01 24 41.7 +1.1**
KSAR Wonju Array Be 20.22 251 *e*P **P** **01 24 41.7 +1.1**
KSAR Wonju Array Be 20.22 251 P **P** **01 24 41.6 +1.1**
INCN Inchon 21.01 252 *e*P **P** **01 24 50.1 +1.0**
comp=Z,45nm,0.6s
GSTR Great Sitkin T 21.21 64 *e*P **P** **01 24 51.7 +0.6**
comp=Z,17nm,0.7s
JNU Nakatsue 21.22 237 P **P** **01 24 52.6 +1.2**
comp=Z,3.4nm,0.6s,baz=354,slow=16,SNR=2.9
BOD Bodaibo 25.32 309 *e*P **P** **01 25 28.8 -1.6**
BOD pmax pmax
comp=Z,8.0nm,1.4s
BOD Bodaibo 25.32 309 *e*P **P** **01 25 28.8 -1.6**
BJI Beijing 26.77 268 P **P** **01 25 45.8 +2.2**
BJI S **S** **01 30 14.5 +4.0**
BJI PMZ
comp=Z,20nm,1.1s
BJI PMZ
comp=Z,44nm,3.4s
BJI LN
comp=Z,160nm,17.6s
BJI LE
comp=Z,77nm,13.6s
BJI LZ
comp=Z,49nm,34.2s
NJ2 Nanjing 29.38 252 *e*P **P** **01 26 08.0 +1.1**
NJ2 PMZ
comp=Z,30nm,0.5s
HHC Hu-ho-hao-te 29.57 273 *e*P **P** **01 26 09.8 +1.1**
HHC PP **PnPn** **01 27 09.8 +0.7**
HHC S **S** **01 30 52.3 -2.5**
HHC sS **sS** **01 31 39.8 -0.9**
HHC SS **SnSn** **01 32 33.5 -3.4**
HHC PMZ
comp=Z,28nm,1.0s
HHC PMZ
comp=Z,57nm,8.6s
H11N2 WAKE ISLAND Hy 29.72 151 T T 01 57 44.0
baz=340,slow=76,SNR=618
H11N1 WAKE ISLAND Hy 29.73 151 T T 01 57 53.0
baz=340,slow=76,SNR=304
H11N3 WAKE ISLAND Hy 29.74 151 T T 01 57 53.2
baz=340,slow=76,SNR=354
ULN Ulaanbaatar 30.17 289 *e*P **P** **01 26 13.5 -0.4**
ULN pmax pmax
comp=Z,10.0nm,0.9s
ULN Ulaanbaatar 30.17 289 *e*P **P** **01 26 13.5 -0.4**
ULN Ulaanbaatar 30.17 289 *e*P **P** **01 26 13.5 -0.4**
comp=Z,9.5nm,0.9s
SONM Songino Array 30.60 289 P **P** **01 26 16.2 -1.5**
comp=Z,1.4nm,0.8s,baz=76,slow=8.4,SNR=10
SONM ScP **ScP** **01 32 45.1 +0.8**
comp=Z,1.2nm,0.8s,baz=106,slow=2.7,SNR=6.8
SONM LR LR 01 40 26.5
comp=Z,24nm,18.7s,baz=68,slow=40
H11S1 WAKE ISLAND Hy 30.80 152 T T 01 59 03.1
baz=340,slow=76,SNR=275
H11S3 WAKE ISLAND Hy 30.81 152 T T 01 59 05.9
baz=340,slow=76,SNR=235
H11S2 WAKE ISLAND Hy 30.82 152 T T 01 59 08.9
baz=340,slow=76,SNR=178
TLY Talaya 31.46 297 P **P** **01 26 24.3 -0.8**
comp=Z,3.2nm,0.6s,baz=73,slow=6.4,SNR=4.2
TLY LR LR 01 39 23.4
comp=Z,28nm,21.9s,baz=359,slow=37
TLY Talaya 31.46 297 *e*P **P** **01 26 24.6 -0.5**
TLY pmax pmax
comp=Z,3.0nm,1.3s
TLY Talaya 31.46 297 *e*P **P** **01 26 24.6 -0.5**
ZAK Zakamensk 31.95 294 *e*P **P** **01 26 31.7 +2.2**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
WHN Wuhan 33.30 254 P **P** **01 26 41.8 +0.6**
IM04 Indian Mountai 34.02 36 *e*P **P** **01 26 47.5 +0.3**
PPLA Purkeypile 34.50 42 *e*P **P** **01 26 52.9 +1.5**
comp=Z,26nm,1.5s
KDAK Kodiak Island 34.53 51 P **P** **01 26 51.2 -0.4**
comp=Z,7.0nm,0.9s,baz=250,slow=6.6,SNR=3.9
CAST Castle Rocks 34.55 41 *e*P **P** **01 26 52.7 +0.9**
comp=Z,5.4nm,0.9s
XAN Xi'an 34.83 264 P **P** **01 26 54.5 0.0**
XAN PMZ
comp=Z,15nm,1.1s
XAN PMZ
comp=Z,41nm,4.3s
BPAW Bear Paw Mtn. 35.06 40 *e*P **P** **01 26 56.9 +0.7**
comp=Z,5.7nm,0.8s
TRF Thorofare Moun 35.36 41 *e*P **P** **01 26 59.4 +0.5**
comp=Z,7.2nm,0.9s
BWN Browne 35.73 40 *e*P **P** **01 27 03.2 +1.4**
comp=Z,33nm,1.0s
COLA College 36.43 39*c i*P **P** **01 27 08.5 +0.8**
COLA pmax pmax
comp=Z,56nm,0.7s
COLA College 36.43 39⇑ *i*P **P** **01 27 08.5 +0.8**
COLA College 36.43 39 *e*P **P** **01 27 08.1 +0.4**
comp=Z,16nm,0.7s
CCB Clear Creek Bu 36.45 39 *e*P **P** **01 27 08.6 +0.7**
comp=Z,4.0nm,0.6s
DHY Denali Highway 36.69 42 *e*P **P** **01 27 10.6 +0.4**
comp=Z,5.2nm,0.6s
HDA Harding Lake 36.82 39 *e*P **P** **01 27 11.1 0.0**
comp=Z,9.3nm,0.6s
ILAR Eielson Array 36.84 39 P **P** **01 27 11.6 +0.3**
comp=Z,2.2nm,0.5s,baz=261,slow=6.9,SNR=33
ILAR pP **pP** **01 27 35.5 -2.6**
comp=Z,1.2nm,1.0s,baz=268,slow=7.1,SNR=2.7
LZH Lanzhou 37.17 271 *e*P **P** **01 27 15.0 +0.4**
LZH pP **pP** **01 27 43.0 +1.5**
LZH sP **sP** **01 27 58.5 +3.2**
LZH PMZ
comp=Z,13nm,1.0s
KLU Klutina 37.50 44 *e*P **P** **01 27 17.5 +0.5**
comp=Z,11nm,1.1s
DIV Divide 37.61 45 *e*P **P** **01 27 18.2 +0.3**
comp=Z,8.7nm,0.7s
BMRM Bremner River 38.20 45 *e*P **P** **01 27 23.6 +0.8**
comp=Z,10nm,0.9s
GTA Gaotai 38.24 278 *e*P **P** **01 27 24.3 +0.8**
GTA pP **pP** **01 27 53.0 +2.5**
GTA sP **sP** **01 28 07.8 +3.5**
GTA S **S** **01 33 07.0 -1.4**
GTA sS **sS** **01 33 56.0 +0.8**
GTA SS SS 01 35 50.8 -10
GTA PMZ
comp=Z,9.0nm,1.4s
GTA PMZ
comp=Z,34nm,5.7s
GTA LN
comp=Z,46nm,14.5s
GTA LE
comp=Z,45nm,15.4s
GTA LZ
comp=Z,59nm,16.4s
DAWY Dawson 40.14 39 *e*P **P** **01 27 39.4 +0.5**
comp=Z,1.8nm,0.6s
CD2 Chengdu 40.19 264 *e*P **P** **01 27 39.5 -0.2**
CD2 pP **pP** **01 28 07.8 +0.9**
CD2 PP **PP** **01 29 14.0 -0.5**
CD2 PcP **PcP** **01 29 42.0 +0.5**
CD2 S **S** **01 33 36.0 -1.6**
CD2 sS **sS** **01 34 25.8 +1.2**
CD2 SS **SS** **01 36 39.3 -0.8**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.0s
GYA Guiyang 41.07 256 *e*P **P** **01 27 47.8 +0.8**
GYA PMZ
comp=Z,10.0nm,0.8s
HYT Haines Junctio 41.63 44 *e*P **P** **01 27 52.7 +1.5**
INK Inuvik 41.87 32 P **P** **01 27 53.5 +0.6**
comp=Z,2.0nm,0.4s,baz=303,slow=11,SNR=11
INK pP **pP** **01 28 17.8 -2.4**
comp=Z,2.3nm,0.8s,baz=298,slow=8.6,SNR=2.6
INK Inuvik 41.87 32 P **P** **01 27 53.5 +0.6**
INK *PP **pP** **01 28 17.8 -2.4**
INK pmax pmax
comp=Z,2.0nm,0.4s
INK pmax pmax
comp=Z,2.0nm,0.8s
ZALV Zalesovo Beam 41.92 305 P **P** **01 27 51.9 -1.7**
comp=Z,2.3nm,0.7s,baz=63,slow=8.0,SNR=10
ZALV PcP **PcP** **01 29 47.3 +0.6**
comp=Z,2.4nm,0.7s,baz=59,slow=2.1,SNR=8.8
ZALV ScP **ScP** **01 33 24.4 -1.2**
comp=Z,0.8nm,0.5s,baz=90,slow=5.2,SNR=4.1
ZALV LR LR 01 46 14.4
comp=Z,36nm,18.8s,baz=70,slow=37
WMQ Urumqi 44.20 291 P **P** **01 28 12.8 +0.7**
WMQ pP **pP** **01 28 40.5 +0.9**
WMQ sP **sP** **01 28 55.5 +2.2**
WMQ PMZ
comp=Z,8.0nm,0.7s
WMQ PMZ
comp=Z,93nm,4.0s
WMQ LN
comp=Z,23nm,14.4s
WMQ LZ
comp=Z,22nm,15.0s
QIZ Qiongzhong 44.28 246 P **P** **01 28 14.5 +1.6**
QIZ pP **pP** **01 28 41.5 +1.0**
QIZ S **S** **01 34 39.3 +1.7**
QIZ sS **sS** **01 35 27.3 +2.0**
QIZ PMZ
comp=Z,160nm,4.0s
KMI Kunming 44.58 258 P **P** **01 28 16.0 +0.5**
KMI PMZ
comp=Z,11nm,1.0s
KMI PMZ
comp=Z,110nm,4.5s
MKAR Makanchi Array 46.22 297 P **P** **01 28 26.5 -1.5**
comp=Z,3.2nm,0.6s,baz=70,slow=8.0,SNR=15
MKAR pP **pP** **01 28 52.4 -3.3**
comp=Z,2.5nm,0.9s,baz=59,slow=7.2,SNR=3.8
MKAR PcP **PcP** **01 30 01.9 +0.3**
comp=Z,1.4nm,0.6s,baz=78,slow=1.2,SNR=6.2
MKAR LR LR 01 48 39.7
comp=Z,19nm,18.5s,baz=52,slow=37
KURK Kurchatov 46.67 303 P **P** **01 28 30.2 -1.1**
KURK *PP **pP** **01 28 56.4 -2.8**
KURK 01 30 03.5
KURK Kurchatov 46.67 303 *e*P **P** **01 28 30.2 -1.1**
KURK *e*rx rx 01 28 56.4
KURK Kurchatov 46.67 303 P **P** **01 28 30.2 -1.1**
KURK pP **pP** **01 28 56.4 -2.8**
KURK PcP **PcP** **01 30 03.5 +0.5**
KURK ScP **ScP** **01 33 45.3 +0.2**
KURBB Kurchatov Arra 46.76 303 P **P** **01 28 30.2 -1.8**
comp=Z,4.7nm,0.7s,baz=68,slow=8.5,SNR=25
KURBB pP **pP** **01 28 56.4 -3.5**
comp=Z,1.5nm,0.8s,baz=71,slow=8.3,SNR=2.4
KURBB PcP **PcP** **01 30 03.5 +0.2**
comp=Z,0.2nm,0.3s,baz=60,slow=3.4,SNR=4.8
KURBB ScP **ScP** **01 33 45.3 -0.2**
comp=Z,0.7nm,0.7s,baz=65,slow=3.2,SNR=7.1
BVAR Borovoye Array 50.19 309 P **P** **01 28 56.8 -1.5**
comp=Z,1.1nm,0.5s,baz=55,slow=8.3,SNR=11
BVAR PcP **PcP** **01 30 16.0 +0.3**
comp=Z,2.4nm,0.6s,baz=74,slow=2.7,SNR=9.9
BRVK Borovoye 50.23 309*c e*P **P** **01 28 57.4 -1.2**
BRVK pmax pmax
comp=Z,8.0nm,1.7s
YKA Yellowknife Ar 51.19 36 P **P** **01 29 06.2 +0.6**
comp=Z,2.1nm,0.7s,baz=300,slow=7.4,SNR=7.8
CHTO Chiang Mai 51.48 256 *e*P **P** **01 29 10.0 +1.6**
CHTO pmax pmax
comp=Z,8.0nm,0.7s
CHTO Chiang Mai 51.48 256 *e*P **P** **01 29 10.0 +1.6**
comp=Z,7.6nm,0.7s
CMAR Chiang Mai Arr 51.73 255 P **P** **01 29 11.0 +0.8**
comp=Z,2.6nm,0.5s,baz=35,slow=7.2,SNR=10
CMAR LR LR 01 51 19.1
comp=Z,5.3nm,18.4s,baz=210,slow=36
KSH Kashi 53.92 292 P **P** **01 29 29.0 +2.7**
KSH PMZ
comp=Z,160nm,4.5s
GUN Gumba 54.28 274 *e*P **P** **01 29 30.0 +0.7**
comp=Z,20nm,0.4s
ARU Arti 54.39 317 LR LR 01 53 39.1
comp=Z,18nm,19.6s,baz=66,slow=37
ARU Arti 54.39 317*d i*P **P** **01 29 28.1 -1.1**
ARU *PP **pP** **01 29 58.2 +0.4**
ARU 01 30 28.8
ARU 01 31 30.7
ARU S **S** **01 36 58.1 +0.2**
ARU SS **SS** **01 40 34.8 -6.2**
ARU pmax pmax
comp=Z,9.0nm,1.2s
ARU Arti 54.39 317⇓ *i*P **P** **01 29 28.1 -1.1**
ARU pP **pP** **01 29 58.2 +0.4**
ARU Arti 54.39 317 *e*P **P** **01 29 27.4 -1.8**
comp=Z,5.0nm,0.8s
RAMN Ramite 54.40 273 *e*P **P** **01 29 30.4 +0.4**
comp=Z,20nm,0.4s
KKN Kakani 54.77 274 *e*P **P** **01 29 33.7 +1.1**
comp=Z,23nm,0.6s
PKI Pulchoki 54.82 274 *e*P **P** **01 29 33.3 +0.2**
PKIN Phulchoki 54.82 274 *e*P **P** **01 29 33.2 +0.1**
comp=Z,10nm,0.6s
DMN Daman 55.00 274 *e*P **P** **01 29 34.9 +0.5**
comp=Z,24nm,0.6s
GKN Gorkha 55.07 275 *e*P **P** **01 29 35.2 +0.5**
comp=Z,23nm,0.6s
DANN Dangsing 55.45 276 *e*P **P** **01 29 38.9 +1.3**
comp=Z,5.0nm,0.5s
KOLN Koldanda 55.92 276 *e*P **P** **01 29 41.4 +0.5**
comp=Z,9.2nm,0.5s
I04A Tendick Farm, 57.24 59 P **P** **01 29 51.4 +1.7**
baz=57
ARCES ARCESS Array B 57.44 340 P **P** **01 29 50.6 -0.1**
comp=Z,1.3nm,0.9s,baz=44,slow=8.8,SNR=4.9
I05D Terrebonne, OR 57.55 58 P **P** **01 29 53.3 +1.4**
baz=57
NEW Newport 57.62 52 *e*P **P** **01 29 53.5 +1.1**
NEW Newport 57.62 52 *e*P **P** **01 29 53.5 +1.1**
NEW Newport 57.62 52 P **P** **01 29 53.7 +1.3**
baz=57
NEW Newport 57.62 52 *e*P **P** **01 29 53.5 +1.1**
ABKAR Akbulak array 57.76 309 *e*P **P** **01 29 51.6 -1.7**
comp=Z,1.4nm,0.5s
AKTO Aktyubinsk 58.07 311 LR LR 01 55 27.3
comp=Z,30nm,19.9s,baz=36
J05D Fort Rock, OR 58.23 59 P **P** **01 29 58.9 +2.0**
baz=58
N02D Trinity Center 58.73 62 P **P** **01 30 02.0 +1.7**
baz=59
M04C Macdoel 58.77 61 P **P** **01 30 02.1 +1.5**
baz=59
BLMT Blacktail Moun 59.26 51 *e*P **P** **01 30 05.8 +1.8**
JTMT Jette 59.46 51 *e*P **P** **01 30 06.3 +1.0**
MOD Modoc 59.61 60 *e*P **P** **01 30 07.8 +1.4**
comp=Z,4.3nm,0.8s
MSO Missoula 60.21 52 P **P** **01 30 11.5 +1.1**
baz=60,SNR=7.4
MSO Missoula 60.21 52 *e*P **P** **01 30 11.9 +1.6**
comp=Z,6.1nm,0.8s
WVOR Wild Horse Val 60.26 58 *e*P **P** **01 30 12.3 +1.5**
WVOR pmax pmax
comp=Z,3.0nm,0.8s
WVOR Wild Horse Val 60.26 58 *e*P **P** **01 30 12.3 +1.5**
comp=Z,2.7nm,0.8s
FFC Flin Flon 61.05 40 *e*P **P** **01 30 16.1 +0.3**
FFC pmax pmax
comp=Z,5.0nm,0.9s
FFC Flin Flon 61.05 40 *e*P **P** **01 30 16.1 +0.3**
FFC Flin Flon 61.05 40 *e*P **P** **01 30 16.1 +0.3**
comp=Z,5.3nm,0.9s
EGMT Eagleton 61.67 49 P **P** **01 30 21.1 +0.9**
baz=61
CMB Columbia Colle 61.95 63 *e*P **P** **01 30 24.0 +1.8**
CMB pmax pmax
comp=Z,3.0nm,0.9s
CMB Columbia Colle 61.95 63 *e*P **P** **01 30 24.0 +1.8**
comp=Z,3.0nm,0.9s
HLID Hailey 61.98 55 P **P** **01 30 23.6 +1.1**
baz=62
BOZ Bozeman (W) 62.20 52 *e*P **P** **01 30 24.9 +1.1**
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BOZ Bozeman (W) 62.20 52 *e*P **P** **01 30 24.9 +1.1**
BOZ Bozeman (W) 62.20 52 P **P** **01 30 25.3 +1.4**
baz=62
BOZ Bozeman (W) 62.20 52 *e*P **P** **01 30 24.9 +1.1**
comp=Z,4.4nm,0.8s
WAKR Walker 62.24 62 *e*P **P** **01 30 26.1 +1.8**
BMN Battle Mountai 62.34 60 *e*P **P** **01 30 27.0 +2.1**
BMN pmax pmax
comp=Z,4.0nm,0.8s
BMN Battle Mountai 62.34 60 *e*P **P** **01 30 27.0 +2.1**
comp=Z,4.3nm,0.8s
NVAR Mina Array Bea 62.97 62 P **P** **01 30 30.7 +1.5**
comp=Z,2.6nm,0.6s,baz=295,slow=7.4,SNR=23
FINES FINESS Array B 63.56 334 P **P** **01 30 30.8 -1.6**
comp=Z,2.3nm,0.5s,baz=43,slow=7.4,SNR=22
RLMT Red Lodge 63.81 51 P **P** **01 30 35.9 +1.3**
baz=64
RLMT Red Lodge 63.81 51 *e*P **P** **01 30 36.5 +1.9**
FXWY Fox Creek 63.82 53 *e*P **P** **01 30 36.9 +2.1**
comp=Z,29nm,2.8s
TPH Tonopah 63.85 62 *e*P **P** **01 30 36.2 +1.2**
TPH pmax pmax
comp=Z,4.0nm,0.9s
TPH Tonopah 63.85 62 *e*P **P** **01 30 36.2 +1.2**
comp=Z,4.2nm,0.9s
MOOW Moose Ponds 63.91 53 *e*P **P** **01 30 37.1 +1.9**
comp=Z,8.0nm,1.6s
F20A Billings 63.95 50 P **P** **01 30 36.4 +1.1**
baz=64
TPAW Teton Pass 63.96 54 *e*P **P** **01 30 37.4 +1.7**
comp=Z,2.8nm,0.7s
E21A Keefer Ranch, 64.02 49 P **P** **01 30 37.0 +1.2**
baz=64
REDW Red Top Meadow 64.10 54 *e*P **P** **01 30 38.1 +1.5**
comp=Z,4.0nm,0.8s
H19A Powell 64.25 51 P **P** **01 30 38.7 +1.3**
baz=64
G20A Bridger 64.30 51 P **P** **01 30 38.5 +0.8**
baz=64
PKM Peak Mountain 64.31 66 P **P** **01 30 39.4 +1.4**
baz=64
LAO LASA Array 64.36 48 P **P** **01 30 38.6 +0.6**
baz=64
A25A Svangstu Ranch 64.40 45 P **P** **01 30 38.5 +0.4**
baz=64
R11A Troy Canyon, C 64.65 60 P **P** **01 30 41.3 +1.1**
baz=64,SNR=11
R11A Troy Canyon, C 64.65 60 *e*P **P** **01 30 41.6 +1.4**
comp=Z,3.4nm,0.9s
I19A Meeteetse 64.67 52 P **P** **01 30 41.1 +0.9**
baz=64
E22A Miles City 64.67 48 P **P** **01 30 40.7 +0.7**
baz=64
OBN Obninsk 64.75 325 *e*P **P** **01 30 42.2 +2.0**
OBN *e* 01 31 12.2
OBN pmax pmax
comp=Z,2.0nm,0.8s
OBN Obninsk 64.75 325 *e*P **P** **01 30 42.2 +2.0**
HWUT Hardware Ranch 64.85 55 *e*P **P** **01 30 42.9 +1.5**
comp=Z,2.6nm,0.8s
F22A Rosebud 64.95 49 P **P** **01 30 42.7 +0.8**
baz=65,SNR=7.1
E23A Ismay 64.96 48 P **P** **01 30 43.1 +1.2**
baz=65,SNR=5.5
MPMC Manual Prospec 65.00 63 P **P** **01 30 43.6 +1.2**
baz=65
D24A Glendive 65.04 47 P **P** **01 30 43.0 +0.7**
baz=65
DUG Dugway 65.07 57 *e*P **P** **01 30 44.1 +1.3**
DUG pmax pmax
comp=Z,4.0nm,0.9s
DUG Dugway 65.07 57 *e*P **P** **01 30 44.1 +1.3**
DUG Dugway 65.07 57 P **P** **01 30 44.0 +1.3**
baz=65,SNR=7.2
DUG Dugway 65.07 57 *e*P **P** **01 30 44.1 +1.3**
comp=Z,4.3nm,0.9s
FURC Furnace Creek, 65.11 63 P **P** **01 30 44.2 +1.3**
baz=65
J19A Crowheart 65.15 53 P **P** **01 30 44.2 +0.9**

baz=65
TPNV **Topopah Spring** 65.17 62 P P 01 30 44.5 +1.0
baz=65,SNR=6.9
I20A **Worland** 65.19 52 P P 01 30 44.6 +1.1
baz=65
PDAR **Pinedale Array** 65.20 53 P P 01 30 44.6 +0.9
comp=Z,3.0nm,0.7s,baz=345,slow=2.7,SNR=34
PDAR pP pP 01 31 12.0 -1.2
comp=Z,1.0nm,0.8s,baz=343,slow=2.8,SNR=3.8
A27A **Ledoux Ranch,** 65.29 44 P P 01 30 44.8 +0.9
baz=65
G22A **Birney** 65.31 50 P P 01 30 44.7 +0.4
baz=65
H21A **Big Horn, Sher** 65.32 51 P P 01 30 45.3 +1.0
baz=65,SNR=8.5
EDW2 **Edwards Air Fo** 65.46 65 P P 01 30 46.4 +1.1
baz=65
J20A **Shoshoni** 65.62 52 P P 01 30 47.1 +0.8
baz=65
NLU **North Lily Min** 65.65 57 eP P 01 30 47.9 +1.3
comp=Z,4.7nm,0.8s
I21A **Big Trails, Te** 65.73 51 P P 01 30 47.9 +0.9
baz=66,SNR=7.6
G23A **Biddle** 65.79 49 P P 01 30 48.1 +0.8
baz=66
F24A **Ekalaka** 65.84 48 P P 01 30 48.1 +0.5
baz=66
GEYT **Alibeck** 65.90 300 P P 01 30 48.4 +0.4
comp=Z,2.3nm,0.6s,baz=97,slow=9.0,SNR=5.3
GSC **Goldstone** 65.91 64 eP P 01 30 49.6 +1.4
GSC pmax pmax
comp=Z,4.0nm,0.9s
GSC **Goldstone** 65.91 64 P P 01 30 48.9 +0.7
baz=66
GSC **Goldstone** 65.91 64 eP P 01 30 49.6 +1.4
comp=Z,3.8nm,0.9s
B28A **Dugan Ranch, T** 66.06 44 P P 01 30 49.5 +0.6
baz=66
I22A **9 Mile Ranch,** 66.11 51 P P 01 30 50.2 +0.8
baz=66
SHPR **Sheep Range** 66.12 62 eP P 01 30 51.4 +1.8
A29A **Manning Farm,** 66.26 43 P P 01 30 50.6 +0.5
baz=66
TUQ **Turquoise Moun** 66.36 63 P P 01 30 52.0 +0.8
baz=66
J22A **Midwest** 66.44 51 P P 01 30 52.4 +0.9
baz=66
HEC **Hector,Ludlow** 66.52 64 P P 01 30 52.7 +0.7
baz=66
B29A **Wagenman Farm,** 66.52 43 P P 01 30 52.5 +0.7
baz=66
H24A **Dirks Ranch, A** 66.54 49 P P 01 30 52.3 +0.2
baz=66,SNR=5.3
MSU **Marysvale** 66.55 58 eP P 01 30 54.4 +1.9
MSU pmax pmax
comp=Z,3.0nm,1.3s
MSU **Marysvale** 66.55 58 eP P 01 30 54.4 +1.9
comp=Z,3.3nm,1.3s
F26A **Lodgepole** 66.74 47 P P 01 30 53.9 +0.7
baz=66
MURC **Murrieta** 66.80 65 P P 01 30 54.6 +0.8
baz=67
ULM **Lac du Bonnet** 66.84 40 P P 01 30 53.5 -0.2
comp=Z,3.2nm,0.7s,baz=143,slow=3.1,SNR=3.3
K22A **Casper** 66.93 52 P P 01 30 55.2 +0.5
baz=67
GMRC **Granite Mounta** 66.96 63 P P 01 30 55.9 +1.0
baz=67
B30A **Myrvik Farm, E** 67.01 43 P P 01 30 55.6 +0.7
baz=67,SNR=12
LDFC **Landfair** 67.10 63 eP P 01 30 56.0 +0.2
comp=Z,8.1nm,0.8s
SRU **San Rafael** 67.11 57 eP P 01 30 56.9 +1.0
SRU pmax pmax
comp=Z,7.0nm,0.9s
SRU **San Rafael** 67.11 57 eP P 01 30 56.9 +1.0
comp=Z,6.9nm,0.9s
G26A **Maurine** 67.16 48 P P 01 30 56.3 +0.3
baz=67
RSSD **Black Hills** 67.24 49 eP P 01 30 57.5 +0.8
RSSD pmax pmax
comp=Z,6.0nm,0.7s
RSSD **Black Hills** 67.24 49 eP P 01 30 57.5 +0.8
comp=Z,5.9nm,0.7s
PFO **Pinyon Flat Ob** 67.25 65 P P 01 30 57.8 +1.0
baz=67
BELC **Belle Mtn. Jos** 67.27 64 P P 01 30 57.6 +0.6
baz=67
K23A **Bowen Ranch, D** 67.34 51 P P 01 30 57.7 +0.4
baz=67
G27A **Dupree** 67.44 47 P P 01 30 58.1 +0.4
baz=67
H26A **Fairpoint** 67.54 48 P P 01 30 58.8 +0.4
baz=67
IRM **Iron Mountain** 67.69 64 P P 01 31 00.7 +1.3
baz=68
D30A **Buchanan** 67.77 44 P P 01 30 00.3 +0.6
baz=67
NB2 **NORSAR Subarra** 67.82 341 P P 01 30 59.3 -0.5
comp=Z,0.7nm,0.5s,baz=28,slow=6.2
NOA **NORSAR Array B** 67.82 341 P P 01 30 59.3 -0.5
comp=Z,0.6nm,0.5s,baz=29,slow=6.7,SNR=9.7
BC3 **Big Chuckawall** 67.84 64 P P 01 31 01.3 +0.8
baz=68
H27A **Howes** 67.89 48 P P 01 31 00.8 +0.3
baz=68
G28A **Parade** 68.16 47 P P 01 30 02.2 -0.1
baz=68
PDMCI **Parker Dam,Lak** 68.21 63 P P 01 31 03.7 +1.0
baz=68
AGMN **Agassiz Nation** 68.26 42 P P 01 31 03.0 +0.2
baz=68
I27A **Quinn** 68.30 48 P P 01 31 03.8 +0.7
baz=68
Y12C **Blythe** 68.35 63 P P 01 31 04.6 +1.1
baz=68
H28A **Mission Ridge** 68.39 47 P P 01 31 04.4 +0.7
baz=68
N23A **Red Feather La** 68.46 53 P P 01 31 05.1 +0.7
baz=68
WRA **Warramunga Arr** 68.47 198 P P 01 31 05.6 +1.4
comp=Z,0.7nm,0.6s,baz=16,slow=6.7,SNR=9.2
GLA **Glamis** 68.63 64 P P 01 31 06.4 +1.0
baz=68
WUAZ **Wupatki** 69.05 60 P P 01 31 09.4 +1.3
baz=69
ISCO **Idaho Springs** 69.40 54 eP P 01 31 11.5 +1.2
ISCO pmax pmax
comp=Z,4.0nm,0.9s
ISCO **Idaho Springs** 69.40 54 P P 01 31 11.0 +0.7
baz=69
ISCO **Idaho Springs** 69.40 54 eP P 01 31 11.5 +1.2
comp=Z,3.6nm,0.9s
MVCO **Mesa Verde** 69.57 57 P P 01 31 12.3 +1.0
baz=69
K29A **Lazy Trails An** 70.12 48 P P 01 31 14.9 +0.6
baz=70
S22A **4UR Ranch, Cre** 70.15 56 P P 01 31 15.9 +0.9
baz=70,SNR=6.7
KBZ **Khabaz** 70.22 313 P P 01 31 15.0 +0.2
comp=Z,1.7nm,0.8s,baz=49,slow=12,SNR=3.7
O26A **Horse Wrangler** 70.34 52 P P 01 31 16.8 +1.0
baz=70
N27A **Anderson Farm,** 70.36 51 P P 01 31 16.4 +0.5
baz=70
EYMN **Ely** 70.48 40 P P 01 31 16.7 +0.3
baz=70
EYMN **Ely** 70.48 40 eP P 01 31 16.7 +0.3
OGNE **Ogallala** 70.53 51 P P 01 31 17.5 +0.6
baz=70
K30A **Basset** 70.54 48 P P 01 31 17.6 +0.7
baz=70
214A **Organ Pipe Nat** 70.62 64 P P 01 31 18.4 +0.8
baz=70
P26A **Davis Ranch, A** 70.81 52 P P 01 31 18.8 +0.1
baz=70
O27A **Beecher Island** 70.83 51 P P 01 31 19.8 +1.0
baz=71
SDCO **Great Sand Dun** 70.90 55 P P 01 31 19.9 +0.4
baz=71
H34A **Spellman Lake,** 70.97 44 P P 01 31 19.0 -0.4
baz=71
ECSD **EROS Data Cent** 71.26 45 P P 01 31 21.2 0.0
baz=71,SNR=13
ECSD **EROS Data Cent** 71.26 45 eP P 01 31 21.4 +0.2
comp=Z,11nm,0.8s
L31A **Butterfield Fa** 71.29 48 P P 01 31 22.1 +0.6
baz=71

TUC **Tucson** 71.62 62 eP P 01 31 25.2 +1.6
TUC pmax pmax
comp=Z,6.0nm,1.3s
TUC **Tucson** 71.62 62 eP P 01 31 25.2 +1.6
comp=Z,5.6nm,1.3s
R26A **Arlington** 71.65 53 P P 01 31 24.2 +0.4
baz=71
O29A **4D Ranch, Culb** 71.77 50 P P 01 31 24.4 0.0
baz=72
T25A **Trinidad** 71.94 55 P P 01 31 26.3 +0.6
baz=72
SPMN **St. Paul** 71.95 42 P P 01 31 25.1 -0.2
baz=72
ASAR **Alice Springs** 72.17 197 P P 01 31 29.3 +2.6
comp=Z,1.4nm,0.6s,baz=12,slow=5.9,SNR=19
T26A **Comanche Natio** 72.37 54 P P 01 31 28.6 +0.4
baz=72
P30A **Selden** 72.48 51 P P 01 31 28.8 +0.2
baz=72
Q29A **Oakley** 72.57 51 P P 01 31 29.2 +0.1
baz=72
L34A **Svendsen Farm,** 72.69 47 P P 01 31 29.8 +0.1
baz=72
R29A **Marienthal** 72.82 52 P P 01 31 30.4 -0.3
baz=73
Q30A **Quinter** 72.91 51 P P 01 31 31.0 -0.2
baz=73
P31A **Stockton** 72.96 50 P P 01 31 31.3 -0.1
baz=73
L35A **Bielow Farm, R** 72.99 46 P P 01 31 31.4 -0.1
baz=73
S28A **Manter** 73.01 53 P P 01 31 31.9 +0.1
baz=73
U27A **Thompson Grove** 73.34 54 P P 01 31 33.9 +0.1
baz=73
R30A **Dighton** 73.38 52 P P 01 31 34.0 +0.1
baz=73
M35A **Neola** 73.40 47 P P 01 31 33.8 -0.1
baz=73
SCHQ **Schefferville** 73.41 22 P P 01 31 33.7 0.0
comp=Z,2.3nm,0.9s,baz=0.0,slow=16,SNR=2.6
O33A **Hebron** 73.48 49 P P 01 31 34.1 -0.3
baz=73
S30A **Montezuma** 73.75 52 P P 01 31 36.1 0.0
baz=74
Q33A **Connelly Farm,** 74.15 50 P P 01 31 37.6 -0.7
baz=74,SNR=6.0
T32A **Huddler Ranch,** 74.92 51 P P 01 31 42.9 0.0
baz=75
BURAR **Bucovina Array** 75.04 326 ⇑iP P 01 31 42.5 -0.9
UZH **Uzhgorod** 75.28 328 eP P 01 31 44.8 +0.2
UZH e 01 32 00.2
UZH **Uzhgorod** 75.28 328 eP P 01 31 44.8 +0.2
X29A **Tulia** 75.41 55 P P 01 31 46.6 +0.8
baz=75
V31A **Spring Creek L** 75.46 53 P P 01 31 46.8 +0.8
baz=75
R35A **Emporia Munici** 75.50 49 P P 01 31 45.9 -0.3
baz=75
TRPA **Tarpa** 75.61 328 ⇓iP P 01 31 47.0 +0.5
DPC **Dobruska-Polom** 75.83 333 eP P 01 31 48.5 +0.7
DPC ex x 01 31 54.2
DPC **Dobruska-Polom** 75.83 333 eP P 01 31 48.5 +0.7
DPC e 01 31 54.2
W31A **Holland Ranch,** 75.84 53 P P 01 31 48.7 +0.6
baz=76
R36A **Gordon, Harris** 75.86 49 P P 01 31 48.1 0.0
baz=76
S35A **Otter Creek Ra** 75.92 50 P P 01 31 48.3 -0.3
baz=76
T34A **McClaskey Farm** 75.96 50 P P 01 31 48.7 -0.1
baz=76
Q37A **Longview Farm,** 75.98 48 P P 01 31 48.5 -0.3
baz=76
CLL **Collm** 76.00 335 eP P 01 31 48.0 -0.7
CLL pmax pmax
comp=Z,2.0nm,0.8s
CLL **Collm** 76.00 335 eP P 01 31 48.0 -0.7
CLL **Collm** 76.00 335 eP P 01 31 48.0 -0.7
comp=Z,2.0nm,0.8s
U34A **Anderson Ranch** 76.22 51 P P 01 31 50.2 -0.1
baz=76
S36A **Lake Cedric, C** 76.27 49 P P 01 31 50.2 -0.3
baz=76
W32A **Sentinel** 76.27 53 P P 01 31 51.2 +0.6
baz=76
Z29A **Hungry Hill Ra** 76.27 56 P P 01 31 51.4 +0.7
baz=76
T35A **Sooner Cattle** 76.40 50 P P 01 31 51.3 0.0
baz=76
MLR **Muntele Rosu** 76.50 324 ⇑iP P 01 31 52.5 +0.7
Z30A **Sanderson Ranc** 76.58 56 P P 01 31 52.8 +0.4
baz=76
228A **UT Block 9, Go** 76.60 57 P P 01 31 52.9 +0.3
baz=76
T36A **Boggs Farm, Ca** 76.62 50 P P 01 31 52.4 -0.1
baz=76
S37A **Fort Scott** 76.64 49 P P 01 31 52.4 -0.2
baz=76,SNR=5.5
V34A **Guthrie** 76.68 52 P P 01 31 53.0 +0.2
baz=76
PRU **Pruhonice** 76.70 333 eP P 01 31 52.3 -0.4
PRU **Pruhonice** 76.70 333 eP P 01 31 52.3 -0.4
PRU **Pruhonice** 76.70 333 eP P 01 31 52.3 -0.4
X32A **Elmer** 76.77 54 P P 01 31 53.5 +0.1
baz=76
WMOK **Wichita Mounta** 76.81 53 eP P 01 31 54.0 +0.4
WMOK pmax pmax
comp=Z,3.0nm,0.9s
WMOK **Wichita Mounta** 76.81 53 eP P 01 31 54.0 +0.4
comp=Z,2.7nm,0.9s
T37A **Cheneyville 18** 77.07 49 P P 01 31 55.0 0.0
baz=77,SNR=5.3
Z31A **Sharp Cattle R** 77.11 55 P P 01 31 55.4 0.0
baz=77
HDIL **Hopedale** 77.20 43 P P 01 31 55.6 0.0
baz=77
329A **Wagon Wheel Ra** 77.42 57 P P 01 31 57.3 +0.2
baz=77
Y33A **Hilltop Ranch,** 77.44 53 P P 01 31 57.4 +0.3
baz=77
131A **Roby** 77.45 55 P P 01 31 57.4 +0.2
baz=77
Z32A **Haskell** 77.49 54 P P 01 31 57.6 +0.1
baz=77
U37A **Salina** 77.52 50 P P 01 31 57.5 0.0
baz=77
TUL1 **Tulsa** 77.54 50 P P 01 31 57.7 0.0
baz=77
TUL1 **Tulsa** 77.54 50 eP P 01 31 58.4 +0.8
comp=Z,6.6nm,0.6s
V36A **Jenks** 77.55 51 P P 01 31 58.1 +0.4
baz=77
KHC **Kasperske Hory** 77.76 334 eP P 01 31 59.2 +0.5
KHC ex x 01 32 03.4
KHC **Kasperske Hory** 77.76 334 eP P 01 31 59.4 +0.7
KHC pmax pmax
comp=Z,1.0nm,0.6s
KHC **Kasperske Hory** 77.76 334 eP P 01 31 59.4 +0.7
KHC **Kasperske Hory** 77.76 334 eP P 01 31 59.4 +0.7
comp=Z,1.2nm,0.6s
BRTR **Keskin Array B** 77.76 316 P P 01 31 59.1 +0.1
comp=Z,0.4nm,0.5s,baz=84,slow=2.9,SNR=3.3
U38A **Gravette** 77.87 49 P P 01 31 59.7 +0.2
baz=78
W36A **Watumka** 77.89 51 P P 01 32 00.1 +0.4
baz=78
V37A **Hulbert** 77.90 50 P P 01 31 59.8 +0.2
baz=78
330A **Mertzon** 77.94 57 P P 01 32 00.5 +0.4
baz=78
Y34A **Reagan Ranch,** 77.96 53 P P 01 32 00.4 +0.4
baz=78
GERES **GERESS Array B** 77.97 333 P P 01 31 59.4 -0.5
comp=Z,0.5nm,0.5s,baz=35,slow=4.9,SNR=7.5
TXAR **Lajitas Array** 78.01 60 P P 01 32 01.8 +1.3
comp=Z,5.8nm,0.7s,baz=298,slow=4.2,SNR=43
TXAR pP pP 01 32 28.1 -2.8
comp=Z,1.0nm,0.7s,baz=291,slow=5.4,SNR=2.9
CONA **Conrad Observa** 78.09 332 ⇑iP P 01 32 01.1 +0.4
comp=Z,2.1nm,0.7s
429A **Davenport Ranc** 78.10 58 P P 01 32 01.7 +0.7
baz=78
529A **Stev Forest Ra** 78.28 58 P P 01 32 02.7 +0.7
baz=78,SNR=6.8
V38A **Canehill** 78.30 50 P P 01 32 02.0 +0.1
baz=78,SNR=5.8

Z34A **Collier Ranch,** 78.31 53 P P 01 32 02.0 0.0
baz=78
W37A **Quinton** 78.32 51 P P 01 32 01.9 -0.1
baz=78
133A **Hamilton Ranch** 78.33 55 P P 01 32 02.2 +0.2
baz=78
430A **Baggett Ranch,** 78.36 57 P P 01 32 02.7 +0.4
baz=78,SNR=5.1
331A **San Angelo** 78.44 56 P P 01 32 03.2 +0.4
baz=78
232A **Coleman** 78.45 56 P P 01 32 03.4 +0.5
baz=78
X37A **Clayton** 78.77 51 P P 01 32 04.5 +0.1
baz=78
332A **Millersview** 78.78 56 P P 01 32 05.2 +0.6
baz=79
530A **J-C Ranch, Com** 78.78 58 P P 01 32 05.1 +0.5
baz=79
431A **Sonora** 78.80 57 P P 01 32 05.3 +0.6
baz=79
W38A **Poteau** 78.85 50 P P 01 32 05.3 +0.4
baz=79
X38A **Whitesboro** 78.99 51 P P 01 32 06.3 +0.7
baz=79
432A **Menard** 79.13 56 P P 01 32 06.6 +0.1
baz=79
Z36A **Blue Ridge** 79.20 53 P P 01 32 06.7 -0.1
baz=79
531A **Rocksprings** 79.22 57 P P 01 32 07.4 +0.3
baz=79
333A **Richland Sprin** 79.25 55 P P 01 32 07.5 +0.3
baz=79
JCT **Junction City** 79.42 57 P P 01 32 08.3 +0.2
baz=79
PBMO **Poplar Bluff** 79.61 46 eP P 01 32 09.7 +0.7
comp=Z,6.8nm,0.7s
433A **Art** 79.62 56 P P 01 32 09.5 +0.3
baz=79
532A **Rocksprings** 79.62 57 P P 01 32 09.5 +0.3
baz=79
334A **Lometa** 79.66 55 P P 01 32 09.7 +0.3
baz=79
136A **Ennis** 79.75 53 P P 01 32 10.1 +0.3
baz=80
MIAR **Mount Ida** 79.75 50 eP P 01 32 10.3 +0.5
MIAR pmax pmax
comp=Z,5.0nm,0.8s
MIAR **Mount Ida** 79.75 50 P P 01 32 10.1 +0.3
baz=80,SNR=5.5
MIAR **Mount Ida** 79.75 50 eP P 01 32 10.3 +0.5
comp=Z,4.6nm,0.8s
631A **Perdido Creek** 79.77 58 P P 01 32 10.6 +0.6
baz=80,SNR=7.0
WTTA **Wattenberg** 80.01 334 ⇑iP P 01 32 11.7 +0.5
comp=Z,4.5nm,0.5s
PARMO **Parma** 80.04 46 eP P 01 32 12.6 +1.3
RETA **Reutte** 80.07 335 ⇑iP P 01 32 12.9 +1.5
comp=Z,2.1nm,0.6s
MOTA **Moosalm** 80.10 334 ⇑iP P 01 32 11.5 -0.1
comp=Z,2.4nm,0.6s
632A **Uvalde** 80.15 57 P P 01 32 12.6 +0.5
baz=80
533A **Kerrville** 80.16 56 P P 01 32 12.6 +0.5
baz=80
237A **Washetta, Mont** 80.50 53 P P 01 32 14.2 +0.4
baz=80
534A **Blanco** 80.51 56 P P 01 32 14.4 +0.5
baz=80
732A **Laxson Ranch,** 80.63 58 P P 01 32 15.5 +0.9
baz=80
NATX **Nacogdoches** 81.31 52 P P 01 32 18.2 0.0
baz=81
ESDC **Sonseca Array** 91.16 342 P P 01 33 05.9 -0.5
comp=Z,0.1nm,0.4s,baz=358,slow=4.0,SNR=3.2
KEST **Kesra** 91.16 330 P P 01 33 06.2 -0.3
comp=Z,0.9nm,0.7s,baz=137,slow=21,SNR=4.3
TORD **Torodi Ar. Bea** 114.56 328 PKP PKPdf 01 38 40.9 -0.5
comp=Z,0.3nm,0.5s,baz=344,slow=1.3,SNR=8.5
DBIC **Dimbokro** 122.83 332 PKP **PKPdf** 01 38 56.0 -1.3
comp=Z,3.9nm,0.9s,baz=320,slow=16,SNR=2.6
BDFB **Brasilia** 144.60 35 PKP PKPbc 01 39 37.6 +0.8
comp=Z,2.5nm,0.8s,baz=23,slow=7.6,SNR=4.1
CPUP **Vila Florida** 148.98 59 PKPbc **PKPbc** 01 39 49.6 +0.7
comp=Z,2.2nm,0.6s,baz=289,slow=4.8,SNR=6.4

IDC 29 01:35:39.8±53.0,17.90S×176.19W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.7/29,mbtmp4.0/3,Error ellipse: s-maj=990.4km s-min=167.9km az=80.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.49**	**242**	P	P	01 43 21.4	+0.8
	1.0nm,0.5s,baz=88,slow=9.4,SNR=2.9						
WRA	**Warramunga Arr**	**46.71**	**259**	P	P	01 44 10.7	-0.3
	1.0nm,0.4s,baz=98,slow=7.4,SNR=44						
ASAR	**Alice Springs**	**46.82**	**254**	P	P	01 44 11.3	-0.5
	1.4nm,0.5s,baz=89,slow=7.9,SNR=22						

*IDC **29** 01:39:34.6±0.6,52.48N×159.84E,h0km,mb4.0/24, mb1 4.2/24,mb1mx4.2/30,mbtmp4.0/24,MS3.3/9, Ms1 3.3/9,ms1mx3.0/36,Error ellipse: s-maj=18.4km s-min=12.8km az=157.0*

*KRSC **29** 01:39:36.0±1.5,52.31N×160.38E,h44km±17km,ML4.3*

*BJI **29** 01:39:37.2,52.98N×160.03E,h39km,mb4.6/6,mB4.7/6, Ms4.1/4,Ms7 3.9/4*

*ISCJB **29** 01:39:39.4±0.6,52.36N±0.04×160.12E±0.06,h56km±4km, mb4.1/31,MS3.4/11,Error ellipse: s-maj=8.2km s-min=3.7km az=138.2*

*MOS **29** 01:39:39.3±1.3,52.40N×160.03E,h50km,mb4.7/6,Error ellipse: s-maj=9.2km s-min=5.1km az=96.7*

*NEIC **29** 01:39:42.3±1.1,52.44N×159.82E,h60km±8km,mb4.5/5, Error ellipse: s-maj=11.7km s-min=7.7km az=157.0*

ISC 29 01:39:39.8±1.1,52.37N±0.05×160.19E±0.04,h42km±10km, n125,σ1°63/155,mb4.2/31,MS3.4/11,3C-6D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.74**	**352**	eP	**Pn**	**01 39 52.0**	**-1.8**
SPN				eS	**Sn**	**01 40 03.0**	**-1.0**
SPN	**Mys Shipunski**	**0.74**	**352**	PN	**Pn**	**01 39 52.0**	**-1.8**
SPN				S	**Sn**	**01 40 03.0**	**-1.0**
RUS	**Russkaya**	**1.03**	**274**	eP	**Pn**	**01 39 56.3**	**-1.4**
RUS				eS	**Sn**	**01 40 10.2**	**-0.7**
RUS	**Russkaya**	**1.03**	**274**	PN	**Pn**	**01 39 56.3**	**-1.4**
RUS				S	**Sn**	**01 40 10.2**	**-0.7**
PET	**Petropavlovsk**	**1.14**	**306**	iPN	**Pn**	**01 39 58.2**	**-1.1**
PET				eS	**Sn**	**01 40 13.9**	**+0.1**
PET				pmax	pmax		
	comp=Z,1μm,0.7s						
PET				smax	smax		
	comp=N,2μm,0.6s						
PET	**Petropavlovsk**	**1.14**	**306**	ePg	**Pn**	**01 39 58.2**	**-1.1**
UGLR	**Uglovaya**	**1.18**	**316**	eP	**Pn**	**01 39 59.5**	**-0.5**
UGLR				eS	**Sn**	**01 40 15.1**	**+0.2**
SDLR	**Sedlovina**	**1.21**	**320**	eP	**Pn**	**01 39 59.5**	**-0.8**
SDLR				eS	**Sn**	**01 40 15.2**	**-0.4**
SDLR	**Sedlovina**	**1.21**	**320**	PN	**Pn**	**01 39 59.5**	**-0.8**
SDLR				S	**Sn**	**01 40 15.2**	**-0.4**
SMAR	**Somma**	**1.23**	**317**	eP	**Pn**	**01 40 00.1**	**-0.6**
SMAR	**Somma**	**1.23**	**317**	PN	**Pn**	**01 40 00.1**	**-0.6**
MTVR	**Mutnovka**	**1.23**	**276**	eP	**Pn**	**01 39 59.8**	**-0.9**
MTVR				eS	**Sn**	**01 40 16.2**	**0.0**
AVH	**Avacha**	**1.26**	**316**	eP	**Pn**	**01 40 00.7**	**-0.3**
AVH	**Avacha**	**1.26**	**316**	PN	**Pn**	**01 40 00.7**	**-0.3**
KRER	**Koryakskii**	**1.28**	**318**	eP	**Pn**	**01 40 00.9**	**-0.5**
KRER				eS	**Sn**	**01 40 17.9**	**+0.4**
GRL	**Gorelyy**	**1.31**	**279**	eP	**Pn**	**01 40 02.2**	**+0.5**
GRL				eS	**Sn**	**01 40 20.3**	**+2.3**
GRL	**Gorelyy**	**1.31**	**279**	PN	**Pn**	**01 40 02.2**	**+0.5**
GRL				S	**Sn**	**01 40 20.3**	**+2.3**
KOK	**Koryaka**	**1.32**	**315**	eP	**Pn**	**01 40 01.4**	**-0.5**
KOK				eS	**Sn**	**01 40 18.8**	**+0.5**
KOK	**Koryaka**	**1.32**	**315**	PN	**Pn**	**01 40 01.4**	**-0.5**
KOK				S	**Sn**	**01 40 18.8**	**+0.5**
KRX	**Arik**	**1.36**	**317**	eP	**Pn**	**01 40 02.2**	**-0.3**
ASAK	**Asacha**	**1.40**	**272**	eP	**Pn**	**01 40 02.6**	**-0.4**
ASAK				eS	**Sn**	**01 40 20.8**	**+0.5**
PETK	**Petropavlovsk-**	**1.69**	**297**	Pn	**Pn**	**01 40 06.7**	**-0.1**
	comp=N,61nm,0.3s,baz=113,slow=19,SNR=171						
PETK				Sn	**Sn**	**01 40 30.3**	**+3.2**

comp=N,50nm,0.3s,baz=114,slow=16,SNR=29
PETK LR LR 01 40 48.5
comp=N,605nm,20.4s,baz=72,slow=51
GNL Ganaly 1.90 315 *e*P **Pn 01 40 10.3 +0.5**
GNL Ganaly 1.90 315 PN **Pn 01 40 10.3 +0.5**
APC Apacha 1.93 288 *e*P **Pn 01 40 11.0 +0.9**
APC *e*S **Sn 01 40 36.4 +3.3**
APC Apacha 1.93 288 PN **Pn 01 40 11.0 +0.9**
APC S **Sn 01 40 36.4 +3.3**
MIPR Malaya Ipel'ka 2.11 269 *e*P **Pn 01 40 14.1 +1.6**
PAU Pauzhetka 2.28 248 *e*P **Pn 01 40 14.9 +0.1**
PAU *e*S **Sn 01 40 42.4 +0.8**
PAU Pauzhetka 2.28 248 PN **Pn 01 40 14.9 +0.1**
PAU S **Sn 01 40 42.4 +0.8**
MKZ Mys Kozlova 2.38 22 *e*P **Pn 01 40 15.7 -0.6**
MKZ *e*S **Sn 01 40 43.4 -0.8**
MKZ Mys Kozlova 2.38 22 PN **Pn 01 40 15.7 -0.6**
MKZ S **Sn 01 40 43.4 -0.8**
KZV Kizimen 2.75 1 *e*P **Pn 01 40 23.2 +1.6**
KZV *e*S **Sn 01 40 56.7 +3.1**
TUMR Tumrok 2.92 360 *e*P **Pn 01 40 25.0 +1.1**
TUMR *e*S **Sn 01 41 00.1 +2.3**
TUMR Tumrok 2.92 360 PN **Pn 01 40 25.0 +1.1**
TUMR S **Sn 01 41 00.1 +2.3**
SKR Severo-Kuril's 3.05 238 *e*PN Pn 01 40 20.1 -5.4
SKR *i* S **Sn 01 40 59.0 -1.7**
SKR pmax pmax
comp=Z,110nm,0.8s
SKR smax smax
comp=N,350nm,0.5s
SKR smax smax
comp=E,390nm,0.5s
SKR smax smax
comp=N,1μm,2.0s
SKR smax smax
comp=E,1μm,2.0s
SKR MLR MLR
comp=E,1μm,12.0s
SKR MLR MLR
comp=Z,1μm,12.0s
KMNR Kamenistaya 3.40 0 *e*P **Pn 01 40 31.5 +1.1**
KMNR Kamenistaya 3.40 0 PN **Pn 01 40 31.5 +1.1**
ESO Esso 3.67 347 *e*P **Pn 01 40 35.5 +1.5**
ESO Esso 3.67 347 PN **Pn 01 40 35.5 +1.5**
SRDR Sredinnyy 3.97 356 *e*P **Pn 01 40 39.2 +1.0**
SRDR Sredinnyy 3.97 356 PN **Pn 01 40 39.2 +1.0**
KBTR Krutoberegovo 4.15 21 *e*P **Pn 01 40 41.5 +1.0**
KBTR *e*S **Sn 01 41 29.1 +1.4**
KBTR Krutoberegovo 4.15 21 PN **Pn 01 40 41.5 +1.0**
KBTR S **Sn 01 41 29.1 +1.4**
BDR Baidarnaya 4.25 8 *e*P **Pn 01 40 43.3 +1.2**
SMKR Semkarok 4.29 10 *e*P **Pn 01 40 44.5 +1.9**
SMKR Semkarok 4.29 10 PN **Pn 01 40 44.5 +1.9**
SRKR Sorokina 4.33 7 *e*P **Pn 01 40 43.3 +0.1**
SRKR Sorokina 4.33 7 PN **Pn 01 40 43.3 +0.1**
BKI Bering 4.46 48 *e*P **Pn 01 40 43.7 -1.0**
BKI *e*S **Sn 01 41 31.2 -4.1**
BKI Bering 4.46 48 PN **Pn 01 40 43.7 -1.0**
SEY Seymchan 11.38 342 Pn **Pn 01 42 21.9 +2.3**
comp=Z,0.2nm,0.3s,baz=146,slow=10,SNR=5.0
YSS Yuzh-Sakhalins 12.51 251 *i* PN **Pn 01 42 35.7 +0.6**
ERM Erimo 15.49 235 *i* P **Pn 01 43 16.8 +1.7**
HABR Khabarovsk 16.45 266 *e*P **Pn 01 43 25.2 -2.2**
HABR pmax pmax
comp=Z,30nm,1.3s
HABR pmax pmax
comp=E,35nm,1.3s
HABR pmax pmax
comp=N,9.0nm,0.6s
HABR MLR MLR
comp=Z,245nm,17.0s
KLR Kul'dur 18.20 271 *e*P **P 01 43 46.8 -2.0**
USRK Ussuriysk Ar. 20.36 258 P **P 01 44 10.4 -2.2**
comp=Z,4.2nm,0.9s,baz=72,slow=11,SNR=9.3
MJA0 Matsu Arr-Jizo 22.13 233 *e*P **P 01 44 35.1 +3.5**
MJA0 pmax pmax
comp=Z,7.0nm,0.7s
MJAR Matsushiro Arr 22.15 233 P **P 01 44 30.8 -1.0**
comp=Z,6.2nm,0.6s,baz=20,slow=10,SNR=8.4
MJAR LR LR 01 53 17.9
comp=Z,61nm,21.7s,baz=95,slow=37
KSRS Korea Array 27.00 249 P **P 01 45 16.6 -0.9**
comp=Z,2.0nm,0.9s,baz=46,slow=10,SNR=4.3
KSRS LR LR 01 56 02.3
comp=Z,29nm,18.8s,baz=80,slow=37
KSRS Korea Array 27.00 249 P **P 01 45 16.6 -0.9**
KSRS pmax pmax
comp=Z,2.0nm,0.9s
KSRS MLR MLR
comp=Z,29nm,18.8s
KSAR Wonju Array Be 27.03 249 P **P 01 45 16.6 -1.2**
KSAR Wonju Array Be 27.03 249 P **P 01 45 16.6 -1.2**
ILAR Eielson Array 29.29 44 P **P 01 45 38.2 +0.4**
comp=Z,0.6nm,0.7s,baz=257,slow=7.8,SNR=11
ILAR LR LR 01 58 28.9
comp=Z,25nm,18.0s,baz=304,slow=39
ILAR Eielson Array 29.29 44 *e*P **P 01 45 38.7 +1.0**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
H11N2 WAKE ISLAND Hy 32.99 168 T T 02 21 01.8
baz=352,slow=76,SNR=66
H11N3 WAKE ISLAND Hy 33.00 168 T T 02 20 54.0
baz=352,slow=76,SNR=45
H11N1 WAKE ISLAND Hy 33.01 168 T T 02 20 59.9
baz=352,slow=76,SNR=69
SONM Songino Array 34.13 284 P **P 01 46 19.9 -0.5**
comp=Z,0.5nm,0.4s,baz=58,slow=7.7,SNR=5.1
SONM PcP **PcP 01 48 57.3 +0.5**
comp=Z,0.4nm,0.6s,baz=336,slow=3.3,SNR=4.1
SONM LR LR 02 01 41.3
comp=Z,195nm,18.4s,baz=28,slow=39
HHC Hu-ho-hao-te 34.70 270 *e*P **P 01 46 24.3 -1.1**
HHC PP **PnPn 01 47 40.8 -1.2**
HHC S **S 01 51 48.0 -4.4**
HHC SS **SnSn 01 54 00.3 -7.2**
HHC PMZ
comp=Z,23nm,1.1s
HHC PMZ
comp=Z,41nm,5.3s
HHC LN
comp=Z,140nm,13.7s
HHC LE
comp=Z,130nm,13.9s
HHC LZ
comp=Z,110nm,14.5s
ZALV Zalesovo Beam 43.22 303 P **P 01 47 33.3 -3.1**
comp=Z,0.4nm,0.4s,baz=85,slow=6.4,SNR=3.8
ZALV LR LR 02 05 23.1
comp=Z,23nm,20.8s,baz=70,slow=36
ZALV Zalesovo Beam 43.22 303 *e*P **P 01 47 34.8 -1.6**
NVS Novosibirsk 43.58 305 *e*P **P 01 47 37.0 -2.2**
YKA Yellowknife Ar 43.66 42 P **P 01 47 40.9 +1.1**
comp=Z,0.3nm,0.5s,baz=301,slow=8.4,SNR=2.9
KURK Kurchatov 48.17 302 P **P 01 48 14.3 -1.1**
KURK Kurchatov 48.17 302 P **P 01 48 14.3 -1.1**
KURBB Kurchatov Arra 48.27 302 P **P 01 48 14.3 -1.9**
comp=Z,2.2nm,0.6s,baz=59,slow=7.8,SNR=17
MKAR Makanchi Array 48.52 296 P **P 01 48 16.6 -1.8**
comp=Z,0.8nm,0.6s,baz=57,slow=8.8,SNR=4.2
MKAR Makanchi Array 48.52 296 *e*P **P 01 48 16.5 -1.8**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR Borovoye Array 50.89 309 P **P 01 48 34.2 -2.0**
comp=Z,1.2nm,0.5s,baz=60,slow=8.8,SNR=6.8
BSMT Bassoo Peak 51.71 59 *e*P **P 01 48 44.2 +1.6**
comp=Z,6.4nm,0.9s
ARU Arti 53.97 318 P **P 01 48 59.1 +0.2**
baz=127,slow=20
ARCES ARCESS Array B 54.00 342 P **P 01 48 58.4 -0.5**
comp=Z,2.4nm,0.7s,baz=52,slow=7.9,SNR=9.1
ARCES PcP **PcP 01 50 04.4 +0.8**
comp=Z,1.1nm,0.8s,baz=57,slow=6.7,SNR=5.8
ARCES LR LR 02 14 33.7
comp=Z,21nm,21.5s,baz=24,slow=39
ARCES ARCESS Array B 54.00 342 P **P 01 48 58.4 -0.5**
ARCES 01 50 04.4
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES pmax pmax
comp=Z,1.0nm,0.8s
ARCES MLR MLR
comp=Z,21nm,21.5s
NVAR Mina Array Bea 55.94 70 P **P 01 49 15.8 +2.1**
comp=Z,1.8nm,0.8s,baz=287,slow=7.0,SNR=11
PDAR Pinedale Array 57.83 60 P **P 01 49 28.9 +1.8**
comp=Z,2.8nm,0.9s,baz=349,slow=3.7,SNR=25
CMAR Chiang Mai Arr 58.09 259 P **P 01 49 29.7 +0.9**
comp=Z,1.5nm,0.3s,baz=24,slow=7.0,SNR=8.8
CMAR Chiang Mai Arr 58.09 259 P **P 01 49 29.7 +0.9**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
ABKAR Akbulak array 58.31 311 *e*P **P 01 49 28.3 -1.7**
comp=Z,1.6nm,0.8s
AKTO Aktyubinsk 58.36 313 P **P 01 49 28.9 -1.4**
comp=Z,0.4nm,0.3s,baz=46,slow=6.4,SNR=4.0
RSSD Black Hills 59.76 56 *e*P **P 01 49 42.1 +1.7**
RSSD pmax pmax
comp=Z,3.0nm,0.6s
RSSD Black Hills 59.76 56 *e*P **P 01 49 42.1 +1.7**
comp=Z,3.2nm,0.6s
SRU San Rafael 59.85 64 *e*P **P 01 49 43.0 +1.9**
SRU pmax pmax
comp=Z,3.0nm,0.9s
SRU San Rafael 59.85 64 *e*P **P 01 49 43.0 +1.9**
comp=Z,3.0nm,0.9s
FINES FINESS Array B 60.81 337 P **P 01 49 47.1 +0.1**
comp=Z,6.6nm,0.6s,baz=39,slow=7.4,SNR=41
FINES LR LR 02 19 56.4
comp=Z,42nm,18.9s,baz=22,slow=40
OBN Obninsk 63.16 328 *e*P **P 01 50 02.8 0.0**
OBN *e* 01 50 40.3
OBN *e* 01 52 19.5
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,20nm,14.0s
NB2 NORSAR Subarra 64.26 344 P **P 01 50 09.8 -0.3**
comp=Z,8.1nm,1.7s,baz=22,slow=6.5
NOA NORSAR Array B 64.26 344 P **P 01 50 10.0 0.0**
comp=Z,0.8nm,0.7s,baz=20,slow=6.7,SNR=4.6
NOA NORSAR Array B 64.26 344 *e*P P 01 50 14.0 +3.9
NOA pmax pmax
comp=Z,1.0nm,0.7s
GEYT Alibeck 67.53 303 P **P 01 50 30.9 -0.6**
comp=Z,1.1nm,0.6s,baz=116,slow=3.4,SNR=3.2
GEYT LR LR 02 21 49.3
comp=Z,44nm,19.8s,baz=350,slow=38
KIEV Kiev 69.28 329 *e*P **P 01 50 41.1 -1.0**
KIEV pmax pmax
comp=Z,8.0nm,1.0s
KIEV Kiev 69.28 329 *e*P **P 01 50 41.1 -1.0**
comp=Z,7.8nm,1.0s
TXAR Lajitas Array 70.87 67 P **P 01 50 54.2 +1.8**
comp=Z,2.1nm,0.6s,baz=302,slow=4.9,SNR=8.0
CLL Collm 73.05 339 *e*P **P 01 51 03.0 -1.9**
CLL Collm 73.05 339 *e*P **P 01 51 05.0 +0.1**
CLL *e*pP **PcP 01 51 20.0 -1.6**
DPC Dobruska-Polom 73.18 337 *e*P **P 01 51 06.3 +0.5**
DPC *ex* x 01 51 11.0
DPC *e*pP **PcP 01 51 20.5 -1.7**
DPC Dobruska-Polom 73.18 337 *e*P **P 01 51 06.3 +0.5**
DPC *e* 01 51 20.5
OKC Ostrava-Krasne 73.20 335 AMS AMS 02 27 00.0
comp=Z,100nm,14.3s
BURAR Bucovina Array 73.23 330⇑*i*P **P 01 51 06.4 +0.2**
TRPA Tarpa 73.57 332⇑*i*P **P 01 51 08.8 +0.8**
PRU Pruhonice 73.94 338 *e*P **P 01 51 12.6 +2.4**
PRU *ex* x 01 51 16.9
PRU *ex* x 01 51 20.7
PRU Pruhonice 73.94 338 *e*P **P 01 51 12.6 +2.4**
PRU *e* 01 51 20.7
KHC Kasperske Hory 74.97 338 *e*P **P 01 51 19.4 +3.2**
KHC *ex* x 01 51 25.5
KHC *e*pP **PcP 01 51 32.2 +2.3**
KHC Kasperske Hory 74.97 338 *e*P **P 01 51 19.4 +3.2**
KHC *e* 01 51 32.2
GERES GERESS Array B 75.21 338 P **P 01 51 17.3 -0.4**
comp=Z,0.5nm,0.8s,baz=29,slow=3.0,SNR=4.5
GERES LR LR 02 29 41.4
comp=Z,32nm,18.1s,baz=60,slow=40
VOIR 75.23 329⇓*i*P **P 01 51 18.4 +0.6**
WRA Warramunga Arr 75.44 205 P **P 01 51 19.4 +0.3**
comp=Z,1.8nm,0.9s,baz=15,slow=6.0,SNR=6.3
WRA Warramunga Arr 75.44 205 *e*P P 01 51 29.4 +10
WRA pmax pmax
comp=Z,1.0nm,1.0s
BZS Buzias 76.11 331⇓*i*P **P 01 51 23.2 +0.4**
SOKA Soboth 76.92 336⇓*i*P **P 01 51 24.8 -2.6**
comp=Z,3.7nm,1.5s
BRTR Keskin Array B 77.22 321 P **P 01 51 29.4 0.0**
comp=Z,1.0nm,0.9s,baz=30,slow=2.7,SNR=3.8
BRTR Keskin Array B 77.22 321 *e*P **P 01 51 31.5 +2.2**
FETA Feichten 77.60 339⇑*i*P **P 01 51 28.5 -2.8**
comp=Z,2.2nm,0.8s
DIVS Divibare 77.97 332⇓*i*P **P 01 51 33.1 -0.3**
ASAR Alice Springs 79.12 204 P **P 01 51 40.9 +1.3**
comp=Z,1.1nm,0.7s,baz=18,slow=5.4,SNR=12
ESDC Sonseca Array 87.30 348 P **P 01 52 22.2 +0.3**
comp=Z,0.1nm,0.3s,baz=12,slow=4.3,SNR=5.1

IDC 29 02:48:33.6±57.0, 14°07S×167°74E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/19, mbtmp4.0/3, Error ellipse: s-maj=971.2km s-min=111.1km az=65.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.77**	**229**	P	P	02 54 42.1	0.0
	3.3nm,0.5s,baz=60,slow=11,SNR=11						
WRA	**Warramunga Arr**	**32.44**	**255**	P	P	02 55 05.5	-0.3
	0.5nm,0.6s,baz=86,slow=9.0,SNR=5.4						
ASAR	**Alice Springs**	**33.34**	**248**	P	P	02 55 13.9	+0.2
	1.4nm,0.6s,baz=80,slow=9.0,SNR=16						

*ISCJB **29** 02:55:24.8±0.3, 4°39S×0°04×36°06E±0°07, h10km, mb4.3/40, MS3.6/11, Error ellipse: s-maj=11.0km s-min=5.5km az=13.7*
*IDC **29** 02:55:25.1±0.5, 4°43S×36°02E, h0km, mb4.3/19, mb1 4.4/21, mb1mx4.3/28, mbtmp4.3/21, ML4.0/2, MS3.6/13, Ms1 3.6/13, ms1mx3.4/33, Error ellipse: s-maj=13.4km s-min=9.1km az=100.0*
*NEIC **29** 02:55:26.2±0.4, 4°51S×36°00E, h10km, mb4.3/2, Error ellipse: s-maj=12.6km s-min=7.6km az=103.0*
*SZGRF **29** 02:55:30.3, 3°56S×37°64E, h33km, mb4.5, Tanzania*
ISC 29 02:55:26.9±0.5, 4°38S×36°07E±0°09, h10km, n58, σ0°88/61, mb4.4/40, MS3.6/11, 6C-1D, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**3.44**	**20**	Pn	**Pn**	**02 56 20.1**	**-0.7**
	20nm,0.3s,baz=196,slow=15,SNR=122						
KMBO				Sn	**Sn**	**02 57 02.0**	**+0.2**
	129nm,0.3s,baz=289,slow=22,SNR=8.1						
KMBO				Lg	Lg	02 57 11.3	
	142nm,0.3s,baz=91,slow=22,SNR=9.3						
KMBO	**Kilima Mbogo**	**3.44**	**20**	*e*Pn	**Pn**	**02 56 20.2**	**-0.7**
KMBO				*e*S	**Sn**	**02 57 01.7**	**-0.1**
KMBO				Lg	Lg	02 57 11.3	
LSZ	**Lusaka**	**13.32**	**215**	Pn	Pn	02 58 32.0	-4.4
	1.0nm,0.3s,baz=40,slow=11,SNR=21						
LSZ				Sn	**Sn**	**03 01 06.2**	**+1.5**
	1.1nm,0.3s,baz=307,slow=21,SNR=3.2						
LSZ				Lg	Lg	03 02 13.7	
	3.8nm,0.3s,baz=304,slow=19,SNR=7.0						
LSZ				LR	LR	03 03 45.5	
	comp=Z,356nm,21.7s,baz=108,slow=38						
MATP	**Matopo**	**17.57**	**204**	P	Pn	02 59 27.1	-5.1
	0.3nm,0.3s,baz=27,slow=13,SNR=11						
MATP				S	**S**	**03 02 55.9**	**-0.2**
	0.2nm,0.3s,baz=104,slow=23,SNR=2.8						
MATP				Lg	Lg	03 04 28.9	
	0.5nm,0.3s,baz=61,slow=5.2,SNR=4.4						
MATP				LR	LR	03 05 44.7	
	comp=Z,349nm,21.6s,baz=30,slow=35						
OPO	**Ambohidratompo**	**17.80**	**143**	P	**Pn**	**02 59 34.3**	**-0.8**
	0.3nm,0.3s,baz=0.3,slow=23,SNR=8.7						
OPO				S	**Sn**	**03 02 55.9**	**+2.1**
	0.4nm,0.3s,baz=86,slow=21,SNR=2.3						
LBTB	**Lobatse**	**22.86**	**205**	P	**P**	**03 00 28.2**	**-2.4**
	27nm,0.9s,baz=38,slow=9.7,SNR=31						
LBTB				S	**S**	**03 04 41.0**	**+0.5**
	3.7nm,0.9s,baz=71,slow=18,SNR=1.9						
LBTB				Lg	Lg	03 07 06.9	
	12nm,0.8s,baz=135,slow=20,SNR=2.3						
LBTB				LR	LR	03 08 14.1	
	comp=Z,176nm,21.5s,baz=40,slow=34						
TSUM	**Tsumeb**	**23.30**	**229**	P	**P**	**03 00 33.8**	**-1.5**
	5.1nm,0.9s,baz=358,slow=9.7,SNR=8.8						
TSUM				S	**S**	**03 04 49.4**	**+1.3**
	4.2nm,0.9s,baz=19,slow=14,SNR=2.3						
TSUM				Lg	Lg	03 07 24.8	
	12nm,0.9s,baz=120,slow=17,SNR=2.3						
TSUM				LR	LR	03 09 43.8	
	comp=Z,436nm,18.1s,baz=42,slow=37						
BOSA	**Boshof**	**26.20**	**202**	P	**P**	**03 01 01.8**	**-0.3**
	7.6nm,0.8s,baz=23,slow=11,SNR=7.7						
BOSA				Lg	Lg	03 08 52.0	
	14nm,1.1s,baz=97,slow=13,SNR=2.3						
BOSA				LR	LR	03 11 21.5	
	comp=Z,201nm,18.2s,baz=20,slow=37						
TORD	**Torodi Ar. Bea**	**38.33**	**298**	P	**P**	**03 02 46.6**	**-1.7**
	1.5nm,1.0s,baz=95,slow=7.1,SNR=6.5						
TORD				LR	LR	03 17 25.6	
	comp=Z,96nm,21.4s,baz=95,slow=34						
TAM	**Tamanrasset**	**40.25**	**313**	*e*P	**P**	**03 03 05.1**	**+0.6**
	8.9nm,1.3s						
DBIC	**Dimbokro**	**42.31**	**285**	LR	LR	03 20 29.1	
	comp=Z,73nm,21.7s,baz=91,slow=36						
BRTR	**Keskin Array B**	**43.94**	**357**	P	**P**	**03 03 35.8**	**+1.5**
	0.7nm,0.7s,baz=193,slow=10,SNR=3.9						
GEYT	**Alibeck**	**46.81**	**24**	LR	LR	03 24 59.7	
	comp=Z,90nm,20.0s,baz=215,slow=38						
KEST	**Kesra**	**47.12**	**330**	P	**P**	**03 04 00.3**	**+0.9**
	2.2nm,1.0s,baz=180,slow=3.7,SNR=6.2						
KEST				LR	LR	03 25 07.0	
	comp=Z,29nm,18.9s,baz=260,slow=38						
OBKA	**Obir**	**54.14**	**342**⇑*i*P		**P**	**03 04 51.4**	**-1.0**
	11nm,1.2s						
SOKA	**Soboth**	**54.14**	**342**⇑*i*P		**P**	**03 04 53.4**	**+1.1**
	8.5nm,1.2s						
ARSA	**Arzberg**	**54.51**	**343**⇑*i*P		**P**	**03 04 56.1**	**+1.1**
	5.0nm,1.1s						
KBA	**Koelnbreinsper**	**55.03**	**341**⇑*i*P		**P**	**03 04 59.2**	**+0.4**
	3.6nm,0.8s						
MOA	**Molln**	**55.42**	**342**⇑*i*P		**P**	**03 05 01.9**	**+0.4**
	8.3nm,1.1s						
RJOB	**Jochberg**	**55.78**	**341**	*e*P	**P**	**03 05 04.5**	**+0.3**
	comp=Z,5.0nm,1.1s						
FETA	**Feichten**	**55.86**	**339**⇑*i*P		**P**	**03 05 05.1**	**+0.2**
	comp=Z,3.0nm,1.0s						
RETA	**Reutte**	**56.25**	**340**⇓*i*P		**P**	**03 05 06.5**	**-1.1**
	comp=Z,5.9nm,1.4s						
TREC	**Trest**	**56.37**	**344**	*e*P	**P**	**03 05 07.9**	**-0.4**
GEC2	**GERESS Array S**	**56.48**	**342**	*e*P	**P**	**03 05 09.4**	**+0.2**
	comp=Z,9.0nm,1.1s						
GERES	**GERESS Array B**	**56.48**	**342**	P	**P**	**03 05 09.2**	**0.0**
	comp=Z,4.1nm,1.0s,baz=142,slow=6.8,SNR=26						
KHC	**Kasperske Hory**	**56.78**	**343**	*e*P	**P**	**03 05 10.1**	**-1.1**
KHC				*e*pP	**pP**	**03 05 15.3**	**+0.9**
KHC	**Kasperske Hory**	**56.78**	**343**	*e*P	**P**	**03 05 10.6**	**-0.7**
	comp=Z,3.0nm,1.1s						
WET	**Wettzell**	**57.00**	**342**	*e*P	**P**	**03 05 12.4**	**-0.4**
	comp=Z,4.0nm,1.2s						
DPC	**Dobruska-Polom**	**57.12**	**345**	*e*P	**P**	**03 05 13.2**	**-0.4**
ESDC	**Sonseca Array**	**57.25**	**324**	P	**P**	**03 05 15.1**	**+0.3**
	comp=Z,4.6nm,0.9s,baz=133,slow=7.1,SNR=23						
UPC	**Upice**	**57.34**	**345**	*e*P	**P**	**03 05 14.6**	**-0.5**
BFO	**Black Forest**	**57.83**	**338**	*e*P	**P**	**03 05 19.8**	**+1.1**
	comp=Z,10.0nm,1.9s						
MANZ	**Manzenberg**	**57.98**	**342**	*e*P	**P**	**03 05 19.5**	**-0.2**
	comp=Z,6.0nm,1.3s						
GRF	**Grafenberg Arr**	**58.00**	**341**	*e*P	**P**	**03 05 19.6**	**-0.2**
	comp=Z,8.0nm,1.2s						
BRG	**Berggiesshubel**	**58.23**	**344**	*e*P	**P**	**03 05 21.1**	**-0.2**
	comp=Z,3.0nm,1.0s						
TANN	**Tannenbergstha**	**58.25**	**342**	*e*P	**P**	**03 05 21.8**	**+0.2**
	comp=Z,5.0nm,1.2s						
MOX	**Moxa**	**58.71**	**342**	*e*P	**P**	**03 05 24.7**	**0.0**
	comp=Z,8.0nm,1.6s						
CLL	**Collm**	**58.88**	**343**	*e*P	**P**	**03 05 25.5**	**-0.4**
	comp=Z,4.0nm,1.1s						
NEUB	**Neuenburg**	**59.16**	**342**	*e*P	**P**	**03 05 28.7**	**+0.9**
	comp=Z,8.0nm,0.7s						
TNS	**Taunus Mts**	**59.38**	**340**	*e*P	**P**	**03 05 29.7**	**+0.2**
	comp=Z,5.0nm,0.8s						
WLF	**Walferdange**	**59.74**	**338**	*e*P	**P**	**03 05 32.5**	**+0.6**
	comp=Z,12nm,1.4s						
MKAR	**Makanchi Array**	**65.23**	**33**	P	**P**	**03 06 08.8**	**0.0**
	comp=Z,4.1nm,1.1s,baz=230,slow=7.6,SNR=8.0						
MKAR				LR	LR	03 36 30.3	
	comp=Z,29nm,18.5s,baz=216,slow=38						
MAW	**Mawson**	**65.72**	**169**	P	**P**	**03 06 11.3**	**-0.2**
	comp=Z,3.5nm,0.8s,baz=318,slow=7.5,SNR=9.7						
CMAR	**Chiang Mai Arr**	**65.94**	**68**	P	**P**	**03 06 14.3**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=256,slow=8.2,SNR=7.0						
CMAR				LR	LR	03 35 54.1	
	comp=Z,19nm,18.0s,baz=227,slow=37						
FINES	**FINESS Array B**	**66.09**	**355**	P	**P**	**03 06 14.2**	**+0.3**
	comp=Z,4.0nm,0.9s,baz=189,slow=7.1,SNR=6.3						
NOA	**NORSAR Array B**	**68.03**	**347**	P	**P**	**03 06 25.6**	**-0.7**
	comp=Z,2.7nm,1.0s,baz=156,slow=5.6,SNR=4.2						
ZALV	**Zalesovo Beam**	**70.88**	**28**	P	**P**	**03 06 43.5**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=198,slow=4.2,SNR=4.1						
ZALV				LR	LR	03 41 55.3	
	comp=Z,40nm,18.7s,baz=250,slow=39						
SNAA	**Sanae**	**71.49**	**192**	P	**P**	**03 06 48.0**	**+0.5**
VNA1	**Neumayer--Stat**	**71.99**	**194**	P	**P**	**03 06 51.2**	**+0.7**
ARCES	**ARCESS Array B**	**74.11**	**356**	P	**P**	**03 07 02.1**	**-0.9**
	comp=Z,2.9nm,1.1s,baz=237,slow=8.5,SNR=4.2						
SONM	**Songino Array**	**80.20**	**40**	P	**P**	**03 07 39.1**	**+1.2**
	comp=Z,2.6nm,1.0s,baz=241,slow=4.5,SNR=12						
BDFB	**Brasília**	**83.15**	**255**	LR	LR	03 40 52.6	
	comp=Z,42nm,20.5s,baz=42,slow=33						
CPUP	**Villa Florida**	**91.13**	**244**	P	**P**	**03 08 32.3**	**-0.2**
	comp=Z,2.3nm,1.1s,baz=41,slow=19,SNR=2.8						
ASAR	**Alice Springs**	**95.41**	**114**	P	**P**	**03 08 51.1**	**-1.3**
	comp=Z,1.0nm,0.9s,baz=270,slow=4.6,SNR=5.9						
WRA	**Warramunga Arr**	**96.27**	**111**	P	**P**	**03 08 54.9**	**-1.4**
	comp=Z,0.8nm,0.9s,baz=263,slow=3.0,SNR=5.2						
PDAR	**Pinedale Array**	**131.10**	**327**	PKP	**PKPdf**	**03 14 40.4**	**+0.6**
	comp=Z,6.6nm,1.0s,baz=146,slow=2.9,SNR=3.7						
TXAR	**Lajitas Array**	**134.54**	**308**	PKP	**PKPdf**	**03 14 46.5**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=64,slow=2.9,SNR=6.7						
NVAR	**Mina Array Bea**	**138.86**	**329**	PKP	**PKPdf**	**03 14 53.6**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=5.7,slow=2.7,SNR=3.8						

CASC 29 02:55:58.6±1.5, 13°62N×90°68W, h35km±12km, MD3.5, ML3.4, 2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.59**	**22**	*e*P	Pn	02 56 10.1	-0.7
FUG	**Fuego 3**	**0.83**	**349**	*e*P	Pn	02 56 14.3	+0.2
NBG	**Las Nubes**	**1.01**	**19**	*e*P	Pb	02 56 18.2	+0.1
NBG				*e*S	Sb	02 56 33.4	+2.1
RTR	**El Retiro**	**1.04**	**75**	*e*P	Pn	02 56 17.1	+0.1
RTR				*e*S	Sb	02 56 31.3	-0.7
SBLS	**San Blas**	**1.05**	**78**	*e*P	Pn	02 56 17.1	-0.1
SBLS				*e*S	Sn	02 56 31.2	+0.4
SNJE	**San Jose**	**1.07**	**77**	*e*P	Pn	02 56 17.4	0.0
SNJE				*e*S	Sn	02 56 31.7	+0.4
RBDL	**Robledal**	**1.08**	**63**	*e*P	Pn	02 56 17.6	+0.1
RBDL				*e*S	Sn	02 56 32.0	+0.5
JAT	**Jato**	**1.16**	**307**⇓	*e*P	Pn	02 56 18.8	+0.4
BOQS	**Boqueron**	**1.36**	**85**	*e*P	Pn	02 56 21.6	+0.2
BOQS				*e*S	Sn	02 56 39.3	+0.7
SNET	**Serv Nac Est T**	**1.41**	**87**	AML	AML	02 56 41.9	
	comp=Z,535nm,0.3s						
LFU	**La Fuente**	**1.52**	**85**	*e*P	Pn	02 56 23.4	-0.1
LFRS	**El Faro**	**1.57**	**90**	*e*P	Pn	02 56 24.6	+0.4
LFRS				*e*S	Sn	02 56 44.6	+1.1
LBRS	**Las Brisas**	**1.59**	**86**	*e*P	Pn	02 56 24.0	-0.4
MRL	**Marmol**	**1.72**	**34**	*e*P	Pn	02 56 26.5	+0.1
MRL				⇓*e*P	Pb	02 56 27.5	-2.4

*ISCJB **29** 03:22:25.3±0.6, 52°50N±0°07×169°27W±0°09, h10km, mb3.5/5, MS3.2/1, Error ellipse: s-maj=12.7km s-min=4.6km az=145.4*
*IDC **29** 03:22:25.1±1.3, 52°46N×169°69W, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.5/49, mbtmp3.5/6, ML3.3/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/35, Error ellipse: s-maj=50.5km s-min=23.4km az=150.0*
*NEIC **29** 03:22:27.5, 52°61N×169°23W, h9km, ML3.3(AEIC), After AEIC.*
**ISC 29 03:22:27.5±0.9, 52°7N±0°1×

OKWR	**Okmok West Rim**	**1.00**	**42**	P	**Pg**	**03 22 47.5**	**+0.6**
OKCE	**Okmok Cone E**	**1.01**	**43**	P	**Pg**	**03 22 46.9**	**-0.2**
OKTU	**Okmok Mt. Tuli**	**1.04**	**48**	P	**Pg**	**03 22 47.6**	**+0.1**
OKAK	**Okmok**	**1.06**	**33**	P	**Pb**	**03 22 46.1**	**-1.9**
OKFG	**Magazine Ridge**	**1.11**	**50**	P	**Pb**	**03 22 48.2**	**-0.7**
OKFG				S	**Sg**	**03 23 04.3**	**+0.9**
MSOM	**Makushin Julie**	**1.82**	**51**	P	**Pn**	**03 22 58.1**	**-0.7**
MCIR	**Makushin Cirqu**	**1.93**	**48**	P	**Pn**	**03 23 00.2**	**-0.2**
MTBL	**Makushin Table**	**2.04**	**50**	P	**Pn**	**03 23 01.9**	**0.0**
UNV	**Unalaska Valle**	**2.05**	**55**	*e*Pn	**Pn**	**03 23 01.1**	**-0.9**
UNV				*e*S	**Sn**	**03 23 27.4**	**-0.2**
ZRO	**Akutan Zero**	**2.44**	**54**	P	**Pn**	**03 23 08.1**	**+0.6**
AKUT	**Akutan**	**2.57**	**54**	*e*Pn	**Pn**	**03 23 09.2**	**0.0**
AKUT				*e*S	**Sb**	**03 23 47.1**	**+1.8**
GSTR	**Great Sitkin T**	**4.17**	**264**	*e*Pn	**Pn**	**03 23 32.8**	**+1.6**
GSTR				*e*S	**Sn**	**03 24 19.2**	**-0.7**
AMKA	**Amchitka**	**7.14**	**264**	*e*Pn	**Pn**	**03 24 13.0**	**+1.1**
KDAK	**Kodiak Island**	**10.82**	**55**	Pn	**Pn**	**03 25 01.9**	**-0.4**
	0.2nm,0.3s,baz=286,slow=18,SNR=3.3						
ILAR	**Eielson Array**	**16.67**	**35**	Pn	**Pn**	**03 26 21.8**	**+0.9**
	0.1nm,0.3s,baz=228,slow=9.5,SNR=2.6						
H02N1	**VAN INLET T-PH**	**22.01**	**74**	T	T	03 50 12.3	
H02S1	**DAWSON INLET T**	**22.06**	**74**	T	T	03 50 14.9	
NVAR	**Mina Array Bea**	**37.65**	**91**	P	**P**	**03 29 45.3**	**+2.6**
	0.2nm,0.6s,baz=291,slow=7.6,SNR=2.2						
H11N2	**WAKE ISLAND Hy**	**37.73**	**218**	T	T	04 09 40.5	
	baz=24,slow=76,SNR=20						
H11N3	**WAKE ISLAND Hy**	**37.73**	**218**	T	T	04 09 40.1	
	baz=24,slow=76,SNR=25						
H11N1	**WAKE ISLAND Hy**	**37.74**	**218**	T	T	04 09 41.8	
	baz=24,slow=76,SNR=20						
H11S1	**WAKE ISLAND Hy**	**38.92**	**218**	T	T	04 11 09.3	
	baz=23,slow=76,SNR=572						
H11S2	**WAKE ISLAND Hy**	**38.93**	**218**	T	T	04 11 09.9	
	baz=23,slow=76,SNR=312						
H11S3	**WAKE ISLAND Hy**	**38.93**	**218**	T	T	04 11 09.0	
	baz=23,slow=76,SNR=311						
PDAR	**Pinedale Array**	**40.32**	**80**	P	**P**	**03 30 05.0**	**-0.1**
	0.6nm,0.8s,baz=311,slow=3.5,SNR=6.0						
LPIG	**La Paz**	**52.52**	**99**	LR	LR	03 50 40.2	
	comp=Z,23nm,18.4s,baz=238,slow=32						
TXAR	**Lajitas Array**	**52.72**	**89**	P	**P**	**03 31 42.1**	**-0.2**
	0.4nm,0.8s,baz=300,slow=5.3,SNR=8.7						
WRA	**Warramunga Arr**	**87.23**	**232**	P	**P**	**03 35 11.1**	**-2.8**
	0.4nm,0.8s,baz=32,slow=5.5,SNR=3.4						
ASAR	**Alice Springs**	**90.62**	**230**	P	**P**	**03 35 28.4**	**-1.6**
	0.6nm,0.7s,baz=33,slow=4.7,SNR=4.3						

DJA 29 03:23:31.5±0.3, 2°S±4°×13°6E±°, h16km±6km, M3.7/7, MLv3.7/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAKI	**Biak**	**0.54**	**41**	P	Pg	03 23 42.1	-0.2
BAKI				S	Sb	03 23 50.4	+0.2
SRPI	**Serui, Papua**	**0.56**	**119**	P	Pg	03 23 42.2	-0.4
SRPI				S	Sb	03 23 51.6	+0.9
RKPI	**Ransiki, Papua**	**1.57**	**273**	P	Pn	03 23 58.7	-0.1
SMPI	**Sarmi**	**2.98**	**98**	P	Pn	03 24 18.6	+0.4
FAKI	**Fak Fak**	**3.74**	**249**	P	Pn	03 24 27.6	-1.0
FAKI				S	Sn	03 25 08.6	-3.7

IDC 29 03:24:58.9±1.6, 2°85S×140°66E, h0km, mb3.4/2, mb1 3.9/3, mb1mx3.5/18, mbtmp3.7/3, ML3.9/1, Error ellipse: s-maj=77.5km s-min=7.9km az=104.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.34**	**8**	Pg	Pg	03 25 04.9	-0.5
	274nm,0.3s,baz=39,slow=8.1,SNR=878						
WRA	**Warramunga Arr**	**18.08**	**200**	P	P	03 29 12.7	+0.5
	0.5nm,0.3s,baz=23,slow=12,SNR=31						
WRA				S	Sn	03 32 33.5	-0.6
	0.0nm,0.3s,baz=5.0,slow=23,SNR=3.4						
ASAR	**Alice Springs**	**21.70**	**197**	P	P	03 29 52.9	+1.2
	1.5nm,0.6s,baz=29,slow=11,SNR=15						
H11S3	**WAKE ISLAND Hy**	**33.27**	**49**	T	T	04 06 06.8	
	baz=231,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**33.28**	**49**	T	T	04 06 07.2	
	baz=231,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**33.28**	**49**	T	T	04 06 08.8	
	baz=231,slow=75,SNR=12						
MKAR	**Makanchi Array**	**71.09**	**322**	P	P	03 36 21.0	+1.8
	0.2nm,0.4s,baz=126,slow=7.3,SNR=2.6						

IDC 29 03:35:45.0±5.9, 18°67S×176°89W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.6/18, mbtmp4.0/2, Error ellipse: s-maj=292.0km s-min=46.9km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.92**	**260**	P	P	03 44 10.2	+0.3
	0.7nm,0.5s,baz=96,slow=7.8,SNR=18						
ASAR	**Alice Springs**	**45.98**	**255**	P	P	03 44 09.9	-0.5
	2.2nm,0.6s,baz=97,slow=7.5,SNR=23						
BRTR	**Keskin Array B**	**146.34**	**315**	PKPbc	PKPdf	03 55 26.4	-0.6
	0.5nm,0.6s,baz=54,slow=2.9,SNR=3.0						
GERES	**GERESS Array B**	**148.70**	**346**	PKPbc	PKPbc	03 55 34.3	0.0
	0.1nm,0.4s,baz=18,slow=3.4,SNR=3.4						

KMA 29 03:36:02.1, 35°72N×128°00E, h18km, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSCPR	**CHUPUNGNYEONG**	**0.50**	**357**	P	Pg	03 36 12.0	-0.3
	SNR=7.4						
KSCPR	**CHUPUNGNYEONG**	**0.50**	**357**	P	Pg	03 36 12.0	-0.3
	SNR=7.4						
KSSAJ	**Sangju**	**0.70**	**10**	P	Pb	03 36 15.8	0.0
	SNR=7.4						
KSSAJ	**Sangju**	**0.70**	**10**	P	Pb	03 36 15.8	0.0
	SNR=7.4						
KSDAG	**Daegu**	**0.73**	**86**	P	Pb	03 36 13.6	-2.7
	SNR=11						
KSDAG	**Daegu**	**0.73**	**86**	P	Pb	03 36 13.6	-2.7
	SNR=11						
KSBON	**Boeun**	**0.80**	**348**	P	Pn	03 36 18.5	+0.1
	SNR=20						
KSBON	**Boeun**	**0.80**	**348**	P	Pn	03 36 18.5	+0.1
	SNR=20						
KSJEU	**Jeongeup**	**0.90**	**256**	P	Pb	03 36 18.8	-0.3
	SNR=8.4						
KSJEU	**Jeongeup**	**0.90**	**256**	P	Pb	03 36 18.8	-0.3
	SNR=8.4						
KSKWJ	**Gwangju**	**1.00**	**236**	P	Pb	03 36 20.4	-0.4
	SNR=7.4						
KSULJ	**Uljin**	**1.50**	**49**	P	Pn	03 36 28.5	+0.4
	SNR=10						

*NEIC **29** 03:38:18.4, 52°57N×169°24W, h4km, ML3.0(AEIC), After AEIC.*
*IDC **29** 03:38:22.4±26.0, 52°65N×168°41W, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.2/53, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=486.2km s-min=48.1km az=87.0*
ISC 29 03:38:18.8±2.2, 52°7N±0°2×169°41W±0°08, h5km±13km, n20, σ0°88/20, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.41**	**56**	P	**Pb**	**03 38 28.4**	**-0.1**
NIKH				S	**Sb**	**03 38 36.9**	**+1.8**
OKSO	**Okmok South**	**0.98**	**50**	P	**Pg**	**03 38 38.1**	**+0.6**
OKSO				S	**Sn**	**03 38 53.7**	**+0.3**
OKAK	**Okmok**	**1.05**	**37**	P	**Pg**	**03 38 37.8**	**-1.2**
OKRE	**Okmok R'deer P**	**1.08**	**44**	P	**Pb**	**03 38 41.0**	**+1.0**
OKFG	**Magazine Ridge**	**1.13**	**53**	P	**Pg**	**03 38 40.7**	**+0.3**
OKFG				S	**Sn**	**03 38 57.5**	**+0.4**
MSOM	**Makushin Julie**	**1.83**	**53**	P	**Pn**	**03 38 50.5**	**-0.4**
MTBL	**Makushin Table**	**2.05**	**52**	P	**Pn**	**03 38 53.0**	**-1.0**
UNV	**Unalaska Valle**	**2.07**	**57**	*e*Pn	**Pn**	**03 38 54.0**	**-0.1**
UNV				*e*S	**Sn**	**03 39 21.0**	**+0.8**
AKUT	**Akutan**	**2.59**	**56**	*e*Pn	**Pn**	**03 39 01.4**	**+0.1**
AKUT				*e*S	**Sn**	**03 39 32.3**	**-0.8**
ATKA	**Atka Island**	**2.97**	**261**	P	**Pn**	**03 39 05.5**	**-1.1**
GSTR	**Great Sitkin T**	**4.12**	**264**	*e*Pn	**Pn**	**03 39 23.2**	**+0.8**
GSTR				*e*S	**Sn**	**03 40 11.9**	**+1.0**
ILAR	**Eielson Array**	**16.66**	**35**	Pn	**Pn**	**03 42 11.9**	**-0.8**
	0.0nm,0.3s,baz=228,slow=11,SNR=4.2						

H11N2	**WAKE ISLAND Hy**	**37.73**	**218**	T	T	04 25 24.9	
	baz=23						
H11N3	**WAKE ISLAND Hy**	**37.74**	**218**	T	T	04 25 27.2	
	baz=23						
H11N1	**WAKE ISLAND Hy**	**37.75**	**218**	T	T	04 25 26.3	
	baz=23						
H11S1	**WAKE ISLAND Hy**	**38.92**	**218**	T	T	04 26 56.1	
	baz=18						
H11S2	**WAKE ISLAND Hy**	**38.93**	**218**	T	T	04 26 57.2	
	baz=18						
H11S3	**WAKE ISLAND Hy**	**38.94**	**218**	T	T	04 26 57.3	
	baz=18						
PDAR	**Pinedale Array**	**40.36**	**80**	P	**P**	**03 45 57.1**	**-0.4**
	0.4nm,0.6s,baz=321,slow=7.0,SNR=3.9						
TXAR	**Lajitas Array**	**52.77**	**89**	P	**P**	**03 47 34.4**	**-0.4**
	0.6nm,0.7s,baz=302,slow=5.7,SNR=8.1						

*ISCJB **29** 03:40:27.2±0.7, 52°54N±0°07×169°34W±0°08, h10km, mb3.9/4, Error ellipse: s-maj=11.8km s-min=4.8km az=149.2*
*NEIC **29** 03:40:29.2, 52°60N×169°27W, h14km, ML3.1(AEIC), After AEIC.*
*IDC **29** 03:40:33.8±17.0, 52°94N×168°04W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/29, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=327.4km s-min=42.2km az=88.0*
ISC 29 03:40:28.6±0.9, 52°7N±0°1×169°35W±0°06, h10km, n25, σ1§32/23, mb3.5/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.43**	**44**	P	**Pg**	**03 40 38.1**	**+1.0**
NIKH				S	**Sb**	**03 40 46.1**	**+1.1**
OKWR	**Okmok West Rim**	**1.04**	**41**	P	**Pg**	**03 40 49.3**	**+0.7**
OKCE	**Okmok Cone E**	**1.05**	**43**	P	**Pg**	**03 40 48.6**	**-0.1**
OKTU	**Okmok Mt. Tuli**	**1.07**	**47**	P	**Pb**	**03 40 49.2**	**-0.1**
OKAK	**Okmok**	**1.09**	**33**	P	**Pb**	**03 40 47.6**	**-2.1**
OKFG	**Magazine Ridge**	**1.15**	**49**	P	**Pb**	**03 40 49.8**	**-0.7**
OKFG				S	**Sb**	**03 41 05.9**	**+0.5**
MSOM	**Makushin Julie**	**1.85**	**50**	P	**Pn**	**03 40 59.8**	**-0.5**
MCIR	**Makushin Cirqu**	**1.96**	**48**	P	**Pn**	**03 41 02.9**	**+1.0**
UNV	**Unalaska Valle**	**2.08**	**54**	*e*Pn	**Pn**	**03 41 03.2**	**-0.3**
UNV				*e*S	**Sn**	**03 41 28.7**	**-0.8**
AKUT	**Akutan**	**2.60**	**54**	*e*Pn	**Pn**	**03 41 10.7**	**0.0**
AKUT				*e*S	**Sb**	**03 41 49.9**	**+2.6**
ATKA	**Atka Island**	**3.00**	**263**	P	**Pn**	**03 41 15.9**	**-0.3**
GSTR	**Great Sitkin T**	**4.15**	**265**	*e*Pn	**Pn**	**03 41 32.6**	**+0.6**
GSTR				*e*S	**Sn**	**03 42 20.8**	**+0.2**
SPIA	**Saint Paul Isl**	**4.55**	**354**	P	**Pn**	**03 41 39.2**	**+1.7**
ILAR	**Eielson Array**	**16.70**	**35**	Pn	**Pn**	**03 44 19.1**	**-3.3**
	0.0nm,0.3s,baz=227,slow=10,SNR=4.2						
H02S1	**DAWSON INLET T**	**22.08**	**74**	T	T	04 08 19.8	
	SNR=0.4						
NVAR	**Mina Array Bea**	**37.66**	**91**	P	**P**	**03 47 44.7**	**+0.8**
	0.5nm,0.8s,baz=303,slow=7.4,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**37.69**	**218**	T	T	04 27 37.6	
	baz=22						
H11N3	**WAKE ISLAND Hy**	**37.70**	**218**	T	T	04 27 38.1	
	baz=22						
H11N1	**WAKE ISLAND Hy**	**37.71**	**218**	T	T	04 27 38.8	
	baz=22						
H11S1	**WAKE ISLAND Hy**	**38.88**	**218**	T	T	04 29 07.1	
	baz=21						
H11S2	**WAKE ISLAND Hy**	**38.90**	**218**	T	T	04 29 08.1	
	baz=21						
H11S3	**WAKE ISLAND Hy**	**38.90**	**218**	T	T	04 29 07.1	
	baz=21						
PDAR	**Pinedale Array**	**40.34**	**79**	P	**P**	**03 48 05.4**	**-1.0**
	0.4nm,0.5s,baz=320,slow=5.1,SNR=4.0						
LPIG	**La Paz**	**52.53**	**99**	P	**P**	**03 49 43.5**	**+1.6**
	13nm,0.3s,baz=6.7,slow=8.9,SNR=2.6						
TXAR	**Lajitas Array**	**52.73**	**89**	P	**P**	**03 49 43.7**	**+0.2**
	0.6nm,0.6s,baz=300,slow=5.5,SNR=12						

*ISCJB **29** 03:46:51.0±1.1, 2°25N±0°07×127°15E±0°06, h64km, mb3.8/5, Error ellipse: s-maj=10.9km s-min=7.2km az=28.0*
*DJA **29** 03:46:52.4±0.5, 2°N±4°×12°7E±°, h10km, M4.2/10, mb4.3/4, mB4.9/2, MLv4.1/10, Mw(mB)4.2/2*
*IDC **29** 03:46:57.3±6.0, 1°63N×127°19E, h117km±61km, mb3.5/5, mb1 3.7/6, mb1mx3.4/22, mbtmp3.9/6, Error ellipse: s-maj=103.8km s-min=18.8km az=72.0*
ISC 29 03:46:52.1±1.5, 2°2N±0°1×127°19E±0°08, h64km, n13, σ2§31/17, mb3.8/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.41**	**173**	P	**Pn**	**03 47 15.6**	**-0.1**
TNTI				S	**Sn**	**03 47 36.5**	**+3.0**
LBMI	**Labuha**	**2.81**	**174**	P	**Pn**	**03 47 36.7**	**+1.9**
LBMI				S	**Sn**	**03 48 10.8**	**+3.2**
KMSI	**Cibinong**	**3.58**	**244**	P	**Pn**	**03 47 45.8**	**+0.6**
KMSI				S	**Sn**	**03 48 28.5**	**+2.2**
SANI	**Sanana**	**4.37**	**196**	P	**Pn**	**03 47 55.2**	**-0.8**
SANI				S	**Sn**	**03 48 45.8**	**+0.1**
SIJI	**Sorong**	**5.08**	**127**	P	**Pn**	**03 48 05.7**	**-0.1**
	3.5nm,0.3s,baz=311,slow=19,SNR=5.7						
NLAI	**Namlea**	**5.38**	**181**	P	**Pn**	**03 48 11.4**	**+1.5**
	21nm,1.1s,1μm0.2nm						
MRSI	**Marisa**	**5.51**	**252**	P	**Pn**	**03 48 10.9**	**-0.8**
	88nm,0.7s,0.3nm						
MRSI				S	**Sn**	**03 49 14.2**	**+0.5**
	88nm,0.7s,0.3nm						
APSI	**Ampana**	**6.33**	**241**	P	**Pn**	**03 48 23.1**	**+0.2**
WRA	**Warramunga Arr**	**23.08**	**163**	P	**P**	**03 51 48.3**	**-4.2**
	2.6nm,0.4s,baz=339,slow=11,SNR=67						
WRA				S	**S**	**03 55 56.8**	**-2.0**
	0.7nm,0.8s,baz=334,slow=19,SNR=3.4						
ASAR	**Alice Springs**	**26.51**	**166**	P	**P**	**03 52 19.9**	**-4.0**
	0.3nm,0.3s,baz=340,slow=7.2,SNR=7.9						
ASAR				PcP	PcP	03 55 41.5	-5.9
	0.4nm,0.7s,baz=336,slow=2.0,SNR=4.5						
STKA	**Stephens Creek**	**36.53**	**159**	P	P	03 53 47.9	-3.8
	4.7nm,0.6s,baz=340,slow=9.7,SNR=11						
SONM	**Songino Array**	**48.90**	**341**	P	P	03 55 36.7	+4.9
	0.4nm,0.7s,baz=147,slow=8.6,SNR=3.4						
MKAR	**Makanchi Array**	**59.08**	**326**	P	**P**	**03 56 48.0**	**+2.1**
	0.5nm,0.6s,baz=134,slow=6.9,SNR=4.1						

*ISCJB **29** 03:48:03.7±0.9, 10°52N±0°05×60°54W±0°06, h113km±7km, Error ellipse: s-maj=11.2km s-min=5.5km az=35.0*
*TRN **29** 03:48:03.8, 10°48N×60°21W, h60km, MD3.7*
*FUNV **29** 03:48:04.6, 10°51N×60°31W, h58km, MW3.7*
ISC 29 03:48:02.8±1.7, 10°46N±0°06×60°39W±0°08, h100km±10km, n22, σ1§66/35, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBH	**Brigand Hill**	**0.67**	**273**	*e*P	**Pn**	**03 48 20.1**	**+0.2**
TBH				*e*S	**Sn**	**03 48 31.6**	**-1.1**
TOSP	**Speyside**	**0.85**	**350**	*e*P	**Pn**	**03 48 20.9**	**-0.7**
TOSP				*e*S	**Sn**	**03 48 32.3**	**-3.5**
TRN	**Trinidad (W)**	**1.01**	**281**	*e*P	**Pn**	**03 48 24.5**	**+1.2**
TRN				*e*S	**Sn**	**03 48 39.6**	**+0.7**
TPP	**Pointe-a-Pierr**	**1.05**	**263**	*e*P	**Pn**	**03 48 24.8**	**+1.0**
TPP	**Pointe-a-Pierr**	**1.05**	**263**	*e*	Pn	03 48 34.3	+11
TPP				*e*S	**Sn**	**03 48 41.6**	**+2.0**
TCE	**Chacachacare**	**1.36**	**280**	*e*P	**Pn**	**03 48 29.4**	**+2.0**
TCE				*e*S	**Sn**	**03 48 47.6**	**+1.6**
GUIV	**Guiria**	**1.81**	**276**	*e*P	**Pn**	**03 48 33.7**	**+0.7**
GUIV				*e*S	**Sn**	**03 48 55.0**	**-0.9**
GRGR	**Grenville**	**2.08**	**323**	*e*P	**Pn**	**03 48 38.2**	**+1.8**
GUNV	**Guanoco**	**2.53**	**264**	*e*P	**Pn**	**03 48 44.3**	**+2.0**
CRUV	**Carupano**	**2.81**	**275**	*e*P	**Pn**	**03 48 46.0**	**0.0**
CRUV				*e*S	**Sn**	**03 49 17.6**	**-1.6**
SVB	**Belmont**	**2.92**	**343**	*e*P	**Pn**	**03 48 48.7**	**+1.1**
SVB				*e*S	**Sn**	**03 49 22.2**	**+0.2**
ORIV	**Oritupano**	**3.28**	**245**	*e*P	**Pn**	**03 48 54.3**	**+2.0**
ORIV				*e*S	**Sn**	**03 49 30.0**	**-0.6**
MCLT	**Moule a Chique**	**3.28**	**351**	*e*P	**Pn**	**03 48 52.9**	**+0.5**
MCLT				*e*S	**Sn**	**03 49 29.4**	**-1.1**
MVM	**Montagne Vaucl**	**4.10**	**353**	*e*P	**Pn**	**03 49 04.4**	**+1.0**
LPMF	**Morne Lapointe**	**4.13**	**352**	*e*P	**Pn**	**03 49 05.3**	**+1.5**
PCRV	**Puerto La Cruz**	**4.19**	**267**	*e*P	**Pn**	**03 49 05.3**	**+0.7**
PCRV				*e*S	**Sn**	**03 49 50.8**	**-1.7**
FDF	**Fort de France**	**4.32**	**350**	*e*S	**Sn**	**03 49 56.7**	**+1.0**
LUEV	**Luepa**	**4.70**	**193**	*e*P	**Pn**	**03 49 12.6**	**+0.9**
CUPV	**Cepira**	**5.33**	**266**	*e*P	**Pn**	**03 49 21.3**	**+1.2**
CUPV				*e*S	**Sn**	**03 50 18.2**	**-2.0**
BIRV	**Birongo**	**5.78**	**271**	*e*P	**Pn**	**03 49 27.3**	**+1.1**
BIRV				*e*S	**Sn**	**03 50 27.9**	**-3.3**
MERV	**Las Mercedes**	**5.94**	**259**	*e*P	**Pn**	**03 49 29.1**	**+0.7**
MERV				*e*S	**Sn**	**03 50 31.6**	**-3.5**
BAUV	**El Baul**	**7.69**	**259**	*e*P	**Pn**	**03 49 52.1**	**0.0**

*IDC **29** 03:52:45.0±0.5, 52°85N×169°92W, h0km, mb4.3/22, mb1 4.5/24, mb1mx4.3/38, mbtmp4.3/24, ML3.8/2, MS3.8/20, Ms1 3.8/20, ms1mx3.6/40, Error ellipse: s-maj=20.6km s-min=10.2km az=178.0*
*ISCJB **29** 03:52:45.9±0.7, 52°89N±0°04×169°87W±0°03, h21km±4km, mb4.6/82, MS3.8/19, Error ellipse: s-maj=6.6km s-min=3.2km az=173.3*
*MOS **29** 03:52:45.1±1.1, 52°94N×169°77W, h13km, mb4.8/29, Error ellipse: s-maj=12.3km s-min=9.1km az=141.5*
*BJI **29** 03:52:46.6, 53°43N×170°43W, h9km, mb4.7/15, mB5.0/8, Ms4.7/7, Ms7 4.4/4*
*NEIC **29** 03:52:46.2±0.2, 52°84N×169°82W, h10km, mb4.6/72, ML4.3(AEIC), Error ellipse: s-maj=6.0km s-min=3.4km az=164.0*
ISC 29 03:52:46.3±0.5, 53°00N±0°08×169°86W±0°03, h11km±2km, n478, σ1§11/491, mb4.6/83, MS3.8/19, 1D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.61**	**93**	P	**Pg**	**03 52 56.6**	**-1.5**
NIKH				S	**Sg**	**03 53 04.4**	**-1.7**
OKSO	**Okmok South**	**1.08**	**70**	P	**Pb**	**03 53 06.4**	**-0.6**
OKSO				S	**Sb**	**03 53 22.1**	**+0.9**
OKCE	**Okmok Cone E**	**1.10**	**67**	P	**Pb**	**03 53 06.6**	**-0.8**
OKFG	**Magazine Ridge**	**1.24**	**70**	P	**Pb**	**03 53 07.3**	**-2.1**
OKFG				S	**Sb**	**03 53 25.4**	**-0.2**
MGOD	**Makushin Gods**	**1.96**	**65**	P	**Pn**	**03 53 18.6**	**-0.8**
MCIR	**Makushin Cirqu**	**2.01**	**61**	P	**Pn**	**03 53 20.1**	**-0.1**
MSW	**Makushin Switc**	**2.05**	**62**	P	**Pn**	**03 53 20.5**	**-0.1**
MSW				S	**Sb**	**03 53 48.9**	**-0.1**
MTBL	**Makushin Table**	**2.13**	**62**	P	**Pn**	**03 53 21.8**	**0.0**
UNV	**Unalaska Valle**	**2.18**	**66**	*e*Pn	**Pn**	**03 53 21.9**	**-0.5**
UNV				*e*S	**Sb**	**03 53 52.6**	**0.0**
AKRB	**Akutan Reef Bi**	**2.53**	**62**	P	**Pn**	**03 53 27.9**	**+0.7**
ZRO	**Akutan Zero**	**2.56**	**63**	P	**Pn**	**03 53 27.8**	**+0.2**
AKGG	**Akutan Green G**	**2.60**	**61**	P	**Pn**	**03 53 29.1**	**+0.9**
AKUT	**Akutan**	**2.69**	**63**	*e*Pn	**Pn**	**03 53 30.2**	**+0.9**
AKUT				*e*S	**Sb**	**03 54 07.5**	**+0.3**
ATKA	**Atka Island**	**2.76**	**255**	P	**Pn**	**03 53 29.6**	**-0.8**
ATKA				S	**Sn**	**03 54 05.4**	**+1.7**
GSTR	**Great Sitkin T**	**3.89**	**259**	*e*Pn	**Pn**	**03 53 45.8**	**-0.1**
GSTR				*e*S	**Sn**	**03 54 35.7**	**+4.0**
GSMY	**Great Sitkin M**	**3.91**	**258**	P	**Pn**	**03 53 45.5**	**-0.7**
GSTD	**Great Sitkin T**	**3.95**	**259**	P	**Pn**	**03 53 46.2**	**-0.7**
GSCK	**Great Sitkin C**	**3.98**	**258**	P	**Pn**	**03 53 46.8**	**-0.3**
SPIA	**Saint Paul Isl**	**4.19**	**357**	P	**Pn**	**03 53 52.1**	**+2.1**
FALS	**False Pass**	**4.24**	**61**	*e*Pn	**Pn**	**03 53 51.3**	**+0.7**
FALS				*e*S	**Sb**	**03 54 46.7**	**-5.1**
ADAG	**Mount Adagdak**	**4.25**	**259**	P	**Pn**	**03 53 51.4**	**+0.6**
SDPT	**Sand Point**	**5.99**	**63**	*e*Pn	**Pn**	**03 54 15.2**	**+0.5**
SDPT				*e*S	**Sb**	**03 55 46.1**	**+4.0**
AMKA	**Amchitka**	**6.86**	**261**	*e*Pn	**Pn**	**03 54 26.7**	**+0.1**
AMKA				*e*S	Sn	03 55 51.6	+6.9
CHGN	**Chignik**	**7.41**	**59**	*e*Pn	**Pn**	**03 54 35.5**	**+1.3**
CHGN				*e*S	Sn	03 55 50.2	-8.0
OHAK	**Old Harbor**	**10.38**	**59**	*e*Pn	**Pn**	**03 55 14.9**	**0.0**
OHAK				*e*S	**Sn**	**03 57 07.3**	**-3.7**
KDAK	**Kodiak Island**	**10.92**	**57**	Pn	**Pn**	**03 55 21.9**	**-0.3**
	0.4nm,0.3s,baz=226,slow=7.1,SNR=5.7						
KDAK				Sn	**Sn**	**03 57 21.4**	**-2.8**
	0.3nm,0.3s,baz=287,slow=19,SNR=5.1						
KDAK	**Kodiak Island**	**10.92**	**57**	*e*P	**Pn**	**03 55 22.8**	**+0.6**
KDAK				*e*S	**Sn**	**03 57 27.0**	**+2.8**
KDAK	**Kodiak Island**	**10.92**	**57**	*e*Pn	**Pn**	**03 55 22.8**	**+0.6**
KDAK				*e*S	**Sn**	**03 57 27.0**	**+2.8**
SVW2	**Sparrevohn**	**11.21**	**38**	*e*Pn	Pn	03 55 29.4	+3.1
RSO	**Redoubt South**	**11.97**	**45**	*e*Pn	**Pn**	**03 55 39.4**	**+2.6**
	65nm,0.9s						
BRLK	**Bradley Lake**	**12.47**	**50**	*e*Pn	Pn	03 55 47.4	+3.9
TNA	**Tin City**	**12.63**	**4**	*e*Pn	**Pn**	**03 55 45.6**	**0.0**
SEW	**Seward**	**13.27**	**50**	*e*Pn	**Pn**	**03 55 55.4**	**+1.0**
RC01	**Rabbit Creek A**	**13.57**	**45**	*e*Pn	**Pn**	**03 56 00.6**	**+2.1**
	6.6nm,0.6s						
PPLA	**Purkeypile**	**13.60**	**36**	*e*Pn	Pn	03

baz=32
L02D **Cave Junction,** 32.49 91 P P 03 59 18.3 +1.7
baz=32
I05D **Terrebonne, OR** 32.63 86 P P 03 59 19.8 +1.9
baz=32
NEW **Newport** 33.15 77 P P 03 59 23.9 +1.5
comp=Z,7.5nm,0.8s,baz=302,slow=7.2,SNR=13
NEW **Newport** 33.15 77 *eP* P 03 59 23.0 +0.7
NEW pmax pmax
comp=Z,7.0nm,0.8s
NEW **Newport** 33.15 77 P P 03 59 22.7 +0.4
baz=33,SNR=9.5
NEW **Newport** 33.15 77 *eP* P 03 59 23.0 +0.7
comp=Z,7.3nm,0.8s
J05D **Fort Rock, OR** 33.28 87 P P 03 59 25.6 +2.0
baz=33,SNR=5.1
YBH **Yreka Blue Hor** 33.28 91 P P 03 59 24.7 +1.1
comp=Z,5.3nm,1.0s,baz=68,slow=1.4,SNR=9.1
YBH LR LR 04 11 35.7
comp=Z,136nm,18.0s,baz=301,slow=34
YBH **Yreka Blue Hor** 33.28 91 P P 03 59 24.7 +1.1
YBH pmax pmax
comp=Z,5.0nm,1.0s
YBH MLR MLR
comp=Z,136nm,18.0s
M02C **Callahan** 33.40 91 P P 03 59 26.8 +2.2
baz=33
G08A **Pilot Rock** 33.55 82 *eP* P 03 59 27.9 +1.9
comp=Z,12nm,1.5s
N02D **Trinity Center** 33.74 92 P P 03 59 29.1 +1.6
baz=34
M04C **Macdoel** 33.78 90 P P 03 59 29.8 +1.8
baz=34,SNR=5.8
K05A **Summer Lake** 33.80 88 *eP* P 03 59 31.0 +2.7
comp=Z,18nm,0.9s
MOD **Modoc** 34.64 88 *eP* P 03 59 35.9 +0.4
comp=Z,10nm,0.8s
WALA **Waterton Lakes** 34.65 73 *eP* P 03 59 35.7 +0.3
comp=Z,14nm,1.3s
BSMT **Bassoo Peak** 34.72 76 *eP* P 03 59 37.2 +1.1
comp=Z,5.3nm,0.8s
BLMT **Blacktail Moun** 34.89 75 *eP* P 03 59 35.5 -2.2
JTMT **Jette** 35.07 76 *eP* P 03 59 39.2 +0.1
YBMT **Yellow Bay** 35.17 75 *eP* P 03 59 40.2 +0.3
comp=Z,5.7nm,1.0s
WVOR **Wild Horse Val** 35.33 86 *eP* P 03 59 41.9 +0.5
WVOR pmax pmax
comp=Z,15nm,1.0s
WVOR **Wild Horse Val** 35.33 86 *eP* P 03 59 41.9 +0.5
comp=Z,15nm,1.0s
MSO **Missoula** 35.73 77 P P 03 59 45.1 +0.3
baz=36,SNR=8.2
MSO **Missoula** 35.73 77 *eP* P 03 59 46.2 +1.4
comp=Z,11nm,1.1s
RES **Resolute Bay** 35.93 26 LR LR 04 16 19.4
comp=Z,145nm,18.9s,baz=258,slow=39
MFID **Camas Ranch** 36.46 83 *eP* P 03 59 52.0 +0.9
comp=Z,7.7nm,1.1s
CMB **Columbia Colle** 36.97 94 *eP* P 03 59 57.2 +1.8
CMB pmax pmax
comp=Z,10.0nm,1.5s
CMB **Columbia Colle** 36.97 94 *eP* P 03 59 57.2 +1.8
comp=Z,10nm,1.5s
HRY **Holter Researc** 37.03 76 *eP* P 03 59 55.9 0.0
WAKR **Walker** 37.24 92 *eP* P 03 59 59.3 +1.4
DLMT **Dillon** 37.30 78 *eP* P 03 59 56.0 -2.3
comp=Z,25nm,2.1s
BMN **Battle Mountai** 37.38 88 *eP* P 03 59 59.5 +0.5
BMN pmax pmax
comp=Z,8.0nm,0.9s
BMN **Battle Mountai** 37.38 88 *eP* P 03 59 59.5 +0.5
comp=Z,8.5nm,0.9s
MCMT **McKenzie Canyo** 37.45 79 *eP* P 04 00 00.4 +0.8
EGMT **Eagleton** 37.56 73 P P 04 00 00.3 0.0
baz=37,SNR=5.3
EGMT **Eagleton** 37.56 73 *eP* P 04 00 01.1 +0.8
comp=Z,19nm,1.1s
BOZ **Bozeman (W)** 37.72 77 *eP* P 03 59 58.9 -2.9
BOZ pmax pmax
comp=Z,5.0nm,0.8s
BOZ **Bozeman (W)** 37.72 77 P P 04 00 02.5 +0.7
baz=38,SNR=12
BOZ **Bozeman (W)** 37.72 77 *eP* P 03 59 58.9 -2.9
comp=Z,5.3nm,0.8s
H11N2 **WAKE ISLAND Hy** 37.77 217 T T 04 41 27.3
baz=24
H11N3 **WAKE ISLAND Hy** 37.78 217 T T 04 40 23.0
baz=24,slow=74
H11N1 **WAKE ISLAND Hy** 37.79 217 T T 04 41 27.8
baz=24,slow=74
NVAR **Mina Array Bea** 37.98 91 P P 04 00 05.5 +1.4
comp=Z,6.3nm,0.8s,baz=294,slow=8.7,SNR=49
NVAR PcP PcP 04 02 20.4 +0.7
comp=Z,0.9nm,0.8s,baz=316,slow=3.8,SNR=4.3
ELK **Elko** 38.38 86 P P 04 00 08.7 +1.2
comp=Z,5.8nm,0.8s,baz=306,slow=8.4,SNR=33
ELK LR LR 04 14 52.2
comp=Z,72nm,18.8s,baz=301,slow=34
ELK **Elko** 38.38 86 P P 04 00 08.7 +1.2
ELK pmax pmax
comp=Z,6.0nm,0.8s
ELK MLR MLR
comp=Z,72nm,18.8s
USRK **Ussuriysk Ar.** 38.47 281 LR LR 04 15 43.3
comp=Z,116nm,21.0s,baz=46,slow=36
TPH **Tonopah** 38.85 91 *eP* P 04 00 11.8 +0.3
TPH pmax pmax
comp=Z,16nm,1.2s
TPH **Tonopah** 38.85 91 *eP* P 04 00 11.8 +0.3
comp=Z,16nm,1.2s
H11S1 **WAKE ISLAND Hy** 38.97 217 T T 04 41 38.5
baz=22,slow=74
H11S2 **WAKE ISLAND Hy** 38.98 217 T T 04 41 39.2
baz=22,slow=74
H11S3 **WAKE ISLAND Hy** 38.98 217 T T 04 41 19.8
baz=22
FXWY **Fox Creek** 39.20 79 *eP* P 04 00 15.2 +0.9
comp=Z,14nm,2.1s
VES **Vestal, Richgr** 39.20 95 P P 04 00 15.0 +0.9
baz=39
HVU **Hansel Valley** 39.24 83 *eP* P 04 00 13.1 -1.5
HVU **Hansel Valley** 39.24 83 *eP* P 04 00 13.1 -1.5
comp=Z,56µm,0.8s
PKM **Peak Mountain** 39.40 97 P P 04 00 16.9 +0.9
baz=39
RLMT **Red Lodge** 39.40 76 P P 04 00 16.6 +0.6
baz=39,SNR=10
RLMT **Red Lodge** 39.40 76 *eP* P 04 00 16.2 +0.3
comp=Z,14nm,1.1s
CWC **Cottonwood Cre** 39.40 94 P P 04 00 17.0 +1.0
baz=39
MJAR **Matsushiro Arr** 39.43 267 LR LR 04 14 42.6
comp=Z,125nm,21.2s,baz=70,slow=34
GRAC **Grapevine Rang** 39.46 92 P P 04 00 17.4 +1.0
baz=39
BGU **Big Grassy Mou** 39.60 84 *eP* P 04 00 17.6 0.0
comp=Z,16nm,1.5s
MDJ **Mudanjiang** 39.66 283 P P 04 00 15.3 -2.5
MDJ sP **sP** 04 00 20.8 -1.9
MDJ S S 04 06 18.0 -2.7
MDJ PMZ
comp=Z,9.0nm,2.3s
MDJ PMZ
comp=Z,77nm,3.5s
R11A **Troy Canyon, C** 39.67 89 P P 04 00 18.8 +0.5
baz=40,SNR=28
R11A **Troy Canyon, C** 39.67 89 *eP* P 04 00 18.6 +0.3
comp=Z,12nm,0.9s
F20A **Billings** 39.67 75 P P 04 00 17.9 -0.2
baz=40
ISA **Isabella** 39.69 95 P P 04 00 18.2 -0.1
baz=40
H19A **Powell** 39.82 77 P P 04 00 20.0 +0.7
baz=40,SNR=7.5
ARVC **Arvin** 39.83 96 P P 04 00 19.8 +0.4
baz=40
E21A **Keefer Ranch,** 39.89 73 P P 04 00 20.7 +0.9
baz=40
G20A **Bridger** 39.96 76 P P 04 00 20.8 +0.2
baz=40,SNR=11
MPMC **Manual Prospec** 40.01 94 P P 04 00 21.7 +0.6
baz=40
FURC **Furnace Creek,** 40.12 93 P P 04 00 22.5 +0.7
baz=40,SNR=7.1
I19A **Meeteetse** 40.17 78 P P 04 00 22.9 +0.5
baz=40
TPNV **Topopah Spring** 40.17 92 P P 04 00 23.3 +0.9
baz=40,SNR=18
DUG **Dugway** 40.18 85 *eP* P 04 00 20.8 -1.7
DUG pmax pmax
comp=Z,13nm,1.1s
DUG **Dugway** 40.18 85 P P 04 00 22.7 +0.3
baz=40,SNR=13
DUG **Dugway** 40.18 85 *eP* P 04 00 20.8 -1.7
comp=Z,13nm,1.1s
LAO **LASA Array** 40.30 72 P P 04 00 24.3 +1.0
baz=40
LAO **LASA Array** 40.30 72 *eP* P 04 00 24.2 +1.0
comp=Z,3.5nm,0.6s
BLG **Laguna Peak** 40.39 97 P P 04 00 24.7 +0.7
baz=40
H20A **Greybull** 40.50 76 P P 04 00 25.3 +0.3
baz=40
EDW2 **Edwards Air Fo** 40.51 95 P P 04 00 25.0 -0.1
baz=40
G21A **Lodge Grass** 40.55 75 P P 04 00 25.7 +0.4
baz=40
BW06 **Boulder Array** 40.58 80 *eP* P 04 00 25.5 -0.3
comp=Z,6.4nm,1.1s
PDAR **Pinedale Array** 40.58 80 P P 04 00 26.7 +0.9
comp=Z,2.5nm,0.6s,baz=321,slow=6.1,SNR=23
J19A **Crowheart** 40.59 79 P P 04 00 26.1 +0.3
baz=40
E22A **Miles City** 40.60 73 P P 04 00 26.2 +0.5
baz=40
I20A **Worland** 40.73 77 P P 04 00 27.2 +0.3
baz=41
NLU **North Lily Min** 40.78 85 *eP* P 04 00 26.8 -0.6
comp=Z,5.7nm,0.9s
F22A **Rosebud** 40.79 74 P P 04 00 27.9 +0.6
baz=41
SHOC **Shoshone** 40.85 93 P P 04 00 28.4 +0.5
baz=41
GSC **Goldstone** 40.93 94 *eP* P 04 00 29.1 +0.4
GSC pmax pmax
comp=Z,17nm,1.0s
GSC **Goldstone** 40.93 94 P P 04 00 29.3 +0.7
baz=41,SNR=13
GSC **Goldstone** 40.93 94 *eP* P 04 00 29.1 +0.4
comp=Z,17nm,1.0s
E23A **Ismay** 40.94 72 P P 04 00 29.6 +1.1
baz=41
H21A **Big Horn, Sher** 40.98 76 P P 04 00 29.6 +0.6
baz=41
G22A **Birney** 41.08 74 P P 04 00 30.5 +0.8
baz=41
J20A **Shoshoni** 41.11 78 P P 04 00 30.9 +0.9
baz=41
SHPR **Sheep Range** 41.12 91 *eP* P 04 00 30.1 -0.1
D24A **Glendive** 41.16 71 P P 04 00 31.6 +1.3
baz=41
I21A **Big Trails, Te** 41.30 77 P P 04 00 32.0 +0.3
baz=41
F23A **Volborg** 41.31 73 P P 04 00 32.2 +0.6
baz=41
TUQ **Turquoise Moun** 41.38 93 P P 04 00 32.7 +0.4
baz=41
A26A **Wade Farm, Ken** 41.48 67 P P 04 00 33.4 +0.5
baz=41
J21A **Lysite** 41.49 77 P P 04 00 33.9 +0.7
baz=41
CCUT **Cedar City** 41.53 89 *eP* P 04 00 34.1 +0.4
comp=Z,4.4nm,0.8s
HEC **Hector,Ludlow** 41.54 94 P P 04 00 34.3 +0.6
baz=41,SNR=5.4
BBRC **Big Bear Solar** 41.57 95 P P 04 00 34.5 +0.5
baz=41
G23A **Biddle** 41.62 74 P P 04 00 34.5 +0.4
baz=42
MSU **Marysvale** 41.62 86 *eP* P 04 00 33.6 -0.8
MSU pmax pmax
comp=Z,8.0nm,1.1s
MSU **Marysvale** 41.62 86 *eP* P 04 00 33.6 -0.8
comp=Z,7.5nm,1.1s
TMUT **Trail Mountain** 41.71 85 *eP* P 04 00 35.5 +0.3
comp=Z,7.1nm,0.8s
I22A **9 Mile Ranch,** 41.73 76 P P 04 00 36.0 +0.8
baz=42
F24A **Ekalaka** 41.80 72 P P 04 00 36.4 +0.8
baz=42
P17A **Butcher Ranch,** 41.88 84 *eP* P 04 00 37.0 +0.5
GMRC **Granite Mounta** 41.98 93 P P 04 00 37.7 +0.5
baz=42,SNR=12
J22A **Midwest** 42.02 77 P P 04 00 37.3 -0.2
baz=42,SNR=16
LDFC **Landfair** 42.11 93 *eP* P 04 00 38.4 +0.1
comp=Z,21nm,0.9s
SRU **San Rafael** 42.24 85 *eP* P 04 00 39.7 +0.3
SRU pmax pmax
comp=Z,30nm,1.7s
SRU **San Rafael** 42.24 85 *eP* P 04 00 39.7 +0.3
comp=Z,30nm,1.7s
PFO **Pinyon Flat Ob** 42.30 95 P P 04 00 40.5 +0.6
comp=Z,4.8nm,0.9s,baz=347,slow=6.4,SNR=5.4
PFO **Pinyon Flat Ob** 42.30 95 *eP* P 04 00 39.6 -0.3
PFO pmax pmax
comp=Z,7.0nm,1.0s
PFO **Pinyon Flat Ob** 42.30 95 P P 04 00 40.1 +0.2
baz=42
PFO **Pinyon Flat Ob** 42.30 95 *eP* P 04 00 39.6 -0.3
comp=Z,6.6nm,1.0s
BELC **Belle Mtn. Jos** 42.31 95 P P 04 00 39.9 0.0
baz=42,SNR=5.1
H24A **Dirks Ranch, A** 42.36 74 P P 04 00 41.0 +0.8
baz=42
109C **Camp Elliot, M** 42.41 97 P P 04 00 41.0 +0.4
baz=42
K22A **Casper** 42.45 78 P P 04 00 41.4 +0.3
baz=42
K22A **Casper** 42.45 78 *eP* P 04 00 41.9 +0.9
comp=Z,12nm,1.3s
CN2 **Changchun** 42.56 285 *eP* P 04 00 43.3 +1.6
B28A **Dugan Ranch, T** 42.66 67 P P 04 00 43.4 +0.9
baz=42
IRM **Iron Mountain** 42.71 94 P P 04 00 43.5 +0.4
baz=43,SNR=5.2
G25A **Newell** 42.76 73 P P 04 00 43.6 +0.2
baz=43
MONP **Monument Peak** 42.82 96 P P 04 00 44.6 +0.3
baz=43
BC3 **Big Chuckawall** 42.87 95 P P 04 00 44.5 0.0
baz=43
O20A **White River Ci** 42.96 82 P P 04 00 45.3 0.0
baz=43,SNR=9.1
O20A **White River Ci** 42.96 82 *eP* P 04 00 45.6 +0.3
comp=Z,13nm,0.9s
H25A **Fruitdale** 42.99 73 P P 04 00 45.6 +0.3
baz=43
A29A **Manning Farm,** 43.02 66 P P 04 00 45.6 +0.2
baz=43
RSSD **Black Hills** 43.03 74 *eP* P 04 00 44.4 -1.4
RSSD pmax pmax
comp=Z,4.0nm,1.0s
RSSD **Black Hills** 43.03 74 *eP* P 04 00 44.4 -1.4
comp=Z,4.3nm,1.0s
J24A **Dixon Ranch, L** 43.13 76 P P 04 00 46.6 +0.1
baz=43
SWSC **Sam W. Stewart** 43.16 96 P P 04 00 46.5 -0.2
baz=43
F27A **Lemmon** 43.17 71 P P 04 00 47.2 +0.5
baz=43
PDMCI **Parker Dam,Lak** 43.22 93 P P 04 00 47.3 +0.2
baz=43,SNR=10
Y12C **Blythe** 43.37 94 P P 04 00 48.9 +0.5
baz=43,SNR=9.5
MDND **Maddock** 43.41 67 P P 04 00 48.9 +0.2
baz=43
G27A **Dupree** 43.51 72 P P 04 00 49.4 0.0
baz=43
E28A **Huff** 43.52 69 P P 04 00 49.6 0.0
baz=43
GLA **Glamis** 43.67 95 *eP* P 04 00 51.4 +0.6
GLA pmax pmax
comp=Z,35nm,1.7s
GLA **Glamis** 43.67 95 P P 04 00 50.5 -0.4
baz=44
GLA **Glamis** 43.67 95 *eP* P 04 00 51.4 +0.6
comp=Z,35nm,1.7s
PV04 **Paradox Valley** 43.67 84 *eP* P 04 00 51.6 +0.6
B30A **Myrvik Farm, E** 43.78 66 P P 04 00 52.1 +0.5
baz=44
N23A **Red Feather La** 43.86 79 P P 04 00 52.8 +0.2
baz=44,SNR=5.9
PV01 **Paradox Valley** 44.04 84 *eP* P 04 00 53.7 -0.3
comp=Z,718nm,0.7s
WUAZ **Wupatki** 44.07 89 P P 04 00 55.0 +0.8
baz=44,SNR=13
WUAZ **Wupatki** 44.07 89 *eP* P 04 00 54.9 +0.6
comp=Z,18nm,0.9s
ULM **Lac du Bonnet** 44.12 62 LR LR 04 21 47.1
comp=Z,125nm,18.1s,baz=332,slow=39
I27A **Quinn** 44.21 73 P P 04 00 55.6 +0.4
baz=44
L25A **Engebretsen Ra** 44.25 77 P P 04 00 55.7 +0.1
baz=44
D30A **Buchanan** 44.31 68 P P 04 00 56.3 +0.5
baz=44
SMCO **Snowmass** 44.33 82 *eP* P 04 00 56.6 +0.1
comp=Z,3.3nm,0.9s
M25A **Palm-Egli Farm** 44.64 77 P P 04 00 59.7 +0.9
baz=44
MVCO **Mesa Verde** 44.68 85 P P 04 00 59.1 -0.1
baz=44
MVCO **Mesa Verde** 44.68 85 *eP* P 04 00 59.1 -0.1
comp=Z,36nm,1.9s
ISCO **Idaho Springs** 44.74 80 *eP* P 04 01 00.7 +0.9
ISCO pmax pmax
comp=Z,6.0nm,1.4s
ISCO **Idaho Springs** 44.74 80 P P 04 00 60.0 +0.2
baz=45
ISCO **Idaho Springs** 44.74 80 *eP* P 04 01 00.7 +0.9
comp=Z,6.2nm,1.4s
I28A **Midland** 44.76 73 P P 04 01 00.3 +0.8
baz=45
K27A **Flueckinger Fa** 44.93 75 P P 04 01 01.4 +0.4
baz=45
H29A **Onida** 44.94 71 P P 04 01 01.2 +0.4
baz=45
KSRS **Korea Array** 45.04 276 P P 04 01 03.2 +1.5
comp=Z,0.8nm,0.4s,baz=61,slow=9.1,SNR=5.1
KSRS PcP PcP 04 02 43.0 +0.6
comp=Z,1.5nm,0.6s,baz=66,slow=4.1,SNR=3.5
KSRS LR LR 04 18 23.2
comp=Z,78nm,20.3s,baz=56,slow=34
KSRS **Korea Array** 45.04 276 P P 04 01 03.2 +1.5
KSRS 04 02 43.0
KSRS pmax pmax
comp=Z,1.0nm,0.4s
KSRS pmax pmax
comp=Z,2.0nm,0.6s
KSAR **Wonju Array Be** 45.07 276 P P 04 01 03.2 +1.2
KSAR 04 02 43.0
KSAR **Wonju Array Be** 45.07 276 P P 04 01 03.2 +1.2
KSAR PcP PcP 04 02 43.0 +0.4
J28A **Allard Ranch,** 45.07 73 P P 04 01 02.3 +0.3
baz=45
AGMN **Agassiz Nation** 45.23 65 P P 04 01 03.4 +0.3
baz=45
AGMN **Agassiz Nation** 45.23 65 *eP* P 04 01 02.6 -0.5
comp=Z,8.5nm,1.0s
G30A **Faulkton** 45.25 70 P P 04 01 03.6 +0.3
baz=45
I29A **Vivian Onida** 45.25 72 P P 04 01 03.3 0.0
baz=45
L27A **T5 Ranch, Ells** 45.26 76 P P 04 01 03.7 0.0
baz=45
W18A **Petrified Fore** 45.33 88 P P 04 01 04.0 -0.3
baz=45
S22A **4UR Ranch, Cre** 45.34 83 P P 04 01 04.9 +0.4
baz=45,SNR=7.3
K28A **Ten Mile Ranch** 45.43 74 P P 04 01 05.0 +0.1
baz=45
J29A **Okreek** 45.61 73 P P 04 01 06.8 +0.6
baz=46
214A **Organ Pipe Nat** 45.65 94 P P 04 01 07.3 +0.6
baz=46,SNR=14
214A **Organ Pipe Nat** 45.65 94 *eP* P 04 01 06.8 +0.2
comp=Z,23nm,1.1s
N27A **Anderson Farm,** 45.93 77 P P 04 01 09.4 +0.5
baz=46
K29A **Lazy Trails An** 46.01 74 P P 04 01 10.1 +0.6
baz=46
SDCO **Great Sand Dun** 46.13 82 P P 04 01 10.8 +0.1
baz=46,SNR=12
SDCO **Great Sand Dun** 46.13 82 *eP* P 04 01 10.9 +0.1
comp=Z,6.2nm,1.0s
OGNE **Ogallala** 46.14 77 P P 04 01 10.8 +0.3
baz=46
JNU **Nakatsue** 46.17 269 LR LR 04 19 01.2
comp=Z,150nm,21.3s,baz=118,slow=34
P26A **Davis Ranch, A** 46.24 79 P P 04 01 12.4 +0.9
baz=46,SNR=8.9
O27A **Beecher Island** 46.35 78 P P 04 01 12.3 0.0
baz=46
K30A **Basset** 46.47 73 P P 04 01 13.5 +0.4
baz=46
M29A **Burnside Ranch** 46.61 75 P P 04 01 14.4 +0.2
baz=46
TUC **Tucson** 46.62 92 *eP* P 04 01 14.9 +0.5
TUC pmax pmax
comp=Z,14nm,1.0s
TUC **Tucson** 46.62 92 *eP* P 04 01 14.9 +0.5
comp=Z,14nm,1.0s
O28A **Krutsinger Ran** 46.81 77 P P 04 01 16.2 +0.4
baz=47
L30A **Spencer Herefo** 46.86 74 P P 04 01 17.3 +1.1
baz=47
R26A **Arlington** 47.00 80 P P 04 01 17.6 +0.3
baz=47
KSCO **Kaye Shedlock'** 47.02 79 P P 04 01 17.6 +0.1
baz=47
KSCO **Kaye Shedlock'** 47.02 79 *eP* P 04 01 18.2 +0.7
comp=Z,23nm,1.2s
P28A **Saint Francis** 47.18 78 P P 04 01 18.9 +0.3
baz=47
T25A **Trinidad** 47.19 82 P P 04 01 19.2 +0.3
baz=47,SNR=13
LAZ **Ladron** 47.38 87 *eP* P 04 01 18.9 -1.6
comp=Z,6.5nm,1.3s
R27A **Eads** 47.39 80 P P 04 01 20.1 -0.3
baz=47
ANMO **Albuquerque** 47.42 86 P P 04 01 21.4 +0.6
comp=Z,2.0nm,1.0s,baz=315,slow=10,SNR=6.9
ANMO PcP PcP 04 02 52.4 +1.2
comp=Z,2.6nm,1.0s,baz=201,slow=3.3,SNR=5.7
ANMO **Albuquerque** 47.42 86 *eP* P 04 01 20.3 -0.5
ANMO 04 02 52.4
ANMO pmax pmax
comp=Z,7.0nm,1.4s
ANMO **Albuquerque** 47.42 86 *eP* P 04 01 20.3 -0.5
comp=Z,6.7nm,1.4s
ANMO PcP PcP 04 02 52.4 +1.2
H34A **Spellman Lake,** 47.43 69 P P 04 01 20.8 +0.3
baz=47
Q28A **Sharon Springs** 47.46 78 P P 04 01 20.5 -0.4
baz=47
ECSD **EROS Data Cent** 47.53 70 P P 04 01 21.1 -0.3
baz=47
ECSD **EROS Data Cent** 47.53 70 *eP* P 04 01 20.7 -0.6
comp=Z,17nm,1.6s
P29A **Atwood** 47.65 77 P P 04 01 22.5 +0.2
baz=48,SNR=7.6
T26A **Comanche Natio** 47.65 82 P P 04 01 22.7 +0.2
baz=48
LPM **Los Pinos Moun** 47.75 87 *eP* P 04 01 23.3 0.0
comp=Z,4.9nm,1.0s
EYMN **Ely** 47.80 63 P P 04 01 23.4 +0.1
baz=48
R28A **Tribune** 47.94 79 P P 04 01 24.4 -0.3
baz=48
Q29A **Oakley** 48.08 78 P P 04 01 26.1 +0.4
baz=48
P30A **Selden** 48.09 77 P P 04 01 26.3 +0.6
baz=48
BGNE **Belgrade** 48.11 74 P P 04 01 26.0 +0.2
baz=48
O31A **Woolen Ranch,** 48.23 76 P P 04 01 26.7 -0.1
baz=48
T27A **Campo** 48.25 81 P P 04 01 26.5 -0.6
baz=48
121A **Cookes Peak, D** 48.28 89 P P 04 01 27.8 +0.4
baz=48,SNR=14
121A **Cookes Peak, D** 48.28 89 *eP* P 04 01 27.3 -0.1
comp=Z,24nm,1.3s
R29A **Marienthal** 48.29 79 P P 04 01 27.1 -0.2
baz=48
S28A **Manter** 48.39 80 P P 04 01 28.3 +0.2
baz=48,SNR=6.3
Q30A **Quinter** 48.47 77 P P 04 01 28.7 +0.1
baz=48
M33A **Taylor Creek F** 48.56 73 P P 04 01 29.7 +0.4
baz=48
T28A **Walsh** 48.57 81 P P 04 01 29.8 +0.3
baz=48

P31A	**Stockton**	**48.61**	**76**	P	**P**	**04 01 30.2**	**+0.5**
	baz=48							
U27A	**Thompson Grove**	**48.61**	**82**	P	**P**	**04 01 29.8**	**-0.1**
	baz=48,SNR=5.9							
S29A	**Ulysses**	**48.83**	**79**	P	**P**	**04 01 31.7**	**+0.3**
	baz=49							
CBKS	**Cedar Bluff**	**48.86**	**77**	*e*P	**P**	**04 01 32.1**	**+0.5**
CBKS				pmax	pmax			
	comp=Z,19nm,0.9s							
CBKS	**Cedar Bluff**	**48.86**	**77**	P	**P**	**04 01 32.0**	**+0.3**
	baz=49							
CBKS	**Cedar Bluff**	**48.86**	**77**	*e*P	**P**	**04 01 32.1**	**+0.5**
	comp=Z,19nm,0.9s							
R30A	**Dighton**	**48.89**	**78**	P	**P**	**04 01 32.7**	**+0.8**
	baz=49							
N33A	**J Bar K, Exete**	**48.95**	**74**	P	**P**	**04 01 32.9**	**+0.7**
	baz=49							
P32A	**Hutting Farm,**	**49.00**	**76**	P	**P**	**04 01 32.8**	**+0.1**
	baz=49							
V27A	**Dan Oppiter Fa**	**49.05**	**82**	P	**P**	**04 01 33.2**	**-0.1**
	baz=49							
S30A	**Montezuma**	**49.21**	**79**	P	**P**	**04 01 35.0**	**+0.6**
	baz=49							
O33A	**Hebron**	**49.30**	**75**	P	**P**	**04 01 34.7**	**-0.2**
	baz=49							
R31A	**Burdett**	**49.33**	**78**	P	**P**	**04 01 35.1**	**-0.2**
	baz=49							
V28A	**Channing**	**49.42**	**82**	P	**P**	**04 01 35.2**	**-0.8**
	baz=49							
Q32A	**Meitler Ranch,**	**49.44**	**76**	P	**P**	**04 01 36.0**	**0.0**
	baz=49							
M35A	**Neola**	**49.49**	**72**	P	**P**	**04 01 36.7**	**+0.3**
	baz=49							
R32A	**Long Quarter,**	**49.72**	**77**	P	**P**	**04 01 38.7**	**+0.5**
	baz=50							
TLY	**Talaya**	**49.73**	**305**	P	**P**	**04 01 39.3**	**+1.3**
	comp=Z,1.8nm,0.4s,baz=62,slow=17,SNR=3.9							
TLY	**Talaya**	**49.73**	**305**	P	**P**	**04 01 39.3**	**+1.3**
TLY				pmax	pmax			
	comp=Z,2.0nm,0.4s							
O34A	**Beatrice**	**49.75**	**74**	P	**P**	**04 01 38.8**	**+0.4**
	baz=50							
U30A	**WK&E Inc. Balk**	**49.84**	**80**	P	**P**	**04 01 39.0**	**-0.1**
	baz=50							
Q33A	**Connelly Farm,**	**49.86**	**76**	P	**P**	**04 01 38.8**	**-0.5**
	baz=50							
N35A	**Tabor**	**49.92**	**73**	P	**P**	**04 01 39.5**	**-0.2**
	baz=50							
X28A	**Dimmitt**	**50.28**	**83**	P	**P**	**04 01 42.9**	**+0.3**
	baz=50							
BJI	**Beijing**	**50.31**	**286**	P	P	04 01 39.0	-3.6
BJI				S	S	04 08 47.5	-7.4
BJI				SS	SS	04 12 17.0	-11
BJI				PMZ				
	comp=Z,5.0nm,0.8s							
BJI				LN				
	comp=Z,190nm,22.3s							
BJI				LE				
	comp=Z,160nm,20.0s							
R34A	**Isabella, Hill**	**50.66**	**76**	P	**P**	**04 01 45.6**	**+0.3**
	baz=50							
Y28A	**McKinney Farm,**	**50.66**	**84**	P	**P**	**04 01 45.4**	**-0.1**
	baz=50							
SONM	**Songino Array**	**50.72**	**300**	P	**P**	**04 01 47.6**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=69,slow=7.9,SNR=4.6							
SONM				PcP	**PcP**	**04 03 02.8**	**0.0**	
	comp=Z,1.3nm,0.6s,baz=79,slow=1.1,SNR=5.6							
SONM				LR	LR	04 26 09.7		
	comp=Z,117nm,18.2s,baz=44,slow=40							
SONM	**Songino Array**	**50.72**	**300**	P	**P**	**04 01 47.6**	**+1.8**
SONM						04 03 02.8		
SONM				pmax	pmax			
	comp=Z,1.0nm,0.7s							
SONM				pmax	pmax			
	comp=Z,1.0nm,0.6s							
SONM				MLR	MLR			
	comp=Z,117nm,18.2s							
O36A	**Bolckow**	**50.78**	**73**	P	**P**	**04 01 46.5**	**+0.3**
	baz=51							
V31A	**Spring Creek L**	**50.83**	**80**	P	**P**	**04 01 46.4**	**-0.2**
	baz=51							
U32A	**Winter Ranch,**	**50.92**	**79**	P	**P**	**04 01 47.5**	**+0.2**
	baz=51							
Z28A	**Tucker Farm, M**	**51.01**	**85**	P	**P**	**04 01 48.0**	**-0.1**
	baz=51							
Y29A	**Porterfield Fa**	**51.05**	**83**	P	**P**	**04 01 48.1**	**-0.3**
	baz=51							
X30A	**Coker Ranch, T**	**51.12**	**82**	P	**P**	**04 01 48.9**	**0.0**
	baz=51							
W31A	**Holland Ranch,**	**51.17**	**81**	P	**P**	**04 01 49.0**	**-0.2**
	baz=51							
V32A	**Arapaho**	**51.34**	**80**	P	**P**	**04 01 50.8**	**+0.3**
	baz=51							
U33A	**Lingo Farm, Me**	**51.41**	**78**	P	**P**	**04 01 50.9**	**0.0**
	baz=51							
128A	**Castleberry Fa**	**51.42**	**85**	P	**P**	**04 01 50.8**	**-0.3**
	baz=51,SNR=14							
Z29A	**Hungry Hill Ra**	**51.44**	**84**	P	**P**	**04 01 51.3**	**0.0**
	baz=51,SNR=8.4							
Y30A	**Stafford Cattl**	**51.50**	**83**	P	**P**	**04 01 51.7**	**0.0**
	baz=51							
X31A	**McDonald Ranch**	**51.53**	**81**	P	**P**	**04 01 51.7**	**-0.2**
	baz=51							
T34A	**McClaskey Farm**	**51.56**	**77**	P	**P**	**04 01 51.7**	**-0.4**
	baz=51							
S35A	**Otter Creek Ra**	**51.62**	**76**	P	**P**	**04 01 52.6**	**0.0**
	baz=52							
W32A	**Sentinel**	**51.63**	**81**	P	**P**	**04 01 52.2**	**-0.4**
	baz=52							
R36A	**Gordon, Harris**	**51.67**	**75**	P	**P**	**04 01 52.7**	**-0.2**
	baz=52							
228A	**UT Block 9, Go**	**51.70**	**86**	P	**P**	**04 01 52.9**	**-0.4**
	baz=52							
V33A	**Lossen Ranch,**	**51.72**	**79**	P	**P**	**04 01 53.4**	**+0.1**
	baz=52							
Z30A	**Sanderson Ranc**	**51.77**	**84**	P	**P**	**04 01 53.7**	**0.0**
	baz=52,SNR=9.7							
129A	**Stewart Farms,**	**51.78**	**85**	P	**P**	**04 01 53.3**	**-0.5**
	baz=52							
S36A	**Lake Cedric, C**	**52.02**	**76**	P	**P**	**04 01 55.4**	**-0.1**
	baz=52							
T35A	**Sooner Cattle**	**52.03**	**77**	P	**P**	**04 01 55.4**	**-0.1**
	baz=52							
W33A	**Caddo, Fort Co**	**52.07**	**80**	P	**P**	**04 01 55.6**	**-0.3**
	baz=52							
X32A	**Elmer**	**52.09**	**81**	P	**P**	**04 01 55.7**	**-0.3**
	baz=52							
V34A	**Guthrie**	**52.17**	**79**	P	**P**	**04 01 56.6**	**0.0**
	baz=52							
WMOK	**Wichita Mounta**	**52.17**	**81**	*e*P	**P**	**04 01 56.5**	**-0.2**
WMOK				pmax	pmax			
	comp=Z,7.0nm,0.9s							
WMOK	**Wichita Mounta**	**52.17**	**81**	*e*P	**P**	**04 01 56.5**	**-0.2**
	comp=Z,7.3nm,0.9s							
U35A	**Pawnee**	**52.27**	**78**	P	**P**	**04 01 57.1**	**-0.2**
	baz=52							
Y32A	**R-V Farms, Ver**	**52.28**	**82**	P	**P**	**04 01 57.2**	**-0.3**
	baz=52							
T36A	**Boggs Farm, Ca**	**52.30**	**76**	P	**P**	**04 01 56.9**	**-0.7**
	baz=52							
Z31A	**Sharp Cattle R**	**52.34**	**83**	P	**P**	**04 01 57.5**	**-0.5**
	baz=52							
130A	**Snyder**	**52.35**	**84**	P	**P**	**04 01 58.1**	**0.0**
	baz=52							
HHC	**Hu-ho-hao-te**	**52.42**	**290**	*e*P	**P**	**04 01 57.5**	**-1.0**
HHC				PP	**PP**	**04 03 56.5**	**-0.5**
HHC				S	**S**	**04 09 19.8**	**-4.5**
HHC				sS	**sS**	**04 09 27.3**	**-2.8**
HHC				SS	**SS**	**04 12 55.0**	**-6.6**
HHC				PMZ				
	comp=Z,19nm,1.1s							
HHC				PMZ				
	comp=Z,79nm,7.4s							
HHC				LN				
	comp=Z,180nm,14.8s							
HHC				LE				
	comp=Z,67nm,13.6s							
S37A	**Fort Scott**	**52.44**	**75**	P	**P**	**04 01 58.2**	**-0.5**
	baz=52							
X33A	**Lawton**	**52.47**	**81**	P	**P**	**04 01 58.5**	**-0.4**
	baz=52							
329A	**Wagon Wheel Ra**	**52.52**	**86**	P	**P**	**04 01 59.2**	**-0.2**
	baz=52							
Z32A	**Haskell**	**52.74**	**82**	P	**P**	**04 02 01.0**	**+0.1**
	baz=53							
230A	**Sterling City**	**52.76**	**85**	P	**P**	**04 02 00.8**	**-0.3**
	baz=53,SNR=5.9							
Y33A	**Hilltop Ranch,**	**52.77**	**81**	P	**P**	**04 02 00.9**	**-0.2**
	baz=53							
T37A	**Cheneyville 18**	**52.82**	**76**	P	**P**	**04 02 01.1**	**-0.3**
	baz=53							
W35A	**Tecumseh**	**53.02**	**79**	P	**P**	**04 02 02.4**	**-0.5**
	baz=53							
TXAR	**Lajitas Array**	**53.03**	**89**	P	**P**	**04 02 03.4**	**+0.2**
	comp=Z,9.3nm,0.8s,baz=298,slow=5.2,SNR=122							
TXAR	**Lajitas Array**	**53.03**	**89**	P	**P**	**04 02 03.4**	**+0.2**
TXAR				pmax	pmax			
	comp=Z,9.0nm,0.8s							
330A	**Mertzon**	**53.06**	**85**	P	**P**	**04 02 02.8**	**-0.5**
	baz=53							
ABTX	**Abilene, Hawle**	**53.12**	**83**	P	**P**	**04 02 03.7**	**-0.1**
	baz=53							
ABTX	**Abilene, Hawle**	**53.12**	**83**	*e*P	**P**	**04 02 04.0**	**+0.2**
	comp=Z,14nm,1.1s							
V36A	**Jenks**	**53.13**	**78**	P	**P**	**04 02 03.3**	**-0.5**
	baz=53							
TUL1	**Tulsa**	**53.14**	**77**	P	**P**	**04 02 03.3**	**-0.5**
	baz=53							
GUMO	**Guam**	**53.16**	**240**	LR	LR	04 21 03.0		
	comp=Z,51nm,19.9s,baz=62,slow=32							
429A	**Davenport Ranc**	**53.18**	**87**	P	**P**	**04 02 03.6**	**-0.7**
	baz=53,SNR=7.5							
Z33A	**Whitaker Ranch**	**53.19**	**82**	P	**P**	**04 02 03.8**	**-0.4**
	baz=53							
U37A	**Salina**	**53.20**	**76**	P	**P**	**04 02 04.0**	**-0.2**
	baz=53							
231A	**Bronte**	**53.20**	**84**	P	**P**	**04 02 04.6**	**+0.3**
	baz=53							
Y34A	**Reagan Ranch,**	**53.32**	**80**	P	**P**	**04 02 05.1**	**0.0**
	baz=53							
529A	**Stev Forest Ra**	**53.34**	**87**	P	**P**	**04 02 05.0**	**-0.4**
	baz=53,SNR=9.6							
430A	**Baggett Ranch,**	**53.46**	**86**	P	**P**	**04 02 05.4**	**-0.9**
	baz=53,SNR=9.5							
V37A	**Hulbert**	**53.54**	**77**	P	**P**	**04 02 06.3**	**-0.5**
	baz=53							
133A	**Hamilton Ranch**	**53.57**	**83**	P	**P**	**04 02 06.5**	**-0.6**
	baz=53,SNR=8.0							
331A	**San Angelo**	**53.58**	**85**	P	**P**	**04 02 06.2**	**-1.0**
	baz=53,SNR=8.3							
U38A	**Gravette**	**53.60**	**76**	P	**P**	**04 02 06.6**	**-0.6**
	baz=53							
Z34A	**Collier Ranch,**	**53.63**	**81**	P	**P**	**04 02 07.3**	**-0.2**
	baz=54							
232A	**Coleman**	**53.64**	**84**	P	**P**	**04 02 07.0**	**-0.6**
	baz=54							
X36A	**Centrahoma**	**53.73**	**79**	P	**P**	**04 02 07.3**	**-0.9**
	baz=54							
HDIL	**Hopedale**	**53.74**	**69**	P	**P**	**04 02 07.5**	**-0.6**
	baz=54							
Y35A	**Marietta**	**53.78**	**80**	P	**P**	**04 02 08.4**	**-0.1**
	baz=54							
530A	**J-C Ranch, Com**	**53.86**	**86**	P	**P**	**04 02 08.6**	**-0.6**
	baz=54,SNR=18							
W37A	**Quinton**	**53.88**	**78**	P	**P**	**04 02 08.9**	**-0.4**
	baz=54							
431A	**Sonora**	**53.91**	**85**	P	**P**	**04 02 09.0**	**-0.6**
	baz=54,SNR=14							
332A	**Millersview**	**53.94**	**84**	P	**P**	**04 02 08.9**	**-0.8**
	baz=54,SNR=8.8							
V38A	**Canehill**	**53.98**	**76**	P	**P**	**04 02 09.4**	**-0.6**
	baz=54							
Z35A	**Perchaven, San**	**54.06**	**81**	P	**P**	**04 02 10.3**	**-0.3**
	baz=54							
134A	**White-Moore Ra**	**54.09**	**82**	P	**P**	**04 02 10.1**	**-0.8**
	baz=54							
NJ2	**Nanjing**	**54.17**	**277**	*e*P	**P**	**04 02 11.5**	**+0.1**
NJ2				PMZ				
	comp=Z,20nm,0.8s							
Y36A	**Durant**	**54.24**	**79**	P	**P**	**04 02 11.9**	**0.0**
	baz=54							
432A	**Menard**	**54.27**	**85**	P	**P**	**04 02 11.7**	**-0.5**
	baz=54							
X37A	**Clayton**	**54.30**	**78**	P	**P**	**04 02 11.6**	**-0.7**
	baz=54							
531A	**Rocksprings**	**54.32**	**86**	P	**P**	**04 02 12.4**	**-0.2**
	baz=54							
333A	**Richland Sprin**	**54.44**	**84**	P	**P**	**04 02 12.9**	**-0.4**
	baz=54,SNR=8.1							
234A	**Clairette**	**54.46**	**82**	P	**P**	**04 02 13.6**	**+0.1**
	baz=54							
W38A	**Poteau**	**54.47**	**77**	P	**P**	**04 02 13.2**	**-0.3**
	baz=54							
JCT	**Junction City**	**54.55**	**85**	*e*P	**P**	**04 02 13.2**	**-1.0**
JCT				pmax	pmax			
	comp=Z,28nm,1.5s							
JCT	**Junction City**	**54.55**	**85**	P	**P**	**04 02 13.9**	**-0.3**
	baz=54							
JCT	**Junction City**	**54.55**	**85**	*e*P	**P**	**04 02 13.2**	**-1.0**
	comp=Z,28nm,1.5s							
X38A	**Whitesboro**	**54.56**	**78**	P	**P**	**04 02 13.5**	**-0.7**
	baz=54							
Y37A	**Hugo**	**54.58**	**79**	P	**P**	**04 02 14.1**	**-0.2**
	baz=54							
Z36A	**Blue Ridge**	**54.59**	**80**	P	**P**	**04 02 13.9**	**-0.5**
	baz=54							
532A	**Rocksprings**	**54.73**	**85**	P	**P**	**04 02 14.9**	**-0.7**
	baz=55							
631A	**Perdido Creek**	**54.84**	**87**	P	**P**	**04 02 15.5**	**-0.8**
	baz=55,SNR=5.2							
334A	**Lometa**	**54.88**	**83**	P	**P**	**04 02 16.2**	**-0.4**
	baz=55,SNR=13							
WHTX	**Lake Whitney**	**54.88**	**82**	P	**P**	**04 02 16.3**	**-0.3**
	baz=55							
WHTX	**Lake Whitney**	**54.88**	**82**	*e*P	**P**	**04 02 16.5**	**0.0**
	comp=Z,29nm,1.2s							
SCHQ	**Schefferville**	**55.18**	**43**	LR	LR	04 26 33.3		
	comp=Z,177nm,19.9s,baz=294,slow=37							
434A	**Burnet**	**55.23**	**84**	P	**P**	**04 02 19.1**	**-0.1**
	baz=55,SNR=11							
632A	**Uvalde**	**55.25**	**86**	P	**P**	**04 02 18.7**	**-0.6**
	baz=55							
533A	**Kerrville**	**55.30**	**85**	P	**P**	**04 02 19.5**	**-0.2**
	baz=55							
MIAR	**Mount Ida**	**55.39**	**77**	*e*P	**P**	**04 02 20.2**	**0.0**
MIAR				pmax	pmax			
	comp=Z,10.0nm,1.1s							
MIAR	**Mount Ida**	**55.39**	**77**	P	**P**	**04 02 20.1**	**-0.1**
	baz=55							
MIAR	**Mount Ida**	**55.39**	**77**	*e*P	**P**	**04 02 20.2**	**0.0**
	comp=Z,10.0nm,1.1s							
435B	**Jarrell**	**55.66**	**83**	P	**P**	**04 02 22.3**	**+0.1**
	baz=56							
534A	**Blanco**	**55.67**	**84**	P	**P**	**04 02 22.1**	**-0.2**
	baz=56							
336A	**Riesel**	**55.67**	**82**	P	**P**	**04 02 22.5**	**+0.3**
	baz=56							
732A	**Laxson Ranch,**	**55.70**	**87**	P	**P**	**04 02 22.1**	**-0.4**
	baz=56							
832A	**Faith Ranch, C**	**56.02**	**87**	P	**P**	**04 02 24.8**	**0.0**
	baz=56,SNR=8.1							
733A	**Divot King Ran**	**56.12**	**86**	P	**P**	**04 02 25.6**	**+0.1**
	baz=56							
436A	**Wall Ranch, Ga**	**56.14**	**83**	P	**P**	**04 02 25.8**	**+0.1**
	baz=56							
535A	**Dale**	**56.21**	**84**	P	**P**	**04 02 26.6**	**+0.5**
	baz=56							
833A	**Chaparral WMA,**	**56.34**	**87**	P	**P**	**04 02 26.6**	**-0.5**
	baz=56							
635A	**Leesville**	**56.55**	**84**	P	**P**	**04 02 28.2**	**-0.4**
	baz=56							
ZALV	**Zalesovo Beam**	**56.75**	**317**	LR	LR	04 29 25.6		
	comp=Z,80nm,18.5s,baz=70,slow=39							
636A	**Smothers Creek**	**56.91**	**84**	P	**P**	**04 02 31.8**	**+0.6**
	baz=57							
933A	**Laredo**	**56.93**	**87**	P	**P**	**04 02 31.9**	**+0.6**
	baz=57							
HKT	**Hockley**	**57.31**	**82**	*e*P	**P**	**04 02 33.9**	**+0.1**
HKT				pmax	pmax			
	comp=Z,19nm,1.4s							
HKT	**Hockley**	**57.31**	**82**	*e*P	**P**	**04 02 33.9**	**+0.1**
	comp=Z,19nm,1.4s							
934A	**Benavides**	**57.40**	**86**	P	**P**	**04 02 36.0**	**+1.4**
	baz=57							
LZH	**Lanzhou**	**60.08**	**291**	*e*P	**P**	**04 02 52.3**	**-1.1**
LZH				pP	**pP**	**04 02 57.8**	**+0.9**
LZH				sP	**sP**	**04 03 00.0**	**+1.7**
LZH				PMZ				
	comp=Z,14nm,1.0s							
LZH				PMZ				
	comp=Z,58nm,4.3s							
LZH				LN				
	comp=Z,180nm,12.0s							
LZH				LE				
	comp=Z,170nm,13.4s							
LZH				LZ				
	comp=Z,170nm,15.0s							
LRAL	**Lakeview Retre**	**60.31**	**74**	*e*P	**P**	**04 02 54.4**	**-0.3**
	comp=Z,2.6nm,0.7s							
WMQ	**Urumqi**	**62.91**	**307**	P	**P**	**04 03 13.3**	**+1.1**
WMQ				pP	**pP**	**04 03 17.8**	**+2.0**
WMQ				sP	**sP**	**04 03 19.8**	**+2.6**
WMQ				PcP	**PcP**	**04 03 51.5**	**+1.2**
WMQ				PMZ				
	comp=Z,11nm,1.0s							
WMQ				PMZ				
	comp=Z,100nm,4.8s							
WMQ				LN				
	comp=Z,160nm,20.4s							
WMQ				LE				
	comp=Z,130nm,23.6s							
WMQ				LZ				
	comp=Z,77nm,16.0s							
MKAR	**Makanchi Array**	**63.15**	**313**	P	**P**	**04 03 14.3**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=64,slow=6.6,SNR=2.3							
MKAR				LR	LR	04 32 03.1		
	comp=Z,56nm,18.3s,baz=34,slow=37							
CD2	**Chengdu**	**63.90**	**287**	*e*P	**P**	**04 03 17.0**	**-1.9**
CD2				PcP	**PcP**	**04 03 53.3**	**-1.3**
CD2				S	**S**	**04 11 51.5**	**-2.8**
CD2				sS	**sS**	**04 11 57.0**	**-3.2**
CD2				SS	**SS**	**04 16 00.0**	**-2.1**
CD2				PMZ				
	comp=Z,10.0nm,0.5s							
CD2				PMZ				
	comp=Z,120nm,5.0s							
GYA	**Guiyang**	**65.50**	**282**	*e*P	**P**	**04 03 29.0**	**-0.6**
GYA				PMZ				
	comp=Z,10.0nm,1.0s							
NOA	**NORSAR Array B**	**66.30**	**359**	P	**P**	**04 03 34.8**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=0.5,slow=6.3,SNR=3.6							
NOA				LR	LR	04 30 55.4		
	comp=Z,24nm,21.6s,baz=5.0,slow=34							
ABKAR	**Akbulak array**	**69.74**	**328**	*e*P	**P**	**04 03 56.6**	**+0.8**
	comp=Z,0.2nm,0.3s							
SIJI	**Sorong**	**72.52**	**244**	P	**P**	**04 04 13.8**	**+0.6**
	comp=Z,10nm,0.7s,baz=4.4,slow=7.5,SNR=5.1							
CMAR	**Chiang Mai Arr**	**76.19**	**282**	P	**P**	**04 04 35.2**	**+0.8**
	comp=Z,1.3nm,0.3s,baz=24,slow=7.6,SNR=5.7							
CMAR				LR	LR	04 41 12.8		
	comp=Z,62nm,18.8s,baz=85,slow=38							
CMAR	**Chiang Mai Arr**	**76.19**	**282**	P	**P**	**04 04 35.3**	**+0.8**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
CMAR				MLR	MLR			
	comp=Z,62nm,18.8s							
DPC	**Dobruska-Polom**	**76.89**	**356**	*e*P	**P**	**04 04 39.2**	**+1.2**
DPC	**Dobruska-Polom**	**76.89**	**356**	*e*P	**P**	**04 04 39.2**	**+1.2**
KHC	**Kasperske Hory**	**78.20**	**358**	*e*P	**P**	**04 04 48.0**	**+2.6**
KHC				*ex*	x	04 04 54.0		
KHC	**Kasperske Hory**	**78.20**	**358**	*e*P	**P**	**04 04 48.0**	**+2.6**
KHC				*e*		04 04 54.0		
GERES	**GERESS Array B**	**78.48**	**358**	P	**P**	**04 04 47.6**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=356,slow=4.4,SNR=5.2							
GERES	**GERESS Array B**	**78.48**	**358**	P	**P**	**04 04 47.6**	**+0.6**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
SOKA	**Soboth**	**80.61**	**357**	*ij*P	**P**	**04 04 59.7**	**+1.1**
	comp=Z,3.8nm,1.3s							
ESDC	**Sonseca Array**	**86.89**	**11**	P	**P**	**04 05 30.7**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=338,slow=3.2,SNR=7.9							
ESDC				LR	LR	04 45 04.8		
	comp=Z,27nm,21.1s,baz=115,slow=36							
WRA	**Warramunga Arr**	**87.17**	**231**	P	**P**	**04 05 31.2**	**-1.0**
	comp=Z,3.8nm,1.1s,baz=35,slow=5.9,SNR=11							
WRA	**Warramunga Arr**	**87.17**	**231**	P	**P**	**04 05 31.2**	**-1.0**
WRA				pmax	pmax			
	comp=Z,4.0nm,1.1s							
PSI	**Prapat**	**88.52**	**273**	P	**P**	**04 05 38.6**	**-0.4**
	comp=Z,18nm,0.9s,baz=90,slow=3.0,SNR=5.6							
PSI	**Prapat**	**88.52**	**273**	P	**P**	**04 05 38.6**	**-0.4**
PSI				pmax	pmax			
	comp=Z,18nm,0.9s							
ASAR	**Alice Springs**	**90.58**	**230**	P	**P**	**04 05 48.6**	**+0.3**
	comp=Z,6.8nm,0.8s,baz=36,slow=4.3,SNR=22							
ASAR				LR	LR	04 41 26.8		
	comp=Z,66nm,19.5s,baz=58,slow=32							
STKA	**Stephens Creek**	**94.49**	**220**	LR	LR	04 41 28.4		
	comp=Z,126nm,21.9s,baz=25,slow=31							
TORD	**Torodi Ar. Bea**	**113.72**	**9**	PKiKP	**PKiKP**	**04 11 23.7**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=2.6,slow=1.8,SNR=6.0							
MAW	**Mawson**	**151.18**	**219**	PKPbc	**PKPbc**	**04 12 38.0**	**+0.1**
	comp=Z,4.6nm,0.9s,baz=329,slow=3.7,SNR=5.8							
MAW	**Mawson**	**151.18**	**219**	PKIKP	**PKPbc**	**04 12 38.0**	**+0.1**
MAW				pmax	pmax			
	comp=Z,5.0nm,0.9s							
BOSA	**Boshof**	**153.19**	**329**	PKPbc	**PKPbc**	**04 12 44.0**	**+0.1**
	comp=Z,5.6nm,0.8s,baz=1,5,slow=2.0,SNR=8.9							
BOSA	**Boshof**	**153.19**	**329**	PKIKP	**PKPbc**	**04 12 44.0**	**+0.1**
BOSA				pmax	pmax			
	comp=Z,6.0nm,0.8s							

*ISCJB **29** 03:57:01.4±1.2,52.8N±0.1×169.8W±0.1, h0km±8km, mb3.9/6, Error ellipse: s-maj=26.0km s-min=4.7km az=156.6*

*IDC **29** 03:57:01.9±1.6,52.71N×169.92W, h0km, mb3.9/6, mb1 4.2/7, mb1mx3.7/51, mbtmp3.9/7, ML3.7/1, Error ellipse: s-maj=46.7km s-min=25.7km az=139.0*

*NEIC **29** 03:57:04.3,52.87N×169.68W, h6km, ML3.7(AEIC), After AEIC.*

ISC 29 03:57:02.7±1.6,52.9N±0.1×169.81W±0.06, h1km±11km, n31, σ0.98/34, mb3.9/6, Fox Islands

Code	Station Name	Δ°	Az°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
NIKH	**Nikolski High**	**0.58**	**83**	P	**Pg**	**03 57 13.6**	**-0.3**
NIKH				S	**Sg**	**03 57 21.2**	**-0.2**
OKSO	**Okmok South**	**1.09**	**65**	P	**Pg**	**03 57 23.1**	**-0.5**
OKSO				S	**Sg**	**03 57 38.5**	**+0.6**
OKWR	**Okmok West Rim**	**1.10**	**61**	P	**Pg**	**03 57 24.4**	**+0.5**
OKAK	**Okmok**	**1.10**	**52**	P	**Pg**	**03 57 22.6**	**-1.3**
OKCE	**Okmok Cone E**	**1.12**	**61**	P	**Pg**	**03 57 23.8**	**-0.4**
OKTU	**Okmok Mt. Tuli**	**1.17**	**65**	P	**Pg**	**03 57 25.4**	**+0.3**
OKFG	**Magazine Ridge**	**1.25**	**65**	P	**Pg**	**03 57 26.4**	**-0.3**
OKFG				S	**Sg**	**03 57 43.1**	**+0.2**
MCIR	**Makushin Cirqu**	**2.04**	**58**	P	**Pn**	**03 57 38.9**	**+0.7**
MSW	**Makushin Switc**	**2.08**	**60**	P	**Pn**	**03 57 39.3**	**+0.6**
MTBL	**Makushin Table**	**2.16**	**59**	P	**Pn**	**03 57 40.7**	**+0.9**
UNV	**Unalaska Valle**	**2.20**	**63**	*e*Pn	**Pn**	**03 57 40.4**	**+0.1**
UNV				*e*S	**Sn**	**03 58 09.4**	**+1.4**

region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.78**	**226**	P	P	04 02 28.7	-1.4
	1.2nm,0.5s,baz=54,slow=10,SNR=26						
ASAR	**Alice Springs**	**23.64**	**219**	P	P	04 03 01.2	+0.9
	0.9nm,0.4s,baz=47,slow=8.4,SNR=18						
TORD	**Torodi Ar. Bea**	**147.86**	**286**	PKPbc	PKPbc	04 17 34.6	-0.7
	0.2nm,0.9s,baz=74,slow=3.1,SNR=2.8						

IDC 29 03:58:50.4±13.0, 40°30S×91°07W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.8/22, mbtmp3.8/4, MS3.7/7, Ms1 3.7/7, ms1mx3.6/14, Error ellipse: s-maj=347.8km s-min=48.6km az=174.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**31.13**	**46**	P	P	04 05 11.6	+0.1
	2.0nm,0.3s,baz=191,slow=8.3,SNR=20						
LPAZ				LR	LR	04 14 23.2	
	comp=Z,39nm,21.2s,baz=224,slow=30						
CPUP	**Villa Florida**	**31.25**	**74**	LR	LR	04 17 03.6	
	comp=Z,118nm,18.9s,baz=248,slow=35						
BDFB	**Brasilia**	**44.68**	**69**	LR	LR	04 26 27.7	
	comp=Z,133nm,18.2s,baz=232,slow=37						
ROSC	**El Rosal**	**47.50**	**23**	LR	LR	04 24 52.5	
	comp=Z,124nm,18.4s,baz=250,slow=33						
VNDA	**Vanda**	**54.55**	**195**	LR	LR	04 28 22.5	
	comp=Z,87nm,19.6s,baz=115,slow=32						
PPT	**Papeete**	**54.94**	**276**	LR	LR	04 24 34.2	
	comp=Z,78nm,20.2s,baz=136,slow=28						
TXAR	**Lajitas Array**	**70.26**	**348**	P	P	04 10 05.1	-0.2
	0.2nm,0.7s,baz=174,slow=9.1,SNR=3.7						
NVAR	**Mina Array Bea**	**82.22**	**339**	P	P	04 11 14.9	+1.6
	0.6nm,0.7s,baz=173,slow=7.0,SNR=4.7						
PDAR	**Pinedale Array**	**84.36**	**346**	P	P	04 11 23.1	-1.2
	0.2nm,0.5s,baz=157,slow=2.9,SNR=2.6						
BOSA	**Boshof**	**89.50**	**128**	LR	LR	04 48 59.9	
	comp=Z,68nm,18.3s,baz=188,slow=34						

MEX 29 04:10:06.5±0.7, 17°92N×99°44W, h5km, MD4.2, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.17**	**274**	*e*P	Pg	04 10 08.9	-1.1
MEIG				*e*S	Sg	04 10 12.2	-0.1
PLIG	**Platanillo**	**0.48**	**353**	*e*P	Pg	04 10 15.4	-0.5
PLIG				*i* S	Sg	04 10 22.8	+0.5
TLIG	**Tlapa**	**0.91**	**113**	*i* P	Pg	04 10 21.8	-2.3
TLIG				*i* S	Sg	04 10 33.6	-2.3
YAIG	**Yautepec**	**1.01**	**21**	*i* P	Pg	04 10 23.5	-2.5
YAIG				*i* S	Sg	04 10 37.4	-2.0
ACX	**Acapulco**	**1.11**	**201**	*e*P	Pg	04 10 21.7	-6.2
ACX				*i* S	Sg	04 10 36.9	-5.5
CAIG	**El Cayaco**	**1.17**	**223**	*e*P	Pg	04 10 26.2	-2.7
CAIG				*i* S	Sg	04 10 41.4	-2.7
PNIG	**Pinotepa**	**1.97**	**140**	*i* P	Pn	04 10 37.4	-3.2
PNIG				*i* S	Sn	04 11 01.3	-4.4

DJA 29 04:11:01.5±0.7, 3°S±5°×12°3E±°, h10km, M3.6/4, MLv3.6/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.93**	**346**	P	Pn	04 11 33.6	-0.8
LUWI				S	Sb	04 11 59.9	-1.1
LUWI	**Luwuk**	**1.93**	**346**	P	Pn	04 11 33.6	-0.9
	baz=8.9,SNR=4.8						
APSI	**Ampana**	**2.55**	**322**	P	Pn	04 11 42.6	-0.4
APSI				S	Sn	04 12 15.2	+1.0
SANI	**Sanana**	**2.89**	**72**	P	Pn	04 11 48.1	+0.5
SANI				S	Sn	04 12 23.6	+1.1
TTSI	**Tana Toraja**	**3.41**	**268**	P	Pn	04 11 54.7	-0.1
MRSI	**Marisa**	**3.62**	**339**	P	Pb	04 12 04.3	-1.4

*NEIC **29** 04:12:12.4, 52°.38N×126°.88W, h6km, ML3.5(OTT), After OTT.*
NEIC Felt at Bella Coola and Hagensborg.
*IDC **29** 04:12:12.9±0.7, 52°.42N×126°.96W, h0km, mb3.4/2, mb1 3.7/8, mb1mx3.5/41, mbtmp3.4/8, ML3.6/6, Error ellipse: s-maj=10.0km s-min=5.6km az=159.0*
*PGC **29** 04:12:12.4±0.0, 52°.38N×126°.88W, h6km, ML3.5/47, 8km west of Bella Coola, Bc British Columbia*

ISC 29 04:12:11.8±0.7, 52°.40N±0°.02×126°.88W±0°.02, h9km±5km, n110, σ1s99/181, British Columbia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCBC	**Bella Coola**	**0.08**	**109**	P	**Pg**	**04 12 14.2**	**+0.2**
BCBC				S	**Sg**	**04 12 15.7**	**+0.1**
BBB	**Bella Bella**	**0.79**	**255**	Pg	**Pg**	**04 12 26.4**	**-0.6**
	183nm,0.3s,baz=74,slow=5.7,SNR=3216						
BBB				Lg	Lg	04 12 36.5	
	482nm,0.3s,baz=207,slow=18,SNR=24						
BBB				LR	LR	04 12 36.6	
	comp=Z,93nm,20.5s,baz=38,slow=32						
BBB	**Bella Bella**	**0.79**	**255**	P	**Pg**	**04 12 26.6**	**-0.4**
BBB				S	**Sg**	**04 12 36.9**	**-0.3**
BBB				Sg	**Sb**	**04 12 40.3**	**+2.0**
BBB	**Bella Bella**	**0.79**	**255**	P	**Pg**	**04 12 26.6**	**-0.4**
BBB				S	**Sg**	**04 12 37.0**	**-0.3**
PHC	**Port Hardy**	**1.73**	**192**	Pn	**Pn**	**04 12 42.4**	**+0.4**
PHC				Sg	**Sn**	**04 13 04.5**	**+0.5**
PHC	**Port Hardy**	**1.73**	**192**	Pn	**Pn**	**04 12 42.4**	**+0.4**
PHC				Sg	**Sn**	**04 13 04.5**	**+0.5**
UBRB	**Upper Baezaeko**	**1.77**	**73**	Pn	**Pn**	**04 12 44.0**	**+1.2**
UBRB				Sg	**Sb**	**04 13 08.3**	**+1.4**
UBRB	**Upper Baezaeko**	**1.77**	**73**	Pn	**Pn**	**04 12 44.0**	**+1.2**
UBRB				Sg	**Sb**	**04 13 08.3**	**+1.4**
TLCB	**Telegraph Cove**	**1.85**	**179**	Pn	**Pn**	**04 12 43.9**	**+0.2**
TLCB				Sg	**Sn**	**04 13 08.1**	**+0.9**
HOLB	**Holberg**	**1.93**	**204**	Pn	**Pn**	**04 12 45.2**	**+0.5**
HOLB				Sn	**Sn**	**04 13 08.4**	**-0.6**
HOLB				Sg	**Sb**	**04 13 12.3**	**+1.2**
HOLB	**Holberg**	**1.93**	**204**	Pn	**Pn**	**04 12 45.2**	**+0.5**
HOLB				Sg	**Sb**	**04 13 12.3**	**+1.2**
MAYB	**Maynard**	**2.01**	**185**	Pn	**Pn**	**04 12 46.5**	**+0.5**
MAYB				Sg	**Sn**	**04 13 12.3**	**+1.1**
MAYB	**Maynard**	**2.01**	**185**	Pn	**Pn**	**04 12 46.5**	**+0.5**
MAYB				Sn	**Sn**	**04 13 12.3**	**+1.1**
NCRB	**Newcastle Ridg**	**2.06**	**165**	Pn	**Pn**	**04 12 47.2**	**+0.5**
NCRB				Pg	**Pb**	**04 12 48.9**	**-0.6**
NCRB				Sg	**Sb**	**04 13 15.7**	**+0.4**
NCRB	**Newcastle Ridg**	**2.06**	**165**	Pn	**Pn**	**04 12 47.2**	**+0.5**
NCRB				Pg	**Pb**	**04 12 48.9**	**-0.6**
NCRB				Sg	**Sb**	**04 13 15.7**	**+0.4**
WOSB	**Woss**	**2.25**	**175**	Pn	**Pn**	**04 12 49.8**	**+0.5**
WOSB				Pg	**Pb**	**04 12 52.0**	**-0.6**
WOSB				Sg	**Sb**	**04 13 21.2**	**+0.7**
BPBC	**Brooks Peninsu**	**2.31**	**194**	Pn	**Pn**	**04 12 51.2**	**+1.1**
BPBC				Sn	**Sn**	**04 13 20.6**	**+2.0**
BPBC				Sg	**Sg**	**04 13 26.4**	**+0.3**
FHRB	**Fair Harbour**	**2.35**	**184**	Pn	**Pn**	**04 12 52.4**	**+1.8**
FHRB				Sn	**Sn**	**04 13 21.5**	**+2.1**
EDB	**Eliza Dome**	**2.53**	**184**	Pn	**Pn**	**04 12 54.7**	**+1.7**
EDB				Sn	**Sn**	**04 13 26.1**	**+2.1**
CBB	**Campbell River**	**2.55**	**158**	Pn	**Pn**	**04 12 55.8**	**+2.5**
CBB				Sg	**Sb**	**04 13 29.4**	**+0.2**
FSB	**Fort Saint Jam**	**2.58**	**35**	Pn	**Pn**	**04 12 52.7**	**-1.0**
FSB				Pg	**Pb**	**04 12 59.2**	**+0.9**
FSB				Sg	**Sb**	**04 13 30.2**	**+0.1**
FSB	**Fort Saint Jam**	**2.58**	**35**	Pn	**Pn**	**04 12 52.7**	**-1.0**
FSB				Pg	**Pb**	**04 12 59.2**	**+0.9**
FSB				Sg	**Sb**	**04 13 30.2**	**+0.1**
SPLB	**Strathcona Par**	**2.63**	**162**	Pn	**Pn**	**04 12 55.0**	**+0.6**
SPLB				Sg	**Sb**	**04 13 31.4**	**+0.2**
GDR	**Gold River**	**2.67**	**168**	Pg	**Pb**	**04 12 58.6**	**-1.2**
GDR				Sg	**Sb**	**04 13 33.0**	**+0.4**
BNB	**Barry Inlet**	**2.98**	**275**	Pn	**Pn**	**04 12 58.9**	**-0.4**
BNB				Pg	Pg	04 13 11.2	+2.3
BNB				Sn	**Sn**	**04 13 33.2**	**-1.9**
BNB				Sg	**Sb**	**04 13 42.6**	**+0.9**
BNB	**Barry Inlet**	**2.98**	**275**	Pn	**Pn**	**04 12 58.9**	**-0.4**
BNB				Pg	Pg	04 13 11.2	+2.3
BNB				Sn	**Sn**	**04 13 33.2**	**-1.9**
BNB				Sg	**Sb**	**04 13 42.6**	**+0.9**
ETB	**Estevan Point**	**3.03**	**176**	Pg	**Pb**	**04 13 06.2**	**+0.3**
ETB				Sg	**Sg**	**04 13 47.4**	**-1.8**
BTB	**Buttle Lake**	**3.06**	**163**	Pg	**Pb**	**04 13 05.5**	**-0.9**
BTB				Sg	**Sb**	**04 13 44.7**	**+0.8**
TXB	**Texada**	**3.11**	**149**	Pn	**Pn**	**04 13 02.8**	**+1.8**
TXB				Pg	**Pb**	**04 13 06.5**	**-0.8**
TXB				Sg	**Sb**	**04 13 46.1**	**+0.8**
MOBC	**Moresby Island**	**3.18**	**286**	Pn	**Pn**	**04 13 01.6**	**-0.4**
MOBC				Sn	**Sn**	**04 13 41.0**	**+1.0**
MOBC				Sg	**Sb**	**04 13 49.4**	**+2.1**
TOFB	**Tofino**	**3.31**	**169**	Pg	**Pb**	**04 13 09.1**	**-1.4**
TOFB				Sg	**Sb**	**04 13 51.2**	**+0.3**
WSLR	**Whistler**	**3.37**	**131**	Pg	**Pb**	**04 13 12.1**	**+0.4**
WSLR				Sg	**Sb**	**04 13 55.2**	**+2.5**
SHB	**Sechelt**	**3.39**	**145**	Pn	**Pb**	**04 13 09.3**	**-2.6**
SHB				Sg	**Sb**	**04 13 54.4**	**+1.1**
ALB	**Alberni**	**3.39**	**157**	Pg	**Pb**	**04 13 10.9**	**-1.0**
ALB				Sg	**Sb**	**04 13 53.5**	**+0.3**
B927	**Port Alberni**	**3.44**	**157**	Pg	**Pb**	**04 13 11.9**	**-0.9**
B927				Sg	**Sb**	**04 13 55.3**	**+0.6**
DIB	**Dawson Inlet,**	**3.49**	**286**	Pn	**Pn**	**04 13 07.2**	**+1.0**
DIB				Sn	**Sn**	**04 13 45.7**	**-1.8**
DIB				Sg	**Sb**	**04 13 56.9**	**+0.7**
H02S1	**DAWSON INLET T**	**3.49**	**286**	Pn	**Pn**	**04 13 09.0**	**+2.8**
H02S1				Sn	**Sn**	**04 13 46.4**	**-1.2**
GHNB	**Nanoose**	**3.52**	**151**	Pn	**Pn**	**04 13 08.7**	**+2.2**
GHNB				Pg	**Pb**	**04 13 13.8**	**-0.4**
GHNB				Sg	**Sb**	**04 13 57.9**	**+1.0**
H02N1	**VAN INLET T-PH**	**3.54**	**286**	Pn	**Pn**	**04 13 09.8**	**+2.8**
H02N1				Sn	**Sn**	**04 13 48.3**	**-0.7**
	SNR=2881						
VIB	**Van Inlet**	**3.54**	**286**	Pn	**Pn**	**04 13 07.4**	**+0.4**
VIB				Sn	**Sn**	**04 13 48.9**	**0.0**
VIB				Sg	**Sb**	**04 14 01.4**	**+3.7**
OZB	**Mount Ozzard**	**3.55**	**165**	Pg	**Pb**	**04 13 13.2**	**-1.6**
OZB				Sg	**Sb**	**04 14 00.1**	**+2.0**
WPB	**Watts Point**	**3.59**	**138**	Pg	**Pb**	**04 13 16.1**	**+0.7**
WPB				Sg	**Sb**	**04 14 01.9**	**+2.8**
LLLB	**Lillooet**	**3.60**	**118**	Pn	**Pn**	**04 13 09.5**	**+1.7**
LLLB				Sn	**Sn**	**04 13 51.2**	**+0.8**
LLLB				Sg	**Sg**	**04 14 05.0**	**-2.4**
NLLB	**Nanaimo Lost L**	**3.67**	**149**	Pg	**Pb**	**04 13 15.5**	**-1.2**
NLLB				Sg	**Sb**	**04 14 03.1**	**+1.9**
MGB	**Mount Grey**	**3.67**	**157**	Pn	**Pn**	**04 13 09.9**	**+1.1**
MGB				Pg	**Pb**	**04 13 16.9**	**-0.1**
MGB				Sg	**Sb**	**04 14 02.0**	**+0.4**
BMSB	**Bamfield Mari**	**3.74**	**162**	Pg	**Pb**	**04 13 17.2**	**-0.6**
BMSB				Sg	**Sb**	**04 14 04.6**	**+1.4**
B928	**Bamfield**	**3.74**	**162**	Pg	**Pb**	**04 13 16.6**	**-1.3**
B928				Sg	**Sb**	**04 14 06.8**	**+3.5**
BIB	**Bowen Island**	**3.75**	**142**	Pg	**Pb**	**04 13 18.6**	**+0.5**
BIB				Sg	**Sb**	**04 14 06.3**	**+2.6**
YOUB	**Youbou, Lake C**	**3.88**	**154**	Pn	Pn	04 13 14.8	+3.2
YOUB				Pg	**Pb**	**04 13 19.4**	**-1.0**
YOUB				Sg	**Sb**	**04 14 08.8**	**+1.5**
NDB	**Naden**	**3.97**	**296**	Pn	**Pn**	**04 13 13.1**	**+0.3**
NDB				Sn	**Sn**	**04 13 57.4**	**-2.0**
NDB				Sg	**Sb**	**04 14 15.2**	**+5.3**
BPCB	**Bare Point**	**4.02**	**149**	Sg	**Sb**	**04 14 13.0**	**+1.6**
PFB	**Port Renfrew**	**4.13**	**157**	Pn	Pn	04 13 18.8	+3.7
PFB				Pg	**Pb**	**04 13 23.1**	**-1.6**
PFB				Sg	**Sb**	**04 14 16.1**	**+1.4**
HNB	**Haney**	**4.15**	**137**	Pg	**Pb**	**04 13 25.3**	**+0.4**
HNB				Sg	**Sb**	**04 14 18.1**	**+3.1**
LZB	**Mount Lazard**	**4.26**	**152**	Pg	**Pb**	**04 13 27.3**	**+0.4**
LZB				Sg	**Sb**	**04 14 20.4**	**+2.0**
SNB	**Saturna Island**	**4.33**	**145**	Pg	**Pb**	**04 13 28.7**	**+0.7**
SNB				Sg	**Sg**	**04 14 27.0**	**-3.7**
PGC	**Sidney**	**4.34**	**148**	Pg	**Pb**	**04 13 28.2**	**-0.1**
PGC				Sg	**Sb**	**04 14 22.8**	**+2.1**
OCP	**Olym-Cheeka Pk**	**4.35**	**160**	Sg	**Sg**	**04 14 26.8**	**-4.7**
HOPB	**Hope**	**4.58**	**129**	Pg	**Pg**	**04 13 38.2**	**-1.4**
HOPB				Sn	**Sg**	**04 14 34.8**	**-4.1**
HOPB				Sg	Sb	04 14 42.0	+14
VGZ	**Gonzales**	**4.59**	**149**	Pg	**Pb**	**04 13 31.8**	**-0.6**
BLBC	**Blue River**	**4.71**	**91**	Pn	**Pn**	**04 13 23.8**	**+0.6**
BLBC				Pg	**Pb**	**04 13 37.4**	**+2.7**
BLBC				Sn	**Sn**	**04 14 19.3**	**+1.3**
BLBC				Sg	**Sb**	**04 14 37.3**	**+5.8**
CRAG	**Craig**	**4.80**	**312**	*e*Pn	**Pn**	**04 13 24.4**	**+0.2**
CRAG				*e*Pb	**Pb**	**04 13 37.5**	**+1.5**
CRAG				*e*Sg	**Sg**	**04 14 45.3**	**-0.6**
MBW	**Mount Baker**	**4.81**	**137**	Sg	**Sb**	**04 14 38.7**	**+4.4**
WRAK	**Wrangell Islan**	**5.14**	**324**	*e*Pg	**Pb**	**04 13 44.1**	**+2.3**
WRAK				*e*Sg	Sg	04 14 51.7	-5.0
MNB	**Mounoet Dainar**	**5.22**	**89**	Pn	**Pn**	**04 13 31.6**	**+1.4**
MNB				Sg	**Sg**	**04 14 54.3**	**-4.9**
DOWB	**Downie Slide**	**5.25**	**96**	Pn	**Pn**	**04 13 31.2**	**+0.8**
DOWB				Sg	Sb	04 14 54.0	+7.3
NLWA	**Neilton Lookou**	**5.38**	**158**	Pn	**Pn**	**04 13 34.4**	**+2.3**
GNW	**Green Mountain**	**5.50**	**150**	Sg	**Sg**	**04 15 02.9**	**-5.3**
PNT	**Penticton**	**5.54**	**121**	Pn	**Pn**	**04 13 35.8**	**+1.5**
PNT				Pg	**Pb**	**04 13 50.4**	**+1.8**
PNT				Sg	**Sg**	**04 15 04.3**	**-5.1**
SLEB	**Sale Mountain**	**5.57**	**99**	Pn	**Pn**	**04 13 36.4**	**+1.5**
SLEB				Sg	Sb	04 15 03.0	+6.9
B08A	**Colville Reser**	**6.29**	**127**	Sg	**Sg**	**04 15 29.3**	**-4.4**
DLBC	**Dease Lake**	**6.31**	**345**	Pn	**Pn**	**04 13 45.7**	**+0.7**
	1.4nm,0.3s,baz=176,slow=19,SNR=12						
DLBC				Lg	Lg	04 15 26.4	
	1.1nm,0.3s,baz=186,slow=18,SNR=8						
DLBC	**Dease Lake**	**6.31**	**345**	Sg	**Sg**	**04 15 30.2**	**-4.1**
DLBC	**Dease Lake**	**6.31**	**345**	*e*Pg	Pg	04 14 08.8	-3.8
DLBC				*e*S	**Sb**	**04 15 21.5**	**+4.2**
FMW	**Mount Fremont**	**6.43**	**146**	Pn	Pn	04 13 51.6	+4.8
FNBB	**Fort Nelson**	**6.87**	**17**	Pn	**Pn**	**04 13 52.8**	**+0.2**
FNBB				Sn	**Sn**	**04 15 10.8**	**+0.1**
FNBB				Sg	**Sg**	**04 15 47.4**	**-4.6**
FNBB	**Fort Nelson**	**6.87**	**17**	Pn	**Pn**	**04 13 52.8**	**+0.2**
FNBB				Sn	**Sn**	**04 15 10.8**	**+0.1**
FNBB				Sg	**Sg**	**04 15 47.4**	**-4.6**
NEW	**Newport**	**7.49**	**120**	Pn	**Pn**	**04 14 03.7**	**+2.6**
	0.2nm,0.3s,baz=309,slow=6.5,SNR=2.9						
NEW				Lg	Lg	04 16 03.8	
	1.0nm,0.3s,baz=188,slow=13,SNR=4.8						
NEW	**Newport**	**7.49**	**120**	*e*Pn	**Pn**	**04 14 00.4**	**-0.7**
NEW				*e*Pg	Pb	04 14 28.2	+6.4
NEW				*e*Sg	**Sg**	**04 16 09.0**	**-3.0**
EDM	**Edmonton**	**8.24**	**79**	Sg	**Sg**	**04 16 31.8**	**-4.3**
EDM	**Edmonton**	**8.24**	**79**	*e*Pb	**Pb**	**04 14 32.7**	**-1.9**
EDM				*e*Sg	**Sg**	**04 16 30.9**	**-5.2**
PLBC	**Pleasant Camp**	**8.85**	**327**	Sg	Sg	04 16 47.9	-7.5
WALA	**Waterton Lakes**	**8.88**	**107**	Pn	**Pn**	**04 14 22.4**	**+2.1**
WALA				Pg	Pg	04 14 53.5	-8.2
WALA				Sg	Sg	04 16 48.1	-8.4
WHY	**Whitehorse**	**9.38**	**335**	Sg	Sn	04 17 04.6	+52
SWMT	**Swartz Lake**	**9.63**	**115**	Pn	**Pn**	**04 14 32.4**	**+1.8**
HYT	**Haines Junctio**	**10.26**	**330**	Sg	Sn	04 17 28.5	+54
YKR1	**Yellowknife Ar**	**11.96**	**28**	P	**Pn**	**04 15 00.8**	**-1.5**
YKR2	**Yellowknife Ar**	**11.98**	**28**	P	**Pn**	**04 15 00.8**	**-1.6**
YKB1	**Yellowknife Ar**	**11.99**	**28**	P	Pn	04 14 60.0	-2.7
YKR3	**Yellowknife Ar**	**11.99**	**28**	P	Pn	04 15 00.3	-2.3
YKR4	**Yellowknife Ar**	**12.00**	**28**	P	Pn	04 15 00.5	-2.4
YKB2	**Yellowknife Ar**	**12.01**	**28**	P	**Pn**	**04 15 01.1**	**-1.8**
YKR5	**Yellowknife Ar**	**12.02**	**28**	P	Pn	04 15 00.8	-2.2
YKB3	**Yellowknife Ar**	**12.03**	**28**	P	**Pn**	**04 15 01.2**	**-2.0**
YKR6	**Yellowknife Ar**	**12.03**	**28**	P	**Pn**	**04 15 01.3**	**-2.0**
YKB4	**Yellowknife Ar**	**12.04**	**28**	P	Pn	04 15 01.3	-2.1
YKR7	**Yellowknife Ar**	**12.05**	**28**	P	Pn	04 15 01.1	-2.3
YKA	**Yellowknife Ar**	**12.06**	**28**	Pn	**Pn**	**04 15 01.9**	**-1.7**
	0.6nm,0.3s,baz=212,slow=13,SNR=18						
YKA				Sn	Sn	04 17 09.7	-8.3
	0.2nm,0.3s,baz=214,slow=23,SNR=3.5						
YKA				Lg	Lg	04 18 26.0	
	0.2nm,0.3s,baz=217,slow=29,SNR=3						
YKR8	**Yellowknife Ar**	**12.06**	**28**	P	Pn	04 15 01.5	-2.1
YKR9	**Yellowknife Ar**	**12.07**	**28**	P	Pn	04 15 00.7	-3.1
YKB6	**Yellowknife Ar**	**12.08**	**28**	P	Pn	04 15 01.4	-2.5
YKB7	**Yellowknife Ar**	**12.10**	**28**	P	Pn	04 15 01.9	-2.2
YKW3	**Yellowknife Ar**	**12.11**	**28**	P	**Pn**	**04 15 02.5**	**-1.8**
YKB8	**Yellowknife Ar**	**12.11**	**28**	P	Pn	04 15 02.2	-2.1
YKB9	**Yellowknife Ar**	**12.13**	**28**	P	**Pn**	**04 15 02.8**	**-1.8**
YKB0	**Yellowknife Ar**	**12.15**	**28**	P	Pn	04 15 02.6	-2.2
PDAR	**Pinedale Array**	**15.11**	**123**	Pn	**Pn**	**04 15 47.4**	**+1.9**
	0.0nm,0.3s,baz=312,slow=30,SNR=3.0						
NVAR	**Mina Array Bea**	**15.19**	**153**	Pn	**P**	**04 15 51.0**	**-0.7**
	0.1nm,0.3s,baz=336,slow=13,SNR=2.9						
ILAR	**Eielson Array**	**16.10**	**328**	Pn	**P**	**04 16 02.2**	**+0.8**
	0.1nm,0.3s,baz=126,slow=13,SNR=13						
ANMO	**Albuquerque**	**22.73**	**132**	P	**P**	**04 17 18.1**	**+4.0**
	0.9nm,0.7s,baz=330,slow=13,SNR=3.3						
ESDC	**Sonseca Array**	**75.79**	**42**	P	**P**	**04 24 00.4**	**+2.6**
	0.1nm,0.4s,baz=337,slow=5.0,SNR=4.0						

*ISCJB **29** 04:17:47.4±1.0, 25°.26N±0°.05×124°.99E±0°.03, h17km±8km, mb3.5/7, Error ellipse: s-maj=9.4km s-min=4.7km az=165.9*
*JMA **29** 04:17:47.5±0.2, 25°.24N×124°.94E, h9km, M4.1*
*IDC **29** 04:17:55.2±5.3, 25°.22N×124°.91E, h77km±50km, mb3.4/7, mb1 3.6/8, mb1mx3.4/34, mbtmp3.7/8, ML3.2/1, Error ellipse: s-maj=36.2km s-min=18.1km az=74.0*

ISC 29 04:17:47.9±3.3, 25°.13N±0°.05×125°.07E±0°.04, h17km±21km, n21, σ0s88/32, mb3.5/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.26**	**142**	P	**Pn**	**04 17 55.8**	**-1.2**
JIKM				S	Sn	04 18 01.8	-0.8
JIRB	**Irabujima**	**0.31**	**163**	P	**Pn**	**04 17 56.4**	**+1.3**
JIRB				*e*S	Sn	04 18 02.4	-1.5
JMJ	**Miyako jima 2**	**0.37**	**147**	P	**Pn**	**04 17 58.0**	**-0.5**
JMJ				*e*S	**Sn**	**04 18 05.2**	**-0.1**
JOGS	**Gusukube**	**0.48**	**141**	P	**Pn**	**04 17 59.9**	**-0.1**
JOGS				S	**Sn**	**04 18 08.8**	**+0.9**
JTJ	**Tarama**	**0.59**	**215**	P	**Pb**	**04 18 00.3**	**+0.5**
JTJ				*e*S	**Sb**	**04 18 08.4**	**+0.5**
JISG	**Ishigakijimahi**	**0.88**	**232**	P	**Pb**	**04 18 03.4**	**-1.3**
JISG				*e*S	**Sb**	**04 18 15.5**	**-0.6**
JIJ	**Ishigaki jima**	**1.14**	**228**	P	**Pn**	**04 18 08.2**	**-0.9**
JIJ				S	**Sb**	**04 18 22.8**	**-0.8**
JKRS	**Kuro-shima**	**1.31**	**228**	P	**Pn**	**04 18 11.3**	**-0.2**
JKRS				S	**Sn**	**04 18 28.9**	**+0.3**
IRIF	**Iriomote-Funau**	**1.46**	**237**	P	**Pn**	**04 18 12.5**	**-0.9**
IRIF				S	**Sn**	**04 18 32.2**	**+0.1**
HATJ	**Hateruma jima**	**1.57**	**227**	P	**Pb**	**04 18 16.6**	**+0.1**
HATJ				S	**Sb**	**04 18 36.4**	**+0.3**
JKE	**Kume jima 2**	**1.95**	**52**	P	**Pb**	**04 18 20.2**	**0.0**
YOJ	**Yonaguni jima**	**1.99**	**251**	P	**Pn**	**04 18 21.1**	**+0.4**
YOJ				*e*S	**Sn**	**04 18 46.1**	**+0.8**
JYNG	**Yonagunijimaku**	**2.05**	**251**	P	**Pn**	**04 18 23.0**	**+1.4**
JYNG				*e*S	**Sn**	**04 18 47.6**	**+0.9**
KSRS	**Korea Array**	**12.52**	**11**	P	Pn	04 20 49.2	+3.9
	0.1nm,0.3s,baz=184,slow=16,SNR=6.0						
SONM	**Songino Array**	**27.05**	**332**	P	**P**	**04 23 29.6**	**+0.2**
	0.7nm,0.8s,baz=148,slow=12,SNR=5.5						
MKAR	**Makanchi Array**	**40.19**	**314**	P	**P**	**04 25 22.1**	**-1.2**
	0.7nm,0.7s,baz=96,slow=10,SNR=7.3						
ZALV	**Zalesovo Beam**	**41.45**	**325**	P	**P**	**04 25 32.6**	**-0.9**
	0.9nm,0.5s,baz=99,slow=9.2,SNR=4.7						
WRA	**Warramunga Arr**	**45.70**	**168**	P	**P**	**04 26 09.0**	**+0.9**
	0.4nm,0.7s,baz=351,slow=8.4,SNR=5.5						
ASAR	**Alice Springs**	**49.26**	**169**	P	**P**	**04 26 37.5**	**+1.7**
	0.2nm,0.4s,baz=357,slow=10,SNR=3.5						
ILAR	**Eielson Array**	**66.74**	**28**	P	**P**	**04 28 37.7**	**-0.2**
	0.4nm,0.7s,baz=294,slow=5.6,SNR=6.1						
YKA	**Yellowknife Ar**	**80.70**	**24**	P	**P**	**04 29 59.7**	**-0.2**
	1.0nm,0.8s,baz=305,slow=5.1,SNR=6.3						

*MOS **29** 04:41:50.8±1.1, 42°.43N×43°.55E, h11km, mb3.9/1, Error ellipse: s-maj=12.1km s-min=6.0km az=84.2*
*TIF **29** 04:41:50.7, 42°.45N×43°.75E, h13km±2km*
*DDA **29** 04:41:50.6, 42°.49N×43°.59E, h4km, MD3.2*
*AZER **29** 04:41:52.1±3.0, 42°.27N×43°.51E, h3km, Error ellipse: s-maj=33.4km s-min=25.8km az=154.0*
*CSEM **29** 04:41:52.1±0.1, 42°.

DBAD				*i* S		**Sg**	04 42 56.5	**-1.2**
DDEM	**Demirkent**	**2.12**	**224**	*i* P		**Pb**	04 42 30.1	**-0.2**
DDEM				*i* S		**Sg**	04 42 59.6	**-0.1**
DDEM	**Demirkent**	**2.12**	**224**	*i* P		**Pb**	04 42 30.1	**-0.2**
DDEM				*i* S		**Sg**	04 42 59.6	**-0.1**
ZKTA	**Zakatala**	**2.32**	**109**	⇑P		**Pb**	04 42 32.9	**-0.7**
ZKTA				⇓S		**Sb**	04 43 02.9	**+0.5**
GNI	**Garni**	**2.41**	**161**	*e*PN		**Pn**	04 42 33.2	**+1.7**
GNI	**Garni**	**2.41**	**161**	*e*Pn		**Pn**	04 42 33.2	**+1.7**
GANJ	**Ganja**	**2.66**	**131**	P		**Pn**	04 42 37.0	**+2.3**
	SNR=3.1							
GANJ				⇓S		**Sb**	04 43 11.0	**-1.2**
GANJ	**Ganja**	**2.66**	**131**	P		**Pn**	04 42 37.0	**+2.3**
	SNR=3.1							
GANJ				S		**Sb**	04 43 11.0	**-1.2**
GOF	**Gofitskoye**	**2.67**	**350**	*e*PN		**Pn**	04 42 36.5	**+1.6**
GOF				*e*S		**Sg**	04 43 18.9	**+1.7**
GOF				pmax	pmax			
	comp=Z,10.0nm,0.8s							
GOF				smax	smax			
	comp=N,100nm,0.9s							
GOF				smax	smax			
	comp=E,40nm,0.9s							
GOF	**Gofitskoye**	**2.67**	**350**	*e*Pn		**Pn**	04 42 36.5	**+1.6**
	comp=E,10.0nm,0.8s							
GOF				*e*Sg		**Sg**	04 43 18.9	**+1.7**
EATA	**Eleskirt**	**2.72**	**200**	*i* P		**Pn**	04 42 38.2	**+2.3**
EATA				*i* S		**Sg**	04 43 19.5	**+0.5**
EATA	**Eleskirt**	**2.72**	**200**	*i* P		**Pn**	04 42 38.2	**+2.3**
SEKA	**Sheki**	**2.89**	**114**	⇓P		**Pn**	04 42 39.8	**+1.9**
	SNR=3.5							
SEKA				⇑S		**Sb**	04 43 17.1	**-1.7**
SEKA	**Sheki**	**2.89**	**114**	P		**Pn**	04 42 39.8	**+1.9**
	SNR=3.5							
SEKA				S		**Sb**	04 43 17.1	**-1.7**
ANN	**Anapa**	**5.13**	**300**	*e*PN		Pn	04 42 57.9	-11
ANN				pmax	pmax			
	comp=Z,76nm,1.1s							
ARU	**Arti**	**16.96**	**29**	*e*P		**Pn**	04 45 46.5	**-2.6**
ARU				pmax	pmax			
	comp=Z,2.0nm,1.3s							
CLL	**Collm**	**22.65**	**304**	*e*P		**P**	04 46 52.0	**-0.9**

NEIC ***29*** *04:45:51.6, 15°.97N×94°.52W, h27km, MD4.2(MEX), After MEX.*

MEX 29 04:45:51.6±0.8, 15°.97N×94°.52W, h27km±24km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.17**	**343**	*i* P	Pn	04 46 10.0	-2.3
CMIG				*i* S	Sn	04 46 24.2	-3.2
CMIG	**Matias Romero**	**1.17**	**343**	*i* P	Pn	04 46 10.0	-2.3
CMIG				*i* S	Sn	04 46 24.2	-3.2
PCIG		**1.28**	**102**	*e*P	Pn	04 46 11.8	-1.9
PCIG				*i* S	Sn	04 46 26.6	-3.4
PCIG		**1.28**	**102**	*e*P	Pn	04 46 11.8	-1.9
PCIG				*i* S	Sn	04 46 26.6	-3.4
HUIG	**Huatulco**	**1.54**	**263**	*i* P	Pn	04 46 14.6	-2.8
HUIG				*i* S	Sn	04 46 33.0	-3.6
HUIG	**Huatulco**	**1.54**	**263**	*i* P	Pn	04 46 14.6	-2.8
HUIG				*i* S	Sn	04 46 33.0	-3.6
TGIG		**1.56**	**59**	*i* P	Pn	04 46 14.7	-3.0
TGIG				*i* S	Sn	04 46 33.3	-3.9
TGIG		**1.56**	**59**	*i* P	Pn	04 46 14.7	-3.0
TGIG				*i* S	Sn	04 46 33.3	-3.9
VHO	**Vista Hermosa**	**2.39**	**298**	*i* P	Pn	04 46 26.4	-2.9
VHO				*i* S	Sn	04 46 55.2	-2.8
VHO	**Vista Hermosa**	**2.39**	**298**	*i* P	Pn	04 46 26.4	-2.9
VHO				*i* S	Sn	04 46 55.2	-2.8
PNIG	**Pinotepa**	**3.49**	**277**	*i* P	Pn	04 46 41.9	-2.3
PNIG				*i* S	Sn	04 47 22.4	-2.3
PNIG	**Pinotepa**	**3.49**	**277**	*i* P	Pn	04 46 41.9	-2.3
PNIG				*i* S	Sn	04 47 22.4	-2.3
TEIG	**Tepich**	**7.29**	**54**	*e*Pn	Pn	04 47 32.7	-3.7
TEIG				*e*S	Sn	04 48 48.8	-10

ATH ***29*** *04:47:40.1, 37°.18N×28°.66E, h6km±2km, MD3.8/24*
HLW ***29*** *04:47:40.4, 37°.40N×28°.77E, h33km±16km, Ml3.9*
IDC ***29*** *04:47:41.2±0.9, 37°.01N×28°.58E, h0km, mb3.8/10, mb1 4.0/15, mb1mx3.8/46, mbtmp3.9/15, ML3.7/5, MS2.6/3, Ms1 2.6/3, ms1mx2.4/43, Error ellipse: s-maj=20.1km s-min=15.3km az=152.0*
ISK ***29*** *04:47:42.0, 37°.07N×28°.52E, h3km, MD3.5*
CSEM ***29*** *04:47:42.9±0.1, 37°.05N×28°.53E, h2km, MD3.4, Error ellipse: s-maj=2.6km s-min=2.5km az=113.0*
DDA ***29*** *04:47:42.0, 37°.05N×28°.52E, h21km, MD3.4*
ISCJB ***29*** *04:47:42.5±0.4, 37°.03N±0°.02×28°.51E±0°.02, h8km±3km, mb3.7/10, MS2.5/1, Error ellipse: s-maj=2.7km s-min=2.5km az=167.6*
THE ***29*** *04:47:43.3, 37°.04N×28°.51E, h1km, ML3.8/4, Error ellipse: s-maj=1.5km s-min=0.6km az=100.0*

ISC 29 04:47:43.8±0.8, 37°.08N±0°.02×28°.51E±0°.02, h14km±5km, n217, σ1=32/271, mb3.7/10, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.19**	**288**	PG	**Pg**	**04 47 47.0**	**-1.3**
YER	**Yerkesik**	**0.19**	**288**	*i* Pg	**Pg**	**04 47 47.0**	**-1.3**
TURN	**Turunc**	**0.21**	**160**	*i* P	**Pg**	**04 47 49.4**	**+0.8**
TURN				*i* S	**Sg**	**04 47 55.7**	**+3.9**
DALY	**Dalyan (Mu¨la**	**0.28**	**156**	PG	**Pg**	**04 47 47.7**	**-2.1**
DALY				SG	**Sg**	**04 47 53.0**	**-0.7**
DALY	**Dalyan (Mu¨la**	**0.28**	**156**	*i* Pg	**Pg**	**04 47 47.7**	**-2.1**
DALY				*i* Sg	**Sg**	**04 47 53.0**	**-0.7**
AYDN	**Tasoluk**	**0.77**	**319**	*i* P	**Pg**	**04 47 57.8**	**-1.0**
AYDN				*i* S	**Sg**	**04 48 08.2**	**-0.8**
AYDN	**Tasoluk**	**0.77**	**319**	*i* P	**Pg**	**04 47 57.8**	**-1.0**
AYDN				*i* S	**Sg**	**04 48 08.2**	**-0.8**
DENT	**Denizli**	**0.80**	**31**	*e*PG	**Pg**	**04 47 57.3**	**-2.0**
DENT	**Denizli**	**0.80**	**31**	*e*Pg	**Pg**	**04 47 57.3**	**-2.0**
BDRM	**Kayabasi**	**0.85**	**270**	*i* P	**Pg**	**04 47 59.0**	**-1.4**
BDRM				*i* S	**Sn**	**04 48 13.7**	**-0.1**
BDRM	**Kayabasi**	**0.85**	**270**	*i* P	**Pg**	**04 47 59.0**	**-1.4**
GOLH	**Golhisar**	**0.85**	**79**	*i* P	**Pg**	**04 47 58.4**	**-2.0**
GOLH				*i* S	**Sn**	**04 48 13.9**	**0.0**
GOLH	**Golhisar**	**0.85**	**79**	*i* P	**Pg**	**04 47 58.4**	**-2.0**
GOLH				*i* S	**Sn**	**04 48 13.9**	**0.0**
ARG	**Arkhangelos**	**0.91**	**200**	*e*PG	**Pg**	**04 47 59.8**	**-1.7**
ARG				*e*SB	**Sn**	**04 48 15.2**	**+0.1**
ARG	**Arkhangelos**	**0.91**	**200**	*e*Pg	**Pg**	**04 47 59.8**	**-1.7**
ARG				S	**Sn**	**04 48 14.6**	**-0.5**
ARG				*e*Sb	**Sn**	**04 48 15.2**	**+0.1**
ARG	**Arkhangelos**	**0.91**	**200**	P	**Pg**	**04 47 59.9**	**-1.6**
ARG				S	**Sn**	**04 48 14.6**	**-0.5**
BODT	**Bodrum**	**0.96**	**270**	*e*PG	**Pg**	**04 48 01.7**	**-0.7**
BODT				*e*SG	**Sb**	**04 48 15.5**	**+0.6**
BODT	**Bodrum**	**0.96**	**270**	*e*Pg	**Pg**	**04 48 01.7**	**-0.7**
BODT				*e*Sg	**Sb**	**04 48 15.5**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.00**	**331**	*e*PG	**Pg**	**04 48 01.9**	**-1.3**
AYDB				*e*SG	**Sg**	**04 48 16.5**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.00**	**331**	*e*Pg	**Pg**	**04 48 01.9**	**-1.3**
AYDB				*e*Sg	**Sg**	**04 48 16.5**	**+0.2**
ELL	**Elmali**	**1.17**	**106**	*e*PN	**Pb**	**04 48 05.1**	**-0.8**
ELL				*e*SN	**Sn**	**04 48 21.8**	**+0.2**
ELL	**Elmali**	**1.17**	**106**	*e*Pn	**Pb**	**04 48 05.1**	**-0.8**
ELL				*e*Sn	**Sn**	**04 48 21.8**	**+0.2**
NIS1	**Nisyros Isl.**	**1.17**	**247**	*e*PB	**Pb**	**04 48 05.0**	**-0.9**
NIS1				*e*SB	**Sn**	**04 48 23.8**	**+2.3**
NIS1	**Nisyros Isl.**	**1.17**	**247**	P	**Pb**	**04 48 04.9**	**-0.9**
NIS1				S	**Sb**	**04 48 21.5**	**+0.7**
NIS1				*e*Sb	**Sn**	**04 48 23.8**	**+2.3**
NIS1	**Nisyros Isl.**	**1.17**	**247**	P	**Pb**	**04 48 04.9**	**-0.9**
NIS1				S	**Sb**	**04 48 21.5**	**+0.7**
NISR	**Nisiros**	**1.20**	**248**	*e*PG	**Pb**	**04 48 04.9**	**-1.5**
NISR				*e*SB	**Sn**	**04 48 23.3**	**+1.0**
NISR	**Nisiros**	**1.20**	**248**	*e*Pg	**Pb**	**04 48 04.9**	**-1.5**
NISR	**Nisiros**	**1.20**	**248**	P	**Pb**	**04 48 05.6**	**-0.8**
NISR				*e*Sb	**Sn**	**04 48 23.3**	**+1.0**
NISR	**Nisiros**	**1.20**	**248**	P	**Pb**	**04 48 05.6**	**-0.8**
AKAS	**Kas**	**1.22**	**133**	*i* P	**Pb**	**04 48 05.7**	**-1.0**
AKAS				*i* S	**Sn**	**04 48 27.7**	**+4.8**
AKAS	**Kas**	**1.22**	**133**	*i* P	**Pb**	**04 48 05.7**	**-1.0**
MANT	**Manisa**	**1.41**	**1**	*i* P	**Pn**	**04 48 09.1**	**-0.3**
MANT				*i* S	**Sg**	**04 48 29.5**	**0.0**
MANT	**Manisa**	**1.41**	**1**	*i* P	**Pn**	**04 48 09.1**	**-0.3**
MANT				*i* S	**Sg**	**04 48 29.5**	**0.0**
KULA	**Kula-Manisa**	**1.44**	**5**	*e*PN	**Pn**	**04 48 09.4**	**-0.2**
KULA	**Kula-Manisa**	**1.44**	**5**	P	**Pn**	**04 48 09.3**	**-0.3**
KULA				S	**Sb**	**04 48 29.8**	**+1.0**
KULA	**Kula-Manisa**	**1.44**	**5**	P	**Pn**	**04 48 09.3**	**-0.3**
KULA				S	**Sb**	**04 48 29.8**	**+1.0**
KORT	**Korkueli**	**1.47**	**92**	*i* P	**Pg**	**04 48 12.0**	**-0.2**
KORT				*i* S	**Sg**	**04 48 33.7**	**+2.4**
KORT	**Korkueli**	**1.47**	**92**	*i* P	**Pg**	**04 48 12.0**	**-0.2**
SMG	**Samos**	**1.48**	**296**	*e*PB	**Pn**	**04 48 09.1**	**-0.9**
SMG	**Samos**	**1.48**	**296**	P	**Pn**	**04 48 09.3**	**-0.7**
SMG				S	**Sn**	**04 48 29.7**	**+0.6**
SMG	**Samos**	**1.48**	**296**	P	**Pn**	**04 48 09.3**	**-0.7**
SMG				S	**Sn**	**04 48 29.7**	**+0.6**
KHL	**Karahalli**	**1.48**	**32**	*e*PN	**Pn**	**04 48 09.7**	**-0.5**
KHL	**Karahalli**	**1.48**	**32**	*e*Pn	**Pn**	**04 48 09.7**	**-0.5**
KHAL	**Karahalli**	**1.51**	**31**	*i* P	**Pn**	**04 48 09.7**	**-0.9**
KHAL				*i* S	**Sg**	**04 48 31.8**	**-0.7**
KHAL	**Karahalli**	**1.51**	**31**	*i* P	**Pn**	**04 48 09.7**	**-0.9**
KHAL				*i* S	**Sg**	**04 48 31.8**	**-0.7**
BCK	**Bucak**	**1.70**	**76**	*e*PN	**Pn**	**04 48 13.8**	**+0.6**
BCK	**Bucak**	**1.70**	**76**	*e*Pn	**Pn**	**04 48 13.8**	**+0.6**
ANTB	**Antalya**	**1.73**	**95**	*e*PN	**Pb**	**04 48 14.5**	**-0.8**
ANTB	**Antalya**	**1.73**	**95**	*e*Pn	**Pb**	**04 48 14.5**	**-0.8**
BLCB	**Balcova**	**1.75**	**319**	*e*PN	**Pn**	**04 48 14.4**	**+0.6**
BLCB	**Balcova**	**1.75**	**319**	*e*Pn	**Pn**	**04 48 14.4**	**+0.6**
KARP	**Karpathos**	**1.87**	**216**	*e*PN	**Pb**	**04 48 16.9**	**-1.0**
KARP				*e*SN	**Sg**	**04 48 44.1**	**0.0**
KARP	**Karpathos**	**1.87**	**216**	P	**Pn**	**04 48 14.8**	**-0.7**
KARP	**Karpathos**	**1.87**	**216**	*e*Pn	**Pb**	**04 48 16.9**	**-1.0**
KARP				S	**Sn**	**04 48 38.8**	**-0.2**
KARP	**Karpathos**	**1.87**	**216**	P	**Pn**	**04 48 14.8**	**-0.7**
KARP				S	**Sn**	**04 48 38.8**	**-0.2**
AKHS	**Akhisar**	**1.88**	**343**	*i* P	**Pn**	**04 48 15.1**	**-0.5**
AKHS				*i* S	**Sg**	**04 48 43.7**	**-0.7**
AKHS	**Akhisar**	**1.88**	**343**	*i* P	**Pn**	**04 48 15.1**	**-0.5**
AKHS				*i* S	**Sg**	**04 48 43.7**	**-0.7**
AKS	**Akhisar**	**1.88**	**343**	*e*PN	**Pn**	**04 48 15.7**	**+0.1**
AKS	**Akhisar**	**1.88**	**343**	*e*Pn	**Pn**	**04 48 15.7**	**+0.1**
DEMI	**Demirci**	**1.97**	**5**	*i* P	**Pn**	**04 48 17.2**	**+0.3**
DEMI				*i* S	**Sb**	**04 48 44.2**	**+0.2**
DEMI	**Demirci**	**1.97**	**5**	*i* P	**Pn**	**04 48 17.2**	**+0.3**
DEMI				*i* S	**Sb**	**04 48 44.2**	**+0.2**
URLA	**Izmir**	**1.99**	**311**	*e*P	**Pb**	**04 48 20.9**	**+1.1**
URLA				*i* S	**Sg**	**04 48 52.3**	**+4.5**
BAGO	**Egridir - ISPA**	**2.03**	**63**	*i* P	**Pn**	**04 48 18.5**	**+0.8**
BAGO				*i* S	**Sg**	**04 48 48.3**	**-0.8**
CHOS	**Chios island**	**2.35**	**305**	*e*PN	**Pn**	**04 48 22.0**	**-0.1**
CHOS	**Chios island**	**2.35**	**305**	*e*Pn	**Pn**	**04 48 22.0**	**-0.1**
CHOS				S	**Sn**	**04 48 52.1**	**+1.4**
CHOS	**Chios island**	**2.35**	**305**	P	**Pn**	**04 48 21.9**	**-0.1**
CHOS				S	**Sn**	**04 48 52.1**	**+1.4**
DKL	**Dikili**	**2.36**	**328**	*e*PN	**Pn**	**04 48 23.1**	**+1.0**
DKL	**Dikili**	**2.36**	**328**	*e*Pn	**Pn**	**04 48 23.1**	**+1.0**
APE	**Apeiranthos**	**2.38**	**271**	*e*PB	**Pn**	**04 48 22.7**	**+0.2**
APE	**Apeiranthos**	**2.38**	**271**	P	**Pn**	**04 48 22.3**	**-0.2**
APE	**Apeiranthos**	**2.38**	**271**	*e*Pb	**Pn**	**04 48 22.7**	**+0.2**
APE				S	**Sn**	**04 48 52.0**	**+0.4**
APE	**Apeiranthos**	**2.38**	**271**	P	**Pn**	**04 48 22.3**	**-0.2**
APE				S	**Sn**	**04 48 52.0**	**+0.4**
TVSB	**Tavsanli**	**2.49**	**17**	*e*PN	**Pn**	**04 48 24.4**	**+0.4**
TVSB	**Tavsanli**	**2.49**	**17**	*e*Pn	**Pn**	**04 48 24.4**	**+0.4**
BOLV	**Bolvadin**	**2.53**	**49**	*i* P	**Pn**	**04 48 25.5**	**+0.8**
BOLV	**Bolvadin**	**2.53**	**49**	*i* P	**Pn**	**04 48 25.5**	**+0.8**
BALB	**Balikesir**	**2.61**	**349**	*e*PN	**Pn**	**04 48 26.5**	**+0.9**
BALB	**Balikesir**	**2.61**	**349**	*e*Pn	**Pn**	**04 48 26.5**	**+0.9**
ZKR	**Zakros**	**2.70**	**224**	P	**Pn**	**04 48 25.6**	**-1.2**
ZKR	**Zakros**	**2.70**	**224**	P	**Pn**	**04 48 25.6**	**-1.2**
PRK	**Paraskevi**	**2.79**	**322**	*e*PN	**Pn**	**04 48 27.8**	**-0.3**
PRK	**Paraskevi**	**2.79**	**322**	P	**Pn**	**04 48 27.9**	**-0.2**
PRK				S	**Sn**	**04 49 02.8**	**+1.2**
PRK	**Paraskevi**	**2.79**	**322**	P	**Pn**	**04 48 27.9**	**-0.2**
PRK				S	**Sn**	**04 49 02.8**	**+1.2**
SIGR	**SIGRI**	**2.99**	**316**	*e*PN	**Pn**	**04 48 31.3**	**+0.5**
SIGR	**SIGRI**	**2.99**	**316**	P	**Pn**	**04 48 30.7**	**-0.1**
SIGR	**SIGRI**	**2.99**	**316**	*e*Pn	**Pn**	**04 48 31.3**	**+0.5**
SIGR	**SIGRI**	**2.99**	**316**	P	**Pn**	**04 48 30.7**	**-0.1**
ESKT	**Eskisehir**	**3.06**	**36**	*e*PN	**Pn**	**04 48 33.3**	**+1.4**
ESKT	**Eskisehir**	**3.06**	**36**	*e*Pn	**Pn**	**04 48 33.3**	**+1.4**
LAST	**Lasithi**	**3.11**	**233**	*e*PN	**Pn**	**04 48 33.3**	**+0.7**
LAST	**Lasithi**	**3.11**	**233**	P	**Pn**	**04 48 32.0**	**-0.6**
LAST	**Lasithi**	**3.11**	**233**	*e*Pn	**Pn**	**04 48 33.3**	**+0.7**
LAST	**Lasithi**	**3.11**	**233**	P	**Pn**	**04 48 32.0**	**-0.6**
KONT	**Konya--Tatoy**	**3.18**	**73**	*e*PN	**Pn**	**04 48 35.0**	**+1.5**
KONT	**Konya--Tatoy**	**3.18**	**73**	*e*Pn	**Pn**	**04 48 35.0**	**+1.5**
HDMB	**Hadim**	**3.18**	**91**	*e*PN	**Pn**	**04 48 35.5**	**+1.8**
HDMB	**Hadim**	**3.18**	**91**	*e*Pn	**Pn**	**04 48 35.5**	**+1.8**
KCTX	**Karacabey (Bur**	**3.19**	**358**	*e*PN	**Pn**	**04 48 34.7**	**+1.1**
KCTX	**Karacabey (Bur**	**3.19**	**358**	*e*Pn	**Pn**	**04 48 34.7**	**+1.1**
KIZT	**Kizilcal**	**3.21**	**55**	*e*PN	**Pn**	**04 48 35.5**	**+1.5**
KIZT	**Kizilcal**	**3.21**	**55**	*e*Pn	**Pn**	**04 48 35.5**	**+1.5**
EZN	**Ezine**	**3.24**	**329**	*e*PN	**Pn**	**04 48 35.8**	**+1.6**
EZN	**Ezine**	**3.24**	**329**	*e*Pn	**Pn**	**04 48 35.8**	**+1.6**
CAVI	**Cavuskoy**	**3.29**	**18**	*e*PN	**Pn**	**04 48 36.5**	**+1.5**
CAVI	**Cavuskoy**	**3.29**	**18**	*e*Pn	**Pn**	**04 48 36.5**	**+1.5**
IACM	**Heraklion**	**3.29**	**239**	*e*PN	**Pn**	**04 48 36.2**	**+1.2**
IACM	**Heraklion**	**3.29**	**239**	*e*Pn	**Pn**	**04 48 36.2**	**+1.2**
EDC	**Edincik**	**3.31**	**351**	*e*PN	**Pn**	**04 48 36.5**	**+1.3**
EDC	**Edincik**	**3.31**	**351**	*e*Pn	**Pn**	**04 48 36.5**	**+1.3**
BNT	**Bandirma**	**3.31**	**352**	*e*PN	**Pn**	**04 48 36.5**	**+1.3**
BNT	**Bandirma**	**3.31**	**352**	*e*Pn	**Pn**	**04 48 36.5**	**+1.3**
IZI	**Iznik**	**3.34**	**13**	*e*PN	**Pn**	**04 48 36.8**	**+1.1**
IZI	**Iznik**	**3.34**	**13**	*e*Pn	**Pn**	**04 48 36.8**	**+1.1**
SVRH	**Sivrihisar-ESK**	**3.35**	**44**	*e*PN	**Pn**	**04 48 37.3**	**+1.4**
SVRH	**Sivrihisar-ESK**	**3.35**	**44**	*e*Pn	**Pn**	**04 48 37.3**	**+1.4**
GEMT	**Gemlik**	**3.40**	**9**	*e*PN	**Pn**	**04 48 37.8**	**+1.4**
GEMT	**Gemlik**	**3.40**	**9**	*e*Pn	**Pn**	**04 48 37.8**	**+1.4**
IDI	**Anoyia**	**3.43**	**240**	Pn	**Pn**	**04 48 36.9**	**0.0**
	3.8nm,0.3s,baz=60,slow=15,SNR=20						
IDI					Sn	**04 49 19.2**	**+1.8**
	5.2nm,0.3s,baz=286,slow=20,SNR=4.3						
IDI				LR	LR	04 50 05.8	
	comp=Z,100nm,21.8s,baz=72,slow=42						
IDI	**Anoyia**	**3.43**	**240**	*e*Pn	**Pn**	**04 48 39.1**	**+2.2**
IDI	**Anoyia**	**3.43**	**240**	*e*Pn	**Pn**	**04 48 39.1**	**+2.2**
ADVT	**Abdulvahap**	**3.49**	**16**	*e*PN	**Pn**	**04 48 39.1**	**+1.5**
ADVT	**Abdulvahap**	**3.49**	**16**	*e*Pn	**Pn**	**04 48 39.1**	**+1.5**
LPK	**Lapseki**	**3.57**	**338**	*e*PN	**Pn**	**04 48 40.1**	**+1.4**
LPK	**Lapseki**	**3.57**	**338**	*e*Pn	**Pn**	**04 48 40.1**	**+1.4**
MRMT	**Marmara Adasi**	**3.59**	**349**	*e*PN	**Pn**	**04 48 40.5**	**+1.3**
MRMT	**Marmara Adasi**	**3.59**	**349**	*e*Pn	**Pn**	**04 48 40.5**	**+1.3**
SIVA	**Sivas**	**3.63**	**237**	*e*PN	**Pn**	**04 48 42.0**	**+2.3**
SIVA	**Sivas**	**3.63**	**237**	*e*Pn	**Pn**	**04 48 42.0**	**+2.3**
GELI	**Tayfur-Gelibol**	**3.68**	**335**	*e*PN	**Pn**	**04 48 41.8**	**+1.5**
GELI	**Tayfur-Gelibol**	**3.68**	**335**	*e*Pn	**Pn**	**04 48 41.8**	**+1.5**
GULT	**Gulveren**	**3.70**	**24**	*e*PN	**Pn**	**04 48 42.0**	**+1.3**
GULT	**Gulveren**	**3.70**	**24**	*e*Pn	**Pn**	**04 48 42.0**	**+1.3**
GADA	**Gvkgeada**	**3.72**	**327**	*e*PN	**Pn**	**04 48 42.3**	**+1.4**
GADA	**Gvkgeada**	**3.72**	**327**	*e*Pn	**Pn**	**04 48 42.3**	**+1.4**
RKY	**Sarkoy-Tekirda**	**3.75**	**344**	*e*PN	**Pn**	**04 48 43.0**	**+1.6**
RKY	**Sarkoy-Tekirda**	**3.75**	**344**	*e*Pn	**Pn**	**04 48 43.0**	**+1.6**
LIA	**Limnos Island**	**3.84**	**318**	*e*PN	**Pn**	**04 48 42.7**	**+0.2**
LIA	**Limnos Island**	**3.84**	**318**	*e*Pn	**Pn**	**04 48 42.7**	**+0.2**
HRT	**Hereke**	**3.85**	**13**	*e*PN	**Pn**	**04 48 44.1**	**+1.5**
HRT	**Hereke**	**3.85**	**13**	*e*Pn	**Pn**	**04 48 44.2**	**+1.5**
VAM	**Vamos**	**3.86**	**246**	*e*PN	**Pn**	**04 48 44.2**	**+1.4**
VAM	**Vamos**	**3.86**	**246**	*e*Pn	**Pn**	**04 48 44.2**	**+1.4**
ERIK	**Erikli-Kesan**	**3.91**	**337**	*e*PN	**Pn**	**04 48 45.3**	**+1.8**
ERIK	**Erikli-Kesan**	**3.91**	**337**	*e*Pn	**Pn**	**04 48 45.3**	**+1.8**
MDUB	**Mudurnu**	**3.99**	**31**	*e*PN	**Pn**	**04 48 46.0**	**+1.3**
MDUB	**Mudurnu**	**3.99**	**31**	*e*Pn	**Pn**	**04 48 46.0**	**+1.3**
ISK	**Istanbul-Kandi**	**4.01**	**6**	*e*PN	**Pn**	**04 48 47.0**	**+2.2**
ISK	**Istanbul-Kandi**	**4.01**	**6**	*e*Pn	**Pn**	**04 48 47.0**	**+2.2**
LEF	**Lefka**	**4.05**	**118**	*e*PN	**Pn**	**04 48 47.2**	**+1.8**
LEF	**Lefka**	**4.05**	**118**	*e*Pn	**Pn**	**04 48 47.2**	**+1.8**
ENEZ	**Enez**	**4.09**	**334**	*e*PN	**Pn**	**04 48 47.8**	**+1.9**
ENEZ	**Enez**	**4.09**	**334**	*e*Pn	**Pn**	**04 48 47.8**	**+1.9**
CTKS	**Kestanelik-??a**	**4.16**	**360**	*e*PN	**Pn**	**04 48 48.5**	**+1.7**
CTKS	**Kestanelik-??a**	**4.16**	**360**	*e*Pn	**Pn**	**04 48 48.5**	**+1.7**
KLYT	**Kilyos**	**4.19**	**5**	*e*PN	**Pn**	**04 48 49.2**	**+1.9**
KLYT	**Kilyos**	**4.19**	**5**	*e*Pn	**Pn**	**04 48 49.2**	**+1.9**
MRKA	**Markates**	**4.22**	**294**	*e*PN	**Pn**	**04 48 47.9**	**+0.1**
MRKA	**Markates**	**4.22**	**294**	*e*Pn	**Pn**	**04 48 47.9**	**+0.1**
GVD	**Gavdhos**	**4.22**	**239**	*e*PN	**Pn**	**04 48 50.8**	**+3.0**
GVD	**Gavdhos**	**4.22**	**239**	*e*Pn	**Pn**	**04 48 50.8**	**+3.0**
VILL	**Villia**	**4.27**	**286**	*e*PN	**Pn**	**04 48 49.5**	**+1.1**
ALN	**Alexandroupoli**	**4.27**	**334**	*e*PN	**Pn**	**04 48 48.6**	**+0.2**
ALN	**Alexandroupoli**	**4.27**	**334**	*e*Pn	**Pn**	**04 48 48.6**	**+0.2**
ALN	**Alexandroupoli**	**4.27**	**334**	P	**Pn**	**04 48 48.4**	**0.0**
VIL2	**Platees**	**4.31**	**287**	*e*PN	**Pn**	**04 48 49.5**	**+0.5**
VLI	**Veliai**	**4.48**	**267**	*e*PN	**Pn**	**04 48 52.1**	**+0.8**
VLI	**Veliai**	**4.48**	**267**	P	**Pn**	**04 48 51.1**	**-0.2**
VLI	**Veliai**	**4.48**	**267**	*e*Pn	**Pn**	**04 48 52.1**	**+0.8**
VLI	**Veliai**	**4.48**	**267**	P	**Pn**	**04 48 51.1**	**-0.2**
LTK	**Loutraki**	**4.51**	**284**	*e*PN	**Pn**	**04 48 52.8**	**+1.1**
LTK	**Loutraki**	**4.51**	**284**	*e*Pn	**Pn**	**04 48 52.8**	**+1.1**
SMIA	**Simia**	**4.56**	**295**	*e*PN	**Pn**	**04 48 53.6**	**+1.2**
SMIA	**Simia**	**4.56**	**295**	*e*Pn	**Pn**	**04 48 53.6**	**+1.2**
BRTR	**Keskin Array B**	**4.82**	**55**	Pn	**Pn**	**04 48 57.3**	**+1.2**
	2.0nm,0.3s,baz=241,slow=17,SNR=60						
BRTR					Sn	**04 49 54.2**	**+2.4**
	0.5nm,0.3s,baz=234,slow=25,SNR=8.4						
GUR	**Goura**	**4.98**	**282**	*e*PN	**Pn**	**04 48 59.5**	**+1.2**
GUR	**Goura**	**4.98**	**282**	*e*Pn	**Pn**	**04 48 59.5**	**+1.2**
MAKR	**Makrakomi, Fth**	**5.39**	**293**	*e*PN	**Pn**	**04 49 05.8**	**+1.9**
MAKR	**Makrakomi, Fth**	**5.39**	**293**	*e*Pn	**Pn**	**04 49 05.8**	**+1.9**
EFP	**Efpalio**	**5.41**	**286**	*e*PN	**Pn**	**04 49 05.6**	**+1.6**
EFP	**Efpalio**	**5.41**	**286**	*e*Pn	**Pn**	**04 49 05.6**	**+1.6**
THL	**Klokotos Trika**	**5.68**	**298**	*e*PN	**Pn**	**04 49 09.4**	**+1.6**
THL	**Klokotos Trika**	**5.68**	**298**	*e*Pn	**Pn**	**04 49 09.4**	**+1.6**
SLUM		**6.20**	**207**	P	**Pn**	**04 49 16.2**	**+1.2**
	baz=208	

az=164.0
*ISCJB **29** 04:55:50.5±0.7,52°.72N±0°.04×169°.48W±0°.03,h32$^{km}\pm4^{km}$, mb4.5/89,MS3.6/18,Error ellipse: s-maj=6.1km s-min=3.0km az=169.7*

ISC 29 04:55:50.6±0.6,52°.80N±0°.08×169°.45W±0°.03,h15$^{km}\pm2^{km}$, n507,σ1ᵗ05/525,mb4.5/90,MS3.6/18,1C,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.40**	**64**	P	**Pb**	**04 55 59.6**	**+0.1**
NIKH				S	**Sb**	**04 56 06.2**	**+0.8**
OKSO	**Okmok South**	**0.96**	**54**	P	**Pb**	**04 56 08.6**	**-0.4**
OKSO				S	**Sn**	**04 56 22.3**	**-0.7**
OKCE	**Okmok Cone E**	**1.00**	**50**	P	**Pg**	**04 56 09.8**	**-0.2**
OKCE				S	**Sn**	**04 56 24.7**	**+0.6**
OKFG	**Magazine Ridge**	**1.11**	**56**	P	**Pb**	**04 56 11.1**	**-0.4**
OKFG				S	**Sg**	**04 56 26.7**	**+0.1**
UNV	**Unalaska Valle**	**2.06**	**58**	*e*Pn	**Pn**	**04 56 24.2**	**-0.4**
UNV				*e*S	**Sn**	**04 56 50.1**	**+0.1**
AKRB	**Akutan Reef Bi**	**2.42**	**55**	P	**Pn**	**04 56 30.8**	**+1.1**
AKUT	**Akutan**	**2.58**	**57**	*e*Pn	**Pn**	**04 56 33.1**	**+1.4**
AKUT				*e*Pg	**Pg**	**04 56 40.3**	**+0.4**
AKUT				*e*S	**Sg**	**04 57 12.7**	**-0.6**
ATKA	**Atka Island**	**2.96**	**260**	P	**Pn**	**04 56 35.5**	**-1.6**
GSTR	**Great Sitkin T**	**4.10**	**263**	*e*Pn	**Pn**	**04 56 52.7**	**-0.1**
GSTR				*e*S	**Sn**	**04 57 46.0**	**+5.5**
GSMY	**Great Sitkin M**	**4.11**	**262**	P	**Pn**	**04 56 52.4**	**-0.5**
FALS	**False Pass**	**4.13**	**58**	*e*Pn	**Pn**	**04 56 54.1**	**+1.1**
FALS				*e*S	**Sn**	**04 57 44.7**	**+3.6**
GSTD	**Great Sitkin T**	**4.16**	**262**	P	**Pn**	**04 56 53.6**	**0.0**
ETKA	**Kagalaska Isla**	**4.37**	**260**	P	**Pn**	**04 56 56.5**	**+0.2**
SPIA	**Saint Paul Isl**	**4.42**	**354**	P	Pn	04 57 00.7	+3.8
ADAG	**Mount Adagdak**	**4.46**	**262**	P	**Pn**	**04 56 58.4**	**+0.8**
SDPT	**Sand Point**	**5.87**	**61**	*e*Pn	**Pn**	**04 57 18.2**	**+1.2**
SDPT				*e*S	**Sb**	**04 58 40.3**	**-2.3**
AMKA	**Amchitka**	**7.08**	**263**	*e*Pn	**Pn**	**04 57 34.3**	**+0.8**
CHGN	**Chignik**	**7.32**	**57**	*e*Pn	**Pn**	**04 57 38.4**	**+1.6**
SMY	**Shemya**	**9.97**	**276**	*e*P	**Pn**	**04 58 14.1**	**+0.9**
SMY				pmax	pmax		
	comp=Z,17nm,0.6s						
SMY	**Shemya**	**9.97**	**276**	*e*Pn	**Pn**	**04 58 14.1**	**+0.9**
	comp=Z,17nm,0.6s						
OHAK	**Old Harbor**	**10.28**	**58**	*e*Pn	**Pn**	**04 58 16.2**	**-1.2**
OHAK				*e*S	**Sn**	**05 00 15.7**	**+3.4**
KDAK	**Kodiak Island**	**10.83**	**56**	Pn	**Pn**	**04 58 22.8**	**-2.1**
	comp=Z,0.9nm,0.3s,baz=276,slow=9.4,SNR=9.2						
KDAK				Sn	Sn	05 00 18.8	-6.8
	baz=162,slow=20,SNR=2.0						
KDAK	**Kodiak Island**	**10.83**	**56**	*e*P	**Pn**	**04 58 23.9**	**-1.0**
KDAK	**Kodiak Island**	**10.83**	**56**	*e*Pn	**Pn**	**04 58 23.9**	**-1.0**
KDAK				*e*S	Sn	05 00 09.0	-17
SVW2	**Sparrevohn**	**11.23**	**37**	*e*Pn	Pn	04 58 33.1	+2.8
BRLK	**Bradley Lake**	**12.42**	**49**	*e*Pn	**Pn**	**04 58 48.6**	**+1.8**
TNA	**Tin City**	**12.83**	**3**	*e*Pn	**Pn**	**04 58 53.8**	**+1.6**
SEW	**Seward**	**13.22**	**49**	*e*Pn	**Pn**	**04 58 57.8**	**+0.3**
	comp=Z,22nm,0.8s						
PPLA	**Purkeypile**	**13.62**	**35**	*e*Pn	**Pn**	**04 59 04.8**	**+1.6**
CAST	**Castle Rocks**	**14.00**	**34**	*e*Pn	P	04 59 11.8	-4.3
PMR	**Palmer**	**14.05**	**43**	*e*P	**Pn**	**04 59 11.0**	**+2.2**
PMR				pmax	pmax		
	comp=Z,18nm,1.2s						
PMR	**Palmer**	**14.05**	**43**	*e*Pn	**Pn**	**04 59 11.0**	**+2.2**
	comp=Z,18nm,1.2s						
SML	**Sawmill**	**14.48**	**43**	*e*P	**Pn**	**04 59 13.8**	**-1.0**
SML				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SML	**Sawmill**	**14.48**	**43**	*e*Pn	**Pn**	**04 59 13.8**	**-1.0**
	comp=Z,4.2nm,0.8s						
TRF	**Thorofare Moun**	**14.64**	**36**	*e*Pn	**Pn**	**04 59 19.2**	**+2.1**
BPAW	**Bear Paw Mtn.**	**14.82**	**33**	*e*Pn	**Pn**	**04 59 19.8**	**+0.5**
EYAK	**Cordova Ski Ar**	**15.10**	**50**	*e*Pn	**Pn**	**04 59 22.4**	**-0.6**
	comp=Z,23nm,1.2s						
MCK	**McKinley**	**15.29**	**36**	*e*P	**Pn**	**04 59 26.8**	**+1.1**
MCK				pmax	pmax		
	comp=Z,28nm,1.2s						
MCK	**McKinley**	**15.29**	**36**	*e*Pn	**Pn**	**04 59 26.8**	**+1.1**
	comp=Z,28nm,1.2s						
DIV	**Divide**	**15.30**	**48**	*e*Pn	**Pn**	**04 59 24.5**	**-1.3**
	comp=Z,13nm,0.8s						
IM04	**Indian Mountai**	**15.37**	**25**	*e*Pn	**P**	**04 59 30.0**	**-1.3**
KLU	**Klutina**	**15.37**	**46**	*e*Pn	**Pn**	**04 59 25.7**	**-1.1**
	comp=Z,20nm,0.6s						
BMRM	**Bremner River**	**15.77**	**49**	*e*Pn	**Pn**	**04 59 31.4**	**-0.5**
	comp=Z,14nm,0.8s						
HARP	**HAARP**	**16.09**	**44**	*e*Pn	**Pn**	**04 59 36.9**	**+0.8**
	comp=Z,23nm,0.6s						
PAX	**Paxson**	**16.21**	**42**	*e*P	**Pn**	**04 59 38.0**	**+0.3**
PAX				pmax	pmax		
	comp=Z,13nm,1.2s						
PAX	**Paxson**	**16.21**	**42**	*e*Pn	**Pn**	**04 59 38.0**	**+0.3**
	comp=Z,13nm,1.2s						
CCB	**Clear Creek Bu**	**16.24**	**35**	*e*Pn	**Pn**	**04 59 38.5**	**+0.7**
	comp=Z,33nm,1.2s						
COLA	**College**	**16.36**	**34**	*e*P	**P**	**04 59 40.6**	**-1.6**
COLA				pmax	pmax		
	comp=Z,18nm,1.0s						
COLA	**College**	**16.36**	**34**	*e*Pn	**P**	**04 59 40.6**	**-1.6**
	comp=Z,18nm,1.0s						
ILAR	**Eielson Array**	**16.63**	**35**	Pn	**Pn**	**04 59 41.9**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=229,slow=11,SNR=27						
ILAR				PcP	**PcP**	**05 04 30.4**	**-1.6**
	comp=Z,0.0nm,0.3s,baz=254,slow=3.4,SNR=3.0						
ILAR				LR	LR	05 07 05.1	
	comp=Z,346nm,18.4s,baz=230,slow=40						
COLD	**Coldfoot**	**17.25**	**26**	*e*Pn	**P**	**04 59 51.8**	**-0.4**
	comp=Z,19nm,0.9s						
EGAK	**Eagle**	**18.74**	**39**	*e*Pn	**Pn**	**05 00 08.2**	**-0.7**
	comp=Z,12nm,1.0s						
HYT	**Haines Junctio**	**19.08**	**52**	*e*Pn	**Pn**	**05 00 14.4**	**+1.2**
DAWY	**Dawson**	**19.14**	**42**	*e*P	**P**	**05 00 12.7**	**-0.4**
	comp=Z,4.0nm,0.6s						
PET	**Petropavlovsk**	**19.16**	**283**	*e*P	**Pn**	**05 00 13.4**	**-0.7**
PET				*e*S	**Sn**	**05 03 41.1**	**-7.2**
PET				pmax	pmax		
	comp=Z,100nm,10.3s						
PET				MLR	MLR		
	comp=Z,200nm,21.0s						
PETK	**Petropavlovsk-**	**19.70**	**284**	P	**Pn**	**05 00 19.9**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=97,slow=12,SNR=6.0						
PETK	**Petropavlovsk-**	**19.70**	**284**	P	**Pn**	**05 00 19.9**	**-0.7**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SKAG	**Skagway**	**19.98**	**57**	*e*Pn	**Pn**	**05 00 22.8**	**-1.0**
	comp=Z,47nm,0.7s						
BESE	**Bessie Mountai**	**20.18**	**60**	*e*P	Pn	05 00 25.8	-0.5
	comp=Z,8.6nm,1.0s						
H02N1	**VAN INLET T-PH**	**22.05**	**74**	T	T	05 23 32.6	
	SNR=9.4						
H02S1	**DAWSON INLET T**	**22.10**	**74**	T	T	05 23 35.2	
SEY	**Seymchan**	**22.34**	**312**	P	**P**	**05 00 48.8**	**+1.2**
	comp=Z,1.9nm,0.8s,baz=105,slow=16,SNR=3.7						
SEY				PcP	**PcP**	**05 04 44.4**	**+2.2**
	comp=Z,1.2nm,0.4s,baz=162,slow=3.9,SNR=5.0						
SEY				ScP	**ScP**	**05 08 21.1**	**+2.2**
	comp=Z,0.4nm,0.2s,baz=152,slow=4.3,SNR=4.5						
SEY	**Seymchan**	**22.34**	**312**	P	**P**	**05 00 48.8**	**+1.2**
SEY						05 04 44.4	
SEY				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SEY				pmax	pmax		
	comp=Z,1.0nm,0.4s						
DLBC	**Dease Lake**	**22.71**	**60**	P	**P**	**05 00 54.2**	**+2.6**
	comp=Z,14nm,1.1s,baz=273,slow=9.4,SNR=16						
DLBC				ScP	**ScP**	**05 08 22.1**	**+2.0**
	comp=Z,1.3nm,0.7s,baz=329,slow=7.3,SNR=3.1						
DLBC				LR	LR	05 10 46.1	
	comp=Z,131nm,18.7s,baz=269,slow=39						
BBB	**Bella Bella**	**24.93**	**75**	LR	LR	05 09 28.3	
	comp=Z,89nm,20.8s,baz=265,slow=33						
YKA	**Yellowknife Ar**	**30.00**	**49**	P	**P**	**05 01 58.0**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=272,slow=7.8,SNR=18						
YKA				PcP	**PcP**	**05 04 59.9**	**0.0**
	comp=Z,0.6nm,0.7s,baz=274,slow=3.3,SNR=3.1						
YKA	**Yellowknife Ar**	**30.00**	**49**	P	**P**	**05 01 58.0**	**-0.2**
YKA						05 04 59.9	
YKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
D05A	**Enumclaw**	**30.57**	**81**	*e*P	**P**	**05 02 05.9**	**+2.5**
	comp=Z,34nm,1.4s						
LON	**Longmire**	**30.88**	**82**	*e*P	**P**	**05 02 08.5**	**+2.2**
LON				pmax	pmax		
	comp=Z,9.0nm,1.4s						
LON	**Longmire**	**30.88**	**82**	*e*P	**P**	**05 02 08.5**	**+2.2**
	comp=Z,9.1nm,1.4s						
G05D	**Wamic, OR**	**31.94**	**84**	P	**P**	**05 02 15.7**	**+0.1**
	baz=32						
I04A	**Tendick Farm,**	**32.05**	**87**	P	**P**	**05 02 16.5**	**-0.1**
	baz=32						
I05D	**Terrebonne, OR**	**32.40**	**85**	P	**P**	**05 02 20.9**	**+1.3**
	baz=32,SNR=9.2						
ASAJ	**Asahikawa**	**32.42**	**274**	LR	LR	05 15 17.9	
	comp=Z,132nm,20.7s,baz=31,slow=36						
NEW	**Newport**	**32.96**	**76**	P	**P**	**05 02 24.7**	**+0.2**
	comp=Z,5.1nm,0.5s,baz=297,slow=8.4,SNR=12						
NEW	**Newport**	**32.96**	**76**	P	**P**	**05 02 24.7**	**+0.2**
NEW				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NEW	**Newport**	**32.96**	**76**	P	**P**	**05 02 24.9**	**+0.4**
	baz=33,SNR=5.9						
NEW	**Newport**	**32.96**	**76**	*e*P	**P**	**05 02 24.6**	**+0.2**
	comp=Z,8.9nm,0.9s						
EDM	**Edmonton**	**33.02**	**66**	*e*P	**P**	**05 02 25.5**	**+0.5**
EDM				pmax	pmax		
	comp=Z,8.0nm,0.7s						
EDM	**Edmonton**	**33.02**	**66**	*e*P	**P**	**05 02 25.5**	**+0.5**
	comp=Z,8.0nm,0.7s						
YBH	**Yreka Blue Hor**	**33.03**	**91**	P	**P**	**05 02 26.4**	**+1.2**
	comp=Z,1.4nm,0.6s,baz=346,slow=9.6,SNR=5.2						
YBH	**Yreka Blue Hor**	**33.03**	**91**	P	**P**	**05 02 26.4**	**+1.2**
YBH				pmax	pmax		
	comp=Z,1.0nm,0.6s						
J05D	**Fort Rock, OR**	**33.04**	**87**	P	**P**	**05 02 25.7**	**+0.3**
	baz=33,SNR=6.2						
G08A	**Pilot Rock**	**33.34**	**82**	*e*P	**P**	**05 02 29.0**	**+1.1**
	comp=Z,6.1nm,1.0s						
N02D	**Trinity Center**	**33.48**	**92**	P	**P**	**05 02 28.9**	**-0.3**
	baz=33						
M04C	**Macdoel**	**33.53**	**90**	P	**P**	**05 02 29.4**	**-0.2**
	baz=33						
K05A	**Sumner Lake**	**33.56**	**88**	*e*P	**P**	**05 02 31.5**	**+1.5**
	comp=Z,13nm,1.0s						
MOD	**Modoc**	**34.40**	**88**	*e*P	**P**	**05 02 37.8**	**+0.7**
	comp=Z,7.3nm,1.0s						
WALA	**Waterton Lakes**	**34.47**	**73**	*e*P	**P**	**05 02 38.4**	**+0.7**
	comp=Z,13nm,1.3s						
BLMT	**Blacktail Moun**	**34.70**	**75**	*e*P	**P**	**05 02 40.6**	**+0.8**
JTMT	**Jette**	**34.88**	**76**	*e*P	**P**	**05 02 42.0**	**+0.8**
WVOR	**Wild Horse Val**	**35.10**	**86**	*e*P	**P**	**05 02 43.5**	**+0.3**
WVOR				pmax	pmax		
	comp=Z,13nm,0.9s						
WVOR	**Wild Horse Val**	**35.10**	**86**	*e*P	**P**	**05 02 43.5**	**+0.3**
	comp=Z,13nm,0.9s						
MSO	**Missoula**	**35.54**	**77**	P	**P**	**05 02 46.8**	**-0.1**
	baz=35,SNR=7.9						
MSO	**Missoula**	**35.54**	**77**	*e*P	**P**	**05 02 47.1**	**+0.2**
	comp=Z,4.6nm,0.8s						
MSO				*e*PcP	**PcP**	**05 05 15.5**	**-0.2**
MFID	**Camas Ranch**	**36.24**	**83**	*e*P	**P**	**05 02 53.1**	**+0.1**
	comp=Z,8.8nm,1.0s						
CMB	**Columbia Colle**	**36.71**	**94**	*e*P	**P**	**05 02 57.5**	**+0.5**
CMB				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CMB	**Columbia Colle**	**36.71**	**94**	*e*P	**P**	**05 02 57.5**	**+0.5**
	comp=Z,2.4nm,1.0s						
WAKR	**Walker**	**36.99**	**92**	*e*P	**P**	**05 02 58.6**	**-0.9**
HLID	**Hailey**	**37.01**	**82**	P	**P**	**05 02 59.9**	**+0.3**
	baz=37,SNR=9.5						
HLID	**Hailey**	**37.01**	**82**	*e*P	**P**	**05 02 59.9**	**+0.3**
	comp=Z,13nm,1.4s						
DLMT	**Dillon**	**37.10**	**78**	*e*P	**P**	**05 03 00.3**	**-0.1**
BMN	**Battle Mountai**	**37.14**	**88**	*e*P	**P**	**05 03 01.4**	**+0.7**
BMN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BMN	**Battle Mountai**	**37.14**	**88**	*e*P	**P**	**05 03 01.4**	**+0.7**
	comp=Z,4.6nm,0.8s						
MCMT	**McKenzie Canyo**	**37.24**	**79**	*e*P	**P**	**05 03 03.7**	**+2.1**
EGMT	**Eagleton**	**37.38**	**73**	P	**P**	**05 03 02.4**	**-0.2**
	baz=37,SNR=13						
BOZ	**Bozeman (W)**	**37.52**	**77**	P	**P**	**05 03 04.0**	**+0.1**
	baz=37,SNR=11						
NVAR	**Mina Array Bea**	**37.72**	**91**	P	**P**	**05 03 06.7**	**+0.9**
	comp=Z,3.3nm,0.8s,baz=295,slow=8.1,SNR=17						
NVAR				PcP	**PcP**	**05 05 22.6**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=284,slow=2.5,SNR=7.4						
H11N2	**WAKE ISLAND Hy**	**37.76**	**218**	T	T	05 42 55.4	
	baz=24,slow=76,SNR=168						
H11N3	**WAKE ISLAND Hy**	**37.77**	**218**	T	T	05 43 01.8	
	baz=24,slow=76,SNR=227						
H11N1	**WAKE ISLAND Hy**	**37.78**	**218**	T	T	05 43 00.7	
	baz=24,slow=76,SNR=201						
ELK	**Elko**	**38.15**	**86**	*e*P	**P**	**05 03 10.2**	**+0.8**
ELK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ELK	**Elko**	**38.15**	**86**	*e*P	**P**	**05 03 10.2**	**+0.8**
	comp=Z,9.1nm,0.9s						
FFC	**Flin Flon**	**38.54**	**59**	*e*P	**P**	**05 03 13.2**	**+1.0**
FFC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
FFC	**Flin Flon**	**38.54**	**59**	*e*P	**P**	**05 03 13.2**	**+1.0**
	comp=Z,6.0nm,0.9s						
TPH	**Tonopah**	**38.60**	**91**	*e*P	**P**	**05 03 14.0**	**+0.9**
TPH				pmax	pmax		
	comp=Z,6.0nm,1.1s						
TPH	**Tonopah**	**38.60**	**91**	*e*P	**P**	**05 03 14.0**	**+0.9**
	comp=Z,6.3nm,1.1s						
USRK	**Ussuriysk Ar.**	**38.76**	**281**	LR	LR	05 18 29.7	
	comp=Z,63nm,21.3s,baz=60,slow=35						
LKWY	**Lake**	**38.84**	**78**	*e*P	**P**	**05 03 17.1**	**+1.9**
LKWY				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LKWY	**Lake**	**38.84**	**78**	*e*P	**P**	**05 03 17.1**	**+1.9**
	comp=Z,8.8nm,0.8s						
IMW	**Indian Meadow**	**38.90**	**79**	*e*P	**P**	**05 03 16.3**	**+0.6**
	comp=Z,5.1nm,0.8s						
VES	**Vestal, Richgr**	**38.93**	**95**	P	**P**	**05 03 14.4**	**-1.3**
	baz=39						
H11S1	**WAKE ISLAND Hy**	**38.95**	**218**	T	T	05 44 30.7	
	baz=23,slow=76,SNR=6664						
H11S2	**WAKE ISLAND Hy**	**38.96**	**218**	T	T	05 44 32.6	
	baz=23,slow=76,SNR=5100						
H11S3	**WAKE ISLAND Hy**	**38.97**	**218**	T	T	05 44 31.9	
	baz=23,slow=76,SNR=2902						
FXWY	**Fox Creek**	**38.99**	**79**	*e*P	**P**	**05 03 17.3**	**+0.9**
	comp=Z,16nm,1.9s						
HVU	**Hansel Valley**	**39.02**	**83**	*e*P	**P**	**05 03 16.7**	**+0.1**
HVU	**Hansel Valley**	**39.02**	**83**	*e*P	**P**	**05 03 16.7**	**+0.1**
TPAW	**Teton Pass**	**39.12**	**80**	*e*P	**P**	**05 03 18.6**	**+1.1**
	comp=Z,2.4nm,0.7s						
RLMT	**Red Lodge**	**39.21**	**76**	P	**P**	**05 03 18.3**	**+0.1**
	baz=39,SNR=14						
RLMT	**Red Lodge**	**39.21**	**76**	*e*P	**P**	**05 03 18.1**	**0.0**
	comp=Z,11nm,0.9s						
REDW	**Red Top Meadow**	**39.26**	**80**	*e*P	**P**	**05 03 19.5**	**+0.9**
	comp=Z,23nm,2.0s						
LOHW	**Long Hollow**	**39.26**	**79**	*e*P	**P**	**05 03 19.2**	**+0.6**
	comp=Z,0.9nm,0.6s						
R11A	**Troy Canyon, C**	**39.42**	**89**	P	**P**	**05 03 20.1**	**+0.1**
	baz=39,SNR=14						
R11A	**Troy Canyon, C**	**39.42**	**89**	*e*P	**P**	**05 03 20.6**	**+0.6**
	comp=Z,6.4nm,1.0s						
H19A	**Powell**	**39.62**	**77**	P	**P**	**05 03 22.1**	**+0.6**
	baz=40,SNR=8.8						
MJAR	**Matsushiro Arr**	**39.66**	**267**	P	**P**	**05 03 21.1**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=46,slow=6.8,SNR=3.8						
MJAR				LR	LR	05 17 40.8	
	comp=Z,158nm,22.0s,baz=65,slow=33						
MPMC	**Manual Prospec**	**39.75**	**94**	P	**P**	**05 03 22.9**	**+0.1**
	baz=40						
G20A	**Bridger**	**39.77**	**76**	P	**P**	**05 03 22.6**	**-0.1**
	baz=40,SNR=13						
HWUT	**Hardware Ranch**	**39.85**	**82**	*e*P	**P**	**05 03 24.3**	**+0.7**
	comp=Z,4.1nm,1.0s						
FURC	**Furnace Creek,**	**39.86**	**93**	P	**P**	**05 03 22.7**	**-0.7**
	baz=40						
TPNV	**Topopah Spring**	**39.92**	**92**	P	**P**	**05 03 24.5**	**+0.4**
	baz=40,SNR=15						
MDJ	**Mudanjiang**	**39.94**	**283**	P	**P**	**05 03 23.3**	**-0.7**
MDJ				sP	**sP**	**05 03 27.8**	**-2.6**
MDJ				PP	**PP**	**05 04 55.5**	**-0.2**
MDJ				SS	**SS**	**05 12 23.0**	**-1.9**
MDJ				PMZ			
	comp=Z,6.0nm,1.7s						
MDJ				PMZ			
	comp=Z,58nm,3.3s						
DUG	**Dugway**	**39.95**	**85**	*e*P	**P**	**05 03 24.7**	**+0.4**
DUG				pmax	pmax		
	comp=Z,17nm,1.0s						
DUG	**Dugway**	**39.95**	**85**	P	**P**	**05 03 24.8**	**+0.4**
	baz=40,SNR=21						
DUG	**Dugway**	**39.95**	**85**	*e*P	**P**	**05 03 24.7**	**+0.4**
	comp=Z,17nm,1.0s						
I19A	**Meeteetse**	**39.98**	**78**	P	**P**	**05 03 23.2**	**-1.3**
	baz=40						
LAO	**LASA Array**	**40.13**	**72**	P	**P**	**05 03 25.1**	**-0.5**
	baz=40						
LAO	**LASA Array**	**40.13**	**72**	*e*P	**P**	**05 03 26.2**	**+0.6**
	comp=Z,5.6nm,0.9s						
EDW2	**Edwards Air Fo**	**40.24**	**95**	P	**P**	**05 03 26.5**	**-0.1**
	baz=40						
TCUT	**Toone Canyon**	**40.24**	**83**	*e*P	**P**	**05 03 28.1**	**+1.2**
	comp=Z,16nm,1.1s						
H20A	**Greybull**	**40.31**	**76**	P	**P**	**05 03 26.3**	**-0.9**
	baz=40						
G21A	**Lodge Grass**	**40.36**	**75**	P	**P**	**05 03 26.6**	**-1.0**
	baz=40						
BW06	**Boulder Array**	**40.37**	**80**	*e*P	**P**	**05 03 27.5**	**-0.4**
	comp=Z,5.9nm,0.8s						
PDAR	**Pinedale Array**	**40.37**	**80**	P	**P**	**05 03 28.1**	**+0.2**
	comp=Z,4.9nm,0.6s,baz=317,slow=5.2,SNR=44						
PDAR				LR	LR	05 18 00.9	
	comp=Z,63nm,19.7s,baz=309,slow=33						
J19A	**Crowheart**	**40.38**	**79**	P	**P**	**05 03 28.3**	**+0.4**
	baz=40,SNR=5.9						
E22A	**Miles City**	**40.42**	**73**	P	**P**	**05 03 26.3**	**-1.7**
	baz=40						
I20A	**Worland**	**40.54**	**77**	P	**P**	**05 03 29.9**	**+0.7**
	baz=40,SNR=6.6						
NLU	**North Lily Min**	**40.55**	**85**	*e*P	**P**	**05 03 29.2**	**-0.1**
	comp=Z,7.7nm,0.9s						
SHOC	**Shoshone**	**40.59**	**93**	P	**P**	**05 03 30.0**	**+0.5**
	baz=40						
F22A	**Rosebud**	**40.61**	**74**	P	**P**	**05 03 29.3**	**-0.3**
	baz=40						
GSC	**Goldstone**	**40.67**	**94**	*e*P	**P**	**05 03 30.1**	**-0.2**
GSC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GSC	**Goldstone**	**40.67**	**94**	P	**P**	**05 03 30.4**	**+0.1**
	baz=41,SNR=8.9						
GSC	**Goldstone**	**40.67**	**94**	*e*P	**P**	**05 03 30.1**	**-0.2**
	comp=Z,9.1nm,0.8s						
A25A	**Svangstu Ranch**	**40.71**	**68**	P	**P**	**05 03 29.2**	**-1.2**
	baz=41						
C24A	**Savage**	**40.71**	**70**	P	**P**	**05 03 30.1**	**-0.3**
	baz=41						
E23A	**Ismay**	**40.76**	**72**	P	**P**	**05 03 31.1**	**+0.3**
	baz=41,SNR=8.5						
H21A	**Big Horn, Sher**	**40.79**	**76**	P	**P**	**05 03 30.2**	**-1.0**
	baz=41						
G22A	**Birney**	**40.90**	**74**	P	**P**	**05 03 31.1**	**-1.0**
	baz=41						
J20A	**Shoshoni**	**40.91**	**78**	P	**P**	**05 03 32.0**	**-0.2**
	baz=41						
D24A	**Glendive**	**40.99**	**71**	P	**P**	**05 03 33.6**	**+0.9**
	baz=41,SNR=5.6						
I21A	**Big Trails, Te**	**41.11**	**77**	P	**P**	**05 03 33.6**	**-0.3**
	baz=41,SNR=5.7						
F23A	**Volborg**	**41.14**	**73**	P	**P**	**05 03 33.7**	**-0.3**
	baz=41,SNR=8.9						
H22A	**Clearmont**	**41.22**	**75**	P	**P**	**05 03 33.8**	**-0.9**
	baz=41						
HEC	**Hector,Ludlow**	**41.28**	**94**	P	**P**	**05 03 34.5**	**-0.8**
	baz=41						
J21A	**Lysite**	**41.29**	**77**	P	**P**	**05 03 35.3**	**-0.1**
	baz=41,SNR=6.0						
E24A	**Baker**	**41.31**	**72**	P	**P**	**05 03 35.2**	**-0.1**
	baz=41						
A26A	**Wade Farm, Ken**	**41.33**	**67**	P	**P**	**05 03 35.7**	**+0.2**
	baz=41						
G23A	**Biddle**	**41.44**	**74**	P	**P**	**05 03 35.5**	**-0.9**
	baz=41						
I22A	**9 Mile Ranch,**	**41.54**	**76**	P	**P**	**05 03 36.3**	**-1.1**
	baz=41						
F24A	**Ekalaka**	**41.62**	**73**	P	**P**	**05 03 37.5**	**-0.4**
	baz=42						
P17A	**Butcher Ranch,**	**41.66**	**84**	*e*P	**P**	**05 03 40.1**	**+1.7**
GMRC	**Granite Mounta**	**41.72**	**94**	P	**P**	**05 03 38.2**	**-0.7**
	baz=42						
J22A	**Midwest**	**41.83**	**77**	P	**P**	**05 03 39.6**	**-0.2**
	baz=42,SNR=14						
LDFC	**Landfair**	**41.85**	**93**	*e*P	**P**	**05 03 39.8**	**-0.2**
	comp=Z,13nm,1.0s						
SRU	**San Rafael**	**42.01**	**85**	*e*P	**P**	**05 03 41.9**	**+0.5**
SRU				pmax	pmax		
	comp=Z,19nm,1.2s						
SRU	**San Rafael**	**42.01**	**85**	*e*P	**P**	**05 03 41.9**	**+0.5**
	comp=Z,19nm,1.2s						
PFO	**Pinyon Flat Ob**	**42.03**	**96**	P	**P**	**05 03 41.5**	**0.0**
	comp=Z,2.8nm,0.6s,baz=248,slow=7.8,SNR=4.1

comp=Z,1.7nm,0.5s,baz=312,slow=9.4,SNR=3.7
ULM LR LR 05 24 42.8
comp=Z,117nm,18.1s,baz=36,slow=39
ULM Lac du Bonnet 43.99 62 P **P** **05 03 56.4 -0.6**
ULM pmax pmax
comp=Z,2.0nm,0.5s
ULM MLR MLR
comp=Z,117nm,18.2s
D30A Buchanan 44.16 68 P **P** **05 03 57.8 -0.6**
baz=44,SNR=7.1
E30A Jud 44.42 69 P **P** **05 03 59.8 -0.7**
baz=44
M25A Palm-Egli Farm 44.45 77 P **P** **05 03 59.8 -1.2**
baz=44
MVCO Mesa Verde 44.45 85 P **P** **05 04 00.3 -0.8**
baz=44
ISCO Idaho Springs 44.53 80 *e*P **P** **05 04 01.3 -0.6**
ISCO pmax pmax
comp=Z,4.0nm,1.1s
ISCO Idaho Springs 44.53 80 P **P** **05 04 02.1 +0.2**
baz=44
ISCO Idaho Springs 44.53 80 *e*P **P** **05 04 01.3 -0.6**
comp=Z,4.2nm,1.1s
J27A Elkhorn Farm, 44.55 74 P **P** **05 04 01.8 +0.1**
baz=44
I28A Midland 44.59 73 P **P** **05 04 01.3 -0.7**
baz=44,SNR=5.5
G29A Hoven 44.60 71 P **P** **05 04 01.9 -0.1**
baz=44
K27A Flueckinger Fa 44.74 75 P **P** **05 04 03.0 -0.2**
baz=45
H29A Onida 44.77 71 P **P** **05 04 03.2 -0.1**
baz=45
J28A Allard Ranch, 44.90 73 P **P** **05 04 04.3 -0.1**
baz=45,SNR=5.7
I29A Vivian Onida 45.08 72 P **P** **05 04 05.2 -0.6**
baz=45,SNR=5.3
G30A Faulkton 45.09 70 P **P** **05 04 06.0 +0.1**
baz=45
W18A Petrified Fore 45.09 88 P **P** **05 04 06.7 +0.5**
baz=45
W18A Petrified Fore 45.09 88 *e*P **P** **05 04 07.0 +0.9**
comp=Z,16nm,1.1s
AGMN Agassiz Nation 45.09 65 P **P** **05 04 05.1 -0.7**
baz=45,SNR=6.0
AGMN Agassiz Nation 45.09 65 *e*P **P** **05 04 05.0 -0.8**
comp=Z,7.5nm,0.8s
S22A 4UR Ranch, Cre 45.11 83 P **P** **05 04 06.5 0.0**
baz=45
K28A Ten Mile Ranch 45.25 74 P **P** **05 04 06.3 -1.0**
baz=45
KSRS Korea Array 45.31 276 P **P** **05 04 06.7 -0.9**
comp=Z,1.6nm,0.8s,baz=57,slow=7.9,SNR=4.8
KSRS LR LR 05 23 00.5
comp=Z,72nm,19.6s,baz=66,slow=36
KSRS Korea Array 45.31 276 P **P** **05 04 06.7 -0.9**
KSRS pmax pmax
comp=Z,2.0nm,0.8s
KSRS MLR MLR
comp=Z,72nm,19.6s
KSAR Wonju Array Be 45.34 276 P **P** **05 04 06.7 -1.2**
KSAR Wonju Array Be 45.34 276 P **P** **05 04 06.7 -1.2**
214A Organ Pipe Nat 45.39 94 P **P** **05 04 08.1 -0.3**
baz=45,SNR=13
214A Organ Pipe Nat 45.39 94 *e*P **P** **05 04 08.0 -0.3**
comp=Z,1.1nm,0.9s
J29A Okreek 45.44 73 P **P** **05 04 08.4 -0.3**
baz=45,SNR=16
O26A Horse Wrangler 45.63 78 P **P** **05 04 09.9 -0.4**
baz=46
N27A Anderson Farm, 45.74 77 P **P** **05 04 10.5 -0.6**
baz=46
K29A Lazy Trails An 45.83 74 P **P** **05 04 11.3 -0.6**
baz=46
SDCO Great Sand Dun 45.91 83 P **P** **05 04 12.8 0.0**
baz=46,SNR=19
SDCO Great Sand Dun 45.91 83 *e*P **P** **05 04 12.8 0.0**
comp=Z,6.7nm,0.9s
J30A Dallas 45.97 72 P **P** **05 04 12.1 -0.8**
baz=46
P26A Davis Ranch, A 46.04 79 P **P** **05 04 14.0 +0.4**
baz=46,SNR=18
M28A Bar X Bar Ranc 46.06 76 P **P** **05 04 12.9 -0.7**
baz=46
O27A Beecher Island 46.16 78 P **P** **05 04 13.6 -0.9**
baz=46
K30A Basset 46.30 73 P **P** **05 04 14.9 -0.5**
baz=46,SNR=7.6
TUC Tucson 46.37 92 *e*P **P** **05 04 15.9 -0.3**
TUC pmax pmax
comp=Z,9.0nm,0.9s
TUC Tucson 46.37 92 *e*P **P** **05 04 15.9 -0.3**
comp=Z,8.9nm,0.9s
P27A Ficken Ranch, 46.50 79 P **P** **05 04 16.7 -0.5**
baz=46
O28A Krutsinger Ran 46.62 77 P **P** **05 04 17.4 -0.6**
baz=46
L30A Spencer Herefo 46.68 74 P **P** **05 04 17.4 -1.1**
baz=46
R26A Arlington 46.79 80 P **P** **05 04 19.3 -0.2**
baz=47,SNR=11
KSCO Kaye Shedlock' 46.82 79 P **P** **05 04 19.4 -0.3**
baz=47,SNR=6.4
KSCO Kaye Shedlock' 46.82 79 *e*P **P** **05 04 20.0 +0.3**
comp=Z,21nm,1.0s
T25A Trinidad 46.97 82 P **P** **05 04 21.7 +0.7**
baz=47,SNR=14
P28A Saint Francis 46.98 78 P **P** **05 04 20.7 -0.3**
baz=47
L31A Butterfield Fa 47.05 73 P **P** **05 04 21.2 -0.2**
baz=47
R27A Eads 47.19 80 P **P** **05 04 22.4 -0.2**
baz=47
ANMO Albuquerque 47.19 86 P **P** **05 04 22.8 0.0**
comp=Z,3.8nm,1.2s,baz=313,slow=8.0,SNR=11
ANMO PcP **PcP** **05 05 54.3 +0.3**
comp=Z,3.9nm,0.8s,baz=336,slow=3.7,SNR=6.1
ANMO Albuquerque 47.19 86 P **P** **05 04 22.8 0.0**
ANMO 05 05 54.3
ANMO pmax pmax
comp=Z,4.0nm,1.2s
ANMO pmax pmax
comp=Z,4.0nm,0.8s
ANMO Albuquerque 47.19 86 *e*P **P** **05 04 23.3 +0.6**
comp=Z,5.9nm,1.1s
ANMO PcP **PcP** **05 05 54.3 +0.3**
Q28A Sharon Springs 47.26 79 P **P** **05 04 22.4 -0.8**
baz=47
H34A Spellman Lake, 47.28 69 P **P** **05 04 21.7 -1.3**
baz=47
ECSD EROS Data Cent 47.37 70 P **P** **05 04 22.7 -1.1**
baz=47
T26A Comanche Natio 47.44 82 P **P** **05 04 24.2 -0.4**
baz=47,SNR=5.3
P29A Atwood 47.45 77 P **P** **05 04 24.3 -0.2**
baz=47,SNR=10
O30A MW Ranch, Wils 47.60 76 P **P** **05 04 24.6 -1.1**
baz=48
EYMN Ely 47.67 63 P **P** **05 04 24.9 -1.2**
baz=48
R28A Tribune 47.74 79 P **P** **05 04 26.5 -0.4**
baz=48
Q29A Oakley 47.88 78 P **P** **05 04 27.8 -0.1**
baz=48
P30A Selden 47.89 77 P **P** **05 04 27.8 -0.2**
baz=48
BGNE Belgrade 47.94 74 P **P** **05 04 27.7 -0.5**
baz=48
T27A Campo 48.03 81 P **P** **05 04 29.0 -0.2**
baz=48
121A Cookes Peak, D 48.03 90 P **P** **05 04 29.1 -0.2**
baz=48,SNR=13
O31A Woolen Ranch, 48.05 76 P **P** **05 04 28.8 -0.3**
baz=48
R29A Marienthal 48.09 79 P **P** **05 04 29.5 0.0**
baz=48,SNR=7.4
S28A Manter 48.18 80 P **P** **05 04 29.9 -0.4**
baz=48
Q30A Quinter 48.27 78 P **P** **05 04 30.7 -0.2**
baz=48
T28A Walsh 48.36 81 P **P** **05 04 31.4 -0.3**
baz=48
M33A Taylor Creek F 48.39 73 P **P** **05 04 30.7 -1.0**
baz=48
U27A Thompson Grove 48.40 82 P **P** **05 04 31.4 -0.5**
baz=48
P31A Stockton 48.42 76 P **P** **05 04 31.5 -0.6**
baz=48
O32A Brockman Farm, 48.59 75 P **P** **05 04 32.8 -0.5**
baz=48
SPMN St. Paul 48.61 66 P **P** **05 04 32.9 -0.4**
baz=48
L34A Svendsen Farm, 48.61 72 P **P** **05 04 32.9 -0.5**
baz=48
S29A Ulysses 48.63 80 P **P** **05 04 33.3 -0.4**
baz=48
CBKS Cedar Bluff 48.67 77 *e*P **P** **05 04 34.4 +0.4**
CBKS pmax pmax
comp=Z,22nm,1.0s
CBKS Cedar Bluff 48.67 77 P **P** **05 04 33.8 -0.2**
baz=48
CBKS Cedar Bluff 48.67 77 *e*P **P** **05 04 34.4 +0.4**
comp=Z,22nm,1.0s
R30A Dighton 48.69 78 P **P** **05 04 33.8 -0.3**
baz=49,SNR=10
U28A Mallet 48.78 82 P **P** **05 04 34.2 -0.8**
baz=49,SNR=7.1
P32A Huiting Farm, 48.81 76 P **P** **05 04 34.4 -0.7**
baz=49
T29A Hugoton 48.83 80 P **P** **05 04 34.6 -0.6**
baz=49
V27A Dan Oppiter Fa 48.83 83 P **P** **05 04 34.6 -0.8**
baz=49
S30A Montezuma 49.00 79 P **P** **05 04 36.4 -0.2**
baz=49
O33A Hebron 49.12 75 P **P** **05 04 36.0 -1.4**
baz=49
R31A Burdett 49.13 78 P **P** **05 04 37.1 -0.4**
baz=49
V28A Channing 49.21 82 P **P** **05 04 37.3 -0.9**
baz=49
Q32A Meitler Ranch, 49.25 76 P **P** **05 04 37.6 -0.8**
baz=49,SNR=6.1
N34A Lincoln 49.26 73 P **P** **05 04 37.5 -0.9**
baz=49
M35A Neola 49.32 72 P **P** **05 04 38.0 -0.9**
baz=49
P33A Williams Farm, 49.47 75 P **P** **05 04 39.4 -0.6**
baz=49
R32A Long Quarter, 49.53 77 P **P** **05 04 39.6 -0.9**
baz=49
V29A Stinnett 49.55 82 P **P** **05 04 39.8 -1.0**
baz=49
O34A Beatrice 49.57 74 P **P** **05 04 40.3 -0.5**
baz=49
U30A WK&E Inc. Balk 49.63 80 P **P** **05 04 40.6 -0.7**
baz=50
Q33A Connelly Farm, 49.67 76 P **P** **05 04 41.1 -0.5**
baz=50
N35A Tabor 49.74 73 P **P** **05 04 41.1 -1.0**
baz=50,SNR=5.3
Q34A Chapman 50.25 75 P **P** **05 04 45.7 -0.3**
baz=50
P35A Duane Minner, 50.39 74 P **P** **05 04 46.3 -0.8**
baz=50
Y28A McKinney Farm, 50.44 84 P **P** **05 04 46.7 -0.9**
baz=50
R34A Isabella, Hill 50.48 76 P **P** **05 04 46.8 -0.9**
baz=50,SNR=6.7
S33A Kaszmaul Farm, 50.50 77 P **P** **05 04 47.2 -0.6**
baz=50
BJI Beijing 50.60 287 P P 05 04 44.5 -4.1
BJI S **S** **05 11 57.5 -4.9**
BJI PMZ
comp=Z,4.0nm,1.2s
BJI LN
comp=Z,140nm,21.8s
BJI LE
comp=Z,88nm,24.4s
V31A Spring Creek L 50.62 80 P **P** **05 04 48.7 -0.2**
baz=50
U32A Winter Ranch, 50.71 79 P **P** **05 04 48.8 -0.8**
baz=51
Z28A Tucker Farm, M 50.78 85 P **P** **05 04 49.4 -0.8**
baz=51
P36A Good Intent, A 50.80 74 P **P** **05 04 49.3 -0.9**
baz=51
Y29A Porterfield Fa 50.82 84 P **P** **05 04 49.8 -0.7**
baz=51,SNR=6.2
X30A Coker Ranch, T 50.90 82 P **P** **05 04 50.8 -0.2**
baz=51
S34A Willow Spring 50.95 77 P **P** **05 04 50.7 -0.6**
baz=51
W31A Holland Ranch, 50.96 81 P **P** **05 04 51.4 0.0**
baz=51
SONM Songino Array 51.04 300 P **P** **05 04 52.2 +0.2**
comp=Z,0.2nm,0.4s,baz=68,slow=3.9,SNR=2.0
SONM PcP **PcP** **05 06 07.2 -0.6**
comp=Z,1.0nm,0.6s,baz=34,slow=2.8,SNR=4.9
SONM LR LR 05 29 30.9
comp=Z,112nm,18.4s,baz=60,slow=40
SONM Songino Array 51.04 300 P **P** **05 04 52.2 +0.2**
SONM 05 06 07.2
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM MLR MLR
comp=Z,112nm,18.4s
V32A Arapaho 51.13 80 P **P** **05 04 52.4 -0.3**
baz=51
128A Castleberry Fa 51.19 85 P **P** **05 04 53.0 -0.2**
baz=51,SNR=15
U33A Lingo Farm, Me 51.21 79 P **P** **05 04 53.1 -0.1**
baz=51
Z29A Hungry Hill Ra 51.22 84 P **P** **05 04 52.5 -0.9**
baz=51,SNR=23
Y30A Stafford Cattl 51.28 83 P **P** **05 04 53.4 -0.4**
baz=51
X31A McDonald Ranch 51.31 82 P **P** **05 04 53.7 -0.4**
baz=51
T34A McClaskey Farm 51.36 77 P **P** **05 04 53.3 -1.1**
baz=51,SNR=7.9
W32A Sentinel 51.42 81 P **P** **05 04 54.7 -0.1**
baz=51,SNR=6.6
S35A Otter Creek Ra 51.43 76 P **P** **05 04 54.0 -0.9**
baz=51,SNR=9.6
R36A Gordon, Harris 51.48 75 P **P** **05 04 54.5 -0.7**
baz=51
V33A Lossen Ranch, 51.52 79 P **P** **05 04 54.1 -1.5**
baz=51
Z30A Sanderson Ranc 51.55 84 P **P** **05 04 54.7 -1.2**
baz=51
T35A Sooner Cattle 51.83 77 P **P** **05 04 57.3 -0.6**
baz=52
W33A Caddo, Fort Co 51.86 80 P **P** **05 04 57.5 -0.6**
baz=52,SNR=5.9
X32A Elmer 51.87 81 P **P** **05 04 57.8 -0.5**
baz=52
R37A Teagarden Farm 51.89 75 P **P** **05 04 57.4 -0.8**
baz=52
WMOK Wichita Mounta 51.96 81 *e*P **P** **05 04 58.4 -0.5**
WMOK pmax pmax
comp=Z,13nm,0.8s
WMOK Wichita Mounta 51.96 81 *e*P **P** **05 04 58.4 -0.5**
comp=Z,13nm,0.8s
V34A Guthrie 51.97 79 P **P** **05 04 58.1 -0.9**
baz=52
Y32A R-V Farms, Ver 52.07 82 P **P** **05 04 58.8 -0.9**
baz=52,SNR=8.7
U35A Pawnee 52.07 78 P **P** **05 04 59.1 -0.6**
baz=52
T36A Boggs Farm, Ca 52.11 76 P **P** **05 04 58.7 -1.2**
baz=52
Z31A Sharp Cattle R 52.12 83 P **P** **05 04 59.5 -0.6**
baz=52
130A Snyder 52.12 84 P **P** **05 04 59.2 -1.0**
baz=52
W34A Bridge Creek, 52.22 79 P **P** **05 05 00.3 -0.5**
baz=52
S37A Fort Scott 52.26 75 P **P** **05 04 59.7 -1.3**
baz=52,SNR=14
X33A Lawton 52.26 81 P **P** **05 05 00.2 -1.0**
baz=52
329A Wagon Wheel Ra 52.28 86 P **P** **05 05 01.2 -0.2**
baz=52
131A Roby 52.42 84 P **P** **05 05 01.2 -1.1**
baz=52
V35A Meyer Ranch, C 52.42 78 P **P** **05 05 01.1 -1.2**
baz=52
Z32A Haskell 52.53 82 P **P** **05 05 01.9 -1.2**
baz=52,SNR=8.2
230A Sterling City 52.53 85 P **P** **05 05 02.2 -1.0**
baz=52,SNR=5.7
X34A Smith Ranch, M 52.62 80 P **P** **05 05 03.3 -0.5**
baz=52
T37A Cheneyville 18 52.63 76 P **P** **05 05 02.5 -1.3**
baz=52,SNR=7.5
HHC Hu-ho-hao-te 52.72 291 *e*P **P** **05 05 05.5 +0.9**
HHC PP **PP** **05 07 05.8 +2.3**
HHC S **S** **05 12 30.5 -1.4**
HHC sS **sS** **05 12 38.3 -1.2**
HHC SS **SS** **05 16 07.5 -2.4**
HHC PMZ
comp=Z,10.0nm,1.0s
HHC PMZ
comp=Z,62nm,9.9s
HHC LN
comp=Z,120nm,16.0s
HHC LE
comp=Z,170nm,18.5s
HHC LZ
comp=Z,130nm,16.0s
TXAR Lajitas Array 52.79 89 P **P** **05 05 04.8 -0.4**
comp=Z,17nm,0.9s,baz=347,slow=5.1,SNR=58
TXAR PcP **PcP** **05 06 14.3 -0.2**
comp=Z,1.9nm,0.8s,baz=275,slow=0.9,SNR=2.7
TXAR LR LR 05 27 01.3
comp=Z,51nm,18.2s,baz=0.0,slow=35
TXAR Lajitas Array 52.79 89 P **P** **05 05 04.8 -0.4**
TXAR 05 06 14.4
TXAR pmax pmax
comp=Z,17nm,0.9s
TXAR pmax pmax
comp=Z,2.0nm,0.8s
TXAR MLR MLR
comp=Z,51nm,18.2s
W35A Tecumseh 52.81 79 P **P** **05 05 04.4 -0.8**
baz=53
330A Mertzon 52.83 85 P **P** **05 05 04.5 -0.9**
baz=53
ABTX Abilene, Hawle 52.90 83 P **P** **05 05 04.8 -1.1**
baz=53,SNR=6.4
ABTX Abilene, Hawle 52.90 83 *e*P **P** **05 05 05.8 -0.1**
comp=Z,17nm,1.0s
V36A Jenks 52.94 78 P **P** **05 05 05.2 -0.8**
baz=53
TUL1 Tulsa 52.94 77 P **P** **05 05 05.2 -1.0**
baz=53
TUL1 Tulsa 52.94 77 *e*P **P** **05 05 05.0 -1.1**
comp=Z,9.0nm,0.9s
429A Davenport Ranc 52.95 87 P **P** **05 05 05.5 -0.8**
baz=53,SNR=14
Z33A Whitaker Ranch 52.97 82 P **P** **05 05 05.5 -0.8**
baz=53
231A Bronte 52.98 84 P **P** **05 05 05.4 -1.1**
baz=53
U37A Salina 53.00 77 P **P** **05 05 05.2 -1.3**
baz=53,SNR=9.2
529A Stev Forest Ra 53.10 87 P **P** **05 05 07.3 -0.1**
baz=53,SNR=19
Y34A Reagan Ranch, 53.11 81 P **P** **05 05 07.1 -0.3**
baz=53,SNR=7.1
W36A Wetumka 53.21 78 P **P** **05 05 07.3 -0.8**
baz=53
430A Baggett Ranch, 53.23 86 P **P** **05 05 07.8 -0.6**
baz=53,SNR=18
V37A Hulbert 53.34 77 P **P** **05 05 07.5 -1.6**
baz=53
133A Hamilton Ranch 53.35 83 P **P** **05 05 08.5 -0.7**
baz=53,SNR=7.3
331A San Angelo 53.35 85 P **P** **05 05 08.6 -0.6**
baz=53
U38A Gravette 53.41 76 P **P** **05 05 08.1 -1.5**
baz=53
232A Coleman 53.41 84 P **P** **05 05 08.6 -1.1**
baz=53,SNR=5.1
Z34A Collier Ranch, 53.42 81 P **P** **05 05 09.1 -0.6**
baz=53
X36A Centrahoma 53.53 79 P **P** **05 05 09.9 -0.6**
baz=53
Y35A Marietta 53.58 80 P **P** **05 05 10.1 -0.7**
baz=53,SNR=7.4
HDIL Hopedale 53.58 69 P **P** **05 05 09.3 -1.4**
baz=53,SNR=5.0
HDIL Hopedale 53.58 69 *e*P **P** **05 05 09.7 -1.1**
comp=Z,17nm,0.8s
530A J-C Ranch, Com 53.62 87 P **P** **05 05 10.9 -0.4**
baz=54,SNR=30
431A Sonora 53.69 86 P **P** **05 05 11.0 -0.7**
baz=54,SNR=25
W37A Quinton 53.69 78 P **P** **05 05 10.8 -0.8**
baz=54
332A Millersview 53.71 84 P **P** **05 05 11.0 -0.8**
baz=54,SNR=15
V38A Canehill 53.79 77 P **P** **05 05 11.2 -1.2**
baz=54,SNR=12
134A White-Moore Ra 53.88 82 P **P** **05 05 12.5 -0.6**
baz=54,SNR=7.2
Y36A Durant 54.03 80 P **P** **05 05 13.2 -0.9**
baz=54
432A Menard 54.04 85 P **P** **05 05 13.2 -1.1**
baz=54,SNR=8.4
531A Rocksprings 54.09 86 P **P** **05 05 13.8 -0.8**
baz=54
X37A Clayton 54.10 78 P **P** **05 05 13.8 -0.8**
baz=54,SNR=14
333A Richland Sprin 54.21 84 P **P** **05 05 14.3 -1.2**
baz=54,SNR=15
234A Clairette 54.24 83 P **P** **05 05 14.8 -0.9**
baz=54,SNR=9.0
W38A Poteau 54.27 77 P **P** **05 05 14.9 -0.9**
baz=54,SNR=12
135A Vickery Place, 54.29 82 P **P** **05 05 14.8 -1.3**
baz=54
JCT Junction City 54.32 85 *e*P **P** **05 05 15.0 -1.3**
JCT pmax pmax
comp=Z,16nm,0.9s
JCT Junction City 54.32 85 P **P** **05 05 15.1 -1.3**
baz=54,SNR=9.2
JCT Junction City 54.32 85 *e*P **P** **05 05 15.0 -1.3**
comp=Z,16nm,0.9s
X38A Whitesboro 54.37 78 P **P** **05 05 15.5 -1.1**
baz=54
Y37A Hugo 54.37 79 P **P** **05 05 15.7 -0.9**
baz=54
Z36A Blue Ridge 54.38 80 P **P** **05 05 15.8 -0.9**
baz=54
NJ2 Nanjing 54.44 278 *e*P **P** **05 05 18.5 +1.4**
NJ2 pmax pmax
comp=Z,30nm,0.6s
NJ2 Nanjing 54.44 278 *e*P **P** **05 05 19.3 +2.2**
NJ2 PMZ
comp=Z,40nm,0.7s
532A Rocksprings 54.51 86 P **P** **05 05 16.2 -1.5**
baz=54
631A Perdido Creek 54.61 87 P **P** **05 05 17.6 -0.8**
baz=54,SNR=11
334A Lometa 54.66 83 P **P** **05 05 18.2 -0.6**
baz=54,SNR=21
WHTX Lake Whitney 54.66 82 P **P** **05 05 17.0 -1.8**
baz=54
WHTX Lake Whitney 54.66 82 *e*P **P** **05 05 18.9 +0.1**
comp=Z,19nm,0.8s
SFIN Scholer Farm 54.94 68 P **P** **05 05 18.7 -1.9**
baz=55,SNR=5.1
434A Burnet 55.01 84 P **P** **05 05 20.4 -0.9**
baz=55,SNR=20
632A Uvalde 55.02 86 P **P** **05 05 20.7 -0.7**
baz=55
533A Kerrville 55.07 85 P **P** **05 05 21.0 -0.8**
baz=55
SCHQ Schefferville 55.16 43 LR LR 05 31 37.2
comp=Z,147nm,18.3s,baz=336,slow=39
MIAR Mount Ida 55.20 77 *e*P **P** **05 05 21.3 -1.3**
MIAR pmax pmax
comp=Z,9.0nm,0.8s
MIAR Mount Ida 55.20 77 P **P** **05 05 21.4 -1.3**
baz=55,SNR=11
MIAR Mount Ida 55.20 77 *e*P **P** **05 05 21.2 -1.3**
comp=Z,8.6nm,0.8s
633A Saathoff Ranch 55.42 86 P **P** **05 05 23.9 -0.4**
baz=55
534A Blanco 55.44 85 P **P** **05 05 23.9 -0.6**
baz=55
336A Riesel 55.46 82 P **P** **05 05 23.9 -0.6**
baz=55
732A Laxson Ranch, 55.47 87 P **P** **05 05 23.7 -0.9**
baz=55
OLIL Olney 55.49 70 *e*P **P** **05 05 23.2 -1.4**
comp=Z,11nm,0.8s
138A Matatall Enter 55.61 80 P **P** **05 05 24.9 -0.7**
baz=56
832A Faith Ranch, C 55.79 87 P **P** **05 05 25.8 -1.1**
baz=56,SNR=12
436A Wall Ranch, Ga 55.92 83 P **P** **05 05 28.1 +0.2**

baz=56
535A Dale 55.99 84 P **P** 05 05 29.2 +0.9
baz=56
238A Jacksonville 56.06 80 P **P** 05 05 28.8 0.0
baz=56
833A Chaparral WMA, 56.11 87 P **P** 05 05 28.5 -0.7
baz=56,SNR=9.8
H06N1 SOCORRO T-PHAS 56.22 104 T T 06 06 13.0
SNR=19
734A La Parita Cree 56.24 86 P **P** 05 05 29.8 -0.4
baz=56
USIN University of 56.27 70 *eP* **P** 05 05 29.3 -0.9
comp=Z,17nm,0.8s
H06E1 SOCORRO T-PHAS 56.31 104 T T 06 06 16.6
SNR=19
635A Leesville 56.32 85 P **P** 05 05 30.1 -0.6
baz=56
636A Smothers Creek 56.69 84 P **P** 05 05 32.8 -0.5
baz=57
933A Laredo 56.70 87 P **P** 05 05 33.2 -0.2
baz=57
ZALV Zalesovo Beam 57.07 317 LR LR 05 31 11.8
comp=Z,65nm,21.0s,baz=68,slow=37
ARCES ARCESS Array B 57.49 354 P **P** 05 05 39.0 +0.5
comp=Z,1.6nm,0.9s,baz=25,slow=9.6,SNR=6.6
ARCES PcP **PcP** 05 06 31.5 -0.4
comp=Z,1.0nm,0.6s,baz=34,slow=4.5,SNR=4.7
ARCES LR LR 05 29 50.9
comp=Z,40nm,21.9s,baz=3.0,slow=36
ARCES ARCESS Array B 57.49 354 P **P** 05 05 39.0 +0.5
ARCES 05 06 31.5
ARCES pmax pmax
comp=Z,2.0nm,0.9s
ARCES pmax pmax
comp=Z,1.0nm,0.6s
ARCES MLR MLR
comp=Z,40nm,21.9s
SSPA Standing Stone 59.81 62 *eP* **P** 05 05 54.2 -0.8
comp=Z,6.5nm,0.9s
LRAL Lakeview Retre 60.13 74 *eP* **P** 05 05 55.8 -1.4
comp=Z,7.8nm,0.9s
LZH Lanzhou 60.38 292 *eP* **P** 05 06 00.3 +1.1
LZH pP **pP** 05 06 04.0 +0.1
LZH sP **sP** 05 06 06.5 +0.8
LZH PMZ
comp=Z,14nm,1.0s
LZH PMZ
comp=Z,60nm,4.3s
LZH LN
comp=Z,160nm,13.3s
LZH LE
comp=Z,160nm,14.2s
LZH LZ
comp=Z,180nm,14.5s
BLA Blacksburg 60.88 66 *eP* **P** 05 06 01.4 -1.0
BLA pmax pmax
comp=Z,14nm,0.8s
BLA Blacksburg 60.88 66 *eP* **P** 05 06 01.4 -1.0
comp=Z,14nm,0.8s
KMSC Kings Mountain 61.86 68 *eP* **P** 05 06 07.7 -1.3
comp=Z,11nm,1.0s
GOGA Godfrey 61.90 71 *eP* **P** 05 06 07.6 -1.7
GOGA pmax pmax
comp=Z,7.0nm,0.9s
GOGA Godfrey 61.90 71 *eP* **P** 05 06 07.5 -1.7
comp=Z,6.9nm,0.9s
KURK Kurchatov 62.02 318 P **P** 05 06 10.0 +0.1
KURK pmax pmax
comp=Z,1.0nm,0.4s
KURK Kurchatov 62.02 318 P **P** 05 06 09.9 +0.1
KURBB Kurchatov Arra 62.13 318 P **P** 05 06 09.9 -0.6
comp=Z,0.5nm,0.4s,baz=45,slow=7.2,SNR=5.5
JSC Jenkinsville 62.53 69 *eP* **P** 05 06 13.6 +0.1
JSC pmax pmax
comp=Z,8.0nm,0.9s
JSC Jenkinsville 62.53 69 *eP* **P** 05 06 13.6 +0.1
comp=Z,7.5nm,0.9s
WMQ Urumqi 63.23 308 P **P** 05 06 20.5 +2.4
WMQ pP **pP** 05 06 25.0 +2.1
WMQ sP **sP** 05 06 28.0 +3.4
WMQ PcP **PcP** 05 06 57.0 +1.6
WMQ LN
comp=Z,68nm,18.3s
WMQ LZ
comp=Z,72nm,22.9s
BVAR Borovoye Array 63.33 324 P **P** 05 06 17.8 -0.8
comp=Z,1.5nm,0.7s,baz=48,slow=7.1,SNR=3.1
BVAR LR LR 05 36 16.2
comp=Z,42nm,19.3s,baz=59,slow=38
BVAR Borovoye Array 63.33 324 P **P** 05 06 17.8 -0.8
BVAR pmax pmax
comp=Z,2.0nm,0.7s
BVAR MLR MLR
comp=Z,42nm,19.3s
MKAR Makanchi Array 63.48 313 P **P** 05 06 18.6 -1.0
comp=Z,0.2nm,0.4s,baz=52,slow=7.8,SNR=3.0
MKAR LR LR 05 34 17.4
comp=Z,48nm,21.5s,baz=26,slow=36
NHSC New Hope 64.00 69 *eP* **P** 05 06 23.4 +0.2
comp=Z,37nm,0.9s
CD2 Chengdu 64.19 288 *eP* **P** 05 06 24.5 -0.2
CD2 pP **pP** 05 06 27.8 -1.6
CD2 PcP **PcP** 05 06 59.5 0.0
CD2 PP **PP** 05 08 45.3 -0.2
CD2 S **S** 05 15 02.0 +0.6
CD2 sS **sS** 05 15 07.5 -1.7
CD2 SS **SS** 05 19 12.0 +1.8
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.0s
ARU Arti 64.22 333 LR LR 05 38 25.6
comp=Z,31nm,18.1s,baz=76,slow=40
FINES FINESS Array B 65.44 352 P **P** 05 06 31.5 -0.7
comp=Z,0.6nm,0.5s,baz=28,slow=8.6,SNR=7.5
FINES LR LR 05 37 47.3
comp=Z,27nm,19.2s,baz=7.0,slow=38
FINES FINESS Array B 65.44 352 P **P** 05 06 31.5 -0.7
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES MLR MLR
comp=Z,27nm,19.2s
GYA Guiyang 65.79 282 *eP* **P** 05 06 34.8 -0.4
GYA PMZ
comp=Z,10.0nm,1.0s
NOA NORSAR Array B 66.51 360 P **P** 05 06 39.5 +0.3
comp=Z,0.6nm,0.6s,baz=3.3,slow=6.6,SNR=2.4
NOA NORSAR Array B 66.51 360 P **P** 05 06 39.5 +0.3
NOA pmax pmax
comp=Z,1.0nm,0.6s
ABKAR Akbulak array 70.05 328 *eP* **P** 05 07 00.9 -0.5
KKAR Karatay Array 71.44 318 *eP* P 05 07 13.8 +3.7
KKAR Karatay Array 71.44 318 *eP* P 05 07 13.8 +3.7
CMAR Chiang Mai Arr 76.47 283 P **P** 05 07 40.3 +0.4
comp=Z,1.3nm,0.5s,baz=27,slow=6.2,SNR=3.6
CMAR Chiang Mai Arr 76.47 283 P **P** 05 07 40.3 +0.4
CMAR pmax pmax
comp=Z,1.0nm,0.5s
SOKA Soboth 80.83 357⇑ *ipP* **P** 05 08 05.5 +1.9
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 85.70 342 LR LR 05 52 34.8
comp=Z,13nm,18.1s,baz=355,slow=40
ESDC Sonseca Array 87.05 11 P **P** 05 08 34.9 -0.5
comp=Z,0.2nm,0.3s,baz=342,slow=5.4,SNR=3.1
WRA Warramunga Arr 87.23 232 P **P** 05 08 34.0 -2.3
comp=Z,2.7nm,0.7s,baz=33,slow=5.9,SNR=21
WRA Warramunga Arr 87.23 232 P **P** 05 08 34.0 -2.3
WRA pmax pmax
comp=Z,3.0nm,0.7s
OTAV Otavalo 90.42 89 *eP* **P** 05 08 52.1 0.0
comp=Z,3.9nm,0.8s
ASAR Alice Springs 90.63 230 P **P** 05 08 51.1 -1.1
comp=Z,3.6nm,0.7s,baz=30,slow=4.6,SNR=50
ASAR Alice Springs 90.63 230 P **P** 05 08 51.2 -1.1
ASAR pmax pmax
comp=Z,4.0nm,0.7s
TORD Torodi Ar. Bea 113.88 9 PKKPbc PKKPbc 05 25 07.1 -1.6
comp=Z,0.3nm,0.7s,baz=164,slow=1.4,SNR=7.1
TSUM Tsumeb 146.03 348 *e*PKPdf **PKPbc** 05 15 29.4 -0.4
MAW Mawson 151.18 219 PKPbc **PKPbc** 05 15 40.2 -1.4
comp=Z,1.7nm,0.5s,baz=275,slow=1.2,SNR=3.4
MAW Mawson 151.18 219 PKIKP **PKPbc** 05 15 40.2 -1.4
MAW pmax pmax
comp=Z,2.0nm,0.5s
BOSA Boshof 153.50 330 PKPbc **PKPbc** 05 15 47.6 -0.6
comp=Z,2.2nm,0.8s,baz=0.0,slow=4.0,SNR=2.8
BOSA Boshof 153.50 330 PKIKP **PKPbc** 05 15 47.7 -0.6
BOSA pmax pmax
comp=Z,2.0nm,0.8s

*ISCJB **29** 04:58:03.2±0.9,52.2°N±0.2°×169.3°W±0.3,h10km,mb3.9/5, MS3.4/1,Error ellipse: s-maj=38.7km s-min=19.6km az=138.9*
*IDC **29** 04:58:03.0±1.0,52.1°N×169.37W,h0km,mb3.9/5, mb1 4.1/6,mb1mx3.6/44,mbtmp3.8/6,ML3.4/1,MS3.4/1, Ms1 3.4/1,ms1mx2.8/44,Error ellipse: s-maj=47.1km s-min=24.0km az=144.0*
ISC 29 04:58:04.4±1.0,52.3°N±0.3°×169.4W±0.2,h10km,n8, σ0s81/8,mb3.9/5,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**17.07**	**34**	Pn		**Pn**		**05 02 02.6**	**-0.3**
	0.1nm,0.3s,baz=230,slow=11,SNR=3.5								
PDAR	**Pinedale Array**	**40.47**	**79**	P		**P**		**05 05 42.6**	**-0.5**
	0.6nm,0.6s,baz=330,slow=5.2,SNR=2.3								
SONM	**Songino Array**	**51.33**	**301**	PcP		**PcP**		**05 08 22.3**	**-1.1**
	1.2nm,0.7s,baz=64,slow=3.4,SNR=5.4								
TXAR	**Lajitas Array**	**52.79**	**89**	P		**P**		**05 07 19.9**	**+0.1**
	1.4nm,0.8s,baz=302,slow=5.6,SNR=3.7								
TXAR				PcP		**PcP**		**05 08 29.7**	**+0.6**
	0.3nm,0.7s,baz=280,slow=1.6,SNR=2.6								
GUMO	**Guam**	**53.01**	**241**	LR		LR		05 23 36.2	
	comp=Z,42nm,21.8s,baz=67,slow=29								
WRA	**Warramunga Arr**	**86.90**	**232**	P		**P**		**05 10 48.7**	**-0.6**
	0.4nm,0.6s,baz=34,slow=5.8,SNR=5.2								
ESDC	**Sonseca Array**	**87.58**	**11**	P		**P**		**05 10 53.4**	**+0.9**
	0.2nm,0.3s,baz=5.0,slow=4.3,SNR=2.5								
ASAR	**Alice Springs**	**90.29**	**230**	P		**P**		**05 11 05.8**	**+0.6**
	1.4nm,0.7s,baz=36,slow=4.6,SNR=7.3								

IDC 29 05:08:50.9±2.7,54.04°N×86.42°E,h0km,mb1 2.9/2, mb1mx2.8/31,mbtmp2.9/2,ML2.7/2,Error ellipse: s-maj=21.5km s-min=13.6km az=60.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**265**	*i*				05 15 10.0	
	baz=83,slow=317,SNR=2.8								
ZALV	**Zalesovo Beam**	**0.95**	**265**	Pg		Pg		05 09 08.1	-0.9
	1.3nm,0.3s,baz=88,slow=17,SNR=8.7								
ZALV				Lg		Lg		05 09 22.0	
	0.7nm,0.3s,baz=87,slow=30,SNR=4.2								
ZALV				Rg		Rg		05 09 27.0	
	3.7nm,0.3s,baz=76,slow=30,SNR=12								
KURBB	**Kurchatov Arra**	**5.92**	**238**	Pn		Pn		05 10 21.0	+1.2
	0.1nm,0.3s,baz=54,slow=13,SNR=4.1								
KURBB				Lg		Lg		05 12 01.6	
	0.0nm,0.3s,baz=54,slow=33,SNR=3.4								
MKAR	**Makanchi Array**	**7.72**	**202**	Pn		Pn		05 10 45.3	+0.8
	0.2nm,0.3s,baz=24,slow=14,SNR=5.0								
MKAR				Lg		Lg		05 12 56.7	
	0.1nm,0.3s,baz=17,slow=32,SNR=3.6								

*IDC **29** 05:22:46.4±0.8,12.88N×125.08E,h0km,mb3.9/10, mb1 4.0/11,mb1mx3.8/52,mbtmp4.0/11,ML4.5/1,MS3.1/3, Ms1 3.2/3,ms1mx2.8/25,Error ellipse: s-maj=46.1km s-min=14.9km az=69.0*
*ISCJB **29** 05:22:50.4±0.7,12.94N±0.06°×125.1E±0.1,h41km, mb3.9/10,MS3.1/3,Error ellipse: s-maj=20.9km s-min=7.6km az=169.2*
ISC 29 05:22:52.2±0.8,12.89N±0.09°×125.1E±0.2,h41km,n20, σ0s97/13,mb4.0/10,MS2.9/3,1D,Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.72**	**183**⇓	*eP*		**Pn**		**05 23 18.9**	**-0.9**
PLP				eS		**Sn**		**05 23 41.8**	**+1.3**
TGY	**Tagaytay City**	**4.19**	**287**	Pn		**Pn**		**05 23 53.3**	**-0.4**
	29nm,0.3s,baz=163,slow=14,SNR=1.9								
TGY				Lg		Lg		05 24 59.0	
	22nm,0.3s,baz=137,slow=19,SNR=1.8								
KSRS	**Korea Array**	**24.59**	**5**	P		**P**		**05 28 08.8**	**+0.3**
	1.1nm,0.6s,baz=191,slow=10.0,SNR=5.6								
KSRS				LR		LR		05 36 52.3	
	comp=Z,33nm,21.1s,baz=164,slow=34								
MJAR	**Matsushiro Arr**	**26.34**	**24**	LR		LR		05 36 49.0	
	comp=Z,36nm,21.9s,baz=80,slow=32								
WRA	**Warramunga Arr**	**33.88**	**164**	P		**P**		**05 29 30.3**	**-1.0**
	0.5nm,0.5s,baz=346,slow=8.8,SNR=12								
ASAR	**Alice Springs**	**37.35**	**167**	P		**P**		**05 30 00.4**	**-0.7**
	1.5nm,0.5s,baz=347,slow=6.9,SNR=18								
SONM	**Songino Array**	**38.16**	**340**	P		**P**		**05 30 07.1**	**-0.7**
	0.9nm,0.8s,baz=148,slow=11,SNR=4.3								
H11S3	**WAKE ISLAND Hy**	**40.39**	**77**	T		T		06 13 56.8	
	baz=270								
H11S1	**WAKE ISLAND Hy**	**40.41**	**77**	T		T		06 13 48.7	
	baz=270								
H11S2	**WAKE ISLAND Hy**	**40.41**	**77**	T		T		06 13 56.6	
	baz=270								
H11N1	**WAKE ISLAND Hy**	**40.64**	**75**	T		T		06 14 24.5	
	baz=267,slow=74,SNR=37								
H11N2	**WAKE ISLAND Hy**	**40.64**	**75**	T		T		06 14 19.4	
	baz=267,slow=74,SNR=28								
H11N3	**WAKE ISLAND Hy**	**40.66**	**75**	T		T		06 14 23.1	
	baz=267,slow=74,SNR=37								
STKA	**Stephens Creek**	**47.25**	**161**	P		**P**		**05 31 22.2**	**+0.7**
	1.7nm,0.6s,baz=353,slow=9.8,SNR=3.9								
MKAR	**Makanchi Array**	**49.24**	**322**	P		**P**		**05 31 37.3**	**+0.6**
	0.5nm,0.6s,baz=96,slow=10,SNR=2.9								
ZALV	**Zalesovo Beam**	**51.77**	**331**	P		**P**		**05 31 54.8**	**-0.9**
	2.2nm,0.8s,baz=120,slow=9.4,SNR=7.2								
KURBB	**Kurchatov Arra**	**53.26**	**325**	P		**P**		**05 32 06.5**	**-0.3**
	1.6nm,0.6s,baz=120,slow=7.3,SNR=8.2								
BVAR	**Borovoye Array**	**58.85**	**325**	P		**P**		**05 32 46.3**	**-0.4**
	0.4nm,0.3s,baz=145,slow=5.3,SNR=4.9								
ARCES	**ARCESS Array B**	**81.34**	**339**	P		**P**		**05 35 05.8**	**+1.7**
	1.9nm,0.9s,baz=77,slow=7.6,SNR=7.6								
NOA	**NORSAR Array B**	**89.89**	**334**	LR		LR		06 18 19.2	
	comp=Z,21nm,19.5s,baz=60,slow=37								

IDC 29 05:25:55.0±2.8,54.32N×86.67E,h0km,mb1 3.3/2, mb1mx3.1/31,mbtmp3.3/2,ML2.8/2,Error ellipse: s-maj=22.3km s-min=15.1km az=51.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.15**	**252**	*i*				05 33 20.0	
	baz=70,slow=312,SNR=3.5								
ZALV	**Zalesovo Beam**	**1.15**	**252**	Pg		Pg		05 26 15.9	-1.1
	2.1nm,0.3s,baz=67,slow=16,SNR=39								
ZALV				Lg		Lg		05 26 32.2	
	2.4nm,0.3s,baz=69,slow=22,SNR=11								
KURBB	**Kurchatov Arra**	**6.20**	**237**	Pn		Pn		05 27 28.7	+1.1
	0.2nm,0.3s,baz=54,slow=14,SNR=43								
KURBB				Sn		Sn		05 28 39.1	-0.1
	0.1nm,0.3s,baz=43,slow=20,SNR=3.0								
KURBB				Lg		Lg		05 29 14.1	
	0.1nm,0.3s,baz=56,slow=33,SNR=8.1								
MKAR	**Makanchi Array**	**8.03**	**202**	Pn		Pn		05 27 53.9	+1.0
	0.2nm,0.3s,baz=21,slow=13,SNR=7.4								
MKAR				Sn		Sn		05 29 22.2	-2.1
	0.3nm,0.3s,baz=23,slow=26,SNR=6.1								
MKAR				Lg		Lg		05 30 10.8	
	0.1nm,0.3s,baz=23,slow=30,SNR=6.4								

*IDC **29** 05:30:06.0±0.6,17.84S×179.58E,h0km,mb4.3/19, mb1 4.5/19,mb1mx4.3/32,mbtmp4.3/19,MS4.1/20, Ms1 4.1/20,ms1mx4.1/20,Error ellipse: s-maj=23.2km s-min=15.3km az=113.0*
*ISCJB **29** 05:30:10.1±0.3,17.88S±0.06°×179.53E±0.05,h33km, mb4.5/28,MS4.1/18,Error ellipse: s-maj=9.2km s-min=7.4km az=174.9*
*NEIC **29** 05:30:11.5±0.2,17.84S×179.51E,h35km,mb4.6/8,Error ellipse: s-maj=10.1km s-min=7.9km az=126.0*
NEIC Felt at Suva.
*GCMT **29** 05:30:11.5±0.2,17.76S×179.64E,h24km±1km,MW5.2/99, Moment Tensor Solution. s44,c52; s99,c145; Duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.52±.24; $M_{\theta\theta}$-3.93±.22; $M_{\phi\phi}$4.45±.21; $M_{r\theta}$1.12±.29; $M_{\theta\phi}$5.76±.15; $M_{r\phi}$2.57±.31; Best double couple: $M_0$7.57100×10^{16} NP1:ϕ_s341.00000°,δ79.00000°,λ166.00000°. NP2: ϕ_s73.00000°,δ76.00000°,λ12.00000°. Principal axes: T 8.2740, Plg18.0000°, Azm297.0000°; N -1.4010, Plg72.0000°, Azm122.0000°; P -6.8680, Plg2.0000°, Azm27.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **29** 05:30:38.1,18.30S×178.80E,h260km,mb4.5/16,mB4.6/8*
ISC 29 05:30:12.3±0.4,17.85S±0.10°×179.49E±0.07,h35km,n84, σ1s53/81,mb4.5/28,MS4.1/18,6C-2D,Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.37**	**274**	*e*Pn		**Pn**		**05 30 32.9**	**-2.2**
MSVF				*e*Sn		**Sn**		**05 30 52.6**	**+0.5**
AFI	**Afiamalu**	**9.27**	**66**	LR		LR		05 35 04.2	
	comp=Z,665nm,18.3s,baz=243,slow=32								
DZM	**Mont Dzumac**	**12.96**	**249**	LR		LR		05 37 13.4	
	comp=Z,1μm,19.7s,baz=180,slow=33								
OUZ	**Omahuta**	**18.08**	**196**	*eP*		P		05 34 26.4	+5.5
	108nm,1.6s								
RAR	**Rarotonga**	**19.83**	**103**	LR		LR		05 40 36.0	
	comp=Z,508nm,21.5s,baz=276,slow=32								
URZ	**Urewera**	**20.45**	**185**	P		**P**		**05 34 45.4**	**-1.4**
	5.2nm,0.7s,baz=6.2,slow=16,SNR=3.6								
HNR	**Honiara**	**20.73**	**291**	LR		LR		05 42 13.6	
	comp=Z,376nm,20.0s,baz=134,slow=35								
SNZO	**South Karori**	**23.74**	**189**	*eP*		**P**		**05 35 20.7**	**-0.6**
	95nm,1.3s								
RPZ	**Rata Peaks**	**26.76**	**194**	P		**P**		**05 35 46.9**	**-1.9**
	8.0nm,0.7s,baz=38,slow=12,SNR=3.3								
RPZ				LR		LR		05 44 35.3	
	comp=Z,648nm,21.3s,baz=14,slow=32								
PPT2	**Papeete2**	**29.46**	**94**	*e*S		**S**		**05 41 08.7**	**+3.3**
	174nm,24.0s								
PPT2				*e*LQ		LQ		05 42 39.1	
	2μm,26.0s								
PPT2				*e*LR		LR		05 43 41.5	
	2μm,27.0s,baz=258								
PPT	**Papeete**	**29.46**	**94**	LR		LR		05 44 49.6	
	comp=Z,453nm,20.4s,baz=263,slow=30								
TBI	**Tubuai**	**29.55**	**106**	*e*S		**S**		**05 41 04.6**	**-2.0**
	237nm,26.5s								
TBI				*e*LQ		LQ		05 42 32.7	
	557nm,28.2s								
TBI				*e*LR		LR		05 43 48.5	
	1μm,29.8s,baz=279								
CTAO	**Charters Tower**	**31.48**	**261**	P		**P**		**05 36 31.6**	**+0.6**
PMG	**Port Moresby**	**32.47**	**281**	P		**P**		**05 36 39.2**	**-0.5**
	63nm,1.4s								
CMSA	**Cobar Meteorol**	**33.44**	**240**	P		**P**		**05 36 48.4**	**+0.3**
	baz=29,SNR=8.4								
TOO	**Toolangi**	**35.67**	**230**	P		**P**		**05 37 09.1**	**+1.8**
	baz=32,SNR=4.2								
STKA	**Stephens Creek**	**36.91**	**240**	P		**P**		**05 37 18.4**	**+0.5**
	10nm,0.9s,baz=88,slow=9.6,SNR=9.6								
STKA				LR		LR		05 51 52.9	
	comp=Z,461nm,18.2s,baz=65,slow=35								
HTT	**Hallett**	**39.45**	**239**	P		**P**		**05 37 40.5**	**+1.0**
	baz=35,SNR=3.7								
BBOO	**Buckleboo**	**41.69**	**241**	P		**P**		**05 37 57.9**	**0.0**
	baz=37,SNR=5.9								
BBOO	**Buckleboo**	**41.69**	**241**	*eP*		**P**		**05 37 58.2**	**+0.3**
	31nm,1.1s								
WRAB	**Tennant Creek**	**42.66**	**260**	*eP*		**P**		**05 38 05.2**	**-0.7**
	10nm,0.9s								
WRA	**Warramunga Arr**	**42.67**	**260**	P		**P**		**05 38 03.9**	**-2.1**
	7.1nm,1.0s,baz=97,slow=7.1,SNR=33								
WRA				LR		LR		05 54 19.8	
	comp=Z,344nm,19.4s,baz=90,slow=34								
RKT	**Rikitea**	**42.85**	**105**	*e*LQ		LQ		05 47 55.5	
	508nm,34.8s								
RKT				*e*LR		LR		05 49 57.9	
	937nm,28.2s,baz=274								
ASAR	**Alice Springs**	**42.88**	**254**	P		**P**		**05 38 06.8**	**-0.8**
	14nm,0.7s,baz=83,slow=8.5,SNR=121								
ASAR				LR		LR		05 55 31.4	
	comp=Z,407nm,19.7s,baz=88,slow=36								
KDU	**Kakadu**	**45.55**	**270**	P		**P**		**05 38 28.1**	**-1.0**
	baz=41,SNR=3.1								
WRKA	**Warakurna**	**47.95**	**252**	P		**P**		**05 38 47.4**	**-0.6**
	baz=43,SNR=18								
FORT	**Forrest**	**48.22**	**244**	P		**P**		**05 38 49.3**	**-0.5**
	baz=44,SNR=13								
FORT	**Forrest**	**48.22**	**244**	*eP*		**P**		**05 38 49.4**	**-0.4**
	29nm,0.7s								
LUWI	**Luwuk**	**58.12**	**280**	P		P		05 39 47.9	-15
	baz=54,SNR=4.2								
VNDA	**Vanda**	**60.35**	**184**	P		**P**		**05 40 17.1**	**-0.3**
	0.3nm,0.5s,baz=27,slow=6.8,SNR=2.3								
VNDA				LR		LR		06 03 02.9	
	comp=Z,100nm,18.6s,baz=19,slow=33								
SBA	**Scott Base**	**60.37**	**183**	*eP*		**P**		**05 40 19.7**	**+2.3**
	112nm,2.8s								
MJAR	**Matsushiro Arr**	**66.68**	**325**	P		**P**		**05 40 58.9**	**-0.9**
	1.9nm,0.6s,baz=151,slow=6.0,SNR=4.5								
MJAR				LR		LR		06 05 12.3	
	comp=Z,129nm,21.8s,baz=120,slow=32								
KKM	**Kota Kinabalu**	**66.78**	**285**	P		**P**		**05 41 02.3**	**+1.3**
	baz=63,SNR=4.4								
QSPA	**South Pole Qui**	**72.21**	**180**	*eP*		**P**		**05 41 33.7**	**+0.1**
	9.3nm,1.0s								
PETK	**Petropavlovsk-**	**73.13**	**346**	P		**P**		**05 41 38.3**	**-0.7**
	6.7nm,0.9s,baz=167,slow=8.5,SNR=6.2								
PETK				LR		LR		06 07 55.9	
	comp=Z,60nm,21.6s,baz=155,slow=31								
KSRS	**Korea Array**	**73.33**	**319**	P		**P**		**05 41 40.9**	**+0.4**
	0.7nm,0.4s,baz=118,slow=7.2,SNR=4.3								
KSRS				LR		LR		06 12 11.6	
	comp=Z,121nm,18.7s,baz=120,slow=34								
KSAR	**Wonju Array Be**	**73.35**	**319**	P		**P**		**05 41 40.9**	**+0.3**
USRK	**Ussuriysk Ar.**	**75.45**	**327**	P		**P**		**05 41 52.5**	**-0.2**
	2.2nm,0.7s,baz=104,slow=4.7,SNR=4.1								
USRK				LR		LR		06 09 24.5	
	comp=Z,124nm,21.7s,baz=134,slow=31								
NJ2	**Nanjing**	**76.36**	**310**	*eP*		**P**		**05 42 01.0**	**+2.8**
NJ2				PMZ					
	20nm,0.5s								
MDJ	**Mudanjiang**	**77.00**	**326**	P		P		05 42 06.5	+5.0
MDJ				sP		sP		05 43 34.8	+78
MDJ				PP		PP		05 45 03.5	+8.1
MDJ				S		**SKiKP**		**05 51 20.3**	**+5.5**
MDJ				PMZ					
	8.0nm,2.0s								
MDJ				PMZ					
	76nm,4.2s								
MDJ				LN					
	95nm,32.8s								
MDJ				LE					
	79nm,37.7s								
MDJ				LZ					
	69nm,38.9s								
CN2	**Changchun**	**78.76**	**323**	*eP*		**P**		**05 42 12.3**	**+1.0**
CN2				PMZ					
	10.0nm,0.9s								
CMB	**Columbia Colle**	**79.18**	**44**	*eP*		P		05 42 21.2	+7.4
	8.8nm,1.6s								
NVAR	**Mina Array Bea**	**80.78**	**45**	P		**P**		**05 42 21.7**	**-1.0**
	0.4nm,0.7s,baz=234,slow=8.8,SNR=3.6								
MAW	**Mawson**	**83.23**	**200**	P		**P**		**05 42 33.5**	**-1.3**
	1.9nm,0.6s,baz=178,slow=7.0,SNR=4.8								
MAW				LR		LR		06 17 52.0	
	comp=Z,107nm,18.3s,baz=62,slow=34								
TUC	**Tucson**	**83.26**	**53**	*eP*		**P**		**05 42 38.1**	**+2.4**
	6.9nm,1.4s								
GYA	**Guiyang**	**83.27**	**300**	*eP*		**P**		**05 42 38.0**	**+2.1**
GYA				pP		pP		05 43 40.8	+54
GYA				sP		sP		05 44 08.3	+77
GYA				PP		PP		05 45 56.0	+8.0
GYA				SKS		S	SKSac	05 52 30.5	-24
GYA				S		S		05 52 33.5	-22
GYA				PMZ					
	10.0nm,1.0s								
SEY	**Seymchan**	**83.28**	**348**	P		**P**		**05 42 34.0**	**-1.0**
	3.0nm,0.6s,baz=147,slow=6.5,SNR=18								
HHC	**Hu-ho-hao-te**	**85.81**	**315**	*eP*		P		05 42 51.8	+3.4
HHC				PP		PP		05 46 16.5	+8.1
HHC				S		S		05 53 01.0	-18
HHC				sS		sS		05 54 48.5	+71
HHC				SS		SS		05 58 48.0	-9.1
HHC				PMZ					
	15nm,1.1s								
HHC				PMZ					
	96nm,8.6s								
HLID

CMAR	**Chiang Mai Arr**	**86.98**	**290**	P		**P**	**05 42 55.2**	**+0.7**
	2.7nm,0.9s,baz=121,slow=3.6,SNR=13							
CMAR				LR		LR	06 20 32.3	
	comp=Z,60nm,19.8s,baz=127,slow=35							
CD2	**Chengdu**	**87.36**	**304**	*e*P		**P**	**05 42 57.0**	**+0.9**
CD2				PMZ				
	10.0nm,0.5s							
TXAR	**Lajitas Array**	**87.66**	**58**	P		**P**	**05 42 57.7**	**-0.1**
	0.7nm,0.9s,baz=197,slow=3.9,SNR=8.0							
TXAR				LR		LR	06 15 19.3	
	comp=Z,70nm,19.6s,baz=0.0,slow=31							
PDAR	**Pinedale Array**	**88.69**	**44**	P		**P**	**05 43 01.2**	**-1.2**
	0.4nm,0.6s,baz=236,slow=2.7,SNR=6.2							
PDAR				LR		LR	06 15 24.3	
	comp=Z,69nm,20.8s,baz=266,slow=31							
LZH	**Lanzhou**	**89.27**	**308**	*e*P		**P**	**05 43 07.5**	**+2.2**
LZH				pP		pP	05 44 10.0	+54
LZH				sP		sP	05 44 36.0	+76
LZH				PMZ				
	14nm,1.0s							
SONM	**Songino Array**	**92.20**	**320**	P		**P**	**05 43 18.0**	**-0.6**
	0.5nm,0.6s,baz=141,slow=5.0,SNR=5.6							
SONM				LR		LR	06 20 41.5	
	comp=Z,31nm,21.3s,baz=109,slow=33							
YKA	**Yellowknife Ar**	**95.12**	**25**	P		**P**	**05 43 29.2**	**-2.3**
	0.7nm,0.8s,baz=249,slow=5.5,SNR=4.1							
WMQ	**Urumqi**	**103.40**	**312**	P		**Pdif**	**05 44 11.5**	**+2.4**
WMQ				pmax	pmax			
	comp=Z,7.0nm,0.8s							
WMQ				pmax	pmax			
	comp=Z,67nm,4.0s							
WMQ				LR	LR			
	comp=N,84nm,20.9s							
WMQ				LR	LR			
	comp=E,120nm,23.0s							
WMQ				LR	LR			
	comp=Z,130nm,23.0s							
BRTR	**Keskin Array B**	**143.30**	**314**	PKhKP		PKPpre	05 49 38.7	
	comp=Z,1.0nm,0.9s,baz=84,slow=4.5,SNR=4.2							
OKC	**Ostrava-Krasne**	**144.73**	**339**	*e*PKP		**PKPab**	**05 49 43.7**	**-0.5**
UPC	**Upice**	**144.83**	**342**	*e*PKP		**PKPab**	**05 49 44.3**	**-0.3**
UPC				*ep*PKP		**PKiKP**	**05 49 52.9**	**+3.6**
DPC	**Dobruska-Polom**	**144.88**	**341**	*e*PKP		PKPbc	05 49 44.7	-0.1
DPC				*ex*		x	05 49 48.8	
DPC				*ep*PKP		**PKiKP**	**05 49 52.9**	**+3.4**
KRLC	**Kraliky**	**144.97**	**341**	*e*PKP		**PKPab**	**05 49 44.8**	**-0.3**
MORC	**Moravsky Berou**	**144.98**	**340**	*e*PKPdf		**PKPab**	**05 49 44.0**	**-1.2**
PVCC	**Panska Ves**	**145.23**	**343**	*e*PKP		**PKPab**	**05 49 45.9**	**-0.1**
PSZ	**Piszkesteto**	**145.68**	**335**	*e*PKP		**PKPbc**	**05 49 47.7**	**-0.2**
PRA	**Prague**	**145.68**	**343**	*e*PKP		**PKPbc**	**05 49 47.1**	**-0.2**
PRA				*ep*PKP		**pPKPdf**	**05 49 55.6**	**-2.9**
GOPC	**GO Pecny, Ondr**	**145.72**	**342**	*e*PKP		**PKPdf**	**05 49 46.9**	**-0.2**
GOPC				*ep*PKP		**pPKPdf**	**05 49 55.6**	**-3.0**
PRU	**Pruhonice**	**145.72**	**343**	*e*PKP		**PKPdf**	**05 49 46.7**	**-0.4**
NKC	**Novy Kostel**	**146.06**	**345**	*e*PKP		**PKPbc**	**05 49 48.1**	**-0.4**
TREC	**Trest**	**146.06**	**341**	*e*PKP		**PKPdf**	**05 49 47.9**	**+0.2**
TREC				*ep*PKP		**pPKPdf**	**05 49 57.6**	**-1.6**
KHC	**Kasperske Hory**	**146.77**	**343**	*e*PKP		**PKPbc**	**05 49 49.9**	**-0.8**
KHC				*ep*PKP		**pPKPdf**	**05 50 00.2**	**-0.2**
KHC	**Kasperske Hory**	**146.77**	**343**	*e*PKPbc		**PKPbc**	**05 49 50.2**	**-0.5**
GERES	**GERESS Array B**	**146.99**	**343**	PKPbc		**PKPdf**	**05 49 50.0**	**+0.5**
	comp=Z,2.5nm,0.7s,baz=29,slow=3.0,SNR=20							
CONA	**Conrad Observa**	**147.14**	**340**	⇑*i*PKPab		**PKPbc**	**05 49 51.4**	**-0.5**
	comp=Z,24nm,1.8s							
MOA	**Molln**	**147.72**	**341**	⇑*i*PKPbc		**PKPbc**	**05 49 52.2**	**-1.2**
	comp=Z,7.4nm,1.1s							
SOKA	**Soboth**	**148.51**	**339**	⇓*i*PKPbc		**PKPdf**	**05 49 53.0**	**+1.0**
	comp=Z,7.2nm,1.1s							
BFO	**Black Forest**	**148.75**	**349**	*e*PKPbc		**PKPbc**	**05 49 55.4**	**-0.6**
BFO				*e*PKPab		**PKPab**	**05 49 59.6**	**-0.2**
WTTA	**Wattenberg**	**149.00**	**344**	⇑*i*PKPbc		**PKPbc**	**05 49 55.7**	**-1.2**
	comp=Z,20nm,1.8s							
MOTA	**Moosalm**	**149.07**	**345**	⇑*i*PKiKP		**PKPbc**	**05 49 56.5**	**-0.5**
	comp=Z,3.5nm,0.8s							
ABTA	**Abfaltersbach**	**149.23**	**342**	⇓*i*PKPbc		**PKPbc**	**05 49 56.0**	**-1.4**
	comp=Z,9.6nm,1.3s							
DAVA	**Damuels**	**149.42**	**346**	⇑*i*PKiKP		**PKPbc**	**05 49 57.0**	**-1.0**
	comp=Z,10nm,1.3s							
FETA	**Feichten**	**149.46**	**345**	⇑*i*PKiKP		**PKPbc**	**05 49 57.0**	**-1.1**
	comp=Z,8.2nm,1.4s							
TUE	**Stuetta**	**150.31**	**346**	*e*PKPdf		**PKPdf**	**05 49 54.3**	**-0.7**
TUE				*e*PKPbc		**PKPbc**	**05 49 59.6**	**-0.6**

CSEM ***29*** *05:49:02.8, 40°.71N×29°.16W, h10km, ML3.0*

PDA 29 05:49:02.8±0.8, 40°.71N×29°.16W, h10km, MD3.7, ML3.0, Error ellipse: s-maj=12.3km s-min=4.6km az=83.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**1.91**	**151**	*e*P	Pn	05 49 31.0	-4.4
PGRA				*e*S	Sn	05 49 52.0	-7.5
PGRA				A	A	05 49 55.1	
	20nm,0.3s						
PGRA	**Graciosa**	**1.91**	**151**	*e*P	Pn	05 49 31.0	-4.4
PGRA				*e*S	Sn	05 49 52.0	-7.5
PCED	**Cedros**	**2.11**	**170**	*e*P	Pn	05 49 33.9	-4.2
PCED				*e*S	Sn	05 49 56.6	-7.8
PCED				A	A	05 49 57.2	
	29nm,0.3s						
PCED	**Cedros**	**2.11**	**170**	*e*P	Pn	05 49 33.9	-4.2
PCED				*e*S	Sn	05 49 56.6	-7.8
ROSA	**Rosais**	**2.11**	**160**	*e*P	Pn	05 49 32.9	-5.3
ROSA				*e*S	Sn	05 49 56.6	-7.9
ROSA				A	A	05 49 58.4	
	18nm,0.1s						
ROSA	**Rosais**	**2.11**	**160**	*e*P	Pn	05 49 32.9	-5.3
ROSA				*e*S	Sn	05 49 56.6	-7.9
CALA	**Caldeira**	**2.15**	**170**	*e*P	Pn	05 49 34.5	-4.4
CALA				*e*S	Sn	05 49 57.9	-7.9
CALA	**Caldeira**	**2.15**	**170**	*e*P	Pn	05 49 34.5	-4.4
CALA				*e*S	Sn	05 49 57.9	-7.9
HOR	**Horta**	**2.22**	**169**	*e*S	Sn	05 49 59.4	-7.7
HOR	**Horta**	**2.22**	**169**	*e*S	Sn	05 49 59.4	-7.7
PMAN	**Manadas**	**2.23**	**158**	*e*S	Sn	05 49 59.7	-7.8
PMAN				A	A	05 50 01.5	
	20nm,0.1s						
PMAN	**Manadas**	**2.23**	**158**	*e*S	Sn	05 49 59.7	-7.8
PCAN	**Candelaria**	**2.30**	**167**	*e*P	Pn	05 49 36.4	-4.5
PCAN				*e*S	Sn	05 50 01.4	-7.9
PCAN				A	A	05 50 03.1	
	27nm,0.2s						
PCAN	**Candelaria**	**2.30**	**167**	*e*P	Pn	05 49 36.4	-4.5
PCAN				*e*S	Sn	05 50 01.4	-7.9
PPNO	**Prainha do Nor**	**2.34**	**162**	*e*S	Sn	05 50 02.5	-7.8
PPNO				A	A	05 50 04.2	
	16nm,0.4s						
PPNO	**Prainha do Nor**	**2.34**	**162**	*e*S	Sn	05 50 02.5	-7.8
ADH	**Angra Heroismo**	**2.53**	**143**	*e*P	Pn	05 49 39.6	-4.4
ADH	**Angra Heroismo**	**2.53**	**143**	*e*P	Pn	05 49 39.6	-4.4

IDC ***29*** *05:51:19.9±1.9, 4°.27N×93°.91E, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.6/38, mbtmp3.8/7, ML3.9/2, MS2.8/1, Ms1 2.8/1, ms1mx2.5/30, Error ellipse: s-maj=73.9km s-min=20.2km az=53.0*

ISC 29 05:51:25.5±1.7, 4°.7N±0°.2×94°.3E±0°.2, h26km, n11, σ0s81/8, mb3.8/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.94**	**112**	P	**Pn**	**05 52 39.3**	**+1.1**
	0.9nm,0.3s,baz=308,slow=18,SNR=4.1						
PSI				Sn	**Sn**	**05 53 34.3**	**-0.4**
	1.3nm,0.3s,baz=343,slow=20,SNR=2.5						
PALK	**Pallekele**	**13.80**	**281**	LR	LR	05 58 34.7	
	comp=Z,42nm,19.1s,baz=116,slow=32						
CMAR	**Chiang Mai Arr**	**14.43**	**18**	Pn	**P**	**05 54 54.4**	**-0.5**
	0.5nm,0.3s,baz=213,slow=11,SNR=5.0						
H08S2	**Diego Garcia H**	**24.98**	**241**	T	T	06 22 31.8	
	baz=61,slow=76,SNR=56						
H08S3	**Diego Garcia H**	**24.98**	**241**	T	T	06 22 33.8	
	baz=61,slow=76,SNR=43						
H08S1	**Diego Carcia H**	**25.00**	**241**	T	T	06 22 35.4	
	baz=61,slow=76,SNR=38						
MKAR	**Makanchi Array**	**43.25**	**348**	P	**P**	**05 59 24.9**	**+0.1**
	1.0nm,0.6s,baz=161,slow=7.7,SNR=6.9						
WRA	**Warramunga Arr**	**46.30**	**123**	P	**P**	**05 59 49.0**	**-0.5**
	1.3nm,0.7s,baz=301,slow=9.2,SNR=14						
ASAR	**Alice Springs**	**47.76**	**128**	P	**P**	**05 59 59.8**	**-1.1**
	0.4nm,0.5s,baz=292,slow=7.6,SNR=5.0						
ZALV	**Zalesovo Beam**	**49.75**	**353**	P	**P**	**06 00 15.7**	**+0.1**
	1.4nm,0.6s,baz=169,slow=8.9,SNR=5.6						
ARCES	**ARCESS Array B**	**78.34**	**340**	P	**P**	**06 03 23.7**	**+0.5**
	0.8nm,0.9s,baz=104,slow=7.6,SNR=2.8						

ISCJB ***29*** *06:05:41.4±0.8, 19°.8S±0°.2×177°.7W±0°.1, h450km, mb4.0/11, Error ellipse: s-maj=29.3km s-min=11.0km az=148.1*

IDC ***29*** *06:05:42.6±2.4, 19°.83S×177°.62W, h451km±26km, mb3.7/11, mb1 3.9/11, mb1mx3.7/22, mbtmp4.4/11, Error ellipse: s-maj=33.2km s-min=11.1km az=154.0*

ISC 29 06:05:42.4±1.0, 19°.8S±0°.2×177°.6W±0°.2, h450km, n25, σ0s79/29, mb4.1/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARMA	**Armidale**	**29.71**	**243**	P	**P**	**06 11 10.8**	**+0.3**
	baz=31,SNR=4.6						
CMSA	**Cobar Meteorol**	**34.93**	**243**	P	**P**	**06 11 54.6**	**-0.4**
	baz=36,SNR=23						
QLP	**Quilpie**	**35.62**	**252**	P	**P**	**06 12 00.7**	**-0.3**
	baz=37,SNR=8.3						
MTSU	**Mount Surprise**	**36.01**	**266**	P	**P**	**06 12 04.1**	**-0.1**
	baz=37,SNR=11						
STKA	**Stephens Creek**	**38.43**	**243**	P	**P**	**06 12 23.8**	**-0.2**
	4.7nm,0.5s,baz=88,slow=10,SNR=14						
HTT	**Hallett**	**40.88**	**242**	P	**P**	**06 12 43.7**	**-0.2**
	baz=42,SNR=4.0						
BBOO	**Buckleboo**	**43.19**	**243**	P	**P**	**06 13 01.8**	**-0.5**
	baz=45,SNR=13						
JAY	**Jayapura**	**44.20**	**288**	P	**P**	**06 13 11.3**	**+0.9**
	11nm,0.8s,baz=125,slow=9.9,SNR=4.3						
ASAR	**Alice Springs**	**45.05**	**256**	P	**P**	**06 13 16.5**	**-0.4**
	28nm,0.6s,baz=89,slow=8.2,SNR=253						
ASAR				PcP	**PcP**	**06 14 49.2**	**+0.6**
	1.4nm,0.6s,baz=92,slow=4.1,SNR=5.7						
ASAR				S	**S**	**06 19 23.1**	**+1.1**
	2.0nm,0.9s,baz=92,slow=15,SNR=10.0						
WRA	**Warramunga Arr**	**45.08**	**261**	P	**P**	**06 13 16.2**	**-0.9**
	4.1nm,0.3s,baz=98,slow=6.0,SNR=160						
WRA				PcP	**PcP**	**06 14 49.1**	**+0.3**
	1.0nm,0.8s,baz=91,slow=3.4,SNR=5.0						
WRA				S	**S**	**06 19 20.8**	**-1.6**
	0.7nm,0.9s,baz=98,slow=13,SNR=2.7						
FORT	**Forrest**	**49.91**	**246**	P	**P**	**06 13 52.6**	**-0.9**
	baz=51,SNR=9.7						
WRKA	**Warakurna**	**50.02**	**254**	P	**P**	**06 13 54.1**	**-0.4**
	baz=51,SNR=27						
KNRA	**Kununurra**	**51.09**	**266**	P	**P**	**06 14 02.0**	**-0.4**
	baz=52,SNR=4.0						
FAKI	**Fak Fak**	**51.72**	**282**	P	**P**	**06 14 06.7**	**-0.3**
	baz=53,SNR=3.2						
GIRL	**Giralia**	**63.10**	**254**	P	**P**	**06 15 26.1**	**+1.0**
	baz=64,SNR=3.3						
MJAR	**Matsushiro Arr**	**69.89**	**323**	P	**P**	**06 16 06.7**	**-0.4**
	4.2nm,0.5s,baz=164,slow=6.5,SNR=10						
USRK	**Ussuriysk Ar.**	**78.62**	**326**	P	**P**	**06 16 57.5**	**+1.1**
	3.3nm,0.8s,baz=82,slow=4.2,SNR=6.4						
NVAR	**Mina Array Bea**	**80.27**	**43**	P	**P**	**06 17 05.3**	**-0.3**
	1.2nm,0.6s,baz=221,slow=8.4,SNR=9.8						
TXAR	**Lajitas Array**	**86.37**	**57**	P	**P**	**06 17 37.2**	**+0.9**
	1.3nm,0.8s,baz=224,slow=6.3,SNR=19						
ILAR	**Eielson Array**	**87.57**	**13**	P	**P**	**06 17 39.5**	**-1.5**
	0.4nm,0.5s,baz=226,slow=5.0,SNR=10.0						
PDAR	**Pinedale Array**	**88.21**	**43**	P	**P**	**06 17 44.5**	**-0.3**
	0.5nm,0.7s,baz=204,slow=0.9,SNR=5.6						
CMAR	**Chiang Mai Arr**	**90.25**	**289**	P	**P**	**06 17 55.9**	**+1.4**
	1.9nm,0.7s,baz=107,slow=2.8,SNR=8.2						
ARCES	**ARCESS Array B**	**128.33**	**350**	PKP	**PKPdf**	**06 23 55.5**	**-0.7**
	1.3nm,0.7s,baz=22,slow=1.3,SNR=11						
BRTR	**Keskin Array B**	**146.66**	**313**	PKPbc	**PKPbc**	**06 24 33.1**	**0.0**
	1.1nm,0.8s,baz=143,slow=4.4,SNR=5.7						
GERES	**GERESS Array B**	**149.65**	**345**	PKPbc	**PKPbc**	**06 24 40.0**	**-0.4**
	0.7nm,0.5s,baz=5.7,slow=2.7,SNR=7.6						

DJA 29 06:22:15.0±0.5, 9°S±6°×111°E±°, h81km±17km, M4.1/15, MLv4.1/15, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.04**	**352**	P	Pn	06 22 33.8	-0.9
WOJI	**Wonogiri, Jawa**	**1.13**	**13**	P	Pn	06 22 35.0	-0.8
PWJI	**Pagerwojo**	**1.45**	**51**	P	Pn	06 22 38.8	-0.9
PWJI				S	Sn	06 22 57.3	-1.1
NGJI	**Ngawi**	**1.76**	**27**	P	Pn	06 22 46.5	+2.8
SMRI	**Semarang**	**1.90**	**353**	P	Pn	06 22 46.8	+1.1
SMRI				S	Sn	06 23 10.8	+1.8
CMJI	**Cimerak**	**2.48**	**298**	P	Pn	06 22 52.5	-0.9
UWJI	**Ujung Watu**	**2.53**	**6**	P	Pn	06 22 51.7	-2.4
UWJI				S	Sn	06 23 25.0	+1.0
BLJI	**Banyuglugur**	**3.13**	**68**	P	Pn	06 23 02.9	+0.7
CISI	**Cisompet, Garu**	**3.15**	**296**	P	Pn	06 23 03.5	+1.0
JAGI	**Jajag, Banyuwa**	**3.48**	**82**	P	Pn	06 23 03.4	-3.4
LEM	**Lembang**	**3.69**	**305**	P	Pn	06 23 08.6	-1.3
ABJI	**Asem Bagus**	**3.71**	**72**	P	Pn	06 23 08.9	-1.1
CNJI	**Cibinong**	**3.87**	**295**	P	Pn	06 23 11.7	-0.4

IDC ***29*** *06:31:19.8±1.2, 10°.35S×124°.53E, h0km, mb4.0/8, mb1 4.1/10, mb1mx4.0/23, mbtmp4.1/10, ML3.7/2, MS3.7/5, Ms1 3.7/5, ms1mx3.0/37, Error ellipse: s-maj=62.5km s-min=18.6km az=56.0*

ISCJB ***29*** *06:31:22.4±0.9, 10°.4S±0°.2×124°.7E±0°.3, h33km, mb4.0/8, MS4.1/1, Error ellipse: s-maj=50.8km s-min=8.4km az=150.9*

ISC 29 06:31:24.9±1.2, 10°.4S±0°.2×124°.8E±0°.3, h35km, n13, σ1s61/12, mb4.0/8, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**7.31**	**316**	LR	LR	06 36 08.1	
	comp=Z,296nm,19.1s,baz=167,slow=41						
WRA	**Warramunga Arr**	**13.23**	**137**	Pn	**Pn**	**06 34 30.1**	**-0.2**
	0.4nm,0.3s,baz=320,slow=13,SNR=26						
WRA				Sn	**Sn**	**06 36 53.3**	**-3.0**
	0.8nm,0.3s,baz=310,slow=23,SNR=7.1						
WRA				LR	LR	06 40 41.1	
	comp=Z,155nm,19.6s,baz=310,slow=42						
ASAR	**Alice Springs**	**15.81**	**148**	Pn	**Pn**	**06 35 05.0**	**-0.1**
	0.4nm,0.3s,baz=319,slow=12,SNR=21						
ASAR				Sn	**Sn**	**06 37 58.4**	**-0.8**
	0.4nm,0.3s,baz=320,slow=20,SNR=5.4						
ASAR				LR	LR	06 41 42.7	
	comp=Z,185nm,18.0s,baz=316,slow=39						
LEM	**Lembang**	**17.35**	**280**	LR	LR	06 41 56.6	
	comp=Z,488nm,21.1s,baz=182,slow=37						
CTA	**Charters Tower**	**22.81**	**118**	P	**P**	**06 36 27.2**	**+2.3**
	1.6nm,0.4s,baz=308,slow=12,SNR=2.4						
STKA	**Stephens Creek**	**26.44**	**146**	P	**P**	**06 37 01.2**	**+2.6**
	4.0nm,0.9s,baz=298,slow=15,SNR=2.9						
KSRS	**Korea Array**	**47.67**		P	**P**	**06 39 58.0**	**0.0**
	0.9nm,0.5s,baz=193,slow=7.8,SNR=4.9						
USRK	**Ussuriysk Ar.**	**54.71**	**6**	P	**P**	**06 40 50.7**	**+0.1**
	2.1nm,0.8s,baz=202,slow=6.2,SNR=2.7						
SONM	**Songino Array**	**60.22**	**346**	P	**P**	**06 41 29.1**	**-0.5**
	2.2nm,0.9s,baz=168,slow=7.6,SNR=9.5						
MKAR	**Makanchi Array**	**68.39**	**330**	P	**P**	**06 42 22.7**	**-0.4**
	2.3nm,0.8s,baz=125,slow=7.6,SNR=11						
VNDA	**Vanda**	**69.78**	**172**	LR	LR	07 12 39.0	
	comp=Z,100nm,18.1s,baz=272,slow=36						
KURBB	**Kurchatov Arra**	**72.83**	**331**	P	**P**	**06 42 48.8**	**-1.2**
	1.1nm,0.7s,baz=137,slow=5.1,SNR=8.5						
BVAR	**Borovoye Array**	**78.28**	**330**	P	**P**	**06 43 20.9**	**-0.2**
	0.4nm,0.4s,baz=143,slow=8.3,SNR=3.6						

IDC 29 06:35:28.0±3.1, 55°.66N×85°.96E, h0km, mb1 3.0/2, mb1mx2.9/30, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=24.9km s-min=23.2km az=176.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.84**	**202**	*i*		06 47 30.0	
	baz=20,slow=320,SNR=15						
ZALV	**Zalesovo Beam**	**1.84**	**202**	Pn	Pn	06 36 00.0	-0.8
	3.3nm,0.3s,baz=21,slow=16,SNR=24						
ZALV				Lg	Lg	06 36 27.3	
	3.1nm,0.3s,baz=22,slow=28,SNR=18						
KURBB	**Kurchatov Arra**	**6.74**	**225**	Pn	Pn	06 37 08.5	+0.4
	0.1nm,0.3s,baz=43,slow=14,SNR=7.1						
KURBB				Sn	Sn	06 38 22.4	-3.0
	baz=40,slow=22,SNR=2.0						
KURBB				Lg	Lg	06 39 04.5	
	0.0nm,0.3s,baz=40,slow=32,SNR=3.3						
MKAR	**Makanchi Array**	**9.17**	**196**	Pn	Pn	06 37 41.3	-0.2
	0.1nm,0.3s,baz=27,slow=14,SNR=2.7						
MKAR				Lg	Lg	06 40 18.0	
	0.2nm,0.3s,baz=16,slow=28,SNR=2.9						

IDC ***29*** *06:38:00.3±3.8, 36°.25N×70°.99E, h125km±34km, mb3.5/8, mb1 3.5/13, mb1mx3.3/31, mbtmp3.8/13, Error ellipse: s-maj=23.4km s-min=18.9km az=2.0*

ISCJB ***29*** *06:38:04.1±0.4, 36°.54N±0°.04×70°.98E±0°.06, h188km, mb3.5/7, Error ellipse: s-maj=7.3km s-min=4.4km az=142.3*

NNC ***29*** *06:38:09.7±4.2, 37°.15N×70°.88E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=36.3km s-min=22.6km az=169.0*

ISC 29 06:38:05.1±0.7, 36°.67N±0°.07×70°.92E±0°.07, h188km, n42, σ1s62/36, mb3.5/7, 5C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.70**	**323**	⇑Pn	**Pn**	**06 38 49.7**	**-0.9**
	95nm,0.5s						
DZET				⇓Lg	Lg	06 39 24.0	
	246nm,0.2s						
SFK	**Sufi-Kurgan**	**3.91**	**31**	⇓Pn	**Pn**	**06 39 05.8**	**+0.3**
	14nm,0.2s						
SFK				⇓Lg	Lg	06 39 51.2	
	145nm,0.3s						
DLH	**Dalhousie**	**5.86**	**133**	*e*P	Pn	06 39 26.0	-4.6
DLH				*e*S	Sn	06 40 27.0	-11
AML	**Almayashu**	**5.86**	**21**	P	**Pn**	**06 39 30.9**	**+0.3**
	SNR=37						
MNAS	**Manas**	**5.94**	**11**	⇑P	**Pn**	**06 39 32.0**	**+0.6**
	6.2nm,0.4s						
MNAS				⇑S	**Sn**	**06 40 37.9**	**-1.6**
	36nm,0.5s						
EKS2	**Erkin-Say**	**6.37**	**19**	P	**Pn**	**06 39 38.0**	**+0.9**
	SNR=12						
KK31	**Karatay Array**	**6.43**	**357**	⇑P	**Pn**	**06 39 38.5**	**+0.8**
	9.7nm,0.3s,baz=178,slow=13,SNR=256						
KK31				⇓S	**Sn**	**06 40 49.7**	**-1.4**
	18nm,0.4s,baz=185,slow=22						
AAK	**Ala-Archa**	**6.56**	**24**	P	**Pn**	**06 39 42.1**	**+2.5**
	SNR=12						
AAK	**Ala-Archa**	**6.56**	**24**	⇓P	**Pn**	**06 39 39.5**	**-0.1**
	11nm,0.4s						
AAK				⇓S	**Sn**	**06 40 53.1**	**-1.2**
	21nm,0.6s						
CHMS	**Chumysh**	**6.97**	**24**	P	**Pn**	**06 39 45.9**	**+1.0**
	SNR=5.4						
SDNR	**Sundarnagar**	**7.20**	**134**	*ex*	**Pn**	**06 39 49.0**	**+1.1**
SDNR				*e*S	Sn	06 40 56.0	-13
TKM2	**Tokmak 2**	**7.20**	**29**	P	**Pn**	**06 39 48.7**	**+0.7**
	SNR=8.3						
SMLA	**Simla**	**7.59**	**135**	*i* P	Pn	06 39 48.8	-4.2
SMLA				*i* S	Sn	06 41 06.4	-12
JOSI	**Joshimath**	**9.44**	**128**	*e*S	Sn	06 41 48.8	-14
JOSI				AML	AML	06 41 52.6	
	comp=N,160nm,0.8s						
JOSI				AML	AML	06 41 58.7	
	comp=E,118nm,0.9s						
KHET	**Khetri**	**9.52**	**153**	*e*S	Sn	06 41 49.2	-15
KHET				AML	AML	06 41 52.6	
	comp=N,202nm,0.5s						
KHET				AML	AML	06 41 52.8	
	comp=E,225nm,0.3s						
SONA	**Sohna**	**9.88**	**146**	*e*S	Sn	06 41 57.3	-16
SONA				AML	AML	06 42 04.0	
	comp=E,33nm,0.4s						
SONA				AML	AML	06 42 04.6	
	comp=N,21nm,0.3s						
GEYT	**Alibeck**	**10.28**	**281**	P	**Pn**	**06 40 27.2**	**-0.9**
	comp=N,1.6nm,0.3s,baz=99,slow=6.6,SNR=6.5						
GEYT				S	**Sn**	**06 42 21.0**	**-1.6**
	comp=N,2.5nm,0.3s,baz=105,slow=15,SNR=5.3						
AGRA	**Agra**	**11.14**	**146**	*e*S	Sn	06 42 26.5	-17
AGRA				AML	AML	06 42 44.2	
	comp=N,92nm,0.6s						
AGRA				AML	AML	06 42 50.1	
	comp=E,65nm,0.0s						
MKAR	**Makanchi Array**	**13.19**	**36**	P	**P**	**06 41 07.6**	**-1.0**
	baz=210,slow=9.5,SNR=2.3						
KOLN	**Koldanda**	**13.92**	**126**	*e*P	**Pn**	**06 41 12.1**	**-2.6**
	comp=E,12nm,0.3s						
GKN	**Gorkha**	**14.45**	**123**	*e*P	**Pn**	**06 41 18.7**	**-2.6**
	comp=E,72nm,0.4s						
AB31	**Akbulak array**	**14.90**	**331**	⇓P	**P**	**06 41 28.5**	**+1.1**
	comp=E,1.4nm,0.5s,baz=151,slow=12,SNR=27						
AB31				⇓S	**Sn**	**06 44 10.1**	**-2.7**
	comp=E,4.0nm,0.8s,baz=152,slow=22						
KURBB	**Kurchatov Arra**	**14.98**	**19**	P	**P**	**06 41 29.0**	**+0.7**
	comp=E,0.1nm,0.3s,baz=206,slow=10,SNR=5.5						
DMN	**Daman**	**15.02**	**123**	*e*P	**Pn**	**06 41 27.0**	**-1.4**
	comp=E,45nm,0

LEM	**Lembang**	**3.21**	**22**	P		**Pn**	06 40 19.2	-0.1
LEM				S		**Sn**	06 40 57.5	+1.0
LEM	**Lembang**	**3.21**	**22**	Pn		**Pn**	06 40 19.0	-0.3
	73nm,0.3s,baz=59,slow=7.9,SNR=22							
LEM				Sn		**Sn**	06 40 59.6	+3.1
	114nm,0.3s,baz=4.6,slow=22,SNR=14							
LEM	**Lembang**	**3.21**	**22**	P		**Pn**	06 40 20.4	+1.0
	baz=3.3,SNR=14							
CGJI	**Cibinong**	**3.28**	**347**	P		**Pn**	06 40 18.4	-1.6
CGJI				S		**Sn**	06 40 56.8	-1.0
UGM	**Wanagama**	**4.49**	**65**	P		**Pn**	06 40 34.5	-2.2
UGM	**Wanagama**	**4.49**	**65**	P		**Pn**	06 40 35.4	-1.3
	baz=4.6,SNR=30							
KASI	**Kota Agung**	**4.68**	**336**	P		**Pn**	06 40 36.7	-2.7
SMRI	**Semarang**	**4.85**	**56**	P		**Pn**	06 40 41.9	+0.2
SMRI				S		**Sn**	06 41 35.1	-1.5
SMRI	**Semarang**	**4.85**	**56**	P		**Pn**	06 40 42.1	+0.5
	baz=4.9,SNR=3.6							
SMRI	**Semarang**	**4.85**	**56**	*e*Pn		**Pn**	06 40 42.1	+0.5
SMRI				*e*Sn		**Sn**	06 41 34.9	-1.8
WOJI	**Wonogiri, Jawa**	**4.88**	**66**	P		**Pn**	06 40 39.9	-2.1
KLI	**Kotabumi**	**5.17**	**343**	P		**Pn**	06 40 44.3	-1.8
	81nm,0.6s,0.7nm							
LWLI	**Liwa**	**5.32**	**334**	P		**Pn**	06 40 45.8	-2.5
	76nm,0.5s,1.3nm							
KLSI		**5.38**	**342**	P		**Pn**	06 40 46.8	-2.1
	122nm,0.9s,0.6nm							
NGJI	**Ngawi**	**5.56**	**64**	P		**Pn**	06 40 51.7	+0.3
	120nm,0.5s,0.6nm							
PWJI	**Pagerwojo**	**5.62**	**72**	P		**Pn**	06 40 51.7	-0.5
	351nm,0.7s,5µm1.5nm							
UWJI	**Ujung Watu**	**5.62**	**53**	P		**Pn**	06 40 52.2	-0.1
	111nm,0.7s,3µm0.9nm							
MDSI	**Maura Dua**	**5.76**	**337**	P		**Pn**	06 40 52.0	-2.1
	35nm,0.4s,1µm0.2nm							
TBJI	**Tambak Boyo**	**6.15**	**61**	P		**Pn**	06 40 59.4	-0.2
	122nm,1.1s,0.6nm							
MNAI	**Manna**	**6.43**	**327**	P		**Pn**	06 41 00.6	-2.8
	208nm,2.0s,1.2nm							
MNAI	**Manna**	**6.43**	**327**	P		**Pn**	06 41 00.3	-3.1
	baz=6.4,SNR=5.2							
LHSI	**Lahat**	**6.62**	**334**	P		Pn	06 41 17.7	+12
GRJI	**Gresik**	**6.66**	**65**	P		**Pn**	06 41 06.4	-0.2
	117nm,0.9s,2µm0.5nm							
KSI	**Kapahiang**	**7.22**	**328**	P		**Pn**	06 41 12.3	-2.0
	105nm,0.5s,1.9nm							
BLJI	**Banyuglugur**	**7.39**	**74**	P		**Pn**	06 41 16.8	+0.2
	171nm,0.6s,4µm1.0nm							
JAGI	**Jajag, Banyuwa**	**7.76**	**81**	P		**Pn**	06 41 20.3	-1.4
	370nm,0.7s,4µm1.4nm							
JAGI	**Jajag, Banyuwa**	**7.76**	**81**	P		**Pn**	06 41 20.5	-1.1
	baz=7.9,SNR=29							
JAGI	**Jajag, Banyuwa**	**7.76**	**81**	*e*Pn		**Pn**	06 41 20.5	-1.1
	240nm,0.7s							
JAGI				*e*Sn		Sn	06 42 42.1	-6.3
KMMI	**Kalianget**	**7.96**	**70**	P		**Pn**	06 41 23.7	-0.8
	72nm,1.0s,0.3nm							
ABJI	**Asem Bagus**	**7.99**	**76**	P		**Pn**	06 41 25.1	+0.3
	123nm,0.7s,3µm							
IGBI	**Denpasar**	**8.68**	**84**	P		**Pn**	06 41 33.7	-0.5
	91nm,0.8s							
DNP	**Denpasar**	**8.76**	**83**	P		**Pn**	06 41 35.9	+0.6
	308nm,0.7s							
SRBI	**Singaraja**	**8.86**	**79**	P		**Pn**	06 41 35.9	-0.9
	71nm,0.6s							
SDSI	**Sungai Dareh**	**10.14**	**330**	P		Pn	06 41 58.7	+4.4
BKSI	**Bulukumba**	**14.30**	**73**	P		**Pn**	06 42 52.7	+1.4
GIRL	**Giralia**	**14.78**	**150**	P		Pn	06 42 51.3	-6.3
	baz=15,SNR=5.5							
MEEK	**Meekatharra**	**20.31**	**147**	P		Pn	06 44 07.0	+0.5
	baz=20,SNR=4.5							
NLAI	**Namlea**	**21.56**	**74**	P		**P**	06 44 18.9	+1.1
H01W3	**Cape Leeuwin H**	**25.92**	**165**	T		T	07 11 47.2	
	baz=342,slow=76,SNR=20							
H01W1	**Cape Leeuwin H**	**25.93**	**165**	T		T	07 11 42.4	
	baz=342,slow=76,SNR=18							
H01W2	**Cape Leeuwin H**	**25.93**	**165**	T		T	07 11 42.7	
	baz=342,slow=76,SNR=22							
WRA	**Warramunga Arr**	**28.75**	**114**	P		**P**	06 45 24.9	-0.9
	3.7nm,0.6s,baz=290,slow=10,SNR=11							
CMAR	**Chiang Mai Arr**	**29.06**	**345**	P		**P**	06 45 28.9	+0.6
	1.1nm,0.3s,baz=177,slow=8.5,SNR=3.3							
CMAR				LR		LR	06 59 22.8	
	comp=Z,18nm,18.9s,baz=150,slow=41							
ASAR	**Alice Springs**	**29.62**	**121**	P		**P**	06 45 32.2	-1.2
	1.7nm,0.5s,baz=299,slow=8.2,SNR=17							
H08S2	**Diego Garcia H**	**33.59**	**271**	T		T	07 20 42.2	
	baz=97,slow=75,SNR=8.4							
H08S3	**Diego Garcia H**	**33.60**	**271**	T		T	07 20 42.2	
	baz=97,slow=75,SNR=7.9							
H08S1	**Diego Carcia H**	**33.61**	**271**	T		T	07 20 42.2	
	baz=97,slow=75,SNR=8.1							
STKA	**Stephens Creek**	**39.24**	**129**	P		**P**	06 46 56.5	+0.1
	7.5nm,0.5s,baz=309,slow=7.7,SNR=21							
CTA	**Charters Tower**	**39.72**	**110**	P		**P**	06 47 01.4	+0.8
	3.3nm,0.5s,baz=266,slow=13,SNR=4.7							
KSRS	**Korea Array**	**51.18**	**22**	LR		LR	07 15 33.3	
	comp=Z,11nm,18.0s,baz=345,slow=42							
SONM	**Songino Array**	**57.41**	**360**	P		**P**	06 49 16.7	+0.4
	1.4nm,0.9s,baz=167,slow=7.2,SNR=7.3							
MKAR	**Makanchi Array**	**60.35**	**341**	P		**P**	06 49 36.2	-0.4
	1.3nm,0.7s,baz=152,slow=8.1,SNR=10							
MAW	**Mawson**	**64.50**	**197**	P		**P**	06 50 04.3	+0.2
	0.6nm,0.3s,baz=81,slow=19,SNR=4.5							
KURBB	**Kurchatov Arra**	**64.91**	**341**	P		**P**	06 50 07.4	+0.5
	1.3nm,0.8s,baz=160,slow=5.5,SNR=11							
KURK	**Kurchatov**	**64.96**	**341**	P		**P**	06 50 07.4	+0.2
BVAR	**Borovoye Array**	**69.74**	**338**	P		**P**	06 50 37.1	-0.3
	0.3nm,0.4s,baz=156,slow=9.1,SNR=4.1							
ABKAR	**Akbulak array**	**71.55**	**330**	*e*P		**P**	06 50 49.1	+0.6
	0.6nm,0.4s							
VNDA	**Vanda**	**73.31**	**169**	P		**P**	06 50 58.3	-0.4
	1.6nm,0.9s,baz=287,slow=5.7,SNR=8.4							
LONY	**Lake Ozonia**	**145.33**	**1**	*e*PKPbc		**PKPdf**	06 59 06.0	+0.5
TXAR	**Lajitas Array**	**145.82**	**51**	PKPbc		**PKPab**	06 59 09.3	+1.4
	1.1nm,0.8s,baz=240,slow=3.1,SNR=18							
WMOK	**Wichita Mounta**	**146.16**	**39**	*e*PKPbc		**PKPab**	06 59 09.2	+0.2
LPAZ	**La Paz**	**153.49**	**192**	PKPbc		**PKPbc**	06 59 28.3	+0.6
	0.8nm,0.8s,baz=171,slow=5.5,SNR=4.7							

IDC 29 06:48:18.3±4.1, 48°07'N×80°61'E, h0km, Error ellipse: s-maj=37.7km s-min=31.6km az=45.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**1.71**	**138**	Pn	Pn	06 48 48.6	-0.9
	0.5nm,0.3s,baz=320,slow=16,SNR=22						
MKAR				Pg	Pg	06 48 51.6	+0.4
	0.5nm,0.3s,baz=316,slow=13,SNR=21						
MKAR				Lg	Lg	06 49 10.0	
	0.3nm,0.3s,baz=319,slow=28,SNR=5.8						
I46RU	**ZALESOVO INFRA**	**6.46**	**23**	*i*		07 27 30.0	
	baz=205,slow=337,SNR=1.0						
I31KZ	**AKTYUBINSK INF**	**14.92**	**287**	*i*		08 14 00.0	
	baz=90,slow=308,SNR=0.6						

IDC 29 06:49:20.2±2.5, 54°13'N×86°41'E, h0km, mb1 3.5/2, mb1mx3.2/29, mbtmp3.5/2, ML3.4/2, Error ellipse: s-maj=20.3km s-min=13.0km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**260**	*i*		06 55 10.0	
	baz=80,slow=309,SNR=4.6						
ZALV	**Zalesovo Beam**	**0.96**	**260**	Pg	Pg	06 49 37.8	-0.8
	3.5nm,0.3s,baz=78,slow=16,SNR=26						
ZALV				Lg	Lg	06 49 52.1	
	3.2nm,0.3s,baz=77,slow=30,SNR=8.7						
KURBB	**Kurchatov Arra**	**5.97**	**237**	Pn	Pn	06 50 50.5	+0.8
	0.4nm,0.3s,baz=54,slow=13,SNR=4.4						
KURBB				Lg	Lg	06 52 32.7	
	0.0nm,0.3s,baz=55,slow=34,SNR=8.3						
MKAR	**Makanchi Array**	**7.80**	**201**	Pn	Pn	06 51 16.1	+1.1
	1.0nm,0.3s,baz=24,slow=13,SNR=19						
MKAR				Lg	Lg	06 53 24.8	
	baz=16,slow=33,SNR=3.3						

DJA 29 07:05:51.1±0.6, 6°S±3°×107°4E±°, h10km, M3.5/10, MLv3.5/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**0.53**	**76**	P	Pg	07 05 59.4	-2.0
KASI				S	Sg	07 06 07.9	-0.5
LWLI	**Liwa**	**0.63**	**7**	P	Pg	07 06 02.1	-1.5
LWLI				S	Sg	07 06 11.2	-0.8
KLI	**Kotabumi**	**1.17**	**48**	P	Pb	07 06 12.6	-0.9
KLI				S	Sb	07 06 28.7	0.0
MDSI	**Maura Dua**	**1.17**	**10**	P	Pb	07 06 10.5	-3.0
MDSI				S	Sn	07 06 29.3	-0.3
KLSI		**1.21**	**38**	P	Pn	07 06 12.4	-1.7
KLSI				S	Sg	07 06 30.4	+0.2
BLSI	**Bandar Lampung**	**1.29**	**78**	P	Pn	07 06 14.2	-1.0
BLSI				S	Sb	07 06 31.8	-0.4
MNAI	**Manna**	**1.64**	**321**	P	Pn	07 06 19.7	-0.3
LHSI	**Lahat**	**1.87**	**346**	P	Pb	07 06 24.5	-0.8
CGJI	**Cibinong**	**1.95**	**119**	P	Pn	07 06 25.2	+0.9
KSI	**Kapahiang**	**2.42**	**325**	P	Pn	07 06 29.2	-1.6
DSRI	**Dabo**	**5.17**	**7**	P	Pg	07 07 32.8	+2.6

*NEIC **29** 07:19:34.0, 16°.20N×94°.43W, h58km, MD4.1(MEX), After MEX.*

MEX 29 07:19:34.0±0.6, 16°.20N×94°.43W, h58km±14km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.26**	**113**	*e*P	Pn	07 19 54.0	-1.5
PCIG				*e*S	Sn	07 20 09.5	-2.0
PCIG		**1.26**	**113**	*e*P	Pn	07 19 54.0	-1.5
PCIG				*e*S	Sn	07 20 09.5	-2.0
TGIG		**1.38**	**65**	*i* P	Pn	07 19 55.9	-1.3
TGIG				*i* S	Sn	07 20 12.3	-2.3
TGIG		**1.38**	**65**	*i* P	Pn	07 19 55.9	-1.3
TGIG				*i* S	Sn	07 20 12.3	-2.3
HUIG	**Huatulco**	**1.67**	**255**	*e*P	Pn	07 19 59.6	-1.3
HUIG				*i* S	Sn	07 20 19.7	-1.6
HUIG	**Huatulco**	**1.67**	**255**	*e*P	Pn	07 19 59.6	-1.3
HUIG				*i* S	Sn	07 20 19.7	-1.6
CCIG	**Comitan**	**2.21**	**87**	*e*P	Pn	07 20 07.8	-0.7
CCIG				*i* S	Sn	07 20 32.7	-2.1
CCIG	**Comitan**	**2.21**	**87**	*e*P	Pn	07 20 07.8	-0.7
CCIG				*i* S	Sn	07 20 32.7	-2.1
VHO	**Vista Hermosa**	**2.37**	**292**	*e*P	Pn	07 20 09.0	-1.8
VHO				*i* S	Sn	07 20 36.7	-2.3
VHO	**Vista Hermosa**	**2.37**	**292**	*e*P	Pn	07 20 09.0	-1.8
VHO				*i* S	Sn	07 20 36.7	-2.3
PNIG	**Pinotepa**	**3.56**	**274**	*e*P	Pn	07 20 25.2	-1.6
PNIG				*e*S	Sn	07 21 05.9	-1.7
PNIG	**Pinotepa**	**3.56**	**274**	*e*P	Pn	07 20 25.2	-1.6
PNIG				*e*S	Sn	07 21 05.9	-1.7

*ISK **29** 07:21:29.7, 37°.24N×28°.03E, h5km, MD2.9*
*ISCJB **29** 07:21:31.9±0.6, 37°.20N±0°.04×28°.05E±0°.04, h9km±6km, Error ellipse: s-maj=7.2km s-min=5.3km az=21.7*
*DDA **29** 07:21:31.3, 37°.19N×28°.24E, h7km, MD2.7*
*CSEM **29** 07:21:33.0±0.3, 37°.23N×28°.15E, h12km, MD2.9, Error ellipse: s-maj=7.6km s-min=5.6km az=49.0*

ISC 29 07:21:31.8±1.0, 37°.22N±0°.03×28°.11E±0°.03, h11km±10km, n15, σ1§18/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.16**	**121**	*e*Pg	**Pg**	07 21 38.4	-0.1
YER				*e*Sg	**Sg**	07 21 39.4	+1.4
AYDN	**Tasoluk**	**0.47**	**338**	*i* P	**Pb**	07 21 42.5	+0.2
AYDN				*i* S	**Sb**	07 21 49.8	+0.4
AYDN	**Tasoluk**	**0.47**	**338**	*i* P	**Pb**	07 21 42.5	+0.2
AYDN				*i* S	**Sb**	07 21 49.8	+0.4
BDRM	**Kayabasi**	**0.55**	**254**	*i* P	**Pb**	07 21 44.0	+0.4
BDRM				*i* S	**Sb**	07 21 53.7	+2.2
BDRM	**Kayabasi**	**0.55**	**254**	*i* P	**Pb**	07 21 44.0	+0.4
BDRM				*i* S	**Sb**	07 21 53.7	+2.2
DALY	**Dalyan (Mu¨la**	**0.59**	**132**	*e*PG	**Pb**	07 21 43.5	-0.7
DALY				*e*SG	**Sb**	07 21 53.7	+1.1
DALY	**Dalyan (Mu¨la**	**0.59**	**132**	*e*Pg	**Pb**	07 21 43.5	-0.7
DALY				*e*Sg	**Sb**	07 21 53.7	+1.1
BODT	**Bodrum**	**0.66**	**256**	*e*PG	**Pg**	07 21 42.6	-2.0
BODT				*e*SG	**Sg**	07 21 52.0	-1.1
AYDE	**Zeytinkoy-Aydi**	**0.74**	**347**	*e*PG	**Pg**	07 21 44.6	-1.6
MANT	**Manisa**	**1.32**	**16**	*i* P	**Pg**	07 21 58.3	+1.2
MANT				*i* S	**Sb**	07 22 13.3	-0.4
MANT	**Manisa**	**1.32**	**16**	*i* P	**Pg**	07 21 58.3	+1.2
MANT				*i* S	**Sb**	07 22 13.3	-0.4
KULA	**Kula-Manisa**	**1.36**	**19**	*e*PN	**Pb**	07 21 56.9	-0.6
KULA	**Kula-Manisa**	**1.36**	**19**	*e*Pn	**Pb**	07 21 56.9	-0.6
ELL	**Elmali**	**1.52**	**108**	*e*PN	**Pg**	07 21 60.0	-1.0
ELL	**Elmali**	**1.52**	**108**	*e*Pn	**Pg**	07 22 00.0	-1.0

*TIR **29** 07:22:41.4, 39°.24N×22°.17E, h40km, ML3.6*
*ISCJB **29** 07:22:43.0±0.4, 39°.22N±0°.01×22°.22E±0°.02, h91km±4km, Error ellipse: s-maj=3.2km s-min=2.4km az=170.0*
*ATH **29** 07:22:42.7, 39°.21N×22°.22E, h90km±1km*
*THE **29** 07:22:43.9, 39°.22N×22°.24E, h84km±1km, ML2.9/22, Error ellipse: s-maj=1.0km s-min=0.4km az=165.0*
*CSEM **29** 07:22:43.6±0.1, 39°.22N×22°.22E, h87km±1km, ML2.9, Error ellipse: s-maj=1.7km s-min=1.2km az=82.0*

ISC 29 07:22:43.4±1.2, 39°.22N±0°.02×22°.22E±0°.02, h89km±5km, n161, σ0§59/264, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGG	**Agios Georgios**	**0.22**	**157**	*e*P	**Pn**	07 22 56.4	0.0
AGG	**Agios Georgios**	**0.22**	**157**	*e*P	**Pn**	07 22 56.4	0.0
AGG				S	**Sn**	07 23 05.2	-0.8
AGG	**Agios Georgios**	**0.22**	**157**	P	**Pn**	07 22 56.3	-0.1
AGG				S	**Sn**	07 23 05.2	-0.8
MAKR	**Makrakomi, Fth**	**0.22**	**198**	*e*P	**Pn**	07 22 56.6	+0.2
MAKR				*e*S	**Sn**	07 23 06.4	+0.4
MAKR	**Makrakomi, Fth**	**0.22**	**198**	*e*P	**Pn**	07 22 56.6	+0.2
MAKR				*e*S	**Sn**	07 23 06.4	+0.4
MAKR	**Makrakomi, Fth**	**0.22**	**198**	P	**Pn**	07 22 56.6	+0.2
MAKR				S	**Sn**	07 23 06.0	0.0
THL	**Klokotos Trika**	**0.38**	**335**	*e*P	**Pn**	07 22 56.9	-0.2
THL	**Klokotos Trika**	**0.38**	**335**	*e*P	**Pn**	07 22 56.9	-0.2
THL				S	**Sn**	07 23 06.9	-0.4
THL	**Klokotos Trika**	**0.38**	**335**	P	**Pn**	07 22 57.0	-0.2
THL				S	**Sn**	07 23 06.9	-0.4
EVR	**Evrytania**	**0.44**	**226**	*e*P	**Pn**	07 22 57.9	+0.2
EVR				*e*S	**Sn**	07 23 08.2	-0.1
EVR	**Evrytania**	**0.44**	**226**	*e*P	**Pn**	07 22 57.9	+0.2
EVR				*e*S	**Sn**	07 23 08.2	-0.1
EVR	**Evrytania**	**0.44**	**226**	P	**Pn**	07 22 57.8	+0.1
EVR				S	**Sn**	07 23 08.0	-0.3
AXAR	**Agios Charalam**	**0.57**	**143**	*e*P	**Pn**	07 22 59.0	+0.3
AXAR				*e*S	**Sn**	07 23 10.9	+1.0
AXAR	**Agios Charalam**	**0.57**	**143**	P	**Pn**	07 22 58.9	+0.3
AXAR				*e*S	**Sn**	07 23 10.9	+1.0
AXAR	**Agios Charalam**	**0.57**	**143**	P	**Pn**	07 22 58.9	+0.3
AXAR				S	**Sn**	07 23 09.9	0.0
XOR	**Xorichti**	**0.77**	**79**	*e*P	**Pn**	07 23 00.7	+0.2
XOR				*e*S	**Sn**	07 23 13.3	0.0
XOR	**Xorichti**	**0.77**	**79**	*e*P	**Pn**	07 23 00.7	+0.2
XOR				*e*S	**Sn**	07 23 13.3	0.0
XOR	**Xorichti**	**0.77**	**79**	P	**Pn**	07 23 00.6	+0.1
XOR				S	**Sn**	07 23 13.3	0.0
NEO	**Neokhori**	**0.78**	**84**	*e*P	**Pn**	07 23 00.8	+0.1
NEO				*e*S	**Sn**	07 23 13.4	-0.2
NEO	**Neokhori**	**0.78**	**84**	*e*P	**Pn**	07 23 00.8	+0.1
NEO				*e*S	**Sn**	07 23 13.4	-0.2
NEO	**Neokhori**	**0.78**	**84**	P	**Pn**	07 23 00.8	+0.1
NEO				S	**Sn**	07 23 13.1	-0.5
PVO	**Paravola**	**0.81**	**222**	P	**Pn**	07 23 01.4	+0.5
PVO				S	**Sn**	07 23 15.1	+1.1
PVO	**Paravola**	**0.81**	**222**	P	**Pn**	07 23 01.4	+0.5
PVO				S	**Sn**	07 23 15.1	+1.1
ATAL	**Atalanti**	**0.82**	**130**	P	**Pn**	07 23 01.3	+0.3
ATAL				S	**Sn**	07 23 14.1	-0.1
ATAL	**Atalanti**	**0.82**	**130**	P	**Pn**	07 23 01.3	+0.3
ATAL				S	**Sn**	07 23 14.1	-0.1
EFP	**Efpalio**	**0.83**	**197**	*e*P	**Pn**	07 23 01.4	+0.3
EFP	**Efpalio**	**0.83**	**197**	*e*P	**Pn**	07 23 01.4	+0.3
EFP	**Efpalio**	**0.83**	**197**	P	**Pn**	07 23 01.4	+0.3
KALE	**Kalithea**	**0.83**	**184**	*e*P	**Pn**	07 23 01.1	-0.1
KALE				*e*S	**Sn**	07 23 14.4	-0.2
KALE	**Kalithea**	**0.83**	**184**	*e*P	**Pn**	07 23 01.1	-0.1
KALE				*e*S	**Sn**	07 23 14.4	-0.2
KALE	**Kalithea**	**0.83**	**184**	P	**Pn**	07 23 01.2	0.0
KALE				S	**Sn**	07 23 14.2	-0.4
LKR	**Lokris**	**0.83**	**133**	*e*P	**Pn**	07 23 01.4	+0.2
LKR				*e*S	**Sn**	07 23 14.3	-0.1
LKR	**Lokris**	**0.83**	**133**	*e*P	**Pn**	07 23 01.4	+0.2
LKR				*e*S	**Sn**	07 23 14.3	-0.1
LKR	**Lokris**	**0.83**	**133**	P	**Pn**	07 23 01.4	+0.2
LKR				S	**Sn**	07 23 14.7	+0.3
SMIA	**Simia**	**0.84**	**114**	*e*P	**Pn**	07 23 01.7	+0.4
SMIA				*e*S	**Sn**	07 23 14.7	0.0
SMIA	**Simia**	**0.84**	**114**	P	**Pn**	07 23 01.5	+0.2
SMIA				S	**Sn**	07 23 14.6	-0.1
SMIA	**Simia**	**0.84**	**114**	P	**Pn**	07 23 01.5	+0.2
SMIA				S	**Sn**	07 23 14.6	-0.1
DESF	**Desfina**	**0.85**	**163**	*e*P	**Pn**	07 23 01.2	-0.2
DESF				*e*S	**Sn**	07 23 14.7	-0.1
DESF	**Desfina**	**0.85**	**163**	*e*P	**Pn**	07 23 01.2	-0.2
DESF				*e*S	**Sn**	07 23 14.7	-0.1
DSF	**Desfina**	**0.85**	**163**	*e*P	**Pn**	07 23 01.3	-0.1
DSF	**Desfina**	**0.85**	**163**	*e*P	**Pn**	07 23 01.3	-0.1
DSF				S	**Sn**	07 23 14.4	-0.4
DSF	**Desfina**	**0.85**	**163**	P	**Pn**	07 23 01.2	-0.1
DSF				S	**Sn**	07 23 14.4	-0.4
TRIZ	**Trizonia**	**0.86**	**188**	*e*P	**Pn**	07 23 01.5	0.0
TRIZ	**Trizonia**	**0.86**	**188**	*e*P	**Pn**	07 23 01.5	0.0
TRIZ	**Trizonia**	**0.86**	**188**	P	**Pn**	07 23 01.4	0.0
DSL	**Palaion Diasel**	**0.88**	**264**	*e*P	**Pn**	07 23 02.2	+0.5
DSL				*e*S	**Sn**	07 23 15.4	+0.1
DSL	**Palaion Diasel**	**0.88**	**264**	*e*P	**Pn**	07 23 02.2	+0.5
DSL				*e*S	**Sn**	07 23 15.4	+0.1
DSL	**Palaion Diasel**	**0.88**	**264**	P	**Pn**	07 23 02.1	+0.4
DSL				S	**Sn**	07 23 15.4	+0.1
LIT	**Litokhoron**	**0.90**	**13**	*e*P	**Pn**	07 23 02.3	+0.3
LIT				*e*S	**Sn**	07 23 16.2	+0.4
LIT	**Litokhoron**	**0.90**	**13**	*e*P	**Pn**	07 23 02.2	+0.3
LIT				*e*S	**Sn**	07 23 16.2	+0.4
LIT	**Litokhoron**	**0.90**	**13**	P	**Pn**	07 23 02.0	+0.1
LIT				S	**Sn**	07 23 16.0	+0.2
LAKA	**Lakka**	**1.00**	**191**	*e*P	**Pn**	07 23 03.1	+0.1
LAKA				*e*S	**Sn**	07 23 18.4	+0.7
LAKA	**Lakka**	**1.00**	**191**	*e*P	**Pn**	07 23 03.1	+0.1
LAKA				*e*S	**Sn**	07 23 18.4	+0.7
LAKA	**Lakka**	**1.00**	**191**	P	**Pn**	07 23 03.3	+0.3
PDO	**Prodromos**	**1.02**	**233**	*e*P	**Pn**	07 23 03.7	+0.5
PDO				*e*S	**Sn**	07 23 18.7	+0.6
PDO	**Prodromos**	**1.02**	**233**	*e*P	**Pn**	07 23 03.7	+0.5
PDO				*e*S	**Sn**	07 23 18.7	+0.6
PDO	**Prodromos**	**1.02**	**233**	P	**Pn**	07 23 03.8	+0.5
PDO				S	**Sn**	07 23 18.7	+0.6
KZN	**Kozani**	**1.14**	**342**	*e*P	**Pn**	07 23 05.3	+0.6
KZN				*e*S	**Sn**	07 23 21.4	+0.8
KZN	**Kozani**	**1.14**	**342**	*e*P	**Pn**	07 23 05.3	+0.6
KZN				*e*S	**Sn**	07 23 21.4	+0.8
KZN	**Kozani**	**1.14**	**342**	P	**Pn**	07 23 04.9	+0.2
KZN				S	**Sn**	07 23 21.1	+0.5
JAN	**Janina**	**1.15**	**293**	*e*P	**Pn**	07 23 05.5	+0.8
JAN	**Janina**	**1.15**	**293**	*e*P	**Pn**	07 23 05.5	+0.8
KLV	**Kalavryta, Ach**	**1.18**	**183**	*e*P	**Pn**	07 23 05.3	+0.1
KLV				*e*S	**Sn**	07 23 21.6	0.0
KLV	**Kalavryta, Ach**	**1.18**	**183**	*e*P	**Pn**	07 23 05.3	+0.1
KLV				*e*S	**Sn**	07 23 21.6	0.0
KLV	**Kalavryta, Ach**	**1.18**	**183**	P	**Pn**	07 23 05.2	+0.1
MRKA	**Markates**	**1.19**	**115**	*e*P	**Pn**	07 23 05.7	+0.5
MRKA				*e*S	**Sn**	07 23 21.6	0.0
MRKA	**Markates**	**1.19**	**115**	*e*P	**Pn**	07 23 05.7	+0.5
MRKA				*e*S	**Sn**	07 23 21.6	0.0
MRKA	**Markates**	**1.19**	**115**	P	**Pn**	07 23 05.7	+0.5
MRKA				S	**Sn**	07 23 21.5	-0.3
THAL	**Thalero**	**1.23**	**164**	*e*P	**Pn**	07 23

SOH				*eS*	**Sn**	**07 23 36.6 +0.7**
SOH	**Sokhos**	**1.82**	**28**	*eP*	**Pn**	**07 23 13.8 +0.6**
SOH				*eS*	**Sn**	**07 23 36.6 +0.7**
SRN	**Sarande**	**1.84**	**292**	*i* PG	**Pn**	**07 23 15.0 +1.7**
SRN				*i* SG	**Sn**	**07 23 34.0 -2.2**
DID	**Didima**	**1.89**	**155**	*eP*	**Pn**	**07 23 15.2 +1.0**
DID				*eS*	**Sn**	**07 23 37.7 +0.1**
DID	**Didima**	**1.89**	**155**	P	**Pn**	**07 23 14.1 -0.1**
DID				*eS*	**Sn**	**07 23 37.7 +0.1**
DID	**Didima**	**1.89**	**155**	P	**Pn**	**07 23 14.1 -0.1**
DIDY	**Didyma**	**1.91**	**156**	*eP*	**Pn**	**07 23 14.4 -0.1**
DIDY				*eS*	**Sn**	**07 23 37.7 -0.4**
DIDY	**Didyma**	**1.91**	**156**	*eP*	**Pn**	**07 23 14.4 -0.1**
DIDY				*eS*	**Sn**	**07 23 37.7 -0.4**
KRND	**KRANIDI**	**1.98**	**158**	*eP*	**Pn**	**07 23 15.4 +0.1**
KRND				*eS*	**Sn**	**07 23 39.7 +0.2**
KRND	**KRANIDI**	**1.98**	**158**	*eP*	**Pn**	**07 23 15.4 +0.1**
KRND				*eS*	**Sn**	**07 23 39.7 +0.2**
KNT	**Kendrikon**	**2.00**	**15**	*eP*	**Pn**	**07 23 16.5 +0.9**
KNT				*eS*	**Sn**	**07 23 41.2 +1.0**
KNT	**Kendrikon**	**2.00**	**15**	*eP*	**Pn**	**07 23 16.5 +0.9**
KNT				*eS*	**Sn**	**07 23 41.2 +1.0**
KNT	**Kendrikon**	**2.00**	**15**	P	**Pn**	**07 23 16.2 +0.6**
ITM	**Ithomi**	**2.05**	**187**	*eP*	**Pn**	**07 23 17.0 +0.7**
ITM	**Ithomi**	**2.05**	**187**	P	**Pn**	**07 23 16.4 +0.1**
ITM	**Ithomi**	**2.05**	**187**	P	**Pn**	**07 23 16.4 +0.1**
VAY	**Valandovo**	**2.11**	**7**	*i* Pn	**Pn**	**07 23 16.1 -0.9**
VAY				*i* Sg	**Sn**	**07 23 43.7 +1.0**
VAY	**Valandovo**	**2.11**	**7**	*i* Pn	**Pn**	**07 23 16.1 -0.9**
VAY				*i* Sg	**Sn**	**07 23 43.6 +1.0**
OHR	**Ohrid**	**2.18**	**330**	*i* Pn	**Pn**	**07 23 17.0 -0.9**
OHR				*i* Sg	**Sn**	**07 23 42.5 -1.9**
PYL	**PYLOS**	**2.35**	**189**	*eP*	**Pn**	**07 23 18.8 -0.5**
PYL	**PYLOS**	**2.35**	**189**	*eP*	**Pn**	**07 23 19.8 -0.5**
NVR	**Nevrokopi**	**2.47**	**30**	*eP*	**Pn**	**07 23 22.3 +0.5**
NVR	**Nevrokopi**	**2.47**	**30**	*eP*	**Pn**	**07 23 22.3 +0.5**
KAVA	**Kavala**	**2.50**	**44**	*eP*	**Pn**	**07 23 21.9 -0.2**
KAVA	**Kavala**	**2.50**	**44**	*eP*	**Pn**	**07 23 21.9 -0.2**
VLI	**Veliai**	**2.56**	**167**	*eP*	**Pn**	**07 23 22.9 -0.2**
VLI	**Veliai**	**2.56**	**167**	*eP*	**Pn**	**07 23 22.9 -0.2**
PHP	**Peshkopia**	**2.81**	**332**	*i* PN	**Pn**	**07 23 25.8 -0.5**
KYTH	**Kithira**	**3.01**	**167**	*eP*	**Pn**	**07 23 29.8 +0.8**
KYTH	**Kithira**	**3.01**	**167**	*eP*	**Pn**	**07 23 29.8 +0.8**
PUK	**Puka**	**3.33**	**329**	*i* PN	**Pn**	**07 23 34.2 +0.9**
PUK				*i* SN	Sn	07 23 56.9 -15
PUK	**Puka**	**3.33**	**329**	*i* Pn	**Pn**	**07 23 34.2 +0.9**
BARS	**Barje**	**3.60**	**355**	*ePn*	**Pn**	**07 23 35.2 -1.8**
IVAS	**Ivanjica**	**4.62**	**341**	*ePn*	**Pn**	**07 23 50.4 -0.4**
STON	**Ston**	**5.00**	**318**	*ePn*	**Pn**	**07 23 53.2 -2.7**
STON				Sn	Sn	07 24 45.7 -6.5
STON	**Ston**	**5.00**	**318**	*ePn*	**Pn**	**07 23 53.1 -2.7**
BBLS	**Lazići**	**5.10**	**336**	*ePn*	Pn	07 23 53.6 -3.7
NVLJ	**Novalja**	**7.65**	**317**	Sn	Sn	07 25 50.1 -6.8

BJI **29** *07:31:49.4,5.˚88N×123.˚70E,h607km,mb6.6/79,mB6.6/60*
MAN **29** *07:31:55,6.˚40N×123.˚40E,h616km,MS6.6*
ISCJB **29** *07:31:56.6±0.1,6.˚55N±0.˚01×123.˚34E±0.˚02,h633km±1km, mb6.2/245, Error ellipse: s-maj=2.4km s-min=1.8km az=157.9*
MOS **29** *07:31:56.0±1.1,6.˚60N×123.˚31E,h620km,mb6.2/66, Error ellipse: s-maj=7.3km s-min=4.1km az=118.7*
GCMT **29** *07:31:56.8±0.1,6.˚69N×123.˚41E,h614km,MW6.6/134, Moment Tensor Solution. s134,c361; s119,c209; Duration: 4s9 Moment tensor: Scale 10¹⁹Nm; Mrr-0.21±.00; Mθθ0.23±.01; Mϕϕ-0.02±.01; Mrθ-0.56±.01; Mθϕ0.12±.01; Mϕr-0.83±.01; Best double couple: M₀1.02800×10¹⁹ NP1:ϕs35.00000°,δ85.00000°, λ-99.00000°. NP2:ϕs274.00000°,δ10.00000°, λ-32.00000°. Principal axes: T 1.0100, Plg39.0000°, Azm133.0000°; N 0.0380, Plg9.0000°, Azm36.0000°; P -1.0460, Plg50.0000°, Azm296.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to mantle waves, cutoff=125s.*
NEIC **29** *07:31:56.2±0.2,6.˚55N×123.˚22E,h618km,mb6.1/70, ME6.2,MW6.6,MW6.6,MW6.6 Error ellipse: s-maj=7.0km s-min=5.6km az=66.0 Best double couple: NP1: ϕs35.00000°,δ83.00000°,λ-97.00000°. NP2:ϕs261.00000°, δ10.00000°,λ-44.00000°. Principal axes: T 1.0100, Plg37.0000°, Azm131.0000°; N 0.1000, Plg7.0000°, Azm35.0000°; P -1.1100, Plg51.0000°, Azm296.0000°; Depth from broadband displacement seismograms. Energy computed from CMT mechanism.*
IDC **29** *07:31:57.5±0.4,6.˚59N×123.˚37E,h619km±5km,mb5.5/50, mb1 5.5/53,mb1mx5.5/53,mbtmp6.4/53 Error ellipse: s-maj=6.3km s-min=5.3km az=58.0*
NEIC **29** *07:31:57.0±0.0,6.˚47N×123.˚38E,h618km,Moment Tensor Solution. s53 Moment tensor: Scale 10¹⁸Nm; Mrr-2.00; Mθθ1.90; Mϕϕ0.10; Mrθ-4.73; Mθϕ0.68; Mϕr-6.88; Best double couple: M₀8.60000×10¹⁸ NP1:ϕs36.00000°, δ84.00000°,λ-96.00000°. NP2:ϕs267.00000°,δ9.00000°, λ-37.00000°. Principal axes: T 8.2600, Plg38.0000°, Azm132.0000°; N 0.6400, Plg7.0000°, Azm36.0000°; P -8.9000, Plg50.0000°, Azm298.0000°;*
DJA **29** *07:31:57.5±0.2,7.˚N±2.˚×12.˚3E±.˚,h626km±2km,M6.1/163, mb6.2/163,mB6.4/156,MLv6.9/14,Mw(mB)6.1/156, Mwp6.1/51*
KLM **29** *07:31:58.5,6.˚41N×123.˚28E,h614km,mb6.6,ML6.3, MS7.3*
NEIC **29** *07:32:07.4±0.0,6.˚50N×123.˚51E,h596km,Moment Tensor Solution. s119 Moment tensor: Scale 10¹⁸Nm; Mrr-2.01; Mθθ2.15; Mϕϕ-0.14; Mrθ-4.85; Mθϕ0.72; Mϕr-7.62; Best double couple: M₀9.30000×10¹⁸ NP1:ϕs273.00000°, δ10.00000°,λ-31.00000°. NP2:ϕs34.00000°,δ85.00000°, λ-97.00000°. Principal axes: T 8.8900, Plg39.0000°, Azm131.0000°; N 0.7700, Plg8.0000°, Azm35.0000°; P -9.6600, Plg49.0000°, Azm295.0000°;*

ISC 29 07:31:56.7±0.2,6.˚56N±0.˚02×123.˚36E±0.˚03,h616km±1km, h617km:pP-P,n2029,σ1s55/2531,mb6.3/258,119C-140D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**1.10**	**53**	↓*iP*	**P**	**07 33 09.8**	**+0.2**
GSPH	**General Santos**	**1.65**	**106**	*eP*	**P**	**07 33 10.9**	**-0.5**
GSPH				*eS*	**S**	**07 34 16.6**	**+4.6**
DCPH	**Dipolog City**	**2.01**	**360**	↑*iP*	**P**	**07 33 12.8**	**+0.3**
DCPH				*i* S	**S**	**07 34 13.6**	**-0.6**
DMPH	**Davao City--Mi**	**2.20**	**76**	↑*eP*	**P**	**07 33 15.8**	**+2.5**
DAV	**Davao City (W)**	**2.26**	**77**	↓*eP*	**P**	**07 33 12.9**	**-0.6**
DAV	**Davao City (W)**	**2.26**	**77**	↑*eP*	**S**	**07 34 17.8**	**+1.8**
DAV	**Davao City (W)**	**2.26**	**77**	*eP*	**P**	**07 33 12.3**	**-1.2**
DAV				*eS*	**S**	**07 34 11.8**	**-4.2**
CGP	**Cagayan de Oro**	**2.30**	**35**	*eP*	**P**	**07 33 13.0**	**-0.7**
CGP				*i* S	**S**	**07 34 16.9**	**+0.5**
TBP	**Tagbilaran**	**3.15**	**9**	*eP*	**P**	**07 33 17.9**	**-0.1**
TBP				*eS*	**S**	**07 34 23.8**	**-0.4**
BIPH	**Bislig**	**3.39**	**61**	↓*iP*	**P**	**07 33 18.1**	**-1.3**
BIPH				*i* S	**S**	**07 34 24.0**	**-2.7**
SGSI	**Sangihe**	**3.58**	**143**	P	**P**	**07 33 19.6**	**-1.0**
PLP	**Palo**	**4.85**	**19**	*eS*	**S**	**07 34 43.1**	**-2.0**
MYLDM	**Lahad Datu**	**5.03**	**254**	↑P	**P**	**07 33 33.2**	**+2.4**
MYLDM	**Lahad Datu**	**5.03**	**254**	*eP*	**P**	**07 33 32.8**	**+2.0**
PPR	**Puerto Princes**	**5.59**	**305**	↓*iP*	**P**	**07 33 36.8**	**+1.6**
MMPH	**Masbate**	**5.77**	**3**	↑*eP*	**P**	**07 33 38.2**	**+1.4**
MMPH				*eS*	**S**	**07 34 59.8**	**+1.4**
TSM	**Tawau**	**5.91**	**248**	↑P	**P**	**07 33 37.6**	**-0.3**
KMSI	**Cibinong**	**5.98**	**174**	P	**P**	**07 33 41.0**	**+2.5**
	25µm,0.9s,241µm152µm125nm						
KMSI				S	**S**	**07 35 07.3**	**+5.6**
	25µm,0.9s,241µm152µm125nm						
TOLI	**Toli-Toli**	**5.98**	**205**	*eP*	**P**	**07 33 38.5**	**-0.1**
TOLI				*eS*	**S**	**07 35 00.5**	**-1.2**
SDKM	**Sandakan**	**6.20**	**262**	↑P	**P**	**07 33 40.5**	**+0.1**
MRSI	**Marisa**	**6.21**	**193**	P	**P**	**07 33 41.1**	**+0.6**
	4µm,1.2s,44µm12nm						
TNTI	**Ternate**	**7.00**	**145**	P	**P**	**07 33 46.6**	**-0.9**
	18µm,0.9s,227µm275µm94nm						
TNTI				S	**S**	**07 35 17.9**	**-0.1**
	18µm,0.9s,227µm275µm94nm						
TNTI	**Ternate**	**7.00**	**145**	*eP*	**P**	**07 33 46.4**	**-1.1**
TNTI				*eS*	**S**	**07 35 17.8**	**-0.3**
MPSI	**Mapaga**	**7.08**	**209**	P	**P**	**07 33 49.0**	**+0.8**
	1µm,0.5s,23µm12nm						
MPSI				S	**S**	**07 35 22.9**	**+3.6**
	1µm,0.5s,23µm12nm						
KKM	**Kota Kinabalu**	**7.12**	**266**	↓P	**P**	**07 33 48.4**	**-0.2**
	baz=7.2,SNR=736						
KKM	**Kota Kinabalu**	**7.12**	**266**	↑P	**P**	**07 33 48.2**	**-0.5**
GQP	**Guinayangan**	**7.36**	**353**	↑*iP*	**P**	**07 33 51.0**	**+0.5**
LUWI	**Luwuk**	**7.57**	**184**	P	**P**	**07 33 53.6**	**+0.9**
	5µm,0.9s,53µm64µm57nm						
LUWI				S	**S**	**07 35 27.5**	**-0.1**
	5µm,0.9s,53µm64µm57nm						
LUWI	**Luwuk**	**7.57**	**184**	P	**P**	**07 33 52.1**	**-0.6**
	baz=7.5,SNR=64						
LUWI	**Luwuk**	**7.57**	**184**	*eP*	**P**	**07 33 52.1**	**-0.6**
LUWI				*eS*	**S**	**07 35 25.7**	**-1.8**
APSI	**Ampana**	**7.61**	**193**	P	**P**	**07 33 53.9**	**+0.9**
	3µm,1.2s,33µm25nm						
LQP	**Lukban**	**7.72**	**347**	↑*eP*	**P**	**07 33 53.6**	**-0.6**
TGY	**Tagaytay City**	**7.87**	**343**	P	**P**	**07 33 55.9**	**+0.5**
	3µm,0.3s,baz=173,slow=4.8,SNR=170						
TGY				S	**S**	**07 35 33.6**	**+1.0**
	baz=9.8,slow=18,SNR=3.6						
TGY	**Tagaytay City**	**7.87**	**343**	↑*iP*	**P**	**07 33 56.3**	**+0.9**
TGY				*i* S	**S**	**07 35 34.8**	**+2.2**
LBMI	**Labuha**	**8.26**	**150**	P	**P**	**07 33 59.6**	**+0.5**
	20µm,0.9s,165µm88µm145nm						
LBMI				S	**S**	**07 35 39.4**	**+0.1**
	20µm,0.9s,165µm88µm145nm						
SANI	**Sanana**	**8.94**	**163**	P	**P**	**07 34 03.7**	**-1.9**
	7µm,0.9s,127µm62µm72nm						
BKB	**Balikpapan**	**10.10**	**220**	P	**P**	**07 34 17.7**	**+0.9**
	4µm,0.9s,35µm						
BCPH	**Baguio City Da**	**10.13**	**345**	↑*iP*	**P**	**07 34 16.2**	**-1.1**
BCPH				*i* S	**S**	**07 36 10.9**	**-1.7**
TTSI	**Tana Toraja**	**10.17**	**200**	P	**P**	**07 34 18.0**	**+0.4**
	2µm,1.0s,16µm						
NLAI	**Namlea**	**10.42**	**159**	P	**P**	**07 34 20.5**	**+0.5**
	4µm,0.9s,40µm34µm						
KDI	**Kendari**	**10.47**	**184**	P	**P**	**07 34 20.7**	**+0.2**
	947nm,1.1s,10µm						
BTM	**Bintulu**	**10.77**	**252**	↑P	**P**	**07 34 24.4**	**+0.9**
SWI	**Sorong**	**10.79**	**133**	P	**P**	**07 34 23.3**	**-0.4**
	2µm,1.1s,31µm125µm						
SIJI	**Sorong**	**10.80**	**133**	P	**P**	**07 34 23.6**	**-0.2**
	247nm,0.3s,baz=326,slow=10.0,SNR=147						
SIJI				S	**S**	**07 36 24.5**	**0.0**
	baz=176,slow=20,SNR=8.4						
SIJI				ScP	**ScP**	**07 41 57.5**	**-1.2**
	4.0nm,0.3s,baz=0.2,slow=4.1,SNR=9.4						
SPSI	**Sidrap Palu**	**11.05**	**199**	P	**P**	**07 34 25.9**	**-0.3**
	676nm,1.2s,10µm						
PALU	**Palau**	**11.06**	**85**	↑P	**P**	**07 34 26.3**	**0.0**
	baz=11,SNR=445						
CVP	**Callao Caves**	**11.18**	**352**	↓*eP*	**P**	**07 34 27.5**	**+0.1**
CVP				*i* S	**S**	**07 36 31.7**	**+0.7**
AAI	**Ambon**	**11.26**	**154**	P	**P**	**07 34 29.0**	**+0.7**
	4µm,0.8s,28µm72µm						
SIPP	**Brgy, Tapao**	**11.64**	**346**	↑*iP*	**P**	**07 34 32.8**	**+0.9**
SIPP	**Brgy, Tapao**	**11.64**	**346**	*i* S	**S**	**07 36 42.6**	**+3.3**
SIPP	**Brgy, Tapao**	**11.64**	**346**	↑*iP*	**S**	**07 36 38.1**	**-1.2**
SBUM	**Sibu**	**11.83**	**250**	↑P	**P**	**07 34 34.9**	**+1.0**
SBUM	**Sibu**	**11.83**	**250**	*eP*	**P**	**07 34 34.6**	**+0.7**
BBSI	**Bau Bau**	**11.99**	**184**	P	**P**	**07 34 37.2**	**+1.8**
	2µm,1.0s,27µm						
PIP	**Pasuquin**	**12.00**	**347**	↑*iP*	**P**	**07 34 35.4**	**0.0**
PIP	**Pasuquin**	**12.00**	**347**	*eS*	**S**	**07 36 48.6**	**+3.0**
PIP	**Pasuquin**	**12.00**	**347**	↑*iP*	**S**	**07 36 41.2**	**-4.4**
KAPI	**Kappang**	**12.05**	**197**	P	**P**	**07 34 37.2**	**+1.2**
	2µm,1.1s,SNR=17						
KAPI	**Kappang**	**12.05**	**197**	P	**P**	**07 34 36.5**	**+0.5**
	15nm,0.3s,baz=4.0,slow=7.2,SNR=20						
KAPI				S	**S**	**07 36 43.4**	**-3.2**
	5.3nm,0.3s,baz=151,slow=19,SNR=2.0						
KAPI				ScP	**ScP**	**07 42 00.7**	**+0.3**
	2.5nm,0.3s,baz=207,slow=1.5,SNR=10						
KAPI	**Kappang**	**12.05**	**197**	*eP*	**P**	**07 34 34.4**	**-1.6**
KAPI				*eS*	**S**	**07 36 42.3**	**-4.3**
KAPI				ScP	**ScP**	**07 42 00.7**	**+0.3**
KBKI	**Kotabaru**	**12.14**	**216**	P	**P**	**07 34 38.2**	**+1.3**
	2µm,0.9s,13µm16µm						
BKSI	**Bulukumba**	**12.24**	**195**	P	**P**	**07 34 37.8**	**0.0**
	301nm,0.9s,3µm						
BNDI	**Bandanaira**	**12.80**	**149**	P	**P**	**07 34 43.9**	**+0.5**
	9µm,1.9s,12µm						
BSSI	**Bau Bau, Buton**	**12.94**	**193**	P	**P**	**07 34 44.4**	**-0.3**
	727nm,0.7s,12µm25µm						
FAKI	**Fak Fak**	**12.94**	**136**	P	**P**	**07 34 44.3**	**-0.4**
	6µm,0.8s,61µm96µm						
FAKI	**Fak Fak**	**12.94**	**136**	P	**P**	**07 34 44.5**	**-0.2**
	baz=13,SNR=734						
FAKI	**Fak Fak**	**12.94**	**136**	*eP*	**P**	**07 34 44.5**	**-0.2**
FAKI				*eS*	**S**	**07 37 06.8**	**+4.1**
RKPI	**Ransiki, Papua**	**13.45**	**126**	P	**P**	**07 34 50.6**	**+0.8**
	6µm,1.1s,75µm						
STKI	**Sintang**	**13.50**	**242**	P	**P**	**07 34 51.3**	**+1.0**
	2µm,0.7s,22µm24µm						
KSM	**Kuching**	**13.96**	**249**	↓P	**P**	**07 34 54.9**	**+0.1**
	baz=14,SNR=304						
KSM	**Kuching**	**13.96**	**249**	↓P	**P**	**07 34 56.0**	**+1.2**
PBKI	**Pangkalan Bun**	**14.86**	**232**	P	**P**	**07 35 04.5**	**+1.4**
	8µm,1.2s,60µm						
BAKI	**Biak**	**14.87**	**121**	P	**P**	**07 35 03.4**	**+0.2**
	11µm,1.0s,127µm166µm						
MMRI	**Maumere**	**15.13**	**184**	P	**P**	**07 35 07.7**	**+2.2**
	11µm,0.9s,126µm70µm						
MMRI	**Maumere**	**15.13**	**184**	*eP*	**P**	**07 35 07.0**	**+1.4**
	8µm,0.9s						
SRPI	**Serui, Papua**	**15.34**	**123**	P	**P**	**07 35 08.6**	**+1.1**
	5µm,0.8s,56µm						
DLV	**T Lat**	**15.62**	**291**	*eP*	**P**	**07 35 11.9**	**+1.7**
DLV				*eS*	S	07 37 39.7	-8.1
BWJI	**Bawean**	**16.31**	**221**	P	**P**	**07 35 19.7**	**+3.4**
	1µm,1.3s,16µm						
WSI	**Waingapu**	**16.41**	**191**	P	**P**	**07 35 16.7**	**-0.4**
	9µm,0.8s,75µm						
KMMI	**Kalianget**	**16.45**	**215**	P	**P**	**07 35 19.7**	**+2.2**
	2µm,0.9s,19µm						
SAUI	**Saumlaki**	**16.47**	**151**	P	**P**	**07 35 19.0**	**+1.2**
	6µm,0.7s,77µm						
SAUI	**Saumlaki**	**16.47**	**151**	*eP*	**P**	**07 35 17.8**	**0.0**
	4µm,0.7s						
SAUI				*eS*	S	07 38 10.8	+9.4
SRBI	**Singaraja**	**16.66**	**209**	P	**P**	**07 35 22.0**	**+2.5**
	1µm,1.3s,16µm						
BASI	**Baing, Sumba**	**16.89**	**189**	P	**P**	**07 35 21.7**	**+0.1**
	4µm,0.7s,56µm283µm						
ABJI	**Asem Bagus**	**16.92**	**213**	P	**P**	**07 35 24.5**	**+2.7**
	808nm,1.1s,11µm						
DNP	**Denpasar**	**17.18**	**208**	P	**P**	**07 35 28.2**	**+4.0**
	4µm,1.4s,62µm						
BLJI	**Banyuglugur**	**17.23**	**215**	P	**P**	**07 35 27.9**	**+3.3**
	629nm,0.8s,8µm						
GRJI	**Oresik**	**17.23**	**219**	P	**P**	**07 35 28.0**	**+3.3**
	540nm,0.7s,5µm						
SSLB	**Suanglung**	**17.29**	**353**	*eP*	**P**	**07 35 25.3**	**+0.2**
	2µm,0.7s						
SSLB				*eS*	**S**	**07 38 13.6**	**-0.8**
IGBI	**Denpasar**	**17.33**	**208**	P	**P**	**07 35 27.0**	**+1.4**
	3µm,1.2s,39µm						
SMPI	**Sarmi**	**17.52**	**118**	P	**P**	**07 35 27.7**	**+0.4**
	2µm,1.1s,40µm						
JAGI	**Jajag, Banyuwa**	**17.53**	**212**	P	**P**	**07 35 28.8**	**+1.4**
	3µm,0.8s,25µm26µm						
JAGI	**Jajag, Banyuwa**	**17.53**	**212**	↑P	**P**	**07 35 27.5**	**+0.1**
	baz=18,SNR=44						
TBJI	**Tambak Boyo**	**17.56**	**221**	P	**P**	**07 35 29.5**	**+1.8**
UWJI	**Ujung Watu**	**17.88**	**224**	P	**P**	**07 35 32.8**	**+2.2**
	2µm,1.3s,14µm						
HKC	**Hong Kong Obse**	**17.99**	**331**	↓*iP*	**P**	**07 35 33.0**	**+1.5**
QIZ	**Qiongzhong**	**18.07**	**315**	P	**P**	**07 35 33.0**	**+0.7**
QIZ				sP	sP	07 37 52.3	-10
QIZ				S	**S**	**07 38 26.0**	**-1.3**
QIZ				PMZ			
	2µm,1.0s						
QIZ				PMZ			
	9µm,8.0s						
NGJI	**Ngawi**	**18.23**	**221**	P	**P**	**07 35 37.2**	**+3.4**
	563nm,1.1s,10µm						
TATO	**Taipei**	**18.40**	**355**	*eP*	**P**	**07 35 34.9**	**-0.3**
	2µm,0.6s						
TATO				*eS*	**S**	**07 38 30.3**	**-2.0**
PWJI	**Pagerwojo**	**18.51**	**219**	P	**P**	**07 35 38.5**	**+2.2**
	276nm,1.2s,5µm						
SMRI	**Semarang**	**18.68**	**224**	P	**P**	**07 35 40.5**	**+2.6**
	920nm,1.1s,11µm						
SMRI	**Semarang**	**18.68**	**224**	↑P	**P**	**07 35 39.8**	**+1.9**
	baz=19,SNR=4.9						
QZH	**Quanzhou**	**18.84**	**346**	↓*iP*	**P**	**07 35 40.5**	**+1.3**
QZH				PMZ			
	3µm,0.8s						
QZH				PMZ			
	17µm,3.0s						
WOJI	**Wonogiri, Jawa**	**18.93**	**221**	P	**P**	**07 35 42.8**	**+2.7**
	563nm,1.1s						
GZH	**Guangzhou**	**19.05**	**331**	P	**P**	**07 35 45.5**	**+4.4**
GZH				sP	**sP**	**07 38 11.0**	**-2.5**
GZH				S	S	07 38 50.8	+8.0
GZH				PMZ			
	18µm,7.6s						
GENI	**Genyem**	**19.08**	**118**	P	**P**	**07 35 41.8**	**+0.2**
	6µm,1.0s,59µm118µm						
UGM	**Wanagama**	**19.25**	**222**	P	**P**	**07 35 46.1**	**+3.0**
	721nm,1.2s,8µm						
UGM	**Wanagama**	**19.25**	**222**	↓P	**P**	**07 35 44.3**	**+1.2**
	baz=19,SNR=40						
UGM	**Wanagama**	**19.25**	**222**	*eP*	**P**	**07 35 44.3**	**+1.2**
	466nm,0.8s						
PPBI	**Pangkal Pinang**	**19.25**	**244**	P	**P**	**07 35 44.1**	**+1.0**
	301nm,1.8s,10µm28µm						
JAY	**Jayapura**	**19.52**	**117**	P	**P**	**07 35 45.3**	**-0.3**
	1µm,0.9s,15µm						
JAY	**Jayapura**	**19.52**	**117**	P	**P**	**07 35 45.3**	**-0.3**
	74nm,0.3s,baz=292,slow=4.7,SNR=138						
JAY				S	**S**	**07 38 48.6**	**-2.0**
	baz=39,slow=22,SNR=4.4						
JAY				ScP	**ScP**	**07 42 15.3**	**+0.4**
	3.5nm,0.3s,baz=292,slow=3.8,SNR=22						
JAY	**Jayapura**	**19.52**	**117**	↓P	**P**	**07 35 45.0**	**-0.6**
	baz=20,SNR=295						
UBPT	**Khong Chiam**	**19.57**	**298**	P	**P**	**07 35 46.9**	**+1.0**
	2µm,1.1s,18µm						
TPRI	**Tanjung Pinang**	**19.60**	**254**	P	**P**	**07 35 48.0**	**+1.7**
	700nm,1.1s,27µm						
JCJI	**Jatiwangi**	**19.87**	**230**	P	**P**	**07 35 51.9**	**+3.3**
	1µm,1.4s,16µm46µm						
DSRI	**Dabo**	**20.01**	**250**	P	**P**	**07 35 51.0**	**+1.1**
	2µm,1.2s,28µm						
MYKOM	**Kota Tinggi**	**20.02**	**257**	↓P	**P**	**07 35 51.7**	**+1.6**
MYKOM	**Kota Tinggi**	**20.02**	**257**	*eP*	**P**	**07 35 50.1**	**0.0**
	1µm,0.7s						
KTGM	**Kuala Trenggan**	**20.15**	**268**	↑P	**P**	**07 35 52.6**	**+1.3**
BTDF	**Bukit Timah Da**	**20.20**	**256**	↓P	**P**	**07 35 52.4**	**+0.7**
	baz=20,SNR=73						
BTDF				↓P	**P**	**07 35 52.4**	**+0.7**
	baz=20,SNR=73						
KGM	**Kluang**	**20.48**	**258**	↑P	**P**	**07 35 55.6**	**+1.4**
LEM	**Lembang**	**20.58**	**230**	P	**P**	**07 35 56.5**	**+1.3**
	2µm,1.0s,16µm						
LEM	**Lembang**	**20.58**	**230**	P	**P**	**07 35 57.0**	**+1.8**
	455nm,0.7s,baz=57,slow=7.4,SNR=62						
LEM				ScP	**ScP**	**07 42 17.6**	**0.0**
	405nm,1.0s,baz=123,slow=8.0,SNR=5.8						
LEM	**Lembang**	**20.58**	**230**	P	**P**	**07 35 57.4**	**+2.1**
	baz=21,SNR=20						
CMJI	**Cimerak**	**20.59**	**226**	P	**P**	**07 35 54.5**	**-0.7**
	836nm,0.6s,8µm23µm						
JOW	**Kunigami**	**20.70**	**13**	*eP*	**P**	**07 35 57.4**	**+1.5**
	210nm,0.8s						
MTN	**Manton Dam**	**20.77**	**158**	↓P	**P**	**07 35 55.4**	**-1.3**
	baz=21,SNR=200						
MTN	**Manton Dam**	**20.77**	**158**	*eP*	**P**	**07 35 55.3**	**-1.4**
	1µm,1.3s						
PMBI	**Palembang**	**20.81**	**244**	P	**P**	**07 36 00.8**	**+3.7**
	1µm,0.8s,33µm48µm						
CISI	**Cisompet, Garu**	**20.90**	**228**	P	**P**	**07 35 57.6**	**-0.4**
	858nm,0.7s,11µm25µm						
CISI	**Cisompet, Garu**	**20.90**	**228**	↑P	**P**	**07 35 57.9**	**-0.1**
	baz=21,SNR=32						
CBJI	**Citeko**	**20.92**	**232**	P	**P**	**07 36 00.4**	**+2.3**
	8µm,0.7s,87µm						
TNG	**Tangerang**	**20.93**	**233**	P	**P**	**07 36 02.1**	**+3.9**
	1µm,0.7s						
TNG	**Tangerang**	**20.93**	**233**	P	**P**	**07 36 02.0**	**+3.9**
	2µm,0.8s,22µm						
KDU	**Kakadu**	**21.16**	**155**	↓P	**P**	**07 35 58.7**	**-1.5**
	baz=21,SNR=205						
CNJI	**Cibinong**	**21.26**	**230**	P	**P**	**07 36 00.7**	**-0.4**
	1µm,1.1s,11µm						
JMBI	**JAMBI**	**21.30**	**248**	P	**P**	**07 36 04.3**	**+2.8**
	10µm,1.1s,106µm						
SKJI	**Sukabumi**	**21.51**	**232**	P	**P**	**07 36 04.1**	**+0.8**
	2µm,0.7s,16µm						
SKNT	**Sakolnakorn**	**21.59**	**300**	P	**P**	**07 36 04.7**	**+0.7**
	6µm,0.8s,53µm		

XMIS **Christmas Isla** 24.44 226 ⇓P P 07 36 28.0 -1.4
baz=24,SNR=8.0
XMIS **Christmas Isla** 24.44 226 *eP* P 07 36 28.1 -1.3
comp=Z,192nm,0.9s
SURT **Suratani** 24.45 277 P P 07 36 30.8 +1.3
comp=Z,702nm,0.9s,comp=Z,8µm
SSE **Sheshan** 24.50 356 P P 07 36 31.0 +1.4
SSE sP **sP** 07 39 17.3 +4.0
SSE S **S** 07 40 10.3 +1.9
SSE ScS **ScS** 07 46 18.5 +2.2
SSE PMZ
comp=Z,650nm,0.6s
SSE PMZ
comp=Z,3µm,4.8s
PSI **Prapat** 24.64 262 P P 07 36 32.1 +0.9
comp=Z,1µm,0.6s,baz=78,slow=5.2,SNR=110
PSI PcP **PcP** 07 39 47.2 +0.4
comp=Z,51nm,0.7s,baz=185,slow=4.2,SNR=3.8
PSI S **S** 07 40 11.9 +0.6
comp=Z,48nm,0.9s,baz=341,slow=23,SNR=8.7
PSI ScP **ScP** 07 42 27.5 -0.9
comp=Z,348nm,1.0s,baz=128,slow=1.1,SNR=15
PSI **Prapat** 24.64 262 *eP* P 07 36 31.6 +0.4
PSI 07 39 47.2
PSI S **S** 07 40 11.9 +0.6
PSI pmax pmax
comp=Z,1µm,0.7s
PSI **Prapat** 24.64 262 ⇓P P 07 36 31.6 +0.4
baz=25,SNR=144
PSI **Prapat** 24.64 262 *eP* P 07 36 31.6 +0.4
comp=Z,1µm,0.7s
PSI PcP **PcP** 07 39 47.2 +0.4
PSI S **S** 07 40 11.9 +0.6
PSI ScP **ScP** 07 42 27.5 -0.9
PKDT **Phuket** 24.86 275 P P 07 36 34.4 +1.3
comp=Z,3µm,0.9s,comp=Z,25µm
UTTA **Uttaradit** 24.88 299 P P 07 36 34.4 +1.3
comp=Z,804nm,1.0s,comp=Z,6µm
TSI **Tuntungan** 24.88 264 P P 07 36 35.4 +2.1
comp=Z,1µm,1.2s,comp=Z,16µm
SRDT **SRDT** 25.04 290 P P 07 36 36.5 +1.9
comp=Z,9µm,0.9s,comp=Z,98µm
PPSI **Pulau Pagai** 25.08 249 P P 07 36 35.8 +0.8
comp=Z,3µm,1.1s,comp=Z,33µm
WHN **Wuhan** 25.32 342 ⇑P P 07 36 39.5 +2.7
WHN S **S** 07 40 21.8 +0.6
WHN PMZ
comp=Z,14µm,7.7s
GYA **Guiyang** 25.39 323 ⇑*iP* P 07 36 39.0 +1.3
GYA sP **sP** 07 39 21.0 -2.2
GYA PcP **PcP** 07 39 50.0 +1.7
GYA S **S** 07 40 25.5 +2.7
GYA ScP **ScP** 07 42 32.0 +1.7
GYA PcS **PcS** 07 43 30.0 +0.2
GYA ScS **ScS** 07 46 21.3 +0.6
GYA PMZ
comp=Z,160nm,0.9s
GYA PMZ
comp=Z,7µm,11.7s
MANU **Manus Island** 25.44 109 ⇓P P 07 36 39.5 +1.3
baz=25,SNR=13
SISI **Saibi** 25.46 253 P P 07 36 37.7 -0.7
comp=Z,5µm,0.6s,comp=Z,51µm
SUKH **Sukhothai** 25.59 297 P P 07 36 41.2 +1.8
comp=Z,542nm,0.8s,comp=Z,5µm
KHLT **Khaolaem Dam** 25.66 291 P P 07 36 41.9 +1.8
comp=Z,1µm,1.0s,comp=Z,9µm
KCSI **Kotacane, Aceh** 25.66 264 P P 07 36 40.3 +0.1
comp=Z,4µm,0.9s,comp=Z,40µm
NJ2 **Nanjing** 25.71 351 *eP* P 07 36 41.0 +0.7
NJ2 sP **sP** 07 39 23.0 -3.4
NJ2 S **S** 07 40 30.0 +2.6
NJ2 PMZ
comp=Z,2µm,0.8s
NJ2 PMZ
comp=Z,5µm,5.8s
UMPA **Umpang Tak** 25.83 294 P P 07 36 43.1 +1.5
comp=Z,864nm,1.2s,comp=Z,7µm
PBSI **Pulau Batu** 25.87 256 P P 07 36 44.2 +2.2
comp=Z,825nm,0.5s,comp=Z,12µm
LAMP **Lampang** 25.99 299 P P 07 36 44.7 +1.7
comp=Z,996nm,1.0s,comp=Z,6µm
CRAI **Chiangrai** 26.11 304 P P 07 36 42.3 -1.7
comp=Z,2µm,0.9s,comp=Z,14µm
GSI **Gunungsitoli** 26.24 260 P P 07 36 45.1 -0.1
comp=Z,7µm,0.8s,comp=Z,67µmcomp=Z,48µm
GSI **Gunungsitoli** 26.24 260 ⇑P P 07 36 44.5 -0.7
baz=26
GSI **Gunungsitoli** 26.24 260 *eP* P 07 36 44.5 -0.7
comp=Z,5µm,0.5s
GSI *e*PcP **PcP** 07 39 52.2 +1.8
LHMI **Lhok Sumawe** 26.30 269 P P 07 36 48.5 +2.7
comp=Z,3µm,1.1s,comp=Z,41µm
LHMI **Lhok Sumawe** 26.30 269 ⇑P P 07 36 44.4 -1.4
baz=26,SNR=33
CMAR **Chiang Mai Arr** 26.57 299 P P 07 36 49.2 +1.2
comp=Z,1µm,0.7s,baz=119,slow=7.4,SNR=373
CMAR PcP **PcP** 07 39 51.7 +0.6
comp=Z,108nm,0.9s,baz=133,slow=1.2,SNR=6.1
CMAR ScP **ScP** 07 42 34.6 +0.8
comp=Z,174nm,1.0s,baz=129,slow=1.5,SNR=20
CMAR PKiKP **PKiKP** 07 47 29.6 +0.9
comp=Z,3.4nm,0.6s,baz=266,slow=1.5,SNR=4.5
CMMT **Chiang Mai** 26.70 299 P P 07 36 50.1 +0.9
comp=Z,4µm,1.0s,comp=Z,47µm
CHTO **Chiang Mai** 26.71 299 P P 07 36 50.2 +1.0
comp=Z,15µm,1.0s,comp=Z,164µm
CHTO **Chiang Mai** 26.71 299 *eP* P 07 36 49.5 +0.2
CHTO *e* 07 39 54.3
CHTO pmax pmax
comp=Z,2µm,0.7s
CHTO **Chiang Mai** 26.71 299 *eP* P 07 36 49.5 +0.2
comp=Z,2µm,0.7s
CHTO *e*PcP **PcP** 07 39 54.3 +2.9
KSSGP **Seogwipo** 26.73 6 P P 07 36 50.9 +1.7
SNR=9.8
KSSGP **Seogwipo** 26.73 6 P P 07 36 50.9 +1.7
SNR=9.8
KSGOS **Gosan** 26.73 5 P P 07 36 51.3 +2.1
SNR=13
KSGOS **Gosan** 26.73 5 P P 07 36 51.3 +2.1
SNR=13
KSJJU **Jeju** 26.90 6 P P 07 36 52.8 +2.0
SNR=25
KSJJU **Jeju** 26.90 6 P P 07 36 52.8 +2.0
SNR=25
KMI **Kunming** 27.02 315 ⇓P P 07 36 54.0 +1.9
KMI sP **sP** 07 39 36.5 -3.3
KMI S **S** 07 40 48.3 -0.2
KMI ScP **ScP** 07 42 36.5 +1.1
KMI ScS **ScS** 07 46 28.8 +0.6
KMI PMZ
comp=Z,2µm,1.2s
KMI PMZ
comp=Z,9µm,4.7s
CMAI **Chiengmai2** 27.09 302 P P 07 36 54.1 +1.3
comp=Z,2µm,1.2s,comp=Z,20µm
CBIJ **Chichi jima** 27.16 39 *eP* P 07 36 52.0 -1.0
comp=Z,954nm,1.1s
JCJ **Chichijima** 27.16 39 P P 07 36 52.7 -0.4
comp=Z,1µm,0.5s,baz=217,slow=13,SNR=173
JNU **Nakatsue** 27.34 14 P P 07 36 54.4 -0.2
comp=Z,180nm,0.8s,baz=227,slow=1.3,SNR=44
JNU S S 07 40 45.0 -7.8
comp=Z,36nm,0.9s,baz=108,slow=6.3,SNR=1.8
JNU ScP **ScP** 07 42 35.9 0.0
comp=Z,57nm,0.8s,baz=28,slow=3.7,SNR=3.7
MBWA **Marble Bar** 27.77 187 *eP* P 07 36 57.4 -1.0
comp=Z,744nm,0.9s
KSWAN **Wando** 27.87 6 P P 07 37 00.8 +1.7
SNR=30
KSWAN **Wando** 27.87 6 P P 07 37 00.8 +1.7
SNR=30
KSJDO **Jindo** 27.91 5 P P 07 37 00.3 +0.8
SNR=97
KSJDO **Jindo** 27.91 5 P P 07 37 00.9 +1.5
SNR=10
KSHUK **Heuksando** 28.06 4 P P 07 37 03.0 +2.3
SNR=68
KSHUK **Heuksando** 28.06 4 P P 07 37 02.8 +2.1
SNR=11
KSKOH **Goheung** 28.15 7 P P 07 37 02.8 +1.3
SNR=93
KSKOH **Goheung** 28.15 7 P P 07 37 02.8 +1.3
SNR=93
COEN **Coen** 28.32 136 P P 07 37 01.6 -1.7
baz=28,SNR=782
COEN **Coen** 28.32 136 *eP* P 07 37 01.6 -1.7
comp=Z,761nm,0.6s
WB8 **Warramunga Arr** 28.36 158 ⇓P P 07 37 02.4 -1.2
baz=28
KSNAH **Namhae** 28.43 8 P P 07 37 05.3 +1.4
SNR=89
KSNAH **Namhae** 28.43 8 P P 07 37 05.3 +1.4
SNR=89
I07AU **WARRAMUNGA INZ** 28.45 158 P P 07 37 00.0 -4.4
baz=323,slow=12,SNR=0.7
WRAB **Tennant Creek** 28.46 158 P P 07 37 03.7 -0.7
comp=Z,22µm,0.4s
WRAB **Tennant Creek** 28.46 158 *eP* P 07 37 03.4 -1.0
WRAB pmax pmax
comp=Z,2µm,0.8s
WRAB **Tennant Creek** 28.46 158 *eP* P 07 37 03.4 -1.0
comp=Z,2µm,0.8s
WRA **Warramunga Arr** 28.46 158 P P 07 37 04.6 +0.1
comp=Z,2µm,0.5s,baz=330,slow=10,SNR=891
WRA PcP **PcP** 07 39 56.4 +0.7
comp=Z,106nm,0.7s,baz=322,slow=3.5,SNR=5.5
WRA S **S** 07 41 07.6 -2.9
comp=Z,253nm,0.8s,baz=335,slow=16,SNR=11
WRA ScP **ScP** 07 42 38.9 -0.8
comp=Z,86nm,0.4s,baz=339,slow=3.0,SNR=12
WRA P3KPbc 08 09 01.0
comp=Z,13nm,0.8s,baz=154,slow=4.0,SNR=56
PMG **Port Moresby** 28.53 124 P P 07 37 03.9 -1.2
comp=Z,1µm,0.9s,baz=329,slow=6.9,SNR=96
PMG ScP **ScP** 07 42 40.4 +0.4
comp=Z,377nm,0.9s,baz=256,slow=1.4,SNR=13
PMG **Port Moresby** 28.53 124 *c iP* P 07 37 04.0 -1.1
PMG pmax pmax
comp=Z,1µm,0.8s
PMG **Port Moresby** 28.53 124 *eP* P 07 37 04.3 -0.8
PMG ScP **ScP** 07 42 40.4 +0.4
KSTOY **TONGYEONG** 28.54 9 P P 07 37 06.2 +1.3
SNR=33
KSTOY **TONGYEONG** 28.54 9 P P 07 37 06.2 +1.3
SNR=33
KSKWJ **Gwangju** 28.66 6 P P 07 37 07.2 +1.2
SNR=56
KSKWJ **Gwangju** 28.66 6 P P 07 37 06.9 +1.0
SNR=54
KSGWJ **Gwangju-acc** 28.66 6 P P 07 37 07.4 +1.5
SNR=15
KSGWJ **Gwangju-acc** 28.66 6 P P 07 37 07.4 +1.5
SNR=15
KSJIN **Jinju** 28.79 8 P P 07 37 08.2 +1.2
SNR=24
KSJEU **Jeongeup** 28.98 6 P P 07 37 09.4 +0.7
SNR=28
KSJEU **Jeongeup** 28.98 6 P P 07 37 09.6 +0.9
SNR=11
KSBUS **Busan** 29.04 10 P P 07 37 10.4 +1.2
SNR=78
CMBY **CAMPBELL BAY** 29.23 273 *eP* P 07 37 11.4 +0.3
CMBY AMB AMB 07 37 14.8
comp=Z,2µm,0.8s
KSJEO **Jeonju** 29.46 6 P P 07 37 14.0 +1.2
SNR=7.3
KSGUS **GUNSAN** 29.51 6 P P 07 37 14.2 +1.0
SNR=26
KSDAG **Daegu** 29.51 9 P P 07 37 14.2 +0.9
SNR=42
KSYOC **YEONGCHEON** 29.72 9 P P 07 37 16.4 +1.4
SNR=16
KSCPR **CHUPUNGNYEONG** 29.82 8 P P 07 37 17.1 +1.2
SNR=69
KSTEJ **Daejeon** 29.90 7 P P 07 37 18.5 +2.0
SNR=24
TJN **Taejon** 29.91 6 *d iP* P 07 37 17.6 +1.0
KSKOJ **Gongju** 29.97 6 P P 07 37 19.2 +2.0
SNR=20
KSPHA **Pohang** 30.00 10 P P 07 37 19.2 +1.8
SNR=11
KSSAJ **Sangju** 30.03 8 P P 07 37 18.8 +1.1
SNR=96
KSEUS **ULSEONG** 30.05 9 P P 07 37 19.1 +1.2
SNR=57
TIA **Tai'an** 30.06 350 ⇓P P 07 37 18.5 +0.5
TIA sP sP 07 40 01.3 -5.7
TIA S **S** 07 41 36.0 +1.3
TIA PMZ
comp=Z,2µm,1.2s
TIA PMZ
comp=Z,10µm,5.0s
KSBON **Boeun** 30.08 7 P P 07 37 20.2 +2.0
SNR=22
KSSES **Seosan** 30.22 5 P P 07 37 20.5 +1.2
SNR=16
KSCEA **Cheonan** 30.33 6 P P 07 37 21.5 +1.2
SNR=34
GIRL **Giralia** 30.36 197 ⇓P P 07 37 21.5 +0.8
baz=30,SNR=178
CD2 **Chengdu** 30.41 325 ⇓*iP* P 07 37 22.3 +1.2
CD2 PcP **PcP** 07 40 00.3 -0.5
CD2 S **S** 07 41 42.0 +1.7
CD2 PcS **PcS** 07 43 45.3 -0.2
CD2 SS **SS** 07 44 53.5 +3.8
CD2 PMZ
comp=Z,11µm,4.0s
XAN **Xi'an** 30.44 336 P P 07 37 22.3 +1.0
XAN sP sP 07 40 03.8 -6.7
XAN PMZ
comp=Z,3µm,0.7s
XAN PMZ
comp=Z,6µm,5.4s
KSCHJ **Chungju** 30.47 7 P P 07 37 22.7 +1.2
SNR=46
KSULJ **Uljin** 30.51 10 P P 07 37 23.0 +1.2
SNR=13
JHJ **Hachijo jima 2** 30.52 28 P P 07 37 21.3 -0.6
comp=Z,109nm,0.3s,baz=210,slow=20,SNR=3.7
JHJ S S 07 41 35.6 -6.1
comp=Z,530nm,0.9s,baz=277,slow=22,SNR=8.3
JHJ2 **Mitsune** 30.53 28 *eP* P 07 37 21.4 -0.6
comp=Z,175nm,0.6s
PBA **Port Blair** 30.64 282 *eP* P 07 37 23.1 -0.1
DGPR **DIGLIPUR** 30.67 285 *eP* P 07 37 22.9 -0.6
RABL **Rabaul** 30.67 110 P P 07 37 24.8 +1.3
baz=31,SNR=58
KSSWO **Suwon** 30.74 6 P P 07 37 25.4 +1.6
SNR=47
KSICN **Icheon** 30.81 6 P P 07 37 26.1 +1.8
SNR=135
KSYOW **Yeongwol** 30.83 8 P P 07 37 26.0 +1.5
SNR=34
KSTBA **Taebaek** 30.85 9 P P 07 37 26.4 +1.6
SNR=87
INCN **Inchon** 30.93 5 *eP* P 07 37 26.6 +1.2
comp=Z,396nm,0.8s
KSSEO **Seoul** 30.96 6 P P 07 37 27.4 +1.8
SNR=34
KSWJU **Wonju** 31.00 7 P P 07 37 27.8 +1.8
SNR=22
KSAR **Wonju Array Be** 31.02 7 P P 07 37 27.3 +1.2
KSAR 07 40 03.0
KSAR S **S** 07 41 49.6 +0.4
KSAR **Wonju Array Be** 31.02 7 P P 07 37 27.2 +1.2
KSAR PcP **PcP** 07 40 03.0 +0.8
KSAR S **S** 07 41 49.6 +0.4
KSAR ScP **ScP** 07 42 48.4 +0.6
KSRS **Korea Array** 31.03 7 P P 07 37 27.2 +1.1
comp=Z,190nm,0.7s,baz=183,slow=10,SNR=290
KSRS PcP **PcP** 07 40 03.0 +0.8
comp=Z,51nm,0.8s,baz=184,slow=3.2,SNR=7.3
KSRS S **S** 07 41 49.6 +0.2
comp=Z,7.6nm,0.8s,baz=253,slow=3.7,SNR=2.5
KSRS ScP **ScP** 07 42 48.4 +0.6
comp=Z,64nm,0.8s,baz=194,slow=3.5,SNR=13
KSRS P3KPbc 08 08 53.2
comp=Z,1.7nm,0.8s,baz=12,slow=6.2,SNR=7.5
KSRS **Korea Array** 31.03 7 P P 07 37 27.3 +1.1
KSRS 07 40 03.0
KSRS S **S** 07 41 49.6 +0.2
KSRS pmax pmax
comp=Z,190nm,0.7s
KSRS pmax pmax
comp=Z,51nm,0.8s
KSRS smax smax
comp=N,8.0nm,0.8s
KSRS pmax pmax
comp=N,65nm,0.8s
KSJES **JEONGSEON** 31.11 8 P P 07 37 28.5 +1.5
SNR=31
KSGAH **Ganghwa** 31.13 5 P P 07 37 29.2 +2.1
SNR=82
KSBAR **Backryungdo** 31.30 2 P P 07 37 30.5 +2.1
SNR=372
QIS **Mount Isa** 31.32 150 P P 07 37 28.5 -0.5
baz=31,SNR=629
KSCHC **Chuncheon** 31.34 7 P P 07 37 30.7 +1.8
SNR=231
KSMUS **Musan** 31.34 5 P P 07 37 30.4 +1.6
SNR=28
KSDGY **Daegwallycong** 31.36 8 P P 07 37 30.8 +1.6
SNR=162
KSDDC **Dongducheon** 31.38 6 P P 07 37 31.1 +2.0
SNR=43
YNCB **YEONCHEON** 31.50 5 P P 07 37 31.9 +1.6
SNR=147
KSULL **Ulleungdo** 31.53 12 P P 07 37 32.4 +2.0
SNR=21
KSJMJ **Jumunjin** 31.56 8 P P 07 37 32.9 +2.2
SNR=116
KSIJA **INJE** 31.58 7 P P 07 37 33.0 +2.2
SNR=32
KSCWO **Cheorwon** 31.61 6 P P 07 37 33.3 +2.2
SNR=78
ASAR **Alice Springs** 31.76 161 P P 07 37 32.2 -0.4
comp=N,723nm,0.3s,baz=341,slow=6.8,SNR=836
ASAR PcP **PcP** 07 40 05.9 +1.3
comp=N,46nm,0.5s,baz=336,slow=0.8,SNR=4.8
ASAR S **S** 07 42 01.3 +0.3
comp=N,763nm,0.9s,baz=354,slow=23,SNR=23
ASAR ScP **ScP** 07 42 49.8 -0.8
comp=N,337nm,1.0s,baz=342,slow=3.3,SNR=11
ASAR P3KPbc 08 08 47.8
comp=N,5.2nm,0.8s,baz=153,slow=5.1,SNR=14
WRKA **Warakurna** 31.77 171 P P 07 37 32.3 -0.4
baz=32,SNR=1000
SEHB **SEOHWA** 31.88 7 P P 07 37 35.6 +2.2
SNR=70
KSSKC **Sokcho** 31.93 8 P P 07 37 36.1 +2.2
SNR=49
MTSU **Mount Surprise** 32.09 140 ⇓P P 07 37 35.2 -0.3
baz=32,SNR=251
DL2 **Dalian** 32.24 357 ⇓*iP* P 07 37 37.5 +1.1
DL2 sP **sP** 07 40 22.0 -4.4
DL2 S **S** 07 42 09.3 +1.5
DL2 ScP **ScP** 07 42 53.8 +1.9
DL2 ScS **ScS** 07 46 52.0 -0.6
DL2 PMZ
comp=N,7µm,2.8s
COCO **West Island** 32.29 235 P P 07 37 37.7 +0.5
comp=N,4µm,1.0s,SNR=5.2
COCO **West Island** 32.29 235 *i* P P 07 37 38.2 +1.0
TIY **Taiyuan** 32.57 344 *eP* P 07 37 41.0 +1.7
TIY S **S** 07 42 14.5 +1.5
TIY ScS **ScS** 07 46 53.8 -0.8
TIY PMZ
comp=N,3µm,0.8s
TIY PMZ
comp=N,8µm,3.2s
MAJO **Matsushiro** 32.79 22 *eP* P 07 37 40.5 -0.7
MAJO pmax pmax
comp=Z,1µm,1.8s
MAJO **Matsushiro** 32.79 22 *eP* P 07 37 40.5 -0.7
comp=Z,1µm,1.8s
MAT **Matsushiro** 32.79 22 P P 07 37 40.3 -0.8
MAT S **S** 07 42 11.5 -4.8
MJAR **Matsushiro Arr** 32.79 22 P P 07 37 40.4 -0.8
comp=Z,105nm,0.5s,baz=196,slow=10,SNR=256
MJAR S **S** 07 42 12.1 -4.1
comp=Z,80nm,1.1s,baz=185,slow=12,SNR=11
MJAR ScP **ScP** 07 42 54.3 +0.4
comp=Z,66nm,0.8s,baz=207,slow=5.4,SNR=6.2
MEEK **Meekatharra** 33.32 188 ⇓P P 07 37 44.9 -0.8
baz=33,SNR=857
BJI **Beijing** 33.96 350 P P 07 37 51.8 +1.0
BJI pP **pP** 07 39 29.5 -1.0
BJI PcP **PcP** 07 40 13.3 +2.8
BJI S **S** 07 42 33.5 -0.1
BJI sS **sS** 07 45 39.8 +0.7
BJI ScS **ScS** 07 47 01.5 -0.2
BJI PMZ
comp=Z,3µm,0.7s
BJI PMZ
comp=Z,12µm,3.8s
LZH **Lanzhou** 34.40 331 ⇓P P 07 37 56.3 +1.5
LZH pP **PP** 07 39 37.3 -1.3
LZH sP **sP** 07 40 44.5 -1.2
LZH S **S** 07 42 42.0 +1.1
LZH PMZ
comp=Z,11µm,4.0s
CTA **Charters Tower** 34.76 140 ScP **ScP** 07 43 01.8 +0.5
comp=Z,346nm,1.0s,baz=312,slow=4.1,SNR=14
CTA **Charters Tower** 34.76 140 ⇑P P 07 37 58.2 +0.3
baz=35
SNY **Shenyang** 35.12 0 ⇓P P 07 38 00.8 +0.4
SNY pP **pP** 07 39 41.5 +0.6
SNY S **S** 07 42 51.5 +0.5
SNY PMZ
comp=Z,570nm,0.7s
SNY PMZ
comp=Z,7µm,3.6s
SHL **Shillong** 35.51 306 *eP* P 07 38 04.7 +0.5
SHL AMB AMB 07 38 07.7
comp=Z,5µm,0.0s
SHL *ex* x 07 42 52.0
HHC **Hu-ho-hao-te** 35.74 345 *eP* P 07 38 07.0 +1.3
HHC S **S** 07 43 01.5 +1.0
HHC SS **SS** 07 46 11.5 -6.8
HHC PMZ
comp=Z,240nm,1.0s
HHC PMZ
comp=Z,10µm,3.3s
BTO **Baotou** 35.94 343 *eP* P 07 38 07.5 +0.1
MORW **Morawa** 36.11 191 P P 07 38 08.5 -0.3
baz=36,SNR=112
MSHR **Mys Shultsa** 36.53 10 *eP* P 07 38 13.3 +1.3
FORT **Forrest** 37.40 173 P P 07 38 18.9 -0.4
baz=38,SNR=590
FORT **Forrest** 37.40 173 *eP* P 07 38 18.7 -0.5
comp=Z,4µm,0.8s
BLDU **Ballidu** 37.51 189 ⇑P P 07 38 19.3 -0.9
baz=38,SNR=101
KMBL **Kambalda** 37.74 182 ⇓P P 07 38 21.3 -0.7
baz=38,SNR=308
LSA **Lhasa** 38.06 311 P P 07 38 27.8 +2.5
LSA S **S** 07 43 32.0 -3.9
LSA PMZ
comp=Z,590nm,0.7s
LSA PMZ
comp=Z,9µm,5.4s
USRK **Ussuriysk Ar.** 38.25 10 P P 07 38 26.9 +1.0
comp=Z,224nm,0.6s,baz=199,slow=6.6,SNR=319
USRK S **S** 07 43 36.2 -1.0
comp=Z,47nm,1.2s,baz=193,slow=16,SNR=6.4
MDJ **Mudanjiang** 38.30 7 P P 07 38 27.3 +1.0
MDJ sP **sP** 07 41 16.5 -2.8
MDJ S **S** 07 43 38.5 +0.6
MDJ ScS **ScS** 07 47 27.5 +1.2
MDJ PMZ
comp=Z,400nm,1.1s
MDJ PMZ
comp=Z,4µm,8.4s
QLP **Quilpie** 38.66 149 P P 07 38 29.1 -0.4
baz=39,SNR=462
GTA **Gaotai** 38.98 331 ⇓P P 07 38 33.3 +1.2
GTA pP **pP** 07 40 16.5 +1.1
GTA PcP **PcP** 07 40 29.0 +2.8
GTA sP **sP** 07 41 23.0 -2.4
GTA ScP **ScP** 07 43 18.8 +1.8
GTA S **S** 07 43 52.0 +3.6
GTA ScS **ScS** 07 47 30.5 -0.4
GTA PMZ
comp=Z,350nm,1.1s
GTA PMZ
comp=Z,8µm,8.6s
ERM **Erimo** 39.44 23 P P 07 38 36.3 +0.8
comp=Z,2µm,0.5s,SNR=35
ERM **Erimo** 39.44 23 *c iP* P 07 38 36.7 +1.2
ERM pmax pmax
comp=Z,126nm,0.6s
TAPN **Taplejung** 39.65 306 *eP* P 07 38 38.5 +0.7
comp=Z,5µm,0.6s
TAPN **Taplejung** 39.65 306 *eP* P 07 38 39.0 +1.2
comp=Z,2µm,0.7s
NWAO **Narrogin (SRO)** 39.70 188 ScP **ScP** 07 43 19.3 -0.4
comp=Z,239nm,1.1s,baz=329,slow=1.5,SNR=9.3
NWAO S **S** 07 44 01.7 +3.0

comp=Z,86nm,0.9s,baz=329,slow=16,SNR=3.2
NWAO Narrogin (SRO) 39.70 188 ⇑P **P 07 38 37.6 -0.1**
baz=40,SNR=171
NWAO ⇑P **P 07 38 37.6 -0.1**
baz=40,SNR=171
ODAN Odare 39.71 305 *e*P **P 07 38 38.9 +0.7**
comp=Z,5μm,0.5s
ODAN Odare 39.71 305 *e*P **P 07 38 39.3 +1.1**
comp=Z,1μm,0.7s
BOK Bokaro 39.84 300 *e*P **P 07 38 37.9 -1.2**
BOK AMB AMB 07 38 44.0
comp=Z,2μm,0.8s
CHLP Challavanipeta 40.06 291 *e*P **P 07 38 41.0 +0.1**
CHLP IAmb IAmb 07 38 45.9
comp=Z,2μm,0.9s
CHLP *e*pP **pP 07 40 24.5 -0.5**
CHLP *e*PcP **PcP 07 40 28.3 -1.7**
CHLP *e*sP **sP 07 41 36.5 +1.8**
CHLP *e*ScP **ScP 07 43 21.0 -0.5**
CHLP *e*S **S 07 44 03.4 -0.9**
RAMN Ramite 40.39 304 *e*P **P 07 38 44.5 +0.8**
comp=Z,7μm,0.8s
RAMN Ramite 40.39 304 *e*P **P 07 38 44.5 +0.8**
comp=Z,3μm,1.0s
VIS Vishakhapatnam 40.59 290 *e*P **P 07 38 46.6 +1.5**
VIS AMB AMB 07 38 50.0
comp=Z,2μm,0.5s
BBOO Buckleboo 40.97 164 P **P 07 38 47.4 -0.4**
baz=41,SNR=926
BBOO Buckleboo 40.97 164 *e*P **P 07 38 47.5 -0.4**
comp=Z,3μm,1.0s
ASAJ Asahikawa 41.03 21 P **P 07 38 49.2 +1.2**
comp=Z,624nm,0.7s,baz=218,slow=9.0
ASAJ S **S 07 44 16.1 -1.4**
baz=48,slow=17
ASAJ Asahikawa 41.03 21 P **P 07 38 49.3 +1.2**
ASAJ S **S 07 44 16.2 -1.4**
ASAJ pmax pmax
comp=Z,624nm,0.7s
ASAJ Asahikawa 41.03 21 *e*P **P 07 38 48.8 +0.7**
comp=Z,237nm,0.6s
ASAJ S **S 07 44 16.1 -1.4**
RMQ Roma 41.06 144 ⇑P **P 07 38 47.7 -1.0**
baz=41,SNR=133
GUN Gumba 41.36 305 *e*P **P 07 38 52.4 +1.0**
comp=Z,7μm,0.4s
GUN Gumba 41.36 305 *e*P **P 07 38 52.1 +0.7**
comp=Z,650nm,0.3s
RKGY Rocky Gully 41.39 188 ⇓P **P 07 38 51.5 +0.5**
baz=42,SNR=155
PKI Pulchoki 41.61 305 *e*P **P 07 38 53.4 0.0**
PKI Pulchoki 41.61 305 *e*P **P 07 38 54.2 +0.8**
comp=Z,759nm,0.4s
PKIN Phulchoki 41.62 305 *e*P **P 07 38 53.8 +0.4**
PKIN Phulchoki 41.62 305 *e*P **P 07 38 54.4 +1.0**
comp=Z,1μm,0.6s
PKIN Phulchoki 41.62 305 *e*P **P 07 38 54.3 +0.9**
comp=Z,546nm,0.4s
EIDS Eidsvold 41.64 141 ⇑P **P 07 38 52.5 -0.7**
baz=42,SNR=284
EIDS Eidsvold 41.64 141 *e*P **P 07 38 52.6 -0.7**
comp=Z,895nm,0.8s
KKN Kakani 41.80 305 *e*P **P 07 38 55.2 +0.5**
comp=Z,3μm,0.4s
KKN Kakani 41.80 305 *e*P **P 07 38 55.4 +0.7**
comp=Z,821nm,0.4s
KKN Kakani 41.80 305 *e*P **P 07 38 55.4 +0.7**
comp=Z,821nm,0.4s
DMN Daman 41.87 305 *e*P **P 07 38 56.2 +0.9**
comp=Z,821nm,0.4s
DMN Daman 41.87 305 *e*P **P 07 38 56.3 +0.9**
DMN Daman 41.87 305 *e*P **P 07 38 55.9 +0.6**
comp=Z,821nm,0.4s
STKA Stephens Creek 41.99 157 P **P 07 38 55.7 -0.1**
comp=Z,980nm,0.8s,baz=332,slow=7.3,SNR=452
STKA ScP **ScP 07 43 29.0 +0.1**
comp=Z,223nm,0.8s,baz=334,slow=6.5,SNR=7.0
STKA S **S 07 44 29.4 -2.4**
comp=Z,45nm,0.8s,baz=253,slow=19,SNR=2.6
STKA Stephens Creek 41.99 157 *e*P **P 07 38 55.8 -0.1**
STKA S **S 07 44 29.4 -2.4**
STKA pmax pmax
comp=Z,213nm,0.8s
STKA Stephens Creek 41.99 157 *e*P **P 07 38 55.8 -0.1**
comp=Z,213nm,0.8s
STKA ScP **ScP 07 43 29.0 +0.1**
STKA S **S 07 44 29.4 -2.4**
PVM Polavaram 42.11 288 *e*P **P 07 38 56.5 -0.5**
PVM IAmb IAmb 07 39 01.2
comp=Z,1μm,0.6s
PVM *e*PcP **PcP 07 40 38.2 +1.4**
PVM *e*ScP **ScP 07 43 28.7 -1.0**
PVM *e*S **S 07 44 31.2 -2.6**
PVM *e* 07 47 49.4
H01W3 Cape Leeuwin H 42.13 191 P **P 07 38 58.9 +2.4**
baz=24,slow=5.6,SNR=9.2
H01W1 Cape Leeuwin H 42.13 191 P **P 07 38 59.0 +2.4**
baz=24,slow=5.6,SNR=16
H01W2 Cape Leeuwin H 42.14 191 P **P 07 38 59.2 +2.6**
baz=24,slow=5.6,SNR=9.9
YUK Yuzh-Kuril'sk 42.22 24*c i*P **P 07 38 59.1 +1.7**
YUK *i* *PP PP 07 40 56.5 +6.7
YUK *i* S **S 07 44 33.7 -0.8**
YUK *i* *SS **ScS 07 47 50.2 0.0**
YUK pmax pmax
comp=Z,1μm,2.1s
YUK pmax pmax
comp=N,359nm,1.9s
YUK pmax pmax
comp=E,459nm,1.9s
YUK pmax pmax
comp=Z,539nm,1.9s
PALK Pallekele 42.34 274 P **P 07 39 00.3 +1.3**
comp=Z,4μm,0.5s,SNR=90
PALK Pallekele 42.34 274 P **P 07 39 00.3 +1.3**
comp=Z,352nm,0.6s,baz=96,slow=7.4,SNR=127
PALK ScP **ScP 07 43 31.4 +0.6**
comp=Z,390nm,1.1s,baz=96,slow=3.3,SNR=14
PALK S **S 07 44 35.7 -1.7**
comp=Z,20nm,0.9s,baz=114,slow=20,SNR=1.4
PALK Pallekele 42.34 274 P **P 07 39 00.3 +1.3**
PALK S **S 07 44 35.7 -1.7**
PALK pmax pmax
comp=Z,352nm,0.6s
PALK pmax pmax
comp=N,390nm,1.1s
PALK smax smax
comp=N,20nm,0.9s
PALK Pallekele 42.34 274 ⇓*i*P **P 07 38 60.0 +1.0**
SNR=105
PALK Pallekele 42.34 274 *e*P **P 07 38 59.1 +0.2**
comp=N,1μm,1.3s
PALK ScP **ScP 07 43 31.4 +0.6**
PALK S **S 07 44 35.7 -1.7**
GKN Gorkha 42.41 305 *e*P **P 07 39 00.0 +0.7**
GKN Gorkha 42.41 305 *e*P **P 07 39 00.1 +0.7**
comp=N,774nm,0.4s
GKN Gorkha 42.41 305 *e*P **P 07 39 00.1 +0.7**
comp=N,774nm,0.4s
HTT Hallett 42.42 161 P **P 07 38 59.2 0.0**
baz=42,SNR=446
MDRS Chennai 42.93 282 *e*P **P 07 39 02.4 -1.0**
MDRS AMB AMB 07 39 08.4
comp=Z,2μm,1.6s
HABR Khabarovsk 42.93 11*de*P **P 07 39 02.4 -0.5**
HABR *e* 07 40 38.1
HABR *e**PP **pP 07 40 48.5 -0.7**
HABR *e* 07 40 56.0
HABR *e**SP **sP 07 41 58.3 0.0**
HABR *e*S **S 07 44 44.8 +0.2**
HABR *e* 07 47 53.4
HABR *e**SS **sS 07 48 00.1 +1.5**
HABR *e*SS **SS 07 48 16.7 +1.7**
HABR pmax pmax
comp=E,52nm,1.1s
HABR pmax pmax
comp=N,85nm,1.1s
HABR pmax pmax
comp=Z,251nm,1.1s
HABR pmax pmax
comp=Z,3μm,2.7s
HABR MLR MLR
comp=Z,1μm,14.0s
KLR Kul'dur 43.11 8 *e*P P 07 39 00.0 -4.3
KLR *e* 07 40 52.8
KLR *i* S **S 07 44 42.5 -4.6**
KLR *e* 07 47 50.0
KLR pmax pmax
comp=N,170nm,1.6s
KLR pmax pmax
comp=Z,730nm,1.6s
KLR pmax pmax
comp=N,2μm,8.5s
KLR pmax pmax
comp=Z,6μm,8.5s
KLR smax smax
comp=N,900nm,2.2s
KLR smax smax
comp=E,2μm,2.2s
KLR MLR MLR
comp=Z,24μm,12.0s
KOLN Koldanda 43.17 304 *e*P **P 07 39 06.1 +0.7**
KOLN Koldanda 43.17 304 *e*P **P 07 39 06.1 +0.7**
comp=Z,599nm,0.3s
DANN Dangsing 43.25 305 *e*P **P 07 39 06.8 +0.7**
DANN Dangsing 43.25 305 *e*P **P 07 39 07.1 +1.0**
comp=Z,1μm,0.5s
ULN Ulaanbaatar 43.45 344 *e*P **P 07 39 08.3 +1.2**
ULN pmax pmax
comp=Z,1μm,0.8s
ULN Ulaanbaatar 43.45 344 *e*P **P 07 39 08.2 +1.2**
comp=Z,1μm,0.8s
ADKI Addanki 43.47 286 *e*P **P 07 39 07.3 -0.3**
ADKI IAmb IAmb 07 39 11.9
comp=Z,1μm,0.9s
ADKI *e*PcP **PcP 07 40 41.8 +0.3**
ADKI *e*pP **pP 07 40 55.5 +1.1**
ADKI *e*sP **sP 07 42 05.1 +1.9**
ADKI *e*ScP **ScP 07 43 34.6 -0.7**
ADKI *e*S **S 07 44 50.0 -3.2**
ADKI *e* 07 47 53.9
ADKI *e*SS **SS 07 48 24.9 +0.2**
CMSA Cobar Meteorol 43.48 152 ⇑P **P 07 39 07.6 +0.2**
baz=44,SNR=1000
SKHT Srikalahasti 43.50 283 *e*P **P 07 39 07.8 0.0**
SKHT IAmb IAmb 07 39 12.1
comp=Z,1μm,0.6s
SKHT *e*PcP **PcP 07 40 41.9 +0.3**
SKHT *e*sP sP 07 42 08.8 +5.3
SKHT *e*ScP **ScP 07 43 34.5 -0.9**
SKHT *e*S **S 07 44 50.9 -2.8**
SKHT *e* 07 47 57.6
YSS Yuzh-Sakhalins 43.56 19*d i*P **P 07 39 08.0 +0.2**
YSS *e**PP **pP 07 40 54.0 -0.6**
YSS *e* 07 41 05.0
YSS *e* 07 42 04.0
YSS *i* S **S 07 44 52.0 -1.5**
YSS *e**SS **ScS 07 47 57.0 -1.6**
YSS *e*SS SS 07 48 08.0 -17
YSS pmax pmax
comp=Z,2μm,7.0s
YSS smax smax
comp=N,7μm,13.0s
YSS smax smax
comp=E,7μm,13.0s
YSS MLR MLR
comp=Z,3μm,16.0s
YSS MLR MLR
comp=N,2μm,15.0s
YSS MLR MLR
comp=E,2μm,15.0s
YSS Yuzh-Sakhalins 43.56 19 *e*P **P 07 39 08.2 +0.4**
comp=E,341nm,1.0s
SONM Songino Array 43.60 343 P **P 07 39 08.9 +0.6**
comp=E,1μm,0.8s,baz=159,slow=9.3,SNR=433
SONM PcP **PcP 07 40 42.1 +0.5**
comp=E,205nm,0.9s,baz=182,slow=4.2,SNR=5.0
SONM ScP **ScP 07 43 35.6 +0.2**
comp=E,136nm,0.9s,baz=158,slow=3.8,SNR=9.5
SONM S **S 07 44 55.2 +0.7**
comp=E,26nm,1.0s,baz=169,slow=26,SNR=4.4
H11S3 WAKE ISLAND Hy 43.81 70 P **P 07 39 11.5 +1.5**
baz=246,slow=6.2,SNR=10
H11S1 WAKE ISLAND Hy 43.82 70 P **P 07 39 11.6 +1.5**
baz=246,slow=6.2,SNR=9.2
H11S2 WAKE ISLAND Hy 43.83 70 P **P 07 39 12.2 +2.1**
baz=246,slow=6.2,SNR=12
KUR Kuril'sk 44.02 25*d i*P **P 07 39 12.0 +0.7**
KUR *i* S **S 07 44 59.7 -0.4**
KUR *i* *SS **ScS 07 48 01.2 -0.5**
KUR *i* SS SS 07 48 17.4 -15
KUR pmax pmax
comp=Z,362nm,1.7s
KUR pmax pmax
comp=N,121nm,1.8s
KUR pmax pmax
comp=E,120nm,1.8s
KUR pmax pmax
comp=Z,1μm,3.1s
NJS Nagarjunasagar 44.20 287 *e*P **P 07 39 12.2 -1.0**
NJS IAmb IAmb 07 39 17.0
comp=Z,1μm,0.6s
NJS *e*PcP **PcP 07 40 43.2 -0.8**
NJS *e*PP **PP 07 41 07.0 -1.4**
NJS *e*sP **sP 07 42 10.6 +1.4**
NJS *e*ScP **ScP 07 43 37.3 -1.0**
NJS *e*S **S 07 45 03.1 -0.3**
NJS *e* 07 47 57.1
NJS *e*SS **SS 07 48 32.8 -3.4**
H11N1 WAKE ISLAND Hy 44.22 68 P **P 07 39 14.8 +1.7**
baz=251,slow=10,SNR=25
H11N2 WAKE ISLAND Hy 44.23 68 P **P 07 39 14.9 +1.8**
baz=251,slow=10,SNR=25
H11N3 WAKE ISLAND Hy 44.24 68 P **P 07 39 15.3 +2.1**
baz=251,slow=10,SNR=40
RCLA Racherla 44.40 285 *e*P **P 07 39 14.2 -0.5**
RCLA IAmb IAmb 07 39 18.4
comp=Z,1μm,0.7s
RCLA *e*PcP **PcP 07 40 46.6 +1.9**
RCLA *e*PP **PP 07 41 10.4 +0.2**
RCLA *e*sP **sP 07 42 12.6 +1.8**
RCLA *e*ScP **ScP 07 43 38.6 -0.6**
RCLA *e*S **S 07 45 05.8 -0.5**
SRLM Srisailam 44.53 286 *e*P **P 07 39 14.8 -1.0**
SRLM IAmb IAmb 07 39 19.5
comp=Z,1μm,0.7s
SRLM *e*PcP **PcP 07 40 44.6 -0.7**
SRLM *e*sP **sP 07 42 13.3 +1.4**
SRLM *e*ScP **ScP 07 43 36.2 -3.5**
SRLM *e*S **S 07 45 05.1 -3.1**
SRLM *e* 07 48 03.6
RPR Rampur 44.56 290 *e*P **P 07 39 16.1 +0.1**
RPR IAmb IAmb 07 39 19.9
comp=Z,2μm,0.7s
RPR *e*PcP **PcP 07 40 45.0 -0.2**
RPR *e*PP **PP 07 41 10.4 -1.2**
RPR *e*sP **sP 07 42 11.4 -0.7**
RPR *e*ScP **ScP 07 43 38.6 -1.2**
RPR *e*S **S 07 45 05.6 -2.9**
RPR *e* 07 48 04.6
RPR *e*SS **SS 07 48 43.0 +1.0**
HYB Hyderabad 45.03 288 ⇑*i*P **P 07 39 19.0 -0.6**
comp=Z,1μm,1.0s
HYB *e*pP **pP 07 41 10.0 +2.4**
HYB *e*sP **sP 07 42 18.0 +2.0**
HYB *e*ScP **ScP 07 43 41.0 -0.8**
HYB *e*S **S 07 45 16.0 +0.8**
HYB *e*ScS **ScS 07 48 09.0 -0.4**
HYB *e*SS **SS 07 48 44.0 -5.5**
HYB Hyderabad 45.03 288 *e*P **P 07 39 20.4 +0.8**
HYB AMB AMB 07 39 23.8
comp=Z,2μm,0.8s
HYBB Hyderabad (bro 45.03 288 *e*P **P 07 39 19.1 -0.5**
HYBB IAmb IAmb 07 39 23.1
comp=Z,1μm,0.8s
HYBB *e*pP **pP 07 41 06.1 -1.4**
HYBB *e*sP **sP 07 42 16.8 +0.8**
HYBB *e*ScP **ScP 07 43 40.9 -0.9**
HYBB *e*S **S 07 45 12.5 -2.8**
HYBB *e* 07 48 07.8
HYBB *e*SS **SS 07 48 48.0 -1.5**
NGP Nagpur 45.22 293 *e*P **P 07 39 22.1 +1.1**
NGP *e*x x 07 45 17.4
UGL Uglegorsk 45.23 17 *i*P **P 07 39 21.5 +1.0**
UGL *e* 07 40 48.0
UGL *e* 07 41 11.0
UGL S **sP 07 42 21.0 +3.9**
UGL pmax pmax
comp=N,169nm,0.5s
UGL pmax pmax
comp=E,477nm,0.5s
UGL pmax pmax
comp=Z,593nm,0.5s
UGL pmax pmax
comp=N,2μm,4.0s
UGL pmax pmax
comp=E,2μm,4.0s
UGL pmax pmax
comp=Z,4μm,4.0s
SRSP Sriramsagar 45.46 290 *e*P **P 07 39 21.4 -1.4**
SRSP IAmb IAmb 07 39 26.8
comp=Z,2μm,1.0s
SRSP *e*PcP **PcP 07 40 48.4 -0.1**
SRSP *e*sP **sP 07 42 21.5 +2.0**
SRSP *e*ScP **ScP 07 43 42.0 -1.6**
SRSP *e*S **S 07 45 18.2 -2.9**
SRSP *e* 07 48 09.3
ARMA Armidale 45.67 145 P **P 07 39 25.4 +1.1**
baz=46,SNR=592
ARMA Armidale 45.67 145 *e*P **P 07 39 25.5 +1.1**
comp=Z,2μm,0.8s
URV Uravakonda 45.97 284 *e*P **P 07 39 25.9 -0.9**
URV IAmb IAmb 07 39 30.6
comp=Z,1μm,1.1s
URV *e*PcP **PcP 07 40 47.8 -2.6**
URV *e*PP **PP 07 41 22.7 -1.8**
URV *e*sP **sP 07 42 25.4 +1.8**
URV *e*ScP **ScP 07 43 44.4 -1.4**
URV *e*S **S 07 45 24.6 -3.8**
URV *e* 07 48 07.7
TRD Trivandrum 46.02 275 *e*P **P 07 39 26.6 -0.6**
TRD AMB AMB 07 39 31.8
comp=Z,2μm,1.9s
CIT Chita 46.04 352 *e*P **P 07 39 28.3 +1.6**
CIT *e* 07 41 17.0
CIT *e*S S 07 45 21.0 -7.2
CIT pmax pmax
comp=Z,2μm,2.1s
ARPS Mount Arapiles 46.45 159 ⇑P **P 07 39 29.9 0.0**
baz=46,SNR=586
LGTI Lohaghat 46.52 305 *e*P **P 07 39 31.4 +0.8**
LGTI *e*x **ScP 07 43 49.5 +1.8**
PTH Pithoragarh 46.58 305 *e*P **P 07 39 29.3 -2.0**
PTH *e*x **ScP 07 43 46.1 -2.2**
JHNI Jhansi 46.72 299 *e*x P 07 39 21.0 -11
JHNI *e*x PcP 07 40 43.0 -10
ZAK Zakamensk 46.80 342⇑*i*P **P 07 39 33.6 +1.1**
ZAK *e* 07 40 55.2
ZAK *e* 07 45 40.6
ZAK pmax pmax
comp=Z,276nm,1.1s
KLRI Killari 46.97 289 *e*P **P 07 39 33.2 -1.0**
KLRI IAmb IAmb 07 39 37.5
comp=Z,2μm,0.7s
KLRI *e*PcP **PcP 07 40 56.1 +2.2**
KLRI *e*PP **PP 07 41 29.9 -3.6**
KLRI *e*sP **sP 07 42 35.7 +4.1**
KLRI *e*ScP **ScP 07 43 48.3 -1.6**
KLRI *e*S **S 07 45 37.2 -4.9**
AKL Akola 47.00 292 *e*P **P 07 39 35.8 +1.4**
AKL AMB AMB 07 39 38.3
comp=Z,4μm,0.4s
YNG Young 47.03 151 ⇑P **P 07 39 35.4 +1.1**
baz=47,SNR=95
BHPL Bhopal 47.15 296 *e*P **P 07 39 36.6 +1.1**
BHPL AMB AMB 07 39 39.3
comp=Z,3μm,0.8s
JOSI Joshimath 47.47 306 *e*P **P 07 39 35.8 -2.2**
JOSI AMB AMB 07 39 39.2
comp=Z,22μm,0.8s
AGRA Agra 47.73 301 *e*P **P 07 39 40.1 +0.5**
AGRA AMB AMB 07 39 42.7
comp=Z,3μm,0.9s
TLY Talaya 47.85 344 P **P 07 39 41.6 +1.5**
comp=Z,1μm,0.7s,baz=186,slow=5.5,SNR=302
TLY S **S 07 45 54.4 +1.3**
comp=Z,34nm,1.1s,baz=267,slow=18,SNR=3.8
TLY Talaya 47.85 344 *e*P **P 07 39 41.3 +1.1**
TLY *i* S **S 07 45 54.9 +1.8**
TLY *e*SS **ScS 07 48 23.0 -3.9**
TLY *e*SSS SSS 07 49 10.1
TLY pmax pmax
comp=Z,2μm,0.9s
TLY Talaya 47.85 344 P **P 07 39 41.7 +1.5**
comp=Z,13μm,0.6s
TLY Talaya 47.85 344 *e*P **P 07 39 41.6 +1.5**
comp=Z,1μm,0.7s
TLY S **S 07 45 54.4 +1.3**
CAN Canberra 48.15 152 ⇑P **P 07 39 43.2 +0.5**
baz=48
IRK Irkutsk 48.18 344 *e*P **P 07 39 43.0 +0.4**
IRK *e*S **S 07 45 59.6 +2.0**
IRK *e* 07 48 28.3
IRK pmax pmax
comp=Z,1μm,1.4s
CNB Canberra Magne 48.32 151 ⇓P **P 07 39 44.4 +0.4**
baz=48,SNR=206
WMQ Urumqi 48.51 326 P **P 07 39 47.3 +2.1**
WMQ PcP **PcP 07 40 59.3 +0.2**
WMQ pP **pP 07 41 36.5 +0.7**
WMQ PP **PP 07 41 50.3 +3.4**
WMQ sP **sP 07 42 41.5 -2.0**
WMQ ScP **ScP 07 43 57.0 +1.0**
WMQ S **S 07 46 05.8 +3.4**
WMQ ScS **ScS 07 48 29.5 -2.3**
WMQ sS **sS 07 49 20.8 -1.6**
WMQ PMZ
comp=Z,3μm,0.9s
WMQ PMZ
comp=Z,12μm,4.0s
TOO Toolangi 48.52 156 ⇓P **P 07 39 46.0 +0.6**
baz=49,SNR=393
NKL Nikolayevsk 48.56 14 *i*P **P 07 39 44.0 -1.3**
NKL *e* 07 41 36.0
NKL *e* 07 42 44.0
NKL *i* S **S 07 46 00.0 -2.6**
NKL *i* 07 48 30.0
NKL pmax pmax
comp=N,140nm,0.9s
NKL pmax pmax
comp=Z,500nm,0.9s
NKL pmax pmax
comp=N,2μm,10.0s
NKL pmax pmax
comp=E,700nm,10.0s
NKL pmax pmax
comp=Z,4μm,10.0s
NKL smax smax
comp=N,2μm,2.0s
NKL smax smax
comp=E,3μm,2.0s
NKL smax smax
comp=N,12μm,11.0s
NKL smax smax
comp=E,14μm,11.0s
DDI Dehra Dun 48.61 305 *e*P **P 07 39 44.5 -1.7**
DDI *e*P P 07 39 47.5 +1.2
MOY Mondy 48.62 342 *e*P **P 07 39 47.0 +1.0**
MOY pmax pmax
comp=Z,2μm,2.4s
BHGR Bahadurgarh 49.01 303 AMB AMB 07 39 52.0
comp=Z,4μm,0.5s
KUDL Kundal 49.23 302 *e*P **P 07 39 50.5 -0.2**
KUDL AMB AMB 07 39 53.6
comp=Z,3μm,0.6s
GOA Goa 49.33 285 *e*P **P 07 39 51.0 -0.7**
GOA AMB AMB 07 39 55.4
comp=Z,1μm,0.3s
KKR Kurukshetra 49.50 304 *e*P **P 07 39 52.1 -0.6**
KKR AMB AMB 07 39 56.6
comp=Z,3μm,0.7s
SMLA Simla 49.60 306 *i*P **P 07 39 54.6 +1.2**
SMLA *i* S **S 07 46 18.1 +0.6**
SMLA *i* S S 07 46 18.2 +0.7
MILA Mila 49.64 153 ⇑P **P 07 39 53.9 +0.2**
baz=50,SNR=98
HMDM Hanimaadhoo 49.82 273 P **P 07 39 56.8 +1.5**
baz=50,SNR=29
CLNS Chul'man 50.16 1 *e*P **P 07 39 57.6 +0.5**
CLNS *e* 07 41 06.1
CLNS *e**PP **pP 07 41 48.2 -0.6**
CLNS *e* 07 41 59.8
CLNS *e*S **S 07 46 24.1 -0.2**
CLNS *e* 07 48 37.9

CLNS eSS SS 07 50 05.3 -3.9
CLNS pmax pmax
comp=Z,583nm,0.8s
CLNS pmax pmax
comp=N,315nm,0.8s
CLNS pmax pmax
comp=E,193nm,0.8s
CLNS pmax pmax
comp=N,60nm,0.8s
CLNS pmax pmax
comp=E,67nm,1.0s
CLNS pmax pmax
comp=Z,52nm,0.9s
CLNS smax smax
comp=N,3μm,10.9s
CLNS smax smax
comp=E,5μm,11.9s
HVS Khovu-Aksy 50.80 336 *d* iP P 07 40 02.6 +0.7
NOUC Port Laguerre 50.80 125 *e*P P 07 40 00.0 -2.2
DZM Mont Dzumac 50.90 125 ScP ScP 07 44 07.9 +1.1
comp=E,60nm,1.0s,baz=270,slow=24,SNR=6.5
DZM Mont Dzumac 50.90 125 *e*P P 07 40 03.7 +0.6
LIFNC LIFOU 50.94 123 *e*P P 07 40 03.1 -0.1
LHI Lord Howe Isla 50.95 140 ⇑P P 07 40 04.2 +1.0
baz=51,SNR=19
NORM Noumea 51.01 125 *e*P P 07 40 04.1 +0.4
PLUM Mont Dore 51.15 125 *e*P P 07 40 05.4 +0.7
BOD Bodaibo 51.65 354 *e*P P 07 40 08.2 +0.5
BOD pmax pmax
comp=Z,246nm,0.7s
SKR Severo-Kuril's 51.75 26 ⇓*i*P P 07 40 03.5 -5.1
SKR *e**PP PcP 07 41 06.0 -4.9
SKR *e* 07 41 58.0
SKR *e*PPP PPP 07 43 02.0
SKR *i* S S 07 46 39.0 -6.6
SKR *i* *SS ScS 07 48 46.0 -7.8
SKR *e*SS sS 07 49 59.0 -10
SKR pmax pmax
comp=Z,2μm,2.0s
SKR pmax pmax
comp=E,1μm,3.0s
SKR pmax pmax
comp=N,70nm,0.5s
SKR pmax pmax
comp=E,80nm,0.5s
SKR pmax pmax
comp=Z,240nm,0.5s
SKR smax smax
comp=N,1μm,2.0s
SKR smax smax
comp=E,490nm,2.0s
SKR smax smax
comp=N,14μm,8.0s
SKR smax smax
comp=E,14μm,8.0s
SKR MLR MLR
comp=N,3μm,20.0s
SKR MLR MLR
comp=E,2μm,20.0s
SKR MLR MLR
comp=Z,2μm,20.0s
DGAR Diego Garcia 52.64 256 P P 07 40 14.8 -0.8
comp=Z,3μm,1.4s,SNR=6.4
H08S2 Diego Garcia H 52.66 255 P P 07 40 11.7 -3.7
baz=41,slow=9.0,SNR=52
H08S3 Diego Garcia H 52.66 255 P P 07 40 11.6 -3.9
baz=41,slow=9.0,SNR=23
H08S1 Diego Garcia H 52.68 255 P P 07 40 11.8 -3.8
baz=41,slow=9.0,SNR=22
MK31 Makanchi Array 53.34 326 *e*P P 07 40 20.6 +0.6
MK31 pmax pmax
comp=Z,2μm,0.5s
MKAR Makanchi Array 53.34 326 P P 07 40 20.6 +0.5
comp=Z,2μm,0.6s,baz=121,slow=7.0,SNR=859
MKAR PcP PcP 07 41 18.0 +0.8
comp=Z,429nm,0.8s,baz=126,slow=6.2,SNR=6.1
MKAR ScP ScP 07 44 16.3 -0.5
comp=Z,798nm,0.8s,baz=124,slow=4.0,SNR=30
MKAR S S 07 47 06.4 -0.5
comp=Z,24nm,0.7s,baz=112,slow=16,SNR=6.2
MKAR P4KPbc 08 17 32.8
comp=Z,16nm,0.8s,baz=119,slow=3.9,SNR=51
MKAR Makanchi Array 53.34 326 P P 07 40 20.7 +0.7
baz=54
MOO Moorlands 53.38 158 ⇓P P 07 40 21.7 +1.4
baz=54,SNR=16
KSH Kashi 53.68 315 ⇓*i*P P 07 40 24.3 +1.6
KSH PcP PcP 07 41 22.5 +3.7
KSH pP pP 07 42 20.5 +3.6
KSH S S 07 47 11.0 -0.9
KSH ScS ScS 07 49 09.0 +0.5
KSH sS sS 07 50 39.0 +1.7
KSH PMZ
comp=Z,5μm,1.5s
H08N1 Diego Carcia H 53.78 257 P P 07 40 23.6 +0.3
baz=102,slow=3.9,SNR=13
H08N2 Diego Garcia H 53.79 257 P P 07 40 23.9 +0.6
baz=102,slow=3.9,SNR=15
H08N3 Diego Garcia H 53.81 257 P P 07 40 23.7 +0.3
baz=102,slow=3.9,SNR=15
TAU Tasmania Unive 53.84 158 P P 07 40 24.6 +1.2
comp=Z,3μm,0.9s,SNR=34
TAU Tasmania Unive 53.84 158 *e*P P 07 40 24.7 +1.2
TAU pmax pmax
comp=Z,539nm,0.9s
TAU Tasmania Unive 53.84 158 *e*P P 07 40 24.7 +1.2
comp=Z,539nm,0.9s
PETK Petropavlovsk- 54.19 25 P P 07 40 26.9 +1.0
comp=Z,178nm,0.6s,baz=200,slow=5.9,SNR=194
PETK PcP PcP 07 41 21.8 +1.5
comp=Z,73nm,0.7s,baz=204,slow=3.3,SNR=4.1
PETK ScP ScP 07 44 21.5 +1.1
comp=Z,22nm,0.7s,baz=199,slow=7.0,SNR=2.9
PETK S S 07 47 20.6 +2.9
comp=Z,14nm,0.9s,baz=247,slow=19,SNR=4.6
PET Petropavlovsk 54.53 25 *de*P P 07 40 28.9 +0.8
PET *e**PP pP 07 42 21.9 -1.0
PET *e**SP sP 07 43 28.2 -1.1
PET *e*S S 07 47 22.2 +0.1
PET *e* 07 49 10.5
PET *e*SS sS 07 50 50.4 +2.1
PET pmax pmax
comp=Z,2μm,6.7s
PET pmax pmax
comp=Z,452nm,1.0s
PET pmax pmax
comp=Z,2μm,16.7s
PET Petropavlovsk 54.53 25 *e*P P 07 40 29.2 +1.1
comp=Z,385nm,1.0s
ULHL Ulahol 54.69 318 P P 07 40 30.7 +0.9
SNR=436
ULHL Ulahol 54.69 318 P ScP 07 44 24.1 +1.0
SNR=5.7
AAA Alma-Ata 54.70 320 *e*P P 07 40 31.2 +1.5
AAA *i* S S 07 47 27.0 +2.1
AAA pmax pmax
comp=Z,11μm,4.3s
KRAR Krasnoyarsk 54.92 340 *d* iP P 07 40 30.9 +0.1
KRAR pmax pmax
comp=Z,959nm,1.7s
KZA Kyzart 55.28 318 P P 07 40 35.5 +1.4
SNR=1301
KZA Kyzart 55.28 318 P ScP 07 44 27.3 +1.3
SNR=6.8
TKM2 Tokmak 2 55.42 319 P P 07 40 35.6 +0.8
SNR=1334
TKM2 Tokmak 2 55.42 319 P P 07 40 35.9 +1.1
TKM2 pmax pmax
comp=Z,485nm,0.8s
YAK Yakutsk 55.55 4 *i* P P 07 40 35.5 +0.4
YAK *e* 07 41 26.4
YAK *e**PP pP 07 42 30.1 -0.4
YAK *e* 07 42 51.7
YAK *i* S S 07 47 33.9 -1.1
YAK *i* 07 49 16.5
YAK eSS SS 07 51 33.7 +0.1
YAK pmax pmax
comp=E,85nm,1.0s
YAK pmax pmax
comp=N,363nm,1.1s
YAK pmax pmax
comp=Z,1μm,0.7s
YAK pmax pmax
comp=Z,308nm,1.1s
YAK pmax pmax
comp=E,100nm,0.9s
YAK pmax pmax
comp=N,184nm,0.9s
YAK smax smax
comp=E,8μm,2.5s
YAK smax smax
comp=N,5μm,1.9s
NFK Norfolk Island 55.61 132 ⇓P P 07 40 37.2 +1.2
baz=56,SNR=11
SFK Sufi-Kurgan 55.62 315 P P 07 40 38.1 +1.8
SFK pmax pmax
comp=Z,2μm,0.8s
KBK Karagaybulak 55.73 318 P P 07 40 38.2 +1.2
SNR=259
CHMS Chumysh 56.01 318 P P 07 40 39.1 +0.4
SNR=372
AAK Ala-Archa 56.02 318 P P 07 40 39.9 +0.9
SNR=244
AAK Ala-Archa 56.02 318 P ScP 07 44 29.8 +0.9
SNR=5.3
AAK Ala-Archa 56.02 318 P P 07 40 40.1 +1.2
AAK pmax pmax
comp=Z,622nm,0.9s
AAK Ala-Archa 56.02 318 *e*P P 07 40 39.8 +0.9
comp=Z,542nm,0.8s
FRU Bishkek 56.03 318 ⇓*i*P P 07 40 38.5 -0.3
FRU *e* 07 42 36.5
FRU eS S 07 47 41.0 -1.0
FRU *e**SS ScS 07 49 23.0 -2.2
FRU pmax pmax
comp=Z,930nm,1.4s
FRU pmax pmax
comp=Z,5μm,5.0s
FRU smax smax
comp=E,6μm,12.0s
USP Ospenovka 56.29 319 P P 07 40 41.2 +0.6
SNR=1575
USP Ospenovka 56.29 319 P ScP 07 44 30.5 +0.6
SNR=7.3
AML Almayashu 56.35 317 P P 07 40 42.6 +1.2
SNR=1132
AML Almayashu 56.35 317 P ScP 07 44 31.8 +1.1
SNR=7.2
EKS2 Erkin-Say 56.51 318 P P 07 40 43.3 +1.1
SNR=1301
ZAA0 Zalesovo Array 56.57 334 ⇓P P 07 40 41.9 -0.3
baz=57,SNR=109
ZALV Zalesovo Beam 56.57 334 P P 07 40 41.5 -0.7
comp=E,1μm,0.9s,baz=125,slow=5.5,SNR=398
ZALV PcP PcP 07 41 30.0 +0.4
comp=E,159nm,0.9s,baz=202,slow=3.2,SNR=3.9
ZALV PP PP 07 42 58.9 +0.8
comp=E,213nm,1.0s,baz=153,slow=10.0,SNR=3.7
ZALV S S 07 47 47.2 -1.2
comp=E,68nm,1.0s,baz=140,slow=9.7,SNR=9.1
ZALV PKP2bc 08 10 37.5
comp=E,17nm,0.9s,baz=298,slow=3.2,SNR=8.2
ZALV P4KPbc 08 17 46.0
comp=E,2.1nm,0.8s,baz=134,slow=4.3,SNR=5.9
KBL Kabul 57.15 307 *e*P P 07 40 47.0 +0.1
KBL pmax pmax
comp=Z,2μm,0.8s
KBL Kabul 57.15 307 ⇑P P 07 40 47.2 +0.3
baz=57,SNR=249
KBL Kabul 57.15 307 *e*P P 07 40 47.0 +0.1
comp=Z,2μm,0.8s
KURBB Kurchatov Arra 57.57 328 P P 07 40 50.1 +1.0
comp=Z,4μm,0.9s,baz=124,slow=6.3,SNR=1093
KURBB S S 07 48 02.8 +1.6
comp=Z,12nm,1.0s,baz=123,slow=10,SNR=4.9
KURBB P4KPbc 08 17 52.7
comp=Z,5.6nm,1.1s,baz=128,slow=3.5,SNR=9.1
KURK Kurchatov 57.57 328 P P 07 40 50.1 +1.0
KURK S S 07 48 02.8 +1.5
KURK Kurchatov 57.57 328 P P 07 40 50.1 +1.0
KURK S S 07 48 02.8 +1.5
KURK *e* 08 17 52.7
NVS Novosibirsk 57.86 334 *e*P P 07 40 50.6 -0.3
NVS *e**PP pP 07 42 44.6 -3.2
NVS *i* S S 07 48 03.8 -0.9
NVS *e* 07 49 31.1
NVS pmax pmax
comp=Z,1μm,0.9s
NVS pmax pmax
comp=N,649nm,0.8s
NVS pmax pmax
comp=E,670nm,0.8s
NVS smax smax
comp=E,1μm,1.7s
NVS smax smax
comp=N,778nm,1.6s
KK31 Karatay Array 58.89 317 *i* P P 07 40 58.3 +0.2
KK31 pmax pmax
comp=Z,2μm,0.9s
MSVF Nonsavu 59.14 115 P P 07 41 02.7 +2.4
comp=Z,4μm,0.8s,SNR=52
SEY Seymchan 60.11 15 P P 07 41 06.8 +1.0
comp=Z,129nm,0.6s,baz=218,slow=5.6,SNR=251
SEY S S 07 48 35.8 +3.1
comp=Z,22nm,1.0s,baz=84,slow=17,SNR=28
SEY P4KPbc 08 18 04.6
comp=Z,2.0nm,0.8s,baz=205,slow=4.7,SNR=9.1
SEY Seymchan 60.11 15 P P 07 41 06.8 +1.0
SEY S S 07 48 35.8 +3.1
SEY pmax pmax
comp=Z,129nm,0.6s
SEY smax smax
comp=N,22nm,1.0s
OUZ Omahuta 62.92 135 PN P 07 41 26.4 +1.8
BVA0 Borovoye Array 63.14 327 *i* P P 07 41 25.8 +0.2
BVA0 pmax pmax
comp=Z,2μm,1.1s
BVAR Borovoye Array 63.14 327 P P 07 41 25.5 -0.2
comp=Z,1μm,0.9s,baz=126,slow=7.5,SNR=377
BVAR S S 07 49 11.8 +1.7
comp=Z,19nm,0.8s,baz=123,slow=13,SNR=5.9
BVAR P4KPbc 08 18 16.3
comp=Z,7.2nm,0.9s,baz=113,slow=3.9,SNR=18
BRVK Borovoye 63.21 327 P P 07 41 26.4 +0.3
comp=Z,13μm,1.0s
BRVK Borovoye 63.21 327 *d* iP P 07 41 25.9 -0.2
BRVK pmax pmax
comp=Z,597nm,1.0s
WCZ Waipu Caves 63.81 135 PN P 07 41 32.0 +1.8
WBK Wadi Bani Khal 63.88 292 ⇑P P 07 41 31.1 +0.1
IMYA Miami 64.67 307 *e*P P 07 41 36.1 +0.2
JMDO Jabal Madar 64.67 292 ⇓P P 07 41 35.7 -0.2
SNR=97
SMDO Samad 64.76 292 ⇑P P 07 41 36.4 -0.2
SNR=95
JCZ Jackson Bay 64.90 145 PN P 07 41 37.7 +0.7
JCZ PP PP 07 44 07.5 -3.6
DCZ Deep Cove 64.92 147 *e*PN P 07 41 37.4 +0.5
DCZ Deep Cove 64.92 147 *e*P P 07 41 37.6 +0.7
comp=Z,531nm,0.8s
MKAZ Moumakai 64.98 136 *e*PN P 07 41 38.7 +1.2
FOZ Fox Glacier 65.12 145 PN P 07 41 39.4 +1.2
ISRO Mashad 65.16 307 *e*P P 07 41 39.3 +0.5
KUZ Kuaotunu 65.18 136 PN P 07 41 40.0 +1.3
QRZ Quartz Range 65.22 141 *e*PN P 07 41 39.3 +0.3
IMOG Moghan 65.23 307 *e*P P 07 41 39.7 +0.1
DSZ Denniston Nort 65.30 142 PN P 07 41 39.9 +0.4
MLZ Mavora Lakes 65.38 147 PN P 07 41 39.8 -0.1
NEZ North Egmont 65.38 139 PN P 07 41 41.8 +1.7
WVZ Waitaha Valley 65.43 144 PN P 07 41 40.6 +0.4
HOQ Hoqain 65.47 293 ⇓P P 07 41 40.9 0.0
SNR=116
HIZ Hauiti 65.49 138 PN P 07 41 41.9 +1.2
WKZ Wanaka 65.52 146 PN P 07 41 40.8 +0.1
BSY Bisya 65.52 292 ⇑P P 07 41 41.2 -0.1
SNR=49
TOZ Tahuroa Road 65.52 137 *e*PN P 07 41 42.1 +1.3
TOZ pP pP 07 43 43.9 +1.6
IPAY Payeh 65.56 307 *e*P P 07 41 42.4 +0.8
WHZ Wether Hill Ro 65.61 147 PN P 07 41 41.1 -0.1
WHZ PP PP 07 44 15.3 -1.7
VRZ Vera Road 65.74 138 PN P 07 41 43.5 +1.3
IAKL Akhelmad 65.78 307 *e*P P 07 41 43.5 +0.6
TLZ Tolley Road 65.85 137 PN P 07 41 44.6 +1.6
LBZ Lake Benmore 65.90 145 PN P 07 41 42.8 -0.3
LBZ pP pP 07 43 39.5 -5.3
EAZ Earnscleugh 65.93 146 PN P 07 41 43.8 +0.5
NNZ Nelson 65.98 141 PN P 07 41 43.3 -0.3
THZ Tophouse 65.98 141 *e*PN P 07 41 43.6 -0.2
RPZ Rata Peaks 66.00 144 PN P 07 41 44.2 +0.4
IKRD Kardeh 66.00 307 *e*P P 07 41 40.3 -3.9
IEMG Emamgholi 66.01 308 *e*P P 07 41 45.1 +0.8
KARZ Kaharoa 66.18 136 *e*PN P 07 41 46.4 +1.4
WATZ Wairara 66.18 137 *e*PN P 07 41 46.9 +1.9
ARQ Araqi 66.18 293 ⇓P P 07 41 45.5 +0.1
WAZ Wanganui 66.22 139 PN P 07 41 46.9 +1.7
APZ The Paps 66.24 148 PN P 07 41 45.6 +0.4
APZ pP pP 07 43 50.4 +3.4
APZ PP PP 07 44 16.8 -5.7
RATZ Rangitukua 66.28 137 PN P 07 41 47.8 +2.1
KATZ Kakaramea 66.29 138 PN P 07 41 48.2 +2.4
WTVZ West Tongariro 66.29 138 *e*PN P 07 41 47.1 +1.4
OPRZ Ohinepanea 66.30 136 PN P 07 41 47.0 +1.3
OMRZ Omania 66.31 137 *e*PN P 07 41 46.8 +1.0
NGZ Ngauruhoe 66.33 138 PN P 07 41 47.2 +1.1
MTVZ Mangateitei 66.35 138 *e*PN P 07 41 47.2 +1.1
OXZ Oxford 66.35 143 *e*PN P 07 41 45.6 -0.3
OTVZ Oturere 66.36 138 *e*PN P 07 41 47.7 +1.4
HLRZ Highlands Stat 66.37 137 *e*PN P 07 41 48.4 +2.3
WNVZ Wahianoa 66.40 138 *e*PN P 07 41 47.4 +0.9
TUVZ Tukino 66.41 138 PN P 07 41 48.5 +1.9
TUWZ Tuamarina 66.45 141 *e*PN P 07 41 46.2 -0.3
ISFR Sfrayin 66.46 308 *e*P P 07 41 46.3 -0.8
ABKT Ailbek 66.52 308 P P 07 41 47.3 +0.1
comp=Z,6μm,1.1s
PRRZ Plateau Road 66.52 137 *e*PN P 07 41 47.9 +0.8
GEYT Alibeck 66.52 308 P P 07 41 47.8 +0.6
comp=Z,868nm,1.1s,baz=132,slow=4.2,SNR=207
GEYT PKPPKP P'P'df 08 10 07.8 -3.2
comp=Z,21nm,1.4s,baz=290,slow=4.4,SNR=5.3
RRRZ Republican Roa 66.52 137 *e*PN P 07 41 48.0 +0.9
TCW Tory Channel 66.54 140 PN P 07 41 46.7 -0.4
BANOM Banah 66.54 295 ⇑P P 07 41 46.8 -0.8
TUZ Tuapeka 66.56 147 PN P 07 41 47.2 +0.1
TUZ PP PP 07 44 25.4 +0.3
ODZ Otahua Downs 66.56 145 PN P 07 41 47.8 +0.7
ODZ Otahua Downs 66.56 145 *e*P P 07 41 48.1 +0.9
comp=Z,182nm,0.8s
UOSS Wadi Hilu 66.56 294 P P 07 41 47.2 -0.5
comp=Z,1μm,0.5s,SNR=39
HATD Hatta, Dubai 66.62 294 ⇑*i*P P 07 41 48.0 0.0
SNR=124
KHZ Kahutara 66.74 142 PN P 07 41 47.5 -0.8
KIW Kapiti Island 66.76 140 *e*PN P 07 41 48.0 -0.4
ISHV Shirvan 66.77 308 *e*P P 07 41 50.3 +1.3
BHHZ Black Hill Sta 66.80 138 *e*PN P 07 41 48.8 0.0
SHAO Shalim 66.85 287 ⇓P P 07 41 49.5 -0.1
URZ Urewera 66.89 136 S S 07 49 55.4 +0.3
comp=Z,11nm,1.0s,baz=64,slow=21,SNR=9.2
URZ Urewera 66.89 136 PN P 07 41 49.0 -0.3
OGWZ Otaki Gorge 66.90 140 PN P 07 41 48.9 -0.4
BKZ Black Stump Fm 66.92 137 PN P 07 41 49.2 -0.4
BKZ Black Stump Fm 66.92 137 *e*P P 07 41 49.3 -0.3
comp=Z,1μm,0.7s
MQZ McQueen's Vall 66.93 143 PN P 07 41 49.7 +0.3
CAW Cannon Point 66.99 140 *e*PN P 07 41 49.4 -0.5
KWHZ Kaweka Forest 67.00 138 PN P 07 41 50.2 +0.1
NAZ Nazwa, Dubai 67.06 294 ⇓*i*P P 07 41 50.6 -0.1
SNR=27
KRHZ Kereru 67.08 138 *e*PN P 07 41 50.7 +0.2
MRZ Mangatainoka R 67.08 139 PN P 07 41 49.8 -0.7
NMHZ Naumai 67.10 137 *e*PN P 07 41 51.5 +0.8
PNHZ Pukenui 67.10 138 PN P 07 41 51.5 +0.8
FAQ Al Faqa, Dubai 67.11 294 ⇓*i*P P 07 41 50.5 -0.5
SNR=41
HAZ Te Kaha 67.11 136 PN P 07 41 50.5 -0.1
MCHZ McNeill Hill 67.20 138 PN P 07 41 52.1 +0.9
RAHZ Arahi 67.20 137 *e*PN P 07 41 51.9 +0.7
MWZ Matawai 67.21 136 PN P 07 41 51.1 -0.2
MWZ PP PP 07 44 28.8 -2.1
MSWZ Moikau Station 67.27 140 *e*PN P 07 41 51.4 -0.2
SNGZ Shannon Statio 67.30 137 *e*PN P 07 41 52.1 +0.2
ASUD Al Ashush, Dub 67.34 294 ⇓*i*P P 07 41 52.4 0.0
SNR=100
WPHZ Waipukurau 67.34 138 *e*PN P 07 41 52.0 0.0
MXZ Matakaoa Point 67.38 135 PN P 07 41 52.2 -0.1
TWGZ Tauwhareparae 67.45 136 *e*PN P 07 41 52.8 0.0
KAHZ Kahuranaki 67.49 138 *e*PN P 07 41 53.4 +0.4
AFI Afiamalu 67.50 108 P P 07 41 55.2 +1.6
comp=Z,485nm,0.9s,baz=220,slow=6.8,SNR=23
TMWZ Te Maipa 67.52 140 PN P 07 41 52.8 -0.3
BFZ Birch Farm 67.53 139 *e*PN P 07 41 52.8 -0.4
BFZ Birch Farm 67.53 139 *e*P P 07 41 53.1 -0.1
comp=Z,600nm,0.8s
TRWZ Traveller 67.54 140 PN P 07 41 53.4 +0.1
RIGZ Rimuhau 67.55 136 *e*PN P 07 41 53.7 +0.2
ANWZ Angora Road 67.56 139 PN P 07 41 53.6 +0.2
WMGZ Waiomatatini S 67.58 135 *e*PN P 07 41 54.2 +0.7
PUZ Puketiti 67.59 136 PN P 07 41 53.8 +0.2
PXZ Pawanui 67.60 138 PN P 07 41 53.5 -0.1
KNZ Kokohu 67.65 137 PN P 07 41 53.6 -0.3
MCQ Macquarie Isla 67.72 158 ⇑P P 07 41 55.1 +1.1
baz=68,SNR=13
CNGZ Carnagh Statio 67.75 136 PN P 07 41 55.2 +0.6
AB31 Akbulak array 67.85 321 P P 07 41 55.3 +0.3
AB31 pmax pmax
comp=Z,200nm,0.4s
ABKAR Akbulak array 67.85 321 P P 07 41 55.1 +0.1
baz=68
ATKA Atka Island 68.14 36 *e*P P 07 41 56.8 +0.2
comp=Z,224nm,0.7s
RBK Rabkut 68.21 286 ⇑P P 07 41 57.9 +0.1
SNR=62
MSEY Mahe Island 68.67 262 P P 07 42 00.5 -0.2
comp=Z,1μm,0.5s,SNR=8.9
MSEY Mahe Island 68.67 262 *i* P P 07 42 03.0 +2.3
MSEY Mahe Island 68.67 262 ⇓*i*P P 07 42 00.4 -0.2
SNR=7.1
ABTO Aybut 69.07 286 P P 07 42 03.1 0.0
SNR=87
AKTO Aktyubinsk 69.37 322 P P 07 42 04.0 -0.1
comp=Z,861nm,0.7s,baz=97,slow=8.7,SNR=306
AKTO S S 07 50 21.9 -1.5
comp=Z,20nm,1.2s,baz=275,slow=20,SNR=7.8
IANJ Anjilo 69.50 305 *e*P P 07 42 05.2 -0.3
ISRV Sarvestan 69.61 299 *e*P P 07 42 05.5 -0.9
IGLO Ghaloghah 69.69 306 *e*P P 07 42 07.4 +0.8
IPAR Pars 69.70 299 *e*P P 07 42 06.9 0.0
IKIA Kiasar 69.77 306 *e*P P 07 42 06.7 -0.4
SVE Sverdlovsk 69.81 329 *c i*P P 07 42 06.9 +0.3
SVE *e* 07 44 12.6
SVE *e* 07 44 54.6
SVE eS S 07 50 25.8 -2.3
SVE *e*SS SS 07 55 13.3 -0.6
SVE *e*SSS SSS 07 58 31.0
SVE pmax pmax
comp=Z,2μm,1.0s
SVE pmax pmax
comp=Z,3μm,10.6s
ISHM Shahmirzad 70.04 306 *e*P P 07 42 09.3 +0.5
ILAS Lasjerd 70.26 305 *e*P P 07 42 10.6 +0.6
IFIR Firoozkooh 70.45 305 *e*P P 07 42 11.6 +0.4
IALA Alasht 70.46 306 *e*P P 07 42 11.9 +0.7
IZEF Zefreh 70.55 302 *e*P P 07 42 11.3 -0.5
IKAZ Kazeroun 70.74 299 *e*P P 07 42 12.3 -0.7
ARU Arti 70.77 328 P P 07 42 12.9 +0.7
baz=115,slow=6.4
ARU S S 07 50 35.8 -3.1
baz=163,slow=19
ARU Arti 70.77 328 *d* iP P 07 42 11.3 -0.9
ARU 07 42 29.7
ARU 07 44 15.3 -1.1
ARU *PP pP 07 46 45.1
ARU PPP PPP 07 50 36.9 -2.0
ARU S S 07 51 13.8
ARU pmax pmax
comp=Z,1μm,1.0s
ARU Arti 70.77 328 P P 07 42 11.3 -0.9
comp=Z,9μm,0.7s
IPRN Peran 70.85 306 *e*P P 07 42 13.6 +0.2
IDMV Damavand 71.03 305 *e*P P 07 42 14.3 -0.3
IKLH Kolahrood 71.21 303 *e*P P 07 42 16.7 +1.0
IVRN Varamin 71.23 305 *e*P P 07 42 15.3 -0.2
IAFJ Afjeh 71.32 306 *e*P P 07 42 16.5 +0.2
IPIR Pirpir 71.74 302 *e*P P 07 42 17.4 -1.3
SPIA Saint Paul Isl 71.83 32 *e*P P 07 42 19.8 +1.5
comp=Z,390nm,0.8s
SPIA *e*pP pP 07 44 25.8 +2.7
IR3 Iran Long-Peri 71.84 305 *e*P P 07 42 19.4 +0.3
IMHD Mahdasht 72.15 305 *e*P P 07 42 21.4 +0.5
IR5 Iran Long-Peri 72.18 305 *e*P P 07 42 21.0 0.0
PAF Port-aux-Franc 72.31 213 P P 07 41 58.0 -23
PAF S SKiKP 07 50 35.0 -17

PAF SS sS 07 54 25.0 -14
PAF R 08 05 00.0
IGZV Ghazvin 72.57 306 *e*P **P** **07 42 23.6 +0.2**
IRAZ Razeghan 72.73 305 *e*P **P** **07 42 24.6 +0.3**
MUKL Al Mukalla 73.25 283⇑ *e*P **P** **07 42 28.1 +0.8**
DRV Dumont d'Urvil 74.03 173 P P 07 42 16.0 -15
DRV PP pP 07 44 20.0 -16
DRV S SKiKP 07 50 43.0 -11
DRV SS sS 07 54 38.0 -21
DRV L L 08 01 00.0
DRV R 08 07 00.0
IKOM Komasi 74.64 304 *e*P **P** **07 42 34.4 -0.7**
ISRB Sarab 74.71 307 *e*P **P** **07 42 36.5 +1.0**
ILIN Lien 75.13 304 *e*P **P** **07 42 37.3 -0.6**
IVIS Veis 75.20 304 *e*P **P** **07 42 37.4 -0.7**
MAK Makhachkala 75.21 313 *d* iP **P** **07 42 38.7 +0.9**
MAK *e* 07 42 48.7
MAK *e**PP **pP** **07 44 44.9 +0.8**
MAK *e* 07 45 38.0
MAK *e**SP **sP** **07 45 48.1 +1.0**
MAK *i* S **S** **07 51 27.7 -0.5**
MAK *e* 07 51 53.8
MAK *e*SS **SS** **07 56 35.3 -0.5**
MAK pmax pmax
comp=Z,869nm,1.2s
IHRS Heris 75.23 308 *e*P **P** **07 42 38.4 0.0**
IBST Bostanabad 75.32 307 *e*P **P** **07 42 38.4 -0.4**
IDHR Dehrash 75.59 304 *e*P **P** **07 42 39.2 -1.2**
ITBZ Tabriz 75.93 308 *e*P **P** **07 42 42.8 +0.6**
IAZR Azarshahr 76.04 307 *e*P **P** **07 42 43.4 +0.6**
MIR Mirnyy 76.16 192⇑ *e*P P 07 42 51.0 +8.6
RAYN Ar Rayn 76.30 293 P **P** **07 42 43.4 -0.9**
comp=Z,6μm,1.1s,SNR=82
IMRD Marand 76.30 308 *e*P **P** **07 42 44.7 +0.5**
BDHA Al Bayda' 76.63 283 *e*P **P** **07 42 47.3 +0.8**
BDHA AMb AMB 07 42 48.5
comp=Z,2μm,0.7s
DGRG David-gareji 76.69 311 P **P** **07 42 47.0 +1.0**
DGRG S **S** **07 51 47.8 +3.6**
OPA Opana 77.06 69 *e*P **P** **07 42 50.4 +2.0**
OPA Opana 77.06 69 *e*P **P** **07 42 50.4 +2.0**
KIP Kipapa 77.07 70 *e*P **P** **07 42 51.0 +2.6**
KIP pmax pmax
comp=Z,224nm,0.8s
GNI Garni 77.11 310 P **P** **07 42 50.3 +1.8**
comp=Z,52nm,0.5s,baz=322,slow=1.2,SNR=62
GNI S **S** **07 51 48.3 -0.6**
comp=Z,10.0nm,0.3s,baz=331,slow=18,SNR=3.1
GNI Garni 77.11 310 *i* P **P** **07 42 49.6 +1.1**
SNR=59
SEAG Tbilisi Sea 77.13 311 P **P** **07 42 47.8 -0.6**
TBLG Delisi 77.18 311 P **P** **07 42 49.0 +0.4**
TBLG S **S** **07 51 49.1 -0.2**
TBLG Delisi 77.18 311 P **P** **07 42 49.0 +0.4**
TBLG S **S** **07 51 49.1 -0.2**
DUS Dusheti 77.22 312 P **P** **07 42 50.2 +1.2**
DUS Dusheti 77.22 312 *e*P **P** **07 42 50.2 +1.2**
KZR Kazreti 77.40 311 P **P** **07 42 51.6 +1.6**
TRBA At Turbah 78.09 282 *e*P **P** **07 42 55.2 +0.8**
AKH Akhalkalaki 78.10 311 P **P** **07 42 54.9 +1.1**
AKH S **S** **07 51 59.8 +0.5**
AKH Akhalkalaki 78.10 311 *e*P **P** **07 42 54.9 +1.1**
AKH *e*S **S** **07 51 59.7 +0.5**
AKH Akhalkalaki 78.10 311 ⇓P **P** **07 42 55.4 +1.6**
AKH Akhalkalaki 78.10 311 ⇓ *i*P **P** **07 42 55.4 +1.6**
ONI Oni 78.17 312 P **P** **07 42 54.6 +0.5**
ONI S **S** **07 52 01.9 +2.2**
ONI Oni 78.17 312 *e*P **P** **07 42 54.5 +0.5**
ONI *e*S **S** **07 52 01.8 +2.2**
HAJJ Hajjah 78.43 285 *e*P **P** **07 42 56.9 +0.9**
PRGR Permogore 78.43 332⇑ *i*P **P** **07 42 54.3 -0.6**
PRGR 07 43 01.1
PRGR *e*S **S** **07 51 58.1 -3.4**
PRGR pmax pmax
comp=Z,1μm,0.7s
GOF Gofitskoye 78.55 315⇓ *i*P **P** **07 42 55.5 -0.4**
GOF *e*S S 07 51 57.1 -6.3
GOF pmax pmax
comp=Z,530nm,1.2s
KBZ Khabaz 78.61 313 P **P** **07 42 56.0 -0.2**
comp=Z,243nm,1.0s,baz=119,slow=3.7,SNR=134
KBZ S **S** **07 52 04.0 0.0**
comp=Z,8.8nm,1.0s,baz=245,slow=19,SNR=6.2
NEY Neytrino 78.72 313 *d* iP **P** **07 42 57.3 +0.2**
HLK Haleakala 78.75 70 *e*P **P** **07 42 56.9 -0.9**
KKH Kailua Kona 79.02 71 *e*P **P** **07 43 01.7 +2.9**
KKH Kailua Kona 79.02 71 *e*P **P** **07 43 01.7 +2.9**
XMAS Kiritimati 79.04 89 *e*P **P** **07 43 01.3 +2.2**
comp=Z,634nm,1.0s
ABPO Ambohimpanom 79.13 249 P **P** **07 42 59.3 -0.4**
comp=Z,258nm,1.0s,SNR=6.7
CHVG Ch'k'valeri 79.18 312 P **P** **07 42 59.9 +0.6**
CHVG Ch'k'valeri 79.18 312⇑ *i*P **P** **07 43 00.3 +1.0**
STCH Steam Cracks 79.87 72 *e*P **P** **07 43 06.5 +3.0**
SVW2 Sparrevohn 79.97 29 *e*P **P** **07 43 04.2 +1.2**
comp=Z,215nm,0.6s
RAR Rarotonga 80.22 113 P **P** **07 43 05.6 +0.5**
comp=Z,148nm,1.0s,baz=239,slow=6.8,SNR=14
RAR Rarotonga 80.22 113 P **P** **07 43 05.6 +0.5**
RAR pmax pmax
comp=Z,148nm,1.0s
RAR Rarotonga 80.22 113 *e*P **P** **07 43 04.7 -0.4**
comp=Z,265nm,1.1s
MZRK Al-Mazaregh 80.29 305 *e*P **P** **07 43 07.5 +2.2**
KBSD Kabsdagh 80.36 306 *e*P **P** **07 43 06.6 +1.0**
SFNV Sufian 80.72 306 *e*P **P** **07 43 09.9 +2.4**
SOC Sochi 80.92 313 *d* iP **P** **07 43 07.3 -1.0**
SOC *i**PP **pP** **07 45 15.7 -1.5**
SOC *e**SP **sP** **07 46 17.5 -1.9**
SOC *e* 07 46 22.1
SOC *i* S **S** **07 52 24.6 -3.0**
SOC pmax pmax
comp=Z,194nm,0.8s
SOC pmax pmax
comp=Z,4μm,4.8s
IM04 Indian Mountai 81.14 24 *e*P **P** **07 43 08.8 -0.2**
VOR Voronezh 81.27 321 *e*P **P** **07 43 09.0 -0.9**
VOR *e*S **S** **07 52 27.0 -3.8**
VOR pmax pmax
comp=Z,3μm,1.2s
VSR Storozhevoye 81.29 321 *e*P **P** **07 43 09.2 -0.8**
VSR *e**PP **pP** **07 45 18.7 -0.4**
VSR *e**SP **sP** **07 46 21.5 +0.2**
VSR *e* 07 46 26.6
VSR *e* 07 52 26.4
VSR *e*S **S** **07 52 29.5 -1.5**
VSR pmax pmax
comp=N,60nm,0.8s
VSR pmax pmax
comp=E,170nm,0.8s
VSR pmax pmax
comp=Z,670nm,0.8s
VSR pmax pmax
comp=N,230nm,1.4s
VSR pmax pmax
comp=E,960nm,1.4s
VSR pmax pmax
comp=Z,2μm,1.4s
VSR pmax pmax
comp=Z,390nm,1.9s
VSR pmax pmax
comp=N,330nm,1.4s
VSR pmax pmax
comp=E,360nm,1.9s
VSR smax smax
comp=E,940nm,1.9s
VSR smax smax
comp=Z,200nm,1.9s
VSR smax smax
comp=N,570nm,1.6s
KDAK Kodiak Island 81.32 33 P **P** **07 43 10.0 0.0**
comp=N,7μm,0.6s
KDAK Kodiak Island 81.32 33 S **S** **07 52 30.1 -0.9**
comp=N,87nm,1.1s,baz=258,slow=10,SNR=38
KDAK Kodiak Island 81.32 33 *i* P **P** **07 43 10.2 +0.2**
SPU Mount Spurr 81.68 29 *e*P **P** **07 43 11.8 0.0**
CAST Castle Rocks 81.74 27 *e*P **P** **07 43 12.5 +0.4**
comp=N,293nm,0.8s
MALT Malatya 82.00 308 ⇓P **P** **07 43 15.4 +1.3**
MALT Malatya 82.00 308 ⇓ *i*P **P** **07 43 15.4 +1.3**
TMCR Tamitsa 82.10 334 *e*P **P** **07 43 13.9 +0.1**
TMCR *e* 07 46 37.1
TMCR *e*S **S** **07 52 35.7 -2.8**

TMCR pmax pmax
comp=Z,1μm,1.1s
CRZF Crozet Islands 82.18 221 PP PP 07 45 18.0 -77
CRZF S S 07 52 07.0 -33
CRZF SS sS 07 56 07.0 -24
CRZF L L 08 05 00.0
CRZF R 08 10 00.0
MOS Moscow 82.22 325κ *i*P **P** **07 43 13.7 -0.9**
MOS *i**PP **pP** **07 45 20.9 -3.2**
MOS *e* 07 46 30.5
MOS *i* S S 07 52 33.1 -7.0
MOS pmax pmax
comp=Z,2μm,1.0s
MOS pmax pmax
comp=Z,3μm,1.1s
BRLK Bradley Lake 82.24 31 *e*P **P** **07 43 14.4 -0.3**
comp=Z,531nm,0.8s
SUA Susitna One 82.32 29 *e*P **P** **07 43 14.9 -0.2**
comp=Z,364nm,0.8s
MLY Manley 82.36 25 *e*P **P** **07 43 15.9 +0.7**
comp=Z,414nm,0.7s
ANN Anapa 82.53 314 *e*P **P** **07 43 14.2 -2.2**
ANN *i**PP **pP** **07 45 25.3 -0.8**
ANN *i* 07 46 27.9
ANN *i* S S 07 52 34.7 -8.9
ANN *i* SS **SS** **07 58 25.4 +1.6**
ANN pmax pmax
comp=Z,2μm,1.0s
ANN pmax pmax
comp=N,558nm,1.0s
ANN pmax pmax
comp=E,395nm,1.0s
COLD Coldfoot 82.61 23 *e*pP pP 07 45 31.2 +5.2
OBN Obninsk 82.83 325 P **P** **07 43 17.8 +0.1**
comp=E,1μm,0.7s,baz=66,slow=1.9,SNR=179
OBN S S 07 52 37.3 -8.8
comp=E,21nm,0.4s,baz=134,slow=23,SNR=13
OBN Obninsk 82.83 325 *d* iP **P** **07 43 16.9 -0.8**
OBN *i**PP **pP** **07 45 27.0 -0.4**
OBN *e* 07 46 43.4
OBN *e*S S 07 52 37.9 -8.2
OBN *e*SS **SS** **07 58 28.9 +1.3**
OBN pmax pmax
comp=Z,3μm,1.2s
OBN MLR MLR
comp=Z,3μm,16.0s
OBN Obninsk 82.83 325 P **P** **07 43 17.1 -0.6**
comp=Z,14μm,0.7s,SNR=77
BWN Browne 82.91 26 *e*P **P** **07 43 18.1 +0.2**
comp=Z,259nm,1.0s
ZALF Zalf 83.15 302 *e*P **P** **07 43 21.6 +1.8**
RND Reindeer 83.19 27 *e*P **P** **07 43 19.0 -0.4**
RND pmax pmax
comp=Z,254nm,0.8s
RND Reindeer 83.19 27 *e*P **P** **07 43 19.0 -0.4**
comp=Z,254nm,0.8s
LVZ Lovozero 83.48 338 *d* eP **P** **07 43 19.4 -1.3**
LVZ pmax pmax
comp=Z,101nm,0.7s
LVZ Lovozero 83.48 338 P **P** **07 43 20.0 -0.7**
comp=Z,3μm,0.7s,SNR=62
WRH Wood River Hil 83.50 26 *e*P **P** **07 43 20.6 -0.2**
comp=Z,993nm,2.0s
ASF Jabal al Asfar 83.56 302 P **P** **07 43 23.3 +1.3**
comp=Z,419nm,0.8s,baz=49,slow=2.0,SNR=123
ASF pP **pP** **07 45 34.3 +2.2**
comp=Z,260nm,1.2s,baz=108,slow=1.0,SNR=2.8
COLA College 83.59 25 *d* iP **P** **07 43 20.8 -0.4**
CCB Clear Creek Bu 83.62 26 *e*P **P** **07 43 21.1 -0.3**
comp=Z,120nm,0.6s
SALA Sala 83.67 302 *e*P **P** **07 43 22.5 -0.1**
FURI Furi 83.78 278 *e*P **P** **07 43 25.7 +2.0**
comp=Z,370nm,1.0s
BIDA Albida 83.86 304 *e*P **P** **07 43 24.8 +1.4**
SCM Sheep Creek Mo 83.94 28 *e*P **P** **07 43 23.5 +0.3**
SCM pmax pmax
comp=Z,143nm,0.8s
SCM Sheep Creek Mo 83.94 28 *e*P **P** **07 43 23.5 +0.3**
comp=Z,143nm,0.8s
APA Apatity 83.97 337⇑ *i*P **P** **07 43 23.0 -0.1**
APA *i**PP **pP** **07 45 31.0 -2.3**
APA *i* 07 46 34.0
APA *i* 07 52 46.0
APA *i* S S **07 52 56.0 -0.8**
APA *i* SS **SS** **07 58 50.0 +6.4**
APA pmax pmax
comp=Z,379nm,1.0s
APA MLR MLR
comp=Z,5μm,13.0s
HDA Harding Lake 84.00 26 *e*P **P** **07 43 22.4 -0.9**
comp=Z,141nm,0.7s
ILAR Eielson Array 84.01 26 P **P** **07 43 21.9 -1.5**
comp=Z,33nm,0.5s,baz=277,slow=4.0,SNR=360
ILAR S **SKSac** **07 52 46.5 -1.9**
comp=Z,0.9nm,0.7s,baz=287,slow=13,SNR=4.4
ILAR PKKP **PKKPdf** **08 01 22.8 -3.3**
comp=Z,1.7nm,0.8s,baz=12,slow=1.8,SNR=5.5
ILAR PKKPbc **PKKPbc** **08 01 34.8 -1.4**
comp=Z,3.6nm,0.8s,baz=43,slow=1.6,SNR=8.4
ILAR SKKPbc **SKKPbc** **08 04 11.8 -3.5**
comp=Z,1.8nm,0.9s,baz=76,slow=1.8,SNR=5.8
ILAR PKPPKP **P'P'df** **08 09 36.5 -2.1**
comp=Z,2.5nm,0.9s,baz=135,slow=1.0,SNR=8.3
ARNB Al Arnab 84.09 305 *e*P **P** **07 43 21.5 -3.0**
HWQ Hawqa 84.22 304 *e*P **P** **07 43 25.7 +0.5**
BRBR Barbar 84.28 303 *e*P **P** **07 43 24.4 -1.2**
RCY Rachaya 84.36 303 *e*P **P** **07 43 26.8 +0.8**
BHL Bhannes 84.49 303 *e*P **P** **07 43 26.9 +0.4**
DQRL Deir Qamar 84.57 303 *e*P **P** **07 43 27.6 +0.7**
FYU Fort Yukon 84.59 24 *e*P **P** **07 43 27.4 +1.3**
comp=Z,145nm,0.8s
KLU Klutina 84.63 29 *e*P **P** **07 43 26.7 +0.1**
comp=Z,115nm,0.7s
MMAI Mount Meron Ar 84.76 303 P **P** **07 43 28.9 +1.1**
comp=Z,125nm,0.6s,baz=80,slow=6.9,SNR=97
MMAI pP **pP** **07 45 40.7 +2.3**
comp=Z,39nm,1.0s,baz=79,slow=7.5,SNR=1.9
SIM Simferopol' 84.88 315 *d* eP **P** **07 43 27.3 -0.7**
SIM *i**PP **pP** **07 45 37.4 -1.3**
SIM *i**SP **sP** **07 46 38.9 -1.6**
SIM *i* 07 46 55.4
SIM *i* 07 52 51.3
SIM S **SKKSac** **07 53 03.6 +0.7**
SIM pmax pmax
comp=Z,259nm,0.9s
SIM pmax pmax
comp=Z,1μm,9.6s
MAW Mawson 85.25 200 P **P** **07 43 29.3 +0.1**
comp=Z,40nm,0.6s,baz=83,slow=4.3,SNR=40
MAW PKKPbc **PKKPbc** **08 01 31.0 -2.4**
comp=Z,7.8nm,0.7s,baz=230,slow=3.4,SNR=18
MAW PKPPKP **P'P'df** **08 09 36.7 +1.5**
comp=Z,2.6nm,0.7s,baz=276,slow=7.6,SNR=5.0
MAW Mawson 85.25 200 P **P** **07 43 29.3 +0.1**
MAW pmax pmax
comp=Z,40nm,0.6s
MAW pmax pmax
comp=Z,8.0nm,0.7s
MAW pmax pmax
comp=Z,3.0nm,0.7s
MAW Mawson 85.25 200 P **P** **07 43 29.3 +0.1**
baz=85,SNR=50
MAW Mawson 85.25 200 *e*P **P** **07 43 28.7 -0.5**
comp=Z,27nm,1.1s
MAW PKKPbc **PKKPbc** **08 01 31.0 -2.4**
MAW P'P' 08 09 36.7
RAGM Ragged Mountai 85.32 30 *e*P **P** **07 43 30.4 +0.5**
comp=Z,102nm,0.9s
EIL Elat 85.42 299 P **P** **07 43 30.9 0.0**
comp=Z,331nm,0.8s,baz=62,slow=1.7,SNR=89
EIL pP **pP** **07 45 43.5 +1.7**
comp=Z,55nm,1.0s,baz=272,slow=6.2,SNR=3.4
EIL Elat 85.42 299⇑ P **P** **07 43 31.2 +0.2**
baz=86,SNR=143
HOPEN Hopen 85.62 347 ⇓ *i*P **P** **07 43 30.5 -0.3**
HOPEN IAmb IAmb 07 43 34.8
comp=Z,381nm,0.9s
HOPEN *e*SKSac **SKSac** **07 52 56.6 -1.2**
BRTR Keskin Array B 85.64 309 P **P** **07 43 31.6 -0.4**
comp=Z,238nm,0.7s,baz=126,slow=3.8,SNR=296
BRTR pP **pP** **07 45 45.0 +2.1**
comp=Z,25nm,0.9s,baz=110,slow=5.4,SNR=2.4
BRTR PP **PP** **07 47 04.0 +1.3**
comp=Z,45nm,0.8s,baz=116,slow=8.4,SNR=6.2
BRTR PKKP **PKKPdf** **08 01 24.0 +0.9**
comp=Z,1.7nm,0.9s,baz=169,slow=1.9,SNR=3.7

BRTR SKKPbc SKKPbc 08 04 09.1 -1.9
comp=Z,2.9nm,0.8s,baz=200,slow=3.3,SNR=5.9
PUL Pulkovo 85.92 330 *ce*P **P** **07 43 32.6 0.0**
PUL pmax pmax
comp=Z,1μm,1.0s
KMBO Kilima Mbogo 86.26 268 S **SKSac** **07 53 06.2 +1.5**
comp=Z,0.6nm,0.2s,baz=325,slow=22,SNR=9.6
KMBO Kilima Mbogo 86.26 268 *e*P **P** **07 43 35.8 +0.3**
KMBO S **SKSac** **07 53 06.3 +1.5**
KMBO pmax pmax
comp=Z,1μm,1.0s
KMBO Kilima Mbogo 86.26 268 *e*P **P** **07 43 35.8 +0.3**
comp=Z,1μm,1.0s
KMBO S **SKSac** **07 53 06.2 +1.5**
ANTO Ankara 86.28 310 *e*P **P** **07 43 34.1 -0.8**
ANTO pmax pmax
comp=Z,783nm,0.8s
ANTO Ankara 86.28 310 *e*P **P** **07 43 34.1 -0.8**
comp=Z,782nm,0.8s
CSS Prodhromos 86.31 305 P **P** **07 43 35.4 +0.3**
CSS Prodhromos 86.31 305 P **P** **07 43 32.3 -2.8**
ARCES ARCESS Array B 86.65 340 P **P** **07 43 34.5 -1.4**
comp=Z,289nm,0.8s,baz=79,slow=6.3,SNR=213
ARCES S **SKSac** **07 53 02.0 -2.4**
comp=Z,17nm,0.9s,baz=105,slow=9.4,SNR=5.8
ARCES PKKPbc **PKKPbc** **08 01 26.4 -3.7**
comp=Z,4.7nm,0.8s,baz=241,slow=2.6,SNR=8.0
ARE0 ARCESS Array S 86.65 340 ⇓ *i*P **P** **07 43 35.0 -0.8**
VNDA Vanda 86.65 172 P **P** **07 43 35.2 -0.4**
comp=Z,143nm,1.0s,baz=318,slow=6.3,SNR=206
VNDA PP **PP** **07 47 09.0 -0.8**
comp=Z,40nm,1.0s,baz=298,slow=9.9,SNR=6.6
VNDA PKKPbc **PKKPbc** **08 01 28.5 -1.9**
comp=Z,8.5nm,0.8s,baz=267,slow=5.6,SNR=14
VNDA Vanda 86.65 172 *e*P **P** **07 43 35.3 -0.4**
VNDA 07 47 09.0
VNDA pmax pmax
comp=Z,247nm,1.1s
VNDA Vanda 86.65 172 *e*P **P** **07 43 35.2 -0.4**
comp=Z,247nm,1.1s
VNDA PP **PP** **07 47 09.0 -0.8**
VNDA PKKPbc **PKKPbc** **08 01 28.5 -1.9**
SZAC Souni-Zanaja 86.70 304 P **P** **07 43 38.3 +1.4**
HAMF Hammerfest 87.06 341 *e*P **P** **07 43 36.7 -1.1**
HAMF IAmb IAmb 07 43 39.5
comp=Z,765nm,0.9s
HAMF *e*sP **sP** **07 46 48.6 -2.3**
HAMF *e*SKSac **SKSac** **07 53 04.0 -2.7**
SPA0 Spitsbergen Ar 87.07 349 *e*P **P** **07 43 36.8 -0.9**
SPA0 IAmb IAmb 07 43 39.9
comp=Z,1μm,0.3s
SPA0 *e*pP **pP** **07 45 46.8 -2.5**
SPA0 *e*sP **sP** **07 46 47.6 -3.3**
SPA0 *e*SKSac **SKSac** **07 53 04.0 -2.7**
SPITS Spitsbergen Ar 87.07 349 P **P** **07 43 37.1 -0.7**
comp=Z,616nm,0.7s,baz=125,slow=12,SNR=212
SPITS SKKPbc SKKPbc 08 04 06.7 -2.2
comp=Z,9.1nm,0.9s,baz=163,slow=6.6,SNR=5.2
AKMC Akamas 87.12 305 P **P** **07 43 39.9 +1.0**
BJO Bjornoya 87.48 345 *e*P **P** **07 43 38.4 -1.3**
KTK1 Kautokeino 87.54 339 *e*P **P** **07 43 38.8 -1.2**
KTK1 *e*SKSac **SKSac** **07 53 05.9 -3.8**
AKASG Malin Array Be 87.59 321 P **P** **07 43 39.8 -0.8**
comp=Z,168nm,0.8s,baz=67,slow=4.9,SNR=199
AKASG Malin Array Be 87.59 321 P **P** **07 43 39.8 -0.8**
AKASG pmax pmax
comp=Z,168nm,0.8s
KIEV Kiev 87.60 321 *d* iP **P** **07 43 39.5 -1.2**
KIEV pmax pmax
comp=Z,66nm,1.0s
KIEV Kiev 87.60 321 *e*P **P** **07 43 39.0 -1.8**
comp=Z,308nm,0.8s
HSPB Hornsund (broa 87.61 348 *e*P **P** **07 43 38.9 -1.3**
HSPB IAmb IAmb 07 43 42.1
comp=Z,708nm,0.8s
KBS Kingsbay 87.64 350 ⇓ *i*P **P** **07 43 39.7 -0.7**
KBS IAmb IAmb 07 43 42.3
comp=Z,783nm,0.6s
KBS *e*SKSac **SKSac** **07 53 08.4 -1.6**
FINES FINESS Array B 87.77 332 P **P** **07 43 39.8 -1.4**
comp=Z,254nm,0.7s,baz=98,slow=5.8,SNR=187
FINES PKKPbc **PKKPbc** **08 01 24.7 -2.4**
comp=Z,3.6nm,0.7s,baz=173,slow=2.8,SNR=6.2
FINES SKKPbc SKKPbc 08 04 05.4 -1.4
comp=Z,3.8nm,0.9s,baz=188,slow=5.8,SNR=4.4
MICGM Minsk 87.89 324 ⇓ *i*P **P** **07 43 40.0 -2.0**
MNK Minsk 87.92 324 *d* iP **P** **07 43 40.0 -2.1**
MNK *e**PP **pP** **07 45 52.0 -2.0**
MNK *e**SP **sP** **07 46 52.0 -3.5**
MNK *e* 07 53 12.0
MNK *e*S **S** **07 53 31.0 -3.5**
MNK *e*SS **SS** **07 59 38.0 -3.1**
MNK pmax pmax
comp=Z,4μm,6.0s
MNK pmax pmax
comp=Z,1μm,1.0s
MNK smax smax
comp=E,12μm,4.0s
VSU Vasula 87.92 329 *d* iP **P** **07 43 41.0 -1.0**
VSU pmax pmax
comp=Z,437nm,0.6s
ISP Isparta 88.26 308 ⇓P **P** **07 43 45.1 +0.8**
ISP Isparta 88.26 308 ⇓ *i*P **P** **07 43 45.1 +0.8**
ISP Isparta 88.26 308 P **P** **07 43 42.8 -1.5**
KIS Kíshinev 88.35 317 ⇓ *i*P **P** **07 43 42.0 -2.3**
comp=Z,500nm,1.0s
KIS *i* pP **pP** **07 45 56.0 -0.3**
KIS Kishinev 88.35 317 *i* PP sP 07 46 54.0 -3.7
comp=Z,5μm,14.0s
KIS Kishinev 88.35 317 *e*PPP PPP 07 49 14.0
KIS *i* SKS **SKSac** **07 53 11.0 -4.3**
KIS *i* S **SKSac** **07 53 31.0 +2.2**
KIS *i* sS sS 07 57 20.0 -14
KIS *i* SS SS 07 59 58.0 +10
KIS *e*SSS SSS 08 03 05.0
KIS LRM MLR 08 27 16.0
comp=Z,3μm,20.0s
KIS Kishinev 88.35 317κ *i*P **P** **07 43 42.0 -2.3**
KIS *i**PP **pP** **07 45 56.0 -0.3**
KIS *i* 07 46 54.0
KIS *i* 07 53 11.0
KIS *i* S **SKKSac** **07 53 31.0 +2.2**
KIS pmax pmax
comp=Z,500nm,1.0s
KIS pmax pmax
comp=Z,3μm,12.0s
KIS pmax pmax
comp=Z,3μm,16.0s
KIS pmax pmax
comp=Z,5μm,14.0s
KIS MLR MLR
comp=Z,2μm,19.0s
KIS MLR MLR
comp=Z,3μm,20.0s
NACGM Naroch 88.46 325 *e*P P 07 43 40.0 -4.6
SORM Soroca 88.50 318 ⇑P **P** **07 43 45.0 0.0**
SORM Soroca 88.50 318⇑ *i*P **P** **07 43 45.0 0.0**
TLCR 88.59 315 ⇑P **P** **07 43 45.2 -0.3**
TLCR 88.59 315⇑ *i*P **P** **07 43 45.2 -0.3**
IZAR Zarasai 88.62 326 *e*P **P** **07 43 45.0 -0.3**
IZAR IAmb IAmb 07 43 47.7
comp=Z,190nm,0.8s
IIGN Ignalina 88.70 325 *e*P **P** **07 43 45.4 -0.4**
IIGN IAmb IAmb 07 43 48.1
comp=Z,174nm,0.9s
ISAL Salakas 88.72 326 *e*P **P** **07 43 45.5 -0.4**
ISAL IAmb IAmb 07 43 48.1
comp=Z,148nm,1.0s
INK Inuvik 88.77 21 P **P** **07 43 45.5 -0.2**
comp=Z,56nm,0.8s,baz=271,slow=4.8,SNR=73
INK S **SKSac** **07 53 15.3 -1.5**
comp=Z,18nm,0.9s,baz=140,slow=32,SNR=40
INK PKKPbc **PKKPbc** **08 01 22.6 -2.3**
comp=Z,8.3nm,0.8s,baz=81,slow=3.1,SNR=9.6
INK SKKPbc **SKKPbc** **08 04 01.5 -3.2**
comp=Z,13nm,0.9s,baz=103,slow=3.1,SNR=8.6
EFOR EFORIE 88.88 314 ⇓ *i*P **P** **07 43 48.8 +2.0**
TRO Tromso 88.88 340 *e*P P 07 43 42.7 -3.5
TRO IAmb IAmb 07 43 45.7
comp=Z,422nm,1.1s
TRO *e*pP pP 07 45 55.0 -3.5
TRO *e*sP sP 07 46 54.1 -5.7
TRO *e*SKSac **SKSac** **07 53 13.2 -4.2**
ISK Istanbul-Kandi 88.97 311 P **P** **07 43 45.5 -1.8**
ISK Istanbul-Kandi 88.97 311 P **P** **07 43 45.5 -1.8**

ISK	Istanbul-Kandi	88.97 311	P	P	07 43 45.5	-1.8		
GIUM	Giurgiulesti	88.98 316	⇓*i*P	P	07 43 48.9	+1.7		
TIRR	Tirgusor	88.98 314	⇑P	P	07 43 47.0	-0.3		
TIRR	Tirgusor	88.98 314	⇑*i*P	P	07 43 47.0	-0.3		
CFR	Carcaliu	89.07 315	⇑P	P	07 43 47.3	-0.4		
CFR	Carcaliu	89.07 315	⇑*i*P	P	07 43 47.3	-0.4		
IAS	Iasi	89.17 317	⇑P	P	07 43 49.5	+1.4		
IAS	Iasi	89.17 317	⇑*i*P	P	07 43 49.5	+1.4		
PPT	Papeete	89.17 108	P	P	07 43 50.0	+1.3		
	comp=Z,240nm,1.0s,baz=19,slow=0.3,SNR=14							
PPT	Papeete	89.17 108	P	P	07 43 50.0	+1.3		
PPT			pmax	pmax				
	comp=Z,240nm,1.0s							
PPT	Papeete	89.17 108	*e*P	P	07 43 53.0	+4.3		
PPT2	Papeete2	89.17 108	*e*P	P	07 43 52.3	+3.5		
	comp=Z,254nm,1.1s							
PPT2	Papeete2	89.17 108	*e*PP	PP	07 47 32.8	+1.7		
	comp=Z,141nm,1.5s							
PPT2	Papeete2	89.17 108	*e*SS	SS	07 59 52.1	-9.2		
	comp=Z,5µm,26.0s							
PAE	Paea	89.18 108	*e*P	P	07 43 52.0	+3.3		
	comp=Z,33nm,1.2s							
PSN	Preselentsi	89.25 314	P	P	07 43 48.2	-0.4		
HARR	Harsova	89.29 315	⇓P	P	07 43 48.6	-0.1		
HARR	Harsova	89.29 315	⇓*i*P	P	07 43 48.6	-0.1		
TIAR	Tiarei	89.39 108	*e*P	P	07 43 53.0	+3.3		
	comp=Z,35nm,1.0s							
MSAB	Monastry St. A	89.45 314	⇑*i*P	P	07 43 49.5	+0.1		
TVO	Taravao	89.50 108	*e*P	P	07 43 53.7	+3.4		
	comp=Z,58nm,1.0s							
PETR	Petresti	89.62 316	⇓*i*P	P	07 43 50.5	+0.3		
KULA	Kula-Manisa	89.63 309	P	P	07 43 48.5	-2.0		
KULA	Kula-Manisa	89.63 309	P	P	07 43 48.5	-2.0		
GRER		89.85 316	⇑*i*P	P	07 43 52.8	+1.5		
PRD	Provadia	89.89 313	P	P	07 43 50.5	-1.0		
TESR	Tescani	89.89 317	⇑*i*P	P	07 43 51.1	-0.4		
PGOR	Pogoanele	89.92 315	⇓*i*P	P	07 43 53.7	+2.1		
VRI	Vrincioaia	89.94 316	⇑P	P	07 43 52.3	+0.5		
VRI	Vrincioaia	89.94 316	⇑*i*P	P	07 43 52.3	+0.5		
TBI	Tubuai	89.99 113	*e*P	P	07 43 55.7	+3.4		
	comp=Z,384nm,1.1s							
TBI			*e*SKSac	SKSac	07 53 27.2	+1.6		
	comp=Z,11µm,23.5s							
TBI			*e*SS	SS	08 00 06.7	-5.9		
	comp=Z,3µm,29.8s							
PLOR	Plostina	90.00 316	⇑P	P	07 43 52.2	+0.2		
PLOR	Plostina	90.00 316	⇑*i*P	P	07 43 52.2	+0.2		
ISR	Istrita	90.19 315	⇑P	P	07 43 55.5	+2.5		
ISR	Istrita	90.19 315	⇑*i*P	P	07 43 55.5	+2.5		
ARG	Arkhangelos	90.38 306	P	P	07 43 52.9	-1.0		
ARG	Arkhangelos	90.38 306	*e*P	P	07 43 53.4	-0.5		
ARG	Arkhangelos	90.38 306	P	P	07 43 52.9	-1.0		
ARG	Arkhangelos	90.38 306	P	P	07 43 52.9	-1.0		
PMOR	Pomariorio Ree	90.47 105	*e*P	P	07 43 58.0	+3.3		
	comp=Z,477nm,1.1s							
SULR		90.47 315	⇑*i*P	P	07 43 56.4	+2.3		
SECR		90.54 315	⇑*i*P	P	07 43 56.7	+2.2		
MLR	Muntele Rosu	90.55 316	P	P	07 43 54.3	-0.4		
	comp=Z,45nm,0.8s,baz=354,slow=1.5,SNR=89							
MLR			PP	PP	07 47 42.2	+1.3		
	comp=Z,19nm,1.0s,baz=12,slow=7.9,SNR=3.4							
MLR			S	SKSac	07 53 24.3	-4.0		
	comp=Z,8.4nm,1.0s,baz=2.6,slow=22,SNR=13							
MLR			PKKPbc	PKKPbc	08 01 20.7	+0.8		
	comp=Z,1.1nm,0.6s,baz=165,slow=4.8,SNR=4.5							
MLR			SKKPbc	SKKPbc	08 03 58.6	-1.4		
	comp=Z,1.4nm,0.7s,baz=158,slow=5.3,SNR=5.1							
MLR	Muntele Rosu	90.55 316	⇓*i*P	P	07 43 54.5	-0.2		
BESE	Bessie Mountai	90.55 31	*e*P	P	07 43 54.9	+0.6		
	comp=Z,71nm,1.4s							
EDRB	Edirne	90.58 312	P	P	07 43 52.5	-2.2		
EDRB	Edirne	90.58 312	P	P	07 43 52.5	-2.2		
JMB	Yambol	90.60 313	P	P	07 43 54.4	-0.4		
MEH	Mehetia	90.63 108	*e*P	P	07 43 58.9	+3.4		
	comp=Z,48nm,1.1s							
BURAR	Bucovina Array	90.67 318	⇑P	P	07 43 55.1	-0.1		
BURAR	Bucovina Array	90.67 318	⇑*i*P	P	07 43 55.1	-0.1		
STEI	Steigen	90.67 339	*e*P	P	07 43 52.9	-1.6		
SUW	Suwalki	90.69 324	*e*P	P	07 43 54.3	-0.7		
SUW			*ep*P	pP	07 46 06.3	-1.2		
SUW			*e*SKSac	SKSac	07 53 26.4	-2.0		
SUW			*e*S	S	07 53 58.4	-1.1		
SUW	Suwalki	90.69 324	*e*P	P	07 43 54.4	-0.6		
SUW			*e**PP	pP	07 46 06.3	-1.2		
SUW			*e*		07 53 26.4			
SUW			*e*S	S	07 53 58.5	-1.1		
SUW			pmax	pmax				
	comp=Z,2µm,0.9s							
VAH	Vaihoa	90.75 105	*e*P	P	07 43 59.2	+3.2		
	comp=Z,238nm,1.1s							
DOPR	Dopca	90.85 316	⇑*i*P	P	07 43 56.0	+0.1		
SZH	Strazhica	90.94 314	P	P	07 43 57.5	+1.1		
ALE	Alert	91.00 1	P	P	07 43 57.6	+1.7		
	comp=Z,243nm,0.7s,SNR=9.0							
LVV	L'vov	91.03 320	*c i*P	P	07 43 55.8	-0.8		
LVV			*e**PP	pP	07 46 10.2	+0.9		
LVV			*e*		07 47 09.8			
LVV			*e*		07 53 27.2			
LVV			*e*S	S	07 54 00.0	-2.7		
LVV			*e*SS	SS	08 00 36.4	+11		
LVV			*e*SSS	SSS	08 04 18.0			
LVV			pmax	pmax				
	comp=Z,300nm,1.2s							
SMG	Samos	91.17 308	*e*P	P	07 43 57.6	0.0		
SMG	Samos	91.17 308	P	P	07 43 55.1	-2.5		
SMG	Samos	91.17 308	P	P	07 43 55.1	-2.5		
VOIR		91.18 316	⇑P	P	07 43 56.8	-0.7		
VOIR		91.18 316	⇑*i*P	P	07 43 56.8	-0.7		
LOF	Lofoten	91.20 339	*e*P	P	07 43 56.0	-1.0		
LOF			*e*SP	sP	07 47 06.8	-4.0		
LOF			*e*SKSac	SKSac	07 53 28.2	-2.5		
KARP	Karpathos	91.25 306	*e*P	P	07 43 57.9	-0.1		
ALN	Alexandroupoli	91.25 311	P	P	07 43 54.2	-3.7		
ALN	Alexandroupoli	91.25 311	*e*P	P	07 43 56.7	-1.2		
ALN	Alexandroupoli	91.25 311	P	P	07 43 54.2	-3.7		
ALN	Alexandroupoli	91.25 311	P	P	07 43 54.2	-3.7		
ARCR	ARCALIA	91.34 318	⇑*i*P	P	07 43 58.8	+0.6		
GOLR		91.35 315	⇑*i*P	P	07 43 59.7	+1.5		
PRK	Paraskevi	91.36 310	P	P	07 43 56.0	-2.4		
PRK	Paraskevi	91.36 310	*e*P	P	07 43 56.7	-1.7		
PRK	Paraskevi	91.36 310	P	P	07 43 56.0	-2.4		
PRK	Paraskevi	91.36 310	P	P	07 43 56.0	-2.4		
HUMR	Humele	91.39 315	⇑*i*P	P	07 43 59.7	+1.3		
DIM	Dimitrovgrad	91.44 312	P	P	07 43 59.6	+0.9		
ARR	Arges	91.48 316	⇑*i*P	P	07 44 00.6	+1.7		
MDB	Medias	91.51 317	⇑P	P	07 44 01.8	+2.9		
MDB	Medias	91.51 317	⇑*i*P	P	07 44 01.8	+2.9		
MOR8	Moi Rana	91.56 337	*e*P	P	07 43 56.2	-2.5		
MOR8			IAmb	IAmb	07 43 58.4			
	comp=Z,158nm,0.8s							
KDZ	Kurdzhali	91.59 312	P	P	07 43 58.3	-1.2		
CHOS	Chios island	91.67 309	*e*P	P	07 43 59.0	-1.0		
CHOS	Chios island	91.67 309	P	P	07 43 58.2	-1.8		
CHOS	Chios island	91.67 309	P	P	07 43 58.2	-1.8		
SMTH	Samothraki Isl	91.71 311	*e*P	P	07 43 57.5	-2.5		
SMTH	Samothraki Isl	91.71 311	P	P	07 43 56.9	-3.1		
SMTH	Samothraki Isl	91.71 311	P	P	07 43 56.9	-3.1		
BMR	Baia Mare	91.80 318	⇑P	P	07 44 00.8	+0.6		
BMR	Baia Mare	91.80 318	⇑*i*P	P	07 44 00.8	+0.6		
KWP	Kalwaria Pacla	91.90 320	*e*P	P	07 44 00.8	+0.1		
KWP			*ep*P	pP	07 46 13.7	+0.3		
KWP			*e*PP	PP	07 47 52.3	+1.2		
KWP			*e*SKSac	SKSac	07 53 34.2	-1.2		
KWP	Kalwaria Pacla	91.90 320	*e*P	P	07 44 00.9	+0.2		
KWP			*e**PP	pP	07 46 13.8	+0.3		
KWP			*e*		07 47 52.4			
KWP			*e*		07 53 34.2			
KWP			pmax	pmax				
	comp=Z,400nm,1.0s							
FLOS	Flostrand	91.91 338	*e*P	P	07 44 00.2	-0.1		
CJR	Cluj-Napoca	91.92 317	⇑P	P	07 44 01.8	+0.9		
CJR	Cluj-Napoca	91.92 317	⇑*i*P	P	07 44 01.8	+0.9		
KONS	Konsvik	91.94 338	*e*P	P	07 44 00.6	+0.1		
LOT	Lotru	92.06 316	⇑*i*P	P	07 44 01.8	+0.2		
LIA	Limnos Island	92.08 310	*e*P	P	07 43 58.7	-3.0		
RZN	Rozhen	92.10 312	P	P	07 44 00.8	-1.2		
APE	Apeiranthos	92.30 308	⇓P	P	07 44 02.7	-0.2		
APE	Apeiranthos	92.30 308	⇓*i*P	P	07 44 02.7	-0.2		
APE	Apeiranthos	92.30 308	*e*P	P	07 44 01.5	-1.4		
KOLS	Kolonicke sedl	92.33 320	*e*P	P	07 44 02.5	-0.2		
KOLS			pmax	pmax				
	comp=Z,12nm,1.2s							
KOLS	Kolonicke sedl	92.33 320	*e*P	P	07 44 02.5	-0.2		
TRPA	Tarpa	92.33 319	⇑*i*P	P	07 44 02.2	-0.5		
PGB	Panagyurishte	92.34 313	P	P	07 44 02.4	-0.5		
KAVA	Kavala	92.38 312	*e*P	P	07 44 01.7	-1.3		
KAVA	Kavala	92.38 312	P	P	07 44 00.4	-2.6		
KAVA	Kavala	92.38 312	P	P	07 44 00.4	-2.6		
UZH	Uzhgorod	92.39 319	⇓*i*P	P	07 44 03.4	+0.5		
UZH			*e*		07 46 21.4			
UZH			*e*		07 47 56.4			
UZH			*i*		07 53 37.2			
UZH			*i*S	S	07 54 13.2	-1.4		
SANT	Santorini	92.48 307	*e*P	P	07 44 00.9	-2.8		
MPEP	Malo Peshtene	92.49 314	P	P	07 44 02.1	-1.4		
DRGR		92.50 317	⇓P	P	07 44 04.1	+0.5		
DRGR		92.50 317	⇓*i*P	P	07 44 04.1	+0.5		
NPS	Neapolis	92.55 306	*e*P	P	07 44 04.9	+0.9		
DEV	Deva	92.57 317	⇓P	P	07 44 04.5	+0.7		
DEV	Deva	92.57 317	⇓*i*P	P	07 44 04.5	+0.7		
BEL	Belsk	92.59 323	*e*P	P	07 44 03.7	0.0		
BEL			*ep*P	pP	07 46 16.7	+0.2		
BEL			*e*sP	sP	07 47 16.1	-1.5		
BEL			*e*PP	PP	07 47 55.2	-1.1		
BEL			*e*SKSac	SKSac	07 53 37.7	-1.3		
BEL			*e*S	ScS	07 54 17.4	+0.2		
BEL	Belsk	92.59 323	*e*P	P	07 44 03.7	0.0		
BEL			*e**PP	pP	07 46 16.8	+0.2		
BEL			*e**SP	sP	07 47 16.1	-1.5		
BEL			*e*		07 47 55.2			
BEL			*e*		07 53 37.7			
BEL			*e*S	ScS	07 54 17.4	+0.2		
BEL			pmax	pmax				
	comp=Z,700nm,1.1s							
SRE	Strehaia	92.61 315	⇓P	P	07 44 07.1	+3.1		
SRE	Strehaia	92.61 315	⇓*i*P	P	07 44 07.1	+3.1		
LAST	Lasithi	92.67 306	*e*P	P	07 44 03.3	-1.3		
MBAR	Mbarara	92.67 270	*e*P	P	07 44 04.0	-1.2		
MBAR			pmax	pmax				
	comp=Z,283nm,1.3s							
MBAR	Mbarara	92.67 270	*e*P	P	07 44 04.0	-1.2		
	comp=Z,283nm,1.3s							
NVR	Nevrokopi	92.80 312	*e*P	P	07 44 03.2	-1.8		
NVR	Nevrokopi	92.80 312	P	P	07 44 02.6	-2.4		
NVR	Nevrokopi	92.80 312	P	P	07 44 02.6	-2.4		
MMB	Musomiste	92.85 312	P	P	07 44 03.9	-1.3		
OUR	Ouranopolis	92.90 311	P	P	07 44 03.0	-2.4		
OUR	Ouranopolis	92.90 311	P	P	07 44 03.0	-2.4		
OUR	Ouranopolis	92.90 311	P	P	07 44 03.0	-2.4		
VTS	Vitosha	93.03 313	⇓P	P	07 44 05.4	-0.8		
VTS	Vitosha	93.03 313	⇓*i*P	P	07 44 05.3	-0.9		
VTS	Vitosha	93.03 313	P	P	07 44 05.2	-0.9		
VTS	Vitosha	93.03 313	P	P	07 44 04.3	-1.9		
VTS	Vitosha	93.03 313	P	P	07 44 04.3	-1.9		
DLBC	Dease Lake	93.03 30	SKKPbc	SKKPbc	08 03 53.4	-1.3		
	comp=Z,7.8nm,1.0s,baz=142,slow=1.6,SNR=5.3							
NSS	Namsos	93.12 336	*e*P	P	07 44 04.0	-1.8		
NSS			*e*SKSac	SKSac	07 53 39.2	-2.0		
IDI	Anoyia	93.12 306	P	P	07 44 06.0	-0.7		
	comp=Z,49nm,0.4s,baz=117,slow=5.6,SNR=46							
IDI			PP	PP	07 48 01.1	+0.1		
	comp=Z,67nm,0.8s,baz=54,slow=9.0,SNR=7.3							
IDI			S	SKSac	07 53 40.0	-2.8		
	comp=Z,43nm,0.9s,baz=243,slow=22,SNR=19							
IDI			PKKPbc	PKKPbc	08 01 13.1	+0.2		
	comp=Z,34nm,1.1s,baz=41,slow=5.0,SNR=6.6							
IDI	Anoyia	93.12 306	*e*P	P	07 44 05.3	-1.4		
IDI	Anoyia	93.12 306	P	P	07 44 04.1	-2.6		
AOS	Alonnisos	93.20 310	*e*P	P	07 44 05.5	-1.3		
AOS	Alonnisos	93.20 310	P	P	07 44 03.0	-3.8		
AOS	Alonnisos	93.20 310	P	P	07 44 03.0	-3.8		
SIVA	Sivas	93.23 306	*e*P	P	07 44 07.4	+0.3		
KKB	Krupnik	93.27 313	P	P	07 44 05.5	-1.8		
SOH	Sokhos	93.28 312	P	P	07 44 03.4	-3.8		
SOH	Sokhos	93.28 312	*e*P	P	07 44 05.3	-1.9		
SOH	Sokhos	93.28 312	P	P	07 44 03.4	-3.8		
SOH	Sokhos	93.28 312	P	P	07 44 03.4	-3.8		
PLG	Polygyros	93.30 311	*e*P	P	07 44 05.5	-1.8		
PLG	Polygyros	93.30 311	P	P	07 44 02.6	-4.7		
EREA	Eretria	93.30 309	*e*P	P	07 44 05.5	-1.9		
SIRR	Siria	93.33 317	⇓*i*P	P	07 44 07.2	-0.1		
PTL	Penteli	93.43 309	*e*P	P	07 44 05.2	-2.8		
PTL	Penteli	93.43 309	P	P	07 44 05.7	-2.3		
PTL	Penteli	93.43 309	P	P	07 44 05.7	-2.3		
NIE	Niedzica	93.48 320	*e*P	P	07 44 08.2	+0.3		
NIE			*ep*P	pP	07 46 22.9	+2.1		
NIE			*e*sP	sP	07 47 24.1	+2.2		
NIE			*e*PP	PP	07 48 07.0	+3.7		
NIE			*e*SKSac	SKSac	07 53 41.8	-2.2		
NIE			*e*		08 09 15.0			
NIE	Niedzica	93.48 320	*e*P	P	07 44 08.2	+0.3		
NIE			*e**PP	pP	07 46 22.9	+2.1		
NIE			*e**SP	sP	07 47 24.1	+2.2		
NIE			*e*		07 48 07.0			
NIE			*e*		07 53 41.8			
NIE			pmax	pmax				
	comp=Z,100nm,1.3s							
BZS	Buzias	93.50 316	⇑P	P	07 44 07.3	-0.8		
BZS	Buzias	93.50 316	⇑*i*P	P	07 44 07.3	-0.8		
ATHU	Athens Univers	93.50 309	P	P	07 44 05.4	-2.9		
ATHU	Athens Univers	93.50 309	P	P	07 44 05.4	-2.9		
HORT	Hortiatis	93.51 311	*e*P	P	07 44 06.3	-2.0		
HORT	Hortiatis	93.51 311	P	P	07 44 04.8	-3.5		
HORT	Hortiatis	93.51 311	P	P	07 44 04.8	-3.5		
MRKA	Markates	93.51 309	*e*P	P	07 44 06.7	-1.6		
KNT	Kendrikon	93.55 312	P	P	07 44 05.6	-2.8		
KNT	Kendrikon	93.55 312	*e*P	P	07 44 07.0	-1.4		
KNT	Kendrikon	93.55 312	P	P	07 44 05.6	-2.8		
KNT	Kendrikon	93.55 312	P	P	07 44 05.6	-2.8		
ATH	Athens Observa	93.56 309	P	P	07 44 06.2	-2.3		
ATH	Athens Observa	93.56 309	P	P	07 44 06.2	-2.3		
ATH	Athens Observa	93.56 309	P	P	07 44 06.2	-2.3		
OJC	Ojcow	93.59 321	*e*P	P	07 44 08.0	-0.4		
OJC			*ep*P	pP	07 46 20.9	-0.3		
OJC			*e*sP	sP	07 47 24.0	+1.7		
OJC			*e*PP	PP	07 48 07.3	+3.2		
OJC			*e*SKSac	SKSac	07 53 42.3	-2.2		
OJC			*e*		07 57 13.2			
OJC			*e*		08 09 11.2			
OJC	Ojcow	93.59 321	*e*P	P	07 44 08.0	-0.4		
OJC			*e**PP	pP	07 46 21.0	-0.3		
OJC			*e**SP	sP	07 47 24.1	+1.7		
OJC			*e*		07 48 07.4			
OJC			*e*		07 53 42.3			
OJC			pmax	pmax				
	comp=Z,200nm,0.9s							
OJC	Ojcow	93.59 321	*e*P	P	07 44 07.8	-0.6		
	comp=Z,178nm,0.9s							
THE	Thessaloniki	93.60 311	P	P	07 44 06.5	-2.1		
THE	Thessaloniki	93.60 311	*e*P	P	07 44 06.7	-1.9		
THE	Thessaloniki	93.60 311	P	P	07 44 06.5	-2.1		
THE	Thessaloniki	93.60 311	P	P	07 44 06.5	-2.1		
VAM	Vamos	93.66 306	P	P	07 44 08.1	-0.9		
VAM	Vamos	93.66 306	*e*P	P	07 44 07.7	-1.3		
VAM	Vamos	93.66 306	P	P	07 44 08.1	-0.9		
VAM	Vamos	93.66 306	P	P	07 44 08.1	-0.9		
NEO	Neokhori	93.67 310	*e*P	P	07 44 05.4	-3.7		
XOR	Xorichti	93.69 310	*e*P	P	07 44 06.0	-3.1		
XOR	Xorichti	93.69 310	P	P	07 44 05.7	-3.4		
XOR	Xorichti	93.69 310	P	P	07 44 05.7	-3.4		
TIM	Timisoara	93.75 317	⇓P	P	07 44 09.9	+0.7		
TIM	Timisoara	93.75 317	⇓*i*P	P	07 44 09.9	+0.7		
VAY	Valandovo	93.75 312	*i* P	P	07 44 08.0	-1.3		
VAY	Valandovo	93.75 312	P	P	07 44 06.1	-3.2		
VAY	Valandovo	93.75 312	P	P	07 44 06.1	-3.2		
VAY	Valandovo	93.75 312	P	P	07 44 06.1	-3.2		
SMIA	Simia	93.77 310	*e*P	P	07 44 08.4	-1.1		
SMIA	Simia	93.77 310	P	P	07 44 07.0	-2.5		
NAIG	Nisos Aigina	93.77 309	*e*P	P	07 44 07.1	-2.4		
VILL	Villia	93.83 309	P	P	07 44 06.8	-3.0		
SYO	Syowa Base	93.84 201	⇓*e*P	P	07 44 06.0	-3.0		
SYO	Syowa Base	93.84 201	⇓*i*PcP	PcP	07 44 09.2	0.0		
SYO	Syowa Base	93.84 201	*e*SH	SKSac	07 53 42.2	-2.6		
GVD	Gavdhos	93.85 306	*e*P	P	07 44 08.1	-1.8		
GVD	Gavdhos	93.85 306	P	P	07 44 08.3	-1.6		
VIL2	Platees	93.86 309	*e*P	P	07 44 08.8	-1.1		
BANR	Banloc	93.89 316	⇑*i*P	P	07 44 12.1	+2.3		
ATAL	Atalanti	93.95 309	P	P	07 44 06.2	-4.1		
ATAL	Atalanti	93.95 309	P	P	07 44 06.2	-4.1		
GRG	Griva	93.95 312	P	P	07 44 07.6	-2.7		
GRG	Griva	93.95 312	*e*P	P	07 44 08.6	-1.7		
GRG	Griva	93.95 312	P	P	07 44 07.6	-2.7		
GRG	Griva	93.95 312	P	P	07 44 07.6	-2.7		
HFS	Hagfors	93.96 332	P	P	07 44 08.7	-1.2		
	comp=Z,243nm,1.0s,baz=103,slow=4.7,SNR=124							
HFS			PP	PP	07 48 03.2	-3.3		
	comp=Z,57nm,0.9s,baz=53,slow=5.7,SNR=4.1							
HFS			PKKPbc	PKKPdf	08 01 08.7	-0.1		
	comp=Z,5.0nm,0.5s,baz=195,slow=4.0,SNR=18							
HFS			SKKP		08 03 48.9			
	comp=Z,3.0nm,0.8s,baz=184,slow=4.5,SNR=4.5							
LKR	Lokris	93.98 309	*e*P	P	07 44 08.2	-2.2		
LKR	Lokris	93.98 309	P	P	07 44 07.0	-3.4		
LKR	Lokris	93.98 309	P	P	07 44 07.0	-3.4		
DAG	Danmarks Havn	94.01 352	⇓*i*P	P	07 44 08.5	-1.2		
	comp=Z,280nm,0.7s							
DAG	Danmarks Havn	94.01 352	⇓*i*P	P	07 44 08.5	-1.2		
DAG			pmax	pmax				
	comp=Z,190nm,0.7s							
DID	Didima	94.02 308	*e*P	P	07 44 07.9	-2.8		
DID	Didima	94.02 308	P	P	07 44 07.0	-3.7		
DID	Didima	94.02 308	P	P	07 44 07.0	-3.7		
DIDY	Didyma	94.05 308	*e*P	P	07 44 08.1	-2.8		
DIDY	Didyma	94.05 308	P	P	07 44 06.8	-4.1		
LIT	Litokhoron	94.07 311	P	P	07 44 08.1	-2.7		
LIT	Litokhoron	94.07 311	*e*P	P	07 44 08.9	-1.9		
LIT	Litokhoron	94.07 311	P	P	07 44 08.1	-2.7		
LIT	Litokhoron	94.07 311	P	P	07 44 08.1	-2.7		
PSZ	Piszkesteto	94.11 319	⇑P	P	07 44 10.9	0.0		
PSZ	Piszkesteto	94.11 319	⇑*i*P	P	07 44 10.9	0.0		
PSZ	Piszkesteto	94.11 319	⇓*e*	P	07 44 10.4	-0.5		
KRND	KRANIDI	94.11 308	*e*P	P	07 44 08.4	-2.6		
KRND	KRANIDI	94.11 308	P	P	07 44 08.1	-2.9		
LTK	Loutraki	94.13 309	*e*P	P	07 44 09.2	-1.9		
LTK	Loutraki	94.13 309	P	P	07 44 07.6	-3.5		
LTK	Loutraki	94.13 309	P	P	07 44 07.6	-3.5		
LOUT	Loutraki	94.13 309	*e*P	P	07 44 09.3	-1.8		
AXAR	Agios Charalam	94.21 310	*e*P	P	07 44 10.2	-1.3		
ANKY	Antikythira Is	94.29 307	*e*P	P	07 44 09.6	-2.3		
ANKY	Antikythira Is	94.29 307	P	P	07 44 09.4	-2.5		
ANKY	Antikythira Is	94.29 307	P	P	07 44 09.4	-2.5		
GKP	Gorka Klasztor	94.30 325	*e*P	P	07 44 11.0	-0.4		
GKP			*ep*P	pP	07 46 24.4	0.0		
GKP			*e*PP	PP	07 48 08.9	-0.4		
GKP			*e*SKSac	SKSac	07 53 46.4	-1.7		
GKP			*e*ScS	S	07 54 29.6	-1.4		
GKP	Gorka Klasztor	94.30 325	*e*P	P	07 44 11.1	-0.4		
GKP			*e**PP	pP	07 46 24.5	0.0		
GKP			*e*		07 48 08.9			
GKP			*e*		07 53 46.5			
GKP			*e*		07 54 29.6			
GKP			pmax	pmax				
	comp=Z,300nm,0.9s							
TBLU	Trondheim	94.31 335	*e*P	P	07 44 09.9	-1.5		
THAL	Thalero	94.36 309	*e*P	P	07 44 10.3	-1.8		
THAL	Thalero	94.36 309	P	P	07 44 08.1	-3.8		
DESF	Desfina	94.38 309	*e*P	P	07 44 09.6	-2.7		
DSF	Desfina	94.39 309	*e*P	P	07 44 10.5	-1.8		
DSF	Desfina	94.39 309	P	P	07 44 07.8	-4.5		
VLI	Veliai	94.41 308	*e*P	P	07 44 08.3	-4.1		
VLI	Veliai	94.41 308	P	P	07 44 09.4	-3.0		
VLI	Veliai	94.41 308	P	P	07 44 09.4	-3.0		
AGG	Agios Georgios	94.41 310	P	P	07 44 09.4	-3.0		
AGG	Agios Georgios	94.41 310	*e*P	P	07 44 09.8	-2.6		
AGG	Agios Georgios	94.41 310	P	P	07 44 09.4	-3.0		
AGG	Agios Georgios	94.41 310	P	P	07 44 09.4	-3.0		
KYTH	Kithira	94.42 307	*e*P	P	07 44 11.7	-0.8		
SKO	Skopje	94.44 313	*i* P	P	07 44 13.6	+1.2		
THL	Klokotos Trika	94.54 311	*e*P	P	07 44 09.0	-3.9		
THL	Klokotos Trika	94.54 311	P	P	07 44 09.2	-3.7		
KZN	Kozani	94.56 311	P	P	07 44 10.8	-2.3		
KZN	Kozani	94.56 311	P	P	07 44 10.8	-2.3	

DRO	**Drossia**	**95.11 309**	P	**P**	07 44 12.9	-2.7		
MORC	**Moravsky Berou**	**95.12 321**	⇓P	**P**	07 44 15.4	0.0		
MORC	**Moravsky Berou**	**95.12 321**	⇓*i*P	**P**	07 44 15.4	0.0		
AMT	**Artemida-Makis**	**95.20 309**	*e*P	**P**	07 44 16.1	+0.1		
AMT	**Artemida-Makis**	**95.20 309**	P	**P**	07 44 13.7	-2.3		
PHP	**Peshkopia**	**95.23 313**	P	**P**	07 44 13.4	-2.7		
PHP	**Peshkopia**	**95.23 313**	P	**P**	07 44 13.4	-2.7		
PHP	**Peshkopia**	**95.23 313**	P	**P**	07 44 13.4	-2.7		
RLS	**Riolos of Patr**	**95.28 309**	*e*P	**P**	07 44 14.6	-1.7		
RLS	**Riolos of Patr**	**95.28 309**	P	**P**	07 44 14.2	-2.1		
RLS	**Riolos of Patr**	**95.28 309**	P	**P**	07 44 14.2	-2.1		
PYL	**PYLOS**	**95.31 308**	*e*P	**P**	07 44 15.1	-1.4		
PYL	**PYLOS**	**95.31 308**	P	**P**	07 44 14.2	-2.3		
PYL	**PYLOS**	**95.31 308**	P	**P**	07 44 14.2	-2.3		
CSKK	**Cs˘‡kako**	**95.32 319**	⇓*e*S	**P**	07 44 13.2	-3.1		
DSL	**Palaion Diasel**	**95.33 310**	*e*P	**P**	07 44 14.9	-1.6		
DSL	**Palaion Diasel**	**95.33 310**	P	**P**	07 44 13.9	-2.6		
DSL	**Palaion Diasel**	**95.33 310**	P	**P**	07 44 13.9	-2.6		
IVA	**Berane**	**95.35 314**	*e*P	**P**	07 44 15.7	-0.9		
PVY	**Plav**	**95.37 314**	*e*P	**P**	07 44 15.3	-1.5		
PKSM	**Moragy**	**95.37 318**	⇓P	**P**	07 44 16.0	-0.5		
PKSM	**Moragy**	**95.37 318**	⇓*i*P	**P**	07 44 16.0	-0.5		
PKSM	**Moragy**	**95.37 318**	⇓*e*S	**P**	07 44 15.6	-0.9		
PDO	**Prodromos**	**95.38 310**	*e*P	**P**	07 44 15.5	-1.2		
PDO	**Prodromos**	**95.38 310**	P	**P**	07 44 13.9	-2.8		
JAN	**Janina**	**95.39 311**	*e*P	**P**	07 44 14.9	-1.9		
OSL	**Oslo**	**95.42 332**	*e*P	**P**	07 44 15.5	-0.9		
PKST	**T˘˙s**	**95.50 319**	*e*	**P**	07 44 16.4	-0.7		
KRLC	**Kraliky**	**95.50 322**	*e*P	**P**	07 44 16.8	-0.3		
KRLC			*ex*	x	07 44 18.9			
KRLC	**Kraliky**	**95.50 322**	*e*P	**P**	07 44 16.8	-0.3		
PKS9	**Tamasi**	**95.52 318**	*e*S	**P**	07 44 18.1	+0.9		
KSP	**Ksiaz**	**95.57 322**	*e*P	**P**	07 44 17.5	+0.2		
KSP			*epP*	**pP**	07 46 30.2	-0.2		
KSP			*esP*	**sP**	07 47 27.4	-4.0		
KSP			*ePP*	**PP**	07 48 21.1	+2.0		
KSP			*e*SKSac	**SKSac**	07 53 53.2	-1.7		
KSP	**Ksiaz**	**95.57 322**	*e*P	**P**	07 44 17.5	+0.2		
KSP			*e**PP	**pP**	07 46 30.2	-0.2		
KSP			*e**SP	**sP**	07 47 27.5	-4.0		
KSP			*e*		07 48 21.1			
KSP			*e*		07 53 53.2			
KSP			pmax	pmax				
	comp=Z,200nm,0.0s							
PLE	**Pljevlja**	**95.59 315**	⇓*i*P	**P**	07 44 18.1	+0.3		
RES	**Resolute Bay**	**95.62 10**	*e*P	**P**	07 44 17.1	+0.1		
RES			pmax	pmax				
	comp=Z,66nm,0.8s							
RES	**Resolute Bay**	**95.62 10**	*e*P	**P**	07 44 17.1	+0.1		
	comp=Z,66nm,0.8s							
DPC	**Dobruska-Polom**	**95.70 322**	*e*P	**P**	07 44 18.0	0.0		
DPC			*ex*	x	07 44 19.9			
DPC			*epP*	**pP**	07 46 29.0	-2.1		
DPC			*esP*	**sP**	07 47 30.4	-1.7		
DPC			*ePP*	**PP**	07 48 21.8	+1.6		
DPC			*ex*	x	07 50 12.8			
DPC			*ex*	x	07 51 18.2			
DPC			*e*SKS	**SKSac**	07 53 54.8	-0.9		
DPC			*e*S	**S**	07 54 41.5	-1.8		
DPC			*e*SP	**SP**	07 56 06.7	-0.5		
DPC			*ex*	x	07 57 14.4			
DPC			AMS	AMS	08 28 30.0			
	comp=Z,2µm,16.9s							
DPC	**Dobruska-Polom**	**95.70 322**	*e*P	**P**	07 44 18.0	0.0		
DPC			*e**PP	**pP**	07 46 29.0	-2.1		
DPC			*e**SP	**sP**	07 47 30.4	-1.7		
DPC			*e*		07 48 21.8			
DPC			*e*		07 53 54.8			
DPC			*e*S	**S**	07 54 41.5	-1.8		
DPC			*e*SP	**SP**	07 56 06.7	-0.5		
DPC			MLR	MLR				
	comp=Z,2µm,16.9s							
TIR	**Tirane**	**95.73 313**	P	**P**	07 44 16.3	-2.0		
LKD2	**Lefkada island**	**95.74 310**	*e*P	**P**	07 44 17.0	-1.4		
LKD2	**Lefkada island**	**95.74 310**	P	**P**	07 44 15.8	-2.6		
LKD2	**Lefkada island**	**95.74 310**	P	**P**	07 44 15.8	-2.6		
IGT	**Igoumenitsa**	**95.81 311**	P	**P**	07 44 16.9	-1.8		
IGT	**Igoumenitsa**	**95.81 311**	*e*P	**P**	07 44 16.9	-1.8		
IGT	**Igoumenitsa**	**95.81 311**	P	**P**	07 44 16.9	-1.8		
IGT	**Igoumenitsa**	**95.81 311**	P	**P**	07 44 16.9	-1.8		
EXG	**Exogi**	**95.83 310**	*e*P	**P**	07 44 16.9	-1.9		
EXG	**Exogi**	**95.83 310**	P	**P**	07 44 16.3	-2.5		
VRAC	**Vranov**	**95.84 321**	P	**P**	07 44 18.9	+0.3		
	comp=Z,119nm,1.0s,baz=74,slow=4.4,SNR=70							
VRAC	**Vranov**	**95.84 321**	⇓P	**P**	07 44 19.1	+0.5		
VRAC	**Vranov**	**95.84 321**	⇓*i*P	**P**	07 44 19.1	+0.5		
UPC	**Upice**	**95.84 322**	*e*P	**P**	07 44 18.2	-0.4		
UPC			*ex*	x	07 44 20.3			
UPC			*epP*	**pP**	07 46 28.8	-2.9		
UPC			*esP*	**sP**	07 47 31.1	-1.6		
UPC			*ePP*	**PP**	07 48 23.2	+2.0		
UPC			*ex*	x	07 50 14.3			
UPC			*ex*	x	07 51 17.2			
UPC			*e*SKS	**SKSac**	07 53 55.2	-1.1		
UPC			*e*S	**S**	07 54 42.2	-2.2		
UPC			*ex*	x	07 57 09.6			
UPC			AMS	AMS	08 31 50.0			
	comp=Z,3µm,16.4s							
UPC	**Upice**	**95.84 322**	*e*P	**P**	07 44 18.2	-0.4		
UPC			*e**PP	**pP**	07 46 28.8	-2.9		
UPC			*e**SP	**sP**	07 47 31.1	-1.6		
UPC			*e*		07 48 23.2			
UPC			*e*		07 53 55.2			
UPC			*e*S	**S**	07 54 42.2	-2.2		
UPC			MLR	MLR				
	comp=Z,3µm,16.4s							
SGD	**Sagiada**	**95.87 311**	*e*P	**P**	07 44 17.9	-1.0		
SGD	**Sagiada**	**95.87 311**	P	**P**	07 44 16.1	-2.8		
PDG	**Podgorica**	**95.91 314**	P	**P**	07 44 17.9	-1.1		
TTG	**Podgorica**	**95.91 314**	⇓*i*P	**P**	07 44 17.6	-1.4		
TTG	**Podgorica**	**95.91 314**	P	**P**	07 44 17.9	-1.1		
TTG	**Podgorica**	**95.91 314**	P	**P**	07 44 17.9	-1.1		
VLS	**Valsamata**	**95.93 309**	*e*P	**P**	07 44 18.1	-1.1		
UPM	**Unac-Piva**	**95.97 315**	⇓*i*P	**P**	07 44 18.3	-1.2		
SRN	**Sarande**	**95.98 311**	P	**P**	07 44 17.1	-2.3		
SRN	**Sarande**	**95.98 311**	P	**P**	07 44 17.1	-2.3		
NKY	**Niksic**	**96.00 314**	⇓*i*P	**P**	07 44 18.6	-1.0		
DRME	**Dracevica, Mon**	**96.02 314**	⇓*i*P	**P**	07 44 18.7	-0.9		
ULC	**Ulcinj**	**96.03 313**	⇓*i*P	**P**	07 44 18.1	-1.6		
NKME	**Niksic**	**96.04 314**	*e*P	**P**	07 44 18.4	-1.3		
KONO	**Kongsberg**	**96.06 332**	⇓*i*P	**P**	07 44 17.7	-1.6		
KONO	**Kongsberg**	**96.06 332**	*e*P	**P**	07 44 18.3	-1.0		
KONO			pmax	pmax				
	comp=Z,62nm,0.8s							
KONO	**Kongsberg**	**96.06 332**	*e*P	**P**	07 44 18.3	-1.0		
	comp=Z,62nm,0.8s							
RGN	**Rugen**	**96.09 327**	*e*Pdiff	**P**	07 44 19.8	+0.3		
RGN			*ePP*	**PP**	07 48 24.3	+1.5		
RGN			*epPP*		07 50 14.2			
AKN	**Aaknes**	**96.13 335**	*e*P	**P**	07 44 19.1	-0.5		
AKN			IAmb	IAmb	07 44 21.9			
	comp=Z,527nm,1.0s							
COP	**Copenhagen**	**96.17 328**	*i*P	**P**	07 44 18.5	-1.3		
	comp=Z,44nm,0.8s							
COP			*i*S	**SKSac**	07 53 54.4	-3.2		
	comp=Z,2µm,16.0s							
COP	**Copenhagen**	**96.17 328**	*i*P	**P**	07 44 18.5	-1.3		
COP			*i*S	**SKSac**	07 53 54.4	-3.2		
COP			pmax	pmax				
	comp=Z,44nm,0.8s							
COP			MLR	MLR				
	comp=Z,2µm,16.0s							
BUM	**Brajici-Budva**	**96.20 314**	*e*P	**P**	07 44 19.0	-1.5		
BRY	**Bratogost**	**96.30 314**	*e*P	**P**	07 44 20.6	-0.4		
JMIC	**Jan Mayen**	**96.32 346**	*e*P	**P**	07 44 19.7	-0.5		
JMIC			IAmb	IAmb	07 44 22.2			
	comp=Z,318nm,1.3s							
JMIC	**Jan Mayen**	**96.32 346**	P	**P**	07 44 21.2	+1.0		
	comp=Z,140nm,0.8s,baz=148,slow=0.7,SNR=15							
SOP	**Sopron**	**96.34 319**	⇓*e*	**P**	07 44 20.1	-0.7		
QSPA	**South Pole Qui**	**96.45 180**	PKKPbc	PKKPbc	08 01 04.3	-1.7		
	comp=Z,23nm,0.8s,baz=206,slow=1.2,SNR=13							
HCY	**Herceg Novi**	**96.45 314**	*e*P	**P**	07 44 20.1	-1.4		
TREC	**Trest**	**96.54 321**	*e*P	**P**	07 44 21.5	-0.2		
TREC			*epP*	**pP**	07 46 34.4	-0.5		
TREC			*ex*	x	07 47 33.5			
TREC			*ePP*	**PP**	07 48 27.6	+1.1		
TREC			*ex*	x	07 50 22.0			
TREC			*ex*	x	07 51 21.1			
TREC			*e*SKS	**SKSac**	07 53 59.1	-0.9		
TREC			*e*S	**S**	07 54 45.9	-4.4		
TREC			*e*SP	**SP**	07 56 10.2	-6.0		
TREC			*ex*	x	07 57 10.5			
TREC			*e*PKKP	**PKKPdf**	08 01 03.5	-0.6		
TREC			AMS	AMS	08 28 10.0			
	comp=Z,3µm,20.0s							
TREC	**Trest**	**96.54 321**	*e*P	**P**	07 44 21.5	-0.2		
TREC			*e**PP	**pP**	07 46 34.4	-0.5		
TREC			*e**SP	**sP**	07 47 33.5	-2.5		
TREC			*e*		07 48 27.6			
TREC			*e*		07 53 59.1			
TREC			*e*S	**S**	07 54 45.9	-4.4		
TREC			*e*		07 57 10.5			
TREC			MLR	MLR				
	comp=Z,3µm,20.0s							
RUE	**Ruedersdorf**	**96.54 325**	*e*Pdiff	**P**	07 44 22.1	+0.5		
RUE			*ePP*	**PP**	07 48 27.4	+1.1		
RUE			*epPP*		07 50 17.9			
RUE	**Ruedersdorf**	**96.54 325**	*e*P	**P**	07 44 21.9	+0.4		
	comp=Z,454nm,0.8s							
BEHE	**Becsehely**	**96.55 318**	⇓*e*	**P**	07 44 20.9	-0.9		
PVCC	**Panska Ves**	**96.71 323**	*e*P	**P**	07 44 22.3	-0.1		
PVCC			*ex*	x	07 44 24.5			
PVCC			*epP*	**pP**	07 46 33.2	-2.5		
PVCC			*esP*	**sP**	07 47 35.4	-1.3		
PVCC			*ePP*	**PP**	07 48 27.8	+0.1		
PVCC			*ex*	x	07 50 23.0			
PVCC			*ex*	x	07 51 22.1			
PVCC			*e*SKS	**SKSac**	07 53 58.9	-1.8		
PVCC			*e*S	**S**	07 54 50.1	-1.6		
PVCC			*ex*	x	07 57 13.7			
PVCC			AMS	AMS	08 28 30.0			
	comp=Z,2µm,15.9s							
PVCC	**Panska Ves**	**96.71 323**	*e*P	**P**	07 44 22.3	-0.1		
PVCC			*e**PP	**pP**	07 46 33.2	-2.5		
PVCC			*e**SP	**sP**	07 47 35.4	-1.3		
PVCC			*e*		07 48 27.8			
PVCC			*e*		07 53 58.9			
PVCC			*e*S	**S**	07 54 50.1	-1.6		
PVCC			*e*		07 57 13.7			
PVCC			MLR	MLR				
	comp=Z,2µm,15.9s							
CONA	**Conrad Observa**	**96.72 320**	*i* Pdiff	**P**	07 44 24.0	+1.4		
	comp=Z,691nm,4.0s,SNR=16							
GOPC	**GO Pecny, Ondr**	**96.78 322**	*e*P	**P**	07 44 22.5	-0.3		
GOPC			*ex*	x	07 44 24.6			
GOPC			*epP*	**pP**	07 46 33.8	-2.2		
GOPC			*ex*	x	07 47 33.1			
GOPC			*ePP*	**PP**	07 48 27.7	-0.5		
GOPC			*ex*	x	07 50 20.3			
GOPC			*ex*	x	07 51 19.6			
GOPC			*e*SKS	**SKSac**	07 53 59.9	-1.2		
GOPC			*e*S	**S**	07 54 48.1	-4.2		
GOPC			*ex*	x	07 57 14.8			
KOGS	**Kog**	**96.90 318**	*e*Pdiff	**P**	07 44 22.8	-0.6		
KOGS			*e*SKSac	**SKSac**	07 53 58.8	-3.1		
KOGS			*e*Sdiff	**S**	07 54 53.4	0.0		
PRU	**Pruhonice**	**96.90 322**	*e*P	**P**	07 44 23.3	0.0		
PRU			*ex*	x	07 44 25.1			
PRU			*epP*	**pP**	07 46 34.3	-2.3		
PRU			*ex*	x	07 47 34.0			
PRU			*ePP*	**PP**	07 48 28.9	-0.2		
PRU			*ex*	x	07 50 21.8			
PRU			*ex*	x	07 51 21.3			
PRU			*e*SKS	**SKSac**	07 53 59.9	-1.8		
PRU			*e*S	**S**	07 54 48.0	-5.3		
PRU			AMS	AMS	08 27 00.0			
	comp=Z,3µm,17.8s							
PRU	**Pruhonice**	**96.90 322**	*e*P	**P**	07 44 23.3	0.0		
PRU			*e**PP	**pP**	07 46 34.3	-2.3		
PRU			*e**SP	**sP**	07 47 34.0	-3.6		
PRU			*e*		07 48 28.9			
PRU			*e*		07 53 59.9			
PRU			*e*S	**S**	07 54 48.0	-5.3		
PRU			MLR	MLR				
	comp=Z,3µm,17.8s							
STON	**Ston**	**96.91 315**	P	**P**	07 44 20.4	-3.0		
HYA	**Hoyanger**	**96.93 334**	*e*P	**P**	07 44 22.5	-0.6		
HYA			IAmb	IAmb	07 44 25.0			
PRA	**Prague**	**96.94 322**	*e*P	**P**	07 44 23.0	-0.5		
PRA			*ex*	x	07 44 25.3			
PRA			*epP*	**pP**	07 46 35.3	-1.4		
PRA			*ex*	x	07 47 35.0			
PRA			*ePP*	**PP**	07 48 29.0	-0.4		
PRA			*ex*	x	07 50 22.3			
PRA			*ex*	x	07 51 22.2			
PRA			*e*SKS	**SKSac**	07 54 00.4	-1.5		
PRA			*e*S	**ScS**	07 54 51.1	-2.5		
PRA			*ex*	x	07 57 16.2			
PRA			AMS	AMS	08 33 30.0			
	comp=Z,2µm,16.4s							
PRA	**Prague**	**96.94 322**	*e*P	**P**	07 44 23.0	-0.5		
PRA			*e**PP	**pP**	07 46 35.3	-1.4		
PRA			*e**SP	**sP**	07 47 35.0	-2.7		
PRA			*e*		07 48 29.0			
PRA			*e*		07 54 00.4			
PRA			*e*S	**ScS**	07 54 51.1	-2.5		
PRA			*e*		07 57 16.2			
PRA			MLR	MLR				
	comp=Z,2µm,16.4s							
BRG	**Berggiesshubel**	**96.98 323**	*i*P	**P**	07 44 23.4	-0.1		
	comp=Z,210nm,1.0s							
BRG			pP	pP	07 46 45.0	+8.1		
	comp=Z,81nm,1.4s							
BRG			sP	**sP**	07 47 37.0	-0.9		
BRG			PP	PP	07 48 35.7	+6.0		
	comp=Z,129nm,1.3s							
BRG			*e*		07 50 25.0			
BRG			SKS	**SKSac**	07 54 01.0	-1.0		
BRG			SDIF	**ScS**	07 54 53.0	-0.9		
BRG			sS	**sS**	07 58 59.0	+4.9		
BRG			SS	SS	08 01 58.0	+9.1		
	comp=Z,3µm,17.8s							
	comp=N,1µm,19.9s							
	comp=E,2µm,19.9s							
BRG	**Berggiesshubel**	**96.98 323**	*e*Pdiff	**P**	07 44 23.8	+0.2		
BRG			*ePP*	**PP**	07 48 31.2	+1.5		
BRG			*epPP*		07 50 22.5			
BRG	**Berggiesshubel**	**96.98 323**	*i*P	**P**	07 44 23.5	-0.1		
BRG			*SP	**sP**	07 47 37.0	-0.9		
BRG					07 48 35.7			
BRG					07 54 01.0			
BRG			S	**ScS**	07 54 53.0	-0.9		
BRG			SS	SS	08 01 58.0	+9.1		
BRG			pmax	pmax				
	comp=Z,210nm,1.0s							
BRG			pmax	pmax				
	comp=Z,81nm,1.4s							
BRG			pmax	pmax				
	comp=Z,129nm,1.3s							
BRG			MLR	MLR				
	comp=Z,3µm,17.8s							
BRG			MLR	MLR				
	comp=N,1µm,19.9s							
BRG			MLR	MLR				
	comp=E,2µm,19.9s							
ARSA	**Arzberg**	**97.14 319**	*i* Pdiff	**P**	07 44 25.7	+1.2		
	comp=E,573nm,4.0s,SNR=18							
HOMB	**Homborsund**	**97.14 331**	*e*P	**P**	07 44 24.3	+0.2		
FOO	**Floro**	**97.22 335**	*e*SKSac	**SKSac**	07 54 00.6	-2.2		
ODD1	**Odda**	**97.31 333**	*e*P	Pdif	07 44 24.8	-0.2		
FBE	**Freiberg**	**97.31 323**	*e*Pdiff	**P**	07 44 25.6	+0.5		
CLL	**Collm**	**97.39 324**	*e*Pdiff	Pdif	07 44 25.3	-0.1		
CLL			*ePP*	**PP**	07 48 33.8	+1.1		
CLL			*epPP*		07 50 24.9			
CLL	**Collm**	**97.39 324**	*i* P	Pdif	07 44 25.0	-0.4		
CLL			*e**PP	pP	07 46 41.0	+2.3		
CLL			*e**SP	sP	07 47 41.0	+1.3		
CLL			*e*		07 48 34.0			
CLL			*i*		07 54 01.9			
CLL			*e*S	**ScS**	07 54 57.0	-0.3		
CLL	**Collm**	**97.39 324**	*e*Pdif	Pdif	07 44 25.1	-0.3		
	comp=E,94nm,0.9s							
CLL	**Collm**	**97.39 324**	*i* Pdif	Pdif	07 44 25.0	-0.4		
CLL			*i* Pdiffmax		07 44 26.8			
	comp=Z,102nm,1.0s							
CLL			*epP*	pP	07 46 41.0	+2.3		
CLL			*epPmax*		07 46 46.0			
CLL			*esP*	sP	07 47 41.0	+1.3		
CLL			*e*		07 48 23.0			
CLL			*ePP*	**PP**	07 48 34.0	+1.3		
CLL			*i* PPmax		07 48 39.0			
	comp=Z,140nm,1.1s							
CLL			*e*PKiKP	**PKiKP**	07 48 54.0	-2.2		
CLL			*epPPmax*		07 50 29.0			
CLL			*esPP*		07 51 33.0			
CLL			*ePPPP*		07 52 30.0			
CLL			*i* SKSac	**SKSac**	07 54 01.9	-2.2		
CLL			*e*Sdif	**ScS**	07 54 57.0	-0.3		
CLL			*e*SP	**SP**	07 56 20.0	-5.1		
CLL			*epSKSac*	pSKSac	07 57 18.0	+2.4		
CLL			*epSKKSac*		07 57 39.0			
CLL			*esS*	sS	07 59 03.0	+5.4		
CLL			*esSP*		08 00 19.0			
CLL			*e*PKKPbc	**PKKPbc**	08 01 01.0	-1.3		
CLL			*e*		08 01 36.0			
CLL			*e*SS	**SS**	08 01 54.0	-0.5		
CLL			*esSS*		08 05 24.0			
CLL			*eSSS*	SSS	08 05 53.0			
CLL			*e*SKKSacre		08 07 24.0			
CLL			*e*SSSS		08 09 12.0			
CLL			*e*		08 10 06.0			
MUD	**Monsted U'grnd**	**97.56 329**	*i* P	Pdif	07 44 25.4	-0.6		
	comp=Z,186nm,1.2s							
	comp=Z,5µm,17.0s							
MUD	**Monsted U'grnd**	**97.56 329**	*i* P	Pdif	07 44 25.4	-0.6		
MUD			pmax	pmax				
	comp=Z,190nm,1.2s							
MUD			MLR	MLR				
	comp=Z,5µm,17.0s							
SUE	**Sulen**	**97.60 334**	*e*P	**P**	07 44 26.3	+0.2		
SUE			IAmb	IAmb	07 44 28.4			
	comp=Z,108nm,0.6s							
BLS5	**Blasjo**	**97.60 333**	*e*P	Pdif	07 44 25.5	-0.8		
BLS5			IAmb	IAmb	07 44 28.5			
	comp=Z,132nm,1.0s							
SOKA	**Soboth**	**97.63 319**	⇑*i*Pdiff	Pdif	07 44 26.0	-0.7		
	comp=Z,245nm,2.4s,SNR=22							
RUND	**Rundenannen**	**97.64 334**	*e*P	**P**	07 44 26.5	+0.2		
BER	**Bergen**	**97.67 334**	*e*P	**P**	07 44 27.3	+0.8		
BER			*epP*	**pP**	07 46 37.3	-2.5		
BER			*esP*	**sP**	07 47 37.0	-3.7		
BER			*ePP*	**PP**	07 48 34.6	+0.1		
BER			*e*SKSac	**SKSac**	07 54 03.8	-1.2		
ASK	**Askoy**	**97.68 334**	*e*P	**P**	07 44 26.5	0.0		
MOA	**Molln**	**97.76 320**	⇑*i*Pdiff	Pdif	07 44 27.0	-0.2		
	comp=Z,178nm,1.3s,SNR=82							
KHC	**Kasperske Hory**	**97.78 321**	*e*P	**P**	07 44 27.3	0.0		
KHC			*epP*	**pP**	07 46 37.8	-2.8		
KHC			*ex*	x	07 47 38.1			
KHC			*ePP*	PP	07 48 30.4	-5.4		
KHC			*ex*	x	07 50 29.6			
KHC			*ex*		07 51 31.3			
KHC			*e*SKS	**SKSac**	07 54 05.3	-1.0		
KHC			*e*S	**ScS**	07 54 58.3	-2.4		
KHC			*ex*	x	07 56 19.3			
KHC			*ex*	x	07 57 11.3			
KHC			*e*PKKP	**PKKPbc**	08 01 00.4	-0.8		
KHC			AMS	AMS	08 29 00.0			
	comp=Z,3µm,16.5s							
KHC	**Kasperske Hory**	**97.78 321**	*e*P	**P**	07 44 27.3	0.0		
KHC			*e**PP	**pP**	07 46 37.8	-2.8		
KHC			*e**SP	**sP**	07 47 38.1	-3.5		
KHC			*e*		07 54 05.3			
KHC			*e*S	**ScS**	07 54 58.3	-2.4		
KHC			MLR	MLR				
	comp=Z,3µm,16.5s							
GEC2	**GERESS Array S**	**97.80 321**	*e*Pdiff	**P**	07 44 27.5	0.0		
GEC2			*ePP*	**PP**	07 48 37.5	+1.5		
GEC2			*epPP*		07 50 29.8			
GEC2			*e*SKSac	**SKSac**	07 54 03.8	-2.7		
GEC2	**GERESS Array S**	**97.80 321**	*e*P	Pdif	07 44 27.3	-0.1		
GEC2	**GERESS Array S**	**97.80 321**	*e*Pdif	Pdif	07 44 27.3	-0.2		
GERES	**GERESS Array B**	**97.80 321**	P	Pdif	07 44 26.9	-0.5		
	comp=Z,55nm,0.8s,baz=76,slow=5.6,SNR=128							
GERES			PP	**PP**	07 48 36.9	+0.9		
	comp=Z,54nm,0.8s,baz=64,slow=6.1,SNR=3.7							
GERES			PKKPbc	**PKKPbc**	08 01 00.0	-1.2		
	comp=Z,8.4nm,1.0s,baz=199,slow=2.8,SNR=10							
GERES			SKKPbc	SKKPbc	08 03 43.8	+1.0		
	comp=Z,3.2nm,0.8s,baz=222,slow=1.8,SNR=7.1							
BOJS	**Bojanci**	**97.85 318**	*e*Pdiff	Pdif	07 44 26.9	-0.7		
BOJS			*epP*	pP	07 46 38.4	-2.6		
BOJS			*esP*	sP	07 47 39.0	-3.0		
BOJS			*ePP*	**PP**	07 48 35.1	-1.3		
BOJS			*e*SKSac	**SKSac**	07 54 04.3	-2.3		
BSEG	**Bad Segeberg**	**97.96 327**	*e*Pdiff	**P**	07 44 28.3	+0.4		
BSEG			*ePP*	**PP**	07 48 38.4	+1.5		
BSEG			*epPP*		07 50 29.8			
BSEG			*e*SKSac	**SKSac**	07 54 03.3	-3.5		
OBKA	**Obir**	**98.00 319**	⇓*i*Pdiff	Pdif	07 44 27.5	-1.0		
	comp=Z,95nm,1.3s,SNR=16							
TANN	**Tannenbergstha**	**98.02 323**	*e*Pdiff	**P**	07 44 28.5	+0.1		
TANN			*ePP*	**PP**	07 48 39.1	+1.5		
TANN			*epPP*		07 50 29.8			
TANN			*e*SKSac	**SKSac**	07 54 04.2	-3.3		
NKC	**Novy Kostel**	**98.09 323**	*e*P	Pdif	07 44 28.2	-0.4		
NKC			*ex*	x	07 44 30.5			
NKC			*epP*	pP	07 46 39.2	-2.8		
NKC			*esP*	sP	07 47 41.3	-1.7		
NKC			*ePP*	**PP**	07 48 34.9	-3.2		
N

CADS Cadrg 98.62 319 *e*Pdiff Pdif 07 44 29.9 -1.3
CLZ Clausthal 98.73 325 *e*Pdiff **P** **07 44 32.2 +0.7**
CLZ *e*PP **PP** **07 48 43.8 +1.0**
CLZ *e*PP 07 50 35.8
CLZ *e*SKSac **SKSac** **07 54 08.4 -2.4**
RJOB Jochberg 98.73 320 *e*Pdiff Pdif 07 44 31.4 -0.2
RJOB *e*PP **PP** **07 48 44.5 +1.5**
RJOB *e*PP 07 50 37.3
RJOB *e*SKSac **SKSac** **07 54 06.8 -4.3**
KULLO Kullorsuaq 99.00 0⇓ *i*P **Pdif** **07 44 33.2 +1.1**
comp=Z,71nm,1.1s
GRF Grafenberg Arr 99.03 322 *e*Pdiff **Pdif** **07 44 33.3 +0.5**
GRF *e*PP **PP** **07 48 46.8 +1.7**
GRF *e*PP 07 50 39.0
GRF *e*SKSac **SKSac** **07 54 09.9 -2.4**
HLG Helgoland 99.17 327 *e*PP PP 07 48 47.1 +1.2
HLG *e*PP 07 50 39.3
ABTA Abfaltersbach 99.25 319 *i* Pdiff **Pdif** **07 44 34.3 +0.4**
comp=Z,84nm,1.2s,SNR=24
UBBA Unterbreizbach 99.33 324 *e*Pdiff **Pdif** **07 44 34.3 +0.3**
UBBA *e*PP **PP** **07 48 48.2 +1.1**
UBBA *e*PP 07 50 40.1
UBBA *e*SKSac **SKSac** **07 54 10.5 -3.0**
FUR Furstenfeldbru 99.54 321 *e*Pdiff **Pdif** **07 44 35.2 +0.1**
FUR *e*PP **PP** **07 48 50.6 +1.6**
FUR *e*PP 07 50 43.3
FUR *e*SKSac **SKSac** **07 54 12.5 -2.4**
WTTA Wattenberg 99.64 320⇓ *i*Pdiff **Pdif** **07 44 35.1 -0.7**
comp=Z,155nm,1.0s,SNR=53
WTTA ⇑*i*SKSac **SKSac** **07 54 13.1 -2.7**
WATA Walderalm 99.65 320⇑ *i*Pdiff **Pdif** **07 44 33.7 -2.1**
comp=Z,74nm,1.0s,SNR=17
LBTB Lobatse 99.76 246 SKKPbc SKKPbc 08 03 36.8 -1.0
comp=Z,4.0nm,0.8s,baz=222,slow=4.5,SNR=4.0
MOTA Moosalm 99.95 320⇑ *i*Pdiff **Pdif** **07 44 35.4 -1.7**
comp=Z,82nm,0.9s,SNR=44
MOTA ⇑*i*SKSac **SKSac** **07 54 16.2 -1.0**
SNR=7.8
IBBN Ibbenburen 100.02 326 *e*Pdiff **Pdif** **07 44 37.8 +0.7**
IBBN *e*PP **PP** **07 48 52.5 +0.2**
IBBN *e*PP 07 50 45.4
IBBN *e*SKSac **SKSac** **07 54 15.8 -1.2**
RETA Reutte 100.11 321⇑ *i*Pdiff **Pdif** **07 44 37.0 -0.7**
comp=Z,563nm,4.7s,SNR=8.8
RETA ⇑*i*SKSac **SKSac** **07 54 15.1 -2.7**
SNR=7.5
BOSA Boshof 100.21 242 P **Pdif** **07 44 39.0 +0.4**
comp=Z,4.2nm,0.5s,baz=105,slow=4.8,SNR=8.0
BOSA PKiKP **PKiKP** **07 49 03.4 +1.3**
comp=Z,12nm,0.8s,baz=104,slow=3.3,SNR=5.5
BOSA SKKPbc SKKPbc 08 03 35.7 -1.1
comp=Z,15nm,0.9s,baz=278,slow=3.2,SNR=8.3
BOSA Boshof 100.21 242 *e*P **Pdif** **07 44 39.4 +0.8**
BOSA *i* 07 49 03.4
BOSA Boshof 100.21 242 *e*Pdif **Pdif** **07 44 39.4 +0.8**
BOSA PKiKP **PKiKP** **07 49 03.4 +1.3**
BOSA SKKPbc SKKPbc 08 03 35.7 -1.1
FETA Feichten 100.30 320⇓ *i*Pdiff **Pdif** **07 44 38.3 -0.4**
comp=Z,136nm,1.4s,SNR=50
TNS Taunus Mts 100.48 324 *e*Pdif **Pdif** **07 44 39.8 +0.5**
TNS *e*PP **PP** **07 48 56.9 +1.0**
TNS *e*PP 07 50 49.2
TNS *e*SKSac **SKSac** **07 54 16.4 -3.0**
STU Stuttgart 100.60 322 *e*Pdiff **Pdif** **07 44 39.9 +0.1**
STU *e*PP **PP** **07 48 58.1 +1.3**
STU *e*PP 07 50 50.6
STU *e*SKSac **SKSac** **07 54 15.4 -4.6**
BUG Bochum--Univer 100.66 325 *e*Pdiff **Pdif** **07 44 40.5 +0.5**
BUG *e*PP **PP** **07 48 57.8 +0.7**
BUG *e*PP 07 50 50.4
BUG *e*SKSac **SKSac** **07 54 16.5 -3.5**
WTSB Winterswijk 100.70 326 *e*P **Pdif** **07 44 40.3 +0.2**
comp=Z,128nm,0.9s
WTSB *e*pP pP 07 47 01.7 +8.0
WTSB *e*sP sP 07 47 54.9 +0.2
WTSB *e*PKP **PP** **07 48 58.7 +1.3**
WTSB *e*PP x 07 50 47.5
DAVA Damuels 100.74 321 *i* Pdiff **Pdif** **07 44 42.0 +1.3**
comp=Z,553nm,4.0s,SNR=11
FUORN Ofenpass-Fuorn 100.75 320 *e*Pdif **Pdif** **07 44 40.8 0.0**
E03A Lebam 100.76 40 *e*Pdif **Pdif** **07 44 42.8 +2.2**
DAVOX Davos/Dischmat 100.93 320 P **Pdif** **07 44 42.1 +0.5**
comp=Z,74nm,0.9s,baz=97,slow=5.3,SNR=58
DAVOX PKiKP **PKiKP** **07 49 03.4 +0.5**
comp=Z,119nm,0.8s,baz=101,slow=4.9,SNR=14
BFO Black Forest 101.31 322 *e*Pdif **Pdif** **07 44 42.7 -0.3**
BFO *e*PP **PKiKP** **07 49 03.1 -0.3**
BFO *e*PP 07 50 55.9
BFO *e*SKSac **SKSac** **07 54 18.6 -4.8**
BFO Black Forest 101.31 322 *i*P **Pdif** **07 44 44.5 +1.5**
BFO *i* 07 49 00.0
G03D McMinnville, O 101.44 41 Pdiff **Pdif** **07 44 44.1 +0.5**
baz=101
HGN Heimansgroeve 101.71 325 *e*P **Pdif** **07 44 44.3 -0.3**
comp=Z,76nm,1.9s
HGN *e*pP pP 07 47 06.3 +8.1
HGN *e*sP 07 47 59.2
HGN *e*PKP **PP** **07 49 05.3 +0.5**
HGN *e*PP x 07 50 56.6
MEM Membach 101.74 325 P **Pdif** **07 44 45.7 +0.9**
comp=Z,24nm,1.3s
MEM PP **PP** **07 49 05.7 +0.6**
MEM Membach 101.74 325 *e*P **Pdif** **07 44 46.4 +1.6**
MEM Membach 101.74 325 *e*Pdif **Pdif** **07 44 46.4 +1.6**
BEBN Eben Emael 101.84 325 P **Pdif** **07 44 47.6 +2.4**
I03D Drain, OR 101.94 43 Pdiff **Pdif** **07 44 46.6 +0.8**
baz=102
WLF Walferdange 102.06 324 *e*Pdiff **Pdif** **07 44 47.2 +0.9**
WLF *e*PP **PP** **07 49 08.6 +1.1**
WLF *e*pPP 07 51 01.6
WLF *e*SKSac **SKSac** **07 54 23.2 -3.6**
L02D Cave Junction, 102.31 44 Pdiff **Pdif** **07 44 48.6 +1.0**
baz=102
H04A Detroit Lake 102.35 42 *e*Pdif **Pdif** **07 44 49.2 +1.5**
I04A Tendick Farm, 102.53 43 Pdiff **Pdif** **07 44 49.4 +0.8**
baz=102
B08A Colville Reser 102.68 37 *e*Pdif **Pdif** **07 44 50.3 +1.2**
G05D Wamic, OR 102.70 41 Pdiff **Pdif** **07 44 50.0 +0.7**
baz=103
SENIN Lac Senin/Sane 102.73 320 *e*Pdif **Pdif** **07 44 50.9 +1.2**
J04D Umpqua Nationa 102.94 43 Pdiff **Pdif** **07 44 51.6 +1.0**
baz=103
I05D Terrebonne, OR 103.04 42 Pdiff **Pdif** **07 44 51.8 +0.9**
baz=103
M02C Callahan 103.11 45 Pdiff **Pdif** **07 44 52.2 +1.0**
baz=103
G06A Carlson Farm, 103.15 41 *e*Pdif **Pdif** **07 44 53.1 +1.8**
RKT Rikitea 103.25 112 *e*SKSac **SKSac** **07 54 36.1 +2.9**
comp=Z,7μm,27.2s
RKT *e*SP **SP** **07 57 20.1 -8.5**
comp=Z,3μm,30.0s
RKT *e*SS **SS** **08 03 10.9 -6.0**
comp=Z,3μm,29.0s
N02D Trinity Center 103.36 45 Pdiff **Pdif** **07 44 53.2 +0.8**
baz=103
D08A Wollman Farm, 103.48 38 *e*Pdif **Pdif** **07 44 54.7 +2.0**
J05D Fort Rock, OR 103.52 43 Pdiff **Pdif** **07 44 53.9 +0.8**
baz=104
C09A Chrisman Ranch 103.56 38 *e*Pdif **Pdif** **07 44 54.6 +1.6**
M04C Macdoel 103.67 44 Pdiff **Pdif** **07 44 54.6 +0.8**
baz=104
EDI Edinburgh 103.84 332 *e*P **Pdif** **07 44 55.1 +1.1**
EDI Edinburgh 103.84 332 *e*Pdif **Pdif** **07 44 55.1 +1.1**
VSL Villasalto 103.92 313 *e*Pdif **Pdif** **07 44 55.9 +1.1**
K05A Summer Lake 103.97 43 *e*Pdif **Pdif** **07 44 57.1 +2.0**
NEW Newport 104.04 37 Pdiff **Pdif** **07 44 55.8 +0.6**
baz=104
EKA Eskdalemuir Ar 104.17 332 Pdiff **Pdif** **07 44 55.9 +0.4**
comp=Z,14nm,0.9s,baz=60,slow=5.7,SNR=24
EKA PP **PP** **07 49 19.3 -3.3**
comp=Z,27nm,0.9s,baz=60,slow=7.3,SNR=7.2
EKA PKKPbc **PKKPbc** **08 00 41.5 -1.8**
comp=Z,4.9nm,0.6s,baz=250,slow=1.8,SNR=13
EKA SKKPbc SKKPbc 08 03 25.0 -1.4
comp=Z,1.5nm,0.5s,baz=245,slow=2.8,SNR=6.4
BORG Borgarnes 104.20 345 PP PP 07 49 24.4 +2.0
comp=Z,30nm,1.0s,baz=61,slow=9.6,SNR=4.6
G08A Pilot Rock 104.21 40 *e*Pdif **Pdif** **07 44 58.0 +1.9**
KEST Kesra 105.25 310 Pdiff **Pdif** **07 45 01.7 +0.8**
comp=Z,3.5nm,1.0s,baz=347,slow=3.5,SNR=8.2
KEST PP **PP** **07 49 33.3 +1.9**
comp=Z,94nm,0.9s,baz=315,slow=2.4,SNR=20
CMAH Djebel Manchou 106.39 311 P **PKiKP** **07 49 14.2 +1.1**
ABSA Djebel Ababsia 106.48 311 P **PKiKP** **07 49 15.2 +1.9**
SFJD Kangerlussuaq 106.50 358 *e*P **Pdif** **07 45 07.1 +1.5**
SFJD Kangerlussuaq 106.50 358 *e*Pdif **Pdif** **07 45 07.1 +1.5**
MSO Missoula 106.62 37 PKiKP **PKiKP** **07 49 13.8 +0.5**
baz=107
MSO Missoula 106.62 37 *e*Pdif **Pdif** **07 45 09.1 +2.4**
CKFL Kef-Lekhel 107.00 311 P **PKiKP** **07 49 15.8 +1.5**
MFID Camas Ranch 107.05 41 *e*Pdif **Pdif** **07 45 10.4 +1.7**
SNAA Sanae 107.05 195 P **Pdif** **07 45 11.5 +3.4**
SNAA Sanae 107.05 195 P **PKKPbc** **08 00 31.0 -4.0**
CASM Ain Smara 107.22 311 P **PKiKP** **07 49 16.5 +1.8**
CTEI Djebel Teioual 107.36 311 P **PKiKP** **07 49 17.3 +2.3**
SMMC Simmer 107.40 50 PKiKP **PKiKP** **07 49 16.1 +1.1**
baz=107
BMN Battle Mountai 107.41 44 *e*P **Pdif** **07 45 12.4 +1.9**
BMN Battle Mountai 107.41 44 *e*Pdif **Pdif** **07 45 12.4 +1.9**
NVAR Mina Array Bea 107.47 46 Pdiff **Pdif** **07 45 12.2 +1.3**
comp=Z,7.3nm,0.8s,baz=270,slow=4.8,SNR=33
NVAR SKP 07 51 54.1
comp=Z,9.0nm,0.9s,baz=261,slow=2.7,SNR=4.6
NVAR PKKPbc **PKKPbc** **08 00 32.4 -0.7**
comp=Z,7.9nm,0.8s,baz=135,slow=3.8,SNR=18
DFRA Djebel Bou Aff 107.58 311 P **PKiKP** **07 49 18.5 +3.1**
PKM Peak Mountain 107.69 50 PKiKP **PKiKP** **07 49 17.1 +1.3**
baz=108
HLID Hailey 107.89 40 PKiKP **PKiKP** **07 49 16.5 +0.6**
baz=108
SBC Santa Barbara 107.94 51 PKiKP **PKiKP** **07 49 16.3 +0.3**
baz=108
LRM Limekiln Ridge 108.02 37 *e*Pdif **Pdif** **07 45 18.5 +5.3**
SET Setif 108.06 311 P PKiKP 07 49 31.0 +15
BSC Santa Cruz Isl 108.16 51 PKiKP **PKiKP** **07 49 16.7 +0.2**
baz=108
MCMT McKenzie Canyo 108.27 39 *e*Pdif **Pdif** **07 45 18.9 +4.6**
ARVC Arvin 108.36 50 PKiKP **PKiKP** **07 49 17.4 +0.7**
baz=108
ISA Isabella 108.42 49 *e*P **Pdif** **07 45 17.2 +2.2**
ISA Isabella 108.42 49 PKiKP **PKiKP** **07 49 18.2 +1.2**
baz=108
ISA Isabella 108.42 49 *e*Pdif **Pdif** **07 45 17.2 +2.2**
EGMT Eagleton 108.44 34 PKiKP **PKiKP** **07 49 18.0 +1.4**
baz=108
ELK Elko 108.64 43 *e*P **Pdif** **07 45 18.1 +2.1**
ELK Elko 108.64 43 *e*Pdif **Pdif** **07 45 18.1 +2.1**
GRAC Grapevine Rang 108.72 48 PKiKP **PKiKP** **07 49 18.9 +1.4**
baz=109
MPMC Manual Prospec 109.00 48 PKiKP **PKiKP** **07 49 19.5 +1.3**
baz=109
VNA1 Neumayer--Stat 109.08 195 P **Pdif** **07 45 23.4 +6.5**
VNA1 Neumayer--Stat 109.08 195 P **PKKPbc** **08 00 26.3 -2.2**
EDW2 Edwards Air Fo 109.09 50 PKiKP **PKiKP** **07 49 19.7 +1.4**
baz=109
FURC Furnace Creek, 109.31 48 PKiKP **PKiKP** **07 49 20.2 +1.7**
baz=109
R11A Troy Canyon, C 109.44 46 PKiKP **PKiKP** **07 49 20.6 +1.6**
baz=109
TPNV Topopah Spring 109.56 47 *e*P **Pdif** **07 45 21.8 +1.7**
TPNV Topopah Spring 109.56 47 PKiKP **PKiKP** **07 49 20.8 +1.6**
baz=110
TPNV Topopah Spring 109.56 47 *e*Pdif **Pdif** **07 45 21.8 +1.7**
GSC Goldstone 109.82 49 PKiKP **PKiKP** **07 49 21.4 +1.8**
baz=110
RRX Edison Barstow 109.84 49 PKiKP **PKiKP** **07 49 21.3 +1.8**
baz=110
EMHD Djebel Mahouad 109.88 312 P PP 07 49 58.4 -6.1
SHOC Shoshone 109.97 48 PKiKP **PKiKP** **07 49 21.3 +1.5**
baz=110
FXWY Fox Creek 110.00 39 *e*Pdif **Pdif** **07 45 26.2 +4.1**
BGU Big Grassy Mou 110.04 42 *e*Pdif **Pdif** **07 45 24.0 +1.8**
MOOW Moose Ponds 110.12 39 *e*Pdif **Pdif** **07 45 26.1 +3.6**
BBRC Big Bear Solar 110.14 50 PKiKP **PKiKP** **07 49 21.5 +1.1**
baz=110
MURC Murrieta 110.19 51 PKiKP **PKiKP** **07 49 21.1 +0.8**
baz=110
HEC Hector,Ludlow 110.36 49 PKiKP **PKiKP** **07 49 21.8 +1.2**
baz=110
TUQ Turquoise Moun 110.42 49 PKiKP **PKiKP** **07 49 21.8 +1.0**
baz=110
DUG Dugway 110.53 43 PKiKP **PKiKP** **07 49 22.0 +1.1**
baz=110
109C Camp Elliot, M 110.53 51 PKiKP **PKiKP** **07 49 21.7 +0.8**
baz=110
SHPR Sheep Range 110.54 47 *e*PKiKP **PKiKP** **07 49 23.2 +2.2**
F20A Billings 110.58 36 PKiKP **PKiKP** **07 49 21.6 +0.8**
baz=110
H19A Powell 110.71 37 PKiKP **PKiKP** **07 49 21.8 +0.7**
baz=111
PFO Pinyon Flat Ob 110.75 50 *e*PKiKP **PKiKP** **07 49 23.4 +1.9**
PFO Pinyon Flat Ob 110.75 50 PKiKP **PKiKP** **07 49 22.3 +0.8**
baz=111
PFO Pinyon Flat Ob 110.75 50 *e*PKiKP **PKiKP** **07 49 23.4 +1.9**
E21A Keefer Ranch, 110.78 35 PKiKP **PKiKP** **07 49 22.3 +1.2**
baz=111
G20A Bridger 110.86 36 PKiKP **PKiKP** **07 49 21.9 +0.5**
baz=111
EBNR Beni Rached 110.88 313 P **PP** **07 50 10.9 -0.6**
GMRC Granite Mounta 110.89 49 PKiKP **PKiKP** **07 49 22.6 +0.8**
baz=111
BELC Belle Mtn. Jos 110.95 50 PKiKP **PKiKP** **07 49 22.6 +0.7**
baz=111
I19A Meeteetse 111.04 38 PKiKP **PKiKP** **07 49 23.1 +1.2**
baz=111
MONP Monument Peak 111.06 51 PKiKP **PKiKP** **07 49 22.9 +0.7**
baz=111
F21A Absaloka Mine, 111.16 35 PKiKP **PKiKP** **07 49 22.7 +0.8**
baz=111
LAO LASA Array 111.17 34 PKiKP **PKiKP** **07 49 22.8 +1.0**
baz=111
EANR 'Ain N'Sour 111.34 313 P **PP** **07 50 12.5 -2.3**
PDAR Pinedale Array 111.37 39 Pdiff **Pdif** **07 45 29.8 +1.6**
comp=Z,1.8nm,1.0s,baz=336,slow=3.3,SNR=11
PDAR PKiKP **PKiKP** **07 49 23.6 +1.0**
comp=Z,4.2nm,0.7s,baz=32,slow=2.9,SNR=16
PDAR PKKPbc **PKKPbc** **08 00 18.9 -2.1**
comp=Z,4.1nm,0.8s,baz=114,slow=5.0,SNR=11
H20A Greybull 111.40 37 PKiKP **PKiKP** **07 49 23.3 +0.9**
baz=111
IBP Imperial Bould 111.41 51 PKiKP **PKiKP** **07 49 23.3 +0.6**
baz=111
J19A Crowheart 111.42 38 PKiKP **PKiKP** **07 49 23.4 +0.9**
baz=111
ETRT Tiaret 111.44 312 P **PP** **07 50 16.0 +0.5**
G21A Lodge Grass 111.45 36 PKiKP **PKiKP** **07 49 23.2 +0.8**
baz=111
A25A Svangstu Ranch 111.46 31 PKiKP **PKiKP** **07 49 23.2 +1.0**
baz=111
E22A Miles City 111.47 34 PKiKP **PKiKP** **07 49 23.0 +0.6**
baz=111
BC3 Big Chuckawall 111.50 50 PKiKP **PKiKP** **07 49 23.6 +0.7**
baz=112
IRM Iron Mountain 111.53 49 PKiKP **PKiKP** **07 49 23.7 +0.8**
baz=112
I20A Worland 111.61 37 PKiKP **PKiKP** **07 49 23.4 +0.6**
baz=112
C24A Savage 111.65 33 PKiKP **PKiKP** **07 49 23.4 +0.7**
baz=112
F22A Rosebud 111.68 35 PKiKP **PKiKP** **07 49 23.7 +0.8**
baz=112
MSU Marysvale 111.76 44 *e*PKiKP **PKiKP** **07 49 25.8 +2.4**
MSU Marysvale 111.76 44 *e*PKiKP **PKiKP** **07 49 25.8 +2.4**
E23A Ismay 111.79 34 PKiKP **PKiKP** **07 49 23.9 +0.9**
baz=112
H21A Big Horn, Sher 111.89 36 PKiKP **PKiKP** **07 49 24.1 +0.7**
baz=112
D24A Glendive 111.96 33 PKiKP **PKiKP** **07 49 24.6 +1.3**
baz=112
J20A Shoshoni 111.97 38 PKiKP **PKiKP** **07 49 23.8 +0.3**
baz=112
G22A Birney 111.98 36 PKiKP **PKiKP** **07 49 24.5 +1.0**
baz=112
KNB Kanab 112.00 46 *e*P **Pdif** **07 45 33.8 +2.8**
KNB Kanab 112.00 46 *e*Pdif **Pdif** **07 45 33.8 +2.8**
A26A Wade Farm, Ken 112.03 30 PKiKP **PKiKP** **07 49 24.1 +0.7**
baz=112
TMUT Trail Mountain 112.05 43 *e*Pdif **Pdif** **07 45 33.9 +2.6**
C25A Freed Ranch, W 112.16 32 PKiKP **PKiKP** **07 49 24.2 +0.5**
baz=112
Y12C Blythe 112.17 50 PKiKP **PKiKP** **07 49 24.6 +0.6**
baz=112
I21A Big Trails, Te 112.19 37 PKiKP **PKiKP** **07 49 24.6 +0.7**
baz=112
F23A Volborg 112.20 35 PKiKP **PKiKP** **07 49 24.6 +0.8**
baz=112
GLA Glamis 112.23 50 PKiKP **PKiKP** **07 49 25.4 +1.2**
baz=112
PDMCI Parker Dam,Lak 112.23 49 PKiKP **PKiKP** **07 49 24.9 +0.8**
baz=112
E24A Baker 112.31 33 PKiKP **PKiKP** **07 49 25.0 +1.0**
baz=112
H22A Clearmont 112.31 36 PKiKP **PKiKP** **07 49 24.2 +0.1**
baz=112
J21A Lysite 112.36 38 PKiKP **PKiKP** **07 49 25.1 +0.7**
baz=112
A27A Ledoux Ranch, 112.39 30 PKiKP **PKiKP** **07 49 25.6 +1.6**
baz=112
D25A Fairfield 112.48 33 PKiKP **PKiKP** **07 49 25.4 +1.1**
baz=112
I22A 9 Mile Ranch, 112.63 37 PKiKP **PKiKP** **07 49 25.5 +0.7**
baz=113
F24A Ekalaka 112.66 34 PKiKP **PKiKP** **07 49 25.4 +0.7**
baz=113
C26A Wahner Farm, P 112.69 31 PKiKP **PKiKP** **07 49 25.5 +0.8**
baz=113
B27A Peters Farms, 112.75 30 PKiKP **PKiKP** **07 49 25.4 +0.7**
baz=113
E25A Miller Ranch, 112.84 33 PKiKP **PKiKP** **07 49 25.7 +0.7**
baz=113
H23A Clabaugh Cattl 112.88 36 PKiKP **PKiKP** **07 49 25.2 0.0**
baz=113
A28A Rude Farm, Bot 112.91 30 PKiKP **PKiKP** **07 49 25.9 +0.8**
baz=113
J22A Midwest 112.91 37 PKiKP **PKiKP** **07 49 25.0 -0.3**
baz=113
G24A Alzada 112.99 35 PKiKP **PKiKP** **07 49 26.0 +0.6**
baz=113
D26A Manning 113.02 32 PKiKP **PKiKP** **07 49 25.7 +0.4**
baz=113
C27A Sayler Ranch, 113.07 31 PKiKP **PKiKP** **07 49 25.8 +0.4**
baz=113
ESDC Sonseca Array 113.13 318 Pdiff **Pdif** **07 45 36.1 +0.3**
comp=Z,0.2nm,0.3s,baz=53,slow=5.5,SNR=5.9
ESDC PKiKP **PKiKP** **07 49 26.4 +0.7**
comp=Z,5.0nm,0.9s,baz=18,slow=4.2,SNR=11
ESDC PP **PP** **07 50 23.9 -3.2**
comp=Z,78nm,1.2s,baz=56,slow=7.5,SNR=7.4
ESDC PKKPbc **PKKPbc** **08 00 15.1 +0.2**
comp=Z,14nm,1.1s,baz=262,slow=2.9,SNR=17
ESDC SKKPbc SKKPbc 08 03 01.4 +0.7
comp=Z,1.3nm,0.3s,baz=250,slow=2.7,SNR=10
F25A Bowman 113.16 34 PKiKP **PKiKP** **07 49 25.9 +0.2**
baz=113
B28A Dugan Ranch, T 113.17 30 PKiKP **PKiKP** **07 49 26.5 +1.0**
baz=113
I23A Meade Ranch, G 113.20 36 PKiKP **PKiKP** **07 49 25.6 -0.3**
baz=113
H24A Dirks Ranch, A 113.26 35 PKiKP **PKiKP** **07 49 26.2 +0.3**
baz=113
K22A Casper 113.31 38 PKiKP **PKiKP** **07 49 26.9 +0.7**
baz=113
E26A Carlson Angus 113.36 33 PKiKP **PKiKP** **07 49 27.0 +1.0**
baz=113
A29A Manning Farm, 113.40 29 PKiKP **PKiKP** **07 49 26.7 +0.7**
baz=113
PAB San Pablo 113.45 318 *e*PKiKP **PKiKP** **07 49 27.5 +1.1**
PAB San Pablo 113.45 318 *e*PKiKP **PKiKP** **07 49 27.5 +1.1**
D27A Center 113.45 32 PKiKP **PKiKP** **07 49 27.0 +0.9**
baz=113
J23A Dilts Ranch, B 113.47 37 PKiKP **PKiKP** **07 49 26.8 +0.4**
baz=113
O20A White River Ci 113.59 41 PKiKP **PKiKP** **07 49 27.2 +0.4**
baz=114
G25A Newell 113.63 34 PKiKP **PKiKP** **07 49 27.1 +0.6**
baz=114
F26A Lodgepole 113.64 33 PKiKP **PKiKP** **07 49 27.3 +0.7**
baz=114
C28A Hausauer Farms 113.64 31 PKiKP **PKiKP** **07 49 27.1 +0.7**
baz=114
B29A Wagenman Farm, 113.65 30 PKiKP **PKiKP** **07 49 27.0 +0.6**
baz=114
WUAZ Wupatki 113.72 47 PKiKP **PKiKP** **07 49 27.5 +0.3**
baz=114
I24A Kuemmerle Ranc 113.75 36 PKiKP **PKiKP** **07 49 27.0 +0.1**
baz=114
PBRG Braganca 113.77 321 *e*PKPdf **PKiKP** **07 49 28.6 +1.7**
PBRG Braganca 113.77 321 *e*PP PP 07 50 33.3 +1.9
K23A Bowen Ranch, D 113.80 37 PKiKP **PKiKP** **07 49 26.5 -0.6**
baz=114
A30A Hoffart Farm, 113.84 29 PKiKP **PKiKP** **07 49 27.8 +1.0**
baz=114
E27A Carson 113.87 32 PKiKP **PKiKP** **07 49 27.8 +0.9**
baz=114
H25A Fruitdale 113.88 35 PKiKP **PKiKP** **07 49 27.7 +0.7**
baz=114
D28A Regan 113.89 31 PKiKP **PKiKP** **07 49 27.6 +0.7**
baz=114
MDND Maddock 113.95 30 PKiKP **PKiKP** **07 49 27.1 +0.1**
baz=114
F27A Lemmon 113.98 33 PKiKP **PKiKP** **07 49 27.9 +0.7**
baz=114
ULM Lac du Bonnet 114.02 26 PKiKP PKPdf 07 49 26.5 -0.5
comp=Z,24nm,0.6s,baz=315,slow=2.4,SNR=26
ULM PKKPbc **PKKPbc** **08 00 10.2 -2.1**
comp=Z,5.5nm,0.6s,baz=186,slow=4.0,SNR=4.7
ULM SKKPbc SKKPbc 08 02 56.5 -1.8
comp=Z,12nm,1.0s,baz=182,slow=0.4,SNR=5.7
G26A Maurine 114.03 34 PKiKP **PKiKP** **07 49 27.6 +0.3**
baz=114
J24A Dixon Ranch, L 114.04 36 PKiKP **PKiKP** **07 49 27.7 +0.2**
baz=114
B30A Myrvik Farm, E 114.16 29 PKiKP **PKiKP** **07 49 27.9 +0.5**
baz=114
214A Organ Pipe Nat 114.23 51 PKiKP **PKiKP** **07 49 28.5 +0.4**
baz=114
E28A Huff 114.23 32 PKiKP **PKiKP** **07 49 28.3 +0.6**
baz=114
K24A Anderson Ranch 114.30 37 PKiKP **PKiKP** **07 49 28.3 +0.2**
baz=114
MVO Moncorvo 114.31 321 *e*PKPdf PKPdf 07 49 28.7 +0.7
MVO Moncorvo 114.31 321 *e*PP PP 07 50 33.1 -2.1
G27A Dupree 114.34 33 PKiKP PKPdf 07 49 27.4 -0.5
baz=114
H26A Fairpoint 114.35 34 PKiKP PKPdf 07 49 27.8 -0.2
baz=114
D29A Pettibone, Tap 114.48 31 PKiKP **PKiKP** **07 49 28.1 0.0**
baz=114
J25A Sunshine Ranch 114.51 36 PKiKP PKPdf 07 49 28.3 -0.1
baz=114
C30A Mose, Pekin 114.60 30 PKiKP **PKiKP** **07 49 28.5 +0.2**
baz=114
PCAB Cabril 114.62 322 *e*PKPdf PKPdf 07 49 29.1 +0.6
PCAB Cabril 114.62 322 *e*PP PP 07 50 38.0 +0.8
PGAV Gavieira, Arco 114.62 322 *e*PKPdf PKPdf 07 49 30.2 +1.6
PGAV Gavieira, Arco 114.62 322 *e*PP PP 07 50 38.5 +1.2
F28A McLaughlin 114.65 32 PKiKP **PKiKP** **07 49 29.1 +0.6**
baz=115
N23A Red Feather La 114.65 39 PKiKP **PKiKP** **07 49 29.1 +0.2**
baz=115
N23A Red Feather La 114.65 39 *e*PKPdf PKPdf 07 49 31.0 +2.1
I26A New Underwood 114.66 35 PKiKP **PKiKP** **07 49 29.1 +0.5**
baz=115
POLO Lamas de Olo 114.67 321 *e*PKPdf PKPdf 07 49 29.3 +0.6
POLO Lamas de Olo 114.67 321 *e*PP PP 07 50 39.0 +1.3
PVRL Vila Real 114.68 321 *e*PKPdf PKPdf 07 49 29.3 +0.6
PVRL Vila Real 114.68 321 *e*PP PP 07 50 39.5 +1.9
H27A Howes 114.73 34 PKiKP **PKiKP** **07 49 28.7 +0.1**
baz=115
E29A Napoleon 114.78 31 PKiKP **PKiKP** **07 49 28.8 +0.1**
baz=115
D30A Buchanan 114.87 30 PKiKP **PKiKP** **07 49 29.2 +0.4**
baz=115
K25A Mack Ranch, Ha 114.93 37 PKiKP **PKiKP** **07 49 29.6 +0.4**
baz=115
MVCO Mesa Verde 114.93 44 PKiKP **PKiKP** **07 49 29.8 +0.2**
baz=115
J26A Sides Ranch, S 114.98 36 PKiKP PKPdf 07 49 29.2 0.0
baz=115
MTE Manteigas 115.06 320 *e*PKPdf **PKPdf** **07 49 29.9 +0.4**
MTE Manteigas 115.06 320 *e*PP PP 07 50 41.2 +0.8
G28A Parade 115.09 33 PKiKP **PKiKP** **07 49 29.7 +0.3**
baz=115
W18A Petrified Fore 115.09 46 PKiKP **PKiKP** **07 49 30.2 +0.4**
baz=115
I27A Quinn 115.09 35 PKiKP **PKiKP** **07 49 29.7 +0.3**
baz=115
PVIS Viseu 115.10 321 *e*PKPdf **PKPdf** **07 49 30.2 +0.7**
PVIS Viseu 115.10 321 *e*PP PP 07 50 39.5 -1.1
L25A Engebretsen Ra 115.14 37 PKiKP **PKPdf** **07 49 29.5 -0.1**
baz=115
F29A Eureka 115.17 32 PKiKP **PKiKP** **07 49 29.7 +0.2**
baz=115
E30A Jud 115.20 31 PKiKP **PKiKP** **07 49 29.6 +0.1**
baz=115
H28A Mission Ridge 115.28 33 PKiKP **PKiKP** **07 49 30.0 +0.3**
baz=115

K26A	Motz Farm, Whi	115.28	36	PKiKP	PKPdf	07 49 29.7	-0.2	
	baz=115							
PCBR	Castelo Branco	115.33	320	*e*PKPdf	PKPdf	07 49 32.0	+2.1	
PCBR	Castelo Branco	115.33	320	*e*PP	PP	07 50 43.3	+1.2	
AGMN	Agassiz Nation	115.44	28	PKiKP	PKiKP	07 49 30.3	+0.4	
	baz=115							
AGMN	Agassiz Nation	115.44	28	*e*PKPdf	PKiKP	07 49 30.3	+0.4	
ISCO	Idaho Springs	115.47	40	PKiKP	PKPdf	07 49 30.6	-0.1	
	baz=115							
PMRV	Marv??o	115.50	319	*e*PKPdf	PKPdf	07 49 31.5	+1.2	
PMRV	Marv??o	115.50	319	*e*PP	PP	07 50 34.1	-9.3	
M25A	Palm-Egli Farm	115.51	38	PKiKP	PKiKP	07 49 30.6	+0.2	
	baz=116							
G29A	Hoven	115.54	33	PKiKP	PKPdf	07 49 30.0	-0.2	
	baz=116							
F30A	Leola	115.59	32	PKiKP	PKiKP	07 49 30.4	+0.1	
	baz=116							
J27A	Elkhorn Farm,	115.63	35	PKiKP	PKiKP	07 49 30.8	+0.3	
	baz=116							
I28A	Midland	115.63	34	PKiKP	PKiKP	07 49 30.6	+0.2	
	baz=116							
L26A	Underwood Farm	115.74	37	PKiKP	PKiKP	07 49 30.9	+0.1	
	baz=116							
H29A	Onida	115.76	33	PKiKP	PKiKP	07 49 30.8	+0.2	
	baz=116							
S22A	4UR Ranch, Cre	115.79	43	PKiKP	PKiKP	07 49 31.8	+0.5	
	baz=116							
S22A	4UR Ranch, Cre	115.79	43	*e*PKPdf	PKPdf	07 49 33.6	+2.4	
K27A	Flueckinger Fa	115.83	36	PKiKP	PKPdf	07 49 30.4	-0.6	
	baz=116							
PCAS	Casmilo, Conde	115.86	321	*e*PKPdf	PKPdf	07 49 32.7	+1.8	
PCAS	Casmilo, Conde	115.86	321	*e*PP	PP	07 50 46.8	+1.0	
PESTR	Estremoz	115.94	319	*e*PKPdf	PKPdf	07 49 32.3	+1.2	
PESTR	Estremoz	115.94	319	*e*PP	PP	07 50 39.7	-6.7	
PBAR	Barrancos	115.95	318	*e*PKPdf	PKPdf	07 49 32.1	+0.9	
PBAR	Barrancos	115.95	318	*e*PP	PP	07 50 45.3	-1.2	
J28A	Allard Ranch,	115.96	35	PKiKP	PKPdf	07 49 31.1	0.0	
	baz=116							
G30A	Faulkton	116.00	32	PKiKP	PKPdf	07 49 30.8	-0.3	
	baz=116							
M26A	McRoberts Ranc	116.05	37	PKiKP	PKPdf	07 49 31.3	-0.2	
	baz=116							
I29A	Vivian Onida	116.10	34	PKiKP	PKiKP	07 49 31.4	0.0	
	baz=116							
L27A	T5 Ranch, Ells	116.17	36	PKiKP	PKPdf	07 49 31.6	0.0	
	baz=116							
Q24A	Divide	116.24	41	PKiKP	PKiKP	07 49 32.1	0.0	
	baz=116							
K28A	Ten Mile Ranch	116.33	35	PKiKP	PKiKP	07 49 32.4	+0.5	
	baz=116							
N26A	Koester Ranch,	116.38	38	PKiKP	PKiKP	07 49 32.3	+0.2	
	baz=116							
EVO	Evora	116.40	319	*e*PKPdf	PKPdf	07 49 32.9	+0.9	
EVO	Evora	116.40	319	*e*PP	PP	07 50 50.6	+1.1	
M27A	Reverse DX Ran	116.46	37	PKiKP	PKiKP	07 49 32.4	+0.2	
	baz=116							
J29A	Okreek	116.48	34	PKiKP	PKiKP	07 49 32.6	+0.5	
	baz=116							
I30A	Oacoma	116.65	33	PKiKP	PKiKP	07 49 33.3	+0.9	
	baz=117							
O26A	Horse Wrangler	116.67	39	PKiKP	PKiKP	07 49 33.3	+0.6	
	baz=117							
SDCO	Great Sand Dun	116.68	42	PKiKP	PKiKP	07 49 33.0	0.0	
	baz=117							
L28A	Connealy Angus	116.68	36	PKiKP	PKiKP	07 49 33.0	+0.4	
	baz=117							
PACT	Alcochete	116.80	320	*e*PP	PP	07 50 48.1	-4.1	
N27A	Anderson Farm,	116.81	38	PKiKP	PKiKP	07 49 33.2	+0.3	
	baz=117							
PVAQ	Vaqueiros	116.82	318	*e*PKPdf	PKPdf	07 49 35.0	+2.1	
PVAQ	Vaqueiros	116.82	318	*e*PP	PP	07 50 49.8	-2.7	
K29A	Lazy Trails An	116.90	35	PKiKP	PKiKP	07 49 33.4	+0.4	
	baz=117							
PCVE	Castro Verde	116.91	318	*e*PKPdf	PKPdf	07 49 33.5	+0.5	
PCVE	Castro Verde	116.91	318	*e*PP	PP	07 50 55.8	+2.7	
MESJ	Messejana	116.92	318	*e*P	PKPdf	07 49 32.2	-0.8	
MESJ				*e*PP	PP	07 50 53.6	+0.5	
MESJ				AMS	AMS	08 20 02.7		
	comp=Z,2μm,21.6s							
MESJ	Messejana	116.92	318	*e*PKPdf	PKPdf	07 49 34.2	+1.2	
MESJ	Messejana	116.92	318	*e*PP	PP	07 50 46.6	-6.5	
MESJ	Messejana	116.92	318	*e*PKiKP	PKPdf	07 49 32.2	-0.8	
MESJ				*e*		07 50 53.5		
PNCL	Nicolau / Gran	116.97	319	*e*PKPdf	PKPdf	07 49 35.1	+2.0	
PNCL	Nicolau / Gran	116.97	319	*e*PP	PP	07 50 51.6	-1.8	
MDT	Midelt	116.97	312	PKP	PKPdf	07 49 33.1	-0.4	
	comp=Z,19nm,0.6s,baz=76,slow=2.9,SNR=32							
MDT				PKKPbc	PKKPbc	08 00 02.6	+0.8	
	comp=Z,15nm,1.1s,baz=248,slow=3.9,SNR=8.8							
MDT				SKKPbc	SKKPbc	08 02 48.9	-0.1	
	comp=Z,7.9nm,0.9s,baz=144,slow=0.4,SNR=5.8							
J30A	Dallas	117.00	34	PKiKP	PKiKP	07 49 33.3	+0.2	
	baz=117							
OGNE	Ogallala	117.03	37	PKiKP	PKiKP	07 49 33.9	+0.6	
	baz=117							
LIS	Lisbon	117.03	320	*e*PP	PP	07 50 54.3	+0.5	
LIS				AMS	AMS	08 23 25.9		
	comp=Z,4μm,28.2s							
PMST	Lisbon--Monsan	117.04	320	*e*PP	PP	07 50 54.8	+0.9	
P26A	Davis Ranch, A	117.05	39	PKiKP	PKiKP	07 49 33.6	+0.1	
	baz=117							
PBDV	Barranco-do-Ve	117.05	318	*e*PKPdf	PKPdf	07 49 34.2	+0.9	
PBDV	Barranco-do-Ve	117.05	318	*e*PP	PP	07 50 45.8	-8.3	
I31A	Royce, Wessing	117.06	33	PKiKP	PKPdf	07 49 33.1	-0.1	
	baz=117							
M28A	Bar X Bar Ranc	117.15	37	PKiKP	PKiKP	07 49 33.7	+0.2	
	baz=117							
O27A	Beecher Island	117.21	38	PKiKP	PKiKP	07 49 33.9	+0.2	
	baz=117							
L29A	Maesberg Ranch	117.25	35	PKiKP	PKiKP	07 49 33.7	0.0	
	baz=117							
Q26A	Hugo	117.31	40	PKiKP	PKiKP	07 49 34.4	+0.4	
	baz=117							
K30A	Basset	117.35	34	PKiKP	PKiKP	07 49 34.2	+0.4	
	baz=117							
PTEO	Sao Teotonio	117.42	318	*e*PKPdf	PKPdf	07 49 34.8	+0.8	
PTEO	Sao Teotonio	117.42	318	*e*PP	PP	07 50 49.3	-7.2	
N28A	Pribbeno Ranch	117.48	37	PKiKP	PKiKP	07 49 34.3	+0.1	
	baz=117							
MORF	Marmelete	117.50	318	*e*P	PKPdf	07 49 33.1	-1.2	
MORF				*e*PP	PP	07 50 57.6	+0.4	
MORF				AMS	AMS	08 20 28.7		
	comp=Z,2μm,21.0s							
MORF	Marmelete	117.50	318	*e*PKPdf	PKPdf	07 49 35.3	+1.1	
MORF	Marmelete	117.50	318	*e*PP	PP	07 50 58.1	+1.0	
MORF	Marmelete	117.50	318	*e*PKiKP	PKPdf	07 49 33.0	-1.2	
MORF				*e*		07 50 57.5		
M29A	Burnside Ranch	117.52	36	PKiKP	PKPdf	07 49 34.0	-0.2	
	baz=118							
P27A	Ficken Ranch,	117.53	39	PKiKP	PKiKP	07 49 34.6	+0.2	
	baz=118							
Y22D	IRIS PASSCAL I	117.63	46	PKiKP	PKiKP	07 49 35.4	+0.7	
	baz=118							
EYMN	Ely	117.66	26	PKiKP	PKiKP	07 49 34.7	+0.5	
	baz=118							
O28A	Krutsinger Ran	117.68	38	PKiKP	PKiKP	07 49 35.1	+0.5	
	baz=118							
R26A	Arlington	117.71	40	PKiKP	PKiKP	07 49 35.3	+0.6	
	baz=118							
PFVI	Vila Bisbo	117.71	318	*e*PKPdf	PKPdf	07 49 35.2	+0.6	
PFVI	Vila Bisbo	117.71	318	*e*PP	PP	07 50 59.6	+1.1	
T25A	Trinidad	117.74	42	PKiKP	PKiKP	07 49 35.4	+0.4	
	baz=118							
T25A	Trinidad	117.74	42	*e*PKPdf	PKPdf	07 49 35.6	+0.7	
L30A	Spencer Herefo	117.76	35	PKiKP	PKiKP	07 49 35.0	+0.4	
	baz=118							
121A	Cookes Peak, D	117.76	48	PKiKP	PKiKP	07 49 35.5	+0.4	
	baz=118							
BNM	Barren Site	117.80	46	*e*PKPdf	PKPdf	07 49 36.2	+1.0	
KSCO	Kaye Shedlock'	117.82	39	PKiKP	PKiKP	07 49 35.4	+0.4	
	baz=118							
M30A	Dale-Ortello V	117.94	36	PKiKP	PKiKP	07 49 35.6	+0.6	
	baz=118							
P28A	Saint Francis	118.03	38	PKiKP	PKiKP	07 49 35.7	+0.4	
	baz=118							
H34A	Spellman Lake,	118.06	31	PKiKP	PKiKP	07 49 35.3	+0.3	
	baz=118							
L31A	Butterfield Fa	118.11	34	PKiKP	PKPdf	07 49 35.0	-0.3	
	baz=118							
R27A	Eads	118.14	40	PKiKP	PKPdf	07 49 35.5	0.0	
	baz=118							
SCHQ	Schefferville	118.24	7	PKP	PKPdf	07 49 35.1	0.0	
	comp=Z,53nm,0.8s,baz=311,slow=2.1,SNR=55							
SCHQ				PKKPbc	PKKPbc	07 59 56.8	-1.3	
	comp=Z,6.2nm,0.8s,baz=216,slow=3.7,SNR=4.0							
SCHQ				SKKPbc	SKKPbc	08 02 43.3	-2.4	
	comp=Z,20nm,1.0s,baz=179,slow=6.1,SNR=6.6							
T26A	Comanche Natio	118.26	42	PKiKP	PKPdf	07 49 35.9	0.0	
	baz=118							
N30A	Hueftle Ranch,	118.27	36	PKiKP	PKiKP	07 49 35.8	+0.1	
	baz=118							
O29A	4D Ranch, Culb	118.28	37	PKiKP	PKiKP	07 49 35.9	+0.2	
	baz=118							
ECSD	EROS Data Cent	118.28	32	PKiKP	PKiKP	07 49 35.6	+0.1	
	baz=118							
Q28A	Sharon Springs	118.29	39	PKiKP	PKiKP	07 49 35.9	+0.1	
	baz=118							
S27A	Las Animas	118.42	41	PKiKP	PKiKP	07 49 36.2	0.0	
	baz=118							
P29A	Atwood	118.52	38	PKiKP	PKiKP	07 49 36.4	+0.1	
	baz=118							
M31A	Lambtecht Ranc	118.58	35	PKiKP	PKPdf	07 49 36.2	0.0	
	baz=118							
O30A	MW Ranch, Wils	118.69	37	PKiKP	PKPdf	07 49 36.3	-0.1	
	baz=119							
R28A	Tribune	118.73	39	PKiKP	PKiKP	07 49 36.8	+0.1	
	baz=119							
TOA0	Torodi Ar. Sit	118.84	289	*e*PKP1	PKPdf	07 49 36.3	-1.0	
TORD	Torodi Ar. Bea	118.84	289	PKP	PKPdf	07 49 36.9	-0.4	
	comp=Z,95nm,0.8s,baz=43,slow=2.1,SNR=85							
TORD				SKP		07 52 14.3		
	comp=Z,67nm,0.9s,baz=50,slow=1.7,SNR=7.3							
TORD				PKKPbc	PKKPbc	07 59 54.3	-0.3	
	comp=Z,7.7nm,0.7s,baz=241,slow=2.3,SNR=3.8							
TORD				SKKPbc	SKKPbc	08 02 43.0	+0.4	
	comp=Z,4.9nm,0.9s,baz=281,slow=2.9,SNR=4.2							
T27A	Campo	118.89	41	PKiKP	PKiKP	07 49 37.1	0.0	
	baz=119							
Q29A	Oakley	118.92	39	PKiKP	PKPdf	07 49 36.9	-0.1	
	baz=119							
N31A	Bailey Ranch,	118.92	36	PKiKP	PKPdf	07 49 36.9	0.0	
	baz=119							
P30A	Selden	118.97	38	PKiKP	PKPdf	07 49 36.8	-0.2	
	baz=119							
L33A	Hoskins	118.99	34	PKiKP	PKPdf	07 49 36.9	-0.1	
	baz=119							
BGNE	Belgrade	119.00	35	PKiKP	PKPdf	07 49 36.9	-0.1	
	baz=119							
BGNE	Belgrade	119.00	35	*e*PKPdf	PKPdf	07 49 36.5	-0.5	
R29A	Marienthal	119.10	39	PKiKP	PKiKP	07 49 37.5	+0.1	
	baz=119							
SPMN	St. Paul	119.12	29	PKiKP	PKiKP	07 49 37.5	+0.3	
	baz=119							
S28A	Manter	119.12	40	PKiKP	PKiKP	07 49 37.6	+0.2	
	baz=119							
O31A	Woolen Ranch,	119.14	37	PKiKP	PKiKP	07 49 37.8	+0.4	
	baz=119							
U27A	Thompson Grove	119.19	42	PKiKP	PKiKP	07 49 37.8	+0.1	
	baz=119							
T28A	Walsh	119.26	41	PKiKP	PKiKP	07 49 37.9	+0.1	
	baz=119							
Q30A	Quinter	119.33	38	PKiKP	PKiKP	07 49 37.9	+0.1	
	baz=119							
N32A	Stulken Farm,	119.34	35	PKiKP	PKPdf	07 49 37.7	0.0	
	baz=119							
M33A	Taylor Creek F	119.43	34	PKiKP	PKPdf	07 49 37.6	-0.2	
	baz=119							
P31A	Stockton	119.51	37	PKiKP	PKiKP	07 49 38.2	+0.1	
	baz=119							
V27A	Oppiter Fa	119.56	42	PKiKP	PKiKP	07 49 38.7	+0.3	
	baz=120							
S29A	Ulysses	119.60	40	PKiKP	PKiKP	07 49 38.6	+0.2	
	baz=120							
U28A	Mallet	119.61	42	PKiKP	PKPdf	07 49 38.5	+0.1	
	baz=120							
L34A	Svendsen Farm,	119.62	33	PKiKP	PKiKP	07 49 38.4	+0.2	
	baz=120							
R30A	Dighton	119.73	39	PKiKP	PKiKP	07 49 38.9	+0.3	
	baz=120							
CBKS	Cedar Bluff	119.73	38	PKiKP	PKiKP	07 49 38.9	+0.3	
	baz=120							
T29A	Hugoton	119.76	40	PKiKP	PKiKP	07 49 39.0	+0.3	
	baz=120							
M34A	Aspy Farms, Fr	119.82	34	PKiKP	PKiKP	07 49 38.7	+0.1	
	baz=120							
Q31A	Ellis	119.82	38	PKiKP	PKPdf	07 49 38.6	-0.1	
	baz=120							
N33A	J Bar K, Exete	119.84	35	PKiKP	PKiKP	07 49 38.8	0.0	
	baz=120							
P32A	Huiting Farm,	119.90	37	PKiKP	PKiKP	07 49 39.1	+0.3	
	baz=120							
SLBS	Sierra La Lagu	119.93	58	*e*PKPdf	PKPdf	07 49 40.4	+1.1	
L35A	Bielow Farm, R	119.97	33	PKiKP	PKiKP	07 49 39.4	+0.5	
	baz=120							
V28A	Channing	119.97	42	PKiKP	PKiKP	07 49 39.7	+0.4	
	baz=120							
S30A	Montezuma	120.00	39	PKiKP	PKiKP	07 49 39.2	0.0	
	baz=120							
R31A	Burdett	120.19	38	PKiKP	PKPdf	07 49 39.3	-0.1	
	baz=120							
U29A	Oasis Ranch, S	120.20	41	PKiKP	PKPdf	07 49 39.3	-0.2	
	baz=120							
O33A	Hebron	120.20	36	PKiKP	PKPdf	07 49 39.3	0.0	
	baz=120							
W28A	Vega	120.27	43	PKiKP	PKiKP	07 49 40.0	+0.1	
	baz=120							
N34A	Lincoln	120.31	34	PKiKP	PKPdf	07 49 39.4	-0.1	
	baz=120							
T30A	Plains	120.32	40	PKiKP	PKiKP	07 49 39.9	+0.1	
	baz=120							
M35A	Neola	120.33	33	PKiKP	PKiKP	07 49 39.8	+0.2	
	baz=120							
Q32A	Meitler Ranch,	120.33	37	PKiKP	PKiKP	07 49 40.1	+0.3	
	baz=120							
V29A	Stinnett	120.37	42	PKiKP	PKiKP	07 49 40.2	+0.2	
	baz=120							
U30A	WK&E Inc. Balk	120.55	41	PKiKP	PKiKP	07 49 40.5	+0.2	
	baz=120							
P33A	Williams Farm,	120.56	36	PKiKP	PKiKP	07 49 40.4	+0.2	
	baz=120							
R32A	Long Quarter,	120.60	38	PKiKP	PKiKP	07 49 40.6	+0.3	
	baz=120							
S31A	Mullinville	120.63	39	PKiKP	PKiKP	07 49 40.6	+0.3	
	baz=121							
O34A	Beatrice	120.64	35	PKiKP	PKiKP	07 49 40.3	0.0	
	baz=121							
X28A	Dimmitt	120.69	43	PKiKP	PKiKP	07 49 40.7	0.0	
	baz=121							
W29A	Amraillo	120.72	42	PKiKP	PKPdf	07 49 40.6	0.0	
	baz=121							
Q33A	Connelly Farm,	120.76	37	PKiKP	PKiKP	07 49 40.6	+0.1	
	baz=121							
N35A	Tabor	120.78	34	PKiKP	PKiKP	07 49 40.5	0.0	
	baz=121							
S32A	Newby Ranch, P	120.92	38	PKiKP	PKPdf	07 49 40.8	0.0	
	baz=121							
V30A	Spur Ranch, Mi	120.98	41	PKiKP	PKiKP	07 49 41.5	+0.3	
	baz=121							
P34A	Walnut Farm, R	120.99	36	PKiKP	PKiKP	07 49 41.1	+0.1	
	baz=121							
Y28A	McKinney Farm,	121.00	44	PKiKP	PKiKP	07 49 41.4	+0.1	
	baz=121							
O35A	Humboldt	121.03	34	PKiKP	PKiKP	07 49 41.1	+0.1	
	baz=121							
X29A	Tulia	121.07	43	PKiKP	PKiKP	07 49 41.6	+0.2	
	baz=121							
R33A	Olander Ranch,	121.12	37	PKiKP	PKiKP	07 49 41.6	+0.3	
	baz=121							
U31A	Nine Bar Ranch	121.16	40	PKiKP	PKiKP	07 49 41.5	+0.1	
	baz=121							
Z28A	Tucker Farm, M	121.25	45	PKiKP	PKPdf	07 49 41.4	-0.3	
	baz=121							
T32A	Huddler Ranch,	121.25	39	PKiKP	PKPdf	07 49 41.5	0.0	
	baz=121							
Q34A	Chapman	121.34	36	PKiKP	PKiKP	07 49 41.9	+0.2	
	baz=121							
W30A	Crocket Farms	121.40	42	PKiKP	PKiKP	07 49 42.0	0.0	
	baz=121							
KSU1	Kansas State U	121.41	36	PKiKP	PKiKP	07 49 42.1	+0.3	
	baz=121							
KSU1	Kansas State U	121.41	36	*e*PKPdf	PKPdf	07 49 42.0	+0.4	
Y29A	Porterfield Fa	121.42	44	PKiKP	PKiKP	07 49 42.2	+0.1	
	baz=121							
P35A	Duane Minner,	121.47	35	PKiKP	PKPdf	07 49 41.7	0.0	
	baz=121							
V31A	Spring Creek L	121.53	41	PKiKP	PKiKP	07 49 42.5	+0.3	
	baz=122							
128A	Castleberry Fa	121.55	45	PKiKP	PKiKP	07 49 42.7	+0.3	
	baz=122							
S33A	Kaszmaul Farm,	121.56	38	PKiKP	PKiKP	07 49 42.5	+0.4	
	baz=122							
R34A	Isabella, Hill	121.56	37	PKiKP	PKiKP	07 49 42.7	+0.5	
	baz=122							
X30A	Coker Ranch, T	121.63	43	PKiKP	PKiKP	07 49 42.9	+0.5	
	baz=122							
O36A	Bolckow	121.65	34	PKiKP	PKPdf	07 49 41.3	-0.7	
	baz=122							
U32A	Winter Ranch,	121.70	40	PKiKP	PKPdf	07 49 42.2	-0.1	
	baz=122							
T33A	Patterson Ranc	121.74	39	PKiKP	PKiKP	07 49 42.6	+0.1	
	baz=122							
Z29A	Hungry Hill Ra	121.74	44	PKiKP	PKiKP	07 49 42.8	0.0	
	baz=122							
228A	UT Block 9, Go	121.74	46	PKiKP	PKiKP	07 49 42.8	0.0	
	baz=122							
W31A	Holland Ranch,	121.81	41	PKiKP	PKiKP	07 49 43.0	+0.2	
	baz=122							
P36A	Good Intent, A	121.87	35	PKiKP	PKPdf	07 49 42.5	0.0	
	baz=122							
Q35A	Mercer Eighty,	121.91	36	PKiKP	PKPdf	07 49 42.7	+0.1	
	baz=122							
Y30A	Stafford Cattl	121.94	43	PKiKP	PKiKP	07 49 43.3	+0.2	
	baz=122							
129A	Stewart Farms,	121.98	45	PKiKP	PKiKP	07 49 43.5	+0.3	
	baz=122							
S34A	Willow Spring	122.03	37	PKiKP	PKiKP	07 49 43.4	+0.3	
	baz=122							
V32A	Arapaho	122.08	40	PKiKP	PKiKP	07 49 43.4	+0.1	
	baz=122							
X31A	McDonald Ranch	122.12	42	PKiKP	PKiKP	07 49 43.6	+0.2	
	baz=122							
Z30A	Sanderson Ranc	122.12	44	PKiKP	PKiKP	07 49 43.6	+0.2	
	baz=122							
R35A	Emporia Munici	122.17	36	PKiKP	PKiKP	07 49 43.4	+0.1	
	baz=122							
Q36A	Arnold C. Orve	122.17	35	PKiKP	PKiKP	07 49 43.4	+0.1	
	baz=122							
U33A	Lingo Farm, Me	122.23	39	PKiKP	PKiKP	07 49 43.7	+0.2	
	baz=122							
Y31A	Rekieta Farm,	122.32	43	PKiKP	PKiKP	07 49 44.0	+0.2	
	baz=122							
229A	Bryant Ranch,	122.38	46	PKiKP	PKiKP	07 49 44.3	+0.2	
	baz=122							
TXAR	Lajitas Array	122.42	49	PKP	PKPdf	07 49 43.9	-0.1	
	comp=Z,13nm,0.7s,baz=230,slow=1.3,SNR=48							
TXAR				SKP		07 52 21.9		
	comp=Z,7.5nm,0.8s,baz=335,slow=1.4,SNR=4.1							
TXAR				PKKPbc	PKKPbc	07 59 41.0	-1.2	
	comp=Z,9.0nm,0.9s,baz=131,slow=5.7,SNR=17							
T34A	McClaskey Farm	122.42	38	PKiKP	PKiKP	07 49 43.9	0.0	
	baz=122							
V33A	Lossen Ranch,	122.50	40	PKiKP	PKiKP	07 49 44.3	+0.2	
	baz=122							
S35A	Otter Creek Ra	122.52	37	PKiKP	PKiKP	07 49 44.1	+0.1	
	baz=122							
329A	Wagon Wheel Ra	122.52	46	PKiKP	PKiKP	07 49 44.5	+0.2	
	baz=122							
R36A	Gordon, Harris	122.58	36	PKiKP	PKPdf	07 49 43.7	-0.2	
	baz=122							
U34A	Anderson Ranch	122.58	39	*e*PKPdf	PKPdf	07 49 45.8	+1.8	
130A	Snyder	122.62	44	PKiKP	PKiKP	07 49 44.7	+0.2	
	baz=123							
X32A	Elmer	122.70	42	PKiKP	PKiKP	07 49 45.1	+0.6	
	baz=123							
Z31A	Sharp Cattle R	122.78	43	PKiKP	PKiKP	07 49 45.0	+0.3	
	baz=123							
W33A	Caddo, Fort Co	122.80	41	PKiKP	PKiKP	07 49 44.9	+0.2	
	baz=123							
Y32A	R-V Farms, Ver	122.85	42	PKiKP	PKPdf	07 49 44.6	+0.1	
	baz=123							
T35A	Sooner Cattle	122.91	38	PKiKP	PKPdf	07 49 44.7	+0.1	
	baz=123							
230A	Sterling City	122.92	45	PKiKP	PKiKP	07 49 45.0	0.0	
	baz=123							
S36A	Lake Cedric, C	122.92	36	PKiKP	PKiKP	07 49 44.8	-0.1	
	baz=123							
R37A	Teagarden Farm	122.97	35	PKiKP	PKiKP	07 49 44.9	-0.1	
	baz=123							
V34A	Guthrie	122.98	39	PKiKP	PKiKP	07 49 45.4	+0.4	
	baz=123							
131A	Roby	122.98	44	PKiKP	PKiKP	07 49 45.5	+0.4	
	baz=123							
429A	Davenport Ranc	123.05	47	PKiKP	PKiKP	07 49 45.4	0.0	
	baz=123							
529A	Stev Forest Ra	123.08	48	PKiKP	PKiKP	07 49 45.5	0.0	
	baz=123							
U35A	Pawnee	123.12	38	PKiKP	PKiKP	07 49 45.4	+0.1	
	baz=123							
330A	Mertzon	123.14	46	PKiKP	PKiKP	07 49 45.6	0.0	
	baz=123							
X33A	Lawton	123.15	41	PKiKP	PKiKP	07 49 45.5	+0.1	
	baz=123							
W34A	Bridge Creek,	123.19	40	PKiKP	PKiKP	07 49 45.7	+0.2	
	baz=123							
T36A	Boggs Farm, Ca	123.19	37	PKiKP	PKiKP	07 49 45.7	+0.3	
	baz=123							
Z32A	Haskell	123.24	43	PKiKP	PKiKP	07 49 45.5	-0.1	
	baz=123							
S37A	Fort Scott	123.35	36	PKiKP	PKPdf	07 49 45.3	-0.1	
	baz=123							
Y

532A	Rocksprings	124.76	46	PKiKP	PKPdf	07 49 48.4	0.0
	baz=125						
V38A	Canehill	124.88	37	PKiKP	PKPdf	07 49 48.4	0.0
	baz=125						
234A	Clairette	124.92	43	PKiKP	PKiKP	07 49 49.0	0.0
	baz=125						
Y36A	Durant	124.98	40	PKiKP	PKiKP	07 49 49.2	+0.2
	baz=125						
433A	Art	124.98	45	PKiKP	PKiKP	07 49 49.1	-0.1
	baz=125						
135A	Vickery Place,	125.08	42	PKiKP	PKiKP	07 49 49.4	+0.1
	baz=125						
PMPS	Porto Santo	125.08 318		ePKPdf	PKPdf	07 49 50.9	+2.1
PMPS	Porto Santo	125.08 318		ePP	PP	07 51 50.0	+2.3
X37A	Clayton	125.12	39	PKiKP	PKiKP	07 49 49.6	+0.3
	baz=125						
632A	Uvalde	125.19	47	PKiKP	PKiKP	07 49 49.6	0.0
	baz=125						
334A	Lometa	125.25	44	PKiKP	PKiKP	07 49 49.6	-0.1
	baz=125						
SLM	Saint Louis	125.28	32	ePKiKP	PKPdf	07 49 49.5	+0.4
SLM	Saint Louis	125.28	32	ePKPdf	PKPdf	07 49 49.5	+0.4
Z36A	Blue Ridge	125.28	41	PKiKP	PKiKP	07 49 49.8	+0.1
	baz=125						
W38A	Poteau	125.33	38	PKiKP	PKiKP	07 49 49.7	0.0
	baz=125						
Y37A	Hugo	125.36	40	PKiKP	PKiKP	07 49 50.0	+0.2
	baz=125						
WHTX	Lake Whitney	125.39	43	PKiKP	PKiKP	07 49 50.0	+0.1
	baz=125						
WHTX	Lake Whitney	125.39	43	ePKPdf	PKPdf	07 49 48.4	-1.1
WHTX				epPKPdf	pPKPdf	07 52 08.9	-2.3
X38A	Whitesboro	125.41	39	PKiKP	PKiKP	07 49 49.7	-0.1
	baz=125						
533A	Kerrville	125.41	46	PKiKP	PKPdf	07 49 49.7	0.0
	baz=125						
732A	Laxson Ranch,	125.48	48	PKiKP	PKiKP	07 49 50.2	0.0
	baz=126						
SFIN	Scholer Farm	125.52	28	PKiKP	PKPdf	07 49 49.7	+0.2
	baz=125						
SFIN	Scholer Farm	125.52	28	ePKPdf	PKPdf	07 49 49.5	+0.1
SFIN				epPKPdf	pPKPdf	07 52 09.4	-1.9
434A	Burnet	125.53	45	PKiKP	PKiKP	07 49 50.1	-0.1
	baz=126						
633A	Saathoff Ranch	125.66	47	PKiKP	PKiKP	07 49 50.8	+0.2
	baz=126						
PMAR	Madeira	125.67 318		ePKPdf	PKPdf	07 49 51.4	+1.2
PMAR	Madeira	125.67 318		ePP	PP	07 51 50.2	-1.6
136A	Ennis	125.71	42	PKiKP	PKiKP	07 49 50.7	+0.2
	baz=126						
832A	Faith Ranch, C	125.72	48	PKiKP	PKiKP	07 49 50.8	+0.1
	baz=126						
PMOZ	Porto Moniz, M	125.79 319		ePKPdf	PKPdf	07 49 50.9	+0.5
PMOZ	Porto Moniz, M	125.79 319		ePP	PP	07 51 54.3	+1.8
335A	Moody	125.83	44	PKiKP	PKiKP	07 49 50.9	+0.1
	baz=126						
534A	Blanco	125.84	46	PKiKP	PKPdf	07 49 50.6	+0.2
	baz=126						
Z37A	Pogue Cattle C	125.85	41	PKiKP	PKiKP	07 49 51.1	+0.3
	baz=126						
Y38A	Idabel	125.95	39	PKiKP	PKiKP	07 49 50.9	-0.1
	baz=126						
733A	Divot King Ran	125.98	47	PKiKP	PKiKP	07 49 51.4	+0.2
	baz=126						
236A	Katherine and	126.00	42	PKiKP	PKiKP	07 49 51.5	+0.4
	baz=126						
435B	Jarrell	126.02	44	PKiKP	PKiKP	07 49 51.3	+0.1
	baz=126						
833A	Chaparral WMA,	126.13	48	PKiKP	PKiKP	07 49 51.8	+0.3
	baz=126						
137A	Heron Place, G	126.15	41	PKiKP	PKiKP	07 49 51.9	+0.5
	baz=126						
336A	Riesel	126.17	43	PKiKP	PKiKP	07 49 51.6	+0.1
	baz=126						
Z38A	Mt. Pleasant	126.23	40	PKiKP	PKiKP	07 49 52.1	+0.5
	baz=126						
MIAR	Mount Ida	126.26	38	PKiKP	PKiKP	07 49 51.7	+0.2
	baz=126						
634A	China Grove, S	126.30	46	PKiKP	PKiKP	07 49 51.8	+0.1
	baz=126						
OLIL	Olney	126.31	30	ePKPdf	PKPdf	07 49 51.5	+0.5
OLIL				epPKPdf	pPKPdf	07 52 11.9	-0.9
Y39A	Lockesburg	126.35	39	PKiKP	PKiKP	07 49 51.6	-0.1
	baz=126						
734A	La Parita Cree	126.45	47	PKiKP	PKiKP	07 49 53.1	+1.0
	baz=126						
535A	Dale	126.47	45	PKiKP	PKiKP	07 49 52.7	+0.5
	baz=126						
237A	Washetta, Mont	126.48	42	PKiKP	PKiKP	07 49 53.2	+1.1
	baz=126						
SIUC	Southern Illin	126.50	32	ePKPdf	PKPdf	07 49 52.5	+1.1
SIUC				epPKPdf	pPKPdf	07 52 12.3	-0.8
PBMO	Poplar Bluff	126.53	34	ePKPdf	PKPdf	07 49 51.4	-0.1
PBMO				epPKPdf	pPKPdf	07 52 12.1	-1.1
138A	Matatall Enter	126.54	41	PKiKP	PKiKP	07 49 53.5	+1.3
	baz=126						
LONY	Lake Ozonia	126.56	16	ePKPdf	PKPdf	07 49 51.2	-0.2
436A	Wall Ranch, Ga	126.57	44	PKiKP	PKiKP	07 49 53.1	+0.8
	baz=126						
933A	Laredo	126.61	48	PKiKP	PKiKP	07 49 53.1	+0.6
	baz=127						
KIC	Kosan Boka	126.64 283		ePKP1	PKPdf	07 49 51.9	-0.4
	comp=Z,476nm,0.9s						
DBIC	Dimbokro	126.69 283		PKP	PKPdf	07 49 52.8	+0.4
	comp=Z,181nm,1.0s,baz=47,slow=1.8,SNR=16						
DBIC	Dimbokro	126.69 283		PKiKP	PKPdf	07 49 52.8	+0.4
DBIC				pmax	pmax		
	comp=Z,181nm,1.0s						
DBIC	Dimbokro	126.69 283		ePKPdf	PKPdf	07 49 52.3	-0.1
DBIC				PKP	PKPdf	07 49 52.8	+0.4
DBIC				epPKPdf	pPKPdf	07 52 13.0	-1.1
635A	Leesville	126.70	46	PKiKP	PKiKP	07 49 53.5	+0.9
	baz=127						
BLO	Bloomington	126.75	29	ePKiKP	PKPdf	07 49 52.2	+0.3
BLO				e		07 52 12.1	
BLO	Bloomington	126.75	29	ePKPdf	PKPdf	07 49 52.2	+0.3
BLO				epPKPdf	pPKPdf	07 52 12.1	-1.5
Z39A	Irene McRaven,	126.75	40	PKiKP	PKiKP	07 49 53.3	+0.7
	baz=127						
536A	Bastrop	126.80	45	PKiKP	PKiKP	07 49 53.2	+0.4
	baz=127						
TIC	Toumodi	126.85 283		ePKP1	PKPdf	07 49 53.0	+0.3
834A	Tilden	126.86	48	PKiKP	PKiKP	07 49 53.8	+0.8
	baz=127						
337A	Centerville	126.86	43	PKiKP	PKiKP	07 49 54.5	+1.6
	baz=127						
238A	Jacksonville	126.94	41	PKiKP	PKiKP	07 49 53.9	+0.9
	baz=127						
LIC	Lamto	126.95 283		ePKP1	PKPdf	07 49 51.9	-1.0
	comp=Z,406nm,0.9s						
139A	Bunkhouse Ranc	126.98	40	PKiKP	PKiKP	07 49 53.8	+0.8
	baz=127						
735A	Kenedy	126.98	46	PKiKP	PKiKP	07 49 54.4	+1.2
	baz=127						
437A	Phantom Ranch,	126.99	43	PKiKP	PKiKP	07 49 54.0	+0.9
	baz=127						
PARMO	Parma	126.99	33	ePKPdf	PKPdf	07 49 53.6	+1.3
PARMO				epPKPdf	pPKPdf	07 52 14.2	+0.1
USIN	University of	127.12	31	ePKPdf	PKPdf	07 49 49.5	-3.1
USIN				epPKPdf	pPKPdf	07 52 13.8	-0.6
636A	Smothers Creek	127.16	45	PKiKP	PKiKP	07 49 54.5	+1.0
	baz=127						
934A	Benavides	127.17	48	PKiKP	PKiKP	07 49 54.1	+0.6
	baz=127						
338A	Crockett	127.22	42	PKiKP	PKiKP	07 49 54.4	+0.9
	baz=127						
PSET	Sete Cidades	127.28 329		ePP	PP	07 52 01.0	-0.6
HBAR	Harrisburg	127.29	35	ePKPdf	PKPdf	07 49 54.6	+1.6
HBAR				epPKPdf	pPKPdf	07 52 14.7	0.0
835A	Beeville	127.29	47	PKiKP	PKiKP	07 49 54.5	+0.7
	baz=127						
537A	Green Hill Far	127.32	44	PKiKP	PKiKP	07 49 54.8	+1.0
	baz=127						
034A	Hebbronville	127.34	49	PKiKP	PKiKP	07 49 55.1	+1.1
	baz=127						
GNAR	Gosnell	127.35	34	ePKPdf	PKPdf	07 49 54.1	+1.0
GNAR				epPKPdf	pPKPdf	07 52 15.8	+1.0
239A	Gary	127.35	41	PKiKP	PKiKP	07 49 54.3	+0.5
	baz=127						
ADH	Angra Heroismo	127.38 331		ePKPdf	PKPdf	07 49 52.2	-0.9
NATX	Nacogdoches	127.39	41	PKiKP	PKiKP	07 49 54.9	+1.0
	baz=127						
PGRA	Graciosa	127.44 332		ePP	PP	07 52 03.6	+1.1
736A	Circle Diamond	127.46	46	PKiKP	PKiKP	07 49 55.5	+1.4
	baz=127						
438A	Sam Houston St	127.49	43	PKiKP	PKiKP	07 49 55.4	+1.3
	baz=127						
ACSO	Alum Creek Sta	127.49	25	ePKPdf	PKPdf	07 49 54.0	+0.8
ACSO				epPKPdf	pPKPdf	07 52 15.0	-0.1
PSMN	Pico do Norte,	127.56 328		ePKPdf	PKPdf	07 49 51.1	-2.4
PSMN	Pico do Norte,	127.56 328		ePP	PP	07 52 03.8	+0.3
PSMA	Santa Maria	127.60 328		ePKPdf	PKPdf	07 49 49.6	-3.9
PSMA	Santa Maria	127.60 328		ePP	PP	07 52 05.5	+1.8
637A	Eagle Lake	127.69	45	PKiKP	PKiKP	07 49 55.3	+0.8
	baz=128						
HKT	Hockley	127.73	44	ePKIKP	PKPdf	07 49 55.6	+1.7
HKT	Hockley	127.73	44	ePKPdf	PKPdf	07 49 55.5	+1.7
339A	Huntington	127.73	42	PKiKP	PKiKP	07 49 55.3	+0.7
	baz=128						
538A	Harpers Horsep	127.80	43	PKiKP	PKiKP	07 49 55.5	+0.8
	baz=128						
PMAN	Manadas	127.81 332		ePKPdf	PKPdf	07 49 51.8	-2.1
PMAN	Manadas	127.81 332		ePP	PP	07 52 06.3	+1.4
ROSA	Rosais	127.81 332		ePKPdf	PKPdf	07 49 53.0	-0.9
ROSA	Rosais	127.81 332		ePP	PP	07 52 05.1	+0.2
035A	Encino	127.85	48	PKiKP	PKiKP	07 49 55.5	+0.6
	baz=128						
439A	Center Grove,	127.94	42	PKiKP	PKiKP	07 49 55.8	+0.8
	baz=128						
ACCN	Adirondack Com	127.95	16	ePKPdf	PKPdf	07 49 56.1	+2.0
737A	Port Lavaca	128.01	46	PKiKP	PKiKP	07 49 56.7	+1.5
	baz=128						
PPNO	Prainha do Nor	128.02 332		ePKPdf	PKPdf	07 49 49.6	-4.8
PPNO	Prainha do Nor	128.02 332		ePP	PP	07 52 08.1	+1.8
EMMW	East Machias	128.05	10	ePKPdf	PKPdf	07 49 56.4	+2.3
EMMW				epPKPdf	pPKPdf	07 52 17.8	+1.9
PCED	Cedros	128.09 332		ePKPdf	PKPdf	07 49 53.0	-1.4
PCED	Cedros	128.09 332		ePP	PP	07 52 07.4	+0.7
340A	Bronson	128.12	41	PKiKP	PKiKP	07 49 55.8	+0.4
	baz=128						
035Z	Hargill	128.13	49	PKiKP	PKiKP	07 49 56.3	+0.8
	baz=128						
936A	North Padre Is	128.16	47	PKiKP	PKiKP	07 49 56.1	+0.6
	baz=128						
539A	Cross D Ranch,	128.39	43	PKiKP	PKiKP	07 49 56.9	+1.0
	baz=128						
440A	Kirbyville	128.50	42	PKiKP	PKiKP	07 49 57.2	+1.1
	baz=128						
TRY	Troy	128.55	16	ePKPdf	PKPdf	07 49 57.0	+1.8
540A	Vidor	128.83	42	PKiKP	PKiKP	07 49 57.9	+1.0
	baz=129						
KSPA	Keystone Colle	129.01	18	ePKPdf	PKPdf	07 49 58.1	+2.0
SSPA	Standing Stone	129.13	21	ePKPdf	PKPdf	07 49 58.8	+2.5
VBMS	Vicksburg	129.72	38	PKiKP	PKiKP	07 49 59.0	+0.5
	baz=130						
VBMS	Vicksburg	129.72	38	ePKPdf	PKPdf	07 50 00.0	+2.3
ODNJ	Ogdensburg	129.80	18	ePKPdf	PKPdf	07 49 59.4	+1.8
BRYW	Bryant College	129.87	14	ePKPdf	PKPdf	07 49 59.6	+1.9
LUPA	Lehigh Univers	130.01	19	ePKPdf	PKPdf	07 49 59.0	+1.0
PAL	Palisades	130.08	17	ePKIKP	PKPdf	07 49 59.7	+1.6
PAL	Palisades	130.08	17	ePKPdf	PKPdf	07 49 59.7	+1.6
SWET	Sewanee	130.12	32	ePKPdf	PKPdf	07 49 59.9	+1.4
BRNJ	Basking Ridge	130.18	18	ePKPdf	PKPdf	07 49 59.7	+1.4
MVL	Millersville	130.23	20	ePKPdf	PKPdf	07 50 00.8	+2.3
TZTN	Tazewell	130.26	29	ePKPdf	PKPdf	07 49 59.7	+1.1
CPNY	Central Park	130.26	17	ePKPdf	PKPdf	07 50 01.3	+2.9
CPCT	Cooper Cave	130.66	30	ePKPpre	PKPpre	07 49 43.6	
CPCT				ePKPdf	PKiKP	07 50 01.0	+0.6
TKL	Tuckaleechee C	130.86	29	SKPbc	SKPab	07 52 28.3	-0.1
	comp=Z,440nm,0.8s,baz=167,slow=2.4,SNR=12						
TKL	Tuckaleechee C	130.86	29	ePKHKP	PKPpre	07 49 44.6	
TKL				e		07 50 01.1	
TKL						07 52 28.3	
TKL	Tuckaleechee C	130.86	29	ePKPpre	PKPpre	07 49 44.6	
TKL				ePKPdf	PKiKP	07 50 01.1	+0.3
TKL				SKPbc	SKPab	07 52 28.3	-0.1
USHA	Ushuaia	130.94 171		SKPbc	SKPab	07 52 27.8	-0.3
	baz=180,slow=6.7						
BLA	Blacksburg	131.11	25	ePKHKP	PKPpre	07 49 48.7	
BLA	Blacksburg	131.11	25	ePKPpre	PKPpre	07 49 48.7	
BLA				ePKPdf	PKiKP	07 50 02.2	+0.9
CBN	Corbin	131.47	22	ePKPdf	PKPdf	07 50 03.0	+2.2
JSRW	J. Sargeant Re	131.72	23	ePKPpre	PKPpre	07 49 48.8	
JSRW				ePKPdf	PKiKP	07 50 03.8	+1.4
URVA	University of	131.96	22	ePKPpre	PKPpre	07 49 48.1	
URVA				ePKPdf	PKiKP	07 50 03.7	+0.8
KMSC	Kings Mountain	132.44	28	ePKPpre	PKPpre	07 49 48.5	
KMSC				ePKPdf	PKiKP	07 50 03.9	-0.1
KMSC				eSKPbc	SKPbc	07 52 30.1	-3.1
BRAL	Brewton	132.65	36	ePKPdf	PKPdf	07 50 05.9	+2.7
GOGA	Godfrey	132.80	31	ePKHKP	PKPpre	07 49 52.1	
GOGA	Godfrey	132.80	31	ePKPpre	PKPpre	07 49 52.1	
GOGA				ePKPdf	PKiKP	07 50 05.5	+0.8
JSC	Jenkinsville	133.18	28	ePKHKP	PKPpre	07 49 52.3	
JSC				e		07 50 05.4	
JSC	Jenkinsville	133.18	28	ePKPpre	PKPpre	07 49 52.3	
JSC				ePKPdf	PKiKP	07 50 05.4	-0.1
CNNC	Cliffs of the	133.85	24	ePKPdf	PKPdf	07 50 08.0	+2.7
TIGA	Tifton	134.28	33	ePKPpre	PKPpre	07 49 56.8	
TIGA				ePKPdf	PKiKP	07 50 08.1	+0.3
CSU	Charleston Sou	134.81	28	ePKPpre	PKPpre	07 49 56.7	
CSU				ePKPdf	PKiKP	07 50 09.9	+1.1
CMIG	Matias Romero	135.49	58	SKPbc	SKPbc	07 52 42.7	-0.7
	comp=Z,152nm,0.9s,baz=267,slow=2.0,SNR=41						
DWPF	Disney	138.04	34	ePKPdf	PKPdf	07 50 15.7	+2.4
H10N1	ASCENSION HYDR	138.16	266	PKhKP	PKPpre	07 50 06.3	
	baz=69,slow=3.3,SNR=8.3						
H10N2	ASCENSION HYDR	138.17	266	PKhKP	PKPpre	07 50 07.6	
	baz=69,slow=3.3,SNR=4.6						
H10N3	ASCENSION HYDR	138.19	266	PKhKP	PKPpre	07 50 07.1	
	baz=69,slow=3.3,SNR=4.6						
TEIG	Tepich	139.06	49	SKPbc	SKPbc	07 52 53.4	-0.2
	comp=Z,7.3nm,0.9s,baz=358,slow=22,SNR=15						
TEIG	Tepich	139.06	49	ePKPpre	PKPpre	07 50 07.1	
TEIG				SKPbc	SKPbc	07 52 53.4	-0.2
BBSR	BB Station	140.53	11	ePKPdf	PKPdf	07 50 20.9	+3.1
JTS	JuntasAbangare	147.21	60	PKPbc	PKPbc	07 50 31.5	-1.6
	comp=Z,258nm,1.0s,baz=280,slow=3.9,SNR=44						
CVJ	Coleyville	147.88	40	*i* P	PKPbc	07 50 35.1	+0.3
MTDJ	Mount Denham	147.88	40	ePKPbc	PKPab	07 50 38.1	-1.5
BBJ	Bamboo Saint A	147.93	39	*i* P	PKPbc	07 50 35.0	+0.1
MCJ	Malvern	148.01	40	*i* P	PKPbc	07 50 36.5	+1.4
TRQA	Tornquist	148.27 172		ePKPab	PKPab	07 50 41.4	+0.8
STH	Stony Hill	148.45	39	*i* P	PKPbc	07 50 36.9	+0.8
HOJ	Hope	148.54	39	*i* P	PKPbc	07 50 37.2	+0.8
WSYH	La Gonave Hosp	150.13	32	ePKPbc	PKPbc	07 50 40.8	+0.8
LGNH	LØogne	150.53	32	ePKPbc	PKPbc	07 50 42.3	+1.3
PAPH	Port-au-Prince	150.68	32	ePKPbc	PKPbc	07 50 42.6	+1.2
SDDR	Presa de Saban	150.80	29	ePKPab	PKPab	07 50 53.0	+1.3
SMN1	Samana, DR	151.55	26	ePKPab	PKPab	07 50 51.3	-3.5
BCIP	Isla Barro Col	152.10	56	ePKPbc	PKPbc	07 50 45.1	+0.4
CFAA	Coronel Fontan	152.82 158		PKP	PKPdf	07 50 37.4	-0.7
	comp=Z,6.5nm,0.9s,baz=239,slow=2.0,SNR=61						
CFAA				PKPbc	PKPbc	07 50 45.7	-0.2
	comp=Z,8.3nm,0.5s,baz=229,slow=3.5,SNR=49						
AGP	Aguadilla	153.12	22	ePKPbc	PKPbc	07 50 47.2	+0.4
AGP				ePKPab	PKPab	07 51 02.8	+1.4
MPR	Mayaguez	153.29	23	ePKPdf	PKPdf	07 50 40.4	+1.4
MPR				ePKPbc	PKiKP	07 50 48.1	+0.9
MPR				ePKPab	PKPab	07 51 03.9	+1.8
AOPR	Arecibo Observ	153.32	22	ePKPdf	PKPdf	07 50 40.6	+1.5
AOPR				ePKPbc	PKiKP	07 50 49.6	+2.3
AOPR				ePKPab	PKPab	07 51 00.7	-1.5
LSP	Las Mesas	153.35	23	ePKPbc	PKPbc	07 50 48.7	+1.4
LSP				ePKPab	PKPab	07 51 04.2	+1.8
CELP	Cerrillos	153.63	22	ePKPbc	PKPbc	07 50 47.1	-0.7
CELP				ePKPab	PKPab	07 51 01.6	-1.9
OBIP	Obispado Ponce	153.65	22	ePKPbc	PKPbc	07 50 50.5	+2.7
OBIP				ePKPab	PKPab	07 51 04.3	+0.7
SJG	San Juan	153.75	21	PKP	PKPdf	07 50 40.0	+0.3
	comp=Z,9.6nm,0.3s,baz=36,slow=9.9,SNR=7.2						
SJG				PKPbc	PKiKP	07 50 48.8	+0.7
	comp=Z,44nm,0.8s,baz=356,slow=14,SNR=11						
SJG				PKPab	PKPab	07 51 03.9	-0.2
	comp=Z,71nm,0.7s,baz=40,slow=7.7,SNR=7.5						
SJG	San Juan	153.75	21	PKP	PKPdf	07 50 40.0	+0.3
SJG				ePKPbc	PKiKP	07 50 48.4	+0.2
SJG				PKPbc	PKiKP	07 50 48.8	+0.7
SJG				PKPab	PKPab	07 51 03.9	-0.2
SJG				ePKPab	PKPab	07 51 04.2	+0.1
ICMP	Isla Caja de M	153.82	22	ePKPbc	PKPbc	07 50 49.1	+0.9
ICMP				ePKPab	PKPab	07 51 05.0	+0.6
STVI	Saint Thomas	153.92	18	ePKPbc	PKPbc	07 50 49.9	+1.4
STVI				ePKPab	PKPab	07 51 06.0	+1.2
LCO	Las Campanas	154.02 151		ePKPdf	PKPdf	07 50 42.1	+2.0
LCO				ePKPbc	PKiKP	07 50 50.4	+1.6
LCO				ePKPab	PKPab	07 51 06.8	+1.4
SMRT	St. Maarten	154.74	14	eP	PKPab	07 51 09.3	+1.0
SMRT				ePKPab	PKPab	07 51 09.6	+1.3
SABA	Saba	155.11	15	eP	PKPab	07 51 11.8	+1.9
SABA	Saba	155.11	15	ePKPab	PKPab	07 51 11.8	+1.9
ANWB	Willy Bob	155.40	12	ePKPab	PKPab	07 51 11.2	+0.1
SKI	Saint Kitts	155.51	14	eP	PKPab	07 51 12.4	+0.7
MLG	Mont-d'or	156.97	13	eP	PKPab	07 51 18.4	+0.4
SCG	Saint Claude	157.01	12	eP	PKPab	07 51 18.6	+0.4
HMG	Houelmont	157.05	13	eP	PKPab	07 51 18.7	+0.3
TBG	Guadaloupe-3	157.19	13	e	PKPab	07 51 18.9	0.0
TBG	Guadaloupe-3	157.19	13	eP	PKPab	07 51 19.1	+0.2
MGG	Marie-Galante	157.19	12	e	PKPab	07 51 21.3	+2.4
OTAV	Otavalo	157.21	74	ePKPdf	PKPdf	07 50 44.8	-0.1
OTAV				ePKPab	PKPab	07 51 23.4	+3.4
MDN	Morne-Daniel	157.76	12	e	PKPab	07 51 21.9	+0.5
DBCT	Belle View Cho	157.82	12	e	PKPab	07 51 22.8	+1.1
DSHT	Scott's Head	157.87	12	e	PKPab	07 51 23.5	+1.7
FDF	Fort de France	158.38	12	eP	PKPab	07 51 25.0	+0.9
FDF	Fort de France	158.38	12	eP	PKPab	07 51 25.2	+1.0
ATAH	Atahualpa	158.39	93	PKP	PKPdf	07 50 46.8	+0.5
	comp=Z,85nm,0.9s,baz=291,slow=1.5,SNR=40						
ATAH				PKPab	PKPab	07 51 26.0	+0.8
	comp=Z,117nm,0.9s,baz=260,slow=2.4,SNR=11						
ROSC	El Rosal	159.01	58	PKP	PKPdf	07 50 47.5	+0.5
	comp=Z,26nm,0.8s,baz=139,slow=4.2,SNR=18						
ROSC				PKPab	PKPab	07 51 29.1	+1.4
	comp=Z,23nm,0.8s,baz=222,slow=8.4,SNR=3.5						
ROSC	El Rosal	159.01	58	PKP	PKPdf	07 50 47.5	+0.5
ROSC				ePKPdf	PKPdf	07 50 47.8	+0.8
ROSC				ePKPab	PKPab	07 51 26.8	-0.9
ROSC				PKPab	PKPab	07 51 29.1	+1.4
SDV	Santo Domingo	159.26	42	ePKPdf	PKPdf	07 50 46.5	-0.5
SDV				ePKPab	PKPab	07 51 29.4	+0.9
NNA	Nana	159.35 107		PKP	PKPdf	07 50 48.2	+1.3
	comp=Z,40nm,1.0s,baz=242,slow=2.4,SNR=12						
NNA				PKPab	PKPab	07 51 29.9	+1.1
	comp=Z,100nm,1.1s,baz=268,slow=7.0,SNR=14						
NNA	Nana	159.35 107		PKP	PKPdf	07 50 48.2	+1.3
NNA				PKPab	PKPab	07 51 29.9	+1.1
NNA				ePKPab	PKPab	07 51 30.8	+1.9
RCBR	Riachuelo	159.37 271		PKP	PKPdf	07 50 47.2	+0.3
	comp=Z,64nm,0.9s,baz=315,slow=3.2,SNR=12						
RCBR				PKPab	PKPab	07 51 29.1	+0.1
	comp=Z,126nm,0.8s,baz=72,slow=3.4,SNR=15						
RCBR	Riachuelo	159.37 271		PKP	PKPdf	07 50 47.2	+0.3
RCBR				ePKPdf	PKPdf	07 50 49.5	+2.5
RCBR				PKPab	PKPab	07 51 29.1	+0.1
RCBR				ePKPab	PKPab	07 51 29.4	+0.5
MCLT	Moule a Chique	159.42	12	e	PKPab	07 51 29.3	+0.6
SVB	Belmont	159.77	13	eP	PKPab	07 51 29.5	-0.7
LVC	Limon Verde	160.13 145		PKP	PKPdf	07 50 49.1	+1.3
	comp=Z,51nm,0.9s,baz=282,slow=2.0,SNR=15						
LVC				PKPab	PKPab	07 51 33.7	+1.6
	comp=Z,228nm,0.9s,baz=217,slow=3.7,SNR=21						
CPUP	Villa Florida	160.33 178		PKP	PKPdf	07 50 48.0	+0.4
	comp=Z,20nm,0.8s,baz=99,slow=0.4,SNR=49						
CPUP				PKPab	PKPab	07 51 33.7	+1.4
	comp=Z,49nm,0.9s,baz=180,slow=4.0,SNR=12						
GRGR	Grenville	160.77	15	e	PKPab	07 51 33.4	-1.2
GRGR	Grenville	160.77	15	eP	PKPab	07 51 33.9	-0.7
GRGR	Grenville	160.77	15	ePKPdf	PKPdf	07 50 48.0	-0.4
GRGR				ePKPab	PKPab	07 51 34.2	-0.4
PCRV	Puerto La Cruz	161.57	26	PKP	PKPdf	07 50 49.7	+0.4
	comp=Z,11nm,0.8s,baz=67,slow=9.1,SNR=7.9						
PCRV				PKPab	PKPab	07 51 39.5	+1.4
	comp=Z,8.8nm,0.7s,baz=205,slow=5.3,SNR=6.6						
TOS

BOLV	**Bolvadin**	**2.50**	**344**	*i* P		**Pn**	**07 35 49.4**	**+0.9**
KHAL	**Karahalli**	**2.78**	**318**	*i* P		**Pn**	**07 35 52.8**	**+0.6**
KHAL				*i* S		**Sn**	**07 36 23.9**	**-1.3**
KHAL	**Karahalli**	**2.78**	**318**	*i* P		**Pn**	**07 35 52.8**	**+0.6**
KHAL				*i* S		**Sn**	**07 36 23.9**	**-1.3**
ARG	**Arkhangelos**	**3.01**	**269**	*e*P		**Pn**	**07 35 55.2**	**0.0**
AUSIV	**SIVRIHİSAR**	**3.13**	**356**	*i* P		**Pn**	**07 35 56.7**	**-0.1**
SEYT	**Eskypehyr**	**3.30**	**346**	*i* P		**Pn**	**07 35 59.5**	**+0.4**
SEYT	**Eskypehyr**	**3.30**	**346**	*i* P		**Pn**	**07 35 59.5**	**+0.4**
GDZ	**Gediz**	**3.35**	**327**	*i* P		**Pn**	**07 35 59.9**	**+0.2**
GDZ	**Gediz**	**3.35**	**327**	*i* P		**Pn**	**07 35 59.9**	**+0.2**
ARNB	**Al Arnab**	**3.37**	**97**	*e*P		**Pn**	**07 36 00.3**	**+0.3**
ARNB				*e*S		Sn	07 36 28.5	-11
ARNB					AML	AML	07 36 43.2	
	comp=E,100nm,0.3s							
ARNB					AML	AML	07 36 44.6	
	comp=N,82nm,0.2s							
MANT	**Manisa**	**3.41**	**311**	*i* P		**Pn**	**07 36 01.8**	**+1.1**
MANT	**Manisa**	**3.41**	**311**	*i* P		**Pn**	**07 36 01.8**	**+1.1**
AYDN	**Tasoluk**	**3.45**	**294**	*i* P		**Pn**	**07 36 01.4**	**+0.3**
AYDN				*i* S		**Sn**	**07 36 38.0**	**-3.1**
AYDN	**Tasoluk**	**3.45**	**294**	*i* P		**Pn**	**07 36 01.4**	**+0.3**
YAYL	**Yayladag**	**3.45**	**93**	*i* P		**Pn**	**07 35 59.6**	**-1.6**
YAYL	**Yayladag**	**3.45**	**93**	*i* P		**Pn**	**07 35 59.6**	**-1.6**
BDRM	**Kayabasi**	**3.62**	**283**	*i* P		**Pn**	**07 36 04.0**	**+0.7**
BDRM				*i* S		**Sn**	**07 36 42.8**	**-2.3**
BDRM	**Kayabasi**	**3.62**	**283**	*i* P		**Pn**	**07 36 04.0**	**+0.7**
BRTR	**Keskin Array B**	**3.68**	**22**	P		**Pn**	**07 36 05.2**	**+0.9**
	comp=N,6.8nm,0.3s,baz=194,slow=16,SNR=108							
BRTR				S		**Sn**	**07 36 43.4**	**-3.5**
	comp=N,0.3nm,0.3s,baz=215,slow=16,SNR=3.9							
DEMI	**Demirci**	**3.69**	**319**	*i* P		**Pn**	**07 36 05.1**	**+0.8**
DEMI				*i* S		**Sn**	**07 36 43.0**	**-3.8**
DEMI	**Demirci**	**3.69**	**319**	*i* P		**Pn**	**07 36 05.1**	**+0.8**
BORA	**Eskisehir**	**3.73**	**343**	*i* P		**Pn**	**07 36 04.6**	**-0.2**
BORA				*i* S		**Sn**	**07 36 44.4**	**-3.3**
BORA	**Eskisehir**	**3.73**	**343**	*i* P		**Pn**	**07 36 04.6**	**-0.2**
BTCH	**Batrach**	**3.74**	**93**	*e*P		**Pn**	**07 36 05.6**	**+0.6**
BTCH				*e*S		Sn	07 36 37.9	-10
BTCH					AML	AML	07 36 54.0	
	comp=E,126nm,0.4s							
BTCH					AML	AML	07 36 54.9	
	comp=N,81nm,0.3s							
WRDH	**Warideh**	**3.79**	**101**	*e*P		**Pn**	**07 36 05.9**	**+0.3**
WRDH				*e*S		Sn	07 36 37.5	-12
WRDH					AML	AML	07 36 56.8	
	comp=N,70nm,0.6s							
WRDH					AML	AML	07 37 02.6	
	comp=E,31nm,0.5s							
BIDA	**Albida**	**3.86**	**108**	*e*P		**Pn**	**07 36 06.0**	**-0.6**
KARP	**Karpathos**	**3.88**	**260**	*e*P		**Pn**	**07 36 07.7**	**+0.8**
HWQ	**Hawqa**	**3.92**	**120**	*e*P		**Pn**	**07 36 08.0**	**+0.6**
HWQ	**Hawqa**	**3.92**	**120**	*e*P		**Pn**	**07 36 08.0**	**+0.6**
HCB	**Kahramanmara˜**	**4.18**	**74**	*i* P		**Pn**	**07 36 11.0**	**0.0**
DURS	**Dursunbey**	**4.23**	**322**	*i* P		**Pn**	**07 36 12.4**	**+0.8**
DURS	**Dursunbey**	**4.23**	**322**	*i* P		**Pn**	**07 36 12.4**	**+0.8**
SMG	**Samos**	**4.25**	**291**	*e*P		**Pn**	**07 36 11.5**	**-0.3**
RCY	**Rachaya**	**4.32**	**130**	*e*P		**Pn**	**07 36 13.9**	**+1.0**
RCY	**Rachaya**	**4.32**	**130**	*e*P		**Pn**	**07 36 13.9**	**+1.0**
MMAI	**Mount Meron Ar**	**4.40**	**137**	P		**Pn**	**07 36 13.2**	**-0.8**
	comp=E,22nm,0.3s,baz=328,slow=14,SNR=11							
MMAI				S		**Sn**	**07 37 03.0**	**-1.2**
	comp=E,96nm,0.3s,baz=311,slow=25,SNR=24							
BRBR	**Barbar**	**4.44**	**130**	*e*P		**Pn**	**07 36 16.3**	**+1.7**
ROOS	**tl_alroos**	**4.94**	**114**	*e*P		**Pn**	**07 36 22.4**	**+1.2**
LAST	**Lasithi**	**5.31**	**259**	*e*P		**Pn**	**07 36 27.5**	**+1.2**
RSH		**5.56**	**163**	P		**Pn**	**07 36 30.1**	**+0.4**
	baz=163							
RSH		**5.56**	**163**	P		**Pn**	**07 36 30.1**	**+0.4**
IDI	**Anoyia**	**5.75**	**262**	P		**Pn**	**07 36 32.0**	**-0.2**
	comp=E,22nm,0.3s,baz=60,slow=16,SNR=83							
IDI				S		**Sn**	**07 37 34.0**	**-2.9**
	comp=E,5.0nm,0.3s,baz=290,slow=15,SNR=4.4							
IDI	**Anoyia**	**5.75**	**262**	*e*P		**Pn**	**07 36 32.1**	**-0.2**
AMAG	**Maghara**	**5.77**	**168**	P		**Pn**	**07 36 32.6**	**+0.1**
	baz=168							
AMAG	**Maghara**	**5.77**	**168**	P		**Pn**	**07 36 32.6**	**+0.1**
ASF	**Jabal al Asfar**	**5.88**	**133**	P		**Pn**	**07 36 35.6**	**+1.6**
	comp=E,0.9nm,0.3s,baz=262,slow=4.6,SNR=9.0							
ASF				S		**Sn**	**07 37 41.0**	**+1.0**
	comp=E,3.0nm,0.3s,baz=336,slow=20,SNR=4.8							
SIVA	**Sivas**	**5.88**	**259**	*e*P		**Pn**	**07 36 35.0**	**+1.1**
VAM	**Vamos**	**6.28**	**264**	*e*P		**Pn**	**07 36 39.5**	**+0.1**
HHAG	**Hagoal**	**6.35**	**178**	P		**Pn**	**07 36 41.1**	**+0.7**
	baz=178							
HHAG	**Hagoal**	**6.35**	**178**	P		**Pn**	**07 36 41.1**	**+0.7**
IMMV	**Iera Moni Meta**	**6.45**	**265**	*e*P		**Pn**	**07 36 42.4**	**+0.7**
HMYD	**Mayadein**	**6.56**	**188**	P		**Pn**	**07 36 44.4**	**+1.1**
	baz=189							
HMYD	**Mayadein**	**6.56**	**188**	P		**Pn**	**07 36 44.3**	**+1.1**
HNKL	**Nakhl**	**6.61**	**164**	P		**Pn**	**07 36 45.0**	**+1.0**
	baz=163							
HNKL				S		**Sn**	**07 37 54.9**	**-3.0**
	baz=163							
HNKL	**Nakhl**	**6.61**	**164**	P		**Pn**	**07 36 45.0**	**+1.0**
GLL	**Jalalah**	**6.72**	**181**	P		**Pn**	**07 36 46.1**	**+0.6**
	baz=182							
GLL	**Jalalah**	**6.72**	**181**	P		**Pn**	**07 36 46.1**	**+0.6**
ZNM		**6.97**	**173**	P		**Pn**	**07 36 49.6**	**+0.8**
	baz=172							
ZNM		**6.97**	**173**	P		**Pn**	**07 36 49.6**	**+0.8**
EIL	**Elat**	**7.12**	**158**	P		**Pn**	**07 36 50.6**	**-0.2**
	comp=E,1.8nm,0.3s,baz=330,slow=2.9,SNR=35							
EIL				S		**Sn**	**07 38 06.7**	**-3.5**
	comp=E,5.9nm,0.3s,baz=18,slow=19,SNR=10.0							
KYTH	**Kithira**	**7.12**	**272**	*e*P		**Pn**	**07 36 51.5**	**+0.7**
CLL	**Collm**	**20.15**	**324**	*e*sP		sP	07 40 06.0	-0.4
FINES	**FINESS Array B**	**25.41**	**354**	P		**P**	**07 40 25.9**	**-1.6**
	comp=E,0.8nm,0.4s,baz=167,slow=11,SNR=8.8							
ARCES	**ARCESS Array B**	**33.46**	**356**	P		**P**	**07 41 37.9**	**-0.8**
	comp=E,1.0nm,0.7s,baz=165,slow=10.0,SNR=6.9							
TORD	**Torodi Ar. Bea**	**35.56**	**237**	P		**P**	**07 41 58.1**	**+0.8**
	comp=E,0.4nm,0.8s,baz=43,slow=10,SNR=2.9							

IDC 29 07:40:51.5±13.0, 6°46N×123°35E, h650km±211km, mb3.7/6, mb1 3.8/6, mb1mx3.4/26, mbtmp4.8/6, Error ellipse: s-maj=268.7km s-min=39.5km az=61.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.38**	**158**	P	P	07 45 56.5	-0.5
	13nm,0.4s,baz=337,slow=9.0,SNR=5.2						
ASAR	**Alice Springs**	**31.67**	**161**	P	P	07 46 25.4	+0.5
	8.9nm,0.5s,baz=340,slow=6.8,SNR=5.9						
STKA	**Stephens Creek**	**41.91**	**156**	P	P	07 47 48.4	+0.4
	24nm,0.9s,baz=352,slow=15,SNR=2.5						
MKAR	**Makanchi Array**	**53.41**	**326**	P	P	07 49 13.1	+0.1
	3.7nm,0.5s,baz=121,slow=8.5,SNR=5.0						
KURBB	**Kurchatov Arra**	**57.64**	**328**	P	P	07 49 42.2	+0.3
	6.7nm,0.9s,baz=123,slow=5.7,SNR=3.9						
BVAR	**Borovoye Array**	**63.21**	**327**	P	P	07 50 18.2	-0.1
	6.5nm,0.8s,baz=106,slow=7.7,SNR=2.2						

*ISCJB **29** 08:07:48.4±0.5, 37°.49S±0°.04×72°.67W±0°.10, h35km, mb3.7/5, Error ellipse: s-maj=11.0km s-min=4.8km az=8.8*
*IDC **29** 08:07:48.8±1.0, 37°.62S×72°.71W, h37km±6km, mb3.5/5, mb1 3.8/7, mb1mx3.6/33, mbtmp3.7/7, ML3.7/2, Error ellipse: s-maj=31.7km s-min=24.8km az=47.0*
*GUC **29** 08:07:49.1±0.6, 37°.44S×72°.90W, h55km±9km, ML4.2*
ISC 29 08:07:48.9±0.6, 37°.48S±0°.04×72°.73W±0°.09, h35km, n21, σ1§24/29, mb3.5/5, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.70**	**334**	*e*P	**Pn**	**08 08 02.4**	**0.0**
CCSP				*e*S	**Sn**	**08 08 12.1**	**+0.2**
CCSP				AML	AML	08 08 15.1	
	comp=N,18μm,0.3s						
COCH	**Cobquecura**	**1.35**	**358**	*e*P	**Pn**	**08 08 11.3**	**+0.1**
COCH				*e*S	**Sn**	**08 08 28.5**	**+0.6**
PSCH	**Puerto Saavedr**	**1.42**	**201**	*e*P	**Pn**	**08 08 12.9**	**+0.7**
PSCH				*e*S	**Sn**	**08 08 30.4**	**+0.8**
TALC	**Talca**	**2.26**	**23**	*e*P	**Pn**	**08 08 25.4**	**+1.7**
TALC				*e*S	**Sn**	**08 08 52.4**	**+2.0**
VLCH	**Valdivia**	**2.36**	**190**	*e*P	**Pn**	**08 08 26.2**	**+1.1**
NICH	**Los Niches**	**2.75**	**27**	*e*P	**Pn**	**08 08 32.0**	**+1.4**
OSCH	**Osorno**	**3.11**	**186**	*e*P	**Pn**	**08 08 36.7**	**+1.3**
CHCH	**Chadas Angostu**	**3.92**	**26**	*e*P	**Pn**	**08 08 47.9**	**+1.1**
CLCH	**Cerro Calan**	**4.45**	**24**	*e*P	**Pn**	**08 08 54.8**	**+0.8**
PEL	**Peldehue**	**4.64**	**22**	*e*P	**Pn**	**08 08 57.3**	**+0.7**
CFAA	**Coronel Fontan**	**6.93**	**34**	Pn	**Pn**	**08 09 28.4**	**+0.4**
	comp=N,0.5nm,0.3s,baz=198,slow=14,SNR=22						
CFAA				Sn	**Sn**	**08 10 43.5**	**-2.3**
	comp=N,0.1nm,0.3s,baz=236,slow=18,SNR=1.6						
CPUP	**Villa Florida**	**17.14**	**54**	P	**P**	**08 11 47.0**	**-0.1**
	comp=N,0.1nm,0.3s,baz=220,slow=15,SNR=4.8						
LPAZ	**La Paz**	**21.50**	**12**	P	**P**	**08 12 36.5**	**+1.1**
	comp=N,1.8nm,0.9s,baz=168,slow=11,SNR=5.1						
TXAR	**Lajitas Array**	**72.51**	**332**	P	**P**	**08 19 12.2**	**+0.1**
	comp=N,0.4nm,0.8s,baz=144,slow=7.8,SNR=4.7						
TXAR				pP	**pP**	**08 19 23.8**	**+0.7**
	comp=N,0.5nm,0.6s,baz=154,slow=8.9,SNR=7.6						
LBTB	**Lobatse**	**81.36**	**115**	P	**P**	**08 20 01.1**	**-1.2**
	comp=N,2.2nm,0.7s,baz=265,slow=7.7,SNR=3.8						
LBTB				sP	**sP**	**08 20 18.0**	**+0.7**
	comp=N,3.0nm,0.6s,baz=256,slow=5.6,SNR=2.6						
TORD	**Torodi Ar. Bea**	**85.92**	**70**	P	**P**	**08 20 25.0**	**-0.5**
	comp=N,0.8nm,0.9s,baz=233,slow=5.1,SNR=3.1						
NVAR	**Mina Array Bea**	**86.43**	**326**	P	**P**	**08 20 28.4**	**+0.6**
	comp=N,0.2nm,0.6s,baz=161,slow=5.7,SNR=2.9						
NVAR				pP	**pP**	**08 20 39.8**	**+0.9**
	comp=N,0.4nm,0.6s,baz=157,slow=8.2,SNR=3.3						
BRG	**Berggiesshubel**	**116.07**	**45**	*i* P	**PKPdf**	**08 26 24.1**	**-3.5**
	comp=N,16nm,0.8s						
WRA	**Warramunga Arr**	**117.45**	**209**	PKP	**PKPdf**	**08 26 30.2**	**-1.1**
	comp=N,0.3nm,0.8s,baz=165,slow=1.6,SNR=3.0						
BVAR	**Borovoye Array**	**150.14**	**47**	PKPbc	**PKPbc**	**08 27 35.9**	**+0.5**
	comp=N,0.4nm,0.5s,baz=270,slow=5.8,SNR=3.7						
MKAR	**Makanchi Array**	**159.34**	**55**	PKPab	**PKPab**	**08 28 20.5**	**-0.4**
	comp=N,0.7nm,0.7s,baz=256,slow=3.7,SNR=3.5						

*KRNET **29** 08:11:36.7±0.1, 41°.12N×71°.46E, h18km, mb3.2*
*ISCJB **29** 08:11:38.3±1.2, 41°.02N±0°.05×71°.38E±0°.05, h4km±10km, Error ellipse: s-maj=8.6km s-min=5.3km az=21.8*
*NNC **29** 08:11:39.2±2.4, 41°.19N×71°.73E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=24.2km s-min=11.9km az=68.0*
ISC 29 08:11:36.6±1.6, 41°.10N±0°.04×71°.42E±0°.05, h2km±17km, n18, σ1§05/33, 16C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FRG	**Fergana**	**0.77**	**159**	*e*P	**Pg**	**08 11 51.8**	**+0.5**
	baz=161						
FRG				*e*S	**Sb**	**08 12 02.8**	**-0.9**
	baz=161						
MNAS	**Manas**	**1.60**	**30**	⇓P	**Pn**	**08 12 06.0**	**-0.1**
	9.4nm,0.4s						
MNAS				⇓S	**Sn**	**08 12 26.1**	**-1.4**
	24nm,0.3s						
MNAS	**Manas**	**1.60**	**30**	*e*P	**Pn**	**08 12 06.0**	**-0.1**
	baz=30						
TAS	**Tashkent**	**1.62**	**279**	*e*P	**Pg**	**08 12 07.6**	**0.0**
	baz=278						
TAS				*e*S	**Sg**	**08 12 29.2**	**+0.6**
	baz=278						
SFK	**Sufi-Kurgan**	**1.92**	**124**	⇓Pn	**Pn**	**08 12 11.2**	**+0.6**
	15nm,0.4s						
SFK				⇓Sn	**Sb**	**08 12 36.2**	**-0.9**
	44nm,0.3s						
SFK	**Sufi-Kurgan**	**1.92**	**124**	*e*P	**Pn**	**08 12 11.2**	**+0.6**
	baz=125						
SFK				*e*S	**Sb**	**08 12 36.2**	**-0.9**
	baz=125						
AML	**Almayashu**	**1.99**	**58**	⇑*i*P	**Pn**	**08 12 11.9**	**+0.2**
	baz=58						
AML				⇑*i*S	**Sb**	**08 12 38.2**	**-1.0**
	baz=58						
KK31	**Karatay Array**	**2.11**	**342**	Pn	**Pb**	**08 12 14.7**	**-0.9**
	18nm,0.5s,baz=144,slow=14,SNR=230						
KK31				⇓Sn	**Sb**	**08 12 43.2**	**+0.9**
	89nm,0.3s,baz=145,slow=25						
ARLS	**Aral**	**2.31**	**70**	⇓*i*P	**Pb**	**08 12 17.9**	**-1.2**
	baz=70						
ARLS				⇓*e*S	**Sb**	**08 12 48.5**	**+0.4**
	baz=70						
EKS2	**Erkin-Say**	**2.35**	**48**	⇑*i*P	**Pb**	**08 12 18.7**	**-1.0**
	baz=48						
EKS2				⇑*i*S	**Sb**	**08 12 48.5**	**-0.8**
	baz=48						
EKS	**Erkin-Say**	**2.36**	**48**	⇓*i*P	**Pb**	**08 12 19.4**	**-0.5**
	baz=48						
EKS				⇓*e*S	**Sb**	**08 12 50.5**	**+1.0**
	baz=48						
AAK	**Ala-Archa**	**2.76**	**55**	⇑*i*P	**Pb**	**08 12 25.9**	**-0.8**
	baz=55						
AAK				⇑*i*S	**Sb**	**08 13 00.7**	**-0.4**
	baz=55						
KZA	**Kyzart**	**3.03**	**70**	⇑*i*P	**Pb**	**08 12 30.0**	**-1.6**
	baz=70						
KZA				⇑*i*S	**Sb**	**08 13 09.0**	**-0.2**
	baz=70						
CHMS	**Chumysh**	**3.12**	**52**	⇑*i*P	**Pb**	**08 12 32.0**	**-0.8**
	baz=51						
CHMS				⇑*i*S	**Sb**	**08 13 09.7**	**-1.7**
	baz=51						
USP	**Ospenovka**	**3.15**	**46**	⇑*i*P	**Pb**	**08 12 32.4**	**-0.9**
	baz=46						
USP				⇑*i*S	**Sb**	**08 13 13.1**	**+0.9**
	baz=46						
NRN	**Naryn**	**3.47**	**83**	*e*P	**Pn**	**08 12 33.8**	**+1.9**
	baz=83						
NRN				*e*S	**Sn**	**08 13 15.6**	**+1.9**
	baz=83						
TKM2	**Tokmak 2**	**3.60**	**58**	⇑Pn	**Pb**	**08 12 40.6**	**-0.5**
	4.0nm,0.5s						
TKM2				⇑Lg	Lg	08 13 27.7	
	26nm,0.8s						
TKM2	**Tokmak 2**	**3.60**	**58**	⇑*i*P	Pb	08 12 37.6	-3.6
	baz=58						
TKM2				⇑*i*S	**Sb**	**08 13 27.2**	**+1.8**
	baz=58						

*ISCJB **29** 08:25:01.9±0.6, 29°.40S±0°.03×71°.11W±0°.09, h55km, mb3.6/3, Error ellipse: s-maj=11.3km s-min=4.5km az=3.8*
*GUC **29** 08:25:02.8±0.5, 29°.38S×71°.12W, h42km±1km, ML3.7*
*IDC **29** 08:25:03.3±3.1, 29°.36S×70°.94W, h64km±25km, mb3.3/3, mb1 3.6/8, mb1mx3.4/34, mbtmp3.7/8, ML3.5/4, Error ellipse: s-maj=40.2km s-min=20.8km az=82.0*
ISC 29 08:25:02.3±0.8, 29°.37S±0°.04×71°.07W±0°.09, h55km, n19, σ1§42/23, mb3.8/3, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**0.48**	**42**	*e*P	**Pn**	**08 25 14.5**	**+0.5**
LCO				*e*S	**Sn**	**08 25 23.6**	**+1.2**
LCO				AML	AML	08 25 25.5	
	comp=E,9μm,0.2s						
LSCH	**La Serena**	**0.56**	**196**	⇑*i*P	**Pn**	**08 25 14.3**	**-0.3**
LSCH				*i* S	**Sn**	**08 25 22.9**	**-0.5**
VACH	**Vallenar**	**0.84**	**19**	⇓*i*P	**Pn**	**08 25 19.0**	**+0.9**
VACH				*i* S	**Sn**	**08 25 31.2**	**+1.5**
CDCH	**Caldera**	**2.31**	**5**	⇑*i*P	**Pn**	**08 25 39.0**	**+1.1**
CDCH				*i* S	**Sn**	**08 26 07.1**	**+2.0**
CFAA	**Coronel Fontan**	**3.30**	**133**	P	**Pn**	**08 25 53.0**	**+1.4**
	comp=E,2.3nm,0.3s,baz=286,slow=2.3,SNR=198						
CFAA				S	**Sn**	**08 26 30.4**	**+0.7**
	comp=E,2.2nm,0.3s,baz=194,slow=19,SNR=7.6						
PEL	**Peldehue**	**3.77**	**175**	*e*P	**Pn**	**08 25 59.1**	**+1.0**
PEL				*e*S	**Sn**	**08 26 42.9**	**+1.6**
CLCH	**Cerro Calan**	**4.04**	**174**	*e*P	**Pn**	**08 26 03.2**	**+1.5**
LVC	**Limon Verde**	**7.00**	**17**	P	**Pn**	**08 26 41.2**	**-1.4**
	comp=E,20nm,0.3s,baz=209,slow=10,SNR=7.9						
LVC				S	**Sn**	**08 27 57.4**	**-3.6**
	comp=E,66nm,0.3s,baz=238,slow=15,SNR=2.0						
CPUP	**Villa Florida**	**12.53**	**79**	P	**Pn**	**08 27 56.4**	**-1.5**
	comp=E,0.1nm,0.3s,baz=241,slow=11,SNR=3.5						
LPAZ	**La Paz**	**13.30**	**12**	P	**Pn**	**08 28 10.7**	**+1.7**
	comp=E,0.1nm,0.3s,baz=210,slow=7.6,SNR=5.4						
SIV	**San Ignacio**	**16.18**	**37**	P	**Pn**	**08 28 45.8**	**-0.5**
	comp=E,0.3nm,0.3s,baz=223,slow=11,SNR=6.5						
QSPA	**South Pole Qui**	**60.85**	**180**	P	**P**	**08 35 08.3**	**-0.5**
	comp=E,0.8nm,1.0s,baz=166,slow=12,SNR=2.8						
TXAR	**Lajitas Array**	**66.16**	**329**	P	**P**	**08 35 44.9**	**+0.7**
	comp=E,0.2nm,0.6s,baz=157,slow=9.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**81.85**	**70**	P	**P**	**08 37 15.6**	**-0.6**
	comp=E,0.7nm,0.7s,baz=273,slow=5.3,SNR=10						
H11S2	**WAKE ISLAND Hyl**	**26.55**	**272**	T	T	11 02 56.5	
	baz=115,slow=75,SNR=7.3						
H11S1	**WAKE ISLAND Hyl**	**26.56**	**272**	T	T	11 02 58.8	
	baz=115,slow=75,SNR=6.0						
H11S3	**WAKE ISLAND Hyl**	**26.57**	**272**	T	T	11 02 57.9	
	baz=115,slow=75,SNR=10						
ZALV	**Zalesovo Beam**	**149.83**	**29**	PKPbc	**PKPbc**	**08 44 45.5**	**-0.2**
	comp=E,3.3nm,0.5s,baz=289,slow=3.7,SNR=11						
MKAR	**Makanchi Array**	**152.95**	**43**	PKPbc	**PKPbc**	**08 44 52.5**	**-0.8**
	comp=E,0.4nm,0.6s,baz=359,slow=2.2,SNR=3.6						

*ISCJB **29** 08:29:25.5±1.4, 5°.34S±0°.06×145°.93E±0°.09, h85km±12km, mb4.1/14, Error ellipse: s-maj=16.0km s-min=9.4km az=167.9*
*IDC **29** 08:29:25.6±0.7, 5°.29S×146°.01E, h75km±6km, mb3.8/9, mb1 4.0/12, mb1mx3.8/33, mbtmp4.2/12, MS4.0/1, Ms1 4.0/1, ms1mx3.3/45, Error ellipse: s-maj=29.2km s-min=13.4km az=87.0*
*NEIC **29** 08:29:26.2±0.5, 5°.35S×146°.01E, h79km±4km, mb4.4/7, Error ellipse: s-maj=12.9km s-min=6.8km az=96.0*
ISC 29 08:29:26.0±0.7, 5°.32S±0°.06×146°.08E±0°.10, h76km±6km, h75km: pP-P, n42, σ1§71/43, mb4.2/14, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.20**	**165**	P	**Pn**	**08 30 29.3**	**+1.7**
	22nm,0.3s,baz=14,slow=5.3,SNR=36						
PMG				S	**Sn**	**08 31 16.4**	**+1.0**
	104nm,0.3s,baz=149,slow=23,SNR=15						
PMG				LR	LR	08 32 38.0	
	comp=Z,2μm,19.3s,baz=6.0,slow=45						
PMG	**Port Moresby**	**4.20**	**165**	*e*Pn	**Pn**	**08 30 27.5**	**-0.2**
PMG				*e*Sn	**Sn**	**08 31 16.2**	**+0.8**
JAY	**Jayapura**	**6.04**	**297**	P	**Pn**	**08 30 53.3**	**+0.4**
	0.6nm,0.3s,baz=149,slow=5.9,SNR=3.3						
JAY				S	**Sn**	**08 32 04.8**	**+4.0**
	1.1nm,0.3s,baz=285,slow=20,SNR=1.8						
COEN	**Coen**	**9.04**	**198**	P	**Pn**	**08 31 35.2**	**+1.4**
	baz=10.0,SNR=16						
COEN	**Coen**	**9.04**	**198**	*e*Pn	**Pn**	**08 31 35.3**	**+1.4**
	33nm,0.6s						
COEN				*e*Sn	**Sn**	**08 33 08.6**	**-5.6**
MTSU	**Mount Surprise**	**12.85**	**188**	P	**Pn**	**08 32 28.7**	**+3.0**
	baz=14,SNR=5.9						
CTA	**Charters Tower**	**14.68**	**179**	P	**P**	**08 32 54.6**	**+0.6**
	1.3nm,0.3s,baz=358,slow=14,SNR=11						
CTAO	**Charters Tower**	**14.68**	**179**	*e*Pn	**Pn**	**08 32 48.3**	**-1.5**
WRAB	**Tennant Creek**	**18.47**	**217**	*e*P	**P**	**08 33 35.9**	**-0.1**
	16nm,0.9s						
WRA	**Warramunga Arr**	**18.48**	**217**	P	**P**	**08 33 34.1**	**-2.1**
	0.7nm,0.3s,baz=36,slow=11,SNR=38						
RMQ	**Roma**	**21.20**	**173**	P	**P**	**08 34 09.8**	**+4.2**
	baz=22,SNR=7.2						
QLP	**Quilpie**	**21.21**	**185**	P	**P**	**08 34 08.7**	**+3.0**
	baz=22,SNR=4.6						
ASAR	**Alice Springs**	**21.68**	**212**	P	**P**	**08 34 09.3**	**-1.5**
	3.7nm,0.9s,baz=45,slow=7.9,SNR=19						
ARMA	**Armidale**	**25.50**	**169**	P	**P**	**08 34 48.5**	**+0.9**
	baz=27,SNR=3.9						
WRKA	**Warakurna**	**25.99**	**219**	P	**P**	**08 34 50.9**	**-1.0**
	baz=27,SNR=11						
STKA	**Stephens Creek**	**26.75**	**188**	P	**P**	**08 34 58.4**	**-0.3**
	5.1nm,0.8s,baz=21,slow=8.1,SNR=11						
HTT	**Hallett**	**28.75**	**193**	P	**P**	**08 35 16.8**	**+0.2**
	baz=30,SNR=3.5						
H11S3	**WAKE ISLAND Hy**	**31.20**	**40**	T	T	09 09 01.1	
	baz=222,slow=74,SNR=179						
H11S2	**WAKE ISLAND Hy**	**31.20**	**40**	T	T	09 09 01.7	
	baz=222,slow=74,SNR=56						
H11S1	**WAKE ISLAND Hy**	**31.21**	**40**	T	T	09 09 02.5	
	baz=222,slow=74,SNR=65						
H11N1	**WAKE ISLAND Hy**	**32.22**	**39**	T	T	09 10 22.8	
	baz=221,slow=76,SNR=22						
H11N3	**WAKE ISLAND Hy**	**32.24**	**39**	T	T	09 10 22.1	
	baz=221,slow=76,SNR=17						
H11N2	**WAKE ISLAND Hy**	**32.24**	**39**	T	T	09 10 20.2	
	baz=221,slow=76,SNR=34						

s-maj=0.0km s-min=0.0km az=0.0
*LDG **29** 08:48:36.5±0.0,44°.99N×6°.58E,h2km,Md2.6/3,Ml2.6/18, Error ellipse: s-maj=0.9km s-min=0.6km az=54.0*
*GEN **29** 08:48:36.0,44°.98N×6°.56E,h0km,ML2.1*
*ROM **29** 08:48:37.0±0.2,44°.97N×6°.66E,h10km±1km,Md2.4/13, Ml2.1/10,Error ellipse: s-maj=3.2km s-min=1.2km az=87.0*
ISC 29 08:48:36.4±0.8,**44°.98N**±0°.01×**6°.58E**±0°.01**,h12**km±6km**,**
n93,σ1§**12**/173**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RRL	**Rocca Remolon**	**0.16**	**112**	Pg	**Pg**	**08 48 39.9**	**-0.5**
RRL				Sg	**Sg**	**08 48 42.6**	**-0.6**
	641nm,0.3s						
RRL	**Rocca Remolon**	**0.16**	**112**	Pg	**Pg**	**08 48 39.9**	**-0.5**
RRL				Sg	**Sg**	**08 48 42.6**	**-0.6**
	641nm,0.3s						
MBDF	**Montbardon**	**0.29**	**152**	*e*Pg	**Pg**	**08 48 41.9**	**-0.6**
MBDF				*e*Sg	**Sg**	**08 48 45.6**	**-0.9**
	129nm,0.2s						
MBDF	**Montbardon**	**0.29**	**152**	*e*Pg	**Pg**	**08 48 41.9**	**-0.6**
MBDF				*e*Sg	**Sg**	**08 48 45.6**	**-0.9**
	64nm,0.2s						
GDM	**Grand'Maison**	**0.40**	**304**	Pg	**Pg**	**08 48 43.8**	**-0.6**
GDM				Sg	**Sg**	**08 48 49.6**	**-0.1**
GDM	**Grand'Maison**	**0.40**	**304**	Pg	**Pg**	**08 48 43.8**	**-0.6**
GDM				Sg	**Sg**	**08 48 49.6**	**-0.1**
ORIF	**Oris-en-Rattie**	**0.50**	**263**	*e*Pg	**Pg**	**08 48 45.9**	**-0.4**
ORIF				*e*Sg	**Sg**	**08 48 52.0**	**-0.9**
	138nm,0.3s						
ORIF	**Oris-en-Rattie**	**0.50**	**263**	*e*Pg	**Pg**	**08 48 45.9**	**-0.4**
ORIF				*e*Sg	**Sg**	**08 48 52.0**	**-0.9**
	69nm,0.3s						
BHB	**Bricherasio**	**0.51**	**106**	Pg	**Pg**	**08 48 46.3**	**-0.1**
BHB				Sg	**Sg**	**08 48 52.8**	**-0.3**
	88nm,0.2s						
BHB	**Bricherasio**	**0.51**	**106**	P	**Pg**	**08 48 46.3**	**-0.1**
BHB				Sg	**Sg**	**08 48 52.8**	**-0.3**
	88nm,0.2s						
BHB				S	**Sb**	**08 48 53.1**	**-1.5**
RSP	**Reno Superiore**	**0.51**	**71**	Pg	**Pg**	**08 48 46.4**	**-0.1**
RSP				Sg	**Sg**	**08 48 53.5**	**+0.1**
	111nm,0.1s						
RSP	**Reno Superiore**	**0.51**	**71**	P	**Pg**	**08 48 46.4**	**-0.1**
RSP				S	**Sg**	**08 48 53.5**	**+0.1**
SURF	**Saint Ours**	**0.53**	**161**	Pg	**Pg**	**08 48 46.4**	**-0.4**
SURF				Sg	**Sg**	**08 48 54.6**	**+0.7**
SURF	**Saint Ours**	**0.53**	**161**	Pg	**Pg**	**08 48 46.4**	**-0.4**
SURF				Sg	**Sg**	**08 48 54.6**	**+0.7**
LPG	**La Plagne**	**0.53**	**13**	*e*Pg	**Pg**	**08 48 46.9**	**0.0**
LPG				*e*Sg	**Sg**	**08 48 53.7**	**-0.3**
	60nm,0.2s						
LPG	**La Plagne**	**0.53**	**13**	*e*Pg	**Pg**	**08 48 46.9**	**0.0**
LPG				*e*Sg	**Sg**	**08 48 53.7**	**-0.3**
	30nm,0.2s						
LPL	**La Plagne**	**0.55**	**11**	*e*Pg	**Pg**	**08 48 47.1**	**-0.1**
LPL				*e*Sg	**Sg**	**08 48 54.4**	**0.0**
	56nm,0.3s						
LPL	**La Plagne**	**0.55**	**11**	*e*Pg	**Pg**	**08 48 47.1**	**-0.1**
LPL				*e*Sg	**Sg**	**08 48 54.4**	**0.0**
	28nm,0.3s						
PZZ	**Stroppo**	**0.61**	**141**	Pg	**Pg**	**08 48 47.8**	**-0.6**
PZZ				Sg	**Sg**	**08 48 56.4**	**0.0**
	167nm,0.2s						
PZZ	**Stroppo**	**0.61**	**141**	P	**Pg**	**08 48 47.9**	**-0.5**
PZZ				S	**Sg**	**08 48 56.4**	**0.0**
LSD	**Lago del Serru**	**0.62**	**39**	Pg	**Pg**	**08 48 48.5**	**0.0**
LSD				Sg	**Sg**	**08 48 56.3**	**-0.5**
	132nm,0.2s						
GRN	**Grenoble**	**0.65**	**294**	Pg	**Pg**	**08 48 49.6**	**+0.6**
GRN				Sg	**Sg**	**08 48 58.5**	**+1.0**
GRN	**Grenoble**	**0.65**	**294**	Pg	**Pg**	**08 48 49.6**	**+0.6**
GRN				Sg	**Sg**	**08 48 58.5**	**+1.0**
DOI	**San Damiano**	**0.68**	**135**	Pg	**Pg**	**08 48 49.0**	**-0.6**
DOI				Sg	**Sg**	**08 48 58.3**	**-0.1**
	120nm,0.2s						
DOI	**San Damiano**	**0.68**	**135**	Pg	**Pg**	**08 48 49.0**	**-0.6**
DOI				Sg	**Sg**	**08 48 58.3**	**-0.1**
	120nm,0.2s						
MRGE	**Morge**	**0.86**	**23**	Pg	**Pg**	**08 48 52.9**	**-0.1**
MRGE				Sg	**Sg**	**08 49 04.7**	**+0.4**
	38nm,0.7s						
MRGE	**Morge**	**0.86**	**23**	Pg	**Pg**	**08 48 52.9**	**-0.1**
MRGE				Sg	**Sg**	**08 49 04.7**	**+0.4**
	38nm,0.7s						
STV	**Sant Anna di V**	**0.91**	**144**	Pg	**Pg**	**08 48 53.7**	**-0.3**
STV				Sg	**Sg**	**08 49 05.7**	**-0.2**
	28nm,0.3s						
STV	**Sant Anna di V**	**0.91**	**144**	P	**Pg**	**08 48 53.4**	**-0.6**
STV	**Sant Anna di V**	**0.91**	**144**	Pg	**Pg**	**08 48 53.7**	**-0.3**
STV				Sg	**Sg**	**08 49 05.7**	**-0.2**
	28nm,0.3s						
CIRO	**Champorcher**	**0.93**	**48**	Pg	**Pg**	**08 48 54.1**	**-0.4**
CIRO				Sg	**Sg**	**08 49 05.9**	**-0.8**
	23nm,0.2s						
CIRO	**Champorcher**	**0.93**	**48**	P	**Pg**	**08 48 54.2**	**-0.3**
CIRO				Sg	**Sg**	**08 49 05.9**	**-0.8**
	23nm,0.2s						
ENR	**Entracque**	**0.97**	**141**	P	**Pg**	**08 48 54.7**	**-0.4**
TRAV	**Traversella**	**0.98**	**57**	Pg	**Pg**	**08 48 55.0**	**-0.4**
TRAV				Sg	**Sg**	**08 49 08.2**	**0.0**
	44nm,0.3s						
TRAV	**Traversella**	**0.98**	**57**	Pg	**Pg**	**08 48 55.0**	**-0.4**
TRAV				Sg	**Sg**	**08 49 08.2**	**0.0**
	44nm,0.3s						
AUTN	**L'Aution**	**1.16**	**148**	Pg	**Pg**	**08 48 58.5**	**-0.2**
AUTN				Sg	**Sb**	**08 49 14.7**	**+1.1**
AUTN	**L'Aution**	**1.16**	**148**	Pg	**Pg**	**08 48 58.5**	**-0.2**
AUTN				Sg	**Sb**	**08 49 14.7**	**+1.1**
MVIF	**Mont Vial**	**1.16**	**159**	Pg	**Pg**	**08 48 58.5**	**-0.3**
MVIF	**Mont Vial**	**1.16**	**159**	Pg	**Pg**	**08 48 58.5**	**-0.3**
SAOF	**Saorge**	**1.22**	**145**	Pg	**Pg**	**08 48 59.1**	**-0.7**
SAOF				Sg	**Sn**	**08 49 16.9**	**+1.2**
SAOF	**Saorge**	**1.22**	**145**	Pg	**Pg**	**08 48 59.1**	**-0.7**
SAOF				Sg	**Sn**	**08 49 16.9**	**+1.2**
SMRF	**Simiane la Rot**	**1.24**	**216**	*e*Pg	**Pn**	**08 49 00.7**	**+1.2**
SMRF				*e*Sg	**Sg**	**08 49 15.7**	**-0.6**
	21nm,0.3s						
SMRF	**Simiane la Rot**	**1.24**	**216**	*e*Pg	**Pn**	**08 49 00.7**	**+1.2**
SMRF				*e*Sg	**Sg**	**08 49 15.7**	**-0.6**
	10nm,0.3s						
CALN	**Calern**	**1.25**	**170**	Pg	**Pg**	**08 48 59.9**	**-0.6**
CALN				Sg	**Sb**	**08 49 17.5**	**+1.4**
CALN	**Calern**	**1.25**	**170**	Pg	**Pg**	**08 48 59.9**	**-0.6**
CALN				Sg	**Sb**	**08 49 17.5**	**+1.4**
SATI	**Passo dei Sala**	**1.27**	**45**	P	**Pg**	**08 49 00.3**	**-0.7**
SBF	**Sospel**	**1.28**	**151**	*e*Pg	**Pb**	**08 49 01.4**	**+1.0**
SBF				*e*Sg	**Sg**	**08 49 16.8**	**-0.8**
	79nm,0.5s						
SBF	**Sospel**	**1.28**	**151**	*e*Pg	**Pb**	**08 49 01.4**	**+1.0**
SBF				*e*Sg	**Sg**	**08 49 16.8**	**-0.8**
	39nm,0.5s						
VIVF	**Saint-Julien-l**	**1.36**	**265**	*e*Pg	**Pb**	**08 49 02.4**	**+0.6**
VIVF				*e*Sg	**Sb**	**08 49 19.6**	**+0.4**
	31nm,0.3s						
VIVF	**Saint-Julien-l**	**1.36**	**265**	*e*Pg	**Pb**	**08 49 02.4**	**+0.6**
VIVF				*e*Sg	**Sb**	**08 49 19.6**	**+0.4**
	16nm,0.3s						
RORO	**Rocca Rossa**	**1.38**	**129**	Pg	**Pn**	**08 49 01.7**	**+0.3**
RORO	**Rocca Rossa**	**1.38**	**129**	P	**Pn**	**08 49 01.6**	**+0.2**
RORO				S	**Sb**	**08 49 17.7**	**-1.8**
FRF	**La Foret Royal**	**1.42**	**178**	*e*Pg	**Pb**	**08 49 03.3**	**+0.4**
FRF				*e*Sg	**Sb**	**08 49 21.4**	**+0.5**
	25nm,0.3s						
FRF	**La Foret Royal**	**1.42**	**178**	*e*Pg	**Pb**	**08 49 03.3**	**+0.4**
FRF				*e*Sg	**Sb**	**08 49 21.4**	**+0.5**
	12nm,0.3s						
IMI	**Imperia**	**1.43**	**138**	Pg	**Pn**	**08 49 02.6**	**+0.4**
IMI	**Imperia**	**1.43**	**138**	P	**Pn**	**08 49 02.5**	**+0.4**
MMK	**Mattmark**	**1.45**	**42**	Pg	**Pn**	**08 49 03.6**	**+1.0**
MMK	**Mattmark**	**1.45**	**42**	Pg	**Pn**	**08 49 03.6**	**+1.0**
PCP	**Piancastagn**	**1.47**	**107**	P	**Pn**	**08 49 03.6**	**+0.8**
PCP				S	**Sn**	**08 49 22.2**	**+0.3**
SSB	**Saint Sauveur**	**1.47**	**282**	Pn	**Pn**	**08 49 03.4**	**+0.6**
SSB	**Saint Sauveur**	**1.47**	**282**	Pg	**Pg**	**08 49 05.1**	**+0.4**
SSB				Sg	**Sg**	**08 49 25.8**	**+2.0**
SSB	**Saint Sauveur**	**1.47**	**282**	Pn	**Pn**	**08 49 03.4**	**+0.6**
SSB	**Saint Sauveur**	**1.47**	**282**	Pg	**Pg**	**08 49 05.1**	**+0.4**
SSB				Sg	**Sg**	**08 49 25.8**	**+2.0**
LEPF	**PUYLOUBIER**	**1.59**	**204**	Pn	**Pn**	**08 49 04.5**	**+0.1**
LEPF	**PUYLOUBIER**	**1.59**	**204**	Pg	**Pg**	**08 49 07.0**	**+0.1**
LEPF				Sg	**Sg**	**08 49 29.9**	**+2.4**
LEPF	**PUYLOUBIER**	**1.59**	**204**	Pn	**Pn**	**08 49 04.5**	**+0.1**
LEPF	**PUYLOUBIER**	**1.59**	**204**	Pg	**Pg**	**08 49 07.0**	**+0.1**
LEPF				Sg	**Sg**	**08 49 29.9**	**+2.4**
LMR	**La Mourre**	**1.65**	**182**	*e*Pg	**Pb**	**08 49 07.0**	**+0.3**
LMR				*e*Sg	**Sb**	**08 49 28.8**	**+1.4**
	16nm,0.3s						
LMR	**La Mourre**	**1.65**	**182**	*e*Pg	**Pb**	**08 49 07.0**	**+0.3**
LMR				*e*Sg	**Sb**	**08 49 28.8**	**+1.4**
	8.1nm,0.3s						
CABF	**La Chapelle**	**1.67**	**348**	*e*Pg	**Pb**	**08 49 07.7**	**+0.6**
CABF				*e*Sg	**Sb**	**08 49 29.1**	**+1.1**
	5.5nm,0.2s						
CABF	**La Chapelle**	**1.67**	**348**	*e*Pg	**Pb**	**08 49 07.7**	**+0.6**
CABF				*e*Sg	**Sb**	**08 49 29.1**	**+1.1**
	2.8nm,0.2s						
LASF	**Ste Croix**	**2.15**	**246**	*e*Pn	**Pn**	**08 49 11.8**	**-0.2**
LASF				*e*Sn	**Sn**	**08 49 37.2**	**-1.4**
LASF				*e*Sg	**Sb**	**08 49 44.1**	**+2.3**
	2.5nm,0.2s						
LASF	**Ste Croix**	**2.15**	**246**	*e*Pn	**Pn**	**08 49 11.8**	**-0.2**
LASF				*e*Sn	**Sn**	**08 49 37.2**	**-1.4**
LASF				*e*Sg	**Sb**	**08 49 44.1**	**+2.3**
	1.2nm,0.2s						
SMF	**Signal de Mont**	**2.54**	**312**	*e*Pn	**Pn**	**08 49 17.0**	**-0.4**
SMF	**Signal de Mont**	**2.54**	**312**	*e*Pg	**Pb**	**08 49 23.5**	**+1.6**
SMF				*e*Sg	**Sg**	**08 49 56.2**	**-1.7**
	6.8nm,0.3s						
SMF	**Signal de Mont**	**2.54**	**312**	*e*Pn	**Pn**	**08 49 17.0**	**-0.4**
SMF	**Signal de Mont**	**2.54**	**312**	*e*Pg	**Pb**	**08 49 23.5**	**+1.6**
SMF				*e*Sg	**Sg**	**08 49 56.2**	**-1.7**
	3.4nm,0.3s						
AVF	**Avril sur Loir**	**2.89**	**310**	*e*Pn	**Pn**	**08 49 21.6**	**-0.6**
AVF	**Avril sur Loir**	**2.89**	**310**	*e*Pg	**Pb**	**08 49 29.9**	**+2.1**
AVF				*e*Sg	**Sg**	**08 50 07.2**	**-2.0**
	4.6nm,0.5s						
AVF	**Avril sur Loir**	**2.89**	**310**	*e*Pn	**Pn**	**08 49 21.6**	**-0.6**
AVF	**Avril sur Loir**	**2.89**	**310**	*e*Pg	**Pb**	**08 49 29.9**	**+2.1**
AVF				*e*Sg	**Sg**	**08 50 07.2**	**-2.0**
	2.3nm,0.5s						
LOR	**Lormes**	**2.97**	**321**	*e*Pg	**Pb**	**08 49 31.4**	**+2.2**
	baz=140						
LOR				*e*Sg	**Sg**	**08 50 09.7**	**-2.0**
	2.9nm,0.3s,baz=142						
LOR	**Lormes**	**2.97**	**321**	*e*Pg	**Pb**	**08 49 31.4**	**+2.2**
LOR				*e*Sg	**Sg**	**08 50 09.7**	**-2.0**
	1.5nm,0.3s						
SSF	**Saint Saulge**	**2.98**	**315**	*e*Pg	**Pb**	**08 49 31.8**	**+2.3**
SSF				*e*Sg	**Sg**	**08 50 10.1**	**-2.1**
	3.9nm,0.4s						
SSF	**Saint Saulge**	**2.98**	**315**	*e*Pg	**Pb**	**08 49 31.8**	**+2.3**
SSF				*e*Sg	**Sg**	**08 50 10.1**	**-2.1**
	2.0nm,0.4s						
PGF	**Pioggiola**	**3.00**	**143**	*e*Pn	**Pn**	**08 49 23.2**	**-0.6**
PGF				*e*Sn	**Sn**	**08 49 57.6**	**-2.2**
	2.4nm,0.3s						
PGF	**Pioggiola**	**3.00**	**143**	*e*Pn	**Pn**	**08 49 23.2**	**-0.6**
PGF				*e*Sn	**Sn**	**08 49 57.6**	**-2.2**
	1.2nm,0.3s						
BGF	**Bois d'Agland**	**3.05**	**302**	*e*Pn	**Pn**	**08 49 23.7**	**-0.7**
BGF				*e*Sg	**Sg**	**08 50 12.2**	**-2.2**
	18nm,0.4s						
BGF	**Bois d'Agland**	**3.05**	**302**	*e*Pn	**Pn**	**08 49 23.7**	**-0.7**
BGF				*e*Sg	**Sg**	**08 50 12.2**	**-2.2**
	8.9nm,0.4s						
MTLF	**Montolieu**	**3.54**	**244**	*e*Pn	**Pn**	**08 49 30.6**	**-0.6**
MTLF				*e*Sn	**Sn**	**08 50 10.5**	**-2.5**
MTLF				*e*Sg	**Sg**	**08 50 27.6**	**-2.5**
	0.5nm,0.2s						
MTLF	**Montolieu**	**3.54**	**244**	*e*Pn	**Pn**	**08 49 30.6**	**-0.6**
MTLF				*e*Sn	**Sn**	**08 50 10.5**	**-2.5**
MTLF				*e*Sg	**Sg**	**08 50 27.6**	**-2.5**
	0.2nm,0.2s						
HYF	**Humbligny**	**3.57**	**311**	*e*Pn	**Pn**	**08 49 30.9**	**-0.7**
HYF				*e*Sg	**Sg**	**08 50 28.3**	**-2.6**
HYF	**Humbligny**	**3.57**	**311**	*e*Pn	**Pn**	**08 49 30.9**	**-0.7**
HYF				*e*Sg	**Sg**	**08 50 28.3**	**-2.6**

*IDC **29** 08:52:15.8±1.1,51°.22S×161°.40E,h0km,mb4.1/5, mb1 4.3/6,mb1mx4.1/34,mbtmp4.1/6,ML3.5/1,Error ellipse: s-maj=40.5km s-min=24.8km az=67.0*
*ISCJB **29** 08:52:19.2±0.8,51°.2S±0°.1×161°.6E±0°.1,h33km,mb4.0/5, Error ellipse: s-maj=18.3km s-min=7.2km az=146.3*
ISC 29 08:52:21.0±1.1**,51°.3S**±0°.2×**161°.5E**±0°.1**,h35**km**,n25,**
σ1§**08**/20**,mb4.0/5,North of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**6.15**	**47**	PN	**Pn**	**08 53 48.6**	**-0.6**
APZ				SN	**Sn**	**08 54 57.8**	**-0.5**
WHZ	**Wether Hill Ro**	**6.86**	**41**	PN	**Pn**	**08 53 59.2**	**+0.2**
WHZ				SN	**Sn**	**08 55 16.6**	**+0.9**
SYZ	**Scrubby Hill**	**6.90**	**50**	PN	**Pn**	**08 53 59.5**	**-0.1**
SYZ				SN	**Sn**	**08 55 14.5**	**-2.3**
MLZ	**Mavora Lakes**	**7.40**	**40**	PN	**Pn**	**08 54 07.3**	**+0.9**
TUZ	**Tuapeka**	**7.56**	**49**	PN	**Pn**	**08 54 08.6**	**0.0**
EAZ	**Earnscleugh**	**7.96**	**44**	*e*PN	**Pn**	**08 54 15.6**	**+1.4**
ODZ	**Otahua Downs**	**8.71**	**48**	PN	**Pn**	**08 54 23.6**	**-0.8**
RPZ	**Rata Peaks**	**9.93**	**44**	Pn	**Pn**	**08 54 42.0**	**+1.0**
	0.4nm,0.3s,baz=213,slow=5.0,SNR=3.5						
URZ	**Urewera**	**17.03**	**46**	P	**P**	**08 56 19.8**	**+2.0**
	0.1nm,0.3s,baz=228,slow=10,SNR=1.8						
STKA	**Stephens Creek**	**24.27**	**315**	P	**P**	**08 57 35.4**	**+0.6**
	4.2nm,1.0s,baz=152,slow=11,SNR=5.8						
VNDA	**Vanda**	**26.38**	**180**	P	**P**	**08 57 54.2**	**+0.8**
	0.5nm,0.5s,baz=14,slow=5.9,SNR=4.8						
ASAR	**Alice Springs**	**34.79**	**312**	P	**P**	**08 59 08.1**	**-0.1**
	3.8nm,0.7s,baz=149,slow=8.3,SNR=58						
H01W1	**Cape Leeuwin H**	**37.52**	**277**	T	T	09 39 10.1	
	baz=131,slow=75,SNR=473						
H01W2	**Cape Leeuwin H**	**37.53**	**277**	T	T	09 39 10.8	
	baz=131,slow=75,SNR=530						
H01W3	**Cape Leeuwin H**	**37.54**	**277**	T	T	09 39 09.0	
	baz=131,slow=75,SNR=657						
WRA	**Warramunga Arr**	**37.83**	**316**	P	**P**	**08 59 33.1**	**-1.0**
	1.8nm,0.9s,baz=152,slow=7.6,SNR=8.5						
H08S2	**Diego Garcia H**	**83.47**	**266**	T	T	10 36 19.0	
	baz=141,slow=76,SNR=32						
H08S1	**Diego Garcia H**	**83.48**	**266**	T	T	10 36 20.6	
	baz=141,slow=76,SNR=24						
H08S3	**Diego Garcia H**	**83.49**	**266**	T	T	10 36 23.1	
	baz=141,slow=76,SNR=27						
H08N1	**Diego Carcia H**	**85.40**	**266**	T	T	10 38 45.7	
	baz=143,slow=75,SNR=4.0						
H08N3	**Diego Garcia H**	**85.41**	**266**	T	T	10 38 46.5	
	baz=143,slow=75,SNR=7.7						
H08N2	**Diego Garcia H**	**85.42**	**266**	T	T	10 38 48.4	
	baz=143,slow=75,SNR=6.1						
CMAR	**Chiang Mai Arr**	**88.26**	**303**	P	**P**	**09 05 08.8**	**+0.3**
	3.1nm,0.7s,baz=162,slow=3.6,SNR=9.4						
SPITS	**Spitsbergen Ar**	**150.16**	**346**	PKPbc	**PKPbc**	**09 12 05.6**	**-0.8**
	9.8nm,0.9s,baz=90,slow=5.3,SNR=4.9						
ARCES	**ARCESS Array B**	**152.50**	**328**	PKPbc	**PKPbc**	**09 12 11.2**	**-0.7**
	1.3nm,0.7s,baz=116,slow=2.1,SNR=5.1						
ARCES				PKPab	**PKPab**	**09 12 21.3**	**-1.2**
	2.4nm,0.8s,baz=124,slow=3.5,SNR=6.4						

*BJI **29** 08:55:20.5,5°.95N×123°.71E,h617km,mb5.1/58,mB5.0/31*
*KLM **29** 08:55:25.1,6°.59N×123°.55E,h615km,mb5.2,MS6.4*
*ISCJB **29** 08:55:26.5±0.2,6°.56N±0°.02×123°.40E±0°.03,h631km±3km, mb4.8/118,Error ellipse: s-maj=4.1km s-min=3.0km az=151.6*
*MOS **29** 08:55:26.4±0.9,6°.58N×123°.44E,h633km,mb4.7/46,Error ellipse: s-maj=10.1km s-min=5.4km az=115.1*
*MAN **29** 08:55:27,6°.58N×123°.38E,h601km,mb4.9,ML3.9,MS5.5*
*IDC **29** 08:55:27.4±0.6,6°.57N×123°.40E,h626km±7km,mb4.1/49, mb1 4.1/53,mb1mx4.1/62,mbtmp5.0/53,Error ellipse: s-maj=8.2km s-min=5.5km az=62.0*
*NEIC **29** 08:55:27.3±0.3,6°.58N×123°.44E,h624km±3km,mb4.9/45, Error ellipse: s-maj=5.0km s-min=3.5km az=64.0*
*DJA **29** 08:55:28.2±0.3,7°.N±4°×12°.3E±°,h623km±4km,M5.0/51, mb5.0/51,mB5.4/25,MLv5.6/11,Mw(mB)4.8/25*
ISC 29 08:55:27.0±0.3**,6°.57N**±0°.03×**123°.46E**±0°.04**,h621**km±3km**,**
h622km;pP-P,n402,σ1§**22**/482**,mb4.8**/127**,19C-16D,**
Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**1.01**	**50**	⇓*i*P	**P**	**08 56 40.3**	**0.0**
DAV	**Davao City (W)**	**2.16**	**77**	*e*P	**P**	**08 56 45.3**	**+1.4**
DAV				*e*S	**S**	**08 57 46.0**	**-0.5**
TBP	**Tagbilaran**	**3.13**	**7**	*e*P	**P**	**08 56 47.5**	**-1.2**
TBP				*e*S	**S**	**08 57 51.5**	**-3.6**
BIPH	**Bislig**	**3.29**	**61**	⇑*e*P	**P**	**08 56 48.9**	**-0.7**
BIPH				*i* S	**S**	**08 57 53.9**	**-2.9**
MYLDM	**Lahad Datu**	**5.13**	**255**	*e*P	**P**	**08 57 03.1**	**+0.8**
PPR	**Puerto Princes**	**5.67**	**305**	⇓*i*P	**P**	**08 57 07.1**	**+0.6**
KMSI	**Cibinong**	**5.98**	**175**	P	**P**	**08 57 07.1**	**-2.1**
KMSI				S	**S**	**08 58 34.8**	**+2.2**
TSM	**Tawau**	**6.01**	**248**	⇑P	**P**	**08 57 06.8**	**-2.7**
TOLI	**Toli-Toli**	**6.03**	**206**	*e*P	**P**	**08 57 08.8**	**-0.9**
TOLI				*e*S	**S**	**08 58 33.7**	**+0.3**
MRSI	**Marisa**	**6.24**	**194**	P	**P**	**08 57 11.6**	**+0.2**
	331nm,1.0s,5μm1.5nm						
SDKM	**Sandakan**	**6.30**	**262**	⇑P	**P**	**08 57 10.5**	**-1.5**
KDM	**Kudat**	**6.59**	**273**	⇑P	**P**	**08 57 11.7**	**-2.7**
TNTI	**Ternate**	**6.95**	**146**	P	**P**	**08 57 16.9**	**-0.7**
	945nm,0.8s,10μm3.6nm						
TNTI				S	**S**	**08 58 46.4**	**-1.6**
	945nm,0.8s,10μm3.6nm						
TNTI	**Ternate**	**6.95**	**146**	*e*P	**P**	**08 57 17.1**	**-0.5**
MPSI	**Mapaga**	**7.14**	**210**	P	**P**	**08 57 19.0**	**-0.3**
	140nm,0.7s,4μm0.7nm						
KKM	**Kota Kinabalu**	**7.22**	**266**	⇑P	**P**	**08 57 19.2**	**-1.0**
	baz=7.1						
KKM	**Kota Kinabalu**	**7.22**	**266**	⇑P	**P**	**08 57 19.0**	**-1.2**
KKM	**Kota Kinabalu**	**7.22**	**266**	*e*P	**P**	**08 57 19.2**	**-1.0**
	422nm,0.6s						
LUWI	**Luwuk**	**7.59**	**185**	P	**P**	**08 57 23.6**	**+0.2**
	220nm,0.7s,4μm1.6nm						
LUWI				S	**S**	**08 58 55.7**	**-2.9**
	220nm,0.7s,4μm1.6nm						
LUWI	**Luwuk**	**7.59**	**185**	⇓P	**P**	**08 57 22.5**	**-0.9**
	baz=7.5,SNR=14						
LUWI	**Luwuk**	**7.59**	**185**	*e*P	**P**	**08 57 22.5**	**-0.9**
APSI	**Ampana**	**7.65**	**194**	P	**P**	**08 57 23.9**	**0.0**
	202nm,1.0s,2μm0.7nm						
TGY	**Tagaytay City**	**7.89**	**342**	P	**P**	**08 57 25.7**	**-0.4**
	98nm,0.3s,baz=0.3,slow=3.3,SNR=4.6						
TGY				S	**S**	**08 59 03.1**	**-0.6**
	25nm,0.3s,baz=180,slow=20,SNR=2.8						
TGY	**Tagaytay City**	**7.89**	**342**	P	**P**	**08 57 25.7**	**-0.4**
TGY				S	**S**	**08 59 03.1**	**-0.6**
TGY				pmax	pmax		
	comp=Z,98nm,0.3s						
TGY				smax	smax		
	comp=N,25nm,0.3s						
LBMI	**Labuha**	**8.21**	**150**	P	**P**	**08 57 29.8**	**+0.6**
	comp=N,1μm,0.5s,comp=N,18μmcomp=N,5.6nm						
LBMI				S	**S**	**08 59 10.1**	**+0.9**
	comp=N,1μm,0.5s,comp=N,18μmcomp=N,5.6nm						
PCI	**Palu**	**8.26**	**206**	P	**P**	**08 57 29.2**	**-0.5**
	comp=N,229nm,1.1s,comp=N,4μmcomp=N,1.0nm						
SANI	**Sanana**	**8.93**	**164**	P	**P**	**08 57 33.9**	**-2.0**
	comp=N,532nm,0.6s,comp=N,10μm						
BKB	**Balikpapan**	**10.17**	**220**	P	**P**	**08 57 50.6**	**+2.6**
TTSI	**Tana Toraja**	**10.22**	**201**	P	**P**	**08 57 51.1**	**+2.6**
	comp=N,39nm,0.6s						
NLAI	**Namlea**	**10.40**	**159**	P	**P**	**08 57 51.3**	**+1.1**
	comp=N,214nm,0.7s,comp=N,12μm						
SWI	**Sorong**	**10.73**	**133**	P	**P**	**08 57 56.4**	**+2.9**
	comp=N,60nm,0.7s						
SWI	**Sorong**	**10.73**	**133**	P	**P**	**08 57 54.0**	**+0.5**
	baz=11,SNR=3.7						
SIJI	**Sorong**	**10.73**	**133**	P	**P**	**08 57 54.3**	**+0.7**
	comp=N,10nm,0.3s,baz=325,slow=13,SNR=22						
BTM	**Bintulu**	**10.87**	**253**	⇑P	**P**	**08 57 54.6**	**-0.3**
PALU	**Palau**	**10.96**	**85**	P	**P**	**08 57 56.5**	**+0.7**
	baz=11,SNR=4.1						
SPSI	**Sidrap Palu**	**11.10**	**200**	P	**P**	**08 57 58.2**	**+1.1**
	comp=N,22nm,1.2s						
AAI	**Ambon**	**11.23**	**155**	P	**P**	**08 58 00.7**	**+2.3**
	comp=N,160nm,0.7s,comp=N,148μm						
AAI	**Ambon**	**11.23**	**155**	P	**P**	**08 57 59.2**	**+0.7**
	baz=11,SNR=4.6						
SBUM	**

SLVN Son La 23.95 310 *e*P P 08 59 56.2 +1.1
comp=Z,65nm,1.6s
PPI Padang Panjang 24.05 254 P P 08 59 55.5 -0.6
baz=24,SNR=3.8
PBKT Sadao Pong 24.15 296 P P 08 59 57.4 +0.6
comp=Z,71nm,1.1s
PSI Prapat 24.74 262 P P 09 00 02.0 -0.3
comp=Z,34nm,0.8s,baz=63,slow=4.0,SNR=15
PSI ScP **ScP** 09 05 56.8 -1.4
comp=Z,6.6nm,0.5s,baz=180,slow=3.0,SNR=4.8
PSI Prapat 24.74 262 P P 09 00 02.0 -0.3
PSI pmax pmax
comp=Z,34nm,0.8s
PSI pmax pmax
comp=N,7.0nm,0.5s
PSI Prapat 24.74 262 ⇓P P 09 00 02.7 +0.4
baz=25,SNR=11
PSI Prapat 24.74 262 *e*P P 09 00 02.4 +0.1
PSI ScP **ScP** 09 05 56.8 -1.4
UTTA Uttaradit 24.96 298 P P 09 00 04.5 +0.5
comp=N,12nm,1.1s,comp=N,107nm
SRDT SRDT 25.14 290 P P 09 00 07.0 +1.4
comp=N,151nm,1.1s
WHN Wuhan 25.34 341 P P 09 00 08.8 +1.7
GYA Guiyang 25.45 323 ⇓P P 09 00 09.3 +1.0
GYA sP **sP** 09 02 56.5 +1.6
GYA PcP **PcP** 09 03 20.8 +2.5
GYA S **S** 09 03 56.8 +3.2
GYA ScP **ScP** 09 06 01.0 +1.1
GYA ScS **ScS** 09 09 50.8 +0.4
GYA PMZ
comp=N,20nm,0.8s
GYA PMZ
comp=N,120nm,4.8s
SUKH Sukhothai 25.67 297 P P 09 00 11.1 +0.8
comp=N,10.0nm,1.0s,comp=N,106nm
NJ2 Nanjing 25.72 351 *e*P P 09 00 10.5 +0.1
NJ2 PMZ
comp=N,40nm,0.6s
UMPA Umpang Tak 25.92 294 P P 09 00 13.2 +0.7
comp=N,17nm,1.0s,comp=N,3µm
LAMP Lampang 26.08 299 P P 09 00 14.9 +1.1
comp=N,14nm,1.1s,comp=N,127nm
CRAI Chiangrai 26.19 303 P P 09 00 12.6 -2.2
comp=N,27nm,1.3s
GSI Gunungsitoli 26.34 260 *e*P P 09 00 15.3 -1.0
comp=N,110nm,0.6s
CM31 Chiang Mai Arr 26.65 299 *e*P P 09 00 19.8 +1.0
comp=N,13nm,0.6s
CMAR Chiang Mai Arr 26.65 299 P P 09 00 19.4 +0.5
comp=N,16nm,0.6s,baz=121,slow=7.6,SNR=61
CMAR ScP **ScP** 09 06 03.5 0.0
comp=N,1.2nm,0.4s,baz=145,slow=1.6,SNR=5.3
CMAR Chiang Mai Arr 26.65 299 P P 09 00 19.4 +0.5
CMAR pmax pmax
comp=Z,16nm,0.6s
CMAR pmax pmax
comp=N,1.0nm,0.4s
CMMT Chiang Mai 26.79 299 P P 09 00 20.5 +0.4
comp=N,86nm,1.0s,comp=N,1µm
CHTO Chiang Mai 26.79 299 P P 09 00 20.6 +0.5
comp=N,296nm,1.3s,comp=N,3µm
CHTO Chiang Mai 26.79 299 *e*P P 09 00 20.8 +0.7
CHTO pmax pmax
comp=Z,40nm,0.6s
CHTO Chiang Mai 26.79 299 *e*P P 09 00 20.8 +0.7
comp=Z,40nm,0.6s
ENH Enshi 26.99 333 *e*P P 09 00 22.9 +1.2
comp=Z,13nm,0.5s
CBIJ Chichi jima 27.08 39 *e*P P 09 00 22.1 -0.4
CBIJ S **S** 09 04 15.0 -3.8
JCJ Chichijima 27.08 39 P P 09 00 22.1 -0.4
comp=Z,42nm,0.4s,baz=283,slow=18,SNR=11
JCJ S **S** 09 04 15.0 -3.8
comp=Z,165nm,0.8s,baz=299,slow=23,SNR=28
KMI Kunming 27.09 315 P P 09 00 24.5 +1.7
KMI PMZ
comp=Z,39nm,1.1s
CMAI Chiengmai2 27.17 302 P P 09 00 24.0 +0.4
comp=Z,41nm,1.0s,comp=Z,739nm
JNU Nakatsue 27.30 14 P P 09 00 24.2 -0.1
comp=Z,7.8nm,0.7s,baz=253,slow=4.8,SNR=5.1
COEN Coen 28.26 136 ⇑P P 09 00 32.0 -0.8
baz=28,SNR=71
COEN Coen 28.26 136 *e*P P 09 00 32.2 -0.7
comp=Z,59nm,0.6s
WRAB Tennant Creek 28.43 158 P P 09 00 33.6 -0.7
comp=Z,2µm,0.4s
WRAB Tennant Creek 28.43 158 *e*P P 09 00 33.9 -0.4
WRAB *e*S **S** 09 04 35.9 -4.0
WRAB pmax pmax
comp=Z,154nm,0.4s
WRAB Tennant Creek 28.43 158 *e*P P 09 00 33.9 -0.4
comp=Z,154nm,0.4s
WRAB *e*S **S** 09 04 35.9 -4.0
WRA Warramunga Arr 28.44 158 P P 09 00 33.9 -0.5
comp=Z,118nm,0.5s,baz=336,slow=9.6,SNR=500
WRA S **S** 09 04 35.6 -4.4
comp=Z,12nm,0.6s,baz=337,slow=16,SNR=11
WRA ScP **ScP** 09 06 07.9 -1.1
comp=Z,4.5nm,0.6s,baz=337,slow=3.0,SNR=7.2
WRA Warramunga Arr 28.44 158 P P 09 00 33.9 -0.5
WRA S **S** 09 04 35.6 -4.4
WRA pmax pmax
comp=Z,118nm,0.5s
WRA smax smax
comp=N,12nm,0.6s
WRA pmax pmax
comp=N,5.0nm,0.6s
PMG Port Moresby 28.45 124 P P 09 00 34.2 -0.3
comp=N,53nm,0.8s,baz=255,slow=14,SNR=10
PMG Port Moresby 28.45 124 *e*P P 09 00 34.4 -0.1
PMG pmax pmax
comp=Z,539nm,1.7s
PMG Port Moresby 28.45 124 *e*P P 09 00 34.6 +0.1
KSJEU Jeongeup 28.96 6 P P 09 00 39.3 +0.6
SNR=6.6
TJN Taejon 29.88 6 *e*P P 09 00 46.7 +0.2
KSKOJ Gongju 29.95 6 P P 09 00 48.2 +1.1
SNR=6.5
KSBON Boeun 30.05 7 P P 09 00 49.3 +1.3
SNR=16
GIRL Giralia 30.41 197 P P 09 00 51.1 -0.1
baz=30,SNR=6.2
KSCHJ Chungju 30.44 7 P P 09 00 52.7 +1.4
SNR=6.6
CD2 Chengdu 30.46 325 *e*P P 09 00 51.8 +0.2
CD2 PcP **PcP** 09 03 29.8 -1.0
CD2 S **S** 09 05 12.3 +1.4
CD2 PcS **PcS** 09 07 14.5 -1.1
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,5.2s
XAN Xi'an 30.47 336 P P 09 00 52.0 +0.3
XAN PMZ
comp=Z,49nm,0.7s
XAN PMZ
comp=Z,140nm,7.4s
RABL Rabaul 30.58 110 ⇓P P 09 00 54.7 +1.8
baz=31,SNR=3.8
KSTBA Taebaek 30.82 9 P P 09 00 56.3 +1.7
SNR=8.8
KSAR Wonju Array Be 30.99 7 P P 09 00 57.3 +1.3
KSAR 09 03 32.7
KSAR Wonju Array Be 30.99 7 P P 09 00 57.2 +1.3
KSAR PcP **PcP** 09 03 32.6 +0.7
KSAR ScP **ScP** 09 06 16.9 -0.2
KSRS Korea Array 31.01 7 P P 09 00 57.2 +1.2
comp=Z,8.7nm,0.7s,baz=189,slow=9.5,SNR=41
KSRS PcP **PcP** 09 03 32.6 +0.6
comp=Z,1.3nm,0.5s,baz=179,slow=3.0,SNR=5.9
KSRS ScP **ScP** 09 06 16.9 -0.2
comp=Z,1.2nm,0.8s,baz=189,slow=3.5,SNR=4.8
KSRS Korea Array 31.01 7 P P 09 00 57.3 +1.2
KSRS 09 03 32.7
KSRS pmax pmax
comp=Z,9.0nm,0.7s
KSRS pmax pmax
comp=Z,1.0nm,0.5s
KSRS pmax pmax
comp=N,1.0nm,0.8s
QIS Mount Isa 31.28 150 P P 09 00 59.0 +0.3
baz=31,SNR=55
KSCHC Chuncheon 31.32 7 P P 09 01 00.8 +2.0
SNR=5.5

KSDGY Daegwallycong 31.34 8 P P 09 01 01.2 +2.2
SNR=8.1
KSJMJ Jumunjin 31.54 8 P P 09 01 02.9 +2.3
SNR=14
KSCWO Cheorwon 31.59 6 P P 09 01 03.2 +2.2
SNR=9.5
ASAR Alice Springs 31.73 162 P P 09 01 03.0 +0.4
comp=N,75nm,0.5s,baz=341,slow=6.7,SNR=1333
ASAR S **S** 09 05 28.8 -1.7
comp=N,16nm,0.7s,baz=354,slow=21,SNR=32
ASAR ScP **ScP** 09 06 18.8 -1.2
comp=N,5.5nm,0.7s,baz=338,slow=2.6,SNR=8.0
ASAR Alice Springs 31.73 162 P P 09 01 03.0 +0.4
ASAR S **S** 09 05 28.8 -1.7
ASAR pmax pmax
comp=Z,75nm,0.5s
ASAR smax smax
comp=N,16nm,0.7s
ASAR pmax pmax
comp=N,6.0nm,0.7s
WRKA Warakurna 31.77 172 P P 09 01 03.0 +0.2
baz=32,SNR=50
KSSKC Sokcho 31.91 8 P P 09 01 06.1 +2.3
SNR=8.2
MTSU Mount Surprise 32.03 140 ⇑P P 09 01 05.5 +0.4
baz=32,SNR=16
DL2 Dalian 32.23 357 P P 09 01 07.5 +1.0
DL2 PMZ
comp=N,72nm,0.7s
MAJO Matsushiro 32.74 22 *e*P P 09 01 10.4 -0.4
MAJO pmax pmax
comp=Z,102nm,0.7s
MAJO Matsushiro 32.74 22 *e*P P 09 01 10.3 -0.5
comp=Z,15nm,0.7s
MAT Matsushiro 32.74 22 P P 09 01 10.2 -0.6
MJAR Matsushiro Arr 32.74 22 P P 09 01 10.5 -0.3
comp=Z,12nm,0.7s,baz=197,slow=9.8,SNR=42
MJAR Matsushiro Arr 32.74 22 P P 09 01 10.5 -0.3
MJAR pmax pmax
comp=Z,12nm,0.7s
MEEK Meekatharra 33.34 188 P P 09 01 15.7 -0.3
baz=33,SNR=34
BJI Beijing 33.96 350 P P 09 01 21.5 +0.6
BJI S **S** 09 06 06.8 +3.2
BJI ScS **ScS** 09 10 31.5 +0.3
BJI PMZ
comp=Z,73nm,0.7s
BJI PMZ
comp=Z,320nm,5.0s
LZH Lanzhou 34.44 331 ⇓P P 09 01 26.8 +1.6
LZH sP **sP** 09 04 15.3 -2.0
LZH PMZ
comp=Z,51nm,1.0s
LZH PMZ
comp=Z,300nm,6.9s
CTA Charters Tower 34.70 140 P P 09 01 28.4 +1.1
comp=Z,27nm,0.6s,baz=320,slow=10,SNR=43
CTA ScP **ScP** 09 06 30.9 +0.4
comp=Z,5.8nm,0.6s,baz=310,slow=5.9,SNR=6.3
CTA Charters Tower 34.70 140 P P 09 01 28.5 +1.1
CTA pmax pmax
comp=Z,27nm,0.6s
CTA pmax pmax
comp=N,6.0nm,0.6s
CTAO Charters Tower 34.70 140 *e*P P 09 01 27.7 +0.3
CTAO pmax pmax
comp=Z,21nm,0.6s
CTAO Charters Tower 34.70 140 *e*P P 09 01 27.7 +0.3
comp=Z,21nm,0.6s
SHL Shillong 35.59 306 *i* P P 09 01 30.0 -4.9
SHL *e*S S 09 06 22.0 -6.7
HHC Hu-ho-hao-te 35.75 344 *e*P P 09 01 38.0 +2.1
HHC PP **PP** 09 03 20.3 -0.8
HHC S S 09 06 37.0 +6.4
HHC sS **sS** 09 09 37.5 -1.0
HHC SS **SS** 09 09 43.3 -5.3
HHC PMZ
comp=Z,19nm,1.1s
HHC PMZ
comp=Z,140nm,11.1s
MORW Morawa 36.15 191 P P 09 01 38.9 -0.2
baz=36,SNR=17
FORT Forrest 37.40 173 P P 09 01 49.6 +0.4
baz=38,SNR=76
FORT Forrest 37.40 173 *e*P P 09 01 49.5 +0.2
FORT comp=Z,101nm,0.5s *e*ScP **ScP** 09 06 39.9 -0.4
BLDU Ballidu 37.53 190 P P 09 01 49.9 -0.5
baz=38,SNR=7.6
KMBL Kambalda 37.75 182 P P 09 01 52.2 0.0
baz=38,SNR=37
LSA Lhasa 38.13 311 *e*P P 09 01 57.4 +1.5
LSA pmax pmax
comp=Z,53nm,0.6s
LSA Lhasa 38.13 311 *e*P P 09 01 57.4 +1.5
comp=Z,53nm,0.6s
USRK Ussuriysk Ar. 38.22 10 P P 09 01 56.3 +0.6
comp=Z,13nm,0.6s,baz=208,slow=6.2,SNR=45
USRK PcP **PcP** 09 03 53.6 +0.3
comp=Z,1.8nm,0.5s,baz=226,slow=3.8,SNR=4.3
MDJ Mudanjiang 38.27 7 P P 09 01 57.3 +1.1
MDJ PcP **PcP** 09 03 54.0 +0.5
MDJ sP **sP** 09 04 51.8 +1.5
MDJ ScP **ScP** 09 06 41.8 -1.6
MDJ S **S** 09 07 08.0 +0.6
MDJ PcS **PcS** 09 07 43.5 -0.2
MDJ PMZ
comp=Z,17nm,0.9s
MDJ PMZ
comp=Z,130nm,6.2s
QLP Quilpie 38.62 149 ⇓P P 09 01 59.6 +0.3
baz=39,SNR=20
GTA Gaotai 39.02 330 ⇓P P 09 02 03.5 +1.0
GTA pP **PP** 09 03 50.0 -1.1
GTA PcP **PcP** 09 03 57.3 +1.1
GTA sP **sP** 09 04 55.8 -1.1
GTA ScP **ScP** 09 06 46.5 -0.1
GTA S **S** 09 07 22.3 +3.5
GTA sS **sS** 09 10 29.0 -0.8
GTA SS **SS** 09 10 37.8 -4.3
GTA ScS **ScS** 09 10 59.0 -1.6
GTA PMZ
comp=Z,70nm,0.8s
GTA PMZ
comp=Z,350nm,6.9s
NWAO Narrogin (SRO) 39.72 188 P P 09 02 07.8 -0.2
comp=Z,17nm,0.5s,baz=328,slow=3.9,SNR=23
NWAO Narrogin (SRO) 39.72 188 P P 09 02 07.8 -0.2
NWAO pmax pmax
comp=Z,17nm,0.5s
NWAO Narrogin (SRO) 39.72 188 P P 09 02 08.1 +0.1
baz=40,SNR=14
NWAO P P 09 02 08.1 +0.1
baz=40,SNR=14
TAPN Taplejung 39.73 306 *e*P P 09 02 09.1 +0.6
comp=Z,78nm,0.5s
ODAN Odare 39.79 305 *e*P P 09 02 09.4 +0.5
comp=Z,120nm,0.5s
CHLP Challavanipeta 40.16 291 *e*P P 09 02 11.8 +0.1
CHLP IAmb IAmb 09 02 13.5
comp=Z,68nm,1.2s
RAMN Ramite 40.47 304 *e*P P 09 02 15.0 +0.7
comp=Z,117nm,0.7s
BBOO Buckleboo 40.95 164 P P 09 02 18.1 +0.4
baz=41,SNR=172
BBOO Buckleboo 40.95 164 *e*P P 09 02 18.2 +0.4
comp=Z,59nm,0.3s
BBOO *e*ScP **ScP** 09 06 53.0 -1.2
ASAJ Asahikawa 40.98 21 P P 09 02 18.9 +1.2
comp=Z,30nm,0.4s,baz=220,slow=7.5
ASAJ Asahikawa 40.98 21 P P 09 02 19.0 +1.2
ASAJ pmax pmax
comp=Z,30nm,0.4s
ASAJ Asahikawa 40.98 21 *e*P P 09 02 18.9 +1.2
comp=Z,16nm,0.7s
RMQ Roma 41.01 144 P P 09 02 19.1 +0.9
baz=41,SNR=11
RKGY Rocky Gully 41.41 188 P P 09 02 22.2 +0.9
baz=42,SNR=11
GUN Gumba 41.44 305 *e*P P 09 02 22.5 +0.4
comp=Z,219nm,0.5s
EIDS Eidsvold 41.59 141 P P 09 02 23.0 +0.1
baz=42,SNR=16
EIDS Eidsvold 41.59 141 *e*P P 09 02 22.9 +0.1
comp=Z,26nm,0.6s
PKI Pulchoki 41.69 305 *e*P P 09 02 24.0 0.0
comp=Z,34nm,0.3s
PKIN Phulchoki 41.70 305 *e*P P 09 02 24.3 +0.3
comp=Z,23nm,0.3s
KKN Kakani 41.88 305 *e*P P 09 02 25.5 +0.1
comp=Z,58nm,0.3s
DMN Daman 41.95 305 *e*P P 09 02 26.1 +0.1
comp=Z,47nm,0.5s
STKA Stephens Creek 41.97 157 P P 09 02 26.3 +0.6
comp=Z,50nm,0.6s,baz=334,slow=7.5,SNR=258
STKA ScP **ScP** 09 06 57.3 -0.9
comp=Z,2.9nm,0.7s,baz=354,slow=2.7,SNR=3.4
STKA Stephens Creek 41.97 157 P P 09 02 26.3 +0.6
STKA pmax pmax
comp=Z,50nm,0.6s
STKA pmax pmax
comp=N,3.0nm,0.7s
STKA Stephens Creek 41.97 157 P P 09 02 26.3 +0.6
comp=N,128nm,0.6s
STKA ScP **ScP** 09 06 57.3 -0.9
PVM Polavaram 42.20 288 *e*P P 09 02 27.6 -0.2
PVM IAmb IAmb 09 02 28.7
comp=Z,29nm,0.6s
HTT Hallett 42.40 161 P P 09 02 29.9 +0.8
baz=42,SNR=33
PALK Pallekele 42.45 274 P P 09 02 29.8 0.0
comp=Z,6.2nm,0.4s,baz=96,slow=2.8,SNR=7.6
PALK Pallekele 42.45 274 P P 09 02 29.8 0.0
PALK pmax pmax
comp=Z,6.0nm,0.4s
GKN Gorkha 42.48 305 *e*P P 09 02 30.1 +0.1
comp=Z,51nm,0.3s
HIA Hailar 42.67 356 *e*P P 09 02 31.6 +0.7
HIA pmax pmax
comp=Z,15nm,0.6s
HIA Hailar 42.67 356 *e*P P 09 02 31.6 +0.7
comp=Z,15nm,0.6s
HABR Khabarovsk 42.90 11 *e*P P 09 02 32.1 -0.6
HABR *e* 09 04 07.1
HABR *e*PP **pP** 09 04 18.4 -1.2
HABR *e* 09 04 25.8
HABR *e*SP **sP** 09 05 28.0 -1.2
HABR *e*S **S** 09 08 14.7 +0.8
HABR *e* 09 11 23.0
HABR *e*SS **sS** 09 11 29.9 +0.9
HABR *e*SS **SS** 09 11 47.0 +2.6
HABR pmax pmax
comp=Z,16nm,1.1s
HABR MLR MLR
comp=Z,97nm,22.0s
KOLN Koldanda 43.25 304 *e*P P 09 02 36.6 +0.6
comp=Z,201nm,0.3s
DANN Dangsing 43.33 305 *e*P P 09 02 37.1 +0.3
CMSA Cobar Meteorol 43.44 152 ⇓P P 09 02 38.3 +1.2
baz=44,SNR=125
ULN Ulaanbaatar 43.47 344 *d i*P P 09 02 38.1 +0.8
ULN pmax pmax
comp=Z,18nm,0.6s
ULN Ulaanbaatar 43.47 344 *e*P P 09 02 37.8 +0.5
comp=Z,29nm,0.6s
ADKI Addanki 43.57 286 *e*P P 09 02 38.4 0.0
ADKI IAmb IAmb 09 02 38.9
comp=Z,22nm,1.0s
SKHT Srikalahasti 43.60 283 *e*P P 09 02 38.9 +0.3
SKHT IAmb IAmb 09 02 39.8
comp=Z,30nm,0.6s
SONM Songino Array 43.62 343 P P 09 02 38.9 +0.4
comp=Z,14nm,0.6s,baz=158,slow=8.3,SNR=56
SONM PcP **PcP** 09 04 11.2 -0.3
comp=Z,2.7nm,0.6s,baz=150,slow=4.0,SNR=3.8
SONM ScP **ScP** 09 07 04.1 -0.8
comp=Z,0.9nm,0.6s,baz=194,slow=3.1,SNR=3.8
SONM Songino Array 43.62 343 P P 09 02 38.9 +0.4
SONM 09 04 11.2
SONM pmax pmax
comp=Z,14nm,0.6s
SONM pmax pmax
comp=Z,3.0nm,0.6s
SONM pmax pmax
comp=N,1.0nm,0.6s
NJS Nagarjunasagar 44.29 287 *e*P P 09 02 43.4 -0.6
NJS IAmb IAmb 09 02 44.5
comp=Z,28nm,0.5s
RCLA Racherla 44.49 285 *e*P P 09 02 44.9 -0.7
RCLA IAmb IAmb 09 02 45.9
comp=Z,27nm,0.6s
SRLM Srisailam 44.63 286 *e*P P 09 02 46.2 -0.3
SRLM IAmb IAmb 09 02 46.9
comp=Z,27nm,0.6s
RPR Rampur 44.66 290 *e*P P 09 02 46.7 0.0
RPR IAmb IAmb 09 02 47.4
comp=Z,47nm,0.6s
HYB Hyderabad 45.12 288 *i* P P 09 02 50.0 -0.3
HYBB Hyderabad (bro 45.13 288 *e*P P 09 02 50.1 -0.2
HYBB IAmb IAmb 09 02 51.0
comp=Z,88nm,1.5s
SRSP Sriramsagar 45.55 290 *e*P P 09 02 52.9 -0.7
SRSP IAmb IAmb 09 02 53.9
comp=Z,41nm,0.8s
ARMA Armidale 45.62 145 P P 09 02 55.9 +2.0
baz=46,SNR=56
ARMA Armidale 45.62 145 *e*P P 09 02 55.7 +1.7
comp=Z,54nm,0.8s
URV Uravakonda 46.07 284 *e*P P 09 02 56.9 -0.7
URV IAmb IAmb 09 02 58.0
comp=Z,103nm,1.5s
ARPS Mount Arapiles 46.42 160 P P 09 03 00.1 +0.4
baz=47,SNR=22
ZAK Zakamensk 46.82 342 *e*P P 09 03 02.9 +0.3
ZAK *e* 09 04 22.7
ZAK pmax pmax
comp=Z,8.0nm,1.1s
KLRI Killari 47.06 289 *e*P P 09 03 03.8 -1.2
KLRI IAmb IAmb 09 03 05.0
comp=Z,46nm,0.7s
JOSI Joshimath 47.55 306 *e*P P 09 03 06.5 -2.1
JOSI AMB AMB 09 03 08.1
comp=Z,296nm,1.3s
AGRA Agra 47.81 301 *e*P P 09 03 09.7 -0.7
AGRA AMB AMB 09 03 10.4
comp=Z,63nm,0.7s
TLY Talaya 47.87 343 P P 09 03 11.5 +1.1
comp=Z,28nm,0.6s,baz=184,slow=5.5,SNR=42
TLY Talaya 47.87 343 *e*P P 09 03 11.4 +1.1
TLY pmax pmax
comp=Z,35nm,0.7s
TLY Talaya 47.87 343 P P 09 03 11.2 +0.9
comp=Z,300nm,0.6s,SNR=15
CAN Canberra 48.11 152 *e*P P 09 03 13.7 +1.3
CAN pmax pmax
comp=Z,27nm,0.7s
CAN Canberra 48.11 152 *e*P P 09 03 13.7 +1.3
comp=Z,27nm,0.7s
CNB Canberra Magne 48.28 151 P P 09 03 14.9 +1.2
baz=48,SNR=25
ASOR Ausora 48.41 303 *e*P P 09 03 14.6 -0.2
TOO Toolangi 48.49 157 ⇓P P 09 03 16.3 +1.2
baz=49,SNR=43
WMQ Urumqi 48.55 326 P P 09 03 17.0 +1.4
WMQ PMZ
comp=Z,47nm,0.8s
WMQ PMZ
comp=Z,310nm,3.8s
SONA Sohna 48.84 302 *e*P P 09 03 17.2 -0.7
NDI New Delhi 48.86 303 *e*P P 09 03 17.0 -1.0
BHGR Bahadurgarh 49.09 302 *e*P P 09 03 18.7 -1.0
BHGR AMB AMB 09 03 19.5
comp=Z,112nm,0.6s
KUDL Kundal 49.31 302 *e*P P 09 03 20.3 -1.0
KUDL AMB AMB 09 03 21.3
comp=Z,70nm,0.5s
KKR Kurukshetra 49.58 304 *e*P P 09 03 23.7 +0.3
KKR AMB AMB 09 03 24.2
comp=Z,90nm,0.5s
MILA Mila 49.60 153 ⇑P P 09 03 24.4 +1.0
baz=50,SNR=7.8
KHET Khetri 49.87 301 *e*P P 09 03 25.2 -0.3
DZM Mont Dzumac 50.82 125 P P 09 03 34.0 +1.4
comp=Z,17nm,0.6s,baz=0.3,slow=4.2,SNR=15
DLH Dalhousie 51.11 307 *e*P P 09 03 33.0 -1.7
DLH *ex* x 09 03 37.0
MK31 Makanchi Array 53.39 326 *e*P P 09 03 50.8 +0.4
MK31 pmax pmax
comp=Z,19nm,0.3s
MKAR Makanchi Array 53.39 326 P P 09 03 51.0 +0.6
comp=Z,55nm,0.5s,baz=122,slow=8.5,SNR=576
MKAR PcP **PcP** 09 04 46.8 -0.5

comp=Z,8.9nm,0.5s,baz=108,slow=4.0,SNR=6.8
MKAR ScP **ScP** **09 07 45.4 -1.1**
comp=Z,8.3nm,0.6s,baz=125,slow=4.5,SNR=21
MKAR Makanchi Array 53.39 326 P **P** **09 03 51.0 +0.6**
MKAR 09 04 46.8
MKAR pmax pmax
comp=Z,55nm,0.5s
MKAR pmax pmax
comp=Z,9.0nm,0.5s
MKAR pmax pmax
comp=N,8.0nm,0.6s
KSH Kashi 53.75 315 P **P** **09 03 54.8 +1.6**
KSH pP **pP** **09 05 47.0 -1.1**
KSH PP **PP** **09 06 07.3 +3.5**
KSH S **S** **09 10 40.0 -2.5**
KSH sS **sS** **09 14 09.0 -0.2**
KSH SS SS 09 14 45.3 +8.9
KSH PMZ
comp=N,44nm,0.5s
KSH PMZ
comp=N,470nm,2.6s
JASL Jaisalmer 53.81 299 *e*P **P** **09 03 53.0 -0.7**
PETK Petropavlovsk- 54.13 25 P **P** **09 03 56.4 +1.0**
comp=N,4.1nm,0.6s,baz=194,slow=6.0,SNR=7.0
PETK Petropavlovsk- 54.13 25 P **P** **09 03 56.4 +1.0**
PETK pmax pmax
comp=Z,4.0nm,0.6s
ULHL Ulahol 54.75 318 P **P** **09 04 01.1 +0.9**
SNR=13
KZA Kyzart 55.34 318 P **P** **09 04 05.8 +1.3**
SNR=32
TKM2 Tokmak 2 55.48 319 P **P** **09 04 06.0 +0.8**
SNR=33
TKM2 Tokmak 2 55.48 319 *e*P **P** **09 04 05.9 +0.7**
TKM2 pmax pmax
comp=Z,21nm,0.6s
TKM2 Tokmak 2 55.48 319 *e*P **P** **09 04 05.9 +0.7**
comp=Z,21nm,0.6s
YAK Yakutsk 55.54 4 *e*P **P** **09 04 03.8 -1.1**
YAK pmax pmax
comp=Z,54nm,0.9s
YAK pmax pmax
comp=N,6.0nm,0.8s
YAK Yakutsk 55.54 4 *e*P **P** **09 04 05.4 +0.5**
comp=N,106nm,0.6s
SFK Sufi-Kurgan 55.69 315 P **P** **09 04 07.3 +0.5**
SFK pmax pmax
comp=Z,40nm,0.7s
KBK Karagaybulak 55.79 318 P **P** **09 04 08.5 +1.2**
SNR=7.0
CHMS Chumysh 56.07 318 P **P** **09 04 09.3 +0.3**
SNR=10
AAK Ala-Archa 56.08 318 P **P** **09 04 10.3 +1.0**
SNR=9.3
AAK Ala-Archa 56.08 318 P **P** **09 04 09.8 +0.5**
AAK pmax pmax
comp=Z,14nm,0.7s
USP Ospenovka 56.35 319 P **P** **09 04 11.6 +0.5**
SNR=25
AML Almayashu 56.41 317 P **P** **09 04 13.0 +1.1**
SNR=30
EKS2 Erkin-Say 56.57 318 P **P** **09 04 13.7 +1.1**
SNR=25
EKS2 Erkin-Say 56.57 318 *e*P **P** **09 04 13.5 +0.9**
EKS2 pmax pmax
comp=Z,30nm,0.7s
EKS2 Erkin-Say 56.57 318 *e*P **P** **09 04 13.5 +0.9**
comp=Z,30nm,0.7s
ZAA0 Zalesovo Array 56.61 334 P **P** **09 04 11.9 -0.5**
baz=57,SNR=5.6
ZALV Zalesovo Beam 56.61 334 P **P** **09 04 11.6 -0.9**
comp=Z,6.9nm,0.4s,baz=134,slow=6.0,SNR=26
ZALV PcP **PcP** **09 04 58.5 -1.1**
comp=Z,3.1nm,0.6s,baz=102,slow=6.7,SNR=3.8
ZALV Zalesovo Beam 56.61 334 P **P** **09 04 11.6 -0.9**
ZALV 09 04 58.6
ZALV pmax pmax
comp=Z,7.0nm,0.4s
ZALV pmax pmax
comp=Z,3.0nm,0.6s
MA2 Magadan 56.83 16 *i*P **P** **09 04 15.2 +1.3**
KBL Kabul 57.23 307 P **P** **09 04 17.4 +0.1**
baz=57,SNR=7.4
KURBB Kurchatov Arra 57.61 328 P **P** **09 04 19.5 +0.1**
comp=Z,39nm,0.6s,baz=130,slow=6.4,SNR=459
KURBB PcP **PcP** **09 05 02.5 -1.3**
comp=Z,5.5nm,0.5s,baz=124,slow=5.4,SNR=1.9
KURBB pP **pP** **09 06 17.5 +0.7**
comp=Z,1.6nm,0.8s,baz=124,slow=7.4,SNR=2.1
KURK Kurchatov 57.62 328 P **P** **09 04 19.5 +0.1**
KURK 09 05 02.5
KURK *PP **pP** **09 06 17.5 +0.6**
KURK pmax pmax
comp=Z,39nm,0.6s
KURK pmax pmax
comp=Z,6.0nm,0.5s
KURK pmax pmax
comp=Z,2.0nm,0.8s
KURK Kurchatov 57.62 328 P **P** **09 04 19.5 +0.1**
KURK PcP **PcP** **09 05 02.5 -1.3**
KURK pP **pP** **09 06 17.5 +0.6**
NVS Novosibirsk 57.90 334 ⇓*i*P **P** **09 04 20.5 -0.7**
NVS *eS **S** **09 11 32.5 -2.4**
NVS pmax pmax
comp=Z,35nm,1.0s
NVS pmax pmax
comp=N,22nm,1.0s
NVS pmax pmax
comp=E,22nm,1.1s
NVS smax smax
comp=E,22nm,1.4s
NVS smax smax
comp=N,12nm,1.6s
KK31 Karatay Array 58.95 317 *i*P **P** **09 04 28.2 -0.3**
KK31 pmax pmax
comp=Z,6.0nm,0.4s
KKAR Karatay Array 58.95 317 *e*P **P** **09 04 28.5 0.0**
KKAR pmax pmax
comp=Z,14nm,0.7s
KKAR Karatay Array 58.95 317 *e*P **P** **09 04 28.5 0.0**
comp=Z,14nm,0.7s
SEY Seymchan 60.07 15 P **P** **09 04 36.6 +1.1**
comp=Z,4.1nm,0.5s,baz=223,slow=5.6,SNR=22
BVA0 Borovoye Array 63.19 327 *i*P **P** **09 04 55.4 -0.5**
BVA0 pmax pmax
comp=Z,24nm,1.0s
BVAR Borovoye Array 63.19 327 P **P** **09 04 55.8 -0.1**
comp=Z,5.9nm,0.6s,baz=139,slow=11,SNR=30
BVAR Borovoye Array 63.19 327 P **P** **09 04 55.8 -0.1**
BVAR pmax pmax
comp=Z,6.0nm,0.6s
BRVK Borovoye 63.26 327 P **P** **09 04 56.1 -0.2**
comp=Z,169nm,1.1s,SNR=9.1
BRVK Borovoye 63.26 327 *e*P **P** **09 04 56.2 -0.1**
BRVK pmax pmax
comp=Z,43nm,1.1s
BRVK Borovoye 63.26 327 *e*P **P** **09 04 56.2 -0.1**
comp=Z,42nm,1.1s
IDAH Dahanechah 64.31 303 *e*P **P** **09 05 04.7 +0.9**
IMYA Miami 64.74 307 *e*P **P** **09 05 07.1 +0.8**
ISRO Mashad 65.24 307 *e*P **P** **09 05 10.3 +1.0**
RPZ Rata Peaks 65.95 144 *e*P **P** **09 05 13.4 +0.1**
comp=Z,21nm,0.6s
GEYT Alibeck 66.59 308 P **P** **09 05 17.9 +0.4**
comp=Z,7.6nm,0.7s,baz=131,slow=4.1,SNR=16
URZ Urewera 66.83 136 P **P** **09 05 18.6 -0.3**
comp=Z,9.0nm,0.7s,baz=249,slow=6.4,SNR=10.0
URZ Urewera 66.83 136 *e*P **P** **09 05 19.0 +0.1**
AB31 Akbulak array 67.91 321 *i*P **P** **09 05 24.9 -0.4**
AB31 pmax pmax
comp=Z,11nm,0.5s
ABKAR Akbulak array 67.91 321 *e*P **P** **09 05 25.1 -0.2**
comp=Z,12nm,0.5s
AKTO Aktyubinsk 69.43 322 P **P** **09 05 34.2 -0.2**
comp=Z,18nm,0.5s,baz=99,slow=7.7,SNR=66
AKTO Aktyubinsk 69.43 322 P **P** **09 05 34.2 -0.2**
AKTO pmax pmax
comp=Z,18nm,0.5s
IANJ Anjilo 69.57 305 *e*P **P** **09 05 35.7 -0.2**
IPAR Pars 69.78 299 *e*P **P** **09 05 36.5 -0.9**
SVE Sverdlovsk 69.86 329⇑*e*P **P** **09 05 36.7 -0.1**
SVE pmax pmax
comp=Z,45nm,0.6s
ARU Arti 70.81 328 P **P** **09 05 41.7 -0.7**
baz=106,slow=6.5
ARU Arti 70.81 328 *d i*P **P** **09 05 41.5 -1.0**
ARU 09 05 57.6
ARU *PP **pP** **09 07 46.4 -1.0**
ARU 09 08 26.6
ARU S **S** **09 14 09.5 +0.4**
ARU SS **SS** **09 19 01.5 +2.5**
ARU pmax pmax
comp=Z,28nm,0.6s
ARU Arti 70.81 328 P **P** **09 05 41.4 -1.0**
comp=Z,434nm,0.4s,SNR=15
IKAZ Kazeroun 70.83 299 *e*P **P** **09 05 43.2 -0.3**
IVRN Varamin 71.31 305 *e*P **P** **09 05 45.7 -0.2**
IPIR Pirpir 71.82 302 *e*P **P** **09 05 47.6 -1.6**
IAZR Azarshahr 76.11 307 *e*P **P** **09 06 13.4 +0.2**
IMRD Marand 76.38 308 *e*P **P** **09 06 14.7 +0.2**
RAYN Ar Rayn 76.39 293 P **P** **09 06 14.0 -0.7**
comp=Z,148nm,0.5s,SNR=8.0
DGRG David-gareji 76.76 311 P **P** **09 06 17.3 +0.9**
DGRG David-gareji 76.76 311 *e*P **P** **09 06 17.2 +0.9**
GNI Garni 77.18 310 P **P** **09 06 20.0 +1.2**
comp=Z,12nm,0.3s,baz=72,slow=3.2,SNR=3.5
GNI Garni 77.18 310 *e*P **P** **09 06 20.2 +1.4**
GNI pmax pmax
comp=Z,11nm,1.7s
TBLG Delisi 77.25 311 P **P** **09 06 19.3 +0.3**
TBLG Delisi 77.25 311 P **P** **09 06 19.3 +0.3**
AKH Akhalkalaki 78.17 311 P **P** **09 06 24.4 +0.2**
AKH Akhalkalaki 78.17 311 *e*P **P** **09 06 24.3 +0.2**
ONI Oni 78.23 312 P **P** **09 06 25.2 +0.8**
ONI Oni 78.23 312 *e*P **P** **09 06 25.1 +0.8**
PRGR Permogore 78.47 332 *e*P **P** **09 06 22.3 -2.7**
PRGR pmax pmax
comp=Z,56nm,0.6s
KBZ Khabaz 78.68 313 P **P** **09 06 26.1 -0.3**
comp=Z,2.2nm,0.7s,baz=12,slow=3.6,SNR=7.5
KBZ Khabaz 78.68 313 P **P** **09 06 26.2 -0.3**
KBZ pmax pmax
comp=Z,2.0nm,0.7s
OHAK Old Harbor 80.86 33 *e*P **P** **09 06 38.7 +1.2**
comp=Z,15nm,0.6s
KDAK Kodiak Island 81.25 33 P **P** **09 06 40.3 +0.7**
comp=Z,195nm,0.7s,SNR=13
KDAK Kodiak Island 81.25 33 P **P** **09 06 40.3 +0.7**
comp=Z,22nm,0.7s,baz=262,slow=5.6,SNR=32
KDAK Kodiak Island 81.25 33 P **P** **09 06 40.3 +0.7**
KDAK pmax pmax
comp=Z,23nm,0.7s
KDAK Kodiak Island 81.25 33 *e*P **P** **09 06 40.6 +1.0**
PPLA Purkeypile 81.61 27 *e*P **P** **09 06 42.4 +0.8**
comp=Z,8.4nm,0.6s
TMCR Tamitsa 82.13 334 *e*P **P** **09 06 43.0 -0.9**
TMCR pmax pmax
comp=Z,19nm,0.5s
BPAW Bear Paw Mtn. 82.19 26 *e*P **P** **09 06 45.0 +0.7**
comp=Z,2.4nm,0.6s
MOS Moscow 82.27 325 *e*P **P** **09 06 43.3 -1.5**
MOS pmax pmax
comp=Z,47nm,0.7s
TRF Thorofare Moun 82.49 27 *e*P **P** **09 06 46.3 +0.3**
comp=Z,8.5nm,1.0s
ANN Anapa 82.60 314 *e*P P 09 06 42.5 -4.2
ANN pmax pmax
comp=Z,88nm,1.5s
OBN Obninsk 82.88 325 P **P** **09 06 46.9 -0.9**
comp=Z,45nm,0.5s,baz=85,slow=5.6,SNR=13
OBN Obninsk 82.88 325 *d i*P **P** **09 06 47.1 -0.7**
OBN *e* 09 10 13.2
OBN pmax pmax
comp=Z,48nm,0.6s
OBN Obninsk 82.88 325 *e*P **P** **09 06 47.1 -0.7**
LVZ Lovozero 83.51 338 *e*P **P** **09 06 50.4 -0.4**
LVZ pmax pmax
comp=Z,11nm,0.7s
ASF Jabal al Asfar 83.65 302 P **P** **09 06 52.9 +0.6**
comp=Z,6.3nm,0.5s,baz=53,slow=4.0,SNR=9.1
ASF Jabal al Asfar 83.65 302 P **P** **09 06 52.9 +0.6**
ASF pmax pmax
comp=Z,6.0nm,0.5s
ILAR Eielson Array 83.96 26 P **P** **09 06 52.0 -1.0**
comp=Z,2.2nm,0.6s,baz=244,slow=4.8,SNR=57
ILAR Eielson Array 83.96 26 P **P** **09 06 52.0 -1.0**
ILAR pmax pmax
comp=Z,2.0nm,0.6s
MMAI Mount Meron Ar 84.84 303 P **P** **09 06 58.3 +0.2**
comp=Z,2.3nm,0.4s,baz=85,slow=8.8,SNR=4.5
BMRM Bremner River 85.25 29 *e*P **P** **09 06 59.1 -0.3**
comp=Z,3.1nm,0.8s
EIL Elat 85.50 299 P **P** **09 07 01.2 0.0**
comp=Z,4.9nm,0.5s,baz=98,slow=3.5,SNR=4.2
BRTR Keskin Array B 85.72 309 P **P** **09 07 00.9 -1.4**
comp=Z,5.3nm,0.5s,baz=130,slow=3.7,SNR=30
BRTR Keskin Array B 85.72 309 P **P** **09 07 00.9 -1.4**
BRTR pmax pmax
comp=Z,5.0nm,0.5s
KEV Kevo 86.12 340 *e*P **P** **09 07 02.0 -1.3**
KEV pmax pmax
comp=Z,5.0nm,0.8s
KEV Kevo 86.12 340 *e*P **P** **09 07 02.0 -1.3**
comp=Z,5.1nm,0.8s
KMBO Kilima Mbogo 86.36 268 P **P** **09 07 05.3 -0.7**
comp=Z,1.5nm,0.3s,baz=43,slow=7.2,SNR=5.8
KMBO Kilima Mbogo 86.36 268 P **P** **09 07 05.3 -0.7**
KMBO pmax pmax
comp=Z,2.0nm,0.4s
KMBO Kilima Mbogo 86.36 268 *e*P **P** **09 07 05.9 -0.1**
EGAK Eagle 86.40 25 *e*P **P** **09 07 05.0 +0.3**
comp=Z,3.1nm,0.6s
VNDA Vanda 86.65 172 P **P** **09 07 05.3 -0.2**
comp=Z,3.9nm,0.6s,baz=319,slow=6.6,SNR=40
VNDA Vanda 86.65 172 P **P** **09 07 05.4 -0.2**
VNDA pmax pmax
comp=Z,4.0nm,0.6s
ARCES ARCESS Array B 86.67 340 P **P** **09 07 04.7 -1.2**
comp=Z,4.5nm,0.6s,baz=81,slow=6.7,SNR=50
ARCES ARCESS Array B 86.67 340 P **P** **09 07 04.7 -1.2**
ARCES pmax pmax
comp=Z,5.0nm,0.6s
SPITS Spitsbergen Ar 87.08 349 P **P** **09 07 07.3 -0.4**
comp=Z,10nm,0.5s,baz=93,slow=8.8,SNR=45
SPITS Spitsbergen Ar 87.08 349 P **P** **09 07 07.3 -0.4**
SPITS pmax pmax
comp=Z,10.0nm,0.5s
KIEV Kiev 87.66 321 *e*P **P** **09 07 09.2 -1.7**
KIEV pmax pmax
comp=Z,4.0nm,0.5s
FINES FINESS Array B 87.81 332 P **P** **09 07 10.1 -1.2**
comp=Z,7.0nm,0.5s,baz=60,slow=4.9,SNR=43
FINES FINESS Array B 87.81 332 P **P** **09 07 10.1 -1.2**
FINES pmax pmax
comp=Z,7.0nm,0.5s
HYT Haines Junctio 88.70 29 *e*P **P** **09 07 16.6 +0.8**
comp=Z,3.2nm,0.7s
MLR Muntele Rosu 90.61 316 P **P** **09 07 24.1 -0.8**
comp=Z,1.1nm,0.5s,baz=0.0,slow=7.1,SNR=5.6
MLR Muntele Rosu 90.61 316 P **P** **09 07 24.1 -0.8**
MLR pmax pmax
comp=Z,1.0nm,0.5s
UZH Uzhgorod 92.44 319⇑*i*P **P** **09 07 33.2 +0.1**
IDI Anoyia 93.20 306 P **P** **09 07 35.9 -1.0**
comp=Z,3.3nm,0.3s,baz=85,slow=11,SNR=6.6
HFS Hagfors 94.00 332 P **P** **09 07 38.0 -1.9**
comp=Z,3.1nm,0.5s,baz=129,slow=4.0,SNR=22
HFS Hagfors 94.00 332 P **P** **09 07 38.0 -1.9**
HFS pmax pmax
comp=Z,3.0nm,0.5s
NB2 NORSAR Subarra 94.81 333 P **P** **09 07 41.6 -2.0**
comp=Z,3.1nm,0.8s,baz=69,slow=4.4
NB2 NORSAR Subarra 94.81 333 P **P** **09 07 41.6 -2.0**
baz=69,slow=4.4
NOA NORSAR Array B 94.81 333 P **P** **09 07 41.6 -2.0**
comp=Z,2.1nm,0.6s,baz=69,slow=4.5,SNR=13
NOA NORSAR Array B 94.81 333 P **P** **09 07 41.6 -2.0**
NOA pmax pmax
comp=Z,2.0nm,0.6s
DPC Dobruska-Polom 95.76 322 *e*P **P** **09 07 47.4 -0.8**
DPC Dobruska-Polom 95.76 322 *e*P **P** **09 07 47.4 -0.8**
UPC Upice 95.90 322 *e*P **P** **09 07 48.1 -0.6**
UPC Upice 95.90 322 *e*P **P** **09 07 48.1 -0.6**
BRG Berggiesshubel 97.03 323 *e*P **P** **09 07 53.1 -0.7**
comp=Z,4.1nm,0.7s
BRG Berggiesshubel 97.03 323 *e*P **P** **09 07 53.1 -0.7**
BRG pmax pmax
comp=Z,4.0nm,0.7s
SOKA Soboth 97.69 319⇓*i*Pdiff Pdiff 09 07 53.6 -3.4
comp=Z,2.8nm,0.9s
GERES GERESS Array B 97.85 321 P Pdif 09 07 56.3 -1.3
comp=Z,0.9nm,0.5s,baz=90,slow=5.3,SNR=7.7
GERES GERESS Array B 97.85 321 P Pdif 09 07 56.3 -1.3
GERES pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 98.24 23 P Pdif 09 07 57.9 -1.0
comp=Z,0.3nm,0.6s,baz=307,slow=4.5,SNR=4.6
TORD Torodi Ar. Bea 118.94 289 PKP **PKPdf** **09 13 06.5 -0.9**
comp=Z,2.3nm,0.6s,baz=46,slow=2.1,SNR=20
TORD SKP 09 15 43.6
comp=Z,1.2nm,0.6s,baz=45,slow=2.4,SNR=5.7
TORD PKKPbc **PKKPbc** **09 23 24.1 -0.1**
comp=Z,0.6nm,0.7s,baz=285,slow=3.6,SNR=4.5
TXAR Lajitas Array 122.33 49 PKP **PKPdf** **09 13 13.8 +0.1**
comp=Z,0.3nm,0.6s,baz=232,slow=1.7,SNR=5.7
TXAR SKP 09 15 50.2
comp=Z,0.3nm,0.6s,baz=264,slow=0.4,SNR=5.2
SADO Sadowa 125.00 20 PKP **PKPdf** **09 13 17.2 -1.0**
comp=Z,4.1nm,1.0s,baz=68,slow=5.4,SNR=3.7
DBIC Dimbokro 126.78 283 PKP **PKPdf** **09 13 22.4 -0.1**
comp=Z,3.9nm,0.8s,baz=131,slow=2.6,SNR=5.7
DBIC Dimbokro 126.78 283 PKIKP **PKPdf** **09 13 22.4 -0.1**
DBIC pmax pmax
comp=Z,4.0nm,0.8s
TKL Tuckaleechee C 130.80 29 PKP **PKPdf** **09 13 29.8 +0.3**
comp=Z,1.7nm,0.6s,baz=202,slow=5.4,SNR=5.4
TKL SKPbc **SKPbc** **09 15 56.5 -0.4**
comp=Z,7.0nm,0.6s,baz=168,slow=5.5,SNR=19
TKL Tuckaleechee C 130.80 29 PKIKP **PKPdf** **09 13 29.8 +0.3**
TKL 09 15 56.5
TKL pmax pmax
comp=Z,2.0nm,0.6s
TKL pmax pmax
comp=N,7.0nm,0.6s
CMIG Matias Romero 135.40 58 SKPbc **SKPbc** **09 16 11.6 -1.0**
comp=N,2.1nm,0.6s,baz=317,slow=4.5,SNR=6.6
LVC Limon Verde 160.08 144 PKPab **PKPab** **09 15 03.9 +2.1**
comp=N,7.9nm,0.6s,baz=255,slow=8.1,SNR=3.8
LPAZ La Paz 165.09 131 PKPab **PKPab** **09 15 26.4 +1.9**
comp=N,2.7nm,0.7s,baz=218,slow=4.6,SNR=12
LPAZ La Paz 165.09 131 PKP2 **PKPab** **09 15 26.4 +1.9**
LPAZ pmax pmax
comp=Z,3.0nm,0.7s
SIV San Ignacio 169.63 155 PKPab **PKPab** **09 15 43.9 +0.2**
comp=Z,1.3nm,0.7s,baz=222,slow=1.9,SNR=4.0
PTGA Pitinga 173.26 31 PKPab **PKPab** **09 15 59.9 +0.1**
comp=Z,2.6nm,0.7s,baz=5.1,slow=7.7,SNR=5.6

ISCJB ***29*** *09:58:41.0±0.7, 3.68S±0.06×128.77E±0.09, h150km, mb3.7/3, Error ellipse: s-maj=12.9km s-min=8.4km az=12.3*
IDC ***29*** *09:58:42.0±2.1, 3.73S×128.67E, h137km±23km, mb3.8/4, mb1 4.0/7, mb1mx3.5/51, mbtmp4.4/7, Error ellipse: s-maj=29.0km s-min=18.4km az=76.0*
ISC 29 08:58:42.1±0.9, 3.77S±0.08×128.8E±0.1, h150km, n7, σ2.9s35/9, mb4.0/3, Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.77**	**40**	P			**Pn**	**08 59 39.8**	**+0.2**
	13nm,0.3s,baz=213,slow=12,SNR=51								
SIJI				S			**Sn**	**09 00 22.1**	**-2.0**
	34nm,0.3s,baz=272,slow=23,SNR=26								
KAPI	**Kappang**	**9.13**	**262**	P			**Pn**	**09 00 49.0**	**-1.7**
	1.1nm,0.3s,baz=68,slow=19,SNR=3.1								
WRA	**Warramunga Arr**	**16.95**	**162**	P			**Pn**	**09 02 31.3**	**+0.8**
	3.8nm,0.3s,baz=338,slow=11,SNR=12								
WRA				S			**S**	**09 05 34.8**	**-4.2**
	baz=344,slow=21,SNR=2.1								
ASAR	**Alice Springs**	**20.38**	**167**	P			**P**	**09 03 09.3**	**+2.1**
	26nm,0.5s,baz=346,slow=12,SNR=34								
MKAR	**Makanchi Array**	**64.90**	**327**	P			**P**	**09 09 06.0**	**+0.4**
	1.1nm,0.5s,baz=115,slow=8.2,SNR=4.8								
KURBB	**Kurchatov Arra**	**69.17**	**328**	P			**P**	**09 09 33.2**	**+0.9**
	1.4nm,0.6s,baz=134,slow=6.0,SNR=6.6								
VNDA	**Vanda**	**75.77**	**173**	P			**P**	**09 10 12.3**	**+1.4**
	0.7nm,0.8s,baz=313,slow=3.5,SNR=3.7								

CRAAG ***29*** *09:03:45.0, 35.53N×7.75E, Ml3.5*
IDC ***29*** *09:03:45.6±1.6, 35.49N×7.52E, h0km, mb3.2/3, mb1 3.3/4, mb1mx3.1/70, mbtmp3.2/4, ML3.8/1, Error ellipse: s-maj=36.4km s-min=16.1km az=165.0*
TUN ***29*** *09:03:47.5, 35.70N×7.75E, h10km, MD3.2*
ISCJB ***29*** *09:03:48.4±0.5, 35.69N±0.05×7.80E±0.05, h10km, mb3.3/2, Error ellipse: s-maj=8.5km s-min=4.7km az=28.6*
CSEM ***29*** *09:03:48.2±0.3, 35.65N×7.78E, h2km, mb3.8, Error ellipse: s-maj=8.7km s-min=5.1km az=35.0*
MDD ***29*** *09:03:56.4±2.8, 35.99N×7.38E, h10km±14km, mb3.8/2, Error ellipse: s-maj=30.4km s-min=10.4km az=147.0, PRXIMO*
ISC 29 09:03:48.6±1.0, 35.71N±0.06×7.83E±0.04, h10km, n41, σ1.9s22/38, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ABSA	**Djebel Ababsia**	**0.63**	**333**	P			**Pg**	**09 04 02.1**	**+1.2**
ABSA	**Djebel Ababsia**	**0.63**	**333**	P			**Pg**	**09 04 02.1**	**+1.2**
CABS	**Djebel Ababsia**	**0.63**	**333**	P			**Pg**	**09 04 02.1**	**+1.2**
CABS	**Djebel Ababsia**	**0.63**	**333**	P			**Pg**	**09 04 02.1**	**+1.2**
THTN	**Thala**	**0.71**	**102**	*i* P			**Pg**	**09 04 03.4**	**+1.0**
GHAT	**Ghardimaou**	**0.88**	**26**	*i* P			**Pg**	**09 04 05.9**	**+0.4**
CMAH	**Djebel Manchou**	**0.97**	**340**	P			**Pg**	**09 04 07.5**	**+0.1**
CMAH	**Djebel Manchou**	**0.97**	**340**	P			**Pg**	**09 04 07.5**	**+0.1**
CMAH	**Djebel Manchou**	**0.97**	**340**	P			**Pg**	**09 04 07.5**	**+0.1**
CKFL	**Kef-Lekhel**	**1.14**	**308**	P			**Pb**	**09 04 09.6**	**-0.8**
CKFL	**Kef-Lekhel**	**1.14**	**308**	P			**Pb**	**09 04 09.6**	**-0.8**
CKFL	**Kef-Lekhel**	**1.14**	**308**	P			**Pb**	**09 04 09.6**	**-0.8**
KRIT	**Krib**	**1.19**	**58**	*i* P			**Pn**	**09 04 11.1**	**-0.3**
CTEI	**Djebel Teioual**	**1.21**	**287**	P			**Pb**	**09 04 10.0**	**-1.7**
CTEI	**Djebel Teioual**	**1.21**	**287**	P			**Pb**	**09 04 10.0**	**-1.7**
CTEI	**Djebel Teioual**	**1.21**	**287**	P			**Pb**	**09 04 10.0**	**-1.7**
CASM	**Ain Smara**	**1.22**	**297**	P			**Pn**	**09 04 10.4**	**-1.4**
CASM	**Ain Smara**	**1.22**	**297**	P			**Pn**	**09 04 10.4**	**-1.4**
CASM	**Ain Smara**	**1.22**	**297**	P			**Pn**	**09 04 10.4**	**-1.4**
KEST	**Kesra**	**1.23**	**88**	Pg			**Pn**	**09 04 11.8**	**-0.1**
	5.9nm,0.3s,baz=225,slow=8.6,SNR=116								
KEST				Lg			Lg	09 04 34.0	
	7.8nm,0.3s,baz=9.4,slow=21,SNR=8.4								
SYA	**Sidi Yaiche**	**1.25**	**140**	*i* P			**Pn**	**09 04 12.0**	**-0.2**
OAR	**Oum El Arais**	**1.26**	**158**	*i* P			**Pn**	**09 04 11.5**	**-0.8**
TROT	**Trozza**	**1.45**	**95**	*i* P			**Pn**	**09 04 16.4**	**+1.4**
BERT	**Berda**	**1.75**	**146**	*i* P			**Pn**	**09 04 18.4**	**-0.7**
DFRA	**Djebel Bou Aff**	**1.79**	**298**	P			**Pn**	**09 04 18.8**	**-0.9**
DFRA	**Djebel Bou Aff**	**1.79**	**298**	P			**Pn**	**09 04 18.8**	**-0.9**
DFRA	**Djebel Bou Aff**	**1.79**	**298**	P			**Pn**	**09 04 18.8**	**-0.9**
CKHR	**Kef el Ahmar**	**1.91**	**280**	P			**Pn**	**09 04 23.1**	**+1.8**
CKHR	**Kef el Ahmar**	**1.91**	**280**	P			**Pn**	**09 04 23.1**	**+1.8**
CKHR	**Kef el Ahmar**	**1.91**	**280**	P			**Pn**	**09 04 23.1**	**+1.8**
SET	**Setif**	**2.03**	**285**	P			**Pn**	**09 04 25.0**	**+2.0**
SET	**Setif**	**2.03**	**285**	P			**Pn**	**09 04 25.0**	**+2.0**
SET	**Setif**	**2.03**	**285**	P			**Pn**	**09 04 25.0**	**+2.0**
ETOS	**Mallorca**	**5.68**	**317**	P			**Pn**	**09 05 13.2**	**+0.2**
	0.9nm,0.2s,SNR=12								
ETOS	**Mallorca**	**5.68**	**317**	P			**Pn**	**09 05 13.2**	**+0.2**
	0.9nm,0.2s,SNR=12								
EIBI	**Ibiza**	**6.14**	**305**	P			**Pn**	**09 05 20.3**	**+1.0**
	1.7nm,0.2s,SNR=7.9								
EIBI	**Ibiza**	**6.14**	**305**	P			**Pn**	**09 05 20.3**	**+1.0**
	1.7nm,0.2s,SNR=7.9								
ESDC	**Sonseca Array**	**10.15**	**296**	Pn			Pn	09 06 11.2	-3.3
	0.2nm,0.3s,baz=116,slow=15,SNR=2.6								
ESDC				Lg			Lg	09 08 56.8	
	0.7nm,0.3s,baz=74,slow=28,SNR=3.3								
BRTR	**Keskin Array B**	**20.78**	**71**	P			P	09 08 33.7	+1.3
	0.5nm,0.7s,baz=270,slow=9.5,SNR=2.8								
TORD	**Torodi Ar. Bea**	**23.13**	**195**	P			P	09 08 50.8	-4.3
	0.6nm,0.6s,baz=7.6,slow=10,SNR=6.3								
MKAR	**Makanchi Array**	**55.11**	**54**	P			**P**	**09 13 21.2**	**+0.3**
	0.3nm,0.6s,baz=282,slow=6.9,SNR=2.5								

IDC 29 09:04:51.1±1.8, 7.04S×128.02E, h0km, mb3.8/1, mb1 4.1/4, mb1mx3.6/48, mbtmp3.9/4, ML4.0/3, Error ellipse: s-maj=62.7km s-min=29.6km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**6.53**	**152**	P			P	09 06 35.2	+6.6
	baz=3.8,SNR=35								
SIJI	**Sorong**	**6.93**	**28**	Pn			Pn	09 06 34.6	+0.5
	0.8nm,0.3s,baz=217,slow=20,SNR=2.9								
SIJI				Sn			Sn	09 07 39.4	-14

4.8nm,0.3s,baz=253,slow=22,SNR=9.8
KDU Kakadu 7.12 142 P Pn 09 06 39.5 +2.8
baz=4.5,SNR=34
WRA Warramunga Arr 14.22 155 Pn Pn 09 08 12.9 -1.0
1.3nm,0.3s,baz=339,slow=14,SNR=17
WRA Sn Sn 09 10 39.7 -13
0.5nm,0.3s,baz=330,slow=22,SNR=4.6
ASAR Alice Springs 17.47 162 P P 09 08 57.1 -0.6
0.5nm,0.3s,baz=342,slow=11,SNR=12
ASAR S Sn 09 12 00.8 -11
0.1nm,0.3s,baz=358,slow=27,SNR=2.6
QIS Mount Isa 17.51 141 P P 09 08 59.9 +1.8
baz=15,SNR=3.1
WRKA Warakurna 17.90 179 P P 09 09 07.5 +5.1
baz=16,SNR=3.4
MKAR Makanchi Array 67.20 328 P P 09 15 47.1 -0.1
0.4nm,0.4s,baz=112,slow=7.3,SNR=4.8

NNC 29 09:10:42.0±2.6, 38°24N×70°48E, h0km, mb3.8, mpv3.5, 6C-1D, Error ellipse: s-maj=36.6km s-min=8.4km az=2.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**1.42**	**294**	⇑P	Pn	09 11 07.8	-1.3
	76nm,0.4s						
DZET				⇑S	Sb	09 11 28.1	-0.1
	277nm,0.5s						
SFK	**Sufi-Kurgan**	**2.94**	**52**	⇑Pn	Pn	09 11 31.4	+1.0
	16nm,0.5s						
SFK				⇓Lg	Lg	09 12 15.7	
	34nm,0.4s						
KK31	**Karatay Array**	**4.86**	**0**	⇑Pn	Pn	09 11 55.2	-1.2
	2.1nm,0.5s,baz=178,slow=12,SNR=22						
KK31				⇑Pg	Pb	09 12 09.7	+1.6
	1.3nm,0.4s,baz=174,slow=14,SNR=4.4						
KK31				⇑Lg	Lg	09 13 12.5	
	9.0nm,0.6s,baz=180,slow=27						

JMA 29 09:52:30.2±0.1, 28°94N×140°23E, h473km, M3.5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.52**	**136**	P	P	09 53 36.1	+0.2
CBIJ				S	S	09 54 28.5	-0.7
JHHJ	**Haha-jima-NKT**	**2.88**	**143**	P	P	09 53 38.7	+0.4
JHHJ				S	S	09 54 33.2	-0.2
BSO1	**Boso 1**	**5.73**	**6**	P	P	09 54 05.9	+4.0
BSO3	**Boso 3**	**5.85**	**2**	*e*S	S	09 55 20.3	+0.6
JIE	**Ise**	**6.21**	**332**	P	P	09 54 08.5	+1.1
JKN2	**Miekihoku**	**6.27**	**328**	P	P	09 54 09.0	+1.0
JHU	**Hanno**	**6.94**	**354**	P	P	09 54 15.1	+0.4
JRY	**Ryogami san**	**7.14**	**351**	P	P	09 54 18.1	+1.2
JAG	**Ashikaga**	**7.49**	**355**	P	P	09 54 21.1	+0.6
JHO	**Hitachi**	**7.66**	**2**	P	P	09 54 24.7	+2.5
JHO				*e*S	S	09 55 51.9	-2.3
JMK	**Ichinoseki**	**10.02**	**4**	P	P	09 54 52.0	+4.6

IDC 29 09:55:47.8±2.0, 4°35S×151°95E, h0km, mb3.2/3, mb1 3.6/3, mb1mx3.3/26, mbtmp3.3/3, Error ellipse: s-maj=137.3km s-min=27.7km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.13**	**226**	P	P	10 00 55.0	-0.9
	0.3nm,0.4s,baz=53,slow=10,SNR=5.6						
ASAR	**Alice Springs**	**25.93**	**221**	P	P	10 01 22.7	+0.7
	0.2nm,0.5s,baz=58,slow=8.7,SNR=3.6						
ILAR	**Eielson Array**	**82.06**	**22**	P	P	10 08 09.5	-0.3
	0.3nm,0.7s,baz=242,slow=5.8,SNR=5.2						
TORD	**Torodi Ar. Bea**	**149.36**	**288**	PKPbc	PKPbc	10 15 39.8	-0.2
	0.3nm,0.6s,baz=77,slow=1.9,SNR=4.1						

*IDC **29** 10:04:43.9±0.5, 38°97S×72°94W, h0km, mb4.4/12, mb1 4.5/16, mb1mx4.4/24, mbtmp4.4/16, ML4.3/4, MS4.1/9, Ms1 4.1/9, ms1mx3.8/22, Error ellipse: s-maj=25.6km s-min=14.2km az=99.0*

*BJI **29** 10:04:45.5, 38°59S×72°98W, h24km, mB4.8/3, Ms4.7/3, Ms7 4.3/3*

*ISCJB **29** 10:04:45.5±0.8, 38°96S±0°02×72°92W±0°06, h18km±5km, mb4.7/60, MS4.1/6, Error ellipse: s-maj=7.7km s-min=3.7km az=174.3*

*GUC **29** 10:04:46.7±0.4, 39°00S×73°59W, h36km±1km, ML5.0*

*MOS **29** 10:04:48.2±1.1, 38°92S×72°83W, h33km, mb4.8/31, Error ellipse: s-maj=22.1km s-min=10.6km az=94.3*

*NEIC **29** 10:04:50.4±1.1, 38°95S×72°93W, h41km±9km, mb4.7/47, Error ellipse: s-maj=10.5km s-min=5.6km az=77.0*

NEIC Felt [V] at Tolten; [IV] at Angol, Lanco, Puerto Saavedra, Renaico and Temuco; [III] at Corral, La Laja, Panguipulli and San Rosendo; [II] at Valdivia. Also felt at Freire and Los Angeles.

ISC 29 10:04:47.5±0.6, 39°00S±0°03×73°04W±0°07, h25km±4km, n353, σ0°93/364, mb4.7/60, MS4.1/6, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSCH	**Puerto Saavedr**	**0.34**	**306**	*e*P	**Pb**	**10 04 54.0**	**-1.2**
PSCH				*i* S	**Sb**	**10 04 59.4**	**-1.0**
VLCH	**Valdivia**	**0.82**	**191**	⇑*i*P	**Pb**	**10 05 00.6**	**-2.4**
VLCH				*i* S	**Sb**	**10 05 12.5**	**-1.2**
OSCH	**Osorno**	**1.57**	**182**	*i* P	**Pn**	**10 05 14.1**	**+0.3**
OSCH				*i* S	**Sb**	**10 05 34.7**	**-0.6**
CCSP	**San Pedro de C**	**2.16**	**358**	*i* P	**Pn**	**10 05 22.0**	**+0.1**
CCSP				*i* S	**Sn**	**10 05 48.6**	**+0.7**
CCSP				AML	AML	10 06 04.9	
	comp=E,9μm,0.6s						
PMCH	**Puerto Montt**	**2.49**	**178**	⇑*i*P	**Pn**	**10 05 26.7**	**+0.3**
PMCH				*i* S	**Sn**	**10 05 57.2**	**+1.2**
COCH	**Cobquecura**	**2.87**	**4**	*i* P	**Pn**	**10 05 31.9**	**+0.1**
COCH				*i* S	**Sn**	**10 06 06.7**	**+1.2**
HOCH	**HornopirØn**	**2.94**	**171**	*i* P	**Pn**	**10 05 33.5**	**+0.8**
HOCH				*i* S	**Sn**	**10 06 09.1**	**+1.9**
TALC	**Talca**	**3.77**	**18**	*i* P	**Pn**	**10 05 44.6**	**+0.5**
TALC				*i* S	**Sn**	**10 06 30.4**	**+2.8**
CFAA	**Coronel Fontan**	**8.36**	**29**	Pn	**Pn**	**10 06 46.2**	**-1.0**
	comp=E,0.5nm,0.3s,baz=206,slow=10,SNR=26						
CFAA				Sn	**Sn**	**10 08 18.7**	**-2.1**
	comp=E,0.4nm,0.3s,baz=300,slow=16,SNR=2.5						
CFAA				Lg	Lg	10 09 08.0	
	comp=E,0.0nm,0.3s,baz=340,slow=18,SNR=2.7						
TRQA	**Tornquist**	**8.72**	**87**	*e*Pn	Pn	10 06 55.3	+3.2
LCO	**Las Campanas**	**10.15**	**12**	*e*Pn	**Pn**	**10 07 11.6**	**-0.4**
USHA	**Ushuaia**	**16.14**	**170**	Pn	**Pn**	**10 08 33.7**	**+1.1**
	comp=E,1.1nm,0.3s,baz=328,slow=12,SNR=9.6						
USHA				LR	LR	10 14 32.3	
	comp=E,881nm,18.2s,baz=7.5,slow=36						
LVC	**Limon Verde**	**16.71**	**13**	Pn	**Pn**	**10 08 37.8**	**-2.5**
	comp=E,9.7nm,0.3s,baz=194,slow=12,SNR=4.0						
LVC				LR	LR	10 15 53.8	
	comp=E,2μm,19.2s,baz=192,slow=40						
LVC	**Limon Verde**	**16.71**	**13**	*e*Pn	**P**	**10 08 41.6**	**-0.8**
	comp=E,16nm,0.7s						
CPUP	**Villa Florida**	**18.26**	**51**	P	**Pn**	**10 08 57.5**	**-1.7**
	comp=E,0.2nm,0.3s,baz=240,slow=11,SNR=5.6						
CPUP				LR	LR	10 16 38.3	
	comp=E,725nm,18.2s,baz=224,slow=39						
CPUP	**Villa Florida**	**18.26**	**51**	*e*Pn	**Pn**	**10 08 58.6**	**-0.5**
LPAZ	**La Paz**	**23.04**	**12**	P	**P**	**10 09 52.3**	**+0.7**
	comp=E,7.1nm,0.7s,baz=170,slow=6.1,SNR=30						
LPAZ	**La Paz**	**23.04**	**12**	P	**P**	**10 09 52.3**	**+0.7**
LPAZ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
LPAZ	**La Paz**	**23.04**	**12**	*e*P	**P**	**10 09 52.8**	**+1.2**
	comp=Z,15nm,0.8s						
SIV	**San Ignacio**	**25.21**	**28**	P	**P**	**10 10 11.4**	**0.0**
	comp=Z,5.2nm,0.8s,baz=229,slow=10,SNR=14						
NNA	**Nana**	**27.12**	**352**	P	**P**	**10 10 28.9**	**+0.3**
	comp=Z,6.0nm,0.6s,baz=194,slow=9.0,SNR=5.2						
NNA				LR	LR	10 19 00.7	
	comp=Z,220nm,20.8s,baz=169,slow=32						
SAML	**Samuel**	**31.20**	**19**	*e*P	**P**	**10 11 05.7**	**+0.8**
SAML				*e*pP	**pP**	**10 11 12.5**	**+0.2**
BDFB	**Brasilia**	**31.99**	**50**	P	**P**	**10 11 11.6**	**-0.4**
	comp=Z,7.1nm,0.8s,baz=220,slow=8.2,SNR=6.5						
BDFB	**Brasilia**	**31.99**	**50**	P	**P**	**10 11 11.6**	**-0.4**
BDFB				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BDFB	**Brasilia**	**31.99**	**50**	*e*P	**P**	**10 11 12.8**	**+0.9**
OTAV	**Otavalo**	**39.37**	**351**	*e*P	**P**	**10 12 15.3**	**-0.3**
OTAV				*e*pP	**pP**	**10 12 22.6**	**-0.4**
PTGA	**Pitinga**	**39.93**	**21**	*e*P	**P**	**10 12 20.4**	**+0.7**
	comp=Z,16nm,1.4s						
VNA1	**Neumayer--Stat**	**45.44**	**155**	P	**P**	**10 13 05.2**	**+1.3**
SNAA	**Sanae**	**47.30**	**156**	P	**P**	**10 13 19.8**	**+1.2**
SNAA	**Sanae**	**47.30**	**156**	*i* P	**P**	**10 13 19.8**	**+1.2**
SNAA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SNAA	**Sanae**	**47.30**	**156**	*e*P	**P**	**10 13 19.5**	**+0.8**
	comp=Z,7.2nm,0.9s						
JTS	**JuntasAbangare**	**50.28**	**345**	*e*P	P	10 13 49.2	+7.2
JTS				pmax	pmax		
	comp=Z,15nm,1.0s						
QSPA	**South Pole Qui**	**51.24**	**180**	P	**P**	**10 13 50.1**	**+1.1**
	comp=Z,8.6nm,0.7s,baz=163,slow=1.6,SNR=70						
QSPA	**South Pole Qui**	**51.24**	**180**	*e*P	**P**	**10 13 50.4**	**+1.5**
	comp=Z,16nm,0.9s						
NVL	**N'lazarevskaya**	**52.09**	**155**	*e*P	P	10 13 50.9	-4.0
NVL				pmax	pmax		
	comp=Z,6.0nm,0.6s						
VNDA	**Vanda**	**59.05**	**192**	P	**P**	**10 14 46.5**	**+1.7**
	comp=Z,1.3nm,0.9s,baz=144,slow=7.0,SNR=5.9						
VNDA	**Vanda**	**59.05**	**192**	P	**P**	**10 14 46.6**	**+1.7**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SYO	**Syowa Base**	**61.53**	**158**	⇑*e*P	**P**	**10 15 01.0**	**-0.9**
SYO	**Syowa Base**	**61.53**	**158**	⇑*e*pP	pP	10 15 07.0	-2.6
MAW	**Mawson**	**68.62**	**163**	P	**P**	**10 15 48.6**	**+0.6**
	comp=Z,3.1nm,0.7s,baz=209,slow=10,SNR=7.0						
MAW				LR	LR	10 45 55.8	
	comp=Z,253nm,18.5s,baz=242,slow=36						
MAW	**Mawson**	**68.62**	**163**	P	**P**	**10 15 48.6**	**+0.6**
MAW				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MAW				MLR	MLR		
	comp=Z,253nm,18.5s						
PPT	**Papeete**	**68.83**	**264**	LR	LR	10 38 28.1	
	comp=Z,104nm,18.0s,baz=228,slow=29						
034A	**Hebbronville**	**69.96**	**336**	P	**P**	**10 15 58.2**	**+1.5**
	baz=70						
933A	**Laredo**	**70.66**	**335**	P	**P**	**10 16 02.6**	**+1.6**
	baz=71						
834A	**Tilden**	**70.90**	**336**	P	**P**	**10 16 04.2**	**+1.8**
	baz=71						
736A	**Circle Diamond**	**71.23**	**338**	P	**P**	**10 16 06.2**	**+1.8**
	baz=72						
833A	**Chaparral WMA,**	**71.36**	**336**	P	**P**	**10 16 06.1**	**+0.9**
	baz=72						
832A	**Faith Ranch, C**	**71.51**	**335**	P	**P**	**10 16 07.1**	**+1.0**
	baz=72						
636A	**Smothers Creek**	**71.72**	**338**	P	**P**	**10 16 08.8**	**+1.5**
	baz=72						
732A	**Laxson Ranch,**	**71.92**	**335**	P	**P**	**10 16 08.7**	**+0.1**
	baz=72,SNR=7.3						
537A	**Green Hill Far**	**72.07**	**339**	P	**P**	**10 16 10.8**	**+1.4**
	baz=72						
633A	**Saathoff Ranch**	**72.34**	**336**	P	**P**	**10 16 11.9**	**+0.8**
	baz=73						
632A	**Uvalde**	**72.58**	**336**	P	**P**	**10 16 13.5**	**+1.0**
	baz=73						
GOGA	**Godfrey**	**72.70**	**351**	*e*P	**P**	**10 16 13.1**	**0.0**
GOGA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GOGA	**Godfrey**	**72.70**	**351**	*e*P	**P**	**10 16 13.1**	**0.0**
	comp=Z,7.1nm,0.8s						
340A	**Bronson**	**72.70**	**341**	P	**P**	**10 16 14.0**	**+0.8**
	baz=73						
VBMS	**Vicksburg**	**72.70**	**345**	P	**P**	**10 16 14.0**	**+0.9**
	baz=73						
339A	**Huntington**	**72.79**	**341**	P	**P**	**10 16 14.7**	**+1.1**
	baz=73						
LRAL	**Lakeview Retre**	**72.84**	**348**	*e*P	**P**	**10 16 14.1**	**+0.1**
	comp=Z,12nm,0.9s						
436A	**Wall Ranch, Ga**	**72.86**	**339**	P	**P**	**10 16 14.9**	**+0.8**
	baz=73						
533A	**Kerrville**	**72.87**	**337**	P	**P**	**10 16 14.8**	**+0.5**
	baz=73						
338A	**Crockett**	**73.01**	**340**	P	**P**	**10 16 15.9**	**+0.9**
	baz=73						
337A	**Centerville**	**73.12**	**340**	P	**P**	**10 16 16.8**	**+1.2**
	baz=73						
532A	**Rocksprings**	**73.19**	**336**	P	**P**	**10 16 16.4**	**+0.2**
	baz=74,SNR=9.1						
434A	**Burnet**	**73.33**	**337**	P	**P**	**10 16 16.9**	**-0.1**
	baz=74,SNR=6.7						
531A	**Rocksprings**	**73.43**	**335**	P	**P**	**10 16 18.6**	**+1.0**
	baz=74						
336A	**Riesel**	**73.45**	**339**	P	**P**	**10 16 18.3**	**+0.6**
	baz=74						
JCT	**Junction City**	**73.49**	**336**	*e*P	**P**	**10 16 18.6**	**+0.7**
JCT				pmax	pmax		
	comp=Z,9.0nm,0.9s						
JCT	**Junction City**	**73.49**	**336**	P	**P**	**10 16 18.3**	**+0.4**
	baz=74,SNR=5.9						
JCT	**Junction City**	**73.49**	**336**	*e*P	**P**	**10 16 18.6**	**+0.7**
	comp=Z,8.9nm,0.9s						
335A	**Moody**	**73.52**	**338**	P	**P**	**10 16 18.5**	**+0.5**
	baz=74						
433A	**Art**	**73.52**	**337**	P	**P**	**10 16 18.5**	**+0.4**
	baz=74						
530A	**J-C Ranch, Com**	**73.68**	**335**	P	**P**	**10 16 19.9**	**+0.8**
	baz=74,SNR=6.5						
TXAR	**Lajitas Array**	**73.74**	**332**	P	**P**	**10 16 20.4**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=153,slow=9.1,SNR=22						
TXAR				LR	LR	10 43 54.0	
	comp=Z,104nm,20.0s,baz=0.0,slow=32						
334A	**Lometa**	**73.80**	**338**	P	**P**	**10 16 19.8**	**+0.1**
	baz=74,SNR=8.2						
432A	**Menard**	**73.85**	**336**	P	**P**	**10 16 20.4**	**+0.4**
	baz=74						
431A	**Sonora**	**73.93**	**335**	P	**P**	**10 16 21.1**	**+0.6**
	baz=74						
529A	**Stev Forest Ra**	**73.96**	**334**	P	**P**	**10 16 21.1**	**+0.4**
	baz=74						
333A	**Richland Sprin**	**74.02**	**337**	P	**P**	**10 16 21.3**	**+0.3**
	baz=74						
WHTX	**Lake Whitney**	**74.19**	**339**	P	**P**	**10 16 22.5**	**+0.5**
	baz=74						
430A	**Baggett Ranch,**	**74.23**	**335**	P	**P**	**10 16 22.5**	**+0.2**
	baz=74,SNR=5.3						
429A	**Davenport Ranc**	**74.30**	**334**	P	**P**	**10 16 23.3**	**+0.5**
	baz=75,SNR=7.0						
332A	**Millersview**	**74.31**	**336**	P	**P**	**10 16 23.1**	**+0.4**
	baz=75						
234A	**Clairette**	**74.40**	**338**	P	**P**	**10 16 23.4**	**+0.2**
	baz=75						
331A	**San Angelo**	**74.45**	**336**	P	**P**	**10 16 23.4**	**-0.1**
	baz=75,SNR=7.2						
Z38A	**Mt. Pleasant**	**74.72**	**341**	P	**P**	**10 16 25.4**	**+0.5**
	baz=75						
232A	**Coleman**	**74.75**	**337**	P	**P**	**10 16 25.1**	**-0.1**
	baz=75						
330A	**Mertzon**	**74.78**	**335**	P	**P**	**10 16 25.3**	**-0.2**
	baz=75						
SWET	**Sewanee**	**74.81**	**349**	*e*P	**P**	**10 16 26.0**	**+0.5**
CPCT	**Cooper Cave**	**74.84**	**350**	*e*P	**P**	**10 16 25.8**	**+0.2**
TKL	**Tuckaleechee C**	**74.95**	**351**	*e*P	**P**	**10 16 26.0**	**-0.3**
TKL	**Tuckaleechee C**	**74.95**	**351**	*e*P	**P**	**10 16 26.0**	**-0.3**
231A	**Bronte**	**75.00**	**336**	P	**P**	**10 16 26.8**	**+0.1**
	baz=75						
Z36A	**Blue Ridge**	**75.12**	**340**	P	**P**	**10 16 27.8**	**+0.6**
	baz=75						
329A	**Wagon Wheel Ra**	**75.12**	**335**	P	**P**	**10 16 27.8**	**+0.3**
	baz=75						
Y39A	**Lockesburg**	**75.16**	**342**	P	**P**	**10 16 28.0**	**+0.5**
	baz=76						
133A	**Hamilton Ranch**	**75.20**	**338**	P	**P**	**10 16 28.4**	**+0.6**
	baz=76						
Z35A	**Perchaven, San**	**75.40**	**339**	P	**P**	**10 16 29.6**	**+0.7**
	baz=76						
229A	**Bryant Ranch,**	**75.51**	**335**	P	**P**	**10 16 29.9**	**+0.2**
	baz=76						
Y37A	**Hugo**	**75.57**	**341**	P	**P**	**10 16 30.2**	**+0.3**
	baz=76						
MIAR	**Mount Ida**	**75.61**	**343**	*e*P	**P**	**10 16 30.3**	**+0.2**
MIAR				pmax	pmax		
	comp=Z,57nm,2.6s						
MIAR	**Mount Ida**	**75.61**	**343**	P	**P**	**10 16 30.2**	**+0.2**
	baz=76						
MIAR	**Mount Ida**	**75.61**	**343**	*e*P	**P**	**10 16 30.3**	**+0.2**
	comp=Z,57nm,2.6s						
131A	**Roby**	**75.70**	**336**	P	**P**	**10 16 31.3**	**+0.5**
	baz=76						
Z33A	**Whitaker Ranch**	**75.78**	**338**	P	**P**	**10 16 31.6**	**+0.5**
	baz=76						
228A	**UT Block 9, Go**	**75.91**	**334**	P	**P**	**10 16 32.0**	**0.0**
	baz=76						
X38A	**Whitesboro**	**76.03**	**342**	P	**P**	**10 16 32.8**	**+0.4**
	baz=76						
X37A	**Clayton**	**76.09**	**341**	P	**P**	**10 16 33.4**	**+0.6**
	baz=76						
Y34A	**Reagan Ranch,**	**76.13**	**339**	P	**P**	**10 16 33.2**	**+0.2**
	baz=76						
129A	**Stewart Farms,**	**76.14**	**335**	P	**P**	**10 16 33.5**	**+0.2**
	baz=76						
Z31A	**Sharp Cattle R**	**76.23**	**337**	P	**P**	**10 16 33.5**	**-0.2**
	baz=76,SNR=6.3						
X36A	**Centrahoma**	**76.32**	**340**	P	**P**	**10 16 33.7**	**-0.4**
	baz=77						
X35A	**Drake**	**76.33**	**340**	P	**P**	**10 16 34.2**	**+0.1**
	baz=77						
128A	**Castleberry Fa**	**76.33**	**335**	P	**P**	**10 16 34.6**	**+0.2**
	baz=77						
W38A	**Poteau**	**76.34**	**342**	P	**P**	**10 16 34.3**	**+0.1**
	baz=77						
Y33A	**Hilltop Ranch,**	**76.42**	**338**	P	**P**	**10 16 34.6**	**-0.1**
	baz=77						
Z30A	**Sanderson Ranc**	**76.50**	**336**	P	**P**	**10 16 35.4**	**+0.1**
	baz=77						
Z29A	**Hungry Hill Ra**	**76.66**	**336**	P	**P**	**10 16 36.1**	**-0.2**
	baz=77,SNR=6.3						
X34A	**Smith Ranch, M**	**76.75**	**339**	P	**P**	**10 16 36.9**	**+0.3**
	baz=77						
PARMO	**Parma**	**76.86**	**346**	*e*P	**P**	**10 16 37.7**	**+0.6**
Y31A	**Rekieta Farm,**	**76.86**	**337**	P	**P**	**10 16 37.0**	**-0.3**
	baz=77						
X33A	**Lawton**	**76.88**	**339**	P	**P**	**10 16 37.1**	**-0.2**
	baz=77						
W35A	**Tecumseh**	**77.01**	**340**	P	**P**	**10 16 37.9**	**-0.2**
	baz=77						
V38A	**Canehill**	**77.07**	**342**	P	**P**	**10 16 38.0**	**-0.4**
	baz=77						
PBMO	**Poplar Bluff**	**77.10**	**346**	*e*P	**P**	**10 16 38.5**	**+0.1**
	comp=Z,13nm,0.8s						
LIC	**Lamto**	**77.14**	**71**	*e*P	**P**	**10 16 38.4**	**-0.9**
	comp=Z,103nm,1.9s						
WMOK	**Wichita Mounta**	**77.15**	**338**	*e*P	**P**	**10 16 39.0**	**+0.1**
WMOK				pmax	pmax		
	comp=Z,27nm,2.3s						
WMOK	**Wichita Mounta**	**77.15**	**338**	*e*P	**P**	**10 16 39.0**	**+0.1**
	comp=Z,27nm,2.3s						
Y29A	**Porterfield Fa**	**77.20**	**336**	P	**P**	**10 16 39.5**	**+0.2**
	baz=78						
V37A	**Hulbert**	**77.26**	**342**	P	**P**	**10 16 39.2**	**-0.3**
	baz=78						
W34A	**Bridge Creek,**	**77.33**	**339**	P	**P**	**10 16 39.5**	**-0.3**
	baz=78						
V36A	**Jenks**	**77.37**	**341**	P	**P**	**10 16 39.8**	**-0.3**
	baz=78,SNR=6.8						
X31A	**McDonald Ranch**	**77.40**	**337**	P	**P**	**10 16 40.5**	**+0.2**
	baz=78,SNR=5.1						
TIC	**Toumodi**	**77.43**	**71**	*e*P	**P**	**10 16 40.9**	**0.0**
Y28A	**McKinney Farm,**	**77.44**	**335**	P	**P**	**10 16 40.2**	**-0.4**
	baz=78						
KIC	**Kosan Boka**	**77.44**	**71**	*e*P	**P**	**10 16 41.0**	**0.0**
	comp=Z,256nm,1.8s						
W33A	**Caddo, Fort Co**	**77.45**	**339**	P	**P**	**10 16 40.8**	**+0.3**
	baz=78						
TUL1	**Tulsa**	**77.45**	**341**	P	**P**	**10 16 39.8**	**-0.6**
	baz=78,SNR=6.6						
TUL1	**Tulsa**	**77.45**	**341**	*e*P	**P**	**10 16 40.7**	**+0.2**
	comp=Z,14nm,0.7s						
X30A	**Coker Ranch, T**	**77.50**	**337**	P	**P**	**10 16 41.1**	**+0.3**
	baz=78						
DBIC	**Dimbokro**	**77.56**	**71**	P	**P**	**10 16 41.5**	**-0.1**
	comp=Z,12nm,0.7s,baz=195,slow=5.6,SNR=7.0						
DBIC	**Dimbokro**	**77.56**	**71**	P	**P**	**10 16 41.5**	**-0.1**
DBIC				pmax	pmax		
	comp=Z,12nm,0.7s						
V35A	**Meyer Ranch, C**	**77.58**	**340**	P	**P**	**10 16 40.9**	**-0.3**
	baz=78						
U38A	**Gravette**	**77.61**	**343**	P	**P**	**10 16 41.3**	**-0.1**
	baz=78						
X29A	**Tulia**	**77.75**	**336**	P	**P**	**10 16 42.6**	**+0.2**
	baz=78						
U37A	**Salina**	**77.75**	**342**	P	**P**	**10 16 42.0**	**-0.1**
	baz=78						
SIUC	**Southern Illin**	**77.78**	**347**	*e*P	**P**	**10 16 42.2**	**-0.1**
	comp=Z,13nm,0.9s						
V33A	**Lossen Ranch,**	**78.02**	**339**	P	**P**	**10 16 44.0**	**+0.3**
	baz=78						
U35A	**Pawnee**	**78.12**	**341**	P	**P**	**10 16 44.3**	**+0.1**
	baz=78,SNR=6.2						
V32A	**Arapaho**	**78.14**	**339**	P	**P**	**10 16 44.7**	**+0.4**
	baz=78						
W29A	**Amarillo**	**78.36**	**336**	P	**P**	**10 16 45.8**	**+0.1**
	baz=79						
T37A	**Cheneyville 18**	**78.39**	**342**	P	**P**	**10 16 45.7**	**0.0**
	baz=79						
V31A	**Spring Creek L**	**78.42**	**338**	P	**P**	**10 16 46.9**	**+1.0**
	baz=79						
BOSA	**Boshof**	**78.47**	**117**	P	**P**	**10 16 49.5**	**+2.7**
	comp=Z,6.7nm,0.9s,baz=193,slow=6.6,SNR=5.7						
BOSA				LR	LR	10 46 58.3	
	comp=Z,53nm,19.0s,baz=176,slow=32						
U33A	**Lingo Farm, Me**	**78.55**	**340**	P	**P**	**10 16 46.8**	**+0.2**
	baz=79						
T36A	**Boggs Farm, Ca**	**78.56**	**342**	P	**P**	**10 16 46.2**	**-0.4**
	baz=79						
T35A	**Sooner Cattle**	**78.58**	**341**	P	**P**	**10 16 46.7**	**0.0**
	baz=79						
U32A	**Winter Ranch,**	**78.75**	**339**	P	**P**	**10 16 48.1**	**+0.4**
	baz=79						
T34A	**McClaskey Farm**	**78.86**	**341**	P	**P**	**10 16 48.6**	**+0.3**
	baz=79						
S37A	**Fort Scott**	**78.98**	**343**	P	**P**	**10 16 48.8**	**-0.1**
	baz=79						
U31A	**Nine Bar Ranch**	**78.98**	**338**	P	**P**	**10 16 49.0**	**0.0**
	baz=79						
S36A	**Lake Cedric, C**	**79.12**	**342**	P	**P**	**10 16 50.1**	**+0.4**
	baz=80						
TUC	**Tucson**	**79.15**	**328**	*e*P	**P**	**10 16 51.0**	**+0.9**
TUC				pmax	pmax		
	comp=Z,5.0nm,1.1s						
TUC	**Tucson**	**79.15**	**328**	*e*P	**P**	**10 16 51.0**	**+0.9**
	comp=Z,5.2nm,1.1s						
T33A	**Patterson Ranc**	**79.20**	**340**	P	**P**	**10 16 50.7**	**+0.5**
	baz=80,SNR=5.2						
S35A	**Otter Creek Ra**

P35A	Duane Minner, baz=81	80.94	342	P	P	10 16 59.8 +0.3
Q32A	Meitler Ranch, baz=81	81.07	340	P	P	10 17 00.8 +0.5
T25A	Trinidad baz=81	81.09	335	P	P	10 17 01.4 +0.8
T25A	Trinidad comp=Z,8.3nm,0.9s	81.09	335	*e*P	P	10 17 02.1 +1.4
P34A	Walnut Farm, R baz=82	81.16	342	P	P	10 17 01.1 +0.5
R29A	Marienthal baz=82	81.26	338	P	P	10 17 02.0 +0.7
P33A	Williams Farm, baz=82	81.27	341	P	P	10 17 01.7 +0.4
O36A	Bolckow baz=82	81.27	343	P	P	10 17 01.5 +0.3
Q31A	Ellis baz=82	81.31	340	P	P	10 17 02.0 +0.5
R28A	Tribune baz=82	81.38	337	P	P	10 17 02.2 +0.2
Q30A	Quinter baz=82	81.51	339	P	P	10 17 01.9 -0.7
O35A	Humboldt baz=82	81.62	343	P	P	10 17 03.2 +0.1
R27A	Eads baz=82	81.63	337	P	P	10 17 03.4 +0.1
Q29A	Oakley baz=82	81.65	338	P	P	10 17 03.6 +0.3
P32A	Huiting Farm, baz=82	81.68	340	P	P	10 17 03.6 +0.2
O34A	Beatrice baz=82	81.72	342	P	P	10 17 04.0 +0.3
O33A	Hebron baz=82	81.84	341	P	P	10 17 04.8 +0.6
R26A	Arlington baz=82	81.85	336	P	P	10 17 05.1 +0.7
SDCO	Great Sand Dun baz=82	82.01	335	P	P	10 17 05.8 +0.3
SDCO	Great Sand Dun comp=Z,2.5nm,0.8s	82.01	335	*e*P	P	10 17 06.4 +0.8
SDCO				*es*P	sP	10 17 21.7 +5.3
P30A	Selden baz=82	82.05	339	P	P	10 17 06.1 +0.7
Q28A	Sharon Springs baz=82	82.06	338	P	P	10 17 05.9 +0.4
N35A	Tabor baz=82	82.12	343	P	P	10 17 05.8 +0.1
WUAZ	Wupatki baz=82	82.18	329	P	P	10 17 06.5 +0.2
WUAZ	Wupatki comp=Z,12nm,1.4s	82.18	329	*e*P	P	10 17 08.3 +2.0
KSCO	Kaye Shedlock' baz=83	82.25	337	P	P	10 17 06.9 +0.3
P29A	Atwood baz=83	82.30	339	P	P	10 17 07.3 +0.5
N34A	Lincoln baz=83	82.30	342	P	P	10 17 07.1 +0.5
Q26A	Hugo baz=83	82.44	336	P	P	10 17 08.4 +0.8
S22A	4UR Ranch, Cre baz=83	82.46	334	P	P	10 17 08.5 +0.6
S22A	4UR Ranch, Cre comp=Z,3.7nm,1.0s	82.46	334	*e*P	P	10 17 09.0 +1.1
P28A	Saint Francis baz=83	82.50	338	P	P	10 17 08.6 +0.7
MVCO	Mesa Verde baz=83	82.57	332	P	P	10 17 09.0 +0.5
MVCO	Mesa Verde comp=Z,8.2nm,1.3s	82.57	332	*e*P	P	10 17 09.5 +1.0
O30A	MW Ranch, Wils baz=83	82.59	339	P	P	10 17 09.2 +1.0
P26A	Davis Ranch, A baz=83	82.97	337	P	P	10 17 11.5 +1.1
L35A	Bielow Farm, R baz=84	83.29	343	P	P	10 17 12.3 +0.6
PV01	Paradox Valley	83.42	333	*e*P	P	10 17 14.0 +1.2
SMCO	Snowmass comp=Z,6.1nm,0.9s	83.80	334	*e*P	P	10 17 15.6 +0.7
N27A	Anderson Farm, baz=84	83.87	338	P	P	10 17 16.1 +1.2
ISCO	Idaho Springs	83.90	335	*e*P	P	10 17 16.6 +1.2
ISCO				pmax	pmax	
ISCO	comp=Z,8.0nm,1.5s Idaho Springs baz=84	83.90	335	P	P	10 17 15.9 +0.5
ISCO	Idaho Springs comp=Z,8.3nm,1.5s	83.90	335	*e*P	P	10 17 16.6 +1.2
PV09	Paradox Valley	83.95	332	*e*P	P	10 17 17.1 +1.5
KNB	Kanab	84.06	329	*e*P	P	10 17 17.7 +1.7
KNB				pmax	pmax	
KNB	comp=Z,9.0nm,1.0s Kanab comp=Z,8.8nm,1.0s	84.06	329	*e*P	P	10 17 17.7 +1.7
L31A	Butterfield Fa baz=84	84.14	341	P	P	10 17 17.1 +1.0
GSC	Goldstone baz=85	84.28	325	P	P	10 17 18.1 +1.0
L29A	Maesberg Ranch baz=85	84.46	340	P	P	10 17 18.9 +1.1
EDW2	Edwards Air Fo baz=85	84.46	324	P	P	10 17 18.6 +0.6
SHPR	Sheep Range	84.58	327	*e*P	P	10 17 20.4 +1.7
SHPR				*ep*P	pP	10 17 26.9 +0.2
CCUT	Cedar City comp=Z,6.8nm,1.0s	84.74	329	*e*P	P	10 17 21.6 +2.0
K30A	Basset baz=85	84.80	341	P	P	10 17 20.6 +1.1
M25A	Palm-Egli Farm baz=85	84.90	337	P	P	10 17 20.4 +0.2
SRU	San Rafael	85.00	332	*e*P	P	10 17 21.8 +1.1
SRU				pmax	pmax	
SRU	comp=Z,15nm,1.6s San Rafael comp=Z,15nm,1.6s	85.00	332	*e*P	P	10 17 21.8 +1.1
ECSD	EROS Data Cent baz=85	85.07	343	P	P	10 17 21.3 +0.6
ECSD	EROS Data Cent comp=Z,16nm,0.9s	85.07	343	*e*P	P	10 17 21.0 +0.2
O20A	White River Ci baz=85	85.09	334	P	P	10 17 22.3 +1.1
O20A	White River Ci comp=Z,4.4nm,0.9s	85.09	334	*e*P	P	10 17 22.4 +1.1
L26A	Underwood Farm baz=86	85.16	338	P	P	10 17 22.4 +0.9
MPMC	Manual Prospec baz=86	85.22	325	P	P	10 17 23.0 +1.1
FURC	Furnace Creek, baz=86	85.28	326	P	P	10 17 23.2 +1.3
PKM	Peak Mountain baz=86	85.32	323	P	P	10 17 23.6 +1.1
TMUT	Trail Mountain comp=Z,4.2nm,0.7s	85.41	331	*e*P	P	10 17 23.8 +0.8
TPNV	Topopah Spring	85.42	327	*e*P	P	10 17 25.0 +2.1
TPNV				pmax	pmax	
TPNV	comp=Z,4.0nm,1.0s Topopah Spring baz=86	85.42	327	P	P	10 17 24.1 +1.2
TPNV	Topopah Spring comp=Z,4.3nm,1.0s	85.42	327	*e*P	P	10 17 24.9 +2.1
K27A	Flueckinger Fa baz=86	85.54	339	P	P	10 17 24.2 +1.0
J29A	Okreek baz=86	85.67	340	P	P	10 17 24.6 +0.8
SPMN	St. Paul baz=86	85.71	346	P	P	10 17 24.0 +0.1
SPMN	St. Paul comp=Z,9.0nm,0.7s	85.71	346	*e*P	P	10 17 23.8 -0.1
VES	Vestal, Richgr baz=86	85.76	324	P	P	10 17 25.5 +1.2
H34A	Spellman Lake, baz=86	85.78	344	P	P	10 17 24.6 +0.3
COWI	Conover comp=Z,12nm,1.0s	85.94	349	*e*P	P	10 17 24.9 -0.2
MPU	Maple Canyon comp=Z,24nm,1.1s	86.20	331	*e*P	P	10 17 27.6 +0.8
R11A	Troy Canyon, C baz=87	86.33	328	P	P	10 17 28.4 +1.1
R11A	Troy Canyon, C comp=Z,4.4nm,1.0s	86.33	328	*e*P	P	10 17 28.8 +1.4
J26A	Sides Ranch, S baz=87	86.34	339	P	P	10 17 27.8 +0.6
I28A	Midland baz=87	86.45	340	P	P	10 17 28.7 +1.1
TOA0	Torodi Ar. Sit	86.66	70	*e*P	P	10 17 28.6 -0.7
TORD	Torodi Ar. Bea comp=Z,2.3nm,0.6s,baz=225,slow=4.0,SNR=23	86.66	70	P	P	10 17 28.6 -0.7
TORD				LR	LR	10 55 10.9
	comp=Z,62nm,18.0s,baz=220,slow=35					

I27A	Quinn baz=87	86.75	340	P	P	10 17 30.0 +0.9
K22A	Casper baz=87	86.77	336	P	P	10 17 30.4 +0.9
H29A	Onida baz=87	86.78	341	P	P	10 17 29.7 +0.5
TPH	Tonopah	86.79	327	*e*P	P	10 17 30.7 +1.1
TPH				pmax	pmax	
TPH	comp=Z,6.0nm,1.1s Tonopah comp=Z,6.3nm,1.1s	86.79	327	*e*P	P	10 17 30.7 +1.1
DUG	Dugway	86.80	331	*e*P	P	10 17 31.0 +1.4
DUG				pmax	pmax	
DUG	comp=Z,7.0nm,1.1s Dugway baz=87	86.80	331	P	P	10 17 30.5 +0.9
DUG	Dugway comp=Z,7.0nm,1.1s	86.80	331	*e*P	P	10 17 31.0 +1.4
G29A	Hoven baz=88	87.24	341	P	P	10 17 31.7 +0.2
H27A	Howes baz=88	87.28	340	P	P	10 17 31.7 0.0
G28A	Parade baz=88	87.38	341	P	P	10 17 32.8 +0.7
NVAR	Mina Array Bea comp=Z,0.8nm,0.8s,baz=158,slow=6.5,SNR=7.7	87.55	326	P	P	10 17 33.9 +0.5
HWUT	Hardware Ranch comp=Z,8.9nm,1.0s	87.56	332	*e*P	P	10 17 34.1 +0.8
H25A	Fruitdale baz=88	87.69	339	P	P	10 17 33.8 +0.1
F29A	Eureka baz=88	87.81	342	P	P	10 17 34.4 +0.2
BW06	Boulder Array comp=Z,4.4nm,1.2s	87.88	334	*e*P	P	10 17 34.8 0.0
PDAR	Pinedale Array comp=Z,1.3nm,0.9s,baz=119,slow=5.2,SNR=10	87.88	334	P	P	10 17 34.8 -0.1
I22A	9 Mile Ranch, baz=88	87.88	337	P	P	10 17 35.3 +0.6
J20A	Shoshoni baz=88	87.91	335	P	P	10 17 35.4 +0.5
G27A	Dupree baz=88	87.93	340	P	P	10 17 34.7 -0.1
G26A	Maurine baz=88	88.03	340	P	P	10 17 35.0 -0.3
F28A	McLaughlin baz=89	88.07	341	P	P	10 17 36.1 +0.7
EYMN	Ely baz=88	88.11	348	P	P	10 17 36.1 +0.6
EYMN	Ely comp=Z,8.5nm,1.0s	88.11	348	*e*P	P	10 17 35.6 +0.1
J19A	Crowheart baz=88	88.15	335	P	P	10 17 36.4 +0.3
HVU	Hansel Valley	88.16	331	*e*P	P	10 17 37.0 +0.9
HVU	Hansel Valley	88.16	331	*e*P	P	10 17 37.0 +0.9
ELK	Elko	88.22	329	*e*P	P	10 17 37.8 +1.2
ELK				pmax	pmax	
ELK	comp=Z,4.0nm,1.0s Elko comp=Z,4.2nm,1.0s	88.22	329	*e*P	P	10 17 37.8 +1.2
F27A	Lemmon baz=89	88.41	340	P	P	10 17 37.3 +0.3
I20A	Worland baz=89	88.45	335	P	P	10 17 37.5 +0.1
E29A	Napoleon baz=89	88.46	342	P	P	10 17 37.3 +0.1
F26A	Lodgepole baz=89	88.56	340	P	P	10 17 37.7 -0.1
D30A	Buchanan baz=89	88.76	343	P	P	10 17 38.8 +0.2
REDW	Red Top Meadow comp=Z,3.2nm,1.0s	88.85	333	*e*P	P	10 17 39.0 -0.5
LOHW	Long Hollow comp=Z,0.9nm,0.8s	88.98	334	*e*P	P	10 17 40.2 +0.2
TPAW	Teton Pass comp=Z,3.8nm,1.0s	89.00	333	*e*P	P	10 17 40.8 +0.7
E26A	Carlson Angus baz=89	89.08	340	P	P	10 17 40.2 0.0
C30A	Mose, Pekin baz=90	89.25	343	P	P	10 17 41.5 +0.6
AGMN	Agassiz Nation baz=90	89.26	345	P	P	10 17 41.3 +0.4
AGMN	Agassiz Nation comp=Z,15nm,1.4s	89.26	345	*e*P	P	10 17 41.2 +0.3
IMW	Indian Meadow comp=Z,0.8nm,0.6s	89.35	334	*e*P	P	10 17 42.2 +0.4
D26A	Manning baz=90	89.59	340	P	P	10 17 43.1 +0.5
RLMT	Red Lodge baz=90	89.87	335	P	P	10 17 44.2 +0.1
B30A	Myrvik Farm, E baz=90	89.92	343	P	P	10 17 44.5 +0.5
HLID	Hailey baz=91	90.31	331	P	P	10 17 47.2 +1.0
HLID	Hailey comp=Z,19nm,2.1s	90.31	331	*e*P	P	10 17 47.8 +1.6
A29A	Manning Farm, baz=91	90.57	343	P	P	10 17 47.2 +0.1
MCMT	McKenzie Canyo	90.83	333	*e*P	P	10 17 49.8 +1.1
ASAR	Alice Springs comp=Z,0.4nm,0.7s,baz=110,slow=1.9,SNR=6.9	112.75	207	PKiKP	PKiKP	10 23 21.6 -0.9
ASAR				PKKPbc	PKKPbc	10 34 09.4 0.0
WRA	comp=Z,0.3nm,0.4s,baz=340,slow=3.2,SNR=9.6 Warramunga Arr	116.00	209	PKP	PKPdf	10 23 27.7 -1.0
WRA	comp=Z,0.5nm,0.5s,baz=160,slow=1.7,SNR=35 Warramunga Arr	116.00	209	PKIKP	PKPdf	10 23 27.7 -1.0
WRAB	comp=Z,1.0nm,0.5s Tennant Creek	116.01	209	*e*PKIKP	PKPdf	10 23 27.3 -1.4
GERES	GERESS Array B	116.19	47	PKP	PKPdf	10 23 27.8 -0.4
GERES	comp=Z,0.8nm,0.6s,baz=222,slow=2.6,SNR=1.5 GERESS Array B	116.19	47	PKIKP	PKPdf	10 23 27.8 -0.4
ILAR	comp=Z,1.0nm,0.6s Eielson Array	118.26	332	PKP	PKPdf	10 23 30.7 -0.8
ILAR	comp=Z,0.7nm,0.8s,baz=185,slow=1.5,SNR=11 Eielson Array	118.26	332	PKIKP	PKPdf	10 23 30.7 -0.8
COLA	comp=Z,1.0nm,0.8s College	118.66	332	*e*PKIKP	PKPdf	10 23 34.6 +2.4
HFS	Hagfors	121.36	36	PKP	PKPdf	10 23 36.2 -1.4
HFS	comp=Z,1.5nm,0.7s,baz=255,slow=5.7,SNR=4.9 Hagfors	121.36	36	PKIKP	PKPdf	10 23 36.2 -1.4
H11S2	comp=Z,2.0nm,0.7s WAKE ISLAND Hyl baz=126	124.76	266	T	T	12 40 36.6
H11S1	WAKE ISLAND Hyl baz=126	124.78	266	T	T	12 40 37.6
H11S3	WAKE ISLAND Hyl baz=126	124.78	266	T	T	12 40 37.8
BRTR	Keskin Array B comp=Z,0.9nm,0.7s,baz=185,slow=1.4,SNR=4.9	124.85	64	PKP	PKPdf	10 23 45.2 0.0
BRTR	Keskin Array B comp=Z,1.0nm,0.7s	124.85	64	PKIKP	PKPdf	10 23 45.2 0.0
FINES	FINESS Array B comp=Z,1.3nm,0.9s,baz=149,slow=1.1,SNR=3.8	127.52	37	PKP	PKPdf	10 23 49.8 +0.4
FINES	FINESS Array B comp=Z,1.0nm,0.9s	127.52	37	PKIKP	PKPdf	10 23 49.8 +0.4
ARCES	ARCESS Array B comp=Z,1.1nm,0.7s,baz=251,slow=2.8,SNR=4.8	128.86	27	PKP	PKPdf	10 23 51.5 -0.3
ARCES	ARCESS Array B comp=Z,1.0nm,0.7s	128.86	27	PKIKP	PKPdf	10 23 51.5 -0.3
OBN	Obninsk	131.55	46	*e*PKIKP	PKPdf	10 23 56.5 -0.7
OBN				*e*		10 26 18.6
OBN	comp=Z,5.0nm,0.9s			pmax	pmax	
GEYT	Alibeck comp=Z,3.5nm,0.7s,baz=261,slow=7.4,SNR=4.3	142.11	76	PKP	PKPdf	10 24 17.3 -0.1
PETK	Petropavlovsk- comp=Z,2.5nm,0.6s,baz=110,slow=6.3,SNR=3.0	142.88	309	PKhKP	PKPpre	10 24 14.4
PETK	Petropavlovsk- comp=Z,3.0nm,0.6s	142.88	309	PKHKP	PKPpre	10 24 14.4
PETK				pmax	pmax	
SEY	Seymchan	143.86	326	*e*PKIKP	PKPdf	10 24 21.0 +1.4
ARU	Arti	143.96	45	*i* PKIKP	PKPab	10 24 16.7 -0.6
HYB	Hyderabad	147.22	123	*i* PKP	PKPbc	10 24 28.5 -0.6
HYB				*e*		10 24 34.5
ZALV	Zalesovo Beam comp=Z,0.3nm,0.3s,baz=339,slow=3.6,SNR=2.9	158.78	38	PKP	PKPdf	10 24 42.3 -0.1
MKAR	Makanchi Array comp=Z,0.9nm,0.9s,baz=318,slow=1.6,SNR=4.1	160.38	59	PKP	PKPdf	10 24 44.5 0.0
MKAR				PKPab	PKPab	10 25 24.2 -1.4
MKAR	comp=Z,1.7nm,0.7s,baz=271,slow=4.3,SNR=3.7 Makanchi Array	160.38	59	PKIKP	PKPdf	10 24 44.5 0.0

MKAR						10 25 24.2
MKAR				pmax	pmax	
MKAR	comp=Z,1.0nm,0.9s			pmax	pmax	
	comp=Z,2.0nm,0.7s					
WMQ	Urumqi	164.77	65	PKP	PKPdf	10 24 48.3 -0.7
WMQ	comp=Z,44nm,25.0s			LN		
WMQ	comp=Z,48nm,22.5s			LZ		
CD2	Chengdu	171.51	161	PKP	PKPdf	10 24 53.8 -0.2
GTA	Gaotai	174.43	84	*e*PKP	PKPdf	10 24 55.5 +0.5
GTA				sPKP		10 25 02.8
GTA				PP	PP	10 30 23.5 +2.6
GTA				SKS	SKSdf	10 31 53.5 -3.0
GTA				SKKS	SKKSac	10 37 05.3 0.0
GTA				SS	SS	10 51 38.5 -2.4
GTA	comp=Z,65nm,6.9s			PPMZ		
GTA	comp=Z,61nm,15.9s			LN		
GTA	comp=Z,46nm,16.2s			LE		
GTA	comp=Z,87nm,15.2s			LZ		
HHC	Hu-ho-hao-te	176.01	299	*e*PKP	PKPdf	10 24 54.5 -0.9
HHC				PP	PP	10 30 30.0 +1.9
HHC				SKS	SKSdf	10 31 52.0 -4.7
HHC				SS	SS	10 51 51.0 -4.3
HHC	comp=Z,82nm,12.3s			PPMZ		
HHC	comp=Z,100nm,18.5s			LN		
HHC	comp=Z,91nm,13.6s			LE		
HHC	comp=Z,56nm,16.0s			LZ		
LZH	Lanzhou	176.18	139	*e*PKP	PKPdf	10 24 54.5 -1.1
LZH				pPKP	pPKPdf	10 25 03.0 -0.9
LZH				sPKP		10 25 08.0

*ISCJB **29** 10:19:27.2±0.7, 32°.27N±0°.03×115°.33W±0°.05, h14km±6km, Error ellipse: s-maj=6.7km s-min=4.4km az=3.2*
*ECX **29** 10:19:28.5±0.5, 32°.28N×115°.36W, h5km, MD2.7, ML2.9*
*MEX **29** 10:19:28.3±0.5, 32°.33N×115°.03W, h15km±242km, MD4.3*

ISC 29 10:19:26.8±0.9, 32°.26N±0°.03×115°.33W±0°.04, h16km±8km, n16, σ0°.29/24, 5C, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.16	8			*e*P	Pb	10 19 31.3	-0.1
CPBX						*e*S	Sg	10 19 33.7	-0.1
MBIG	Mexicali	0.19	37			*e*P	Pb	10 19 32.0	+0.1
MBIG						*i* S	Sg	10 19 34.3	-0.1
SGL	Mount Signal	0.51	320	↑	*i*P	Pg	10 19 37.2	+0.2
EMSC	East Mesa	0.56	31			*e*P	Pb	10 19 38.4	+0.2
WESC	Westside Schoo	0.60	326			*e*P	Pb	10 19 39.1	+0.2
RDX	Rancho Dawling	0.61	238	↑	*e*P	Pg	10 19 39.4	+0.4
RDX						*e*S	Sg	10 19 47.7	+0.6
RDX						*e*		10 19 49.5	
RDX	comp=N,542nm,0.3s					IAML		10 19 49.5	
COA	Coachella	0.63	16	↑	*i*P		Pb	10 19 39.4	0.0
YUH	Yuha Desert	0.63	308	↑	*i*P		Pg	10 19 39.1	-0.2
RMX	La Rumorosa	0.72	299			*e*P	Pb	10 19 40.6	-0.4
RMX						*e*S	Sg	10 19 50.0	-0.5
RMX						*e*		10 19 51.7	
RMX	comp=N,507nm,0.2s					IAML		10 19 51.7	
ECBX	El Chinero	0.82	163			*e*P	Pb	10 19 42.0	-0.6
ECBX						*e*S	Sg	10 19 53.7	+0.1
ZAX	El Zacaton	1.09	227			*e*P	Pn	10 19 47.6	+0.2
ZAX						*e*S	Sn	10 20 02.3	0.0
BAR	Barrett	1.21	291			*e*P	Pn	10 19 48.9	-0.2
SPIG	San Pedro Mart	1.21	185			*i* P	Pn	10 19 49.3	-0.1
SPIG						*i* S	Sb	10 20 05.2	+0.1
SPX	San Pedro Mart	1.22	185			*e*P	Pn	10 19 49.3	-0.1
SPX				↑	*e*			10 20 07.8	
SPX	comp=N,109nm,0.4s					IAML		10 20 07.8	
ECNX	Esteban Cantu	1.23	241			*e*P	Pb	10 19 49.8	0.0
ECNX						*e*S	Sn	10 20 06.0	+0.2
PBX	Punta Banda	1.29	247			*e*P	Pb	10 19 50.5	-0.2

GUC 29 11:13:39.8±0.6, 34°.05S×72°.12W, h23km±4km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.60	81			*e*P	Pb	11 13 52.1	+0.5
U73B	San Pedro	0.60	77			*e*P	Pb	11 13 52.2	+0.6
U73B						*e*S	Sn	11 14 00.9	-1.1
U73B	comp=E,28μm,0.2s					AML	AML	11 14 02.0	
U69B	Peumo	0.85	113			*e*P	Pb	11 13 55.8	0.0
U69B						*e*S	Sn	11 14 08.5	+0.4
U69B	comp=E,5μm,0.2s					AML	AML	11 14 11.2	
U65B	HualaæØ	0.95	163			*e*P	Pb	11 13 57.7	+0.1
U65B						*e*S	Sn	11 14 11.4	+0.7
U65B	comp=N,3μm,0.4s					AML	AML	11 14 13.8	
NICH	Los Niches	1.20	142			*e*P	Pb	11 14 02.2	+0.2
NICH						*e*S	Sb	11 14 19.7	+2.6
CHCH	Chadas Angostu	1.23	85			*e*P	Pb	11 14 02.5	+0.1
CLCH	Cerro Calan	1.47	64			*e*P	Pb	11 14 06.2	-0.5
CLCH						*e*S	Sb	11 14 26.8	+1.8
CLCH	comp=N,2μm,0.6s					AML	AML	11 14 31.0	

*IDC **29** 11:16:43.1±3.9, 37°.20N×22°.31E, h0km, mb3.7/6, mb1 3.7/7, mb1mx3.4/53, mbtmp3.7/7, ML2.8/1, MS2.8/1, Ms1 2.8/1, ms1mx2.1/40, Error ellipse: s-maj=81.4km s-min=26.5km az=51.0*
*ISCJB **29** 11:16:45.2±0.5, 36°.70N±0°.03×21°.94E±0°.03, h17km±4km, mb3.7/6, Error ellipse: s-maj=5.5km s-min=3.1km az=136.3*
*CSEM **29** 11:16:45.2±0.2, 36°.73N×21°.96E, h10km, MD3.4, Error ellipse: s-maj=4.8km s-min=2.6km az=45.0*
*ATH **29** 11:16:45.0, 36°.71N×21°.94E, h27km, MD3.4/25, ML3.0*
*THE **29** 11:16:46.1, 36°.75N×22°.01E, h7km, ML3.3/8, Error ellipse: s-maj=0.9km s-min=0.5km az=227.0*

ISC 29 11:16:45.5±0.9, 36°.74N±0°.02×21°.99E±0°.02, h17km±7km, n152, σ0°.92/187, mb3.8/7, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.25	308			*e*PB	Pg	11 16 51.0	-0.2
PYL						*e*SB	Sb	11 16 56.0	+0.2
PYL	PYLOS	0.25	308			*e*Pb	Pg	11 16 51.0	-0.2
PYL						S	Sb	11 16 55.5	-0.3
PYL						*e*Sb	Sb	11 16 56.0	+0.2
PYL	PYLOS	0.25	308			P	Pg	11 16 50.9	-0.2
PYL						S	Sg	11 16 55.3	+0.3
ITM	Ithomi	0.44	353			*e*PB	Pb	11 16 55.0	+0.1
ITM	Ithomi	0.44	353			P	Pb	11 16 55.0	+0.1
ITM						S	Sb	11 17 01.1	-0.2
ITM	Ithomi	0.44	353			P	Pg	11 16 54.5	0.0
ITM						S	Sb	11 17 01.1	-0.2
VLX	Vlachokerasia	0.70	26			*e*PN	Pb	11 17 00.1	+0.7
VLX						*e*SN	Sn	11 17 10.5	-0.8
VLX	Vlachokerasia	0.70	26			P	Pb	11 17 00.1	+0.7
VLX						*e*Sn	Sn	11 17 10.5	-0.8
VLX						S	Sb	11 17 12.2	+3.4
VLX	Vlachokerasia	0.70	26			P	Pb	11 16 59.9	+0.5
VLX						S	Sb	11 17 08.8	0.0
VLI	Veliai	0.76	91			*e*PN	Pn	11 17 01.4	-0.1
VLI						*e*SN	Sn	11 17 12.6	0.0
VLI	Veliai	0.76	91			P	Pb	11 17 01.1	+0.8
VLI	Veliai	0.76	91			*e*Pn	Pn	11 17 01.4	-0.1
VLI						S	Sb	11 17 11.0	+0.7
VLI						*e*Sn	Sn	11 17 12.6	0.0
VLI	Veliai	0.76	91			P	Pb	11 17 01.1	+0.8
VLI						S	Sb	11 17 11.0	+0.7
AMT	Artemida-Makis	0.82	344			*e*PB	Pg	11 17 00.9	-0.7
AMT	Artemida-Makis	0.82	344			*e*Pb	Pg	11 17 00.9	-0.7
AMT						S	Sb	11 17 13.3	+1.1

AMT	**Artemida-Makis**	**0.82**	**344**	P	**Pg**	**11 17 00.8**	**-0.8**
AMT				S	**Sb**	**11 17 13.3**	**+1.1**
SFD	**Strofades**	**0.93**	**304**	*e*PB	**Pg**	**11 17 02.1**	**-1.5**
SFD				*e*SN	**Sb**	**11 17 16.4**	**+1.1**
SFD	**Strofades**	**0.93**	**304**	*e*Pb	**Pg**	**11 17 02.1**	**-1.5**
SFD				*e*Sn	**Sb**	**11 17 16.4**	**+1.1**
KYTH	**Kithira**	**0.96**	**118**	*e*PN	**Pn**	**11 17 04.4**	**+0.2**
KYTH	**Kithira**	**0.96**	**118**	P	**Pb**	**11 17 04.2**	**+0.6**
KYTH	**Kithira**	**0.96**	**118**	P	**Pb**	**11 17 04.2**	**+0.6**
KRND	**KRANIDI**	**1.13**	**55**	*e*PN	**Pn**	**11 17 08.1**	**+1.6**
KRND	**KRANIDI**	**1.13**	**55**	*e*PN	**Pn**	**11 17 08.1**	**+1.6**
DIDY	**Didyma**	**1.22**	**53**	*e*PN	**Pg**	**11 17 09.1**	**0.0**
DIDY	**Didyma**	**1.22**	**53**	P	**Pg**	**11 17 08.6**	**-0.5**
DIDY	**Didyma**	**1.22**	**53**	*e*Pn	**Pg**	**11 17 09.1**	**0.0**
DIDY				S	**Sn**	**11 17 26.4**	**+2.3**
DIDY	**Didyma**	**1.22**	**53**	P	**Pg**	**11 17 08.6**	**-0.5**
DIDY				S	**Sn**	**11 17 26.4**	**+2.3**
GUR	**Goura**	**1.23**	**13**	*e*PN	**Pg**	**11 17 08.8**	**-0.5**
GUR	**Goura**	**1.23**	**13**	*e*Pn	**Pg**	**11 17 08.8**	**-0.5**
GUR	**Goura**	**1.23**	**13**	P	**Pg**	**11 17 08.7**	**-0.5**
DRO	**Drossia**	**1.23**	**350**	*e*PN	**Pb**	**11 17 08.6**	**+0.3**
DRO				*e*SN	**Sg**	**11 17 25.6**	**+0.2**
DRO	**Drossia**	**1.23**	**350**	P	**Pb**	**11 17 08.6**	**+0.3**
DRO				*e*Sn	**Sg**	**11 17 25.6**	**+0.2**
DRO				S	**Sg**	**11 17 26.2**	**+0.8**
DRO	**Drossia**	**1.23**	**350**	P	**Pb**	**11 17 08.6**	**+0.3**
DRO				S	**Sg**	**11 17 26.2**	**+0.8**
KLV	**Kalavryta, Ach**	**1.31**	**6**	*e*PN	**Pg**	**11 17 10.2**	**-0.6**
KLV				*e*SN	**Sg**	**11 17 27.6**	**-0.3**
KLV	**Kalavryta, Ach**	**1.31**	**6**	P	**Pb**	**11 17 09.8**	**+0.1**
KLV	**Kalavryta, Ach**	**1.31**	**6**	*e*Pn	**Pg**	**11 17 10.2**	**-0.6**
KLV				*e*Sn	**Sg**	**11 17 27.6**	**-0.3**
KLV				S	**Sg**	**11 17 28.6**	**+0.7**
KLV	**Kalavryta, Ach**	**1.31**	**6**	P	**Pb**	**11 17 09.8**	**+0.1**
KLV				S	**Sg**	**11 17 28.6**	**+0.7**
ACOR	**Acrocorinthos**	**1.35**	**31**	P	**Pn**	**11 17 10.1**	**+0.5**
ANKY	**Antikythira Is**	**1.37**	**129**	*e*PN	**Pb**	**11 17 10.8**	**+0.2**
ANKY	**Antikythira Is**	**1.37**	**129**	P	**Pn**	**11 17 10.4**	**+0.6**
ANKY	**Antikythira Is**	**1.37**	**129**	*e*Pn	**Pb**	**11 17 10.8**	**+0.2**
ANKY	**Antikythira Is**	**1.37**	**129**	P	**Pn**	**11 17 10.4**	**+0.6**
ANKY				S	**Sg**	**11 17 29.4**	**-0.3**
RLS	**Riolos of Patr**	**1.38**	**343**	*e*PN	**Pn**	**11 17 10.2**	**+0.2**
RLS	**Riolos of Patr**	**1.38**	**343**	*e*Pn	**Pn**	**11 17 10.2**	**+0.2**
RLS	**Riolos of Patr**	**1.38**	**343**	P	**Pb**	**11 17 11.0**	**+0.1**
RLS	**Riolos of Patr**	**1.38**	**343**	P	**Pb**	**11 17 11.0**	**+0.1**
THAL	**Thalero**	**1.40**	**22**	*e*PN	**Pb**	**11 17 11.1**	**-0.1**
THAL	**Thalero**	**1.40**	**22**	*e*Pn	**Pb**	**11 17 11.1**	**-0.1**
THAL	**Thalero**	**1.40**	**22**	P	**Pb**	**11 17 11.3**	**+0.1**
LOUT	**Loutraki**	**1.47**	**32**	*e*PN	**Pb**	**11 17 12.2**	**-0.2**
LOUT	**Loutraki**	**1.47**	**32**	P	**Pb**	**11 17 12.2**	**-0.2**
LOUT	**Loutraki**	**1.47**	**32**	P	**Pb**	**11 17 12.2**	**-0.2**
LAKA	**Lakka**	**1.50**	**360**	*e*PN	**Pn**	**11 17 12.5**	**+0.8**
LAKA				*e*SN	**Sg**	**11 17 33.0**	**-0.9**
LAKA	**Lakka**	**1.50**	**360**	*e*Pn	**Pn**	**11 17 12.5**	**+0.8**
LAKA				*e*Sn	**Sg**	**11 17 33.0**	**-0.9**
LAKA	**Lakka**	**1.50**	**360**	P	**Pb**	**11 17 12.7**	**-0.2**
LTK	**Loutraki**	**1.50**	**31**	*e*PN	**Pb**	**11 17 12.8**	**-0.1**
LTK				*e*SN	**Sg**	**11 17 32.7**	**-1.2**
LTK	**Loutraki**	**1.50**	**31**	P	**Pn**	**11 17 12.4**	**+0.7**
LTK	**Loutraki**	**1.50**	**31**	*e*Pn	**Pb**	**11 17 12.8**	**-0.1**
LTK				*e*Sn	**Sg**	**11 17 32.7**	**-1.2**
LTK	**Loutraki**	**1.50**	**31**	P	**Pn**	**11 17 12.4**	**+0.7**
NAIG	**Nisos Aigina**	**1.57**	**49**	*e*PN	**Pb**	**11 17 13.9**	**-0.2**
NAIG	**Nisos Aigina**	**1.57**	**49**	*e*Pn	**Pb**	**11 17 13.9**	**-0.2**
TRIZ	**Trizonia**	**1.63**	**2**	*e*PB	**Pn**	**11 17 13.8**	**+0.4**
TRIZ	**Trizonia**	**1.63**	**2**	*e*Pb	**Pn**	**11 17 13.8**	**+0.4**
TRIZ	**Trizonia**	**1.63**	**2**	P	**Pb**	**11 17 14.6**	**-0.4**
TRIZ	**Trizonia**	**1.63**	**2**	P	**Pb**	**11 17 14.6**	**-0.4**
KALE	**Kalithea**	**1.66**	**4**	*e*PN	**Pb**	**11 17 15.4**	**-0.2**
KALE	**Kalithea**	**1.66**	**4**	P	**Pn**	**11 17 14.6**	**+0.8**
KALE	**Kalithea**	**1.66**	**4**	*e*Pn	**Pb**	**11 17 15.4**	**-0.2**
KALE	**Kalithea**	**1.66**	**4**	P	**Pn**	**11 17 14.6**	**+0.8**
KFL	**Anninata**	**1.67**	**325**	P	**Pn**	**11 17 15.2**	**+1.2**
KFL	**Anninata**	**1.67**	**325**	P	**Pn**	**11 17 15.2**	**+1.2**
EFP	**Efpalio**	**1.69**	**358**	*e*PN	**Pn**	**11 17 15.3**	**+1.0**
EFP				*e*SN	**Sn**	**11 17 36.8**	**+1.4**
EFP	**Efpalio**	**1.69**	**358**	*e*Pn	**Pn**	**11 17 15.2**	**+1.0**
EFP				*e*Sn	**Sn**	**11 17 36.8**	**+1.4**
EFP	**Efpalio**	**1.69**	**358**	P	**Pn**	**11 17 15.2**	**+1.0**
DSF	**Desfina**	**1.72**	**14**	*e*PB	**Pn**	**11 17 15.2**	**+0.4**
DSF	**Desfina**	**1.72**	**14**	*e*Pb	**Pn**	**11 17 15.2**	**+0.4**
DSF	**Desfina**	**1.72**	**14**	P	**Pn**	**11 17 15.1**	**+0.3**
DESF	**Desfina**	**1.73**	**14**	*e*PB	**Pn**	**11 17 15.2**	**+0.4**
DESF	**Desfina**	**1.73**	**14**	*e*Pb	**Pn**	**11 17 15.2**	**+0.4**
VILL	**Villia**	**1.77**	**36**	P	**Pn**	**11 17 15.8**	**+0.4**
VILL	**Villia**	**1.77**	**36**	*e*Pb	**Pn**	**11 17 16.1**	**+0.7**
VILL				S	**Sb**	**11 17 39.3**	**-0.2**
VILL				*e*Sn	**Sg**	**11 17 40.2**	**-2.3**
VILL	**Villia**	**1.77**	**36**	P	**Pn**	**11 17 15.8**	**+0.4**
VILL				S	**Sb**	**11 17 39.3**	**-0.2**
VIL2	**Platees**	**1.79**	**34**	*e*PB	**Pn**	**11 17 16.1**	**+0.5**
VIL2				*e*SN	**Sb**	**11 17 40.2**	**+0.2**
VLS	**Valsamata**	**1.82**	**323**	*e*PN	**Pn**	**11 17 17.1**	**+1.1**
VLS	**Valsamata**	**1.82**	**323**	*e*Pn	**Pn**	**11 17 17.1**	**+1.1**
ATH	**Athens Observa**	**1.85**	**48**	*e*PN	**Pn**	**11 17 17.2**	**+0.8**
ATH	**Athens Observa**	**1.85**	**48**	*e*Pn	**Pn**	**11 17 17.2**	**+0.8**
PDO	**Prodromos**	**1.96**	**341**	*e*PB	**Pn**	**11 17 19.0**	**+1.0**
PDO	**Prodromos**	**1.96**	**341**	*e*Pb	**Pn**	**11 17 19.0**	**+1.0**
PDO	**Prodromos**	**1.96**	**341**	P	**Pn**	**11 17 19.4**	**+1.4**
PDO	**Prodromos**	**1.96**	**341**	P	**Pn**	**11 17 19.4**	**+1.4**
EXG	**Exogi**	**2.03**	**328**	*e*PN	**Pn**	**11 17 19.4**	**+0.5**
EXG				*e*SN	**Sn**	**11 17 45.4**	**+1.5**
EXG	**Exogi**	**2.03**	**328**	*e*Pn	**Pn**	**11 17 19.4**	**+0.5**
EXG				*e*Sn	**Sn**	**11 17 45.4**	**+1.5**
IMMV	**Iera Moni Meta**	**2.06**	**128**	*e*PN	**Pn**	**11 17 19.7**	**+0.4**
IMMV	**Iera Moni Meta**	**2.06**	**128**	*e*Pn	**Pn**	**11 17 19.7**	**+0.4**
LKR	**Lokris**	**2.07**	**22**	*e*PN	**Pn**	**11 17 20.1**	**+0.6**
LKR	**Lokris**	**2.07**	**22**	P	**Pn**	**11 17 19.8**	**+0.3**
LKR	**Lokris**	**2.07**	**22**	*e*Pn	**Pn**	**11 17 20.1**	**+0.6**
LKR	**Lokris**	**2.07**	**22**	P	**Pn**	**11 17 19.8**	**+0.3**
AXAR	**Agios Charalam**	**2.09**	**14**	*e*PN	**Pn**	**11 17 20.7**	**+0.9**
AXAR	**Agios Charalam**	**2.09**	**14**	P	**Pn**	**11 17 20.6**	**+0.8**
AXAR	**Agios Charalam**	**2.09**	**14**	P	**Pn**	**11 17 20.6**	**+0.8**
VAM	**Vamos**	**2.23**	**126**	*e*PN	**Pn**	**11 17 22.6**	**+1.0**
VAM	**Vamos**	**2.23**	**126**	*e*Pn	**Pn**	**11 17 22.6**	**+1.0**
MAKR	**Makrakomi, Fth**	**2.27**	**3**	*e*PN	**Pn**	**11 17 23.5**	**+1.2**
MAKR	**Makrakomi, Fth**	**2.27**	**3**	*e*Pn	**Pn**	**11 17 23.5**	**+1.2**
EREA	**Eretria**	**2.28**	**42**	*e*PN	**Pn**	**11 17 23.0**	**+0.6**
EREA	**Eretria**	**2.28**	**42**	*e*Pn	**Pn**	**11 17 23.0**	**+0.6**
AGG	**Agios Georgios**	**2.30**	**7**	*e*PN	**Pn**	**11 17 23.6**	**+1.0**
AGG	**Agios Georgios**	**2.30**	**7**	P	**Pn**	**11 17 23.6**	**+1.0**
AGG	**Agios Georgios**	**2.30**	**7**	P	**Pn**	**11 17 23.6**	**+1.0**
LKD2	**Lefkada island**	**2.30**	**333**	*e*PB	**Pn**	**11 17 24.5**	**+1.8**
LKD2	**Lefkada island**	**2.30**	**333**	P	**Pn**	**11 17 23.7**	**+1.0**
LKD2	**Lefkada island**	**2.30**	**333**	*e*Pb	**Pn**	**11 17 24.5**	**+1.8**
LKD2	**Lefkada island**	**2.30**	**333**	P	**Pn**	**11 17 23.7**	**+1.0**
MRKA	**Markates**	**2.34**	**32**	*e*PN	**Pn**	**11 17 23.7**	**+0.5**
MRKA	**Markates**	**2.34**	**32**	*e*Pn	**Pn**	**11 17 23.7**	**+0.5**
SMIA	**Simia**	**2.34**	**24**	*e*PN	**Pn**	**11 17 24.1**	**+0.8**
SMIA	**Simia**	**2.34**	**24**	*e*Pn	**Pn**	**11 17 24.1**	**+0.8**
DSL	**Palaion Diasel**	**2.49**	**344**	*e*PN	**Pn**	**11 17 26.2**	**+0.9**
DSL	**Palaion Diasel**	**2.49**	**344**	*e*Pn	**Pn**	**11 17 26.2**	**+0.9**
NEO	**Neokhori**	**2.74**	**20**	*e*PN	**Pn**	**11 17 29.3**	**+0.5**
NEO	**Neokhori**	**2.74**	**20**	*e*Pn	**Pn**	**11 17 29.3**	**+0.5**
IDI	**Anoyia**	**2.76**	**121**	Pn	**Pn**	**11 17 29.7**	**+0.7**
	1.3nm,0.3s,baz=302,slow=15,SNR=7.4						
IDI				Sn	**Sn**	**11 18 02.8**	**+0.8**
	6.2nm,0.3s,baz=328,slow=21,SNR=5.5						
IDI	**Anoyia**	**2.76**	**121**	*e*PN	**Pn**	**11 17 30.3**	**+1.3**
IDI	**Anoyia**	**2.76**	**121**	P	**Pn**	**11 17 29.9**	**+0.9**
IDI	**Anoyia**	**2.76**	**121**	*e*Pn	**Pn**	**11 17 30.3**	**+1.3**
IDI	**Anoyia**	**2.76**	**121**	P	**Pn**	**11 17 29.9**	**+0.9**
XOR	**Xorichti**	**2.79**	**20**	*e*PN	**Pn**	**11 17 29.9**	**+0.5**
XOR	**Xorichti**	**2.79**	**20**	*e*Pn	**Pn**	**11 17 29.9**	**+0.5**
THL	**Klokotos Trika**	**2.82**	**0**	*e*PN	**Pn**	**11 17 30.4**	**+0.6**
THL	**Klokotos Trika**	**2.82**	**0**	*e*Pn	**Pn**	**11 17 30.4**	**+0.6**
APE	**Apeiranthos**	**2.86**	**82**	*e*PN	**Pn**	**11 17 31.6**	**+1.3**
APE	**Apeiranthos**	**2.86**	**82**	*e*Pn	**Pn**	**11 17 31.6**	**+1.3**
LAST	**Lasithi**	**3.24**	**118**	*e*PN	**Pn**	**11 17 36.6**	**+1.0**
LAST	**Lasithi**	**3.24**	**118**	*e*Pn	**Pn**	**11 17 36.6**	**+1.0**
LIT	**Litokhoron**	**3.38**	**7**	*e*PN	**Pn**	**11 17 39.7**	**+2.2**
LIT	**Litokhoron**	**3.38**	**7**	*e*Pn	**Pn**	**11 17 39.7**	**+2.2**
CHOS	**Chios island**	**3.62**	**62**	*e*PN	**Pn**	**11 17 41.8**	**+0.9**
CHOS	**Chios island**	**3.62**	**62**	*e*Pn	**Pn**	**11 17 41.8**	**+0.9**
NEST	**Nestorio**	**3.75**	**349**	*e*PN	**Pn**	**11 17 43.4**	**+0.8**
NEST	**Nestorio**	**3.75**	**349**	*e*Pn	**Pn**	**11 17 43.4**	**+0.8**
HORT	**Hortiatis**	**3.95**	**12**	*e*PN	**Pn**	**11 17 46.4**	**+1.0**
HORT	**Hortiatis**	**3.95**	**12**	*e*Pn	**Pn**	**11 17 46.4**	**+1.0**
STON	**Ston**	**6.96**	**333**	*e*Pn	Pn	11 18 20.9	-5.7
STON				Sn	Sn	11 19 36.4	-9.0
GERES	**GERESS Array B**	**13.53**	**336**	LR	LR	11 26 09.8	
	comp=Z,48nm,21.5s,baz=308,slow=43						
HFS	**Hagfors**	**24.01**	**350**	P	**P**	**11 21 55.2**	**-4.0**
	0.7nm,0.4s,baz=175,slow=17,SNR=4.6						
FINES	**FINESS Array B**	**24.86**	**5**	P	P	11 22 02.6	-4.3
	2.9nm,0.8s,baz=164,slow=12,SNR=4.1						
ARCES	**ARCESS Array B**	**32.91**	**2**	P	P	11 23 15.0	-3.5
	1.0nm,0.8s,baz=184,slow=10,SNR=2.9						
BVAR	**Borovoye Array**	**37.17**	**48**	P	P	11 23 51.6	-3.8
	0.9nm,0.8s,baz=273,slow=8.4,SNR=4.0						
MKAR	**Makanchi Array**	**45.07**	**57**	P	P	11 24 56.5	-4.0
	0.2nm,0.4s,baz=269,slow=6.8,SNR=2.8						
ZALV	**Zalesovo Beam**	**45.80**	**47**	P	P	11 25 02.3	-3.7
	0.7nm,0.3s,baz=270,slow=9.3,SNR=2.5						

*ISCJB **29** 11:18:51.1±0.9, 6°.5N±0°.3× 123°.3E±0°.5, h600km, mb3.9/5, Error ellipse: s-maj=72.9km s-min=15.1km az=148.5*
*IDC **29** 11:18:52.9±1.8, 6°.72N× 123°.86E, h608km±25km, mb3.2/5, mb1 3.4/6, mb1mx2.8/48, mbtmp4.3/6, Error ellipse: s-maj=99.8km s-min=13.3km az=63.0*

ISC 29 11:18:52.4±1.1, 6°.4N±0°.3× 123°.4E±0°.5, h600km, n6, σ1♀36/9, mb3.8/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**10.65**	**133**	P	**P**	**11 21 17.9**	**+0.1**
	1.4nm,0.3s,baz=275,slow=17,SNR=3.9						
WRA	**Warramunga Arr**	**28.31**	**158**	P	**P**	**11 24 00.0**	**+0.3**
	3.4nm,0.4s,baz=339,slow=9.1,SNR=91						
WRA				S	**S**	**11 28 03.1**	**-2.4**
	0.3nm,0.6s,baz=332,slow=16,SNR=5.3						
WRA				ScP	**ScP**	**11 29 37.6**	**-0.2**
	0.3nm,0.5s,baz=342,slow=3.1,SNR=7.7						
ASAR	**Alice Springs**	**31.60**	**161**	P	**P**	**11 24 29.4**	**+1.5**
	4.0nm,0.3s,baz=339,slow=7.6,SNR=268						
ASAR				PcP	**PcP**	**11 27 00.3**	**-1.2**
	0.2nm,0.8s,baz=336,slow=3.5,SNR=3.3						
STKA	**Stephens Creek**	**41.84**	**157**	P	**P**	**11 25 52.7**	**+1.2**
	1.6nm,0.5s,baz=342,slow=7.0,SNR=7.1						
MKAR	**Makanchi Array**	**53.49**	**326**	P	**P**	**11 27 18.0**	**0.0**
	1.1nm,0.4s,baz=120,slow=8.3,SNR=9.3						
KURBB	**Kurchatov Arra**	**57.73**	**328**	P	**P**	**11 27 46.6**	**-0.5**
	0.9nm,0.5s,baz=130,slow=6.8,SNR=8.0						

JMA 29 11:18:53.1±0.2, 25°.26N× 124°.93E, h4km, M3.5, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKM	**Ikemajima**	**0.44**	**139**	P	Pg	11 19 01.8	+0.2
JIKM				S	Sg	11 19 08.4	+1.0
JIRB	**Irabujima**	**0.48**	**153**	P	Pg	11 19 02.5	+0.1
JIRB				S	Sg	11 19 08.6	-0.1
JMJ	**Miyako jima 2**	**0.55**	**143**	P	Pg	11 19 04.2	+0.5
JMJ				*e*S	Sg	11 19 11.6	+0.7
JTJ	**Tarama**	**0.65**	**199**	P	Pg	11 19 05.9	+0.3
JTJ				*e*S	Sg	11 19 15.0	+1.0
JOGS	**Gusukube**	**0.66**	**139**	P	Pg	11 19 06.1	+0.3
JOGS				*e*S	Sg	11 19 15.2	+0.9
JISG	**Ishigakijimahi**	**0.88**	**220**	P	Pg	11 19 09.8	-0.1
JISG				*e*S	Sb	11 19 22.5	-0.4
JIJ	**Ishigaki jima**	**1.14**	**219**	P	Pg	11 19 14.2	-0.9
JIJ				S	Sg	11 19 29.5	-0.4
JKRS	**Kuro-shima**	**1.32**	**220**	P	Pn	11 19 17.6	-0.7
JKRS				S	Sg	11 19 35.3	-0.2
IRIF	**Iriomote-Funau**	**1.43**	**230**	P	Pn	11 19 18.6	-1.2
IRIF				*e*S	Sb	11 19 38.3	-0.5
HATJ	**Hateruma jima**	**1.58**	**221**	P	Pn	11 19 22.0	+0.2
HATJ				*e*S	Sn	11 19 42.1	-0.6
YOJ	**Yonaguni jima**	**1.92**	**246**	P	Pn	11 19 27.5	+1.0
JYNG	**Yonagunijimaku**	**1.98**	**246**	P	Pn	11 19 27.8	+0.5
JKE	**Kume jima 2**	**1.98**	**57**	P	Pn	11 19 26.1	-1.3

*IDC **29** 11:28:32.1±1.7, 52°.70N× 169°.70W, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.4/49, mbtmp3.5/5, ML3.2/2, MS3.3/2, Ms1 3.3/2, ms1mx2.6/49, Error ellipse: s-maj=58.0km s-min=26.0km az=140.0*
*NEIC **29** 11:28:35.3, 52°.56N× 169°.27W, h14km, ML3.3(AEIC), After AEIC.*

ISC 29 11:28:34.3±1.0, 52°.8N±0°.2× 169°.59W±0°.09, h10km, n32, σ0♀91/26, mb3.7/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.48**	**69**	P	**Pb**	**11 28 45.2**	**+0.4**
NIKH				S	**Sb**	**11 28 53.3**	**+1.3**
OKSO	**Okmok South**	**1.03**	**57**	P	**Pb**	**11 28 53.9**	**-0.3**
OKSO				S	**Sb**	**11 29 08.8**	**+1.0**
OKWR	**Okmok West Rim**	**1.05**	**52**	P	**Pn**	**11 28 56.2**	**+1.0**
OKCE	**Okmok Cone E**	**1.06**	**53**	P	**Pb**	**11 28 55.0**	**+0.2**
OKAK	**Okmok**	**1.08**	**43**	P	**Pb**	**11 28 54.5**	**-0.5**
OKTU	**Okmok Mt. Tuli**	**1.10**	**57**	P	**Pb**	**11 28 55.8**	**+0.2**
OKFG	**Magazine Ridge**	**1.18**	**58**	P	**Pn**	**11 28 56.3**	**-0.6**
OKFG				S	**Sb**	**11 29 12.9**	**+0.7**
MSOM	**Makushin Julie**	**1.88**	**56**	P	**Pn**	**11 29 06.8**	**+0.2**
MCIR	**Makushin Cirqu**	**1.99**	**53**	P	**Pn**	**11 29 09.3**	**+1.3**
MSW	**Makushin Switc**	**2.02**	**55**	P	**Pn**	**11 29 08.8**	**+0.4**
MTBL	**Makushin Table**	**2.10**	**55**	P	**Pn**	**11 29 09.8**	**+0.2**
UNV	**Unalaska Valle**	**2.13**	**59**	P	**Pn**	**11 29 09.6**	**-0.3**
UNV				S	**Sn**	**11 29 35.8**	**-0.6**
AKRB	**Akutan Reef Bi**	**2.49**	**56**	P	**Pn**	**11 29 16.4**	**+1.4**
ZRO	**Akutan Zero**	**2.52**	**58**	P	**Pn**	**11 29 16.1**	**+0.8**
AKGG	**Akutan Green G**	**2.57**	**56**	P	**Pn**	**11 29 17.1**	**+1.2**
AKUT	**Akutan**	**2.65**	**58**	*e*Pn	**Pn**	**11 29 17.3**	**+0.3**
ATKA	**Atka Island**	**2.88**	**260**	P	**Pn**	**11 29 21.5**	**+1.3**
SPIA	**Saint Paul Isl**	**4.40**	**355**	P	Pn	11 29 46.4	+5.3
KDAK	**Kodiak Island**	**10.89**	**56**	Pn	**Pn**	**11 31 11.7**	**+1.5**
	0.3nm,0.3s,baz=211,slow=5.9,SNR=3.3						
ILAR	**Eielson Array**	**16.67**	**35**	Pn	**Pn**	**11 32 26.8**	**-1.0**
	0.0nm,0.3s,baz=225,slow=9.8,SNR=2.6						
H02S1	**DAWSON INLET T**	**22.18**	**74**	T	T	11 56 24.5	
	SNR=34						
INK	**Inuvik**	**23.06**	**34**	LR	LR	11 43 27.1	
	comp=Z,49nm,19.2s,baz=241,slow=39						
H11N2	**WAKE ISLAND Hy**	**37.71**	**218**	T	T	12 15 47.9	
	baz=24,slow=76,SNR=46						
H11N3	**WAKE ISLAND Hy**	**37.72**	**218**	T	T	12 15 48.4	
	baz=24,slow=76,SNR=49						
H11N1	**WAKE ISLAND Hy**	**37.73**	**218**	T	T	12 15 49.8	
	baz=23,slow=76,SNR=39						
H11S1	**WAKE ISLAND Hy**	**38.90**	**217**	T	T	12 17 17.1	
	baz=23,slow=76,SNR=1061						
H11S2	**WAKE ISLAND Hy**	**38.91**	**217**	T	T	12 17 13.1	
	baz=23,slow=76,SNR=684						
H11S3	**WAKE ISLAND Hy**	**38.92**	**217**	T	T	12 17 13.3	
	baz=23,slow=76,SNR=472						
PDAR	**Pinedale Array**	**40.46**	**79**	P	**P**	**11 36 12.8**	**-0.3**
	0.3nm,0.7s,baz=335,slow=4.0,SNR=3.6						
TXAR	**Lajitas Array**	**52.88**	**89**	P	**P**	**11 37 50.7**	**+0.3**
	0.6nm,0.6s,baz=302,slow=5.6,SNR=9.5						
WRA	**Warramunga Arr**	**87.17**	**231**	LR	LR	12 21 12.5	
	comp=Z,22nm,18.2s,baz=255,slow=36						
ASAR	**Alice Springs**	**90.57**	**230**	P	**P**	**11 41 35.0**	**-1.5**
	0.5nm,0.7s,baz=32,slow=3.7,SNR=2.2						

*BJI **29** 11:30:07.0, 5°.85N× 123°.68E, h621km, mb4.5/26, mB4.5/17*
*ISCJB **29** 11:30:12.2±0.2, 6°.69N±0°.03× 123°.43E±0°.04, h600km, mb4.5/48, Error ellipse: s-maj=5.8km s-min=3.1km az=150.2*
*NEIC **29** 11:30:14.1±0.5, 6°.64N× 123°.45E, h620km±6km, mb4.5/15, Error ellipse: s-maj=13.4km s-min=7.0km az=223.0*
*DJA **29** 11:30:14.6±0.3, 7°.N±4°× 12°.3E±°, h624km±4km, M4.3/62, mb4.4/62, mB4.9/22, MLv4.8/8, Mw(mB)4.2/22*
*IDC **29** 11:30:15.3±0.9, 6°.62N× 123°.40E, h639km±14km, mb3.5/24, mb1 3.6/26, mb1mx3.4/41, mbtmp4.5/26, Error ellipse: s-maj=12.6km s-min=7.0km az=62.0*
*KLM **29** 11:30:22.6, 6°.89N× 122°.51E, h601km, mb4.7, ML4.0, MS5.4*

ISC 29 11:30:13.2±0.3, 6°.61N±0°.04× 123°.47E±0°.06, h600km, n154, σ1♀65/166, mb4.5/48, 3C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.98**	**52**	↓*i*P	**P**	**11 31 27.3**	**+2.9**
DAV	**Davao City (W)**	**2.14**	**77**	*e*P	**P**	**11 31 31.0**	**+2.8**
TBP	**Tagbilaran**	**3.09**	**7**	*e*P	**P**	**11 31 34.4**	**+1.4**
TBP				*e*S	**P**	**11 31 34.4**	**+1.4**
MYLDM	**Lahad Datu**	**5.15**	**254**	⇑P	P	11 31 50.9	+3.6
MYLDM	**Lahad Datu**	**5.15**	**254**	*e*P	P	11 31 50.4	+3.0
KMSI	**Cibinong**	**6.01**	**175**	P	P	11 31 57.9	+3.3
	148nm,0.8s,0.7nm						
TOLI	**Toli-Toli**	**6.07**	**206**	*e*P	**P**	**11 31 56.3**	**+1.2**
MRSI	**Marisa**	**6.28**	**194**	P	**P**	**11 31 59.2**	**+2.3**
	38nm,0.8s,0.1nm						
SDKM	**Sandakan**	**6.32**	**262**	⇑P	**P**		**11 31 58.8**	**+1.5**
TNTI	**Ternate**	**6.98**	**146**	P	**P**		**11 32 05.2**	**+2.1**
	149nm,0.9s,2μm1.1nm						
TNTI				S	**S**		**11 33 34.7**	**+1.7**
	149nm,0.9s,2μm1.1nm						
TNTI	**Ternate**	**6.98**	**146**	*e*P	**P**		**11 32 04.9**	**+1.8**
MPSI	**Mapaga**	**7.18**	**210**	P	**P**		**11 32 06.1**	**+1.1**
	23nm,1.6s,0.1nm						
KKM	**Kota Kinabalu**	**7.24**	**266**	P	**P**		**11 32 06.6**	**+1.1**
	baz=7.2,SNR=30						
KKM	**Kota Kinabalu**	**7.24**	**266**	⇓P	**P**		**11 32 06.4**	**+0.9**
KKM	**Kota Kinabalu**	**7.24**	**266**	*e*P	**P**		**11 32 06.7**	**+1.1**
	124nm,0.8s						
APSI	**Ampana**	**7.69**	**194**	P	**P**		**11 32 10.8**	**+1.1**
	28nm,1.3s,0.1nm						
LBMI	**Labuha**	**8.24**	**151**	P	**P**		**11 32 18.0**	**+3.0**
	183nm,0.4s,4μm						
LBMI				S	**S**		**11 33 57.1**	**+2.4**
	183nm,0.4s,4μm						
PCI	**Palu**	**8.30**	**206**	P	**P**		**11 32 18.0**	**+2.5**
	51nm,0.9s						
SANI	**Sanana**	**8.96**	**164**	P	**P**		**11 32 23.9**	**+2.0**
	48nm,0.5s,1μm						
SANI				S	**S**		**11 34 08.8**	**+1.5**
	48nm,0.5s,1μm						
NLAI	**Namlea**	**10.43**	**160**	P	P	11 32 39.5	+3.2
	29nm,0.8s						
KDI	**Kendari**	**10.53**	**185**	P	**P**		**11 32 39.7**	**+2.4**
	36nm,0.7s						
SWI	**

baz=32,SNR=76
MTSU Mount Surprise 32.06 140 P **P 11 35 53.3 +0.7**
baz=32,SNR=12
MEEK Meekatharra 33.38 188 P **P 11 36 03.6 -0.2**
baz=34,SNR=6.6
BJI Beijing 33.93 350 P **P 11 36 07.5 -0.5**
BJI PMZ
8.0nm,0.9s
BJI PMZ
55nm,5.6s
LZH Lanzhou 34.41 331 *e*P **P 11 36 13.5 +1.1**
LZH sP **sP 11 39 02.0 +2.2**
LZH PMZ
14nm,1.0s
CTA Charters Tower 34.73 140 P **P 11 36 16.0 +1.0**
8.5nm,0.5s,baz=323,slow=11,SNR=17
HHC Hu-ho-hao-te 35.72 344 *e*P **P 11 36 25.3 +2.3**
HHC PP **PP 11 38 07.3 -0.5**
HHC S **S 11 41 23.0 +4.4**
HHC SS **SS 11 44 29.5 -6.2**
HHC PMZ
24nm,0.9s
HHC PMZ
46nm,8.6s
MORW Morawa 36.18 191 P **P 11 36 26.8 -0.1**
baz=36,SNR=15
FORT Forrest 37.43 174 P **P 11 36 37.5 +0.4**
baz=38,SNR=34
FORT Forrest 37.43 174 *e*P **P 11 36 37.5 +0.4**
56nm,0.6s
KMBL Kambalda 37.79 182 P **P 11 36 40.0 +0.1**
baz=38,SNR=23
LSA Lhasa 38.12 311 *e*P **P 11 36 42.4 -0.9**
8.6nm,0.4s
USRK Ussuriysk Ar. 38.18 10 P **P 11 36 42.6 -0.3**
1.0nm,0.4s,baz=195,slow=7.3,SNR=4.6
MDJ Mudanjiang 38.24 7 P **P 11 36 44.0 +0.6**
MDJ PMZ
10.0nm,2.8s
MDJ PMZ
89nm,4.5s
QLP Quilpie 38.65 149 P **P 11 36 47.4 +0.4**
baz=39,SNR=18
GTA Gaotai 38.99 330 *e*P **P 11 36 50.0 +0.3**
GTA pP **PP 11 38 35.8 -2.1**
GTA PcP **PcP 11 38 44.3 0.0**
GTA sP **sP 11 39 41.5 +2.0**
GTA ScP **ScP 11 41 33.5 -3.0**
GTA S **S 11 42 08.3 +1.4**
GTA sS **sS 11 45 16.0 +2.5**
GTA SS **SS 11 45 24.5 -5.1**
GTA PMZ
14nm,1.0s
GTA PMZ
55nm,5.0s
TAPN Taplejung 39.71 306 *e*P **P 11 36 55.8 -0.1**
30nm,0.5s
NWAO Narrogin (SRO) 39.76 188 P **P 11 36 55.6 -0.1**
5.8nm,0.4s,baz=326,slow=3.7,SNR=10.0
NWAO Narrogin (SRO) 39.76 188 P **P 11 36 56.0 +0.2**
baz=40,SNR=6.9
NWAO P **P 11 36 56.0 +0.2**
baz=40,SNR=6.9
RAMN Ramite 40.45 304 *e*P **P 11 37 01.7 0.0**
28nm,0.5s
BBOO Buckleboo 40.99 164 P **P 11 37 05.9 +0.4**
baz=41,SNR=97
BBOO Buckleboo 40.99 164 *e*P **P 11 37 05.9 +0.4**
23nm,0.3s
GUN Gumba 41.42 305 *e*P **P 11 37 09.3 -0.2**
49nm,0.3s
EIDS Eidsvold 41.61 141 P **P 11 37 10.6 +0.1**
baz=42,SNR=3.8
EIDS Eidsvold 41.61 141 *e*P **P 11 37 10.6 +0.1**
PKI Pulchoki 41.67 305 *e*P **P 11 37 10.6 -0.8**
14nm,0.3s
PKIN Phulchoki 41.69 305 *e*P **P 11 37 10.7 -0.8**
6.4nm,0.3s
KKN Kakani 41.86 305 *e*P **P 11 37 12.2 -0.6**
25nm,0.4s
DMN Daman 41.94 304 *e*P **P 11 37 12.9 -0.5**
14nm,0.5s
STKA Stephens Creek 42.00 157 P **P 11 37 14.0 +0.6**
15nm,0.4s,baz=340,slow=7.4,SNR=73
HTT Hallett 42.43 161 P **P 11 37 17.6 +0.7**
baz=43,SNR=10
PALK Pallekele 42.45 274 P **P 11 37 16.6 -0.8**
5.0nm,0.5s,baz=122,slow=3.2,SNR=3.8
GKN Gorkha 42.47 305 *e*P **P 11 37 16.7 -0.8**
17nm,0.3s
KOLN Koldanda 43.23 304 *e*P **P 11 37 23.3 -0.2**
72nm,0.3s
DANN Dangsing 43.32 305 *e*P **P 11 37 23.9 -0.3**
ULN Ulaanbaatar 43.43 344 *e*P **P 11 37 23.8 -0.8**
CMSA Cobar Meteorol 43.47 152 P **P 11 37 26.1 +1.2**
baz=44,SNR=47
SONM Songino Array 43.59 343 P **P 11 37 25.3 -0.4**
4.2nm,0.6s,baz=162,slow=7.9,SNR=15
ARMA Armidale 45.65 145 P **P 11 37 43.6 +1.7**
baz=46,SNR=14
ARMA Armidale 45.65 145 *e*P **P 11 37 43.5 +1.7**
13nm,0.8s
ARPS Mount Arapiles 46.45 160 P **P 11 37 47.9 +0.3**
baz=47,SNR=17
TLY Talaya 47.83 343 P **P 11 37 58.1 +0.4**
6.5nm,0.5s,baz=188,slow=5.6,SNR=9.0
CNB Canberra Magne 48.31 151 P **P 11 38 02.6 +1.1**
baz=48,SNR=12
TOO Toolangi 48.52 157 P **P 11 38 04.1 +1.1**
baz=49,SNR=16
WMQ Urumqi 48.53 326 P **P 11 38 03.5 +0.4**
WMQ PMZ
11nm,0.8s
WMQ PMZ
120nm,4.0s
MKAR Makanchi Array 53.36 326 P **P 11 38 37.5 -0.4**
18nm,0.4s,baz=122,slow=8.3,SNR=163
MKAR PcP **PcP 11 39 33.5 -1.8**
2.8nm,0.6s,baz=122,slow=4.6,SNR=6.8
MKAR ScP **ScP 11 42 31.8 -4.5**
2.5nm,0.7s,baz=124,slow=4.7,SNR=14
KSH Kashi 53.73 315 P **P 11 38 41.0 +0.3**
KSH PMZ
100nm,2.8s
PETK Petropavlovsk- 54.10 25 P **P 11 38 42.9 0.0**
1.2nm,0.5s,baz=170,slow=2.6,SNR=5.1
KZA Kyzart 55.31 318 P **P 11 38 52.5 +0.4**
SNR=8.7
TKM2 Tokmak 2 55.46 319 P **P 11 38 52.5 -0.3**
SNR=9.0
USP Ospenovka 56.33 319 P **P 11 38 58.3 -0.4**
SNR=7.7
AML Almayashu 56.39 317 P **P 11 38 59.6 +0.1**
SNR=9.6
EKS2 Erkin-Say 56.55 318 P **P 11 39 00.4 +0.1**
SNR=6.5
EKS2 Erkin-Say 56.55 318 *e*P **P 11 39 00.5 +0.2**
8.4nm,0.6s
ZALV Zalesovo Beam 56.58 334 P **P 11 38 58.4 -1.6**
2.5nm,0.4s,baz=130,slow=6.6,SNR=10
KURBB Kurchatov Arra 57.59 328 P **P 11 39 06.0 -0.9**
18nm,0.7s,baz=128,slow=6.3,SNR=121
KKAR Karatay Array 58.93 317 *e*P **P 11 39 15.5 -0.6**
4.5nm,0.6s
SEY Seymchan 60.03 15 P **P 11 39 23.1 0.0**
0.5nm,0.3s,baz=189,slow=15,SNR=5.0
BVAR Borovoye Array 63.16 327 P **P 11 39 42.1 -1.4**
2.4nm,0.5s,baz=134,slow=8.4,SNR=21
BRVK Borovoye 63.23 327 *e*P **P 11 39 42.8 -1.2**
6.3nm,0.6s
GEYT Alibeck 66.58 308 P **P 11 40 05.0 -0.4**
2.4nm,0.5s,baz=72,slow=4.8,SNR=4.0
ABKAR Akbulak array 67.88 321 *e*P **P 11 40 11.6 -1.4**
5.4nm,0.6s
AKTO Aktyubinsk 69.40 322 P **P 11 40 20.6 -1.6**
3.6nm,0.3s,baz=104,slow=8.0,SNR=16
ARU Arti 70.79 328 P **P 11 40 28.3 -1.9**
baz=90,slow=2.0
ARU Arti 70.79 328 *e*P P 11 40 27.9 -2.3
7.0nm,0.4s
KDAK Kodiak Island 81.22 33 P **P 11 41 26.6 -0.8**
baz=309,slow=7.5
ILAR Eielson Array 83.92 26 P P 11 41 38.5 -2.4
0.4nm,0.5s,baz=244,slow=4.7,SNR=16
BRTR Keskin Array B 85.70 309 P P 11 41 47.6 -2.6
1.6nm,0.5s,baz=125,slow=4.0,SNR=12
ARCES ARCESS Array B 86.64 340 P P 11 41 51.2 -2.7
1.3nm,0.6s,baz=69,slow=6.8,SNR=12
VNDA Vanda 86.69 172 P **P 11 41 53.0 -0.8**
1.0nm,0.6s,baz=309,slow=6.5,SNR=9.2
FINES FINESS Array B 87.78 332 P P 11 41 56.6 -2.7
1.6nm,0.5s,baz=74,slow=5.3,SNR=18
NOA NORSAR Array B 94.78 333 P P 11 42 28.6 -3.0
0.4nm,0.5s,baz=68,slow=5.0,SNR=2.6
TORD Torodi Ar. Bea 118.93 289 PKP **PKPdf 11 47 53.2 -2.4**
0.5nm,0.3s,baz=63,slow=1.6,SNR=8.7

*ISCJB **29** 11:44:52.3±0.9, 50˚.2S±0˚.1×114˚.0E±0˚.4, h10km, mb3.9/6, MS3.7/1, Error ellipse: s-maj=36.3km s-min=14.6km az=18.8*
*IDC **29** 11:44:52.6±1.2, 50˚.22S×114˚.01E, h0km, mb4.0/6, mb1 4.2/6, mb1mx4.0/19, mbtmp4.0/6, MS3.7/1, Ms1 3.7/1, ms1mx2.9/22, Error ellipse: s-maj=48.4km s-min=19.9km az=103.0*

ISC 29 11:44:54.7±0.9, 50˚.4S±0˚.1×114˚.2E±0˚.3, h10km, n18, σ1§62/10, mb4.0/6, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.44**	**360**	T	T	12 04 19.6	
	baz=180,slow=74,SNR=906						
H01W1	**Cape Leeuwin H**	**15.45**	**360**	T	T	12 04 19.7	
	baz=180,slow=74,SNR=854						
H01W3	**Cape Leeuwin H**	**15.46**	**360**	T	T	12 04 20.4	
	baz=180,slow=74,SNR=913						
NWAO	**Narrogin (SRO)**	**17.55**	**9**	P	**P**	**11 49 03.8**	**+3.4**
	0.3nm,0.3s,baz=158,slow=9.2,SNR=2.7						
STKA	**Stephens Creek**	**27.46**	**58**	P	**P**	**11 50 40.5**	**-0.3**
	1.8nm,0.7s,baz=192,slow=14,SNR=4.8						
ASAR	**Alice Springs**	**30.75**	**37**	P	**P**	**11 51 09.5**	**-0.6**
	2.0nm,0.7s,baz=207,slow=7.9,SNR=32						
VNDA	**Vanda**	**32.52**	**163**	P	**P**	**11 51 26.3**	**+1.3**
	1.1nm,0.9s,baz=301,slow=5.5,SNR=4.8						
WRA	**Warramunga Arr**	**34.30**	**35**	P	**P**	**11 51 40.1**	**-1.0**
	2.4nm,0.7s,baz=202,slow=9.9,SNR=20						
RPZ	**Rata Peaks**	**38.51**	**103**	LR	LR	12 05 43.2	
	comp=Z,112nm,18.9s,baz=208,slow=32						
QSPA	**South Pole Qui**	**39.78**	**180**	P	**P**	**11 52 28.0**	**+0.6**
	1.6nm,0.7s,baz=340,slow=1.6,SNR=13						
SNAA	**Sanae**	**50.48**	**201**	P	**P**	**11 53 51.7**	**-0.6**
VNA1	**Neumayer--Stat**	**52.46**	**201**	P	P	11 54 00.0	-6.9
H08S2	**Diego Garcia H**	**54.84**	**306**	T	T	12 53 16.1	
	baz=148,slow=76,SNR=6.1						
H08S1	**Diego Carcia H**	**54.85**	**306**	T	T	12 53 16.6	
	baz=148,slow=76,SNR=4.1						
H08S3	**Diego Garcia H**	**54.86**	**306**	T	T	12 53 18.6	
	baz=148,slow=76,SNR=4.9						
CMAR	**Chiang Mai Arr**	**69.81**	**345**	P	**P**	**11 56 04.2**	**-0.9**
	0.6nm,0.3s,baz=193,slow=5.7,SNR=4.4						
TXAR	**Lajitas Array**	**144.69**	**112**	PKP	**PKPab**	**12 04 29.3**	**-0.9**
	0.4nm,0.8s,baz=199,slow=5.0,SNR=5.7						
YKA	**Yellowknife Ar**	**151.17**	**46**	PKPbc	**PKPbc**	**12 04 45.5**	**-1.3**
	0.5nm,0.7s,baz=279,slow=1.7,SNR=3.2						

*IDC **29** 11:53:24.1±2.0, 1˚.49N×90˚.56W, h0km, mb3.7/6, mb1 4.1/6, mb1mx3.9/33, mbtmp3.7/6, MS3.7/12, Ms1 3.7/12, ms1mx3.4/30, Error ellipse: s-maj=71.7km s-min=41.1km az=48.0*

ISC 29 11:53:24.7±1.5, 1˚.3N±0˚.3×90˚.7W±0˚.3, h10km, n29, σ1§19/10, mb3.8/6, MS3.7/7, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**10.57**	**32**	LR	LR	11 59 03.9	
	comp=Z,332nm,18.9s,baz=220,slow=33						
ATAH	**Atahualpa**	**14.89**	**125**	Pn	**P**	**11 57 01.4**	**-0.2**
	0.2nm,0.3s,baz=252,slow=4.8,SNR=4.5						
ATAH				LR	LR	12 01 30.1	
	comp=Z,224nm,18.9s,baz=332,slow=33						
CMIG	**Matias Romero**	**16.19**	**346**	Pn	**P**	**11 57 15.5**	**0.0**
	0.1nm,0.3s,baz=187,slow=15,SNR=2.9						
CMIG				LR	LR	12 02 00.2	
	comp=Z,145nm,21.5s,baz=158,slow=32						
ROSC	**El Rosal**	**16.71**	**78**	LR	LR	12 02 43.4	
	comp=Z,421nm,21.8s,baz=213,slow=34						
NNA	**Nana**	**19.10**	**134**	LR	LR	12 03 31.0	
	comp=Z,98nm,20.3s,baz=319,slow=32						
H06E1	**SOCORRO T-PHAS**	**26.34**	**312**	T	T	12 26 27.3	
	SNR=22						
PCRV	**Puerto La Cruz**	**27.35**	**70**	LR	LR	12 10 11.3	
	comp=Z,207nm,20.1s,baz=264,slow=37						
LPAZ	**La Paz**	**28.34**	**129**	LR	LR	12 09 58.2	
	comp=Z,60nm,19.2s,baz=340,slow=35						
TXAR	**Lajitas Array**	**30.46**	**337**	P	**P**	**11 59 36.1**	**-1.8**
	0.3nm,0.7s,baz=163,slow=9.2,SNR=4.9						
PDAR	**Pinedale Array**	**44.57**	**340**	P	**P**	**12 01 38.2**	**+1.0**
	0.7nm,0.8s,baz=162,slow=9.0,SNR=3.4						
PDAR				LR	LR	12 19 58.9	
	comp=Z,75nm,18.2s,baz=178,slow=36						
NVAR	**Mina Array Bea**	**44.75**	**329**	P	**P**	**12 01 37.7**	**-1.0**
	1.5nm,0.7s,baz=156,slow=8.6,SNR=8.8						
NVAR				PcP	**PP**	**12 03 22.9**	**-0.4**
	0.6nm,0.7s,baz=133,slow=3.8,SNR=4.6						
BDFB	**Brasilia**	**45.43**	**114**	LR	LR	12 21 02.6	
	comp=Z,145nm,18.3s,baz=325,slow=37						
RKT	**Rikitea**	**49.46**	**238**	*e*T	T	12 55 00.4	
	0.7nm,0.2s						
NEW	**Newport**	**52.01**	**338**	LR	LR	12 24 20.6	
	comp=Z,56nm,18.0s,baz=160,slow=36						
PPT	**Papeete**	**60.92**	**249**	LR	LR	12 22 55.5	
	comp=Z,125nm,21.7s,baz=28,slow=29						
PPT2	**Papeete2**	**60.93**	**249**	*e*LR	LR	12 21 49.5	
	175nm,25.8s						
TBI	**Tubuai**	**62.14**	**243**	*e*LR	LR	12 22 24.8	
	148nm,27.0s						
TBI	**Tubuai**	**62.14**	**243**	*e*T	T	13 10 45.5	
	3.8nm,0.3s						
YKA	**Yellowknife Ar**	**63.58**	**348**	P	**P**	**12 03 56.8**	**+1.5**
	0.7nm,0.8s,baz=144,slow=6.6,SNR=4.6						
ILAR	**Eielson Array**	**74.97**	**338**	P	**P**	**12 05 07.2**	**+1.4**
	1.2nm,0.7s,baz=139,slow=4.3,SNR=2.6						
ESDC	**Sonseca Array**	**86.64**	**51**	P	**P**	**12 06 08.1**	**-0.8**
	0.2nm,0.3s,baz=268,slow=3.9,SNR=4.0						
VNDA	**Vanda**	**95.04**	**192**	LR	LR	12 42 02.8	
	comp=Z,61nm,18.6s,baz=252,slow=31						
H11N3	**WAKE ISLAND Hy**	**101.20**	**290**	T	T	13 59 58.5	
	baz=85,slow=75,SNR=9.8						
H11N2	**WAKE ISLAND Hy**	**101.22**	**290**	T	T	13 59 58.8	
	baz=85,slow=75,SNR=7.6						
H11N1	**WAKE ISLAND Hy**	**101.22**	**290**	T	T	13 59 59.8	
	baz=85,slow=75,SNR=7.8						
H11S2	**WAKE ISLAND Hy**	**101.51**	**289**	T	T	14 00 20.2	
	baz=85,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	**101.51**	**289**	T	T	14 00 18.3	
	baz=85,slow=75,SNR=18						
H11S3	**WAKE ISLAND Hy**	**101.53**	**289**	T	T	14 00 21.8	
	baz=85,slow=75,SNR=21						
WRA	**Warramunga Arr**	**132.26**	**244**	PKP	**PKPdf**	**12 12 40.3**	**+0.3**
	0.5nm,0.8s,baz=103,slow=2.6,SNR=4.2						

MAN 29 11:54:38, 8˚.76N×126˚.54E, h54km, mb4.6, ML3.5, MS3.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.60**	**198**	⇑*i*P	Pn	11 54 53.3	+2.6
BIPH				*i* S	Sn	11 55 00.1	+0.3
CGP	**Cagayan de Oro**	**1.85**	**261**	*e*P	Pn	11 55 08.8	+1.4

IDC 29 12:06:49.9±41.0, 29˚.99S×179˚.20W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/31, mbtmp3.8/3, Error ellipse: s-maj=736.8km s-min=158.9km az=96.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**33.56**	**257**	P	P	12 13 32.2	+0.6
	1.3nm,0.3s,baz=76,slow=8.3,SNR=4.3						
ASAR	**Alice Springs**	**42.09**	**267**	P	P	12 14 43.1	-0.8
	0.4nm,0.7s,baz=101,slow=7.8,SNR=8.6						
WRA	**Warramunga Arr**	**43.05**	**272**	P	P	12 14 51.6	0.0
	1.0nm,0.8s,baz=114,slow=7.7,SNR=12						

*ISCJB **29** 12:10:00.7±0.2, 30˚.32N±0˚.02×94˚.75E±0˚.02, h10km, mb4.6/70, MS3.5/3, Error ellipse: s-maj=3.5km s-min=2.8km az=176.2*
*IDC **29** 12:10:00.3±0.5, 30˚.38N×94˚.98E, h0km, mb4.3/25, mb1 4.4/28, mb1mx4.3/43, mbtmp4.3/28, ML3.8/3, MS3.2/1, Ms1 3.2/1, ms1mx2.4/35, Error ellipse: s-maj=17.2km s-min=9.8km az=49.0*
*BJI **29** 12:10:02.9, 30˚.40N×94˚.86E, h20km, mb4.7/41, mB4.7/21, ML3.9/6, Ms4.0/35, Ms7 3.9/25*
*MOS **29** 12:10:03.4±1.0, 30˚.33N×94˚.93E, h33km, mb5.1/29, Error ellipse: s-maj=8.6km s-min=5.0km az=112.1*
*NEIC **29** 12:10:05.8±0.2, 30˚.32N×94˚.84E, h35km, mb4.7/25, Error ellipse: s-maj=6.2km s-min=5.2km az=62.0*

ISC 29 12:10:02.5±0.3, 30˚.33N±0˚.04×94˚.79E±0˚.03, h10km, n209, σ1§41/224, mb4.7/70, MS3.3/3, 13C-6D, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**3.22**	**260**	Pn	**Pn**	**12 10 56.5**	**+3.0**
LSA				Sn	**Sb**	**12 11 41.3**	**+1.9**
LSA				SMN			
	60nm,0.9s						
LSA				SME			
	150nm,1.0s						
LSA	**Lhasa**	**3.22**	**260**	*e*P	**Pn**	**12 10 56.2**	**+2.7**
LSA	**Lhasa**	**3.22**	**260**	*e*Pn	**Pn**	**12 10 56.2**	**+2.7**
SHL	**Shillong**	**5.39**	**209**	*e*P	**Pn**	**12 11 23.6**	**+0.5**
SHL				AMB	AMB	12 11 25.5	
	comp=Z,32nm,0.8s						
SHL				*ex*	**Sg**	**12 12 58.0**	**+2.3**
IMP	**Imphal**	**5.57**	**188**	*e*P	**Pn**	**12 11 26.0**	**+0.5**
IMP				*ex*	**Pg**	**12 11 49.0**	**-0.2**
TAPN	**Taplejung**	**6.88**	**246**	*e*P	**Pn**	**12 11 44.8**	**+1.1**
	comp=Z,34nm,0.6s						
ODAN	**Odare**	**7.36**	**244**	*e*P	**Pn**	**12 11 52.3**	**+2.0**
	comp=Z,122nm,1.0s						
CD2	**Chengdu**	**7.75**	**83**	*e*Pn	**Pn**	**12 11 56.5**	**+1.0**
CD2				Sn	**Sn**	**12 13 25.5**	**+2.1**
CD2				LN			
	comp=Z,960nm,6.7s						
CD2				LE			
	comp=Z,830nm,4.5s						
CD2				LZ			
	comp=Z,810nm,6.7s						
RAMN	**Ramite**	**7.94**	**247**	*e*P	**Pn**	**12 11 59.8**	**+1.6**
	comp=Z,25nm,0.4s						
GUN	**Gumba**	**8.15**	**255**	*e*P	**Pn**	**12 12 01.1**	**-0.1**
	comp=Z,157nm,0.8s						
PKI	**Pulchoki**	**8.66**	**254**	*e*P	**Pn**	**12 12 08.1**	**-0.1**
	comp=Z,68nm,0.9s						
PKIN	**Phulchoki**	**8.67**	**254**	*e*P	**Pn**	**12 12 07.6**	**-0.7**
	comp=Z,21nm,0.7s						
KKN	**Kakani**	**8.70**	**255**	*e*P	**Pn**	**12 12 08.6**	**0.0**
	comp=Z,105nm,0.9s						
KMI	**Kunming**	**8.74**	**124**	P	**Pn**	**12 12 10.0**	**+0.8**
KMI				S	Sn	12 13 52.3	+4.3
KMI				LN			
	comp=Z,320nm,3.8s						
KMI				LE			
	comp=Z,380nm,3.8s						
DMN	**Daman**	**8.90**	**255**	*e*P	**Pn**	**12 12 11.8**	**+0.4**
	comp=Z,82nm,0.8s						
GKN	**Gorkha**	**9.17**	**258**	*e*P	**Pn**	**12 12 13.6**	**-1.4**
	comp=Z,38nm,0.7s						
LZH	**Lanzhou**	**9.51**	**50**	*e*P	Pn	12 12 25.5	+5.8
LZH				pP		12 12 32.5	
LZH				S	Sn	12 14 12.0	+5.2
LZH				sS		12 14 21.3	
LZH				PMZ			
	comp=Z,24nm,1.0s						
LZH				PMZ			
	comp=Z,130nm,4.7s						
LZH				LN			
	comp=Z,410nm,7.1s						
LZH				LE			
	comp=Z,340nm,6.8s						
LZH				LZ			
	comp=Z,390nm,9.7s						
DANN	**Dangsing**	**9.82**	**261**	*e*P	**Pn**	**12 12 23.2**	**-0.9**
	comp=Z,8.7nm,0.7s						
GTA	**Gaotai**	**9.96**	**23**	*e*P	Pn	12 12 30.0	+4.3
GTA				pP		12 12 33.3	
GTA				sP		12 12 36.0	
GTA				S	Sn	12 14 23.0	+5.4
GTA				sS		12 14 28.5	
GTA				SS	**SnSn**	**12 14 36.5**	**+6.9**
GTA				PMZ			
	comp=Z,3.0nm,1.5s						
GTA				PMZ			
	comp=Z,30nm,5.0s						
KOLN	**Koldanda**	**10.12**	**258**	*e*P	**Pn**	**12 12 27.5**	**-0.5**
	comp=Z,138nm,0.9s						
BOK	**Bokaro**	**10.26**	**233**	*e*P	**Pn**	**12 12 30.4**	**+0.6**
BOK				AMB	AMB	12 12 52.2	
	comp=Z,17nm,0.2s						
CMAI	**Chiengmai2**	**11.04**	**159**	P	**Pn**	**12 12 42.7**	**+2.0**
	comp=Z,74nm,0.7s						
GYA	**Guiyang**	**11.14**	**107**	⇑*i*P	**Pn**	**12 12 43.5**	**+1.5**
GYA				S	**Sn**	**12 14 50.3**	**+3.5**
GYA				SS	**SnSn**	**12 15 04.0**	**+5.4**
GYA				PMZ			
	comp=Z,30nm,0.8s						
GYA				PMZ			
	comp=Z,110nm,4.5s						
GYA				LN			
	comp=Z,440nm,12.2s						
GYA				LE			
	comp=Z,380nm,12.8s						
GYA				LZ			
	comp=Z,460nm,12.4s						
CRAI	**Chiangrai**	**11.25**	**152**	P	**Pn**	**12 12 42.0**	**-1.4**
CHTO	**Chiang Mai**	**12.07**	**161**	P	Pn	12 12 57.1	+2.5
	comp=Z,50nm,1.0s						
CHTO	**Chiang Mai**	**12.07**	**161**	*e*P	**Pn**	**12 12 55.8**	**+1.2**
CHTO	**Chiang Mai**	**12.07**	**161**	*e*Pn	**Pn**	**12 12 55.8**	**+1.2**
CMMT	**Chiang Mai**	**12.07**	**161**	P	**Pn**	**12 12 51.9**	**-2.7**
CMAR	**Chiang Mai Arr**	**12.40**	**161**	Pn	**Pn**	**12 12 59.0**	**-0.2**
	comp=Z,2.0nm,0.3s,baz=331,slow=13,SNR=22						
CMAR	**Chiang Mai Arr**	**12.40**	**161**	P	**Pn**	**12 12 59.0**	**-0.2**
XAN	**Xi'an**	**12.53**	**69**	P	Pn	12 13 04.0	+3.1
XAN				S	**Sn**	**12 15 20.5**	**-0.1**
XAN				PMZ			
	comp=Z,4.0nm,0.6s						
XAN				PMZ			
	comp=Z,31nm,5.4s						
XAN				LN			
	comp=Z,110nm,6.7s						
XAN				LE			
	comp=Z,150nm,8.0s						
SUKH	**Sukhothai**	**13.53**	**160**	P	**P**	**12 13 25.6**	**+1.9**
DDI	**Dehra Dun**	**14.45**	**274**	*e*P	**Pn**	**12 13 26.3**	**-1.0**
DDI				AMB	AMB	12 13 34.9	
	comp=Z,45nm,0.5s						
WMQ	**Urumqi**	**14.60**	**339**	P	**P**	**12 13 35.0**	**-0.6**
WMQ				pP	Pn	12 13 38.5	+9.3
WMQ				sP		12 13 41.8	
WMQ				pmax	pmax		
	comp=Z,24nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,120nm,4.5s						
WMQ				LR	LR		
	comp=N,160nm,8.8s						
WMQ				LR	LR		
	comp=E,120nm,5.0s						
WMQ				LR	LR		
	comp=Z,49nm,13.4s						
WMQ	**Urumqi**	**14.60**	**339**	P	**Pn**	**12 13 32.0**	**+2.8**
WMQ				pP	P	12 13 39.5	+3.9
WMQ				sP		12 13 44.3	
WMQ				S	**Sn**	**12 16 13.5**	**+2.4**
WMQ				SS	**S**	**12 16 30.5**	**+0.1**
WMQ				PcP	**PcP**	**12 18 45.0**	**+2.4**
WMQ				PMZ			
	comp=Z,24nm,1.0s						
WMQ				PMZ			
	comp=Z,96nm,4.4s						
WMQ				LN			
	comp=Z,170nm,8.5s						
WMQ				LE			
	comp=Z,120nm,5.2s						
PBKT	**Sadao Pong**	**14.81**	**156**	P	**P**	**12 13 37.4**	**-0.6**
	comp=Z,22nm,1.2s						
SMLA	**Simla**	**15.18**	**278**	*e*P	**Pn**	**12 13 38.8**	**+1.9**
SMLA				AMB	AMB	12 13 43.5	
	comp=Z,22nm,1.3s						
SMLA				*i* x	x	12 15 31.8	
SKNT	**Sakolnakorn**	**15.72**	**146**	P	**P**	**12 13 48.5**	**+0.3**
	comp=Z,48nm,1.1s,comp=Z,907nm						
KHON	**Khomkaen**	**15.75**	**150**	P	**P**	**12 13 49.2**	**+0.8**

comp=Z,9.6nm,1.1s
DHRM DHARAMSHALA 15.92 282 *e*P P **12 13 48.5 +1.6**
BTO Baotou 16.08 46 *e*P P **12 13 49.5 -2.6**
DLH Dalhousie 16.22 283 *e*P P **12 13 54.0 +0.2**
DLH *ex* x 12 14 55.0
WHN Wuhan 16.88 84 P P **12 13 57.0 -1.8**
BHPL Bhopal 17.02 250 *e*P P **12 14 02.7 +0.1**
BHPL AMB AMB 12 14 03.3
comp=Z,52nm,1.1s
HHC Hu-ho-hao-te 17.19 48 *e*P P **12 14 05.3 +0.9**
HHC PP PnPn 12 14 20.0 +7.3
HHC S **Sn** **12 17 13.8 -0.3**
HHC sS **sS** **12 17 26.3 -1.6**
HHC SS **SnSn** **12 17 35.3 +7.9**
HHC PMZ
comp=Z,16nm,1.1s
HHC PMZ
comp=Z,110nm,9.9s
HHC LN
comp=Z,180nm,11.1s
HHC LE
comp=Z,100nm,14.8s
HHC LZ
comp=Z,140nm,11.5s
QIZ Qiongzhong 17.69 126 P P **12 14 10.3 +0.4**
QIZ S **Sn** **12 17 27.5 +1.2**
QIZ LN
comp=Z,170nm,12.8s
QIZ LZ
comp=Z,180nm,9.0s
PDGK Podgornoye 17.81 321 ⇑P Pn **12 14 08.7 -1.6**
comp=Z,26nm,1.1s
UBPT Khong Chiam 17.90 144 P P **12 14 13.2 +0.9**
comp=Z,32nm,1.2s
KSH Kashi 17.92 306 P P 12 14 17.5 +5.0
KSH PMZ
comp=Z,210nm,1.7s
KSH LN
comp=Z,520nm,7.5s
MK31 Makanchi Array 19.09 333 P P **12 14 24.2 -1.0**
MK31 pmax pmax
comp=Z,16nm,0.9s
MK31 Makanchi Array 19.09 333 P P **12 14 24.2 -1.0**
comp=Z,11nm,0.8s,baz=142,slow=14,SNR=54
MKAR Makanchi Array 19.09 333 P P **12 14 24.3 -0.9**
comp=Z,0.4nm,0.3s,baz=142,slow=14,SNR=50
MKAR S **Sn** **12 18 00.7 +0.9**
comp=Z,0.1nm,0.3s,baz=137,slow=26,SNR=3.0
TIA Tai'an 19.56 67 *e*P Pn **12 14 31.5 -0.2**
TIA PMZ
comp=Z,20nm,1.2s
HYB Hyderabad 19.60 233 *i*P P **12 14 30.5 -0.5**
HYB Hyderabad 19.60 233 *e*P Pn **12 14 31.8 -0.6**
HYB AMB AMB 12 14 45.2
comp=Z,28nm,2.5s
SONM Songino Array 19.63 24 P P **12 14 30.1 -1.2**
comp=Z,0.2nm,0.3s,baz=213,slow=11,SNR=40
ULN Ulaanbaatar 19.89 25*c i*P Pn **12 14 34.2 -1.5**
ULN pmax pmax
comp=Z,13nm,1.0s
ULN Ulaanbaatar 19.89 25 *e*P Pn **12 14 34.5 -1.2**
comp=Z,10nm,0.9s
BJI Beijing 19.95 55 P Pn **12 14 35.5 -0.8**
BJI S **Sn** **12 18 20.5 0.0**
BJI PMZ
comp=Z,10.0nm,1.6s
BJI LN
comp=Z,170nm,9.7s
BJI LE
comp=Z,260nm,9.5s
AAK Ala-Archa 20.36 313 *e*P P **12 14 39.0 -0.3**
AAK pmax pmax
comp=Z,25nm,0.6s
AAK Ala-Archa 20.36 313 *e*P P **12 14 39.0 -0.3**
comp=Z,25nm,0.6s
NJ2 Nanjing 20.66 79 *e*P Pn 12 14 43.5 -1.2
HVS Khovu-Aksy 20.80 358 *e*P P **12 14 43.8 -0.1**
ZAK Zakamensk 21.03 15 *e*P P **12 14 45.1 -1.2**
ZAK *e* 12 15 11.4
ZAK pmax pmax
comp=Z,24nm,1.0s
MOY Mondy 21.81 10 *e*P P **12 14 56.0 +1.2**
MOY pmax pmax
comp=Z,35nm,1.9s
TLY Talaya 22.32 15 P P **12 14 58.4 -1.8**
comp=Z,3.1nm,0.7s,baz=165,slow=4.5,SNR=5.8
TLY LR LR 12 24 21.9
comp=Z,64nm,21.2s,baz=178,slow=39
TLY Talaya 22.32 15 *e*P P **12 14 58.5 -1.7**
TLY pmax pmax
comp=Z,11nm,1.4s
TLY Talaya 22.32 15 *e*P P **12 14 59.6 -0.6**
comp=Z,8.4nm,1.0s
POO Poona 22.35 243 *e*P P **12 14 59.9 -0.8**
POO AMB AMB 12 15 12.6
comp=Z,51nm,2.0s
TRTT Trang 22.84 167 P P **12 15 07.7 +1.8**
comp=Z,28nm,1.2s
IRK Irkutsk 22.99 15 *e*P P **12 15 07.6 +0.4**
IRK pmax pmax
comp=Z,49nm,1.4s
KURBB Kurchatov Arra 23.65 334 P P **12 15 12.8 -1.0**
comp=Z,17nm,0.9s,baz=142,slow=10,SNR=85
KURBB PcP **PcP** **12 18 56.0 -2.2**
comp=Z,0.5nm,0.2s,baz=158,slow=3.0,SNR=4.1
KURK Kurchatov 23.69 334 P P **12 15 12.8 -1.4**
KURK 12 18 56.0
KURK Kurchatov 23.69 334 P P **12 15 12.8 -1.4**
KURK PcP **PcP** **12 18 56.0 -2.3**
ZAA0 Zalesovo Array 24.69 346 *e*P P **12 15 23.2 -0.2**
ZALV Zalesovo Beam 24.69 346 P P **12 15 23.0 -0.4**
comp=Z,8.2nm,0.7s,baz=163,slow=9.3,SNR=38
KULM Kulim 25.51 166 *e*P P **12 15 29.8 -1.3**
comp=Z,24nm,1.2s
KRAR Krasnoyarsk 25.71 358 *e*P P **12 15 32.5 -0.2**
KRAR pmax pmax
comp=Z,14nm,1.0s
NVS Novosibirsk 25.86 345 *e*P P **12 15 32.6 -1.5**
NVS pmax pmax
comp=N,28nm,1.5s
NVS pmax pmax
comp=Z,39nm,1.5s
NVS pmax pmax
comp=E,13nm,1.0s
CN2 Changchun 27.74 52 *e*P P **12 15 51.0 -0.2**
CN2 *e*S S **12 20 33.5 -0.1**
CN2 PMZ
comp=E,20nm,1.2s
CN2 PMZ
comp=E,200nm,3.0s
CN2 LN
comp=E,200nm,11.0s
CN2 LE
comp=E,200nm,11.0s
CN2 LZ
comp=E,200nm,13.0s
KSAR Wonju Array Be 28.28 67 P P **12 15 53.4 -2.6**
KSAR Wonju Array Be 28.28 67 P P **12 15 53.4 -2.6**
KSRS Korea Array 28.31 67 P P **12 15 53.4 -2.9**
comp=E,0.2nm,0.3s,baz=284,slow=12,SNR=3.0
BVA0 Borovoye Array 28.83 329 P P **12 16 01.3 +0.4**
comp=E,14nm,1.1s,baz=132,slow=12,SNR=50
BVA0 Borovoye Array 28.83 329 *i*P P **12 16 01.2 +0.4**
BVA0 pmax pmax
comp=Z,14nm,1.1s
BVAR Borovoye Array 28.83 329 P P **12 16 01.2 +0.4**
comp=Z,7.1nm,0.9s,baz=126,slow=10,SNR=31
BVAR PcP **PcP** **12 19 09.0 -1.2**
comp=Z,1.1nm,0.7s,baz=116,slow=10,SNR=4.3
BRVK Borovoye 28.90 329 *e*P P **12 16 01.6 +0.2**
BRVK pmax pmax
comp=Z,26nm,1.1s
BRVK Borovoye 28.90 329 *e*P P **12 16 01.6 +0.2**
comp=Z,26nm,1.1s
IMYA Miami 29.49 291 *e*P P **12 16 08.4 +1.4**
ISRO Mashad 30.00 291 *e*P P **12 16 12.3 +0.9**
IMOG Moghan 30.10 291 *e*P P **12 16 14.2 +1.6**
MDJ Mudanjiang 30.83 53 P P **12 16 19.3 +0.7**
MDJ pP pP 12 16 27.5 +5.9
MDJ sP sP 12 16 31.3 +8.4
MDJ S **S** **12 21 21.8 -0.3**
MDJ PMZ
comp=Z,75nm,3.5s
GEYT Alibeck 31.14 294 P P **12 16 22.4 +1.0**
comp=Z,7.6nm,0.9s,baz=98,slow=6.4,SNR=8.4
USRK Ussuriysk Ar. 32.39 54 P P **12 16 30.0 -2.3**
comp=Z,1.1nm,0.5s,baz=231,slow=44,SNR=2.6
KLR Kul'dur 33.67 45 *e*P P 12 16 40.0 -3.4
AKTO Aktyubinsk 33.99 317 P P **12 16 46.5 +0.3**
comp=Z,2.9nm,0.8s,baz=107,slow=9.0,SNR=6.9
SVE Sverdlovsk 35.61 328⇓*e*P P **12 17 01.3 +1.2**
SVE pmax pmax
comp=Z,36nm,1.1s
ARU Arti 36.37 326 P P **12 17 07.1 +0.6**
baz=120,slow=14
ARU Arti 36.37 326*c i*P P **12 17 06.7 +0.1**
ARU S **S** **12 22 46.3 -1.3**
ARU SS **SnSn** **12 25 10.7 -4.2**
ARU pmax pmax
comp=Z,23nm,1.2s
ARU Arti 36.37 326 *e*P P **12 17 06.9 +0.3**
comp=Z,34nm,1.4s
YAK Yakutsk 38.98 25 *e*P P **12 17 26.8 -1.7**
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=Z,16nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.1s
GNI Garni 41.56 298 P P **12 17 51.8 +1.3**
comp=N,2.8nm,0.4s,baz=176,slow=4.4,SNR=5.9
GNI Garni 41.56 298 *e*P P **12 17 51.6 +1.1**
GNI pmax pmax
comp=Z,31nm,1.4s
GNI Garni 41.56 298 *e*P P **12 17 51.6 +1.1**
comp=Z,31nm,1.4s
GOF Gofitskoye 42.79 305 *e*P P **12 17 59.4 -0.9**
GOF pmax pmax
comp=Z,50nm,1.3s
KBZ Khabaz 42.87 303 P P **12 18 01.3 +0.4**
comp=Z,3.0nm,0.9s,baz=90,slow=6.4,SNR=4.9
NEY Neytrino 43.00 302 *e*P P **12 18 03.4 +1.2**
VRHR Novokhopersk 44.21 314 *e*P P **12 18 11.6 0.0**
VRHR pmax pmax
comp=Z,20nm,1.0s
VRHR pmax pmax
comp=N,30nm,0.7s
VRHR pmax pmax
comp=E,30nm,0.8s
PRGR Permogore 44.65 329 *e*P P **12 18 15.7 +0.8**
PRGR pmax pmax
comp=Z,14nm,0.9s
VSR Storozhevoye 45.76 314 *e*P P **12 18 23.9 0.0**
VSR pmax pmax
comp=Z,30nm,1.1s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,30nm,1.1s
MOS Moscow 47.20 320 *e*P P **12 18 34.4 -0.7**
MOS pmax pmax
comp=Z,58nm,0.9s
MA2 Magadan 47.26 35 *e*P P **12 18 35.9 +0.3**
OBN Obninsk 47.71 319 P P **12 18 39.5 +0.3**
comp=Z,18nm,0.4s,baz=107,slow=3.0,SNR=7.0
OBN Obninsk 47.71 319 *e*P P **12 18 39.7 +0.6**
OBN *e* 12 20 08.7
OBN *e* 12 20 34.7
OBN pmax pmax
comp=Z,52nm,1.7s
OBN MLR MLR
comp=Z,31nm,18.0s
TMCR Tamitsa 48.75 331 *e*P P **12 18 47.6 +0.6**
TMCR pmax pmax
comp=Z,16nm,0.4s
SEY Seymchan 48.80 31 *e*P P **12 18 47.4 0.0**
ASF Jabal al Asfar 49.01 288 P P **12 18 49.7 +0.1**
comp=Z,3.2nm,0.8s,baz=45,slow=1.4,SNR=4.2
BRTR Keskin Array B 50.09 298 P P **12 18 58.0 +0.1**
comp=Z,3.5nm,1.0s,baz=117,slow=4.9,SNR=12
BRTR Keskin Array B 50.09 298 P P **12 18 58.0 +0.1**
ANTO Ankara 50.71 299 *e*P P **12 19 02.3 -0.1**
ANTO pmax pmax
comp=Z,133nm,1.2s
ANTO Ankara 50.71 299 *e*P P **12 19 02.3 -0.1**
comp=Z,133nm,1.2s
PET Petropavlovsk 50.92 44 *e*P P **12 19 03.6 -0.1**
PET pmax pmax
comp=Z,10.0nm,1.0s
LVZ Lovozero 51.10 335 *e*P P **12 19 05.0 +0.1**
LVZ pmax pmax
comp=Z,14nm,1.2s
KIEV Kiev 52.05 313 *e*P P **12 19 11.4 -0.8**
KIEV pmax pmax
comp=Z,18nm,1.2s
KIEV Kiev 52.05 313 *e*P P **12 19 11.8 -0.3**
comp=Z,26nm,1.2s
MSAB Monastry St. A 53.69 305⇑*i*P P **12 19 24.8 +0.4**
FINES FINESS Array B 53.74 326 P P **12 19 24.8 +0.2**
comp=Z,1.9nm,0.5s,baz=92,slow=8.3,SNR=11
VRI Vrincioaia 54.19 307⇑P P **12 19 28.7 +0.6**
VRI Vrincioaia 54.19 307⇑*i*P P **12 19 28.7 +0.6**
PLOR Plostina 54.24 307⇓P P **12 19 29.9 +1.4**
PLOR Plostina 54.24 307⇓*i*P P **12 19 29.9 +1.4**
ARCES ARCESS Array B 54.70 336 P P **12 19 32.2 +0.7**
comp=Z,2.8nm,1.0s,baz=85,slow=5.4,SNR=6.0
MLR Muntele Rosu 54.79 307⇓P P **12 19 33.5 +0.9**
MLR Muntele Rosu 54.79 307⇓*i*P P **12 19 33.5 +0.9**
LVV L'vov 55.44 312 *e*P P **12 19 36.8 -0.2**
LOT Lotru 56.30 307⇑*i*P P **12 19 42.2 -1.3**
TRPA Tarpa 56.66 310⇓*i*P P **12 19 46.3 +0.5**
UZH Uzhgorod 56.74 311 *e*P P **12 19 45.8 -0.6**
UZH *i* 12 19 53.0
VTS Vitosha 57.28 304⇑P P **12 19 50.6 +0.1**
VTS Vitosha 57.28 304⇑*i*P P **12 19 50.6 +0.1**
AGG Agios Georgios 58.80 300 *e*P P **12 19 59.9 -1.2**
AGG pmax pmax
comp=Z,43nm,1.5s
AGG Agios Georgios 58.80 300 *e*P P **12 19 59.9 -1.2**
comp=Z,43nm,1.5s
OKC Ostrava-Krasne 59.19 313 *e*P P **12 20 03.6 +0.1**
OKC *ex* x 12 20 09.6
OKC Ostrava-Krasne 59.19 313 *e*P P **12 20 03.6 +0.1**
OKC *e* 12 20 09.6
MORC Moravsky Berou 59.58 313 *e*P P **12 20 06.6 +0.2**
MORC pmax pmax
comp=Z,19nm,0.8s
MORC Moravsky Berou 59.58 313 *e*P P **12 20 06.6 +0.2**
comp=Z,19nm,0.8s
KRLC Kraliky 60.00 313 *e*P P **12 20 09.6 +0.4**
KRLC Kraliky 60.00 313 *e*P P **12 20 09.6 +0.4**
DPC Dobruska-Polom 60.23 314 *e*P P **12 20 11.1 +0.3**
DPC Dobruska-Polom 60.23 314 *e*P P **12 20 11.1 +0.3**
UPC Upice 60.39 314 *e*P P **12 20 12.9 +1.1**
UPC Upice 60.39 314 *e*P P **12 20 12.9 +1.1**
NB2 NORSAR Subarra 60.92 326 P P 12 20 11.8 -3.5
comp=Z,5.9nm,0.8s,baz=79,slow=6.9
NOA NORSAR Array B 60.92 326 P P **12 20 14.5 -0.8**
comp=Z,3.6nm,0.8s,baz=79,slow=6.8,SNR=9.1
TREC Trest 61.00 313 AMS AMS 12 47 40.0
comp=Z,100nm,13.1s
GOPC GO Pecny, Ondr 61.29 313 *e*P P **12 20 19.3 +1.3**
GOPC *e*pP **pP** **12 20 24.9 +3.7**
GOPC *ex* x 12 20 28.0
PRU Pruhonice 61.43 314 *e*P P **12 20 19.6 +0.7**
PRU Pruhonice 61.43 314 *e*P P **12 20 19.6 +0.7**
BRG Berggiesshubel 61.59 315 *e*P P **12 20 20.6 +0.7**
comp=Z,7.6nm,1.3s
BRG Berggiesshubel 61.59 315 *e*P P **12 20 20.6 +0.7**
BRG pmax pmax
comp=Z,8.0nm,1.3s
SOKA Soboth 61.95 310⇓*i*P P **12 20 22.8 +0.2**
comp=Z,10.0nm,1.2s
CLL Collm 62.05 315 *e*P P **12 20 23.0 -0.1**
CLL pmax pmax
comp=Z,20nm,1.9s
CLL Collm 62.05 315 *e*P P **12 20 23.0 -0.1**
comp=Z,20nm,1.9s
MOA Moln 62.15 311⇑*i*P P **12 20 24.4 +0.6**
comp=Z,8.5nm,1.2s
GERES GERESS Array B 62.25 312 P P **12 20 23.9 -0.7**
comp=Z,2.1nm,0.7s,baz=81,slow=8.2,SNR=13
KHC Kasperske Hory 62.25 313 *e*P P **12 20 24.4 -0.1**
KHC *ex* x 12 20 31.2
KHC Kasperske Hory 62.25 313 *e*P P **12 20 24.4 -0.1**
KHC *e* 12 20 31.2
WRA Warramunga Arr 62.82 138 P P **12 20 27.3 -1.2**
comp=Z,3.4nm,1.1s,baz=324,slow=8.3,SNR=22
CUC Castrocucco 63.34 302 *e*P P **12 20 31.1 -0.9**
comp=Z,11nm,1.1s
FETA Feichten 64.68 311⇑*i*P P **12 20 39.7 -1.0**
comp=Z,9.2nm,1.0s
DAVOX Davos/Dischmat 65.31 311 P P **12 20 44.2 -0.7**
comp=Z,9.8nm,1.0s,baz=115,slow=3.4,SNR=5.6
ASAR Alice Springs 65.51 141 P P **12 20 45.0 -1.1**
comp=Z,1.2nm,0.4s,baz=323,slow=6.2,SNR=61
BFO Black Forest 65.81 313 *i*P P **12 20 49.3 +1.4**
MBAR Mbarara 68.09 256 *e*P P **12 21 01.4 -1.7**
MBAR pmax pmax
comp=Z,7.0nm,1.2s
MBAR Mbarara 68.09 256 *e*P P **12 21 01.4 -1.7**
comp=Z,7.4nm,1.2s
KEST Kesra 69.64 300 P P **12 21 12.1 -0.2**
comp=Z,3.9nm,1.1s,baz=163,slow=1.3,SNR=8.9
KEST Kesra 69.64 300 *e*P P **12 21 11.8 -0.5**
MLY Manley 72.37 24 *e*P P **12 21 28.6 +0.2**
comp=Z,7.0nm,1.1s
BPAW Bear Paw Mtn. 72.81 25 *e*P P **12 21 31.4 +0.4**
comp=Z,1.8nm,1.1s
PPLA Purkeypile 73.04 26 *e*P P **12 21 33.2 +0.7**
COLA College 73.46 23 *e*P P **12 21 34.8 +0.1**
COLA pmax pmax
comp=Z,13nm,1.1s
COLA College 73.46 23 *e*P P **12 21 34.8 +0.1**
comp=Z,13nm,1.1s
CCB Clear Creek Bu 73.62 23 *e*P P **12 21 35.5 -0.2**
comp=Z,3.0nm,1.2s
ILAR Eielson Array 73.85 23 P P **12 21 36.0 -1.0**
comp=Z,2.7nm,0.9s,baz=293,slow=4.8,SNR=30
RND Reindeer 73.99 25 *e*P P **12 21 37.5 -0.5**
RND pmax pmax
comp=Z,7.0nm,1.2s
RND Reindeer 73.99 25 *e*P P **12 21 37.5 -0.5**
comp=Z,7.2nm,1.2s
PMR Palmer 74.96 26 *e*P P **12 21 42.5 -1.0**
PMR pmax pmax
comp=Z,9.0nm,1.0s
PMR Palmer 74.96 26 *e*P P **12 21 42.5 -1.0**
comp=Z,9.4nm,1.0s
SML Sawmill 75.14 26 *e*P P **12 21 44.3 -0.3**
SML pmax pmax
comp=Z,3.0nm,1.0s
SML Sawmill 75.14 26 *e*P P **12 21 44.3 -0.3**
comp=Z,2.8nm,1.0s
INK Inuvik 75.37 17 P P **12 21 45.8 0.0**
comp=Z,8.3nm,1.0s,baz=337,slow=5.1,SNR=5.2
INK Inuvik 75.37 17 *e*P P **12 21 45.3 -0.5**
INK pmax pmax
comp=Z,12nm,1.1s
INK Inuvik 75.37 17 *e*P P **12 21 45.3 -0.5**
comp=Z,12nm,1.1s
EGAK Eagle 75.73 21 *e*P P **12 21 48.3 +0.4**
STKA Stephens Creek 76.14 140 P P **12 21 50.1 -0.5**
comp=Z,3.4nm,0.9s,baz=304,slow=5.2,SNR=3.9
KLU Klutina 76.24 26 *e*P P **12 21 51.7 +0.7**
comp=Z,12nm,1.1s
DAWY Dawson 76.78 21 *e*P P **12 21 54.3 +0.3**
comp=Z,1.9nm,0.6s
BMRM Bremner River 77.07 26 *e*P P **12 21 56.0 +0.3**
comp=Z,9.5nm,1.0s
ESDC Sonseca Array 77.41 309 P P **12 21 58.5 +0.4**
comp=Z,3.0nm,1.0s,baz=51,slow=5.5,SNR=14
LSZ Lusaka 78.47 245 *e*P P **12 22 04.0 -0.2**
LSZ pmax pmax
comp=Z,14nm,1.3s
LSZ Lusaka 78.47 245 *e*P P **12 22 04.0 -0.2**
comp=Z,14nm,1.3s
HYT Haines Junctio 79.70 23 *e*P P **12 22 11.0 +0.7**
YKA Yellowknife Ar 84.54 13 P P **12 22 34.3 -1.1**
comp=Z,1.2nm,0.8s,baz=332,slow=4.6,SNR=4.9
TORD Torodi Ar. Bea 86.09 283 PP PP 12 26 01.6 -2.6
comp=Z,1.5nm,1.1s,baz=44,slow=8.9,SNR=4.8
LBTB Lobatse 86.13 238 *e*P P **12 22 44.0 -0.1**
LBTB pmax pmax
comp=Z,50nm,1.4s
LBTB Lobatse 86.13 238 *e*P P **12 22 44.0 -0.1**
comp=Z,50nm,1.4s
TXAR Lajitas Array 118.12 18 PKP **PKPdf** **12 28 49.5 -0.7**
comp=Z,0.3nm,0.9s,baz=96,slow=2.5,SNR=3.8
OTAV Otavalo 148.93 347 *e*PKPdf **PKPdf** **12 29 48.5 +0.5**
SAML Samuel 150.40 311 *e*PKPdf **PKPdf** **12 29 48.8 -0.9**

IDC ***29*** *12:10:26.5±0.8,30.°30N×94.°87E,h0km,mb4.2/14, mb1 4.3/16,mb1mx4.0/45,mbtmp4.2/16,ML3.7/1,Error ellipse: s-maj=30.8km s-min=16.2km az=50.0*
ISCJB ***29*** *12:10:28.2±0.7,30.°3N±0.°1×94.°9E±0.°2,h23km,mb4.2/14, Error ellipse: s-maj=20.9km s-min=14.0km az=143.5*
ISC 29 12:10:30.1±0.9,30.°3N±0.°2×94.°9E±0.°2,h23km,n17, σ0s62/18,mb4.2/14,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**19.12**	**333**	P		**Pn**	**12 14 52.3**	**-0.1**
	baz=137,slow=15,SNR=5.1							
SONM	**Songino Array**	**19.57**	**24**	P		**Pn**	**12 14 57.9**	**+0.1**
	0.2nm,0.3s,baz=217,slow=12,SNR=6.9							
KURBB	**Kurchatov Arra**	**23.68**	**333**	P		**P**	**12 15 39.1**	**-0.8**
	9.8nm,1.0s,baz=149,slow=10.0,SNR=5.4							
ZALV	**Zalesovo Beam**	**24.70**	**346**	P		**P**	**12 15 49.5**	**+0.3**
	3.0nm,0.8s,baz=144,slow=10,SNR=4.3							
BVAR	**Borovoye Array**	**28.88**	**329**	P		**P**	**12 16 27.8**	**+0.9**
	2.9nm,0.8s,baz=137,slow=11,SNR=3.6							
BVAR				PcP		**PcP**	**12 19 34.5**	**-1.3**
	0.9nm,0.7s,baz=123,slow=5.3,SNR=3.2							
GEYT	**Alibeck**	**31.23**	**294**	P		**P**	**12 16 48.9**	**+0.9**
	4.7nm,0.8s,baz=114,slow=6.6,SNR=3.8							
AKTO	**Aktyubinsk**	**34.05**	**317**	P		**P**	**12 17 11.4**	**-1.0**
	2.5nm,0.9s,baz=103,slow=14,SNR=3.0							
ARU	**Arti**	**36.42**	**326**	P		**P**	**12 17 33.1**	**+0.4**
	baz=127,slow=10							
BRTR	**Keskin Array B**	**50.18**	**298**	P		**P**	**12 19 24.1**	**-0.1**
	2.4nm,0.9s,baz=98,slow=7.6,SNR=5.0							
FINES	**FINESS Array B**	**53.79**	**326**	P		**P**	**12 19 50.5**	**0.0**
	5.9nm,1.1s,baz=115,slow=8.6,SNR=3.4							
NOA	**NORSAR Array B**	**60.97**	**326**	P		**P**	**12 20 41.0**	**-0.3**
	2.4nm,0.8s,baz=80,slow=6.8,SNR=3.7							
WRA	**Warramunga Arr**	**62.75**	**138**	P		**P**	**12 20 54.1**	**+0.4**
	1.1nm,0.8s,baz=324,slow=8.1,SNR=7.6							
DAVOX	**Davos/Dischmat**	**65.39**	**311**	P		**P**	**12 21 10.8**	**-0.2**
	1.4nm,0.4s,baz=178,slow=17,SNR=2.3							
ASAR	**Alice Springs**	**65.45**	**141**	P		**P**	**12 21 11.4**	**0.0**
	2.4nm,0.9s,baz=324,slow=6.4,SNR=7.1							
ILAR	**Eielson Array**	**73.79**	**23**	P		**P**	**12 22 02.2**	**0.0**
	1.0nm,0.9s,baz=304,slow=6.0,SNR=6.2							
ESDC	**Sonseca Array**	**77.49**	**309**	P		**P**	**12 22 24.2**	**+0.2**
	0.2nm,0.3s,baz=40,slow=6.7,SNR=3.1							
TORD	**Torodi Ar. Bea**	**86.20**	**283**	P		**P**	**12 23 10.0**	**-0.2**
	3.2nm,1.0s,baz=44,slow=5.2,SNR=6.0							

WEL 29 12:10:46.2±0.1,37.°77S×176.°81E,h5km,ML3.5/11,7C-6D, Error ellipse: s-maj=0.7km s-min=0.6km az=0.0,North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.22**	**250**	⇓PG		Pg	12 10 50.8	+0.3
OPRZ				SG		Sg	12 10 54.3	+0.9
MARZ	**Manawahe**	**0.24**	**207**	⇑PG		Pg	12 10 51.1	0.0
MARZ				SG		Sg	12 10 54.9	+0.7
EDRZ	**Edgecumbe**	**0.34**	**190**	⇑PG		Pg	12 10 52.8	-0.2
EDRZ				AML		AML	12 11 01.1	
EDRZ				AML		AML	12 11 07.5	
WIZ	**White Island**	**0.39**	**51**	⇑PG		Pg	12 10 54.2	+0.5
LIRZ	**Lichensteins R**	**0.41**	**235**	PG		Pg	12 10 54.7	+0.5
TGRZ	**Tauranga**	**0.44**	**275**	⇓PG		Pg	12 10 55.3	+0.6
TGRZ				AML		AML	12 11 04.7	
TGRZ				AML		AML	12 11 06.6	
MKRZ	**Makatiti**	**0.46**	**216**	PG		Pg	12 10 55.8	+0.7
MKRZ				AML		AML	12 11 03.4	
MKRZ				AML		AML	12 11 05.1	
OMRZ	**Omania**	**0.48**	**226**	⇓PG		Pg	12 10 55.8	+0.2
KARZ	**Kaharoa**	**0.51**	**241**	⇓PG		Pg	12 10 56.6	+0.4
TARZ	**Mount Tarawera**	**0.52**	**207**	PG		Pg	12 10 56.8	+0.3
URZ	**Urewera**	**0.54**	**154**	PG		Pg	12 10 56.1	-0.6
URZ				AML		AML	12 11 06.1	
URZ				AML		AML	12 11 11.1	
HLRZ	**Highlands Stat**	**0.60**	**217**	P*		Pg	12 10 58.5	+0.6
RRRZ	**Republican Roa**	**0.61**	**202**	P*		Pg	12 10 57.5	-0.7
UTU	**Utuhina**	**0.64**	**230**	*e*P*		Pg	12 10 59.1	+0.6
UTU				AML		AML	12 11 19.1	
UTU				AML		AML	12 11 28.0	
MYRZ	**Mayor Island**	**0.67**	**317**	P*		Pg	12 10 59.3	+0.2
HRRZ	**Handcock Road**	**0.75**	**214**	P*		Pg	12 11 01.0	+0.3
HAZ	**Te Kaha**	**0.77**	**89**	P*		Pg	12 11 00.7	-0.3

MWZ	**Matawai**	**0.80**	**135**	⇓P*	Pg	12 11 00.8	-0.8		
MWZ				AML	AML	12 11 13.6			
MWZ				AML	AML	12 11 13.7			
MWZ				AML	AML	12 11 14.5			
MWZ				AML	AML	12 11 14.6			
PRRZ	**Plateau Road**	**0.80**	**204**	P*	Pg	12 11 01.2	-0.4		
RAGZ	**Rawiri**	**0.86**	**147**	⇑P*	Pg	12 11 02.3	-0.7		
ALRZ	**Allen Road**	**0.87**	**205**	⇓P*	Pg	12 11 02.7	-0.4		
TWGZ	**Tauwhareparae**	**1.01**	**114**	P*	Pg	12 11 05.3	-0.4		
TOZ	**Tahuroa Road**	**1.04**	**272**	P*	Pg	12 11 05.2	-1.0		
SNGZ	**Shannon Statio**	**1.09**	**158**	⇑P*	Pg	12 11 06.8	-0.5		
TLZ	**Tolley Road**	**1.15**	**241**	⇑P*	Pg	12 11 07.9	-0.5		
RAHZ	**Arahi**	**1.16**	**169**	P*	Pg	12 11 07.8	-0.9		
PUZ	**Puketitti**	**1.18**	**105**	P*	Pg	12 11 08.1	-0.9		
PUZ				AML	AML	12 11 34.9			
PUZ				AML	AML	12 11 46.8			
RIGZ	**Rimuhau**	**1.20**	**142**	P*	Pg	12 11 09.1	-0.1		
MXZ	**Matakaoa Point**	**1.20**	**81**	P*	Pg	12 11 07.6	-1.8		
MXZ				AML	AML	12 11 32.3			
MXZ				AML	AML	12 11 41.2			
WMGZ	**Waiomatatini S**	**1.27**	**93**	P*	Pg	12 11 09.8	-0.8		
NMHZ	**Naumai**	**1.32**	**180**	P*	Pn	12 11 09.6	-1.9		
KUZ	**Kuaotunu**	**1.34**	**319**	PN	Pn	12 11 10.3	-1.4		
KUZ				AML	AML	12 11 29.8			
KUZ				AML	AML	12 11 37.2			
KUZ				AML	AML	12 11 37.3			
KUZ				AML	AML	12 11 40.5			
WHHZ	**Waihua**	**1.34**	**166**	PN	Pn	12 11 11.7	0.0		
BKZ	**Black Stump Fm**	**1.42**	**190**	⇑P*	Pn	12 11 10.2	-2.5		
BKZ				AML	AML	12 11 40.8			
BKZ				AML	AML	12 11 47.9			
KNZ	**Kokohu**	**1.42**	**152**	*e*PN	Pn	12 11 12.0	-0.7		
MKAZ	**Moumakai**	**1.47**	**296**	PN	Pn	12 11 13.6	+0.2		
MKAZ				AML	AML	12 11 17.2			
MKAZ				AML	AML	12 11 42.0			
ARHZ	**Aropaoanui**	**1.50**	**175**	PN	Pn	12 11 12.7	-1.1		
MCHZ	**McNeill Hill**	**1.67**	**183**	PN	Pn	12 11 15.6	-0.7		
KWHZ	**Kaweka Forest**	**1.68**	**190**	P*	Pn	12 11 14.6	-1.8		
HIZ	**Hauiti**	**1.71**	**244**	*e*PN	Pn	12 11 16.3	-0.4		
KRHZ	**Kereru**	**1.90**	**190**	PN	Pn	12 11 19.4	0.0		
KAHZ	**Kahuranaki**	**2.02**	**179**	PN	Pn	12 11 20.2	-0.9		

*IDC **29** 12:12:19.8±4.8, 36°.29N×70°.68E, h180km±43km, mb3.5/11, mb1 3.6/14, mb1mx3.3/43, mbtmp4.0/14, Error ellipse: s-maj=20.5km s-min=17.9km az=30.0*
*ISCJB **29** 12:12:21.8±0.4, 36°.51N±0°.04×70°.63E±0°.08, h204km, mb3.6/10, Error ellipse: s-maj=8.8km s-min=4.9km az=173.5*
*NNC **29** 12:12:23.1±10.0, 36°.37N×70°.78E, h100km, mb3.9, mpv4.4, Error ellipse: s-maj=91.8km s-min=42.0km az=1.0*

ISC 29 12:12:22.6±0.6, 36°.54N±0°.06×70°.57E±0°.08, h204km, n34, σ1♀24/38, mb3.7/10, 9C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.65**	**329**	⇑P	**Pn**		**12 13 08.1**	**-0.4**
	44nm,0.3s							
DZET				⇑S	**S**		**12 13 41.8**	**-2.0**
	236nm,0.3s							
CEP	**Cherat**	**2.93**	**158**	⇓P	**Pn**		**12 13 11.6**	**-0.2**
CEP				S	**S**		**12 13 48.0**	**-1.6**
CHCP	**Chirah Chowk**	**3.63**	**142**	P	**Pn**		**12 13 21.2**	**+1.2**
THW	**Thamme Wali**	**3.86**	**165**	⇓P	**Pn**		**12 13 22.4**	**-0.5**
SFK	**Sufi-Kurgan**	**4.17**	**33**	⇑P	**Pn**		**12 13 27.0**	**+0.2**
	27nm,0.5s							
SFK				⇓S	**S**		**12 14 14.8**	**-1.9**
	99nm,0.5s							
SARP	**Sargodha**	**4.93**	**159**	P	**Pn**		**12 13 35.1**	**-1.1**
KSH	**Kashi**	**5.20**	**54**	⇓*i*Pn	Pn		12 13 35.3	-4.4
KSH				Sn	S		12 14 25.3	-15
KSH				smax	smax			
	comp=N,140nm,0.8s							
KSH				smax	smax			
	comp=E,130nm,0.5s							
AML	**Almayashu**	**6.08**	**23**	P	**Pn**		**12 13 51.4**	**+0.1**
	SNR=218							
MNAS	**Manas**	**6.12**	**14**	⇑P	**Pn**		**12 13 51.6**	**0.0**
	comp=E,17nm,0.6s							
MNAS				⇑S	S		12 14 53.8	-8.0
	comp=E,51nm,0.5s							
KK31	**Karatay Array**	**6.55**	**360**	P	**Pn**		**12 13 57.1**	**+0.1**
	comp=E,5.2nm,0.2s,baz=173,slow=12,SNR=256							
KK31				⇑S	**S**		**12 15 07.7**	**-4.0**
	comp=E,26nm,0.5s,baz=137,slow=16,SNR=15							
EKS2	**Erkin-Say**	**6.59**	**21**	P	**Pn**		**12 13 58.1**	**+0.5**
	SNR=23							
KZA	**Kyzart**	**6.61**	**32**	P	**Pn**		**12 13 57.8**	**-0.3**
	SNR=28							
AAK	**Ala-Archa**	**6.80**	**25**	P	**Pn**		**12 14 00.8**	**+0.5**
	SNR=14							
KBK	**Karagaybulak**	**6.98**	**28**	P	**Pn**		**12 14 03.4**	**+0.7**
	SNR=14							
CHMS	**Chumysh**	**7.21**	**25**	P	**Pn**		**12 14 05.7**	**+0.2**
	SNR=17							
USP	**Ospenovka**	**7.37**	**23**	P	**Pn**		**12 14 07.3**	**-0.2**
	SNR=8.4							
TKM2	**Tokmak 2**	**7.46**	**30**	P	**Pn**		**12 14 09.1**	**+0.2**
	SNR=74							
TKM2	**Tokmak 2**	**7.46**	**30**	⇑P	**Pn**		**12 14 08.9**	**0.0**
	comp=E,43nm,0.5s							
MK31	**Makanchi Array**	**13.46**	**37**	⇑S	**Pn**		**12 15 26.3**	**+0.7**
	comp=E,5.4nm,0.6s,baz=215,slow=13,SNR=11							
MKAR	**Makanchi Array**	**13.46**	**37**	P	**Pn**		**12 15 25.6**	**0.0**
	comp=E,0.8nm,0.3s,baz=216,slow=13,SNR=13							
AB31	**Akbulak array**	**14.88**	**332**	⇑P	**P**		**12 15 43.7**	**0.0**
	comp=E,2.7nm,0.8s,baz=150,slow=11,SNR=11							
AB31				S	**S**		**12 18 26.1**	**-1.8**
	comp=E,0.7nm,0.3s,baz=153,slow=24,SNR=2.6							
KURBB	**Kurchatov Arra**	**15.20**	**20**	P	**Pn**		**12 15 46.5**	**-0.3**
	comp=E,0.1nm,0.3s,baz=210,slow=10,SNR=4.3							
AKTO	**Aktyubinsk**	**16.57**	**331**	P	**Pn**		**12 16 04.4**	**+1.0**
	comp=E,0.4nm,0.3s,baz=137,slow=14,SNR=14							
ZALV	**Zalesovo Beam**	**20.02**	**25**	P	**P**		**12 16 40.6**	**+0.9**
	comp=E,2.1nm,0.5s,baz=216,slow=10,SNR=8.5							
FINES	**FINESS Array B**	**37.25**	**326**	P	**P**		**12 19 16.2**	**+1.9**
	comp=E,1.8nm,0.7s,baz=118,slow=11,SNR=6.2							
ARCES	**ARCESS Array B**	**40.97**	**338**	P	**P**		**12 19 46.9**	**+1.9**
	comp=E,1.8nm,0.7s,baz=113,slow=9.3,SNR=7.1							
NOA	**NORSAR Array B**	**44.14**	**323**	P	**P**		**12 20 12.1**	**+1.5**
	comp=E,1.7nm,0.7s,baz=97,slow=7.7,SNR=8.4							
TORD	**Torodi Ar. Bea**	**65.37**	**268**	P	**P**		**12 22 42.6**	**-0.8**
	comp=E,5.6nm,1.1s,baz=50,slow=5.7,SNR=21							
INK	**Inuvik**	**73.92**	**9**	P	**P**		**12 23 36.1**	**+1.4**
	comp=E,1.6nm,0.6s,baz=349,slow=5.0,SNR=3.2							
ILAR	**Eielson Array**	**74.83**	**16**	P	**P**		**12 23 41.3**	**+1.1**
	comp=E,0.3nm,0.5s,baz=299,slow=4.7,SNR=8.3							
BOSA	**Boshof**	**77.55**	**220**	P	**P**		**12 23 56.0**	**0.0**
	comp=E,0.9nm,0.4s,baz=333,slow=6.8,SNR=3.1							
YKA	**Yellowknife Ar**	**81.22**	**2**	P	**P**		**12 24 16.0**	**+0.8**
	comp=E,0.5nm,0.6s,baz=345,slow=5.5,SNR=3.3							
WRA	**Warramunga Arr**	**82.31**	**122**	P	**P**		**12 24 20.4**	**-1.2**
	comp=E,0.6nm,0.7s,baz=322,slow=4.9,SNR=12							
ASAR	**Alice Springs**	**84.56**	**125**	P	**P**		**12 24 31.6**	**-1.5**
	comp=E,0.9nm,0.8s,baz=310,slow=5.2,SNR=9.5							

*IDC **29** 12:14:47.3±1.2, 20°.58N×105°.95W, h0km, mb4.0/11, mb1 4.2/14, mb1mx4.0/36, mbtmp3.9/14, ML3.6/3, MS3.2/5, Ms1 3.2/5, ms1mx2.9/31, Error ellipse: s-maj=29.3km s-min=23.5km az=63.0*
*ISCJB **29** 12:14:51.4±1.3, 20°.7N±0°.2×105°.8W±0°.1, h33km, mb4.0/10, MS3.0/3, Error ellipse: s-maj=26.5km s-min=13.5km az=41.0*

ISC 29 12:14:52.9±1.2, 20°.7N±0°.2×105°.9W±0°.2, h35km, n21, σ0♀65/15, mb4.0/10, MS3.0/3, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H06E1	**SOCORRO T-PHAS**	**5.09**	**249**	T	T		12 21 20.3	
	SNR=120							
H06N1	**SOCORRO T-PHAS**	**5.12**	**250**	T	T		12 21 21.1	
	SNR=123							
H06S1	**SOCORRO T**	**5.14**	**249**	T	T		12 21 27.9	
	SNR=3.8							
TXAR	**Lajitas Array**	**8.86**	**13**	Pn	**Pn**		**12 16 58.3**	**-0.3**
	1.2nm,0.3s,baz=194,slow=14,SNR=76							
TXAR				Lg	Lg		12 19 14.4	
	0.3nm,0.3s,baz=194,slow=30,SNR=6.1							
TXAR				LR	LR		12 20 29.0	
	comp=Z,200nm,21.3s,baz=0.0,slow=38							
CMIG	**Matias Romero**	**11.02**	**107**	Pn	**Pn**		**12 17 27.7**	**-0.4**
	0.1nm,0.3s,baz=269,slow=13,SNR=1.8							
ANMO	**Albuquerque**	**14.23**	**358**	Pn	**Pn**		**12 18 11.7**	**-0.4**
	0.1nm,0.3s,baz=178,slow=15,SNR=3.4							
PFO	**Pinyon Flat Ob**	**15.93**	**326**	LR	LR		12 23 19.2	
	comp=Z,116nm,21.2s,baz=325,slow=32							
NVAR	**Mina Array Bea**	**20.69**	**331**	P	Pn		12 19 31.3	-1.5
	2.4nm,0.7s,baz=155,slow=11,SNR=17							
ELK	**Elko**	**21.53**	**340**	P	**P**		**12 19 40.0**	**+0.8**
	4.2nm,0.8s,baz=166,slow=8.1,SNR=23							
ELK				LR	LR		12 27 58.5	
	comp=Z,56nm,19.6s,baz=184,slow=37							
PDAR	**Pinedale Array**	**22.24**	**353**	P	**P**		**12 19 47.2**	**+0.3**
	1.5nm,0.8s,baz=160,slow=9.4,SNR=15							
PDAR				LR	LR		12 28 46.0	
	comp=Z,45nm,19.5s,baz=174,slow=38							
JTS	**JuntasAbangare**	**22.64**	**114**	LR	LR		12 28 02.3	
	comp=Z,54nm,18.6s,baz=314,slow=35							
TKL	**Tuckaleechee C**	**24.48**	**48**	P	**P**		**12 20 09.6**	**+0.8**
	1.6nm,0.5s,baz=210,slow=13,SNR=4.0							
ULM	**Lac du Bonnet**	**30.57**	**13**	P	**P**		**12 21 02.5**	**-0.6**
	3.5nm,0.8s,baz=193,slow=14,SNR=3.9							
YKA	**Yellowknife Ar**	**42.22**	**354**	P	**P**		**12 22 41.5**	**-0.7**
	1.2nm,0.8s,baz=165,slow=8.0,SNR=5.7							
INK	**Inuvik**	**50.63**	**347**	P	**P**		**12 23 48.6**	**+0.5**
	2.8nm,0.7s,baz=140,slow=6.7,SNR=3.9							
ILAR	**Eielson Array**	**51.68**	**339**	P	**P**		**12 23 56.0**	**-0.1**
	1.5nm,0.8s,baz=145,slow=7.2,SNR=21							
PETK	**Petropavlovsk-**	**77.46**	**322**	P	**P**		**12 26 45.0**	**+0.3**
	5.1nm,0.9s,baz=90,slow=10,SNR=3.8							
ARCES	**ARCESS Array B**	**83.64**	**15**	P	**P**		**12 27 17.2**	**-0.3**
	3.0nm,1.0s,baz=316,slow=5.0,SNR=7.0							
ESDC	**Sonseca Array**	**85.77**	**49**	P	**P**		**12 27 30.1**	**+1.2**
	0.2nm,0.4s,baz=318,slow=5.3,SNR=4.8							
WRA	**Warramunga Arr**	**123.80**	**259**	PKP	**PKPdf**		**12 33 47.4**	**-0.5**
	0.5nm,0.6s,baz=73,slow=1.7,SNR=11							
ASAR	**Alice Springs**	**124.88**	**255**	PKP	**PKPdf**		**12 33 49.4**	**-0.5**
	0.5nm,0.7s,baz=76,slow=1.6,SNR=8.9							

*ISK **29** 12:19:13.2, 38°.85N×36°.83E, h27km, MD2.8*
*CSEM **29** 12:19:14.5±0.5, 39°.02N×37°.01E, h30km, MD2.8, Error ellipse: s-maj=14.1km s-min=8.5km az=59.0*
*ISCJB **29** 12:19:15.4±1.0, 39°.07N±0°.06×37°.1E±0°.1, h29km±11km, Error ellipse: s-maj=15.2km s-min=8.2km az=159.2*
*DDA **29** 12:19:15.8, 39°.19N×37°.54E, h7km, MD2.8*

ISC 29 12:19:15.5±1.2, 39°.04N±0°.04×37°.07E±0°.05, h27km±13km, n24, σ1♀69/34, 2C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CUGUR	**Gurin_S˜VAS**	**0.36**	**154**	*i* P	**Pn**		**12 19 25.5**	**+0.5**
CUGUR				*i* S	**Sn**		**12 19 33.8**	**+2.6**
CUKAN	**kangal_SIVAS**	**0.41**	**48**	*i* P	Pb		12 19 18.5	-6.0
CUKAN				*i* S	Sb		12 19 22.0	-8.6
DARE	**Darende-Malaty**	**0.57**	**145**	*e*PG	**Pb**		**12 19 26.3**	**-0.7**
DARE				*e*SG	**Sb**		**12 19 34.0**	**-0.8**
DARE	**Darende-Malaty**	**0.57**	**145**	*e*Pg	**Pb**		**12 19 26.3**	**-0.7**
DARE				*e*Sg	**Sb**		**12 19 34.0**	**-0.8**
SVSK	**Karacayir**	**0.87**	**356**	*e*PG	**Pb**		**12 19 32.8**	**+0.8**
SVSK				*e*SG	**Sn**		**12 19 47.3**	**+3.5**
SVSK	**Karacayir**	**0.87**	**356**	*e*Pg	**Pb**		**12 19 32.8**	**+0.8**
SVSK				*e*Sg	**Sn**		**12 19 47.3**	**+3.5**
AKCD	**Akcadag**	**1.00**	**138**	*i* P	**Pn**		**12 19 33.2**	**-0.7**
AKCD				*i* S	**Sb**		**12 19 49.7**	**+2.6**
AKCD	**Akcadag**	**1.00**	**138**	*i* P	**Pn**		**12 19 33.2**	**-0.7**
AKCD				*i* S	**Sb**		**12 19 49.7**	**+2.6**
KEMA	**Kemaliye**	**1.13**	**78**	*i* P	Pn		12 19 30.3	-5.3
KEMA				*i* S	Sn		12 19 40.6	-10
KEMA	**Kemaliye**	**1.13**	**78**	*i* P	Pn		12 19 30.3	-5.3
MALT	**Malatya**	**1.29**	**124**	*e*PG	**Pn**		**12 19 36.8**	**-1.0**
MALT	**Malatya**	**1.29**	**124**	⇑*i*P	**Pn**		**12 19 37.5**	**-0.3**
MALT	**Malatya**	**1.29**	**124**	*e*Pg	**Pn**		**12 19 36.8**	**-1.0**
MALT	**Malatya**	**1.29**	**124**	⇑*i*P	**Pn**		**12 19 37.5**	**-0.3**
SUSE	**Susehri**	**1.46**	**37**	*i* P	**Pn**		**12 19 38.1**	**-2.1**
SUSE				*i* S	**Sn**		**12 19 57.9**	**-0.6**
SUSE	**Susehri**	**1.46**	**37**	*i* P	**Pn**		**12 19 38.1**	**-2.1**
SUSE				*i* S	**Sn**		**12 19 57.9**	**-0.6**
ELZG	**Elazig**	**1.59**	**109**	*i* P	**Pn**		**12 19 40.4**	**-1.7**
ELZG				*i* S	**Sn**		**12 20 00.8**	**-1.1**
ELZG	**Elazig**	**1.59**	**109**	*i* P	**Pn**		**12 19 40.4**	**-1.7**
ELZG				*i* S	**Sn**		**12 20 00.8**	**-1.1**
PTK	**Pertek**	**1.82**	**94**	*e*PG	**Pn**		**12 19 46.4**	**+1.2**
PTK	**Pertek**	**1.82**	**94**	*e*Pg	**Pn**		**12 19 46.4**	**+1.2**
KELT	**Kelkit**	**2.02**	**56**	*i* P	**Pn**		**12 19 47.6**	**-0.3**
KELT				*i* S	**Sn**		**12 20 11.3**	**-1.1**
KELT	**Kelkit**	**2.02**	**56**	*i* P	**Pn**		**12 19 47.6**	**-0.3**
KELT				*i* S	**Sn**		**12 20 11.3**	**-1.1**
CORM	**Corum**	**2.20**	**302**	*e*PG	**Pn**		**12 19 48.0**	**-2.4**
CORM	**Corum**	**2.20**	**302**	*e*Pg	**Pn**		**12 19 48.0**	**-2.4**

*IDC **29** 12:35:13.7±3.4, 44°.95N×148°.05E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/35, mbtmp3.7/7, Error ellipse: s-maj=91.9km s-min=33.1km az=179.0*
*ISCJB **29** 12:35:21.3±1.0, 44°.24N±0°.09×148°.0E±0°.1, h101km±5km, mb3.6/7, Error ellipse: s-maj=18.6km s-min=7.5km az=137.0*
*SKHL **29** 12:35:23.4±0.7, 44°.12N×148°.19E, h40km±4km, mb4.5/3*
*JMA **29** 12:35:24.1±0.3, 43°.93N×147°.96E, h88km, M3.5*

ISC 29 12:35:20.8±1.6, 44°.1N±0°.1×148°.1E±0°.1, h91km±10km, n28, σ1♀85/33, mb3.7/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.98**	**256**	*e*P	**Pn**		**12 35 41.3**	**+1.1**
SHO				AMB	AMB		12 35 41.5	
	120nm,0.3s							
SHO				*e*S	**Sn**		**12 35 54.2**	**-0.6**
SHO				A	A		12 35 54.9	
	110nm,0.2s							
KUR	**Kuril'sk**	**1.14**	**350**	*i* P	**Pn**		**12 35 42.2**	**+0.1**
KUR				AMB	AMB		12 35 42.5	
	180nm,0.3s							
KUR				*i* S	**Sn**		**12 35 56.2**	**-1.9**
KUR				A	A		12 35 57.0	
	730nm,0.4s							
KUR				A	A		12 35 57.0	
	650nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.64**	**268**	*i* P	**Pn**		**12 35 49.1**	**+0.7**
YUK				AMB	AMB		12 35 50.8	
	50nm,0.2s							
YUK				AMB	AMB		12 35 50.8	
	140nm,0.2s							
YUK				*i* S	**Sn**		**12 36 08.9**	**-0.4**
YUK				A	A		12 36 12.4	
	230nm,0.3s							
YUK				A	A		12 36 12.4	
	110nm,0.3s							
NEM2	**Nemuro 2**	**1.89**	**248**	P	**Pn**		**12 35 52.6**	**+1.0**
NEM2				*e*S	**Sn**		**12 36 14.3**	**-0.7**
JRA	**Rausu**	**2.18**	**266**	P	**Pn**		**12 35 57.0**	**+1.6**
JRA				*e*S	**Sn**		**12 36 22.6**	**+0.7**
JNK	**Nakash**	**2.53**	**259**	P	**Pn**		**12 36 01.6**	**+1.6**
JNK				*e*S	**Sn**		**12 36 29.7**	**-0.4**
JAK	**Akkeshi**	**2.74**	**247**	P	**Pn**		**12 36 04.0**	**+1.2**
JAK				*e*S	**Sn**		**12 36 34.3**	**-0.8**
JTKR	**Abashiri--Toko**	**3.06**	**269**	P	**Pn**		**12 36 08.5**	**+1.5**
JTKR				*e*S	**Sn**		**12 36 42.8**	**+0.1**
JAR	**Ashorobuto**	**3.27**	**257**	P	**Pn**		**12 36 12.2**	**+2.2**
JAR				*e*S	**Sn**		**12 36 48.5**	**+0.6**
JCH	**Churui**	**3.79**	**248**	P	**Pn**		**12 36 18.5**	**+1.5**
JCH				*e*S	**Sn**		**12 36 59.4**	**-1.1**
JNBK	**Urakawa-nobuka**	**4.34**	**247**	P	**Pn**		**12 36 25.6**	**+1.1**
JNBK				*e*S	**Sn**		**12 37 11.1**	**-2.8**
YSS	**Yuzh-Sakhalins**	**4.73**	**309**	*e*P	Pn		12 36 35.0	+5.3
JKB	**Kayabe**	**5.67**	**249**	P	**Pn**		**12 36 43.8**	**+1.4**
JKB				*e*S	**Sn**		**12 37 43.2**	**-2.9**
JOT	**Ohata**	**5.89**	**245**	*e*S	**Sn**		**12 37 47.2**	**-4.4**
JANG	**Nango**	**6.17**	**235**	*e*S	**Sn**		**12 37 54.4**	**-4.1**
H11N2	**WAKE ISLAND Hy**	**28.92**	**141**	T	T		13 12 11.3	
	baz=332,slow=76,SNR=44							
H11N1	**WAKE ISLAND Hy**	**28.93**	**141**	T	T		13 12 17.6	
	baz=332,slow=76,SNR=40							
H11N3	**WAKE ISLAND Hy**	**28.94**	**141**	T	T		13 12 18.2	
	baz=332,slow=76,SNR=38							
SONM	**Songino Array**	**28.99**	**292**	P	**P**		**12 41 13.1**	**+1.2**
	0.3nm,0.4s,baz=81,slow=9.2,SNR=2.8							
H11S1	**WAKE ISLAND Hy**	**29.91**	**143**	T	T		13 13 29.8	
	baz=333,slow=76,SNR=73							
H11S3	**WAKE ISLAND Hy**	**29.91**	**143**	T	T		13 13 28.2	
	baz=333,slow=76,SNR=32							
H11S2	**WAKE ISLAND Hy**	**29.93**	**143**	T	T		13 13 54.4	
	baz=333,slow=76,SNR=50							

ZALV	**Zalesovo Beam**	**41.35**	**307**	P	**P**		**12 42 54.5**	**-2.9**	
	0.4nm,0.4s,baz=72,slow=11,SNR=2.0								
MKAR	**Makanchi Array**	**45.05**	**298**	P	**P**		**12 43 27.2**	**-0.2**	
	1.2nm,0.7s,baz=81,slow=8.8,SNR=7.2								
ARCES	**ARCESS Array B**	**59.15**	**340**	P	**P**		**12 45 10.4**	**-1.1**	
	1.2nm,0.9s,baz=18,slow=8.9,SNR=3.2								
FINES	**FINESS Array B**	**64.87**	**333**	P	**P**		**12 45 48.9**	**-0.9**	
	0.5nm,0.5s,baz=33,slow=5.3,SNR=2.7								
NOA	**NORSAR Array B**	**69.52**	**339**	P	**P**		**12 46 19.2**	**-0.1**	
	0.8nm,0.8s,baz=32,slow=6.8,SNR=2.9								
TXAR	**Lajitas Array**	**81.85**	**57**	P	**P**		**12 47 32.6**	**+2.4**	
	0.2nm,0.5s,baz=299,slow=5.4,SNR=3.8								

*IDC **29** 12:44:24.4±2.5, 1°.48N×127°.24E, h70km±23km, mb3.8/11, mb1 3.9/13, mb1mx3.7/33, mbtmp4.1/13, Error ellipse: s-maj=21.3km s-min=13.0km az=68.0*
*ISCJB **29** 12:44:26.6±0.5, 1°.34N±0°.04×126°.86E±0°.05, h103km, mb4.0/11, Error ellipse: s-maj=6.8km s-min=6.3km az=165.9*
*DJA **29** 12:44:27.5±0.6, 1°.N±5°×12°.7E±°, h61km±8km, M4.2/9, mb4.4/6, mB4.7/2, MLv4.2/9, MLv4.2/9, Mw(mB)3.9/2*

ISC 29 12:44:27.9±0.6, 1°.36N±0°.06×126°.89E±0°.07, h103km, n39, σ1♀12/41, mb4.0/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.75**	**141**	P	Pn		12 44 40.9	-5.2
LBMI	**Labuha**	**2.07**	**163**	P	**Pn**		**12 44 59.8**	**-1.8**
KMSI	**Cibinong**	**3.01**	**255**	P	**Pn**		**12 45 12.9**	**-1.0**
SANI	**Sanana**	**3.50**	**195**	P	**Pn**		**12 45 19.5**	**-1.0**
SANI				S	**Sn**		**12 45 59.9**	**-1.3**
NLAI	**Namlea**	**4.57**	**177**	P	**Pn**		**12 45 34.9**	**0.0**
NLAI				S	**Sn**		**12 46 25.9**	**-1.0**
LUWI	**Luwuk**	**4.76**	**240**	P	**Pn**		**12 45 38.3**	**+0.9**
SIJI	**Sorong**	**4.90**	**117**	P	Pn		12 45 32.8	-6.6
	0.3nm,0.3s,baz=255,slow=20,SNR=1.9							
SIJI				S	Sn		12 46 25.4	-10
	0.2nm,0.3s,baz=142,slow=19,SNR=2.2							
MRSI	**Marisa**	**5.03**	**260**	P	**Pn**		**12 45 39.9**	**-1.2**
	45nm,0.6s,751nm0.2nm0.2nm							
APSI	**Ampana**	**5.71**	**247**	P	**Pn**		**12 45 50.7**	**+0.4**
	45nm,0.6s,671nm0.3nm0.3nm							
FAKI	**Fak Fak**	**6.84**	**128**	P	**Pn**		**12 46 06.9**	**+1.2**
	baz=5.5,SNR=7.2							
TTSI	**Tana Toraja**	**8.31**	**238**	P	**Pn**		**12 46 24.3**	**-1.4**
	21nm,0.6s							
SPSI	**Sidrap Palu**	**8.87**	**233**	P	**Pn**		**12 46 31.9**	**-1.4**
	14nm,0.8s							
BKSI	**Bulukumba**	**9.47**	**225**	P	**Pn**		**12 46 42.2**	**+0.7**
	8.9nm,0.9s							
KAPI	**Kappang**	**9.53**	**228**	P	**Pn**		**12 46 42.8**	**+0.5**
	1.0nm,0.3s,baz=115,slow=17,SNR=2.8							
KAPI				S	**Sn**		**12 48 26.0**	**-1.8**
	0.8nm,0.3s,baz=205,slow=19,SNR=2.3							
MTN	**Manton Dam**	**14.72**	**164**	P	**Pn**		**12 47 48.7**	**-2.4**
	baz=14,SNR=4.6							
KDU	**Kakadu**	**15.01**	**158**	P	**P**		**12 47 58.4**	**+0.7**
	baz=14,SNR=4.3							
KNRA	**Kununurra**	**17.03**	**174**	P	**Pn**		**12 48 19.6**	**-0.2**
	baz=16,SNR=18							
WRA	**Warramunga Arr**	**22.39**	**161**	P	**P**		**12 49 17.1**	**-1.0**
	6.8nm,0.5s,baz=338,slow=11,SNR=128							
QIS	**Mount Isa**	**25.09**	**151**	P	**P**		**12 49 43.9**	**+0.7**
	baz=24,SNR=13							
ASAR	**Alice Springs**	**25.79**	**165**	P	**P**		**12 49 49.4**	**-0.2**
	2.7nm,0.5s,baz=342,slow=7.5,SNR=101							
ASAR				PcP	**PcP**		**12 53 17.5**	**+0.7**
	0.4nm

JYAK	**Yakushimahirau**	**1.21**	**355**	P	**Pn**	**13 23 04.1**	**-0.1**
JYAK				S	**Sn**	**13 23 19.9**	**+0.4**
JTAJ	**Takarajima**	**1.25**	**276**	P	**Pn**	**13 23 04.5**	**-0.3**
JTAJ				S	**Sn**	**13 23 20.4**	**-0.2**
JAMN	**Amaminishikomi**	**1.50**	**239**	P	**Pn**	**13 23 08.3**	**+0.1**
JAMN				S	**Sn**	**13 23 27.1**	**+0.4**
JTN	**Tanegashima 3**	**1.65**	**11**	P	**Pn**	**13 23 10.2**	**-0.1**
JTN				S	**Sn**	**13 23 30.3**	**-0.1**
JTK	**Tokunoshima**	**1.93**	**230**	P	**Pn**	**13 23 14.2**	**+0.1**
JTK				S	**Sn**	**13 23 38.7**	**+1.4**
JTSR	**Tashiro 2**	**2.14**	**7**	P	**Pn**	**13 23 17.1**	**0.0**
JTSR				S	**Sn**	**13 23 42.7**	**0.0**
JOKE	**Okinoerabujima**	**2.46**	**228**	P	**Pn**	**13 23 21.5**	**0.0**
JOKE				S	**Sn**	**13 23 49.9**	**-0.6**
JSU	**Suzuyama**	**2.47**	**357**	P	**Pn**	**13 23 22.2**	**+0.6**
JSU				S	**Sn**	**13 23 50.3**	**-0.5**
JNAR	**Kushima--Naru**	**2.55**	**13**	P	**Pn**	**13 23 23.3**	**+0.7**
JNAR				S	**Sn**	**13 23 53.0**	**+0.4**
JNU	**Nakatsue**	**4.08**	**3**	Pn	**Pn**	**13 23 44.4**	**+0.6**
	0.6nm,0.3s,baz=183,slow=12,SNR=13						
JNU				Sn	**Sn**	**13 24 28.7**	**-1.9**
	1.2nm,0.3s,baz=270,slow=20,SNR=3.7						
JCJ	**Chichijima**	**10.39**	**98**	Pn	**Pn**	**13 25 10.1**	**-0.3**
	4.2nm,0.3s,baz=277,slow=21,SNR=8.4						
CMAR	**Chiang Mai Arr**	**30.76**	**257**	LR	LR	13 42 10.4	
	comp=Z,14nm,18.5s,baz=225,slow=38						
MKAR	**Makanchi Array**	**41.34**	**309**	P	**P**	**13 30 27.0**	**+0.5**
	0.3nm,0.8s,baz=98,slow=6.4,SNR=3.1						
KURBB	**Kurchatov Arra**	**44.37**	**314**	P	**P**	**13 30 49.8**	**-1.0**
	0.3nm,0.3s,baz=117,slow=9.7,SNR=3.5						
WRA	**Warramunga Ar**	**48.82**	**175**	P	**P**	**13 31 25.7**	**-0.3**
	0.5nm,0.6s,baz=354,slow=8.1,SNR=7.7						
ASAR	**Alice Springs**	**52.49**	**176**	P	**P**	**13 31 53.5**	**-0.2**
	0.3nm,0.5s,baz=12,slow=12,SNR=12						
BRTR	**Keskin Array B**	**76.98**	**308**	P	**P**	**13 34 34.0**	**+0.4**
	0.8nm,0.8s,baz=85,slow=4.9,SNR=3.9						
NVAR	**Mina Array Bea**	**87.04**	**47**	P	**P**	**13 35 26.9**	**+0.4**
	0.3nm,0.6s,baz=289,slow=5.6,SNR=3.2						

ISCJB ***29*** *13:24:52.2±0.7, 10.67N±0.07×62.50W±0.04, h95km±8km, Error ellipse: s-maj=11.7km s-min=5.1km az=160.1*
FUNV ***29*** *13:24:54.0, 10.66N×62.43W, h87km, MW3.5*
TRN ***29*** *13:24:54.7, 10.71N×62.38W, h91km, MD3.4*

ISC 29 13:24:52.1±1.4, 10.65N±0.07×62.48W±0.04, h99km±10km, n16, σ1§41/26, 1C-2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.25**	**91**	*i* P	**Pn**	**13 25 06.4**	**+0.1**
GUIV				*e*S	**Sn**	**13 25 15.2**	**-1.8**
GUNV	**Guanoco**	**0.67**	**223**	*e*P	**Pn**	**13 25 10.4**	**+1.3**
GUNV				*e*S	**Sn**	**13 25 22.4**	**+0.5**
TCE	**Chacachacare**	**0.71**	**86**	*e*P	**Pn**	**13 25 11.0**	**+1.5**
TCE				*e*S	**Sn**	**13 25 22.2**	**-0.5**
CRUV	**Carupano**	**0.74**	**272**	*i* P	**Pn**	**13 25 10.0**	**+0.2**
TRN	**Trinidad (W)**	**1.06**	**90**	*i* P	**Pn**	**13 25 14.4**	**+1.3**
TRN				*e*S	**Sn**	**13 25 27.8**	**-1.1**
GRGR	**Grenville**	**1.68**	**29**	*e*P	**Pn**	**13 25 21.3**	**+0.7**
GRGR				*e*S	**Sn**	**13 25 41.7**	**-0.5**
ORIV	**Oritupano**	**1.82**	**210**	*e*P	**Pn**	**13 25 24.1**	**+1.7**
TOSP	**Speyside**	**2.01**	**71**	*e*P	**Pn**	**13 25 25.6**	**+0.7**
TOSP				*e*S	**Sn**	**13 25 49.0**	**-0.8**
PCRV	**Puerto La Cruz**	**2.17**	**258**	*e*P	**Pn**	**13 25 28.3**	**+1.4**
PCRV				*e*S	**Sn**	**13 25 52.3**	**-1.3**
PRGV	**PARIAGUAN**	**2.84**	**229**	*e*P	**Pn**	**13 25 36.8**	**+0.9**
CUPV	**Cœpira**	**3.31**	**260**	*e*P	**Pn**	**13 25 43.8**	**+1.7**
CUPV				*e*S	**Sn**	**13 26 20.6**	**0.0**
BIRV	**Birongo**	**3.73**	**268**	*e*P	**Pn**	**13 25 49.8**	**+2.1**
BIRV				*e*S	**Sn**	**13 26 29.7**	**-1.0**
MERV	**Las Mercedes**	**4.01**	**250**	*e*P	**Pn**	**13 25 52.4**	**+1.0**
LUEV	**Luepa**	**4.88**	**168**	*e*P	**Pn**	**13 26 03.4**	**0.0**
TURV	**Turiamo**	**5.28**	**268**	*e*P	**Pn**	**13 26 09.5**	**+0.9**
BAUV	**El Baul**	**5.74**	**253**	*e*P	**Pn**	**13 26 15.1**	**+0.2**
BAUV				*e*S	**Sn**	**13 27 15.7**	**-3.7**

IDC ***29*** *13:31:54.7±1.1, 12.84N×124.79E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.3/40, mbtmp3.5/5, MS3.0/3, Ms1 3.0/3, ms1mx2.4/28, Error ellipse: s-maj=77.0km s-min=19.2km az=74.0*
ISCJB ***29*** *13:31:58.8±0.8, 12.91N±0.08×124.8E±0.2, h44km, mb3.4/5, MS3.3/2, Error ellipse: s-maj=25.7km s-min=6.7km az=157.9*

ISC 29 13:32:00.4±1.1, 12.9N±0.1×124.6E±0.4, h44km, n12, σ1§50/9, mb3.4/5, 1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**0.85**	**327**	*i* P	**Pn**	**13 32 14.0**	**-2.0**
PVCP				*i* S	**Sn**	**13 32 28.5**	**+1.1**
PLP	**Palo**	**1.73**	**169**	*e*P	**Pn**	**13 32 27.5**	**-0.6**
PLP				*e*S	**Sn**	**13 32 49.1**	**+0.1**
GUMO	**Guam**	**19.71**	**86**	LR	LR	13 43 31.6	
	comp=Z,11nm,18.2s,baz=151,slow=36						
KSRS	**Korea Array**	**24.65**	**6**	P	**P**	**13 37 17.3**	**+0.4**
	0.5nm,0.6s,baz=178,slow=10,SNR=3.6						
KSRS				LR	LR	13 46 09.7	
	comp=Z,22nm,21.2s,baz=207,slow=35						
WRA	**Warramunga Arr**	**33.98**	**164**	P	**P**	**13 38 39.1**	**-0.9**
	0.2nm,0.7s,baz=344,slow=8.9,SNR=4.7						
ASAR	**Alice Springs**	**37.43**	**166**	P	**P**	**13 39 09.5**	**-0.1**
	0.3nm,0.5s,baz=342,slow=6.8,SNR=13						
H11N1	**WAKE ISLAND Hy**	**41.04**	**75**	T	T	14 23 27.1	
	baz=271						
H11N2	**WAKE ISLAND Hy**	**41.04**	**75**	T	T	14 23 29.6	
	baz=271						
H11N3	**WAKE ISLAND Hy**	**41.05**	**75**	T	T	14 23 28.5	
	baz=271						
ZALV	**Zalesovo Beam**	**51.58**	**331**	P	**P**	**13 41 01.9**	**-0.2**
	0.3nm,0.3s,baz=116,slow=6.6,SNR=2.6						
KURBB	**Kurchatov Arra**	**53.03**	**325**	P	**P**	**13 41 15.5**	**+2.6**
	0.6nm,0.7s,baz=123,slow=7.8,SNR=5.8						
RAO	**Raoul Island**	**69.46**	**128**	LR	LR	14 09 43.5	
	comp=Z,73nm,19.2s,baz=16,slow=33						

ISCJB ***29*** *13:32:23.9±0.6, 22.16S±0.06×68.53W±0.08, h115km, mb4.4/9, Error ellipse: s-maj=10.5km s-min=8.3km az=155.7*
IDC ***29*** *13:32:24.0±0.5, 22.26S×68.36W, h97km±6km, mb4.2/9, mb1 4.1/12, mb1mx3.9/26, mbtmp4.4/12, Error ellipse: s-maj=22.4km s-min=14.0km az=123.0*
SJA ***29*** *13:32:24.2±0.4, 22.35S×68.70W, h119km±4km, ML3.0*

ISC 29 13:32:24.9±0.6, 22.27S±0.07×68.69W±0.06, h115km, n32, σ1§25/35, mb4.3/9, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.40**	**211**	P	**Pn**	**13 32 42.2**	**+0.2**
	75μm,0.3s,baz=44,slow=7.4						
LVC				S	**Sn**	**13 32 54.6**	**-0.3**
	68μm,0.3s,baz=301,slow=23,SNR=25						
LVC	**Limon Verde**	**0.40**	**211**	*i* P	**Pn**	**13 32 42.2**	**+0.2**
LVC				*i* S	**Sn**	**13 32 55.3**	**+0.4**
YJA	**Yavi**	**2.94**	**89**	*i* P	**Pn**	**13 33 11.9**	**+1.2**
YJA				*i* S	**Sn**	**13 33 47.7**	**+1.7**
HJA	**Humahuaca**	**3.17**	**108**	*i* P	**Pn**	**13 33 14.8**	**+1.1**
HJA				*i* P	**Pn**	**13 33 14.8**	**+1.1**
SLA	**San Lorenzo**	**3.81**	**130**	*i* P	**Pn**	**13 33 22.3**	**+0.3**
SLA				*i* S	**Sn**	**13 34 05.0**	**-1.1**
SLA				AML	AML	13 34 15.8	
	comp=Z,22nm,0.6s						
AZAP	**Zapla**	**3.86**	**121**	*i* P	**Pn**	**13 33 23.1**	**+0.4**
ASTB	**Santa Barbara**	**4.22**	**114**	*i* P	**Pn**	**13 33 27.9**	**+0.4**
LPAZ	**La Paz**	**5.97**	**5**	P	**Pn**	**13 33 51.8**	**+0.2**
	comp=Z,3.5nm,0.3s,baz=189,slow=6.4,SNR=80						
CFAA	**Coronel Fontan**	**9.31**	**178**	P	**Pn**	**13 34 33.6**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=351,slow=13,SNR=12						
CFAA				S	Sn	13 36 11.9	-7.1
	comp=Z,0.4nm,0.3s,baz=255,slow=18,SNR=5.8						
SIV	**San Ignacio**	**9.53**	**50**	P	Pn	13 34 34.6	-4.5
	comp=Z,4.5nm,0.3s,baz=249,slow=9.0,SNR=54						
SIV				S	Sn	13 36 13.0	-12
	comp=Z,1.2nm,0.3s,baz=136,slow=22,SNR=9.6						
CPUP	**Villa Florida**	**11.12**	**114**	P	Pn	13 34 56.5	-4.0
	comp=Z,0.2nm,0.3s,baz=270,slow=13,SNR=4.2						
BDFB	**Brasilia**	**20.62**	**75**	P	**P**	**13 36 52.8**	**-2.7**
	comp=Z,6.1nm,0.6s,baz=238,slow=18,SNR=6.1						
PTGA	**Pitinga**	**23.03**	**23**	P	**P**	**13 37 18.9**	**-1.4**
	comp=Z,3.5nm,0.3s,baz=336,slow=22,SNR=7.0						
RCBR	**Riachuelo**	**35.63**	**68**	P	**P**	**13 39 11.0**	**-1.0**
	comp=Z,15nm,0.6s,baz=226,slow=10.0,SNR=9.9						
TXAR	**Lajitas Array**	**61.37**	**325**	pP	pP	13 42 57.4	+0.5
	comp=Z,0.4nm,0.6s,baz=151,slow=8.5,SNR=5.2						
SNAA	**Sanae**	**61.49**	**161**	P	**P**	**13 42 30.1**	**+1.0**
QSPA	**South Pole Qui**	**67.93**	**180**	P	**P**	**13 43 13.1**	**+2.0**
	comp=Z,1.6nm,0.6s,baz=326,slow=1.6,SNR=22						
TIC	**Toumodi**	**68.60**	**73**	*e*P	**P**	**13 43 15.0**	**-1.0**
KIC	**Kosan Boka**	**68.72**	**73**	*e*P	**P**	**13 43 15.6**	**-1.1**
	comp=Z,28nm,1.0s						
DBIC	**Dimbokro**	**68.76**	**73**	P	**P**	**13 43 16.3**	**-0.6**
	comp=Z,10nm,0.7s,baz=222,slow=7.4,SNR=10						
PDAR	**Pinedale Array**	**74.87**	**330**	pP	pP	13 44 22.2	0.0
	comp=Z,0.4nm,0.5s,baz=123,slow=5.5,SNR=2.8						
NVAR	**Mina Array Bea**	**76.22**	**322**	pP	pP	13 44 30.9	+0.9
	comp=Z,0.3nm,0.6s,baz=152,slow=5.6,SNR=2.3						
TOA0	**Torodi Ar. Sit**	**77.42**	**70**	*e*P	**P**	**13 44 07.0**	**-0.9**
TORD	**Torodi Ar. Bea**	**77.42**	**70**	P	**P**	**13 44 07.1**	**-0.8**
	comp=Z,2.6nm,0.3s,baz=260,slow=5.8,SNR=39						
TORD				pP	**pP**	**13 44 34.8**	**-2.2**
	comp=Z,1.7nm,0.7s,baz=248,slow=5.5,SNR=2.5						
BOSA	**Boshof**	**82.91**	**118**	P	**P**	**13 44 36.9**	**-0.5**
	comp=Z,4.1nm,0.9s,baz=171,slow=3.2,SNR=3.2						
MAW	**Mawson**	**83.54**	**163**	P	**P**	**13 44 40.1**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=176,slow=0.9,SNR=4.2						
YKA	**Yellowknife Ar**	**91.97**	**341**	P	**P**	**13 45 21.2**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=134,slow=4.4,SNR=3.9						
YKA				pP	**pP**	**13 45 49.9**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=136,slow=4.5,SNR=5.3						
ASAR	**Alice Springs**	**129.33**	**207**	PKP	**PKPdf**	**13 51 21.6**	**+1.0**
	comp=Z,0.2nm,0.9s,baz=132,slow=1.8,SNR=2.9						
WRA	**Warramunga Arr**	**132.40**	**210**	PKP	**PKPdf**	**13 51 28.4**	**+2.0**
	comp=Z,0.3nm,0.8s,baz=155,slow=1.6,SNR=4.6						
ZALV	**Zalesovo Beam**	**142.56**	**26**	PKP	**PKPdf**	**13 51 45.2**	**+1.2**
	comp=Z,1.1nm,0.5s,baz=294,slow=2.9,SNR=5.5						
MKAR	**Makanchi Array**	**146.13**	**37**	PKPbc	**PKPbc**	**13 51 51.5**	**-0.1**
	comp=Z,3.4nm,0.8s,baz=322,slow=3.2,SNR=23						
HHC	**Hu-ho-hao-te**	**161.47**	**359**	*e*PKP	**PKPdf**	**13 52 13.8**	**+1.5**
HHC				PKS	**PKSdf**	**13 55 45.8**	**+0.2**
HHC				PP	PP	13 56 45.5	+5.7

IDC 29 13:40:59.9±3.0, 6.61N×123.50E, h686km±55km, mb3.1/5, mb1 3.2/5, mb1mx2.6/45, mbtmp4.3/5, Error ellipse: s-maj=187.2km s-min=9.9km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.46**	**158**	P	P	13 46 03.9	-0.7
	3.8nm,0.5s,baz=337,slow=8.3,SNR=92						
WRA				S	S	13 50 06.7	-1.3
	0.5nm,1.1s,baz=325,slow=16,SNR=2.9						
ASAR	**Alice Springs**	**31.76**	**162**	P	P	13 46 33.1	+0.5
	2.9nm,0.3s,baz=342,slow=7.2,SNR=225						
ASAR				S	S	13 51 00.1	+1.9
	0.3nm,0.8s,baz=349,slow=19,SNR=3.8						
STKA	**Stephens Creek**	**41.98**	**157**	P	P	13 47 56.0	+1.0
	1.0nm,0.3s,baz=331,slow=8.1,SNR=4.8						
MKAR	**Makanchi Array**	**53.38**	**326**	P	P	13 49 18.9	0.0
	0.7nm,0.3s,baz=120,slow=7.6,SNR=12						
KURBB	**Kurchatov Arra**	**57.60**	**328**	P	P	13 49 47.6	-0.1
	0.9nm,0.5s,baz=131,slow=6.0,SNR=12						

MEX 29 13:48:57.8±0.5, 16.21N×98.47W, h13km±10km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.37**	**60**	*i* P	Pg	13 49 04.7	-0.7
PNIG				*e*S	Sg	13 49 10.1	-0.4
TLIG	**Tlapa**	**1.35**	**356**	*e*P	Pn	13 49 18.6	-4.0
TLIG				*i* S	Sn	13 49 35.2	-5.3
VHO	**Vista Hermosa**	**1.87**	**62**	*i* P	Pn	13 49 26.2	-3.6
VHO				*i* S	Sn	13 49 48.0	-5.5
CAIG	**El Cayaco**	**1.92**	**296**	*i* P	Pn	13 49 27.7	-2.5
CAIG				*i* S	Sn	13 49 49.8	-4.4
PLIG	**Platanillo**	**2.39**	**336**	*i* P	Pn	13 49 34.1	-2.7
PLIG				*i* S	Sn	13 50 01.3	-4.7

IDC 29 13:55:20.5±52.0, 23.02S×177.03W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/33, mbtmp3.9/3, Error ellipse: s-maj=951.6km s-min=165.6km az=87.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.58**	**247**	P	P	14 02 36.0	-0.8
	1.7nm,0.9s,baz=112,slow=19,SNR=2.9						
ASAR	**Alice Springs**	**44.88**	**259**	P	P	14 03 36.6	-0.4
	0.9nm,0.8s,baz=97,slow=7.3,SNR=12						
WRA	**Warramunga Arr**	**45.20**	**264**	P	P	14 03 40.1	+0.5
	1.0nm,0.4s,baz=101,slow=8.3,SNR=43						

IDC ***29*** *13:59:12.2±0.4, 15.60S×173.00W, h0km, mb4.5/17, mb1 4.7/19, mb1mx4.5/38, mbtmp4.6/19, ML4.3/2, MS3.7/11, Ms1 3.7/11, ms1mx3.6/18, Error ellipse: s-maj=20.6km s-min=12.2km az=125.0*
ISCJB ***29*** *13:59:15.7±0.2, 15.61S±0.05×172.81W±0.06, h29km, mb4.7/70, MS3.8/10, Error ellipse: s-maj=10.1km s-min=5.3km az=33.6*
MOS ***29*** *13:59:16.6±0.9, 15.59S×172.73W, h33km, mb4.8/28, Error ellipse: s-maj=14.3km s-min=9.8km az=61.3*
GCMT ***29*** *13:59:16.2±0.5, 15.53S×172.80W, h28km±3km, MW5.0/66, Moment Tensor Solution. s20,c25; s66,c102; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.94±.29; Mθθ 1.68±.18; Mϕϕ-0.73±.19; Mrθ-2.25±.53; Mrϕ 0.65±.14; Mθϕ 2.99±.63; Best double couple: M0 3.92700×10^16 NP1: ϕs 133.00000°, δ86.00000°, λ-71.00000°. NP2: ϕs 234.00000°, δ20.00000°, λ-168.00000°. Principal axes: T 3.3150, Plg38.0000°, Azm206.0000°; N 1.2240, Plg19.0000°, Azm311.0000°; P -4.5400, Plg46.0000°, Azm62.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***29*** *13:59:16.2±2.6, 15.60S×172.98W, h26km±17km, mb4.8/54 Error ellipse: s-maj=9.7km s-min=4.2km az=126.0*
NEIC Felt at Apia.
BJI ***29*** *13:59:19.8, 15.60S×172.70W, h64km, mb4.9/18, mB5.3/12, Ms5.2/6, Ms7 5.0/6*

ISC 29 13:59:16.7±0.3, 15.62S±0.06×172.85W±0.07, h29km, n200, σ1§14/187, mb4.8/70, MS3.8/10, 7C-5D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.99**	**31**	Pn	**Pn**	**13 59 48.4**	**-0.1**
	530nm,0.3s,baz=210,slow=2.8,SNR=1137						
AFI				Sn	**Sn**	**14 00 09.6**	**-2.9**
	1μm,0.3s,baz=240,slow=22,SNR=18						
AFI	**Afiamalu**	**1.99**	**31**	P	**Pn**	**13 59 48.4**	**-0.1**
AFI						14 00 09.6	
AFI				pmax	pmax		
	comp=Z,530nm,0.3s						
RAR	**Rarotonga**	**13.60**	**116**	Pn	**Pn**	**14 02 27.4**	**-0.3**
	comp=Z,2.3nm,0.3s,baz=235,slow=6.6,SNR=8.7						
RAR				Sn	Sn	14 04 47.7	-10
	comp=Z,0.5nm,0.3s,baz=119,slow=19,SNR=2.2						
RAR				LR	LR	14 06 55.7	
	comp=Z,63nm,20.1s,baz=293,slow=34						
RAR	**Rarotonga**	**13.60**	**116**	*e*Pn	**Pn**	**14 02 28.2**	**+0.5**
RAR				Sn	Sn	14 04 47.7	-10
RAO	**Raoul Island**	**14.35**	**198**	*e*Sn	**Sn**	**14 05 13.4**	**-2.9**
DZM	**Mont Dzumac**	**20.61**	**249**	P	**P**	**14 03 52.5**	**-1.5**
	comp=Z,8.7nm,0.9s,baz=90,slow=24,SNR=9.4						
PAE	**Paea**	**22.38**	**98**	*e*T	T	14 27 13.7	
	comp=Z,3.9nm,0.3s						
PPT	**Papeete**	**22.38**	**98**	LR	LR	14 10 40.0	
	comp=Z,40nm,19.2s,baz=272,slow=30						
PPT2	**Papeete2**	**22.38**	**98**	*e*LQ	LQ	14 08 26.6	
	comp=Z,586nm,34.5s						
PPT2				*e*LR	LR	14 09 27.0	
	comp=Z,495nm,27.8s,baz=260						
PPT2	**Papeete2**	**22.38**	**98**	*e*T	T	14 27 14.8	
	comp=Z,7.2nm,0.4s						
TIAR	**Tiarei**	**22.60**	**98**	*e*T	T	14 27 30.4	
	comp=Z,4.2nm,0.4s						
TVO	**Taravao**	**22.70**	**99**	*e*T	T	14 27 37.7	
	comp=Z,2.0nm,0.3s						
OUZ	**Omahuta**	**23.00**	**209**	*e*P	**P**	**14 04 22.2**	**+3.0**
	comp=Z,53nm,0.9s						
TBI	**Tubuai**	**23.33**	**113**	*e*LQ	LQ	14 09 00.3	
	comp=Z,349nm,29.5s						
TBI				*e*LR	LR	14 09 57.5	
	comp=Z,335nm,29.8s						
TBI	**Tubuai**	**23.33**	**113**	*e*T	T	14 28 27.7	
	comp=Z,13nm,0.3s						
PMOR	**Pomariorio Ree**	**24.07**	**92**	*e*T	T	14 29 19.0	
	comp=Z,3.6nm,0.3s						
URZ	**Urewera**	**24.23**	**200**	P	**P**	**14 04 31.2**	**+0.1**
	comp=Z,19nm,0.3s,baz=303,slow=2.4,SNR=34						
URZ				S	**S**	**14 08 47.6**	**-0.3**
	comp=Z,5.8nm,0.5s,baz=68,slow=23,SNR=9.3						
URZ				LR	LR	14 12 48.6	
	comp=Z,373nm,21.1s,baz=34,slow=34						
URZ	**Urewera**	**24.23**	**200**	*e*P	**P**	**14 04 31.5**	**+0.4**
	comp=Z,41nm,0.6s						
URZ				S	**S**	**14 08 47.6**	**-0.3**
BKZ	**Black Stump Fm**	**25.26**	**200**	*e*P	**P**	**14 04 41.8**	**+1.4**
	comp=Z,216nm,2.4s						
HNR	**Honiara**	**27.24**	**280**	LR	LR	14 14 13.5	
	comp=Z,226nm,20.4s,baz=131,slow=33						
RPZ	**Rata Peaks**	**31.18**	**203**	P	**P**	**14 05 32.1**	**-1.3**
	comp=Z,7.5nm,0.7s,baz=349,slow=10,SNR=2.8						
TAOE	**Nuku Hiva Isla**	**32.62**	**82**	*e*T	T	14 39 58.2	
	comp=Z,162nm,0.3s						
DCZ	**Deep Cove**	**34.19**	**205**	*e*P	**P**	**14 06 00.1**	**+0.5**
	comp=Z,26nm,0.8s						
WHZ	**Wether Hill Ro**	**34.21**	**204**	*e*P	**P**	**14 06 01.3**	**+1.5**
	comp=Z,59nm,0.8s						
RKT	**Rikitea**	**36.42**	**108**	*e*LR	LR	14 15 43.7	
	comp=Z,218nm,31.5s,baz=279						
RKT	**Rikitea**	**36.42**	**108**	*e*T	T	14 44 47.5	
	comp=Z,4.9nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**39.42**	**329**	T	T	14 47 31.1	
	baz=147,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy**	**39.44**	**329**	T	T	14 47 11.1	
	baz=147,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**39.44**	**329**	T	T	14 47 10.0	
	baz=147,slow=76,SNR=15						
PMG	**Port Moresby**	**39.48**	**274**	*e*P	**P**	**14 06 47.8**	**+2.8**
PMG				pmax	pmax		
	comp=Z,123nm,1.2s						
H11N3	**WAKE ISLAND Hy**	**40.36**	**330**	T	T	14 49 28.8	
	baz=149,slow=76,SNR=41						
H11N1	**WAKE ISLAND Hy**	**40.37**	**330**	T	T	14 49 29.1	
	baz=149,slow=76,SNR=8.7						
H11N2	**WAKE ISLAND Hy**	**40.38**	**330**	T	T	14 49 30.2	
	baz=149,slow=76,SNR=38						
STKA	**Stephens Creek**	**44.39**	**240**	P	**P**	**14 07 23.4**	**-1.6**
	comp=Z,6.9nm,0.6s,baz=90,slow=9.2,SNR=32						
STKA				LR	LR	14 23 16.5	
	comp=Z,114nm,21.4s,baz=34,slow=33						
WRA	**Warramunga Arr**	**50.31**	**257**	P	**P**	**14 08 08.7**	**-2.6**
	comp=Z,1.4nm,0.6s,baz=91,slow=6.7,SNR=35						
WRA				PcP	**PcP**	**14 09 29.7**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=91,slow=3.6,SNR=6.6						
WRA				LR	LR	14 28 00.0	
	comp=Z,111nm,19.7s,baz=110,slow=34						
WRA	**Warramunga Arr**	**50.31**	**257**	P	**P**	**14 08 08.7**	**-2.6**
WRA						14 09 29.7	
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ASAR	**Alice Springs**	**50.55**	**252**	P	**P**	**14 08 10.9**	**-2.1**
	comp=Z,12nm,0.6s,baz=86,slow=7.9,SNR=200						
ASAR				LR	LR	14 28 00.4	
	comp=Z,215nm,21.3s,baz=124,slow=34						
SBA	**Scott Base**	**63.08**	**185**	*e*P	**P**	**14 09 43.7**	**+2.7**
SBA				pmax	pmax		
	comp=Z,20nm,0.9s						
SBA	**Scott Base**	**63.08**	**185**	*e*P	**P**	**14 09 43.7**	**+2.7**
	comp=Z,20nm,0.9s						
VNDA	**Vanda**	**63.22**	**186**	P	**P**	**14 09 42.4**	**+0.5**
	comp=Z,9.3nm,0.9s,baz=10.0,slow=6.5,SNR=46						
VNDA				LR	LR	14 34 44.5	
	comp=Z,27nm,18.3s,baz=307,slow=34						
CASY	**Casey**	**70.43**	**205**	*e*P	**P**	**14 10 28.1**	**+0.1**
	comp=Z,18nm,1.0s						
CMB	**Columbia Colle**	**72.58**	**41**	*e*P	**P**	**14 10 42.1**	**+0.7**
CMB				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CMB	**Columbia Colle**	**72.58**	**41**	*e*P	**P**	**14 10 42.1**	**+0.7**
	comp=Z,7.2nm,1.0s						
WDC	**Whiskeytown Da**	**72.82**	**38**	*e*P	**P**	**14 10 42.9**	**+0.1**
WDC				pmax	pmax		
	comp=Z,8.0nm,1.3s						
WDC	**Whiskeytown Da**	**72.82**	**38**	*e*P	**P**	**14 10 42.9**	**+0.1**
	comp=Z,7.7nm,1.3s						
PETK	**Petropavlovsk-**	**73.00**	**342**	P	**P**	**14 10 44.1**	**+0.6**
	comp=Z,0.9nm,0.5s,

ELK						pmax		pmax			
	comp=Z,8.0nm,1.3s										
ELK	**Elko**	**77.39**	**41**	*eP*		**P**			**14 11 09.4**	**-0.1**	
	comp=Z,7.6nm,1.3s										
KSM	**Kuching**	**77.74**	**275**	*eP*		**P**			**14 11 11.7**	**0.0**	
	comp=Z,11nm,1.0s										
G08A	**Pilot Rock**	**77.80**	**36**	*eP*		**P**			**14 11 12.1**	**+0.6**	
	comp=Z,13nm,1.1s										
MFID	**Camas Ranch**	**78.52**	**39**	*eP*		**P**			**14 11 15.5**	**0.0**	
	comp=Z,7.4nm,1.0s										
D08A	**Wollman Farm,**	**78.89**	**34**	*eP*		**P**			**14 11 18.1**	**+0.8**	
	comp=Z,11nm,1.0s										
BGU	**Big Grassy Mou**	**78.90**	**42**	*eP*		**P**			**14 11 18.6**	**+0.9**	
	comp=Z,19nm,2.1s										
E09A	**Wood Farm, Sta**	**78.99**	**35**	*eP*		**P**			**14 11 18.4**	**+0.6**	
	comp=Z,12nm,1.3s										
F10A	**Beach Ranch, E**	**79.18**	**36**	*eP*		**P**			**14 11 19.2**	**+0.2**	
	comp=Z,10nm,1.0s										
TMUT	**Trail Mountain**	**79.26**	**44**	*eP*		**P**			**14 11 20.8**	**+0.9**	
	comp=Z,17nm,1.0s										
HLID	**Hailey**	**79.46**	**39**	*eP*		**P**			**14 11 20.9**	**+0.2**	
	comp=Z,9.0nm,1.0s										
B08A	**Colville Reser**	**79.47**	**33**	*eP*		**P**			**14 11 20.7**	**+0.2**	
	comp=Z,16nm,1.6s										
HVU	**Hansel Valley**	**79.52**	**41**	*eP*		**P**			**14 11 21.5**	**+0.4**	
HVU						pmax		pmax			
	comp=Z,27nm,1.9s										
HVU	**Hansel Valley**	**79.52**	**41**	*eP*		**P**			**14 11 21.5**	**+0.4**	
	comp=Z,26nm,1.9s										
MDJ	**Mudanjiang**	**79.52**	**322**	P		**P**			**14 11 23.3**	**+2.5**	
MDJ				S		**S**			**14 21 18.8**	**-1.7**	
MDJ				PMZ							
	comp=Z,11nm,2.4s										
MDJ				PMZ							
	comp=Z,57nm,3.1s										
SRU	**San Rafael**	**79.62**	**44**	*eP*		**P**			**14 11 21.7**	**0.0**	
SRU				pmax		pmax					
	comp=Z,9.0nm,1.0s										
SRU	**San Rafael**	**79.62**	**44**	*eP*		**P**			**14 11 21.7**	**0.0**	
	comp=Z,8.8nm,1.0s										
C09A	**Chrisman Ranch**	**79.69**	**34**	*eP*		**P**			**14 11 22.1**	**+0.4**	
	comp=Z,26nm,1.7s										
LAZ	**Ladron**	**79.79**	**50**	*eP*		**P**			**14 11 23.7**	**+0.9**	
PV09	**Paradox Valley**	**80.27**	**46**	*eP*		**P**			**14 11 26.2**	**+0.8**	
PV10	**Paradox Valley**	**80.28**	**46**	*eP*		**P**			**14 11 25.7**	**+0.3**	
TXAR	**Lajitas Array**	**80.29**	**56**	P		**P**			**14 11 25.5**	**0.0**	
	comp=Z,3.5nm,1.1s,baz=226,slow=6.5,SNR=22										
TXAR	**Lajitas Array**	**80.29**	**56**	P		**P**			**14 11 25.5**	**0.0**	
TXAR				pmax		pmax					
	comp=Z,4.0nm,1.1s										
PV04	**Paradox Valley**	**80.38**	**46**	*eP*		**P**			**14 11 26.4**	**+0.6**	
PV01	**Paradox Valley**	**80.49**	**46**	*eP*		**P**			**14 11 27.4**	**+0.9**	
ANMO	**Albuquerque**	**80.53**	**50**	*eP*		**P**			**14 11 25.5**	**-1.3**	
ANMO				pmax		pmax					
	comp=Z,6.0nm,1.3s										
ANMO	**Albuquerque**	**80.53**	**50**	*eP*		**P**			**14 11 25.5**	**-1.3**	
	comp=Z,5.9nm,1.3s										
NJ2	**Nanjing**	**80.72**	**307**	*eP*		**P**			**14 11 29.0**	**+1.5**	
NJ2				PMZ							
	comp=Z,10.0nm,0.7s										
RND	**Reindeer**	**80.95**	**11**	*eP*		**P**			**14 11 28.6**	**+0.4**	
RND				pmax		pmax					
	comp=Z,25nm,1.6s										
RND	**Reindeer**	**80.95**	**11**	*eP*		**P**			**14 11 28.6**	**+0.4**	
	comp=Z,24nm,1.6s										
MCMT	**McKenzie Canyo**	**81.09**	**39**	*eP*		**P**			**14 11 30.4**	**+0.8**	
REDW	**Red Top Meadow**	**81.55**	**41**	*eP*		**P**			**14 11 30.6**	**-1.4**	
	comp=Z,7.8nm,1.2s										
TPAW	**Teton Pass**	**81.55**	**40**	*eP*		**P**			**14 11 31.9**	**-0.2**	
	comp=Z,6.3nm,0.9s										
FXWY	**Fox Creek**	**81.58**	**40**	*eP*		**P**			**14 11 31.2**	**-1.0**	
	comp=Z,7.2nm,1.2s										
BSMT	**Bassoo Peak**	**81.63**	**35**	*eP*		**P**			**14 11 32.4**	**+0.1**	
IMW	**Indian Meadow**	**81.77**	**40**	*eP*		**P**			**14 11 34.1**	**+0.9**	
	comp=Z,16nm,1.5s										
MOOW	**Moose Ponds**	**81.81**	**40**	*eP*		**P**			**14 11 33.9**	**+0.5**	
	comp=Z,6.9nm,1.5s										
CHMT	**Chamberlain Mo**	**81.98**	**37**	*eP*		**P**			**14 11 34.4**	**+0.2**	
FLWY	**Flagg Ranch**	**82.01**	**40**	*eP*		**P**			**14 11 35.2**	**+0.8**	
	comp=Z,27nm,1.5s										
WRH	**Wood River Hil**	**82.07**	**11**	*eP*		**P**			**14 11 33.5**	**-0.5**	
	comp=Z,13nm,1.1s										
BW06	**Boulder Array**	**82.07**	**42**	*eP*		**P**			**14 11 34.5**	**-0.3**	
	comp=Z,3.2nm,0.6s										
PDAR	**Pinedale Array**	**82.07**	**42**	P		**P**			**14 11 35.0**	**+0.2**	
	comp=Z,1.9nm,0.9s,baz=228,slow=1.8,SNR=15										
SMCO	**Snowmass**	**82.08**	**46**	*eP*		**P**			**14 11 36.3**	**+1.2**	
	comp=Z,7.7nm,1.0s										
CCB	**Clear Creek Bu**	**82.28**	**11**	*eP*		**P**			**14 11 34.7**	**-0.4**	
	comp=Z,10nm,1.0s										
SDCO	**Great Sand Dun**	**82.47**	**48**	*eP*		**P**			**14 11 37.6**	**+0.5**	
	comp=Z,4.0nm,1.1s										
COLA	**College**	**82.48**	**10**	*eP*		**P**			**14 11 35.8**	**-0.2**	
COLA				pmax		pmax					
	comp=Z,10.0nm,0.8s										
ILAR	**Eielson Array**	**82.56**	**11**	P		**P**			**14 11 36.0**	**-0.5**	
	comp=Z,0.8nm,0.6s,baz=228,slow=6.3,SNR=27										
ILAR	**Eielson Array**	**82.56**	**11**	P		**P**			**14 11 36.0**	**-0.5**	
ILAR				pmax		pmax					
	comp=Z,1.0nm,0.6s										
HRY	**Holter Researc**	**82.69**	**37**	*eP*		**P**			**14 11 38.6**	**+0.8**	
SEY	**Seymchan**	**82.87**	**345**	*eP*		**P**			**14 11 37.7**	**-0.4**	
DAWY	**Dawson**	**83.50**	**14**	*eP*		**P**			**14 11 43.1**	**+1.6**	
GCMT	**Greycliff**	**83.51**	**39**	*eP*		**P**			**14 11 43.2**	**+1.2**	
N23A	**Red Feather La**	**83.56**	**45**	*eP*		**P**			**14 11 43.0**	**+0.4**	
	comp=Z,7.6nm,1.0s										
BJI	**Beijing**	**86.00**	**313**	P		**P**			**14 11 55.0**	**+0.4**	
BJI				S		**S**			**14 22 29.3**	**+2.6**	
BJI				PMZ							
	comp=Z,8.0nm,0.8s										
RSSD	**Black Hills**	**86.26**	**42**	*eP*		P			14 11 51.6	-4.5	
RSSD				pmax		pmax					
	comp=Z,130nm,2.1s										
RSSD	**Black Hills**	**86.26**	**42**	*eP*		P			14 11 51.6	-4.5	
	comp=Z,130nm,2.1s										
MAW	**Mawson**	**87.76**	**198**	P		**P**			**14 12 03.4**	**+0.7**	
	comp=Z,7.0nm,0.8s,baz=145,slow=9.4,SNR=13										
MAW	**Mawson**	**87.76**	**198**	P		**P**			**14 12 03.4**	**+0.7**	
MAW				pmax		pmax					
	comp=Z,7.0nm,0.8s										
PSI	**Prapat**	**89.04**	**273**	LR		LR			14 53 02.0		
	comp=Z,66nm,18.6s,slow=36										
HHC	**Hu-ho-hao-te**	**89.56**	**313**	*eP*		**P**			**14 12 13.8**	**+2.0**	
HHC				PP		**PP**			**14 15 48.8**	**+4.9**	
HHC				S		**S**			**14 22 58.3**	**-2.7**	
HHC				sS		sS			14 23 27.5	+11	
HHC				PMZ							
	comp=Z,21nm,1.1s										
HHC				PMZ							
	comp=Z,60nm,8.6s										
HHC				LN							
	comp=Z,78nm,19.7s										
HHC				LE							
	comp=Z,170nm,24.7s										
HHC				LZ							
	comp=Z,70nm,21.0s										
JTS	**JuntasAbangare**	**90.72**	**80**	*eP*		**P**			**14 12 18.1**	**+0.4**	
JTS				pmax		pmax					
	comp=Z,21nm,1.7s										
CD2	**Chengdu**	**92.38**	**301**	*eP*		**P**			**14 12 25.5**	**+0.5**	
CD2				pP		pP			14 12 43.5	+9.1	
CD2				PP		**PP**			**14 16 07.3**	**+1.0**	
CD2				SKS		**SKSac**			**14 22 52.8**	**-4.0**	
CD2				S		**S**			**14 23 24.3**	**-2.7**	
CD2				sS		sS			14 23 55.5	+13	
CD2				SS		**SS**			**14 29 38.5**	**-0.2**	
CD2				PMZ							
	comp=Z,10.0nm,0.5s										
CD2				PMZ							
	comp=Z,120nm,5.2s										
SYO	**Syowa Base**	**92.49**	**191⇑**	*eP*		**P**			**14 12 23.3**	**-1.4**	
SYO	**Syowa Base**	**92.49**	**191⇑**	*ep*		pP			14 12 41.6	+7.5	
SNAA	**Sanae**	**92.66**	**177**	P		**P**			**14 12 25.9**	**+0.3**	
SNAA	**Sanae**	**92.66**	**177**	*eP*		**P**			**14 12 26.2**	**+0.6**	
SNAA				pmax		pmax					
	comp=Z,1.0nm,1.0s										
CMAR	**Chiang Mai Arr**	**93.19**	**288**	P		**P**			**14 12 29.1**	**+0.1**	
	comp=Z,1.5nm,0.9s,baz=103,slow=2.0,SNR=6.4										
CMAR	**Chiang Mai Arr**	**93.19**	**288**	P		**P**			**14 12 29.1**	**+0.1**	
CMAR				pmax		pmax					
	comp=Z,2.0nm,0.9s										
VNA1	**Neumayer--Stat**	**93.29**	**175**	P		**P**			**14 12 29.3**	**+0.9**	
ULM	**Lac du Bonnet**	**93.77**	**39**	LR		LR			14 47 48.8		
	comp=Z,106nm,21.4s,baz=268,slow=31										
LZH	**Lanzhou**	**93.78**	**306**	*eP*		**P**			**14 12 33.0**	**+1.5**	
LZH				pP		pP			14 12 49.5	+8.6	
LZH				sP		sP			14 12 57.0	+13	
LZH				PMZ							
	comp=Z,14nm,1.0s										
ULN	**Ulaanbaatar**	**94.95**	**318**	*eP*		**P**			**14 12 37.0**	**+0.4**	
ULN				pmax		pmax					
	comp=Z,2.0nm,1.2s										
ROSC	**El Rosal**	**99.48**	**88**	LR		LR			14 52 27.0		
	comp=Z,28nm,18.1s,baz=205,slow=32										
MKAR	**Makanchi Array**	**111.36**	**315**	PKiKP		**PKiKP**			**14 17 46.9**	**-1.3**	
	comp=Z,0.5nm,0.6s,baz=92,slow=1.7,SNR=4.8										
KURK	**Kurchatov**	**113.65**	**319**	PKiKP		**PKiKP**			**14 17 51.0**	**-1.3**	
KURBB	**Kurchatov Arra**	**113.72**	**319**	PKiKP		**PKiKP**			**14 17 51.0**	**-1.4**	
	comp=Z,0.6nm,0.5s,baz=83,slow=1.9,SNR=8.4										
BVAR	**Borovoye Array**	**118.38**	**322**	PKP		**PKPdf**			**14 18 00.4**	**-0.9**	
	comp=Z,1.3nm,0.7s,baz=54,slow=2.6,SNR=7.1										
BVAR	**Borovoye Array**	**118.38**	**322**	PKIKP		**PKPdf**			**14 18 00.4**	**-0.9**	
BVAR				pmax		pmax					
	comp=Z,1.0nm,0.7s										
ARU	**Arti**	**123.80**	**328**	*i* PKIKP		**PKPdf**			**14 18 11.1**	**-0.5**	
ARU									14 19 55.1		
ARCES	**ARCESS Array B**	**124.90**	**352**	PKP		**PKPdf**			**14 18 12.9**	**-0.5**	
	comp=Z,0.9nm,0.8s,baz=323,slow=1.4,SNR=4.3										
ARCES	**ARCESS Array B**	**124.90**	**352**	PKIKP		**PKPdf**			**14 18 12.9**	**-0.5**	
ARCES				pmax		pmax					
	comp=Z,1.0nm,0.8s										
AKTO	**Aktyubinsk**	**126.48**	**322**	PKP		**PKPdf**			**14 18 16.4**	**-0.5**	
	comp=Z,0.6nm,0.4s,baz=180,slow=4.1,SNR=3.8										
AKTO	**Aktyubinsk**	**126.48**	**322**	PKIKP		**PKPdf**			**14 18 16.5**	**-0.5**	
AKTO				pmax		pmax					
	comp=Z,1.0nm,0.4s										
NOA	**NORSAR Array B**	**134.55**	**357**	PKP		**PKPdf**			**14 18 30.0**	**-2.0**	
	comp=Z,1.0nm,0.9s,baz=85,slow=9.5,SNR=3.5										
NOA	**NORSAR Array B**	**134.55**	**357**	PKIKP		**PKPdf**			**14 18 30.0**	**-2.0**	
NOA				pmax		pmax					
	comp=Z,1.0nm,0.9s										
KIEV	**Kiev**	**140.75**	**338**	*e*PKIKP		**PKPdf**			**14 18 43.7**	**+0.1**	
UPC	**Upice**	**144.47**	**350**	*e*PKP		**PKPdf**			**14 18 50.3**	**0.0**	
UPC	**Upice**	**144.47**	**350**	*e*PKIKP		**PKPdf**			**14 18 50.3**	**0.0**	
DPC	**Dobruska-Polom**	**144.57**	**350**	*e*PKP		**PKPab**			**14 18 49.1**	**+0.1**	
DPC				*ex*		x			14 19 08.7		
DPC	**Dobruska-Polom**	**144.57**	**350**	*e*PKIKP		**PKPab**			**14 18 49.1**	**+0.1**	
TRPA	**Tarpa**	**145.19**	**342**	⇓*iP*		**PKPdf**			**14 18 51.4**	**-0.2**	
PRU	**Pruhonice**	**145.20**	**352**	*e*PKP		**PKPdf**			**14 18 51.8**	**+0.2**	
PRU				epPKP		**pPKPdf**			**14 18 59.4**	**-1.8**	
PRU				esPKP					14 19 02.9		
PRU				*ex*		x			14 19 10.5		
PRU	**Pruhonice**	**145.20**	**352**	*e*PKIKP		**PKPdf**			**14 18 51.8**	**+0.2**	
PRU				*e*					14 18 59.4		
PRU				*e*					14 19 02.9		
GOPC	**GO Pecny, Ondr**	**145.24**	**351**	*e*PKP		**PKPbc**			**14 18 50.6**	**-0.7**	
GOPC				*ex*		x			14 19 09.7		
VYHS	**Vyhne**	**145.84**	**346**	*e*PKP2		**PKPbc**			**14 18 53.2**	**-0.1**	
VYHS	**Vyhne**	**145.84**	**346**	*e*PKP		**PKPbc**			**14 18 53.2**	**-0.1**	
KMBO	**Kilima Mbogo**	**145.92**	**243**	PKPbc		**PKPdf**			**14 18 53.8**	**-0.4**	
	comp=Z,2.4nm,0.5s,baz=60,slow=7.2,SNR=7.9										
KMBO	**Kilima Mbogo**	**145.92**	**243**	PKIKP		**PKPdf**			**14 18 53.8**	**-0.4**	
KMBO				pmax		pmax					
	comp=Z,2.0nm,0.5s										
TIRR	**Tirgusor**	**146.08**	**332**	⇓PKP2		**PKPbc**			**14 18 54.2**	**+0.1**	
TIRR	**Tirgusor**	**146.08**	**332**	⇓*iP*		**PKPbc**			**14 18 54.2**	**+0.1**	
PSZ	**Piszkesteto**	**146.11**	**345**	⇓*iP*		PKPab			14 19 05.9	+11	
KHC	**Kasperske Hory**	**146.17**	**352**	*e*PKP		**PKPab**			**14 18 54.7**	**-0.2**	
KHC				esPKP					14 19 07.2		
KHC				*ex*		x			14 19 14.6		
KHC	**Kasperske Hory**	**146.17**	**352**	*e*PKP2		**PKPab**			**14 18 54.7**	**-0.2**	
MLR	**Muntele Rosu**	**146.28**	**336**	PKPbc		**PKPdf**			**14 18 53.8**	**+0.1**	
	comp=Z,0.5nm,0.7s,baz=60,slow=12,SNR=3.7										
MLR	**Muntele Rosu**	**146.28**	**336**	PKP2		**PKPdf**			**14 18 53.8**	**+0.1**	
MLR				pmax		pmax					
	comp=Z,1.0nm,0.7s										
MLR	**Muntele Rosu**	**146.28**	**336**	⇓*iP*		**PKPab**			**14 18 56.0**	**+0.4**	
BRTR	**Keskin Array B**	**146.66**	**321**	PKPbc		**PKPbc**			**14 18 56.0**	**-0.1**	
	comp=Z,5.4nm,0.9s,baz=109,slow=2.4,SNR=24										
BRTR	**Keskin Array B**	**146.66**	**321**	PKP2		**PKPbc**			**14 18 56.1**	**-0.1**	
BRTR				pmax		pmax					
	comp=Z,5.0nm,0.9s										
ARR	**Arges**	**146.89**	**337⇑**	*iP*		**PKPab**			**14 18 58.0**	**+0.1**	
BFO	**Black Forest**	**147.37**	**359**	*i* PKP2		**PKPab**			**14 19 00.2**	**+0.6**	
PKSM	**Moragy**	**148.02**	**345**	⇑PKP2		**PKPbc**			**14 18 59.7**	**+0.2**	
PKSM	**Moragy**	**148.02**	**345**	⇑*iP*		**PKPbc**			**14 18 59.7**	**+0.2**	
FETA	**Feichten**	**148.55**	**355**	⇑*i*PKPbc		**PKPbc**			**14 18 59.5**	**-1.7**	
	comp=Z,4.8nm,1.0s										
DAVOX	**Davos/Dischmat**	**148.85**	**356**	PKPbc		**PKPbc**			**14 19 03.6**	**+1.6**	
	comp=Z,3.2nm,0.7s,baz=301,slow=4.8,SNR=3.6										
DAVOX	**Davos/Dischmat**	**148.85**	**356**	PKP2		**PKPbc**			**14 19 03.6**	**+1.6**	
DAVOX				pmax		pmax					
	comp=Z,3.0nm,0.7s										
MMAI	**Mount Meron Ar**	**149.12**	**309**	PKPbc		**PKPbc**			**14 19 02.9**	**0.0**	
	comp=Z,1.4nm,0.5s,baz=67,slow=3.0,SNR=3.7										
DIVS	**Divibare**	**149.59**	**342⇑**	*iP*		**PKPbc**			**14 19 04.2**	**+0.5**	
EIL	**Elat**	**150.88**	**303**	PKPbc		**PKPbc**			**14 19 07.5**	**+0.3**	
	comp=Z,6.4nm,0.8s,baz=355,slow=6.9,SNR=5.2										
TORD	**Torodi Ar. Bea**	**174.17**	**114**	PKP		**PKPdf**			**14 19 22.4**	**-2.2**	
	comp=Z,0.9nm,1.0s,baz=232,slow=2.9,SNR=3.8										

*CSEM **29** 14:02:24.4, 46.38N×6.94E, h0km, ML1.4, Suspected Mining explosion.*

ZUR 29 14:02:24.4, 46.38N×6.94E, h-0km±1km, ML1.4/7, 12C, Suspected Mining explosion., Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AIGLE	**Aigle**	**0.04**	**166**	⇑*iPg*		Pg	14 02 25.4	+0.1
	2µm,0.5s							
AIGLE				*eSg*		Sg	14 02 26.3	+0.4
	2µm,0.5s							
AIGLE	**Aigle**	**0.04**	**166**	⇑*iPg*		Pg	14 02 25.4	+0.1
	2µm,0.5s							
AIGLE				*eSg*		Sg	14 02 26.3	+0.4
	2µm,0.5s							
NOV2	**NOV2**	**0.05**	**257**	⇑*iPg*		Pg	14 02 25.6	+0.3
	402nm,0.3s							
NOV2				*eSg*		Sg	14 02 26.6	+0.6
	402nm,0.3s							
NOV2	**NOV2**	**0.05**	**257**	⇑*iPg*		Pg	14 02 25.6	+0.3
	402nm,0.3s							
NOV2				*eSg*		Sg	14 02 26.6	+0.6
	402nm,0.3s							
NOV3	**NOV3**	**0.05**	**1**	⇑*iPg*		Pg	14 02 25.8	+0.2
	822nm,0.4s							
NOV3	**NOV3**	**0.05**	**1**	⇑*iPg*		Pg	14 02 25.8	+0.2
	822nm,0.4s							
NOV4	**La Tour-de-Pel**	**0.09**	**320**	⇑*iPg*		Pg	14 02 26.3	+0.2
NOV4				*eSg*		Sg	14 02 28.2	+0.9
NOV4	**La Tour-de-Pel**	**0.09**	**320**	⇑*iPg*		Pg	14 02 26.3	+0.2
NOV4				*eSg*		Sg	14 02 28.2	+0.9
NOV1	**NOV1**	**0.09**	**274**	*ePg*		Pg	14 02 26.4	+0.3
	578nm,0.3s							
NOV1				*eSg*		Sg	14 02 28.2	+0.9
	578nm,0.3s							
NOV1	**NOV1**	**0.09**	**274**	*ePg*		Pg	14 02 26.4	+0.3
	578nm,0.3s							
NOV1				*eSg*		Sg	14 02 28.2	+0.9
	578nm,0.3s							
GRYON	**Gryon**	**0.18**	**138**	⇑*iPg*		Pg	14 02 28.0	0.0
	18nm,0.3s							
GRYON				*eSg*		Sg	14 02 31.2	+0.8
	18nm,0.3s							
GRYON	**Gryon**	**0.18**	**138**	⇑*iPg*		Pg	14 02 28.0	0.0
	18nm,0.3s							
GRYON				*eSg*		Sg	14 02 31.2	+0.8
	18nm,0.3s							
SALAN	**Lac Salanfe**	**0.24**	**174**	*eSg*		Sg	14 02 29.6	-3.0
	8.9nm,0.3s							
SALAN	**Lac Salanfe**	**0.24**	**174**	*eSg*		Sg	14 02 29.6	-3.0
	8.9nm,0.3s							
SENIN	**Lac Senin/Sane**	**0.25**	**94**	⇑*iPg*		Pb	14 02 32.8	+0.7
	71nm,0.6s							
SENIN	**Lac Senin/Sane**	**0.25**	**94**	⇑*iPg*		Pb	14 02 32.8	+0.7
	71nm,0.6s							

MAN 29 14:23:28, 12.49N×123.69E, h32km, mb4.2, ML3.1, MS2.8, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PVCP	**Virac**	**1.18**	**22**	⇑*iP*		Pb	14 23 49.4	-0.6
PVCP				*i* S		Sn	14 24 03.8	+0.4
PLP	**Palo**	**1.82**	**136**	⇓*eP*		Pb	14 24 02.8	+2.0
PLP				*eS*		Sb	14 24 23.2	-0.1

CASC 29 14:31:40.1±2.0, 8.96N×82.99W, h16km±6km, MD4.1,

6C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CTCR	**Cotoan**	**0.24**	**106**	⇓*iP*		Pb	14 31 46.4	0.0
BRU2	**Volcan**	**0.34**	**119**	⇑*iP*		Pb	14 31 47.7	-0.3
BRU2				*eS*		Sb	14 31 53.6	+0.2
ACR	**Cerro Adams**	**0.35**	**210**	⇑*iP*		Pg	14 31 47.5	+0.1
ACR				*eS*		Sb	14 31 53.0	-0.5
TBS2		**0.37**	**117**	*eP*		Pb	14 31 48.9	+0.3
TBS2				*eS*		Sb	14 31 54.2	-0.1
BUS	**Buena Vista**	**0.96**	**308**	⇑*iP*		Pb	14 31 57.8	-1.2
BUS				*eS*		Sb	14 32 11.2	-0.6
URSC	**Urasca**	**1.16**	**318**	⇑*iP*		Pn	14 32 01.2	-0.9
QCR	**Quepos**	**1.25**	**292**	⇑*eP*		Pn	14 32 01.5	-1.4
CGA2	**Cerro Gallo 2**	**1.79**	**306**	⇑*eP*		Pn	14 32 10.1	-0.5
CGA2				*eS*		Sn	14 32 32.8	-0.5
CAO	**Cobano**	**2.21**	**290**	*eP*		Pn	14 32 14.8	-1.4
JTS	**JuntasAbangare**	**2.34**	**305**	*eP*		Pn	14 32 18.6	+0.6
JTS				*eS*		Sn	14 32 48.5	+1.9
PNME	**Penonome**	**2.68**	**100**	*eP*		Pn	14 32 24.6	+2.0
PNME				*eS*		Sb	14 32 57.8	-2.6
AZU	**Azuero**	**2.93**	**113**	*eP*		Pn	14 32 26.9	+0.8
AZU				*eS*		Sn	14 33 02.9	+1.9
ZANG	**Zanguenga, Cho**	**3.09**	**90**	*eP*		Pn	14 32 27.2	-1.1
BCIP	**Isla Barro Col**	**3.12**	**86**	*eP*		Pn	14 32 27.7	-1.1
BCIP				*eS*		Sb	14 33 11.0	-2.2

MAN 29 14:42:56, 9.84N×123.08E, h1km, mb4.3, ML3.2, MS3.0, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TBP	**Tagbilaran**	**0.78**	**101**	*eP*		Pg	14 43 11.5	+0.4
DCPH	**Dipolog City**	**1.28**	**168**	⇑*iP*		Pg	14 43 20.6	+0.1
DCPH				*i* S		Sn	14 43 38.4	-0.4

*IGQ **29** 14:45:49±1.2, 2.51S×81.69W, h7km±160km, Mb4.2, Error ellipse: s-maj=11.2km s-min=3.2km az=9.2*
*IDC **29** 14:45:50.1±1.1, 2.90S×82.08W, h0km, mb3.8/6, mb1 4.2/9, mb1mx3.9/33, mbtmp4.0/9, ML4.0/3, MS3.2/3, Ms1 3.3/3, ms1mx2.7/31, Error ellipse: s-maj=40.5km s-min=18.1km az=51.0*
*ISCJB **29** 14:45:53.6±0.6, 2.60S±0.04×81.56W±0.05, h33km, mb3.8/7, MS3.5/1, Error ellipse: s-maj=7.1km s-min=6.0km az=13.3*

ISC 29 14:45:55.4±0.8, 2.56S±0.06×81.55W±0.08, h35km, n52, σ1s07/50, mb3.6/7, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CHIS	**Cerro-Chispas-**	**1.71**	**29**	P		**Pn**	**14 46 20.9**	**-1.9**
PECV	**Mancha de Ca P**	**2.32**	**40**	P		Pn	14 46 27.6	-3.6
JAMA	**Jama**	**2.65**	**30**	P		**Pn**	**14 46 33.8**	**-2.0**
JAMA	**Jama**	**2.65**	**30**	S		**Sn**	**14 47

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.48**	**189**	P	Pn	15 16 06.5	+1.9
	0.3nm,0.3s,baz=270,slow=20,SNR=19						
DZM				S	Sn	15 17 25.7	-2.7
	0.2nm,0.3s,baz=90,slow=20,SNR=1.9						
STKA	**Stephens Creek**	**29.32**	**230**	P	P	15 20 07.9	+1.4
	1.5nm,0.9s,baz=58,slow=9.5,SNR=4.4						
WRA	**Warramunga Arr**	**32.19**	**256**	P	P	15 20 31.3	-0.6
	0.3nm,0.9s,baz=83,slow=7.8,SNR=2.5						
ASAR	**Alice Springs**	**33.04**	**249**	P	P	15 20 38.9	-0.4
	0.2nm,0.4s,baz=76,slow=9.0,SNR=11						
ILAR	**Eielson Array**	**86.33**	**18**	P	P	15 26 42.2	-0.3
	0.2nm,0.4s,baz=223,slow=4.9,SNR=3.5						

IDC 29 15:26:56.9±2.2,5.75S×150.57E, h35km±9km, mb3.3/2, mb1 3.7/3, mb1mx3.3/21, mbtmp3.6/3, ML1.2/1, Error ellipse: s-maj=89.1km s-min=27.9km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.96**	**223**	Pn	Pn	15 28 10.4	+1.4
	0.6nm,0.3s,baz=172,slow=7.1,SNR=3.3						
PMG				Sn	Sn	15 29 04.9	-0.2
	3.7nm,0.3s,baz=146,slow=20,SNR=9.0						
WRA	**Warramunga Arr**	**21.16**	**227**	P	P	15 31 39.5	+0.2
	1.2nm,0.5s,baz=51,slow=10,SNR=21						
WRA				pP	pP	15 31 49.6	+1.1
	2.2nm,0.6s,baz=52,slow=11,SNR=9.1						
ASAR	**Alice Springs**	**23.97**	**220**	P	P	15 32 07.3	-0.9
	0.6nm,0.4s,baz=57,slow=9.0,SNR=58						
ASAR				pP	pP	15 32 17.6	-0.7
	0.9nm,0.4s,baz=55,slow=9.3,SNR=7.1						
STKA	**Stephens Creek**	**27.32**	**197**	pP	pP	15 32 49.8	+1.3
	1.5nm,0.9s,baz=29,slow=11,SNR=1.6						
TORD	**Torodi Ar. Bea**	**148.45**	**286**	PKPbc	PKPbc	15 46 40.8	-0.1
	0.5nm,0.6s,baz=61,slow=2.5,SNR=4.1						
TORD				pPKPbc	pPKPbc	15 46 51.6	-0.8
	0.3nm,0.5s,baz=79,slow=3.3,SNR=2.4						

*ISCJB **29** 15:31:41.8±0.5,51.43N±0.03×16.17E±0.03, h0km, Error ellipse: s-maj=3.8km s-min=2.7km az=13.5*
*IPEC **29** 15:31:42.2±0.3,51.53N×16.30E, h0km, ML2.4/3, Error ellipse: s-maj=3.2km s-min=1.7km az=67.0*
*CSEM **29** 15:31:42.7±0.2,51.47N×16.16E, h2km, ML3.5/16, Error ellipse: s-maj=3.8km s-min=3.0km az=172.0*
*VIE **29** 15:31:45.5±0.4,51.26N×16.16E, h0km, mb1.9/2, ML2.9/5, ML2.0/3, Error ellipse: s-maj=2.5km s-min=2.4km az=17.0, Suspected Mining induced.*

ISC 29 15:31:41.8±0.9,51.50N±0.04×16.21E±0.02, h0km, n55, σ0s88/97, 10C-7D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**175**	*i* Pg	**Pb**	**15 31 55.9**	**-0.3**
KSP				*e*Sg	**Sg**	**15 32 03.6**	**+0.6**
KSP				*e*		15 32 07.8	
KSP	**Ksiaz**	**0.66**	**175**	⇓*i*Pg	**Pb**	**15 31 55.9**	**-0.3**
KSP				*e*Sg	**Sg**	**15 32 03.6**	**+0.6**
UPC	**Upice**	**1.00**	**187**	*e*PG	**Pg**	**15 32 01.6**	**+0.6**
UPC				*e*SG	**Sg**	**15 32 13.5**	**-0.4**
	comp=Z,152nm,0.5s						
UPC	**Upice**	**1.00**	**187**	Pg	**Pg**	**15 32 01.6**	**+0.6**
UPC				Sg	**Sg**	**15 32 13.5**	**-0.4**
	152nm,0.5s						
DPC	**Dobruska-Polom**	**1.15**	**176**	*e*PG	**Pg**	**15 32 04.4**	**+0.5**
DPC				*e*SG	**Sg**	**15 32 18.4**	**-0.4**
	comp=Z,62nm,0.4s						
DPC	**Dobruska-Polom**	**1.15**	**176**	Pg	**Pg**	**15 32 04.4**	**+0.5**
DPC				Sg	**Sg**	**15 32 18.4**	**-0.4**
	62nm,0.4s						
PVCC	**Panska Ves**	**1.42**	**227**	*e*PG	**Pb**	**15 32 09.5**	**+0.4**
PVCC				*e*SG	**Sb**	**15 32 27.9**	**+0.1**
	comp=Z,156nm,0.2s						
PVCC	**Panska Ves**	**1.42**	**227**	Pg	**Pb**	**15 32 09.5**	**+0.4**
PVCC				Sg	**Sb**	**15 32 27.9**	**+0.1**
	156nm,0.2s						
KRLC	**Kraliky**	**1.47**	**165**	*e*PG	**Pg**	**15 32 10.2**	**+0.2**
KRLC				*e*SG	**Sg**	**15 32 28.8**	**-0.2**
KRLC	**Kraliky**	**1.47**	**165**	Pg	**Pg**	**15 32 10.2**	**+0.2**
KRLC				Sg	**Sg**	**15 32 28.8**	**-0.2**
BRG	**Berggiesshubel**	**1.56**	**247**	PN	**Pg**	**15 32 10.7**	**0.0**
BRG				PG	**Pg**	**15 32 12.2**	**+0.6**
BRG				SG	**Sg**	**15 32 32.7**	**+0.9**
	62nm,0.4s						
PRA	**Prague**	**1.82**	**219**	*e*PN	**Pn**	**15 32 14.9**	**+0.6**
PRA				*e*PG	**Pg**	**15 32 16.6**	**-0.1**
PRA				*e*SG	**Sg**	**15 32 40.2**	**-0.1**
	comp=Z,25nm,0.4s						
PRA	**Prague**	**1.82**	**219**	Pn	**Pn**	**15 32 14.9**	**+0.6**
GOPC	**GO Pecny, Ondr**	**1.83**	**210**	*e*PN	**Pn**	**15 32 14.9**	**+0.4**
GOPC				*e*PG	**Pb**	**15 32 16.4**	**+0.3**
GOPC				*e*SG	**Sb**	**15 32 40.0**	**+0.5**
	comp=Z,21nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.83**	**210**	Pn	**Pn**	**15 32 14.9**	**+0.4**
PRU	**Pruhonice**	**1.85**	**216**	*e*PN	**Pn**	**15 32 15.1**	**+0.4**
PRU				*e*PG	**Pg**	**15 32 16.9**	**-0.3**
PRU				*e*SG	**Sg**	**15 32 40.8**	**-0.3**
	comp=Z,31nm,0.3s						
PRU	**Pruhonice**	**1.85**	**216**	Pn	**Pn**	**15 32 15.1**	**+0.4**
MORC	**Moravsky Berou**	**1.92**	**153**	⇓*i*P	**Pn**	**15 32 16.6**	**+0.8**
MORC	**Moravsky Berou**	**1.92**	**153**	S	**Sg**	**15 32 44.2**	**+0.7**
MORC	**Moravsky Berou**	**1.92**	**153**	*e*Pn	**Pn**	**15 32 16.2**	**+0.4**
MORC	**Moravsky Berou**	**1.92**	**153**	⇓*i*P	**Pn**	**15 32 16.6**	**+0.8**
MORC				*e*Sg	**Sb**	**15 32 42.6**	**+0.3**
	21nm,0.4s						
CLL	**Collm**	**2.02**	**266**	*e*Pn	**Pn**	**15 32 17.0**	**0.0**
CLL				*i* Pg	**Pb**	**15 32 19.8**	**+0.5**
CLL				*e*		15 32 23.0	
CLL				*e*Sg	**Sg**	**15 32 47.0**	**+0.5**
	comp=Z,41nm,0.6s						
OKC	**Ostrava-Krasne**	**2.07**	**143**	*e*PN	**Pn**	**15 32 18.5**	**+0.7**
OKC				*e*PG	**Pg**	**15 32 21.6**	**+0.1**
OKC				*e*SG	**Sg**	**15 32 48.2**	**-0.1**
	comp=Z,29nm,0.6s						
OKC	**Ostrava-Krasne**	**2.07**	**143**	Pn	**Pn**	**15 32 18.5**	**+0.7**
VRAC	**Vranov**	**2.21**	**173**	⇑*i*P	**Pb**	**15 32 21.5**	**-1.1**
VRAC	**Vranov**	**2.21**	**173**	S	**Sb**	**15 32 51.6**	**+1.1**
VRAC	**Vranov**	**2.21**	**173**	*e*Pn	**Pn**	**15 32 20.5**	**+0.8**
VRAC	**Vranov**	**2.21**	**173**	⇑*i*P	**Pb**	**15 32 21.5**	**-1.1**
VRAC				*e*Sg	**Sg**	**15 32 52.2**	**-0.5**
	comp=Z,22nm,0.4s						
TREC	**Trest**	**2.26**	**192**	*e*PN	**Pn**	**15 32 21.3**	**+1.0**
TREC				*e*PG	**Pb**	**15 32 24.0**	**+0.6**
TREC				*e*SG	**Sg**	**15 32 53.3**	**-0.9**
	comp=Z,26nm,0.3s						
TREC	**Trest**	**2.26**	**192**	Pn	**Pn**	**15 32 21.3**	**+1.0**
KRUC	**Moravsky**	**2.44**	**177**	*e*Pn	**Pn**	**15 32 23.8**	**+0.9**
KRUC				*e*Sg	**Sg**	**15 32 59.7**	**-0.6**
	comp=Z,16nm,0.5s						
OJC	**Ojcow**	**2.61**	**118**	*e*Pg	**Pg**	**15 32 32.1**	**+0.3**
OJC				*e*Sg	**Sg**	**15 33 07.6**	**+2.0**
OJC	**Ojcow**	**2.61**	**118**	*e*Pg	**Pg**	**15 32 32.1**	**+0.3**
OJC				*e*Sg	**Sg**	**15 33 07.6**	**+2.0**
NKC	**Novy Kostel**	**2.70**	**243**	*e*PN	**Pn**	**15 32 27.4**	**+1.0**
NKC				*e*PG	**Pg**	**15 32 32.9**	**-0.6**
NKC				*e*SG	**Sg**	**15 33 08.8**	**+0.4**
	comp=Z,51nm,0.3s						
NKC	**Novy Kostel**	**2.70**	**243**	Pn	**Pn**	**15 32 27.4**	**+1.0**
KHC	**Kasperske Hory**	**2.91**	**216**	*e*PN	**Pn**	**15 32 29.9**	**+0.5**
KHC				*e*PG	**Pb**	**15 32 36.1**	**+1.6**
KHC				*e*SN	**Sn**	**15 33 04.7**	**-0.3**
KHC				*e*SG	**Sg**	**15 33 14.6**	**-0.6**
	comp=Z,24nm,0.4s						
KHC	**Kasperske Hory**	**2.91**	**216**	Pn	**Pn**	**15 32 29.9**	**+0.5**
SMOL	**Smolenice**	**3.09**	**165**	*e*SN	Sn	15 33 00.2	-9.3
VYHS	**Vyhne**	**3.46**	**150**	*e*Pn	**Pn**	**15 32 37.6**	**+0.7**
VYHS	**Vyhne**	**3.46**	**150**	*e*PN	**Pn**	**15 32 37.5**	**+0.7**
VYHS				*e*SN	Sn	15 33 08.6	-10
CONA	**Conrad Observa**	**3.58**	**184**	Pn	**Pn**	**15 32 39.3**	**+0.7**
CONA				Sg	**Sg**	**15 33 36.3**	**-0.5**
	comp=Z,16nm,0.4s						
CONA	**Conrad Observa**	**3.58**	**184**	⇓*i*Pn	**Pn**	**15 32 39.3**	**+0.7**
CONA				⇑*i*Sg	**Sg**	**15 33 36.3**	**-0.5**
	comp=Z,16nm,0.4s						
BSD	**Bornholm Skovb**	**3.70**	**348**	*i* P	**Pn**	**15 32 40.0**	**-0.2**
BSD				*i* S	**Sn**	**15 33 22.1**	**-2.3**
MOA	**Molln**	**3.87**	**200**	Pn	**Pn**	**15 32 43.5**	**+1.0**
MOA				Sg	**Sg**	**15 33 45.2**	**-0.7**
	comp=Z,22nm,0.6s						
MOA	**Molln**	**3.87**	**200**	⇑*i*Pn	**Pn**	**15 32 43.5**	**+1.0**
MOA				⇓*i*Sg	**Sg**	**15 33 45.2**	**-0.7**
	comp=Z,22nm,0.6s						
ARSA	**Arzberg**	**4.28**	**186**	Pn	**Pn**	**15 32 48.5**	**+0.4**
ARSA				Sg	**Sg**	**15 33 58.4**	**-0.7**
	comp=Z,24nm,0.7s						
ARSA	**Arzberg**	**4.28**	**186**	⇓*i*Pn	**Pn**	**15 32 48.5**	**+0.4**
ARSA				⇓*i*Sg	**Sg**	**15 33 58.4**	**-0.7**
	comp=Z,24nm,0.7s						
PSZ	**Piszkesteto**	**4.31**	**145**	⇑*i*P	**Pn**	**15 32 50.2**	**+1.6**
PSZ	**Piszkesteto**	**4.31**	**145**	⇑*i*P	**Pn**	**15 32 50.2**	**+1.6**
KOLS	**Kolonicke sedl**	**4.67**	**121**	*e*Pn	**Pn**	**15 32 53.6**	**+0.2**
KOLS				*e*Sn	**Sn**	**15 33 45.4**	**-2.9**
KOLS	**Kolonicke sedl**	**4.67**	**121**	*e*PN	**Pn**	**15 32 53.6**	**+0.2**
KOLS				*e*SN	**Sn**	**15 33 45.4**	**-2.9**
PKSM	**Moragy**	**5.53**	**162**	⇑*i*P	**Pn**	**15 33 06.8**	**+1.5**
PKSM	**Moragy**	**5.53**	**162**	⇑*i*P	**Pn**	**15 33 06.8**	**+1.5**
BURAR	**Bucovina Array**	**7.03**	**120**	⇑*i*P	**Pn**	**15 33 27.0**	**+1.0**
BURAR	**Bucovina Array**	**7.03**	**120**	⇑*i*P	**Pn**	**15 33 27.0**	**+1.0**

IDC 29 15:59:21.8±1.6,16.61S×178.95W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.7/25, mbtmp4.1/4, ML3.6/1, Error ellipse: s-maj=151.5km s-min=25.0km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.42**	**70**	Pn	Pn	16 01 12.3	+0.7
	0.9nm,0.3s,baz=156,slow=19,SNR=2.0						
AFI				Sn	Sn	16 02 35.9	-0.8
	1.3nm,0.3s,baz=47,slow=19,SNR=2.2						
STKA	**Stephens Creek**	**38.82**	**240**	P	P	16 06 49.3	+0.6
	0.7nm,0.4s,baz=95,slow=12,SNR=6.4						
WRA	**Warramunga Arr**	**44.38**	**258**	P	P	16 07 33.9	-0.6
	0.3nm,0.3s,baz=96,slow=7.5,SNR=16						
ASAR	**Alice Springs**	**44.66**	**253**	P	P	16 07 36.5	-0.3
	3.8nm,0.5s,baz=88,slow=7.9,SNR=171						

*BJI **29** 16:51:57.6, 10.50S×124.66E, h19km, mb4.6/14, mB4.7/8, Ms4.2/1*
*IDC **29** 16:51:57.2±1.2, 10.18S×125.02E, h0km, mb4.3/7, mb1 4.5/11, mb1mx4.1/34, mbtmp4.4/11, ML4.3/3, MS3.4/8, Ms1 3.4/8, ms1mx3.0/33, Error ellipse: s-maj=35.0km s-min=25.0km az=51.0*
*ISCJB **29** 16:51:59.7±0.3, 10.31S±0.04×124.89E±0.04, h33km, mb4.3/13, MS3.2/4, Error ellipse: s-maj=6.8km s-min=4.0km az=141.0*
*NEIC **29** 16:52:01.1±2.0, 10.25S×124.95E, h27km±16km, mb4.5/8, Error ellipse: s-maj=11.9km s-min=5.5km az=46.0*
*DJA **29** 16:52:04.3±0.6, 10°S±6'×12°5E±', h42km±12km, M4.5/12, mb4.5/12, mB5.2/4, MLv4.6/3, MLv4.5/6, Mw(mB)4.5/4*
*AUST **29** 16:52:07.0, 10.50S×125.03E, h100km*

ISC 29 16:52:01.7±0.4, 10.31S±0.06×124.99E±0.06, h35km, n74, σ1s71/72, mb4.5/13, MS3.2/4, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**3.19**	**301**	P	**Pn**	**16 52 49.2**	**-0.2**
MMRI	**Maumere**	**3.19**	**301**	*e*P	**Pn**	**16 52 48.6**	**-0.7**
WSI	**Waingapu**	**4.67**	**277**	P	**Pn**	**16 53 09.3**	**-0.5**
BSSI	**Ba Bau, Buton**	**6.08**	**313**	P	**Pn**	**16 53 29.8**	**+0.6**
	69nm,1.3s,750nm0.2nm0.2nm						
KNRA	**Kununurra**	**6.48**	**146**	P	**Pn**	**16 53 37.5**	**+2.9**
	baz=6.3,SNR=130						
MTN	**Manton Dam**	**6.52**	**113**	P	Pn	16 53 39.3	+4.0
	baz=6.4,SNR=41						
BKSI	**Bulukumba**	**6.92**	**315**	P	**Pn**	**16 53 41.7**	**+1.0**
	21nm,1.0s,0.1nm0.1nm						
KAPI	**Kappang**	**7.39**	**315**	Pn	**Pn**	**16 53 46.6**	**-0.6**
	0.2nm,0.3s,baz=168,slow=13,SNR=3.4						
KAPI				LR	LR	16 56 45.9	
	comp=Z,411nm,18.7s,baz=130,slow=39						
KDU	**Kakadu**	**7.70**	**109**	P	Pn	16 53 55.0	+3.6
	baz=7.6,SNR=9.8						
FITZ	**Fitzroy Crossi**	**7.77**	**175**	*e*Pn	**Pn**	**16 53 54.0**	**+1.6**
	29nm,0.9s						
FITZ				*e*Sn	**Sn**	**16 55 19.7**	**+0.4**
SANI	**Sanana**	**8.27**	**7**	P	**Pn**	**16 54 02.0**	**+2.8**
	16nm,1.3s						
FAKI	**Fak Fak**	**10.29**	**45**	P	**Pn**	**16 54 29.6**	**+2.6**
	baz=10,SNR=5.2						
MBWA	**Marble Bar**	**11.91**	**204**	*e*Pn	**Pn**	**16 54 49.9**	**+0.6**
MBWA				*e*Sn	Sn	16 56 51.8	-9.2
WRA	**Warramunga Arr**	**13.15**	**138**	Pn	**Pn**	**16 55 06.1**	**-0.1**
	1.0nm,0.3s,baz=310,slow=11,SNR=41						
WRA				Sn	**Sn**	**16 57 27.8**	**-3.5**
	1.9nm,0.3s,baz=308,slow=24,SNR=7.6						
WRA				LR	LR	17 00 51.5	
	comp=Z,121nm,18.3s,baz=300,slow=40						
WRAB	**Tennant Creek**	**13.15**	**138**	*e*Pn	**Pn**	**16 55 06.3**	**+0.2**
	16nm,0.7s						
WRAB				*e*Sn	**Sn**	**16 57 26.9**	**-4.4**
UGM	**Wanagama**	**14.48**	**278**	P	**Pn**	**16 55 24.1**	**-0.3**
	133nm,2.4s						
WRKA	**Warakurna**	**14.98**	**168**	P	**Pn**	**16 55 31.1**	**+0.1**
	baz=15,SNR=45						
ASAR	**Alice Springs**	**15.77**	**148**	Pn	**Pn**	**16 55 41.5**	**+0.2**
	1.1nm,0.3s,baz=321,slow=12,SNR=104						
ASAR				Sn	**Sn**	**16 58 31.1**	**-4.1**
	0.5nm,0.3s,baz=316,slow=21,SNR=4.7						
ASAR				LR	LR	17 02 37.6	
	comp=Z,175nm,18.7s,baz=318,slow=40						
CISI	**Cisompet, Garu**	**17.19**	**278**	P	P	16 56 05.7	+5.0
	baz=17,SNR=5.5						
MEEK	**Meekatharra**	**17.32**	**200**	P	P	16 56 07.3	+5.2
	baz=17,SNR=5.6						
QIS	**Mount Isa**	**17.37**	**128**	P	**P**	**16 56 03.4**	**+0.8**
	baz=17,SNR=9.1						
LEM	**Lembang**	**17.52**	**280**	P	**Pn**	**16 56 04.0**	**+0.3**
	3.0nm,0.3s,baz=10,slow=18,SNR=21						
LEM				LR	LR	17 03 29.4	
	comp=Z,150nm,18.7s,baz=194,slow=40						
LEM	**Lembang**	**17.52**	**280**	P	**P**	**16 56 05.2**	**+0.7**
	baz=18,SNR=7.1						
CNJI	**Cibinong**	**17.90**	**278**	P	**Pn**	**16 56 07.8**	**-0.3**
	67nm,1.7s						
COEN	**Coen**	**18.14**	**103**	*e*Pn	**P**	**16 56 13.8**	**+2.6**
COEN				*e*Sn	Sn	16 59 22.6	-10
KKM	**Kota Kinabalu**	**18.45**	**331**	P	**Pn**	**16 56 16.6**	**+1.7**
	baz=19,SNR=4.7						
KKM	**Kota Kinabalu**	**18.45**	**331**	*e*P	**Pn**	**16 56 14.9**	**0.0**
	27nm,1.0s						
KSM	**Kuching**	**18.72**	**308**	P	**Pn**	**16 56 18.5**	**+0.3**
	baz=19,SNR=5.5						
KSM	**Kuching**	**18.72**	**308**	*e*P	**P**	**16 56 17.5**	**-0.1**
	13nm,0.9s						
CGJI	**Cibinong**	**19.44**	**279**	P	**P**	**16 56 23.6**	**-1.8**
	46nm,1.0s,1μm						
MTSU	**Mount Surprise**	**20.27**	**115**	P	Pn	16 56 41.3	+4.7
	baz=20,SNR=13						
KASI	**Kota Agung**	**20.84**	**282**	P	**P**	**16 56 39.8**	**-0.9**
PMG	**Port Moresby**	**21.86**	**90**	LR	LR	17 06 18.7	
	comp=Z,76nm,18.7s,baz=267,slow=40						
CTAO	**Charters Tower**	**22.68**	**118**	P	**P**	**16 57 02.6**	**+2.2**
	24nm,1.2s						
MANU	**Manus Island**	**23.69**	**71**	P	**P**	**16 57 08.8**	**-1.7**
	baz=24,SNR=3.3						
BKNI	**Bangkinang**	**26.06**	**292**	P	**P**	**16 57 35.7**	**+3.4**
	baz=26,SNR=3.8						
STKA	**Stephens Creek**	**26.40**	**147**	LR	LR	17 09 15.8	
	comp=Z,112nm,21.0s,baz=14,slow=39						
STKA	**Stephens Creek**	**26.40**	**147**	*e*P	**P**	**16 57 35.9**	**+0.9**
	1.3nm,0.8s						
PSI	**Prapat**	**29.04**	**295**	LR	LR	17 10 56.8	
	comp=Z,92nm,21.3s,baz=91,slow=39						
PATS	**Pohnpei**	**37.30**	**64**	P	**P**	**16 59 08.4**	**-2.5**
	baz=37,SNR=3.5						
CMAR	**Chiang Mai Arr**	**38.44**	**318**	P	**P**	**16 59 19.9**	**-0.6**
	2.7nm,0.9s,baz=141,slow=6.8,SNR=15						
CMAR				PcP	**PcP**	**17 01 35.3**	**+1.9**
	0.4nm,0.4s,baz=185,slow=1.5,SNR=5.0						
CMAR				LR	LR	17 19 28.0	
	comp=Z,12nm,18.3s,baz=166,slow=43						
XAN	**Xi'an**	**46.67**	**342**	P	**P**	**17 00 25.8**	**-1.3**
XAN				PMZ			
	9.0nm,0.9s						
XAN				PMZ			
	23nm,5.4s						
KSAR	**Wonju Array Be**	**47.58**	**3**	P	**P**	**17 00 34.4**	**+0.3**
KSRS	**Korea Array**	**47.59**	**3**	P	**P**	**17 00 34.4**	**+0.2**
	2.2nm,0.9s,baz=181,slow=9.6,SNR=13						
MJAR	**Matsushiro Arr**	**48.23**	**14**	P	**P**	**17 00 38.1**	**-1.1**
	0.9nm,0.5s,baz=188,slow=7.6,SNR=4.9						
LZH	**Lanzhou**	**50.27**	**338**	*e*P	**P**	**17 00 55.3**	**+0.3**
LZH				pP	**pP**	**17 01 00.5**	**-4.9**
LZH				sP	sP	17 01 02.5	-7.1
LZH				PMZ			
	29nm,1.0s						
LZH				PMZ			
	110nm,4.0s						
LSA	**Lhasa**	**51.43**	**322**	*e*P	**P**	**17 01 04.2**	**+0.1**
	10nm,1.3s						
ODAN	**Odare**	**51.93**	**316**	*e*P	**P**	**17 01 06.5**	**-1.2**
	7.0nm,0.6s						
TAPN	**Taplejung**	**52.03**	**317**	*e*P	**P**	**17 01 06.1**	**-2.4**
	15nm,0.6s						
HHC	**Hu-ho-hao-te**	**52.39**	**347**	*e*P	P	17 01 16.3	+5.6
HHC				PP	PP	17 03 16.5	+6.7
HHC				PMZ			
	9.0nm,1.1s						
HHC				PMZ			
	37nm,5.4s						
HHC				LN			
	70nm,15.9s						
HHC				LE			
	100nm,16.9s						
RAMN	**Ramite**	**52.53**	**316**	*e*P	**P**	**17 01 11.4**	**-0.8**
	26nm,0.6s						
GUN	**Gumba**	**53.63**	**316**	*e*P	**P**	**17 01 19.3**	**-1.1**
	18nm,0.5s						
PKI	**Pulchoki**	**53.74**	**315**	*e*P	**P**	**17 01 19.7**	**-1.5**
	12nm,0.6s						
PKIN	**Phulchoki**	**53.76**	**315**	*e*P	**P**	**17 01 19.9**	**-1.3**
	3.5nm,0.4s						
KKN	**Kakani**	**53.97**	**316**	*e*P	**P**	**17 01 21.6**	**-1.1**
DMN	**Daman**	**53.98**	**315**	*e*P	**P**	**17 01 21.7**	**-1.1**
	13nm,0.7s						
GKN	**Gorkha**	**54.55**	**315**	*e*P	**P**	**17 01 25.8**	**-1.0**
	15nm,0.8s						
USRK	**Ussuriysk Ar.**	**54.62**	**6**	P	**P**	**17 01 27.3**	**+0.5**
	3.6nm,0.7s,baz=192,slow=5.2,SNR=6.9						
GTA	**Gaotai**	**54.72**	**336**	*e*P	**P**	**17 01 28.5**	**+0.6**
GTA				pP	**pP**	**17 01 34.0**	**-4.4**
GTA				sP	sP	17 01 37.0	-5.6
GTA				PMZ			
	7.0nm,1.1s						
KOLN	**Koldanda**	**55.13**	**314**	*e*P	**P**	**17 01 30.1**	**-1.0**
	16nm,0.9s						
DANN	**Dangsing**	**55.37**	**315**	*e*P	**P**	**17 01 31.9**	**-1.0**
ULN	**Ulaanbaatar**	**60.07**	**346**	*e*P	**P**	**17 02 05.9**	**+0.4**
	11nm,1.1s						
SONM	**Songino Array**	**60.20**	**346**	P	**P**	**17 02 06.5**	**+0.2**
	3.6nm,0.8s,baz=168,slow=7.6,SNR=9.2						
MK31	**Makanchi Array**	**68.43**	**330**	*e*P	**P**	**17 03 00.2**	**+0.1**
MKAR	**Makanchi Array**	**68.43**	**330**	P	**P**	**17 03 00.1**	**+0.1**
	7.7nm,0.9s,baz=134,slow=7.4,SNR=56						
TKM2	**Tokmak 2**	**69.52**	**323**	P	**P**	**17 03 06.1**	**-1.1**
EKS2	**Erkin-Say**	**70.45**	**322**	P	**P**	**17 03 13.4**	**+0.6**
ZAA0	**Zalesovo Array**	**72.48**	**336**	*e*P	**P**	**17 03 23.4**	**-1.2**
ZALV	**Zalesovo Beam**	**72.48**	**336**	P	**P**	**17 03 23.8**	**-0.9**
	2.3nm,0.6s,baz=131,slow=4.5,SNR=15						
BRVK	**Borovoye**	**78.38**	**330**	P	**P**	**17 03 59.0**	**+0.4**
	7.9nm,1.1s						
QSPA	**South Pole Qui**	**79.69**	**180**	*e*P	**P**	**17 04 06.5**	**+0.7**
	5.7nm,1.3s						
ABKAR	**Akbulak array**	**82.09**	**323**	*e*P	**P**	**17 04 17.9**	**-0.7**
TORD	**Torodi Ar. Bea**	**124.50**	**279**	PKP	**PKPdf**	**17 10 59.9**	**+1.6**
	0.2nm,0.5s,baz=51,slow=1.8,SNR=3.8						
JSRW	**J. Sargeant Re**	**145.84**	**33**	*e*PKPdf	**PKPab**	**17 11 39.9**	**+1.7**

*IDC **29** 16:54:26.8±3.5, 6.70N×71.74W, h120km±31km, mb3.3/2, mb1 3.6/3, mb1mx3.1/26, mbtmp3.8/3, Error ellipse: s-maj=45.0km s-min=36.2km az=151.0*
*ISCJB **29** 16:54:34.3±0.6, 6.88N±0.08×73.02W±0.09, h166km, mb3.5/2, Error ellipse: s-maj=14.9km s-min=5.7km az=40.3*
*FUNV **29** 16:54:34.8, 6.76N×73.17W, h165km, MW4.1*

ISC 29 16:54:34.8±1.0, 6.87N±0.08×73.08W±0.09, h166km, n18, σ0s75/21, 5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.25**	**38**	⇓*i*P	**Pn**	**16 55 04.2**	**+0.8**
CAPV				*e*S	**Sn**	**16 55 24.9**	**-0.6**
ROSC	**El Rosal**	**2.35**	**212**	P	**Pn**	**16 55 15.6**	**+0.2**
	48nm,0.3s,baz=291,slow=3.8,SNR=30						
ROSC				S	**Sn**	**16 55 45.6**	**-1.2**
	40nm,0.3s,baz=97,slow=19,SNR=9.2						
VIGV	**El Vigia**	**2.59**	**41**	⇓*i*P	**Pn**	**16 55 18.6**	**+0.8**
VIGV				*e*S	**Sn**	**16 55 51.0**	**-0.4**
SOCV	**Socops**	**2.62**	**57**	⇓*i*P	**Pn**	**16 55 18.9**	**+0.8**
SOCV				*e*S	**Sn**	**16 55 51.5**	**-0.3**
ELOV	**Elor

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.54**	**327**	P	Pn	17 23 59.0	+0.4
ATAH	5.8nm,0.3s,baz=58,slow=2.0,SNR=27			S	Sn	17 24 32.0	+0.1
NNA	**Nana**	**2.70**	**177**	P	Pn	17 23 59.6	-0.6
NNA	24nm,0.3s,baz=35,slow=5.1,SNR=62			S	Sn	17 24 35.2	+0.5
LPAZ	**La Paz**	**11.10**	**130**	P	Pn	17 25 50.8	-0.1
SIV	107nm,0.3s,baz=201,slow=16,SNR=17 **San Ignacio**	**16.90**	**115**	P	P	17 27 02.2	0.0
TXAR	0.6nm,0.3s,baz=314,slow=12,SNR=10 **Lajitas Array**	**46.20**	**327**	P	P	17 31 24.8	+0.2
TORD	0.3nm,0.5s,baz=151,slow=9.5,SNR=5.6 **Torodi Ar. Bea**	**81.22**	**75**	P	P	17 35 14.1	+0.1
ASAR	0.2nm,0.3s,baz=266,slow=5.2,SNR=5.5 **Alice Springs**	**135.47**	**222**	PKP	PKPdf	17 42 17.2	0.0
WRA	0.4nm,0.5s,baz=135,slow=2.3,SNR=6.4 **Warramunga Arr**	**137.65**	**227**	PKP	PKPdf	17 42 21.4	+0.2
KSRS	0.9nm,0.5s,baz=122,slow=2.1,SNR=14 **Korea Array**	**144.04**	**325**	PKP	PKPab	17 42 29.2	-0.8
	1.0nm,0.8s,baz=49,slow=3.7,SNR=6.5						

*ISCJB **29** 17:32:11.7±0.3, 44°.05N±0°.02×105°.39W±0°.03, h0km, Error ellipse: s-maj=2.8km s-min=2.4km az=136.6*
*NEIC **29** 17:32:11.3±0.6, 44°.21N×105°.53W, h0km, ML3.0, Error ellipse: s-maj=8.1km s-min=6.3km az=161.0, Suspected Mining explosion.*
NEIC 10 km [5 miles] SSW of Gillette.
*IDC **29** 17:32:12.6±1.0, 44°.39N×105°.85W, h0km, mb1 3.5/4, mb1mx3.3/29, mbtmp3.2/4, ML3.1/4, Error ellipse: s-maj=23.9km s-min=8.3km az=145.0*

ISC 29 17:32:12.0±0.7, 44°.11N±0°.02×105°.44W±0°.02, h0km, n76, σ1§08/81, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.15**	**186**	P	**Pg**	**17 32 15.4**	**+0.5**
H23A	baz=0.2,SNR=1000 **Clabaugh Cattl**	**0.45**	**3**	P	**Pb**	**17 32 22.1**	**-0.8**
I24A	baz=0.4,SNR=14 **Kuemmerle Ranc**	**0.64**	**113**	P	**Pg**	**17 32 23.8**	**-0.4**
J23A	baz=0.7,SNR=53 **Dilts Ranch, B**	**0.71**	**187**	P	**Pg**	**17 32 25.6**	**0.0**
I22A	baz=0.8,SNR=63 **9 Mile Ranch,**	**0.79**	**254**	P	**Pb**	**17 32 28.2**	**-0.4**
I22A	baz=0.8			S	**Sb**	**17 32 40.2**	**+0.3**
H22A	**Clearmont**	**0.81**	**307**	P	**Pb**	**17 32 29.2**	**+0.1**
H24A	baz=0.7,SNR=12 **Dirks Ranch, A**	**0.90**	**45**	P	**Pg**	**17 32 29.4**	**+0.2**
J24A	baz=0.9,SNR=139 **Dixon Ranch, L**	**0.96**	**144**	P	**Pg**	**17 32 29.8**	**-0.6**
RSSD	baz=1.1,SNR=229 **Black Hills**	**1.01**	**89**	*e*P	**Pg**	**17 32 30.4**	**-1.0**
J22A	**Midwest**	**1.03**	**227**	P	**Pg**	**17 32 31.4**	**-0.3**
G23A	baz=1.0 **Biddle**	**1.09**	**2**	P	**Pn**	**17 32 33.9**	**-0.7**
H21A	baz=1.0,SNR=52 **Big Horn, Sher**	**1.26**	**295**	P	**Pn**	**17 32 37.0**	**0.0**
G22A	baz=1.2,SNR=22 **Birney**	**1.26**	**331**	P	**Pn**	**17 32 37.2**	**+0.2**
K23A	baz=1.1,SNR=105 **Bowen Ranch, D**	**1.36**	**186**	P	**Pg**	**17 32 37.2**	**-0.9**
I21A	baz=1.5,SNR=22 **Big Trails, Te**	**1.37**	**258**	P	**Pn**	**17 32 37.8**	**-0.8**
J25A	baz=1.3 **Sunshine Ranch**	**1.39**	**121**	P	**Pn**	**17 32 37.4**	**-1.3**
H25A	baz=1.5,SNR=121 **Fruitdale**	**1.42**	**68**	P	**Pn**	**17 32 37.6**	**-1.5**
G24A	baz=1.4,SNR=24 **Alzada**	**1.42**	**31**	P	**Pb**	**17 32 39.2**	**-0.2**
K24A	baz=1.4,SNR=74 **Anderson Ranch**	**1.46**	**162**	P	**Pn**	**17 32 38.6**	**-1.2**
F23A	baz=1.6,SNR=42 **Volborg**	**1.61**	**1**	P	**Pg**	**17 32 42.4**	**-0.4**
F23A	baz=1.5,SNR=106			S	**Sg**	**17 33 04.4**	**+0.7**
J21A	baz=1.5 **Lysite**	**1.64**	**243**	P	**Pn**	**17 32 42.2**	**-0.2**
J21A	baz=1.6,SNR=129			S	**Sg**	**17 33 04.1**	**-0.7**
K22A	baz=1.6 **Casper**	**1.66**	**209**	P	**Pn**	**17 32 42.4**	**-0.2**
K22A	baz=1.7,SNR=82 **Casper**	**1.66**	**209**	*e*P	**Pn**	**17 32 42.0**	**-0.5**
G21A	**Lodge Grass**	**1.68**	**312**	P	**Pg**	**17 32 43.9**	**-0.3**
F22A	baz=1.6,SNR=46 **Rosebud**	**1.77**	**341**	P	**Pb**	**17 32 44.8**	**-0.4**
F22A	baz=1.7,SNR=38			Sb	**Sg**	**17 33 10.7**	**+2.1**
G25A	baz=1.7 **Newell**	**1.80**	**52**	Pb	**Pb**	**17 32 45.3**	**-0.6**
I26A	baz=1.8 **New Underwood**	**1.86**	**92**	Pg	**Pb**	**17 32 46.9**	**0.0**
H20A	baz=1.9 **Greybull**	**1.88**	**282**	P	**Pb**	**17 32 46.7**	**-0.5**
H20A	baz=1.8,SNR=60			S	**Sg**	**17 33 11.9**	**-0.3**
K25A	baz=1.8 **Mack Ranch, Ha**	**1.89**	**142**	Pb	**Pn**	**17 32 45.9**	**+0.4**
J26A	baz=2.0 **Sides Ranch, S**	**1.89**	**114**	Pb	**Pn**	**17 32 46.0**	**+0.4**
I20A	baz=2.0 **Worland**	**1.95**	**266**	P	**Pb**	**17 32 47.5**	**-0.9**
I20A	baz=1.9,SNR=114			S	**Sg**	**17 33 13.3**	**-1.2**
F21A	baz=1.9 **Absaloka Mine,**	**2.09**	**326**	Sb	**Sg**	**17 33 20.1**	**+1.1**
G20A	baz=2.0 **Bridger**	**2.27**	**300**	P	**Pn**	**17 32 51.6**	**+0.7**
F25A	baz=2.2,SNR=48 **Bowman**	**2.29**	**37**	Sb	**Sb**	**17 33 24.5**	**+1.3**
G26A	baz=2.3 **Maurine**	**2.34**	**59**	Sb	**Sb**	**17 33 25.4**	**+0.8**
E22A	baz=2.4 **Miles City**	**2.35**	**351**	Sb	**Sg**	**17 33 27.1**	**-0.5**
F20A	baz=2.3 **Billings**	**2.56**	**312**	P	**Pn**	**17 32 55.3**	**+0.5**
I19A	baz=2.4,SNR=11 **Meeteetse**	**2.56**	**270**	P	**Pb**	**17 32 56.7**	**-2.3**
E24A	baz=2.5,SNR=34 **Baker**	**2.58**	**18**	Sb	**Sg**	**17 33 33.1**	**-1.6**
H19A	baz=2.5 **Powell**	**2.60**	**284**	P	**Pn**	**17 32 56.6**	**+1.2**
F26A	baz=2.5,SNR=14 **Lodgepole**	**2.62**	**48**	Sb	**Sb**	**17 33 33.2**	**+0.5**
LAO	baz=2.6 **LASA Array**	**2.63**	**348**	P	**Pn**	**17 32 56.4**	**+0.6**
LAO	baz=2.5 **LASA Array**	**2.63**	**348**	*e*Pn	**Pn**	**17 32 55.5**	**-0.4**
E21A	**Keefer Ranch,**	**2.69**	**335**	Sb	**Sg**	**17 33 37.3**	**-1.1**
PHWY	baz=2.6 **Pilot Hill**	**2.81**	**180**	*e*Pn	**Pn**	**17 32 58.7**	**+0.3**
RLMT	**Red Lodge**	**2.91**	**292**	P	**Pn**	**17 33 01.3**	**+1.5**
RLMT	baz=2.8,SNR=14 **Red Lodge**	**2.91**	**292**	*e*Pg	**Pn**	**17 33 01.1**	**+1.4**
PDAR	**Pinedale Array**	**3.29**	**247**	Pn	**Pn**	**17 33 07.2**	**+2.3**
PDAR	1.0nm,0.3s,baz=72,slow=18,SNR=21			Pg	**Pb**	**17 33 11.2**	**-0.1**
BW06	4.7nm,0.3s,baz=65,slow=19,SNR=43 **Boulder Array**	**3.29**	**247**	*e*Pn	**Pn**	**17 33 06.1**	**+1.2**
GCMT	**Greycliff**	**3.44**	**301**	*e*P	**Pn**	**17 33 07.7**	**+0.8**
H17A	**Grant Village**	**3.70**	**276**	*e*Pg	**Pn**	**17 33 12.5**	**+1.9**
LOHW	**Long Hollow**	**3.77**	**264**	*e*Pn	**Pn**	**17 33 13.4**	**+1.9**
FLWY	**Flagg Ranch**	**3.79**	**271**	*e*Pn	**Pn**	**17 33 10.8**	**-1.1**
MOOW	**Moose Ponds**	**3.85**	**266**	*e*Pn	**Pn**	**17 33 09.8**	**-2.9**
SNOW	**Snow King Moun**	**3.90**	**262**	*e*Pg	**Pb**	**17 33 23.1**	**+1.2**
IMW	**Indian Meadow**	**3.97**	**269**	*e*Pn	**Pn**	**17 33 13.7**	**-0.8**
REDW	**Red Top Meadow**	**3.99**	**261**	*e*Pn	**Pn**	**17 33 13.4**	**-1.3**
REDW				*e*Pg	**Pb**	**17 33 23.7**	**+0.3**
TPAW	**Teton Pass**	**4.04**	**263**	*e*Pg	**Pg**	**17 33 27.2**	**-2.1**
ISCO	**Idaho Springs**	**4.31**	**182**	*e*Pn	**Pn**	**17 33 20.8**	**+1.7**
BOZ	**Bozeman (W)**	**4.66**	**291**	*e*P	**Pn**	**17 33 24.6**	**+0.9**
EGMT	**Eagleton**	**4.93**	**324**	*e*Pg	Pg	17 33 42.8	-3.6
SMCO	**Snowmass**	**5.06**	**194**	*e*Pg	**Pb**	**17 33 43.2**	**+1.5**
HWUT	4.7nm,0.6s **Hardware Ranch**	**5.15**	**243**	*e*Pn	**Pn**	**17 33 32.2**	**+1.7**
TCUT	6.1nm,0.4s **Toone Canyon**	**5.33**	**238**	*e*Pn	**Pn**	**17 33 34.7**	**+1.7**
	27nm,0.9s						
MCMT	**McKenzie Canyo**	**5.35**	**280**	*e*Pg	**Pb**	**17 33 46.2**	**-0.2**
HVU	1.0nm,0.3s **Hansel Valley**	**5.87**	**249**	*e*Pn	**Pn**	**17 33 41.8**	**+1.5**
CHMT	6.8nm,0.9s **Chamberlain Mo**	**6.16**	**300**	*e*Pn	**Pn**	**17 33 45.4**	**+0.9**
SRU	1.2nm,0.3s **San Rafael**	**6.28**	**219**	*e*Pn	**Pn**	**17 33 46.4**	**+0.3**
ECSD	6.4nm,0.4s **EROS Data Cent**	**6.38**	**90**	*e*Pg	Pb	17 34 08.3	+4.4
DUG	4.1nm,0.4s **Dugway**	**6.73**	**237**	*e*Pn	**Pn**	**17 33 52.6**	**+0.5**
SWMT	4.6nm,0.3s **Swartz Lake**	**6.88**	**303**	*e*Pn	**Pn**	**17 33 54.7**	**+0.5**
AGMN	1.3nm,0.3s **Agassiz Nation**	**7.85**	**54**	*e*Pn	**Pn**	**17 34 07.0**	**-0.3**
ULM	4.6nm,0.3s **Lac du Bonnet**	**8.95**	**43**	Pn	**Pn**	**17 34 21.1**	**-1.3**
ULM	0.7nm,0.3s,baz=230,slow=12,SNR=4.1			Lg	Lg	17 36 51.0	
I56US	0.2nm,0.3s,baz=150,slow=20,SNR=6.6 **NEWPORT INFRAS**	**9.11**	**301**	*i*		18 21 10.0	
NVAR	baz=114,slow=297,SNR=0.9 **Mina Array Bea**	**11.22**	**244**	Pn	**Pn**	**17 34 55.5**	**+1.7**
TXAR	0.1nm,0.3s,baz=52,slow=13,SNR=2.7 **Lajitas Array**	**14.82**	**174**	Pn	**P**	**17 35 49.2**	**+0.2**
TXAR	0.0nm,0.3s,baz=349,slow=8.4,SNR=3.2			Lg	Lg	17 40 02.5	
	0.0nm,0.3s,baz=3.1,slow=33,SNR=3.5						

IDC 29 17:32:20.1±2.5, 11°.11S×123°.51E, h0km, mb3.6/1, mb1 3.4/3, mb1mx3.3/34, mbtmp3.2/3, ML2.9/2, Error ellipse: s-maj=210.5km s-min=34.1km az=51.0, South of Timor

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.63**	**131**	Pn	Pn	17 35 34.8	-0.1
WRA	0.1nm,0.3s,baz=311,slow=14,SNR=4.7			Sn	Sn	17 37 54.9	-12
ASAR	**Alice Springs**	**15.93**	**143**	Pn	Pn	17 36 05.8	0.0
ASAR	0.0nm,0.3s,baz=318,slow=12,SNR=5.5			Sn	Sn	17 38 57.3	-6.0
MKAR	0.0nm,0.3s,baz=309,slow=21,SNR=2.7 **Makanchi Array**	**68.40**	**331**	P	P	17 43 23.7	0.0
	0.4nm,0.8s,baz=126,slow=6.3,SNR=4.7						

MAN 29 17:50:45, 7°.21N×126°.51E, h45km, mb4.8, ML3.7, MS3.7, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.98**	**352**	⇑*i*P	Pn	17 51 04.9	+2.5
BIPH				*i* S	Sn	17 51 17.5	+2.3
CGP	**Cagayan de Oro**	**2.18**	**305**	⇓*e*P	Pn	17 51 18.9	+0.1
CGP				*e*S	Sn	17 51 45.3	+0.6
CTBH	**Cotabato--PC H**	**2.24**	**271**	⇑*i*P	Pn	17 51 21.1	+1.4

*ISCJB **29** 18:02:34.3±0.6, 32°.30N±0°.02×115°.26W±0°.02, h11km±4km, Error ellipse: s-maj=3.4km s-min=3.2km az=153.1*
*NEIC **29** 18:02:34.9, 32°.24N×115°.31W, h13km, ML3.9(PAS), After PAS.*
NEIC Felt at Mexicali. Also felt at El Centro, California.
*MEX **29** 18:02:35.9±0.5, 32°.39N×115°.40W, h5km, MD4.0*
*ECX **29** 18:02:36.1±0.6, 32°.28N×115°.31W, h6km, MD3.9, ML4.1*

ISC 29 18:02:34.6±0.9, 32°.27N±0°.02×115°.29W±0°.02, h12km±7km, n52, σ1§10/67, 4C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.15**	**356**	*e*P	**Pb**	**18 02 38.7**	**-0.8**
CPBX				*e*S	**Sg**	**18 02 41.3**	**+0.7**
MBIG	**Mexicali**	**0.16**	**29**	*e*P	**Pb**	**18 02 39.3**	**-0.3**
MBIG				*i* S	**Sg**	**18 02 41.4**	**+0.6**
SGL	**Mount Signal**	**0.53**	**316**	⇓*i*P	**Pg**	**18 02 45.1**	**+0.1**
EMSC	**East Mesa**	**0.54**	**29**	⇑*i*P	**Pg**	**18 02 45.0**	**-0.1**
DREC	**Desert Rsrch C**	**0.55**	**346**	⇓*i*P	**Pb**	**18 02 46.3**	**0.0**
ERPC	**Ernies Place**	**0.57**	**326**	*e*P	**Pb**	**18 02 46.2**	**-0.3**
COA	**Coachella**	**0.61**	**13**	⇑*i*P	**Pb**	**18 02 46.9**	**-0.4**
WESC	**Westside Schoo**	**0.61**	**323**	*e*P	**Pb**	**18 02 47.0**	**-0.4**
RDX	**Rancho Dawling**	**0.65**	**239**	⇑*e*P	**Pb**	**18 02 47.7**	**-0.4**
RDX				*e*S	**Sb**	**18 02 56.4**	**-0.7**
RDX				⇓*e*		18 02 58.5	
RDX				IAML		18 02 58.5	
	comp=N,6μm,0.4s						
YUH	**Yuha Desert**	**0.66**	**305**	⇓*i*P	**Pg**	**18 02 47.0**	**-0.3**
YMD	**Yuma Desert**	**0.69**	**65**	⇑*i*P	**Pb**	**18 02 48.2**	**-0.4**
RMX	**La Rumorosa**	**0.74**	**297**	*e*P	**Pg**	**18 02 48.9**	**-0.2**
RMX				*e*S	**Sg**	**18 02 58.5**	**-0.3**
RMX				IAML		18 03 00.4	
	comp=N,8μm,0.5s						
RMX				⇓*e*		18 03 00.4	
IBP	**Imperial Bould**	**0.78**	**300**	P	**Pg**	**18 02 49.6**	**-0.2**
IBP	baz=0.8			S	**Sg**	**18 02 59.6**	**-0.4**
SWSC	**Sam W. Stewart**	**0.79**	**328**	P	**Pg**	**18 02 49.2**	**-0.8**
SWSC	baz=0.8			S	**Sg**	**18 03 00.1**	**-0.3**
ECBX	baz=0.8 **El Chinero**	**0.82**	**166**	*e*P	**Pg**	**18 02 50.1**	**-0.3**
ECBX				*e*S	**Sg**	**18 03 01.3**	**+0.1**
GLA	**Glamis**	**0.87**	**26**	P	**Pg**	**18 02 50.5**	**-1.0**
	baz=0.9						
GLA	**Glamis**	**0.87**	**26**	*e*Pg	**Pg**	**18 02 50.4**	**-1.1**
ZAX	**El Zacaton**	**1.12**	**228**	*e*P	**Pb**	**18 02 55.9**	**-0.2**
ZAX				*e*S	**Sg**	**18 03 11.1**	**+0.2**
MONP	**Monument Peak**	**1.14**	**303**	P	**Pb**	**18 02 55.0**	**-1.4**
MONP	baz=1.1			S	**Sb**	**18 03 10.7**	**-0.6**
SPIG	baz=1.1 **San Pedro Mart**	**1.23**	**187**	*e*P	**Pn**	**18 02 57.3**	**-0.6**
SPIG				*e*S	**Sg**	**18 03 14.9**	**+0.6**
SPIG	**San Pedro Mart**	**1.23**	**187**	*e*P	**Pn**	**18 02 57.3**	**-0.6**
SPIG				*e*S	**Sg**	**18 03 14.9**	**+0.6**
SPX	**San Pedro Mart**	**1.23**	**187**	*e*P	**Pn**	**18 02 57.4**	**-0.6**
SPX				IAML		18 03 16.1	
	comp=E,2μm,0.6s						
SPX				IAML		18 03 16.8	
	comp=N,2μm,0.6s						
SPX				⇓*e*		18 03 16.8	
BAR	**Barrett**	**1.24**	**290**	*e*Pg	**Pn**	**18 02 56.8**	**-1.1**
BAR	**Barrett**	**1.24**	**290**	*e*P	**Pn**	**18 02 57.0**	**-0.8**
ECNX	**Esteban Cantu**	**1.27**	**242**	*e*P	**Pn**	**18 02 58.1**	**-0.2**
ECNX				*e*S	**Sg**	**18 03 15.1**	**-0.4**
PBX	**Punta Banda**	**1.33**	**247**	*e*P	**Pn**	**18 02 59.0**	**0.0**
PBX				*e*S	**Sn**	**18 03 16.8**	**0.0**
BC3	**Big Chuckawall**	**1.39**	**354**	P	**Pn**	**18 02 58.3**	**-1.7**
	baz=1.4						
109C	**Camp Elliot, M**	**1.65**	**292**	P	**Pn**	**18 03 02.8**	**-0.7**
	baz=1.7						
109C				S	**Sb**	**18 03 25.4**	**-0.5**
	baz=1.7						
PFO	**Pinyon Flat Ob**	**1.66**	**324**	P	**Pn**	**18 03 01.9**	**-1.8**
	baz=1.7						
PFO	**Pinyon Flat Ob**	**1.66**	**324**	*e*Pn	**Pn**	**18 03 01.5**	**-2.3**
IRM	**Iron Mountain**	**1.89**	**4**	P	**Pn**	**18 03 05.3**	**-1.5**
	baz=1.9						
214A	**Organ Pipe Nat**	**2.13**	**98**	P	**Pn**	**18 03 08.7**	**-1.4**
	baz=2.1						
214A				Sb	**Sg**	**18 03 41.3**	**-1.7**
	baz=2.1						
214A	**Organ Pipe Nat**	**2.13**	**98**	*e*Pn	**Pn**	**18 03 08.2**	**-1.9**
LDFC	**Landfair**	**2.81**	**3**	*e*Pn	**Pn**	**18 03 19.4**	**-0.1**
SCI	**San Clemente I**	**2.84**	**285**	Sb	**Sb**	**18 04 01.4**	**+1.4**
	baz=2.8						
CIS	**Catalina Islan**	**2.85**	**294**	Sb	**Sb**	**18 04 01.7**	**+1.1**
	baz=2.9						
MWC	**Mount Wilson**	**3.03**	**311**	*e*Pn	**Pb**	**18 03 28.7**	**0.0**
PASC	**Pasadena Art C**	**3.08**	**309**	*e*Pn	**Pb**	**18 03 29.6**	**+0.1**
GSC	**Goldstone**	**3.28**	**338**	*e*Pn	**Pn**	**18 03 28.6**	**+2.6**
TUC	**Tucson**	**3.82**	**88**	*i* P	**Pn**	**18 03 34.3**	**+0.9**
TUC				*i* S	**Sn**	**18 04 20.4**	**+2.1**
SHPR	**Sheep Range**	**4.23**	**1**	*e*Pn	**Pn**	**18 03 38.7**	**-0.4**
ISA	**Isabella**	**4.30**	**323**	*e*Pg	**Pb**	**18 03 52.7**	**+2.5**
DAC	**Darwin (Calif)**	**4.43**	**335**	*e*Pn	**Pn**	**18 03 40.6**	**-1.3**
WUAZ	**Wupatki**	**4.59**	**44**	*e*Pn	**Pn**	**18 03 44.9**	**+0.8**
W18A	**Petrified Fore**	**5.43**	**57**	*e*Pn	**Pn**	**18 03 57.1**	**+1.4**
	comp=N,30nm,0.7s						
CCUT	**Cedar City**	**5.50**	**16**	*e*Pn	**Pn**	**18 03 57.6**	**+0.9**
	comp=N,24nm,0.8s						
TPH	**Tonopah**	**6.00**	**345**	*e*Pg	**Pg**	**18 04 31.7**	**+2.0**
	comp=N,10nm,0.7s						
R11A	**Troy Canyon, C**	**6.07**	**358**	*e*Pg	**Pg**	**18 04 27.8**	**-3.1**
	comp=N,7.3nm,0.6s						
121A	**Cookes Peak, D**	**6.35**	**86**	*e*Pn	**Pn**	**18 04 08.5**	**+0.2**
	comp=N,9.9nm,0.4s						
MSU	**Marysvale**	**6.73**	**21**	*e*Pn	Pn	18 04 16.9	+3.4
	comp=N,27nm,0.7s						
LPM	**Los Pinos Moun**	**7.53**	**72**	*e*Pn	**Pn**	**18 04 25.2**	**+0.7**
	comp=N,3.3nm,0.4s						
PV04	**Paradox Valley**	**8.03**	**39**	*e*Pn	**Pn**	**18 04 30.7**	**-0.7**

KRSC 29 18:08:21.8±4.0, 49°.85N×156°.92E, h19km±39km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.98**	**329**	*e*P	Pb	18 08 39.4	-0.8
SKR				*e*S	Sb	18 08 51.7	-1.1
PAU	**Pauzhetka**	**1.62**	**358**	*e*P	Pb	18 08 51.1	0.0
PAU				*e*S	Sb	18 09 11.8	+0.6
RUS	**Russkaya**	**2.78**	**21**	*e*P	Pb	18 09 08.1	-2.7
UGLR	**Uglovaya**	**3.57**	**19**	*e*P	Pb	18 09 21.8	-2.7
AVH	**Avacha**	**3.61**	**18**	*e*P	Pb	18 09 22.0	-3.0
KOK	**Koryaka**	**3.61**	**17**	*e*P	Pb	18 09 21.6	-3.6
KRX	**Arik**	**3.68**	**16**	*e*P	Pb	18 09 22.5	-3.9
SPN	**Mys Shipunski**	**3.79**	**30**	*e*P	Pn	18 09 22.9	+3.8
GNL	**Ganaly**	**3.91**	**9**	*e*P	Pb	18 09 25.7	-4.5

*SIGU **29** 18:38:17.6, 45°.16N×25°.82E, h10km, mb2.8*
*CSEM **29** 18:38:17.8±0.1, 45°.16N×25°.82E, h12km, MD3.6, Error ellipse: s-maj=2.6km s-min=2.0km az=19.0*
*BUC **29** 18:38:17.4±0.5, 45°.17N×25°.82E, h13km±4km, MD3.6/4, Error ellipse: s-maj=5.4km s-min=3.8km az=11.0*
*ISCJB **29** 18:38:18.4±0.2, 45°.16N±0°.02×25°.82E±0°.02, h16km, Error ellipse: s-maj=2.5km s-min=1.8km az=33.4*

ISC 29 18:38:17.9±0.7, 45°.15N±0°.02×25°.82E±0°.01, h16km, n123, σ0§89/178, 60C-39D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SECR		**0.21**	**122**	⇓*i*P	**Pb**	**18 38 23.1**	**-0.2**
SECR		**0.21**	**122**	S	**Sb**	**18 38 26.8**	**-0.2**
SECR		**0.21**	**122**	⇓*i*P	**Pb**	**18 38 23.1**	**-0.2**
SECR				*i* S	**Sb**	**18 38 26.8**	**-0.2**
SECR		**0.21**	**122**	⇓*i*P	**Pb**	**18 38 23.1**	**-0.2**
SECR				*i* S	**Sb**	**18 38 26.8**	**-0.2**
PLAR	**PLOIESTI**	**0.28**	**147**	⇓*i*P	**Pb**	**18 38 24.4**	**0.0**
PLAR	**PLOIESTI**	**0.28**	**147**	⇓*i*P	**Pb**	**18 38 24.4**	**0.0**
PLAR				*i* S	**Sb**	**18 38 28.8**	**0.0**
PLAR	**PLOIESTI**	**0.28**	**147**	⇓*i*P	**Pb**	**18 38 24.4**	**0.0**
PLAR				*i* S	**Sb**	**18 38 28.8**	**0.0**
MLR	**Muntele Rosu**	**0.36**	**15**	⇓*i*P	**Pg**	**18 38 24.5**	**-0.8**
MLR	**Muntele Rosu**	**0.36**	**15**	⇓*i*P	**Pg**	**18 38 24.5**	**-0.8**
MLR				*i* S	**Sg**	**18 38 30.2**	**-0.2**
MLR	**Muntele Rosu**	**0.36**	**15**	⇓*i*P	**Pg**	**18 38 24.5**	**-0.8**
MLR				*i* S	**Sg**	**18 38 30.2**	**-0.2**
ISR	**Istrita**	**0.51**	**93**	⇑*i*P	**Pg**	**18 38 28.1**	**0.0**
ISR	**Istrita**	**0.51**	**93**	⇑*i*P	**Pg**	**18 38 28.1**	**0.0**
ISR				*i* S	**Sg**	**18 38 35.1**	**+0.1**
ISR	**Istrita**	**0.51**	**93**	⇑*i*P	**Pg**	**18 38 28.1**	**0.0**
ISR				*i* S	**Sg**	**18 38 35.1**	**+0.1**
MTUR	**Matau**	**0.54**	**279**	⇑*i*P	**Pb**	**18 38 28.9**	**-0.1**
MTUR	**Matau**	**0.54**	**279**	⇑*i*P	**Pb**	**18 38 28.9**	**-0.1**
MTUR	**Matau**	**0.54**	**279**	⇑*i*P	**Pb**	**18 38 28.9**	**-0.1**
SULR		**0.56**	**146**	⇓*i*P	**Pb**	**18 38 29.1**	**-0.2**
SULR		**0.56**	**146**	⇓*i*P	**Pb**	**18 38 29.1**	**-0.2**
SULR				*i* S	**Sb**	**18 38 38.2**	**+1.1**
SULR		**0.56**	**146**	⇓*i*P	**Pb**	**18 38 29.1**	**-0.2**
SULR				*i* S	**Sb**	**18 38 38.2**	**+1.1**
VOIR		**0.61**	**298**	⇑*i*P	**Pg**	**18 38 29.7**	**-0.3**
VOIR		**0.61**	**298**	⇑*i*P	**Pg**	**18 38 29.7**	**-0.3**
VOIR				*i* S	**Sb**	**18 38 38.8**	**+0.1**
VOIR		**0.61**	**298**	⇑*i*P	**Pg**	**18 38 29.7**	**-0.3**
VOIR				*i* S	**Sb**	**18 38 38.8**	**+0.1**
GOLR		**0.68**	**243**	⇓*i*P	**Pb**	**18 38 31.7**	**+0.4**
GOLR		**0.68**	**243**	⇓*i*P	**Pb**	**18 38 31.7**	**+0.4**
GOLR				*i* S	**Sb**	**18 38 41.5**	**+1.0**
GOLR		**0.68**	**243**	⇓*i*P	**Pb**	**18 38 31.7**	**+0.4**
GOLR				*i* S	**Sb**	**18 38 41.5**	**+1.0**
CIOR	**Ciorogarla**	**0.70**	**176**	S	**Sn**	**18 38 42.7**	**-0.8**
CIOR	**Ciorogarla**	**0.70**	**176**	*i* S	**Sn**	**18 38 42.7**	**-0.8**
CIOR	**Ciorogarla**	**0.70**	**176**	*i* S	**Sn**	**18 38 42.7**	**-0.8**
BUC1	**Bucharest**	**0.81**	**169**	⇓*i*P	**Pg**	**18 38 33.8**	**+0.1**
BUC1	**Bucharest**	**0.81**	**169**	⇓*i*P	**Pg**	**18 38 33.8**	**+0.1**
BUC1				*i* S	**Sn**	**18 38 46.1**	**-0.2**
BUC1	**Bucharest**	**0.81**	**169**	⇓*i*P	**Pg**	**18 38 33.8**	**+0.1**
BUC1				*i* S	**Sn**	**18 38 46.1**	**-0.2**
HUMR	**Humele**	**0.86**	**224**	⇑*i*P	**Pg**	**18 38 34.6**	**+0.1**
HUMR	**Humele**	**0.86**	**224**	⇑*i*P	**Pg**	**18 38 34.6**	**+0.1**
HUMR				*i* S	**Sn**	**18 38 47.8**	**+0.3**
HUMR	**Humele**	**0.86**	**224**	⇑*i*P	**Pg**	**18 38 34.6**	**+0.1**
HUMR				*i* S	**Sn**	**18 38 47.8**	**+0.3**
PGOR	**Pogoanele**	**0.86**	**106**	⇑*i*P	**Pb**	**18 38 33.8**	**-0.6**
PGOR	**Pogoan

CVD	**Cernavoda**	**1.79**	**117**	⇓	*i* P	**Pn**	**18 38 48.3 +0.3**
CVD	**Cernavoda**	**1.79**	**117**	⇓	*i* P	**Pn**	**18 38 48.3 +0.3**
CVD					*i* S	**Sn**	**18 39 11.1 +0.8**
CVD	**Cernavoda**	**1.79**	**117**	⇓	*i* P	**Pn**	**18 38 48.3 +0.3**
CVD					*i* S	**Sn**	**18 39 11.1 +0.8**
TIRR	**Tirgusor**	**1.97**	**110**	⇓	*i* P	**Pn**	**18 38 51.1 +0.5**
TIRR	**Tirgusor**	**1.97**	**110**	⇓	*i* P	**Pn**	**18 38 51.1 +0.5**
TIRR					*i* S	**Sb**	**18 39 17.0 -0.6**
TIRR	**Tirgusor**	**1.97**	**110**	⇓	*i* P	**Pn**	**18 38 51.1 +0.5**
TIRR					*i* S	**Sb**	**18 39 17.0 -0.6**
TLCR		**2.12**	**88**	⇑	*i* P	**Pn**	**18 38 53.1 +0.5**
TLCR		**2.12**	**88**	⇑	*i* P	**Pn**	**18 38 53.1 +0.5**
TLCR					*i* S	**Sn**	**18 39 18.1 -0.5**
TLCR		**2.12**	**88**	⇑	*i* P	**Pn**	**18 38 53.1 +0.5**
TLCR					*i* S	**Sn**	**18 39 18.1 -0.5**
DEV	**Deva**	**2.18**	**291**		S	**Sb**	**18 39 22.2 -1.4**
DEV	**Deva**	**2.18**	**291**		*i* S	**Sb**	**18 39 22.2 -1.4**
DEV	**Deva**	**2.18**	**291**		*i* S	**Sb**	**18 39 22.2 -1.4**
CJR	**Cluj-Napoca**	**2.20**	**316**	⇓	*i* P	**Pn**	**18 38 54.3 +0.5**
CJR	**Cluj-Napoca**	**2.20**	**316**	⇓	*i* P	**Pn**	**18 38 54.3 +0.5**
CJR	**Cluj-Napoca**	**2.20**	**316**	⇓	*i* P	**Pn**	**18 38 54.3 +0.5**
EFOR	**EFORIE**	**2.28**	**117**		S	**Sb**	**18 39 25.0 -1.4**
EFOR	**EFORIE**	**2.28**	**117**		*i* S	**Sb**	**18 39 25.0 -1.4**
EFOR	**EFORIE**	**2.28**	**117**		*i* S	**Sb**	**18 39 25.0 -1.4**
MANR	**Mangalia**	**2.39**	**123**	⇑	*i* P	**Pn**	**18 38 56.5 +0.2**
MANR	**Mangalia**	**2.39**	**123**	⇑	*i* P	**Pn**	**18 38 56.5 +0.2**
MANR	**Mangalia**	**2.39**	**123**	⇑	*i* P	**Pn**	**18 38 56.5 +0.2**
BURAR	**Bucovina Array**	**2.50**	**351**	⇓	*i* P	**Pn**	**18 38 58.7 +0.7**
BURAR	**Bucovina Array**	**2.50**	**351**	⇓	*i* P	**Pn**	**18 38 58.7 +0.7**
BURAR	**Bucovina Array**	**2.50**	**351**	⇓	*i* P	**Pn**	**18 38 58.7 +0.7**
DRGR		**2.72**	**308**	⇑	*i* P	**Pn**	**18 39 01.1 +0.1**
DRGR		**2.72**	**308**	⇑	*i* P	**Pn**	**18 39 01.1 +0.1**
DRGR					*i* S	**Sn**	**18 39 35.4 +1.8**
DRGR		**2.72**	**308**	⇑	*i* P	**Pn**	**18 39 01.1 +0.1**
DRGR					*i* S	**Sn**	**18 39 35.4 +1.8**
KIS	**Kishinev**	**2.79**	**47**		*e*	**Sg**	**18 39 52.0 +4.5**
ZAPS	**Zavoj**	**2.96**	**232**		*e*Pn	**Pn**	**18 39 03.3 -0.9**
BZS	**Buzias**	**3.00**	**281**	⇑	*i* P	**Pn**	**18 39 05.0 +0.3**
BZS	**Buzias**	**3.00**	**281**	⇑	*i* P	**Pn**	**18 39 05.0 +0.3**
BZS					*i* S	**Sn**	**18 39 42.2 +1.9**
BZS	**Buzias**	**3.00**	**281**		*e*Pn	**Pn**	**18 39 04.1 -0.6**
BZS	**Buzias**	**3.00**	**281**	⇑	*i* P	**Pn**	**18 39 05.0 +0.3**
BZS					*i* S	**Sn**	**18 39 42.2 +1.9**
KUBS	**Kucevo**	**3.04**	**257**		*e*Pn	**Pn**	**18 39 02.2 -3.1**
VTS	**Vitosha**	**3.17**	**217**	⇑	*i* P	**Pn**	**18 39 07.2 -0.1**
VTS	**Vitosha**	**3.17**	**217**	⇑	*i* P	**Pn**	**18 39 07.2 -0.1**
VTS	**Vitosha**	**3.17**	**217**		*e*Pn	Pn	18 39 04.0 -3.3
VTS	**Vitosha**	**3.17**	**217**	⇑	*i* P	**Pn**	**18 39 07.2 -0.1**
NSLU	**Nyzhne Selyshc**	**3.19**	**343**		*e*P	**Pn**	**18 39 16.6 -1.6**
NSLU					*e*S	**Sg**	**18 39 56.6 -3.8**
KSV	**Kosov**	**3.21**	**351**		*e*P	**Pn**	**18 39 08.4 +0.8**
KSV					Pm		18 39 26.8
KSV					*e*S	**Sn**	**18 39 48.4 +2.8**
KSV					Sm		18 40 22.4
KMPD	**K-Podol'skiy**	**3.45**	**7**		*e*P	**Pn**	**18 39 13.6 +2.8**
KMPD					*e*S	**Sn**	**18 39 53.5 +2.2**
KORU	**Korolevo**	**3.53**	**329**		*e*P	**Pn**	**18 39 13.6 +1.6**
KORU					*e*S	**Sn**	**18 39 55.4 +1.9**
BARS	**Barje**	**3.71**	**233**		*e*Pn	**Pn**	**18 39 13.9 -0.6**
MEZ	**Mezhgor'ye**	**3.72**	**336**		*e*S	**Sn**	**18 39 59.3 +1.2**
TRPA	**Tarpa**	**3.74**	**324**	⇑	*i* P	**Pn**	**18 39 14.3 -0.6**
TRPA	**Tarpa**	**3.74**	**324**	⇑	*i* P	**Pn**	**18 39 14.3 -0.6**
TRPA	**Tarpa**	**3.74**	**324**	⇑	*i* P	**Pn**	**18 39 14.3 -0.6**
DIVS	**Divibare**	**4.29**	**258**		*e*Pn	**Pn**	**18 39 21.0 -1.5**
KOLS	**Kolonicke sedl**	**4.50**	**329**		*e*Pn	**Pn**	**18 39 26.1 +0.8**
KOLS	**Kolonicke sedl**	**4.50**	**329**		*e*PN	**Pn**	**18 39 26.1 +0.8**

*SSS **29** 18:58:40.9, 14°.85N×91°.42W, h79km, MD4.1*
*GCG **29** 18:58:42.7, 15°.29N×90°.57W, h13km, MD3.9*
CASC 29 18:58:43.0±2.9, 15°.22N×90°.72W, h0km±13km, MD3.6, 2C-2D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NBG	**Las Nubes**	**0.73**	**150**	⇑ *eP*	Pg	18 58 57.1	-0.2
FUG	**Fuego 3**	**0.78**	**189**	⇑ *eP*	Pb	18 58 59.1	-0.5
PCG	**Pacaya**	**0.83**	**172**	*eP*	Pb	18 59 00.1	-0.6
MRL	**Marmol**	**1.00**	**99**	*eP*	Pg	18 58 58.9	-3.6
MRL				*eS*	Sg	18 59 12.6	-3.2
IXG	**Ixpaco**	**1.07**	**166**	⇓ *eP*	Pg	18 59 03.3	-0.5
JAT	**Jato**	**1.26**	**225**	⇓ *eP*	Pn	18 59 08.7	+0.8
RTR	**El Retiro**	**1.68**	**142**	*eP*	Pn	18 59 12.7	-1.2
SNJE	**San Jose**	**1.72**	**141**	*eP*	Pn	18 59 13.4	-1.1
SBLS	**San Blas**	**1.74**	**142**	*eP*	Pn	18 59 13.7	-1.1
BOQS	**Boqueron**	**2.03**	**136**	*eP*	Pn	18 59 18.9	0.0
BOQS				*eS*	Sb	18 59 47.2	+0.1
LFU	**La Fuente**	**2.14**	**133**	*eP*	Pn	18 59 20.5	+0.5
LBRS	**Las Brisas**	**2.19**	**132**	*eP*	Pn	18 59 20.8	0.0
LFRS	**El Faro**	**2.26**	**134**	*eP*	Pn	18 59 22.0	+0.2
LFRS				*eS*	Sb	18 59 53.7	+0.2

*SJA **29** 19:05:31.7±0.6, 23°.93S×66°.71W, h219km±9km, ML3.6*
*ISCJB **29** 19:05:32.5±0.4, 23°.96S±0°.04×66°.82W±0°.04, h204km±4km, mb3.7/9, Error ellipse: s-maj=8.0km s-min=4.8km az=29.3*
*IDC **29** 19:05:32.5±1.0, 23°.94S×66°.60W, h191km±6km, mb3.6/9, mb1 3.8/14, mb1mx3.7/25, mbtmp4.1/14, MS3.1/1, Ms1 3.1/1, ms1mx2.5/22, Error ellipse: s-maj=14.1km s-min=12.1km az=47.0*
*GUC **29** 19:05:34.1±0.3, 23°.81S×67°.27W, h240km±8km, ML4.8*
ISC 29 19:05:33.2±0.7, 23°.94S±0°.06×66°.78W±0°.05, h199km±6km, n40, σ1°.920/53, mb3.8/9, 5C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.40**	**124**	*i* P		**Pn**	**19 06 06.4 +0.3**
SLA				*i* S		**Sn**	**19 06 32.6 +0.9**
SLA				AML		AML	19 06 36.1
	comp=Z,322nm,0.8s						
HJA	**Humahuaca**	**1.46**	**60**	*i* P		**Pn**	**19 06 07.3 +0.4**
AZAP	**Zapla**	**1.59**	**101**	*i* P		**Pn**	**19 06 08.2 +0.2**
AZAP				*i* P		**Pn**	**19 06 08.2 +0.2**
ASTB	**Santa Barbara**	**2.10**	**91**	*i* P		**Pn**	**19 06 13.6 +0.7**
YJA	**Yavi**	**2.11**	**34**	*i* P		**Pn**	**19 06 13.9 +0.6**
LVC	**Limon Verde**	**2.36**	**304**	P		**Pn**	**19 06 17.2 +1.4**
	comp=Z,3μm,0.3s,baz=166,slow=5.8,SNR=708						
LVC				S		**Sn**	**19 06 50.0 +1.1**
	comp=Z,3μm,0.3s,baz=85,slow=24,SNR=34						
LVC				LR		LR	19 07 34.8
	comp=Z,358nm,20.0s,baz=197,slow=49						
LVC	**Limon Verde**	**2.36**	**304**	*i* P		**Pn**	**19 06 16.9 +1.1**
LVC	**Limon Verde**	**2.36**	**304**	*i* P		**Pn**	**19 06 16.8 +1.0**
LVC				*i* S		**Sn**	**19 06 50.2 +1.3**
PB06	**IPOC Station P**	**2.84**	**295**	*e*P		**Pn**	**19 06 21.6 +0.4**
PB06				*e*S		**Sn**	**19 06 57.6 -0.9**
PB06				AML		AML	19 06 59.5
	comp=N,2μm,0.5s						
PB04	**IPOC Station P**	**3.00**	**303**	⇑ *i* P		Pn	19 06 29.1 +6.3
PB04				*i* S		Sn	19 07 10.3 +8.9
PB09	**IPOC Station P**	**3.11**	**313**	⇑ *i* P		**Pn**	**19 06 25.8 +1.5**
PB09				*i* S		**Sn**	**19 07 04.8 +0.5**
PB09				AML		AML	19 07 07.5
	comp=N,3μm,0.4s						
CEN1	**Los Morros**	**3.18**	**279**	*e*P		**Pn**	**19 06 26.2 +1.1**
CEN1				*i* S		**Sn**	**19 07 05.5 -0.1**
CEN1				AML		AML	19 07 09.1
	comp=E,630nm,0.6s						
MACH	**Maria Elena**	**3.24**	**302**	*i* P		**Pn**	**19 06 26.4 +0.4**
MACH				*i* S		**Sn**	**19 07 05.9 -1.2**
ANCH	**Antofagasta**	**3.33**	**274**	*i* P		**Pn**	**19 06 26.6 -0.2**
ANCH				*i* S		**Sn**	**19 07 06.3 -2.3**
ANCH				AML		AML	19 07 09.2
	comp=E,1μm,0.3s						
PB10	**IPOC Station P**	**3.48**	**276**	⇑ *i* P		**Pn**	**19 06 28.7 +0.1**
PB10				*i* S		**Sn**	**19 07 09.5 -2.4**
PB07	**IPOC Station P**	**3.61**	**307**	*e*P		**Pn**	**19 06 30.4 0.0**
PB07				*i* S		**Sn**	**19 07 13.4 -1.7**
PB01	**IPOC Station P**	**3.82**	**319**	⇑ *i* P		**Pn**	**19 06 33.2 +0.4**
PB01				*i* S		**Sn**	**19 07 18.4 -1.2**
PB11	**IPOC Station P**	**4.94**	**327**	⇑ *i* P		**Pn**	**19 06 46.4 -0.6**
PB11				*i* S		**Sn**	**19 07 43.0 -2.2**
MNMC	**Minimini**	**5.45**	**331**	*e*P		**Pn**	**19 06 53.7 -0.1**
MNMC				*e*S		**Sn**	**19 07 55.6 -1.7**
LPAZ	**La Paz**	**7.72**	**350**	P		**Pn**	**19 07 24.6 +1.2**
	comp=E,1.9nm,0.3s,baz=175,slow=9.0,SNR=26						
LPAZ				S		**Sn**	**19 08 50.6 -0.4**
	comp=E,0.7nm,0.3s,baz=248,slow=24,SNR=4.8						
CFAA	**Coronel Fontan**	**7.74**	**189**	P		**Pn**	**19 07 21.1 -2.0**
	comp=E,0.1nm,0.3s,baz=1.4,slow=3.1,SNR=9.2						
CFAA				S		Sn	19 08 40.7 -10
	comp=E,0.4nm,0.3s,baz=270,slow=20,SNR=11						
CPUP	**Villa Florida**	**8.89**	**107**	P		**Pn**	**19 07 36.6 -1.4**
	comp=E,0.4nm,0.3s,baz=292,slow=11,SNR=19						
SIV	**San Ignacio**	**9.56**	**35**	P		**Pn**	**19 07 45.3 -1.5**
	comp=E,1.0nm,0.3s,baz=220,slow=14,SNR=8.7						
NNA	**Nana**	**15.25**	**319**	P		**P**	**19 08 59.0 0.0**
	comp=E,1.0nm,0.3s,baz=184,slow=6.9,SNR=3.7						
BDFB	**Brasilia**	**19.48**	**68**	P		**P**	**19 09 44.1 -1.2**
	comp=E,0.8nm,0.3s,baz=234,slow=12,SNR=14						
PTGA	**Pitinga**	**24.00**	**17**	P		**P**	**19 10 29.3 -0.6**
	comp=E,1.6nm,0.4s,baz=163,slow=21,SNR=5.1						
TXAR	**Lajitas Array**	**63.74**	**324**	P		**P**	**19 15 44.9 +1.0**
	comp=E,0.4nm,0.4s,baz=154,slow=7.3,SNR=7.1						
VNDA	**Vanda**	**74.79**	**190**	P		**P**	**19 16 52.5 +1.6**
	comp=E,1.0nm,1.0s,baz=131,slow=2.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**76.36**	**69**	P		**P**	**19 16 59.0 -1.9**
	comp=E,0.9nm,0.5s,baz=260,slow=5.7,SNR=22						
PDAR	**Pinedale Array**	**77.20**	**329**	P		**P**	**19 17 06.5 +1.3**
	comp=E,0.5nm,0.5s,baz=112,slow=7.5,SNR=4.9						
ULM	**Lac du Bonnet**	**78.23**	**341**	P		**P**	**19 17 10.8 +0.4**
	comp=E,3.5nm,0.5s,baz=142,slow=4.9,SNR=4.5						
NVAR	**Mina Array Bea**	**78.62**	**321**	P		**P**	**19 17 14.9 +1.8**
	comp=E,0.3nm,0.5s,baz=140,slow=7.2,SNR=4.4						
MAW	**Mawson**	**81.43**	**163**	P		**P**	**19 17 28.0 +0.5**
	comp=E,3.5nm,0.8s,baz=225,slow=6.7,SNR=6.8						
YKA	**Yellowknife Ar**	**94.14**	**340**	P		**P**	**19 18 29.1 +0.5**
	comp=E,1.3nm,0.6s,baz=135,slow=4.4,SNR=9.6						
ASAR	**Alice Springs**	**128.59**	**204**	PKP		**PKPdf**	**19 24 16.9 -0.4**
	comp=E,1.3nm,0.7s,baz=128,slow=2.1,SNR=17						
WRA	**Warramunga Arr**	**131.77**	**207**	PKP		**PKPdf**	**19 24 22.9 -0.4**
	comp=E,0.9nm,0.6s,baz=159,slow=1.8,SNR=31						
BVAR	**Borovoye Array**	**136.63**	**37**	PKP		**PKPdf**	**19 24 30.4 -0.9**
	comp=E,0.5nm,0.7s,baz=318,slow=1.9,SNR=3.4						
KURBB	**Kurchatov Arra**	**142.21**	**36**	PKP		**PKPdf**	**19 24 39.0 -2.5**
	comp=E,0.5nm,0.8s,baz=300,slow=2.9,SNR=4.8						
ZALV	**Zalesovo Beam**	**143.25**	**28**	PKP	PKPbc		19 24 41.4 +0.6
	comp=E,2.8nm,0.6s,baz=303,slow=4.3,SNR=17						
MKAR	**Makanchi Array**	**146.35**	**40**	PKPbc		**PKPdf**	**19 24 49.4 +0.5**
	comp=E,4.3nm,0.7s,baz=328,slow=2.2,SNR=37						

*ISCJB **29** 19:34:06.8±1.4, 18°.75S±0°.2×177°.6W±0°.2, h600km, mb4.1/4, Error ellipse: s-maj=26.9km s-min=21.0km az=16.7*
*IDC **29** 19:34:12.2±3.5, 18°.88S×177°.56W, h661km±58km, mb3.5/4, mb1 3.6/5, mb1mx3.1/27, mbtmp4.5/5, Error ellipse: s-maj=45.1km s-min=23.7km az=147.0*
ISC 29 19:34:08.7±1.6, 18°.7S±0°.2×177°.7W±0°.2, h600km, n18, σ0°.88/18, mb4.3/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**20.04**	**192**	P		**P**	**19 38 02.0 -0.6**
	1.4nm,0.3s,baz=285,slow=2.9,SNR=6.9						
ARMA	**Armidale**	**30.19**	**241**	P		**P**	**19 39 33.4 +1.2**
	baz=34,SNR=8.8						
CMSA	**Cobar Meteorol**	**35.41**	**242**	P		**P**	**19 40 16.6 +0.7**
	baz=39,SNR=18						
QLP	**Quilpie**	**35.94**	**250**	P		**P**	**19 40 20.7 +0.2**
	baz=40,SNR=14						
MTSU	**Mount Surprise**	**36.04**	**265**	P		**P**	**19 40 21.8 +0.4**
	baz=40,SNR=8.4						
TOO	**Toolangi**	**37.26**	**232**	P		**P**	**19 40 32.0 +1.0**
	baz=41,SNR=4.3						
COEN	**Coen**	**37.83**	**271**	P		P	19 40 37.1 +1.1
	baz=42,SNR=26						
STKA	**Stephens Creek**	**38.90**	**242**	P		**P**	**19 40 45.3 +0.9**
	3.3nm,0.5s,baz=86,slow=8.3,SNR=30						
HTT	**Hallett**	**41.38**	**240**	P		**P**	**19 41 04.7 +0.5**
	baz=45,SNR=4.0						
BBOO	**Buckleboo**	**43.67**	**242**	P		**P**	**19 41 22.3 +0.3**
	baz=47,SNR=9.6						
WRA	**Warramunga Arr**	**45.20**	**260**	P		**P**	**19 41 33.2 -0.6**
	5.5nm,0.3s,baz=98,slow=7.2,SNR=386						
ASAR	**Alice Springs**	**45.28**	**255**	P		**P**	**19 41 34.5 +0.1**
	8.8nm,0.5s,baz=89,slow=7.8,SNR=214						
ASAR				S		**S**	**19 47 30.1 -2.3**
	1.0nm,0.7s,baz=91,slow=16,SNR=7.4						
KDU	**Kakadu**	**48.26**	**269**	P		**P**	**19 41 57.0 +0.1**
	baz=52,SNR=7.1						
WRKA	**Warakurna**	**50.30**	**253**	P		**P**	**19 42 11.8 +0.1**
	baz=54,SNR=40						
KNRA	**Kununurra**	**51.13**	**265**	P		**P**	**19 42 17.8 0.0**
	baz=55,SNR=8.5						
SWI	**Sorong**	**53.12**	**283**	P		**P**	**19 42 32.8 +0.8**
	baz=56,SNR=4.1						
MEEK	**Meekatharra**	**58.84**	**250**	P		**P**	**19 43 10.8 -0.4**
	baz=62,SNR=4.3						
ILAR	**Eielson Array**	**86.47**	**13**	P		**P**	**19 45 47.6 -0.7**
	0.4nm,0.5s,baz=223,slow=5.4,SNR=5.8						

*ISCJB **29** 19:34:43.2±0.2, 3°.93N±0°.03×75°.16W±0°.03, h33km, mb4.9/142, MS4.1/26, Error ellipse: s-maj=5.2km s-min=2.9km az=35.1*
*NEIC **29** 19:34:46.5±0.5, 3°.92N×75°.00W, h51km±4km, mb5.0/90, Error ellipse: s-maj=5.3km s-min=4.1km az=53.0*
NEIC Felt [IV] at Ibague, Manizales and Pereira; [III] at Bogota; [II] at Cali and Medellin. Also felt at Agua de Dios, Armenia, Bojaca, Bucaramanga, Chia, Cota, Dos Quebradas, Espinal, Facatativa, Funza, Girardot, Itagui, Neiva, Ortega, Palmira, Pandi, Roldanillo and Soacha.
*GCMT **29** 19:34:46.6±0.2, 3°.98N×75°.09W, h33km, MW5.1/87, Moment Tensor Solution. s42,c56; s87,c121; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.12±.18; $M_{\theta\theta}$1.97±.11; $M_{\phi\phi}$-5.09±.13; $M_{r\theta}$1.81±.12; $M_{\theta\phi}$-0.72±.08; $M_{\phi r}$-0.48±.13; Best double couple: M≈4.84300×10^{16} NP1:φs155.00000°, δ57.00000°, λ45.00000°. NP2: φs37.00000°, δ54.00000°, λ138.00000°. Principal axes: T 4.5130, Plg53.0000°, Azm8.0000°; N 0.6610, Plg37.0000°, Azm184.0000°; P -5.1740, Plg2.0000°, Azm275.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **29** 19:34:48.2±1.2, 3°.93N×75°.00W, h72km±9km, mb4.3/23, mb1 4.4/25, mb1mx4.3/34, mbtmp4.6/25, MS4.0/21, Ms1 4.0/21, ms1mx3.9/22 Error ellipse: s-maj=15.0km s-min=9.3km az=76.0*
*BJI **29** 19:34:49.3, 4°.00N×75°.00W, h63km, mB5.2/13, Ms5.2/8, Ms7 4.9/8*
ISC 29 19:34:44.3±0.3, 3°.88N±0°.04×75°.12W±0°.05, h35km, n565, σ1°.914/557, mb5.0/147, MS4.0/26, 16C-7D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRAC	**Prado**	**0.28**	**129**	*i* P		**Pn**	**19 34 52.2 +0.1**
PRAC				*e*S		**Sn**	**19 34 57.9 +0.5**
TOLC	**Tolima**	**0.74**	**343**	*e*P		**Pn**	**19 34 57.2 -1.5**
TOLC				*e*S		**Sn**	**19 35 06.8 -2.0**
ROSC	**El Rosal**	**1.25**	**39**	P		**Pn**	**19 35 07.6 +1.9**
	2μm,0.3s,baz=244,slow=4.3,SNR=1059						
ROSC				S		**Sn**	**19 35 24.8 +3.2**
	9μm,0.3s,baz=54,slow=19,SNR=58						
ROSC	**El Rosal**	**1.25**	**39**	*e*P		**Pn**	**19 35 07.6 +1.9**
ROSC				*e*S		**Sn**	**19 35 24.4 +2.9**
ROSC				S		**Sn**	**19 35 24.8 +3.2**
CHIC	**Chingaza**	**1.58**	**61**	*e*P		**Pn**	**19 35 12.7 +2.6**
RUSC	**La Rusia**	**2.88**	**45**	*e*P		**Pn**	**19 35 29.5 +1.3**
OTAV	**Otavalo**	**4.91**	**223**	*e*Pn		Pn	19 36 01.0 +4.8
SDV	**Santo Domingo**	**6.68**	**42**	*e*Pn		**Pn**	**19 36 20.9 +0.7**
BCIP	**Isla Barro Col**	**7.04**	**319**	*e*Pn		Pn	19 36 28.4 +3.3
	67nm,0.6s						
ATAH	**Atahualpa**	**11.41**	**197**	P		Pn	19 37 29.4 +4.0
	1.6nm,0.3s,baz=20,slow=19,SNR=5.2						
JTS	**JuntasAbangare**	**11.65**	**304**	LR		LR	19 42 10.8
	comp=Z,2μm,18.1s,baz=130,slow=38						
JTS	**JuntasAbangare**	**11.65**	**304**	*e*Pn		**Pn**	**19 37 30.9 +2.6**
PCRV	**Puerto La Cruz**	**12.14**	**58**	P		**Pn**	**19 37 33.6 -1.4**
	7.5nm,0.3s,baz=225,slow=6.5,SNR=16						
PCRV				S		**Sn**	**19 39 45.1 -4.0**
	10.0nm,0.3s,baz=209,slow=13,SNR=3.9						
HOJ	**Hope**	**14.13**	**354**	*i* P		**P**	**19 38 06.7 -2.6**
MCJ	**Malvern**	**14.19**	**350**	*i* P		**Pn**	**19 38 05.5 +2.5**
STH	**Stony Hill**	**14.21**	**353**	*i* P		Pn	19 38 06.7 +3.5
MTDJ	**Mount Denham**	**14.46**	**351**	*e*P		**Pn**	**19 38 09.2 +2.5**
	71nm,0.5s						
CVJ	**Coleyville**	**14.46**	**351**	*i* P		**Pn**	**19 38 09.8 +3.2**
BBJ	**Bamboo Saint A**	**14.57**	**352**	*i* P		**P**	**19 38 11.8 -2.4**
LGNH	**LØogne**	**14.75**	**9**	*e*Pn		**Pn**	**19 38 12.2 +1.6**
WSYH	**La Gonave Hosp**	**15.03**	**8**	*e*Pn		**Pn**	**19 38 15.9 +1.7**
SDDR	**Presa de Saban**	**15.47**	**14**	*e*Pn		**Pn**	**19 38 21.4 +1.2**
	69nm,0.6s						
GRGR	**Grenville**	**15.65**	**58**	*e*P		**Pn**	**19 38 23.4 +1.0**
PAYG	**Puerto Ayora**	**15.82**	**254**	*e*P		**P**	**19 38 31.1 +3.1**
PTGA	**Pitinga**	**15.82**	**107**	P		**Pn**	**19 38 23.9 -0.7**
	0.9nm,0.3s,baz=299,slow=16,SNR=6.5						
GTBY	**Guantanamo Bay**	**15.96**	**0**	*e*P		**P**	**19 38 29.3 -0.2**
	115nm,0.7s						
CELP	**Cerrillos**	**16.40**	**30**	P		**Pn**	**19 38 32.1 +0.1**
SJG	**San Juan**	**16.65**	**31**	P		**Pn**	**19 38 33.1 -2.0**
	2.5nm,0.3s,baz=180,slow=7.9,SNR=3.2						
SAML	**Samuel**	**17.43**	**137**	*e*Pn		**P**	**19 38 45.6 -0.3**
	11nm,0.5s						
STVI	**Saint Thomas**	**17.49**	**34**	*e*Pn		**Pn**	**19 38 45.7 +0.1**
	89nm,1.4s						
TEIG	**Tepich**	**20.70**	**323**	*e*P		Pn	19 39 23.9 -0.3
	46nm,1.2s						
LPAZ	**La Paz**	**21.19**	**161**	P		**P**	**19 39 27.6 0.0**
	2.5nm,0.8s,baz=339,slow=14,SNR=12						
LPAZ				LR		LR	19 48 13.9
	comp=Z,1μm,18.1s,baz=326,slow=38						
SIV	**San Ignacio**	**24.14**	**145**	P		**P**	**19 39 58.5 +1.2**
	70nm,0.8s,baz=332,slow=10,SNR=142						
LVC	**Limon Verde**	**27.02**	**167**	P		**P**	**19 40 25.4 +1.8**
	27nm,0.7s,baz=341,slow=7.0,SNR=9.5						
LVC	**Limon Verde**	**27.02**	**167**	*e*P		**P**	**19 40 25.9 +2.4**
	14nm,0.8s						
JSC	**Jenkinsville**	**30.79**	**350**	*e*P		**P**	**19 40 59.0 +2.3**
	12nm,1.0s						
LRAL	**Lakeview Retre**	**31.06**	**340**	*e*P		**P**	**19 41 00.3 +1.2**
	16nm,0.4s						
035A	**Encino**	**31.76**	**319**	P		**P**	**19 41 05.8 +0.4**
	baz=32						
034A	**Hebbronville**	**32.23**	**318**	P		**P**	**19 41 10.2 +0.7**
	baz=32						
934A	**Benavides**	**32.48**	**319**	P		**P**	**19 41 12.6 +0.9**
	baz=33						
835A	**Beeville**	**32.51**	**321**	P		**P**	**19 41 12.8 +0.9**
	baz=33						
HKT	**Hockley**	**32.51**	**325**	*e*P		**P**	**19 41 12.2 +0.4**
	22nm,1.4s						
TKL	**Tuckaleechee C**	**32.62**	**347**	LR		LR	19 54 43.0
	comp=Z,304nm,21.9s,baz=168,slow=37						
834A	**Tilden**	**32.86**	**320**	P		**P**	**19 41 15.6 +0.6**
	baz=33,SNR=5.6						
636A	**Smothers Creek**	**32.88**	**323**	P		**P**	**19 41 16.3 +1.1**
	baz=33,SNR=7.7						
537A	**Green Hill Far**	**32.88**	**325**	P		**P**	**19 41 15.9 +0.7**
	baz=33						
438A	**Sam Houston St**	**32.91**	**327**	P		**P**	**19 41 15.5 0.0**
	baz=33						
LCO	**Las Campanas**	**32.97**	**173**	*e*P		**P**	**19 41 18.6 +2.3**
	122nm,1.9s						
933A	**Laredo**	**32.99**	**318**	P		**P**	**19 41 16.4 +0.2**
	baz=33						
BDFB	**Brasilia**	**33.10**	**127**	P		**P**	**19 41 17.6 +0.2**
	12nm,0.8s,baz=285,slow=11,SNR=13						
BDFB				LR		LR	19 55 33.5
	comp=Z,2μm,18.4s,baz=296,slow=38						
635A	**Leesville**	**33.24**	**322**	P		**P**	**19 41 18.6 +0.2**
	baz=33						
NATX	**Nacogdoches**	**33.27**	**329**	P		**P**	**19 41 18.7 +0.2**
	baz=33						
338A	**Crockett**	**33.29**	**327**	P		**P**	**19 41

baz=36,SNR=6.4
331A **San Angelo** 36.22 322 P P 19 41 44.6 +0.4
baz=36,SNR=5.7
133A **Hamilton Ranch** 36.24 325 P P 19 41 44.9 +0.6
baz=36,SNR=10
Z34A **Collier Ranch,** 36.25 327 P P 19 41 45.1 +0.8
baz=36,SNR=5.1
W37A **Quinton** 36.35 331 P P 19 41 45.4 +0.3
baz=36
X36A **Centrahoma** 36.35 330 P P 19 41 45.3 +0.1
baz=36
430A **Baggett Ranch,** 36.37 320 P P 19 41 45.6 +0.1
baz=36
V38A **Canehill** 36.48 333 P P 19 41 45.7 -0.5
baz=37,SNR=7.5
X35A **Drake** 36.54 329 P P 19 41 46.7 0.0
baz=37
529A **Stev Forest Ra** 36.58 319 P P 19 41 47.8 +0.5
baz=37,SNR=15
231A **Bronte** 36.59 323 P P 19 41 47.1 -0.1
baz=37
Y34A **Reagan Ranch,** 36.61 328 P P 19 41 47.9 +0.6
baz=37,SNR=8.9
BLO **Bloomington** 36.63 345 eP P 19 41 48.3 +0.9
32nm,0.7s
OLIL **Olney** 36.66 343 eP P 19 41 47.9 +0.2
66nm,1.4s
Z33A **Whitaker Ranch** 36.66 326 P P 19 41 48.5 +0.7
baz=37,SNR=6.3
ABTX **Abilene, Hawle** 36.68 324 P P 19 41 48.5 +0.6
baz=37,SNR=8.1
ABTX **Abilene, Hawle** 36.68 324 eP P 19 41 48.6 +0.7
126nm,1.5s
429A **Davenport Ranc** 36.69 319 P P 19 41 48.4 +0.3
baz=37,SNR=6.3
W36A **Wetumka** 36.74 330 P P 19 41 48.3 -0.2
baz=37
330A **Mertzon** 36.75 321 P P 19 41 48.4 -0.3
baz=37
U38A **Gravette** 36.95 334 P P 19 41 49.7 -0.5
baz=37,SNR=8.3
230A **Sterling City** 37.04 322 P P 19 41 50.8 -0.3
baz=37
TXAR **Lajitas Array** 37.06 316 P P 19 41 51.7 +0.3
2.5nm,0.5s,baz=129,slow=8.2,SNR=24
TXAR PcP PcP 19 44 12.3 +0.6
4.5nm,0.6s,baz=145,slow=6.1,SNR=18
TXAR LR LR 20 00 25.8
comp=Z,89nm,18.4s,baz=0.0,slow=41
Z32A **Haskell** 37.08 325 P P 19 41 52.0 +0.7
baz=37,SNR=9.6
W35A **Tecumseh** 37.08 330 P P 19 41 51.0 -0.3
baz=37,SNR=8.2
Y33A **Hilltop Ranch,** 37.12 327 P P 19 41 52.2 +0.6
baz=37,SNR=10
V36A **Jenks** 37.12 331 P P 19 41 51.8 0.0
baz=37,SNR=5.7
X34A **Smith Ranch, M** 37.14 328 P P 19 41 52.5 +0.6
baz=37,SNR=6.8
131A **Roby** 37.15 323 P P 19 41 52.5 +0.5
baz=37,SNR=5.5
TUL1 **Tulsa** 37.15 332 P P 19 41 51.8 -0.2
baz=37
U37A **Salina** 37.24 333 P P 19 41 52.6 -0.1
baz=37,SNR=6.5
329A **Wagon Wheel Ra** 37.32 320 P P 19 41 53.9 +0.4
baz=37
130A **Snyder** 37.44 323 P P 19 41 54.6 +0.1
baz=38
X33A **Lawton** 37.45 327 P P 19 41 54.8 +0.3
baz=38,SNR=5.4
Z31A **Sharp Cattle R** 37.47 324 P P 19 41 55.3 +0.6
baz=38,SNR=6.5
U36A **Oologah** 37.52 332 P P 19 41 54.7 -0.3
baz=38
229A **Bryant Ranch,** 37.53 321 P P 19 41 55.5 +0.1
baz=38,SNR=5.7
V35A **Meyer Ranch, C** 37.54 330 P P 19 41 55.2 0.0
baz=38
Y32A **R-V Farms, Ver** 37.56 326 P P 19 41 55.5 0.0
baz=38
W34A **Bridge Creek,** 37.60 329 P P 19 41 55.4 -0.4
baz=38
W34A **Bridge Creek,** 37.60 329 eP P 19 41 56.0 +0.3
90nm,1.4s
T37A **Cheneyville 18** 37.75 334 P P 19 41 56.4 -0.6
baz=38,SNR=11
WMOK **Wichita Mounta** 37.75 327 eP P 19 41 56.3 -0.8
19nm,0.8s
X32A **Elmer** 37.79 326 P P 19 41 57.5 +0.1
baz=38,SNR=11
W33A **Caddo, Fort Co** 37.90 328 P P 19 41 58.5 +0.2
baz=38
SFIN **Scholer Farm** 37.91 345 P P 19 41 58.2 -0.1
baz=38,SNR=8.9
SFIN **Scholer Farm** 37.91 345 eP P 19 41 58.4 0.0
19nm,0.6s
V34A **Guthrie** 37.94 330 P P 19 41 59.3 +0.7
baz=38
V34A **Guthrie** 37.94 330 eP P 19 41 58.5 -0.1
28nm,0.8s
U35A **Pawnee** 37.97 331 P P 19 41 59.2 +0.3
baz=38
Y31A **Rekieta Farm,** 38.00 325 P P 19 41 59.8 +0.6
baz=38,SNR=6.1
129A **Stewart Farms,** 38.02 322 P P 19 41 59.5 +0.1
baz=38
Z30A **Sanderson Ranc** 38.02 323 P P 19 41 59.8 +0.4
baz=38,SNR=22
228A **UT Block 9, Go** 38.12 321 P P 19 42 00.2 -0.1
baz=38
T36A **Boggs Farm, Ca** 38.13 333 P P 19 41 59.8 -0.4
baz=38
S37A **Fort Scott** 38.24 334 P P 19 42 00.3 -0.8
baz=38,SNR=9.4
W32A **Sentinel** 38.29 327 P P 19 42 01.8 +0.1
baz=38,SNR=11
Y30A **Stafford Cattl** 38.30 324 P P 19 42 01.9 +0.1
baz=38
T35A **Sooner Cattle** 38.31 332 P P 19 42 01.6 -0.1
baz=38,SNR=8.3
X31A **McDonald Ranch** 38.33 326 P P 19 42 01.8 -0.1
baz=38
Z29A **Hungry Hill Ra** 38.35 323 P P 19 42 02.3 +0.1
baz=38,SNR=11
128A **Castleberry Fa** 38.39 321 P P 19 42 02.5 -0.1
baz=38,SNR=5.2
U34A **Anderson Ranch** 38.42 330 P P 19 42 02.6 -0.1
baz=39
U34A **Anderson Ranch** 38.42 330 eP P 19 42 02.6 -0.1
61nm,1.1s
V32A **Arapaho** 38.63 328 P P 19 42 04.5 0.0
baz=39
HDIL **Hopedale** 38.69 343 P P 19 42 04.3 -0.5
baz=39
HDIL **Hopedale** 38.69 343 eP P 19 42 04.5 -0.3
35nm,0.6s
X30A **Coker Ranch, T** 38.70 325 P P 19 42 05.7 +0.6
baz=39,SNR=11
U33A **Lingo Farm, Me** 38.70 330 P P 19 42 04.8 -0.2
baz=39
R37A **Teagarden Farm** 38.71 335 P P 19 42 04.9 -0.1
baz=39
T34A **McClaskey Farm** 38.71 331 P P 19 42 05.2 +0.1
baz=39
W31A **Holland Ranch,** 38.72 327 P P 19 42 05.0 -0.2
baz=39,SNR=9.3
Y29A **Porterfield Fa** 38.75 324 P P 19 42 06.2 +0.6
baz=39,SNR=11
S35A **Otter Creek Ra** 38.84 333 P P 19 42 05.9 -0.3
baz=39,SNR=6.2
R36A **Gordon, Harris** 39.01 334 P P 19 42 06.9 -0.6
baz=39
V31A **Spring Creek L** 39.10 327 P P 19 42 09.0 +0.6
baz=39
U32A **Winter Ranch,** 39.12 329 P P 19 42 08.9 +0.3
baz=39
X29A **Tulia** 39.18 324 P P 19 42 10.2 +1.1
baz=39
S34A **Willow Spring** 39.22 332 P P 19 42 09.8 +0.4
baz=39
T33A **Patterson Ranc** 39.28 330 P P 19 42 10.2 +0.4
baz=39
R35A **Emporia Munici** 39.31 333 P P 19 42 09.8 -0.3
baz=39
LPIG **La Paz** 39.43 304 LR LR 19 58 01.0
comp=Z,100nm,20.6s,baz=148,slow=35
X28A **Dimmitt** 39.52 324 P P 19 42 12.0 0.0
baz=40
W29A **Amraillo** 39.62 325 P P 19 42 13.1 +0.2
baz=40,SNR=5.7
Q35A **Mercer Eighty,** 39.68 334 P P 19 42 13.0 -0.2
baz=40
T32A **Huddler Ranch,** 39.69 330 P P 19 42 13.5 +0.2
baz=40
R34A **Isabella, Hill** 39.77 332 P P 19 42 14.0 +0.1
baz=40,SNR=5.3
P36A **Good Intent, A** 39.97 336 P P 19 42 15.8 +0.3
baz=40
W28A **Vega** 40.04 325 P P 19 42 17.0 +0.6
baz=40
V29A **Stinnett** 40.09 326 P P 19 42 17.8 +1.1
baz=40
S32A **Newby Ranch, P** 40.10 330 P P 19 42 17.4 +0.6
baz=40
S31A **Mullinville** 40.31 330 P P 19 42 19.2 +0.7
baz=40
U29A **Oasis Ranch, S** 40.38 327 P P 19 42 19.6 +0.5
baz=40
T30A **Plains** 40.42 328 P P 19 42 20.0 +0.6
baz=41
P34A **Walnut Farm, R** 40.60 334 P P 19 42 21.3 +0.5
baz=41
Q33A **Connelly Farm,** 40.60 332 P P 19 42 20.8 -0.1
baz=41,SNR=6.4
V27A **Dan Oppiter Fa** 40.76 325 P P 19 42 23.2 +0.9
baz=41
R31A **Burdett** 40.85 330 P P 19 42 22.7 -0.3
baz=41
SADO **Sadowa** 40.88 356 LR LR 20 00 44.2
comp=Z,215nm,20.2s,baz=186,slow=38
P33A **Williams Farm,** 40.89 333 P P 19 42 23.4 +0.2
baz=41
Q32A **Meitler Ranch,** 40.94 332 P P 19 42 23.2 -0.4
baz=41
O34A **Beatrice** 41.06 335 P P 19 42 24.7 +0.1
baz=41
JFWS **Jewell Farm** 41.14 343 eP P 19 42 24.9 -0.3
35nm,0.6s
U27A **Thompson Grove** 41.22 325 P P 19 42 26.8 +0.7
baz=41,SNR=9.4
R30A **Dighton** 41.23 329 P P 19 42 26.5 +0.5
baz=41,SNR=6.7
T28A **Walsh** 41.33 327 P P 19 42 27.2 +0.3
baz=42,SNR=5.4
Q31A **Ellis** 41.35 331 P P 19 42 26.7 -0.3
baz=42
O33A **Hebron** 41.36 334 P P 19 42 27.0 -0.1
baz=42
CBKS **Cedar Bluff** 41.36 330 P P 19 42 26.9 -0.3
baz=42
S28A **Manter** 41.55 327 P P 19 42 29.3 +0.5
baz=42
T27A **Campo** 41.62 326 P P 19 42 29.9 +0.6
baz=42
Q30A **Quinter** 41.73 330 P P 19 42 31.0 +0.9
baz=42
P31A **Stockton** 41.74 331 P P 19 42 30.5 +0.3
baz=42
R29A **Marienthal** 41.77 329 P P 19 42 31.1 +0.5
baz=42
121A **Cookes Peak, D** 41.80 317 P P 19 42 33.3 +2.3
baz=42,SNR=41
121A **Cookes Peak, D** 41.80 317 eP P 19 42 33.1 +2.1
46nm,1.0s
Q29A **Oakley** 42.04 329 P P 19 42 33.0 +0.2
baz=42
R28A **Tribune** 42.06 328 P P 19 42 33.4 +0.5
baz=42,SNR=14
ANMO **Albuquerque** 42.41 321 eP P 19 42 37.1 +1.2
19nm,0.8s
L34A **Svendsen Farm,** 42.42 336 P P 19 42 35.9 +0.2
baz=43
LAZ **Ladron** 42.50 320 eP P 19 42 37.9 +1.2
17nm,1.0s
R27A **Eads** 42.55 327 P P 19 42 37.4 +0.5
baz=43,SNR=11
P29A **Atwood** 42.56 330 P P 19 42 37.2 +0.2
baz=43
T25A **Trinidad** 42.63 325 P P 19 42 39.2 +1.5
baz=43,SNR=7.0
R26A **Arlington** 42.91 327 P P 19 42 40.5 +0.6
baz=43,SNR=9.0
L33A **Hoskins** 42.95 336 P P 19 42 39.7 -0.4
baz=43
M31A **Lambtecht Ranc** 43.01 333 P P 19 42 40.2 -0.3
baz=43
N30A **Hueftle Ranch,** 43.09 332 P P 19 42 41.3 +0.1
baz=43
P27A **Ficken Ranch,** 43.36 329 P P 19 42 44.2 +0.7
baz=44,SNR=6.5
O28A **Krutsinger Ran** 43.38 330 P P 19 42 43.8 +0.2
baz=44
Q26A **Hugo** 43.40 327 P P 19 42 44.9 +1.1
baz=44,SNR=5.6
SDCO **Great Sand Dun** 43.68 325 P P 19 42 47.4 +1.2
baz=44,SNR=25
SDCO **Great Sand Dun** 43.68 325 eP P 19 42 47.7 +1.4
40nm,1.4s
P26A **Davis Ranch, A** 43.77 328 P P 19 42 47.2 +0.4
baz=44
TUC **Tucson** 43.77 314 eP P 19 42 48.7 +1.8
18nm,1.3s
O27A **Beecher Island** 43.78 329 P P 19 42 46.9 0.0
baz=44
COWI **Conover** 43.80 346 eP P 19 42 47.1 +0.3
15nm,1.2s
L30A **Spencer Herefo** 43.83 333 P P 19 42 47.7 +0.6
baz=44
ECSD **EROS Data Cent** 44.01 338 P P 19 42 47.3 -1.2
baz=44,SNR=7.0
ECSD **EROS Data Cent** 44.01 338 eP P 19 42 47.4 -1.2
30nm,1.5s
L29A **Maesberg Ranch** 44.26 333 P P 19 42 50.7 +0.1
baz=44
N27A **Anderson Farm,** 44.27 330 P P 19 42 51.1 +0.3
baz=44
Q24A **Divide** 44.32 326 P P 19 42 51.9 +0.5
baz=44
K30A **Basset** 44.36 334 P P 19 42 50.7 -0.7
baz=44,SNR=9.7
S22A **4UR Ranch, Cre** 44.46 323 P P 19 42 53.6 +1.1
baz=45,SNR=17
W18A **Petrified Fore** 44.64 318 P P 19 42 55.4 +1.5
baz=45,SNR=7.3
W18A **Petrified Fore** 44.64 318 eP P 19 42 55.4 +1.5
63nm,1.3s
214A **Organ Pipe Nat** 45.05 313 P P 19 42 58.5 +1.5
baz=45,SNR=7.5
214A **Organ Pipe Nat** 45.05 313 eP P 19 42 58.6 +1.5
13nm,1.0s
MVCO **Mesa Verde** 45.12 322 P P 19 42 58.8 +1.1
baz=45,SNR=6.5
MVCO **Mesa Verde** 45.12 322 eP P 19 42 59.6 +1.8
21nm,1.1s
ISCO **Idaho Springs** 45.16 327 P P 19 42 59.0 +0.9
baz=45,SNR=11
ISCO **Idaho Springs** 45.16 327 eP P 19 42 58.4 +0.2
34nm,1.6s
K28A **Ten Mile Ranch** 45.18 333 P P 19 42 57.6 -0.4
baz=45
J29A **Okreek** 45.26 334 P P 19 42 58.2 -0.3
baz=45
SMCO **Snowmass** 45.50 325 eP P 19 43 01.6 +0.6
22nm,1.5s
PV01 **Paradox Valley** 45.75 323 eP P 19 43 04.4 +1.7
868nm,1.1s
J27A **Elkhorn Farm,** 45.89 333 P P 19 43 03.9 +0.3
baz=46
WUAZ **Wupatki** 45.96 318 P P 19 43 05.6 +1.3
baz=46,SNR=13
WUAZ **Wupatki** 45.96 318 eP P 19 43 06.1 +1.7
26nm,1.0s
L25A **Engebretsen Ra** 45.99 330 P P 19 43 06.0 +1.6
baz=46
K26A **Motz Farm, Whi** 46.02 331 P P 19 43 05.5 +0.9
baz=46
I28A **Midland** 46.10 334 P P 19 43 04.4 -0.7
baz=46
N23A **Red Feather La** 46.11 327 P P 19 43 06.8 +1.2
baz=46
EYMN **Ely** 46.11 345 P P 19 43 04.5 -0.7
baz=46,SNR=8.8
PV04 **Paradox Valley** 46.12 323 eP P 19 43 09.1 +3.5
PHWY **Pilot Hill** 46.14 328 eP P 19 43 06.2 +0.4
19nm,1.3s
G30A **Faulkton** 46.17 336 P P 19 43 05.5 -0.1
baz=46
J26A **Sides Ranch, S** 46.44 332 P P 19 43 08.0 +0.2
baz=47,SNR=5.2
I27A **Quinn** 46.55 333 P P 19 43 09.2 +0.5
baz=47
J25A **Sunshine Ranch** 46.84 331 P P 19 43 11.6 +0.6
baz=47
I26A **New Underwood** 46.89 333 P P 19 43 11.3 -0.1
baz=47
H27A **Howes** 47.00 334 P P 19 43 12.2 0.0
baz=47
GLA **Glamis** 47.07 313 P P 19 43 14.2 +1.3
baz=47
GLA **Glamis** 47.07 313 eP P 19 43 15.2 +2.3
3.8nm,0.6s
Y12C **Blythe** 47.20 314 P P 19 43 15.2 +1.4
baz=47
PDMCI **Parker Dam,Lak** 47.20 315 P P 19 43 14.9 +1.0
baz=47
K23A **Bowen Ranch, D** 47.27 329 P P 19 43 15.8 +1.4
baz=47
RSSD **Black Hills** 47.50 332 eP P 19 43 17.2 +0.9
21nm,1.2s
SRU **San Rafael** 47.56 322 eP P 19 43 18.1 +1.3
30nm,1.3s
I24A **Kuemmerle Ranc** 47.59 331 P P 19 43 17.7 +0.8
baz=48
K22A **Casper** 47.66 329 eP P 19 43 18.8 +1.2
20nm,1.4s
D30A **Buchanan** 47.67 338 P P 19 43 17.2 -0.1
baz=48
AGMN **Agassiz Nation** 47.70 341 P P 19 43 17.1 -0.4
baz=48,SNR=7.1
BC3 **Big Chuckawall** 47.82 313 P P 19 43 20.2 +1.3
baz=48,SNR=7.6
IRM **Iron Mountain** 47.85 314 P P 19 43 20.4 +1.4
baz=48,SNR=12
G25A **Newell** 48.04 333 P P 19 43 20.2 -0.1
baz=48
C30A **Mose, Pekin** 48.07 339 P P 19 43 20.0 -0.4
baz=48
J22A **Midwest** 48.18 329 P P 19 43 21.7 +0.2
baz=48,SNR=7.4
H24A **Dirks Ranch, A** 48.22 332 P P 19 43 21.7 0.0
baz=48
MSU **Marysvale** 48.22 321 eP P 19 43 23.3 +1.3
12nm,1.0s
LDFC **Landfair** 48.29 315 eP P 19 43 24.8 +2.3
19nm,1.2s
BELC **Belle Mtn. Jos** 48.39 313 P P 19 43 24.5 +1.3
baz=48,SNR=7.6
CCUT **Cedar City** 48.43 319 eP P 19 43 24.7 +1.0
11nm,1.2s
H23A **Clabaugh Cattl** 48.48 331 P P 19 43 25.4 +1.6
baz=49
I22A **9 Mile Ranch,** 48.52 330 P P 19 43 24.5 +0.3
baz=49,SNR=5.9
GMRC **Granite Mounta** 48.53 314 P P 19 43 25.6 +1.3
baz=49,SNR=5.9
MDND **Maddock** 48.61 338 P P 19 43 24.4 -0.1
baz=49
E26A **Carlson Angus** 48.62 335 P P 19 43 24.5 -0.2
baz=49
J21A **Lysite** 48.63 329 P P 19 43 25.6 +0.6
baz=49,SNR=8.5
B30A **Myrvik Farm, E** 48.66 340 P P 19 43 23.9 -1.0
baz=49
I21A **Big Trails, Te** 48.88 329 P P 19 43 27.2 +0.3
baz=49
G23A **Biddle** 48.95 332 P P 19 43 27.6 +0.3
baz=49
J20A **Shoshoni** 48.96 328 P P 19 43 28.3 +0.8
baz=49,SNR=16
H22A **Clearmont** 48.97 331 P P 19 43 27.9 +0.4
baz=49
F24A **Ekalaka** 49.00 333 P P 19 43 28.3 +0.6
baz=49
B29A **Wagenman Farm,** 49.03 339 P P 19 43 27.1 -0.7
baz=49,SNR=7.0
JLU **Jordanelle** 49.04 323 eP P 19 43 30.4 +2.1
9.9nm,1.0s
E25A **Miller Ranch,** 49.04 334 P P 19 43 27.9 -0.1
baz=49
A30A **Hoffart Farm,** 49.06 340 P P 19 43 27.2 -0.8
baz=49,SNR=6.0
SHPR **Sheep Range** 49.06 317 eP P 19 43 30.1 +1.6
TCUT **Toone Canyon** 49.34 324 eP P 19 43 31.0 +0.4
22nm,0.6s
F23A **Volborg** 49.35 332 P P 19 43 30.4 0.0
baz=50
BW06 **Boulder Array** 49.35 327 eP P 19 43 30.8 +0.2
9.1nm,1.0s
PDAR **Pinedale Array** 49.35 327 P P 19 43 30.9 +0.3
4.2nm,0.5s,baz=121,slow=9.6,SNR=32
PDAR LR LR 20 07 15.4
comp=Z,83nm,20.4s,baz=130,slow=39
A29A **Manning Farm,** 49.37 339 P P 19 43 29.7 -0.7
baz=50,SNR=13
G22A **Birney** 49.39 331 P P 19 43 30.4 -0.3
baz=50,SNR=11
I20A **Worland** 49.40 329 P P 19 43 31.2 +0.3
baz=50,SNR=6.1
J19A **Crowheart** 49.42 328 P P 19 43 31.0 0.0
baz=50
ULM **Lac du Bonnet** 49.43 343 P P 19 43 29.2 -1.5
4.9nm,0.6s,baz=145,slow=9.8,SNR=5.8
ULM LR LR 20 05 48.4
comp=Z,99nm,19.6s,baz=169,slow=38
ULM **Lac du Bonnet** 49.43 343 eP P 19 43 29.5 -1.2
SHOC **Shoshone** 49.53 315 P P 19 43 32.7 +0.8
baz=50
GSC **Goldstone** 49.60 314 P P 19 43 33.7 +1.2
baz=50,SNR=8.7
GSC **Goldstone** 49.60 314 eP P 19 43 34.0 +1.5
17nm,1.3s
DUG **Dugway** 49.62 322 P P 19 43 33.6 +1.0
baz=50,SNR=14
DUG **Dugway** 49.62 322 eP P 19 43 33.7 +1.0
11nm,0.9s
A28A **Rude Farm, Bot** 49.73 338 P P 19 43 33.5 +0.3
baz=50
HWUT **Hardware Ranch** 49.74 324 eP P 19 43 34.0 +0.4
7.4nm,0.9s
E23A **Ismay** 49.88 333 P P 19 43 33.3 -1.1
baz=50
I19A **Meeteetse** 49.91 328 P P 19 43 35.4 +0.5
baz=50
D24A **Glenlve** 49.92 334 P P 19 43 35.0 +0.3
baz=50,SNR=7.8
TPNV **Topopah Spring** 50.04 317 P P 19 43 37.5 +1.6
baz=50,SNR=8.1
SPUT **South Promonto** 50.07 323 eP P 19 43 36.1 +0.1
18nm,1.1s
A27A **Ledoux Ranch,** 50.13 338 P P 19 43 37.1 +0.9
baz=50
E22A **Miles City** 50.13 332 P P 19 43 36.5 +0.2
baz=50
BGU **Big Grassy Mou** 50.19 323 eP P 19 43 37.1 +0.1
17nm,1.0s
FURC **Furnace Creek,** 50.22 316 P P 19 43 38.4 +1.3
baz=50,SNR=5.9
EDW2 **Edwards Air Fo** 50.25 313 P P 19 43 37.9 +0.5
baz=50
R11A **Troy Canyon, C** 50.33 318 P P 19 43 39.2 +1.1
baz=50,SNR=14
B25A **Knox Farm, Ray** 50.34 336 P P 19 43 38.0 +0.2
baz=50
G20A **Bridger** 50.34 330 P P 19 43 37.4 -0.5
baz=50,SNR=11
MPMC **Manual Prospec** 50.46 315 P P 19 43 39.9 +0.8
baz=51,SNR=8.2
LOHW **Long Hollow** 50.49 327 eP P 19 43 40.0 +0.8
15nm,1.2s
HVU **Hansel Valley** 50.55 324 eP P 19 43 41.2 +1.5
TPAW **Teton Pass** 50.60 327 eP P 19 43 40.0 -0.1
7.2nm,0.8s
MOOW **Moose Ponds** 50.66 327 eP P 19 43 40.6 +0.1
6.3nm,1.0s
F20A **Billings** 50.72 330 P P 19 43 41.5 +0.7
baz=51
E21A **Keefer Ranch,** 50.73 332 P P 19 43 41.6 +0.7
baz=51
FXWY **Fox Creek** 50.74 327 eP P 19 43 41.6 +0.5
24nm,1.9s
RLMT **Red Lodge** 50.80 329 P P 19 43 41.9 +0.4
baz=51
RLMT **Red Lodge** 50.80 329 eP P 19 43 42.2 +0.7
43nm,1.9s

A25A	Svangstu Ranch	50.85	336	P		P	19 43 41.7	+0.1
	baz=51							
IMW	Indian Meadow	50.86	327	*e*P		P	19 43 42.4	+0.3
	12nm,0.6s							
ISA	Isabella	50.97	314	*e*P		P	19 43 44.0	+1.2
	10nm,1.4s							
BSC	Santa Cruz Isl	51.06	312	P		P	19 43 45.3	+1.8
	baz=51							
SCHQ	Schefferville	51.24	6	P		P	19 43 43.7	-0.8
	11nm,0.6s,baz=190,slow=7.4,SNR=16							
SCHQ				LR		LR	20 07 28.5	
	comp=Z,94nm,18.8s,baz=192,slow=38							
TPH	Tonopah	51.28	317	*e*P		P	19 43 46.4	+1.1
	23nm,1.3s							
GCMT	Greycliff	51.47	330	*e*P		P	19 43 46.5	+0.1
	5.5nm,0.5s							
VES	Vestal, Richgr	51.49	314	P		P	19 43 48.1	+1.4
	baz=52							
PKM	Peak Mountain	51.60	312	P		P	19 43 48.5	+0.8
	baz=52							
QLMT	Earthquake Lak	51.74	328	*e*P		P	19 43 50.0	+1.4
	0.7nm,0.6s							
SMMC	Simmler	51.91	313	P		P	19 43 51.1	+1.2
	baz=52							
NVAR	Mina Array Bea	52.20	317	P		P	19 43 53.0	+0.8
	7.3nm,0.8s,baz=133,slow=7.0,SNR=49							
NVAR				PcP		PcP	19 45 03.6	+0.1
	12nm,0.5s,baz=126,slow=4.7,SNR=31							
BOZ	Bozeman (W)	52.38	328	P		P	19 43 53.6	+0.3
	baz=52,SNR=12							
BOZ	Bozeman (W)	52.38	328	*e*P		P	19 43 53.5	+0.3
	6.7nm,0.7s							
MCMT	McKenzie Canyo	52.51	327	*e*P		P	19 43 55.9	+1.6
BMN	Battle Mountai	52.52	320	*e*P		P	19 43 55.3	+0.8
	21nm,1.2s							
HLID	Hailey	52.60	325	P		P	19 43 55.8	+0.8
	baz=53,SNR=6.3							
LRM	Limekiln Ridge	52.93	328	*e*P		P	19 43 57.8	+0.3
	35nm,0.5s							
WAKR	Walker	53.01	317	*e*P		P	19 44 00.3	+2.1
MFID	Camas Ranch	53.34	324	*e*P		P	19 44 01.4	+1.1
	38nm,1.7s							
MSO	Missoula	54.37	328	P		P	19 44 08.3	+0.4
	baz=54							
WVOR	Wild Horse Val	54.50	321	*e*P		P	19 44 09.6	+0.7
	43nm,1.3s							
FFC	Flin Flon	55.18	341	*e*P		P	19 44 11.9	-1.5
	7.4nm,1.1s							
MOD	Modoc	55.27	320	*e*P		P	19 44 15.6	+1.1
	14nm,1.6s							
BLMT	Blacktail Moun	55.35	329	*e*P		P	19 44 15.8	+0.8
BSMT	Bassoo Peak	55.47	329	*e*P		P	19 44 15.8	-0.1
	13nm,1.4s							
M04C	Macdoel	56.21	319	P		P	19 44 21.9	+0.7
	baz=56							
G08A	Pilot Rock	56.25	324	*e*P		P	19 44 22.0	+0.6
	59nm,1.6s							
KCPM	Cahto Peak	56.41	316	P		P	19 44 24.6	+1.9
J05D	Fort Rock, OR	56.57	321	P		P	19 44 24.6	+0.8
	baz=57,SNR=7.0							
M02C	Callahan	56.69	318	P		P	19 44 24.3	-0.3
	baz=57							
FCC	Fort Churchill	56.70	348	*e*P		P	19 44 22.9	-1.2
	12nm,0.6s							
KHMM	Horse Mountain	57.04	317	*e*P		P	19 44 28.3	+1.1
J04D	Umpqua Nationa	57.10	320	P		P	19 44 28.2	+0.6
	baz=57,SNR=5.0							
D08A	Wollman Farm,	57.23	326	*e*P		P	19 44 28.9	+0.8
	31nm,1.7s							
I04A	Tendick Farm,	57.56	321	P		P	19 44 30.9	+0.2
	baz=58							
G05D	Wamic, OR	57.63	323	P		P	19 44 31.8	+0.7
	baz=58							
I03D	Drain, OR	58.11	320	P		P	19 44 35.3	+0.9
	baz=58							
B08A	Colville Reser	58.20	327	*e*P		P	19 44 35.1	+0.1
	31nm,1.5s							
LON	Longmire	58.71	324	*e*P		P	19 44 39.8	+1.1
	4.1nm,0.8s							
E03A	Lebam	59.64	323	*e*P		P	19 44 46.2	+1.3
	16nm,0.7s							
NLWA	Neilton Lookou	60.25	324	*e*P		P	19 44 50.0	+0.8
	27nm,1.2s							
YKA	Yellowknife Ar	65.36	341	P		P	19 45 21.6	-1.3
	7.9nm,0.5s,baz=136,slow=6.1,SNR=85							
DLBC	Dease Lake	68.97	333	*e*P		P	19 45 44.8	-1.2
	9.1nm,0.7s							
TIC	Toumodi	69.81	84	*e*P		P	19 45 48.0	-4.0
DBIC	Dimbokro	69.97	84	P		P	19 45 51.4	-1.6
	2.7nm,0.5s,baz=256,slow=7.1,SNR=9.3							
DBIC				LR		LR	20 13 17.7	
	comp=Z,86nm,21.5s,baz=245,slow=33							
KIC	Kosan Boka	70.10	85	*e*P		P	19 45 52.7	-1.0
	40nm,1.1s							
ESDC	Sonseca Array	73.06	50	P		P	19 46 10.0	-1.2
	0.7nm,0.5s,baz=268,slow=6.0,SNR=9.3							
ESDC				LR		LR	20 17 26.6	
	comp=Z,62nm,18.4s,baz=115,slow=35							
YRC	Rhoscolyn	75.32	36	*e*P		P	19 46 24.1	+0.1
YRE	Yr Eifl	75.35	36⇑	*e*P		P	19 46 24.8	+0.7
DAWY	Dawson	75.48	336	*e*P		P	19 46 24.6	-0.2
WPM1	Penmaenmawr	75.72	36	*e*P		P	19 46 26.5	+0.3
KPL	Plockton	75.75	32	*e*P		P	19 46 26.8	+0.4
KPL				AMB		AMB	19 46 33.3	
	comp=Z,27nm,1.5s							
KAC	Achnashellach	75.98	31⇑	*e*P		P	19 46 27.2	-0.5
MCH1	Michaelchurch	75.99	37	*e*P		P	19 46 27.9	+0.1
MONM	Monmouth	76.07	38⇑	*e*P		P	19 46 28.3	0.0
MONM				AMB		AMB	19 46 29.4	
	comp=Z,32nm,1.4s							
TOA0	Torodi Ar. Sit	76.30	77	*e*P		P	19 46 29.2	-1.1
TORD	Torodi Ar. Bea	76.30	77	P		P	19 46 28.8	-1.6
	comp=Z,1.8nm,0.4s,baz=287,slow=6.8,SNR=46							
TORD				LR		LR	20 17 49.9	
	comp=Z,131nm,21.5s,baz=240,slow=34							
PPT	Papeete	76.41	251	LR		LR	20 12 19.2	
	comp=Z,92nm,18.4s,baz=72,slow=29							
PPT2	Papeete2	76.42	251	*e*LR		LR	20 10 20.4	
	comp=Z,150nm,21.5s							
STRD	Stroud	76.45	38	*e*P		P	19 46 30.5	0.0
MDO	Dochfour	76.45	32⇑	*e*P		P	19 46 29.8	-0.6
EGAK	Eagle	76.45	336	*e*P		P	19 46 30.3	+0.1
	comp=Z,39nm,1.5s							
ESK	Eskdalemuir	76.58	34	*e*P		P	19 46 31.6	+0.5
ESK				AMB		AMB	19 46 33.5	
	comp=Z,24nm,1.6s							
ECK	Cauldkaine Hil	76.59	34	*e*P		P	19 46 30.8	-0.4
MVH1	Achvaich	76.66	31⇑	*e*P		P	19 46 31.6	0.0
BMRM	Bremner River	76.75	332	*e*P		P	19 46 32.0	-0.1
EDU	Dundee	76.96	33	*e*P		P	19 46 33.9	+0.7
LHO	Holmfirth	76.98	36	*e*P		P	19 46 34.0	+0.5
ESY	Stoneypath	77.04	33	*e*P		P	19 46 34.3	+0.6
MCD	Coleburn Disti	77.06	32	*e*P		P	19 46 34.0	+0.2
MLA1	Latheron	77.18	31⇑	*e*P		P	19 46 34.8	+0.4
EYAK	Cordova Ski Ar	77.18	331	*e*P		P	19 46 35.2	+0.9
	comp=Z,8.5nm,1.1s							
TBI	Tubuai	77.23	245	*e*LR		LR	20 10 42.5	
	comp=Z,123nm,24.8s							
KLU	Klutina	77.51	332	*e*P		P	19 46 36.5	+0.2
	comp=Z,7.1nm,0.8s							
PAX	Paxson	77.70	334	*e*P		P	19 46 33.0	-4.4
	comp=Z,9.0nm,0.8s							
SML	Sawmill	78.70	332	*e*P		P	19 46 41.7	-1.2
	comp=Z,4.7nm,1.3s							
HDA	Harding Lake	78.72	335	*e*P		P	19 46 42.3	-0.6
ILAR	Eielson Array	78.79	335	P		P	19 46 42.5	-0.8
	comp=Z,3.4nm,0.5s,baz=118,slow=4.0,SNR=28							
ILAR				PP		PP	19 49 42.0	+0.3
	comp=Z,0.8nm,0.9s,baz=105,slow=5.9,SNR=4.6							
ILAR				LR		LR	20 25 50.9	
	comp=Z,61nm,18.6s,baz=120,slow=39							
CCB	Clear Creek Bu	79.14	335	*e*P		P	19 46 44.8	-0.4
MCK	McKinley	79.41	334	*e*P		P	19 46 46.7	0.0
BRLK	Bradley Lake	79.51	330	*e*P		P	19 46 47.5	+0.2
BWN	Browne	79.73	335	*e*P		P	19 46 40.2	-8.2
TAM	Tamanrasset	79.89	68	*e*P		P	19 46 50.7	+0.3
	comp=Z,5.7nm,0.7s							
TRF	Thorofare Moun	79.94	334	*e*P		P	19 46 49.6	-0.2
SNF	Seneffe	80.28	40	P		P	19 46 52.4	+0.8
BPAW	Bear Paw Mtn.	80.37	334	*e*P		P	19 46 51.0	-0.9
DOU	Dourbes	80.44	40	P		P	19 46 52.9	+0.3
	comp=Z,11nm,1.6s							
PPLA	Purkeypile	80.68	333	*e*P		P	19 46 53.1	-0.7
COLD	Coldfoot	80.69	338	*e*P		P	19 46 53.8	+0.3
CAST	Castle Rocks	80.72	334	*e*P		P	19 46 52.9	-0.9
BEBN	Eben Emael	81.19	39	P		P	19 46 57.3	+0.8
HGN	Heimansgroeve	81.35	39	*e*P		P	19 46 57.7	+0.3
	comp=Z,13nm,0.7s							
MEM	Membach	81.38	40	P		P	19 46 58.6	+1.0
	comp=Z,13nm,1.6s							
MEM	Membach	81.38	40	*e*P		P	19 46 59.2	+1.7
WLF	Walferdange	81.41	41	P		P	19 46 58.3	+0.6
	comp=Z,26nm,1.3s							
WLF	Walferdange	81.41	41	*e*P		P	19 46 58.9	+1.2
	comp=Z,30nm,0.7s							
WLF	Walferdange	81.41	41	*e*P		P	19 46 58.3	+0.6
	comp=Z,76nm,1.4s							
SENIN	Lac Senin/Sane	81.98	44	*e*P		P	19 47 02.5	+1.5
ECH	Echery	81.98	42	*e*P		P	19 47 00.2	-0.5
	comp=Z,17nm,1.0s							
WTSB	Winterswijk	81.98	38	*e*P		P	19 47 01.2	+0.6
	comp=Z,40nm,1.1s							
SVW2	Sparrevohn	82.01	331	*e*P		P	19 46 59.3	-1.4
	comp=Z,6.0nm,0.6s							
BUG	Bochum--Univer	82.24	39	*e*P		P	19 47 03.2	+1.2
	comp=Z,39nm,1.6s							
IBBN	Ibbenburen	82.59	38	*e*P		P	19 47 05.1	+1.3
	comp=Z,26nm,1.3s							
BFO	Black Forest	82.76	42	*e*P		P	19 47 05.3	+0.4
	comp=Z,13nm,1.5s							
TNS	Taunus Mts	82.92	40	*e*P		P	19 47 06.9	+1.2
	comp=Z,24nm,1.2s							
KEST	Kesra	83.26	55	P		P	19 47 06.1	-1.7
	comp=Z,0.4nm,0.4s,baz=206,slow=2.3,SNR=5.0							
KEST				LR		LR	20 22 45.4	
	comp=Z,29nm,19.4s,baz=272,slow=35							
STU	Stuttgart	83.35	42	*e*P		P	19 47 08.6	+0.7
	comp=Z,22nm,1.3s							
DAVA	Damuels	83.78	43⇓	*i*P		P	19 47 11.0	+0.7
	comp=Z,18nm,0.6s							
UBBA	Unterbreizbach	83.93	39	*e*P		P	19 47 12.1	+1.4
	comp=Z,13nm,1.8s							
FUORN	Ofenpass-Fuorn	84.03	44	*e*P		P	19 47 13.4	+1.7
CLZ	Clausthal	84.19	38	*e*P		P	19 47 13.7	+1.6
	comp=Z,38nm,1.6s							
BSEG	Bad Segeberg	84.20	36	*e*P		P	19 47 13.5	+1.4
	comp=Z,22nm,1.4s							
FETA	Feichten	84.35	43⇑	*i*P		P	19 47 14.0	+0.7
	comp=Z,18nm,1.1s							
GRF	Grafenberg Arr	84.70	41	*e*P		P	19 47 16.0	+1.2
	comp=Z,36nm,1.9s							
FUR	Furstenfeldbru	84.73	42	*e*P		P	19 47 16.3	+1.3
	comp=Z,107nm,2.2s							
NB2	NORSAR Subarra	84.85	29	P		P	19 47 16.1	+0.8
	comp=Z,5.6nm,0.7s,baz=268,slow=5.1							
NOA	NORSAR Array B	84.85	29	P		P	19 47 14.5	-0.8
	comp=Z,5.1nm,0.8s,baz=270,slow=5.8,SNR=8.6							
NOA				LR		LR	20 23 39.1	
	comp=Z,69nm,19.5s,baz=245,slow=35							
WTTA	Wattenberg	84.97	43⇑	*i*P		P	19 47 16.1	-0.4
	comp=Z,11nm,1.2s							
NEUB	Neuenburg	85.06	39	*e*P		P	19 47 18.0	+1.5
	comp=Z,14nm,0.9s							
MANZ	Manzenberg	85.27	40	*e*P		P	19 47 19.2	+1.5
	comp=Z,9.0nm,1.1s							
PLN	Plauen	85.30	40	*e*P		P	19 47 19.2	+1.4
	comp=Z,18nm,1.4s							
ROTZ	Rotzenmuhle	85.34	41	*e*P		P	19 47 19.8	+1.8
	comp=Z,19nm,1.7s							
WERN	Wernitzgruen	85.44	40	*e*P		P	19 47 20.1	+1.6
	comp=Z,23nm,1.5s							
TANN	Tannenbergstha	85.50	40	*e*P		P	19 47 20.3	+1.5
	comp=Z,22nm,1.4s							
ABTA	Abfaltersbach	85.58	44⇓	*i*PcP		P	19 47 19.9	+0.6
	comp=Z,25nm,1.1s							
RJOB	Jochberg	85.75	43	*e*P		P	19 47 21.2	+1.0
	comp=Z,16nm,1.1s							
WET	Wettzell	85.78	41	*e*P		P	19 47 21.8	+1.6
	comp=Z,32nm,1.4s							
CLL	Collm	85.83	39	*e*P		P	19 47 21.8	+1.5
	comp=Z,12nm,1.1s							
CLL	Collm	85.83	39	*e*P		P	19 47 21.1	+0.8
CLL	Collm	85.83	39	*i*P		P	19 47 21.3	+1.0
	comp=Z,12nm,1.1s							
CLL				LmV			20 20 00.0	
	comp=Z,100nm,21.9s							
CLL	Collm	85.83	39	*e*Sg		P	19 47 22.0	+1.7
FBE	Freiberg	86.06	39	*e*P		P	19 47 23.2	+1.7
	comp=Z,11nm,0.9s							
HFS	Hons	86.08	30	P		P	19 47 20.5	-0.8
	comp=Z,5.8nm,0.5s,baz=248,slow=1.6,SNR=46							
VNA1	Neumayer--Stat	86.13	162	P		P	19 47 22.9	+1.5
KBA	Koelnbreinsper	86.14	43⇓	*i*PcP		P	19 47 23.1	+0.9
	comp=Z,20nm,0.8s							
KHC	Kasperske Hory	86.24	41	*e*P		P	19 47 23.2	+0.7
KHC				*ex*		x	19 47 47.1	
KHC	Kasperske Hory	86.24	41	*e*P		P	19 47 22.4	-0.1
GERES	GERESS Array B	86.33	41	P		P	19 47 22.5	-0.5
	comp=Z,5.3nm,0.6s,baz=275,slow=3.1,SNR=28							
MYKA	Terra Mystica	86.36	44⇑	*i*PcP		P	19 47 24.0	+0.8
	comp=Z,14nm,0.7s							
RAR	Rarotonga	86.41	249	LR		LR	20 17 31.8	
	comp=Z,188nm,20.0s,baz=107,slow=30							
BRG	Berggiesshubel	86.43	39	*e*P		P	19 47 24.9	+1.6
	comp=Z,16nm,1.2s							
SPITS	Spitsbergen Ar	86.54	12	P		P	19 47 23.3	-0.1
	comp=Z,3.2nm,0.5s,baz=191,slow=1.7,SNR=18							
MOA	Molln	86.74	42⇑	*i*PcP		P	19 47 25.8	+0.8
	comp=Z,16nm,0.9s							
PRA	Prague	86.77	40	*e*P		P	19 47 26.4	+1.4
PVCC	Panska Ves	86.84	40	*e*P		P	19 47 26.0	+0.7
PRU	Pruhonice	86.84	40	*e*P		P	19 47 26.4	+1.0
PRU				AMS		AMS	20 19 30.0	
	comp=Z,200nm,22.0s							
GOPC	GO Pecny, Ondr	87.00	40	*e*P		P	19 47 27.9	+1.7
GOPC				*ex*		x	19 47 51.7	
TREC	Trest	87.49	41	*e*P		P	19 47 29.0	+0.5
TREC				AMS		AMS	20 28 20.0	
	comp=Z,100nm,17.8s							
ARSA	Arzberg	87.62	43⇑	*i*P		P	19 47 29.2	0.0
	comp=Z,6.2nm,0.6s							
UPC	Upice	87.76	40	*e*P		P	19 47 30.7	+0.9
UPC				*ex*		x	19 47 34.6	
UPC				AMS		AMS	20 27 40.0	
	comp=Z,200nm,14.7s							
CONA	Conrad Observa	87.81	42⇑	*i*PcP		P	19 47 31.0	+0.7
	comp=Z,24nm,1.5s							
DPC	Dobruska-Polom	87.97	40	*e*P		P	19 47 31.9	+1.1
DPC				*ex*		x	19 47 38.0	
DPC				*ex*		x	19 48 00.1	
DPC				AMS		AMS	20 28 00.0	
	comp=Z,100nm,20.8s							
SNAA	Sanae	88.14	162	P		P	19 47 32.2	+1.0
SNAA	Sanae	88.14	162	*e*P		P	19 47 32.0	+0.8
KRLC	Kraliky	88.28	40	*e*P		P	19 47 34.0	+1.7
MORC	Moravsky Berou	88.79	40⇑	*i*P		P	19 47 35.5	+0.7
MORC	Moravsky Berou	88.79	40	*e*P		P	19 47 36.1	+1.4
OKC	Ostrava-Krasne	89.18	40	*e*P		P	19 47 37.7	+1.2
OKC				AMS		AMS	20 30 40.0	
	comp=Z,100nm,15.7s							
VYHS	Vyhne	89.75	42	*e*P		P	19 47 39.4	+0.2
PKSM	Moragy	89.84	44⇓	*i*P		P	19 47 40.8	+1.2
ARCES	ARCESS Array B	90.11	20	P		P	19 47 40.7	+0.3
	comp=Z,3.2nm,0.5s,baz=277,slow=3.4,SNR=46							
ARCES				LR		LR	20 24 28.4	
	comp=Z,24nm,21.0s,baz=275,slow=33							
OJC	Ojcow	90.20	40	*e*P		P	19 47 42.9	+1.6
KOLS	Kolonicke sedl	91.96	41	*e*P		P	19 47 51.4	+1.9
FINES	FINESS Array B	91.96	28	P		P	19 47 48.5	-0.6
	comp=Z,1.9nm,0.5s,baz=218,slow=2.3,SNR=25							
FINES				LR		LR	20 28 39.0	
	comp=Z,55nm,19.0s,baz=274,slow=35							
BZS	Buzias	91.97	44⇓	*i*P		P	19 47 50.5	+0.9
TRPA	Tarpa	92.25	42⇓	*i*P		P	19 47 52.2	+1.4
VTS	Vitosha	93.52	47⇑	*i*P		P	19 47 58.2	+1.2
ARR	Arges	94.10	44⇑	*i*P		P	19 48 00.6	+1.1
BURAR	Bucovina Array	94.11	42⇓	*i*P		P	19 48 00.3	+0.7
MLR	Muntele Rosu	94.99	44⇑	*i*P		P	19 48 04.7	+1.0
AFI	Afiamalu	97.38	257	LR		LR	20 23 18.6	
	comp=Z,109nm,21.7s,baz=82,slow=30							
ZALV	Zalesovo Beam	119.99	14	PKP		PKPdf	19 53 30.8	-0.4
	comp=Z,0.6nm,0.5s,baz=248,slow=5.5,SNR=4.4							
KURK	Kurchatov	121.13	19	PKP		PKPdf	19 53 33.0	-0.5
KURBB	Kurchatov Arra	121.18	19	PKP		PKPdf	19 53 33.0	-0.6
	comp=Z,0.6nm,0.6s,baz=318,slow=2.4,SNR=13							
MKAR	Makanchi Array	125.74	19	PKP		PKPdf	19 53 41.0	-1.6
	comp=Z,0.5nm,0.4s,baz=302,slow=2.8,SNR=14							
WMQ	Urumqi	130.06	16	PKP		PKPdf	19 53 50.5	-0.5
WMQ				LN				
	comp=Z,60nm,24.8s							
WMQ				LE				
	comp=Z,49nm,21.2s							
WMQ				LZ				
	comp=Z,68nm,19.4s							
HHC	Hu-ho-hao-te	135.07	353	*e*PKP		PKPdf	19 54 03.5	+2.9
HHC				PP		PP	19 56 41.8	+7.5
HHC				SS		SS	20 14 29.0	+3.6
HHC				PPMZ				
	comp=Z,24nm,9.9s							
HHC				LN				
	comp=Z,93nm,16.0s							
HHC				LE				
	comp=Z,100nm,13.6s							
HHC				LZ				
	comp=Z,54nm,18.5s							
BJI	Beijing	135.08	348	PKP		PKPdf	19 53 58.8	-1.6
BJI				LZ				
	comp=Z,63nm,35.9s							
STKA	Stephens Creek	135.70	227	PKP		PKPdf	19 54 01.6	-0.2
	comp=Z,4.8nm,0.7s,baz=100,slow=2.1,SNR=13							
GTA	Gaotai	136.68	6	*e*PKP		PKPdf	19 54 02.8	-0.8
GTA				sPKP			19 54 28.3	
LZH	Lanzhou	140.24	1	*e*PKP		PKPdf	19 54 13.0	+2.7
LZH				sPKP			19 54 35.5	
KOLN	Koldanda	142.44	32	*e*P		PKPdf	19 54 09.2	-5.3
	comp=Z,5.0nm,0.4s							
GKN	Gorkha	142.79	30	*e*P		PKPdf	19 54 10.6	-4.5
	comp=Z,9.1nm,0.4s							
KKN	Kakani	143.28	30	*e*P		PKPbc	19 54 12.5	-0.5
	comp=Z,16nm,0.5s							
DMN	Daman	143.34	30	*e*P		PKPab	19 54 12.7	+0.6
	comp=Z,43nm,0.8s							
GUN	Gumba	143.48	29	*e*P		PKPab	19 54 13.0	+0.2
	comp=Z,64nm,0.5s							
PKIN	Phulchoki	143.52	30	*e*P		PKPab	19 54 12.9	+0.1
	comp=Z,20nm,0.7s							
PKI	Pulchoki	143.53	30	*e*P		PKPab	19 54 12.9	-0.1
	comp=Z,32nm,0.9s							
KLRI	Killari	144.60	51	*e*PKPdf		PKPab	19 54 15.9	-1.0
RAMN	Ramite	144.63	29	*e*P		PKPab	19 54 16.6	-0.4
	comp=Z,30nm,0.5s							
TAPN	Taplejung	144.81	27	*e*P		PKPab	19 54 17.6	-0.1
	comp=Z,63nm,0.5s							
ODAN	Odare	145.08	28	*e*P		PKPbc	19 54 18.3	-0.3
	comp=Z,74nm,1.1s							
CD2	Chengdu	145.39	2	PKPbc		PKPbc	19 54 17.5	-1.8
CD2				pPKP		pPKPdf	19 54 36.0	+5.1
CD2				sPKP			19 54 43.0	
CD2				SKS		SKSdf	20 01 21.0	-5.3
CD2				SKKS		SKKSac	20 04 22.5	-6.5
CD2				SS		SS	20 16 23.3	-2.7
CD2				PPMZ				
	comp=Z,140nm,5.2s							
SRSP	Sriramsagar	145.42	48	*e*PKPdf		PKPbc	19 54 18.4	-1.2
ASAR	Alice Springs	145.76	232	PKPbc		PKPdf	19 54 20.2	0.0
	comp=Z,5.7nm,0.4s,baz=112,slow=3.2,SNR=91							
RPR	Rampur	146.16	47	*e*PKPab		PKPdf	19 54 20.9	0.0
HYBB	Hyderabad (bro	146.49	50	*e*PKPab		PKPdf	19 54 21.9	+0.4
HYB	Hyderabad	146.49	50	*i* PKP		PKPdf	19 54 22.0	+0.4
URV	Uravakonda	146.86	55	*e*PKPab		PKPdf	19 54 22.8	+0.6
WRA	Warramunga Arr	147.15	239	PKPbc		PKPdf	19 54 22.6	0.0
	comp=Z,17nm,0.7s,baz=110,slow=2.4,SNR=123							
SRLM	Srisailam	147.52	52	*e*PKPbc		PKPdf	19 54 23.4	+0.1
RCLA	Racherla	147.94	53	*e*PKiKP		PKPbc	19 54 26.3	-0.7
ADKI	Addanki	148.51	51	*e*PKPbc		PKPbc	19 54 27.4	-1.1
PVM	Polavaram	148.89	47	*e*PKiKP		PKPbc	19 54 29.6	+0.1
CHLP	Challavanipeta	149.74	42	*e*PKPab		PKPab	19 54 34.9	-1.9
GYA	Guiyang	149.80	357	PKPbc		PKPdf	19 54 26.0	-0.9
GYA				PKPab		PKPab	19 54 38.3	+1.4
GYA				pPKP		pPKPdf	19 54 44.8	+6.4
GYA				PKS		PKSdf	19 57 59.0	-3.1
GYA				PP		PP	19 58 06.5	+3.1
GYA				PPMZ				
	comp=Z,120nm,8.2s							
KMI	Kunming	151.10	4	PKPbc		PKPbc	19 54 34.5	-0.4
KMI				PPMZ				
	comp=Z,64nm,5.4s							
CMAR	Chiang Mai Arr	157.05	15	PKPab		PKPab	19 55 06.5	-1.0
	comp=Z,2.1nm,0.5s,baz=329,slow=5.4,SNR=23							

CSEM ***29*** *19:46:19.0±0.7, 51.56N×16.11E, h2km, Error ellipse: s-maj=10.0km s-min=5.1km az=2.0*

PRU 29 19:46:20.1, 51.54N×16.13E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.71	172	*e*Pg	Pg	19 46 34.4	+0.7
KSP				*e*Sg	Sn	19 46 48.0	-0.9
UPC	Upice	1.04	184	*e*PG

KHZ	**Kahutara**	**5.65**	**202**	PN	Pn	19 52 33.7 -3.3

*IDC **29** 20:03:27.7±4.4, 36°.08N×71°.30E, h85km±38km, mb3.3/6, mb1 3.4/10, mb1mx3.2/38, mbtmp3.7/10, MS2.8/2, Ms1 2.8/2, ms1mx2.4/23, Error ellipse: s-maj=28.8km s-min=23.7km az=174.0*
*ISCJB **29** 20:03:28.9±0.5, 36°.24N±0°.04×71°.25E±0°.06, h100km, mb3.5/5, Error ellipse: s-maj=7.1km s-min=5.2km az=139.0*
*NNC **29** 20:03:37.9±3.1, 37°.04N×71°.11E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=25.7km s-min=10.8km az=171.0*

ISC 29 20:03:28.6±0.8, 36°.13N±0°.08×71°.33E±0°.07, h100km, n30, σ1§67/32, mb3.6/5, 5C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.33**	**324**	⇓P			**Pn**	**20 04 20.3**	**+1.5**
	28nm,0.4s								
DZET				⇑S			**Sn**	**20 04 53.4**	**-4.2**
	73nm,0.4s								
SFK	**Sufi-Kurgan**	**4.24**	**23**	⇓P			**Pn**	**20 04 34.0**	**+2.9**
	15nm,0.3s								
SFK				⇓S			**Sn**	**20 05 19.2**	**-0.4**
	15nm,0.3s								
AML	**Almayashu**	**6.26**	**16**	P			**Pn**	**20 04 59.7**	**+1.0**
	SNR=57								
MNAS	**Manas**	**6.41**	**8**	⇑P			**Pn**	**20 05 00.9**	**+0.5**
	8.2nm,1.0s								
MNAS				⇓S			Sn	20 06 05.9	-6.3
	4.8nm,0.3s								
KZA	**Kyzart**	**6.67**	**26**	P			**Pn**	**20 05 05.3**	**+1.0**
	SNR=7.7								
EKS2	**Erkin-Say**	**6.79**	**15**	P			**Pn**	**20 05 06.8**	**+1.1**
	SNR=11								
AAK	**Ala-Archa**	**6.94**	**20**	P			**Pn**	**20 05 09.4**	**+1.7**
	SNR=6.6								
AAK	**Ala-Archa**	**6.94**	**20**	⇑P			**Pn**	**20 05 08.5**	**+0.8**
	3.6nm,0.3s								
AAK				⇑S			**Sn**	**20 06 22.5**	**-2.6**
	6.4nm,0.5s								
KK31	**Karatay Array**	**6.99**	**355**	⇑P			**Pn**	**20 05 08.5**	**+0.2**
	4.4nm,0.2s,baz=180,slow=13,SNR=238								
KK31				⇓S			Sn	20 06 18.5	-7.6
	1.2nm,0.2s,baz=189,slow=26,SNR=7.4								
CHMS	**Chumysh**	**7.35**	**20**	P			**Pn**	**20 05 14.5**	**+1.4**
	SNR=6.1								
GEYT	**Alibeck**	**10.71**	**284**	P			**Pn**	**20 05 57.7**	**-1.3**
	0.9nm,0.3s,baz=110,slow=12,SNR=5.3								
GEYT				S			**Sn**	**20 07 58.7**	**+1.8**
	0.8nm,0.3s,baz=141,slow=30,SNR=5.2								
KOLN	**Koldanda**	**13.34**	**125**	*e*P			**P**	**20 06 37.0**	**-3.0**
	6.6nm,0.4s								
GKN	**Gorkha**	**13.88**	**122**	*e*P			**P**	**20 06 43.5**	**-2.6**
	6.3nm,0.3s								
DMN	**Daman**	**14.45**	**122**	*e*P			**P**	**20 06 51.1**	**-1.4**
	4.2nm,0.3s								
KKN	**Kakani**	**14.46**	**121**	*e*P			**P**	**20 06 51.0**	**-1.5**
	11nm,0.5s								
PKIN	**Phulchoki**	**14.67**	**122**	*e*P			**P**	**20 06 54.0**	**-1.0**
	6.5nm,0.5s								
PKI	**Pulchoki**	**14.69**	**122**	*e*P			**P**	**20 06 54.1**	**-1.1**
	4.5nm,0.3s								
KURBB	**Kurchatov Arra**	**15.39**	**18**	P			**P**	**20 07 01.8**	**-0.6**
	0.1nm,0.3s,baz=206,slow=11,SNR=7.2								
AB31	**Akbulak array**	**15.53**	**331**	⇓P			**Pn**	**20 07 01.1**	**-0.7**
	0.6nm,0.3s								
AB31				⇓S			Sn	20 09 40.1	-13
	0.3nm,0.5s,baz=160,slow=24,SNR=2.7								
BVAR	**Borovoye Array**	**16.90**	**358**	P			**Pn**	**20 07 18.3**	**-0.4**
	0.3nm,0.3s,baz=162,slow=11,SNR=4.1								
AKTO	**Aktyubinsk**	**17.23**	**330**	P			**Pn**	**20 07 24.0**	**+1.3**
	0.5nm,0.3s,baz=138,slow=11,SNR=18								
ZALV	**Zalesovo Beam**	**20.14**	**24**	P			**P**	**20 07 53.8**	**-0.7**
	1.0nm,0.3s,baz=206,slow=9.8,SNR=4.3								
GNI	**Garni**	**21.26**	**289**	LR			LR	20 17 37.8	
	comp=Z,30nm,18.1s,baz=144,slow=40								
TLY	**Talaya**	**27.70**	**46**	LR			LR	20 19 22.5	
	comp=Z,16nm,19.8s,baz=178,slow=34								
FINES	**FINESS Array B**	**37.93**	**326**	P			**P**	**20 10 36.9**	**+1.0**
	1.3nm,0.8s,baz=128,slow=9.8,SNR=8.9								
ARCES	**ARCESS Array B**	**41.58**	**338**	P			**P**	**20 11 07.5**	**+1.4**
	1.1nm,0.8s,baz=118,slow=8.8,SNR=6.4								
NB2	**NORSAR Subarra**	**44.83**	**323**	P			**P**	**20 11 33.1**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=96,slow=7.4								
NOA	**NORSAR Array B**	**44.83**	**323**	P			**P**	**20 11 33.0**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=96,slow=7.7,SNR=3.2								
TORD	**Torodi Ar. Bea**	**65.98**	**269**	P			**P**	**20 14 04.1**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=44,slow=6.2,SNR=4.6								
WRA	**Warramunga Arr**	**81.57**	**122**	P			**P**	**20 15 36.9**	**+1.5**
	comp=Z,0.4nm,1.1s,baz=327,slow=5.0,SNR=4.0								

SJA 29 20:42:42.5±0.6, 28°.40S×69°.15W, h134km±20km, ML3.7, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ACLC	**CERRO LA CRUZ**	**2.18**	**118**	*i* P			Pn	20 43 20.1	+1.0
ACLC				*i* S			Sn	20 43 48.1	+0.8
AMOG	**MOGNA**	**2.59**	**167**	*i* P			Pn	20 43 25.3	+1.1
AMOG				*i* S			Sn	20 43 56.3	0.0
AVFE	**Valle Fertil**	**2.69**	**147**	*i* P			Pn	20 43 26.4	+0.9
AVFE				*i* S			Sn	20 43 59.1	+0.6
AVFE					AML		AML	20 44 00.0	
	comp=Z,236nm,0.2s								
CYA	**Choya**	**2.95**	**92**	*i* P			Pn	20 43 29.7	+1.0
CYA				*i* S			Sn	20 44 04.2	-0.2
RTLL	**Cerro Villicun**	**2.98**	**169**	*i* P			Pn	20 43 29.9	+0.8
RTLL				*i* S			Sn	20 44 05.1	+0.1
APLL	**PUNTA DE LOS L**	**3.03**	**132**	*i* P			Pn	20 43 30.9	+1.2
RTCV	**Cerro Valdivia**	**3.49**	**171**	*i* P			Pn	20 43 36.8	+1.1

*IDC **29** 21:24:09.8±2.0, 17°.43S×178°.94W, h495km±25km, mb3.5/17, mb1 3.8/18, mb1mx3.5/48, mbtmp4.4/18, Error ellipse: s-maj=17.4km s-min=11.3km az=132.0*
*ISCJB **29** 21:24:12.6±0.4, 17°.45S±0°.1×178°.99W±0°.09, h539km, mb3.9/17, Error ellipse: s-maj=15.8km s-min=8.5km az=145.9*

ISC 29 21:24:13.4±0.6, 17°.4S±0°.1×179°.0W±0°.1, h539km, n32, σ1§03/31, mb3.7/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.76**	**64**	P			P	21 26 04.2	-4.3
	7.6nm,0.3s,baz=270,slow=20,SNR=3.3								
NIUE	**Niue**	**8.73**	**102**	P			**P**	**21 26 18.1**	**-0.1**
	baz=8.3,SNR=3.2								
URZ	**Urewera**	**21.03**	**189**	P			**P**	**21 28 16.1**	**-3.0**
	6.6nm,0.3s,baz=34,slow=2.5,SNR=14								
RPZ	**Rata Peaks**	**27.52**	**196**	P			**P**	**21 29 15.1**	**-1.6**
	6.8nm,0.7s,baz=333,slow=1.6,SNR=5.2								
ARMA	**Armidale**	**29.73**	**239**	P			**P**	**21 29 37.4**	**+1.1**
	baz=30,SNR=14								
RMQ	**Roma**	**31.19**	**248**	P			**P**	**21 29 49.9**	**+1.1**
	baz=32,SNR=11								
CNB	**Canberra Magne**	**33.30**	**231**	P			**P**	**21 30 07.6**	**+0.9**
	baz=34,SNR=15								
CMSA	**Cobar Meteorol**	**34.93**	**240**	P			**P**	**21 30 20.7**	**+0.4**
	baz=35,SNR=21								
QLP	**Quilpie**	**35.21**	**249**	P			**P**	**21 30 22.9**	**+0.2**
	baz=36,SNR=12								
TOO	**Toolangi**	**37.06**	**230**	P			**P**	**21 30 38.5**	**+0.6**
	baz=37,SNR=9.0								
STKA	**Stephens Creek**	**38.40**	**240**	P			**P**	**21 30 49.6**	**+0.7**
	12nm,0.8s,baz=94,slow=10.0,SNR=31								
HTT	**Hallett**	**40.93**	**239**	P			**P**	**21 31 09.9**	**+0.7**
	baz=41,SNR=7.8								
BBOO	**Buckleboo**	**43.17**	**240**	P			**P**	**21 31 27.1**	**+0.3**
	baz=43,SNR=13								
WRA	**Warramunga Arr**	**44.20**	**259**	P			**P**	**21 31 34.3**	**-0.7**
	1.3nm,0.5s,baz=95,slow=7.8,SNR=58								
ASAR	**Alice Springs**	**44.41**	**254**	P			**P**	**21 31 36.6**	**0.0**
	17nm,0.7s,baz=88,slow=8.1,SNR=139								
KDU	**Kakadu**	**47.04**	**269**	P			**P**	**21 31 57.4**	**+0.7**
	baz=47,SNR=3.3								
WRKA	**Warakurna**	**49.49**	**252**	P			**P**	**21 32 15.0**	**+0.2**
	baz=50,SNR=46								
KNRA	**Kununurra**	**50.01**	**264**	P			**P**	**21 32 19.3**	**+0.5**
	baz=50,SNR=4.2								
MEEK	**Meekatharra**	**58.11**	**249**	P			**P**	**21 33 15.5**	**-0.2**
	baz=58,SNR=4.3								
VNDA	**Vanda**	**60.86**	**185**	P			**P**	**21 33 33.7**	**+0.6**
	1.3nm,0.7s,baz=348,slow=8.2,SNR=7.2								
MJAR	**Matsushiro Arr**	**67.22**	**324**	P			**P**	**21 34 14.8**	**+0.6**
	3.3nm,0.5s,baz=163,slow=5.8,SNR=8.3								
PETK	**Petropavlovsk-**	**73.10**	**346**	P			**P**	**21 34 47.2**	**-1.5**
	4.8nm,0.8s,baz=120,slow=10,SNR=5.4								
YBH	**Yreka Blue Hor**	**78.50**	**39**	P			**P**	**21 35 19.4**	**+0.4**
	0.8nm,0.3s,baz=113,slow=2.2,SNR=4.1								
NVAR	**Mina Array Bea**	**79.45**	**44**	P			**P**	**21 35 25.7**	**+1.4**
	1.3nm,0.7s,baz=226,slow=7.8,SNR=9.5								
ELK	**Elko**	**82.68**	**43**	P			**P**	**21 35 41.5**	**+0.6**
	1.2nm,0.8s,baz=222,slow=6.3,SNR=4.8								
SEY	**Seymchan**	**83.21**	**347**	P			**P**	**21 35 42.0**	**-0.7**
	4.9nm,0.5s,baz=144,slow=6.4,SNR=16								
MAW	**Mawson**	**84.12**	**200**	P			**P**	**21 35 48.1**	**+0.9**
	3.2nm,0.7s,baz=175,slow=6.1,SNR=8.6								
ILAR	**Eielson Array**	**85.55**	**13**	P			**P**	**21 35 52.8**	**-1.4**
	1.0nm,0.7s,baz=222,slow=5.1,SNR=9.1								
TXAR	**Lajitas Array**	**86.19**	**58**	P			**P**	**21 35 59.7**	**+1.6**
	1.0nm,0.9s,baz=217,slow=5.5,SNR=11								
PDAR	**Pinedale Array**	**87.38**	**44**	P			**P**	**21 36 04.3**	**+0.7**
	0.8nm,0.7s,baz=219,slow=1.9,SNR=5.5								
YKA	**Yellowknife Ar**	**94.13**	**25**	P			**P**	**21 36 33.6**	**-0.4**
	0.5nm,0.8s,baz=127,slow=1.2,SNR=3.6								
GERES	**GERESS Array B**	**147.03**	**345**	PKPbc			**PKPbc**	**21 42 55.5**	**-0.3**
	1.2nm,0.6s,baz=28,slow=3.8,SNR=12								

MEX 29 21:25:55.5±0.5, 16°.43N×98°.81W, h14km±7km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.65**	**93**	*e*P			Pg	21 26 06.3	-2.0
PNIG				*i* S			Sg	21 26 14.7	-2.4
TLIG	**Tlapa**	**1.15**	**11**	*e*P			Pn	21 26 13.8	-3.5
TLIG				*i* S			Sb	21 26 27.3	-5.0
CAIG	**El Cayaco**	**1.53**	**294**	*i* P			Pn	21 26 18.6	-3.7
CAIG				*i* S			Sn	21 26 37.9	-4.2
PLIG	**Platanillo**	**2.06**	**341**	*i* P			Pn	21 26 26.9	-2.9
PLIG				*i* S			Sn	21 26 51.8	-3.7
VHO	**Vista Hermosa**	**2.09**	**72**	*i* P			Pn	21 26 27.7	-2.6
VHO				*i* S			Sn	21 26 51.7	-4.5

*MAN **29** 21:29:19, 6°.32N×123°.45E, h665km, mb5.2, ML4.2, MS4.4*
*ISCJB **29** 21:29:27.5±0.3, 6°.63N±0°.04×123°.65E±0°.04, h600km, mb4.2/27, Error ellipse: s-maj=6.2km s-min=4.2km az=141.9*
*NEIC **29** 21:29:28.9±1.3, 6°.36N×123°.57E, h602km±11km, mb4.4/11, Error ellipse: s-maj=17.3km s-min=13.9km az=89.0*
*IDC **29** 21:29:29.3±1.1, 6°.61N×123°.74E, h609km±16km, mb3.4/17, mb1 3.4/19, mb1mx3.2/45, mbtmp4.4/19, Error ellipse: s-maj=17.4km s-min=7.6km az=61.0*
*DJA **29** 21:29:31.2±0.5, 6°.N±6°×12°.4E±°, h600km±6km, M4.3/21, mb4.5/21, mB4.7/14, MLv4.9/4, Mw(mB)4.0/14*
*KLM **29** 21:29:33.1, 6°.44N×123°.37E, h543km, mb4.7, MS5.4*

ISC 29 21:29:28.7±0.4, 6°.55N±0°.06×123°.63E±0°.07, h600km, n93, σ1§19/98, mb4.1/27, 4C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.91**	**42**	*i* P			**P**	**21 30 38.2**	**-1.5**
DAV	**Davao City (W)**	**2.01**	**75**	*e*P			**P**	**21 30 42.4**	**-0.7**
DCPH	**Dipolog City**	**2.04**	**352**	⇑P			**P**	**21 30 41.1**	**-2.1**
TBP	**Tagbilaran**	**3.13**	**4**	*e*P			**P**	**21 30 46.2**	**-2.5**
PLP	**Palo**	**4.78**	**16**	*i*P			**P**	**21 30 57.7**	**-2.2**
MYLDM	**Lahad Datu**	**5.28**	**255**	*e*P			**P**	**21 31 04.1**	**+0.2**
MYLDM				*e*S			**S**	**21 32 19.6**	**-1.9**
PPR	**Puerto Princes**	**5.81**	**304**	⇑P			**P**	**21 31 07.7**	**-0.6**
TOLI	**Toli-Toli**	**6.08**	**208**	*e*P			**P**	**21 31 09.7**	**-1.0**
TSM	**Tawau**	**6.15**	**249**	⇓P			**P**	**21 31 10.1**	**-1.1**
MRSI	**Marisa**	**6.26**	**196**	P			P	21 31 18.2	+6.0
SDKM	**Sandakan**	**6.46**	**262**	⇓P			**P**	**21 31 13.3**	**-0.7**
KDM	**Kudat**	**6.76**	**274**	⇑P			**P**	**21 31 15.6**	**-0.9**
TNTI	**Ternate**	**6.84**	**147**	P			**P**	**21 31 20.5**	**+3.1**
	58nm,0.5s,1μm								
TNTI	**Ternate**	**6.84**	**147**	*e*P			**P**	**21 31 16.8**	**-0.5**
TNTI				*e*S			**S**	**21 32 45.1**	**-1.1**
MPSI	**Mapaga**	**7.20**	**211**	P			**P**	**21 31 20.1**	**-0.5**
	18nm,0.4s,933nm								
KKM	**Kota Kinabalu**	**7.38**	**267**	P			**P**	**21 31 21.8**	**-0.6**
	baz=7.3,SNR=67								
KKM	**Kota Kinabalu**	**7.38**	**267**	⇓P			**P**	**21 31 22.0**	**-0.4**
KKM	**Kota Kinabalu**	**7.38**	**267**	*e*P			**P**	**21 31 21.8**	**-0.6**
LUWI	**Luwuk**	**7.58**	**186**	P			**P**	**21 31 24.7**	**+0.5**
	26nm,1.3s,684nm0.4nm								
LUWI				S			**S**	**21 33 00.2**	**+1.5**
	26nm,1.3s,684nm0.4nm								
LUWI	**Luwuk**	**7.58**	**186**	P			**P**	**21 31 24.2**	**0.0**
	baz=7.6,SNR=6.9								
LUWI	**Luwuk**	**7.58**	**186**	*e*P			**P**	**21 31 24.0**	**-0.2**
LUWI				*e*S			**S**	**21 32 55.8**	**-2.9**
APSI	**Ampana**	**7.67**	**195**	P			**P**	**21 31 25.1**	**+0.2**
	37nm,1.1s,662nm0.2nm								
LBMI	**Labuha**	**8.12**	**151**	P			P	21 31 34.4	+5.2
LBMI				S			**S**	**21 33 05.5**	**-2.4**
PCI	**Palu**	**8.31**	**207**	P			**P**	**21 31 31.7**	**+0.6**
	22nm,0.7s,743nm								
SANI	**Sanana**	**8.86**	**164**	P			**P**	**21 31 33.9**	**-2.4**
SANI				S			S	21 33 13.0	-7.9
TTSI	**Tana Toraja**	**10.26**	**202**	P			**P**	**21 31 51.0**	**+0.9**
	13nm,0.8s								
SWI	**Sorong**	**10.59**	**134**	P			**P**	**21 31 53.8**	**+0.3**
SWI	**Sorong**	**10.59**	**134**	P			**P**	**21 31 53.8**	**+0.3**
	baz=11,SNR=6.2								
SIJI	**Sorong**	**10.60**	**134**	P			**P**	**21 31 53.7**	**+0.1**
	7.0nm,0.3s,baz=155,slow=23,SNR=24								
BTM	**Bintulu**	**11.02**	**253**	⇑P			**P**	**21 31 58.5**	**+0.8**
SBUM	**Sibu**	**12.07**	**251**	⇓P			**P**	**21 32 09.6**	**+1.3**
SBUM	**Sibu**	**12.07**	**251**	*e*P			**P**	**21 32 07.8**	**-0.5**
FAKI	**Fak Fak**	**12.75**	**137**	P			**P**	**21 32 15.6**	**+0.5**
	106nm,0.6s,1μm								
FAKI	**Fak Fak**	**12.75**	**137**	P			**P**	**21 32 15.1**	**0.0**
	baz=50,SNR=47								
FAKI	**Fak Fak**	**12.75**	**137**	P			**P**	**21 32 15.1**	**0.0**
	baz=13,SNR=24								
FAKI	**Fak Fak**	**12.75**	**137**	*e*P			**P**	**21 32 13.9**	**-1.1**
KSM	**Kuching**	**14.21**	**250**	*e*P			**P**	**21 32 29.6**	**0.0**
BAKI	**Biak**	**14.64**	**121**	P			**P**	**21 32 34.2**	**+0.5**
	95nm,1.0s,1μm								
MMRI	**Maumere**	**15.14**	**185**	P			**P**	**21 32 38.6**	**+0.3**
	52nm,0.6s,1μm								
DLV	**T Lat**	**15.87**	**291**	*e*P			**P**	**21 32 45.9**	**+0.7**
SMPI	**Sarmi**	**17.28**	**119**	P			**P**	**21 32 59.1**	**+1.2**
	57nm,0.7s,1μm								
QIZ	**Qiongzhong**	**18.27**	**314**	*e*P			**P**	**21 33 09.4**	**+2.5**
	61nm,1.6s								
GENI	**Genyem**	**18.84**	**118**	P			**P**	**21 33 15.6**	**+3.4**
	46nm,0.7s								
JAY	**Jayapura**	**19.28**	**117**	P			**P**	**21 33 15.3**	**-0.9**
	2.2nm,0.3s,baz=249,slow=12,SNR=12								
JAY	**Jayapura**	**19.28**	**117**	P			**P**	**21 33 16.5**	**+0.4**
	baz=NaN,SNR=3.9								
JOW	**Kunigami**	**20.66**	**12**	*e*P			**P**	**21 33 31.9**	**+3.6**
	120nm,0.5s								
MTN	**Manton Dam**	**20.66**	**159**	P			P	21 33 33.9	+5.4
	baz=21,SNR=3.3								
KLSI		**21.92**	**240**	P			**P**	**21 33 40.1**	**+0.3**
	37nm,1.8s								
CGJI	**Cibinong**	**22.16**	**234**	P			**P**	**21 33 40.7**	**-1.2**
	29nm,0.7s								
MDSI	**Maura Dua**	**22.29**	**241**	P			**P**	**21 33 44.0**	**+0.9**
	7.7nm,0.8s								
KNRA	**Kununurra**	**22.66**	**167**	P			**P**	**21 33 46.6**	**+0.3**
	baz=23,SNR=4.0								
LWLI	**Liwa**	**22.66**	**240**	P			**P**	**21 33 47.4**	**+0.9**
PSI	**Prapat**	**24.89**	**263**	P			**P**	**21 34 07.1**	**+0.7**
	5.7nm,0.6s,baz=18,slow=4.3,SNR=7.5								
PSI	**Prapat**	**24.89**	**263**	*e*P			**P**	**21 34 05.9**	**-0.5**
	9.4nm,1.0s								
GSI	**Gunungsitoli**	**26.50**	**260**	*e*P			**P**	**21 34 19.9**	**-0.4**
	32nm,0.7s								
CMAR	**Chiang Mai Arr**	**26.80**	**298**	P			**P**	**21 34 24.5**	**+1.6**
	0.8nm,0.5s,baz=122,slow=7.5,SNR=5.9								
JCJ	**Chichijima**	**27.00**	**39**	P			**P**	**21 34 22.9**	**-1.6**
	13nm,0.6s,baz=272,slow=21,SNR=6.8								
MBWA	**Marble Bar**	**27.80**	**188**	*e*P			**P**	**21 34 30.3**	**-1.2**
	9.9nm,0.8s								
COEN	**Coen**	**28.13**	**136**	P			**P**	**21 34 33.9**	**-0.6**
	baz=28,SNR=7.8								
WRA	**Warramunga Arr**	**28.35**	**158**	P			**P**	**21 34 36.5**	**+0.1**
	1.2nm,0.4s,baz=340,slow=9.2,SNR=26								
WRA					ScP		**ScP**	**21 40 14.4**	**+0.2**
	2.9nm,0.7s,baz=342,slow=3.5,SNR=8.5								
GIRL	**Giralia**	**30.43**	**197**	P			**P**	**21 34 55.8**	**+1.6**
	baz=30,SNR=3.2								
QIS	**Mount Isa**	**31.18**	**150**	P			**P**	**21 35 01.1**	**+0.4**
	baz=31,SNR=9.8								
ASAR	**Alice Springs**	**31.66**	**162**	P			**P**	**21 35 05.5**	**+0.8**
	6.0nm,0.3s,baz=338,slow=7.7,SNR=150								
ASAR				S			**S**	**21 39 32.3**	**-0.9**
	7.8nm,0.7s,baz=349,slow=21,SNR=18								
ASAR					ScP		**ScP**	**21 40 25.4**	**+0.3**
	1.1nm,0.5s,baz=343,slow=3.4,SNR=4.1								
WRKA	**Warakurna**	**31.72**	**172**	P			**P**	**21 35 06.3**	**+1.1**
	baz=32,SNR=6.7								
MTSU	**Mount Surprise**	**31.91**	**141**	P			**P**	**21 35 07.6**	**+0.6**
	baz=32,SNR=5.1								
MEEK	**Meekatharra**	**33.34**	**188**	P			**P**	**21 35 19.3**	**+0.4**
	baz=34,SNR=9.6								
CTA	**Charters Tower**	**34.58**	**140**	P			**P**	**21 35 29.9**	**+0.6**
	3.8nm,0.6s,baz=330,slow=11,SNR=6.3								
MORW	**Morawa**	**36.15**	**191**	P			**P**	**21 35 42.6**	**+0.5**
	baz=36,SNR=9.1								
BLDU	**Ballidu**	**37.54**	**190**	P			**P**	**21 35 53.6**	**+0.3**
	baz=38,SNR=7.8								
KMBL	**Kambalda**	**37.73**	**182**	P			**P**	**21 35 55.6**	**+0.6**
	baz=38,SNR=54								
LSA	**Lhasa**	**38.27**	**311**	*e*P			**P**	**21 35 59.7**	**-0.2**
	26nm,1.7s								
BBOO	**Buckleboo**	**40.88**	**164**	P			**P**	**21 36 21.1**	**+0.9**
	baz=41,SNR=18								
RKGY	**Rocky Gully**	**41.41**	**188**	P			**P**	**21 36 25.8**	**+1.5**
	baz=42,SNR=11								
STKA	**Stephens Creek**	**41.88**	**157**	P			**P**	**21 36 29.1**	**+1.0**
	2.3nm,0.5s,baz=336,slow=6.8,SNR=8.7								
HTT	**Hallett**	**42.32**	**161**	P			**P**	**21 36 32.8**	**+1.3**
	baz=42,SNR=5.9								
SONM	**Songino Array**	**43.69**	**343**	P			**P**	**21 36 42.3**	**+0.3**
	1.0nm,0.5s,baz=158,slow=7.7,SNR=4.5								
MKAR	**Makanchi Array**	**53.50**	**326**	P			**P**	**21 37 55.0**	**+0.7**
	7.1nm,0.5s,baz=121,slow=8.0,SNR=139								
MKAR	**Makanchi Array**	**53.50**	**326**	*e*P			**P**	**21 37 54.5**	**+0.2**
TKM2	**Tokmak 2**	**55.60**	**319**	*e*P			**P**	**21 38 09.5**	**+0.2**
	4.1nm,0.6s								
EKS2	**Erkin-Say**	**56.70**	**318**	*e*P			**P**	**21 38 17.4**	**+0.7**
	5.4nm,0.9s								
ZALV	**Zalesovo Beam**	**56.70**	**334**	P			**P**	**21 38 15.8**	**-0.5**
	1.0nm,0.4s,baz=115,slow=5.9,SNR=5.7								
KBL	**Kabul**	**57.37**	**307**	*e*P			**P**	**21 38 21.4**	**-0.1**
	4.7nm,0.6s								
KURBB	**Kurchatov Arra**	**57.72**	**328**	P			**P**	**21 38 23.5**	**+0.2**
	7.7nm,0.6s,baz=131,slow=6.5,SNR=132								
ABKAR	**Akbulak array**	**68.03**	**321**	*e*P			**P**	**21 39 29.0**	**-0.3**
AKTO	**Aktyubinsk**	**69.55**	**322**	P			**P**	**21 39 38.9**	**+0.4**
	4.1nm,0.9s,baz=103,slow=10,SNR=7.7								
ARU	**Arti**	**70.92**	**328**	*e*P			**P**	**21 39 45.8**	**-0.7**
	6.3nm,0.8s								
MAW	**Mawson**	**85.33**	**200**	P			**P**	**21 41 01.9**	**-1.1**
	1.0nm,0.5s,baz=53,slow=5.1,SNR=4.9								
BRTR	**Keskin Array B**	**85.86**	**309**	P			**P**	**21 41 05.5**	**-1.0**
	0.8nm,0.4s,baz=132,slow=4.7,SNR=6.9								
VNDA	**Vanda**	**86.60**	**172**	P			**P**	**21 41 09.5**	**+0.6**
	1.6nm,0.5s,baz=322,slow=7.4,SNR=13								
VNDA	**Vanda**	**86.60**	**172**	*e*P			**P**	**21 41 08.0**	**-0.9**
	40nm,2.7s								
ARCES	**ARCESS Array B**	**86.75**	**340**	P			**P**	**21 41 08.9**	**-0.9**
	1.5nm,0.7s,baz=79,slow=6.3,SNR=7.6								
FINES	**FINESS Array B**	**87.90**	**332**	P			**P**	**21 41 13.9**	**-1.5**
	1.3nm,0.5s,baz

GTA	**Gaotai**	**32.51 329**	*eP*	**P**	**21 36 49.8 +1.0**	
GTA			pP	**pP**	**21 36 53.5 -2.2**	
GTA			sP	**sP**	**21 36 55.8 -2.7**	
GTA			S	S	21 42 35.0 +32	
GTA			sS	sS	21 42 42.0 +28	
GTA			SS	SS	21 45 04.0 +41	
GTA			pmax	pmax		
	comp=Z,5.0nm,1.2s					
GTA			pmax	pmax		
	comp=Z,87nm,5.2s					
GTA			LR	LR		
	comp=N,190nm,19.5s					
GTA			LR	LR		
	comp=E,350nm,17.3s					
GTA			LR	LR		
	comp=Z,360nm,18.1s					
USRK	**Ussuriysk Ar.**	**33.12 15**	LR	LR	21 50 01.2	
	comp=Z,122nm,21.1s,baz=219,slow=36					
TAPN	**Taplejung**	**34.11 301**	*eP*	**P**	**21 37 03.5 +0.4**	
	comp=Z,44nm,1.1s					
ODAN	**Odare**	**34.22 300**	*eP*	**P**	**21 37 04.0 0.0**	
	comp=Z,34nm,0.8s					
PMG	**Port Moresby**	**34.23 128**	LR	LR	21 52 26.3	
	comp=Z,66nm,18.9s,baz=209,slow=39					
RAMN	**Ramite**	**34.92 299**	*eP*	**P**	**21 37 10.3 +0.3**	
	comp=Z,45nm,1.1s					
WRAB	**Tennant Creek**	**34.95 157**	*eP*	**P**	**21 37 08.2 -1.8**	
	comp=Z,21nm,0.9s					
WRA	**Warramunga Arr**	**34.95 157**	P	**P**	**21 37 08.4 -1.6**	
	comp=Z,13nm,0.7s,baz=336,slow=9.5,SNR=51					
GUN	**Gumba**	**35.82 301**	*eP*	**P**	**21 37 18.2 +0.3**	
	comp=Z,51nm,0.7s					
PKI	**Pulchoki**	**36.12 300**	*eP*	**P**	**21 37 20.0 -0.4**	
	comp=Z,22nm,0.8s					
PKIN	**Phulchoki**	**36.13 300**	*eP*	**P**	**21 37 20.1 -0.4**	
	comp=Z,36nm,1.2s					
KKN	**Kakani**	**36.29 300**	*eP*	**P**	**21 37 21.5 -0.3**	
	comp=Z,26nm,0.9s					
DMN	**Daman**	**36.38 300**	*eP*	**P**	**21 37 22.5 -0.1**	
	comp=Z,36nm,0.9s					
GKN	**Gorkha**	**36.90 300**	*eP*	**P**	**21 37 26.3 -0.6**	
ULN	**Ulaanbaatar**	**37.05 345**	*eP*	**P**	**21 37 27.8 -0.2**	
	comp=Z,3.6nm,0.6s					
SONM	**Songino Array**	**37.20 344**	P	**P**	**21 37 29.3 +0.2**	
	comp=Z,6.2nm,0.6s,baz=158,slow=9.5,SNR=12					
SONM			LR	LR	21 54 01.3	
	comp=Z,92nm,18.8s,baz=122,slow=38					
KOLN	**Koldanda**	**37.71 299**	*eP*	**P**	**21 37 33.8 0.0**	
	comp=Z,15nm,0.6s					
ASAR	**Alice Springs**	**38.21 160**	P	**P**	**21 37 37.1 -0.7**	
	comp=Z,4.8nm,0.5s,baz=341,slow=6.5,SNR=35					
MKAR	**Makanchi Array**	**46.94 324**	P	**P**	**21 38 48.8 +0.3**	
	comp=Z,4.5nm,0.8s,baz=110,slow=4.9,SNR=10					
MKAR			PcP	**PcP**	**21 40 21.2 +0.3**	
	comp=Z,2.5nm,0.8s,baz=115,slow=4.3,SNR=4.7					
MKAR			LR	LR	22 00 34.2	
	comp=Z,74nm,19.3s,baz=116,slow=39					
STKA	**Stephens Creek**	**48.48 156**	P	**P**	**21 38 59.0 -1.5**	
	comp=Z,1.8nm,0.5s,baz=342,slow=8.8,SNR=4.7					
STKA			LR	LR	22 02 21.1	
	comp=Z,86nm,18.1s,baz=350,slow=40					
TKM2	**Tokmak 2**	**49.21 317**	*eP*	**P**	**21 39 07.0 +0.7**	
	comp=Z,5.0nm,1.1s					
ZALV	**Zalesovo Beam**	**50.08 333**	P	**P**	**21 39 12.1 -0.4**	
	comp=Z,10.0nm,0.8s,baz=128,slow=5.9,SNR=22					
ZALV			LR	LR	22 01 52.7	
	comp=Z,147nm,19.1s,baz=70,slow=38					
PETK	**Petropavlovsk-**	**50.18 28**	LR	LR	22 04 01.1	
	comp=Z,43nm,18.1s,baz=225,slow=40					
EKS2	**Erkin-Say**	**50.33 316**	*eP*	**P**	**21 39 15.7 +0.8**	
	comp=Z,8.8nm,1.1s					
KURBB	**Kurchatov Arra**	**51.13 327**	P	**P**	**21 39 20.8 +0.3**	
	comp=Z,4.0nm,0.8s,baz=129,slow=7.4,SNR=15					
KURK	**Kurchatov**	**51.13 327**	P	**P**	**21 39 20.8 +0.3**	
BRVK	**Borovoye**	**56.78 326**	*eP*	**P**	**21 40 01.4 -0.3**	
	comp=Z,6.1nm,0.8s					
GEYT	**Alibeck**	**60.74 307**	P	**P**	**21 40 30.4 +0.7**	
	comp=Z,3.2nm,0.7s,baz=293,slow=7.7,SNR=5.7					
ABKAR	**Akbulak array**	**61.56 320**	*eP*	**P**	**21 40 35.0 +0.1**	
	comp=Z,3.5nm,0.6s					
AKTO	**Aktyubinsk**	**63.06 320**	P	**P**	**21 40 44.5 -0.4**	
	comp=Z,3.7nm,0.8s,baz=94,slow=8.9,SNR=7.4					
ARU	**Arti**	**64.33 327**	*eP*	**P**	**21 40 52.3 -0.9**	
	comp=Z,5.9nm,0.8s					
KBZ	**Khabaz**	**72.59 312**	P	**P**	**21 41 44.8 -0.3**	
	comp=Z,2.9nm,1.0s,baz=146,slow=0.2,SNR=4.4					
KBZ			LR	LR	22 17 31.3	
	comp=Z,46nm,18.5s,baz=30,slow=39					
BPAW	**Bear Paw Mtn.**	**78.22 27**	*eP*	**P**	**21 42 17.6 +0.5**	
	comp=Z,0.8nm,0.6s					
BRTR	**Keskin Array B**	**79.79 309**	P	**P**	**21 42 26.1 -0.3**	
	comp=Z,1.4nm,0.8s,baz=126,slow=6.3,SNR=6.2					
BRTR			LR	LR	22 22 45.5	
	comp=Z,25nm,18.4s,baz=84,slow=39					
ILAR	**Eielson Array**	**79.92 26**	P	**P**	**21 42 26.5 +0.1**	
	comp=Z,0.6nm,0.9s,baz=260,slow=5.8,SNR=5.0					
ARCES	**ARCESS Array B**	**80.18 339**	P	**P**	**21 42 27.6 -0.1**	
	comp=Z,2.9nm,0.6s,baz=87,slow=7.4,SNR=19					
ARCES			LR	LR	22 22 12.3	
	comp=Z,110nm,18.2s,baz=82,slow=39					
FINES	**FINESS Array B**	**81.28 331**	P	**P**	**21 42 32.9 -0.9**	
	comp=Z,3.1nm,0.8s,baz=71,slow=4.7,SNR=13					
FINES			LR	LR	22 20 40.8	
	comp=Z,45nm,20.4s,baz=70,slow=37					
TLCR		**82.48 315**⇑	*iP*	**P**	**21 42 41.0 +0.6**	
TIRR	**Tirgusor**	**82.89 314**⇑	*iP*	**P**	**21 42 42.5 0.0**	
CFR	**Carcaliu**	**82.96 315**⇑	*iP*	**P**	**21 42 42.8 0.0**	
MSAB	**Monastry St. A**	**83.38 314**⇑	*iP*	**P**	**21 42 45.4 +0.4**	
TESR	**Tescani**	**83.73 316**⇓	*iP*	**P**	**21 42 46.5 -0.3**	
VRI	**Vrincioaia**	**83.80 315**⇑	*iP*	**P**	**21 42 48.2 +1.0**	
PLOR	**Plostina**	**83.86 315**⇓	*iP*	**P**	**21 42 48.2 +0.7**	
ISR	**Istrita**	**84.08 315**⇓	*iP*	P	21 42 45.5 -3.2	
MLR	**Muntele Rosu**	**84.41 315**⇑	*iP*	**P**	**21 42 50.8 +0.3**	
BURAR	**Bucovina Array**	**84.46 317**⇑	*iP*	**P**	**21 42 48.6 -2.1**	
DOPR	**Dopca**	**84.69 316**⇑	*iP*	**P**	**21 42 51.1 -0.7**	
HYT	**Haines Junctio**	**84.96 29**	*eP*	**P**	**21 42 52.7 -0.3**	
	comp=Z,7.0nm,1.3s					
VOIR		**85.04 315**⇓	*iP*	**P**	**21 42 55.3 +1.7**	
HUMR	**Humele**	**85.29 314**⇑	*iP*	**P**	**21 42 54.6 -0.1**	
ARR	**Arges**	**85.34 315**⇑	*iP*	**P**	**21 42 55.0 -0.1**	
VTS	**Vitosha**	**86.99 313**⇑	*iP*	P	21 43 06.9 +3.5	
NB2	**NORSAR Subarra**	**88.28 333**	P	**P**	**21 43 07.7 -1.4**	
	comp=Z,7.3nm,1.1s,baz=69,slow=4.8					
NOA	**NORSAR Array B**	**88.28 333**	P	**P**	**21 43 07.7 -1.4**	
	comp=Z,3.1nm,0.8s,baz=69,slow=4.6,SNR=7.1					
NOA			LR	LR	22 26 14.4	
	comp=Z,76nm,19.6s,baz=50,slow=38					
GERES	**GERESS Array B**	**91.49 321**	P	**P**	**21 43 23.8 -0.6**	
	comp=Z,0.9nm,0.9s,baz=68,slow=5.0,SNR=5.0					
VNDA	**Vanda**	**92.85 172**	LR	LR	22 28 08.7	
	comp=Z,24nm,18.0s,baz=270,slow=37					

CASC 29 22:00:13.3±1.8, 14°15N×90°76W, h133km±13km, MD3.5, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.30**	**85**	*eP*	Pn	22 00 31.3	-0.7
FUG	**Fuego 3**	**0.31**	**345**	*eP*	Pn	22 00 32.2	+0.2
NBG	**Las Nubes**	**0.59**	**43**	*eP*	Pn	22 00 34.2	+0.6
JAT	**Jato**	**0.87**	**281**	*eP*	Pn	22 00 36.8	+1.6
JAT				*eS*	Sn	22 00 50.8	-1.1
RBDL	**Robledal**	**1.04**	**92**	*eP*	Pn	22 00 36.9	-0.2
RTR	**El Retiro**	**1.11**	**103**	*eP*	Pn	22 00 37.7	0.0
SBLS	**San Blas**	**1.15**	**105**	*eP*	Pn	22 00 38.1	0.0
SNJE	**San Jose**	**1.16**	**104**	*eP*	Pn	22 00 39.0	+0.8
MRL	**Marmol**	**1.38**	**49**	*eP*	Pn	22 00 40.9	+0.4
MRL				*eS*	Sn	22 01 01.8	+0.6
BOQS	**Boqueron**	**1.50**	**106**	*eP*	Pn	22 00 42.1	+0.2
LFU	**La Fuente**	**1.65**	**104**	*eP*	Pn	22 00 43.6	+0.2
LFRS	**El Faro**	**1.73**	**107**	*eP*	Pn	22 00 44.9	+0.5

*IDC **29** 22:05:19.4±1.0, 12°33N×120°41E, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.5/35, mbtmp3.5/6, Error ellipse: s-maj=34.2km s-min=16.7km az=76.0*
*ISCJB **29** 22:05:21.1±0.9, 12°29N±0°08×120°4E±0°1, h23km, mb3.5/6, Error ellipse: s-maj=21.1km s-min=10.5km az=9.1*
*MAN **29** 22:05:21, 12°39N×120°54E, h17km, mb4.6, ML3.5, MS3.5*
ISC 29 22:05:22.6±1.1, 12°40N±0°09×120°6E±0°2, h23km, n7, σ1§12/8, mb3.5/6, Mindoro

*IDC **29** 22:07:00.5±1.8, 17°37S×176°13E, h0km, mb3.9/7, mb1 4.2/7, mb1mx3.9/29, mbtmp3.9/7, MS3.3/4, Ms1 3.3/4, ms1mx3.0/34, Error ellipse: s-maj=91.2km s-min=24.7km az=156.0*
*ISCJB **29** 22:07:04.1±1.5, 17°5S±0°5×176°1E±0°3, h33km, mb3.9/7, MS3.3/4, Error ellipse: s-maj=77.1km s-min=20.7km az=156.0*
ISC 29 22:27:06.0±1.7, 17°4S±0°6×176°1E±0°3, h35km, n14, σ0§74/10, mb3.9/7, MS3.3/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**20.85**	**178**	LR	LR	22 37 53.4	
	comp=Z,104nm,20.5s,baz=17,slow=31						
WRA	**Warramunga Arr**	**39.58**	**260**	P	P	**22 34 33.0**	**-1.3**
	comp=Z,0.7s,baz=92,slow=8.3,SNR=5.2						
ASAR	**Alice Springs**	**39.90**	**254**	P	P	**22 34 37.4**	**+0.4**
	1.7nm,1.0s,baz=80,slow=9.3,SNR=7.3						
MJAR	**Matsushiro Arr**	**64.44**	**327**	LR	LR	23 02 18.8	
	comp=Z,24nm,21.4s,baz=125,slow=33						
KSRS	**Korea Array**	**70.89**	**321**	LR	LR	23 05 33.0	
	comp=Z,18nm,21.4s,baz=125,slow=33						
PETK	**Petropavlovsk-**	**71.94**	**348**	LR	LR	23 05 50.6	
	comp=Z,24nm,20.2s,baz=129,slow=32						
NVAR	**Mina Array Bea**	**82.71**	**46**	P	P	**22 39 26.9**	**+0.1**
	1.1nm,0.9s,baz=226,slow=11,SNR=7.0						
CMAR	**Chiang Mai Arr**	**83.78**	**291**	P	P	**22 39 33.1**	**+0.8**
	0.4nm,0.3s,baz=137,slow=6.0,SNR=4.5						
ILAR	**Eielson Array**	**86.61**	**15**	P	P	**22 39 45.1**	**-0.2**
	0.6nm,0.8s,baz=232,slow=5.3,SNR=5.8						
SONM	**Songino Array**	**89.75**	**321**	P	P	**22 40 00.8**	**-0.1**
	0.4nm,0.3s,baz=108,slow=9.3,SNR=2.8						
TXAR	**Lajitas Array**	**90.18**	**59**	P	P	**22 40 02.9**	**-0.4**
	0.7nm,1.0s,baz=263,slow=6.1,SNR=6.2						
GOPC	**GO Pecny, Ondr**	**144.19**	**339**	*e*PKP	**PKPdf**	**22 46 38.2**	**0.0**
KHC	**Kasperske Hory**	**145.27**	**340**	*e*PKP	**PKPdf**	**22 46 41.2**	**+1.1**
KHC				*ex*	x	22 46 46.9	
GERES	**GERESS Array B**	**145.47**	**339**	PKPbc	**PKPdf**	**22 46 40.5**	**0.0**
	1.9nm,0.8s,baz=35,slow=4.9,SNR=11						

*IDC **29** 22:29:03.0±2.1, 17°76S×176°14E, h0km, mb3.9/6, mb1 4.3/6, mb1mx3.9/29, mbtmp3.9/6, MS3.8/8, Ms1 3.8/8, ms1mx3.4/36, Error ellipse: s-maj=115.3km s-min=25.2km az=156.0*
ISC 29 22:29:09.0±1.8, 17°7S±0°7×176°1E±0°3, h35km, n19, σ2§45/11, mb3.8/6, MS3.8/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.03**	**243**	LR	LR	22 34 45.9	
	comp=Z,569nm,19.7s,baz=180,slow=34						
RAO	**Raoul Island**	**12.71**	**155**	LR	LR	22 36 13.4	
	comp=Z,361nm,20.2s,baz=26,slow=34						
RPZ	**Rata Peaks**	**26.24**	**188**	LR	LR	22 44 06.6	
	comp=Z,154nm,19.1s,baz=20,slow=34						
PMG	**Port Moresby**	**29.27**	**283**	LR	LR	22 43 59.6	
	comp=Z,338nm,19.3s,baz=88,slow=31						
PPT	**Papeete**	**32.71**	**95**	LR	LR	22 45 46.2	
	comp=Z,127nm,21.7s,baz=291,slow=31						
STKA	**Stephens Creek**	**34.15**	**239**	LR	LR	22 48 50.8	
	comp=Z,170nm,19.5s,baz=34,slow=35						
JAY	**Jayapura**	**37.85**	**290**	LR	LR	22 50 13.9	
	comp=Z,128nm,20.3s,baz=238,slow=34						
WRA	**Warramunga Arr**	**39.49**	**260**	P	P	**22 36 35.5**	**-1.1**
	0.6nm,0.7s,baz=93,slow=8.6,SNR=3.8						
ASAR	**Alice Springs**	**39.78**	**254**	P	P	**22 36 38.9**	**0.0**
	1.7nm,1.0s,baz=90,slow=9.2,SNR=5.8						
ASAR				LR	LR	22 51 52.6	
	comp=Z,322nm,20.9s,baz=130,slow=34						
NVAR	**Mina Array Bea**	**83.02**	**46**	P	P	**22 41 29.2**	**-2.0**
	0.6nm,0.7s,baz=228,slow=7.4,SNR=4.9						
CMAR	**Chiang Mai Arr**	**83.90**	**291**	P	P	**22 41 36.4**	**+0.5**
	1.4nm,0.3s,baz=123,slow=4.6,SNR=4.2						
ILAR	**Eielson Array**	**87.00**	**15**	P	P	**22 41 51.1**	**+0.9**
	0.8nm,0.9s,baz=238,slow=5.5,SNR=5.3						
TXAR	**Lajitas Array**	**90.39**	**59**	P	P	**22 42 07.8**	**+0.6**
	0.6nm,1.0s,baz=245,slow=3.8,SNR=4.2						
PRA	**Prague**	**144.53**	**340**	*e*PKP	**PKPdf**	**22 48 46.1**	**+4.4**
GOPC	**GO Pecny, Ondr**	**144.54**	**339**	*e*PKP	PKPbc	22 48 40.7	+0.2
GOPC				*ex*	x	22 48 46.6	
PRU	**Pruhonice**	**144.56**	**339**	*e*PKP	**PKPdf**	**22 48 45.6**	**+3.8**
PRU				*ex*	x	22 48 51.0	
TREC	**Trest**	**144.82**	**338**	*e*PKP	**PKPab**	**22 48 40.1**	**-1.2**
TREC				*ex*	x	22 48 45.8	
KHC	**Kasperske Hory**	**145.62**	**340**	*e*PKP	**PKPdf**	**22 48 43.2**	**-0.5**
KHC				*ex*	x	22 48 48.8	
GERES	**GERESS Array B**	**145.83**	**339**	PKPbc	**PKPdf**	**22 48 41.7**	**-2.4**
	1.2nm,0.7s,baz=318,slow=1.8,SNR=5.6						

*IDC **29** 22:32:51.6±1.3, 13°03N×120°82E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/25, mbtmp3.4/4, Error ellipse: s-maj=34.0km s-min=11.9km az=92.0*
*ISCJB **29** 22:32:53.6±0.9, 13°05N±0°07×120°7E±0°1, h25km, mb3.4/4, Error ellipse: s-maj=17.6km s-min=9.5km az=8.6*
ISC 29 22:32:54.9±1.1, 13°13N±0°10×120°9E±0°1, h25km, n7, σ0§93/8, mb3.4/4, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.97**	**5**	Pg	**Pn**	**22 33 11.8**	**-1.3**
	121nm,0.3s,baz=187,slow=4.8,SNR=11						
TGY				Lg	Lg	22 33 27.5	
	340nm,0.3s,baz=108,slow=23,SNR=11						
TGY	**Tagaytay City**	**0.97**	**5**⇓	*iP*	**Pn**	**22 33 12.1**	**-1.0**
TGY				*i*	S	**22 33 26.9**	**+0.8**
GQP	**Guinayangan**	**1.73**	**63**⇑	*eP*	**Pb**	**22 33 26.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**21.73**	**287**	P	P	**22 37 45.4**	**+0.9**
	0.4nm,0.3s,baz=100,slow=10,SNR=4.2						
WRA	**Warramunga Arr**	**35.44**	**158**	P	P	**22 39 49.2**	**-0.1**
	0.2nm,0.4s,baz=338,slow=9.5,SNR=4.5						
ASAR	**Alice Springs**	**38.73**	**161**	P	P	**22 40 17.1**	**-0.2**
	0.2nm,0.4s,baz=342,slow=8.8,SNR=3.0						
MKAR	**Makanchi Array**	**46.58**	**324**	P	P	**22 41 20.9**	**+0.1**
	0.8nm,1.0s,baz=131,slow=7.8,SNR=3.4						

*ISCJB **29** 23:06:56.7±1.2, 20°1S±0°2×67°1E±0°3, h15km, mb4.0/7, MS3.8/8, Error ellipse: s-maj=37.8km s-min=22.7km az=157.5*
*IDC **29** 23:06:56.1±1.4, 20°09S×67°10E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/38, mbtmp3.9/7, MS3.8/9, Ms1 3.8/9, ms1mx3.4/41, Error ellipse: s-maj=44.9km s-min=25.9km az=67.0*
ISC 29 23:06:58.7±1.3, 20°1S±0°2×67°2E±0°3, h15km, n22, σ1§15/7, mb4.1/7, MS3.8/8, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**13.42**	**23**	T	T	23 23 52.0	
	baz=203,slow=75,SNR=55						
H08S2	**Diego Garcia H**	**13.42**	**23**	T	T	23 23 52.7	
	baz=203,slow=75,SNR=27						
H08S3	**Diego Garcia H**	**13.44**	**23**	T	T	23 23 53.4	
	baz=203,slow=75,SNR=42						
H08N3	**Diego Garcia H**	**14.18**	**16**	T	T	23 24 49.6	
	baz=190,slow=77,SNR=8.3						
H08N1	**Diego Garcia H**	**14.18**	**16**	T	T	23 24 39.3	
	baz=190,slow=77,SNR=7.8						
H08N2	**Diego Garcia H**	**14.20**	**16**	T	T	23 24 42.1	
	baz=190,slow=77,SNR=9.4						
OPO	**Ambohidratompo**	**18.90**	**271**	LR	LR	23 16 55.3	
	comp=Z,243nm,18.6s,baz=91,slow=32						

PALK	**Pallekele**	**30.30**	**27**	LR	LR	23 22 27.2
	comp=Z,257nm,20.6s,baz=296,slow=31					
MATP	**Matopo**	**36.20**	**263**	LR	LR	23 26 24.1
	comp=Z,136nm,19.3s,baz=107,slow=32					
LBTB	**Lobatse**	**38.57**	**255**	LR	LR	23 27 05.6
	comp=Z,184nm,19.7s,baz=106,slow=31					
PSI	**Prapat**	**38.61**	**57**	LR	LR	23 26 44.1
	comp=Z,246nm,21.0s,baz=233,slow=31					
BOSA	**Boshof**	**38.93**	**249**	LR	LR	23 26 54.1
	comp=Z,194nm,19.3s,baz=91,slow=31					
LEM	**Lembang**	**41.38**	**77**	LR	LR	23 28 10.0
	comp=Z,105nm,20.7s,baz=66,slow=31					
CMAR	**Chiang Mai Arr**	**49.41**	**41**	P	**P**	**23 15 49.0**	**+0.8**
	0.4nm,0.3s,baz=235,slow=6.3,SNR=3.2						
KAPI	**Kappang**	**53.25**	**81**	LR	LR	23 36 07.8	
	comp=Z,39nm,20.0s,baz=265,slow=33						
ASAR	**Alice Springs**	**61.55**	**107**	P	**P**	**23 17 16.1**	**+0.4**
	1.6nm,0.9s,baz=259,slow=6.1,SNR=9.3						
WRA	**Warramunga Arr**	**62.70**	**103**	P	**P**	**23 17 23.9**	**+0.4**
	1.9nm,1.0s,baz=266,slow=6.0,SNR=5.6						
BRTR	**Keskin Array B**	**67.24**	**333**	P	**P**	**23 17 53.9**	**+1.2**
	0.7nm,0.8s,baz=147,slow=5.7,SNR=3.7						
QSPA	**South Pole Qui**	**70.01**	**180**	LR	LR	23 44 34.3	
	comp=Z,52nm,19.8s,baz=233,slow=32						
VNDA	**Vanda**	**71.54**	**167**	P	**P**	**23 18 18.3**	**-0.3**
	2.1nm,1.2s,baz=290,slow=4.9,SNR=4.5						
ZALV	**Zalesovo Beam**	**75.30**	**11**	P	**P**	**23 18 39.4**	**-1.5**
	0.9nm,0.5s,baz=218,slow=5.4,SNR=5.8						
SONM	**Songino Array**	**76.24**	**26**	P	**P**	**23 18 45.9**	**-0.7**
	0.5nm,0.3s,baz=178,slow=5.6,SNR=2.6						

*ISCJB **29** 23:07:27.2±1.1, 31°84S±0°06×177°8W±0°2, h61km, mb4.5/3, Error ellipse: s-maj=29.5km s-min=5.2km az=13.0*
*IDC **29** 23:07:32.4±1.8, 31°52S×178°57W, h42km±18km, mb4.3/3, mb1 4.5/5, mb1mx3.9/30, mbtmp4.5/5, ML4.0/2, Error ellipse: s-maj=29.7km s-min=11.6km az=109.0*
ISC 29 23:07:32.0±1.1, 31°70S±0°09×178°3W±0°3, h61km, n35, σ1§76/35, mb4.6/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.46**	**8**	P	**Pn**	**23 08 09.2**	**-0.5**
	61nm,0.3s,baz=314,slow=19,SNR=2.8						
RAO				S	**Sn**	**23 08 35.9**	**-2.7**
	243nm,0.3s,baz=86,slow=20,SNR=5.4						
MXZ	**Matakaoa Point**	**6.48**	**205**	PN	**Pn**	**23 09 03.3**	**-1.5**
MXZ				SN	**Sn**	**23 10 17.6**	**+0.2**
WMGZ	**Waiomatatini S**	**6.68**	**203**	*e*PN	**Pn**	**23 09 07.1**	**-0.3**
HAZ	**Te Kaha**	**6.85**	**207**	PN	**Pn**	**23 09 09.2**	**-0.6**
HAZ				SN	**Sn**	**23 10 26.2**	**0.0**
PUZ	**Puketiti**	**6.96**	**203**	PN	**Pn**	**23 09 09.3**	**-2.0**
PUZ				SN	**Sn**	**23 10 28.4**	**-0.7**
CNGZ	**Carnagh Statio**	**7.35**	**202**	PN	**Pn**	**23 09 15.7**	**-0.9**
MWZ	**Matawai**	**7.45**	**206**	PN	**Pn**	**23 09 16.8**	**-1.3**
MWZ				SN	**Sn**	**23 10 41.1**	**0.0**
URZ	**Urewera**	**7.55**	**209**	P	**Pn**	**23 09 20.1**	**+0.8**
	1.7nm,0.3s,baz=274,slow=5.3,SNR=14						
URZ				S	**Sn**	**23 10 44.4**	**+0.9**
	4.3nm,0.3s,baz=262,slow=23,SNR=11						
URZ	**Urewera**	**7.55**	**209**	*e*PN	**Pn**	**23 09 17.0**	**-2.3**
URZ				*e*SN	**Sn**	**23 10 41.7**	**-1.7**
OUZ	**Omahuta**	**7.63**	**240**	PN	Pn	23 09 25.1	+4.7
RAGZ	**Rawiri**	**7.63**	**206**	PN	**Pn**	**23 09 19.2**	**-1.3**
RIGZ	**Rimuhau**	**7.70**	**204**	PN	**Pn**	**23 09 20.4**	**-1.0**
PRGZ	**Paritu Road**	**7.85**	**202**	*e*PN	**Pn**	**23 09 22.5**	**-1.0**
SNGZ	**Shannon Statio**	**7.91**	**206**	*e*PN	**Pn**	**23 09 22.6**	**-1.8**
KNZ	**Kokohu**	**8.01**	**203**	*e*PN	**Pn**	**23 09 24.0**	**-1.7**
RAHZ	**Arahi**	**8.13**	**206**	*e*PN	**Pn**	**23 09 27.0**	**-0.3**
NMHZ	**Naumai**	**8.39**	**207**	*e*PN	**Pn**	**23 09 29.4**	**-1.6**
ARHZ	**Aropaoanui**	**8.46**	**206**	*e*PN	**Pn**	**23 09 29.2**	**-2.7**
KWHZ	**Kaweka Forest**	**8.82**	**208**	*e*PN	Pn	23 09 33.6	-3.3
KAHZ	**Kahuranaki**	**8.98**	**205**	*e*PN	**Pn**	**23 09 36.5**	**-2.4**
WHVZ	**Whangaehu Hut**	**9.06**	**212**	*e*PN	**Pn**	**23 09 39.7**	**-0.4**
WNVZ	**Wahianoa**	**9.09**	**211**	*e*PN	**Pn**	**23 09 40.2**	**-0.3**
PXZ	**Pawanui**	**9.19**	**204**	SN	**Sn**	**23 11 18.6**	**-5.1**
TSZ	**Takapari Road**	**9.55**	**208**	*e*PN	Pn	23 09 43.0	-3.7
MRZ	**Mangatainoka R**	**10.22**	**207**	*e*PN	Pn	23 09 50.8	-5.0
MRZ				*e*SN	Sn	23 11 39.8	-9.0
KHZ	**Kahutara**	**12.52**	**209**	*e*PN	Pn	23 10 23.5	-3.7
MQZ	**McQueen's Vall**	**13.95**	**208**	*e*SN	Sn	23 13 05.3	-14
ASAR	**Alice Springs**	**42.80**	**268**	P	**P**	**23 15 24.7**	**+0.7**
	2.2nm,0.3s,baz=105,slow=7.0,SNR=36						
WRA	**Warramunga Arr**	**43.91**	**274**	P	**P**	**23 15 33.4**	**+0.5**
	5.8nm,0.4s,baz=112,slow=8.0,SNR=226						
QSPA	**South Pole Qui**	**58.41**	**180**	P	P	23 17 25.5	+4.4
	2.9nm,0.6s,baz=232,slow=0.7,SNR=20						
ARCES	**ARCESS Array B**	**139.80**	**347**	PKP	**PKPdf**	**23 26 55.4**	**+3.3**
	0.7nm,0.6s,baz=93,slow=3.6,SNR=4.2						
FINES	**FINESS Array B**	**146.27**	**339**	PKPbc	**PKPab**	**23 27 05.5**	**-0.2**
	2.6nm,0.5s,baz=57,slow=3.4,SNR=25						
NB2	**NORSAR Subarra**	**149.99**	**351**	PKP	**PKPbc**	**23 27 15.4**	**+0.5**
	comp=Z,2.5nm,1.0s,baz=17,slow=4.3						
BRTR	**Keskin Array B**	**152.97**	**296**	PKPbc	**PKPbc**	**23 27 23.5**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=125,slow=4.3,SN

	baz=214,slow=77,SNR=10							
H08N1	**Diego Carcia H**	**14.36**	**17**	T	T	23 46 06.9		
	baz=214,slow=77,SNR=9.4							
H08N2	**Diego Garcia H**	**14.37**	**17**	T	T	23 46 08.6		
	baz=214,slow=77,SNR=10							
ABPO	**Ambohimpanom**	**18.55**	**270**	Pn	**P**	**23 32 22.1**	**-1.2**	
	23nm,1.5s							
OPO	**Ambohidratompo**	**18.64**	**272**	P	**Pn**	**23 32 25.2**	**+0.5**	
	0.1nm,0.3s,baz=100,slow=8.3,SNR=4.3							
OPO				LR	LR	23 37 49.1		
	comp=Z,1μm,19.6s,baz=111,slow=31							
KMBO	**Kilima Mbogo**	**34.61**	**300**	P	**P**	**23 34 56.9**	**+1.0**	
	0.9nm,0.5s,baz=95,slow=6.3,SNR=4.3							
LBTB	**Lobatse**	**38.30**	**255**	P	**P**	**23 35 27.8**	**+0.7**	
	6.3nm,1.1s,baz=94,slow=8.9,SNR=2.7							
BOSA	**Boshof**	**38.66**	**249**	LR	LR	23 48 14.8		
	comp=Z,338nm,19.6s,baz=73,slow=31							
MAW	**Mawson**	**47.45**	**182**	P	**P**	**23 36 41.5**	**+1.0**	
	3.8nm,0.8s,baz=343,slow=7.5,SNR=13							
MAW				LR	LR	23 51 49.9		
	comp=Z,149nm,20.8s,baz=57,slow=30							
CMAR	**Chiang Mai Arr**	**49.65**	**41**	P	**P**	**23 36 59.1**	**+0.9**	
	0.5nm,0.3s,baz=246,slow=6.1,SNR=4.9							
CMAR				LR	LR	23 57 04.9		
	comp=Z,259nm,18.2s,baz=224,slow=35							
ASAR	**Alice Springs**	**61.76**	**107**	P	**P**	**23 38 25.1**	**-0.2**	
	2.3nm,0.8s,baz=259,slow=6.4,SNR=16							
ASAR				LR	LR	00 01 30.1		
	comp=Z,308nm,21.5s,baz=310,slow=32							
EKS2	**Erkin-Say**	**62.88**	**6**	*eP*	**P**	**23 38 33.1**	**+0.8**	
	2.7nm,1.1s							
WRA	**Warramunga Arr**	**62.93**	**103**	P	**P**	**23 38 33.7**	**+0.6**	
	3.0nm,1.1s,baz=260,slow=5.7,SNR=7.6							
WRA				LR	LR	00 02 17.4		
	comp=Z,178nm,20.4s,baz=220,slow=33							
WRAB	**Tennant Creek**	**62.95**	**103**	P	**P**	**23 38 35.1**	**+1.9**	
	7.0nm,1.1s							
STKA	**Stephens Creek**	**66.98**	**117**	P	**P**	**23 38 58.3**	**-1.0**	
	2.1nm,0.8s,baz=11,slow=2.4,SNR=3.2							
STKA				LR	LR	00 04 11.2		
	comp=Z,148nm,20.7s,baz=210,slow=32							
BRTR	**Keskin Array B**	**67.21**	**333**	P	**P**	**23 38 59.6**	**-1.0**	
	1.2nm,1.0s,baz=186,slow=9.9,SNR=6.5							
BRTR				LR	LR	00 06 52.0		
	comp=Z,29nm,20.1s,baz=128,slow=35							
KBZ	**Khabaz**	**67.32**	**341**	LR	LR	00 07 47.5		
	comp=Z,47nm,20.2s,baz=216,slow=35							
MKAR	**Makanchi Array**	**68.12**	**11**	P	**P**	**23 39 04.2**	**-1.8**	
	3.2nm,1.2s,baz=183,slow=13,SNR=5.1							
MKAR				LR	LR	00 07 15.7		
	comp=Z,158nm,22.0s,baz=204,slow=35							
ABKAR	**Akbulak array**	**69.42**	**355**	*eP*	**P**	**23 39 13.3**	**-0.7**	
	3.7nm,0.9s							
QSPA	**South Pole Qui**	**69.90**	**180**	P	**P**	**23 39 16.1**	**-1.0**	
	3.0nm,0.9s,baz=292,slow=4.7,SNR=5.1							
VNDA	**Vanda**	**71.50**	**167**	P	**P**	**23 39 26.1**	**-0.3**	
	1.8nm,1.0s,baz=289,slow=7.3,SNR=7.5							
VNDA				LR	LR	00 06 44.6		
	comp=Z,88nm,20.0s,baz=260,slow=32							
TORD	**Torodi Ar. Bea**	**72.15**	**292**	P	**P**	**23 39 30.3**	**-1.1**	
	1.6nm,1.2s,baz=87,slow=4.6,SNR=4.4							
TORD				LR	LR	00 11 40.9		
	comp=Z,70nm,18.0s,baz=135,slow=36							
CFR	**Carcaliu**	**74.01**	**333**	⇑*iP*	**P**	**23 39 42.5**	**+0.8**	
VTS	**Vitosha**	**74.32**	**328**	⇑*iP*	**P**	**23 39 45.8**	**+2.0**	
VRI	**Vrincioaia**	**75.17**	**332**	⇓*iP*	**P**	**23 39 49.8**	**+1.3**	
PLOR	**Plostina**	**75.19**	**332**	⇓*iP*	**P**	**23 39 50.1**	**+1.5**	
MLR	**Muntele Rosu**	**75.22**	**332**	⇓*iP*	**P**	**23 39 51.0**	**+2.1**	
DBIC	**Dimbokro**	**75.35**	**283**	LR	LR	00 11 13.0		
	comp=Z,141nm,18.9s,baz=101,slow=34							
ZALV	**Zalesovo Beam**	**75.45**	**11**	P	**P**	**23 39 48.7**	**-1.1**	
	1.4nm,0.5s,baz=207,slow=5.8,SNR=9.2							
ZALV				LR	LR	00 11 56.6		
	comp=Z,105nm,20.8s,baz=248,slow=35							
VOIR		**75.58**	**331**	⇑*iP*	**P**	**23 39 51.7**	**+0.7**	
LOT	**Lotru**	**76.18**	**330**	⇓*iP*	**P**	**23 39 54.6**	**+0.2**	
SONM	**Songino Array**	**76.44**	**26**	P	**P**	**23 39 54.8**	**-1.1**	
	0.7nm,0.5s,baz=196,slow=4.2,SNR=3.0							
SONM				LR	LR	00 12 59.0		
	comp=Z,138nm,20.9s,baz=241,slow=35							
ARU	**Arti**	**76.66**	**355**	*eP*	**P**	**23 39 54.7**	**-2.0**	
	30nm,1.8s							
DIVS	**Divibare**	**77.03**	**327**	⇓*iP*	**P**	**23 39 59.3**	**+0.1**	
BURAR	**Bucovina Array**	**77.18**	**333**	⇓*iP*	**P**	**23 40 01.2**	**+1.2**	
BZS	**Buzias**	**77.32**	**329**	⇑*iP*	**P**	**23 40 02.3**	**+1.6**	
DRGR		**77.67**	**331**	⇑*iP*	**P**	**23 40 00.2**	**-2.6**	
KEST	**Kesra**	**77.84**	**315**	P	**P**	**23 40 03.2**	**-0.8**	
	0.9nm,1.0s,baz=38,slow=2.3,SNR=3.6							
TRPA	**Tarpa**	**78.75**	**331**	⇑*iP*	**P**	**23 40 09.3**	**+0.8**	
PKSM	**Moragy**	**79.20**	**328**	⇑*iP*	**P**	**23 40 10.2**	**-0.9**	
KSRS	**Korea Array**	**81.15**	**45**	LR	LR	00 15 44.0		
	comp=Z,131nm,20.1s,baz=200,slow=35							
OKC	**Ostrava-Krasne**	**81.98**	**331**	*eP*	**P**	**23 40 26.9**	**+1.0**	
OKC				*ep*P	**PcP**	**23 40 32.4**	**+1.0**	
KRLC	**Kraliky**	**82.78**	**330**	*eP*	**P**	**23 40 30.6**	**+0.4**	
KRLC				*ep*P	**pP**	**23 40 36.4**	**+1.2**	
TREC	**Trest**	**82.87**	**329**	*eP*	**P**	**23 40 30.7**	**+0.1**	
TREC				*ep*P	**pP**	**23 40 36.4**	**+0.8**	
RPZ	**Rata Peaks**	**86.01**	**135**	LR	LR	00 11 37.2		
	comp=Z,113nm,18.7s,baz=199,slow=30							
MJAR	**Matsushiro Arr**	**87.79**	**50**	P	**P**	**23 40 57.1**	**+1.6**	
	0.6nm,0.4s,baz=225,slow=12,SNR=3.2							
MJAR				LR	LR	00 18 15.3		
	comp=Z,114nm,21.1s,baz=250,slow=34							
ARCES	**ARCESS Array B**	**94.22**	**347**	LR	LR	00 25 14.8		
	comp=Z,26nm,19.5s,baz=138,slow=36							

GUC 29 23:28:51.4±0.6, 39°.05S×73°.06W, h24km±13km, ML3.8,
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSCH	**Puerto Saavedr**	**0.36**	**314**	*eP*	Pb	23 28 59.2	-0.1
PSCH				*eS*	Sb	23 29 04.9	+0.2
VLCH	**Valdivia**	**0.77**	**191**	*eP*	Pb	23 29 05.3	-0.9
VLCH				*eS*	Sb	23 29 16.1	-0.1
U14B	**Concepcin**	**2.19**	**360**	*eP*	Pn	23 29 27.5	+1.3
U14B				*eS*	Sb	23 29 54.8	-2.1
U14B				AML	AML	23 30 06.7	
	comp=N,821nm,0.5s						

*IDC **29** 23:28:57.8±6.2,31°.62S×178°.31W,h31km±43km,mb4.3/2,*
mb1 4.4/4,mb1mx3.8/29,mbtmp4.3/4,ML3.8/2,Error
ellipse: s-maj=51.4km s-min=21.3km az=118.0

ISC 29 23:28:59.5±1.5, 31°.6S±0°.1×178°.3W±0°.3, h61km, n13,
σ1°68/19, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.39**	**8**	Pn	**Pn**	**23 29 35.0**	**-1.3**
	43nm,0.3s,baz=252,slow=20,SNR=2.9						
RAO				Sn	**Sn**	**23 30 02.8**	**-1.7**
	75nm,0.3s,baz=90,slow=21,SNR=3.8						
MXZ	**Matakaoa Point**	**6.55**	**204**	PN	**Pn**	**23 30 32.0**	**-1.2**
MXZ				*e*SN	**Sn**	**23 31 46.3**	**-0.1**
WMGZ	**Waiomatatini S**	**6.74**	**203**	PN	**Pn**	**23 30 35.2**	**-0.6**
WMGZ				*e*SN	**Sn**	**23 31 52.8**	**+1.7**
MWZ	**Matawai**	**7.52**	**206**	PN	**Pn**	**23 30 43.8**	**-2.6**
MWZ				SN	**Sn**	**23 32 09.6**	**-0.6**
URZ	**Urewera**	**7.62**	**208**	Pn	**Pn**	**23 30 46.1**	**-1.6**
	0.8nm,0.3s,baz=273,slow=5.1,SNR=7.9						
URZ				Sn	**Sn**	**23 32 12.6**	**0.0**
	1.9nm,0.3s,baz=3.6,slow=23,SNR=11						
URZ	**Urewera**	**7.62**	**208**	*e*PN	**Pn**	**23 30 44.7**	**-3.0**
URZ				SN	**Sn**	**23 32 11.1**	**-1.5**
RAGZ	**Rawiri**	**7.70**	**206**	PN	**Pn**	**23 30 47.3**	**-1.7**
ASAR	**Alice Springs**	**42.81**	**268**	P	**P**	**23 36 52.2**	**+0.7**
	2.2nm,0.5s,baz=105,slow=7.5,SNR=27						
WRA	**Warramunga Arr**	**43.91**	**274**	P	**P**	**23 37 01.9**	**+1.5**
	5.6nm,0.5s,baz=112,slow=8.0,SNR=119						
FINES	**FINESS Array B**	**146.21**	**339**	PKPbc	**PKPab**	**23 48 33.6**	**+0.6**
	0.6nm,0.5s,baz=29,slow=3.2,SNR=7.2						
NB2	**NORSAR Subarra**	**149.92**	**351**	PKP	**PKPbc**	**23 48 43.4**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=17,slow=2.6						
HFS	**Hagfors**	**150.39**	**348**	PKPbc	**PKPbc**	**23 48 44.0**	**+0.8**
	comp=Z,4.3nm,1.0s,baz=134,slow=4.3,SNR=5.0						
MMAI	**Mount Meron Ar**	**151.56**	**282**	PKPbc	**PKPbc**	**23 48 49.6**	**+2.6**
	comp=Z,0.5nm,0.4s,baz=79,slow=7.6,SNR=4.5						

MEX 29 23:39:43.5±0.4, 16°.93N×98°.48W, h29km±5km, MD3.7,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.63**	**147**	*i* P	Pb	23 39 53.9	-2.2
PNIG				*e*S	Sb	23 40 02.5	-2.2
TLIG	**Tlapa**	**0.64**	**353**	*i* P	Pb	23 39 54.1	-2.3
TLIG				*i* S	Sb	23 40 02.5	-2.7
HMTT	**Tlapaneco**	**0.87**	**355**	*e*P	Pn	23 39 57.6	-2.4
HMTT				*i* S	Sb	23 40 08.9	-2.8
MEIG	**Mezcala**	**1.47**	**313**	*e*P	Pn	23 40 06.0	-2.2
MEIG				*e*S	Sn	23 40 24.1	-2.6
VHO	**Vista Hermosa**	**1.68**	**85**	*e*P	Pn	23 40 09.9	-1.3
VHO				*e*S	Sn	23 40 29.4	-2.6
CAIG	**El Cayaco**	**1.71**	**274**	*e*P	Pn	23 40 09.2	-2.3
CAIG				*e*S	Sn	23 40 30.1	-2.2
PLIG	**Platanillo**	**1.75**	**326**	*e*P	Pn	23 40 10.1	-2.0
PLIG				*e*S	Sn	23 40 31.0	-2.6
TPIG	**Tehuac#an**	**1.83**	**36**	*e*P	Pn	23 40 11.1	-2.1
TPIG				*e*S	Sn	23 40 32.5	-3.1
HUIG	**Huatulco**	**2.55**	**116**	*e*P	Pn	23 40 20.6	-2.3
HUIG				*e*S	Sn	23 40 50.6	-2.4

*IDC **29** 23:47:25.8±1.4,35°.95N×23°.43E,h0km,mb3.8/4,*
mb1 3.6/5,mb1mx3.3/76,mbtmp3.6/5,ML2.5/1,Error
ellipse: s-maj=26.9km s-min=22.4km az=155.0
*ISCJB **29** 23:47:27.8±0.9,33°.99N±0°.06×25°.42E±0°.07,h17km,*
mb3.5/4,Error ellipse: s-maj=8.8km s-min=8.6km az=38.4
*CSEM **29** 23:47:30.6,34°.18N×25°.27E,h22km,MD3.3*
*ATH **29** 23:47:30.6,34°.18N×25°.27E,h22km±3km,MD3.3/9*

ISC 29 23:47:29.6±1.2, 34°.12N±0°.07×25°.29E±0°.05, h17km, n44,
σ1°44/47, mb3.7/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.98**	**336**	*e*PN	**Pn**	**23 47 48.9**	**+0.2**
SIVA				*e*SN	**Sn**	**23 48 01.1**	**-1.1**
SIVA	**Sivas**	**0.98**	**336**	*e*Pn	**Pn**	**23 47 48.9**	**+0.2**
SIVA				*e*Sn	**Sn**	**23 48 01.1**	**-1.1**
LAST	**Lasithi**	**1.05**	**8**	*e*PB	**Pb**	**23 47 49.2**	**-0.3**
LAST				*e*SN	**Sn**	**23 48 04.2**	**+0.1**
LAST	**Lasithi**	**1.05**	**8**	*e*Pb	**Pb**	**23 47 49.2**	**-0.3**
LAST				*e*Sn	**Sn**	**23 48 04.2**	**+0.1**
NPS	**Neapolis**	**1.18**	**13**	*e*PN	**Pn**	**23 47 51.2**	**-0.1**
NPS				*e*SN	**Sg**	**23 48 06.9**	**-0.8**
NPS	**Neapolis**	**1.18**	**13**	*e*Pn	**Pn**	**23 47 51.2**	**-0.1**
NPS				*e*Sn	**Sg**	**23 48 06.9**	**-0.8**
IDI	**Anoyia**	**1.22**	**344**	Pn	**Pb**	**23 47 52.2**	**-0.1**
	7.5nm,0.3s,baz=191,slow=20,SNR=49						
IDI				Sn	**Sg**	**23 48 12.3**	**+3.2**
	15nm,0.3s,baz=356,slow=23,SNR=11						
IDI				LR	LR	23 48 21.5	
	comp=Z,41nm,21.6s,baz=260,slow=41						
IDI	**Anoyia**	**1.22**	**344**	*e*PN	**Pb**	**23 47 52.4**	**+0.2**
IDI	**Anoyia**	**1.22**	**344**	*e*Pn	**Pb**	**23 47 52.4**	**+0.2**
GVD	**Gavdhos**	**1.23**	**306**	*e*Pn	**Pg**	**23 47 53.5**	**+0.1**
GVD	**Gavdhos**	**1.23**	**306**	*e*Pn	**Pg**	**23 47 53.5**	**+0.1**
VAM	**Vamos**	**1.57**	**325**	*e*PN	**Pg**	**23 47 59.2**	**-0.7**
VAM	**Vamos**	**1.57**	**325**	*e*Pn	**Pg**	**23 47 59.2**	**-0.7**
KARP	**Karpathos**	**2.10**	**47**	*e*PN	**Pb**	**23 48 07.4**	**+0.1**
KARP	**Karpathos**	**2.10**	**47**	*e*Pn	**Pb**	**23 48 07.4**	**+0.1**
APE	**Apeiranthos**	**2.95**	**4**	*e*PN	**Pn**	**23 48 17.7**	**+1.9**
APE	**Apeiranthos**	**2.95**	**4**	*e*Pn	**Pn**	**23 48 17.7**	**+1.9**
ARG	**Arkhangelos**	**3.13**	**47**	*e*PN	**Pn**	**23 48 20.7**	**+2.5**
ARG	**Arkhangelos**	**3.13**	**47**	*e*Pn	**Pn**	**23 48 20.7**	**+2.5**
VLI	**Veliai**	**3.23**	**324**	*e*PN	**Pn**	**23 48 21.2**	**+1.6**
VLI	**Veliai**	**3.23**	**324**	*e*Pn	**Pn**	**23 48 21.2**	**+1.6**
KRND	**KRANIDI**	**3.70**	**333**	*e*PN	**Pn**	**23 48 27.6**	**+1.6**
KRND	**KRANIDI**	**3.70**	**333**	*e*Pn	**Pn**	**23 48 27.6**	**+1.6**
DIDY	**Didyma**	**3.76**	**334**	*e*PN	**Pn**	**23 48 28.1**	**+1.2**
DIDY	**Didyma**	**3.76**	**334**	*e*Pn	**Pn**	**23 48 28.1**	**+1.2**
DID	**Didima**	**3.77**	**334**	*e*PN	**Pn**	**23 48 28.1**	**+1.0**
DID	**Didima**	**3.77**	**334**	*e*Pn	**Pn**	**23 48 28.1**	**+1.0**
PYL	**PYLOS**	**4.01**	**315**	*e*PN	**Pn**	**23 48 32.6**	**+2.3**
PYL	**PYLOS**	**4.01**	**315**	*e*Pn	**Pn**	**23 48 32.6**	**+2.3**
VILL	**Villia**	**4.35**	**339**	*e*Pn	**Pn**	**23 48 36.2**	**+1.2**
VIL2	**Platees**	**4.40**	**339**	*e*PN	**Pn**	**23 48 36.2**	**+0.5**
GUR	**Goura**	**4.50**	**329**	*e*PN	**Pn**	**23 48 39.4**	**+2.3**
GUR	**Goura**	**4.50**	**329**	*e*Pn	**Pn**	**23 48 39.4**	**+2.3**
KLV	**Kalavryta, Ach**	**4.67**	**328**	*e*PN	**Pn**	**23 48 41.6**	**+2.1**
KLV	**Kalavryta, Ach**	**4.67**	**328**	*e*Pn	**Pn**	**23 48 41.6**	**+2.1**
DRO	**Drossia**	**4.80**	**324**	*e*PN	Pn	23 48 45.3	+4.1
DRO	**Drossia**	**4.80**	**324**	*e*Pn	Pn	23 48 45.3	+4.1
AGG	**Agios Georgios**	**5.45**	**335**	*e*PN	Pn	23 48 53.8	+3.8
AGG	**Agios Georgios**	**5.45**	**335**	*e*Pn	Pn	23 48 53.8	+3.8
BRTR	**Keskin Array B**	**8.72**	**48**	Pn	**Pn**	**23 49 36.4**	**+1.3**
	0.1nm,0.3s,baz=239,slow=11,SNR=3.2						
TORD	**Torodi Ar. Bea**	**29.91**	**231**	P	**P**	**23 53 35.8**	**-0.9**
	0.2nm,0.4s,baz=34,slow=8.5,SNR=2.4						
KURBB	**Kurchatov Arra**	**41.70**	**50**	P	**P**	**23 55 17.3**	**0.0**
	0.4nm,0.3s,baz=272,slow=8.5,SNR=2.8						
MKAR	**Makanchi Array**	**44.27**	**56**	P	**P**	**23 55 37.8**	**-0.4**
	0.7nm,0.5s,baz=274,slow=7.4,SNR=9.4						
ZALV	**Zalesovo Beam**	**45.65**	**45**	P	**P**	**23 55 46.9**	**-2.2**
	0.5nm,0.4s,baz=260,slow=10,SNR=3.5						

*BJI **30** 00:22:04.5, 12°.66N×121°.03E,h68km,mb4.6/43,mB4.8/30,*
Ms4.4/37,Ms7 4.3/31
*ISCJB **30** 00:22:04.7±0.2, 13°.27N±0°.03×120°.93E±0°.04,h25km,*
mb4.5/47,MS4.0/17,Error ellipse: s-maj=5.8km
s-min=3.7km az=154.9
*MAN **30** 00:22:05, 13°.14N×120°.68E,h16km,mb5.4,ML4.4,MS4.6*
MAN INTENSITY III - MAMBURAO OCCIDENTAL MINDORO;
PUERTO GALERA; ILIJAN BATANGAS; INTENSITY II -
SAN PASCUAL BATANGAS; APLAYA BAYAN
BATANGAS.
*IDC **30** 00:22:08.4±1.2, 13°.18N×120°.91E,h52km±11km,mb4.1/18,*
mb1 4.2/20,mb1mx4.1/38,mbtmp4.3/20,MS4.0/18,
Ms1 4.0/18,ms1mx3.7/46,Error ellipse: s-maj=19.1km
s-min=9.8km az=67.0
*NEIC **30** 00:22:09.4±0.8, 13°.28N×120°.90E,h60km±7km,mb4.7/21,*
Error ellipse: s-maj=10.0km s-min=6.0km az=78.0
NEIC Felt [III PIVS] at Mamburao and Puerto Galera. Also felt at
San Jose. Felt [III PIVS] at Ilijan and [II PIVS] at Aplaya,
Bauan and San Pascual, Luzon. Also felt at Mataas Na
Kahoy.
*DJA **30** 00:22:21.7±1.1, 13°.N±5°.5×12°.1E±°.,h157km±11km,M4.8/32,*
mb4.5/32,mB5.4/13,Mw(mB)4.9/13
*BKK **30** 00:22:22.1±1.8, 13°.N±10°.×12°.1E±1°.4,h184km±18km,*
M4.2/18,mB4.9/3,mb4.2/18,Mw(mB)4.2/3

ISC 30 00:22:06.3±0.3, 13°.23N±0°.04×120°.84E±0°.06, h25km, n132,
σ2°.9≥12/130, mb4.6/47, MS3.8/17, 8C-6D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.88**	**6**	P	**Pn**	**00 22 24.1**	**+1.0**
	1μm,0.3s,baz=234,slow=2.8,SNR=118						
TGY				S	**Sn**	**00 22 38.1**	**+3.0**
	9μm,0.3s,baz=217,slow=20,SNR=36						
TGY	**Tagaytay City**	**0.88**	**6**	⇑*eP*	**Pb**	**00 22 22.8**	**-0.1**
TGY				*i* S	**Sn**	**00 22 38.8**	**+3.7**
LQP	**Lukban**	**1.11**	**38**	⇓*eP*	**Pb**	**00 22 29.5**	**+2.5**
GQP	**Guinayangan**	**1.70**	**66**	⇑*iP*	**Pb**	**00 22 37.8**	**+0.9**
BCPH	**Baguio City Da**	**3.15**	**355**	⇑*iP*	**Pn**	**00 22 55.9**	**+1.4**
BCPH				*i* S	**Sb**	**00 23 36.3**	**-3.4**
PVCP	**Virac**	**3.24**	**83**	⇓*eP*	Pn	00 22 59.2	+3.6
SZP	**Santa**	**4.32**	**355**	*e*Pn	Pn	00 23 14.4	+4.0
PLP	**Palo**	**4.53**	**116**	⇓*eP*	**Pn**	**00 23 15.3**	**+1.9**
MYLDM	**Lahad Datu**	**8.32**	**196**	*e*Pn	**Pn**	**00 24 07.6**	**+2.2**
KKM	**Kota Kinabalu**	**8.47**	**213**	*e*Pn	Pn	00 24 13.6	+6.0
TWG	**Pinlang**	**9.54**	**1**	Pn	**Pn**	**00 24 19.9**	**-2.3**
QZH	**Quanzhou**	**11.85**	**350**	⇑P	Pn	00 25 04.0	+10
QZH				LN			
	2μm,14.6s						
QZH				LE			
	780nm,13.7s						
QZH				LZ			
	2μm,18.1s						
DLV	**T Lat**	**12.13**	**265**	*e*Pn	**Pn**	**00 24 59.8**	**+2.0**
MRSI	**Marisa**	**12.71**	**175**	P	**Pn**	**00 25 07.2**	**+1.6**
SBUM	**Sibu**	**13.69**	**219**	*e*Pn	**P**	**00 25 28.5**	**+1.1**
LUWI	**Luwuk**	**14.30**	**172**	P	**P**	**00 25 37.1**	**+2.8**
	160nm,1.1s,2μm						
LUWI	**Luwuk**	**14.30**	**172**	*e*Pn	Pn	00 25 30.5	+3.2
UBPT	**Khong Chiam**	**15.04**	**280**	P	**P**	**00 25 45.3**	**+2.8**
	34nm,1.4s						
LBMI	**Labuha**	**15.28**	**154**	P	P	00 25 52.9	+7.8
SANI	**Sanana**	**16.01**	**161**	P	**Pn**	**00 25 47.9**	**-2.1**
STKI	**Sintang**	**16.03**	**216**	P	**P**	**00 25 57.6**	**+4.1**
	27nm,0.5s,19μm						
SKNT	**Sakolnakorn**	**16.70**	**285**	P	**P**	**00 26 01.9**	**+1.0**
	25nm,1.6s,3μm						
SWI	**Sorong**	**17.40**	**143**	P	**P**	**00 26 10.3**	**+1.7**
SIJI	**Sorong**	**17.41**	**143**	P	**Pn**	**00 26 07.4**	**-0.3**
	0.7nm,0.3s,baz=318,slow=12,SNR=9.4						
SIJI				LR	LR	00 33 20.0	
	comp=Z,495nm,21.5s,baz=312,slow=39						
KAPI	**Kappang**	**18.15**	**183**	P	**Pn**	**00 26 16.2**	**-0.7**
	0.5nm,0.3s,baz=5.3,slow=7.8,SNR=1.5						
KAPI	**Kappang**	**18.15**	**183**	*eP*	**P**	**00 26 18.1**	**+1.1**
	19nm,1.0s						
WHN	**Wuhan**	**18.25**	**342**	P	**P**	**00 26 20.3**	**+2.4**
WHN				S	**S**	**00 29 52.0**	**+6.5**
WHN				LN			
	1μm,14.5s						
WHN				LE			
	970nm,12.4s						
WHN				LZ			
	2μm,13.7s						
MSAI	**Masohi**	**18.32**	**153**	P	**Pn**	**00 26 21.7**	**+2.9**
	24nm,1.0s,1μm						
BKSI	**Bulukumba**	**18.44**	**182**	P	Pn	00 26 25.1	+4.8
	12nm,1.1s						
GYA	**Guiyang**	**18.71**	**317**	⇓P	**Pn**	**00 26 25.3**	**+1.6**
GYA				pP	pP	00 26 38.5	+8.4
GYA				PP	PnPn	00 26 44.0	+7.9
GYA				S	**Sn**	**00 29 48.5**	**-4.0**
GYA				PMZ			
	20nm,0.8s						
GYA				PMZ			
	120nm,4.8s						
GYA				LN			
	640nm,14.8s						
GYA				LE			
	580nm,15.2s						
GYA				LZ			
	620nm,14.6s						
NJ2	**Nanjing**	**18.83**	**355**	*eP*	**P**	**00 26 24.5**	**+0.2**
NJ2				sP	sP	00 26 46.0	+12
NJ2				S	**Sn**	**00 29 55.5**	**+0.6**
NJ2				PMZ			
	30nm,0.5s						
NJ2				PMZ			
	440nm,5.2s						
NJ2				LN			
	770nm,20.8s						
NJ2				LE			
	1μm,14.6s						
PATY	**Pattaya**	**19.46**	**271**	P	**Pn**	**00 26 34.6**	**+1.9**
	18nm,1.2s						
PBKT	**Sadao Pong**	**19.49**	**282**	P	**Pn**	**00 26 35.5**	**+2.5**
	28nm,1.0s						
FAKI	**Fak Fak**	**19.64**	**144**	P	**Pn**	**00 26 35.3**	**+0.6**
	43nm,1.2s,1μm						
FAKI	**Fak Fak**	**19.64**	**144**	*eP*	**Pn**	**00 26 35.1**	**+0.3**
	45nm,1.1s						
ENH	**Enshi**	**19.95**	**330**	*eP*	**P**	**00 26 35.9**	**-0.7**
	6.1nm,1.0s						
KMI	**Kunming**	**20.76**	**307**	P	Pn	00 26 47.8	-0.5
KMI				PP	PnPn	00 27 12.0	+7.8
KMI				S	Sn	00 30 41.0	-1.3
KMI				SS	SnSn	00 31 16.3	+19
KMI				PMZ			
	12nm,1.2s						
KMI				PMZ			
	220nm,5.1s						
KMI				LN			
	300nm,19.7s						
KMI				LE			
	340nm,20.1s						
KMI				LZ			
	500nm,18.3s						
CRAI	**Chiangrai**	**20.79**	**292**	P	**P**	**00 26 44.9**	**-0.9**
	25nm,1.3s						
BAKI	**Biak**	**20.84**	**132**	P	Pn	00 26 54.1	+5.1
	78nm,1.3s,1μm						
UTHA	**Uthaitani**	**20.85**	**279**	P	Pn	00 26 49.2	+0.1
	5.4nm,1.2s						
LAMP	**Lampang**	**21.06**	**287**	P	**P**	**00 26 51.6**	**+2.8**
	9.0nm,1.2s						
PPBI	**Pangkal Pinang**	**21.13**	**225**	P	**P**	**00 26 53.9**	**+4.4**
	17nm,1.5s,2μm						
KULM	**Kulim**	**21.42**	**250**	*eP*	**P**	**00 26 51

KSAR	**Wonju Array Be**	**24.92**	**13**	P		**P**	**00 27 28.2**	**+0.7**
KSRS	**Korea Array**	**24.94**	**13**	P		**P**	**00 27 28.2**	**+0.6**
	5.1nm,1.0s,baz=194,slow=11,SNR=15							
KSRS				LR		LR	00 38 33.8	
	comp=Z,192nm,19.2s,baz=200,slow=40							
JAY	**Jayapura**	**25.16**	**127**	LR		LR	00 38 34.8	
	comp=Z,380nm,18.0s,baz=302,slow=39							
BJI	**Beijing**	**27.02**	**352**	P		**P**	**00 27 46.8**	**+0.4**
BJI				S		**S**	**00 32 24.8**	**+2.2**
BJI				PMZ				
	6.0nm,1.1s							
BJI				PMZ				
	47nm,3.4s							
BJI				LN				
	250nm,19.9s							
BJI				LE				
	270nm,21.9s							
BJI				LZ				
	360nm,22.6s							
LZH	**Lanzhou**	**27.42**	**329**	P		**P**	**00 27 52.3**	**+2.0**
LZH				pP		pP	00 28 08.0	+10
LZH				sP		sP	00 28 18.0	+17
LZH				S		**S**	**00 32 26.3**	**-3.1**
LZH				sS		sS	00 32 58.0	+16
LZH				SS		SnSn	00 33 52.0	+12
LZH				PMZ				
	24nm,1.0s							
LZH				PMZ				
	100nm,5.7s							
LZH				LN				
	510nm,13.8s							
LZH				LE				
	770nm,14.6s							
LZH				LZ				
	1μm,15.7s							
HHC	**Hu-ho-hao-te**	**28.69**	**345**	*e*P		**P**	**00 28 02.5**	**+1.0**
HHC				pP		pP	00 28 18.5	+10
HHC				sP		sP	00 28 28.3	+16
HHC				PP		**PnPn**	**00 28 57.0**	**+4.6**
HHC				S		**S**	**00 32 45.3**	**-3.9**
HHC				sS		sS	00 33 15.0	+14
HHC				PMZ				
	21nm,0.7s							
HHC				PMZ				
	93nm,6.8s							
HHC				LN				
	300nm,12.4s							
HHC				LE				
	240nm,12.9s							
HHC				LZ				
	150nm,14.4s							
CN2	**Changchun**	**30.73**	**7**	*e*P		**P**	**00 28 20.8**	**+1.5**
LSA	**Lhasa**	**31.99**	**306**	*e*P		**P**	**00 28 32.0**	**+0.7**
	14nm,0.9s							
GTA	**Gaotai**	**32.01**	**328**	⇑P		**P**	**00 28 31.8**	**+0.9**
GTA				pP		pP	00 28 49.5	+11
GTA				sP		sP	00 28 59.0	+18
GTA				S		**S**	**00 33 39.3**	**-2.0**
GTA				sS		sS	00 34 10.5	+17
GTA				SS		**SnSn**	**00 35 39.0**	**+7.5**
GTA				PMZ				
	10.0nm,1.3s							
GTA				PMZ				
	54nm,6.2s							
GTA				LN				
	620nm,19.0s							
GTA				LE				
	890nm,20.4s							
GTA				LZ				
	1μm,17.6s							
MDJ	**Mudanjiang**	**32.17**	**12**	P		**P**	**00 28 32.8**	**+0.8**
MDJ				PMZ				
	5.0nm,0.9s							
MDJ				PMZ				
	110nm,4.1s							
MDJ				LN				
	2μm,11.0s							
MDJ				LE				
	200nm,4.8s							
TAPN	**Taplejung**	**33.98**	**300**	*e*P		**P**	**00 28 48.7**	**+0.2**
	69nm,1.2s							
ODAN	**Odare**	**34.11**	**299**	*e*P		**P**	**00 28 49.7**	**+0.2**
	60nm,0.9s							
RAMN	**Ramite**	**34.81**	**298**	*e*P		**P**	**00 28 56.0**	**+0.4**
	86nm,1.1s							
WRAB	**Tennant Creek**	**35.53**	**158**	*e*P		**P**	**00 29 00.1**	**-1.5**
	42nm,1.1s							
WRA	**Warramunga Arr**	**35.54**	**158**	P		**P**	**00 29 00.3**	**-1.3**
	18nm,0.9s,baz=336,slow=9.5,SNR=53							
WRA				S		**S**	**00 34 30.5**	**-5.4**
	4.1nm,1.2s,baz=337,slow=16,SNR=6.8							
WRA				LR		LR	00 46 57.9	
	comp=Z,70nm,19.1s,baz=345,slow=42							
GUN	**Gumba**	**35.70**	**300**	*e*P		**P**	**00 29 03.7**	**+0.4**
	123nm,1.1s							
PKI	**Pulchoki**	**36.00**	**299**	*e*P		**P**	**00 29 05.5**	**-0.4**
	60nm,1.0s							
PKIN	**Phulchoki**	**36.01**	**299**	*e*P		**P**	**00 29 05.5**	**-0.5**
	57nm,1.1s							
KKN	**Kakani**	**36.17**	**299**	*e*P		**P**	**00 29 07.0**	**-0.2**
	64nm,1.1s							
DMN	**Daman**	**36.27**	**299**	*e*P		**P**	**00 29 08.0**	**-0.1**
	71nm,1.0s							
SONM	**Songino Array**	**36.55**	**344**	P		**P**	**00 29 09.8**	**-0.3**
	4.1nm,0.8s,baz=168,slow=10.0,SNR=15							
GKN	**Gorkha**	**36.77**	**299**	*e*P		**P**	**00 29 11.9**	**-0.5**
	72nm,1.2s							
KOLN	**Koldanda**	**37.60**	**298**	*e*P		**P**	**00 29 19.1**	**-0.3**
AS31	**Alice Springs**	**38.83**	**161**	*e*P		**P**	**00 29 28.6**	**-0.9**
ASAR	**Alice Springs**	**38.83**	**161**	P		**P**	**00 29 29.0**	**-0.5**
	9.3nm,0.7s,baz=330,slow=7.3,SNR=52							
ASAR				S		**S**	**00 35 21.9**	**-4.2**
	1.5nm,0.9s,baz=322,slow=11,SNR=11							
CTAO	**Charters Tower**	**41.49**	**142**	*e*P		**P**	**00 29 50.1**	**-1.4**
WMQ	**Urumqi**	**41.67**	**323**	P		**P**	**00 29 52.8**	**-0.1**
WMQ				pP		pP	00 30 11.3	+11
WMQ				sP		sP	00 30 19.5	+16
WMQ				PcP		**PcP**	**00 31 45.8**	**-3.6**
WMQ				S		**S**	**00 36 04.0**	**-4.2**
WMQ				sS		sS	00 36 35.8	+15
WMQ				ScS		ScS	00 39 46.5	-8.3
WMQ				PMZ				
	18nm,0.8s							
WMQ				PMZ				
	79nm,4.0s							
WMQ				LN				
	1μm,16.0s							
WMQ				LE				
	970nm,14.1s							
WMQ				LZ				
	650nm,16.0s							
MKAR	**Makanchi Array**	**46.49**	**324**	P		**P**	**00 30 31.5**	**0.0**
	6.8nm,0.8s,baz=126,slow=9.0,SNR=29							
MKAR				LR		LR	00 51 23.1	
	comp=Z,498nm,18.7s,baz=104,slow=38							
MKAR	**Makanchi Array**	**46.49**	**324**	*e*P		**P**	**00 30 31.7**	**+0.1**
EIDS	**Eidsvold**	**48.38**	**142**	*e*P		**P**	**00 30 45.1**	**-1.2**
	13nm,1.2s							
STKA	**Stephens Creek**	**49.06**	**156**	P		**P**	**00 30 50.6**	**-0.9**
	7.3nm,0.9s,baz=330,slow=10,SNR=7.3							
STKA				LR		LR	00 53 34.4	
	comp=Z,94nm,19.4s,baz=3.2,slow=38							
STKA	**Stephens Creek**	**49.06**	**156**	*e*P		**P**	**00 30 50.8**	**-0.7**
	6.3nm,1.6s							
ZALV	**Zalesovo Beam**	**49.54**	**333**	P		**P**	**00 30 54.1**	**-0.8**
	1.2nm,0.4s,baz=115,slow=6.8,SNR=10.0							
ZALV				LR		LR	00 53 07.8	
	comp=Z,492nm,18.1s,baz=70,slow=38							
KBL	**Kabul**	**51.28**	**304**	*e*P		**P**	**00 31 08.3**	**-0.4**
	11nm,1.1s							
BVAR	**Borovoye Array**	**56.24**	**326**	LR		LR	00 55 15.9	
	comp=Z,361nm,20.1s,baz=92,slow=35							
BRVK	**Borovoye**	**56.31**	**326**	*e*P		**P**	**00 31 43.2**	**-1.7**
	13nm,1.1s							
GEYT	**Alibeck**	**60.52**	**306**	P		**P**	**00 32 14.3**	**-0.4**
	14nm,1.0s,baz=82,slow=3.1,SNR=29							
ABKAR	**Akbulak array**	**61.18**	**319**	*e*P		**P**	**00 32 17.9**	**-1.0**
ARU	**Arti**	**63.85**	**327**	*e*P		**P**	**00 32 34.4**	**-2.2**
	4.4nm,0.7s							
GNI	**Garni**	**71.02**	**308**	*e*P		**P**	**00 33 20.4**	**-2.0**
	23nm,1.5s							
KBZ	**Khabaz**	**72.30**	**312**	P		**P**	**00 33 28.3**	**-1.6**
	3.8nm,1.1s,baz=88,slow=2.6,SNR=4.9							
MALT	**Malatya**	**76.03**	**307**	⇓*i*P		**P**	**00 33 52.5**	**+0.6**
CAST	**Castle Rocks**	**76.97**	**27**	*e*P		**P**	**00 33 55.7**	**-1.0**
	4.7nm,0.9s							

BPAW	**Bear Paw Mtn.**	**77.42**	**27**	*e*P		**P**	**00 33 58.4**	**-0.7**
	3.5nm,1.6s							
MLY	**Manley**	**77.45**	**26**	*e*P		P	00 33 56.1	-3.2
	17nm,1.8s							
ILAR	**Eielson Array**	**79.11**	**26**	P		**P**	**00 34 08.4**	**0.0**
	0.5nm,0.9s,baz=265,slow=4.1,SNR=4.6							
MMAI	**Mount Meron Ar**	**79.14**	**301**	LR		LR	01 12 19.6	
	comp=Z,55nm,20.2s,baz=60,slow=38							
BRTR	**Keskin Array B**	**79.55**	**308**	P		**P**	**00 34 09.9**	**-1.7**
	1.2nm,0.9s,baz=101,slow=6.5,SNR=6.1							
ARCES	**ARCESS Array B**	**79.57**	**339**	P		**P**	**00 34 10.1**	**-0.8**
	1.8nm,0.7s,baz=78,slow=6.6,SNR=12							
ARCES				LR		LR	01 13 18.2	
	comp=Z,166nm,19.5s,baz=78,slow=38							
CSS	**Prodhromos**	**80.54**	**304**	*e*P		**P**	**00 34 15.1**	**-1.7**
	4.1nm,1.1s							
FINES	**FINESS Array B**	**80.76**	**331**	P		**P**	**00 34 15.7**	**-1.7**
	3.6nm,1.1s,baz=94,slow=13,SNR=4.0							
TESR	**Tescani**	**83.38**	**316**	⇓*i*P		**P**	**00 34 30.3**	**-1.2**
VRI	**Vrincioaia**	**83.46**	**315**	⇑*i*P		**P**	**00 34 31.2**	**-0.8**
KMBO	**Kilima Mbogo**	**84.02**	**267**	P		**P**	**00 34 34.9**	**-0.8**
	0.9nm,0.4s,baz=85,slow=3.8,SNR=6.1							
MLR	**Muntele Rosu**	**84.08**	**315**	⇓*i*P		**P**	**00 34 34.1**	**-1.2**
BURAR	**Bucovina Array**	**84.10**	**317**	⇑*i*P		**P**	**00 34 34.7**	**-0.6**
NB2	**NORSAR Subarra**	**87.74**	**333**	P		**P**	**00 34 50.7**	**-2.3**
	comp=Z,2.7nm,1.1s,baz=64,slow=5.3							
NOA	**NORSAR Array B**	**87.74**	**333**	P		**P**	**00 34 51.0**	**-2.0**
	comp=Z,1.2nm,0.8s,baz=66,slow=3.9,SNR=3.4							
MBAR	**Mbarara**	**90.24**	**269**	*e*P		**P**	**00 35 05.6**	**-0.2**
	comp=Z,6.2nm,1.0s							
YKA	**Yellowknife Ar**	**93.16**	**23**	P		**P**	**00 35 16.4**	**-1.7**
	comp=Z,0.9nm,0.8s,baz=310,slow=5.7,SNR=5.9							
PPT	**Papeete**	**93.52**	**107**	LR		LR	01 08 24.9	
	comp=Z,36nm,20.9s,baz=322,slow=30							
VNDA	**Vanda**	**93.56**	**172**	LR		LR	01 18 58.7	
	comp=Z,36nm,18.0s,baz=298,slow=36							
DAVOX	**Davos/Dischmat**	**94.26**	**320**	LR		LR	01 19 42.1	
	comp=Z,176nm,20.1s,baz=50,slow=37							

MEX 30 00:26:14.0±0.3, 15°98N×97°69W, h16km±7km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.59**	**314**	*e*P	Pg	00 26 23.9	-1.9
PNIG				*i* S	Sg	00 26 31.4	-2.2
VHO	**Vista Hermosa**	**1.42**	**40**	*e*P	Pn	00 26 35.8	-3.7
VHO				*e*S	Sn	00 26 52.7	-5.4
HUIG	**Huatulco**	**1.53**	**98**	*e*P	Pn	00 26 37.0	-3.8
HUIG				*e*S	Sn	00 26 56.0	-4.4
TLIG	**Tlapa**	**1.79**	**332**	*e*P	Pn	00 26 41.6	-2.8
TLIG				*e*S	Sn	00 27 02.7	-4.3

IDC 30 00:27:00.1±2.6, 6°47N×123°29E, h640km±29km, mb3.3/4, mb1 3.4/4, mb1mx2.8/35, mbtmp4.4/4, Error ellipse: s-maj=199.0km s-min=12.7km az=63.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.41**	**158**	P	P	00 32 06.3	+0.1
	4.2nm,0.3s,baz=336,slow=8.8,SNR=45						
WRA				S	S	00 36 09.1	-1.7
	0.3nm,0.5s,baz=345,slow=22,SNR=7.5						
WRA				ScP	ScP	00 37 40.3	+1.7
	0.3nm,0.6s,baz=341,slow=3.0,SNR=5.0						
ASAR	**Alice Springs**	**31.70**	**161**	P	P	00 32 35.1	+0.8
	3.5nm,0.3s,baz=340,slow=7.2,SNR=31						
STKA	**Stephens Creek**	**41.95**	**156**	P	P	00 33 58.6	+1.2
	1.7nm,0.4s,baz=330,slow=6.9,SNR=6.3						
MKAR	**Makanchi Array**	**53.37**	**326**	P	P	00 35 21.5	-0.4
	1.0nm,0.4s,baz=121,slow=7.9,SNR=15						

*IDC **30** 00:29:54.6±1.3, 39°38N×74°13E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/42, mbtmp3.7/5, Error ellipse: s-maj=48.0km s-min=27.7km az=39.0*
*NNC **30** 00:30:00.1±1.2, 39°74N×73°86E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=11.1km s-min=7.0km az=36.0*
*KRNET **30** 00:30:00.2±0.1, 39°71N×73°79E, mb4.0*

ISC 30 00:30:02.4±1.0, 39°78N±0°06×73°78E±0°05, h14km, n25, σ1§65/32, mb3.7/6, 6C-10D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.31**	**318**	⇑P	**Pg**	**00 30 07.4**	**-1.6**
	102nm,0.3s						
SFK				⇓S	**Sg**	**00 30 13.9**	**+0.3**
	588nm,0.4s						
SFK	**Sufi-Kurgan**	**0.31**	**318**	*e*P	**Pg**	**00 30 07.4**	**-1.6**
	baz=324						
SFK				*e*S	**Sg**	**00 30 13.7**	**+0.2**
	baz=324						
FRG	**Fergana**	**1.64**	**292**	*e*P	**Pn**	**00 30 31.4**	**+0.5**
	baz=294						
ARLS	**Aral**	**2.12**	**11**	*i* P	**Pn**	**00 30 37.8**	**+0.2**
	baz=11						
ARLS				*e*S	**Sb**	**00 31 06.2**	**-0.7**
	baz=11						
AML	**Almayashu**	**2.35**	**359**	P	**Pn**	**00 30 42.6**	**+1.6**
	SNR=38						
NRN	**Naryn**	**2.37**	**45**	*e*P	**Pn**	**00 30 43.6**	**+2.5**
	baz=44						
NRN				*e*S	**Sb**	**00 31 15.2**	**+1.1**
	baz=44						
KZA	**Kyzart**	**2.55**	**25**	P	**Pn**	**00 30 44.2**	**+0.4**
	SNR=29						
MNAS	**Manas**	**2.87**	**341**	⇓Pn	**Pn**	**00 30 49.1**	**+1.2**
	12nm,0.5s						
MNAS				⇑Lg	Lg	00 31 33.3	
	34nm,0.8s						
EKS2	**Erkin-Say**	**2.88**	**0**	P	**Pn**	**00 30 50.8**	**+2.9**
	SNR=17						
EKS	**Erkin-Say**	**2.89**	**0**	⇓*i*P	**Pn**	**00 30 50.8**	**+2.8**
	baz=360						
EKS				⇓*i*S	**Sb**	**00 31 28.5**	**-0.4**
	baz=360						
AAK	**Ala-Archa**	**2.90**	**11**	P	**Pn**	**00 30 49.9**	**+1.6**
	SNR=9.8						
AAK	**Ala-Archa**	**2.90**	**11**	⇓Pn	**Pn**	**00 30 49.6**	**+1.3**
	10nm,0.5s						
AAK				⇑Lg	Lg	00 31 33.6	
	38nm,0.8s						
AAK	**Ala-Archa**	**2.90**	**11**	*e*P	**Pn**	**00 30 49.8**	**+1.5**
	40nm,0.8s						
KBK	**Karagaybulak**	**3.01**	**17**	P	**Pn**	**00 30 51.5**	**+1.7**
	SNR=20						
ULHL	**Ulahol**	**3.09**	**36**	P	**Pn**	**00 30 52.2**	**+1.3**
	SNR=5.5						
TKM2	**Tokmak 2**	**3.42**	**23**	⇑Pn	**Pn**	**00 30 56.1**	**+0.5**
	6.2nm,0.6s						
TKM2				⇓Lg	Lg	00 31 48.0	
	20nm,0.7s						
USP	**Ospenovka**	**3.53**	**9**	P	**Pn**	**00 30 57.0**	**+0.2**
	SNR=6.1						
DZET	**Dzherino**	**3.96**	**257**	⇓Pn	**Pn**	**00 31 04.8**	**+1.9**
	5.5nm,0.4s						
DZET				⇑Pg	**Pb**	**00 31 14.2**	**+2.2**
	32nm,0.9s						
DZET				⇓Lg	Lg	00 32 10.0	
	47nm,0.6s						
KK31	**Karatay Array**	**4.13**	**325**	Pn	**Pn**	**00 31 06.2**	**+1.2**
	1.3nm,0.3s,baz=130,slow=13,SNR=50						
KK31				⇓Pg	**Pb**	**00 31 16.5**	**+1.7**
	2.3nm,0.3s						
KK31				⇓Sn	**Sn**	**00 31 56.2**	**+3.0**
	8.5nm,0.5s,baz=141,slow=24,SNR=5.4						
KK31				⇑Lg	Lg	00 32 14.0	
	5.5nm,0.3s						
HHC	**Hu-ho-hao-te**	**28.69**	**76**	*e*P	**P**	**00 35 58.3**	**-0.7**
HHC				PP	**PnPn**	**00 36 49.8**	**+0.6**
HHC				pmax	pmax		
	comp=Z,16nm,1.2s						
HHC				pmax	pmax		
	comp=Z,52nm,5.5s						
BRTR	**Keskin Array B**	**30.68**	**283**	P	**P**	**00 36 14.6**	**-2.0**
	comp=Z,0.5nm,0.8s,baz=82,slow=10,SNR=3.7						
FINES	**FINESS Array B**	**36.09**	**323**	P	**P**	**00 37 01.6**	**-1.8**
	comp=Z,0.7nm,0.5s,baz=118,slow=11,SNR=7.2						
ARCES	**ARCESS Array B**	**39.02**	**335**	P	**P**	**00 37 26.2**	**-1.8**
	comp=Z,1.1nm,0.8s,baz=102,slow=8.4,SNR=2.9						
TORD	**Torodi Ar. Bea**	**67.98**	**269**	P	P	00 40 57.1	-4.1
	comp=Z,0.5nm,0.7s,baz=53,slow=5.1,SNR=6.2						
WRA	**Warramunga Arr**	**81.94**	**124**	P	P	00 42 14.0	-7.7
	comp=Z,0.4nm,0.7s,baz=320,slow=5.0,SNR=3.0						

*BJI **30** 00:38:11.0, 44°83N×109°55E, h14km, mb4.6/16, mB4.6/11, ML5.1/11, Ms4.5/20, Ms7 4.2/20*
*ISCJB **30** 00:38:12.0±0.2, 44°70N±0°03×109°48E±0°04, h10km, mb4.4/35, MS4.0/13, Error ellipse: s-maj=4.2km s-min=3.1km az=44.8*
*IDC **30** 00:38:12.6±0.5, 44°78N×109°50E, h0km, mb4.2/21, mb1 4.3/27, mb1mx4.2/50, mbtmp4.2/27, ML3.8/5, MS3.7/11, Ms1 3.7/11, ms1mx3.4/47, Error ellipse: s-maj=17.7km s-min=11.1km az=41.0*
*NEIC **30** 00:38:13.6±2.9, 44°74N×109°55E, h8km±19km, mb4.6/6, Error ellipse: s-maj=8.7km s-min=5.5km az=208.0*
*MOS **30** 00:38:17.4±1.3, 44°90N×109°70E, h51km, mb4.8/17, MS4.2/6, Error ellipse: s-maj=10.2km s-min=5.6km az=127.1*

ISC 30 00:38:13.7±0.3, 44°75N±0°04×109°55E±0°04, h10km, n128, σ1§62/138, mb4.5/35, MS4.0/14, 10C-4D, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULN	**Ulaanbaatar**	**3.56**	**332**	*e*P	**Pn**	**00 39 10.9**	**+1.7**
ULN				*e*S	**Sn**	**00 39 52.2**	**+0.8**
ULN	**Ulaanbaatar**	**3.56**	**332**	*e*Pn	**Pn**	**00 39 10.9**	**+1.7**
ULN				*e*Pg	**Pg**	**00 39 20.7**	**-1.2**
ULN				*e*S	**Sn**	**00 39 52.2**	**+0.8**
SONM	**Songino Array**	**3.78**	**326**	Pn	**Pn**	**00 39 13.7**	**+1.5**
	32nm,0.3s,baz=152,slow=14,SNR=414						
SONM				LR	LR	00 40 12.5	
	comp=Z,120nm,18.8s,baz=148,slow=32						
SONM				Lg	Lg	00 40 17.5	
	138nm,0.3s,baz=148,slow=31,SNR=9.5						
BTO	**Baotou**	**4.16**	**175**	*e*Pn	Pn	00 39 14.0	-3.2
BTO				Sn	**Sn**	**00 40 01.0**	**-4.9**
BTO				SMN			
	360nm,0.6s						
BTO				SME			
	970nm,0.6s						
HHC	**Hu-ho-hao-te**	**4.17**	**158**	*e*Pn	**Pn**	**00 39 17.3**	**-0.2**
HHC				Pg	**Pb**	**00 39 24.8**	**-2.4**
HHC				Sn	**Sb**	**00 40 14.5**	**-3.1**
HHC				SMN			
	4μm,0.6s						
HHC				SME			
	4μm,0.3s						
BJI	**Beijing**	**6.80**	**132**	Pn	**Pn**	**00 39 51.5**	**-1.9**
BJI				Pg	**Pb**	**00 40 12.5**	**+0.7**
BJI				Sg	**Sb**	**00 41 36.5**	**+3.5**
BJI				SMN			
	830nm,0.7s						
BJI				SME			
	720nm,0.8s						
BJI				LN			
	3μm,9.4s						
BJI				LE			
	2μm,8.3s						
BJI				LZ			
	970nm,17.2s						
TIY	**Taiyuan**	**7.36**	**162**	Pg	**Pb**	**00 40 21.3**	**-0.2**
TIY				Sn	**Sn**	**00 41 27.3**	**+2.5**
TIY				SMN			
	590nm,0.6s						
TIY				SME			
	940nm,0.8s						
TLY	**Talaya**	**7.97**	**333**	Pn	**Pn**	**00 40 11.3**	**+1.7**
	0.0nm,0.3s,baz=172,slow=9.5,SNR=20						
TLY				Lg	Lg	00 42 25.7	
	0.1nm,0.3s,baz=176,slow=19,SNR=4.3						
TLY				LR	LR	00 43 36.9	
	comp=Z,582nm,19.1s,baz=165,slow=41						
TLY	**Talaya**	**7.97**	**333**	*e*Pn	**Pn**	**00 40 10.6**	**+1.0**
	29nm,0.6s						
TLY				*e*S	Sb	00 41 54.7	-12
TLY				Lg	Lg	00 42 25.7	
IRK	**Irkutsk**	**8.28**	**337**	*e*P	**Pn**	**00 40 14.3**	**+0.6**
IRK				pmax	pmax		
	comp=Z,145nm,0.2s						
HIA	**Hailar**	**8.30**	**53**	*e*P	**Pn**	**00 40 12.7**	**-1.4**
HIA				*e*S	**Sn**	**00 41 44.9**	**-3.0**
HIA				pmax	pmax		
	comp=Z,80nm,0.7s						
HIA	**Hailar**	**8.30**	**53**	*e*Pn	**Pn**	**00 40 12.7**	**-1.4**
	comp=Z,80nm,0.7s						
HIA				*e*S	**Sn**	**00 41 44.9**	**-3.0**
MOY	**Mondy**	**8.97**	**324**	*e*P	Pn	00 40 29.0	+5.7
MOY				pmax	pmax		
	comp=Z,63nm,0.9s						
GTA	**Gaotai**	**8.99**	**237**	P	**Pn**	**00 40 21.3**	**-2.3**
GTA				pP	pP	00 40 24.8	
GTA				sP		00 40 28.3	
GTA				S	**Sn**	**00 42 05.0**	**+0.1**
GTA				PMZ			
	comp=Z,7.0nm,1.5s						
GTA				PMZ			
	comp=Z,180nm,4.5s						
GTA				LN			
	comp=Z,1μm,10.5s						
GTA				LE			
	comp=Z,1μm,10.7s						
GTA				LZ			
	comp=Z,1μm,10.4s						
LZH	**Lanzhou**	**9.68**	**209**	P	**Pn**	**00 40 34.3**	**+1.2**
LZH				S	**Sn**	**00 42 20.0**	**-2.0**
LZH				SMN			
	comp=Z,320nm,0.9s						
LZH				SME			
	comp=Z,380nm,0.8s						
LZH				LN			
	comp=Z,1μm,4.8s						
LZH				LE			
	comp=Z,2μm,7.1s						
LZH				LZ			
	comp=Z,2μm,7.6s						
TIA	**Tai'an**	**10.29**	**143**	*e*P	**Pn**	**00 40 42.0**	**+0.6**
TIA				S	**Sn**	**00 42 41.3**	**+4.5**
TIA				PMZ			
	comp=Z,10.0nm,1.0s						
TIA				LN			
	comp=Z,1μm,11.3s						
TIA				LE			
	comp=Z,1μm,11.9s						
TIA				LZ			
	comp=Z,2μm,12.0s						
SNY	**Shenyang**	**10.64**	**101**	⇑P	**Pn**	**00 40 49.0**	**+3.0**
SNY				S	Sn	00 42 55.5	+10
SNY				PMZ			
	comp=Z,15nm,0.5s						
SNY				PMZ			
	comp=Z,220nm,3.6s						
SNY				LN			
	comp=Z,2μm,13.7s						
SNY				LE			
	comp=Z,920nm,10.9s						
SNY				LZ			
	comp=Z,760nm,20.8s						
XAN	**Xi'an**	**10.71**	**183**	P	**Pn**	**00 40 48.8**	**+1.7**
XAN				PMZ			
	comp=Z,9.0nm,0.4s						
XAN				LN			
	comp=Z,510nm,8.4s						
XAN				LE			
	comp=Z,2μm,10.0s						
XAN				LZ			
	comp=Z,710nm,8.4s						
WHN	**Wuhan**	**14.68**	**163**	⇓P	**Pn**	**00 41 43.0**	**+1.7**
WHN				S	Sn	00 44 31.8	+7.8
WHN				LE			
	comp=Z,1μm,6.6s						
WHN				LZ			
	comp=Z,1μm,9.0s						
KRAR	**Krasnoyarsk**	**15.45**	**323**	*e*P	**Pn**	**00 41 53.2**	**+1.7**
KRAR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KSAR	**Wonju Array Be**	**15.61**	**112**	P	**Pn**	**00 41 52.4**	**-1.3**
KSAR	**Wonju Array Be**	**15.61**	**112**	Pn	**Pn**	**00 41 52.4**	**-1.3**
KSAR				Lg	Lg	00 46 24.3	
KSRS	**Korea Array**	**15.63**	**111**	Pn	**Pn**	**00 41 52.4**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=303,slow=12,SN

KLR MLR MLR
comp=Z,3μm,11.0s
MSHR Mys Shultsa 15.78 90 *e*P **P** **00 41 57.9 -1.9**
TJN Taejon 15.89 116 *e*P **Pn** **00 41 57.9 +0.6**
USRK Ussuriysk Ar. 16.02 84 Pn **Pn** **00 41 57.7 -1.3**
comp=Z,0.2nm,0.3s,baz=268,slow=13,SNR=7.3
USRK Lg Lg 00 46 40.2
comp=Z,0.3nm,0.3s,baz=302,slow=32,SNR=5.0
HABR Khabarovsk 17.88 69 *e*P **Pn** **00 42 21.2 -1.2**
HABR *e*S **Sn** **00 45 39.0 -2.6**
HABR pmax pmax
comp=Z,30nm,1.3s
HABR MLR MLR
comp=Z,346nm,13.0s
ZALV Zalesovo Beam 18.47 309 P **Pn** **00 42 29.7 +0.2**
comp=Z,0.6nm,0.3s,baz=119,slow=9.1,SNR=11
ZALV Lg Lg 00 47 55.0
baz=129,slow=23,SNR=4.3
MK31 Makanchi Array 19.09 286 *e*P **P** **00 42 36.6 +0.2**
MK31 Makanchi Array 19.09 286 *e*P **P** **00 42 36.6 +0.2**
MKAR Makanchi Array 19.09 286 P **P** **00 42 36.4 +0.1**
comp=Z,0.3nm,0.3s,baz=99,slow=8.9,SNR=17
MKAR Lg Lg 00 48 13.2
comp=Z,0.1nm,0.3s,baz=82,slow=29,SNR=2.6
NVS Novosibirsk 19.64 310⇑ *i*P **P** **00 42 43.0 +0.7**
NVS *e*S **S** **00 46 17.3 -6.4**
NVS pmax pmax
comp=N,9.0nm,1.3s
NVS pmax pmax
comp=E,14nm,1.3s
NVS pmax pmax
comp=Z,15nm,1.3s
NVS smax smax
comp=N,2.0nm,1.0s
NVS smax smax
comp=E,3.0nm,1.0s
JNU Nakatsue 20.19 118 P Pn 00 42 49.9 -0.4
comp=E,8.4nm,0.7s,baz=282,slow=14,SNR=5.6
JNU LR LR 00 51 18.1
comp=E,178nm,19.3s,baz=301,slow=39
YAK Yakutsk 20.91 27 *e*P **P** **00 42 56.5 +0.6**
YAK pmax pmax
comp=Z,7.0nm,0.7s
LSA Lhasa 20.91 230 *e*P **P** **00 42 55.9 -0.8**
LSA pmax pmax
comp=Z,18nm,0.6s
LSA Lhasa 20.91 230 *e*P **P** **00 42 55.9 -0.8**
comp=Z,18nm,0.6s
KURK Kurchatov 21.54 297 P **P** **00 43 03.3 +0.5**
KURK Kurchatov 21.54 297 P **P** **00 43 03.2 +0.5**
KURBB Kurchatov Arra 21.59 297 P **P** **00 43 03.2 -0.1**
comp=Z,10nm,0.9s,baz=95,slow=11,SNR=55
MAJO Matsushiro 23.15 101 *e*P **P** **00 43 20.3 +0.2**
MJAR Matsushiro Arr 23.15 101 P **P** **00 43 20.3 +0.2**
comp=Z,6.4nm,0.9s,baz=288,slow=13,SNR=11
MJAR LR LR 00 52 20.9
comp=Z,174nm,18.5s,baz=260,slow=36
MJA0 Matsu Arr-Jizo 23.18 101 *e*P **P** **00 43 21.4 +1.0**
MJA0 pmax pmax
comp=Z,6.0nm,0.9s
TKM2 Tokmak 2 24.46 278 *e*P **P** **00 43 33.4 +0.5**
TKM2 pmax pmax
comp=Z,9.0nm,0.8s
TKM2 Tokmak 2 24.46 278 *e*P **P** **00 43 33.4 +0.5**
comp=Z,8.7nm,0.8s
TAPN Taplejung 24.64 233 *e*P **P** **00 43 31.7 -3.0**
comp=Z,47nm,0.8s
FRU Bishkek 25.18 278 *e*P **P** **00 43 38.0 -1.1**
ODAN Odare 25.20 232 *e*P **P** **00 43 36.9 -2.8**
comp=Z,54nm,0.9s
GUN Gumba 25.28 236 *e*P **P** **00 43 39.3 -1.2**
comp=Z,45nm,0.6s
RAMN Ramite 25.58 234 *e*P **P** **00 43 40.2 -2.9**
comp=Z,39nm,0.8s
KKN Kakani 25.72 237 *e*P **P** **00 43 43.3 -1.1**
comp=Z,30nm,0.5s
PKI Pulchoki 25.81 236 *e*P **P** **00 43 43.6 -1.7**
comp=Z,28nm,0.7s
PKIN Phulchoki 25.81 237 *e*P **P** **00 43 43.5 -1.8**
comp=Z,18nm,0.6s
EKS2 Erkin-Say 25.82 278 *e*P **P** **00 43 44.6 -0.5**
EKS2 pmax pmax
comp=Z,6.0nm,0.9s
EKS2 Erkin-Say 25.82 278 *e*P **P** **00 43 44.6 -0.5**
comp=Z,5.6nm,0.9s
GKN Gorkha 25.95 238 *e*P **P** **00 43 45.4 -1.0**
comp=Z,92nm,1.0s
DANN Dangsing 26.24 240 *e*P **P** **00 43 48.7 -0.5**
comp=Z,32nm,0.8s
KOLN Koldanda 26.75 239 *e*P **P** **00 43 52.9 -0.8**
comp=Z,142nm,0.9s
BVAR Borovoye Array 26.76 302 P **P** **00 43 53.3 -0.1**
comp=Z,7.7nm,0.7s,baz=100,slow=10,SNR=42
BRVK Borovoye 26.82 302 *e*P **P** **00 43 54.4 +0.5**
BRVK pmax pmax
comp=Z,13nm,0.7s
BRVK Borovoye 26.82 302 *e*P **P** **00 43 54.4 +0.5**
comp=Z,13nm,0.7s
CMAR Chiang Mai Arr 27.68 202 P **P** **00 44 02.0 +0.2**
comp=Z,3.4nm,1.1s,baz=7.3,slow=8.8,SNR=9.1
CMAR LR LR 00 56 04.9
comp=Z,108nm,18.0s,baz=27,slow=39
CMAR Chiang Mai Arr 27.68 202 *e*P **P** **00 44 05.2 +3.4**
CMAR pmax pmax
comp=Z,3.0nm,1.1s
SEY Seymchan 30.35 38 *e*P **P** **00 44 26.1 +0.9**
SVE Sverdlovsk 32.48 310 *e*P **P** **00 44 45.6 +1.6**
SVE pmax pmax
comp=Z,19nm,1.4s
ABKAR Akbulak array 33.63 296 *e*P **P** **00 44 54.4 +0.3**
comp=Z,14nm,1.0s
ARU Arti 33.63 309*c i*P **P** **00 44 54.6 +0.5**
ARU 00 46 03.5
ARU S **S** **00 50 17.1 +0.6**
ARU SS **SnSn** **00 52 15.2 -4.3**
ARU pmax pmax
comp=Z,12nm,0.9s
ARU MLR MLR
comp=Z,290nm,17.0s
ARU Arti 33.63 309 *e*P **P** **00 44 54.5 +0.5**
comp=Z,21nm,1.3s
GEYT Alibeck 38.67 278 P **P** **00 45 37.5 +0.1**
comp=Z,6.9nm,0.7s,baz=61,slow=42,SNR=11
PRGR Permogore 40.00 318 *e*P **P** **00 45 47.7 -0.4**
PRGR pmax pmax
comp=Z,25nm,0.9s
TMCR Tamitsa 43.14 323 *e*P **P** **00 46 15.1 +1.3**
TMCR pmax pmax
comp=Z,25nm,1.2s
VRHR Novokhopersk 44.49 303 *e*P **P** **00 46 24.2 -0.6**
VRHR pmax pmax
comp=N,6.0nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
MOS Moscow 45.28 311 *e*P **P** **00 46 31.1 0.0**
MOS pmax pmax
comp=Z,44nm,0.9s
VSR Storozhevoye 45.90 304 *e*P **P** **00 46 36.0 -0.1**
VSR pmax pmax
comp=N,5.0nm,0.6s
VSR pmax pmax
comp=E,8.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 46.04 310‖ *e*P **P** **00 46 37.2 +0.1**
OBN *e* 00 48 14.7
OBN *e* 00 48 28.8
OBN *e*S S 00 53 35.7 +14
OBN *e*SS **SS** **00 56 41.8 -4.8**
OBN pmax pmax
comp=Z,18nm,1.2s
OBN MLR MLR
comp=Z,288nm,19.0s
NEY Neytrino 46.85 293 *e*P **P** **00 46 45.6 +1.7**
GNI Garni 46.91 288 LR LR 01 06 33.6
comp=Z,2μm,21.7s,baz=76,slow=36
GNI Garni 46.91 288 *e*P **P** **00 46 45.9 +1.5**
GNI pmax pmax
comp=Z,9.0nm,1.2s
ARCES ARCESS Array B 46.94 331 P **P** **00 46 44.3 +0.3**
comp=Z,1.0nm,0.7s,baz=79,slow=9.3,SNR=3.9
ARCES PcP **PcP** **00 48 15.4 -0.9**
comp=Z,1.1nm,0.6s,baz=80,slow=6.7,SNR=4.5
FINES FINESS Array B 49.14 321 P **P** **00 47 01.6 +0.4**
comp=Z,5.9nm,0.7s,baz=75,slow=7.1,SNR=28
FINES FINESS Array B 49.14 321 *e*P **P** **00 47 01.5 +0.4**
FINES pmax pmax
comp=Z,6.0nm,0.7s
LEM Lembang 51.37 182 LR LR 01 12 13.1
comp=Z,72nm,18.6s,baz=25,slow=40
SIM Simferopol' 51.59 299 *e*P P 00 47 32.0 +12
SIM S S 00 54 33.0 -7.5
SIM MLR MLR
comp=N,200nm,15.0s
KIEV Kiev 51.87 307 *e*P **P** **00 47 21.9 0.0**
KIEV pmax pmax
comp=Z,5.0nm,1.0s
BRTR Keskin Array B 54.52 293 P **P** **00 47 42.0 +0.2**
comp=Z,4.7nm,0.8s,baz=82,slow=5.5,SNR=30
HFS Hagfors 55.18 323 P **P** **00 47 45.5 -0.5**
comp=Z,4.1nm,0.9s,baz=59,slow=9.1,SNR=8.3
BURAR Bucovina Array 55.65 305‖ *i*P **P** **00 47 49.8 +0.1**
PLOR Plostina 55.71 303⇑ *i*P **P** **00 47 51.0 +0.8**
NB2 NORSAR Subarra 55.76 324 P **P** **00 47 49.8 -0.5**
comp=Z,10.0nm,1.1s,baz=59,slow=6.9
NOA NORSAR Array B 55.76 324 P **P** **00 47 50.0 -0.3**
comp=Z,3.3nm,0.8s,baz=57,slow=7.1,SNR=5.6
NOA NORSAR Array B 55.76 324 *e*P **P** **00 47 49.9 -0.3**
NOA pmax pmax
comp=Z,3.0nm,0.8s
ILAR Eielson Array 55.79 30 P **P** **00 47 51.1 +0.7**
comp=Z,1.3nm,0.7s,baz=296,slow=7.6,SNR=14
ILAR Eielson Array 55.79 30 *e*P **P** **00 47 51.4 +1.0**
ILAR pmax pmax
comp=Z,2.0nm,0.6s
MLR Muntele Rosu 56.32 303 LR LR 01 12 14.6
comp=Z,382nm,20.0s,baz=114,slow=36
MLR Muntele Rosu 56.32 303⇑ *i*P **P** **00 47 54.8 +0.2**
ARCR ARCALIA 56.42 305⇑ *i*P **P** **00 47 56.7 +1.5**
TRPA Tarpa 56.92 307⇑ *i*P **P** **00 47 59.4 +0.8**
ARR Arges 57.17 303⇑ *i*P **P** **00 48 01.8 +1.2**
MORC Moravsky Berou 58.80 311⇑ *i*P **P** **00 48 12.4 +0.5**
BZS Buzias 58.81 305⇑ *i*P **P** **00 48 11.9 -0.1**
KRLC Kraliky 59.04 311 *e*P **P** **00 48 14.1 +0.5**
KRLC Kraliky 59.04 311 *e*P **P** **00 48 14.1 +0.5**
DPC Dobruska-Polom 59.13 312 *e*P **P** **00 48 15.0 +0.8**
DPC Dobruska-Polom 59.13 312 *e*P **P** **00 48 15.0 +0.8**
UPC Upice 59.21 312 *e*P **P** **00 48 15.5 +0.8**
UPC Upice 59.21 312 *e*P **P** **00 48 15.5 +0.8**
VTS Vitosha 59.56 301‖ *i*P **P** **00 48 17.5 +0.1**
PVCC Panska Ves 59.96 313 *e*P **P** **00 48 20.9 +1.1**
PVCC Panska Ves 59.96 313 *e*P **P** **00 48 20.9 +1.1**
BRG Berggiesshubel 60.08 313 *e*P **P** **00 48 20.9 +0.2**
comp=Z,5.3nm,1.0s
comp=N,134nm,15.5s
comp=E,157nm,17.2s
comp=Z,260nm,17.1s
BRG Berggiesshubel 60.08 313 *e*P **P** **00 48 20.9 +0.2**
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG MLR MLR
comp=N,134nm,15.5s
BRG MLR MLR
comp=E,157nm,17.2s
BRG MLR MLR
comp=Z,260nm,17.1s
GOPC GO Pecny, Ondr 60.19 312 *e*P **P** **00 48 22.2 +0.7**
CLL Collm 60.32 314 *i* P **P** **00 48 22.2 -0.1**
CLL pmax pmax
comp=Z,6.0nm,1.0s
CLL MLR MLR
comp=Z,200nm,20.0s
CLL Collm 60.32 314 *i* P **P** **00 48 22.2 -0.1**
comp=Z,6.0nm,1.0s
CLL LmV 01 16 00.0
comp=Z,200nm,20.0s
KHC Kasperske Hory 61.29 312 *e*P **P** **00 48 29.6 +0.6**
KHC Kasperske Hory 61.29 312 *e*P **P** **00 48 29.6 +0.6**
EKA Eskdalemuir Ar 65.25 325 P **P** **00 48 54.8 -0.3**
comp=Z,1.9nm,0.7s,baz=46,slow=5.3,SNR=7.5
YKA Yellowknife Ar 67.42 21 P **P** **00 49 09.1 +0.2**
comp=Z,0.7nm,0.7s,baz=327,slow=6.5,SNR=3.6
WRA Warramunga Arr 68.24 155 P **P** **00 49 16.5 +2.0**
comp=Z,1.9nm,0.6s,baz=345,slow=6.9,SNR=23
ASAR Alice Springs 71.63 157 P **P** **00 49 36.2 +0.9**
comp=Z,3.7nm,0.6s,baz=347,slow=5.7,SNR=41
ESDC Sonseca Array 76.89 313 P **P** **00 50 06.1 +0.1**
comp=Z,0.3nm,0.6s,baz=50,slow=4.0,SNR=4.4
NEW Newport 78.74 30 LR LR 01 29 24.1
comp=Z,45nm,19.8s,baz=333,slow=39
STKA Stephens Creek 81.66 153 P **P** **00 50 33.1 +1.4**
comp=Z,2.1nm,0.6s,baz=333,slow=6.8,SNR=5.2
YBH Yreka Blue Hor 82.02 37 LR LR 01 25 53.1
comp=Z,62nm,18.2s,baz=325,slow=35
ULM Lac du Bonnet 82.83 16 LR LR 01 31 46.4
comp=Z,48nm,18.4s,baz=300,slow=39
PDAR Pinedale Array 86.13 28 P **P** **00 50 56.5 +1.4**
comp=Z,0.3nm,0.3s,baz=352,slow=3.6,SNR=3.2
NVAR Mina Array Bea 86.63 36 P **P** **00 50 58.2 +0.6**
comp=Z,0.3nm,0.6s,baz=308,slow=4.4,SNR=3.2
TORD Torodi Ar. Bea 93.11 292 P **P** **00 51 26.6 -1.5**
comp=Z,0.7nm,0.8s,baz=35,slow=3.2,SNR=5.0

*BJI **30** 01:04:28.4, 30.40N×94.80E, h7km, mb4.4/25, mB4.4/15, ML4.0/5, Ms3.8/25, Ms7 3.7/23*
*IDC **30** 01:04:28.4±0.7, 30.41N×94.95E, h0km, mb4.2/20, mb1 4.3/23, mb1mx4.1/56, mbtmp4.2/23, ML3.9/3, MS2.3/1, Ms1 2.5/1, ms1mx2.3/42, Error ellipse: s-maj=21.5km s-min=13.5km az=41.0*
*ISCJB **30** 01:04:30.0±0.2, 30.32N±0.03×94.79E±0.03, h23km, mb4.4/35, Error ellipse: s-maj=4.5km s-min=3.4km az=177.9*
*NEIC **30** 01:04:30.4±0.3, 30.44N×94.93E, h10km, mb4.6/13, Error ellipse: s-maj=9.4km s-min=6.7km az=57.0*
*MOS **30** 01:04:31.4±1.2, 30.44N×95.03E, h33km, mb4.8/7, Error ellipse: s-maj=11.2km s-min=6.5km az=118.7*

ISC 30 01:04:32.5±0.4, **30.38N**±0.05×**94.82E**±0.04, **h23**km**, n151,**
σ1**55**/157**, mb4.4**/34**, 13C-12D, Xizang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
LSA	**Lhasa**	**3.25**	**259**	Pg	Pn	01 05 26.0	+3.5
LSA	**Lhasa**	**3.25**	**259**	*e*P	**Pn**	**01 05 25.6**	**+3.1**
LSA	**Lhasa**	**3.25**	**259**	*e*Pn	**Pn**	**01 05 25.6**	**+3.1**
SHL	**Shillong**	**5.45**	**209**	*e*P	**Pn**	**01 05 52.5**	**0.0**
SHL				AMB	AMB	01 06 10.4	
comp=Z,19nm,1.2s							
ODAN	**Odare**	**7.41**	**244**	*e*P	**Pn**	**01 06 18.0**	**-1.5**
comp=Z,56nm,0.8s							
CD2	**Chengdu**	**7.72**	**84**	Pn	**Pn**	**01 06 20.5**	**-3.1**
CD2				Sn	**Sn**	**01 07 49.0**	**-1.4**
CD2				SMN			
comp=Z,40nm,0.5s							
CD2				LN			
comp=Z,490nm,7.5s							
CD2				LE			
comp=Z,410nm,7.1s							
CD2				LZ			
comp=Z,360nm,8.0s							
GUN	**Gumba**	**8.19**	**255**	*e*P	**Pn**	**01 06 29.5**	**-0.9**
comp=Z,104nm,0.9s							
PKI	**Pulchoki**	**8.70**	**254**	*e*P	**Pn**	**01 06 35.6**	**-1.7**
comp=Z,40nm,0.9s							
PKIN	**Phulchoki**	**8.71**	**254**	*e*P	**Pn**	**01 06 35.5**	**-1.9**
comp=Z,12nm,0.5s							
KKN	**Kakani**	**8.73**	**255**	*e*P	**Pn**	**01 06 37.1**	**-0.6**
comp=Z,60nm,0.9s							
KMI	**Kunming**	**8.76**	**125**	P	**Pn**	**01 06 37.8**	**-0.2**
KMI				pP		01 06 43.0	
KMI				sP		01 06 46.8	
KMI				S	**Sn**	**01 08 17.0**	**+0.9**
KMI				PMZ			
comp=Z,8.0nm,0.6s							
KMI				PMZ			
comp=Z,57nm,4.3s							
KMI				LN			
comp=Z,250nm,4.7s							
KMI				LE			
comp=Z,190nm,4.6s							
KMI				LZ			
comp=Z,120nm,6.0s							
DMN	**Daman**	**8.94**	**254**	*e*P	**Pn**	**01 06 39.6**	**-0.9**
comp=Z,69nm,0.9s							
GKN	**Gorkha**	**9.21**	**258**	*e*P	**Pn**	**01 06 42.7**	**-1.4**
DANN	**Dangsing**	**9.86**	**261**	*e*P	**Pn**	**01 06 52.0**	**-1.1**
GTA	**Gaotai**	**9.90**	**23**	*e*P	Pn	01 06 58.0	+4.5
GTA				pP		01 07 02.0	
GTA				sP		01 07 05.0	
GTA				S	Sn	01 08 50.3	+6.4
GTA				sS		01 08 55.0	
GTA				PMZ			
comp=Z,3.0nm,1.3s							
GTA				PMZ			
comp=Z,45nm,4.5s							
GTA				LN			
comp=Z,140nm,10.2s							
GTA				LE			
comp=Z,160nm,12.6s							
GTA				LZ			
comp=Z,170nm,11.4s							
KOLN	**Koldanda 10.15 258**			*e*P	**Pn**	**01 06 55.5**	**-1.6**
comp=Z,78nm,0.8s							
BOK	**Bokaro 10.31 233**			*e*P	**Pn**	**01 06 59.1**	**+0.1**
BOK				AMB	AMB	01 07 01.5	
comp=Z,18nm,0.4s							
GYA	**Guiyang 11.14 108**⇑			*i*P	**Pn**	**01 07 09.0**	**-1.5**
GYA				PP	**PnPn**	**01 07 20.0**	**+1.8**
GYA				S	**Sn**	**01 09 18.8**	**+4.4**
GYA				SS	**SnSn**	**01 09 30.5**	**+4.3**
GYA				PMZ			
comp=Z,30nm,0.8s							
GYA				PMZ			
comp=Z,110nm,4.0s							
GYA				LN			
comp=Z,510nm,12.8s							
GYA				LE			
comp=Z,490nm,12.2s							
GYA				LZ			
comp=Z,540nm,12.6s							
CHTO	**Chiang Mai 12.11 161**			*e*P	**Pn**	**01 07 24.4**	**+0.6**
CHTO	**Chiang Mai 12.11 161**			*e*Pn	**Pn**	**01 07 24.4**	**+0.6**
CMAR	**Chiang Mai Arr 12.45 162**			Pn	**Pn**	**01 07 28.4**	**0.0**
comp=Z,0.4nm,0.3s,baz=332,slow=13,SNR=14							
CMAR				LR	LR	01 13 14.3	
comp=Z,14nm,20.1s,baz=300,slow=42							
XAN	**Xi'an 12.49 69**			P	**Pn**	**01 07 30.0**	**+1.1**
XAN				PMZ			
comp=Z,4.0nm,0.7s							
XAN				PMZ			
comp=Z,37nm,9.8s							
DDI	**Dehra Dun 14.47 274**			*e*P	**Pn**	**01 07 57.6**	**+1.5**
DDI				AMB	AMB	01 08 05.6	
comp=Z,15nm,0.4s							
WMQ	**Urumqi 14.56 339**			P	Pn	01 07 53.0	-4.2
WMQ	**Urumqi 14.56 339**			P	**Pn**	**01 07 56.3**	**-0.9**
WMQ				pP	**P**	**01 08 00.3**	**-3.2**
WMQ				sP		01 08 03.3	
WMQ				PMZ			
comp=Z,12nm,0.9s							
WMQ				PMZ			
comp=Z,70nm,4.6s							
WMQ				LN			
comp=Z,98nm,6.2s							
WMQ				LE			
comp=Z,120nm,6.2s							
SMLA	**Simla 15.20 277**			*e*P	**Pn**	**01 08 07.3**	**+1.7**
SMLA				AMB	AMB	01 08 10.8	
comp=Z,17nm,0.6s							
DHRM	**DHARAMSHALA 15.94 281**			*e*P	**Pn**	**01 08 16.5**	**+1.0**
DHRM				AMB	AMB	01 08 21.2	
comp=Z,23nm,1.8s							
WHN	**Wuhan 16.85 84**			P	**Pn**	**01 08 26.0**	**-0.9**
BHPL	**Bhopal 17.07 250**			*e*P	**Pn**	**01 08 30.0**	**+0.3**
BHPL				AMB	AMB	01 08 30.5	
comp=Z,30nm,2.7s							
HHC	**Hu-ho-hao-te 17.14 48**			*e*P	**P**	**01 08 31.5**	**-0.6**
HHC				PP	**PnPn**	**01 08 46.0**	**+5.5**
HHC				S	**Sn**	**01 11 40.5**	**0.0**
HHC				SS	**SnSn**	**01 12 01.5**	**+7.6**
HHC				PMZ			
comp=Z,17nm,1.1s							
HHC				PMZ			
comp=Z,41nm,5.5s							
HHC				LN			
comp=Z,160nm,12.6s							
HHC				LE			
comp=Z,89nm,13.1s							
HHC				LZ			
comp=Z,76nm,13.5s							
QIZ	**Qiongzhong 17.70 126**			P	**Pn**	**01 08 37.5**	**-0.1**
QIZ				S	**Sn**	**01 11 55.5**	**+1.2**
QIZ				LN			
comp=Z,450nm,21.8s							
QIZ				LE			
comp=Z,390nm,17.9s							
QIZ				LZ			
comp=Z,1μm,19.7s							
KSH	**Kashi 17.91 306**			P	**P**	**01 08 43.8**	**+3.1**
KSH				pP	**pP**	**01 08 47.0**	**0.0**
KSH				PP	PnPn	01 08 59.0	+7.9
KSH				S	**Sn**	**01 12 00.5**	**+1.2**
KSH				sS	**S**	**01 12 08.3**	**+2.9**
KSH				SS	SnSn	01 12 25.0	+12
KSH				PMZ			
comp=Z,15nm,0.9s							
KSH				PMZ			
comp=Z,140nm,4.4s							
KSH				LN			
comp=Z,150nm,4.4s							
KSH				LE			
comp=Z,230nm,4.8s							
KSH				LZ			
comp=Z,230nm,7.5s							
MK31	**Makanchi Array 19.05 333**			*e*P	**P**	**01 08 52.9**	**-0.2**
MK31	**Makanchi Array 19.05 333**			*e*P	**P**	**01 08 52.9**	**-0.2**
MKAR	**Makanchi Array 19.05 333**			P	**P**	**01 08 51.9**	**-1.2**
comp=Z,0.3nm,0.3s,baz=145,slow=14,SNR=26							
MKAR	**Makanchi Array 19.05 333**			P	**P**	**01 08 51.9**	**-1.2**
MKAR				*e*Pn	**Pn**	**01 08 52.8**	**-1.1**
SONM	**Songino Array 19.57 24**			P	**P**	**01 08 58.5**	**-0.4**
comp=Z,0.2nm,0.3s,baz=212,slow=12,SNR=27							
HYB	**Hyderabad 19.66 233**			*i* P	**P**	**01 09 00.0**	**+0.1**
HYB	**Hyderabad 19.66 233**			*e*P	**P**	**01 09 00.4**	**+0.5**
HYB				AMB	AMB	01 09 43.1	
comp=Z,33nm,3.6s							
TKM2	**Tokmak 2 19.80 314**			*e*P	**Pn**	**01 09 03.2**	**0.0**
TKM2				pmax	pmax		
comp=Z,6.0nm,1.0s							
TKM2	**Tokmak 2 19.80 314**			*e*P	**Pn**	**01 09 03.1**	**0.0**
comp=Z,5.6nm,1.0s							
ULN	**Ulaanbaatar 19.83 25**			*e*P	**P**	**01 09 02.0**	**+0.2**
ULN				pmax	pmax		
comp=Z,7.0nm,0.8s							
ULN	**Ulaanbaatar 19.83 25**			*e*P	**P**	**01 09 02.0**	**+0.2**
comp=Z,7.0nm,0.8s							
BJI	**Beijing 19.90 55**			P	**P**	**01 09 02.0**	**-0.3**
BJI				S	**S**	**01 12 43.0**	**-2.1**
BJI				PMZ			
comp=Z,4.0nm,1.1s							
BJI				PMZ			
comp=Z,100nm,5.3s							
BJI				LN			
comp=Z,130nm,15.3s							
BJI				LE			
comp=Z,220nm,11.3s							
BJI				LZ			
comp=Z,86nm,19.1s							
FRU	**Bishkek 20.37 313**			*e*P	**P**	**01 09 08.0**	**+0.5**
NJ2	**Nanjing 20.62 79**			*e*P	Pn	01 09 13.8	+1.2
NJ2				PMZ			
comp=Z,20nm,0.6s							
EKS2	**Erkin-Say 20.82 312**			*e*P	**P**	**01 09 13.3**	**+0.8**
EKS2				pmax	pmax		
comp=Z,11nm,1.0s							
EKS2	**Erkin-Say 20.82 312**			*e*P	**P**	**01 09 13.3**	**+0.8**
comp=Z,11nm,1.0s							
ZAK	**Zakamensk 20.97 15**			*e*P	**P**	**01 09 12.2**	**-1.8**
ZAK				pmax	pmax		
comp=Z,22nm,0.9s							
CMBY	**CAMPBELL BAY 23.26 182**			*e*P	**P**	**01 09 39.4**	**+0.9**
KURBB	**Kurchatov Arra 23.61 334**			P	**P**	**01 09 40.6**	**-1.0**
comp=Z,0.6nm,0.3s,baz=144,slow=11,SNR=4.8							
KURK	**Kurchatov 23.65 334**			P	**P**	**01 09 40.6**	**-1.4**
KURK	**Kurchatov 23.65 334**			P	**P**	**01 09 40.6**	**-1.4**
ZALV	**Zalesovo Beam 24.64 346**			P	**P**	**01 09 50.6**	**-0.6**
comp=Z,6.3nm,0.7s,baz=162,slow=9.2,SNR=31							
KULM	**Kulim 25.56 166**			*e*P	**P**	**01 09 59.0**	**-0.7**
comp=Z,17nm,1.1s							
CN2	**Changchun 27.69 53**			*e*P	**P**	**01 10 18.5**	**-0.3**
CN2				PMZ			
comp=Z,10.0nm,1.0s							
KSAR	**Wonju Array Be 28.23 67**			P	**P**	**01 10 22.2**	**-1.5**

KSAR	**Wonju Array Be**	**28.23**	**67**	P		**P**	**01 10 22.2**	**-1.5**
KSRS	**Korea Array**	**28.26**	**67**	P		**P**	**01 10 22.2**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=259,slow=11,SNR=3.4							
KSRS	**Korea Array**	**28.26**	**67**	P		**P**	**01 10 22.2**	**-1.8**
KSRS				pmax		pmax		
	comp=Z,1.0nm,0.3s							
BVAR	**Borovoye Array**	**28.80**	**329**	P		**P**	**01 10 28.2**	**-0.4**
	comp=Z,4.3nm,0.8s,baz=133,slow=11,SNR=20							
BRVK	**Borovoye**	**28.87**	**329**	*eP*		**P**	**01 10 28.8**	**-0.4**
BRVK				pmax		pmax		
	comp=Z,26nm,1.4s							
BRVK	**Borovoye**	**28.87**	**329**	*eP*		**P**	**01 10 28.8**	**-0.4**
	comp=Z,26nm,1.4s							
MDJ	**Mudanjiang**	**30.78**	**53**	P		**P**	**01 10 45.5**	**-0.7**
MDJ				PMZ				
	comp=Z,7.0nm,0.5s							
MDJ				PMZ				
	comp=Z,42nm,4.1s							
GEYT	**Alibeck**	**31.14**	**294**	P		**P**	**01 10 50.1**	**+0.6**
	comp=Z,3.7nm,0.9s,baz=99,slow=9.2,SNR=7.5							
ABKAR	**Akbulak array**	**32.36**	**316**	*eP*		**P**	**01 10 59.9**	**-0.3**
KLR	**Kul'dur**	**33.61**	**45**	*eP*		P	01 11 06.9	-4.1
AKTO	**Aktyubinsk**	**33.97**	**317**	P		**P**	**01 11 13.9**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=106,slow=8.6,SNR=7.3							
ARU	**Arti**	**36.34**	**326**	P		**P**	**01 11 34.5**	**+0.1**
	baz=119,slow=9.4							
ARU	**Arti**	**36.34**	**326**	*eP*		**P**	**01 11 34.3**	**-0.1**
	comp=Z,6.9nm,0.8s							
DGRG	**David-gareji**	**41.04**	**300**	P		**P**	**01 12 15.4**	**+1.2**
DGRG	**David-gareji**	**41.04**	**300**	*eP*		P	**01 12 15.4**	**+1.2**
TBLG	**Delisi**	**41.51**	**300**	P		P	01 12 09.4	-8.6
TBLG	**Delisi**	**41.51**	**300**	P		P	01 12 09.4	-8.6
GNI	**Garni**	**41.56**	**298**	P		**P**	**01 12 20.5**	**+1.9**
	comp=Z,1.4nm,0.4s,baz=195,slow=16,SNR=4.3							
AKH	**Akhalkalaki**	**42.46**	**300**	P		**P**	**01 12 27.5**	**+1.6**
AKH	**Akhalkalaki**	**42.46**	**300**	*eP*		**P**	**01 12 27.5**	**+1.6**
ONI	**Oni**	**42.46**	**301**	P		**P**	**01 12 27.4**	**+1.5**
ONI	**Oni**	**42.46**	**301**	*eP*		**P**	**01 12 27.3**	**+1.5**
KBZ	**Khabaz**	**42.86**	**303**	P		**P**	**01 12 30.8**	**+1.9**
	comp=Z,2.1nm,0.8s,baz=115,slow=8.1,SNR=4.9							
CHVG	**Ch'k'valeri**	**43.47**	**302**	P		**P**	**01 12 36.5**	**+2.6**
MALT	**Malatya**	**46.61**	**296**	*i*P		**P**	**01 13 00.3**	**+1.3**
MOS	**Moscow**	**47.17**	**320**	*eP*		**P**	**01 13 02.9**	**-0.1**
BR131	**Keskin Array S**	**50.09**	**298**	*eP*		**P**	**01 13 25.6**	**-0.3**
	comp=Z,1.4nm,0.8s							
BRTR	**Keskin Array B**	**50.09**	**298**	P		**P**	**01 13 25.3**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=103,slow=5.5,SNR=7.1							
ANTO	**Ankara**	**50.71**	**299**	*eP*		**P**	**01 13 31.1**	**+0.6**
ANTO				pmax		pmax		
	comp=Z,37nm,0.9s							
ANTO	**Ankara**	**50.71**	**299**	*eP*		**P**	**01 13 31.1**	**+0.6**
	comp=Z,37nm,0.9s							
KIEV	**Kiev**	**52.03**	**313**	*eP*		**P**	**01 13 38.2**	**-1.9**
KIEV				pmax		pmax		
	comp=Z,9.0nm,0.9s							
KIEV	**Kiev**	**52.03**	**313**	*eP*		**P**	**01 13 38.2**	**-1.9**
	comp=Z,8.9nm,0.9s							
CFR	**Carcaliu**	**53.30**	**306**	⇑*i*P		**P**	**01 13 48.5**	**-1.1**
MSAB	**Monastry St. A**	**53.68**	**305**	⇑*i*P		**P**	**01 13 52.4**	**0.0**
FINES	**FINESS Array B**	**53.71**	**326**	P		**P**	**01 13 51.6**	**-0.7**
	comp=Z,3.2nm,0.8s,baz=92,slow=9.4,SNR=15							
FINES	**FINESS Array B**	**53.71**	**326**	P		**P**	**01 13 51.6**	**-0.7**
FINES				pmax		pmax		
	comp=Z,3.0nm,0.8s							
TESR	**Tescani**	**54.13**	**308**	⇓*i*P		**P**	**01 13 56.0**	**+0.3**
VRI	**Vrincioaia**	**54.17**	**307**	⇑*i*P		**P**	**01 13 57.0**	**+0.9**
PLOR	**Plostina**	**54.23**	**307**	⇓*i*P		**P**	**01 13 56.4**	**-0.1**
ISR	**Istrita**	**54.42**	**306**	⇓*i*P		**P**	**01 13 59.1**	**+1.2**
MLR	**Muntele Rosu**	**54.77**	**307**	P		**P**	**01 14 00.7**	**+0.2**
	comp=Z,2.5nm,1.0s,baz=55,slow=5.5							
MLR	**Muntele Rosu**	**54.77**	**307**	P		**P**	**01 14 00.7**	**+0.2**
MLR				pmax		pmax		
	comp=Z,3.0nm,1.0s							
MLR	**Muntele Rosu**	**54.77**	**307**	⇓*i*P		**P**	**01 14 01.0**	**+0.4**
BURAR	**Bucovina Array**	**54.95**	**309**	⇓*i*P		**P**	**01 14 02.0**	**+0.3**
DOPR	**Dopca**	**55.08**	**307**	⇑*i*P		**P**	**01 14 03.4**	**+0.7**
VOIR		**55.41**	**307**	⇑*i*P		**P**	**01 14 05.8**	**+0.7**
LVV	**L'vov**	**55.42**	**312**	*eP*		**P**	**01 14 04.9**	**-0.1**
ARR	**Arges**	**55.71**	**307**	⇑*i*P		**P**	**01 14 07.5**	**+0.3**
LOT	**Lotru**	**56.29**	**307**	⇓*i*P		**P**	**01 14 12.2**	**+0.8**
TRPA	**Tarpa**	**56.65**	**310**	⇓*i*P		**P**	**01 14 14.4**	**+0.7**
DRGR		**56.77**	**309**	⇑*i*P		**P**	**01 14 15.4**	**+0.6**
NVR	**Nevrokopi**	**57.08**	**302**	*eP*		**P**	**01 14 16.2**	**-0.8**
VTS	**Vitosha**	**57.27**	**304**	⇑*i*P		**P**	**01 14 19.4**	**+0.9**
PLG	**Polygyros**	**57.62**	**301**	*eP*		**P**	**01 14 20.7**	**-0.1**
BZS	**Buzias**	**57.74**	**307**	⇑*i*P		**P**	**01 14 22.0**	**+0.4**
KNT	**Kendrikon**	**57.83**	**302**	*eP*		**P**	**01 14 20.6**	**-1.7**
GRG	**Griva**	**58.24**	**302**	*eP*		**P**	**01 14 23.4**	**-1.8**
AGG	**Agios Georgios**	**58.79**	**300**	*eP*		**P**	**01 14 27.1**	**-2.0**
AGG				pmax		pmax		
	comp=Z,59nm,1.9s							
AGG	**Agios Georgios**	**58.79**	**300**	*eP*		**P**	**01 14 26.0**	**-3.1**
AGG	**Agios Georgios**	**58.79**	**300**	*eP*		**P**	**01 14 27.1**	**-2.0**
	comp=Z,58nm,1.9s							
THL	**Klokotos Trika**	**58.88**	**300**	*eP*		**P**	**01 14 26.7**	**-2.9**
MAKR	**Makrakomi, Fth**	**58.95**	**300**	*eP*		**P**	**01 14 28.2**	**-1.9**
DIVS	**Divibare**	**59.21**	**306**	⇑*i*P		**P**	**01 14 32.1**	**+0.2**
EVR	**Evrytania**	**59.21**	**300**	*eP*		P	01 14 28.1	-4.0
NEST	**Nestorio**	**59.38**	**302**	*eP*		**P**	**01 14 30.8**	**-2.4**
MORC	**Moravsky Berou**	**59.57**	**313**	*eP*		**P**	**01 14 34.0**	**-0.3**
MORC				pmax		pmax		
	comp=Z,9.0nm,0.7s							
MORC	**Moravsky Berou**	**59.57**	**313**	⇑*i*P		**P**	**01 14 34.3**	**0.0**
MORC	**Moravsky Berou**	**59.57**	**313**	*eP*		**P**	**01 14 34.0**	**-0.3**
	comp=Z,8.5nm,0.7s							
PKSM	**Moragy**	**59.64**	**309**	⇓*i*P		**P**	**01 14 34.8**	**+0.1**
DSL	**Palaion Diasel**	**59.69**	**300**	*eP*		**P**	**01 14 32.8**	**-2.5**
PDO	**Prodromos**	**59.77**	**300**	*eP*		**P**	**01 14 34.8**	**-1.0**
PYL	**PYLOS**	**59.84**	**297**	*eP*		P	01 14 32.9	-3.4
IGT	**Igoumenitsa**	**60.15**	**301**	*eP*		**P**	**01 14 36.3**	**-2.1**
VRAC	**Vranov**	**60.27**	**312**	P		**P**	**01 14 38.2**	**-0.9**
	comp=Z,1.3nm,0.4s,baz=87,slow=7.4,SNR=3.6							
VRAC	**Vranov**	**60.27**	**312**	⇓*i*P		**P**	**01 14 40.2**	**+1.1**
NB2	**NORSAR Subarra**	**60.89**	**326**	P		**P**	**01 14 41.6**	**-1.5**
	comp=Z,1.9nm,0.6s,baz=80,slow=6.9							
NOA	**NORSAR Array B**	**60.89**	**326**	P		**P**	**01 14 42.0**	**-1.2**
	comp=Z,3.5nm,0.8s,baz=80,slow=6.9,SNR=9.1							
NOA	**NORSAR Array B**	**60.89**	**326**	P		**P**	**01 14 42.0**	**-1.2**
CONA	**Conrad Observa**	**61.07**	**311**	⇑*i*P		**P**	**01 14 44.0**	**-0.6**
	comp=Z,5.1nm,0.8s							
MOA	**Molln**	**62.13**	**311**	⇓*i*P		**P**	**01 14 52.1**	**+0.4**
	comp=Z,3.5nm,0.8s							
WRA	**Warramunga Arr**	**62.84**	**138**	P		**P**	**01 14 56.6**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=330,slow=7.6,SNR=9.2							
FETA	**Feichten**	**64.67**	**311**	⇓*i*P		**P**	**01 15 08.5**	**-0.1**
	comp=Z,4.6nm,0.9s							
ASAR	**Alice Springs**	**65.53**	**141**	P		**P**	**01 15 12.7**	**-1.6**
	comp=Z,1.7nm,0.8s,baz=328,slow=6.4,SNR=10							
SENIN	**Lac Senin/Sane**	**67.11**	**311**	*eP*		**P**	**01 15 25.1**	**+0.6**
	comp=Z,55nm,2.3s							
CAST	**Castle Rocks**	**72.73**	**26**	*eP*		**P**	**01 15 58.9**	**+0.4**
	comp=Z,6.8nm,1.2s							
BPAW	**Bear Paw Mtn.**	**72.75**	**25**	*eP*		**P**	**01 15 58.4**	**-0.2**
	comp=Z,4.9nm,1.0s							
COLA	**College**	**73.40**	**23**	*eP*		**P**	**01 16 02.1**	**-0.3**
COLA				pmax		pmax		
	comp=Z,6.0nm,0.9s							
COLA	**College**	**73.40**	**23**	*eP*		**P**	**01 16 02.1**	**-0.3**
	comp=Z,6.2nm,0.9s							
ILAR	**Eielson Array**	**73.80**	**23**	P		**P**	**01 16 03.0**	**-1.7**
	comp=Z,1.6nm,0.9s,baz=298,slow=5.7,SNR=13							
INK	**Inuvik**	**75.31**	**17**	P		**P**	**01 16 13.6**	**+0.2**
	comp=Z,4.6nm,1.0s,baz=282,slow=5.5,SNR=4.1							
ESDC	**Sonseca Array**	**77.40**	**309**	P		**P**	**01 16 25.8**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=54,slow=6.1,SNR=6.8							
YKA	**Yellowknife Ar**	**84.48**	**13**	P		**P**	**01 17 03.0**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=326,slow=4.5,SNR=4.3							
TOA0	**Torodi Ar. Sit**	**86.11**	**283**	*eP*		**P**	**01 17 12.4**	**+0.3**
TORD	**Torodi Ar. Bea**	**86.11**	**283**	P		**P**	**01 17 11.2**	**-1.0**
	comp=Z,2.1nm,0.9s,baz=52,slow=3.8,SNR=10							

*ISCJB **30** 01:06:26.3±0.8, 70°.9N±0°.1×6°.2W±0°.1, h10km, Error ellipse: s-maj=15.2km s-min=5.7km az=176.4*
*CSEM **30** 01:06:27.4±0.2, 70°.89N×6°.27W, h2km, ML2.8*
*NAO **30** 01:06:27.8±2.7, 70°.84N×6°.46W, h13km±32km, ML3.5*
*BER **30** 01:06:28.5±0.8, 71°.66N×7°.71W, h10km, MD3.2, ML2.8*

ISC 30 01:06:27.2±0.9, 70°.9N±0°.1×6°.71W±0°.06, h10km, n17, σ0s89/20, 7C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JNE	**Jan Mayen East**	**0.53**	**282**	⇑*i*P		**Pn**	**01 06 40.5**	**-0.3**
JNE				*e*S		**Sn**	**01 06 50.6**	**+0.8**
JNE					IAML		01 06 51.5	
	comp=Z,375nm,0.2s							
JNE	**Jan Mayen East**	**0.53**	**282**	⇑*i*P		**Pn**	**01 06 40.5**	**-0.3**
	SNR=50							
JNE				*e*S		**Sn**	**01 06 50.7**	**+0.8**
	SNR=50							
JNW	**Jan Mayen West**	**0.58**	**285**	⇑*i*P		**Pn**	**01 06 41.1**	**-0.4**
JNW					IAML		01 06 52.4	
	comp=Z,375nm,0.2s							
JNW	**Jan Mayen West**	**0.58**	**285**	⇑*i*P		**Pn**	**01 06 41.1**	**-0.4**
	SNR=50							
JMIC	**Jan Mayen**	**0.60**	**281**	Pg		**Pn**	**01 06 41.4**	**-0.4**
JMIC				Lg		Lg	01 06 50.6	
JMIC	**Jan Mayen**	**0.60**	**281**	*i* PC			01 06 41.4	
JMIC				*e*S		**Sn**	**01 06 50.4**	**-1.1**
JMIC	**Jan Mayen**	**0.60**	**281**	⇑*i*P		**Pn**	**01 06 41.3**	**-0.4**
	SNR=50							
JMIC				*e*S		**Sn**	**01 06 50.4**	**-1.1**
	SNR=50							
JMI	**Jan Mayen**	**0.67**	**275**	⇑*i*P		**Pn**	**01 06 42.9**	**+0.2**
JMI					IAML		01 06 56.4	
	comp=Z,233nm,0.2s							
JMI	**Jan Mayen**	**0.67**	**275**	⇑*i*P		**Pn**	**01 06 42.8**	**+0.2**
	SNR=50							
KBS	**Kingsbay**	**9.35**	**22**	Pn		**Pn**	**01 08 42.7**	**+1.0**
KBS	**Kingsbay**	**9.35**	**22**	Pn		**Pn**	**01 08 42.7**	**+1.0**
SPA0	**Spitsbergen Ar**	**9.47**	**29**	Pn		**Pn**	**01 08 44.1**	**+0.8**
	baz=219,slow=18							
SPA0	**Spitsbergen Ar**	**9.47**	**29**	Pn		**Pn**	**01 08 44.2**	**+0.8**
ARA0	**ARCESS Array S**	**10.92**	**82**	Pn		**Pn**	**01 09 01.8**	**-1.5**
	baz=285,slow=12							
ARA0	**ARCESS Array S**	**10.92**	**82**	Pn		**Pn**	**01 09 01.8**	**-1.5**
	SNR=5.3							
HFS	**Hagfors**	**13.60**	**132**	Pn		**Pn**	**01 09 40.6**	**+0.8**
	baz=338,slow=11							
HFS	**Hagfors**	**13.60**	**132**	Pn		**Pn**	**01 09 40.7**	**+0.8**

*ISCJB **30** 01:07:42.1±0.9, 13°.08N±0°.07×120°.6E±0°.1, h25km, mb3.6/5, MS2.9/2, Error ellipse: s-maj=16.9km s-min=9.4km az=15.8*
*MAN **30** 01:07:43, 13°.17N×120°.60E, h32km, mb4.3, ML3.1, MS2.9*
*IDC **30** 01:07:46.4±2.2, 13°.24N×120°.94E, h51km±27km, mb3.3/5, mb1 3.6/5, mb1mx3.2/52, mbtmp3.6/5, MS3.0/2, Ms1 3.0/2, ms1mx2.4/26, Error ellipse: s-maj=46.6km s-min=18.1km az=60.0*

ISC 30 01:07:44.2±1.1, 13°.16N±0°.08×120°.62E±0°.09, h25km, n11, σ1s39/11, mb3.6/5, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TGY	**Tagaytay City**	**0.98**	**18**	P		**Pn**	**01 08 02.3**	**-0.2**
	193nm,0.3s,baz=185,slow=6.5,SNR=14							
TGY				S		**Sb**	**01 08 15.0**	**-0.3**
	616nm,0.3s,baz=255,slow=20,SNR=26							
TGY	**Tagaytay City**	**0.98**	**18**	⇓*e*P		**Pn**	**01 08 01.8**	**-0.7**
TGY				*i* S		**Sb**	**01 08 14.6**	**-0.6**
LQP	**Lukban**	**1.30**	**43**	*e*P		Pb	01 08 15.6	+7.5
GQP	**Guinayangan**	**1.92**	**67**	⇓*e*P		**Pn**	**01 08 15.3**	**0.0**
GQP				*i* S		**Sb**	**01 08 43.9**	**+1.7**
CMAR	**Chiang Mai Arr**	**21.50**	**287**	P		**P**	**01 12 34.2**	**+2.8**
	0.6nm,0.3s,baz=103,slow=7.6,SNR=4.8							
JCJ	**Chichijima**	**24.48**	**52**	LR		LR	01 21 30.9	
	comp=Z,25nm,18.1s,baz=115,slow=34							
WRA	**Warramunga Arr**	**35.56**	**157**	P		**P**	**01 14 37.9**	**-1.8**
	0.8nm,0.9s,baz=339,slow=9.6,SNR=4.7							
SONM	**Songino Array**	**36.55**	**344**	LR		LR	01 32 40.8	
	comp=Z,24nm,19.3s,baz=327,slow=41							
ASAR	**Alice Springs**	**38.84**	**160**	P		**P**	**01 15 06.8**	**-0.7**
	0.5nm,0.4s,baz=340,slow=7.0,SNR=8.1							
MKAR	**Makanchi Array**	**46.42**	**324**	P		**P**	**01 16 08.7**	**-0.2**
	0.6nm,0.8s,baz=129,slow=7.8,SNR=2.7							
KURBB	**Kurchatov Arra**	**50.59**	**326**	P		**P**	**01 16 40.7**	**-0.1**
	0.6nm,0.7s,baz=131,slow=7.3,SNR=4.3							

*IDC **30** 01:48:40.0±0.5, 52°.49N×159°.89E, h0km, mb4.3/25, mb1 4.5/26, mb1mx4.5/33, mbtmp4.3/26, ML3.6/2, MS3.5/10, Ms1 3.5/10, ms1mx3.3/24, Error ellipse: s-maj=15.9km s-min=11.0km az=151.0*
*KRSC **30** 01:48:41.0±1.4, 52°.30N×160°.45E, h44km±17km, ML5.1, FELT [II-III] at Petropavlovsk, Institute.*
*BJI **30** 01:48:44.0, 52°.90N×160°.04E, h54km, mb4.7/28, mB4.8/20, Ms4.2/16, Ms7 4.0/16*
*MOS **30** 01:48:44.6±1.2, 52°.41N×159°.96E, h50km, mb4.8/29, Error ellipse: s-maj=7.7km s-min=4.9km az=97.8*
MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.
*ISCJB **30** 01:48:46.1±0.5, 52°.46N±0°.04×159°.91E±0°.04, h60km±3km, mb4.4/85, MS3.5/12, Error ellipse: s-maj=6.6km s-min=3.4km az=155.2*
*NEIC **30** 01:48:47.3±0.6, 52°.53N×159°.81E, h54km±6km, mb4.5/56, Error ellipse: s-maj=6.4km s-min=3.4km az=160.0*
NEIC Felt [III] at Petropavlovsk-Kamchatskiy.

ISC 30 01:48:46.5±0.5, 52°.43N±0°.05×160°.01E±0°.04, h52km±3km, n253, σ1s39/283, mb4.5/86, MS3.6/12, 14C-12D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.67**	**1**	*i* P		**Pn**	**01 48 57.4**	**-2.5**
SPN				*e*S		**Sn**	**01 49 09.1**	**-0.5**
SPN	**Mys Shipunski**	**0.67**	**1**	PN		**Pn**	**01 48 57.4**	**-2.5**
SPN				S		**Sn**	**01 49 09.1**	**-0.5**
RUS	**Russkaya**	**0.92**	**271**	*i* P		**Pn**	**01 49 01.7**	**-1.4**
RUS	**Russkaya**	**0.92**	**271**	PN		**Pn**	**01 49 01.7**	**-1.4**
PET	**Petropavlovsk**	**1.02**	**306**	*e*P		**Pn**	**01 49 03.7**	**-0.7**
PET	**Petropavlovsk**	**1.02**	**306**	*i*PN		**Pn**	**01 49 03.8**	**-0.7**
PET				*e*S		**Sn**	**01 49 19.5**	**+1.8**
PET				pmax		pmax		
	comp=Z,3μm,2.2s							
PET				pmax		pmax		
	comp=Z,3μm,0.7s							
PET				smax		smax		
	comp=E,12μm,0.5s							
PET				smax		smax		
	comp=N,9μm,0.5s							
PET	**Petropavlovsk**	**1.02**	**306**	*e*Pn		**Pn**	**01 49 03.4**	**-1.1**
PET				eSn		**Sn**	**01 49 13.9**	**-3.8**
UGLR	**Uglovaya**	**1.06**	**318**	*i* P		**Pn**	**01 49 04.9**	**-0.2**
INSR	**Institute**	**1.07**	**307**	*i* P		**Pn**	**01 49 04.8**	**-0.3**
INSR				*i* S		**Sn**	**01 49 20.7**	**+1.8**
SDLR	**Sedlovina**	**1.09**	**322**	*i* P		**Pn**	**01 49 05.0**	**-0.5**
SDLR	**Sedlovina**	**1.09**	**322**	PN		**Pn**	**01 49 05.0**	**-0.5**
SMAR	**Somma**	**1.11**	**319**	*e*P		**Pn**	**01 49 05.3**	**-0.6**
SMAR	**Somma**	**1.11**	**319**	PN		**Pn**	**01 49 05.3**	**-0.6**
AVH	**Avacha**	**1.14**	**318**	*i* P		**Pn**	**01 49 06.1**	**0.0**
AVH	**Avacha**	**1.14**	**318**	PN		**Pn**	**01 49 06.1**	**0.0**
KRER	**Koryakskii**	**1.16**	**319**	*i* P		**Pn**	**01 49 06.4**	**-0.2**
GRL	**Gorelyy**	**1.19**	**277**	*i* P		**Pn**	**01 49 07.1**	**+0.2**
GRL				*e*S		**Sn**	**01 49 25.8**	**+3.7**
GRL	**Gorelyy**	**1.19**	**277**	PN		**Pn**	**01 49 07.1**	**+0.2**
KOK	**Koryaka**	**1.20**	**316**	*i* P		**Pn**	**01 49 06.9**	**-0.1**
KOK				*e*S		**Sn**	**01 49 25.6**	**+3.3**
KOK	**Koryaka**	**1.20**	**316**	PN		**Pn**	**01 49 06.9**	**-0.1**
KOK				S		**Sn**	**01 49 25.6**	**+3.3**
KRX	**Arik**	**1.24**	**319**	*i* P		**Pn**	**01 49 07.2**	**-0.4**
ASAK	**Asacha**	**1.29**	**269**	*i* P		**Pn**	**01 49 08.0**	**-0.3**
PETK	**Petropavlovsk-**	**1.56**	**297**	Pn		**Pn**	**01 49 12.1**	**+0.3**
	comp=N,279nm,0.3s,baz=110,slow=19,SNR=1234							
PETK				Sn		**Sn**	**01 49 35.2**	**+4.3**
	comp=N,476nm,0.3s,baz=105,slow=23,SNR=44							
PETK				LR		LR	01 49 53.5	
	comp=N,966nm,20.6s,baz=120,slow=50							
GNL	**Ganaly**	**1.78**	**316**	*i* P		**Pn**	**01 49 15.6**	**+0.7**
GNL	**Ganaly**	**1.78**	**316**	PN		**Pn**	**01 49 15.6**	**+0.7**
APC	**Apacha**	**1.81**	**287**	*i* P		**Pn**	**01 49 16.4**	**+1.3**
APC				*e*S		Sn	01 49 42.6	+5.7
APC	**Apacha**	**1.81**	**287**	PN		**Pn**	**01 49 16.4**	**+1.3**
MIPR	**Malaya Ipel'ka**	**2.00**	**267**	*e*P		**Pn**	**01 49 16.9**	**+1.1**
MKZ	**Mys Kozlova**	**2.36**	**25**	*e*P		**Pn**	**01 49 21.3**	**-1.4**
MKZ				*e*S		**Sn**	**01 49 49.2**	**-1.2**
MKZ	**Mys Kozlova**	**2.36**	**25**	PN		**Pn**	**01 49 21.3**	**-1.4**
MKZ				S		**Sn**	**01 49 49.2**	**-1.2**
KZV	**Kizimen**	**2.69**	**3**	*e*P		**Pn**	**01 49 27.4**	**0.0**
KZV				*e*S		**Sn**	**01 50 00.9**	**+2.1**
TUMR	**Tumrok**	**2.86**	**2**	*e*P		**Pn**	**01 49 28.8**	**-0.8**
TUMR				*e*S		**Sn**	**01 50 03.0**	**+0.2**
TUMR	**Tumrok**	**2.86**	**2**	PN		**Pn**	**01 49 28.8**	**-0.8**
TUMR				S		**Sn**	**01 50 03.0**	**+0.2**
SKR	**Severo-Kuril's**	**3.00**	**236**	*e*PN		**Pn**	**01 49 29.8**	**-1.6**
KMNR	**Kamenistaya**	**3.33**	**2**	*e*P		**Pn**	**01 49 37.6**	**+1.5**
KMNR	**Kamenistaya**	**3.33**	**2**	PN		**Pn**	**01 49 37.6**	**+1.5**
ESO	**Esso**	**3.58**	**348**	*e*P		**Pn**	**01 49 40.7**	**+1.2**
ESO	**Esso**	**3.58**	**348**	PN		**Pn**	**01 49 40.7**	**+1.2**
KOZ	**Kozyrevsk**	**3.63**	**359**	*e*P		**Pn**	**01 49 41.5**	**+1.3**
KOZ	**Kozyrevsk**	**3.63**	**359**	PN		**Pn**	**01 49 41.5**	**+1.3**
KBTR	**Krutoberegovo**	**4.12**	**22**	*e*P		**Pn**	**01 49 46.3**	**-0.6**
KBTR	**Krutoberegovo**	**4.12**	**22**	PN		**Pn**	**01 49 46.3**	**-0.6**
BKI	**Bering**	**4.49**	**49**	*e*P		Pn	01 49 49.0	-2.9
BKI				*e*S		Sn	01 50 36.4	-6.3
BKI	**Bering**	**4.49**	**49**	PN		Pn	01 49 49.0	-2.9
TYV	**Tymovskoe**	**10.90**	**269**	*e*PN		**Pn**	**01 51 18.0**	**-1.6**
TYV				MLR		MLR		
	comp=Z,1μm,16.0s							
TYV				MLR		MLR		
	comp=E,1μm,12.0s							
TYV				MLR		MLR		
	comp=N,500nm,14.0s							
SEY	**Seymchan**	**11.28**	**342**	Pn		**Pn**	**01 51 23.6**	**-1.2**
	comp=N,0.1nm,0.3s,baz=144,slow=11,SNR=2.1							
SEY	**Seymchan**	**11.28**	**342**	*ce*PN		**Pn**	**01 51 26.6**	**+1.9**
YSS	**Yuzh-Sakhalins**	**12.44**	**251**	*e*PN		**Pn**	**01 51 38.8**	**-1.8**
YSS	**Yuzh-Sakhalins**	**12.44**	**251**	*e*Pn		**Pn**	**01 51 38.8**	**-1.8**
ASAJ	**Asahikawa**	**14.24**	**241**	Pn		**Pn**	**01 52 04.1**	**-1.0**
	comp=N,0.9nm,0.3s,baz=69,slow=14,SNR=3.7							
ASAJ	**Asahikawa**	**14.24**	**241**	P		**Pn**	**01 52 04.1**	**-1.0**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ASAJ	**Asahikawa**	**14.24**	**241**	*e*Pn		**Pn**	**01 52 04.3**	**-0.8**
ASAJ				*e*P		**P**	**01 52 11.1**	**0.0**
ERM	**Erimo**	**15.44**	**234**	*e*P		Pn	01 52 15.7	-5.0
ERM				pmax		pmax		
	comp=Z,46nm,1.2s							
HABR	**Khabarovsk**	**16.35**	**266**	*e*P		**P**	**01 52 38.7**	**+4.3**
HABR				*e*S		**Sn**	**01 55 29.5**	**-3.1**
HABR				pmax		pmax		
	comp=Z,32nm,1.4s							
HABR				pmax		pmax		
	comp=N,32nm,1.9s							
HABR				MLR		MLR		
	comp=Z,368nm,17.0s							
KLR	**Kul'dur**	**18.09**	**271**	*e*P		**P**	**01 52 52.4**	**-1.2**
KLR				MLR		MLR		
	comp=Z,700nm,13.0s							
YAK	**Yakutsk**	**18.84**	**313**	*e*P		**P**	**01 53 00.4**	**-1.3**
YAK				pmax		pmax		
	comp=Z,31nm,0.8s							
YAK				pmax		pmax		
	comp=E,16nm,0.9s							
YAK	**Yakutsk**	**18.84**	**313**	*e*P		**Pn**	**01 53 02.2**	**-0.5**
	comp=E,57nm,0.6s							
USRK	**Ussuriysk Ar.**	**20.27**	**257**	P		**P**	**01 53 15.7**	**-1.8**
	comp=E,6.5nm,0.6s,baz=57,slow=12,SNR=13							
USRK				LR		LR	02 02 10.2	
	comp=E,280nm,18.1s,baz=63,slow=40							
CLNS	**Chul'man**	**20.65**	**296**	*e*P		**P**	**01 53 20.5**	**-1.0**
CLNS				pmax		pmax		
	comp=Z,9.0nm,0.9s							
CLNS				pmax		pmax		
	comp=N,13nm,1.0s							
CLNS				MLR		MLR		
	comp=Z,231nm,14.0s							
CLNS				MLR		MLR		
	comp=E,178nm,14.0s							
TNA	**Tin City**	**20.80**	**38**	*e*P		**P**	**01 53 23.5**	**+0.6**
	comp=E,15nm,0.9s		

	comp=Z,140nm,14.7s								
NJ2	**Nanjing**	**36.00**	**252**	*e*P		**P**		**01 55 43.0**	**+0.7**
NJ2				PMZ					
	comp=Z,30nm,0.8s								
KRAR	**Krasnoyarsk**	**38.02**	**303**	*e*P		**P**		**01 55 57.8**	**-1.4**
KRAR				pmax		pmax			
	comp=Z,8.0nm,0.8s								
WRAK	**Wrangell Islan**	**38.12**	**56**	*e*P		**P**		**01 56 01.9**	**+2.0**
DLBC	**Dease Lake**	**38.48**	**53**	*e*P		**P**		**01 56 05.1**	**+2.0**
	comp=Z,3.2nm,0.8s								
LZH	**Lanzhou**	**42.29**	**270**	*e*P		**P**		**01 56 34.3**	**-0.6**
LZH				pP		**pP**		**01 56 48.8**	**+0.2**
LZH				sP		**sP**		**01 56 56.0**	**+1.4**
LZH				PMZ					
	comp=Z,14nm,1.0s								
GTA	**Gaotai**	**42.63**	**277**	*e*P		**P**		**01 56 38.0**	**+0.3**
GTA				pP		**pP**		**01 56 51.8**	**+0.5**
GTA				sP		**sP**		**01 56 58.3**	**+0.9**
GTA				S		**S**		**02 02 56.5**	**-0.4**
GTA				sS		**sS**		**02 03 18.0**	**-1.9**
GTA				SS		SS		02 06 00.5	-7.7
GTA				PMZ					
	comp=Z,4.0nm,1.2s								
GTA				PMZ					
	comp=Z,58nm,6.6s								
GTA				LN					
	comp=Z,140nm,19.7s								
GTA				LE					
	comp=Z,200nm,18.5s								
GTA				LZ					
	comp=Z,170nm,17.3s								
ZALV	**Zalesovo Beam**	**43.10**	**303**	P		**P**		**01 56 39.1**	**-2.0**
	comp=Z,2.3nm,0.7s,baz=66,slow=6.4,SNR=8.0								
ZALV				PcP		**PcP**		**01 58 29.6**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=53,slow=3.2,SNR=3.6								
ZALV				LR		LR		02 15 55.6	
	comp=Z,96nm,19.0s,baz=70,slow=38								
YKA	**Yellowknife Ar**	**43.69**	**42**	P		**P**		**01 56 46.2**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=300,slow=7.0,SNR=3.7								
RES	**Resolute Bay**	**43.96**	**22**	*e*P		**P**		**01 56 47.4**	**-0.3**
RES				pmax		pmax			
	comp=Z,4.0nm,0.7s								
RES	**Resolute Bay**	**43.96**	**22**	*e*P		**P**		**01 56 47.4**	**-0.3**
	comp=Z,3.8nm,0.7s								
CD2	**Chengdu**	**45.86**	**265**	*e*P		**P**		**01 57 02.0**	**-1.4**
CD2				pP		**pP**		**01 57 16.0**	**-1.2**
CD2				PcP		**PcP**		**01 58 39.5**	**-0.4**
CD2				PcS		**PcS**		**02 02 33.8**	**-0.6**
CD2				S		**S**		**02 03 41.3**	**-2.4**
CD2				sS		**sS**		**02 04 05.8**	**-1.1**
CD2				PMZ					
	comp=Z,10.0nm,0.5s								
CD2				PMZ					
	comp=Z,120nm,5.2s								
WMQ	**Urumqi**	**47.15**	**290**	P		**P**		**01 57 13.3**	**-0.1**
WMQ				pP		**pP**		**01 57 29.3**	**+2.1**
WMQ				sP		**sP**		**01 57 35.5**	**+2.3**
WMQ				PMZ					
	comp=Z,11nm,0.8s								
WMQ				PMZ					
	comp=Z,82nm,4.0s								
WMQ				LN					
	comp=Z,47nm,17.3s								
WMQ				LE					
	comp=Z,56nm,16.6s								
WMQ				LZ					
	comp=Z,93nm,15.5s								
GYA	**Guiyang**	**47.31**	**258**	*e*P		**P**		**01 57 16.0**	**+1.1**
GYA				PMZ					
	comp=Z,10.0nm,1.0s								
MK31	**Makanchi Array**	**48.40**	**296**	*e*P		**P**		**01 57 21.3**	**-1.7**
MK31	**Makanchi Array**	**48.40**	**296**	*e*P		**P**		**01 57 21.3**	**-1.7**
MKAR	**Makanchi Array**	**48.40**	**296**	P		**P**		**01 57 21.6**	**-1.4**
	comp=Z,1.9nm,0.5s,baz=53,slow=7.1,SNR=14								
MKAR	**Makanchi Array**	**48.40**	**296**	P		**P**		**01 57 21.6**	**-1.4**
MKAR				pmax		pmax			
	comp=Z,2.0nm,0.5s								
MKAR	**Makanchi Array**	**48.40**	**296**	*e*P		**P**		**01 57 22.0**	**-1.0**
B08A	**Colville Reser**	**49.05**	**61**	*e*P		**P**		**01 57 28.8**	**+0.8**
	comp=Z,4.5nm,0.8s								
KMI	**Kunming**	**50.66**	**260**	P		P		01 57 44.3	+3.6
KMI				pP		pP		01 57 57.0	+2.3
KMI				sP		sP		01 58 02.0	+1.4
KMI				S		**S**		**02 04 54.8**	**+2.8**
KMI				sS		sS		02 05 15.3	-0.2
KMI				PMZ					
	comp=Z,7.0nm,0.7s								
KMI				PMZ					
	comp=Z,46nm,3.1s								
KMI				LN					
	comp=Z,120nm,17.8s								
KMI				LE					
	comp=Z,76nm,17.4s								
KMI				LZ					
	comp=Z,95nm,18.6s								
BRVK	**Borovoye**	**50.79**	**309**	*e*P		**P**		**01 57 39.4**	**-1.7**
BRVK				pmax		pmax			
	comp=Z,6.0nm,0.6s								
BRVK	**Borovoye**	**50.79**	**309**	*e*P		**P**		**01 57 39.4**	**-1.7**
	comp=Z,5.7nm,0.6s								
BSMT	**Bassoo Peak**	**51.76**	**59**	*e*P		**P**		**01 57 49.2**	**+0.5**
	comp=Z,10nm,0.7s								
BLMT	**Blacktail Moun**	**51.88**	**58**	*e*P		**P**		**01 57 50.8**	**+1.2**
JTMT	**Jette**	**52.09**	**59**	*e*P		**P**		**01 57 52.1**	**+1.0**
SWMT	**Swartz Lake**	**52.39**	**59**	*e*P		**P**		**01 57 53.5**	**+0.3**
	comp=Z,1.8nm,0.5s								
MOD	**Modoc**	**52.56**	**68**	*e*P		**P**		**01 57 56.2**	**+1.6**
	comp=Z,4.9nm,0.9s								
SLMT	**Seeley Lake**	**52.83**	**59**	*e*P		**P**		**01 57 57.0**	**+0.5**
	comp=Z,3.4nm,0.6s								
CHMT	**Chamberlain Mo**	**53.16**	**59**	*e*P		**P**		**01 57 59.1**	**0.0**
	comp=Z,0.7nm,0.6s								
ARU	**Arti**	**53.85**	**318**	*d i*P		**P**		**01 58 01.3**	**-2.4**
ARU				S		**S**		**02 05 33.6**	**-0.9**
ARU				pmax		pmax			
	comp=Z,2.0nm,0.6s								
ARU	**Arti**	**53.85**	**318**	*e*P		**P**		**01 58 02.7**	**-1.0**
	comp=Z,3.5nm,0.5s								
ARCES	**ARCESS Array B**	**53.90**	**342**	P		**P**		**01 58 04.1**	**+0.2**
	comp=Z,4.9nm,0.6s,baz=51,slow=8.6,SNR=32								
ARCES				PcP		**PcP**		**01 59 09.5**	**+0.8**
	comp=Z,1.3nm,0.5s,baz=44,slow=3.7,SNR=6.9								
ARCES				LR		LR		02 23 59.0	
	comp=Z,24nm,21.0s,baz=342,slow=39								
FCC	**Fort Churchill**	**54.03**	**38**	*e*P		**P**		**01 58 05.1**	**+0.2**
FCC	**Fort Churchill**	**54.03**	**38**	*e*P		**P**		**01 58 05.1**	**+0.2**
TKM2	**Tokmak 2**	**54.53**	**296**	*e*P		**P**		**01 58 08.0**	**-1.1**
TKM2				pmax		pmax			
	comp=Z,2.0nm,0.5s								
TKM2	**Tokmak 2**	**54.53**	**296**	*e*P		**P**		**01 58 08.0**	**-1.1**
	comp=Z,2.0nm,0.5s								
MCMT	**McKenzie Canyo**	**54.74**	**60**	*e*P		**P**		**01 58 11.2**	**+0.6**
	comp=Z,0.5nm,0.6s								
BOZ	**Bozeman (W)**	**54.84**	**59**	*e*P		**P**		**01 58 12.1**	**+0.9**
BOZ				pmax		pmax			
	comp=Z,5.0nm,0.6s								
BOZ	**Bozeman (W)**	**54.84**	**59**	*e*P		**P**		**01 58 12.1**	**+0.9**
	comp=Z,4.9nm,0.6s								
CMB	**Columbia Colle**	**55.08**	**71**	*e*P		**P**		**01 58 15.0**	**+2.1**
CMB				pmax		pmax			
	comp=Z,4.0nm,1.3s								
CMB	**Columbia Colle**	**55.08**	**71**	*e*P		**P**		**01 58 15.0**	**+2.1**
	comp=Z,4.3nm,1.3s								
BMN	**Battle Mountai**	**55.28**	**67**	*e*P		**P**		**01 58 16.3**	**+1.8**
BMN				pmax		pmax			
	comp=Z,2.0nm,0.8s								
BMN	**Battle Mountai**	**55.28**	**67**	*e*P		**P**		**01 58 16.3**	**+1.8**
	comp=Z,2.3nm,0.8s								
WAKR	**Walker**	**55.31**	**70**	*e*P		**P**		**01 58 16.4**	**+1.6**
	comp=Z,2.6nm,0.7s								
TMCR	**Tamitsa**	**55.35**	**333**	*e*P		**P**		**01 58 15.2**	**+0.9**
TMCR				pmax		pmax			
	comp=Z,21nm,1.2s								
QLMT	**Earthquake Lak**	**55.49**	**60**	*e*P		**P**		**01 58 17.4**	**+1.4**
	comp=Z,0.3nm,0.5s								
EKS2	**Erkin-Say**	**55.70**	**297**	*e*P		**P**		**01 58 16.4**	**-1.0**
EKS2				pmax		pmax			
	comp=Z,7.0nm,0.9s								
EKS2	**Erkin-Say**	**55.70**	**297**	*e*P		**P**		**01 58 16.4**	**-1.0**
	comp=Z,6.7nm,0.9s								
NVAR	**Mina Array Bea**	**56.02**	**70**	P		**P**		**01 58 21.5**	**+1.6**
	comp=Z,3.2nm,0.8s,baz=291,slow=7.7,SNR=24								
NVAR				PcP		**PcP**		**01 59 18.6**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=320,slow=3.6,SNR=2.6								
ELK	**Elko**	**56.18**	**66**	*e*P		**P**		**01 58 22.2**	**+1.2**
ELK				pmax		pmax			
	comp=Z,1.0nm,0.7s								
ELK	**Elko**	**56.18**	**66**	*e*P		**P**		**01 58 22.2**	**+1.2**
	comp=Z,1.4nm,0.7s								
H17A	**Grant Village**	**56.24**	**60**	*e*P		**P**		**01 58 24.2**	**+2.8**
	comp=Z,4.0nm,0.8s								
IMW	**Indian Meadow**	**56.38**	**60**	*e*P		**P**		**01 58 23.9**	**+1.4**
	comp=Z,3.6nm,0.8s								
FLWY	**Flagg Ranch**	**56.38**	**60**	*e*P		**P**		**01 58 24.3**	**+1.9**
	comp=Z,16nm,1.4s								
RLMT	**Red Lodge**	**56.43**	**58**	*e*P		**P**		**01 58 24.1**	**+1.3**
	comp=Z,5.9nm,0.8s								
FXWY	**Fox Creek**	**56.51**	**61**	*e*P		**P**		**01 58 25.2**	**+1.9**
	comp=Z,2.8nm,0.8s								
MOOW	**Moose Ponds**	**56.59**	**60**	*e*P		**P**		**01 58 25.4**	**+1.6**
	comp=Z,2.2nm,0.8s								
TPH	**Tonopah**	**56.88**	**69**	*e*P		**P**		**01 58 27.0**	**+1.0**
TPH				pmax		pmax			
	comp=Z,3.0nm,0.6s								
TPH	**Tonopah**	**56.88**	**69**	*e*P		**P**		**01 58 27.0**	**+1.0**
	comp=Z,3.3nm,0.6s								
HWUT	**Hardware Ranch**	**57.61**	**63**	*e*P		**P**		**01 58 32.7**	**+1.6**
	comp=Z,3.6nm,0.9s								
R11A	**Troy Canyon, C**	**57.62**	**68**	*e*P		**P**		**01 58 31.9**	**+0.7**
	comp=Z,2.2nm,0.8s								
CHTO	**Chiang Mai**	**57.72**	**259**	*e*P		**P**		**01 58 33.3**	**+1.4**
CHTO				pmax		pmax			
	comp=Z,10.0nm,1.0s								
CHTO	**Chiang Mai**	**57.72**	**259**	*e*P		**P**		**01 58 33.3**	**+1.4**
	comp=Z,10.0nm,1.0s								
BW06	**Boulder Array**	**57.89**	**60**	*e*P		**P**		**01 58 34.1**	**+1.0**
	comp=Z,5.5nm,0.9s								
PDAR	**Pinedale Array**	**57.89**	**60**	P		**P**		**01 58 34.2**	**+1.1**
	comp=Z,5.8nm,0.8s,baz=345,slow=3.7,SNR=33								
PDAR				PcP		**PcP**		**01 59 25.7**	**+0.7**
	comp=Z,1.3nm,0.9s,baz=351,slow=2.9,SNR=2.8								
DUG	**Dugway**	**57.90**	**65**	*e*P		**P**		**01 58 34.9**	**+1.8**
DUG				pmax		pmax			
	comp=Z,4.0nm,0.8s								
DUG	**Dugway**	**57.90**	**65**	*e*P		**P**		**01 58 34.9**	**+1.8**
	comp=Z,4.2nm,0.8s								
CMAR	**Chiang Mai Arr**	**58.00**	**258**	P		**P**		**01 58 35.5**	**+1.6**
	comp=Z,6.2nm,0.8s,baz=26,slow=6.6,SNR=20								
CMAR				LR		LR		02 25 03.6	
	comp=Z,33nm,19.1s,baz=80,slow=38								
ABKAR	**Akbulak array**	**58.19**	**311**	*e*P		**P**		**01 58 33.3**	**-1.4**
	comp=Z,1.9nm,0.4s								
TAPN	**Taplejung**	**58.21**	**274**	*e*P		**P**		**01 58 35.8**	**+0.3**
	comp=Z,21nm,0.6s								
NLU	**North Lily Min**	**58.47**	**64**	*e*P		**P**		**01 58 38.9**	**+1.7**
	comp=Z,5.3nm,0.8s								
ODAN	**Odare**	**58.76**	**274**	*e*P		**P**		**01 58 39.4**	**+0.1**
RAMN	**Ramite**	**59.17**	**275**	*e*P		**P**		**01 58 41.7**	**-0.5**
	comp=Z,42nm,0.5s								
ULM	**Lac du Bonnet**	**59.31**	**46**	P		**P**		**01 58 43.1**	**+0.5**
	comp=Z,3.0nm,0.6s,baz=304,slow=8.4,SNR=3.6								
KKN	**Kakani**	**59.37**	**277**	*e*P		**P**		**01 58 43.5**	**0.0**
	comp=Z,18nm,0.5s								
CCUT	**Cedar City**	**59.44**	**67**	*e*P		**P**		**01 58 44.8**	**+0.9**
	comp=Z,3.3nm,0.8s								
PKI	**Pulchoki**	**59.45**	**276**	*e*P		**P**		**01 58 44.0**	**-0.2**
	comp=Z,9.8nm,0.5s								
PKIN	**Phulchoki**	**59.45**	**276**	*e*P		**P**		**01 58 44.0**	**-0.1**
	comp=Z,9.6nm,0.5s								
GKN	**Gorkha**	**59.60**	**277**	*e*P		**P**		**01 58 45.3**	**+0.2**
	comp=Z,15nm,0.7s								
DMN	**Daman**	**59.60**	**277**	*e*P		**P**		**01 58 45.4**	**+0.2**
	comp=Z,11nm,0.4s								
RSSD	**Black Hills**	**59.81**	**56**	*e*P		**P**		**01 58 47.2**	**+0.8**
RSSD				pmax		pmax			
	comp=Z,10.0nm,0.6s								
RSSD	**Black Hills**	**59.81**	**56**	*e*P		**P**		**01 58 47.2**	**+0.8**
	comp=Z,10nm,0.6s								
SRU	**San Rafael**	**59.92**	**64**	*e*P		**P**		**01 58 48.9**	**+1.8**
SRU				pmax		pmax			
	comp=Z,8.0nm,0.7s								
SRU	**San Rafael**	**59.92**	**64**	*e*P		**P**		**01 58 48.9**	**+1.8**
	comp=Z,7.5nm,0.7s								
KOLN	**Koldanda**	**60.40**	**278**	*e*P		**P**		**01 58 50.0**	**-0.6**
	comp=Z,8.7nm,0.5s								
FINES	**FINESS Array B**	**60.71**	**337**	P		**P**		**01 58 52.5**	**+0.6**
	comp=Z,17nm,0.5s,baz=41,slow=7.3,SNR=162								
FINES				LR		LR		02 28 51.8	
	comp=Z,62nm,18.0s,baz=21,slow=40								
PV04	**Paradox Valley**	**61.32**	**64**	*e*P		**P**		**01 58 58.6**	**+1.9**
WUAZ	**Wupatki**	**62.01**	**67**	*e*P		**P**		**01 59 03.2**	**+1.9**
	comp=Z,5.5nm,1.1s								
ISCO	**Idaho Springs**	**62.09**	**60**	*e*P		**P**		**01 59 03.2**	**+1.2**
ISCO				pmax		pmax			
	comp=Z,4.0nm,0.7s								
ISCO	**Idaho Springs**	**62.09**	**60**	*e*P		**P**		**01 59 03.2**	**+1.2**
	comp=Z,3.5nm,0.7s								
MVCO	**Mesa Verde**	**62.39**	**64**	*e*P		**P**		**01 59 05.0**	**+1.0**
	comp=Z,3.5nm,0.7s								
OBN	**Obninsk**	**63.05**	**327**	*e*P		**P**		**01 59 07.4**	**-0.3**
OBN				*e*				01 59 45.8	
OBN				*e*				02 01 28.7	
OBN				*e*S		S		02 07 49.0	+15
OBN				pmax		pmax			
	comp=Z,7.0nm,0.8s								
OBN				MLR		MLR			
	comp=Z,45nm,16.0s								
NB2	**NORSAR Subarra**	**64.16**	**344**	P		**P**		**01 59 15.4**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=21,slow=6.9								
NOA	**NORSAR Array B**	**64.16**	**344**	P		**P**		**01 59 15.6**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=14,slow=7.3,SNR=7.8								
VRHR	**Novokhopersk**	**64.53**	**322**	*e*P		**P**		**01 59 15.6**	**-1.9**
VRHR				pmax		pmax			
	comp=N,10.0nm,0.7s								
VRHR				pmax		pmax			
	comp=Z,10.0nm,0.7s								
VRHR				pmax		pmax			
	comp=E,3.0nm,0.6s								
ANMO	**Albuquerque**	**65.17**	**65**	*e*P		**P**		**01 59 23.3**	**+1.0**
ANMO				*e*				01 59 56.5	
ANMO				pmax		pmax			
	comp=Z,2.0nm,1.1s								
ANMO	**Albuquerque**	**65.17**	**65**	*e*P		**P**		**01 59 23.2**	**+1.0**
	comp=Z,2.2nm,1.1s								
ANMO				*e*PcP		**PcP**		**01 59 56.5**	**+2.1**
LAZ	**Ladron**	**65.20**	**65**	*e*P		**P**		**01 59 24.0**	**+1.6**
	comp=Z,1.1nm,0.9s								
VSR	**Storozhevoye**	**65.34**	**324**	*e*P		**P**		**01 59 22.5**	**-0.3**
VSR				pmax		pmax			
	comp=N,10.0nm,0.8s								
VSR				pmax		pmax			
	comp=E,10.0nm,0.8s								
VSR				pmax		pmax			
	comp=Z,8.0nm,0.8s								
SCHQ	**Schefferville**	**66.26**	**27**	P		**P**		**01 59 28.9**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=293,slow=7.5,SNR=4.2								
GEYT	**Alibeck**	**67.41**	**303**	P		**P**		**01 59 35.7**	**-0.6**
	comp=Z,2.5nm,0.6s,baz=36,slow=2.7,SNR=6.5								
KIEV	**Kiev**	**69.17**	**329**	*c i*P		**P**		**01 59 46.5**	**-0.5**
KIEV				pmax		pmax			
	comp=Z,15nm,1.2s								
KIEV	**Kiev**	**69.17**	**329**	*e*P		**P**		**01 59 46.4**	**-0.5**
	comp=Z,13nm,1.0s								
WMOK	**Wichita Mounta**	**69.48**	**60**	*e*P		**P**		**01 59 49.6**	**+0.3**
WMOK				pmax		pmax			
	comp=Z,7.0nm,1.0s								
WMOK	**Wichita Mounta**	**69.48**	**60**	*e*P		**P**		**01 59 49.6**	**+0.3**
	comp=Z,6.5nm,1.0s								
KBZ	**Khabaz**	**69.98**	**317**	P		**P**		**01 59 52.4**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=31,slow=7.8,SNR=5.0								
TXAR	**Lajitas Array**	**70.34**	**67**	P		**P**		**01 59 59.4**	**+1.0**
	comp=Z,4.9nm,0.5s,baz=298,slow=5.0,SNR=107								
ESK	**Eskdalemuir**	**71.72**	**350**	*e*P		**P**		**02 00 02.1**	**-0.4**
ESK				pmax		pmax			
	comp=Z,7.0nm,0.9s								
ESK	**Eskdalemuir**	**71.72**	**350**	*e*P		**P**		**02 00 02.1**	**-0.4**
	comp=Z,7.2nm,0.9s								
CLL	**Collm**	**72.95**	**339**	*e*P		**P**		**02 00 11.0**	**+1.1**
CLL	**Collm**	**72.95**	**339**	*e*P		**P**		**02 00 10.0**	**+0.1**
BUR08	**Bucovina Ar. S**	**73.10**	**330**	*e*P		**P**		**02 00 11.2**	**+0.2**
BURAR	**Bucovina Array**	**73.12**	**330**	⇓P		**P**		**02 00 11.4**	**+0.3**
BURAR	**Bucovina Array**	**73.12**	**330**	⇓*i*P		**P**		**02 00 11.4**	**+0.3**
TRPA	**Tarpa**	**73.46**	**332**	⇑*i*P		**P**		**02 00 13.8**	**+0.9**
CFR	**Carcaliu**	**74.34**	**327**	⇓P		**P**		**02 00 18.6**	**+0.5**
CFR	**Carcaliu**	**74.34**	**327**	⇓*i*P		**P**		**02 00 18.6**	**+0.5**
MLR	**Muntele Rosu**	**74.79**	**328**	⇓P		**P**		**02 00 22.4**	**+1.5**
MLR	**Muntele Rosu**	**74.79**	**328**	⇓*i*P		**P**		**02 00 22.4**	**+1.5**
TIRR	**Tirgusor**	**74.89**	**326**	⇓P		**P**		**02 00 23.0**	**+1.7**
TIRR	**Tirgusor**	**74.89**	**326**	⇓*i*P		**P**		**02 00 23.0**	**+1.7**
VOIR		**75.12**	**329**	⇑P		**P**		**02 00 24.0**	**+1.2**
VOIR		**75.12**	**329**	⇑*i*P		**P**		**02 00 24.0**	**+1.2**
ARR	**Arges**	**75.31**	**329**	⇓*i*P		**P**		**02 00 25.4**	**+1.5**
MSAB	**Monastry St. A**	**75.41**	**327**	⇑*i*P		**P**		**02 00 25.8**	**+1.5**
WRAB	**Tennant Creek**	**75.45**	**205**	*e*P		**P**		**02 00 24.5**	**-0.2**
WRAB				pmax		pmax			
	comp=Z,6.0nm,0.9s								
WRAB	**Tennant Creek**	**75.45**	**205**	*e*P		**P**		**02 00 24.5**	**-0.2**
	comp=Z,6.2nm,0.9s								
WRA	**Warramunga Arr**	**75.46**	**205**	P		**P**		**02 00 24.7**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=17,slow=5.9,SNR=15								
BZS	**Buzias**	**76.00**	**331**	⇑P		**P**		**02 00 29.5**	**+1.8**
BZS	**Buzias**	**76.00**	**331**	⇑*i*P		**P**		**02 00 29.5**	**+1.8**
KBA	**Koelnbreinsper**	**76.85**	**337**	⇑*i*PcP		P		02 00 37.3	+4.6
	comp=Z,14nm,0.8s								
BR131	**Keskin Array S**	**77.10**	**320**	*e*P		**P**		**02 00 34.1**	**-0.1**
	comp=Z,0.8nm,0.5s								
BRTR	**Keskin Array B**	**77.10**	**320**	P		**P**		**02 00 34.8**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=29,slow=4.0,SNR=13								
BRTR				LR		LR		02 39 02.9	
	comp=Z,24nm,19.1s,baz=36,slow=39								
PALK	**Pallekele**	**77.75**	**266**	*e*P		**P**		**02 00 37.9**	**-0.1**
PALK				pmax		pmax			
	comp=Z,19nm,1.1s								
PALK	**Pallekele**	**77.75**	**266**	*e*P		**P**		**02 00 37.9**	**-0.1**
	comp=Z,19nm,1.1s								
DIVS	**Divibare**	**77.86**	**332**	⇑*i*P		**P**		**02 00 38.5**	**+0.2**
VTS	**Vitosha**	**78.26**	**329**	⇑P		**P**		**02 00 41.5**	**+0.9**
VTS	**Vitosha**	**78.26**	**329**	⇑*i*P		**P**		**02 00 41.5**	**+0.9**
RDO	**Rodhopi**	**78.80**	**327**	*e*P		**P**		**02 00 44.1**	**+0.7**
AS31	**Alice Springs**	**79.13**	**204**	*e*P		**P**		**02 00 45.9**	**+0.7**
ASAR	**Alice Springs**	**79.13**	**204**	P		**P**		**02 00 46.2**	**+1.0**
	comp=Z,2.5nm,0.7s,baz=14,slow=5.4,SNR=20								
NVR	**Nevrokopi**	**79.17**	**328**	*e*P		**P**		**02 00 46.0**	**+0.5**
KNT	**Kendrikon**	**79.65**	**329**	*e*P		**P**		**02 00 48.8**	**+0.7**
GRG	**Griva**	**79.99**	**329**	*e*P		**P**		**02 00 50.6**	**+0.6**
PLG	**Polygyros**	**80.19**	**328**	*e*P		**P**		**02 00 50.5**	**-0.5**
NEST	**Nestorio**	**80.91**	**329**	*e*P		**P**		**02 00 54.9**	**-0.1**
JAN	**Janina**	**81.67**	**329**	*e*P		**P**		**02 00 59.6**	**+0.7**
SGD	**Sagiada**	**81.90**	**330**	*e*P		**P**		**02 01 01.0**	**+0.9**
IGT	**Igoumenitsa**	**81.94**	**330**	*e*P		P		02 00 52.0	-8.3
DSL	**Palaion Diasel**	**82.06**	**329**	*e*P		**P**		**02 01 00.8**	**-0.2**
DSF	**Desfina**	**82.26**	**328**	*e*P		**P**		**02 00 59.4**	**-2.7**
PDO	**Prodromos**	**82.53**	**329**	*e*P		**P**		**02 01 03.1**	**-0.3**
KLV	**Kalavryta, Ach**	**82.72**	**328**	*e*P		**P**		**02 01 03.4**	**-1.1**
EXG	**Exogi**	**82.83**	**329**	*e*P		**P**		**02 01 05.6**	**+0.6**
RLS	**Riolos of Patr**	**82.93**	**328**	*e*P		**P**		**02 01 05.4**	**-0.1**
DRO	**Drossia**	**82.95**	**328**	*e*P		**P**		**02 01 06.0**	**+0.4**
TIP	**Timpagrande**	**83.33**	**332**	*e*P		**P**		**02 01 06.2**	**-1.4**
	comp=Z,4.7nm,1.1s								
ITM	**Ithomi**	**83.58**	**328**	*e*P		**P**		**02 01 08.1**	**-0.8**
ESDC	**Sonseca Array**	**87.22**	**348**	P		**P**		**02 01 27.7**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=4.4,slow=4.3,SNR=15								
ESDC				LR		LR		02 43 48.7	
	comp=Z,8.9nm,19.1s,baz=240,slow=38								
KEST	**Kesra**	**88.55**	**337**	P		**P**		**02 01 34.0**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=315,slow=4.0,SNR=4.3								
KEST				LR		LR		02 47 06.4	
	comp=Z,29nm,18.3s,baz=303,slow=40								
TRQA	**Tornquist**	**147.63**	**81**	*e*PKPbc		**PKPbc**		**02 08 24.6**	**+0.1**

ISCJB ***30*** *01:56:10.6±0.2,48°.807N±0°.008×7°.58E±0°.01,h8km±1km, Error ellipse: s-maj=1.6km s-min=1.3km az=13.8*
CSEM ***30*** *01:56:11.6±0.1,48°.81N×7°.64E,h10km,ML3.7/20, Error ellipse: s-maj=1.8km s-min=1.6km az=118.0*
LDG ***30*** *01:56:12.7±0.0,48°.81N×7°.69E,h10km,Md3.6/3,Ml3.6/45, Error ellipse: s-maj=1.0km s-min=0.8km az=147.0*
STR ***30*** *01:56:12.2±0.1,48°.81N×7°.72E,h10km,Ml3.4, Error ellipse: s-maj=0.0km s-min=0.0km az

SWS Sg Sg 01 56 43.7 +0.1
RUP Ruppelstein 0.98 337⇓eP Pn 01 56 31.6 +0.6
RUP Ruppelstein 0.98 337 Pg Pn 01 56 31.5 +0.5
TUBL Tuebingen-Lenn 0.99 106 Pg Pn 01 56 31.2 +0.1
MOF Molkenrain 1.01 200 P Pg 01 56 31.3 -0.3
MOF Molkenrain 1.01 200 Pg Pg 01 56 31.2 -0.3
MOF Sg Sn 01 56 45.9 +0.7
MOF Molkenrain 1.01 200 Pg Pg 01 56 31.2 -0.3
MOF Sg Sn 01 56 45.9 +0.7
STU Stuttgart 1.02 91 P Pb 01 56 31.1 -0.1
STU Pg Pn 01 56 31.7 +0.1
STU eSg Sb 01 56 44.3 -0.1
SPAK Spaichingen-Ko 1.03 132 P Pg 01 56 31.7 -0.2
SPAK Spaichingen-Ko 1.03 132 Pg Pb 01 56 31.4 0.0
SPAK Sg Sn 01 56 45.5 -0.2
RIVT Riveris 1.08 328 Pg Pg 01 56 33.4 +0.5
RIVT Sg Sn 01 56 47.6 +0.8
ABH Alteburg 1.09 357 P Pn 01 56 32.9 +0.4
ABH ⇑iPg Pg 01 56 33.5 +0.5
ABH Sg Sg 01 56 47.7 +0.5
TOD Tromm 1.11 43 P Pb 01 56 31.8 -0.9
TOD Pg Pn 01 56 33.1 +0.3
TOD Tromm 1.11 43 Pg Pb 01 56 31.7 -0.9
TOD Sg Sb 01 56 47.6 +0.8
HINF Hinteralfeld 1.12 209 ePn Pb 01 56 32.7 -0.1
HINF Hinteralfeld 1.12 209 ePg Pg 01 56 33.6 0.0
HINF eSn Sg 01 56 47.7 -0.5
HINF eSg Sn 01 56 48.9 +1.1
1µm,0.2s
HINF Hinteralfeld 1.12 209 ePn Pb 01 56 32.7 -0.1
HINF Hinteralfeld 1.12 209 ePg Pg 01 56 33.6 0.0
HINF eSn Sg 01 56 47.7 -0.5
HINF eSg Sn 01 56 48.9 +1.1
536nm,0.2s
HAU Haudompre 1.18 228 ePn Pn 01 56 33.9 +0.3
HAU Haudompre 1.18 228 ePg Pg 01 56 35.2 +0.5
HAU eSg Sg 01 56 50.7 +0.7
373nm,0.2s
HAU Haudompre 1.18 228 ePn Pn 01 56 33.9 +0.3
HAU Haudompre 1.18 228 ePg Pg 01 56 35.2 +0.5
HAU eSg Sg 01 56 50.7 +0.7
187nm,0.2s
SLE Schleitheim 1.18 151 P Pn 01 56 33.6 -0.2
SLE Pg Pg 01 56 34.8 +0.1
SLE Schleitheim 1.18 151⇓iPn Pn 01 56 33.5 -0.2
2µm,0.3s
SLE Schleitheim 1.18 151⇓iPn Pn 01 56 33.5 -0.2
2µm,0.3s
BUCH Bad Urach 1.18 107⇑iP Pn 01 56 33.5 -0.2
BUCH Sg Sg 01 56 49.9 -0.4
GUT Gutenstein 1.22 126⇓iP Pn 01 56 34.2 0.0
THEF They Montfort 1.24 243⇑iP Pb 01 56 35.1 +0.2
THEF They Montfort 1.24 243 Pn Pn 01 56 34.8 +0.2
THEF They Montfort 1.24 243 Pg Pg 01 56 36.9 +0.9
THEF Sg Sg 01 56 53.9 +1.7
THEF They Montfort 1.24 243 Pn Pn 01 56 34.8 +0.2
THEF They Montfort 1.24 243 Pg Pg 01 56 36.9 +0.9
THEF Sg Sg 01 56 53.9 +1.7
ACHB Acheberg 1.28 161 ePn Pn 01 56 35.0 0.0
1µm,0.3s
ACHB Acheberg 1.28 161 ePn Pn 01 56 35.0 0.0
1µm,0.3s
PAGF Fort de Pagny 1.30 260 ePn Pb 01 56 36.3 +0.4
baz=80
PAGF Fort de Pagny 1.30 260 ePg Pg 01 56 37.4 +0.4
baz=84
PAGF eSn Sb 01 56 52.5 +0.3
PAGF eSg Sg 01 56 54.6 +0.7
93nm,0.3s
PAGF Fort de Pagny 1.30 260 ePn Pb 01 56 36.3 +0.4
PAGF Fort de Pagny 1.30 260 ePg Pg 01 56 37.4 +0.4
PAGF eSn Sb 01 56 52.5 +0.3
PAGF eSg Sg 01 56 54.6 +0.7
46nm,0.3s
WLF Walferdange 1.31 312 P Pb 01 56 36.9 +0.8
WLF S Sg 01 56 54.9 +0.6
comp=N,308nm,0.3s
WLF Walferdange 1.31 312 eSg Sg 01 56 54.6 +0.3
WLF Walferdange 1.31 312 P Pb 01 56 36.9 +0.8
WLF S Sg 01 56 54.8 +0.6
comp=N,308nm,0.3s
SULZ Cheisacher 1.31 166 ⇑P Pn 01 56 35.5 0.0
SULZ Cheisacher 1.31 166 ePn Pn 01 56 35.4 -0.1
comp=N,1µm,0.3s
SULZ Cheisacher 1.31 166 ePn Pn 01 56 35.4 -0.1
comp=N,1µm,0.3s
BBS Basel-Blauen 1.34 184 ePn Pn 01 56 36.1 +0.2
BBS Basel-Blauen 1.34 184 Pn Pn 01 56 35.7 -0.2
BBS Basel-Blauen 1.34 184 Pg Pg 01 56 38.2 +0.4
BBS Sg Sg 01 56 55.8 +0.6
SIND Sindeldorf 1.40 66⇑iPn Pn 01 56 35.9 -0.8
SISB Singen-Schiene 1.42 141 Pg Pg 01 56 39.5 +0.2
BGG Burgeitz 1.42 352 ePn Pb 01 56 38.3 +0.3
BGG eSn Sb 01 56 56.5 +0.7
comp=N,157nm,0.7s
BOURR Bourrignon 1.43 191 P Pn 01 56 37.4 +0.1
BOURR Bourrignon 1.43 191 ePn Pn 01 56 37.3 +0.1
comp=N,776nm,0.7s
BOURR Bourrignon 1.43 191 ePn Pn 01 56 37.3 +0.1
comp=N,776nm,0.7s
BALST Balsthal 1.46 179 ⇑P Pn 01 56 37.7 +0.1
BALST Pg Pg 01 56 40.9 +0.7
BALST Balsthal 1.46 179 ePn Pn 01 56 37.7 +0.1
comp=N,919nm,0.3s
BALST Balsthal 1.46 179 ePn Pn 01 56 37.7 +0.1
comp=N,919nm,0.3s
TNS Taunus Mts 1.52 20 P Pn 01 56 38.1 -0.3
TNS ePg Pg 01 56 40.8 -0.4
TNS eSg Sb 01 56 59.6 +1.0
LOMF Lomont 1.55 201 P Pn 01 56 39.1 +0.2
LOMF Lomont 1.55 201 Pn Pn 01 56 38.7 -0.1
LOMF Lomont 1.55 201 Pg Pg 01 56 42.1 +0.3
LOMF Sg Sg 01 57 03.1 +1.2
LOMF Lomont 1.55 201 Pn Pn 01 56 38.7 -0.1
LOMF Lomont 1.55 201 Pg Pg 01 56 42.1 +0.3
LOMF Sg Sg 01 57 03.1 +1.2
FACH Fachingen 1.58 8 P Pn 01 56 39.0 -0.1
FACH Pg Pg 01 56 42.1 -0.2
FACH Sg Sg 01 57 02.5 -0.3
HILG Hillesheim 1.62 337 ePn Pb 01 56 41.3 -0.1
KOE Koeppel 1.63 2 ePn Pn 01 56 41.0 +1.1
KOE eSn Sb 01 57 02.2 +0.4
comp=N,179nm,0.5s
BLI Bleialf 1.69 329 Pg Pb 01 56 42.9 +0.4
BLI Sg Sb 01 57 05.3 +1.8
BLI Bleialf 1.69 329 Pg Pb 01 56 42.9 +0.4
BLI Sg Sb 01 57 05.3 +1.8
HDH Heidenheim-Cha 1.71 96 P Pn 01 56 40.7 -0.3
HDH Pg Pg 01 56 44.5 -0.4
HDH Heidenheim-Cha 1.71 96 P Pn 01 56 40.7 -0.3
MEZF Maizieres J'vi 1.75 261 ePn Pn 01 56 42.3 +0.9
baz=72
MEZF Maizieres J'vi 1.75 261 ePg Pg 01 56 45.4 -0.1
baz=76
MEZF eSn Sn 01 57 03.3 0.0
MEZF eSg Sg 01 57 08.5 +0.3
comp=N,106nm,0.3s
MEZF Maizieres J'vi 1.75 261 ePn Pn 01 56 42.3 +0.9
MEZF Maizieres J'vi 1.75 261 ePg Pg 01 56 45.4 -0.1
MEZF eSn Sn 01 57 03.3 0.0
MEZF eSg Sg 01 57 08.5 +0.3
comp=N,53nm,0.3s
SFTF Sexfontaines 1.83 252 ePn Pn 01 56 43.3 +0.6
baz=79
SFTF Sexfontaines 1.83 252 ePg Pg 01 56 47.0 -0.2
baz=80
SFTF eSg Sg 01 57 11.3 +0.3
comp=N,191nm,0.2s,baz=80
SFTF Sexfontaines 1.83 252 ePn Pn 01 56 43.3 +0.6
SFTF Sexfontaines 1.83 252 ePg Pg 01 56 47.0 -0.2
SFTF eSg Sg 01 57 11.3 +0.3
comp=N,95nm,0.2s
STB Steinbach 1.87 344 ePn Pn 01 56 44.3 +1.1
STB Steinbach 1.87 344 Pn Pn 01 56 44.3 +1.1
BIW Bindweide 1.94 4 P Pn 01 56 44.6 +0.5
BIW Pg Pb 01 56 48.2 +1.4
BIW Sg Sg 01 57 15.1 +0.8
BIW Bindweide 1.94 4 P Pn 01 56 44.6 +0.5
MUO Muotathal 1.95 160⇑iPn Pn 01 56 45.3 +0.9
comp=N,843nm,0.7s
MUO Muotathal 1.95 160⇑iPn Pn 01 56 45.3 +0.9
comp=N,843nm,0.7s
UBR Ueberruh 1.99 123 P Pn 01 56 45.9 +1.0
UBR Ueberruh 1.99 123 P Pn 01 56 45.9 +1.0
BNALP Bannalp 2.00 165 ePn Pn 01 56 45.4 +0.3
comp=N,205nm,1.1s
BNALP Bannalp 2.00 165 ePn Pn 01 56 45.4 +0.3
comp=N,205nm,1.1s
BRANT Les Verrieres 2.02 203 ePn Pn 01 56 45.8 +0.5
comp=N,462nm,0.5s
BRANT Les Verrieres 2.02 203 ePn Pn 01 56 45.8 +0.5
comp=N,462nm,0.5s
KLL Kalltalsperre 2.04 335 ePn Pn 01 56 46.6 +1.0
KLL Kalltalsperre 2.04 335 Pn Pn 01 56 46.6 +1.0
TORNY Torny/Romont 2.08 193 ePn Pn 01 56 46.4 +0.3
comp=N,415nm,0.3s
TORNY Torny/Romont 2.08 193 ePn Pn 01 56 46.4 +0.3
comp=N,415nm,0.3s
DREG Dreilaegerbach 2.08 334 ePn Pn 01 56 47.1 +1.1
DREG Dreilaegerbach 2.08 334 Pn Pn 01 56 47.1 +1.1
MEM Membach 2.10 330 ⇑PN Pn 01 56 47.5 +1.1
MEM PG Pg 01 56 52.1 -0.1
MEM SN Sn 01 57 10.2 -1.8
MEM SG Sg 01 57 18.1 -1.5
comp=Z,76nm,0.4s
MEM Membach 2.10 330 P Pn 01 56 47.4 +1.1
MEM Membach 2.10 330 P Pn 01 56 47.4 +1.1
DAVA Damuels 2.13 134 Pn Pn 01 56 48.2 +1.3
DAVA Damuels 2.13 134⇓iPn Pn 01 56 48.2 +1.3
DAVA ⇓iSn Sg 01 57 19.6 -0.9
HOBG Hohbusch 2.20 355 ePn Pn 01 56 48.5 +0.9
HOBG Hohbusch 2.20 355 Pn Pn 01 56 48.5 +0.9
OBER Oberstdorf 2.25 127 P Pn 01 56 50.1 +1.6
OBER Oberstdorf 2.25 127 P Pn 01 56 50.1 +1.6
GIVF Givet 2.26 306 ePn Pn 01 56 49.5 +1.0
GIVF Givet 2.26 306 ePg Pg 01 56 54.7 -0.6
GIVF eSg Sg 01 57 23.2 -1.4
comp=Z,93nm,0.2s
GIVF Givet 2.26 306 ePn Pn 01 56 49.5 +1.0
GIVF Givet 2.26 306 ePg Pg 01 56 54.7 -0.6
GIVF eSg Sg 01 57 23.2 -1.4
comp=Z,46nm,0.2s
HGN Heimansgroeve 2.26 331 ePn Pn 01 56 49.8 +1.3
HGN ePg Pg 01 56 54.5 -0.8
HGN eSg Sb 01 57 22.7 +2.8
BEBN Eben Emael 2.37 328 PN Pn 01 56 51.8 +1.8
BEBN PG Pg 01 56 58.3 +0.9
BEBN SN Sn 01 57 17.9 -0.8
BEBN SG Sb 01 57 18.1 -5.0
comp=Z,33nm,0.2s
BEBN Eben Emael 2.37 328 Pn Pn 01 56 51.8 +1.8
DOU Dourbes 2.38 304 PN Pn 01 56 52.1 +1.9
DOU PG Pg 01 56 57.3 -0.3
DOU SN Sn 01 57 19.1 +0.2
DOU SG Sg 01 57 26.9 -1.5
comp=N,62nm,0.4s
DOU Dourbes 2.38 304 Pn Pn 01 56 52.0 +1.9
LKBD Leukerbad 2.41 180 ePn Pn 01 56 51.4 +0.6
comp=N,67nm,0.3s
LKBD Leukerbad 2.41 180 ePn Pn 01 56 51.4 +0.6
comp=N,67nm,0.3s
CABF La Chapelle 2.43 206 ePn Pn 01 56 50.8 -0.1
CABF La Chapelle 2.43 206 ePg Pg 01 56 58.3 -0.2
CABF eSn Sn 01 57 19.9 -0.4
CABF eSg Sg 01 57 29.9 -0.1
comp=N,72nm,0.4s
CABF La Chapelle 2.43 206 ePn Pn 01 56 50.8 -0.1
CABF La Chapelle 2.43 206 ePg Pg 01 56 58.3 -0.2
CABF eSn Sn 01 57 19.9 -0.4
CABF eSg Sg 01 57 29.9 -0.1
comp=N,36nm,0.4s
GIMEL St. Georges / 2.45 203⇑iPn Pn 01 56 51.4 +0.2
comp=N,442nm,0.2s
GIMEL St. Georges / 2.45 203⇑iPn Pn 01 56 51.4 +0.2
comp=N,442nm,0.2s
RETA Reutte 2.46 121 Pn Pn 01 56 52.7 +1.3
RETA Reutte 2.46 121⇑iPn Pn 01 56 52.7 +1.3
FUR Furstenfeldbru 2.50 103 ePn Pn 01 56 52.2 +0.4
FUR ePg Pg 01 56 59.5 -0.3
FUR eSg Sg 01 57 31.0 -1.2
FUR Furstenfeldbru 2.50 103 Pn Pn 01 56 52.2 +0.4
FUR Furstenfeldbru 2.50 103 Pg Pg 01 56 59.5 -0.3
FUR Sg Sg 01 57 31.0 -1.2
GRA1 Grafenberg Arr 2.51 68 Pn Pn 01 56 52.0 +0.1
GRA1 Sg Sb 01 57 29.8 +2.8
GRF Grafenberg Arr 2.51 68 ePn Pn 01 56 52.0 +0.1
GRF eSg Sb 01 57 29.8 +2.8
BAIF Baives 2.58 301 ePn Pn 01 56 54.5 +1.7
BAIF Baives 2.58 301 ePg Pg 01 57 00.4 -0.9
BAIF eSg Sg 01 57 33.2 -1.5
comp=N,128nm,0.5s
BAIF Baives 2.58 301 ePn Pn 01 56 54.5 +1.7
BAIF Baives 2.58 301 ePg Pg 01 57 00.4 -0.9
BAIF eSg Sg 01 57 33.2 -1.5
comp=N,64nm,0.5s
LAUG Laupendahl 2.59 350 ePn Pn 01 56 54.2 +1.1
LAUG Laupendahl 2.59 350 Pn Pn 01 56 54.2 +1.1
BUG Bochum--Univer 2.66 355 ePn Pn 01 56 55.4 +1.5
BUG eSg Sg 01 57 35.5 -1.7
FETA Feichten 2.73 129 Pn Pn 01 56 56.5 +1.4
SNR=4.5
FETA Feichten 2.73 129⇑ePn Pn 01 56 56.5 +1.4
SNR=4.5
FETA ⇓iSn Sb 01 57 33.9 +0.2
MOTA Moosalm 2.74 121 Pn Pn 01 56 56.4 +1.2
SNR=48
MOTA Moosalm 2.74 121 ePn Pn 01 56 56.4 +1.2
SNR=48
MOTA ⇓iSn Sb 01 57 35.0 +1.3
SATI Passo dei Sala 2.93 177 P Pn 01 57 00.0 +2.0
LOR Lormes 2.97 240 ePn Pn 01 56 58.1 -0.2
baz=63
LOR Lormes 2.97 240 ePg Pg 01 57 08.3 -0.5
baz=67
LOR eSg Sg 01 57 46.8 -0.5
comp=N,107nm,0.2s,baz=62
LOR Lormes 2.97 240 ePn Pn 01 56 58.1 -0.2
LOR Lormes 2.97 240 ePg Pg 01 57 08.3 -0.5
LOR eSg Sg 01 57 46.8 -0.5
comp=N,54nm,0.2s
WATA Walderalm 3.01 118 Pn Pn 01 57 00.6 +1.6
SNR=13
WATA Walderalm 3.01 118⇑iPn Pn 01 57 00.6 +1.6
SNR=13
WATA ⇓iSn Sb 01 57 41.2 -0.5
WTTA Wattenberg 3.09 118 Pn Pn 01 57 01.9 +1.9
SNR=11
WTTA Wattenberg 3.09 118⇓iPn Pn 01 57 01.9 +1.9
SNR=11
MANZ Manzenberg 3.15 66 ePn Pn 01 57 02.0 +1.3
MANZ Manzenberg 3.15 66 Pn Pn 01 57 02.0 +1.3
MOX Moxa 3.17 53 ePn Pn 01 57 00.5 -0.5
MOX Moxa 3.17 53 Pn Pn 01 57 00.5 -0.5
CIRO Champorcher 3.20 181 P Pn 01 57 03.6 +1.9
WTSB Winterswijk 3.22 351 ePn Pn 01 57 03.3 +1.7
WTSB ePg Pg 01 57 12.3 -1.3
WTSB eSg Sg 01 57 52.0 -3.3
WTSB Winterswijk 3.22 351 ePn Pn 01 57 03.3 +1.7
WTSB Winterswijk 3.22 351 ePg Pg 01 57 12.3 -1.3
WTSB eSg Sg 01 57 52.0 -3.3
SSF Saint Saulge 3.28 240 ePn Pn 01 57 02.3 -0.3
SSF Saint Saulge 3.28 240 ePg Pg 01 57 14.1 -0.7
SSF eSg Sg 01 57 56.5 -0.8
comp=N,77nm,0.4s
SSF Saint Saulge 3.28 240 ePn Pn 01 57 02.3 -0.3
SSF Saint Saulge 3.28 240 ePg Pg 01 57 14.1 -0.7
SSF eSg Sg 01 57 56.5 -0.8
comp=N,38nm,0.4s
TRAV Traversella 3.29 179 P Pn 01 57 05.9 +3.2
LPL La Plagne 3.34 191 ePn Pn 01 57 04.2 +0.6
LPL eSg Sg 01 57 58.4 -0.9
comp=N,13nm,0.3s
LPL La Plagne 3.34 191 ePn Pn 01 57 04.2 +0.6
LPL eSg Sg 01 57 58.4 -0.9
comp=N,6.3nm,0.3s
SMF Signal de Mont 3.35 231 ePn Pn 01 57 02.5 -1.1
SMF Signal de Mont 3.35 231 ePg Pg 01 57 15.7 -0.5
SMF eSg Sg 01 57 58.7 -0.9
comp=N,86nm,0.2s
SMF Signal de Mont 3.35 231 ePn Pn 01 57 02.5 -1.1
SMF Signal de Mont 3.35 231 ePg Pg 01 57 15.7 -0.5
SMF eSg Sg 01 57 58.7 -0.9
comp=N,43nm,0.2s
LPG La Plagne 3.36 191 ePn Pn 01 57 04.6 +0.7
LPG eSg Sg 01 57 59.1 -0.7
comp=N,18nm,0.4s
LPG La Plagne 3.36 191 ePn Pn 01 57 04.6 +0.7
LPG eSg Sg 01 57 59.1 -0.7
comp=N,9.1nm,0.4s
LSD Lago del Serru 3.36 186 P Pn 01 57 05.4 +1.5
PLN Plauen 3.38 58 ePg Pb 01 57 13.9 +2.5
PLN Plauen 3.38 58 Pg Pb 01 57 13.9 +2.5
NKC Novy Kostel 3.44 64 ePN Pn 01 57 06.0 +1.2
NKC ePG Pb 01 57 14.8 +2.4
NKC eSG Sg 01 57 58.8 -3.6
comp=N,50nm,0.3s
NKC Novy Kostel 3.44 64 Pn Pn 01 57 06.0 +1.2
NKC Novy Kostel 3.44 64 Pg Pb 01 57 14.8 +2.4
NKC Sg Sg 01 57 58.8 -3.6
comp=N,50nm,0.3s
WET Wettzell 3.46 82 ePg Pg 01 57 16.8 -1.5
WET Wettzell 3.46 82 Pg Pg 01 57 16.8 -1.5
AVF Avril sur Loir 3.52 237 ePn Pn 01 57 05.3 -0.6
AVF Avril sur Loir 3.52 237 ePg Pg 01 57 19.1 -0.3
AVF eSn Sn 01 57 45.7 -1.4
AVF eSg Sg 01 58 04.0 -1.1
comp=N,36nm,0.3s
AVF Avril sur Loir 3.52 237 ePn Pn 01 57 05.3 -0.6
AVF Avril sur Loir 3.52 237 ePg Pg 01 57 19.1 -0.3
AVF eSg Sg 01 58 04.0 -1.1
comp=N,18nm,0.3s
NEUB Neuenburg 3.59 46 ePg Pg 01 57 19.2 -1.6
NEUB Neuenburg 3.59 46 Pg Pg 01 57 19.2 -1.6
RJOB Jochberg 3.60 105 ePn Pn 01 57 08.9 +1.9
RJOB Jochberg 3.60 105 Pn Pn 01 57 08.9 +1.9
RSP Reno Superiore 3.66 184 P Pn 01 57 09.8 +1.9
HYF Humbligny 3.69 247 ePn Pn 01 57 08.0 -0.2
HYF Humbligny 3.69 247 ePg Pg 01 57 21.2 -1.5
HYF eSg Sg 01 58 09.5 -1.0
HYF Humbligny 3.69 247 ePn Pn 01 57 08.0 -0.2
HYF Humbligny 3.69 247 ePg Pg 01 57 21.2 -1.5
HYF eSg Sg 01 58 09.5 -1.0
ABTA Abfaltersbach 3.87 120 Pn Pn 01 57 13.5 +2.8
SNR=6.8
ABTA Abfaltersbach 3.87 120⇑iPn Pn 01 57 13.5 +2.8
SNR=6.8
KHC Kasperske Hory 3.92 83 ePN Pn 01 57 12.0 +0.6
KHC ePG Pb 01 57 23.2 +2.6
KHC eSN Sn 01 57 55.5 -1.5
KHC eSG Sg 01 58 13.9 -3.9
KHC Kasperske Hory 3.92 83 Pn Pn 01 57 12.0 +0.6
PLDF La Plantade 3.94 226 Pn Pn 01 57 11.0 -0.6
PLDF La Plantade 3.94 226 Pg Pg 01 57 27.6 +0.3
PLDF Sg Sg 01 58 21.9 +3.6
PLDF La Plantade 3.94 226 Pn Pn 01 57 11.0 -0.6
PLDF La Plantade 3.94 226 Pg Pg 01 57 27.6 +0.3
PLDF Sg Sg 01 58 21.9 +3.6
BGF Bois d'Agland 3.94 237 ePn Pn 01 57 10.9 -0.7
BGF Bois d'Agland 3.94 237 ePg Pg 01 57 26.8 -0.6
BGF eSg Sg 01 58 17.0 -1.5
comp=N,119nm,0.4s
BGF Bois d'Agland 3.94 237 ePn Pn 01 57 10.9 -0.7
BGF Bois d'Agland 3.94 237 ePg Pg 01 57 26.8 -0.6
MENF Mencas 3.98 298 Pn Pn 01 57 11.9 -0.2
MENF Sg Sg 01 58 23.0 +3.4
MENF Mencas 3.98 298 Pn Pn 01 57 11.9 -0.2
MENF Sg Sg 01 58 23.0 +3.4
ORIF Oris-en-Rattie 4.07 198 ePn Pn 01 57 13.6 +0.2
ORIF eSg Sg 01 58 20.9 -1.6
comp=N,25nm,0.4s
ORIF Oris-en-Rattie 4.07 198 ePn Pn 01 57 13.6 +0.2
ORIF eSg Sg 01 58 20.9 -1.6
comp=N,12nm,0.4s
MBDF Montbardon 4.12 189 ePn Pn 01 57 14.8 +0.6
MBDF eSg Sg 01 58 22.5 -1.6
comp=N,22nm,0.7s
MBDF Montbardon 4.12 189 ePn Pn 01 57 14.8 +0.6
MBDF eSg Sg 01 58 22.5 -1.6
comp=N,11nm,0.7s
FBE Freiberg 4.26 58 eSg Sg 01 58 24.9 -3.7
FBE Freiberg 4.26 58 Sg Sg 01 58 24.9 -3.7
CLL Collm 4.27 52 ePn Pn 01 57 16.0 -0.1
CLL e 01 57 27.0
CLL ePg Pg 01 57 31.0 -2.6
CLL i Sg Sg 01 58 26.5 -2.4
comp=Z,28nm,0.4s
PZZ Stroppo 4.31 185 P Pn 01 57 18.5 +1.7
CFF Clermont-Ferra 4.33 227 Pg Pg 01 57 35.3 +0.4
CFF Clermont-Ferra 4.33 227 Pg Pg 01 57 35.3 +0.4
PYM Petit Puy Mans 4.39 228 Pn Pn 01 57 17.5 -0.4
PYM Petit Puy Mans 4.39 228 Pg Pg 01 57 36.3 +0.3
PYM Sg Sg 01 58 37.6 +4.8
PYM Petit Puy Mans 4.39 228 Pn Pn 01 57 17.5 -0.4
PYM Petit Puy Mans 4.39 228 Pg Pg 01 57 36.3 +0.3
PYM Sg Sg 01 58 37.6 +4.8
VIVF Saint-Julien-l 4.44 208 ePn Pn 01 57 17.1 -1.4
VIVF eSg Sg 01 58 32.8 -1.7
comp=Z,18nm,0.3s
VIVF Saint-Julien-l 4.44 208 ePn Pn 01 57 17.1 -1.4
TCF Toulx Ste Croi 4.46 238 ePn Pn 01 57 17.8 -0.9
TCF Toulx Ste Croi 4.46 238 ePg Pg 01 57 36.1 -1.2
TCF eSn Sn 01 58 07.4 -2.8
TCF eSg Sg 01 58 33.2 -1.8
comp=Z,55nm,0.4s
TCF Toulx Ste Croi 4.46 238 ePn Pn 01 57 17.8 -0.9
TCF Toulx Ste Croi 4.46 238 ePg Pg 01 57 36.1 -1.2
MOA Molln 4.52 100 Pn Pn 01 57 20.9 +1.3
SNR=6.8
MOA Molln 4.52 100⇑iPn Pn 01 57 20.9 +1.3
SNR=6.8
BRG Berggiesshubel 4.57 61 PG Pg 01 57 36.7 -2.8
BRG SG Sg 01 58 35.7 -3.0
comp=Z,19nm,0.4s
VERF Verneugheol 4.65 231 Pg Pg 01 57 40.1 -0.9
VERF Verneugheol 4.65 231 Pg Pg 01 57 40.1 -0.9
PRU Pruhonice 4.66 73 ePN Pn 01 57 22.5 +1.1
PRU ePG Pb 01 57 36.0 +2.9
PRU eSG Sg 01 58 38.7 -2.7
PRU Pruhonice 4.66 73 Pn Pn 01 57 22.5 +1.1
LBL Lubilhac 4.67 222 Pn Pn 01 57 20.9 -0.8
LBL Lubilhac 4.67 222 Pg Pg 01 57 41.3 0.0
LBL Sg Sg 01 58 46.8 +5.1
LBL Lubilhac 4.67 222 Pn Pn 01 57 20.9 -0.8
LBL Lubilhac 4.67 222 Pg Pg 01 57 41.3 0.0
LBL Sg Sg 01 58 46.8 +5.1
GOPC GO Pecny, Ondr 4.80 74 ePN Pn 01 57 24.3 +0.9
GOPC GO Pecny, Ondr 4.80 74 Pn Pn 01 57 24.3 +0.9
PVCC Panska Ves 4.82 66 ePN Pn 01 57 24.8 +1.2
PVCC eSG Sg 01 58 43.9 -2.6
PVCC Panska Ves 4.82 66 Pn Pn 01 57 24.8 +1.2
PVCC Sg Sg 01 58 43.9 -2.6
CADS Cadrg 4.86 120 i Pn Pn 01 57 26.3 +2.0
CADS Cadrg 4.86 120 i Pn Pn 01 57 26.3 +2.0
SBF Sospel 4.94 182 ePn Pn 01 57 25.8 +0.4
SBF eSn Sn 01 58 19.3 -2.8
comp=Z,8.7nm,0.5s
SBF Sospel 4.94 182 ePn Pn 01 57 25.8 +0.4
SMRF Simiane la Rot 5.03 197 ePn Pn 01 57 27.0 +0.3
SMRF eSn Sn 01 58 21.2 -3.2
comp=Z,3.4nm,0.3s
SMRF Simiane la Rot 5.03 197 ePn Pn 01 57 27.0 +0.3
LDF La Druitiere 5.15 271 ePn Pn 01 57 29.1 +0.9
LDF eSg Sg 01 58 54.4 -2.8
comp=Z,27nm,0.6s
LDF La Druitiere 5.15 271 ePn Pn 01 57 29.1 +0.9
JAVS Javornik 5.24 121 i Pn Pn 01 57 31.1 +1.6
JAVS i Sn Sn 01 58 30.1 +0.5
JAVS Javornik 5.24 121 i Pn Pn 01 57 31.1 +1.6
JAVS i Sn Sn 01 58 30.1 +0.5
FRF La Foret Royal 5.29 188 ePn Pn 01 57 30.0 -0.1
FRF eSn Sn 01 58 26.8 -3.8
comp=Z,2.1nm,0.3s
FRF La Foret Royal 5.29 188 ePn Pn 01 57 30.0 -0.1
FLN La Foliniere 5.38 273 ePn Pn 01 57 32.2 +0.9
baz=97
FLN eSn Sn 01 58 30.4 -2.3
FLN eSg Sg 01 59 01.3 -3.1
comp=Z,20nm,0.4s
LASF Ste Croix 5.40 210 ePn Pn 01 57 30.6 -1.1
LASF eSg Sg 01 59 02.3 -2.9
comp=Z,26nm,0.5s
CAF Calviac 5.45 227 ePn Pn 01 57 31.6 -0.7
CAF Calviac 5.45 227 ePg Pg 01 57 54.0 -2.2
CAF eSg Sg 01 59 03.9 -2.8
comp=Z,19nm,0.4s
RJF Les Rejaudoux 5.46 232 ePn Pn 01 57 31.7 -0.7
RJF Les Rejaudoux 5.46 232 ePg Pg 01 57 54.1 -2.3
RJF eSg Sg 01 59 04.1 -2.9

comp=Z,14nm,0.3s
LMR La Mourre 5.52 189 *e*Pn **Pn** 01 57 33.6 **+0.3**
LMR *e*Sn **Sn** 01 58 33.2 **-3.2**
comp=Z,1.4nm,0.3s
CONA Conrad Observa 5.54 96⇓ *i*Pn **Pn** 01 57 34.7 **+1.0**
SNR=4.7
GRR Gorron 5.66 269 *e*Pn **Pn** 01 57 35.9 **+0.7**
GRR *e*Sn **Sn** 01 58 35.3 **-4.4**
GRR *e*Sg **Sg** 01 59 10.5 **-3.0**
comp=Z,8.9nm,0.2s
MFF Saint Martin d 5.70 250 *e*Pn **Pn** 01 57 35.1 **-0.7**
MFF *e*Sn **Sn** 01 58 37.0 **-3.8**
MFF *e*Sg **Sg** 01 59 11.9 **-2.9**
comp=Z,14nm,0.5s
LFF La Frestale 6.11 233 *e*Pn **Pn** 01 57 41.4 **0.0**
LFF *e*Sg **Sg** 01 59 24.6 **-3.3**
comp=Z,68nm,0.7s
MTLF Montolieu 6.64 217 *e*Pn **Pn** 01 57 48.4 **-0.2**
MTLF Montolieu 6.64 217 *e*Pg Pg 01 58 15.7 -3.2
MTLF *e*Sg **Sg** 01 59 41.2 **-3.6**
comp=Z,7.6nm,0.6s
SGMF Saint Gilles 6.80 269 *e*Pn **Pn** 01 57 50.9 **0.0**
SGMF *e*Sn **Sn** 01 59 03.7 **-4.1**
SGMF *e*Sg **Sg** 01 59 45.8 **-4.2**
comp=Z,26nm,0.8s
QUIF Quistinic 7.26 267 *e*Pn **Pn** 01 57 56.8 **-0.3**
QUIF *e*Sn **Sn** 01 59 13.9 **-5.2**
QUIF *e*Sg **Sg** 02 00 00.4 **-4.3**
comp=Z,24nm,0.8s
ROSF Rostrenen 7.26 270 *e*Pn **Pn** 01 57 57.4 **+0.2**
ROSF *e*Sn **Sn** 01 59 14.3 **-4.9**
ROSF *e*Sg **Sg** 02 00 00.3 **-4.5**
comp=Z,16nm,0.7s
VYHS Vyhne 7.42 88 *e*PN **Pn** 01 57 58.5 **-0.9**
VYHS Vyhne 7.42 88 *e*SG **Sg** 02 00 11.7 **+1.8**
EPF Esparros 7.69 224 *e*Pn **Pn** 01 58 03.0 **-0.2**
EPF *e*Sg 02 00 14.7
comp=Z,7.6nm,0.6s
ETSF Etsaut 8.22 227 *e*Pn **Pn** 01 58 10.4 **0.0**
ETSF *e*Sg 02 00 30.7
comp=Z,14nm,0.9s
SJPF Ste Jean 8.39 231 *e*Pn **Pn** 01 58 12.7 **-0.1**
SJPF *e*Sg 02 00 36.4
comp=Z,4.0nm,0.6s
KOLS Kolonicke sedl 9.64 84 *e*SN Sn 02 00 09.1 -8.6

*CSEM **30** 02:36:31.5, 38.7°N×26.7°1W, h0km, ML2.5*
PDA 30 02:36:31.5±0.9, 38.75N×26.71W, h0km±4km, MD3.7, ML2.5, Error ellipse: s-maj=6.7km s-min=1.5km az=29.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ADH	**Angra Heroismo**	**0.42**	**258**	*e*P		Pg	02 36 38.6	-1.0
ADH				*e*S		Sg	02 36 44.6	-0.4
ADH				A		A	02 36 45.2	
	147nm,0.2s							
ADH	**Angra Heroismo**	**0.42**	**258**	*e*P		Pg	02 36 38.6	-1.0
ADH				*e*S		Sg	02 36 44.6	-0.4
PGRA	**Graciosa**	**1.03**	**286**	*e*P		Pg	02 36 48.2	-3.1
PGRA				*e*S		Sg	02 37 01.1	-3.6
PGRA				A		A	02 37 02.4	
	23nm,0.4s							
PGRA	**Graciosa**	**1.03**	**286**	*e*P		Pg	02 36 48.2	-3.1
PGRA				*e*S		Sg	02 37 01.1	-3.6
PMAN	**Manadas**	**1.08**	**264**	*e*P		Pg	02 36 48.7	-3.6
PMAN				*e*S		Sg	02 37 02.4	-4.0
PMAN				A		A	02 37 03.3	
	55nm,0.1s							
PMAN	**Manadas**	**1.08**	**264**	*e*P		Pg	02 36 48.7	-3.6
PMAN				*e*S		Sg	02 37 02.4	-4.0
ROSA	**Rosais**	**1.20**	**269**	*e*P		Pg	02 36 50.5	-4.0
ROSA				*e*S		Sg	02 37 05.1	-5.0
ROSA				A		A	02 37 08.0	
	42nm,0.3s							
ROSA	**Rosais**	**1.20**	**269**	*e*P		Pg	02 36 50.5	-4.0
ROSA				*e*S		Sg	02 37 05.1	-5.0
PSET	**Sete Cidades**	**1.21**	**139**	*e*S		Sg	02 37 05.0	-5.4
PSET				A		A	02 37 05.4	
	12nm,0.1s							
PSET	**Sete Cidades**	**1.21**	**139**	*e*S		Sg	02 37 05.0	-5.4
PPNO	**Prainha do Nor**	**1.25**	**258**	*e*P		Pg	02 36 51.2	-4.3
PPNO				*e*S		Sg	02 37 06.3	-5.5
PPNO				A		A	02 37 07.3	
	52nm,0.5s							
PPNO	**Prainha do Nor**	**1.25**	**258**	*e*P		Pg	02 36 51.2	-4.3
PPNO				*e*S		Sg	02 37 06.3	-5.5
PDA	**Ponta Delgada**	**1.29**	**140**	*e*S		Sg	02 37 07.4	-5.7
PDA				A		A	02 37 08.4	
	21nm,0.1s							
PDA	**Ponta Delgada**	**1.29**	**140**	*e*S		Sg	02 37 07.4	-5.7
PCAN	**Candelaria**	**1.42**	**259**	*e*P		Pn	02 36 53.6	-5.0
PCAN	**Candelaria**	**1.42**	**259**	*e*P		Pn	02 36 53.6	-5.0
PCED	**Cedros**	**1.56**	**266**	*e*S		Sn	02 37 13.8	-7.7
PCED				A		A	02 37 16.7	
	13nm,0.2s							
PCED	**Cedros**	**1.56**	**266**	*e*S		Sn	02 37 13.8	-7.7
CALA	**Caldeira**	**1.57**	**265**	*e*S		Sn	02 37 14.1	-7.7
CALA	**Caldeira**	**1.57**	**265**	*e*S		Sn	02 37 14.1	-7.7
PSMA	**Santa Maria**	**2.15**	**144**	*e*S		Sn	02 37 27.9	-8.1
PSMA				A		A	02 37 30.3	
	6.6nm,0.2s							
PSMN	**Pico do Norte,**	**2.17**	**143**	*e*S		Sn	02 37 28.8	-7.8
PSMN				A		A	02 37 29.9	
	15nm,0.4s							
PSMN	**Pico do Norte,**	**2.17**	**143**	*e*S		Sn	02 37 28.8	-7.8

IDC 30 02:36:33.1±3.4, 5.98S×150.00E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.5/33, mbtmp3.7/3, ML2.1/1, Error ellipse: s-maj=129.3km s-min=37.1km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**4.42**	**219**	Pn		Pn	02 37 43.6	+2.2
	6.3nm,0.3s,baz=32,slow=13,SNR=8.7							
PMG				Sn		Sn	02 38 34.3	+0.6
	4.7nm,0.3s,baz=167,slow=19,SNR=6.1							
WRA	**Warramunga Arr**	**20.60**	**226**	P		P	02 41 14.0	-0.1
	3.7nm,0.7s,baz=52,slow=11,SNR=38							
ASAR	**Alice Springs**	**23.43**	**220**	P		P	02 41 43.0	-1.2
	0.8nm,0.9s,baz=53,slow=8.9,SNR=5.0							
TORD	**Torodi Ar. Bea**	**147.97**	**285**	PKPbc		PKPbc	02 56 21.2	-0.4
	0.3nm,0.4s,baz=74,slow=2.6,SNR=6.0							

*IDC **30** 02:52:32.1±2.3, 21.25S×174.61W, h0km, mb4.0/6, mb1 4.4/6, mb1mx4.0/36, mbtmp4.0/6, MS3.2/5, Ms1 3.2/5, ms1mx3.0/29, Error ellipse: s-maj=139.7km s-min=23.9km az=155.0*
*ISCJB **30** 02:52:35.2±0.7, 21.3S±0.2×174.7W±0.2, h30km, mb4.1/10, MS3.3/3, Error ellipse: s-maj=27.9km s-min=17.9km az=145.0*
*NEIC **30** 02:52:37.6±0.5, 21.29S×174.64W, h35km, mb4.1/4, Error ellipse: s-maj=21.3km s-min=14.1km az=144.0*
ISC 30 02:52:36.9±0.7, 21.3S±0.2×174.6W±0.2, h30km, n22, σ0s78/14, mb4.1/10, MS3.2/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**7.83**	**21**	LR		LR	02 57 05.8	
	comp=Z,165nm,19.2s,baz=148,slow=35							
RAR	**Rarotonga**	**13.82**	**92**	LR		LR	02 58 59.1	
	comp=Z,70nm,22.0s,baz=154,slow=28							
TBI	**Tubuai**	**23.33**	**100**	eLR		LR	03 02 59.9	
	141nm,31.0s							
PPT2	**Papeete2**	**23.87**	**85**	eLR		LR	03 03 17.2	
	169nm,24.2s							
PPT	**Papeete**	**23.88**	**85**	LR		LR	03 05 50.0	
	comp=Z,75nm,18.4s,baz=308,slow=33							
RKT	**Rikitea**	**36.65**	**100**	eLR		LR	03 08 55.5	
	156nm,32.5s							
PMG	**Port Moresby**	**38.62**	**282**	LR		LR	03 13 45.9	
	comp=Z,54nm,19.0s,baz=135,slow=33							
ASAR	**Alice Springs**	**47.44**	**257**	P		**P**	**03 01 09.0**	**-0.1**
	1.6nm,0.7s,baz=88,slow=8.6,SNR=15							
WRAB	**Tennant Creek**	**47.63**	**262**	*e*P		**P**	**03 01 09.9**	**-0.7**
	1.7nm,0.8s							
WRA	**Warramunga Arr**	**47.64**	**262**	P		**P**	**03 01 09.3**	**-1.4**
	1.8nm,0.8s,baz=95,slow=8.4,SNR=36							
GUMO	**Guam**	**52.78**	**307**	LR		LR	03 21 35.2	
	comp=Z,22nm,20.3s,baz=144,slow=33							

VNDA	**Vanda**	**57.42**	**186**	*e*P		**P**	**03 02 22.1**	**-0.1**
	1.6nm,1.0s							
NVAR	**Mina Array Bea**	**79.46**	**42**	P		**P**	**03 04 40.1**	**-0.6**
	0.7nm,0.7s,baz=230,slow=8.1,SNR=6.4							
TXAR	**Lajitas Array**	**84.83**	**56**	P		**P**	**03 05 09.4**	**+0.4**
	0.2nm,0.8s,baz=226,slow=4.8,SNR=2.9							
MCK	**McKinley**	**87.10**	**11**	*e*P		**P**	**03 05 18.9**	**-0.4**
	5.0nm,0.8s							
SNAA	**Sanae**	**87.10**	**177**	*e*P		**P**	**03 05 19.5**	**0.0**
	1.1nm,1.0s							
ILAR	**Eielson Array**	**88.42**	**11**	P		**P**	**03 05 25.1**	**-0.4**
	1.5nm,1.2s,baz=205,slow=4.4,SNR=6.2							
CMAR	**Chiang Mai Arr**	**93.38**	**288**	P		**P**	**03 05 51.3**	**+1.6**
	0.9nm,0.3s,baz=104,slow=3.8,SNR=5.8							
ABKAR	**Akbulak array**	**128.85**	**317**	*e*PKPdf		**PKPdf**	**03 11 42.0**	**+0.6**
TSUM	**Tsumeb**	**138.02**	**197**	*e*PKPdf		**PKPdf**	**03 11 59.8**	**0.0**
BRTR	**Keskin Array B**	**149.71**	**314**	PKPbc		**PKPbc**	**03 12 23.5**	**-0.6**
	0.9nm,0.9s,baz=130,slow=6.9,SNR=4.0							
MORC	**Moravsky Berou**	**150.00**	**344**	*e*PKPdf		**PKPdf**	**03 12 19.7**	**+0.3**

MAN 30 02:54:13, 13.22N×120.83E, h35km, mb4.3, ML3.1, MS2.9, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TGY	**Tagaytay City**	**0.88**	**7**	*e*P		Pn	02 54 34.0	+4.9

BUC 30 03:14:04.2±0.4, 45.73N×26.56E, h2km, MD2.2/2, 8C, Error ellipse: s-maj=6.6km s-min=1.7km az=321.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLOR	**Plostina**	**0.14**	**28**	⇑ *i*P		Pg	03 14 07.3	+0.3
PLOR	**Plostina**	**0.14**	**28**	*i*S		Sg	03 14 09.8	+0.8
PLOR	**Plostina**	**0.14**	**28**	⇑ *i*P		Pg	03 14 07.3	+0.3
PLOR				*i*S		Sg	03 14 09.8	+0.8
VRI	**Vrincioaia**	**0.18**	**41**	⇑ *i*P		Pg	03 14 08.4	+0.6
VRI	**Vrincioaia**	**0.18**	**41**	*i*S		Sg	03 14 11.7	+1.4
VRI	**Vrincioaia**	**0.18**	**41**	⇑ *i*P		Pg	03 14 08.4	+0.6
VRI				*i*S		Sg	03 14 11.7	+1.4
MLR	**Muntele Rosu**	**0.49**	**241**	⇑ *i*P		Pg	03 14 14.7	+0.9
MLR	**Muntele Rosu**	**0.49**	**241**	*i*S		Sb	03 14 22.9	-0.6
MLR	**Muntele Rosu**	**0.49**	**241**	⇑ *i*P		Pg	03 14 14.7	+0.9
MLR				*i*S		Sb	03 14 22.9	-0.6
DOPR	**Dopca**	**0.85**	**287**	⇑ *i*P		Pn	03 14 22.6	-0.7
DOPR	**Dopca**	**0.85**	**287**	⇑ *i*P		Pn	03 14 22.6	-0.7
DOPR				*i*S		Sn	03 14 35.1	-1.2

BUC 30 03:16:05.5±0.4, 45.75N×26.54E, h9km±3km, MD2.9/2, 24C-2D, Error ellipse: s-maj=6.2km s-min=2.9km az=317.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLOR	**Plostina**	**0.12**	**37**	⇑ *i*P		Pg	03 16 08.4	-0.1
PLOR	**Plostina**	**0.12**	**37**	*i*S		Sg	03 16 10.9	+0.4
PLOR	**Plostina**	**0.12**	**37**	⇑ *i*P		Pg	03 16 08.4	-0.1
PLOR				*i*S		Sg	03 16 10.9	+0.4
VRI	**Vrincioaia**	**0.17**	**48**	⇑ *i*P		Pg	03 16 09.5	+0.3
VRI	**Vrincioaia**	**0.17**	**48**	*i*S		Sg	03 16 12.8	+1.0
VRI	**Vrincioaia**	**0.17**	**48**	⇑ *i*P		Pg	03 16 09.5	+0.3
VRI				*i*S		Sg	03 16 12.8	+1.0
GRER		**0.48**	**141**	⇑ *i*P		Pb	03 16 15.6	-0.5
GRER		**0.48**	**141**	*i*S		Sb	03 16 23.6	+0.3
GRER		**0.48**	**141**	⇑ *i*P		Pb	03 16 15.6	-0.5
GRER				*i*S		Sb	03 16 23.6	+0.3
MLR	**Muntele Rosu**	**0.49**	**238**	⇑ *i*P		Pg	03 16 15.9	+0.6
MLR	**Muntele Rosu**	**0.49**	**238**	*i*S		Sb	03 16 23.5	-0.5
MLR	**Muntele Rosu**	**0.49**	**238**	⇑ *i*P		Pg	03 16 15.9	+0.6
MLR				*i*S		Sb	03 16 23.5	-0.5
ISR	**Istrita**	**0.63**	**180**	⇑ *i*P		Pn	03 16 20.1	-0.6
ISR	**Istrita**	**0.63**	**180**	⇑ *i*P		Pn	03 16 20.1	-0.6
ISR				*i*S		Sb	03 16 27.9	0.0
TESR	**Tescani**	**0.76**	**5**	⇑ *i*P		Pb	03 16 20.8	-0.2
TESR	**Tescani**	**0.76**	**5**	⇑ *i*P		Pb	03 16 20.8	-0.2
TESR				*i*S		Sb	03 16 31.5	0.0
DOPR	**Dopca**	**0.83**	**285**	⇑ *i*P		Pn	03 16 22.9	-0.6
DOPR	**Dopca**	**0.83**	**285**	⇑ *i*P		Pn	03 16 22.9	-0.6
DOPR				*i*S		Sb	03 16 33.9	+0.3
VOIR		**1.10**	**254**	⇑ *i*P		Pb	03 16 26.8	+0.1
VOIR		**1.10**	**254**	⇑ *i*P		Pb	03 16 26.8	+0.1
VOIR				*i*S		Sb	03 16 41.8	+0.6
CFR	**Carcaliu**	**1.26**	**117**	⇑ *i*P		Pn	03 16 29.0	-0.2
CFR	**Carcaliu**	**1.26**	**117**	⇑ *i*P		Pn	03 16 29.0	-0.2
CFR				*i*S		Sn	03 16 47.0	+0.8
HARR	**Harsova**	**1.45**	**137**	⇑ *i*P		Pg	03 16 33.5	+0.3
HARR	**Harsova**	**1.45**	**137**	⇑ *i*P		Pg	03 16 33.5	+0.3
TIRR	**Tirgusor**	**1.85**	**134**	⇓ *i*P		Pn	03 16 38.4	+1.0
TIRR	**Tirgusor**	**1.85**	**134**	⇓ *i*P		Pn	03 16 38.4	+1.0
TIRR				*i*S		Sb	03 17 03.4	+0.7
MSAB	**Monastry St. A**	**1.90**	**151**	⇑ *i*P		Pb	03 16 39.1	-1.1
MSAB	**Monastry St. A**	**1.90**	**151**	⇑ *i*P		Pb	03 16 39.1	-1.1
MSAB				*i*S		Sb	03 17 03.7	-0.3
BURAR	**Bucovina Array**	**2.07**	**334**	⇑ *i*P		Pn	03 16 41.4	+0.8
BURAR	**Bucovina Array**	**2.07**	**334**	⇑ *i*P		Pn	03 16 41.4	+0.8
BURAR				*i*S		Sb	03 17 08.1	-1.3

*IDC **30** 03:56:10.3±0.2, 52.46N×159.88E, h0km, mb5.8/77, mb1 5.8/77, mb1mx5.8/78, mbtmp5.8/77, MS6.2/45, Ms1 6.2/45, ms1mx6.1/56, Error ellipse: s-maj=8.5km s-min=6.3km az=143.0*
*BJI **30** 03:56:10.2, 52.61N×159.70E, h12km, mb5.8/77, mB6.3/72, Ms6.8/97, Ms7 6.8/75*
*KRSC **30** 03:56:10.4±1.8, 52.22N×160.45E, h38km±18km, ML6.3, FELT [IV-V] at Petropavlovsk, Institute.*
*SZGRF **30** 03:56:10.7, 52.40N×160.38E, h33km, mb6.6, MS6.5, Off east coast of Kamchatka Peninsula, Russia*
*GCMT **30** 03:56:13.7±0.1, 52.27N×160.37E, h29km, MW6.3/133, Moment Tensor Solution. s133,cs333; s127,cs530; Duration: 3s4 Moment tensor: Scale 10^18 Nm; Mrr2.67±.01; Mθθ-0.57±.01; Mϕϕ-2.09±.01; Mrθ 1.16±.03; Mθϕ-1.48±.01; Mϕr 1.62±.03; Best double couple: Mo3.46300×10^18 NP1:ϕs34.00000°, δ63.00000°, λ93.00000°. NP2:ϕs208.00000°, δ28.00000°, λ85.00000°. Principal axes: T 3.3040, Plg72.0000°, Azm310.0000°; N 0.3260, Plg2.0000°, Azm213.0000°; P -3.6230, Plg18.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **30** 03:56:13.7±0.1, 52.50N×159.84E, h23km, mb6.1/297, ME6.3, MS6.3/153, MW6.3, MW6.2, MW6.3 Error ellipse: s-maj=3.2km s-min=1.8km az=162.0, Moment Tensor Solution. s127 Moment tensor: Scale 10^18 Nm; Mrr2.44; Mθθ-0.78; Mϕϕ-1.66; Mrθ 0.55; Mϕϕ-0.53; Mϕr 1.01; Best double couple: Mo2.50000×10^18 NP1:ϕs204.00000°, δ31.00000°, λ88.00000°. NP2:ϕs27.00000°, δ59.00000°, λ91.00000°. Principal axes: T 2.7300, Plg76.0000°, Azm300.0000°; N -0.5300, Plg1.0000°, Azm206.0000°; P -2.2000, Plg13.0000°, Azm115.0000°; Broadband fault plane solution: P waves. NP1:ϕs215.00000°, δ20.00000°, λ90.00000°. NP2:ϕs35.00000°, δ70.00000°, λ90.00000°. Principal axes: T Plg65.0000°, Azm305.0000°; N Plg0.0000°, Azm0.0000°; P Plg25.0000°, Azm125.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [V] at Petropavlovsk-Kamchatskiy.
*NEIC **30** 03:56:14.0±0.0, 52.54N×159.92E, h21km, Moment Tensor Solution. s61 Moment tensor: Scale 10^18 Nm; Mrr2.21; Mθθ-0.87; Mϕϕ-1.34; Mrθ 2.24; Mθϕ-1.03; Mϕr 2.42; Best double couple: Mo4.00000×10^18 NP1:ϕs42.00000°, δ73.00000°, λ92.00000°. NP2:ϕs215.00000°, δ16.00000°, λ83.00000°. Principal axes: T 3.9800, Plg61.0000°, Azm315.0000°; N -0.0500, Plg1.0000°, Azm221.0000°; P -3.9300, Plg28.0000°, Azm130.0000°;*
*ISCJB **30** 03:56:15.3±0.3, 52.39N±0.02×160.00E±0.02, h49km±2km, mb6.0/546, MS6.3/254 Error ellipse: s-maj=2.6km s-min=1.4km az=164.0*
*MOS **30** 03:56:15.6±1.0, 52.43N×159.92E, h53km, mb6.3/120, MS6.5/74, Error ellipse: s-maj=5.4km s-min=3.2km az=95.8 Broadband fault plane solution: P waves.*
Mo5.20000×10^18 NP1:ϕs45.00000°, δ71.00000°, λ89.00000°. NP2:ϕs228.00000°, δ19.00000°, λ94.00000°. Principal axes: T Plg64.0000°, Azm313.0000°; N Plg1.0000°, Azm45.0000°; P Plg26.0000°, Azm136.0000°;
MOS MO 6.7E18 n.m, Mw 6.5 (ARU) MO 1.1E19 n.m, Mw 6.7 (OBN) Fault plane solution: P-wave C150, D14 . Felt (IV-V) at Petropavlovsk-Kamchatskiy.
*NEIC **30** 03:56:24.8±0.0, 51.86N×160.35E, h33km, Moment Tensor Solution. s132 Moment tensor: Scale 10^18 Nm; Mrr3.14; Mθθ-1.13; Mϕϕ-2.01; Mrθ 1.65; Mθϕ-1.20; Mϕr 2.26; Best double couple: Mo4.10000×10^18 NP1:ϕs214.00000°, δ23.00000°, λ89.00000°. NP2:ϕs36.00000°, δ67.00000°, λ91.00000°. Principal axes: T 4.2400, Plg68.0000°, Azm306.0000°; N -0.2900, Plg0.0000°, Azm215.0000°; P -3.9500, Plg21.0000°, Azm125.0000°;*
ISC 30 03:56:14.7±0.3, 52.42N±0.03×159.92E±0.02, h30km±1km, h30km:pP-P, n2249, σ1s24/2429, mb6.1/566, MS6.3/264, 210C-44D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.68**	**5**	*i*P		**Pb**	**03 56 27.3**	**-0.8**
SPN	**Mys Shipunski**	**0.68**	**5**	PN		**Pb**	**03 56 27.3**	**-0.8**
RUS	**Russkaya**	**0.86**	**271**	*i*P		**Pb**	**03 56 31.7**	**+0.6**
RUS	**Russkaya**	**0.86**	**271**	PN		**Pb**	**03 56 31.7**	**+0.6**
PET	**Petropavlovsk**	**0.98**	**308**	*i*P		**Pb**	**03 56 33.6**	**+0.5**
PET	**Petropavlovsk**	**0.98**	**308**κ	*i*PN		**Pb**	**03 56 33.7**	**+0.7**
PET				*e*S		**Sb**	**03 56 50.7**	**+5.1**
PET				pmax		pmax		
	comp=Z,305μm,3.9s							
PET				pmax		pmax		
	comp=Z,72μm,0.6s							
PET				smax		smax		
	comp=E,491μm,1.0s							
PET	**Petropavlovsk**	**0.98**	**308**	*e*Pn		**Pb**	**03 56 33.5**	**+0.5**
UGLR	**Uglovaya**	**1.03**	**320**	*i*P		**Pb**	**03 56 34.9**	**+0.9**
SDLR	**Sedlovina**	**1.06**	**324**	*e*P		**Pb**	**03 56 34.9**	**+0.3**
SDLR	**Sedlovina**	**1.06**	**324**	PN		**Pb**	**03 56 34.9**	**+0.3**
MTVR	**Mutnovka**	**1.07**	**274**	*e*P		**Pb**	**03 56 35.2**	**+0.6**
SMAR	**Somma**	**1.08**	**322**	*e*P		**Pb**	**03 56 35.3**	**+0.4**
SMAR	**Somma**	**1.08**	**322**	PN		**Pb**	**03 56 35.3**	**+0.4**
AVH	**Avacha**	**1.11**	**320**	*e*P		**Pb**	**03 56 36.0**	**+0.7**
AVH	**Avacha**	**1.11**	**320**	PN		**Pb**	**03 56 36.0**	**+0.7**
KRER	**Koryakskii**	**1.13**	**322**	*e*P		**Pb**	**03 56 36.2**	**+0.4**
GRL	**Gorelyy**	**1.14**	**277**	*i*P		**Pb**	**03 56 37.0**	**+1.2**
GRL	**Gorelyy**	**1.14**	**277**	PN		**Pb**	**03 56 37.0**	**+1.2**
KOK	**Koryaka**	**1.17**	**319**	*e*P		**Pb**	**03 56 36.8**	**+0.5**
KOK	**Koryaka**	**1.17**	**319**	PN		**Pb**	**03 56 36.8**	**+0.5**
KRX	**Arik**	**1.22**	**321**	*e*P		**Pb**	**03 56 37.1**	**0.0**
ASAK	**Asacha**	**1.24**	**269**	*e*P		**Pb**	**03 56 38.0**	**+0.5**
I44RU	**PETROPAVLOVSK-**	**1.51**	**298**	Pn		**Pn**	**03 56 40.0**	**+0.4**
	baz=112,slow=24,SNR=3.4							
I44RU				*i*			03 58 50.0	
	baz=115,slow=316,SNR=1.0							
PETK	**Petropavlovsk-**	**1.52**	**298**	Pn		**Pb**	**03 56 42.0**	**-0.1**
	comp=E,3μm,0.3s,baz=106,slow=21,SNR=1066							
PETK				Sn		**Sb**	**03 57 03.2**	**+2.3**
	comp=E,4μm,0.3s,baz=110,slow=19,SNR=11							
PETK				LR		LR	03 57 35.7	
	comp=E,297μm,18.1s,baz=311,slow=58							
GNL	**Ganaly**	**1.75**	**318**	*i*P		**Pb**	**03 56 45.6**	**-0.5**
GNL	**Ganaly**	**1.75**	**318**	PN		**Pb**	**03 56 45.6**	**-0.5**
APC	**Apacha**	**1.76**	**288**	*i*P		**Pb**	**03 56 47.0**	**+0.8**
APC				*i*S		**Sb**	**03 57 11.0**	**+3.2**
APC	**Apacha**	**1.76**	**288**	PN		**Pb**	**03 56 47.0**	**+0.8**
MIPR	**Malaya Ipel'ka**	**1.95**	**267**	*e*P		**Pb**	**03 56 48.8**	**-0.6**
PAU	**Pauzhetka**	**2.15**	**245**	*e*P		**Pb**	**03 56 50.9**	**-2.0**
PAU				*e*S		**Sb**	**03 57 18.6**	**-0.5**
PAU	**Pauzhetka**	**2.15**	**245**	PN		**Pb**	**03 56 50.9**	**-2.0**
PAU				S		**Sb**	**03 57 18.6**	**-0.5**
MKZ	**Mys Kozlova**	**2.40**	**26**	*i*P		**Pn**	**03 56 51.2**	**-0.5**
MKZ				*e*S		**Sn**	**03 57 18.0**	**-2.0**
MKZ	**Mys Kozlova**	**2.40**	**26**	PN		**Pn**	**03 56 51.2**	**-0.5**
MKZ				S		**Sn**	**03 57 18.0**	**-2.0**
KZV	**Kizimen**	**2.71**	**5**	*i*P		**Pn**	**03 56 57.4**	**+1.2**
TUMR	**Tumrok**	**2.87**	**3**	*i*P		**Pn**	**03 57 00.3**	**+1.9**
TUMR	**Tumrok**	**2.87**	**3**	PN		**Pn**	**03 57 00.3**	**+1.9**
SKR	**Severo-Kuril's**	**2.94**	**235**	*e*P		**Pn**	**03 57 00.6**	**+1.3**
SKR				*e*S		**Sn**	**03 57 36.1**	**+2.5**
SKR	**Severo-Kuril's**	**2.94**	**235**	*i*PN		**Pn**	**03 57 01.3**	**+2.0**
SKR				*i*S		**Sn**	**03 57 36.2**	**+2.6**
KMNR	**Kamenistaya**	**3.35**	**3**	*i*P		Pn	03 57 08.2	+3.3
KMNR	**Kamenistaya**	**3.35**	**3**	PN		Pn	03 57 08.2	+3.3
BZMR	**Bezymyannaya**	**3.54**	**5**	*i*P		**Pn**	**03 57 10.7**	**+3.1**
BZGR	**Bezymyannyi-Gr**	**3.56**	**7**	*i*P		**Pn**	**03 57 10.7**	**+2.9**
BZWR	**Bezymyannyi-We**	**3.57**	**5**	*i*P		Pn	03 57 11.3	+3.3
ESO	**Esso**	**3.58**	**349**	*e*P		**Pn**	**03 57 10.7**	**+2.6**
ESO	**Esso**	**3.58**	**349**	PN		**Pn**	**03 57 10.7**	**+2.6**
KOZ	**Kozyrevsk**	**3.64**	**360**	*e*P		Pn	03 57 12.2	+3.3
KOZ	**Kozyrevsk**	**3.64**	**360**	PN		Pn	03 57 12.2	+3.3
CIRR	**Tsirk**	**3.73**	**7**	*e*P		**Pn**	**03 57 12.5**	**+2.2**
CIRR	**Tsirk**	**3.73**	**7**	PN		**Pn**	**03 57 12.5**	**+2.2**
SRDR	**Sredinnyy**	**3.91**	**358**	*e*P		**Pn**	**03 57 15.2**	**+2.6**
SRDR	**Sredinnyy**	**3.91**	**358**	PN		**Pn**	**03 57 15.2**	**+2.6**
KBTR	**Krutoberegovo**	**4.16**	**23

YSS MLR MLR
comp=N,101μm,15.0s
YSS MLR MLR
comp=E,186μm,14.0s
YSS Yuzh-Sakhalins 12.38 251 ePn Pn 03 59 11.9 +3.2
comp=E,2μm,1.6s
YUK Yuzh-Kuril'sk 12.56 234 i PN Pn 03 59 09.7 -1.5
YUK i S Sn 04 01 43.7 +14
YUK pmax pmax
comp=N,233nm,0.8s
YUK pmax pmax
comp=E,317nm,0.8s
YUK pmax pmax
comp=Z,508nm,0.8s
YUK pmax pmax
comp=Z,7μm,4.7s
YUK MLR MLR
comp=N,37μm,20.0s
YUK MLR MLR
comp=E,22μm,20.0s
YUK MLR MLR
comp=Z,62μm,20.0s
ASAJ Asahikawa 14.19 241 LR LR 04 04 45.0
comp=Z,47μm,21.0s,baz=54,slow=36
ASAJ Asahikawa 14.19 241 ePn Pn 03 59 34.5 +1.1
GSTR Great Sitkin T 14.70 82 ePn Pn 03 59 39.9 -0.4
comp=Z,149nm,0.6s
ERM Erimo 15.39 234 Pn Pn 03 59 46.6 -2.9
comp=Z,2μm,0.5s,SNR=34
ERM Erimo 15.39 234 eP Pn 03 59 47.6 -1.9
ERM e 04 02 30.6
ERM pmax pmax
comp=Z,265nm,0.5s
ERM Erimo 15.39 234 ePn Pn 03 59 47.5 -1.9
comp=Z,265nm,0.5s
ERM eSn Sn 04 02 30.6 -8.3
ATKA Atka Island 15.81 80 ePn Pn 03 59 54.4 -0.4
comp=Z,962nm,1.6s
HABR Khabarovsk 16.30 266c iP P 04 00 03.3 -0.5
HABR eS Sn 04 03 03.3 +2.6
HABR pmax pmax
comp=N,84nm,2.0s
HABR pmax pmax
comp=E,297nm,2.0s
HABR pmax pmax
comp=Z,420nm,2.0s
HABR MLR MLR
comp=N,176μm,19.0s
HABR MLR MLR
comp=Z,297μm,15.0s
HABR MLR MLR
comp=E,226μm,15.0s
KLR Kul'dur 18.03 271⇓iP Pn 04 00 21.0 -1.7
KLR eS Sn 04 03 41.0 -1.8
KLR pmax pmax
comp=N,750nm,2.2s
KLR pmax pmax
comp=E,2μm,2.2s
KLR pmax pmax
comp=Z,3μm,2.2s
YAK Yakutsk 18.81 313c iP P 04 00 31.0 -0.4
YAK eS Sn 04 04 01.8 +0.5
YAK pmax pmax
comp=Z,1μm,1.1s
YAK pmax pmax
comp=N,374nm,1.1s
YAK pmax pmax
comp=E,925nm,1.2s
YAK smax smax
comp=N,8μm,5.6s
YAK smax smax
comp=E,4μm,4.3s
YAK MLR MLR
comp=Z,81μm,15.0s
YAK MLR MLR
comp=E,56μm,13.0s
YAK MLR MLR
comp=N,37μm,15.0s
YAK Yakutsk 18.81 313 eP P 04 00 30.7 -0.7
comp=N,1μm,0.8s
YAK eSn Sn 04 04 00.7 -0.6
NIKH Nikolski High 18.86 76 ePn P 04 00 32.3 +0.3
comp=N,5μm,2.3s
UNV Unalaska Valle 20.09 73 eP P 04 00 45.0 -0.4
comp=N,700nm,1.0s
USRK Ussuriysk Ar. 20.22 257 P P 04 00 45.6 -1.3
comp=N,214nm,0.8s,baz=60,slow=9.7,SNR=162
USRK LR LR 04 09 32.9
comp=N,193μm,18.2s,baz=54,slow=40
AKUT Akutan 20.47 72 eP P 04 00 49.6 +0.1
comp=N,3μm,1.7s
CLNS Chul'man 20.60 296c iP P 04 00 51.8 +0.8
CLNS e 04 01 09.3
CLNS eS Sn 04 04 43.2 -1.5
CLNS eSS SnSn 04 05 18.8 +20
CLNS pmax pmax
comp=Z,342nm,1.0s
CLNS pmax pmax
comp=N,166nm,0.7s
CLNS pmax pmax
comp=E,271nm,0.9s
CLNS pmax pmax
comp=E,686nm,1.4s
CLNS pmax pmax
comp=N,508nm,1.2s
CLNS pmax pmax
comp=Z,2μm,2.3s
CLNS smax smax
comp=E,7μm,12.0s
CLNS smax smax
comp=N,4μm,12.6s
CLNS MLR MLR
comp=Z,120μm,14.0s
CLNS MLR MLR
comp=E,80μm,13.0s
CLNS MLR MLR
comp=N,41μm,15.0s
TNA Tin City 20.84 38 eP P 04 00 53.9 +0.5
comp=N,903nm,1.2s
MDJ Mudanjiang 21.43 261 P P 04 00 58.5 -1.5
MDJ pP pP 04 01 04.5 -3.7
MDJ sP sP 04 01 06.8 -5.2
MDJ S S 04 04 56.3 +0.3
MDJ sS Sn 04 05 04.0 -0.7
MDJ ScP ScP 04 08 34.8 -2.0
MDJ PcS PcS 04 08 41.5 +1.1
MDJ ScS ScS 04 12 22.5 +1.7
MDJ PMZ
comp=N,300nm,1.0s
MDJ PMZ
comp=N,7μm,5.6s
MDJ LN
comp=N,94μm,13.3s
MDJ LE
comp=N,84μm,13.3s
MDJ LZ
comp=N,163μm,14.6s
MDJ Mudanjiang 21.43 261 eP P 04 00 58.4 -1.6
comp=N,664nm,1.3s
MDJ LR LR
comp=Z,114μm,20.0s
MSHR Mys Shultsa 21.65 254 iP P 04 01 00.1 -2.2
FALS False Pass 21.71 69 eP P 04 01 02.6 -0.4
comp=Z,1μm,2.2s
MJA0 Matsu Arr-Jizo 22.03 232 eP P 04 01 07.3 +0.7
MJA0 pmax pmax
comp=Z,244nm,0.7s
MAJO Matsushiro 22.05 233c iP P 04 01 06.7 0.0
MAJO pmax pmax
comp=Z,5μm,1.7s
MAJO MLR MLR
comp=Z,472μm,17.0s
MAJO Matsushiro 22.05 233 eP P 04 01 07.8 +1.0
comp=Z,1μm,1.0s
MAJO LR LR
comp=Z,101μm,22.0s
MAT Matsushiro 22.05 233 P P 04 01 08.2 +1.5
MAT S S 04 05 12.5 +4.3
MJAR Matsushiro Arr 22.05 233 P P 04 01 07.3 +0.6
comp=Z,244nm,0.7s,baz=18,slow=9.0,SNR=260
MJAR LR LR 04 10 52.6
comp=Z,72μm,21.1s,baz=55,slow=40
SDPT Sand Point 23.30 67 eP P 04 01 16.9 -2.8
comp=Z,287nm,1.0s
JHJ2 Mitsune 24.15 225 eP P 04 01 27.1 -0.7
comp=Z,672nm,1.3s
JHJ Hachijo jima 2 24.16 225 P P 04 01 27.9 -0.1
comp=Z,403nm,0.9s,baz=269,slow=7.8,SNR=7.1
JHJ LR LR 04 11 40.2
comp=Z,7μm,20.6s,baz=66,slow=38
CHGN Chignik 24.31 64 eP P 04 01 28.5 -0.6
CN2 Changchun 24.38 263⇑iP P 04 01 27.5 -2.4
CN2 esP sP 04 01 35.3 -7.1
CN2 eS S 04 05 41.0 -6.4
CN2 LN
comp=Z,41μm,14.0s
CN2 LE
comp=Z,123μm,14.0s
CN2 LZ
comp=Z,108μm,14.0s
KSULL Ulleungdo 25.18 245 P P 04 01 39.2 +2.0
SNR=35
KSULL Ulleungdo 25.18 245 P P 04 01 37.8 +0.6
SNR=47
HIA Hailar 25.34 279 eP P 04 01 37.3 -1.3
HIA pmax pmax
comp=Z,667nm,0.7s
HIA MLR MLR
comp=Z,167μm,19.0s
HIA Hailar 25.34 279 eP P 04 01 37.3 -1.3
comp=Z,667nm,0.7s
HIA LR LR
comp=Z,167μm,19.0s
SVW2 Sparrevohn 25.42 52 eP P 04 01 39.6 +0.4
comp=Z,280nm,1.4s
KSSKC Sokcho 25.95 250 P P 04 01 45.3 +1.1
SNR=36
KSSKC Sokcho 25.95 250 P P 04 01 44.9 +0.7
SNR=34
KSJMJ Jumunjin 26.10 249 P P 04 01 46.9 +1.4
SNR=84
KSJMJ Jumunjin 26.10 249 P P 04 01 46.9 +1.4
SNR=84
SEHB SEOHWA 26.12 250 P P 04 01 46.9 +1.2
SNR=20
SEHB SEOHWA 26.12 250 P P 04 01 46.4 +0.6
SNR=75
KSDGY Daegwallycong 26.28 248 P P 04 01 48.7 +1.5
SNR=19
KSDGY Daegwallycong 26.28 248 P P 04 01 48.7 +1.5
SNR=19
BOD Bodaibo 26.39 300 eP P 04 01 46.1 -1.9
BOD pmax pmax
comp=Z,183nm,0.8s
KSIJA INJE 26.40 250 P P 04 01 49.3 +1.0
SNR=12
KSIJA INJE 26.40 250 P P 04 01 49.4 +1.2
SNR=46
KSJES JEONGSEON 26.46 248 P P 04 01 50.0 +1.1
SNR=19
KSJES JEONGSEON 26.46 248 P P 04 01 51.9 +3.0
SNR=8.5
KSTBA Taebaek 26.52 247 P P 04 01 51.1 +1.7
SNR=74
KSTBA Taebaek 26.52 247 P P 04 01 51.1 +1.7
SNR=74
KSULJ Uljin 26.56 246 P P 04 01 51.3 +1.6
SNR=39
KSULJ Uljin 26.56 246 P P 04 01 52.1 +2.4
SNR=46
SNY Shenyang 26.63 261 ⇑P P 04 01 49.5 -0.8
SNY sP sP 04 02 02.5 -0.3
SNY S S 04 06 16.5 -6.7
SNY PMZ
comp=Z,260nm,2.5s
SNY PMZ
comp=Z,7μm,4.7s
SNY LN
comp=Z,93μm,19.8s
SNY LE
comp=Z,75μm,19.0s
SNY LZ
comp=Z,134μm,17.2s
KSCWO Cheorwon 26.67 250 P P 04 01 51.5 +0.8
SNR=64
KSCWO Cheorwon 26.67 250 P P 04 01 52.2 +1.5
SNR=90
KSCHC Chuncheon 26.71 250 P P 04 01 52.1 +1.0
SNR=36
KSCHC Chuncheon 26.71 250 P P 04 01 52.1 +1.0
SNR=36
KSYOW Yeongwol 26.76 248 P P 04 01 52.8 +1.2
SNR=12
RSO Redoubt South 26.83 54 eP P 04 01 51.8 -0.3
comp=Z,284nm,0.8s
KSWJU Wonju 26.83 249 P P 04 01 53.6 +1.4
SNR=9.2
KSWJU Wonju 26.83 249 P P 04 01 53.6 +1.4
SNR=9.2
KSRS Korea Array 26.87 249 P P 04 01 53.4 +0.9
comp=Z,97nm,0.8s,baz=44,slow=9.2,SNR=143
KSRS PcP PcP 04 05 15.8 +1.6
comp=Z,5.7nm,0.7s,baz=346,slow=2.5,SNR=4.5
KSRS LR LR 04 13 19.1
comp=Z,42μm,19.2s,baz=56,slow=38
KSRS Korea Array 26.87 249 P P 04 01 53.4 +0.9
KSRS 04 05 15.8
KSRS pmax pmax
comp=Z,97nm,0.8s
KSRS MLR MLR
comp=Z,42μm,19.2s
KSAR Wonju Array Be 26.90 249 P P 04 01 53.4 +0.6
KSAR 04 05 15.8
KSAR Wonju Array Be 26.90 249 P P 04 01 53.4 +0.6
KSAR PcP PcP 04 05 15.8 +1.5
OHAK Old Harbor 26.95 61 eP P 04 01 51.4 -1.6
comp=Z,269nm,1.0s
KSPHA Pohang 26.95 245 P P 04 01 55.1 +1.9
SNR=33
PPLA Purkeypile 27.02 48 eP P 04 01 54.4 +0.6
comp=Z,760nm,1.6s
YNCB YEONCHEON 27.04 251 P P 04 01 54.9 +0.8
SNR=12
YNCB YEONCHEON 27.04 251 P P 04 01 54.4 +0.4
SNR=44
KSDDC Dongducheon 27.06 251 P P 04 01 55.6 +1.4
SNR=12
CAST Castle Rocks 27.08 47 eP P 04 01 54.5 +0.3
comp=Z,260nm,1.4s
KSEUS ULSEONG 27.22 246 P P 04 01 57.2 +1.6
SNR=26
KDAK Kodiak Island 27.23 60 P P 04 01 54.0 -1.4
comp=Z,870nm,1.3s,SNR=15
KDAK Kodiak Island 27.23 60 P P 04 01 54.0 -1.4
comp=Z,134nm,1.1s,baz=290,slow=3.0,SNR=21
KDAK PcP PcP 04 05 16.2 +1.6
comp=Z,34nm,1.1s,baz=300,slow=3.3,SNR=3.4
KDAK LR LR 04 13 13.9
comp=Z,34μm,20.2s,baz=243,slow=38
KDAK Kodiak Island 27.23 60 eP P 04 01 54.1 -1.4
KDAK 04 05 16.2
KDAK pmax pmax
comp=Z,167nm,0.9s
KDAK Kodiak Island 27.23 60 eP P 04 01 54.1 -1.4
comp=Z,168nm,0.9s
KDAK PcP PcP 04 05 16.2 +1.6
KSMUS Musan 27.24 251 P P 04 01 56.7 +0.8
SNR=19
KSCHJ Chungju 27.25 248 P P 04 01 57.2 +1.3
SNR=12
KSICN Icheon 27.27 249 P P 04 01 57.0 +0.9
SNR=10
KSYOC YEONGCHEON 27.34 245 P P 04 01 58.2 +1.4
SNR=22
KSSEO Seoul 27.43 250 P P 04 01 58.0 +0.6
SNR=11
KSSAJ Sangju 27.48 247 P P 04 01 59.4 +1.5
SNR=17
KSDAG Daegu 27.52 245 P P 04 02 00.1 +1.7
SNR=7.2
KSGAH Ganghwa 27.55 251 P P 04 01 59.5 +0.9
SNR=13
KSSWO Suwon 27.55 250 P P 04 01 59.8 +1.2
SNR=16
BPAW Bear Paw Mtn. 27.58 46 eP P 04 01 58.7 0.0
comp=Z,326nm,1.5s
INCN Inchon 27.59 251 eP P 04 01 58.4 -0.6
comp=Z,344nm,1.4s
INCN LR LR
comp=Z,48μm,19.0s
KSBON Boeun 27.61 248 P P 04 02 00.4 +1.2
SNR=44
KSCEA Cheonan 27.69 249 P P 04 02 01.0 +1.1
SNR=36
KSCPR CHUPUNGNYEONG 27.71 247 P P 04 02 01.6 +1.5
SNR=32
KSBUS Busan 27.79 244 P P 04 02 02.1 +1.4
SNR=18
BRLK Bradley Lake 27.82 55 eP P 04 02 00.1 -0.8
comp=Z,230nm,1.4s
TRF Thorofare Moun 27.89 47 eP P 04 02 01.3 -0.3
comp=Z,891nm,2.0s
TJN Taejon 27.95 248c iP P 04 02 02.5 +0.4
KSTEJ Daejeon 27.95 248 P P 04 02 03.5 +1.4
SNR=10.0
KSKOJ Gongju 28.00 248 P P 04 02 03.8 +1.2
SNR=16
CIT Chita 28.04 288 eP P 04 02 01.8 -1.1
CIT e 04 02 13.7
CIT e 04 03 05.9
CIT pmax pmax
comp=Z,442nm,2.2s
COLD Coldfoot 28.14 39 eP P 04 02 03.6 0.0
comp=Z,362nm,1.7s
KSSES Seosan 28.18 250 P P 04 02 05.3 +1.2
SNR=7.0
BWN Browne 28.25 46 eP P 04 02 06.2 +1.6
comp=Z,1μm,1.4s
RC01 Rabbit Creek A 28.25 52 eP P 04 02 04.8 +0.2
comp=Z,174nm,1.5s
KSJEO Jeonju 28.30 247 P P 04 02 06.9 +1.6
SNR=14
KSBAR Backryungdo 28.38 253 P P 04 02 06.6 +0.6
SNR=6.5
KSJIN Jinju 28.45 245 P P 04 02 08.0 +1.4
SNR=12
JNU Nakatsue 28.45 239 P P 04 02 08.0 +1.3
comp=Z,273nm,0.7s,baz=25,slow=5.1,SNR=99
JNU LR LR 04 15 20.7
comp=Z,30μm,19.4s,baz=38,slow=40
JNU Nakatsue 28.45 239 eP P 04 02 07.8 +1.1
comp=Z,217nm,0.9s
KSTOY TONGYEONG 28.46 244 P P 04 02 08.3 +1.6
SNR=16
MCK McKinley 28.49 47 eP P 04 02 06.3 -0.5
MCK pmax pmax
comp=Z,453nm,1.7s
MCK McKinley 28.49 47 eP P 04 02 06.3 -0.5
comp=Z,453nm,1.7s
PMR Palmer 28.50 51 eP P 04 02 05.9 -1.0
PMR pmax pmax
comp=Z,208nm,1.7s
PMR Palmer 28.50 51 eP P 04 02 05.9 -1.0
comp=Z,208nm,1.7s
SEW Seward 28.50 54 eP P 04 02 05.9 -0.9
comp=Z,360nm,1.4s
KSGUS GUNSAN 28.52 248 P P 04 02 08.3 +1.1
SNR=12
CBIJ Chichi jima 28.58 215 eP P 04 02 08.5 +0.7
comp=Z,1μm,2.0s
JCJ Chichijima 28.58 215 P P 04 02 08.6 +0.7
comp=Z,184nm,0.9s,baz=30,slow=4.8,SNR=26
KSNAH Namhae 28.76 245 P P 04 02 10.9 +1.5
SNR=15
KSJEU Jeongeup 28.82 247 P P 04 02 11.1 +1.1
SNR=13
SML Sawmill 28.86 51 eP P 04 02 09.4 -0.8
SML pmax pmax
comp=Z,535nm,0.9s
SML Sawmill 28.86 51 eP P 04 02 09.3 -0.8
comp=Z,535nm,0.9s
COLA College 28.95 44 eP P 04 02 10.3 -0.5
COLA pmax pmax
comp=Z,688nm,1.8s
COLA MLR MLR
comp=Z,27μm,19.0s
COLA College 28.95 44 eP P 04 02 10.3 -0.5
comp=Z,688nm,1.8s
COLA LR LR
comp=Z,27μm,19.0s
CCB Clear Creek Bu 28.97 45 eP P 04 02 10.6 -0.4
comp=Z,597nm,1.8s
KSKWJ Gwangju 29.03 247 P P 04 02 12.7 +0.9
SNR=29
KSGWJ Gwangju-acc 29.08 247 P P 04 02 13.4 +1.2
SNR=9.6
DHY Denali Highway 29.21 48 eP P 04 02 13.2 -0.1
comp=Z,239nm,1.6s
KSKOH Goheung 29.27 246 P P 04 02 16.1 +2.2
SNR=12
HDA Harding Lake 29.34 45 eP P 04 02 14.0 -0.4
comp=Z,60nm,0.8s
ILAR Eielson Array 29.36 44 P P 04 02 14.4 -0.1
comp=Z,25nm,0.9s,baz=267,slow=5.8,SNR=96
ILAR PcP PcP 04 05 19.1 -0.7
comp=Z,5.7nm,0.6s,baz=283,slow=3.4,SNR=6.3
ILAR LR LR 04 15 34.9
comp=Z,39μm,18.1s,baz=277,slow=40
MIDW Midway 29.50 136 PFAKE 04 02 30.0 +14
MIDW LR LR
comp=Z,48μm,20.0s
DL2 Dalian 29.60 258⇑iP P 04 02 16.5 -0.3
DL2 S S 04 07 18.3 +8.4
DL2 PMZ
comp=Z,160nm,0.8s
DL2 PMZ
comp=Z,3μm,11.6s
DL2 LN
comp=Z,29μm,17.0s
DL2 LE
comp=Z,28μm,16.8s
DL2 LZ
comp=Z,49μm,15.5s
KSWAN Wando 29.76 246 P P 04 02 19.6 +1.4
SNR=16
KSJDO Jindo 29.91 246 P P 04 02 20.3 +0.7
SNR=9.1
KLU Klutina 30.04 51 eP P 04 02 20.2 -0.5
comp=Z,144nm,1.2s
PAX Paxson 30.09 48 eP P 04 02 20.7 -0.3
PAX pmax pmax
comp=Z,441nm,2.2s
PAX Paxson 30.09 48 eP P 04 02 20.7 -0.3
comp=Z,441nm,2.2s
DIV Divide 30.16 52 eP P 04 02 21.4 -0.2
comp=Z,2μm,2.9s
MID Middleton Isla 30.16 55 eP P 04 02 21.3 -0.3
MID pmax pmax
comp=Z,232nm,1.2s
MID Middleton Isla 30.16 55 eP P 04 02 21.2 -0.3
comp=Z,232nm,1.2s
KSHUK Heuksando 30.25 248 P P 04 02 23.1 +0.6
SNR=12
EYAK Cordova Ski Ar 30.26 53 eP P 04 02 22.8 +0.3
comp=Z,84nm,0.9s
HARP HAARP 30.29 49 eP P 04 02 23.4 +0.7
comp=Z,270nm,1.4s
BMRM Bremner River 30.75 52 eP P 04 02 26.6 -0.2
comp=Z,178nm,1.1s
MENT Mentasta 30.89 48 eP P 04 02 28.3 +0.3
EGAK Eagle 31.82 44 eP P 04 02 34.6 -1.5
comp=Z,96nm,0.8s
EGAK LR LR
comp=Z,28μm,20.0s
BJI Beijing 32.20 265 P P 04 02 38.5 -1.2
BJI S S 04 07 49.0 -1.5
BJI PMZ
comp=Z,4μm,8.3s
BJI LN
comp=Z,88μm,17.0s
BJI LE
comp=Z,128μm,18.0s
BJI LZ
comp=Z,123μm,20.8s
DAWY Dawson 32.66 45 eP P 04 02 43.3 -0.3
H11N2 WAKE ISLAND Hy 33.08 168 T T 04 38 49.6
baz=352,slow=76,SNR=3694
H11N3 WAKE ISLAND Hy 33.09 168 T T 04 38 36.9
baz=352,slow=76,SNR=1111
H11N1 WAKE ISLAND Hy 33.09 168 T T 04 38 37.1
baz=352,slow=76,SNR=3806
IRK Irkutsk 33.29 292 eP P 04 02 48.3 -0.9
IRK e 04 04 09.4
IRK e 04 13 16.7
IRK pmax pmax
comp=Z,2μm,2.9s
WAKE Wake Island 33.49 168 PFAKE 04 03 00.0 +8.9
WAKE LR LR
comp=Z,40μm,21.0s
ULN Ulaanbaatar 33.55 284d iP P 04 02 51.1 -0.6
ULN pmax pmax

ULN MLR MLR
comp=Z,194µm,14.0s
ULN Ulaanbaatar 33.55 284 *e*P **P 04 02 51.2 -0.5**
comp=Z,81nm,0.8s
ULN LR LR
comp=Z,195µm,19.0s
TLY Talaya 33.87 292 P **P 04 02 54.3 0.0**
comp=Z,58nm,0.9s,baz=40,slow=9.6,SNR=11
TLY Talaya 33.87 292 *e*P **P 04 02 54.4 +0.2**
TLY *e*S S 04 08 23.5 +7.1
TLY pmax pmax
comp=Z,148nm,1.2s
TLY MLR MLR
comp=Z,107µm,20.0s
TLY Talaya 33.87 292 P **P 04 02 54.5 +0.2**
comp=Z,529nm,1.2s,SNR=44
TLY Talaya 33.87 292 *e*P **P 04 02 54.5 +0.2**
comp=Z,161nm,1.2s
TLY LR LR
comp=Z,81µm,19.0s
SONM Songino Array 33.96 284 P **P 04 02 55.3 +0.1**
comp=Z,35nm,0.5s,baz=63,slow=7.9,SNR=140
SONM PcP **PcP 04 05 33.0 +0.3**
comp=Z,37nm,1.0s,baz=142,slow=3.7,SNR=4.8
SONM LR LR 04 18 19.4
comp=Z,238µm,18.6s,baz=63,slow=39
SONM Songino Array 33.96 284 *e*P **P 04 02 54.8 -0.4**
SONM pmax pmax
comp=Z,35nm,0.5s
TIA Tai'an 34.07 259 ⇑P **P 04 02 55.5 -0.6**
TIA PMZ
comp=Z,250nm,0.8s
TIA PMZ
comp=Z,5µm,12.0s
TIA LN
comp=Z,61µm,18.0s
TIA LE
comp=Z,95µm,19.6s
TIA LZ
comp=Z,74µm,18.0s
HYT Haines Junctio 34.17 51 *e*P **P 04 02 57.3 +0.4**
comp=Z,121nm,1.0s
H11S1 WAKE ISLAND Hy 34.26 169 T T 04 39 31.1
baz=352,slow=76,SNR=718
H11S3 WAKE ISLAND Hy 34.27 169 T T 04 39 35.1
baz=352,slow=76,SNR=1593
H11S2 WAKE ISLAND Hy 34.28 169 T T 04 39 38.3
baz=352,slow=76,SNR=623
INK Inuvik 34.47 37 P **P 04 02 59.6 +0.5**
comp=Z,55nm,0.9s,baz=268,slow=10,SNR=59
INK PcP **PcP 04 05 34.3 +0.7**
comp=Z,9.1nm,0.5s,baz=267,slow=4.7,SNR=5.1
INK Inuvik 34.47 37 *e*P **P 04 02 59.4 +0.2**
INK 04 05 34.3
INK pmax pmax
comp=Z,296nm,1.4s
INK Inuvik 34.47 37 *e*P **P 04 02 59.4 +0.2**
comp=Z,296nm,1.4s
INK PcP **PcP 04 05 34.3 +0.7**
HHC Hu-ho-hao-te 34.53 270 *e*P **P 04 02 59.5 -0.7**
HHC sP **sP 04 03 09.0 -3.8**
HHC PP **PP 04 04 19.5 +0.9**
HHC S **S 04 08 24.8 -2.2**
HHC sS sS 04 08 36.0 -5.7
HHC SS **SnSn 04 10 33.0 -6.4**
HHC PMZ
comp=Z,73nm,1.5s
HHC PMZ
comp=Z,3µm,8.1s
HHC LN
comp=Z,102µm,14.5s
HHC LE
comp=Z,113µm,17.1s
HHC LZ
comp=Z,118µm,16.9s
ZAK Zakamensk 34.63 290 *e*P **P 04 03 00.5 -0.4**
ZAK pmax pmax
comp=Z,105nm,1.2s
JOW Kunigami 34.84 235 *e*P **P 04 03 03.7 +0.9**
comp=Z,3µm,2.3s
SSE Sheshan 35.31 248 P **P 04 03 07.5 +0.7**
SSE sP **sP 04 03 20.0 +0.7**
SSE PP **PP 04 04 29.0 +1.9**
SSE S **S 04 08 39.5 +0.7**
SSE PcS PcS 04 09 18.5 -5.3
SSE PMZ
comp=Z,72nm,1.2s
SSE PMZ
comp=Z,5µm,6.2s
SSE LN
comp=Z,27µm,20.3s
SSE LE
comp=Z,14µm,20.7s
SSE LZ
comp=Z,26µm,17.9s
MOY Mondy 35.38 293 *e*P **P 04 03 07.2 -0.2**
MOY pmax pmax
comp=Z,437nm,2.5s
SKAG Skagway 35.60 53 *e*P **P 04 03 10.1 +1.1**
comp=Z,165nm,0.9s
BTO Baotou 35.62 271 *e*P **P 04 03 08.5 -1.1**
TIY Taiyuan 35.93 265 *e*P **P 04 03 12.5 +0.3**
TIY sP **sP 04 03 25.3 +0.5**
TIY S **S 04 08 46.8 -1.6**
TIY ScS **ScS 04 13 25.5 -2.2**
TIY PMZ
comp=Z,94nm,0.9s
TIY PMZ
comp=Z,2µm,6.3s
TIY LN
comp=Z,52µm,12.4s
TIY LE
comp=Z,51µm,16.8s
TIY LZ
comp=Z,76µm,15.1s
NJ2 Nanjing 35.95 252 *e*P **P 04 03 12.5 +0.2**
NJ2 pP **pP 04 03 20.0 -1.2**
NJ2 sP **sP 04 03 22.5 -2.3**
NJ2 PP **PP 04 04 36.5 +2.4**
NJ2 S **S 04 08 46.0 -2.6**
NJ2 sS **sS 04 09 02.5 -0.7**
NJ2 PMZ
comp=Z,310nm,0.8s
NJ2 PMZ
comp=Z,12µm,6.0s
NJ2 LN
comp=Z,74µm,17.5s
NJ2 LE
comp=Z,102µm,19.8s
NJ2 LZ
comp=Z,103µm,19.8s
BESE Bessie Mountai 36.12 54 *e*P **P 04 03 14.3 +0.8**
comp=Z,103nm,1.2s
KRAR Krasnoyarsk 37.98 303 *c i*P **P 04 03 28.5 -0.8**
KRAR pmax pmax
comp=Z,239nm,0.7s
KRAR MLR MLR
comp=Z,69µm,17.0s
CRAG Craig 38.15 58 *e*P **P 04 03 31.7 +1.0**
comp=Z,179nm,1.3s
WRAK Wrangell Islan 38.17 56 *e*P **P 04 03 32.1 +1.3**
comp=Z,183nm,1.1s
WRAK LR LR
comp=Z,21µm,22.0s
DLBC Dease Lake 38.53 53 P **P 04 03 35.8 +1.8**
comp=Z,124nm,1.1s,baz=278,slow=9.4,SNR=22
YOJ Yonaguni jima 39.49 239 *e*P **P 04 03 40.8 -1.4**
YOJ pmax pmax
comp=Z,113nm,0.8s
YOJ Yonaguni jima 39.49 239 *e*P **P 04 03 40.8 -1.4**
comp=Z,113nm,0.8s
WHN Wuhan 39.68 255 ⇑P **P 04 03 43.5 -0.3**
WHN sP **sP 04 03 56.5 +0.1**
WHN S **ScP 04 09 39.5 +3.1**
WHN PMZ
comp=Z,770nm,1.6s
WHN PMZ
comp=Z,9µm,4.2s
WHN LN
comp=Z,87µm,13.6s
WHN LE
comp=Z,145µm,15.4s
WHN LZ
comp=Z,143µm,15.0s
HVS Khovu-Aksy 39.69 295 *c i*P **P 04 03 43.6 -0.2**
HVS pmax pmax
comp=Z,235nm,0.6s
HVS MLR MLR
comp=Z,169µm,16.0s
YHNB Yeheng 40.19 241 *e*P **P 04 03 48.8 +0.5**
comp=Z,75nm,0.7s
YHNB LR LR
comp=Z,36µm,22.0s
NACB Ninganchiao 40.47 241 *e*P **P 04 03 49.6 -0.8**
comp=Z,262nm,1.4s
XAN Xi'an 40.49 264 P **P 04 03 49.3 -1.3**
XAN pP **pP 04 03 55.3 -4.3**
XAN sP **sP 04 03 58.3 -4.9**
XAN PP **PP 04 05 24.0 0.0**
XAN S S 04 09 50.0 -7.4
XAN PMZ
comp=Z,3µm,12.6s
XAN LN
comp=Z,64µm,17.0s
XAN LE
comp=Z,86µm,17.0s
XAN LZ
comp=Z,126µm,18.4s
GUMO Guam 40.57 203 LR LR 04 19 32.7
comp=Z,14µm,20.1s,baz=22,slow=34
SSLB Suanglung 41.13 241 *e*P **P 04 03 56.9 +1.0**
comp=Z,137nm,0.9s
YULB Yu-li 41.26 240 *e*P **P 04 03 57.4 +0.4**
comp=Z,285nm,1.1s
YULB *e*S **S 04 10 09.4 +0.4**
QZH Quanzhou 41.49 245 ⇑*i*P **P 04 04 00.0 +1.2**
QZH PcS **PcS 04 09 47.3 -0.2**
QZH S **S 04 10 11.0 -1.3**
QZH PMZ
comp=Z,2µm,2.0s
QZH PMZ
comp=Z,15µm,7.0s
QZH LN
comp=Z,51µm,15.5s
QZH LE
comp=Z,28µm,18.0s
QZH LZ
comp=Z,70µm,16.3s
TPUB Ta-pu 41.70 241 *e*P **P 04 04 01.3 +0.8**
comp=Z,1µm,1.7s
TWG Pinlang 41.85 240 *e*P **P 04 04 01.8 0.0**
comp=Z,584nm,0.6s
LZH Lanzhou 42.23 270 ⇑P **P 04 04 05.3 +0.3**
LZH pP **pP 04 04 11.5 -2.5**
LZH sP **sP 04 04 14.5 -3.2**
LZH S **S 04 10 19.0 -4.4**
LZH sS sS 04 10 33.0 -5.3
LZH SS **SS 04 13 27.5 -4.3**
LZH PMZ
comp=Z,270nm,1.0s
LZH PMZ
comp=Z,2µm,5.4s
LZH LN
comp=Z,77µm,15.0s
LZH LE
comp=Z,46µm,15.4s
LZH LZ
comp=Z,58µm,16.6s
BBB Bella Bella 42.30 60 P **P 04 04 06.2 +1.1**
comp=Z,108nm,1.1s,baz=296,slow=8.6,SNR=13
GTA Gaotai 42.58 277 ⇑P **P 04 04 07.8 0.0**
GTA pP **pP 04 04 17.8 +1.0**
GTA sP **sP 04 04 21.8 +1.4**
GTA PP **PP 04 05 49.8 +3.2**
GTA PcP **PcP 04 06 00.8 +1.2**
GTA ScP **ScP 04 09 47.3 -0.7**
GTA PcS **PcS 04 09 51.8 0.0**
GTA S **S 04 10 28.5 +0.1**
GTA sS **sS 04 10 44.5 +1.2**
GTA SS **SS 04 13 32.8 -5.7**
GTA ScS **ScS 04 14 06.3 -0.4**
GTA PMZ
comp=Z,130nm,1.4s
GTA PMZ
comp=Z,3µm,5.7s
GTA LN
comp=Z,73µm,17.6s
GTA LE
comp=Z,115µm,16.6s
GTA LZ
comp=Z,132µm,18.1s
ENH Enshi 42.78 259 *e*P **P 04 04 08.6 -0.7**
comp=Z,75nm,0.6s
ENH LR LR
comp=Z,37µm,21.0s
ENH Enshi 42.78 259 *e*S **S 04 10 31.9 +0.6**
ZALV Zalesovo Beam 43.05 303 P **P 04 04 10.0 -1.3**
comp=Z,81nm,0.8s,baz=58,slow=6.9,SNR=137
ZALV PcP **PcP 04 06 02.2 +1.4**
comp=Z,80nm,1.2s,baz=90,slow=0.6,SNR=5.4
ZALV ScP **ScP 04 09 52.1 +2.7**
comp=Z,12nm,1.1s,baz=61,slow=3.7,SNR=4.2
ZALV LR LR 04 23 28.9
comp=Z,88µm,18.2s,baz=74,slow=38
ZALV Zalesovo Beam 43.05 303 *e*P **P 04 04 09.4 -1.8**
ZALV pmax pmax
comp=Z,82nm,0.8s
NVS Novosibirsk 43.41 305 ⇑*i*P **P 04 04 12.8 -1.3**
NVS *e* 04 05 57.3
NVS *e*S S 04 10 33.7 -6.2
NVS *e*SS **SS 04 13 51.5 -2.5**
NVS pmax pmax
comp=N,171nm,1.0s
NVS pmax pmax
comp=E,430nm,1.0s
NVS pmax pmax
comp=Z,662nm,1.0s
NVS pmax pmax
comp=N,113nm,1.5s
NVS pmax pmax
comp=E,173nm,1.5s
NVS pmax pmax
comp=Z,266nm,1.5s
NVS smax smax
comp=N,552nm,2.5s
NVS smax smax
comp=E,596nm,2.1s
ALE Alert 43.60 7 P **P 04 04 15.3 0.0**
comp=E,675nm,0.7s,SNR=23
YKW3 Yellowknife Ar 43.69 42 *e*P **P 04 04 16.8 +0.5**
comp=E,8.2nm,1.3s
YKA Yellowknife Ar 43.73 42 P **P 04 04 15.7 -0.9**
comp=E,73nm,1.1s,baz=299,slow=7.9,SNR=51
RES Resolute Bay 43.99 22 P **P 04 04 19.2 +0.8**
comp=E,39nm,0.6s,baz=312,slow=9.3,SNR=7.6
RES Resolute Bay 43.99 22 *e*P **P 04 04 18.8 +0.3**
RES pmax pmax
comp=Z,55nm,0.7s
RES Resolute Bay 43.99 22 *e*P **P 04 04 18.8 +0.3**
comp=Z,55nm,0.7s
KIP Kipapa 44.71 117 *e*P **P 04 04 26.0 +1.1**
KIP pmax pmax
comp=Z,153nm,0.9s
KIP MLR MLR
comp=Z,24µm,20.0s
KIP Kipapa 44.71 117 *e*P **P 04 04 25.9 +1.1**
comp=Z,153nm,0.9s
KIP LR LR
comp=Z,24µm,20.0s
CVP Callao Caves 45.71 235 *e*P **P 04 04 33.2 +0.4**
CD2 Chengdu 45.80 265 ⇑*i*P **P 04 04 33.3 -0.2**
CD2 pP **pP 04 04 39.8 -2.8**
CD2 PcP **PcP 04 06 11.0 +0.4**
CD2 PcS **PcS 04 10 05.0 0.0**
CD2 S **S 04 11 16.0 +0.8**
CD2 sS **sS 04 11 27.3 -2.9**
CD2 PMZ
comp=Z,170nm,0.7s
CD2 PMZ
comp=Z,5µm,5.8s
CD2 LN
comp=Z,76µm,16.2s
CD2 LE
comp=Z,90µm,13.5s
CD2 LZ
comp=Z,103µm,16.2s
GZH Guangzhou 45.90 249 P P 04 04 30.5 -3.8
GZH PcP **PcP 04 06 10.8 -0.2**
GZH S S 04 11 07.5 -9.2
GZH LN
comp=Z,78µm,18.6s
GZH LE
comp=Z,64µm,17.1s
HKC Hong Kong Obse 46.05 247 ⇑*i*P **P 04 04 37.0 +1.5**
SZP Santa 46.53 237 *e*P **P 04 04 40.3 +1.1**
comp=Z,1µm,0.9s
PGC Sidney 46.71 62 *e*P **P 04 04 40.0 -0.3**
comp=Z,134nm,1.3s
WMQ Urumqi 47.10 290 P **P 04 04 44.3 +0.7**
WMQ pP **pP 04 04 50.3 -2.4**
WMQ sP **sP 04 04 53.3 -3.0**
WMQ PcP **PcP 04 06 14.0 -1.0**
WMQ PP **PP 04 06 34.3 0.0**
WMQ PcS **PcS 04 10 10.5 +0.4**
WMQ S **S 04 11 34.5 +0.9**
WMQ SS **SS 04 14 53.5 -6.8**
WMQ PMZ
comp=Z,280nm,0.7s
WMQ PMZ
comp=Z,4µm,6.0s
WMQ LN
comp=Z,86µm,14.7s
WMQ LE
comp=Z,100µm,14.0s
WMQ LZ
comp=Z,82µm,14.1s
NLWA Neilton Lookou 47.22 64 *e*P **P 04 04 44.9 +0.5**
comp=Z,199nm,1.2s
NLWA LR LR
comp=Z,24µm,22.0s
A05A Maple Falls 47.25 61 P **P 04 04 44.5 0.0**
GYA Guiyang 47.25 258 ⇑*i*P **P 04 04 44.3 -0.8**
GYA pP **pP 04 04 52.8 -1.4**
GYA PcP **PcP 04 06 18.0 +2.1**
GYA PP **PP 04 06 36.5 +0.3**
GYA ScP **ScP 04 10 10.5 +3.1**
GYA S **S 04 11 35.0 -1.3**
GYA ScS **ScS 04 14 36.0 -0.9**
GYA SS **SS 04 14 59.3 -4.3**
GYA PMZ
comp=Z,110nm,0.7s
GYA PMZ
comp=Z,4µm,13.1s
GYA LN
comp=Z,43µm,15.2s
GYA LE
comp=Z,45µm,17.1s
GYA LZ
comp=Z,89µm,15.5s
POHA Pohakuloa 47.41 116 *e*P **P 04 04 47.1 +0.7**
comp=Z,352nm,1.0s
POHA LR LR
comp=Z,25µm,19.0s
BCPH Baguio City Da 47.45 236 ⇓*i*P **P 04 04 47.0 +0.3**
KBS Kingsbay 47.53 352 *e*P **P 04 04 45.6 -0.7**
KBS IAmb IAmb 04 04 49.7
comp=Z,2µm,0.9s
KBS *e*S **S 04 11 39.5 +0.7**
KBS IAMs_20 IAMs_20 04 24 56.2
comp=Z,104µm,20.7s
KBS IVMs_BB IVMs_BB 04 25 09.1
comp=Z,33µm,17.4s
KBS Kingsbay 47.53 352 *e*P **P 04 04 47.3 +0.9**
KBS pmax pmax
comp=Z,752nm,1.1s
KBS MLR MLR
comp=Z,24µm,19.0s
KBS Kingsbay 47.53 352 *e*P **P 04 04 47.2 +0.9**
comp=Z,752nm,1.1s
KBS LR LR
comp=Z,24µm,19.0s
CMW Cultus Mountai 47.57 62 P **P 04 04 47.6 +0.4**
SPA0 Spitsbergen Ar 47.78 350 ⇑*i*P **P 04 04 48.7 +0.3**
SPA0 IAmb IAmb 04 04 52.4
comp=Z,2µm,0.4s
SPA0 *e*S **S 04 11 42.7 +0.2**
SPA0 IVMs_BB IVMs_BB 04 27 32.5
comp=Z,12µm,17.6s
SPITS Spitsbergen Ar 47.78 350 P **P 04 04 48.4 0.0**
comp=Z,264nm,0.4s,baz=60,slow=8.8,SNR=402
B06A Marblemount 47.85 62 *e*P **P 04 04 50.1 +0.9**
comp=Z,195nm,1.2s
E03A Lebam 47.88 65 *e*P **P 04 04 50.2 +0.7**
comp=Z,261nm,1.2s
PUH Pauahi 47.90 116 *e*P **P 04 04 51.4 +1.3**
KURK Kurchatov 48.00 302 P **P 04 04 49.9 -0.5**
KURK 04 06 19.0
KURK Kurchatov 48.00 302 P **P 04 04 49.9 -0.5**
KURK PcP **PcP 04 06 18.9 +0.9**
KURBB Kurchatov Arra 48.10 302 P **P 04 04 49.9 -1.2**
comp=Z,191nm,0.6s,baz=59,slow=7.5,SNR=20
KURBB PcP **PcP 04 06 19.0 +0.6**
comp=Z,28nm,0.9s,baz=54,slow=3.9,SNR=5.0
HOPEN Hopen 48.17 347 ⇑*i*P **P 04 04 50.4 -1.0**
MK31 Makanchi Array 48.35 296 *i* P **P 04 04 52.0 -1.2**
MK31 pmax pmax
comp=Z,118nm,0.6s
MKAR Makanchi Array 48.35 296 P **P 04 04 51.7 -1.5**
comp=Z,100nm,0.6s,baz=55,slow=7.0,SNR=244
MKAR LR LR 04 26 48.8
comp=Z,58µm,18.6s,baz=53,slow=38
D05A Enumclaw 48.37 63 *e*P **P 04 04 54.1 +0.9**
comp=Z,261nm,1.2s
F04D Rainier, OR 48.47 65 P **P 04 04 54.3 +0.3**
baz=48
F04D S **S 04 11 54.6 +1.8**
baz=48
GQP Guinayangan 48.64 232 ⇑*e*P **P 04 04 56.6 +0.9**
LON Longmire 48.73 64 *e*P **P 04 04 56.4 +0.2**
LON pmax pmax
comp=Z,127nm,1.4s
LON Longmire 48.73 64 *e*P **P 04 04 56.4 +0.2**
comp=Z,127nm,1.4s
TDL Tradedollar La 48.75 64 P **P 04 04 56.6 +0.2**
STD Studebaker Rid 48.81 64 P **P 04 04 57.5 +0.7**
G03D McMinnville, O 48.86 66 P **P 04 04 57.2 +0.2**
baz=49
HSPB Hornsund (broa 48.90 350 ⇓*i*P **P 04 04 57.2 +0.2**
HSPB *e*S **S 04 11 58.1 -0.1**
HSPB IVMs_BB IVMs_BB 04 28 01.6
comp=Z,8µm,18.4s
B08A Colville Reser 49.10 61 *e*P **P 04 04 58.7 -0.2**
comp=Z,215nm,1.1s
TGY Tagaytay City 49.21 234 P **P 04 05 02.0 +1.9**
comp=Z,151nm,0.2s,baz=15,slow=3.2,SNR=7.1
COR Corvallis 49.22 67 *e*P **P 04 05 01.7 +1.9**
COR *e* 04 06 23.5
COR pmax pmax
comp=Z,244nm,1.3s
COR Corvallis 49.22 67 *e*P **P 04 05 01.7 +1.9**
comp=Z,244nm,1.3s
COR *e*PcP **PcP 04 06 23.5 +1.0**
EDM Edmonton 49.26 52 *e*P **P 04 04 59.9 -0.2**
EDM pmax pmax
comp=Z,230nm,0.8s
EDM Edmonton 49.26 52 *e*P **P 04 04 59.9 -0.2**
comp=Z,230nm,0.8s
KEBM Edson Butte 49.70 69 *e*P **P 04 05 04.1 +0.5**
comp=Z,83nm,1.1s
KEBM *e*PcP **PcP 04 06 25.8 +1.3**
TRW Toppenish Ridg 49.70 63 P **P 04 05 03.6 +0.1**
I03D Drain, OR 49.74 68 P **P 04 05 04.5 +0.7**
baz=50,SNR=20
H04A Detroit Lake 49.79 66 P **P 04 05 04.5 +0.3**
PLP Palo 49.85 227 ⇑*e*P **P 04 05 07.1 +2.2**
G05D Wamic, OR 49.92 65 P **P 04 05 05.7 +0.5**
baz=50,SNR=24
D08A Wollman Farm, 50.11 62 *e*P **P 04 05 06.4 -0.2**
comp=Z,153nm,1.4s
KBO Bosley Butte 50.18 70 *e*P **P 04 05 08.5 +1.2**
comp=Z,216nm,1.4s
HAWA Hanford 50.19 63 *e*P **P 04 05 07.0 -0.3**
comp=Z,170nm,1.2s
HAWA LR LR
comp=Z,18µm,22.0s
I04A Tendick Farm, 50.21 67 P **P 04 05 07.8 +0.3**
baz=50,SNR=65
CROR Criterion Ridg 50.27 65 P **P 04 05 08.2 +0.3**
NEW Newport 50.33 59 P **P 04 05 08.7 +0.3**
comp=Z,89nm,1.1s,baz=317,slow=7.5,SNR=28
NEW PcP **PcP 04 06 27.7 +1.0**
comp=Z,69nm,1.2s,baz=310,slow=4.8,SNR=2.9
NEW Newport 50.33 59 *e*P **P 04 05 07.9 -0.4**
NEW 04 06 27.7
NEW pmax pmax
comp=Z,133nm,1.1s
NEW MLR MLR

	comp=Z,19µm,22.0s								
NEW	**Newport**	**50.33**	**59**	P		**P**	**04 05 08.1**	**-0.3**	
	baz=50,SNR=88								
NEW	**Newport**	**50.33**	**59**	*e*P		**P**	**04 05 07.9**	**-0.4**	
	comp=Z,133nm,1.1s								
NEW				PcP		**PcP**	**04 06 27.7**	**+1.0**	
NEW				LR		LR			
	comp=Z,19µm,22.0s								
VTHM	**Trough**	**50.38**	**65**	P		**P**	**04 05 09.1**	**+0.3**	
I05D	**Terrebonne, OR**	**50.47**	**66**	P		**P**	**04 05 09.5**	**+0.1**	
	baz=50,SNR=32								
L02D	**Cave Junction,**	**50.57**	**69**	P		**P**	**04 05 11.1**	**+0.9**	
	baz=50,SNR=21								
KMI	**Kunming**	**50.60**	**260**	P		**P**	**04 05 11.0**	**+0.1**	
KMI				pP		**pP**	**04 05 21.0**	**+1.0**	
KMI				sP		**sP**	**04 05 25.3**	**+1.6**	
KMI				PP		**PP**	**04 07 03.5**	**-3.3**	
KMI				sS		sS	04 12 31.5	-7.2	
KMI				PMZ					
	comp=Z,100nm,2.0s								
KMI				PMZ					
	comp=Z,5µm,6.1s								
KMI				LN					
	comp=Z,53µm,18.9s								
KMI				LE					
	comp=Z,28µm,19.4s								
KMI				LZ					
	comp=Z,43µm,14.1s								
BBOR	**Butler Butte**	**50.63**	**68**	P		**P**	**04 05 11.8**	**+0.9**	
HUMO	**Hull Mountain**	**50.66**	**69**	*e*P		**P**	**04 05 11.7**	**+0.9**	
	comp=Z,142nm,1.3s								
HUMO				*e*PcP		**PcP**	**04 06 29.4**	**+1.5**	
BJO	**Bjornoya**	**50.66**	**347**	⇑*i*P		**P**	**04 05 10.4**	**+0.1**	
BVA0	**Borovoye Array**	**50.73**	**309**	*i* P		**P**	**04 05 09.7**	**-1.5**	
BVA0				pmax		pmax			
	comp=Z,552nm,2.1s								
BVAR	**Borovoye Array**	**50.73**	**309**	P		**P**	**04 05 09.8**	**-1.4**	
	comp=Z,103nm,0.6s,baz=60,slow=8.8,SNR=187								
BVAR				PcP		**PcP**	**04 06 26.9**	**-1.0**	
	comp=Z,31nm,0.7s,baz=70,slow=4.5,SNR=2.7								
BVAR				ScP		**ScP**	**04 10 24.4**	**+2.7**	
	comp=Z,13nm,0.9s,baz=79,slow=3.2,SNR=3.6								
BVAR				LR		LR	04 28 55.0		
	comp=Z,83µm,18.9s,baz=58,slow=39								
J04D	**Umpqua Nationa**	**50.73**	**67**	P		**P**	**04 05 12.3**	**+0.6**	
	baz=51,SNR=47								
BRVK	**Borovoye**	**50.76**	**309**	P		**P**	**04 05 10.3**	**-1.1**	
	comp=Z,1µm,0.6s,SNR=70								
BRVK	**Borovoye**	**50.76**	**309**	*e*P		**P**	**04 05 09.7**	**-1.7**	
BRVK				*e*S		**S**	**04 12 21.9**	**-2.8**	
BRVK				pmax		pmax			
	comp=Z,151nm,0.7s								
BRVK				MLR		MLR			
	comp=Z,102µm,19.0s								
BRVK	**Borovoye**	**50.76**	**309**	*e*P		**P**	**04 05 09.7**	**-1.7**	
	comp=Z,151nm,0.7s								
BRVK				*e*S		**S**	**04 12 21.9**	**-2.8**	
BRVK				LR		LR			
	comp=Z,102µm,19.0s								
KULLO	**Kullorsuaq**	**50.87**	**12**	⇑*i*P		**P**	**04 05 12.2**	**+0.3**	
	comp=Z,590nm,1.2s								
KULLO				*i* S		S	04 12 18.2	-7.4	
	comp=Z,49µm,17.0s								
DAG	**Danmarks Havn**	**51.08**	**360**	⇑*i*P		**P**	**04 05 13.8**	**+0.3**	
	comp=Z,273nm,1.1s								
DAG				*i* S		**S**	**04 12 23.6**	**-4.9**	
	comp=Z,15µm,17.0s								
DAG	**Danmarks Havn**	**51.08**	**360**	⇑*i*P		**P**	**04 05 13.8**	**+0.3**	
DAG				*i* S		**S**	**04 12 23.6**	**-4.9**	
DAG				pmax		pmax			
	comp=Z,350nm,1.1s								
DAG				MLR		MLR			
	comp=Z,16µm,17.0s								
QIZ	**Qiongzhong**	**51.10**	**249**	P		**P**	**04 05 16.5**	**+2.1**	
QIZ				pP		**pP**	**04 05 21.5**	**-2.0**	
QIZ				sP		**sP**	**04 05 24.0**	**-3.1**	
QIZ				S		**S**	**04 12 35.3**	**+5.2**	
QIZ				sS		**sS**	**04 12 42.0**	**-3.2**	
QIZ				LN					
	comp=Z,24µm,16.6s								
QIZ				LE					
	comp=Z,9µm,14.3s								
QIZ				LZ					
	comp=Z,25µm,17.5s								
QIZ	**Qiongzhong**	**51.10**	**249**	*e*P		**P**	**04 05 16.5**	**+2.1**	
	comp=Z,410nm,1.2s								
QIZ				LR		LR			
	comp=Z,19µm,19.0s								
G08A	**Pilot Rock**	**51.19**	**64**	*e*P		**P**	**04 05 14.9**	**-0.1**	
	comp=Z,93nm,1.3s								
J05D	**Fort Rock, OR**	**51.20**	**67**	P		**P**	**04 05 16.1**	**+1.1**	
	baz=51,SNR=35								
KHMM	**Horse Mountain**	**51.32**	**71**	*e*P		**P**	**04 05 17.2**	**+1.2**	
	comp=Z,286nm,1.3s								
K04D	**Chiloquin, OR**	**51.33**	**68**	P		**P**	**04 05 16.8**	**+0.8**	
	baz=51,SNR=9.9								
YBH	**Yreka Blue Hor**	**51.35**	**69**	P		**P**	**04 05 17.8**	**+1.6**	
	comp=Z,98nm,1.1s,baz=308,slow=3.5,SNR=24								
YBH	**Yreka Blue Hor**	**51.35**	**69**	*e*P		**P**	**04 05 17.1**	**+0.9**	
YBH				pmax		pmax			
	comp=Z,156nm,1.2s								
YBH	**Yreka Blue Hor**	**51.35**	**69**	*e*P		**P**	**04 05 17.1**	**+0.9**	
	comp=Z,156nm,1.2s								
M02C	**Callahan**	**51.49**	**70**	P		**P**	**04 05 18.7**	**+1.5**	
	baz=51,SNR=42								
WALA	**Waterton Lakes**	**51.51**	**57**	*e*P		**P**	**04 05 17.0**	**-0.3**	
	comp=Z,348nm,1.3s								
K05A	**Summer Lake**	**51.75**	**67**	*e*P		**P**	**04 05 20.3**	**+1.0**	
	comp=Z,237nm,1.3s								
KMRM	**Mail Ridge**	**51.76**	**71**	*e*P		**P**	**04 05 21.4**	**+2.3**	
	comp=Z,178nm,1.4s								
BSMT	**Bassoo Peak**	**51.81**	**59**	*e*P		**P**	**04 05 19.3**	**-0.4**	
	comp=Z,456nm,1.2s								
M04C	**Macdoel**	**51.82**	**69**	P		**P**	**04 05 20.7**	**+1.0**	
	baz=52,SNR=51								
N02D	**Trinity Center**	**51.85**	**70**	P		**P**	**04 05 21.3**	**+1.5**	
	baz=52,SNR=37								
BLMT	**Blacktail Moun**	**51.94**	**58**	*e*P		**P**	**04 05 20.6**	**0.0**	
TARA	**Tarawa**	**52.04**	**163**	PFAKE			04 05 30.0	+8.7	
TARA				LR		LR			
	comp=Z,18µm,21.0s								
JTMT	**Jette**	**52.15**	**58**	*e*P		**P**	**04 05 22.2**	**+0.2**	
KIPM	**Iron Peak**	**52.16**	**72**	*e*P		**P**	**04 05 23.0**	**+0.7**	
	comp=Z,350nm,1.7s								
KCPM	**Cahto Peak**	**52.18**	**72**	*e*P		**P**	**04 05 23.5**	**+1.1**	
	comp=Z,55nm,1.6s								
WDC	**Whiskeytown Da**	**52.20**	**70**	*e*P		**P**	**04 05 23.4**	**+1.0**	
WDC				pmax		pmax			
	comp=Z,152nm,1.3s								
WDC	**Whiskeytown Da**	**52.20**	**70**	*e*P		**P**	**04 05 23.4**	**+1.0**	
	comp=Z,152nm,1.3s								
YBMT	**Yellow Bay**	**52.21**	**58**	*e*P		**P**	**04 05 22.4**	**-0.2**	
	comp=Z,163nm,1.0s								
SWMT	**Swartz Lake**	**52.44**	**59**	*e*P		**P**	**04 05 24.0**	**-0.2**	
	comp=Z,105nm,1.0s								
MOD	**Modoc**	**52.62**	**68**	*e*P		**P**	**04 05 26.1**	**+0.4**	
	comp=Z,329nm,1.3s								
SVE	**Sverdlovsk**	**52.70**	**317**	*de*P		**P**	**04 05 25.5**	**-0.3**	
SVE				*e*			04 07 23.3		
SVE				*e*S		S	04 12 43.0	-8.2	
SVE				*e*SS		**SS**	**04 16 22.9**	**-6.2**	
SVE				*e*SSS		SSS	04 18 12.5		
SVE				pmax		pmax			
	comp=Z,140nm,1.2s								
SVE				pmax		pmax			
	comp=Z,4µm,17.1s								
SVE				MLR		MLR			
	comp=E,66µm,18.0s								
SVE				MLR		MLR			
	comp=Z,88µm,16.0s								
SVE				MLR		MLR			
	comp=N,36µm,15.0s								
SLVN	**Son La**	**52.77**	**256**	*e*P		**P**	**04 05 28.1**	**+1.2**	
	comp=N,67nm,0.8s								
SLMT	**Seeley Lake**	**52.88**	**59**	*e*P		**P**	**04 05 27.1**	**-0.5**	
	comp=N,172nm,1.1s								
MSO	**Missoula**	**52.91**	**59**	P		**P**	**04 05 28.0**	**+0.3**	
	baz=53,SNR=132								
MSO	**Missoula**	**52.91**	**59**	*e*P		**P**	**04 05 27.4**	**-0.3**	
	comp=N,255nm,1.3s								
WVOR	**Wild Horse Val**	**53.21**	**66**	*e*P		**P**	**04 05 30.3**	**+0.3**	
WVOR				pmax		pmax			
	comp=Z,206nm,1.4s								
WVOR				MLR		MLR			
	comp=Z,11µm,21.0s								
WVOR	**Wild Horse Val**	**53.21**	**66**	*e*P		**P**	**04 05 30.3**	**+0.3**	
	comp=Z,206nm,1.4s								
WVOR				LR		LR			
	comp=Z,11µm,21.0s								
CHMT	**Chamberlain Mo**	**53.22**	**59**	*e*P		**P**	**04 05 29.2**	**-0.8**	
	comp=Z,80nm,1.1s								
DAV	**Davao City (W)**	**53.24**	**224**	P		**P**	**04 05 29.8**	**-0.4**	
	comp=Z,286nm,0.4s,baz=14,slow=7.1,SNR=6.6								
DAV	**Davao City (W)**	**53.24**	**224**	P		**P**	**04 05 29.8**	**-0.4**	
DAV				LR		LR			
	comp=Z,13µm,21.0s								
LVZ	**Lovozero**	**53.28**	**337**	*c* *i*P		**P**	**04 05 29.4**	**-0.6**	
LVZ				pmax		pmax			
	comp=Z,254nm,1.2s								
LVZ				MLR		MLR			
	comp=Z,52µm,20.0s								
LVZ	**Lovozero**	**53.28**	**337**	P		**P**	**04 05 29.6**	**-0.4**	
	comp=Z,1µm,0.9s,SNR=23								
LVZ	**Lovozero**	**53.28**	**337**	*e*P		**P**	**04 05 29.0**	**-1.0**	
	comp=Z,180nm,1.0s								
LVZ				LR		LR			
	comp=Z,50µm,19.0s								
KEV	**Kevo**	**53.42**	**341**	*e*P		**P**	**04 05 30.1**	**-0.8**	
KEV				pmax		pmax			
	comp=Z,132nm,0.9s								
KEV				MLR		MLR			
	comp=Z,24µm,20.0s								
KEV	**Kevo**	**53.42**	**341**	*e*P		**P**	**04 05 30.1**	**-0.8**	
	comp=Z,132nm,0.9s								
KEV				LR		LR			
	comp=Z,24µm,20.0s								
AAA	**Alma-Ata**	**53.51**	**296**	*i* P		**P**	**04 05 31.9**	**-0.2**	
AAA				*i* S		**S**	**04 13 01.5**	**-1.3**	
AAA				pmax		pmax			
	comp=Z,3µm,3.7s								
AAA				smax		smax			
	comp=E,2µm,4.3s								
AAA				MLR		MLR			
	comp=Z,107µm,12.0s								
FFC	**Flin Flon**	**53.57**	**46**	P		**P**	**04 05 32.0**	**-0.3**	
	comp=Z,562nm,1.2s,SNR=38								
FFC	**Flin Flon**	**53.57**	**46**	*e*P		**P**	**04 05 32.4**	**+0.1**	
FFC				pmax		pmax			
	comp=Z,210nm,1.3s								
FFC				MLR		MLR			
	comp=Z,27µm,20.0s								
FFC	**Flin Flon**	**53.57**	**46**	*e*P		**P**	**04 05 32.4**	**+0.1**	
	comp=Z,210nm,1.3s								
FFC				LR		LR			
	comp=Z,27µm,20.0s								
CTBH	**Cotabato--PC H**	**53.68**	**226**	⇑*i*P		**P**	**04 05 35.2**	**+1.7**	
ARU	**Arti**	**53.82**	**318**	P		**P**	**04 05 33.5**	**-0.6**	
	comp=Z,88nm,0.6s,baz=49,slow=6.2,SNR=56								
ARU				LR		LR	04 32 01.8		
	comp=Z,42µm,19.3s,baz=30,slow=40								
ARU	**Arti**	**53.82**	**318**	*c* *i*P		**P**	**04 05 32.9**	**-1.2**	
ARU				*PP		**pP**	**04 05 46.0**	**+2.7**	
ARU							04 06 36.3		
ARU				PPP		PPP	04 08 48.2		
ARU				S		**S**	**04 13 04.3**	**-2.2**	
ARU							04 15 21.5		
ARU				SS		**SKiKP**	**04 16 43.0**	**-1.8**	
ARU				pmax		pmax			
	comp=Z,198nm,1.2s								
ARU				pmax		pmax			
	comp=Z,2µm,9.4s								
ARU				MLR		MLR			
	comp=Z,59µm,18.0s								
ARU	**Arti**	**53.82**	**318**	P		**P**	**04 05 33.6**	**-0.5**	
	comp=Z,995nm,0.6s,SNR=45								
ARU	**Arti**	**53.82**	**318**	*e*P		**P**	**04 05 32.8**	**-1.3**	
	comp=Z,115nm,0.7s								
ARU				LR		LR			
	comp=Z,42µm,19.0s								
APA	**Apatity**	**53.83**	**338**	⇓*i*P		**P**	**04 05 33.6**	**-0.4**	
APA				*i*			04 06 42.0		
APA				*i* PPP		PPP	04 08 46.6		
APA				*i* S		**S**	**04 13 02.0**	**-4.3**	
APA				pmax		pmax			
	comp=Z,146nm,1.0s								
APA				MLR		MLR			
	comp=Z,59µm,22.0s								
ARCES	**ARCESS Array B**	**53.89**	**342**	P		**P**	**04 05 34.0**	**-0.4**	
	comp=Z,218nm,0.9s,baz=39,slow=7.8,SNR=169								
ARCES				PcP		**PcP**	**04 06 40.6**	**+1.0**	
	comp=Z,46nm,0.8s,baz=25,slow=3.0,SNR=2.3								
ARCES				LR		LR	04 31 23.4		
	comp=Z,26µm,21.3s,baz=26,slow=39								
ARCES				PKP2bc			04 36 07.2		
	comp=Z,1.9nm,0.7s,baz=18,slow=5.1,SNR=4.1								
ARE0	**ARCESS Array S**	**53.89**	**342**	⇑*i*P		**P**	**04 05 33.7**	**-0.8**	
ARE0				*e*S		**S**	**04 13 04.9**	**-2.3**	
ARE0				IVMs_BB		IVMs_BB	04 35 09.3		
	comp=Z,10µm,17.0s								
FCC	**Fort Churchill**	**54.07**	**38**	*e*P		**P**	**04 05 35.2**	**-0.7**	
FCC	**Fort Churchill**	**54.07**	**38**	*e*P		**P**	**04 05 35.2**	**-0.7**	
HRY	**Holter Researc**	**54.09**	**58**	*e*P		**P**	**04 05 36.2**	**-0.1**	
	comp=Z,127nm,1.0s								
MFID	**Camas Ranch**	**54.12**	**63**	*e*P		**P**	**04 05 37.0**	**+0.3**	
	comp=Z,124nm,1.4s								
EGMT	**Eagleton**	**54.30**	**56**	P		**P**	**04 05 37.7**	**-0.1**	
	baz=54,SNR=52								
EGMT	**Eagleton**	**54.30**	**56**	*e*P		**P**	**04 05 37.3**	**-0.4**	
	comp=Z,479nm,1.7s								
EGMT				LR		LR			
	comp=Z,19µm,20.0s								
LRM	**Limekiln Ridge**	**54.35**	**59**	*e*P		**P**	**04 05 38.0**	**-0.4**	
	comp=Z,1µm,1.2s								
LSA	**Lhasa**	**54.37**	**274**	S		**S**	**04 13 11.8**	**-3.6**	
LSA	**Lhasa**	**54.37**	**274**	*e*P		**P**	**04 05 39.6**	**+0.6**	
LSA				pmax		pmax			
	comp=Z,184nm,0.6s								
LSA				MLR		MLR			
	comp=Z,82µm,20.0s								
LSA	**Lhasa**	**54.37**	**274**	*e*P		**P**	**04 05 39.6**	**+0.6**	
	comp=Z,184nm,0.6s								
LSA				LR		LR			
	comp=Z,82µm,20.0s								
TKM2	**Tokmak 2**	**54.49**	**296**	P		**P**	**04 05 38.5**	**-0.9**	
	SNR=97								
TKM2	**Tokmak 2**	**54.49**	**296**	*e*P		**P**	**04 05 38.3**	**-1.1**	
TKM2				pmax		pmax			
	comp=Z,101nm,0.9s								
TKM2				MLR		MLR			
	comp=Z,71µm,19.0s								
TKM2	**Tokmak 2**	**54.49**	**296**	*e*P		**P**	**04 05 38.3**	**-1.1**	
	comp=Z,102nm,0.9s								
TKM2				LR		LR			
	comp=Z,71µm,19.0s								
DLMT	**Dillon**	**54.58**	**60**	*e*P		**P**	**04 05 40.2**	**+0.3**	
	comp=Z,188nm,1.4s								
DLMT				*e*PcP		**PcP**	**04 06 43.8**	**+1.0**	
ULHL	**Ulahol**	**54.58**	**295**	P		**P**	**04 05 40.0**	**-0.1**	
	SNR=13								
KTK1	**Kautokeino**	**54.77**	**342**	*e*P		**P**	**04 05 40.6**	**-0.2**	
KTK1				lAmb		lAmb	04 05 43.2		
	comp=Z,337nm,0.7s								
KTK1				*e*S		**S**	**04 13 14.7**	**-4.2**	
HLID	**Hailey**	**54.79**	**63**	P		**P**	**04 05 42.3**	**+0.7**	
	baz=55,SNR=68								
HLID	**Hailey**	**54.79**	**63**	*e*P		**P**	**04 05 41.7**	**+0.1**	
	comp=Z,60nm,1.0s								
HLID				*e*PcP		**PcP**	**04 06 44.0**	**+0.3**	
HLID				LR		LR			
	comp=Z,18µm,22.0s								
MCMT	**McKenzie Canyo**	**54.80**	**60**	*e*P		**P**	**04 05 41.2**	**-0.4**	
MCMT				*e*PcP		**PcP**	**04 06 44.1**	**+0.4**	
USP	**Ospenovka**	**54.86**	**297**	P		**P**	**04 05 41.0**	**-0.9**	
	SNR=86								
BOZ	**Bozeman (W)**	**54.90**	**59**	*e*P		**P**	**04 05 42.4**	**+0.1**	
BOZ				pmax		pmax			
	comp=Z,151nm,1.0s								
BOZ				MLR		MLR			
	comp=Z,13µm,21.0s								
BOZ	**Bozeman (W)**	**54.90**	**59**	P		**P**	**04 05 43.2**	**+1.0**	
	baz=55,SNR=174								
BOZ	**Bozeman (W)**	**54.90**	**59**	*e*P		**P**	**04 05 42.4**	**+0.1**	
	comp=Z,151nm,1.0s								
BOZ				LR		LR			
	comp=Z,13µm,21.0s								
CHMS	**Chumysh**	**54.90**	**297**	P		**P**	**04 05 41.7**	**-0.5**	
	SNR=49								
PRGR	**Permogore**	**54.95**	**328**	⇑*i*P		**P**	**04 05 42.2**	**0.0**	
PRGR				*e**SP		sP	04 06 01.6	+6.6	
PRGR				*e*			04 06 44.1		
PRGR				S		**S**	**04 13 19.4**	**-2.1**	
PRGR							04 15 25.4		
PRGR				pmax		pmax			
	comp=Z,230nm,0.9s								
TRO	**Tromso**	**54.98**	**344**	⇑*i*P		P	04 05 37.7	-4.5	
TRO				lAmb		lAmb	04 05 41.3		
	comp=Z,2µm,1.9s								
TRO				*e*S		**S**	**04 13 19.1**	**-2.6**	
TRO				lVMs_BB		lVMs_BB	04 35 23.3		
	comp=Z,12µm,16.9s								
TRO				lAMs_20		lAMs_20	04 35 27.9		
	comp=Z,31µm,18.1s								
KBK	**Karagaybulak**	**55.02**	**296**	P		**P**	**04 05 43.4**	**+0.1**	
	SNR=24								
FRU	**Bishkek**	**55.08**	**297**	⇑*i*P		**P**	**04 05 42.0**	**-1.5**	
FRU				*e*S		**S**	**04 13 18.0**	**-5.9**	
FRU				*i*			04 15 29.0		
FRU				pmax		pmax			
	comp=Z,340nm,2.1s								
FRU				smax		smax			
	comp=E,530nm,2.6s								
FRU				MLR		MLR			
	comp=Z,48µm,17.5s								
CMB	**Columbia Colle**	**55.14**	**71**	*e*P		**P**	**04 05 44.7**	**+0.7**	
CMB				pmax		pmax			
	comp=Z,272nm,1.4s								
CMB	**Columbia Colle**	**55.14**	**71**	*e*P		**P**	**04 05 44.7**	**+0.7**	
	comp=Z,272nm,1.4s								
KZA	**Kyzart**	**55.24**	**296**	P		**P**	**04 05 45.2**	**+0.1**	
	SNR=35								
AAK	**Ala-Archa**	**55.28**	**297**	P		**P**	**04 05 45.2**	**+0.1**	
	SNR=65								
AAK	**Ala-Archa**	**55.28**	**297**	P		P	04 06 34.2	+49	
	comp=Z,102nm,0.7s,baz=60,slow=5.7,SNR=124								
AAK				PP		**PP**	**04 07 51.0**	**+2.5**	
	comp=Z,17nm,0.6s,baz=57,slow=4.1,SNR=3.6								
AAK	**Ala-Archa**	**55.28**	**297**	P		**P**	**04 05 44.5**	**-0.6**	
AAK				pmax		pmax			
	comp=Z,167nm,1.1s								
AAK	**Ala-Archa**	**55.28**	**297**	P		P	04 06 34.2	+49	
AAK				PP		**PP**	**04 07 51.0**	**+2.5**	
AAK				LR		LR			
	comp=Z,58µm,19.0s								
TMCR	**Tamitsa**	**55.33**	**333**	*e*P		**P**	**04 05 45.1**	**+0.2**	
TMCR				*e*			04 07 49.1		
TMCR				*e*S		**S**	**04 13 30.7**	**+4.2**	
TMCR				pmax		pmax			
	comp=Z,1µm,1.3s								
BMN	**Battle Mountai**	**55.33**	**67**	*e*P		**P**	**04 05 46.3**	**+0.8**	
BMN				pmax		pmax			
	comp=Z,331nm,1.1s								
BMN	**Battle Mountai**	**55.33**	**67**	*e*P		**P**	**04 05 46.2**	**+0.8**	
	comp=Z,331nm,1.1s								
WAKR	**Walker**	**55.37**	**70**	*e*P		**P**	**04 05 46.5**	**+0.7**	
QLMT	**Earthquake Lak**	**55.55**	**60**	*e*P		**P**	**04 05 47.2**	**+0.2**	
	comp=Z,40nm,1.2s								
EKS2	**Erkin-Say**	**55.66**	**297**	P		**P**	**04 05 47.7**	**-0.1**	
	SNR=26								
EKS2	**Erkin-Say**	**55.66**	**297**	*e*P		**P**	**04 05 46.7**	**-1.0**	
EKS2				pmax		pmax			
	comp=Z,111nm,0.7s								
EKS2				MLR		MLR			
	comp=Z,34µm,19.0s								
EKS2	**Erkin-Say**	**55.66**	**297**	*e*P		**P**	**04 05 46.7**	**-1.0**	
	comp=Z,110nm,0.7s								
EKS2				LR		LR			
	comp=Z,34µm,19.0s								
CRAI	**Chiangrai**	**55.72**	**258**	P		**P**	**04 05 46.2**	**-2.1**	
	comp=Z,94nm,1.4s,comp=Z,4µm								
NONG	**Nongkai**	**55.75**	**254**	P		**P**	**04 05 49.9**	**+1.4**	
	comp=Z,656nm,0.8s,comp=Z,9µm								
GCMT	**Greycliff**	**55.82**	**58**	*e*P		**P**	**04 05 49.5**	**+0.6**	
	comp=Z,203nm,1.5s								
YMR	**Madison River**	**55.90**	**59**	*e*P		**P**	**04 05 50.1**	**+0.6**	
	comp=Z,211nm,1.2s								
YNR	**Norris Junctio**	**56.02**	**59**	*e*P		**P**	**04 05 51.6**	**+1.1**	
	comp=Z,451nm,1.8s								
AML	**Almayashu**	**56.06**	**297**	P		**P**	**04 05 51.0**	**0.0**	
	SNR=16								
NVAR	**Mina Array Bea**	**56.07**	**70**	P		**P**	**04 05 51.4**	**+0.5**	
	comp=Z,54nm,0.8s,baz=295,slow=5.0,SNR=318								
NVAR				PcP		**PcP**	**04 06 50.7**	**+1.9**	
	comp=Z,18nm,0.7s,baz=298,slow=5.0,SNR=4.2								
SKNT	**Sakolnakorn**	**56.11**	**253**	P		**P**	**04 05 52.4**	**+1.3**	
	comp=Z,1µm,1.9s								
YFT	**Old Faithful**	**56.12**	**60**	*e*P		**P**	**04 05 52.6**	**+1.4**	
	comp=Z,216nm,1.1s								
ELK	**Elko**	**56.23**	**66**	P		**P**	**04 05 53.0**	**+1.0**	
	comp=Z,52nm,0.9s,baz=300,slow=8.3,SNR=17								
ELK	**Elko**	**56.23**	**66**	*e*P		**P**	**04 05 52.9**	**+0.8**	
ELK				pmax		pmax			
	comp=Z,136nm,1.3s								
ELK	**Elko**	**56.23**	**66**	*e*P		**P**	**04 05 52.9**	**+0.8**	
	comp=Z,136nm,1.3s								
LKWY	**Lake**	**56.27**	**59**	*e*P		**P**	**04 05 54.3**	**+2.0**	
LKWY				pmax		pmax			
	comp=Z,114nm,1.0s								
LKWY				MLR		MLR			
	comp=Z,18µm,19.0s								
LKWY	**Lake**	**56.27**	**59**	*e*P		**P**	**04 05 54.3**	**+2.0**	
	comp=Z,114nm,1.0s								
LKWY				LR		LR			
	comp=Z,18µm,19.0s								
H17A	**Grant Village**	**56.29**	**60**	P		**P**	**04 05 54.8**	**+2.3**	
	baz=56								
H17A	**Grant Village**	**56.29**	**60**	*e*P		**P**	**04 05 54.3**	**+1.9**	
	comp=Z,233nm,1.1s								
MLAC	**Mammoth Lakes**	**56.31**	**71**	P		**P**	**04 05 54.2**	**+1.6**	
	baz=56,SNR=10								
IMW	**Indian Meadow**	**56.44**	**60**	*e*P		**P**	**04 05 54.4**	**+0.8**	
	comp=Z,164nm,1.1s								
FLWY	**Flagg Ranch**	**56.44**	**60**	*e*P		**P**	**04 05 54.3**	**+0.9**	
	comp=Z,268nm,1.3s								
RLMT	**Red Lodge**	**56.48**	**58**	P		**P**	**04 05 54.9**	**+1.1**	
	baz=56,SNR=131								
RLMT	**Red Lodge**	**56.48**	**58**	*e*P		**P**	**04 05 54.5**	**+0.7**	
	comp=Z,257nm,1.1s								
RLMT				LR		LR			
	comp=Z,15µm,20.0s								
ILULI	**Ilulissat**

SHL comp=Z,257nm,2.2s ex x 04 13 42.0
TPH Tonopah 56.93 69 *e*P **P 04 05 57.6 +0.6**
TPH pmax pmax
comp=Z,374nm,1.3s
TPH Tonopah 56.93 69 *e*P **P 04 05 57.5 +0.6**
comp=Z,374nm,1.3s
H19A Powell 56.94 58 P **P 04 05 58.1 +1.2**
baz=57,SNR=59
A25A Svangstu Ranch 56.95 51 P **P 04 05 57.4 +0.7**
baz=57,SNR=32
G20A Bridger 56.96 57 P **P 04 05 57.4 +0.4**
baz=57,SNR=131
LAO LASA Array 56.97 55 P **P 04 05 57.9 +0.9**
baz=57,SNR=43
LAO LASA Array 56.97 55 *e*P **P 04 05 57.4 +0.5**
comp=Z,199nm,1.0s
LAO LR LR
comp=Z,19µm,19.0s
RCTC Rector, Farmer 56.99 72 P **P 04 05 57.6 +0.5**
baz=57,SNR=22
TIN Tinemaha 57.06 71 P **P 04 05 59.2 +1.4**
baz=57,SNR=9.7
JAY Jayapura 57.09 203 P **P 04 05 58.7 +0.6**
comp=Z,74nm,1.2s,baz=342,slow=4.9,SNR=10
JAY LR LR 04 30 03.8
comp=Z,7µm,19.4s,baz=352,slow=36
STEI Steigen 57.11 345 *e*P **P 04 05 57.9 +0.5**
F21A Absaloka Mine, 57.11 56 P **P 04 05 58.8 +0.8**
baz=57,SNR=9.9
AHID Auburn Hatcher 57.12 61 *e*P **P 04 05 59.4 +1.1**
comp=Z,258nm,1.1s
AHID LR LR
comp=Z,15µm,21.0s
KK31 Karatay Array 57.12 299 P **P 04 05 56.6 -1.4**
KK31 pmax pmax
comp=Z,196nm,1.0s
KKAR Karatay Array 57.12 299 *e*P **P 04 05 56.7 -1.4**
KKAR pmax pmax
comp=Z,108nm,0.8s
KKAR Karatay Array 57.12 299 *e*P **P 04 05 56.7 -1.4**
comp=Z,108nm,0.8s
LOF Lofoten 57.19 346 *e*P **P 04 05 57.8 -0.2**
LOF IVMs_BB IVMs_BB 04 36 54.4
comp=Z,9µm,20.1s
SMMC Simmler 57.23 73 P **P 04 06 00.0 +1.0**
baz=57,SNR=22
E22A Miles City 57.28 55 P **P 04 05 59.8 +0.7**
baz=57,SNR=15
C24A Savage 57.28 53 P **P 04 06 00.1 +0.9**
baz=57,SNR=22
KHON Khomkaen 57.29 253 P **P 04 06 01.4 +1.9**
comp=Z,106nm,1.2s,comp=Z,1µm
LOEI Loei 57.29 256 P **P 04 05 58.4 -1.1**
comp=Z,190nm,2.1s,comp=Z,5µm
BGU Big Grassy Mou 57.33 64 *e*P **P 04 06 00.3 +0.6**
comp=Z,234nm,1.7s
I19A Meeteetse 57.37 59 P **P 04 06 00.9 +0.9**
baz=57,SNR=40
B25A Knox Farm, Ray 57.39 52 P **P 04 06 00.4 +0.5**
baz=57
SPUT South Promonto 57.39 63 *e*P **P 04 06 01.2 +1.1**
comp=Z,272nm,1.2s
VES Vestal, Richgr 57.40 72 P **P 04 06 00.3 +0.2**
baz=57,SNR=85
G21A Lodge Grass 57.48 57 P **P 04 06 01.1 +0.5**
baz=57,SNR=14
LAMP Lampang 57.48 258 P **P 04 06 02.6 +1.8**
comp=Z,111nm,0.9s,comp=Z,1µm
A26A Wade Farm, Ken 57.49 51 P **P 04 06 01.1 +0.5**
baz=57,SNR=26
UTTA Uttaradit 57.53 256 P **P 04 06 02.7 +1.5**
comp=Z,112nm,0.9s,comp=Z,955nm
E23A Ismay 57.56 55 P **P 04 06 02.1 +0.9**
baz=57,SNR=25
CWC Cottonwood Cre 57.57 71 P **P 04 06 02.3 +0.8**
baz=57,SNR=31
DLV T Lat 57.58 245 *e*P **P 04 06 04.0 +2.3**
H20A Greybull 57.58 58 P **P 04 06 01.8 +0.4**
baz=57,SNR=17
F22A Rosebud 57.58 56 P **P 04 06 02.1 +0.8**
baz=57,SNR=33
GRAC Grapevine Rang 57.59 70 P **P 04 06 02.6 +1.1**
baz=57,SNR=103
D24A Glendive 57.62 54 P **P 04 06 02.6 +1.0**
baz=57,SNR=42
PKM Peak Mountain 57.63 74 P **P 04 06 02.9 +0.9**
baz=58,SNR=25
HWUT Hardware Ranch 57.66 63 *e*P **P 04 06 02.8 +0.7**
comp=Z,216nm,1.0s
HWUT LR LR
comp=Z,11µm,19.0s
CMMT Chiang Mai 57.66 259 P **P 04 06 03.0 +0.9**
comp=Z,476nm,1.0s,comp=Z,11µm
CHTO Chiang Mai 57.67 259 P **P 04 06 03.0 +0.9**
comp=Z,2µm,1.0s,comp=Z,40µm
CHTO Chiang Mai 57.67 259 *e*P **P 04 06 03.1 +0.9**
CHTO pmax pmax
comp=Z,246nm,0.9s
CHTO MLR MLR
comp=Z,22µm,20.0s
CHTO Chiang Mai 57.67 259 *e*P **P 04 06 03.1 +0.9**
comp=Z,246nm,0.9s
CHTO LR LR
comp=Z,22µm,20.0s
R11A Troy Canyon, C 57.68 68 P **P 04 06 03.0 +0.7**
baz=58,SNR=243
R11A Troy Canyon, C 57.68 68 *e*P **P 04 06 02.4 +0.2**
comp=Z,148nm,1.2s
C25A Freed Ranch, W 57.73 52 P **P 04 06 03.2 +0.9**
baz=58,SNR=24
B26A Jensen Ranch, 57.76 51 P **P 04 06 03.3 +0.8**
baz=58,SNR=8.5
A27A Ledoux Ranch, 57.83 50 P **P 04 06 03.8 +0.9**
baz=58,SNR=9.3
J19A Crowheart 57.87 60 P **P 04 06 04.7 +1.2**
baz=58,SNR=79
I20A Worland 57.88 58 P **P 04 06 04.8 +1.3**
baz=58,SNR=60
ISA Isabella 57.88 72 *e*P **P 04 06 02.7 -0.8**
ISA pmax pmax
comp=Z,108nm,1.3s
ISA Isabella 57.88 72 P **P 04 06 03.5 0.0**
baz=58,SNR=21
ISA Isabella 57.88 72 *e*P **P 04 06 02.7 -0.8**
comp=Z,108nm,1.3s
CMAR Chiang Mai Arr 57.94 258 P **P 04 06 05.7 +1.6**
comp=Z,156nm,0.7s,baz=26,slow=6.8,SNR=343
CMAR PKPPKP **P'P'df 04 35 44.0 -3.0**
comp=Z,1.3nm,0.5s,baz=242,slow=4.5,SNR=5.9
BW06 Boulder Array 57.94 60 *e*P **P 04 06 03.8 -0.3**
comp=Z,280nm,1.2s
BW06 LR LR
comp=Z,12µm,19.0s
PDAR Pinedale Array 57.94 60 P **P 04 06 04.2 0.0**
comp=Z,161nm,1.1s,baz=336,slow=2.8,SNR=373
PDAR PKP2bc 04 35 55.0
comp=Z,0.9nm,1.0s,baz=108,slow=4.8,SNR=5.5
G22A Birney 57.95 56 P **P 04 06 04.5 +0.5**
baz=58,SNR=25
DUG Dugway 57.95 65 *e*P **P 04 06 04.8 +0.7**
DUG pmax pmax
comp=Z,246nm,1.1s
DUG MLR MLR
comp=Z,10µm,21.0s
DUG Dugway 57.95 65 P **P 04 06 05.3 +1.2**
baz=58,SNR=174
DUG Dugway 57.95 65 *e*P **P 04 06 04.8 +0.7**
comp=Z,246nm,1.1s
DUG LR LR
comp=Z,10µm,21.0s
DAC Darwin (Calif) 57.97 71 *e*P **P 04 06 04.7 +0.4**
DAC pmax pmax
comp=Z,132nm,1.4s
DAC Darwin (Calif) 57.97 71 *e*P **P 04 06 04.7 +0.4**
comp=Z,132nm,1.4s
H21A Big Horn, Sher 57.97 57 P **P 04 06 04.9 +0.7**
baz=58,SNR=50
SBC Santa Barbara 58.01 74 P **P 04 06 05.0 +0.6**
baz=58
E24A Baker 58.02 54 P **P 04 06 05.1 +0.8**
baz=58,SNR=18
ARVC Arvin 58.05 73 P **P 04 06 05.1 +0.5**
baz=58,SNR=14
F23A Volborg 58.05 55 P **P 04 06 05.5 +0.9**
baz=58,SNR=68
TCUT Toone Canyon 58.09 63 *e*P **P 04 06 05.8 +0.7**
comp=Z,302nm,1.4s
D25A Fairfield 58.09 53 P **P 04 06 05.5 +0.6**
baz=58,SNR=5.7
AB31 Akbulak array 58.15 311 P **P 04 06 03.9 -1.2**
AB31 pmax pmax
comp=Z,56nm,0.5s
ABKAR Akbulak array 58.15 311 *e*P **P 04 06 03.8 -1.3**
FRB Frobisher Bay 58.16 23 P **P 04 06 04.3 -0.7**
comp=Z,53nm,0.6s,baz=329,slow=9.7,SNR=13
MPMC Manual Prospec 58.18 71 P **P 04 06 06.6 +0.8**
baz=58,SNR=130
CTU Camp Tracy 58.20 63 *e*P **P 04 06 06.6 +0.8**
comp=Z,121nm,1.0s
PBKT Sadao Pong 58.20 255 P **P 04 06 07.0 +1.2**
comp=Z,424nm,1.4s
AKTO Aktyubinsk 58.20 313 P **P 04 06 04.1 -1.4**
comp=Z,86nm,0.6s,baz=69,slow=9.6,SNR=91
AKTO PcP **PcP 04 06 57.0 +0.4**
comp=Z,44nm,0.8s,baz=42,slow=3.6,SNR=3.8
AKTO LR LR 04 33 51.8
comp=Z,58µm,18.9s,baz=30,slow=39
B27A Peters Farms, 58.20 51 P **P 04 06 06.5 +0.9**
baz=58,SNR=6.5
C26A Wahner Farm, P 58.21 52 P **P 04 06 06.4 +0.8**
baz=58,SNR=5.2
TNTI Ternate 58.22 219 P **P 04 06 05.6 -0.3**
comp=Z,309nm,2.5s,comp=Z,9µmcomp=Z,31µm
TNTI Ternate 58.22 219 *e*P **P 04 06 06.2 +0.3**
comp=Z,4µm,2.1s
FURC Furnace Creek, 58.25 70 P **P 04 06 07.2 +1.2**
baz=58,SNR=139
TPNV Topopah Spring 58.27 69 P **P 04 06 07.3 +0.9**
baz=58,SNR=219
SWI Sorong 58.30 214 P **P 04 06 06.5 0.0**
comp=Z,521nm,2.2s,comp=Z,13µm
SIJI Sorong 58.30 214 P **P 04 06 06.5 0.0**
comp=Z,118nm,1.1s,baz=9.8,slow=11,SNR=15
A28A Rude Farm, Bot 58.32 50 P **P 04 06 07.3 +0.9**
baz=58,SNR=28
J20A Shoshoni 58.32 59 P **P 04 06 07.8 +1.2**
baz=58,SNR=78
SDKM Sandakan 58.34 232 ⇓P **P 04 06 09.9 +3.0**
H22A Clearmont 58.35 57 P **P 04 06 07.4 +0.6**
baz=58,SNR=30
BSC Santa Cruz Isl 58.37 74 P **P 04 06 07.3 +0.3**
baz=58,SNR=6.7
I21A Big Trails, Te 58.41 58 P **P 04 06 08.0 +0.7**
baz=58,SNR=78
G23A Biddle 58.42 56 P **P 04 06 07.7 +0.5**
baz=58,SNR=49
JLU Jordanelle 58.42 63 *e*P **P 04 06 08.2 +0.7**
comp=Z,236nm,1.4s
F24A Ekalaka 58.45 55 P **P 04 06 08.0 +0.6**
baz=58,SNR=45
KKM Kota Kinabalu 58.47 234 ⇓P **P 04 06 11.0 +3.1**
KKM Kota Kinabalu 58.47 234 *e*P **P 04 06 08.0 +0.1**
comp=Z,1µm,1.8s
KKM LR LR
comp=Z,15µm,21.0s
OSI Osito Adit 58.47 73 P **P 04 06 08.2 +0.5**
baz=58
E25A Miller Ranch, 58.50 54 P **P 04 06 08.8 +1.0**
baz=58,SNR=43
NLU North Lily Min 58.53 64 *e*P **P 04 06 08.8 +0.6**
comp=Z,166nm,1.1s
C27A Sayler Ranch, 58.57 51 P **P 04 06 09.1 +0.9**
baz=58
B28A Dugan Ranch, T 58.60 50 P **P 04 06 09.4 +1.1**
baz=58,SNR=45
D26A Manning 58.61 53 P **P 04 06 09.3 +0.9**
baz=58,SNR=5.2
BLG Laguna Peak 58.62 74 P **P 04 06 08.9 +0.2**
baz=58,SNR=9.5
J21A Lysite 58.66 59 P **P 04 06 09.8 +0.8**
baz=58,SNR=105
SFJD Kangerlussuaq 58.69 14⇑*i*P **P 04 06 08.4 -0.2**
comp=Z,175nm,1.1s
SFJD *i*S **S 04 14 09.1 -1.6**
SFJD Kangerlussuaq 58.69 14⇑*i*P **P 04 06 08.4 -0.2**
SFJD *i*S **S 04 14 09.1 -1.6**
SFJD pmax pmax
comp=Z,180nm,1.1s
SFJD Kangerlussuaq 58.69 14 *e*P **P 04 06 07.7 -0.9**
comp=Z,184nm,1.1s
SFJD LR LR
comp=Z,20µm,20.0s
EDW2 Edwards Air Fo 58.71 72 P **P 04 06 09.7 +0.4**
baz=58,SNR=102
MPU Maple Canyon 58.73 64 *e*P **P 04 06 10.3 +0.7**
comp=Z,775nm,1.2s
KONS Konsvik 58.76 345 *e*P **P 04 06 09.6 +0.6**
MHMT Maesarieng 58.77 259 P **P 04 06 11.3 +1.5**
comp=Z,246nm,1.0s
I22A 9 Mile Ranch, 58.77 58 P **P 04 06 10.6 +0.9**
baz=58,SNR=44
A29A Manning Farm, 58.79 49 P **P 04 06 10.4 +0.8**
baz=58,SNR=102
G24A Alzada 58.82 55 P **P 04 06 10.2 +0.1**
baz=59,SNR=62
H23A Clabaugh Cattl 58.86 56 P **P 04 06 10.6 +0.3**
baz=59
FLOS Flostrand 58.87 345 *e*P **P 04 06 09.6 -0.2**
F25A Bowman 58.88 54 P **P 04 06 11.0 +0.7**
baz=59,SNR=27
DECC Green Verdugo 58.96 73 P **P 04 06 11.4 +0.4**
baz=59,SNR=13
E26A Carlson Angus 58.99 53 P **P 04 06 11.8 +0.7**
baz=59,SNR=37
SHOC Shoshone 58.99 70 P **P 04 06 12.0 +0.8**
baz=59,SNR=74
D27A Center 58.99 52 P **P 04 06 12.1 +1.0**
baz=59,SNR=13
B29A Wagenman Farm, 59.06 50 P **P 04 06 12.3 +0.8**
baz=59,SNR=40
PASC Pasadena Art C 59.10 73 *e*P **P 04 06 12.3 +0.3**
comp=Z,220nm,1.3s
GSC Goldstone 59.10 71 *e*P **P 04 06 12.6 +0.5**
GSC pmax pmax
comp=Z,178nm,1.1s
GSC Goldstone 59.10 71 P **P 04 06 12.8 +0.7**
baz=59,SNR=104
GSC Goldstone 59.10 71 *e*P **P 04 06 12.6 +0.5**
comp=Z,178nm,1.1s
C28A Hausauer Farms 59.11 51 P **P 04 06 13.0 +1.2**
baz=59,SNR=39
J22A Midwest 59.11 58 P **P 04 06 12.8 +0.6**
baz=59,SNR=155
MWC Mount Wilson 59.13 73 *e*P **P 04 06 12.6 +0.2**
MWC pmax pmax
comp=Z,380nm,1.3s
MWC Mount Wilson 59.13 73 *e*P **P 04 06 12.6 +0.2**
comp=Z,380nm,1.3s
H24A Birks Ranch, A 59.16 56 P **P 04 06 12.7 +0.3**
baz=59,SNR=78
TSM Tawau 59.18 231 ⇓P **P 04 06 13.1 +0.4**
SHPR Sheep Range 59.20 69 *e*P **P 04 06 13.6 +0.7**
comp=Z,328nm,1.5s
A30A Hoffart Farm, 59.21 49 P **P 04 06 13.1 +0.5**
baz=59,SNR=31
I23A Meade Ranch, G 59.25 57 P **P 04 06 13.3 +0.2**
baz=59
RRX Edison Barstow 59.29 72 P **P 04 06 13.9 +0.6**
baz=59
F26A Lodgepole 59.32 54 P **P 04 06 14.1 +0.7**
baz=59,SNR=57
FMP Fort Macarthur 59.36 74 P **P 04 06 14.4 +0.7**
baz=59
ULM Lac du Bonnet 59.36 46 P **P 04 06 13.7 +0.2**
comp=Z,194nm,1.1s,baz=316,slow=7.6,SNR=70
ULM LR LR 04 34 31.4
comp=Z,23µm,18.4s,baz=322,slow=39
MDND Mack 59.38 50 P **P 04 06 14.7 +0.9**
baz=59,SNR=44
MDND Maddock 59.38 50 *e*P **P 04 06 14.5 +0.8**
comp=Z,951nm,1.3s
D28A Regan 59.39 51 P **P 04 06 14.8 +0.9**
baz=59,SNR=12
G25A Newell 59.42 55 P **P 04 06 14.7 +0.5**
baz=59,SNR=58
E27A Carson 59.45 53 P **P 04 06 15.0 +0.7**
baz=59,SNR=26
LBMI Labuha 59.46 218 P **P 04 06 14.7 +0.1**
comp=Z,307nm,2.3s,comp=Z,7µm
TMUT Trail Mountain 59.47 64 *e*P **P 04 06 15.4 +0.5**
comp=Z,161nm,1.0s
MSU Marysvale 59.48 66 *e*P **P 04 06 15.7 +0.8**
MSU pmax pmax
comp=Z,367nm,1.3s
MSU Marysvale 59.48 66 *e*P **P 04 06 15.7 +0.8**
comp=Z,367nm,1.3s
CCUT Cedar City 59.49 67 *e*P **P 04 06 15.3 +0.3**
comp=Z,174nm,1.2s
CIS Catalina Islan 59.51 74 P **P 04 06 14.8 0.0**
baz=59,SNR=11
TUQ Turquoise Moun 59.52 70 P **P 04 06 15.7 +0.6**
baz=59,SNR=145
B30A Myrvik Farm, E 59.55 49 P **P 04 06 15.7 +0.8**
baz=59,SNR=102
J23A Dilts Ranch, B 59.60 57 P **P 04 06 15.9 +0.4**
baz=59
K22A Casper 59.62 59 P **P 04 06 16.2 +0.5**
baz=59,SNR=56
K22A Casper 59.62 59 *e*P **P 04 06 15.9 +0.2**
comp=Z,94nm,0.9s
F27A Lemmon 59.63 53 P **P 04 06 16.1 +0.6**
baz=59,SNR=30
HEC Hector,Ludlow 59.71 71 P **P 04 06 16.8 +0.5**
baz=60,SNR=68
SCI San Clemente I 59.73 74 P **P 04 06 16.6 +0.3**
baz=60,SNR=8.4
H25A Fruitdale 59.73 55 P **P 04 06 16.6 +0.3**
baz=60,SNR=36
UMPA Umpang Tak 59.74 257 P P 04 06 19.8 +3.2
comp=Z,149nm,0.9s
I24A Kuemmerle Ranc 59.75 56 P **P 04 06 16.8 +0.3**
baz=60,SNR=24
G26A Maurine 59.75 54 P **P 04 06 17.1 +0.7**
baz=60,SNR=108
NAYO Nakonayok 59.77 253 P **P 04 06 19.1 +2.4**
comp=Z,311nm,1.4s
BBRC Big Bear Solar 59.77 72 P **P 04 06 17.5 +0.6**
baz=60,SNR=18
E28A Huff 59.77 52 P **P 04 06 17.2 +0.7**
baz=60,SNR=45
RSSD Black Hills 59.87 56 *e*P **P 04 06 17.4 0.0**
RSSD pmax pmax
comp=Z,419nm,1.0s
RSSD Black Hills 59.87 56 *e*P **P 04 06 17.4 0.0**
comp=Z,419nm,1.0s
FAKI Fak Fak 59.89 212 P **P 04 06 17.2 -0.3**
comp=Z,222nm,2.3s,comp=Z,7µmcomp=Z,28µm
FAKI Fak Fak 59.89 212 *e*P **P 04 06 17.6 +0.1**
UTHA Uthaitani 59.90 256 P **P 04 06 19.8 +2.2**
comp=Z,88nm,0.9s,comp=Z,864nm
D29A Pettibone, Tap 59.95 51 P **P 04 06 18.0 +0.3**
baz=60,SNR=16
SRU San Rafael 59.98 64 *e*P **P 04 06 18.7 +0.5**
SRU San Rafael 59.98 64 *e*P **P 04 06 18.7 +0.5**
C30A Mose, Pekin 60.02 50 P **P 04 06 18.5 +0.4**
baz=60,SNR=19
K23A Bowen Ranch, D 60.02 58 P **P 04 06 18.6 +0.2**
baz=60,SNR=29
G27A Dupree 60.02 54 P **P 04 06 18.6 +0.3**
baz=60,SNR=79
MURC Murrieta 60.08 73 P **P 04 06 19.1 +0.3**
baz=60,SNR=51
J24A Dixon Ranch, L 60.11 57 P **P 04 06 19.1 +0.1**
baz=60,SNR=27
GMRC Granite Mounta 60.14 71 P **P 04 06 19.8 +0.5**
baz=60,SNR=109
H26A Fairpoint 60.15 55 P **P 04 06 19.5 +0.3**
baz=60,SNR=55
F28A McLaughlin 60.24 53 P **P 04 06 20.0 +0.3**
baz=60,SNR=33
LDFC Landfair 60.24 70 *e*P **P 04 06 20.5 +0.5**
E29A Napoleon 60.28 51 P **P 04 06 20.3 +0.3**
baz=60,SNR=14
D30A Buchanan 60.31 50 P **P 04 06 20.6 +0.4**
baz=60,SNR=78
K24A Anderson Ranch 60.46 58 P **P 04 06 21.2 -0.3**
baz=60
H27A Howes 60.48 54 P **P 04 06 21.6 +0.2**
baz=60,SNR=44
O20A White River Ci 60.49 62 P **P 04 06 22.4 +0.6**
baz=60,SNR=86
O20A White River Ci 60.49 62 *e*P **P 04 06 22.1 +0.3**
comp=Z,220nm,1.2s
BELC Belle Mtn. Jos 60.49 72 P **P 04 06 21.7 -0.1**
baz=60,SNR=62
J25A Sunshine Ranch 60.51 56 P **P 04 06 21.7 0.0**
baz=60,SNR=33
PFO Pinyon Flat Ob 60.51 72 P **P 04 06 21.3 -0.6**
comp=Z,340nm,1.2s,SNR=23
PFO Pinyon Flat Ob 60.51 72 P **P 04 06 21.9 +0.1**
comp=Z,34nm,1.0s,baz=331,slow=7.4,SNR=12
PFO Pinyon Flat Ob 60.51 72 *e*P **P 04 06 21.2 -0.6**
PFO pmax pmax
comp=Z,174nm,1.5s
PFO MLR MLR
comp=Z,14µm,22.0s
PFO Pinyon Flat Ob 60.51 72 P **P 04 06 22.0 +0.2**
baz=60,SNR=35
PFO Pinyon Flat Ob 60.51 72 *e*P **P 04 06 21.2 -0.6**
comp=Z,174nm,1.5s
PFO LR LR
comp=Z,14µm,22.0s
I26A New Underwood 60.52 55 P **P 04 06 22.4 +0.7**
baz=60,SNR=19
109C Camp Elliot, M 60.64 73 P **P 04 06 23.0 +0.4**
baz=60,SNR=22
E30A Jud 60.68 51 P **P 04 06 23.0 +0.3**
baz=60,SNR=28
FINES FINESS Array B 60.70 337 P **P 04 06 22.4 0.0**
comp=Z,478nm,0.7s,baz=39,slow=7.3,SNR=369
FINES PKP2bc 04 35 48.7
comp=Z,6.5nm,1.0s,baz=186,slow=5.7,SNR=4.9
FINES LR LR 04 36 34.9
comp=Z,46µm,18.2s,baz=32,slow=40
MRSI Marisa 60.71 225 P **P 04 06 23.4 +0.2**
comp=Z,308nm,2.2s,comp=Z,9µm
F29A Eureka 60.72 52 P **P 04 06 23.3 +0.3**
baz=60,SNR=52
G28A Parade 60.74 53 P **P 04 06 23.6 +0.5**
baz=60,SNR=40
NEE2 Needles Airpor 60.75 70 P **P 04 06 23.5 +0.2**
baz=61
NSS Namsos 60.77 345⇑*i*P **P 04 06 22.4 -0.5**
NSS IAmb IAmb 04 06 25.4
comp=Z,175nm,0.8s
NSS IVMs_BB IVMs_BB 04 40 06.8
comp=Z,9µm,17.0s
AGMN Agassiz Nation 60.79 48 P **P 04 06 23.4 +0.1**
baz=60,SNR=91
AGMN Agassiz Nation 60.79 48 *e*P **P 04 06 23.4 +0.1**
comp=Z,288nm,1.3s
AGMN LR LR
comp=Z,20µm,20.0s
IRM Iron Mountain 60.87 71 P **P 04 06 24.8 +0.6**
baz=61,SNR=132
I27A Quinn 60.90 55 P **P 04 06 25.0 +0.7**
baz=61,SNR=125
J26A Sides Ranch, S 60.93 56 P **P 04 06 25.3 +0.8**
baz=61,SNR=57
H28A Mission Ridge 60.98 54 P **P 04 06 25.2 +0.5**
baz=61,SNR=74
KHLT Khaolaem Dam 61.00 256 P **P 04 06 27.5 +2.3**
comp=Z,226nm,1.9s,comp=Z,4µm
K25A Mack Ranch, Ha 61.03 57 P **P 04 06 25.9 +0.6**
baz=61,SNR=10
PUL Pulkovo 61.03 334*c i*P **P 04 06 25.6 +0.8**
PUL pmax pmax
comp=Z,1µm,1.2s
PUL MLR MLR
comp=Z,100µm,18.0s
SRDT SRDT 61.04 255 P **P 04 06 27.1 +1.7**
comp=Z,856nm,2.2s,comp=Z,34µm
MONP Monument Peak 61.04 73 P **P 04 06 25.8 +0.2**
baz=61,SNR=36
BAR Barrett 61.04 73 *e*P **P 04 06 26.2 +0.8**
comp=Z,185nm,1.4s
BC3 Big Chuckawall 61.06 72 P **P 04 06 25.8 +0.2**
baz=61,SNR=74
F30A Leola 61.11 52 P **P 04 06 25.4 -0.2**
baz=61,SNR=10
PATY Pattaya 61.14 253 P **P 04 06 28.6 +2.5**
comp=Z,80nm,0.9s
G29A Hoven 61.14 53 P **P 04 06 25.8 0.0**
baz=61,SNR=28
PHWY Pilot Hill 61.14 59 *e*P **P 04 06 25.8 -0.4**
comp=Z,685nm,2.3s
LGTI Lohaghat 61.16 282 *e*P **P 04 06 26.8 +0.7**
N23A Red Feather La 61.18 60 P **P 04 06 27.4 +0.9**
baz=61,SNR=83
L25A Engebretsen Ra 61.31 57 P **P 04 06 27.7 +0.5**
baz=61,SNR=7.2
K26A Motz Farm, Whi 61.32 57 P **P 04 06 27.5 +0.3**
baz=61,SNR=22

SANI	**Sanana**	61.33	219	P		**P**		04 06 27.4	0.0
	comp=Z,272nm,1.9s,comp=Z,8µmcomp=Z,26µm								
PDMCI	**Parker Dam,Lak**	61.36	70	P		**P**		04 06 28.0	+0.6
	baz=61,SNR=91								
SWSC	**Sam W. Stewart**	61.37	72	P		**P**		04 06 27.4	-0.1
	baz=61,SNR=30								
PV04	**Paradox Valley**	61.37	64	*e*P		**P**		04 06 28.4	+0.7
I28A	**Midland**	61.39	54	P		**P**		04 06 28.1	+0.5
	baz=61,SNR=52								
IBP	**Imperial Bould**	61.40	73	P		**P**		04 06 28.1	+0.3
	baz=61,SNR=7.6								
H29A	**Onida**	61.41	53	P		**P**		04 06 27.8	+0.1
	baz=61,SNR=35								
MSAI	**Masohi**	61.43	216	P		**P**		04 06 29.1	+1.1
	comp=Z,42nm,2.8s,comp=Z,2µmcomp=Z,7µm								
DHRM	**DHARAMSHALA**	61.48	287	*e*P		**P**		04 06 26.8	-1.8
J27A	**Elkhorn Farm,**	61.52	55	P		**P**		04 06 29.3	+0.8
	baz=61,SNR=7.9								
Y12C	**Blythe**	61.53	71	P		**P**		04 06 29.2	+0.6
	baz=61,SNR=75								
G30A	**Faulkton**	61.56	52	P		**P**		04 06 28.6	-0.1
	baz=61,SNR=67								
HNR	**Honiara**	61.60	180	PFAKE				04 06 40.0	+11
HNR				LR		LR			
	comp=Z,20µm,20.0s								
LUWI	**Luwuk**	61.72	223	P		**P**		04 06 28.8	-1.2
	comp=Z,362nm,1.9s,comp=Z,9µm								
LUWI	**Luwuk**	61.72	223	*e*P		**P**		04 06 27.2	-2.8
	comp=Z,132nm,1.0s								
MPSI	**Mapaga**	61.73	227	P		**P**		04 06 30.4	+0.3
	comp=Z,156nm,2.9s,comp=Z,6µm								
PV01	**Paradox Valley**	61.74	64	*e*P		**P**		04 06 30.4	+0.2
J28A	**Allard Ranch,**	61.78	55	P		**P**		04 06 30.7	+0.5
	baz=62,SNR=80								
SMLA	**Simla**	61.78	285	*e*P		**P**		04 06 29.4	-0.8
	comp=Z,1µm,0.6s								
SMLA				AMB		AMB		04 06 32.2	
	comp=Z,284nm,0.7s								
M25A	**Palm-Egli Farm**	61.78	58	P		**P**		04 06 31.8	+1.4
	baz=62,SNR=20								
K27A	**Flueckinger Fa**	61.80	56	P		**P**		04 06 30.7	+0.3
	baz=62,SNR=29								
I29A	**Vivian Onida**	61.81	54	P		**P**		04 06 30.5	+0.1
	baz=62,SNR=31								
DDI	**Dehra Dun**	61.83	284	*e*P		**P**		04 06 28.3	-2.5
L26A	**Underwood Farm**	61.85	57	P		**P**		04 06 31.3	+0.6
	baz=62,SNR=6.2								
GLA	**Glamis**	61.85	72	*e*P		**P**		04 06 30.9	0.0
GLA				pmax		pmax			
	comp=Z,352nm,1.3s								
GLA	**Glamis**	61.85	72	P		**P**		04 06 31.6	+0.7
	baz=62,SNR=47								
GLA	**Glamis**	61.85	72	*e*P		**P**		04 06 30.9	0.0
	comp=Z,352nm,1.3s								
SMCO	**Snowmass**	61.86	62	*e*P		**P**		04 06 31.3	0.0
	comp=Z,121nm,1.1s								
BOK	**Bokaro**	61.87	273	*e*P		**P**		04 06 28.8	-2.3
PHET	**Kaeng Krachan**	61.87	254	P		**P**		04 06 33.3	+2.2
	comp=Z,258nm,0.8s								
NLAI	**Namlea**	62.00	218	P		**P**		04 06 32.9	+1.0
	comp=Z,94nm,2.0s,comp=Z,4µmcomp=Z,20µm								
AAI	**Ambon**	62.01	216	P		**P**		04 06 32.5	+0.6
	comp=Z,248nm,1.9s,comp=Z,7µm								
BHK	**Bhakra**	62.01	286	*ex*		P		04 06 36.0	+4.1
WUAZ	**Wupatki**	62.06	67	P		**P**		04 06 33.3	+0.9
	baz=62,SNR=143								
WUAZ	**Wupatki**	62.06	67	*e*P		**P**		04 06 33.2	+0.8
	comp=Z,462nm,1.4s								
WUAZ				LR		LR			
	comp=Z,17µm,21.0s								
APSI	**Ampana**	62.08	225	P		**P**		04 06 32.4	0.0
	comp=Z,316nm,1.8s,comp=Z,8µm								
ISCO	**Idaho Springs**	62.14	60	*e*P		**P**		04 06 33.1	+0.1
ISCO				pmax		pmax			
	comp=Z,206nm,1.2s								
ISCO				MLR		MLR			
	comp=Z,15µm,20.0s								
ISCO	**Idaho Springs**	62.14	60	P		**P**		04 06 34.1	+1.1
	baz=62,SNR=196								
ISCO	**Idaho Springs**	62.14	60	*e*P		**P**		04 06 33.1	+0.1
	comp=Z,206nm,1.2s								
ISCO				LR		LR			
	comp=Z,15µm,20.0s								
MOS	**Moscow**	62.17	327	α *i*P		**P**		04 06 32.6	+0.1
MOS				*e*				04 07 12.4	
MOS				*e*				04 08 48.2	
MOS				*i* S		**S**		04 14 52.9	-2.6
MOS				*e*				04 16 23.9	
MOS				*e*SS		**SS**		04 19 04.1	+6.4
MOS				pmax		pmax			
	comp=Z,512nm,1.3s								
MOS				pmax		pmax			
	comp=Z,5µm,3.5s								
MOS				pmax		pmax			
	comp=N,3µm,3.9s								
MOS				pmax		pmax			
	comp=E,2µm,4.1s								
MOS				MLR		MLR			
	comp=Z,41µm,16.0s								
L27A	**T5 Ranch, Ells**	62.21	56	P		**P**		04 06 33.6	+0.4
	baz=62								
K28A	**Ten Mile Ranch**	62.23	55	P		**P**		04 06 33.9	+0.6
	baz=62,SNR=35								
M26A	**McRoberts Ranc**	62.23	57	P		**P**		04 06 34.5	+1.2
	baz=62,SNR=16								
TBLU	**Trondheim**	62.24	345	⇑ *i*P		**P**		04 06 31.2	-1.6
TBLU				IAmb		IAmb		04 06 35.6	
	comp=Z,161nm,0.8s								
TBLU				IVMs_BB		IVMs_BB		04 39 25.1	
	comp=Z,7µm,16.8s								
J29A	**Okreek**	62.24	54	P		**P**		04 06 33.6	+0.2
	baz=62,SNR=62								
I30A	**Oacoma**	62.32	53	P		**P**		04 06 33.8	0.0
	baz=62,SNR=9.7								
MVCO	**Mesa Verde**	62.45	64	P		**P**		04 06 35.8	+0.8
	baz=62,SNR=88								
MVCO	**Mesa Verde**	62.45	64	*e*P		**P**		04 06 35.2	+0.2
	comp=Z,204nm,1.2s								
MVCO				LR		LR			
	comp=Z,9µm,21.0s								
PMG	**Port Moresby**	62.55	194	P		**P**		04 06 35.6	+0.1
	comp=Z,70nm,0.8s,baz=14,slow=8.4,SNR=12								
PMG	**Port Moresby**	62.55	194	*e*P		**P**		04 06 35.2	-0.3
PMG				pmax		pmax			
	comp=Z,188nm,1.0s								
PMG				MLR		MLR			
	comp=Z,10µm,21.0s								
PMG	**Port Moresby**	62.55	194	*e*P		**P**		04 06 35.2	-0.3
	comp=Z,188nm,1.0s								
PMG				LR		LR			
	comp=Z,10µm,21.0s								
M27A	**Reverse DX Ran**	62.57	57	P		**P**		04 06 36.2	+0.6
	baz=62,SNR=5.6								
N26A	**Koester Ranch,**	62.65	58	P		**P**		04 06 37.3	+1.1
	baz=62,SNR=7.6								
L28A	**Connealy Angus**	62.67	56	P		**P**		04 06 36.8	+0.6
	baz=62								
I31A	**Royce, Wessing**	62.67	53	P		**P**		04 06 35.9	-0.2
	baz=62								
J30A	**Dallas**	62.72	54	P		**P**		04 06 36.5	0.0
	baz=62,SNR=38								
K29A	**Lazy Trails An**	62.72	55	P		**P**		04 06 37.1	+0.6
	baz=62,SNR=32								
S22A	**4UR Ranch, Cre**	62.97	63	P		**P**		04 06 39.9	+1.3
	baz=63,SNR=226								
Q24A	**Divide**	62.99	61	P		**P**		04 06 39.1	+0.4
	baz=63,SNR=33								
EYMN	**Ely**	63.00	46	P		**P**		04 06 38.2	-0.1
	baz=63,SNR=110								
EYMN	**Ely**	63.00	46	*e*P		**P**		04 06 37.9	-0.3
	comp=Z,280nm,1.1s								
EYMN				LR		LR			
	comp=Z,30µm,20.0s								
N27A	**Anderson Farm,**	63.02	58	P		**P**		04 06 39.4	+0.7
	baz=63,SNR=31								
OBN	**Obninsk**	63.03	327	P		**P**		04 06 38.0	-0.2
	comp=Z,268nm,0.8s,baz=30,slow=1.3,SNR=84								
OBN				LR		LR		04 37 29.8	
	comp=Z,36µm,19.2s,baz=30,slow=39								
OBN	**Obninsk**	63.03	327	*c i*P		**P**		04 06 37.9	-0.3
OBN				*e**PP		**pP**		04 06 48.1	+0.5
OBN				*i* *SP		sP		04 06 57.2	+6.0
OBN				*e*				04 07 16.0	
OBN				*e*				04 09 02.1	
OBN				*i* S		S		04 14 56.0	-10
OBN				pmax		pmax			
	comp=Z,478nm,1.2s								
OBN				MLR		MLR			
	comp=Z,32µm,17.0s								
OBN	**Obninsk**	63.03	327	P		**P**		04 06 38.1	-0.2
	comp=Z,2µm,0.8s,SNR=27								
OBN	**Obninsk**	63.03	327	*e*P		**P**		04 06 38.1	-0.2
	comp=Z,616nm,1.1s								
O26A	**Horse Wrangler**	63.03	59	P		**P**		04 06 39.3	+0.6
	baz=63,SNR=30								
VSU	**Vasula**	63.11	335	*c i*P		**P**		04 06 39.1	+0.3
VSU				pmax		pmax			
	comp=Z,616nm,0.7s								
VSU				MLR		MLR			
	comp=Z,235µm,19.0s								
K30A	**Basset**	63.14	54	P		**P**		04 06 39.8	+0.5
	baz=63,SNR=52								
L29A	**Maesberg Ranch**	63.15	55	P		**P**		04 06 39.8	+0.4
	baz=63,SNR=7.2								
BORG	**Borgarnes**	63.16	1	P		**P**		04 06 42.0	+3.0
	comp=Z,766nm,1.2s,SNR=6.0								
BORG	**Borgarnes**	63.16	1	P		**P**		04 06 39.8	+0.8
	comp=Z,69nm,1.1s,baz=25,slow=5.2,SNR=6.7								
BORG				LR		LR		04 37 45.6	
	comp=Z,7µm,18.3s,baz=342,slow=40								
BORG	**Borgarnes**	63.16	1	P		**P**		04 06 39.8	+0.8
BORG				pmax		pmax			
	comp=Z,69nm,1.1s								
BORG				MLR		MLR			
	comp=Z,7µm,18.3s								
BORG	**Borgarnes**	63.16	1	*e*P		**P**		04 06 40.5	+1.5
	comp=Z,169nm,1.0s								
BORG				LR		LR			
	comp=Z,9µm,19.0s								
OGNE	**Ogallala**	63.18	57	P		**P**		04 06 40.3	+0.6
	baz=63,SNR=34								
OGNE	**Ogallala**	63.18	57	*e*P		**P**		04 06 40.2	+0.6
	comp=Z,992nm,1.5s								
OGNE				LR		LR			
	comp=Z,9µm,19.0s								
M28A	**Bar X Bar Ranc**	63.19	56	P		**P**		04 06 40.2	+0.5
	baz=63,SNR=6.7								
W18A	**Petrified Fore**	63.27	67	P		**P**		04 06 41.4	+0.9
	baz=63,SNR=13								
W18A	**Petrified Fore**	63.27	67	*e*P		**P**		04 06 41.1	+0.7
	comp=Z,148nm,1.1s								
M29A	**Burnside Ranch**	63.50	56	P		**P**		04 06 41.8	0.0
	baz=63,SNR=15								
O27A	**Beecher Island**	63.51	58	P		**P**		04 06 42.3	+0.5
	baz=63,SNR=66								
P26A	**Davis Ranch, A**	63.51	59	P		**P**		04 06 42.7	+0.7
	baz=63,SNR=49								
H34A	**Spellman Lake,**	63.52	51	P		**P**		04 06 41.7	0.0
	baz=63,SNR=82								
NDI	**New Delhi**	63.53	283	*e*P		**P**		04 06 40.0	-2.0
NDI				*ex*		x		04 15 10.0	
SBUM	**Sibu**	63.55	236	⇑P		P		04 06 45.5	+3.2
L30A	**Spencer Herefo**	63.62	55	P		**P**		04 06 42.4	-0.1
	baz=63,SNR=17								
N28A	**Pribbeno Ranch**	63.62	57	P		**P**		04 06 42.7	+0.1
	baz=63,SNR=37								
SDCO	**Great Sand Dun**	63.69	62	P		**P**		04 06 43.8	+0.5
	baz=64,SNR=133								
SDCO	**Great Sand Dun**	63.69	62	*e*P		**P**		04 06 44.1	+0.8
	comp=Z,158nm,1.3s								
SDCO				LR		LR			
	comp=Z,8µm,19.0s								
AKN	**Aaknes**	63.75	346	*e*P		**P**		04 06 43.1	+0.1
AKN				IVMs_BB		IVMs_BB		04 40 18.8	
	comp=Z,11µm,15.1s								
ECSD	**EROS Data Cent**	63.82	52	P		**P**		04 06 43.5	-0.2
	baz=64,SNR=106								
ECSD	**EROS Data Cent**	63.82	52	*e*P		**P**		04 06 43.1	-0.6
	comp=Z,231nm,1.2s								
ECSD				LR		LR			
	comp=Z,25µm,21.0s								
214A	**Organ Pipe Nat**	63.82	71	P		**P**		04 06 44.4	+0.5
	baz=64,SNR=119								
214A	**Organ Pipe Nat**	63.82	71	*e*P		**P**		04 06 44.4	+0.5
	comp=Z,235nm,1.2s								
M30A	**Dale-Ortello V**	63.85	55	P		**P**		04 06 44.0	0.0
	baz=64								
L31A	**Butterfield Fa**	63.89	54	P		**P**		04 06 44.8	+0.5
	baz=64,SNR=82								
Q26A	**Hugo**	63.89	60	P		**P**		04 06 45.3	+0.8
	baz=64,SNR=55								
O28A	**Krutsinger Ran**	63.92	58	P		**P**		04 06 44.9	+0.4
	baz=64,SNR=63								
P27A	**Ficken Ranch,**	63.92	59	P		**P**		04 06 44.8	+0.2
	baz=64,SNR=28								
N29A	**Votaw Ranch, W**	64.00	56	P		**P**		04 06 45.4	+0.4
	baz=64,SNR=19								
NB2	**NORSAR Subarra**	64.16	344	P		**P**		04 06 46.3	+0.6
	comp=Z,1µm,1.7s,baz=22,slow=6.9								
NB2	**NORSAR Subarra**	64.16	344	P		**P**		04 06 46.3	+0.6
	baz=22,slow=6.9								
NOA	**NORSAR Array B**	64.16	344	P		**P**		04 06 45.8	+0.1
	comp=Z,82nm,0.7s,baz=21,slow=6.6,SNR=58								
NOA				PKP2bc				04 35 40.1	
	comp=Z,1.6nm,0.9s,baz=217,slow=3.7,SNR=3.4								
NOA				LR		LR		04 40 45.0	
	comp=Z,22µm,18.4s,baz=25,slow=42								
N30A	**Hueftle Ranch,**	64.28	56	P		**P**		04 06 47.1	+0.3
	baz=64,SNR=9.9								
KSCO	**Kaye Shedlock'**	64.30	59	P		**P**		04 06 47.7	+0.6
	baz=64,SNR=34								
KSCO	**Kaye Shedlock'**	64.30	59	*e*P		**P**		04 06 47.2	+0.2
	comp=Z,335nm,1.4s								
P28A	**Saint Francis**	64.34	58	P		**P**		04 06 47.7	+0.4
	baz=64,SNR=61								
R26A	**Arlington**	64.39	60	P		**P**		04 06 48.2	+0.5
	baz=64,SNR=182								
NC602	**NORSAR Array S**	64.39	343	⇑ *i*P		**P**		04 06 46.9	-0.2
NC602				IAMs_20		IAMs_20		04 40 32.8	
	comp=Z,58µm,18.9s								
NC602				IVMs_BB		IVMs_BB		04 40 43.8	
	comp=Z,21µm,20.9s								
NAO01	**NORSAR Array S**	64.40	344	*e*P		**P**		04 06 47.1	-0.2
	comp=Z,65nm,0.8s								
KDI	**Kendari**	64.42	222	P		**P**		04 06 48.8	+0.9
	comp=Z,151nm,2.2s,comp=Z,7µmcomp=Z,35µm								
O29A	**4D Ranch, Culb**	64.42	57	P		**P**		04 06 48.0	+0.2
	baz=64,SNR=42								
M31A	**Lambtecht Ranc**	64.44	55	P		**P**		04 06 47.5	-0.3
	baz=64,SNR=11								
SPMN	**St. Paul**	64.48	48	P		**P**		04 06 48.0	0.0
	baz=64,SNR=99								
SPMN	**St. Paul**	64.48	48	*e*P		**P**		04 06 47.8	-0.2
	comp=Z,370nm,1.3s								
VRHR	**Novokhopersk**	64.50	322	*e*P		**P**		04 06 46.7	-1.3
VRHR				*e*S		S		04 15 18.4	-6.3
VRHR				pmax		pmax			
	comp=Z,340nm,0.7s								
VRHR				pmax		pmax			
	comp=N,240nm,0.9s								
VRHR				pmax		pmax			
	comp=E,270nm,0.9s								
VRHR				pmax		pmax			
	comp=N,140nm,0.7s								
VRHR				pmax		pmax			
	comp=E,160nm,0.7s								
VRHR				pmax		pmax			
	comp=Z,350nm,0.7s								
VRHR				smax		smax			
	comp=N,870nm,8.3s								
VRHR				smax		smax			
	comp=Z,360nm,4.0s								
VRHR				smax		smax			
	comp=E,490nm,3.2s								
VRHR				MLR		MLR			
	comp=Z,107µm,19.0s								
VRHR				MLR		MLR			
	comp=N,70µm,20.0s								
VRHR				MLR		MLR			
	comp=E,41µm,17.0s								
BKB	**Balikpapan**	64.51	229	P		**P**		04 06 49.6	+1.1
	comp=E,587nm,1.6s,comp=E,18µmcomp=E,55µm								
HFS	**Hagfors**	64.56	342	P		**P**		04 06 48.6	+0.3
	comp=E,68nm,0.6s,baz=48,slow=6.8,SNR=71								
FOO	**Floro**	64.58	347	⇑ *i*P		**P**		04 06 48.0	-0.4
FOO				IAmb		IAmb		04 07 04.8	
	comp=Z,195nm,1.2s								
FOO				IAMs_20		IAMs_20		04 40 37.5	
	comp=Z,17µm,20.4s								
L33A	**Hoskins**	64.67	53	P		**P**		04 06 49.3	-0.1
	baz=64,SNR=6.4								
Q28A	**Sharon Springs**	64.67	58	P		**P**		04 06 49.5	0.0
	baz=64,SNR=35								
T25A	**Trinidad**	64.73	62	P		**P**		04 06 50.7	+0.7
	baz=64,SNR=80								
TUC	**Tucson**	64.73	69	*e*P		**P**		04 06 49.9	0.0
TUC				pmax		pmax			
	comp=Z,108nm,1.2s								
TUC				MLR		MLR			
	comp=Z,7µm,19.0s								
TUC	**Tucson**	64.73	69	*e*P		**P**		04 06 49.9	0.0
	comp=Z,108nm,1.2s								
TUC				LR		LR			
	comp=Z,7µm,19.0s								
P29A	**Atwood**	64.74	58	P		**P**		04 06 49.8	-0.1
	baz=64,SNR=37								
R27A	**Eads**	64.74	60	P		**P**		04 06 50.3	+0.3
	baz=64,SNR=39								
O30A	**MW Ranch, Wils**	64.76	57	P		**P**		04 06 49.9	-0.1
	baz=64,SNR=21								
TTSI	**Tana Toraja**	64.78	225	P		**P**		04 06 50.5	+0.2
	comp=Z,93nm,2.5s,comp=Z,5µm								
BGNE	**Belgrade**	64.81	54	P		**P**		04 06 50.3	0.0
	baz=64,SNR=29								
BGNE	**Belgrade**	64.81	54	*e*P		**P**		04 06 49.6	-0.6
	comp=Z,654nm,1.3s								
HYA	**Hoyanger**	64.84	346	*e*P		**P**		04 06 50.5	+0.4
HYA				IVMs_BB		IVMs_BB		04 41 48.9	
	comp=Z,10µm,19.3s								
N31A	**Bailey Ranch,**	64.84	55	P		**P**		04 06 50.3	-0.2
	baz=65,SNR=19								
VOR	**Voronezh**	64.88	324	*e*P		**P**		04 06 49.0	-1.5
VOR				pmax		pmax			
	comp=Z,400nm,1.2s								
NRS	**Narsarsuaq**	64.97	13	⇑ *i*P		**P**		04 06 50.8	-0.1
	comp=Z,176nm,1.2s								
	comp=Z,55µm,19.0s								
NRS	**Narsarsuaq**	64.97	13	⇑ *i*P		**P**		04 06 50.8	-0.1
NRS				pmax		pmax			
	comp=Z,180nm,1.2s								
NRS				MLR		MLR			
	comp=Z,55µm,19.0s								
S27A	**Las Animas**	65.13	60	P		**P**		04 06 52.7	+0.1
	baz=65								
P30A	**Selden**	65.14	57	P		**P**		04 06 52.4	-0.1
	baz=65,SNR=26								
T26A	**Comanche Natio**	65.14	61	P		**P**		04 06 52.5	-0.2
	baz=65,SNR=50								
SUE	**Sulen**	65.14	347	⇑ *i*P		**P**		04 06 51.8	-0.3
O31A	**Woolen Ranch,**	65.15	56	P		**P**		04 06 51.9	-0.7
	baz=65,SNR=23								
M33A	**Taylor Creek F**	65.16	54	P		**P**		04 06 52.4	-0.1
	baz=65,SNR=16								
N32A	**Stulken Farm,**	65.22	55	P		**P**		04 06 52.4	-0.6
	baz=65,SNR=12								
R28A	**Tribune**	65.22	59	P		**P**		04 06 52.9	-0.2
	baz=65,SNR=55								
ANMO	**Albuquerque**	65.23	65	P		**P**		04 06 53.7	+0.4
	comp=Z,61nm,1.1s,baz=318,slow=8.5,SNR=19								
ANMO	**Albuquerque**	65.23	65	*e*P		**P**		04 06 53.4	+0.1
ANMO				pmax		pmax			
	comp=Z,118nm,1.2s								
ANMO				MLR		MLR			
	comp=Z,8µm,20.0s								
ANMO	**Albuquerque**	65.23	65	*e*P		**P**		04 06 53.4	+0.1
	comp=Z,118nm,1.2s								
ANMO				LR		LR			
	comp=Z,8µm,20.0s								
Q29A	**Oakley**	65.25	58	P		**P**		04 06 53.0	-0.2
	baz=65,SNR=50								
LAZ	**Ladron**	65.25	65	*e*P		**P**		04 06 54.1	+0.7
	comp=Z,124nm,1.2s								
L34A	**Svendsen Farm,**	65.26	53	P		**P**		04 06 52.9	-0.3
	baz=65,SNR=33								
OSL	**Oslo**	65.28	344	*e*P		**P**		04 06 53.3	+0.4
OSL				IAmb		IAmb		04 06 57.3	
	comp=Z,187nm,0.9s								
OSL				IVMs_BB		IVMs_BB		04 41 30.7	
	comp=Z,16µm,16.5s								
VSR	**Storozhevoye**	65.31	323	*e*P		**P**		04 06 53.0	-0.3
VSR				*e*S		**S**		04 15 31.3	-3.4
VSR				pmax		pmax			
	comp=Z,1µm,2.0s								
VSR				pmax		pmax			
	comp=N,500nm,1.3s								
VSR				pmax		pmax			
	comp=E,290nm,1.1s								
VSR				pmax		pmax			
	comp=Z,450nm,1.5s								
VSR				pmax		pmax			
	comp=N,370nm,1.1s								
VSR				pmax		pmax			
	comp=E,250nm,1.1s								
VSR				smax		smax			
	comp=E,2µm,5.8s								
VSR				smax		smax			
	comp=Z,540nm,5.1s								
VSR				smax		smax			
	comp=N,2µm,5.5s								
VSR				MLR		MLR			
	comp=Z,84µm,18.0s								
VSR				MLR		MLR			
	comp=N,52µm,17.0s								
VSR				MLR		MLR			
	comp=E,22µm,20.0s								
KSM	**Kuching**	65.36	237	⇑P		**P**		04 06 57.3	+3.2
KSM	**Kuching**	65.36	237	*e*P		**P**		04 06 55.0	+0.9
	comp=E,412nm,1.3s								
KSM				LR		LR			
	comp=Z,11µm,21.0s								
SOFL	**Sornfelli, Far**	65.38	353	AMS		AMS		04 37 12.3	
	comp=Z,10µm,18.7s								
COWI	**Conover**	65.45	46	*e*P		**P**		04 06 54.0	-0.3
	comp=Z,363nm,1.3s								
COWI				LR		LR			
	comp=Z,30µm,19.0s								
M34A	**Aspy Farms, Fr**	65.51	53	P		**P**		04 06 54.7	-0.1
	baz=65,SNR=24								
R29A	**Marienthal**	65.51	58	P		**P**		04 06 54.9	-0.1
	baz=65,SNR=35								
SURT	**Suratani**	65.52	252	P		**P**		04 06 57.2	+2.1
	comp=Z,188nm,2.2s,comp=Z,4µm								
L35A	**Bielow Farm, R**	65.56	52	P		**P**		04 06 54.1	-0.9
	baz=65,SNR=16								
Q30A	**Quinter**	65.57	58	P		**P**		04 06 55.0	-0.3
	baz=65,SNR=77								
LPM	**Los Pinos Moun**	65.60	65	*e*P		**P**		04 06 56.4	+0.7
	comp=Z,120nm,1.4s								
P31A	**Stockton**

baz=66,SNR=40
CBKS Cedar Bluff 65.95 57 *e*P P 04 06 58.0 +0.3
CBKS pmax pmax
comp=Z,414nm,1.4s
CBKS MLR MLR
comp=Z,11µm,19.0s
CBKS Cedar Bluff 65.95 57 P P 04 06 57.2 -0.5
baz=66,SNR=20
CBKS Cedar Bluff 65.95 57 *e*P P 04 06 58.0 +0.3
comp=Z,414nm,1.4s
CBKS LR LR
comp=Z,11µm,19.0s
T28A Walsh 65.97 60 P P 04 06 57.8 -0.2
baz=66,SNR=75
ODD1 Odda 65.97 346 *e*P P 04 06 57.6 +0.1
ODD1 IAmb IAmb 04 07 09.2
comp=Z,625nm,1.7s
M35A Neola 65.97 53 P P 04 06 57.6 -0.2
baz=66,SNR=5.5
STKI Sintang 65.97 235 P P 04 07 00.1 +2.1
comp=Z,209nm,2.2s
Q31A Ellis 65.98 57 P P 04 06 57.4 -0.5
baz=66,SNR=21
KTGM Kuala Trenggan 65.99 246 ⇓P P 04 07 01.7 +3.6
N34A Lincoln 66.05 54 P P 04 06 57.6 -0.7
baz=66,SNR=16
R30A Dighton 66.06 58 P P 04 06 58.1 -0.4
baz=66,SNR=78
O33A Hebron 66.09 55 P P 04 06 57.7 -0.9
baz=66,SNR=44
U27A Thompson Grove 66.11 61 P P 04 06 58.7 -0.2
baz=66,SNR=78
S29A Ulysses 66.12 59 P P 04 06 58.7 -0.2
baz=66,SNR=22
NACGM Naroch 66.20 333 *e*P P 04 06 55.0 -4.0
MICGM Minsk 66.24 332⇑*i*P P 04 06 59.0 -0.2
MNK Minsk 66.25 332 *e*P P 04 06 59.0 -0.3
121A Cookes Peak, D 66.27 67 P P 04 07 01.0 +1.0
baz=66,SNR=90
121A Cookes Peak, D 66.27 67 *e*P P 04 07 00.9 +0.9
comp=Z,256nm,1.4s
SCHQ Schefferville 66.29 27 P P 04 06 59.8 +0.2
comp=Z,33nm,0.5s,baz=346,slow=4.8,SNR=66
SCHQ PKPPKP P'P'df 04 35 33.8 -5.5
comp=Z,13nm,1.1s,baz=171,slow=3.9,SNR=5.0
SCHQ LR LR 04 37 40.6
comp=Z,12µm,20.9s,baz=344,slow=38
T29A Hugoton 66.38 60 P P 04 06 60.0 -0.5
baz=66,SNR=17
Q32A Meitler Ranch, 66.42 56 P P 04 07 00.0 -0.6
baz=66,SNR=32
R31A Burdett 66.45 58 P P 04 07 00.0 -0.9
baz=66,SNR=38
S30A Montezuma 66.45 59 P P 04 07 00.6 -0.4
baz=66,SNR=21
O34A Beatrice 66.45 54 P P 04 06 60.0 -0.9
baz=66,SNR=52
N35A Tabor 66.46 53 P P 04 07 01.0 +0.1
baz=66,SNR=46
U28A Mallet 66.46 61 P P 04 07 00.7 -0.4
baz=66,SNR=25
BLS5 Blasjo 66.47 346⇑*i*P P 04 07 00.2 -0.5
BLS5 *e*S S 04 15 50.0 +1.5
BLS5 IVMs_BB IVMs_BB 04 41 27.7
comp=Z,13µm,17.1s
BLS5 IAMs_20 IAMs_20 04 41 33.8
comp=Z,39µm,19.1s
P33A Williams Farm, 66.52 56 P P 04 07 00.4 -0.9
baz=66
KAPI Kappang 66.57 224 P P 04 07 02.6 +0.8
comp=Z,467nm,1.1s,SNR=33
KAPI Kappang 66.57 224 P P 04 07 02.7 +0.8
comp=Z,25nm,0.8s,baz=29,slow=4.1,SNR=9.8
KAPI LR LR 04 37 21.1
comp=Z,2µm,20.3s,baz=8.3,slow=37
KAPI Kappang 66.57 224 *e*P P 04 07 02.3 +0.5
comp=Z,204nm,1.4s
KAPI LR LR
comp=Z,4µm,21.0s
V27A Dan Oppiter Fa 66.60 62 P P 04 07 01.9 -0.2
baz=66,SNR=58
PKDT Phuket 66.64 252 P P 04 07 04.5 +2.2
comp=Z,857nm,1.0s,comp=Z,12µm
KBKI Kotabaru 66.64 229 P P 04 07 02.5 +0.2
comp=Z,268nm,2.4s,comp=Z,9µm
BKSI Bulukumba 66.69 224 P P 04 07 02.7 +0.1
comp=Z,87nm,0.9s,comp=Z,4µm
WAL1 Walls 66.70 350⇑*e*P P 04 07 01.9 -0.2
LRW Lerwick 66.77 350⇑*e*P P 04 07 02.9 +0.4
LRW AMB AMB 04 07 04.1
comp=Z,240nm,3.5s
LRW AMS AMS 04 42 45.5
comp=Z,9µm,19.8s
R32A Long Quarter, 66.77 57 P P 04 07 01.8 -1.1
baz=66,SNR=11
O35A Humboldt 66.78 54 P P 04 07 01.9 -1.0
baz=66,SNR=5.1
Q33A Connelly Farm, 66.78 56 P P 04 07 02.1 -0.9
baz=66,SNR=43
KMY Karmoy 66.85 346⇑*i*P P 04 07 03.9 +0.9
KMY IVMs_BB IVMs_BB 04 43 03.5
comp=Z,9µm,18.2s
T30A Plains 66.86 59 P P 04 07 02.8 -0.7
baz=67,SNR=7.4
P34A Walnut Farm, R 66.87 55 P P 04 07 02.4 -1.1
baz=67,SNR=18
SAN1 Sandwick 66.89 350⇑*e*P P 04 07 03.3 0.0
U29A Oasis Ranch, S 66.92 60 P P 04 07 03.2 -0.8
baz=67
V28A Channing 66.94 61 P P 04 07 03.8 -0.4
baz=67,SNR=21
PBA Port Blair 66.96 259 *e*P P 04 07 03.1 -1.2
PBA AMB AMB 04 07 05.9
comp=Z,798nm,1.6s
CHLP Challavanipeta 66.96 271 *e*P P 04 07 04.5 +0.2
CHLP IAmb IAmb 04 07 07.8
comp=Z,207nm,1.0s
CHLP *e*PcP PcP 04 07 34.1 +1.4
CHLP *e*S S 04 15 57.2 +1.6
CHLP *e*SS SS 04 20 16.0 +1.9
CHLP IVMs_BB IVMs_BB 04 40 37.8
comp=Z,11µm,15.2s
S31A Mullinville 66.98 58 P P 04 07 03.0 -1.3
baz=67,SNR=14
U30A WK&E Inc. Balk 67.19 60 P P 04 07 04.9 -0.8
baz=67,SNR=15
S32A Newby Ranch, P 67.20 58 P P 04 07 04.8 -0.9
baz=67,SNR=26
V29A Stinnett 67.22 61 P P 04 07 05.3 -0.6
baz=67,SNR=5.5
R33A Olander Ranch, 67.23 57 P P 04 07 05.0 -0.9
baz=67,SNR=28
HOMB Homborsund 67.24 344⇑*i*P P 04 07 05.0 -0.5
HOMB IAMs_20 IAMs_20 04 42 19.1
comp=Z,38µm,18.3s
HOMB IVMs_BB IVMs_BB 04 42 33.1
comp=Z,16µm,15.2s
T31A Randall Ranch, 67.27 58 P P 04 07 05.4 -0.7
baz=67
BSSI Bau Bau, Buton 67.28 223 P P 04 07 06.2 -0.1
comp=Z,329nm,2.0s,comp=Z,8µm
P35A Duane Minner, 67.29 54 P P 04 07 05.2 -1.0
baz=67,SNR=20
Q34A Chapman 67.29 55 P P 04 07 05.2 -1.0
baz=67,SNR=6.1
W28A Vega 67.32 61 P P 04 07 06.7 +0.1
baz=67,SNR=7.1
KSU1 Kansas State U 67.32 55 P P 04 07 05.4 -1.0
baz=67
KSU1 Kansas State U 67.32 55 *e*P P 04 07 05.0 -1.4
comp=Z,57nm,0.8s
O36A Bolckow 67.35 53 P P 04 07 06.2 -0.4
baz=67,SNR=34
ABKT Ailbek 67.36 303 P P 04 07 06.5 -0.3
comp=Z,1µm,0.7s,SNR=30
GEYT Alibeck 67.37 303 P P 04 07 06.5 -0.3
comp=Z,111nm,0.6s,baz=29,slow=3.4,SNR=88
GEYT PP PP 04 09 34.8 -0.1
comp=Z,29nm,0.8s,baz=353,slow=9.2,SNR=3.9
GEYT LR LR 04 39 08.6
comp=Z,76µm,18.4s,baz=30,slow=38
KULM Kulim 67.42 248 ⇑P P 04 07 10.1 +2.9
KULM Kulim 67.42 248 *e*P P 04 07 08.6 +1.3
comp=Z,1µm,1.9s
KULM LR LR
comp=Z,16µm,19.0s
BHPL Bhopal 67.44 279 *e*P P 04 07 04.9 -2.5
BHPL AMB AMB 04 07 06.5
comp=Z,258nm,6.6s
JFWS Jewell Farm 67.44 48 *e*P P 04 07 06.2 -0.9
JFWS pmax pmax
comp=Z,222nm,1.2s
JFWS MLR MLR
comp=Z,27µm,19.0s
JFWS Jewell Farm 67.44 48 *e*P P 04 07 06.2 -0.9
comp=Z,222nm,1.2s
JFWS LR LR
comp=Z,27µm,19.0s
IEMG Emamgholi 67.48 302 *e*P P 04 07 08.3 +0.5
IMYA Miami 67.54 301 *e*P P 04 07 08.3 +0.3
T32A Huddler Ranch, 67.60 58 P P 04 07 07.3 -1.0
baz=67,SNR=15
R34A Isabella, Hill 67.61 56 P P 04 07 07.4 -0.9
baz=67,SNR=41
P36A Good Intent, A 67.62 54 P P 04 07 07.4 -0.9
baz=67,SNR=7.8
COEN Coen 67.67 198 *e*P P 04 07 08.9 +0.2
comp=Z,78nm,0.9s
W29A Amraillo 67.72 61 P P 04 07 09.1 0.0
baz=68,SNR=16
U31A Nine Bar Ranch 67.73 59 P P 04 07 09.0 -0.1
baz=68
V30A Spur Ranch, Mi 67.75 60 P P 04 07 08.6 -0.6
baz=68
S33A Kaszmaul Farm, 67.76 57 P P 04 07 08.4 -0.8
baz=68,SNR=5.6
Q35A Mercer Eighty, 67.79 55 P P 04 07 08.3 -1.1
baz=68,SNR=17
IPM Ipoh 67.87 247 ⇓P P 04 07 12.3 +2.1
IPM Ipoh 67.87 247 *e*P P 04 07 10.7 +0.6
comp=Z,194nm,1.0s
X28A Dimmitt 67.88 62 P P 04 07 10.4 +0.3
baz=68,SNR=36
ISRO Mashad 67.89 301 *e*P P 04 07 10.3 +0.1
SUW Suwalki 67.98 334 *i*P P 04 07 10.1 -0.2
SUW *e*S S 04 16 05.5 -1.3
SUW *e* 04 16 25.9
SUW LMZ LR 04 40 18.7
SUW Suwalki 67.98 334⇑*i*P P 04 07 10.2 -0.1
SUW *e*S S 04 16 05.6 -1.3
SUW *e* 04 16 26.0
SUW MLR MLR
comp=Z,102µm,18.4s
Q36A Arnold C. Orve 68.00 54 P P 04 07 09.3 -1.4
baz=68
VIS Vishakhapatnam 68.01 271 *e*P P 04 07 09.7 -1.2
VIS AMB AMB 04 07 12.6
comp=Z,456nm,2.6s
NGP Nagpur 68.02 276 *e*P P 04 07 10.5 -0.6
NGP *e*S S 04 16 07.9 -0.4
T33A Patterson Ranc 68.03 58 P P 04 07 09.9 -0.9
baz=68,SNR=8.2
IPAY Payeh 68.03 301 *e*P P 04 07 11.1 -0.1
IKRD Kardeh 68.04 302 *e*P P 04 07 08.2 -3.1
IAKL Akhelmad 68.04 302 *e*P P 04 07 10.4 -0.9
CPRX Cap Rock 68.08 64 *e*P P 04 07 12.1 +0.6
comp=Z,63nm,1.1s
ISFR Sfrayin 68.09 302 *e*P P 04 07 12.0 +0.3
IMOG Moghan 68.11 301 *e*P P 04 07 11.7 -0.1
R35A Emporia Munici 68.12 55 P P 04 07 10.5 -1.0
baz=68,SNR=11
S34A Willow Spring 68.14 56 P P 04 07 10.4 -1.2
baz=68,SNR=9.9
U32A Winter Ranch, 68.17 59 P P 04 07 11.4 -0.4
baz=68,SNR=28
V31A Spring Creek L 68.19 60 P P 04 07 12.3 +0.3
baz=68,SNR=33
X29A Tulia 68.20 62 P P 04 07 12.4 +0.3
baz=68,SNR=88
KLNR Kaliningrad 68.21 336 *i*P P 04 07 11.9 +0.2
KLNR pmax pmax
comp=Z,740nm,1.3s
W30A Crocket Farms 68.25 60 P P 04 07 12.7 +0.3
baz=68,SNR=11
PBKI Pangkalan Bun 68.27 233 P P 04 07 13.0 +0.4
comp=Z,705nm,1.9s,comp=Z,15µm
Y28A McKinney Farm, 68.31 62 P P 04 07 12.7 -0.1
baz=68,SNR=38
GLMI Grayling 68.41 44 *e*P P 04 07 13.5 +0.3
comp=Z,386nm,1.0s
GLMI LR LR
comp=Z,15µm,20.0s
R36A Gordon, Harris 68.47 55 P P 04 07 12.8 -0.9
baz=68,SNR=22
MYKOM Kota Tinggi 68.52 243 ⇓P P 04 07 17.3 +3.1
FRIM Kepong 68.55 246 ⇑P P 04 07 17.2 +2.8
S35A Otter Creek Ra 68.55 56 P P 04 07 13.5 -0.7
baz=68,SNR=28
Q37A Longview Farm, 68.57 54 P P 04 07 13.1 -1.1
baz=68,SNR=9.3
MAK Makhachkala 68.57 313 *e*P P 04 07 13.3 -0.8
MAK *e* 04 07 42.1
MAK *e* 04 09 52.3
MAK *e*PPP PPP 04 11 23.2
MAK *e*S S 04 16 12.1 -2.1
MAK *e* 04 17 10.9
MAK pmax pmax
comp=Z,191nm,1.4s
MAK MLR MLR
comp=Z,53µm,19.0s
W31A Holland Ranch, 68.58 60 P P 04 07 14.5 +0.1
baz=68,SNR=63
U33A Lingo Farm, Me 68.59 58 P P 04 07 13.7 -0.7
baz=68,SNR=12
T34A McClaskey Farm 68.61 57 P P 04 07 13.8 -0.8
baz=68,SNR=48
KGM Kluang 68.62 244 ⇑P P 04 07 17.9 +3.1
X30A Coker Ranch, T 68.64 61 P P 04 07 14.7 -0.2
baz=68,SNR=64
V32A Arapaho 68.65 59 P P 04 07 15.0 +0.2
baz=68,SNR=21
Y29A Porterfield Fa 68.66 62 P P 04 07 15.3 +0.3
baz=68,SNR=56
BIGH Upper Bighouse 68.66 351⇑*i*P P 04 07 14.5 0.0
BIGH AMB AMB 04 07 16.1
comp=Z,492nm,3.3s
Z28A Tucker Farm, M 68.70 63 P P 04 07 15.2 -0.1
baz=68,SNR=29
MLA1 Latheron 68.79 351⇑*e*P P 04 07 15.7 +0.4
GOF Gofitskoye 68.81 317⇑*i*P P 04 07 15.5 -0.1
GOF *e*S S 04 16 11.2 -5.9
GOF pmax pmax
comp=Z,178nm,1.1s
R37A Teagarden Farm 68.82 54 P P 04 07 14.6 -1.2
baz=69,SNR=20
MMRI Maumere 68.82 220 P P 04 07 15.3 -0.7
comp=Z,374nm,2.1s,comp=Z,11µmcomp=Z,30µm
MMRI Maumere 68.82 220 *e*P P 04 07 16.0 +0.1
comp=Z,1µm,1.8s
MUD Monsted U'grnd 68.85 343⇑*i*P P 04 07 16.8 +1.2
comp=Z,344nm,1.4s
comp=Z,42µm,17.0s
MUD Monsted U'grnd 68.85 343⇑*i*P P 04 07 16.8 +1.2
MUD pmax pmax
comp=Z,340nm,1.4s
MUD MLR MLR
comp=Z,42µm,17.0s
U34A Anderson Ranch 68.89 58 P P 04 07 15.8 -0.4
baz=69,SNR=16
U34A Anderson Ranch 68.89 58 *e*P P 04 07 16.0 -0.3
comp=Z,449nm,1.7s
S36A Lake Cedric, C 68.89 55 P P 04 07 15.4 -0.8
baz=69,SNR=56
COP Copenhagen 68.96 341⇑*i*P P 04 07 17.7 +1.4
comp=Z,235nm,1.1s
COP *i* S S 04 16 19.5 +1.1
comp=Z,15µm,17.0s
COP Copenhagen 68.96 341⇑*i*P P 04 07 17.7 +1.4
COP *i* S S 04 16 19.5 +1.1
COP pmax pmax
comp=Z,240nm,1.1s
COP MLR MLR
comp=Z,15µm,17.0s
V33A Lossen Ranch, 68.97 58 P P 04 07 16.2 -0.5
baz=69
BSD Bornholm Skovb 68.97 339⇑*i*P P 04 07 16.7 +0.3
comp=Z,393nm,1.1s
BSD *i* S S 04 16 15.2 -3.4
BSD Bornholm Skovb 68.97 339⇑*i*P P 04 07 16.7 +0.3
BSD *i* S S 04 16 15.2 -3.4
BSD pmax pmax
comp=Z,390nm,1.1s
X31A McDonald Ranch 68.98 60 P P 04 07 17.0 +0.1
baz=69,SNR=85
W32A Sentinel 69.00 60 P P 04 07 17.5 +0.5
baz=69,SNR=153
T35A Sooner Cattle 69.04 57 P P 04 07 16.3 -0.9
baz=69,SNR=34
SOEI Soe 69.06 218 *e*P P 04 07 17.1 -0.4
comp=Z,1µm,1.8s
Y30A Stafford Cattl 69.06 62 P P 04 07 17.7 +0.2
baz=69,SNR=18
Z29A Hungry Hill Ra 69.09 63 P P 04 07 17.9 +0.2
baz=69,SNR=60
KIEV Kiev 69.15 329 *e*P P 04 07 16.7 -0.9
KIEV pmax pmax
comp=Z,614nm,1.0s
KIEV MLR MLR
comp=Z,39µm,19.0s
KIEV Kiev 69.15 329 *e*P P 04 07 16.7 -0.9
comp=Z,614nm,1.0s
KIEV LR LR
comp=Z,39µm,19.0s
128A Castleberry Fa 69.15 64 P P 04 07 18.3 +0.2
baz=69,SNR=69
S37A Fort Scott 69.24 55 P P 04 07 17.3 -1.2
baz=69,SNR=24
MVH1 Achvaich 69.25 351⇑*i*P P 04 07 18.5 +0.4
T36A Boggs Farm, Ca 69.25 56 P P 04 07 17.8 -0.7
baz=69,SNR=36
Y31A Rekieta Farm, 69.34 61 P P 04 07 19.1 0.0
baz=69,SNR=46
U35A Pawnee 69.35 57 P P 04 07 18.7 -0.4
baz=69,SNR=33
V34A Guthrie 69.36 58 P P 04 07 18.9 -0.3
baz=69,SNR=62
V34A Guthrie 69.36 58 *e*P P 04 07 18.2 -1.0
comp=Z,455nm,1.4s
W33A Caddo, Fort Co 69.38 59 P P 04 07 19.9 +0.5
baz=69,SNR=64
Z30A Sanderson Ranc 69.39 62 P P 04 07 19.4 -0.1
baz=69,SNR=52
PVM Polavaram 69.41 272 *e*P P 04 07 19.9 +0.2
PVM IAmb IAmb 04 07 22.5
comp=Z,232nm,0.6s
PVM *e*PP PP 04 09 53.0 -0.1
PVM *e*S S 04 16 25.6 +0.8
PVM *e*SS SS 04 20 54.0 +2.0
PVM IVMs_BB IVMs_BB 04 40 43.7
comp=Z,12µm,16.8s
228A UT Block 9, Go 69.48 64 P P 04 07 20.2 +0.1
baz=69,SNR=41
129A Stewart Farms, 69.49 63 P P 04 07 20.2 +0.1
baz=69,SNR=14
MCD Coleburn Disti 69.50 350⇑*i*P P 04 07 20.1 +0.5
X32A Elmer 69.51 60 P P 04 07 20.1 -0.1
baz=69,SNR=72
WMOK Wichita Mounta 69.54 60 *e*P P 04 07 20.0 -0.4
WMOK pmax pmax
comp=Z,191nm,1.0s
WMOK MLR MLR
comp=Z,9µm,21.0s
WMOK Wichita Mounta 69.54 60 *e*P P 04 07 19.9 -0.4
comp=Z,191nm,1.0s
WMOK LR LR
comp=Z,9µm,21.0s
LHMI Lhok Sumawe 69.59 251 P P 04 07 23.1 +2.3
comp=Z,812nm,2.0s,comp=Z,33µm
LHMI Lhok Sumawe 69.59 251 *e*P P 04 07 23.1 +2.3
comp=Z,2µm,1.7s
AKL Akola 69.60 278 *e*P P 04 07 19.4 -1.4
AKL AMB AMB 04 07 22.2
comp=Z,389nm,2.6s
RPR Rampur 69.61 275 *e*P P 04 07 21.2 +0.3
RPR IAmb IAmb 04 07 23.8
comp=Z,150nm,0.9s
RPR *e*PP PP 04 09 52.8 -2.0
RPR *e* 04 16 21.8
RPR *e*S S 04 16 27.4 +0.2
RPR *e*SKSac SKSac 04 17 18.6 -0.7
RPR IVMs_BB IVMs_BB 04 41 11.7
comp=Z,13µm,15.4s
W34A Bridge Creek, 69.68 59 P P 04 07 21.4 +0.2
baz=69,SNR=34
W34A Bridge Creek, 69.68 59 *e*P P 04 07 21.1 -0.2
comp=Z,332nm,1.3s
T37A Cheneyville 18 69.69 55 P P 04 07 20.4 -0.8
baz=69,SNR=104
MME1 Meikle Cairn 69.73 350⇑*e*P P 04 07 21.0 -0.2
HDIL Hopedale 69.73 49 P P 04 07 21.2 -0.2
baz=69,SNR=138
HDIL Hopedale 69.73 49 *e*P P 04 07 20.6 -0.8
comp=Z,835nm,1.2s
HDIL LR LR
comp=Z,27µm,19.0s
MDO Dochfour 69.74 351⇑*e*P P 04 07 20.5 -0.7
Y32A R-V Farms, Ver 69.75 60 P P 04 07 21.7 0.0
baz=70,SNR=63
V35A Meyer Ranch, C 69.76 58 P P 04 07 21.4 -0.3
baz=70,SNR=20
KAC Achnashellach 69.77 352⇑*i*P P 04 07 21.9 +0.6
X33A Lawton 69.83 59 P P 04 07 22.2 0.0
baz=70,SNR=36
RGN Rugen 69.84 340 *e*P P 04 07 23.2 +1.4
comp=Z,992nm,1.1s
RGN Rugen 69.84 340 *e*P P 04 07 23.3 +1.4
comp=Z,1µm,1.2s
U36A Oologah 69.84 56 P P 04 07 21.9 -0.3
baz=70,SNR=9.2
Z31A Sharp Cattle R 69.89 61 P P 04 07 22.4 -0.2
baz=70
CMBY CAMPBELL BAY 69.93 255 *e*P P 04 07 21.0 -1.9
CMBY AMB AMB 04 07 35.5
comp=Z,583nm,1.3s
KBZ Khabaz 69.95 317 P P 04 07 22.9 +0.3
comp=Z,71nm,0.8s,baz=52,slow=4.8,SNR=82
KBZ PP PP 04 09 57.0 0.0
comp=Z,18nm,0.7s,baz=38,slow=14,SNR=3.6
KBZ PKP2bc 04 35 21.9
comp=Z,1.6nm,0.9s,baz=207,slow=2.3,SNR=7.9
KBZ LR LR 04 40 50.6
comp=Z,23µm,20.3s,baz=8.0,slow=38
KPL Plockton 69.96 352⇑*i*P P 04 07 22.5 0.0
KPL AMB AMB 04 07 24.2
comp=Z,269nm,3.4s
130A Snyder 70.00 62 P P 04 07 23.5 +0.3
baz=70,SNR=27
229A Bryant Ranch, 70.02 64 P P 04 07 23.8 +0.4
baz=70,SNR=24
TSI Tuntungan 70.06 249 P P 04 07 24.1 +0.4
comp=Z,337nm,1.1s,comp=Z,8µm
KSB Sheil Bridge 70.07 352⇑*i*P P 04 07 23.4 +0.2
DRUM Mains of Drumt 70.07 350⇑*e*P P 04 07 23.4 +0.1
DRUM AMB AMB 04 07 26.1
comp=Z,217nm,3.2s
DRUM AMS AMS 04 45 29.7
comp=Z,9µm,18.6s
SRSP Sriramsagar 70.14 275 *e*P P 04 07 23.3 -0.9
SRSP IAmb IAmb 04 07 26.5
comp=Z,166nm,0.8s
SRSP *e*PP PP 04 09 58.4 -0.9
SRSP *e*S S 04 16 34.3 +0.9
SRSP *e*SS SS 04 21 04.8 +1.7
SRSP IVMs_BB IVMs_BB 04 41 30.1
comp=Z,17µm,14.4s
X34A Smith Ranch, M 70.14 59 P P 04 07 24.7 +0.6
baz=70,SNR=27
U37A Salina 70.15 56 P P 04 07 23.7 -0.3
baz=70,SNR=80
GKP Gorka Klasztor 70.15 337 *e*P P 04 07 24.4 +0.7
GKP *e*S S 04 16 33.7 +1.1
GKP LMZ LR 04 42 55.5
GKP Gorka Klasztor 70.15 337⇑*e*P P 04 07 24.5 +0.7
GKP *e*S S 04 16 33.7 +1.1
GKP MLR MLR
comp=Z,65µm,17.0s
Y33A Hilltop Ranch, 70.18 60 P P 04 07 24.0 -0.2
baz=70,SNR=23
TUL1 Tulsa 70.19 57 P P 04 07 24.1 -0.2
baz=70,SNR=80
TUL1 Tulsa 70.19 57 *e*P P 04 07 23.7 -0.6
comp=Z,494nm,1.4s
V36A Jenks 70.21 57 P P 04 07 24.3 -0.1
baz=70,SNR=62
W35A Tecumseh 70.22 58 P P 04 07 24.5 0.0
baz=70,SNR=52
131A Roby 70.26 62 P P 04 07 25.0 +0.1
baz=70,SNR=60
Z32A Haskell 70.26 61 P P 04 07 24.6 -0.2
baz=70,SNR=58

329A	**Wagon Wheel Ra**	**70.29**	**64**	P		**P**		**04 07 25.6**	**+0.5**
	baz=70,SNR=125								
TPI	**Tanjungpandan**	**70.33**	**237**	P		**P**		**04 07 26.0**	**+0.7**
	comp=Z,170nm,2.4s,comp=Z,8µm								
IDAH	**Dahanechah**	**70.40**	**298**	*e*P		**P**		**04 07 25.6**	**-0.4**
NEY	**Neytrino**	**70.42**	**316**	*c i*P		**P**		**04 07 26.0**	**+0.2**
PSI	**Prapat**	**70.43**	**248**	P		**P**		**04 07 27.1**	**+0.9**
	comp=Z,41nm,0.9s,baz=8.8,slow=3.7,SNR=12								
PSI				LR		LR		04 41 32.5	
	comp=Z,14µm,18.1s,baz=24,slow=39								
AFI	**Afiamalu**	**70.44**	**151**	LR		LR		04 33 32.9	
	comp=Z,13µm,19.8s,baz=334,slow=32								
230A	**Sterling City**	**70.46**	**63**	P		**P**		**04 07 26.3**	**+0.1**
	baz=70,SNR=37								
EDU	**Dundee**	**70.49**	**350**⇑	*i*P		**P**		**04 07 25.6**	**-0.2**
U38A	**Gravette**	**70.49**	**55**	P		**P**		**04 07 25.6**	**-0.6**
	baz=70,SNR=17								
V37A	**Hulbert**	**70.54**	**56**	P		**P**		**04 07 26.2**	**-0.3**
	baz=70,SNR=83								
W36A	**Wetumka**	**70.56**	**58**	P		**P**		**04 07 26.3**	**-0.3**
	baz=70,SNR=54								
BEL	**Belsk**	**70.57**	**334**	*e*P		**P**		**04 07 27.3**	**+1.0**
BEL				*e*S		**S**		**04 16 38.2**	**+0.7**
BEL				*e*				04 16 59.0	
BEL				LMZ		LR		04 42 01.4	
BEL	**Belsk**	**70.57**	**334**⇑	*e*P		**P**		**04 07 27.4**	**+1.1**
BEL				*e*S		**S**		**04 16 38.3**	**+0.7**
BEL				*e*				04 16 59.0	
BEL				MLR		MLR			
	comp=Z,100µm,18.1s								
PPBI	**Pangkal Pinang**	**70.61**	**239**	P		**P**		**04 07 28.4**	**+1.3**
	comp=Z,169nm,1.7s,comp=Z,11µm								
ONI	**Oni**	**70.64**	**316**	P		**P**		**04 07 27.7**	**+0.6**
ONI	**Oni**	**70.64**	**316**	*e*P		**P**		**04 07 27.6**	**+0.6**
IGLO	**Ghaloghah**	**70.64**	**305**	*e*P		**P**		**04 07 26.8**	**-0.5**
Z33A	**Whitaker Ranch**	**70.66**	**61**	P		**P**		**04 07 26.9**	**-0.3**
	baz=70,SNR=36								
Y34A	**Reagan Ranch,**	**70.67**	**59**	P		**P**		**04 07 27.5**	**+0.2**
	baz=70,SNR=32								
SADO	**Sadowa**	**70.69**	**40**	P		**P**		**04 07 25.9**	**-1.3**
	comp=Z,109nm,1.3s,baz=332,slow=9.0,SNR=11								
ABTX	**Abilene, Hawle**	**70.70**	**62**	P		**P**		**04 07 27.8**	**+0.3**
	baz=70,SNR=54								
ABTX	**Abilene, Hawle**	**70.70**	**62**	*e*P		**P**		**04 07 26.9**	**-0.6**
	comp=Z,412nm,1.4s								
DGRG	**David-gareji**	**70.73**	**314**	P		**P**		**04 07 27.7**	**+0.1**
DGRG	**David-gareji**	**70.73**	**314**	*e*P		**P**		**04 07 27.6**	**+0.1**
X35A	**Drake**	**70.75**	**59**	P		**P**		**04 07 27.6**	**-0.1**
	baz=70,SNR=74								
TBLG	**Delisi**	**70.78**	**314**	*e*P		**P**		**04 07 28.0**	**+0.1**
TBLG	**Delisi**	**70.78**	**314**	P		**P**		**04 07 27.8**	**-0.1**
TBLG	**Delisi**	**70.78**	**314**	P		**P**		**04 07 27.8**	**-0.1**
330A	**Mertzon**	**70.80**	**63**	P		**P**		**04 07 28.3**	**+0.2**
	baz=71,SNR=54								
SLM	**Saint Louis**	**70.81**	**51**	*e*P		**P**		**04 07 27.9**	**-0.1**
SLM				pmax		pmax			
	comp=Z,557nm,1.3s								
SLM	**Saint Louis**	**70.81**	**51**	*e*P		**P**		**04 07 27.9**	**-0.1**
	comp=Z,557nm,1.3s								
AAM	**Ann Arbor**	**70.86**	**45**	*e*P		**P**		**04 07 28.1**	**-0.1**
AAM				pmax		pmax			
	comp=Z,489nm,1.2s								
AAM				MLR		MLR			
	comp=Z,18µm,19.0s								
AAM	**Ann Arbor**	**70.86**	**45**	*e*P		**P**		**04 07 28.1**	**-0.1**
	comp=Z,489nm,1.2s								
AAM				LR		LR			
	comp=Z,18µm,19.0s								
231A	**Bronte**	**70.86**	**62**	P		**P**		**04 07 28.6**	**0.0**
	baz=71,SNR=36								
SFIN	**Scholer Farm**	**70.88**	**48**	P		**P**		**04 07 28.2**	**-0.3**
	baz=71,SNR=42								
SFIN	**Scholer Farm**	**70.88**	**48**	*e*P		**P**		**04 07 27.7**	**-0.7**
	comp=Z,253nm,1.2s								
BASI	**Baing, Sumba**	**70.92**	**221**	P		**P**		**04 07 28.3**	**-0.6**
	comp=Z,860nm,1.8s,comp=Z,17µm								
V38A	**Canehill**	**70.93**	**56**	P		**P**		**04 07 28.5**	**-0.3**
	baz=71,SNR=236								
X36A	**Centrahoma**	**70.94**	**58**	P		**P**		**04 07 28.8**	**-0.1**
	baz=71,SNR=36								
IKIA	**Kiasar**	**70.95**	**305**	*e*P		**P**		**04 07 29.1**	**-0.1**
KMMI	**Kalianget**	**70.96**	**229**	P		**P**		**04 07 30.4**	**+1.3**
	comp=Z,430nm,2.3s,comp=Z,14µm								
W37A	**Quinton**	**70.97**	**57**	P		**P**		**04 07 29.5**	**+0.4**
	baz=71								
EAB	**Aberfoyle**	**70.98**	**351**	*e*P		**P**		**04 07 28.8**	**0.0**
TXAR	**Lajitas Array**	**71.00**	**67**	P		**P**		**04 07 29.2**	**-0.3**
	comp=Z,139nm,1.0s,baz=304,slow=2.3,SNR=380								
429A	**Davenport Ranc**	**71.00**	**64**	P		**P**		**04 07 29.6**	**+0.2**
	baz=71,SNR=102								
BSEG	**Bad Segeberg**	**71.02**	**342**	*e*P		**P**		**04 07 30.4**	**+1.4**
	comp=Z,470nm,1.3s								
Z34A	**Collier Ranch,**	**71.04**	**60**	P		**P**		**04 07 29.2**	**-0.3**
	baz=71,SNR=21								
ESY	**Stoneypath**	**71.07**	**350**⇑	*e*P		**P**		**04 07 29.1**	**-0.2**
Y35A	**Marietta**	**71.09**	**59**	P		**P**		**04 07 30.1**	**+0.3**
	baz=71,SNR=45								
133A	**Hamilton Ranch**	**71.10**	**61**	P		**P**		**04 07 30.0**	**0.0**
	baz=71,SNR=72								
IKOO	**Kooshah**	**71.11**	**299**	*e*P		**P**		**04 07 29.8**	**-0.5**
CHVG	**Ch'k'valeri**	**71.12**	**316**	P		**P**		**04 07 30.1**	**+0.2**
EDI	**Edinburgh**	**71.12**	**350**⇑	*e*P		**P**		**04 07 29.3**	**-0.3**
EDI				AMB		AMB		04 07 31.0	
	comp=Z,196nm,3.4s								
EDI				AMS		AMS		04 47 14.5	
	comp=Z,8µm,17.1s								
LPIG	**La Paz**	**71.14**	**75**	P		**P**		**04 07 30.8**	**+0.6**
	comp=Z,230nm,1.2s,baz=309,slow=8.3,SNR=12								
HYBB	**Hyderabad (bro**	**71.16**	**274**	*e*P		**P**		**04 07 30.2**	**-0.2**
HYBB				IAmb		IAmb		04 07 32.8	
	comp=Z,237nm,0.7s								
HYBB				*e*PcP		**PcP**		**04 07 51.4**	**+1.0**
HYBB				*e*S		**S**		**04 16 43.4**	**-2.0**
HYBB				*e*SS		**SS**		**04 21 21.6**	**+2.7**
HYBB				IVMs_BB		IVMs_BB		04 42 05.8	
	comp=Z,17µm,14.9s								
HYB	**Hyderabad**	**71.16**	**274**⇑	*i*P		**P**		**04 07 29.0**	**-1.5**
	comp=Z,386nm,0.8s								
HYB				*e*PcP		**PcP**		**04 07 52.5**	**+2.1**
HYB				*e*PP		PP		04 10 02.0	-6.2
HYB				*e*S		**S**		**04 16 40.0**	**-5.4**
HYB				LR		LR		04 42 08.0	
	comp=Z,70nm,16.0s								
HYB	**Hyderabad**	**71.16**	**274**	*e*P		**P**		**04 07 28.5**	**-2.0**
HYB				AMB		AMB		04 07 29.7	
	comp=Z,512nm,5.5s								
529A	**Stev Forest Ra**	**71.20**	**65**	P		**P**		**04 07 31.0**	**+0.3**
	baz=71,SNR=140								
430A	**Baggett Ranch,**	**71.24**	**64**	P		**P**		**04 07 31.0**	**+0.2**
	baz=71,SNR=113								
EBL	**Broad Law**	**71.25**	**350**⇑	*i*P		**P**		**04 07 30.3**	**-0.2**
232A	**Coleman**	**71.26**	**62**	P		**P**		**04 07 31.0**	**0.0**
	baz=71,SNR=137								
ANN	**Anapa**	**71.28**	**321**	*c i*P		**P**		**04 07 30.1**	**-0.6**
ANN				*e**PP		**pP**		**04 07 44.5**	**+4.3**
ANN				*e*				04 10 07.9	
ANN				*e*PPP		PPP		04 11 47.6	
ANN				*e*S		**S**		**04 16 43.1**	**-2.8**
ANN				*e*SS		**SS**		**04 21 25.8**	**+6.6**
ANN				pmax		pmax			
	comp=E,308nm,3.5s								
ANN				pmax		pmax			
	comp=Z,2µm,3.5s								
ANN				pmax		pmax			
	comp=N,1µm,3.6s								
ANN				pmax		pmax			
	comp=Z,204nm,1.4s								
ANN				pmax		pmax			
	comp=N,48nm,1.5s								
ANN				pmax		pmax			
	comp=E,52nm,1.1s								
ANN				MLR		MLR			
	comp=Z,25µm,19.0s								
ANN				MLR		MLR			
	comp=E,19µm,19.0s								
ANN				MLR		MLR			
	comp=N,41µm,19.0s								
BKNI	**Bangkinang**	**71.28**	**245**	P		**P**		**04 07 31.8**	**+0.7**
	comp=N,497nm,2.0s,comp=N,13µmcomp=N,41µm								
BKNI	**Bangkinang**	**71.28**	**245**	*e*P		**P**		**04 07 32.2**	**+1.0**
	comp=N,473nm,1.0s								
331A	**San Angelo**	**71.28**	**63**	P		**P**		**04 07 31.0**	**-0.1**
	baz=71,SNR=126								
SRBI	**Singaraja**	**71.31**	**227**	P		**P**		**04 07 31.5**	**+0.3**
	comp=N,221nm,2.2s,comp=N,9µmcomp=N,25µm								
NJS	**Nagarjunasagar**	**71.36**	**273**	*e*P		**P**		**04 07 31.5**	**-0.2**
NJS						IAmb	IAmb	04 07 34.1	
	comp=Z,241nm,0.8s								
NJS				*e*S		**S**		**04 16 47.0**	**-0.6**
NJS				IVMs_BB		IVMs_BB		04 42 33.9	
	comp=Z,14µm,16.6s								
PGBU	**Glenifferbraes**	**71.36**	**351**⇑	*i*P		**P**		**04 07 31.2**	**+0.1**
PGBU				AMB		AMB		04 07 34.5	
	comp=Z,363nm,2.1s								
PGBU				AMS		AMS		04 50 20.7	
	comp=Z,8µm,17.0s								
SOC	**Sochi**	**71.39**	**318**	*c i*P		**P**		**04 07 31.3**	**-0.1**
SOC				*e**PP		**pP**		**04 07 42.8**	**+1.9**
SOC				*e**SP		sP		04 07 50.8	+6.3
SOC				*e*				04 10 08.5	
SOC				*e*PPP		PPP		04 11 52.9	
SOC				*i* S		**S**		**04 16 44.3**	**-2.9**
SOC				*i* SS		**SS**		**04 21 20.0**	**-0.9**
SOC				pmax		pmax			
	comp=Z,175nm,1.2s								
SOC				MLR		MLR			
	comp=Z,79µm,16.0s								
IANJ	**Anjilo**	**71.41**	**304**	*e*P		**P**		**04 07 32.3**	**+0.3**
Z35A	**Perchaven, San**	**71.43**	**59**	P		**P**		**04 07 31.3**	**-0.6**
	baz=71,SNR=24								
X37A	**Clayton**	**71.43**	**57**	P		**P**		**04 07 32.0**	**+0.1**
	baz=71,SNR=29								
ISHM	**Shahmirzad**	**71.46**	**305**	*e*P		**P**		**04 07 33.2**	**+0.9**
LVV	**L'vov**	**71.49**	**332**	*d i*P		**P**		**04 07 32.1**	**+0.1**
LVV				*e*				04 10 13.1	
LVV				*i* S		**S**		**04 16 47.3**	**-1.0**
LVV				*e*PS		PnS		04 17 07.9	-11
LVV				*e*SSS		SSS		04 24 30.1	
LVV				pmax		pmax			
	comp=E,400nm,5.0s								
LVV				pmax		pmax			
	comp=Z,2µm,5.0s								
LVV				pmax		pmax			
	comp=N,1µm,6.0s								
LVV				MLR		MLR			
	comp=N,41µm,17.0s								
LVV				MLR		MLR			
	comp=E,25µm,17.0s								
LVV				MLR		MLR			
	comp=Z,50µm,17.0s								
W38A	**Poteau**	**71.49**	**56**	P		**P**		**04 07 32.1**	**-0.1**
	baz=71,SNR=84								
Y36A	**Durant**	**71.49**	**58**	P		**P**		**04 07 31.8**	**-0.5**
	baz=71,SNR=50								
ABJI	**Asem Bagus**	**71.50**	**228**	P		**P**		**04 07 32.7**	**+0.4**
	comp=Z,273nm,2.6s,comp=Z,12µm								
ADKI	**Addanki**	**71.50**	**272**	*e*P		**P**		**04 07 32.2**	**-0.3**
ADKI				IAmb		IAmb		04 07 35.4	
	comp=Z,199nm,0.7s								
ADKI				*e*PP		**PP**		**04 10 12.6**	**+1.5**
ADKI				*e*S		**S**		**04 16 48.1**	**-1.1**
ADKI				*e*SS		**SS**		**04 21 26.8**	**+2.8**
ADKI				IVMs_BB		IVMs_BB		04 43 01.7	
	comp=Z,15µm,14.4s								
134A	**White-Moore Ra**	**71.57**	**61**	P		**P**		**04 07 32.7**	**-0.1**
	baz=71,SNR=51								
AKH	**Akhalkalaki**	**71.59**	**315**	*e*P		**P**		**04 07 33.0**	**0.0**
AKH	**Akhalkalaki**	**71.59**	**315**	P		**P**		**04 07 33.6**	**+0.6**
AKH	**Akhalkalaki**	**71.59**	**315**	*e*P		**P**		**04 07 33.5**	**+0.6**
AKH	**Akhalkalaki**	**71.59**	**315**⇑	*i*P		**P**		**04 07 33.7**	**+0.8**
IPRN	**Peran**	**71.59**	**306**	*e*P		**P**		**04 07 33.6**	**+0.6**
332A	**Millersview**	**71.60**	**62**	P		**P**		**04 07 33.2**	**+0.2**
	baz=71,SNR=180								
MSVF	**Nonsavu**	**71.62**	**162**	*e*P		**P**		**04 07 33.3**	**+0.3**
MSVF				pmax		pmax			
	comp=Z,193nm,1.6s								
MSVF				MLR		MLR			
	comp=Z,14µm,19.0s								
MSVF	**Nonsavu**	**71.62**	**162**	*e*P		**P**		**04 07 33.3**	**+0.3**
	comp=Z,193nm,1.6s								
MSVF				LR		LR			
	comp=Z,14µm,19.0s								
X38A	**Whitesboro**	**71.65**	**57**	P		**P**		**04 07 33.3**	**+0.1**
	baz=71,SNR=73								
SORM	**Soroca**	**71.65**	**328**⇓	*i*P		**P**		**04 07 32.7**	**-0.3**
431A	**Sonora**	**71.66**	**64**	P		**P**		**04 07 33.6**	**+0.2**
	baz=72,SNR=110								
530A	**J-C Ranch, Com**	**71.67**	**64**	P		**P**		**04 07 34.2**	**+0.7**
	baz=72,SNR=203								
RUE	**Ruedersdorf**	**71.68**	**339**	*e*P		**P**		**04 07 34.2**	**+1.2**
	comp=Z,641nm,1.1s								
RUE	**Ruedersdorf**	**71.68**	**339**	*e*P		**P**		**04 07 33.6**	**+0.6**
	comp=Z,440nm,1.1s								
EKA	**Eskdalemuir Ar**	**71.70**	**350**	P		**P**		**04 07 33.5**	**+0.3**
	comp=Z,20nm,0.5s,baz=17,slow=5.0,SNR=68								
MNSI	**Mandailing Nat**	**71.70**	**246**	P		**P**		**04 07 34.0**	**+0.3**
	comp=Z,80nm,0.7s,comp=Z,6µm								
ESK	**Eskdalemuir**	**71.72**	**350**	P		**P**		**04 07 33.8**	**+0.5**
	comp=Z,539nm,0.7s,SNR=15								
ESK	**Eskdalemuir**	**71.72**	**350**⇑	*i*P		**P**		**04 07 33.5**	**+0.3**
ESK				AMB		AMB		04 07 34.8	
	comp=Z,240nm,3.4s								
ESK				AMS		AMS		04 46 10.1	
	comp=Z,9µm,18.0s								
ESK	**Eskdalemuir**	**71.72**	**350**	*e*P		**P**		**04 07 33.5**	**+0.3**
ESK				pmax		pmax			
	comp=Z,69nm,0.8s								
ESK				MLR		MLR			
	comp=Z,11µm,19.0s								
ESK	**Eskdalemuir**	**71.72**	**350**	*e*P		**P**		**04 07 33.5**	**+0.3**
	comp=Z,69nm,0.8s								
ESK				LR		LR			
	comp=Z,11µm,19.0s								
OLIL	**Olney**	**71.74**	**50**	*e*P		**P**		**04 07 33.5**	**-0.1**
	comp=Z,556nm,1.3s								
BLJI	**Banyuglugur**	**71.75**	**229**	P		**P**		**04 07 33.4**	**-0.5**
	comp=Z,124nm,1.9s,comp=Z,7µm								
Y37A	**Hugo**	**71.78**	**58**	P		**P**		**04 07 34.0**	**0.0**
	baz=72,SNR=27								
ECK	**Cauldkaine Hil**	**71.85**	**350**⇑	*e*P		**P**		**04 07 33.4**	**-0.6**
KLRI	**Killari**	**71.85**	**276**	*e*P		**P**		**04 07 33.0**	**-1.7**
KLRI				IAmb		IAmb		04 07 37.3	
	comp=Z,345nm,0.7s								
KLRI				*e*PP		**PP**		**04 10 12.1**	**-2.1**
KLRI				*e*				04 16 47.5	
KLRI				*e*S		**S**		**04 16 53.5**	**+0.1**
KLRI				*e*SS		**SS**		**04 21 34.6**	**+5.0**
KLRI				IVMs_BB		IVMs_BB		04 42 24.5	
	comp=Z,39µm,15.8s								
IFIR	**Firoozkooh**	**71.86**	**305**	*e*P		**P**		**04 07 35.5**	**+0.8**
Z36A	**Blue Ridge**	**71.90**	**59**	P		**P**		**04 07 34.3**	**-0.4**
	baz=72,SNR=43								
135A	**Vickery Place,**	**71.94**	**60**	P		**P**		**04 07 34.9**	**-0.1**
	baz=72,SNR=14								
ILAS	**Lasjerd**	**71.96**	**305**	*e*P		**P**		**04 07 35.3**	**0.0**
432A	**Menard**	**71.96**	**63**	P		**P**		**04 07 35.2**	**+0.1**
	baz=72,SNR=97								
SRLM	**Srisailam**	**71.96**	**273**	*e*P		**P**		**04 07 35.1**	**-0.2**
SRLM				IAmb		IAmb		04 07 38.0	
	comp=Z,448nm,0.7s								
SRLM				*e*PP		**PP**		**04 10 13.1**	**-2.0**
SRLM				*e*				04 16 49.4	
SRLM				*e*S		**S**		**04 16 55.4**	**+0.7**
SRLM				*e*SS		**SS**		**04 21 32.9**	**+1.6**
SRLM				IVMs_BB		IVMs_BB		04 42 44.6	
	comp=Z,12µm,14.7s								
234A	**Clairette**	**71.98**	**61**	P		**P**		**04 07 35.3**	**+0.1**
	baz=72,SNR=58								
SIUC	**Southern Illin**	**72.02**	**51**	*e*P		**P**		**04 07 35.0**	**-0.3**
	comp=Z,538nm,1.2s								
KWP	**Kalwaria Pacla**	**72.04**	**332**	*i* P		**P**		**04 07 36.2**	**+0.9**
KWP				*e*S		**S**		**04 16 55.0**	**+0.4**
KWP				*e*				04 17 15.2	
KWP				LMZ		LR		04 43 03.1	
KWP	**Kalwaria Pacla**	**72.04**	**332**⇑	*i*P		**P**		**04 07 36.3**	**+0.9**
KWP				*e*S		**S**		**04 16 55.1**	**+0.4**
KWP				MLR		MLR			
	comp=Z,57µm,18.9s								
333A	**Richland Sprin**	**72.05**	**62**	P		**P**		**04 07 35.8**	**+0.1**
	baz=72,SNR=124								
GNI	**Garni**	**72.06**	**313**	P		**P**		**04 07 36.8**	**+0.9**
	comp=Z,40nm,0.7s,baz=184,slow=0.6,SNR=42								
GNI				PP		**PP**		**04 10 13.1**	**-2.3**
	comp=Z,22nm,0.7s,baz=83,slow=8.1,SNR=4.0								
GNI				LR		LR		04 44 16.5	
	comp=Z,27µm,18.9s,baz=18,slow=40								
GNI	**Garni**	**72.06**	**313**	*e*P		**P**		**04 07 36.4**	**+0.6**
GNI								04 10 13.1	
	comp=Z,110nm,0.8s								
GNI				pmax		pmax			
	comp=Z,29µm,19.0s								
				MLR		MLR			
GNI	**Garni**	**72.06**	**313**⇓	*i*P		**P**		**04 07 36.7**	**+0.9**
	SNR=19								
GNI	**Garni**	**72.06**	**313**	*e*P		**P**		**04 07 36.4**	**+0.6**
	comp=Z,110nm,0.8s								
GNI				PP		**PP**		**04 10 13.1**	**-2.3**
GNI				LR		LR			
	comp=Z,29µm,19.0s								
BHJ	**Bhuj**	**72.08**	**285**	*e*P		**P**		**04 07 34.0**	**-1.9**
BHJ				AMB		AMB		04 07 39.4	
	comp=Z,460nm,1.5s								
LCP	**Cassop**	**72.09**	**349**⇑	*e*P		**P**		**04 07 35.6**	**+0.1**
531A	**Rocksprings**	**72.10**	**64**	P		**P**		**04 07 36.0**	**0.0**
	baz=72,SNR=132								
BLO	**Bloomington**	**72.12**	**48**	*e*P		**P**		**04 07 35.0**	**-0.9**
BLO				pmax		pmax			
	comp=Z,223nm,1.1s								
BLO	**Bloomington**	**72.12**	**48**	*e*P		**P**		**04 07 35.0**	**-0.9**
	comp=Z,223nm,1.1s								
IAFJ	**Afjeh**	**72.21**	**306**	*e*P		**P**		**04 07 38.4**	**+1.4**
GCD	**Castle Douglas**	**72.25**	**350**⇑	*i*P		**P**		**04 07 36.5**	**+0.1**
JCT	**Junction City**	**72.26**	**63**	*e*P		**P**		**04 07 36.7**	**-0.3**
JCT				pmax		pmax			
	comp=Z,337nm,1.4s								
JCT				MLR		MLR			
	comp=Z,9µm,21.0s								
JCT	**Junction City**	**72.26**	**63**	P		**P**		**04 07 37.1**	**+0.1**
	baz=72,SNR=63								
JCT	**Junction City**	**72.26**	**63**	*e*P		**P**		**04 07 36.7**	**-0.3**
	comp=Z,337nm,1.4s								
JCT				LR		LR			
	comp=Z,9µm,21.0s								
IDMV	**Damavand**	**72.27**	**305**	*e*P		**P**		**04 07 36.9**	**-0.4**
Y38A	**Idabel**	**72.28**	**57**	P		**P**		**04 07 36.5**	**-0.5**
	baz=72,SNR=7.3								
PPI	**Padang Panjang**	**72.28**	**245**	P		**P**		**04 07 37.5**	**+0.4**
	comp=Z,103nm,2.6s,comp=Z,5µmcomp=Z,32µm								
OJC	**Ojcow**	**72.31**	**334**	*e*P		**P**		**04 07 37.5**	**+0.7**
OJC				*e*S		**S**		**04 16 57.9**	**+0.3**
OJC				LMZ		LR		04 43 07.8	
OJC	**Ojcow**	**72.31**	**334**⇑	*e*P		**P**		**04 07 37.6**	**+0.7**
OJC				*e*S		**S**		**04 16 58.0**	**+0.3**
OJC				MLR		MLR			
	comp=Z,89µm,18.8s								
GAL1	**Galloway**	**72.32**	**351**⇑	*i*P		**P**		**04 07 36.8**	**0.0**
GAL1				AMB		AMB		04 07 38.2	
	comp=Z,246nm,3.5s								
WHTX	**Lake Whitney**	**72.36**	**60**	P		**P**		**04 07 37.5**	**+0.1**
	baz=72,SNR=50								
WHTX	**Lake Whitney**	**72.36**	**60**	*e*P		**P**		**04 07 36.8**	**-0.7**
	comp=Z,574nm,1.7s								
BCA	**Borcka**	**72.36**	**316**	*e*P		**P**		**04 07 37.5**	**+0.1**
MIAR	**Mount Ida**	**72.38**	**56**	*e*P		**P**		**04 07 36.9**	**-0.7**
MIAR				pmax		pmax			
	comp=Z,292nm,1.3s								
MIAR				MLR		MLR			
	comp=Z,31µm,19.0s								
MIAR	**Mount Ida**	**72.38**	**56**	P		**P**		**04 07 37.3**	**-0.3**
	baz=72,SNR=130								
MIAR	**Mount Ida**	**72.38**	**56**	*e*P		**P**		**04 07 36.9**	**-0.7**
	comp=Z,292nm,1.3s								
MIAR				LR		LR			
	comp=Z,31µm,19.0s								
Z37A	**Pogue Cattle C**	**72.38**	**58**	P		**P**		**04 07 37.4**	**-0.2**
	baz=72,SNR=32								
KARS	**Kars**	**72.41**	**315**	*e*P		**P**		**04 07 39.1**	**+1.3**
SIM	**Simferopol'**	**72.41**	**323**	*c i*P		**P**		**04 07 37.5**	**-0.1**
SIM				*e*				04 10 14.0	
SIM				*i* S		**S**		**04 16 56.0**	**-3.0**
SIM				MLR		MLR			
	comp=E,69µm,19.0s								
NGJI	**Ngawi**	**72.42**	**231**	P		**P**		**04 07 39.5**	**+1.6**
	comp=E,260nm,2.5s,comp=E,12µm								
RCLA	**Racherla**	**72.42**	**273**	*e*P		**P**		**04 07 36.2**	**-1.8**
RCLA				IAmb		IAmb		04 07 41.0	
	comp=Z,640nm,0.7s								
RCLA				*e*PP		**PP**		**04 10 18.0**	**-1.0**
RCLA				*e*				04 16 53.7	
RCLA				*e*S		**S**		**04 16 59.2**	**-0.6**
RCLA				*e*SKSac		**SKSac**		**04 17 39.2**	**-1.4**
RCLA				*e*SS		**SS**		**04 21 39.7**	**+1.6**
RCLA				IVMs_BB		IVMs_BB		04 43 17.4	
	comp=Z,14µm,16.7s								
GSI	**Gunungsitoli**	**72.42**	**248**	P		**P**		**04 07 39.2**	**+1.2**
	comp=Z,459nm,2.1s,comp=Z,14µm								
GSI	**Gunungsitoli**	**72.42**	**248**	*e*P		**P**		**04 07 38.6**	**+0.6**
	comp=Z,195nm,0.8s								
DBOC	**Borcka**	**72.42**	**316**	*i* P		**P**		**04 07 38.1**	**+0.3**
KESW	**Keswick, Cumbr**	**72.43**	**350**⇑	*e*P		**P**		**04 07 37.1**	**-0.4**
KESW				AMB		AMB		04 07 39.2	
	comp=Z,352nm,3.5s								
KESW				AMS		AMS		04 46 20.5	
	comp=Z,20µm,18.4s								
433A	**Art**	**

KOLS Kolonicke sedl 72.79 332 *e*P **P** **04 07 40.4 +0.6**
KOLS pmax pmax
comp=Z,171nm,1.3s
KOLS Kolonicke sedl 72.79 332 *e*P **P** **04 07 40.4 +0.6**
PWJI Pagerwojo 72.83 231 P **P** **04 07 40.3 0.0**
comp=Z,346nm,1.3s,comp=Z,9µm
UALR University of 72.83 55 *e*P **P** **04 07 39.6 -0.6**
comp=Z,613nm,2.0s
PVMO Portageville 72.83 52 *e*P **P** **04 07 40.6 +0.5**
comp=Z,714nm,1.0s
434A Burnet 72.83 62 P **P** **04 07 40.2 -0.2**
baz=73,SNR=100
ACSO Alum Creek Sta 72.84 46 *e*P **P** **04 07 39.7 -0.5**
comp=Z,518nm,1.3s
ACSO LR LR
comp=Z,16µm,20.0s
236A Katherine and 72.84 60 P **P** **04 07 40.3 0.0**
baz=73,SNR=36
RAC Raciborz 72.85 335 *e*P **P** **04 07 41.1 +1.0**
IR3 Iran Long-Peri 72.85 306 *e*P **P** **04 07 40.5 0.0**
HPK Haverah Park 72.88 349⇑ *i*P **P** **04 07 40.4 +0.2**
HPK AMB AMB 04 07 42.9
comp=Z,268nm,2.2s
HPK AMS AMS 04 46 53.6
comp=Z,17µm,17.6s
IVRN Varamin 72.88 305 *e*P **P** **04 07 40.2 -0.4**
NIE Niedzica 72.90 334 *e*P **P** **04 07 41.5 +1.1**
NIE *e*S **S** **04 17 04.7 +0.3**
NIE LMZ LR 04 43 37.1
NIE Niedzica 72.90 334⇑ *e*P **P** **04 07 41.6 +1.1**
NIE *e*S **S** **04 17 04.8 +0.3**
NIE MLR MLR
comp=Z,46µm,17.5s
335A Moody 72.92 61 P **P** **04 07 41.0 +0.1**
baz=73,SNR=24
CLL Collm 72.94 339 *e*P **P** **04 07 41.1 +0.5**
comp=Z,444nm,1.2s
CLL Collm 72.94 339⇑ *i*P **P** **04 07 41.2 +0.6**
CLL *e*S **S** **04 17 04.0 -0.8**
CLL pmax pmax
comp=Z,674nm,1.9s
CLL MLR MLR
comp=Z,33µm,18.0s
CLL Collm 72.94 339⇑ *i*P **P** **04 07 41.2 +0.6**
comp=Z,674nm,1.9s
CLL ⇑ *i*Pmax 04 07 44.3
comp=Z,443nm,1.2s
CLL *e*Plp 04 07 46.0
comp=Z,4µm,19.7s
CLL *i* pP **pP** **04 07 52.8 +2.7**
CLL *e*PcP **PcP** **04 07 57.0 -0.5**
CLL *e*PP **PP** **04 10 24.0 +1.6**
CLL *e*PPP PPP 04 12 10.0
CLL *e*S **S** **04 17 04.0 -0.8**
CLL *es*S sS 04 17 26.0 +5.4
CLL *e*PPS PPS 04 17 51.0
CLL *e*(SS) 04 22 18.0
CLL *e*(SSS) 04 25 30.0
CLL Lm MLR 04 45 00.0
comp=Z,33µm,18.0s
ITBZ Tabriz 72.98 311 *e*P **P** **04 07 42.0 +0.7**
CLZ Clausthal 72.99 341 *e*P **P** **04 07 42.3 +1.3**
comp=Z,565nm,1.2s
533A Kerrville 73.00 63 P **P** **04 07 41.2 -0.2**
baz=73,SNR=49
UPC Upice 73.00 337 *i*P **P** **04 07 41.9 +0.9**
UPC *e*S **S** **04 17 05.1 -0.4**
UPC *ex* x 04 17 28.2
UPC AMS AMS 04 43 50.0
comp=Z,45µm,17.1s
UPC Upice 73.00 337 *i*P **P** **04 07 41.9 +0.9**
UPC *e*S **S** **04 17 05.1 -0.4**
UPC *e* 04 17 28.2
UPC MLR MLR
comp=Z,45µm,17.1s
632A Uvalde 73.02 64 P **P** **04 07 41.6 +0.1**
baz=73,SNR=86
GNAR Gosnell 73.03 53 *e*P **P** **04 07 41.9 +0.5**
comp=Z,15µm,1.3s
HBAR Harrisburg 73.05 54 *e*P **P** **04 07 42.0 +0.5**
IBBN Ibbenburen 73.06 343 *e*P **P** **04 07 42.4 +1.2**
comp=Z,450nm,1.1s
GMM Mts of Mourne 73.06 351⇑ *i*P **P** **04 07 41.3 +0.1**
UZH Uzhgorod 73.06 332⇑ *i*P **P** **04 07 42.3 +1.0**
UZH *e* 04 08 01.7
UZH *e* 04 10 22.0
UZH *e*S **S** **04 17 03.9 -2.3**
UZH *e* 04 17 42.3
UZH *e* 04 21 53.9
UZH *e* 04 24 54.3
IBST Bostanabad 73.06 310 *e*P **P** **04 07 41.4 -0.5**
DPC Dobruska-Polom 73.07 337 *i*P **P** **04 07 42.3 +0.8**
DPC *e*pP **pP** **04 07 52.3 +1.3**
DPC *e*S **S** **04 17 04.1 -2.3**
DPC *ex* x 04 17 27.7
DPC AMS AMS 04 43 50.0
comp=Z,40µm,16.7s
DPC Dobruska-Polom 73.07 337 *i*P **P** **04 07 42.3 +0.8**
DPC *e* 04 07 52.3
DPC *e*S **S** **04 17 04.1 -2.3**
DPC MLR MLR
comp=Z,40µm,16.7s
WOJI Wonogiri, Jawa 73.08 231 P **P** **04 07 42.7 +0.9**
comp=Z,250nm,2.1s,comp=Z,9µm
138A Matatall Enter 73.08 58 P **P** **04 07 41.9 +0.2**
baz=73,SNR=20
OKC Ostrava-Krasne 73.09 335 *i*P **P** **04 07 42.2 +0.7**
OKC *e*pP **pP** **04 07 52.0 +1.0**
OKC *e*S **SKiKP** **04 17 09.0 -2.0**
OKC *ex* x 04 17 28.2
OKC AMS AMS 04 43 20.0
comp=Z,67µm,17.7s
OKC Ostrava-Krasne 73.09 335 *i*P **P** **04 07 42.2 +0.7**
OKC *e* 04 07 52.0
OKC *e*S **SKiKP** **04 17 09.0 -2.0**
OKC MLR MLR
comp=Z,67µm,17.7s
Z39A Irene McRaven, 73.10 57 P **P** **04 07 41.6 -0.2**
baz=73
BURAR Bucovina Array 73.10 330⇑ *i*P **P** **04 07 42.0 +0.2**
PBSI Pulau Batu 73.13 247 P **P** **04 07 43.0 +0.8**
comp=Z,295nm,1.2s,comp=Z,13µm
BRG Berggiesshubel 73.14 338⇑ *i*P **P** **04 07 42.5 +0.7**
comp=Z,457nm,1.9s
BRG S **S** **04 17 02.0 -5.1**
BRG SS SS 04 22 06.0 +19
BRG *e*PKPPKP P'P'df 04 35 20.0 -7.4
comp=Z,21nm,1.8s
comp=N,21µm,16.5s
comp=E,68µm,15.4s
comp=Z,43µm,16.3s
BRG Berggiesshubel 73.14 338 *e*P **P** **04 07 42.4 +0.7**
comp=Z,458nm,1.9s
BRG Berggiesshubel 73.14 338⇑ *i*P **P** **04 07 42.5 +0.7**
BRG S **S** **04 17 02.0 -5.1**
BRG pmax pmax
comp=Z,457nm,1.9s
BRG MLR MLR
comp=N,21µm,16.5s
BRG MLR MLR
comp=E,68µm,15.4s
BRG MLR MLR
comp=Z,43µm,16.3s
336A Riesel 73.15 60 P **P** **04 07 41.9 -0.3**
baz=73,SNR=32
POO Poona 73.17 279 *e*P **P** **04 07 40.0 -2.5**
POO AMB AMB 04 07 43.4
comp=Z,480nm,2.0s
CTA Charters Tower 73.18 193 P **P** **04 07 42.3 +0.1**
comp=Z,68nm,1.0s,baz=359,slow=8.0,SNR=13
CTA LR LR 04 37 52.0
comp=Z,5µm,19.8s,slow=34
CTAO Charters Tower 73.18 193 *e*P **P** **04 07 41.6 -0.7**
CTAO pmax pmax
comp=Z,347nm,1.4s
CTAO MLR MLR
comp=Z,7µm,20.0s
CTAO Charters Tower 73.18 193 *e*P **P** **04 07 41.6 -0.7**
comp=Z,347nm,1.4s
CTAO LR LR
comp=Z,7µm,20.0s
LMK Market Rasen 73.21 348⇑ *e*P **P** **04 07 41.5 -0.6**
LMK AMS AMS 04 47 33.2
comp=Z,10µm,16.6s
KRLC Kraliky 73.21 336 *i*P **P** **04 07 43.0 +0.7**
KRLC Kraliky 73.21 336 *i*P **P** **04 07 43.0 +0.7**
237A Washetta, Mont 73.22 59 P **P** **04 07 42.4 -0.2**
baz=73,SNR=10
435B Jarrell 73.23 61 P **P** **04 07 42.9 +0.2**
baz=73,SNR=15
FBE Freiberg 73.23 339 *e*P **P** **04 07 43.2 +0.9**
comp=Z,563nm,1.4s
CLDR Calditan 73.25 313 *e*P **P** **04 07 44.4 +1.5**
NCB Newcomb 73.26 38 *e*P **P** **04 07 41.9 -0.8**
comp=Z,136nm,1.3s
NCB LR LR
comp=Z,17µm,20.0s
SKHT Srikalahasti 73.28 271 *e*P **P** **04 07 43.9 +0.8**
SKHT IAmb IAmb 04 07 45.1
comp=Z,314nm,0.9s
SKHT *e*PP **PP** **04 10 25.8 -0.6**
SKHT *e* 04 16 58.4
SKHT *e*S **S** **04 17 09.2 -0.3**
SKHT *e*SS **SS** **04 21 49.6 -1.8**
SKHT IVMs_BB IVMs_BB 04 44 24.9
comp=Z,8µm,16.2s
EATA Eleskirt 73.29 314 *i*P **P** **04 07 45.5 +2.2**
UTMT University of 73.29 52 *e*P **P** **04 07 43.3 +0.4**
comp=Z,1µm,1.3s
MORC Moravsky Berou 73.30 336 *e*P **P** **04 07 43.5 +0.7**
MORC Moravsky Berou 73.30 336⇑ *i*P **P** **04 07 43.6 +0.7**
MORC Moravsky Berou 73.30 336 *e*P **P** **04 07 43.5 +0.7**
AGRB Hanur-Agry 73.31 314 *e*P **P** **04 07 44.5 +1.2**
LHO Holmfirth 73.31 349⇑ *i*P **P** **04 07 42.6 -0.2**
PVCC Panska Ves 73.32 338 *i*P **P** **04 07 43.6 +0.7**
PVCC *e*S **S** **04 17 09.1 -0.1**
PVCC *e*XS **sS** **04 17 25.1 +0.2**
PVCC AMS AMS 04 44 50.0
comp=Z,64µm,16.2s
PVCC Panska Ves 73.32 338 *i*P **P** **04 07 43.6 +0.7**
PVCC *e*S **S** **04 17 09.1 -0.1**
PVCC MLR MLR
comp=Z,64µm,16.2s
534A Blanco 73.33 62 P **P** **04 07 43.3 0.0**
baz=73,SNR=98
633A Saathoff Ranch 73.39 63 P **P** **04 07 43.7 0.0**
baz=73,SNR=12
HOMI Horasan 73.39 315 *i*P **P** **04 07 45.5 +1.7**
LHSI Lahat 73.40 240 P **P** **04 07 44.8 +1.1**
comp=Z,217nm,1.0s,comp=Z,8µm
139A Bunkhouse Ranc 73.43 58 P **P** **04 07 44.1 +0.3**
baz=73
TRPA Tarpa 73.44 332⇑ *i*P **P** **04 07 44.5 +0.9**
TRPA Tarpa 73.44 332⇑ *e*P **P** **04 07 44.7 +1.1**
IRAZ Razeghan 73.45 307 *e*P **P** **04 07 43.8 -0.4**
MDRS Chennai 73.47 270 *e*P **P** **04 07 41.8 -2.4**
MDRS AMB AMB 04 07 44.8
comp=Z,400nm,2.9s
KLSI 73.49 239 P **P** **04 07 43.5 -0.8**
comp=Z,436nm,2.5s,comp=Z,14µm
IAZR Azarshahr 73.50 311 *e*P **P** **04 07 44.0 -0.5**
MASI Maura Aman, Be 73.51 242 P **P** **04 07 45.0 +0.5**
comp=Z,643nm,1.3s,comp=Z,12µm
732A Laxson Ranch, 73.52 64 P **P** **04 07 45.1 +0.7**
baz=73,SNR=167
KTUT Trabzon 73.52 317 *e*P P 04 07 41.0 -3.2
WTSB Winterswijk 73.55 343 *e*P **P** **04 07 44.9 +0.8**
comp=Z,1µm,2.0s
KBI1 Birley Grange 73.56 349⇑ *i*P **P** **04 07 44.3 +0.1**
KLI Kotabumi 73.57 238 P P 04 07 51.0 +6.3
BMR Baia Mare 73.57 331⇑ *i*P **P** **04 07 45.3 +0.9**
238A Jacksonville 73.58 59 P **P** **04 07 45.0 +0.3**
baz=73,SNR=37
IBAF Bafgh 73.59 300 *e*P **P** **04 07 44.5 -0.5**
MDSI Maura Dua 73.61 239 P **P** **04 07 43.8 -1.2**
comp=Z,88nm,1.1s,comp=Z,4µm
MDV Middlebury 73.63 37 *e*P **P** **04 07 43.5 -1.2**
TESR Tescani 73.63 328⇑ *i*P **P** **04 07 44.7 -0.1**
436A Wall Ranch, Ga 73.66 61 P **P** **04 07 45.8 +0.6**
baz=73,SNR=13
ICHK Chekchek 73.68 302 *e*P **P** **04 07 45.8 +0.2**
337A Centerville 73.72 60 P **P** **04 07 46.0 +0.5**
baz=74,SNR=6.5
SISI Saibi 73.73 245 P **P** **04 07 45.7 0.0**
comp=Z,314nm,2.2s,comp=Z,10µm
WME Myndd Eilian 73.73 350⇑ *e*P **P** **04 07 44.8 -0.4**
KSI Kapahiang 73.75 241 P **P** **04 07 46.1 +0.2**
comp=Z,240nm,1.6s,comp=Z,14µm
MET Memphis--Engin 73.75 53 *e*P **P** **04 07 46.5 +0.9**
comp=Z,2µm,1.4s
PRA Prague 73.78 338 *i*P **P** **04 07 46.6 +1.0**
PRA *ex* x 04 07 57.7
PRA *e*S **SKiKP** **04 17 11.7 -0.3**
PRA AMS AMS 04 45 00.0
comp=Z,55µm,16.0s
PRA Prague 73.78 338 *i*P **P** **04 07 46.6 +1.0**
PRA *e* 04 07 57.7
PRA *e*S **SKiKP** **04 17 11.7 -0.3**
PRA MLR MLR
comp=Z,55µm,16.0s
STNC Stoke 73.80 349⇑ *i*P **P** **04 07 46.0 +0.3**
STNC AMB AMB 04 07 47.4
comp=Z,283nm,3.4s
STNC AMS AMS 04 47 30.4
comp=Z,16µm,17.6s
535A Dale 73.82 62 P **P** **04 07 46.1 -0.1**
baz=74
WPM1 Penmaenmawr 73.82 350⇑ *i*P **P** **04 07 45.9 +0.1**
LEM Lembang 73.83 235 P **P** **04 07 45.8 -0.7**
comp=Z,158nm,1.2s,comp=Z,8µm
LEM Lembang 73.83 235 P **P** **04 07 46.3 -0.2**
comp=Z,31nm,0.8s,baz=44,slow=6.1,SNR=7.3
PRU Pruhonice 73.83 338 *i*P **P** **04 07 46.6 +0.7**
PRU *e*pP **pP** **04 07 57.2 +1.8**
PRU *e*S **SKiKP** **04 17 13.3 +1.2**
PRU *e*XS **sS** **04 17 33.6 +2.9**
PRU AMS AMS 04 45 10.0
comp=Z,49µm,16.1s
PRU Pruhonice 73.83 338 *i*P **P** **04 07 46.6 +0.7**
PRU *e* 04 07 57.2
PRU *e*S **SKiKP** **04 17 13.3 +1.2**
PRU MLR MLR
comp=Z,49µm,16.1s
ARCR ARCALIA 73.84 330⇑ *i*P **P** **04 07 47.4 +1.4**
GOPC GO Pecny, Ondr 73.84 337 *i*P **P** **04 07 46.7 +0.7**
GOPC *ex* x 04 07 58.6
GOPC *e*S **SKiKP** **04 17 13.5 +1.3**
GOPC *e*XS **sS** **04 17 33.4 +2.5**
GOPC AMS AMS 04 44 10.0
comp=Z,43µm,16.8s
WLF1 Llynfaes 73.84 350⇑ *e*P **P** **04 07 45.7 -0.1**
WLF1 AMB AMB 04 07 48.9
comp=Z,157nm,3.8s
WLF1 AMS AMS 04 47 15.5
comp=Z,13µm,18.8s
URV Uravakonda 73.85 274 *e*P **P** **04 07 46.6 +0.1**
URV IAmb IAmb 04 07 49.0
comp=Z,446nm,0.7s
URV *e* 04 17 11.3
URV *e*S **S** **04 17 16.7 +0.6**
URV *e*SS **SS** **04 22 02.1 +2.1**
URV IVMs_BB IVMs_BB 04 43 44.1
comp=Z,14µm,14.9s
BAYT Ayd¯-ntepe-Bay 73.86 316 *e*P **P** **04 07 47.3 +0.9**
832A Faith Ranch, C 73.86 65 P **P** **04 07 47.1 +0.7**
baz=74,SNR=103
YRC Rhoscolyn 73.90 350⇑ *e*P **P** **04 07 45.6 -0.6**
733A Divot King Ran 73.90 64 P **P** **04 07 47.2 +0.6**
baz=74,SNR=9.2
634A China Grove, S 73.90 63 P **P** **04 07 46.8 +0.2**
baz=74,SNR=5.1
239A Gary 73.91 58 P **P** **04 07 46.7 +0.1**
baz=74,SNR=13
437A Phantom Ranch, 73.97 60 P **P** **04 07 47.8 +0.9**
baz=74,SNR=11
VRAC Vranov 73.97 336 P **P** **04 07 47.3 +0.6**
comp=Z,98nm,0.9s,baz=22,slow=6.4,SNR=90
VRAC LR LR 04 44 42.6
comp=Z,78µm,18.1s,baz=18,slow=39
VRAC Vranov 73.97 336⇑ *i*P **P** **04 07 48.0 +1.3**
VLL Llanberis 73.97 350⇑ *e*P **P** **04 07 46.6 0.0**
BUG Bochum--Univer 73.97 343 *e*P **P** **04 07 47.5 +0.9**
comp=Z,338nm,1.2s
ACCN Adirondack Com 73.97 38 *e*P **P** **04 07 46.1 -0.7**
comp=Z,239nm,1.3s
EKAR Karacoban 73.98 314 *i*P **P** **04 07 49.5 +2.2**
TVAN Van 73.98 313 *i*P **P** **04 07 48.9 +1.6**
338A Crockett 73.99 59 P **P** **04 07 48.0 +0.9**
baz=74,SNR=28
NATX Nacogdoches 74.01 59 P **P** **04 07 48.1 +0.8**
baz=74,SNR=24
NATX Nacogdoches 74.01 59 *e*P **P** **04 07 47.6 +0.3**
comp=Z,696nm,1.4s
NATX LR LR
comp=Z,17µm,20.0s
KOPT Kop Dagi 74.02 316 *i*P **P** **04 07 49.7 +2.1**
GIUM Giurgiulesti 74.03 327⇓ *i*P **P** **04 07 47.7 +0.6**
CWF Charnwood Fore 74.03 348⇑ *i*P **P** **04 07 47.0 0.0**
CWF AMB AMB 04 07 49.6
comp=Z,243nm,2.2s
CWF AMS AMS 04 48 49.1
comp=Z,15µm,17.2s
UBBA Unterbreizbach 74.04 341 *e*P **P** **04 07 47.8 +0.9**
comp=Z,1µm,2.4s
WERN Wernitzgruen 74.04 339 *e*P **P** **04 07 48.3 +1.1**
comp=Z,294nm,1.1s
536A Bastrop 74.06 61 P **P** **04 07 48.1 +0.5**
baz=74,SNR=8.4
GUMT Gumushane 74.08 317 *e*P **P** **04 07 48.6 +0.9**
FOEL Foel Wylfa 74.11 349⇑ *i*P **P** **04 07 47.8 +0.3**
FOEL AMB AMB 04 07 50.9
comp=Z,263nm,3.5s
LWLI Liwa 74.12 239 P **P** **04 07 46.8 -1.3**
comp=Z,133nm,1.1s,comp=Z,16µm
VYHS Vyhne 74.14 334 *e*P **P** **04 07 48.5 +0.8**
VYHS pmax pmax
comp=Z,329nm,1.9s
VYHS Vyhne 74.14 334 *e*P **P** **04 07 48.5 +0.8**
PETR Petresti 74.14 328⇑ *i*P **P** **04 07 49.3 +1.6**
MNAI Manna 74.15 240 *e*P **P** **04 07 47.9 -0.2**
YRE Yr Eifl 74.15 350⇑ *e*P **P** **04 07 46.8 -0.8**
833A Chaparral WMA, 74.16 64 P **P** **04 07 48.8 +0.7**
baz=74,SNR=57
VRI Vrincioaia 74.18 328⇑ *i*P **P** **04 07 48.4 +0.4**
GRSN GIRESUNGRSN 74.20 318 *i*P **P** **04 07 48.9 +0.6**
734A La Parita Cree 74.21 63 P **P** **04 07 49.4 +0.9**
baz=74,SNR=24
HNH Hanover 74.21 37 *e*P **P** **04 07 48.1 -0.1**
comp=Z,159nm,1.2s
635A Leesville 74.21 62 P **P** **04 07 48.9 +0.4**
baz=74,SNR=9.6
PLOR Plostina 74.22 328⇑ *i*P **P** **04 07 48.7 +0.4**
IMEH Mehriz 74.25 301 *e*P **P** **04 07 48.5 -0.5**
TREC Trest 74.25 337 *i*P **P** **04 07 49.1 +0.7**
TREC *ex* x 04 08 00.0
TREC *e*S **S** **04 17 18.5 -1.3**
TREC *ex* x 04 17 39.2
TREC AMS AMS 04 44 30.0
comp=Z,57µm,17.1s
TREC Trest 74.25 337 *i*P **P** **04 07 49.1 +0.7**
TREC *e* 04 08 00.0
TREC *e*S **S** **04 17 18.5 -1.3**
TREC MLR MLR
comp=Z,57µm,17.1s
KASI Kota Agung 74.31 238 P **P** **04 07 47.5 -1.6**
comp=Z,126nm,1.2s,comp=Z,4µm
ISAD Sadrabad 74.32 302 *e*P **P** **04 07 50.0 +0.6**
CFR Carcaliu 74.32 327⇓ *i*P **P** **04 07 48.9 +0.1**
438A Sam Houston St 74.38 60 P **P** **04 07 50.3 +0.9**
baz=74,SNR=24
PSZ Piszkesteto 74.38 333 *e*P **P** **04 07 50.1 +0.9**
PSZ pmax pmax
comp=Z,499nm,1.5s
PSZ MLR MLR
comp=Z,58µm,19.0s
PSZ Piszkesteto 74.38 333⇑ *i*P **P** **04 07 50.3 +1.1**
PSZ Piszkesteto 74.38 333 *e*P **P** **04 07 50.1 +0.9**
comp=Z,498nm,1.5s
PSZ LR LR
comp=Z,58µm,19.0s
PSZ Piszkesteto 74.38 333⇑ *e*P **P** **04 07 50.6 +1.4**
DZM Mont Dzumac 74.39 174 P **P** **04 07 50.7 +1.3**
comp=Z,78nm,1.0s,baz=90,slow=24,SNR=11
DZM LR LR 04 36 05.9
comp=Z,19µm,20.8s,baz=0.0,slow=32
DZM Mont Dzumac 74.39 174 *e*P **P** **04 07 50.5 +1.0**
comp=Z,104nm,1.0s
CJR Cluj-Napoca 74.40 330⇓ *i*P **P** **04 07 50.3 +0.9**
339A Huntington 74.41 59 P **P** **04 07 50.0 +0.5**
baz=74,SNR=26
PPSI Pulau Pagai 74.41 244 P **P** **04 07 50.6 +0.9**
comp=Z,388nm,2.4s,comp=Z,12µm
NOUC Port Laguerre 74.41 174 *e*P **P** **04 07 48.2 -1.2**
KELT Kelkit 74.44 317 *i*P **P** **04 07 50.9 +1.1**
HLM1 Long Mynd 74.44 349⇑ *i*P **P** **04 07 49.2 -0.2**
HLM1 AMB AMB 04 07 51.0
comp=Z,271nm,3.5s
537A Green Hill Far 74.46 61 P **P** **04 07 50.6 +0.8**
baz=74,SNR=8.5
DOPR Dopca 74.52 329⇓ *i*P **P** **04 07 51.0 +1.0**
636A Smothers Creek 74.53 62 P **P** **04 07 51.1 +0.8**
baz=74,SNR=28
TRY Troy 74.54 38 *e*P **P** **04 07 49.7 -0.4**
comp=Z,104nm,1.2s
DRGR 74.60 331⇓ *i*P **P** **04 07 50.9 +0.4**
735A Kenedy 74.61 63 P **P** **04 07 52.1 +1.3**
baz=74,SNR=21
HKR Hakkari 74.61 312 *e*P **P** **04 07 52.3 +1.4**
CGJI Cibinong 74.62 237 P **P** **04 07 49.0 -1.9**
comp=Z,285nm,0.8s,comp=Z,17µm
BNGL BINGOL 74.63 315 *i*P **P** **04 07 53.2 +2.2**
HAKT HAKKARI 74.64 312 *i*P **P** **04 07 52.3 +1.2**
SSPA Standing Stone 74.66 42 *e*P **P** **04 07 50.1 -0.8**
comp=Z,426nm,1.3s
340A Bronson 74.69 58 P **P** **04 07 51.5 +0.4**
baz=74,SNR=53
439A Center Grove, 74.72 59 P **P** **04 07 52.1 +0.7**
baz=74,SNR=24
MLR Muntele Rosu 74.77 328 P **P** **04 07 52.0 +0.4**
comp=Z,42nm,0.7s,baz=5.5,slow=5.3,SNR=89
MLR LR LR 04 45 35.4
comp=Z,13µm,19.8s,baz=26,slow=40
MLR Muntele Rosu 74.77 328⇓ *i*P **P** **04 07 52.0 +0.4**
834A Tilden 74.77 64 P **P** **04 07 53.2 +1.5**
baz=75,SNR=117
933A Laredo 74.77 65 P **P** **04 07 53.1 +1.3**
baz=75,SNR=120
538A Harpers Horsep 74.79 60 P **P** **04 07 52.9 +1.1**
baz=75,SNR=6.1
BNGB Bing¯ll 74.80 315 *e*P **P** **04 07 53.0 +1.1**
HARR Harsova 74.82 327⇑ *i*P **P** **04 07 51.8 +0.1**
SUSE Susehri 74.83 318 *i*P **P** **04 07 52.1 0.0**
GRF Grafenberg Arr 74.85 340 *e*P **P** **04 07 53.2 +1.3**
comp=Z,635nm,1.4s
GRF *e*L L 04 46 32.2
comp=N,24µm,18.3s
GRFO Grafenberg 74.85 340 *e*P **P** **04 07 52.6 +0.8**
GRFO Grafenberg 74.85 340 *e*P **P** **04 07 52.6 +0.8**
KHC Kasperske Hory 74.86 338 *i*P **P** **04 07 53.0 +1.1**
KHC *epP* pP 04 07 56.0 -5.5
KHC *esP* **sP** **04 08 04.7 -0.3**
KHC *eS* **S** **04 17 25.9 -0.7**
KHC *ex* x 04 17 46.2
KHC AMS AMS 04 46 00.0
comp=N,55µm,16.5s
KHC Kasperske Hory 74.86 338 *i*P **P** **04 07 53.0 +1.1**
KHC *e* 04 08 04.7
KHC *eS* **S** **04 17 25.9 -0.7**
KHC *e* 04 17 46.2
KHC MLR MLR
comp=Z,55µm,16.5s
KHC Kasperske Hory 74.86 338 *e*P **P** **04 07 52.5 +0.6**
comp=Z,150nm,1.4s
HGN Heimansgroeve 74.86 343 *e*P **P** **04 07 52.5 +0.7**
comp=Z,1µm,2.2s
HGN *eS* **S** **04 17 29.4 +3.0**
HGN *eSS* **SS** **04 22 16.1 +2.7**
TIRR Tirgusor 74.86 326 *e*P **P** **04 07 51.8 -0.1**
TIRR pmax pmax
comp=Z,203nm,0.8s
TIRR Tirgusor 74.86 326⇑ *i*P **P** **04 07 52.1 +0.2**
TIRR Tirgusor 74.86 326 *e*P **P** **04 07 51.8 -0.1**
comp=Z,203nm,0.8s
BEBN Eben Emael 74.88 343 P **P** **04 07 52.6 +0.7**
comp=Z,124nm,2.1s
ISR Istrita 74.90 328⇓ *i*P **P** **04 07 53.0 +0.7**
TNS Taunus Mts 74.92 341 *e*P **P** **04 07 53.2 +0.9**
comp=Z,370nm,1.5s
736A Circle Diamond 74.93 62 P **P** **04 07 54.1 +1.4**
baz=75,SNR=39
CUKT Cukurca 74.94 312 *e*P **P** **04 07 52.1 -0.6**
637A Eagle Lake 74.95 61 P **P** **04 07 53.9 +1.2**
baz=75,SNR=20
MCH1 Michaelchurch 74.97 349⇑ *i*P **P** **04 07 51.8 -0.6**
MCH1 AMB AMB 04 07 54.0

	comp=Z,261nm,3.4s								
MCH1					AMS	AMS	04 49 13.2		
	comp=Z,17µm,16.7s								
MEM	**Membach**	**75.00**	**343**	P	**P**	**04 07 53.4**	**+0.7**		
	comp=Z,279nm,1.3s								
WET	**Wettzell**	**75.00**	**338**	*eP*	**P**	**04 07 54.0**	**+1.2**		
	comp=Z,746nm,2.0s								
EMMW	**East Machias**	**75.01**	**33**	*eP*	**P**	**04 07 52.1**	**-0.7**		
	comp=Z,294nm,1.3s								
BUD	**Budapest**	**75.02**	**334**⇑	*eP*	**P**	**04 07 54.4**	**+1.6**		
ERBA	**Erbaa**	**75.02**	**319**	*i* P	**P**	**04 07 54.7**	**+1.7**		
RSDY	**Resadiye-TOKAT**	**75.03**	**318**	*eP*	**P**	**04 07 54.2**	**+1.1**		
835A	**Beeville**	**75.04**	**63**	P	**P**	**04 07 54.8**	**+1.6**		
	baz=75,SNR=25								
STRD	**Stroud**	**75.08**	**349**⇑	*i* P	**P**	**04 07 53.6**	**+0.5**		
STRD					AMB	AMB	04 07 54.7		
	comp=Z,331nm,1.9s								
STRD					AMS	AMS	04 49 05.2		
	comp=Z,16µm,17.5s								
MONM	**Monmouth**	**75.10**	**349**⇑	*i* P	**P**	**04 07 53.3**	**+0.2**		
MONM					AMB	AMB	04 07 54.9		
	comp=Z,336nm,3.4s								
MONM					AMS	AMS	04 49 17.4		
	comp=Z,15µm,17.3s								
HAVZ	**Havza**	**75.10**	**320**	*i* P	**P**	**04 07 54.9**	**+1.5**		
VOIR		**75.10**	**329**⇑	*i* P	**P**	**04 07 54.6**	**+1.2**		
SECR		**75.13**	**328**⇑	*i* P	**P**	**04 07 54.0**	**+0.5**		
440A	**Kirbyville**	**75.18**	**59**	P	**P**	**04 07 54.5**	**+0.5**		
	baz=75,SNR=9.7								
934A	**Benavides**	**75.20**	**64**	P	**P**	**04 07 55.8**	**+1.6**		
	baz=75,SNR=62								
OLDB	**Oldbury-Upon-S**	**75.24**	**349**⇑	*eP*	**P**	**04 07 53.9**	**-0.1**		
OLDB					AMB	AMB	04 07 55.5		
	comp=Z,274nm,3.2s								
OLDB					AMS	AMS	04 49 12.1		
	comp=Z,15µm,17.2s								
SVAN	**Silvan-Diyarba**	**75.27**	**314**	*eP*	**P**	**04 07 56.0**	**+1.5**		
PKSG		**75.27**	**334**⇑	*eP*	**P**	**04 07 55.6**	**+1.3**		
539A	**Cross D Ranch,**	**75.28**	**60**	P	**P**	**04 07 55.9**	**+1.3**		
	baz=75,SNR=7.7								
MTUR	**Matau**	**75.28**	**329**⇓	*i* P	**P**	**04 07 57.2**	**+2.7**		
SWN1	**Swindon**	**75.30**	**348**⇑	*i* P	**P**	**04 07 54.8**	**+0.5**		
SWN1					AMB	AMB	04 07 57.0		
	comp=Z,420nm,1.8s								
SWN1					AMS	AMS	04 49 35.7		
	comp=Z,15µm,16.1s								
CSKK	**Cs˘ˇkako**	**75.33**	**334**⇑	*eP*	**P**	**04 07 53.5**	**-1.1**		
DEV	**Deva**	**75.36**	**331**	⇓*iP*	**P**	**04 07 55.5**	**+0.7**		
SIRR	**Siria**	**75.38**	**331**⇑	*i* P	**P**	**04 07 55.8**	**+0.8**		
MSAB	**Monastry St. A**	**75.39**	**326**⇑	*i* P	**P**	**04 07 55.8**	**+0.8**		
SULR		**75.39**	**328**	⇓*iP*	**P**	**04 07 55.3**	**+0.3**		
SNF	**Seneffe**	**75.39**	**344**	P	**P**	**04 07 55.5**	**+0.6**		
WRAB	**Tennant Creek**	**75.42**	**205**	P	**P**	**04 07 55.6**	**+0.3**		
	comp=Z,1µm,1.3s,SNR=50								
WRAB	**Tennant Creek**	**75.42**	**205**	*eP*	**P**	**04 07 54.8**	**-0.5**		
WRAB					pmax	pmax			
	comp=Z,483nm,1.4s								
WRAB					MLR	MLR			
	comp=Z,6µm,19.0s								
WRAB	**Tennant Creek**	**75.42**	**205**	*eP*	**P**	**04 07 54.8**	**-0.5**		
	comp=Z,483nm,1.4s								
WRAB					LR	LR			
	comp=Z,6µm,19.0s								
WOL	**Wolverton**	**75.42**	**348**⇑	*eP*	**P**	**04 07 55.3**	**+0.2**		
WOL					AMB	AMB	04 07 58.2		
	comp=Z,301nm,3.5s								
WOL					AMS	AMS	04 48 49.5		
	comp=Z,14µm,17.3s								
737A	**Port Lavaca**	**75.42**	**62**	P	**P**	**04 07 56.9**	**+1.5**		
	baz=75								
WRA	**Warramunga Arr**	**75.43**	**205**	P	**P**	**04 07 55.2**	**-0.2**		
	comp=Z,152nm,1.1s,baz=17,slow=6.1,SNR=196								
WRA					LR	LR	04 43 10.3		
	comp=Z,4µm,18.9s,baz=355,slow=37								
WRA	**Warramunga Arr**	**75.43**	**205**	*eP*	**P**	**04 07 53.8**	**-1.6**		
WRA					pmax	pmax			
	comp=Z,152nm,1.1s								
CONA	**Conrad Observa**	**75.43**	**336**	*i* P	**P**	**04 07 56.8**	**+1.5**		
	comp=Z,5µm,3.8s,SNR=92								
PTK	**Pertek**	**75.43**	**316**	*eP*	**P**	**04 07 56.9**	**+1.3**		
BATH	**Bath**	**75.43**	**349**⇑	*iP*	**P**	**04 07 54.7**	**-0.4**		
BATH					AMB	AMB	04 07 56.5		
	comp=Z,292nm,3.4s								
BATH					AMS	AMS	04 49 16.2		
	comp=Z,17µm,17.7s								
TOKA	**Tokat**	**75.43**	**319**	*i* P	**P**	**04 07 57.0**	**+1.6**		
SOP	**Sopron**	**75.48**	**335**⇑	*eP*	**P**	**04 07 57.2**	**+1.7**		
PKST	**T˜˜s**	**75.49**	**334**⇑	*eP*	**P**	**04 07 56.8**	**+1.2**		
LOT	**Lotru**	**75.49**	**330**⇑	*iP*	**P**	**04 07 55.6**	**-0.1**		
KEMA	**Kemaliye**	**75.50**	**317**	*i* P	**P**	**04 07 57.1**	**+1.2**		
HRV	**Adam Dziewonsk**	**75.51**	**37**	*eP*	**P**	**04 07 55.2**	**-0.5**		
HRV					pmax	pmax			
	comp=Z,231nm,1.3s								
HRV	**Adam Dziewonsk**	**75.51**	**37**	*eP*	**P**	**04 07 55.2**	**-0.5**		
	comp=Z,231nm,1.3s								
GOA	**Goa**	**75.52**	**277**	*eP*	**P**	**04 07 54.6**	**-1.6**		
GOA					AMB	AMB	04 07 55.8		
	comp=Z,668nm,3.8s								
034A	**Hebbronville**	**75.53**	**65**	P	**P**	**04 07 57.8**	**+1.7**		
	baz=75,SNR=87								
SVSK	**Karacayir**	**75.57**	**318**	*eP*	**P**	**04 07 57.3**	**+1.3**		
KVTX	**Kingsville**	**75.59**	**64**	PFAKE		04 08 10.0	+14		
KVTX					LR	LR			
	comp=Z,9µm,19.0s								
540A	**Vidor**	**75.59**	**59**	P	**P**	**04 07 57.7**	**+1.3**		
	baz=75								
SWET	**Sewanee**	**75.60**	**50**	*eP*	**P**	**04 07 55.5**	**-0.9**		
	comp=Z,495nm,1.2s								
IKOM	**Komasi**	**75.61**	**308**	*eP*	**P**	**04 07 56.8**	**+0.1**		
PSN	**Preselentsi**	**75.62**	**326**	*i* P	**P**	**04 07 57.1**	**+0.7**		
HMNX	**Herstmonceux**	**75.65**	**347**⇑	*iP*	**P**	**04 07 57.4**	**+1.1**		
HMNX					AMB	AMB	04 07 58.5		
	comp=Z,426nm,3.3s								
HMNX					AMS	AMS	04 48 30.2		
	comp=Z,21µm,15.8s								
IVIS	**Veis**	**75.65**	**308**	*eP*	**P**	**04 07 56.7**	**-0.1**		
GOLR		**75.66**	**329**	⇓*iP*	**P**	**04 07 57.1**	**+0.5**		
VAL	**Valentia**	**75.68**	**354**⇑	*iP*	**P**	**04 07 56.2**	**-0.3**		
VAL	**Valentia**	**75.68**	**354**	⇓*iS*	**S**	**04 17 35.4**	**0.0**		
IDHR	**Dehrash**	**75.73**	**309**	*eP*	**P**	**04 07 56.5**	**-0.8**		
DOU	**Dourbes**	**75.74**	**344**	P	**P**	**04 07 57.0**	**+0.1**		
	comp=Z,126nm,2.2s								
VBMS	**Vicksburg**	**75.78**	**55**	P	**P**	**04 07 58.0**	**+0.6**		
	baz=76,SNR=22								
738A	**Farr-Stevens R**	**75.79**	**61**	P	**P**	**04 07 58.7**	**+1.2**		
	baz=76								
CTKT	**Corum**	**75.85**	**320**	*i* P	**P**	**04 07 59.5**	**+1.6**		
WLF	**Walferdange**	**75.88**	**343**	P	**P**	**04 07 58.9**	**+1.2**		
	comp=Z,289nm,2.9s								
WLF	**Walferdange**	**75.88**	**343**	*eP*	**P**	**04 07 59.0**	**+1.2**		
	comp=Z,784nm,1.8s								
WLF	**Walferdange**	**75.88**	**343**	*eP*	**P**	**04 07 58.6**	**+0.9**		
WLF					pmax	pmax			
	comp=Z,801nm,1.8s								
WLF					MLR	MLR			
	comp=Z,30µm,20.0s								
WLF	**Walferdange**	**75.88**	**343**	*eP*	**P**	**04 07 58.6**	**+0.9**		
	comp=Z,801nm,1.8s								
WLF					LR	LR			
	comp=Z,30µm,20.0s								
MOA	**Molln**	**75.89**	**337**⇑	*iP*	**P**	**04 07 58.8**	**+0.9**		
	comp=Z,4µm,4.0s,SNR=40								
DYBB	**Diyarbakir**	**75.90**	**315**	*eP*	**P**	**04 07 59.3**	**+1.2**		
SVRC	**Sivrice-ELAZID**	**75.90**	**316**	*eP*	**P**	**04 08 00.0**	**+1.8**		
ILGA	**Ilgaz**	**75.90**	**321**	*i* P	**P**	**04 07 59.9**	**+1.6**		
DIYA	**Diyarbakir**	**75.93**	**315**	*i* P	**P**	**04 07 59.9**	**+1.6**		
HUMR	**Humele**	**75.93**	**329**⇑	*iP*	**P**	**04 07 57.7**	**-0.4**		
ELZG	**Elazig**	**75.94**	**316**	*i* P	**P**	**04 08 00.7**	**+2.2**		
035A	**Encino**	**75.95**	**64**	P	**P**	**04 07 59.9**	**+1.4**		
	baz=76,SNR=10.0								
BZS	**Buzias**	**75.99**	**331**⇑	*iP*	**P**	**04 07 58.6**	**+0.2**		
BRYW	**Bryant College**	**76.03**	**37**	*eP*	**P**	**04 07 58.6**	**-0.2**		
	comp=Z,233nm,1.3s								
YLE	**Yale**	**76.03**	**38**	*eP*	**P**	**04 07 57.7**	**-1.0**		
	comp=Z,645nm,2.0s								
CPCT	**Cooper Cave**	**76.07**	**49**	*eP*	**P**	**04 07 58.4**	**-0.7**		
HTL	**Hartland**	**76.12**	**350**⇑	*iP*	**P**	**04 07 59.3**	**+0.3**		
HTL					AMB	AMB	04 08 00.8		
	comp=Z,261nm,3.5s								
HTL					AMS	AMS	04 48 49.5		
	comp=Z,17µm,18.9s								
SDMD	**Soldier's Deli**	**76.12**	**42**	*eP*	**P**	**04 07 58.8**	**-0.5**		
	comp=Z,1µm,1.3s								
ARSA	**Arzberg**	**76.14**	**336**	*i* P	**P**	**04 08 00.7**	**+1.4**		
	comp=Z,4µm,3.6s,SNR=42								

STU	**Stuttgart**	**76.15**	**341**	*eP*	**P**	**04 08 00.2**	**+0.9**		
	comp=Z,280nm,1.1s								
STU	**Stuttgart**	**76.15**	**341**	*eP*	**P**	**04 08 00.6**	**+1.3**		
STU					pmax	pmax			
	comp=Z,170nm,1.0s								
STU	**Stuttgart**	**76.15**	**341**	*eP*	**P**	**04 08 00.6**	**+1.3**		
	comp=Z,170nm,1.0s								
MARD	**Mardin**	**76.15**	**314**	*i* P	**P**	**04 08 01.0**	**+1.4**		
MAZI	**Mazidag**	**76.17**	**314**	*eP*	**P**	**04 08 00.8**	**+1.0**		
TKL	**Tuckaleechee C**	**76.24**	**49**	P	**P**	**04 07 59.5**	**-0.5**		
	comp=Z,136nm,1.1s,baz=324,slow=8.4,SNR=16								
FUR	**Furstenfeldbru**	**76.28**	**339**	*eP*	**P**	**04 08 01.1**	**+1.0**		
	comp=Z,812nm,2.1s								
PKSM	**Moragy**	**76.29**	**333**⇑	*iP*	**P**	**04 08 00.3**	**+0.2**		
PKSM	**Moragy**	**76.29**	**333**⇑	*eP*	**P**	**04 08 00.4**	**+0.3**		
IPAR	**Pars**	**76.29**	**301**	*eP*	**P**	**04 08 00.7**	**-0.1**		
CUSAR	**Sarkisla-SIVAS**	**76.30**	**318**	*i* P	**P**	**04 08 01.4**	**+0.9**		
PRD	**Provadia**	**76.32**	**326**	*i* P	P	04 08 03.9	+3.6		
IBND	**Bandar-abas**	**76.32**	**297**	*eP*	**P**	**04 08 00.5**	**-0.1**		
MALT	**Malatya**	**76.33**	**316**	*eP*	**P**	**04 08 02.0**	**+1.4**		
MALT	**Malatya**	**76.33**	**316**⇑	*iP*	**P**	**04 08 01.7**	**+1.1**		
035Z	**Hargill**	**76.34**	**64**	P	**P**	**04 08 01.7**	**+1.0**		
	baz=76,SNR=9.7								
BANR	**Banloc**	**76.34**	**331**⇑	*iP*	**P**	**04 08 01.5**	**+1.1**		
RJOB	**Jochberg**	**76.34**	**338**	*eP*	**P**	**04 08 01.7**	**+1.2**		
	comp=Z,693nm,2.2s								
BLA	**Blacksburg**	**76.46**	**46**	*eP*	**P**	**04 08 00.7**	**-0.6**		
BLA					pmax	pmax			
	comp=Z,313nm,1.2s								
BLA					MLR	MLR			
	comp=Z,18µm,19.0s								
BLA	**Blacksburg**	**76.46**	**46**	*eP*	**P**	**04 08 00.7**	**-0.6**		
	comp=Z,313nm,1.2s								
BLA					LR	LR			
	comp=Z,18µm,19.0s								
CRAR	**CRAIOVA**	**76.49**	**329**⇑	*iP*	**P**	**04 08 01.7**	**+0.4**		
ELDT	**Eldivan**	**76.50**	**321**	*i* P	**P**	**04 08 03.1**	**+1.5**		
DARE	**Darende-Malaty**	**76.50**	**317**	*eP*	**P**	**04 08 03.0**	**+1.4**		
BEHE	**Becsehely**	**76.55**	**335**⇑	*eP*	**P**	**04 08 03.0**	**+1.4**		
AKCD	**Akcadag**	**76.55**	**317**	*i* P	**P**	**04 08 03.6**	**+1.6**		
DYA	**Yadsworthy**	**76.61**	**349**⇑	*iP*	**P**	**04 08 01.8**	**-0.1**		
DYA					AMB	AMB	04 08 03.3		
	comp=Z,325nm,3.6s								
DYA					AMS	AMS	04 50 15.7		
	comp=Z,14µm,17.3s								
VWCC	**Virginia Weste**	**76.62**	**45**	*eP*	**P**	**04 08 01.4**	**-0.8**		
BCAM	**Yenicaga**	**76.73**	**322**	*i* P	**P**	**04 08 04.4**	**+1.5**		
BCAM	**Yenicaga**	**76.73**	**322**	*i* P	**P**	**04 08 03.8**	**+0.9**		
BFO	**Black Forest**	**76.75**	**341**	*eP*	**P**	**04 08 03.4**	**+0.7**		
	comp=Z,613nm,2.2s								
BFO	**Black Forest**	**76.75**	**341**	P	**P**	**04 08 03.6**	**+0.9**		
	comp=Z,549nm,0.9s,SNR=39								
BFO	**Black Forest**	**76.75**	**341**	*eP*	**P**	**04 08 02.6**	**-0.1**		
BFO					pmax	pmax			
	comp=Z,243nm,1.8s								
BFO					MLR	MLR			
	comp=Z,14µm,20.0s								
BFO	**Black Forest**	**76.75**	**341**	*eP*	**P**	**04 08 02.6**	**-0.1**		
	comp=Z,243nm,1.8s								
BFO					LR	LR			
	comp=Z,14µm,20.0s								
SZH	**Strazhica**	**76.75**	**327**	*i* P	P	04 08 13.7	+11		
SOKA	**Soboth**	**76.80**	**336**	*i* P	**P**	**04 08 04.3**	**+1.1**		
	comp=Z,4µm,3.7s,SNR=36								
BISS	**Bistriski jare**	**76.80**	**336**	*i* P	**P**	**04 08 04.1**	**+1.0**		
PERS	**Pernice**	**76.82**	**336**	*eP*	**P**	**04 08 04.3**	**+1.2**		
PERS				*i* PcP	**PcP**	**04 08 16.5**	**+2.2**		
PERS				*eS*	**S**	**04 17 50.1**	**+1.8**		
KBA	**Koelnbreinsper**	**76.83**	**337**⇑	*ipP*	**P**	**04 08 05.0**	**+1.6**		
	comp=Z,5µm,3.2s,SNR=157								
LRAL	**Lakeview Retre**	**76.86**	**53**	*eP*	**P**	**04 08 02.4**	**-1.2**		
	comp=Z,106nm,1.1s								
CDAG	**Cicekdag**	**76.87**	**320**	*i* P	**P**	**04 08 04.9**	**+1.3**		
URFA	**Urfa**	**76.89**	**316**	*eP*	**P**	**04 08 05.4**	**+1.6**		
CBN	**Corbin**	**76.93**	**43**	*eP*	**P**	**04 08 04.1**	**+0.2**		
	comp=Z,431nm,1.3s								
CBN					LR	LR			
	comp=Z,11µm,21.0s								
IKAZ	**Kazeroun**	**76.97**	**302**	*eP*	**P**	**04 08 04.8**	**+0.2**		
PVL	**Pavlikeni**	**76.99**	**328**	*i* P	**P**	**04 08 04.1**	**0.0**		
WATA	**Walderalm**	**77.00**	**339**⇓	*iP*	**P**	**04 08 05.5**	**+1.1**		
	comp=Z,3µm,2.7s,SNR=29								
RETA	**Reutte**	**77.04**	**339**⇓	*iP*	**P**	**04 08 05.2**	**+0.8**		
	comp=Z,4µm,3.7s,SNR=31								
WTTA	**Wattenberg**	**77.06**	**338**⇑	*iP*	**P**	**04 08 05.9**	**+1.3**		
	comp=Z,5µm,3.3s,SNR=70								
BRTR	**Keskin Array B**	**77.07**	**320**	P	**P**	**04 08 04.8**	**0.0**		
	comp=Z,108nm,1.0s,baz=46,slow=3.6,SNR=160								
BRTR				PP	**PP**	**04 11 01.4**	**+3.5**		
	comp=Z,11nm,0.8s,baz=52,slow=6.5,SNR=3.8								
BRTR				PKKPbc	**PKKPbc**	**04 27 13.2**	**+3.7**		
	comp=Z,0.2nm,0.4s,baz=231,slow=0.9,SNR=4.5								
BRTR				LR	LR	04 49 19.7			
	comp=Z,16µm,18.2s,baz=16,slow=41								
OBKA	**Obir**	**77.08**	**336**⇓	*iP*	**P**	**04 08 05.6**	**+0.9**		
	comp=Z,6µm,3.6s,SNR=29								
ECH	**Echery**	**77.08**	**342**	*eP*	**P**	**04 08 04.9**	**+0.3**		
ECH					pmax	pmax			
	comp=Z,194nm,1.0s								
ECH					MLR	MLR			
	comp=Z,15µm,21.0s								
ECH	**Echery**	**77.08**	**342**	*eP*	**P**	**04 08 04.9**	**+0.3**		
	comp=Z,194nm,1.0s								
ECH					LR	LR			
	comp=Z,15µm,21.0s								
ATAB	**Bozova**	**77.09**	**316**	*i* P	**P**	**04 08 06.9**	**+2.1**		
MOTA	**Mosalm**	**77.10**	**339**⇑	*iP*	**P**	**04 08 05.8**	**+0.9**		
	comp=Z,3µm,3.1s,SNR=70								
JSRW	**J. Sargeant Re**	**77.15**	**44**	*eP*	**P**	**04 08 04.4**	**-0.7**		
MYKA	**Terra Mystica**	**77.19**	**337**⇓	*iP*	**P**	**04 08 06.0**	**+0.8**		
	comp=Z,3µm,3.7s,SNR=15								
JMB	**Yambol**	**77.25**	**327**	*i* P	**P**	**04 08 06.0**	**+0.4**		
ANTO	**Ankara**	**77.28**	**321**	PFAKE		04 08 20.0	+14		
ANTO					LR	LR			
	comp=Z,18µm,21.0s								
ABTA	**Abfaltersbach**	**77.34**	**338**⇑	*iP*	**P**	**04 08 07.0**	**+0.8**		
	comp=Z,4µm,4.2s,SNR=61								
MPEP	**Malo Peshtene**	**77.38**	**329**	*i* P	**P**	**04 08 06.8**	**+0.5**		
AVNT	**Avonos**	**77.40**	**319**	*i* P	**P**	**04 08 08.0**	**+1.2**		
DAVA	**Damuels**	**77.42**	**340**	*i* P	**P**	**04 08 07.7**	**+1.0**		
	comp=Z,4µm,4.1s,SNR=45								
VNDS	**Vrh nad Dolski**	**77.42**	**336**	*eP*	**P**	**04 08 06.8**	**+0.3**		
BBAL	**Bala**	**77.43**	**321**	*i* P	**P**	**04 08 08.0**	**+1.2**		
BBAL	**Bala**	**77.43**	**321**	*i* P	**P**	**04 08 07.9**	**+1.0**		
FETA	**Feichten**	**77.49**	**339**	*i* P	**P**	**04 08 08.3**	**+1.2**		
	comp=Z,4µm,3.9s,SNR=59								
GZT	**Gaziantep**	**77.50**	**316**	*i* P	**P**	**04 08 09.3**	**+2.0**		
LJU	**Ljubljana**	**77.52**	**336**	*eP*	**P**	**04 08 07.5**	**+0.5**		
JLP	**Les Platons**	**77.56**	**348**⇑	*eP*	**P**	**04 08 07.3**	**+0.1**		
SISC	**Sisak**	**77.58**	**335**	P	**P**	**04 08 08.4**	**+1.1**		
JQE	**Queens East**	**77.60**	**348**⇑	*iP*	**P**	**04 08 07.5**	**+0.1**		
JRS	**Jersey**	**77.61**	**348**⇑	*eP*	**P**	**04 08 08.3**	**+0.8**		
JSA	**Saint Aubin**	**77.63**	**348**⇑	*iP*	**P**	**04 08 07.8**	**+0.3**		
JSA					AMS	AMS	04 50 40.5		
	comp=Z,17µm,15.6s								
KMRS	**Kahramanmaras**	**77.65**	**317**	*eP*	**P**	**04 08 09.2**	**+1.2**		
BANOM	**Banah**	**77.65**	**296**	⇑*iP*	**P**	**04 08 08.1**	**-0.1**		
	SNR=40								
VISS	**Visnje**	**77.66**	**336**	*eP*	**P**	**04 08 08.2**	**+0.3**		
PALK	**Pallekele**	**77.70**	**266**	P	**P**	**04 08 09.8**	**+1.3**		
	comp=Z,1µm,0.7s,SNR=17								
PALK	**Pallekele**	**77.70**	**266**	P	**P**	**04 08 09.4**	**+0.9**		
	comp=Z,113nm,0.6s,baz=6.1,slow=4.1,SNR=8.8								
PALK					LR	LR	04 46 16.2		
	comp=Z,18µm,19.0s,baz=37,slow=39								
PALK	**Pallekele**	**77.70**	**266**	*eP*	**P**	**04 08 08.7**	**+0.2**		
PALK					pmax	pmax			
	comp=Z,622nm,1.4s								
PALK	**Pallekele**	**77.70**	**266**	⇓*iP*	**P**	**04 08 09.0**	**+0.4**		
	SNR=25								
PALK	**Pallekele**	**77.70**	**266**	*eP*	**P**	**04 08 08.7**	**+0.2**		
	comp=Z,622nm,1.4s								
JAVS	**Javornik**	**77.77**	**336**	*eP*	**P**	**04 08 08.5**	**-0.1**		
JAVS				*i* PcP	**PcP**	**04 08 20.9**	**+2.4**		
JAVS				*eS*	**S**	**04 17 58.3**	**-0.5**		
AUMIH	**MIHALICIK**	**77.78**	**322**	*i* P	**P**	**04 08 09.5**	**+0.7**		
AUMIH	**MIHALICIK**	**77.78**	**322**	*i* P	**P**	**04 08 08.7**	**-0.1**		
KMSC	**Kings Mountain**	**77.78**	**47**	P	**P**	**04 08 08.6**	**-0.1**		
	baz=78,SNR=51								
KMSC	**Kings Mountain**	**77.78**	**47**	*eP*	**P**	**04 08 07.8**	**-0.9**		
	comp=Z,236nm,1.1s								
HCB	**Kahramanmara˘**	**77.78**	**317**	*i* P	**P**	**04 08 10.4**	**+1.6**		
ANDN	**Andirin**	**77.82**	**317**	*i* P	**P**	**04 08 10.4**	**+1.4**		
BOJS	**Bojanci**	**77.84**	**335**	*i* P	**P**	**04 08 09.7**	**+0.9**		
BOJS				*ePcP*	**PcP**	**04 08 21.7**	**+3.0**		

BOJS				*eS*	**S**	**04 17 59.2**	**0.0**		
EIDS	**Eidsvold**	**77.84**	**188**	*eP*	**P**	**04 08 09.2**	**+0.4**		
	comp=Z,556nm,1.8s								
DIVS	**Divibare**	**77.84**	**332**⇓	*iP*	**P**	**04 08 08.9**	**-0.1**		
DIVS	**Divibare**	**77.84**	**332**	P	**P**	**04 08 08.8**	**-0.2**		
DAVOX	**Davos/Dischmat**	**77.90**	**339**	P	**P**	**04 08 10.8**	**+1.4**		
	comp=Z,78nm,0.8s,baz=3.1,slow=5.1,SNR=60								
DIM	**Dimitrovgrad**	**77.97**	**327**	*i* P	**P**	**04 08 10.3**	**+0.7**		
PGB	**Panagyurishte**	**77.97**	**328**	*i* P	**P**	**04 08 10.3**	**+0.6**		
KOZT	**Kozan**	**78.12**	**318**	*eP*	**P**	**04 08 11.4**	**+0.9**		
AUSIV	**SIVRIHISAR**	**78.13**	**322**	*i* P	**P**	**04 08 11.7**	**+1.0**		
BORA	**Eskisehir**	**78.15**	**323**	*i* P	**P**	**04 08 11.7**	**+0.9**		
BORA	**Eskisehir**	**78.15**	**323**	*i* P	**P**	**04 08 11.6**	**+0.8**		
PLD	**Plovdiv**	**78.19**	**328**	*i* P	**P**	**04 08 11.1**	**+0.3**		
KUZU	**Kuzuini**	**78.20**	**316**	*i* P	**P**	**04 08 12.5**	**+1.4**		
VTS	**Vitosha**	**78.24**	**329**	P	**P**	**04 08 10.7**	**-0.6**		
VTS	**Vitosha**	**78.24**	**329**⇑	*iP*	**P**	**04 08 11.4**	**+0.2**		
VTS	**Vitosha**	**78.24**	**329**	*i* P	**P**	**04 08 11.5**	**+0.2**		
VTS	**Vitosha**	**78.24**	**329**	P	**P**	**04 08 10.7**	**-0.6**		
VTS	**Vitosha**	**78.24**	**329**	P	**P**	**04 08 10.7**	**-0.6**		
GOGA	**Godfrey**	**78.24**	**50**	*eP*	**P**	**04 08 10.5**	**-0.7**		
GOGA				pmax	pmax				
	comp=Z,185nm,1.4s								
GOGA				MLR	MLR				
	comp=Z,22µm,20.0s								
GOGA	**Godfrey**	**78.24**	**50**	*eP*	**P**	**04 08 10.5**	**-0.7**		
	comp=Z,185nm,1.4s								
GOGA				LR	LR				
	comp=Z,22µm,20.0s								
TUE	**Stuetta**	**78.31**	**340**	*eP*	**P**	**04 08 12.3**	**+0.7**		
	comp=Z,167nm,0.8s								
TUE				LR	LR				
	comp=Z,23µm,19.0s								
SEYT	**Eskypehyr**	**78.32**	**322**	*i* P	**P**	**04 08 11.9**	**+0.1**		
SEYT	**Eskypehyr**	**78.32**	**322**	*i* P	**P**	**04 08 11.9**	**+0.1**		
KDZ	**Kurdzhali**	**78.36**	**327**	*i* P	**P**	**04 08 12.9**	**+1.1**		
ULDT	**Uludag**	**78.41**	**324**	*i* P	**P**	**04 08 13.3**	**+1.0**		
ULDT	**Uludag**	**78.41**	**324**	*i* P	**P**	**04 08 13.0**	**+0.6**		
UOSS	**Wadi Hilu**	**78.48**	**296**	P	**P**	**04 08 12.0**	**-0.7**		
	comp=Z,3µm,0.7s,SNR=68								
BRAL	**Brewton**	**78.48**	**54**	*eP*	**P**	**04 08 12.5**	**-0.1**		
	comp=Z,588nm,1.3s								
BRAL				LR	LR				
	comp=Z,17µm,20.0s								
CEYT	**Ceyhan**	**78.55**	**317**	*eP*	**P**	**04 08 14.1**	**+1.2**		
RZN	**Rozhen**	**78.56**	**327**	*i* P	P	04 08 04.1	-9.1		

GRG Griva 79.97 329 P P 04 08 20.4 -0.3
AKHS Akhisar 80.00 324 *i* P P 04 08 21.1 +0.3
NHSC New Hope 80.01 48 *e*P P 04 08 20.8 -0.1
comp=Z,577nm,1.3s
NHSC LR LR
comp=Z,30µm,19.0s
LIA Limnos Island 80.01 326 *e*P P 04 08 21.3 +0.5
LIA Limnos Island 80.01 326 P P 04 08 20.6 -0.2
LIA Limnos Island 80.01 326 P P 04 08 20.6 -0.2
AYVA Ayvalik 80.02 325 *i* P P 04 08 21.6 +0.8
AYVA Ayvalik 80.02 325 *i* P P 04 08 21.5 +0.6
ULC Ulcinj 80.02 331 ⇑*i*P P 04 08 20.7 -0.2
ERMK Ermenek 80.02 319 *i* P P 04 08 21.4 +0.2
ERMK Ermenek 80.02 319 *i* P P 04 08 21.4 +0.2
OUR Ouranopolis 80.02 327 P P 04 08 19.7 -1.2
OUR Ouranopolis 80.02 327 *e*P P 04 08 21.3 +0.4
OUR Ouranopolis 80.02 327 P P 04 08 19.7 -1.2
OUR Ouranopolis 80.02 327 P P 04 08 19.7 -1.2
MANT Manisa 80.07 323 *i* P P 04 08 22.2 +0.7
MANT Manisa 80.07 323 *i* P P 04 08 22.4 +0.9
HORT Hortiatis 80.07 328 *e*P P 04 08 21.4 +0.1
HORT Hortiatis 80.07 328 P P 04 08 20.2 -1.1
HORT Hortiatis 80.07 328 P P 04 08 20.2 -1.1
PLG Polygyros 80.16 328 P P 04 08 20.8 -0.9
PLG Polygyros 80.16 328 *e*P P 04 08 22.0 +0.3
PLG Polygyros 80.16 328 P P 04 08 20.8 -0.9
PLG Polygyros 80.16 328 P P 04 08 20.8 -0.9
PRK Paraskevi 80.22 325 P P 04 08 20.4 -1.6
PRK Paraskevi 80.22 325 *e*P P 04 08 21.9 -0.1
PRK Paraskevi 80.22 325 P P 04 08 20.4 -1.6
PRK Paraskevi 80.22 325 P P 04 08 20.4 -1.6
VLC Villacollemand 80.28 338 *e*P P 04 08 23.9 +1.7
comp=Z,814nm,1.6s
VLC LR LR
comp=Z,28µm,21.0s
OHR Ohrid 80.33 330 ⇑*i*P P 04 08 21.8 -0.9
SIGR SIGRI 80.40 326 *e*P P 04 08 23.0 +0.1
SIGR SIGRI 80.40 326 P P 04 08 21.9 -1.0
SIGR SIGRI 80.40 326 P P 04 08 21.9 -1.0
SSB Saint Sauveur 80.40 343 *e*P P 04 08 23.6 +0.7
SSB pmax pmax
comp=Z,66nm,0.6s
SSB MLR MLR
comp=Z,13µm,20.0s
SSB Saint Sauveur 80.40 343 *e*P P 04 08 23.6 +0.7
comp=Z,66nm,0.6s
SSB LR LR
comp=Z,13µm,20.0s
TIR Tirane 80.40 331 *e*P P 04 08 22.7 -0.2
TIR pmax pmax
comp=Z,259nm,0.8s
TIR MLR MLR
comp=Z,65µm,20.0s
TIR Tirane 80.40 331 *e*P P 04 08 22.7 -0.2
comp=Z,259nm,0.8s
TIR LR LR
comp=Z,65µm,20.0s
FNA Florina 80.45 329 P P 04 08 22.9 -0.4
FNA Florina 80.45 329 *e*P P 04 08 22.8 -0.5
FNA Florina 80.45 329 P P 04 08 22.9 -0.4
FNA Florina 80.45 329 P P 04 08 22.9 -0.4
EREN Erenkoy 80.47 318 *e*P P 04 08 24.1 +0.7
GAZI Gazipasa 80.61 320 *i* P P 04 08 23.0 -1.2
GAZI Gazipasa 80.61 320 *i* P P 04 08 23.5 -0.7
LIT Litokhoron 80.72 328 P P 04 08 23.2 -1.5
LIT Litokhoron 80.72 328 *e*P P 04 08 24.6 -0.1
LIT Litokhoron 80.72 328 P P 04 08 23.2 -1.5
LIT Litokhoron 80.72 328 P P 04 08 23.2 -1.5
KZN Kozani 80.76 329 P P 04 08 24.0 -1.0
KZN Kozani 80.76 329 *e*P P 04 08 25.2 +0.2
KZN Kozani 80.76 329 P P 04 08 24.0 -1.0
KZN Kozani 80.76 329 P P 04 08 24.0 -1.0
KBN Korca 80.78 330 P P 04 08 24.4 -0.7
KBN Korca 80.78 330 P P 04 08 24.4 -0.7
KBN Korca 80.78 330 P P 04 08 24.4 -0.7
GOLH Golhisar 80.81 322 *i* P P 04 08 25.6 +0.3
HWQ Hawqa 80.81 316 *e*P P 04 08 25.0 -0.4
PMOR Pomariorio Ree 80.82 129 *e*T T 05 37 36.3
comp=Z,11nm,0.2s
NEST Nestorio 80.89 329 *e*P P 04 08 25.0 -0.7
NEST Nestorio 80.89 329 P P 04 08 25.3 -0.4
URLA Izmir 80.90 325 *i* P P 04 08 26.2 +0.5
URLA Izmir 80.90 325 *i* P P 04 08 25.4 -0.3
PHNC Paralimni 80.98 318 P P 04 08 27.8 +1.7
ZEY ˙zmir 81.04 325 *i* P P 04 08 26.7 +0.4
ZEY ˙zmir 81.04 325 *i* P P 04 08 26.4 +0.1
AYDN Tasoluk 81.06 323 *i* P P 04 08 27.8 +1.2
AYDN Tasoluk 81.06 323 *i* P P 04 08 27.7 +1.2
CHOS Chios island 81.06 325 *e*P P 04 08 26.7 +0.1
CHOS Chios island 81.06 325 P P 04 08 25.5 -1.1
CHOS Chios island 81.06 325 P P 04 08 25.5 -1.1
AOS Alonnisos 81.11 327 *e*P P 04 08 26.8 +0.1
AOS Alonnisos 81.11 327 P P 04 08 26.2 -0.5
AOS Alonnisos 81.11 327 P P 04 08 26.2 -0.5
XOR Xorichti 81.16 327 *e*P P 04 08 27.2 +0.2
XOR Xorichti 81.16 327 P P 04 08 24.9 -2.1
XOR Xorichti 81.16 327 P P 04 08 24.9 -2.1
MAMC Mammari 81.17 318 P P 04 08 27.7 +0.5
NEO Neokhori 81.20 327 *e*P P 04 08 27.3 0.0
NEO Neokhori 81.20 327 P P 04 08 26.2 -1.1
NEO Neokhori 81.20 327 P P 04 08 26.2 -1.1
FYTO Fytoko, Volos 81.20 328 P P 04 08 26.2 -1.0
FYTO Fytoko, Volos 81.20 328 P P 04 08 26.2 -1.0
MBWA Marble Bar 81.20 218 *e*P P 04 08 27.1 -0.1
comp=Z,478nm,1.8s
MBWA LR LR
comp=Z,5µm,20.0s
BHL Bhannes 81.25 316 *e*P P 04 08 27.0 -0.7
GCAM G?zelcaml? 81.25 324 *i* P P 04 08 28.1 +0.6
GCAM G?zelcaml? 81.25 324 *i* P P 04 08 27.5 0.0
AQU L'Aquila 81.26 336 *e*P P 04 08 28.5 +0.9
AQU pmax pmax
comp=Z,207nm,0.8s
AQU MLR MLR
comp=Z,48µm,19.0s
AQU L'Aquila 81.26 336 *e*P P 04 08 28.5 +0.9
comp=Z,207nm,0.8s
AQU LR LR
comp=Z,48µm,19.0s
CSS Prodhromos 81.31 318 P P 04 08 28.4 +0.5
CSS Prodhromos 81.31 318 *e*P P 04 08 27.6 -0.3
comp=Z,214nm,1.4s
CSS LR LR
comp=Z,4µm,21.0s
CSS Prodhromos 81.31 318 P P 04 08 27.2 -0.7
THL Klokotos Trika 81.36 328 *e*P P 04 08 27.0 -1.0
THL Klokotos Trika 81.36 328 P P 04 08 26.2 -1.8
SMG Samos 81.39 324 *e*P P 04 08 27.8 -0.5
MEV Metsovon 81.41 329 P P 04 08 28.9 +0.4
MEV Metsovon 81.41 329 P P 04 08 28.9 +0.4
ALFC Alevga 81.44 319 P P 04 08 28.7 +0.1
DQRL Deir Qamar 81.46 316 *e*P P 04 08 29.3 +0.5
TURN Turunc 81.48 322 *i* P P 04 08 30.4 +1.7
TURN Turunc 81.48 322 *i* P P 04 08 30.5 +1.7
RCY Rachaya 81.52 316 *e*P P 04 08 29.6 +0.4
SMIA Simia 81.59 327 *e*P P 04 08 29.5 +0.2
SMIA Simia 81.59 327 P P 04 08 28.3 -1.0
MRKA Markates 81.62 327 *e*P P 04 08 29.5 0.0
MRKA Markates 81.62 327 P P 04 08 28.5 -1.0
JAN Janina 81.64 329 P P 04 08 29.6 0.0
JAN Janina 81.64 329 *e*P P 04 08 30.9 +1.3
JAN Janina 81.64 329 P P 04 08 29.6 0.0
JAN Janina 81.64 329 P P 04 08 29.6 0.0
AKMC Akamas 81.66 319 P P 04 08 29.9 +0.1
SZAC Souni-Zanaja 81.67 318 P P 04 08 30.0 +0.2
AKAS Kas 81.67 321 *i* P P 04 08 29.8 -0.2
AKAS Kas 81.67 321 *i* P P 04 08 29.7 -0.2
SRN Sarande 81.70 330 P P 04 08 29.4 -0.5
SRN Sarande 81.70 330 P P 04 08 29.4 -0.5
BDRM Kayabasi 81.74 323 *i* P P 04 08 30.4 +0.3
BDRM Kayabasi 81.74 323 *i* P P 04 08 30.1 -0.1
AGG Agios Georgios 81.75 328 P P 04 08 27.4 -2.8
AGG Agios Georgios 81.75 328 *e*P P 04 08 29.3 -0.9
AGG Agios Georgios 81.75 328 P P 04 08 27.4 -2.8
AGG Agios Georgios 81.75 328 P P 04 08 27.4 -2.8
EREA Eretria 81.77 327 *e*P P 04 08 30.4 +0.1
EREA Eretria 81.77 327 P P 04 08 29.6 -0.7
PPCY Paphos 81.78 319 P P 04 08 30.3 0.0
MAKR Makrakomi, Fth 81.82 328 *e*P P 04 08 30.2 -0.4
MAKR Makrakomi, Fth 81.82 328 P P 04 08 29.4 -1.2
MAKR Makrakomi, Fth 81.82 328 P P 04 08 29.4 -1.2

LKR Lokris 81.87 327 *e*P P 04 08 30.2 -0.6
LKR Lokris 81.87 327 P P 04 08 28.3 -2.5
LKR Lokris 81.87 327 P P 04 08 28.3 -2.5
AXAR Agios Charalam 81.88 328 *e*P P 04 08 30.6 -0.2
AXAR Agios Charalam 81.88 328 P P 04 08 29.2 -1.6
AXAR Agios Charalam 81.88 328 P P 04 08 29.2 -1.6
SGD Sagiada 81.88 330 *e*P P 04 08 31.3 +0.5
SGD Sagiada 81.88 330 P P 04 08 30.0 -0.8
IGT Igoumenitsa 81.92 330 P P 04 08 30.2 -0.8
IGT Igoumenitsa 81.92 330 *e*P P 04 08 30.9 -0.1
IGT Igoumenitsa 81.92 330 P P 04 08 30.2 -0.8
IGT Igoumenitsa 81.92 330 P P 04 08 30.2 -0.8
EVR Evrytania 82.02 328 *e*P P 04 08 31.4 -0.3
EVR Evrytania 82.02 328 P P 04 08 30.2 -1.5
EVR Evrytania 82.02 328 P P 04 08 30.2 -1.5
DSL Palaion Diasel 82.05 329 *e*P P 04 08 32.2 +0.5
DSL Palaion Diasel 82.05 329 P P 04 08 31.3 -0.4
DSL Palaion Diasel 82.05 329 P P 04 08 31.3 -0.4
MMAI Mount Meron Ar 82.12 316 P P 04 08 32.8 +0.5
comp=Z,221nm,0.6s,baz=45,slow=6.0,SNR=127
PTL Penteli 82.12 326 *e*P P 04 08 32.0 -0.2
PTL Penteli 82.12 326 P P 04 08 30.2 -2.0
PTL Penteli 82.12 326 P P 04 08 30.2 -2.0
VIL2 Platees 82.17 327 *e*P P 04 08 32.0 -0.4
ASF Jabal al Asfar 82.19 314 P P 04 08 33.4 +0.7
comp=Z,234nm,1.1s,baz=332,slow=2.8,SNR=104
VILL Villia 82.20 327 P P 04 08 30.9 -1.7
ATHU Athens Univers 82.22 326 P P 04 08 30.7 -2.0
ATHU Athens Univers 82.22 326 P P 04 08 30.7 -2.0
DESF Desfina 82.24 328 *e*P P 04 08 31.7 -1.1
DSF Desfina 82.24 328 *e*P P 04 08 31.5 -1.3
DSF Desfina 82.24 328 P P 04 08 30.4 -2.4
DSF Desfina 82.24 328 P P 04 08 30.4 -2.4
ATH Athens Observa 82.24 326 P P 04 08 31.5 -1.2
ATH Athens Observa 82.24 326 *e*P P 04 08 32.2 -0.5
ATH Athens Observa 82.24 326 P P 04 08 31.5 -1.2
ATH Athens Observa 82.24 326 P P 04 08 31.5 -1.2
ARG Arkhangelos 82.24 323 P P 04 08 31.7 -1.1
ARG Arkhangelos 82.24 323 *e*P P 04 08 32.9 +0.1
ARG Arkhangelos 82.24 323 P P 04 08 31.7 -1.1
ARG Arkhangelos 82.24 323 P P 04 08 31.7 -1.1
NIS1 Nisyros Isl. 82.25 323 *e*P P 04 08 32.2 -0.6
PPT Papeete 82.28 132 LR LR 04 39 29.2
comp=Z,14µm,19.8s,baz=292,slow=32
PPT2 Papeete2 82.29 132 *e*PP PP 04 11 39.2 -3.1
comp=Z,837nm,25.2s
PPT2 *e*S S 04 18 45.4 -1.3
comp=Z,21µm,32.8s
PPT2 *e*SS SS 04 24 04.1 -3.8
comp=Z,5µm,24.5s
PPT2 Papeete2 82.29 132 *e*LR LR 04 34 14.3
comp=Z,18µm,22.2s,baz=334
PPT2 Papeete2 82.29 132 *e*T T 05 39 26.9
comp=Z,2.8nm,0.3s
PAE Paea 82.36 132 *e*P P 04 08 35.5 +2.1
comp=Z,20nm,1.1s
KALE Kalithea 82.39 328 *e*P P 04 08 32.5 -1.1
KALE Kalithea 82.39 328 P P 04 08 31.7 -1.9
KALE Kalithea 82.39 328 P P 04 08 31.7 -1.9
APE Apeiranthos 82.43 325 ⇑*i*P P 04 08 31.3 -2.5
APE Apeiranthos 82.43 325 *e*P P 04 08 33.0 -0.8
EFP Efpalio 82.43 328 *e*P P 04 08 33.5 -0.2
EFP Efpalio 82.43 328 P P 04 08 32.4 -1.3
TRIZ Trizonia 82.43 328 *e*P P 04 08 32.0 -1.7
TRIZ Trizonia 82.43 328 P P 04 08 32.2 -1.5
LTK Loutraki 82.45 327 *e*P P 04 08 32.5 -1.3
LTK Loutraki 82.45 327 P P 04 08 31.3 -2.5
LTK Loutraki 82.45 327 P P 04 08 31.3 -2.5
LOUT Loutraki 82.48 327 *e*P P 04 08 33.0 -1.0
LOUT Loutraki 82.48 327 P P 04 08 31.1 -2.9
LKD2 Lefkada island 82.50 329 *e*P P 04 08 34.1 0.0
LKD2 Lefkada island 82.50 329 P P 04 08 33.2 -0.9
LKD2 Lefkada island 82.50 329 P P 04 08 33.2 -0.9
PDO Prodromos 82.50 329 *e*P P 04 08 33.7 -0.4
PDO Prodromos 82.50 329 P P 04 08 33.4 -0.7
THAL Thalero 82.53 327 *e*P P 04 08 33.5 -0.7
THAL Thalero 82.53 327 P P 04 08 32.4 -1.8
LAKA Lakka 82.58 328 *e*P P 04 08 34.2 -0.3
LAKA Lakka 82.58 328 P P 04 08 33.0 -1.5
LAKA Lakka 82.58 328 P P 04 08 33.0 -1.5
KLV Kalavryta, Ach 82.70 328 *e*P P 04 08 34.7 -0.5
KLV Kalavryta, Ach 82.70 328 P P 04 08 33.0 -2.2
KLV Kalavryta, Ach 82.70 328 P P 04 08 33.0 -2.2
GUR Goura 82.73 327 *e*P P 04 08 34.9 -0.5
GUR Goura 82.73 327 P P 04 08 33.7 -1.7
GUR Goura 82.73 327 P P 04 08 33.7 -1.7
ARMA Armidale 82.81 187 *e*P P 04 08 36.3 +0.7
comp=Z,523nm,1.8s
EXG Exogi 82.81 329 *e*P P 04 08 35.8 +0.1
EXG Exogi 82.81 329 P P 04 08 35.2 -0.5
CUC Castrocucco 82.82 333 *e*P P 04 08 34.6 -1.2
comp=Z,47nm,0.8s
CUC LR LR
comp=Z,14µm,19.0s
DID Didima 82.82 327 *e*P P 04 08 33.6 -2.2
DID Didima 82.82 327 P P 04 08 32.2 -3.6
DID Didima 82.82 327 P P 04 08 32.2 -3.6
DIDY Didyma 82.86 327 *e*P P 04 08 34.2 -1.9
DIDY Didyma 82.86 327 P P 04 08 33.9 -2.2
RLS Riolos of Patr 82.91 328 *e*P P 04 08 36.8 +0.6
RLS Riolos of Patr 82.91 328 P P 04 08 36.0 -0.2
RLS Riolos of Patr 82.91 328 P P 04 08 36.0 -0.2
DRO Drossia 82.92 328 *e*P P 04 08 36.9 +0.6
DRO Drossia 82.92 328 P P 04 08 35.6 -0.7
KRND KRANIDI 82.96 327 *e*P P 04 08 34.6 -1.9
SANT Santorini 83.08 325 *e*P P 04 08 36.2 -1.0
KFL Anninata 83.08 329 P P 04 08 36.2 -0.9
VLS Valsamata 83.08 329 P P 04 08 36.7 -0.4
VLS Valsamata 83.08 329 *e*P P 04 08 37.3 +0.2
VLS Valsamata 83.08 329 P P 04 08 36.7 -0.4
VLS Valsamata 83.08 329 P P 04 08 36.7 -0.4
KARP Karpathos 83.20 323 P P 04 08 36.4 -1.4
KARP Karpathos 83.20 323 P P 04 08 36.4 -1.4
VLX Vlachokerasia 83.23 327 *e*P P 04 08 37.4 -0.6
VLX Vlachokerasia 83.23 327 P P 04 08 36.9 -1.1
VLX Vlachokerasia 83.23 327 P P 04 08 36.9 -1.1
AMT Artemida-Makis 83.31 328 *e*P P 04 08 38.5 +0.2
AMT Artemida-Makis 83.31 328 P P 04 08 37.3 -1.0
TIP Timpagrande 83.31 332 *e*P P 04 08 38.8 +0.4
comp=Z,146nm,1.3s
TIP LR LR
comp=Z,17µm,19.0s
TIP Timpagrande 83.31 332 P P 04 08 38.8 +0.4
ZKS Zakynthos 83.46 329 *e*P P 04 08 38.8 -0.3
ZKS Zakynthos 83.46 329 P P 04 08 37.5 -1.6
ITM Ithomi 83.56 327 *e*P P 04 08 39.1 -0.5
ITM Ithomi 83.56 327 P P 04 08 37.9 -1.7
ITM Ithomi 83.56 327 P P 04 08 37.9 -1.7
RAO Raoul Island 83.61 161 LR LR 04 42 14.3
comp=Z,4µm,19.1s,baz=356,slow=33
DWPF Disney 83.61 51 *e*P P 04 08 40.4 +0.4
comp=Z,396nm,1.3s
VLI Veliai 83.64 327 *e*P P 04 08 37.8 -2.2
VLI Veliai 83.64 327 P P 04 08 36.9 -3.1
VLI Veliai 83.64 327 P P 04 08 36.9 -3.1
PYL PYLOS 83.88 327 *e*P P 04 08 40.6 -0.6
PYL PYLOS 83.88 327 P P 04 08 39.4 -1.8
PYL PYLOS 83.88 327 P P 04 08 39.4 -1.8
ZKR Zakros 83.93 323 P P 04 08 40.1 -1.4
ZKR Zakros 83.93 323 P P 04 08 40.1 -1.4
COCO West Island 83.96 241 PFAKE 04 08 50.0 +8.3
COCO LR LR
comp=Z,6µm,21.0s
KYTH Kithira 84.00 326 *e*P P 04 08 41.4 -0.5
NPS Neapolis 84.02 324 *e*P P 04 08 41.0 -1.0
LAST Lasithi 84.15 324 *e*P P 04 08 42.8 0.0
LAST Lasithi 84.15 324 P P 04 08 40.7 -2.1
LAST Lasithi 84.15 324 P P 04 08 40.7 -2.1
IACM Heraklion 84.17 324 *e*P P 04 08 43.4 +0.7
IDI Anoyia 84.25 324 P P 04 08 41.8 -1.4
comp=Z,76nm,0.7s,baz=50,slow=13,SNR=42
IDI Anoyia 84.25 324 *e*P P 04 08 42.0 -1.2
IDI Anoyia 84.25 324 *e*P P 04 08 41.8 -1.4
comp=Z,80nm,0.7s
IDI Anoyia 84.25 324 P P 04 08 40.7 -2.5
ANKY Antikythira Is 84.28 326 *e*P P 04 08 43.3 0.0
ANKY Antikythira Is 84.28 326 P P 04 08 41.8 -1.5
ANKY Antikythira Is 84.28 326 P P 04 08 41.8 -1.5
VAM Vamos 84.39 325 P P 04 08 42.2 -1.6
VAM Vamos 84.39 325 *e*P P 04 08 44.6 +0.8
VAM Vamos 84.39 325 P P 04 08 42.2 -1.6

VAM Vamos 84.39 325 P P 04 08 42.2 -1.6
IMMV Iera Moni Meta 84.42 325 *e*P P 04 08 44.2 +0.2
SIVA Sivas 84.52 324 *e*P P 04 08 44.7 +0.2
SIVA Sivas 84.52 324 P P 04 08 43.7 -0.8
SIVA Sivas 84.52 324 P P 04 08 43.7 -0.8
GVD Gavdhos 84.94 325 *e*P P 04 08 47.0 +0.4
GVD Gavdhos 84.94 325 *e*P P 04 08 45.9 -0.7
comp=Z,491nm,0.8s
GVD Gavdhos 84.94 325 P P 04 08 44.4 -2.2
VSL Villasalto 84.94 338 *e*P P 04 08 46.8 +0.2
comp=Z,155nm,1.1s
VSL LR LR
comp=Z,33µm,19.0s
EIL Elat 85.19 314 *e*P P 04 08 48.4 +0.4
EIL Elat 85.19 314 P P 04 08 47.9 -0.1
comp=Z,134nm,0.8s,baz=7.7,slow=5.0,SNR=69
RAYN Ar Rayn 85.33 303 P P 04 08 48.3 -0.5
comp=Z,1µm,0.8s,SNR=75
PGAV Gavieira, Arco 85.44 351 *i* P P 04 08 50.2 +1.1
comp=Z,269nm,1.3s
PGAV Gavieira, Arco 85.44 351 *e*S S 04 19 23.5 +5.4
PGAV Gavieira, Arco 85.44 351 *e*LR LR 04 43 52.3
comp=Z,11µm,18.0s
PBRG Braganca 85.44 350 *i* P P 04 08 50.1 +1.0
comp=Z,283nm,1.5s
STKA Stephens Creek 85.46 196 P P 04 08 49.5 +0.6
comp=Z,97nm,1.1s,baz=352,slow=7.0,SNR=59
STKA LR LR 04 44 18.3
comp=Z,10µm,21.7s,baz=7.7,slow=34
RBK Rabkut 85.53 293 ⇑P P 04 08 48.7 -1.2
CMIG Matias Romero 85.56 68 P P 04 08 50.8 +0.9
comp=Z,82nm,1.2s,baz=320,slow=4.5,SNR=19
VAE Valguarnera 85.56 333 P P 04 08 50.6 +0.9
comp=Z,6.3nm,0.4s,baz=126,slow=7.8,SNR=3.3
PCAB Cabril 85.67 351 *e*P P 04 08 50.9 +0.7
comp=Z,230nm,2.0s
CLTB Caltabellotta 85.79 334 *e*P P 04 08 51.6 +0.6
comp=Z,70nm,1.0s
CLTB LR LR
comp=Z,21µm,19.0s
POLO Lamas de Olo 85.97 351 *i* P P 04 08 52.8 +1.0
comp=Z,128nm,1.2s
PVRL Vila Real 86.06 351 *e*P P 04 08 53.0 +0.8
comp=Z,425nm,1.1s
MVO Moncorvo 86.11 350 *i* P P 04 08 53.2 +0.8
comp=Z,296nm,1.1s
MVO Moncorvo 86.11 350 *e*S S 04 19 31.1 +6.5
MVO Moncorvo 86.11 350 *e*LR LR 04 42 13.6
comp=Z,12µm,20.0s
ABTO Aybut 86.16 293 ⇓P P 04 08 52.3 -0.7
SNR=11
PTO Porto 86.29 351 *e*P P 04 08 54.4 +1.2
comp=Z,224nm,1.9s
PVIS Viseu 86.64 351 *e*P P 04 08 55.7 +0.7
comp=Z,255nm,1.2s
TEIG Tepich 86.67 61 P P 04 08 56.6 +1.2
comp=Z,3.2nm,0.4s,baz=358,slow=20,SNR=10
TEIG Tepich 86.67 61 *e*P P 04 08 56.4 +1.0
comp=Z,8.1nm,0.7s
TEIG LR LR
comp=Z,335nm,21.0s
MTE Manteigas 86.92 350 *i* P P 04 08 56.8 +0.4
comp=Z,226nm,1.0s
MTE Manteigas 86.92 350 *e*S S 04 19 40.8 +8.3
MTE Manteigas 86.92 350 *e*LR LR 04 48 01.7
comp=Z,15µm,18.0s
MTE Manteigas 86.92 350 *e*P P 04 08 57.1 +0.7
comp=Z,153nm,1.0s
MTE LR LR
comp=Z,11µm,20.0s
BBSR BB Station 87.00 37 *e*P P 04 08 57.0 +0.2
comp=Z,143nm,1.3s
BBSR LR LR
comp=Z,11µm,21.0s
WDD Wield Dalam 87.04 332 *e*P P 04 08 57.4 +0.5
comp=Z,282nm,0.8s
WDD LR LR
comp=Z,19µm,20.0s
ESDC Sonseca Array 87.21 348 P P 04 08 58.0 +0.1
comp=Z,53nm,0.7s,baz=4.5,slow=4.5,SNR=167
ESDC PKKPbc PKKPbc 04 26 47.4 +0.8
comp=Z,2.6nm,1.0s,baz=208,slow=1.3,SNR=8.0
ESDC LR LR 04 52 00.8
comp=Z,3µm,18.5s,baz=30,slow=38
PCAS Casmilo, Conde 87.35 351 *i* P P 04 08 58.9 +0.5
comp=Z,251nm,1.1s
TBI Tubuai 87.39 135 *e*P P 04 09 00.1 +1.5
comp=Z,214nm,1.2s
TBI Tubuai 87.39 135 *e*PP PP 04 12 24.1 +0.5
comp=Z,940nm,26.5s
TBI *e*S S 04 19 36.6 -0.3
comp=Z,15µm,27.5s
TBI *e*SS SS 04 25 21.1 -1.7
comp=Z,5µm,25.5s
TBI Tubuai 87.39 135 *e*LR LR 04 36 28.1
comp=Z,16µm,23.5s,baz=332
TBI Tubuai 87.39 135 *e*T T 05 45 48.4
comp=Z,11nm,0.3s
PAB San Pablo 87.39 348 *e*P P 04 08 58.6 -0.2
PAB pmax pmax
comp=Z,87nm,1.0s
PAB MLR MLR
comp=Z,22µm,20.0s
PAB San Pablo 87.39 348 *e*P P 04 08 58.5 -0.2
comp=Z,87nm,1.0s
PAB LR LR
comp=Z,22µm,20.0s
BBOO Buckleboo 87.40 200 *e*P P 04 08 57.0 -1.4
comp=Z,932nm,2.0s
FORT Forrest 87.41 207 *e*P P 04 08 58.8 +0.3
comp=Z,105nm,0.7s
PCBR Castelo Branco 87.46 350 *i* P P 04 08 59.3 +0.3
comp=Z,155nm,1.2s
PTOM Tomar 87.78 351 *i* P P 04 09 00.8 +0.3
comp=Z,168nm,1.3s
PMRV Marv??o 87.86 350 *i* P P 04 09 01.0 +0.1
comp=Z,102nm,1.3s
PMRV Marv??o 87.86 350 *e*S S 04 19 47.8 +6.3
PMRV Marv??o 87.86 350 *e*LR LR 04 48 45.2
comp=Z,14µm,20.0s
CAN Canberra 87.89 189 *e*P P 04 09 01.2 +0.4
CAN pmax pmax
comp=Z,814nm,2.2s
CAN MLR MLR
comp=Z,8µm,19.0s
CAN Canberra 87.89 189 *e*P P 04 09 01.2 +0.4
comp=Z,814nm,2.2s
CAN LR LR
comp=Z,8µm,19.0s
H07S1 FLORES T-PHASE 88.06 9 *e*P P 04 09 03.9 +2.0
OUZ Omahuta 88.09 169 *e*P P 04 09 02.5 +0.9
comp=Z,659nm,1.8s
CMAH Djebel Manchou 88.13 338 P P 04 09 01.4 -0.9
PESTR Estremoz 88.44 350 *i* P P 04 09 03.7 0.0
comp=Z,121nm,1.3s
ABSA Djebel Ababsia 88.46 338 P P 04 09 03.1 -0.8
CKFL Kef-Lekhel 88.51 339 P P 04 09 03.9 -0.3
PMAFR Mafra 88.51 352 *i* P P 04 09 04.2 +0.2
comp=Z,234nm,1.4s
KEST Kesra 88.53 336 P P 04 09 04.4 +0.2
comp=Z,61nm,1.1s,baz=322,slow=0.8,SNR=63
KEST LR LR 04 54 29.8
comp=Z,15µm,19.1s,baz=328,slow=40
KEST Kesra 88.53 336 *e*P P 04 09 04.2 0.0
DFRA Djebel Bou Aff 88.55 339 P P 04 09 04.5 +0.1
PACT Alcochete 88.66 351 *e*P P 04 09 02.8 -1.8
comp=Z,250nm,1.3s
PGRA Graciosa 88.66 6 *e*P P 04 09 06.0 +1.3
comp=Z,125nm,1.4s
PGRA Graciosa 88.66 6 *e*LQ LQ 04 33 10.8
PGRA *e*LR LR 04 37 41.5
comp=Z,354nm,20.2s
CASM Ain Smara 88.69 339 P P 04 09 03.9 -1.1
PMST Lisbon--Monsan 88.72 351 *e*P P 04 09 05.1 +0.1
comp=Z,120nm,1.2s
LIS Lisbon 88.74 351 *e*P P 04 09 05.3 +0.3
LIS *e*PP PP 04 12 33.8 +0.8
LIS AMS AMS 04 52 25.1
comp=E,15µm,22.0s
LIS Lisbon 88.74 351 *e*P P 04 09 04.7 -0.3
comp=E,151nm,1.3s
LIS Lisbon 88.74 351 *e*P P 04 09 05.3 +0.3
LIS *e* 04 12 33.8
EVO Evora 88.81 351 *i* P P 04 09 05.4 0.0
comp=E,89nm,1.3s
CTEI Djebel Teioual 88.90 339 P P 04 09 06.1 +0.1
ROSA Rosais 88.95 6 *e*P P 04 09 06.2 +0.1

comp=E,113nm,1.6s
ROSA Rosais 88.95 6 *e*LQ LQ 04 33 51.0
ROSA *e*LR LR 04 37 42.6
comp=E,535nm,20.5s
SET Setif 88.99 340 P **P 04 09 07.0 +0.6**
PCED Cedros 89.01 7 *e*P **P 04 09 06.0 -0.3**
comp=E,173nm,0.4s
PMAN Manadas 89.05 6 *e*P **P 04 09 07.8 +1.3**
comp=E,208nm,1.1s
PBAR Barrancos 89.06 350 *i* P **P 04 09 06.8 +0.2**
comp=E,290nm,1.4s
ADH Angra Heroismo 89.08 6 *e*P **P 04 09 05.8 -0.8**
comp=E,94nm,1.2s
CKHR Kef el Ahmar 89.14 340 P P 04 09 01.5 -5.7
PCAN Candelaria 89.19 7 *e*P **P 04 09 06.1 -1.1**
comp=E,141nm,1.7s
PPNO Prainha do Nor 89.20 6 *e*P **P 04 09 07.8 +0.5**
comp=E,291nm,1.1s
PNCL Nicolau / Gran 89.28 351 *i* P **P 04 09 07.8 +0.2**
comp=E,72nm,1.8s
PNCL Nicolau / Gran 89.28 351 *e*PP PP 04 12 37.8 +0.4
EMHD Djebel Mahouad 89.48 342 P **P 04 09 09.0 +0.2**
MESJ Messejana 89.52 351 *e*P **P 04 09 09.0 +0.2**
MESJ *e*PP **PP 04 12 39.8 +0.5**
MESJ *e*S **SKSac 04 19 37.3 +0.6**
MESJ AMS AMS 04 56 27.2
comp=E,11µm,16.3s
MESJ Messejana 89.52 351 *i* P **P 04 09 09.1 +0.4**
comp=E,78nm,1.6s
MESJ Messejana 89.52 351 *e*PP PP 04 12 40.2 +0.9
MESJ Messejana 89.52 351 *e*P **P 04 09 08.9 +0.2**
MESJ *e* 04 12 39.7
MESJ *e*S **SKSac 04 19 37.3 +0.6**
EBNR Beni Rached 89.67 343 P **P 04 09 09.9 +0.4**
PCVE Castro Verde 89.71 350 *i* P **P 04 09 10.0 +0.4**
comp=Z,34nm,1.7s
PTEO Sao Teotonio 89.86 351 *i* P **P 04 09 10.1 -0.2**
comp=Z,82nm,1.9s
PVAQ Vaqueiros 89.90 350 *i* P **P 04 09 10.9 +0.4**
comp=Z,86nm,1.4s
PVAQ Vaqueiros 89.90 350 *e*S **S 04 20 00.1 -0.6**
PVAQ Vaqueiros 89.90 350 *e*LR LR 04 46 49.7
comp=Z,19µm,20.0s
PSET Sete Cidades 89.99 4 *e*P **P 04 09 11.9 +0.9**
comp=Z,253nm,1.2s
PSET Sete Cidades 89.99 4 *e*LQ LQ 04 33 25.6
PSET *e*LR LR 04 37 42.6
BART Pico Bartolome 90.06 4 *e*P **P 04 09 12.7 +1.3**
comp=Z,207nm,1.1s
PDA Ponta Delgada 90.07 4 *e*P **P 04 09 12.8 +1.5**
EANR 'Ain N'Sour 90.07 343 P **P 04 09 11.2 -0.2**
PBDV Barranco-do-Ve 90.08 350 *i* P **P 04 09 11.9 +0.5**
comp=Z,131nm,1.8s
MORF Marmelete 90.09 351 *e*P **P 04 09 11.6 +0.2**
MORF *e*PP **PP 04 12 44.9 +1.0**
MORF *e*S **SKSac 04 19 41.0 +0.8**
MORF AMS AMS 04 54 17.7
comp=N,16µm,19.8s
MORF Marmelete 90.09 351 *i* P **P 04 09 11.8 +0.3**
comp=N,118nm,1.9s
MORF Marmelete 90.09 351 *e*PP PP 04 12 45.2 +1.3
MORF Marmelete 90.09 351 *e*P **P 04 09 11.6 +0.2**
MORF *e* 04 12 44.8
MORF *e*S **SKSac 04 19 41.0 +0.8**
PFVI Vila Bisbo 90.28 351 *i* P **P 04 09 12.7 +0.4**
comp=N,78nm,1.4s
PFVI Vila Bisbo 90.28 351 *e*PP PP 04 12 44.9 -0.4
ETRT Tiaret 90.58 343 P P 04 09 09.1 -4.8
PSMN Pico do Norte, 90.84 4 *e*P **P 04 09 16.4 +1.5**
comp=N,102nm,1.1s
PSMN Pico do Norte, 90.84 4 *e*LQ LQ 04 33 35.1
PSMN *e*LR LR 04 37 33.1
comp=N,566nm,18.3s
PSMA Santa Maria 90.84 4 *e*P **P 04 09 14.9 0.0**
comp=N,77nm,1.2s
URZ Urewera 91.54 167 P **P 04 09 16.1 -1.6**
comp=N,38nm,1.0s,baz=6.5,slow=4.0,SNR=8.6
URZ LR LR 04 48 40.8
comp=N,6µm,18.2s,baz=2.0,slow=34
URZ Urewera 91.54 167 *e*P **P 04 09 16.1 -1.6**
comp=N,117nm,1.3s
NWAO Narrogin (SRO) 92.81 215 P **P 04 09 23.3 -0.5**
comp=N,20nm,0.6s,baz=324,slow=2.4,SNR=9.2
RTC Rabat Centre 93.18 349 PFAKE 04 09 40.0 +14
RTC LR LR
comp=Z,38µm,19.0s
DAMY Dhamar 93.32 299 *e*P **P 04 09 27.4 +0.4**
comp=Z,251nm,1.6s
GTBY Guantanamo Bay 93.58 51 *e*P **P 04 09 27.4 -0.3**
GTBY LR LR
comp=Z,16µm,21.0s
MTDJ Mount Denham 93.86 53 *e*P **P 04 09 29.8 +0.6**
comp=Z,136nm,1.5s
MTDJ LR LR
comp=Z,12µm,21.0s
GRTK Grand Turk 94.03 47 PFAKE 04 09 40.0 +10
GRTK LR LR
comp=Z,16µm,19.0s
MDT Midelt 94.05 347 P **P 04 09 29.6 -0.4**
comp=Z,11nm,0.7s,baz=17,slow=3.7,SNR=36
MDT PP **PP 04 13 19.1 +3.9**
comp=Z,4.6nm,0.8s,baz=10,slow=9.4,SNR=4.3
RKT Rikitea 94.09 123 *e*PP PP 04 13 20.1 +3.3
comp=Z,1µm,25.8s
RKT *e*SKSac **SKSac 04 20 01.3 -1.0**
comp=Z,4µm,26.2s
RKT Rikitea 94.09 123 *e*PS PS 04 21 54.4 -2.3
comp=Z,6µm,28.0s
RKT *e*SS SS 04 27 00.6 +1.0
comp=Z,4µm,27.5s
RKT Rikitea 94.09 123 *e*LR LR 04 39 37.6
comp=Z,17µm,21.5s,baz=325
SNZO South Karori 94.23 169 PFAKE 04 09 40.0 +10
SNZO LR LR
comp=Z,17µm,19.0s
DGAR Diego Garcia 94.27 263 PFAKE 04 09 40.0 +9.0
DGAR LR LR
comp=Z,9µm,20.0s
PMPST Porto Santo, M 94.80 357 *i* P **P 04 09 32.9 -0.3**
comp=Z,167nm,1.8s
PMPS Porto Santo 94.82 357 *e*P **P 04 09 34.0 +0.7**
comp=Z,130nm,1.7s
PMOZ Porto Moniz, M 95.08 358 *e*P **P 04 09 33.7 -0.9**
comp=Z,136nm,1.2s
PMOZ Porto Moniz, M 95.08 358 *e*S S 04 21 04.5 +17
PMOZ Porto Moniz, M 95.08 358 *e*LR LR 04 41 22.9
comp=Z,6µm,20.0s
PMAR Madeira 95.17 357 *e*P **P 04 09 35.5 +0.3**
comp=Z,199nm,1.3s
FUL Funchal 95.25 357 *e*P **P 04 09 35.8 +0.6**
comp=Z,147nm,1.7s
TAU Tasmania Unive 95.58 189 PFAKE 04 09 50.0 +14
TAU LR LR
comp=Z,5µm,19.0s
SDDR Presa de Saban 96.17 48 *e*P **P 04 09 40.3 +0.6**
comp=Z,19nm,0.6s
SDDR LR LR
comp=Z,14µm,22.0s
RPZ Rata Peaks 96.24 172 LR LR 04 49 16.5
comp=Z,12µm,19.7s,baz=333,slow=33
JTS JuntasAbangare 96.64 64 *e*P **P 04 09 41.7 -0.2**
JTS MLR MLR
comp=Z,4µm,20.0s
JTS JuntasAbangare 96.64 64 *e*P **P 04 09 41.7 -0.2**
JTS LR LR
comp=Z,4µm,20.0s
PTCN Pitcairn Islan 98.22 121 PFAKE 04 10 00.0 +11
PTCN LR LR
comp=Z,6µm,19.0s
SJG San Juan 99.20 44 PFAKE 04 10 00.0 +6.7
SJG LR LR
comp=Z,8µm,21.0s
BCIP Isla Barro Col 100.34 60 *e*P **Pdif 04 09 58.2 -0.2**
comp=Z,74nm,1.4s
BCIP LR LR
comp=Z,5µm,20.0s
ANWB Willy Bob 101.39 40 PFAKE 04 10 10.0 +7.0
ANWB LR LR
comp=Z,9µm,22.0s
TAM Tamanrasset 101.84 336 *e*P **Pdif 04 10 04.6 -0.6**
TAM pmax pmax
comp=Z,26nm,1.5s
TAM MLR MLR
comp=Z,15µm,20.0s
TAM Tamanrasset 101.84 336 *e*Pdif **Pdif 04 10 04.6 -0.6**
comp=Z,26nm,1.5s
TAM LR LR
comp=Z,15µm,20.0s
MSEY Mahe Island 102.49 279 PFAKE 04 10 20.0 +12
MSEY LR LR
comp=Z,13µm,20.0s
PAYG Puerto Ayora 102.51 75 PFAKE 04 10 20.0 +12
PAYG LR LR
comp=Z,4µm,21.0s
FDF Fort de France 104.30 41 PFAKE 04 10 30.0 +14
FDF LR LR
comp=Z,6µm,20.0s
SDV Santo Domingo 105.26 52 PFAKE 04 14 50.0
SDV LR LR
comp=Z,7µm,22.0s
BBGH Gun Hill 106.37 40 PFAKE 04 14 50.0
BBGH LR LR
comp=Z,9µm,19.0s
GRGR Grenville 106.44 43 PFAKE 04 14 50.0
GRGR LR LR
comp=Z,7µm,19.0s
OTAV Otavalo 108.53 64 *e*Pdif **Pdif 04 10 35.7 +0.2**
comp=Z,8.3nm,1.3s
OTAV LR LR
comp=Z,3µm,20.0s
RPN Rapa Nui 111.45 107 PFAKE 04 15 00.0
RPN LR LR
comp=Z,8µm,20.0s
TOA0 Torodi Ar. Sit 112.05 337 *e*PK PP 04 15 18.1 -12
TORD Torodi Ar. Bea 112.05 337 Pdiff **Pdif 04 10 52.7 +2.2**
comp=Z,0.9nm,0.7s,baz=1.4,slow=4.8,SNR=6.1
TORD PKiKP **PKiKP 04 14 46.5 -0.5**
comp=Z,1.3nm,0.6s,baz=25,slow=2.0,SNR=8.5
TORD PP **PP 04 15 28.6 -1.4**
comp=Z,11nm,0.8s,baz=360,slow=6.9,SNR=8.9
TORD PKKPbc **PKKPbc 04 25 36.7 +0.2**
comp=Z,3.4nm,1.0s,baz=202,slow=0.2,SNR=15
TORD PKKPab **PKKPab 04 25 46.4 -3.6**
comp=Z,5.9nm,1.1s,baz=205,slow=2.4,SNR=10
SACV Santiago Islan 112.82 4 PFAKE 04 15 00.0
SACV LR LR
comp=Z,5µm,20.0s
MBAR Mbarara 113.28 302 PFAKE 04 15 00.0
MBAR LR LR
comp=Z,496nm,20.0s
RER Riviere de l'E 115.07 268 PFAKE 04 15 00.0 +7.4
RER LR LR
comp=Z,7µm,19.0s
OPO Ambohidratompo 118.34 276 PP PP 04 16 25.6 +10
comp=Z,2.7nm,0.3s,baz=8.6,slow=4.5,SNR=3.1
ABPO Ambohimpanom 118.66 276 PFAKE 04 15 10.0 +10
ABPO LR LR
comp=Z,9µm,19.0s
PTGA Pitinga 118.68 47 PKP **PKPdf 04 14 57.9 -1.9**
comp=Z,1.9nm,0.6s,baz=320,slow=3.5,SNR=3.9
PTGA PP **PP 04 16 16.4 -0.8**
comp=Z,33nm,1.1s,baz=338,slow=7.4,SNR=14
NNA Nana 119.44 70 PFAKE 04 15 10.0 +8.8
NNA LR LR
comp=Z,3µm,20.0s
DRV Dumont d'Urvil 119.72 189 Pdif Pdif 04 11 11.0 -12
DRV PP PP 04 16 14.0 -10
DRV SKKS 04 24 04.0
DRV SP SP 04 25 51.0 -18
DRV L L 04 36 00.0
DRV R 04 40 00.0
DBIC Dimbokro 119.72 343 PKP **PKPdf 04 15 00.9 -0.9**
comp=Z,7.1nm,0.6s,baz=16,slow=3.0,SNR=12
DBIC PP **PP 04 16 22.8 -1.1**
comp=Z,32nm,1.0s,baz=330,slow=8.4,SNR=5.1
DBIC PKKPab **PKKPbc 04 25 12.4 +2.6**
comp=Z,5.5nm,0.8s,baz=180,slow=5.1,SNR=4.5
DBIC Dimbokro 119.72 343 PKIKP **PKPdf 04 15 00.9 -0.9**
DBIC 04 16 22.8
DBIC pmax pmax
comp=Z,7.0nm,0.6s
DBIC pmax pmax
comp=Z,32nm,1.0s
DBIC Dimbokro 119.72 343 *e*PKPdf **PKPdf 04 15 01.8 0.0**
DBIC *e*PP **PP 04 16 22.3 -1.5**
DBIC PP PP 04 16 22.8 -1.1
DBIC PKKPab **PKKPbc 04 25 12.4 +2.6**
TIC Toumodi 119.78 343 *e*PKP1 **PKPdf 04 15 02.1 +0.2**
KIC Kosan Boka 120.00 342 *e*PKP1 **PKPdf 04 15 02.5 +0.1**
comp=Z,181nm,1.7s
LIC Lamto 120.19 343 *e*PKP1 **PKPdf 04 15 02.9 +0.2**
comp=Z,65nm,1.2s
CASY Casey 124.17 202 *e*PKPdf **PKPdf 04 15 07.5 -1.1**
CASY LR LR
comp=Z,4µm,19.0s
SAML Samuel 124.33 55 *e*PKPdf **PKPdf 04 15 09.7 -0.9**
SAML LR LR
comp=Z,9µm,21.0s
PAF Port-aux-Franc 126.59 235 PP PP 04 17 01.0 -10
PAF SS SS 04 34 11.0 -3.3
PAF L L 04 48 00.0
PAF R 04 57 00.0
LSZ Lusaka 126.90 296 PKP **PKPdf 04 15 15.2 -0.4**
comp=Z,2.6nm,0.5s,baz=40,slow=4.4,SNR=4.6
LSZ Lusaka 126.90 296 PKIKP **PKPdf 04 15 15.2 -0.4**
LSZ pmax pmax
comp=Z,3.0nm,0.5s
LSZ Lusaka 126.90 296 *e*PKPdf **PKPdf 04 15 16.3 +0.7**
LSZ LR LR
comp=Z,15µm,19.0s
LPAZ La Paz 127.84 65 PKP **PKPdf 04 15 17.3 -0.7**
comp=Z,5.0nm,0.9s,baz=1.9,slow=5.1,SNR=21
LPAZ PP **PP 04 17 19.7 -0.4**
comp=Z,20nm,1.3s,baz=36,slow=3.0,SNR=3.5
LPAZ La Paz 127.84 65 *e*PKIKP **PKPdf 04 15 18.0 0.0**
LPAZ pmax pmax
comp=Z,5.0nm,0.9s
MIR Mirnyy 128.93 208 *e*PKIKP PKPdf 04 15 26.0 +8.3
VNDA Vanda 129.68 179 PKP **PKPdf 04 15 17.8 -1.1**
comp=Z,2.3nm,0.5s,baz=324,slow=4.4,SNR=25
VNDA Vanda 129.68 179 PKIKP **PKPdf 04 15 17.8 -1.1**
VNDA pmax pmax
comp=Z,2.0nm,0.5s
VNDA Vanda 129.68 179 *e*PKPdf **PKPdf 04 15 18.7 -0.2**
SBA Scott Base 130.08 178 *e*PKIKP **PKPdf 04 15 20.2 +0.6**
SBA MLR MLR
comp=Z,7µm,21.0s
SBA Scott Base 130.08 178 *e*PKPdf **PKPdf 04 15 20.2 +0.6**
SBA LR LR
comp=Z,7µm,21.0s
MATP Matopo 130.87 292 PKP **PKPdf 04 15 22.1 -1.0**
comp=Z,14nm,1.0s,baz=70,slow=2.3,SNR=6.2
MATP SKPbc **SKPab 04 18 48.3 +3.4**
comp=Z,15nm,1.1s,baz=20,slow=2.2,SNR=3.9
SIV San Ignacio 131.38 57 PKP **PKPdf 04 15 24.1 +0.1**
comp=Z,7.9nm,0.9s,baz=299,slow=1.9,SNR=8.9
SIV PP **PP 04 17 42.7 +0.3**
comp=Z,31nm,1.2s,baz=340,slow=7.6,SNR=4.4
RCBR Riachuelo 131.75 21 PFAKE 04 15 40.0 +15
RCBR LR LR
comp=Z,5µm,19.0s
LVC Limon Verde 132.43 70 PKP **PKPdf 04 15 26.1 0.0**
comp=Z,43nm,1.0s,baz=281,slow=1.9,SNR=10.0
LVC Limon Verde 132.43 70 *e*PKPdf **PKPdf 04 15 26.4 +0.4**
LVC LR LR
comp=Z,5µm,22.0s
CRZF Crozet Islands 134.61 247 PP PP 04 17 54.0 -9.2
CRZF SS SS 04 35 37.0 -16
CRZF L L 04 52 00.0
ASCN Ascension 135.40 352 *e*PKPdf **PKPdf 04 15 31.8 +0.2**
ASCN LR LR
comp=Z,6µm,20.0s
TSUM Tsumeb 135.78 304 PKhKP PKPpre 04 15 27.2
comp=Z,9.5nm,1.1s,baz=49,slow=1.2,SNR=3.5
TSUM PKP **PKPdf 04 15 32.9 +0.7**
comp=Z,12nm,1.0s,baz=325,slow=4.1,SNR=5.1
TSUM SKPab **SKiKP 04 19 12.4 +4.9**
comp=Z,9.8nm,1.0s,baz=350,slow=2.6,SNR=4.5
TSUM Tsumeb 135.78 304 *e*PKPpre PKPpre 04 15 27.3
TSUM *e*PKPdf **PKPdf 04 15 33.0 +0.7**
TSUM SKPab **SKiKP 04 19 12.4 +4.9**
TSUM LR LR
comp=Z,12µm,20.0s
LBTB Lobatse 136.11 291 PKhKP PKPpre 04 15 21.6
comp=Z,4.2nm,0.7s,baz=58,slow=3.8,SNR=2.6
LBTB PKP **PKiKP 04 15 33.6 -0.7**
comp=Z,7.3nm,0.6s,baz=56,slow=2.5,SNR=5.8
LBTB PP **PP 04 18 15.7 +2.9**
comp=Z,11nm,1.0s,baz=25,slow=8.0,SNR=3.5
LBTB Lobatse 136.11 291 PKHKP PKPpre 04 15 21.6
LBTB 04 18 15.7
LBTB pmax pmax
comp=Z,4.0nm,0.7s
LBTB pmax pmax
comp=Z,11nm,1.0s
LCO Las Campanas 136.20 78 *e*PKPdf **PKPdf 04 15 33.8 +0.8**
LCO LR LR
comp=Z,5µm,20.0s
BDFB Brasilia 137.15 42 PKP **PKPdf 04 15 35.6 +0.7**
comp=Z,2.9nm,0.5s,baz=196,slow=1.8,SNR=7.6
BDFB PP **PP 04 18 17.2 -1.6**
comp=Z,13nm,1.1s,baz=346,slow=9.3,SNR=3.6
BOSA Boshof 139.04 287 PKhKP PKPpre 04 15 25.6
comp=Z,6.3nm,1.1s,baz=20,slow=2.7,SNR=3.2
BOSA PKP **PKPdf 04 15 37.2 -0.8**
comp=Z,22nm,0.9s,baz=111,slow=1.0,SNR=7.8
BOSA PP **PP 04 18 33.6 +2.5**
comp=Z,4.1nm,0.7s,baz=31,slow=8.0,SNR=3.4
MAW Mawson 139.38 216 PKhKP PKPpre 04 15 28.2
comp=Z,4.0nm,0.6s,baz=83,slow=3.6,SNR=12
MAW PKP **PKPdf 04 15 37.1 0.0**
comp=Z,4.1nm,0.7s,baz=25,slow=3.5,SNR=5.5
MAW PP **PP 04 18 34.7 +2.2**
comp=Z,7.6nm,0.9s,baz=89,slow=7.6,SNR=3.1
CFAA Coronel Fontan 139.54 78 PKhKP PKPpre 04 15 30.3
comp=Z,2.5nm,0.9s,baz=298,slow=3.3,SNR=6.0
CFAA PKP **PKPdf 04 15 38.1 -0.7**
comp=Z,2.1nm,0.9s,baz=296,slow=2.9,SNR=5.7
BB16B Bebedouro 141.70 46 *i* **PKPdf 04 15 45.5 +2.6**
BB16B *i* 04 18 37.4
BB16B *i* 04 19 18.3
BB16B *i* 04 21 44.0
BB16B *i* 04 23 46.8
BB16B *i* 04 26 35.4
CPUP Villa Florida 141.83 62 PKhKP PKPpre 04 15 36.7
comp=Z,14nm,1.1s,baz=336,slow=3.5,SNR=18
CPUP PKP **PKPdf 04 15 43.0 +0.1**
comp=Z,7.0nm,0.9s,baz=256,slow=3.1,SNR=8.0
SHEL Horse Pasture 141.89 337 PFAKE 04 16 00.0 +17
SHEL LR LR
comp=Z,5µm,20.0s
QSPA South Pole Qui 142.17 180 PKhKP PKPpre 04 15 36.2
comp=Z,54nm,0.7s,baz=348,slow=1.2,SNR=139
QSPA PP PP 04 18 55.2 +5.6
comp=Z,11nm,1.2s,baz=343,slow=8.2,SNR=3.4
QSPA South Pole Qui 142.17 180 *e*PKPpre PKPpre 04 15 36.1
QSPA PP PP 04 18 55.2 +5.6
QSPA LR LR
comp=Z,5µm,19.0s
SUR Sutherland 144.40 288 PKP **PKPdf 04 15 47.9 +0.3**
comp=Z,201nm,1.1s,baz=60,slow=3.2,SNR=12
SUR Sutherland 144.40 288 *e*PKPdf **PKPdf 04 15 47.4 -0.2**
SUR PKP PKPbc 04 15 47.9 +1.8
SUR LR LR
comp=Z,18µm,20.0s
TRQA Tornquist 147.68 80 *e*PKPdf **PKPdf 04 15 53.5 +0.8**
TRQA *e*PKPbc **PKPbc 04 15 56.1 +0.5**
TRQA LR LR
comp=Z,5µm,19.0s
SYO Syowa Base 148.09 216 ||*i*X **PKPdf 04 15 50.0 -2.4**
SYO Syowa Base 148.09 216 ||*i*X **PKPdf 04 15 52.0 -0.4**
USHA Ushuaia 151.67 114 PKPbc **PKPbc 04 16 05.5 +0.7**
comp=Z,94nm,0.7s,baz=263,slow=4.2,SNR=19
PMSA Palmer Station 154.57 136 PKPbc **PKPbc 04 16 11.3 +0.5**
comp=Z,58nm,0.7s,baz=260,slow=1.7,SNR=17
PMSA Palmer Station 154.57 136 *e*PKPbc **PKPbc 04 16 10.9 +0.1**
PMSA *e*PKPab **PKPab 04 16 24.9 -0.8**
PMSA LR LR
comp=Z,6µm,19.0s
EFI East Falkland 156.80 103 PFAKE 04 16 20.0 +14
EFI LR LR
comp=Z,17µm,20.0s
SNAA Sanae 159.22 195 PKPab **PKPab 04 16 45.6 -0.1**
SNAA Sanae 159.22 195 PKPdf **PKPdf 04 16 07.8 -0.4**
SNAA Sanae 159.22 195 *e*PKIKP **PKPdf 04 16 06.9 -1.4**
SNAA *e* 04 16 45.0
SNAA Sanae 159.22 195 *e*PKPdf **PKPdf 04 16 06.9 -1.4**
SNAA *e*PKPab **PKPab 04 16 45.0 -0.7**
VNA1 Neumayer--Stat 160.93 192 PKPab **PKPab 04 16 53.0 -0.1**
TRIS Tristan da Cun 163.70 337 PFAKE 04 16 20.0 +6.1
TRIS LR LR
comp=Z,10µm,19.0s
HOPE Hope Point 170.01 107 PFAKE 04 16 30.0 +12
HOPE LR LR
comp=Z,11µm,21.0s

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*ISCJB **30** 04:00:33.0±0.3,51°54N±0.02×16°11E±0.03,h0km, mb3.1/1, Error ellipse: s-maj=2.6km s-min=2.3km az=170.8*
*IPEC **30** 04:00:34.5±0.3,51°53N×16°28E,h0km,ML2.8/3, Error ellipse: s-maj=2.0km s-min=1.5km az=33.0*
*CSEM **30** 04:00:35.0±0.1,51°49N×16°12E,h2km,ML3.7/10, Error ellipse: s-maj=2.5km s-min=2.2km az=78.0*
*IDC **30** 04:00:36.0±0.8,51°48N×15°61E,h0km,mb3.5/1, mb1 3.6/8,mb1mx3.5/30,mbtmp3.5/8,ML3.4/7,MS4.3/1, Ms1 4.3/1,ms1mx2.5/47, Error ellipse: s-maj=19.6km s-min=7.1km az=86.0*
*UPP **30** 04:00:36.5,51°51N×15°64E,h0km,ML2.7,Suspected Mining explosion.*
*BGR **30** 04:00:37.1±0.4,51°42N×16°10E,h1km,ML3.2/14, Error ellipse: s-maj=6.7km s-min=3.3km az=15.0*
*VIE **30** 04:00:38.7±0.5,51°22N×16°10E,h0km,mb2.8/5,ML3.2/5, Error ellipse: s-maj=3.3km s-min=3.0km az=12.0, Suspected Mining induced.*

ISC 30 04:00:34.2±0.6,51°54N±0°03×16°15E±0°02,h0km,n111, σ1§**02**/170,**9C-9D,Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.70**	**173**	*e*Pg	**Pg**	**04 00 48.5**	**+0.8**
KSP				*e*Sg	**Sg**	**04 00 55.9**	**-0.9**
KSP	**Ksiaz**	**0.70**	**173**	*i* Pg	**Pg**	**04 00 48.4**	**+0.8**
KSP				*e*Sg	**Sg**	**04 00 56.9**	**+0.1**
KSP				*e*		04 01 00.1	
KSP	**Ksiaz**	**0.70**	**173**	Pg	**Pg**	**04 00 48.5**	**+0.8**
KSP				Sg	**Sg**	**04 00 55.9**	**-0.9**
UPC	**Upice**	**1.04**	**185**	*e*PG	**Pg**	**04 00 54.4**	**+0.3**
UPC				*e*SG	**Sg**	**04 01 07.1**	**-0.4**
	comp=Z,206nm,0.4s						
UPC	**Upice**	**1.04**	**185**	Pg	**Pg**	**04 00 54.4**	**+0.3**
UPC				Sg	**Sg**	**04 01 07.1**	**-0.4**
	206nm,0.4s						
DPC	**Dobruska-Polom**	**1.20**	**175**	*e*Pg	**Pg**	**04 00 57.3**	**+0.2**
DPC				*e*Sg	**Sg**	**04 01 11.9**	**-0.7**
DPC	**Dobruska-Polom**	**1.20**	**175**	*e*PG	**Pg**	**04 00 57.1**	**0.0**
DPC				*e*SG	**Sg**	**04 01 11.5**	**-1.1**
	comp=Z,92nm,0.3s						
DPC	**Dobruska-Polom**	**1.20**	**175**	Pg	**Pg**	**04 00 57.3**	**+0.2**
DPC				Sg	**Sg**	**04 01 11.9**	**-0.7**
PVCC	**Panska Ves**	**1.42**	**225**	*e*PG	**Pb**	**04 01 01.6**	**0.0**
PVCC				*e*SG	**Sg**	**04 01 19.6**	**-0.2**
	comp=Z,234nm,0.3s						
PVCC	**Panska Ves**	**1.42**	**225**	Pg	**Pb**	**04 01 01.6**	**0.0**
PVCC				Sg	**Sg**	**04 01 19.6**	**-0.2**
	234nm,0.3s						
KRLC	**Kraliky**	**1.52**	**164**	*e*PG	**Pn**	**04 01 02.8**	**+0.1**
KRLC				*e*SG	**Sg**	**04 01 21.6**	**-1.4**
KRLC	**Kraliky**	**1.52**	**164**	Pg	**Pn**	**04 01 02.8**	**+0.1**
KRLC				Sg	**Sg**	**04 01 21.6**	**-1.4**
BRG	**Berggiesshubel**	**1.54**	**245**	PN	**Pn**	**04 01 02.7**	**-0.2**
BRG				PG	**Pg**	**04 01 04.1**	**+0.4**
BRG				SG	**Sg**	**04 01 24.3**	**+0.7**
	142nm,0.4s						
BRG	**Berggiesshubel**	**1.54**	**245**	*e*Pn	**Pn**	**04 01 02.9**	**0.0**
BRG				*e*Pg	**Pg**	**04 01 04.4**	**+0.7**
BRG				*e*Sg	**Sn**	**04 01 22.4**	**-1.1**
BRG	**Berggiesshubel**	**1.54**	**245**	Pn	**Pn**	**04 01 02.9**	**0.0**
PRA	**Prague**	**1.83**	**217**	*e*PN	**Pn**	**04 01 07.0**	**+0.1**
PRA				*e*PG	**Pb**	**04 01 08.7**	**+0.2**
PRA				*e*SG	**Sb**	**04 01 32.0**	**0.0**
PRA	**Prague**	**1.83**	**217**	Pn	**Pn**	**04 01 07.0**	**+0.1**
GOPC	**GO Pecny, Ondr**	**1.84**	**209**	*e*PN	**Pn**	**04 01 07.0**	**-0.1**
GOPC				*e*PG	**Pb**	**04 01 08.8**	**0.0**
GOPC	**GO Pecny, Ondr**	**1.84**	**209**	Pn	**Pn**	**04 01 07.0**	**-0.1**
PRU	**Pruhonice**	**1.86**	**214**	*e*PN	**Pn**	**04 01 07.2**	**-0.1**
PRU				*e*PG	**Pb**	**04 01 08.9**	**-0.1**
PRU				*e*SG	**Sn**	**04 01 31.8**	**+0.3**
	comp=Z,60nm,0.5s						
PRU	**Pruhonice**	**1.86**	**214**	Pn	**Pn**	**04 01 07.2**	**-0.1**
PRU	**Pruhonice**	**1.86**	**214**	Pg	**Pb**	**04 01 08.9**	**-0.1**
PRU				Sg	**Sn**	**04 01 31.8**	**+0.3**
	60nm,0.5s						

FBE	**Freiberg**	**1.86 252**	*e*Sg	**Sg**	**04 01 33.7**	**-0.3**
FBE	**Freiberg**	**1.86 252**	Sg	**Sg**	**04 01 33.7**	**-0.3**
MORC	**Moravsky Berou**	**1.98 153**	*e*Pn	**Pn**	**04 01 09.0**	**+0.1**
MORC	**Moravsky Berou**	**1.98 153** ⇓	*i*P	**Pn**	**04 01 09.0**	**+0.1**
MORC	**Moravsky Berou**	**1.98 153**	S	**Sn**	**04 01 34.5**	**+0.1**
MORC	**Moravsky Berou**	**1.98 153** ⇓	*i*P	**Pn**	**04 01 09.0**	**+0.1**
MORC			*e*Sg	**Sn**	**04 01 35.3**	**+0.9**
	60nm,0.4s,baz=336					
CLL	**Collm**	**1.98 264**	*e*Pn	**Pn**	**04 01 09.3**	**+0.3**
CLL			*e*Sg	**Sb**	**04 01 37.1**	**+0.8**
CLL	**Collm**	**1.98 264**	Pn	**Pn**	**04 01 09.3**	**+0.3**
CLL			Sg	**Sb**	**04 01 37.2**	**+0.8**
CLL	**Collm**	**1.98 264**	*e*Pn	**Pn**	**04 01 09.0**	**0.0**
CLL			*e*Pg	**Pg**	**04 01 12.0**	**-0.2**
CLL			*e*		04 01 16.0	
CLL			*e*		04 01 27.0	
CLL			*e*Sg	**Sg**	**04 01 38.0**	**+0.1**
	comp=Z,54nm,0.7s					
OKC	**Ostrava-Krasne**	**2.13 143**	*e*Pn	**Pn**	**04 01 11.1**	**+0.2**
OKC			*e*Pg	**Pg**	**04 01 14.9**	**0.0**
OKC			*e*Sg	**Sb**	**04 01 40.8**	**+0.4**
OKC	**Ostrava-Krasne**	**2.13 143**	*e*PN	**Pn**	**04 01 10.0**	**-0.9**
OKC			*e*PG	**Pg**	**04 01 14.5**	**-0.4**
OKC			*e*SG	**Sb**	**04 01 40.2**	**-0.3**
	comp=Z,69nm,0.5s					
OKC	**Ostrava-Krasne**	**2.13 143**	Pn	**Pn**	**04 01 11.1**	**+0.2**
VRAC	**Vranov**	**2.25 173**	Pn	**Pn**	**04 01 13.1**	**+0.4**
	comp=Z,5.4nm,0.3s,baz=334,slow=15,SNR=22					
VRAC			Sn	**Sb**	**04 01 44.8**	**+0.6**
	comp=Z,7.8nm,0.3s,baz=251,slow=18,SNR=10.0					
VRAC	**Vranov**	**2.25 173** ⇓	*i*P	**Pn**	**04 01 14.1**	**+1.4**
VRAC	**Vranov**	**2.25 173**	S	**Sn**	**04 01 42.3**	**+1.1**
VRAC	**Vranov**	**2.25 173**	*e*Pn	**Pn**	**04 01 12.9**	**+0.2**
VRAC	**Vranov**	**2.25 173** ⇓	*i*P	**Pn**	**04 01 14.1**	**+1.4**
VRAC			*e*Sg	**Sb**	**04 01 44.5**	**+0.4**
	comp=Z,44nm,0.4s,baz=355					
TREC	**Trest**	**2.29 191**	*e*PN	**Pn**	**04 01 13.9**	**+0.7**
TREC			*e*PG	**Pb**	**04 01 17.1**	**+0.8**
TREC	**Trest**	**2.29 191**	Pn	**Pn**	**04 01 13.9**	**+0.7**
KRUC	**Moravsky**	**2.49 176**	*e*Pn	**Pn**	**04 01 16.2**	**+0.3**
	baz=358					
KRUC			*e*Sg	**Sb**	**04 01 52.0**	**+1.1**
	comp=Z,66nm,0.7s,baz=358					
TANN	**Tannenbergstha**	**2.59 246**	*e*Pn	**Pn**	**04 01 18.2**	**+0.9**
TANN			*e*Pg	**Pg**	**04 01 23.5**	**-0.2**
TANN	**Tannenbergstha**	**2.59 246**	Pn	**Pn**	**04 01 18.2**	**+0.9**
OJC	**Ojcow**	**2.66 118**	*e*Pn	**Pn**	**04 01 19.3**	**+1.0**
OJC			*e*Sg	**Sg**	**04 02 01.5**	**+1.8**
OJC	**Ojcow**	**2.66 118**	*e*Pn	**Pn**	**04 01 19.1**	**+0.8**
OJC			*e*Pg	**Pg**	**04 01 26.7**	**+1.5**
OJC			*e*Sg	**Sg**	**04 02 01.4**	**+1.8**
OJC	**Ojcow**	**2.66 118**	Pn	**Pn**	**04 01 19.3**	**+1.0**
WERD	**Werda**	**2.66 247**	*e*Pn	**Pb**	**04 01 21.2**	**-1.5**
WERD			*e*Pg	**Pg**	**04 01 27.7**	**+2.5**
KHC	**Kasperske Hory**	**2.92 215**	*e*PN	**Pn**	**04 01 22.6**	**+0.7**
KHC			*e*PG	**Pb**	**04 01 28.2**	**+1.1**
KHC			*e*SG	**Sb**	**04 02 05.1**	**+1.7**
	comp=Z,38nm,0.4s					
KHC	**Kasperske Hory**	**2.92 215**	Pn	**Pn**	**04 01 22.6**	**+0.7**
MOX	**Moxa**	**3.00 254**	*e*Pn	**Pn**	**04 01 22.9**	**0.0**
MOX			*e*Sg	**Sg**	**04 02 10.4**	**+0.1**
MOX	**Moxa**	**3.00 254**	Pn	**Pn**	**04 01 22.9**	**0.0**
MOX			Sg	**Sg**	**04 02 10.4**	**+0.1**
MANZ	**Manzenberg**	**3.00 240**	*e*Pn	**Pn**	**04 01 23.8**	**+0.8**
MANZ			*e*Sg	**Sg**	**04 02 11.6**	**+1.1**
MANZ	**Manzenberg**	**3.00 240**	Pn	**Pn**	**04 01 23.8**	**+0.8**
MANZ			Sg	**Sg**	**04 02 11.6**	**+1.1**
ROTZ	**Rotzenmuhle**	**3.07 236**	*e*Pn	**Pn**	**04 01 24.6**	**+0.6**
ROTZ			*e*Sg	**Sb**	**04 02 09.8**	**+2.1**
ROTZ	**Rotzenmuhle**	**3.07 236**	Pn	**Pn**	**04 01 24.6**	**+0.6**
WET	**Wettzell**	**3.19 222**	*e*Pn	**Pn**	**04 01 26.1**	**+0.5**
WET	**Wettzell**	**3.19 222**	Pn	**Pn**	**04 01 26.1**	**+0.5**
NIE	**Niedzica**	**3.40 127**	*e*P	**Pg**	**04 01 39.6**	**+0.2**
NIE			*e*S	**Sg**	**04 02 23.9**	**+0.4**
VYHS	**Vyhne**	**3.51 149**	*e*Pn	**Pn**	**04 01 30.0**	**+0.1**
VYHS	**Vyhne**	**3.51 149**	*e*PN	**Pn**	**04 01 30.0**	**+0.1**
VYHS			*e*SN	Sn	04 01 59.7	-12
CLZ	**Clausthal**	**3.61 277**	*e*Pn	**Pn**	**04 01 33.1**	**+1.8**
CLZ	**Clausthal**	**3.61 277**	Pn	**Pn**	**04 01 33.1**	**+1.8**
CONA	**Conrad Observa**	**3.62 183**	Pn	**Pn**	**04 01 32.2**	**+0.6**
CONA			Sg	**Sg**	**04 02 27.9**	**-2.6**
	comp=Z,30nm,0.3s					
CONA	**Conrad Observa**	**3.62 183** ⇑	*i*Pn	**Pn**	**04 01 32.2**	**+0.6**
CONA			⇓ *i*Sg	**Sg**	**04 02 27.9**	**-2.6**
	comp=Z,30nm,0.3s					
GRA1	**Grafenberg Arr**	**3.64 241**	Pn	**Pn**	**04 01 32.6**	**+0.8**
GRA1			Sg	**Sg**	**04 02 30.6**	**-0.6**
GRF	**Grafenberg Arr**	**3.64 241**	*e*Pn	**Pn**	**04 01 32.6**	**+0.8**
GRF			*e*Sg	**Sg**	**04 02 30.6**	**-0.6**
BSD	**Bornholm Skovb**	**3.66 349**	*i* P	**Pn**	**04 01 32.8**	**+0.9**
BSD			*i*		04 01 40.2	
BSD			*i* S	**Sn**	**04 02 13.9**	**-1.8**
MOA	**Molln**	**3.89 199**	Pn	**Pn**	**04 01 35.7**	**+0.5**
MOA			Sg	**Sg**	**04 02 37.0**	**-2.2**
	comp=Z,33nm,0.4s					
MOA	**Molln**	**3.89 199** ⇑	*i*Pn	**Pn**	**04 01 35.7**	**+0.5**
MOA			⇑ *i*Sg	**Sg**	**04 02 37.0**	**-2.2**
	comp=Z,33nm,0.4s					
ARSA	**Arzberg**	**4.32 186**	Pn	**Pn**	**04 01 41.3**	**+0.3**
ARSA			Sg	**Sg**	**04 02 50.0**	**-2.7**
	comp=Z,43nm,0.7s					
ARSA	**Arzberg**	**4.32 186** ⇑	*i*Pn	**Pn**	**04 01 41.3**	**+0.3**
ARSA			⇑ *i*Sg	**Sg**	**04 02 50.0**	**-2.7**
	comp=Z,43nm,0.7s					
PSZ	**Piszkesteto**	**4.37 145** ⇓	*i*P	**Pn**	**04 01 42.9**	**+1.1**
PSZ	**Piszkesteto**	**4.37 145** ⇓	*i*P	**Pn**	**04 01 42.9**	**+1.1**
LUNU	**Lund**	**4.40 340**	P	**Pn**	**04 01 42.2**	**0.0**
LUNU			S	**Sn**	**04 02 33.8**	**-0.3**
LUNU	**Lund**	**4.40 340**	P	**Pn**	**04 01 42.2**	**0.0**
LUNU			S	**Sn**	**04 02 33.8**	**-0.3**
KOLS	**Kolonicke sedl**	**4.72 121**	*e*Pn	**Pn**	**04 01 47.5**	**+0.9**
KOLS	**Kolonicke sedl**	**4.72 121**	*e*PN	**Pn**	**04 01 47.5**	**+0.9**
BLEU	**Blekinge**	**4.78 358**	P	**Pn**	**04 01 48.5**	**+1.2**
BLEU	**Blekinge**	**4.78 358**	P	**Pn**	**04 01 48.5**	**+1.2**
DEL	**Delary**	**5.12 346**	P	**Pn**	**04 01 52.5**	**+0.5**
DEL	**Delary**	**5.12 346**	P	**Pn**	**04 01 52.5**	**+0.5**
TRPA	**Tarpa**	**5.36 127** ⇑	*i*P	**Pn**	**04 01 55.0**	**-0.4**
TRPA	**Tarpa**	**5.36 127** ⇑	*i*P	**Pn**	**04 01 55.0**	**-0.4**
VNDS	**Vrh nad Dolski**	**5.53 191**	*i* Pn	**Pn**	**04 01 59.2**	**+1.5**
PKSM	**Moragy**	**5.58 162** ⇑	*i*P	**Pn**	**04 01 59.4**	**+1.0**
PKSM	**Moragy**	**5.58 162** ⇑	*i*P	**Pn**	**04 01 59.4**	**+1.0**
OSKU	**Oskarshamn**	**5.67 360**	P	**Pn**	**04 02 00.9**	**+1.4**
OSKU	**Oskarshamn**	**5.67 360**	P	**Pn**	**04 02 00.9**	**+1.4**
FABU	**Falkenberg**	**5.83 341**	P	**Pn**	**04 02 02.1**	**+0.4**
FABU	**Falkenberg**	**5.83 341**	P	**Pn**	**04 02 02.1**	**+0.4**
ASPU	**Aespoe**	**5.90 2**	P	**Pn**	**04 02 04.4**	**+1.8**
ASPU	**Aespoe**	**5.90 2**	P	**Pn**	**04 02 04.4**	**+1.8**
GNOU	**Gnosjoe**	**5.93 347**	P	**Pn**	**04 02 04.0**	**+0.9**
GNOU	**Gnosjoe**	**5.93 347**	P	**Pn**	**04 02 04.0**	**+0.9**
EKSU	**Eksjoe**	**6.06 356**	P	**Pn**	**04 02 06.3**	**+1.3**
EKSU	**Eksjoe**	**6.06 356**	P	**Pn**	**04 02 06.3**	**+1.3**
VSTU	**Vaestervik**	**6.14 2**	P	**Pn**	**04 02 07.6**	**+1.6**
VSTU	**Vaestervik**	**6.14 2**	P	**Pn**	**04 02 07.5**	**+1.6**
DAVOX	**Davos/Dischmat**	**6.29 223**	Pn	**Pn**	**04 02 08.5**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=29,slow=19,SNR=4.5					
DAVOX			Lg	Lg	04 03 48.4	
	comp=Z,0.3nm,0.3s,baz=180,slow=20,SNR=2.8					
BORU	**Boraas**	**6.41 344**	P	**Pn**	**04 02 10.7**	**+0.9**
BORU	**Boraas**	**6.41 344**	P	**Pn**	**04 02 10.7**	**+0.9**
BURAR	**Bucovina Array**	**7.08 120** ⇓	*i*P	**Pn**	**04 02 19.4**	**+0.3**
BURAR	**Bucovina Array**	**7.08 120** ⇓	*i*P	**Pn**	**04 02 19.4**	**+0.3**
HFS	**Hagfors**	**8.72 352**	Pn	**Pn**	**04 02 41.7**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=164,slow=15,SNR=13					
HFS			Sn	**Sn**	**04 04 18.1**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=177,slow=27,SNR=3.5					
NOA	**NORSAR Array B**	**9.90 346**	Pn	**Pn**	**04 02 56.5**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=162,slow=12,SNR=6.5					
NOA			Sn	Sn	04 04 42.7	-6.8
	comp=Z,0.1nm,0.3s,baz=133,slow=14,SNR=2.4					
FINES	**FINESS Array B**	**11.32 25**	Pn	**Pn**	**04 03 17.6**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=221,slow=12,SNR=12					
FINES			Sn	**Sn**	**04 05 20.4**	**-3.8**
	comp=Z,0.4nm,0.3s,baz=218,slow=20,SNR=6.4					
EKA	**Eskdalemuir Ar**	**12.11 296**	Pn	Pn	04 03 24.9	-3.0
	baz=102,slow=13,SNR=5.7					
KEST	**Kesra**	**16.54 200**	LR	LR	04 09 41.6	
	comp=Z,1μm,21.5s,baz=138,slow=33					
ARCES	**ARCESS Array B**	**18.59 10**	Pn	**P**	**04 04 50.2**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=198,slow=12,SNR=13					
TORD	**Torodi Ar. Bea**	**40.04 202**	P	**P**	**04 08 11.3**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=10,slow=9.1,SNR=3.6					

*ISCJB **30** 04:01:19.3±0.5, 52.˚18N±0.˚04×160.˚42E±0.˚05, h10km, mb4.6/18, Error ellipse: s-maj=6.4km s-min=4.2km az=1.6*
*IDC **30** 04:01:20.4±2.4, 52.˚47N×160.˚38E, h0km, mb4.3/5, mb1 4.4/5, mb1mx3.9/86, mbtmp4.3/5, MS5.6/1, Ms1 5.6/1, ms1mx5.0/55, Error ellipse: s-maj=47.6km s-min=30.4km az=156.0*
*NEIC **30** 04:01:21.5±0.7, 52.˚45N×160.˚38E, h10km, mb4.8/13, Error ellipse: s-maj=19.2km s-min=10.3km az=171.0*
*KRSC **30** 04:01:22.7±1.4, 52.˚32N×160.˚29E, h18km±17km, ML4.1*
*MOS **30** 04:01:24.2±1.4, 52.˚34N×160.˚30E, h48km, mb5.0/8, Error ellipse: s-maj=13.7km s-min=7.0km az=112.1*

ISC 30 04:01:21.2±1.9, 52.˚37N±0.˚06×160.˚37E±0.˚05, h11km±11km, n69, σ1s05/82, mb4.8/18, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.76**	**344**	*e*P		**Pn**	**04 01 38.7**	**+0.9**
SPN				*e*S		**Sn**	**04 01 49.0**	**-0.3**
SPN	**Mys Shipunski**	**0.76**	**344**	PN		**Pn**	**04 01 38.7**	**+0.9**
SPN				S		**Sn**	**04 01 49.0**	**-0.3**
RUS	**Russkaya**	**1.14**	**274**	*e*P		**Pb**	**04 01 41.7**	**-1.2**
RUS				*e*S		**Sb**	**04 01 55.3**	**-2.3**
RUS	**Russkaya**	**1.14**	**274**	PN		**Pb**	**04 01 41.7**	**-1.2**
RUS				S		**Sb**	**04 01 55.3**	**-2.3**
PET	**Petropavlovsk**	**1.23**	**303**	*e*P		**Pb**	**04 01 44.5**	**0.0**
PET				*e*S		**Sb**	**04 01 59.6**	**-0.7**
PET	**Petropavlovsk**	**1.23**	**303**	*e*PN		**Pb**	**04 01 44.4**	**0.0**
PET				*e*S		**Sb**	**04 02 00.1**	**-0.2**
PET				smax		smax		
	comp=N,2μm,0.5s							
UGLR	**Uglovaya**	**1.26**	**312**	*e*P		**Pg**	**04 01 45.7**	**+0.3**
SDLR	**Sedlovina**	**1.28**	**316**	*e*P		**Pg**	**04 01 46.6**	**+0.8**
SDLR	**Sedlovina**	**1.28**	**316**	PN		**Pg**	**04 01 46.6**	**+0.8**
SMAR	**Somma**	**1.30**	**314**	*e*P		**Pg**	**04 01 46.5**	**+0.2**
SMAR	**Somma**	**1.30**	**314**	PN		**Pg**	**04 01 46.5**	**+0.2**
AVH	**Avacha**	**1.33**	**313**	*e*P		**Pg**	**04 01 47.6**	**+0.7**
AVH	**Avacha**	**1.33**	**313**	PN		**Pg**	**04 01 47.6**	**+0.7**
MTVR	**Mutnovka**	**1.34**	**276**	*e*P		**Pn**	**04 01 46.0**	**0.0**
MTVR				*e*S		**Sb**	**04 02 02.7**	**-1.0**
KRER	**Koryakskii**	**1.36**	**314**	*e*P		**Pg**	**04 01 47.5**	**+0.2**
KOK	**Koryaka**	**1.40**	**312**	*e*P		**Pg**	**04 01 48.3**	**+0.2**
KOK	**Koryaka**	**1.40**	**312**	PN		**Pg**	**04 01 48.3**	**+0.2**
GRL	**Gorelyy**	**1.42**	**278**	*e*P		**Pb**	**04 01 48.0**	**+0.3**
GRL				*e*S		**Sb**	**04 02 06.0**	**+0.2**
GRL	**Gorelyy**	**1.42**	**278**	PN		**Pb**	**04 01 48.0**	**+0.3**
GRL				S		**Sb**	**04 02 06.0**	**+0.2**
KRX	**Arik**	**1.44**	**314**	*e*P		**Pb**	**04 01 48.6**	**+0.5**
ASAK	**Asacha**	**1.51**	**271**	*e*P		**Pn**	**04 01 48.2**	**-0.1**
ASAK				*e*S		**Sn**	**04 02 06.7**	**-1.3**
PETK	**Petropavlovsk-**	**1.78**	**296**	Pn		**Pn**	**04 01 52.9**	**+1.0**
	comp=N,86nm,0.3s,baz=108,slow=19,SNR=21							
PETK				Sn		**Sb**	**04 02 16.3**	**+0.1**
	comp=N,46nm,0.3s,baz=94,slow=16,SNR=4.5							
GNL	**Ganaly**	**1.98**	**313**	*e*P		**Pb**	**04 01 56.7**	**-0.5**
GNL				*e*S		**Sb**	**04 02 21.3**	**-0.6**
GNL	**Ganaly**	**1.98**	**313**	PN		**Pb**	**04 01 56.7**	**-0.5**
GNL				S		**Sb**	**04 02 21.3**	**-0.6**
APC	**Apacha**	**2.03**	**287**	*e*P		**Pb**	**04 01 57.9**	**-0.2**
APC				*e*S		**Sb**	**04 02 23.4**	**0.0**
APC	**Apacha**	**2.03**	**287**	PN		**Pb**	**04 01 57.9**	**-0.2**
APC				S		**Sb**	**04 02 23.4**	**0.0**
MIPR	**Malaya Ipel'ka**	**2.22**	**269**	*e*P		**Pb**	**04 02 00.3**	**-1.0**
MKZ	**Mys Kozlova**	**2.34**	**20**	*e*P		**Pb**	**04 02 02.6**	**-0.7**
MKZ	**Mys Kozlova**	**2.34**	**20**	PN		**Pb**	**04 02 02.6**	**-0.7**
KZV	**Kizimen**	**2.75**	**359**	*e*P		**Pb**	**04 02 09.4**	**-1.0**
KZV				*e*S		**Sb**	**04 02 42.6**	**-1.5**
TUMR	**Tumrok**	**2.92**	**358**	*e*P		**Pb**	**04 02 12.2**	**-1.1**
TUMR	**Tumrok**	**2.92**	**358**	PN		**Pb**	**04 02 12.2**	**-1.1**
KBTR	**Krutoberegovo**	**4.11**	**20**	*e*P		Pn	04 02 27.7	+3.9
KBTR	**Krutoberegovo**	**4.11**	**20**	PN		Pn	04 02 27.7	+3.9
YAK	**Yakutsk**	**19.04**	**312**	*e*P		**P**	**04 05 41.9**	**-1.1**
YAK				pmax		pmax		
	comp=Z,39nm,0.6s							
YAK	**Yakutsk**	**19.04**	**312**	*e*P		**P**	**04 05 41.9**	**-1.1**
	comp=Z,39nm,0.6s							
COLD	**Coldfoot**	**28.01**	**39**	*e*P		**P**	**04 07 12.3**	**+0.7**
	comp=Z,27nm,1.2s							
COLA	**College**	**28.80**	**44**	*e*P		**P**	**04 07 16.7**	**-2.0**
COLA				pmax		pmax		
	comp=Z,32nm,1.3s							
COLA	**College**	**28.80**	**44**	*e*P		**P**	**04 07 16.7**	**-2.0**
	comp=Z,32nm,1.3s							
ULN	**Ulaanbaatar**	**33.83**	**284**	*e*P		**P**	**04 08 02.5**	**-0.9**
ULN				pmax		pmax		
	comp=Z,26nm,1.3s							
ULN	**Ulaanbaatar**	**33.83**	**284**	*e*P		**P**	**04 08 02.5**	**-0.9**
	comp=Z,26nm,1.3s							
SONM	**Songino Array**	**34.23**	**284**	P		**P**	**04 08 05.9**	**-0.9**
	comp=Z,2.1nm,1.0s,baz=59,slow=8.7,SNR=3.2							
SONM	**Songino Array**	**34.23**	**284**	P		**P**	**04 08 05.9**	**-0.9**
SONM				pmax		pmax		
	comp=Z,2.0nm,1.0s							
SPITS	**Spitsbergen Ar**	**47.88**	**351**	P		**P**	**04 09 59.2**	**+0.7**
	comp=Z,3.0nm,0.5s,baz=58,slow=4.1,SNR=9.3							
KURK	**Kurchatov**	**48.26**	**303**	P		**P**	**04 10 00.3**	**-1.5**
KURK	**Kurchatov**	**48.26**	**303**	P		**P**	**04 10 00.3**	**-1.5**
KURBB	**Kurchatov Arra**	**48.36**	**302**	P		**P**	**04 10 00.3**	**-2.3**
	comp=Z,1.8nm,0.6s,baz=68,slow=8.1,SNR=2.6							
BRVK	**Borovoye**	**51.00**	**309**	*e*P		**P**	**04 10 24.9**	**+2.3**
BRVK				pmax		pmax		
	comp=Z,14nm,0.9s							
BRVK	**Borovoye**	**51.00**	**309**	*e*P		**P**	**04 10 24.9**	**+2.3**
	comp=Z,14nm,0.9s							
SLVN	**Son La**	**53.02**	**257**	*e*P		**P**	**04 10 37.9**	**-0.3**
	comp=Z,6.2nm,0.8s							
FFC	**Flin Flon**	**53.41**	**46**	*e*P		**P**	**04 10 41.1**	**+0.6**
FFC				pmax		pmax		
	comp=Z,20nm,1.4s							
FFC	**Flin Flon**	**53.41**	**46**	*e*P		**P**	**04 10 41.1**	**+0.6**
	comp=Z,20nm,1.4s							
FCC	**Fort Churchill**	**53.94**	**38**	*e*P		**P**	**04 10 44.4**	**+0.1**
FCC	**Fort Churchill**	**53.94**	**38**	*e*P		**P**	**04 10 44.4**	**+0.1**
ARCES	**ARCESS Array B**	**54.03**	**342**	P		**P**	**04 10 44.7**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=19,slow=5.7,SNR=2.6							
ARU	**Arti**	**54.04**	**318**	*e*P		**P**	**04 10 44.0**	**-1.1**
ARU				pmax		pmax		
	comp=Z,8.0nm,0.6s							
ARU	**Arti**	**54.04**	**318**	*e*P		**P**	**04 10 44.0**	**-1.1**
	comp=Z,8.0nm,0.6s							
AAK	**Ala-Archa**	**55.55**	**297**	*e*P		**P**	**04 10 57.8**	**+1.3**
AAK				pmax		pmax		
	comp=Z,8.0nm,0.7s							
AAK	**Ala-Archa**	**55.55**	**297**	*e*P		**P**	**04 10 57.8**	**+1.3**
	comp=Z,7.9nm,0.7s							
EKS2	**Erkin-Say**	**55.92**	**297**	*e*P		**P**	**04 11 00.9**	**+1.8**
EKS2				pmax		pmax		
	comp=Z,4.0nm,0.6s							
EKS2	**Erkin-Say**	**55.92**	**297**	*e*P		**P**	**04 11 00.9**	**+1.8**
	comp=Z,3.9nm,0.6s							
MOOW	**Moose Ponds**	**56.43**	**60**	*e*P		**P**	**04 11 03.4**	**+0.6**
	comp=Z,9.4nm,1.4s							
HWUT	**Hardware Ranch**	**57.45**	**63**	*e*P		**P**	**04 11 09.8**	**-0.2**
	comp=Z,11nm,1.1s							
CMAR	**Chiang Mai Arr**	**58.20**	**259**	P		**P**	**04 11 17.2**	**+1.9**
	comp=Z,0.9nm,0.3s,baz=16,slow=5.0,SNR=5.1							
ABKAR	**Akbulak array**	**58.39**	**311**	*e*P		**P**	**04 11 15.9**	**-0.4**
SIJI	**Sorong**	**58.41**	**215**	LR		LR	04 32 49.3	
	comp=Z,5μm,21.8s,slow=32							
FINES	**FINESS Array B**	**60.85**	**337**	P		**P**	**04 11 33.1**	**+0.1**
	comp=Z,3.9nm,0.6s,baz=35,slow=7.0,SNR=4.1							
CTAO	**Charters Tower**	**73.19**	**194**	*e*P		**P**	**04 12 52.8**	**+0.9**
CTAO				pmax		pmax		
	comp=Z,14nm,1.4s							
CTAO	**Charters Tower**	**73.19**	**194**	*e*P		**P**	**04 12 52.8**	**+0.9**
	comp=Z,14nm,1.4s							

*KRSC **30** 04:02:17.7±1.6, 52.˚25N×160.˚24E, h21km±7km, ML4.5*
*NEIC **30** 04:02:18.3±0.5, 52.˚46N×160.˚09E, h10km, mb4.6/8, Error ellipse: s-maj=16.0km s-min=8.6km az=164.0*
*ISCJB **30** 04:02:20.6±0.8, 52.˚29N±0.˚04×160.˚19E±0.˚07, h45km±7km, mb4.3/19, Error ellipse: s-maj=8.3km s-min=5.0km az=135.6*
*MOS **30** 04:02:21.5±1.2, 52.˚40N×160.˚11E, h50km, mb4.8/7, Error ellipse: s-maj=12.4km s-min=7.4km az=99.5*
*IDC **30** 04:02:26.0±2.4, 52.˚45N×159.˚91E, h74km±20km, mb3.9/11, mb1 4.1/11, mb1mx3.8/29, mbtmp4.2/11, Error ellipse: s-maj=25.7km s-min=17.1km az=159.0*

ISC 30 04:02:20.4±1.6, 52.˚32N±0.˚05×160.˚08E±0.˚05, h28km±10km, n66, σ1s31/85, mb4.4/19, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.78**	**357**	*e*P		**Pb**	**04 02 34.4**	**-1.0**
SPN				*e*S		**Sb**	**04 02 45.5**	**-0.2**
SPN	**Mys Shipunski**	**0.78**	**357**	PN		**Pb**	**04 02 34.4**	**-1.0**
SPN				S		**Sb**	**04 02 45.5**	**-0.2**
RUS	**Russkaya**	**0.97**	**277**	*e*S		**Sn**	**04 02 50.3**	**-0.6**
PET	**Petropavlovsk**	**1.12**	**310**	*e*PN		**Pn**	**04 02 40.5**	**+0.3**
PET				*e*S		**Sn**	**04 02 55.6**	**+1.0**
PET				smax		smax		
	comp=N,8μm,0.8s							
MTVR	**Mutnovka**	**1.17**	**279**	*e*P		**Pn**	**04 02 41.0**	**-0.1**
MTVR				*e*S		**Sn**	**04 02 56.7**	**+0.5**
UGLR	**Uglovaya**	**1.18**	**320**	*e*P		**Pn**	**04 02 41.5**	**+0.4**
UGLR				*e*S		**Sb**	**04 02 58.3**	**+1.3**
SDLR	**Sedlovina**	**1.21**	**323**	*e*P		**Pn**	**04 02 41.8**	**+0.3**
SDLR				*e*S		**Sb**	**04 02 58.6**	**+0.7**
SDLR	**Sedlovina**	**1.21**	**323**	PN		**Pn**	**04 02 41.8**	**+0.3**
SDLR				S		**Sb**	**04 02 58.6**	**+0.7**
AVH	**Avacha**	**1.25**	**320**	*e*P		**Pn**	**04 02 42.6**	**+0.5**
AVH				*e*S		**Sb**	**04 02 59.8**	**+0.7**
AVH	**Avacha**	**1.25**	**320**	PN		**Pn**	**04 02 42.6**	**+0.5**
AVH				S		**Sb**	**04 02 59.8**	**+0.7**
KRER	**Koryakskii**	**1.28**	**321**	*e*P		**Pn**	**04 02 43.2**	**+0.7**
KRER				*e*S		**Sb**	**04 03 00.6**	**+0.6**
KOK	**Koryaka**	**1.31**	**319**	*e*P		**Pn**	**04 02 43.4**	**+0.5**
KOK				*e*S		**Sb**	**04 03 01.4**	**+0.5**
KOK	**Koryaka**	**1.31**	**319**	PN		**Pn**	**04 02 43.4**	**+0.5**
KOK				S		**Sb**	**04 03 01.4**	**+0.5**
ASAK	**Asacha**	**1.34**	**274**	*e*P		**Pn**	**04 02 44.3**	**+1.0**
ASAK				*e*S		**Sb**	**04 03 02.4**	**+0.8**
KRX	**Arik**	**1.36**	**321**	*e*P		**Pn**	**04 02 44.0**	**+0.4**
KRX				*e*S		**Sn**	**04 03 02.0**	**+1.3**
PETK	**Petropavlovsk-**	**1.65**	**300**	P		**Pn**	**04 02 48.9**	**+1.3**
	comp=N,73nm,0.3s,baz=109,slow=20,SNR=9.3							
PETK				S		**Sb**	**04 03 10.6**	**+0.1**
	comp=N,98nm,0.3s,baz=94,slow=20,SNR=4.1							
APC	**Apacha**	**1.88**	**290**	*e*P		**Pb**	**04 02 53.0**	**-1.0**
APC				*e*S		**Sb**	**04 03 18.0**	**+0.9**
APC	**Apacha**	**1.88**	**290**	PN		**Pb**	**04 02 53.0**	**-1.0**
APC				S		**Sb**	**04 03 18.0**	**+0.9**
GNL	**Ganaly**	**1.89**	**318**	*e*P		**Pn**	**04 02 52.9**	**+2.0**
GNL				*e*S		**Sb**	**04 03 18.0**	**+0.5**
GNL	**Ganaly**	**1.89**	**318**	PN		**Pn**	**04 02 52.9**	**+2.0

SMAR	**Somma**	**1.30**	**317**	*eP*	**Pn**	**04 05 27.6**	**0.0**
SMAR	**Somma**	**1.30**	**317**	PN	**Pn**	**04 05 27.6**	**0.0**
AVH	**Avacha**	**1.32**	**316**	*eP*	**Pb**	**04 05 28.1**	**0.0**
AVH				*eS*	**Sn**	**04 05 45.7**	**0.0**
AVH	**Avacha**	**1.32**	**316**	PN	**Pb**	**04 05 28.1**	**0.0**
AVH				S	**Sn**	**04 05 45.7**	**0.0**
KRER	**Koryakskii**	**1.35**	**317**	*eP*	**Pb**	**04 05 28.6**	**0.0**
KRER				*eS*	**Sn**	**04 05 46.3**	**-0.2**
GRL	**Gorelyy**	**1.37**	**280**	*eP*	**Pb**	**04 05 29.1**	**+0.2**
GRL	**Gorelyy**	**1.37**	**280**	PN	**Pb**	**04 05 29.1**	**+0.2**
KOK	**Koryaka**	**1.39**	**315**	*eP*	**Pn**	**04 05 28.8**	**+0.1**
KOK				*eS*	**Sn**	**04 05 47.2**	**-0.1**
KOK	**Koryaka**	**1.39**	**315**	PN	**Pn**	**04 05 28.8**	**+0.1**
KOK				S	**Sn**	**04 05 47.2**	**-0.1**
KRX	**Arik**	**1.43**	**317**	*eP*	**Pn**	**04 05 29.5**	**+0.2**
KRX				*eS*	**Sn**	**04 05 47.7**	**-0.7**
ASAK	**Asacha**	**1.46**	**273**	*eP*	**Pn**	**04 05 30.0**	**+0.3**
ASAK				*eS*	**Sn**	**04 05 49.1**	**0.0**
GNL	**Ganaly**	**1.97**	**315**	*eP*	**Pb**	**04 05 38.9**	**-0.2**
GNL				*eS*	**Sb**	**04 06 04.2**	**+0.4**
GNL	**Ganaly**	**1.97**	**315**	PN	**Pb**	**04 05 38.9**	**-0.2**
GNL				S	**Sb**	**04 06 04.2**	**+0.4**
APC	**Apacha**	**2.00**	**289**	*eP*	**Pb**	**04 05 38.9**	**-0.6**
APC				*eS*	**Sb**	**04 06 04.1**	**-0.3**
APC	**Apacha**	**2.00**	**289**	PN	**Pb**	**04 05 38.9**	**-0.6**
APC				S	**Sb**	**04 06 04.1**	**-0.3**
MIPR	**Malaya Ipel'ka**	**2.16**	**270**	*eP*	**Pb**	**04 05 41.5**	**-0.9**
PAU	**Pauzhetka**	**2.32**	**249**	*eP*	**Pn**	**04 05 43.3**	**+1.9**
PAU	**Pauzhetka**	**2.32**	**249**	PN	**Pn**	**04 05 43.3**	**+1.9**
MKZ	**Mys Kozlova**	**2.39**	**21**	*eP*	**Pb**	**04 05 43.8**	**-2.4**
MKZ	**Mys Kozlova**	**2.39**	**21**	PN	**Pb**	**04 05 43.8**	**-2.4**
KZV	**Kizimen**	**2.79**	**0**	*eP*	**Pn**	**04 05 49.5**	**+1.5**
TUMR	**Tumrok**	**2.96**	**358**	*eP*	**Pn**	**04 05 52.1**	**+1.8**
TUMR	**Tumrok**	**2.96**	**358**	PN	**Pn**	**04 05 52.1**	**+1.8**
ESO	**Esso**	**3.72**	**346**	*eP*	Pn	04 06 03.4	+2.7
ESO	**Esso**	**3.72**	**346**	PN	Pn	04 06 03.4	+2.7
KBTR	**Krutoberegovo**	**4.16**	**20**	*eP*	**Pn**	**04 06 08.3**	**+1.6**
KBTR	**Krutoberegovo**	**4.16**	**20**	PN	**Pn**	**04 06 08.3**	**+1.6**

KRSC 30 04:06:11.9±1.2, 52°.36N×160°.13E, h15km±6km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.74**	**355**	*eP*	Pg	04 06 26.1	-0.3
SPN				*eS*	Sg	04 06 35.0	-1.2
RUS	**Russkaya**	**0.99**	**275**	*eP*	Pb	04 06 30.0	-0.7
PET	**Petropavlovsk**	**1.12**	**307**	*eP*	Pb	04 06 32.3	-0.6
PET				*eS*	Sb	04 06 47.1	-0.1
UGLR	**Uglovaya**	**1.16**	**318**	*eP*	Pn	04 06 33.6	-0.1
SDLR	**Sedlovina**	**1.19**	**321**	*eP*	Pn	04 06 34.0	-0.1
MTVR	**Mutnovka**	**1.20**	**277**	*eP*	Pn	04 06 33.6	-0.6
MTVR				*eS*	Sn	04 06 50.2	-0.1
AVH	**Avacha**	**1.24**	**318**	*eP*	Pn	04 06 34.8	+0.1
KRER	**Koryakskii**	**1.26**	**319**	*eP*	Pn	04 06 35.0	-0.2
KRX	**Arik**	**1.34**	**319**	*eP*	Pb	04 06 36.8	-0.1
ASAK	**Asacha**	**1.37**	**272**	*eP*	Pn	04 06 36.0	-0.5
ASAK				*eS*	Sn	04 06 53.5	-0.9
GNL	**Ganaly**	**1.88**	**316**	*eP*	Pn	04 06 44.3	+0.7
APC	**Apacha**	**1.90**	**289**	*eP*	Pb	04 06 45.1	-1.0
APC				*eS*	Sb	04 07 09.3	-0.3
MIPR	**Malaya Ipel'ka**	**2.07**	**269**	*eP*	Pb	04 06 47.7	-1.4

KRSC 30 04:06:54.5±1.1, 52°.38N×160°.12E, h6km±5km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.72**	**356**	*eP*	Pb	04 07 09.4	-0.1
SPN				*eS*	Sb	04 07 20.2	+0.5
RUS	**Russkaya**	**0.98**	**274**	*eP*	Pg	04 07 13.0	-0.4
RUS				*eS*	Sb	04 07 26.7	-0.4
PET	**Petropavlovsk**	**1.10**	**307**	*eS*	Sg	04 07 29.9	0.0
MTVR	**Mutnovka**	**1.19**	**276**	*eP*	Pg	04 07 17.2	-0.3
MTVR				*eS*	Sb	04 07 33.7	+0.3
GNL	**Ganaly**	**1.86**	**316**	*eP*	Pn	04 07 27.9	+0.8
APC	**Apacha**	**1.88**	**288**	*eS*	Sb	04 07 53.6	+0.6

KRSC 30 04:08:46.8±1.6, 52°.39N×160°.06E, h6km±21km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.71**	**358**	*eP*	Pb	04 09 01.5	-0.2
SPN				*eS*	Sb	04 09 11.6	-0.1
RUS	**Russkaya**	**0.95**	**273**	*eP*	Pg	04 09 05.0	-0.1
RUS				*eS*	Sn	04 09 19.7	-0.8
PET	**Petropavlovsk**	**1.07**	**307**	*eP*	Pg	04 09 05.3	-2.1
UGLR	**Uglovaya**	**1.12**	**318**	*eP*	Pg	04 09 07.0	-0.5
SDLR	**Sedlovina**	**1.15**	**322**	*eP*	Pg	04 09 08.6	-0.4
MTVR	**Mutnovka**	**1.16**	**276**	*eP*	Pg	04 09 08.3	-0.9
MTVR				*eS*	Sn	04 09 25.7	-0.2
SMAR	**Somma**	**1.17**	**319**	*eP*	Pg	04 09 08.7	-0.8
AVH	**Avacha**	**1.19**	**318**	*eP*	Pb	04 09 09.9	0.0
KRER	**Koryakskii**	**1.22**	**320**	*eP*	Pg	04 09 09.7	-0.8
KOK	**Koryaka**	**1.25**	**317**	*eP*	Pg	04 09 11.2	+0.1
ASAK	**Asacha**	**1.33**	**271**	*eP*	Pn	04 09 10.7	-1.3
ASAK				*eS*	Sn	04 09 29.9	-0.1
GNL	**Ganaly**	**1.83**	**316**	*eP*	Pn	04 09 19.5	+0.5
GNL				*eS*	Sn	04 09 42.8	+0.2
APC	**Apacha**	**1.85**	**288**	*eP*	Pb	04 09 20.7	-0.3
APC				*eS*	Sb	04 09 43.7	-0.7
TUMR	**Tumrok**	**2.90**	**1**	*eP*	Pn	04 09 36.1	+2.4

*KRSC **30** 04:10:06.6±1.4, 52°.31N×160°.34E, h15km±7km, ML4.1*
*IDC **30** 04:10:09.1±2.1, 52°.88N×160°.19E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.5/40, mbtmp3.9/4, Error ellipse: s-maj=49.1km s-min=22.4km az=0.0*
*MOS **30** 04:10:10.0±0.9, 52°.36N×160°.14E, h30km, mb4.3/2, Error ellipse: s-maj=13.7km s-min=7.2km az=102.7*
*NEIC **30** 04:10:11.7±1.3, 53°.01N×160°.11E, h10km, mb4.0/3, Error ellipse: s-maj=40.5km s-min=10.3km az=173.0*

ISC 30 04:10:12.6±1.1, 52°.39N±0°.06×160°.10E±0°.04, h38km±3km, n49,σ1°.79/76, mb4.1/7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.72**	**356**	*eP*	Pn	04 10 22.4	-3.8
SPN				*eS*	**Sn**	**04 10 33.3**	**-2.6**
SPN	**Mys Shipunski**	**0.72**	**356**	PN	Pn	04 10 22.4	-3.8
SPN				S	**Sn**	**04 10 33.3**	**-2.6**
RUS	**Russkaya**	**0.97**	**273**	*eP*	**Pn**	**04 10 26.7**	**-2.9**
RUS				*eS*	**Sn**	**04 10 41.3**	**-0.9**
RUS	**Russkaya**	**0.97**	**273**	PN	**Pn**	**04 10 26.7**	**-2.9**
RUS				S	**Sn**	**04 10 41.3**	**-0.9**
PET	**Petropavlovsk**	**1.09**	**307**	*eP*	**Pn**	**04 10 28.9**	**-2.3**
PET				*eS*	**Sn**	**04 10 45.8**	**+0.8**
PET	**Petropavlovsk**	**1.09**	**307**	*ePN*	**Pn**	**04 10 29.8**	**-1.4**
PET				*eS*	**Sn**	**04 10 45.9**	**+0.9**
PET	comp=N,981nm,0.5s			smax	smax		
PET	comp=E,822nm,0.5s			smax	smax		
PET	**Petropavlovsk**	**1.09**	**307**	*ePg*	**Pn**	**04 10 29.1**	**-2.1**
PET				*eSg*	**Sn**	**04 10 42.1**	**-2.9**
UGLR	**Uglovaya**	**1.13**	**317**	*eP*	**Pn**	**04 10 30.3**	**-1.7**
UGLR				*eS*	**Sn**	**04 10 47.5**	**+1.2**
SDLR	**Sedlovina**	**1.16**	**321**	*eP*	**Pn**	**04 10 30.9**	**-1.4**
SDLR				*eS*	**Sn**	**04 10 48.3**	**+1.3**
SDLR	**Sedlovina**	**1.16**	**321**	PN	**Pn**	**04 10 30.9**	**-1.4**
SDLR				S	**Sn**	**04 10 48.3**	**+1.3**
MTVR	**Mutnovka**	**1.18**	**276**	*eP*	**Pn**	**04 10 30.3**	**-2.3**
MTVR				*eS*	**Sn**	**04 10 47.5**	**+0.1**
SMAR	**Somma**	**1.18**	**319**	*eP*	**Pn**	**04 10 30.7**	**-2.0**
SMAR	**Somma**	**1.18**	**319**	PN	**Pn**	**04 10 30.7**	**-2.0**
AVH	**Avacha**	**1.21**	**317**	*eP*	**Pn**	**04 10 31.5**	**-1.5**
AVH				*eS*	**Sn**	**04 10 48.7**	**+0.6**
AVH	**Avacha**	**1.21**	**317**	PN	**Pn**	**04 10 31.5**	**-1.5**
AVH				S	**Sn**	**04 10 48.7**	**+0.6**
KRER	**Koryakskii**	**1.23**	**319**	*eP*	**Pn**	**04 10 31.4**	**-2.0**
KRER				*eS*	**Sn**	**04 10 48.8**	**-0.1**
GRL	**Gorelyy**	**1.25**	**279**	*eS*	**Sn**	**04 10 50.4**	**+1.2**
KOK	**Koryaka**	**1.27**	**316**	*eP*	**Pn**	**04 10 32.1**	**-1.7**
KOK				*eS*	**Sn**	**04 10 50.2**	**+0.5**
KOK	**Koryaka**	**1.27**	**316**	PN	**Pn**	**04 10 32.1**	**-1.7**
KOK				S	**Sn**	**04 10 50.2**	**+0.5**

ASAK	**Asacha**	**1.35**	**271**	*eP*	**Pn**	**04 10 33.2**	**-1.7**
ASAK				*eS*	**Sn**	**04 10 51.1**	**-0.5**
PETK	**Petropavlovsk-**	**1.63**	**297**	Pn	**Pn**	**04 10 37.6**	**-1.1**
	comp=E,20nm,0.3s,baz=113,slow=20,SNR=9.7						
PETK				Sn	**Sn**	**04 10 59.9**	**+1.5**
	comp=E,36nm,0.3s,baz=95,slow=31,SNR=12						
GNL	**Ganaly**	**1.85**	**316**	*eP*	**Pn**	**04 10 42.2**	**+0.4**
GNL				*eS*	**Sn**	**04 11 07.2**	**+3.2**
GNL	**Ganaly**	**1.85**	**316**	PN	**Pn**	**04 10 42.2**	**+0.4**
GNL				S	**Sn**	**04 11 07.2**	**+3.2**
APC	**Apacha**	**1.87**	**288**	*eP*	**Pn**	**04 10 41.9**	**-0.1**
APC				*eS*	**Sn**	**04 11 07.3**	**+3.0**
APC	**Apacha**	**1.87**	**288**	PN	**Pn**	**04 10 41.9**	**-0.1**
APC				S	**Sn**	**04 11 07.3**	**+3.0**
MIPR	**Malaya Ipel'ka**	**2.05**	**268**	*eP*	**Pn**	**04 10 44.3**	**-0.2**
MIPR				*eS*	**Sn**	**04 11 12.8**	**+4.0**
PAU	**Pauzhetka**	**2.23**	**247**	*eP*	**Pn**	**04 10 46.5**	**-0.5**
PAU	**Pauzhetka**	**2.23**	**247**	PN	**Pn**	**04 10 46.5**	**-0.5**
MKZ	**Mys Kozlova**	**2.38**	**24**	*eP*	**Pn**	**04 10 48.6**	**-0.4**
MKZ				*eS*	**Sn**	**04 11 17.7**	**+0.8**
MKZ	**Mys Kozlova**	**2.38**	**24**	PN	**Pn**	**04 10 48.6**	**-0.4**
MKZ				S	**Sn**	**04 11 17.7**	**+0.8**
KZV	**Kizimen**	**2.74**	**2**	*eP*	**Pn**	**04 10 53.7**	**-0.3**
KZV				*eS*	**Sn**	**04 11 27.3**	**+1.4**
TUMR	**Tumrok**	**2.90**	**1**	*eP*	**Pn**	**04 10 55.8**	**-0.5**
TUMR	**Tumrok**	**2.90**	**1**	PN	**Pn**	**04 10 55.8**	**-0.5**
SKR	**Severo-Kuril's**	**3.01**	**237**	*eP*	**Pn**	**04 10 58.8**	**+1.1**
ESO	**Esso**	**3.64**	**348**	*eP*	**Pn**	**04 11 07.4**	**+1.1**
ESO	**Esso**	**3.64**	**348**	PN	**Pn**	**04 11 07.4**	**+1.1**
KBTR	**Krutoberegovo**	**4.15**	**22**	*eP*	**Pn**	**04 11 14.4**	**+1.1**
KBTR				*eS*	**Sn**	**04 12 04.0**	**+3.5**
KBTR	**Krutoberegovo**	**4.15**	**22**	PN	**Pn**	**04 11 14.4**	**+1.1**
KBTR				S	**Sn**	**04 12 04.0**	**+3.5**
BKI	**Bering**	**4.48**	**49**	*eP*	**Pn**	**04 11 17.2**	**-0.6**
BKI				*eS*	**Sn**	**04 12 04.8**	**-3.8**
BKI	**Bering**	**4.48**	**49**	PN	**Pn**	**04 11 17.2**	**-0.6**
SML	**Sawmill**	**28.80**	**51**	*eP*	**P**	**04 16 05.6**	**-1.0**
SML				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SML	**Sawmill**	**28.80**	**51**	*eP*	**P**	**04 16 05.5**	**-1.0**
	comp=Z,1.4nm,1.0s						
SPITS	**Spitsbergen Ar**	**47.84**	**351**	P	**P**	**04 18 45.6**	**-0.1**
	comp=Z,3.0nm,0.6s,baz=35,slow=3.5,SNR=9.1						
ARCES	**ARCESS Array B**	**53.96**	**342**	P	**P**	**04 19 30.4**	**-1.4**
	comp=Z,1.6nm,0.8s,baz=32,slow=8.0,SNR=6.4						
DUG	**Dugway**	**57.87**	**65**	*eP*	**P**	**04 20 02.5**	**+2.1**
DUG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
DUG	**Dugway**	**57.87**	**65**	*eP*	**P**	**04 20 02.5**	**+2.1**
	comp=Z,3.3nm,1.0s						
FINES	**FINESS Array B**	**60.77**	**337**	P	**P**	**04 20 17.4**	**-2.4**
	comp=Z,0.8nm,0.5s,baz=44,slow=8.5,SNR=5.8						
SDCO	**Great Sand Dun**	**63.62**	**62**	*eP*	**P**	**04 20 41.4**	**+1.7**
	comp=Z,0.4nm,0.4s						
TXAR	**Lajitas Array**	**70.91**	**67**	P	**P**	**04 21 26.8**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=290,slow=5.8,SNR=6.9						

KRSC 30 04:10:40.2±0.9, 52°.32N×160°.21E, h14km±5km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.79**	**352**	*eS*	Sb	04 11 06.2	+0.1
RUS	**Russkaya**	**1.05**	**277**	*eP*	Pb	04 10 59.3	-0.7
RUS				*eS*	Sb	04 11 13.4	-0.2
PET	**Petropavlovsk**	**1.18**	**307**	*eS*	Sb	04 11 17.2	-0.2
MTVR	**Mutnovka**	**1.25**	**278**	*eP*	Pn	04 11 03.2	-0.2
MTVR				*eS*	Sb	04 11 19.6	-0.3
ASAK	**Asacha**	**1.42**	**273**	*eS*	Sn	04 11 23.3	-0.8
APC	**Apacha**	**1.96**	**289**	*eS*	Sb	04 11 39.7	0.0

KRSC 30 04:14:48.9±1.5, 52°.19N×160°.34E, h21km±13km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.93**	**348**	*eP*	Pb	04 15 05.2	-1.2
SPN				*eS*	Sn	04 15 19.4	-0.1
RUS	**Russkaya**	**1.15**	**283**	*eP*	Pn	04 15 09.6	-0.1
RUS				*eS*	Sb	04 15 24.6	+0.1
PET	**Petropavlovsk**	**1.33**	**310**	*eP*	Pb	04 15 12.8	-0.3
PET				*eS*	Sn	04 15 29.1	-0.1
MTVR	**Mutnovka**	**1.36**	**283**	*eP*	Pb	04 15 13.5	-0.3
MTVR				*eS*	Sb	04 15 30.7	-0.1
UGLR	**Uglovaya**	**1.38**	**319**	*eP*	Pb	04 15 14.1	0.0
UGLR				*eS*	Sb	04 15 31.4	0.0
SDLR	**Sedlovina**	**1.41**	**322**	*eP*	Pn	04 15 13.5	+0.1
SMAR	**Somma**	**1.43**	**320**	*eP*	Pb	04 15 15.7	+0.6
AVH	**Avacha**	**1.45**	**319**	*eP*	Pb	04 15 15.5	+0.1
KRER	**Koryakskii**	**1.48**	**320**	*eP*	Pb	04 15 16.1	+0.1
ASAK	**Asacha**	**1.51**	**278**	*eP*	Pn	04 15 15.1	+0.3
ASAK				*eS*	Sb	04 15 36.4	+1.3
KOK	**Koryaka**	**1.52**	**318**	*eP*	Pb	04 15 17.3	+0.9
KRX	**Arik**	**1.56**	**319**	*eP*	Pb	04 15 17.5	+0.2
APC	**Apacha**	**2.08**	**292**	*eP*	Pn	04 15 23.4	+0.9
APC				*eS*	Sb	04 15 49.9	-1.3
GNL	**Ganaly**	**2.09**	**317**	*eP*	Pn	04 15 23.2	+0.3
GNL				*eS*	Sb	04 15 51.5	-0.5
MKZ	**Mys Kozlova**	**2.51**	**19**	*eP*	Pb	04 15 31.5	-1.8
MKZ				*eS*	Sn	04 16 00.2	+1.8
TUMR	**Tumrok**	**3.10**	**358**	*eP*	Pb	04 15 40.8	-2.7
KBTR	**Krutoberegovo**	**4.28**	**19**	*eP*	Pn	04 15 56.0	+3.2

KRSC 30 04:20:45.2±1.3, 52°.40N×160°.32E, h22km±9km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.72**	**346**	*eP*	Pn	04 21 00.4	+0.4
SPN				*eS*	Sb	04 21 08.4	-0.1
RUS	**Russkaya**	**1.11**	**272**	*eP*	Pn	04 21 04.8	-0.5
RUS				*eS*	Sb	04 21 18.5	-1.1
PET	**Petropavlovsk**	**1.19**	**302**	*eP*	Pb	04 21 06.8	-0.2
PET				*eS*	Sn	04 21 21.1	-0.8
UGLR	**Uglovaya**	**1.21**	**312**	*eP*	Pb	04 21 08.0	+0.4
UGLR				*eS*	Sb	04 21 24.0	+1.0
SDLR	**Sedlovina**	**1.23**	**316**	*eP*	Pb	04 21 08.2	+0.2
SDLR				*eS*	Sb	04 21 23.8	+0.2
AVH	**Avacha**	**1.29**	**313**	*eP*	Pb	04 21 09.1	+0.2
AVH				*eS*	Sb	04 21 25.6	+0.5
MTVR	**Mutnovka**	**1.31**	**274**	*eP*	Pn	04 21 08.2	-0.1
MTVR				*eS*	Sn	04 21 24.5	-0.7
KRER	**Koryakskii**	**1.31**	**314**	*eP*	Pb	04 21 09.9	+0.5
KRER				*eS*	Sb	04 21 26.7	+0.7
KOK	**Koryaka**	**1.35**	**312**	*eP*	Pb	04 21 10.2	+0.2
KOK				*eS*	Sb	04 21 27.8	+0.8
KRX	**Arik**	**1.39**	**314**	*eP*	Pb	04 21 10.6	-0.1
KRX				*eS*	Sb	04 21 28.1	-0.1
ASAK	**Asacha**	**1.48**	**270**	*eP*	Pn	04 21 11.3	+0.7
ASAK				*eS*	Sn	04 21 29.6	+0.3
GNL	**Ganaly**	**1.93**	**313**	*eP*	Pb	04 21 19.2	-0.7
GNL				*eS*	Sb	04 21 42.8	-0.8
APC	**Apacha**	**1.99**	**286**	*eP*	Pb	04 21 19.9	-0.8
APC				*eS*	Sb	04 21 44.4	-0.7
MIPR	**Malaya Ipel'ka**	**2.19**	**268**	*eP*	Pb	04 21 23.3	-0.8
MKZ	**Mys Kozlova**	**2.32**	**21**	*eP*	Pb	04 21 24.2	-2.0
MKZ				*eS*	Sn	04 21 51.8	+2.2
PAU	**Pauzhetka**	**2.37**	**248**	*eP*	Pb	04 21 25.0	-2.0
KZV	**Kizimen**	**2.71**	**360**	*eP*	Pn	04 21 28.3	+0.7
KZV				*eS*	Sn	04 22 22.8	+2.9
TUMR	**Tumrok**	**2.89**	**358**	*eP*	Pb	04 21 33.5	-2.6
ESO	**Esso**	**3.66**	**346**	*eP*	Pn	04 21 44.1	+3.8
KBTR	**Krutoberegovo**	**4.08**	**20**	*eP*	Pn	04 21 49.6	+3.4

KRSC 30 04:21:59.3±1.1, 52°.35N×160°.24E, h9km±11km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.77**	**350**	P	Pb	04 22 14.5	-0.3
SPN				S	Sb	04 22 25.3	0.0
RUS	**Russkaya**	**1.06**	**275**	P	Pg	04 22 19.1	-0.5
RUS				S	Sg	04 22 33.4	0.0
PET	**Petropavlovsk**	**1.18**	**306**	P	Pb	04 22 20.9	-0.9
PET				S	Sb	04 22 36.8	-0.4
UGLR	**Uglovaya**	**1.22**	**316**	P	Pb	04 22 21.9	-0.8
MTVR	**Mutnovka**	**1.26**	**277**	P	Pn	04 22 22.4	-1.0
MTVR				S	Sb	04 22 39.5	-0.5
AVH	**Avacha**	**1.29**	**316**	P	Pn	04 22 23.2	-0.5
ASAK	**Asacha**	**1.43**	**272**	P	Pn	04 22 25.3	-0.3
ASAK				S	Sg	04 22 45.7	+0.1
GNL	**Ganaly**	**1.94**	**315**	P	Pb	04 22 34.6	-0.3

KRSC 30 04:24:00.6±0.9, 52°.25N×160°.40E, h18km±14km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.88**	**345**	P	Pg	04 24 17.9	+0.1
SPN				S	Sg	04 24 29.3	-0.1
RUS	**Russkaya**	**1.17**	**280**	P	Pn	04 24 21.8	-0.3
RUS				S	Sb	04 24 37.0	-0.2
PET	**Petropavlovsk**	**1.32**	**307**	P	Pn	04 24 23.7	-0.4
PET				S	Sn	04 24 40.8	-0.3
UGLR	**Uglovaya**	**1.36**	**316**	P	Pb	04 24 25.6	0.0
UGLR				S	Sb	04 24 42.9	+0.1
MTVR	**Mutnovka**	**1.38**	**280**	P	Pn	04 24 25.5	+0.3
MTVR				S	Sn	04 24 42.7	-0.4
SDLR	**Sedlovina**	**1.38**	**319**	P	Pb	04 24 25.7	-0.4
SDLR				S	Sn	04 24 43.2	+0.1
AVH	**Avacha**	**1.43**	**316**	P	Pb	04 24 26.7	-0.2
AVH				S	Sb	04 24 45.0	+0.1
KRER	**Koryakskii**	**1.46**	**317**	P	Pb	04 24 27.1	-0.4
KOK	**Koryaka**	**1.50**	**315**	P	Pb	04 24 27.5	-0.5
KRX	**Arik**	**1.54**	**317**	P	Pn	04 24 28.0	+0.7
ASAK	**Asacha**	**1.54**	**276**	P	Pb	04 24 28.2	-0.6
ASAK				S	Sn	04 24 47.4	+0.5
GNL	**Ganaly**	**2.07**	**315**	P	Pb	04 24 36.3	-1.6
GNL				S	Sn	04 25 01.5	+1.4
APC	**Apacha**	**2.09**	**290**	P	Pb	04 24 37.1	-0.9
APC				S	Sb	04 25 03.0	-0.6
MIPR	**Malaya Ipel'ka**	**2.24**	**272**	P	Pb	04 24 39.0	-1.6
MKZ	**Mys Kozlova**	**2.44**	**18**	P	Pn	04 24 41.7	+2.2
KZV	**Kizimen**	**2.87**	**359**	P	Pn	04 24 48.5	+2.9
TUMR	**Tumrok**	**3.04**	**357**	P	Pn	04 24 51.0	+3.1
KBTR	**Krutoberegovo**	**4.21**	**19**	P	Pn	04 25 06.9	+3.1

KRSC 30 04:25:11.0±1.4, 52°.30N×160°.30E, h15km±7km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.81**	**348**	*eP*	Pn	04 25 27.4	-0.5
SPN				*eS*	Sn	04 25 39.0	-0.8
RUS	**Russkaya**	**1.10**	**277**	*eP*	Pb	04 25 30.6	-1.2
RUS				*eS*	Sb	04 25 44.8	-1.2
PET	**Petropavlovsk**	**1.24**	**306**	*eP*	Pn	04 25 33.2	-0.5
PET				*eS*	Sb	04 25 48.8	-1.0
UGLR	**Uglovaya**	**1.28**	**316**	*eP*	Pn	04 25 33.6	-0.9
SDLR	**Sedlovina**	**1.30**	**319**	*eP*	Pn	04 25 34.2	-0.6
MTVR	**Mutnovka**	**1.31**	**279**	*eP*	Pn	04 25 34.8	-0.2
MTVR				*eS*	Sb	04 25 51.1	-1.2
AVH	**Avacha**	**1.35**	**316**	*eP*	Pb	04 25 36.3	+0.1
KRER	**Koryakskii**	**1.38**	**317**	*eP*	Pb	04 25 36.4	-0.3
GRL	**Gorelyy**	**1.39**	**281**	*eP*	Pb	04 25 36.9	+0.1
KRX	**Arik**	**1.46**	**317**	*eP*	Pn	04 25 35.9	-1.1
ASAK	**Asacha**	**1.48**	**274**	*eP*	Pn	04 25 37.3	+0.2
ASAK				*eS*	Sn	04 25 56.1	-0.2
GNL	**Ganaly**	**2.00**	**315**	*eP*	Pb	04 25 46.2	-0.9
GNL				*eS*	Sb	04 26 11.3	-0.6
APC	**Apacha**	**2.02**	**289**	*eP*	Pb	04 25 46.1	-1.2
APC				*eS*	Sb	04 26 11.9	-0.3
MIPR	**Malaya Ipel'ka**	**2.18**	**271**	*eP*	Pb	04 25 48.5	-1.6
KZV	**Kizimen**	**2.82**	**360**	*eP*	Pn	04 25 58.0	+2.3
TUMR	**Tumrok**	**2.99**	**358**	*eP*	Pn	04 25 59.6	+1.6
ESO	**Esso**	**3.75**	**346**	*eP*	Pn	04 26 10.9	+2.6

*KRSC **30** 04:25:46.5±1.7, 52°.33N×160°.25E, h18km±7km, ML4.2*
*MOS **30** 04:25:48.5±0.8, 52°.31N×160°.23E, h45

NVAR	**Mina Array Bea**	**56.01**	**70**	P	**P**	**04 35 25.4**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=302,slow=5.2,SNR=3.5						
PDAR	**Pinedale Array**	**57.91**	**60**	P	**P**	**04 35 38.6**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=346,slow=2.5,SNR=6.8						
FINES	**FINESS Array B**	**60.87**	**337**	P	**P**	**04 35 56.9**	**-1.0**
	comp=Z,4.5nm,1.0s,baz=46,slow=8.0,SNR=4.8						
FINES	**FINESS Array B**	**60.87**	**337**	P	**P**	**04 35 56.9**	**-1.0**
FINES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TXAR	**Lajitas Array**	**70.94**	**67**	P	**P**	**04 37 03.8**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=297,slow=5.3,SNR=13						
TXAR	**Lajitas Array**	**70.94**	**67**	P	**P**	**04 37 03.8**	**+0.4**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

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*BJI **30** 04:27:57.6, 52.˚56N×160.˚03E, h6km, mb5.3/61, mB6.2/21, Ms5.8/33, Ms7 5.6/33*

*IDC **30** 04:28:00.2±0.3, 52.˚48N×159.˚90E, h0km, mb5.3/50, mb1 5.3/50, mb1mx5.3/51, mbtmp5.3/50, MS5.4/7, Ms1 5.4/7, ms1mx4.8/38, Error ellipse: s-maj=11.0km s-min=8.2km az=132.0*

*KRSC **30** 04:28:00.7±1.8, 52.˚21N×160.˚46E, h40km±22km, ML5.6*

*ISCJB **30** 04:28:01.4±0.1, 52.˚37N±0.˚02×160.˚03E±0.˚02, h21km, mb5.5/315, MS5.3/8, Error ellipse: s-maj=2.7km s-min=1.4km az=167.8*

*SZGRF **30** 04:28:01.4, 52.˚52N×160.˚57E, h33km, mb5.8, Off east coast of Kamchatka Peninsula, Russia*

*GCMT **30** 04:28:02.9±0.2, 52.˚29N×160.˚29E, h28km±1km, MW5.4/83, Moment Tensor Solution. s42,c58; s83,c143; Duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}1.15±.08; $M_{\theta\theta}$-0.73±.05; $M_{\phi\phi}$-0.42±.05; $M_{r\theta}$0.48±.07; $M_{r\phi}$-0.92±.03; $M_{\theta\phi}$1.08±.08; Best double couple: $M_0$1.79700×10^{17} NP1:ϕ_s31.00000°, δ67.00000°, λ71.00000°. NP2: ϕ_s252.00000°, δ29.00000°, λ127.00000°. Principal axes: T 1.6990, Plg63.0000°, Azm271.0000°; N 0.1930, Plg17.0000°, Azm39.0000°; P -1.8940, Plg20.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **30** 04:28:02.9±1.9, 52.˚50N×159.˚89E, h17km±12km, mb5.4/171 Error ellipse: s-maj=4.4km s-min=2.3km az=158.0*

NEIC Felt [III] at Petropavlovsk-Kamchatskiy.

*MOS **30** 04:28:03.1±1.4, 52.˚33N×160.˚06E, h33km, mb5.7/85, MS5.3/5, Error ellipse: s-maj=5.5km s-min=3.3km az=92.8*

MOS Felt (III) at Petropavlovsk-Kamchatskiy.

ISC 30 04:28:02.3±0.3, 52.41N±0.˚03×160.˚10E±0.˚03, h16km±1km, h16km:pP-P,n1408,σ1s20/1459,mb5.5/341,MS5.3/8, 88C-34D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.69**	**356**	*e*P	**Pn**	**04 28 17.6**	**+0.1**
SPN	**Mys Shipunski**	**0.69**	**356**	PN	**Pn**	**04 28 17.6**	**+0.1**
RUS	**Russkaya**	**0.97**	**272**	*e*P	**Pn**	**04 28 22.0**	**+0.8**
RUS	**Russkaya**	**0.97**	**272**	PN	**Pn**	**04 28 22.0**	**+0.8**
PET	**Petropavlovsk**	**1.07**	**306**	*i* P	**Pg**	**04 28 24.0**	**+1.0**
PET				*i* P	**Pg**	**04 28 24.1**	**+1.0**
PET	**Petropavlovsk**	**1.07**	**306**	κ *i*PN	**Pg**	**04 28 24.4**	**+1.4**
PET				*i* S	**Sn**	**04 28 39.7**	**+2.5**
PET				pmax	pmax		
	comp=Z,30μm,1.8s						
PET				pmax	pmax		
	comp=Z,23μm,0.7s						
PET				smax	smax		
	comp=E,104μm,0.8s						
PET				smax	smax		
	comp=N,80μm,0.6s						
PET	**Petropavlovsk**	**1.07**	**306**	*e*Pn	**Pg**	**04 28 23.9**	**+0.8**
UGLR	**Uglovaya**	**1.11**	**317**	*i* P	**Pg**	**04 28 25.3**	**+1.5**
INSR	**Institute**	**1.12**	**307**	*e*P	**Pg**	**04 28 25.4**	**+1.4**
INSR				*e*S	**Sg**	**04 28 40.8**	**+2.2**
SDLR	**Sedlovina**	**1.14**	**320**	*e*P	**Pg**	**04 28 25.6**	**+1.2**
SDLR	**Sedlovina**	**1.14**	**320**	PN	**Pg**	**04 28 25.7**	**+1.3**
SMAR	**Somma**	**1.16**	**318**	*e*P	**Pg**	**04 28 26.1**	**+1.3**
SMAR	**Somma**	**1.16**	**318**	PN	**Pg**	**04 28 26.1**	**+1.3**
MTVR	**Mutnovka**	**1.17**	**274**	*e*P	**Pg**	**04 28 25.6**	**+0.6**
AVH	**Avacha**	**1.19**	**317**	*e*P	**Pg**	**04 28 26.6**	**+1.3**
AVH	**Avacha**	**1.19**	**317**	PN	**Pg**	**04 28 26.6**	**+1.3**
KRER	**Koryakskii**	**1.21**	**318**	*e*P	**Pg**	**04 28 27.1**	**+1.3**
GRL	**Gorelyy**	**1.25**	**277**	*e*P	**Pg**	**04 28 27.4**	**+1.0**
GRL	**Gorelyy**	**1.25**	**277**	PN	**Pg**	**04 28 27.4**	**+1.0**
KOK	**Koryaka**	**1.25**	**316**	*e*P	**Pg**	**04 28 27.4**	**+0.9**
KOK	**Koryaka**	**1.25**	**316**	PN	**Pg**	**04 28 27.4**	**+0.9**
KRX	**Arik**	**1.29**	**318**	*i* P	**Pg**	**04 28 27.9**	**+0.6**
KRX				*i* P	**Pb**	**04 28 28.2**	**+1.8**
ASAK	**Asacha**	**1.35**	**270**	*e*P	**Pg**	**04 28 28.4**	**+0.1**
I44RU	**PETROPAVLOVSK-**	**1.61**	**297**	Pn	**Pn**	**04 28 30.0**	**0.0**
	baz=96,slow=25,SNR=1.8						
PETK	**Petropavlovsk-**	**1.62**	**297**	Pn	**Pg**	**04 28 32.9**	**-0.5**
	comp=N,1μm,0.3s,baz=101,slow=20,SNR=325						
PETK				Sn	**Sg**	**04 28 54.5**	**+0.1**
	comp=N,2μm,0.3s,baz=97,slow=18,SNR=23						
PETK				LR	LR	04 29 25.2	
	comp=N,71μm,18.8s,baz=109,slow=58						
GNL	**Ganaly**	**1.83**	**316**	*i* P	**Pb**	**04 28 36.5**	**+1.0**
GNL				*i* P	**Pb**	**04 28 36.5**	**+1.0**
GNL	**Ganaly**	**1.83**	**316**	PN	**Pb**	**04 28 36.5**	**+1.0**
APC	**Apacha**	**1.86**	**287**	*i* P	**Pg**	**04 28 37.1**	**-1.0**
APC				*i* P	**Pb**	**04 28 37.2**	**+1.3**
APC				*e*S	**Sg**	**04 29 02.7**	**+0.5**
APC	**Apacha**	**1.86**	**287**	PN	**Pg**	**04 28 37.1**	**-1.0**
APC				S	**Sg**	**04 29 02.7**	**+0.5**
MIPR	**Malaya Ipel'ka**	**2.05**	**268**	*i* P	**Pb**	**04 28 39.5**	**+0.3**
MIPR				*i* P	**Pg**	**04 28 39.7**	**-2.0**
PAU	**Pauzhetka**	**2.24**	**246**	*e*P	**Pn**	**04 28 40.5**	**+1.8**
PAU	**Pauzhetka**	**2.24**	**246**	PN	**Pb**	**04 28 40.7**	**-1.7**
MKZ	**Mys Kozlova**	**2.36**	**24**	*i* P	**Pn**	**04 28 41.2**	**+0.9**
MKZ				*i* P	**Pn**	**04 28 41.3**	**+0.9**
MKZ				*e*S	**Sn**	**04 29 09.7**	**+0.7**
MKZ	**Mys Kozlova**	**2.36**	**24**	PN	**Pn**	**04 28 41.2**	**+0.9**
MKZ				S	**Sn**	**04 29 09.7**	**+0.7**
KZV	**Kizimen**	**2.71**	**2**	*i* P	**Pb**	**04 28 48.0**	**-2.5**
KZV				*i* P	**Pb**	**04 28 48.1**	**-2.5**
TUMR	**Tumrok**	**2.88**	**1**	*i* P	**Pb**	**04 28 50.8**	**-2.6**
TUMR				*i* P	Pn	04 28 50.9	+3.3
TUMR				*e*S	**Sb**	**04 29 26.9**	**-1.5**
TUMR	**Tumrok**	**2.88**	**1**	PN	**Pb**	**04 28 50.8**	**-2.6**
TUMR				S	**Sb**	**04 29 26.9**	**-1.5**
SKR	**Severo-Kuril's**	**3.03**	**237**	*e*P	**Pn**	**04 28 50.6**	**+1.1**
SKR				*e*S	**Sn**	**04 29 25.9**	**+0.5**
SKR	**Severo-Kuril's**	**3.03**	**237**	*e*PN	**Pn**	**04 28 49.8**	**+0.3**
SKR				*e*S	**Sn**	**04 29 25.9**	**+0.5**
KMNR	**Kamenistaya**	**3.35**	**1**	*e*P	**Pb**	**04 28 58.5**	**-2.9**
KMNR	**Kamenistaya**	**3.35**	**1**	PN	**Pb**	**04 28 58.7**	**-2.7**
BZMR	**Bezymyannaya**	**3.54**	**4**	*e*P	Pn	04 29 00.4	+3.7
KIRR	**Kirishev**	**3.55**	**2**	*e*P	Pn	04 29 00.6	+3.7
KIRR				*e*S	**Sb**	**04 29 45.9**	**-1.9**
BZGR	**Bezymyannyi-Gr**	**3.56**	**5**	*e*P	Pb	04 29 00.9	-4.0
BZWR	**Bezymyannyi-We**	**3.57**	**4**	*e*P	Pb	04 29 01.5	-3.6
ESO	**Esso**	**3.62**	**347**	*i* P	Pn	04 29 01.2	+3.5
ESO				*i* P	Pb	04 29 01.4	-4.5
ESO	**Esso**	**3.62**	**347**	PN	Pn	04 29 01.2	+3.5
ZLN	**Zelenaya**	**3.64**	**6**	*e*P	Pb	04 29 02.2	-4.1
ZLN	**Zelenaya**	**3.64**	**6**	PN	Pb	04 29 02.2	-4.1
KOZ	**Kozyrevsk**	**3.66**	**358**	*e*P	Pn	04 29 02.0	+3.8
KOZ	**Kozyrevsk**	**3.66**	**358**	PN	Pn	04 29 02.0	+3.8
LGNR	**Loginova**	**3.70**	**5**	*i* P	**Pn**	**04 29 00.5**	**+1.5**
LGNR				*i* P	Pb	04 29 02.2	-5.2
LGNR	**Loginova**	**3.70**	**5**	PN	**Pn**	**04 29 00.5**	**+1.5**
CIRR	**Tsirk**	**3.73**	**6**	*e*P	Pn	04 29 02.9	+3.5
CIRR	**Tsirk**	**3.73**	**6**	PN	Pn	04 29 02.9	+3.5
KRSR	**Krestovskiy**	**3.83**	**4**	PN	**Pg**	**04 29 13.7**	**-1.9**
SRDR	**Sredinnyy**	**3.92**	**357**	*i* P	Pn	04 29 05.2	+3.3
SRDR	**Sredinnyy**	**3.92**	**357**	PN	Pn	04 29 05.2	+3.3
KLY	**Klyuchi**	**3.93**	**5**	*e*P	Pn	04 29 05.9	+4.0
KLY				*e*S	**Sn**	**04 29 52.2**	**+4.7**
KBTR	**Krutoberegovo**	**4.13**	**22**	*e*P	**Pn**	**04 29 06.5**	**+1.9**
KBTR	**Krutoberegovo**	**4.13**	**22**	PN	**Pn**	**04 29 07.1**	**+2.5**
KBTR				S	**Sb**	**04 30 01.2**	**-2.9**
KBG	**Krutoberegovo**	**4.14**	**21**	*i* P	**Pn**	**04 29 07.9**	**+3.0**
BDR	**Baidarnaya**	**4.22**	**8**	*e*P	Pn	04 29 10.3	+4.3
SMKR	**Semkarok**	**4.26**	**10**	*i* P	Pn	04 29 10.8	+4.3
SMKR	**Semkarok**	**4.26**	**10**	PN	Pn	04 29 10.8	+4.3
SRKR	**Sorokina**	**4.30**	**8**	*i* P	Pn	04 29 11.7	+4.6
SRKR	**Sorokina**	**4.30**	**8**	PN	Pn	04 29 11.7	+4.6
BKI	**Bering**	**4.47**	**49**	*i* P	**Pn**	**04 29 09.2**	**-0.1**
BKI				*e*S	**Sn**	**04 29 57.0**	**-3.9**
BKI	**Bering**	**4.47**	**49**	PN	**Pn**	**04 29 09.2**	**-0.1**
OSSR	**Ossora**	**7.06**	**12**	*i* P	**Pn**	**04 29 47.2**	**+2.4**
SMY	**Shemya**	**8.54**	**82**	*e*PN	**Pn**	**04 30 04.9**	**-0.3**
SMY				pmax	pmax		
	comp=Z,375nm,0.5s						
SMY	**Shemya**	**8.54**	**82**	*e*Pn	**Pn**	**04 30 04.9**	**-0.3**
	comp=Z,375nm,0.5s						
SMY				*e*Sn	Sn	04 31 32.5	-8.6
KUR	**Kuril'sk**	**10.79**	**233**	*e*PN	Pn	04 30 39.8	+3.8
KUR				pmax	pmax		
	comp=Z,87nm,1.4s						
SEY	**Seymchan**	**11.32**	**342**	Pn	Pn	04 30 47.2	+4.0
	comp=Z,0.3nm,0.3s,baz=148,slow=12,SNR=16						
SEY				Sn	**Sn**	**04 32 53.6**	**+4.5**
	comp=Z,0.8nm,0.3s,baz=143,slow=20,SNR=2.1						
SEY	**Seymchan**	**11.32**	**342**	*d i*PN	Pn	04 30 48.1	+4.9
NKL	**Nikolayevsk**	**11.78**	**281**	*e*PN	Pn	04 30 53.0	+3.5
NKL				pmax	pmax		
	comp=E,290nm,2.0s						
NKL				pmax	pmax		
	comp=Z,1μm,2.0s						
UGL	**Uglegorsk**	**11.89**	**261**	*e*PN	Pn	04 30 54.4	+3.3
AMKA	**Amchitka**	**11.91**	**87**	*e*Pn	**Pn**	**04 30 52.0**	**+0.7**
	comp=Z,59nm,0.6s						
YSS	**Yuzh-Sakhalins**	**12.48**	**251**	⇑ *i*PN	**Pn**	**04 31 02.0**	**+3.0**
YSS				pmax	pmax		
	comp=Z,90nm,1.0s						
YSS				MLR	MLR		
	comp=Z,25μm,14.0s						
YSS	**Yuzh-Sakhalins**	**12.48**	**251**	*e*Pn	Pn	04 31 02.3	+3.3
	comp=Z,250nm,1.1s						
YUK	**Yuzh-Kuril'sk**	**12.64**	**234**	⇓ *i*PN	P	04 31 07.4	-5.3
YUK				pmax	pmax		
	comp=Z,153nm,0.9s						
YUK				pmax	pmax		
	comp=N,43nm,0.4s						
YUK				pmax	pmax		
	comp=E,67nm,0.4s						
ASAJ	**Asahikawa**	**14.28**	**241**	*e*Pn	**Pn**	**04 31 24.9**	**+1.2**
ERM	**Erimo**	**15.47**	**234**	Pn	**Pn**	**04 31 37.7**	**-2.0**
	comp=E,336nm,1.1s,SNR=6.2						
ERM	**Erimo**	**15.47**	**234**	*e*P	**Pn**	**04 31 38.4**	**-1.3**
ERM	**Erimo**	**15.47**	**234**	*e*Pn	**Pn**	**04 31 37.1**	**-2.6**
	comp=E,81nm,0.7s						
HABR	**Khabarovsk**	**16.40**	**266**	*e*P	**Pn**	**04 31 52.9**	**+1.3**
HABR				S	**Sn**	**04 34 52.8**	**-0.3**
HABR				pmax	pmax		
	comp=N,95nm,2.0s						
HABR				pmax	pmax		
	comp=E,145nm,1.6s						
HABR				pmax	pmax		
	comp=Z,196nm,1.6s						
HABR				MLR	MLR		
	comp=Z,15μm,15.0s						
KLR	**Kul'dur**	**18.14**	**271**	*e*P	**Pn**	**04 32 11.2**	**-2.1**
YAK	**Yakutsk**	**18.90**	**313**	*e*P	**P**	**04 32 20.7**	**-1.1**
YAK				*e*S	**Sn**	**04 35 51.8**	**-1.5**
YAK				pmax	pmax		
	comp=Z,375nm,1.0s						
YAK				pmax	pmax		
	comp=N,115nm,1.2s						
YAK				pmax	pmax		
	comp=E,245nm,1.2s						
YAK				smax	smax		
	comp=N,875nm,4.0s						
YAK				smax	smax		
	comp=E,368nm,2.3s						
YAK				MLR	MLR		
	comp=Z,7μm,12.0s						
YAK				MLR	MLR		
	comp=N,6μm,13.0s						
YAK				MLR	MLR		
	comp=E,3μm,12.0s						
YAK	**Yakutsk**	**18.90**	**313**	*e*P	**P**	**04 32 20.8**	**-1.0**
	comp=E,510nm,0.8s						
UNV	**Unalaska Valle**	**19.99**	**73**	*e*P	**P**	**04 32 33.7**	**-0.1**
	comp=E,369nm,1.1s						
USRK	**Ussuriysk Ar.**	**20.32**	**257**	P	**P**	**04 32 35.9**	**-1.6**
	comp=E,76nm,0.9s,baz=60,slow=11,SNR=55						
USRK				LR	LR	04 41 42.4	
	comp=E,9μm,19.7s,baz=54,slow=41						
AKUT	**Akutan**	**20.37**	**72**	*e*P	**P**	**04 32 38.0**	**+0.1**
	comp=E,324nm,1.2s						
CLNS	**Chul'man**	**20.70**	**296**	*e*P	**P**	**04 32 41.8**	**+0.2**
CLNS				pmax	pmax		
	comp=N,21nm,0.6s						
TNA	**Tin City**	**20.78**	**38**	*e*P	Pn	04 32 43.9	-0.8
	comp=N,136nm,0.9s						
MDJ	**Mudanjiang**	**21.53**	**261**	P	**P**	**04 32 49.0**	**-1.6**
MDJ				pP	**pP**	**04 32 51.8**	**-3.4**
MDJ				sP	**sP**	**04 32 53.3**	**-3.9**
MDJ				S	**S**	**04 36 47.8**	**-0.8**
MDJ				PcP	**PcP**	**04 36 52.8**	**+0.3**
MDJ				PcS	**PcS**	**04 40 31.0**	**+0.4**
MDJ				PMZ			
	comp=N,95nm,1.5s						
MDJ				LN			
	comp=N,9μm,12.8s						
MDJ				LE			
	comp=N,7μm,18.5s						
MDJ				LZ			
	comp=N,9μm,14.2s						
MDJ	**Mudanjiang**	**21.53**	**261**	*e*P	**P**	**04 32 49.1**	**-1.5**
	comp=N,129nm,1.1s						
FALS	**False Pass**	**21.62**	**69**	*e*P	**P**	**04 32 51.6**	**+0.3**
	comp=N,354nm,2.1s						
MSHR	**Mys Shultsa**	**21.75**	**255**	*e*P	**P**	**04 32 55.1**	**+2.2**
MJAR	**Matsushiro Arr**	**22.13**	**233**	P	**P**	**04 32 57.4**	**+0.3**
	comp=N,94nm,0.9s,baz=22,slow=8.9,SNR=113						
MJAR				LR	LR	04 42 32.5	
	comp=N,5μm,19.5s,baz=35,slow=40						
MAJO	**Matsushiro**	**22.13**	**233**	*e i*P	**P**	**04 32 57.4**	**+0.4**
MAJO				pmax	pmax		
	comp=Z,2μm,1.4s						
MAJO	**Matsushiro**	**22.13**	**233**	*e*P	**P**	**04 32 57.7**	**+0.7**
	comp=Z,282nm,0.9s						
MAT	**Matsushiro**	**22.13**	**233**	P	**P**	**04 32 58.2**	**+1.2**
MAT				S	**S**	**04 37 02.0**	**+1.8**
CHGN	**Chignik**	**24.22**	**64**	*e*P	**P**	**04 33 18.0**	**+0.1**
CN2	**Changchun**	**24.49**	**263**	⇓ *i*P	**P**	**04 33 18.5**	**-2.0**
CN2				*e*sP	**sP**	**04 33 26.3**	**-1.1**
CN2				PMZ			
	comp=Z,80nm,0.8s						
KSULL	**Ulleungdo**	**25.27**	**245**	P	**P**	**04 33 28.7**	**+1.0**
	SNR=5.3						
KSULL	**Ulleungdo**	**25.27**	**245**	P	**P**	**04 33 28.7**	**+1.0**
	SNR=5.3						
SVW2	**Sparrevohn**	**25.34**	**52**	*e*P	**P**	**04 33 29.6**	**+1.4**
	comp=Z,64nm,1.3s						
HIA	**Hailar**	**25.44**	**279**	*e*P	**P**	**04 33 27.8**	**-1.4**
HIA				pmax	pmax		
	comp=Z,305nm,0.9s						
HIA	**Hailar**	**25.44**	**279**	*e*P	**P**	**04 33 27.8**	**-1.4**
	comp=Z,305nm,0.9s						
KSSKC	**Sokcho**	**26.05**	**250**	P	**P**	**04 33 35.2**	**+0.6**
	SNR=7.1						
KSSKC	**Sokcho**	**26.05**	**250**	P	**P**	**04 33 35.2**	**+0.6**
	SNR=7.1						
KSJMJ	**Jumunjin**	**26.19**	**249**	P	**P**	**04 33 36.6**	**+0.6**
	SNR=14						
KSJMJ	**Jumunjin**	**26.19**	**249**	P	**P**	**04 33 36.6**	**+0.6**
	SNR=14						
SEHB	**SEOHWA**	**26.22**	**250**	P	**P**	**04 33 36.3**	**0.0**
	SNR=22						
SEHB	**SEOHWA**	**26.22**	**250**	P	**P**	**04 33 36.3**	**0.0**
	SNR=22						
KSDGY	**Daegwallycong**	**26.37**	**249**	P	**P**	**04 33 38.3**	**+0.6**
	SNR=6.2						
KSDGY	**Daegwallycong**	**26.37**	**249**	P	**P**	**04 33 38.3**	**+0.6**
	SNR=6.2						
BOD	**Bodaibo**	**26.49**	**300**	*e*P	**P**	**04 33 37.3**	**-1.2**
BOD				*e*S	x	04 44 26.9	
BOD				pmax	pmax		
	comp=Z,93nm,1.2s						
KSIJA	**INJE**	**26.49**	**250**	P	**P**	**04 33 39.0**	**+0.3**
	SNR=19						
KSIJA	**INJE**	**26.49**	**250**	P	**P**	**04 33 39.0**	**+0.3**
	SNR=19						
IM04	**Indian Mountai**	**26.50**	**41**	*e*P	**P**	**04 33 38.9**	**+0.4**
KSTBA	**Taebaek**	**26.61**	**247**	P	**P**	**04 33 40.7**	**+0.8**
	SNR=14						
KSTBA	**Taebaek**	**26.61**	**247**	P	**P**	**04 33 40.7**	**+0.8**
	SNR=14						
KSULJ	**Uljin**	**26.66**	**246**	P	**P**	**04 33 41.6**	**+1.5**
	SNR=17						
KSULJ	**Uljin**	**26.66**	**246**	P	**P**	**04 33 41.5**	**+1.3**
	SNR=6.4						
SNY	**Shenyang**	**26.74**	**261**	⇑P	**P**	**04 33 39.5**	**-1.4**
SNY				PMZ			
	comp=Z,11nm,0.6s						
RSO	**Redoubt South**	**26.75**	**54**	*e*P	**P**	**04 33 42.0**	**+1.0**
	comp=Z,113nm,0.9s						
KSCWO	**Cheorwon**	**26.77**	**251**	P	**P**	**04 33 41.8**	**+0.6**
	SNR=32						
KSCWO	**Cheorwon**	**26.77**	**251**	P	**P**	**04 33 41.8**	**+0.6**
	SNR=32						
OHAK	**Old Harbor**	**26.86**	**61**	*e*P	**P**	**04 33 41.4**	**-0.4**
	comp=Z,261nm,1.3s						
PPLA	**Purkeypile**	**26.95**	**48**	*e*P	**P**	**04 33 42.9**	**+0.1**
	comp=Z,157nm,1.2s						
KSRS	**Korea Array**	**26.97**	**249**	P	**P**	**04 33 43.0**	**0.0**
	comp=Z,27nm,0.9s,baz=44,slow=9.0,SNR=64						
KSRS				LR	LR	04 44 31.6	
	comp=Z,5μm,18.4s,baz=40,slow=37						
KSRS	**Korea Array**	**26.97**	**249**	P	**P**	**04 33 43.0**	**0.0**
KSRS				pmax	pmax		
	comp=Z,27nm,0.9s						
KSRS				MLR	MLR		
	comp=Z,5μm,18.4s						
KSAR	**Wonju Array Be**	**27.00**	**249**	P	**P**	**04 33 43.0**	**-0.3**
KSAR	**Wonju Array Be**	**27.00**	**249**	P	**P**	**04 33 43.0**	**-0.3**
CAST	**Castle Rocks**	**27.01**	**47**	*e*P	**P**	**04 33 44.3**	**+1.1**
	comp=Z,82nm,1.3s						
KSPHA	**Pohang**	**27.04**	**245**	P	**P**	**04 33 45.0**	**+1.3**
	SNR=7.4						
KSPHA	**Pohang**	**27.04**	**245**	P	**P**	**04 33 44.9**	**+1.3**
	SNR=8.8						
YNCB	**YEONCHEON**	**27.14**	**251**	P	**P**	**04 33 44.8**	**+0.3**
	SNR=10						
YNCB	**YEONCHEON**	**27.14**	**251**	P	**P**	**04 33 44.8**	**+0.3**
	SNR=10						
KDAK	**Kodiak Island**	**27.14**	**60**	P	**P**	**04 33 43.3**	**-1.1**
	comp=Z,355nm,0.9s,SNR=6.3						
KDAK	**Kodiak Island**	**27.14**	**60**	P	**P**	**04 33 43.8**	**-0.5**
	comp=Z,26nm,0.8s,baz=315,slow=5.2,SNR=11						
KDAK	**Kodiak Island**	**27.14**	**60**	*e*P	**P**	**04 33 43.2**	**-1.1**
KDAK				pmax	pmax		
	comp=Z,66nm,1.0s						
KDAK	**Kodiak Island**	**27.14**	**60**	*e*P	**P**	**04 33 43.2**	**-1.1**
	comp=Z,66nm,1.0s						
KSMUS	**Musan**	**27.34**	**251**	P	**P**	**04 33 46.6**	**+0.3**
	SNR=7.7						
BPAW	**Bear Paw Mtn.**	**27.52**	**46**	*e*P	**P**	**04 33 48.9**	**+1.1**
	comp=Z,81nm,1.2s						
KSGAH	**Ganghwa**	**27.64**	**251**	P	**P**	**04 33 49.3**	**+0.2**
	SNR=13						
KSSWO	**Suwon**	**27.64**	**250**	P	**P**	**04 33 49.7**	**+0.6**
	SNR=11						
INCN	**Inchon**	**27.69**	**251**	*e*P	**P**	**04 33 49.5**	**-0.1**
	comp=Z,82nm,1.2s						
BRLK	**Bradley Lake**	**27.75**	**55**	*e*P	P	04 33 57.8	+8.0
	comp=Z,95nm,1.5s						
KSCPR	**CHUPUNGNYEONG**	**27.81**	**247**	P	**P**	**04 33 51.4**	**+0.9**
	SNR=7.7						
TRF	**Thorofare Moun**	**27.82**	**47**	*e*P	**P**	**04 33 51.2**	**+0.6**
	comp=Z,34nm,0.9s						
TJN	**Taejon**	**28.04**	**248**	*c i*P	**P**	**04 33 52.2**	**-0.4**
COLD	**Coldfoot**	**28.08**	**39**	*e*P	**P**	**04 33 54.1**	**+1.4**
	comp=Z,30nm,0.9s						
CIT	**Chita**	**28.14**	**288**	*e*P	**P**	**04 33 52.8**	**-0.7**
CIT				*e*		04 34 00.0	
CIT				*e*		04 34 53.8	
CIT				pmax	pmax		
	comp=Z,134nm,1.2s						
BWN	**Browne**	**28.18**	**46**	*e*P	**P**	**04 33 56.7**	**+3.0**
	comp=Z,358nm,1.4s						
MCK	**McKinley**	**28.42**	**47**	*e*P	**P**	**04 33 56.1**	**+0.3**
MCK				pmax	pmax		
	comp=Z,78nm,1.2s						
MCK	**McKinley**	**28.42**	**47**	*e*P	**P**	**04 33 56.1**	**+0.3**
	comp=Z,78nm,1.2s						
SEW	**Seward**	**28.42**	**54**	*e*P	**P**	**04 33 55.0**	**-0.8**
	comp=Z,103nm,1.2s						
JNU	**Nakatsue**	**28.54**	**239**	P	**P**	**04 33 57.2**	**+0.1**
	comp=Z,88nm,0.9s,baz=45,slow=7.5,SNR=32						
JNU				LR	LR	04 45 00.2	
	comp=Z,7μm,18.7s,baz=36,slow=36						
JNU	**Nakatsue**	**28.54**	**239**	*e*P	**P**	**04 33 57.9**	**+0.8**
	comp=Z,51nm,0.9s						
CBIJ	**Chichi jima**	**28.63**	**215**	P	**P**	**04 33 57.7**	**-0.2**
JCJ	**Chichijima**	**28.63**	**215**	P	**P**	**04 33 57.7**	**-0.2**
	comp=Z,26nm,0.5s,baz=30,slow=4.6,SNR=4.2						
SML	**Sawmill**	**28.79**	**51**	*e*P	**P**	**04 33 59.0**	**-0.1**
SML				pmax	pmax		
	comp=Z,40nm,1.2s						
SML	**Sawmill**	**28.79**	**51**	*e*P	**P**	**04 33 59.0**	**-0.1**
	comp=Z,40nm,1.2s						
COLA	**College**	**28.89**	**44**	*c i*P	**P**	**04 34 00.8**	**+0.9**
COLA				pmax	pmax		
	comp=Z,121nm,0.9s						
COLA	**College**	**28.89**	**44**	*e*P	**P**	**04 34 00.7**	**+0.9**
	comp=Z,139nm,1.6s						
CCB	**Clear Creek Bu**	**28.91**	**45**	*e*P	**P**	**04 34 00.6**	**+0.5**

SONM LR LR 04 49 49.7
comp=Z,15µm,18.8s,baz=46,slow=39
HYT Haines Junctio 34.10 51 *eP* **P 04 34 47.3 +1.4**
comp=Z,25nm,0.9s
TIA Tai'an 34.17 259 ⇑P **P 04 34 45.0 -1.6**
TIA PMZ
comp=Z,90nm,1.0s
H11S1 WAKE ISLAND Hy 34.23 169 T T 05 11 57.2
baz=352,slow=76,SNR=48
H11S3 WAKE ISLAND Hy 34.24 169 T T 05 11 57.1
baz=352,slow=76,SNR=60
H11S2 WAKE ISLAND Hy 34.24 169 T T 05 11 57.7
baz=352,slow=76,SNR=33
INK Inuvik 34.41 37 P **P 04 34 49.6 +1.3**
comp=Z,22nm,0.8s,baz=276,slow=7.8,SNR=34
INK PcP **PcP 04 37 24.5 +1.1**
comp=Z,4.6nm,0.5s,baz=298,slow=3.1,SNR=5.2
INK Inuvik 34.41 37 *eP* **P 04 34 49.3 +1.0**
INK 04 37 24.5
INK pmax pmax
comp=Z,33nm,1.0s
INK Inuvik 34.41 37 *eP* **P 04 34 49.3 +1.0**
comp=Z,33nm,1.0s
INK PcP **PcP 04 37 24.5 +1.1**
HHC Hu-ho-hao-te 34.64 270 *eP* **P 04 34 50.3 -0.5**
HHC PP **PnPn 04 36 05.0 -1.3**
HHC S **S 04 40 16.8 -2.8**
HHC PMZ
comp=Z,26nm,1.0s
HHC PMZ
comp=Z,12µm,8.4s
HHC LN
comp=Z,7µm,18.5s
HHC LE
comp=Z,6µm,18.5s
HHC LZ
comp=Z,8µm,17.3s
ZAK Zakamensk 34.73 290 *eP* P 04 34 45.5 -5.9
ZAK pmax pmax
comp=Z,37nm,1.3s
JOW Kunigami 34.92 235 *eP* **P 04 34 53.5 +0.3**
comp=Z,113nm,1.2s
MOY Mondy 35.48 293 *eP* **P 04 34 57.5 -0.4**
MOY pmax pmax
comp=Z,76nm,1.7s
SKAG Skagway 35.52 53 *eP* **P 04 35 00.2 +2.2**
comp=Z,85nm,1.2s
NJ2 Nanjing 36.04 252 *eP* **P 04 35 02.8 +0.1**
NJ2 pP **pP 04 35 06.3 -1.4**
NJ2 sP **sP 04 35 09.5 -0.2**
NJ2 S **S 04 40 43.0 +2.0**
NJ2 PMZ
comp=Z,90nm,0.7s
NJ2 LN
comp=Z,9µm,13.9s
NJ2 LE
comp=Z,10µm,13.2s
NJ2 LZ
comp=Z,11µm,13.2s
CRAG Craig 38.07 58 *eP* **P 04 35 22.2 +2.5**
comp=Z,26nm,1.0s
KRAR Krasnoyarsk 38.08 303 *d iP* **P 04 35 18.5 -1.3**
KRAR pmax pmax
comp=Z,190nm,1.4s
WRAK Wrangell Islan 38.09 56 *eP* **P 04 35 20.7 +0.9**
comp=Z,36nm,0.9s
DLBC Dease Lake 38.46 53 *eP* **P 04 35 25.4 +2.3**
comp=Z,23nm,0.6s
WHN Wuhan 39.78 255 ⇓P **P 04 35 33.8 -0.5**
HVS Khovu-Aksy 39.79 296 *d iP* **P 04 35 34.0 -0.3**
HVS pmax pmax
comp=Z,171nm,1.2s
YHNB Yeheng 40.28 242 *eP* **P 04 35 37.7 -0.9**
comp=Z,26nm,0.9s
XAN Xi'an 40.60 264 P **P 04 35 38.8 -2.3**
XAN PMZ
comp=Z,9.0nm,1.1s
SSLB Suanglung 41.22 241 *eP* **P 04 35 46.5 +0.3**
comp=Z,57nm,1.1s
YULB Yu-li 41.35 241 *eP* **P 04 35 47.5 +0.1**
comp=Z,24nm,0.6s
TPUB Ta-pu 41.78 241 *eP* **P 04 35 50.9 0.0**
comp=Z,66nm,1.1s
TWG Pinlang 41.94 240 *eP* **P 04 35 51.7 -0.5**
comp=Z,330nm,0.9s
LZH Lanzhou 42.34 270 ⇑P **P 04 35 55.3 -0.3**
LZH pP **pP 04 35 58.5 -2.1**
LZH sP **sP 04 36 00.5 -2.0**
LZH PMZ
comp=Z,130nm,1.0s
LZH PMZ
comp=Z,450nm,4.5s
LZH LN
comp=Z,4µm,13.3s
LZH LE
comp=Z,3µm,13.2s
LZH LZ
comp=Z,7µm,18.0s
GTA Gaotai 42.69 277 ⇑P **P 04 35 57.5 -0.8**
GTA pP **pP 04 36 07.5 +4.2**
GTA PP **PP 04 37 39.0 +1.8**
GTA PcP **PcP 04 37 50.8 +0.9**
GTA ScP **ScP 04 41 37.0 -2.9**
GTA PcS **PcS 04 41 41.0 -1.1**
GTA S **S 04 42 18.0 -3.0**
GTA sS **sS 04 42 34.0 +4.8**
GTA SS SS 04 45 22.0 -9.2
GTA ScS **ScS 04 45 54.5 -4.3**
GTA PMZ
comp=Z,54nm,1.6s
GTA PMZ
comp=Z,3µm,6.2s
GTA LN
comp=Z,5µm,15.7s
GTA LE
comp=Z,7µm,15.2s
GTA LZ
comp=Z,7µm,17.1s
ENH Enshi 42.88 259 *eP* **P 04 35 58.3 -1.6**
comp=Z,22nm,0.8s
ZALV Zalesovo Beam 43.15 303 P **P 04 35 59.8 -1.9**
comp=Z,27nm,0.9s,baz=62,slow=6.9,SNR=68
ZALV PcP **PcP 04 37 51.4 +0.4**
comp=Z,20nm,1.0s,baz=38,slow=2.6,SNR=6.9
ZALV ScP **ScP 04 41 42.6 +1.4**
comp=Z,0.9nm,0.6s,baz=105,slow=1.6,SNR=2.7
ZALV LR LR 04 54 00.3
comp=Z,5µm,19.9s,baz=187,slow=36
NVS Novosibirsk 43.51 305 ⇑*iP* **P 04 36 02.9 -1.6**
NVS *e*SS SS 04 46 05.6 +19
NVS pmax pmax
comp=N,90nm,1.2s
NVS pmax pmax
comp=E,224nm,1.2s
NVS pmax pmax
comp=Z,391nm,1.2s
ALE Alert 43.60 7 P **P 04 36 05.6 +0.6**
comp=Z,174nm,0.6s,SNR=7.7
YKW3 Yellowknife Ar 43.63 42 *eP* **P 04 36 06.2 +0.8**
comp=Z,0.5nm,1.1s
YKA Yellowknife Ar 43.67 42 P **P 04 36 06.4 +0.7**
comp=Z,7.3nm,0.7s,baz=299,slow=8.0,SNR=11
RES Resolute Bay 43.96 22 *eP* **P 04 36 08.6 +0.6**
RES pmax pmax
comp=Z,17nm,0.8s
RES Resolute Bay 43.96 22 *eP* **P 04 36 08.6 +0.6**
comp=Z,17nm,0.8s
CD2 Chengdu 45.90 265 P **P 04 36 23.3 -0.7**
CD2 pP **pP 04 36 26.5 -2.6**
CD2 PcP **PcP 04 38 01.0 +0.1**
CD2 PcS **PcS 04 41 55.3 -0.1**
CD2 S **S 04 43 07.3 -0.5**
CD2 sS **sS 04 43 12.5 -3.5**
CD2 PMZ
comp=Z,30nm,0.5s
CD2 PMZ
comp=Z,260nm,5.2s
CD2 LN
comp=Z,7µm,15.8s
CD2 LE
comp=Z,8µm,14.9s
CD2 LZ
comp=Z,7µm,14.5s
SZP Santa 46.61 237 *eP* **P 04 36 30.7 +1.1**
comp=Z,400nm,1.1s
NLWA Neilton Lookou 47.13 64 *eP* **P 04 36 34.8 +1.4**
comp=Z,40nm,1.0s
WMQ Urumqi 47.20 290 P **P 04 36 33.8 -0.3**
WMQ pP **pP 04 36 38.0 -1.1**
WMQ sP **sP 04 36 40.8 -0.3**
WMQ PcP **PcP 04 38 06.3 +1.0**
WMQ PP **PP 04 38 25.5 +0.7**
WMQ PMZ
comp=Z,110nm,0.8s
WMQ LN
comp=Z,5µm,14.7s
WMQ LE
comp=Z,6µm,14.5s
WMQ LZ
comp=Z,2µm,15.7s
GYA Guiyang 47.36 258 P **P 04 36 36.0 +0.5**
GYA PP **PP 04 38 27.0 +0.4**
GYA ScP **ScP 04 42 00.5 +1.2**
GYA S **S 04 43 28.5 -0.2**
GYA SS **SS 04 46 49.0 -7.1**
GYA PMZ
comp=Z,30nm,0.7s
GYA LN
comp=Z,2µm,16.9s
GYA LE
comp=Z,2µm,18.0s
GYA LZ
comp=Z,2µm,17.2s
KBS Kingsbay 47.55 352 *eP* **P 04 36 37.2 +0.9**
KBS IAmb IAmb 04 36 38.4
comp=Z,123nm,0.9s
KBS Kingsbay 47.55 352 *eP* **P 04 36 37.6 +1.3**
KBS pmax pmax
comp=Z,201nm,1.1s
KBS Kingsbay 47.55 352 *eP* **P 04 36 37.5 +1.3**
comp=Z,201nm,1.1s
JCW Jim Creek 47.72 62 P **P 04 36 39.0 +1.0**
B06A Marblemount 47.77 62 *eP* **P 04 36 39.3 +1.0**
comp=Z,36nm,1.0s
E03A Lebam 47.80 65 *eP* **P 04 36 39.9 +1.4**
comp=Z,48nm,1.0s
SPA0 Spitsbergen Ar 47.81 351 *eP* **P 04 36 38.8 +0.5**
SPA0 IAmb IAmb 04 36 40.9
comp=Z,610nm,1.2s
SPITS Spitsbergen Ar 47.81 351 P **P 04 36 38.6 +0.3**
comp=Z,230nm,0.8s,baz=59,slow=8.0,SNR=223
KURK Kurchatov 48.10 302 ScP **ScP 04 42 03.8 +1.9**
KURBB Kurchatov Arra 48.20 302 ScP **ScP 04 42 03.8 +1.5**
comp=Z,4.0nm,0.9s,baz=53,slow=3.1,SNR=5.8
D05A Enumclaw 48.28 63 *eP* **P 04 36 44.0 +1.7**
comp=Z,41nm,1.0s
MK31 Makanchi Array 48.45 296 *i* P **P 04 36 41.4 -2.3**
MK31 pmax pmax
comp=Z,24nm,0.6s
MK31 Makanchi Array 48.45 296 *eP* **P 04 36 41.7 -2.1**
MKAR Makanchi Array 48.45 296 P **P 04 36 42.0 -1.8**
comp=Z,16nm,0.6s,baz=53,slow=6.3,SNR=79
MKAR Makanchi Array 48.45 296 P **P 04 36 42.0 -1.8**
MKAR pmax pmax
comp=Z,17nm,0.6s
LON Longmire 48.64 64 *eP* **P 04 36 46.0 +0.8**
LON pmax pmax
comp=Z,193nm,2.8s
LON Longmire 48.64 64 *eP* **P 04 36 46.0 +0.8**
comp=Z,193nm,2.8s
NLW Nelson Butte 48.64 61 P **P 04 36 46.3 +1.0**
TDL Tradedollar La 48.66 64 P **P 04 36 46.5 +1.1**
G03D McMinnville, O 48.77 66 P **P 04 36 47.2 +1.2**
baz=49
HSPB Hornsund (broa 48.94 350 *eP* **P 04 36 47.8 +0.8**
HSPB IAmb IAmb 04 36 48.9
comp=Z,216nm,1.2s
B08A Colville Reser 49.02 61 *eP* **P 04 36 48.9 +0.8**
comp=Z,47nm,0.9s
WTV Waterville 49.08 62 P **P 04 36 49.0 +0.4**
EDM Edmonton 49.18 52 *eP* **P 04 36 50.4 +1.2**
EDM Edmonton 49.18 52 *eP* **P 04 36 50.4 +1.2**
TGY Tagaytay City 49.29 234 P **P 04 36 52.2 +1.7**
comp=Z,168nm,0.3s,baz=342,slow=7.3
VLL Laurance Lake 49.49 65 P **P 04 36 53.0 +1.2**
I03D Drain, OR 49.65 68 P **P 04 36 54.2 +1.3**
baz=50
VFP Flag Point 49.70 65 P **P 04 36 54.6 +1.1**
G05D Wamic, OR 49.83 65 P **P 04 36 55.2 +0.9**
baz=50,SNR=9.3
OD2 Odessa Site #2 49.94 61 P **P 04 36 55.5 +0.5**
D08A Wollman Farm, 50.03 62 *eP* **P 04 36 56.4 +0.6**
comp=Z,19nm,1.0s
I04A Tendick Farm, 50.12 67 P **P 04 36 57.3 +0.7**
baz=50,SNR=14
NEW Newport 50.25 60 *eP* **P 04 36 58.2 +0.8**
NEW 04 38 17.0
NEW pmax pmax
comp=Z,24nm,0.9s
NEW Newport 50.25 60 P **P 04 36 58.1 +0.7**
baz=50,SNR=19
NEW Newport 50.25 60 *eP* **P 04 36 58.1 +0.8**
comp=Z,24nm,0.9s
NEW PcP **PcP 04 38 17.0 +0.8**
I05D Terrebonne, OR 50.38 66 P **P 04 36 59.4 +0.9**
baz=50,SNR=6.0
L02D Cave Junction, 50.48 69 P **P 04 37 00.3 +1.1**
baz=50,SNR=7.9
J04D Umpqua Nationa 50.64 67 P **P 04 37 01.9 +1.3**
baz=50,SNR=8.6
BJO Bjornoya 50.69 347 *eP* **P 04 37 01.8 +1.5**
KMI Kunming 50.71 260 P **P 04 37 01.0 -0.4**
KMI pP **pP 04 37 04.8 -1.7**
KMI sP **sP 04 37 06.0 -2.4**
KMI PP **PP 04 38 56.0 -1.3**
KMI PMZ
comp=Z,25nm,1.2s
KMI LN
comp=Z,3µm,19.0s
KMI LE
comp=Z,2µm,16.0s
KMI LZ
comp=Z,3µm,17.5s
BVA0 Borovoye Array 50.82 309 *i* P **P 04 37 00.0 -1.6**
BVA0 pmax pmax
comp=Z,100nm,1.1s
BVAR Borovoye Array 50.82 309 P **P 04 36 59.9 -1.7**
comp=Z,50nm,0.9s,baz=56,slow=7.9,SNR=23
BVAR PcP **PcP 04 38 17.9 -0.3**
comp=Z,9.6nm,0.7s,baz=49,slow=4.4,SNR=2.8
BVAR ScP **ScP 04 42 14.4 +0.9**
comp=Z,5.3nm,1.0s,baz=82,slow=3.1,SNR=5.8
BRVK Borovoye 50.85 309 P **P 04 37 00.6 -1.2**
comp=Z,522nm,1.0s,SNR=33
BRVK Borovoye 50.85 309 *c iP* **P 04 37 00.0 -1.8**
BRVK pmax pmax
comp=Z,101nm,1.0s
BRVK Borovoye 50.85 309 *eP* **P 04 36 59.9 -1.9**
comp=Z,102nm,1.0s
KULLO Kullorsuaq 50.86 12 *i* P **P 04 37 01.4 -0.2**
comp=Z,98nm,1.0s
DAG Danmarks Havn 51.09 360 *i* P **P 04 37 03.4 +0.1**
comp=Z,76nm,1.1s
DAG *i* 04 37 14.4
DAG Danmarks Havn 51.09 360 *i* P **P 04 37 03.4 +0.1**
DAG *i* 04 37 14.4
DAG pmax pmax
comp=Z,97nm,1.1s
G08A Pilot Rock 51.10 64 *eP* **P 04 37 04.7 +0.6**
comp=Z,24nm,1.3s
J05D Fort Rock, OR 51.11 67 P **P 04 37 05.6 +1.5**
baz=51,SNR=16
QIZ Qiongzhong 51.19 249 P **P 04 37 04.5 -0.3**
QIZ S **S 04 44 24.8 +2.4**
QIZ LZ
comp=Z,6µm,14.6s
QIZ Qiongzhong 51.19 249 *eP* **P 04 37 07.1 +2.4**
comp=Z,154nm,1.4s
KHMM Horse Mountain 51.22 71 *eP* **P 04 37 07.2 +2.2**
comp=Z,42nm,1.1s
K04D Chiloquin, OR 51.23 68 P **P 04 37 05.7 +0.7**
baz=51
YBH Yreka Blue Hor 51.26 69 *eP* **P 04 37 07.3 +2.1**
YBH pmax pmax
comp=Z,27nm,1.0s
YBH Yreka Blue Hor 51.26 69 *eP* **P 04 37 07.3 +2.1**
comp=Z,26nm,1.0s
M02C Callahan 51.40 70 P **P 04 37 07.7 +1.5**
baz=51,SNR=7.4
K05A Summer Lake 51.66 67 *eP* **P 04 37 10.2 +2.0**
comp=Z,27nm,0.9s
M04C Macdoel 51.73 69 P **P 04 37 09.8 +1.1**
baz=52,SNR=10
BSMT Bassoo Peak 51.73 59 *eP* **P 04 37 09.8 +1.0**
comp=Z,76nm,1.6s
N02D Trinity Center 51.75 70 P **P 04 37 10.8 +1.9**
baz=52,SNR=11
BLMT Blacktail Moun 51.85 58 *eP* **P 04 37 11.0 +1.3**
JTMT Jette 52.06 59 *eP* **P 04 37 12.2 +1.1**
WDC Whiskeytown Da 52.10 70 *eP* **P 04 37 13.0 +1.6**
WDC pmax pmax
comp=Z,27nm,1.2s
WDC Whiskeytown Da 52.10 70 *eP* **P 04 37 13.0 +1.6**
comp=Z,27nm,1.2s
YBMT Yellow Bay 52.13 58 *eP* **P 04 37 12.6 +0.9**
comp=Z,698nm,1.2s
SWMT Swartz Lake 52.36 59 *eP* **P 04 37 14.1 +0.7**
comp=Z,20nm,0.7s
MOD Modoc 52.52 68 *eP* **P 04 37 16.4 +1.7**
comp=Z,67nm,1.3s
SVE Sverdlovsk 52.78 317 ⇑*iP* **P 04 37 15.8 -0.3**
SVE pmax pmax
comp=Z,35nm,1.2s
SLMT Seeley Lake 52.80 59 *eP* **P 04 37 17.2 +0.6**
comp=Z,49nm,1.2s
MSO Missoula 52.83 59 P **P 04 37 17.5 +0.7**
baz=53,SNR=9.0
MSO Missoula 52.83 59 *eP* **P 04 37 17.8 +1.0**
comp=Z,63nm,1.4s
SLVN Son La 52.87 256 *eP* **P 04 37 18.4 +1.1**
CHMT Chamberlain Mo 53.13 59 *eP* **P 04 37 19.7 +0.5**
comp=Z,20nm,0.7s
LVZ Lovozero 53.33 337 *c iP* **P 04 37 20.6 +0.5**
LVZ pmax pmax
comp=Z,103nm,1.4s
LVZ Lovozero 53.33 337 P **P 04 37 20.8 +0.7**
comp=Z,412nm,0.8s,SNR=8.6
LVZ Lovozero 53.33 337 *eP* **P 04 37 19.7 -0.4**
KEV Kevo 53.47 342 *eP* **P 04 37 20.6 -0.4**
KEV pmax pmax
comp=Z,37nm,0.9s
KEV Kevo 53.47 342 *eP* **P 04 37 20.6 -0.4**
comp=Z,37nm,0.9s
FFC Flin Flon 53.50 46 P **P 04 37 22.2 +0.7**
comp=Z,104nm,1.2s,SNR=5.3
FFC Flin Flon 53.50 46 *eP* **P 04 37 22.7 +1.2**
FFC pmax pmax
comp=Z,35nm,1.2s
FFC Flin Flon 53.50 46 *eP* **P 04 37 22.6 +1.2**
comp=Z,35nm,1.2s
APA Apatity 53.88 338 ⇑*iP* **P 04 37 24.0 -0.1**
APA pmax pmax
comp=Z,68nm,1.2s
ARU Arti 53.90 318 P **P 04 37 23.0 -1.4**
baz=32,slow=6.7
ARU Arti 53.90 318 *d iP* **P 04 37 23.3 -1.1**
ARU S **S 04 44 55.4 -3.2**
ARU pmax pmax
comp=Z,59nm,1.2s
ARU Arti 53.90 318 P **P 04 37 22.8 -1.6**
comp=Z,248nm,0.9s,SNR=11
ARU Arti 53.90 318 *eP* **P 04 37 23.1 -1.3**
ARCES ARCESS Array B 53.94 342 P **P 04 37 24.3 -0.2**
comp=Z,79nm,0.9s,baz=41,slow=7.5,SNR=114
ARCES PcP **PcP 04 38 30.6 +0.9**
comp=Z,25nm,1.0s,baz=12,slow=4.6,SNR=2.9
ARE0 ARCESS Array S 53.94 342 *eP* **P 04 37 24.2 -0.3**
FCC Fort Churchill 54.02 38 *eP* **P 04 37 25.7 +0.5**
FCC Fort Churchill 54.02 38 *eP* **P 04 37 25.7 +0.5**
MFID Camas Ranch 54.03 64 *eP* **P 04 37 26.6 +0.9**
comp=Z,70nm,1.8s
EGMT Eagleton 54.21 56 P **P 04 37 27.5 +0.6**
baz=54,SNR=9.1
LSA Lhasa 54.47 274 *eP* **P 04 37 29.9 +0.4**
LSA pmax pmax
comp=Z,50nm,0.8s
LSA Lhasa 54.47 274 *eP* **P 04 37 29.9 +0.4**
comp=Z,50nm,0.8s
DLMT Dillon 54.49 60 *eP* **P 04 37 30.4 +1.3**
TKM2 Tokmak 2 54.59 296 P **P 04 37 28.3 -1.6**
SNR=27
TKM2 Tokmak 2 54.59 296 *eP* **P 04 37 28.1 -1.8**
TKM2 pmax pmax
comp=Z,44nm,1.0s
TKM2 Tokmak 2 54.59 296 *eP* **P 04 37 28.1 -1.8**
comp=Z,44nm,1.0s
ULHL Ulahol 54.68 295 P **P 04 37 29.6 -0.9**
SNR=24
HLID Hailey 54.70 63 P **P 04 37 31.7 +1.1**
baz=55,SNR=17
HLID Hailey 54.70 63 *eP* **P 04 37 32.0 +1.4**
comp=Z,15nm,1.0s
MCMT McKenzie Canyo 54.71 61 *eP* **P 04 37 31.6 +0.8**
KTK1 Kautokeino 54.81 342 *eP* **P 04 37 31.0 +0.2**
KTK1 IAmb IAmb 04 37 31.7
comp=Z,124nm,0.9s
BOZ Bozeman (W) 54.81 59 *eP* **P 04 37 32.9 +1.5**
BOZ pmax pmax
comp=Z,48nm,1.1s
BOZ Bozeman (W) 54.81 59 P **P 04 37 32.8 +1.4**
baz=55,SNR=27
BOZ Bozeman (W) 54.81 59 *eP* **P 04 37 32.9 +1.5**
comp=Z,48nm,1.1s
USP Ospenovka 54.96 297 P **P 04 37 31.5 -0.8**
SNR=35
CHMS Chumysh 55.00 297 P **P 04 37 31.4 -1.2**
SNR=18
TRO Tromso 55.02 344 *eP* **P 04 37 29.5 -2.8**
PRGR Permogore 55.02 328 ⇑*iP* **P 04 37 32.3 -0.1**
PRGR 04 38 33.4
PRGR *e*S **S 04 45 11.1 -2.4**
PRGR pmax pmax
comp=Z,84nm,0.9s
CMB Columbia Colle 55.04 71 *eP* **P 04 37 34.6 +1.6**
CMB pmax pmax
comp=Z,39nm,1.1s
CMB Columbia Colle 55.04 71 *eP* **P 04 37 34.6 +1.6**
comp=Z,39nm,1.1s
KBK Karagaybulak 55.12 296 P **P 04 37 32.8 -0.9**
SNR=13
BMN Battle Mountai 55.24 67 *eP* **P 04 37 36.5 +1.9**
BMN pmax pmax
comp=Z,57nm,0.9s
BMN Battle Mountai 55.24 67 *eP* **P 04 37 36.5 +1.9**
comp=Z,57nm,0.9s
WAKR Walker 55.27 70 *eP* **P 04 37 36.7 +1.8**
KZA Kyzart 55.34 296 P **P 04 37 35.0 -0.6**
SNR=11
AAK Ala-Archa 55.38 297 P **P 04 37 34.6 -1.0**
SNR=24
TMCR Tamitsa 55.39 333 *eP* **P 04 37 34.7 -0.3**
TMCR pmax pmax
comp=Z,371nm,1.2s
QLMT Earthquake Lak 55.46 60 *eP* **P 04 37 37.3 +1.1**
comp=Z,11nm,0.9s
GCMT Greycliff 55.74 58 *eP* **P 04 37 39.6 +1.6**
comp=Z,16nm,0.9s
EKS2 Erkin-Say 55.76 297 P P 04 37 31.0 -7.2
SNR=5.3
EKS2 Erkin-Say 55.76 297 *eP* **P 04 37 37.1 -1.1**
EKS2 pmax pmax
comp=Z,77nm,1.0s
EKS2 Erkin-Say 55.76 297 *eP* **P 04 37 37.1 -1.1**
comp=Z,77nm,1.0s
CRAI Chiangrai 55.83 259 P **P 04 37 36.5 -2.3**
comp=Z,37nm,1.0s
YNR Norris Junctio 55.94 59 *eP* **P 04 37 42.3 +2.7**
NVAR Mina Array Bea 55.98 70 P **P 04 37 41.5 +1.5**
comp=Z,26nm,0.9s,baz=290,slow=7.8,SNR=80
NVAR ScP **ScP 04 42 40.8 +4.3**
comp=Z,0.5nm,0.7s,baz=264,slow=5.3,SNR=3.2
YFT Old Faithful 56.03 60 *eP* **P 04 37 42.8 +2.5**
comp=Z,44nm,0.9s
AML Almayashu 56.16 297 P **P 04 37 40.9 -0.6**
SNR=6.7
LKWY Lake 56.18 59 *eP* **P 04 37 44.2 +2.8**
LKWY pmax pmax
comp=Z,41nm,0.9s
LKWY Lake 56.18 59 *eP* **P 04 37 44.2 +2.8**
comp=Z,41nm,0.9s
H17A Grant Village 56.20 60 P **P 04 37 44.2 +2.6**
baz=56
MLAC Mammoth Lakes 56.22 71 P **P 04 37 44.1 +2.4**
baz=56
IMW Indian Meadow 56.35 60 *eP* **P 04 37 44.7 +2.1**
comp=Z,35nm,0.9s
FLWY Flagg Ranch 56.35 60 *eP* **P 04 37 44.5 +1.9**
comp=Z,34nm,0.8s
RLMT Red Lodge 56.40 58 P **P 04 37 44.5 +1.6**

baz=56,SNR=27
RLMT **Red Lodge** 56.40 58 *e*P P 04 37 44.8 +1.9
FXWY **Fox Creek** 56.48 61 *e*P P 04 37 45.5 +2.0
F20A **Billings** 56.52 57 P P 04 37 44.8 +1.2
baz=56,SNR=9.6
ILULI **Ilulissat** 56.55 13 *i* P P 04 37 42.9 -0.4
comp=Z,106nm,1.2s
E21A **Keefer Ranch,** 56.56 56 P P 04 37 45.5 +1.6
baz=56,SNR=6.3
TPAW **Teton Pass** 56.62 61 *e*P P 04 37 46.2 +1.7
comp=Z,17nm,0.6s
JMIC **Jan Mayen** 56.64 356 P P 04 37 44.9 +1.0
comp=Z,66nm,1.0s,baz=77,slow=9.7,SNR=4.2
KSH **Kashi** 56.67 293 P P 04 37 47.5 +2.7
KSH pP pP 04 37 56.5 +6.6
KSH PP **PP** 04 39 55.0 +4.5
KSH S **S** 04 45 35.8 -0.6
KSH sS **sS** 04 45 48.0 +3.1
KSH ScS **ScS** 04 47 33.3 0.0
KSH PMZ
comp=Z,120nm,1.2s
KSH LN
comp=Z,4μm,14.6s
KSH LE
comp=Z,4μm,14.9s
KSH LZ
comp=Z,6μm,15.6s
UBPT **Khong Chiam** 56.68 250 P P 04 37 46.3 +1.4
comp=Z,376nm,1.1s
REDW **Red Top Meadow** 56.76 61 *e*P P 04 37 47.5 +2.0
comp=Z,23nm,0.9s
HVU **Hansel Valley** 56.80 63 *e*P P 04 37 47.6 +1.9
HVU **Hansel Valley** 56.80 63 *e*P P 04 37 47.6 +1.9
TPH **Tonopah** 56.84 69 *e*P P 04 37 47.5 +1.4
TPH pmax pmax
comp=Z,60nm,1.0s
TPH **Tonopah** 56.84 69 *e*P P 04 37 47.5 +1.4
comp=Z,60nm,1.0s
CMAI **Chiengmai2** 56.85 260 P P 04 37 47.1 +0.8
comp=Z,58nm,1.2s
H19A **Powell** 56.85 58 P P 04 37 47.6 +1.6
baz=57,SNR=10
A25A **Svangstu Ranch** 56.88 51 P P 04 37 46.9 +0.9
baz=57,SNR=8.1
G20A **Bridger** 56.88 58 P P 04 37 47.3 +1.1
baz=57,SNR=18
RCTC **Rector, Farmer** 56.89 72 P P 04 37 47.6 +1.4
baz=57
LAO **LASA Array** 56.89 55 P P 04 37 47.7 +1.5
baz=57,SNR=13
TIN **Tinemaha** 56.96 71 P P 04 37 48.7 +1.8
baz=57
F21A **Absaloka Mine,** 57.03 56 P P 04 37 48.5 +1.4
baz=57
SMMC **Simmler** 57.14 73 P P 04 37 49.4 +1.4
baz=57,SNR=7.2
STEI **Steigen** 57.15 345 *e*P P 04 37 50.2 +2.7
E22A **Miles City** 57.20 55 P P 04 37 49.4 +1.0
baz=57,SNR=13
C24A **Savage** 57.21 53 P P 04 37 49.6 +1.2
baz=57
KK31 **Karatay Array** 57.22 299 *i* P P 04 37 46.6 -1.9
KK31 pmax pmax
comp=Z,64nm,1.0s
KKAR **Karatay Array** 57.22 299 *e*P P 04 37 46.8 -1.7
KKAR pmax pmax
comp=Z,31nm,0.8s
KKAR **Karatay Array** 57.22 299 *e*P P 04 37 46.8 -1.7
comp=Z,31nm,0.8s
LOF **Lofoten** 57.23 346 *e*P P 04 37 47.7 -0.4
LOF IAmb IAmb 04 37 48.9
comp=Z,256nm,0.8s
I19A **Meeteetse** 57.28 59 P P 04 37 50.3 +1.2
baz=57,SNR=6.6
VES **Vestal, Richgr** 57.30 72 P P 04 37 49.8 +0.6
baz=57,SNR=14
B25A **Knox Farm, Ray** 57.31 52 P P 04 37 49.9 +0.8
baz=57
KHON **Khonmkaen** 57.39 254 P P 04 37 51.4 +1.5
comp=Z,44nm,1.2s,comp=Z,1μm
G21A **Lodge Grass** 57.40 57 P P 04 37 50.7 +0.9
baz=57
A26A **Wade Farm, Ken** 57.42 51 P P 04 37 50.5 +0.7
baz=57
CWC **Cottonwood Cre** 57.47 71 P P 04 37 51.9 +1.4
baz=57
E23A **Ismay** 57.48 55 P P 04 37 51.5 +1.1
baz=57,SNR=5.5
KDM **Kudat** 57.49 234 ⇓P P 04 37 55.9 +5.3
H20A **Greybull** 57.49 58 P P 04 37 51.3 +0.8
baz=57,SNR=6.6
GRAC **Grapevine Rang** 57.50 70 P P 04 37 52.3 +1.8
baz=57,SNR=6.8
F22A **Rosebud** 57.50 56 P P 04 37 51.4 +0.9
baz=57,SNR=6.9
PKM **Peak Mountain** 57.53 74 P P 04 37 52.4 +1.4
baz=58,SNR=7.7
D24A **Glendive** 57.54 54 P P 04 37 51.8 +1.1
baz=57,SNR=6.2
HWUT **Hardware Ranch** 57.58 63 *e*P P 04 37 53.2 +1.9
comp=Z,41nm,0.9s
LAMP **Lampang** 57.58 258 P P 04 37 52.3 +1.0
comp=Z,47nm,1.0s,comp=Z,376nm
R11A **Troy Canyon, C** 57.58 68 P P 04 37 52.7 +1.4
baz=58,SNR=26
UTTA **Uttaradit** 57.63 257 P P 04 37 52.5 +0.9
comp=Z,50nm,1.0s,comp=Z,361nm
C25A **Freed Ranch, W** 57.65 53 P P 04 37 52.5 +1.0
baz=58,SNR=6.3
DLV **T Lat** 57.67 245 *e*P P 04 37 52.8 +0.7
comp=Z,53nm,1.0s
B26A **Jensen Ranch,** 57.69 51 P P 04 37 52.6 +0.9
baz=58
A27A **Ledoux Ranch,** 57.76 50 P P 04 37 53.2 +1.1
baz=58
CMMT **Chiang Mai** 57.77 259 P P 04 37 53.3 +0.7
comp=Z,708nm,1.0s
CHTO **Chiang Mai** 57.77 259 P P 04 37 53.3 +0.7
comp=Z,617nm,1.3s
CHTO **Chiang Mai** 57.77 259 *e*P P 04 37 53.5 +0.9
CHTO pmax pmax
comp=Z,124nm,1.0s
CHTO **Chiang Mai** 57.77 259 *e*P P 04 37 53.5 +0.9
comp=Z,124nm,1.0s
J19A **Crowheart** 57.78 60 P P 04 37 54.3 +1.6
baz=58,SNR=16
ISA **Isabella** 57.78 72 P P 04 37 53.5 +0.9
baz=58,SNR=7.5
I20A **Worland** 57.80 59 P P 04 37 54.2 +1.5
baz=58,SNR=12
PDAR **Pinedale Array** 57.86 60 P P 04 37 54.8 +1.5
comp=Z,33nm,0.8s,baz=343,slow=3.7,SNR=105
DUG **Dugway** 57.86 65 *e*P P 04 37 55.1 +1.9
DUG pmax pmax
comp=Z,40nm,0.9s
DUG **Dugway** 57.86 65 P P 04 37 54.9 +1.7
baz=58,SNR=30
DUG **Dugway** 57.86 65 *e*P P 04 37 55.1 +1.9
comp=Z,40nm,0.9s
G22A **Birney** 57.87 56 P P 04 37 54.0 +0.8
baz=58,SNR=8.5
DAC **Darwin (Calif)** 57.87 71 *e*P P 04 37 54.5 +1.1
DAC pmax pmax
comp=Z,26nm,1.3s
DAC **Darwin (Calif)** 57.87 71 *e*P P 04 37 54.5 +1.1
comp=Z,26nm,1.3s
H21A **Big Horn, Sher** 57.89 57 P P 04 37 54.6 +1.2
baz=58,SNR=21
SBC **Santa Barbara** 57.91 74 P P 04 37 55.1 +1.7
baz=58
E24A **Baker** 57.94 54 P P 04 37 54.8 +1.2
baz=58
ARVC **Arvin** 57.95 73 P P 04 37 55.0 +1.3
baz=58
F23A **Volborg** 57.97 55 P P 04 37 54.9 +1.1
baz=58,SNR=15
D25A **Fairfield** 58.01 53 P P 04 37 55.2 +1.2
baz=58
CMAR **Chiang Mai Arr** 58.04 258 P P 04 37 55.5 +1.0
comp=Z,60nm,0.9s,baz=23,slow=7.2,SNR=133
CMAR ScP **ScP** 04 42 45.8 +0.2
PKP2bc
comp=Z,1.1nm,0.3s,baz=354,slow=7.0,SNR=4.2
CMAR 05 07 51.5
comp=Z,0.6nm,0.4s,baz=250,slow=5.1,SNR=4.4
MPMC **Manual Prospec** 58.08 71 P P 04 37 56.0 +1.1
baz=58,SNR=24
CTU **Camp Tracy** 58.11 64 *e*P P 04 37 56.6 +1.7

B27A **Peters Farms,** 58.13 51 P P 04 37 56.1 +1.3
baz=58
FURC **Furnace Creek,** 58.16 70 P P 04 37 56.3 +1.2
baz=58,SNR=29
TPNV **Topopah Spring** 58.18 70 P P 04 37 56.6 +1.1
baz=58,SNR=28
MYLDM **Lahad Datu** 58.19 231 ⇑P P 04 37 58.7 +3.1
J20A **Shoshoni** 58.23 59 P P 04 37 57.4 +1.6
baz=58,SNR=19
AB31 **Akbulak array** 58.24 311 *i* P P 04 37 53.9 -1.6
AB31 pmax pmax
comp=Z,40nm,0.8s
ABKAR **Akbulak array** 58.24 311 *e*P P 04 37 53.6 -2.0
comp=Z,27nm,0.7s
A28A **Rude Farm, Bot** 58.24 50 P P 04 37 56.4 +0.8
baz=58
TAPN **Taplejung** 58.26 275 *e*P P 04 37 55.8 -0.5
comp=Z,316nm,1.0s
H22A **Clearmont** 58.27 57 P P 04 37 57.2 +1.2
baz=58,SNR=5.7
TNTI **Ternate** 58.27 219 *e*P P 04 37 56.3 +0.2
AKTO **Aktyubinsk** 58.29 313 P P 04 37 54.1 -1.7
comp=Z,16nm,0.6s,baz=71,slow=11,SNR=36
I21A **Big Trails, Te** 58.33 58 P P 04 37 57.3 +0.8
baz=58,SNR=14
JLU **Jordanelle** 58.33 63 *e*P P 04 37 58.4 +1.8
G23A **Biddle** 58.34 56 P P 04 37 57.4 +1.0
baz=58,SNR=9.7
SIJI **Sorong** 58.35 214 P P 04 37 56.7 +0.1
comp=Z,22nm,1.0s,baz=8.0,slow=9.8,SNR=18
F24A **Ekalaka** 58.37 55 P P 04 37 57.5 +0.9
baz=58,SNR=10
SDKM **Sandakan** 58.41 233 ⇓P P 04 38 01.1 +3.9
E25A **Miller Ranch,** 58.43 54 P P 04 37 58.0 +1.1
baz=58,SNR=10.0
NLU **North Lily Min** 58.44 64 *e*P P 04 37 59.0 +1.7
comp=Z,38nm,0.9s
B28A **Dugan Ranch, T** 58.52 50 P P 04 37 58.9 +1.3
baz=58,SNR=6.1
BLG **Laguna Peak** 58.53 74 P P 04 37 59.6 +1.8
baz=58
KKM **Kota Kinabalu** 58.55 234 ⇓P P 04 38 00.1 +2.0
KKM **Kota Kinabalu** 58.55 234 *e*P P 04 37 59.0 +0.8
comp=Z,156nm,1.6s
J21A **Lysite** 58.57 59 P P 04 37 59.2 +1.1
baz=58,SNR=19
EDW2 **Edwards Air Fo** 58.61 72 P P 04 37 59.5 +1.0
baz=58,SNR=17
MPU **Maple Canyon** 58.64 64 *e*P P 04 38 00.1 +1.4
comp=Z,127nm,0.9s
SFJD **Kangerlussuaq** 58.68 14 *i* P P 04 37 58.1 -0.2
SFJD **Kangerlussuaq** 58.68 14 P P 04 37 57.5 -0.8
comp=Z,56nm,1.1s,baz=326,slow=3.3,SNR=5.2
SFJD **Kangerlussuaq** 58.68 14 P P 04 37 57.5 -0.8
SFJD pmax pmax
comp=Z,56nm,1.1s
SFJD **Kangerlussuaq** 58.68 14 *e*P P 04 37 58.9 +0.6
I22A **9 Mile Ranch,** 58.69 58 P P 04 38 00.3 +1.3
baz=58,SNR=16
A29A **Manning Farm,** 58.72 49 P P 04 37 59.9 +1.0
baz=58,SNR=19
G24A **Alzada** 58.74 55 P P 04 37 59.9 +0.7
baz=59,SNR=21
KONS **Konsvik** 58.80 345 *e*P P 04 37 58.8 -0.3
F25A **Bowman** 58.80 54 P P 04 38 00.8 +1.2
baz=59,SNR=7.6
ODAN **Odare** 58.81 274 *e*P P 04 37 59.1 -1.0
comp=Z,111nm,1.0s
MHMT **Maesarieng** 58.87 259 P P 04 38 06.4 +6.1
comp=Z,177nm,0.8s
SHOC **Shoshone** 58.89 70 P P 04 38 01.7 +1.4
baz=59,SNR=7.7
E26A **Carlson Angus** 58.91 53 P P 04 38 01.4 +1.1
baz=59,SNR=10
GUN **Gumba** 58.97 276 *e*P P 04 38 00.7 -0.6
comp=Z,106nm,0.8s
B29A **Wagenman Farm,** 58.99 50 P P 04 38 01.9 +1.2
baz=59,SNR=9.3
GSC **Goldstone** 59.01 71 *e*P P 04 38 01.9 +0.7
GSC pmax pmax
comp=Z,35nm,1.0s
GSC **Goldstone** 59.01 71 P P 04 38 02.4 +1.2
baz=59,SNR=18
GSC **Goldstone** 59.01 71 *e*P P 04 38 01.9 +0.7
comp=Z,34nm,1.0s
J22A **Midwest** 59.03 58 P P 04 38 02.5 +1.2
baz=59,SNR=30
C28A **Hauer Farms** 59.03 51 P P 04 38 02.4 +1.3
baz=59,SNR=6.9
H24A **Dirks Ranch, A** 59.08 56 P P 04 38 02.7 +1.1
baz=59,SNR=18
SHPR **Sheep Range** 59.11 69 *e*P P 04 38 03.1 +1.2
comp=Z,38nm,1.5s
A30A **Hoffart Farm,** 59.13 49 P P 04 38 02.7 +0.9
baz=59,SNR=5.7
RAMN **Ramite** 59.23 275 *e*P P 04 38 01.9 -1.1
comp=Z,341nm,0.9s
F26A **Lodgepole** 59.24 54 P P 04 38 03.6 +1.0
baz=59,SNR=12
TSM **Tawau** 59.26 231 ⇑P P 04 38 04.5 +1.5
ULM **Lac du Bonnet** 59.29 46 P P 04 38 03.7 +0.9
comp=Z,27nm,0.8s,baz=313,slow=6.9,SNR=20
MDND **Maddock** 59.31 50 P P 04 38 04.7 +1.7
baz=59,SNR=11
D28A **Regan** 59.32 51 P P 04 38 04.4 +1.3
baz=59,SNR=5.9
G25A **Newell** 59.34 55 P P 04 38 04.3 +1.0
baz=59,SNR=11
E27A **Carson** 59.38 53 P P 04 38 04.8 +1.2
baz=59,SNR=5.6
MSU **Marysvale** 59.39 66 *e*P P 04 38 05.6 +1.6
MSU pmax pmax
comp=Z,29nm,1.1s
MSU **Marysvale** 59.39 66 *e*P P 04 38 05.6 +1.6
comp=Z,29nm,1.1s
CCUT **Cedar City** 59.40 67 *e*P P 04 38 05.5 +1.5
comp=Z,4,4nm,0.3s
CIS **Catalina Islan** 59.41 74 P P 04 38 05.3 +1.4
baz=59
KKN **Kakani** 59.42 277 *e*P P 04 38 03.7 -0.6
comp=Z,115nm,0.7s
TUQ **Turquoise Moun** 59.42 71 P P 04 38 05.3 +1.2
baz=59,SNR=22
B30A **Myrvik Farm, E** 59.47 49 P P 04 38 05.4 +1.3
baz=59,SNR=22
PKI **Pulchoki** 59.50 276 *e*P P 04 38 04.2 -0.8
comp=Z,192nm,0.9s
PKIN **Phulchoki** 59.50 276 *e*P P 04 38 04.1 -0.8
comp=Z,120nm,0.8s
J23A **Dilts Ranch, B** 59.52 57 P P 04 38 05.8 +1.1
baz=59
K22A **Casper** 59.54 59 P P 04 38 06.0 +1.1
baz=59,SNR=11
F27A **Lemmon** 59.55 53 P P 04 38 05.7 +1.0
baz=59,SNR=14
HEC **Hector,Ludlow** 59.62 71 P P 04 38 06.6 +1.2
baz=60,SNR=23
SCI **San Clemente I** 59.63 74 P P 04 38 06.4 +1.0
baz=60
H25A **Fruitdale** 59.65 55 P P 04 38 06.6 +1.1
baz=60,SNR=11
DMN **Daman** 59.66 277 *e*P P 04 38 05.6 -0.4
comp=Z,240nm,0.9s
GKN **Gorkha** 59.66 277 *e*P P 04 38 05.1 -0.8
comp=Z,194nm,0.9s
I24A **Kuemmerle Ranc** 59.67 57 P P 04 38 05.9 +0.2
baz=60
BBRC **Big Bear Solar** 59.67 72 P P 04 38 07.1 +1.1
baz=60
G26A **Maurine** 59.67 54 P P 04 38 06.6 +1.0
baz=60,SNR=26
E28A **Huff** 59.70 52 P P 04 38 07.2 +1.5
baz=60,SNR=10
RSSD **Black Hills** 59.78 56 *e*P P 04 38 07.8 +1.2
RSSD **Black Hills** 59.78 56 *e*P P 04 38 07.8 +1.2
UMPA **Umpang Tak** 59.84 257 P P 04 38 09.4 +2.4
comp=Z,67nm,1.0s,comp=Z,1μm
NAYO **Nakonayok** 59.87 253 P P 04 38 08.8 +1.6
comp=Z,87nm,1.5s
D29A **Pettibone, Tap** 59.88 51 P P 04 38 07.9 +0.9
baz=60
SRU **San Rafael** 59.88 64 *e*P P 04 38 08.5 +1.2
SRU pmax pmax
comp=Z,70nm,0.8s
SRU **San Rafael** 59.88 64 *e*P P 04 38 08.5 +1.2
comp=Z,70nm,0.8s
FAKI **Fak Fak** 59.94 213 *e*P P 04 38 08.5 +0.8

K23A **Bowen Ranch, D** 59.94 58 P P 04 38 08.2 +0.6
baz=60,SNR=7.8
DANN **Dangsing** 59.94 278 *e*P P 04 38 07.4 -0.6
C30A **Mose, Pekin** 59.94 50 P P 04 38 07.9 +0.6
baz=60
G27A **Dupree** 59.95 54 P P 04 38 08.3 +0.9
baz=60,SNR=24
MURC **Murrieta** 59.98 73 P P 04 38 08.8 +0.9
baz=60,SNR=12
J24A **Dixon Ranch, L** 60.03 57 P P 04 38 08.8 +0.6
baz=60,SNR=7.0
GMRC **Granite Mounta** 60.04 71 P P 04 38 09.4 +1.0
baz=60,SNR=22
H26A **Fairpoint** 60.07 55 P P 04 38 09.4 +1.0
baz=60,SNR=12
LDFC **Landfair** 60.15 70 *e*P P 04 38 10.3 +1.2
comp=Z,91nm,1.0s
D30A **Buchanan** 60.24 51 P P 04 38 10.0 +0.6
baz=60,SNR=15
BELC **Belle Mtn. Jos** 60.40 72 P P 04 38 11.6 +0.7
baz=60,SNR=15
H27A **Howes** 60.41 54 P P 04 38 11.4 +0.8
baz=60,SNR=7.6
O20A **White River Ci** 60.41 62 P P 04 38 11.6 +0.7
baz=60,SNR=11
PFO **Pinyon Flat Ob** 60.41 72 P P 04 38 11.5 +0.6
baz=60
J25A **Sunshine Ranch** 60.42 56 P P 04 38 11.2 +0.4
baz=60
I26A **New Underwood** 60.45 55 P P 04 38 11.6 +0.6
baz=60
KOLN **Koldanda** 60.46 278 *e*P P 04 38 10.6 -0.8
comp=Z,109nm,0.8s
109C **Camp Elliot, M** 60.54 73 P P 04 38 12.5 +0.8
baz=60
E30A **Jud** 60.60 51 P P 04 38 12.8 +0.8
baz=60,SNR=8.1
F29A **Eureka** 60.65 52 P P 04 38 13.2 +1.0
baz=60,SNR=13
NEE2 **Needles Airpor** 60.65 70 P P 04 38 13.4 +1.0
baz=60
G28A **Parade** 60.66 53 P P 04 38 13.4 +1.0
baz=60,SNR=9.7
AGMN **Agassiz Nation** 60.72 48 P P 04 38 13.6 +0.9
baz=60,SNR=20
AGMN **Agassiz Nation** 60.72 48 *e*P P 04 38 13.5 +0.9
comp=Z,43nm,1.0s
FINES **FINESS Array B** 60.75 337 P P 04 38 12.7 +0.1
comp=Z,131nm,0.7s,baz=46,slow=8.2,SNR=247
IRM **Iron Mountain** 60.78 71 P P 04 38 14.7 +1.3
baz=61,SNR=29
NSS **Namsos** 60.81 345 *e*P P 04 38 12.5 -0.5
I27A **Quinn** 60.82 55 P P 04 38 14.6 +1.1
baz=61,SNR=20
J26A **Sides Ranch, S** 60.85 56 P P 04 38 14.8 +1.0
baz=61,SNR=12
H28A **Mission Ridge** 60.90 54 P P 04 38 15.1 +1.1
baz=61,SNR=17
MONP **Monument Peak** 60.94 73 P P 04 38 15.7 +1.0
baz=61,SNR=7.6
BC3 **Big Chuckawall** 60.96 72 P P 04 38 15.4 +0.8
baz=61,SNR=16
F30A **Leola** 61.03 52 P P 04 38 15.0 +0.1
baz=61
G29A **Hoven** 61.06 53 P P 04 38 15.5 +0.4
baz=61,SNR=7.0
N23A **Red Feather La** 61.09 60 P P 04 38 17.4 +1.8
baz=61,SNR=32
PUL **Pulkovo** 61.09 334 *d i* P P 04 38 15.6 +0.6
PUL pmax pmax
comp=Z,348nm,1.2s
KHLT **Khaolaem Dam** 61.10 256 P P 04 38 17.7 +2.1
comp=Z,213nm,0.7s
SRDT **SRDT** 61.14 255 P P 04 38 17.7 +1.8
comp=Z,365nm,1.9s
L25A **Engebretsen Ra** 61.22 58 P P 04 38 17.1 +0.8
baz=61
K26A **Motz Farm, Whi** 61.24 57 P P 04 38 16.9 +0.5
baz=61
PATY **Pattaya** 61.24 253 P P 04 38 19.0 +2.5
comp=Z,20nm,1.3s,comp=Z,2μm
PDMCI **Parker Dam,Lak** 61.26 70 P P 04 38 17.6 +1.1
baz=61,SNR=20
SWSC **Sam W. Stewart** 61.27 73 P P 04 38 17.3 +0.7
baz=61,SNR=6.9
IBP **Imperial Bould** 61.30 73 P P 04 38 18.1 +1.2
baz=61
I28A **Midland** 61.31 54 P P 04 38 17.5 +0.7
baz=61,SNR=11
H29A **Onida** 61.33 53 P P 04 38 17.3 +0.4
baz=61,SNR=7.5
SANI **Sanana** 61.39 220 P P 04 38 16.9 -0.6
comp=Z,42nm,1.3s
Y12C **Blythe** 61.43 71 P P 04 38 19.0 +1.3
baz=61,SNR=17
J27A **Elkhorn Farm,** 61.43 55 P P 04 38 18.7 +1.0
baz=61
G30A **Faulkton** 61.49 52 P P 04 38 18.6 +0.6
baz=61,SNR=20
M25A **Palm-Egli Farm** 61.70 58 P P 04 38 21.1 +1.5
baz=62,SNR=5.4
J28A **Allard Ranch,** 61.70 55 P P 04 38 20.7 +1.3
baz=62,SNR=22
K27A **Flueckinger Fa** 61.72 56 P P 04 38 20.1 +0.5
baz=62,SNR=7.0
I29A **Vivian Onida** 61.73 54 P P 04 38 20.0 +0.4
baz=62,SNR=5.9
GLA **Glamis** 61.76 72 P P 04 38 21.1 +1.1
baz=62,SNR=14
WUAZ **Wupatki** 61.97 68 P P 04 38 23.3 +1.8
baz=62,SNR=22
WUAZ **Wupatki** 61.97 68 *e*P P 04 38 22.9 +1.4
comp=Z,49nm,1.1s
ISCO **Idaho Springs** 62.05 60 *e*P P 04 38 23.8 +1.6
ISCO pmax pmax
comp=Z,35nm,0.9s
ISCO **Idaho Springs** 62.05 60 P P 04 38 24.0 +1.7
baz=62,SNR=32
ISCO **Idaho Springs** 62.05 60 *e*P P 04 38 23.8 +1.6
comp=Z,35nm,0.9s
M26A **McRoberts Ranc** 62.15 58 P P 04 38 24.2 +1.6
baz=62,SNR=5.8
K28A **Ten Mile Ranch** 62.15 56 P P 04 38 23.8 +1.3
baz=62
J29A **Okreek** 62.17 54 P P 04 38 23.1 +0.5
baz=62,SNR=11
MOS **Moscow** 62.23 327 *e*P P 04 38 21.6 -1.1
MOS *e* 04 38 36.9
MOS pmax pmax
comp=Z,237nm,1.2s
MOS pmax pmax
comp=N,151nm,1.1s
I30A **Oacoma** 62.24 53 P P 04 38 23.7 +0.7
baz=62
MVCO **Mesa Verde** 62.36 64 P P 04 38 25.4 +1.2
baz=62,SNR=17
MVCO **Mesa Verde** 62.36 64 *e*P P 04 38 25.0 +0.8
comp=N,17nm,0.8s
M27A **Reverse DX Ran** 62.49 57 P P 04 38 25.8 +0.9
baz=62
PMG **Port Moresby** 62.56 194 *ce*P P 04 38 25.1 -0.2
PMG pmax pmax
comp=Z,223nm,1.2s
PMG **Port Moresby** 62.56 194 *e*P P 04 38 25.8 +0.4
J30A **Dallas** 62.64 54 P P 04 38 26.4 +0.7
baz=62,SNR=7.7
K29A **Lazy Trails An** 62.64 55 P P 04 38 26.8 +1.0
baz=62,SNR=6.8
S22A **4UR Ranch, Cre** 62.88 63 P P 04 38 29.4 +1.6
baz=63,SNR=28
Q24A **Divide** 62.91 61 P P 04 38 29.1 +1.1
baz=63,SNR=6.9
EYMN **Ely** 62.93 46 P P 04 38 28.3 +0.7
baz=63,SNR=18
EYMN **Ely** 62.93 46 *e*P P 04 38 28.0 +0.5
comp=Z,45nm,0.9s
N27A **Anderson Farm,** 62.94 58 P P 04 38 29.2 +1.3
baz=63,SNR=10
O26A **Horse Wrangler** 62.95 59 P P 04 38 28.6 +0.7
baz=63
K30A **Basset** 63.06 54 P P 04 38 29.7 +1.2
baz=63,SNR=9.0
OBN **Obninsk** 63.09 328 P P 04 38 27.8 -0.6
comp=Z,88nm,0.7s,baz=2.0,slow=2.3,SNR=32
OBN **Obninsk** 63.09 328 ⇑*e*P P 04 38 27.8 -0.6
OBN *e* 04 39 04.3
OBN *e* 04 40 51.9
OBN pmax pmax

OBN MLR MLR
comp=Z,256nm,1.4s
comp=Z,4µm,17.0s
OBN Obninsk 63.09 328 P **P** 04 38 28.6 +0.1
comp=Z,921nm,1.0s,SNR=5.5
OGNE Ogallala 63.10 57 P **P** 04 38 30.1 +1.2
baz=63
OGNE Ogallala 63.10 57 *eP* **P** 04 38 29.9 +1.0
comp=Z,152nm,1.6s
M28A Bar X Bar Ranc 63.11 57 P **P** 04 38 29.6 +0.7
baz=63
VSU Vasula 63.17 335*c i*P **P** 04 38 29.3 +0.4
VSU *i* *PP **pP** 04 38 38.1 +4.0
BORG Borgarnes 63.17 1 P **P** 04 38 29.4 +0.5
comp=Z,33nm,1.0s,baz=34,slow=9.2,SNR=5.2
BORG PcP **PcP** 04 39 07.9 +1.7
comp=Z,34nm,1.0s,baz=5.0,slow=1.4,SNR=3.6
W18A Petrified Fore 63.18 67 P **P** 04 38 31.0 +1.4
baz=63,SNR=7.1
M29A Burnside Ranch 63.42 56 P **P** 04 38 31.6 +0.6
baz=63
O27A Beecher Island 63.42 58 P **P** 04 38 32.3 +1.2
baz=63,SNR=27
P26A Davis Ranch, A 63.43 59 P **P** 04 38 32.5 +1.3
baz=63,SNR=15
H34A Spellman Lake, 63.45 51 P **P** 04 38 31.9 +0.9
baz=63,SNR=15
L30A Spencer Herefo 63.54 55 P **P** 04 38 32.1 +0.3
baz=63
N28A Pribbeno Ranch 63.54 57 P **P** 04 38 32.9 +1.1
baz=63,SNR=13
SDCO Great Sand Dun 63.61 62 P **P** 04 38 33.8 +1.2
baz=64,SNR=22
SDCO Great Sand Dun 63.61 62 *eP* **P** 04 38 33.8 +1.2
comp=Z,34nm,1.4s
SBUM Sibu 63.64 236 ⇓P **P** 04 38 35.5 +2.9
214A Organ Pipe Nat 63.72 71 P **P** 04 38 34.4 +1.4
baz=64,SNR=28
ECSD EROS Data Cent 63.74 52 P **P** 04 38 33.9 +0.9
baz=64,SNR=19
ECSD EROS Data Cent 63.74 52 *eP* **P** 04 38 32.7 -0.3
comp=Z,31nm,0.9s
AKN Aaknes 63.79 346 *eP* **P** 04 38 33.7 +0.7
AKN IAmb IAmb 04 38 34.5
comp=Z,78nm,1.0s
Q26A Hugo 63.80 60 P **P** 04 38 34.6 +0.9
baz=64,SNR=6.5
L31A Butterfield Fa 63.81 54 P **P** 04 38 34.6 +1.1
baz=64,SNR=19
O28A Krutsinger Ran 63.84 58 P **P** 04 38 34.7 +1.0
baz=64,SNR=17
KBL Kabul 64.10 293 *eP* **P** 04 38 33.2 -2.5
KBL pmax pmax
comp=Z,45nm,0.9s
KBL Kabul 64.10 293 *eP* **P** 04 38 33.2 -2.5
comp=Z,45nm,0.9s
NB2 NORSAR Subarra 64.20 344 P **P** 04 38 35.8 0.0
comp=Z,128nm,1.4s,baz=21,slow=6.9
NB2 NORSAR Subarra 64.20 344 P **P** 04 38 35.8 0.0
baz=21,slow=6.9
NOA NORSAR Array B 64.20 344 P **P** 04 38 33.6 -2.2
comp=Z,4.0nm,0.7s,baz=9.3,slow=8.7,SNR=34
KSCO Kaye Shedlock' 64.21 59 P **P** 04 38 37.4 +1.1
baz=64,SNR=8.1
P28A Saint Francis 64.25 58 P **P** 04 38 37.5 +1.0
baz=64,SNR=13
R26A Arlington 64.30 60 P **P** 04 38 38.0 +1.1
baz=64,SNR=40
O29A 4D Ranch, Culb 64.34 57 P **P** 04 38 37.8 +0.7
baz=64,SNR=13
M31A Lambtecht Ranc 64.36 55 P **P** 04 38 37.2 +0.1
baz=64
SPMN St. Paul 64.41 48 P **P** 04 38 38.1 +0.7
baz=64,SNR=18
NC602 NORSAR Array S 64.43 343 *eP* **P** 04 38 38.3 +1.1
NAO01 NORSAR Array S 64.44 344 *eP* **P** 04 38 37.4 +0.1
comp=Z,5.1nm,0.4s
VRHR Novokhopersk 64.58 322 *eP* **P** 04 38 36.0 -2.3
VRHR pmax pmax
comp=Z,120nm,0.7s
VRHR pmax pmax
comp=N,120nm,1.0s
VRHR pmax pmax
comp=E,120nm,1.2s
Q28A Sharon Springs 64.59 59 P **P** 04 38 39.5 +0.7
baz=64
HFS Hagfors 64.60 342 P **P** 04 38 38.2 -0.1
comp=E,42nm,0.9s,baz=34,slow=5.3,SNR=50
TUC Tucson 64.63 70 *eP* **P** 04 38 40.0 +0.9
TUC pmax pmax
comp=Z,22nm,1.0s
TUC Tucson 64.63 70 *eP* **P** 04 38 40.0 +0.9
comp=Z,22nm,1.0s
T25A Trinidad 64.64 62 P **P** 04 38 40.2 +0.9
baz=64,SNR=12
R27A Eads 64.66 60 P **P** 04 38 40.0 +0.8
baz=64,SNR=15
P29A Atwood 64.66 58 P **P** 04 38 39.5 +0.4
baz=64,SNR=5.2
O30A MW Ranch, Wils 64.68 57 P **P** 04 38 40.1 +0.9
baz=64,SNR=9.1
BGNE Belgrade 64.73 55 P **P** 04 38 40.1 +0.6
baz=64,SNR=5.9
N31A Bailey Ranch, 64.76 55 P **P** 04 38 40.0 +0.2
baz=65
HYA Hoyanger 64.87 346 *eP* **P** 04 38 40.6 +0.5
T26A Comanche Natio 65.05 61 P **P** 04 38 42.5 +0.6
baz=65,SNR=16
P30A Selden 65.06 57 P **P** 04 38 42.0 +0.3
baz=65,SNR=7.6
O31A Woolen Ranch, 65.07 56 P **P** 04 38 41.9 +0.1
baz=65,SNR=5.9
M33A Taylor Creek F 65.08 54 P **P** 04 38 42.2 +0.5
baz=65,SNR=6.1
R28A Tribune 65.14 59 P **P** 04 38 43.0 +0.6
baz=65,SNR=14
N32A Stulken Farm, 65.14 55 P **P** 04 38 42.2 0.0
baz=65
ANMO Albuquerque 65.14 65*ce*P **P** 04 38 43.9 +1.4
ANMO pmax pmax
comp=Z,68nm,0.8s
ANMO Albuquerque 65.14 65 *eP* **P** 04 38 43.7 +1.2
comp=Z,19nm,0.9s
Q29A Oakley 65.16 58 P **P** 04 38 42.8 +0.4
baz=65,SNR=15
L34A Svendsen Farm, 65.18 53 P **P** 04 38 42.7 +0.2
baz=65,SNR=8.0
OSL Oslo 65.32 344 *eP* **P** 04 38 44.3 +1.3
COWI Conover 65.38 46 *eP* **P** 04 38 43.7 0.0
comp=Z,38nm,0.9s
VSR Storozhevoye 65.39 324 *eP* **P** 04 38 42.5 -1.1
VSR pmax pmax
comp=Z,190nm,1.3s
VSR pmax pmax
comp=N,180nm,1.0s
VSR pmax pmax
comp=E,110nm,1.0s
R29A Marienthal 65.43 59 P **P** 04 38 44.8 +0.7
baz=65,SNR=6.1
M34A Aspy Farms, Fr 65.43 53 P **P** 04 38 44.7 +0.6
baz=65,SNR=7.3
SRIT Nakonsritamara 65.44 251 P **P** 04 38 46.1 +1.7
comp=E,114nm,1.2s,comp=E,6µm
KSM Kuching 65.44 237 ⇓P **P** 04 38 46.9 +2.5
KSM Kuching 65.44 237 *eP* **P** 04 38 45.4 +1.0
comp=E,154nm,1.3s
L35A Bielow Farm, R 65.48 52 P **P** 04 38 44.2 -0.2
baz=65
Q30A Quinter 65.49 58 P **P** 04 38 45.2 +0.7
baz=65,SNR=17
P31A Stockton 65.52 57 P **P** 04 38 45.0 +0.3
baz=65,SNR=8.0
O32A Brockman Farm, 65.52 55 P **P** 04 38 44.7 0.0
baz=65
Y22D IRIS PASSCAL I 65.52 66 P **P** 04 38 47.1 +2.2
baz=65,SNR=5.3
N33A J Bar K, Exete 65.58 55 P **P** 04 38 44.9 -0.1
baz=65
T27A Campo 65.60 61 P **P** 04 38 45.9 +0.5
baz=65,SNR=8.3
SURT Suratani 65.61 252 P **P** 04 38 47.0 +1.5
comp=E,116nm,1.0s
S28A Manter 65.65 60 P **P** 04 38 46.3 +0.7
baz=66,SNR=15
ASK Askoy 65.67 347 *eP* **P** 04 38 46.7 +1.5
RUND Rundenannen 65.71 347 *eP* **P** 04 38 46.0 +0.4
BER Bergen 65.75 347 *eP* **P** 04 38 47.7 +2.0
KONO Kongsberg 65.79 344 *eP* **P** 04 38 47.5 +1.5

KONO Kongsberg 65.79 344 *eP* **P** 04 38 46.7 +0.7
KONO pmax pmax
comp=Z,38nm,1.2s
KONO Kongsberg 65.79 344 *eP* **P** 04 38 46.7 +0.7
comp=Z,38nm,1.2s
P32A Huiting Farm, 65.84 56 P **P** 04 38 46.5 -0.2
baz=66,SNR=11
CBKS Cedar Bluff 65.86 57 *eP* **P**
CBKS pmax pmax
comp=Z,31nm,0.8s
CBKS Cedar Bluff 65.86 57 P **P** 04 38 47.0 0.0
baz=66
CBKS Cedar Bluff 65.86 57 *eP* **P** 04 38 46.8 -0.1
comp=Z,31nm,0.8s
T28A Walsh 65.88 60 P **P** 04 38 47.9 +0.7
baz=66,SNR=22
Q31A Ellis 65.90 57 P **P** 04 38 47.2 0.0
baz=66
N34A Lincoln 65.97 54 P **P** 04 38 47.6 0.0
baz=66,SNR=7.6
R30A Dighton 65.98 58 P **P** 04 38 48.0 +0.3
baz=66,SNR=24
TRTT Trang 66.00 251 P **P** 04 38 49.5 +1.5
comp=Z,194nm,1.5s
ODD1 Odda 66.01 346 *eP* **P** 04 38 49.0 +1.4
O33A Hebron 66.01 55 P **P** 04 38 47.7 -0.1
baz=66,SNR=5.9
U27A Thompson Grove 66.03 61 P **P** 04 38 48.8 +0.7
baz=66,SNR=16
S29A Ulysses 66.04 59 P **P** 04 38 48.3 +0.2
baz=66
STKI Sintang 66.06 235 P **P** 04 38 50.2 +1.9
comp=Z,90nm,1.3s
121A Cookes Peak, D 66.18 67 P **P** 04 38 50.9 +1.7
baz=66,SNR=12
SCHQ Schefferville 66.26 27 P **P** 04 38 49.3 +0.1
comp=Z,17nm,0.8s,baz=345,slow=5.3,SNR=16
T29A Huston 66.29 60 P **P** 04 38 50.2 +0.5
baz=66,SNR=7.5
MICGM Minsk 66.30 332 ⇑*i*P **P** 04 38 48.0 -1.4
MNK Minsk 66.31 332 ⇑*i*P **P** 04 38 48.0 -1.5
MNK pmax pmax
comp=Z,620nm,0.9s
MNK pmax pmax
comp=N,710nm,1.0s
MNK pmax pmax
comp=E,360nm,1.0s
Q32A Meitler Ranch, 66.33 57 P **P** 04 38 49.9 -0.1
baz=66,SNR=6.5
S30A Montezuma 66.36 59 P **P** 04 38 50.3 +0.1
baz=66
R31A Burdett 66.37 58 P **P** 04 38 50.2 +0.1
baz=66,SNR=9.1
O34A Beatrice 66.38 54 P **P** 04 38 50.1 -0.1
baz=66,SNR=16
U28A Mallet 66.38 61 P **P** 04 38 50.6 +0.2
baz=66,SNR=5.8
N35A Tabor 66.38 53 P **P** 04 38 50.4 +0.2
baz=66,SNR=9.3
P33A Williams Farm, 66.44 56 P **P** 04 38 50.8 +0.2
baz=66
BLS5 Blasjo 66.50 346 *eP* **P** 04 38 51.6 +0.9
V27A Dan Oppiter Fa 66.51 62 P **P** 04 38 51.7 +0.5
baz=66,SNR=12
KAPI Kappang 66.64 225 P **P** 04 38 51.6 -0.4
comp=E,8.5nm,0.8s,baz=54,slow=20,SNR=4.8
KAPI Kappang 66.64 225 *eP* **P** 04 38 52.8 +0.8
comp=E,73nm,1.9s
R32A Long Quarter, 66.69 57 P **P** 04 38 51.9 -0.3
baz=66
Q33A Connelly Farm, 66.70 56 P **P** 04 38 51.7 -0.6
baz=66,SNR=11
O35A Humboldt 66.70 54 P **P** 04 38 51.9 -0.4
baz=66
PKDT Phuket 66.74 252 P **P** 04 38 54.5 +1.8
comp=E,165nm,1.1s
BKSI Bulukumba 66.76 224 P **P** 04 38 53.0 +0.2
comp=E,30nm,1.2s
T30A Plains 66.77 59 P **P** 04 38 52.5 -0.3
baz=67
P34A Walnut Farm, R 66.79 55 P **P** 04 38 52.9 0.0
baz=67
V28A Channing 66.85 61 P **P** 04 38 53.5 +0.1
baz=67,SNR=5.7
S31A Mulinville 66.89 58 P **P** 04 38 53.6 +0.1
baz=67
CHLP Challavanipeta 67.07 271 *eP* **P** 04 38 54.7 -0.1
CHLP IAmb IAmb 04 38 55.8
comp=Z,96nm,1.0s
U30A WK&E Inc. Balk 67.10 60 P **P** 04 38 54.9 0.0
baz=67
S32A Newby Ranch, P 67.12 58 P **P** 04 38 54.5 -0.4
baz=67,SNR=7.4
V29A Stinnett 67.13 61 P **P** 04 38 54.9 -0.3
baz=67
R33A Olander Ranch, 67.14 57 P **P** 04 38 54.7 -0.4
baz=67,SNR=6.7
T31A Randall Ranch, 67.19 59 P **P** 04 38 55.4 0.0
baz=67
P35A Duane Minner, 67.21 55 P **P** 04 38 54.9 -0.6
baz=67
O36A Bolckow 67.27 53 P **P** 04 38 55.7 -0.1
baz=67,SNR=7.2
BSSI Bau Bau, Buton 67.34 223 P **P** 04 38 56.5 0.0
comp=Z,86nm,1.3s
JFWS Jewell Farm 67.36 49 *eP* **P** 04 38 55.8 -0.6
JFWS pmax pmax
comp=Z,63nm,1.4s
JFWS Jewell Farm 67.36 49 *eP* **P** 04 38 55.8 -0.6
comp=Z,63nm,1.4s
ABKT Ailbek 67.46 303 P **P** 04 38 56.1 -1.1
comp=Z,270nm,0.8s,SNR=5.1
GEYT Ailbek 67.46 303 P **P** 04 38 56.3 -0.9
comp=Z,27nm,0.7s,baz=28,slow=3.5,SNR=23
KULM Kulim 67.51 248 *eP* **P** 04 38 58.4 +0.8
comp=Z,194nm,1.8s
T32A Huddler Ranch, 67.52 58 P **P** 04 38 57.0 -0.5
baz=67,SNR=8.8
R34A Isabella, Hill 67.53 56 P **P** 04 38 57.0 -0.6
baz=67,SNR=10
P36A Good Intent, A 67.54 54 P **P** 04 38 57.5 -0.1
baz=67
IMYA Miami 67.64 301 *eP* **P** 04 38 56.9 -1.5
U31A Nine Bar Ranch 67.64 59 P **P** 04 38 59.1 +0.7
baz=68
S33A Kaszmaul Farm, 67.68 57 P **P** 04 38 58.5 0.0
baz=68
COEN Coen 67.69 198 *eP* **P** 04 38 58.6 0.0
Q35A Mercer Eighty, 67.71 55 P **P** 04 38 58.4 -0.3
baz=68
X28A Dimmitt 67.79 62 P **P** 04 38 60.0 +0.6
baz=68,SNR=13
T33A Patterson Ranc 67.94 58 P **P** 04 38 59.7 -0.5
baz=68
IPM Ipoh 67.96 247 *eP* **P** 04 39 00.6 +0.1
comp=Z,71nm,1.1s
R35A Emporia Munici 68.04 55 P **P** 04 39 00.8 +0.1
baz=68
S34A Willow Spring 68.05 57 P **P** 04 39 00.3 -0.5
baz=68
U32A Winter Ranch, 68.08 59 P **P** 04 39 01.2 +0.1
baz=68,SNR=6.3
V31A Spring Creek L 68.10 60 P **P** 04 39 02.0 +0.8
baz=68,SNR=6.3
X29A Tulia 68.11 62 P **P** 04 39 02.2 +0.8
baz=68,SNR=31
W30A Crocket Farms 68.16 61 P **P** 04 39 02.4 +0.8
baz=68
Y28A McKinney Farm, 68.22 63 P **P** 04 39 02.4 +0.3
baz=68,SNR=11
GLMI Gerling 68.34 44 *eP* **P** 04 39 03.1 +0.6
comp=Z,49nm,0.8s
R36A Gordon, Harris 68.39 55 P **P** 04 39 02.5 -0.4
baz=68
S35A Otter Creek Ra 68.47 56 P **P** 04 39 02.9 -0.5
baz=68,SNR=5.6
Q37A Longview Farm, 68.49 54 P **P** 04 39 03.1 -0.5
baz=68
W31A Holland Ranch, 68.49 60 P **P** 04 39 04.5 +0.8
baz=68,SNR=10
U33A Lingo Farm, Me 68.50 58 P **P** 04 39 03.6 -0.1
baz=68,SNR=13
T34A McClaskey Farm 68.53 57 P **P** 04 39 03.4 -0.5
baz=68,SNR=9.1
X30A Coker Ranch, T 68.56 61 P **P** 04 39 04.6 +0.4
baz=68,SNR=19
V32A Arapaho 68.56 59 P **P** 04 39 04.6 +0.5
baz=68

Y29A Porterfield Fa 68.57 62 P **P** 04 39 05.2 +0.9
baz=68,SNR=19
Z28A Tucker Farm, M 68.61 63 P **P** 04 39 05.1 +0.6
baz=68,SNR=10
U34A Anderson Ranch 68.80 58 P **P** 04 39 05.4 -0.1
baz=69
S36A Lake Cedric, C 68.81 55 P **P** 04 39 04.9 -0.7
baz=69,SNR=14
MMRI Maumere 68.88 221 *eP* **P** 04 39 06.3 +0.2
V33A Lossen Ranch, 68.88 59 P **P** 04 39 06.2 +0.2
baz=69
MUD Monsted U'grnd 68.89 343 *i* P **P** 04 39 06.2 +0.5
comp=Z,524nm,2.4s
MUD Monsted U'grnd 68.89 343 *eP* **P** 04 39 06.2 +0.5
MUD pmax pmax
comp=Z,520nm,2.4s
GOF Gofitskoye 68.89 317 *eP* **P** 04 39 04.0 -2.0
GOF pmax pmax
comp=Z,117nm,1.3s
X31A McDonald Ranch 68.90 61 P **P** 04 39 06.9 +0.7
baz=69,SNR=25
W32A Sentinel 68.91 60 P **P** 04 39 07.4 +1.2
baz=69,SNR=29
T35A Sooner Cattle 68.96 57 P **P** 04 39 06.1 -0.4
baz=69,SNR=5.7
Y30A Stafford Cattl 68.98 62 P **P** 04 39 07.6 +0.8
baz=69,SNR=7.3
COP Copenhagen 69.00 341 *i* P **P** 04 39 07.9 +1.5
comp=Z,55nm,0.9s
COP Copenhagen 69.00 341 *i* P **P** 04 39 07.9 +1.5
COP pmax pmax
comp=Z,55nm,0.9s
Z29A Hungry Hill Ra 69.01 63 P **P** 04 39 07.7 +0.7
baz=69,SNR=22
BSD Bornholm Skovb 69.02 339 *i* P **P** 04 39 07.4 +0.8
comp=Z,127nm,1.1s
BSD Bornholm Skovb 69.02 339 *i* P **P** 04 39 07.4 +0.8
BSD pmax pmax
comp=Z,130nm,1.1s
128A Castleberry Fa 69.06 64 P **P** 04 39 08.1 +0.7
baz=69,SNR=20
S37A Fort Scott 69.17 55 P **P** 04 39 07.2 -0.5
baz=69,SNR=5.8
T36A Boggs Farm, Ca 69.17 56 P **P** 04 39 07.3 -0.5
baz=69,SNR=6.3
KIEV Kiev 69.21 329*c i*P **P** 04 39 07.2 -0.6
KIEV pmax pmax
comp=Z,286nm,1.4s
KIEV Kiev 69.21 329 *eP* **P** 04 39 06.9 -0.9
comp=Z,236nm,1.1s
Y31A Rekieta Farm, 69.25 61 P **P** 04 39 08.6 +0.2
baz=69,SNR=10
U35A Pawnee 69.27 57 P **P** 04 39 08.4 0.0
baz=69,SNR=8.6
V34A Guthrie 69.27 58 P **P** 04 39 08.8 +0.3
baz=69,SNR=12
W33A Caddo, Fort Co 69.30 59 P **P** 04 39 09.6 +0.9
baz=69,SNR=10
Z30A Sanderson Ranc 69.30 62 P **P** 04 39 09.4 +0.6
baz=69,SNR=27
228A UT Block 9, Go 69.39 64 P **P** 04 39 10.0 +0.6
baz=69,SNR=9.7
129A Stewart Farms, 69.40 63 P **P** 04 39 09.7 +0.4
baz=69
X32A Elmer 69.42 60 P **P** 04 39 09.9 +0.5
baz=69,SNR=17
WMOK Wichita Mounta 69.45 60 *eP* **P** 04 39 10.2 +0.6
WMOK pmax pmax
comp=Z,48nm,0.9s
WMOK Wichita Mounta 69.45 60 *eP* **P** 04 39 10.2 +0.6
comp=Z,48nm,0.9s
PVM Polavaram 69.52 272 *eP* **P** 04 39 10.1 -0.1
PVM IAmb IAmb 04 39 10.8
comp=Z,95nm,1.0s
W34A Bridge Creek, 69.60 59 P **P** 04 39 11.2 +0.7
baz=69,SNR=8.7
T37A Cheneyville 18 69.61 55 P **P** 04 39 10.0 -0.5
baz=69,SNR=20
HDIL Hopedale 69.66 50 P **P** 04 39 11.3 +0.6
baz=69,SNR=30
HDIL Hopedale 69.66 50 *eP* **P** 04 39 10.7 -0.1
comp=Z,136nm,0.9s
Y32A R-V Farms, Ver 69.66 61 P **P** 04 39 11.3 +0.4
baz=70,SNR=24
V35A Meyer Ranch, C 69.68 58 P **P** 04 39 10.8 -0.2
baz=70
LHMI Lhok Sumawe 69.69 251 P P 04 39 15.1 +3.9
RPR Rampur 69.72 275 *eP* **P** 04 39 10.6 -0.8
RPR IAmb IAmb 04 39 11.3
comp=Z,60nm,0.9s
X33A Lawton 69.75 60 P **P** 04 39 12.0 +0.6
baz=70
U36A Oologah 69.76 56 P **P** 04 39 11.2 -0.2
baz=70
Z31A Sharp Cattle R 69.81 62 P **P** 04 39 12.1 +0.2
baz=70
130A Snyder 69.91 63 P **P** 04 39 13.1 +0.5
baz=70,SNR=7.8
229A Bryant Ranch, 69.93 64 P **P** 04 39 13.2 +0.5
baz=70,SNR=5.4
KBZ Khabaz 70.03 317 P **P** 04 39 13.1 +0.1
comp=Z,45nm,1.0s,baz=17,slow=5.5,SNR=40
X34A Smith Ranch, M 70.06 59 P **P** 04 39 14.3 +0.9
baz=70,SNR=6.2
U37A Salina 70.07 56 P **P** 04 39 13.6 +0.3
baz=70,SNR=23
Y33A Hilltop Ranch, 70.09 60 P **P** 04 39 13.5 0.0
baz=70,SNR=12
TUL1 Tulsa 70.11 57 P **P** 04 39 14.0 +0.4
baz=70,SNR=16
V36A Jenks 70.12 57 P **P** 04 39 14.1 +0.4
baz=70,SNR=15
W35A Tecumseh 70.13 58 P **P** 04 39 14.2 +0.4
baz=70,SNR=18
131A Roby 70.17 62 P **P** 04 39 15.1 +1.0
baz=70,SNR=14
Z32A Haskell 70.17 61 P **P** 04 39 14.5 +0.4
baz=70,SNR=17
329A Wagon Wheel Ra 70.20 64 P **P** 04 39 15.4 +1.0
baz=70,SNR=47
SRSP Sriramsagar 70.24 276 *eP* **P** 04 39 13.4 -1.3
SRSP IAmb IAmb 04 39 15.1
comp=Z,92nm,1.1s
230A Sterling City 70.38 63 P **P** 04 39 16.3 +0.9
baz=70,SNR=7.0
U38A Gravette 70.41 56 P **P** 04 39 15.4 0.0
baz=70,SNR=8.2
V37A Hulbert 70.46 56 P **P** 04 39 15.8 0.0
baz=70,SNR=24
W36A Wetumka 70.48 58 P **P** 04 39 16.3 +0.4
baz=70,SNR=26
PSI Prapat 70.53 248 P **P** 04 39 16.9 +0.3
comp=Z,12nm,0.7s,baz=24,slow=13,SNR=10.0
Z33A Whitaker Ranch 70.57 61 P **P** 04 39 16.5 0.0
baz=70,SNR=7.9
Y34A Reagan Ranch, 70.59 59 P **P** 04 39 17.1 +0.5
baz=70,SNR=10
ABTX Abilene, Hawle 70.61 62 P **P** 04 39 17.2 +0.4
baz=70,SNR=12
X35A Drake 70.66 59 P **P** 04 39 17.1 +0.1
baz=70,SNR=11
PPBI Pangkal Pinang 70.70 239 P **P** 04 39 19.1 +1.7
330A Mertzon 70.71 64 P **P** 04 39 17.7 +0.3
baz=71,SNR=13
IGLO Ghaloghah 70.74 305 *eP* **P** 04 39 16.9 -0.8
231A Bronte 70.77 63 P **P** 04 39 18.2 +0.4
baz=71,SNR=5.8
AAM Ann Arbor 70.79 45 *eP* **P** 04 39 18.7 +1.0
AAM pmax pmax
comp=Z,83nm,0.9s
AAM Ann Arbor 70.79 45 *eP* **P** 04 39 18.7 +1.0
comp=Z,83nm,0.9s
SFIN Scholer Farm 70.81 48 P **P** 04 39 17.7 -0.1
baz=71,SNR=6.4
V38A Canehill 70.85 56 P **P** 04 39 18.5 +0.4
baz=71,SNR=74
X36A Centrahoma 70.85 58 P **P** 04 39 18.4 +0.2
baz=71,SNR=9.4
W37A Quinton 70.89 57 P **P** 04 39 18.5 0.0
baz=71
TXAR Lajitas Array 70.91 67 P **P** 04 39 19.5 +0.8
comp=Z,34nm,0.8s,baz=298,slow=4.6,SNR=276
429A Davenport Ranc 70.91 65 P **P** 04 39 19.1 +0.5
baz=71,SNR=19
Z34A Collier Ranch, 70.96 60 P **P** 04 39 18.7 -0.1
baz=71,SNR=9.8
Y35A Marietta 71.01 59 P **P** 04 39 19.5 +0.4
baz=71,SNR=8.6

133A	**Hamilton Ranch**	71.01	61	P		P	04 39 19.7	+0.5
	baz=71,SNR=12							
BSEG	**Bad Segeberg**	71.07	342	*e*P		P	04 39 20.2	+1.1
	comp=Z,224nm,1.8s							
529A	**Stev Forest Ra**	71.11	65	P		P	04 39 20.9	+1.0
	baz=71,SNR=25							
430A	**Baggett Ranch,**	71.15	64	P		P	04 39 20.8	+0.7
	baz=71,SNR=40							
232A	**Coleman**	71.17	62	P		P	04 39 21.0	+0.8
	baz=71,SNR=32							
331A	**San Angelo**	71.19	63	P		P	04 39 21.0	+0.7
	baz=71,SNR=35							
HYBB	**Hyderabad (bro**	71.27	274	*e*P		P	04 39 20.0	-0.9
HYBB				IAmb		IAmb	04 39 21.1	
	comp=Z,90nm,0.9s							
HYB	**Hyderabad**	71.27	274	*i* P		P	04 39 19.5	-1.4
Z35A	**Perchaven, San**	71.34	60	P		P	04 39 21.3	+0.1
	baz=71,SNR=6.0							
X37A	**Clayton**	71.35	57	P		P	04 39 21.5	+0.3
	baz=71,SNR=6.2							
ANN	**Anapa**	71.36	321	*e*P		P	04 39 19.9	-1.1
ANN				pmax		pmax		
	comp=Z,84nm,1.5s							
Y36A	**Durant**	71.41	59	P		P	04 39 22.0	+0.5
	baz=71,SNR=7.8							
W38A	**Poteau**	71.41	57	P		P	04 39 22.0	+0.4
	baz=71,SNR=15							
SOC	**Sochi**	71.47	319	*e*P		P	04 39 20.3	-1.4
SOC				pmax		pmax		
	comp=Z,81nm,1.2s							
NJS	**Nagarjunasagar**	71.47	273	*e*P		P	04 39 21.6	-0.5
NJS				IAmb		IAmb	04 39 22.5	
	comp=Z,132nm,1.0s							
134A	**White-Moore Ra**	71.49	61	P		P	04 39 22.7	+0.7
	baz=71,SNR=17							
332A	**Millersview**	71.51	63	P		P	04 39 22.9	+0.7
	baz=71,SNR=31							
LVV	**L'vov**	71.55	332	*e*P		P	04 39 13.3	-8.9
X38A	**Whitesboro**	71.56	57	P		P	04 39 22.8	+0.3
	baz=71,SNR=17							
431A	**Sonora**	71.58	64	P		P	04 39 23.7	+1.1
	baz=71,SNR=30							
530A	**J-C Ranch, Com**	71.58	65	P		P	04 39 23.6	+0.9
	baz=72,SNR=31							
ADKI	**Addanki**	71.61	272	*e*P		P	04 39 22.1	-0.8
ADKI				IAmb		IAmb	04 39 23.3	
	comp=Z,72nm,1.0s							
IPRN	**Peran**	71.69	306	*e*P		P	04 39 22.5	-0.9
Y37A	**Hugo**	71.69	58	P		P	04 39 23.2	0.0
	baz=72							
SORM	**Soroca**	71.72	328	⇓*i*P		P	04 39 22.8	-0.4
RUE	**Ruedersdorf**	71.73	339	*e*P		P	04 39 24.1	+1.0
	comp=Z,159nm,1.0s							
EKA	**Eskdalemuir Ar**	71.73	350	P		P	04 39 23.2	+0.1
	comp=Z,3.4nm,0.4s,baz=17,slow=5.3,SNR=28							
ESK	**Eskdalemuir**	71.75	350	P		P	04 39 23.6	+0.4
	comp=Z,226nm,0.7s,SNR=5.1							
ESK	**Eskdalemuir**	71.75	350	*e*P		P	04 39 23.2	-0.1
ESK				pmax		pmax		
	comp=Z,34nm,0.8s							
ESK	**Eskdalemuir**	71.75	350	*e*P		P	04 39 23.2	-0.1
	comp=Z,34nm,0.8s							
Z36A	**Blue Ridge**	71.82	59	P		P	04 39 24.2	+0.1
	baz=72,SNR=12							
135A	**Vickery Place,**	71.86	60	P		P	04 39 23.9	-0.3
	baz=72							
432A	**Menard**	71.87	63	P		P	04 39 24.8	+0.3
	baz=72,SNR=19							
234A	**Clairette**	71.90	61	P		P	04 39 24.6	0.0
	baz=72,SNR=11							
IFIR	**Firoozkooh**	71.95	305	*e*P		P	04 39 24.7	-0.4
KLRI	**Killari**	71.96	276	*e*P		P	04 39 24.3	-0.8
KLRI				IAmb		IAmb	04 39 25.2	
	comp=Z,143nm,1.0s							
333A	**Richland Sprin**	71.97	62	P		P	04 39 25.5	+0.6
	baz=72,SNR=24							
531A	**Rocksprings**	72.01	64	P		P	04 39 26.0	+0.7
	baz=72,SNR=26							
SRLM	**Srisailam**	72.07	273	*e*P		P	04 39 25.2	-0.6
SRLM				IAmb		IAmb	04 39 26.0	
	comp=Z,155nm,1.0s							
GNI	**Garni**	72.15	313	P		P	04 39 26.2	+0.1
	comp=Z,9.9nm,0.4s,baz=192,slow=2.9,SNR=19							
GNI	**Garni**	72.15	313	*e*P		P	04 39 26.5	+0.4
GNI				pmax		pmax		
	comp=Z,141nm,1.4s							
GNI	**Garni**	72.15	313	⇓*i*P		P	04 39 26.8	+0.7
	SNR=6.0							
GNI	**Garni**	72.15	313	*e*P		P	04 39 26.5	+0.4
	comp=Z,141nm,1.4s							
JCT	**Junction City**	72.17	63	P		P	04 39 26.7	+0.5
	baz=72,SNR=14							
WHTX	**Lake Whitney**	72.27	61	P		P	04 39 27.2	+0.4
	baz=72,SNR=9.5							
Z37A	**Pogue Cattle C**	72.30	59	P		P	04 39 27.4	+0.5
	baz=72,SNR=7.6							
MIAR	**Mount Ida**	72.30	56	*e*P		P	04 39 27.2	+0.3
MIAR				pmax		pmax		
	comp=Z,45nm,1.1s							
MIAR	**Mount Ida**	72.30	56	P		P	04 39 27.4	+0.5
	baz=72,SNR=22							
MIAR	**Mount Ida**	72.30	56	*e*P		P	04 39 27.2	+0.3
	comp=Z,44nm,1.1s							
433A	**Art**	72.35	63	P		P	04 39 27.7	+0.5
	baz=72,SNR=30							
334A	**Lometa**	72.36	62	P		P	04 39 27.5	+0.2
	baz=72,SNR=15							
IDMV	**Damavand**	72.36	306	*e*P		P	04 39 27.1	-0.5
136A	**Ennis**	72.39	60	P		P	04 39 27.8	+0.4
	baz=72							
532A	**Rocksprings**	72.39	64	P		P	04 39 27.9	+0.3
	baz=72,SNR=17							
SIM	**Simferopol'**	72.48	323	*de*P		P	04 39 27.4	-0.4
SIM				pmax		pmax		
	comp=Z,53nm,1.1s							
DBOC	**Borcka**	72.51	316	*i* P		P	04 39 27.9	-0.2
Y39A	**Lockesburg**	72.51	57	P		P	04 39 28.5	+0.3
	baz=72							
RCLA	**Racherla**	72.52	273	*e*P		P	04 39 28.1	-0.3
RCLA				IAmb		IAmb	04 39 29.0	
	comp=Z,185nm,0.9s							
ARTV	**Artvin**	72.53	316	*i* P		P	04 39 28.7	+0.3
KIS	**Kishinev**	72.56	327	⇑*i*P		P	04 39 27.0	-1.3
	comp=Z,500nm,1.5s							
KIS	**Kishinev**	72.56	327	⇑*i*P		P	04 39 27.0	-1.3
KIS				pmax		pmax		
	comp=Z,500nm,1.5s							
631A	**Perdido Creek**	72.57	64	P		P	04 39 29.1	+0.5
	baz=72,SNR=31							
IHRS	**Heris**	72.58	311	*e*P		P	04 39 28.3	-0.5
Z38A	**Mt. Pleasant**	72.59	58	P		P	04 39 29.1	+0.5
	baz=72							
IGZV	**Ghazvin**	72.62	307	*e*P		P	04 39 28.4	-0.7
DAGI	**Agillar**	72.62	316	*i* P		P	04 39 29.2	+0.3
434A	**Burnet**	72.75	62	P		P	04 39 30.0	+0.3
	baz=73,SNR=21							
236A	**Katherine and**	72.76	60	P		P	04 39 30.3	+0.7
	baz=73							
DBAD	**Bademkaya**	72.77	316	*i* P		P	04 39 29.9	+0.2
ACSO	**Alum Creek Sta**	72.77	46	*e*P		P	04 39 29.5	-0.2
	comp=Z,72nm,1.0s							
335A	**Moody**	72.84	61	P		P	04 39 30.7	+0.6
	baz=73							
KOLS	**Kolonicke sedl**	72.85	332	*e*P		P	04 39 30.6	+0.6
KOLS				pmax		pmax		
	comp=Z,89nm,1.4s							
KOLS	**Kolonicke sedl**	72.85	332	*e*P		P	04 39 30.6	+0.6
IMRD	**Marand**	72.88	312	*e*P		P	04 39 29.4	-1.2
533A	**Kerrville**	72.91	63	P		P	04 39 31.1	+0.5
	baz=73,SNR=22							
632A	**Uvalde**	72.93	64	P		P	04 39 31.5	+0.8
	baz=73,SNR=23							
CLL	**Collm**	72.99	339	*e*P		P	04 39 31.0	+0.3
	comp=Z,217nm,1.7s							
CLL	**Collm**	72.99	339	⇑*i*P		P	04 39 30.8	+0.1
CLL				*i* *PP		PcP	04 39 42.9	-4.7
CLL				*e*S		S	04 48 56.0	-0.6
CLL				pmax		pmax		
	comp=Z,198nm,1.7s							
CLL	**Collm**	72.99	339	⇑*i*P		P	04 39 30.8	+0.1
	comp=Z,198nm,1.7s							
CLL				*i*			04 39 37.3	
CLL				*i* pP		PcP	04 39 42.9	-4.7
CLL				*i* sP		sP	04 39 48.5	+11
CLL				*e*S		S	04 48 56.0	-0.6
CLL				*es*S		sS	04 49 15.0	+10
138A	**Matatall Enter**	73.00	59	P		P	04 39 32.0	+0.9
	baz=73,SNR=7.3							
CLZ	**Clausthal**	73.04	341	*e*P		P	04 39 32.0	+0.9
	comp=Z,126nm,1.1s							
UPC	**Upice**	73.05	337	⇑*i*P		P	04 39 31.6	+0.5
UPC				*e*pP		pP	04 39 38.3	+1.9
UPC	**Upice**	73.05	337	⇑*i*P		P	04 39 31.6	+0.5
UPC				*e*			04 39 38.3	
336A	**Riesel**	73.07	61	P		P	04 39 31.9	+0.5
	baz=73,SNR=7.1							
IBBN	**Ibbenburen**	73.10	343	*e*P		P	04 39 32.1	+0.8
	comp=Z,89nm,0.8s							
UZH	**Uzhgorod**	73.12	332	*e*P		P	04 39 31.3	-0.2
UZH				*e*			04 39 51.3	
DPC	**Dobruska-Polom**	73.12	337	⇑*i*P		P	04 39 32.5	+0.9
DPC				*e*pP		pP	04 39 38.9	+2.1
DPC	**Dobruska-Polom**	73.12	337	⇑*i*P		P	04 39 32.5	+0.9
DPC				*e*			04 39 38.9	
237A	**Washetta, Mont**	73.14	59	P		P	04 39 31.9	0.0
	baz=73							
435B	**Jarrell**	73.14	61	P		P	04 39 32.5	+0.6
	baz=73							
OKC	**Ostrava-Krasne**	73.14	335	⇑*i*P		P	04 39 32.5	+0.9
OKC				*e*pP		pP	04 39 39.0	+2.1
OKC	**Ostrava-Krasne**	73.14	335	⇑*i*P		P	04 39 32.5	+0.9
OKC				*e*			04 39 39.0	
BURAR	**Bucovina Array**	73.17	330	⇑*i*P		P	04 39 31.9	-0.1
CTA	**Charters Tower**	73.19	194	P		P	04 39 32.0	-0.1
	comp=Z,12nm,0.7s,baz=358,slow=7.7,SNR=10							
CTA	**Charters Tower**	73.19	194	P		P	04 39 32.0	-0.1
CTAO	**Charters Tower**	73.19	194	*e*P		P	04 39 31.3	-0.9
CTAO				pmax		pmax		
	comp=Z,73nm,1.8s							
CTAO	**Charters Tower**	73.19	194	*e*P		P	04 39 31.2	-0.9
	comp=Z,73nm,1.8s							
BRG	**Berggiesshubel**	73.19	338	*e*P		P	04 39 31.8	-0.1
	comp=Z,60nm,1.3s							
BRG				*i*			04 39 38.0	
	comp=Z,68nm,1.4s							
BRG	**Berggiesshubel**	73.19	338	*e*P		P	04 39 32.0	+0.1
	comp=Z,68nm,1.4s							
BRG	**Berggiesshubel**	73.19	338	*e*P		P	04 39 31.8	-0.1
BRG				*i*			04 39 38.0	
BRG				pmax		pmax		
	comp=Z,60nm,1.3s							
534A	**Blanco**	73.25	63	P		P	04 39 33.1	+0.5
	baz=73,SNR=15							
KRLC	**Kraliky**	73.27	336	⇑*i*P		P	04 39 33.0	+0.6
KRLC				*e*pP		pP	04 39 40.2	+2.5
KRLC	**Kraliky**	73.27	336	⇑*i*P		P	04 39 33.0	+0.6
KRLC				*e*			04 39 40.2	
FBE	**Freiberg**	73.28	339	*e*P		P	04 39 33.1	+0.7
	comp=Z,160nm,1.5s							
POO	**Poona**	73.28	279	*e*P		P	04 39 30.0	-3.0
633A	**Saathoff Ranch**	73.30	63	P		P	04 39 33.8	+0.9
	baz=73,SNR=9.8							
139A	**Bunkhouse Ranc**	73.35	58	P		P	04 39 33.9	+0.8
	baz=73							
MORC	**Moravsky Berou**	73.35	336	*e*P		P	04 39 33.3	+0.4
MORC				pmax		pmax		
	comp=Z,477nm,1.4s							
MORC	**Moravsky Berou**	73.35	336	⇑*i*P		P	04 39 34.6	+1.7
MORC	**Moravsky Berou**	73.35	336	*e*P		P	04 39 33.3	+0.4
	comp=Z,477nm,1.4s							
NEUB	**Neuenburg**	73.35	340	*e*P		P	04 39 33.3	+0.5
	comp=Z,122nm,1.4s							
PVCC	**Panska Ves**	73.37	338	⇑*e*P		P	04 39 33.7	+0.7
PVCC				*ex*		x	04 39 44.0	
PVCC	**Panska Ves**	73.37	338	*e*P		P	04 39 33.7	+0.7
PVCC				*e*			04 39 44.0	
EATA	**Eleskirt**	73.38	315	*i* P		P	04 39 34.7	+1.1
SKHT	**Srikalahasti**	73.38	271	*e*P		P	04 39 33.7	+0.2
SKHT				IAmb		IAmb	04 39 34.7	
	comp=Z,188nm,1.0s							
732A	**Laxson Ranch,**	73.43	64	P		P	04 39 35.1	+1.5
	baz=73,SNR=62							
238A	**Jacksonville**	73.50	59	P		P	04 39 34.9	+0.9
	baz=73,SNR=7.2							
TRPA	**Tarpa**	73.50	332	⇑*i*P		P	04 39 34.5	+0.7
IRAZ	**Razeghan**	73.54	307	*e*P		P	04 39 33.7	-0.8
KLSI		73.57	239	P		P	04 39 34.1	-0.5
436A	**Wall Ranch, Ga**	73.57	61	P		P	04 39 35.5	+1.0
	baz=73							
WTSB	**Winterswijk**	73.60	343	*e*P		P	04 39 34.9	+0.7
	comp=Z,64nm,1.2s							
337A	**Centerville**	73.63	60	P		P	04 39 35.9	+1.1
	baz=74							
TESR	**Tescani**	73.70	329	⇓*i*P		P	04 39 35.0	0.0
535A	**Dale**	73.73	62	P		P	04 39 35.8	+0.4
	baz=74							
832A	**Faith Ranch, C**	73.77	65	P		P	04 39 36.6	+0.8
	baz=74,SNR=26							
ICHK	**Chekchek**	73.78	302	*e*P		P	04 39 35.6	-0.4
634A	**China Grove, S**	73.81	63	P		P	04 39 36.3	+0.4
	baz=74							
239A	**Gary**	73.83	58	P		P	04 39 36.1	+0.2
	baz=74							
ERZM	**Erzurum**	73.83	315	*i* P		P	04 39 37.1	+0.9
EZM	**Erzurum**	73.83	315	*e*P		P	04 39 35.5	-0.7
PRA	**Prague**	73.83	338	⇑*e*P		P	04 39 36.4	+0.7
PRA				*e*pP		pP	04 39 43.5	+2.6
PRA	**Prague**	73.83	338	*e*P		P	04 39 36.4	+0.7
PRA				*e*			04 39 43.5	
437A	**Phantom Ranch,**	73.88	60	P		P	04 39 37.1	+0.8
	baz=74							
PRU	**Pruhonice**	73.88	338	⇑*i*P		P	04 39 36.6	+0.6
PRU				*e*pP		pP	04 39 42.5	+1.2
PRU	**Pruhonice**	73.88	338	⇑*i*P		P	04 39 36.6	+0.6
PRU				*e*			04 39 42.5	
GOPC	**GO Pecny, Ondr**	73.89	337	⇑*i*P		P	04 39 36.7	+0.6
GOPC				*e*pP		pP	04 39 43.9	+2.5
338A	**Crockett**	73.90	60	P		P	04 39 37.6	+1.2
	baz=74,SNR=5.5							
LEM	**Lembang**	73.91	235	P		P	04 39 38.7	+1.9
	comp=Z,10nm,0.4s,baz=0.0,slow=10,SNR=2.5							
MOX	**Moxa**	73.92	340	*e*P		P	04 39 36.8	+0.6
	comp=Z,122nm,1.7s							
NATX	**Nacogdoches**	73.93	59	P		P	04 39 37.2	+0.7
	baz=74,SNR=7.2							
NATX	**Nacogdoches**	73.93	59	*e*P		P	04 39 37.3	+0.7
	comp=Z,33nm,0.8s							
PLN	**Plauen**	73.95	339	*e*P		P	04 39 37.0	+0.6
	comp=Z,127nm,1.6s							
TANN	**Tannenbergstha**	73.95	339	*e*P		P	04 39 36.9	+0.4
	comp=Z,139nm,1.9s							
URV	**Uravakonda**	73.95	274	*e*P		P	04 39 36.2	-0.7
URV				IAmb		IAmb	04 39 37.4	
	comp=Z,125nm,1.0s							
WERD	**Werda**	73.95	339	*e*P		P	04 39 39.2	+2.7
536A	**Bastrop**	73.97	62	P		P	04 39 37.2	+0.4
	baz=74							
BUG	**Bochum--Univer**	74.02	343	*e*P		P	04 39 37.2	+0.5
	comp=Z,103nm,1.1s							
VRAC	**Vranov**	74.02	336	P		P	04 39 37.6	+0.7
	comp=Z,24nm,0.8s,baz=21,slow=6.6,SNR=36							
VRAC	**Vranov**	74.02	336	⇑*i*P		P	04 39 38.3	+1.5
EKAR	**Karacoban**	74.06	315	*i* P		P	04 39 38.8	+1.3
833A	**Chaparral WMA,**	74.06	64	P		P	04 39 38.6	+1.2
	baz=74,SNR=17							
UBBA	**Unterbreizbach**	74.09	341	*e*P		P	04 39 37.6	+0.6
	comp=Z,239nm,2.0s							
WERN	**Wernitzgruen**	74.09	339	*e*P		P	04 39 38.1	+0.8
	comp=Z,88nm,1.4s							
734A	**La Parita Cree**	74.12	63	P		P	04 39 39.0	+1.3
	baz=74,SNR=8.8							
635A	**Leesville**	74.12	63	P		P	04 39 37.9	+0.2
	baz=74							
GUMT	**Gumushane**	74.17	317	*e*P		P	04 39 37.5	-0.5
VYHS	**Vyhne**	74.20	334	*e*P		P	04 39 38.6	+0.7
VYHS				pmax		pmax		
	comp=Z,35nm,1.2s							
VYHS	**Vyhne**	74.20	334	*e*P		P	04 39 38.6	+0.7
VRI	**Vrincioaia**	74.25	328	⇓*i*P		P	04 39 38.6	+0.4
PLOR	**Plostina**	74.28	328	⇑*i*P		P	04 39 38.7	+0.2
438A	**Sam Houston St**	74.29	60	P		P	04 39 39.8	+1.1
	baz=74							
TREC	**Trest**	74.31	337	⇑*i*P		P	04 39 39.0	+0.5
TREC				*e*pP		pP	04 39 46.4	+2.6
TREC	**Trest**	74.31	337	⇑*i*P		P	04 39 39.0	+0.5
TREC				*e*			04 39 46.4	
339A	**Huntington**	74.32	59	P		P	04 39 39.9	+1.1
	baz=74,SNR=5.6							
IZEF	**Zefreh**	74.34	304	*e*P		P	04 39 39.2	0.0
IMEH	**Mehriz**	74.35	301	*e*P		P	04 39 38.0	-1.4
DZM	**Mont Dzumac**	74.37	174	P		P	04 39 40.5	+1.4
	comp=Z,21nm,1.0s,baz=90,slow=24,SNR=4.8							
537A	**Green Hill Far**	74.37	61	P		P	04 39 40.3	+1.1
	baz=74,SNR=7.4							
IKLH	**Kolahrood**	74.38	304	*e*P		P	04 39 39.2	-0.3
CFR	**Carcaliu**	74.39	327	⇑*i*P		P	04 39 38.7	-0.3
MANZ	**Manzenberg**	74.43	339	*e*P		P	04 39 39.7	+0.4
	comp=Z,109nm,1.9s							
PSZ	**Piszkesteto**	74.44	333	*e*P		P	04 39 40.2	+0.8
PSZ				pmax		pmax		
	comp=Z,176nm,1.5s							
PSZ	**Piszkesteto**	74.44	333	*e*P		P	04 39 40.2	+0.8
	comp=Z,176nm,1.5s							
PSZ	**Piszkesteto**	74.44	333	⇑*e*P		P	04 39 40.0	+0.6
636A	**Smothers Creek**	74.44	62	P		P	04 39 40.5	+0.9
	baz=74							
CJR	**Cluj-Napoca**	74.47	331	⇑*i*P		P	04 39 40.9	+1.4
KELT	**Kelkit**	74.52	317	*i* P		P	04 39 40.7	+0.6
735A	**Kenedy**	74.52	63	P		P	04 39 41.2	+1.2
	baz=74							
SSPA	**Standing Stone**	74.60	42	*e*P		P	04 39 40.1	-0.2
	comp=Z,44nm,0.9s							
340A	**Bronson**	74.60	58	P		P	04 39 41.2	+0.7
	baz=74,SNR=15							
ROTZ	**Rotzenmuhle**	74.62	339	*e*P		P	04 39 41.2	+0.9
	comp=Z,130nm,1.7s							
439A	**Center Grove,**	74.63	59	P		P	04 39 41.9	+1.2
	baz=74,SNR=5.8							
933A	**Laredo**	74.68	65	P		P	04 39 43.0	+2.0
	baz=75,SNR=11							
834A	**Tilden**	74.68	64	P		P	04 39 43.1	+2.1
	baz=75,SNR=34							
HAKT	**HAKKARI**	74.73	312	*i* P		P	04 39 41.5	0.0
ERZN	**Erzincan**	74.79	316	*e*P		P	04 39 39.5	-2.2
MLR	**Muntele Rosu**	74.83	328	P		P	04 39 41.9	+0.2
	comp=Z,6.9nm,0.7s,baz=331,slow=21,SNR=34							
MLR	**Muntele Rosu**	74.83	328	⇑*i*P		P	04 39 43.2	+1.4
736A	**Circle Diamond**	74.85	62	P		P	04 39 43.8	+1.9
	baz=75,SNR=5.6							
637A	**Eagle Lake**	74.86	61	P		P	04 39 43.7	+1.6
	baz=75							
DIKM	**Dikmen**	74.87	320	*e*P		P	04 39 42.2	+0.3
HARR	**Harsova**	74.89	327	⇓*i*P		P	04 39 42.1	+0.2
GRF	**Grafenberg Arr**	74.90	340	*e*P		P	04 39 42.7	+0.7
	comp=Z,411nm,2.1s							
GRFO	**Grafenberg**	74.90	340	*e*P		P	04 39 43.1	+1.1
GRFO				pmax		pmax		
	comp=Z,39nm,0.8s							
GRFO	**Grafenberg**	74.90	340	*e*P		P	04 39 43.1	+1.1
	comp=Z,39nm,0.8s							
HGN	**Heimansgroeve**	74.91	343	*e*P		P	04 39 41.8	-0.1
	comp=Z,127nm,1.4s							
HGN				*e*L		L	04 46 27.3	
	comp=Z,27µm,19.3s							
KHC	**Kasperske Hory**	74.91	338	⇑*i*P		P	04 39 43.0	+1.0
KHC				*e*pP		pP	04 39 49.3	+2.0
KHC	**Kasperske Hory**	74.91	338	*e*P		P	04 39 42.5	+0.5
KHC				pmax		pmax		
	comp=Z,21nm,0.9s							
KHC	**Kasperske Hory**	74.91	338	*e*P		P	04 39 42.5	+0.5
	comp=Z,21nm,0.9s							
SUSE	**Suseh'r**	74.91	318	*i* P		P	04 39 42.0	-0.3
BEBN	**Eben Emael**	74.92	344	P		P	04 39 42.7	+0.7
TIRR	**Tirgusor**	74.93	326	*e*P		P	04 39 41.5	-0.7
TIRR	**Tirgusor**	74.93	326	⇓*i*P		P	04 39 42.1	-0.1
835A	**Beeville**	74.95	63	P		P	04 39 44.5	+2.0
	baz=75,SNR=8.9							
TNS	**Taunus Mts**	74.96	342	*e*P		P	04 39 43.0	+0.7
	comp=Z,76nm,1.2s							
ISR	**Istrita**	74.97	328	⇑*i*P		P	04 39 43.8	+1.3
CUKT	**Cukurca**	75.03	312	*e*P		P	04 39 38.7	-4.4
KVT	**Kavak**	75.04	320	*e*P		P	04 39 41.4	-1.5
MEM	**Membach**	75.04	343	P		P	04 39 43.4	+0.7
	comp=Z,72nm,1.0s							
WET	**Wettzell**	75.06	338	*e*P		P	04 39 43.9	+1.0
	comp=Z,249nm,2.1s							
934A	**Benavides**	75.11	64	P		P	04 39 45.5	+2.0
	baz=75,SNR=12							
GEC2	**GERESS Array S**	75.15	338	*e*P		P	04 39 43.9	+0.4
	comp=Z,70nm,1.6s							
VOIR		75.16	329	⇑*i*P		P	04 39 44.3	+0.7
IPIR	**Pirpir**	75.23	305	*e*P		P	04 39 41.6	-2.9
PKSG		75.33	334	⇑*e*P		P	04 39 45.7	+1.3
ARR	**Arges**	75.36	329	⇓*i*P		P	04 39 46.0	+1.3
CSKK	**Cs'‡kako**	75.39	334	⇑*e*P		P	04 39 43.1	-1.7
SNF	**Seneffe**	75.43	344	P		P	04 39 45.5	+0.5
034A	**Hebbronville**	75.44	65	P		P	04 39 47.5	+2.1
	baz=75,SNR=20							
WRAB	**Tennant Creek**	75.45	205	P		P	04 39 45.3	0.0
	comp=Z,246nm,1.2s,SNR=16							
WRAB	**Tennant Creek**	75.45	205	*ce*P		P	04 39 45.1	-0.2
WRAB				pmax		pmax		
	comp=Z,185nm,1.3s							
WRAB	**Tennant Creek**	75.45	205	*e*P		P	04 39 44.7	-0.6
	comp=Z,90nm,1.4s							
MSAB	**Monastry St. A**	75.45	327

PERS	Pernice	76.87 336	*i* P		P	04 39 54.0	+0.7	
KBA	Koelnbreinsper	76.89 337	*i* pP		P	04 39 55.0	+1.5	
	comp=Z,172nm,0.9s,SNR=35							
CDAG	Cicekdag	76.95 320	*i* P		P	04 39 54.2	+0.2	
URFA	Urfa	76.98 316	*e*P		P	04 39 54.2	+0.2	
WATA	Walderalm	77.05 339⇓	*i*pP		P	04 39 55.6	+1.1	
	comp=Z,47nm,1.1s,SNR=8.2							
IKAZ	Kazeroun	77.07 302	*e*P		P	04 39 54.9	-0.2	
RETA	Reutte	77.09 339⇑	*i*P		P	04 39 55.3	+0.7	
	comp=Z,31nm,1.2s							
WTTA	Wattenberg	77.11 339	*i* pP		P	04 39 55.9	+1.1	
	comp=Z,87nm,1.4s,SNR=16							
ECH	Echery	77.13 342	*e*P		P	04 39 54.8	+0.1	
ECH			pmax	pmax				
	comp=Z,38nm,0.9s							
ECH	Echery	77.13 342	*e*P		P	04 39 54.8	+0.1	
	comp=Z,38nm,0.9s							
OBKA	Obir	77.13 336	*i* P		P	04 39 55.5	+0.7	
	comp=Z,76nm,1.4s,SNR=8.8							
MOTA	Moosalm	77.15 339⇑	*i*pP		P	04 39 55.8	+0.8	
	comp=Z,60nm,0.9s,SNR=14							
BR131	Keskin Array S	77.15 320	*e*P		P	04 39 54.7	-0.4	
	comp=Z,47nm,1.1s							
BRTR	Keskin Array B	77.15 320	P		P	04 39 54.5	-0.6	
	comp=Z,42nm,1.1s,baz=46,slow=3.6,SNR=96							
BRTR			PP		PP	04 42 47.2	-0.9	
	comp=Z,2.5nm,0.8s,baz=63,slow=6.0,SNR=4.7							
ATAB	Bozova	77.18 316	*i* P		P	04 39 56.3	+1.2	
DOBS	Dobrina	77.24 336	*e*P		P	04 39 55.7	+0.4	
MYKA	Terra Mystica	77.24 337⇑	*i*P		P	04 39 55.7	+0.3	
	comp=Z,55nm,1.8s							
ABTA	Abfaltersbach	77.39 338⇑	*i*P		P	04 39 56.8	+0.5	
	comp=Z,58nm,1.0s,SNR=14							
BTAS	Taskesti	77.42 323	*i* P		P	04 39 56.3	-0.2	
KAMT	Kaman	77.43 320	*e*P		P	04 39 55.2	-1.4	
MDUB	Mudurnu	77.43 323	*e*P		P	04 39 57.0	+0.3	
MPEP	Malo Peshtene	77.45 329	*i* P		P	04 39 56.4	-0.1	
DAVA	Damuels	77.47 340⇑	*i*pP		P	04 39 57.5	+0.7	
	comp=Z,43nm,1.2s,SNR=7.8							
AVNT	Avonos	77.48 319	*i* P		P	04 39 57.5	+0.5	
FETA	Feichten	77.54 339⇑	*i*pP		P	04 39 58.2	+1.0	
	comp=Z,70nm,1.2s,SNR=11							
AFSR	Af˙ar-Bala (A	77.61 321	*e*P		P	04 39 54.4	-3.2	
HRT	Hereke	77.69 324	*e*P		P	04 39 57.2	-0.8	
KMSC	Kings Mountain	77.71 47	P		P	04 39 58.5	+0.4	
	baz=78,SNR=18							
GULT	Gulveren	77.72 323	*e*P		P	04 39 58.8	+0.5	
KMRS	Kahramanmaras	77.73 317	*e*P		P	04 39 56.2	-2.1	
CTKS	Kestanelik-??a	77.74 325	*e*P		P	04 39 56.6	-1.6	
BANOM	Banah	77.75 297	⇑P		P	04 39 58.4	-0.2	
	SNR=9.6							
PALK	Pallekele	77.80 266	P		P	04 39 58.6	-0.3	
	comp=Z,38nm,0.8s,baz=23,slow=1.8,SNR=7.6							
PALK	Pallekele	77.80 266	*e*P		P	04 39 58.6	-0.3	
PALK			pmax	pmax				
	comp=Z,130nm,1.2s							
PALK	Pallekele	77.80 266	*e*P		P	04 39 58.6	-0.3	
	comp=Z,130nm,1.2s							
JAVS	Javornik	77.83 336	*i* P		P	04 39 58.8	+0.1	
AUMIH	MIHALICIK	77.85 322	*i* P		P	04 39 59.1	+0.1	
HCB	Kahramanmara˘	77.87 317	*i* P		P	04 39 59.3	+0.3	
BOJS	Bojanci	77.89 336	*i* P		P	04 39 59.6	+0.6	
ANDN	Andirin	77.90 318	*i* P		P	04 40 00.0	+0.7	
DIVS	Divibare	77.91 332⇑	*i*P		P	04 40 00.1	+0.9	
DIVS	Divibare	77.91 332	P		P	04 39 58.7	-0.5	
DAVOX	Davos/Dischmat	77.95 340	P		P	04 39 59.1	-0.4	
	comp=Z,13nm,0.6s,baz=88,slow=1.6,SNR=23							
DIM	Dimitrovgrad	78.04 327	*i* P		P	04 40 00.0	+0.2	
GULA	Gulagac	78.10 319	*e*P		P	04 39 59.9	-0.5	
GOGA	Godfrey	78.17 50	*e*P		P	04 40 00.6	-0.1	
GOGA			pmax	pmax				
	comp=Z,32nm,1.3s							
GOGA	Godfrey	78.17 50	*e*P		P	04 40 00.6	-0.1	
	comp=Z,32nm,1.3s							
KOZT	Kozan	78.20 318	*e*P		P	04 39 59.9	-0.9	
GEMT	Gemlik	78.20 324	*e*P		P	04 40 00.7	0.0	
BORA	Eskisehir	78.23 323	*i* P		P	04 40 01.2	+0.1	
PLD	Plovdiv	78.26 328	*i* P		P	04 40 00.9	-0.2	
KUZU	Kuzuini	78.28 317	*i* P		P	04 40 01.8	+0.5	
VTS	Vitosha	78.30 329	P		P	04 40 01.3	-0.2	
VTS	Vitosha	78.30 329⇑	*i*P		P	04 40 01.4	-0.1	
VTS	Vitosha	78.30 329	P		P	04 40 01.3	-0.2	
VTS	Vitosha	78.30 329	P		P	04 40 01.3	-0.2	
ESKT	Eskisehir	78.39 322	*e*P		P	04 40 01.9	-0.1	
SEYT	Eskypehyr	78.39 322	*i* P		P	04 40 02.1	+0.1	
BRAL	Brewton	78.41 54	*e*P		P	04 40 02.1	+0.1	
	comp=Z,46nm,0.9s							
ULDT	Uludag	78.48 324	*i* P		P	04 40 02.4	-0.2	
SULT	Sultanhani-AKS	78.52 320	*e*P		P	04 40 00.3	-2.3	
KIZT	Kizilcal	78.56 321	*e*P		P	04 40 01.9	-1.0	
UOSS	Wadi Hilu	78.58 296	P		P	04 40 01.9	-1.2	
	comp=Z,817nm,1.0s,SNR=21							
KCTX	Karacabey (Bur	78.65 324	*e*P		P	04 40 03.9	+0.6	
KARA	Karaisali	78.70 318	*e*P		P	04 40 04.0	+0.4	
HATD	Hatta, Dubai	78.71 296⇓	*i*P		P	04 40 03.2	-0.7	
	SNR=34							
YESY	Yesilyurt	78.78 319	*e*P		P	04 39 58.4	-5.8	
PLE	Pljevlja	78.78 332⇑	*i*P		P	04 40 04.0	-0.1	
YURE	YUREGIR	78.84 318	*i* P		P	04 40 05.2	+0.9	
NAZ	Nazwa, Dubai	78.84 296⇓	*i*P		P	04 40 03.6	-0.9	
	SNR=26							
ASHO	Ashiyiah	78.87 296	⇑P		P	04 40 04.4	-0.4	
	SNR=18							
WBK	Wadi Bani Khal	78.88 292	⇑P		P	04 40 05.4	+0.6	
	SNR=32							
ALN	Alexandroupoli	78.89 326	*e*P		P	04 40 04.5	0.0	
ALN	Alexandroupoli	78.89 326	P		P	04 40 03.6	-1.0	
ALN	Alexandroupoli	78.89 326	P		P	04 40 03.6	-1.0	
ALN	Alexandroupoli	78.89 326	P		P	04 40 03.6	-1.0	
TVSB	Tavsanli	78.97 323	*e*P		P	04 40 03.9	-1.3	
TAHT	Tahtakopru-Hat	78.99 317	*e*P		P	04 40 04.3	-0.9	
UPM	Unac-Piva	79.04 332	*e*P		P	04 40 05.9	+0.3	
SMDO	Samad	79.04 293	⇓P		P	04 40 05.3	-0.4	
	SNR=24							
SMDO			P		P	04 40 05.8	0.0	
	SNR=20							
HOQ	Hoqain	79.04 294	⇓P		P	04 40 05.0	-0.7	
	SNR=44							
BOLV	Bolvadin	79.06 322	*i* P		P	04 40 06.1	+0.4	
IVA	Berane	79.06 331⇑	*i*P		P	04 40 06.0	+0.4	
FAQ	Al Faqa, Dubai	79.08 296	*i* P		P	04 40 04.9	-1.0	
	SNR=20							
LPK	Lapseki	79.12 326	*e*P		P	04 40 05.8	0.0	
AS31	Alice Springs	79.13 204	*e*P		P	04 40 05.9	0.0	
ASAR	Alice Springs	79.13 204	P		P	04 40 06.5	+0.5	
	comp=Z,11nm,0.6s,baz=15,slow=5.4,SNR=80							
CNNC	Cliffs of the	79.15 45	*e*P		P	04 40 06.4	+0.4	
	comp=Z,36nm,0.7s							
KONT	Konya--Tatoy	79.19 320	*e*P		P	04 40 05.8	-0.5	
GELI	Tayfur-Gelibol	79.19 326	*e*P		P	04 40 04.7	-1.6	
DURS	Dursunbey	79.19 324	*i* P		P	04 40 06.2	-0.1	
NVR	Nevrokopi	79.21 328	*e*P		P	04 40 06.2	-0.2	
NVR	Nevrokopi	79.21 328	P		P	04 40 04.3	-2.1	
NVR	Nevrokopi	79.21 328	P		P	04 40 04.3	-2.1	
PVY	Plav	79.29 331⇑	*i*P		P	04 40 06.5	-0.4	
ASUD	Al Ashush, Dub	79.31 296⇓	*i*P		P	04 40 06.6	-0.6	
	SNR=14							
NKY	Niksic	79.37 332	*e*P		P	04 40 06.8	-0.5	
SKO	Skopje	79.42 330	*i* P		P	04 40 07.8	+0.3	
BRY	Bratogost	79.42 332⇑	*i*P		P	04 40 06.7	-0.9	
NKME	Niksic	79.43 332⇑	*i*P		P	04 40 07.0	-0.5	
JMDO	Jabal Madar	79.56 293	⇑P		P	04 40 08.2	-0.3	
	SNR=35							
TTG	Podgorica	79.65 332⇑	*i*P		P	04 40 08.9	+0.3	
VAY	Valandovo	79.66 329⇑	*i*P		P	04 40 09.7	+1.0	
ARQ	Araqi	79.68 295	⇑P		P	04 40 08.7	-0.5	
	SNR=24							
KNT	Kendrikon	79.69 329	*e*P		P	04 40 07.4	-1.6	
KNT	Kendrikon	79.69 329	P		P	04 40 09.1	+0.1	
KNT	Kendrikon	79.69 329	P		P	04 40 09.1	+0.1	
KNT	Kendrikon	79.69 329	P		P	04 40 09.1	+0.1	
TIGA	Tifton	79.74 51	P		P	04 40 10.2	+0.9	
	baz=80,SNR=11							
TIGA	Tifton	79.74 51	*e*P		P	04 40 09.7	+0.4	
	comp=Z,90nm,0.9s							
BSY	Bisya	79.77 294	⇓P		P	04 40 09.3	-0.4	
	SNR=38							
HCY	Herceg Novi	79.85 332⇑	*i*P		P	04 40 08.4	-1.4	
BUM	Brajici-Budva	79.87 332	*e*P		P	04 40 09.3	-0.7	
DRME	Dracevica, Mon	79.89 332⇑	*i*P		P	04 40 10.6	+0.6	
KHAL	Karahalli	79.91 323	*i* P		P	04 40 09.5	-0.8	
PHP	Peshkopia	79.98 330	P		P	04 40 09.8	-0.8	
PHP	Peshkopia	79.98 330	P		P	04 40 09.8	-0.8	
PHP	Peshkopia	79.98 330	P		P	04 40 09.8	-0.8	

HDMB	Hadim	79.99 320	*e*P		P	04 40 10.2	-0.8	
GRG	Griva	80.04 329	P		P	04 40 10.8	-0.1	
GRG	Griva	80.04 329	P		P	04 40 10.8	-0.1	
GRG	Griva	80.04 329	P		P	04 40 10.8	-0.1	
AKHS	Akhisar	80.07 324	*i* P		P	04 40 10.9	-0.2	
LIA	Limnos Island	80.08 326	*e*P		P	04 40 11.1	+0.1	
ULC	Ulcinj	80.08 331	*e*P		P	04 40 10.4	-0.7	
KULA	Kula-Manisa	80.09 323	*e*P		P	04 40 10.2	-1.1	
PLG	Polygyros	80.23 328	*e*P		P	04 40 11.5	-0.4	
PRK	Paraskevi	80.29 325	*e*P		P	04 40 11.9	-0.3	
OHR	Ohrid	80.40 330⇑	*i*P		P	04 40 11.5	-1.3	
SSB	Saint Sauveur	80.44 343	*e*P		P	04 40 13.8	+0.8	
SSB			pmax	pmax				
	comp=Z,53nm,1.0s							
SSB	Saint Sauveur	80.44 343	*e*P		P	04 40 13.8	+0.8	
	comp=Z,53nm,1.0s							
FNA	Florina	80.52 329	*e*P		P	04 40 11.0	-2.5	
FNA	Florina	80.52 329	P		P	04 40 10.1	-3.4	
FNA	Florina	80.52 329	P		P	04 40 10.1	-3.4	
FNA	Florina	80.52 329	P		P	04 40 10.1	-3.4	
GAZI	Gazipasa	80.69 320	*i* P		P	04 40 12.5	-1.9	
KZN	Kozani	80.83 329	*e*P		P	04 40 14.9	-0.3	
AYDB	Zeytinkoy-Aydi	80.87 324	*e*P		P	04 40 15.7	+0.2	
NEST	Nestorio	80.96 330	P		P	04 40 16.0	+0.1	
URLA	Izmir	80.97 325	*i* P		P	04 40 15.3	-0.6	
LFK	Lefkose	81.03 318	*e*P		P	04 40 14.9	-1.4	
ZEY	˙zmir	81.11 325	*i* P		P	04 40 15.2	-1.4	
AYDN	Trsoluk	81.13 323	*i* P		P	04 40 17.2	+0.4	
ELL	Elmali	81.18 322	*e*P		P	04 40 14.9	-2.3	
XOR	Xorichti	81.22 328	P		P	04 40 15.0	-2.2	
XOR	Xorichti	81.22 328	P		P	04 40 15.0	-2.2	
MBWA	Marble Bar	81.26 218	*e*P		P	04 40 16.7	-0.6	
	comp=Z,22nm,1.0s							
NEO	Neokhori	81.27 328	*e*P		P	04 40 17.0	-0.5	
AQU	L'Aquila	81.31 336	*e*P		P	04 40 19.3	+1.6	
AQU			pmax	pmax				
	comp=Z,144nm,1.0s							
AQU	L'Aquila	81.31 336	*e*P		P	04 40 19.3	+1.6	
	comp=Z,144nm,1.0s							
CSS	Prodhromos	81.39 318	P		P	04 40 18.3	+0.1	
CSS	Prodhromos	81.39 318	*e*P		P	04 40 17.4	-0.7	
	comp=Z,106nm,1.6s							
CSS	Prodhromos	81.39 318	P		P	04 40 17.0	-1.2	
THL	Klokotos Trika	81.43 329	*e*P		P	04 40 16.6	-1.6	
LEF	Lefka	81.43 319	*e*P		P	04 40 18.8	+0.5	
ALFC	Alevga	81.52 319	P		P	04 40 18.2	-0.7	
TURN	Turunc	81.56 323	*i* P		P	04 40 19.9	+1.0	
DALY	Dalyan (Mu˘la	81.59 323	*e*P		P	04 40 17.2	-1.9	
SMIA	Simia	81.66 327	*e*P		P	04 40 18.8	-0.7	
MRKA	Markates	81.69 327	*e*P		P	04 40 18.5	-1.2	
JAN	Janina	81.71 329	*e*P		P	04 40 20.3	+0.5	
AKMC	Akamas	81.74 319	P		P	04 40 18.6	-1.4	
AKAS	Kas	81.75 322	*i* P		P	04 40 19.5	-0.7	
SZAC	Souni-Zanaja	81.75 319	P		P	04 40 19.9	-0.2	
BDRM	Kayabasi	81.82 324	*i* P		P	04 40 19.5	-0.9	
EREA	Eretria	81.83 327	*e*P		P	04 40 20.1	-0.4	
PPCY	Paphos	81.86 319	P		P	04 40 19.6	-1.0	
MAKR	Makrakomi, Fth	81.89 328	*e*P		P	04 40 19.4	-1.4	
LKR	Lokris	81.94 327	*e*P		P	04 40 19.7	-1.3	
SGD	Sagiada	81.94 330	*e*P		P	04 40 20.7	-0.3	
SGD	Sagiada	81.94 330	P		P	04 40 19.9	-1.1	
IGT	Igoumenitsa	81.98 330	*e*P		P	04 40 18.2	-3.0	
EVR	Évrytania	82.08 328	*e*P		P	04 40 21.1	-0.8	
DSL	Palaion Diasel	82.11 329	*e*P		P	04 40 22.0	+0.1	
DSL	Palaion Diasel	82.11 329	P		P	04 40 19.2	-2.7	
DSL	Palaion Diasel	82.11 329	P		P	04 40 19.2	-2.7	
PPT	Papeete	82.19 132	LR		LR	05 11 36.5		
	comp=Z,2µm,18.7s,baz=293,slow=32							
VIL2	Platees	82.24 327	*e*P		P	04 40 21.4	-1.2	
DESF	Desfina	82.31 328	*e*P		P	04 40 21.3	-1.7	
DSF	Desfina	82.31 328	*e*P		P	04 40 21.4	-1.6	
DSF	Desfina	82.31 328	P		P	04 40 20.6	-2.4	
DSF	Desfina	82.31 328	P		P	04 40 20.6	-2.4	
ARG	Arkhangelos	82.32 323	P		P	04 40 21.2	-1.8	
ARG	Arkhangelos	82.32 323	*e*P		P	04 40 22.4	-0.6	
ARG	Arkhangelos	82.32 323	P		P	04 40 21.2	-1.8	
ARG	Arkhangelos	82.32 323	P		P	04 40 21.2	-1.8	
KALE	Kalithea	82.45 328	*e*P		P	04 40 22.9	-0.9	
KALE	Kalithea	82.45 328	P		P	04 40 20.9	-2.9	
KALE	Kalithea	82.45 328	P		P	04 40 20.9	-2.9	
EFP	Efpalio	82.50 328	*e*P		P	04 40 23.7	-0.2	
APE	Apeiranthos	82.50 325	*c* *i*P		P	04 40 23.4	-0.6	
APE			pmax	pmax				
	comp=Z,74nm,1.4s							
TRIZ	Trizonia	82.50 328	*e*P		P	04 40 23.3	-0.6	
LTK	Loutraki	82.52 327	*e*P		P	04 40 22.2	-1.8	
LOUT	Loutraki	82.54 327	*e*P		P	04 40 22.8	-1.4	
LKD2	Lefkada island	82.56 329	P		P	04 40 22.8	-1.8	
LKD2	Lefkada island	82.56 329	P		P	04 40 22.5	-1.8	
PDO	Prodromos	82.57 329	*e*P		P	04 40 23.9	-0.4	
PDO	Prodromos	82.57 329	P		P	04 40 23.2	-1.1	
LAKA	Lakka	82.64 328	*e*P		P	04 40 24.3	-0.4	
KLV	Kalavryta, Ach	82.77 328	*e*P		P	04 40 24.1	-1.3	
KLV	Kalavryta, Ach	82.77 328	P		P	04 40 23.2	-2.2	
KLV	Kalavryta, Ach	82.77 328	P		P	04 40 23.2	-2.2	
GUR	Goura	82.80 328	*e*P		P	04 40 25.2	-0.4	
EXG	Exogi	82.87 329	*e*P		P	04 40 25.0	-0.9	
CUC	Castrocucco	82.88 333	*e*P		P	04 40 25.4	-0.6	
	comp=Z,36nm,1.1s							
DID	Didima	82.89 327	*e*P		P	04 40 24.8	-1.2	
DIDY	Didyma	82.93 327	*e*P		P	04 40 24.6	-1.7	
RLS	Riolos of Patr	82.97 328	*e*P		P	04 40 26.5	+0.1	
RLS	Riolos of Patr	82.97 328	P		P	04 40 24.8	-1.6	
RLS	Riolos of Patr	82.97 328	P		P	04 40 24.8	-1.6	
DRO	Drossia	82.99 328	*e*P		P	04 40 26.6	+0.1	
DRO	Drossia	82.99 328	P		P	04 40 25.4	-1.1	
VLS	Valsamata	83.14 329	P		P	04 40 25.4	-1.9	
VLS	Valsamata	83.14 329	*e*P		P	04 40 26.5	-0.8	
VLS	Valsamata	83.14 329	P		P	04 40 25.4	-1.9	
VLS	Valsamata	83.14 329	P		P	04 40 25.4	-1.9	
KARP	Karpathos	83.27 323	*e*P		P	04 40 26.8	-1.2	
VLX	Vlachokerasia	83.30 327	*e*P		P	04 40 27.5	-0.7	
AMT	Artemida-Makis	83.37 328	*e*P		P	04 40 27.8	-0.7	
TIP	Timpagrande	83.38 332	*e*P		P	04 40 28.7	+0.1	
	comp=Z,52nm,1.1s							
TIP	Timpagrande	83.38 332	P		P	04 40 27.7	-0.8	
ZKS	Zakynthos	83.52 329	*e*P		P	04 40 28.4	-0.8	
DWPF	Disney	83.54 51	*e*P		P	04 40 28.9	-0.5	
	comp=Z,50nm,0.9s							
ITM	Ithomi	83.62 328	*e*P		P	04 40 28.7	-1.1	
VLI	Veliai	83.71 327	*e*P		P	04 40 28.3	-1.9	
PYL	PYLOS	83.94 328	*e*P		P	04 40 29.8	-1.6	
GVD	Gavdhos	85.01 325	*e*P		P	04 40 35.7	-1.2	
	comp=Z,144nm,0.8s							
EIL	Elat	85.28 314	*e*P		P	04 40 36.9	-1.4	
RAYN	Ar Rayn	85.43 303	P		P	04 40 38.0	-1.2	
	comp=Z,444nm,1.4s,SNR=46							
PGAV	Gavieira, Arco	85.46 351	*e*P		P	04 40 39.9	+0.8	
	comp=Z,100nm,1.3s							
PBRG	Braganca	85.47 350	*e*P		P	04 40 40.4	+1.3	
	comp=Z,80nm,1.5s							
STKA	Stephens Creek	85.48 196	P		P	04 40 39.2	+0.3	
	comp=Z,16nm,0.9s,baz=345,slow=4.6,SNR=12							
CLTB	Caltabellotta	85.85 334	*e*P		P	04 40 41.6	+0.5	
	comp=Z,23nm,0.9s							
POLO	Lamas de Olo	86.00 351	*e*P		P	04 40 42.4	+0.6	
	comp=Z,34nm,1.5s							
PVRL	Vila Real	86.09 351	*e*P		P	04 40 42.8	+0.6	
	comp=Z,116nm,1.2s							
MVO	Moncorvo	86.14 350	*e*P		P	04 40 43.4	+1.0	
	comp=Z,82nm,1.3s							
PTO	Porto	86.31 351	*e*P		P	04 40 44.5	+1.3	
	comp=Z,77nm,1.3s							
PVIS	Viseu	86.67 351	*e*P		P	04 40 45.6	+0.6	
	comp=Z,67nm,1.3s							
MTE	Manteigas	86.94 351	*e*P		P	04 40 46.7	+0.3	
	comp=Z,84nm,1.1s							
ESDC	Sonseca Array	87.25 348	P		P	04 40 47.9	0.0	
	comp=Z,29nm,1.0s,baz=4.3,slow=4.6,SNR=84							
PCAS	Casmilo, Conde	87.38 351	*e*P		P	04 40 48.5	+0.1	
	comp=Z,78nm,1.2s							
PAB	San Pablo	87.42 348	*e*P		P	04 40 48.4	-0.4	
PAB			pmax	pmax				
	comp=Z,34nm,1.2s							
PAB	San Pablo	87.42 348	*e*P		P	04 40 48.4	-0.4	
	comp=Z,34nm,1.2s							
FORT	Forrest	87.45 207	*e*P		P	04 40 49.4	+0.8	
	comp=Z,29nm,1.1s							
PCBR	Castelo Branco	87.49 350	*e*P		P	04 40 48.9	-0.1	
	comp=Z,53nm,1.2s							
PESTR	Estremoz	88.47 350	*e*P		P	04 40 53.6	-0.1	
	comp=Z,42nm,1.3s							

KEST	Kesra	88.59 337	P		P	04 40 54.2	-0.1	
	comp=Z,19nm,1.0s,baz=287,slow=1.8,SNR=31							
EVO	Evora	88.84 351	*e*P		P	04 40 55.9	+0.5	
	comp=Z,26nm,1.7s							
PBAR	Barrancos	89.09 350	*e*P		P	04 40 56.5	-0.1	
	comp=Z,88nm,1.4s							
PCVE	Castro Verde	89.74 351	*e*P		P	04 40 59.9	+0.3	
	comp=Z,111nm,1.6s							
PVAQ	Vaqueiros	89.93 350	*e*P		P	04 41 00.5	0.0	
	comp=Z,44nm,1.5s							
TAM	Tamanrasset	101.89 336	*e*P		Pdif	04 41 54.8	-0.5	
TAM			pmax	pmax				
	comp=Z,4.0nm,1.2s							
TAM	Tamanrasset	101.89 336	*e*Pdif		Pdif	04 41 54.8	-0.5	
	comp=Z,4.0nm,1.2s							
TORD	Torodi Ar. Bea	112.10 337	Pdiff		Pdif	04 42 42.0	+1.4	
	comp=Z,0.5nm,0.9s,baz=0.9,slow=4.0,SNR=2.9							
TORD			PKiKP		PKiKP	04 46 34.6	-2.4	
	comp=Z,1.4nm,1.1s,baz=7.7,slow=5.6,SNR=4.3							
TORD			PP		PP	04 47 18.2	-2.0	
	comp=Z,9.2nm,1.0s,baz=1.0,slow=8.1,SNR=14							
DBIC	Dimbokro	119.76 343	PKP		PKPdf	04 46 51.6	-0.2	
	comp=Z,2.2nm,0.9s,baz=46,slow=3.0,SNR=2.9							
SAML	Samuel	124.25 55	*e*PKPdf		PKPdf	04 46 59.8	-0.5	
LSZ	Lusaka	127.00 296	*e*PKiKP		PKPdf	04 47 06.6	+0.9	
LSZ	Lusaka	127.00 296	*e*PKPdf		PKPdf	04 47 06.6	+0.9	
LPAZ	La Paz	127.75 65	PKP		PKPdf	04 47 08.2	+0.5	
	comp=Z,1.9nm,0.8s,baz=342,slow=5.0,SNR=7.2							
LVC	Limon Verde	132.34 71	*e*PKPdf		PKPdf	04 47 16.9	+1.1	
BDFB	Brasilia	137.08 42	PKhKP	PKPpre		04 47 20.2		
	comp=Z,1.7nm,0.6s,baz=269,slow=1.3,SNR=2.3							
BDFB			PP	PP		04 50 14.1	+5.9	
	comp=Z,2.6nm,0.8s,baz=270,slow=8.1,SNR=3.2							
BOSA	Boshof	139.14 288	PKP		PKPdf	04 47 28.8	+0.6	
	comp=Z,8.0nm,1.1s,baz=90,slow=2.0,SNR=3.3							
CPUP	Villa Florida	141.75 62	PKhKP	PKPpre		04 47 26.5		
	comp=Z,4.2nm,0.9s,baz=326,slow=3.8,SNR=9.7							
QSPA	South Pole Qui	142.15 180	PKhKP	PKPpre		04 47 26.2		
	comp=Z,7.5nm,0.6s,baz=341,slow=0.3,SNR=10							
SUR	Sutherland	144.50 288	*e*PKPdf		PKPdf	04 47 37.6	-0.1	
TRQA	Tornquist	147.58 81	*e*PKPdf		PKPdf	04 47 43.3	+0.7	
TRQA			*e*PKPbc		PKPbc	04 47 46.0	+0.7	
SYO	Syowa Base	148.14 216⇓	*i*PKPdf		PKPdf	04 47 43.6	+1.2	
SYO	Syowa Base	148.14 216⇓	*i*pPKiKP		PKPab	04 47 53.6	+4.9	
PMSA	Palmer Station	154.49 136	PKPbc	PKPbc	PKPbc	04 48 00.3	-0.3	
	comp=Z,16nm,0.8s,baz=205,slow=3.2,SNR=7.5							
PMSA	Palmer Station	154.49 136	*e*PKPdf		PKPdf	04 47 53.1	+1.0	
PMSA			*e*PKPbc		PKiKP	04 48 01.5	+0.9	
SNAA	Sanae	159.24 195	PKPab		PKPab	04 48 34.6	-1.0	
SNAA	Sanae	159.24 195	*e*PKP2		PKPab	04 48 35.5	-0.2	
SNAA	Sanae	159.24 195	*e*PKPab		PKPab	04 48 35.5	-0.2	
VNA1	Neumayer--Stat	160.94 192	PKPab		PKPab	04 48 41.8	-1.2	

IDC ***30*** *04:29:14.4±1.3,6˚.14S×150˚.21E,h0km,mb4.3/5, mb1 4.5/6,mb1mx4.0/40,mbtmp4.3/6,ML3.8/1,MS5.2/1, Ms1 5.2/1,ms1mx4.2/38,Error ellipse: s-maj=37.8km s-min=17.8km az=

0.8nm,0.7s,baz=173,slow=8.8,SNR=3.5
SONM Songino Array 41.29 15 P **P** 04 44 38.2 -0.4
1.6nm,0.7s,baz=194,slow=7.9,SNR=6.7
KURBB **Kurchatov Arra 43.47 348** P **P** 04 44 57.5 +1.4
1.0nm,0.9s,baz=173,slow=6.8,SNR=4.4
KURK Kurchatov 43.54 348 P **P** 04 44 57.5 +0.8
ZALV Zalesovo Beam 45.76 354 P **P** 04 45 13.2 -1.2
0.8nm,0.6s,baz=161,slow=7.4,SNR=2.4
WRA Warramunga Arr 50.66 124 P **P** 04 45 52.7 -0.1
1.5nm,0.7s,baz=304,slow=9.0,SNR=6.8
ASAR Alice Springs 52.23 129 P **P** 04 46 04.3 -0.2
1.6nm,0.8s,baz=299,slow=8.0,SNR=5.7

*BJI **30** 04:37:19.0,61.˚40S×154.˚20E,h5km,mb5.7/6,mB6.0/4, Ms5.6/7,Ms7 5.3/6*
*MOS **30** 04:37:19.1±1.2,61.˚24S×154.˚48E,h10km,mb5.5/6,Error ellipse: s-maj=41.4km s-min=11.3km az=93.0*
*IDC **30** 04:37:19.6±0.6,61.˚26S×154.˚17E,h0km,mb4.9/13, mb1 4.9/13,mb1mx4.8/25,mbtmp4.9/13,MS5.2/5, Ms1 5.2/5,ms1mx4.8/26,Error ellipse: s-maj=22.8km s-min=15.0km az=99.0*
*ISCJB **30** 04:37:19.2±0.3,61.˚31S±0.˚05×154.˚1E±0.˚1,h10km, mb5.0/30,MS5.3/5,Error ellipse: s-maj=10.2km s-min=6.9km az=19.7*
*AWI **30** 04:37:20.0,61.˚43S×154.˚20E*
*NEIC **30** 04:37:20.4±0.2,61.˚35S×154.˚21E,h10km,mb5.2/28,Error ellipse: s-maj=8.4km s-min=5.9km az=112.0*
*GCMT **30** 04:37:20.4±0.3,61.˚27S×153.˚99E,h18km±2km,MW5.5/83, Moment Tensor Solution. s32,c37; s83,c128; Duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.23±.10; $M_{\theta\theta}$1.45±.07; $M_{\phi\phi}$-1.22±.07; $M_{r\theta}$0.09±.16; $M_{\theta\phi}$-1.34±.06; $M_{\phi r}$0.87±.22; Best double couple: $M_0$2.09300×10^{17} NP1:ϕ_s155.00000°,δ78.00000°,λ-22.00000°. NP2: ϕ_s250.00000°,δ68.00000°,λ-167.00000°. Principal axes: T 2.0370, Plg7.0000°, Azm204.0000°; N 0.1070, Plg65.0000°, Azm309.0000°; P -2.1490, Plg24.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 30 04:37:20.3±0.3,61.˚43S±0.˚05×154.˚69E±0.˚09,h10km,n121, σ1^{s}55/125,mb5.1/30,MS5.3/5,1C-1D,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MCQ	**Macquarie Isla**	**7.31**	**20**	*e*P		**Pn**	**04 39 04.7**	**-2.3**
MCQ	**Macquarie Isla**	**7.31**	**20**	*e*Pn		**Pn**	**04 39 04.7**	**-2.3**
VNDA	**Vanda**	**16.34**	**174**	Pn		**Pn**	**04 41 05.3**	**-4.0**
	10nm,0.3s,baz=344,slow=14,SNR=314							
VNDA				Sn		**Sn**	**04 44 06.7**	**-3.5**
	0.2nm,0.3s,baz=349,slow=14,SNR=1.8							
VNDA				LR		LR	04 46 42.4	
	comp=Z,5μm,19.7s,baz=1.0,slow=34							
SBA	**Scott Base**	**16.95**	**171**	*e*P		**Pn**	**04 41 14.9**	**-2.2**
SBA				pmax		pmax		
	comp=Z,98nm,0.9s							
SBA	**Scott Base**	**16.95**	**171**	*e*Pn		**Pn**	**04 41 14.8**	**-2.2**
	comp=Z,98nm,0.9s							
WHZ	**Wether Hill Ro**	**17.37**	**32**	*e*Pn		**P**	**04 41 23.8**	**-0.1**
	comp=Z,153nm,1.5s							
DCZ	**Deep Cove**	**17.57**	**30**	*e*Pn		**P**	**04 41 27.3**	**+1.3**
	comp=Z,351nm,1.7s							
CASY	**Casey**	**19.70**	**237**	*e*P		**P**	**04 41 49.4**	**0.0**
	comp=Z,529nm,1.9s							
RPZ	**Rata Peaks**	**20.23**	**36**	P		Pn	04 41 57.5	+0.3
	comp=Z,70nm,1.1s,baz=209,slow=10,SNR=14							
RPZ	**Rata Peaks**	**20.23**	**36**	*e*P		Pn	04 41 57.5	+0.2
	comp=Z,248nm,1.4s							
KHZ	**Kahutara**	**22.15**	**39**	*e*P		**P**	**04 42 18.3**	**+2.3**
	comp=Z,178nm,1.3s							
BFZ	**Birch Farm**	**24.58**	**42**	*e*P		**P**	**04 42 41.7**	**+1.5**
	comp=Z,316nm,2.1s							
BKZ	**Black Stump Fm**	**26.03**	**41**	*e*P		**P**	**04 42 54.5**	**+1.1**
	comp=Z,45nm,1.2s							
URZ	**Urewera**	**27.06**	**41**	P		**P**	**04 43 04.0**	**+1.4**
	comp=Z,39nm,0.8s,baz=247,slow=5.0,SNR=22							
URZ	**Urewera**	**27.06**	**41**	*e*P		**P**	**04 43 04.5**	**+1.9**
	comp=Z,42nm,0.9s							
QSPA	**South Pole Qui**	**28.66**	**180**	P		**P**	**04 43 18.9**	**+2.0**
	comp=Z,17nm,1.0s,baz=359,slow=2.9,SNR=14							
QSPA	**South Pole Qui**	**28.66**	**180**	*e*P		**P**	**04 43 17.9**	**+1.0**
	comp=Z,44nm,1.0s							
OUZ	**Omahuta**	**28.86**	**33**	*e*P		**P**	**04 43 20.6**	**+1.9**
	comp=Z,56nm,1.5s							
STKA	**Stephens Creek**	**30.77**	**338**	P		**P**	**04 43 34.4**	**-1.2**
	comp=Z,18nm,1.0s,baz=162,slow=10,SNR=9.0							
STKA	**Stephens Creek**	**30.77**	**338**	*e*P		**P**	**04 43 35.6**	**-0.1**
STKA				pmax		pmax		
	comp=Z,8.0nm,1.2s							
STKA	**Stephens Creek**	**30.77**	**338**	*e*P		**P**	**04 43 35.6**	**-0.1**
	comp=Z,8.1nm,1.2s							
MAW	**Mawson**	**36.48**	**220**	P		**P**	**04 44 25.4**	**+0.6**
	comp=Z,10nm,0.8s,baz=124,slow=8.9,SNR=21							
H01W1	**Cape Leeuwin H**	**36.90**	**297**	T		T	05 23 35.4	
	baz=148,slow=76,SNR=1266							
H01W2	**Cape Leeuwin H**	**36.90**	**297**	T		T	05 23 35.6	
	baz=148,slow=76,SNR=1041							
H01W3	**Cape Leeuwin H**	**36.91**	**297**	T		T	05 23 36.6	
	baz=148,slow=76,SNR=1292							
RAO	**Raoul Island**	**36.94**	**42**	LR		LR	04 58 21.1	
	comp=Z,3μm,18.6s,baz=322,slow=34							
DZM	**Mont Dzumac**	**40.17**	**17**	P		**P**	**04 44 55.3**	**-1.2**
	comp=Z,33nm,0.9s,baz=90,slow=24,SNR=8.8							
ASAR	**Alice Springs**	**40.35**	**330**	P		**P**	**04 44 56.5**	**-1.4**
	comp=Z,9.2nm,0.9s,baz=165,slow=8.5,SNR=33							
ASAR				PcP		**PcP**	**04 46 59.9**	**-1.3**
	comp=Z,4.1nm,1.0s,baz=150,slow=2.7,SNR=7.1							
CTAO	**Charters Tower**	**41.73**	**348**	*e*P		**P**	**04 45 08.4**	**-0.9**
CTAO				pmax		pmax		
	comp=Z,153nm,1.8s							
CTAO	**Charters Tower**	**41.73**	**348**	*e*P		**P**	**04 45 08.4**	**-0.9**
	comp=Z,153nm,1.8s							
SYO	**Syowa Base**	**41.88**	**209**	*e*P		**P**	**04 45 08.6**	**-1.4**
WRA	**Warramunga Arr**	**43.83**	**332**	P		**P**	**04 45 24.2**	**-2.1**
	comp=Z,15nm,1.1s,baz=163,slow=6.7,SNR=35							
WRA				PcP		**PcP**	**04 47 11.3**	**-1.4**
	comp=Z,5.8nm,1.0s,baz=169,slow=3.0,SNR=11							
WRA				LR		LR	05 00 31.0	
	comp=Z,1μm,21.7s,baz=45,slow=32							
WRAB	**Tennant Creek**	**43.84**	**332**	*e*P		**P**	**04 45 24.5**	**-1.9**
WRAB				pmax		pmax		
	comp=Z,86nm,1.6s							
WRAB	**Tennant Creek**	**43.84**	**332**	*e*P		**P**	**04 45 24.5**	**-1.9**
	comp=Z,86nm,1.6s							
SNAA	**Sanae**	**46.27**	**190**	PKPdf		PP	04 47 42.1	+8.7
SNAA	**Sanae**	**46.27**	**190**	P		**P**	**04 45 46.0**	**+0.8**
SNAA	**Sanae**	**46.27**	**190**	*e*P		**P**	**04 45 46.0**	**+0.8**
SNAA				pmax		pmax		
	comp=Z,5.0nm,1.7s							
SNAA	**Sanae**	**46.27**	**190**	*e*P		**P**	**04 45 45.3**	**+0.1**
	comp=Z,40nm,2.0s							
MBWA	**Marble Bar**	**46.97**	**313**	*e*P		**P**	**04 45 49.8**	**-1.4**
	comp=Z,25nm,1.1s							
VNA1	**Neumayer--Stat**	**47.66**	**188**	PKPdf		**PP**	**04 47 47.1**	**0.0**
VNA1	**Neumayer--Stat**	**47.66**	**188**	P		**P**	**04 45 56.8**	**+0.8**
COEN	**Coen**	**48.13**	**345**	*e*P		**P**	**04 45 59.5**	**-0.7**
MTN	**Manton Dam**	**51.43**	**330**	*e*P		**P**	**04 46 23.8**	**-1.5**
	comp=Z,54nm,1.0s							
PMG	**Port Moresby**	**52.22**	**351**	*e*P		**P**	**04 46 30.3**	**-0.9**
PMG				pmax		pmax		
	comp=Z,38nm,1.2s							
PMG	**Port Moresby**	**52.22**	**351**	*e*P		**P**	**04 46 30.3**	**-0.9**
	comp=Z,38nm,1.2s							
MMRI	**Maumere**	**57.86**	**321**	*e*P		**P**	**04 47 10.5**	**-1.5**
USHA	**Ushuaia**	**59.19**	**153**	LR		LR	05 10 25.9	
	comp=Z,6μm,21.1s,baz=282,slow=33							
FAKI	**Fak Fak**	**60.78**	**334**	*e*P		**P**	**04 47 31.6**	**-0.6**
	comp=Z,75nm,0.9s							
KAPI	**Kappang**	**62.05**	**320**	P		**P**	**04 47 40.3**	**-0.5**
	comp=Z,14nm,0.9s,baz=180,slow=5.4,SNR=5.9							
KAPI	**Kappang**	**62.05**	**320**	*e*P		**P**	**04 47 40.3**	**-0.5**
	comp=Z,27nm,1.2s							
LEM	**Lembang**	**64.61**	**306**	P		**P**	**04 47 56.8**	**-1.2**
	comp=Z,6.6nm,0.4s,baz=143,slow=3.7,SNR=4.8							
LUWI	**Luwuk**	**64.92**	**324**	*e*P		**P**	**04 47 58.8**	**-1.0**
	comp=Z,82nm,1.0s							
KKM	**Kota Kinabalu**	**73.58**	**320**	*e*P		**P**	**04 48 52.2**	**-1.4**
	comp=Z,22nm,1.1s							
TRQA	**Tornquist**	**76.47**	**151**	*e*P		**P**	**04 49 10.8**	**+0.8**
	comp=Z,8.4nm,0.8s							
KULM	**Kulim**	**78.41**	**305**	*e*P		**P**	**04 49 19.8**	**-1.2**
	comp=Z,17nm,1.0s							
H08S2	**Diego Garcia H**	**79.59**	**273**	T		T	06 17 04.2	
	baz=150,slow=76,SNR=67							
H08S1	**Diego Garcia H**	**79.60**	**273**	T		T	06 17 04.1	
	baz=150,slow=76,SNR=54							
H08S3	**Diego Garcia H**	**79.61**	**273**	T		T	06 17 04.2	
	baz=150,slow=76,SNR=39							
BOSA	**Boshof**	**81.41**	**223**	P		**P**	**04 49 38.0**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=157,slow=7.7,SNR=2.8							
BOSA	**Boshof**	**81.41**	**223**	P		**P**	**04 49 38.0**	**+0.7**
LCO	**Las Campanas**	**82.68**	**141**	*e*P		**P**	**04 49 47.3**	**+3.1**
LVC	**Limon Verde**	**89.22**	**140**	*e*P		**P**	**04 50 16.8**	**+0.3**
	comp=Z,13nm,1.0s							
CMAR	**Chiang Mai Arr**	**91.09**	**308**	P		**P**	**04 50 24.3**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=186,slow=5.5,SNR=6.2							
CHTO	**Chiang Mai**	**91.42**	**308**	*e*P		**P**	**04 50 25.6**	**-0.7**
CHTO	**Chiang Mai**	**91.42**	**308**	*e*P		**P**	**04 50 25.6**	**-0.7**
LSZ	**Lusaka**	**92.66**	**231**	*e*P		**P**	**04 50 31.6**	**-0.8**
LSZ				pmax		pmax		
	comp=Z,13nm,1.5s							
LSZ	**Lusaka**	**92.66**	**231**	*e*P		**P**	**04 50 31.6**	**-0.8**
	comp=Z,13nm,1.5s							
LPAZ	**La Paz**	**95.41**	**139**	P		**P**	**04 50 46.7**	**+1.1**
	comp=Z,1.8nm,0.8s,baz=288,slow=1.4,SNR=4.7							
LPAZ	**La Paz**	**95.41**	**139**	*e*P		**P**	**04 50 46.7**	**+1.1**
LPAZ				pmax		pmax		
	comp=Z,8.0nm,1.3s							
LPAZ	**La Paz**	**95.41**	**139**	*e*P		**P**	**04 50 46.7**	**+1.1**
	comp=Z,7.8nm,1.3s							
GYA	**Guiyang**	**95.76**	**318**	*e*P		**P**	**04 50 49.0**	**+2.8**
GYA				PP		**PP**	**04 54 42.5**	**+4.1**
GYA				SKS		**SKSac**	**05 01 23.3**	**+1.2**
GYA				S		**S**	**05 02 03.0**	**-0.6**
GYA				SS		**SS**	**05 08 37.8**	**+4.0**
GYA				PMZ				
	comp=Z,20nm,1.0s							
GYA				PMZ				
	comp=Z,120nm,5.3s							
GYA				LN				
	comp=Z,470nm,22.6s							
GYA				LE				
	comp=Z,420nm,23.2s							
KMI	**Kunming**	**95.83**	**314**	P		**P**	**04 50 48.0**	**+1.3**
KMI				pP		**pP**	**04 50 53.0**	**+2.9**
KMI				sP		**sP**	**04 50 55.0**	**+3.8**
KMI				PMZ				
	comp=Z,5.0nm,0.8s							
NNA	**Nana**	**96.41**	**130**	*e*P		**P**	**04 50 49.7**	**+0.2**
NNA				pmax		pmax		
	comp=Z,25nm,1.3s							
NNA	**Nana**	**96.41**	**130**	*e*P		**P**	**04 50 49.7**	**+0.2**
	comp=Z,25nm,1.3s							
NJ2	**Nanjing**	**97.59**	**330**	*e*P		Pdif	04 50 56.3	+2.0
MJAR	**Matsushiro Arr**	**98.55**	**347**	LR		LR	05 33 02.5	
	comp=Z,952nm,19.8s,baz=320,slow=34							
CD2	**Chengdu**	**100.82**	**317**	*e*P		**Pdif**	**04 51 09.5**	**+0.7**
CD2				PP		**PP**	**04 55 17.5**	**+0.5**
CD2				SKS		**SKSac**	**05 01 48.5**	**+1.1**
CD2				S		**Sdif**	**05 02 47.8**	**+1.6**
CD2				SS		**SS**	**05 09 47.8**	**+3.0**
CD2				PMZ				
	comp=Z,10.0nm,0.5s							
CD2				PMZ				
	comp=Z,120nm,5.2s							
ULN	**Ulaanbaatar**	**115.48**	**327**	*i* PKIKP		**PKPdf**	**04 56 01.7**	**+0.4**
WMQ	**Urumqi**	**117.97**	**311**	PKP		**PKPdf**	**04 56 06.8**	**+0.6**
WMQ				LN				
	comp=Z,1μm,16.0s							
WMQ				LE				
	comp=Z,1μm,14.7s							
WMQ				LZ				
	comp=Z,380nm,20.0s							
NVAR	**Mina Array Bea**	**121.54**	**67**	PKP		**PKPdf**	**04 56 14.3**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=228,slow=2.1,SNR=7.8							
EKS2	**Erkin-Say**	**122.41**	**300**	*e*PKIKP		**PKPdf**	**04 56 14.9**	**+0.1**
EKS2	**Erkin-Say**	**122.41**	**300**	*e*PKPdf		**PKPdf**	**04 56 14.9**	**+0.1**
MKAR	**Makanchi Array**	**122.50**	**309**	PKHKP		PKPpre	04 56 11.9	
	comp=Z,0.6nm,0.6s,baz=184,slow=1.9,SNR=6.9							
SEY	**Seymchan**	**124.06**	**359**	*e*PKIKP		**PKPdf**	**04 56 15.5**	**-1.6**
TOA0	**Torodi Ar. Sit**	**127.98**	**214**	*e*PKPdf		**PKPdf**	**04 56 25.6**	**-0.6**
TORD	**Torodi Ar. Bea**	**127.98**	**214**	PKP		**PKPdf**	**04 56 25.3**	**-0.9**
	comp=Z,3.2nm,1.2s,baz=198,slow=1.9,SNR=3.8							
TPAW	**Teton Pass**	**128.90**	**69**	*e*PKPdf		**PKPdf**	**04 56 27.8**	**+0.4**
PDAR	**Pinedale Array**	**128.96**	**70**	PKP		**PKPdf**	**04 56 28.4**	**+0.9**
	comp=Z,0.4nm,0.9s,baz=84,slow=3.7,SNR=3.7							
MOOW	**Moose Ponds**	**129.20**	**69**	*e*PKPdf		**PKPdf**	**04 56 28.7**	**+0.8**
NEW	**Newport**	**129.96**	**61**	*e*PKIKP		**PKPdf**	**04 56 29.9**	**+1.0**
NEW	**Newport**	**129.96**	**61**	*e*PKPdf		**PKPdf**	**04 56 29.9**	**+1.0**
BPAW	**Bear Paw Mtn.**	**131.66**	**29**	*e*PKPdf		**PKPdf**	**04 56 30.6**	**-1.0**
MCK	**McKinley**	**131.82**	**30**	*e*PKIKP		**PKPdf**	**04 56 31.5**	**-0.5**
MCK	**McKinley**	**131.82**	**30**	*e*PKPdf		**PKPdf**	**04 56 31.5**	**-0.5**
BVAR	**Borovoye Array**	**132.06**	**306**	PKP		**PKPdf**	**04 56 33.7**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=151,slow=3.4,SNR=5.0							
BRVK	**Borovoye**	**132.13**	**306**	*e*PKIKP		**PKPdf**	**04 56 32.5**	**-0.3**
COLA	**College**	**133.04**	**30**	*e*PKIKP		**PKPdf**	**04 56 34.0**	**-0.1**
COLA	**College**	**133.04**	**30**	*e*PKPdf		**PKPdf**	**04 56 34.0**	**-0.1**
ILAR	**Eielson Array**	**133.19**	**30**	PKP		**PKPdf**	**04 56 33.4**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=271,slow=3.4,SNR=10							
ILAR				PKKP		**PKKPdf**	**05 06 25.8**	**+0.9**
	comp=Z,0.8nm,1.1s,baz=86,slow=2.0,SNR=4.3							
INK	**Inuvik**	**139.30**	**33**	*e*PKIKP		**PKPdf**	**04 56 44.5**	**-1.2**
INK	**Inuvik**	**139.30**	**33**	*e*PKPdf		**PKPdf**	**04 56 44.5**	**-1.2**
YKW3	**Yellowknife Ar**	**141.24**	**48**	*e*PKPdf		**PKPdf**	**04 56 49.0**	**-0.4**
KEST	**Kesra**	**146.26**	**236**	PKPbc		**PKPab**	**04 57 01.2**	**+0.1**
	comp=Z,3.3nm,0.9s,baz=61,slow=1.8,SNR=8.6							
FCC	**Fort Churchill**	**147.04**	**63**	*e*PKP2		**PKPdf**	**04 57 00.2**	**+0.6**
FCC	**Fort Churchill**	**147.04**	**63**	*e*PKPdf		**PKPdf**	**04 57 00.2**	**+0.6**
PRGR	**Permogore**	**147.71**	**302**	*e*PKHKP		PKPpre	04 56 58.0	
PRGR				pmax		pmax		
	comp=Z,30nm,0.9s							
OBN	**Obninsk**	**147.98**	**287**	*e*PKP2		**PKPdf**	**04 57 02.5**	**+1.3**
OBN				*e*			05 00 30.4	
OBN				pmax		pmax		
	comp=Z,14nm,0.6s							
OBN				MLR		MLR		
	comp=Z,495nm,15.0s							
KIEV	**Kiev**	**148.66**	**275**	*e*PKP2		**PKPbc**	**04 57 05.3**	**-1.0**
KIEV	**Kiev**	**148.66**	**275**	*e*PKPbc		**PKPbc**	**04 57 05.3**	**-1.0**
KIEV				*e*PKPab		**PKPab**	**04 57 09.2**	**-0.8**
PSZ	**Piszkesteto**	**151.24**	**263**	*e*PKIKP		**PKPdf**	**04 57 06.3**	**-0.5**
PSZ				*e*			04 57 11.3	
PSZ				*e*			04 57 18.5	
PSZ	**Piszkesteto**	**151.24**	**263**	*e*PKPdf		**PKPdf**	**04 57 06.3**	**-0.5**
PSZ				*e*PKPbc		**PKPbc**	**04 57 11.3**	**-1.5**
PSZ				*e*PKPab		**PKPab**	**04 57 18.5**	**-2.4**
RES	**Resolute Bay**	**152.86**	**33**	PKPbc		**PKPbc**	**04 57 18.7**	**+3.1**
	comp=Z,2.1nm,0.7s,baz=214,slow=3.6,SNR=2.4							
RES	**Resolute Bay**	**152.86**	**33**	*e*PKIKP		**PKPbc**	**04 57 15.0**	**-0.5**
RES				*e*			04 57 25.8	
RES	**Resolute Bay**	**152.86**	**33**	*e*PKPbc		**PKPbc**	**04 57 15.0**	**-0.5**
RES				*e*PKPab		**PKPab**	**04 57 25.8**	**-1.0**
MORC	**Moravsky Berou**	**153.65**	**263**	*e*PKP2		**PKPab**	**04 57 29.8**	**-1.1**
MORC	**Moravsky Berou**	**153.65**	**263**	*e*PKPab		**PKPab**	**04 57 29.8**	**-1.1**
ESDC	**Sonseca Array**	**154.57**	**221**	PKPbc		**PKPbc**	**04 57 23.3**	**+2.9**
	comp=Z,0.3nm,0.5s,baz=130,slow=2.1,SNR=6.1							
KHC	**Kasperske Hory**	**155.09**	**258**	*e*PKPAB		**PKPab**	**04 57 36.0**	**-1.0**
KHC	**Kasperske Hory**	**155.09**	**258**	*e*PKP2		**PKPab**	**04 57 36.0**	**-1.0**
CLL	**Collm**	**156.83**	**262**	*e*PKIKP		**PKPdf**	**04 57 18.0**	**+3.5**
CLL	**Collm**	**156.83**	**262**	*e*PKPdf		**PKPdf**	**04 57 18.0**	**+3.5**
CLL				*e*PKPab		**PKPab**	**04 57 45.0**	**+0.6**
CLL				*e*			04 57 53.0	

KRSC 30 04:46:25.9±1.4,52.˚30N×160.˚37E,h20km±9km,ML3.9,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.83**	**345**	*e*P		Pn	04 46 42.4	0.0
SPN				*e*S		Sn	04 46 53.6	-0.4
RUS	**Russkaya**	**1.15**	**277**	*e*P		Pn	04 46 46.1	-0.6
RUS				*e*S		Sb	04 47 00.2	-1.2
PET	**Petropavlovsk**	**1.27**	**305**	*e*P		Pn	04 46 48.6	+0.1
PET				*e*S		Sn	04 47 04.4	-0.5
UGLR	**Uglovaya**	**1.31**	**315**	*e*P		Pb	04 46 50.1	+0.1
UGLR				*e*S		Sb	04 47 06.7	+0.3
SDLR	**Sedlovina**	**1.33**	**318**	*e*P		Pb	04 46 50.4	0.0
SDLR				*e*S		Sb	04 47 07.6	+0.5
MTVR	**Mutnovka**	**1.35**	**279**	*e*P		Pn	04 46 49.7	-0.1
MTVR				*e*S		Sn	04 47 06.5	-0.8
SMAR	**Somma**	**1.36**	**316**	*e*P		Pb	04 46 50.6	-0.3
AVH	**Avacha**	**1.39**	**315**	*e*P		Pb	04 46 51.3	+0.1
AVH				*e*S		Sb	04 47 08.8	+0.3
KRER	**Koryakskii**	**1.41**	**316**	*e*P		Pb	04 46 52.5	+0.7
KRER				*e*S		Sb	04 47 10.7	+1.2
KOK	**Koryaka**	**1.45**	**314**	*e*P		Pb	04 46 52.3	0.0
KOK				*e*S		Sb	04 47 10.2	-0.2
KRX	**Arik**	**1.49**	**316**	*e*P		Pb	04 46 52.7	-0.4
KRX				*e*S		Sb	04 47 11.4	-0.3
ASAK	**Asacha**	**1.52**	**274**	*e*P		Pn	04 46 52.3	+0.3
ASAK				*e*S		Sn	04 47 11.4	+0.2
GNL	**Ganaly**	**2.03**	**315**	*e*P		Pb	04 47 01.6	-0.6
GNL				*e*S		Sb	04 47 27.5	+0.4
APC	**Apacha**	**2.06**	**289**	*e*P		Pb	04 47 01.2	-1.3
APC				*e*S		Sb	04 47 26.7	-0.9
MIPR	**Malaya Ipel'ka**	**2.22**	**271**	*e*P		Pn	04 47 03.4	+1.9
PAU	**Pauzhetka**	**2.36**	**251**	*e*P		Pb	04 47 07.1	-0.5
MKZ	**Mys Kozlova**	**2.40**	**19**	*e*P		Pn	04 47 05.9	+1.9
MKZ				*e*S		Sn	04 47 34.3	+1.5
KZV	**Kizimen**	**2.82**	**359**	*e*P		Pn	04 47 12.3	+2.3
KZV				*e*S		Sn	04 47 46.4	+2.9
TUMR	**Tumrok**	**2.99**	**358**	*e*P		Pb	04 47 15.5	-3.1
ESO	**Esso**	**3.76**	**346**	*e*P		Pn	04 47 27.2	+4.4
KBTR	**Krutoberegovo**	**4.17**	**19**	*e*P		Pn	04 47 31.3	+3.0

*ISCJB **30** 04:49:58.4±0.6,12.˚29S±0.˚06×166.˚55E±0.˚09,h83km, mb4.3/22,Error ellipse: s-maj=12.2km s-min=7.9km az=173.9*
*IDC **30** 04:49:58.8±3.3,12.˚31S×166.˚59E,h75km±28km,mb4.0/14, mb1 4.2/16,mb1mx4.0/41,mbtmp4.4/16,MS4.9/2, Ms1 5.0/2,ms1mx4.2/32,Error ellipse: s-maj=24.8km s-min=15.3km az=73.0*
*NEIC **30** 04:49:59.2±1.3,12.˚33S×166.˚55E,h78km±10km,mb4.6/9, Error ellipse: s-maj=11.3km s-min=8.1km az=61.0*

ISC 30 04:49:59.6±0.8,12.˚27S±0.˚08×166.˚5E±0.˚1,h83km,n52, σ1^{s}01/45,mb4.4/22,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**7.05**	**293**	P		**Pn**	**04 51 40.2**	**+0.1**
	63nm,0.3s,baz=125,slow=6.4,SNR=6.7							
HNR				S		**Sn**	**04 52 56.0**	**-2.9**
	13nm,0.3s,baz=187,slow=17,SNR=1.7							
DZM	**Mont Dzumac**	**9.75**	**180**	P		**Pn**	**04 52 15.9**	**-1.1**
	2.6nm,0.3s,baz=90,slow=24,SNR=14							
DZM				S		**Sn**	**04 54 05.6**	**+0.7**
	0.7nm,0.3s,baz=90,slow=24,SNR=6.0							
DZM	**Mont Dzumac**	**9.75**	**180**	*e*Pn		**Pn**	**04 52 16.2**	**-0.9**
	20nm,0.4s							
DZM				*e*Sn		**Sn**	**04 54 02.1**	**-2.8**
EIDS	**Eidsvold**	**19.56**	**226**	P		**Pn**	**04 54 22.9**	**+0.1**
	baz=12,SNR=4.0							
CTA	**Charters Tower**	**20.95**	**246**	P		P	04 54 40.2	+4.2
	7.6nm,0.8s,baz=76,slow=13,SNR=7.1							
CTAO	**Charters Tower**	**20.95**	**246**	*e*P		**P**	**04 54 35.8**	**-0.2**
	14nm,1.0s							
RMQ	**Roma**	**21.89**	**227**	P		**P**	**04 54 47.7**	**+1.8**
	baz=14,SNR=8.2							
MTSU	**Mount Surprise**	**22.20**	**252**	P		**P**	**04 54 49.5**	**+0.2**
	baz=15,SNR=5.1							
ARMA	**Armidale**	**22.73**	**215**	P		**P**	**04 54 55.8**	**+0.9**
	baz=16,SNR=14							
COEN	**Coen**	**22.80**	**263**	*e*P		**P**	**04 54 56.0**	**+0.3**
MGCD	**Mangrove Creek**	**25.17**	**212**	P		**P**	**04 55 18.8**	**+1.5**
	baz=18,SNR=9.7							
QLP	**Quilpie**	**25.33**	**233**	P		**P**	**04 55 19.6**	**+0.8**
	baz=18,SNR=9.5							
CMSA	**Cobar Meteorol**	**27.14**	**222**	P		P	04 55 39.0	+3.9
	baz=20,SNR=8.7							
CNB	**Canberra Magne**	**27.71

JANG	**Nango**	**0.67**	**210**	⇓P		**Pn**	**04 52 13.1**	**-0.3**
JANG				S		**Sn**	**04 52 23.0**	**-0.5**
JTM	**Tenmabayashi**	**0.69**	**256**	⇓P		**Pn**	**04 52 13.6**	**-0.1**
JTM				S		**Sn**	**04 52 24.0**	**0.0**
JOT	**Ohata**	**0.80**	**303**	⇓P		**Pn**	**04 52 14.6**	**-0.5**
JOT				S		**Sn**	**04 52 26.3**	**-0.2**
JKB	**Kayabe**	**1.16**	**324**	⇓P		**Pn**	**04 52 19.2**	**-0.5**
JKB				S		**Sn**	**04 52 33.9**	**-0.8**
JAH	**Hinai**	**1.26**	**233**	P		**Pn**	**04 52 21.5**	**+0.5**
JAH				S		**Sn**	**04 52 38.5**	**+1.5**
JSR	**Shiriuchi**	**1.29**	**297**	⇓P		**Pn**	**04 52 21.4**	**0.0**
ERM	**Erimo**	**1.40**	**40**	*e*P		**Pn**	**04 52 22.9**	**0.0**
ERM				*e*			04 52 40.6	
ERM	**Erimo**	**1.40**	**40**	*e*Pn		**Pn**	**04 52 22.9**	**0.0**
ERM				*e*Sn		**Sn**	**04 52 40.6**	**+0.3**
JEM	**Erimo**	**1.40**	**40**	P		**Pn**	**04 52 22.8**	**-0.1**
JNBK	**Urakawa-nobuka**	**1.46**	**24**	P		**Pn**	**04 52 24.3**	**+0.6**
JNBK				S		**Sn**	**04 52 44.0**	**+2.2**
JIW	**Iwasaki**	**1.52**	**257**	P		**Pn**	**04 52 24.7**	**+0.2**
JOM	**Ohasama**	**1.56**	**199**	P		**Pn**	**04 52 25.2**	**+0.1**
JOM				S		**Sn**	**04 52 44.5**	**+0.2**
JNB	**Noboribetsu**	**1.66**	**336**	P		**Pn**	**04 52 25.6**	**-0.8**
JNB				S		**Sn**	**04 52 45.9**	**-0.8**
JYM2	**Yakumo 2**	**1.66**	**315**	⇓P		**Pn**	**04 52 26.4**	**0.0**
JYM2				S		**Sn**	**04 52 47.4**	**+0.7**
ASAJ	**Asahikawa**	**3.20**	**8**	LR		LR	04 54 25.3	
	comp=Z,7μm,19.8s,baz=82,slow=44							
ASAJ	**Asahikawa**	**3.20**	**8**	*e*Pn		**Pn**	**04 52 47.6**	**+0.2**
MAJO	**Matsushiro**	**5.29**	**215**	*e*P		**Pn**	**04 53 18.7**	**+2.7**
MAJO	**Matsushiro**	**5.29**	**215**	*e*Pn		**Pn**	**04 53 18.7**	**+2.7**
MJAR	**Matsushiro Arr**	**5.29**	**215**	P		**Pn**	**04 53 16.8**	**+0.8**
	0.9nm,0.3s,baz=26,slow=11,SNR=3.9							
YSS	**Yuzh-Sakhalins**	**6.03**	**5**	*i* P		**Pn**	**04 53 26.9**	**+0.8**
KUR	**Kuril'sk**	**6.09**	**43**	⇑*i*P		**Pn**	**04 53 26.5**	**-0.4**
USRK	**Ussuriysk Ar.**	**8.03**	**297**	P		**Pn**	**04 53 55.8**	**+2.2**
	1.4nm,0.3s,baz=94,slow=15,SNR=15							
MSHR	**Mys Shultsa**	**8.23**	**285**	*i* P		Pn	04 53 51.5	-4.7
KSRS	**Korea Array**	**11.43**	**257**	P		Pn	04 54 43.1	+3.2
	0.3nm,0.3s,baz=64,slow=12,SNR=4.2							
KSAR	**Wonju Array Be**	**11.46**	**257**	P		**Pn**	**04 54 43.1**	**+2.7**
KSAR	**Wonju Array Be**	**11.46**	**257**	P		**Pn**	**04 54 43.1**	**+2.7**
TJN	**Taejon**	**12.28**	**253**	⇓*i*P		Pn	04 54 44.3	-7.3
SEY	**Seymchan**	**22.87**	**12**	*i* P		**P**	**04 56 58.4**	**+0.7**
HHC	**Hu-ho-hao-te**	**22.92**	**280**	*e*P		**P**	**04 56 54.5**	**-4.0**
HHC				pmax	pmax			
	comp=Z,14nm,1.2s							
ULN	**Ulaanbaatar**	**25.71**	**297**	*e*P		**P**	**04 57 21.9**	**-2.3**
ULN				pmax	pmax			
	comp=Z,4.0nm,2.0s							
SONM	**Songino Array**	**26.15**	**297**	P		**P**	**04 57 27.8**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=86,slow=7.9,SNR=7.8							
SONM	**Songino Array**	**26.15**	**297**	*e*P		**P**	**04 57 27.4**	**-0.8**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**30.00**	**127**	T		T	05 30 30.4	
	baz=323							
H11N1	**WAKE ISLAND Hy**	**30.01**	**127**	T		T	05 30 31.4	
	baz=323							
H11N3	**WAKE ISLAND Hy**	**30.02**	**127**	T		T	05 30 32.7	
	baz=323							
H11S1	**WAKE ISLAND Hy**	**30.83**	**129**	T		T	05 31 16.8	
	baz=324,slow=74							
H11S3	**WAKE ISLAND Hy**	**30.83**	**129**	T		T	05 31 25.2	
	baz=324							
H11S2	**WAKE ISLAND Hy**	**30.84**	**129**	T		T	05 31 27.2	
	baz=324,slow=74							
ZALV	**Zalesovo Beam**	**39.68**	**309**	P		**P**	**04 59 25.4**	**-0.1**
	comp=Z,1.8nm,0.5s,baz=89,slow=7.3,SNR=5.5							
MKAR	**Makanchi Array**	**42.50**	**299**	P		**P**	**04 59 48.7**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=85,slow=10,SNR=8.6							
CHTO	**Chiang Mai**	**42.78**	**252**	*e*P		**P**	**04 59 52.1**	**+0.7**
CHTO				pmax	pmax			
	comp=Z,3.0nm,0.7s							
CHTO	**Chiang Mai**	**42.78**	**252**	*e*P		**P**	**04 59 52.1**	**+0.7**
	comp=Z,3.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**43.01**	**252**	P		**P**	**04 59 54.2**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=50,slow=7.6,SNR=4.2							
COLA	**College**	**45.58**	**34**	*e*P		**P**	**05 00 16.0**	**+2.9**
COLA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
ILAR	**Eielson Array**	**45.99**	**34**	P		**P**	**05 00 16.8**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=269,slow=5.9,SNR=6.5							
TKM2	**Tokmak 2**	**48.23**	**296**	*e*P		**P**	**05 00 34.7**	**+0.3**
TKM2				pmax	pmax			
	comp=Z,5.0nm,0.5s							
TKM2	**Tokmak 2**	**48.23**	**296**	*e*P		**P**	**05 00 34.7**	**+0.3**
	comp=Z,4.9nm,0.5s							
BRVK	**Borovoye**	**48.37**	**310**	*e*P		**P**	**05 00 34.3**	**-0.8**
BRVK				pmax	pmax			
	comp=Z,1.0nm,0.7s							
EKS2	**Erkin-Say**	**49.56**	**296**	*e*P		**P**	**05 00 44.5**	**-0.1**
EKS2				pmax	pmax			
	comp=Z,3.0nm,0.8s							
EKS2	**Erkin-Say**	**49.56**	**296**	*e*P		**P**	**05 00 44.5**	**-0.1**
	comp=Z,2.6nm,0.8s							
INK	**Inuvik**	**50.73**	**29**	P		**P**	**05 00 53.2**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=260,slow=9.0,SNR=3.6							
INK	**Inuvik**	**50.73**	**29**	*e*P		**P**	**05 00 53.0**	**+0.2**
INK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
INK	**Inuvik**	**50.73**	**29**	*e*P		**P**	**05 00 53.0**	**+0.2**
	comp=Z,2.8nm,0.8s							
ARU	**Arti**	**53.75**	**317**	*d i*P		**P**	**05 01 14.6**	**-0.8**
ARU				S		**S**	**05 08 49.7**	**+4.7**
ARU				SS		**SKiKP**	**05 12 23.3**	**-0.1**
ARU				pmax	pmax			
	comp=Z,15nm,2.5s							
ARU	**Arti**	**53.75**	**317**	*e*P		**P**	**05 01 15.2**	**-0.1**
ABKAR	**Akbulak array**	**55.79**	**308**	*e*P		**P**	**05 01 29.7**	**-0.5**
	comp=Z,3.3nm,0.5s							
ARCES	**ARCESS Array B**	**60.49**	**339**	P		**P**	**05 02 02.5**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=74,slow=8.9,SNR=6.4							
WRAB	**Tennant Creek**	**60.98**	**188**	*e*P		**P**	**05 02 05.5**	**-1.2**
WRAB				pmax	pmax			
	comp=Z,8.0nm,1.3s							
WRAB	**Tennant Creek**	**60.98**	**188**	*e*P		**P**	**05 02 05.5**	**-1.2**
	comp=Z,8.1nm,1.3s							
WRA	**Warramunga Arr**	**60.99**	**188**	P		**P**	**05 02 05.4**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=6.1,slow=6.9,SNR=15							
WRA	**Warramunga Arr**	**60.99**	**188**	*e*P		**P**	**05 02 03.6**	**-3.1**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ASAR	**Alice Springs**	**64.72**	**188**	P		**P**	**05 02 30.4**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=2.3,slow=4.6,SNR=4.1							
FINES	**FINESS Array B**	**65.56**	**332**	P		**P**	**05 02 35.9**	**-0.6**
	comp=Z,7.6nm,0.7s,baz=53,slow=7.1,SNR=39							
FINES	**FINESS Array B**	**65.56**	**332**	*e*P		**P**	**05 02 35.8**	**-0.6**
FINES				pmax	pmax			
	comp=Z,8.0nm,0.7s							
KBZ	**Khabaz**	**68.69**	**310**	P		**P**	**05 02 57.2**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=35,slow=6.8,SNR=4.2							
NB2	**NORSAR Subarra**	**70.74**	**337**	P		**P**	**05 03 08.6**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=35,slow=6.5							
NOA	**NORSAR Array B**	**70.74**	**337**	*i* P		**P**	**05 03 08.7**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=36,slow=6.1,SNR=6.4							
NOA	**NORSAR Array B**	**70.74**	**337**	*e*P		**P**	**05 03 08.6**	**-0.4**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
KIEV	**Kiev**	**71.48**	**322**	*e*P		**P**	**05 03 12.9**	**-0.6**
KIEV				pmax	pmax			
	comp=Z,8.0nm,1.2s							
KIEV	**Kiev**	**71.48**	**322**	*e*P		**P**	**05 03 12.9**	**-0.6**
	comp=Z,7.7nm,1.2s							
DUG	**Dugway**	**74.50**	**50**	*e*P		**P**	**05 03 30.8**	**-1.0**
DUG				pmax	pmax			
	comp=Z,3.0nm,1.0s							
DUG	**Dugway**	**74.50**	**50**	*e*P		**P**	**05 03 30.8**	**-1.0**
	comp=Z,2.8nm,1.0s							
CLL	**Collm**	**77.91**	**330**	*e*P		**P**	**05 03 50.0**	**-0.8**
CLL	**Collm**	**77.91**	**330**	*e*P		**P**	**05 03 50.0**	**-0.8**
SNAA	**Sanae**	**144.60**	**198**	*e*PKIKP		**PKPab**	**05 11 26.7**	**-0.2**
SNAA	**Sanae**	**144.60**	**198**	*e*PKPdf		**PKPab**	**05 11 26.7**	**-0.2**

KRSC 30 04:58:27.0±1.0, 52°34'N×160°33'E, h20km±9km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.78**	**346**	*e*P	Pn	04 58 42.7	-0.2
SPN				*e*S	Sg	04 58 53.4	+0.6
RUS	**Russkaya**	**1.12**	**276**	*e*P	Pn	04 58 47.1	-0.4
RUS				*e*S	Sb	04 59 00.8	-0.9
PET	**Petropavlovsk**	**1.23**	**305**	*e*P	Pn	04 58 48.9	-0.2
PET				*e*S	Sb	04 59 04.2	-0.8
UGLR	**Uglovaya**	**1.26**	**314**	*e*P	Pb	04 58 50.5	+0.2
UGLR				*e*S	Sb	04 59 06.7	+0.5
SDLR	**Sedlovina**	**1.29**	**318**	*e*P	Pb	04 58 50.6	-0.1
SDLR				*e*S	Sb	04 59 06.9	0.0
SMAR	**Somma**	**1.31**	**316**	*e*P	Pb	04 58 51.1	-0.2
MTVR	**Mutnovka**	**1.32**	**277**	*e*P	Pn	04 58 50.6	0.0
MTVR				*e*S	Sn	04 59 07.1	-0.7
AVH	**Avacha**	**1.34**	**314**	*e*P	Pb	04 58 51.6	0.0
AVH				*e*S	Sb	04 59 08.7	+0.3
KRER	**Koryakskii**	**1.36**	**316**	*e*P	Pb	04 58 52.2	+0.1
KRER				*e*S	Sb	04 59 09.6	+0.3
KOK	**Koryaka**	**1.40**	**314**	*e*P	Pb	04 58 52.4	-0.3
KOK				*e*S	Sn	04 59 01.0	-8.6
KRX	**Arik**	**1.44**	**316**	*e*P	Pb	04 58 53.1	-0.3
KRX				*e*S	Sb	04 59 11.2	-0.3
ASAK	**Asacha**	**1.49**	**273**	*e*P	Pb	04 58 53.6	-0.5
ASAK				*e*S	Sb	04 59 12.4	-0.3
GNL	**Ganaly**	**1.98**	**314**	*e*P	Pb	04 59 01.5	-1.1
GNL				*e*S	Sb	04 59 26.1	-0.8
APC	**Apacha**	**2.02**	**288**	*e*P	Pb	04 59 02.2	-0.8
APC				*e*S	Sb	04 59 27.1	-0.6
MIPR	**Malaya Ipel'ka**	**2.19**	**270**	*e*P	Pb	04 59 05.0	-1.0
MKZ	**Mys Kozlova**	**2.37**	**20**	*e*P	Pn	04 59 06.3	+1.5
KZV	**Kizimen**	**2.78**	**360**	*e*P	Pn	04 59 13.2	+2.6
TUMR	**Tumrok**	**2.95**	**358**	*e*P	Pn	04 59 15.8	+2.9
KBTR	**Krutoberegovo**	**4.14**	**20**	*e*P	Pn	04 59 32.4	+3.3

*IDC **30** 04:59:14.3±2.2, 52°.50N×160°.33E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.2/39, mbtmp3.5/2, Error ellipse: s-maj=58.4km s-min=23.6km az=10.0*
*ISCJB **30** 04:59:15.3±1.4, 52°.32N±0°.04×160°.26E±0°.08, h7km±12km, mb3.5/2, Error ellipse: s-maj=8.5km s-min=7.0km az=33.9*
*KRSC **30** 04:59:15.9±0.7, 52°.33N×160°.27E, h16km±7km, ML3.7*
*MOS **30** 04:59:19.3±0.4, 52°.41N×160°.03E, h54km, mb4.1/1, Error ellipse: s-maj=48.9km s-min=34.1km az=117.2*

ISC 30 04:59:17.0±1.9, 52°.38N±0°.06×160°.15E±0°.06, h16km±10km, n23, σ0s95/38, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.72**	**354**	*e*P	**Pb**	**04 59 31.2**	**+0.1**
SPN				*e*S	**Sn**	**04 59 42.0**	**-1.2**
RUS	**Russkaya**	**1.00**	**274**	*e*P	**Pb**	**04 59 35.3**	**-0.6**
RUS				*e*S	**Sb**	**04 59 49.4**	**+0.6**
PET	**Petropavlovsk**	**1.11**	**306**	*e*P	**Pb**	**04 59 37.4**	**-0.4**
PET				*e*S	**Sg**	**04 59 52.8**	**-0.2**
PET	**Petropavlovsk**	**1.11**	**306**	*e*PN	**Pn**	**04 59 38.0**	**+0.2**
PET				*e*S	**Sb**	**04 59 52.3**	**+0.3**
UGLR	**Uglovaya**	**1.15**	**316**	*e*P	**Pg**	**04 59 39.0**	**-0.2**
UGLR				*e*S	**Sn**	**04 59 55.4**	**+1.4**
SDLR	**Sedlovina**	**1.18**	**320**	*e*P	**Pg**	**04 59 39.2**	**-0.5**
SDLR				*e*S	**Sg**	**04 59 55.7**	**+0.5**
SMAR	**Somma**	**1.20**	**318**	*e*P	**Pn**	**04 59 39.1**	**-0.2**
MTVR	**Mutnovka**	**1.21**	**276**	*e*P	**Pn**	**04 59 39.0**	**-0.3**
MTVR				*e*S	**Sn**	**04 59 55.8**	**+0.5**
AVH	**Avacha**	**1.23**	**317**	*e*P	**Pg**	**04 59 40.1**	**-0.6**
AVH				*e*S	**Sg**	**04 59 57.3**	**+0.6**
KRER	**Koryakskii**	**1.25**	**318**	*e*P	**Pg**	**04 59 40.6**	**-0.6**
KRER				*e*S	**Sg**	**04 59 58.2**	**+0.7**
KOK	**Koryaka**	**1.29**	**315**	*e*P	**Pb**	**04 59 40.8**	**-0.1**
KOK				*e*S	**Sg**	**04 59 58.6**	**-0.1**
KRX	**Arik**	**1.33**	**318**	*e*P	**Pb**	**04 59 41.4**	**-0.3**
KRX				*e*S	**Sg**	**04 59 59.8**	**-0.3**
ASAK	**Asacha**	**1.38**	**271**	*e*P	**Pb**	**04 59 42.1**	**-0.2**
ASAK				*e*S	**Sb**	**05 00 00.6**	**+0.9**
PETK	**Petropavlovsk-**	**1.66**	**297**	Pn	**Pn**	**04 59 46.2**	**+0.9**
	19nm,0.3s,baz=113,slow=20,SNR=12						
PETK				Sn	**Sb**	**05 00 09.3**	**+1.6**
	20nm,0.3s,baz=112,slow=32,SNR=2						
PETK	**Petropavlovsk-**	**1.66**	**297**	PN	**Pn**	**04 59 46.2**	**+0.9**
PETK						05 00 09.3	
PETK				pmax	pmax		
	comp=Z,19nm,0.3s						
PETK				smax	smax		
	comp=N,20nm,0.3s						
GNL	**Ganaly**	**1.87**	**316**	*e*P	**Pb**	**04 59 50.6**	**-0.2**
GNL				*e*S	**Sb**	**05 00 14.8**	**+0.8**
APC	**Apacha**	**1.90**	**288**	*e*P	**Pb**	**04 59 50.8**	**-0.4**
APC				*e*S	**Sb**	**05 00 15.9**	**+1.3**
MIPR	**Malaya Ipel'ka**	**2.08**	**268**	*e*P	**Pn**	**04 59 52.7**	**+1.5**
SKR	**Severo-Kuril's**	**3.04**	**238**	PN	**Pn**	**05 00 05.9**	**+1.6**
KBTR	**Krutoberegovo**	**4.14**	**21**	*e*P	**Pn**	**05 00 21.9**	**+2.5**
FINES	**FINESS Array B**	**60.79**	**337**	P	**P**	**05 09 25.9**	**-1.6**
	comp=N,0.9nm,0.6s,baz=43,slow=8.6,SNR=5.0						
FINES	**FINESS Array B**	**60.79**	**337**	P	**P**	**05 09 25.9**	**-1.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**70.89**	**67**	P	**P**	**05 10 32.7**	**-0.5**
	comp=Z,0.1nm,0.6s,baz=317,slow=7.4,SNR=2.3						

*ISCJB **30** 04:59:29.8±1.3, 10°.33N±0°.07×126°.15E±0°.09, h54km, mb3.6/3, Error ellipse: s-maj=12.8km s-min=9.6km az=150.3*
*MAN **30** 04:59:31, 10°.37N×125°.99E, h71km, mb4.7, ML3.6, MS3.6*
*IDC **30** 04:59:32.8±3.2, 9°.24N×125°.52E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/23, mbtmp3.6/3, Error ellipse: s-maj=270.9km s-min=28.8km az=65.0*

ISC 30 04:59:31.3±1.7, 10°.34N±0°.08×126°.1E±0°.1, h54km, n6, σ0s54/8, mb3.7/3, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**1.38**	**307**	⇓*e*P	**Pn**	**04 59 53.9**	**-0.4**
PLP				*e*S	**Sn**	**05 00 11.3**	**-0.2**
TBP	**Tagbilaran**	**2.30**	**254**	⇑*e*P	**Pn**	**05 00 07.5**	**+0.6**
TBP				*e*S	**Sn**	**05 00 34.1**	**0.0**
CGP	**Cagayan de Oro**	**2.33**	**217**	*e*P	**Pn**	**05 00 06.8**	**-0.5**
CGP				*i* S	**Sn**	**05 00 34.4**	**-0.5**
WRA	**Warramunga Arr**	**31.16**	**165**	P	**P**	**05 05 45.3**	**0.0**
	0.3nm,0.5s,baz=343,slow=9.2,SNR=4.3						
ASAR	**Alice Springs**	**34.65**	**167**	P	**P**	**05 06 16.4**	**+0.7**
	0.4nm,0.4s,baz=354,slow=7.3,SNR=6.8						
MKAR	**Makanchi Array**	**51.88**	**323**	P	P	05 08 46.9	+13
	0.6nm,0.7s,baz=126,slow=7.6,SNR=3.9						

*ISCJB **30** 05:05:16.5±1.4, 52°.28N±0°.05×160°.29E±0°.06, h15km±11km, mb3.6/3, Error ellipse: s-maj=8.3km s-min=5.4km az=156.3*
*KRSC **30** 05:05:16.8±0.7, 52°.33N×160°.29E, h19km±7km, ML3.6*
*IDC **30** 05:05:16.9±1.5, 53°.17N×160°.39E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/36, mbtmp3.6/3, Error ellipse: s-maj=32.3km s-min=22.2km az=169.0*
*MOS **30** 05:05:20.0±1.5, 52°.26N×159°.73E, h74km, mb4.0/1, Error ellipse: s-maj=44.1km s-min=23.2km az=106.4*

ISC 30 05:05:16.9±2.0, 52°.20N±0°.06×160°.23E±0°.06, h29km±14km, n27, σ1s41/42, mb4.0/3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.91**	**352**	*e*P	Pn	05 05 31.8	-1.9
SPN				*e*S	**Sn**	**05 05 42.7**	**-3.1**
RUS	**Russkaya**	**1.08**	**283**	*e*P	**Pn**	**05 05 36.3**	**+0.3**
RUS				*e*S	**Sn**	**05 05 50.6**	**+0.6**
PET	**Petropavlovsk**	**1.27**	**311**	*e*P	**Pn**	**05 05 38.4**	**-0.2**
PET				*e*S	**Sn**	**05 05 53.6**	**-1.0**
PET	**Petropavlovsk**	**1.27**	**311**	*e*PN	**Sn**	**05 05 38.8**	**+0.2**
PET				*e*S	**Sn**	**05 05 53.7**	**-0.9**
PET				smax	smax		
	comp=N,371nm,0.5s						
MTVR	**Mutnovka**	**1.29**	**284**	*e*P	**Pn**	**05 05 39.9**	**+0.9**
MTVR				*e*S	**Sn**	**05 05 56.8**	**+1.4**
UGLR	**Uglovaya**	**1.32**	**320**	*e*P	**Pn**	**05 05 39.8**	**+0.3**
UGLR				*e*S	**Sn**	**05 05 56.4**	**+0.2**
SDLR	**Sedlovina**	**1.35**	**323**	*e*P	**Pn**	**05 05 39.9**	**-0.1**
SDLR				*e*S	**Sn**	**05 05 56.7**	**-0.3**
SMAR	**Somma**	**1.38**	**321**	*e*P	**Pn**	**05 05 40.2**	**-0.1**
AVH	**Avacha**	**1.40**	**320**	*e*P	**Pn**	**05 05 41.0**	**+0.5**
AVH				*e*S	**Sn**	**05 05 58.5**	**+0.4**
KRER	**Koryakskii**	**1.43**	**321**	*e*P	**Pn**	**05 05 41.5**	**+0.5**
KRER				*e*S	**Sn**	**05 05 59.3**	**+0.4**
ASAK	**Asacha**	**1.44**	**278**	*e*P	**Pn**	**05 05 43.0**	**+1.9**
ASAK				*e*S	**Sb**	**05 06 02.0**	**+0.9**
KOK	**Koryaka**	**1.46**	**319**	*e*P	**Pn**	**05 05 41.8**	**+0.4**
KOK				*e*S	**Sn**	**05 05 59.6**	**0.0**
KRX	**Arik**	**1.51**	**321**	*e*P	**Pn**	**05 05 42.3**	**+0.2**
PETK	**Petropavlovsk-**	**1.79**	**302**	Pn	**Pn**	**05 05 47.2**	**+1.4**
	comp=N,22nm,0.3s,baz=93,slow=14,SNR=63						
PETK				Sn	**Sn**	**05 06 09.3**	**+1.8**
	comp=N,10nm,0.3s,baz=102,slow=23,SNR=5.4						
PETK	**Petropavlovsk-**	**1.79**	**302**	PN	**Pn**	**05 05 47.2**	**+1.4**
PETK						05 06 09.4	
PETK				pmax	pmax		
	comp=Z,22nm,0.3s						
PETK				smax	smax		
	comp=N,10.0nm,0.3s						
APC	**Apacha**	**2.01**	**292**	*e*P	**Pn**	**05 05 51.4**	**+2.6**
APC				*e*S	**Sb**	**05 06 16.4**	**-0.9**
GNL	**Ganaly**	**2.04**	**318**	*e*P	**Pn**	**05 05 51.2**	**+1.8**
GNL				*e*S	**Sn**	**05 06 15.6**	**+1.7**
MIPR	**Malaya Ipel'ka**	**2.14**	**273**	*e*P	**Pb**	**05 05 54.3**	**-0.6**
MKZ	**Mys Kozlova**	**2.53**	**20**	*e*P	**Pn**	**05 05 57.5**	**+1.6**
MKZ				*e*S	**Sn**	**05 06 26.2**	**+0.5**
KZV	**Kizimen**	**2.92**	**1**	*e*P	**Pn**	**05 06 02.4**	**+0.9**
KZV				*e*S	**Sn**	**05 06 35.7**	**+0.1**
SKR	**Severo-Kuril's**	**2.99**	**241**	PN	**Pn**	**05 06 03.5**	**+1.3**
SKR				*e*S	**Sn**	**05 06 33.5**	**-3.5**
SKR				smax	smax		
	comp=E,70nm,0.6s						
TUMR	**Tumrok**	**3.09**	**359**	*e*P	**Pn**	**05 06 05.0**	**+1.2**
KBTR	**Krutoberegovo**	**4.29**	**20**	*e*P	Pn	05 06 23.5	+3.3
ARCES	**ARCESS Array B**	**54.16**	**342**	P	**P**	**05 14 36.1**	**-2.7**
	comp=E,2.4nm,1.1s,baz=32,slow=8.7,SNR=3.0						
FINES	**FINESS Array B**	**60.98**	**337**	P	**P**	**05 15 25.4**	**-1.4**
	comp=E,0.7nm,0.6s,baz=41,slow=8.8,SNR=3.4						
FINES	**FINESS Array B**	**60.98**	**337**	P	**P**	**05 15 25.4**	**-1.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**70.91**	**67**	P	**P**	**05 16 33.3**	**+1.9**
	comp=Z,0.1nm,0.6s,baz=315,slow=6.1,SNR=3.0						

IDC 30 05:07:52.3±2.3, 6°.94S×150°.87E, h0km, mb3.1/3, mb1 3.5/3, mb1mx3.3/26, mbtmp3.2/3, Error ellipse: s-maj=143.4km s-min=30.6km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.60**	**230**	P	P	05 12 32.9	-0.4
	0.5nm,0.8s,baz=56,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**23.28**	**223**	P	P	05 13 02.2	+0.3
	0.2nm,0.4s,baz=54,slow=9.3,SNR=3.1						
ILAR	**Eielson Array**	**84.86**	**22**	P	P	05 20 28.8	+0.2
	0.4nm,0.8s,baz=257,slow=5.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**149.05**	**284**	PKPbc	PKPbc	05 27 42.8	-0.8
	0.3nm,0.6s,baz=72,slow=3.2,SNR=3.3						

*KRSC **30** 05:19:02.0±1.4, 52°.30N×160°.45E, h18km±22km, ML3.9*
*ISCJB **30** 05:19:03.0±1.3, 52°.29N±0°.04×160°.38E±0°.05, h15km±10km, mb3.7/4, Error ellipse: s-maj=7.3km s-min=4.8km az=156.1*
*MOS **30** 05:19:04.7±1.2, 51°.96N×159°.71E, h64km, mb4.2/1, Error ellipse: s-maj=39.9km s-min=22.1km az=108.1*
*IDC **30** 05:19:08.4±4.1, 52°.15N×159°.93E, h69km±28km, mb3.3/4, mb1 3.5/4, mb1mx3.1/34, mbtmp3.6/4, Error ellipse: s-maj=47.0km s-min=28.5km az=13.0*

ISC 30 05:19:03.4±1.1, 52°.26N±0°.06×160°.33E±0°.05, h22km±8km, n36, σ1s16/52, mb3.6/4, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.86**	**348**	*e*P	**Pn**	**05 19 19.0**	**-1.2**
SPN				*e*S	**Sn**	**05 19 30.1**	**-2.0**
RUS	**Russkaya**	**1.12**	**280**	*e*P	**Pn**	**05 19 23.4**	**-0.4**
RUS				*e*S	**Sn**	**05 19 37.7**	**-0.9**
PET	**Petropavlovsk**	**1.27**	**308**	*e*P	**Pn**	**05 19 26.0**	**+0.1**
PET				*e*S	**Sn**	**05 19 41.1**	**-1.2**

WMQ				SME					
	71nm,0.6s								
TKM2	**Tokmak 2**	**4.53**	**254**	⇑Pg		**Pb**	**05**	**32**	**09.0 -1.7**
	13nm,0.5s								
TKM2				⇑Lg		Lg	05	33	06.4
	45nm,0.6s								
AAK	**Ala-Archa**	**5.39**	**254**	⇓Pg		**Pb**	**05**	**32**	**25.8 +0.5**
	12nm,0.6s								
AAK				⇓Lg		Lg	05	33	34.2
	23nm,0.9s								
KURBB	**Kurchatov Arra**	**6.62**	**343**	⇓Pn		**Pn**	**05**	**32**	**26.6 -0.1**
	3.0nm,0.8s								
KURBB				⇓Pg		**Pb**	**05**	**32**	**45.1 -0.9**
	3.4nm,0.7s								
KURBB				⇓Lg		Lg	05	34	15.2
	60nm,0.8s								
MNAS	**Manas**	**6.82**	**257**	⇓Pg		**Pb**	**05**	**32**	**51.1 +1.4**
	5.9nm,1.0s								
MNAS				⇓Lg		Lg	05	34	22.4
	25nm,1.3s								
KK31	**Karatay Array**	**8.07**	**265**	⇑Pg		**Pb**	**05**	**33**	**12.8 +2.0**
	0.8nm,0.5s,baz=75,slow=15,SNR=5.0								
KK31				⇓Lg		Lg	05	34	58.8
	5.0nm,0.5s,baz=68,slow=26,SNR=13								

KRSC 30 05:32:35.4±1.2, 52°.33N×160°.40E, h17km±19km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
SPN	**Mys Shipunski**	**0.80**	**343**	*eP*	Pg	05	32	51.4	+0.4
SPN				*eS*	Sn	05	33	02.8	-0.5
RUS	**Russkaya**	**1.16**	**276**	*eP*	Pn	05	32	56.3	-0.5
RUS				*eS*	Sb	05	33	10.4	-1.3
PET	**Petropavlovsk**	**1.27**	**304**	*eP*	Pn	05	32	58.1	-0.2
PET				*eS*	Sb	05	33	13.7	-1.1
UGLR	**Uglovaya**	**1.30**	**313**	*eP*	Pb	05	32	59.6	+0.1
UGLR				*eS*	Sb	05	33	16.5	+0.5
SDLR	**Sedlovina**	**1.32**	**316**	*eP*	Pn	05	32	59.2	0.0
SMAR	**Somma**	**1.35**	**314**	*eP*	Pb	05	33	00.1	-0.3
MTVR	**Mutnovka**	**1.37**	**277**	*eP*	Pn	05	32	59.5	-0.3
MTVR				*eS*	Sn	05	33	16.9	-0.8
AVH	**Avacha**	**1.38**	**313**	*eP*	Pb	05	33	00.7	0.0
AVH				*eS*	Sb	05	33	18.5	+0.4
KRER	**Koryakskii**	**1.40**	**315**	*eP*	Pb	05	33	01.1	-0.2
KOK	**Koryaka**	**1.44**	**313**	*eP*	Pb	05	33	01.4	-0.4
KRX	**Arik**	**1.48**	**315**	*eP*	Pn	05	33	01.6	+0.2
ASAK	**Asacha**	**1.54**	**273**	*eP*	Pn	05	33	02.7	+0.6
ASAK				*eS*	Sb	05	33	22.2	-0.5
GNL	**Ganaly**	**2.02**	**314**	*eP*	Pb	05	33	10.7	-1.0
GNL				*eS*	Sb	05	33	36.0	-0.6
APC	**Apacha**	**2.06**	**288**	*eP*	Pb	05	33	11.4	-0.9
APC				*eS*	Sb	05	33	37.6	0.0
MKZ	**Mys Kozlova**	**2.37**	**19**	*eP*	Pn	05	33	15.2	+1.9
MKZ				*eS*	Sn	05	33	43.6	+1.7
KBTR	**Krutoberegovo**	**4.13**	**19**	*eP*	Pn	05	33	40.8	+3.2

WEL 30 05:36:47.5±0.3, 36°.66S×177°.46E, h12km, ML3.8/5, Error ellipse: s-maj=3.0km s-min=2.6km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
WIZ	**White Island**	**0.89**	**194**	P*	Pg	05	37	03.1	-1.7
HAZ	**Te Kaha**	**1.12**	**167**	P*	Pb	05	37	05.9	-2.9
HAZ				*eS**	Sb	05	37	20.9	-2.5
MXZ	**Matakaoa Point**	**1.13**	**143**	P*	Pb	05	37	06.5	-2.4
MXZ				S*	Sb	05	37	19.7	-3.8
MXZ				AML	AML	05	37	21.1	
MXZ				AML	AML	05	37	21.2	
MXZ				AML	AML	05	37	21.4	
MYRZ	**Mayor Island**	**1.16**	**237**	P*	Pb	05	37	08.0	-1.5
WMGZ	**Waiomatatini S**	**1.38**	**147**	PN	Pn	05	37	12.1	-0.5
OPRZ	**Ohinepanea**	**1.39**	**211**	P*	Pn	05	37	10.8	-1.9
KUZ	**Kuaotunu**	**1.40**	**266**	PN	Pn	05	37	11.6	-1.2
KUZ				AML	AML	05	37	28.9	
KUZ				AML	AML	05	37	29.6	
PUZ	**Puketiti**	**1.54**	**156**	PN	Pn	05	37	14.5	-0.4
PUZ				AML	AML	05	37	39.2	
PUZ				AML	AML	05	37	41.2	
URZ	**Urewera**	**1.62**	**190**	P*	Pn	05	37	13.9	-2.0
URZ				AML	AML	05	37	33.9	
URZ				AML	AML	05	37	34.2	
GRZ	**Great Barrier**	**1.67**	**284**	PN	Pn	05	37	16.4	-0.2
MWZ	**Matawai**	**1.67**	**178**	P*	Pn	05	37	14.8	-1.9
MWZ				AML	AML	05	37	38.5	
MWZ				AML	AML	05	37	40.2	
TKGZ	**Te Karaka**	**1.80**	**170**	PN	Pn	05	37	18.3	-0.1
RAGZ	**Rawiri**	**1.83**	**181**	P*	Pn	05	37	17.4	-1.5
MKAZ	**Moumakai**	**1.89**	**256**	PN	Pn	05	37	19.2	-0.4
TOZ	**Tahuroa Road**	**1.90**	**235**	P*	Pn	05	37	18.7	-0.9
TLZ	**Tolley Road**	**2.26**	**222**	P*	Pn	05	37	23.7	-1.1
BKZ	**Black Stump Fm**	**2.62**	**197**	P*	Pn	05	37	28.4	-1.3
HIZ	**Hauiti**	**2.78**	**227**	PN	Pn	05	37	31.4	-0.4
KWHZ	**Kaweka Forest**	**2.88**	**196**	P*	Pn	05	37	33.4	+0.1
WNVZ	**Wahianoa**	**3.04**	**208**	P*	Pn	05	37	38.3	+2.6
OUZ	**Omahuta**	**3.45**	**293**	PN	Pn	05	37	42.5	+1.5

*IDC **30** 05:44:09.9±1.0, 38°.47N×21°.79E, h0km, mb3.6/10, mb1 3.7/13, mb1mx3.6/43, mbtmp3.5/13, ML2.9/3, Error ellipse: s-maj=19.1km s-min=17.5km az=103.0*

*ISCJB **30** 05:44:10.5±0.2, 38°.43N±0°.01×21°.81E±0°.01, h5km±2km, mb3.6/9, Error ellipse: s-maj=1.9km s-min=1.7km az=142.3*

*CSEM **30** 05:44:11.3±0.1, 38°.41N×21°.83E, h10km, MD3.3, Error ellipse: s-maj=2.5km s-min=2.1km az=53.0*

*THE **30** 05:44:11.0, 38°.42N×21°.81E, h1km±1km, ML3.5/23, Error ellipse: s-maj=1.0km s-min=0.3km az=286.0*

*ATH **30** 05:44:11.0, 38°.41N×21°.83E, h12km±1km, MD3.3/38, ML3.5*

ISC 30 05:44:11.1±0.7, 38°.42N±0°.01×21°.82E±0°.01, h9km±4km, n216, σ0°78/307, mb3.7/9, 8C, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
EFP	**Efpalio**	**0.07**	**81**	*ePG*	**Pg**	**05**	**44**	**12.9**	**-0.2**
EFP				*eSG*	**Sg**	**05**	**44**	**14.5**	**-0.1**
EFP	**Efpalio**	**0.07**	**81**	P	**Pg**	**05**	**44**	**12.9**	**-0.2**
EFP				S	**Sg**	**05**	**44**	**14.5**	**-0.1**
EFP	**Efpalio**	**0.07**	**81**	P	**Pg**	**05**	**44**	**12.9**	**-0.2**
UPR	**University Cam**	**0.14**	**190**	P	**Pg**	**05**	**44**	**13.9**	**-0.1**
UPR				S	**Sg**	**05**	**44**	**15.6**	**-0.5**
UPR	**University Cam**	**0.14**	**190**	P	**Pg**	**05**	**44**	**13.9**	**-0.1**
UPR				S	**Sg**	**05**	**44**	**15.6**	**-0.5**
TRIZ	**Trizonia**	**0.21**	**104**	*ePG*	**Pg**	**05**	**44**	**15.3**	**0.0**
TRIZ				*eSG*	**Sg**	**05**	**44**	**19.2**	**+1.0**
TRIZ	**Trizonia**	**0.21**	**104**	P	**Pg**	**05**	**44**	**15.3**	**0.0**
TRIZ				S	**Sg**	**05**	**44**	**18.3**	**+0.1**
TRIZ				*eSg*	Sg	05	44	19.2	+1.0
TRIZ	**Trizonia**	**0.21**	**104**	P	**Pg**	**05**	**44**	**15.3**	**0.0**
TRIZ				S	**Sg**	**05**	**44**	**18.3**	**+0.1**
LAKA	**Lakka**	**0.22**	**144**	*ePG*	**Pg**	**05**	**44**	**15.6**	**+0.1**
LAKA				*eSG*	**Sg**	**05**	**44**	**19.2**	**+0.7**
LAKA	**Lakka**	**0.22**	**144**	P	**Pg**	**05**	**44**	**15.6**	**+0.1**
LAKA				S	**Sg**	**05**	**44**	**19.1**	**+0.6**
LAKA	**Lakka**	**0.22**	**144**	P	**Pg**	**05**	**44**	**15.6**	**+0.1**
LAKA				S	**Sg**	**05**	**44**	**19.1**	**+0.6**
KALE	**Kalithea**	**0.25**	**96**	*ePG*	**Pg**	**05**	**44**	**16.1**	**-0.2**
KALE				*eSG*	**Sg**	**05**	**44**	**20.3**	**+0.6**
KALE	**Kalithea**	**0.25**	**96**	*ePg*	**Pg**	**05**	**44**	**16.1**	**-0.2**
KALE				S	**Sg**	**05**	**44**	**20.0**	**+0.3**
KALE	**Kalithea**	**0.25**	**96**	P	**Pg**	**05**	**44**	**16.0**	**-0.2**
KALE				S	**Sg**	**05**	**44**	**20.0**	**+0.3**
PVO	**Paravola**	**0.30**	**311**	P	**Pg**	**05**	**44**	**17.4**	**+0.1**
PVO				S	**Sb**	**05**	**44**	**22.9**	**-1.0**
PVO	**Paravola**	**0.30**	**311**	P	**Pg**	**05**	**44**	**17.3**	**+0.1**
RLS	**Riolos of Patr**	**0.45**	**218**	*ePB*	**Pg**	**05**	**44**	**20.3**	**+0.4**
RLS				*eSB*	**Sb**	**05**	**44**	**27.4**	**-0.7**
RLS	**Riolos of Patr**	**0.45**	**218**	P	**Pg**	**05**	**44**	**20.1**	**+0.2**
RLS				S	**Sg**	**05**	**44**	**26.3**	**+0.5**
RLS				*eSb*	**Sb**	**05**	**44**	**27.4**	**-0.7**
RLS	**Riolos of Patr**	**0.45**	**218**	P	**Pg**	**05**	**44**	**20.2**	**+0.4**
RLS				S	**Sg**	**05**	**44**	**26.3**	**+0.5**
KLV	**Kalavryta, Ach**	**0.46**	**145**	P	**Pg**	**05**	**44**	**19.7**	**-0.3**
KLV				S	**Sg**	**05**	**44**	**26.6**	**+0.7**
KLV	**Kalavryta, Ach**	**0.46**	**145**	P	**Pg**	**05**	**44**	**19.7**	**-0.3**
KLV				S	**Sg**	**05**	**44**	**26.6**	**+0.7**
DRO	**Drossia**	**0.47**	**190**	*ePB*	**Pg**	**05**	**44**	**20.3**	**0.0**
DRO				*eSB*	**Sb**	**05**	**44**	**27.7**	**-1.0**
DRO	**Drossia**	**0.47**	**190**	P	**Pg**	**05**	**44**	**20.2**	**0.0**
DRO				S	**Sg**	**05**	**44**	**27.3**	**+0.9**
DRO	**Drossia**	**0.47**	**190**	P	**Pg**	**05**	**44**	**20.1**	**-0.1**
DRO				S	**Sg**	**05**	**44**	**27.3**	**+0.9**
EVR	**Evrytania**	**0.50**	**359**	*ePB*	**Pg**	**05**	**44**	**20.9**	**+0.1**
EVR				*eSB*	**Sg**	**05**	**44**	**28.3**	**+0.9**
EVR	**Evrytania**	**0.50**	**359**	P	**Pg**	**05**	**44**	**20.7**	**-0.1**
EVR				S	**Sg**	**05**	**44**	**27.9**	**+0.5**
EVR				*eSb*	**Sg**	**05**	**44**	**28.3**	**+0.9**
EVR	**Evrytania**	**0.50**	**359**	P	**Pg**	**05**	**44**	**20.6**	**-0.2**
EVR				S	**Sg**	**05**	**44**	**27.9**	**+0.5**
PDO	**Prodromos**	**0.53**	**290**	*ePB*	**Pg**	**05**	**44**	**20.7**	**-0.6**
PDO				*eSB*	**Sb**	**05**	**44**	**29.9**	**-0.5**
PDO	**Prodromos**	**0.53**	**290**	P	**Pg**	**05**	**44**	**20.8**	**-0.6**
PDO				S	**Sg**	**05**	**44**	**29.1**	**+0.8**
PDO	**Prodromos**	**0.53**	**290**	P	**Pg**	**05**	**44**	**20.6**	**-0.8**
PDO				S	**Sg**	**05**	**44**	**29.1**	**+0.8**
DSF	**Desfina**	**0.56**	**90**	*ePB*	**Pg**	**05**	**44**	**21.2**	**-0.7**
DSF				*eSB*	**Sg**	**05**	**44**	**29.8**	**+0.6**
DSF	**Desfina**	**0.56**	**90**	*ePb*	**Pg**	**05**	**44**	**21.2**	**-0.7**
DSF				S	**Sg**	**05**	**44**	**29.6**	**+0.4**
DSF	**Desfina**	**0.56**	**90**	P	**Pg**	**05**	**44**	**21.1**	**-0.8**
DSF				S	**Sg**	**05**	**44**	**29.6**	**+0.4**
DESF	**Desfina**	**0.56**	**90**	*ePB*	**Pg**	**05**	**44**	**21.2**	**-0.8**
DESF				*eSB*	**Sg**	**05**	**44**	**30.0**	**+0.7**
DESF	**Desfina**	**0.56**	**90**	*ePb*	**Pg**	**05**	**44**	**21.2**	**-0.8**
DESF				*eSb*	**Sg**	**05**	**44**	**30.0**	**+0.7**
GUR	**Goura**	**0.63**	**139**	*ePG*	**Pg**	**05**	**44**	**22.7**	**-0.6**
GUR				*eSB*	**Sg**	**05**	**44**	**31.8**	**+0.2**
GUR	**Goura**	**0.63**	**139**	*ePg*	**Pg**	**05**	**44**	**22.7**	**-0.6**
GUR				S	**Sg**	**05**	**44**	**31.8**	**+0.2**
GUR	**Goura**	**0.63**	**139**	P	**Pg**	**05**	**44**	**22.6**	**-0.7**
GUR				S	**Sg**	**05**	**44**	**31.8**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.65**	**22**	*ePB*	**Pg**	**05**	**44**	**23.7**	**+0.1**
MAKR				*eSB*	**Sb**	**05**	**44**	**33.2**	**-0.6**
MAKR	**Makrakomi, Fth**	**0.65**	**22**	P	**Pg**	**05**	**44**	**23.5**	**-0.1**
MAKR				S	**Sb**	**05**	**44**	**33.1**	**-0.7**
MAKR	**Makrakomi, Fth**	**0.65**	**22**	P	**Pg**	**05**	**44**	**23.5**	**-0.1**
MAKR				S	**Sb**	**05**	**44**	**33.1**	**-0.7**
VTN	**Vitineika**	**0.70**	**225**	P	**Pg**	**05**	**44**	**24.8**	**+0.1**
VTN	**Vitineika**	**0.70**	**225**	P	**Pg**	**05**	**44**	**24.8**	**+0.1**
AGG	**Agios Georgios**	**0.73**	**33**	*ePB*	**Pg**	**05**	**44**	**24.8**	**-0.3**
AGG				*eSB*	**Sg**	**05**	**44**	**35.2**	**+0.6**
AGG	**Agios Georgios**	**0.73**	**33**	P	**Pg**	**05**	**44**	**24.4**	**-0.7**
AGG	**Agios Georgios**	**0.73**	**33**	*ePb*	**Pg**	**05**	**44**	**24.8**	**-0.3**
AGG				*eSb*	**Sg**	**05**	**44**	**35.2**	**+0.6**
AGG	**Agios Georgios**	**0.73**	**33**	P	**Pg**	**05**	**44**	**24.4**	**-0.7**
AGG				S	**Sb**	**05**	**44**	**35.0**	**-0.6**
AXAR	**Agios Charalam**	**0.75**	**62**	*ePG*	**Pg**	**05**	**44**	**25.0**	**-0.5**
AXAR				*eSB*	**Sb**	**05**	**44**	**36.2**	**-0.4**
AXAR	**Agios Charalam**	**0.75**	**62**	*ePg*	**Pg**	**05**	**44**	**25.0**	**-0.5**
AXAR				S	**Sg**	**05**	**44**	**35.7**	**+0.5**
AXAR				*eSb*	**Sb**	**05**	**44**	**36.2**	**-0.4**
AXAR	**Agios Charalam**	**0.75**	**62**	P	**Pg**	**05**	**44**	**24.9**	**-0.5**
AXAR				S	**Sg**	**05**	**44**	**35.7**	**+0.5**
THAL	**Thalero**	**0.77**	**119**	*ePB*	**Pg**	**05**	**44**	**25.5**	**-0.4**
THAL				*eSB*	**Sb**	**05**	**44**	**37.1**	**-0.1**
THAL	**Thalero**	**0.77**	**119**	*ePb*	**Pg**	**05**	**44**	**25.5**	**-0.4**
THAL				*eSb*	**Sb**	**05**	**44**	**37.1**	**-0.1**
THAL	**Thalero**	**0.77**	**119**	P	**Pg**	**05**	**44**	**25.4**	**-0.4**
THAL				S	**Sb**	**05**	**44**	**37.3**	**+0.1**
KFL	**Anninata**	**0.87**	**250**	P	**Pg**	**05**	**44**	**27.4**	**-0.4**
KFL				S	**Sg**	**05**	**44**	**39.2**	**+0.2**
KFL	**Anninata**	**0.87**	**250**	P	**Pg**	**05**	**44**	**27.4**	**-0.4**
KFL				S	**Sg**	**05**	**44**	**39.2**	**+0.2**
AMT	**Artemida-Makis**	**0.89**	**186**	*ePB*	**Pg**	**05**	**44**	**28.3**	**+0.2**
AMT				*eSB*	**Sb**	**05**	**44**	**41.1**	**+0.4**
AMT	**Artemida-Makis**	**0.89**	**186**	P	**Pg**	**05**	**44**	**28.3**	**+0.2**
AMT				S	**Sg**	**05**	**44**	**40.0**	**+0.3**
AMT				*eSb*	**Sb**	**05**	**44**	**41.1**	**+0.4**
AMT	**Artemida-Makis**	**0.89**	**186**	P	**Pg**	**05**	**44**	**28.3**	**+0.2**
AMT				S	**Sg**	**05**	**44**	**40.0**	**+0.3**
DSL	**Palaion Diasel**	**0.91**	**322**	*ePB*	**Pg**	**05**	**44**	**27.7**	**-0.9**
DSL	**Palaion Diasel**	**0.91**	**322**	P	**Pg**	**05**	**44**	**27.2**	**-1.4**
DSL	**Palaion Diasel**	**0.91**	**322**	*ePb*	**Pg**	**05**	**44**	**27.7**	**-0.9**
DSL				S	**Sb**	**05**	**44**	**41.2**	**-0.2**
DSL	**Palaion Diasel**	**0.91**	**322**	P	**Pg**	**05**	**44**	**27.2**	**-1.4**
DSL				S	**Sb**	**05**	**44**	**41.2**	**-0.2**
EXG	**Exogi**	**0.93**	**273**	*ePG*	**Pg**	**05**	**44**	**28.4**	**-0.6**
EXG	**Exogi**	**0.93**	**273**	*ePg*	**Pg**	**05**	**44**	**28.4**	**-0.6**
EXG	**Exogi**	**0.93**	**273**	P	**Pg**	**05**	**44**	**28.2**	**-0.8**
LKR	**Lokris**	**0.96**	**75**	*ePB*	**Pg**	**05**	**44**	**28.9**	**-0.6**
LKR	**Lokris**	**0.96**	**75**	*ePb*	**Pg**	**05**	**44**	**28.9**	**-0.6**
LKR				S	**Sb**	**05**	**44**	**43.0**	**+0.4**
LKR	**Lokris**	**0.96**	**75**	P	**Pg**	**05**	**44**	**28.8**	**-0.7**
LKR				S	**Sb**	**05**	**44**	**43.0**	**+0.4**
LKD2	**Lefkada island**	**0.98**	**293**	*ePG*	**Pg**	**05**	**44**	**29.3**	**-0.7**
LKD2	**Lefkada island**	**0.98**	**293**	*ePg*	**Pg**	**05**	**44**	**29.3**	**-0.7**
LKD2				S	**Sb**	**05**	**44**	**43.3**	**-0.1**
LKD2	**Lefkada island**	**0.98**	**293**	P	**Pg**	**05**	**44**	**29.2**	**-0.7**
LKD2				S	**Sb**	**05**	**44**	**43.3**	**-0.1**
LTK	**Loutraki**	**0.99**	**113**	*ePN*	**Pg**	**05**	**44**	**30.0**	**-0.1**
LTK				*eSB*	**Sg**	**05**	**44**	**42.6**	**-0.3**
LTK	**Loutraki**	**0.99**	**113**	P	**Pg**	**05**	**44**	**29.5**	**-0.6**
LTK	**Loutraki**	**0.99**	**113**	*ePn*	**Pg**	**05**	**44**	**30.0**	**-0.1**
LTK				*eSb*	**Sg**	**05**	**44**	**42.6**	**-0.3**
LTK				S	**Sn**	**05**	**44**	**44.8**	**-0.5**
LTK	**Loutraki**	**0.99**	**113**	P	**Pg**	**05**	**44**	**29.5**	**-0.6**
LTK				S	**Sn**	**05**	**44**	**44.8**	**-0.5**
VLS	**Valsamata**	**0.99**	**256**	*ePB*	**Pg**	**05**	**44**	**28.9**	**-1.2**
VLS	**Valsamata**	**0.99**	**256**	P	**Pg**	**05**	**44**	**28.9**	**-1.2**
VLS				S	**Sb**	**05**	**44**	**43.5**	**-0.3**
VLS	**Valsamata**	**0.99**	**256**	P	**Pg**	**05**	**44**	**29.0**	**-1.2**
VLS				S	**Sb**	**05**	**44**	**43.5**	**-0.3**
LOUT	**Loutraki**	**1.01**	**115**	*ePN*	**Pb**	**05**	**44**	**30.9**	**+0.2**
LOUT	**Loutraki**	**1.01**	**115**	P	**Pg**	**05**	**44**	**30.5**	**+0.1**
LOUT	**Loutraki**	**1.01**	**115**	*ePn*	**Pb**	**05**	**44**	**30.9**	**+0.2**
LOUT	**Loutraki**	**1.01**	**115**	P	**Pg**	**05**	**44**	**30.5**	**+0.1**
VLX	**Vlachokerasia**	**1.14**	**157**	*ePG*	**Pg**	**05**	**44**	**31.9**	**-1.0**
VLX				*eSB*	**Sg**	**05**	**44**	**47.3**	**-0.3**
VLX	**Vlachokerasia**	**1.14**	**157**	P	**Pg**	**05**	**44**	**31.9**	**-1.0**
VLX				*eSb*	**Sg**	**05**	**44**	**47.3**	**-0.3**
VLX				S	**Sn**	**05**	**44**	**49.5**	**+0.4**
VLX	**Vlachokerasia**	**1.14**	**157**	P	**Pg**	**05**	**44**	**31.9**	**-1.0**
VLX				S	**Sn**	**05**	**44**	**49.5**	**+0.4**
THL	**Klokotos Trika**	**1.16**	**8**	*ePB*	**Pb**	**05**	**44**	**33.2**	**-0.1**
THL	**Klokotos Trika**	**1.16**	**8**	P	**Pb**	**05**	**44**	**32.3**	**-1.0**
THL	**Klokotos Trika**	**1.16**	**8**	*ePb*	**Pb**	**05**	**44**	**33.2**	**-0.1**
THL	**Klokotos Trika**	**1.16**	**8**	P	**Pb**	**05**	**44**	**32.3**	**-1.0**
VIL2	**Platees**	**1.16**	**100**	*ePB*	**Pn**	**05**	**44**	**34.0**	**+0.4**
SMIA	**Simia**	**1.18**	**67**	*ePB*	**Pn**	**05**	**44**	**34.4**	**+0.5**
SMIA	**Simia**	**1.18**	**67**	P	**Pb**	**05**	**44**	**33.0**	**-0.8**
SMIA	**Simia**	**1.18**	**67**	*ePb*	**Pn**	**05**	**44**	**34.4**	**+0.5**
SMIA	**Simia**	**1.18**	**67**	P	**Pb**	**05**	**44**	**33.0**	**-0.8**
VILL	**Villia**	**1.20**	**102**	P	**Pb**	**05**	**44**	**34.0**	**-0.1**
VILL				S	**Sn**	**05**	**44**	**50.7**	**0.0**
VILL	**Villia**	**1.20**	**102**	P	**Pb**	**05**	**44**	**34.0**	**-0.1**
VILL				S	**Sn**	**05**	**44**	**50.7**	**0.0**
ITM	**Ithomi**	**1.24**	**176**	*ePB*	**Pn**	**05**	**44**	**34.5**	**-0.1**
ITM	**Ithomi**	**1.24**	**176**	P	**Pn**	**05**	**44**	**33.8**	**-0.8**
ITM	**Ithomi**	**1.24**	**176**	*ePb*	**Pn**	**05**	**44**	**34.5**	**-0.1**
ITM				S	**Sn**	**05**	**44**	**53.1**	**+1.6**
ITM	**Ithomi**	**1.24**	**176**	P	**Pn**	**05**	**44**	**33.8**	**-0.8**
ITM				S	**Sn**	**05**	**44**	**53.1**	**+1.6**
FYTO	**Fytoko, Volos**	**1.32**	**41**	P	**Pb**	**05**	**44**	**36.2**	**+0.1**
FYTO	**Fytoko, Volos**	**1.32**	**41**	P	**Pb**	**05**	**44**	**36.2**	**+0.1**
SFD	**Strofades**	**1.32**	**209**	*ePB*	**Pg**	**05**	**44**	**37.5**	**+1.0**
SFD	**Strofades**	**1.32**	**209**	*ePb*	**Pg**	**05**	**44**	**37.5**	**+1.0**
NEO	**Neokhori**	**1.41**	**51**	*ePG*	**Pn**	**05**	**44**	**37.3**	**+0.2**
NEO	**Neokhori**	**1.41**	**51**	*ePg*	**Pn**	**05**	**44**	**37.3**	**+0.2**
MRKA	**Markates**	**1.42**	**78**	*ePB*	**Pb**	**05**	**44**	**37.6**	**-0.2**
MRKA	**Markates**	**1.42**	**78**	P	**Pn**	**05**	**44**	**37.3**	**+0.2**
MRKA	**Markates**	**1.42**	**78**	*ePb*	**Pb**	**05**	**44**	**37.6**	**-0.2**
MRKA	**Markates**	**1.42**	**78**	P	**Pn**	**05**	**44**	**37.3**	**+0.2**
XOR	**Xorichti**	**1.43**	**48**	*ePG*	**Pn**	**05**	**44**	**37.6**	**+0.2**
XOR	**Xorichti**	**1.43**	**48**	P	**Pn**	**05**	**44**	**37.5**	**+0.2**
XOR				S	**Sg**	**05**	**44**	**57.2**	**+0.1**
XOR	**Xorichti**	**1.43**	**48**	P	**Pn**	**05**	**44**	**37.5**	**+0.2**
XOR				S	**Sg**	**05**	**44**	**57.2**	**+0.1**
MEV	**Metsovon**	**1.44**	**342**	P	**Pn**	**05**	**44**	**37.5**	**-0.1**
MEV	**Metsovon**	**1.44**	**342**	P	**Pn**	**05**	**44**	**37.5**	**-0.1**
DID	**Didima**	**1.44**	**129**	*ePG*	**Pn**	**05**	**44**	**37.3**	**-0.2**
DID	**Didima**	**1.44**	**129**	P	**Pn**	**05**	**44**	**37.3**	**-0.2**
DID				S	**Sg**	**05**	**44**	**57.7**	**+0.2**
DID	**Didima**	**1.44**	**129**	P	**Pn**	**05**	**44**	**37.3**	**-0.2**
DID				S	**Sg**	**05**	**44**	**57.7**	**+0.2**
DIDY	**Didyma**	**1.45**	**130**	*ePB*	**Pn**	**05**	**44**	**38.0**	**+0.4**
DIDY	**Didyma**	**1.45**	**130**	P	**Pn**	**05**	**44**	**37.6**	**0.0**
DIDY	**Didyma**	**1.45**	**130**	P	**Pn**	**05**	**44**	**38.0**	**+0.4**
JAN	**Janina**	**1.45**	**329**	*ePB*	**Pg**	**05**	**44**	**39.7**	**+0.8**
JAN	**Janina**	**1.45**	**329**	*ePb*	**Pg**	**05**	**44**	**39.7**	**+0.8**
NAIG	**Nisos Aigina**	**1.47**	**116**	*ePG*	**Pn**	**05**	**44**	**38.0**	**+0.1**
NAIG	**Nisos Aigina**	**1.47**	**116**	*ePg*	**Pn**	**05**	**44**	**38.0**	**+0.1**
KRND	**KRANIDI**	**1.48**	**134**	*ePG*	**Pb**	**05**	**44**	**38.4**	**-0.3**
KRND	**KRANIDI**	**1.48**	**134**	P	**Pn**	**05**	**44**	**38.1**	**+0.2**
KRND	**KRANIDI**	**1.48**	**134**	*ePg*	**Pb**	**05**	**44**	**38.4**	**-0.3**
KRND				S	**Sg**	**05**	**44**	**58.4**	**-0.1**
KRND	**KRANIDI**	**1.48**	**134**	P	**Pn**	**05**	**44**	**38.1**	**+0.2**
KRND				S	**Sg**	**05**	**44**	**58.4**	**-0.1**
PYL	**PYLOS**	**1.52**	**182**	*ePG*	**Pn**	**05**	**44**	**39.0**	**+0.5**
PYL	**PYLOS**	**1.52**	**182**	P	**Pn**	**05**	**44**	**38.8**	**+0.3**
PYL				S	**Sg**	**05**	**45**	**00.5**	**+0.6**
PYL	**PYLOS**	**1.52**	**182**	P	**Pn**	**05**	**44**	**38.8**	**+0.3**
PYL				S	**Sg**	**05**	**45**	**00.5**	**+0.6**
ATH	**Athens Observa**	**1.56**	**106**	*ePG*	**Pn**	**05**	**44**	**39.1**	**0.0**
ATH				*eSB*	**Sg**	**05**	**45**	**00.9**	**-0.4**
ATH	**Athens Observa**	**1.56**	**106**	*ePg*	**Pn**	**05**	**44**	**39.1**	**0.0**
ATH				*eSb*	**Sg**	**05**	**45**	**00.9**	**-0.4**
IGT	**Igoumenitsa**	**1.61**	**314**	*ePB*	**Pg**	**05**	**44**	**41.8**	**-0.1**
IGT	**Igoumenitsa**	**1.61**	**314**	*ePb*	**Pg**	**05**	**44**	**41.8**	**-0.1**
EREA	**Eretria**	**1.66**	**89**	*ePG*	**Pn**	**05**	**44**	**

SMAR	**Somma**	**1.38**	**318**	*eP*	**Pn**	05 46 34.9	**+0.1**
SMAR				*eS*	**Sn**	**05 46 52.4**	**+0.2**
AVH	**Avacha**	**1.41**	**317**	*i P*	**Pn**	**05 46 35.2**	**+0.2**
GRL	**Gorelyy**	**1.42**	**283**	*eP*	**Pb**	**05 46 37.0**	**0.0**
KRER	**Koryakskii**	**1.43**	**318**	*i P*	**Pn**	**05 46 35.8**	**+0.3**
KOK	**Koryaka**	**1.47**	**316**	*eP*	**Pn**	**05 46 36.1**	**+0.2**
ASAK	**Asacha**	**1.50**	**276**	*eP*	**Pn**	**05 46 37.4**	**+1.1**
ASAK				*eS*	**Sn**	**05 46 56.7**	**+1.8**
KRX	**Arik**	**1.51**	**318**	*i P*	**Pn**	**05 46 36.3**	**-0.2**
KRX				*eS*	**Sn**	**05 46 55.3**	**-0.1**
PETK	**Petropavlovsk-**	**1.82**	**299**	P	**Pn**	**05 46 41.4**	**+0.8**
	comp=E,31nm,0.3s,baz=114,slow=19,SNR=90						
PETK				S	**Sn**	**05 47 03.6**	**+0.9**
	comp=E,14nm,0.3s,baz=108,slow=18,SNR=6.7						
PETK	**Petropavlovsk-**	**1.82**	**299**	PN	**Pn**	**05 46 41.4**	**+0.8**
PETK				S	**Sn**	**05 47 03.7**	**+0.9**
PETK				pmax	pmax		
	comp=Z,31nm,0.3s						
PETK				smax	smax		
	comp=N,14nm,0.3s						
GNL	**Ganaly**	**2.05**	**316**	*i P*	**Pn**	**05 46 44.9**	**+1.0**
GNL				*eS*	**Sn**	**05 47 10.1**	**+1.6**
APC	**Apacha**	**2.05**	**291**	*eP*	**Pn**	**05 46 46.0**	**+2.2**
APC				*eS*	**Sb**	**05 47 12.1**	**-0.6**
MIPR	**Malaya Ipel'ka**	**2.19**	**272**	*eP*	**Pn**	**05 46 48.6**	**+2.8**
MIPR				*eS*	**Sb**	**05 47 16.7**	**-0.2**
MKZ	**Mys Kozlova**	**2.46**	**19**	*eP*	**Pn**	**05 46 49.7**	**+0.3**
MKZ				*eS*	**Sn**	**05 47 17.7**	**-0.8**
KZV	**Kizimen**	**2.87**	**360**	*eP*	**Pn**	**05 46 56.6**	**+1.4**
KZV				*eS*	**Sn**	**05 47 30.4**	**+1.5**
TUMR	**Tumrok**	**3.04**	**358**	*eP*	**Pn**	**05 46 59.3**	**+1.7**
SKR	**Severo-Kuril's**	**3.06**	**241**	PN	Pn	05 46 54.8	-2.9
SKR				*eS*	**Sn**	**05 47 29.0**	**-4.4**
SKR				smax	smax		
	comp=N,70nm,0.4s						
SKR				smax	smax		
	comp=E,90nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**32.85**	**169**	T	T	06 28 15.5	
	baz=352,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**32.87**	**169**	T	T	06 28 15.5	
	baz=352,slow=76,SNR=10						
H11N1	**WAKE ISLAND Hy**	**32.87**	**169**	T	T	06 28 15.0	
	baz=352,slow=76,SNR=13						
H11S1	**WAKE ISLAND Hy**	**34.04**	**169**	T	T	06 29 40.9	
	baz=336,slow=74,SNR=13						
H11S3	**WAKE ISLAND Hy**	**34.05**	**169**	T	T	06 29 42.0	
	baz=336						
H11S2	**WAKE ISLAND Hy**	**34.05**	**169**	T	T	06 29 40.9	
	baz=336,slow=74,SNR=3.7						
SONM	**Songino Array**	**34.24**	**285**	P	**P**	**05 52 53.2**	**-1.3**
	comp=E,0.2nm,0.3s,baz=68,slow=9.1,SNR=3.1						
MKAR	**Makanchi Array**	**48.66**	**296**	P	**P**	**05 54 50.8**	**-1.6**
	comp=E,0.4nm,0.7s,baz=35,slow=5.3,SNR=2.6						
ARCES	**ARCESS Array B**	**54.14**	**342**	P	**P**	**05 55 32.6**	**-0.4**
	comp=E,1.3nm,0.8s,baz=8.9,slow=8.6,SNR=3.6						
ARCES	**ARCESS Array B**	**54.14**	**342**	P	**P**	**05 55 32.7**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**60.96**	**337**	P	**P**	**05 56 21.0**	**-0.1**
	comp=Z,1.5nm,0.5s,baz=34,slow=7.9,SNR=14						
FINES	**FINESS Array B**	**60.96**	**337**	P	**P**	**05 56 21.0**	**-0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TXAR	**Lajitas Array**	**70.84**	**67**	P	**P**	**05 57 28.0**	**+2.7**
	comp=Z,0.2nm,0.5s,baz=295,slow=4.6,SNR=8.7						

*ISCJB **30** 05:47:12.7±0.8, 14°.86S×167°.5E±0°.1, h129km, mb4.1/12, Error ellipse: s-maj=14.9km s-min=10.2km az=161.6*
*NEIC **30** 05:47:13.2±3.1, 14°.75S×167°.47E, h122km±25km, mb4.2/9, Error ellipse: s-maj=26.0km s-min=13.9km az=210.0*
*IDC **30** 05:47:13.1±3.4, 14°.83S×167°.43E, h120km±26km, mb3.9/9, mb1 4.0/10, mb1mx3.7/35, mbtmp4.3/10, MS4.8/1, Ms1 4.8/1, ms1mx3.5/34, Error ellipse: s-maj=27.3km s-min=19.4km az=41.0*

ISC 30 05:47:14.4±0.9, 14°.91S±0°.08×167°.6E±0°.1, h129km, n29, σ1s37/33, mb4.2/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.20**	**188**	P		**Pn**	**05 48 56.5**	**-0.7**
	3.5nm,0.3s,baz=90,slow=24,SNR=35							
DZM				S		**Sn**	**05 50 17.0**	**-0.6**
	1.1nm,0.3s,baz=90,slow=20,SNR=2.2							
DZM	**Mont Dzumac**	**7.20**	**188**	*eP*		**Pn**	**05 48 56.8**	**-0.4**
DZM				*eS*		**Sn**	**05 50 17.7**	**+0.1**
DZM	**Mont Dzumac**	**7.20**	**188**	*e*Pn		**Pn**	**05 48 57.0**	**-0.2**
	29nm,0.8s							
DZM				*e*Sn		**Sn**	**05 50 18.4**	**+0.8**
EIDS	**Eidsvold**	**18.62**	**233**	P		**Pn**	**05 51 23.6**	**-0.2**
	baz=28,SNR=5.2							
EIDS	**Eidsvold**	**18.62**	**233**	*eP*		**Pn**	**05 51 23.1**	**-0.8**
	9.1nm,0.7s							
OUZ	**Omahuta**	**20.94**	**166**	*eP*		**P**	**05 51 48.3**	**+1.3**
	11nm,0.8s							
CTA	**Charters Tower**	**20.95**	**253**	P		**P**	**05 51 47.5**	**+0.2**
	6.3nm,0.7s,baz=84,slow=11,SNR=6.2							
CTAO	**Charters Tower**	**20.95**	**253**	*eP*		**P**	**05 51 47.1**	**-0.2**
	13nm,1.1s							
RMQ	**Roma**	**20.99**	**234**	P		**P**	**05 51 48.7**	**+1.1**
	baz=30,SNR=7.7							
MANU	**Manus Island**	**23.68**	**301**	P		**P**	**05 52 18.1**	**+3.6**
	baz=33,SNR=12							
QLP	**Quilpie**	**24.66**	**238**	P		**P**	**05 52 23.4**	**+0.1**
	baz=34,SNR=7.0							
URZ	**Urewera**	**24.75**	**162**	P		**P**	**05 52 24.7**	**+0.8**
	5.1nm,0.6s,baz=295,slow=14,SNR=4.8							
URZ	**Urewera**	**24.75**	**162**	*eP*		**P**	**05 52 26.3**	**+2.4**
	17nm,1.2s							
RPZ	**Rata Peaks**	**28.86**	**175**	P		**P**	**05 53 00.6**	**-0.2**
	6.4nm,0.5s,baz=36,slow=5.1,SNR=4.2							
STKA	**Stephens Creek**	**29.09**	**230**	P		**P**	**05 53 03.2**	**+0.2**
	7.8nm,0.6s,baz=51,slow=8.4,SNR=20							
WRAB	**Tennant Creek**	**32.04**	**256**	*eP*		**P**	**05 53 27.3**	**-1.8**
	4.7nm,1.1s							
WRA	**Warramunga Arr**	**32.05**	**256**	P		**P**	**05 53 26.8**	**-2.4**
	1.0nm,0.7s,baz=84,slow=8.7,SNR=13							
ASAR	**Alice Springs**	**32.87**	**249**	P		**P**	**05 53 34.6**	**-1.7**
	2.3nm,0.4s,baz=78,slow=9.0,SNR=34							
ASAR				ScP		**ScP**	**05 59 50.3**	**-0.2**
	0.2nm,0.4s,baz=100,slow=2.9,SNR=4.6							
BBOO	**Buckleboo**	**33.69**	**232**	P		**P**	**05 53 43.5**	**+0.2**
	baz=42,SNR=6.4							
WRKA	**Warakurna**	**38.13**	**248**	P		**P**	**05 54 19.9**	**-1.3**
	baz=48,SNR=7.8							
WSI	**Waingapu**	**46.40**	**271**	P		**P**	**05 55 31.1**	**+2.7**
	baz=57,SNR=3.7							
MEEK	**Meekatharra**	**46.97**	**247**	P		**P**	**05 55 32.0**	**-0.7**
	baz=56,SNR=5.8							
LEM	**Lembang**	**59.26**	**271**	LR		LR	06 24 03.5	
	comp=Z,713nm,18.4s,baz=210,slow=37							
VNDA	**Vanda**	**62.69**	**181**	P		**P**	**05 57 25.1**	**+0.1**
	1.4nm,0.5s,baz=359,slow=7.5,SNR=17							
VNDA	**Vanda**	**62.69**	**181**	*eP*		**P**	**05 57 24.9**	**-0.1**
	1.8nm,0.7s							
SBA	**Scott Base**	**62.96**	**180**	*eP*		**P**	**05 57 27.8**	**+1.0**
	5.6nm,0.8s							
QSPA	**South Pole Qui**	**75.12**	**180**	*eP*		**P**	**05 58 41.9**	**-0.3**
	3.1nm,0.8s							
ILAR	**Eielson Array**	**86.61**	**18**	P		**P**	**05 59 43.2**	**+0.3**
	0.2nm,0.7s,baz=225,slow=3.7,SNR=4.2							
ILAR				pP		**pP**	**06 00 14.7**	**-1.1**
	0.2nm,0.8s,baz=203,slow=3.6,SNR=1.7							
MKAR	**Makanchi Array**	**97.53**	**316**	P		**P**	**06 00 31.2**	**-2.7**
	0.2nm,0.3s,baz=128,slow=4.4,SNR=3.6							

GUC 30 05:48:12.4±1.6, 35°.11S×72°.98W, h15km±11km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.03**	**172**	*eP*		Pb	05 48 30.7	-1.3
COCH				*eS*		Sb	05 48 44.1	-1.3
TALC	**Talca**	**1.14**	**105**	*eP*		Pb	05 48 32.4	-1.4
TALC				*eS*		Sb	05 48 47.1	-1.1
LNCH	**Linares**	**1.34**	**124**	*eP*		Pn	05 48 35.9	-0.7
LNCH				*eS*		Sn	05 48 52.9	-1.3
LNCH				AML		AML	05 48 57.6	
	comp=N,2μm,0.3s							
NICH	**Los Niches**	**1.44**	**86**	*eP*		Pn	05 48 36.7	-1.2
NICH				*eS*		Sn	05 48 55.8	-0.7
NICH				AML		AML	05 49 02.2	
	comp=E,2μm,2.9s							

CHCH	**Chadas Angostu**	**2.25**	**59**	*eP*	Pn	05 48 49.2	+0.1
CHCH				*eS*	Sb	05 49 19.4	-1.1
CLCH	**Cerro Calan**	**2.65**	**50**	*eP*	Pn	05 48 55.7	+1.1
CLCH				*eS*	Sn	05 49 28.5	+1.9
CLCH				AML	AML	05 49 46.8	
	comp=E,220nm,0.8s						
PEL	**Peldehue**	**2.73**	**45**	AML	AML	05 49 49.8	
	comp=E,254nm,0.3s						

*JMA **30** 06:00:23.8±0.1, 24°.67N×121°.84E, h66km±1km, M2.9*
*ISCJB **30** 06:00:24.4±0.5, 24°.70N±0°.03×121°.88E±0°.02, h67km±4km, Error ellipse: s-maj=4.9km s-min=2.8km az=161.2*
*TAP **30** 06:00:24.8, 24°.70N×121°.83E, h63km, ML3.8, B*

ISC 30 06:00:24.7±1.3, 24°.71N±0°.04×121°.87E±0°.03, h66km±6km, n49, σ0s92/91, 7C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.10**	**189**	⇑ *i* P		**Pn**	**06 00 34.4**	**0.0**
	baz=164							
TWC				S		**Sn**	**06 00 41.4**	**-0.2**
	baz=164							
ILA	**Ilan**	**0.12**	**299**	*eS*		**Sn**	**06 00 42.7**	**+1.0**
	baz=313							
EGS		**0.15**	**23**	⇑ *i* P		**Pn**	**06 00 34.9**	**+0.3**
	baz=35							
EGS				*eS*		**Sn**	**06 00 43.2**	**+1.3**
	baz=35							
TWE	**Neicheng**	**0.18**	**275**	*i* P		**Pn**	**06 00 34.9**	**+0.1**
	baz=278							
TWE				*eS*		**Sn**	**06 00 42.4**	**+0.3**
	baz=278							
ENTT	**Nioudou**	**0.28**	**257**	⇓ *i* P		**Pn**	**06 00 35.3**	**0.0**
	baz=255							
ENTT				S		**Sn**	**06 00 42.9**	**-0.2**
	baz=255							
ENA	**Nanau**	**0.30**	**202**	⇓ *i* P		**Pn**	**06 00 35.2**	**-0.3**
	baz=195							
ENA				S		**Sn**	**06 00 43.1**	**-0.2**
	baz=195							
TWB1	**Santiao Chiao**	**0.32**	**20**	⇑ *i* P		**Pn**	**06 00 35.7**	**+0.1**
	baz=25							
TWB1				*eS*		**Sn**	**06 00 43.5**	**-0.1**
	baz=25							
NWF	**Wu-fen Shan**	**0.37**	**348**	⇑ *i* P		**Pn**	**06 00 36.2**	**+0.1**
	baz=352							
NWF				S		**Sn**	**06 00 44.5**	**0.0**
	baz=352							
TWA	**Mucha**	**0.38**	**317**	*i* P		**Pn**	**06 00 36.1**	**0.0**
	baz=322							
TWA				S		**Sn**	**06 00 44.3**	**-0.1**
	baz=322							
TAP1	**Taipei**	**0.46**	**317**	*i* P		**Pn**	**06 00 36.6**	**-0.1**
	baz=319							
TAP1				S		**Sn**	**06 00 45.4**	**-0.1**
	baz=319							
NSK	**Sanguang**	**0.46**	**266**	⇓ *i* P		**Pn**	**06 00 36.5**	**-0.4**
	baz=266							
NSK				S		**Sn**	**06 00 44.9**	**-0.9**
	baz=266							
TAP	**Taipei**	**0.47**	**316**	*i* P		**Pn**	**06 00 36.8**	**0.0**
	baz=319							
TAP				S		**Sn**	**06 00 45.5**	**-0.2**
	baz=319							
NNS	**Nan Shan**	**0.52**	**240**	*i* P		**Pn**	**06 00 37.3**	**-0.2**
	baz=237							
NNS				S		**Sn**	**06 00 46.5**	**-0.4**
	baz=237							
TWS1	**Kuangyinshan**	**0.57**	**314**	⇓ *i* P		**Pn**	**06 00 38.0**	**+0.1**
	baz=317							
TWS1				S		**Sn**	**06 00 48.0**	**+0.5**
	baz=317							
TWY	**Chenhua**	**0.62**	**337**	*i* P		**Pn**	**06 00 38.9**	**+0.5**
	baz=340							
TWY				S		**Sn**	**06 00 49.6**	**+1.1**
	baz=340							
TWD	**Chiawan**	**0.67**	**202**	⇑ *e*P		**Pn**	**06 00 38.1**	**-0.9**
	baz=198							
TWD				*eS*		**Sn**	**06 00 48.2**	**-1.3**
	baz=198							
NCU	**National Centr**	**0.67**	**293**	*i* P		**Pn**	**06 00 39.0**	**0.0**
	baz=294							
NCU				S		**Sn**	**06 00 49.9**	**+0.3**
	baz=294							
TWT	**Tachien**	**0.77**	**235**	⇓ *i* P		**Pn**	**06 00 40.8**	**+0.5**
	baz=233							
TWT				*i* S		**Sn**	**06 00 51.7**	**-0.2**
	baz=233							
WHF	**Hehuan Shan**	**0.78**	**225**	⇑ *i* P		**Pn**	**06 00 40.5**	**-0.2**
	baz=222							
WHF				S		**Sn**	**06 00 51.6**	**-0.9**
	baz=222							
NSTT	**Nanjuang**	**0.79**	**265**	*i* P		**Pn**	**06 00 40.0**	**-0.4**
	baz=264							
NSTT				S		**Sn**	**06 00 51.6**	**-0.4**
	baz=264							
HSN	**Hsinchu**	**0.82**	**277**	*i* P		**Pn**	**06 00 40.3**	**-0.4**
	baz=279							
HSN				S		**Sn**	**06 00 51.9**	**-0.7**
	baz=279							
JYNG	**Yonagunijimaku**	**1.01**	**104**	P		**Pn**	**06 00 42.6**	**-0.5**
JYNG				S		**Sn**	**06 00 56.6**	**-0.3**
NSY	**Sanyi**	**1.05**	**254**	*i* P		**Pn**	**06 00 43.9**	**+0.3**
	baz=253							
NSY				*eS*		**Sn**	**06 00 58.1**	**+0.4**
	baz=253							
TWQ1	**Liyutan**	**1.06**	**251**	*i* P		**Pn**	**06 00 43.7**	**0.0**
	baz=249							
TWQ1				S		**Sn**	**06 00 57.9**	**0.0**
	baz=249							
YOJ	**Yonaguni jima**	**1.07**	**103**	P		**Pn**	**06 00 43.7**	**-0.2**
YOJ				S		**Sn**	**06 00 57.7**	**-0.5**
SMLT	**Sun Moon Lake**	**1.20**	**227**	*eP*		**Pn**	**06 00 46.5**	**+0.8**
	baz=226							
SMLT				S		**Sn**	**06 01 01.9**	**+0.5**
	baz=226							
TYC	**Yuchr**	**1.22**	**229**	⇑ *i* P		**Pn**	**06 00 46.5**	**+0.7**
	baz=228							
TYC				S		**Sn**	**06 01 02.0**	**+0.4**
	baz=228							
TCU	**Taichung**	**1.22**	**243**	*eS*		**Sn**	**06 00 60.0**	**-1.6**
	baz=242							
EHY	**Hungye**	**1.29**	**203**	*eP*		**Pn**	**06 00 45.9**	**-0.9**
	baz=201							
WNT	**Mingjian**	**1.36**	**233**	*eP*		**Pn**	**06 00 49.3**	**+1.7**
	baz=231							
WNT				*eS*		**Sn**	**06 01 05.2**	**+0.4**
	baz=231							
TWF1	**Yuli**	**1.44**	**201**	P		**Pn**	**06 00 48.9**	**+0.1**
	baz=199							
TWF1				*eS*		**Sn**	**06 01 09.8**	**+2.8**
	baz=199							
ALS	**Alishan**	**1.54**	**219**	*eP*		**Pn**	**06 00 51.0**	**+0.8**
	baz=218							
ALS				*eS*		**Sn**	**06 01 10.7**	**+1.1**
	baz=218							
CHN5	**Tsauling**	**1.55**	**225**	*i* P		**Pn**	**06 00 50.3**	**+0.1**
	baz=223							
CHN5				S		**Sn**	**06 01 10.2**	**+0.7**
	baz=223							
WGK	**Gukeng**	**1.56**	**230**	*i* P		**Pn**	**06 00 51.1**	**+0.7**
	baz=228							
WGK				*eS*		**Sn**	**06 01 10.6**	**+0.8**
	baz=228							
CHKT	**Chengkung**	**1.66**	**196**	*eS*		**Sn**	**06 01 11.6**	**-0.5**
	baz=194							
ELDTW	**Lidau**	**1.70**	**207**	*eP*		**Pn**	**06 00 52.3**	**0.0**
	baz=206							
ELDTW				*eS*		**Sn**	**06 01 13.0**	**-0.2**
	baz=206							
IRIF	**Iriomote-Funau**	**1.74**	**102**	P		**Pn**	**06 00 52.5**	**-0.2**
IRIF				S		**Sn**	**06 01 13.5**	**-0.4**
CHN4	**Tsaushan**	**1.78**	**221**	*eP*		**Pn**	**06 00 52.7**	**-0.6**
	baz=220							
CHN4				*eS*		**Sn**	**06 01 15.9**	**+0.9**
	baz=220							
CHY	**Chiayi**	**1.78**	**228**	*i* P		**Pn**	**06 00 53.4**	**+0.1**
	baz=226							
CHY				S		**Sn**	**06 01 15.4**	**+0.4**
	baz=226							
WSF	**Szhu**	**1.84**	**235**	S		**Sn**	**06 01 16.1**	**-0.3**
	baz=234							
WTP	**Ta-pu**	**1.85**	**219**	*i* P		**Pn**	**06 00 54.9**	**+0.6**
	baz=217							
WTP				*eS*		**Sn**	**06 01 19.4**	**+2.7**
	baz=217							

HATJ	**Hateruma jima**	**1.88**	**110**	S		**Sn**	**06 01 17.6**	**+0.2**
TWK	**Hsinying**	**1.91**	**222**	*eP*		**Pn**	**06 00 56.4**	**+1.3**
	baz=220							
TWK				*eS*		**Sn**	**06 01 20.6**	**+2.5**
	baz=220							
CHN1	**Nanshi**	**1.95**	**219**	*i* P		**Pn**	**06 00 55.9**	**+0.4**
	baz=218							
CHN1				S		**Sn**	**06 01 20.1**	**+1.1**
	baz=218							
JKRS	**Kuro-shima**	**2.01**	**103**	P		**Pn**	**06 00 56.6**	**+0.3**
JKRS				S		**Sn**	**06 01 20.6**	**+0.2**
JIJ	**Ishigaki jima**	**2.10**	**99**	P		**Pn**	**06 00 57.8**	**+0.2**
JIJ				S		**Sn**	**06 01 21.4**	**-1.3**
JISG	**Ishigakijimahi**	**2.23**	**93**	P		**Pn**	**06 00 59.7**	**+0.4**
JISG				S		**Sn**	**06 01 25.8**	**0.0**
PNG	**Penghu**	**2.40**	**242**	*eP*		**Pn**	**06 01 00.3**	**-1.3**
	baz=241							
PNG				*eS*		**Sn**	**06 01 26.8**	**-3.1**
	baz=241							
WDGT	**Dungji**	**2.48**	**235**	*eS*		**Sn**	**06 01 28.6**	**-3.2**
	baz=234							

*MOS **30** 06:13:17.5±2.5, 52°.08N×160°.20E, h59km, mb4.3/1, Error ellipse: s-maj=14.8km s-min=6.3km az=99.9*
*KRSC **30** 06:13:18.1±1.6, 52°.34N×160°.32E, h18km±18km, ML4.1*
*ISCJB **30** 06:13:19.6±0.9, 52°.30N±0°.05×160°.33E±0°.07, h41km±10km, mb3.9/6, Error ellipse: s-maj=10.0km s-min=5.4km az=147.7*
*IDC **30** 06:13:23.3±3.5, 52°.09N×159°.67E, h87km±22km, mb3.3/5, mb1 3.5/5, mb1mx3.2/61, mbtmp3.6/5, Error ellipse: s-maj=45.7km s-min=22.6km az=6.0*

ISC 30 06:13:18.5±1.0, 52°.30N±0°.06×160°.26E±0°.05, h22km±6km, n55, σ1s38/68, mb3.5/6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.82**	**350**	*eP*		**Pb**	**06 13 33.4**	**-0.6**
SPN				*eS*		**Sb**	**06 13 44.5**	**0.0**
SPN	**Mys Shipunski**	**0.82**	**350**	PN		**Pb**	**06 13 33.4**	**-0.6**
SPN				S		**Sb**	**06 13 44.5**	**0.0**
RUS	**Russkaya**	**1.08**	**278**	*i* P		**Pn**	**06 13 37.5**	**-0.8**
RUS				*eS*		**Sn**	**06 13 51.9**	**-0.7**
RUS	**Russkaya**	**1.08**	**278**	PN		**Pn**	**06 13 37.5**	**-0.8**
RUS				S		**Sn**	**06 13 51.9**	**-0.7**
PET	**Petropavlovsk**	**1.22**	**307**	*eP*		**Pn**	**06 13 39.8**	**-0.4**
PET				*eS*		**Sn**	**06 13 55.4**	**-0.6**
PET	**Petropavlovsk**	**1.22**	**307**	*e*PN		**Pn**	**06 13 40.0**	**-0.2**
PET				*eS*		**Sn**	**06 13 54.8**	**-1.2**
PET				pmax	pmax			
	comp=Z,298nm,0.5s							
PET				smax	smax			
	comp=N,1μm,0.7s							
PET				smax	smax			
	comp=E,866nm,0.7s							
UGLR	**Uglovaya**	**1.27**	**317**	*eP*		**Pn**	**06 13 41.0**	**+0.1**
UGLR				*eS*		**Sn**	**06 13 57.1**	**-0.2**
MTVR	**Mutnovka**	**1.29**	**279**	*eP*		**Pn**	**06 13 41.2**	**-0.1**
MTVR				*eS*		**Sn**	**06 13 58.2**	**+0.3**
SDLR	**Sedlovina**	**1.29**	**320**	*i* P		**Pn**	**06 13 41.2**	**-0.1**
SDLR				*eS*		**Sn**	**06 13 57.8**	**-0.2**
SDLR	**Sedlovina**	**1.29**	**320**	PN		**Pn**	**06 13 41.2**	**-0.1**
SDLR				S		**Sn**	**06 13 57.8**	**-0.2**
SMAR	**Somma**	**1.31**	**318**	*eP*		**Pn**	**06 13 41.7**	**0.0**
SMAR	**Somma**	**1.31**	**318**	PN		**Pn**	**06 13 41.7**	**0.0**
AVH	**Avacha**	**1.34**	**317**	*i* P		**Pn**	**06 13 42.3**	**+0.3**
AVH				*eS*		**Sn**	**06 14 00.4**	**+1.3**
AVH	**Avacha**	**1.34**	**317**	PN		**Pn**	**06 13 42.3**	**+0.3**
AVH				S		**Sn**	**06 14 00.4**	**+1.3**
KRER	**Koryakskii**	**1.36**	**318**	*eP*		**Pn**	**06 13 43.3**	**+0.9**
GRL	**Gorelyy**	**1.37**	**282**	*eS*		**Sn**	**06 14 01.6**	**+1.8**
KOK	**Koryaka**	**1.40**	**316**	*i* P		**Pn**	**06 13 43.2**	**+0.4**
KOK	**Koryaka**	**1.40**	**316**	PN		**Pn**	**06 13 43.2**	**+0.4**
KRX	**Arik**	**1.45**	**318**	*i* P		**Pn**	**06 13 43.6**	**+0.1**
ASAK	**Asacha**	**1.45**	**274**	*eP*		**Pn**	**06 13 44.0**	**+0.5**
ASAK				*eS*		**Sn**	**06 14 03.3**	**+1.4**
PETK	**Petropavlovsk-**	**1.76**	**299**	P		**Pn**	**06 13 48.6**	**+1.0**
	comp=E,37nm,0.3s,baz=121,slow=18,SNR=262							
PETK				S		**Sn**	**06 14 10.2**	**+0.8**
	comp=E,34nm,0.3s,baz=124,slow=21,SNR=13							
PETK	**Petropavlovsk-**	**1.76**	**299**	PN		**Pn**	**06 13 48.6**	**+1.0**
PETK				S		**Sn**	**06 14 10.2**	**+0.8**
PETK				pmax	pmax			
	comp=Z,37nm,0.3s							
PETK				smax	smax			
	comp=N,34nm,0.3s							
GNL	**Ganaly**	**1.98**	**316**	*i* P		**Pn**	**06 13 52.2**	**+1.4**
GNL				*eS*		**Sn**	**06 14 17.3**	**+2.3**
GNL	**Ganaly**	**1.98**	**316**	PN		**Pn**	**06 13 52.2**	**+1.4**
GNL				S		**Sn**	**06 14 17.3**	**+2.3**
APC	**Apacha**	**2.00**	**290**	*eP*		**Pn**	**06 13 52.7**	**+1.9**
APC				*eS*		**Sn**	**06 14 18.4**	**+3.3**
APC	**Apacha**	**2.00**	**290**	PN		**Pn**	**06 13 52.7**	**+1.9**
APC				S		**Sn**	**06 14 18.4**	**+3.3**
MIPR	**Malaya Ipel'ka**	**2.15**	**271**	*eP*		**Pn**	**06 13 55.2**	**+2.2**
MIPR				*eS*		**Sn**	**06 14 22.6**	**+3.5**
PAU	**Pauzhetka**	**2.30**	**250**	*eP*		**Pb**	**06 13 58.8**	**-0.3**
PAU	**Pauzhetka**	**2.30**	**250**	PN		**Pb**	**06 13 58.8**	**-0.3**
MKZ	**Mys Kozlova**	**2.43**	**21**	*eP*		**Pn**	**06 13 57.2**	**+0.4**
MKZ				*eS*		**Sn**	**06 14 26.2**	**+0.5**
MKZ	**Mys Kozlova**	**2.43**	**21**	PN		**Pn**	**06 13 57.2**	**+0.4**
MKZ				S		**Sn**	**06 14 26.2**	**+0.5**
KZV	**Kizimen**	**2.82**	**0**	*eP*		**Pn**	**06 14 03.9**	**+1.5**
KZV				*eS*		**Sn**	**06 14 37.6**	**

CMAR	**Chiang Mai Arr**	**21.66**	**287**	P		**P**	**06 20 40.7**	**+1.5**
	0.7nm,0.3s,baz=100,slow=7.8,SNR=6.3							
WRA	**Warramunga Arr**	**35.47**	**158**	P		**P**	**06 22 44.1**	**-0.9**
	0.9nm,0.8s,baz=333,slow=10,SNR=8.1							
ASAR	**Alice Springs**	**38.76**	**161**	P		**P**	**06 23 13.4**	**+0.4**
	0.7nm,0.4s,baz=337,slow=6.8,SNR=24							
MKAR	**Makanchi Array**	**46.53**	**324**	P		**P**	**06 24 14.7**	**-1.1**
	0.7nm,0.9s,baz=126,slow=9.1,SNR=3.5							

*IDC **30** 06:22:41.0±0.9,52°.25N×160°.21E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.5/27, mbtmp3.7/6, Error ellipse: s-maj=26.1km s-min=21.7km az=27.0*
*KRSC **30** 06:22:41.9±1.1,52°.21N×160°.40E, h20km±17km, ML4.3*
*ISCJB **30** 06:22:44.8±0.7,52°.23N±0°.04×160°.34E±0°.06, h38km±7km, mb3.8/9, MS4.0/1, Error ellipse: s-maj=7.8km s-min=5.3km az=145.1*
*MOS **30** 06:22:46.4±1.0,52°.36N×160°.16E, h47km, mb4.2/3, Error ellipse: s-maj=11.0km s-min=6.5km az=97.8*

ISC 30 06:22:46.5±1.5, 52°.30N±0°.05×160°.19E±0°.04, h33km±6km, n65, σ1s04/82, mb3.7/9, 1C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.81**	**353**	*e*P	**Pn**	**06 22 59.8**	**-1.7**
SPN				*e*S	**Sn**	**06 23 12.4**	**0.0**
SPN	**Mys Shipunski**	**0.81**	**353**	PN	**Pn**	**06 22 59.8**	**-1.7**
SPN				S	**Sn**	**06 23 12.4**	**0.0**
RUS	**Russkaya**	**1.04**	**278**	*e*P	**Pn**	**06 23 02.6**	**-2.1**
RUS				*e*S	**Sn**	**06 23 17.4**	**-0.6**
RUS	**Russkaya**	**1.04**	**278**	PN	**Pn**	**06 23 02.6**	**-2.1**
RUS				S	**Sn**	**06 23 17.4**	**-0.6**
PET	**Petropavlovsk**	**1.19**	**308**	*e*P	**Pn**	**06 23 05.6**	**-1.1**
PET				*e*S	**Sn**	**06 23 22.7**	**+1.0**
PET	**Petropavlovsk**	**1.19**	**308**	*e*PN	**Pn**	**06 23 05.9**	**-0.8**
PET				*e*S	**Sn**	**06 23 21.4**	**-0.3**
PET				pmax	pmax		
	comp=Z,480nm,0.5s						
PET				smax	smax		
	comp=N,1μm,0.5s						
PET				MLR	MLR		
	comp=Z,900nm,13.0s						
UGLR	**Uglovaya**	**1.24**	**318**	*e*P	**Pn**	**06 23 07.0**	**-0.5**
UGLR				*e*S	**Sb**	**06 23 24.8**	**-0.2**
MTVR	**Mutnovka**	**1.25**	**279**	*i* P	**Pn**	**06 23 06.5**	**-1.2**
MTVR				*e*S	**Sn**	**06 23 23.4**	**0.0**
SDLR	**Sedlovina**	**1.26**	**322**	*e*P	**Pn**	**06 23 07.4**	**-0.5**
SDLR	**Sedlovina**	**1.26**	**322**	PN	**Pn**	**06 23 07.4**	**-0.5**
SMAR	**Somma**	**1.28**	**319**	*e*P	**Pn**	**06 23 07.6**	**-0.7**
SMAR	**Somma**	**1.28**	**319**	PN	**Pn**	**06 23 07.6**	**-0.7**
AVH	**Avacha**	**1.31**	**318**	*e*P	**Pn**	**06 23 08.3**	**-0.2**
AVH				*e*S	**Sb**	**06 23 27.5**	**+0.4**
AVH	**Avacha**	**1.31**	**318**	PN	**Pn**	**06 23 08.3**	**-0.2**
AVH				S	**Sb**	**06 23 27.5**	**+0.4**
GRL	**Gorelyy**	**1.32**	**282**	*e*P	**Pn**	**06 23 09.0**	**+0.3**
GRL				*e*S	**Sb**	**06 23 28.5**	**+1.1**
GRL	**Gorelyy**	**1.32**	**282**	PN	**Pn**	**06 23 09.0**	**+0.3**
GRL				S	**Sb**	**06 23 28.5**	**+1.1**
KRER	**Koryakskii**	**1.34**	**320**	*e*P	**Pn**	**06 23 08.9**	**-0.1**
KRER				*e*S	**Sb**	**06 23 28.4**	**+0.5**
KOK	**Koryaka**	**1.37**	**317**	*e*P	**Pn**	**06 23 09.1**	**-0.3**
KOK	**Koryaka**	**1.37**	**317**	PN	**Pn**	**06 23 09.1**	**-0.3**
ASAK	**Asacha**	**1.41**	**274**	*e*P	**Pn**	**06 23 09.2**	**-0.7**
ASAK				*e*S	**Sn**	**06 23 28.9**	**+1.6**
KRX	**Arik**	**1.42**	**319**	*e*P	**Pn**	**06 23 09.6**	**-0.4**
KRX				*e*S	**Sn**	**06 23 29.6**	**+2.0**
PETK	**Petropavlovsk-**	**1.72**	**299**	Pn	**Pn**	**06 23 14.1**	**0.0**
	comp=Z,42nm,0.3s,baz=119,slow=20,SNR=266						
PETK				Sn	**Sn**	**06 23 36.5**	**+1.6**
	comp=Z,54nm,0.3s,baz=120,slow=26,SNR=13						
PETK	**Petropavlovsk-**	**1.72**	**299**	PN	**Pn**	**06 23 14.1**	**0.0**
PETK						06 23 36.5	
PETK				pmax	pmax		
	comp=Z,42nm,0.3s						
PETK				smax	smax		
	comp=N,54nm,0.3s						
GNL	**Ganaly**	**1.95**	**317**	*e*P	**Pn**	**06 23 17.9**	**+0.5**
GNL				*e*S	**Sb**	**06 23 44.0**	**-1.4**
GNL	**Ganaly**	**1.95**	**317**	PN	**Pn**	**06 23 17.9**	**+0.5**
GNL				S	**Sb**	**06 23 44.0**	**-1.4**
APC	**Apacha**	**1.95**	**290**	*e*P	**Pn**	**06 23 18.1**	**+0.9**
APC				*e*S	**Sb**	**06 23 44.4**	**-0.9**
APC	**Apacha**	**1.95**	**290**	PN	**Pn**	**06 23 18.1**	**+0.9**
APC				S	**Sb**	**06 23 44.4**	**-0.9**
MIPR	**Malaya Ipel'ka**	**2.11**	**271**	*e*P	**Pn**	**06 23 20.1**	**+0.7**
PAU	**Pauzhetka**	**2.25**	**250**	*e*P	**Pn**	**06 23 21.2**	**-0.2**
PAU	**Pauzhetka**	**2.25**	**250**	PN	**Pn**	**06 23 21.2**	**-0.2**
MKZ	**Mys Kozlova**	**2.44**	**22**	*e*P	**Pn**	**06 23 23.1**	**-0.9**
MKZ				*e*S	**Sn**	**06 23 53.0**	**+0.3**
MKZ	**Mys Kozlova**	**2.44**	**22**	PN	**Pn**	**06 23 23.1**	**-0.9**
MKZ				S	**Sn**	**06 23 53.0**	**+0.3**
KZV	**Kizimen**	**2.82**	**1**	*e*P	**Pn**	**06 23 30.7**	**+1.3**
TUMR	**Tumrok**	**2.99**	**360**	*e*P	**Pn**	**06 23 32.8**	**+1.1**
TUMR	**Tumrok**	**2.99**	**360**	PN	**Pn**	**06 23 32.8**	**+1.1**
SKR	**Severo-Kuril's**	**3.02**	**239**	*i* PN	**Pn**	**06 23 32.7**	**+0.9**
KBTR	**Krutoberegovo**	**4.21**	**20**	*e*P	**Pn**	**06 23 48.5**	**+0.2**
KBTR	**Krutoberegovo**	**4.21**	**20**	PN	**Pn**	**06 23 48.5**	**+0.2**
SMKR	**Semkarok**	**4.36**	**9**	*e*P	**Pn**	**06 23 52.7**	**+2.3**
SMKR	**Semkarok**	**4.36**	**9**	PN	**Pn**	**06 23 52.7**	**+2.3**
SRKR	**Sorokina**	**4.40**	**7**	*e*P	**Pn**	**06 23 52.7**	**+1.7**
SRKR	**Sorokina**	**4.40**	**7**	PN	**Pn**	**06 23 52.7**	**+1.7**
KUR	**Kuril'sk**	**10.77**	**234**	*i* PN	Pn	06 25 21.3	+3.2
SEY	**Seymchan**	**11.45**	**342**	*i* PN	Pn	06 25 24.0	-3.4
ERM	**Erimo**	**15.45**	**235**	*i* P	**P**	**06 26 25.1**	**-0.8**
YAK	**Yakutsk**	**19.02**	**313**	*i* P	**P**	**06 27 05.0**	**-0.1**
YAK				pmax	pmax		
	comp=Z,19nm,0.8s						
MAJO	**Matsushiro**	**22.11**	**233**	*i* P	**P**	**06 27 41.5**	**+2.7**
H11N2	**WAKE ISLAND Hy**	**32.92**	**168**	T	T	07 04 31.1	
	baz=351,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**32.94**	**168**	T	T	07 04 31.6	
	baz=351,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**32.94**	**168**	T	T	07 04 29.3	
	baz=351,slow=75,SNR=23						
ULN	**Ulaanbaatar**	**33.74**	**284**	*i* P	**P**	**06 29 24.5**	**-0.3**
H11S1	**WAKE ISLAND Hy**	**34.10**	**169**	T	T	07 05 53.0	
	baz=351,slow=74,SNR=7.9						
H11S3	**WAKE ISLAND Hy**	**34.11**	**169**	T	T	07 05 53.8	
	baz=351,slow=74,SNR=7.1						
H11S2	**WAKE ISLAND Hy**	**34.12**	**169**	T	T	07 05 52.6	
	baz=351						
HHC	**Hu-ho-hao-te**	**34.70**	**270**	*e*P	**P**	**06 29 33.3**	**+0.2**
HHC				PP	**PnPn**	**06 30 50.5**	**+1.2**
HHC				S	**S**	**06 35 00.0**	**-0.8**
HHC				SS	**SnSn**	**06 37 13.8**	**-1.0**
HHC				pmax	pmax		
	comp=Z,13nm,1.1s						
HHC				pmax	pmax		
	comp=Z,160nm,5.6s						
HHC				LR	LR		
	comp=N,190nm,14.9s						
HHC				LR	LR		
	comp=E,190nm,14.7s						
HHC				LR	LR		
	comp=Z,160nm,14.1s						
SPITS	**Spitsbergen Ar**	**47.93**	**351**	P	**P**	**06 31 19.8**	**-1.2**
	comp=Z,0.7nm,0.4s,baz=53,slow=9.8,SNR=4.5						
SPITS	**Spitsbergen Ar**	**47.93**	**351**	P	**P**	**06 31 19.8**	**-1.2**
SPITS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MK31	**Makanchi Array**	**48.56**	**296**	⇑P	**P**	**06 31 26.8**	**+0.5**
	comp=Z,0.2nm,0.2s,baz=312,slow=12,SNR=14						
BRVK	**Borovoye**	**50.96**	**309**	*i* P	**P**	**06 31 45.5**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PDAR	**Pinedale Array**	**57.86**	**60**	P	**P**	**06 32 35.0**	**0.0**
	comp=Z,0.4nm,0.7s,baz=8.5,slow=3.0,SNR=4.6						
FINES	**FINESS Array B**	**60.88**	**337**	P	**P**	**06 32 54.3**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=7.1,slow=4.6,SNR=4.6						
FINES	**FINESS Array B**	**60.88**	**337**	P	**P**	**06 32 54.3**	**-0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**70.90**	**67**	P	**P**	**06 34 00.3**	**0.0**
	comp=Z,0.4nm,0.6s,baz=301,slow=5.1,SNR=7.7						
WRA	**Warramunga Arr**	**75.38**	**205**	P	**P**	**06 34 25.5**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=17,slow=6.2,SNR=4.5						
ASAR	**Alice Springs**	**79.06**	**204**	P	**P**	**06 34 46.8**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=13,slow=6.2,SNR=5.5						

*ISCJB **30** 06:24:20.6±1.1, 14°.6S±0°.4×174°.9W±0°.1, h33km, mb3.5/5, Error ellipse: s-maj=61.4km s-min=11.1km az=168.1*
*IDC **30** 06:24:27.4±2.5, 15°.38S×174°.26W, h99km±24km, mb3.2/5, mb1 3.6/6, mb1mx3.4/19, mbtmp3.6/6, Error ellipse: s-maj=116.6km s-min=19.8km az=150.0*

ISC 30 06:24:23.5±1.3, 14°.4S±0°.4×175°.0W±0°.1, h35km, n6, σ2s32/6, mb3.5/5, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.11**	**82**	P	**Pn**	**06 25 12.5**	**+2.2**
	34nm,0.3s,baz=198,slow=2.8,SNR=31						
AFI				S	**Sn**	**06 25 44.3**	**-2.0**
	67nm,0.3s,baz=148,slow=21,SNR=12						
WRA	**Warramunga Arr**	**48.62**	**256**	P	**P**	**06 33 04.6**	**+0.2**
	0.2nm,0.3s,baz=92,slow=7.3,SNR=2.2						
ASAR	**Alice Springs**	**49.01**	**251**	P	**P**	**06 33 06.7**	**-0.6**
	2.0nm,0.6s,baz=85,slow=7.8,SNR=28						
TXAR	**Lajitas Array**	**81.31**	**57**	P	P	06 36 33.6	-3.2
	0.1nm,0.5s,baz=225,slow=8.9,SNR=2.5						
ILAR	**Eielson Array**	**81.76**	**12**	P	**P**	**06 36 39.5**	**+1.3**
	0.2nm,0.7s,baz=227,slow=6.3,SNR=5.6						
PDAR	**Pinedale Array**	**82.53**	**42**	P	**P**	**06 36 40.9**	**-2.2**
	0.4nm,0.8s,baz=212,slow=3.2,SNR=4.1						

*ISCJB **30** 06:37:15.3±0.8, 42°.52N±0°.08×43°.67E±0°.04, h6km±9km, Error ellipse: s-maj=13.4km s-min=4.6km az=14.0*
*TIF **30** 06:37:15.1, 42°.50N×43°.59E, h15km±1km*
*CSEM **30** 06:37:24.7, 42°.25N×40°.77E, h26km, MD2.9*
*DDA **30** 06:37:24.7, 42°.25N×40°.77E, h26km, MD2.9*

ISC 30 06:37:15.1±1.3, 42°.50N±0°.04×43°.59E±0°.03, h14km±11km, n16, σ1s11/28, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.14**	**313**	P	**Pb**	**06 37 19.3**	**-0.3**
ONI				S	**Sb**	**06 37 22.2**	**-0.3**
DUS	**Dusheti**	**0.92**	**116**	P	**Pn**	**06 37 33.5**	**-0.1**
DUS				S	**Sn**	**06 37 47.4**	**+0.8**
AKH	**Akhalkalaki**	**1.09**	**184**	P	**Pn**	**06 37 36.1**	**0.0**
AKH				S	**Sn**	**06 37 51.3**	**+0.3**
CHVG	**Ch'k'valeri**	**1.14**	**282**	P	**Pg**	**06 37 36.8**	**-0.2**
CHVG				S	**Sg**	**06 37 52.8**	**+1.0**
TBLG	**Delisi**	**1.15**	**131**	P	**Pn**	**06 37 35.0**	**-1.7**
TBLG				S	**Sb**	**06 37 50.9**	**-0.5**
SEAG	**Tbilisi Sea**	**1.16**	**129**	P	**Pn**	**06 37 35.3**	**-1.6**
SEAG				S	**Sb**	**06 37 51.1**	**-0.7**
DGRG	**David-gareji**	**1.69**	**128**	P	**Pg**	**06 37 47.5**	**0.0**
DGRG				S	**Sg**	**06 38 13.0**	**+3.5**
ARTV	**Artvin**	**1.81**	**224**	*i* P	**Pb**	**06 37 48.0**	**-0.1**
ARTV				*i* S	**Sb**	**06 38 11.2**	**+0.6**
ARTV	**Artvin**	**1.81**	**224**	*i* P	**Pb**	**06 37 48.0**	**-0.1**
ARTV				*i* S	**Sb**	**06 38 11.2**	**+0.6**
DBOC	**Borcka**	**1.84**	**232**	*i* P	**Pn**	**06 37 46.8**	**+0.5**
DBOC	**Borcka**	**1.84**	**232**	*i* P	**Pn**	**06 37 46.8**	**+0.5**
DAGI	**Agillar**	**1.89**	**222**	*i* P	**Pb**	**06 37 49.0**	**-0.5**
DAGI				*i* S	**Sg**	**06 38 14.7**	**-1.3**
DBAD	**Bademkaya**	**2.05**	**225**	*i* S	**Sb**	**06 38 18.7**	**+1.2**
DBAD	**Bademkaya**	**2.05**	**225**	*i* S	**Sb**	**06 38 18.7**	**+1.2**
DDEM	**Demirkent**	**2.11**	**221**	*i* P	**Pb**	**06 37 52.9**	**-0.3**
DDEM				*i* S	**Sg**	**06 38 21.8**	**-1.3**
DDEM	**Demirkent**	**2.11**	**221**	*i* P	**Pb**	**06 37 52.9**	**-0.3**
DDEM				*i* S	**Sg**	**06 38 21.8**	**-1.3**

*KRSC **30** 06:40:22.4±1.3, 52°.26N×160°.50E, h44km±17km, ML4.3*
*ISCJB **30** 06:40:24.7±0.7, 52°.26N±0°.04×160°.35E±0°.06, h54km±6km, mb3.8/15, MS4.1/1, Error ellipse: s-maj=8.2km s-min=4.5km az=140.1*
*MOS **30** 06:40:24.9±1.1, 52°.27N×160°.21E, h53km, mb4.2/8, Error ellipse: s-maj=9.2km s-min=5.5km az=95.6*
*IDC **30** 06:40:31.1±2.3, 52°.45N×159°.92E, h78km±19km, mb3.4/12, mb1 3.6/12, mb1mx3.5/26, mbtmp3.7/12, Error ellipse: s-maj=22.0km s-min=16.7km az=143.0*

ISC 30 06:40:25.8±1.2, 52°.31N±0°.06×160°.30E±0°.04, h40km±11km, n86, σ1s62/111, mb3.8/15, 1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.81**	**348**	*i* P	**Pn**	**06 40 39.4**	**-1.2**
SPN				*e*S	**Sn**	**06 40 50.6**	**-0.8**
SPN	**Mys Shipunski**	**0.81**	**348**	PN	**Pn**	**06 40 39.4**	**-1.2**
SPN				S	**Sn**	**06 40 50.6**	**-0.8**
NLC	**Nalytchevo**	**1.04**	**326**	*i* P	**Pn**	**06 40 43.3**	**-0.5**
NLC	**Nalytchevo**	**1.04**	**326**	PN	**Pn**	**06 40 43.3**	**-0.5**
RUS	**Russkaya**	**1.10**	**277**	*e*P	**Pn**	**06 40 43.6**	**-1.1**
RUS				*e*S	**Sn**	**06 40 58.3**	**-0.4**
RUS	**Russkaya**	**1.10**	**277**	PN	**Pn**	**06 40 43.6**	**-1.1**
RUS				S	**Sn**	**06 40 58.3**	**-0.4**
PET	**Petropavlovsk**	**1.23**	**306**	*e*P	**Pn**	**06 40 45.9**	**-0.5**
PET				*e*S	**Sn**	**06 41 01.5**	**-0.4**
PET	**Petropavlovsk**	**1.23**	**306**	*e*PN	**Pn**	**06 40 46.0**	**-0.5**
PET				*e*S	**Sn**	**06 41 00.7**	**-1.2**
PET				pmax	pmax		
	comp=Z,356nm,0.5s						
PET				smax	smax		
	comp=E,2μm,0.5s						
UGLR	**Uglovaya**	**1.27**	**316**	*i* P	**Pn**	**06 40 47.3**	**+0.2**
UGLR				*e*S	**Sn**	**06 41 04.3**	**+1.3**
SDLR	**Sedlovina**	**1.30**	**319**	*i* P	**Pn**	**06 40 47.6**	**+0.1**
SDLR				*e*S	**Sn**	**06 41 04.4**	**+0.8**
SDLR	**Sedlovina**	**1.30**	**319**	PN	**Pn**	**06 40 47.6**	**+0.1**
SDLR				S	**Sn**	**06 41 04.4**	**+0.8**
MTVR	**Mutnovka**	**1.31**	**278**	*i* P	**Pn**	**06 40 47.2**	**-0.5**
SMAR	**Somma**	**1.32**	**317**	*e*P	**Pn**	**06 40 47.8**	**-0.1**
SMAR	**Somma**	**1.32**	**317**	PN	**Pn**	**06 40 47.8**	**-0.1**
AVH	**Avacha**	**1.35**	**316**	*i* P	**Pn**	**06 40 48.5**	**+0.4**
AVH				*e*S	**Sn**	**06 41 06.4**	**+1.6**
AVH	**Avacha**	**1.35**	**316**	PN	**Pn**	**06 40 48.5**	**+0.4**
AVH				S	**Sn**	**06 41 06.4**	**+1.6**
KRER	**Koryakskii**	**1.37**	**317**	*i* P	**Pn**	**06 40 48.9**	**+0.3**
KRER				*e*S	**Sn**	**06 41 07.7**	**+2.1**
GRL	**Gorelyy**	**1.39**	**281**	*e*P	**Pn**	**06 40 49.4**	**+0.7**
GRL				*e*S	**Sn**	**06 41 08.5**	**+2.6**
GRL	**Gorelyy**	**1.39**	**281**	PN	**Pn**	**06 40 49.4**	**+0.7**
GRL				S	**Sn**	**06 41 08.5**	**+2.6**
KOK	**Koryaka**	**1.41**	**315**	*i* P	**Pn**	**06 40 49.4**	**+0.4**
KOK	**Koryaka**	**1.41**	**315**	PN	**Pn**	**06 40 49.4**	**+0.4**
KRX	**Arik**	**1.45**	**317**	*i* P	**Pn**	**06 40 49.8**	**+0.2**
ASAK	**Asacha**	**1.48**	**274**	*e*P	**Pn**	**06 40 49.9**	**0.0**
ASAK				*e*S	**Sn**	**06 41 09.7**	**+1.7**
PETK	**Petropavlovsk-**	**1.77**	**298**	P	**Pn**	**06 40 54.8**	**+0.9**
	comp=E,110nm,0.3s,baz=106,slow=20,SNR=396						
PETK				S	**Sn**	**06 41 15.6**	**+0.3**
	comp=E,83nm,0.3s,baz=112,slow=19,SNR=10						
PETK	**Petropavlovsk-**	**1.77**	**298**	PN	**Pn**	**06 40 54.8**	**+0.9**
PETK				S	**Sn**	**06 41 15.6**	**+0.3**
PETK				pmax	pmax		
	comp=Z,110nm,0.3s						
PETK				smax	smax		
	comp=N,83nm,0.3s						
GNL	**Ganaly**	**1.99**	**315**	*i* P	**Pn**	**06 40 58.5**	**+1.5**
GNL				*e*S	**Sn**	**06 41 24.4**	**+3.7**
GNL	**Ganaly**	**1.99**	**315**	PN	**Pn**	**06 40 58.5**	**+1.5**
GNL				S	**Sn**	**06 41 24.4**	**+3.7**
APC	**Apacha**	**2.01**	**289**	*i* P	**Pn**	**06 40 58.5**	**+1.3**
APC				*e*S	**Sn**	**06 41 24.6**	**+3.5**
APC	**Apacha**	**2.01**	**289**	PN	**Pn**	**06 40 58.5**	**+1.3**
APC				S	**Sn**	**06 41 24.6**	**+3.5**
MIPR	**Malaya Ipel'ka**	**2.18**	**270**	*e*P	**Pn**	**06 41 01.1**	**+1.6**
MIPR				*e*S	**Sn**	**06 41 29.0**	**+3.8**
PAU	**Pauzhetka**	**2.32**	**250**	*e*P	**Pn**	**06 41 01.9**	**+0.5**
PAU	**Pauzhetka**	**2.32**	**250**	PN	**Pn**	**06 41 01.9**	**+0.5**
MKZ	**Mys Kozlova**	**2.41**	**20**	*e*P	**Pn**	**06 41 03.0**	**+0.4**
MKZ				*e*S	**Sn**	**06 41 32.2**	**+1.5**
MKZ	**Mys Kozlova**	**2.41**	**20**	PN	**Pn**	**06 41 03.0**	**+0.4**
MKZ				S	**Sn**	**06 41 32.2**	**+1.5**
KZV	**Kizimen**	**2.81**	**360**	*e*P	**Pn**	**06 41 09.5**	**+1.3**
KZV				*e*S	**Sn**	**06 41 43.1**	**+2.2**
TUMR	**Tumrok**	**2.98**	**358**	*e*P	**Pn**	**06 41 12.2**	**+1.6**
TUMR	**Tumrok**	**2.98**	**358**	PN	**Pn**	**06 41 12.2**	**+1.6**
SKR	**Severo-Kuril's**	**3.08**	**240**	*e*PN	**Pn**	**06 41 11.7**	**-0.2**
ESO	**Esso**	**3.74**	**346**	*e*P	**Pn**	**06 41 23.1**	**+2.1**
ESO	**Esso**	**3.74**	**346**	PN	**Pn**	**06 41 23.1**	**+2.1**
SRDR	**Sredinnyy**	**4.03**	**355**	*e*P	**Pn**	**06 41 26.3**	**+1.4**
SRDR	**Sredinnyy**	**4.03**	**355**	PN	**Pn**	**06 41 26.3**	**+1.4**
KBTR	**Krutoberegovo**	**4.17**	**20**	*e*P	**Pn**	**06 41 28.0**	**+1.2**
KBTR				*e*S	**Sn**	**06 42 15.5**	**+1.2**
KBTR	**Krutoberegovo**	**4.17**	**20**	PN	**Pn**	**06 41 28.0**	**+1.2**
KBTR				S	**Sn**	**06 42 15.5**	**+1.2**
SMKR	**Semkarok**	**4.33**	**9**	*e*P	**Pn**	**06 41 31.1**	**+2.0**
SMKR	**Semkarok**	**4.33**	**9**	PN	**Pn**	**06 41 31.1**	**+2.0**
SRKR	**Sorokina**	**4.38**	**6**	*e*P	**Pn**	**06 41 30.9**	**+1.1**
SRKR	**Sorokina**	**4.38**	**6**	PN	**Pn**	**06 41 30.9**	**+1.1**
BKI	**Bering**	**4.44**	**47**	*e*P	**Pn**	**06 41 30.0**	**-0.5**
BKI				*e*S	**Sn**	**06 42 18.2**	**-2.6**
BKI	**Bering**	**4.44**	**47**	PN	**Pn**	**06 41 30.0**	**-0.5**
KUR	**Kuril'sk**	**10.83**	**234**	*e*PN	**Pn**	**06 42 56.6**	**-1.5**
SEY	**Seymchan**	**11.45**	**341**	*e*PN	**Pn**	**06 43 04.4**	**-2.1**
YSS	**Yuzh-Sakhalins**	**12.56**	**252**	*e*PN	**Pn**	**06 43 21.2**	**-0.6**
ERM	**Erimo**	**15.52**	**235**	*i* P	**Pn**	**06 44 01.0**	**-0.5**
YAK	**Yakutsk**	**19.05**	**313**	*i* P	**P**	**06 44 44.2**	**-0.1**
YAK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MSHR	**Mys Shultsa**	**21.85**	**255**	*i* P	**P**	**06 45 11.9**	**-2.7**
MAJO	**Matsushiro**	**22.17**	**233**	*i* P	**P**	**06 45 16.9**	**-1.3**
MJAR	**Matsushiro Arr**	**22.17**	**233**	P	**P**	**06 45 19.9**	**+1.7**
	comp=Z,3.5nm,0.7s,baz=20,slow=9.1,SNR=7.7						
MJAR	**Matsushiro Arr**	**22.17**	**233**	P	**P**	**06 45 19.9**	**+1.7**
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KSRS	**Korea Array**	**27.05**	**250**	P	**P**	**06 46 05.0**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=40,slow=9.6,SNR=3.1						
KSRS	**Korea Array**	**27.05**	**250**	P	**P**	**06 46 05.0**	**+0.9**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TJN	**Taejon**	**28.12**	**249**	*e*P	**P**	**06 46 11.8**	**-1.9**
ILAR	**Eielson Array**	**29.28**	**44**	P	**P**	**06 46 25.8**	**+2.0**
	comp=Z,0.2nm,0.9s,baz=283,slow=8.2,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**32.92**	**169**	T	T	07 22 38.8	
	baz=352,slow=76,SNR=81						
H11N3	**WAKE ISLAND Hy**	**32.94**	**168**	T	T	07 22 38.8	
	baz=352,slow=76,SNR=52						
H11N1	**WAKE ISLAND Hy**	**32.94**	**169**	T	T	07 22 41.7	
	baz=352,slow=76,SNR=72						
ULN	**Ulaanbaatar**	**33.80**	**284**	*d* P	**P**	**06 47 02.2**	**-1.7**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.6s						
H11S1	**WAKE ISLAND Hy**	**34.10**	**169**	T	T	07 24 08.2	
	baz=350,slow=74,SNR=3.7						
H11S3	**WAKE ISLAND Hy**	**34.12**	**169**	T	T	07 24 12.1	
	baz=350,slow=74,SNR=5.1						
H11S2	**WAKE ISLAND Hy**	**34.12**	**169**	T	T	07 24 09.3	
	baz=350						
SONM	**Songino Array**	**34.21**	**284**	P	**P**	**06 47 06.4**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=66,slow=8.5,SNR=4.6						
SONM	**Songino Array**	**34.21**	**284**	P	**P**	**06 47 06.4**	**-1.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HHC	**Hu-ho-hao-te**	**34.77**	**271**	*e*P	**P**	**06 47 11.0**	**-1.3**
HHC				PP	**PnPn**	**06 48 27.8**	**-1.2**
HHC				S	**S**	**06 52 37.0**	**-2.9**
HHC				SS	**SnSn**	**06 54 49.8**	**-5.5**
HHC				pmax	pmax		
	comp=Z,13nm,1.1s						
HHC				pmax	pmax		
	comp=Z,77nm,5.4s						
HHC				LR	LR		
	comp=N,260nm,14.1s						
HHC				LR	LR		
	comp=E,190nm,14.5s						
HHC				LR	LR		
	comp=Z,200nm,13.9s						
ZALV	**Zalesovo Beam**	**43.31**	**303**	P	**P**	**06 48 21.3**	**-2.0**
	comp=Z,0.6nm,0.4s,baz=31,slow=3.4,SNR=3.1						
ZALV	**Zalesovo Beam**	**43.31**	**303**	P	**P**	**06 48 21.3**	**-2.0**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**48.61**	**296**	P	**P**	**06 49 03.5**	**-1.7**
	comp=Z,0.4nm,0.5s,baz=52,slow=6.9,SNR=6.7						
MKAR	**Makanchi Array**	**48.61**	**296**	*e*P	**P**	**06 49

LFK	**Lefkose**	**1.27**	**35**	*e*PN	**Pg**	07 02 40.2	-0.4
LFK				*e*SN	**Sg**	**07 03 00.1**	**+2.9**
LFK	**Lefkose**	**1.27**	**35**	*e*PN	**Pg**	07 02 40.3	-0.4
LFK				*e*Sn	**Sg**	**07 03 00.1**	**+2.9**
EREN	**Erenkoy**	**1.79**	**44**	*e*PN	**Pb**	07 02 48.1	-0.5
EREN	**Erenkoy**	**1.79**	**44**	*e*Pn	**Pb**	07 02 48.2	-0.5
GAZI	**Gazipasa**	**2.01**	**352**	*i* P	**Pn**	07 02 49.4	-0.1
GAZI				*i* S	**Sn**	**07 03 14.8**	**+0.5**
GAZI	**Gazipasa**	**2.01**	**352**	*i* P	**Pn**	07 02 49.4	-0.1
GAZI				*i* S	**Sn**	**07 03 14.8**	**+0.5**
HDMB	**Hadim**	**2.72**	**357**	*e*PN	**Pn**	07 02 58.9	-0.5
HDMB	**Hadim**	**2.72**	**357**	*e*Pn	**Pn**	07 02 58.9	-0.5
BRBR	**Barbar**	**2.87**	**106**	*e*P	**Pn**	07 03 02.7	**+1.3**
BRBR				*e*S	**Sn**	**07 03 37.1**	**+1.3**
BRBR				AML	AML	07 03 44.0	
	comp=E,91nm,0.6s						
BRBR				AML	AML	07 03 44.4	
	comp=N,124nm,0.7s						
BIDA	**Albida**	**3.12**	**75**	*e*P	**Pn**	07 03 03.7	-1.2
BIDA				*e*S	**Sn**	07 03 38.5	-3.4
BIDA				AML	AML	07 03 54.0	
	comp=E,43nm,0.4s						
BIDA				AML	AML	07 03 60.0	
	comp=N,104nm,0.5s						
ARNB	**Al Arnab**	**3.17**	**58**	*e*P	**Pn**	07 03 06.8	**+1.3**
ARNB				*e*S	Sn	07 03 37.3	-5.7
ARNB				AML	AML	07 03 57.6	
	comp=N,72nm,1.2s						
ARNB				AML	AML	07 04 09.9	
	comp=E,162nm,1.3s						
AKAS	**Kas**	**3.19**	**309**	*i* P	**Pn**	07 03 06.2	**+0.4**
AKAS				*i* S	**Sn**	**07 03 44.6**	**+1.1**
AKAS	**Kas**	**3.19**	**309**	*i* P	**Pn**	07 03 06.2	**+0.4**
AKAS				*i* S	**Sn**	**07 03 44.6**	**+1.1**
TOTH	**TOTAH**	**3.27**	**105**	*e*P	**Pn**	07 03 08.4	**+1.7**
TOTH				*e*S	**Sn**	**07 03 45.5**	**+0.2**
TOTH				AML	AML	07 03 51.9	
	comp=E,47nm,0.8s						
TOTH				AML	AML	07 03 57.9	
	comp=N,20nm,0.9s						
WRDH	**Warideh**	**3.34**	**67**	*e*P	**Pn**	07 03 06.1	-1.8
WRDH				*e*S	**Sn**	07 03 42.3	-4.9
WRDH				AML	AML	07 03 49.6	
	comp=N,77nm,0.5s						
WRDH				AML	AML	07 03 49.8	
	comp=E,41nm,0.4s						
YAYL	**Yayladag**	**3.35**	**57**	*i* P	**Pn**	07 03 06.8	-1.2
YAYL				*i* S	**Sn**	07 03 43.7	-3.8
YAYL	**Yayladag**	**3.35**	**57**	*i* P	**Pn**	07 03 06.8	-1.2
TAHT	**Tahtakopru-Hat**	**3.59**	**53**	*e*PN	**Pn**	07 03 14.3	**+3.1**
TAHT	**Tahtakopru-Hat**	**3.59**	**53**	*e*Pn	**Pn**	07 03 14.3	**+3.1**
KARA	**Karaisali**	**3.59**	**32**	*e*PN	**Pn**	07 03 12.7	**+1.5**
KARA	**Karaisali**	**3.59**	**32**	*e*Pn	**Pn**	07 03 12.7	**+1.5**
BTCH	**Batrach**	**3.60**	**59**	AML	AML	07 03 49.6	
	comp=E,104nm,0.3s						
YESY	**Yesilyurt**	**3.65**	**14**	*e*PN	**Pn**	07 03 12.8	**+0.8**
YESY	**Yesilyurt**	**3.65**	**14**	*e*Pn	**Pn**	07 03 12.8	**+0.8**
KONT	**Konya--Tatoy**	**3.71**	**356**	*e*PN	**Pn**	07 03 12.3	-0.4
KONT	**Konya--Tatoy**	**3.71**	**356**	*e*Pn	**Pn**	07 03 12.4	-0.4
SALA	**Sala**	**3.74**	**113**	*e*P	Pn	07 03 16.1	+2.8
SALA				*e*S	**Sn**	**07 03 57.5**	**+0.3**
SALA				AML	AML	07 04 06.2	
	comp=E,4.1nm,0.7s						
SALA				AML	AML	07 04 06.7	
	comp=N,58nm,0.5s						
ROOS	**tl_alroos**	**3.84**	**90**	*e*P	**Pn**	07 03 15.9	**+1.1**
ROOS				*e*S	**Sn**	**07 03 57.3**	**-2.3**
ROOS				AML	AML	07 04 11.4	
	comp=E,37nm,0.5s						
ROOS				AML	AML	07 04 33.1	
	comp=N,36nm,0.5s						
SULT	**Sultanhani-AKS**	**4.01**	**10**	*e*PN	**Pn**	07 03 17.7	**+0.6**
SULT	**Sultanhani-AKS**	**4.01**	**10**	*e*Pn	**Pn**	07 03 17.7	**+0.6**
ZALF	**Zalf**	**4.12**	**107**	*e*P	**Pn**	07 03 19.9	**+1.3**
ZALF				*e*S	**Sn**	**07 04 05.0**	**-1.5**
ZALF				AML	AML	07 04 18.8	
	comp=E,12nm,0.6s						
ZALF				AML	AML	07 04 27.2	
	comp=N,14nm,0.6s						
KOZT	**Kozan**	**4.14**	**38**	*e*PN	**Pn**	07 03 20.8	**+2.1**
KOZT	**Kozan**	**4.14**	**38**	*e*Pn	**Pn**	07 03 20.8	**+2.1**
BDRM	**Kayabasi**	**5.09**	**305**	*i* P	**Pn**	07 03 29.9	-1.9
BDRM	**Kayabasi**	**5.09**	**305**	*i* P	**Pn**	07 03 29.9	-1.9
AYDN	**Tasoluk**	**5.16**	**313**	*i* P	**Pn**	07 03 34.3	**+1.5**
AYDN	**Tasoluk**	**5.16**	**313**	*i* P	**Pn**	07 03 34.3	**+1.5**

*IDC **30** 07:04:05.0±1.1, 18°.64N×67°.33W, h0km, mb3.4/5, mb1 3.7/6, mb1mx3.5/35, mbtmp3.5/6, ML3.3/1, Error ellipse: s-maj=42.8km s-min=12.0km az=29.0*
*ISCJB **30** 07:04:06.6±0.4, 18°.42N±0°.06×67°.42W±0°.03, h27km, mb3.5/5, Error ellipse: s-maj=8.9km s-min=3.3km az=13.8*
*NEIC **30** 07:04:07.6, 18°.40N×67°.42W, h11km, MD3.4(RSPR), After RSPR.*
NEIC Felt [IV] at Rincon.
*RSPR **30** 07:04:07.6, 18°.40N×67°.42W, h11km±1km, MD3.4/12*

ISC 30 07:04:07.5±0.7, 18°.38N±0°.06×67°.43W±0°.02, h27km, n47, σ1§09/61, mb3.5/5, 19C-12D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.32**	**75**⇑	*e*P	**Pb**	**07 04 13.7**	**-1.2**
AGPR	**Aguadilla, PR**	**0.32**	**75**	*e*S	**Sb**	**07 04 18.7**	**-1.3**
AGPR	**Aguadilla, PR**	**0.32**	**75**⇑	*e*P	**Pb**	**07 04 13.7**	**-1.2**
AGPR				*e*S	**Sb**	**07 04 18.7**	**-1.3**
MPR	**Mayaguez**	**0.33**	**121**⇑	*e*P	**Pb**	**07 04 14.3**	**-0.7**
MPR	**Mayaguez**	**0.33**	**121**⇑	*e*P	**Pb**	**07 04 14.4**	**-0.7**
MPR				*e*S	**Sb**	**07 04 19.6**	**-0.6**
MPR	**Mayaguez**	**0.33**	**121**⇑	*e*P	**Pb**	**07 04 14.3**	**-0.7**
MPR				*e*S	**Sb**	**07 04 19.6**	**-0.6**
LSP	**Las Mesas**	**0.39**	**122**⇓	*i* P	**Pb**	**07 04 15.3**	**-0.7**
LSP	**Las Mesas**	**0.39**	**122**⇓	*i* P	**Pb**	**07 04 15.3**	**-0.7**
IMO	**Isla Mona**	**0.53**	**239**⇓	*e*P	**Pb**	**07 04 17.2**	**-1.0**
IMO	**Isla Mona**	**0.53**	**239**⇓	*e*P	**Pb**	**07 04 17.2**	**-1.0**
AOPR	**Arecibo Observ**	**0.65**	**93**⇑	*e*P	**Pb**	**07 04 18.7**	**-1.5**
AOPR	**Arecibo Observ**	**0.65**	**93**⇓	*e*P	**Pb**	**07 04 18.8**	**-1.5**
AOPR				*e*S	**Sb**	**07 04 27.6**	**-1.3**
AOPR	**Arecibo Observ**	**0.65**	**93**⇑	*e*P	**Pb**	**07 04 18.7**	**-1.5**
AOPR				*e*S	**Sb**	**07 04 27.6**	**-1.3**
GBPR	**Guanica, Bosqu**	**0.67**	**128**⇑	*e*P	**Pb**	**07 04 19.6**	**-0.9**
GBPR	**Guanica, Bosqu**	**0.67**	**128**	*e*S	**Sn**	**07 04 29.1**	**-1.6**
GBPR	**Guanica, Bosqu**	**0.67**	**128**⇑	*e*P	**Pb**	**07 04 19.6**	**-0.9**
GBPR				*e*S	**Sn**	**07 04 29.1**	**-1.6**
OBIP	**Obispado Ponce**	**0.86**	**113**⇓	*i* P	**Pb**	**07 04 22.4**	**-1.3**
OBIP	**Obispado Ponce**	**0.86**	**113**	*e*S	**Sb**	**07 04 33.6**	**-1.3**
OBIP	**Obispado Ponce**	**0.86**	**113**⇓	*i* P	**Pb**	**07 04 22.4**	**-1.3**
OBIP				*e*S	**Sb**	**07 04 33.6**	**-1.3**
CELP	**Cerrillos**	**0.87**	**111**⇓	*i* P	**Pb**	**07 04 22.8**	**-1.2**
CELP				*e*S	**Sb**	**07 04 33.5**	**-1.7**
CELP	**Cerrillos**	**0.87**	**111**⇓	*i* P	**Pb**	**07 04 22.8**	**-1.2**
CELP				*e*S	**Sb**	**07 04 33.5**	**-1.7**
PCDR	**Punta Cana, DR**	**0.91**	**278**⇑	*e*P	**Pn**	**07 04 23.2**	**-1.3**
PCDR	**Punta Cana, DR**	**0.91**	**278**	*e*S	**Sb**	**07 04 35.5**	**-0.9**
PCDR	**Punta Cana, DR**	**0.91**	**278**⇑	*e*P	**Pn**	**07 04 23.2**	**-1.3**
PCDR				*e*S	**Sb**	**07 04 35.5**	**-0.9**
ICMP	**Isla Caja de M**	**0.99**	**120**	*e*Pn	**Pb**	**07 04 25.1**	**-0.9**
SJG	**San Juan**	**1.25**	**102**⇓	*e*P	**Pn**	**07 04 28.6**	**-0.6**
SJG				*e*S	**Sn**	**07 04 44.4**	**-0.7**
SJG	**San Juan**	**1.25**	**102**⇓	*i* P	**Pn**	**07 04 28.7**	**-0.4**
SJG				*e*S	**Sn**	**07 04 44.7**	**-0.4**
SJG	**San Juan**	**1.25**	**102**	Pg	**Pn**	**07 04 28.8**	**-0.4**
	84nm,0.3s,baz=301,slow=14,SNR=156						
SJG				Lg	Lg	07 04 44.9	
	328nm,0.3s,baz=331,slow=19,SNR=47						
SJG	**San Juan**	**1.25**	**102**⇓	*e*P	**Pn**	**07 04 28.6**	**-0.6**
SJG				Pg	**Pn**	**07 04 28.8**	**-0.4**
SJG				*e*S	**Sn**	**07 04 44.4**	**-0.7**
SJG				Lg	Lg	07 04 44.9	
CPD	**Cerro la Pandu**	**1.48**	**103**⇑	*e*P	**Pn**	**07 04 32.1**	**-0.3**
CPD	**Cerro la Pandu**	**1.48**	**103**	*e*S	**Sn**	**07 04 50.4**	**-0.6**
CPD	**Cerro la Pandu**	**1.48**	**103**⇑	*e*P	**Pn**	**07 04 32.1**	**-0.3**
CPD				*e*S	**Sn**	**07 04 50.4**	**-0.6**
DR12	**Loma Pena Alta**	**1.89**	**283**⇑	*e*P	**Pn**	**07 04 37.3**	**-0.7**
DR12	**Loma Pena Alta**	**1.89**	**283**⇑	*e*P	**Pn**	**07 04 37.3**	**-0.7**
STVI	**Saint Thomas**	**2.35**	**90**⇑	*e*P	**Pn**	**07 04 43.6**	**-0.7**
STVI	**Saint Thomas**	**2.35**	**90**	*e*S	**Sn**	**07 05 12.8**	**+0.4**
STVI	**Saint Thomas**	**2.35**	**90**⇑	*e*P	**Pn**	**07 04 43.6**	**-0.7**
STVI				*e*S	**Sn**	**07 05 12.8**	**+0.4**
CDVI	**St. Croix**	**2.61**	**103**⇑	*e*P	**Pn**	**07 04 50.1**	**+2.2**
CDVI	**St. Croix**	**2.61**	**103**⇑	*e*P	**Pn**	**07 04 50.1**	**+2.2**
SDDR	**Presa de Saban**	**3.70**	**280**	*e*Pn	Pb	07 05 07.7	-4.6
PCRV	**Puerto La Cruz**	**8.60**	**161**	Pn	Pn	07 06 14.2	+4.0
	0.3nm,0.3s,baz=348,slow=2.1,SNR=2.6						
TXAR	**Lajitas Array**	**34.75**	**295**	P	**P**	**07 10 57.1**	**+1.3**
	0.3nm,0.7s,baz=112,slow=9.8,SNR=4.4						
PDAR	**Pinedale Array**	**43.05**	**314**	PcP	**PcP**	**07 13 55.2**	**0.0**
	0.2nm,0.5s,baz=101,slow=4.7,SNR=3.2						
NVAR	**Mina Array Bea**	**48.34**	**305**	P	**P**	**07 12 48.0**	**+0.8**
	0.4nm,0.9s,baz=96,slow=8.3,SNR=3.2						
TORD	**Torodi Ar. Bea**	**66.40**	**83**	P	**P**	**07 14 55.5**	**+0.8**
	0.2nm,0.6s,baz=303,slow=5.5,SNR=3.7						
ILAR	**Eielson Array**	**69.04**	**333**	P	**P**	**07 15 10.9**	**+0.4**
	0.3nm,0.6s,baz=96,slow=4.4,SNR=6.1						
BRTR	**Keskin Array B**	**86.62**	**49**	P	**P**	**07 16 50.4**	**+1.4**
	0.7nm,0.8s,baz=309,slow=9.1,SNR=2.6						

IDC 30 07:10:51.7±2.5, 53°.95N×86°.42E, h0km, mb1 2.9/2, mb1mx2.8/33, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=21.3km s-min=12.8km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**271**	*i*		07 15 30.0	
	baz=93,slow=313,SNR=1.2						
ZALV	**Zalesovo Beam**	**0.95**	**271**	Pg	Pg	07 11 08.0	-1.9
	0.6nm,0.3s,baz=86,slow=16,SNR=5.6						
ZALV				Lg	Lg	07 11 23.9	
	1.3nm,0.3s,baz=89,slow=30,SNR=6.7						
KURBB	**Kurchatov Arra**	**5.88**	**239**	Pn	Pn	07 12 20.9	+1.0
	0.1nm,0.3s,baz=54,slow=13,SNR=2.9						
MKAR	**Makanchi Array**	**7.63**	**202**	Pn	Pn	07 12 45.2	+1.1
	0.2nm,0.3s,baz=24,slow=14,SNR=8.8						
MKAR				Lg	Lg	07 14 54.6	
	baz=26,slow=27,SNR=2.6						

KRSC 30 07:21:35.0±0.8, 52°.30N×160°.37E, h18km±11km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.83**	**345**	*e*P	Pb	07 21 51.0	+0.1
SPN				*e*S	Sg	07 22 02.1	-0.1
NLC	**Nalytchevo**	**1.07**	**325**	*e*S	Sn	07 22 09.5	-0.1
RUS	**Russkaya**	**1.15**	**277**	*e*P	Pn	07 21 55.7	-0.5
RUS				*e*S	Sb	07 22 10.3	-0.6
PET	**Petropavlovsk**	**1.27**	**305**	*e*P	Pn	07 21 57.8	-0.1
PET				*e*S	Sb	07 22 13.9	-0.6
UGLR	**Uglovaya**	**1.31**	**315**	*e*P	Pb	07 21 59.1	-0.2
UGLR				*e*S	Sb	07 22 16.2	+0.3
SDLR	**Sedlovina**	**1.33**	**318**	*e*P	Pn	07 21 58.9	0.0
SDLR				*e*S	Sn	07 22 15.8	-0.5
MTVR	**Mutnovka**	**1.35**	**279**	*e*P	Pn	07 21 59.4	+0.1
MTVR				*e*S	Sn	07 22 16.7	-0.2
SMAR	**Somma**	**1.36**	**316**	*e*P	Pn	07 21 59.8	+0.4
SMAR				*e*S	Sb	07 22 17.3	-0.2
AVH	**Avacha**	**1.39**	**315**	*e*P	Pb	07 22 00.3	-0.2
AVH				*e*S	Sb	07 22 18.4	+0.4
KRER	**Koryakskii**	**1.41**	**316**	*e*P	Pb	07 22 00.9	-0.2
KRER				*e*S	Sb	07 22 18.7	-0.2
KOK	**Koryaka**	**1.45**	**314**	*e*P	Pn	07 22 01.0	+0.5
KOK				*e*S	Sb	07 22 19.6	-0.2
KRX	**Arik**	**1.49**	**316**	*e*P	Pn	07 22 01.6	+0.5
KRX				*e*S	Sn	07 22 20.4	+0.1
ASAK	**Asacha**	**1.52**	**274**	*e*P	Pb	07 22 02.4	-0.4
ASAK				*e*S	Sb	07 22 21.4	-0.4
GNL	**Ganaly**	**2.03**	**315**	*e*P	Pb	07 22 10.2	-1.3
GNL				*e*S	Sn	07 22 34.8	+1.4
APC	**Apacha**	**2.06**	**289**	*e*P	Pb	07 22 10.7	-1.1
APC				*e*S	Sb	07 22 36.0	-1.1
MIPR	**Malaya Ipel'ka**	**2.22**	**271**	*e*P	Pb	07 22 13.8	-0.9
PAU	**Pauzhetka**	**2.36**	**251**	*e*P	Pn	07 22 14.8	+1.9
MKZ	**Mys Kozlova**	**2.40**	**19**	*e*P	Pn	07 22 15.1	+1.7
MKZ				*e*S	Sn	07 22 43.9	+1.6
KZV	**Kizimen**	**2.82**	**359**	*e*P	Pb	07 22 22.4	-2.7
KZV				*e*S	Sb	07 22 56.3	-3.1
TUMR	**Tumrok**	**2.99**	**358**	*e*P	Pn	07 22 24.4	+2.7
KBTR	**Krutoberegovo**	**4.17**	**19**	*e*P	Pn	07 22 42.1	+4.4

*KRSC **30** 07:37:36.3±1.2, 52°.31N×160°.32E, h40km±16km, ML4.4*
*ISCJB **30** 07:37:38.6±0.6, 52°.34N±0°.04×160°.21E±0°.05, h42km±6km, mb4.1/17, MS3.7/2, Error ellipse: s-maj=6.9km s-min=4.3km az=140.3*
*MOS **30** 07:37:38.1±1.1, 52°.32N×160°.20E, h38km, mb4.3/8, Error ellipse: s-maj=9.2km s-min=5.5km az=94.7*
*IDC **30** 07:37:44.2±2.0, 52°.44N×159°.76E, h80km±18km, mb3.4/11, mb1 3.7/11, mb1mx3.5/42, mbtmp3.8/11, Error ellipse: s-maj=20.8km s-min=13.9km az=138.0*

ISC 30 07:37:40.3±0.8, 52°.38N±0°.06×160°.17E±0°.05, h38km±2km, n90, σ1§39/112, mb4.0/17, 2C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.73**	**353**	*i* P	**Pn**	**07 37 51.9**	**-2.1**
SPN				*e*S	**Sn**	**07 38 02.8**	**-1.1**
SPN	**Mys Shipunski**	**0.73**	**353**	PN	**Pn**	**07 37 51.9**	**-2.1**
SPN				S	**Sn**	**07 38 02.8**	**-1.1**
NLC	**Nalytchevo**	**0.94**	**328**	*e*P	**Pn**	**07 37 55.9**	**-1.0**
NLC	**Nalytchevo**	**0.94**	**328**	PN	**Pn**	**07 37 55.9**	**-1.0**
RUS	**Russkaya**	**1.02**	**274**	*i* P	**Pn**	**07 37 55.9**	**-2.0**
RUS				*e*S	**Sn**	**07 38 09.4**	**-1.5**
RUS	**Russkaya**	**1.02**	**274**	PN	**Pn**	**07 37 55.9**	**-2.0**
RUS				S	**Sn**	**07 38 09.4**	**-1.5**
PET	**Petropavlovsk**	**1.13**	**306**	*i* P	**Pn**	**07 37 58.0**	**-1.5**
PET				*e*S	**Sn**	**07 38 13.1**	**-0.6**
PET	**Petropavlovsk**	**1.13**	**306**⇑	*i*PN	**Pn**	**07 37 57.9**	**-1.5**
PET				*e*S	**Sn**	**07 38 12.6**	**-1.1**
PET				pmax	pmax		
	comp=E,600nm,0.7s						
PET				pmax	pmax		
	comp=E,615nm,0.4s						
PET				smax	smax		
	comp=N,3μm,0.5s						
PET				smax	smax		
	comp=E,3μm,0.5s						
UGLR	**Uglovaya**	**1.17**	**316**	*i* P	**Pn**	**07 37 59.2**	**-0.9**
UGLR				*e*S	**Sn**	**07 38 15.3**	**+0.4**
SDLR	**Sedlovina**	**1.19**	**320**	*i* P	**Pn**	**07 37 59.2**	**-1.3**
SDLR				*e*S	**Sn**	**07 38 15.2**	**-0.3**
SDLR	**Sedlovina**	**1.19**	**320**	PN	**Pn**	**07 37 59.2**	**-1.3**
SDLR				S	**Sn**	**07 38 15.2**	**-0.3**
SMAR	**Somma**	**1.22**	**317**	*i* P	**Pn**	**07 38 00.2**	**-0.7**
SMAR				*e*S	**Sn**	**07 38 16.9**	**+0.7**
SMAR	**Somma**	**1.22**	**317**	PN	**Pn**	**07 38 00.2**	**-0.7**
SMAR				S	**Sn**	**07 38 16.9**	**+0.7**
MTVR	**Mutnovka**	**1.22**	**276**	*i* P	**Pn**	**07 37 59.4**	**-1.5**
MTVR				*i* S	**Sn**	**07 38 15.7**	**-0.5**
AVH	**Avacha**	**1.24**	**316**	*i* P	**Pn**	**07 38 00.4**	**-0.8**
AVH	**Avacha**	**1.24**	**316**	PN	**Pn**	**07 38 00.4**	**-0.8**
KRER	**Koryakskii**	**1.27**	**318**	*i* P	**Pn**	**07 38 00.9**	**-0.7**
KRER				*e*S	**Sn**	**07 38 17.5**	**0.0**
GRL	**Gorelyy**	**1.29**	**279**	*e*P	**Pn**	**07 38 01.8**	**-0.1**
GRL				*e*S	**Sn**	**07 38 19.6**	**+1.6**
GRL	**Gorelyy**	**1.29**	**279**	PN	**Pn**	**07 38 01.8**	**-0.1**
GRL				S	**Sn**	**07 38 19.6**	**+1.6**
KOK	**Koryaka**	**1.31**	**315**	*i* P	**Pn**	**07 38 01.1**	**-0.9**
KOK	**Koryaka**	**1.31**	**315**	PN	**Pn**	**07 38 01.1**	**-0.9**
KRX	**Arik**	**1.35**	**317**	*e*P	**Pn**	**07 38 01.9**	**-0.8**
KRX				*e*S	**Sn**	**07 38 20.0**	**+0.6**
ASAK	**Asacha**	**1.39**	**271**	*e*P	**Pn**	**07 38 02.2**	**-1.0**
ASAK				*e*S	**Sn**	**07 38 20.6**	**+0.3**
PETK	**Petropavlovsk-**	**1.67**	**297**	P	**Pn**	**07 38 06.5**	**-0.4**
	comp=E,39nm,0.3s,baz=110,slon=20,SNR=283						
PETK				S	**Sn**	**07 38 27.2**	**+0.1**
	comp=E,128nm,0.3s,baz=111,slow=20,SNR=22						
PETK				LR	LR	07 39 01.4	
	comp=E,261nm,18.9s,baz=68,slow=54						
PETK	**Petropavlovsk-**	**1.67**	**297**	PN	**Pn**	**07 38 06.6**	**-0.4**
PETK				S	**Sn**	**07 38 27.2**	**+0.1**
PETK				pmax	pmax		
	comp=E,39nm,0.3s						
PETK				smax	smax		
	comp=N,128nm,0.3s						
GNL	**Ganaly**	**1.89**	**315**	*i* P	Pn	07 38 01.0	-9.0
GNL				*e*S	**Sn**	**07 38 33.9**	**+1.3**
GNL	**Ganaly**	**1.89**	**315**	PN	**Pn**	**07 38 10.0**	**0.0**
GNL				S	**Sn**	**07 38 33.9**	**+1.3**
APC	**Apacha**	**1.92**	**288**	*e*P	**Pn**	**07 38 10.7**	**+0.4**
APC				*e*S	**Sn**	**07 38 36.3**	**+3.2**
APC	**Apacha**	**1.92**	**288**	PN	**Pn**	**07 38 10.7**	**+0.4**
APC				S	**Sn**	**07 38 36.3**	**+3.2**
MIPR	**Malaya Ipel'ka**	**2.10**	**269**	*i* P	**Pn**	**07 38 13.9**	**+1.1**
PAU	**Pauzhetka**	**2.27**	**248**	*e*P	**Pn**	**07 38 14.9**	**-0.3**
PAU	**Pauzhetka**	**2.27**	**248**	PN	**Pn**	**07 38 14.9**	**-0.3**
MKZ	**Mys Kozlova**	**2.37**	**23**	*i* P	**Pn**	**07 38 15.6**	**-1.0**
MKZ				*e*S	**Sn**	**07 38 43.8**	**-0.6**
MKZ	**Mys Kozlova**	**2.37**	**23**	PN	**Pn**	**07 38 15.6**	**-1.0**
MKZ				S	**Sn**	**07 38 43.8**	**-0.6**
KZV	**Kizimen**	**2.74**	**1**	*e*P	**Pn**	**07 38 22.5**	**+0.7**
KZV				*e*S	**Sn**	**07 38 55.2**	**+1.4**
TUMR	**Tumrok**	**2.91**	**360**	*e*P	**Pn**	**07 38 24.9**	**+0.8**
TUMR	**Tumrok**	**2.91**	**360**	PN	**Pn**	**07 38 24.9**	**+0.8**
SKR	**Severo-Kuril's**	**3.05**	**238**	*e*P	**Pn**	**07 38 24.8**	**-1.0**
SKR	**Severo-Kuril's**	**3.05**	**238**⇑	*e*PN	**Pn**	**07 38 25.6**	**-0.2**
SRDR	**Sredinnyy**	**3.96**	**356**	*e*P	**Pn**	**07 38 38.5**	**+0.1**
SRDR	**Sredinnyy**	**3.96**	**356**	PN	**Pn**	**07 38 38.5**	**+0.1**
KBTR	**Krutoberegovo**	**4.14**	**21**	*e*P	**Pn**	**07 38 41.2**	**+0.3**
KBTR	**Krutoberegovo**	**4.14**	**21**	PN	**Pn**	**07 38 41.2**	**+0.3**
BDR	**Baidarnaya**	**4.24**	**8**	*e*P	**Pn**	**07 38 45.0**	**+2.6**
SMKR	**Semkarok**	**4.28**	**10**	*e*P	**Pn**	**07 38 44.7**	**+1.8**
SMKR	**Semkarok**	**4.28**	**10**	PN	**Pn**	**07 38 44.7**	**+1.8**
SRKR	**Sorokina**	**4.33**	**7**	*e*P	**Pn**	**07 38 45.4**	**+1.9**
SRKR	**Sorokina**	**4.33**	**7**	PN	**Pn**	**07 38 45.4**	**+1.9**
BKI	**Bering**	**4.46**	**48**	*e*P	**Pn**	**07 38 44.3**	**-0.9**
BKI	**Bering**	**4.46**	**48**	PN	**Pn**	**07 38 44.3**	**-0.9**
MA2	**Magadan**	**8.93**	**328**	*i* PN	**Pn**	**07 39 44.5**	**-2.0**
KUR	**Kuril'sk**	**10.80**	**233**	*i* PN	**Pn**	**07 40 11.0**	**-1.2**
SEY	**Seymchan**	**11.36**	**342**	*i* PN	**Pn**	**07 40 21.5**	**+1.7**
YSS	**Yuzh-Sakhalins**	**12.51**	**251**	*i* PN	**Pn**	**07 40 37.2**	**+1.7**
ASAJ	**Asahikawa**	**14.30**	**242**	P	**Pn**	**07 40 59.4**	**-0.6**
	baz=90,slow=20						
ERM	**Erimo**	**15.49**	**235**	*i* P	**Pn**	**07 41 17.1**	**+1.4**
YAK	**Yakutsk**	**18.95**	**313**	*i* P	**P**	**07 41 56.9**	**-0.9**
YAK				pmax	pmax		
	comp=Z,13nm,0.6s						
MSHR	**Mys Shultsa**	**21.79**	**255**	*i* P	**P**	**07 42 28.8**	**+0.2**
MJA0	**Matsu Arr-Jizo**	**22.12**	**233**	*e*P	**P**	**07 42 35.4**	**+3.0**
MJA0				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MAJO	**Matsushiro**	**22.14**	**233**	*i* P	**P**	**07 42 34.9**	**+2.3**
MAJO				pmax	pmax		
	comp=Z,148nm,1.8s						
MJAR	**Matsushiro Arr**	**22.14**	**233**	P	**P**	**07 42 31.1**	**-1.5**
	comp=Z,3.3nm,0.6s,baz=22,slow=12,SNR=4.2						
MJAR	**Matsushiro Arr**	**22.14**	**233**	P	**P**	**07 42 31.1**	**-1.5**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
JHJ	**Hachijo jima 2**	**24.23**	**225**	P	**P**	**07 42 52.1**	**-1.3**
	comp=Z,97nm,0.5s,baz=82,slow=19,SNR=4.4						
ILAR	**Eielson Array**	**29.29**	**44**	P	**P**	**07 43 39.6**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=266,slow=7.9,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**33.00**	**168**	T	T	08 19 47.7	
	baz=352,slow=76,SNR=110						
H11N3	**WAKE ISLAND Hy**	**33.02**	**168**	T	T	08 19 49.7	
	baz=352,slow=76,SNR=54					

Ms4.4/39,Ms7 4.2/39
*JMA **30** 07:53:24.5±0.8, 46°.68N×153°.42E, h30km, M4.9*
*MOS **30** 07:53:26.3±1.2, 46°.73N×153°.17E, h36km, mb4.8/34, MS4.1/7, Error ellipse: s-maj=7.1km s-min=5.9km az=85.2*
*NEIC **30** 07:53:29.7±0.8, 46°.84N×153°.07E, h41km±6km, mb4.7/76, Error ellipse: s-maj=10.4km s-min=4.3km az=158.0*
ISC 30 07:53:27.8±0.4, **46.70N**±0°.04×**153.26E**±0°.03, **h31**km±1km, **n354**, σ1**s27**/355, **mb4.7**/128, **MS4.2**/29, **29C-11D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.04**	**251**	⇑*i*P	N	**Pn**	**07 54 28.7**	**+1.4**
KUR				*i* S	N	**Sn**	**07 55 17.0**	**+3.5**
KUR				pmax	pmax			
	comp=Z,286nm,0.5s							
KUR				pmax	pmax			
	comp=N,53nm,0.2s							
KUR				pmax	pmax			
	comp=E,37nm,0.5s							
KUR				smax	smax			
	comp=N,220nm,0.5s							
KUR				smax	smax			
	comp=E,83nm,0.3s							
KUR	**Kuril'sk**	**4.04**	**251**	⇑*i*P	N	**Pn**	**07 54 28.4**	**+1.1**
KUR				AMB	AMB		07 54 29.2	
	comp=E,90nm,0.8s							
KUR				AMB	AMB		07 54 29.2	
	comp=E,60nm,0.8s							
KUR				AMB	AMB		07 54 29.2	
	comp=E,300nm,0.8s							
KUR				AMB	AMB		07 54 30.6	
	comp=E,800nm,4.0s							
KUR				*i* S		**Sn**	**07 55 17.5**	**+4.0**
KUR				A	A		07 55 26.5	
	comp=E,110nm,0.4s							
KUR				A	A		07 55 29.5	
	comp=E,700nm,2.0s							
KUR				A	A		07 55 29.5	
	comp=E,1μm,2.0s							
KUR				AMS	AMS		07 56 00.0	
	comp=E,2μm,16.0s							
KUR				AMS	AMS		07 56 00.0	
	comp=E,1μm,16.0s							
KUR				AMS	AMS		07 56 00.0	
	comp=E,1μm,16.0s							
SKR	**Severo-Kuril's**	**4.41**	**24**	*e*PN		**Pn**	**07 54 34.8**	**+2.3**
SKR	**Severo-Kuril's**	**4.41**	**24**	*e*P		**Pn**	**07 54 30.6**	**-1.9**
SKR				AMB	AMB		07 54 31.5	
	comp=E,30nm,0.5s							
SKR				*e*S		**Sn**	**07 55 20.5**	**-2.2**
SKR				A	A		07 55 42.0	
	comp=E,2μm,3.0s							
SKR				A	A		07 55 42.0	
	comp=E,470nm,1.0s							
SKR				A	A		07 55 42.0	
	comp=E,220nm,1.0s							
SKR				AMS	AMS		07 56 36.0	
	comp=E,1μm,15.0s							
SKR				AMS	AMS		07 56 36.0	
	comp=E,3μm,15.0s							
SKR				AMS	AMS		07 56 36.0	
	comp=E,2μm,15.0s							
SHO	**Shikotan**	**5.35**	**240**	*e*P		**Pn**	**07 54 43.0**	**-2.3**
SHO				AMB	AMB		07 54 46.0	
	comp=E,600nm,0.2s							
SHO				*e*S		**Sn**	**07 55 40.9**	**-4.9**
SHO				A	A		07 55 41.0	
	comp=E,120nm,0.8s							
YUK	**Yuzh-Kuril'sk**	**5.85**	**246**	*i* PN		**Pn**	**07 54 52.3**	**0.0**
YUK				*i* S		**Sn**	**07 56 00.3**	**+2.0**
YUK				pmax	pmax			
	comp=Z,150nm,1.0s							
YUK	**Yuzh-Kuril'sk**	**5.85**	**246**	⇓*i*P		**Pn**	**07 54 52.3**	**0.0**
YUK				AMB	AMB		07 55 08.9	
	comp=Z,80nm,1.0s							
YUK				AMB	AMB		07 55 08.9	
	comp=Z,150nm,1.0s							
YUK				AMB	AMB		07 55 15.2	
	comp=Z,500nm,2.0s							
YUK				*i* S		**Sn**	**07 56 00.4**	**+2.1**
YUK				A	A		07 56 15.6	
	comp=Z,230nm,0.7s							
YUK				A	A		07 56 15.6	
	comp=Z,160nm,0.7s							
YUK				A	A		07 56 30.0	
	comp=Z,1μm,2.5s							
YUK				AMS	AMS		07 57 24.5	
	comp=Z,700nm,17.0s							
NEM2	**Nemuro 2**	**6.28**	**241**	P		**Pn**	**07 54 55.4**	**-2.8**
NEM2				*e*S		Sn	07 56 02.6	-6.2
JRA	**Rausu**	**6.37**	**247**	P		**Pn**	**07 54 59.7**	**+0.4**
JNK	**Nakash**	**6.79**	**246**	P		**Pn**	**07 55 04.9**	**-0.3**
PEB4	**Petropavlovsk-**	**7.01**	**22**	*e*Pn		**Pn**	**07 55 06.3**	**-1.8**
PEA3	**Petropavlovsk-**	**7.02**	**22**	*e*Pn		**Pn**	**07 55 09.3**	**+1.0**
PETK	**Petropavlovsk-**	**7.03**	**22**	Pn		**Pn**	**07 55 09.0**	**+0.6**
	comp=Z,1.3nm,0.3s,baz=172,slow=11,SNR=10.0							
PETK	**Petropavlovsk-**	**7.03**	**22**	PN		**Pn**	**07 55 09.0**	**+0.6**
PETK	**Petropavlovsk-**	**7.03**	**22**	Pn		**Pn**	**07 55 09.0**	**+0.6**
PEB5	**Petropavlovsk-**	**7.03**	**22**	*e*Pn		**Pn**	**07 55 08.7**	**+0.3**
PEA1	**Petropavlovsk-**	**7.03**	**22**	*e*Pn		**Pn**	**07 55 09.4**	**+1.0**
PES2	**Petropavlovsk-**	**7.03**	**23**	*e*Pn		**Pn**	**07 55 08.5**	**0.0**
PEB1	**Petropavlovsk-**	**7.04**	**22**	*e*Pn		**Pn**	**07 55 10.2**	**+1.6**
PEB2	**Petropavlovsk-**	**7.04**	**22**	*e*Pn		**Pn**	**07 55 08.5**	**-0.1**
JAK	**Akkeshi**	**7.12**	**242**	P		**Pn**	**07 55 07.1**	**-2.6**
JTKR	**Abashiri--Toko**	**7.13**	**251**	P		**Pn**	**07 55 10.5**	**+0.7**
YSS	**Yuzh-Sakhalins**	**7.21**	**276**	*e*PN		Pn	07 55 14.0	+3.1
YSS				pmax	pmax			
	comp=Z,80nm,1.2s							
YSS				MLR	MLR			
	comp=E,2μm,16.0s							
YSS				MLR	MLR			
	comp=Z,2μm,16.0s							
YSS	**Yuzh-Sakhalins**	**7.21**	**276**	*e*P		Pn	07 55 14.0	+3.1
YSS				AMB	AMB		07 55 16.6	
	comp=Z,80nm,1.2s							
YSS				*e*S		Sn	07 56 39.8	+8.1
YSS				A	A		07 57 17.0	
	comp=Z,40nm,0.9s							
YSS				AMS	AMS		07 57 55.0	
	comp=Z,2μm,16.0s							
YSS				AMS	AMS		07 57 55.0	
	comp=Z,2μm,16.0s							
YSS	**Yuzh-Sakhalins**	**7.21**	**276**	*e*PN		**Pn**	**07 55 12.6**	**+1.6**
PET	**Petropavlovsk**	**7.23**	**27**	*e*PN		**Pn**	**07 55 11.2**	**+0.1**
PET	**Petropavlovsk**	**7.23**	**27**	*e*P		**Pn**	**07 55 11.2**	**+0.1**
PET				AMS	AMS		07 58 56.0	
	comp=Z,600nm,18.0s							
PET	**Petropavlovsk**	**7.23**	**27**	*e*Pn		**Pn**	**07 55 11.2**	**+0.1**
JMP	**Maruseppu**	**7.48**	**252**	P		**Pn**	**07 55 15.8**	**+1.2**
JAR	**Ashorobuto**	**7.54**	**247**	P		**Pn**	**07 55 15.0**	**-0.4**
HRK	**Horoka**	**7.87**	**249**	*e*P		**Pn**	**07 55 20.5**	**+0.5**
UGL	**Uglegorsk**	**7.89**	**292**	*e*PN		**Pn**	**07 55 17.8**	**-2.5**
UGL				*e*SS		SS	07 56 59.0	
UGL	**Uglegorsk**	**7.89**	**292**	*e*P		Pn	07 55 24.5	+4.2
UGL				AMB	AMB		07 55 28.0	
	comp=Z,310nm,0.8s							
UGL				*e*S		Sn	07 56 56.0	+7.6
UGL				A	A		07 57 18.0	
	comp=Z,90nm,0.7s							
UGL				AMS	AMS		07 58 47.0	
	comp=Z,1μm,15.0s							
UGL				AMS	AMS		07 58 47.0	
	comp=Z,4μm,15.0s							
UGL				AMS	AMS		07 58 47.0	
	comp=Z,5μm,15.0s							
JKA	**Kamikawa-asahi**	**7.93**	**255**	*e*P		**Pn**	**07 55 22.9**	**+2.0**
JKK2	**Kamakawa 2**	**7.93**	**253**	P		**Pn**	**07 55 22.1**	**+1.2**
ASAJ	**Asahikawa**	**7.94**	**255**	P		**Pn**	**07 55 22.8**	**+1.9**
ASAJ	**Asahikawa**	**7.94**	**255**	Pn		**Pn**	**07 55 22.9**	**+2.0**
	baz=99,slow=6.7							
TYV	**Tymovskoe**	**8.15**	**305**	⇑*i*P		Pn	07 55 31.0	+7.2
TYV				AMB	AMB		07 55 36.1	
	comp=Z,30nm,0.8s							
TYV				*e*S		Sn	07 57 03.7	+9.0
TYV				A	A		07 57 30.2	
	comp=Z,40nm,1.0s							
TYV				AMS	AMS		07 58 33.0	
	comp=Z,6μm,13.0s							
TYV				AMS	AMS		07 58 33.0	
	comp=Z,3μm,13.0s							
JCH	**Churui**	**8.15**	**244**	*e*S		Sn	07 56 48.4	-6.4
ERM	**Erimo**	**8.62**	**241**	⇑*i*PN		**Pn**	**07 55 29.0**	**-1.2**
ERM				pmax	pmax			
	comp=Z,162nm,1.7s							

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ERM	**Erimo**	**8.62**	**241**	*e*P		**Pn**	**07 55 29.0**	**-1.2**
ERM	**Erimo**	**8.62**	**241**	*e*Pn		Pn	07 55 25.6	-4.6
JBT2	**Biratori 2**	**8.69**	**247**	P		**Pn**	**07 55 30.6**	**-0.6**
JNBK	**Urakawa-nobuka**	**8.71**	**243**	P		**Pn**	**07 55 29.0**	**-2.5**
JNB	**Noboribetsu**	**9.69**	**249**	P		**Pn**	**07 55 44.2**	**-0.7**
JKB	**Kayabe**	**10.00**	**246**	P		**Pn**	**07 55 46.6**	**-2.5**
JYM2	**Yakumo 2**	**10.29**	**248**	P		**Pn**	**07 55 51.8**	**-1.4**
NKL	**Nikolayevsk**	**10.36**	**313**	*e*P		Pn	07 55 59.0	+5.0
NKL				*e*S		Sn	07 57 56.3	+7.4
NKL				AMS	AMS		08 01 02.0	
	comp=Z,2μm,14.0s							
NKL				AMS	AMS		08 01 02.0	
	comp=Z,2μm,14.0s							
NKL				AMS	AMS		08 01 02.0	
	comp=Z,3μm,14.0s							
JANG	**Nango**	**10.61**	**238**	P		Pn	07 55 52.0	-5.5
JANG				*e*S		Sn	07 57 42.5	-13
JTM	**Tenmabayashi**	**10.61**	**241**	P		Pn	07 55 53.4	-4.1
JTH	**Tanohata**	**10.70**	**235**	P		Pn	07 55 53.4	-5.3
JTH				*e*S		Sn	07 57 45.0	-12
JRG	**Rokugo**	**11.76**	**236**	P		Pn	07 56 09.6	-3.7
GRNR	**Gornyy**	**11.84**	**296**	*e*P		Pn	07 56 21.2	+6.9
GRNR				AMB	AMB		07 56 22.1	
	comp=Z,40nm,1.0s							
JIO	**Ouri**	**12.03**	**231**	*e*S		Sn	07 58 14.4	-16
HABR	**Khabarovsk**	**12.43**	**285**	PN		**Pn**	**07 56 20.4**	**-1.9**
HABR				SS		Sn	07 58 51.3	+12
HABR				pmax	pmax			
	comp=Z,68nm,2.2s							
HABR				MLR	MLR			
	comp=Z,1μm,17.0s							
HABR	**Khabarovsk**	**12.43**	**285**	*e*P		**Pn**	**07 56 20.4**	**-1.9**
HABR				AMB	AMB		07 56 29.9	
	comp=Z,70nm,2.2s							
HABR				AMS	AMS		08 01 47.5	
	comp=Z,1μm,17.0s							
MA2	**Magadan**	**12.99**	**354**	*i* PN		**Pn**	**07 56 29.9**	**0.0**
MA2	**Magadan**	**12.99**	**354**	*e*P		**Pn**	**07 56 29.9**	**0.0**
EKMR	**Ekimchan**	**14.54**	**303**	*e*P		**P**	**07 56 57.5**	**+0.2**
EKMR				AMB	AMB		07 57 05.0	
	comp=Z,10.0nm,0.8s							
KLR	**Kul'dur**	**14.63**	**288**	*e*P		Pn	07 56 47.7	-4.6
MAJO	**Matsushiro**	**15.13**	**233**	*i* P		Pn	07 56 52.8	-6.3
MAJO	**Matsushiro**	**15.13**	**233**	*e*Pn		**Pn**	**07 56 57.6**	**-1.6**
	comp=Z,32nm,0.8s							
MAT	**Matsushiro**	**15.13**	**233**	P		Pn	07 56 53.7	-5.4
MAT				S		**Sn**	**07 59 51.2**	**+5.6**
MJAR	**Matsushiro Arr**	**15.13**	**233**	Pn		Pn	07 56 54.0	-5.1
	comp=Z,0.4nm,0.3s,baz=26,slow=10,SNR=13							
MJAR				LR	LR		08 04 12.4	
	comp=Z,243nm,18.1s,baz=55,slow=43							
USRK	**Ussuriysk Ar.**	**15.13**	**268**	Pn		**Pn**	**07 56 58.8**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=78,slow=12,SNR=22							
USRK				LR	LR		08 02 44.3	
	comp=Z,338nm,19.0s,baz=66,slow=37							
MSHR	**Mys Shultsa**	**16.25**	**263**	*i* P		**P**	**07 57 14.7**	**-1.6**
SEY	**Seymchan**	**16.28**	**359**	Pn		**Pn**	**07 57 12.9**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=169,slow=19,SNR=3.7							
SEY	**Seymchan**	**16.28**	**359**	*e*P		**P**	**07 57 16.4**	**-0.1**
MDJ	**Mudanjiang**	**16.67**	**271**	P		**Pn**	**07 57 19.3**	**+0.5**
MDJ				pP		**pP**	**07 57 30.0**	**+0.8**
MDJ				sP		**sP**	**07 57 33.0**	**-0.2**
MDJ				S		**Sn**	**08 00 19.8**	**-3.0**
MDJ				ScS		**ScS**	**08 09 20.0**	**+1.6**
MDJ				PMZ				
	comp=Z,29nm,1.0s							
MDJ				PMZ				
	comp=Z,130nm,6.2s							
MDJ				LN				
	comp=Z,260nm,13.1s							
MDJ				LE				
	comp=Z,98nm,10.8s							
MDJ				LZ				
	comp=Z,580nm,16.0s							
MDJ	**Mudanjiang**	**16.67**	**271**	*e*P		**Pn**	**07 57 19.4**	**+0.5**
	comp=Z,50nm,1.1s							
BMKR	**Bomnak**	**17.35**	**306**	*e*P		**P**	**07 57 31.7**	**+3.2**
YASR	**Yasnyy**	**17.48**	**301**	⇑*e*P		**P**	**07 57 30.0**	**+0.1**
YASR				AMB	AMB		07 57 35.3	
	comp=Z,10.0nm,0.8s							
ZEA	**Zeya**	**18.01**	**303**	*e*P		**P**	**07 57 36.7**	**+1.0**
ZEA				AMB	AMB		07 57 38.5	
	comp=Z,20nm,1.0s							
ZEA				AMB	AMB		07 57 43.0	
	comp=Z,200nm,7.0s							
ZEA				AMS	AMS		08 05 15.0	
	comp=Z,800nm,14.0s							
KROS	**Kirovskiy**	**18.33**	**305**	*e*P		**Pn**	**07 57 42.4**	**+3.1**
KROS				AMB	AMB		07 57 45.3	
	comp=Z,20nm,1.0s							
KROS				AMB	AMB		07 57 45.3	
	comp=Z,10.0nm,1.0s							
CN2	**Changchun**	**19.75**	**272**	*e*P		**P**	**07 57 54.8**	**-0.1**
CN2				*e*pP		**pP**	**07 58 00.5**	**-2.7**
CN2				*e*S		S	08 01 27.3	-8.4
CN2				PMZ				
	comp=Z,10.0nm,0.8s							
CN2				LN				
	comp=Z,500nm,17.0s							
CN2				LE				
	comp=Z,400nm,17.0s							
CN2				LZ				
	comp=Z,300nm,18.0s							
CLNS	**Chul'man**	**20.13**	**311**	*e*P		Pn	07 58 00.2	-0.8
CLNS				pmax	pmax			
	comp=Z,17nm,0.9s							
CLNS				pmax	pmax			
	comp=E,11nm,0.8s							
CLNS				pmax	pmax			
	comp=N,14nm,1.0s							
CLNS				MLR	MLR			
	comp=Z,494nm,15.0s							
CLNS				MLR	MLR			
	comp=E,829nm,15.0s							
CLNS				MLR	MLR			
	comp=N,1μm,14.0s							
YAK	**Yakutsk**	**20.42**	**327**	*e*P		**P**	**07 58 02.0**	**0.0**
YAK				*e*			07 58 20.1	
YAK				*e*S		**S**	**08 01 47.7**	**-1.0**
YAK				*e*SS		**SnSn**	**08 02 10.7**	**+3.0**
YAK				*e*			08 02 15.0	
YAK				*e*SSS		SSS	08 02 25.0	
YAK				*e*			08 09 31.9	
YAK				pmax	pmax			
	comp=Z,15nm,0.9s							
YAK				pmax	pmax			
	comp=Z,38nm,1.3s							
YAK				pmax	pmax			
	comp=N,51nm,1.6s							
YAK				pmax	pmax			
	comp=E,38nm,2.0s							
YAK				smax	smax			
	comp=N,213nm,3.1s							
YAK				smax	smax			
	comp=E,95nm,2.2s							
YAK				MLR	MLR			
	comp=Z,315nm,17.0s							
YAK				MLR	MLR			
	comp=N,424nm,15.0s							
YAK				MLR	MLR			
	comp=E,184nm,13.0s							
YAK	**Yakutsk**	**20.42**	**327**	*e*P		**P**	**07 58 02.0**	**0.0**
KSCHC	**Chuncheon** SNR=12	**20.77**	**254**	P		**P**	**07 58 06.3**	**+0.4**
KSRS	**Korea Array**	**20.88**	**253**	P		**P**	**07 58 07.3**	**+0.3**
	comp=E,20nm,1.0s,baz=57,slow=10,SNR=40							
KSRS				LR	LR		08 05 08.8	
	comp=E,161nm,21.8s,baz=66,slow=34							
KSRS	**Korea Array**	**20.88**	**253**	P		**P**	**07 58 07.4**	**+0.3**
KSRS				pmax	pmax			
	comp=Z,20nm,1.0s							
KSRS				MLR	MLR			
	comp=Z,161nm,21.8s							
KSAR	**Wonju Array Be**	**20.91**	**253**	P		**P**	**07 58 07.4**	**-0.1**
KSAR	**Wonju Array Be**	**20.91**	**253**	P		**P**	**07 58 07.3**	**-0.1**
KSCHJ	**Chungju** SNR=20	**21.18**	**251**	P		**P**	**07 58 11.6**	**+1.3**
YNCB	**YEONCHEON** SNR=9.7	**21.22**	**255**	P		**P**	**07 58 11.3**	**+0.5**
KSBON	**Boeun** SNR=24	**21.51**	**251**	P		**P**	**07 58 14.7**	**+0.8**
KSSWO	**Suwon** SNR=6.3	**21.61**	**254**	P		**P**	**07 58 15.8**	**+0.8**
KSCEA	**Cheonan** SNR=8.8	**21.68**	**252**	P		**P**	**07 58 16.8**	**+1.2**

Code	Station Name			Phase	ID	ISC	Time h m s	Res ISC
INCN	**Inchon**	**21.71**	**255**	*e*P		**P**	**07 58 16.8**	**+0.7**
INCN	**Inchon**	**21.71**	**255**	*e*P		**P**	**07 58 16.8**	**+0.7**
	comp=Z,42nm,0.8s							
SNY	**Shenyang**	**21.74**	**268**	⇑P		**P**	**07 58 16.5**	**+0.2**
SNY				PMZ				
	comp=Z,23nm,0.9s							
SNY				PMZ				
	comp=Z,230nm,7.1s							
SNY				LN				
	comp=Z,410nm,16.1s							
SNY				LE				
	comp=Z,250nm,17.5s							
SNY				LZ				
	comp=Z,440nm,14.7s							
JNU	**Nakatsue**	**21.78**	**239**	P		**P**	**07 58 13.5**	**-3.4**
	comp=Z,12nm,0.9s,baz=43,slow=8.3,SNR=4.2							
JNU				LR	LR		08 06 52.7	
	comp=Z,190nm,21.1s,baz=108,slow=37							
JNU	**Nakatsue**	**21.78**	**239**	*e*P		**P**	**07 58 15.7**	**-1.2**
	comp=Z,13nm,1.2s							
TJN	**Taejon**	**21.86**	**251**	*c i*P		**P**	**07 58 18.1**	**+0.4**
KSJEO	**Jeonju** SNR=12	**22.17**	**250**	P		**P**	**07 58 21.8**	**+0.8**
KSJEU	**Jeongeup** SNR=9.3	**22.68**	**250**	P		**P**	**07 58 26.4**	**0.0**
KSKWJ	**Gwangju** SNR=6.4	**22.84**	**249**	P		**P**	**07 58 28.2**	**0.0**
BOD	**Bodaibo**	**26.10**	**310**	*e*P		**P**	**07 58 56.5**	**-1.9**
BOD				pmax	pmax			
	comp=Z,8.0nm,1.9s							
BJI	**Beijing**	**27.58**	**270**	P		**P**	**07 59 12.0**	**+0.2**
BJI				S		**S**	**08 03 51.3**	**+0.2**
BJI				PMZ				
	comp=Z,12nm,1.2s							
BJI				PMZ				
	comp=Z,170nm,10.0s							
BJI				LN				
	comp=Z,190nm,18.2s							
BJI				LE				
	comp=Z,510nm,18.2s							
BJI				LZ				
	comp=Z,300nm,20.0s							
TIA	**Tai'an**	**28.81**	**262**	*e*P		**P**	**07 59 23.5**	**+0.6**
TIA				PMZ				
	comp=Z,10.0nm,1.4s							
H11N2	**WAKE ISLAND Hy**	**29.13**	**153**	T		T	08 31 02.2	
	baz=340,slow=76,SNR=174							
H11N1	**WAKE ISLAND Hy**	**29.14**	**153**	T		T	08 31 05.8	
	baz=340,slow=76,SNR=140							
H11N3	**WAKE ISLAND Hy**	**29.14**	**153**	T		T	08 31 03.6	
	baz=340,slow=76,SNR=113							
NJ2	**Nanjing**	**30.08**	**253**	*e*P		**P**	**07 59 34.0**	**-0.1**
NJ2				PMZ				
	comp=Z,60nm,0.8s							
H11S1	**WAKE ISLAND Hy**	**30.22**	**154**	T		T	08 32 18.0	
	baz=340,slow=76,SNR=164							
H11S3	**WAKE ISLAND Hy**	**30.23**	**154**	T		T	08 32 17.4	
	baz=340,slow=76,SNR=103							
H11S2	**WAKE ISLAND Hy**	**30.23**	**154**	T		T	08 32 18.6	
	baz=340,slow=76,SNR=110							
HHC	**Hu-ho-hao-te**	**30.40**	**274**	*e*P		**P**	**07 59 38.0**	**+1.0**
HHC				pP		**pP**	**07 59 48.5**	**+2.4**
HHC				PP		**PnPn**	**08 00 36.8**	**+0.9**
HHC				S		**S**	**08 04 34.0**	**-1.7**
HHC				sS		**sS**	**08 04 49.5**	**-1.2**
HHC				PMZ				
	comp=Z,36nm,0.8s							
HHC				PMZ				
	comp=Z,84nm,4.8s							
HHC				LN				
	comp=Z,250nm,14.1s							
HHC				LE				
	comp=Z,350nm,16.2s							
HHC				LZ				
	comp=Z,340nm,16.9s							
ULN	**Ulaanbaatar**	**31.01**	**289**	*e*P		**P**	**07 59 41.4**	**-1.0**
ULN				pmax	pmax			
	comp=Z,4.0nm,1.1s							
ULN	**Ulaanbaatar**	**31.01**	**289**	*e*P		**P**	**07 59 41.4**	**-1.0**
ULN	**Ulaanbaatar**	**31.01**	**289**	*e*P		**P**	**07 59 41.6**	**-0.8**
	comp=Z,9.2nm,1.0s							
SONM	**Songino Array**	**31.45**	**290**	P		**P**	**07 59 43.6**	**-2.6**
	comp=Z,1.5nm,0.9s,baz=70,slow=8.4,SNR=7.5							
SONM				PcP		**PcP**	**08 02 37.6**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=90,slow=1.4,SNR=4.1							
SONM				LR	LR		08 13 32.9	
	comp=Z,535nm,18.3s,baz=77,slow=38							
TLY	**Talaya**	**32.29**	**297**	LR		LR	08 13 52.9	
	comp=Z,379nm,19.5s,baz=6.5,slow=38							
TLY	**Talaya**	**32.29**	**297**	*i* P		**P**	**07 59 53.1**	**-0.4**
TLY				pmax	pmax			
	comp=Z,11nm,1.4s							
TLY	**Talaya**	**32.29**	**297**	*i* P		**P**	**07 59 53.1**	**-0.4**
TLY	**Talaya**	**32.29**	**297**	*e*P		**P**	**07 59 53.1**	**-0.4**
	comp=Z,3.1nm,0.8s							
KDAK	**Kodiak Island**	**34.06**	**51**	P		**P**	**08 00 06.3**	**-2.4**
	comp=Z,7.8nm,1.0s,baz=319,slow=11,SNR=2.7							
PPLA	**Purkeypile**	**34.14**	**42**	*e*P		**P**	**08 00 10.1**	**+0.5**
	comp=Z,2.4nm,1.3s							
BPAW	**Bear Paw Mtn.**	**34.73**	**40**	*e*P		**P**	**08 00 14.8**	**+0.2**
	comp=Z,11nm,1.3s							
TRF	**Thorofare Moun**	**35.02**	**41**	*e*P		**P**	**08 00 18.7**	**+1.5**
	comp=Z,69nm,2.3s							
BWN	**Browne**	**35.40**	**40**	*e*P		**P**	**08 00 19.9**	**-0.3**
	comp=Z,94nm,1.4s							
XAN	**Xi'an**	**35.61**	**265**	P		**P**	**08 00 22.3**	**-0.2**
XAN				pP		**pP**	**08 00 31.5**	**-0.2**
XAN				sP		**sP**	**08 00 35.5**	**0.0**
XAN				PP		**PnPn**	**08 01 41.5**	**-0.7**
XAN				S		**S**	**08 05 52.5**	**-4.1**
XAN				PMZ				
	comp=Z,10.0nm,1.2s							
XAN				PMZ				
	comp=Z,75nm,7.8s							
XAN				LN				
	comp=Z,140nm,14.1s							
XAN				LE				
	comp=Z,170nm,15.3s							
XAN				LZ				
	comp=Z,240nm,15.3s							
MCK	**McKinley**	**35.62**	**40**	*e*P		**P**	**08 00 22.8**	**+0.5**
MCK				pmax	pmax			
	comp=Z,9.0nm,1.2s							
MCK	**McKinley**	**35.62**	**40**	*e*P		**P**	**08 00 22.8**	**+0.5**
MCK	**McKinley**	**35.62**	**40**	*e*P		**P**	**08 00 22.8**	**+0.5**
	comp=Z,8.8nm,1.2s							
SML	**Sawmill**	**35.94**	**44**	*e*P		**P**	**08 00 24.0**	**-1.0**
SML				pmax	pmax			
	comp=Z,4.0nm,0.9s							
SML	**Sawmill**	**35.94**	**44**	*e*P		**P**	**08 00 24.0**	**-1.0**
	comp=Z,3.5nm,0.9s							
COLA	**College**	**36.11**	**38**	*i* P		**P**	**08 00 26.2**	**-0.2**
COLA				pmax	pmax			
	comp=Z,33nm,1.7s							
COLA	**College**	**36.11**	**38**	*e*P		**P**	**08 00 26.2**	**-0.2**
COLA	**College**	**36.11**	**38**	*e*P		**P**	**08 00 26.6**	**+0.3**
	comp=Z,10nm,1.1s

GTA PMZ
comp=Z,14nm,1.2s
GTA PMZ
comp=Z,64nm,5.5s
GTA LN
comp=Z,210nm,13.3s
GTA LE
comp=Z,240nm,13.8s
GTA LZ
comp=Z,230nm,13.8s
CD2 Chengdu 40.98 265 *e*P **P** **08 01 07.3 -0.4**
CD2 pP **pP** **08 01 16.3 -0.6**
CD2 PP **PP** **08 02 41.5 -0.9**
CD2 PcP **PcP** **08 03 08.0 +0.6**
CD2 PcS **PcS** **08 06 59.0 +0.5**
CD2 S **S** **08 07 16.5 -1.2**
CD2 SS **SS** **08 10 19.0 -1.0**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,180nm,5.2s
INK Inuvik 41.64 32 P **P** **08 01 12.6 0.0**
comp=Z,3.6nm,1.0s,baz=308,slow=6.1,SNR=5.4
GYA Guiyang 41.80 258⇑ *i*P **P** **08 01 14.5 -0.1**
GYA pP **pP** **08 01 24.5 +0.6**
GYA PP **PnPn** **08 02 54.3 -2.2**
GYA S **S** **08 07 30.0 -0.2**
GYA sS **sS** **08 07 44.8 -0.7**
GYA PMZ
comp=Z,40nm,1.0s
GYA PMZ
comp=Z,120nm,5.0s
GYA LN
comp=Z,490nm,17.6s
GYA LE
comp=Z,460nm,18.2s
GYA LZ
comp=Z,490nm,17.4s
ZALV Zalesovo Beam 42.72 306 P **P** **08 01 19.7 -1.9**
comp=Z,1.9nm,0.6s,baz=55,slow=7.8,SNR=6.0
ZALV PcP **PcP** **08 03 11.0 -1.7**
comp=Z,1.3nm,0.6s,baz=64,slow=3.4,SNR=5.9
ZALV LR LR 08 20 30.6
comp=Z,659nm,18.3s,baz=70,slow=38
WMQ Urumqi 45.04 291 P **P** **08 01 41.5 +1.1**
WMQ pP **pP** **08 01 50.8 +1.0**
WMQ sP **sP** **08 01 55.5 +2.0**
WMQ PMZ
comp=Z,7.0nm,0.8s
WMQ PMZ
comp=Z,93nm,4.3s
WMQ LN
comp=Z,410nm,17.5s
WMQ LE
comp=Z,390nm,15.0s
WMQ LZ
comp=Z,270nm,16.6s
KMI Kunming 45.33 260 P **P** **08 01 43.3 +0.2**
KMI pP **pP** **08 01 52.5 0.0**
KMI sP **sP** **08 01 55.8 -0.4**
KMI PP **PP** **08 03 28.0 -1.4**
KMI S **S** **08 08 21.0 -1.0**
KMI SS **ScS** **08 11 38.0 +0.3**
KMI PMZ
comp=Z,16nm,1.0s
KMI PMZ
comp=Z,130nm,5.7s
KMI LN
comp=Z,110nm,14.9s
KMI LE
comp=Z,54nm,13.2s
KMI LZ
comp=Z,110nm,15.9s
DLBC Dease Lake 45.56 46 P **P** **08 01 43.3 -1.1**
comp=Z,3.1nm,0.8s,baz=288,slow=8.4,SNR=3.7
DLBC Dease Lake 45.56 46 *e*P **P** **08 01 45.1 +0.7**
comp=Z,3.7nm,0.8s
MK31 Makanchi Array 47.06 297 *i* P **P** **08 01 55.7 -0.5**
MK31 pmax pmax
comp=Z,10.0nm,0.7s
MKAR Makanchi Array 47.06 297 P **P** **08 01 55.6 -0.6**
comp=Z,10nm,0.9s,baz=66,slow=7.9,SNR=76
MKAR PcP **PcP** **08 03 26.3 -1.6**
comp=Z,1.5nm,0.8s,baz=68,slow=5.3,SNR=2.5
MKAR LR LR 08 22 57.0
comp=Z,581nm,18.3s,baz=67,slow=38
SLVN Son La 47.13 255 *e*P **P** **08 01 58.0 +0.9**
comp=Z,5.0nm,0.8s
KURK Kurchatov 47.48 304 PcP **PcP** **08 03 28.9 -0.3**
KURBB Kurchatov Arra 47.57 304 PcP **PcP** **08 03 28.9 -0.6**
comp=Z,1.2nm,0.9s,baz=67,slow=5.1,SNR=3.2
NONG Nongkai 49.95 252 P **P** **08 02 19.5 +0.8**
comp=Z,35nm,1.1s
SKNT Sakolnakorn 50.20 251 P **P** **08 02 21.2 +0.6**
comp=Z,24nm,1.2s
JAY Jayapura 50.24 196 LR LR 08 22 55.1
comp=Z,31nm,19.0s,baz=54,slow=35
RES Resolute Bay 50.85 19 P **P** **08 02 24.9 0.0**
comp=Z,3.5nm,0.8s,baz=316,slow=11,SNR=4.5
RES Resolute Bay 50.85 19 P pmax pmax
comp=Z,4.0nm,0.8s
RES Resolute Bay 50.85 19 *e*P **P** **08 02 25.3 +0.5**
comp=Z,8.2nm,1.1s
YKA Yellowknife Ar 50.90 37 P **P** **08 02 24.3 -1.1**
comp=Z,4.3nm,0.7s,baz=300,slow=7.9,SNR=7.4
BVA0 Borovoye Array 50.97 310 *i* P **P** **08 02 24.2 -1.9**
BVA0 pmax pmax
comp=Z,8.0nm,0.8s
BVAR Borovoye Array 50.97 310 P **P** **08 02 25.2 -0.9**
comp=Z,2.8nm,0.6s,baz=71,slow=7.2,SNR=7.6
BVAR LR LR 08 26 16.5
comp=Z,308nm,18.1s,baz=69,slow=39
BRVK Borovoye 51.01 310*c i*P **P** **08 02 25.7 -0.6**
BRVK pmax pmax
comp=Z,11nm,0.9s
BRVK Borovoye 51.01 310 *e*P **P** **08 02 25.4 -1.0**
comp=Z,11nm,1.0s
CMAI Chiengmai2 51.35 258 P **P** **08 02 30.8 +1.3**
comp=Z,18nm,1.2s
UTTA Uttaradit 51.89 254 P **P** **08 02 34.2 +0.9**
comp=Z,7.0nm,0.9s
LAMP Lampang 51.95 256 P **P** **08 02 35.0 +1.2**
comp=Z,11nm,0.9s
CHTO Chiang Mai 52.21 257 P **P** **08 02 36.4 +0.7**
comp=Z,139nm,1.1s
CHTO Chiang Mai 52.21 257 *e*P **P** **08 02 36.6 +0.9**
CHTO pmax pmax
comp=Z,26nm,0.9s
CHTO Chiang Mai 52.21 257 *e*P **P** **08 02 36.6 +0.9**
CHTO Chiang Mai 52.21 257 *e*P **P** **08 02 36.5 +0.9**
comp=Z,26nm,0.9s
CM31 Chiang Mai Arr 52.46 257 *e*P **P** **08 02 38.6 +1.0**
comp=Z,3.3nm,0.3s
CMAR Chiang Mai Arr 52.46 257 P **P** **08 02 37.6 0.0**
comp=Z,7.6nm,0.7s,baz=36,slow=7.8,SNR=42
CMAR LR LR 08 25 34.4
comp=Z,68nm,18.4s,baz=48,slow=37
PBKT Sadao Pong 52.46 253 P **P** **08 02 38.4 +0.9**
comp=Z,12nm,1.3s
TKM2 Tokmak 2 53.11 296 *e*P **P** **08 02 42.5 +0.1**
TKM2 pmax pmax
comp=Z,4.0nm,0.9s
TKM2 Tokmak 2 53.11 296 *e*P **P** **08 02 42.5 +0.1**
comp=Z,4.4nm,0.9s
UMPA Umpang Tak 54.12 255 P P 08 02 53.1 +3.3
comp=Z,10nm,1.1s
UTHA Uthaitani 54.20 254 P **P** **08 02 52.5 +2.2**
TAPN Taplejung 54.20 273 *e*P **P** **08 02 51.6 +0.9**
EKS2 Erkin-Say 54.38 297 *e*P **P** **08 02 51.8 +0.2**
EKS2 pmax pmax
comp=Z,10.0nm,1.0s
EKS2 Erkin-Say 54.38 297 *e*P **P** **08 02 51.8 +0.2**
comp=Z,10nm,1.0s
ODAN Odare 54.73 273 *e*P **P** **08 02 54.9 +0.4**
KSH Kashi 54.77 293 P P 08 02 58.8 +4.4
KSH pP pP 08 03 08.0 +4.0
KSH PP **PP** **08 05 01.0 +4.0**
KSH S **S** **08 10 35.0 +2.0**
KSH sS sS 08 10 51.5 +2.8
KSH PMZ
comp=Z,130nm,3.6s
KSH LN
comp=Z,130nm,4.4s
KSH LE
comp=Z,97nm,4.5s
KSH LZ
comp=Z,930nm,19.0s
GUN Gumba 55.11 275 *e*P **P** **08 02 58.0 +0.7**
ARU Arti 55.12 318 P **P** **08 02 55.7 -0.8**
baz=310,slow=16
ARU Arti 55.12 318*c i*P **P** **08 02 55.5 -1.0**
ARU S **S** **08 10 36.8 -0.2**
ARU SS **SS** **08 14 20.3 -0.1**
ARU pmax pmax
comp=Z,15nm,1.7s
ARU Arti 55.12 318⇑ *i*P **P** **08 02 55.5 -1.0**
ARU Arti 55.12 318 *e*P **P** **08 02 55.7 -0.8**
comp=Z,7.1nm,0.8s
RAMN Ramite 55.22 274 *e*P **P** **08 02 58.6 +0.6**
comp=Z,52nm,0.9s
KKN Kakani 55.59 275 *e*P **P** **08 03 01.5 +0.9**
comp=Z,34nm,0.7s
PKI Pulchoki 55.64 275 *e*P **P** **08 03 01.8 +0.7**
PKIN Phulchoki 55.65 275 *e*P **P** **08 03 01.7 +0.6**
DMN Daman 55.83 275 *e*P **P** **08 03 03.4 +1.0**
comp=Z,53nm,0.9s
GKN Gorkha 55.90 276 *e*P **P** **08 03 03.7 +0.9**
KKAR Karatay Array 56.11 299 *e*P **P** **08 03 03.8 -0.2**
KKAR pmax pmax
comp=Z,5.0nm,0.9s
KKAR Karatay Array 56.11 299 *e*P **P** **08 03 03.8 -0.2**
comp=Z,5.5nm,0.9s
PMG Port Moresby 56.12 187 LR LR 08 23 39.8
comp=Z,52nm,19.7s,baz=54,slow=32
EDM Edmonton 56.28 46 *e*P **P** **08 03 04.6 -0.4**
EDM pmax pmax
comp=Z,13nm,0.9s
EDM Edmonton 56.28 46 *e*P **P** **08 03 04.6 -0.4**
comp=Z,13nm,0.9s
DANN Dangsing 56.28 277 *e*P **P** **08 03 06.7 +1.0**
KOLN Koldanda 56.76 277 *e*P **P** **08 03 10.0 +1.1**
comp=Z,37nm,1.0s
NEW Newport 57.12 53 P **P** **08 03 11.2 +0.1**
comp=Z,1.4nm,0.8s,baz=280,slow=6.1,SNR=4.5
NEW Newport 57.12 53 P **P** **08 03 11.2 +0.1**
NEW pmax pmax
comp=Z,1.0nm,0.8s
NEW Newport 57.12 53 *e*P P 08 03 13.6 +2.5
comp=Z,7.1nm,1.3s
PRGR Permogore 57.47 327 *e*P **P** **08 03 10.0 -3.2**
PRGR pmax pmax
comp=Z,17nm,0.8s
YBH Yreka Blue Hor 57.68 62 P **P** **08 03 15.1 0.0**
comp=Z,2.4nm,0.9s,baz=313,slow=6.0,SNR=4.1
ARCES ARCESS Array B 57.94 341 P **P** **08 03 15.5 -0.9**
comp=Z,3.2nm,0.9s,baz=47,slow=5.3,SNR=6.5
WALA Waterton Lakes 58.39 50 *e*P **P** **08 03 21.0 +1.0**
comp=Z,7.4nm,1.1s
AB31 Akbulak array 58.54 310 P **P** **08 03 20.1 -0.8**
AB31 pmax pmax
comp=Z,6.0nm,0.7s
ABKAR Akbulak array 58.54 310 *e*P **P** **08 03 20.3 -0.6**
comp=Z,4.3nm,0.6s
AKTO Aktyubinsk 58.84 312 P **P** **08 03 22.1 -0.8**
comp=Z,1.1nm,0.4s,baz=52,slow=10,SNR=5.2
MOD Modoc 59.03 60 *e*P P 08 03 27.2 +2.6
comp=Z,3.5nm,0.8s
SWMT Swartz Lake 59.27 52 *e*P P 08 03 28.6 +2.5
WVOR Wild Horse Val 59.70 59 *e*P **P** **08 03 30.2 +1.0**
WVOR pmax pmax
comp=Z,4.0nm,0.9s
WVOR Wild Horse Val 59.70 59 *e*P **P** **08 03 30.2 +1.0**
comp=Z,4.1nm,0.9s
SLMT Seeley Lake 59.71 52 *e*P **P** **08 03 28.4 -0.8**
comp=Z,12nm,1.3s
MSO Missoula 59.71 53 *e*P P 08 03 32.4 +3.2
comp=Z,89nm,2.8s
MFID Camas Ranch 60.74 57 *e*P P 08 03 39.0 +2.7
comp=Z,3.8nm,0.9s
HRY Holter Researc 60.93 52 *e*P P 08 03 40.6 +3.1
comp=Z,3.8nm,1.0s
LRM Limekiln Ridge 61.15 53 *e*P **P** **08 03 38.9 -0.3**
comp=Z,42nm,0.8s
EGMT Eagleton 61.22 49 *e*P **P** **08 03 41.4 +1.9**
comp=Z,26nm,1.5s
HLID Haley 61.45 56 *e*P **P** **08 03 43.2 +2.0**
comp=Z,4.9nm,1.4s
WAKR Walker 61.63 63 *e*P P 08 03 44.7 +2.2
comp=Z,5.4nm,1.2s
BOZ Bozeman (W) 61.70 53 *e*P **P** **08 03 43.0 +0.1**
BOZ pmax pmax
comp=Z,97nm,2.7s
BOZ Bozeman (W) 61.70 53 *e*P **P** **08 03 43.0 +0.1**
BOZ Bozeman (W) 61.70 53 *e*P **P** **08 03 43.0 +0.1**
comp=Z,97nm,2.7s
KBL Kabul 62.18 292 *e*P **P** **08 03 45.3 -1.0**
KBL pmax pmax
comp=Z,24nm,1.1s
KBL Kabul 62.18 292 *e*P **P** **08 03 45.3 -1.0**
comp=Z,24nm,1.1s
QLMT Earthquake Lak 62.33 53 *e*P **P** **08 03 46.9 -0.3**
comp=Z,1.2nm,1.0s
NVAR Mina Array Bea 62.37 62 P **P** **08 03 47.1 -0.4**
comp=Z,3.1nm,0.8s,baz=295,slow=6.7,SNR=17
GCMT Greycliff 62.68 51 *e*P **P** **08 03 49.9 +0.6**
comp=Z,3.2nm,1.1s
ELK Elko 62.74 59 *e*P **P** **08 03 51.3 +1.3**
ELK pmax pmax
comp=Z,2.0nm,0.9s
ELK Elko 62.74 59 *e*P **P** **08 03 51.3 +1.3**
comp=Z,2.0nm,0.9s
IMW Indian Meadow 63.20 54 *e*P **P** **08 03 53.9 +0.9**
comp=Z,4.2nm,1.1s
TPH Tonopah 63.25 62 *e*P **P** **08 03 55.5 +2.1**
TPH pmax pmax
comp=Z,7.0nm,1.2s
TPH Tonopah 63.25 62 *e*P **P** **08 03 55.5 +2.1**
comp=Z,7.0nm,1.2s
FXWY Fox Creek 63.31 54 *e*P P 08 03 56.5 +2.7
comp=Z,2.8nm,1.0s
MOOW Moose Ponds 63.40 54 *e*P P 08 03 56.9 +2.6
comp=Z,14nm,1.7s
TPAW Teton Pass 63.45 54 *e*P **P** **08 03 55.5 +0.9**
comp=Z,16nm,1.4s
LOHW Long Hollow 63.56 54 *e*P P 08 03 57.8 +2.4
comp=Z,17nm,1.6s
SNOW Snow King Moun 63.58 54 *e*P P 08 03 57.9 +2.4
comp=Z,9.0nm,1.3s
REDW Red Top Meadow 63.59 54 *e*P **P** **08 03 55.1 -0.4**
comp=Z,9.4nm,1.1s
R11A Troy Canyon, C 64.06 61 *e*P **P** **08 04 00.2 +1.5**
comp=Z,3.0nm,1.0s
FINES FINESS Array B 64.13 335 P **P** **08 03 58.2 -0.3**
comp=Z,12nm,0.8s,baz=57,slow=7.0,SNR=23
FINES LR LR 08 34 58.9
comp=Z,227nm,18.5s,baz=18,slow=39
HWUT Hardware Ranch 64.32 56 *e*P P 08 04 02.9 +2.6
comp=Z,3.8nm,1.1s
DUG Dugway 64.52 58 *e*P **P** **08 04 03.2 +1.6**
DUG pmax pmax
comp=Z,5.0nm,1.0s
DUG Dugway 64.52 58 *e*P **P** **08 04 03.1 +1.6**
comp=Z,5.2nm,1.0s
BW06 Boulder Array 64.69 54 *e*P **P** **08 04 04.2 +1.3**
comp=Z,2.9nm,0.8s
PDAR Pinedale Array 64.69 54 P **P** **08 04 02.5 -0.3**
comp=Z,3.0nm,0.8s,baz=328,slow=2.3,SNR=23
PDAR LR LR 08 28 38.7
comp=Z,41nm,21.9s,baz=359,slow=33
GSC Goldstone 65.29 64 *e*P **P** **08 04 08.3 +1.6**
GSC pmax pmax
comp=Z,4.0nm,1.0s
GSC Goldstone 65.29 64 *e*P **P** **08 04 08.2 +1.6**
comp=Z,4.3nm,1.0s
SHPR Sheep Range 65.52 62 *e*P P 08 04 10.8 +2.7
CCUT Cedar City 65.92 60 *e*P **P** **08 04 12.2 +1.4**
comp=Z,2.9nm,1.0s
LDFC Landfair 66.48 63 *e*P **P** **08 04 16.4 +2.0**
comp=Z,5.8nm,0.8s
ULM Lac du Bonnet 66.49 41 P **P** **08 04 12.8 -1.2**
comp=Z,1.6nm,0.5s,baz=311,slow=12,SNR=3.3
GEYT Alibeck 66.72 301 P **P** **08 04 15.7 0.0**
comp=Z,6.3nm,0.8s,baz=15,slow=1.7,SNR=6.4
GEYT LR LR 08 35 35.8
comp=Z,256nm,19.4s,baz=345,slow=38
RSSD Black Hills 66.78 50 *e*P **P** **08 04 16.0 -0.2**
RSSD pmax pmax
comp=Z,7.0nm,0.9s
RSSD Black Hills 66.78 50 *e*P **P** **08 04 16.0 -0.2**
comp=Z,7.1nm,0.9s
AGMN Agassiz Nation 67.90 42 *e*P **P** **08 04 22.3 -0.6**
comp=Z,8.2nm,1.2s
PV10 Paradox Valley 67.91 57 *e*P P 08 04 26.1 +2.5
comp=Z,185nm,0.8s
PV04 Paradox Valley 67.98 57 *e*P P 08 04 26.5 +2.6
NB2 NORSAR Subarra 68.31 341 P **P** **08 04 25.1 -0.3**
comp=Z,13nm,0.8s,baz=30,slow=6.5
NOA NORSAR Array B 68.31 341 P **P** **08 04 25.3 -0.1**
comp=Z,8.8nm,0.9s,baz=30,slow=6.7,SNR=16
NOA LR LR 08 39 11.6
comp=Z,118nm,18.3s,baz=40,slow=40
WRA Warramunga Arr 68.50 199 P **P** **08 04 24.4 -2.5**
comp=Z,5.7nm,0.9s,baz=18,slow=6.8,SNR=26
HFS Hagfors 68.54 340 P **P** **08 04 26.3 -0.4**
comp=Z,15nm,0.7s,baz=46,slow=4.9,SNR=25
SMCO Snowmass 68.55 55 *e*P **P** **08 04 28.9 +1.2**
comp=Z,3.1nm,0.8s
ISCO Idaho Springs 68.89 54 *e*P **P** **08 04 29.3 -0.4**
ISCO pmax pmax
comp=Z,11nm,1.6s
ISCO Idaho Springs 68.89 54 *e*P **P** **08 04 29.3 -0.4**
comp=Z,11nm,1.6s
MVCO Mesa Verde 69.02 58 *e*P P 08 04 33.2 +2.8
comp=Z,34nm,1.9s
ECSD EROS Data Cent 70.85 46 *e*P **P** **08 04 40.1 -1.2**
comp=Z,46nm,1.9s
KBZ Khabaz 70.97 314 P **P** **08 04 42.4 +0.4**
comp=Z,4.5nm,0.8s,baz=104,slow=4.5,SNR=8.5
KBZ LR LR 08 39 55.1
comp=Z,156nm,18.9s,baz=38,slow=39
KIEV Kiev 71.66 326 *e*P **P** **08 04 45.5 -0.5**
KIEV pmax pmax
comp=Z,22nm,1.0s
KIEV Kiev 71.66 326 *e*P **P** **08 04 45.5 -0.5**
comp=Z,22nm,1.0s
ANMO Albuquerque 71.78 58 LR LR 08 31 56.9
comp=Z,56nm,21.7s,baz=326,slow=32
ANMO Albuquerque 71.78 58⇓ *i*P **P** **08 04 46.6 -0.7**
ANMO pmax pmax
comp=Z,8.0nm,0.8s
ANMO Albuquerque 71.78 58 *e*P P 08 04 49.9 +2.6
comp=Z,2.4nm,1.0s
ASAR Alice Springs 72.19 199 P **P** **08 04 47.9 -1.6**
comp=Z,5.9nm,0.9s,baz=10,slow=5.4,SNR=48
GNI Garni 72.64 310 P **P** **08 04 52.2 -0.1**
comp=Z,3.6nm,0.4s,baz=347,slow=19,SNR=4.1
GNI Garni 72.64 310 *i* P **P** **08 04 53.0 +0.7**
GNI pmax pmax
comp=Z,20nm,1.6s
PALK Pallekele 72.79 262 P **P** **08 04 52.5 -0.9**
comp=Z,9.1nm,0.9s,baz=63,slow=3.2,SNR=3.2
LVV L'vov 74.29 329 *e*P **P** **08 05 01.5 -0.1**
KOLS Kolonicke sedl 75.66 329 *e*P **P** **08 05 09.6 0.0**
KOLS pmax pmax
comp=Z,25nm,1.7s
KOLS Kolonicke sedl 75.66 329 *e*P **P** **08 05 09.6 0.0**
BURAR Bucovina Array 75.69 327⇑ *i*P **P** **08 05 10.0 +0.1**
UZH Uzhgorod 75.91 329 *e*P **P** **08 05 11.0 +0.1**
UZH *e* 08 05 23.9
UZH Uzhgorod 75.91 329 *e*P **P** **08 05 11.0 +0.1**
TESR Tescani 76.05 325⇑ *i*P **P** **08 05 11.8 0.0**
TRPA Tarpa 76.25 328⇓ *i*P **P** **08 05 13.0 +0.1**
OKC Cestrava-Krasne 76.28 332 AMS AMS 08 42 20.0
comp=Z,100nm,15.8s
UPC Upice 76.37 334 *e*P **P** **08 05 15.1 +1.5**
UPC AMS AMS 08 43 20.0
comp=Z,200nm,16.3s
UPC Upice 76.37 334 *e*P **P** **08 05 15.1 +1.5**
UPC MLR MLR
comp=Z,200nm,16.3s
EKA Eskdalemuir Ar 76.41 346 P **P** **08 05 11.9 -1.8**
comp=Z,1.3nm,0.7s,baz=22,slow=4.6,SNR=2.9
DPC Dobruska-Polom 76.42 333 *e*P **P** **08 05 14.5 +0.6**
DPC *ex* x 08 05 19.4
DPC AMS AMS 08 43 20.0
comp=Z,200nm,20.6s
DPC Dobruska-Polom 76.42 333 *e*P **P** **08 05 14.5 +0.6**
DPC *e* 08 05 19.4
DPC MLR MLR
comp=Z,200nm,20.6s
MORC Moravsky Berou 76.53 332 *e*P **P** **08 05 14.5 -0.1**
MORC pmax pmax
comp=Z,25nm,0.9s
MORC Moravsky Berou 76.53 332⇑ *i*P **P** **08 05 14.3 -0.3**
MORC Moravsky Berou 76.53 332 *e*P **P** **08 05 14.5 -0.1**
comp=Z,25nm,0.9s
CFR Carcaliu 76.54 324⇓ *i*P **P** **08 05 14.6 0.0**
VRI Vrincioaia 76.55 325⇓ *i*P **P** **08 05 14.7 0.0**
CLL Collm 76.55 336 *e*P **P** **08 05 14.0 -0.6**
CLL pmax pmax
comp=Z,12nm,0.7s
CLL Collm 76.55 336 *e*P **P** **08 05 14.0 -0.6**
CLL Collm 76.55 336 *e*P **P** **08 05 14.0 -0.6**
comp=Z,12nm,0.7s
CLL Collm 76.55 336⇓ *i*P **P** **08 05 14.7 +0.1**
comp=Z,12nm,0.8s
CLL *e*pP **PcP** **08 05 27.0 +0.9**
CLL LmV 08 45 00.0
comp=Z,100nm,19.1s
BRG Berggiesshubel 76.67 335 *e*(P) **P** **08 05 14.2 -1.0**
comp=Z,4.5nm,1.0s
BRG Berggiesshubel 76.67 335 *e*P **P** **08 05 14.2 -1.0**
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG Berggiesshubel 76.67 335 *e*P **P** **08 05 14.2 -1.0**
PVCC Panska Ves 76.79 334 AMS AMS 08 42 40.0
comp=Z,200nm,16.1s
UOSS Wadi Hilu 76.85 292 *e*P **P** **08 05 17.0 +0.3**
comp=Z,12nm,0.9s
LPIG La Paz 77.05 69 LR LR 08 30 25.4
comp=Z,38nm,20.6s,baz=322,slow=29
MLR Muntele Rosu 77.17 325 P **P** **08 05 18.8 +0.5**
comp=Z,2.2nm,0.8s,baz=90,slow=1.0,SNR=7.9
MLR Muntele Rosu 77.17 325⇑ *i*P **P** **08 05 19.7 +1.4**
VYHS Vyhne 77.22 331 *e*P **P** **08 05 18.7 +0.3**
VYHS pmax pmax
comp=Z,2.0nm,0.8s
VYHS Vyhne 77.22 331 *e*P **P** **08 05 18.7 +0.3**
ISR Istrita 77.23 324⇑ *i*P **P** **08 05 19.8 +1.2**
VRAC Vranov 77.24 333 P **P** **08 05 17.6 -0.9**
comp=Z,6.1nm,0.8s,baz=7.8,slow=5.7,SNR=5.0
VRAC Vranov 77.24 333⇑ *i*P **P** **08 05 19.4 +0.9**
MALT Malatya 77.26 313⇑ *i*P **P** **08 05 20.6 +1.7**
GOPC GO Pecny, Ondr 77.27 334 AMS AMS 08 43 00.0
comp=Z,200nm,16.1s
PRU Pruhonice 77.28 334 *e*P **P** **08 05 19.4 +0.7**
PRU AMS AMS 08 42 50.0
comp=Z,200nm,20.6s
PRU Pruhonice 77.28 334 *e*P **P** **08 05 19.4 +0.7**
PRU MLR MLR
comp=Z,200nm,20.6s
PRU Pruhonice 77.28 334 *e*P **P** **08 05 19.4 +0.7**
PSZ Piszkesteto 77.36 330⇑ *i*P **P** **08 05 19.6 +0.3**
TXAR Lajitas Array 77.43 61 P **P** **08 05 19.0 -1.0**
comp=Z,6.2nm,0.7s,baz=300,slow=4.2,SNR=42
TXAR Lajitas Array 77.43 61 P **P** **08 05 19.0 -1.0**
TXAR Lajitas Array 77.43 61 *e*P **P** **08 05 19.0 -1.0**
MSAB Monastry St. A 77.56 323⇓ *i*P **P** **08 05 21.5 +1.2**
VOIR 77.56 325⇑ *i*P **P** **08 05 21.1 +0.6**
TREC Trest 77.60 333 AMS AMS 08 44 10.0
comp=Z,200nm,13.3s
ARR Arges 77.78 326⇓ *i*P **P** **08 05 23.2 +1.5**
KHC Kasperske Hory 78.33 334 *e*P **P** **08 05 25.0 +0.5**
KHC *ex* x 08 05 29.2
KHC AMS AMS 08 43 20.0
comp=Z,200nm,15.5s
KHC Kasperske Hory 78.33 334 *e*P **P** **08 05 25.1 +0.5**
KHC pmax pmax
comp=Z,3.0nm,0.9s
KHC Kasperske Hory 78.33 334 *e*P **P** **08 05 25.1 +0.5**
KHC Kasperske Hory 78.33 334 *e*P **P** **08 05 25.1 +0.5**
comp=Z,3.1nm,0.9s
BRTR Keskin Array B 78.50 317 P **P** **08 05 26.4 +0.5**
comp=Z,3.7nm,0.9s,baz=60,slow=3.3,SNR=16
BZS Buzias 78.71 328⇑ *i*P **P** **08 05 27.3 +0.6**
MEM Membach 79.03 339 P **P** **08 05 29.2 +0.9**
comp=Z,5.5nm,0.9s
MEM Membach 79.03 339 *e*P **P** **08 05 29.4 +1.1**
MEM pmax pmax
comp=Z,12nm,1.0s
MEM Membach 79.03 339 *e*P **P** **08 05 29.4 +1.1**
comp=Z,12nm,1.0s
PKSM Moragy 79.26 330⇑ *i*P **P** **08 05 29.4 -0.3**
KBA Koelnbreinsper 80.23 333⇑ *i*P **P** **08 05 35.8 +0.6**
comp=Z,22nm,1.1s
BFO Black Forest 80.54 337 *e*P **P** **08 05 36.7 0.0**
BFO pmax pmax

	comp=Z,9.0nm,1.0s							
BFO	**Black Forest**	**80.54**	**337**	*e*P		**P**	**08 05 36.6**	**0.0**
	comp=Z,9.1nm,1.0s							
WTTA	**Wattenberg**	**80.58**	**335**⇑	*i*P		**P**	**08 05 37.9**	**+0.8**
	comp=Z,23nm,1.3s							
DIVS	**Divibare**	**80.61**	**328**⇓	*i*P		**P**	**08 05 36.4**	**-0.8**
RETA	**Reutte**	**80.63**	**335**⇓	*i*P		**P**	**08 05 38.0**	**+0.8**
	comp=Z,9.9nm,1.0s							
MOTA	**Moosalm**	**80.66**	**335**⇑	*i*P		**P**	**08 05 38.2**	**+0.7**
	comp=Z,22nm,1.2s							
VTS	**Vitosha**	**80.67**	**325**⇑	*i*P		**P**	**08 05 37.8**	**+0.2**
FETA	**Feichten**	**81.06**	**335**⇓	*i*P		**P**	**08 05 40.5**	**+0.8**
	comp=Z,6.9nm,1.0s							
DAVA	**Damuels**	**81.07**	**336**⇓	*i*P		**P**	**08 05 39.6**	**0.0**
	comp=Z,8.8nm,1.1s							
FUORN	**Ofenpass-Fuorn**	**81.56**	**335**	*e*P		**P**	**08 05 43.9**	**+1.5**
	comp=Z,9.3nm,0.9s							
PPT	**Papeete**	**82.05**	**126**	LR		LR	08 38 20.6	
	comp=Z,97nm,18.0s,baz=306,slow=33							
ASF	**Jabal al Asfar**	**82.81**	**310**	P		**P**	**08 05 47.2**	**-1.8**
	comp=Z,2.4nm,0.7s,baz=354,slow=4.0,SNR=5.1							
MMAI	**Mount Meron Ar**	**82.92**	**312**	P		**P**	**08 05 48.4**	**-1.2**
	comp=Z,6.6nm,0.8s,baz=41,slow=7.7,SNR=6.0							
ESDC	**Sonseca Array**	**91.63**	**343**	P		**P**	**08 06 30.1**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=13,slow=4.0,SNR=6.0							
ESDC				LR		LR	08 56 00.3	
	comp=Z,50nm,18.2s,baz=165,slow=41							
TORD	**Torodi Ar. Bea**	**115.19**	**329**	PKP		**PKPdf**	**08 12 04.4**	**-1.8**
	comp=Z,0.2nm,0.6s,baz=24,slow=2.5,SNR=2.6							
CPUP	**Villa Florida**	**148.40**	**61**	PKPbc		**PKPbc**	**08 13 09.1**	**-1.8**
	comp=Z,2.0nm,0.6s,baz=322,slow=3.3,SNR=8.6							
SNAA	**Sanae**	**152.53**	**196**	PKPdf		**PKPbc**	**08 13 17.1**	**-2.4**

*KRSC **30** 07:55:58.0±1.2, 52.°27′N×160.°35′E, h23km±16km, ML4.1*
*ISCJB **30** 07:55:58.9±1.4, 52.°27′N±0.°06×160.°27′E±0.°06, h13km±13km, Error ellipse: s-maj=10.5km s-min=4.9km az=157.8*
*MOS **30** 07:56:01.6±1.5, 52.°34′N×160.°22′E, h42km, mb4.3/1, Error ellipse: s-maj=14.1km s-min=6.8km az=97.9*

ISC 30 07:55:57.6±1.6, 52.°23′N±0.°06×160.°24′E±0.°04, h10km±10km, n44, σ1°906/62, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.88**	**352**	*e*P	**Pg**	**07 56 14.7**	**+0.2**
SPN				*e*S	**Sg**	**07 56 26.4**	**+0.4**
SPN	**Mys Shipunski**	**0.88**	**352**	PN	**Pg**	**07 56 14.7**	**+0.2**
SPN				S	**Sg**	**07 56 26.4**	**+0.4**
RUS	**Russkaya**	**1.08**	**282**	*i* P	**Pb**	**07 56 18.4**	**+0.1**
RUS				*e*S	**Sb**	**07 56 32.7**	**+0.2**
RUS	**Russkaya**	**1.08**	**282**	PN	**Pb**	**07 56 18.4**	**+0.1**
RUS				S	**Sb**	**07 56 32.7**	**+0.2**
PET	**Petropavlovsk**	**1.25**	**310**	*e*P	**Pb**	**07 56 20.9**	**-0.4**
PET				*e*S	**Sg**	**07 56 37.3**	**-0.5**
PET	**Petropavlovsk**	**1.25**	**310**	*e*PN	**Pb**	**07 56 20.9**	**-0.4**
PET				*e*S	**Sb**	**07 56 36.0**	**-1.5**
PET				pmax	pmax		
	comp=Z,420nm,0.5s						
PET				smax	smax		
	comp=E,1μm,0.6s						
PET				smax	smax		
	comp=N,1μm,0.5s						
MTVR	**Mutnovka**	**1.28**	**282**	*e*P	**Pn**	**07 56 22.0**	**+0.2**
MTVR				*e*S	**Sg**	**07 56 38.8**	**-0.2**
UGLR	**Uglovaya**	**1.30**	**319**	*e*P	**Pn**	**07 56 22.2**	**+0.2**
UGLR				*e*S	**Sg**	**07 56 39.1**	**-0.5**
SDLR	**Sedlovina**	**1.33**	**322**	*i* P	**Pn**	**07 56 22.3**	**-0.1**
SDLR	**Sedlovina**	**1.33**	**322**	PN	**Pn**	**07 56 22.3**	**-0.1**
SMAR	**Somma**	**1.35**	**320**	*e*P	**Pn**	**07 56 22.9**	**+0.1**
SMAR	**Somma**	**1.35**	**320**	PN	**Pn**	**07 56 22.9**	**+0.1**
GRL	**Gorelyy**	**1.36**	**285**	*e*P	**Pb**	**07 56 24.1**	**+0.8**
GRL				*e*S	**Sg**	**07 56 42.4**	**+0.9**
GRL	**Gorelyy**	**1.36**	**285**	PN	**Pb**	**07 56 24.1**	**+0.8**
GRL				S	**Sg**	**07 56 42.4**	**+0.9**
AVH	**Avacha**	**1.38**	**319**	*e*P	**Pn**	**07 56 23.3**	**+0.3**
AVH				*e*S	**Sg**	**07 56 41.2**	**-0.8**
AVH	**Avacha**	**1.38**	**319**	PN	**Pn**	**07 56 23.3**	**+0.3**
AVH				S	**Sg**	**07 56 41.2**	**-0.8**
KRER	**Koryakskii**	**1.41**	**321**	*e*P	**Pn**	**07 56 24.0**	**+0.5**
KRER				*e*S	**Sg**	**07 56 42.3**	**-0.5**
KOK	**Koryaka**	**1.44**	**318**	*e*P	**Pn**	**07 56 24.3**	**+0.4**
KOK	**Koryaka**	**1.44**	**318**	PN	**Pn**	**07 56 24.3**	**+0.4**
ASAK	**Asacha**	**1.44**	**277**	*e*P	**Pn**	**07 56 24.8**	**+0.9**
ASAK				*e*S	**Sg**	**07 56 43.9**	**-0.1**
KRX	**Arik**	**1.49**	**320**	*i* P	**Pn**	**07 56 24.8**	**+0.2**
KRX				*e*S	**Sn**	**07 56 42.9**	**-1.2**
APC	**Apacha**	**2.00**	**292**	*e*P	**Pb**	**07 56 33.6**	**-0.5**
APC				*e*S	**Sb**	**07 56 58.7**	**-0.4**
APC	**Apacha**	**2.00**	**292**	PN	**Pb**	**07 56 33.6**	**-0.5**
APC				S	**Sb**	**07 56 58.7**	**-0.4**
GNL	**Ganaly**	**2.02**	**317**	*e*P	**Pn**	**07 56 33.1**	**+1.2**
GNL				*e*S	**Sn**	**07 56 57.8**	**+0.6**
GNL	**Ganaly**	**2.02**	**317**	PN	**Pn**	**07 56 33.1**	**+1.2**
GNL				S	**Sn**	**07 56 57.8**	**+0.6**
MKZ	**Mys Kozlova**	**2.50**	**20**	*e*P	**Pn**	**07 56 38.5**	**+0.2**
MKZ				*e*S	**Sn**	**07 57 07.2**	**-1.5**
MKZ	**Mys Kozlova**	**2.50**	**20**	PN	**Pn**	**07 56 38.5**	**+0.2**
MKZ				S	**Sn**	**07 57 07.2**	**-1.5**
KZV	**Kizimen**	**2.89**	**1**	*e*P	**Pn**	**07 56 45.5**	**+1.7**
SKR	**Severo-Kuril's**	**3.01**	**241**	PN	**Pb**	**07 56 51.5**	**+0.3**
TUMR	**Tumrok**	**3.06**	**359**	*e*P	**Pn**	**07 56 47.8**	**+1.7**
TUMR				*e*S	**Sn**	**07 57 23.8**	**+0.9**
TUMR	**Tumrok**	**3.06**	**359**	PN	**Pn**	**07 56 47.8**	**+1.7**
TUMR				S	**Sn**	**07 57 23.8**	**+0.9**
KMNR	**Kamenistaya**	**3.53**	**0**	*e*P	**Pn**	**07 56 55.7**	**+3.1**
KMNR	**Kamenistaya**	**3.53**	**0**	PN	**Pn**	**07 56 55.7**	**+3.1**
ESO	**Esso**	**3.81**	**347**	*e*P	**Pn**	**07 56 58.9**	**+2.5**
ESO	**Esso**	**3.81**	**347**	PN	**Pn**	**07 56 58.9**	**+2.5**
KBTR	**Krutoberegovo**	**4.26**	**20**	*e*P	**Pn**	**07 57 03.9**	**+1.3**
KBTR	**Krutoberegovo**	**4.26**	**20**	PN	**Pn**	**07 57 03.9**	**+1.3**
BDR	**Baidarnaya**	**4.38**	**7**	*e*P	Pn	07 57 07.8	+3.5
SMKR	**Semkarok**	**4.42**	**9**	*e*P	Pn	07 57 08.8	+4.0
SMKR	**Semkarok**	**4.42**	**9**	PN	Pn	07 57 08.8	+4.0
SRKR	**Sorokina**	**4.47**	**7**	*e*P	Pn	07 57 08.8	+3.4
SRKR	**Sorokina**	**4.47**	**7**	PN	Pn	07 57 08.8	+3.4
BKI	**Bering**	**4.53**	**47**	*e*P	**Pn**	**07 57 06.3**	**+0.2**
BKI	**Bering**	**4.53**	**47**	PN	**Pn**	**07 57 06.3**	**+0.2**

*ISCJB **30** 07:59:24.4±0.4, 6.°81N±0.°06×123.°8E±0.°2, h600km, mb3.9/15, Error ellipse: s-maj=20.4km s-min=7.4km az=173.8*
*IDC **30** 07:59:26.5±1.4, 6.°77N×123.°88E, h610km±20km, mb3.2/15, mb1 3.2/15, mb1mx3.0/58, mbtmp4.3/15, Error ellipse: s-maj=20.6km s-min=7.4km az=76.0*

ISC 30 07:59:25.8±0.7, 6.°78N±0.°08×123.°9E±0.°2, h600km, n21, σ0°985/25, mb3.7/15, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**26.67**	**39**	P	**P**	**08 04 18.2**	**-0.6**
	28nm,0.6s,baz=292,slow=19,SNR=2.3						
WRA	**Warramunga Arr**	**28.49**	**159**	P	**P**	**08 04 34.5**	**-0.1**
	4.7nm,0.5s,baz=331,slow=11,SNR=116						
WRA				S	**S**	**08 08 39.2**	**-2.4**
	0.5nm,0.7s,baz=346,slow=14,SNR=4.6						
WRA				ScP	**ScP**	**08 10 11.3**	**-0.4**
	1.0nm,0.6s,baz=342,slow=3.1,SNR=13						
KSRS	**Korea Array**	**30.75**	**6**	P	**P**	**08 04 54.1**	**+0.3**
	0.5nm,0.4s,baz=183,slow=10,SNR=2.8						
QIS	**Mount Isa**	**31.27**	**151**	P	**P**	**08 04 59.5**	**+0.9**
	baz=24,SNR=8.3						
ASAR	**Alice Springs**	**31.81**	**162**	P	**P**	**08 05 03.8**	**+0.7**
	5.8nm,0.3s,baz=341,slow=7.0,SNR=17						
ASAR				S	**S**	**08 09 31.9**	**-0.8**
	0.9nm,0.8s,baz=350,slow=20,SNR=6.3						
ASAR				ScP	**ScP**	**08 10 22.1**	**-0.7**
	0.5nm,0.5s,baz=349,slow=2.9,SNR=7.4						
WRKA	**Warakurna**	**31.92**	**172**	P	**P**	**08 05 04.6**	**+0.5**
	baz=24,SNR=15						
MJAR	**Matsushiro Arr**	**32.39**	**22**	P	**P**	**08 05 07.2**	**-0.6**
	0.7nm,0.4s,baz=191,slow=10,SNR=4.2						
MEEK	**Meekatharra**	**33.61**	**189**	P	**P**	**08 05 17.9**	**-0.3**
	baz=26,SNR=7.1						
MORW	**Morawa**	**36.43**	**192**	P	**P**	**08 05 41.2**	**-0.3**
	baz=29,SNR=4.2						
USRK	**Ussuriysk Ar.**	**37.94**	**10**	P	**P**	**08 05 53.9**	**+0.3**
	0.9nm,0.4s,baz=185,slow=7.6,SNR=4.1						
NWAO	**Narrogin (SRO)**	**39.99**	**189**	P	**P**	**08 06 10.1**	**-0.1**
	17nm,1.0s,baz=329,slow=7.2,SNR=4.3						
ASAJ	**Asahikawa**	**40.64**	**21**	P	**P**	**08 06 16.1**	**+0.9**
	2.6nm,0.3s,baz=243,slow=6.8,SNR=3.3						

BBOO	**Buckleboo**	**41.05**	**164**	P		**P**	**08 06 19.5**	**+0.9**
	baz=33,SNR=7.4							
STKA	**Stephens Creek**	**42.01**	**157**	P		**P**	**08 06 27.3**	**+1.2**
	3.2nm,0.4s,baz=350,slow=7.6,SNR=9.7							
HTT	**Hallett**	**42.47**	**161**	P		**P**	**08 06 31.2**	**+1.4**
	baz=34,SNR=3.6							
SONM	**Songino Array**	**43.54**	**343**	P		**P**	**08 06 37.8**	**-0.1**
	1.3nm,0.9s,baz=153,slow=7.6,SNR=5.3							
MKAR	**Makanchi Array**	**53.44**	**325**	P		**P**	**08 07 51.1**	**+0.1**
	2.1nm,0.3s,baz=120,slow=7.6,SNR=51							
ZALV	**Zalesovo Beam**	**56.59**	**334**	P		**P**	**08 08 11.7**	**-1.0**
	0.6nm,0.4s,baz=126,slow=7.3,SNR=2.8							
KURBB	**Kurchatov Arra**	**57.65**	**328**	P		**P**	**08 08 19.9**	**0.0**
	2.4nm,0.6s,baz=129,slow=6.3,SNR=23							
BVAR	**Borovoye Array**	**63.22**	**327**	P		**P**	**08 08 56.5**	**-0.1**
	0.3nm,0.3s,baz=142,slow=7.5,SNR=4.3							
ILAR	**Eielson Array**	**83.59**	**26**	P		**P**	**08 10 51.8**	**-0.1**
	0.1nm,0.4s,baz=255,slow=4.8,SNR=5.5							

IDC 30 08:02:13.2±2.0, 0.°65S×133.°35E, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.3/45, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=37.2km s-min=26.2km az=54.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.09**	**264**	Pn	Pn	08 02 50.5	+1.0
	14nm,0.3s,baz=139,slow=23,SNR=26						
SIJI				Sn	Sn	08 03 15.6	-0.7
	24nm,0.3s,baz=127,slow=20,SNR=21						
WRA	**Warramunga Arr**	**19.20**	**177**	P	P	08 06 37.8	-1.0
	0.1nm,0.3s,baz=356,slow=12,SNR=3.4						
ASAR	**Alice Springs**	**22.89**	**179**	P	P	08 07 19.4	+0.8
	0.7nm,0.7s,baz=359,slow=11,SNR=5.2						
MKAR	**Makanchi Array**	**64.94**	**324**	P	P	08 12 54.4	-0.3
	0.4nm,0.6s,baz=110,slow=7.8,SNR=5.0						

KRSC 30 08:32:51.3±1.0, 52.°32N×160.°38E, h17km±14km, ML4.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.81**	**345**	*e*P	Pg	08 33 07.2	+0.1
SPN				*e*S	Sn	08 33 18.7	-0.8
RUS	**Russkaya**	**1.15**	**276**	*e*P	Pn	08 33 12.1	-0.4
RUS				*e*S	Sb	08 33 26.2	-1.1
PET	**Petropavlovsk**	**1.26**	**304**	*e*P	Pn	08 33 14.0	-0.1
PET				*e*S	Sb	08 33 30.0	-0.6
UGLR	**Uglovaya**	**1.30**	**314**	*e*P	Pb	08 33 15.1	-0.3
UGLR				*e*S	Sb	08 33 32.3	+0.5
SDLR	**Sedlovina**	**1.32**	**317**	*e*P	Pn	08 33 15.2	+0.1
SMAR	**Somma**	**1.34**	**315**	*e*P	Pn	08 33 13.6	-2.0
MTVR	**Mutnovka**	**1.35**	**278**	*e*P	Pn	08 33 15.7	+0.1
MTVR				*e*S	Sn	08 33 32.7	-0.6
AVH	**Avacha**	**1.37**	**314**	*e*P	Pb	08 33 16.3	-0.3
KRER	**Koryakskii**	**1.40**	**316**	*e*P	Pb	08 33 16.9	-0.3
KOK	**Koryaka**	**1.44**	**313**	*e*P	Pn	08 33 17.2	+0.5
KRX	**Arik**	**1.48**	**315**	*e*P	Pn	08 33 17.7	+0.4
ASAK	**Asacha**	**1.52**	**273**	*e*P	Pb	08 33 18.5	-0.7
ASAK				*e*S	Sb	08 33 37.9	-0.3
GNL	**Ganaly**	**2.02**	**314**	*e*P	Pn	08 33 26.0	+1.4
GNL				*e*S	Sb	08 33 51.1	-1.4
APC	**Apacha**	**2.05**	**288**	*e*P	Pb	08 33 27.1	-1.0
APC				*e*S	Sb	08 33 53.1	-0.2
PAU	**Pauzhetka**	**2.37**	**250**	*e*P	Pb	08 33 31.7	-1.8
MKZ	**Mys Kozlova**	**2.38**	**19**	*e*P	Pb	08 33 31.7	-1.9
MKZ				*e*S	Sn	08 34 00.4	+2.2
KZV	**Kizimen**	**2.80**	**359**	*e*P	Pn	08 33 37.8	+2.4
TUMR	**Tumrok**	**2.97**	**357**	*e*P	Pn	08 33 40.6	+2.8
KBTR	**Krutoberegovo**	**4.15**	**19**	*e*P	Pn	08 33 57.2	+3.4

*SJA **30** 08:35:03.8±0.7, 35.°85S×74.°62W, h33km, ML3.7*
*GUC **30** 08:35:28.5±0.6, 35.°07S×72.°51W, h25km±11km, ML3.8*

ISC 30 08:35:25.7±3.9, 35.°06S±0.°05×72.°7W±0.°1, h3km±20km, n22, σ1°828/26, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U65B	**HualaæØ**	**0.73**	**83**	*e*P	**Pb**	**08 35 40.8**	**-0.2**
U65B				*e*S	**Sg**	**08 35 49.9**	**+0.7**
U65B				AML	AML	08 35 51.1	
	comp=E,5μm,0.1s						
TALC	**Talca**	**0.91**	**112**⇓	*e*P	**Pb**	**08 35 44.0**	**-0.2**
TALC				*e*S	**Sg**	**08 35 54.9**	**-0.2**
LNCH	**Linares**	**1.18**	**132**	*e*P	**Pb**	**08 35 48.1**	**-0.5**
LNCH				*e*S	**Sn**	**08 36 03.7**	**-1.8**
NICH	**Los Niches**	**1.19**	**88**⇑	*e*P	**Pb**	**08 35 48.4**	**-0.4**
NICH				*e*S	**Sg**	**08 36 03.3**	**-0.4**
LNV	**Longovilo**	**1.52**	**44**	*e*P	**Pn**	**08 35 54.1**	**+0.5**
CHCH	**Chadas Angostu**	**2.01**	**57**	*e*P	**Pn**	**08 36 01.9**	**+1.3**
LACH	**Col Las Americ**	**2.39**	**48**	*e*P	**Pn**	**08 36 07.8**	**+2.0**
CLCH	**Cerro Calan**	**2.43**	**47**	*e*P	**Pb**	**08 36 09.0**	**-1.0**
CLCH				*e*S	**Sb**	**08 36 41.0**	**+0.6**
CLCH				AML	AML	08 36 43.7	
	comp=N,995nm,0.6s						
PEL	**Peldehue**	**2.53**	**41**	*e*P	**Pb**	**08 36 10.4**	**-1.2**
PEL				*e*S	**Sb**	**08 36 43.4**	**+0.3**
PEL				AML	AML	08 36 50.4	
	comp=N,1μm,0.5s						
AAGR	**Agrelo**	**3.75**	**59**	*e*P	Pn	08 36 27.9	+3.4
AUSP	**Uspallata**	**3.94**	**45**	*e*P	Pn	08 36 29.9	+2.6
AUSP				*i* S	**Sg**	**08 37 33.8**	**+1.5**
ASAL	**Salagasta**	**4.03**	**53**	*e*P	Pn	08 36 31.4	+3.0
ASAL				*i* P	Pn	08 36 31.7	+3.3
ASAL				*i* S	**Sg**	**08 37 35.3**	**0.0**
RTLS	**Leoncito**	**4.31**	**42**	*e*P	Pn	08 36 34.9	+2.6
RTLS				*i* S	**Sg**	**08 37 41.3**	**-2.7**
RTCV	**Cerro Valdivia**	**4.70**	**48**	*e*P	**Pn**	**08 36 39.5**	**+1.9**
CFAA	**Coronel Fontan**	**5.07**	**48**	*e*P	**Pn**	**08 36 43.9**	**+1.3**
RTLL	**Cerro Villicun**	**5.12**	**45**	*e*P	**Pn**	**08 36 44.4**	**+1.1**
ACAN	**Cantantal**	**5.35**	**60**	*e*P	**Pn**	**08 36 47.9**	**+1.4**
AMOG	**MOGNA**	**5.41**	**42**	*e*P	**Pn**	**08 36 48.0**	**+0.7**
AVFE	**Valle Fertil**	**6.21**	**46**	*i* P	**Pn**	**08 36 58.0**	**-0.3**
AVFE				*i* S	Sb	08 38 21.7	-7.5
AVFE				AML	AML	08 38 24.9	
	comp=Z,7.3nm,0.8s						
ACHE	**Chepes**	**6.36**	**54**	*e*P	**Pn**	**08 36 60.0**	**-0.5**
MRA	**San Martin**	**6.37**	**68**	*e*P	Pn	08 37 03.3	+2.9
VCA	**Vinchina**	**7.36**	**32**	*e*P	**Pn**	**08 37 15.9**	**+1.8**

SKHL 30 08:57:45.3±0.6, 45.°00N×150.°33E, h25km±5km, mb4.2/3, msh4.5/3, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.76**	**278**⇑	*i*P	Pn	08 58 12.6	-1.5
KUR				AMB	AMB	08 58 12.9	
	10.0nm,0.2s						
KUR				AMB	AMB	08 58 12.9	
	50nm,0.2s						
KUR				AMB	AMB	08 58 14.1	
	200nm,2.5s						
KUR				*i* S	Sn	08 58 32.9	-2.8
KUR				A	A	08 58 34.6	
	410nm,0.5s						
KUR				A	A	08 58 34.6	
	300nm,0.5s						
KUR				A	A	08 58 34.9	
	700nm,3.0s						
KUR				A	A	08 58 34.9	
	400nm,3.0s						
SHO	**Shikotan**	**2.75**	**247**	*e*P	Pn	08 58 29.2	+1.4
SHO				AMB	AMB	08 58 31.4	
	130nm,1.3s						
SHO				*e*S	Sn	08 59 02.6	+2.4
SHO				A	A	08 59 08.0	
	120nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.34**	**255**	*i* P	Pn	08 58 38.5	+2.6
YUK				AMB	AMB	08 58 39.8	
	80nm,0.9s						
YUK				AMB	AMB	08 58 39.8	
	50nm,0.9s						
YUK				AMB	AMB	08 58 39.8	
	70nm,0.9s						
YUK				*i* S	Sn	08 59 18.1	+3.4
YUK				A	A	08 59 28.0	
	400nm,2.0s						
YUK				A	A	08 59 29.5	
	100nm,0.7s						
YUK				A	A	08 59 29.5	
	160nm,0.7s						

YSS	**Yuzh-Sakhalins**	**5.63**	**293**	*e*P		Pn	08 59 09.6	+2.3
MYR	**Moyori**	**5.78**	**245**	*e*P		Pn	08 59 09.4	-0.1

IDC 30 08:59:59.7±2.6, 54.°20N×87.°31E, h0km, mb1 3.5/3, mb1mx3.2/31, mbtmp3.5/3, ML3.1/3, 2D, Error ellipse: s-maj=24.4km s-min=14.5km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.49**	**261**	*i*		09 08 10.6	
	baz=78,slow=318,SNR=7.8						
ZALV	**Zalesovo Beam**	**1.49**	**261**	Pg	Pn	09 00 25.0	-2.6
	2.6nm,0.3s,baz=75,slow=16,SNR=19						
ZALV				Lg	Lg	09 00 47.9	
	1.7nm,0.3s,baz=78,slow=26,SNR=6.4						
KURBB	**Kurchatov Arra**	**6.45**	**240**	Pn	Pn	09 01 36.1	+0.2
	0.1nm,0.3s,baz=56,slow=14,SNR=37						
KURBB				Lg	Lg	09 03 22.1	
	0.0nm,0.3s,baz=58,slow=32,SNR=6.8						
MK31	**Makanchi Array**	**8.07**	**205**	⇓Pn	Pn	09 01 59.0	+0.8
	0.5nm,0.5s,baz=32,slow=14,SNR=5.7						
MK31				⇓Lg	Lg	09 03 29.9	
	0.6nm,0.6s,baz=33,slow=27,SNR=4.5						
MKAR	**Makanchi Array**	**8.07**	**205**	Pn	Pn	09 01 59.6	+1.5
	0.3nm,0.3s,baz=26,slow=13,SNR=9.1						
MKAR				Sn	Sn	09 03 29.6	-0.5
	0.2nm,0.3s,baz=27,slow=28,SNR=7.0						
MKAR				Lg	Lg	09 04 15.4	
	0.1nm,0.3s,baz=24,slow=32,SNR=3.0						
BVAR	**Borovoye Array**	**10.12**	**270**	Pn	Pn	09 02 25.5	-0.7
	0.4nm,0.3s,baz=80,slow=17,SNR=5.2						

SJA 30 09:00:35.3±1.2, 31.°60S×71.°72W, h33km, MD3.6, ML3.2, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**2.07**	**96**	*e*P	Pb	09 01 10.4	-2.2
RTLS				*i* S	Sb	09 01 37.5	-0.8
AUSP	**Uspallata**	**2.08**	**108**	*i* P	Pn	09 01 10.4	+2.2
AUSP				*i* S	Sb	09 01 37.2	-1.3
ASAL	**Salagasta**	**2.64**	**113**	*e*P	Pb	09 01 19.1	-3.0
RTCV	**Cerro Valdivia**	**2.72**	**96**	*e*P	Pb	09 01 20.2	-3.1
RTLL	**Cerro Villicun**	**2.78**	**85**	*i* P	Pn	09 01 20.3	+2.6
AMOG	**MOGNA**	**2.84**	**77**	*e*P	Pn	09 01 21.7	+3.3
CFAA	**Coronel Fontan**	**2.97**	**91**	*e*P	Pn	09 01 22.5	+2.3
CFAA				*i* P	Pb	09 01 22.7	-4.9
AGUA	**GUANDACOL**	**3.49**	**54**	*e*P	Pn	09 01 21.5	-5.9
AVFE	**Valle Fertil**	**3.77**	**77**	*i* P	Pn	09 01 33.4	+2.1
AVFE				*i* S	Sn	09 02 17.6	+3.0
AVFE				AML	AML	09 02 29.3	
	comp=Z,38nm,0.3s						
ACAN	**Cantantal**	**3.91**	**101**	*e*P	Pn	09 01 34.7	+1.6
VCA	**Vinchina**	**4.17**	**48**	*e*P	Pn	09 01 40.6	+3.8
ACHE	**Chepes**	**4.34**	**86**	*e*P	Pn	09 01 39.4	+0.2
ACLC	**CERRO LA CRUZ**	**4.64**	**63**	*e*P	Pn	09 01 45.5	+2.1
MRA	**San Martin**	**5.16**	**101**	*e*P	Pn	09 01 51.3	+0.9
CYA	**Choya**	**6.01**	**60**	*e*P	Pn	09 02 02.9	+0.8

KRSC 30 09:49:29.6±0.7, 52.°21N×160.°35E, h14km±5km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.91**	**348**	*e*P	Pb	09 49 46.9	-0.2
SPN				*e*S	Sb	09 49 59.3	+0.2
RUS	**Russkaya**	**1.15**	**282**	*i* P	Pb	09 49 50.2	-1.0
RUS				*e*S	Sb	09 50 05.2	-0.7
PET	**Petropavlovsk**	**1.31**	**309**	*e*P	Pn	09 49 53.0	-0.5
PET				*e*S	Sb	09 50 01.0	-1.0
MTVR	**Mutnovka**	**1.35**	**282**	*e*P	Pn	09 49 53.7	-0.6
MTVR				*e*S	Sn	09 50 11.1	-1.1
UGLR	**Uglovaya**	**1.36**	**318**	*e*P	Pn	09 49 54.3	0.0
SDLR	**Sedlovina**	**1.39**	**321**	*e*P	Pn	09 49 54.4	-0.3
SMAR	**Somma**	**1.41**	**319**	*e*P	Pn	09 49 54.6	-0.6
AVH	**Avacha**	**1.44**	**318**	*e*P	Pn	09 49 55.5	+0.2
AVH				*e*S	Sn	09 50 14.2	+0.1
KRER	**Koryakskii**	**1.46**	**319**	*e*P	Pn	09 49 56.1	+0.3
KRER				*e*S	Sn	09 50 15.1	+0.1
KOK	**Kory

KBS	**Kingsbay**	**2.65**	**18**	*e*Pn		**Pn**	09 59 17.9	**-0.8**
KBS	**Kingsbay**	**2.65**	**18**	*e*Pn		**Pn**	**09 59 17.9**	**-0.8**
KBS				*e*Sn		Sn	09 59 42.6	-8.1
BJO	**Bjornoya**	**3.50**	**118**	Pn		Pn	09 59 26.3	-4.0
BJO				Sn		Sn	10 00 02.8	-8.9
BJO	**Bjornoya**	**3.50**	**118**	*e*P		Pn	09 59 25.8	-4.6
BJO				*e*S		Sn	10 00 03.0	-8.7
BJO	**Bjornoya** SNR=62	**3.50**	**118**	*e*P		Pn	09 59 25.8	-4.6
BJO	**Bjornoya** SNR=62	**3.50**	**118**	Pn		Pn	09 59 26.3	-4.0
BJO				*e*S		Sn	10 00 03.0	-8.7
HOPEN	**Hopen**	**4.06**	**81**	Pn		**Pn**	**09 59 36.6**	**-1.5**
HOPEN	**Hopen**	**4.06**	**81**	*e*P		**Pn**	**09 59 36.2**	**-1.9**
HOPEN				*e*S		**Sn**	**10 00 21.5**	**-4.2**
HOPEN	**Hopen** SNR=59	**4.06**	**81**	*e*P		**Pn**	**09 59 36.2**	**-1.9**
HOPEN	**Hopen** SNR=59	**4.06**	**81**	Pn		**Pn**	**09 59 36.6**	**-1.5**
HOPEN				*e*S		**Sn**	**10 00 21.5**	**-4.2**
DAG	**Danmarks Havn**	**6.09**	**286**	*i* P		Pn	09 59 59.8	-6.1
DAG				*i* S		Sn	10 01 01.9	-14
JMIC	**Jan Mayen** comp=Z,659nm,21.2s,baz=51,slow=32	**7.10**	**228**	LR		LR	10 02 14.1	
TRO	**Tromso**	**7.58**	**149**	*e*P		Pn	10 00 21.3	-5.1
TRO	**Tromso** SNR=57	**7.58**	**149**	*e*P		Pn	10 00 21.3	-5.1
ARA0	**ARCESS Array S** baz=327,slow=12	**8.64**	**134**	Pn		Pn	10 00 35.6	-5.3
ARA0	baz=338,slow=22			Sn		Sn	10 02 04.7	-14
ARA0	**ARCESS Array S** baz=327,slow=12	**8.64**	**134**	Pn		Pn	10 00 35.6	-5.3
ARA0	baz=338,slow=22			Sn		Sn	10 02 04.7	-14
ARA0	**ARCESS Array S** baz=327,slow=12,SNR=126	**8.64**	**134**	Pn		Pn	10 00 35.6	-5.3
ARCES	**ARCESS Array B** comp=Z,0.6nm,0.3s,baz=330,slow=10,SNR=33	**8.64**	**134**	Pn		Pn	10 00 35.6	-5.3
ARCES	comp=Z,1.9nm,0.3s,baz=333,slow=21,SNR=6.5			Sn		Sn	10 02 05.3	-13
ARCES				LR		LR	10 03 59.4	
KEV	**Kevo** comp=Z,999nm,20.4s,baz=326,slow=37	**8.71**	**130**	*e*Pn		Pn	10 00 38.0	-3.9
KEV	**Kevo** comp=Z,10nm,0.7s	**8.71**	**130**	*e*Pn		Pn	10 00 38.0	-3.9
KEV				*e*Sn		**Sn**	**10 02 22.6**	**+2.7**
KTK1	**Kautokeino**	**8.75**	**141**	*e*P		Pn	10 00 38.9	-3.5
KTK1	**Kautokeino** SNR=57	**8.75**	**141**	*e*P		Pn	10 00 38.9	-3.5
APA0	**Apatity Array** baz=315,slow=10	**11.68**	**126**	Pn		Pn	10 01 17.6	-4.9
APA0	**Apatity Array** baz=315,slow=10	**11.68**	**126**	Pn		Pn	10 01 17.6	-4.9
APA0	**Apatity Array** baz=315,slow=9.4,SNR=8.7	**11.68**	**126**	Pn		Pn	10 01 17.6	-4.9
LVZ	**Lovozero** comp=Z,25nm,0.9s	**11.75**	**123**	*e*Pn		Pn	10 01 19.8	-3.7
LVZ	**Lovozero** comp=Z,25nm,0.9s	**11.75**	**123**	*e*Pn		Pn	10 01 19.8	-3.7
LVZ				*e*Sn		Sn	10 03 39.0	+4.5
BORG	**Borgarnes** comp=Z,462nm,20.5s,baz=23,slow=31	**14.92**	**234**	LR		LR	10 06 15.5	
NOA	**NORSAR Array B** comp=Z,0.1nm,0.3s,baz=356,slow=10,SNR=3.2	**15.54**	**174**	Pn		**Pn**	**10 02 11.4**	**-3.5**
NOA	comp=Z,328nm,18.8s,baz=355,slow=35			LR		LR	10 07 35.6	
FIA0	**FINESS Array S** baz=349,slow=14	**16.31**	**147**	P		**Pn**	**10 02 21.4**	**-3.4**
FIA0	**FINESS Array S** baz=349,slow=14	**16.31**	**147**	Pn		**Pn**	**10 02 21.4**	**-3.4**
FIA0	**FINESS Array S** baz=349,slow=13,SNR=9.3	**16.31**	**147**	P		**Pn**	**10 02 21.4**	**-3.4**
FINES	**FINESS Array B** comp=Z,0.3nm,0.3s,baz=342,slow=13,SNR=8.4	**16.31**	**147**	Pn		**Pn**	**10 02 20.5**	**-4.3**
FINES	comp=Z,650nm,19.4s,baz=350,slow=38			LR		LR	10 08 48.9	
HFS	**Hagfors** comp=Z,0.1nm,0.3s,baz=349,slow=15,SNR=5.4	**16.53**	**169**	Pn		**P**	**10 02 28.1**	**-2.2**
HFS	comp=Z,471nm,18.4s,baz=348,slow=35			LR		LR	10 08 07.8	
SFJD	**Kangerlussuaq** comp=Z,571nm,20.4s,baz=38,slow=35	**19.56**	**273**	LR		LR	10 09 46.5	
EKA	**Eskdalemuir Ar** comp=Z,2.2nm,0.9s,baz=358,slow=10,SNR=2.8	**21.59**	**197**	P		**P**	**10 03 25.9**	**+0.4**
RES	**Resolute Bay** comp=Z,3.8nm,1.0s,baz=44,slow=13,SNR=5.1	**22.59**	**318**	P		**P**	**10 03 36.9**	**+0.8**
RES	comp=Z,432nm,20.8s,baz=42,slow=36			LR		LR	10 12 11.9	
RES	**Resolute Bay** comp=Z,48nm,1.5s	**22.59**	**318**	*e*P		**P**	**10 03 34.8**	**-1.3**
MICGM	**Minsk**	**23.31**	**149**	*e*		**P**	**10 03 45.0**	**+1.4**
OBN	**Obninsk** comp=Z,513nm,19.5s,baz=287,slow=37	**23.94**	**137**	LR		LR	10 13 12.8	
CLL	**Collm** comp=Z,400nm,19.1s	**25.33**	**172**	*e*S		**S**	**10 08 33.0**	**+4.7**
CLL				Lm		MLR	10 13 00.0	
BRG	**Berggiesshubel** comp=Z,2.9nm,0.8s	**25.80**	**171**	*e*P		**P**	**10 04 02.7**	**-4.1**
BRG	comp=N,179nm,20.2s comp=E,111nm,14.5s comp=S,267nm,21.8s			S		**S**	**10 08 36.0**	**+0.3**
PVCC	**Panska Ves** comp=Z,300nm,15.4s	**26.17**	**170**	AMS		AMS	10 14 00.0	
UPC	**Upice** comp=Z,300nm,13.8s	**26.26**	**168**	AMS		AMS	10 14 10.0	
NKC	**Novy Kostel**	**26.39**	**173**	*e*P		**P**	**10 04 13.0**	**+0.8**
NKC				*ep*P		**pP**	**10 04 17.4**	**+2.2**
NKC	comp=Z,300nm,16.3s			AMS		AMS	10 14 10.0	
DPC	**Dobruska-Polom**	**26.43**	**167**	*e*P		**P**	**10 04 13.7**	**+1.1**
DPC	comp=Z,300nm,17.3s			AMS		AMS	10 14 10.0	
FRB	**Frobisher Bay** comp=Z,860nm,21.5s,baz=14,slow=36	**26.44**	**284**	LR		LR	10 14 23.1	
PRU	**Pruhonice**	**26.71**	**170**	*e*P		**P**	**10 04 14.8**	**-0.2**
PRU				*ep*P		pP	10 04 22.1	+4.1
PRU	comp=Z,200nm,16.9s			AMS		AMS	10 14 10.0	
KRLC	**Kraliky**	**26.73**	**167**	*e*P		**P**	**10 04 14.6**	**-0.7**
GOPC	**GO Pecny, Ondr**	**26.79**	**170**	*e*P		P	10 04 19.5	+3.7
GOPC	comp=Z,300nm,16.9s			AMS		AMS	10 14 30.0	
OKC	**Ostrava-Krasne** comp=Z,200nm,20.9s	**27.04**	**165**	AMS		AMS	10 14 20.0	
ARU	**Arti** comp=Z,296nm,19.3s,baz=317,slow=38	**27.04**	**109**	LR		LR	10 15 41.9	
ARU	**Arti** comp=Z,15nm,0.9s	**27.04**	**109**	*e*P		**P**	**10 04 19.2**	**+1.2**
TREC	**Trest** comp=Z,300nm,15.1s	**27.44**	**169**	AMS		AMS	10 15 00.0	
VRAC	**Vranov** comp=Z,191nm,21.0s,baz=354,slow=35	**27.48**	**167**	LR		LR	10 14 39.0	
KHC	**Kasperske Hory**	**27.53**	**172**	*e*P		**P**	**10 04 25.2**	**+2.7**
KHC				*ex*		x	10 04 31.9	
KHC	comp=Z,300nm,22.5s			AMS		AMS	10 14 40.0	
GERES	**GERESS Array B** comp=Z,0.6nm,0.7s,baz=11,slow=6.2,SNR=4.9	**27.82**	**171**	P		**P**	**10 04 24.9**	**-0.3**
GERES	comp=Z,276nm,18.2s,baz=354,slow=37			LR		LR	10 15 32.2	
DAVOX	**Davos/Dischmat** comp=Z,106nm,18.6s,baz=89,slow=40	**29.79**	**177**	LR		LR	10 18 18.3	
AKTO	**Aktyubinsk** comp=Z,1.2nm,0.7s,baz=325,slow=6.1,SNR=5.4	**32.51**	**114**	P		**P**	**10 05 05.5**	**-0.9**
BVAR	**Borovoye Array** comp=Z,1.5nm,0.7s,baz=343,slow=9.3,SNR=4.9	**32.88**	**99**	P		**P**	**10 05 09.9**	**+0.2**
BVAR	comp=Z,465nm,18.8s,baz=354,slow=42			LR		LR	10 21 43.7	
INK	**Inuvik** comp=Z,3.6nm,1.0s,baz=16,slow=9.1,SNR=5.2	**33.50**	**335**	P		**P**	**10 05 14.0**	**-0.9**
INK	**Inuvik**	**33.50**	**335**	*e*P		**P**	**10 05 15.2**	**+0.3**
INK	**Inuvik**	**33.50**	**335**	*e*P		**P**	**10 05 15.2**	**+0.3**
SCHQ	**Schefferville** comp=Z,311nm,21.5s,baz=28,slow=34	**33.99**	**274**	LR		LR	10 18 03.0	
ABKAR	**Akbulak array** comp=Z,0.4nm,0.2s	**34.04**	**112**	*e*P		**P**	**10 05 20.4**	**+0.6**
ZALV	**Zalesovo Beam** comp=Z,0.7nm,0.5s,baz=342,slow=9.1,SNR=5.1	**35.43**	**84**	P		**P**	**10 05 33.1**	**+1.5**
ZALV	comp=Z,232nm,18.1s,baz=248,slow=43			LR		LR	10 24 09.8	
KBZ	**Khabaz** comp=Z,1.6nm,0.6s,baz=59,slow=3.6,SNR=5.0	**36.00**	**135**	P		**P**	**10 05 36.4**	**-0.4**
KBZ	comp=Z,351nm,19.0s,baz=0.5,slow=37			LR		LR	10 20 52.8	
YKA	**Yellowknife Ar** comp=Z,1.2nm,0.8s,baz=12,slow=9.5,SNR=3.5	**36.65**	**319**	P		**P**	**10 05 41.5**	**-0.5**
KURK	**Kurchatov**	**36.96**	**92**	P		**P**	**10 05 47.2**	**+2.4**
KURBB	**Kurchatov Arra** comp=Z,1.0nm,0.3s,baz=332,slow=7.5,SNR=6.7	**37.02**	**92**	P		**P**	**10 05 47.2**	**+1.8**
ESDC	**Sonseca Array** comp=Z,0.5nm,0.5s,baz=20,slow=8.4,SNR=3.9	**37.24**	**195**	P		**P**	**10 05 46.7**	**-0.7**
EGAK	**Eagle** comp=Z,39nm,1.9s	**37.66**	**339**	*e*P		**P**	**10 05 51.4**	**+0.8**
EGAK	**Eagle** comp=Z,39nm,1.9s	**37.66**	**339**	*e*P		**P**	**10 05 51.4**	**+0.8**
ILAR	**Eielson Array** comp=Z,1.6nm,0.9s,baz=6.5,slow=5.9,SNR=18	**38.11**	**343**	P		**P**	**10 05 55.5**	**+1.0**
BRTR	**Keskin Array B** comp=Z,0.6nm,0.7s,baz=344,slow=9.3,SNR=3.5	**38.55**	**147**	P		**P**	**10 05 58.5**	**0.0**
BRTR	comp=Z,135nm,20.8s,baz=350,slow=39			LR		LR	10 23 26.4	
SML	**Sawmill** comp=Z,8.7nm,1.6s	**41.15**	**343**	*e*P		**P**	**10 06 22.2**	**+2.4**
SML	**Sawmill** comp=Z,8.7nm,1.6s	**41.15**	**343**	*e*P		**P**	**10 06 22.2**	**+2.4**
HYT	**Haines Junctio** comp=Z,9.2nm,1.5s	**41.20**	**335**	*e*P		**P**	**10 06 18.4**	**-1.9**
MK31	**Makanchi Array** comp=Z,11nm,1.3s,baz=17,slow=4.3,SNR=4.6	**41.49**	**91**	Pn		**P**	**10 06 25.0**	**+2.2**
MK31	comp=Z,2.4nm,0.7s,baz=328,slow=25,SNR=5.0			⇓Lg		Lg	10 08 12.2	
MKAR	**Makanchi Array** comp=Z,0.6nm,0.5s,baz=341,slow=6.9,SNR=4.9	**41.49**	**91**	P		**P**	**10 06 24.9**	**+2.1**
MKAR	comp=Z,450nm,20.2s,baz=338,slow=41			LR		LR	10 26 56.0	
GEYT	**Alibeck** comp=Z,1.2nm,0.3s,baz=312,slow=8.8,SNR=2.9	**44.47**	**120**	P		**P**	**10 06 49.0**	**+2.0**
GEYT	comp=Z,601nm,19.0s,baz=320,slow=39			LR		LR	10 27 42.5	
ULM	**Lac du Bonnet** comp=Z,673nm,18.3s,baz=357,slow=37	**44.79**	**298**	LR		LR	10 26 10.0	
SONM	**Songino Array** comp=Z,0.4nm,0.4s,baz=327,slow=6.9,SNR=4.3	**46.05**	**68**	P		**P**	**10 07 00.8**	**+1.3**
SONM	comp=Z,130nm,19.0s,baz=313,slow=41			LR		LR	10 30 00.6	
PETK	**Petropavlovsk-** comp=Z,39nm,18.6s,baz=342,slow=37	**49.29**	**23**	LR		LR	10 29 04.5	
BSMT	**Bassoo Peak** comp=Z,3.5nm,1.0s	**50.72**	**313**	*e*P		**P**	**10 07 36.3**	**+0.7**
BSMT	**Bassoo Peak** comp=Z,3.5nm,1.0s	**50.72**	**313**	*e*P		**P**	**10 07 36.3**	**+0.7**
SWMT	**Swartz Lake** comp=Z,1.4nm,0.7s	**50.91**	**312**	*e*P		**P**	**10 07 36.4**	**-0.5**
SWMT	**Swartz Lake** comp=Z,1.4nm,0.7s	**50.91**	**312**	*e*P		**P**	**10 07 36.4**	**-0.5**
SLMT	**Seeley Lake** comp=Z,7.4nm,1.3s	**51.08**	**311**	*e*P		**P**	**10 07 38.4**	**+0.1**
SLMT	**Seeley Lake** comp=Z,7.4nm,1.3s	**51.08**	**311**	*e*P		**P**	**10 07 38.4**	**+0.1**
ECSD	**EROS Data Cent** comp=Z,6.8nm,0.9s	**51.15**	**296**	*e*P		**P**	**10 07 38.6**	**0.0**
ECSD	**EROS Data Cent** comp=Z,6.8nm,0.9s	**51.15**	**296**	*e*P		**P**	**10 07 38.6**	**0.0**
GCMT	**Greycliff** comp=Z,1.6nm,0.5s	**51.79**	**308**	*e*P		**P**	**10 07 44.4**	**+0.9**
GCMT	**Greycliff** comp=Z,1.6nm,0.5s	**51.79**	**308**	*e*P		**P**	**10 07 44.4**	**+0.9**
LRM	**Limekiln Ridge** comp=Z,23nm,0.9s	**52.27**	**310**	*e*P		**P**	**10 07 48.1**	**+0.9**
LRM	**Limekiln Ridge** comp=Z,23nm,0.9s	**52.27**	**310**	*e*P		**P**	**10 07 48.1**	**+0.9**
IMW	**Indian Meadow** comp=Z,5.1nm,0.9s	**53.85**	**308**	*e*P		**P**	**10 07 59.3**	**+0.3**
IMW	**Indian Meadow** comp=Z,5.1nm,0.9s	**53.85**	**308**	*e*P		**P**	**10 07 59.3**	**+0.3**
K22A	**Casper** comp=Z,2.9nm,0.9s	**54.21**	**304**	*e*P		**P**	**10 08 00.9**	**-0.6**
K22A	**Casper** comp=Z,2.9nm,0.9s	**54.21**	**304**	*e*P		**P**	**10 08 00.9**	**-0.6**
TPAW	**Teton Pass** comp=Z,2.3nm,0.8s	**54.25**	**308**	*e*P		**P**	**10 08 01.9**	**0.0**
TPAW	**Teton Pass** comp=Z,2.3nm,0.8s	**54.25**	**308**	*e*P		**P**	**10 08 01.9**	**0.0**
USRK	**Ussuriysk Ar.** comp=Z,110nm,19.3s,baz=325,slow=38	**54.58**	**47**	LR		LR	10 33 19.2	
PDAR	**Pinedale Array** comp=Z,1.0nm,1.0s,baz=33,slow=5.7,SNR=6.8	**54.68**	**307**	P		**P**	**10 08 04.3**	**-0.8**
PDAR	comp=Z,434nm,18.5s,baz=16,slow=37			LR		LR	10 31 55.4	
O20A	**White River Ci** comp=Z,16nm,1.0s	**56.98**	**305**	*e*P		**P**	**10 08 21.5**	**+0.1**
O20A	**White River Ci** comp=Z,16nm,1.0s	**56.98**	**305**	*e*P		**P**	**10 08 21.5**	**+0.1**
PV01	**Paradox Valley** comp=Z,473nm,0.9s	**58.97**	**304**	*e*P		**P**	**10 08 35.5**	**0.0**
PV01	**Padox Valley** comp=Z,473nm,0.9s	**58.97**	**304**	*e*P		**P**	**10 08 35.5**	**0.0**
MSU	**Marysvale** comp=Z,2.7nm,0.9s	**59.30**	**308**	*e*P		**P**	**10 08 38.5**	**+0.8**
MSU	**Marysvale** comp=Z,2.7nm,0.9s	**59.30**	**308**	*e*P		**P**	**10 08 38.5**	**+0.8**
R11A	**Troy Canyon, C** comp=Z,2.1nm,1.0s	**60.08**	**311**	*e*P		**P**	**10 08 43.4**	**+0.4**
R11A	**Troy Canyon, C** comp=Z,2.1nm,1.0s	**60.08**	**311**	*e*P		**P**	**10 08 43.4**	**+0.4**
WMOK	**Wichita Mounta** comp=Z,8.7nm,1.4s	**60.25**	**295**	*e*P		**P**	**10 08 44.0**	**-0.1**
WMOK	**Wichita Mounta** comp=Z,8.7nm,1.4s	**60.25**	**295**	*e*P		**P**	**10 08 44.0**	**-0.1**
KSRS	**Korea Array** comp=Z,70nm,18.4s,baz=333,slow=38	**60.40**	**52**	LR		LR	10 36 46.4	
NVAR	**Mina Array Bea** comp=Z,0.4nm,0.7s,baz=38,slow=6.2,SNR=4.2	**60.47**	**313**	P		**P**	**10 08 45.7**	**-0.1**
MJAR	**Matsushiro Arr** comp=Z,0.9nm,0.7s,baz=346,slow=9.4,SNR=3.1	**63.08**	**43**	P		**P**	**10 09 02.3**	**-0.8**
MJAR	comp=Z,51nm,19.3s,baz=10.0,slow=37			LR		LR	10 37 47.8	
TORD	**Torodi Ar. Bea** comp=Z,1.9nm,0.9s,baz=357,slow=6.6,SNR=10	**63.38**	**187**	P		**P**	**10 09 02.7**	**-2.6**
TORD	comp=Z,62nm,18.1s,baz=150,slow=39			LR		LR	10 40 08.3	
TXAR	**Lajitas Array** comp=Z,0.9nm,1.0s,baz=27,slow=6.2,SNR=6.4	**66.50**	**298**	P		**P**	**10 09 23.5**	**-2.1**
TXAR	comp=Z,306nm,18.5s,baz=0.0,slow=37			LR		LR	10 39 31.7	
CMAR	**Chiang Mai Arr** comp=Z,0.5nm,0.3s,baz=332,slow=5.2,SNR=4.5	**72.49**	**84**	P		**P**	**10 10 02.9**	**+0.4**
CMAR	comp=Z,110nm,18.4s,baz=334,slow=41			LR		LR	10 47 45.9	
ATAH	**Atahualpa** comp=Z,33nm,19.4s,baz=351,slow=36	**95.96**	**265**	LR		LR	10 55 59.4	
BDFB	**Brasilia** comp=Z,39nm,21.8s,baz=93,slow=31	**97.51**	**233**	LR		LR	10 48 23.7	
MAW	**Mawson** comp=Z,2.0nm,0.6s,baz=277,slow=8.1,SNR=4.6	**147.79**	**144**	PKPbc		**PKPbc**	**10 18 17.8**	**-1.1**

*IDC **30** 09:58:41.8±0.8, 14.04N×93.09E, h0km, mb4.0/11, mb1 4.1/12, mb1mx3.8/68, mbtmp3.9/12, ML4.2/1, MS3.4/5, Ms1 3.5/5, ms1mx2.9/61, Error ellipse: s-maj=27.3km s-min=16.4km az=57.0*

*ISCJB **30** 09:58:44.1±0.5, 14.02N±0.0×93.07E±0.0, h32km, mb4.0/13, MS3.5/3, Error ellipse: s-maj=12.3km s-min=4.3km az=6.4*

*NEIC **30** 09:58:47.3±0.5, 14.07N×93.13E, h35km, mb4.0/2, Error ellipse: s-maj=11.4km s-min=9.8km az=47.0*

ISC 30 09:58:46.7±0.7, 14.1N±0.1×93.11E±0.06, h32km, n33, σ1s22/36, mb4.0/13, MS3.5/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** comp=Z,1.0nm,0.3s,baz=241,slow=14,SNR=15	**7.08**	**51**			Pn	**Pn**	**10 00 28.8**	**+0.6**
CMAR	comp=Z,0.2nm,0.3s,baz=239,slow=29,SNR=4.9					Sn	Sn	10 01 56.0	+8.2
CMAR						LR	LR	10 03 53.0	
CHTO	**Chiang Mai** comp=Z,269nm,18.9s,baz=224,slow=44	**7.30**	**49**	*e*Pn			**Pn**	**10 00 31.9**	**+0.6**
CHTO	8.4nm,0.6s			*e*Sn			**Sn**	**10 01 51.4**	**-1.7**
CHLP	**Challavanipeta**	**9.74**	**298**	*e*Pn			**Pn**	**10 01 02.5**	**-2.2**
CHLP				*e*				10 02 41.6	
CHLP				*e*Sn			**Sn**	**10 02 54.6**	**+1.6**
VIS	**Vishakhapatnam**	**10.08**	**292**	*i* P			**Pn**	**10 01 07.7**	**-1.7**
VIS				*i* S			x	10 02 07.9	
VIS				*i* S			x	10 02 11.2	
PVM	**Polavaram**	**11.50**	**287**	*e*Pn			**Pn**	**10 01 28.2**	**-0.6**
PVM				*e*				10 03 24.7	
PVM				*e*Sn			**Sn**	**10 03 38.0**	**+1.8**
ADKI	**Addanki**	**12.82**	**279**	*e*Pn			**Pn**	**10 01 44.8**	**-2.0**
ADKI				*e*				10 03 52.7	
ADKI				*e*Sn			**Sn**	**10 04 07.3**	**-1.2**
NJS	**Nagarjunasagar**	**13.54**	**282**	*e*Pn			**Pn**	**10 01 55.7**	**-1.0**
NJS				*e*				10 04 13.9	
RCLA	**Racherla**	**13.76**	**277**	*e*Pn			**Pn**	**10 01 57.7**	**-2.0**
RCLA				*e*				10 04 21.7	
RCLA				*e*Sn			**Sn**	**10 04 31.5**	**-0.1**
SRLM	**Srisailam**	**13.88**	**280**	*e*Pn			**Pn**	**10 02 00.9**	**-0.5**
SRLM				*e*				10 04 22.1	
SRLM				*e*Sn			**Sn**	**10 04 35.8**	**+1.4**
PALK	**Pallekele** comp=Z,155nm,18.9s,baz=113,slow=37	**13.95**	**242**	LR		LR		10 07 17.0	
HYB	**Hyderabad**	**14.40**	**285**	*i* P			P	10 02 23.0	+8.0
HYB				*e*S			**Sn**	**10 04 48.0**	**+0.8**
HYBB	**Hyderabad (bro**	**14.40**	**285**	*e*Pn			**Pn**	**10 02 05.8**	**-2.7**
HYBB				*e*Sn			**Sn**	**10 04 47.9**	**+0.7**
KLRI	**Killari**	**16.36**	**286**	*e*Pn			**Pn**	**10 02 32.4**	**-1.7**
KLRI				*e*				10 05 17.6	
KLRI				*e*Sn			**Sn**	**10 05 34.7**	**-0.1**
H08S3	**Diego Garcia H** baz=42,slow=75,SNR=12	**29.75**	**225**	T			T	10 35 54.1	
H08S2	**Diego Garcia H** baz=42,slow=75,SNR=15	**29.75**	**225**	T			T	10 35 52.2	
H08S1	**Diego Carcia H** baz=42,slow=75,SNR=13	**29.76**	**225**	T			T	10 35 55.6	
MKAR	**Makanchi Array** 1.3nm,0.5s,baz=162,slow=8.9,SNR=13	**33.84**	**347**	P			**P**	**10 05 26.5**	**+0.3**
SONM	**Songino Array** 3.7nm,1.0s,baz=196,slow=9.9,SNR=16	**35.41**	**15**	P			**P**	**10 05 40.6**	**+0.7**
ZALV	**Zalesovo Beam** 2.2nm,0.7s,baz=169,slow=8.2,SNR=7.8	**40.30**	**352**	P			**P**	**10 06 20.8**	**0.0**
ABKAR	**Akbulak array** 1.1nm,0.5s	**44.36**	**329**	*e*P			**P**	**10 06 55.1**	**+1.1**
MJAR	**Matsushiro Arr** 1.7nm,0.8s,baz=252,slow=11,SNR=4.2	**45.97**	**52**	P			**P**	**10 07 06.2**	**-0.8**
WRA	**Warramunga Arr** 1.4nm,0.9s,baz=312,slow=8.6,SNR=10.0	**52.80**	**129**	P			**P**	**10 07 58.5**	**-0.9**
WRA	0.9nm,0.6s,baz=318,slow=3.5,SNR=12			PcP			**PcP**	**10 09 08.4**	**-0.2**
WRAB	**Tennant Creek** 1.6nm,0.9s	**52.81**	**129**	*e*P			**P**	**10 07 59.2**	**-0.1**
ASAR	**Alice Springs** 1.1nm,0.7s,baz=306,slow=6.4,SNR=16	**54.76**	**133**	P			**P**	**10 08 13.2**	**-0.4**
ASAR	1.0nm,0.9s,baz=308,slow=4.6,SNR=4.6			PcP			**PcP**	**10 09 15.7**	**-0.3**
BRTR	**Keskin Array B** 0.9nm,0.8s,baz=126,slow=6.3,SNR=5.4	**57.72**	**308**	P			**P**	**10 08 34.5**	**-0.3**
STKA	**Stephens Creek** 1.5nm,0.8s,baz=13,slow=6.2,SNR=2.8	**65.16**	**135**	P			**P**	**10 09 26.2**	**+1.3**
ARCES	**ARCESS Array B** comp=Z,30nm,18.1s,baz=104,slow=38	**69.12**	**340**	LR			LR	10 42 40.1	
VRAC	**Vranov** comp=Z,16nm,18.0s,baz=128,slow=41		**70.67**	**318**	LR		LR	10 47 08.9	
GERES	**GERESS Array B** 0.5nm,0.5s,baz=91,slow=5.9,SNR=4.4	**72.58**	**317**	P			**P**	**10 10 11.0**	**0.0**
SPITS	**Spitsbergen Ar** comp=Z,25nm,18.1s,baz=70,slow=43	**73.58**	**348**	LR			LR	10 51 35.3	
TORD	**Torodi Ar. Bea** 0.4nm,0.7s,baz=85,slow=4.4,SNR=3.4	**88.21**	**283**	P			**P**	**10 11 35.7**	**+0.3**
ILAR	**Eielson Array** 0.9nm,0.9s,baz=289,slow=4.2,SNR=11	**89.39**	**22**	P			**P**	**10 11 39.6**	**-0.4**
TXAR	**Lajitas Array** 0.2nm,0.7s,baz=183,slow=1.8,SNR=2.9	**133.89**	**20**	PKP			**PKPdf**	**10 18 02.9**	**+1.5**

MAN 30 10:09:26, 13.07N×120.62E, h3km, mb4.5, ML3.4, MS3.3, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LQP	**Lukban**	**1.37**	**41**	⇑*e*P			Pn	10 09 52.4	0.0
GQP	**Guinayangan**	**1.96**	**65**	⇑*e*P			Pn	10 10 00.1	-0.1

IDC 30 10:22:25.7±3.9, 27.02S×177.83E, h601km±43km, mb2.9/5, mb1 3.1/6, mb1mx2.9/35, mbtmp4.0/6, Error ellipse: s-maj=39.6km s-min=19.3km az=47.0, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 2.0nm,0.3s,baz=269,slow=4.4,SNR=14	**11.23**	**183**	P			P	10 24 56.3	-0.2
URZ	0.2nm,0.3s,baz=332,slow=17,SNR=3.2			S			S	10 27 15.7	+15
CTA	**Charters Tower** 1.3nm,0.3s,baz=87,slow=10,SNR=5.3	**29.70**	**277**	P			P	10 27 44.4	-0.7
ASAR	**Alice Springs** 0.2nm,0.5s,baz=94,slow=7.5,SNR=8.8	**39.70**	**265**	P			P	10 29 09.2	+1.3
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=99,slow=6.9,SNR=5.2	**40.36**	**271**	P			P	10 29 12.4	-0.7
QSPA	**South Pole Qui** 2.4nm,0.9s,baz=332,slow=1.4,SNR=12	**63.08**	**180**	P			P	10 31 55.4	+0.1
ILAR	**Eielson Array** 0.5nm,1.0s,baz=224,slow=6.2,SNR=3.4	**95.52**	**14**	P			P	10 34 47.5	+0.7
TORD	**Torodi Ar. Bea** 0.4nm,0.7s,baz=157,slow=4.7,SNR=3.2	**165.73**	**195**	PKPab			PKPab	10 42 25.0	-1.6

KRSC 30 10:27:50.4±0.5, 52.23N×160.19E, h16km±6km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.87**	**353**	*e*P			Pb	10 28 06.9	-0.2
SPN				*e*S			Sg	10 28 18.9	0.0
RUS	**Russkaya**	**1.05**	**282**	*e*P			Pb	10 28 09.6	-0.5
RUS				*e*S			Sb	10 28 23.3	-0.3
PET	**Petropavlovsk**	**1.23**	**311**	*e*P			Pn	10 28 12.4	-0.4
PET				*e*S			Sb	10 28 28.3	-0.4
MTVR	**Mutnovka**	**1.26**	**282**	*e*P			Pn	10 28 13.2

BTAM	**Cotopaxi Volca**	**2.97**	**94**	⇑P		Pn	10 52 01.7	+1.9
OTAV	**Otavalo**	**3.00**	**76**	⇑P		Pn	10 51 59.4	-0.6
TAMB	**Tambo**	**3.00**	**94**	⇓P		Pn	10 52 01.2	+1.0
RIOE	**Riobamba**	**3.01**	**115**	P		Pn	10 52 01.0	+0.9
BIL2	**Estacion Bilba**	**3.02**	**109**	P		Pb	10 52 03.7	-2.1
COV1	**Cotopaxi Volc**	**3.03**	**94**	⇑P		Pn	10 52 00.5	-0.2
PISA	**Pisayambo**	**3.04**	**101**	P		Pn	10 52 02.9	+2.3
BBIL	**Ulba Tungurahu**	**3.04**	**109**	P		Pn	10 52 01.7	+1.3
JUI6	**Juive**	**3.05**	**108**	P		Pn	10 52 01.7	+1.2
BMAS	**Trigal station**	**3.06**	**110**	⇑P		Pn	10 52 01.4	+0.7
RETU	**Refugio**	**3.08**	**108**	P		Pn	10 52 03.7	+2.5
ARRY	**Arrayan**	**3.08**	**109**	⇑S		Sn	10 52 36.4	-2.5
ARRY	**Arrayan**	**3.08**	**109**	⇑P		Pn	10 52 01.4	+0.3
RUNS	**Runtun**	**3.08**	**108**	P		Pn	10 52 02.6	+1.6
BRUN	**Tungurahua Vol**	**3.10**	**108**	⇑P		Pn	10 52 01.3	0.0
PAT1	**Patacocha**	**3.10**	**109**	⇑P		Pn	10 52 02.3	+0.8
BPAT	**Tungurahua Vol**	**3.10**	**109**	⇑P		Pn	10 52 02.2	+0.7
BPAT	**Tungurahua Vol**	**3.10**	**109**	⇑S		Sn	10 52 39.2	-0.3
BULB	**Ulba Tungurahu**	**3.11**	**108**	S		Sn	10 52 38.6	-0.8
BULB	**Ulba Tungurahu**	**3.11**	**108**	P		Pn	10 52 02.1	+0.7
COTA	**Cotacachi**	**3.13**	**75**	P		Pn	10 52 02.1	+0.1
ANTI	**Antisana**	**3.20**	**90**	P		Pn	10 52 04.0	+1.0
URCU	**Urcuqui**	**3.24**	**74**	P		Pn	10 52 05.8	+2.6
LITE	**Lita**	**3.26**	**67**	P		Pn	10 52 03.2	+0.1
CAYR	**Refugio Cayamb**	**3.39**	**82**	S		Sn	10 52 47.8	+0.8
CAYR	**Refugio Cayamb**	**3.39**	**82**	P		Pn	10 52 08.6	+2.9

*IDC **30** 11:00:10.2±1.9, 17°.46S×167°.87E, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.8/40, mbtmp4.0/6, ML4.0/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/32, Error ellipse: s-maj=55.6km s-min=27.0km az=125.0*

*ISCJB **30** 11:00:12.6±1.0, 17°.59S±0°.09×167°.9E±0°.2, h27km, mb3.9/8, MS3.3/1, Error ellipse: s-maj=24.7km s-min=12.1km az=7.2*

*NEIC **30** 11:00:15.4±0.8, 17°.55S×167°.89E, h35km, mb4.0/3, Error ellipse: s-maj=19.7km s-min=14.6km az=96.0*

ISC 30 11:00:14.3±1.1, 17°.59S±0°.10×167°.9E±0°.2, h27km, n14, σ1s30/14, mb4.1/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.67**	**197**	Pn		**Pn**	**11 01 23.1**	**0.0**
	6.5nm,0.3s,baz=90,slow=24,SNR=40							
DZM				Sn		**Sn**	**11 02 15.8**	**-0.6**
	2.2nm,0.3s,baz=90,slow=24,SNR=13							
DZM	**Mont Dzumac**	**4.67**	**197**	*e*P		**Pn**	**11 01 22.7**	**-0.4**
DZM				*e*S		**Sn**	**11 02 13.5**	**-3.0**
DZM	**Mont Dzumac**	**4.67**	**197**	*e*Pn		**Pn**	**11 01 23.9**	**+0.8**
DZM				*e*Sn		**Sn**	**11 02 18.8**	**+2.4**
HNR	**Honiara**	**11.21**	**315**	LR		LR	11 06 30.9	
	comp=Z,62nm,18.6s,baz=202,slow=34							
CTA	**Charters Tower**	**20.64**	**260**	P		Pn	11 04 57.6	+3.2
	4.8nm,0.7s,baz=79,slow=10,SNR=5.3							
URZ	**Urewera**	**22.11**	**160**	LR		LR	11 12 28.3	
	comp=Z,99nm,18.6s,baz=344,slow=33							
STKA	**Stephens Creek**	**27.71**	**234**	P		**P**	**11 06 01.6**	**+1.1**
	4.2nm,0.7s,baz=63,slow=9.8,SNR=10							
WRAB	**Tennant Creek**	**31.83**	**260**	*e*P		**P**	**11 06 37.0**	**-0.1**
	2.1nm,0.9s							
WRA	**Warramunga Arr**	**31.84**	**260**	P		**P**	**11 06 36.5**	**-0.7**
	0.8nm,0.6s,baz=90,slow=9.2,SNR=15							
ASAR	**Alice Springs**	**32.34**	**253**	P		**P**	**11 06 41.2**	**-0.3**
	2.3nm,0.6s,baz=78,slow=8.5,SNR=93							
VNDA	**Vanda**	**60.03**	**182**	*e*P		**P**	**11 10 17.8**	**-0.5**
	2.1nm,1.4s							
QSPA	**South Pole Qui**	**72.45**	**180**	*e*P		**P**	**11 11 39.1**	**+0.8**
	1.6nm,0.8s							
SONM	**Songino Array**	**85.15**	**324**	P		**P**	**11 12 48.3**	**+0.1**
	0.4nm,0.5s,baz=116,slow=6.6,SNR=3.6							
ILAR	**Eielson Array**	**89.05**	**18**	P		**P**	**11 13 06.0**	**-0.5**
	0.1nm,0.6s,baz=225,slow=7.5,SNR=3.1							

IDC 30 11:02:18.9±29.0, 9°.57N×119°.99E, h0km, mb4.4/3, mb1 4.6/3, mb1mx3.6/53, mbtmp4.4/3, Error ellipse: s-maj=507.1km s-min=226.6km az=152.0, Sulu Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.55**	**154**	P		P	11 08 51.6	-0.4
	4.4nm,0.3s,baz=331,slow=10,SNR=100							
ASAR	**Alice Springs**	**35.73**	**158**	P		P	11 09 20.5	+1.0
	2.4nm,0.4s,baz=341,slow=7.1,SNR=136							
STKA	**Stephens Creek**	**46.10**	**154**	P		P	11 10 43.9	-1.1
	1.3nm,0.3s,baz=335,slow=9.0,SNR=6.7							

*ISK **30** 11:12:21.6, 38°.40N×37°.90E, h10km, MD2.2*

*ISCJB **30** 11:12:22.7±1.2, 38°.01N±0°.07×38°.12E±0°.07, h9km, Error ellipse: s-maj=9.9km s-min=8.0km az=165.0*

*DDA **30** 11:12:22.6, 38°.02N×38°.11E, h7km, MD2.6*

*CSEM **30** 11:12:23.8±0.7, 38°.36N×38°.00E, h22km±4km, MD2.2, Error ellipse: s-maj=30.3km s-min=13.5km az=160.0*

ISC 30 11:12:23.0±1.2, 38°.06N±0°.08×38°.15E±0°.05, h9km, n12, σ0s78/14, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AKCD	**Akcadag**	**0.30**	**324**	*i* P		**Pg**	**11 12 29.1**	**+0.1**
AKCD				*i* S		**Sg**	**11 12 34.0**	**+1.0**
AKCD	**Akcadag**	**0.30**	**324**	*i* P		**Pg**	**11 12 29.1**	**+0.1**
AKCD				*i* S		**Sg**	**11 12 34.0**	**+1.0**
MALT	**Malatya**	**0.34**	**41**	*e*PG		**Pg**	**11 12 30.2**	**+0.4**
MALT				*e*SG		**Sb**	**11 12 36.6**	**-0.3**
MALT	**Malatya**	**0.34**	**41**	*e*Pg		**Pg**	**11 12 30.2**	**+0.4**
MALT				*e*Sg		**Sb**	**11 12 36.6**	**-0.3**
URFA	**Urfa**	**0.81**	**139**	*e*PN		Pn	11 12 45.3	+4.5
URFA	**Urfa**	**0.81**	**139**	*e*Pn		Pn	11 12 45.3	+4.5
SVRC	**Sivrice-ELAZID**	**0.97**	**70**	*e*PN		**Pn**	**11 12 43.5**	**+0.5**
SVRC	**Sivrice-ELAZID**	**0.97**	**70**	*e*Pn		**Pn**	**11 12 43.5**	**+0.5**
KMRS	**Kahramanmaras**	**1.13**	**241**	*e*PN		**Pb**	**11 12 44.6**	**-0.2**
KMRS	**Kahramanmaras**	**1.13**	**241**	*e*Pn		**Pb**	**11 12 44.6**	**-0.2**
PTK	**Pertek**	**1.29**	**49**	*e*PN		**Pn**	**11 12 46.0**	**-1.4**
PTK	**Pertek**	**1.29**	**49**	*e*Pn		**Pn**	**11 12 46.0**	**-1.4**

*NEIC **30** 11:13:46.8, 38°.62N×118°.21W, h11km, ML4.2(REN), MW3.8(SLM), After REN.*

NEIC Felt at Hawthorne and Tonopah. Also felt at Coleville, California.

*IDC **30** 11:13:46.7±0.5, 38°.64N×118°.16W, h0km, mb3.4/1, mb1 3.7/6, mb1mx3.5/38, mbtmp3.4/6, ML3.7/5, MS2.6/3, Ms1 2.6/3, ms1mx2.4/18, Error ellipse: s-maj=8.4km s-min=4.1km az=121.0*

ISC 30 11:13:45.9±1.1, 38°.66N±0°.02×118°.17W±0°.02, h1km±9km, n94, σ1s40/217, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NVAR	**Mina Array Bea**	**0.25**	**204**	Pg		**Pg**	**11 13 51.1**	**+0.4**
	3μm,0.3s,baz=19,slow=16							
NVAR				Lg		Lg	11 13 54.5	
	4μm,0.3s,baz=30,slow=27,SNR=89							
TPH	**Tonopah**	**0.95**	**128**	*e*Pg		**Pg**	**11 14 04.6**	**+0.6**
TPH				*e*Sg		**Sg**	**11 14 17.1**	**+0.8**
WAKR	**Walker**	**1.00**	**262**	*e*Pg		**Pg**	**11 14 05.1**	**0.0**
WAKR				*e*Sg		**Sg**	**11 14 18.4**	**+0.3**
MLAC	**Mammoth Lakes**	**1.15**	**207**	P		**Pg**	**11 14 07.8**	**-0.1**
	baz=1.1							
TIN	**Tinemaha**	**1.60**	**182**	P		**Pn**	**11 14 15.0**	**-0.4**
	baz=1.6							
TIN				S		**Sn**	**11 14 35.5**	**-1.3**
	baz=1.6							
GRAC	**Grapevine Rang**	**1.77**	**159**	P		**Pn**	**11 14 17.3**	**-0.5**
	baz=1.8							
GRAC				Sg		**Sg**	**11 14 43.3**	**+0.5**
	baz=1.8							
CMB	**Columbia Colle**	**1.85**	**251**	*e*Pn		**Pn**	**11 14 17.9**	**-0.8**
CMB				*e*Sn		**Sn**	**11 14 41.7**	**-1.1**
BMN	**Battle Mountai**	**1.92**	**22**	*e*Pn		**Pn**	**11 14 19.5**	**-0.3**
BMN				*e*Pg		**Pg**	**11 14 24.3**	**+1.6**
BMN				*e*Sn		**Sn**	**11 14 44.5**	**-0.2**
BMN				*e*Sg		**Sg**	**11 14 49.4**	**+1.9**
R11A	**Troy Canyon, C**	**2.05**	**98**	P		**Pn**	**11 14 21.0**	**-0.7**
	baz=2.1							
R11A				S		**Sn**	**11 14 47.8**	**-0.3**
	baz=2.1							
R11A	**Troy Canyon, C**	**2.05**	**98**	*e*Pn		**Pn**	**11 14 21.1**	**-0.7**
R11A				*e*Sn		**Sn**	**11 14 48.0**	**-0.1**
R11A				*e*Sg		**Sg**	**11 14 52.8**	**+0.9**
CWC	**Cottonwood Cre**	**2.22**	**178**	P		**Pn**	**11 14 23.5**	**-0.4**
	baz=2.2							
CWC				S		**Sn**	**11 14 50.4**	**-1.6**
	baz=2.2							
TPNV	**Topopah Spring**	**2.29**	**138**	P		**Pn**	**11 14 24.3**	**-0.7**
	baz=2.3							
TPNV				Sg		**Sg**	**11 14 59.4**	**0.0**
	baz=2.3							
DAC	**Darwin (Calif)**	**2.42**	**169**	*e*Pn		**Pn**	**11 14 26.1**	**-0.7**
DAC				*e*Pg		**Pg**	**11 14 34.0**	**+1.7**
DAC				*e*Sn		**Sn**	**11 14 55.8**	**-1.4**
DAC				*e*Sg		**Sg**	**11 15 02.8**	**-0.9**
FURC	**Furnace Creek,**	**2.42**	**154**	Sg		**Sg**	**11 15 03.8**	**+0.1**
	baz=2.4							
RCTC	**Rector, Farmer**	**2.49**	**200**	P		**Pn**	**11 14 27.9**	**+0.3**
	baz=2.5							
RCTC				Sb		**Sb**	**11 15 04.0**	**+1.4**
	baz=2.5							
MPMC	**Manual Prospec**	**2.65**	**168**	P		**Pn**	**11 14 29.2**	**-0.7**
	baz=2.6							
MPMC				Sb		**Sb**	**11 15 08.3**	**+1.0**
	baz=2.6							
VES	**Vestal, Richgr**	**2.90**	**195**	P		**Pn**	**11 14 33.7**	**+0.5**
	baz=2.9							
VES				Sb		**Sb**	**11 15 15.3**	**+0.8**
	baz=2.9							
ISA	**Isabella**	**3.00**	**185**	P		**Pn**	**11 14 34.4**	**-0.2**
	baz=3.0							
ISA				Sb		**Sb**	**11 15 18.4**	**+1.2**
	baz=3.0							
ISA	**Isabella**	**3.00**	**185**	*e*Pn		**Pn**	**11 14 34.7**	**+0.1**
ISA				*e*Pg		**Pb**	**11 14 40.6**	**+0.5**
ISA				*e*Sg		**Sb**	**11 15 19.2**	**+1.9**
ELK	**Elko**	**3.08**	**46**	Pn		**Pn**	**11 14 35.9**	**+0.1**
	11nm,0.3s,baz=231,slow=12,SNR=186							
ELK				Pg		**Pg**	**11 14 44.0**	**-0.8**
	39nm,0.3s,baz=241,slow=18,SNR=41							
ELK				Sn		**Sn**	**11 15 13.7**	**+0.2**
	24nm,0.3s,baz=212,slow=19,SNR=6.1							
ELK				Lg		Lg	11 15 24.3	
	112nm,0.3s,baz=291,slow=8.7,SNR=18							
ELK	**Elko**	**3.08**	**46**	*e*Pn		**Pn**	**11 14 35.9**	**+0.1**
ELK				Pg		**Pg**	**11 14 44.0**	**-0.8**
ELK				*e*Pg		Pb	11 14 45.4	+3.8
ELK				Sn		**Sn**	**11 15 13.7**	**+0.2**
ELK				*e*Sg		**Sg**	**11 15 23.7**	**-1.0**
ELK				Lg		Lg	11 15 24.3	
SHOC	**Shoshone**	**3.14**	**151**	P		**Pn**	**11 14 36.2**	**-0.3**
	baz=3.1							
SHOC				S		**Sn**	**11 15 14.0**	**-0.6**
	baz=3.1							
SHPR	**Sheep Range**	**3.22**	**131**	*e*Pn		**Pn**	**11 14 37.5**	**-0.2**
SHPR				*e*Pg		**Pg**	**11 14 46.8**	**-0.8**
SHPR				*e*Sg		**Sg**	**11 15 30.5**	**+1.2**
GSC	**Goldstone**	**3.52**	**161**	P		**Pn**	**11 14 41.5**	**-0.4**
	baz=3.5							
GSC				Sg		**Sg**	**11 15 39.5**	**+0.4**
	baz=3.5							
GSC	**Goldstone**	**3.52**	**161**	*e*Pn		**Pn**	**11 14 41.5**	**-0.4**
GSC				*e*Pg		**Pg**	**11 14 52.5**	**-0.9**
GSC				*e*Sg		**Sg**	**11 15 39.3**	**+0.1**
ARVC	**Arvin**	**3.56**	**189**	Pb		**Pb**	**11 14 49.5**	**-0.2**
	baz=3.5							
ARVC				Sb		**Sb**	**11 15 35.5**	**+2.0**
	baz=3.5							
MOD	**Modoc**	**3.63**	**334**	*e*Pn		**Pn**	**11 14 45.4**	**+2.1**
MOD				*e*Sg		**Sg**	**11 15 43.4**	**+0.9**
SMMC	**Simmler**	**3.65**	**204**	P		**Pn**	**11 14 43.3**	**-0.2**
	baz=3.6							
TUQ	**Turquoise Moun**	**3.69**	**150**	S		**Sn**	**11 15 26.7**	**-1.5**
	baz=3.7							
EDW2	**Edwards Air Fo**	**3.77**	**178**	P		**Pn**	**11 14 45.2**	**0.0**
	baz=3.7							
EDW2				Sb		**Sb**	**11 15 42.7**	**+3.1**
	baz=3.7							
WVOR	**Wild Horse Val**	**3.79**	**355**	*e*Pn		**Pn**	**11 14 46.4**	**+0.9**
WVOR				*e*Pg		**Pg**	**11 14 57.9**	**-0.6**
WVOR				*e*Sn		**Sn**	**11 15 27.2**	**-3.6**
WVOR				*e*Sg		**Sg**	**11 15 46.9**	**-0.7**
WDC	**Whiskeytown Da**	**3.88**	**301**	*e*Pn		**Pn**	**11 14 46.5**	**-0.1**
WDC				*e*Sg		**Sg**	**11 15 49.5**	**-1.1**
CCUT	**Cedar City**	**3.95**	**105**	*e*Pn		**Pn**	**11 14 47.7**	**-0.2**
CCUT				*e*Pg		**Pg**	**11 15 01.3**	**-0.3**
CCUT				*e*Sn		**Sn**	**11 15 35.2**	**+0.2**
CCUT				*e*Sg		**Sg**	**11 15 52.7**	**-0.2**
PKM	**Peak Mountain**	**3.98**	**200**	Pb		**Pb**	**11 14 57.3**	**+0.4**
	baz=3.9							
N02D	**Trinity Center**	**4.19**	**305**	P		**Pn**	**11 14 51.2**	**+0.3**
	baz=4.2							
M04C	**Macdoel**	**4.20**	**319**	P		**Pn**	**11 14 53.2**	**+2.1**
	baz=4.2,SNR=12							
M04C				Sb		**Sg**	**11 16 00.1**	**-0.6**
	baz=4.2							
KIPM	**Iron Peak**	**4.28**	**287**	*e*Pn		**Pn**	**11 14 51.1**	**-1.2**
KIPM				*e*Pg		**Pg**	**11 15 10.9**	**+3.0**
KIPM				*e*Sn		**Sn**	**11 15 39.3**	**-3.5**
KIPM				*e*Sg		**Sg**	**11 16 04.4**	**+1.0**
KCPM	**Cahto Peak**	**4.33**	**285**	*e*Pn		**Pn**	**11 14 50.0**	**-2.9**
KCPM				*e*Pg		**Pg**	**11 15 07.5**	**-1.3**
KCPM				*e*Sn		**Sn**	**11 15 43.3**	**-0.8**
LDFC	**Landfair**	**4.34**	**145**	Pn		**Pn**	**11 14 53.0**	**0.0**
LDFC				*e*Pg		**Pg**	**11 15 06.7**	**-2.3**
LDFC				*e*Sn		**Sn**	**11 15 44.0**	**-0.3**
LDFC				*e*Sg		**Sg**	**11 16 04.2**	**-1.0**
GMRC	**Granite Mounta**	**4.37**	**152**	S		**Sn**	**11 15 42.5**	**-2.5**
	baz=4.3							
DUG	**Dugway**	**4.43**	**68**	P		**Pn**	**11 14 55.5**	**+1.2**
	baz=4.5							
DUG	**Dugway**	**4.43**	**68**	*e*Pn		**Pn**	**11 14 55.4**	**+1.1**
DUG				*e*Pg		**Pg**	**11 15 11.2**	**+0.5**
DUG				*e*Sn		**Sn**	**11 15 41.1**	**-5.5**
DUG				*e*Sg		**Sg**	**11 16 06.5**	**-1.5**
MWC	**Mount Wilson**	**4.43**	**179**	*e*Pn		**Pn**	**11 14 53.3**	**-1.1**
MWC				*e*Pg		**Pg**	**11 15 08.2**	**-2.5**
MWC				*e*Sn		**Sn**	**11 15 43.8**	**-2.8**
MWC				*e*Sg		**Sg**	**11 16 06.7**	**-1.5**
PASC	**Pasadena Art C**	**4.48**	**180**	Pn		**Pn**	**11 14 52.7**	**-2.2**
PASC				*e*Pg		**Pg**	**11 15 11.0**	**-0.7**
PASC				*e*Sn		**Sn**	**11 15 48.5**	**+0.9**
PASC				*e*Sg		**Sg**	**11 16 09.0**	**-0.7**
M02C	**Callahan**	**4.51**	**309**	P		**Pn**	**11 14 56.8**	**+1.4**
	baz=4.5,SNR=9.4							
BGU	**Big Grassy Mou**	**4.56**	**59**	*e*Pn		**Pn**	**11 14 57.0**	**+0.8**
BGU				*e*Pg		**Pg**	**11 15 14.8**	**+1.5**
BGU				*e*Sg		**Sg**	**11 16 12.8**	**+0.3**
YBH	**Yreka Blue Hor**	**4.64**	**313**	Pn		**Pn**	**11 14 58.9**	**+1.7**
	1.2nm,0.3s,baz=136,slow=4.7,SNR=24							
YBH				Lg		Lg	11 16 12.4	
	0.8nm,0.3s,baz=169,slow=13,SNR=3.1							
YBH				LR		LR	11 17 05.0	
	comp=Z,108nm,19.1s,baz=150,slow=43							
YBH	**Yreka Blue Hor**	**4.64**	**313**	Pn		**Pn**	**11 14 57.7**	**+0.6**
YBH				Lg		Lg	11 16 12.4	
YBH				*e*Sg		**Sg**	**11 16 15.8**	**+1.0**
MSU	**Marysvale**	**4.70**	**90**	*e*Pn		**Pn**	**11 14 59.1**	**+0.9**
MSU				*e*Pg		**Pg**	**11 15 15.2**	**-0.8**
MSU				*e*Sn		**Sn**	**11 15 53.5**	**+0.1**
MSU				*e*Sg		**Sg**	**11 16 18.7**	**+1.8**
K04D	**Chiloquin, OR**	**4.81**	**327**	P		Pn	11 15 02.7	+3.2
	baz=4.8,SNR=6.5							
K04D				Sb		**Sg**	**11 16 19.4**	**-0.9**
	baz=4.8							
KHMM	**Horse Mountain**	**4.82**	**299**	*e*Pn		**Pn**	**11 14 58.7**	**-1.0**
KHMM				*e*Pg		**Pg**	**11 15 19.2**	**+1.0**
KHMM				*e*Sn		**Sn**	**11 15 53.2**	**-3.0**
KHMM				*e*Sg		**Sg**	**11 16 21.2**	**+0.5**
BELC	**Belle Mtn. Jos**	**4.97**	**159**	P		**Pn**	**11 15 01.4**	**-0.4**
	baz=5.0							
MFID	**Camas Ranch**	**5.07**	**20**	Pn		**Pn**	**11 15 04.7**	**+1.6**
	61nm,0.6s							
MFID				*e*Pg		**Pg**	**11 15 23.3**	**+0.2**
MFID				*e*Sn		**Sn**	**11 16 01.8**	**-0.6**
MFID				*e*Sg		**Sg**	**11 16 26.9**	**-1.9**
SPUT	**South Promonto**	**5.13**	**57**	*e*Pn		**Pn**	**11 15 06.0**	**+2.0**
	30nm,0.6s							
SPUT				*e*Pg		**Pg**	**11 15 23.5**	**-0.7**
SPUT				*e*Sg		**Sg**	**11 16 30.1**	**-0.7**
J05D	**Fort Rock, OR**	**5.17**	**334**	P		Pn	11 15 08.3	+3.8
	baz=5.2,SNR=8.4							
J05D				Sb		**Sg**	**11 16 29.4**	**-2.6**
	baz=5.2							
HVU	**Hansel Valley**	**5.18**	**51**	*e*Pn		**Pn**	**11 15 05.6**	**+1.0**
	31nm,0.6s							
HVU				*e*Pg		**Pg**	**11 15 25.9**	**+0.9**
HVU				*e*Sn		**Sn**	**11 16 06.5**	**+1.4**
HVU				*e*Sg		**Sg**	**11 16 31.9**	**-0.3**
PFO	**Pinyon Flat Ob**	**5.23**	**164**	Pn		**Pn**	**11 15 05.5**	**+0.2**
	0.6nm,0.3s,baz=1.8,slow=16,SNR=8.5							
PFO				Pg		**Pb**	**11 15 16.0**	**-2.1**
	0.9nm,0.3s,baz=0.0,slow=18,SNR=7.7							
PFO				Sn		**Sn**	**11 16 04.6**	**-1.7**
	1.9nm,0.3s,baz=318,slow=14,SNR=3.1							
PFO				Lg		Lg	11 16 30.8	
	3.5nm,0.3s,baz=28,slow=9.7,SNR=9.2							
PFO				LR		LR	11 17 24.9	
	comp=Z,60nm,20.7s,baz=32,slow=42							
PFO	**Pinyon Flat Ob**	**5.23**	**164**	*e*Pn		**Pn**	**11 15 05.0**	**-0.3**
	14nm,0.8s							
PFO				*e*Pg		**Pg**	**11 15 25.7**	**-0.4**
PFO				Sn		**Sn**	**11 16 04.6**	**-1.7**
PFO				Lg		Lg	11 16 30.8	
PFO				*e*Sg		**Sg**	**11 16 33.0**	**-0.8**
MPU	**Maple Canyon**	**5.25**	**73**	*e*Pn		**Pn**	**11 15 07.5**	**+1.9**
	55nm,0.6s							
MPU				*e*Pg		**Pg**	**11 15 27.3**	**+0.8**
MPU				*e*Sg		**Sg**	**11 16 34.7**	**+0.2**
CTU	**Camp Tracy**	**5.36**	**66**	Pn		**Pn**	**11 15 06.8**	**-0.3**
	23nm,0.7s							
CTU				*e*Pg		**Pg**	**11 15 28.9**	**+0.3**
CTU				*e*Sg		**Sg**	**11 16 35.4**	**-2.6**
HUMO	**Hull Mountain**	**5.37**	**319**	Pn		**Pn**	**11 15 07.8**	**+0.7**
	13nm,0.6s							
HUMO				*e*Sg		**Sg**	**11 16 35.9**	**-2.3**
L02D	**Cave Junction,**	**5.42**	**312**	P		Pn	11 15 11.1	+3.3
	baz=5.4,SNR=9.9							
TMUT	**Trail Mountain**	**5.46**	**81**	*e*Pn		**Pn**	**11 15 10.5**	**+1.8**
	34nm,0.5s							
TMUT				*e*Pg		**Pg**	**11 15 31.5**	**+0.8**
TMUT				*e*Sg		**Sg**	**11 16 40.6**	**-0.9**
JLU	**Jordanelle**	**5.54**	**67**	*e*Pn		**Pn**	**11 15 09.1**	**-0.6**
	10.0nm,0.6s							
JLU				*e*Pg		**Pg**	**11 15 32.7**	**+0.7**
JLU				*e*Sn		**Sn**	**11 16 15.6**	**+1.4**
JLU				*e*Sg		**Sg**	**11 16 42.4**	**-1.5**
HLID	**Hailey**	**5.66**	**29**	P		**Pn**	**11 15 13.6**	**+2.3**
	baz=5.7							
HLID	**Hailey**	**5.66**	**29**	*e*Pn		**Pn**	**11 15 12.8**	**+1.5**
	30nm,0.6s							
HLID				*e*Pg		**Pg**	**11 15 34.9**	**+0.5**
HLID				*e*Sg		**Sg**	**11 16 46.7**	**-1.1**
TCUT	**Toone Canyon**	**5.75**	**63**	*e*Pn		**Pn**	**11 15 13.4**	**+0.7**
	32nm,0.6s							
TCUT				*e*Pg		**Pg**	**11 15 34.8**	**-1.3**
TCUT				*e*Sg		**Sg**	**11 16 48.6**	**-2.1**
HWUT	**Hardware Ranch**	**5.86**	**58**	*e*Pn		**Pn**	**11 15 15.6**	**+1.6**
	29nm,0.9s							
HWUT				*e*Pg		**Pg**	**11 15 37.6**	**-0.5**
HWUT				*e*Sn		**Sn**	**11 16 23.1**	**+1.2**
HWUT				*e*Sg		**Sg**	**11 16 52.1**	**-1.9**
SRU	**San Rafael**	**5.99**	**83**	*e*Pn		**Pn**	**11 15 15.8**	**0.0**
	35nm,0.5s							
SRU				*e*Sn		**Sn**	**11 16 27.2**	**+2.2**
SRU				*e*Sg		**Sg**	**11 16 55.2**	**-2.9**
I04A	**Tendick Farm,**	**6.04**	**329**	P		Pn	11 15 20.2	+3.8
	baz=6.1,SNR=7.6							
I05D	**Terrebonne, OR**	**6.15**	**338**	P		Pn	11 15 22.1	+4.1
	baz=6.2,SNR=5.6							
GLA	**Glamis**	**6.22**	**153**	Pn		**Pn**	**11 15 18.8**	**-0.1**
	12nm,0.4s							
GLA				*e*Pg		**Pg**	**11 15 42.5**	**-2.5**
GLA				*e*Sg		**Sg**	**11 17 05.5**	**-0.2**
WUAZ	**Wupatki**	**6.27**	**118**	*e*Pn		**Pn**	**11 15 18.4**	**-1.3**
	54nm,0.6s							
WUAZ				*e*Pg		Pg	11 15 42.3	-3.9
WUAZ				*e*Sg		**Sg**	**11 17 07.6**	**+0.2**
AHID	**Auburn Hatcher**	**6.76**	**50**	*e*Pn		**Pn**	**11 15 26.9**	**+0.5**
	8.4nm,0.6s							
AHID				*e*Pg		**Pg**	**11 15 56.2**	**+0.9**
AHID				*e*Sg		**Sg**	**11 17 25.2**	**+2.3**
REDW	**Red Top Meadow**	**7.26**	**47**	*e*Pn		**Pn**	**11 15 33.2**	**-0.1**
	7.8nm,0.7s							
REDW				*e*Pg		**

IDC ***30*** *11:39:52.3±1.2,2˙.14N×126˚.42E,h25km±7km,mb5.0/42, mb1 5.0/45,mb1mx5.0/48,mbtmp5.2/45,ML4.1/3,MS4.4/29, Ms1 4.4/29,ms1mx4.3/37,Error ellipse: s-maj=10.4km s-min=6.8km az=70.0*

MOS ***30*** *11:39:52.6±1.3,2˙.17N×126˚.47E,h39km,mb5.5/50, MS4.5/13,Error ellipse: s-maj=8.5km s-min=4.7km az=113.4*

KLM ***30*** *11:39:53.7, 1˙.72N×126˚.91E,h62km,mb5.4,MS6.0*

ISCJB ***30*** *11:39:54.6±0.3,2˙.12N±0˙.02×126˚.61E±0˙.02,h59km±3km, mb5.3/181,MS4.5/44,Error ellipse: s-maj=3.0km s-min=2.6km az=150.9*

GCMT ***30*** *11:39:55.4±0.1,2˙.28N×126˚.47E,h33km,MW5.5/99, Moment Tensor Solution. s99,c178; s95,c158; Duration: 1§4 Moment tensor: Scale 10¹⁷Nm; Mrr1.97±.03; Mθθ-0.05±.02; Mφφ-1.92±.02; Mrθ-0.59±.04; Mθφ-0.59±.02; Mφr-0.37±.03; Best double couple: M₀2.14800×10¹⁷ NP1:φs209.00000°,δ54.00000°, λ106.00000°. NP2:φs4.00000°,δ39.00000°,λ70.00000°. Principal axes: T 2.1380, Plg75.0000°, Azm168.0000°; N 0.0190, Plg12.0000°, Azm19.0000°; P -2.1580, Plg7.0000°, Azm288.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***30*** *11:39:55.4±0.6,2˙.09N×126˚.58E,h51km±5km,mb5.3/77 Error ellipse: s-maj=4.8km s-min=3.7km az=56.0*

DJA ***30*** *11:39:57.9±0.2,2˙.N±2˙×12˚.7E±˙,h70km±2km,M5.2/116, mB5.6/73,mb5.4/116,MLv5.5/19,Mw(mB)5.1/73, Mwp5.7/10*

ISC 30 11:39:57.0±0.3,2˙.13N±0˙.03×126˚.60E±0˙.03,h63km±1km, h63km:pP-P,n765,σ1§49/881,mb5.3/191,50C-45D, Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.55**	**150**	P		Pn		11 40 19.2	-3.3
TNTI	**Ternate**	**1.55**	**150**	*e*Pn		Pn		11 40 19.0	-3.5
TNTI				*e*Sn		**Sn**		**11 40 41.6**	**-0.1**
SGSI	**Sangihe**	**1.88**	**325**	P		**Pn**		**11 40 23.9**	**-3.0**
SGSI				S		**Sn**		**11 40 49.6**	**0.0**
LBMI	**Labuha**	**2.89**	**162**	P		**Pn**		**11 40 39.5**	**-1.2**
LBMI				S		**Sn**		**11 41 18.8**	**+4.5**
KMSI	**Cibinong**	**3.04**	**239**	P		**Pn**		**11 40 42.5**	**-0.1**
KMSI				S		**Sn**		**11 41 20.5**	**+2.7**
SANI	**Sanana**	**4.20**	**188**	P		**Pn**		**11 40 56.6**	**-1.9**
SANI				S		**Sn**		**11 41 45.7**	**-0.6**
GSPH	**General Santos**	**4.26**	**337**	*e*P		**Pn**		**11 40 57.5**	**-2.0**
MRSI	**Marisa**	**4.94**	**251**	P		**Pn**		**11 41 08.5**	**-0.1**
LUWI	**Luwuk**	**4.96**	**231**	P		**Pn**		**11 41 09.4**	**+0.5**
	2µm,0.9s,24µm23nm								
LUWI	**Luwuk**	**4.96**	**231**	⇑P		**Pn**		**11 41 09.4**	**+0.5**
	baz=5.1,SNR=57								
LUWI	**Luwuk**	**4.96**	**231**	*e*Pn		**Pn**		**11 41 08.8**	**-0.1**
LUWI				*e*Sn		**Sn**		**11 42 02.5**	**-2.4**
DMPH	**Davao City--Mi**	**5.04**	**348**	⇑*e*P		Pn		11 41 06.5	-3.6
DMPH				*e*S		x		11 41 27.9	
NLAI	**Namlea**	**5.36**	**175**	P		**Pn**		**11 41 13.1**	**-1.3**
	448nm,0.7s,4µm1.7nm								
SWI	**Sorong**	**5.53**	**122**	P		**Pn**		**11 41 15.5**	**-1.2**
	222nm,0.8s,3µm0.7nm								
SIJI	**Sorong**	**5.54**	**122**	Pn		**Pn**		**11 41 14.8**	**-2.1**
	9.7nm,0.3s,baz=328,slow=19,SNR=21								
SIJI				Sn		**Sn**		**11 42 18.0**	**-1.2**
	baz=176,slow=17,SNR=1.4								
SIJI				LR		LR		11 43 52.9	
	comp=Z,18µm,21.3s,baz=299,slow=42								
CTBH	**Cotabato--PC H**	**5.58**	**335**	⇑*i*P		**Pn**		**11 41 16.8**	**-0.6**
APSI	**Ampana**	**5.80**	**239**	P		**Pn**		**11 41 22.2**	**+1.8**
	3µm,1.0s,28µm13nm								
APSI				S		**Sn**		**11 42 27.2**	**+1.6**
	3µm,1.0s,28µm13nm								
TOLI	**Toli-Toli**	**5.89**	**260**	*e*Pn		**Pn**		**11 41 19.0**	**-2.7**
TOLI				*e*Sn		**Sn**		**11 42 24.2**	**-3.6**
MSAI	**Masohi**	**5.92**	**157**	P		**Pn**		**11 41 24.1**	**+2.0**
	130nm,0.8s,2µm8µm0.5nm								
AAI	**Ambon**	**5.99**	**165**	P		**Pn**		**11 41 23.9**	**+0.8**
	316nm,0.8s,4µm1.2nm								
BIPH	**Bislig**	**6.02**	**358**	⇑*e*P		Pn		11 41 28.7	+5.2
BIPH				*e*S		**Sn**		**11 42 34.6**	**+3.5**
CGP	**Cagayan de Oro**	**6.56**	**343**	*e*P		**Pn**		**11 41 30.1**	**-0.9**
MPSI	**Mapaga**	**6.93**	**255**	P		**Pn**		**11 41 37.4**	**+1.5**
	440nm,1.0s,7µm1.4nm								
DCPH	**Dipolog City**	**7.18**	**333**	*e*P		**Pn**		**11 41 41.8**	**+2.4**
KDI	**Kendari**	**7.24**	**213**	P		**Pn**		**11 41 39.2**	**-0.9**
	342nm,0.8s,4µm1.2nm								
BNDI	**Bandanaira**	**7.39**	**153**	P		**Pn**		**11 41 44.0**	**+1.8**
	329nm,1.0s,8µm22µm2.0nm								
PCI	**Palu**	**7.40**	**246**	P		**Pn**		**11 41 44.6**	**+2.2**
	761nm,0.9s,6µm26µm2.1nm								
FAKI	**Fak Fak**	**7.55**	**132**	P		**Pn**		**11 41 43.3**	**-1.2**
	137nm,1.8s,2µm29µm0.6nm								
FAKI	**Fak Fak**	**7.55**	**132**	⇓P		**Pn**		**11 41 42.6**	**-2.0**
	baz=7.5,SNR=28								
FAKI	**Fak Fak**	**7.55**	**132**	*e*Pn		**Pn**		**11 41 42.8**	**-1.7**
FAKI				*e*Sn		**Sn**		**11 43 10.2**	**+1.4**
TTSI	**Tana Toraja**	**8.50**	**233**	P		**Pn**		**11 41 56.9**	**-0.6**
	371nm,0.8s								
TTSI				S		**Sn**		**11 43 31.6**	**-0.4**
	371nm,0.8s								
MYLDM	**Lahad Datu**	**8.63**	**291**	⇑P		**Pn**		**11 41 57.3**	**-1.9**
MYLDM	**Lahad Datu**	**8.63**	**291**	*e*Pn		**Pn**		**11 41 58.9**	**-0.4**
TSM	**Tawau**	**8.97**	**284**	⇓P		**Pn**		**11 42 03.1**	**-0.8**
PLP	**Palo**	**9.12**	**350**	⇓*e*P		**Pn**		**11 42 04.7**	**-1.2**
SPSI	**Sidrap Palu**	**9.12**	**228**	P		**Pn**		**11 42 06.1**	**+0.1**
	172nm,1.0s,2µm								
SPSI				S		**Sn**		**11 43 49.4**	**+2.2**
	172nm,1.0s,2µm								
PALU	**Palau**	**9.40**	**56**	⇓P		**Pn**		**11 42 08.1**	**-1.8**
	baz=9.3,SNR=5.7								
BKSI	**Bulukumba**	**9.83**	**221**	P		**Pn**		**11 42 15.7**	**+0.1**
	196nm,1.2s,2µm								
KAPI	**Kappang**	**9.86**	**224**	Pn		**Pn**		**11 42 16.1**	**+0.1**
	700nm,0.9s,SNR=9.6								
KAPI	**Kappang**	**9.86**	**224**	Pn		Pn		11 42 11.0	-5.0
	0.3nm,0.3s,baz=54,slow=19,SNR=1.6								
KAPI				Sn		**Sn**		**11 44 03.3**	**-1.8**
	0.9nm,0.3s,baz=235,slow=2.6,SNR=1.8								
KAPI				LR		LR		11 46 50.1	
	comp=Z,3µm,20.1s,baz=74,slow=43								
KAPI	**Kappang**	**9.86**	**224**	*e*Pn		**Pn**		**11 42 16.2**	**+0.3**
KAPI				*e*Sn		**Sn**		**11 44 00.8**	**-4.3**
SDKM	**Sandakan**	**10.01**	**291**	⇑P		**Pn**		**11 42 16.8**	**-1.3**
BAKI	**Biak**	**10.06**	**109**	P		**Pn**		**11 42 20.7**	**+1.8**
	467nm,2.2s,12µm								
BSSI	**Bau Bau, Buton**	**10.23**	**217**	P		**Pn**		**11 42 22.2**	**+1.1**
	298nm,0.7s,3µm								
BSSI				S		**Sn**		**11 44 18.8**	**+4.4**
	298nm,0.7s,3µm								
BKB	**Balikpapan**	**10.27**	**251**	P		**Pn**		**11 42 23.0**	**+1.4**
	192nm,1.1s,2µm27µm								
SRPI	**Serui, Papua**	**10.43**	**112**	P		Pn		11 42 41.9	+18
KDM	**Kudat**	**10.83**	**296**	⇓P		Pn		11 42 38.2	+8.9
KKM	**Kota Kinabalu**	**11.06**	**291**	⇓P		**Pn**		**11 42 32.8**	**+0.2**
	baz=11,SNR=15								
KKM	**Kota Kinabalu**	**11.06**	**291**	⇓P		**Pn**		**11 42 31.8**	**-0.8**
KKM	**Kota Kinabalu**	**11.06**	**291**	*e*Pn		**Pn**		**11 42 33.4**	**+0.8**
	186nm,0.8s								
KKM				*e*Sn		**Sn**		**11 44 38.2**	**+3.4**
MMRI	**Maumere**	**11.54**	**202**	P		**Pn**		**11 42 40.2**	**+1.1**
	264nm,0.8s,3µm								
MMRI	**Maumere**	**11.54**	**202**	*e*Pn		**Pn**		**11 42 38.9**	**-0.1**
KBKI	**Kotabaru**	**11.74**	**243**	P		**Pn**		**11 42 43.9**	**+2.2**
	90nm,1.1s,1µm11µm								
SOEI	**Soe**	**12.03**	**191**	P		**Pn**		**11 42 48.4**	**+2.6**
	466nm,1.1s,4µm								
SOEI	**Soe**	**12.03**	**191**	*e*Pn		**Pn**		**11 42 48.2**	**+2.4**
SMPI	**Sarmi**	**12.78**	**109**	P		**Pn**		**11 42 57.0**	**+1.0**
	88nm,1.3s,3µm								
TGY	**Tagaytay City**	**13.15**	**335**	Pn		Pn		11 42 56.5	-4.5
	31nm,0.3s,baz=198,slow=20,SNR=2.2								
WSI	**Waingapu**	**13.29**	**208**	P		**Pn**		**11 43 02.3**	**-0.6**
BTM	**Bintulu**	**13.54**	**275**	⇓P		**P**		**11 43 12.4**	**-0.8**
GENI	**Genyem**	**14.36**	**109**	P		**P**		**11 43 20.1**	**-2.2**
	365nm,1.2s,4µm								
SBUM	**Sibu**	**14.37**	**272**	*e*Pn		**Pn**		**11 43 17.3**	**0.0**
JAY	**Jayapura**	**14.84**	**108**	P		**P**		**11 43 26.1**	**-1.7**
	112nm,0.8s,11µm								
JAY	**Jayapura**	**14.84**	**108**	Pn		**Pn**		**11 43 22.8**	**-0.6**
	2.9nm,0.3s,baz=273,slow=7.2,SNR=13								
JAY				Sn		**Sn**		**11 46 11.3**	**+4.6**
	0.4nm,0.3s,baz=44,slow=24,SNR=1.9								
JAY				LR		LR		11 48 41.4	
	comp=Z,3µm,21.1s,baz=290,slow=35								
SRBI	**Singaraja**	**15.23**	**228**	P		**P**		**11 43 31.3**	**-0.7**
	231nm,1.0s,2µm								
STKI	**Sintang**	**15.26**	**262**	P		**P**		**11 43 30.9**	**-1.4**
	177nm,1.4s,7µm								
BCPH	**Baguio City Da**	**15.35**	**338**	⇓*i*P		**Pn**		**11 43 29.1**	**-0.9**
MTN	**Manton Dam**	**15.54**	**163**	⇓P		**Pn**		**11 43 28.9**	**-3.4**
	baz=16,SNR=40								
MTN	**Manton Dam**	**15.54**	**163**	*e*Pn		**Pn**		**11 43 29.3**	**-3.1**
	156nm,1.1s								
KMMI	**Kiainget**	**15.56**	**234**	P		**P**		**11 43 34.6**	**-1.1**
	271nm,0.8s,3µm								
DNP	**Denpasar**	**15.62**	**226**	P		P		11 43 42.0	+5.6
PBKI	**Pangkalan Bun**	**15.68**	**252**	P		P		11 43 42.5	+5.5
IGBI	**Denpasar**	**15.77**	**226**	P		**P**		**11 43 38.0**	**0.0**
	467nm,1.2s,5µm								
ABJI	**Asem Bagus**	**15.79**	**231**	P		**P**		**11 43 38.9**	**+0.7**
	149nm,1.0s,3µm								
KDU	**Kakadu**	**15.83**	**159**	⇓P		**Pn**		**11 43 33.8**	**-2.3**
	baz=16,SNR=8.8								
BLJI	**Banyuglugur**	**16.26**	**233**	P		**P**		**11 43 44.2**	**+0.7**
	290nm,0.7s,3µm								
JAGI	**Jajag, Banyuwa**	**16.27**	**230**	P		**P**		**11 43 43.9**	**+0.2**
	237nm,0.9s,3µm								
JAGI	**Jajag, Banyuwa**	**16.27**	**230**	⇓P		**P**		**11 43 43.9**	**+0.2**
	baz=16,SNR=8.6								
JAGI	**Jajag, Banyuwa**	**16.27**	**230**	*e*P		**P**		**11 43 43.8**	**+0.1**
	176nm,0.8s								
KSM	**Kuching**	**16.29**	**268**	⇓P		**P**		**11 43 43.8**	**-0.1**
	baz=16,SNR=19								
KSM	**Kuching**	**16.29**	**268**	⇑P		**P**		**11 43 44.7**	**+0.9**
KSM	**Kuching**	**16.29**	**268**	*e*P		**P**		**11 43 43.0**	**-0.9**
	155nm,1.0s								
SZP	**Santa**	**16.47**	**339**	*e*Pn		**Pn**		**11 43 44.1**	**+0.1**
	216nm,0.9s								
SZP				*e*Sn		**Sn**		**11 46 46.4**	**+0.2**
NGJI	**Ngawi**	**17.81**	**238**	P		**Pn**		**11 44 02.6**	**+2.0**
	132nm,1.5s								
KNRA	**Kununurra**	**17.82**	**173**	⇓P		**P**		**11 43 58.6**	**-2.1**
	baz=18,SNR=212								
PWJI	**Pagerwojo**	**17.87**	**235**	P		**Pn**		**11 44 02.9**	**+1.5**
	171nm,1.1s								
WOJI	**Wonogiri, Jawa**	**18.50**	**237**	P		**Pn**		**11 44 10.2**	**+1.1**
	135nm,0.9s								
SMRI	**Semarang**	**18.52**	**240**	⇑P		**P**		**11 44 08.1**	**-0.4**
	baz=19								
SMRI	**Semarang**	**18.52**	**240**	*e*P		**P**		**11 44 08.2**	**-0.3**
UGM	**Wanagama**	**18.88**	**238**	P		**P**		**11 44 12.7**	**+0.2**
	174nm,0.9s								
UGM	**Wanagama**	**18.88**	**238**	⇓P		**P**		**11 44 12.5**	**0.0**
	baz=19,SNR=7.9								
TPI	**Tanjungpandan**	**19.55**	**256**	P		**P**		**11 44 19.7**	**0.0**
	87nm,1.1s,2µm								
DLV	**T Lat**	**20.43**	**299**	*e*P		Pn		11 44 32.5	+0.4
	11nm,0.3s								
CMJI	**Cimerak**	**20.61**	**241**	P		Pn		11 44 33.6	-0.4
	114nm,1.2s								
PPBI	**Pangkal Pinang**	**20.89**	**258**	P		**P**		**11 44 33.3**	**-1.0**
	86nm,1.1s,4µm								
LEM	**Lembang**	**20.93**	**245**	P		**P**		**11 44 33.8**	**-1.0**
	148nm,0.9s,2µm								
LEM	**Lembang**	**20.93**	**245**	P		**P**		**11 44 32.5**	**-2.4**
	36nm,0.6s,baz=15,slow=13,SNR=4.7								
LEM				LR		LR		11 54 46.7	
	comp=Z,2µm,20.2s,baz=54,slow=43								
CISI	**Cisompet, Garu**	**21.06**	**243**	P		**P**		**11 44 37.0**	**+0.8**
	185nm,0.9s								
CISI	**Cisompet, Garu**	**21.06**	**243**	*e*P		**P**		**11 44 35.7**	**-0.5**
	170nm,0.9s								
TWG	**Pinlang**	**21.26**	**346**	*e*P		**P**		**11 44 34.6**	**-3.4**
	301nm,0.6s								
GUMO	**Guam**	**21.36**	**57**	P		**P**		**11 44 38.4**	**-0.8**
	66nm,0.7s,baz=190,slow=12,SNR=4.8								
GUMO				LR		LR		11 52 07.1	
	comp=Z,548nm,20.6s,baz=232,slow=34								
GUMO	**Guam**	**21.36**	**57**	P		**P**		**11 44 38.4**	**-0.8**
GUMO				pmax		pmax			
	comp=Z,66nm,0.7s								
GUMO				MLR		MLR			
	comp=Z,548nm,20.6s								
GUMO	**Guam**	**21.36**	**57**	*e*P		**P**		**11 44 39.3**	**0.0**
CBJI	**Citeko**	**21.47**	**247**	P		**P**		**11 44 43.6**	**+3.2**
	comp=Z,868nm,0.9s								
CNJI	**Cibinong**	**21.57**	**244**	P		**P**		**11 44 42.4**	**+0.9**
	comp=Z,189nm,1.1s,comp=Z,2µm								
YULB	**Yu-li**	**21.75**	**347**	*e*P		**P**		**11 44 38.6**	**-4.8**
TPUB	**Ta-pu**	**21.83**	**345**	*e*P		**P**		**11 44 40.0**	**-4.2**
	comp=Z,163nm,0.9s								
DSRI	**Dabo**	**22.17**	**264**	P		**P**		**11 44 47.0**	**-1.0**
	comp=Z,212nm,1.2s								
SSLB	**Suanglung**	**22.21**	**346**	*e*P		**P**		**11 44 44.4**	**-4.0**
	comp=Z,75nm,0.7s								
PMBI	**Palembang**	**22.39**	**257**	P		P		11 44 58.5	+8.2
BLSI	**Bandar Lampung**	**22.59**	**251**	P		**P**		**11 44 54.7**	**+2.2**
	comp=Z,345nm,0.7s								
CGJI	**Cibinong**	**22.60**	**247**	P		**P**		**11 44 49.4**	**-3.2**
	comp=Z,206nm,1.0s,comp=Z,2µm								
MYKOM	**Kota Tinggi**	**22.74**	**270**	⇑P		**P**		**11 44 53.3**	**-0.7**
MYKOM	**Kota Tinggi**	**22.74**	**270**	*e*P		**P**		**11 44 52.6**	**-1.4**
	comp=Z,153nm,1.3s								
KLI	**Kotabumi**	**22.80**	**252**	P		**P**		**11 44 56.4**	**+1.6**
	comp=Z,262nm,0.8s								
BTDF	**Bukit Timah Da**	**22.83**	**268**	⇓P		**P**		**11 44 55.0**	**0.0**
	baz=23,SNR=4.5								
BTDF				⇓P		**P**		**11 44 55.0**	**0.0**
	baz=23,SNR=4.5								
KLSI		**22.88**	**253**	P		**P**		**11 44 53.4**	**-2.1**
	comp=Z,420nm,0.8s,comp=Z,4µm								
COEN	**Coen**	**22.92**	**135**	⇓P		**P**		**11 44 53.9**	**-2.0**
	baz=23,SNR=9.9								
COEN	**Coen**	**22.92**	**135**	*e*P		**P**		**11 44 54.0**	**-2.0**
	comp=Z,37nm,0.9s								
YHNB	**Yeheng**	**22.97**	**348**	*e*P		**P**		**11 44 54.6**	**-1.8**
	comp=Z,89nm,0.8s								
WB0	**Warramunga Arr**	**23.07**	**161**	⇓P		**P**		**11 44 54.7**	**-2.6**
	baz=23								
WRAB	**Tennant Creek**	**23.21**	**161**	P		**P**		**11 44 56.6**	**-2.1**
	comp=Z,2µm,0.6s,SNR=83								
WRAB	**Tennant Creek**	**23.21**	**161**	*ce*P		**P**		**11 44 57.0**	**-1.7**
WRAB				pmax		pmax			
	comp=Z,457nm,0.7s								
WRAB	**Tennant Creek**	**23.21**	**161**	*e*P		**P**		**11 44 56.1**	**-2.6**
	comp=Z,187nm,0.8s								
WRA	**Warramunga Arr**	**23.21**	**161**	P		**P**		**11 44 56.6**	**-2.2**
	comp=Z,167nm,0.8s,baz=339,slow=11,SNR=242								
WRA				PcP		**PcP**		**11 48 45.0**	**-0.1**
	comp=Z,7.9nm,0.7s,baz=338,slow=2.2,SNR=4.8								
WRA				S		**S**		**11 49 04.4**	**-1.6**
	comp=Z,15nm,0.8s,baz=339,slow=18,SNR=5.6								
WRA				ScP		**ScP**		**11 52 22.2**	**+4.4**
	comp=Z,2.8nm,0.9s,baz=340,slow=3.1,SNR=4.8								
WRA				P3KPbc				12 18 25.4	
	comp=Z,0.7nm,0.8s,baz=153,slow=3.9,SNR=4.9								
JMBI	**JAMBI**	**23.25**	**261**	P		**P**		**11 45 00.6**	**+1.4**
	comp=Z,979nm,1.0s,comp=Z,12µm								
KGM	**Kluang**	**23.26**	**270**	⇓P		**P**		**11 44 58.6**	**-0.8**
MDSI	**Maura Dua**	**23.35**	**254**	P		**P**		**11 44 57.6**	**-2.5**
	comp=Z,120nm,1.2s,comp=Z,2µm								
KASI	**Kota Agung**	**23.35**	**251**	P		**P**		**11 44 58.5**	**-1.6**
	comp=Z,405nm,0.8s,comp=Z,4µm								
HKC	**Hong Kong Obse**	**23.41**	**330**	*e*P		**P**		**11 45 00.0**	**-0.5**
PMG	**Port Moresby**	**23.47**	**120**	P		**P**		**11 44 60.0**	**-1.3**
	comp=Z,18nm,0.8s,baz=335,slow=4.3,SNR=6.8								
PMG				LR		LR		11 56 16.5	
	comp=Z,2µm,20.0s,baz=318,slow=42								
PMG	**Port Moresby**	**23.47**	**120**	*e*P		**P**		**11 44 59.6**	**-1.6**
PMG				pmax		pmax			
	comp=Z,422nm,2.4s								
QIZ	**Qiongzhong**	**23.48**	**317**	P		**P**		**11 44 59.3**	**-2.0**
QIZ				S		S		11 48 58.5	-12
QIZ				LN					
	comp=Z,2µm,22.0s								
QIZ				LE					
	comp=Z,470nm,20.3s								
QIZ				LZ					
	comp=Z,3µm,27.2s								
QIZ	**Qiongzhong**	**23.48**	**317**	*e*P		**P**		**11 45 00.2**	**-1.1**
	comp=Z,41nm,0.8s								
LWLI	**Liwa**	**23.61**	**252**	P		**P**		**11 45 01.9**	**-0.7**
	comp=Z,147nm,0.8s								
LHSI	**Lahat**	**23.81**	**256**	P		**P**		**11 45 04.4**	**+0.1**
	comp=Z,149nm,0.8s,comp=Z,2µm								
QZH	**Quanzhou**	**23.96**	**342**	⇓*i*P		**P**		**11 45 04.8**	**-0.7**
QZH				sP		**sP**		**11 45 27.3**	**-1.0**
QZH				S		S		11 49 10.5	-7.4
QZH				LN					
	comp=Z,22µm,39.3s								
QZH				LE					
	comp=Z,3µm,20.2s								
QZH				LZ					
	comp=Z,8µm,29.1s								
MBWA	**Marble Bar**	**24.10**	**196**	*e*P		**P**		**11 45 05.1**	**-1.7**
	comp=Z,89nm,1.2s								
XMI	**Christmas Isla**	**24.27**	**239**	⇓P		**P**		**11 45 08.3**	**-0.2**
	baz=24								
XMIS	**Christmas Isla**	**24.32**	**239**	⇑P		**P**		**11 45 08.2**	**-0.8**
	baz=24								
GZH	**Guangzhou**	**24.48**	**329**	P		**P**		**11 45 11.8**	**+1.5**
GZH				S		**S**		**11 49 30.3**	**+4.0**
GZH				LN					
	comp=Z,2µm,20.9s								
GZH				LE					
	comp=Z,3µm,20.4s								
MNAI	**Manna**	**24.49**	**255**	P		**P**		**11 45 10.1**	**-0.4**
	comp=Z,553nm,0.7s								
MNAI	**Manna**	**24.49**	**255**	⇑P		**P**		**11 45 10.4**	**-0.1**
	baz=25,SNR=9.5								
UBPT	**Khong Chiam**	**24.59**	**303**	P		**P**		**11 45 10.5**	**-0.9**
	comp=Z,64nm,1.6s,comp=Z,2µm								
JOW	**Kunigami**	**24.62**	**4**	*e*P		**P**		**11 45 12.4**	**+0.9**
	comp=Z,72nm,0.8s								
MASI	**Maura Aman, Be**	**24.91**	**258**	P		**P**		**11 45 15.2**	**+0.8**
	comp=Z,358nm,1.0s								
BKNI	**Bangkinang**	**25.61**	**266**	P		P		11 45 26.0	+5.3
BKNI	**Bangkinang**	**25.61**	**266**	⇓P		**P**		**11 45 20.8**	**+0.1**
	baz=26								
IPM	**Ipoh**	**25.63**	**276**	*e*P		**P**		**11 45 20.2**	**-0.7**
	comp=Z,108nm,1.3s								
QIS	**Mount Isa**	**25.90**	**151**	⇑P		**P**		**11 45 22.4**	**-0.8**
	baz=26,SNR=48								
KULM	**Kulim**	**26.08**	**278**	*e*P		**P**		**11 45 25.8**	**+0.8**
	comp=Z,103nm,1.4s								
PPI	**Padang Panjang**	**26.32**	**265**	P		**P**		**11 45 28.2**	**+1.1**
AS16	**Alice Springs**	**26.59**	**165**	⇑P		**P**		**11 45 28.0**	**-1.4**
	baz=27								
ASAR	**Alice Springs**	**26.61**	**165**	P		**P**		**11 45 27.7**	**-1.9**
	comp=Z,17nm,0.5s,baz=346,slow=7.6,SNR=110								
ASAR				PcP		**PcP**		**11 48 52.8**	**+0.2**
	comp=Z,14nm,0.5s,baz=353,slow=2.2,SNR=10								
ASAR				S		**S**		**11 50 04.0**	**+3.8**
	comp=Z,9.9nm,1.1s,baz=344,slow=18,SNR=5.2								
ASAR				P3KPbc				12 18 10.7	
	comp=Z,0.6nm,0.8s,baz=172,slow=5.0,SNR=4.6								
MTSU	**Mount Surprise**	**26.65**	**140**	⇓P		**P**		**11 45 29.4**	**-0.7**
	baz=27,SNR=35								
SKNT	**Sakolnakorn**	**26.68**	**305**	P		**P**		**11 45 29.9**	**-0.5**
	comp=Z,58nm,1.0s,comp=Z,992nm								
MNSI	**Mandailing Nat**	**27.04**	**268**	P		**P**		**11 45 32.8**	**-0.8**
	comp=Z,56nm,0.8s								
WRKA	**Warakurna**	**27.05**	**177**	⇓P		**P**		**11 45 33.0**	**-0.7**
	baz=27,SNR=431								
KHON	**Khomkaen**	**27.33**	**303**	P		**P**		**11 45 37.6**	**+1.4**
	comp=Z,31nm,0.9s,comp=Z,1µm								
GIRL	**Giralia**	**27.42**	**205**	⇑P		**P**		**11 45 37.1**	**+0.3**
	baz=28,SNR=8.9								
PSI	**Prapat**	**27.66**	**272**	P		**P**		**11 45 36.8**	**-2.5**
	comp=Z,20nm,0.8s,baz=109,slow=5.7,SNR=11								
PSI				S		**S**		**11 50 15.7**	**-1.4**
	comp=Z,3.1nm,0.4s,baz=130,slow=23,SNR=5.7								
PSI				ScP		**ScP**		**11 52 35.6**	**+4.7**
	comp=Z,4.4nm,0.4s,baz=324,slow=21,SNR=2.9								
PSI				LR		LR		11 58 50.4	
	comp=Z,620nm,18.5s,baz=130,slow=41								
PSI	**Prapat**	**27.66**	**272**	P		**P**		**11 45 36.8**	**-2.5**
PSI				S		**S**		**11 50 15.7**	**-1.4**
PSI	

GYA LZ
comp=Z,820nm,17.4s
LAMP Lampang 31.05 303 P **P** **11 46 09.7 +0.6**
comp=Z,13nm,0.8s,comp=Z,107nm
JNU Nakatsue 31.09 7 P **P** **11 46 08.8 -0.6**
comp=Z,30nm,0.8s,baz=175,slow=4.7,SNR=15
JNU LR LR 12 04 11.3
comp=Z,272nm,18.1s,baz=159,slow=47
JNU Nakatsue 31.09 7 *e*P **P** **11 46 08.6 -0.8**
comp=Z,23nm,0.8s
CRAI Chiangrai 31.29 307 P P 11 46 07.9 -3.4
comp=Z,35nm,1.1s,comp=Z,1µm
CMAR Chiang Mai Arr 31.59 303 P **P** **11 46 12.7 -1.2**
comp=Z,8.5nm,0.7s,baz=124,slow=7.0,SNR=21
CMAR PcP **PcP** **11 49 05.4 +0.1**
comp=Z,3.5nm,0.9s,baz=116,slow=2.1,SNR=4.1
CMAR ScP **ScP** **11 52 48.1 +4.9**
comp=Z,1.9nm,0.9s,baz=156,slow=2.4,SNR=5.4
CMAR LR LR 11 59 42.4
comp=Z,538nm,19.7s,baz=132,slow=38
CMMT Chiang Mai 31.75 303 P **P** **11 46 14.5 -0.9**
comp=Z,46nm,0.7s,comp=Z,548nm
CHTO Chiang Mai 31.76 303 P **P** **11 46 14.7 -0.7**
comp=Z,152nm,0.7s,comp=Z,2µm
CHTO Chiang Mai 31.76 303 *e*P **P** **11 46 12.5 -2.9**
CHTO pmax pmax
comp=Z,25nm,0.7s
CHTO Chiang Mai 31.76 303 *e*P **P** **11 46 12.5 -2.9**
comp=Z,25nm,0.7s
CMAI Chiengmai2 32.21 305 P **P** **11 46 19.4 -0.2**
comp=Z,38nm,0.8s
MHMT Maesarieng 32.32 301 P **P** **11 46 21.5 +1.1**
comp=Z,22nm,0.8s
ENH Enshi 32.35 332 *e*P **P** **11 46 20.1 -0.4**
comp=Z,18nm,0.9s
KMI Kunming 32.43 317 P **P** **11 46 21.0 -0.5**
KMI PP **PP** **11 47 34.0 -1.8**
KMI S **S** **11 51 30.5 -1.4**
KMI SS **SnSn** **11 53 35.3 +4.9**
KMI PMZ
comp=Z,24nm,1.4s
KMI PMZ
comp=Z,120nm,3.1s
KMI LN
comp=Z,450nm,31.1s
KMI LE
comp=Z,1µm,24.3s
KMI LZ
comp=Z,3µm,25.3s
MORW Morawa 32.63 197 ⇑P **P** **11 46 21.6 -1.2**
baz=33,SNR=18
FORT Forrest 32.75 178 ⇑P **P** **11 46 23.2 -0.7**
baz=33,SNR=116
FORT Forrest 32.75 178 *e*P **P** **11 46 22.8 -1.2**
comp=Z,450nm,0.8s
JHJ Hachijo jima 2 33.22 20 P **P** **11 46 27.7 -0.3**
comp=Z,147nm,0.8s,baz=148,slow=14,SNR=3.4
QLP Quilpie 33.24 150 P **P** **11 46 27.1 -1.2**
baz=33,SNR=25
KMBL Kambalda 33.61 187 ⇓P **P** **11 46 30.8 -0.6**
baz=34,SNR=11
BLDU Ballidu 33.90 195 ⇑P **P** **11 46 33.0 -0.9**
baz=34,SNR=51
TJN Taejon 34.09 1 *d i*P **P** **11 46 35.9 +0.4**
KSICN Icheon 35.00 1 P **P** **11 46 44.2 +0.8**
SNR=7.7
TIA Tai'an 35.03 347 ⇓P **P** **11 46 43.0 -0.7**
TIA S **S** **11 52 10.0 -1.4**
TIA PMZ
comp=Z,30nm,0.7s
TIA PMZ
comp=Z,230nm,8.0s
TIA LN
comp=Z,790nm,26.0s
TIA LE
comp=Z,690nm,26.0s
TIA LZ
comp=Z,2µm,27.0s
DGPR DIGLIPUR 35.07 290 *e*P **P** **11 46 44.1 -0.1**
DGPR AMB AMB 11 47 17.1
comp=Z,86nm,1.4s
HNR Honiara 35.15 110 LR LR 12 02 41.4
comp=Z,656nm,19.2s,baz=281,slow=39
KSAR Wonju Array Be 35.16 2 P **P** **11 46 45.1 +0.3**
KSAR 11 49 15.9
KSAR Wonju Array Be 35.16 2 P **P** **11 46 45.0 +0.3**
KSAR PcP **PcP** **11 49 15.8 +0.9**
KSRS Korea Array 35.17 2 P **P** **11 46 45.0 +0.2**
comp=Z,19nm,0.6s,baz=180,slow=9.9,SNR=95
KSRS PcP **PcP** **11 49 15.9 +0.9**
comp=Z,2.5nm,0.7s,baz=195,slow=3.8,SNR=4.8
KSRS LR LR 12 01 33.9
comp=Z,252nm,21.1s,baz=174,slow=37
KSRS Korea Array 35.17 2 P **P** **11 46 45.1 +0.2**
KSRS 11 49 15.9
KSRS pmax pmax
comp=Z,19nm,0.6s
KSRS pmax pmax
comp=Z,3.0nm,0.7s
KSRS MLR MLR
comp=Z,252nm,21.1s
KSDGY Daegwallycong 35.44 3 P **P** **11 46 48.1 +0.8**
SNR=19
KSCHC Chuncheon 35.49 2 P **P** **11 46 48.4 +0.7**
SNR=22
KSMUS Musan 35.59 0 P **P** **11 46 50.0 +1.6**
SNR=8.3
RMQ Roma 35.60 144 ⇑P **P** **11 46 47.8 -0.9**
baz=36,SNR=6.0
KSJMJ Jumunjin 35.64 3 P **P** **11 46 50.2 +1.4**
SNR=8.4
KSIJA INJE 35.71 2 P **P** **11 46 51.3 +1.8**
SNR=9.3
YNCB YEONCHEON 35.74 0 P **P** **11 46 51.3 +1.6**
SNR=23
XAN Xi'an 35.79 334 P **P** **11 46 48.5 -1.7**
XAN pP **pP** **11 47 03.5 -2.4**
XAN sP **sP** **11 47 10.8 -2.5**
XAN PP **PnPn** **11 48 10.0 -2.1**
XAN S **S** **11 52 19.0 -4.2**
XAN PMZ
comp=Z,36nm,1.0s
XAN LN
comp=Z,490nm,20.4s
XAN LE
comp=Z,720nm,26.1s
XAN LZ
comp=Z,1µm,21.2s
KSCWO Cheorwon 35.79 1 P **P** **11 46 51.9 +1.7**
SNR=12
CD2 Chengdu 35.86 325 *e*P **P** **11 46 51.0 +0.1**
CD2 pP **pP** **11 47 06.5 -0.1**
CD2 PP **PP** **11 48 14.0 +0.5**
CD2 PcP **PcP** **11 49 16.0 -1.2**
CD2 S **S** **11 52 26.3 +1.9**
CD2 sS **sS** **11 52 53.0 +1.9**
CD2 PMZ
comp=Z,50nm,0.5s
CD2 PMZ
comp=Z,160nm,4.0s
CD2 LN
comp=Z,1µm,27.0s
CD2 LE
comp=Z,2µm,20.6s
CD2 LZ
comp=Z,1µm,21.0s
BBOO Buckleboo 35.88 166 ⇓P **P** **11 46 49.8 -1.2**
baz=36,SNR=50
BBOO Buckleboo 35.88 166 *e*P **P** **11 46 49.9 -1.1**
comp=Z,16nm,0.4s
MAJO Matsushiro 35.89 16 *e*P **P** **11 46 49.6 -1.4**
MAJO pmax pmax
comp=Z,42nm,0.7s
MAJO Matsushiro 35.89 16 *e*P **P** **11 46 49.6 -1.4**
comp=Z,42nm,0.7s
MAT Matsushiro 35.89 16 P **P** **11 46 49.2 -1.8**
MAT S **S** **11 52 22.8 -1.8**
MJAR Matsushiro Arr 35.89 16 P **P** **11 46 49.5 -1.5**
comp=Z,50nm,0.9s,baz=193,slow=10,SNR=68
MJAR PcP **PcP** **11 49 17.6 +0.5**
comp=Z,3.8nm,1.0s,baz=192,slow=4.1,SNR=4.3
MJAR ScP **ScP** **11 53 02.5 +4.4**
comp=Z,3.2nm,1.1s,baz=190,slow=4.6,SNR=4.3
NWAO Narrogin (SRO) 35.97 193 ⇓P **P** **11 46 51.4 -0.3**
baz=36,SNR=24
NWAO ⇓P **P** **11 46 51.4 -0.3**
baz=36,SNR=24
KSSKC Sokcho 36.03 3 P **P** **11 46 54.0 +1.8**
SNR=7.8
EIDS Eidsvold 36.19 141 ⇑P **P** **11 46 52.5 -1.2**
baz=36,SNR=20
EIDS Eidsvold 36.19 141 *e*P **P** **11 46 52.6 -1.2**
comp=Z,14nm,0.7s
STKA Stephens Creek 36.69 158 P **P** **11 46 57.0 -0.9**
comp=Z,21nm,0.4s,baz=334,slow=8.1,SNR=32
STKA PP **PP** **11 48 22.0 -0.7**
comp=Z,35nm,1.0s,baz=321,slow=11,SNR=3.7
STKA LR LR 12 05 06.3
comp=Z,591nm,19.6s,baz=340,slow=41
STKA Stephens Creek 36.69 158 P **P** **11 46 57.1 -0.9**
STKA 11 48 22.0
STKA pmax pmax
comp=Z,21nm,0.4s
STKA pmax pmax
comp=Z,35nm,1.0s
STKA MLR MLR
comp=Z,591nm,19.6s
DL2 Dalian 36.88 354 P **P** **11 47 00.5 +1.1**
DL2 sP **sP** **11 47 22.5 -0.1**
DL2 S **S** **11 52 41.0 +1.3**
DL2 PMZ
comp=Z,110nm,1.2s
DL2 PMZ
comp=Z,140nm,3.9s
DL2 LN
comp=Z,390nm,19.6s
DL2 LE
comp=Z,520nm,21.7s
DL2 LZ
comp=Z,690nm,15.3s
HTT Hallett 37.23 163 P **P** **11 47 02.2 -0.4**
baz=37,SNR=14
RKGY Rocky Gully 37.65 193 ⇑P **P** **11 47 06.7 +0.8**
baz=38,SNR=21
TIY Taiyuan 37.73 342 *e*P **P** **11 47 07.8 +1.1**
TIY pP **pP** **11 47 26.0 +3.5**
TIY S **S** **11 52 53.3 +0.6**
TIY PMZ
comp=Z,190nm,6.8s
TIY LN
comp=Z,1µm,19.4s
TIY LZ
comp=Z,2µm,27.6s
CMSA Cobar Meteorol 38.08 153 ⇓P **P** **11 47 08.6 -1.1**
baz=38,SNR=15
BJT Baijiatuan 38.89 347 *e*P **P** **11 47 16.0 -0.3**
BJT pmax pmax
comp=Z,88nm,0.8s
BJT Baijiatuan 38.89 347 *e*P **P** **11 47 16.0 -0.3**
comp=Z,88nm,0.8s
BJI Beijing 38.91 347 P **P** **11 47 16.0 -0.5**
BJI pP **pP** **11 47 32.0 -0.3**
BJI S **S** **11 53 08.8 -1.4**
BJI PMZ
comp=Z,96nm,1.0s
BJI LN
comp=Z,320nm,28.8s
BJI LE
comp=Z,720nm,23.2s
BJI LZ
comp=Z,890nm,27.7s
SNY Shenyang 39.62 356 ⇑P **P** **11 47 22.5 +0.2**
SNY S **S** **11 53 20.0 -0.8**
SNY PMZ
comp=Z,35nm,0.7s
SNY PMZ
comp=Z,220nm,2.9s
SNY LN
comp=Z,450nm,19.9s
SNY LE
comp=Z,730nm,24.5s
SNY LZ
comp=Z,1µm,26.9s
LZH Lanzhou 39.82 331 ⇑P **P** **11 47 24.8 +0.4**
LZH pP **pP** **11 47 39.5 -0.7**
LZH sP **sP** **11 47 46.0 -1.6**
LZH S **S** **11 53 27.3 +2.9**
LZH sS **sS** **11 53 52.0 +0.6**
LZH SS **SS** **11 56 18.8 -4.0**
LZH PMZ
comp=Z,130nm,1.1s
LZH PMZ
comp=Z,560nm,4.6s
LZH LN
comp=Z,820nm,14.5s
LZH LE
comp=Z,370nm,14.8s
LZH LZ
comp=Z,960nm,16.0s
ARMA Armidale 40.22 146 P **P** **11 47 27.4 -0.3**
baz=40,SNR=49
ARMA Armidale 40.22 146 *e*P **P** **11 47 27.4 -0.3**
comp=Z,70nm,0.9s
MSHR Mys Shultsa 40.48 5 *e*P **P** **11 47 28.1 -1.4**
SHL Shillong 40.73 308 *e*P **P** **11 47 32.8 +0.6**
SHL AMB AMB 11 47 35.6
comp=Z,73nm,2.2s
HHC Hu-ho-hao-te 40.87 343 *e*P **P** **11 47 35.0 +2.1**
HHC pP **pP** **11 47 50.5 +1.6**
HHC sP **sP** **11 47 59.0 +2.8**
HHC PP **PnPn** **11 49 14.3 +1.4**
HHC S **S** **11 53 39.5 -0.4**
HHC SS **SS** **11 56 43.3 -0.2**
HHC PMZ
comp=Z,26nm,0.9s
HHC PMZ
comp=Z,170nm,4.7s
HHC LN
comp=Z,1µm,21.0s
HHC LE
comp=Z,580nm,19.7s
HHC LZ
comp=Z,2µm,18.5s
ARPS Mount Arapiles 41.22 161 ⇓P **P** **11 47 35.4 -0.3**
baz=41,SNR=32
CN2 Changchun 41.51 359 *e*P **P** **11 47 39.5 +1.6**
CN2 *e*pP **pP** **11 47 54.5 +0.6**
CN2 *e*S **S** **11 53 51.5 +2.5**
CN2 PMZ
comp=Z,10.0nm,0.8s
CN2 LN
comp=Z,400nm,20.0s
CN2 LE
comp=Z,700nm,20.0s
CN2 LZ
comp=Z,300nm,20.0s
YNG Young 41.63 152 ⇓P **P** **11 47 39.5 +0.4**
baz=42,SNR=17
MGCD Mangrove Creek 42.08 149 ⇑P **P** **11 47 43.1 +0.3**
baz=42,SNR=5.1
USRK Ussuriysk Ar. 42.16 6 P **P** **11 47 43.8 +0.5**
comp=Z,90nm,1.0s,baz=190,slow=7.7,SNR=44
USRK S **S** **11 54 02.6 +4.0**
comp=Z,0.6nm,0.5s,baz=146,slow=33,SNR=2.5
MDJ Mudanjiang 42.39 3 P **P** **11 47 45.5 +0.3**
MDJ pP **pP** **11 48 01.0 -0.1**
MDJ sP **sP** **11 48 08.0 -0.5**
MDJ PP **PP** **11 49 24.3 -0.2**
MDJ S **S** **11 54 05.0 +3.0**
MDJ sS **sS** **11 54 32.0 +2.8**
MDJ PMZ
comp=Z,31nm,0.8s
MDJ PMZ
comp=Z,130nm,3.7s
MDJ LN
comp=Z,1µm,26.4s
MDJ LE
comp=Z,240nm,19.3s
MDJ LZ
comp=Z,1µm,25.5s
MDJ Mudanjiang 42.39 3 *e*P **P** **11 47 46.1 +1.0**
comp=Z,64nm,1.2s
ERM Erimo 42.40 18 *i* P **P** **11 47 46.4 +1.1**
H11S3 WAKE ISLAND Hy 42.51 65 T T 12 33 13.1
baz=252,slow=75
H11S2 WAKE ISLAND Hy 42.53 65 T T 12 33 16.4
baz=252,slow=75
H11S1 WAKE ISLAND Hy 42.53 65 T T 12 33 16.5
baz=252,slow=75
CAN Canberra 42.75 153 *e*P **P** **11 47 48.6 +0.3**
CAN pmax pmax
comp=Z,208nm,1.6s
CAN Canberra 42.75 153 ⇑P **P** **11 47 48.9 +0.6**
baz=43
CAN Canberra 42.75 153 *e*P **P** **11 47 48.6 +0.3**
comp=Z,208nm,1.6s
CNB Canberra Magne 42.92 152 P **P** **11 47 50.6 +0.9**
baz=43,SNR=6.0
H11N1 WAKE ISLAND Hy 43.08 63 T T 12 33 52.2
baz=252
H11N2 WAKE ISLAND Hy 43.09 63 T T 12 33 56.0
baz=252
H11N3 WAKE ISLAND Hy 43.09 63 T T 12 33 54.1
baz=252
TOO Toolangi 43.21 158 P **P** **11 47 53.0 +1.0**
baz=43,SNR=11
LSA Lhasa 43.41 313 P **P** **11 47 54.3 +0.1**
LSA S **S** **11 54 18.0 -0.3**
LSA LN
comp=Z,640nm,36.0s
LSA LZ
comp=Z,1µm,32.0s
LSA Lhasa 43.41 313 *e*P **P** **11 47 54.1 -0.1**
LSA pmax pmax
comp=Z,56nm,0.8s
LSA Lhasa 43.41 313 *e*P **P** **11 47 54.1 -0.1**
comp=Z,56nm,0.8s
ASAJ Asahikawa 44.15 17 LR LR 12 06 33.9
comp=Z,434nm,20.3s,slow=36
ASAJ Asahikawa 44.15 17 *e*P **P** **11 48 00.1 +0.8**
comp=Z,22nm,1.0s
GTA Gaotai 44.40 330 ⇓P **P** **11 48 00.8 -0.8**
GTA PcP **PP** **11 49 46.0 -0.3**
GTA S **S** **11 54 32.3 +0.4**
GTA PMZ
comp=Z,25nm,1.4s
GTA PMZ
comp=Z,120nm,5.9s
GTA LN
comp=Z,880nm,20.9s
GTA LE
comp=Z,1µm,21.4s
GTA LZ
comp=Z,2µm,23.8s
CHLP Challavanipeta 44.74 294 *e*P **P** **11 48 05.5 +1.1**
CHLP IAmb IAmb 11 48 09.3
comp=Z,21nm,0.8s
TAPN Taplejung 44.87 308 *e*P **P** **11 48 04.3 -1.4**
comp=Z,157nm,1.0s
BOK Bokaro 44.87 302 *e*P **P** **11 48 04.9 -0.6**
BOK AMB AMB 11 48 06.7
comp=Z,26nm,1.5s
ODAN Odare 44.90 307 *e*P **P** **11 48 04.5 -1.4**
comp=Z,117nm,0.7s
VIS Vishakhapatnam 45.19 293 *e*P **P** **11 48 08.8 +0.8**
VIS AMB AMB 11 48 45.2
comp=Z,32nm,0.5s
RAMN Ramite 45.57 307 *e*P **P** **11 48 10.1 -1.2**
comp=Z,130nm,0.8s
DZM Mont Dzumac 45.74 124 P **P** **11 48 12.5 +0.1**
comp=Z,25nm,1.1s,baz=90,slow=24,SNR=6.7
DZM LR LR 12 08 35.1
comp=Z,914nm,20.1s,baz=0.0,slow=38
PALK Pallekele 46.00 278 LR LR 12 09 19.9
comp=Z,441nm,22.0s,baz=109,slow=39
GUN Gumba 46.57 307 *e*P **P** **11 48 17.8 -1.4**
comp=Z,221nm,0.7s
PVM Polavaram 46.65 292 *e*P **P** **11 48 18.2 -1.3**
PVM IAmb IAmb 11 48 23.2
comp=Z,22nm,0.9s
HABR Khabarovsk 46.74 8 *ce*P **P** **11 48 17.6 -2.1**
HABR *e**PP **pP** **11 48 33.1 -2.8**
HABR 11 49 49.9
HABR *e* 11 50 08.2
HABR *e*PPP PPP 11 50 52.5
HABR *e*S **S** **11 55 03.7 -1.2**
HABR *e* 11 58 06.4
HABR *e*SSS SSS 11 59 34.6
HABR pmax pmax
comp=Z,135nm,1.3s
HABR pmax pmax
comp=E,59nm,1.8s
HABR pmax pmax
comp=N,51nm,1.8s
HABR MLR MLR
comp=Z,277nm,20.0s
PKI Pulchoki 46.80 307 *e*P **P** **11 48 19.2 -1.8**
comp=Z,52nm,0.7s
PKIN Phulchoki 46.81 307 *e*P **P** **11 48 19.1 -1.9**
comp=Z,36nm,0.7s
YSS Yuzh-Sakhalins 46.81 15 ⇑ *i*P **P** **11 48 20.0 -0.3**
YSS *e* 11 48 34.8
YSS *e*S **S** **11 55 05.0 -1.0**
YSS pmax pmax
comp=Z,40nm,1.0s
YSS pmax pmax
comp=Z,50nm,0.3s
YSS MLR MLR
comp=Z,600nm,20.0s
YSS MLR MLR
comp=N,600nm,21.0s
YSS Yuzh-Sakhalins 46.81 15 *e*P **P** **11 48 20.7 +0.4**
comp=N,39nm,0.4s
KUR Kuril'sk 46.83 21 *d i*P P 11 48 14.0 -6.5
KUR *i* S **S** **11 55 08.4 +2.1**
KKN Kakani 46.99 307 *e*P **P** **11 48 20.7 -1.7**
DMN Daman 47.06 307 *e*P **P** **11 48 21.4 -1.5**
comp=N,98nm,0.8s
KLR Kul'dur 47.13 5 *e*P P 11 48 19.2 -3.6
KLR *e*S **S** **11 55 05.5 -5.0**
KLR *e* 11 58 33.5
KLR pmax pmax
comp=Z,74nm,1.6s
HIA Hailar 47.33 354 *e*P **P** **11 48 25.4 +1.0**
HIA pmax pmax
comp=Z,28nm,0.8s
HIA Hailar 47.33 354 *e*P **P** **11 48 25.4 +1.0**
comp=Z,28nm,0.8s
GKN Gorkha 47.60 307 *e*P **P** **11 48 25.2 -1.8**
comp=Z,95nm,0.9s
SKHT Srikalahasti 47.75 287 *e*P **P** **11 48 26.9 -1.2**
SKHT IAmb IAmb 11 48 30.1
comp=Z,11nm,0.7s
KOLN Koldanda 48.34 306 *e*P **P** **11 48 31.4 -1.4**
comp=Z,186nm,0.7s
DANN Dangsing 48.45 307 *e*P **P** **11 48 32.1 -1.6**
ULN Ulaanbaatar 48.59 343 *e*P **P** **11 48 34.0 -0.4**
ULN pmax pmax
comp=Z,18nm,0.6s
ULN Ulaanbaatar 48.59 343 *e*P **P** **11 48 34.0 -0.4**
comp=Z,18nm,0.6s
NJS Nagarjunasagar 48.66 290 *e*P **P** **11 48 34.2 -1.0**
NJS IAmb IAmb 11 48 38.7
comp=Z,20nm,1.1s
SONM Songino Array 48.77 342 P **P** **11 48 35.1 -0.6**
comp=Z,15nm,0.8s,baz=156,slow=8.3,SNR=40
SONM PcP **PcP** **11 50 00.7 +1.0**
comp=Z,6.9nm,0.7s,baz=160,slow=3.2,SNR=4.1
SONM ScP **ScP** **11 53 54.4 +5.0**
comp=Z,1.3nm,0.8s,baz=159,slow=4.5,SNR=3.7
SONM LR LR 12 11 22.0
comp=Z,789nm,21.9s,baz=157,slow=39
RCLA Racherla 48.77 289 *e*P **P** **11 48 34.6 -1.5**
RCLA IAmb IAmb 11 48 40.1
comp=Z,26nm,0.7s
SRLM Srisailam 48.96 289 *e*P **P** **11 48 35.8 -1.7**
SRLM IAmb IAmb 11 48 41.2
comp=Z,16nm,0.8s
RPR Rampur 49.19 293 *e*P **P** **11 48 38.1 -1.1**
RPR IAmb IAmb 11 48 42.8
comp=Z,33nm,1.0s
HYB Hyderabad 49.55 291 *i* P **P** **11 48 40.0 -2.0**
HYB Hyderabad 49.55 291 *e*P **P** **11 48 41.0 -1.0**
HYB AMB AMB 11 48 41.6
comp=Z,33nm,0.7s
HYBB Hyderabad (bro 49.55 291 *e*P **P** **11 48 40.5 -1.5**
HYBB IAmb IAmb 11 48 45.5
comp=Z,28nm,0.7s
SRSP Sriramsagar 50.08 293 *e*P **P** **11 48 44.6 -1.4**
SRSP IAmb IAmb 11 48 48.9
comp=Z,33nm,1.1s
URV Uravakonda 50.29 288 *e*P **P** **11 48 45.7 -1.9**
URV IAmb IAmb 11 48 51.5
comp=Z,19nm,0.8s
CIT Chita 50.91 350 *e*P **P** **11 48 54.2 +2.5**
CIT *e* 11 49 14.1
CIT pmax pmax
comp=Z,184nm,2.2s
KLRI Killari 51.51 291 *e*P **P** **11 48 54.4 -2.4**

KLRI IAmb IAmb 11 49 02.3
comp=Z,39nm,0.9s
ZAK Zakamensk 51.98 341 *e*P **P** **11 48 59.2 -0.7**
ZAK pmax pmax
comp=Z,7.0nm,0.8s
BHPL Bhopal 52.02 298 *e*P **P** **11 48 60.0 -0.5**
BHPL AMB AMB 11 49 03.9
comp=Z,40nm,0.0s
NKL Nikolayevsk 52.17 11 *e*P **P** **11 48 59.0 -2.0**
NKL pmax pmax
comp=Z,43nm,1.0s
TLY Talaya 53.00 342 P **P** **11 49 07.4 +0.2**
comp=Z,15nm,0.7s,baz=171,slow=6.4,SNR=12
TLY S **S** **11 56 31.6 -0.7**
comp=Z,1.1nm,0.2s,baz=281,slow=16,SNR=1.9
TLY Talaya 53.00 342 *e*P **P** **11 49 08.0 +0.7**
TLY *e*S **S** **11 56 31.8 -0.4**
TLY pmax pmax
comp=Z,27nm,1.0s
TLY Talaya 53.00 342 P **P** **11 49 08.7 +1.4**
comp=Z,151nm,0.8s,SNR=6.3
TLY Talaya 53.00 342 *e*P **P** **11 49 08.2 +1.0**
TLY S **S** **11 56 31.6 -0.7**
IRK Irkutsk 53.31 343 *e*P **P** **11 49 09.2 -0.3**
IRK pmax pmax
comp=Z,75nm,2.2s
GOA Goa 53.65 288 *e*P **P** **11 49 14.1 +1.5**
GOA AMB AMB 11 49 18.2
comp=Z,45nm,1.1s
DDI Dehra Dun 53.80 307 *e*P **P** **11 49 12.5 -1.0**
DDI AMB AMB 11 49 14.2
comp=Z,70nm,1.3s
MOY Mondy 53.83 341 *e*P **P** **11 49 14.2 +0.7**
MOY pmax pmax
comp=Z,56nm,2.2s
WMQ Urumqi 53.96 326 P **P** **11 49 14.3 -0.2**
WMQ pP **pP** **11 49 30.0 -1.0**
WMQ sP **sP** **11 49 37.3 -0.9**
WMQ PcP **PcP** **11 50 19.3 +0.2**
WMQ PcS **PcS** **11 54 16.5 -1.9**
WMQ S **S** **11 56 44.0 -1.6**
WMQ sS **sS** **11 57 11.0 -2.6**
WMQ ScS **ScS** **11 58 54.5 -3.8**
WMQ SS **SS** **12 00 25.5 -2.2**
WMQ PMZ
comp=Z,34nm,0.8s
WMQ PMZ
comp=Z,120nm,3.7s
WMQ LN
comp=Z,850nm,24.0s
WMQ LE
comp=Z,740nm,24.6s
WMQ LZ
comp=Z,1μm,28.0s
POO Poona 54.16 291 *e*P **P** **11 49 17.7 +1.4**
POO AMB AMB 11 49 53.6
comp=Z,40nm,6.2s
MSVF Nonsavu 54.38 114 *e*P **P** **11 49 18.7 +0.7**
MSVF pmax pmax
comp=Z,56nm,1.0s
MSVF Nonsavu 54.38 114 *e*P **P** **11 49 18.7 +0.7**
comp=Z,56nm,1.0s
SMLA Simla 54.81 307 *e*P **P** **11 49 20.7 0.0**
SMLA AMB AMB 11 49 28.3
comp=Z,121nm,0.8s
BHK Bhakra 55.51 307 *ex* P 11 49 29.8 +3.9
DHRM DHARAMSHALA 55.91 308 *e*P **P** **11 49 28.1 -0.9**
DHRM AMB AMB 11 49 32.1
comp=Z,159nm,0.4s
DLH Dalhousie 56.28 308 *ex* **P** **11 49 29.0 -2.6**
BOD Bodaibo 56.42 352 *e*P **P** **11 49 32.0 +0.2**
BOD pmax pmax
comp=Z,30nm,1.5s
PETK Petropavlovsk- 56.95 22 P **P** **11 49 35.8 0.0**
comp=Z,18nm,0.7s,baz=193,slow=5.9,SNR=10
PET Petropavlovsk 57.25 22 *e*P **P** **11 49 35.5 -2.2**
PET *e**PP **pP** **11 49 52.8 -1.6**
PET *e*S **S** **11 57 25.0 -3.9**
PET *e*SS **SS** **12 01 21.0 +2.0**
PET *e*SSS SSS 12 03 32.8
PET pmax pmax
comp=Z,44nm,1.2s
PET pmax pmax
comp=Z,100nm,20.4s
PET MLR MLR
comp=Z,300nm,22.0s
MK02 Makanchi Array 58.77 326 ⇑P **P** **11 49 47.4 -1.2**
baz=59
MK31 Makanchi Array 58.79 326 P **P** **11 49 47.3 -1.5**
MK31 pmax pmax
comp=Z,8.0nm,0.3s
MKAR Makanchi Array 58.79 326 P **P** **11 49 47.5 -1.3**
comp=Z,15nm,0.4s,baz=121,slow=8.5,SNR=120
MKAR ScP **ScP** **11 54 36.3 +3.2**
comp=Z,2.6nm,0.9s,baz=130,slow=5.8,SNR=4.6
MKAR S **S** **11 57 50.1 +0.7**
comp=Z,0.3nm,0.4s,baz=48,slow=16,SNR=2.2
MKAR LR LR 12 16 43.1
comp=Z,832nm,21.8s,baz=115,slow=38
MKAR PKP2bc 12 19 35.4
comp=Z,0.6nm,0.7s,baz=298,slow=2.6,SNR=3.8
MKAR Makanchi Array 58.79 326 ⇑P **P** **11 49 47.6 -1.2**
baz=59
KSH Kashi 59.08 316 P **P** **11 49 52.5 +1.4**
KSH pP **pP** **11 50 07.0 -0.8**
KSH sP **sP** **11 50 15.0 0.0**
KSH PP **PP** **11 52 07.0 +4.7**
KSH S **S** **11 57 53.8 +0.2**
KSH sS **sS** **11 58 25.0 +3.0**
KSH SS **SS** **12 01 54.0 +5.3**
KSH PMZ
comp=Z,190nm,2.1s
KSH LN
comp=Z,590nm,7.7s
KSH LE
comp=Z,380nm,6.9s
KSH LZ
comp=Z,290nm,6.0s
YAK Yakutsk 59.80 2 *e*P **P** **11 49 55.5 +0.1**
YAK *e**PP **pP** **11 50 16.3 +4.2**
YAK *e* 11 50 40.8
YAK *e*PPP PPP 11 53 29.1
YAK *e*S **S** **11 57 59.9 -1.9**
YAK *e* 11 59 38.5
YAK *e*SS **SS** **12 01 55.1 -3.7**
YAK *e*SSS SSS 12 04 35.6
YAK pmax pmax
comp=Z,99nm,0.9s
YAK pmax pmax
comp=N,30nm,1.2s
YAK pmax pmax
comp=Z,319nm,3.7s
YAK pmax pmax
comp=E,204nm,4.2s
YAK pmax pmax
comp=N,320nm,3.7s
YAK smax smax
comp=N,173nm,2.2s
YAK smax smax
comp=E,219nm,2.5s
YAK Yakutsk 59.80 2 *e*P **P** **11 49 54.8 -0.6**
comp=E,113nm,0.9s
MA2 Magadan 60.28 14 *i* P **P** **11 49 59.8 +1.1**
RPZ Rata Peaks 60.54 144 *e*P **P** **11 49 60.0 -0.8**
comp=E,31nm,0.9s
TKM2 Tokmak 2 60.86 319 *e*P **P** **11 50 02.9 -0.3**
TKM2 pmax pmax
comp=Z,21nm,0.9s
TKM2 Tokmak 2 60.86 319 *e*P **P** **11 50 02.9 -0.3**
comp=Z,20nm,0.9s
FRU Bishkek 61.46 319 *e*P **P** **11 50 06.0 -1.1**
FRU pmax pmax
comp=Z,55nm,2.1s
URZ Urewera 61.48 136 *e*P **P** **11 50 06.4 -0.8**
comp=Z,17nm,0.8s
EKS2 Erkin-Say 61.94 318 *e*P **P** **11 50 09.3 -1.2**
EKS2 pmax pmax
comp=Z,16nm,0.8s
EKS2 Erkin-Say 61.94 318 *e*P **P** **11 50 09.3 -1.2**
comp=Z,16nm,0.8s
ZALV Zalesovo Beam 61.95 333 P **P** **11 50 08.1 -2.0**
comp=Z,4.9nm,0.4s,baz=139,slow=6.3,SNR=19
ZALV PKPPKP **P'P'df** **12 19 19.3 +0.2**
comp=Z,0.5nm,0.3s,baz=319,slow=4.2,SNR=3.7
ZALV PKP2bc 12 19 25.9
comp=Z,2.4nm,0.7s,baz=17,slow=6.2,SNR=3.8
ZALV PKP2ab 12 19 33.1
comp=Z,0.5nm,0.4s,baz=349,slow=1.5,SNR=5.2
ZALV LR LR 12 19 46.7
comp=Z,217nm,19.4s,baz=77,slow=39
KBL Kabul 62.39 308 *e*P **P** **11 50 12.1 -1.7**
KBL pmax pmax
comp=Z,37nm,0.7s
KBL Kabul 62.39 308 ⇓P **P** **11 50 12.7 -1.0**
baz=63,SNR=11
KBL Kabul 62.39 308 *e*P **P** **11 50 12.1 -1.7**
comp=Z,37nm,0.7s
KURBB Kurchatov Arra 63.01 328 P **P** **11 50 16.2 -1.0**
comp=Z,41nm,0.5s,baz=129,slow=6.2,SNR=93
KURBB PP **PP** **11 52 34.2 -2.3**
comp=Z,2.3nm,0.8s,baz=134,slow=5.4,SNR=4.4
KURBB S **S** **11 58 42.5 -0.4**
comp=Z,0.1nm,0.3s,baz=166,slow=4.8,SNR=3.5
KURK Kurchatov 63.02 328 P **P** **11 50 16.3 -1.0**
KURK 11 52 34.2
KURK S **S** **11 58 42.5 -0.4**
KURK Kurchatov 63.02 328 P **P** **11 50 16.2 -1.0**
KURK PP **PP** **11 52 34.2 -2.4**
KURK *S* **S** **11 58 42.5 -0.4**
NVS Novosibirsk 63.23 334 *e*P **P** **11 50 17.5 -1.1**
NVS *e* 11 50 55.8
NVS *e*S **S** **11 58 41.7 -3.8**
NVS *e* 12 00 05.9
NVS pmax pmax
comp=N,10.0nm,1.0s
NVS pmax pmax
comp=E,12nm,1.0s
NVS pmax pmax
comp=Z,13nm,1.0s
NVS smax smax
comp=N,35nm,2.5s
NVS smax smax
comp=E,37nm,2.6s
SEY Seymchan 63.61 13 P **P** **11 50 21.7 +0.7**
baz=216,slow=6.2
SEY Seymchan 63.61 13*c i*P **P** **11 50 22.2 +1.2**
KK31 Karatay Array 64.31 318 *i* P **P** **11 50 24.4 -1.6**
KK31 pmax pmax
comp=Z,4.0nm,0.4s
KKAR Karatay Array 64.31 318 *e*P **P** **11 50 25.3 -0.7**
KKAR pmax pmax
comp=Z,11nm,0.8s
KKAR Karatay Array 64.31 318 *e*P **P** **11 50 25.3 -0.7**
comp=Z,11nm,0.8s
AMKA Amchitka 65.91 33 *e*P **P** **11 50 36.6 +0.4**
comp=Z,55nm,0.9s
BVA0 Borovoye Array 68.58 327 *i* P **P** **11 50 51.8 -1.3**
BVA0 pmax pmax
comp=Z,44nm,1.1s
BVAR Borovoye Array 68.58 327 P **P** **11 50 52.3 -0.8**
comp=Z,13nm,0.6s,baz=134,slow=6.4,SNR=46
BVAR S **S** **11 59 47.1 -3.6**
comp=Z,0.3nm,0.4s,baz=103,slow=12,SNR=2.1
BRVK Borovoye 68.66 327 P **P** **11 50 53.5 0.0**
comp=Z,211nm,0.7s,SNR=8.7
BRVK Borovoye 68.66 327*ce*P **P** **11 50 52.6 -0.9**
BRVK pmax pmax
comp=Z,42nm,1.3s
BRVK Borovoye 68.66 327 *e*P **P** **11 50 53.4 -0.2**
comp=Z,21nm,0.6s
CASY Casey 69.22 187 *e*P **P** **11 50 56.4 -0.3**
comp=Z,41nm,0.8s
DRV Dumont d'Urvil 69.31 174 P P 11 50 42.0 -15
DRV S **S** **11 59 59.0 +0.3**
DRV R 12 11 00.0
IDAH Dahanechah 69.35 304 *e*P **P** **11 50 58.7 0.0**
IMYA Miami 69.91 308 *e*P **P** **11 51 00.9 -0.9**
IKOO Kooniah 70.01 304 *e*P **P** **11 51 02.4 -0.3**
ISRO Mashad 70.40 308 *e*P **P** **11 51 04.7 -0.1**
IMOG Moghan 70.46 308 *e*P **P** **11 51 05.0 -0.4**
PAF Port-aux-Franc 70.50 215 S S 11 59 53.0 -20
PAF R 12 13 00.0
IAKL Akhelmad 71.02 308 *e*P **P** **11 51 07.6 -1.2**
MRIV Mauritius Mete 71.22 248 *e*P **P** **11 51 10.5 +0.5**
GEYT Alibeck 71.79 309 P **P** **11 51 12.5 -0.6**
comp=Z,11nm,0.6s,baz=151,slow=3.4,SNR=14
IBAF Bafgh 72.75 302 *e*P **P** **11 51 18.5 -0.7**
AB31 Akbulak array 73.30 321 *i* P **P** **11 51 20.2 -1.6**
AB31 pmax pmax
comp=Z,4.0nm,0.4s
ABKAR Akbulak array 73.30 321 *e*P **P** **11 51 21.2 -0.5**
comp=Z,8.9nm,0.6s
ISRV Sarvestan 74.58 300 *e*P **P** **11 51 29.0 -1.0**
IPAR Pars 74.68 300 *e*P **P** **11 51 29.2 -1.4**
UNV Unalaska Valle 74.81 34 *e*P **P** **11 51 31.1 +0.6**
comp=Z,66nm,1.0s
AKTO Aktyubinsk 74.83 322 P **P** **11 51 30.1 -0.6**
comp=Z,21nm,0.8s,baz=103,slow=7.1,SNR=42
AKTO S **S** **12 01 02.1 -0.5**
comp=Z,0.4nm,0.5s,baz=191,slow=19,SNR=3.5
SVE Sverdlovsk 75.25 329*de*P **P** **11 51 32.7 -0.2**
SVE *e*S **S** **12 01 05.1 -2.0**
SVE pmax pmax
comp=Z,110nm,0.8s
IZEF Zefreh 75.65 303 *e*P **P** **11 51 35.4 -0.7**
IKAZ Kazeroun 75.72 300 *e*P **P** **11 51 35.1 -1.6**
ARU Arti 76.21 328 P **P** **11 51 37.5 -0.9**
comp=Z,48nm,0.7s,baz=106,slow=3.9,SNR=57
ARU S **S** **12 01 15.8 -1.9**
comp=Z,1.9nm,0.2s,baz=270,slow=20,SNR=3.3
ARU Arti 76.21 328*d i*P **P** **11 51 36.9 -1.5**
ARU *PP **PcP** **11 51 52.6 +2.4**
ARU 11 54 27.5
ARU S **S** **12 01 16.9 -0.8**
ARU *SS **SKKSac** **12 01 44.2 -0.2**
ARU pmax pmax
comp=Z,108nm,1.2s
ARU MLR MLR
comp=Z,713nm,27.0s
ARU Arti 76.21 328 P **P** **11 51 37.3 -1.1**
comp=Z,570nm,0.7s,SNR=14
ARU Arti 76.21 328 *e*P **P** **11 51 37.1 -1.3**
comp=Z,67nm,0.8s
ARU S **S** **12 01 15.8 -1.9**
IVRN Varamin 76.40 305 *e*P **P** **11 51 38.9 -1.2**
IPIR Pirpir 76.83 303 *e*P **P** **11 51 40.4 -2.4**
FALS False Pass 76.83 34 *e*P **P** **11 51 42.4 +0.5**
comp=Z,52nm,1.0s
IR3 Iran Long-Peri 77.03 306 *e*P **P** **11 51 43.7 0.0**
IR5 Iran Long-Peri 77.36 305 *e*P **P** **11 51 44.6 -0.9**
TNA Tin City 78.11 23 *e*P **P** **11 51 50.2 +1.3**
comp=Z,12nm,1.1s
SDPT Sand Point 78.59 34 *e*P **P** **11 51 52.5 +0.8**
comp=Z,88nm,0.8s
CHGN Chignik 79.93 33 *e*P **P** **11 51 59.6 +0.6**
ABPO Ambohimpanom 80.65 250 *e*P **P** **11 52 04.4 +0.5**
ABPO pmax pmax
comp=Z,17nm,0.6s
ABPO Ambohimpanom 80.65 250 *e*P **P** **11 52 04.4 +0.5**
comp=Z,16nm,0.6s
RAYN Ar Rayn 80.99 293 P **P** **11 52 04.0 -1.5**
comp=Z,143nm,0.9s,SNR=15
IAZR Azarshahr 81.27 308 *e*P **P** **11 52 06.7 -0.3**
IMRD Marand 81.56 309 *e*P **P** **11 52 08.4 +0.1**
VNDA Vanda 81.86 173 P **P** **11 52 08.7 -0.2**
comp=Z,15nm,0.7s,baz=315,slow=5.9,SNR=77
DAMY Dhamar 81.93 284 *e*P **P** **11 52 10.4 -0.5**
comp=Z,25nm,0.8s
MAW Mawson 82.22 200 P **P** **11 52 11.1 +0.2**
comp=Z,23nm,0.8s,baz=60,slow=5.6,SNR=53
MAW LR LR 12 29 16.4
comp=Z,74nm,20.7s,baz=60,slow=36
MAW Mawson 82.22 200 ⇑P **P** **11 52 11.4 +0.5**
baz=82,SNR=32
GNI Garni 82.40 310 P **P** **11 52 11.7 -1.0**
comp=Z,2.8nm,0.4s,baz=194,slow=7.2,SNR=5.8
GNI Garni 82.40 310 P **P** **11 52 11.7 -1.0**
GNI pmax pmax
comp=Z,3.0nm,0.4s
GNI Garni 82.40 310 *e*P **P** **11 52 14.3 +1.6**
SBA Scott Base 82.78 172 *e*P **P** **11 52 14.3 +0.6**
SBA pmax pmax
comp=Z,41nm,1.3s
SBA Scott Base 82.78 172 *e*P **P** **11 52 14.3 +0.6**
comp=Z,41nm,1.3s
OHAK Old Harbor 82.86 33 *e*P **P** **11 52 15.4 +0.9**
comp=Z,61nm,1.0s
KDAK Kodiak Island 83.31 32 P **P** **11 52 17.2 +0.4**
comp=Z,317nm,0.7s,SNR=5.9
KDAK Kodiak Island 83.31 32*ce*P **P** **11 52 17.7 +0.9**
RSO Redoubt South 83.54 29 *e*P **P** **11 52 18.4 +0.2**
comp=Z,113nm,0.8s
PRGR Permogore 83.84 332 *e*P **P** **11 52 18.7 -0.7**
PRGR pmax pmax
comp=Z,71nm,0.9s
KBZ Khabaz 83.98 314 P **P** **11 52 20.1 -0.5**
comp=Z,10nm,0.8s,baz=147,slow=3.8,SNR=17
KBZ S **S** **12 02 40.9 +1.2**
comp=Z,0.8nm,0.5s,baz=30,slow=8.1,SNR=2.3
KBZ LR LR 12 34 22.3
comp=Z,118nm,21.5s,baz=70,slow=39
NEY Neytrino 84.08 313 ⇑*i*P **P** **11 52 20.4 -1.0**
NEY pmax pmax
comp=Z,8.0nm,0.7s
PPLA Purkeypile 84.11 27 *e*P **P** **11 52 21.8 +0.8**
comp=Z,130nm,1.7s
CHVG Ch'k'valeri 84.53 313 ⇑*i*P **P** **11 52 25.2 +1.8**
PPT Papeete 84.75 108 LR LR 12 27 09.1
comp=Z,237nm,20.8s,baz=313,slow=33
PPT2 Papeete2 84.75 108 *e*S **S** **12 02 52.7 +4.1**
comp=Z,178nm,25.5s
PPT2 Papeete2 84.75 108 *e*LR LR 12 19 10.7
comp=Z,960nm,26.0s
BPAW Bear Paw Mtn. 84.78 26 *e*P **P** **11 52 24.7 +0.5**
comp=Z,6.1nm,1.3s
TRF Thorofare Moun 85.02 27 *e*P **P** **11 52 25.9 +0.3**
comp=Z,67nm,1.6s
RC01 Rabbit Creek A 85.08 29 *e*P **P** **11 52 25.6 -0.2**
comp=Z,81nm,0.9s
SEW Seward 85.14 30 *e*P **P** **11 52 26.3 +0.2**
comp=Z,55nm,0.9s
VRHR Novokhopersk 85.19 321 *e*P **P** **11 52 26.4 -0.1**
VRHR pmax pmax
comp=Z,180nm,0.7s
VRHR pmax pmax
comp=N,90nm,1.2s
VRHR pmax pmax
comp=E,140nm,0.8s
TBI Tubuai 85.27 114 *e*S S 12 03 00.0 +6.6
comp=E,172nm,35.5s
TBI Tubuai 85.27 114 *e*LR LR 12 19 26.0
comp=E,1μm,29.0s
PMR Palmer 85.41 29 *e*P **P** **11 52 27.2 -0.1**
PMR pmax pmax
comp=Z,73nm,1.1s
PMR Palmer 85.41 29 *e*P **P** **11 52 27.2 -0.1**
comp=Z,73nm,1.1s
COLD Coldfoot 85.41 23 *e*P **P** **11 52 28.3 +1.0**
comp=Z,33nm,0.8s
MZRK Al-Mazaregh 85.47 306 *e*P **P** **11 52 30.1 +1.8**
KBSD Kabsdagh 85.57 307 *e*P P 11 52 25.1 -3.7
MCK McKinley 85.65 26 *e*P **P** **11 52 28.5 -0.1**
MCK pmax pmax
comp=Z,31nm,1.0s
MCK McKinley 85.65 26 *e*P **P** **11 52 28.5 -0.1**
comp=Z,31nm,1.0s
SML Sawmill 85.80 28 *e*P **P** **11 52 29.7 +0.3**
SML pmax pmax
comp=Z,10.0nm,0.7s
SML Sawmill 85.80 28 *e*P **P** **11 52 29.7 +0.3**
comp=Z,9.7nm,0.7s
SFNV Sufian 85.92 306 *e*P **P** **11 52 31.8 +1.2**
COLA College 86.19 25*c i*P **P** **11 52 30.4 -0.7**
COLA pmax pmax
comp=Z,21nm,0.8s
COLA College 86.19 25 *e*P **P** **11 52 30.8 -0.4**
comp=Z,4.9nm,0.8s
SOC Sochi 86.28 313 *e*P **P** **11 52 30.1 -2.0**
SOC *e* 11 56 00.4
SOC *e*PPP PPP 11 57 48.2
SOC *e*SS SS 12 08 37.7 -5.3
SOC *e*SSS SSS 12 12 10.3
SOC pmax pmax
comp=Z,59nm,1.0s
SOC MLR MLR
comp=Z,419nm,22.0s
ILAR Eielson Array 86.60 25 P **P** **11 52 31.7 -1.5**
comp=Z,3.9nm,0.6s,baz=240,slow=4.7,SNR=46
ILAR PP **PP** **11 55 50.7 -4.9**
comp=Z,0.9nm,0.8s,baz=250,slow=7.5,SNR=4.1
ILAR PKKPbc **PKKPbc** **12 10 28.3 -3.2**
comp=Z,0.5nm,0.8s,baz=119,slow=0.9,SNR=5.2
ILAR LR LR 12 30 20.5
comp=Z,69nm,21.5s,baz=274,slow=35
VSR Storozhevoye 86.74 321 *e*P **P** **11 52 33.9 -0.2**
VSR pmax pmax
comp=Z,140nm,1.2s
VSR pmax pmax
comp=N,9.0nm,0.5s
VSR pmax pmax
comp=E,100nm,1.3s
DIV Divide 87.00 29 *e*P **P** **11 52 35.9 +0.6**
comp=E,38nm,1.0s
PAX Paxson 87.17 27 *e*P **P** **11 52 35.8 -0.4**
PAX pmax pmax
comp=Z,12nm,0.9s
PAX Paxson 87.17 27 *e*P **P** **11 52 35.8 -0.4**
comp=Z,12nm,0.9s
MALT Malatya 87.25 308 ⇓P **P** **11 52 37.8 +0.7**
MALT Malatya 87.25 308 ⇓*i*P **P** **11 52 37.8 +0.7**
JHLN Al Jahlan 87.27 305 *e*P **P** **11 52 40.0 +2.8**
TMCR Tamitsa 87.47 334 *e*P **P** **11 52 36.6 -0.8**
TMCR pmax pmax
comp=Z,35nm,0.7s
BMRM Bremner River 87.57 29 *e*P **P** **11 52 38.4 +0.3**
comp=Z,18nm,0.9s
MOS Moscow 87.67 326 *e*P **P** **11 52 39.0 +0.5**
MOS *e* 11 52 53.6
MOS pmax pmax
comp=Z,131nm,0.8s
SLMH Al Salmeh 87.68 306 *e*P **P** **11 52 39.7 +0.6**
ANN Anapa 87.92 315 *e*P **P** **11 52 39.5 -0.5**
ANN *e**PP **pP** **11 52 57.6 -0.1**
ANN pmax pmax
comp=Z,65nm,0.7s
ANN MLR MLR
comp=N,415nm,21.0s
ANN MLR MLR
comp=Z,419nm,21.0s
ANN MLR MLR
comp=E,303nm,21.0s
MENT Mentasta 87.97 27 *e*P **P** **11 52 40.2 +0.3**
ZALF Zalf 88.24 303 *e*P **P** **11 52 42.1 +0.3**
ROOS tl_alroos 88.24 304 *e*P **P** **11 52 42.4 +0.5**
OBN Obninsk 88.29 325 P **P** **11 52 40.5 -0.9**
comp=E,38nm,0.4s,baz=82,slow=2.1,SNR=18
OBN Obninsk 88.29 325*c i*P **P** **11 52 40.1 -1.3**
OBN *i* 11 56 15.1
OBN *i* S **SKSac** **12 03 07.7 +3.0**
OBN pmax pmax
comp=Z,117nm,1.2s
OBN MLR MLR
comp=Z,531nm,23.0s
OBN Obninsk 88.29 325 P **P** **11 52 41.1 -0.3**
comp=Z,472nm,0.5s,SNR=5.2
OBN Obninsk 88.29 325 *e*P **P** **11 52 41.5 +0.1**
SALA Sala 88.75 303 *e*P **P** **11 52 44.7 +0.3**
LVZ Lovozero 88.78 338 *e*P **P** **11 52 42.7 -0.9**
LVZ pmax pmax
comp=Z,21nm,1.2s
TOTH TOTAH 88.98 303 *e*P **P** **11 52 46.5 +1.1**
EGAK Eagle 89.05 25 *e*P **P** **11 52 44.8 -0.1**
comp=Z,7.5nm,0.8s
APA Apatity 89.27 337 ⇓*i*P P 11 52 54.0 +8.2
APA MLR MLR
comp=Z,900nm,27.0s
BRBR Barbar 89.38 303 *e*P **P** **11 52 48.5 +1.1**
KMBO Kilima Mbogo 89.39 269 P **P** **11 52 47.5 -0.3**
comp=Z,6.1nm,0.7s,baz=52,slow=6.3,SNR=15
KMBO LR LR 12 32 09.8
comp=Z,130nm,18.5s,baz=94,slow=35
KMBO Kilima Mbogo 89.39 269 P **P** **11 52 47.6 -0.3**
KMBO pmax pmax
comp=Z,6.0nm,0.7s
KMBO MLR MLR
comp=Z,130nm,18.5s
KMBO Kilima Mbogo 89.39 269 *e*P **P** **11 52 49.0 +1.1**
TCHB Talchebab 89.39 302 *e*P **P** **11 52 45.3 -1.9**
TCHB *e*P **PcP** **11 52 48.7 +0.1**
DAWY Dawson 89.86 26 *e*P **P** **11 52 49.2 +0.5**
comp=Z,19nm,1.1s
SIM Simferopol' 90.27 315 *e*P **P** **11 52 51.2 +0.2**
SIM *e* 12 03 21.0
SIM *e*S **S** **12 03 45.0 +4.7**
SIM pmax pmax
comp=Z,30nm,0.7s

SIM MLR MLR
comp=Z,100nm,22.0s
EIL Elat 90.39 300 ⇑P **P 11 52 51.1 -0.8**
baz=90,SNR=6.3
SYO Syowa Base 90.89 201⇑*e*P **P 11 52 52.2 -1.1**
SYO Syowa Base 90.89 201⇓*e*pP pP 11 53 08.3 -2.8
BRTR Keskin Array B 90.93 310 P **P 11 52 53.3 -1.1**
comp=Z,5.4nm,0.8s,baz=116,slow=5.6,SNR=25
BRTR PP **PP 11 56 27.8 -3.4**
comp=Z,1.3nm,0.7s,baz=73,slow=6.7,SNR=3.9
BRTR LR LR 12 42 20.7
comp=Z,50nm,18.3s,baz=76,slow=41
HYT Haines Junctio 91.04 29 *e*P **P 11 52 55.1 +0.7**
comp=Z,8.1nm,0.8s
INK Inuvik 91.69 21 P **P 11 52 56.4 -0.7**
comp=Z,9.5nm,1.0s,baz=266,slow=4.8
INK Inuvik 91.69 21 P **P 11 52 56.4 -0.7**
INK pmax pmax
comp=Z,10.0nm,1.0s
INK Inuvik 91.69 21 *e*P **P 11 52 57.3 +0.2**
ARCES ARCESS Array B 91.89 340 P **P 11 52 56.5 -1.6**
comp=Z,12nm,0.7s,baz=76,slow=7.5,SNR=20
ARCES LR LR 12 40 20.8
comp=Z,208nm,19.4s,baz=90,slow=40
SPITS Spitsbergen Ar 92.01 349 P **P 11 52 57.8 -0.7**
comp=Z,9.8nm,0.7s,baz=91,slow=7.2,SNR=9.1
QSPA South Pole Qui 92.05 180 P **P 11 52 58.2 -0.7**
comp=Z,7.0nm,0.7s,baz=336,slow=2.0,SNR=34
QSPA South Pole Qui 92.05 180 *e*P **P 11 52 59.5 +0.6**
FINES FINESS Array B 93.17 332 P **P 11 53 03.2 -0.8**
comp=Z,5.6nm,0.7s,baz=83,slow=4.6,SNR=14
FINES LR LR 12 38 58.9
comp=Z,231nm,19.4s,baz=69,slow=38
MICGM Minsk 93.34 325 *e* **P 11 53 02.0 -3.0**
MNK Minsk 93.37 325 *e*P **P 11 53 02.0 -3.2**
WRAK Wrangell Islan 94.35 33 *e*P **P 11 53 10.2 +0.7**
comp=Z,26nm,0.8s
DLBC Dease Lake 95.18 31 LR LR 12 38 19.3
comp=Z,109nm,18.5s,baz=327,slow=37
DLBC Dease Lake 95.18 31 *e*P **P 11 53 14.3 +0.8**
comp=Z,11nm,1.1s
TESR Tescani 95.31 317⇑*i*P **P 11 53 13.2 -1.1**
VRI Vrincioaia 95.35 316⇑P **P 11 53 15.1 +0.6**
VRI Vrincioaia 95.35 316⇑*i*P **P 11 53 15.1 +0.6**
MLR Muntele Rosu 95.95 316 P **P 11 53 17.2 -0.2**
comp=Z,1.9nm,0.6s,baz=194,slow=5.6,SNR=12
MLR PP **PP 11 57 11.9 +1.6**
comp=Z,0.4nm,0.4s,baz=100,slow=11,SNR=3.1
MLR Muntele Rosu 95.95 316⇓*i*P **P 11 53 17.2 -0.2**
BURAR Bucovina Array 96.10 318⇑P **P 11 53 17.9 -0.1**
BURAR Bucovina Array 96.10 318⇑*i*P **P 11 53 17.9 -0.1**
KOLS Kolonicke sedl 97.78 320 *e*P Pdif 11 53 25.9 +0.5
KOLS Kolonicke sedl 97.78 320 *e*P Pdif 11 53 25.9 +0.5
UZH Uzhgorod 97.83 320⇑*i*P **P 11 53 25.5 -0.1**
UZH *e* 11 53 33.5
VTS Vitosha 98.39 313⇑P Pdif 11 53 28.6 +0.1
VTS Vitosha 98.39 313⇑*i*P Pdif 11 53 28.6 +0.1
RKT Rikitea 98.58 113 *e*LR LR 12 25 35.7
comp=Z,611nm,34.5s
LSZ Lusaka 98.67 255 *e*P **P 11 53 30.2 0.0**
LSZ pmax pmax
comp=Z,4.0nm,0.8s
LSZ Lusaka 98.67 255 *e*P **P 11 53 30.2 0.0**
comp=Z,4.1nm,0.8s
HFS Hagfors 99.36 332 P **Pdif 11 53 32.8 +0.6**
comp=Z,2.6nm,0.4s,baz=87,slow=4.9,SNR=8.1
RES Resolute Bay 99.40 10 P **Pdif 11 53 32.9 +0.8**
comp=Z,4.4nm,0.7s,baz=323,slow=4.5,SNR=7.3
RES LR LR 12 41 13.5
comp=Z,86nm,21.3s,baz=288,slow=37
RES Resolute Bay 99.40 10 P **Pdif 11 53 32.9 +0.8**
RES pmax pmax
comp=Z,4.0nm,0.7s
RES MLR MLR
comp=Z,86nm,21.3s
RES Resolute Bay 99.40 10 *e*P **Pdif 11 53 33.7 +1.6**
VYHS Vyhne 100.09 320 *e*P **Pdif 11 53 35.1 -0.7**
VYHS Vyhne 100.09 320 PDIF **Pdif 11 53 35.1 -0.7**
NB2 NORSAR Subarra 100.15 333 P **Pdif 11 53 34.0 -1.8**
comp=Z,4.4nm,0.8s,baz=68,slow=4.6
NB2 NORSAR Subarra 100.15 333 P **Pdif 11 53 34.0 -1.8**
baz=68,slow=4.6
NOA NORSAR Array B 100.15 333 P **Pdif 11 53 33.8 -1.9**
comp=Z,2.5nm,0.7s,baz=69,slow=4.5,SNR=7.4
NOA NORSAR Array B 100.15 333 P **Pdif 11 53 33.8 -1.9**
NOA pmax pmax
comp=Z,3.0nm,0.7s
OKC Ostrava-Krasne 100.17 321 *e*SKS **SKSac 12 04 09.3 -0.2**
OKC *e*SP **SP 12 06 32.3 -2.4**
OKC AMS AMS 12 39 40.0
comp=Z,200nm,18.5s
KRLC Kraliky 100.96 322 *e*PDIFF **Pdif 11 53 40.1 +0.5**
KRLC Kraliky 100.96 322 *e*P **Pdif 11 53 40.1 +0.5**
YKA Yellowknife Ar 101.00 24 P **Pdif 11 53 38.5 -0.9**
comp=Z,1.6nm,0.6s,baz=297,slow=4.2,SNR=8.4
YKA PKiKP **PKiKP 11 58 06.0 +1.6**
comp=Z,1.4nm,0.7s,baz=296,slow=1.9,SNR=6.6
DPC Dobruska-Polom 101.16 322 *e*PDIFF **Pdif 11 53 40.6 +0.1**
DPC AMS AMS 12 45 10.0
comp=Z,400nm,24.0s
DPC Dobruska-Polom 101.16 322 *e*P **Pdif 11 53 40.6 +0.1**
DPC MLR MLR
comp=Z,400nm,24.0s
VRAC Vranov 101.29 321 P **Pdif 11 53 40.7 -0.4**
comp=Z,2.2nm,0.4s,baz=63,slow=6.8,SNR=4.9
UPC Upice 101.30 322 *e*SKS **SKSac 12 04 17.2 +2.2**
UPC *e*SP **SP 12 06 43.2 -3.5**
UPC AMS AMS 12 45 10.0
comp=Z,400nm,18.4s
TREC Trest 101.99 321 AMS AMS 12 43 00.0
comp=Z,300nm,20.4s
PVCC Panska Ves 102.17 323 AMS AMS 12 45 50.0
comp=Z,500nm,22.2s
GOPC GO Pecny, Ondr 102.23 322 *e*SKS **SKSac 12 04 19.8 +0.3**
GOPC *e*SP **SP 12 06 53.2 -3.4**
GOPC AMS AMS 12 38 50.0
comp=Z,300nm,23.2s
PRU Pruhonice 102.36 322 *e*SKS **SKSac 12 04 21.6 +1.6**
PRU *e*SP **SP 12 06 54.6 -3.3**
PRU AMS AMS 12 47 00.0
comp=Z,300nm,20.4s
BRG Berggiesshubel 102.44 323 *e*PKP **Pdif 11 53 47.2 +1.1**
comp=Z,7.7nm,0.9s
BRG Berggiesshubel 102.44 323 *e*P **Pdif 11 53 47.2 +1.1**
BRG pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 102.85 324 *e*P **Pdif 11 53 50.0 +2.1**
CLL MLR MLR
comp=Z,300nm,21.1s
CLL Collm 102.85 324 *e*(Pdif) **Pdif 11 53 50.0 +2.1**
CLL *e*PP **PKiKP 11 58 06.0 -2.1**
CLL *e*SKSac **SKSac 12 04 18.0 -4.2**
CLL *e*SP **SP 12 07 01.0 -2.0**
CLL *e*PPS PPS 12 07 59.0
CLL LmV 12 45 00.0
comp=Z,300nm,21.1s
KHC Kasperske Hory 103.23 322 *e*SKS **SKSac 12 04 24.8 +0.6**
KHC *e*SP **SP 12 07 00.4 -6.8**
KHC AMS AMS 12 39 20.0
comp=Z,400nm,22.3s
GERES GERESS Array B 103.25 321 Pdiff **Pdif 11 53 50.4 +0.5**
comp=Z,0.5nm,0.6s,baz=88,slow=7.3,SNR=3.9
SNAA Sanae 103.64 195 P **Pdif 11 53 52.4 +1.3**
NVAR Mina Array Bea 108.06 48 PP PP 11 58 39.7 -1.8
comp=Z,0.6nm,0.7s,baz=263,slow=7.1,SNR=4.7
NVAR PKKP **PKKPdf 12 09 46.0 +0.6**
comp=Z,0.9nm,0.6s,baz=126,slow=4.6,SNR=8.2
HLID Hailey 109.07 42 P **PKiKP 11 58 20.6 +0.5**
baz=109
HLID Hailey 109.07 42 *e*PKPdf **PKiKP 11 58 21.4 +1.3**
EDW2 Edwards Air Fo 109.36 52 P **PKiKP 11 58 21.6 +0.8**
baz=109
BOZ Bozeman (W) 110.05 39 P **PKiKP 11 58 21.9 0.0**
baz=110
EGMT Eagleton 110.14 37 P **PKiKP 11 58 22.1 +0.3**
baz=110
DUG Dugway 111.46 45 P **PKiKP 11 58 24.8 +0.2**
baz=111
REDW Red Top Meadow 111.53 41 *e*PKPdf **PKiKP 11 58 26.3 +1.5**
G20A Bridger 112.39 39 P **PKiKP 11 58 26.2 0.0**
baz=112
MSU Marysvale 112.55 47 *e*PKIKP **PKiKP 11 58 29.1 +2.2**
MSU Marysvale 112.55 47 *e*PKPdf **PKiKP 11 58 29.1 +2.2**
PDAR Pinedale Array 112.64 42 PKiKP **PKiKP 11 58 27.7 +0.8**
comp=Z,0.6nm,0.7s,baz=215,slow=1.1,SNR=6.2

PDAR PP **PP 11 59 17.0 +2.8**
comp=Z,0.8nm,0.9s,baz=327,slow=4.8,SNR=3.4
PDAR PKKPbc **PKKPbc 12 09 15.0 -2.0**
comp=Z,0.5nm,0.5s,baz=96,slow=4.9,SNR=5.0
PDAR PKKPab **PKKPab 12 09 25.5 +0.8**
comp=Z,1.1nm,0.6s,baz=88,slow=5.2,SNR=4.0
J19A Crowheart 112.75 41 P **PKiKP 11 58 27.7 +0.7**
baz=113
H20A Greybull 112.87 39 P **PKiKP 11 58 27.6 +0.5**
baz=113
LAO LASA Array 112.89 37 P **PKiKP 11 58 27.7 +0.6**
baz=113
LAO LASA Array 112.89 37 *e*PKPdf **PKiKP 11 58 27.9 +0.9**
I20A Worland 113.04 40 P **PKiKP 11 58 27.8 +0.3**
baz=113
F22A Rosebud 113.33 37 P **PKiKP 11 58 27.7 -0.3**
baz=113
J20A Shoshoni 113.34 40 P **PKiKP 11 58 27.8 -0.4**
baz=113
A26A Wade Farm, Ken 114.08 33 P PKPdf 11 58 29.7 +0.4
baz=114
E24A Baker 114.09 36 P PKPdf 11 58 29.4 +0.1
baz=114
I22A 9 Mile Ranch, 114.11 39 P PKPdf 11 58 29.8 +0.2
baz=114
J22A Midwest 114.34 40 P PKPdf 11 58 29.4 -0.6
baz=114
C26A Wahner Farm, P 114.66 34 P PKPdf 11 58 30.4 0.0
baz=115
O20A White River Ci 114.68 44 P PKPdf 11 58 30.9 0.0
baz=115
O20A White River Ci 114.68 44 *e*PKPdf PKPdf 11 58 32.2 +1.3
K22A Casper 114.68 41 P PKPdf 11 58 31.0 +0.2
baz=115
H24A Dirks Ranch, A 114.89 38 P PKPdf 11 58 30.6 -0.4
baz=115
F25A Bowman 114.92 36 P PKPdf 11 58 32.1 +1.1
baz=115
C27A Sayler Ranch, 115.05 34 P **PKPdf 11 58 31.6 +0.5**
baz=115
E26A Carlson Angus 115.21 35 P **PKPdf 11 58 31.9 +0.4**
baz=115
B28A Dugan Ranch, T 115.25 33 P **PKPdf 11 58 31.9 +0.4**
baz=115
G25A Newell 115.34 37 P **PKPdf 11 58 32.3 +0.5**
baz=115
RSSD Black Hills 115.53 38 *e*PKIKP **PKPdf 11 58 32.2 -0.2**
RSSD Black Hills 115.53 38 *e*PKPdf **PKPdf 11 58 32.2 -0.2**
A29A Manning Farm, 115.57 32 P **PKPdf 11 58 32.4 +0.3**
baz=116
MVCO Mesa Verde 115.74 47 P **PKPdf 11 58 34.0 +0.9**
baz=116
MVCO Mesa Verde 115.74 47 *e*PKPdf **PKPdf 11 58 32.9 -0.2**
B29A Wagenman Farm, 115.78 32 P **PKPdf 11 58 32.3 -0.2**
baz=116
D28A Regan 115.87 34 P **PKPdf 11 58 33.5 +0.8**
baz=116
N23A Red Feather La 115.89 42 P **PKPdf 11 58 34.0 +0.7**
baz=116
MDND Maddock 116.02 33 P **PKPdf 11 58 33.1 +0.1**
baz=116
H26A Fairpoint 116.03 37 P **PKPdf 11 58 33.6 +0.4**
baz=116
A30A Hoffart Farm, 116.04 31 P **PKPdf 11 58 32.9 -0.1**
baz=116
J25A Sunshine Ranch 116.05 39 P **PKPdf 11 58 33.0 -0.3**
baz=116
G27A Dupree 116.12 36 P **PKPdf 11 58 33.3 0.0**
baz=116
I26A New Underwood 116.29 38 P **PKPdf 11 58 34.3 +0.6**
baz=116
B30A Myrvik Farm, E 116.33 32 P **PKPdf 11 58 33.6 +0.1**
baz=116
ULM Lac du Bonnet 116.42 29 PKP **PKPdf 11 58 33.0 -0.6**
comp=Z,5.4nm,0.7s,baz=306,slow=1.1,SNR=7.2
H27A Howes 116.44 37 P **PKPdf 11 58 33.9 0.0**
baz=116
ISCO Idaho Springs 116.63 43 *e*PKIKP **PKPdf 11 58 35.9 +1.1**
ISCO Idaho Springs 116.63 43 P **PKPdf 11 58 34.7 -0.1**
baz=117
ISCO Idaho Springs 116.63 43 *e*PKPdf **PKPdf 11 58 35.9 +1.1**
C30A Mose, Pekin 116.71 32 P **PKPdf 11 58 34.3 0.0**
baz=117
S22A 4UR Ranch, Cre 116.71 45 P **PKPdf 11 58 35.6 +0.6**
baz=117
I27A Quinn 116.77 37 P **PKPdf 11 58 34.7 +0.1**
baz=117
G28A Parade 116.89 36 P **PKPdf 11 58 34.5 -0.2**
baz=117
D30A Buchanan 116.92 33 P **PKPdf 11 58 34.8 +0.1**
baz=117
H28A Mission Ridge 117.05 36 P **PKPdf 11 58 35.2 +0.1**
baz=117
F29A Eureka 117.08 35 P **PKPdf 11 58 35.1 0.0**
baz=117
E30A Jud 117.20 34 P **PKPdf 11 58 35.4 +0.1**
baz=117
I28A Midland 117.34 37 P **PKPdf 11 58 35.8 +0.1**
baz=117
K27A Flueckinger Fa 117.38 39 P **PKPdf 11 58 36.0 +0.1**
baz=117
G29A Hoven 117.40 35 P **PKPdf 11 58 35.7 -0.1**
baz=117
F30A Leola 117.53 34 P **PKPdf 11 58 35.9 0.0**
baz=117
J28A Allard Ranch, 117.61 38 P **PKPdf 11 58 36.3 0.0**
baz=118
SDCO Great Sand Dun 117.66 45 P **PKPdf 11 58 37.8 +1.0**
baz=118
I29A Vivian Onida 117.84 37 P **PKPdf 11 58 36.5 -0.1**
baz=118
G30A Faulkton 117.88 35 P **PKPdf 11 58 36.5 -0.1**
baz=118
J29A Okreek 118.17 37 P **PKPdf 11 58 37.4 +0.1**
baz=118
ANMO Albuquerque 118.19 48*c i*PKIKP **PKPdf 11 58 39.4 +1.6**
ANMO pmax pmax
comp=Z,24nm,1.7s
ANMO Albuquerque 118.19 48 *e*PKPdf **PKPdf 11 58 38.4 +0.6**
P26A Davis Ranch, A 118.28 42 P **PKPdf 11 58 37.4 -0.4**
baz=118
I30A Oacoma 118.42 36 P **PKPdf 11 58 36.5 -1.3**
baz=118
T25A Trinidad 118.70 45 P **PKPdf 11 58 39.4 +0.6**
baz=119
J30A Dallas 118.72 37 P **PKPdf 11 58 38.4 0.0**
baz=119
R26A Arlington 118.83 44 P **PKPdf 11 58 39.0 +0.1**
baz=119
K30A Basset 119.02 38 P **PKPdf 11 58 38.6 -0.3**
baz=119
T26A Comanche Natio 119.26 45 P **PKPdf 11 58 40.2 +0.4**
baz=119
R27A Eads 119.28 43 P **PKPdf 11 58 40.4 +0.7**
baz=119
R28A Tribune 119.92 43 P **PKPdf 11 58 41.2 +0.3**
baz=120
U27A Thompson Grove 120.17 45 P **PKPdf 11 58 41.3 -0.2**
baz=120
ECSD EROS Data Cent 120.17 35 P **PKPdf 11 58 40.6 -0.5**
baz=120
ECSD EROS Data Cent 120.17 35 *e*PKPdf **PKPdf 11 58 40.4 -0.7**
Q29A Oakley 120.20 42 P **PKPdf 11 58 41.0 -0.4**
baz=120
S28A Manter 120.24 44 P **PKPdf 11 58 42.0 +0.5**
baz=120
T28A Walsh 120.33 44 P **PKPdf 11 58 41.5 -0.2**
baz=120
P31A Stockton 120.92 40 P **PKPdf 11 58 43.1 +0.4**
baz=121
CBKS Cedar Bluff 121.06 41 P **PKPdf 11 58 43.2 +0.2**
baz=121
O32A Brockman Farm, 121.21 39 P **PKPdf 11 58 43.2 0.0**
baz=121
SPMN St. Paul 121.31 32 P **PKPdf 11 58 42.9 -0.3**
baz=121
SPMN St. Paul 121.31 32 *e*PKPdf **PKPdf 11 58 43.4 +0.2**
R31A Burdett 121.48 42 P **PKPdf 11 58 43.6 -0.2**
baz=121
X28A Dimmitt 121.52 47 P **PKPdf 11 58 44.4 +0.3**
baz=122
U30A WK&E Inc. Balk 121.64 44 P **PKPdf 11 58 44.6 +0.4**
baz=122
Q32A Meitler Ranch, 121.74 41 P **PKPdf 11 58 44.3 +0.1**
baz=122
O33A Hebron 121.75 39 P **PKPdf 11 58 44.0 -0.3**
baz=122
Y28A McKinney Farm, 121.77 47 P **PKPdf 11 58 45.3 +0.7**
baz=122
X29A Tulia 121.91 47 P **PKPdf 11 58 45.6 +0.8**
baz=122
R32A Long Quarter, 121.95 41 P **PKPdf 11 58 44.7 -0.1**
baz=122
SCHQ Schefferville 122.16 9 PKP **PKPdf 11 58 44.6 0.0**
comp=Z,7.6nm,0.7s,baz=331,slow=3.7,SNR=11
128A Castleberry Fa 122.18 49 P **PKPdf 11 58 45.3 -0.1**
baz=122
Q33A Connelly Farm, 122.20 40 P **PKPdf 11 58 45.4 +0.2**
baz=122
Y29A Porterfield Fa 122.21 47 P **PKPdf 11 58 46.0 +0.6**
baz=122
O34A Beatrice 122.25 38 P **PKPdf 11 58 44.4 -0.7**
baz=122
MDT Midelt 122.31 311 PKP **PKPdf 11 58 45.5 -0.2**
comp=Z,1.1nm,0.6s,baz=180,slow=1.0,SNR=4.1
Z29A Hungry Hill Ra 122.47 48 P **PKPdf 11 58 46.4 +0.5**
baz=122
T32A Huddler Ranch, 122.48 42 P **PKPdf 11 58 45.9 +0.1**
baz=122
R33A Olander Ranch, 122.49 41 P **PKPdf 11 58 45.8 0.0**
baz=122
X30A Coker Ranch, T 122.51 46 P **PKPdf 11 58 45.9 0.0**
baz=122
P34A Walnut Farm, R 122.53 39 P **PKPdf 11 58 45.8 +0.1**
baz=122
COWI Conover 122.54 29 *e*PKPdf **PKPdf 11 58 45.6 0.0**
129A Stewart Farms, 122.64 49 P **PKPdf 11 58 46.7 +0.4**
baz=123
TXAR Lajitas Array 122.67 53 PKP **PKPdf 11 58 46.8 +0.3**
comp=Z,1.8nm,0.7s,baz=238,slow=1.0,SNR=26
TXAR PKKPbc **PKKPab 12 08 41.3 +0.7**
comp=Z,0.3nm,0.5s,baz=118,slow=6.0,SNR=5.3
W31A Holland Ranch, 122.81 45 P **PKPdf 11 58 47.6 +1.1**
baz=123
Z30A Sanderson Ranc 122.88 48 P **PKPdf 11 58 46.8 +0.1**
baz=123
R34A Isabella, Hill 122.98 41 P **PKPdf 11 58 46.9 +0.2**
baz=123
T33A Patterson Ranc 122.99 42 P **PKPdf 11 58 47.2 +0.5**
baz=123
X31A McDonald Ranch 123.06 46 P **PKPdf 11 58 47.6 +0.7**
baz=123
329A Wagon Wheel Ra 123.07 50 P **PKPdf 11 58 47.8 +0.7**
baz=123
V32A Arapaho 123.17 44 P **PKPdf 11 58 48.2 +1.1**
baz=123
Y31A Rekieta Farm, 123.19 46 P **PKPdf 11 58 47.9 +0.7**
baz=123
TOA0 Torodi Ar. Sit 123.28 287 *e*PKP1 **PKPdf 11 58 47.8 0.0**
TORD Torodi Ar. Bea 123.28 287 PKP **PKPdf 11 58 46.9 -0.9**
comp=Z,4.7nm,0.9s,baz=51,slow=2.1,SNR=15
TORD PKKPbc **PKKPab 12 08 39.1 +1.1**
comp=Z,2.0nm,0.8s,baz=260,slow=3.4,SNR=10
W32A Sentinel 123.33 45 P **PKPdf 11 58 47.9 +0.4**
baz=123
U33A Lingo Farm, Me 123.43 43 P **PKPdf 11 58 47.6 +0.1**
baz=123
Q35A Mercer Eighty, 123.43 39 P **PKPdf 11 58 47.5 0.0**
baz=123
P36A Good Intent, A 123.50 38 P **PKPdf 11 58 47.9 +0.3**
baz=123
429A Davenport Ranc 123.52 51 P **PKPdf 11 58 48.6 +0.6**
baz=124
230A Sterling City 123.55 49 P **PKPdf 11 58 48.6 +0.6**
baz=124
Z31A Sharp Cattle R 123.59 47 P **PKPdf 11 58 48.6 +0.6**
baz=124
131A Roby 123.72 48 P **PKPdf 11 58 48.9 +0.6**
baz=124
330A Mertzon 123.72 50 P **PKPdf 11 58 48.7 +0.4**
baz=124
WMOK Wichita Mounta 123.86 45 *e*PKIKP **PKPdf 11 58 48.6 +0.1**
WMOK Wichita Mounta 123.86 45 *e*PKPdf **PKPdf 11 58 48.6 +0.1**
S35A Otter Creek Ra 123.93 41 P **PKPdf 11 58 49.0 +0.5**
baz=124
430A Baggett Ranch, 123.95 50 P **PKPdf 11 58 49.3 +0.5**
baz=124
Z32A Haskell 124.08 47 P **PKPdf 11 58 49.8 +0.9**
baz=124
R36A Gordon, Harris 124.08 40 P **PKPdf 11 58 48.6 -0.1**
baz=124
231A Bronte 124.12 49 P **PKPdf 11 58 49.4 +0.3**
baz=124
V34A Guthrie 124.16 43 P **PKPdf 11 58 49.7 +0.7**
baz=124
530A J-C Ranch, Com 124.16 51 P **PKPdf 11 58 50.2 +1.0**
baz=124
X33A Lawton 124.16 45 P **PKPdf 11 58 49.9 +0.9**
baz=124
JFWS Jewell Farm 124.23 32 *e*PKIKP **PKPdf 11 58 48.4 -0.5**
JFWS Jewell Farm 124.23 32 *e*PKPdf **PKPdf 11 58 48.4 -0.5**
T35A Sooner Cattle 124.24 41 P **PKPdf 11 58 49.5 +0.4**
baz=124
ABTX Abilene, Hawle 124.30 48 P **PKPdf 11 58 49.8 +0.5**
baz=124
331A San Angelo 124.33 49 P **PKPdf 11 58 49.7 +0.2**
baz=124
S36A Lake Cedric, C 124.38 40 P **PKPdf 11 58 49.4 +0.1**
baz=124
U35A Pawnee 124.40 42 P **PKPdf 11 58 50.0 +0.6**
baz=124
431A Sonora 124.48 50 P **PKPdf 11 58 50.4 +0.5**
baz=124
R37A Teagarden Farm 124.52 39 P **PKPdf 11 58 49.2 -0.4**
baz=124
T36A Boggs Farm, Ca 124.57 41 P **PKPdf 11 58 50.0 +0.2**
baz=124
X34A Smith Ranch, M 124.60 45 P **PKPdf 11 58 50.8 +0.9**
baz=124
232A Coleman 124.65 48 P **PKPdf 11 58 50.5 +0.4**
baz=125
531A Rocksprings 124.77 51 P **PKPdf 11 58 51.1 +0.7**
baz=125
332A Millersview 124.81 49 P **PKPdf 11 58 50.3 -0.1**
baz=125
S37A Fort Scott 124.85 40 P **PKPdf 11 58 50.1 -0.2**
baz=125
W35A Tecumseh 124.97 43 P **PKPdf 11 58 51.0 +0.4**
baz=125
Y34A Reagan Ranch, 124.99 45 P **PKPdf 11 58 51.3 +0.7**
baz=125
432A Menard 125.02 49 P **PKPdf 11 58 51.2 +0.4**
baz=125
233A Rising Star 125.14 48 P **PKPdf 11 58 51.3 +0.3**
baz=125
T37A Cheneyville 18 125.16 40 P **PKPdf 11 58 51.0 +0.2**
baz=125
JCT Junction City 125.19 50 *e*PKIKP **PKPdf 11 58 51.6 +0.4**
JCT Junction City 125.19 50 P **PKPdf 11 58 51.5 +0.4**
baz=125
JCT Junction City 125.19 50 *e*PKPdf **PKPdf 11 58 51.6 +0.4**
V36A Jenks 125.25 42 P **PKPdf 11 58 51.7 +0.6**
baz=125
532A Rocksprings 125.28 50 P **PKPdf 11 58 51.9 +0.5**
baz=125
TUL1 Tulsa 125.28 42 P **PKPdf 11 58 51.8 +0.6**
baz=125
333A Richland Sprin 125.41 49 P **PKPdf 11 58 51.6 +0.1**
baz=125
W36A Wetumka 125.42 43 P **PKPdf 11 58 51.7 +0.3**
baz=125
134A White-Moore Ra 125.47 47 P **PKPdf 11 58 51.9 +0.3**
baz=125
433A Art 125.61 49 P **PKPdf 11 58 52.2 +0.3**
baz=126
X36A Centrahoma 125.64 44 P **PKPdf 11 58 52.0 +0.2**
baz=126
V37A Hulbert 125.73 42 P **PKPdf 11 58 52.3 +0.3**
baz=126
732A Laxson Ranch, 125.86 52 P **PKPdf 11 58 53.5 +1.1**
baz=126
U38A Gravette 125.91 41 P **PKPdf 11 58 52.3 -0.1**
baz=126
W37A Quinton 125.96 43 P **PKPdf 11 58 52.7 +0.3**
baz=126
334A Lometa 125.97 48 P **PKPdf 11 58 52.7 +0.1**
baz=126
Y36A Durant 126.06 44 P **PKPdf 11 58 53.4 +0.7**
baz=126
633A Saathoff Ranch 126.14 51 P **PKPdf 11 58 53.5 +0.5**
baz=126
434A Burnet 126.20 49 P **PKPdf 11 58 53.4 +0.3**
baz=126
WHTX Lake Whitney 126.22 47 P **PKPdf 11 58 53.7 +0.7**
baz=126
V38A Canehill 126.23 41 P **PKPdf 11 58 53.0 +0.1**

	baz=126							
Z36A	**Blue Ridge**	**126.29**	**45**	P		**PKPdf**	**11 58 53.8**	**+0.6**
	baz=126							
X37A	**Clayton**	**126.31**	**43**	P		**PKPdf**	**11 58 53.8**	**+0.7**
	baz=126							
HDIL	**Hopedale**	**126.37**	**34**	P		**PKPdf**	**11 58 53.4**	**+0.4**
	baz=126							
534A	**Blanco**	**126.42**	**50**	P		**PKPdf**	**11 58 54.2**	**+0.7**
	baz=126							
833A	**Chaparral WMA,**	**126.49**	**52**	P		**PKPdf**	**11 58 54.9**	**+1.2**
	baz=126							
X38A	**Whitesboro**	**126.63**	**43**	P		**PKPdf**	**11 58 54.3**	**+0.6**
	baz=127							
MIAR	**Mount Ida**	**127.55**	**42**	*e*PKIKP		**PKPdf**	**11 58 57.3**	**+1.8**
MIAR	**Mount Ida**	**127.55**	**42**	P		**PKPdf**	**11 58 56.5**	**+1.0**
	baz=128							
MIAR	**Mount Ida**	**127.55**	**42**	*e*PKPdf		**PKPdf**	**11 58 57.3**	**+1.8**
SADO	**Sadowa**	**127.97**	**23**	PKP		**PKPdf**	**11 58 55.9**	**-0.1**
	comp=Z,9.4nm,1.0s,baz=346,slow=7.4,SNR=3.6							
OLIL	**Olney**	**128.29**	**35**	*e*PKPdf		**PKPdf**	**11 58 57.7**	**+0.9**
ACSO	**Alum Creek Sta**	**129.91**	**30**	*e*PKPdf		**PKPdf**	**11 58 59.9**	**+0.1**
KIC	**Kosan Boka**	**130.69**	**280**	*e*PKP1		**PKPdf**	**11 58 58.4**	**-3.6**
	comp=Z,73nm,1.4s							
DBIC	**Dimbokro**	**130.76**	**281**	PKP		**PKPdf**	**11 59 01.4**	**-0.8**
	comp=Z,2.8nm,0.6s,baz=82,slow=4.1,SNR=3.7							
DBIC				SKPbc		**SKPab**	**12 02 24.5**	**+3.5**
	comp=Z,8.3nm,0.9s,baz=84,slow=3.2,SNR=6.4							
TIC	**Toumodi**	**130.92**	**281**	*e*PKP1	PKPdf		11 58 57.2	-5.3
SSPA	**Standing Stone**	**131.93**	**25**	*e*PKPdf		**PKPdf**	**11 59 03.8**	**+0.2**
SWET	**Sewanee**	**131.97**	**36**	*e*PKPdf		**PKPdf**	**11 59 04.2**	**+0.3**
CPCT	**Cooper Cave**	**132.62**	**35**	*e*PKPdf		**PKPdf**	**11 59 06.1**	**+1.0**
LRAL	**Lakeview Retre**	**132.78**	**39**	*e*PKPdf		**PKPdf**	**11 59 06.9**	**+1.5**
KMSC	**Kings Mountain**	**134.62**	**33**	*e*PKPdf		**PKPdf**	**11 59 10.5**	**+1.7**
TRQA	**Tornquist**	**143.39**	**169**	*e*PKPdf	PKPbc		11 59 22.5	+0.5
JTS	**JuntasAbangare**	**146.26**	**68**	*e*PKP2		**PKPab**	**11 59 32.3**	**-0.1**
JTS	**JuntasAbangare**	**146.26**	**68**	*e*PKPbc		**PKPab**	**11 59 32.3**	**-0.1**
CFAA	**Coronel Fontan**	**147.51**	**156**	PKPbc		**PKPdf**	**11 59 32.9**	**+0.8**
	comp=Z,7.4nm,0.7s,baz=240,slow=2.9,SNR=52							
LCO	**Las Campanas**	**148.60**	**150**	*e*PKPbc		**PKPbc**	**11 59 38.6**	**+0.7**
BCIP	**Isla Barro Col**	**151.37**	**67**	*e*PKPdf		**PKPdf**	**11 59 38.4**	**-0.2**
BCIP				*e*PKPbc		**PKPbc**	**11 59 44.4**	**-0.3**
BCIP				*e*PKPab		**PKPab**	**11 59 54.1**	**+1.1**
ATAH	**Atahualpa**	**154.61**	**102**	PKP		**PKPdf**	**11 59 44.9**	**+1.0**
	comp=Z,8.0nm,1.0s,baz=322,slow=5.7,SNR=4.4							
ATAH				PKPbc		**PKiKP**	**11 59 54.5**	**+2.1**
	comp=Z,13nm,0.8s,baz=152,slow=2.5,SNR=7.2							
ATAH				PKPab		**PKPab**	**12 00 09.5**	**+2.3**
	comp=Z,18nm,0.8s,baz=224,slow=1.2,SNR=6.2							
LVC	**Limon Verde**	**154.68**	**145**	PKPbc		**PKPbc**	**11 59 54.3**	**+2.2**
	comp=Z,35nm,0.7s,baz=259,slow=4.0,SNR=13							
LVC				PKPab		**PKPab**	**12 00 08.6**	**+1.7**
	comp=Z,28nm,0.8s,baz=246,slow=3.8,SNR=5.0							
NNA	**Nana**	**154.79**	**114**	PKP		**PKPdf**	**11 59 44.9**	**+1.2**
	comp=Z,3.6nm,0.3s,baz=124,slow=17,SNR=3.2							
CPUP	**Villa Florida**	**155.64**	**171**	PKP		**PKPdf**	**11 59 44.6**	**+0.2**
	comp=Z,3.0nm,1.0s,baz=212,slow=1.7,SNR=6.1							
CPUP				PKPbc	PKPbc		11 59 54.9	
	comp=Z,11nm,0.9s,baz=337,slow=10,SNR=17							
CPUP				PKPab		**PKPab**	**12 00 12.0**	**+1.5**
	comp=Z,11nm,0.9s,baz=145,slow=3.9,SNR=6.2							
ROSC	**El Rosal**	**157.97**	**72**	PKPab		**PKPab**	**12 00 23.9**	**+2.3**
	comp=Z,7.0nm,0.4s,baz=115,slow=6.5,SNR=5.7							
LPAZ	**La Paz**	**159.80**	**135**	PKP		**PKPdf**	**11 59 51.4**	**+0.8**
	comp=Z,4.2nm,0.8s,baz=323,slow=1.2,SNR=15							
SIV	**San Ignacio**	**164.29**	**152**	PKP		**PKPdf**	**11 59 55.1**	**+0.7**
	comp=Z,3.1nm,0.7s,baz=217,slow=1.2,SNR=11							
SIV				PKPab		**PKPab**	**12 00 49.5**	**+1.0**
	comp=Z,4.7nm,0.8s,baz=209,slow=4.1,SNR=9.1							
BDFB	**Brasilia**	**165.56**	**201**	PKP		**PKPdf**	**11 59 56.0**	**+0.4**
	comp=Z,2.3nm,0.5s,baz=336,slow=3.1,SNR=3.1							
BDFB				PKPab		**PKPab**	**12 00 54.6**	**+0.5**
	comp=Z,4.8nm,0.7s,baz=141,slow=8.0,SNR=4.4							
BDFB	**Brasilia**	**165.56**	**201**	PKIKP		**PKPdf**	**11 59 56.0**	**+0.4**
SAML	**Samuel**	**168.14**	**125**	*e*PKPdf		**PKPdf**	**11 59 57.7**	**+0.2**
PTGA	**Pitinga**	**173.29**	**78**	PKP		**PKPdf**	**11 59 59.9**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=258,slow=9.0,SNR=3.4							
PTGA				PKPab		**PKPab**	**12 01 27.8**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=224,slow=5.0,SNR=4.9							

MAN 30 11:43:04, 15°.38N×121°.47E, h51km, mb4.6, ML3.4, MS3.4, Luzon

*IDC **30** 11:54:09.7±1.1, 15°.22S×173°.45W, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.7/43, mbtmp3.7/6, ML4.0/1, MS4.0/3, Ms1 4.0/3, ms1mx3.2/31, Error ellipse: s-maj=51.4km s-min=20.1km az=138.0*

*ISCJB **30** 11:54:12.2±0.8, 15°.2S±0°.2×173°.4W±0°.2, h30km, mb3.6/5, MS4.1/3, Error ellipse: s-maj=39.8km s-min=9.7km az=141.0*

ISC 30 11:54:13.5±1.1, 15°.2S±0°.3×173°.2W±0°.3, h30km, n9, σ1°89°/7, mb3.7/5, MS4.2/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**1.88**	**47**	Pn		**Pb**	**11 54 45.5**	**-1.7**
	50nm,0.3s,baz=0.0,slow=7.1,SNR=101							
AFI				Sn		**Sn**	**11 55 06.2**	**-0.1**
	47nm,0.3s,baz=47,slow=23,SNR=8.7							
AFI				LR		LR	11 55 09.2	
	comp=Z,118nm,20.3s,baz=130,slow=29							
URZ	**Urewera**	**24.51**	**199**	P		**P**	**11 59 30.4**	**+0.1**
	4.3nm,0.7s,baz=284,slow=4.2,SNR=4.5							
WRA	**Warramunga Arr**	**50.09**	**257**	P		**P**	**12 03 05.0**	**-1.2**
	0.3nm,0.8s,baz=96,slow=7.2,SNR=3.8							
ASAR	**Alice Springs**	**50.37**	**252**	P		**P**	**12 03 06.5**	**-1.8**
	0.6nm,0.7s,baz=87,slow=8.4,SNR=12							
JNU	**Nakatsue**	**71.82**	**313**	LR		LR	12 33 24.3	
	comp=Z,46nm,18.4s,baz=298,slow=33							
YBH	**Yreka Blue Hor**	**73.32**	**37**	LR		LR	12 32 53.1	
	comp=Z,118nm,20.4s,baz=286,slow=32							
NVAR	**Mina Array Bea**	**74.05**	**42**	P		**P**	**12 05 48.6**	**+1.7**
	0.8nm,0.9s,baz=231,slow=8.8,SNR=4.4							
NEW	**Newport**	**80.43**	**34**	LR		LR	12 33 23.6	
	comp=Z,133nm,21.7s,baz=298,slow=29							
ILAR	**Eielson Array**	**82.22**	**11**	P		**P**	**12 06 33.4**	**+2.0**
	0.2nm,0.7s,baz=227,slow=6.7,SNR=5.2							

*DJA **30** 11:59:34.6±0.6, 3°N±3°×122°E±°, h33km, M4.2/10, mB4.8/1, mb4.3/6, MLv4.2/10, Mw(mB)4.1/1*

*IDC **30** 11:59:37.8±1.0, 1°.84N×125°.99E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/37, mbtmp3.9/5, Error ellipse: s-maj=86.3km s-min=18.9km az=74.0*

*NEIC **30** 11:59:39.2±0.6, 1°.80N×125°.97E, h10km, mb4.3/2, Error ellipse: s-maj=15.9km s-min=10.4km az=63.0*

ISC 30 11:59:38.6±0.8, 1°.89N±0°.07×125°.96E±0°.04, h10km, n19, σ1°81/23, mb3.9/7, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.79**	**128**	P		**Pn**	**12 00 08.5**	**-1.1**
TNTI	**Ternate**	**1.79**	**128**	*e*Pn		**Pn**	**12 00 08.5**	**-1.1**
TNTI				*e*Sn		**Sn**	**12 00 31.9**	**-0.4**
SGSI	**Sangihe**	**1.84**	**346**	S		Sn	12 00 26.7	-7.0
KMSI	**Cibinong**	**2.37**	**237**	P		Pg	12 00 32.9	+8.7
KMSI				S		Sg	12 01 20.9	+26
LBMI	**Labuha**	**2.94**	**148**	P		**Pb**	**12 00 28.7**	**-2.5**
LBMI				S		**Sg**	**12 01 15.0**	**+1.8**
SANI	**Sanana**	**3.91**	**180**	P		**Pb**	**12 00 49.1**	**+1.4**
	12nm,0.9s,0.1nm							
SANI				S		Sg	12 01 49.8	+5.5
	12nm,0.9s,0.1nm							
MRSI	**Marisa**	**4.26**	**251**	P		**Pg**	**12 00 58.6**	**-1.7**
	29nm,0.6s,0.1nm							
MRSI				S		Sg	12 02 03.3	+7.8
	29nm,0.6s,0.1nm							
LUWI	**Luwuk**	**4.32**	**228**	P		**Pg**	**12 00 59.5**	**-1.9**
	53nm,0.7s,0.4nm							
LUWI				S		Sg	12 02 12.5	+15
	53nm,0.7s,0.4nm							
LUWI	**Luwuk**	**4.32**	**228**	*e*Pn		**Pn**	**12 00 43.3**	**-1.1**
LUWI				*e*Pg		**Pg**	**12 01 00.3**	**-1.2**
LUWI				*e*Sn		**Sn**	**12 01 33.0**	**-1.9**
APSI	**Ampana**	**5.13**	**237**	P		Pb	12 01 12.3	+3.7
	71nm,0.8s,780nm0.2nm							
APSI				S		**Sg**	**12 02 28.6**	**+5.0**
	71nm,0.8s,780nm0.2nm							
MPSI	**Mapaga**	**6.26**	**256**	P		**Pb**	**12 01 25.1**	**-2.7**
WRAB	**Tennant Creek**	**23.19**	**160**	*e*P		**P**	**12 04 45.5**	**-0.4**
	5.0nm,0.8s							
WRA	**Warramunga Arr**	**23.20**	**160**	P		**P**	**12 04 45.6**	**-0.3**
	4.6nm,0.7s,baz=336,slow=11,SNR=47							
WRA				PcP		**PcP**	**12 08 34.0**	**-0.2**
	0.3nm,0.6s,baz=329,slow=2.0,SNR=4.5							
ASAR	**Alice Springs**	**26.55**	**164**	P		**P**	**12 05 17.5**	**+0.6**
	1.9nm,0.8s,baz=341,slow=7.7,SNR=20							
ASAR				PcP		**PcP**	**12 08 41.6**	**0.0**
	0.4nm,0.7s,baz=351,slow=2.4,SNR=5.4							
KSAR	**Wonju Array Be**	**35.43**	**3**	P		**P**	**12 06 35.4**	**+0.4**
KSRS	**Korea Array**	**35.44**	**9**	P		**P**	**12 06 35.4**	**+0.3**
	0.6nm,0.6s,baz=184,slow=11,SNR=3.2							
STKA	**Stephens Creek**	**36.71**	**157**	P		**P**	**12 06 46.5**	**+0.4**
	1.7nm,0.8s,baz=342,slow=9.6,SNR=2.9							
MKAR	**Makanchi Array**	**58.64**	**326**	P		**P**	**12 09 38.1**	**+2.0**
	0.5nm,0.4s,baz=119,slow=7.6,SNR=4.6							
ABKAR	**Akbulak array**	**73.09**	**321**	P		**P**	**12 11 10.3**	**+1.2**
	0.6nm,0.2s							

DJA 30 12:10:03.6±1.1, 1°S±8°×133°E±°, h71km±13km, M3.8/4, MLv3.8/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BAKI	**Biak**	**0.83**	**84**	P		Pn	12 10 20.7	+0.6
BAKI				S		Sn	12 10 34.3	+2.0
SRPI	**Serui, Papua**	**1.12**	**121**	P		Pn	12 10 25.3	+1.6
SRPI				S		Sn	12 10 39.7	+0.9
RKPI	**Ransiki, Papua**	**1.13**	**258**	S		Sn	12 10 39.5	+0.7
FAKI	**Fak Fak**	**3.44**	**242**	P		Pn	12 10 53.0	-1.8
FAKI				S		Sn	12 11 36.7	+2.2

*NEIC **30** 12:10:54.0, 37°.43S×73°.64W, h16km, ML5.1(GUC), After GUC.*

NEIC Felt [III] at Angol, Arauco, Canete, Curanilahue, La Laja, Lebu, Los Sauces, Renaico and San Rosendo; [II] at Chiguayante, Concepcion and Talcahuano.

*GUC **30** 12:10:54.1±0.4, 37°.43S×73°.65W, h16km±3km, ML5.1*

*IDC **30** 12:10:55.6±1.0, 37°.32S×73°.44W, h23km±5km, mb3.7/7, mb1 3.8/10, mb1mx3.7/27, mbtmp3.8/10, ML3.9/3, MS3.5/3, Ms1 3.6/3, ms1mx3.3/19, Error ellipse: s-maj=29.4km s-min=19.3km az=100.0*

ISC 30 12:10:51.5±2.3, 37°.41S±0°.04×73°.59W±0°.10, h2km±14km, n25, σ1°41/29, mb3.8/7, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.68**	**34**	*e*P		**Pn**	**12 11 07.5**	**-0.6**
CCSP				*i* S		**Sb**	**12 11 17.3**	**+1.3**
CCSP				AML		AML	12 11 19.1	
	comp=E,48μm,0.6s							
U14B	**Concepcin**	**0.69**	**37**	*i* P		**Pn**	**12 11 07.5**	**-0.8**
U14B				*i* S		**Sb**	**12 11 17.3**	**+1.2**
U14B				AML		AML	12 11 19.2	
	comp=N,133μm,0.5s							
PSCH	**Puerto Saavedr**	**1.40**	**174**	*i* P		**Pn**	**12 11 17.9**	**-0.2**
PSCH				*i* S		**Sg**	**12 11 35.7**	**-0.7**
COCH	**Cobquecura**	**1.43**	**27**	*i* P		**Pn**	**12 11 18.0**	**-0.4**
COCH				*i* S		**Sg**	**12 11 37.0**	**-0.4**
VLCH	**Valdivia**	**2.41**	**174**	*i* P		**Pn**	**12 11 33.2**	**+1.3**
VLCH				*i* S		**Sn**	**12 12 03.4**	**+1.5**
TALC	**Talca**	**2.55**	**39**	*i* P		**Pn**	**12 11 35.3**	**+1.4**
TALC				*i* S		**Sn**	**12 12 07.5**	**+2.0**
CLCH	**Cerro Calan**	**4.72**	**33**	AML		AML	12 13 25.7	
	comp=N,717nm,0.7s							
PEL	**Peldehue**	**4.87**	**30**	AML		AML	12 13 36.5	
	comp=E,720nm,0.7s							
CFAA	**Coronel Fontan**	**7.28**	**39**	Pn		**Pn**	**12 12 38.0**	**-1.0**
	comp=E,0.3nm,0.3s,baz=233,slow=5.5,SNR=19							
CFAA				Sn		**Sn**	**12 13 59.8**	**-2.5**
	comp=E,0.1nm,0.3s,baz=221,slow=18,SNR=2.2							
CFAA				LR		LR	12 15 33.5	
	comp=E,66nm,18.4s,baz=222,slow=39							
LCO	**Las Campanas**	**8.72**	**17**	*e*Pn		**Pn**	**12 12 58.7**	**-0.2**
TRQA	**Tornquist**	**9.22**	**98**	*e*Pn		**Pn**	**12 13 07.7**	**+2.2**
	comp=E,12nm,0.8s							
TRQA				*e*Sn		**Sn**	**12 14 48.0**	**-1.9**
LVC	**Limon Verde**	**15.29**	**17**	Pn		**Pn**	**12 14 26.9**	**-1.8**
	comp=E,2.5nm,0.3s,baz=106,slow=20,SNR=1.5							
CPUP	**Villa Florida**	**17.66**	**56**	P		**Pn**	**12 14 58.3**	**-0.3**
	comp=E,0.2nm,0.3s,baz=222,slow=12,SNR=4.8							
CPUP				LR		LR	12 22 37.2	
	comp=E,323nm,18.7s,baz=228,slow=40							
LPAZ	**La Paz**	**21.59**	**14**	P		**P**	**12 15 44.3**	**+1.0**
	comp=E,1.2nm,0.6s,baz=183,slow=8.8,SNR=5.8							
LPAZ	**La Paz**	**21.59**	**14**	*e*P		**P**	**12 15 44.4**	**+1.2**
SIV	**San Ignacio**	**24.04**	**31**	P		**P**	**12 16 07.8**	**-0.3**
	comp=E,1.9nm,0.6s,baz=219,slow=12,SNR=9.4							
QSPA	**South Pole Qui**	**52.83**	**180**	P		**P**	**12 20 09.8**	**+1.6**
	comp=E,0.6nm,0.5s,baz=133,slow=5.1,SNR=12							
TXAR	**Lajitas Array**	**72.13**	**333**	P		**P**	**12 22 18.0**	**+0.4**
	comp=E,0.2nm,0.6s,baz=156,slow=8.4,SNR=4.3							
TXAR				pP		pP	12 22 25.4	+7.1
	comp=E,0.4nm,0.5s,baz=151,slow=8.7,SNR=5.0							
TKL	**Tuckaleechee C**	**73.31**	**351**	LR		LR	12 54 15.7	
	comp=E,97nm,20.2s,slow=36							
DBIC	**Dimbokro**	**77.46**	**71**	P		**P**	**12 22 49.0**	**+0.3**
	comp=E,3.4nm,0.9s,baz=183,slow=3.3,SNR=3.0							
DBIC				pP		**PcP**	**12 22 56.2**	**-3.0**
	comp=E,4.4nm,0.6s,baz=197,slow=4.7,SNR=3.9							
BOSA	**Boshof**	**79.60**	**118**	P		**P**	**12 23 00.8**	**+0.2**
	comp=E,2.0nm,0.8s,baz=214,slow=7.3,SNR=2.9							
NVAR	**Mina Array Bea**	**85.99**	**326**	pP		pP	12 23 41.5	+7.4
	comp=E,0.6nm,0.8s,baz=147,slow=5.4,SNR=3.5							
PDAR	**Pinedale Array**	**86.26**	**334**	pP		pP	12 23 41.8	+6.5
	comp=E,2.0nm,0.4s,baz=198,slow=2.7,SNR=2.9							
TORD	**Torodi Ar. Bea**	**86.54**	**71**	P		**P**	**12 23 35.1**	**-1.4**
	comp=E,0.3nm,0.5s,baz=225,slow=5.3,SNR=4.5							
TORD				pP		PcP	12 23 44.6	+5.8
	comp=E,0.5nm,0.7s,baz=223,slow=5.4,SNR=3.4							
ZALV	**Zalesovo Beam**	**157.76**	**35**	PKPab		**PKPab**	**12 31 21.8**	**+0.3**
	comp=E,0.7nm,0.5s,baz=308,slow=5.6,SNR=3.3							

*NAO **30** 12:11:56.8±1.6, 67°.57N×33°.94E, ML2.5*

*CSEM **30** 12:11:56.1±1.1, 67°.46N×33°.97E, h2km, ML2.5, Error ellipse: s-maj=20.6km s-min=9.0km az=104.0, Mining explosion.*

HEL 30 12:11:56.3±0.4, 67°.56N×34°.16E, h0km, ML1.8, Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
APA0	**Apatity Array**	**0.45**	**277**	Pg		Pg	12 12 01.2	-3.8
APA0				Pg		Pb	12 12 03.6	-3.5
	baz=95,slow=16							
APA0				Lg		Lg	12 12 04.2	
APA0				Lg		Lg	12 12 08.7	
	baz=78,slow=37							
APA0				Rg		Rg	12 12 10.4	
	baz=90,slow=37							
APA0	**Apatity Array**	**0.45**	**277**	Pg		Pg	12 12 01.2	-3.8
APA0				Pg		Pb	12 12 03.6	-3.5
	baz=95,slow=16							
APA0				Lg		Lg	12 12 04.2	
APA0				Lg		Lg	12 12 08.7	
	baz=78,slow=37							
APA0				Rg		Rg	12 12 10.4	
	baz=90,slow=37							
APA0	**Apatity Array**	**0.45**	**277**	Pg		Pg	12 12 03.7	-1.2
	SNR=90							
APA0				Lg		Lg	12 12 08.7	
	SNR=50							
KU6	**Riekki**	**2.29**	**230**	PG		Pn	12 12 36.6	+1.4
	baz=42							
KU6				MSG			12 13 03.9	
	comp=Z,3.8nm,0.2s							
KU6				SG		Sb	12 13 06.8	-0.4
KU6	**Riekki**	**2.29**	**230**	Pg		Pn	12 12 36.6	+1.4
KU6				Sg		Sb	12 13 06.7	-0.4
MSF	**Maaselka**	**2.62**	**233**	PG		Pb	12 12 43.5	-0.6
	baz=47							
MSF				SG		Sb	12 13 16.4	-0.4
MSF	**Maaselka**	**2.62**	**233**	Pg		Pb	12 12 43.5	-0.6
MSF				Sg		Sb	12 13 16.3	-0.4
RNF	**Rovaniemi**	**3.33**	**257**	PN		Pn	12 12 49.5	0.0
	baz=73							
RNF				SB		Sb	12 13 35.4	-1.7
RNF	**Rovaniemi**	**3.33**	**257**	Pn		Pn	12 12 49.5	0.0
RNF				Sb		Sb	12 13 35.3	-1.7
KEV	**Kevo**	**3.42**	**313**	PN		Pn	12 12 50.6	-0.2
KEV				SN		Sn	12 13 29.8	-2.2
KEV	**Kevo**	**3.42**	**313**	Pn		Pn	12 12 50.6	-0.2
KEV				Sn		Sn	12 13 29.8	-2.2
ARA0	**ARCESS Array S**	**3.75**	**306**	Pn		Pn	12 12 54.4	-0.9
	baz=123,slow=16							
ARA0				Pg		Pb	12 13 02.9	-0.4
	baz=118,slow=16							
ARA0				Sn		Sn	12 13 36.8	-3.4
	baz=125,slow=28							
ARA0				Lg		Lg	12 13 47.2	
	baz=115,slow=37							
ARA0	**ARCESS Array S**	**3.75**	**306**	Pn		Pn	12 12 54.4	-0.9
	baz=123,slow=16							
ARA0				Pg		Pb	12 13 02.9	-0.4
	baz=118,slow=16							
ARA0				Sn		Sn	12 13 36.8	-3.4
	baz=125,slow=28							
ARA0				Lg		Lg	12 13 47.2	
	baz=115,slow=37							
ARA0	**ARCESS Array S**	**3.75**	**306**	Pn		Pn	12 12 54.4	-0.9
	SNR=50							
ARA0	**ARCESS Array S**	**3.75**	**306**	Pg		Pb	12 13 02.9	-0.4
ARA0				Sn		Sn	12 13 36.8	-3.3
	SNR=50							
ARA0				Lg		Lg	12 13 47.2	
	SNR=57							
HEF	**Hetta**	**4.04**	**287**	PN		Pn	12 13 00.1	+0.7
HEF				SB		Sb	12 13 58.0	+0.2
HEF	**Hetta**	**4.04**	**287**	Pn		Pn	12 13 00.0	+0.6
HEF				Sb		Sb	12 13 57.9	+0.2
OUL	**Oulu**	**4.15**	**237**	SG		Sb	12 14 04.7	+3.9
OUL	**Oulu**	**4.15**	**237**	Sg		Sb	12 14 04.7	+3.9
LANU	**Lannavaara**	**4.64**	**282**	PN		Pn	12 13 06.3	-1.3
LANU				SG		Sb	12 14 16.5	+1.6
LANU	**Lannavaara**	**4.64**	**282**	Pn		Pn	12 13 06.2	-1.4
FIA0	**FINESS Array S**	**7.05**	**213**	Lg		Lg	12 15 31.6	
	baz=36,slow=28							
FIA0	**FINESS Array S**	**7.05**	**213**	Lg		Lg	12 15 31.6	
	baz=36,slow=28							

*IDC **30** 12:14:20.6±1.4, 59°.07N×154°.72W, h99km±16km, mb3.4/6, mb1 3.8/10, mb1mx3.5/36, mbtmp3.9/10, MS4.1/2, Ms1 4.1/2, ms1mx3.0/29, Error ellipse: s-maj=21.1km s-min=15.1km az=33.0*

*ISCJB **30** 12:14:21.8±0.3, 59°.00N±0°.03×154°.39W±0°.05, h133km±3km, mb3.5/6, Error ellipse: s-maj=5.1km s-min=3.4km az=39.7*

*NEIC **30** 12:14:24.1, 58°.94N×154°.36W, h123km, mb4.5/5, After AEIC.*

ISC 30 12:14:23.2±0.7, 58°.98N±0°.04×154°.42W±0°.05, h127km±6km, n103, σ1°23/120, mb3.6/6, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MCNL	**McNeil River**	**0.21**	**11**	P		**Pn**	**12 14 40.7**	**-0.1**
KAPH	**Katmai Pasha**	**0.39**	**175**	P		**Pn**	**12 14 41.2**	**-0.4**
KAPH				S		**Sn**	**12 14 54.8**	**-0.5**
KAHC	**Katmai Hardscr**	**0.45**	**223**	P		**Pn**	**12 14 41.4**	**-0.5**
KAHG	**Katmai Hook Gl**	**0.49**	**188**	P		**Pn**	**12 14 41.7**	**-0.4**
AUI	**Augustine Isla**	**0.62**	**55**	P		**Pn**	**12 14 42.8**	**+0.1**
AUI				S		**Sn**	**12 14 57.4**	**-0.1**
AUL	**Augustine Lava**	**0.65**	**51**	P		**Pn**	**12 14 43.2**	**+0.3**
KAKN	**Katmai Knife C**	**0.77**	**206**	P		**Pn**	**12 14 43.4**	**-0.5**
KAKN				S		**Sn**	**12 14 58.8**	**-0.8**
PDB	**Pedro Bay**	**0.82**	**8**	P		**Pn**	**12 14 44.1**	**-0.1**
KBM	**Katmai Bkd Mtn**	**0.82**	**210**	P		**Pn**	**12 14 44.0**	**-0.4**
KELA	**Mount Kelaz**	**0.88**	**232**	P		**Pn**	**12 14 44.4**	**-0.5**
KABR	**Katmai Barrier**	**0.90**	**199**	P		**Pn**	**12 14 44.3**	**-0.7**
CNTC	**Contact Creek**	**1.05**	**228**	P		**Pn**	**12 14 46.1**	**-0.3**
ILS	**Iliamna Low So**	**1.20**	**34**	P		**Pn**	**12 14 48.0**	**+0.1**
ILW	**Iliamna West**	**1.26**	**31**	P		**Pn**	**12 14 48.8**	**+0.1**
ILW				S		**Sn**	**12 15 08.0**	**-0.1**
KDAK	**Kodiak Island**	**1.54**	**140**	P		**Pn**	**12 14 50.5**	**-1.0**
	194nm,0.3s,baz=342,slow=9.8,SNR=1833							
KDAK				S		**Sn**	**12 15 11.2**	**-1.9**
	160nm,0.3s,baz=0.0,slow=20,SNR=34							
KDAK	**Kodiak Island**	**1.54**	**140**	P		**Pn**	**12 14 51.5**	**-0.1**
KDAK				S		**Sn**	**12 15 11.2**	**-1.9**
KDAK				S		**Sn**	**12 15 12.0**	**-1.1**
HOM	**Homer

HYT	**Haines Junctio**	**8.70**	**71**	*e*Pn		**Pn**	**12 16 27.5**	**+1.5**
	3.3nm,0.6s								
HYT				*e*Sn		**Sn**	**12 18 01.0**	**-1.3**
DAWY	**Dawson**	**8.79**	**48**	*e*Pn		**Pn**	**12 16 26.9**	**-0.2**
	6.4nm,0.6s								
DAWY				*e*Sn		**Sn**	**12 18 03.1**	**-1.3**
SKAG	**Skagway**	**9.79**	**79**	*e*Pn		**Pn**	**12 16 42.1**	**+1.6**
	5.4nm,0.4s								
SKAG				*e*Sn		**Sn**	**12 18 31.4**	**+2.8**
WRAK	**Wrangell Islan**	**12.06**	**93**	*e*Pn		**Pn**	**12 17 13.2**	**+2.4**
WRAK				*e*Sn		**Sn**	**12 19 25.3**	**+1.8**
DLBC	**Dease Lake**	**12.67**	**82**	P		**Pn**	**12 17 19.7**	**+1.0**
	1.7nm,0.3s,baz=292,slow=9.6,SNR=38								
DLBC				S		**Sn**	**12 19 38.9**	**+0.6**
	0.2nm,0.3s,baz=235,slow=16,SNR=4.2								
INK	**Inuvik**	**13.09**	**36**	P		**Pn**	**12 17 22.2**	**-1.8**
	0.8nm,0.3s,baz=236,slow=16,SNR=24								
YKA	**Yellowknife Ar**	**19.55**	**63**	P		**P**	**12 18 40.8**	**+0.3**
	0.5nm,0.3s,baz=276,slow=9.9,SNR=20								
NEW	**Newport**	**24.25**	**100**	P		**P**	**12 19 30.1**	**+1.9**
	1.4nm,0.5s,baz=297,slow=9.0,SNR=3.4								
SEY	**Seymchan**	**25.50**	**302**	P		**P**	**12 19 38.0**	**-1.2**
	2.9nm,1.0s,baz=22,slow=9.8,SNR=2.6								
NVAR	**Mina Array Bea**	**30.89**	**116**	P		**P**	**12 20 29.6**	**+1.8**
	0.3nm,0.5s,baz=311,slow=8.2,SNR=4.0								
PDAR	**Pinedale Array**	**31.89**	**100**	P		**P**	**12 20 38.3**	**+1.9**
	0.7nm,0.7s,baz=328,slow=5.3,SNR=6.7								
ASAJ	**Asahikawa**	**40.28**	**277**	LR		LR	12 38 37.5		
	comp=Z,286nm,20.6s,baz=204,slow=36								
LPIG	**La Paz**	**46.59**	**119**	LR		LR	12 41 07.5		
	comp=Z,258nm,21.2s,baz=260,slow=34								
SONM	**Songino Array**	**54.80**	**306**	P		**P**	**12 23 40.1**	**+0.4**
	0.5nm,0.3s,baz=30,slow=4.2,SNR=4.0								
MKAR	**Makanchi Array**	**64.77**	**321**	P		**P**	**12 24 45.4**	**-2.3**
	0.2nm,0.4s,baz=42,slow=5.9,SNR=2.6								

MAN 30 12:32:11,16°.97N×122°.45E,h17km,mb4.5,ML3.4,MS3.3, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PALP	**Palanan**	**0.10**	**349**	*e*P		Pg	12 32 16.1	+1.5

MEX 30 12:36:46.6±0.6,24°.57N×109°.90W,h10km,MD4.1,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LPIG	**La Paz**	**0.59**	**219**	*e*P		Pg	12 36 57.5	-0.6
LPIG				*i* S		Sg	12 37 04.4	-1.5
SRIG	**Santa Rosalia**	**3.46**	**323**	*e*P		Pn	12 37 36.4	-4.2
MAIG	**Mazatlaan**	**3.47**	**113**	*e*P		Pn	12 37 37.7	-3.0

BJI **30** *12:40:22.9,6°.30N×123°.78E,h590km,mb4.5/32,mB4.6/27*
KLM **30** *12:40:24.9,6°.78N×124°.17E,h571km,mb4.7,MS6.0*
MAN **30** *12:40:26,6°.80N×123°.39E,h591km,mb5.5,ML4.5,MS4.9*
MOS **30** *12:40:26.6±0.9,6°.65N×123°.59E,h606km,mb4.2/31,Error ellipse: s-maj=14.9km s-min=7.2km az=110.5*
ISCJB **30** *12:40:26.3±0.2,6°.66N±0°.02×123°.64E±0°.04,h597km±3km, mb4.3/53,Error ellipse: s-maj=6.0km s-min=3.3km az=163.7*
IDC **30** *12:40:27.6±0.9,6°.61N×123°.66E,h598km±10km,mb3.7/23, mb1 3.9/25,mb1mx3.7/36,mbtmp4.7/25,Error ellipse: s-maj=12.7km s-min=6.8km az=69.0*
NEIC **30** *12:40:27.0±0.3,6°.65N×123°.64E,h588km±5km,mb4.9/18, Error ellipse: s-maj=8.2km s-min=4.5km az=68.0*
DJA **30** *12:40:28.5±0.6,7°.N×7°×12°.4E±°,h580km,7km,M4.5/26, mb4.7/26,mB4.9/18,MLv5.1/8,Mw(mB)4.2/18,Mwp6.0/1*

ISC 30 12:40:27.3±0.4,6°.63N±0°.04×123°.72E±0°.05,h597km±4km, n196,σ1s36/242,mb4.2/53,4C-9D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.79**	**42**	⇓*i*P		**P**	**12 41 37.1**	**-0.7**
DAV	**Davao City (W)**	**1.90**	**76**	*e*P		**P**	**12 41 39.8**	**-1.2**
DAV				*e*S		**S**	**12 42 36.6**	**-4.2**
DCPH	**Dipolog City**	**1.98**	**349**	⇓*e*P		**P**	**12 41 39.9**	**-1.4**
DCPH				*i* S		**S**	**12 42 38.1**	**-3.3**
TBP	**Tagbilaran**	**3.05**	**3**	*e*P		**P**	**12 41 45.3**	**-1.2**
TBP				*e*S		**S**	**12 42 47.1**	**-3.9**
MYLDM	**Lahad Datu**	**5.39**	**255**	⇓P		**P**	**12 42 03.4**	**+0.2**
MYLDM	**Lahad Datu**	**5.39**	**255**	⇑S		**S**	**12 43 24.6**	**+3.2**
MYLDM	**Lahad Datu**	**5.39**	**255**	*e*P		**P**	**12 42 03.6**	**+0.4**
KMSI	**Cibinong**	**6.02**	**178**	P		**P**	**12 42 08.1**	**-0.4**
	155nm,0.9s,1.4nm								
KMSI				S		**S**	**12 43 29.4**	**-1.8**
	155nm,0.9s,1.4nm								
TOLI	**Toli-Toli**	**6.20**	**208**	*e*P		**P**	**12 42 09.0**	**-1.1**
TSM	**Tawau**	**6.26**	**249**	⇑P		**P**	**12 42 08.4**	**-2.3**
MRSI	**Marisa**	**6.36**	**196**	P		**P**	**12 42 11.2**	**-0.3**
	52nm,0.9s,0.2nm								
MRSI				S		**S**	**12 43 34.4**	**-2.2**
	52nm,0.9s,0.2nm								
SDKM	**Sandakan**	**6.56**	**262**	⇑P		**P**	**12 42 11.7**	**-1.6**
TNTI	**Ternate**	**6.86**	**148**	P		**P**	**12 42 16.5**	**+0.5**
	206nm,0.7s,4μm2.6nm								
TNTI				S		**S**	**12 43 44.7**	**-0.2**
	206nm,0.7s,4μm2.6nm								
TNTI	**Ternate**	**6.86**	**148**	*e*P		**P**	**12 42 15.8**	**-0.2**
MPSI	**Mapaga**	**7.32**	**212**	P		**P**	**12 42 19.3**	**-0.9**
	29nm,1.2s,616nm0.2nm								
MPSI				S		**S**	**12 43 52.0**	**-0.5**
	29nm,1.2s,616nm0.2nm								
KKM	**Kota Kinabalu**	**7.48**	**266**	P		**P**	**12 42 20.1**	**-1.7**
	baz=7.3,SNR=30								
KKM	**Kota Kinabalu**	**7.48**	**266**	*e*P		**P**	**12 42 20.0**	**-1.7**
LUWI	**Luwuk**	**7.68**	**187**	P		**P**	**12 42 21.4**	**-2.2**
	124nm,1.1s,2μm1.3nm								
LUWI	**Luwuk**	**7.68**	**187**	P		**P**	**12 42 22.0**	**-1.6**
	baz=7.6,SNR=14								
LUWI	**Luwuk**	**7.68**	**187**	*e*P		**P**	**12 42 22.0**	**-1.6**
LUWI				*e*S		**S**	**12 43 53.4**	**-5.3**
APSI	**Ampana**	**7.77**	**195**	P		**P**	**12 42 24.3**	**-0.1**
	80nm,0.7s,1μm0.4nm								
TGY	**Tagaytay City**	**7.92**	**340**	P		**P**	**12 42 25.1**	**-0.7**
	63nm,0.3s,baz=199,slow=2.5,SNR=13								
TGY	**Tagaytay City**	**7.92**	**340**	P		**P**	**12 42 25.1**	**-0.7**
TGY				pmax		pmax			
	comp=Z,63nm,0.3s								
LBMI	**Labuha**	**8.14**	**152**	P		**P**	**12 42 27.5**	**-0.5**
	comp=Z,197nm,0.8s,comp=Z,3μm								
PCI	**Palu**	**8.43**	**208**	P		**P**	**12 42 29.5**	**-1.2**
	comp=Z,55nm,1.2s,comp=Z,836nmcomp=Z,57μm								
SANI	**Sanana**	**8.91**	**165**	P		**P**	**12 42 33.0**	**-2.4**
	comp=Z,189nm,0.8s,comp=Z,2μm								
BCPH	**Baguio City Da**	**10.17**	**343**	⇓*i*P		**P**	**12 42 47.0**	**-0.9**
NLAI	**Namlea**	**10.37**	**161**	P		**P**	**12 42 50.6**	**+0.9**
	comp=Z,201nm,0.8s,comp=Z,2μm								
TTSI	**Tana Toraja**	**10.37**	**202**	P		**P**	**12 42 49.9**	**+0.2**
	comp=Z,21nm,0.8s								
SWI	**Sorong**	**10.58**	**134**	P		**P**	**12 42 52.6**	**+0.7**
	comp=Z,105nm,0.7s,comp=Z,1μm								
SWI	**Sorong**	**10.58**	**134**	P		**P**	**12 42 52.7**	**+0.8**
	baz=11,SNR=15								
SIJI	**Sorong**	**10.59**	**134**	P		**P**	**12 42 52.9**	**+0.9**
	comp=Z,17nm,0.3s,baz=315,slow=13,SNR=53								
SIJI				S		**S**	**12 44 52.5**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=161,slow=19,SNR=3.8								
PALU	**Palau**	**10.70**	**86**	P		**P**	**12 42 54.1**	**+1.0**
	baz=11,SNR=3.7								
BTM	**Bintulu**	**11.13**	**253**	⇓P		**P**	**12 42 55.9**	**-1.5**
AAI	**Ambon**	**11.18**	**156**	P		**P**	**12 42 58.6**	**+0.7**
	comp=Z,171nm,0.6s								
AAI	**Ambon**	**11.18**	**156**	P		**P**	**12 42 58.6**	**+0.7**
	baz=11,SNR=7.8								
MSAI	**Masohi**	**11.19**	**152**	P		**P**	**12 42 59.2**	**+1.2**
	comp=Z,80nm,0.8s,comp=Z,736nm								
SPSI	**Sidrap Palu**	**11.24**	**201**	P		**P**	**12 42 58.6**	**+0.2**
	comp=Z,31nm,0.8s								
SZP	**Santa**	**11.31**	**344**	*e*P		**P**	**12 42 58.4**	**-0.7**
SZP				*e*S		**S**	**12 45 01.8**	**-2.1**
SBUM	**Sibu**	**12.19**	**251**	⇓P		**P**	**12 43 08.0**	**0.0**
SBUM	**Sibu**	**12.19**	**251**	*e*P		**P**	**12 43 06.6**	**-1.4**
BNDI	**Bandanaira**	**12.68**	**151**	P		**P**	**12 43 13.5**	**+0.5**
	comp=Z,271nm,1.0s,comp=Z,3μm								
FAKI	**Fak Fak**	**12.75**	**138**	P		**P**	**12 43 14.1**	**+0.4**
	comp=Z,321nm,0.8s,comp=Z,3μm								
FAKI	**Fak Fak**	**12.75**	**138**	P		**P**	**12 43 14.3**	**+0.6**
	baz=13,SNR=57								
FAKI	**Fak Fak**	**12.75**	**138**	*e*P		**P**	**12 43 14.3**	**+0.6**
	comp=Z,185nm,0.6s								
KSM	**Kuching**	**14.32**	**250**	P		**P**	**12 43 28.5**	**-0.9**
	baz=14,SNR=5.8								
KSM	**Kuching**	**14.32**	**250**	*e*P		**P**	**12 43 28.4**	**-1.1**
	comp=Z,11nm,0.3s								
BAKI	**Biak**	**14.60**	**122**	P		**P**	**12 43 33.4**	**+1.3**
	comp=Z,154nm,0.7s,comp=Z,2μm								
SRPI	**Serui, Papua**	**15.08**	**124**	P		**P**	**12 43 38.9**	**+2.4**
MMRI	**Maumere**	**15.23**	**186**	P		**P**	**12 43 37.3**	**-0.5**
	comp=Z,96nm,0.7s								
MMRI	**Maumere**	**15.23**	**186**	*e*P		**P**	**12 43 38.7**	**+0.8**
	comp=Z,64nm,0.6s								
DLV	**T Lat**	**15.93**	**290**	*e*P		**P**	**12 43 44.5**	**0.0**
	comp=Z,14nm,0.6s								
SOEI	**Soe**	**16.28**	**178**	P		**P**	**12 43 47.4**	**-0.3**
	baz=16,SNR=5.4								
SOEI	**Soe**	**16.28**	**178**	*e*P		**P**	**12 43 47.3**	**-0.3**
	comp=Z,36nm,0.7s								
TWG	**Pinlang**	**16.30**	**351**	*e*P		**P**	**12 43 46.4**	**-1.2**
	comp=Z,109nm,0.5s								
YULB	**Yu-li**	**16.83**	**352**	*e*P		**P**	**12 43 51.0**	**-1.4**
	comp=Z,16nm,0.4s								
TPUB	**Ta-pu**	**16.84**	**350**	*e*P		**P**	**12 43 52.6**	**+0.1**
	comp=Z,80nm,0.8s								
SSLB	**Suanglung**	**17.27**	**351**	*e*P		**P**	**12 43 56.5**	**+0.1**
	comp=Z,19nm,0.5s								
SSLB				*e*S		S	12 46 57.8	+11
YHNB	**Yeheng**	**18.08**	**353**	*e*P		**P**	**12 44 04.3**	**+0.4**
	comp=Z,201nm,1.9s								
JAY	**Jayapura**	**19.24**	**118**	P		**P**	**12 44 15.2**	**+0.7**
	comp=Z,1.6nm,0.3s,baz=243,slow=12,SNR=6.7								
JAY	**Jayapura**	**19.24**	**118**	P		**P**	**12 44 15.2**	**+0.7**
JAY				pmax		pmax			
	comp=Z,2.0nm,0.3s								
MTN	**Manton Dam**	**20.70**	**159**	P		**P**	**12 44 27.2**	**-0.4**
	baz=21,SNR=46								
KDU	**Kakadu**	**21.07**	**156**	P		**P**	**12 44 30.4**	**-0.5**
	baz=21,SNR=18								
KNRA	**Kununurra**	**22.72**	**167**	P		**P**	**12 44 45.4**	**-0.2**
	baz=23,SNR=15								
PSI	**Prapat**	**25.00**	**262**	P		**P**	**12 45 06.0**	**0.0**
	comp=Z,10nm,0.8s,baz=123,slow=2.9,SNR=4.7								
PSI	**Prapat**	**25.00**	**262**	P		**P**	**12 45 06.0**	**0.0**
PSI				pmax		pmax			
	comp=Z,10.0nm,0.8s								
NJ2	**Nanjing**	**25.70**	**350**	*e*P		**P**	**12 45 12.5**	**+0.7**
NJ2				PMZ					
	comp=Z,30nm,0.6s								
CMAR	**Chiang Mai Arr**	**26.85**	**298**	P		**P**	**12 45 22.6**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=117,slow=7.3,SNR=8.5								
CMAR				PcP		**PcP**	**12 48 25.2**	**+0.9**	
	comp=Z,0.3nm,0.4s,baz=111,slow=1.1,SNR=5.4								
CMAR	**Chiang Mai Arr**	**26.85**	**298**	P		**P**	**12 45 22.6**	**+0.5**
CMAR							12 48 25.2		
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
JCJ	**Chichijima**	**26.88**	**39**	P		**P**	**12 45 21.9**	**-0.4**
	comp=Z,31nm,0.4s,baz=280,slow=23,SNR=15								
JCJ				S		**S**	**12 49 15.7**	**-2.7**
	comp=Z,23nm,0.7s,baz=318,slow=23,SNR=4.3								
KMI	**Kunming**	**27.22**	**315**	P		**P**	**12 45 23.3**	**-2.2**
KMI				PMZ					
	comp=Z,5.0nm,0.9s								
COEN	**Coen**	**28.13**	**137**	P		**P**	**12 45 32.9**	**-0.4**
	baz=28,SNR=9.7								
WRAB	**Tennant Creek**	**28.39**	**159**	*e*P		**P**	**12 45 35.3**	**-0.2**
WRAB				pmax		pmax			
	comp=Z,62nm,0.4s								
WRAB	**Tennant Creek**	**28.39**	**159**	*e*P		**P**	**12 45 35.3**	**-0.2**
	comp=Z,62nm,0.4s								
WRA	**Warramunga Arr**	**28.40**	**159**	P		**P**	**12 45 35.2**	**-0.3**
	comp=Z,46nm,0.4s,baz=341,slow=9.3,SNR=807								
WRA				PcP		**PcP**	**12 48 27.8**	**-0.3**	
	comp=Z,1.5nm,0.5s,baz=326,slow=2.5,SNR=4.7								
WRA				S		**S**	**12 49 38.5**	**-3.6**
	comp=Z,5.6nm,0.6s,baz=334,slow=16,SNR=10								
WRA				ScP		**ScP**	**12 51 13.3**	**-0.2**
	comp=Z,3.4nm,0.4s,baz=341,slow=3.1,SNR=12								
WRA	**Warramunga Arr**	**28.40**	**159**	P		**P**	**12 45 35.2**	**-0.3**
WRA							12 48 27.8		
WRA				S		**S**	**12 49 38.5**	**-3.6**
WRA				pmax		pmax			
	comp=Z,46nm,0.4s								
WRA				pmax		pmax			
	comp=Z,2.0nm,0.5s								
WRA				smax		smax			
	comp=N,6.0nm,0.6s								
WRA				pmax		pmax			
	comp=N,3.0nm,0.4s								
XAN	**Xi'an**	**30.52**	**335**	P		**P**	**12 45 53.5**	**-0.2**
XAN				PMZ					
	comp=N,10.0nm,0.6s								
XAN				PMZ					
	comp=N,34nm,6.0s								
GIRL	**Giralia**	**30.54**	**197**	P		**P**	**12 45 54.8**	**+0.9**
	baz=31,SNR=3.6								
CD2	**Chengdu**	**30.56**	**325**	*e*P		**P**	**12 45 54.5**	**+0.5**
CD2				PcP		**PcP**	**12 48 33.8**	**+0.1**
CD2				S		**S**	**12 50 16.5**	**+1.4**
CD2				SS		**SS**	**12 53 26.5**	**+2.3**
CD2				PMZ					
	comp=N,20nm,0.5s								
CD2				PMZ					
	comp=N,160nm,5.0s								
KSRS	**Korea Array**	**30.92**	**7**	P		**P**	**12 45 58.0**	**+1.0**
	comp=N,0.9nm,0.6s,baz=180,slow=10,SNR=6.9								
KSRS				PcP		**PcP**	**12 48 35.2**	**+0.8**	
	comp=N,1.0nm,0.7s,baz=176,slow=2.6,SNR=4.5								
KSRS	**Korea Array**	**30.92**	**7**	P		**P**	**12 45 58.0**	**+1.0**
KSRS							12 48 35.2		
KSRS				pmax		pmax			
	comp=Z,1.0nm,0.6s								
KSRS				pmax		pmax			
	comp=Z,1.0nm,0.7s								
QIS	**Mount Isa**	**31.20**	**150**	P		**P**	**12 46 00.1**	**+0.4**
	baz=31,SNR=30								
AS31	**Alice Springs**	**31.71**	**162**	*e*P		**P**	**12 46 04.3**	**+0.4**
ASAR	**Alice Springs**	**31.71**	**162**	P		**P**	**12 46 04.6**	**+0.7**
	comp=Z,44nm,0.3s,baz=339,slow=7.6,SNR=2475								
ASAR				PcP		**PcP**	**12 48 36.9**	**0.0**	
	comp=Z,1.6nm,0.5s,baz=332,slow=3.2,SNR=4.6								
ASAR				S		**S**	**12 50 31.2**	**-1.6**	
	comp=Z,9.3nm,0.7s,baz=352,slow=21,SNR=26								
ASAR				ScP		**ScP**	**12 51 24.4**	**-0.1**	
	comp=Z,4.0nm,0.6s,baz=345,slow=3.1,SNR=9.7								
ASAR	**Alice Springs**	**31.71**	**162**	P		**P**	**12 46 04.6**	**+0.7**
ASAR							12 48 36.9		
ASAR				S		**S**	**12 50 31.3**	**-1.6**
ASAR				pmax		pmax			
	comp=Z,44nm,0.3s								
ASAR				pmax		pmax			
	comp=Z,2.0nm,0.5s								
ASAR				smax		smax			
	comp=N,9.0nm,0.7s								
ASAR				pmax		pmax			
	comp=N,4.0nm,0.6s								
WRKA	**Warakurna**	**31.79**	**172**	P		**P**	**12 46 04.6**	**0.0**
	baz=32,SNR=37								
MTSU	**Mount Surprise**	**31.92**	**141**	P		**P**	**12 46 06.4**	**+0.6**
	baz=32,SNR=18								
MAJO	**Matsushiro**	**32.59**	**22**	*i* P		**P**	**12 46 10.7**	**-0.5**
MAJO				pmax		pmax			
	comp=Z,86nm,1.5s								
MAT	**Matsushiro**	**32.59**	**22**	P		**P**	**12 46 10.6**	**-0.6**
MJAR	**Matsushiro Arr**	**32.59**	**22**	P		**P**	**12 46 10.6**	**-0.6**
	comp=Z,6.2nm,0.8s,baz=197,slow=9.9,SNR=18								
MJAR				PcP		**PcP**	**12 48 40.0**	**+0.9**	
	comp=Z,0.8nm,0.6s,baz=218,slow=3.2,SNR=2.7								
MJAR	**Matsushiro Arr**	**32.59**	**22**	P		**P**	**12 46 10.6**	**-0.6**
MJAR							12 48 40.0		
MJAR				pmax		pmax			
	comp=Z,6.0nm,0.8s								
MJAR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
MEEK	**Meekatharra**	**33.44**	**188**	P		**P**	**12 46 18.1**	**-0.4**
	baz=34,SNR=13								
BJI	**Beijing**	**33.95**	**350**	P		**P**	**12 46 23.0**	**+0.5**
BJI				S		**S**	**12 51 06.5**	**+0.3**
BJI				PMZ					
	comp=Z,14nm,0.8s								
BJI				PMZ					
	comp=Z,80nm,4.9s								
LZH	**Lanzhou**	**34.52**	**331**	*e*P		**P**	**12 46 26.3**	**-1.2**
LZH				PMZ					
	comp=Z,29nm,1.0s								
LZH				PMZ					
	comp=Z,130nm,4.3s								
CTAO	**Charters Tower**	**34.59**	**141**	*e*P		**P**	**12 46 29.1**	**+1.0**
CTAO				pmax		pmax			
	comp=Z,14nm,0.7s								
CTAO	**Charters Tower**	**34.59**	**141**	*e*P		**P**	**12 46 29.1**	**+1.0**
	comp=Z,14nm,0.7s								
HHC	**Hu-ho-hao-te**	**35.77**	**344**	*e*P		**P**	**12 46 38.5**	**+0.8**
HHC				sP		**sP**	**12 49 27.5**	**+2.4**
HHC				PMZ					
	comp=Z,12nm,0.7s								
HHC				PMZ					
	comp=Z,57nm,6.1s								
MORW	**Morawa**	**36.25**	**191**	P		**P**	**12 46 41.5**	**-0.2**
	baz=36,SNR=8.9								
CN2	**Changchun**	**37.06**	**2**	*e*P		**P**	**12 46 49.8**	**+1.7**
FORT	**Forrest**	**37.42**	**174**	P		**P**	**12 46 51.7**	**+0.5**
	baz=38,SNR=34								
FORT	**Forrest**	**37.42**	**174**	*e*P		**P**	**12 46 51.5**	**+0.2**
	comp=Z,66nm,0.5s								
BLDU	**Balliduu**	**37.63**	**190**	P		**P**	**12 46 52.5**	**-0.5**
	baz=38,SNR=7.2								
KMBL	**Kambalda**	**37.82**	**183**	P		**P**	**12 46 54.5**	**0.0**
	baz=38,SNR=19								
USRK	**Ussuriysk Ar.**	**38.12**	**10**	P		**P**	**12 46 57.1**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=208,slow=8.1,SNR=4.7								
MDJ	**Mudanjiang**	**38.19**	**7**	P		**P**	**12 46 57.8**	**+0.6**
MDJ				PMZ					
	comp=Z,7.0nm,0.8s								
MDJ				PMZ					
	comp=Z,44nm,4.3s								
QLP	**Quilpie**	**38.54**	**150**	P		**P**	**12 47 01.0**	**+0.6**
	baz=39,SNR=12								
GTA	**Gaotai**	**39.10**	**330**	*e*P		**P**	**12 47 05.0**	**+0.2**
GTA				pP		**pP**	**12 48 48.8**	**+2.7**
GTA				PcP		**PcP**	**12 48 59.8**	**+0.7**
GTA				sP		**sP**	**12 49 55.8**	**+1.9**
GTA				S		**S**	**12 52 24.0**	**+1.1**
GTA				sS		**sS**	**12 55 27.8**	**-1.1**
GTA				SS		**SS**	**12 55 38.8**	**-6.9**
GTA				PMZ					
	comp=Z,7.0nm,1.4s								
GTA				PMZ					
	comp=Z,84nm,6.4s								
BBOO	**Buckleboo**	**40.94**	**164**	P		**P**	**12 47 20.0**	**+0.6**
	baz=41,SNR=62								
EIDS	**Eidsvold**	**41.47**	**141**	P		**P**	**12 47 24.2**	**+0.5**
	baz=42,SNR=6.2								
EIDS	**Eidsvold**	**41.47**	**141**	*e*P		**P**	**12 47 24.0**	**+0.3**
	comp=Z,11nm,0.8s								
RKGY	**Rocky Gully**	**41.51**	**188**	P		**P**	**12 47 24.7**	**+0.9**
	baz=42,SNR=10								
STKA	**Stephens Creek**	**41.92**	**157**	P		**P**	**12 47 27.9**	**+0.8**
	comp=Z,23nm,0.5s,baz=338,slow=7.5,SNR=57								
STKA				ScP		**ScP**	**12 52 02.5**	**-0.2**	
	comp=Z,3.7nm,0.7s,baz=330,slow=8.1,SNR=4.7								
STKA	**Stephens Creek**	**41.92**	**157**	P		**P**	**12 47 27.9**	**+0.8**
STKA				pmax		pmax			
	comp=Z,23nm,0.5s								
STKA				pmax		pmax			
	comp=N,4.0nm,0.7s								
STKA	**Stephens Creek**	**41.92**	**157**	*e*P		**P**	**12 47 28.1**	**+0.9**
HTT	**Hallett**	**42.37**	**161**	P		**P**	**12 47 31.7**	**+1.0**
	baz=42,SNR=20								
CMSA	**Cobar Meteorol**	**43.37**	**152**	P		**P**	**12 47 39.9**	**+1.5**
	baz=44,SNR=34								
ULN	**Ulaanbaatar**	**43.48**	**344**	*d* iP		**P**	**12 47 39.8**	**+0.6**
ULN				pmax		pmax			
	comp=Z,8.0nm,0.9s								
ULN	**Ulaanbaatar**	**43.48**	**344**	*e*P		**P**	**12 47 39.9**	**+0.6**
SONM	**Songino Array**	**43.64**	**343**	P		**P**	**12 47 40.8**	**+0.4**
	comp=Z,6.6nm,0.9s,baz=159,slow=7.7,SNR=30								
SONM				PcP		**PcP**	**12 49 13.9**	**-0.2**	
	comp=Z,1.0nm,0.5s,baz=160,slow=3.7,SNR=6.1								
SONM	**Songino Array**	**43.64**	**343**	P		**P**	**12 47 40.8**	**+0.4**
SONM							12 49 13.9		
SONM				pmax		pmax			
	comp=Z,7.0nm,0.9s								
SONM				pmax		pmax			
	comp=Z,1.0nm,0.5s								
ARMA	**Armidale**	**45.53**	**145**	P		**P**	**12 47 57.3**	**+2.1**
	baz=46,SNR=9.2								
ARMA	**Armidale**	**45.53**	**145**	*e*P		**P**	**12 47 57.2**	**+2.1**
ARPS	**Mount Arapiles**	**46.39**	**160**	P		**P**	**12 48 02.2**	**+0.8**
	baz=47,SNR=14								
TLY	**Talaya**	**47.88**	**343**	*i* P		**P**	**12 48 13.4**	**+1.0**
TLY				pmax		pmax			
	comp=Z,8.0nm,0.7s								
TLY	**Talaya**	**47.88**	**343**	*e*P		**P**	**12 48 13.7**	**+1.3**
CAN	**Canberra**	**48.04**	**152**	*e*P		**P**	**12 48 15.2**	**+1.3**
CAN				pmax		pmax			
	comp=Z,6.0nm,0.6s								
CAN	**Canberra**	**48.04**	**152**	*e*P		**P**	**12 48 15.2**	**+1.3**
	comp=Z,

comp=E,5.0nm,0.9s
NVS pmax pmax
comp=Z,8.0nm,0.9s
NVS smax smax
comp=E,9.0nm,1.5s
KK31 Karatay Array 59.08 317 P **P** 12 49 31.3 -0.2
KK31 pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 59.08 317 *eP* **P** 12 49 31.4 -0.1
KKAR pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 59.08 317 *eP* **P** 12 49 31.4 -0.1
comp=Z,7.4nm,0.7s
SEY Seymchan 59.95 15 P **P** 12 49 38.0 +1.2
comp=Z,3.0nm,0.8s,baz=200,slow=5.2,SNR=6.4
SEY Seymchan 59.95 15 P **P** 12 49 38.0 +1.2
SEY pmax pmax
comp=Z,3.0nm,0.8s
BVA0 Borovoye Array 63.27 327 P **P** 12 49 57.7 -0.9
BVA0 pmax pmax
comp=Z,11nm,0.8s
BRVK Borovoye 63.35 327 *d iP* **P** 12 49 58.8 -0.3
BRVK pmax pmax
comp=Z,22nm,1.4s
BRVK Borovoye 63.35 327 *eP* **P** 12 49 58.7 -0.3
comp=Z,19nm,1.1s
GEYT Alibeck 66.75 308 P **P** 12 50 21.4 +0.6
comp=Z,2.0nm,0.6s,baz=115,slow=13,SNR=5.5
AB31 Akbulak array 68.02 321 P **P** 12 50 27.5 -0.7
AB31 pmax pmax
comp=Z,1.0nm,0.3s
ABKAR Akbulak array 68.02 321 *eP* **P** 12 50 27.6 -0.6
comp=Z,4.6nm,0.7s
ARU Arti 70.90 328 *d iP* **P** 12 50 44.0 -1.2
ARU S **S** 12 59 14.5 +0.7
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 70.90 328 *eP* **P** 12 50 44.2 -1.0
comp=Z,3.6nm,0.4s
PRGR Permogore 78.54 332 P **P** 12 51 26.1 -1.6
PRGR pmax pmax
comp=Z,9.0nm,0.6s
KDAK Kodiak Island 81.07 33 P **P** 12 51 42.1 +1.1
comp=Z,14nm,0.7s,baz=275,slow=4.4,SNR=10
KDAK Kodiak Island 81.07 33 P **P** 12 51 42.1 +1.1
KDAK pmax pmax
comp=Z,14nm,0.7s
BPAW Bear Paw Mtn. 82.02 26 *eP* **P** 12 51 46.8 +1.0
comp=Z,9.6nm,1.3s
TRF Thorofare Moun 82.32 27 *eP* **P** 12 51 48.0 +0.5
comp=Z,7.5nm,1.0s
COLD Coldfoot 82.41 23 *eP* **P** 12 51 49.2 +1.5
comp=Z,10nm,1.0s
MCK McKinley 82.93 27 *eP* **P** 12 51 50.0 -0.4
MCK pmax pmax
comp=Z,9.0nm,0.8s
MCK McKinley 82.93 27 *eP* **P** 12 51 50.0 -0.4
comp=Z,8.6nm,0.8s
OBN Obninsk 82.98 325 *ceP* **P** 12 51 50.2 -0.5
OBN *e* 12 55 11.4
OBN pmax pmax
comp=Z,31nm,1.7s
ILAR Eielson Array 83.80 26 P **P** 12 51 53.6 -1.0
comp=Z,0.6nm,0.5s,baz=259,slow=4.3,SNR=31
ILAR Eielson Array 83.80 26 P **P** 12 51 53.6 -1.0
ILAR pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 85.88 309 P **P** 12 52 04.1 -1.3
comp=Z,1.2nm,0.5s,baz=101,slow=6.1,SNR=9.1
BRTR Keskin Array B 85.88 309 P **P** 12 52 04.1 -1.3
BRTR pmax pmax
comp=Z,1.0nm,0.5s
EGAK Eagle 86.24 25 *eP* **P** 12 52 06.3 -0.1
comp=Z,1.7nm,0.7s
VNDA Vanda 86.67 172 P **P** 12 52 08.4 +0.3
comp=Z,1.0nm,0.5s,baz=314,slow=6.7,SNR=8.8
VNDA Vanda 86.67 172 P **P** 12 52 08.4 +0.3
VNDA pmax pmax
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 86.71 340 P **P** 12 52 07.4 -1.1
comp=Z,3.2nm,0.7s,baz=72,slow=5.8,SNR=6.6
ARCES ARCESS Array B 86.71 340 P **P** 12 52 07.4 -1.1
ARCES pmax pmax
comp=Z,3.0nm,0.7s
KIEV Kiev 87.78 321 *i* P **P** 12 52 13.8 -0.1
FINES FINESS Array B 87.88 332 P **P** 12 52 12.9 -1.2
comp=Z,2.3nm,0.6s,baz=64,slow=3.2,SNR=12
FINES FINESS Array B 87.88 332 P **P** 12 52 12.9 -1.2
FINES pmax pmax
comp=Z,2.0nm,0.6s
HYT Haines Junctio 88.53 29 *eP* **P** 12 52 18.2 +0.8
comp=Z,2.9nm,0.8s
DLBC Dease Lake 92.79 30 P **P** 12 52 38.2 +1.2
comp=Z,0.8nm,0.8s,baz=246,slow=10.0,SNR=4.3
NB2 NORSAR Subarra 94.87 333 P **P** 12 52 44.1 -2.3
comp=Z,1.1nm,0.6s,baz=67,slow=4.4
NOA NORSAR Array B 94.87 333 P **P** 12 52 44.6 -1.8
comp=Z,1.4nm,0.8s,baz=67,slow=4.5,SNR=3.8
NOA NORSAR Array B 94.87 333 P **P** 12 52 44.6 -1.8
NOA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 98.09 24 P **P** 12 53 02.6 +2.0
comp=Z,1.1nm,0.8s,baz=304,slow=5.3,SNR=2.9
YKA Yellowknife Ar 98.09 24 P **P** 12 53 02.6 +2.0
YKA pmax pmax
comp=Z,1.0nm,0.9s
ULM Lac du Bonnet 113.80 27 PKiKP **PKiKP** 12 57 58.5 -0.7
comp=Z,1.3nm,0.5s,baz=0.0,slow=0.0,SNR=3.0
TORD Torodi Ar. Bea 119.16 289 PKP **PKPdf** 12 58 09.5 -1.0
comp=Z,1.5nm,0.7s,baz=57,slow=1.7,SNR=9.0
TXAR Lajitas Array 122.10 49 PKP **PKPdf** 12 58 16.5 +0.6
comp=Z,0.3nm,0.7s,baz=270,slow=0.9,SNR=3.8
LPAZ La Paz 164.94 131 PKP **PKPdf** 12 59 26.8 +1.2
comp=Z,0.9nm,0.5s,baz=190,slow=1.5,SNR=4.1
LPAZ La Paz 164.94 131 PKiKP **PKPdf** 12 59 26.8 +1.2
LPAZ pmax pmax
comp=Z,1.0nm,0.5s

MAN 30 12:44:50,7.60N×125.51E,h14km,mb4.7,ML3.6,MS3.5, 2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DMPH	**Davao City--Mi**	**0.51**	**181⇑**	*eP*	Pb	12 45 00.8	+0.1
DMPH				*eS*	Sn	12 45 10.7	-0.8
CGP	**Cagayan de Oro**	**1.18**	**316**	*eP*	Pn	12 45 11.9	-0.2
CGP				*i S*	Sg	12 45 28.1	0.0
CTBH	**Cotabato--PC H**	**1.31**	**254⇑**	*iP*	Pn	12 45 13.5	-0.5

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*IDC **30** 13:04:12.7±1.8,24.43S×175.36W,h0km,mb4.0/4, mb1 4.3/7,mb1mx4.0/21,mbtmp4.3/7,ML4.0/3,Error ellipse: s-maj=52.3km s-min=28.1km az=144.0*
*ISCJB **30** 13:04:13.9±0.8,24.5S±0.1×175.2W±0.1,h33km,mb4.0/4, Error ellipse: s-maj=21.5km s-min=12.7km az=140.3*

ISC 30 13:04:15.7±0.9,24.5S±0.1×175.2W±0.1,h35km,n8, σ2.9 23.9/9,mb3.9/4,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**10.98**	**18**	Pn	**Pn**	**13 06 51.7**	**+1.4**
	3.0nm,0.3s,baz=206,slow=11,SNR=6.0						
AFI				Sn	**Sn**	**13 08 50.4**	**-1.6**
	1.4nm,0.3s,baz=52,slow=19,SNR=3.4						
RAR	**Rarotonga**	**14.59**	**80**	Pn	**Pn**	**13 07 40.3**	**+0.6**
	4.4nm,0.3s,baz=252,slow=7.5,SNR=24						
URZ	**Urewera**	**15.24**	**204**	Pn	**Pn**	**13 07 46.6**	**-1.6**
	0.3nm,0.3s,baz=148,slow=7.9,SNR=2.9						
URZ				Sn	Sn	13 10 19.4	-16
	0.3nm,0.3s,baz=322,slow=19,SNR=5.5						
STKA	**Stephens Creek**	**38.59**	**249**	P	**P**	**13 11 37.0**	**+1.5**
	1.3nm,0.7s,baz=90,slow=12,SNR=4.0						
ASAR	**Alice Springs**	**46.25**	**260**	P	**P**	**13 12 39.0**	**+1.0**
	0.6nm,0.5s,baz=89,slow=6.6,SNR=22						
WRA	**Warramunga Ar**	**46.73**	**265**	P	**P**	**13 12 42.4**	**+0.7**
	0.7nm,0.4s,baz=102,slow=8.2,SNR=22						
SIJI	**Sorong**	**56.77**	**286**	P	**P**	**13 13 56.9**	**+0.2**
	3.2nm,0.6s,baz=137,slow=19,SNR=2.5						
BRTR	**Keskin Array B**	**151.36**	**309**	PKPbc	**PKPab**	**13 24 09.9**	**-4.3**
	0.4nm,0.7s,baz=25,slow=4.8,SNR=2.0						

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*IDC **30** 13:06:11.3±1.3,6.06S×104.18E,h0km,mb4.1/7, mb1 4.1/8,mb1mx3.9/24,mbtmp4.1/8,ML3.5/1,Error ellipse: s-maj=55.5km s-min=18.7km az=44.0*

*ISCJB **30** 13:06:18.9±0.9,6.24S±0.07×104.45E±0.07,h74km±8km, mb4.0/7,Error ellipse: s-maj=16.4km s-min=5.2km az=43.9*
*DJA **30** 13:06:19.3±0.7,6.S±3×10.4E±°,h33km±7km,M4.1/3, MLv4.1/3*

ISC 30 13:06:19.7±1.3,6.23S±0.08×104.43E±0.08,h63km±11km, n26,σ1.941/28,mb4.1/7,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**0.70**	**6**	P	**Pn**	**13 06 33.7**	**-0.5**
KASI				S	**Sn**	**13 06 44.0**	**-0.8**
BLSI	**Bandar Lampung**	**1.18**	**44**	P	**Pn**	**13 06 40.0**	**-0.3**
BLSI				S	**Sn**	**13 06 55.7**	**+0.1**
LWLI	**Liwa**	**1.26**	**343**	P	**Pn**	**13 06 41.5**	**+0.1**
LWLI				S	**Sn**	**13 06 58.4**	**+0.8**
CGJI	**Cibinong**	**1.31**	**107**	P	**Pn**	**13 06 41.3**	**-0.7**
CGJI				S	**Sn**	**13 06 58.0**	**-0.7**
KLI	**Kotabumi**	**1.42**	**18**	P	**Pn**	**13 06 43.8**	**+0.3**
KLI				S	**Sn**	**13 07 02.9**	**+1.6**
KLSI		**1.56**	**11**	P	**Pn**	**13 06 45.5**	**+0.2**
MDSI	**Maura Dua**	**1.75**	**352**	P	**Pn**	**13 06 48.2**	**+0.4**
MDSI				S	**Sn**	**13 07 10.5**	**+1.4**
SKJI	**Sukabumi**	**2.25**	**110**	P	**Pn**	**13 06 54.1**	**-0.5**
SKJI				S	**Sn**	**13 07 21.2**	**-0.2**
MNAI	**Manna**	**2.37**	**322**	P	**Pn**	**13 06 56.8**	**+0.6**
MNAI				S	**Sn**	**13 07 26.1**	**+2.0**
LHSI	**Lahat**	**2.55**	**339**	P	**Pn**	**13 06 59.3**	**+0.6**
CNJI	**Cibinong**	**2.89**	**112**	P	**Pn**	**13 07 02.8**	**-0.5**
LEM	**Lembang**	**3.23**	**101**	Pn	**Pn**	**13 07 08.8**	**+0.8**
	4.3nm,0.3s,baz=330,slow=16,SNR=2.4						
LEM				Sn	**Sn**	**13 07 49.8**	**+4.4**
	11nm,0.3s,baz=295,slow=6.2,SNR=4.8						
H01W3	**Cape Leeuwin H**	**29.89**	**164**	T	T	13 43 57.4	
	baz=342,slow=76,SNR=24						
H01W2	**Cape Leeuwin H**	**29.90**	**164**	T	T	13 43 59.0	
	baz=342,slow=76,SNR=26						
H01W1	**Cape Leeuwin H**	**29.90**	**164**	T	T	13 43 57.4	
	baz=342,slow=76,SNR=45						
H08S2	**Diego Garcia H**	**31.73**	**266**	T	T	13 46 23.3	
	baz=89,slow=76,SNR=30						
H08S3	**Diego Garcia H**	**31.74**	**266**	T	T	13 46 20.1	
	baz=89,slow=76,SNR=36						
H08S1	**Diego Garcia H**	**31.75**	**266**	T	T	13 46 21.2	
	baz=89,slow=76,SNR=33						
ASAR	**Alice Springs**	**33.22**	**125**	P	**P**	**13 12 53.1**	**+2.2**
	0.3nm,0.4s,baz=308,slow=8.1,SNR=7.8						
STKA	**Stephens Creek**	**43.06**	**131**	P	**P**	**13 14 14.6**	**+1.1**
	3.8nm,1.0s,baz=313,slow=7.1,SNR=3.1						
SONM	**Songino Array**	**53.86**	**2**	P	**P**	**13 15 35.1**	**-1.3**
	0.6nm,0.3s,baz=177,slow=9.7,SNR=5.1						
MKAR	**Makanchi Array**	**56.33**	**342**	P	**P**	**13 15 52.4**	**-1.7**
	1.0nm,0.5s,baz=146,slow=8.8,SNR=8.0						
ZALV	**Zalesovo Beam**	**62.18**	**347**	P	**P**	**13 16 32.3**	**-2.0**
	2.7nm,0.3s,baz=154,slow=5.7,SNR=9.1						
BRTR	**Keskin Array B**	**79.42**	**312**	P	**P**	**13 18 19.2**	**-0.3**
	0.5nm,0.7s,baz=144,slow=4.4,SNR=3.8						
FINES	**FINESS Array B**	**89.89**	**332**	P	**P**	**13 19 10.7**	**-0.8**
	2.8nm,0.9s,baz=144,slow=7.1,SNR=4.4						
TXAR	**Lajitas Array**	**144.92**	**46**	PKP	PKPbc	13 25 50.2	+0.4
	0.5nm,0.8s,baz=242,slow=0.9,SNR=5.4						

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*NEIC **30** 13:14:18.9,16.87N×96.22W,h66km,MD4.2(MEX),After MEX.*

MEX 30 13:14:18.9±0.8,16.87N×96.22W,h66km±9km,MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OXX	**Oaxaca**	**0.53**	**294**	*i* P	Pn	13 14 30.7	-1.2
OXX	**Oaxaca**	**0.53**	**294**	*i* P	Pn	13 14 30.7	-1.2
VHO	**Vista Hermosa**	**0.53**	**293**	*eP*	Pn	13 14 30.3	-1.6
VHO				*i* S	Sn	13 14 39.7	-1.8
VHO	**Vista Hermosa**	**0.53**	**293**	*eP*	Pn	13 14 30.3	-1.6
VHO				*i* S	Sn	13 14 39.7	-1.8
HUIG	**Huatulco**	**1.10**	**174**	*eP*	Pn	13 14 36.7	-1.8
HUIG				*eS*	Sn	13 14 51.8	-1.3
HUIG	**Huatulco**	**1.10**	**174**	*eP*	Pn	13 14 36.7	-1.8
HUIG				*eS*	Sn	13 14 51.8	-1.3
CMIG	**Matias Romero**	**1.30**	**80**	*eP*	Pn	13 14 39.9	-1.2
CMIG				*i* S	Sn	13 14 55.5	-2.3
CMIG	**Matias Romero**	**1.30**	**80**	*eP*	Pn	13 14 39.9	-1.2
CMIG				*i* S	Sn	13 14 55.5	-2.3
PNIG	**Pinotepa**	**1.89**	**256**	*i* P	Pn	13 14 46.9	-2.1
PNIG				*i* S	Sn	13 15 09.3	-2.6
PNIG	**Pinotepa**	**1.89**	**256**	*i* P	Pn	13 14 46.9	-2.1
PNIG				*i* S	Sn	13 15 09.3	-2.6
TPIG	**Tehuac#an**	**1.89**	**325**	*i* P	Pn	13 14 47.6	-1.6
TPIG				*i* S	Sn	13 15 11.1	-1.1
TPIG	**Tehuac#an**	**1.89**	**325**	*i* P	Pn	13 14 47.6	-1.6
TPIG				*i* S	Sn	13 15 11.1	-1.1
TLIG	**Tlapa**	**2.35**	**287**	*i* P	Pn	13 14 54.8	-0.6
TLIG				*i* S	Sn	13 15 21.1	-2.2

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*IDC **30** 13:50:06.0±1.3,52.28N×160.24E,h0km,mb3.4/4, mb1 3.8/4,mb1mx3.5/63,mbtmp3.4/4,Error ellipse: s-maj=35.3km s-min=19.8km az=173.0*
*KRSC **30** 13:50:07.1±1.1,52.24N×160.28E,h22km±16km,ML4.1*
*ISCJB **30** 13:50:09.0±0.9,52.23N±0.05×160.26E±0.07, h37km±11km,mb3.5/4,Error ellipse: s-maj=9.0km s-min=5.4km az=140.8*
*MOS **30** 13:50:09.6±1.0,52.32N×160.19E,h51km,mb4.3/1,Error ellipse: s-maj=12.3km s-min=7.1km az=98.6*

ISC 30 13:50:08.5±1.5,52.26N±0.05×160.18E±0.05,h19km±5km, n49,σ0.893/63,mb3.7/4,2D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.84**	**353**	*eP*	**Pb**	**13 50 24.1**	**-0.4**
SPN				*eS*	**Sg**	**13 50 35.6**	**-0.5**
SPN	**Mys Shipunski**	**0.84**	**353**	PN	**Pb**	**13 50 24.1**	**-0.4**
SPN				S	**Sg**	**13 50 35.6**	**-0.5**
RUS	**Russkaya**	**1.04**	**280**	*eP*	**Pb**	**13 50 27.0**	**-0.8**
RUS				*eS*	**Sb**	**13 50 40.7**	**-0.3**
RUS	**Russkaya**	**1.04**	**280**	PN	**Pb**	**13 50 27.0**	**-0.8**
RUS				S	**Sb**	**13 50 40.7**	**-0.3**
NLC	**Nalytchevo**	**1.04**	**331**	*eS*	**Sn**	**13 50 41.8**	**-0.2**
PET	**Petropavlovsk**	**1.21**	**310**	*i* P	**Pn**	**13 50 29.7**	**-0.5**
PET				*eS*	**Sb**	**13 50 45.4**	**-0.4**
PET	**Petropavlovsk**	**1.21**	**310**	*k iPN*	**Pn**	**13 50 29.8**	**-0.5**
PET				*eS*	**Sb**	**13 50 45.0**	**-0.8**
PET				pmax	pmax		
	comp=Z,191nm,0.5s						
PET				smax	smax		
	comp=N,1μm,0.7s						
PET				smax	smax		
	comp=E,1μm,0.7s						
MTVR	**Mutnovka**	**1.25**	**281**	*eP*	**Pn**	**13 50 30.6**	**-0.4**
MTVR				*eS*	**Sn**	**13 50 47.0**	**-0.3**
UGLR	**Uglovaya**	**1.26**	**319**	*i* P	**Pn**	**13 50 31.2**	**+0.1**
UGLR				*i* S	**Sn**	**13 50 48.0**	**+0.5**
SDLR	**Sedlovina**	**1.29**	**323**	*eP*	**Pn**	**13 50 31.3**	**-0.2**
SDLR				*eS*	**Sn**	**13 50 48.1**	**-0.2**
SDLR	**Sedlovina**	**1.29**	**323**	PN	**Pn**	**13 50 31.3**	**-0.2**
SDLR				S	**Sn**	**13 50 48.1**	**-0.2**
SMAR	**Somma**	**1.31**	**321**	*eP*	**Pn**	**13 50 31.7**	**-0.2**
SMAR	**Somma**	**1.31**	**321**	PN	**Pn**	**13 50 31.7**	**-0.2**
AVH	**Avacha**	**1.33**	**319**	*eP*	**Pn**	**13 50 32.4**	**+0.3**
AVH				*eS*	**Sb**	**13 50 50.0**	**+0.4**
AVH	**Avacha**	**1.33**	**319**	PN	**Pn**	**13 50 32.4**	**+0.3**
AVH				S	**Sb**	**13 50 50.0**	**+0.4**
KRER	**Koryakskii**	**1.36**	**321**	*eP*	**Pn**	**13 50 32.8**	**+0.2**
KRER				*eS*	**Sb**	**13 50 50.8**	**+0.4**
KOK	**Koryaka**	**1.40**	**318**	*eP*	**Pn**	**13 50 33.2**	**+0.2**
KOK	**Koryaka**	**1.40**	**318**	PN	**Pn**	**13 50 33.2**	**+0.2**
ASAK	**Asacha**	**1.41**	**276**	*eP*	**Pn**	**13 50 33.4**	**+0.3**
ASAK				*eS*	**Sn**	**13 50 52.0**	**+0.9**
KRX	**Arik**	**1.44**	**320**	*eP*	**Pn**	**13 50 33.7**	**+0.1**
PETK	**Petropavlovsk-**	**1.73**	**300**	Pn	**Pn**	**13 50 38.1**	**+0.6**
	comp=E,32nm,0.3s,baz=121,slow=18,SNR=251						
PETK				Sn	**Sb**	**13 51 01.2**	**+0.2**
	comp=E,49nm,0.3s,baz=90,slow=22,SNR=13						
PETK				LR	LR	13 51 31.3	
	comp=E,141nm,18.5s,baz=126,slow=48						
PETK	**Petropavlovsk-**	**1.73**	**300**	PN	**Pn**	**13 50 38.1**	**+0.6**
PETK						13 51 01.2	
PETK				pmax	pmax		
	comp=Z,32nm,0.3s						
PETK				smax	smax		
	comp=N,49nm,0.3s						
APC	**Apacha**	**1.96**	**291**	*eP*	**Pn**	**13 50 42.1**	**+1.5**
APC				*eS*	**Sb**	**13 51 06.9**	**-0.6**
APC	**Apacha**	**1.96**	**291**	PN	**Pn**	**13 50 42.1**	**+1.5**
APC				S	**Sb**	**13 51 06.9**	**-0.6**
GNL	**Ganaly**	**1.97**	**318**	*eP*	**Pn**	**13 50 42.1**	**+1.2**
GNL	**Ganaly**	**1.97**	**318**	PN	**Pn**	**13 50 42.1**	**+1.2**
MKZ	**Mys Kozlova**	**2.48**	**21**	*eP*	**Pn**	**13 50 48.0**	**+0.3**
MKZ				*eS*	**Sn**	**13 51 17.0**	**-0.3**
MKZ	**Mys Kozlova**	**2.48**	**21**	PN	**Pn**	**13 50 48.0**	**+0.3**
MKZ				S	**Sn**	**13 51 17.0**	**-0.3**
KZV	**Kizimen**	**2.86**	**1**	*eP*	**Pn**	**13 50 55.2**	**+2.1**
KZV				*eS*	**Sn**	**13 51 29.7**	**+2.7**
SKR	**Severo-Kuril's**	**3.00**	**240**	*ePN*	**Pn**	**13 50 55.2**	**+0.4**
TUMR	**Tumrok**	**3.03**	**360**	*eP*	**Pn**	**13 50 57.2**	**+1.8**
TUMR	**Tumrok**	**3.03**	**360**	PN	**Pn**	**13 50 57.2**	**+1.8**
ESO	**Esso**	**3.77**	**347**	*eP*	Pn	13 51 07.6	+2.1
ESO	**Esso**	**3.77**	**347**	PN	Pn	13 51 07.6	+2.1
KBTR	**Krutoberegovo**	**4.24**	**20**	*eP*	**Pn**	**13 51 13.3**	**+1.3**
KBTR	**Krutoberegovo**	**4.24**	**20**	PN	**Pn**	**13 51 13.3**	**+1.3**
BDR	**Baidarnaya**	**4.36**	**7**	*eP*	Pn	13 51 18.1	+4.5
KUR	**Kuril'sk**	**10.74**	**234**	*i* PN	Pn	13 52 45.7	+4.6
SEY	**Seymchan**	**11.47**	**342**	*i* PN	**Pn**	**13 52 50.6**	**-0.5**
YSS	**Yuzh-Sakhalins**	**12.48**	**252**	*i* PN	**Pn**	**13 53 06.4**	**+1.6**
MAJO	**Matsushiro**	**22.08**	**233**	*i* P	P	13 55 06.5	+4.3
MJAR	**Matsushiro Arr**	**22.08**	**233**	P	**P**	**13 55 03.0**	**+0.8**
comp=N,2.5nm,0.7s,baz=21,slow=11,SNR=10							
MJAR	**Matsushiro Arr**	**22.08**	**233**	P	**P**	**13 55 03.0**	**+0.8**
KDAK	**Kodiak Island**	**27.17**	**59**	*i* P	**P**	**13 55 49.2**	**-1.0**
COLA	**College**	**28.95**	**44**	*i* P	**P**	**13 56 03.2**	**-2.9**
ILAR	**Eielson Array**	**29.37**	**44**	P	**P**	**13 56 09.5**	**-0.3**
comp=N,0.2nm,0.6s,baz=271,slow=7.5,SNR=3.2							
ULN	**Ulaanbaatar**	**33.75**	**284**	*i* P	**P**	**13 56 47.8**	**-0.9**
PDAR	**Pinedale Array**	**57.88**	**60**	P	P	14 00 00.4	+1.3
comp=N,0.4nm,0.6s,baz=0.0,slow=3.0,SNR=4.3							
TXAR	**Lajitas Array**	**70.91**	**67**	P	**P**	**14 01 24.4**	**0.0**
comp=N,0.3nm,0.5s,baz=294,slow=4.1,SNR=6.2							

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*ISCJB **30** 13:50:10.1±0.4,35.19N±0.01×59.38E±0.01,h10km±2km, mb5.3/248,MS5.1/72,Error ellipse: s-maj=2.3km s-min=1.7km az=16.7*
*NEIC **30** 13:50:12.6±0.1,35.22N×59.32E,h19km,mb5.5/94,ME5.8, MW5.4,ML5.8(THR),Error ellipse: s-maj=3.2km s-min=3.1km az=98.0,Moment Tensor Solution. s29 Moment tensor: Scale 10^17^Nm; Mrr0.32; Mθθ0.04; Mφφ-0.35; Mrθ-1.23; Mθφ1.32; Mrφ0.00; Best double couple: M0 1.80000×10^17^ NP1:ϕs181.00000°,δ47.00000°, λ170.00000°. NP2:ϕs278.00000°,δ83.00000°,λ43.00000°. Principal axes: T 1.8300, Plg34.0000°, Azm148.0000°; N 0.0100, Plg46.0000°, Azm285.0000°; P -1.8400, Plg23.0000°, Azm41.0000°; Broadband fault plane solution: P waves. NP1:ϕs180.00000°,δ45.00000°, λ173.00000°. NP2:ϕs275.00000°,δ85.00000°,λ45.00000°. Principal axes: T Plg34.0000°, Azm148.0000°; N Plg0.0000°, Azm0.0000°; P Plg26.0000°, Azm39.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC At least 274 people injured and severe damage in the Torbat-e Heydariyeh area. Felt [II] at Ashgabat, Turkmenistan.
*THR **30** 13:50:12.9±0.6,35.19N×59.23E,h18km±7km,ML5.8*
*BJI **30** 13:50:12.7,35.42N×59.63E,h10km,mb5.1/69,mB5.2/51, Ms5.5/73,Ms7 5.3/68*
*CSEM **30** 13:50:12.7±0.1,35.24N×59.37E,h19km,mb5.5/99,Ms4.9, Mw5.4,Error ellipse: s-maj=2.9km s-min=2.7km az=144.0*
*MOS **30** 13:50:12.1±1.2,35.26N×59.33E,h28km,mb5.6/60, MS4.9/27,Error ellipse: s-maj=4.7km s-min=4.0km az=116.3*
*GCMT **30** 13:50:13.3±0.1,35.17N×59.36E,h28km,MW5.5/97, Moment Tensor Solution. s84,c151; s97,c183; Duration: 1s3 Moment tensor: Scale 10^17^Nm; Mrr0.57±.03; Mθθ0.48±.03; Mφφ-1.04±.02; Mrθ-1.34±.06; Mθφ1.21±.02; Mφr-0.47±.04; Best double couple: M0 2.01900×10^17^ NP1:ϕs292.00000°,δ70.00000°, λ36.00000°. NP2:ϕs188.00000°,δ57.00000°,λ155.00000°. Principal axes: T 2.2950, Plg39.0000°, Azm154.0000°; N -0.5470, Plg50.0000°, Azm317.0000°; P -1.7420, Plg8.0000°, Azm57.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*TEH **30** 13:50:13.5,35.22N×59.25E,h7km,ML5.7*
*ISN **30** 13:50:14.8±2.5,35.35N×59.17E,h0km±33km,ML5.7*
*NNC **30** 13:50:14.2±2.2,35.77N×59.37E,h0km,mb5.9,mpv5.9, Error ellipse: s-maj=23.1km s-min=14.8km az=14.0*
*IDC **30** 13:50:20.4±1.5,35.31N×59.27E,h88km±13km,mb4.4/49, mb1 4.5/54,mb1mx4.5/54,mbtmp4.7/54,MS5.0/43, Ms1 5.0/43,ms1mx4.9/52,Error ellipse: s-maj=8.5km s-min=6.9km az=146.0*
*SZGRF **30** 13:50:20.4,35.22N×58.67E,h10km,mb5.2,MS4.4, Northern and central Iran*

ISC 30 13:50:13.5±0.2,35.27N±0.01×59.383E±0.01,h19km, h19km:pP-P,n1377,σ1.979/1262,mb5.4/260,MS5.0/81, 54C-72D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMOG	**Moghan**	**0.84**	**358**	*ePg*	**Pb**	**13 50 29.8**	**+0.1**
IMOG				*eSg*	**Sn**	**13 50 42.8**	**+0.3**
IMOG				*e*		13 50 44.8	
	comp=Z,1221μm,0.6s						
IMOG	**Moghan**	**0.84**	**358**	*ePg*	**Pb**	**13 50 29.8**	**+0.1**
IMOG				*eSg*	**Sn**	**13 50 42.8**	**+0.3**
IMOG	**Moghan**	**0.84**	**358**	Pg	**Pb**	**13 50 29.7**	**+0.1**
IMOG				Sg	**Sn**	**13 50 42.8**	**+0.3**
ISRO	**Mashad**	**1.04**	**4**	*ePg*	**Pg**	**13 50 33.7**	**-0.1**
ISRO	**Mashad**	**1.04**	**4**	*ePg*	**Pg**	**13 50 33.7**	**-0.1**
IMYA	**Miami**	**1.22**	**28**	*ePg*	**Pg**	**13 50 37.7**	**+0.5**
IMYA				*e*		13 50 38.4	
	comp=Z,2245μm,0.4s						
IMYA	**Miami**	**1.22**	**28**	*ePg*	**Pg**	**13 50 37.7**	**+0.5**
IMYA	**Miami**	**1.22**	**28**	Pg	**Pg**	**13 50 37.7**	**+0.5**
IPAY	**Payeh**	**1.22**	**345**	*ePg*	**Pn**	**13 50 35.5**	**-0.2**
IPAY				*e*		13 50 57.1	
	comp=Z,40μm,0.2s						
IPAY	**Payeh**	**1.22**	**345**	*ePg*	**Pn**	**13 50 35.5**	**-0.2**
IPAY	**Payeh**	**1.22**	**345**	Pg	**Pn**	**13 50 35.5**	**-0.2**
IAKL	**Akhelmad**	**1.43**	**339**	*ePn*	**Pn**	**13 50 38.2**	**-0.4**
IAKL				*e*		13 51 06.3	
	comp=Z,82μm,0.4s						
IAKL	**Akhelmad**	**1.43**	**339**	Pn	**Pn**	**13 50 38.2**	**-0.4**
IKRD	**Kardeh**	**1.66**	**335**	*ePn*	**Pn**	**13 50 41.6**	**-0.2**
IKRD				*e*		13 51 06.3	
	comp=Z,99μm,0.3s						
IKRD	**Kardeh**	**1.66**	**335**	*ePn*	**Pn**	**13 50 41.6

TABS AML AML 13 51 36.9
comp=E,38µm,0.2s
TABS AML AML 13 51 37.8
comp=N,85µm,0.5s
TABS Tabas 2.47 230 *e*Pn **Pn 13 50 52.4 -0.4**
comp=N,85µm,0.5s
IDAH Dahanechah 2.55 171 *e*Pn **Pn 13 50 54.5 +0.4**
IDAH *e* 13 51 38.9
comp=Z,76µm,0.3s
IDAH Dahanechah 2.55 171 *e*Pn **Pn 13 50 54.5 +0.4**
IDAH Dahanechah 2.55 171 Pn **Pn 13 50 54.4 +0.4**
ISHV Shirvan 2.64 330 *e*Pn **Pn 13 50 56.8 +1.6**
ISHV *e* 13 51 53.7
comp=Z,45µm,0.4s
ISHV Shirvan 2.64 330 Pn **Pn 13 50 56.7 +1.6**
ISHV Shirvan 2.64 330 Pn **Pn 13 50 56.7 +1.6**
SHRO Shahrood 2.84 286 *e*Pn **Pn 13 50 58.2 +0.3**
SHRO Shahrood 2.84 286 *e*Pn **Pn 13 50 58.2 +0.3**
comp=Z,5µm,1.4s
GEYT Alibeck 2.84 339 P **Pb 13 51 01.4 -2.2**
comp=Z,48nm,0.3s,baz=138,slow=16,SNR=219
GEYT S **Sb 13 51 36.3 -1.8**
comp=Z,387nm,0.3s,baz=292,slow=20,SNR=4.0
ABKT Ailbek 2.85 339 Pn **Pn 13 50 59.0 +1.1**
comp=Z,68µm,1.1s
IKOO Kooshah 2.85 186 *e*Pn **Pn 13 50 58.1 -0.1**
IKOO *e* 13 51 46.4
comp=Z,57µm,0.4s
IKOO Kooshah 2.85 186 *e*Pn **Pn 13 50 58.1 -0.1**
IKOO Kooshah 2.85 186 Pn **Pn 13 50 58.0 -0.1**
BJRD Bojnurd 2.90 327 *e*Pn **Pn 13 51 00.0 +1.7**
BJRD AML AML 13 51 59.6
comp=E,5µm,1.4s
BJRD Bojnurd 2.90 327 *e*Pn **Pn 13 51 00.0 +1.3**
BJRD Bojnurd 2.90 327 *e*Pn **Pn 13 51 00.0 +1.3**
MRVT Maraveh tapeh 3.57 313 *e*Pn **Pn 13 51 08.9 +1.0**
MRVT Maraveh tapeh 3.57 313 *e*Pn **Pn 13 51 08.9 +1.0**
MRVT Maraveh tapeh 3.57 313 *e*Pn **Pn 13 51 08.0 +0.1**
IGLO Ghaloghah 4.67 287 *e*Pn **Pn 13 51 23.2 0.0**
IGLO *e* 13 53 15.5
comp=Z,23µm,0.5s
IGLO Ghaloghah 4.67 287 Pn **Pn 13 51 23.2 0.0**
IBAF Bafgh 4.86 222 *e*Pn **Pn 13 51 25.5 -0.2**
IBAF *e* 13 52 51.5
comp=Z,47µm,0.4s
IBAF Bafgh 4.86 222 *e*Pn **Pn 13 51 25.5 -0.2**
IBAF Bafgh 4.86 222 Pn **Pn 13 51 25.4 -0.2**
ICHK Chekchek 5.12 235 *e*Pn **Pn 13 51 29.0 -0.4**
ICHK *e* 13 53 24.1
comp=Z,14µm,0.5s
ICHK Chekchek 5.12 235 *e*Pn **Pn 13 51 29.0 -0.4**
ICHK Chekchek 5.12 235 Pn **Pn 13 51 29.0 -0.4**
IALA Alasht 5.41 281 *e*Pn **Pn 13 51 32.8 -0.6**
IALA *e* 13 53 18.0
comp=Z,28µm,0.3s
IALA Alasht 5.41 281 *e*Pn **Pn 13 51 32.8 -0.6**
IALA Alasht 5.41 281 Pn **Pn 13 51 32.7 -0.6**
IFIR Firoozkooh 5.42 276 *e*Pn **Pn 13 51 32.8 -0.8**
IFIR *e* 13 53 12.6
comp=Z,15µm,0.2s
IFIR Firoozkooh 5.42 276 *e*Pn **Pn 13 51 32.8 -0.8**
IFIR Firoozkooh 5.42 276 Pn **Pn 13 51 32.7 -0.8**
IMEH Mehriz 5.56 227 *e*Pn **Pn 13 51 35.1 -0.2**
IMEH *e* 13 53 19.9
comp=Z,64µm,0.4s
IMEH Mehriz 5.56 227 *e*Pn **Pn 13 51 35.1 -0.2**
IMEH Mehriz 5.56 227 Pn **Pn 13 51 35.1 -0.2**
KRBR Kerman 5.72 203 *e*Pn **Pn 13 51 38.0 +0.4**
KRBR *e*Sg **Sb 13 53 06.0 +5.0**
KRBR AML AML 13 53 27.7
comp=N,7µm,1.8s
KRBR AML AML 13 53 31.5
comp=E,6µm,0.8s
KRBR Kerman 5.72 203 *e*Pn **Pn 13 51 38.0 +0.4**
KRBR *e*Sg **Sb 13 53 06.0 +5.0**
KRBR Kerman 5.72 203 *e*Pn **Pn 13 51 38.0 +0.4**
KRBR *e*Sg **Sb 13 53 06.0 +5.0**
ZHSF Zahedan 5.76 168 *e*Pn **Pn 13 51 38.9 +0.8**
ZHSF AML AML 13 53 43.5
comp=E,1µm,0.7s
ZHSF Zahedan 5.76 168 *e*Pn **Pn 13 51 38.9 +0.8**
comp=E,1µm,0.7s
ZHSF Zahedan 5.76 168 *e*Pn **Pn 13 51 38.0 -0.1**
IPRN Peran 5.81 282 *e*Pn **Pn 13 51 38.1 -0.6**
ISAD Sadrabad 5.81 236 *e*Pn **Pn 13 51 38.4 -0.5**
ISAD *e* 13 53 24.7
comp=Z,34µm,0.4s
ISAD Sadrabad 5.81 236 *e*Pn **Pn 13 51 38.4 -0.5**
ISAD Sadrabad 5.81 236 Pn **Pn 13 51 38.3 -0.5**
IDMV Damavand 6.01 275 *e*Pn **Pn 13 51 40.4 -1.2**
IDMV *e* 13 54 01.9
comp=N,85µm,0.5s
IDMV Damavand 6.01 275 *e*Pn **Pn 13 51 40.4 -1.2**
IDMV Damavand 6.01 275 Pn **Pn 13 51 40.3 -1.2**
IAFJ Afjeh 6.28 278 *e*Pn **Pn 13 51 44.6 -0.7**
IAFJ *e* 13 53 50.3
comp=Z,45µm,0.5s
IAFJ Afjeh 6.28 278 *e*Pn **Pn 13 51 44.6 -0.7**
IVRN Varamin 6.28 270 *e*Pn **Pn 13 51 43.3 -1.8**
IVRN Varamin 6.28 270 *e*Pn **Pn 13 51 43.3 -1.8**
IVRN Varamin 6.28 270 Pn **Pn 13 51 43.3 -1.8**
IZEF Zefreh 6.31 250 *e*Pn **Pn 13 51 43.9 -1.8**
IZEF Zefreh 6.31 250 *e*Pn **Pn 13 51 43.9 -1.8**
IZEF Zefreh 6.31 250 Pn **Pn 13 51 43.9 -1.8**
IKLH Kolahrood 6.75 255 *e*Pn **Pn 13 51 50.0 -1.7**
IKLH Kolahrood 6.75 255 *e*Pn **Pn 13 51 50.0 -1.7**
IR3 Iran Long-Peri 6.83 274 *e*Pn **Pn 13 51 51.5 -1.2**
IR3 Iran Long-Peri 6.83 274 *e*Pn **Pn 13 51 51.5 -1.2**
IMHD Mahdasht 7.12 276 *e*Pn **Pn 13 51 55.7 -1.0**
IMHD *e* 13 54 53.6
comp=E,18µm,0.8s
IMHD Mahdasht 7.12 276 *e*Pn **Pn 13 51 55.7 -1.0**
IR5 Iran Long-Peri 7.20 272 *e*Pn **Pn 13 51 56.3 -1.5**
IR5 Iran Long-Peri 7.20 272 *e*Pn **Pn 13 51 56.3 -1.5**
IPIR Pirpir 7.51 252 *e*Pn **Pn 13 52 01.1 -1.1**
IPIR *e* 13 54 32.0
comp=E,18µm,0.4s
IPIR Pirpir 7.51 252 *e*Pn **Pn 13 52 01.1 -1.1**
IGZV Ghazvin 7.53 281 *e*Pn **Pn 13 52 03.5 +1.1**
IGZV *e* 13 54 44.2
comp=E,13µm,0.5s
IGZV Ghazvin 7.53 281 *e*Pn **Pn 13 52 03.5 +1.1**
IPAR Pars 7.61 226 *e*Pn Pn 13 52 06.5 +3.0
IPAR *e* 13 54 34.0
comp=E,51µm,0.5s
IPAR Pars 7.61 226 *e*Pn Pn 13 52 06.5 +3.0
IRAZ Razeghan 7.73 274 *e*Pn **Pn 13 52 03.4 -1.7**
IRAZ *e* 13 54 57.8
comp=Z,33µm,0.7s
IRAZ Razeghan 7.73 274 *e*Pn **Pn 13 52 03.4 -1.7**
IRAZ Razeghan 7.73 274 Pn **Pn 13 52 03.4 -1.7**
ISRV Sarvestan 7.91 224 *e*Pn **Pn 13 52 08.2 +0.5**
ISRV *e* 13 55 01.3
comp=Z,92µm,0.7s
ISRV Sarvestan 7.91 224 *e*Pn **Pn 13 52 08.2 +0.5**
KBL Kabul 7.97 92 *e*P **Pn 13 52 10.6 +2.2**
KBL Kabul 7.97 92 *e*P **Pn 13 52 10.6 +2.2**
BNDS Bandar-Abbas 8.31 200 *e*Pn **Pn 13 52 13.2 +0.1**
BNDS Bandar-Abbas 8.31 200 *e*Pn **Pn 13 52 13.2 +0.1**
BNDS Bandar-Abbas 8.31 200 *e*Pn **Pn 13 52 13.0 -0.1**
DZET Dzherino 8.34 62 ⇓P **Pn 13 52 12.5 -0.8**
comp=Z,496nm,0.7s
DZET ⇑S **Sn 13 53 49.3 +2.3**
DZET Dzherino 8.34 62 P **Pn 13 52 12.5 -0.8**
comp=Z,496nm,0.7s
DZET S **Sn 13 53 49.3 +2.3**
IKAZ Kazeroun 8.39 231 *e*Pn **Pn 13 52 14.9 +0.5**
IKAZ *e* 13 55 08.2
comp=Z,40µm,0.8s
IKAZ Kazeroun 8.39 231 *e*Pn **Pn 13 52 14.9 +0.5**
BANOM Banah 9.69 197 ⇓P **Pn 13 52 31.8 0.0**
SNR=10
BANOM Banah 9.69 197 P **Pn 13 52 31.8 0.0**
SNR=10
IKOM Komasi 9.84 267 *e*Pn **Pn 13 52 33.4 -0.6**
IKOM Komasi 9.84 267 *e*Pn **Pn 13 52 33.4 -0.6**
IVIS Veis 10.32 269 *e*Pn **Pn 13 52 41.1 +0.5**
IVIS Veis 10.32 269 *e*Pn **Pn 13 52 41.1 +0.5**
CEP Cherat 10.43 94 P **Pn 13 52 44.1 +2.0**
CEP S Sn 13 55 03.0 +24
IDHR Dehrash 10.68 271 *e*Pn **Pn 13 52 44.8 -0.8**
IDHR Dehrash 10.68 271 *e*Pn **Pn 13 52 44.8 -0.8**
IDHR Dehrash 10.68 271 Pn **Pn 13 52 44.8 -0.8**

NAZ Nazwa, Dubai 10.74 198 ⇓*i*Pn **Pn 13 52 46.2 0.0**
SNR=46
HATD Hatta, Dubai 10.78 196 ⇓Pn **Pn 13 52 45.2 -1.6**
ASHO Ashiyiah 10.93 196 ⇓P **Pn 13 52 48.7 -0.2**
SNR=30
ASHO Ashiyiah 10.93 196 P **Pn 13 52 48.7 -0.2**
SNR=30
FAQ Al Faqa, Dubai 10.99 198 ⇑*i*Pn **Pn 13 52 49.1 -0.5**
SNR=13
ASUD Al Ashush, Dub 11.17 199 ⇓*i*Pn **Pn 13 52 51.7 -0.4**
SNR=20
IBDR Badra 11.35 263 *e*Pn x 13 52 57.4
IBDR *e*Sn x 13 55 02.3
CHCP Chirah Chowk 11.57 94 ⇓P **Pn 13 52 59.3 +1.7**
SARP Sargodha 11.57 103 ⇑P **Pn 13 52 59.4 +1.8**
KK31 Karatay Array 11.64 44 P **Pn 13 52 56.3 -2.3**
comp=Z,118nm,0.8s,baz=228,slow=14,SNR=656
KK31 ⇓S **Sn 13 55 06.0 -2.0**
comp=Z,222nm,0.8s
KK31 Karatay Array 11.64 44 *i*P **Pn 13 52 56.3 -2.3**
KK31 pmax pmax
comp=Z,109nm,0.7s
KK31 Karatay Array 11.64 44 *i*P **Pn 13 52 56.3 -2.3**
comp=Z,109nm,0.7s
KK31 S **Sn 13 55 06.0 -2.0**
comp=Z,222nm,0.8s
KKAR Karatay Array 11.64 44 *e*P **Pn 13 52 55.5 -3.0**
KKAR *e* 13 55 08.2
KKAR Karatay Array 11.64 44 *e*Pn **Pn 13 52 55.5 -3.0**
KKAR *e*Sn **Sn 13 55 08.2 +0.2**
KKAR Karatay Array 11.64 44 *e*Pn **Pn 13 52 55.5 -3.0**
KKAR *e*Sn **Sn 13 55 08.2 +0.2**
NSR Nassriya 11.88 253 *e*Pn x 13 53 05.5
NSR *e*SN x 13 55 07.1
NSR Nassriya 11.88 253 *e*Pn Pn 13 53 05.5 +3.7
SNR=39
NSR *e*Sn Sn 13 55 07.1 -6.7
SNR=39
MAK Makhachkala 12.00 313 *e*P **Pn 13 53 03.7 +0.4**
MAK pmax pmax
comp=Z,143nm,1.1s
MAK MLR MLR
comp=Z,2µm,6.0s
MAK Makhachkala 12.00 313 *e*P **Pn 13 53 03.7 +0.4**
comp=Z,2µm,6.0s
ARQ Araqi 12.15 193 ⇑P **Pn 13 53 04.7 -0.8**
SNR=28
ARQ Araqi 12.15 193 P **Pn 13 53 04.7 -0.8**
SNR=28
SFK Sufi-Kurgan 12.15 63 ⇓P **Pn 13 53 04.4 -1.3**
comp=Z,626nm,1.2s
SFK ⇓S **Sn 13 55 20.0 -0.7**
comp=Z,1µm,1.4s
SFK Sufi-Kurgan 12.15 63 P **Pn 13 53 04.3 -1.3**
SFK pmax pmax
comp=Z,717nm,1.3s
SFK Sufi-Kurgan 12.15 63 P **Pn 13 53 04.4 -1.3**
comp=Z,626nm,1.2s
SFK S **Sn 13 55 20.0 -0.7**
comp=Z,1µm,1.4s
SMDO Samad 12.22 186 ⇓P **Pn 13 53 05.5 -1.1**
SNR=17
SMDO Samad 12.22 186 P **Pn 13 53 05.5 -1.1**
SNR=17
IKRK Kirkuk 12.29 275 *e*Pn x 13 53 09.0
IKRK *e*SN x 13 55 17.7
MNAS Manas 12.50 51 ⇓P **Pn 13 53 09.8 -0.6**
comp=Z,1µm,1.2s
MNAS ⇑S **Sn 13 55 26.3 -2.8**
comp=Z,885nm,1.0s
MNAS Manas 12.50 51 P **Pn 13 53 09.8 -0.6**
comp=Z,1µm,1.2s
MNAS S **Sn 13 55 26.3 -2.8**
comp=Z,885nm,1.0s
GNI Garni 12.57 297 P **Pn 13 53 13.1 +1.7**
comp=Z,2.5nm,0.3s,baz=106,slow=3.4,SNR=16
GNI LR LR 14 00 07.0
comp=Z,7µm,18.2s,baz=96,slow=47
GNI Garni 12.57 297 P **Pn 13 53 13.1 +1.7**
GNI pmax pmax
comp=Z,3.0nm,0.3s
GNI MLR MLR
comp=Z,7µm,18.2s
GNI Garni 12.57 297 ⇓*i*Pn **Pn 13 53 13.3 +1.8**
SNR=28
DGRG David-gareji 12.60 303 P **Pn 13 53 10.0 -1.8**
DGRG David-gareji 12.60 303 *e*P **Pn 13 53 09.9 -1.8**
DGRG David-gareji 12.60 303 *e*P **Pn 13 53 09.9 -1.8**
WBK Wadi Bani Khal 12.62 182 ⇓P **Pn 13 53 11.5 -0.5**
SNR=9.1
WBK Wadi Bani Khal 12.62 182 P **Pn 13 53 11.5 -0.5**
SNR=9.1
BSY Bisya 12.62 189 ⇑P **Pn 13 53 12.3 +0.3**
SNR=20
BSYO Bisya 12.63 189 P **Pn 13 53 12.3 +0.2**
SNR=20
HAKT HAKKARI 12.84 285 *i*P **P 13 53 25.0 -0.9**
JMDO Jabal Madar 12.90 185 ⇓P **Pn 13 53 15.6 -0.2**
SNR=18
JMDO Jabal Madar 12.90 185 P **Pn 13 53 15.6 -0.2**
SNR=18
AML Almayashu 13.10 54 P **Pn 13 53 17.7 -1.1**
SNR=23
SEAG Tbilisi Sea 13.12 304 P **Pn 13 53 18.4 -0.4**
TBLG Delisi 13.15 304 P **Pn 13 53 20.9 +1.7**
TBLG Delisi 13.15 304 P **Pn 13 53 20.9 +1.7**
TBLG Delisi 13.15 304 P **Pn 13 53 20.9 +1.7**
DYDN Diyadin 13.19 294 *i*P P 13 53 38.9 +9.1
MSL Mosul 13.26 280 *e*Pn x 13 53 22.9
MSL *e*SN x 13 55 37.7
DUS Dusheti 13.33 305 P **Pn 13 53 22.8 +1.1**
DUS Dusheti 13.33 305 *e*P **Pn 13 53 22.8 +1.1**
DUS Dusheti 13.33 305 *e*P **Pn 13 53 22.8 +1.1**
EKS2 Erkin-Say 13.40 52 P **Pn 13 53 22.6 -0.1**
SNR=20
EKS2 Erkin-Say 13.40 52 *e*P **Pn 13 53 21.5 -1.2**
EKS2 *e* 13 55 47.1
EKS2 Erkin-Say 13.40 52 *e*Pn **Pn 13 53 21.5 -1.2**
EKS2 *e*Sn **Sn 13 55 47.1 -4.0**
EKS2 Erkin-Say 13.40 52 *e*Pn **Pn 13 53 21.5 -1.2**
EKS2 *e*Sn **Sn 13 55 47.1 -4.0**
GEVA Gevas 13.43 288 *i*P **P 13 53 34.1 +1.7**
EAK Akyaka 13.56 298 *i*P P 13 53 31.2 -2.7
DIGO Kars 13.65 297 *i*P **P 13 53 33.4 -1.6**
AGRB Hanur-Agry 13.72 293 *e*P **P 13 53 37.4 +1.8**
KSH Kashi 13.85 67 ⇓*i*Pn Pn 13 53 21.5 -7.3
KSH pP pP 13 53 26.3
KSH PP **PnPn 13 53 31.5 -5.2**
KSH S Sn 13 55 48.5 -14
KSH sS sS 13 56 01.0
KSH PMZ
comp=Z,82nm,0.9s
KSH LZ
comp=Z,3µm,3.2s
AAK Ala-Archa 13.86 53 P **Pn 13 53 28.6 -0.3**
SNR=178
AAK Ala-Archa 13.86 53 ⇓P **Pn 13 53 27.8 -1.1**
comp=Z,585nm,1.1s
AAK Ala-Archa 13.86 53 P P 13 54 17.4 +40
comp=Z,12nm,0.3s,baz=229,slow=12,SNR=429
AAK Ala-Archa 13.86 53 P **Pn 13 53 27.8 -1.1**
AAK pmax pmax
comp=Z,697nm,1.2s
AAK Ala-Archa 13.86 53 *e*Pn **Pn 13 53 27.7 -1.2**
AAK Ala-Archa 13.86 53 *e*Pn **Pn 13 53 27.7 -1.2**
AKH Akhalkalaki 13.89 301 P Pn 13 53 32.9 +3.5
AKH Akhalkalaki 13.89 301 *e*P Pn 13 53 32.9 +3.5
AKH Akhalkalaki 13.89 301 *e*P Pn 13 53 32.9 +3.5
AB31 Akbulak array 13.98 2 ⇑P Pn 13 53 26.7 -3.8
comp=Z,117nm,0.7s
AB31 ⇑S Sn 13 55 55.1 -10
comp=Z,390nm,1.4s
AB31 Akbulak array 13.98 2 P Pn 13 53 26.6 -3.8
AB31 pmax pmax
comp=Z,191nm,0.8s
AB31 Akbulak array 13.98 2 P Pn 13 53 26.7 -3.8
comp=Z,117nm,0.7s
AB31 S Sn 13 55 55.1 -10
comp=Z,390nm,1.4s
ABKAR Akbulak array 13.98 2 *e*Pn Pn 13 53 26.6 -3.8
ABKAR Akbulak array 13.98 2 *e*Pn Pn 13 53 26.6 -3.8
FRU Bishkek 14.03 53 ⇓*i*P **Pn 13 53 29.0 -2.2**
FRU *i*S **Sn 13 56 02.0 -4.3**
FRU pmax pmax
comp=Z,2µm,1.9s
FRU smax smax
comp=E,2µm,1.3s
FRU MLR MLR
comp=E,16nm,10.0s
FRU Bishkek 14.03 53 *i*P **Pn 13 53 29.0 -2.2**
comp=E,2µm,1.9s
FRU *i*S **Sn 13 56 02.0 -4.3**
KZA Kyzart 14.13 57 P **Pn 13 53 30.7 -2.2**
SNR=143
EATA Eleskirt 14.16 294 *i*P **P 13 53 42.2 +1.5**
USP Ospenovka 14.16 51 P **Pn 13 53 32.7 -0.2**
SNR=7.1
KBK Karagaybulak 14.17 54 P **Pn 13 53 31.8 -1.4**
SNR=258
CHMS Chumysh 14.19 52 P **Pn 13 53 33.1 -0.3**
SNR=13
EKAR Karacoban 14.35 291 *i*P **P 13 53 45.4 +2.7**
ONI Oni 14.38 305 P **Pn 13 53 34.9 -1.2**
ONI Oni 14.38 305 *e*P **Pn 13 53 34.8 -1.2**
ONI Oni 14.38 305 *e*P **Pn 13 53 34.8 -1.2**
DHRM DHARAMSHALA 14.39 97 *e*P **Pn 13 53 36.8 +0.5**
DHRM AMB AMB 13 54 02.7
comp=Z,627nm,1.7s
HOMI Horasan 14.64 294 *i*P **P 13 53 47.3 +1.3**
TKM2 Tokmak 2 14.71 54 P **Pn 13 53 39.3 -1.3**
SNR=14
TKM2 Tokmak 2 14.71 54 ⇑P **Pn 13 53 38.3 -2.4**
comp=Z,493nm,1.1s
TKM2 ⇓S **Sn 13 56 24.4 +1.2**
TKM2 Tokmak 2 14.71 54 P **Pn 13 53 37.5 -3.2**
TKM2 pmax pmax
comp=Z,493nm,1.1s
TKM2 Tokmak 2 14.71 54 P **Pn 13 53 38.3 -2.4**
comp=Z,493nm,1.1s
TKM2 S **Sn 13 56 24.4 +1.2**
BHK Bhakra 14.74 100 *ex* **P 13 53 45.0 -1.9**
BHK *ex* x 13 54 11.0
ULHL Ulahol 14.87 57 P **Pn 13 53 40.1 -2.7**
SNR=62
DAGI Agillar 14.91 298 *i*P **Pn 13 53 45.1 +1.9**
ARTV Artvin 14.93 298 *i*P **P 13 53 50.6 +1.4**
BHJ Bhuj 14.94 141 *e*P **Pn 13 53 41.8 -1.8**
BHJ AMB AMB 13 53 45.3
comp=Z,223nm,1.7s
DDEM Demirkent 14.97 297 *i*P **P 13 53 52.0 +2.6**
BNGL BINGOL 15.01 290 *i*P P 13 53 55.7 +5.7
ERZM Erzurum 15.01 293 *i*P P 13 53 54.9 +4.8
EZM Erzurum 15.02 293 *e*P **P 13 53 52.9 +2.8**
DBAD Bademkaya 15.05 298 *i*P **Pn 13 53 46.9 +1.8**
MARD Mardin 15.14 283 *i*P P 13 53 56.4 +5.0
NEY Neytrino 15.15 307 *e*P **Pn 13 53 45.6 -0.9**
NEY pmax pmax
comp=Z,25nm,2.4s
NEY MLR MLR
comp=Z,2µm,20.0s
NEY Neytrino 15.15 307 *e*P **Pn 13 53 45.6 -0.9**
comp=Z,2µm,20.0s
SDNR Sundarnagar 15.16 99 *e*P **Pn 13 53 46.0 -0.6**
AKTK Aktyubinsk 15.19 357 P **Pn 13 53 44.0 -2.8**
AKTK S **Sn 13 56 28.2 -6.2**
AKTO Aktyubinsk 15.19 357 ⇓P **Pn 13 53 43.4 -3.4**
comp=Z,434nm,1.3s
AKTO ⇓S **Sn 13 56 28.1 -6.4**
comp=Z,214nm,1.1s
AKTO Aktyubinsk 15.19 357 P **Pn 13 53 44.0 -2.9**
comp=Z,2.7nm,0.3s,baz=162,slow=16,SNR=50
AKTO S **Sn 13 56 28.2 -6.2**
comp=Z,2.9nm,0.3s,baz=74,slow=20,SNR=3.0
AKTO LR LR 14 00 42.5
comp=Z,9µm,18.2s,baz=164,slow=41
AKTO Aktyubinsk 15.19 357 P **Pn 13 53 43.4 -3.4**
comp=Z,434nm,1.3s
AKTO S **Sn 13 56 28.1 -6.4**
comp=Z,214nm,1.1s
KBZ Khabaz 15.26 309 P **Pn 13 53 45.5 -2.2**
comp=Z,0.6nm,0.3s,baz=134,slow=10,SNR=19
KBZ LR LR 14 01 15.5
comp=Z,3µm,20.9s,baz=128,slow=43
MZRK Al-Mazaregh 15.26 278 *e*P **Pn 13 53 49.8 +2.0**
KBSD Kabsdagh 15.32 282 *e*P **P 13 53 53.8 +0.5**
BNGB Bing¶ll 15.37 289 *e*P **P 13 53 56.1 +2.1**
SMLA Simla 15.45 100 *i*P **Pn 13 53 49.4 -0.8**
SMLA AMB AMB 13 54 01.5
comp=Z,908nm,0.8s
SMLA *i*x x 13 58 51.0
KIV Kislovodsk 15.50 309 Pn **Pn 13 53 49.3 -1.7**
comp=Z,1µm,1.3s,SNR=21
DYBB Diyarbakir 15.69 285 *e*P P 13 54 05.2 +7.9
KNDC Almaty 15.75 54 P **Pn 13 53 53.1 -1.1**
KNDC Almaty 15.75 54 P **Pn 13 53 53.1 -1.1**
AAA Alma-Ata 15.76 54 *i*P **Pn 13 53 52.2 -2.1**
AAA *i*S **Sn 13 56 42.7 -5.7**
AAA pmax pmax
comp=Z,1µm,0.7s
AAA smax smax
comp=E,1µm,1.0s
AAA Alma-Ata 15.76 54 *i*P **Pn 13 53 52.2 -2.1**
comp=E,1µm,0.7s
AAA *i*S **Sn 13 56 42.7 -5.7**
GOF Gofitskoye 15.84 313 *e*P Pn 13 53 50.9 -4.3
GOF pmax pmax
comp=Z,300nm,1.1s
GOF Gofitskoye 15.84 313 *e*P Pn 13 53 50.9 -4.3
comp=Z,300nm,1.1s
RTB Rutbah 15.95 267 *e*Pn x 13 53 58.3
RTB *e*Sn x 13 56 55.1
RTB Rutbah 15.95 267 *e*Pn **Pn 13 53 58.3 +1.4**
SNR=43
RTB *e*Sn **Sn 13 56 55.1 +1.9**
SNR=47
BAYT Ayd¯ntepe-Bay 16.03 294 *e*P **Pn 13 54 00.3 +2.3**
ERZN Erzincan 16.20 291 *e*P **P 13 54 06.4 +3.3**
PTK Pertek 16.36 289 *e*P **P 13 54 07.8 +2.8**
DDI Dehra Dun 16.45 102 *e*P **Pn 13 54 02.0 -1.2**
DDI AMB AMB 13 54 19.1
comp=Z,862nm,1.1s
NDI New Delhi 16.48 109 *e*P **Pn 13 54 02.0 -1.6**
NDI *ex* x 13 57 39.0
GUMT Gumushane 16.54 294 *e*P **P 13 54 10.5 +3.5**
ELZG Elazig 16.63 287 *i*P P 13 54 12.5 +4.5
KELT Kelkit 16.65 293 *i*P **Pn 13 54 07.7 +1.9**
URFA Urfa 16.71 283 *e*P P 13 54 14.5 +5.8
RAYN Ar Rayn 16.81 230 Pn Pn 13 54 03.0 -4.8
comp=Z,650nm,1.0s,SNR=20
MALT Malatya 17.06 286 *e*P P 13 54 19.5 +6.9
MALT Malatya 17.06 286 ⇓P **P 13 54 10.4 +1.4**
KEMA Kemaliye 17.09 290 *i*P **P 13 54 16.1 +3.1**
ATAB Bozova 17.13 284 *i*P P 13 54 19.0 +5.7
SOC Sochi 17.29 305 *e*P **Pn 13 54 12.8 -0.8**
SOC *e* 13 57 25.3
SOC pmax pmax
comp=Z,17nm,0.8s
SOC MLR MLR
comp=Z,3µm,14.0s
SOC Sochi 17.29 305 *e*P **Pn 13 54 12.8 -0.8**
comp=Z,17nm,0.8s
SOC *e*S **Sn 13 57 25.3 -0.1**
comp=Z,3µm,14.0s
AKCD Akcadag 17.45 286 *i*P P 13 54 24.1 +7.1
SUSE Susehri 17.45 293 *i*P **P 13 54 19.4 +2.3**
PDGK Podgornoye 17.49 57 ⇓P **Pn 13 54 13.9 -2.2**
comp=Z,280nm,1.1s
PDGK Podgornoye 17.49 57 *e*P **Pn 13 54 14.4 -1.7**
PDGK Podgornoye 17.49 57 *e*P **Pn 13 54 14.4 -1.7**
SHAO Shalim 17.50 192 ⇓P **Pn 13 54 14.9 -1.5**
SNR=7.8
SHAO Shalim 17.50 192 P **Pn 13 54 14.9 -1.5**
SNR=7.8
BHV Bhavnagar 17.50 137 *e*P **P 13 54 17.0 -0.5**
GZT Gaziantep 17.71 283 *i*P P 13 54 25.2 +5.4
ROOS tl_alroos 18.20 273 *e*P **P 13 54 29.3 +4.1**
RABH Abou Rabah 18.22 274 *e*P **Pn 13 54 25.2 -0.1**
RBK Rabkut 18.29 196 ⇓P **Pn 13 54 24.5 -1.6**
SNR=23
RBK Rabkut 18.29 196 P **Pn 13 54 24.5 -1.6**
SNR=23
ZALF Zalf 18.41 269 *e*P **P 13 54 27.0 -0.5**
LGTI Lohaghat 18.54 102 *e*P **P 13 54 26.9 -2.0**
BTCH Batrach 18.64 279 *e*P **P 13 54 30.6 +0.6**
ABTO Aybut 18.65 198 ⇑P **P 13 54 28.6 -1.6**
SNR=13
ABTO Aybut 18.65 198 P **P 13 54 28.6 -1.6**
SNR=13
WRDH Warideh 18.73 277 *e*P **Pn 13 54 34.5 +3.1**

BIDA	**Albida**	**18.86**	**276**	*e*P		**Pn**	**13 54 35.6**	**+2.5**
ASF	**Jabal al Asfar**	**18.95**	**267**	P		**P**	**13 54 32.1**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=41,slow=2.7,SNR=20							
ASF				LR		LR	14 03 15.2	
	comp=Z,3μm,18.8s,baz=26,slow=41							
TOTH	**TOTAH**	**19.05**	**271**	*e*P		**P**	**13 54 34.5**	**0.0**
QASN	**Qassioun**	**19.14**	**271**	*e*P		**P**	**13 54 35.9**	**+0.3**
CEYT	**Ceyhan**	**19.16**	**282**	*e*P		Pn	13 54 41.5	+4.9
KVT	**Kavak**	**19.22**	**295**	*e*P		Pn	13 54 43.6	+6.2
YURE	**YUREGIR**	**19.26**	**282**	*i* P		Pn	13 54 43.1	+5.3
ANN	**Anapa**	**19.27**	**306**	*e*P		**Pn**	**13 54 41.9**	**+4.1**
ANN				pmax		pmax		
	comp=N,96nm,1.1s							
ANN				pmax		pmax		
	comp=E,111nm,1.1s							
ANN				pmax		pmax		
	comp=Z,256nm,1.1s							
ANN				MLR		MLR		
	comp=E,733nm,17.0s							
ANN				MLR		MLR		
	comp=Z,2μm,17.0s							
ANN				MLR		MLR		
	comp=N,2μm,17.0s							
ANN	**Anapa**	**19.27**	**306**	*e*P		**Pn**	**13 54 41.9**	**+4.1**
	comp=N,2μm,17.0s							
HWQ	**Hawqa**	**19.27**	**274**	*e*P		**P**	**13 54 38.1**	**+1.0**
BRVK	**Borovoye**	**19.39**	**20**	P		**P**	**13 54 37.0**	**-1.0**
	comp=N,759nm,0.8s,SNR=23							
BRVK	**Borovoye**	**19.39**	**20**	*e*P		**P**	**13 54 37.2**	**-0.8**
BRVK				*e*S		**Sn**	**13 58 15.8**	**-0.2**
BRVK				pmax		pmax		
	comp=Z,162nm,1.0s							
BRVK	**Borovoye**	**19.39**	**20**	*e*P		**P**	**13 54 37.2**	**-0.8**
	comp=Z,162nm,1.0s							
BRVK				*e*S		**Sn**	**13 58 15.8**	**-0.2**
BRVK	**Borovoye**	**19.39**	**20**	*e*P		**P**	**13 54 37.2**	**-0.8**
	comp=Z,162nm,1.0s							
BRVK				*e*S		**Sn**	**13 58 15.8**	**-0.2**
BVA0	**Borovoye Array**	**19.39**	**20**	P		**P**	**13 54 37.8**	**-0.3**
	comp=Z,181nm,1.1s,baz=200,slow=13,SNR=346							
BVA0	**Borovoye Array**	**19.39**	**20**	*i* P		**P**	**13 54 37.7**	**-0.3**
BVA0				pmax		pmax		
	comp=Z,947nm,2.4s							
BVA0	**Borovoye Array**	**19.39**	**20**	*i* P		**P**	**13 54 37.7**	**-0.3**
	comp=Z,947nm,2.4s							
BVAR	**Borovoye Array**	**19.39**	**20**	P		**P**	**13 54 37.9**	**-0.1**
	comp=Z,5.5nm,0.3s,baz=197,slow=12,SNR=148							
BVAR				S		**Sn**	**13 58 09.6**	**-6.5**
	comp=Z,1.2nm,0.3s,baz=214,slow=23,SNR=3.1							
BVAR				LR		LR	14 03 15.9	
	comp=Z,17μm,18.5s,baz=210,slow=40							
BRBR	**Barbar**	**19.43**	**271**	*e*P		**Pn**	**13 54 40.4**	**+0.3**
KRTS	**Karatas**	**19.48**	**281**	*e*P		Pn	13 54 48.3	+7.9
YOZ	**Yozgat**	**19.58**	**290**	*e*P		Pn	13 54 47.0	+5.2
BHL	**Bhannes**	**19.58**	**273**	*e*P		**Pn**	**13 54 42.2**	**+0.5**
KARA	**Karaisali**	**19.71**	**283**	*e*P		Pn	13 54 48.3	+5.1
BHPL	**Bhopal**	**19.75**	**123**	*e*P		**P**	**13 54 40.6**	**-1.6**
BHPL				AMB		AMB	13 54 46.5	
	comp=Z,401nm,0.6s							
DIKM	**Dikmen**	**19.91**	**296**	*e*P		**Pn**	**13 54 49.0**	**+3.5**
MMAI	**Mount Meron Ar**	**19.97**	**270**	P		**P**	**13 54 45.3**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=76,slow=14,SNR=14							
MMAI				LR		LR	14 03 36.1	
	comp=Z,5μm,18.4s,baz=60,slow=40							
CTKT	**Corum**	**20.09**	**293**	*i* P		Pn	13 54 50.8	+2.9
CORM	**Corum**	**20.16**	**291**	*e*P		**P**	**13 54 47.0**	**+0.2**
BYBT	**Boyabat**	**20.24**	**295**	*e*P		**P**	**13 54 47.6**	**+0.3**
CDAG	**Cicekdag**	**20.31**	**290**	*i* P		Pn	13 54 51.9	+1.5
VRHR	**Novokhopersk**	**20.36**	**326**	*e*P		**P**	**13 54 49.7**	**+1.1**
VRHR				*e*S		**S**	**13 58 37.2**	**+1.4**
VRHR				pmax		pmax		
	comp=E,60nm,0.9s							
VRHR				pmax		pmax		
	comp=Z,70nm,0.9s							
VRHR				pmax		pmax		
	comp=N,80nm,1.0s							
VRHR				smax		smax		
	comp=N,1μm,10.8s							
VRHR				smax		smax		
	comp=Z,440nm,8.0s							
VRHR				smax		smax		
	comp=E,480nm,5.8s							
VRHR				MLR		MLR		
	comp=Z,2μm,13.0s							
VRHR				MLR		MLR		
	comp=N,3μm,15.0s							
VRHR				MLR		MLR		
	comp=E,5μm,16.0s							
VRHR	**Novokhopersk**	**20.36**	**326**	*e*P		**P**	**13 54 49.7**	**+1.1**
	comp=E,80nm,1.0s							
VRHR				*e*S		**S**	**13 58 37.2**	**+1.4**
	comp=E,3μm,15.0s							
MK31	**Makanchi Array**	**20.68**	**49**	P		**P**	**13 54 52.6**	**+0.4**
	comp=E,126nm,0.8s,baz=233,slow=8.9,SNR=664							
MK31	**Makanchi Array**	**20.68**	**49**	*i* P		**P**	**13 54 52.6**	**+0.4**
MK31				pmax		pmax		
	comp=Z,161nm,0.8s							
MK31	**Makanchi Array**	**20.68**	**49**	*i* P		**P**	**13 54 52.6**	**+0.4**
	comp=Z,161nm,0.8s							
MKAR	**Makanchi Array**	**20.68**	**49**	P		**P**	**13 54 52.9**	**+0.6**
	comp=Z,30nm,0.9s,baz=238,slow=10,SNR=99							
MKAR				LR		LR	14 04 07.2	
	comp=Z,8μm,18.0s,baz=244,slow=40							
MKAR	**Makanchi Array**	**20.68**	**49**	P		**P**	**13 54 52.9**	**+0.6**
MKAR				pmax		pmax		
	comp=Z,31nm,0.9s							
MKAR				MLR		MLR		
	comp=Z,8μm,18.0s							
MKAR	**Makanchi Array**	**20.68**	**49**	*e*P		**P**	**13 54 52.8**	**+0.5**
KURBB	**Kurchatov Arra**	**20.69**	**36**	⇓P		**P**	**13 54 52.9**	**+0.7**
	comp=Z,272nm,0.8s							
KURBB	**Kurchatov Arra**	**20.69**	**36**	P		**P**	**13 54 53.4**	**+1.2**
	comp=Z,62nm,0.8s,baz=235,slow=12,SNR=281							
KURBB	**Kurchatov Arra**	**20.69**	**36**	P		**P**	**13 54 52.9**	**+0.7**
	comp=Z,272nm,0.8s							
TOS	**Tosya**	**20.72**	**294**	*e*P		**P**	**13 54 54.4**	**+1.6**
YESY	**Yesilyurt**	**20.74**	**284**	*e*P		Pn	13 54 58.7	+3.3
KURK	**Kurchatov**	**20.79**	**36**	P		**P**	**13 54 53.4**	**+0.1**
KURK	**Kurchatov**	**20.79**	**36**	P		**P**	**13 54 53.4**	**+0.1**
KURK	**Kurchatov**	**20.79**	**36**	P		**P**	**13 54 53.4**	**+0.1**
KAMT	**Kaman**	**20.80**	**289**	*e*P		Pn	13 54 57.1	+1.0
BRTR	**Keskin Array B**	**20.88**	**290**	P		**P**	**13 54 54.5**	**0.0**
	comp=Z,6.6nm,0.7s,baz=110,slow=11,SNR=17							
BRTR				LR		LR	14 04 07.6	
	comp=Z,3μm,19.3s,baz=87,slow=40							
BZK	**Bozkurt**	**20.88**	**296**	*e*P		P	13 54 48.6	-5.8
SERE	**Sereflikochisa**	**20.89**	**288**	*e*P		P	13 54 46.5	-8.1
SULT	**Sultanhani-AKS**	**20.92**	**286**	*e*P		Pn	13 55 03.2	+5.7
POO	**Poona**	**21.04**	**139**	*e*P		**P**	**13 54 54.9**	**-1.3**
POO				⇑*i*PS			13 54 56.0	
POO				AMB		AMB	13 55 01.6	
	comp=Z,352nm,0.6s							
LFK	**Lefkose**	**21.09**	**278**	*e*P		P	13 55 03.5	+6.8
ELDT	**Eldivan**	**21.11**	**292**	*i* P		P	13 55 09.8	+13
ARU	**Arti**	**21.17**	**359**	LR		LR	14 03 57.2	
	comp=Z,4μm,19.6s,baz=172,slow=39							
ARU	**Arti**	**21.17**	**359**	*d* iP		**P**	**13 54 57.1**	**-0.3**
ARU				PPP		PPP	13 55 23.1	
ARU				S		**S**	**13 58 54.4**	**+2.6**
ARU				SS		**SnSn**	**13 59 14.3**	**+0.3**
ARU				SSS		SSS	13 59 32.8	
ARU				pmax		pmax		
	comp=Z,184nm,1.2s							
ARU				MLR		MLR		
	comp=Z,5μm,17.0s							
ARU	**Arti**	**21.17**	**359**	P		**P**	**13 54 57.7**	**+0.3**
	comp=Z,2μm,1.0s,SNR=47							
ARU	**Arti**	**21.17**	**359**	*i* P		**P**	**13 54 57.1**	**-0.3**
	comp=Z,184nm,1.2s							
ARU				S		**S**	**13 58 54.4**	**+2.6**
ARU	**Arti**	**21.17**	**359**	*e*P		**P**	**13 54 57.3**	**-0.1**
	comp=Z,503nm,1.1s							
AKL	**Akola**	**21.23**	**128**	*e*P		**P**	**13 54 57.3**	**-1.0**
AKL				AMB		AMB	13 55 03.0	
	comp=Z,173nm,1.0s							
BBAL	**Bala**	**21.26**	**289**	*i* P		P	13 55 05.8	+7.1
AFSR	**Af˙ar-Bala (A**	**21.30**	**289**	*e*P		P	13 55 04.3	+5.3
CSS	**Prodhromos**	**21.30**	**277**	P		P	13 55 03.7	+4.7
CSS	**Prodhromos**	**21.30**	**277**	*e*P		**P**	**13 55 00.0**	**+1.1**
EIL	**Elat**	**21.33**	**262**	*e*P		**P**	**13 54 59.9**	**+0.5**
EIL	**Elat**	**21.33**	**262**	P		**P**	**13 54 59.4**	**0.0**
	comp=Z,51nm,1.1s,baz=34,slow=7.3							
EIL				LR		LR	14 04 59.8	
	comp=Z,5μm,18.3s,baz=72,slow=41							
MAMC	**Mammari**	**21.36**	**277**	P		P	13 55 05.0	+5.4
CHBY	**Cihanbeyli**	**21.41**	**287**	*e*P		**P**	**13 55 04.1**	**+3.9**
ERMK	**Ermenek**	**21.45**	**281**	*i* P		**P**	**13 54 59.6**	**-1.2**
SIM	**Simferopol'**	**21.53**	**304**	*de*P		**P**	**13 55 00.5**	**-0.9**
SIM				*e*S		**S**	**13 59 00.0**	**+0.8**
SIM				pmax		pmax		
	comp=Z,473nm,1.2s							
SIM	**Simferopol'**	**21.53**	**304**	*e*P		**P**	**13 55 00.5**	**-0.9**
	comp=Z,473nm,1.2s							
SIM				*e*S		**S**	**13 59 00.0**	**+0.8**
ANTO	**Ankara**	**21.54**	**290**	*e*P		**P**	**13 54 58.8**	**-2.7**
ANTO				*e*PP		**pP**	**13 55 07.8**	**+0.7**
ANTO	**Ankara**	**21.54**	**290**	*e*P		**P**	**13 54 58.8**	**-2.7**
ANTO	**Ankara**	**21.54**	**290**	*e*P		**P**	**13 54 58.8**	**-2.7**
ANTO				*e*pP		**pP**	**13 55 07.8**	**+0.7**
LOD	**Lodumlu**	**21.56**	**290**	*e*P		**P**	**13 55 05.9**	**+4.1**
SVE	**Sverdlovsk**	**21.58**	**2**	*ce*P		**P**	**13 55 01.6**	**-0.1**
SVE				*e*S		**S**	**13 59 00.1**	**+0.2**
SVE				pmax		pmax		
	comp=Z,408nm,1.4s							
SVE				MLR		MLR		
	comp=Z,9μm,15.0s							
SVE	**Sverdlovsk**	**21.58**	**2**	*e*P		**P**	**13 55 01.6**	**-0.1**
	comp=Z,408nm,1.4s							
SVE				*e*S		**S**	**13 59 00.1**	**+0.2**
	comp=Z,9μm,15.0s							
VSR	**Storozhevoye**	**21.59**	**324**	*e*P		**P**	**13 55 01.3**	**-0.6**
VSR				*e*S		**S**	**13 59 00.1**	**-0.1**
VSR				pmax		pmax		
	comp=Z,40nm,0.6s							
VSR				pmax		pmax		
	comp=N,60nm,0.9s							
VSR				pmax		pmax		
	comp=E,80nm,0.9s							
VSR				smax		smax		
	comp=E,970nm,10.8s							
VSR				smax		smax		
	comp=Z,620nm,7.5s							
VSR				smax		smax		
	comp=N,900nm,11.9s							
VSR				MLR		MLR		
	comp=Z,2μm,16.0s							
VSR				MLR		MLR		
	comp=N,610nm,12.0s							
VSR				MLR		MLR		
	comp=E,960nm,11.0s							
VSR	**Storozhevoye**	**21.59**	**324**	*e*P		**P**	**13 55 01.3**	**-0.6**
	comp=E,40nm,0.6s							
VSR				*e*S		**S**	**13 59 00.1**	**-0.1**
	comp=E,610nm,12.0s							
SZAC	**Souni-Zanaja**	**21.69**	**276**	P		P	13 55 08.1	+4.9
SAFT	**Safranbolu**	**21.75**	**294**	*e*P		P	13 54 57.7	-6.0
HDMB	**Hadim**	**21.77**	**282**	*e*P		P	13 55 09.4	+5.2
DANN	**Dangsing**	**21.80**	**102**	*e*P		**P**	**13 55 04.9**	**+0.2**
	comp=E,278nm,1.2s							
KONT	**Konya--Tatoy**	**21.83**	**285**	*e*P		P	13 55 12.7	+8.1
ALFC	**Alevga**	**21.87**	**277**	P		P	13 55 10.7	+5.6
VOR	**Voronezh**	**21.91**	**325**	⇑*i*P		**P**	**13 55 04.0**	**-1.3**
VOR				pmax		pmax		
	comp=Z,200nm,1.4s							
VOR	**Voronezh**	**21.91**	**325**	*i* P		**P**	**13 55 04.0**	**-1.3**
	comp=Z,200nm,1.4s							
KOLN	**Koldanda**	**21.92**	**103**	*e*P		**P**	**13 55 05.8**	**-0.1**
	comp=Z,443nm,0.8s							
KDHN	**Kadinhani**	**22.02**	**287**	*i* P		**P**	**13 55 06.1**	**-0.6**
AKMC	**Akamas**	**22.10**	**277**	P		**P**	**13 55 09.5**	**+1.9**
PPCY	**Paphos**	**22.11**	**277**	P		**P**	**13 55 09.8**	**+2.2**
BCAM	**Yenicaga**	**22.17**	**293**	*i* P		**P**	**13 55 11.6**	**+3.2**
KIZT	**Kizilcal**	**22.20**	**287**	*e*P		**P**	**13 55 08.6**	**-0.2**
NGP	**Nagpur**	**22.26**	**124**	*e*P		**P**	**13 55 08.7**	**-0.6**
NGP				*ex*		x	13 55 24.7	
	comp=Z,349nm,1.7s							
NGP				*ex*		x	13 59 18.2	
AUSIV	**SIVRIHISAR**	**22.48**	**289**	*i* P		P	13 55 18.5	+6.8
SVRH	**Sivrihisar-ESK**	**22.50**	**289**	*e*P		**P**	**13 55 16.0**	**+4.2**
AUMIH	**MIHALICIK**	**22.54**	**290**	*i* P		P	13 55 17.1	+4.7
GKN	**Gorkha**	**22.65**	**102**	*e*P		**P**	**13 55 13.2**	**-0.5**
	comp=Z,1μm,1.0s							
MUKL	**Al Mukalla**	**22.70**	**207**	⇑*e*P		**P**	**13 55 13.5**	**-0.5**
MUKL				*i* S		**S**	**13 59 23.1**	**+1.6**
MDUB	**Mudurnu**	**22.80**	**292**	*e*P		**P**	**13 55 18.1**	**+3.0**
BOLV	**Bolvadin**	**22.93**	**287**	*i* P		P	13 55 22.6	+6.1
KLRI	**Killari**	**22.96**	**134**	*e*P		**P**	**13 55 17.2**	**+0.4**
KLRI				IAmb		IAmb	13 55 26.6	
	comp=Z,180nm,1.1s							
KLRI				*e*S		**S**	**13 59 26.9**	**+0.6**
KLRI				IVMs_BB		IVMs_BB	14 06 05.1	
	comp=Z,4μm,13.5s							
ESKT	**Eskisehir**	**23.02**	**289**	*e*P		P	13 55 11.5	-5.9
SEYT	**Eskypehyr**	**23.02**	**289**	*i* P		**P**	**13 55 20.7**	**+3.4**
BAGO	**Egridir - ISPA**	**23.07**	**285**	*i* P		P	13 55 24.8	+6.9
DMN	**Daman**	**23.19**	**102**	*e*P		**P**	**13 55 19.1**	**-0.3**
	comp=Z,779nm,1.0s							
KKN	**Kakani**	**23.26**	**101**	*e*P		**P**	**13 55 19.2**	**-0.8**
	comp=Z,950nm,0.9s							
ISP	**Isparta**	**23.29**	**285**	*e*P		P	13 55 26.6	+6.5
ISP	**Isparta**	**23.29**	**285**	*e*P		**P**	**13 55 18.6**	**-1.5**
ISP				pmax		pmax		
	comp=Z,143nm,1.0s							
ISP	**Isparta**	**23.29**	**285**	⇑*i*P		P	13 55 26.6	+6.5
ISP	**Isparta**	**23.29**	**285**	*e*P		**P**	**13 55 18.6**	**-1.5**
	comp=Z,143nm,1.0s							
ISP	**Isparta**	**23.29**	**285**	*e*P		**P**	**13 55 18.6**	**-1.5**
	comp=Z,143nm,1.0s							
ISP	**Isparta**	**23.29**	**285**	P		**P**	**13 55 19.3**	**-0.8**
GULT	**Gulveren**	**23.32**	**291**	*e*P		P	13 55 25.5	+5.1
WMQ	**Urumqi**	**23.36**	**60**	P		**P**	**13 55 21.3**	**+0.6**
WMQ				pP		**pP**	**13 55 27.3**	**+0.9**
WMQ				sP		**sP**	**13 55 32.0**	**+3.1**
WMQ				*e*S		**S**	**13 59 32.0**	**-0.6**
WMQ				PMZ				
	comp=Z,190nm,1.0s							
WMQ				PMZ				
	comp=Z,500nm,3.8s							
WMQ				LN				
	comp=Z,7μm,17.0s							
WMQ				LE				
	comp=Z,8μm,16.3s							
WMQ				LZ				
	comp=Z,7μm,18.6s							
SRSP	**Sriramsagar**	**23.38**	**129**	*e*P		**P**	**13 55 21.0**	**-0.1**
SRSP				IAmb		IAmb	13 55 22.3	
	comp=Z,127nm,1.3s							
SRSP				*e*S		**S**	**13 59 32.1**	**-1.0**
SRSP				IVMsBB			14 05 41.2	
	comp=Z,1μm,8.2s							
PKIN	**Phulchoki**	**23.44**	**102**	*e*P		**P**	**13 55 21.6**	**-0.3**
	comp=Z,782nm,1.0s							
PKI	**Pulchoki**	**23.45**	**102**	*e*P		**P**	**13 55 21.7**	**-0.4**
	comp=Z,734nm,0.9s							
KORT	**Korkueli**	**23.48**	**283**	*i* P		**P**	**13 55 20.7**	**-1.3**
GOA	**Goa**	**23.57**	**143**	*e*P		**P**	**13 55 21.8**	**-1.1**
GOA				AMB		AMB	13 55 24.6	
	comp=Z,289nm,1.2s							
GUN	**Gumba**	**23.69**	**101**	*e*P		**P**	**13 55 24.2**	**-0.2**
	comp=Z,958nm,0.9s							
CAVI	**Cavuskoy**	**23.82**	**291**	*e*P		**P**	**13 55 29.6**	**+4.4**
ELL	**Elmali**	**23.85**	**282**	*e*P		P	13 55 33.1	+7.5
ADVT	**Abdulvahap**	**23.91**	**291**	*e*P		P	13 55 30.9	+4.9
HRT	**Hereke**	**23.98**	**292**	*e*P		P	13 55 31.6	+4.8
RPR	**Rampur**	**24.04**	**128**	*e*P		**P**	**13 55 27.2**	**-0.2**
RPR				IAmb		IAmb	13 55 29.4	
	comp=Z,114nm,1.2s							
RPR				*e*S		**S**	**13 59 43.7**	**0.0**
RPR				IVMs_BB		IVMs_BB	14 06 23.8	
	comp=Z,2μm,10.4s							
KHL	**Karahalli**	**24.06**	**286**	*e*P		**P**	**13 55 30.9**	**+3.4**
GDZ	**Gediz**	**24.07**	**288**	*i* P		**P**	**13 55 30.6**	**+2.9**
HAJJ	**Hajjah**	**24.08**	**220**	⇑*e*P		**P**	**13 55 27.5**	**-0.5**
HAJJ				AMb		AMB	13 55 27.9	
	comp=Z,330nm,1.3s							
HAJJ	**Hajjah**	**24.08**	**220**	⇑*e*P		**P**	**13 55 27.5**	**-0.5**
	comp=Z,165nm,1.3s							
KHAL	**Karahalli**	**24.08**	**286**	*i* P		**P**	**13 55 28.0**	**+0.3**
GOLH	**Golhisar**	**24.09**	**283**	*i* P		**P**	**13 55 29.5**	**+1.7**
TVSB	**Tavsanli**	**24.09**	**289**	*e*P		**P**	**13 55 31.6**	**+3.7**
IZI	**Iznik**	**24.11**	**291**	*e*P		P	13 55 33.6	+5.7
AKAS	**Kas**	**24.15**	**281**	*i* P		**P**	**13 55 28.4**	**-0.1**
ULDT	**Uludag**	**24.36**	**291**	*i* P		**P**	**13 55 30.6**	**+0.2**
ISK	**Istanbul-Kandi**	**24.46**	**293**	*e*P		P	13 55 26.2	-4.9
ISK	**Istanbul-Kandi**	**24.46**	**293**	P		P	13 55 38.8	+7.7
KLYT	**Kilyos**	**24.49**	**293**	*e*P		P	13 55 26.8	-4.5
ARMT	**Armutlu**	**24.58**	**292**	*e*P		**P**	**13 55 28.9**	**-3.4**
BDHA	**Al Bayda'**	**24.59**	**214**	⇑*e*P		**P**	**13 55 32.3**	**-0.4**
BDHA				AMb		AMB	13 55 32.7	
	comp=Z,71nm,0.8s							
BDHA	**Al Bayda'**	**24.59**	**214**	⇑*e*P		**P**	**13 55 32.3**	**-0.4**
	comp=Z,35nm,0.8s							
DAMY	**Dhamar**	**24.63**	**217**	*e*P		**P**	**13 55 31.6**	**-1.5**
	comp=Z,297nm,1.0s							
DAMY	**Dhamar**	**24.63**	**217**	*e*P		**P**	**13 55 31.6**	**-1.5**
	comp=Z,297nm,1.0s							
DHBB	**Dhamar BB**	**24.63**	**217**	⇑*e*P		**P**	**13 55 32.6**	**-0.5**
HYBB	**Hyderabad (bro**	**24.64**	**131**	*e*P		**P**	**13 55 32.3**	**-0.6**
HYBB				IAmb		IAmb	13 55 33.9	
	comp=Z,85nm,0.9s							
HYBB				*e*			13 58 59.3	
HYBB				*e*S		**S**	**13 59 52.3**	**-1.2**
HYBB				IVMs_BB		IVMs_BB	14 06 33.6	
	comp=Z,2μm,12.1s							
HYB	**Hyderabad**	**24.64**	**131**	⇑*i*P		**P**	**13 55 32.0**	**-0.9**
	comp=Z,107nm,0.8s							
HYB				*e*S		**S**	**13 59 56.0**	**+2.5**
HYB	**Hyderabad**	**24.64**	**131**	*e*P		**P**	**13 55 31.1**	**-1.9**
HYB				AMB		AMB	13 55 35.5	
	comp=Z,96nm,1.9s							
RAMN	**Ramite**	**24.68**	**102**	*e*P		**P**	**13 55 33.4**	**-0.1**
	comp=Z,587nm,0.8s							
KULA	**Kula-Manisa**	**24.73**	**287**	*e*P		P	13 55 39.9	+6.3
KULA	**Kula-Manisa**	**24.73**	**287**	P		P	13 55 38.3	+4.7
MANT	**Manisa**	**24.81**	**287**	*i* P		P	13 55 39.0	+4.5
DALY	**Dalyan (Mu˙la**	**24.85**	**283**	*e*P		**P**	**13 55 35.1**	**+0.5**
DURS	**Dursunbey**	**24.86**	**289**	*i* P		**P**	**13 55 37.2**	**+2.4**
CTKS	**Kestanelik-??a**	**24.89**	**293**	*e*P		P	13 55 40.4	+5.4
KCTX	**Karacabey (Bur**	**24.96**	**291**	*e*P		**P**	**13 55 35.9**	**+0.3**
CTYL	**Yal??k??y-??at**	**25.07**	**294**	*e*P		**P**	**13 55 34.3**	**-2.2**
YER	**Yerkesik**	**25.11**	**283**	*e*P		P	13 55 42.6	+5.5
MOS	**Moscow**	**25.33**	**331**	*e*P		P	13 55 43.9	+5.2
MOS				*e*			13 55 53.8	
MOS				*e*			13 56 22.7	
MOS				*e*SS			14 01 19.1	
MOS				pmax		pmax		
	comp=Z,110nm,1.0s							
MOS				MLR		MLR		
	comp=Z,2μm,12.0s							
OBN	**Obninsk**	**25.34**	**329**	P		**P**	**13 55 38.2**	**-0.5**
	comp=Z,32nm,0.8s,baz=130,slow=9.2,SNR=11							
OBN	**Obninsk**	**25.34**	**329**	*c i*P		**P**	**13 55 36.3**	**-2.5**
OBN				*e*			13 56 11.4	
OBN				*i* S		**S**	**14 00 09.3**	**+5.5**
OBN				pmax		pmax		
	comp=Z,72nm,1.2s							
OBN	**Obninsk**	**25.34**	**329**	P		P	13 55 44.1	+5.3
	comp=Z,2μm,1.3s,SNR=12							
OBN	**Obninsk**	**25.34**	**329**	*i* P		**P**	**13 55 36.3**	**-2.5**
	comp=Z,72nm,1.2s							
OBN	**Obninsk**	**25.34**	**329**	*e*P		**P**	**13 55 36.2**	**-2.5**
	comp=Z,558nm,1.2s							
ARG	**Arkhangelos**	**25.34**	**281**	*e*P		**P**	**13 55 39.1**	**+0.1**
ARG	**Arkhangelos**	**25.34**	**281**	P		P	13 55 43.5	+4.5
ODAN	**Odare**	**25.35**	**102**	*e*P		**P**	**13 55 40.5**	**+1.0**
	comp=Z,1μm,1.1s							
TIRR	**Tirgusor**	**25.36**	**301**	*e*P		**P**	**13 55 38.0**	**-1.1**
TIRR	**Tirgusor**	**25.36**	**301**	*e*P		**P**	**13 55 38.0**	**-1.1**
TIRR	**Tirgusor**	**25.36**	**301**	*e*P		**P**	**13 55 38.0**	**-1.1**
AYDB	**Zeytinkoy-Aydi**	**25.36**	**285**	*e*P		P	13 55 46.3	+6.9
AKHS	**Akhisar**	**25.38**	**288**	*i* P		**P**	**13 55 43.7**	**+4.3**
AYDN	**Tasoluk**	**25.39**	**285**	*i* P		P	13 55 44.1	+4.5
PSN	**Preselentsi**	**25.39**	**299**	P		**P**	**13 55 39.7**	**+0.2**
TAPN	**Taplejung**	**25.39**	**100**	*e*P		**P**	**13 55 40.8**	**+0.8**
	comp=Z,436nm,0.8s							
BALY	**Balya**	**25.52**	**290**	*i* P		P	13 55 48.1	+7.4
MRMT	**Marmara Adasi**	**25.55**	**292**	*e*P		P	13 55 49.6	+8.6
NVS	**Novosibirsk**	**25.61**	**33**	⇑*i*P		**P**	**13 55 41.3**	**0.0**
NVS				*e*S		**S**	**14 00 08.9**	**+0.7**
NVS				pmax		pmax		
	comp=N,71nm,1.2s							
NVS				pmax		pmax		
	comp=E,54nm,1.2s							
NVS				pmax		pmax		
	comp=Z,126nm,1.2s							
NVS				smax		smax		
	comp=N,132nm,2.1s							
NVS				smax		smax		
	comp=E,96nm,2.4s							
NVS	**Novosibirsk**	**25.61**	**33**	*i* P		**P**	**13 55 41.3**	**0.0**
BOK	**Bokaro**	**25.66**	**109**	*e*P		**P**	**13 55 42.3**	**+0.2**
BOK				AMB		AMB	13 55 52.7	
	comp=Z,160nm,1.1s							
KIS	**Kish

ADKI IVMs_BB IVMs_BB 14 08 15.5
comp=Z,2µm,9.8s
PVM Polavaram 26.73 126 *e*P **P 13 55 51.1 -0.6**
PVM IAmb IAmb 13 55 53.6
comp=Z,104nm,1.0s
PVM *e*S **S 14 00 28.3 +1.8**
PVM IVMs_BB IVMs_BB 14 07 38.9
comp=Z,2µm,15.8s
ALN Alexandroupoli 26.73 292 *e*P **P 13 55 47.9 -3.7**
ALN Alexandroupoli 26.73 292 *e*P **P 13 55 52.9 +1.3**
ALN Alexandroupoli 26.73 292 *e*P **P 13 55 47.9 -3.7**
ALN Alexandroupoli 26.73 292 *e*P **P 13 55 47.9 -3.7**
ALN Alexandroupoli 26.73 292 P **P 13 55 47.9 -3.7**
CHOS Chios island 26.78 287 *e*P **P 13 55 51.4 -0.8**
ISR Istrita 26.79 302 ⇑*i*P **P 13 55 55.0 +2.8**
VRI Vrincioaia 26.80 303 ⇓*i*P **P 13 55 52.9 +0.7**
PLOR Plostina 26.85 303 ⇓*i*P **P 13 55 53.3 +0.6**
TESR Tescani 26.99 305 ⇑*i*P **P 13 55 55.5 +1.6**
ZKR Zakros 27.04 279 *e*P **P 13 55 51.0 -3.5**
ZKR Zakros 27.04 279 *e*P **P 13 55 51.0 -3.5**
ZKR Zakros 27.04 279 P **P 13 55 51.0 -3.5**
SMTH Samothraki Isl 27.12 291 *e*P P 13 55 59.9 +4.7
SMTH Samothraki Isl 27.12 291 *e*P **P 13 55 55.0 -0.2**
SMTH Samothraki Isl 27.12 291 *e*P **P 13 55 55.0 -0.2**
SMTH Samothraki Isl 27.12 291 P **P 13 55 55.0 -0.2**
RDO Rodhopi 27.12 293 *e*P **P 13 55 54.8 -0.3**
RDO Rodhopi 27.12 293 *e*P **P 13 55 54.3 -0.9**
comp=Z,294nm,1.1s
RDO Rodhopi 27.12 293 *e*P **P 13 55 54.3 -0.9**
comp=Z,294nm,1.1s
RDO Rodhopi 27.12 293 P **P 13 55 54.9 -0.2**
KDZ Kurdzhali 27.23 294 P **P 13 55 52.0 -4.1**
MLR Muntele Rosu 27.27 302 P **P 13 55 56.5 -0.1**
comp=Z,8.0nm,1.2s,baz=60,slow=2.7,SNR=21
MLR LR LR 14 10 00.4
comp=Z,709nm,18.6s,baz=73,slow=43
MLR Muntele Rosu 27.27 302 ⇓*i*P **P 13 55 57.9 +1.3**
LSA Lhasa 27.30 93 *e*P **P 13 55 57.5 +0.1**
LSA pmax pmax
comp=Z,60nm,0.9s
LSA Lhasa 27.30 93 *e*P **P 13 55 57.5 +0.1**
comp=Z,60nm,0.9s
LSA Lhasa 27.30 93 *e*P **P 13 55 57.5 +0.1**
comp=Z,60nm,0.9s
APE Apeiranthos 27.31 284 *i*P **P 13 55 56.8 -0.1**
APE MLR MLR
comp=Z,2µm,19.0s
APE Apeiranthos 27.31 284 ⇓*i*P P 13 56 02.8 +5.9
APE Apeiranthos 27.31 284 *e*P P 13 56 02.3 +5.4
APE Apeiranthos 27.31 284 *i*P **P 13 55 56.8 -0.1**
comp=Z,2µm,19.0s
NPS Neapolis 27.50 280 *e*P P 13 56 04.8 +6.2
CHLP Challavanipeta 27.51 121 *e*P **P 13 55 58.0 -0.8**
CHLP IAmb IAmb 13 55 59.3
comp=Z,45nm,1.0s
CHLP *e*S **S 14 00 37.4 -1.4**
CHLP IVMs_BB IVMs_BB 14 08 07.8
comp=Z,4µm,15.2s
VIS Vishakhapatnam 27.54 123 *e*P **P 13 55 57.2 -1.8**
VIS AMB AMB 13 56 08.6
comp=Z,46nm,1.7s
LAST Lasithi 27.63 280 *e*P **P 13 56 03.2 +3.4**
LAST Lasithi 27.63 280 P **P 13 56 03.6 +3.8**
RZN Rozhen 27.76 294 P **P 13 56 00.7 -0.4**
PRGR Permogore 27.80 346 *e*P **P 13 56 04.8 +3.8**
PRGR pmax pmax
comp=Z,120nm,1.6s
VOIR 27.88 302 ⇓*i*P **P 13 56 01.7 -0.3**
KAVA Kavala 27.89 292 *e*P P 13 56 06.9 +4.8
KAVA Kavala 27.89 292 P P 13 56 06.5 +4.4
IDI Anoyia 28.08 280 P **P 13 56 03.3 -0.6**
comp=Z,10nm,0.9s,baz=84,slow=7.8,SNR=2.9
IDI Anoyia 28.08 280 *e*P **P 13 56 02.3 -1.6**
IDI Anoyia 28.08 280 *e*P **P 13 56 02.3 -1.6**
ARR Arges 28.16 302 ⇓*i*P **P 13 56 05.4 +0.9**
BURAR Bucovina Array 28.19 306 ⇓*i*P **P 13 56 05.6 +0.8**
SKHT Srikalahasti 28.20 134 *e*P **P 13 56 04.7 -0.2**
SKHT IAmb IAmb 13 56 05.9
comp=Z,41nm,1.0s
SKHT *e*S **S 14 00 50.4 +0.7**
SKHT IVMs_BB IVMs_BB 14 09 06.0
comp=Z,2µm,13.4s
PGB Panagyurishte 28.20 296 *i*P **P 13 56 04.3 -0.6**
OUR Ouranopolis 28.30 291 P P 13 56 11.4 +5.7
NVR Nevrokopi 28.39 293 *e*P **P 13 56 06.3 -0.2**
NVR Nevrokopi 28.39 293 P P 13 56 09.5 +3.0
MMB Musomiste 28.49 294 *i*P **P 13 56 07.4 -0.1**
PAIG Paliouri 28.55 290 *e*P P 13 56 15.8 +7.9
PAIG Paliouri 28.55 290 P P 13 56 12.5 +4.6
VAM Vamos 28.61 281 *e*P **P** 13 56 18.3 +10
MRKA Markates 28.68 288 *e*P **P 13 56 09.6 +0.4**
PLG Polygyros 28.71 291 P P 13 56 14.8 +5.4
LOT Lotru 28.77 302 ⇓*i*P **P 13 56 10.7 +0.7**
SOH Sokhos 28.77 292 *e*P P 13 56 14.9 +4.9
SOH Sokhos 28.77 292 P P 13 56 14.2 +4.2
VTS Vitosha 28.91 296 *e*P **P 13 56 10.6 -0.7**
VTS Vitosha 28.91 296 ⇓*i*P **P 13 56 11.2 -0.1**
VTS Vitosha 28.91 296 *i*P **P 13 56 10.4 -0.9**
VTS Vitosha 28.91 296 *e*P **P 13 56 10.6 -0.7**
VTS Vitosha 28.91 296 *e*P **P 13 56 10.6 -0.7**
VTS Vitosha 28.91 296 P **P 13 56 10.6 -0.7**
XOR Xorichti 28.95 289 *e*P P 13 56 17.2 +5.7
SMIA Simia 28.97 288 *e*P **P 13 56 13.7 +2.0**
SMIA Simia 28.97 288 P **P 13 56 12.2 +0.5**
VIL2 Platees 28.98 287 *e*P **P 13 56 13.9 +2.1**
MICGM Minsk 29.09 321 ⇓*e*P **P 13 56 15.0 +2.4**
DIDY Didyma 29.10 285 *e*P **P 13 56 15.1 +2.1**
MNK Minsk 29.11 321 ⇓*e*P **P 13 56 15.0 +2.2**
MNK *e*S **S 14 01 06.0 +2.5**
MNK pmax pmax
comp=Z,120nm,2.0s
MNK MLR MLR
comp=Z,4µm,17.0s
MNK Minsk 29.11 321 *e*P **P 13 56 15.0 +2.2**
comp=Z,120nm,2.0s
KNT Kendrikon 29.12 293 *e*P **P 13 56 12.1 -0.9**
LOUT Loutraki 29.23 286 *e*P **P 13 56 14.2 +0.2**
LTK Loutraki 29.23 286 *e*P P 13 56 18.5 +4.5
VAY Valandovo 29.36 293 *e*P **P 13 56 15.6 +0.5**
VAY Valandovo 29.36 293 *e*P **P 13 56 15.6 +0.5**
VAY Valandovo 29.36 293 *e*P **P 13 56 15.6 +0.5**
VAY Valandovo 29.36 293 P **P 13 56 15.6 +0.5**
AXAR Agios Charalam 29.40 288 *e*P **P** 13 56 09.9 -5.7
VLI Veliai 29.41 284 *e*P P 13 56 19.3 +3.6
LIT Litokhoron 29.45 291 *e*P P 13 56 21.3 +5.3
LIT Litokhoron 29.45 291 P P 13 56 20.8 +4.8
GRG Griva 29.49 292 *e*P P 13 56 20.2 +3.8
LVV L'vov 29.52 310*c*i P P 13 56 20.7 +4.3
LVV *e*S **S 14 01 15.3 +5.4**
LVV MLR MLR
comp=N,300nm,16.0s
LVV MLR MLR
comp=E,1µm,16.0s
LVV MLR MLR
comp=Z,2µm,16.0s
LVV L'vov 29.52 310 *i*P P 13 56 20.7 +4.3
DESF Desfina 29.54 287 *e*P P 13 56 21.8 +5.0
SHL Shillong 29.54 100 *e*P **P 13 56 15.0 -2.0**
SHL AMB AMB 13 56 17.0
comp=Z,39nm,1.5s
SHL *e*x x 14 01 43.0
DSF Desfina 29.54 287 *e*P P 13 56 23.7 +6.9
AGG Agios Georgios 29.64 288 *e*P **P 13 56 17.7 0.0**
AGG *e**PP **pP 13 56 23.4 -0.2**
AGG Agios Georgios 29.64 288 *e*P **P 13 56 17.7 0.0**
AGG *e*pP **pP 13 56 23.4 -0.2**
AGG Agios Georgios 29.64 288 *e*P **P 13 56 17.7 0.0**
AGG *e*pP **pP 13 56 23.4 -0.2**
AGG Agios Georgios 29.64 288 P P 13 56 22.4 +4.7
DRGR 29.70 304 ⇓*i*P **P 13 56 19.6 +1.4**
GUR Goura 29.73 286 *e*P P 13 56 22.4 +3.8
GUR Goura 29.73 286 P P 13 56 22.1 +3.5
VLX Vlachokerasia 29.77 285 *e*P P 13 56 22.5 +3.6
VLX Vlachokerasia 29.77 285 *e*P P 13 56 13.2 -5.7
VLX Vlachokerasia 29.77 285 *e*P P 13 56 13.2 -5.7
VLX Vlachokerasia 29.77 285 P P 13 56 13.2 -5.7
MAKR Makrakomi, Fth 29.80 288 *e*P **P 13 56 19.3 +0.3**
NACGM Naroch 29.84 321 *e*P **P 13 56 21.0 +1.8**
THL Klokotos Trika 29.85 289 *e*P **P 13 56 20.1 +0.7**
THL Klokotos Trika 29.85 289 P P 13 56 13.2 -6.2
TRIZ Trizonia 29.90 287 *e*P P 13 56 26.9 +7.0
LAKA Lakka 29.98 287 *e*P P 13 56 24.1 +3.4

KZN Kozani 29.99 291 P P 13 56 25.8 +5.0
ITM Ithomi 30.15 285 *e*P **P 13 56 24.5 +2.3**
DRO Drossia 30.23 286 *e*P P 13 56 29.5 +6.6
FNA Florina 30.27 292 P P 13 56 26.3 +3.0
AMT Artemida-Makis 30.28 285 *e*P P 13 56 31.0 +7.7
BZS Buzias 30.29 302 ⇓*i*P **P 13 56 23.1 -0.2**
KWP Kalwaria Pacla 30.30 310 *e*P P 13 56 28.4 +5.1
KWP Kalwaria Pacla 30.30 310 *e*P P 13 56 28.5 +5.1
KWP Kalwaria Pacla 30.30 310 *e*P P 13 56 28.5 +5.1
UZH Uzhgorod 30.33 308 *e*P **P 13 56 23.1 -0.5**
UZH *e* 13 56 27.7
UZH *e* 13 57 23.7
UZH *e*S **S 14 01 18.7 -4.0**
UZH *e* 14 02 53.9
UZH *e* 14 03 26.1
UZH Uzhgorod 30.33 308 *e*P **P 13 56 23.1 -0.5**
PYL PYLOS 30.34 284 *e*P P 13 56 28.7 +4.9
KOLS Kolonicke sedl 30.41 308 *e*P **P 13 56 24.2 -0.1**
KOLS pmax pmax
comp=Z,8.0nm,1.5s
KOLS Kolonicke sedl 30.41 308 *e*P **P 13 56 24.2 -0.1**
comp=Z,8.0nm,1.5s
KOLS Kolonicke sedl 30.41 308 *e*P **P 13 56 24.2 -0.1**
NEST Nestorio 30.54 291 *e*P **P 13 56 26.6 +0.9**
NEST Nestorio 30.54 291 P P 13 56 28.7 +3.0
PDO Prodromos 30.57 288 *e*P **P 13 56 23.7 -2.2**
DSL Palaion Diasel 30.59 289 *e*P **P 13 56 25.9 -0.2**
KBN Korca 30.73 292 P P 13 56 32.6 +5.3
JAN Janina 30.74 290 *e*P **P 13 56 26.9 -0.5**
JAN Janina 30.74 290 P P 13 56 31.2 +3.8
KRAR Krasnoyarsk 30.81 37 *e*P **P 13 56 26.6 -1.1**
KRAR pmax pmax
comp=Z,69nm,1.5s
KRAR MLR MLR
comp=Z,10µm,18.0s
KRAR Krasnoyarsk 30.81 37 *e*P **P 13 56 26.6 -1.1**
comp=Z,10µm,18.0s
PUL Pulkovo 30.94 331 *e*P **P 13 56 27.1 -1.7**
PUL MLR MLR
comp=Z,4µm,17.0s
PUL Pulkovo 30.94 331 *e*P **P 13 56 27.1 -1.7**
comp=Z,4µm,17.0s
LKD2 Lefkada island 30.96 288 *e*P **P 13 56 28.2 -1.1**
LKD2 Lefkada island 30.96 288 P P 13 56 32.1 +2.8
TRD Trivandrum 31.12 145 *e*P **P 13 56 31.7 +0.8**
TRD AMB AMB 13 56 50.1
comp=Z,49nm,1.4s
IGT Igoumenitsa 31.14 290 *e*P **P 13 56 28.7 -2.2**
IGT Igoumenitsa 31.14 290 *e*P **P 13 56 28.7 -2.2**
IGT Igoumenitsa 31.14 290 *e*P **P 13 56 28.7 -2.2**
IGT Igoumenitsa 31.14 290 P **P 13 56 28.7 -2.2**
SGD Sagiada 31.21 290 *e*P **P 13 56 29.1 -2.4**
SGD Sagiada 31.21 290 P **P 13 56 29.4 -2.1**
PVY Plav 31.31 296 ⇓*i*P **P 13 56 32.4 0.0**
PVY Plav 31.31 296 ⇓*i*P **P 13 56 32.5 0.0**
DIVS Divibare 31.32 298 ⇓*i*P **P 13 56 32.3 -0.3**
DIVS Divibare 31.32 298 P **P 13 56 31.7 -0.9**
BEY Berane 31.36 296 ⇓*i*P **P 13 56 33.6 +0.7**
IVA Berane 31.36 296 ⇓*i*P **P 13 56 33.5 +0.7**
SRN Sarande 31.37 290 P P 13 56 35.9 +3.0
SUW Suwalki 31.38 318 *e*P P 13 56 37.7 +4.9
SUW Suwalki 31.38 318 *e*P P 13 56 37.7 +4.9
VSU Vasula 31.66 327 *e*P **P 13 56 33.9 -1.3**
VSU MLR MLR
comp=Z,4µm,16.0s
VSU Vasula 31.66 327 *e*P **P 13 56 33.9 -1.3**
comp=Z,4µm,16.0s
TMCR Tamitsa 31.72 342 *e*P P 13 56 40.5 +4.9
TMCR *e* 13 57 45.3
TMCR pmax pmax
comp=Z,82nm,1.3s
PLE Pljevlja 31.74 297 ⇓*i*P **P 13 56 37.3 +1.1**
PLE Pljevlja 31.74 297 ⇓*i*P **P 13 56 37.4 +1.2**
NIE Niedzica 31.77 309 *e*P P 13 56 41.3 +5.0
NIE Niedzica 31.77 309 *e*P P 13 56 41.4 +5.1
PSZ Piszkesteto 31.77 306 P **P 13 56 36.0 -0.5**
PSZ pmax pmax
comp=Z,75nm,1.3s
PSZ Piszkesteto 31.77 306 P **P 13 56 36.0 -0.5**
comp=Z,75nm,1.3s
PSZ Piszkesteto 31.77 306 P **P 13 56 36.0 -0.5**
comp=Z,75nm,1.3s
PSZ Piszkesteto 31.77 306⇓*e*P P 13 56 41.4 +4.9
PSZ ⇑*e*P pP 13 56 41.8 -0.6
PDG Podgorica 31.83 295 ⇓*i*P **P 13 56 35.1 -1.8**
TTG Podgorica 31.83 295 ⇓*i*P **P 13 56 35.1 -1.8**
ULC Ulcinj 31.85 294 ⇓*i*P **P 13 56 36.7 -0.4**
ULC Ulcinj 31.85 294 ⇓*i*P **P 13 56 36.7 -0.4**
NKY Niksic 32.02 296 ⇓*i*P **P 13 56 36.3 -2.4**
NKY Niksic 32.02 296 ⇓*i*P **P 13 56 36.4 -2.3**
UPM Unac-Piva 32.09 297 ⇓*i*P **P 13 56 38.4 -1.0**
UPM Unac-Piva 32.09 297 ⇓*i*P **P 13 56 38.4 -1.0**
BUM Brajici-Budva 32.10 295 ⇓*i*P **P 13 56 37.4 -1.9**
BUM Brajici-Budva 32.10 295 ⇓*i*P **P 13 56 37.5 -1.9**
GTA Gaotai 32.22 70 ⇓*i*P **P 13 56 42.5 +2.0**
GTA pP **pP 13 56 49.8 +3.3**
GTA sP sP 13 56 53.5 +4.6
GTA S **S 14 01 56.0 +3.2**
GTA PMZ
comp=Z,30nm,1.3s
GTA PMZ
comp=Z,110nm,5.7s
GTA LN
comp=Z,4µm,13.8s
GTA LE
comp=Z,4µm,14.2s
GTA LZ
comp=Z,5µm,14.3s
OJC Ojcow 32.26 310 *e*P **P 13 56 40.3 -0.3**
OJC Ojcow 32.26 310 *e*P **P 13 56 39.7 -0.9**
OJC pmax pmax
comp=Z,51nm,1.1s
OJC Ojcow 32.26 310 *e*P **P 13 56 39.7 -0.9**
comp=Z,50nm,1.1s
OJC Ojcow 32.26 310 *e*P **P 13 56 39.7 -0.9**
comp=Z,50nm,1.1s
BRY Bratogost 32.36 296 ⇓*i*P **P 13 56 39.9 -1.7**
BRY Bratogost 32.36 296 ⇓*i*P **P 13 56 40.0 -1.7**
HCY Herceg Novi 32.39 295 ⇓*i*P **P 13 56 42.1 +0.2**
HCY Herceg Novi 32.39 295 ⇓*i*P **P 13 56 42.2 +0.3**
PKSM Moragy 32.42 302 ⇓*e*P P 13 56 46.6 +4.6
VYHS Vyhne 32.56 307 *e*P **P 13 56 42.9 -0.4**
VYHS Vyhne 32.56 307 *e*P **P 13 56 42.9 -0.4**
VYHS Vyhne 32.56 307 *e*P **P 13 56 42.9 -0.4**
KLNR Kaliningrad 33.22 318 *i*P **P 13 56 48.5 -0.4**
KLNR pmax pmax
comp=Z,133nm,2.2s
KLNR Kaliningrad 33.22 318 *i*P **P 13 56 48.5 -0.4**
comp=Z,133nm,2.2s
OKC Ostrava-Krasne 33.23 309 *e*P **P 13 56 49.1 0.0**
OKC *e*pP **pP 13 56 54.6 -0.4**
OKC *e*S **S 14 02 07.3 -0.7**
OKC AMS AMS 14 12 00.0
comp=Z,1µm,17.4s
OKC Ostrava-Krasne 33.23 309 *e*P **P 13 56 49.1 0.0**
OKC *e**PP **pP 13 56 54.6 -0.4**
OKC *e*S **S 14 02 07.3 -0.7**
OKC MLR MLR
comp=Z,1µm,17.4s
OKC Ostrava-Krasne 33.23 309 *e*P **P 13 56 49.1 0.0**
MORC Moravsky Berou 33.60 309 *e*P **P 13 56 51.4 -1.0**
MORC pmax pmax
comp=Z,292nm,1.6s
MORC Moravsky Berou 33.60 309 ⇑*i*P **P 13 56 52.3 -0.1**
MORC Moravsky Berou 33.60 309 *e*P **P 13 56 51.4 -1.0**
comp=Z,292nm,1.6s
MORC Moravsky Berou 33.60 309 *e*P **P 13 56 51.4 -1.0**
comp=Z,292nm,1.6s
FINES FINESS Array B 33.62 332 P **P 13 56 50.6 -1.7**
comp=Z,6.8nm,1.0s,baz=131,slow=11,SNR=8.1
FINES LR LR 14 13 12.5
comp=Z,3µm,18.0s,baz=122,slow=41
MOY Mondy 33.82 48 *e*P **P 13 56 56.9 +2.5**
MOY pmax pmax
comp=Z,82nm,1.4s
MOY Mondy 33.82 48 *e*P **P 13 56 56.9 +2.5**
comp=Z,82nm,1.4s
TIP Timpagrande 33.94 289 P P 13 56 52.3 -3.2
TIP Timpagrande 33.94 289 P P 13 56 52.3 -3.2
PALK Pallekele 34.05 140 P **P 13 56 57.5 +0.9**
comp=Z,602nm,0.9s,SNR=9.2
PALK Pallekele 34.05 140 P **P 13 56 57.1 +0.5**
comp=Z,81nm,0.8s,baz=312,slow=11,SNR=27

PALK Pallekele 34.05 140 P **P 13 56 57.1 +0.5**
PALK pmax pmax
comp=Z,81nm,0.9s
PALK Pallekele 34.05 140 *e*P **P 13 56 56.3 -0.3**
comp=Z,106nm,0.9s
PALK Pallekele 34.05 140 ⇑P **P 13 56 56.1 -0.5**
SNR=15
PALK Pallekele 34.05 140 *e*P **P 13 56 56.3 -0.3**
comp=Z,106nm,0.9s
KRLC Kraliky 34.14 309 *e*P **P 13 56 56.1 -1.0**
KRLC *e*pP **pP 13 57 02.4 -0.6**
KRLC Kraliky 34.14 309 *e*P **P 13 56 56.1 -1.0**
KRLC *e**PP **pP 13 57 02.4 -0.6**
KRLC Kraliky 34.14 309 *e*P **P 13 56 56.1 -1.0**
VRAC Vranov 34.15 308 P **P 13 56 56.9 -0.2**
comp=Z,2.9nm,0.6s,baz=41,slow=9.3,SNR=2.6
VRAC LR LR 14 13 38.6
comp=Z,2µm,19.0s,baz=95,slow=41
CONA Conrad Observa 34.47 305 ⇑*i*P **P 13 57 00.0 0.0**
comp=Z,48nm,1.5s,SNR=12
DPC Dobruska-Polom 34.48 309 *e*P **P 13 57 00.1 +0.1**
DPC *e*pP **pP 13 57 05.8 -0.1**
DPC *e*S **S 14 02 29.6 +2.3**
DPC AMS AMS 14 16 50.0
comp=Z,1µm,16.1s
DPC Dobruska-Polom 34.48 309 *e*P **P 13 57 00.1 +0.1**
DPC *e**PP **pP 13 57 05.8 -0.1**
DPC *e*S **S 14 02 29.6 +2.3**
DPC MLR MLR
comp=Z,1µm,16.1s
DPC Dobruska-Polom 34.48 309 *e*P **P 13 57 00.1 +0.1**
CUC Castrocucco 34.57 291 *e*P **P 13 56 59.4 -1.5**
comp=Z,31nm,1.0s
CUC Castrocucco 34.57 291 *e*P **P 13 56 59.4 -1.5**
comp=Z,31nm,1.0s
KSP Ksiaz 34.58 310 *e*P P 13 57 05.8 +5.0
KSP Ksiaz 34.58 310 *e*P P 13 57 05.9 +5.1
ARSA Arzberg 34.64 304 *i*P **P 13 57 01.2 -0.2**
comp=Z,84nm,1.3s,SNR=21
UPC Upice 34.70 310 *e*P **P 13 57 01.8 0.0**
UPC AMS AMS 14 16 50.0
comp=Z,1µm,14.5s
UPC Upice 34.70 310 *e*P **P 13 57 01.8 0.0**
UPC MLR MLR
comp=Z,1µm,14.5s
UPC Upice 34.70 310 *e*P **P 13 57 01.8 0.0**
comp=Z,1µm,14.5s
BOJS Bojanci 34.75 301 *i*P P 13 57 07.9 +5.6
TREC Trest 34.86 307 *e*P **P 13 57 02.9 -0.4**
TREC *e*pP **pP 13 57 08.5 -0.8**
TREC AMS AMS 14 13 40.0
comp=Z,1µm,15.8s
TREC Trest 34.86 307 *e*P **P 13 57 02.9 -0.4**
TREC *e**PP **pP 13 57 08.5 -0.8**
TREC MLR MLR
comp=Z,1µm,15.8s
TREC Trest 34.86 307 *e*P **P 13 57 02.9 -0.4**
comp=Z,1µm,15.8s
PERS Pernice 34.88 303 *e*P P 13 57 08.3 +4.8
PDKS Podkum 34.94 302 *e*P P 13 57 08.2 +4.1
SOKA Soboth 34.94 303 ⇑*i*P **P 13 57 03.5 -0.6**
comp=Z,52nm,1.2s,SNR=8.0
ZAK Zakamensk 35.01 51 *e*P **P 13 57 05.6 +1.0**
ZAK pmax pmax
comp=Z,57nm,1.4s
ZAK Zakamensk 35.01 51 *e*P **P 13 57 05.6 +1.0**
comp=Z,57nm,1.4s
LJU Ljubljana 35.27 302 *e*P P 13 57 11.0 +4.2
OBKA Obir 35.27 302 ⇑*i*P **P 13 57 06.1 -0.8**
comp=Z,61nm,1.6s,SNR=7.0
GOPC GO Pecny, Ondr 35.39 308 *e*pP **pP 13 57 12.9 -0.9**
GOPC *e*S S 14 02 48.3 +6.9
GOPC AMS AMS 14 14 10.0
comp=Z,2µm,14.6s
TLY Talaya 35.44 49 P **P 13 57 09.0 +0.7**
comp=Z,7.2nm,0.7s,baz=248,slow=8.8,SNR=13
TLY LR LR 14 13 28.6
comp=Z,4µm,20.1s,baz=268,slow=39
TLY Talaya 35.44 49 *e*P **P 13 57 11.1 +2.8**
TLY *e*S S 14 02 32.3 -10
TLY *e*SS **SnSn 14 04 55.1 -6.7**
TLY pmax pmax
comp=Z,89nm,2.0s
TLY MLR MLR
comp=Z,13µm,17.0s
TLY Talaya 35.44 49 P P 13 57 11.8 +3.5
comp=Z,150nm,1.1s,SNR=8.6
TLY Talaya 35.44 49 P **P 13 57 07.1 -1.2**
comp=Z,140nm,1.8s
TLY Talaya 35.44 49 P **P 13 57 07.1 -1.2**
comp=Z,140nm,1.8s
MOA Molln 35.53 305 ⇑*i*P **P 13 57 08.1 -1.0**
comp=Z,42nm,1.6s,SNR=8.9
PRU Pruhonice 35.56 308 *e*pP **pP 13 57 14.2 -1.0**
PRU *e*S **S 14 02 40.9 -3.0**
PRU AMS AMS 14 14 20.0
comp=Z,2µm,14.5s
LVZ Lovozero 35.58 344 *e*P **P 13 57 09.3 +0.1**
LVZ MLR MLR
comp=Z,5µm,19.0s
LVZ Lovozero 35.58 344 *e*P **P 13 57 09.3 +0.1**
comp=Z,5µm,19.0s
LVZ Lovozero 35.58 344 *e*P **P 13 57 08.4 -0.8**
comp=Z,75nm,0.9s
JAVS Javornik 35.59 301 *e*P P 13 57 14.8 +5.1
APA Apatity 35.60 343 ⇓*i*P P 13 57 14.0 +4.6
APA *i* 13 58 24.0
APA *i* 13 59 38.0
APA *i*S S 14 02 50.0 +5.9
APA pmax pmax
comp=Z,109nm,1.0s
APA MLR MLR
comp=Z,8µm,16.0s
APA Apatity 35.60 343 *i*PcP **PcP 13 59 38.0 +0.3**
PVCC Panska Ves 35.61 309 *e*pP **pP 13 57 15.4 -0.3**
PVCC AMS AMS 14 17 50.0
comp=Z,1µm,15.2s
PRA Prague 35.64 309 AMS AMS 14 17 50.0
comp=Z,2µm,13.6s
LZH Lanzhou 35.89 75 P **P 13 57 15.0 +2.5**
LZH pP **pP 13 57 19.3 +0.9**
LZH sP **sP 13 57 21.3 +0.4**
LZH PP **PP 13 58 36.3 +2.3**
LZH S **S 14 02 53.3 +3.7**
LZH sS **sS 14 02 59.0 -0.5**
LZH PMZ
comp=Z,57nm,1.3s
LZH PMZ
comp=Z,170nm,4.0s
LZH LN
comp=Z,3µm,14.6s
LZH LE
comp=Z,3µm,14.9s
LZH LZ
comp=Z,3µm,15.5s
IRK Irkutsk 35.92 48 *e*P **P 13 57 13.3 +0.9**
IRK pmax pmax
comp=Z,136nm,2.3s
IRK Irkutsk 35.92 48 *e*P **P 13 57 13.3 +0.9**
comp=Z,136nm,2.3s
GEC2 GERESS Array S 35.98 306 *e*P P 13 57 18.0 +5.0
comp=Z,86nm,1.4s
GERES GERESS Array B 35.98 306 P **P 13 57 12.8 -0.2**
comp=Z,2.1nm,0.6s,baz=91,slow=9.6,SNR=12
GERES LR LR 14 14 37.6
comp=Z,2µm,19.5s,baz=95,slow=41
BRG Berggiesshubel 36.05 310 *i*P P 13 57 19.1 +5.7
comp=Z,103nm,1.5s
BRG *i* 13 57 26.6
comp=Z,62nm,1.3s
BRG S **S 14 02 50.0 -1.4**
BRG SS SnSn 14 05 07.0 -9.5
BRG Berggiesshubel 36.05 310 *e*P P 13 57 19.4 +5.9
comp=Z,102nm,1.5s
BRG Berggiesshubel 36.05 310 *i*P P 13 57 19.1 +5.7
BRG *i* 13 57 26.6
BRG S **S 14 02 50.0 -1.4**
BRG SS SnSn 14 05 07.0 -9.5
BRG pmax pmax
comp=Z,103nm,1.5s
BRG MLR MLR
comp=N,892nm,12.0s
BRG MLR MLR
comp=E,901nm,11.8s
BRG MLR MLR

	comp=Z,1μm,14.1s								
KHC	**Kasperske Hory**	**36.09**	**307**	*e*P		**P**	**13 57 12.8**	**-1.1**
KHC				*e*pP		**pP**	**13 57 18.8**	**-1.1**
KHC				*e*PP		PP	13 58 46.0	+10
KHC				*e*S		**S**	**14 02 52.3**	**+0.1**
KHC				AMS		AMS	14 14 30.0	
	comp=Z,1μm,13.2s								
KHC	**Kasperske Hory**	**36.09**	**307**	*e*P		**P**	**13 57 12.8**	**-1.1**
KHC				pmax		pmax			
	comp=Z,13nm,1.2s								
KHC	**Kasperske Hory**	**36.09**	**307**	*e*P		**P**	**13 57 12.8**	**-1.1**
	comp=Z,12nm,1.2s								
KHC	**Kasperske Hory**	**36.09**	**307**	*e*P		**P**	**13 57 12.8**	**-1.1**
	comp=Z,12nm,1.2s								
KBA	**Koelnbreinsper**	**36.12**	**303**	*i* P		**P**	**13 57 14.0**	**-0.2**
	comp=Z,109nm,1.2s,SNR=6.1								
BSD	**Bornholm Skovb**	**36.30**	**317**	*i* P		P	13 57 21.4	+5.9
BSD	**Bornholm Skovb**	**36.30**	**317**	*e*P		P	13 57 21.4	+5.9
RUE	**Ruedersdorf**	**36.40**	**313**	*e*P		P	13 57 21.7	+5.3
FBE	**Freiberg**	**36.43**	**310**	*e*P		P	13 57 22.9	+6.2
	comp=Z,107nm,1.4s								
RJOB	**Jochberg**	**36.52**	**305**	*e*P		P	13 57 22.6	+5.0
	comp=Z,60nm,1.1s								
WET	**Wettzell**	**36.55**	**307**	*e*P		P	13 57 22.5	+4.7
	comp=Z,12nm,1.0s								
ABTA	**Abfaltersbach**	**36.68**	**303**	⇓ *i* P		**P**	**13 57 17.2**	**-1.8**
	comp=Z,61nm,1.1s,SNR=9.4								
CLL	**Collm**	**36.70**	**310**	*e*P		P	13 57 24.3	+5.3
	comp=Z,24nm,1.0s								
CLL	**Collm**	**36.70**	**310**	*e*P		**P**	**13 57 20.0**	**+1.0**
CLL				*e*S		**S**	**14 03 07.0**	**+5.7**
CLL				pmax		pmax			
	comp=Z,22nm,1.3s								
CLL				MLR		MLR			
	comp=Z,2μm,19.1s								
CLL	**Collm**	**36.70**	**310**	*e*P		**P**	**13 57 20.0**	**+1.0**
	comp=Z,22nm,1.3s								
CLL	**Collm**	**36.70**	**310**	*e*P		P	13 57 14.1	-4.9
CLL				*e*pP		pP	13 57 20.2	-4.7
CLL	**Collm**	**36.70**	**310**	*e*P		**P**	**13 57 20.0**	**+1.0**
CLL				*e*P(2)			13 57 24.0	
	comp=Z,22nm,1.3s								
CLL				*e*			13 58 18.0		
CLL				*i* PP(2)			13 58 49.1		
	comp=Z,83nm,1.3s								
CLL				*e*PcP(2)			13 59 46.0		
CLL				*e*S(2)			14 03 07.0		
CLL				LmV			14 14 00.0		
	comp=Z,2μm,19.1s								
CLL				LmH			14 16 00.0		
	comp=N,2μm,18.0s								
CLL				LmH			14 16 00.0		
	comp=E,1μm,18.7s								
CLL				LmH			14 16 00.0		
	comp=Z,2μm,18.7s								
SONM	**Songino Array**	**36.80**	**55**	P		**P**	**13 57 21.1**	**+1.0**
	comp=Z,26nm,1.0s,baz=270,slow=9.5,SNR=95								
SONM				LR		LR	14 14 41.2		
	comp=Z,5μm,18.5s,baz=266,slow=40								
NKC	**Novy Kostel**	**36.92**	**309**	*e*pP		**pP**	**13 57 25.7**	**-1.2**
NKC				AMS		AMS	14 15 00.0		
	comp=Z,2μm,16.0s								
TANN	**Tannenbergstha**	**36.93**	**309**	*e*P		P	13 57 26.5	+5.4
	comp=Z,28nm,1.4s								
ROTZ	**Rotzenmuhle**	**37.04**	**308**	*e*P		P	13 57 27.1	+5.2
	comp=Z,35nm,1.3s								
MANZ	**Manzenberg**	**37.12**	**308**	*e*P		P	13 57 28.0	+5.4
	comp=Z,59nm,2.0s								
CD2	**Chengdu**	**37.20**	**84**	P		**P**	**13 57 23.5**	**-0.1**
CD2				pP		**pP**	**13 57 28.0**	**-1.6**
CD2				PP		**PP**	**13 58 47.5**	**-0.9**
CD2				PcP		**PcP**	**13 59 42.0**	**-1.3**
CD2				S		**S**	**14 03 09.3**	**-0.2**
CD2				sS		**sS**	**14 03 18.5**	**-0.9**
CD2				PMZ					
	comp=Z,110nm,0.8s								
CD2				PMZ					
	comp=Z,380nm,4.0s								
CD2				LN					
	comp=Z,4μm,15.2s								
CD2				LE					
	comp=Z,1μm,12.1s								
CD2				LZ					
	comp=Z,3μm,13.9s								
ULN	**Ulaanbaatar**	**37.25**	**55**	*e*P		**P**	**13 57 25.6**	**+1.7**
ULN				pmax		pmax			
	comp=Z,71nm,1.0s								
ULN	**Ulaanbaatar**	**37.25**	**55**	*e*P		**P**	**13 57 25.6**	**+1.7**
	comp=Z,71nm,1.0s								
ULN	**Ulaanbaatar**	**37.25**	**55**	*e*P		**P**	**13 57 25.6**	**+1.7**
	comp=Z,71nm,1.0s								
WTTA	**Wattenberg**	**37.29**	**304**	⇓ *i* P		**P**	**13 57 22.7**	**-1.6**
	comp=Z,98nm,1.2s,SNR=24								
MOX	**Moxa**	**37.49**	**309**	*e*P		P	13 57 31.5	+5.7
	comp=Z,95nm,1.5s								
FUR	**Furstenfeldbru**	**37.55**	**305**	*e*P		P	13 57 31.2	+4.9
	comp=Z,86nm,1.4s								
MOTA	**Moosalm**	**37.65**	**304**	⇑ *i* P		**P**	**13 57 25.3**	**-2.0**
	comp=Z,37nm,0.8s								
GRF	**Grafenberg Arr**	**37.67**	**308**	*e*P		P	13 57 33.0	+5.7
	comp=Z,76nm,1.3s								
GRF				*e*L		L	14 17 44.9		
	comp=Z,721nm,21.2s								
COP	**Copenhagen**	**37.81**	**318**	*i* P		P	13 57 36.7	+8.4
COP	**Copenhagen**	**37.81**	**318**	*e*P		P	13 57 36.7	+8.4
RETA	**Reutte**	**37.88**	**304**	⇑ *i* P		P	13 57 26.5	-2.7
	comp=Z,43nm,1.3s,SNR=5.5								
FETA	**Feichten**	**37.90**	**303**	⇓ *i* P		**P**	**13 57 27.8**	**-1.6**
	comp=Z,79nm,1.2s,SNR=21								
CMAI	**Chiengmai2**	**38.05**	**103**	P		**P**	**13 57 30.6**	**-0.4**
	comp=Z,79nm,1.1s,comp=Z,7μm								
MHMT	**Maesariang**	**38.13**	**106**	P		**P**	**13 57 31.8**	**+0.4**
	comp=Z,61nm,0.9s,comp=Z,673nm								
FUORN	**Ofenpass-Fuorn**	**38.22**	**303**	*e*P		**P**	**13 57 30.9**	**-1.4**
	comp=Z,511nm,2.3s								
FUORN	**Ofenpass-Fuorn**	**38.22**	**303**	*e*P		**P**	**13 57 30.9**	**-1.4**
	comp=Z,511nm,2.3s								
CLZ	**Clausthal**	**38.39**	**311**	*e*P		P	13 57 39.0	+5.6
	comp=Z,47nm,1.1s								
HFS	**Hagfors**	**38.40**	**325**	P		**P**	**13 57 31.8**	**-1.4**
	comp=Z,6.3nm,0.8s,baz=113,slow=11,SNR=6.7								
HFS				PP		**PnPn**	**13 59 08.8**	**+6.0**
	comp=Z,36nm,1.0s,baz=93,slow=10,SNR=3.7								
HFS				LR		LR	14 16 02.0		
	comp=Z,2μm,18.8s,baz=108,slow=40								
DAVA	**Damuels**	**38.48**	**304**	*i* P		**P**	**13 57 32.9**	**-1.4**
	comp=Z,102nm,1.2s,SNR=15								
DAVOX	**Davos/Dischmat**	**38.49**	**303**	P		**P**	**13 57 33.1**	**-1.3**
	comp=Z,6.4nm,0.5s,baz=130,slow=4.1,SNR=7.7								
DAVOX				LR		LR	14 16 19.7		
	comp=Z,818nm,20.6s,baz=83,slow=41								
UBBA	**Unterbreizbach**	**38.53**	**309**	*e*P		P	13 57 40.1	+5.7
	comp=Z,117nm,1.6s								
KMI	**Kunming**	**38.55**	**93**	P		**P**	**13 57 35.3**	**+0.1**
KMI				pP		**pP**	**13 57 45.3**	**+4.0**
KMI				sP		sP	13 57 50.3	+6.6
KMI				PP		**PnPn**	**13 59 09.0**	**+3.5**
KMI				S		**S**	**14 03 31.5**	**+1.0**
KMI				PMZ					
	comp=Z,70nm,1.1s								
KMI				PMZ					
	comp=Z,320nm,3.1s								
KMI				LN					
	comp=Z,3μm,22.9s								
KMI				LE					
	comp=Z,1μm,23.4s								
KMI				LZ					
	comp=Z,3μm,20.8s								
CHTO	**Chiang Mai**	**38.57**	**105**	P		**P**	**13 57 35.2**	**0.0**
	comp=Z,943nm,1.0s,comp=Z,8μm								
CHTO	**Chiang Mai**	**38.57**	**105**	*e*P		**P**	**13 57 35.5**	**+0.3**
CHTO				*e*S		**S**	**14 03 34.0**	**+3.6**
CHTO				pmax		pmax			
	comp=Z,173nm,0.9s								
CHTO	**Chiang Mai**	**38.57**	**105**	*e*P		**P**	**13 57 35.5**	**+0.3**
	comp=Z,173nm,0.9s								
CHTO	**Chiang Mai**	**38.57**	**105**	*e*P		**P**	**13 57 35.5**	**+0.3**
	comp=Z,173nm,0.9s								
CHTO				*e*S		**S**	**14 03 34.0**	**+3.6**
CMMT	**Chiang Mai**	**38.58**	**105**	P		**P**	**13 57 35.2**	**0.0**
	comp=Z,266nm,1.0s,comp=Z,2μm								
BSEG	**Bad Segeberg**	**38.69**	**314**	*e*P		P	13 57 41.5	+5.8
	comp=Z,93nm,1.3s								
CMAR	**Chiang Mai Arr**	**38.77**	**105**	P		**P**	**13 57 37.2**	**+0.4**
	comp=Z,64nm,0.7s,baz=300,slow=8.4,SNR=283								
CMAR				LR		LR	14 17 30.7		
	comp=Z,1μm,18.1s,baz=281,slow=42								
TUE	**Stuetta**	**38.86**	**302**	*e*P		**P**	**13 57 35.6**	**-2.0**
	comp=Z,96nm,1.6s								
TUE	**Stuetta**	**38.86**	**302**	*e*P		**P**	**13 57 35.6**	**-2.0**
	comp=Z,96nm,1.6s								
STU	**Stuttgart**	**38.95**	**306**	*e*P		P	13 57 43.1	+5.0
	comp=Z,179nm,1.5s								
CRAI	**Chiangrai**	**38.96**	**102**	P		**P**	**13 57 35.3**	**-3.1**
	comp=Z,75nm,1.3s,comp=Z,10μm								
ARCES	**ARCESS Array B**	**39.01**	**342**	P		**P**	**13 57 37.7**	**-0.6**
	comp=Z,2.6nm,0.9s,baz=136,slow=9.5,SNR=13								
ARCES				LR		LR	14 16 00.7		
	comp=Z,7μm,18.3s,baz=132,slow=40								
ARE0	**ARCESS Array S**	**39.01**	**342**	*e*P		P	13 57 44.0	+5.7
ARE0				IVMs_BB		IVMs_BB	14 15 48.8		
	comp=Z,3μm,18.1s								
KTK1	**Kautokeino**	**39.26**	**340**	*e*P		P	13 57 44.0	+3.6
LAMP	**Lampang**	**39.28**	**104**	P		**P**	**13 57 41.5**	**+0.4**
	comp=Z,69nm,1.0s,comp=Z,488nm								
BFO	**Black Forest**	**39.52**	**305**	*e*P		P	13 57 47.2	+4.3
	comp=Z,42nm,1.3s								
BFO	**Black Forest**	**39.52**	**305**	*e*P		**P**	**13 57 41.0**	**-1.9**
BFO				pmax		pmax			
	comp=Z,37nm,1.2s								
BFO	**Black Forest**	**39.52**	**305**	*e*P		**P**	**13 57 41.0**	**-1.9**
	comp=Z,37nm,1.2s								
BFO	**Black Forest**	**39.52**	**305**	*e*P		**P**	**13 57 41.0**	**-1.9**
	comp=Z,37nm,1.2s								
NC602	**NORSAR Array S**	**39.60**	**325**	*e*P		P	13 57 50.0	+6.7
NC602				*e*PP		**PnPn**	**13 59 20.5**	**+3.3**
MUD	**Monsted U'grnd**	**39.75**	**318**	*i* P		P	13 57 52.1	+7.5
MUD	**Monsted U'grnd**	**39.75**	**318**	*e*P		P	13 57 52.1	+7.5
BTO	**Baotou**	**39.84**	**67**	*e*P		**P**	**13 57 46.8**	**+1.1**
NB2	**NORSAR Subarra**	**39.85**	**326**	P		**P**	**13 57 43.5**	**-1.9**
	comp=Z,38nm,1.1s,baz=111,slow=8.6								
NB2	**NORSAR Subarra**	**39.85**	**326**	P		**P**	**13 57 43.5**	**-1.9**
	baz=111,slow=8.6								
NB2	**NORSAR Subarra**	**39.85**	**326**	P		**P**	**13 57 43.5**	**-1.9**
	comp=Z,38nm,1.1s,SNR=0.9								
NOA	**NORSAR Array B**	**39.85**	**326**	P		**P**	**13 57 43.7**	**-1.7**
	comp=Z,5.0nm,0.8s,baz=110,slow=8.0,SNR=18								
NOA				LR		LR	14 16 08.4		
	comp=Z,2μm,20.4s,baz=125,slow=39								
MSEY	**Mahe Island**	**39.90**	**186**	*e*P		**P**	**13 57 45.6**	**-0.7**
MSEY				pmax		pmax			
	comp=Z,138nm,1.4s								
MSEY	**Mahe Island**	**39.90**	**186**	*e*P		**P**	**13 57 45.6**	**-0.7**
	comp=Z,138nm,1.4s								
MSEY	**Mahe Island**	**39.90**	**186**	*e*P		**P**	**13 57 45.6**	**-0.7**
	comp=Z,138nm,1.4s								
UMPA	**Umpang Tak**	**39.98**	**108**	P		**P**	**13 57 48.4**	**+1.4**
	comp=Z,43nm,0.8s								
IBBN	**Ibbenburen**	**40.04**	**312**	*e*P		P	13 57 52.5	+5.5
	comp=Z,60nm,1.4s								
HAMF	**Hammerfest**	**40.23**	**342**	*e*P		P	13 57 55.5	+7.2
KONO	**Kongsberg**	**40.23**	**323**	*e*P		P	13 57 54.9	+6.4
KONO				*e*PP		**PnPn**	**13 59 23.8**	**-0.9**
KONO				IAMs_20		IAMs_20	14 17 06.8		
	comp=Z,3μm,21.7s								
BUG	**Bochum--Univer**	**40.29**	**310**	*e*P		P	13 57 54.7	+5.6
	comp=Z,64nm,1.3s								
KEST	**Kesra**	**40.38**	**286**	P		**P**	**13 57 49.0**	**-1.2**
	comp=Z,16nm,0.9s,baz=229,slow=2.6,SNR=11								
XAN	**Xi'an**	**40.43**	**77**	P		**P**	**13 57 52.0**	**+1.4**
XAN				pP		**pP**	**13 57 59.3**	**+2.7**
XAN				sP		**sP**	**13 58 02.8**	**+3.8**
XAN				PP		**PnPn**	**13 59 30.0**	**+2.5**
XAN				S		**S**	**14 04 01.8**	**+3.7**
XAN				PMZ					
	comp=Z,23nm,1.3s								
XAN				PMZ					
	comp=Z,88nm,4.7s								
XAN				LN					
	comp=Z,2μm,17.4s								
XAN				LE					
	comp=Z,3μm,18.5s								
XAN				LZ					
	comp=Z,4μm,18.5s								
UTTA	**Uttaradit**	**40.44**	**105**	P		**P**	**13 57 51.1**	**+0.4**
	comp=Z,39nm,0.8s,comp=Z,279nm								
HOMB	**Homborsund**	**40.46**	**321**	*e*P		P	13 57 57.4	+6.9
HOMB				*e*PP		**PnPn**	**13 59 27.6**	**+0.2**
KHLT	**Khaolaem Dam**	**40.61**	**110**	P		**P**	**13 57 52.9**	**+0.7**
	comp=Z,37nm,0.9s								
TRO	**Tromso**	**40.85**	**340**	*e*P		P	13 57 58.0	+4.5
TRO				IAMs_20		IAMs_20	14 17 25.6		
	comp=Z,6μm,19.3s								
WLF	**Walferdange**	**40.96**	**307**	E		pP	13 58 00.2	-0.5
WLF	**Walferdange**	**40.96**	**307**	*e*P		pP	13 58 00.7	0.0
	comp=Z,300nm,2.0s								
HHC	**Hu-ho-hao-te**	**40.96**	**66**	*e*P		**P**	**13 57 56.3**	**+1.3**
HHC				sP		**sP**	**13 58 03.5**	**+0.1**
HHC				PP		**PnPn**	**13 59 33.0**	**-0.7**
HHC				S		**S**	**14 04 06.8**	**+0.8**
HHC				SS		**SS**	**14 07 03.0**	**-4.9**
HHC				PMZ					
	comp=Z,28nm,1.2s								
HHC				PMZ					
	comp=Z,310nm,4.4s								
HHC				LN					
	comp=Z,3μm,17.3s								
HHC				LE					
	comp=Z,2μm,16.0s								
HHC				LZ					
	comp=Z,3μm,16.5s								
MEM	**Membach**	**41.06**	**309**	E		pP	13 58 01.4	-0.2
GYA	**Guiyang**	**41.20**	**89**	⇑ *i* P		**P**	**13 57 57.0**	**-0.2**
GYA				pP		**pP**	**13 58 06.3**	**+3.1**
GYA				PP		**PnPn**	**13 59 37.0**	**+0.2**
GYA				PcP		**PcP**	**13 59 56.8**	**+0.7**
GYA				ScP		**ScP**	**14 03 44.3**	**-0.6**
GYA				S		**S**	**14 04 10.0**	**0.0**
GYA				sS		**sS**	**14 04 22.0**	**+2.1**
GYA				SS		**SS**	**14 07 06.8**	**-6.3**
GYA				PMZ					
	comp=Z,60nm,0.8s								
GYA				PMZ					
	comp=Z,230nm,7.4s								
GYA				LN					
	comp=Z,2μm,16.4s								
GYA				LE					
	comp=Z,2μm,21.4s								
GYA				LZ					
	comp=Z,2μm,22.6s								
SLVN	**Son La**	**41.25**	**98**	*e*P		**P**	**13 57 57.0**	**-0.5**
	comp=Z,38nm,1.0s								
SLVN	**Son La**	**41.25**	**98**	*e*P		**P**	**13 57 57.0**	**-0.5**
	comp=Z,38nm,1.0s								
SRDT	**SRDT**	**41.29**	**110**	P		**P**	**13 57 58.4**	**+0.7**
	comp=Z,172nm,1.3s,comp=Z,17μm								
PBKT	**Sadao Pong**	**41.42**	**106**	P		**P**	**13 57 59.2**	**+0.4**
	comp=Z,128nm,1.1s,comp=Z,1μm								
CIT	**Chita**	**41.59**	**49**	*e*P		**P**	**13 58 01.5**	**+1.6**
CIT				*e*			13 58 09.4		
CIT				*e*			14 00 06.5		
CIT				pmax		pmax			
	comp=Z,168nm,1.4s								
CIT	**Chita**	**41.59**	**49**	*e*P		**P**	**13 58 01.5**	**+1.6**
	comp=Z,168nm,1.4s								
CMAH	**Djebel Manchou**	**41.66**	**288**	P		P	13 58 05.9	+5.1
CMAH	**Djebel Manchou**	**41.66**	**288**	P		P	13 58 05.9	+5.1
KMBO	**Kilima Mbogo**	**41.70**	**214**	P		**P**	**13 58 01.5**	**+0.1**
	comp=Z,3.1nm,0.8s,baz=19,slow=9.7,SNR=10								
KMBO				LR		LR	14 16 47.0		
	comp=Z,1μm,20.6s,baz=14,slow=38								
KMBO	**Kilima Mbogo**	**41.70**	**214**	P		**P**	**13 57 58.7**	**-2.7**
	comp=Z,190nm,1.5s								
ABSA	**Djebel Ababsia**	**41.71**	**287**	P		P	13 58 07.1	+5.9
ABSA	**Djebel Ababsia**	**41.71**	**287**	P		P	13 58 07.1	+5.9
BLS5	**Blasjo**	**41.74**	**322**	*e*P		P	13 58 06.8	+5.8
BLS5				*e*PP		**PnPn**	**13 59 41.7**	**-0.7**
DOU	**Dourbes**	**41.96**	**308**	E		pP	13 58 09.0	+0.1
AKN	**Aaknes**	**42.10**	**326**	*e*		**sP**	**13 58 13.0**	**+0.6**
AKN				*e*PP		PP	13 59 46.2	+4.9
SNF	**Seneffe**	**42.16**	**309**	E		pP	13 58 10.5	0.0
TIY	**Taiyuan**	**42.25**	**71**	*e*P		P	13 58 14.8	+9.3
TIY				PP		**PcP**	**13 59 56.0**	**-3.3**
TIY				S		**S**	**14 04 30.5**	**+5.4**
CKFL	**Kef-Lekhel**	**42.27**	**287**	P		P	13 58 08.8	+3.0
CKFL	**Kef-Lekhel**	**42.27**	**287**	P		P	13 58 08.8	+3.0
SSB	**Saint Sauveur**	**42.29**	**301**	*e*P		**P**	**13 58 03.2**	**-2.5**
SSB				pmax		pmax			
	comp=Z,292nm,1.4s								
SSB	**Saint Sauveur**	**42.29**	**301**	*e*P		**P**	**13 58 03.2**	**-2.5**
	comp=Z,292nm,1.4s								
SSB	**Saint Sauveur**	**42.29**	**301**	*e*P		**P**	**13 58 03.2**	**-2.5**
	comp=Z,292nm,1.4s								
NONG	**Nongkai**	**42.32**	**102**	P		**P**	**13 58 05.8**	**-0.4**
	comp=Z,80nm,1.2s,comp=Z,4μm								
BOD	**Bodaibo**	**42.34**	**40**	*e*P		**P**	**13 58 06.7**	**+0.8**
BOD				pmax		pmax			
	comp=Z,48nm,1.9s								
BOD	**Bodaibo**	**42.34**	**40**	*e*P		**P**	**13 58 06.7**	**+0.8**
	comp=Z,48nm,1.9s								
CMBY	**CAMPBELL BAY**	**42.38**	**123**	*e*P		**P**	**13 58 05.3**	**-1.4**
CMBY				AMB		AMB	13 58 15.8		
	comp=Z,120nm,1.6s								
CASM	**Ain Smara**	**42.48**	**287**	P		**P**	**13 58 09.4**	**+2.0**
CASM	**Ain Smara**	**42.48**	**287**	P		**P**	**13 58 09.4**	**+2.0**
PHET	**Kaeng Krachan**	**42.56**	**111**	P		**P**	**13 58 09.2**	**+1.1**
	comp=Z,21nm,0.9s,comp=Z,230nm								
CTEI	**Djebel Teioual**	**42.60**	**287**	P		**P**	**13 58 09.8**	**+1.3**
CTEI	**Djebel Teioual**	**42.60**	**287**	P		**P**	**13 58 09.8**	**+1.3**
DFRA	**Djebel Bou Aff**	**42.89**	**288**	P		**P**	**13 58 10.4**	**-0.4**
DFRA	**Djebel Bou Aff**	**42.89**	**288**	P		**P**	**13 58 10.4**	**-0.4**
SUE	**Sulen**	**42.89**	**324**	*e*P		P	13 58 18.4	+8.1
SUE				IAMs_20		IAMs_20	14 18 46.7		
	comp=Z,3μm,19.0s								
NAYO	**Nakonayok**	**43.01**	**108**	P		**P**	**13 58 12.2**	**+0.4**
	comp=Z,43nm,1.2s,comp=Z,731nm								
KHON	**Khomkaen**	**43.02**	**105**	P		**P**	**13 58 12.4**	**+0.5**
	comp=Z,30nm,0.8s								
CKHR	**Kef el Ahmar**	**43.31**	**287**	P		P	13 58 11.4	-2.8
CKHR	**Kef el Ahmar**	**43.31**	**287**	P		P	13 58 11.4	-2.8
SET	**Setif**	**43.35**	**288**	P		P	13 58 11.0	-3.5
SET	**Setif**	**43.35**	**288**	P		P	13 58 11.0	-3.5
SKNT	**Sakolnakorn**	**43.58**	**103**	P		**P**	**13 58 16.2**	**-0.3**
	comp=Z,146nm,1.2s,comp=Z,2μm								
HOPEN	**Hopen**	**44.17**	**349**	*e*P		P	13 58 27.7	+7.3
DGAR	**Diego Garcia**	**44.20**	**161**	*e*P		**P**	**13 58 20.3**	**-1.1**
DGAR				pmax		pmax			
	comp=Z,404nm,1.4s								
DGAR	**Diego Garcia**	**44.20**	**161**	*e*P		**P**	**13 58 20.3**	**-1.1**
	comp=Z,404nm,1.4s								
DGAR	**Diego Garcia**	**44.20**	**161**	*e*P		**P**	**13 58 20.3**	**-1.1**
	comp=Z,404nm,1.4s								
SURT	**Suratani**	**44.48**	**116**	P		**P**	**13 58 25.1**	**+1.5**
	comp=Z,19nm,1.3s								
BJI	**Beijing**	**44.57**	**66**	P		**P**	**13 58 25.5**	**+1.4**
BJI				S		**S**	**14 05 01.5**	**+2.7**
BJI				PMZ					
	comp=Z,17nm,1.1s								
BJI				PMZ					
	comp=Z,100nm,3.4s								
BJI				LN					
	comp=Z,3μm,13.8s								
BJI				LE					
	comp=Z,3μm,20.7s								
BJI				LZ					
	comp=Z,4μm,22.1s								
MBAR	**Mbarara**	**44.59**	**223**	*e*P		**P**	**13 58 22.6**	**-2.1**
MBAR				pmax		pmax			
	comp=Z,25nm,1.1s								
MBAR	**Mbarara**	**44.59**	**223**	*e*P		**P**	**13 58 22.6**	**-2.1**
	comp=Z,25nm,1.1s								
MBAR	**Mbarara**	**44.59**	**223**	*e*P		**P**	**13 58 22.6**	**-2.1**
	comp=Z,25nm,1.1s								
EMHD	**Djebel Mahouad**	**45.25**	**288**	P		P	13 58 36.0	+6.2
EMHD	**Djebel Mahouad**	**45.25**	**288**	P		P	13 58 36.0	+6.2
KRAB	**Krabi**	**45.26**	**117**	P		**P**	**13 58 30.5**	**+0.6**
	comp=Z,40nm,1.0s,comp=Z,493nm								
SRIT	**Nakonsritamara**	**45.31**	**116**	P		**P**	**13 58 30.3**	**0.0**
	comp=Z,75nm,0.9s,comp=Z,11μm								
HIA	**Hailar**	**45.62**	**53**	P		**P**	**13 58 33.3**	**+0.9**
HIA	**Hailar**	**45.62**	**53**	P		**P**	**13 58 33.3**	**+0.9**
HIA	**Hailar**	**45.62**	**53**	P		**P**	**13 58 33.3**	**+0.9**
UBPT	**Khong Chiam**	**45.71**	**104**	P		**P**	**13 58 32.9**	**-0.5**
	comp=Z,76nm,1.1s,comp=Z,908nm								
TRTT	**Trang**	**45.88**	**117**	P		**P**	**13 58 35.0**	**+0.2**
	comp=Z,76nm,0.8s,comp=Z,987nm								
WHN	**Wuhan**	**45.90**	**80**	P		**P**	**13 58 37.0**	**+2.2**
WHN				S		**S**	**14 05 17.5**	**-0.8**
WHN				LN					
	comp=Z,3μm,11.7s								
WHN				LE					
	comp=Z,5μm,17.2s								
WHN				LZ					
	comp=Z,6μm,17.0s								
HSPB	**Hornsund (broa**	**46.09**	**347**	*e*P		P	13 58 41.4	+5.7
HSPB				IAMs_20		IAMs_20	14 20 46.9		
	comp=Z,3μm,18.0s								
TIA	**Tai'an**	**46.27**	**71**	⇑ P		**P**	**13 58 39.5**	**+1.9**
TIA				S		**S**	**14 05 28.5**	**+5.0**
TIA				PMZ					
	comp=Z,30nm,1.2s								
TIA				PMZ					
	comp=Z,150nm,5.1s								
TIA				LN					
	comp=Z,2μm,18.4s								
TIA				LE					
	comp=Z,1μm,15.5s								
TIA				LZ					
	comp=Z,

CLNS eSSS SSS 14 10 31.4
CLNS pmax pmax
comp=Z,24nm,1.2s
CLNS pmax pmax
comp=E,13nm,1.0s
CLNS pmax pmax
comp=N,12nm,1.0s
CLNS pmax pmax
comp=E,21nm,1.1s
CLNS pmax pmax
comp=Z,8.0nm,0.9s
CLNS pmax pmax
comp=N,9.0nm,0.9s
CLNS smax smax
comp=E,82nm,8.8s
CLNS smax smax
comp=N,132nm,14.5s
CLNS MLR MLR
comp=Z,3μm,13.0s
CLNS MLR MLR
comp=E,4μm,13.0s
CLNS MLR MLR
comp=N,1μm,12.0s
CLNS Chul'man 48.19 42 *e*P **P 13 58 51.4 -1.0**
comp=N,12nm,1.0s
KULM Kulim 48.31 118 *e*P **P 13 58 51.6 -2.1**
comp=N,76nm,1.0s
KULM Kulim 48.31 118 ⇑P **P 13 58 51.6 -2.1**
KULM Kulim 48.31 118 *e*P **P 13 58 51.6 -2.1**
comp=N,76nm,1.0s
PSI Prapat 48.84 122 *e*P **P 13 58 56.8 -1.2**
PSI pmax pmax
comp=Z,219nm,1.0s
PSI Prapat 48.84 122 *e*P **P 13 58 56.8 -1.2**
comp=Z,219nm,1.0s
DL2 Dalian 48.94 66 P **P 13 59 00.5 +2.2**
DL2 S **S 14 06 06.8 +5.5**
DL2 PMZ
comp=Z,57nm,1.2s
DL2 PMZ
comp=Z,250nm,5.1s
DL2 LN
comp=Z,650nm,15.8s
DL2 LE
comp=Z,1μm,18.1s
DL2 LZ
comp=Z,2μm,17.7s
GSI Gunungsitoli 49.01 125 P **P 13 58 59.3 +0.2**
comp=Z,205nm,1.2s
GSI Gunungsitoli 49.01 125 *e*P **P 13 58 57.6 -1.5**
comp=Z,487nm,1.6s
GSI Gunungsitoli 49.01 125 *e*P **P 13 58 57.6 -1.5**
comp=Z,487nm,1.6s
IPM Ipoh 49.14 119 *e*P **P 13 58 57.0 -3.1**
comp=Z,673nm,2.4s
IPM Ipoh 49.14 119 ⇑P **P 13 58 57.9 -2.2**
IPM Ipoh 49.14 119 *e*P **P 13 58 57.0 -3.1**
comp=Z,673nm,2.4s
ESDC Sonseca Array 49.55 295 P **P 13 59 01.5 -1.6**
comp=Z,10nm,0.7s,baz=64,slow=8.1,SNR=53
ESDC LR LR 14 22 31.4
comp=Z,338nm,19.4s,baz=90,slow=39
SNY Shenyang 49.60 62 ⇑P **P 13 59 04.0 +0.7**
SNY PP **PP 14 00 55.5 -2.1**
SNY S **S 14 06 14.5 +4.0**
SNY PMZ
comp=Z,18nm,0.8s
SNY PMZ
comp=Z,84nm,3.1s
SNY LN
comp=Z,2μm,13.9s
SNY LE
comp=Z,4μm,18.8s
SNY LZ
comp=Z,3μm,17.6s
PAB San Pablo 49.87 295 *e*P **P 13 59 03.1 -2.5**
PAB pmax pmax
comp=Z,144nm,1.3s
PAB San Pablo 49.87 295 *e*P **P 13 59 03.1 -2.5**
comp=Z,144nm,1.3s
PAB San Pablo 49.87 295 *e*P **P 13 59 03.1 -2.5**
comp=Z,144nm,1.3s
JMIC Jan Mayen 49.91 337 *e*P P 13 59 13.1 +7.8
JMIC IVMs_BB IVMs_BB 14 22 22.5
comp=Z,1μm,15.3s
JMIC Jan Mayen 49.91 337 LR LR 14 22 09.9
comp=Z,3μm,18.1s,baz=92,slow=38
DLV T Lat 50.02 105 *e*P **P 13 59 06.7 -0.4**
DLV T Lat 50.02 105 *e*P **P 13 59 06.7 -0.4**
KTGM Kuala Trenggan 50.09 116 ⇑P **P 13 59 06.4 -1.0**
FRIM Kepong 50.43 119 ⇑P **P 13 59 09.1 -0.9**
YAK Yakutsk 50.43 35 *e*P **P 13 59 09.3 0.0**
YAK *e* 14 00 25.6
YAK *e* 14 01 00.9
YAK *e*PPP PPP 14 02 06.1
YAK *e*S S 14 06 15.7 -5.9
YAK *e* 14 08 49.3
YAK *e*SS **SS 14 09 52.0 -3.0**
YAK *e*SSS SSS 14 11 28.8
YAK pmax pmax
comp=Z,75nm,1.0s
YAK pmax pmax
comp=E,51nm,1.2s
YAK pmax pmax
comp=Z,176nm,3.3s
YAK pmax pmax
comp=N,274nm,4.6s
YAK pmax pmax
comp=E,132nm,2.6s
YAK smax smax
comp=N,417nm,3.5s
YAK smax smax
comp=E,274nm,3.2s
YAK Yakutsk 50.43 35 *e*P **P 13 59 09.3 0.0**
comp=E,75nm,1.0s
YAK Yakutsk 50.43 35 P P 13 59 04.6 -4.8
comp=E,104nm,0.9s
CN2 Changchun 50.44 59 *e*P **P 13 59 10.8 +1.1**
CN2 *e*sP **sP 13 59 17.8 -0.5**
CN2 *e*S **S 14 06 22.3 0.0**
CN2 PMZ
comp=E,30nm,1.2s
CN2 PMZ
comp=E,200nm,4.0s
CN2 LN
comp=E,3μm,16.0s
CN2 LE
comp=E,3μm,16.0s
CN2 LZ
comp=E,2μm,18.0s
MNSI Mandailing Nat 50.73 124 P **P 13 59 11.8 -0.4**
comp=E,55nm,0.9s
PBRG Braganca 51.00 298 *e*P **P 13 59 13.2 -0.8**
comp=E,114nm,1.2s
PBRG *e*pP **pP 13 59 19.1 -1.1**
SSE Sheshan 51.16 76 P **P 13 59 18.0 +2.7**
SSE pP **pP 13 59 25.3 +3.8**
SSE S **S 14 06 35.0 +2.4**
SSE sS **sS 14 06 45.0 +2.3**
SSE PMZ
comp=E,38nm,0.7s
SSE PMZ
comp=E,150nm,4.7s
SSE LN
comp=E,3μm,18.7s
SSE LE
comp=E,980nm,18.8s
SSE LZ
comp=E,1μm,14.8s
MVO Moncorvo 51.38 298 *e*S **S 14 06 37.5 +2.0**
MVO *e*LR LR 14 16 09.5
comp=E,651nm,19.4s
QZH Quanzhou 51.59 84 *e*P **P 13 59 20.3 +1.7**
QZH S **S 14 06 40.3 +1.8**
QZH LN
comp=E,3μm,17.9s
QZH LE
comp=E,2μm,12.8s
QZH LZ
comp=E,5μm,16.5s
PVRL Vila Real 51.85 298 *e*P **P 13 59 19.6 -0.8**
comp=E,216nm,1.3s
PVRL *e*pP **pP 13 59 25.9 -0.7**
POLO Lamas de Olo 51.88 298 *e*P **P 13 59 20.2 -0.5**
comp=E,75nm,1.4s
POLO *e*pP **pP 13 59 24.9 -1.9**

PCAB Cabril 51.95 299 *e*P **P 13 59 20.9 -0.2**
comp=E,217nm,1.3s
PCAB *e*pP **pP 13 59 26.4 -0.9**
SISI Saibi 51.97 126 P **P 13 59 21.1 -0.3**
MTE Manteigas 51.98 297 *e*S **S 14 06 44.5 +0.8**
MTE *e*LR LR 14 16 41.3
comp=E,595nm,19.4s
MTE Manteigas 51.98 297 *e*P **P 13 59 20.5 -0.9**
comp=E,262nm,1.1s
MTE Manteigas 51.98 297 *e*P **P 13 59 20.4 -0.9**
comp=E,262nm,1.1s
PGAV Gavieira, Arco 52.05 299 *e*S **S 14 06 46.6 +1.8**
PGAV *e*LR LR 14 16 31.4
comp=E,437nm,17.2s
BKNI Bangkinang 52.08 123 P **P 13 59 22.3 0.0**
comp=E,342nm,0.8s,comp=E,3μm
BKNI Bangkinang 52.08 123 *e*P **P 13 59 21.0 -1.3**
comp=E,259nm,0.8s
BKNI Bangkinang 52.08 123 *e*P **P 13 59 21.0 -1.3**
comp=E,259nm,0.8s
PCBR Castelo Branco 52.09 296 *e*P **P 13 59 21.7 -0.5**
comp=E,358nm,1.5s
PCBR *e*pP **pP 13 59 27.8 -0.5**
PVIS Viseu 52.14 297 *e*P **P 13 59 21.9 -0.7**
comp=E,244nm,1.6s
PVIS *e*pP **pP 13 59 28.4 -0.3**
PMRV Marv??o 52.16 296 *e*S **S 14 06 46.1 0.0**
PMRV Marv??o 52.16 296 *e*LR LR 14 17 04.8
comp=E,329nm,18.4s
PPI Padang Panjang 52.20 124 P **P 13 59 23.0 -0.2**
MDT Midelt 52.26 287 P **P 13 59 22.2 -1.4**
comp=E,4.5nm,0.9s,baz=71,slow=6.3
PBAR Barrancos 52.28 294 *e*P **P 13 59 22.0 -1.6**
comp=E,436nm,1.1s
PBAR *e*pP **pP 13 59 28.6 -1.2**
PESTR Estremoz 52.48 295 *e*P **P 13 59 23.9 -1.2**
comp=E,272nm,1.2s
PESTR *e*pP **pP 13 59 29.5 -1.7**
KGM Kluang 52.48 119 ⇑P **P 13 59 24.9 -0.5**
PCAS Casmilo, Conde 52.78 297 *e*P **P 13 59 27.0 -0.3**
comp=E,90nm,1.1s
PCAS *e*pP **pP 13 59 32.6 -0.8**
PTOM Tomar 52.85 296 *e*P **P 13 59 27.2 -0.6**
comp=E,50nm,0.8s
PTOM *e*pP **pP 13 59 33.5 -0.4**
MYKOM Kota Tinggi 53.02 119 *e*P **P 13 59 28.7 -0.6**
comp=E,40nm,0.8s
MYKOM Kota Tinggi 53.02 119 ⇑P **P 13 59 28.3 -1.0**
MYKOM Kota Tinggi 53.02 119 *e*P **P 13 59 28.7 -0.6**
comp=E,40nm,0.8s
PVAQ Vaqueiros 53.04 293 *e*S **S 14 06 59.7 +1.5**
PVAQ Vaqueiros 53.04 293 *e*LR LR 14 17 47.5
comp=E,473nm,18.8s
MDJ Mudanjiang 53.11 57 P **P 13 59 29.5 -0.1**
MDJ pP **pP 13 59 36.0 +0.2**
MDJ sP **sP 13 59 38.5 +0.3**
MDJ PP **PP 14 01 30.0 +0.6**
MDJ PcS **PcS 14 04 38.3 +1.8**
MDJ S **S 14 06 59.3 +0.3**
MDJ PMZ
comp=E,10.0nm,1.3s
MDJ PMZ
comp=E,100nm,4.2s
MDJ LN
comp=E,980nm,14.3s
MDJ LE
comp=E,3μm,15.1s
MDJ LZ
comp=E,4μm,17.4s
MDJ Mudanjiang 53.11 57 *e*P **P 13 59 29.5 -0.1**
comp=E,36nm,1.3s
MDJ Mudanjiang 53.11 57 *e*P **P 13 59 29.5 -0.1**
comp=E,36nm,1.3s
PCVE Castro Verde 53.21 294 *e*P **P 13 59 29.6 -0.9**
comp=E,54nm,1.2s
PCVE *e*pP **pP 13 59 36.2 -0.4**
DAG Danmarks Havn 53.24 344 *i* P pP 13 59 39.0 +2.7
DAG Danmarks Havn 53.24 344 *e*P pP 13 59 39.0 +2.7
PBDV Barranco-do-Ve 53.26 293 *e*P **P 13 59 30.5 -0.4**
comp=E,183nm,1.2s
PBDV *e*pP **pP 13 59 35.6 -1.4**
MESJ Messejana 53.27 294 *e*P **P 13 59 30.8 -0.2**
MESJ AMb AMB 13 59 39.9
comp=Z,85nm,1.5s
MESJ Messejana 53.27 294 *e*P **P 13 59 28.7 -2.2**
comp=Z,81nm,1.1s
MESJ *e*pP **pP 13 59 35.2 -1.9**
MESJ Messejana 53.27 294 *e*P **P 13 59 30.7 -0.2**
MESJ Messejana 53.27 294 *e*P **P 13 59 30.7 -0.2**
KLR Kul'dur 53.38 51 *e*P P 13 59 28.2 -3.3
KLR *e*S **S 14 06 59.0 -3.4**
KLR MLR MLR
comp=E,7μm,14.0s
PNCL Nicolau / Gran 53.41 294 *e*P **P 13 59 31.3 -0.7**
comp=E,176nm,1.3s
PNCL *e*pP **pP 13 59 37.3 -0.8**
PACT Alcochete 53.43 295 *e*P **P 13 59 30.1 -1.9**
comp=E,707nm,1.7s
PACT *e*pP **pP 13 59 36.4 -1.8**
LIS Lisbon 53.68 295 *e*P **P 13 59 34.3 +0.4**
LIS AMb AMB 13 59 41.3
comp=Z,343nm,1.6s
LIS Lisbon 53.68 295 *e*P **P 13 59 34.2 +0.4**
PMST Lisbon--Monsan 53.70 295 *e*pP pP 13 59 40.0 -0.2
PMAFR Mafra 53.70 296 *e*P **P 13 59 34.2 +0.1**
comp=Z,296nm,1.2s
PMAFR *e*pP **pP 13 59 40.0 -0.2**
PTEO Sao Teotonio 53.75 294 *e*P **P 13 59 33.0 -1.4**
comp=Z,229nm,1.7s
PTEO *e*pP **pP 13 59 38.8 -1.8**
MORF Marmelete 53.77 294 *e*P **P 13 59 35.0 +0.3**
MORF AMb AMB 13 59 44.5
comp=Z,156nm,1.5s
MORF *e*S **S 14 07 10.3 +2.0**
MORF Marmelete 53.77 294 *e*pP pP 13 59 40.5 -0.4
MORF Marmelete 53.77 294 *e*P **P 13 59 35.0 +0.3**
MORF *e*S **S 14 07 10.2 +2.0**
MORF Marmelete 53.77 294 *e*P **P 13 59 35.0 +0.3**
PFVI Vila Bisbo 53.97 293 *e*P **P 13 59 35.2 -0.8**
comp=Z,232nm,1.4s
PFVI *e*pP **pP 13 59 41.4 -0.8**
TPUB Ta-pu 53.98 85 P **P 13 59 35.5 -0.9**
comp=Z,52nm,1.1s
TPUB Ta-pu 53.98 85 P **P 13 59 35.5 -0.9**
comp=Z,52nm,1.1s
TJN Taejon 54.05 68 *i* P **P 13 59 36.0 -0.7**
TJN Taejon 54.05 68 *i* P **P 13 59 36.0 -0.7**
KSAR Wonju Array Be 54.08 66 P **P 13 59 37.9 +1.1**
KSAR Wonju Array Be 54.08 66 P **P 13 59 37.9 +1.1**
KSAR Wonju Array Be 54.08 66 P **P 13 59 37.9 +1.1**
KSRS Korea Array 54.10 66 P **P 13 59 37.9 +0.9**
comp=Z,9.9nm,0.6s,baz=281,slow=7.0,SNR=62
KSRS LR LR 14 25 10.8
comp=Z,1μm,21.8s,baz=288,slow=39
KSRS Korea Array 54.10 66 P **P 13 59 37.9 +0.9**
KSRS pmax pmax
comp=Z,10.0nm,0.6s
KSRS MLR MLR
comp=Z,1μm,21.8s
YULB Yu-li 54.49 85 *e*P **P 13 59 39.6 -0.4**
comp=Z,72nm,1.4s
YULB Yu-li 54.49 85 *e*P **P 13 59 39.6 -0.4**
comp=Z,72nm,1.4s
MSHR Mys Shultsa 54.79 59 *i* P **P 13 59 43.3 +1.4**
MSHR Mys Shultsa 54.79 59 *i* P **P 13 59 43.3 +1.4**
USRK Ussuriysk Ar. 54.88 57 P **P 13 59 41.6 -0.9**
comp=Z,3.0nm,0.6s,baz=280,slow=5.6,SNR=10
USRK LR LR 14 26 25.3
comp=Z,3μm,18.8s,baz=270,slow=39
ABPO Ambohimpanom 55.21 194 *e*P **P 13 59 43.6 -1.7**
ABPO pmax pmax
comp=Z,25nm,0.9s
ABPO Ambohimpanom 55.21 194 *e*P **P 13 59 43.6 -1.7**
comp=Z,25nm,0.9s
ABPO Ambohimpanom 55.21 194 *e*P **P 13 59 43.6 -1.7**
comp=Z,25nm,0.9s
MRIV Mauritius Mete 55.29 182 *e*P **P 13 59 43.9 -1.8**
MRIV Mauritius Mete 55.29 182 *e*P **P 13 59 43.9 -1.8**
MASI Maura Aman, Be 55.41 124 P **P 13 59 46.3 -0.5**
HABR Khabarovsk 55.68 51 *ce*P **P 13 59 45.9 -2.3**
HABR *e*SP sP 13 59 50.2 -6.6
HABR *e* 14 00 45.1
HABR *e* 14 01 50.0
HABR *e*PPP PPP 14 03 02.4
HABR S **S 14 07 32.2 -1.2**
HABR *e*S S 14 07 36.3 +2.9
HABR *e**SS sS 14 07 37.8 -5.8
HABR *e* 14 09 35.0
HABR *e*SS **SS 14 11 18.8 +0.5**
HABR *e*SSS SSS 14 13 28.9
HABR MLR MLR
comp=Z,9μm,16.0s
HABR MLR MLR
comp=E,6μm,13.0s
HABR MLR MLR
comp=N,3μm,11.0s
HABR Khabarovsk 55.68 51 *e*P **P 13 59 45.9 -2.3**
KSI Kapahiang 56.02 125 P **P 13 59 50.8 -0.4**
TOA0 Torodi Ar. Sit 56.22 262 *e*P P 13 59 48.3 -4.3
TORD Torodi Ar. Bea 56.22 262 P **P 13 59 50.0 -2.5**
comp=N,28nm,0.9s,baz=53,slow=6.2,SNR=124
TORD LR LR 14 25 14.3
comp=N,752nm,19.5s,baz=75,slow=37
MDSI Maura Dua 57.71 124 P **P 14 00 02.1 -0.9**
NKL Nikolayevsk 57.76 45 *e*P **P 14 00 00.5 -2.4**
NKL pmax pmax
comp=Z,77nm,1.1s
NKL MLR MLR
comp=N,4μm,13.0s
NKL MLR MLR
comp=E,4μm,13.0s
NKL MLR MLR
comp=Z,6μm,13.0s
NKL Nikolayevsk 57.76 45 *e*P **P 14 00 00.5 -2.4**
comp=Z,77nm,1.1s
JNU Nakatsue 57.96 70 *e*P **P 14 00 06.5 +1.8**
comp=Z,118nm,1.6s
JNU Nakatsue 57.96 70 *e*P **P 14 00 06.5 +1.8**
comp=Z,118nm,1.6s
KSM Kuching 57.97 114 *e*P **P 14 00 04.3 -0.6**
comp=Z,34nm,1.2s
KSM Kuching 57.97 114 ⇓P **P 14 00 04.8 -0.1**
KSM Kuching 57.97 114 *e*P **P 14 00 04.3 -0.6**
comp=Z,34nm,1.2s
LWLI Liwa 58.01 124 P **P 14 00 02.5 -2.8**
KLSI 58.23 123 P P 14 00 02.2 -4.5
LSZ Lusaka 58.33 216 P **P 14 00 06.1 -1.3**
comp=Z,29nm,1.0s,baz=36,slow=12,SNR=11
LSZ Lusaka 58.33 216 *e*P **P 14 00 06.2 -1.3**
LSZ pmax pmax
comp=Z,41nm,1.0s
LSZ Lusaka 58.33 216 *e*P **P 14 00 06.2 -1.3**
comp=Z,41nm,1.0s
LSZ Lusaka 58.33 216 *e*P **P 14 00 06.2 -1.3**
comp=Z,41nm,1.0s
KASI Kota Agung 58.68 124 P **P 14 00 06.9 -2.9**
SBUM Sibu 58.78 111 *e*P **P 14 00 10.3 -0.3**
comp=Z,32nm,1.0s
SBUM Sibu 58.78 111 *e*P **P 14 00 10.3 -0.3**
comp=Z,32nm,1.0s
TPI Tanjungpandan 58.90 119 P P 14 00 19.9 +8.5
BTM Bintulu 58.97 110 ⇑P **P 14 00 11.1 -0.8**
ALE Alert 59.12 353 P P 14 00 18.0 +6.0
comp=Z,116nm,1.3s,SNR=6.3
TYV Tymovskoe 59.64 47 *e*P P 14 00 25.0 +8.9
TYV *e*S S 14 08 34.0 +8.7
TYV pmax pmax
comp=Z,500nm,5.0s
TYV MLR MLR
comp=E,2μm,12.0s
TYV MLR MLR
comp=Z,4μm,12.0s
TYV MLR MLR
comp=N,2μm,15.0s
KKM Kota Kinabalu 59.65 105 *e*P **P 14 00 16.5 -0.2**
comp=N,98nm,1.2s
KKM Kota Kinabalu 59.65 105 *e*P **P 14 00 16.5 -0.2**
comp=N,98nm,1.2s
STKI Sintang 59.78 114 P **P 14 00 17.6 +0.1**
comp=N,68nm,1.2s
CGJI Cibinong 60.28 124 P P 14 00 17.6 -3.3
comp=N,218nm,1.0s,comp=N,2μm
SEY Seymchan 60.56 32 P **P 14 00 22.6 +0.4**
comp=N,16nm,0.9s,baz=278,slow=6.6,SNR=25
SEY LR LR 14 29 49.4
comp=N,8μm,19.0s,baz=302,slow=39
SEY Seymchan 60.56 32*c* *i*P **P 14 00 23.7 +1.5**
MA2 Magadan 61.01 36 *e*P **P 14 00 25.4 +0.1**
MA2 Magadan 61.01 36 *e*P **P 14 00 25.4 +0.1**
YSS Yuzh-Sakhalins 61.09 51 ⇑*i*P **P 14 00 26.0 0.0**
YSS *e**SP **sP 14 00 34.2 -0.4**
YSS *e*S **S 14 08 43.0 -1.0**
YSS *e*SSS SSS 14 15 26.0
YSS pmax pmax
comp=Z,40nm,1.0s
YSS MLR MLR
comp=E,6μm,18.0s
YSS MLR MLR
comp=Z,6μm,18.0s
YSS Yuzh-Sakhalins 61.09 51 *i* P **P 14 00 26.0 0.0**
comp=Z,40nm,1.0s
YSS *e*S **S 14 08 43.0 -1.0**
YSS Yuzh-Sakhalins 61.09 51 *e*P **P 14 00 26.8 +0.7**
comp=Z,101nm,1.0s
LEM Lembang 61.75 123 LR LR 14 29 54.4
comp=Z,812nm,18.8s,baz=336,slow=38
PBKI Pangkalan Bun 61.77 116 P **P 14 00 32.0 +1.0**
comp=Z,114nm,1.1s
PMAR Madeira 61.79 292 *e*P **P 14 00 31.2 -0.1**
comp=Z,394nm,1.8s
PMAR *e*pP **pP 14 00 36.7 -0.8**
PMOZ Porto Moniz, M 61.97 292 *e*S **S 14 08 55.2 -0.6**
MYLDM Lahad Datu 61.97 104 *e*P **P 14 00 33.4 +1.0**
comp=Z,102nm,1.1s
MYLDM Lahad Datu 61.97 104 *e*P **P 14 00 33.4 +1.0**
comp=Z,102nm,1.1s
MAJO Matsushiro 62.06 63 ⇑*i*P **P 14 00 32.8 0.0**
MAJO pmax pmax
comp=Z,117nm,1.6s
MAJO MLR MLR
comp=Z,5μm,16.0s
MAJO Matsushiro 62.06 63 *i* P **P 14 00 32.8 0.0**
comp=Z,5μm,16.0s
MAJO Matsushiro 62.06 63 *e*P **P 14 00 31.6 -1.3**
comp=Z,17nm,0.9s
MAT Matsushiro 62.06 63 P **P 14 00 32.7 -0.1**
MAT S **S 14 08 58.0 +1.3**
MJAR Matsushiro Arr 62.06 63 P **P 14 00 32.4 -0.4**
comp=Z,2.5nm,0.8s,baz=289,slow=11,SNR=11
MJAR LR LR 14 29 43.7
comp=Z,1μm,20.0s,baz=265,slow=38
ASAJ Asahikawa 62.07 54 *e*P **P 14 00 33.5 +0.8**
ASAJ Asahikawa 62.07 54 *e*P **P 14 00 33.5 +0.8**
MATP Matopo 62.66 213 P **P 14 00 35.3 -1.7**
comp=Z,93nm,0.7s,baz=28,slow=9.0,SNR=22
KULLO Kullorsuaq 62.88 344 *i* P P 14 00 43.2 +5.6
MSNA Messina 63.71 210 *e*P **P 14 00 42.5 -1.2**
MSNA IAmb IAmb 14 00 43.1
comp=Z,44nm,1.0s
MSNA IAMs_20 IAMs_20 14 30 31.4
comp=Z,3μm,16.8s
MSNA Messina 63.71 210 P **P 14 00 42.5 -1.2**
comp=Z,44nm,1.0s
MSNA Messina 63.71 210 P **P 14 00 42.5 -1.2**
comp=Z,44nm,1.0s
YUK Yuzh-Kuril'sk 64.25 53 *e*P P 14 00 35.3 -12
YUK *i* PCP **PcP 14 01 18.9 -3.0**
YUK MLR MLR
comp=Z,2μm,14.0s
BKB Balikpapan 64.73 111 P **P 14 00 51.8 +1.1**
comp=Z,181nm,1.3s,comp=Z,2μm
KUR Kuril'sk 65.04 51 *e*P **P 14 00 49.9 -2.4**
KUR *i* 14 01 18.9
KUR *i* PPP PPP 14 04 56.8
KUR *i* S **S 14 09 32.8 -0.6**
KUR *i* SS **SS 14 13 42.6 -2.4**
KUR MLR MLR
comp=N,3μm,17.0s
KUR MLR MLR
comp=E,3μm,17.0s
KUR MLR MLR
comp=Z,3μm,17.0s
KUR Kuril'sk 65.04 51 *e*P **P 14 00 49.9 -2.4**
KUR *i* S **S 14 09 32.8 -0.6**
DBIC Dimbokro 65.19 260 *e*P **P 14 00 51.7 -2.1**
DBIC Dimbokro 65.19 260 P **P 14 00 51.5 -2.2**
comp=Z,12nm,0.8s,baz=32,slow=9.5,SNR=10
DBIC LR LR 14 32 26.2
comp=Z,3μm,18.1s,baz=33,slow=39
DBIC Dimbokro 65.19 260 *e*P **P 14 00 51.6 -2.1**
DBIC pmax pmax

comp=Z,52nm,0.9s
DBIC Dimbokro 65.19 260 *e*P P **14 00 51.6 -2.1**
comp=Z,52nm,0.9s
DBIC Dimbokro 65.19 260 *e*P P **14 00 51.6 -2.1**
comp=Z,52nm,0.9s
KIC Kosan Boka 65.28 260 *e*P P **14 00 52.1 -2.2**
comp=Z,188nm,0.9s
TIC Toumodi 65.34 260 *e*P P **14 00 52.3 -2.4**
KBKI Kotabaru 65.50 113 P P **14 00 55.6 -0.1**
comp=Z,59nm,1.2s,comp=Z,672nm
MPSI Mapaga 66.04 108 P P **14 00 59.4 +0.2**
comp=Z,140nm,1.0s,comp=Z,1µm
PCI Palu 66.77 109 P P **14 01 04.1 +0.2**
comp=Z,115nm,1.1s,comp=Z,2µm
TSUM Tsumeb 67.14 223 P P **14 01 04.4 -1.8**
comp=Z,29nm,0.9s,baz=32,slow=6.1,SNR=8.3
TSUM Tsumeb 67.14 223 *e*P P **14 01 04.7 -1.4**
comp=Z,46nm,1.0s
TSUM Tsumeb 67.14 223 *e*P P **14 01 04.7 -1.4**
comp=Z,46nm,1.0s
PETK Petropavlovsk- 67.22 40 P P **14 01 04.9 -1.2**
comp=Z,5.6nm,0.9s,baz=259,slow=2.9,SNR=3.5
PETK LR LR 14 33 13.9
comp=Z,1µm,18.5s,baz=302,slow=38
SLR Silverton 67.44 210 *e*P P **14 01 06.3 -1.6**
SLR IAmb IAmb 14 01 07.7
comp=Z,97nm,1.3s
SLR IAMs_20 IAMs_20 14 32 43.7
comp=Z,3µm,13.8s
SLR Silverton 67.44 210 P P **14 01 06.3 -1.6**
SLR pmax pmax
comp=Z,97nm,1.3s
SLR Silverton 67.44 210 P P **14 01 06.3 -1.6**
comp=Z,97nm,1.3s
SLR Silverton 67.44 210 P P **14 01 06.3 -1.6**
comp=Z,97nm,1.3s
MRSI Marisa 67.55 106 P P **14 01 11.1 +2.3**
comp=Z,34nm,1.5s,comp=Z,1µm
PET Petropavlovsk 67.76 40 *e*P P 14 01 13.3 +3.7
PET *e* 14 03 44.0
PET *e*S **S 14 10 04.5 -1.7**
PET *e*SS **SS 14 14 31.2 +4.4**
PET pmax pmax
comp=Z,100nm,13.3s
PET pmax pmax
comp=Z,29nm,1.4s
PET MLR MLR
comp=Z,2µm,18.0s
LBTB Lobatse 67.96 213⇑*i*P P **14 01 10.1 -1.1**
LBTB IAmb IAmb 14 01 11.0
comp=Z,138nm,1.1s
LBTB IAMs_20 IAMs_20 14 33 36.2
comp=Z,2µm,13.6s
LBTB Lobatse 67.96 213 P P **14 01 10.0 -1.1**
comp=Z,94nm,1.0s,baz=38,slow=7.7,SNR=12
LBTB Lobatse 67.96 213 *e*P P **14 01 10.2 -1.0**
LBTB pmax pmax
comp=Z,135nm,1.1s
LBTB Lobatse 67.96 213 *e*P P **14 01 10.1 -1.1**
comp=Z,135nm,1.1s
LBTB Lobatse 67.96 213 *e*P P **14 01 10.2 -1.1**
comp=Z,135nm,1.1s
TTSI Tana Toraja 68.11 111 P P **14 01 11.7 -0.6**
comp=Z,48nm,1.0s,comp=Z,488nm
APSI Ampana 68.18 108 P P **14 01 13.4 +0.6**
comp=Z,59nm,1.0s,comp=Z,821nm
WDLM Western Deep L 68.40 211 *e*P P **14 01 12.5 -1.6**
WDLM IAmb IAmb 14 01 13.3
comp=Z,57nm,1.3s
SPSI Sidrap Palu 68.66 111 P P **14 01 15.0 -0.8**
PRYS Parys 68.87 211 *e*P P **14 01 14.8 -2.1**
PRYS IAmb IAmb 14 01 15.8
comp=Z,50nm,1.4s
PRYS Parys 68.87 211 P P **14 01 14.8 -2.1**
comp=Z,50nm,1.4s
PRYS Parys 68.87 211 P P **14 01 14.8 -2.1**
comp=Z,50nm,1.4s
RES Resolute Bay 69.01 353 P P 14 01 13.6 -3.4
comp=Z,1.3nm,0.6s,baz=52,slow=14,SNR=3.0
KAPI Kappang 69.32 112 P P **14 01 17.7 -2.1**
comp=Z,7.0nm,0.4s,baz=304,slow=7.5,SNR=3.6
JCJ Chichijima 69.40 71 LR LR 14 35 59.5
comp=Z,654nm,19.0s,slow=39
SWZ Schweizer 69.96 212 *e*P P **14 01 20.9 -2.7**
SWZ IAmb IAmb 14 01 21.8
comp=Z,30nm,1.0s
SWZ Schweizer 69.96 212 P P **14 01 20.9 -2.7**
comp=Z,30nm,1.0s
SWZ Schweizer 69.96 212 P P **14 01 20.9 -2.7**
comp=Z,30nm,1.0s
SEK Senekal 70.00 210 *e*P P **14 01 21.8 -2.1**
SEK IAmb IAmb 14 01 22.9
comp=Z,57nm,0.8s
SEK Senekal 70.00 210 P P **14 01 21.8 -2.1**
comp=Z,57nm,0.8s
SEK Senekal 70.00 210 P P **14 01 21.8 -2.1**
comp=Z,57nm,0.8s
WIN Windhoek 70.11 221 *e*P P **14 01 23.9 -0.8**
WIN IAmb IAmb 14 01 24.5
comp=Z,21nm,1.0s
WIN Windhoek 70.11 221 P P **14 01 23.9 -0.8**
WIN pmax pmax
comp=Z,21nm,1.0s
WIN Windhoek 70.11 221 P P **14 01 23.9 -0.8**
comp=Z,21nm,1.0s
WIN Windhoek 70.11 221 P P **14 01 23.9 -0.8**
comp=Z,21nm,1.0s
BOSA Boshof 71.23 211⇑*i*P P **14 01 29.5 -1.9**
BOSA IAmb IAmb 14 01 30.5
comp=Z,80nm,1.2s
BOSA IAMs_20 IAMs_20 14 35 17.0
comp=Z,2µm,15.7s
BOSA Boshof 71.23 211 P P **14 01 29.5 -1.9**
comp=Z,42nm,1.0s,baz=33,slow=7.1,SNR=27
BOSA LR LR 14 35 43.2
comp=Z,1µm,18.4s,baz=31,slow=38
BOSA Boshof 71.23 211 P P **14 01 29.5 -1.9**
BOSA pmax pmax
comp=Z,42nm,1.0s
BOSA MLR MLR
comp=Z,1µm,18.5s
UPI Upington 72.81 215 *e*P P **14 01 38.4 -2.4**
UPI IAmb IAmb 14 01 40.3
comp=Z,134nm,1.3s
UPI Upington 72.81 215 P P **14 01 38.4 -2.4**
comp=Z,134nm,1.3s
UPI Upington 72.81 215 P P **14 01 38.4 -2.4**
comp=Z,134nm,1.3s
HVD Gariep Dam 72.87 210 *e*P P **14 01 39.3 -1.9**
HVD IAmb IAmb 14 01 40.2
comp=Z,65nm,1.1s
HVD Gariep Dam 72.87 210 P P **14 01 39.3 -1.9**
HVD pmax pmax
comp=Z,65nm,1.1s
HVD Gariep Dam 72.87 210 P P **14 01 39.3 -1.9**
comp=Z,65nm,1.1s
HVD Gariep Dam 72.87 210 P P **14 01 39.3 -1.9**
comp=Z,65nm,1.1s
TNA Tin City 73.03 19 *e*P P **14 01 42.3 +0.8**
comp=Z,17nm,1.0s
TNA Tin City 73.03 19 *e*P P **14 01 42.3 +0.8**
comp=Z,17nm,1.0s
SOE Somerset East 74.69 209 *e*P P **14 01 49.5 -2.3**
SOE IAmb IAmb 14 01 51.4
comp=Z,82nm,1.1s
SOE Somerset East 74.69 209 P P **14 01 49.5 -2.3**
comp=Z,82nm,1.1s
SOE Somerset East 74.69 209 P P **14 01 49.5 -2.3**
comp=Z,82nm,1.1s
GRM Grahamstown 74.86 208 *e*P P **14 01 51.0 -1.6**
GRM IAmb IAmb 14 01 52.1
comp=Z,70nm,1.0s
GRM Grahamstown 74.86 208 P P **14 01 51.0 -1.6**
GRM pmax pmax
comp=Z,70nm,1.0s
GRM Grahamstown 74.86 208 P P **14 01 51.0 -1.6**
comp=Z,70nm,1.0s
GRM Grahamstown 74.86 208 P P **14 01 51.0 -1.6**
comp=Z,70nm,1.0s
COLD Coldfoot 75.38 11 *e*P P **14 01 56.0 +0.8**
comp=Z,27nm,1.0s
COLD Coldfoot 75.38 11 *e*P P **14 01 56.0 +0.8**
comp=Z,27nm,1.0s
SIJI Sorong 75.77 101 P P **14 01 56.9 -1.4**
comp=Z,11nm,1.0s,baz=318,slow=7.9,SNR=8.0
KOMG Komaggas 75.81 217 *e*P P **14 01 55.7 -2.4**
KOMG IAmb IAmb 14 01 57.8
comp=Z,116nm,1.6s
KOMG Komaggas 75.81 217 P P **14 01 55.7 -2.4**
comp=Z,116nm,1.6s
KOMG Komaggas 75.81 217 P P **14 01 55.7 -2.4**
comp=Z,116nm,1.6s
IM04 Indian Mountai 75.88 13 *e*P P **14 01 57.8 -0.4**
IM04 Indian Mountai 75.88 13 *e*P P **14 01 57.8 -0.4**
INK Inuvik 76.29 5 P P **14 01 59.8 -0.6**
comp=Z,3.8nm,0.7s,baz=2.9,slow=8.6,SNR=9.8
INK Inuvik 76.29 5 P P **14 01 59.8 -0.6**
INK pmax pmax
comp=Z,4.0nm,0.7s
INK Inuvik 76.29 5 *e*P P **14 02 00.3 0.0**
INK Inuvik 76.29 5 *e*P P **14 02 00.3 0.0**
SUR Sutherland 76.41 213 P P **14 02 00.3 -1.4**
comp=Z,39nm,0.8s,baz=17,slow=4.3,SNR=7.2
SUR Sutherland 76.41 213 *e*P P **14 02 00.9 -0.8**
comp=Z,600nm,2.3s
SUR Sutherland 76.41 213 *e*P P **14 02 00.9 -0.8**
comp=Z,600nm,2.3s
MLY Manley 77.29 13 *e*P P **14 02 06.7 +0.5**
comp=Z,31nm,1.2s
MLY Manley 77.29 13 *e*P P **14 02 06.7 +0.5**
comp=Z,31nm,1.2s
MDM Murphy Dome 77.79 12 *e*PcP **PcP 14 02 16.1 -2.8**
MDM Murphy Dome 77.79 12 *e*PcP **PcP 14 02 16.1 -2.8**
CER Ceres 77.92 213 *e*P P **14 02 08.6 -1.4**
CER IAmb IAmb 14 02 10.1
comp=Z,379nm,2.1s
CER Ceres 77.92 213 P P **14 02 08.6 -1.4**
comp=Z,379nm,2.1s
CER Ceres 77.92 213 P P **14 02 08.6 -1.4**
comp=Z,379nm,2.1s
COLA College 77.93 12 *e*P P **14 02 10.5 +0.8**
COLA pmax pmax
comp=Z,28nm,0.8s
COLA College 77.93 12 *e*P P **14 02 10.5 +0.8**
comp=Z,28nm,0.8s
COLA College 77.93 12 *e*P P **14 02 10.5 +0.8**
comp=Z,28nm,0.8s
BPAW Bear Paw Mtn. 78.09 13 *e*P P **14 02 10.7 0.0**
comp=Z,12nm,1.4s
BPAW Bear Paw Mtn. 78.09 13 *e*P P **14 02 10.7 0.0**
comp=Z,12nm,1.4s
CCB Clear Creek Bu 78.15 12 *e*P P **14 02 10.6 -0.3**
comp=Z,31nm,1.7s
CCB Clear Creek Bu 78.15 12 *e*P P **14 02 10.6 -0.3**
comp=Z,31nm,1.7s
ILAR Eielson Array 78.18 11 P P **14 02 10.4 -0.7**
comp=Z,1.5nm,0.8s,baz=322,slow=4.1,SNR=18
ILAR LR LR 14 40 25.6
comp=Z,1µm,20.1s,baz=327,slow=38
WRH Wood River Hil 78.26 12 *e*P P **14 02 11.4 -0.2**
comp=Z,8.2nm,0.9s
WRH Wood River Hil 78.26 12 *e*P P **14 02 11.4 -0.2**
comp=Z,8.2nm,0.9s
CAST Castle Rocks 78.50 14 *e*P P **14 02 13.4 +0.4**
comp=Z,37nm,0.8s
CAST Castle Rocks 78.50 14 *e*P P **14 02 13.4 +0.4**
comp=Z,37nm,0.8s
HDA Harding Lake 78.51 11 *e*P P **14 02 12.3 -0.6**
comp=Z,17nm,1.2s
HDA Harding Lake 78.51 11 *e*P P **14 02 12.3 -0.6**
comp=Z,17nm,1.2s
GUMO Guam 78.65 81 LR LR 14 39 23.3
comp=Z,408nm,20.8s,baz=302,slow=37
MCK McKinley 78.80 12 *e*P P **14 02 14.9 +0.3**
MCK pmax pmax
comp=Z,30nm,1.0s
MCK McKinley 78.80 12 *e*P P **14 02 14.9 +0.3**
comp=Z,30nm,1.0s
MCK McKinley 78.80 12 *e*P P **14 02 14.9 +0.3**
comp=Z,30nm,1.0s
PPLA Purkeypile 78.95 14 *e*P P **14 02 16.4 +0.8**
comp=Z,17nm,0.8s
PPLA Purkeypile 78.95 14 *e*P P **14 02 16.4 +0.8**
comp=Z,17nm,0.8s
EGAK Eagle 78.99 9 *e*P P **14 02 15.8 +0.3**
comp=Z,31nm,0.9s
EGAK Eagle 78.99 9 *e*P P **14 02 15.8 +0.3**
comp=Z,31nm,0.9s
SCHQ Schefferville 79.10 332 P P **14 02 14.5 -1.8**
comp=Z,4.8nm,0.6s,baz=43,slow=4.4,SNR=7.3
SCHQ LR LR 14 39 12.2
comp=Z,530nm,18.5s,baz=43,slow=37
SCHQ Schefferville 79.10 332 *e*P P **14 02 15.3 -1.1**
comp=Z,282nm,2.6s
SCHQ Schefferville 79.10 332 *e*P P **14 02 15.3 -1.1**
comp=Z,282nm,2.6s
RND Reindeer 79.11 13 *e*P P **14 02 15.7 -0.7**
RND pmax pmax
comp=Z,37nm,1.1s
RND Reindeer 79.11 13 *e*P P **14 02 15.7 -0.7**
comp=Z,37nm,1.1s
RND Reindeer 79.11 13 *e*P P **14 02 15.7 -0.7**
comp=Z,37nm,1.1s
PAX Paxson 80.09 11 *e*P P **14 02 21.9 +0.2**
PAX pmax pmax
comp=Z,12nm,0.9s
PAX Paxson 80.09 11 *e*P P **14 02 21.9 +0.2**
comp=Z,12nm,0.9s
PAX Paxson 80.09 11 *e*P P **14 02 21.9 +0.2**
comp=Z,12nm,0.9s
MBWA Marble Bar 80.12 125 *e*P P **14 02 21.3 -1.0**
comp=Z,43nm,1.2s
MBWA Marble Bar 80.12 125 *e*P P **14 02 21.3 -1.0**
comp=Z,43nm,1.2s
SML Sawmill 80.69 13 *e*P P **14 02 25.5 +0.6**
SML pmax pmax
comp=Z,7.0nm,0.9s
SML Sawmill 80.69 13 *e*P P **14 02 25.5 +0.6**
comp=Z,6.6nm,0.9s
SML Sawmill 80.69 13 *e*P P **14 02 25.5 +0.6**
comp=Z,6.6nm,0.9s
PMR Palmer 80.74 13 *e*P P **14 02 25.1 +0.1**
PMR pmax pmax
comp=Z,25nm,0.9s
PMR Palmer 80.74 13 *e*P P **14 02 25.1 +0.1**
comp=Z,24nm,0.9s
PMR Palmer 80.74 13 *e*P P **14 02 25.1 +0.1**
comp=Z,24nm,0.9s
SCM Sheep Creek Mo 80.84 12 *e*P P **14 02 26.1 +0.4**
SCM pmax pmax
comp=Z,21nm,0.8s
SCM Sheep Creek Mo 80.84 12 *e*P P **14 02 26.1 +0.4**
comp=Z,21nm,0.8s
SCM Sheep Creek Mo 80.84 12 *e*P P **14 02 26.1 +0.4**
comp=Z,21nm,0.8s
KLU Klutina 81.41 12 *e*P P **14 02 30.3 +1.5**
comp=Z,32nm,1.1s
KLU Klutina 81.41 12 *e*P P **14 02 30.3 +1.5**
comp=Z,32nm,1.1s
FITZ Fitzroy Crossi 82.19 119 P P **14 02 32.0 -1.3**
comp=Z,16nm,0.9s,baz=326,slow=5.5,SNR=14
YKA Yellowknife Ar 82.46 357 P P **14 02 32.8 -1.3**
comp=Z,3.2nm,0.8s,baz=358,slow=6.4,SNR=9.6
YKA Yellowknife Ar 82.46 357 P P **14 02 32.8 -1.3**
YKA pmax pmax
comp=Z,3.0nm,0.8s
HYT Haines Junctio 83.26 8 *e*P P **14 02 39.1 +0.6**
HYT Haines Junctio 83.26 8 *e*P P **14 02 39.1 +0.6**
KDAK Kodiak Island 83.48 17 P P **14 02 37.5 -2.1**
comp=Z,8.0nm,1.0s,baz=328,slow=13,SNR=2.5
FCC Fort Churchill 83.74 346 *e*P P **14 02 40.2 -0.6**
FCC pmax pmax
comp=Z,31nm,1.0s
FCC Fort Churchill 83.74 346 *e*P P **14 02 40.2 -0.6**
comp=Z,31nm,1.0s
FCC Fort Churchill 83.74 346 *e*P P **14 02 40.2 -0.6**
comp=Z,31nm,1.0s
DLBC Dease Lake 86.32 5 P P **14 02 52.8 -1.1**
comp=Z,3.8nm,1.1s,baz=302,slow=7.4,SNR=4.5
DLBC Dease Lake 86.32 5 *e*P P **14 02 54.8 +0.9**
comp=Z,22nm,1.1s
DLBC Dease Lake 86.32 5 *e*P P **14 02 54.8 +0.9**
comp=Z,22nm,1.1s
NWAO Narrogin (SRO) 86.83 135 P P 14 02 53.1 -3.4
comp=Z,19nm,0.9s,baz=328,slow=5.5,SNR=4.1
FFC Flin Flon 88.94 349 P P 14 03 11.9 +5.4
comp=Z,170nm,1.1s,SNR=7.1
FFC Flin Flon 88.94 349 *e*P P **14 03 06.1 -0.4**
FFC pmax pmax
comp=Z,31nm,1.0s
FFC Flin Flon 88.94 349 *e*P P **14 03 06.1 -0.4**
comp=Z,31nm,1.0s
FFC Flin Flon 88.94 349 *e*P P **14 03 06.1 -0.4**
comp=Z,31nm,1.0s
WRA Warramunga Arr 89.72 115 P P **14 03 09.1 -1.5**
comp=Z,6.7nm,0.9s,baz=320,slow=4.2,SNR=41
WRA PKKPbc **PKKPbc 14 20 42.0 -1.1**
comp=Z,0.7nm,0.9s,baz=125,slow=2.6,SNR=5.3
WRA LR LR 14 46 17.6
comp=Z,438nm,21.8s,baz=240,slow=37
WRAB Tennant Creek 89.72 115 *e*P P **14 03 09.2 -1.4**
WRAB pmax pmax
comp=Z,48nm,1.1s
WRAB Tennant Creek 89.72 115 *e*P P **14 03 09.2 -1.4**
comp=Z,48nm,1.1s
WRAB Tennant Creek 89.72 115 *e*P P **14 03 09.2 -1.4**
comp=Z,48nm,1.1s
EDM Edmonton 91.65 356 *e*P P **14 03 19.5 +0.3**
EDM Edmonton 91.65 356 *e*P P **14 03 19.5 +0.3**
EDM Edmonton 91.65 356 *e*P P **14 03 19.5 +0.3**
ASAR Alice Springs 91.67 118 P P **14 03 18.1 -1.5**
comp=Z,2.3nm,0.8s,baz=308,slow=4.8,SNR=16
ASAR PKKPbc **PKKPdf 14 20 36.7 +0.6**
comp=Z,0.6nm,0.7s,baz=109,slow=2.7,SNR=6.1
ASAR LR LR 14 48 08.5
comp=Z,311nm,18.9s,baz=308,slow=38
ULM Lac du Bonnet 92.08 344 P P 14 03 18.0 -3.2
comp=Z,6.2nm,0.8s,baz=33,slow=4.7,SNR=6.0
ULM LR LR 14 46 56.1
comp=Z,1µm,20.4s,baz=38,slow=37
ULM Lac du Bonnet 92.08 344 *e*P P **14 03 19.5 -1.7**
ULM pmax pmax
comp=Z,21nm,0.9s
ULM Lac du Bonnet 92.08 344 *e*P P **14 03 19.5 -1.7**
comp=Z,21nm,0.9s
ULM Lac du Bonnet 92.08 344 *e*P P **14 03 19.5 -1.7**
comp=Z,21nm,0.9s
EYMN Ely 93.16 341 P P 14 03 30.7 +4.5
baz=93
A30A Hoffart Farm, 93.84 345 P P 14 03 34.8 +5.5
baz=94
AGMN Agassiz Nation 93.92 344 P P 14 03 34.7 +5.0
baz=94
A29A Manning Farm, 94.04 346 P P 14 03 35.4 +5.1
baz=94
B30A Myrvik Farm, E 94.31 345 P P 14 03 36.3 +4.8
baz=94
A27A Ledoux Ranch, 94.39 347 P P 14 03 37.2 +5.3
baz=94
B29A Wagenman Farm, 94.50 346 P P 14 03 37.6 +5.2
baz=94
A26A Wade Farm, Ken 94.59 348 P P 14 03 38.6 +5.8
baz=94
B28A Dugan Ranch, T 94.72 347 P P 14 03 39.2 +5.8
baz=94
A25A Svangstu Ranch 94.73 349 P P 14 03 39.1 +5.7
baz=94
B27A Peters Farms, 94.92 347 P P 14 03 39.7 +5.4
baz=95
C30A Mose, Pekin 95.05 345 P P 14 03 40.7 +5.8
baz=95
B26A Jensen Ranch, 95.12 348 P P 14 03 41.2 +5.9
baz=95
MDND Maddock 95.14 346 P P 14 03 41.2 +5.9
baz=95
B25A Knox Farm, Ray 95.38 348 P P 14 03 42.3 +5.9
baz=95
C28A Hausauer Farms 95.42 346 P P 14 03 42.5 +5.9
baz=95
C26A Wahner Farm, P 95.63 348 P P 14 03 43.5 +5.9
baz=95
D30A Buchanan 95.68 345 P P 14 03 43.1 +5.3
baz=95
D27A Center 96.22 347 P P 14 03 45.6 +5.3
baz=96
E30A Jud 96.29 345 P P 14 03 45.8 +5.2
baz=96
D26A Manning 96.46 348 P P 14 03 47.3 +6.0
baz=96
D25A Fairfield 96.50 348 P P 14 03 47.7 +6.2
baz=96
EGMT Eagleton 96.51 353 P P 14 03 47.0 +5.3
baz=96
E28A Huff 96.58 346 P P 14 03 47.6 +5.7
baz=96
D24A Glendive 96.69 349 P P 14 03 47.9 +5.4
baz=96
NEW Newport 96.78 358 P P **14 03 41.9 -1.0**
comp=Z,1.5nm,0.6s,baz=326,slow=7.3,SNR=3.0
NEW Newport 96.78 358 P P 14 03 48.7 +5.9
baz=96
F30A Leola 96.95 345 P P 14 03 49.4 +5.8
baz=97
E26A Carlson Angus 97.01 347 P Pdif 14 03 49.4 +5.4
baz=97
F29A Eureka 97.12 346 P Pdif 14 03 49.9 +5.5
baz=97
E25A Miller Ranch, 97.14 348 P Pdif 14 03 50.1 +5.6
baz=97
E24A Baker 97.23 349 P Pdif 14 03 50.7 +5.7
baz=97
H34A Spellman Lake, 97.31 342 P Pdif 14 03 51.3 +6.0
baz=97
LAO LASA Array 97.39 350 P Pdif 14 03 51.8 +6.1
baz=97
E23A Ismay 97.45 349 P Pdif 14 03 51.8 +5.8
baz=97
F27A Lemmon 97.50 347 P Pdif 14 03 51.7 +5.5
baz=97
E22A Miles City 97.60 350 P Pdif 14 03 52.6 +6.0
baz=97
F26A Lodgepole 97.64 347 P Pdif 14 03 52.4 +5.6
baz=97
G30A Faulkton 97.65 345 P Pdif 14 03 52.4 +5.6
baz=97
E21A Keefer Ranch, 97.66 351 P Pdif 14 03 52.3 +5.5
baz=97
F25A Bowman 97.71 348 P Pdif 14 03 52.6 +5.4
baz=97
G29A Hoven 97.75 345 P Pdif 14 03 52.6 +5.3
baz=97
F24A Ekalaka 97.95 349 P Pdif 14 03 54.1 +5.9
baz=98
G27A Dupree 97.96 347 P Pdif 14 03 53.7 +5.4
baz=98
MSO Missoula 98.06 355 P Pdif 14 03 54.1 +5.4
baz=98
G28A Parade 98.06 346 P Pdif 14 03 54.1 +5.5
baz=98
G26A Maurine 98.17 347 P Pdif 14 03 54.7 +5.6
baz=98
F23A Volborg 98.22 349 P Pdif 14 03 54.4 +4.9
baz=98
F22A Rosebud 98.29 350 P Pdif 14 03 55.2 +5.4
baz=98
ECSD EROS Data Cent 98.39 343 P Pdif 14 03 55.7 +5.6
baz=98
G25A Newell 98.41 348 P Pdif 14 03 55.6 +5.3
baz=98
H28A Mission Ridge 98.47 346 P Pdif 14 03 56.1 +5.6
baz=98
F20A Billings 98.52 351 P Pdif 14 03 55.7 +4.9
baz=98
HAWA Hanford 98.71 359 *e*P Pdif 14 03 53.7 +2.2
comp=Z,68nm,2.8s
HAWA Hanford 98.71 359 *e*P Pdif 14 03 53.7 +2.2
comp=Z,68nm,2.8s
H27A Howes 98.71 347 P Pdif 14 03 57.3 +5.7
baz=98
G23A Biddle 98.73 349 P Pdif 14 03 57.5 +5.8
baz=98
G22A Birney 98.84 350 P Pdif 14 03 57.9 +5.6
baz=98
H26A Fairpoint 98.86 347 P Pdif 14 03 57.9 +5.7
baz=98
I29A Vivian Onida 98.95 345 P Pdif 14 03 58.0 +5.3
baz=99
G21A Lodge Grass 98.97 350 P Pdif 14 03 58.0 +5.2
baz=99
H25A Fruitdale 99.00 348 P **Pdif 14 03 58.3 +5.4**
baz=99
H24A Dirks Ranch, A 99.03 348 P **Pdif 14 03 58.1 +5.0**
baz=99
BOZ Bozeman (W) 99.05 354 P **Pdif 14 03 58.5 +5.3**
baz=99
G20A Bridger 99.10 351 P **Pdif 14 03 58.9 +5.5**
baz=99
I28A Midland 99.14 346 P **Pdif 14 03 59.0 +5.4**
baz=99
I27A Quinn 99.25 347 P **Pdif 14 03 59.4 +5.4**
baz=99
RLMT Red Lodge 99.33 352 P **Pdif 14 04 00.0 +5.5**

	baz=99						
I26A	**New Underwood**	**99.44**	**347**	P	**Pdif**	**14 04 00.5**	**+5.6**
	baz=99						
J28A	**Allard Ranch,**	**99.71**	**346**	P	**Pdif**	**14 04 01.9**	**+5.8**
	baz=99						
J27A	**Elkhorn Farm,**	**100.03**	**346**	P	**Pdif**	**14 04 02.4**	**+4.8**
	baz=100						
I22A	**9 Mile Ranch,**	**100.17**	**350**	P	**Pdif**	**14 04 03.5**	**+5.3**
	baz=100						
I20A	**Worland**	**100.34**	**351**	P	**Pdif**	**14 04 04.4**	**+5.4**
	baz=100						
I21A	**Big Trails, Te**	**100.36**	**350**	P	**Pdif**	**14 04 04.6**	**+5.5**
	baz=100						
I19A	**Meeteetse**	**100.36**	**352**	P	**Pdif**	**14 04 04.7**	**+5.6**
	baz=100						
K28A	**Ten Mile Ranch**	**100.42**	**346**	P	**Pdif**	**14 04 04.5**	**+5.2**
	baz=100						
J24A	**Dixon Ranch, L**	**100.43**	**348**	P	**Pdif**	**14 04 04.3**	**+4.9**
	baz=100						
J22A	**Midwest**	**100.64**	**350**	P	**Pdif**	**14 04 05.3**	**+5.0**
	baz=100						
J19A	**Crowheart**	**101.13**	**351**	P	**Pdif**	**14 04 07.8**	**+5.2**
	baz=101						
SYO	**Syowa Base**	**105.00**	**187↓**	*e*PP	PP	14 08 42.6	+2.9
CASY	**Casey**	**108.54**	**161**	*e*PP	PP	14 09 03.7	-2.1
CASY	**Casey**	**108.54**	**161**	*e*PP	PP	14 09 03.7	-2.2
TXAR	**Lajitas Array**	**113.78**	**344**	PKKPbc	PKKPbc	14 19 30.6	-2.6
	comp=Z,0.8nm,1.0s,baz=187,slow=4.5,SNR=5.2						
SNAA	**Sanae**	**115.13**	**198**	PKiKP	**PKiKP**	**14 08 49.7**	**-2.6**
VNA1	**Neumayer--Stat**	**115.99**	**200**	PKiKP	**PKPdf**	**14 08 52.8**	**-1.0**
DRV	**Dumont d'Urvil**	**118.30**	**153**	PP	PP	14 09 57.0	-18
DRV				R		14 46 00.0	
SAML	**Samuel**	**121.60**	**282**	*e*PKIKP	**PKPdf**	**14 09 04.5**	**-1.9**
SAML	**Samuel**	**121.60**	**282**	*e*PKPdf	**PKPdf**	**14 09 04.5**	**-1.9**
QSPA	**South Pole Qui**	**125.08**	**180**	PKP	**PKPdf**	**14 09 08.9**	**-2.6**
	comp=Z,13nm,1.0s,baz=283,slow=3.0,SNR=3.7						
CPUP	**Villa Florida**	**125.71**	**261**	PKP	**PKPdf**	**14 09 10.9**	**-3.0**
	comp=Z,4.4nm,0.8s,baz=79,slow=2.5,SNR=11						
CPUP	**Villa Florida**	**125.71**	**261**	PKIKP	**PKPdf**	**14 09 10.9**	**-3.0**
CPUP				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CPUP	**Villa Florida**	**125.71**	**261**	*e*PKIKP	**PKPdf**	**14 09 11.6**	**-2.3**
CPUP	**Villa Florida**	**125.71**	**261**	*e*PKPdf	**PKPdf**	**14 09 11.6**	**-2.3**
VNDA	**Vanda**	**126.83**	**165**	PKP	**PKPdf**	**14 09 12.6**	**-1.9**
	comp=Z,1.5nm,1.0s,baz=294,slow=6.0,SNR=5.4						
VNDA				PP	**PP**	**14 11 08.7**	**-3.9**
	comp=Z,2.3nm,1.1s,baz=270,slow=6.1,SNR=6.1						
VNDA	**Vanda**	**126.83**	**165**	PKIKP	**PKPdf**	**14 09 12.6**	**-1.9**
VNDA						14 11 08.7	
VNDA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
VNDA	**Vanda**	**126.83**	**165**	*e*PKIKP	**PKPdf**	**14 09 13.1**	**-1.4**
VNDA	**Vanda**	**126.83**	**165**	*e*PP	PP	14 11 10.3	-2.3
VNDA	**Vanda**	**126.83**	**165**	*e*PKPdf	**PKPdf**	**14 09 13.1**	**-1.4**
VNDA				*e*PP	**PP**	**14 11 10.3**	**-2.3**
OTAV	**Otavalo**	**127.17**	**303**	*e*PKIKP	**PKPdf**	**14 09 17.3**	**-0.4**
OTAV	**Otavalo**	**127.17**	**303**	*e*PKPdf	**PKPdf**	**14 09 17.3**	**-0.4**
SBA	**Scott Base**	**127.84**	**165**	*e*PKIKP	**PKPdf**	**14 09 16.3**	**-0.2**
SBA	**Scott Base**	**127.84**	**165**	*e*PKIKP	**PKPdf**	**14 09 16.3**	**-0.2**
SBA	**Scott Base**	**127.84**	**165**	*e*PKPdf	**PKPdf**	**14 09 16.3**	**-0.2**
LPAZ	**La Paz**	**129.70**	**278**	PKP	**PKPdf**	**14 09 20.7**	**-1.9**
	comp=Z,3.7nm,0.8s,baz=58,slow=2.5,SNR=14						
LPAZ				PP	**PP**	**14 11 30.5**	**-3.0**
	comp=Z,3.9nm,1.0s,baz=50,slow=7.0,SNR=4.0						
LPAZ	**La Paz**	**129.70**	**278**	PKIKP	**PKPdf**	**14 09 20.7**	**-1.9**
LPAZ						14 11 30.5	
LPAZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LPAZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
LPAZ	**La Paz**	**129.70**	**278**	*e*PKIKP	**PKPdf**	**14 09 20.9**	**-1.6**
LPAZ	**La Paz**	**129.70**	**278**	*e*PP	PP	14 11 30.9	-2.6
LPAZ	**La Paz**	**129.70**	**278**	*e*PKPdf	**PKPdf**	**14 09 20.9**	**-1.6**
LPAZ				*e*PP	**PP**	**14 11 30.9**	**-2.6**
LVC	**Limon Verde**	**133.50**	**271**	PKP	**PKPdf**	**14 09 28.6**	**-0.5**
	comp=Z,24nm,1.0s,baz=91,slow=4.4,SNR=2.2						
LVC	**Limon Verde**	**133.50**	**271**	*e*PKIKP	**PKPdf**	**14 09 29.4**	**+0.3**
LVC	**Limon Verde**	**133.50**	**271**	*e*PKPdf	**PKPdf**	**14 09 29.4**	**+0.3**
TRQA	**Tornquist**	**133.56**	**248**	*e*PKIKP	**PKPdf**	**14 09 27.4**	**-1.1**
TRQA	**Tornquist**	**133.56**	**248**	*e*PKPdf	**PKPdf**	**14 09 27.4**	**-1.1**
CFAA	**Coronel Fontan**	**136.55**	**259**	PKP	**PKPdf**	**14 09 33.2**	**-1.1**
	comp=Z,0.9nm,1.0s,baz=270,slow=2.0,SNR=2.5						
PMOR	**Pomariorio Ree**	**148.29**	**57**	*e*PKIKP	**PKPdf**	**14 09 53.7**	**-1.7**
	comp=Z,195nm,1.1s						
PPT	**Papeete**	**148.81**	**63**	PKPbc	**PKPbc**	**14 09 58.6**	**-1.5**
	comp=Z,59nm,1.0s,baz=319,slow=1.7,SNR=2.1						
PPT2	**Papeete2**	**148.82**	**63**	*e*PKIKP	**PKPdf**	**14 09 54.5**	**-1.8**
	comp=Z,99nm,1.1s						
PPT2	**Papeete2**	**148.82**	**63**	*e*LR	LR	14 59 28.1	
	comp=Z,756nm,23.2s						
TIAR	**Tiarei**	**148.97**	**63**	*e*PKIKP	**PKPdf**	**14 09 54.7**	**-1.8**
	comp=Z,27nm,1.0s						
TBI	**Tubuai**	**152.29**	**72**	*e*PKIKP	**PKPdf**	**14 09 59.3**	**-2.2**
	comp=Z,144nm,0.9s						
TBI	**Tubuai**	**152.29**	**72**	*e*LR	LR	15 00 50.8	
	comp=Z,379nm,26.5s						
RKT	**Rikitea**	**162.60**	**50**	*e*LR	LR	15 05 51.1	
	comp=Z,580nm,23.8s						

*ISCJB **30** 14:01:05.3±0.5, 17.°65N±0.°07×145.°8E±0.°1, h167km, mb4.0/19, Error ellipse: s-maj=17.6km s-min=9.5km az=12.9*

*IDC **30** 14:01:13.6±1.3, 17.°62N×145.°79E, h234km±12km, mb3.7/19, mb1 3.8/21, mb1mx3.5/68, mbtmp4.3/21, Error ellipse: s-maj=15.6km s-min=8.2km az=95.0*

ISC 30 14:01:06.9±0.6, 17.°61N±0.°07×145.°9E±0.°1, h167km, n22, σ0°68/21, mb4.0/19, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.11**	**194**	P	Pn	14 02 18.7	+10
	9.5nm,0.3s,baz=133,slow=4.6,SNR=8.4						
GUMO				S	Sn	14 03 10.2	+12
	45nm,0.3s,baz=146,slow=23,SNR=12						
JCJ	**Chichijima**	**10.04**	**341**	P	P	14 03 32.6	-4.0
	2.8nm,0.3s,baz=5.9,slow=16,SNR=3.1						
JCJ				S	**S**	**14 05 20.6**	**+1.0**
	2.2nm,0.3s,baz=294,slow=20,SNR=3.5						
JAY	**Jayapura**	**20.64**	**195**	P	**P**	**14 05 33.9**	**+0.3**
	16nm,0.9s,baz=239,slow=6.1,SNR=4.3						
SIJI	**Sorong**	**23.33**	**220**	P	**P**	**14 06 00.7**	**+0.4**
	5.6nm,0.4s,baz=9.6,slow=18,SNR=8.0						
KSRS	**Korea Array**	**25.30**	**325**	P	**P**	**14 06 18.1**	**+0.1**
	0.5nm,0.5s,baz=143,slow=9.6,SNR=4.4						
PMG	**Port Moresby**	**26.87**	**177**	P	**P**	**14 06 32.8**	**+0.5**
	15nm,0.9s,baz=349,slow=10,SNR=3.7						
KAPI	**Kappang**	**34.21**	**231**	P	**P**	**14 07 35.6**	**-1.2**
	3.4nm,0.4s,baz=50,slow=10,SNR=3.7						
CTA	**Charters Tower**	**37.47**	**179**	P	**P**	**14 08 05.3**	**+0.9**
	2.2nm,0.7s,baz=357,slow=9.2,SNR=5.1						
WRA	**Warramunga Arr**	**39.00**	**197**	P	**P**	**14 08 17.4**	**+0.2**
	12nm,0.4s,baz=14,slow=8.4,SNR=204						
FITZ	**Fitzroy Crossi**	**40.69**	**210**	P	**P**	**14 08 31.5**	**+0.3**
	4.0nm,0.3s,baz=25,slow=6.3,SNR=74						
ASAR	**Alice Springs**	**42.66**	**196**	P	**P**	**14 08 47.7**	**+0.5**
	4.2nm,0.5s,baz=16,slow=11,SNR=42						
CMAR	**Chiang Mai Arr**	**44.54**	**279**	P	**P**	**14 09 03.0**	**+0.7**
	3.0nm,0.7s,baz=72,slow=6.7,SNR=18						
STKA	**Stephens Creek**	**49.37**	**185**	P	**P**	**14 09 39.1**	**-0.3**
	2.1nm,0.5s,baz=6.0,slow=7.1,SNR=8.0						
NWAO	**Narrogin (SRO)**	**57.23**	**209**	P	**P**	**14 10 36.1**	**-0.7**
	7.2nm,0.7s,baz=151,slow=2.3,SNR=5.3						
MKAR	**Makanchi Array**	**59.34**	**314**	P	**P**	**14 10 51.4**	**+0.1**
	0.2nm,0.4s,baz=105,slow=6.5,SNR=2.7						
KURBB	**Kurchatov Arra**	**62.24**	**318**	P	**P**	**14 11 09.3**	**-1.5**
	0.4nm,0.4s,baz=95,slow=7.3,SNR=7.1						
ILAR	**Eielson Array**	**64.54**	**26**	P	**P**	**14 11 24.9**	**-0.8**
	0.6nm,0.4s,baz=253,slow=5.8,SNR=20						
INK	**Inuvik**	**70.30**	**23**	P	**P**	**14 12 01.6**	**-0.2**
	1.4nm,0.9s,baz=220,slow=5.0,SNR=4.6						
DLBC	**Dease Lake**	**72.10**	**33**	P	**P**	**14 12 13.2**	**+0.2**
	0.9nm,0.5s,baz=315,slow=11,SNR=3.1						
YKA	**Yellowknife Ar**	**78.87**	**28**	P	**P**	**14 12 50.9**	**-0.3**
	0.5nm,0.7s,baz=283,slow=5.3,SNR=3.7						
NVAR	**Mina Array Bea**	**83.67**	**52**	P	**P**	**14 13 17.6**	**+0.2**
	1.7nm,0.8s,baz=264,slow=6.2,SNR=10						
ELK	**Elko**	**85.20**	**49**	P	**P**	**14 13 25.3**	**+0.2**
	1.2nm,0.8s,baz=252,slow=7.1,SNR=6.0						

IDC 30 14:07:23.9±476.0, 56.°60N×41.°17E, h0km, Error ellipse: s-maj=178.5km s-min=49.8km az=94.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**2.19**	**275**	*i*		14 22 00.0	
	baz=92,slow=311,SNR=3.2						
I31KZ	**AKTYUBINSK INF**	**11.78**	**115**	*i*		15 22 40.0	
	baz=313,slow=306,SNR=1.6						
I26DE	**FREYUNG INFRAS**	**18.25**	**257**	*i*		15 54 00.0	
	baz=52,slow=304,SNR=0.4						

IDC 30 14:20:33.9±6.6, 19.°91S×173.°38W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/30, mbtmp3.6/2, Error ellipse: s-maj=339.1km s-min=60.0km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**48.87**	**256**	P	P	14 29 20.6	-1.1
	0.4nm,0.7s,baz=99,slow=7.2,SNR=7.9						
WRA	**Warramunga Arr**	**48.98**	**261**	P	P	14 29 23.4	+0.8
	0.5nm,0.4s,baz=96,slow=8.5,SNR=19						
BRTR	**Keskin Array B**	**149.54**	**316**	PKPbc	PKPbc	14 40 25.1	-0.6
	0.4nm,0.6s,baz=116,slow=3.4,SNR=2.9						

*BJI **30** 14:21:13.9, 39.°40N×115.°36E, h4km, ML3.8/14*

*IDC **30** 14:21:17.0±2.1, 40.°37N×116.°10E, h0km, mb3.3/3, mb1 3.5/5, mb1mx3.3/46, mbtmp3.3/5, ML3.2/2, Error ellipse: s-maj=57.5km s-min=21.4km az=20.0*

ISC 30 14:21:13.1±0.7, 39.°39N±0.°04×115.°56E±0.°03, h10km, n15, σ2°33/21, mb3.4/3, 1C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BJI	**Beijing**	**0.81**	**36**	Pg	**Pb**	**14 21 29.8**	**+0.6**
BJI				Sg	**Sb**	**14 21 41.5**	**+1.4**
BJI				SMN			
	3μm,0.5s						
BJI				SME			
	3μm,0.6s						
TIY	**Taiyuan**	**2.96**	**237**	Pg	**Pb**	**14 22 04.8**	**-1.2**
TIY				Sg	**Sn**	**14 22 36.3**	**+0.4**
TIY				SMN			
	920nm,0.9s						
TIY				SME			
	660nm,0.5s						
TIA	**Tai'an**	**3.41**	**158**	Pn	**Pn**	**14 22 05.5**	**-0.8**
TIA				Pg	**Pb**	**14 22 12.5**	**-1.0**
TIA				Sg	**Sb**	**14 22 58.8**	**+3.8**
TIA				SMN			
	150nm,0.5s						
TIA				SME			
	170nm,0.5s						
BTO	**Baotou**	**4.42**	**288**	*e*Pg	**Pb**	**14 22 31.0**	**+0.2**
BTO				Sg	**Sb**	**14 23 23.0**	**-1.2**
BTO				SMN			
	35nm,0.4s						
BTO				SME			
	24nm,0.4s						
DL2	**Dalian**	**4.75**	**94**	Pn	**Pn**	**14 22 26.8**	**+2.2**
DL2				Sn	**Sn**	**14 23 18.5**	**-1.2**
DL2				SMN			
	74nm,1.0s						
DL2				SME			
	30nm,0.8s						
SNY	**Shenyang**	**6.57**	**66**	⇑Pg	Pg	14 23 31.5	+13
SNY				Sg	**Sg**	**14 24 40.5**	**-3.5**
SNY				smax	smax		
	comp=N,48nm,1.3s						
SNY				smax	smax		
	comp=E,16nm,0.5s						
XAN	**Xi'an**	**7.54**	**227**	Pg	Pb	14 23 29.0	+5.0
XAN				Sg	Sb	14 25 01.5	+7.5
XAN				SMN			
	comp=E,44nm,0.7s						
XAN				SME			
	comp=E,22nm,0.7s						
KSRS	**Korea Array**	**9.90**	**97**	Pn	**Pn**	**14 23 37.1**	**+1.8**
	comp=E,0.4nm,0.3s,baz=291,slow=14,SNR=9.1						
KSRS				Sn	**Sn**	**14 25 24.9**	**-1.5**
	comp=E,0.3nm,0.3s,baz=279,slow=24,SNR=4.4						
SONM	**Songino Array**	**10.73**	**325**	Pn	**Pn**	**14 23 43.7**	**-3.2**
	comp=E,0.1nm,0.3s,baz=132,slow=14,SNR=2.3						
SONM				Lg	Lg	14 26 41.9	
	comp=E,0.3nm,0.3s,baz=132,slow=30,SNR=4.0						
GTA	**Gaotai**	**12.18**	**275**	*e*P	**Pn**	**14 24 08.5**	**+1.8**
GTA				pP		14 24 12.0	
GTA				sP		14 24 15.0	
GTA				S	**Sn**	**14 26 23.3**	**+0.7**
GTA				sS		14 26 29.0	
GTA				SS	**SnSn**	**14 26 38.0**	**+3.6**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,620nm,5.2s						
GTA				LR	LR		
	comp=N,460nm,12.8s						
GTA				LR	LR		
	comp=E,380nm,10.7s						
GTA				LR	LR		
	comp=Z,310nm,11.4s						
CD2	**Chengdu**	**12.83**	**232**	*e*P	**Pn**	**14 24 14.5**	**-1.0**
QIZ	**Qiongzhong**	**20.88**	**195**	P	Pn	14 25 57.3	-0.6
QIZ				S	Sn	14 29 52.0	-1.8
QIZ				LR	LR		
	comp=Z,420nm,15.6s						
MKAR	**Makanchi Array**	**25.25**	**298**	P	**P**	**14 26 43.9**	**+4.7**
	comp=Z,0.2nm,0.5s,baz=101,slow=9.2,SNR=2.7						
KURBB	**Kurchatov Arra**	**28.20**	**306**	P	P	14 27 09.6	+3.9
	comp=Z,0.5nm,0.8s,baz=99,slow=9.3,SNR=5.0						
ILAR	**Eielson Array**	**58.17**	**30**	P	**P**	**14 31 05.0**	**-1.7**
	comp=Z,0.4nm,0.7s,baz=300,slow=6.0,SNR=6.0						

DJA 30 14:26:28.1±0.4, 0.°5±2.°×12.°0E±°, h12km±3km, M4.0/5, mb4.4/1, MLv3.8/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCI	**Palu**	**0.54**	**191**	P	Pg	14 26 38.3	-0.5
PCI				S	Sb	14 26 46.9	-0.5
MPSI	**Mapaga**	**0.70**	**357**	P	Pg	14 26 41.0	-0.8
MPSI				S	Sg	14 26 51.0	-0.1
APSI	**Ampana**	**1.79**	**107**	P	Pn	14 26 58.9	0.0
APSI				S	Sb	14 27 22.6	-0.7
MRSI	**Marisa**	**2.17**	**67**	P	Pn	14 27 03.8	-0.3
MRSI				S	Sn	14 27 31.1	+0.2
TTSI	**Tana Toraja**	**2.66**	**183**	P	Pn	14 27 11.0	+0.2
TTSI				S	Sn	14 27 43.9	+0.9
LUWI	**Luwuk**	**2.91**	**103**	P	Pn	14 27 14.4	+0.2
LUWI				S	Sn	14 27 50.1	+0.9
BKB	**Balikpapan**	**3.17**	**254**	P	Pn	14 27 17.7	-0.1
SPSI	**Sidrap Palu**	**3.58**	**183**	P	Pn	14 27 23.9	+0.5
SPSI				S	Sn	14 28 06.9	+1.3
KMSI	**Cibinong**	**4.15**	**77**	P	Pn	14 27 31.0	-0.3
KMSI				S	Sn	14 28 20.8	+1.0
KBKI	**Kotabaru**	**4.76**	**232**	P	Pn	14 27 40.3	+0.5
KBKI				S	Sn	14 28 36.5	+1.6
BKSI	**Bulukumba**	**4.92**	**178**	P	Pn	14 27 42.4	+0.4
SANI	**Sanana**	**6.27**	**105**	P	Pn	14 28 00.4	-0.1

IDC 30 14:31:45.5±3.0, 30.°63S×177.°95W, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.4/28, mbtmp3.3/3, ML2.8/1, MS3.0/1, Ms1 3.0/1, ms1mx2.9/6, Error ellipse: s-maj=71.2km s-min=45.2km az=119.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**8.63**	**207**	Pn	Pn	14 33 51.5	-0.2
	0.1nm,0.3s,baz=12,slow=20,SNR=3.2						
URZ				Sn	Sn	14 35 25.7	-4.1
	0.2nm,0.3s,baz=163,slow=17,SNR=4.2						
URZ				LR	LR	14 36 16.4	
	comp=Z,88nm,18.6s,baz=100,slow=31						
ASAR	**Alice Springs**	**43.14**	**267**	P	P	14 39 48.1	+0.1
	0.3nm,0.9s,baz=108,slow=7.5,SNR=3.2						
WRA	**Warramunga Arr**	**44.15**	**272**	P	P	14 39 55.8	-0.4
	0.1nm,0.3s,baz=111,slow=8.1,SNR=7.8						
FINES	**FINESS Array B**	**145.37**	**340**	PKPbc	PKPbc	14 51 23.7	-0.8
	0.4nm,0.4s,baz=1.9,slow=4.2,SNR=2.5						

*CSEM **30** 14:39:23.6, 38.°52N×22.°28E, h14km, MD2.7*

ATH 30 14:39:23.6, 38.°52N×22.°28E, h14km±3km, MD2.7/11,

Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KALE	**Kalithea**	**0.17**	**221**	*e*PG	Pg	14 39 27.3	-0.5
KALE				*e*SG	Sg	14 39 30.2	-0.4
KALE	**Kalithea**	**0.17**	**221**	*e*Pg	Pg	14 39 27.3	-0.5
KALE				*e*Sg	Sg	14 39 30.2	-0.4
DSF	**Desfina**	**0.22**	**119**	*e*PG	Pg	14 39 28.1	-0.5
DSF				*e*SG	Sg	14 39 32.1	+0.1
DSF	**Desfina**	**0.22**	**119**	*e*Pg	Pg	14 39 28.1	-0.5
DSF				*e*Sg	Sg	14 39 32.1	+0.1
TRIZ	**Trizonia**	**0.22**	**227**	*e*PG	Pg	14 39 28.2	-0.3
TRIZ				*e*SG	Sg	14 39 31.9	0.0
TRIZ	**Trizonia**	**0.22**	**227**	*e*Pg	Pg	14 39 28.2	-0.3
TRIZ				*e*Sg	Sg	14 39 31.9	0.0
DESF	**Desfina**	**0.23**	**118**	*e*PG	Pg	14 39 28.1	-0.6
DESF				*e*SG	Sg	14 39 32.6	+0.5
DESF	**Desfina**	**0.23**	**118**	*e*Pg	Pg	14 39 28.1	-0.6
DESF				*e*Sg	Sg	14 39 32.6	+0.5
EFP	**Efpalio**	**0.31**	**253**	*e*PB	Pg	14 39 29.7	-0.3
EFP				*e*SB	Sb	14 39 35.6	-0.2
EFP	**Efpalio**	**0.31**	**253**	*e*Pb	Pg	14 39 29.7	-0.3
EFP				*e*Sb	Sb	14 39 35.6	-0.2
LAKA	**Lakka**	**0.37**	**220**	*e*PB	Pg	14 39 30.8	-0.3
LAKA				*e*SB	Sg	14 39 35.9	-0.3
LAKA	**Lakka**	**0.37**	**220**	*e*Pb	Pg	14 39 30.8	-0.3
LAKA				*e*Sb	Sg	14 39 35.9	-0.3
AXAR	**Agios Charalam**	**0.39**	**50**	*e*PB	Pg	14 39 31.1	-0.3
AXAR				*e*SB	Sb	14 39 38.5	+0.4
AXAR	**Agios Charalam**	**0.39**	**50**	*e*Pb	Pg	14 39 31.1	-0.3
AXAR				*e*Sb	Sb	14 39 38.5	+0.4
KLV	**Kalavryta, Ach**	**0.49**	**192**	*e*PB	Pg	14 39 33.1	-0.2
KLV				*e*SB	Sb	14 39 40.8	-0.3
KLV	**Kalavryta, Ach**	**0.49**	**192**	*e*Pb	Pg	14 39 33.1	-0.2
KLV				*e*Sb	Sb	14 39 40.8	-0.3
AGG	**Agios Georgios**	**0.50**	**4**	*e*PG	Pg	14 39 33.1	-0.5
AGG	**Agios Georgios**	**0.50**	**4**	*e*Pg	Pg	14 39 33.1	-0.5
MAKR	**Makrakomi, Fth**	**0.51**	**347**	*e*PB	Pg	14 39 33.9	+0.2
MAKR	**Makrakomi, Fth**	**0.51**	**347**	*e*Pb	Pg	14 39 33.9	+0.2
LKR	**Lokris**	**0.58**	**77**	*e*PB	Pg	14 39 33.8	-1.2
LKR	**Lokris**	**0.58**	**77**	*e*Pb	Pg	14 39 33.8	-1.2
GUR	**Goura**	**0.58**	**175**	*e*PB	Pg	14 39 35.3	+0.1
GUR	**Goura**	**0.58**	**175**	*e*Pb	Pg	14 39 35.3	+0.1

*CSEM **30** 14:40:53.6, 37.°25N×28.°18E, h4km, MD2.3*

ISK 30 14:40:53.6, 37.°25N×28.°18E, h4km, MD2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.14**	**146**	*e*PG	Pg	14 40 57.4	+0.8
YER				*e*SG	Sg	14 40 59.8	+1.3
YER	**Yerkesik**	**0.14**	**146**	*e*Pg	Pg	14 40 57.4	+0.8
YER				*e*Sg	Sg	14 40 59.8	+1.3
DALY	**Dalyan (Mu¨la**	**0.58**	**139**	*e*PG	Pb	14 41 05.6	-0.7
DALY	**Dalyan (Mu¨la**	**0.58**	**139**	*e*Pg	Pb	14 41 05.6	-0.6
BODT	**Bodrum**	**0.72**	**255**	*e*PG	Pb	14 41 08.3	-0.5
BODT	**Bodrum**	**0.72**	**255**	*e*Pg	Pb	14 41 08.3	-0.5
AYDB	**Zeytinkoy-Aydi**	**0.73**	**342**	*e*PG	Pg	14 41 08.3	+0.4
AYDB	**Zeytinkoy-Aydi**	**0.73**	**342**	*e*Pg	Pg	14 41 08.3	+0.5

*IDC **30** 14:41:16.8±0.4, 11.°85N×86.°38W, h0km, mb4.5/17, mb1 4.8/18, mb1mx4.7/23, mbtmp4.5/18, ML4.6/1, MS4.6/21, Ms1 4.6/21, ms1mx4.4/44, Error ellipse: s-maj=23.3km s-min=11.4km az=53.0*

*CASC **30** 14:41:20.0±1.6, 11.°42N×86.°98W, h1km±13km, MD4.7, ML4.9*

*ISCJB **30** 14:41:23.9±0.4, 11.°67N±0.°04×86.°71W±0.°03, h68km±3km, mb4.9/154, Error ellipse: s-maj=7.1km s-min=3.5km az=39.4*

*MOS **30** 14:41:24.3±1.2, 11.°80N×86.°50W, h63km, mb5.2/32, Error ellipse: s-maj=15.7km s-min=5.7km az=117.2*

*GCMT **30** 14:41:27.2±0.2, 11.°25N×87.°17W, h32km, MW5.2/87, Moment Tensor Solution. s77,c126; s87,c147; Duration: 1↑0 Moment tensor: Scale 10^17 Nm; Mrr 0.73±.02; Mθθ-0.57±.01; Mϕϕ-0.16±.02; Mrθ 0.44±.02; Mθϕ 0.41±.01; Mϕr-0.18±.02; Best double couple: M=0.91100×10^17 NP1:ϕ±116.00000°, δ61.00000°, λ84.00000°. NP2:ϕ308.00000°, δ30.00000°, λ101.00000°. Principal axes: T 0.8690, Plg74.0000°, Azm11.0000°; N 0.0840, Plg5.0000°, Azm119.0000°; P -0.9520, Plg15.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **30** 14:41:27.2±0.8, 11.°62N×86.°70W, h81km±7km, mb5.1/143 Error ellipse: s-maj=6.9km s-min=3.9km az=223.0*

NEIC Felt [II] at Managua. Also felt at El Crucero and Granada.

ISC 30 14:41:25.6±0.8, 11.°62N±0.°05×86.°72W±0.°06, h69km±6km, n784, σ1↑05/785, mb5.0/155, 3C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**0.57**	**12**	⇑*i*P	**Pn**	**14 41 37.2**	**-1.9**
CNGN	**Cerro Negro**	**0.88**	**1**	*e*P	**Pn**	**14 41 41.1**

737A **Port Lavaca** 19.33 333 P Pn 14 45 46.7 -0.4
baz=19
934A **Benavides** 19.38 327 P P 14 45 46.4 +0.5
baz=19,SNR=13
835A **Beeville** 19.58 330 P P 14 45 48.1 0.0
baz=20
540A **Vidor** 19.69 341 P Pn 14 45 51.4 +0.1
baz=20
736A **Circle Diamond** 19.77 332 P P 14 45 50.5 +0.3
baz=20,SNR=10
933A **Laredo** 19.80 325 P P 14 45 50.1 -0.4
baz=20,SNR=19
834A **Tilden** 19.81 328 P P 14 45 50.2 -0.5
baz=20,SNR=11
539A **Cross D Ranch,** 19.85 339 P Pn 14 45 53.4 +0.2
baz=20,SNR=7.4
637A **Eagle Lake** 19.87 335 P Pn 14 45 52.4 -1.0
baz=20,SNR=5.2
TIGA **Tifton** 19.93 8 P Pn 14 45 54.3 +0.1
baz=20,SNR=17
TIGA **Tifton** 19.93 8 eP Pn 14 45 55.0 +0.8
comp=Z,199nm,0.8s
735A **Kenedy** 20.04 330 P P 14 45 52.9 -0.2
baz=20
LSP **Las Mesas** 20.05 69 eP P 14 45 52.6 -0.8
440A **Kirbyville** 20.18 342 P Pn 14 45 56.1 -1.0
baz=20
636A **Smothers Creek** 20.22 333 P P 14 45 55.3 +0.3
baz=20,SNR=17
538A **Harpers Horsep** 20.23 338 P Pn 14 45 57.0 -0.7
baz=20,SNR=6.6
ATAH **Atahualpa** 20.39 156 P P 14 45 57.6 +0.1
comp=Z,5.0nm,0.7s,baz=79,slow=10,SNR=3.1
ATAH LR LR 14 52 56.2
comp=Z,4µm,19.8s,baz=339,slow=34
734A **La Parita Cree** 20.40 329 P P 14 45 56.0 -1.0
baz=20,SNR=10
833A **Chaparral WMA,** 20.42 326 P P 14 45 56.3 -0.9
baz=20,SNR=22
537A **Green Hill Far** 20.42 336 P P 14 45 58.3 +1.1
baz=20,SNR=30
635A **Leesville** 20.46 331 P P 14 45 56.7 -1.0
baz=20
CELP **Cerrillos** 20.48 69 eP P 14 45 59.4 +1.3
439A **Center Grove,** 20.49 340 P P 14 45 58.8 +0.8
baz=21
733A **Divot King Ran** 20.68 327 P P 14 45 59.2 -0.8
baz=21,SNR=15
438A **Sam Houston St** 20.70 338 P P 14 46 01.2 +0.9
baz=21,SNR=14
832A **Faith Ranch, C** 20.71 325 P P 14 45 59.6 -0.8
baz=21,SNR=42
536A **Bastrop** 20.73 334 P P 14 46 00.0 -0.6
baz=21
634A **China Grove, S** 20.74 330 P P 14 45 59.6 -1.0
baz=21
340A **Bronson** 20.79 342 P P 14 46 02.5 +1.3
baz=21,SNR=5.7
VBMS **Vicksburg** 20.80 351 P P 14 46 02.3 +1.0
baz=21
VBMS **Vicksburg** 20.80 351 eP Pn 14 46 03.0 -1.4
comp=Z,60nm,0.8s
SJG **San Juan** 20.89 70 P P 14 46 03.5 +1.1
comp=Z,16nm,0.5s,baz=260,slow=6.2,SNR=6.8
SJG **San Juan** 20.89 70 P P 14 46 03.5 +1.1
SJG pmax pmax
comp=Z,16nm,0.5s
SJG **San Juan** 20.89 70 eP Pn 14 46 04.6 -0.9
comp=Z,25nm,0.7s
535A **Dale** 20.91 333 P P 14 46 02.2 -0.4
baz=21
339A **Huntington** 20.92 341 P P 14 46 03.4 +0.8
baz=21
437A **Phantom Ranch,** 21.02 337 P P 14 46 03.8 +0.2
baz=21
732A **Laxson Ranch,** 21.05 326 P P 14 46 02.9 -1.2
baz=21,SNR=18
338A **Crockett** 21.19 339 P P 14 46 06.4 +0.9
baz=21,SNR=8.0
633A **Saathoff Ranch** 21.21 329 P P 14 46 04.2 -1.6
baz=21
436A **Wall Ranch, Ga** 21.23 335 P P 14 46 05.8 -0.1
baz=21
LRAL **Lakeview Retre** 21.32 359 eP P 14 46 06.0 -0.8
comp=Z,42nm,0.8s
534A **Blanco** 21.33 331 P P 14 46 05.8 -1.3
baz=21,SNR=33
NATX **Nacogdoches** 21.34 341 P P 14 46 07.6 +0.5
baz=21,SNR=12
NATX **Nacogdoches** 21.34 341 eP P 14 46 07.7 +0.5
comp=Z,154nm,0.7s
337A **Centerville** 21.36 338 P P 14 46 07.7 +0.4
baz=21,SNR=6.3
239A **Gary** 21.52 342 P P 14 46 09.8 +0.7
baz=22,SNR=9.9
632A **Uvalde** 21.57 328 P P 14 46 08.1 -1.5
baz=22,SNR=15
435B **Jarrell** 21.57 334 P P 14 46 08.7 -0.9
baz=22
533A **Kerrville** 21.64 330 P P 14 46 08.8 -1.6
baz=22,SNR=12
238A **Jacksonville** 21.72 340 P P 14 46 11.6 +0.5
baz=22
PCRV **Puerto La Cruz** 21.73 92 P P 14 46 11.0 -0.5
comp=Z,39nm,0.6s,baz=237,slow=6.3,SNR=20
336A **Riesel** 21.79 336 P P 14 46 11.6 -0.3
baz=22,SNR=13
GOGA **Godfrey** 21.89 7 eP P 14 46 15.0 +2.0
GOGA pmax pmax
comp=Z,48nm,0.6s
GOGA **Godfrey** 21.89 7 eP P 14 46 15.0 +2.0
comp=Z,48nm,0.6s
434A **Burnet** 21.90 332 P P 14 46 12.1 -1.0
baz=22,SNR=27
631A **Perdido Creek** 21.91 326 P P 14 46 11.6 -1.7
baz=22,SNR=33
335A **Moody** 21.93 335 P P 14 46 12.8 -0.6
baz=22,SNR=12
237A **Washetta, Mont** 21.95 339 P P 14 46 13.7 +0.1
baz=22
139A **Bunkhouse Ranc** 22.12 343 P P 14 46 15.8 +0.4
baz=22,SNR=6.7
532A **Rocksprings** 22.12 328 P P 14 46 14.6 -0.9
baz=22,SNR=29
236A **Katherine and** 22.21 337 P P 14 46 16.4 0.0
baz=22,SNR=7.3
433A **Art** 22.23 331 P P 14 46 15.1 -1.6
baz=22,SNR=32
138A **Matatall Enter** 22.31 341 P P 14 46 18.3 +0.7
baz=22,SNR=13
334A **Lometa** 22.32 333 P P 14 46 15.8 -1.9
baz=22,SNR=31
JCT **Junction City** 22.35 329 eP P 14 46 17.1 -1.0
JCT pmax pmax
comp=Z,268nm,1.9s
JCT **Junction City** 22.35 329 P P 14 46 16.5 -1.6
baz=22,SNR=15
JCT **Junction City** 22.35 329 eP P 14 46 17.1 -1.0
comp=Z,268nm,1.9s
137A **Heron Place, G** 22.47 340 P P 14 46 20.2 +0.9
baz=23,SNR=5.4
531A **Rocksprings** 22.49 327 P P 14 46 17.9 -1.7
baz=23,SNR=13
WHTX **Lake Whitney** 22.56 336 P P 14 46 20.0 -0.2
baz=23
WHTX **Lake Whitney** 22.56 336 eP P 14 46 19.9 -0.4
comp=Z,352nm,1.4s
Z39A **Irene McRaven,** 22.59 344 P P 14 46 20.3 -0.2
baz=23
136A **Ennis** 22.64 338 P P 14 46 20.8 -0.2
baz=23,SNR=7.6
333A **Richland Sprin** 22.66 332 P P 14 46 19.8 -1.5
baz=23,SNR=46
432A **Menard** 22.67 330 P P 14 46 19.6 -1.9
baz=23,SNR=6.7
Z38A **Mt. Pleasant** 22.83 342 P P 14 46 23.3 +0.4
baz=23,SNR=12
234A **Clairette** 22.86 334 P P 14 46 22.1 -1.2
baz=23,SNR=13
530A **J-C Ranch, Com** 22.90 326 P P 14 46 22.0 -1.8
baz=23,SNR=43
431A **Sonora** 22.93 328 P P 14 46 23.2 -0.9
baz=23,SNR=33
Z37A **Pogue Cattle C** 22.98 341 P P 14 46 24.5 0.0
baz=23,SNR=11
135A **Vickery Place,** 23.04 336 P P 14 46 24.3 -0.9
baz=23,SNR=7.6
332A **Millersview** 23.06 331 P P 14 46 24.7 -0.7
baz=23,SNR=117
JSC **Jenkinsville** 23.10 12 eP P 14 46 27.6 +1.9
JSC pmax pmax
comp=Z,233nm,1.9s
JSC **Jenkinsville** 23.10 12 eP P 14 46 27.6 +1.9
comp=Z,233nm,1.9s
Y39A **Lockesburg** 23.22 344 P P 14 46 26.4 -0.4
baz=23
Z36A **Blue Ridge** 23.32 339 P P 14 46 27.4 -0.4
baz=23,SNR=5.4
134A **White-Moore Ra** 23.33 335 P P 14 46 26.9 -1.0
baz=23,SNR=10
331A **San Angelo** 23.34 329 P P 14 46 26.7 -1.4
baz=23,SNR=24
430A **Baggett Ranch,** 23.34 327 P P 14 46 27.3 -0.8
baz=23,SNR=18
529A **Stev Forest Ra** 23.38 324 P P 14 46 27.0 -1.5
baz=24
Y38A **Idabel** 23.38 343 P P 14 46 27.6 -0.8
baz=24,SNR=5.6
232A **Coleman** 23.43 331 P P 14 46 28.0 -1.0
baz=24,SNR=42
SWET **Sewanee** 23.50 2 eP P 14 46 30.5 +1.0
429A **Davenport Ranc** 23.57 326 P P 14 46 29.1 -1.2
baz=24,SNR=34
UALR **University of** 23.61 348 eP P 14 46 30.1 -0.3
comp=Z,51nm,0.8s
MIAR **Mount Ida** 23.66 346 eP P 14 46 30.6 -0.3
MIAR pmax pmax
comp=Z,61nm,0.6s
MIAR **Mount Ida** 23.66 346 P P 14 46 30.5 -0.3
baz=24,SNR=59
MIAR **Mount Ida** 23.66 346 eP P 14 46 30.6 -0.3
comp=Z,61nm,0.6s
TXAR **Lajitas Array** 23.67 321 P P 14 46 31.2 0.0
comp=Z,26nm,0.7s,baz=137,slow=9.4,SNR=115
TXAR PcP PcP 14 50 16.4 +2.4
comp=Z,5.7nm,0.7s,baz=145,slow=4.6,SNR=23
TXAR ScP ScP 14 53 54.2 +7.8
comp=Z,0.8nm,0.8s,baz=136,slow=5.9,SNR=4.2
Z35A **Perchaven, San** 23.67 338 P P 14 46 30.7 -0.3
baz=24
Y37A **Hugo** 23.70 341 P P 14 46 31.4 +0.2
baz=24,SNR=29
133A **Hamilton Ranch** 23.71 334 P P 14 46 31.0 -0.4
baz=24,SNR=25
231A **Bronte** 23.79 330 P P 14 46 31.5 -0.7
baz=24,SNR=9.4
330A **Mertzon** 23.80 328 P P 14 46 31.3 -1.0
baz=24,SNR=16
CPCT **Cooper Cave** 23.81 4 eP P 14 46 33.6 +1.4
Y36A **Durant** 23.84 340 P P 14 46 32.5 0.0
baz=24
KMSC **Kings Mountain** 23.92 11 P P 14 46 32.6 -0.7
baz=24,SNR=14
KMSC **Kings Mountain** 23.92 11 eP P 14 46 35.2 +2.0
comp=Z,34nm,0.7s
Z34A **Collier Ranch,** 23.96 336 P P 14 46 33.4 -0.2
baz=24,SNR=20
ABTX **Abilene, Hawle** 24.05 332 P P 14 46 34.1 -0.4
baz=24,SNR=19
ABTX **Abilene, Hawle** 24.05 332 eP P 14 46 34.0 -0.4
comp=Z,87nm,0.9s
TKL **Tuckaleechee C** 24.08 6 P P 14 46 34.1 -0.6
comp=Z,19nm,0.6s,baz=172,slow=13,SNR=25
TKL **Tuckaleechee C** 24.08 6 P P 14 46 34.1 -0.6
TKL pmax pmax
comp=Z,19nm,0.6s
TKL **Tuckaleechee C** 24.08 6 eP P 14 46 36.6 +1.9
X38A **Whitesboro** 24.11 343 P P 14 46 34.9 0.0
baz=24,SNR=39
Y35A **Marietta** 24.11 339 P P 14 46 35.3 +0.4
baz=24,SNR=50
230A **Sterling City** 24.15 329 P P 14 46 34.2 -1.2
baz=24
Z33A **Whitaker Ranch** 24.23 335 P P 14 46 36.1 +0.1
baz=24,SNR=36
329A **Wagon Wheel Ra** 24.29 327 P P 14 46 36.1 -0.6
baz=24,SNR=14
W38A **Poteau** 24.40 344 P P 14 46 37.1 -0.5
baz=24,SNR=28
H06E1 **SOCORRO T-PHAS** 24.41 290 T T 15 11 31.3
SNR=117
Y34A **Reagan Ranch,** 24.42 337 P P 14 46 37.4 -0.4
baz=24,SNR=24
131A **Roby** 24.43 331 P P 14 46 37.5 -0.5
baz=24,SNR=9.3
X36A **Centrahoma** 24.48 341 P P 14 46 37.9 -0.4
baz=25,SNR=66
X35A **Drake** 24.53 339 P P 14 46 38.4 -0.4
baz=25,SNR=36
Z32A **Haskell** 24.55 334 P P 14 46 39.3 +0.3
baz=25,SNR=36
229A **Bryant Ranch,** 24.57 328 P P 14 46 38.5 -0.7
baz=25,SNR=12
130A **Snyder** 24.65 330 P P 14 46 39.4 -0.5
baz=25,SNR=13
Y33A **Hilltop Ranch,** 24.80 336 P P 14 46 40.8 -0.4
baz=25,SNR=43
Z31A **Sharp Cattle R** 24.86 332 P P 14 46 41.3 -0.5
baz=25,SNR=24
W36A **Wetumka** 24.96 341 P P 14 46 41.4 -1.2
baz=25,SNR=14
TZTN **Tazewell** 24.98 6 eP P 14 46 44.0 +1.1
comp=Z,47nm,1.1s
X34A **Smith Ranch, M** 25.02 338 P P 14 46 43.0 -0.3
baz=25,SNR=27
228A **UT Block 9, Go** 25.10 327 P P 14 46 42.7 -1.4
baz=25,SNR=12
V38A **Canehill** 25.12 345 P P 14 46 43.4 -0.7
baz=25,SNR=15
129A **Stewart Farms,** 25.12 329 P P 14 46 43.5 -0.9
baz=25,SNR=9.9
Y32A **R-V Farms, Ver** 25.13 334 P P 14 46 43.6 -0.7
baz=25,SNR=9.4
W35A **Tecumseh** 25.18 340 P P 14 46 43.2 -1.5
baz=25,SNR=8.2
X33A **Lawton** 25.22 337 P P 14 46 44.1 -0.9
baz=25,SNR=42
PBMO **Poplar Bluff** 25.27 353 eP P 14 46 45.3 -0.2
comp=Z,129nm,1.8s
PBMO ePcP PcP 14 50 18.2 +1.0
Z30A **Sanderson Ranc** 25.29 331 P P 14 46 44.9 -0.9
baz=25,SNR=45
V37A **Hulbert** 25.33 344 P P 14 46 44.8 -1.2
baz=25,SNR=18
X32A **Elmer** 25.43 335 P P 14 46 46.4 -0.6
baz=26,SNR=18
128A **Castleberry Fa** 25.44 328 P P 14 46 46.5 -0.6
baz=26,SNR=27
Y31A **Rekieta Farm,** 25.45 333 P P 14 46 47.2 0.0
baz=26,SNR=28
V36A **Jenks** 25.47 342 P P 14 46 46.2 -1.1
baz=26,SNR=14
WMOK **Wichita Mounta** 25.50 336 eP P 14 46 47.1 -0.5
WMOK pmax pmax
comp=Z,230nm,1.1s
WMOK **Wichita Mounta** 25.50 336 eP P 14 46 47.1 -0.5
comp=Z,230nm,1.1s
TUL1 **Tulsa** 25.54 343 P P 14 46 46.9 -1.1
baz=26,SNR=8.8
TUL1 **Tulsa** 25.54 343 eP P 14 46 47.4 -0.6
comp=Z,66nm,0.8s
Z29A **Hungry Hill Ra** 25.55 330 P P 14 46 47.3 -0.9
baz=26,SNR=23
W34A **Bridge Creek,** 25.57 339 P P 14 46 47.4 -0.8
baz=26,SNR=16
W34A **Bridge Creek,** 25.57 339 eP P 14 46 47.3 -0.9
comp=Z,204nm,1.0s
U38A **Gruvette** 25.66 346 P P 14 46 48.2 -0.9
baz=26,SNR=15
Y30A **Stafford Cattl** 25.67 332 P P 14 46 48.5 -0.7
baz=26,SNR=17
V35A **Meyer Ranch, C** 25.73 341 P P 14 46 47.8 -1.9
baz=26,SNR=9.9
W33A **Caddo, Fort Co** 25.75 337 P P 14 46 48.9 -0.9
baz=26,SNR=19
U37A **Salina** 25.82 344 P P 14 46 49.5 -1.0
baz=26,SNR=11
X31A **McDonald Ranch** 25.90 334 P P 14 46 50.3 -1.0
baz=26,SNR=34
Z28A **Tucker Farm, M** 25.91 329 P P 14 46 50.6 -0.9
baz=26,SNR=8.0
U36A **Oologah** 25.98 343 P P 14 46 50.4 -1.5
baz=26
V34A **Guthrie** 26.02 340 P P 14 46 52.4 +0.1
baz=26,SNR=14
V34A **Guthrie** 26.02 340 eP P 14 46 51.3 -1.0
comp=Z,103nm,0.8s
Y29A **Porterfield Fa** 26.02 331 P P 14 46 51.8 -0.6
baz=26,SNR=9.1
W32A **Sentinel** 26.02 336 P P 14 46 51.4 -1.0
baz=26
SIUC **Southern Illin** 26.08 355 eP P 14 46 53.3 +0.5
comp=Z,43nm,0.8s
BLA **Blacksburg** 26.10 11 eP P 14 46 53.8 +0.7
BLA pmax pmax
comp=Z,39nm,1.0s
BLA **Blacksburg** 26.10 11 eP P 14 46 53.8 +0.7
comp=Z,39nm,1.0s
X30A **Coker Ranch, T** 26.13 333 P P 14 46 53.0 -0.4
baz=26,SNR=64
USIN **University of** 26.25 358 eP P 14 46 54.9 +0.5
comp=Z,33nm,0.7s
U35A **Pawnee** 26.25 341 P P 14 46 53.0 -1.4
baz=26,SNR=11
V33A **Lossen Ranch,** 26.27 338 P P 14 46 53.3 -1.3
baz=26,SNR=5.6
Y28A **McKinney Farm,** 26.34 330 P P 14 46 54.4 -0.9
baz=26,SNR=6.8
W31A **Holland Ranch,** 26.36 335 P P 14 46 54.4 -1.0
baz=26,SNR=8.3
T37A **Cheneyville 18** 26.45 345 P P 14 46 55.4 -0.7
baz=26,SNR=33
V32A **Arapaho** 26.47 337 P P 14 46 55.7 -0.7
baz=27,SNR=13
X29A **Tulia** 26.51 331 P P 14 46 56.6 -0.2
baz=27,SNR=20
U34A **Anderson Ranch** 26.57 340 P P 14 46 56.2 -1.0
baz=27,SNR=6.7
U34A **Anderson Ranch** 26.57 340 eP P 14 46 55.9 -1.3
comp=Z,210nm,1.7s
W30A **Crocket Farms** 26.62 334 P P 14 46 57.2 -0.7
baz=27
T36A **Boggs Farm, Ca** 26.64 343 P P 14 46 56.8 -1.1
baz=27,SNR=22
T35A **Sooner Cattle** 26.69 342 P P 14 46 57.2 -1.1
baz=27,SNR=10.0
U33A **Lingo Farm, Me** 26.76 339 P P 14 46 57.3 -1.7
baz=27
X28A **Dimmitt** 26.81 331 P P 14 46 58.8 -0.8
baz=27
V31A **Spring Creek L** 26.83 336 P P 14 46 59.0 -0.6
baz=27,SNR=18
T34A **McClaskey Farm** 26.99 341 P P 14 46 59.8 -1.3
baz=27,SNR=5.7
S37A **Fort Scott** 27.03 346 P P 14 47 00.9 -0.5
baz=27,SNR=16
OLIL **Olney** 27.03 358 eP P 14 47 02.1 +0.7
comp=Z,30nm,0.7s
U32A **Winter Ranch,** 27.03 338 P P 14 46 00.8 -0.7
baz=27
W29A **Amraillo** 27.05 332 P P 14 47 00.8 -0.9
baz=27,SNR=9.7
V30A **Spur Ranch, Mi** 27.16 335 P P 14 47 01.5 -1.2
baz=27
S36A **Lake Cedric, C** 27.19 344 P P 14 47 01.9 -0.9
baz=27,SNR=32
S35A **Otter Creek Ra** 27.34 343 P P 14 47 03.2 -1.0
baz=27,SNR=20
U31A **Nine Bar Ranch** 27.35 336 P P 14 47 04.1 -0.3
baz=27
T33A **Patterson Ranc** 27.39 340 P P 14 47 03.2 -1.4
baz=28
W28A **Vega** 27.41 332 P P 14 47 04.0 -1.0
baz=28
R37A **Teagarden Farm** 27.55 346 P P 14 47 04.8 -1.2
baz=28,SNR=13
S34A **Willow Spring** 27.59 342 P P 14 47 05.3 -1.1
baz=28
V29A **Stinnett** 27.62 333 P P 14 47 05.7 -1.1
baz=28
T32A **Huddler Ranch,** 27.72 339 P P 14 47 06.3 -1.3
baz=28
R36A **Gordon, Harris** 27.73 345 P P 14 47 06.4 -1.2
baz=28,SNR=9.7
S33A **Kaszmaul Farm,** 27.78 341 P P 14 47 06.9 -1.2
baz=28
U30A **WK&E Inc. Balk** 27.81 335 P P 14 47 08.4 0.0
baz=28,SNR=16
V28A **Channing** 27.83 332 P P 14 47 07.6 -1.1
baz=28
R35A **Emporia Munici** 27.91 344 P P 14 47 08.5 -0.8
baz=28
U29A **Oasis Ranch, S** 28.00 334 P P 14 47 09.8 -0.3
baz=28
Q37A **Longview Farm,** 28.01 347 P P 14 47 09.2 -0.9
baz=28
V27A **Dan Oppiter Fa** 28.12 331 P P 14 47 10.2 -1.0
baz=28
S32A **Newby Ranch, P** 28.19 339 P P 14 47 10.8 -0.9
baz=28
R34A **Isabella, Hill** 28.19 342 P P 14 47 10.8 -0.9
baz=28,SNR=7.9
T30A **Plains** 28.21 336 P P 14 47 11.2 -0.8
baz=28
S31A **Mullinville** 28.31 338 P P 14 47 12.1 -0.7
baz=28
Q36A **Arnold C. Orve** 28.32 346 P P 14 47 11.7 -1.2
baz=28,SNR=5.2
U28A **Mallet** 28.35 333 P P 14 47 12.2 -1.1
baz=28
Q35A **Mercer Eighty,** 28.37 345 P P 14 47 12.3 -1.0
baz=28,SNR=6.7
R33A **Olander Ranch,** 28.42 341 P P 14 47 12.8 -1.0
baz=28
121A **Cookes Peak, D** 28.43 320 P P 14 47 14.2 +0.1
baz=28,SNR=12
121A **Cookes Peak, D** 28.43 320 eP P 14 47 16.2 +2.1
comp=Z,41nm,0.9s
T29A **Hugoton** 28.61 335 P P 14 47 14.6 -0.9
baz=29
SFIN **Scholer Farm** 28.65 359 P P 14 47 14.8 -1.0
baz=29,SNR=5.8
SFIN **Scholer Farm** 28.65 359 eP P 14 47 15.5 -0.2
comp=Z,25nm,0.6s
U27A **Thompson Grove** 28.66 332 P P 14 47 15.5 -0.5
baz=29,SNR=18
Q34A **Chapman** 28.68 343 P P 14 47 15.0 -1.0
baz=29
ACSO **Alum Creek Sta** 28.69 6 eP P 14 47 16.6 +0.5
comp=Z,35nm,0.6s
S30A **Montezuma** 28.70 337 P P 14 47 15.8 -0.5
baz=29
R32A **Long Quarter,** 28.76 340 P P 14 47 15.9 -0.9
baz=29
BNM **Barren Site** 28.86 324 eP P 14 47 18.8 +0.8
P36A **Good Intent, A** 28.89 346 P P 14 47 16.9 -1.0
baz=29,SNR=10
HDIL **Hopedale** 28.91 356 P P 14 47 17.5 -0.6
baz=29,SNR=5.8
HDIL **Hopedale** 28.91 356 eP P 14 47 16.9 -1.2
comp=Z,4.7nm,0.8s
R31A **Burdett** 28.92 339 P P 14 47 17.8 -0.5
baz=29
T28A **Walsh** 28.92 334 P P 14 47 17.0 -1.3
baz=29,SNR=6.7
S29A **Ulysses** 28.93 336 P P 14 47 17.9 -0.5
baz=29
LPM **Los Pinos Moun** 28.98 324 eP P 14 47 19.7 +0.6
P35A **Duane Minner,** 29.00 345 P P 14 47 17.8 -1.1
baz=29,SNR=10
Q33A **Connelly Farm,** 29.01 342 P P 14 47 18.1 -0.9
baz=29,SNR=6.6
SDMD **Soldier's Deli** 29.04 16 eP P 14 47 21.5 +2.3
LENM **Lemitar** 29.07 324 eP P 14 47 21.4 +1.5
T27A **Campo** 29.14 333 P P 14 47 18.9 -1.4
baz=29
R30A **Dighton** 29.19 338 P P 14 47 20.4 -0.2
baz=29,SNR=9.2
P34A **Walnut Farm, R** 29.23 344 P P 14 47 20.1 -0.9
baz=29,SNR=13
S28A **Manter** 29.23 335 P P 14 47 20.1 -0.9
baz=29
Q32A **Meitler Ranch,** 29.23 341 P P 14 47 19.9 -1.0
baz=29
PTGA **Pitinga** 29.27 113 P P 14 47 20.5 -1.1
comp=Z,1.9nm,0.5s,baz=345,slow=20,SNR=2.8
PTGA **Pitinga** 29.27 113 eP P 14 47 24.4 +2.8
comp=Z,31nm,2.0s
O36A **Bolckow** 29.32 347 P P 14 47 20.3 -1.5
baz=29
LAZ **Ladron** 29.34 324 eP P 14 47 23.3 +1.1
ANMO **Albuquerque** 29.35 326 P P 14 47 23.3 +1.0
comp=Z,7.2nm,0.7s,baz=143,slow=7.4,SNR=16
ANMO PcP PcP 14 50 28.9 +1.5

comp=Z,4.4nm,0.8s,baz=145,slow=6.3,SNR=4.9
ANMO Albuquerque 29.35 326 *e*P P 14 47 21.8 -0.5
ANMO 14 50 28.9
ANMO pmax pmax
comp=Z,16nm,0.9s
ANMO Albuquerque 29.35 326 *e*P P 14 47 21.8 -0.5
comp=Z,16nm,0.9s
ANMO PcP PcP 14 50 28.9 +1.5
P33A Williams Farm, 29.37 342 P P 14 47 21.6 -0.7
baz=30,SNR=7.0
CBKS Cedar Bluff 29.46 339 P P 14 47 22.4 -0.7
baz=30
Q31A Ellis 29.52 340 P P 14 47 23.1 -0.5
baz=30
T26A Comanche Natio 29.62 332 P P 14 47 24.6 -0.1
baz=30
R29A Marienthal 29.64 337 P P 14 47 24.4 -0.3
baz=30
O35A Humboldt 29.67 346 P P 14 47 23.6 -1.2
baz=30,SNR=5.7
MVL Millersville 29.72 16 *e*P P 14 47 28.4 +3.2
comp=Z,178nm,2.2s
S27A Las Animas 29.73 334 P P 14 47 24.7 -0.9
baz=30
Q30A Quinter 29.78 338 P P 14 47 25.8 -0.1
baz=30
O34A Beatrice 29.79 345 P P 14 47 24.9 -1.0
baz=30,SNR=14
P32A Huiting Farm, 29.82 341 P P 14 47 25.4 -0.8
baz=30,SNR=7.1
R28A Tribune 29.83 336 P P 14 47 25.6 -0.8
baz=30
O33A Hebron 29.93 343 P P 14 47 26.3 -0.9
baz=30,SNR=12
SSPA Standing Stone 29.93 14 *e*P P 14 47 28.7 +1.5
comp=Z,23nm,0.7s
P31A Stockton 29.98 340 P P 14 47 27.0 -0.6
baz=30
T25A Trinidad 29.98 331 P P 14 47 28.0 +0.1
baz=30,SNR=8.0
T25A Trinidad 29.98 331 *e*P P 14 47 29.0 +1.1
comp=Z,24nm,1.1s
Q29A Oakley 29.98 337 P P 14 47 27.2 -0.5
baz=30
N35A Tabor 30.17 346 P P 14 47 28.8 -0.5
baz=30
R27A Eads 30.20 334 P P 14 47 29.3 -0.4
baz=30
TUC Tucson 30.24 317 *e*P P 14 47 33.4 +3.3
TUC pmax pmax
comp=Z,19nm,1.0s
TUC Tucson 30.24 317 *e*P P 14 47 33.4 +3.3
comp=Z,19nm,1.0s
P30A Selden 30.29 339 P P 14 47 30.2 -0.2
baz=30
O32A Brockman Farm, 30.30 342 P P 14 47 30.1 -0.4
baz=30
N34A Lincoln 30.35 345 P P 14 47 29.8 -1.1
baz=30,SNR=7.0
Q28A Sharon Springs 30.46 336 P P 14 47 31.5 -0.5
baz=31
R26A Arlington 30.49 333 P P 14 47 31.9 -0.4
baz=31,SNR=6.3
O31A Woolen Ranch, 30.53 341 P P 14 47 31.8 -0.7
baz=31,SNR=5.9
LUPA Lehigh Univers 30.55 17 *e*P P 14 47 34.7 +2.1
comp=Z,13nm,1.7s
P29A Atwood 30.59 338 P P 14 47 33.2 +0.1
baz=31,SNR=6.2
KSCO Kaye Shedlock' 30.74 335 P P 14 47 34.2 -0.3
baz=31
KSCO Kaye Shedlock' 30.74 335 *e*P P 14 47 33.5 -1.0
comp=Z,39nm,0.8s
M35A Neola 30.76 347 P P 14 47 33.7 -0.7
baz=31,SNR=30
N32A Stulken Farm, 30.77 343 P P 14 47 34.3 -0.3
baz=31
O30A MW Ranch, Wils 30.80 340 P P 14 47 34.4 -0.5
baz=31
P28A Saint Francis 30.87 337 P P 14 47 35.8 +0.2
baz=31
SDCO Great Sand Dun 30.99 330 P P 14 47 37.1 +0.2
baz=31,SNR=44
SDCO Great Sand Dun 30.99 330 *e*P P 14 47 37.6 +0.7
comp=Z,14nm,0.7s
M34A Aspy Farms, Fr 31.00 346 P P 14 47 35.6 -1.0
baz=31
O29A 4D Ranch, Culb 31.00 339 P P 14 47 36.6 -0.1
baz=31
N31A Bailey Ranch, 31.02 342 P P 14 47 35.9 -1.0
baz=31
Q26A Hugo 31.04 334 P P 14 47 36.9 -0.2
baz=31
SAML Samuel 31.07 130 *e*P P 14 47 36.2 -1.2
comp=Z,19nm,0.6s
P27A Ficken Ranch, 31.18 336 P P 14 47 38.2 -0.1
baz=31
M33A Taylor Creek F 31.22 345 P P 14 47 37.9 -0.7
baz=31
BGNE Belgrade 31.33 343 P P 14 47 38.6 -0.9
baz=31,SNR=6.1
BGNE Belgrade 31.33 343 *e*P P 14 47 39.3 -0.2
comp=Z,118nm,1.0s
JFWS Jewell Farm 31.33 355 *e*P P 14 47 39.2 -0.3
JFWS pmax pmax
comp=Z,32nm,1.0s
JFWS Jewell Farm 31.33 355 *e*P P 14 47 39.2 -0.3
comp=Z,32nm,1.0s
KSPA Keystone Colle 31.33 16 *e*P P 14 47 41.5 +2.1
comp=Z,273nm,2.4s
L35A Bielow Farm, R 31.34 347 P P 14 47 38.5 -1.1
baz=32,SNR=8.1
O28A Krutsinger Ran 31.36 337 P P 14 47 39.8 -0.1
baz=32
N30A Hueftle Ranch, 31.36 340 P P 14 47 39.9 0.0
baz=32
W18A Petrified Fore 31.37 322 P P 14 47 40.4 +0.3
baz=31
W18A Petrified Fore 31.37 322 *e*P P 14 47 41.3 +1.2
comp=Z,44nm,0.9s
L34A Svendsen Farm, 31.39 346 P P 14 47 38.8 -1.3
baz=32,SNR=5.2
214A Organ Pipe Nat 31.42 314 P P 14 47 40.5 +0.1
baz=32
P26A Davis Ranch, A 31.50 335 P P 14 47 41.6 +0.4
baz=32
M31A Lambtecht Ranc 31.51 342 P P 14 47 41.0 -0.1
baz=32
N29A Votaw Ranch, W 31.56 340 P P 14 47 41.3 -0.3
baz=32
S22A 4UR Ranch, Cre 31.65 329 P P 14 47 42.7 0.0
baz=32,SNR=20
S22A 4UR Ranch, Cre 31.65 329 *e*P P 14 47 43.4 +0.7
comp=Z,17nm,0.9s
O27A Beecher Island 31.69 337 P P 14 47 42.5 -0.2
baz=32
N28A Pribbeno Ranch 31.77 338 P P 14 47 43.1 -0.3
baz=32
Q24A Divide 31.79 332 P P 14 47 43.8 -0.2
baz=32
L33A Hoskins 31.80 345 P P 14 47 42.8 -0.8
baz=32,SNR=12
M30A Dale-Ortello V 31.96 341 P P 14 47 44.5 -0.6
baz=32
O26A Horse Wrangler 32.06 336 P P 14 47 45.7 -0.4
baz=32
MVCO Mesa Verde 32.13 326 P P 14 47 46.6 -0.2
baz=32,SNR=12
MVCO Mesa Verde 32.13 326 *e*P P 14 47 47.4 +0.6
comp=Z,25nm,0.8s
M29A Burnside Ranch 32.14 340 P P 14 47 46.5 -0.2
baz=32
OGNE Ogallala 32.17 338 P P 14 47 46.7 -0.3
baz=32
OGNE Ogallala 32.17 338 P P 14 47 45.5 -1.5
comp=Z,88nm,1.3s
L31A Butterfield Fa 32.23 343 P P 14 47 46.7 -0.7
baz=32
N27A Anderson Farm, 32.24 337 P P 14 47 47.6 0.0
baz=32
L30A Spencer Herefo 32.28 342 P P 14 47 48.1 +0.1
baz=32
M28A Bar X Bar Ranc 32.33 339 P P 14 47 47.2 -1.2
baz=32
N26A Koester Ranch, 32.52 336 P P 14 47 49.7 -0.4
baz=33
L29A Maesberg Ranch 32.63 341 P P 14 47 50.5 -0.4
baz=33

WUAZ Wupatki 32.63 321 P P 14 47 51.3 +0.1
baz=33,SNR=11
WUAZ Wupatki 32.63 321 *e*P P 14 47 53.1 +1.9
comp=Z,36nm,1.0s
ISCO Idaho Springs 32.68 332 *e*P P 14 47 52.5 +0.8
ISCO pmax pmax
comp=Z,7.0nm,0.6s
ISCO Idaho Springs 32.68 332 P P 14 47 51.4 -0.3
baz=33,SNR=5.1
ISCO Idaho Springs 32.68 332 *e*P P 14 47 52.5 +0.8
comp=Z,6.7nm,0.6s
M27A Reverse DX Ran 32.81 338 P P 14 47 52.6 0.0
baz=33
SMCO Snowmass 32.83 330 *e*P P 14 47 54.0 +0.9
comp=Z,28nm,1.1s
PV01 Paradox Valley 32.84 327 *e*P P 14 47 54.2 +1.1
K30A Basset 32.91 342 P P 14 47 52.7 -0.8
baz=33,SNR=17
L28A Connealy Angus 32.92 339 P P 14 47 53.2 -0.4
baz=33
TRY Troy 33.01 18 *e*P P 14 47 56.1 +2.0
comp=Z,41nm,1.0s
M26A McRoberts Ranc 33.04 337 P P 14 47 54.8 +0.2
baz=33
PV05 Paradox Valley 33.09 327 *e*P P 14 47 55.7 +0.5
ECSD EROS Data Cent 33.12 347 P P 14 47 53.8 -1.4
baz=33,SNR=32
ECSD EROS Data Cent 33.12 347 *e*P P 14 47 53.8 -1.4
comp=Z,38nm,0.8s
K29A Lazy Trails An 33.21 342 P P 14 47 55.9 0.0
baz=33
PV04 Paradox Valley 33.21 327 *e*P P 14 47 57.0 +0.7
LPAZ La Paz 33.27 146 P P 14 47 57.2 -0.2
comp=Z,0.9nm,0.5s,baz=9.3,slow=6.1,SNR=3.9
LPAZ LR LR 15 01 38.4
comp=Z,1μm,20.1s,baz=340,slow=37
L27A T5 Ranch, Ells 33.27 339 P P 14 47 55.5 -1.1
baz=33
PV10 Paradox Valley 33.27 327 *e*P P 14 47 57.1 +0.2
M25A Palm-Egli Farm 33.37 336 P P 14 47 57.8 +0.3
baz=34
PV09 Paradox Valley 33.41 327 *e*P P 14 47 58.6 +0.5
GLA Glamis 33.45 314 P P 14 47 58.8 +0.6
baz=34
J30A Dallas 33.48 343 P P 14 47 57.3 -1.0
baz=34
K28A Ten Mile Ranch 33.50 340 P P 14 47 58.5 -0.1
baz=34
PDMCI Parker Dam,Lak 33.67 317 P P 14 48 00.3 +0.2
baz=34
N23A Red Feather La 33.72 333 P P 14 48 01.1 +0.5
baz=34
N23A Red Feather La 33.72 333 *e*P P 14 48 01.8 +1.1
comp=Z,9.1nm,0.9s
K27A Flueckinger Fa 33.79 339 P P 14 48 01.3 +0.2
baz=34
J29A Okeek 33.80 342 P P 14 48 00.4 -0.6
baz=34,SNR=33
H34A Spellman Lake, 33.84 348 P P 14 48 01.6 +0.2
baz=34
I31A Royce, Wessing 33.87 345 P P 14 48 02.0 +0.4
baz=34
SPMN St. Paul 33.89 352 P P 14 48 00.4 -1.4
baz=34,SNR=9.8
SPMN St. Paul 33.89 352 *e*P P 14 48 00.8 -1.0
comp=Z,150nm,1.5s
L25A Engebretsen Ra 33.95 337 P P 14 48 02.4 -0.1
baz=34
NCB Newcomb 33.99 16 *e*P P 14 48 04.6 +1.9
comp=Z,67nm,1.8s
I30A Oacoma 34.00 343 P P 14 48 01.8 -1.0
baz=34,SNR=10.0
SWSC Sam W. Stewart 34.07 313 P P 14 48 03.8 +0.2
baz=34
J28A Allard Ranch, 34.09 341 P P 14 48 03.1 -0.6
baz=34,SNR=17
K26A Motz Farm, Whi 34.12 338 P P 14 48 04.3 +0.3
baz=34
IBP Imperial Bould 34.14 312 P P 14 48 04.4 +0.1
baz=34
O20A White River Ci 34.18 330 P P 14 48 04.4 -0.3
baz=34
O20A White River Ci 34.18 330 *e*P P 14 48 06.1 +1.4
comp=Z,33nm,0.8s
J27A Elkhorn Farm, 34.19 340 P P 14 48 05.2 +0.6
baz=34,SNR=9.7
BC3 Big Chuckawall 34.21 314 P P 14 48 05.0 +0.1
baz=34,SNR=7.0
NEE2 Needles Airpor 34.27 317 P P 14 48 05.7 +0.4
baz=34
IRM Iron Mountain 34.28 315 P P 14 48 05.7 +0.3
baz=34
K25A Mack Ranch, Ha 34.30 337 P P 14 48 06.0 +0.4
baz=34
I29A Vivian Onida 34.35 343 P P 14 48 05.3 -0.5
baz=34
MMU Miners Mountai 34.39 325 *e*P P 14 48 08.0 +1.4
BTU Barney Top 34.42 323 *e*P P 14 48 08.9 +1.9
COWI Conover 34.43 357 *e*P P 14 48 05.5 -0.9
comp=Z,38nm,0.8s
MONP Monument Peak 34.49 313 P P 14 48 07.3 -0.2
baz=34
KNB Kanab 34.50 322 *e*P P 14 48 09.3 +1.9
KNB pmax pmax
comp=Z,40nm,1.1s
KNB Kanab 34.50 322 *e*P P 14 48 09.3 +1.9
comp=Z,40nm,1.1s
LONY Lake Ozonia 34.50 15 *e*P P 14 48 07.9 +0.8
comp=Z,27nm,0.7s
I28A Midland 34.59 342 P P 14 48 07.5 -0.4
baz=35,SNR=26
SRU San Rafael 34.60 326 *e*P P 14 48 08.8 +0.5
SRU pmax pmax
comp=Z,62nm,1.1s
SRU San Rafael 34.60 326 *e*P P 14 48 08.8 +0.5
comp=Z,62nm,1.1s
J26A Sides Ranch, S 34.62 339 P P 14 48 08.5 +0.2
baz=35
LDFC Landfair 34.77 317 *e*P P 14 48 11.5 +1.7
comp=Z,23nm,0.9s
BELC Belle Mtn. Jos 34.78 315 P P 14 48 10.5 +0.7
baz=35
H29A Onida 34.88 343 P P 14 48 09.0 -1.4
baz=35,SNR=6.3
PFO Pinyon Flat Ob 34.89 314 P P 14 48 10.4 -0.4
baz=35
I27A Quinn 34.94 341 P P 14 48 10.7 -0.2
baz=35,SNR=20
J25A Sunshine Ranch 34.95 338 P P 14 48 10.3 -0.8
baz=35,SNR=5.9
GMRC Granite Mounta 34.98 316 P P 14 48 11.5 0.0
baz=35
G30A Faulkton 35.05 345 P P 14 48 10.1 -1.8
baz=35,SNR=13
MSU Marysvale 35.11 324 *e*P P 14 48 13.2 +0.5
MSU pmax pmax
comp=Z,10.0nm,0.7s
MSU Marysvale 35.11 324 *e*P P 14 48 13.2 +0.5
comp=Z,10nm,0.7s
TMUT Trail Mountain 35.11 326 *e*P P 14 48 13.4 +0.6
comp=Z,40nm,1.2s
K23A Bowen Ranch, D 35.11 335 P P 14 48 12.3 -0.3
baz=35
H28A Mission Ridge 35.16 342 P P 14 48 11.9 -0.9
baz=35,SNR=9.3
CCUT Cedar City 35.17 322 *e*P P 14 48 14.7 +1.4
comp=Z,18nm,1.0s
I26A New Underwood 35.17 340 P P 14 48 12.9 -0.1
baz=35
J24A Dixon Ranch, L 35.22 337 P P 14 48 13.6 +0.1
baz=35
G29A Hoven 35.32 344 P P 14 48 12.5 -1.7
baz=35,SNR=8.6
K22A Casper 35.40 334 P P 14 48 14.7 -0.3
baz=36,SNR=7.0
K22A Casper 35.40 334 *e*P P 14 48 15.2 +0.2
comp=Z,20nm,1.0s
MURC Murrieta 35.42 313 P P 14 48 15.1 -0.2
baz=36
H27A Howes 35.45 341 P P 14 48 14.8 -0.5
baz=36,SNR=34
HEC Hector,Ludlow 35.46 316 P P 14 48 15.7 0.0
baz=36
G28A Parade 35.49 343 P P 14 48 14.7 -0.9
baz=36
TUQ Turquoise Moun 35.53 317 P P 14 48 16.1 -0.2
baz=36
BBRC Big Bear Solar 35.57 314 P P 14 48 16.1 -0.6
baz=36

J23A Dilts Ranch, B 35.62 336 P P 14 48 17.2 +0.2
baz=36
SHPR Sheep Range 35.65 319 *e*P P 14 48 19.6 +2.3
I24A Kuemmerle Ranc 35.65 338 P P 14 48 17.1 -0.1
baz=36
H26A Fairpoint 35.66 340 P P 14 48 17.0 -0.1
baz=36,SNR=27
RSSD Black Hills 35.66 338 *e*P P 14 48 17.8 +0.4
RSSD pmax pmax
comp=Z,9.0nm,0.8s
RSSD Black Hills 35.66 338 *e*P P 14 48 17.8 +0.4
comp=Z,9.1nm,0.8s
F30A Leola 35.68 345 P P 14 48 15.5 -1.8
baz=36
MPU Maple Canyon 35.85 326 *e*P P 14 48 19.1 +0.1
comp=Z,133nm,0.9s
F29A Eureka 35.88 344 P P 14 48 17.2 -1.8
baz=36
H25A Fruitdale 35.94 339 P P 14 48 18.9 -0.7
baz=36
RRX Edison Barstow 35.95 315 P P 14 48 18.7 -1.1
baz=36
J22A Midwest 36.01 335 P P 14 48 19.6 -0.7
baz=36,SNR=7.8
SHOC Shoshone 36.03 317 P P 14 48 19.5 -0.9
baz=36
NLU North Lily Min 36.05 326 *e*P P 14 48 21.1 +0.4
comp=Z,7.0nm,0.8s
NLU *e*PcP PcP 14 50 48.9 +3.1
GSC Goldstone 36.05 316 P P 14 48 20.9 +0.2
baz=36
I23A Meade Ranch, G 36.06 337 P P 14 48 20.6 0.0
baz=36
G27A Dupree 36.07 342 P P 14 48 19.9 -0.7
baz=36,SNR=19
SCI San Clemente I 36.09 311 P P 14 48 21.2 +0.2
baz=36
F28A McLaughlin 36.16 343 P P 14 48 20.2 -1.2
baz=36,SNR=5.5
JLU Jordanelle 36.17 327 *e*P P 14 48 23.0 +1.2
comp=Z,22nm,0.9s
CIS Catalina Islan 36.19 312 P P 14 48 22.7 +0.9
baz=36
G26A Maurine 36.20 341 P P 14 48 21.3 -0.5
baz=36,SNR=5.6
E30A Jud 36.27 346 P P 14 48 20.7 -1.7
baz=36,SNR=15
J21A Lysite 36.36 334 P P 14 48 23.3 0.0
baz=36,SNR=23
G25A Newell 36.38 340 P P 14 48 23.3 0.0
baz=36,SNR=13
H24A Dirks Ranch, A 36.39 338 P P 14 48 23.1 -0.3
baz=36,SNR=5.7
CTU Camp Tracy 36.39 327 *e*P P 14 48 25.1 +1.5
comp=Z,9nm,1.1s
I22A 9 Mile Ranch, 36.41 336 P P 14 48 23.2 -0.4
baz=36,SNR=5.0
EYMN Ely 36.43 355 P P 14 48 21.8 -1.9
baz=36,SNR=8.5
EYMN Ely 36.43 355 *e*P P 14 48 21.9 -1.8
comp=Z,106nm,1.8s
E29A Napoleon 36.52 345 P P 14 48 23.1 -1.3
baz=37
TCUT Toone Canyon 36.52 328 *e*P P 14 48 24.8 0.0
comp=Z,21nm,0.7s
F27A Lemmon 36.54 342 P P 14 48 23.9 -0.7
baz=37,SNR=7.2
DECC Green Verdugo 36.56 313 P P 14 48 23.8 -1.1
baz=37
TPNV Topopah Spring 36.61 319 *e*P P 14 48 26.7 +1.2
TPNV *e* 14 50 49.7
TPNV pmax pmax
comp=Z,23nm,0.9s
TPNV Topopah Spring 36.61 319 P P 14 48 26.0 +0.4
baz=37,SNR=29
TPNV Topopah Spring 36.61 319 *e*P P 14 48 26.7 +1.2
comp=Z,23nm,0.9s
TPNV *e*PcP PcP 14 50 49.7 +2.2
DUG Dugway 36.62 326 *e*P P 14 48 26.4 +0.9
DUG pmax pmax
comp=Z,26nm,1.0s
DUG Dugway 36.62 326 P P 14 48 25.8 +0.2
baz=37,SNR=6.4
DUG Dugway 36.62 326 *e*P P 14 48 26.4 +0.9
comp=Z,26nm,1.0s
J20A Shoshoni 36.64 334 P P 14 48 25.8 +0.1
baz=37,SNR=11
EDW2 Edwards Air Fo 36.64 314 P P 14 48 25.7 0.0
baz=37
I21A Big Trails, Te 36.67 335 P P 14 48 25.6 -0.4
baz=37,SNR=5.3
F26A Lodgepole 36.72 341 P P 14 48 25.1 -1.1
baz=37,SNR=7.4
E28A Huff 36.80 344 P P 14 48 26.1 -0.7
baz=37
D30A Buchanan 36.81 346 P P 14 48 25.2 -1.7
baz=37,SNR=7.7
BW06 Boulder Array 36.84 332 *e*P P 14 48 27.1 -0.3
comp=Z,14nm,0.9s
PDAR Pinedale Array 36.84 332 P P 14 48 27.1 -0.3
comp=Z,9.1nm,0.6s,baz=121,slow=9.9,SNR=73
PDAR PcP PcP 14 50 48.5 +0.4
comp=Z,2.0nm,0.7s,baz=111,slow=5.5,SNR=4.0
PDAR ScP ScP 14 54 35.5 +6.4
comp=Z,0.8nm,0.8s,baz=126,slow=7.5,SNR=3.5
G24A Alzada 36.84 339 P P 14 48 27.3 0.0
baz=37
RSUT Red Spur Mount 36.90 329 *e*P P 14 48 28.1 0.0
E27A Carson 36.91 343 P P 14 48 26.9 -0.9
baz=37,SNR=12
MPMC Manual Prospec 36.93 316 P P 14 48 27.9 -0.4
baz=37,SNR=14
H22A Clearmont 36.94 336 P P 14 48 28.0 -0.2
baz=37
HWUT Hardware Ranch 36.96 328 *e*P P 14 48 28.6 +0.2
comp=Z,67nm,0.9s
D29A Pettibone, Tap 36.96 345 P P 14 48 26.7 -1.4
baz=37,SNR=5.7
J19A Crowheart 37.00 333 P P 14 48 29.1 +0.3
baz=37,SNR=24
BLG Laguna Peak 37.02 312 P P 14 48 27.2 -1.7
baz=37
OSI Osito Adit 37.02 313 P P 14 48 27.9 -1.1
baz=37
R11A Troy Canyon, C 37.04 321 P P 14 48 29.3 +0.2
baz=37,SNR=12
R11A Troy Canyon, C 37.04 321 *e*P P 14 48 30.8 +1.7
comp=Z,11nm,1.0s
F25A Bowman 37.04 341 P P 14 48 28.8 -0.2
baz=37
BMUT Black Mountain 37.05 329 *e*P P 14 48 28.9 -0.3
G23A Biddle 37.09 338 P P 14 48 29.1 -0.2
baz=37
DAC Darwin (Calif) 37.12 317 *e*P P 14 48 29.3 -0.6
DAC pmax pmax
comp=Z,8.0nm,1.1s
DAC Darwin (Calif) 37.12 317 *e*P P 14 48 29.3 -0.6
comp=Z,8.4nm,1.1s
I20A Worland 37.13 334 P P 14 48 29.5 -0.3
baz=37,SNR=8.8
SPUT South Promonto 37.20 327 *e*P P 14 48 31.9 +1.5
comp=Z,30nm,0.9s
E26A Carlson Angus 37.22 342 P P 14 48 29.6 -0.8
baz=37,SNR=6.0
H21A Big Horn, Sher 37.24 336 P P 14 48 29.8 -0.9
baz=37,SNR=8.2
BGU Big Grassy Mou 37.24 326 *e*P P 14 48 31.5 +0.7
comp=Z,19nm,1.0s
C30A Mose, Pekin 37.30 347 P P 14 48 29.7 -1.3
baz=37,SNR=9.0
F24A Ekalaka 37.30 339 P P 14 48 31.0 -0.2
baz=37
D28A Regan 37.34 344 P P 14 48 30.5 -0.8
baz=37,SNR=12
AGMN Agassiz Nation 37.36 350 P P 14 48 29.9 -1.5
baz=38,SNR=24
AGMN Agassiz Nation 37.36 350 *e*P P 14 48 30.2 -1.3
comp=Z,31nm,0.8s
ARVC Arvin 37.36 314 P P 14 48 31.7 0.0
baz=37
BSC Santa Cruz Isl 37.37 312 P P 14 48 31.8 -0.1
baz=37
G22A Birney 37.44 337 P P 14 48 31.7 -0.6
baz=38
H20A Greybull 37.52 335 P P 14 48 32.3 -0.7
baz=38
D27A Center 37.52 343 P P 14 48 32.3 -0.6

baz=38
E25A **Miller Ranch,** 37.53 341 P P 14 48 32.3 -0.8
baz=38,SNR=8.1
F23A **Volborg** 37.53 338 P P 14 48 32.8 -0.3
baz=38
AHID **Auburn Hatcher** 37.58 330 eP P 14 48 35.0 +1.3
comp=Z,29nm,0.8s
I19A **Meeteetse** 37.58 333 P P 14 48 33.1 -0.6
baz=38,SNR=9.1
MDND **Maddock** 37.58 346 P P 14 48 33.5 -0.9
baz=38,SNR=14
MDND **Maddock** 37.70 346 eP P 14 48 34.1 -0.3
comp=Z,175nm,1.2s
HVU **Hansel Valley** 37.71 328 eP P 14 48 35.5 +0.7
HVU pmax pmax
comp=Z,19nm,0.9s
HVU **Hansel Valley** 37.71 328 eP P 14 48 35.5 +0.7
comp=Z,19nm,0.9s
D26A **Manning** 37.71 342 P P 14 48 33.5 -1.0
baz=38,SNR=7.0
C28A **Hausauer Farms** 37.77 345 P P 14 48 34.0 -1.0
baz=38,SNR=7.1
G21A **Lodge Grass** 37.80 336 P P 14 48 34.3 -1.0
baz=38
E24A **Baker** 37.88 340 P P 14 48 35.6 -0.4
baz=38,SNR=5.8
F22A **Rosebud** 37.90 338 P P 14 48 35.2 -1.0
baz=38,SNR=7.5
TPH **Tonopah** 37.90 319 eP P 14 48 38.4 +1.9
TPH pmax pmax
comp=Z,12nm,1.0s
TPH **Tonopah** 37.90 319 eP P 14 48 38.4 +1.9
comp=Z,12nm,1.0s
REDW **Red Top Meadow** 37.91 331 eP P 14 48 36.9 +0.5
comp=Z,124nm,1.4s
SNOW **Snow King Moun** 37.94 331 eP P 14 48 38.3 +1.5
comp=Z,44nm,0.8s
PKM **Peak Mountain** 37.95 313 P P 14 48 37.0 +0.2
baz=38
B30A **Myrvik Farm, E** 37.98 347 P P 14 48 35.2 -1.6
baz=38,SNR=10
LOHW **Long Hollow** 37.98 331 eP P 14 48 37.5 +0.4
comp=Z,13nm,0.8s
TPAW **Teton Pass** 38.05 331 eP P 14 48 38.6 +0.8
comp=Z,33nm,0.8s
C27A **Sayler Ranch,** 38.06 344 P P 14 48 37.1 -0.4
baz=38
H19A **Powell** 38.08 334 P P 14 48 37.4 -0.4
baz=38
D25A **Fairfield** 38.09 342 P P 14 48 37.3 -0.4
baz=38
MOOW **Moose Ponds** 38.15 331 eP P 14 48 38.5 0.0
comp=Z,11nm,0.8s
E23A **Ismay** 38.17 339 P P 14 48 37.3 -1.1
baz=38,SNR=7.1
FXWY **Fox Creek** 38.20 331 eP P 14 48 39.0 0.0
comp=Z,6.6nm,0.8s
FXWY eP cP P 14 50 53.9 +1.6
G20A **Bridger** 38.20 335 P P 14 48 37.8 -1.0
baz=38,SNR=7.0
B29A **Wagenman Farm,** 38.22 346 P P 14 48 37.7 -1.1
baz=38,SNR=12
F21A **Absaloka Mine,** 38.26 337 P P 14 48 38.1 -1.1
baz=38
C26A **Wahner Farm, P** 38.33 343 P P 14 48 39.0 -0.8
baz=38
E22A **Miles City** 38.34 338 P P 14 48 39.1 -0.8
baz=38
IMW **Indian Meadow** 38.35 331 eP P 14 48 40.4 +0.1
comp=Z,25nm,1.4s
ELK **Elko** 38.36 324 eP P 14 48 41.8 +1.5
ELK pmax pmax
comp=Z,20nm,1.0s
ELK **Elko** 38.36 324 eP P 14 48 41.8 +1.5
comp=Z,20nm,1.0s
D24A **Glendive** 38.38 341 P P 14 48 39.7 -0.4
baz=38,SNR=15
FLWY **Flagg Ranch** 38.38 332 eP P 14 48 41.0 +0.6
comp=Z,18nm,0.9s
A30A **Hoffart Farm,** 38.44 348 P P 14 48 39.3 -1.3
baz=38,SNR=7.0
B28A **Dugan Ranch, T** 38.45 345 P P 14 48 39.8 -0.8
baz=38,SNR=7.4
RLMT **Red Lodge** 38.56 334 P P 14 48 41.2 -0.7
baz=39,SNR=9.7
RLMT **Red Lodge** 38.56 334 eP P 14 48 41.7 -0.2
comp=Z,9.2nm,0.6s
C25A **Freed Ranch, W** 38.57 342 P P 14 48 41.1 -0.7
baz=39
A29A **Manning Farm,** 38.62 347 P P 14 48 40.9 -1.2
baz=39,SNR=15
B27A **Peters Farms,** 38.63 344 P P 14 48 41.9 -0.4
baz=39
F20A **Billings** 38.65 336 P P 14 48 42.1 -0.4
baz=39
LAO **LASA Array** 38.66 338 P P 14 48 42.0 -0.5
baz=39
LAO **LASA Array** 38.66 338 eP P 14 48 42.4 -0.1
comp=Z,26nm,1.1s
LAO eP cP P 14 50 52.7 -0.7
MCID **Moose Creek** 38.69 332 eP P 14 48 43.2 +0.2
MLAC **Mammoth Lakes** 38.70 318 P P 14 48 42.2 -1.0
baz=39
YFT **Old Faithful** 38.73 332 eP P 14 48 46.2 +2.8
comp=Z,28nm,1.0s
C24A **Savage** 38.77 341 P P 14 48 43.3 -0.2
baz=39
NVAR **Mina Array Bea** 38.80 319 P P 14 48 44.8 +0.8
comp=Z,3.9nm,0.7s,baz=131,slow=7.6,SNR=20
NVAR PcP P 14 50 56.0 +1.8
comp=Z,13nm,0.6s,baz=132,slow=4.0,SNR=25
NVAR ScP S 14 54 45.0 +8.1
comp=Z,0.9nm,0.8s,baz=144,slow=4.7,SNR=4.5
E21A **Keefer Ranch,** 38.85 337 P P 14 48 43.7 -0.4
baz=39,SNR=7.7
A28A **Rude Farm, Bot** 38.85 346 P P 14 48 43.9 -0.1
baz=39
B26A **Jensen Ranch,** 38.87 343 P P 14 48 44.5 +0.2
baz=39
B25A **Knox Farm, Ray** 39.04 343 P P 14 48 45.5 -0.2
baz=39
A27A **Ledoux Ranch,** 39.13 345 P P 14 48 45.5 -0.9
baz=39
ULM **Lac du Bonnet** 39.25 351 P P 14 48 45.5 -1.8
comp=Z,26nm,0.6s,baz=168,slow=9.4,SNR=26
ULM PcP P 14 50 55.8 +0.7
comp=Z,10.0nm,0.6s,baz=179,slow=1.8,SNR=5.2
ULM ScP S 14 54 43.3 +0.5
comp=Z,2.9nm,0.6s,baz=178,slow=4.5,SNR=3.3
ULM LR LR 15 08 41.9
comp=Z,351nm,18.0s,baz=161,slow=42
GCMT **Greycliff** 39.27 334 eP P 14 48 48.1 +0.4
A26A **Wade Farm, Ken** 39.29 344 P P 14 48 47.0 -0.8
baz=39,SNR=7.3
QLMT **Earthquake Lak** 39.29 332 eP P 14 48 49.6 +1.5
BMN **Battle Mountai** 39.32 322 eP P 14 48 49.2 +0.9
BMN pmax pmax
comp=Z,31nm,1.0s
BMN **Battle Mountai** 39.32 322 eP P 14 48 49.2 +0.9
comp=Z,30nm,1.0s
WAKR **Walker** 39.58 318 eP P 14 48 52.4 +1.9
A25A **Svangstu Ranch** 39.63 343 P P 14 48 50.0 -0.5
baz=40
HLID **Hailey** 39.82 328 P P 14 48 52.5 0.0
baz=40,SNR=21
HLID **Hailey** 39.82 328 eP P 14 48 52.8 +0.3
comp=Z,9.4nm,0.7s
MCMT **McKenzie Canyo** 39.96 331 eP P 14 48 54.5 +0.9
BOZ **Bozeman (W)** 40.01 333 eP P 14 48 53.6 -0.3
BOZ pmax pmax
comp=Z,11nm,0.6s
BOZ **Bozeman (W)** 40.01 333 P P 14 48 54.1 +0.1
baz=40,SNR=29
BOZ **Bozeman (W)** 40.01 333 eP P 14 48 53.6 -0.3
comp=Z,10nm,0.6s
DLMT **Dillon** 40.24 332 eP P 14 48 56.6 +0.8
comp=Z,31nm,1.3s
MFID **Camas Ranch** 40.47 327 eP P 14 48 58.1 +0.4
comp=Z,13nm,1.3s
LRM **Limekiln Ridge** 40.52 332 eP P 14 48 58.8 +0.5
HRY **Holter Researc** 40.92 334 eP P 14 49 02.3 +0.9
EGMT **Eagleton** 41.10 336 P P 14 49 03.2 +0.4
baz=41,SNR=7.6
EGMT **Eagleton** 41.10 336 eP P 14 49 02.9 +0.1
comp=Z,60nm,1.7s
WVOR **Wild Horse Val** 41.40 324 eP P 14 49 05.5 +0.1
WVOR pmax pmax
comp=Z,26nm,0.9s
WVOR **Wild Horse Val** 41.40 324 eP P 14 49 05.5 +0.1
comp=Z,26nm,0.9s
CHMT **Chamberlain Mo** 41.70 333 eP P 14 49 07.2 -0.8
MSO **Missoula** 41.95 332 P P 14 49 09.8 0.0
baz=42
MSO **Missoula** 41.95 332 eP P 14 49 09.8 0.0
comp=Z,18nm,1.1s
MOD **Modoc** 42.06 322 eP P 14 49 11.4 +0.5
comp=Z,16nm,1.3s
SWMT **Swartz Lake** 42.49 333 eP P 14 49 14.1 -0.1
comp=Z,2.0nm,0.6s
M04C **Macdoel** 42.93 321 P P 14 49 17.3 -0.6
baz=43
F10A **Beach Ranch, E** 42.94 329 eP P 14 49 17.2 -0.6
comp=Z,20nm,0.8s
G08A **Pilot Rock** 43.39 327 eP P 14 49 21.9 +0.4
comp=Z,5.2nm,0.8s
J05D **Fort Rock, OR** 43.43 323 P P 14 49 22.2 +0.3
baz=44
YBH **Yreka Blue Hor** 43.45 320 LR LR 15 10 04.7
comp=Z,1μm,21.2s,baz=139,slow=40
WALA **Waterton Lakes** 43.62 334 eP P 14 49 23.6 +0.3
comp=Z,55nm,1.9s
E09A **Wood Farm, Sta** 43.77 329 eP P 14 49 25.2 +0.8
comp=Z,25nm,1.1s
J04D **Umpqua Nationa** 43.92 322 P P 14 49 25.6 -0.4
baz=44
I05D **Terrebonne, OR** 44.12 324 P P 14 49 27.2 0.0
baz=44
L02D **Cave Junction,** 44.24 320 P P 14 49 27.4 -0.8
baz=44
HAWA **Hanford** 44.41 328 eP P 14 49 29.1 -0.5
comp=Z,17nm,0.9s
I04A **Tendick Farm,** 44.42 323 P P 14 49 28.8 -0.9
baz=44
NEW **Newport** 44.48 331 LR LR 15 10 25.7
comp=Z,468nm,20.9s,baz=130,slow=39
NEW **Newport** 44.48 331 P P 14 49 29.8 -0.3
baz=45
D08A **Wollman Farm,** 44.53 329 eP P 14 49 30.3 -0.2
comp=Z,18nm,0.8s
BENWA **Benson Ranch** 44.59 328 P P 14 49 31.2 +0.3
G05D **Wamic, OR** 44.65 325 P P 14 49 31.3 -0.2
baz=45
FFC **Flin Flon** 44.66 347 P P 14 49 30.2 -1.1
comp=Z,142nm,0.7s,SNR=7.3
FFC **Flin Flon** 44.66 347 eP P 14 49 30.9 -0.5
FFC pmax pmax
comp=Z,18nm,0.8s
FFC **Flin Flon** 44.66 347 eP P 14 49 30.9 -0.5
comp=Z,18nm,0.8s
E07A **Sunnyside** 44.69 328 eP P 14 49 31.4 -0.3
comp=Z,47nm,0.9s
C09A **Chrisman Ranch** 44.71 330 eP P 14 49 32.4 +0.4
comp=Z,8.3nm,0.7s
VFP **Flag Point** 44.78 325 P P 14 49 33.7 +1.0
H04A **Detroit Lake** 44.81 324 eP P 14 49 33.3 +0.5
comp=Z,127nm,2.3s
I03D **Drain, OR** 44.93 322 P P 14 49 32.9 -0.8
baz=45
MXC **Moxie City** 44.93 327 P P 14 49 34.9 +1.2
VLL **Laurance Lake** 44.99 325 P P 14 49 36.2 +1.9
ASR **Mount Adams--S** 45.36 326 P P 14 49 38.3 +1.0
WTV **Waterville** 45.48 329 P P 14 49 38.7 +0.6
LTY **Liberty** 45.57 328 eP P 14 49 38.5 -0.3
comp=Z,16nm,1.2s
B08A **Colville Reser** 45.61 330 eP P 14 49 38.5 -0.6
comp=Z,12nm,1.0s
G03D **McMinnville, O** 45.74 324 P P 14 49 40.1 0.0
baz=46
LON **Longmire** 45.85 327 eP P 14 49 41.2 +0.2
LON **Longmire** 45.85 327 eP P 14 49 41.2 +0.2
SCHQ **Schefferville** 45.87 16 P P 14 49 39.5 -1.4
comp=Z,10nm,0.6s,baz=213,slow=6.2,SNR=20
SCHQ LR LR 15 08 53.5
comp=Z,1μm,21.6s,baz=216,slow=36
SCHQ **Schefferville** 45.87 16 eP P 14 49 40.2 -0.7
comp=Z,125nm,1.8s
F04D **Rainier, OR** 46.11 325 P P 14 49 43.1 +0.1
baz=46
EDM **Edmonton** 46.65 338 eP P 14 49 46.4 -0.7
EDM pmax pmax
comp=Z,19nm,0.7s
EDM **Edmonton** 46.65 338 eP P 14 49 46.4 -0.7
comp=Z,19nm,0.7s
E03A **Lebam** 46.69 325 eP P 14 49 48.4 +0.9
comp=Z,26nm,1.0s
BDFB **Brasilia** 46.92 124 P P 14 49 49.1 -0.7
comp=Z,21nm,0.7s,baz=291,slow=10,SNR=32
BDFB LR LR 15 10 32.3
comp=Z,995nm,19.7s,baz=303,slow=38
BDFB **Brasilia** 46.92 124 P P 14 49 49.1 -0.7
BDFB pmax pmax
comp=Z,21nm,0.7s
BDFB MLR MLR
comp=Z,995nm,19.7s
CPUP **Villa Florida** 47.32 143 P P 14 49 52.1 -0.5
comp=Z,3.7nm,0.7s,baz=328,slow=7.7,SNR=9.9
CPUP PcP PcP 14 51 24.0 +1.3
comp=Z,1.9nm,0.6s,baz=309,slow=1.4,SNR=3.3
CPUP LR LR 15 12 58.0
comp=Z,354nm,18.1s,baz=335,slow=40
CPUP **Villa Florida** 47.32 143 eP P 14 49 51.8 -0.8
CPUP 14 51 24.0
CPUP pmax pmax
comp=Z,2.0nm,1.8s
CPUP **Villa Florida** 47.32 143 eP P 14 49 51.8 -0.8
comp=Z,2.2nm,1.8s
CPUP PcP PcP 14 51 24.0 +1.3
NLWA **Neilton Lookou** 47.36 326 eP P 14 49 54.8 +2.0
comp=Z,33nm,1.4s
FCC **Fort Churchill** 47.38 355 eP P 14 49 51.9 -0.7
FCC pmax pmax
comp=Z,19nm,0.5s
FCC **Fort Churchill** 47.38 355 eP P 14 49 51.9 -0.7
comp=Z,18nm,0.5s
BBB **Bella Bella** 52.40 329 LR LR 15 16 46.6
comp=Z,589nm,20.8s,baz=124,slow=41
YKA **Yellowknife Ar** 54.60 345 P P 14 50 45.4 -1.3
comp=Z,6.6nm,0.7s,baz=140,slow=7.3,SNR=28
YKA PcP PcP 14 51 49.1 +0.1
comp=Z,6.5nm,0.7s,baz=144,slow=4.2,SNR=21
YKA **Yellowknife Ar** 54.60 345 P P 14 50 45.4 -1.3
YKA 14 51 49.1
YKA pmax pmax
comp=Z,7.0nm,0.7s
YKA pmax pmax
comp=Z,7.0nm,0.7s
DLBC **Dease Lake** 56.96 335 LR LR 15 18 15.5
comp=Z,492nm,20.7s,baz=104,slow=39
DLBC **Dease Lake** 56.96 335 eP P 14 51 04.5 +0.6
comp=Z,73nm,1.9s
RKT **Rikitea** 58.51 234 eS S 14 59 24.7 +11
comp=Z,944nm,26.2s
RKT eLQ LQ 15 06 02.3
comp=Z,784nm,29.0s
RKT eLR LR 15 08 36.7
comp=Z,823nm,26.8s
RKT **Rikitea** 58.51 234 eT T 15 53 51.4
comp=Z,5.5nm,0.3s
BESE **Bessie Mountai** 59.14 333 eP P 14 51 20.2 +1.2
comp=Z,2.7nm,0.9s
RES **Resolute Bay** 63.22 358 eP P 14 51 45.4 -0.9
RES pmax pmax
comp=Z,152nm,3.0s
RES **Resolute Bay** 63.22 358 eP P 14 51 45.4 -0.9
comp=Z,152nm,3.0s
DAWY **Dawson** 63.84 337 eP P 14 51 49.8 -0.9
comp=Z,31nm,2.0s
INK **Inuvik** 64.21 342 eP P 14 51 53.1 +0.2
INK pmax pmax
comp=Z,13nm,1.0s
INK **Inuvik** 64.21 342 eP P 14 51 53.1 +0.2
comp=Z,12nm,1.0s
EGAK **Eagle** 64.85 337 eP P 14 51 56.2 -1.0
comp=Z,3.8nm,0.9s
PMOR **Pomariorio Ree** 66.11 248 eT T 16 03 17.3
comp=Z,3.9nm,0.2s
HDA **Harding Lake** 66.95 336 eP P 14 52 10.1 -0.5
comp=Z,74nm,1.8s
ILAR **Eielson Array** 67.07 336 P P 14 52 10.4 -0.9
comp=Z,3.6nm,0.6s,baz=137,slow=4.5,SNR=66
ILAR LR LR 15 24 52.8
comp=Z,607nm,20.9s,baz=125,slow=39
FYU **Fort Yukon** 67.17 338 eP P 14 52 13.0 +1.1
comp=Z,197nm,2.8s
RND **Reindeer** 67.37 334 eP P 14 52 13.5 +0.1
RND pmax pmax
comp=Z,21nm,0.8s
RND **Reindeer** 67.37 334 eP P 14 52 13.5 +0.1
comp=Z,21nm,0.8s
CCB **Clear Creek Bu** 67.39 336 eP P 14 52 12.4 -1.0
comp=Z,28nm,1.8s
WRH **Wood River Hil** 67.44 336 eP P 14 52 12.7 -1.0
comp=Z,5.8nm,1.0s
KDAK **Kodiak Island** 67.45 328 iP P 14 52 14.5 +0.6
COLA **College** 67.49 336 iP P 14 52 13.0 -1.0
COLA pmax pmax
comp=Z,54nm,1.5s
COLA **College** 67.49 336 eP P 14 52 14.2 +0.2
comp=Z,9.1nm,0.8s
MCK **McKinley** 67.52 335 eP P 14 52 14.1 -0.2
MCK **McKinley** 67.52 335 eP P 14 52 14.1 -0.2
BWN **Browne** 67.89 335 eP P 14 52 16.3 -0.3
comp=Z,86nm,1.4s
TRF **Thorofare Moun** 67.99 334 eP P 14 52 17.1 -0.4
comp=Z,114nm,2.1s
RSO **Redoubt South** 68.22 331 eP P 14 52 22.1 +3.1
BPAW **Bear Paw Mtn.** 68.50 335 eP P 14 52 19.6 -0.9
comp=Z,45nm,2.8s
PPLA **Purkeypile** 68.64 333 eP P 14 52 21.2 -0.3
comp=Z,48nm,1.6s
MLY **Manley** 68.69 336 eP P 14 52 20.8 -0.8
comp=Z,13nm,0.7s
CAST **Castle Rocks** 68.75 334 eP P 14 52 20.9 -1.1
comp=Z,27nm,1.7s
COLD **Coldfoot** 69.23 338 eP P 14 52 25.7 +0.8
comp=Z,55nm,2.0s
IM04 **Indian Mountai** 70.19 336 eP P 14 52 29.0 -1.8
TBI **Tubuai** 70.52 240 eLR LR 15 14 13.6
comp=Z,650nm,25.5s
TBI **Tubuai** 70.52 240 eT T 16 08 49.2
comp=Z,5.6nm,0.3s
FALS **False Pass** 72.93 324 eP P 14 52 48.0 +0.6
JMIC **False Pass** 75.25 19 LR LR 15 27 37.9
comp=Z,145nm,18.1s,baz=259,slow=37
TNA **Tin City** 75.86 335 eP P 14 53 05.7 +1.4
ESDC **Sonseca Array** 77.14 52 P P 14 53 09.8 -2.3
comp=Z,1.7nm,0.7s,baz=282,slow=5.6,SNR=8.7
DBIC **Dimbokro** 80.74 85 LR LR 15 28 00.1
comp=Z,208nm,19.0s,baz=260,slow=35
NB2 **NORSAR Subarra** 83.74 29 P P 14 53 47.2 +0.1
comp=Z,2.0nm,0.8s,baz=283,slow=5.1
NOA **NORSAR Array B** 83.74 29 P P 14 53 46.2 -0.9
comp=Z,0.8nm,0.6s,baz=286,slow=4.8,SNR=4.2
TORD **Torodi Ar. Bea** 85.89 77 P P 14 53 58.3 -0.4
comp=Z,0.4nm,0.8s,baz=262,slow=4.4,SNR=3.6
TORD LR LR 15 29 32.6
comp=Z,195nm,19.9s,baz=260,slow=34
ARCES **ARCESS Array B** 86.73 19 P P 14 53 59.1 -2.7
comp=Z,2.1nm,0.9s,baz=302,slow=5.2,SNR=4.5
ARCES LR LR 15 31 48.5
comp=Z,284nm,19.2s,baz=302,slow=35
KHC **Kasperske Hory** 87.94 40 eP P 14 54 04.3 -3.8
KHC ePCP P
KHC ex x 15 11 00.1
KHC AMS AMS 15 29 20.0
comp=Z,800nm,19.3s
KHC **Kasperske Hory** 87.94 40 eP P 14 54 04.3 -3.8
KHC MLR MLR
comp=Z,800nm,19.3s
KHC **Kasperske Hory** 87.94 40 eP P 14 54 07.8 -0.4
GERES **GERESS Array B** 88.10 41 P P 14 54 06.9 -2.0
comp=Z,0.8nm,0.8s,baz=12,slow=6.8,SNR=3.8
GERES LR LR 15 30 17.1
comp=Z,746nm,19.8s,baz=268,slow=34
PVCC **Panska Ves** 88.18 39 AMS AMS 15 30 20.0
comp=Z,600nm,17.9s
PRA **Prague** 88.23 39 AMS AMS 15 34 20.0
comp=Z,700nm,17.8s
PRU **Pruhonice** 88.32 39 AMS AMS 15 34 00.0
comp=Z,600nm,18.1s
GOPC **GO Pecny, Ondr** 88.49 39 AMS AMS 15 34 20.0
comp=Z,700nm,18.4s
UPC **Upice** 89.07 39 AMS AMS 15 31 00.0
comp=Z,700nm,19.3s
TREC **Trest** 89.10 40 AMS AMS 15 29 40.0
comp=Z,700nm,21.0s
DPC **Dobruska-Polom** 89.31 39 AMS AMS 15 30 40.0
comp=Z,600nm,19.4s
FINES **FINESS Array B** 90.39 26 LR LR 15 31 50.6
comp=Z,492nm,21.1s,baz=306,slow=34
OKC **Ostrava-Krasne** 90.59 39 AMS AMS 15 33 10.0
comp=Z,600nm,19.9s
SEY **Seymchan** 93.00 337 eP P 14 54 31.3 +0.1
PETK **Petropavlovsk-** 95.48 327 LR LR 15 39 08.7
comp=Z,68nm,20.8s,baz=66,slow=36
OBN **Obninsk** 98.34 29 eP P 14 54 55.0 -0.7
OBN e 14 58 51.1
OBN pmax pmax
comp=Z,4.0nm,1.2s
BVAR **Borovoye Array** 112.69 15 PKiKP PKiKP 14 59 54.4 +0.1
comp=Z,0.6nm,0.6s,baz=359,slow=1.3,SNR=4.8
ZALV **Zalesovo Beam** 114.30 5 PKP PKPdf 14 59 56.6 -0.8
comp=Z,0.9nm,0.4s,baz=253,slow=2.3,SNR=5.8
BOSA **Boshof** 114.69 116 PKP PKPdf 14 59 59.9 +0.9
comp=Z,3.9nm,0.8s,baz=316,slow=3.1,SNR=6.8
MJAR **Matsushiro Arr** 116.11 321 PKP PKPdf 15 00 01.6 +0.2
comp=Z,1.6nm,0.6s,baz=128,slow=1.3,SNR=8.0
KURK **Kurchatov** 116.62 10 PKiKP PKPdf 15 00 02.1 +0.2
KURK **Kurchatov** 116.62 10 PKP PKPdf 15 00 02.1 +0.2
KURBB **Kurchatov Arra** 116.70 10 PKP PKPdf 15 00 02.1 0.0
comp=Z,1.7nm,0.7s,baz=346,slow=2.1,SNR=22
LSZ **Lusaka** 116.78 101 PKP PKPdf 15 00 03.8 +0.5
comp=Z,1.2nm,0.4s,baz=41,slow=5.0,SNR=5.2
MATP **Matopo** 117.44 107 PKP PKPdf 15 00 05.0 +0.6
comp=Z,4.2nm,0.7s,baz=251,slow=2.0,SNR=9.8
CN2 **Changchun** 117.55 334 ePKP PKPdf 15 00 03.0 -0.9
ULN **Ulaanbaatar** 119.53 349 ePKiKP PKPdf 15 00 08.5 +0.6
ULN **Ulaanbaatar** 119.53 349 ePKPdf PKPdf 15 00 08.5 +0.6
SONM **Songino Array** 119.67 350 PKP PKPdf 15 00 08.5 +0.4
comp=Z,4.0nm,0.7s,baz=339,slow=1.7,SNR=22
MAW **Mawson** 120.57 167 PKP PKPdf 15 00 10.5 +1.6
comp=Z,1.2nm,0.4s,baz=244,slow=1.5,SNR=5.8
GEYT **Alibeck** 120.72 32 PKP PKPdf 15 00 10.1 -0.2
comp=Z,5.4nm,0.7s,baz=306,slow=28,SNR=4.6
MKAR **Makanchi Array** 121.03 9 PKP PKPdf 15 00 09.9 -0.7
comp=Z,1.6nm,0.8s,baz=348,slow=2.0,SNR=13
KSRS **Korea Array** 121.36 328 PKP PKPdf 15 00 12.2 +0.8
comp=Z,16nm,0.7s,baz=12,slow=1.8,SNR=80
KSRS **Korea Array** 121.36 328 PKiKP PKPdf 15 00 12.3 +0.8
KSRS pmax pmax
comp=Z,16nm,0.7s
KSAR **Wonju Array Be** 121.38 328 PKiKP PKPdf 15 00 12.3 +0.8
KSAR **Wonju Array Be** 121.38 328 PKP PKPdf 15 00 12.2 +0.8
BJI **Beijing** 124.38 339 PKP PKPdf 15 00 16.8 -0.4
BJI PPMZ
comp=Z,190nm,8.1s
BJI LN
comp=Z,270nm,23.1s
BJI LE
comp=Z,130nm,16.6s
BJI LZ
comp=Z,340nm,29.6s
WMQ **Urumqi** 124.59 5 PKP PKPdf 15 00 16.3 -1.3
WMQ LN
comp=Z,470nm,22.0s
WMQ LE
comp=Z,170nm,22.0s
WMQ LZ
comp=Z,460nm,20.9s
HHC **Hu-ho-hao-te** 125.13 343 ePKP PKPdf 15 00 16.8 -2.0
HHC sPKP 15 00 53.5
HHC PP PP 15 02 09.8 +2.4
HHC SS SS 15 18 53.8 -4.3
HHC LN
comp=Z,140nm,18.5s
HHC LE
comp=Z,320nm,19.7s
HHC LZ
comp=Z,140nm,21.0s
TIA **Tai'an** 127.38 336 ePKP PKPdf 15 00 23.8 +0.7
CTA **Charters Tower** 128.53 254 PKP PKPdf 15 00 26.5 +0.9
baz=90,slow=3.0
GTA **Gaotai** 128.87 354 PKP PKPdf 15 00 27.0 +1.0
GTA PP PP 15 02 38.3 +6.3
GTA PPMZ
comp=Z,110nm,6.9s
GTA LN
comp=Z,180nm,20.9s
GTA LE
comp=Z,170nm,21.9s
GTA LZ
comp=Z,270nm,22.3s

STKA	**Stephens Creek**	**131.27**	**238**	PKP	**PKPdf**	**15 00 30.9**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=132,slow=2.3,SNR=8.5						
STKA	**Stephens Creek**	**131.27**	**238**	PKIKP	**PKPdf**	**15 00 31.0**	**+0.5**
LZH	**Lanzhou**	**131.52**	**349**	*e*PKP	**PKPdf**	**15 00 30.0**	**-1.2**
LZH				sPKP		15 01 07.5	
LZH				LN			
	comp=Z,170nm,17.0s						
LZH				LE			
	comp=Z,140nm,18.4s						
LZH				LZ			
	comp=Z,200nm,19.0s						
XAN	**Xi'an**	**132.22**	**342**	PKP	**PKPdf**	**15 00 34.0**	**+1.6**
WHN	**Wuhan**	**133.44**	**335**	PKP	**PKPdf**	**15 00 36.0**	**+1.3**
ENH	**Enshi**	**135.53**	**340**	*e*PKPdf	**PKPdf**	**15 00 39.5**	**+0.8**
CD2	**Chengdu**	**136.53**	**347**	PKP	**PKPdf**	**15 00 38.0**	**-2.6**
CD2				sPKP		15 01 14.8	
CD2				SKS	**SKSdf**	**15 07 39.8**	**-6.0**
CD2				SKKS	SKKSac	15 10 04.5	-6.9
CD2				SS	**SS**	**15 21 15.3**	**-2.2**
CD2				PPMZ			
	comp=Z,120nm,5.2s						
ASAR	**Alice Springs**	**139.62**	**247**	PKhKP	PKPpre	15 00 37.0	
	comp=Z,1.2nm,0.7s,baz=110,slow=3.6,SNR=14						
ASAR	**Alice Springs**	**139.62**	**247**	PKHKP	PKPpre	15 00 37.0	
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRAB	**Tennant Creek**	**139.71**	**253**	*e*PKIKP	**PKPdf**	**15 00 46.7**	**+0.1**
WRAB	**Tennant Creek**	**139.71**	**253**	*e*PKPdf	**PKPdf**	**15 00 46.7**	**+0.1**
WRA	**Warramunga Arr**	**139.72**	**253**	PKhKP	PKPpre	15 00 37.9	
	comp=Z,0.5nm,0.5s,baz=93,slow=3.6,SNR=7.5						
WRA				PKP	**PKPdf**	**15 00 47.4**	**+0.8**
	comp=Z,2.4nm,0.5s,baz=90,slow=3.2,SNR=42						
WRA	**Warramunga Arr**	**139.72**	**253**	PKHKP	PKPpre	15 00 37.9	
WRA						15 00 47.4	
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GYA	**Guiyang**	**139.98**	**341**	Pdif	**Pdif**	**14 57 58.8**	**-3.0**
GYA				PKP	**PKPdf**	**15 00 45.5**	**-1.6**
GYA				sPKP		15 01 22.0	
GYA				PP	**PP**	**15 03 45.5**	**+2.9**
GYA				PPMZ			
	comp=Z,120nm,7.8s						
KMI	**Kunming**	**142.34**	**346**	PKP	**PKPdf**	**15 00 52.0**	**+0.5**
KMI				pPKP	**pPKPdf**	**15 01 12.5**	**+1.2**
KMI				sPKP		15 01 22.3	
KMI				LN			
	comp=Z,130nm,19.7s						
KMI				LE			
	comp=Z,160nm,19.0s						
KMI				LZ			
	comp=Z,190nm,19.7s						
QIZ	**Qiongzhong**	**145.45**	**332**	*e*PKPdf	**PKPdf**	**15 00 56.7**	**-0.1**
KLRI	**Killari**	**146.21**	**29**	*e*PKPdf	**PKPdf**	**15 00 56.6**	**-1.6**
KLRI				*e*PKPab	**PKPbc**	**15 00 58.3**	**-1.0**
SRSP	**Sriramsagar**	**146.26**	**26**	*e*PKPdf	**PKPdf**	**15 00 56.5**	**-1.7**
SRSP				*e*PKPab	**PKPbc**	**15 00 58.5**	**-0.8**
RPR	**Rampur**	**146.72**	**25**	*e*PKPbc	**PKPdf**	**15 00 59.4**	**+0.5**
RPR				*e*PKPab	**PKPbc**	**15 01 00.4**	**-0.3**
HYBB	**Hyderabad (bro**	**147.68**	**27**	*e*PKPbc	**PKPdf**	**15 01 01.6**	**+1.0**
HYB	**Hyderabad**	**147.69**	**27**	*i* PKP	**PKPdf**	**15 01 02.0**	**+1.4**
FITZ	**Fitzroy Crossi**	**148.10**	**254**	PKPbc	**PKPbc**	**15 01 03.6**	**-0.8**
	comp=Z,9.6nm,0.8s,baz=124,slow=1.8,SNR=20						
NJS	**Nagarjunasagar**	**148.78**	**27**	*e*PKPdf	**PKPdf**	**15 01 02.3**	**-0.1**
NJS				*e*PKiKP	**PKPbc**	**15 01 05.8**	**-0.4**
SRLM	**Srisailam**	**149.00**	**28**	*e*PKiKP	**PKPbc**	**15 01 06.6**	**-0.3**
SRLM				*e*PKPab	**PKiKP**	**15 01 09.7**	**+1.5**
PVM	**Polavaram**	**149.09**	**22**	*e*PKPbc	**PKPbc**	**15 01 05.4**	**-1.6**
PVM				*e*PKiKP	**PKiKP**	**15 01 06.9**	**-1.3**
URV	**Uravakonda**	**149.20**	**31**	*e*PKPbc	**PKPbc**	**15 01 05.7**	**-1.7**
URV				*e*PKiKP	**PKiKP**	**15 01 07.3**	**-1.3**
CHTO	**Chiang Mai**	**149.25**	**349**	*e*PKiKP	**PKPdf**	**15 01 02.6**	**-0.5**
CHTO				*e*		15 01 07.6	
CHTO	**Chiang Mai**	**149.25**	**349**	*e*PKPdf	**PKPdf**	**15 01 02.6**	**-0.5**
CHTO				*e*PKPbc	**PKPbc**	**15 01 07.6**	**+0.2**
NWAO	**Narrogin (SRO)**	**149.47**	**222**	PKPbc	**PKPab**	**15 01 10.5**	**-2.0**
	comp=Z,18nm,0.7s,baz=148,slow=4.8,SNR=9.9						
SOEI	**Soe**	**149.51**	**270**	*e*PKPbc	**PKPbc**	**15 01 10.3**	**+2.0**
RCLA	**Racherla**	**149.59**	**28**	*e*PKPdf	**PKPdf**	**15 01 03.9**	**+0.2**
RCLA				*e*PKiKP	**PKPbc**	**15 01 08.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**149.60**	**349**	PKP	**PKPdf**	**15 01 04.9**	**+1.2**
	comp=Z,12nm,0.7s,baz=313,slow=2.3,SNR=41						
CMAR				PKPbc	**PKPbc**	**15 01 08.7**	**+0.4**
	comp=Z,13nm,0.7s,baz=338,slow=2.7,SNR=45						
ADKI	**Addanki**	**149.70**	**26**	*e*PKPdf	**PKPdf**	**15 01 02.9**	**-1.0**
ADKI				*e*PKiKP	**PKPbc**	**15 01 08.8**	**+0.3**
SKHT	**Srikalahasti**	**151.43**	**28**	*e*PKPdf	**PKPdf**	**15 01 06.5**	**0.0**
SKHT				*e*PKiKP	**PKPbc**	**15 01 12.2**	**-0.5**
PALK	**Pallekele**	**157.44**	**34**	PKP	**PKPdf**	**15 01 14.7**	**-0.4**
	comp=Z,4.3nm,0.6s,baz=306,slow=3.2,SNR=4.3						
PSI	**Prapat**	**164.62**	**338**	PKP	**PKPdf**	**15 01 22.9**	**+0.1**
	comp=Z,9.5nm,0.7s,baz=197,slow=7.5,SNR=6.4						

*IDC **30** 14:48:06.9±3.4, 24°.30N×91°.99E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.1/61, mbtmp3.2/4, ML2.5/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/29, Error ellipse: s-maj=202.0km s-min=22.6km az=58.0*

IDC 30 14:48:05.1±1.1, 23°.43N±0°.08×90°.79E±0°.06, h10km, n17, σ1§56/21, mb3.3/3, Bangladesh

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**2.35**	**25**	*e*PN	**Pn**	**14 48 42.5**	**-1.5**
SHL				*e*PG	**Pg**	**14 48 53.0**	**+2.7**
SHL				*e*SN	**Sb**	**14 49 16.0**	**-0.9**
SHL				*e*SG	Sg	14 49 30.0	+9.2
IMP	**Imphal**	**3.17**	**64**	*e*P	**Pn**	**14 48 54.0**	**-1.2**
IMP				*e*S	Sg	14 50 09.0	+22
ODAN	**Odare**	**4.60**	**319**	*e*Pn	**Pn**	**14 49 17.1**	**+2.1**
ODAN				*e*Sn	**Sb**	**14 50 21.6**	**-0.2**
	538nm,0.6s						
TAPN	**Taplejung**	**4.80**	**325**	*e*Pn	**Pn**	**14 49 19.3**	**+1.5**
TAPN				*e*Sn	**Sb**	**14 50 26.9**	**-0.6**
	252nm,0.7s						
RAMN	**Ramite**	**5.17**	**314**	*e*Pn	**Pn**	**14 49 23.8**	**+1.0**
RAMN				*e*Sn	**Sb**	**14 50 34.1**	**-4.0**
	170nm,0.6s						
GUN	**Gumba**	**6.29**	**316**	*e*Pn	**Pn**	**14 49 39.1**	**+0.8**
GUN				*e*Sn	Sn	14 51 01.4	+11
	157nm,0.8s						
PKI	**Pulchoki**	**6.38**	**311**	*e*Pn	**Pn**	**14 49 39.6**	**+0.1**
PKIN	**Phulchoki**	**6.39**	**311**	*e*Pn	**Pn**	**14 49 39.3**	**-0.3**
KKN	**Kakani**	**6.60**	**312**	*e*Pn	**Pn**	**14 49 42.7**	**+0.2**
DMN	**Daman**	**6.61**	**310**	*e*Pn	**Pn**	**14 49 43.5**	**+0.9**
GKN	**Gorkha**	**7.18**	**311**	*e*Pn	**Pn**	**14 49 50.5**	**+0.1**
KOLN	**Koldanda**	**7.80**	**305**	*e*Pn	**Pn**	**14 49 57.7**	**-1.2**
CMAR	**Chiang Mai Arr**	**9.08**	**121**	Pn	**Pn**	**14 50 16.1**	**-0.2**
	0.0nm,0.3s,baz=312,slow=12,SNR=3.6						
PSI	**Prapat**	**21.96**	**158**	LR	LR	15 03 55.0	
	comp=Z,96nm,18.3s,slow=42						
MKAR	**Makanchi Array**	**24.30**	**346**	P	**P**	**14 53 21.8**	**-1.0**
	0.5nm,0.7s,baz=162,slow=9.2,SNR=6.0						
KURBB	**Kurchatov Arra**	**28.78**	**344**	P	**P**	**14 54 01.4**	**-1.6**
	0.2nm,0.8s,baz=148,slow=8.8,SNR=2.9						
WRA	**Warramunga Arr**	**60.51**	**132**	P	**P**	**14 58 16.9**	**+1.2**
	0.3nm,0.8s,baz=320,slow=7.0,SNR=2.6						

*NEIC **30** 14:49:31.0, 35°.59S×178°.03E, h247km, MG4.4(WEL), After WEL.*
*WEL **30** 14:49:40.9±0.5, 36°.23S×178°.01E, h198km±6km, ML4.2/7, Error ellipse: s-maj=9.5km s-min=8.7km az=90.0*
*ISCJB **30** 14:49:42.0±1.0, 36°.39S±0°.08×177°.47E±0°.08, h200km, mb3.4/2, Error ellipse: s-maj=11.3km s-min=8.5km az=12.0*
*IDC **30** 14:49:44.4±2.4, 36°.58S×177°.47E, h222km±15km, mb3.2/2, mb1 3.5/3, mb1mx3.2/32, mbtmp3.9/3, Error ellipse: s-maj=40.1km s-min=30.1km az=59.0*

ISC 30 14:49:41.7±1.4, 36°.4S±0°.1×177°.64E±0°.08, h200km, n125, σ1§26/122, 7C-2D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.27**	**155**	⇑PN	**Pn**	**14 50 13.2**	**-0.2**
MXZ				SN	**Sn**	**14 50 37.6**	**-0.5**
MXZ				AML	AML	14 50 42.4	
MXZ				AML	AML	14 50 42.4	
MXZ				AML	AML	14 50 44.0	
MXZ	**Matakaoa Point**	**1.27**	**155**	Pn	**Pn**	**14 50 13.2**	**-0.2**
HAZ	**Te Kaha**	**1.34**	**175**	PN	**Pn**	**14 50 14.7**	**+0.6**
HAZ				SN	**Sn**	**14 50 41.1**	**+1.8**
WMGZ	**Waiomatatini S**	**1.53**	**156**	⇑PN	**Pn**	**14 50 16.0**	**+0.3**
OPRZ	**Ohinepanea**	**1.67**	**211**	PN	Pn	14 50 20.3	+3.4
PUZ	**Puketiti**	**1.73**	**164**	⇑PN	**Pn**	**14 50 17.8**	**+0.3**
PUZ				SN	**Sn**	**14 50 45.8**	**+0.2**
PUZ				AML	AML	14 50 48.3	
PUZ	**Puketiti**	**1.73**	**164**	Pn	**Pn**	**14 50 17.8**	**+0.3**
MARZ	**Manawahe**	**1.75**	**206**	PN	**Pn**	**14 50 20.3**	**+2.6**
TWGZ	**Tauwhareparae**	**1.78**	**171**	PN	**Pn**	**14 50 19.3**	**+1.3**
TWGZ				SN	**Sn**	**14 50 49.2**	**+2.6**
URZ	**Urewera**	**1.89**	**193**	PN	**Pn**	**14 50 20.8**	**+1.7**
URZ				AML	AML	14 50 58.1	
URZ				AML	AML	14 50 58.8	
URZ	**Urewera**	**1.89**	**193**	P	**Pn**	**14 50 20.8**	**+1.7**
	23nm,0.3s,baz=265,slow=3.9,SNR=331						
URZ				S	**Sn**	**14 50 51.4**	**+3.1**
	14nm,0.3s,baz=235,slow=23,SNR=18						
MWZ	**Matawai**	**1.92**	**183**	PN	**Pn**	**14 50 20.6**	**+1.2**
MWZ				AML	AML	14 50 53.5	
MWZ				AML	AML	14 50 55.0	
MWZ				AML	AML	14 50 55.1	
MWZ				AML	AML	14 50 57.3	
MWZ	**Matawai**	**1.92**	**183**	Pn	**Pn**	**14 50 20.7**	**+1.3**
TKGZ	**Te Karaka**	**2.03**	**175**	⇑PN	**Pn**	**14 50 21.7**	**+1.2**
TARZ	**Mount Tarawera**	**2.03**	**206**	PN	Pn	14 50 24.6	+4.0
RAGZ	**Rawiri**	**2.09**	**185**	PN	**Pn**	**14 50 23.1**	**+1.9**
CNGZ	**Carnagh Statio**	**2.12**	**168**	⇑PN	**Pn**	**14 50 22.5**	**+1.1**
CNGZ	**Carnagh Statio**	**2.12**	**168**	Pn	**Pn**	**14 50 22.5**	**+1.1**
RRRZ	**Republican Roa**	**2.12**	**205**	PN	Pn	14 50 24.6	+3.1
RRRZ	**Republican Roa**	**2.12**	**205**	Pn	Pn	14 50 24.6	+3.1
RIGZ	**Rimuhau**	**2.29**	**178**	⇑PN	**Pn**	**14 50 24.4**	**+1.1**
PRRZ	**Plateau Road**	**2.31**	**205**	PN	Pn	14 50 26.4	+2.9
PRRZ	**Plateau Road**	**2.31**	**205**	Pn	Pn	14 50 26.4	+2.9
SNGZ	**Shannon Statio**	**2.38**	**186**	PN	**Pn**	**14 50 25.8**	**+1.6**
PRGZ	**Paritu Road**	**2.51**	**176**	PN	**Pn**	**14 50 26.7**	**+1.0**
PRGZ	**Paritu Road**	**2.51**	**176**	Pn	**Pn**	**14 50 26.7**	**+1.0**
RAHZ	**Arahi**	**2.54**	**190**	PN	**Pn**	**14 50 27.8**	**+1.8**
RAHZ	**Arahi**	**2.54**	**190**	Pn	**Pn**	**14 50 27.8**	**+1.8**
KNZ	**Kokohu**	**2.60**	**179**	PN	**Pn**	**14 50 27.6**	**+0.9**
KNZ	**Kokohu**	**2.60**	**179**	Pn	**Pn**	**14 50 27.6**	**+0.9**
WHHZ	**Waihua**	**2.68**	**187**	PN	**Pn**	**14 50 29.3**	**+1.8**
NMHZ	**Naumai**	**2.76**	**194**	PN	Pn	14 50 31.0	+2.4
NMHZ	**Naumai**	**2.76**	**194**	Pn	Pn	14 50 31.0	+2.4
ARHZ	**Aropaoanui**	**2.89**	**190**	PN	**Pn**	**14 50 31.7**	**+1.7**
BKZ	**Black Stump Fm**	**2.90**	**198**	PN	**Pn**	**14 50 31.7**	**+1.6**
BKZ	**Black Stump Fm**	**2.90**	**198**	Pn	**Pn**	**14 50 31.7**	**+1.6**
MCHZ	**McNeill Hill**	**3.12**	**194**	PN	**Pn**	**14 50 34.7**	**+2.0**
MCHZ	**McNeill Hill**	**3.12**	**194**	Pn	**Pn**	**14 50 34.7**	**+2.0**
KWHZ	**Kaweka Forest**	**3.15**	**197**	PN	**Pn**	**14 50 34.9**	**+1.7**
NGZ	**Ngauruhoe**	**3.20**	**210**	PN	**Pn**	**14 50 35.9**	**+2.1**
NGZ	**Ngauruhoe**	**3.20**	**210**	Pn	**Pn**	**14 50 35.9**	**+2.1**
CKHZ	**Cape Kidnapper**	**3.27**	**188**	PN	**Pn**	**14 50 35.9**	**+1.4**
CKHZ	**Cape Kidnapper**	**3.27**	**188**	Pn	**Pn**	**14 50 35.9**	**+1.4**
FWVZ	**Far West T-bar**	**3.28**	**210**	PN	**Pn**	**14 50 37.3**	**+2.3**
FWVZ	**Far West T-bar**	**3.28**	**210**	Pn	**Pn**	**14 50 37.3**	**+2.3**
WHVZ	**Whangaehu Hut**	**3.29**	**209**	PN	**Pn**	**14 50 37.1**	**+2.1**
BHHZ	**Black Hill Sta**	**3.31**	**202**	PN	**Pn**	**14 50 36.4**	**+1.3**
BHHZ	**Black Hill Sta**	**3.31**	**202**	Pn	**Pn**	**14 50 36.6**	**+1.5**
WNVZ	**Wahianoa**	**3.33**	**208**	PN	**Pn**	**14 50 37.1**	**+1.7**
WNVZ	**Wahianoa**	**3.33**	**208**	Pn	**Pn**	**14 50 37.1**	**+1.7**
MOVZ	**Moawhango**	**3.34**	**206**	PN	**Pn**	**14 50 36.9**	**+1.5**
MOVZ	**Moawhango**	**3.34**	**206**	Pn	**Pn**	**14 50 36.9**	**+1.5**
KRHZ	**Kereru**	**3.38**	**197**	PN	**Pn**	**14 50 37.1**	**+1.2**
MTVZ	**Mangateitei**	**3.43**	**209**	PN	**Pn**	**14 50 38.9**	**+2.4**
MTVZ	**Mangateitei**	**3.43**	**209**	Pn	**Pn**	**14 50 39.0**	**+2.5**
KAHZ	**Kahuranaki**	**3.43**	**190**	PN	**Pn**	**14 50 37.7**	**+1.3**
KAHZ	**Kahuranaki**	**3.43**	**190**	Pn	**Pn**	**14 50 37.8**	**+1.3**
PXZ	**Pawanui**	**3.66**	**189**	PN	**Pn**	**14 50 39.8**	**+0.5**
PXZ				AML	AML	14 51 27.1	
PXZ				AML	AML	14 51 29.5	
PXZ				AML	AML	14 51 31.5	
PXZ				AML	AML	14 51 31.5	
PXZ	**Pawanui**	**3.66**	**189**	Pn	**Pn**	**14 50 39.8**	**+0.5**
PNHZ	**Pukenui**	**3.67**	**198**	PN	**Pn**	**14 50 40.3**	**+0.8**
PNHZ	**Pukenui**	**3.67**	**198**	Pn	**Pn**	**14 50 40.3**	**+0.8**
WPHZ	**Waipukurau**	**3.77**	**194**	PN	**Pn**	**14 50 41.8**	**+1.3**
WPHZ	**Waipukurau**	**3.77**	**194**	Pn	**Pn**	**14 50 41.8**	**+1.3**
TSZ	**Takapari Road**	**3.87**	**199**	⇑PN	**Pn**	**14 50 42.6**	**+0.7**
TSZ	**Takapari Road**	**3.87**	**199**	Pn	**Pn**	**14 50 42.6**	**+0.7**
PRHZ	**Porangahau**	**3.93**	**191**	PN	**Pn**	**14 50 43.2**	**+0.7**
PRHZ	**Porangahau**	**3.93**	**191**	Pn	**Pn**	**14 50 43.2**	**+0.7**
WAZ	**Wanganui**	**3.94**	**211**	PN	**Pn**	**14 50 44.7**	**+2.0**
WAZ	**Wanganui**	**3.94**	**211**	Pn	**Pn**	**14 50 44.7**	**+2.0**
DVHZ	**Dannevirke**	**4.05**	**196**	PN	**Pn**	**14 50 44.6**	**+0.5**
DVHZ	**Dannevirke**	**4.05**	**196**	Pn	**Pn**	**14 50 44.6**	**+0.5**
POWZ	**Post Office Ro**	**4.24**	**200**	PN	**Pn**	**14 50 47.1**	**+0.8**
POWZ	**Post Office Ro**	**4.24**	**200**	Pn	**Pn**	**14 50 47.1**	**+0.8**
PRWZ	**Pori Road**	**4.34**	**197**	PN	**Pn**	**14 50 48.6**	**+1.0**
BFZ	**Birch Farm**	**4.40**	**194**	PN	**Pn**	**14 50 48.5**	**+0.1**
BFZ	**Birch Farm**	**4.40**	**194**	Pn	**Pn**	**14 50 48.5**	**+0.1**
MRZ	**Mangatainoka R**	**4.54**	**200**	PN	**Pn**	**14 50 50.3**	**+0.1**
MRZ				AML	AML	14 51 49.0	
MRZ				AML	AML	14 51 49.2	
MRZ	**Mangatainoka R**	**4.54**	**200**	Pn	**Pn**	**14 50 50.3**	**+0.1**
TIWZ	**Tintock**	**4.57**	**197**	PN	**Pn**	**14 50 50.7**	**+0.1**
TIWZ				AML	AML	14 51 49.2	
TIWZ				AML	AML	14 51 51.2	
TIWZ	**Tintock**	**4.57**	**197**	Pn	**Pn**	**14 50 50.7**	**+0.1**
HOWZ	**Holdsworth Sta**	**4.78**	**200**	⇓PN	**Pn**	**14 50 53.0**	**-0.2**
HOWZ	**Holdsworth Sta**	**4.78**	**200**	Pn	**Pn**	**14 50 53.0**	**-0.2**
OGWZ	**Otaki Gorge**	**4.80**	**203**	PN	**Pn**	**14 50 53.6**	**+0.1**
OGWZ	**Otaki Gorge**	**4.80**	**203**	Pn	**Pn**	**14 50 53.6**	**+0.1**
TMWZ	**Te Maipa**	**4.88**	**196**	PN	**Pn**	**14 50 54.3**	**-0.3**
TMWZ	**Te Maipa**	**4.88**	**196**	Pn	**Pn**	**14 50 54.3**	**-0.3**
KIW	**Kapiti Island**	**4.93**	**205**	PN	**Pn**	**14 50 55.1**	**-0.1**
KIW	**Kapiti Island**	**4.93**	**205**	Pn	**Pn**	**14 50 55.1**	**-0.1**
MTW	**Mount Morrison**	**5.02**	**199**	PN	**Pn**	**14 50 56.0**	**-0.3**
MTW	**Mount Morrison**	**5.02**	**199**	Pn	**Pn**	**14 50 56.0**	**-0.3**
CAW	**Cannon Point**	**5.10**	**202**	PN	**Pn**	**14 50 56.8**	**-0.5**
CAW	**Cannon Point**	**5.10**	**202**	Pn	**Pn**	**14 50 56.8**	**-0.5**
TRWZ	**Traveller**	**5.21**	**196**	PN	**Pn**	**14 50 58.2**	**-0.5**
DUWZ	**D'Urville Isla**	**5.26**	**212**	PN	**Pn**	**14 50 59.8**	**+0.4**
DUWZ	**D'Urville Isla**	**5.26**	**212**	Pn	**Pn**	**14 50 59.8**	**+0.4**
MSWZ	**Moikau Station**	**5.33**	**200**	PN	**Pn**	**14 50 59.5**	**-0.8**
MSWZ	**Moikau Station**	**5.33**	**200**	Pn	**Pn**	**14 50 59.5**	**-0.8**
WELZ	**Wellington**	**5.36**	**204**	PN	**Pn**	**14 51 00.1**	**-0.5**
WELZ	**Wellington**	**5.36**	**204**	Pn	**Pn**	**14 51 00.1**	**-0.5**
TCW	**Tory Channel**	**5.46**	**208**	PN	**Pn**	**14 51 01.6**	**-0.4**
TCW	**Tory Channel**	**5.46**	**208**	Pn	**Pn**	**14 51 01.6**	**-0.4**
PLWZ	**Palliser**	**5.47**	**199**	PN	**Pn**	**14 51 01.2**	**-0.9**
PLWZ	**Palliser**	**5.47**	**199**	Pn	**Pn**	**14 51 01.2**	**-0.9**
TUWZ	**Tuamarina**	**5.78**	**209**	PN	**Pn**	**14 51 05.3**	**-0.7**
TUWZ	**Tuamarina**	**5.78**	**209**	Pn	**Pn**	**14 51 05.3**	**-0.7**
NNZ	**Nelson**	**5.84**	**213**	⇓PN	**Pn**	**14 51 06.4**	**-0.3**
NNZ	**Nelson**	**5.84**	**213**	Pn	**Pn**	**14 51 06.5**	**-0.3**
QRZ	**Quartz Range**	**5.95**	**221**	PN	**Pn**	**14 51 07.8**	**-0.4**
QRZ	**Quartz Range**	**5.95**	**221**	Pn	**Pn**	**14 51 07.8**	**-0.4**
BSWZ	**Blackbirch Sta**	**6.05**	**208**	PN	**Pn**	**14 51 09.3**	**-0.2**
BSWZ	**Blackbirch Sta**	**6.05**	**208**	Pn	**Pn**	**14 51 09.3**	**-0.2**
THZ	**Tophouse**	**6.49**	**213**	PN	**Pn**	**14 51 15.0**	**-0.3**
THZ	**Tophouse**	**6.49**	**213**	Pn	**Pn**	**14 51 15.2**	**-0.1**
KHZ	**Kahutara**	**6.78**	**207**	PN	**Pn**	**14 51 18.3**	**-0.7**
KHZ	**Kahutara**	**6.78**	**207**	Pn	**Pn**	**14 51 18.3**	**-0.7**
DSZ	**Denniston Nort**	**7.00**	**219**	PN	**Pn**	**14 51 21.1**	**-0.8**
DSZ	**Denniston Nort**	**7.00**	**219**	Pn	**Pn**	**14 51 21.1**	**-0.8**
LTZ	**Lake Taylor**	**7.59**	**211**	PN	**Pn**	**14 51 28.5**	**-1.0**
LTZ	**Lake Taylor**	**7.59**	**211**	Pn	Pn	14 51 24.2	-5.3
MQZ	**McQueen's Vall**	**8.23**	**206**	PN	**Pn**	**14 51 35.4**	**-2.4**
MQZ	**McQueen's Vall**	**8.23**	**206**	Pn	**Pn**	**14 51 35.4**	**-2.4**
RPZ	**Rata Peaks**	**8.87**	**213**	P	**Pn**	**14 51 44.9**	**-1.3**
	0.4nm,0.3s,baz=0.0,slow=13,SNR=2.9						
RPZ				S	**Sn**	**14 53 22.8**	**-2.8**
	0.6nm,0.3s,baz=164,slow=21,SNR=8.8						
ASAR	**Alice Springs**	**39.62**	**276**	P	**P**	**14 56 54.1**	**0.0**
	0.9nm,0.6s,baz=119,slow=7.9,SNR=17						
WRA	**Warramunga Arr**	**41.18**	**281**	P	**P**	**14 57 06.3**	**-0.5**
	0.8nm,0.5s,baz=120,slow=7.8,SNR=19						
TORD	**Torodi Ar. Bea**	**156.55**	**190**	PKPab	**PKPab**	**15 09 42.0**	**-0.9**
	0.2nm,0.4s,baz=182,slow=3.8,SNR=3.1						

IDC 30 14:59:49.9±1.8, 2°.24N×126°.11E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.4/53, mbtmp3.3/4, Error ellipse: s-maj=117.0km s-min=23.2km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.22**	**181**	P	P	15 04 27.5	+0.8
	1.7nm,0.9s,baz=350,slow=6.1,SNR=2.1						
WRA	**Warramunga Arr**	**23.48**	**160**	P	P	15 05 01.2	-0.3
	0.5nm,0.3s,baz=338,slow=10,SNR=22						
ASAR	**Alice Springs**	**26.85**	**164**	P	P	15 05 32.2	-0.2
	0.2nm,0.4s,baz=345,slow=12,SNR=6.7						
MKAR	**Makanchi Array**	**58.43**	**326**	P	P	15 09 47.5	0.0
	0.1nm,0.4s,baz=122,slow=7.3,SNR=2.6						

*ISCJB **30** 15:01:15.2±0.4, 54°.0N±0°.1×166°.4W±0°.1, h98km±3km, mb3.8/7, Error ellipse: s-maj=24.9km s-min=5.1km az=149.6*
*NEIC **30** 15:01:15.6, 53°.56N×165°.97W, h64km, mb3.6/1, ML3.7(AEIC), After AEIC.*
*IDC **30** 15:01:22.6±9.3, 54°.22N×165°.39W, h109km±63km, mb3.5/7, mb1 3.7/9, mb1mx3.3/77, mbtmp3.8/9, Error ellipse: s-maj=73.1km s-min=39.4km az=68.0*

ISC 30 15:01:16.0±0.8, 53°.9N±0°.2×166°.34W±0°.10, h89km±6km, n41, σ0§81/42, mb3.7/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UNV	**Unalaska Valle**	**0.13**	**229**	P	**Pn**	**15 01 28.6**	**-0.1**
UNV				S	**Sn**	**15 01 38.4**	**+0.3**
MTBL	**Makushin Table**	**0.21**	**281**	P	**Pn**	**15 01 29.2**	**+0.1**
AKRB	**Akutan Reef Bi**	**0.25**	**38**	P	**Pn**	**15 01 29.2**	**+0.1**
AKRB				S	**Sn**	**15 01 39.8**	**+0.9**
MSW	**Makushin Switc**	**0.27**	**266**	P	**Pn**	**15 01 29.3**	**+0.1**
ZRO	**Akutan Zero**	**0.27**	**53**	P	**Pn**	**15 01 29.3**	**+0.1**
MCIR	**Makushin Cirqu**	**0.33**	**274**	P	**Pn**	**15 01 30.1**	**+0.5**
AKGG	**Akutan Green G**	**0.34**	**37**	P	**Pn**	**15 01 29.7**	**+0.2**
AKGG				S	**Sn**	**15 01 40.2**	**+0.6**
AKUT	**Akutan**	**0.39**	**58**	P	**Pn**	**15 01 29.9**	**0.0**
AKUT				S	**Sn**	**15 01 40.5**	**+0.3**
OKFG	**Magazine Ridge**	**1.07**	**242**	P	**Pn**	**15 01 36.5**	**0.0**
OKFG				S	**Sn**	**15 01 51.8**	**0.0**
WESP	**Westdahl Peak**	**1.10**	**59**	P	**Pn**	**15 01 37.3**	**+0.4**
WEBT	**Westdahl Beart**	**1.14**	**54**	P	**Pn**	**15 01 37.8**	**+0.5**
OKTU	**Okmok Mt. Tuli**	**1.15**	**242**	P	**Pn**	**15 01 38.3**	**+0.8**
OKCE	**Okmok Cone E**	**1.20**	**246**	P	**Pn**	**15 01 38.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.64**	**21**	⇑*iP*	**Pn**	**15 43 03.2**	**-1.5**
CNGN	**Cerro Negro**	**0.93**	**8**	*eP*	**Pn**	**15 43 06.6**	**-1.5**
CNGN				*eS*	**Sn**	**15 43 22.9**	**+1.9**
GBS2	**Las Lilas**	**1.54**	**118**	*iP*	**Pn**	**15 43 13.4**	**-2.7**
NY14	**Universidad de**	**1.57**	**126**	*iP*	**Pn**	**15 43 13.5**	**-3.0**
LAPC	**Finca la Perla**	**1.59**	**120**	*iP*	Pn	15 43 13.5	-3.3
GB1A	**Borinquen Arri**	**1.59**	**118**	*iP*	**Pn**	**15 43 14.1**	**-2.7**
BUEV	**Buena Vista**	**1.59**	**119**	*iP*	**Pn**	**15 43 14.1**	**-2.8**
GPS2	**Hotel Rinc˜‡n**	**1.66**	**119**	*iP*	**Pn**	**15 43 15.1**	**-2.7**
LIM1	**Limonal**	**1.78**	**119**	*iP*	**Pn**	**15 43 16.5**	**-2.8**
VCR	**Vista de Mar**	**1.86**	**141**	*eP*	**Pn**	**15 43 20.1**	**-0.4**
CUI	**Cuipilapa**	**1.87**	**119**	*iP*	**Pn**	**15 43 18.2**	**-2.4**
CUI				*iS*	**Sn**	**15 43 46.7**	**+3.4**
CNCH	**Conchagua**	**1.95**	**330**	*eP*	**Pn**	**15 43 19.7**	**-2.0**
CNCH				*eS*	**Sn**	**15 43 47.5**	**+2.1**
AMAS	**Alto Masis**	**2.04**	**118**	*iP*	**Pn**	**15 43 20.3**	**-2.6**
CHPA	**Chiripa**	**2.20**	**121**	*iP*	**Pn**	**15 43 23.9**	**-1.1**
JTS	**JuntasAbangare** 3.3nm,0.3s,baz=330,slow=5.5,SNR=5.7	**2.24**	**125**	P	**Pn**	**15 43 24.2**	**-1.3**
JTS	62nm,0.3s,baz=305,slow=18,SNR=8.0			S	**Sn**	**15 43 53.2**	**+0.9**
JTS	comp=Z,804nm,20.3s,baz=305,slow=33			LR	LR	15 44 04.6	
JTS	**JuntasAbangare**	**2.24**	**125**	*e*Pn	**Pn**	**15 43 23.6**	**-2.0**
JTS				S	**Sn**	**15 43 53.2**	**+0.9**
BLLM	**Bellamira**	**2.31**	**324**	*eP*	**Pn**	**15 43 24.8**	**-1.7**
VSM	**San Miguel**	**2.32**	**323**	*eP*	**Pn**	**15 43 25.3**	**-1.5**
JCR	**Jicaral**	**2.41**	**135**	*eP*	Pn	15 43 24.4	-3.4
JCR				*eS*	Sn	15 44 05.5	+9.2
CGA2	**Cerro Gallo 2**	**2.79**	**124**	*eP*	**Pn**	**15 43 32.6**	**-0.6**
CGA2				*eS*	Sn	15 44 13.1	+7.3
LFU	**La Fuente**	**3.10**	**314**	*eP*	**Pn**	**15 43 35.0**	**-2.4**
SNET	**Serv Nac Est T** comp=Z,1µm,0.6s	**3.15**	**312**	AML	AML	15 44 23.5	
BOQS	**Boqueron**	**3.21**	**312**	*eP*	**Pn**	**15 43 37.5**	**-1.4**
QCR	**Quepos**	**3.38**	**129**	*eP*	**Pn**	**15 43 42.5**	**+1.5**
QCR				*eS*	Sn	15 44 32.9	+13
URSC	**Urasca**	**3.46**	**120**	*eP*	**Pn**	**15 43 42.5**	**+0.2**
URSC				*eS*	Sn	15 44 32.8	+11
BUS	**Buena Vista**	**3.63**	**123**	*eP*	**Pn**	**15 43 44.1**	**-0.7**
BUS				*eS*	**Sn**	**15 44 25.4**	**-1.2**
CMIG	**Matias Romero**	**9.54**	**306**	P	**Pn**	**15 45 03.3**	**-1.9**
CMIG	comp=Z,1µm,21.9s,slow=39			LR	LR	15 49 00.5	
MTDJ	**Mount Denham**	**11.15**	**53**	*e*Pn	Pn	15 45 31.9	+4.5
OTAV	**Otavalo**	**14.01**	**143**	Pn	**P**	**15 46 13.5**	**+1.2**
ROSC	**El Rosal** comp=Z,413nm,18.7s,baz=26,slow=36	**14.05**	**117**	LR	LR	15 51 20.0	
ROSC	**El Rosal**	**14.05**	**117**	*e*Pn	P	15 46 15.7	+2.9
SDV	**Santo Domingo**	**16.16**	**98**	*eP*	**P**	**15 46 38.7**	**+2.7**
035Z	**Hargill** baz=18	**18.21**	**326**	P	**Pn**	**15 46 59.2**	**+0.3**
034A	**Hebbronville** baz=19	**19.02**	**326**	P	**Pn**	**15 47 08.1**	**-0.5**
934A	**Benavides** baz=20,SNR=7.4	**19.35**	**327**	P	**Pn**	**15 47 11.9**	**-0.7**
540A	**Vidor** baz=20	**19.69**	**341**	P	**P**	**15 47 15.0**	**+0.4**
736A	**Circle Diamond** baz=20,SNR=7.4	**19.76**	**333**	P	**Pn**	**15 47 16.4**	**-0.9**
933A	**Laredo** baz=20	**19.77**	**326**	P	**P**	**15 47 15.4**	**0.0**
834A	**Tilden** baz=20	**19.79**	**328**	P	**P**	**15 47 15.9**	**+0.3**
539A	**Cross D Ranch,** baz=20	**19.85**	**339**	P	**P**	**15 47 15.9**	**-0.3**
TIGA	**Tifton** baz=20,SNR=5.4	**19.99**	**8**	P	**P**	**15 47 18.8**	**+1.1**
TIGA	**Tifton** comp=Z,69nm,0.8s	**19.99**	**8**	*eP*	Pn	15 47 19.6	-0.4
735A	**Kenedy** baz=20	**20.02**	**331**	P	**P**	**15 47 18.2**	**+0.1**
636A	**Smothers Creek** baz=20,SNR=7.8	**20.20**	**333**	P	Pn	15 47 21.2	-1.4
538A	**Harpers Horsep** baz=20	**20.22**	**338**	P	**P**	**15 47 19.6**	**-0.7**
833A	**Chaparral WMA,** baz=20,SNR=10	**20.39**	**327**	P	**P**	**15 47 21.9**	**-0.2**
ATAH	**Atahualpa** comp=Z,685nm,19.1s,baz=312,slow=34	**20.40**	**155**	LR	LR	15 54 19.9	
537A	**Green Hill Far** baz=20,SNR=11	**20.41**	**336**	P	Pn	15 47 23.5	-1.5
635A	**Leesville** baz=21	**20.45**	**332**	P	**P**	**15 47 22.4**	**-0.3**
733A	**Divot King Ran** baz=21,SNR=8.0	**20.65**	**327**	P	**P**	**15 47 24.6**	**-0.4**
832A	**Faith Ranch, C** baz=21,SNR=15	**20.68**	**325**	P	**P**	**15 47 24.8**	**-0.5**
438A	**Sam Houston St** baz=21,SNR=5.1	**20.69**	**339**	P	**P**	**15 47 26.5**	**+1.1**
340A	**Bronson** baz=21	**20.79**	**343**	P	**P**	**15 47 26.2**	**-0.3**
535A	**Dale** baz=21	**20.90**	**333**	P	**P**	**15 47 27.1**	**-0.5**
339A	**Huntington** baz=21	**20.92**	**341**	P	**P**	**15 47 28.7**	**+0.9**
SJG	**San Juan** comp=Z,10nm,0.2s,baz=306,slow=19,SNR=4.3	**21.01**	**70**	P	**P**	**15 47 28.6**	**-0.3**
732A	**Laxson Ranch,** baz=21	**21.02**	**326**	P	**P**	**15 47 29.1**	**+0.1**
338A	**Crockett** baz=21	**21.19**	**340**	P	**P**	**15 47 29.6**	**-1.1**
633A	**Saathoff Ranch** baz=21	**21.19**	**329**	P	**P**	**15 47 30.0**	**-0.7**
436A	**Wall Ranch, Ga** baz=21	**21.22**	**336**	P	**P**	**15 47 30.8**	**-0.2**
534A	**Blanco** baz=21	**21.31**	**331**	P	**P**	**15 47 30.8**	**-1.3**
NATX	**Nacogdoches** baz=22	**21.35**	**341**	P	**P**	**15 47 33.3**	**+0.9**
NATX	**Nacogdoches** comp=Z,65nm,0.9s	**21.35**	**341**	*eP*	**P**	**15 47 33.8**	**+1.4**
337A	**Centerville** baz=22	**21.35**	**338**	P	**P**	**15 47 33.1**	**+0.7**
LRAL	**Lakeview Retre** comp=Z,21nm,1.0s	**21.36**	**360**	*eP*	**P**	**15 47 34.4**	**+1.9**
239A	**Gary** baz=22	**21.53**	**342**	P	**P**	**15 47 35.2**	**+0.9**
632A	**Uvalde** baz=22	**21.54**	**328**	P	**P**	**15 47 36.1**	**+1.6**
435B	**Jarrell** baz=22	**21.55**	**334**	P	**P**	**15 47 36.1**	**+1.4**
533A	**Kerrville** baz=22	**21.62**	**330**	P	**P**	**15 47 34.4**	**-1.0**
238A	**Jacksonville** baz=22	**21.72**	**341**	P	**P**	**15 47 37.3**	**+1.0**
336A	**Riesel** baz=22	**21.78**	**336**	P	**P**	**15 47 37.3**	**+0.3**
PCRV	**Puerto La Cruz** comp=Z,7.2nm,0.7s,baz=266,slow=9.7,SNR=4.1	**21.84**	**92**	P	**P**	**15 47 38.2**	**+0.4**
434A	**Burnet** baz=22,SNR=5.8	**21.88**	**333**	P	**P**	**15 47 37.2**	**-1.0**
631A	**Perdido Creek** baz=22,SNR=10.0	**21.89**	**326**	P	**P**	**15 47 38.8**	**+0.6**
335A	**Moody** baz=22	**21.92**	**335**	P	**P**	**15 47 38.5**	**0.0**
GOGA	**Godfrey** comp=Z,12nm,0.8s	**21.95**	**8**	*eP*	**P**	**15 47 37.5**	**-1.3**
532A	**Rocksprings** baz=22,SNR=7.7	**22.10**	**329**	P	**P**	**15 47 39.9**	**-0.7**
139A	**Bunkhouse Ranc** baz=22	**22.12**	**343**	P	**P**	**15 47 41.0**	**+0.3**
236A	**Katherine and** baz=22	**22.21**	**338**	P	**P**	**15 47 41.7**	**+0.1**
433A	**Art** baz=22	**22.21**	**331**	P	**P**	**15 47 40.6**	**-1.1**
334A	**Lometa** baz=22,SNR=14	**22.31**	**334**	P	**P**	**15 47 43.0**	**+0.2**
138A	**Matatall Enter** baz=22,SNR=6.7	**22.32**	**341**	P	**P**	**15 47 43.6**	**+0.8**
JCT	**Junction City** baz=22	**22.33**	**329**	P	**P**	**15 47 42.4**	**-0.7**
JCT	**Junction City** comp=Z,18nm,1.0s	**22.33**	**329**	*eP*	**P**	**15 47 42.2**	**-0.8**
531A	**Rocksprings** baz=23	**22.46**	**327**	P	**P**	**15 47 44.0**	**-0.5**
WHTX	**Lake Whitney** baz=23	**22.56**	**336**	P	**P**	**15 47 45.0**	**-0.4**
WHTX	**Lake Whitney** comp=Z,74nm,1.4s	**22.56**	**336**	*eP*	**P**	**15 47 45.0**	**-0.4**
Z39A	**Irene McRaven,** baz=23	**22.59**	**344**	P	**P**	**15 47 45.4**	**-0.4**
136A	**Ennis** baz=23	**22.63**	**338**	P	**P**	**15 47 45.9**	**-0.3**
333A	**Richland Sprin** baz=23,SNR=14	**22.64**	**332**	P	**P**	**15 47 46.5**	**+0.2**
432A	**Menard** baz=23	**22.65**	**330**	P	**P**	**15 47 46.6**	**+0.2**
Z38A	**Mt. Pleasant** baz=23	**22.83**	**342**	P	**P**	**15 47 48.4**	**+0.2**
234A	**Clairette** baz=23	**22.85**	**335**	P	**P**	**15 47 47.6**	**-0.8**
530A	**J-C Ranch, Com** baz=23,SNR=9.5	**22.87**	**326**	P	**P**	**15 47 49.0**	**+0.2**
431A	**Sonora** baz=23,SNR=8.3	**22.90**	**328**	P	**P**	**15 47 49.2**	**+0.1**
Z37A	**Pogue Cattle C** baz=23	**22.98**	**341**	P	**P**	**15 47 48.6**	**-1.2**
135A	**Vickery Place,** baz=23	**23.04**	**337**	P	**P**	**15 47 49.5**	**-0.8**
332A	**Millersview** baz=23,SNR=16	**23.04**	**331**	P	**P**	**15 47 50.1**	**-0.3**
JSC	**Jenkinsville** comp=Z,22nm,1.1s	**23.16**	**12**	*eP*	**P**	**15 47 53.5**	**+1.9**
Y39A	**Lockesburg** baz=23	**23.23**	**345**	P	**P**	**15 47 51.8**	**-0.3**
331A	**San Angelo** baz=23	**23.32**	**329**	P	**P**	**15 47 52.5**	**-0.6**
430A	**Baggett Ranch,** baz=23	**23.32**	**327**	P	**P**	**15 47 52.9**	**-0.2**
134A	**White-Moore Ra** baz=24	**23.32**	**335**	P	**P**	**15 47 52.7**	**-0.3**
Z36A	**Blue Ridge** baz=24	**23.32**	**339**	P	**P**	**15 47 52.9**	**-0.1**
529A	**Stev Forest Ra** baz=24	**23.35**	**325**	P	**P**	**15 47 53.1**	**-0.3**
Y38A	**Idabel** baz=24	**23.39**	**343**	P	**P**	**15 47 53.2**	**-0.5**
232A	**Coleman** baz=24,SNR=11	**23.42**	**332**	P	**P**	**15 47 53.5**	**-0.5**
429A	**Davenport Ranc** baz=24,SNR=11	**23.55**	**326**	P	**P**	**15 47 55.3**	**0.0**
SWET	**Sewanee** comp=Z,14nm,0.9s	**23.55**	**2**	*eP*	**P**	**15 47 55.6**	**+0.4**
TXAR	**Lajitas Array** comp=Z,4.6nm,0.6s,baz=143,slow=9.1,SNR=30	**23.63**	**321**	P	**P**	**15 47 55.8**	**-0.2**
TXAR	comp=Z,2.4nm,0.9s,baz=134,slow=3.6,SNR=8.8			PcP	**PcP**	**15 51 41.0**	**+1.7**
TXAR	comp=Z,97nm,18.2s,baz=0.0,slow=41			LR	LR	15 58 59.8	
Z35A	**Perchaven, San** baz=24	**23.67**	**338**	P	**P**	**15 47 56.1**	**-0.1**
MIAR	**Mount Ida** baz=24,SNR=18	**23.68**	**346**	P	**P**	**15 47 55.8**	**-0.5**
MIAR	**Mount Ida** comp=Z,25nm,0.8s	**23.68**	**346**	*eP*	**P**	**15 47 56.0**	**-0.3**
133A	**Hamilton Ranch** baz=24,SNR=5.6	**23.70**	**334**	P	**P**	**15 47 56.6**	**0.0**
Y37A	**Hugo** baz=24,SNR=8.5	**23.70**	**342**	P	**P**	**15 47 56.8**	**+0.3**
231A	**Bronte** baz=24	**23.77**	**331**	P	**P**	**15 47 56.7**	**-0.6**
330A	**Mertzon** baz=24	**23.77**	**328**	P	**P**	**15 47 56.7**	**-0.6**
Y36A	**Durant** baz=24	**23.84**	**340**	P	**P**	**15 47 58.2**	**+0.4**
CPCT	**Cooper Cave**	**23.86**	**5**	P	**P**	**15 47 58.5**	**+0.5**
ABTX	**Abilene, Hawle** baz=24	**24.03**	**333**	P	**P**	**15 47 59.5**	**-0.1**
ABTX	**Abilene, Hawle** comp=Z,36nm,0.9s	**24.03**	**333**	*eP*	**P**	**15 47 59.4**	**-0.2**
Y35A	**Marietta** baz=24,SNR=11	**24.11**	**339**	P	**P**	**15 48 00.3**	**+0.2**
X38A	**Whitesboro** baz=24,SNR=20	**24.11**	**344**	P	**P**	**15 48 00.8**	**+0.5**
230A	**Sterling City** baz=24	**24.13**	**329**	P	**P**	**15 48 00.1**	**-0.3**
TKL	**Tuckaleechee C** comp=Z,16nm,1.0s,baz=166,slow=10,SNR=6.6	**24.13**	**6**	P	**P**	**15 48 00.8**	**+0.4**
TKL	**Tuckaleechee C**	**24.13**	**6**	*eP*	**P**	**15 48 01.5**	**+1.1**
Z33A	**Whitaker Ranch** baz=24,SNR=11	**24.22**	**335**	P	**P**	**15 48 01.2**	**-0.1**
329A	**Wagon Wheel Ra** baz=24	**24.26**	**327**	P	**P**	**15 48 01.4**	**-0.3**
W38A	**Poteau** baz=25,SNR=15	**24.41**	**345**	P	**P**	**15 48 03.0**	**+0.1**
Y34A	**Reagan Ranch,** baz=25,SNR=8.0	**24.41**	**338**	P	**P**	**15 48 03.0**	**+0.1**
131A	**Roby** baz=25	**24.42**	**331**	P	**P**	**15 48 03.1**	**0.0**
X36A	**Centrahoma** baz=25,SNR=23	**24.48**	**341**	P	**P**	**15 48 03.5**	**-0.1**
X35A	**Drake** baz=25,SNR=8.7	**24.53**	**339**	P	**P**	**15 48 04.0**	**-0.1**
Z32A	**Haskell** baz=25,SNR=9.8	**24.54**	**334**	P	**P**	**15 48 03.6**	**-0.6**
229A	**Bryant Ranch,** baz=25	**24.55**	**328**	P	**P**	**15 48 04.3**	**0.0**
130A	**Snyder** baz=25	**24.63**	**330**	P	**P**	**15 48 05.1**	**0.0**
Y33A	**Hilltop Ranch,** baz=25,SNR=7.4	**24.79**	**336**	P	**P**	**15 48 05.9**	**-0.6**
Z31A	**Sharp Cattle R** baz=25	**24.84**	**333**	P	**P**	**15 48 06.7**	**-0.2**
W36A	**Wetumka** baz=25,SNR=6.8	**24.96**	**342**	P	**P**	**15 48 06.9**	**-1.1**
X34A	**Smith Ranch, M** baz=25,SNR=13	**25.02**	**338**	P	**P**	**15 48 08.2**	**-0.2**
228A	**UT Block 9, Go** baz=25	**25.08**	**327**	P	**P**	**15 48 08.7**	**-0.5**
129A	**Stewart Farms,** baz=25	**25.10**	**329**	P	**P**	**15 48 09.4**	**0.0**
Y32A	**R-V Farms, Ver** baz=25	**25.12**	**335**	P	**P**	**15 48 09.2**	**-0.2**
V38A	**Canehill** baz=25	**25.13**	**345**	P	**P**	**15 48 08.7**	**-0.9**
W35A	**Tecumseh** baz=25,SNR=7.5	**25.18**	**340**	P	**P**	**15 48 09.0**	**-1.0**
X33A	**Lawton** baz=25,SNR=7.9	**25.21**	**337**	P	**P**	**15 48 09.7**	**-0.6**
Z30A	**Sanderson Ranc** baz=25,SNR=9.2	**25.27**	**331**	P	**P**	**15 48 10.8**	**-0.1**
PBMO	**Poplar Bluff** comp=Z,16nm,1.0s	**25.30**	**353**	*eP*	**P**	**15 48 10.6**	**-0.4**
V37A	**Hulbert** baz=26,SNR=7.1	**25.34**	**344**	P	**P**	**15 48 10.4**	**-1.0**
128A	**Castleberry Fa** baz=26,SNR=8.0	**25.41**	**328**	P	**P**	**15 48 12.3**	**+0.1**
X32A	**Elmer** baz=26,SNR=6.0	**25.42**	**335**	P	**P**	**15 48 12.0**	**-0.1**
NNA	**Nana** comp=Z,164nm,21.3s,baz=317,slow=33	**25.43**	**157**	LR	LR	15 56 58.2	
Y31A	**Rekieta Farm,** baz=26	**25.44**	**333**	P	**P**	**15 48 12.5**	**+0.1**
V36A	**Jenks** baz=26,SNR=7.8	**25.48**	**343**	P	**P**	**15 48 12.0**	**-0.6**
WMOK	**Wichita Mounta** comp=Z,96nm,1.2s	**25.49**	**337**	*eP*	**P**	**15 48 12.4**	**-0.4**
Z29A	**Hungry Hill Ra** baz=26,SNR=7.0	**25.53**	**330**	P	**P**	**15 48 12.3**	**-0.9**
LPIG	**La Paz** comp=Z,236nm,19.8s,baz=107,slow=38	**25.54**	**302**	LR	LR	15 59 12.2	
TUL1	**Tulsa** baz=26	**25.55**	**343**	P	**P**	**15 48 12.5**	**-0.7**
TUL1	**Tulsa** comp=Z,33nm,0.9s	**25.55**	**343**	*eP*	**P**	**15 48 12.8**	**-0.4**
W34A	**Bridge Creek,** baz=26,SNR=7.0	**25.56**	**339**	P	**P**	**15 48 13.7**	**+0.3**
W34A	**Bridge Creek,** comp=Z,112nm,1.1s	**25.56**	**339**	*eP*	**P**	**15 48 13.1**	**-0.4**
Y30A	**Stafford Catti** baz=26,SNR=5.6	**25.65**	**332**	P	**P**	**15 48 15.4**	**+1.1**
U38A	**Gravette** baz=26,SNR=6.3	**25.68**	**346**	P	**P**	**15 48 14.8**	**+0.4**
V35A	**Meyer Ranch, C** baz=26	**25.73**	**341**	P	**P**	**15 48 14.6**	**-0.4**
W33A	**Caddo, Fort Co** baz=26,SNR=8.4	**25.74**	**338**	P	**P**	**15 48 15.7**	**+0.6**
U37A	**Salina** baz=26,SNR=5.4	**25.83**	**345**	P	**P**	**15 48 15.9**	**+0.1**
X31A	**McDonald Ranch** baz=26,SNR=9.0	**25.89**	**335**	P	**P**	**15 48 16.8**	**+0.4**
Z28A	**Tucker Farm, M** baz=26	**25.89**	**329**	P	**P**	**15 48 16.0**	**-0.5**
U36A	**Oologah** baz=26	**25.98**	**343**	P	**P**	**15 48 17.0**	**-0.2**
Y29A	**Porterfield Fa** baz=26,SNR=5.3	**26.00**	**331**	P	**P**	**15 48 18.4**	**+0.9**
W32A	**Sentinel** baz=26,SNR=8.5	**26.02**	**336**	P	**P**	**15 48 18.7**	**+1.1**
V34A	**Guthrie** baz=26	**26.02**	**340**	P	**P**	**15 48 17.0**	**-0.5**
V34A	**Guthrie** comp=Z,39nm,0.8s	**26.02**	**340**	*eP*	**P**	**15 48 17.0**	**-0.5**
X30A	**Coker Ranch, T** baz=26,SNR=7.8	**26.12**	**333**	P	**P**	**15 48 18.9**	**+0.3**
U35A	**Pawnee** baz=26	**26.25**	**342**	P	**P**	**15 48 18.9**	**-0.7**
W31A	**Holland Ranch,** baz=26	**26.35**	**335**	P	**P**	**15 48 19.9**	**-0.7**
T37A	**Cheneyville 18** baz=27,SNR=8.2	**26.46**	**345**	P	**P**	**15 48 21.1**	**-0.4**
V32A	**Arapaho** baz=27,SNR=6.4	**26.46**	**337**	P	**P**	**15 48 21.5**	**0.0**
X29A	**Tulia** baz=27,SNR=5.2	**26.49**	**332**	P	**P**	**15 48 22.0**	**0.0**
U34A	**Anderson Ranch** baz=27	**26.57**	**340**	P	**P**	**15 48 21.5**	**-1.0**
T36A	**Boggs Farm, Ca** baz=27,SNR=8.2	**26.65**	**344**	P	**P**	**15 48 22.3**	**-0.9**
T35A	**Sooner Cattle** baz=27	**26.69**	**343**	P	**P**	**15 48 22.9**	**-0.8**
V31A	**Spring Creek L** baz=27,SNR=8.3	**26.82**	**336**	P	**P**	**15 48 24.9**	**+0.1**
T34A	**McClaskey Farm** baz=27	**27.00**	**342**	P	**P**	**15 48 25.8**	**-0.5**
S37A	**Fort Scott** baz=27,SNR=6.5	**27.04**	**346**	P	**P**	**15 48 25.8**	**-0.9**
S36A	**Lake Cedric, C** baz=27,SNR=12	**27.20**	**345**	P	**P**	**15 48 27.3**	**-0.8**
U31A	**Nine Bar Ranch** baz=28	**27.34**	**337**	P	**P**	**15 48 29.3**	**-0.2**
S35A	**Otter Creek Ra** baz=28,SNR=8.4	**27.35**	**343**	P	**P**	**15 48 29.2**	**-0.3**
R37A	**Teagarden Farm** baz=28	**27.57**	**346**	P	**P**	**15 48 30.3**	**-1.2**
R36A	**Gordon, Harris** baz=28	**27.74**	**345**	P	**P**	**15 48 32.2**	**-0.8**
U30A	**WK&E Inc. Balk** baz=28,SNR=7.6	**27.80**	**336**	P	**P**	**15 48 33.2**	**-0.4**
R34A	**Isabella, Hill** baz=28	**28.19**	**342**	P	**P**	**15 48 36.6**	**-0.4**
Q36A	**Arnold C. Orve** baz=28	**28.33**	**346**	P	**P**	**15 48 37.2**	**-1.0**
Q35A	**Mercer Eighty,** baz=28	**28.38**	**345**	P	**P**	**15 48 37.9**	**-0.8**
121A	**Cookes Peak, D** comp=Z,13nm,0.9s	**28.39**	**321**	*eP*	**P**	**15 48 41.5**	**+2.4**
R33A	**Olander Ranch,** baz=29	**28.43**	**341**	P	**P**	**15 48 38.9**	**-0.2**
SFIN	**Scholer Farm** baz=29	**28.69**	**360**	P	**P**	**15 48 41.0**	**-0.4**
BNM	**Barren Site**	**28.83**	**324**	*eP*	P	15 48 48.1	+5.0
P36A	**Good Intent, A** baz=29	**28.90**	**347**	P	**P**	**15 48 42.5**	**-0.8**
HDIL	**Hopedale** baz=29	**28.95**	**356**	P	**P**	**15 48 43.1**	**-0.5**
Q32A	**Meitler Ranch,** baz=29	**29.23**	**341**	P	**P**	**15 48 46.2**	**-0.1**
P34A	**Walnut Farm, R** baz=29	**29.24**	**344**	P	**P**	**15 48 46.0**	**-0.3**
ANMO	**Albuquerque** comp=Z,1.9nm,0.7s,baz=86,slow=14,SNR=4.8	**29.32**	**326**	P	**P**	**15 48 47.9**	**+0.6**
ANMO	**Albuquerque** comp=Z,3.8nm,0.9s	**29.32**	**326**	*eP*	**P**	**15 48 44.8**	**-2.5**
O36A	**Bolckow** baz=30	**29.34**	**347**	P	**P**	**15 48 46.3**	**-0.8**
PTGA	**Pitinga** comp=Z,1.0nm,0.5s,baz=292,slow=19,SNR=3.1	**29.36**	**113**	P	**P**	**15 48 48.3**	**+0.7**
P33A	**Williams Farm,** baz=30	**29.38**	**343**	P	**P**	**15 48 47.4**	**-0.1**
Q31A	**Ellis** baz=30	**29.52**	**340**	P	**P**	**15 48 48.7**	**-0.1**
O34A	**Beatrice** baz=30	**29.80**	**345**	P	**P**	**15 48 50.9**	**-0.3**
O33A	**Hebron** baz=30	**29.94**	**343**	P	**P**	**15 48 51.9**	**-0.6**
N35A	**Tabor** baz=30	**30.18**	**347**	P	**P**	**15 48 54.1**	**-0.6**
TUC	**Tucson**	**30.19**	**317**	*eP*	P	15 48 58.8	+3.9
M35A	**Neola** baz=31,SNR=7.7	**30.77**	**347**	P	**P**	**15 48 58.6**	**-1.2**
SDCO	**Great Sand Dun** baz=31,SNR=5.9	**30.97**	**330**	P	**P**	**15 49 01.6**	**-0.3**
SDCO	**Great Sand Dun** comp=Z,4.6nm,0.8s	**30.97**	**330**	*eP*	**P**	**15 49 02.5**	**+0.5**
SDCO				*e*PcP	**PcP**	**15 51 58.5**	**+1.6**
M34A	**Aspy Farms, Fr** baz=31	**31.01**	**346**	P	**P**	**15 49 01.7**	**-0.2**
SAML	**Samuel** comp=Z,5.0nm,0.6s	**31.12**	**130**	*eP*	**P**	**15 49 02.0**	**-1.2**
SAML				*e*PcP	**PcP**	**15 51 57.8**	**+0.5**
W18A	**Petrified Fore** baz=31	**31.33**	**322**	P	**P**	**15 49 04.3**	**-0.8**
W18A	**Petried Fore** comp=Z,16nm,0.9s	**31.33**	**322**	*eP*	**P**	**15 49 06.5**	**+1.4**
L35A	**Bielow Farm, R** baz=32	**31.36**	**347**	P	**P**	**15 49 04.5**	**-0.5**
JFWS	**Jewell Farm** comp=Z,7.9nm,0.8s	**31.36**	**355**	*eP*	**P**	**15 49 04.4**	**-0.6**
S22A	**4UR Ranch, Cre** comp=Z,5.3nm,1.0s	**31.62**	**329**	*eP*	**P**	**15 49 08.7**	**+1.0**
S22A				*e*PcP	**PcP**	**15 52 01.1**	**+2.4**
L33A	**Hoskins** baz=32	**31.81**	**345**	P	**P**	**15 49 08.5**	**-0.5**
MVCO	**Mesa Verde** comp=Z,12nm,0.8s	**32.10**	**326**	*eP*	**P**	**15 49 12.1**	**+0.3**
M29A	**Burnside Ranch** baz=32	**32.14**	**340**	P	**P**	**15 49 12.4**	**+0.4**
L31A	**Butterfield Fa** baz=32	**32.24**	**343**	P	**P**	**15 49 12.7**	**-0.1**
N26A	**Koester Ranch,** baz=33	**32.52**	**337**	P	**P**	**15 49 15.4**	**+0.1**
WUAZ	**Wupatki** comp=Z,11nm,0.9s	**32.60**	**321**	*eP*	**P**	**15 49 16.9**	**+0.7**
SMCO	**Snowmass** comp=Z,7.4nm,1.0s	**32.80**	**330**	P	**P**	**15 49 19.4**	**+1.2**
K30A	**Basset** baz=33,SNR=9.0	**32.92**	**343**	P	**P**	**15 49 18.5**	**-0.2**
PV05	**Paradox Valley**	**33.06**	**327**	*eP*	**P**	**15 49 21.9**	**+1.6**
ECSD	**EROS Data Cent** baz=33,SNR=16	**33.14**	**347**	P	**P**	**15 49 19.0**	**-1.6**
ECSD	**EROS Data Cent**	**33.14**	**347**	*eP*	**P**	**15 49 17.7**	**-2.9**
PV04	**Paradox Valley**	**33.19**	**327**	*eP*	**P**	**15 49 21.8**	**+0.5**
PV04				*e*PcP	**PcP**	**15 52 04.5**	**+1.7**
PV10	**Paradox Valley**	**33.25**	**327**	*eP*	**P**	**15 49 22.1**	**+0.2**
LPAZ	**La Paz** comp=Z,245nm,18.4s,baz=318,slow=37	**33.30**	**146**	LR	LR	16 03 12.1	
J30A	**Dallas** baz=34	**33.48**	**343**	P	**P**	**15 49 23.7**	**+0.1**
SADO	**Sadowa** comp=Z,1.5nm,0.3s,baz=231,slow=9.4,SNR=3.7	**33.73**	**10**	P	**P**	**15 49 24.9**	**-0.7**
K27A	**Flueckinger Fa** baz=34	**33.79**	**339**	P	**P**	**15 49 26.7**	**+0.4**
J29A	**Okreek** baz=34,SNR=12	**33.80**	**342**	P	**P**	**15 49 26.0**	**-0.4**
I30A	**Oacoma** baz=34,SNR=8.5	**34.01**	**344**	P	**P**	**15 49 27.0**	**-1.1**
J28A	**Allard Ranch,** baz=34	**34.10**	**341**	P	**P**	**15 49 28.9**	**-0.1**
I29A	**Vivian Onida** baz=34	**34.36**	**343**	P	**P**	**15 49 30.8**	**-0.4**
KNB	**Kanab**	**34.46**	**322**	*eP*	P	15 49 36.0	+3.6
COWI	**Conover** comp=Z,9.5nm,0.8s	**34.46**	**357**	*eP*	**P**	**15 49 31.0**	**-1.0**
LONY	**Lake Ozonia** comp=Z,140nm,2.5s	**34.57**	**15**	*eP*	**P**	**15 49 34.1**	**+1.1**
SRU	**San Rafael** comp=Z,13nm,0.9s	**34.58**	**327**	*eP*	**P**	**15 49 33.0**	**-0.3**
SRU				*e*PcP	**PcP**	**15 52 08.4**	**+1.7**
I28A	**Midland** baz=35	**34.60**	**342**	P	**P**	**15 49 33.2**	**0.0**
BELC	**Belle Mtn. Jos** baz=35	**34.73**	**315**	P	**P**	**15 49 34.8**	**+0.1**
EML	**El Monte Cty P**	**34.75**	**312**	*eP*	**P**	**15 49 33.7**	**-1.0**
EML				*e*pP	**pP**	**15 49 51.8**	**+0.8**
H29A	**Onida** baz=35	**34.88**	**343**	P	**P**	**15 49 35.5**	**-0.2**
I27A	**Quinn** baz=35	**34.94**	**341**	P

H28A	**Mission Ridge** baz=35,SNR=5.0	**35.16**	**342**	P		**P**	**15 49 37.3**	**-0.8**
G29A	**Hoven** baz=36	**35.33**	**344**	P		**P**	**15 49 39.1**	**-0.4**
HEC	**Hector,Ludlow**	**35.41**	**316**	*eP*		P	15 49 45.1	+4.7
H27A	**Howes** baz=36,SNR=8.2	**35.45**	**341**	P		**P**	**15 49 40.0**	**-0.6**
H26A	**Fairpoint** baz=36	**35.66**	**340**	P		**P**	**15 49 43.0**	**+0.6**
G27A	**Dupree** baz=36,SNR=5.2	**36.08**	**342**	P		**P**	**15 49 45.1**	**-0.9**
F28A	**McLaughlin** baz=36	**36.17**	**343**	P		**P**	**15 49 46.4**	**-0.3**
G26A	**Maurine** baz=36	**36.21**	**341**	P		**P**	**15 49 47.1**	**0.0**
E30A	**Jud** baz=36,SNR=7.1	**36.28**	**346**	P		**P**	**15 49 46.4**	**-1.3**
J21A	**Lysite** baz=36,SNR=5.4	**36.34**	**334**	P		**P**	**15 49 47.1**	**-1.3**
G25A	**Newell** baz=36	**36.38**	**340**	P		**P**	**15 49 48.3**	**-0.3**
EYMN	**Ely** baz=37	**36.46**	**355**	P		**P**	**15 49 48.2**	**-0.9**
F27A	**Lemmon** baz=37	**36.55**	**342**	P		**P**	**15 49 49.6**	**-0.4**
TPNV	**Topopah Spring** baz=37	**36.57**	**319**	P		**P**	**15 49 50.5**	**0.0**
TPNV	**Topopah Spring** comp=Z,5.7nm,0.8s	**36.57**	**319**	*eP*		**P**	**15 49 51.9**	**+1.5**
DUG	**Dugway** comp=Z,7.8nm,1.1s	**36.59**	**326**	*eP*		**P**	**15 49 52.3**	**+1.7**
EDW2	**Edwards Air Fo** baz=37	**36.59**	**314**	P		**P**	**15 49 50.6**	**+0.1**
J20A	**Shoshoni** baz=37	**36.62**	**334**	P		**P**	**15 49 50.4**	**-0.4**
D30A	**Buchanan** baz=37,SNR=7.8	**36.82**	**346**	P		**P**	**15 49 51.9**	**-0.3**
BW06	**Boulder Array** comp=Z,3.4nm,0.8s	**36.83**	**332**	*eP*		**P**	**15 49 52.4**	**-0.2**
PDAR	**Pinedale Array** comp=Z,1.3nm,0.5s,baz=117,slow=9.9,SNR=16	**36.83**	**332**	P		**P**	**15 49 53.0**	**+0.5**
PDAR	comp=Z,0.5nm,0.6s,baz=113,slow=2.3,SNR=4.0			PcP		**PcP**	**15 52 13.3**	**-0.1**
PDAR	comp=Z,128nm,19.6s,baz=139,slow=43			LR		LR	16 09 27.3	
MPMC	**Manual Prospec** baz=37	**36.88**	**316**	P		**P**	**15 49 53.3**	**+0.1**
D29A	**Pettibone, Tap** baz=37	**36.97**	**345**	P		**P**	**15 49 53.4**	**-0.1**
R11A	**Troy Canyon, C** comp=Z,2.2nm,0.9s	**37.00**	**321**	*eP*		**P**	**15 49 55.1**	**+1.0**
I20A	**Worland** baz=37	**37.12**	**334**	P		**P**	**15 49 54.8**	**-0.1**
SPUT	**South Promonto** comp=Z,13nm,1.0s	**37.18**	**327**	*eP*		**P**	**15 49 56.3**	**+0.8**
BGU	**Big Grassy Mou** comp=Z,5.5nm,1.0s	**37.22**	**326**	*eP*		**P**	**15 49 56.5**	**+0.7**
E26A	**Carlson Angus** baz=37	**37.22**	**342**	P		**P**	**15 49 55.7**	**+0.1**
H21A	**Big Horn, Sher** baz=37	**37.23**	**336**	P		**P**	**15 49 56.2**	**+0.3**
C30A	**Mose, Pekin** baz=38,SNR=5.5	**37.32**	**347**	P		**P**	**15 49 54.9**	**-1.5**
D28A	**Regan** baz=38	**37.34**	**345**	P		**P**	**15 49 56.4**	**-0.3**
AGMN	**Agassiz Nation** baz=38,SNR=9.2	**37.38**	**350**	P		**P**	**15 49 55.8**	**-1.1**
AGMN	**Agassiz Nation** comp=Z,15nm,0.9s	**37.38**	**350**	*eP*		**P**	**15 49 55.2**	**-1.7**
SIV	**San Ignacio** comp=Z,9.7nm,0.5s,baz=322,slow=7.9,SNR=38	**37.42**	**137**	P		**P**	**15 49 57.9**	**+0.3**
D27A	**Center** baz=38	**37.52**	**343**	P		**P**	**15 49 58.1**	**-0.2**
E25A	**Miller Ranch,** baz=38	**37.54**	**341**	P		**P**	**15 49 58.7**	**+0.3**
MARC	**Maricopa**	**37.60**	**314**	*eP*		P	15 50 02.8	+3.8
HVU	**Hansel Valley** comp=Z,8.2nm,0.8s	**37.68**	**328**	*eP*		**P**	**15 49 58.8**	**-1.0**
HVU				*e*PcP		**PcP**	**15 52 17.5**	**+1.5**
MDND	**Maddock** baz=38	**37.71**	**346**	P		**P**	**15 49 59.1**	**-0.6**
D26A	**Manning** baz=38	**37.72**	**342**	P		**P**	**15 50 00.2**	**+0.3**
REDW	**Red Top Meadow** comp=Z,18nm,0.8s	**37.89**	**331**	*eP*		**P**	**15 50 01.7**	**+0.1**
LOHW	**Long Hollow** comp=Z,4.8nm,0.9s	**37.96**	**332**	*eP*		**P**	**15 50 01.6**	**-0.6**
B30A	**Myrvik Farm, E** baz=38	**37.99**	**348**	P		**P**	**15 50 01.6**	**-0.5**
TPAW	**Teton Pass** comp=Z,8.5nm,0.8s	**38.03**	**331**	*eP*		**P**	**15 50 03.7**	**+0.8**
FXWY	**Fox Creek**	**38.18**	**331**	*eP*		P	15 50 08.3	+4.3
B29A	**Wagenman Farm,** baz=38,SNR=8.3	**38.23**	**347**	P		**P**	**15 50 03.5**	**-0.6**
ELK	**Elko** comp=Z,4.9nm,0.9s	**38.33**	**324**	*eP*		**P**	**15 50 05.9**	**+0.6**
IMW	**Indian Meadow** comp=Z,3.0nm,0.8s	**38.34**	**332**	*eP*		**P**	**15 50 06.4**	**+1.0**
FLWY	**Flagg Ranch** comp=Z,6.1nm,0.8s	**38.37**	**332**	*eP*		**P**	**15 50 04.3**	**-1.3**
D24A	**Glendive** baz=38	**38.38**	**341**	P		**P**	**15 50 05.2**	**-0.2**
A30A	**Hoffart Farm,** baz=39	**38.45**	**348**	P		**P**	**15 50 05.1**	**-0.9**
B28A	**Dugan Ranch, T** baz=39	**38.46**	**345**	P		**P**	**15 50 06.1**	**+0.1**
RLMT	**Red Lodge** baz=39	**38.55**	**334**	P		**P**	**15 50 06.9**	**-0.2**
RLMT	**Red Lodge** comp=Z,4.5nm,0.8s	**38.55**	**334**	P		**P**	**15 50 07.7**	**+0.5**
A29A	**Manning Farm,** baz=39	**38.64**	**347**	P		**P**	**15 50 07.2**	**-0.3**
NVAR	**Mina Array Bea** comp=Z,0.9nm,0.7s,baz=133,slow=6.7,SNR=7.5	**38.76**	**319**	P		**P**	**15 50 09.9**	**+0.9**
NVAR	comp=Z,2.6nm,0.6s,baz=134,slow=4.4,SNR=12			PcP		**PcP**	**15 52 20.1**	**+0.7**
A28A	**Rude Farm, Bot** baz=39	**38.86**	**346**	P		**P**	**15 50 09.5**	**0.0**
A27A	**Ledoux Ranch,** baz=39	**39.14**	**345**	P		**P**	**15 50 11.8**	**+0.1**
ULM	**Lac du Bonnet** comp=Z,13nm,0.9s,baz=177,slow=8.0,SNR=12	**39.27**	**351**	P		**P**	**15 50 10.7**	**-2.1**
ULM	comp=Z,112nm,22.0s,baz=152,slow=38			LR		LR	16 07 18.4	
ULM	**Lac du Bonnet** comp=Z,14nm,0.9s	**39.27**	**351**	*eP*		**P**	**15 50 11.3**	**-1.4**
BMN	**Battle Mountai** comp=Z,11nm,1.1s	**39.28**	**322**	*eP*		**P**	**15 50 12.9**	**-0.3**
A26A	**Wade Farm, Ken** baz=40	**39.30**	**344**	P		**P**	**15 50 13.4**	**+0.3**
HLID	**Hailey** baz=40	**39.80**	**328**	P		**P**	**15 50 18.3**	**+0.8**
HLID	**Hailey** comp=Z,5.1nm,0.8s	**39.80**	**328**	*eP*		**P**	**15 50 17.7**	**+0.2**
MCMT	**McKenzie Canyo** comp=Z,4.1nm,0.9s	**39.94**	**331**	*eP*		**P**	**15 50 19.7**	**+1.0**
BOZ	**Bozeman (W)** baz=40	**39.99**	**333**	P		**P**	**15 50 19.2**	**+0.2**
BOZ	**Bozeman (W)** comp=Z,4.0nm,0.8s	**39.99**	**333**	*eP*		**P**	**15 50 18.8**	**-0.3**
DLMT	**Dillon** comp=Z,17nm,1.7s	**40.22**	**332**	*eP*		**P**	**15 50 21.6**	**+0.7**
LRM	**Limekiln Ridge** comp=Z,46nm,1.0s	**40.50**	**332**	*eP*		**P**	**15 50 24.5**	**+1.2**
EGMT	**Eagleton** baz=41	**41.09**	**337**	P		**P**	**15 50 28.2**	**+0.2**
WVOR	**Wild Horse Val** comp=Z,7.2nm,1.0s	**41.36**	**324**	*eP*		**P**	**15 50 29.2**	**-1.2**
MSO	**Missoula** baz=42	**41.94**	**332**	P		**P**	**15 50 34.7**	**-0.2**
FFC	**Flin Flon** comp=Z,11nm,1.2s	**44.67**	**348**	*eP*		**P**	**15 50 56.0**	**-0.7**
SCHQ	**Schefferville** comp=Z,2.7nm,0.6s,baz=227,slow=6.0,SNR=4.4	**45.94**	**16**	P		**P**	**15 51 05.4**	**-1.4**
SCHQ	comp=Z,237nm,21.7s,baz=242,slow=36			LR		LR	16 10 20.2	
BDFB	**Brasilia** comp=Z,4.9nm,0.6s,baz=293,slow=10,SNR=6.6	**46.98**	**124**	P		**P**	**15 51 14.9**	**-0.7**
BDFB	comp=Z,266nm,18.6s,baz=282,slow=37			LR		LR	16 11 55.9	
CPUP	**Villa Florida** comp=Z,0.6nm,0.4s,baz=342,slow=9.6,SNR=2.5	**47.36**	**143**	P		**P**	**15 51 18.1**	**-0.1**
CPUP	comp=Z,121nm,19.2s,baz=322,slow=37			LR		LR	16 11 48.0	
YKA	**Yellowknife Ar** comp=Z,3.2nm,0.9s,baz=137,slow=7.3,SNR=14	**54.61**	**345**	P		**P**	**15 52 10.5**	**-1.6**
YKA	comp=Z,0.7nm,0.6s,baz=149,slow=4.8,SNR=4.9			PcP		**PcP**	**15 53 14.0**	**-0.3**
DLBC	**Dease Lake** comp=Z,4.2nm,0.9s	**56.95**	**335**	*eP*		**P**	**15 52 29.9**	**+0.8**
RKT	**Rikitea** comp=Z,2.1nm,0.3s	**58.39**	**234**	*eT*		T	16 55 19.4	
ILAR	**Eielson Array** comp=Z,1.8nm,0.9s,baz=121,slow=4.7,SNR=12	**67.06**	**336**	P		**P**	**15 53 35.8**	**-0.8**
ILAR	comp=Z,94nm,18.9s,baz=132,slow=42			LR		LR	16 29 15.7	
PPT	**Papeete** comp=Z,119nm,18.3s,baz=310,slow=31	**68.39**	**246**	LR		LR	16 18 45.4	
PPT2	**Papeete2** comp=Z,180nm,25.5s	**68.40**	**246**	*e*LR		LR	16 14 28.6	
BPAW	**Bear Paw Mtn.** comp=Z,5.1nm,1.8s	**68.48**	**335**	*eP*		**P**	**15 53 44.9**	**-0.8**
MLY	**Manley** comp=Z,3.4nm,0.8s	**68.69**	**336**	*eP*		**P**	**15 53 46.6**	**-0.3**
TBI	**Tubuai** comp=Z,143nm,25.8s	**70.40**	**240**	*e*LR		LR	16 15 27.7	
NOA	**NORSAR Array B** comp=Z,48nm,20.4s,baz=270,slow=34	**83.83**	**29**	LR		LR	16 29 46.8	
TORD	**Torodi Ar. Bea** comp=Z,0.2nm,0.5s,baz=258,slow=6.8,SNR=2.9	**86.00**	**77**	P		**P**	**15 55 22.7**	**-1.9**
ARCES	**ARCESS Array B** comp=Z,59nm,19.7s,baz=322,slow=35	**86.81**	**19**	LR		LR	16 33 14.2	
GERES	**GERESS Array B** comp=Z,126nm,19.8s,baz=275,slow=33	**88.20**	**41**	LR		LR	16 31 43.6	
FINES	**FINESS Array B** comp=Z,68nm,20.8s,baz=324,slow=34	**90.48**	**26**	LR		LR	16 33 17.0	
SONM	**Songino Array** comp=Z,0.9nm,0.6s,baz=41,slow=2.6,SNR=5.9	**119.69**	**350**	PKP		**PKPdf**	**16 01 33.5**	**0.0**
MKAR	**Makanchi Array** comp=Z,0.2nm,0.4s,baz=0.0,slow=2.9,SNR=2.9	**121.08**	**9**	PKP		**PKPdf**	**16 01 34.9**	**-1.1**
KSRS	**Korea Array** comp=Z,2.7nm,0.6s,baz=13,slow=1.7,SNR=17	**121.33**	**328**	PKP		**PKPdf**	**16 01 37.6**	**+0.9**
KSAR	**Wonju Array Be**	**121.36**	**328**	PKP		**PKPdf**	**16 01 37.6**	**+0.9**
HHC	**Hu-ho-hao-te**	**125.13**	**343**	*e*PKP		**PKPdf**	**16 01 43.3**	**-0.8**
HHC				PP		**PP**	**16 03 36.3**	**+3.6**
HHC				SKKS			16 10 24.3	
HHC	**Hu-ho-hao-te**	**125.13**	**343**	SS		SS	16 20 27.3	+3.6
HHC	comp=Z,61nm,5.5s			AMB		AMB		
HHC	comp=N,100nm,18.8s			LR		LR		
HHC	comp=E,150nm,19.4s			LR		LR		
HHC	comp=Z,45nm,18.8s			LR		LR		
ASAR	**Alice Springs** comp=Z,0.2nm,0.5s,baz=110,slow=3.9,SNR=4.5	**139.50**	**247**	PKhKP		PKPpre	16 02 02.7	
ASAR				PKP		**PKPdf**	**16 02 10.4**	**-1.0**
WRA	**Warramunga Arr** comp=Z,0.7nm,1.2s,baz=83,slow=2.7,SNR=3.2	**139.60**	**253**	PKhKP		PKPpre	16 02 03.7	
WRA				PKP		**PKPdf**	**16 02 10.5**	**-1.2**
CMAR	**Chiang Mai Arr** comp=Z,0.4nm,0.5s,baz=94,slow=2.6,SNR=15	**149.62**	**349**	PKP		**PKPdf**	**16 02 28.9**	**-0.2**
CMAR	comp=Z,4.9nm,1.0s,baz=312,slow=2.8,SNR=11			PKPbc		**PKPbc**	**16 02 33.9**	**+0.3**
	comp=Z,4.8nm,1.0s,baz=325,slow=2.8,SNR=16							

*IDC **30** 15:48:21.8±1.1, 11°.25N×87°.32W, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.7/22, mbtmp3.7/5, ML3.9/1, Error ellipse: s-maj=76.5km s-min=17.8km az=39.0*

ISC 30 15:48:26.9±0.9, 11°.3N±0°.3×87°.4W±0°.2, h37km, n10, σ1§30/12, mb3.4/3, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare** 22nm,0.3s,baz=317,slow=18,SNR=22	**2.56**	**112**	Pn	**Pn**	**15 49 03.7**	**-2.1**
JTS	32nm,0.3s,baz=280,slow=18,SNR=11			Sn	**Sn**	**15 49 37.2**	**+1.6**
CMIG	**Matias Romero**	**9.31**	**309**	Pn	**Pn**	**15 50 37.0**	**-1.6**
TXAR	**Lajitas Array** 0.6nm,0.5s,baz=142,slow=8.7,SNR=9.2	**23.55**	**322**	P	**P**	**15 53 35.0**	**+1.0**
TXAR	0.3nm,0.6s,baz=159,slow=6.3,SNR=3.5			PcP	**PcP**	**15 57 19.3**	**+0.4**
PDAR	**Pinedale Array** 0.2nm,0.4s,baz=131,slow=12,SNR=3.1	**36.86**	**332**	P	**P**	**15 55 31.9**	**0.0**
SIV	**San Ignacio** 3.0nm,0.7s,baz=318,slow=9.5,SNR=7.2	**37.55**	**136**	P	**P**	**15 55 37.6**	**-0.3**
NVAR	**Mina Array Bea** 0.6nm,0.6s,baz=139,slow=4.5,SNR=6.8	**38.65**	**320**	PcP	**PcP**	**15 58 00.2**	**+1.4**
KSRS	**Korea Array** 0.3nm,0.4s,baz=21,slow=1.8,SNR=5.3	**121.32**	**327**	PKP	**PKPdf**	**16 07 18.0**	**+1.5**
ASAR	**Alice Springs** 0.2nm,0.5s,baz=114,slow=2.5,SNR=3.1	**138.90**	**247**	PKP	**PKPdf**	**16 07 50.2**	**0.0**
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=90,slow=1.8,SNR=6.0	**139.01**	**253**	PKP	**PKPdf**	**16 07 51.3**	**+0.8**
CMAR	**Chiang Mai Arr** 0.5nm,0.3s,baz=351,slow=3.0,SNR=4.8	**149.82**	**348**	PKPbc	**PKPbc**	**16 08 13.8**	**-0.1**

*IDC **30** 15:49:14.5±2.5, 35°.13S×72°.42W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.8/27, mbtmp3.8/4, ML3.2/2, Error ellipse: s-maj=54.8km s-min=39.5km az=169.0*

*ISCJB **30** 15:49:15.9±1.4, 34°.93S±0°.04×72°.53W±0°.06, h8km±8km, mb3.8/3, Error ellipse: s-maj=8.8km s-min=5.6km az=16.9*

*GUC **30** 15:49:18.0±0.8, 34°.94S×72°.40W, h28km±4km, ML4.1*

ISC 30 15:49:17.2±2.0, 34°.96S±0°.05×72°.47W±0°.08, h13km±12km, n16, σ1§03/23, mb4.0/3, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
U65B	**HualaæØ**	**0.56**	**91**	*eP*	**Pg**	**15 49 28.5**	**+0.3**
U65B				*eS*	**Sg**	**15 49 36.1**	**+0.4**
U65B	comp=N,22μm,0.6s			AML	AML	15 49 39.8	
TALC	**Talca**	**0.82**	**123**	*eP*	**Pg**	**15 49 32.7**	**-0.3**
NICH	**Los Niches**	**1.02**	**93**	*eP*	**Pb**	**15 49 36.0**	**-0.7**
NICH				⇓*eS*	**Sb**	**15 49 49.6**	**-0.6**
LNCH	**Linares**	**1.14**	**142**	*eP*	**Pb**	**15 49 38.5**	**-0.3**
LNCH				*eS*	**Sb**	**15 49 53.9**	**+0.4**
COCH	**Cobquecura**	**1.20**	**192**	*eP*	**Pn**	**15 49 39.3**	**-0.4**
COCH				*eS*	**Sb**	**15 49 55.0**	**-0.3**
U69B	**Peumo**	**1.22**	**62**	*eP*	**Pn**	**15 49 39.8**	**-1.0**
U69B				*eS*	**Sb**	**15 49 54.8**	**-0.9**
U69B	comp=E,5μm,0.5s			AML	AML	15 50 00.2	
LNV	**Longovilo**	**1.33**	**42**	*eP*	**Pn**	**15 49 40.9**	**-0.5**
U73B	**San Pedro**	**1.35**	**40**	*eP*	**Pn**	**15 49 41.1**	**-0.7**
U73B				*eS*	**Sn**	**15 49 58.6**	**-1.0**
U73B	comp=E,5μm,0.8s			AML	AML	15 50 00.6	
CLCH	**Cerro Calan**	**2.23**	**46**	*eS*	**Sn**	**15 50 23.3**	**+1.8**
CLCH	comp=N,2μm,0.7s			AML	AML	15 50 35.3	
PEL	**Peldehue**	**2.34**	**40**	*eP*	**Pn**	**15 49 56.5**	**+1.1**
PEL				*eS*	**Sb**	**15 50 26.2**	**-1.8**
PEL	comp=N,2μm,0.5s			AML	AML	15 50 31.4	
YECH	**El Yeso**	**2.36**	**58**	*eP*	**Pn**	**15 49 57.5**	**+1.6**
YECH	comp=N,2μm,0.5s			AML	AML	15 50 35.9	
CFAA	**Coronel Fontan** comp=N,0.2nm,0.3s,baz=219,slow=12,SNR=6.4	**4.87**	**48**	Pn	**Pn**	**15 50 32.0**	**+1.8**
CFAA	comp=N,1.0nm,0.3s,baz=305,slow=15,SNR=6.4			Lg	Lg	15 51 42.0	
LPAZ	**La Paz** comp=N,0.1nm,0.3s,baz=176,slow=9.1,SNR=5.0	**18.99**	**13**	P	**Pn**	**15 53 40.6**	**+0.7**
SIV	**San Ignacio** comp=N,2.3nm,0.6s,baz=216,slow=9.1,SNR=7.5	**21.47**	**31**	P	**P**	**15 54 04.8**	**-0.8**
TXAR	**Lajitas Array** comp=N,0.6nm,0.5s,baz=158,slow=9.0,SNR=15	**70.39**	**331**	P	**P**	**16 00 31.6**	**+0.6**
TORD	**Torodi Ar. Bea** comp=N,0.6nm,0.6s,baz=239,slow=3.5,SNR=6.7	**84.87**	**70**	P	**P**	**16 01 51.7**	**-0.3**

*ISCJB **30** 15:52:03.9±1.1, 10°.36S±0°.07×112°.00E±0°.06, h22km, mb2.7/2, Error ellipse: s-maj=10.9km s-min=7.1km az=24.7*

*DJA **30** 15:52:06.8±1.1, 10°.S±13°×11°.2E±°, h79km±62km, M3.9/8, MLv3.9/8*

ISC 30 15:52:05.1±1.7, 10°.3S±0°.1×112°.00E±0°.07, h22km, n8, σ1§29/13, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WOJI	**Wonogiri, Jawa**	**2.71**	**337**	P	**Pn**	**15 52 47.4**	**+0.1**
WOJI				S	**Sn**	**15 53 18.2**	**-1.2**
JAGI	**Jajag, Banyuwa**	**2.82**	**49**	P	**Pn**	**15 52 49.0**	**+0.1**
JAGI				S	**Sn**	**15 53 23.1**	**+0.8**
UGM	**Wanagama**	**2.82**	**329**	P	**Pn**	**15 52 49.4**	**+0.5**
UGM				S	**Sn**	**15 53 23.8**	**+1.5**
NGJI	**Ngawi**	**3.00**	**350**	S	**Sb**	**15 53 33.5**	**-0.7**
BLJI	**Banyuglugur**	**3.02**	**32**	P	**Pn**	**15 52 51.5**	**-0.2**
BLJI				S	**Sn**	**15 53 27.8**	**+0.6**
IGBI	**Denpasar**	**3.45**	**64**	P	**Pn**	**15 52 57.3**	**-0.3**
IGBI				S	**Sn**	**15 53 38.7**	**+0.9**
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=298,slow=10,SNR=10	**23.55**	**117**	P	**P**	**15 57 11.6**	**-2.6**
ASAR	**Alice Springs** 0.1nm,0.3s,baz=304,slow=9.5,SNR=13	**24.73**	**125**	P	**P**	**15 57 27.1**	**+1.8**

*IDC **30** 15:53:00.7±2.3, 11°.39S×118°.10E, h0km, mb3.9/3, mb1 3.7/5, mb1mx3.5/19, mbtmp3.6/5, ML3.3/2, MS3.7/1, Ms1 3.7/1, ms1mx2.8/26, Error ellipse: s-maj=136.2km s-min=24.0km az=47.0*

*ISCJB **30** 15:53:31.3±0.8, 5°.41S±0°.05×119°.95E±0°.06, h10km, mb3.9/3, MS3.5/1, Error ellipse: s-maj=10.0km s-min=5.8km az=153.9*

*DJA **30** 15:53:32.5±0.4, 5°.S±2°×12°.0E±°, h10km, M3.8/10, MLv3.8/10*

ISC 30 15:53:32.7±1.0, 5°.39S±0°.06×120°.03E±0°.10, h10km, n10, σ1§32/13, mb4.1/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKSI	**Bulukumba**	**0.11**	**56**	P	**Pg**	**15 53 34.0**	**-1.5**
BKSI				S	**Sg**	**15 53 38.7**	**+1.3**
BSSI	**Bau Bau, Buton**	**0.88**	**149**	P	**Pg**	**15 53 48.6**	**-1.1**
BSSI				S	**Sb**	**15 54 02.4**	**+0.4**
SPSI	**Sidrap Palu**	**1.43**	**350**	P	**Pn**	**15 53 57.0**	**-1.8**
SPSI				S	**Sg**	**15 54 18.6**	**-0.3**
TTSI	**Tana Toraja**	**2.33**	**355**	P	**Pn**	**15 54 11.1**	**-0.1**
TTSI				S	**Sn**	**15 54 40.6**	**+0.7**
PCI	**Palu**	**4.45**	**358**	P	**Pn**	**15 54 40.3**	**-0.1**
APSI	**Ampana**	**4.73**	**20**	P	**Pn**	**15 54 44.4**	**+0.3**
PSI	**Prapat** comp=Z,169nm,19.0s,slow=39	**22.59**	**291**	LR	LR	16 08 23.4	
CMAR	**Chiang Mai Arr** 0.3nm,0.4s,baz=156,slow=6.9,SNR=4.7	**31.52**	**319**	P	**P**	**15 59 57.8**	**+2.6**
MKAR	**Makanchi Array** 1.4nm,1.0s,baz=126,slow=7.3,SNR=7.5	**61.76**	**331**	P	**P**	**16 03 51.0**	**-0.5**
ZALV	**Zalesovo Beam** 2.9nm,1.0s,baz=127,slow=6.2,SNR=8.1	**66.07**	**338**	P	**P**	**16 04 18.4**	**-1.3**

KRSC 30 16:14:17.6±1.6, 50°.13N×158°.67E, h40km±24km, ML3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.72**	**290**	P	Pn	16 14 46.7	+1.7
SKR				S	Sn	16 15 07.4	+1.6
PAU	**Pauzhetka**	**1.78**	**319**	S	Sn	16 15 11.2	+3.9
ASAK	**Asacha**	**2.31**	**348**	P	Pn	16 14 56.2	+3.0
ASAK				S	Sn	16 15 22.0	+1.6
MTVR	**Mutnovka**	**2.38**	**353**	S	Sn	16 15 26.0	+3.8
SPN	**Mys Shipunski**	**3.09**	**15**	P	Pn	16 15 07.1	+3.3
SPN				S	Sn	16 15 42.9	+3.5
GNL	**Ganaly**	**3.60**	**353**	P	Pn	16 15 15.3	+4.3
GNL				S	Sn	16 15 57.4	+5.1

IDC 30 16:18:24.0±3.1, 6°.17S×150°.49E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.2/23, mbtmp3.4/3, ML1.2/1, Error ellipse: s-maj=128.8km s-min=35.9km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby** 0.8nm,0.3s,baz=15,slow=12,SNR=3.7	**4.61**	**226**	Pn	Pn	16 19 36.0	+1.1
PMG	1.0nm,0.3s,baz=233,slow=20,SNR=3.1			Sn	Sn	16 20 29.5	+0.3
WRA	**Warramunga Arr** 0.6nm,0.4s,baz=54,slow=11,SNR=12	**20.83**	**227**	P	P	16 23 07.1	-0.3
ASAR	**Alice Springs** 0.5nm,0.7s,baz=55,slow=9.6,SNR=11	**23.61**	**221**	P	P	16 23 36.8	-0.1
TORD	**Torodi Ar. Bea** 0.1nm,0.4s,baz=132,slow=3.9,SNR=2.2	**148.49**	**285**	PKPbc	PKPbc	16 38 13.2	-0.7

KRSC 30 17:03:00.8±1.0, 52°.30N×160°.23E, h40km±13km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.81**	**351**	*eP*	Pn	17 03 16.4	+0.7
SPN				*eS*	Sn	17 03 27.2	+0.6
RUS	**Russkaya**	**1.06**	**278**	*eP*	Pn	17 03 19.7	+0.6
RUS				*eS*	Sn	17 03 32.8	+0.1
PET	**Petropavlovsk**	**1.21**	**308**	*eP*	Pn	17 03 22.2	+1.1
PET				*eS*	Sn	17 03 37.2	+0.9
UGLR	**Uglovaya**	**1.25**	**317**	*eP*	Pn	17 03 23.6	+1.7
UGLR				*eS*	Sn	17 03 39.5	+1.8
MTVR	**Mutnovka**	**1.27**	**279**	*eP*	Pn	17 03 23.1	+0.9
MTVR				*eS*	Sn	17 03 39.1	+0.9
SDLR	**Sedlovina**	**1.28**	**321**	*eP*	Pn	17 03 24.0	+1.7
SDLR				*eS*	Sn	17 03 40.3	+1.9
SMAR	**Somma**	**1.30**	**319**	*eP*	Pn	17 03 24.3	+1.6
AVH	**Avacha**	**1.33**	**317**	*eP*	Pn	17 03 24.7	+1.8
KRER	**Koryakskii**	**1.35**	**319**	*eP*	Pn	17 03 25.3	+1.9
KRER				*eS*	Sn	17 03 42.6	+2.2
KOK	**Koryaka**	**1.39**	**316**	*eP*	Pn	17 03 26.2	+2.4
ASAK	**Asacha**	**1.43**	**274**	*eP*	Pn	17 03 26.1	+1.7
ASAK				*eS*	Sn	17 03 43.9	+1.8
GNL	**Ganaly**	**1.97**	**316**	*eP*	Pn	17 03 34.4	+2.6
GNL				*eS*	Sn	17 03 58.2	+2.8
MKZ	**Mys Kozlova**	**2.44**	**21**	*eP*	Pn	17 03 40.5	+2.6
MKZ				*eS*	Sn	17 04 09.2	+2.8
TUMR	**Tumrok**	**2.99**	**359**	*eP*	Pn	17 03 49.6	+3.8
KBTR	**Krutoberegovo**	**4.20**	**20**	*eP*	Pn	17 04 05.9	+3.7

NNC 30 17:07:45.3±1.9, 36°.78N×70°.99E, h162km±19km, mb2.6, mpv3.5, 2C-7D, Error ellipse: s-maj=17.5km s-min=8.6km az=165.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino** 9.8nm,0.3s	**2.65**	**320**	⇓P	Pn	17 08 28.4	-0.5
DZET	30nm,0.4s			⇓S	Sn	17 09 03.3	+0.5
SFK	**Sufi-Kurgan** 1.6nm,0.4s	**3.78**	**31**	⇓P	Pn	17 08 43.2	-0.1
SFK	3.7nm,0.2s			⇓S	Sn	17 09 29.0	+0.4
MNAS	**Manas** 1.1nm,0.3s	**5.82**	**11**	⇑P	Pn	17 09 10.2	+0.3
MNAS	2.5nm,0.3s			⇓S

comp=Z,70nm,21.2s,baz=125,slow=33
H08S1 Diego Garcia H 30.06 34 T T 18 10 20.9
baz=207,slow=76,SNR=114
H08S2 Diego Garcia H 30.07 34 T T 18 10 21.5
baz=207,slow=76,SNR=47
H08S3 Diego Garcia H 30.08 34 T T 18 10 22.1
baz=207,slow=76,SNR=82
H08N3 Diego Garcia H 30.57 30 T T 18 11 12.2
baz=204,slow=76,SNR=14
H08N1 Diego Garcia H 30.59 30 T T 18 11 10.9
baz=204,slow=76,SNR=9.6
H08N2 Diego Garcia H 30.59 30 T T 18 11 11.7
baz=204,slow=76,SNR=15
MAW Mawson 34.05 175 P **P 17 39 46.1 +0.5**
2.2nm,0.7s,baz=341,slow=9.7,SNR=5.3
MAW PcP **PcP 17 42 23.6 +0.6**
1.8nm,0.8s,baz=34,slow=3.6,SNR=5.6
MAW LR LR 17 49 44.3
comp=Z,366nm,21.8s,baz=58,slow=30
KMBO Kilima Mbogo 37.06 327 LR LR 17 53 51.4
comp=Z,264nm,19.9s,baz=103,slow=34
TSUM Tsumeb 37.28 283 P **P 17 40 15.0 +0.9**
2.4nm,0.9s,baz=103,slow=13,SNR=4.0
TSUM Tsumeb 37.28 283 *eP* **P 17 40 12.2 -1.9**
4.0nm,0.9s
H01W2 Cape Leeuwin H 47.23 108 T T 18 32 08.9
baz=254,slow=75,SNR=28
H01W3 Cape Leeuwin H 47.24 108 T T 18 32 09.4
baz=254,slow=75,SNR=29
H01W1 Cape Leeuwin H 47.25 108 T T 18 32 08.1
baz=254,slow=75,SNR=23
SNAA Sanae 48.63 201 P **P 17 41 45.4 0.0**
SNAA Sanae 48.63 201 *eP* **P 17 41 45.8 +0.5**
2.9nm,1.0s
QSPA South Pole Qui 56.36 180 P **P 17 42 43.1 +0.3**
12nm,0.9s,baz=267,slow=2.4,SNR=31
VNDA Vanda 60.54 166 LR LR 18 07 55.3
comp=Z,337nm,18.4s,baz=254,slow=35
CMAR Chiang Mai Arr 66.03 45 P **P 17 43 48.9 +0.2**
4.4nm,1.0s,baz=229,slow=6.7,SNR=20
CMAR LR LR 18 07 54.9
comp=Z,85nm,19.5s,baz=204,slow=32
CHTO Chiang Mai 66.31 45 P **P 17 43 51.2 +0.6**
17nm,1.6s
ASAR Alice Springs 67.42 104 P **P 17 43 57.9 +0.1**
2.0nm,0.7s,baz=233,slow=5.9,SNR=31
WRA Warramunga Arr 69.57 101 P **P 17 44 11.4 +0.2**
5.1nm,0.8s,baz=239,slow=5.2,SNR=32
WRA LR LR 18 11 14.1
comp=Z,38nm,20.6s,baz=325,slow=33
WRAB Tennant Creek 69.58 101 *eP* **P 17 44 11.8 +0.5**
11nm,0.9s
STKA Stephens Creek 69.62 115 P **P 17 44 11.4 0.0**
2.3nm,1.0s,baz=243,slow=4.5,SNR=1.8
STKA LR LR 18 08 11.1
comp=Z,58nm,19.1s,baz=207,slow=30
TORD Torodi Ar. Bea 69.79 302 P **P 17 44 12.8 +0.2**
0.4nm,0.8s,baz=131,slow=7.9,SNR=4.2
TORD LR LR 18 15 42.5
comp=Z,91nm,18.8s,baz=115,slow=37
DBIC Dimbokro 70.36 293 LR LR 18 13 47.3
comp=Z,78nm,19.3s,baz=110,slow=35
LSA Lhasa 71.29 32 *eP* **P 17 44 23.0 +1.1**
22nm,1.4s
GEYT Alibeck 71.40 2 LR LR 18 14 05.1
comp=Z,67nm,18.8s,baz=135,slow=34
GNI Garni 74.36 351 LR LR 18 14 32.7
comp=Z,180nm,21.1s,baz=160,slow=34
BRTR Keskin Array B 76.10 342 P **P 17 44 48.5 -1.0**
0.6nm,0.8s,baz=169,slow=8.5,SNR=3.6
BRTR LR LR 18 15 27.3
comp=Z,41nm,20.9s,baz=146,slow=34
SIJI Sorong 77.11 82 P **P 17 44 53.8 -2.0**
8.4nm,0.9s,baz=245,slow=2.6,SNR=5.5
EKS2 Erkin-Say 77.79 13 *eP* **P 17 45 00.9 +1.9**
5.9nm,1.1s
KBZ Khabaz 78.13 350 LR LR 18 17 22.1
comp=Z,85nm,21.0s,baz=126,slow=34
TKM2 Tokmak 2 78.40 14 *eP* **P 17 45 04.2 +1.7**
6.0nm,1.2s
CTA Charters Tower 79.12 107 P **P 17 45 07.0 0.0**
1.6nm,0.7s,baz=228,slow=12,SNR=3.6
CTAO Charters Tower 79.12 107 *eP* **P 17 45 06.7 -0.2**
KEST Kesra 81.89 323 LR LR 18 20 42.9
comp=Z,50nm,21.8s,baz=310,slow=35
ABKAR Akbulak array 82.77 2 *eP* **P 17 45 25.8 +0.4**
4.8nm,1.2s
MK31 Makanchi Array 83.61 18 *eP* **P 17 45 31.3 +1.4**
MKAR Makanchi Array 83.61 18 P **P 17 45 30.3 +0.4**
0.4nm,0.8s,baz=200,slow=6.1,SNR=4.8
MKAR LR LR 18 19 25.3
comp=Z,40nm,21.9s,baz=189,slow=33
BRVK Borovoye 87.38 8 P **P 17 45 47.4 -1.1**
30nm,1.9s
URZ Urewera 89.71 138 LR LR 18 21 17.9
comp=Z,92nm,18.5s,baz=184,slow=32
ARU Arti 89.91 1 P **P 17 45 57.3 -3.1**
11nm,1.5s
GERES GERESS Array B 90.60 333 LR LR 18 28 25.2
comp=Z,20nm,19.8s,baz=119,slow=37
ZALV Zalesovo Beam 90.84 16 LR LR 18 23 51.0
comp=Z,34nm,21.6s,baz=250,slow=34
SONM Songino Array 92.87 31 P **P 17 46 15.3 +0.7**
0.7nm,0.9s,baz=196,slow=4.1,SNR=3.2
SONM LR LR 18 25 56.7
comp=Z,125nm,19.9s,baz=242,slow=34
TLY Talaya 94.75 27 LR LR 18 26 35.1
comp=Z,60nm,21.2s,baz=180,slow=34
KSRS Korea Array 97.32 50 LR LR 18 28 57.1
comp=Z,44nm,19.3s,baz=208,slow=34
FINES FINESS Array B 98.04 346 LR LR 18 31 53.3
comp=Z,29nm,18.6s,baz=148,slow=36
INK Inuvik 145.02 6 PKP **PKPbc 17 52 37.4 -0.2**
9.7nm,0.9s,baz=332,slow=3.4,SNR=11
INK Inuvik 145.02 6 PKP **PKPbc 17 52 37.4 -0.2**
INK *e*PKPdf **PKPab 17 52 37.6 0.0**
BPAW Bear Paw Mtn. 145.37 21 *e*PKPdf **PKPbc 17 52 38.9 0.0**
ILAR Eielson Array 145.96 17 PKPbc **PKPdf 17 52 40.0 0.0**
2.0nm,0.7s,baz=310,slow=3.6,SNR=18
EGAK Eagle 147.24 14 PKPdf **PKPdf 17 52 39.8 -2.3**
DAWY Dawson 148.22 13 *e*PKPdf **PKPbc 17 52 47.0 -0.2**
YKA Yellowknife Ar 150.72 351 PKPbc **PKPbc 17 52 53.1 -0.2**
3.3nm,0.7s,baz=10.0,slow=2.2,SNR=13

IDC 30 17:33:26.9±2.7, 6°88S×150°98E, h0km, mb2.9/2, mb1 3.3/3, mb1mx3.2/32, mbtmp3.1/3, ML0.9/1, Error ellipse: s-maj=111.8km s-min=36.8km az=132.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.54**	**236**		Pn	17 34 37.3	+0.3
	0.4nm,0.3s,baz=350,slow=17,SNR=2.9						
PMG					Sn	17 35 29.9	-0.5
	2.1nm,0.3s,baz=152,slow=20,SNR=8.0						
WRA	**Warramunga Arr**	**20.73**	**230**	P	P	17 38 08.8	-0.3
	0.2nm,0.3s,baz=56,slow=11,SNR=3.9						
ASAR	**Alice Springs**	**23.41**	**223**	P	P	17 38 37.7	0.0
	0.3nm,0.5s,baz=54,slow=9.0,SNR=12						
TORD	**Torodi Ar. Bea**	**149.14**	**284**	PKPbc	PKPbc	17 53 18.1	-0.3
	0.3nm,0.6s,baz=72,slow=2.0,SNR=2.5						

*ISCJB **30** 17:36:10.7±0.9, 47°.38N±0°.07×92°.55W±0°.10, h0km, Error ellipse: s-maj=11.8km s-min=8.1km az=146.2*
*NEIC **30** 17:36:10.7±0.9, 47°.47N×92°.57W, h0km, MN2.2, Error ellipse: s-maj=13.8km s-min=11.2km az=162.0, Suspected Mining explosion.*
NEIC NEAR Virginia.
*IDC **30** 17:36:21.5±4.7, 47°.77N×93°.03W, h0km, mb1 2.5/1, mb1mx2.5/27, mbtmp2.5/1, ML0.8/1, Error ellipse: s-maj=75.1km s-min=28.5km az=54.0*

ISC 30 17:36:11.3±1.4, 47°.39N±0°.07×92°.53W±0°.07, h0km, n7, σ1§53/7, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EYMN	**Ely**	**0.89**	**51**	*e*Pg	**Pg**	**17 36 27.3**	**-1.0**
EYMN				*e*Sg	**Sb**	**17 36 41.7**	**-0.3**
SPMN	**St. Paul**	**2.18**	**185**	Pn	**Pn**	**17 36 49.2**	**+0.5**
AGMN	**Agassiz Nation**	**2.42**	**293**	*e*Pn	**Pn**	**17 36 50.7**	**-1.4**
COWI	**Conover**	**2.67**	**118**	Pn	**Pn**	**17 36 55.6**	**+0.1**
COWI				*e*Sg	**Sn**	**17 37 29.6**	**+1.0**
ULM	**Lac du Bonnet**	**3.61**	**324**	Pn	**Pn**	**17 37 10.7**	**+2.2**
	0.2nm,0.3s,baz=157,slow=7.7,SNR=2.2						
ULM				Lg	Lg	17 37 57.5	
	2.3nm,0.3s,baz=30,slow=14,SNR=19						
I10CA	**LAC DU BONNET**	**3.64**	**322**	*i*		17 57 05.0	
	baz=140,slow=313,SNR=11						
I56US	**NEWPORT INFRASI**	**6.53**	**282**	*i*		19 14 50.0	
	baz=84,slow=314,SNR=0.7						

*NIED **30** 17:57:00, 43°.40N×145°.30E, h145km, Mw3.7 Best double couple: M0 3.81000×10^14 NP1:φ=214.00000°, δ10.00000°, λ19.00000°. NP2:φ=106.00000°, δ87.00000°, λ100.00000°.*
*ISCJB **30** 17:57:09.3±0.4, 43°.44N±0°.04×145°.21E±0°.05, h125km±2km, mb3.5/9, Error ellipse: s-maj=7.7km s-min=5.1km az=146.1*
*JMA **30** 17:57:10.6±0.1, 43°.39N×145°.27E, h115km±1km, M3.5 JMA Felt I J1.*
*SKHL **30** 17:57:10.4±0.9, 43°.51N×145°.17E, h127km±4km, mb4.4/3, msh4.7/3*
*IDC **30** 17:57:10.4±3.3, 43°.49N×145°.07E, h118km±32km, mb3.3/9, mb1 3.5/11, mb1mx3.3/28, mbtmp3.7/11, MS3.6/1, Ms1 3.6/1, ms1mx2.3/19, Error ellipse: s-maj=23.6km s-min=16.1km az=114.0*

ISC 30 17:57:10.2±0.7, 43°.43N±0°.05×145°.22E±0°.04, h117km±5km, n41, σ0§84/49, mb3.5/9, 1C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.39**	**99**	P	**Pn**	**17 57 27.1**	**0.0**
NEM2				*e*S	**Sn**	**17 57 39.1**	**-0.8**
JNK	**Nakash**	**0.40**	**294**	P	**Pn**	**17 57 27.5**	**+0.3**
JNK				*e*S	**Sn**	**17 57 40.2**	**+0.1**
JRA	**Rausu**	**0.52**	**352**	P	**Pn**	**17 57 28.4**	**+0.5**
JRA				*e*S	**Sn**	**17 57 41.7**	**+0.4**
JAK	**Akkeshi**	**0.58**	**222**	P	**Pn**	**17 57 28.5**	**+0.2**
JAK				*e*S	**Sn**	**17 57 42.0**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**0.77**	**37**	*i*P	**Pn**	**17 57 30.3**	**+0.6**
YUK				AMB	AMB	17 57 30.7	
	30nm,0.2s						
YUK				AMB	AMB	17 57 30.7	
	140nm,0.2s						
YUK				AMB	AMB	17 57 30.7	
	360nm,0.2s						
YUK				*i* S	**Sn**	**17 57 45.0**	**+0.5**
YUK				A	A	17 57 45.8	
	290nm,0.4s						
YUK				A	A	17 57 45.8	
	630nm,0.4s						
JAR	**Ashorobuto**	**1.06**	**263**	P	**Pn**	**17 57 33.4**	**+0.8**
JAR				*e*S	**Sn**	**17 57 50.1**	**+0.5**
JTKR	**Abashiri--Toko**	**1.09**	**300**	P	**Pn**	**17 57 33.7**	**+0.8**
JTKR				*e*S	**Sn**	**17 57 50.7**	**+0.6**
JOB	**Onbets**	**1.14**	**243**	P	**Pn**	**17 57 34.1**	**+0.7**
JOB				*e*S	**Sn**	**17 57 51.2**	**+0.3**
JMP	**Maruseppu**	**1.47**	**294**	P	**Pn**	**17 57 37.8**	**+0.8**
JMP				*e*S	**Sn**	**17 57 58.1**	**+0.6**
HRK	**Horoka**	**1.52**	**272**	*e*P	**Pn**	**17 57 38.7**	**+1.0**
HRK				*e*S	**Sn**	**17 57 59.1**	**+0.4**
JCH	**Churui**	**1.59**	**240**	P	**Pn**	**17 57 38.8**	**+0.4**
JCH				*e*S	**Sn**	**17 57 59.2**	**-0.7**
JKK2	**Kamakawa 2**	**1.85**	**285**	P	**Pn**	**17 57 42.7**	**+1.1**
JKK2				*e*S	**Sn**	**17 58 06.3**	**+0.7**
JFR	**Furan**	**1.94**	**263**	P	**Pn**	**17 57 43.3**	**+0.6**
JFR				*e*S	**Sn**	**17 58 08.1**	**+0.6**
ERM	**Erimo**	**2.07**	**228**	*e*P	**Pn**	**17 57 45.9**	**+1.5**
KUR	**Kuril'sk**	**2.62**	**46**	*i*P	**Pn**	**17 57 52.5**	**+1.2**
KUR				AMB	AMB	17 57 53.0	
	10.0nm,0.4s						
KUR				AMB	AMB	17 57 53.0	
	20nm,0.4s						
KUR				*i* S	**Sn**	**17 58 24.8**	**+1.8**
KUR				A	A	17 58 27.1	
	60nm,0.3s						
KUR				A	A	17 58 27.1	
	50nm,0.3s						
YSS	**Yuzh-Sakhalins**	**3.93**	**335**	*e*P	**Pn**	**17 58 09.0**	**+0.3**
YSS				AMB	AMB	17 58 09.9	
	20nm,0.5s						
YSS				*e*S	**Sn**	**17 58 53.6**	**-0.4**
YSS				A	A	17 58 57.0	
	30nm,0.9s						
MAJO	**Matsushiro**	**8.73**	**220**	*e*P	**Pn**	**17 59 13.7**	**+0.2**
MJAR	**Matsushiro Arr**	**8.73**	**220**	P	**Pn**	**17 59 13.8**	**+0.4**
	0.4nm,0.3s,baz=32,slow=14,SNR=6.3						
MJAR	**Matsushiro Arr**	**8.73**	**220**	*e*P	**Pn**	**17 59 14.0**	**+0.5**
PETK	**Petropavlovsk-**	**12.75**	**36**	P	**Pn**	**18 00 06.7**	**-0.3**
	0.2nm,0.3s,baz=207,slow=11,SNR=3.2						
SEY	**Seymchan**	**19.98**	**10**	*e*P	**P**	**18 01 31.7**	**-1.2**
H11N2	**WAKE ISLAND Hy**	**29.81**	**136**	T	T	18 34 22.0	
	baz=328,slow=75,SNR=40						
H11N1	**WAKE ISLAND Hy**	**29.83**	**136**	T	T	18 34 23.5	
	baz=328,slow=75,SNR=38						
H11N3	**WAKE ISLAND Hy**	**29.83**	**136**	T	T	18 34 22.3	
	baz=328,slow=75,SNR=33						
H11S1	**WAKE ISLAND Hy**	**30.75**	**137**	T	T	18 35 32.0	
	baz=329,slow=76,SNR=75						
H11S3	**WAKE ISLAND Hy**	**30.75**	**137**	T	T	18 35 31.7	
	baz=329,slow=76,SNR=73						
H11S2	**WAKE ISLAND Hy**	**30.76**	**137**	T	T	18 35 31.7	
	baz=329,slow=76,SNR=64						
ILAR	**Eielson Array**	**42.58**	**36**	P	**P**	**18 04 54.5**	**+0.5**
	0.5nm,0.6s,baz=264,slow=5.9,SNR=6.7						
MKAR	**Makanchi Array**	**43.49**	**297**	P	**P**	**18 05 00.5**	**-1.1**
	0.1nm,0.4s,baz=82,slow=10,SNR=2.7						
KURBB	**Kurchatov Arra**	**44.63**	**304**	P	**P**	**18 05 09.7**	**-0.9**
	0.5nm,0.5s,baz=70,slow=9.1,SNR=7.0						
INK	**Inuvik**	**47.39**	**30**	P	**P**	**18 05 31.8**	**-0.1**
	1.5nm,0.5s,baz=293,slow=7.7,SNR=10.0						
BRVK	**Borovoye**	**48.67**	**309**	*e*P	**P**	**18 05 40.8**	**-1.2**
ARCES	**ARCESS Array B**	**59.05**	**339**	LR	LR	18 35 16.0	
	comp=Z,47nm,18.9s,baz=112,slow=39						
WRA	**Warramunga Arr**	**63.84**	**191**	P	**P**	**18 07 30.0**	**0.0**
	0.4nm,0.8s,baz=8.5,slow=6.7,SNR=3.2						
FINES	**FINESS Array B**	**64.52**	**332**	P	**P**	**18 07 33.4**	**-0.5**
	0.9nm,0.5s,baz=53,slow=6.0,SNR=12						
ASAR	**Alice Springs**	**67.57**	**191**	P	**P**	**18 07 54.3**	**+0.4**
	0.4nm,0.7s,baz=12,slow=7.2,SNR=9.3						
ASAR	**Alice Springs**	**67.57**	**191**	*e*P	**P**	**18 07 54.7**	**+0.8**
NOA	**NORSAR Array B**	**69.39**	**338**	P	**P**	**18 08 04.5**	**-0.4**
	0.6nm,0.8s,baz=35,slow=5.4,SNR=3.8						
NOA	**NORSAR Array B**	**69.39**	**338**	*e*P	**P**	**18 08 03.1**	**-1.7**
TXAR	**Lajitas Array**	**83.99**	**55**	P	**P**	**18 09 28.2**	**+0.6**
	0.2nm,0.6s,baz=303,slow=5.0,SNR=3.9						
TXAR	**Lajitas Array**	**83.99**	**55**	*e*P	**P**	**18 09 29.6**	**+2.1**

IDC 30 18:01:56.4±0.8, 13°.99N×144°.29E, h184km±50km, mb3.2/6, mb1 3.3/6, mb1mx3.0/27, mbtmp3.7/6, Error ellipse: s-maj=230.8km s-min=19.3km az=83.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.68**	**125**	P	Pn	18 02 23.8	+1.2
	67nm,0.3s,baz=326,slow=11,SNR=59						
GUMO				S	Sn	18 02 43.4	+0.7
	45nm,0.3s,baz=149,slow=21,SNR=13						
KSRS	**Korea Array**	**27.55**	**331**	P	P	18 07 24.9	-1.2
	0.7nm,0.5s,baz=147,slow=9.9,SNR=5.1						
WRA	**Warramunga Arr**	**35.11**	**196**	P	P	18 08 32.2	-0.1
	0.6nm,0.8s,baz=18,slow=9.5,SNR=3.4						
ASAR	**Alice Springs**	**38.77**	**195**	P	P	18 09 02.9	-0.4
	0.5nm,1.1s,baz=11,slow=11,SNR=3.3						
MKAR	**Makanchi Array**	**60.82**	**316**	P	P	18 11 50.7	+1.5
	0.3nm,0.5s,baz=100,slow=6.9,SNR=4.3						
KURBB	**Kurchatov Arra**	**63.96**	**320**	P	P	18 12 11.5	+1.6
	0.8nm,0.5s,baz=102,slow=6.8,SNR=4.3						
BVAR	**Borovoye Array**	**69.27**	**322**	P	P	18 12 42.1	-1.3
	0.5nm,0.3s,baz=99,slow=7.4,SNR=4.8						

*IDC **30** 18:03:31.8±0.7, 30°.34N×94°.92E, h0km, mb4.2/17, mb1 4.3/20, mb1mx4.1/34, mbtmp4.2/20, ML3.7/3, Error ellipse: s-maj=23.5km s-min=13.9km az=54.0*
*BJI **30** 18:03:32.9, 30°.30N×94°.85E, h15km, mb4.5/32, mB4.5/20, ML4.3/4, Ms3.9/31, Ms7 3.7/30*
*ISCJB **30** 18:03:34.6±0.2, 30°.24N±0°.03×94°.93E±0°.03, h33km, mb4.5/41, MS3.2/1, Error ellipse: s-maj=4.5km s-min=3.1km az=8.6*
*MOS **30** 18:03:35.4±0.9, 30°.30N×94°.94E, h38km, mb5.0/23, Error ellipse: s-maj=9.9km s-min=5.4km az=119.9*
*NEIC **30** 18:03:37.1±0.8, 30°.33N×94°.91E, h36km±8km, mb4.6/14,*

Error ellipse: s-maj=7.6km s-min=5.7km az=50.0
*BKK **30** 18:04:24.6±1.8, 29°.N±19°×9°.7E±2°.2, h439km±38km, M4.1/12, mB5.1/1, mb4.1/12, Mw(mB)4.4/1*

ISC 30 18:03:37.0±0.3, 30°.27N±0°.05×94°.88E±0°.04, h35km, n157, σ1§40/150, mb4.5/41, 3C-4D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**3.29**	**261**	Pg	Pn	18 04 29.3	+2.9
LSA				Sg	Sn	18 05 11.3	+6.8
LSA	**Lhasa**	**3.29**	**261**	*e*P	Pn	18 04 28.2	+1.8
LSA				*e*		18 05 05.4	
LSA	**Lhasa**	**3.29**	**261**	*e*Pn	Pn	18 04 28.2	+1.8
LSA				*e*Sn	**Sn**	**18 05 05.4**	**+0.9**
SHL	**Shillong**	**5.38**	**210**	*e*P	Pn	18 04 56.7	+1.7
SHL				AMB	AMB	18 05 16.1	
	comp=Z,31nm,0.5s						
SHL				*ex*	x	18 12 51.0	
TAPN	**Taplejung**	**6.93**	**247**	*e*P	Pn	18 05 18.4	+2.0
	comp=Z,48nm,0.7s						
ODAN	**Odare**	**7.41**	**245**	*e*P	**Pn**	**18 05 23.9**	**+1.0**
	comp=Z,71nm,0.9s						
CD2	**Chengdu**	**7.68**	**83**	*e*Pn	**Pn**	**18 05 23.5**	**-2.9**
CD2				Sn	**Sn**	**18 06 51.8**	**-0.3**
CD2				LN			
	comp=Z,540nm,7.8s						
CD2				LE			
	comp=Z,350nm,6.8s						
CD2				LZ			
	comp=Z,400nm,6.5s						
RAMN	**Ramite**	**8.00**	**248**	*e*P	**Pn**	**18 05 31.5**	**+0.6**
	comp=Z,20nm,0.4s						
GUN	**Gumba**	**8.22**	**256**	*e*P	**Pn**	**18 05 33.1**	**-1.0**
	comp=Z,109nm,0.8s						
KMI	**Kunming**	**8.64**	**124**	P	**Pn**	**18 05 40.8**	**+1.0**
KMI				pP		18 05 44.0	
KMI				PP	**PnPn**	**18 05 46.8**	**-0.6**
KMI				sP		18 05 48.5	
KMI				S	**Sn**	**18 07 14.8**	**-1.4**
KMI				PMZ			
	comp=Z,6.0nm,1.8s						
KMI				PMZ			
	comp=Z,59nm,3.8s						
KMI				LN			
	comp=Z,380nm,4.9s						
KMI				LE			
	comp=Z,270nm,4.3s						
KMI				LZ			
	comp=Z,100nm,6.0s						
PKI	**Pulchoki**	**8.73**	**254**	*e*P	**Pn**	**18 05 40.0**	**-1.0**
	comp=Z,43nm,0.9s						
PKIN	**Phulchoki**	**8.73**	**254**	*e*P	**Pn**	**18 05 40.0**	**-1.1**
	comp=Z,22nm,0.9s						
KKN	**Kakani**	**8.76**	**256**	*e*P	**Pn**	**18 05 40.6**	**-0.8**
	comp=Z,62nm,0.9s						
DMN	**Daman**	**8.97**	**255**	*e*P	**Pn**	**18 05 42.6**	**-1.6**
	comp=Z,37nm,0.8s						
GKN	**Gorkha**	**9.24**	**258**	*e*P	**Pn**	**18 05 45.3**	**-2.6**
	comp=Z,18nm,0.4s						
LZH	**Lanzhou**	**9.49**	**50**	*e*P	Pn	18 05 54.5	+3.3
LZH				pP		18 06 00.0	
LZH				sP		18 06 03.8	
LZH				S	Sn	18 07 45.0	+8.3
LZH				PMZ			
	comp=Z,22nm,1.0s						
LZH				PMZ			
	comp=Z,65nm,4.1s						
LZH				LN			
	comp=Z,230nm,8.4s						
LZH				LE			
	comp=Z,240nm,8.2s						
LZH				LZ			
	comp=Z,230nm,10.2s						
GTA	**Gaotai**	**9.98**	**23**	*e*P	**Pn**	**18 06 00.0**	**+2.1**
GTA				pP		18 06 03.8	
GTA				sP		18 06 06.0	
GTA				S	Sn	18 07 55.5	+6.8
GTA				sS		18 08 00.3	
GTA				SS	**SnSn**	**18 08 08.5**	**+7.7**
GTA				PMZ			
	comp=Z,3.0nm,1.8s						
GTA				PMZ			
	comp=Z,28nm,4.7s						
GTA				LN			
	comp=Z,190nm,13.8s						
GTA				LE			
	comp=Z,170nm,13.1s						
GTA				LZ			
	comp=Z,230nm,14.7s						
KOLN	**Koldanda**	**10.19**	**259**	*e*P	**Pn**	**18 05 58.3**	**-2.6**
	comp=Z,77nm,0.8s						
BOK	**Bokaro**	**10.29**	**233**	*e*P	**Pn**	**18 06 02.9**	**+0.8**
BOK				AMB	AMB	18 06 35.5	
	comp=Z,17nm,2.3s						
GYA	**Guiyang**	**11.05**	**107**	*e*P	**Pn**	**18 06 11.0**	**-1.6**
GYA				pP		18 06 17.5	
GYA				S	**Sn**	**18 08 14.3**	**-0.7**
GYA				PMZ			
	comp=Z,10.0nm,1.0s						
GYA				PMZ			
	comp=Z,90nm,4.2s						
GYA				LN			
	comp=Z,430nm,12.0s						
GYA				LE			
	comp=Z,480nm,11.4s						
GYA				LZ			
	comp=Z,440nm,12.2s						
CHTO	**Chiang Mai**	**11.99**	**161**	*e*P	**Pn**	**18 06 26.0**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.2s						
CHTO	**Chiang Mai**	**11.99**	**161**	*e*Pn	**Pn**	**18 06 26.0**	**+0.6**
	comp=Z,7.5nm,1.2s						
CMAR	**Chiang Mai Arr**	**12.32**	**162**	Pn	**Pn**	**18 06 30.6**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=331,slow=13,SNR=16						
UTTA	**Uttaradit**	**13.50**	**156**	P	P	18 07 00.6	+5.9
	comp=Z,1.9nm,1.2s						
LOEI	**Loei**	**13.97**	**154**	P	P	18 07 02.5	+2.4
	comp=Z,54nm,1.1s,comp=Z,2μm						
NONG	**Nongkai**	**14.29**	**146**	P	P	18 07 07.4	+3.8
	comp=Z,239nm,1.2s						
DDI	**Dehra Dun**	**14.54**	**274**	*e*P	**Pn**	**18 06 58.7**	**-1.5**
WMQ	**Urumqi**	**14.68**	**339**	P	**P**	**18 07 05.0**	**-2.9**
WMQ				pP	P	18 07 11.0	+3.1
WMQ				sP		18 07 15.0	
WMQ	**Urumqi**	**14.68**	**339**	P	**Pn**	**18 06 59.5**	**-2.6**
WMQ				pP	P	18 07 11.0	+3.1
WMQ				sP		18 07 15.0	
WMQ				PMZ			
	comp=Z,14nm,0.8s						
WMQ				PMZ			
	comp=Z,73nm,3.8s						
WMQ				LN			
	comp=Z,120nm,5.0s						
WMQ				LE			
	comp=Z,91nm,5.3s						
PBKT	**Sadao Pong**	**14.73**	**156**	P	P	18 07 11.2	+2.8
	comp=Z,9.7nm,0.9s						
UTHA	**Uthaitani**	**15.23**	**163**	P	P	18 07 17.2	+3.2
	comp=Z,4.9nm,1.0s						
SMLA	**Simla**	**15.27**	**278**	*e*P	**Pn**	**18 07 07.8**	**-2.0**
SMLA				AMB	AMB	18 07 15.5	
	comp=Z,12nm,1.0s						
SKNT	**Sakolnakorn**	**15.63**	**146**	P	**P**	**18 07 20.4**	**+1.9**
	comp=Z,36nm,1.0s						
KHON	**Khomkaen**	**15.66**	**151**	P	**P**	**18 07 20.8**	**+2.0**
	comp=Z,6.3nm,1.0s						
DHRM	**DHARAMSHALA**	**16.02**	**282**	*e*P	**Pn**	**18 07 19.9**	**+0.1**
WHN	**Wuhan**	**16.80**	**84**	P	**Pn**	**18 07 29.0**	**-0.5**
NAYO	**Nakonayok**	**16.95**	**158**	P	P	18 07 38.0	+4.9
	comp=Z,42nm,0.7s						
BHPL	**Bhopal**	**17.08**	**250**	*e*P	**P**	**18 07 34.0**	**-0.6**
BHPL				AMB	AMB	18 07 35.1	
	comp=Z,39nm,1.0s						
HHC	**Hu-ho-hao-te**	**17.17**	**48**	*e*P	**P**	**18 07 36.5**	**+1.0**
HHC				sP	**sP**	**18 07 46.5**	**-2.6**
HHC				S	**Sn**	**18 10 47.5**	**+3.5**
HHC				PMZ			
	comp=Z,18nm,0.7s						
HHC				PMZ			
	comp=Z,44nm,4.3s						
HHC				LN			
	comp=Z,120nm,13.6s						
HHC				LE			
	comp=

QIZ				LZ					
	comp=Z,97nm,12.4s								
UBPT	**Khong Chiam**	**17.81**	**145**	P		**P**	**18 07 44.9**	**+2.3**	
	comp=Z,24nm,0.9s								
KSH	**Kashi**	**18.02**	**306**	P		**P**	**18 07 47.3**	**+2.3**	
KSH				pP		**pP**	**18 07 53.0**	**-1.1**	
KSH				PP		PnPn	18 08 03.0	+7.0	
KSH				S		**Sn**	**18 11 05.5**	**+0.8**	
KSH				SS		SnSn	18 11 33.0	+14	
KSH				PcP		**PcP**	**18 12 18.3**	**-0.1**	
KSH				PMZ					
	comp=Z,30nm,1.0s								
KSH				LN					
	comp=Z,440nm,9.5s								
KSH				LE					
	comp=Z,200nm,5.3s								
KSH				LZ					
	comp=Z,230nm,5.2s								
MK31	**Makanchi Array**	**19.18**	**333**	P		**P**	**18 07 55.5**	**-2.0**	
MK31				pmax		pmax			
	comp=Z,5.0nm,0.6s								
MK31	**Makanchi Array**	**19.18**	**333**	*e*P		**P**	**18 07 55.1**	**-2.4**	
MKAR	**Makanchi Array**	**19.18**	**333**	P		**P**	**18 07 55.8**	**-1.6**	
	comp=Z,0.4nm,0.3s,baz=136,slow=14,SNR=45								
TIA	**Tai'an**	**19.51**	**66**	*e*P		**Pn**	**18 08 02.8**	**+0.2**	
TIA				PMZ					
	comp=Z,10.0nm,1.4s								
SONM	**Songino Array**	**19.65**	**24**	P		**P**	**18 08 01.7**	**-1.1**	
	comp=Z,0.2nm,0.3s,baz=214,slow=12,SNR=41								
KZA	**Kyzart**	**19.70**	**312**	P		**Pn**	**18 08 06.6**	**+1.3**	
	SNR=9.0								
ULN	**Ulaanbaatar**	**19.91**	**25**	*e*P		**P**	**18 08 05.5**	**-0.1**	
ULN				pmax		pmax			
	comp=Z,9.0nm,1.1s								
ULN	**Ulaanbaatar**	**19.91**	**25**	*e*P		**P**	**18 08 05.5**	**-0.1**	
	comp=Z,9.4nm,1.1s								
BJI	**Beijing**	**19.91**	**55**	P		**Pn**	**18 08 05.5**	**-1.8**	
BJI				S		**Sn**	**18 11 49.3**	**-0.8**	
BJI				PMZ					
	comp=Z,9.0nm,1.6s								
BJI				PMZ					
	comp=Z,73nm,3.9s								
BJI				LN					
	comp=Z,130nm,12.3s								
BJI				LE					
	comp=Z,230nm,12.3s								
BJI				LZ					
	comp=Z,90nm,22.4s								
TKM2	**Tokmak 2**	**19.92**	**315**	P		**Pn**	**18 08 07.9**	**+0.2**	
	SNR=7.5								
TKM2	**Tokmak 2**	**19.92**	**315**	P		**Pn**	**18 08 06.0**	**-1.7**	
TKM2				pmax		pmax			
	comp=Z,13nm,1.5s								
TKM2	**Tokmak 2**	**19.92**	**315**	*e*P		**Pn**	**18 08 06.2**	**-1.5**	
	comp=Z,11nm,1.3s								
SFK	**Sufi-Kurgan**	**19.96**	**305**	P		**Pn**	**18 08 07.1**	**-1.1**	
SFK				pmax		pmax			
	comp=Z,21nm,1.2s								
KBK	**Karagaybulak**	**20.19**	**313**	P		Pn	18 08 14.1	+3.3	
	SNR=5.3								
AAK	**Ala-Archa**	**20.46**	**313**	P		Pn	18 08 13.3	-0.7	
	SNR=21								
AAK	**Ala-Archa**	**20.46**	**313**	*e*P		Pn	18 08 13.3	-0.7	
AAK				pmax		pmax			
	comp=Z,76nm,1.3s								
AAK	**Ala-Archa**	**20.46**	**313**	*e*P		Pn	18 08 13.3	-0.8	
	comp=Z,76nm,1.3s								
FRU	**Bishkek**	**20.49**	**313**	*e*P		Pn	18 08 12.0	-2.1	
FRU				pmax		pmax			
	comp=Z,50nm,1.6s								
CHMS	**Chumysh**	**20.49**	**314**	P		Pn	18 08 13.2	-0.9	
	SNR=14								
NJ2	**Nanjing**	**20.58**	**79**	*e*P		**P**	**18 08 12.3**	**-0.6**	
NJ2				PMZ					
	comp=Z,30nm,0.8s								
USP	**Ospenovka**	**20.79**	**314**	P		Pn	18 08 15.7	-1.9	
	SNR=14								
EKS2	**Erkin-Say**	**20.93**	**312**	P		Pn	18 08 18.1	-1.4	
	SNR=11								
EKS2	**Erkin-Say**	**20.93**	**312**	*e*P		**P**	**18 08 15.4**	**-1.3**	
EKS2				pmax		pmax			
	comp=Z,17nm,1.2s								
EKS2	**Erkin-Say**	**20.93**	**312**	*e*P		**P**	**18 08 15.4**	**-1.3**	
	comp=Z,17nm,1.2s								
ZAK	**Zakamensk**	**21.06**	**15**	*e*P		**P**	**18 08 17.6**	**-0.4**	
ZAK				pmax		pmax			
	comp=Z,30nm,1.4s								
MOY	**Mondy**	**21.85**	**10**	*e*P		**P**	**18 08 27.6**	**+1.1**	
MOY				pmax		pmax			
	comp=Z,28nm,2.0s								
KBL	**Kabul**	**22.21**	**288**	*e*P		**P**	**18 08 30.6**	**0.0**	
KBL				pmax		pmax			
	comp=Z,105nm,1.4s								
KBL	**Kabul**	**22.21**	**288**	*e*P		**P**	**18 08 30.6**	**0.0**	
	comp=Z,105nm,1.4s								
TLY	**Talaya**	**22.36**	**14**	P		**P**	**18 08 30.8**	**-1.0**	
	comp=Z,0.8nm,0.3s,baz=241,slow=18,SNR=2.6								
TLY	**Talaya**	**22.36**	**14**	*i* P		**P**	**18 08 30.2**	**-1.6**	
TLY	**Talaya**	**22.36**	**14**	*e*P		**P**	**18 08 30.7**	**-1.2**	
	comp=Z,8.3nm,1.2s								
POO	**Poona**	**22.40**	**243**	*e*P		**P**	**18 08 33.5**	**+1.0**	
POO				AMB		AMB	18 09 20.3		
	comp=Z,47nm,3.0s								
KK31	**Karatay Array**	**23.27**	**310**	*i* P		**P**	**18 08 41.1**	**-0.3**	
KK31				pmax		pmax			
	comp=Z,7.0nm,0.9s								
KKAR	**Karatay Array**	**23.27**	**310**	*e*P		**P**	**18 08 41.2**	**-0.2**	
KKAR	**Karatay Array**	**23.27**	**310**	*e*P		**P**	**18 08 41.2**	**-0.2**	
KURBB	**Kurchatov Arra**	**23.74**	**334**	P		**P**	**18 08 44.6**	**-1.1**	
	comp=Z,9.7nm,0.9s,baz=143,slow=10,SNR=67								
KURBB				PcP		**PcP**	**18 12 29.0**	**+0.1**	
	comp=Z,0.8nm,0.8s,baz=165,slow=1.6,SNR=4.2								
KURK	**Kurchatov**	**23.78**	**334**	P		**P**	**18 08 44.6**	**-1.5**	
KURK							18 12 29.0		
KURK	**Kurchatov**	**23.78**	**334**	P		**P**	**18 08 44.6**	**-1.5**	
KURK				PcP		**PcP**	**18 12 29.0**	**0.0**	
ZALV	**Zalesovo Beam**	**24.76**	**346**	P		**P**	**18 08 54.4**	**-0.7**	
	comp=Z,5.4nm,0.7s,baz=163,slow=8.9,SNR=25								
NVS	**Novosibirsk**	**25.94**	**345**	*i* P		**P**	**18 09 05.3**	**-0.5**	
NVS				pmax		pmax			
	comp=Z,27nm,1.4s								
NVS				pmax		pmax			
	comp=N,32nm,1.6s								
NVS				pmax		pmax			
	comp=E,14nm,1.4s								
CN2	**Changchun**	**27.71**	**52**	*e*P		**P**	**18 09 23.3**	**+1.4**	
CN2				*e*pP		**pP**	**18 09 31.8**	**-0.1**	
CN2				*e*S		**S**	**18 14 03.8**	**+2.0**	
CN2				PMZ					
	comp=E,10.0nm,1.2s								
CN2				LN					
	comp=E,300nm,20.0s								
CN2				LE					
	comp=E,200nm,20.0s								
CN2				LZ					
	comp=E,200nm,20.0s								
TJN	**Taejon**	**27.73**	**69**	*e*P		**P**	**18 09 21.4**	**-0.7**	
BVA0	**Borovoye Array**	**28.93**	**329**	*i* P		**P**	**18 09 32.7**	**+0.1**	
BVA0				pmax		pmax			
	comp=Z,50nm,2.7s								
BVAR	**Borovoye Array**	**28.93**	**329**	P		**P**	**18 09 32.4**	**-0.2**	
	comp=Z,5.6nm,0.9s,baz=125,slow=9.4,SNR=31								
BRVK	**Borovoye**	**29.00**	**329**	*e*P		**P**	**18 09 33.4**	**+0.2**	
BRVK				pmax		pmax			
	comp=Z,18nm,1.1s								
BRVK	**Borovoye**	**29.00**	**329**	*e*P		**P**	**18 09 33.4**	**+0.2**	
	comp=Z,18nm,1.1s								
GEYT	**Alibeck**	**31.24**	**294**	P		**P**	**18 09 54.3**	**+1.1**	
	comp=Z,4.2nm,0.7s,baz=108,slow=14,SNR=11								
AB31	**Akbulak array**	**32.48**	**316**	*i* P		**P**	**18 10 04.4**	**+0.4**	
AB31				pmax		pmax			
	comp=Z,1.0nm,0.4s								
ABKAR	**Akbulak array**	**32.48**	**316**	*e*P		**P**	**18 10 04.3**	**+0.3**	
AKTO	**Aktyubinsk**	**34.09**	**317**	P		**P**	**18 10 17.9**	**-0.1**	
	comp=Z,2.0nm,0.8s,baz=103,slow=8.8,SNR=8.0								
SVE	**Sverdlovsk**	**35.70**	**328**	*i* P		**P**	**18 10 33.1**	**+1.3**	
SVE				pmax		pmax			
	comp=Z,33nm,1.4s								
ARU	**Arti**	**36.46**	**326**	P		**P**	**18 10 38.2**	**-0.2**	
	comp=Z,2.9nm,0.5s,baz=131,slow=8.4,SNR=13								
ARU	**Arti**	**36.46**	**326**	*i* P		**P**	**18 10 38.5**	**+0.2**	
ARU				pmax		pmax			
	comp=Z,19nm,1.3s								
ARU	**Arti**	**36.46**	**326**	*e*P		**P**	**18 10 38.0**	**-0.4**	
	comp=Z,18nm,1.2s								
YAK	**Yakutsk**	**38.99**	**25**	*e*P		**P**	**18 11 00.2**	**+0.6**	
YAK				pmax		pmax			
	comp=Z,11nm,0.8s								
YAK	**Yakutsk**	**38.99**	**25**	*e*P		**P**	**18 10 59.8**	**+0.1**	
YSS	**Yuzh-Sakhalins**	**40.28**	**52**	*i* P		**P**	**18 11 11.8**	**+1.3**	
YSS				pmax		pmax			
	comp=Z,27nm,1.2s								
YSS	**Yuzh-Sakhalins**	**40.28**	**52**	*e*P		**P**	**18 11 11.2**	**+0.7**	
	comp=Z,22nm,1.1s								
DGRG	**David-gareji**	**41.15**	**300**	P		**P**	**18 11 19.5**	**+1.7**	
DGRG	**David-gareji**	**41.15**	**300**	*e*P		**P**	**18 11 19.5**	**+1.7**	
GNI	**Garni**	**41.66**	**298**	*ce*P		**P**	**18 11 22.6**	**+0.4**	
GNI				pmax		pmax			
	comp=Z,18nm,1.2s								
ONI	**Oni**	**42.57**	**301**	P		P	18 11 33.3	+3.8	
ONI	**Oni**	**42.57**	**301**	*e*P		P	18 11 33.3	+3.8	
GOF	**Gofitskoye**	**42.89**	**305**	*e*P		**P**	**18 11 30.8**	**-1.2**	
VRHR	**Novokhopersk**	**44.31**	**314**	*e*P		**P**	**18 11 42.8**	**-0.5**	
VRHR				pmax		pmax			
	comp=Z,20nm,1.4s								
VRHR				pmax		pmax			
	comp=N,10.0nm,0.6s								
VRHR				pmax		pmax			
	comp=E,10.0nm,0.7s								
PRGR	**Permogore**	**44.74**	**329**	P		P	18 11 42.3	-4.3	
PRGR				pmax		pmax			
	comp=Z,17nm,1.3s								
VSR	**Storozhevoye**	**45.86**	**314**	*e*P		**P**	**18 11 55.9**	**+0.3**	
VSR				pmax		pmax			
	comp=Z,20nm,1.3s								
VSR				pmax		pmax			
	comp=N,3.0nm,0.4s								
VSR				pmax		pmax			
	comp=E,30nm,1.3s								
ANN	**Anapa**	**46.88**	**305**	*e*P		**P**	**18 12 03.4**	**-0.3**	
ANN				pmax		pmax			
	comp=Z,38nm,1.3s								
MOS	**Moscow**	**47.29**	**320**	*e*P		**P**	**18 12 06.3**	**-0.4**	
MOS				pmax		pmax			
	comp=Z,42nm,1.0s								
OBN	**Obninsk**	**47.81**	**319**	*ce*P		**P**	**18 12 10.7**	**-0.1**	
OBN				*e*			18 13 44.2		
OBN				*e*			18 14 06.5		
OBN				*e*S		S	18 18 56.6	-8.4	
OBN				pmax		pmax			
	comp=Z,24nm,1.3s								
OBN				MLR		MLR			
	comp=Z,21nm,15.0s								
OBN	**Obninsk**	**47.81**	**319**	P		**P**	**18 12 09.3**	**-1.5**	
BR131	**Keskin Array S**	**50.19**	**298**	*e*P		**P**	**18 12 29.3**	**-0.2**	
	comp=Z,3.7nm,1.0s								
BRTR	**Keskin Array B**	**50.19**	**298**	P		**P**	**18 12 29.3**	**-0.2**	
	comp=Z,2.6nm,0.9s,baz=111,slow=6.8,SNR=11								
ANTO	**Ankara**	**50.81**	**299**	*e*P		**P**	**18 12 33.7**	**-0.3**	
ANTO	**Ankara**	**50.81**	**299**	*e*P		**P**	**18 12 33.7**	**-0.3**	
KIEV	**Kiev**	**52.14**	**313**	*e*P		**P**	**18 12 43.2**	**-0.6**	
KIEV				pmax		pmax			
	comp=Z,11nm,1.0s								
KIEV	**Kiev**	**52.14**	**313**	*e*P		**P**	**18 12 43.1**	**-0.6**	
	comp=Z,11nm,1.0s								
VSU	**Vasula**	**53.42**	**323**	*i* P		**P**	**18 12 54.5**	**+1.5**	
VSU				pmax		pmax			
	comp=Z,38nm,0.9s								
FINES	**FINESS Array B**	**53.83**	**326**	P		**P**	**18 12 55.7**	**-0.3**	
	comp=Z,1.5nm,0.5s,baz=88,slow=7.9,SNR=12								
LVV	**L'vov**	**55.53**	**312**	*e*P		**P**	**18 13 07.9**	**-0.7**	
OJC	**Ojcow**	**58.17**	**313**	*e*P		**P**	**18 13 28.7**	**+1.4**	
OJC	**Ojcow**	**58.17**	**313**	*e*P		**P**	**18 13 28.6**	**+1.4**	
AGG	**Agios Georgios**	**58.90**	**300**	*e*P		**P**	**18 13 31.7**	**-0.9**	
AGG	**Agios Georgios**	**58.90**	**300**	*e*P		**P**	**18 13 31.7**	**-0.9**	
MORC	**Moravsky Berou**	**59.68**	**313**	*e*P		**P**	**18 13 39.5**	**+1.7**	
MORC	**Moravsky Berou**	**59.68**	**313**	*e*P		**P**	**18 13 39.5**	**+1.7**	
SMY	**Shemya**	**60.23**	**43**	*e*P		**P**	**18 13 39.3**	**-2.1**	
SMY	**Shemya**	**60.23**	**43**	*e*P		**P**	**18 13 39.3**	**-2.1**	
NB2	**NORSAR Subarra**	**61.02**	**326**	P		**P**	**18 13 45.4**	**-1.3**	
	comp=Z,1.2nm,0.7s,baz=81,slow=6.9								
NOA	**NORSAR Array B**	**61.02**	**326**	P		**P**	**18 13 45.5**	**-1.2**	
	comp=Z,3.4nm,1.0s,baz=80,slow=6.8,SNR=7.2								
BRG	**Berggiesshubel**	**61.68**	**315**	*e*(P)		**P**	**18 13 52.5**	**+1.1**	
	comp=Z,3.3nm,0.8s								
BRG	**Berggiesshubel**	**61.68**	**315**	*e*P		**P**	**18 13 52.5**	**+1.1**	
BRG				pmax		pmax			
	comp=Z,3.0nm,0.8s								
CLL	**Collm**	**62.15**	**315**	*e*P		**P**	**18 13 56.0**	**+1.5**	
CLL	**Collm**	**62.15**	**315**	*e*P		**P**	**18 13 56.0**	**+1.5**	
CLL				*e*PPP		PPP	18 17 42.0		
GERES	**GERESS Array B**	**62.34**	**313**	P		**P**	**18 13 55.8**	**-0.2**	
	comp=Z,1.2nm,0.8s,baz=68,slow=7.4,SNR=10								
WRA	**Warramunga Arr**	**62.72**	**138**	P		**P**	**18 13 58.9**	**+0.2**	
	comp=Z,1.5nm,0.8s,baz=326,slow=7.1,SNR=8.9								
WRAB	**Tennant Creek**	**62.72**	**138**	*i* P		**P**	**18 13 59.5**	**+0.9**	
WRAB				pmax		pmax			
	comp=Z,3.0nm,0.7s								
WRAB	**Tennant Creek**	**62.72**	**138**	*e*P		**P**	**18 13 58.0**	**-0.6**	
	comp=Z,2.2nm,0.8s								
TIP	**Timpagrande**	**63.00**	**301**	P		P	18 14 04.1	+3.6	
ASAR	**Alice Springs**	**65.41**	**141**	P		**P**	**18 14 16.6**	**+0.4**	
	comp=Z,1.4nm,0.6s,baz=324,slow=6.2,SNR=37								
COLA	**College**	**73.48**	**23**	*i* P		**P**	**18 15 06.4**	**+0.9**	
COLA				pmax		pmax			
	comp=Z,25nm,1.0s								
COLA	**College**	**73.48**	**23**	P		**P**	**18 15 06.2**	**+0.7**	
ILAR	**Eielson Array**	**73.87**	**23**	P		**P**	**18 15 08.1**	**+0.2**	
	comp=Z,1.7nm,1.0s,baz=294,slow=5.2,SNR=14								
INK	**Inuvik**	**75.40**	**17**	P		**P**	**18 15 16.2**	**-0.4**	
	comp=Z,7.0nm,1.1s,baz=29,slow=5.1,SNR=4.6								
EGAK	**Eagle**	**75.75**	**22**	*e*P		**P**	**18 15 20.0**	**+1.2**	
ESDC	**Sonseca Array**	**77.51**	**309**	P		**P**	**18 15 29.1**	**-0.1**	
	comp=Z,0.6nm,0.7s,baz=53,slow=5.9,SNR=7.0								
LSZ	**Lusaka**	**78.52**	**245**	*e*P		**P**	**18 15 34.5**	**-0.7**	
LSZ				pmax		pmax			
	comp=Z,27nm,1.8s								
LSZ	**Lusaka**	**78.52**	**245**	*e*P		**P**	**18 15 34.5**	**-0.7**	
	comp=Z,27nm,1.8s								
LBTB	**Lobatse**	**86.17**	**238**	*e*P		**P**	**18 16 15.3**	**+0.3**	
LBTB				pmax		pmax			
	comp=Z,9.0nm,0.9s								
LBTB	**Lobatse**	**86.17**	**238**	*e*P		**P**	**18 16 15.2**	**+0.3**	
	comp=Z,9.0nm,0.9s								
TOA0	**Torodi Ar. Sit**	**86.19**	**283**	*e*P		**P**	**18 16 15.7**	**+0.5**	
TORD	**Torodi Ar. Bea**	**86.19**	**283**	P		**P**	**18 16 15.3**	**+0.1**	
	comp=Z,53nm,1.1s,baz=53,slow=2.9,SNR=11								
SNAA	**Sanae**	**120.83**	**201**	*i* PKIKP		**PKPdf**	**18 22 23.8**	**-0.7**	
OTAV	**Otavalo**	**149.00**	**347**	*e*PKPbc		**PKPbc**	**18 23 22.6**	**-0.1**	
SAML	**Samuel**	**150.50**	**311**	*e*PKPbc		**PKPbc**	**18 23 25.5**	**-0.1**	

*ISK **30** 18:07:01.4,38°.32N×41°.03E,h5km,MD3.2*
*DDA **30** 18:07:01.7,38°.32N×41°.02E,h26km,MD3.2*
*CSEM **30** 18:07:02.1±0.2,38°.31N×41°.04E,h2km,MD3.2,Error ellipse: s-maj=5.6km s-min=3.9km az=171.0*
ISC 30 18:07:01.9±1.1,38°.31N±0°.02×41°.01E±0°.02,h1km±10km, n55,σ1§11/74,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
SVAN	**Silvan-Diyarba**	**0.22**	**138**	*e*PG	**Pg**	**18 07 06.5**	**+0.4**	
SVAN				*e*SG	**Sg**	**18 07 09.6**	**+0.6**	
BTMT	**Batman**	**0.40**	**108**	*e*PG	**Pg**	**18 07 09.7**	**+0.2**	
BTMT	**Batman**	**0.40**	**108**	*e*Pg	**Pg**	**18 07 09.7**	**+0.2**	
BNGL	**BINGOL**	**0.65**	**10**	*i* P	**Pg**	**18 07 13.7**	**-0.7**	
BNGL				*i* S	**Sb**	**18 07 24.1**	**-1.6**	
BINT	**Bingol**	**0.69**	**324**	*e*Pg	**Pg**	**18 07 15.1**	**-0.2**	
BNGB	**Bing¯‖l**	**0.72**	**339**	*e*PG	**Pg**	**18 07 15.1**	**-0.7**	
DIY	**Diyarbakir**	**0.75**	**236**	*e*Pg	**Pb**	**18 07 17.5**	**-0.2**	
DYBB	**Diyarbakir**	**0.78**	**243**	*e*PG	**Pg**	**18 07 17.5**	**+0.7**	
DIYA	**Diyarbakir**	**0.80**	**241**	*i* P	**Pg**	**18 07 17.7**	**+0.4**	
DIYA				*i* S	**Sb**	**18 07 30.5**	**+0.5**	
DIYA	**Diyarbakir**	**0.80**	**241**	*i* P	**Pg**	**18 07 17.7**	**+0.4**	
DIYA				*i* S	**Sb**	**18 07 30.5**	**+0.5**	
VRTB	**Varto-Mus**	**0.91**	**22**	*e*PG	**Pg**	**18 07 18.8**	**-0.7**	
VRTB	**Varto-Mus**	**0.91**	**22**	*e*Pg	**Pg**	**18 07 18.8**	**-0.7**	
MAZI	**Mazidag**	**0.96**	**208**	*e*PG	**Pg**	**18 07 20.2**	**-0.2**	
MAZI	**Mazidag**	**0.96**	**208**	*e*Pg	**Pg**	**18 07 20.2**	**-0.2**	
TATV	**Tatvan**	**1.01**	**78**	*i* P	**Pg**	**18 07 20.5**	**-0.7**	
TATV				*i* S	**Sn**	**18 07 37.5**	**-0.7**	
TATV	**Tatvan**	**1.01**	**78**	*i* P	**Pg**	**18 07 20.5**	**-0.7**	
TATV				*i* S	**Sn**	**18 07 37.5**	**-0.7**	
MARD	**Mardin**	**1.01**	**190**	*i* P	**Pg**	**18 07 21.5**	**+0.2**	
MARD				*i* S	**Sb**	**18 07 36.1**	**-0.1**	
EKAR	**Karacoban**	**1.25**	**41**	*i* P	**Pn**	**18 07 28.0**	**+1.3**	
EKAR				*i* S	**Sn**	**18 07 48.8**	**+4.5**	
EKAR	**Karacoban**	**1.25**	**41**	*i* P	**Pn**	**18 07 28.0**	**+1.3**	
SVRC	**Sivrice-ELAZID**	**1.34**	**273**	*e*PN	**Pn**	**18 07 26.9**	**-1.0**	
SVRC	**Sivrice-ELAZID**	**1.34**	**273**	*e*Pn	**Pn**	**18 07 26.9**	**-1.0**	
SIRN	**S¯–rnak**	**1.38**	**126**	*i* P	**Pn**	**18 07 27.0**	**-1.3**	
SIRN				*i* S	**Sn**	**18 07 46.2**	**-1.0**	
SIRN	**S¯–rnak**	**1.38**	**126**	*i* P	**Pn**	**18 07 27.0**	**-1.3**	
SIRN				*i* S	**Sn**	**18 07 46.2**	**-1.0**	
ELZG	**Elazig**	**1.60**	**277**	*i* P	**Pn**	**18 07 30.6**	**-0.9**	
ELZG				*i* S	**Sg**	**18 07 54.1**	**+0.7**	
ELZG	**Elazig**	**1.60**	**277**	*i* P	**Pn**	**18 07 30.6**	**-0.9**	
ELZG				*i* S	**Sg**	**18 07 54.1**	**+0.7**	
GEVA	**Gevas**	**1.61**	**89**	*i* P	**Pn**	**18 07 31.1**	**-0.5**	
GEVA				*i* S	**Sg**	**18 07 56.2**	**+2.5**	
GEVA	**Gevas**	**1.61**	**89**	*i* P	**Pn**	**18 07 31.1**	**-0.5**	
GEVA				*i* S	**Sg**	**18 07 56.2**	**+2.5**	
EZM	**Erzurum**	**1.61**	**10**	*e*PN	**Pb**	**18 07 32.2**	**-0.5**	
ERZN	**Erzincan**	**1.62**	**322**	*e*PN	**Pb**	**18 07 31.9**	**-0.8**	
URFA	**Urfa**	**1.94**	**244**	*e*PN	**Pb**	**18 07 36.8**	**-1.3**	
URFA	**Urfa**	**1.94**	**244**	*e*Pn	**Pb**	**18 07 36.8**	**-1.3**	
AGRB	**Hanur-Agry**	**1.99**	**50**	*e*PN	**Pn**	**18 07 36.8**	**-0.1**	
AGRB	**Hanur-Agry**	**1.99**	**50**	*e*Pn	**Pn**	**18 07 36.8**	**-0.1**	
MALT	**Malatya**	**2.03**	**271**	*e*PN	**Pn**	**18 07 36.9**	**-0.4**	
MALT	**Malatya**	**2.03**	**271**	*e*Pn	**Pn**	**18 07 36.9**	**-0.4**	
BAYT	**Ayd¯–ntepe-Bay**	**2.18**	**342**	*e*PN	**Pn**	**18 07 39.8**	**+0.3**	
BAYT	**Ayd¯–ntepe-Bay**	**2.18**	**342**	*e*Pn	**Pn**	**18 07 39.8**	**+0.3**	
KEMA	**Kemaliye**	**2.19**	**297**	*i* P	**Pb**	**18 07 41.5**	**-0.8**	
KEMA				*i* S	**Sn**	**18 08 08.1**	**+0.9**	
KEMA	**Kemaliye**	**2.19**	**297**	*i* P	**Pb**	**18 07 41.5**	**-0.8**	
KEMA				*i* S	**Sn**	**18 08 08.1**	**+0.9**	
HAKT	**HAKKARI**	**2.26**	**109**	*i* P	**Pn**	**18 07 40.1**	**-0.5**	
HAKT				*i* S	**Sb**	**18 08 10.7**	**-1.5**	
HAKT	**HAKKARI**	**2.26**	**109**	*i* P	**Pn**	**18 07 40.1**	**-0.5**	
HKR	**Hakkari**	**2.28**	**108**	*e*PN	**Pn**	**18 07 41.2**	**+0.4**	
HKR	**Hakkari**	**2.28**	**108**	*e*Pn	**Pn**	**18 07 41.2**	**+0.4**	
CUKT	**Cukurca**	**2.32**	**117**	*e*PN	**Pn**	**18 07 41.4**	**+0.1**	
CUKT	**Cukurca**	**2.32**	**117**	*e*Pn	**Pn**	**18 07 41.4**	**+0.1**	
AKCD	**Akcadag**	**2.43**	**271**	*i* P	**Pn**	**18 07 42.3**	**-0.5**	
AKCD				*i* S	**Sg**	**18 08 18.8**	**-1.2**	
AKCD	**Akcadag**	**2.43**	**271**	*i* P	**Pn**	**18 07 42.3**	**-0.5**	
AKCD				*i* S	**Sg**	**18 08 18.8**	**-1.2**	
BCA	**Borcka**	**3.16**	**8**	*e*PN	**Pn**	**18 07 53.7**	**+0.9**	
BCA	**Borcka**	**3.16**	**8**	*e*Pn	**Pn**	**18 07 53.7**	**+0.9**	
KMRS	**Kahramanmaras**	**3.35**	**257**	*e*PN	**Pn**	**18 07 56.2**	**+0.8**	
KMRS	**Kahramanmaras**	**3.35**	**257**	*e*Pn	**Pn**	**18 07 56.2**	**+0.8**	
KOZT	**Kozan**	**4.18**	**260**	*e*PN	**Pn**	**18 08 09.1**	**+2.2**	
KOZT	**Kozan**	**4.18**	**260**	*e*Pn	**Pn**	**18 08 09.1**	**+2.2**	
TAHT	**Tahtakopru-Hat**	**4.30**	**245**	*e*PN	**Pn**	**18 08 09.8**	**+1.3**	
TAHT	**Tahtakopru-Hat**	**4.30**	**245**	*e*Pn	**Pn**	**18 08 09.8**	**+1.3**	

*ISCJB **30** 18:08:44.6±1.9,24°.1S±0°.5×179°.9E±0°.3,h518km,mb3.5/5, Error ellipse: s-maj=67.9km s-min=27.9km az=158.8*
*IDC **30** 18:08:44.2±10.0,24°.1OS×179°.99W,h504km±117km, mb3.1/5,mb1 3.4/5,mb1mx3.0/25,mbtmp4.0/5,Error ellipse: s-maj=61.3km s-min=47.2km az=164.0*
ISC 30 18:08:45.2±2.0,24°.2S±0°.5×180°.0E±0°.3,h518km,n6, σ0§28/6,mb3.4/5,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
ASAR	**Alice Springs**	**41.99**	**261**	P	**P**	**18 15 51.0**		**0.0**
	1.0nm,0.5s,baz=95,slow=6.9,SNR=28							
WRA	**Warramunga Arr**	**42.38**	**266**	P	**P**	**18 15 54.1**		**0.0**
	2.6nm,0.5s,baz=103,slow=8.2,SNR=13							
MJAR	**Matsushiro Arr**	**72.10**	**326**	P	**P**	**18 19 16.7**		**-0.2**
	0.9nm,0.7s,baz=163,sl

comp=N,5.7nm,0.3s,baz=286,slow=3.3,SNR=48
URZ S S 18 26 37.7 -11
comp=N,2.5nm,0.3s,baz=108,slow=17,SNR=9.3
URZ Urewera 17.62 197 PN **P** **18 23 31.8 -2.0**
URZ *e*SN S 18 26 34.0 -15
URZ Urewera 17.62 197 *e*P **P** **18 23 32.6 -1.2**
comp=N,33nm,1.1s
URZ *e*Sn S 18 26 37.2 -12
BKZ Black Stump Fm 18.64 198 PN **P** **18 23 43.6 -1.4**
BKZ Black Stump Fm 18.64 198 *e*P **P** **18 23 44.2 -0.8**
comp=N,13nm,0.4s
MCHZ McNeill Hill 18.84 197 PN **P** **18 23 46.5 -0.7**
BHHZ Black Hill Sta 19.06 198 PN **P** **18 23 47.5 -2.1**
BHHZ SN S 18 27 08.3 -9.1
KAHZ Kahuranaki 19.12 196 PN **P** **18 23 49.5 -0.7**
PXZ Pawanui 19.34 196 PN **P** **18 23 51.4 -1.2**
PXZ *e*SN S 18 27 09.0 -14
TSZ Takapari Road 19.61 198 PN **P** **18 23 53.2 -2.3**
TSZ SN S 18 27 18.1 -10
BFZ Birch Farm 20.11 197 PN **P** **18 23 59.9 -1.0**
BFZ SN S 18 27 28.9 -9.2
MRZ Mangatainoka R 20.28 198 PN **P** **18 23 59.9 -2.8**
MRZ *e*SN S 18 27 29.0 -12
CAW Cannon Point 20.84 199 PN **P** **18 24 07.2 -1.5**
SNZO South Karori 21.14 199 *e*P **P** **18 24 11.2 -0.6**
SNZO *e*S **S** **18 27 52.5 -5.2**
TCW Tory Channel 21.18 200 PN **P** **18 24 09.2 -3.1**
QRZ Quartz Range 21.45 204 PN **P** **18 24 13.5 -1.6**
NNZ Nelson 21.49 202 PN **P** **18 24 12.3 -3.3**
THZ Tophouse 22.13 202 PN **P** **18 24 19.8 -2.5**
KHZ Kahutara 22.51 200 PN **P** **18 24 24.2 -1.6**
KHZ Kahutara 22.51 200 *e*P **P** **18 24 25.0 -0.7**
comp=N,54nm,1.2s
KHZ *e*S **S** **18 28 21.5 +0.8**
DSZ Denniston Nort 22.52 204 *e*PN **P** **18 24 26.0 0.0**
LTZ Lake Taylor 23.25 202 PN **P** **18 24 33.5 +0.8**
OXZ Oxford 23.81 201 PN **P** **18 24 38.7 +0.9**
MQZ McQueen's Vall 23.95 200 PN **P** **18 24 40.3 +1.3**
WVZ Waitaha Valley 24.06 204 *e*PN **P** **18 24 40.0 0.0**
RPZ Rata Peaks 24.50 203 P **P** **18 24 44.3 +0.3**
comp=N,25nm,0.4s,baz=14,slow=1.5,SNR=34
RPZ Rata Peaks 24.50 203 PN **P** **18 24 45.1 +1.1**
RPZ Rata Peaks 24.50 203 *e*P **P** **18 24 45.1 +1.1**
comp=N,434nm,2.3s
TBI Tubuai 24.83 99 *e*LR LR 18 30 44.4
comp=N,138nm,40.0s
FOZ Fox Glacier 24.88 205 PN **P** **18 24 46.1 -1.2**
PAE Paea 25.42 86 *e*T T 18 50 08.0
comp=N,6.1nm,0.2s
PPT2 Papeete2 25.44 86 *e*LR LR 18 31 17.2
comp=N,183nm,26.0s
ARMA Armidale 30.10 246 ⇓P **P** **18 25 35.9 +1.6**
baz=30,SNR=8.9
ARMA Armidale 30.10 246 *e*P **P** **18 25 36.4 +2.0**
comp=N,46nm,1.3s
EIDS Eidsvold 30.16 256 P **P** **18 25 36.1 +1.5**
baz=30,SNR=6.6
EIDS Eidsvold 30.16 256⇓ *e*P **P** **18 25 35.4 +0.7**
comp=N,38nm,0.9s
RMQ Roma 32.26 254 P **P** **18 25 55.5 +2.3**
baz=32,SNR=77
CNB Canberra Magne 33.02 238 P **P** **18 26 01.4 +1.6**
baz=33,SNR=9.2
CAN Canberra 33.31 238 *e*P **P** **18 26 03.0 +0.8**
CAN pmax pmax
comp=Z,18nm,0.9s
CAN Canberra 33.31 238 ⇓P **P** **18 26 03.4 +1.2**
baz=34
CAN Canberra 33.31 238 *e*P **P** **18 26 03.0 +0.8**
comp=Z,18nm,0.9s
YNG Young 33.54 240 P **P** **18 26 05.8 +1.5**
baz=34,SNR=6.1
CTA Charters Tower 35.01 265 P **P** **18 26 17.4 +0.4**
comp=Z,24nm,0.7s,baz=97,slow=11,SNR=45
CTA Charters Tower 35.01 265 ⇓P **P** **18 26 17.5 +0.4**
baz=35
CTAO Charters Tower 35.01 265 *e*P **P** **18 26 17.3 +0.2**
CTAO *e* 18 27 34.0
CTAO pmax pmax
comp=Z,35nm,0.8s
CTAO Charters Tower 35.01 265 *e*P **P** **18 26 17.3 +0.2**
comp=Z,35nm,0.8s
CTAO *e*PP **PP** **18 27 34.0 -5.7**
CMSA Cobar Meteorol 35.31 246 P **P** **18 26 20.4 +1.0**
baz=36,SNR=41
QLP Quilpie 36.32 254 P **P** **18 26 28.7 +0.6**
baz=36,SNR=52
TOO Toolangi 36.62 236 P **P** **18 26 31.3 +0.7**
baz=37,SNR=9.7
TAU Tasmania Unive 37.05 226 *e*P **P** **18 26 35.5 +1.4**
TAU pmax pmax
comp=Z,44nm,1.2s
TAU Tasmania Unive 37.05 226 *e*P **P** **18 26 35.5 +1.4**
comp=Z,44nm,1.2s
PMG Port Moresby 37.16 283 P **P** **18 26 35.8 +0.5**
comp=Z,133nm,0.9s,baz=102,slow=8.7,SNR=25
PMG Port Moresby 37.16 283 P **P** **18 26 35.8 +0.5**
PMG pmax pmax
comp=Z,133nm,0.9s
PMG Port Moresby 37.16 283 ⇑P **P** **18 26 35.8 +0.5**
baz=37
PMG ⇑P **P** **18 26 35.8 +0.5**
baz=37
PMG ⇑P **P** **18 26 35.8 +0.5**
baz=37
PMG Port Moresby 37.16 283 *e*P **P** **18 26 35.6 +0.3**
comp=Z,602nm,0.9s
MTSU Mount Surprise 37.17 268 P **P** **18 26 36.4 +1.0**
baz=37,SNR=14
STKA Stephens Creek 38.82 246 P **P** **18 26 49.5 +0.4**
comp=Z,23nm,0.9s,baz=90,slow=9.7,SNR=19
STKA LR LR 18 40 53.1
comp=Z,56nm,18.3s,baz=28,slow=33
STKA Stephens Creek 38.82 246 P **P** **18 26 49.5 +0.4**
STKA pmax pmax
comp=Z,23nm,1.0s
STKA MLR MLR
comp=Z,56nm,18.3s
STKA Stephens Creek 38.82 246 *e*P **P** **18 26 49.4 +0.4**
comp=Z,5.4nm,0.9s
COEN Coen 39.27 274 P **P** **18 26 54.2 +1.2**
baz=39,SNR=9.2
COEN Coen 39.27 274 *e*P **P** **18 26 53.5 +0.5**
comp=Z,39nm,0.9s
ARPS Mount Arapiles 39.28 238 P **P** **18 26 53.4 +0.6**
baz=40,SNR=5.3
HTT Hallett 41.20 243 P **P** **18 27 09.0 +0.3**
baz=41,SNR=10
BBOO Buckleboo 43.55 245 P **P** **18 27 27.4 -0.3**
baz=44,SNR=13
BBOO Buckleboo 43.55 245 *e*P **P** **18 27 27.0 -0.7**
comp=Z,37nm,1.0s
ASAR Alice Springs 45.87 257 P **P** **18 27 46.2 0.0**
comp=Z,43nm,0.8s,baz=89,slow=8.3,SNR=248
ASAR PcP **PcP** **18 29 21.4 +0.6**
comp=Z,6.9nm,0.9s,baz=97,slow=3.9,SNR=12
ASAR ScP **ScP** **18 33 01.6 +2.5**
comp=Z,0.6nm,0.8s,baz=107,slow=4.5,SNR=5.6
ASAR S **S** **18 34 14.6 -4.1**
comp=Z,0.5nm,0.9s,baz=100,slow=15,SNR=3.3
JAY Jayapura 45.91 288 P **P** **18 27 46.2 -0.4**
comp=Z,104nm,0.8s
JAY Jayapura 45.91 288 P **P** **18 27 46.9 +0.3**
baz=46,SNR=22
WRAB Tennant Creek 46.06 263 P **P** **18 27 47.2 -0.5**
comp=Z,190nm,0.9s,SNR=13
WRAB Tennant Creek 46.06 263 *e*P **P** **18 27 46.8 -0.9**
WRAB *e* 18 29 22.2
WRAB *e* 18 29 42.1
WRAB pmax pmax
comp=Z,28nm,1.0s
WRAB Tennant Creek 46.06 263 *e*P **P** **18 27 46.8 -0.9**
comp=Z,28nm,1.0s
WRAB *e*PcP **PcP** **18 29 22.2 +0.7**
WRAB *e*PP **PP** **18 29 42.1 +3.5**
WRA Warramunga Arr 46.07 263 P **P** **18 27 47.0 -0.7**
comp=Z,11nm,0.7s,baz=96,slow=7.9,SNR=82
WRA PcP **PcP** **18 29 21.9 +0.4**
comp=Z,4.5nm,0.8s,baz=93,slow=3.6,SNR=7.7
WRA ScP **ScP** **18 33 01.6 +1.7**
comp=Z,0.5nm,0.4s,baz=94,slow=3.6,SNR=7.5
GENI Genyem 46.35 288 P **P** **18 27 50.2 +0.2**
KDU Kakadu 49.59 271 P **P** **18 28 14.3 -0.6**
baz=50,SNR=8.0
FORT Forrest 50.38 247 P **P** **18 28 21.8 +1.1**
baz=51,SNR=14
FORT Forrest 50.38 247 *e*P **P** **18 28 19.9 -0.8**
comp=Z,87nm,0.7s
BAKI Biak 50.59 287 P **P** **18 28 22.6 +0.2**
comp=Z,126nm,1.0s,comp=Z,1μm
WRKA Warakurna 50.75 255 P **P** **18 28 23.3 -0.3**
baz=51,SNR=85
MTN Manton Dam 50.80 271 P **P** **18 28 23.0 -0.9**
baz=51,SNR=8.8
GUMO Guam 51.71 309 P **P** **18 28 30.0 -0.7**
GUMO Guam 51.71 309 P **P** **18 28 30.0 -0.7**
KNRA Kununurra 52.21 267 P **P** **18 28 34.2 -0.2**
baz=52,SNR=23
FAKI Fak Fak 53.31 283 P **P** **18 28 42.4 -0.2**
FAKI Fak Fak 53.31 283 P **P** **18 28 42.3 -0.2**
baz=53,SNR=3.5
FAKI Fak Fak 53.31 283 *e*P **P** **18 28 42.4 -0.2**
comp=Z,35nm,1.0s
BNDI Bandanaira 54.81 280 P **P** **18 28 50.2 -3.2**
comp=Z,142nm,1.2s
SIJI Sorong 55.07 285 LR LR 18 51 30.5
comp=Z,47nm,18.1s,baz=72,slow=35
SWI Sorong 55.08 285 P **P** **18 28 55.3 0.0**
comp=Z,232nm,0.9s,comp=Z,2μm
SWI Sorong 55.08 285 P **P** **18 28 55.6 +0.3**
baz=55,SNR=13
KMBL Kambalda 55.62 246 ⇑P **P** **18 28 59.0 0.0**
baz=56
PALU Palau 56.20 295 ⇓P **P** **18 29 03.9 +0.7**
baz=56
AAI Ambon 56.70 280 P **P** **18 29 09.2 +2.3**
comp=Z,56nm,1.0s,comp=Z,731nm
SBA Scott Base 56.95 184 *e*P P 18 29 12.0 +4.3
SBA pmax pmax
comp=Z,6.0nm,1.0s
SBA Scott Base 56.95 184 *e*P P 18 29 12.0 +4.3
comp=Z,6.2nm,1.0s
VNDA Vanda 57.03 186 P **P** **18 29 09.2 +1.0**
comp=Z,1.0nm,0.9s,baz=72,slow=6.7,SNR=6.5
VNDA Vanda 57.03 186 *e*P **P** **18 29 11.1 +2.9**
VNDA pmax pmax
comp=Z,2.0nm,0.8s
VNDA Vanda 57.03 186 *e*P **P** **18 29 11.1 +2.9**
comp=Z,1.5nm,0.8s
NLAI Namlea 57.88 280 P **P** **18 29 15.7 +0.5**
comp=Z,40nm,1.4s,comp=Z,647nm
SOEI Soe 58.15 272 P **P** **18 29 17.0 -0.2**
comp=Z,61nm,1.2s
SOEI Soe 58.15 272 ⇓P **P** **18 29 18.0 +0.8**
baz=58,SNR=4.4
SOEI Soe 58.15 272 *e*P **P** **18 29 17.7 +0.4**
comp=Z,91nm,1.3s
LBMI Labuha 58.57 283 P **P** **18 29 20.7 +0.7**
comp=Z,63nm,1.1s,comp=Z,686nm
MBWA Marble Bar 59.21 258 *e*P **P** **18 29 23.2 -1.1**
comp=Z,19nm,0.8s
TNTI Ternate 59.29 284 P **P** **18 29 25.8 +0.9**
comp=Z,117nm,1.2s,comp=Z,1μm
TNTI Ternate 59.29 284 *e*P **P** **18 29 24.3 -0.6**
comp=Z,137nm,1.1s
SANI Sanana 59.37 281 P **P** **18 29 25.4 -0.1**
comp=Z,43nm,1.1s
BLDU Ballidu 60.12 246 P **P** **18 29 30.0 -0.4**
baz=60,SNR=8.5
MORW Morawa 60.94 248 P **P** **18 29 35.7 -0.3**
baz=61,SNR=7.5
CASY Casey 63.73 206⇓ *e*P **P** **18 29 55.3 +1.5**
comp=Z,18nm,0.9s
QSPA South Pole Qui 68.53 180 P **P** **18 30 25.4 +0.7**
comp=Z,4.3nm,0.6s,baz=4.0,slow=2.4,SNR=31
QSPA South Pole Qui 68.53 180 *e*P **P** **18 30 26.4 +1.7**
comp=Z,29nm,1.0s
KKM Kota Kinabalu 71.59 284 P **P** **18 30 43.8 -0.3**
comp=Z,34nm,1.2s
MJAR Matsushiro Arr 72.01 323 P **P** **18 30 45.0 -1.0**
comp=Z,6.4nm,0.9s,baz=165,slow=5.9,SNR=11
MJAR LR LR 18 57 50.9
comp=Z,13nm,21.9s,baz=120,slow=32
MJAR Matsushiro Arr 72.01 323 P **P** **18 30 45.0 -1.0**
MAJO Matsushiro 72.01 323 *c i*P **P** **18 30 44.6 -1.4**
MAJO pmax pmax
comp=Z,36nm,0.9s
MAJO Matsushiro 72.01 323 *e*P **P** **18 30 45.3 -0.7**
MAT Matsushiro 72.01 323 P **P** **18 30 44.8 -1.2**
PIP Pasuquin 73.39 298⇓ *i*P P 18 30 57.9 +3.4
PIP *e*S PcP 18 31 03.5 -6.4
ERM Erimo 73.53 330⇑ *i*P **P** **18 30 54.7 -0.1**
ERM pmax pmax
comp=Z,15nm,0.9s
LEM Lembang 74.64 269 LR LR 19 05 55.6
comp=Z,43nm,19.1s,baz=194,slow=37
KSM Kuching 75.16 278 *e*P **P** **18 31 04.5 -0.4**
comp=Z,12nm,0.9s
ASAJ Asahikawa 75.42 331 P **P** **18 31 06.1 +0.5**
baz=228,slow=12
ASAJ Asahikawa 75.42 331 *e*P **P** **18 31 05.8 +0.1**
comp=Z,11nm,1.0s
SSLB Suanglung 75.90 303 *e*P **P** **18 31 07.9 -1.0**
TPUB Ta-pu 75.90 302 *e*P **P** **18 31 06.8 -2.1**
comp=Z,37nm,1.0s
PET Petropavlovsk 77.38 345 *i* P **P** **18 31 15.5 -1.0**
PET pmax pmax
comp=Z,36nm,1.7s
YSS Yuzh-Sakhalins 77.55 333 *e*P **P** **18 31 17.0 -0.6**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS Yuzh-Sakhalins 77.55 333 *e*P **P** **18 31 16.8 -0.8**
PETK Petropavlovsk- 77.70 344 P **P** **18 31 17.6 -0.7**
comp=Z,17nm,1.0s,baz=134,slow=8.5,SNR=6.8
HWB Hans Werner Br 78.39 48 *e*P **P** **18 31 24.3 +1.7**
MONP Monument Peak 78.68 48 P **P** **18 31 25.1 +0.7**
baz=79
KSRS Korea Array 78.74 318 P **P** **18 31 24.5 +0.2**
comp=Z,2.7nm,1.0s,baz=139,slow=6.5,SNR=8.9
KSRS LR LR 19 00 34.8
comp=Z,13nm,21.8s,baz=146,slow=31
KSRS Korea Array 78.74 318 P **P** **18 31 24.5 +0.2**
KSRS pmax pmax
KSRS comp=Z,3.0nm,1.0s MLR MLR
comp=Z,13nm,21.8s
KSAR Wonju Array Be 78.76 318 P **P** **18 31 24.5 +0.1**
KSAR Wonju Array Be 78.76 318 P **P** **18 31 24.5 +0.1**
EDW2 Edwards Air Fo 78.77 45 P **P** **18 31 25.4 +0.7**
baz=79
IBP Imperial Bould 78.78 48 P **P** **18 31 25.6 +0.8**
baz=79
ISA Isabella 78.92 45 *e*P **P** **18 31 26.2 +0.7**
ISA *e*PP **pP** **18 32 03.5 -1.1**
ISA Isabella 78.92 45 P **P** **18 31 25.9 +0.4**
baz=79
ISA Isabella 78.92 45 *e*P **P** **18 31 26.2 +0.7**
ISA *e*pP **pP** **18 32 03.5 -1.1**
CMB Columbia Colle 79.14 42 *e*P **P** **18 31 27.0 +0.4**
CMB Columbia Colle 79.14 42 *e*P **P** **18 31 26.9 +0.4**
BELC Belle Mtn. Jos 79.61 47 P **P** **18 31 29.1 -0.2**
baz=80
N02D Trinity Center 79.61 38 P **P** **18 31 30.1 +0.9**
baz=80
PMSA Palmer Station 79.69 156 *e*P **P** **18 31 30.3 +1.2**
comp=Z,8.3nm,1.0s
MPMC Maual Prospec 79.80 45 P **P** **18 31 31.0 +0.6**
baz=80
M02C Callahan 79.80 38 P **P** **18 31 30.7 +0.5**
baz=80
GSC Goldstone 79.81 46 *e*P **P** **18 31 31.1 +0.8**
GSC Goldstone 79.81 46 *e*P **P** **18 31 31.1 +0.8**
WAKR Walker 80.02 42 *e*P **P** **18 31 31.9 +0.3**
WAKR *e*pP **pP** **18 32 07.0 -3.7**
YBH Yreka Blue Hor 80.10 38 P **P** **18 31 31.5 -0.3**
comp=Z,5.2nm,0.8s,baz=192,slow=2.6,SNR=13
YBH Yreka Blue Hor 80.10 38 P **P** **18 31 31.5 -0.3**
YBH pmax pmax
comp=Z,5.0nm,0.8s
YBH Yreka Blue Hor 80.10 38 *e*P **P** **18 31 33.0 +1.2**
FURC Furnace Creek, 80.45 45 P **P** **18 31 34.7 +1.1**
baz=81
NVAR Mina Array Bea 80.68 42 P **P** **18 31 35.0 -0.1**
comp=Z,2.0nm,0.8s,baz=228,slow=8.0,SNR=10
NVAR *e*pP **pP** **18 32 13.8 -0.5**
comp=Z,2.8nm,0.9s,baz=226,slow=7.5,SNR=6.0
USRK Ussuriysk Ar. 80.74 325 P **P** **18 31 35.4 +0.5**
comp=Z,12nm,0.9s,baz=149,slow=3.3,SNR=23
TPNV Topopah Spring 81.13 45 *e*P **P** **18 31 38.3 +0.9**
TPNV Topopah Spring 81.13 45 P **P** **18 31 38.0 +0.6**
baz=81
TPNV Topopah Spring 81.13 45 *e*P **P** **18 31 38.3 +0.9**
MAW Mawson 81.13 199 P **P** **18 31 37.7 +0.9**
comp=Z,7.3nm,0.8s,baz=122,slow=6.9,SNR=18
MAW Mawson 81.13 199 P **P** **18 31 37.7 +0.9**
MAW pmax pmax
comp=Z,7.0nm,0.8s
MAW Mawson 81.13 199 P **P** **18 31 38.6 +1.8**
baz=81,SNR=9.3
MAW Mawson 81.13 199 *e*P **P** **18 31 38.5 +1.8**
TPH Tonopah 81.15 43 *e*P **P** **18 31 39.5 +1.9**
TPH Tonopah 81.15 43 *e*P **P** **18 31 39.5 +1.9**
J04D Umpqua Nationa 81.42 37 P **P** **18 31 39.7 +0.8**
baz=82
I04A Tendick Farm, 81.61 36 P **P** **18 31 40.1 +0.4**
baz=82
K05A Summer Lake 81.77 38 *e*P **P** **18 31 41.9 +1.1**
NJ2 Nanjing 81.79 309 *e*P **P** **18 31 39.8 -1.0**
NJ2 PMZ
comp=Z,30nm,0.6s
J05D Fort Rock, OR 81.94 37 P **P** **18 31 42.6 +1.0**
baz=82
MDJ Mudanjiang 82.30 324 *e*P **P** **18 31 43.8 +0.6**
comp=Z,22nm,1.1s
R11A Troy Canyon, C 82.36 44 P **P** **18 31 44.1 +0.2**
baz=82
WVOR Wild Horse Val 82.90 39 *e*P **P** **18 31 46.5 0.0**
WVOR *e**PP **pP** **18 32 24.4 -1.5**
WVOR pmax pmax
comp=Z,7.0nm,1.0s
WVOR Wild Horse Val 82.90 39 *e*P **P** **18 31 46.5 0.0**
comp=Z,6.5nm,1.0s
WVOR *e*pP **pP** **18 32 24.4 -1.5**
CCUT Cedar City 83.37 45 *e*P **P** **18 31 50.5 +1.4**
KNB Kanab 83.43 46 *e*P **P** **18 31 51.2 +1.7**
KNB Kanab 83.43 46 *e*P **P** **18 31 51.2 +1.7**
ELK Elko 83.95 42 P **P** **18 31 52.4 +0.3**
comp=Z,2.8nm,0.9s,baz=233,slow=4.9,SNR=8.8
ELK pP **pP** **18 32 31.5 -0.1**
comp=Z,2.4nm,1.0s,baz=204,slow=6.4,SNR=3.3
ELK Elko 83.95 42 P **P** **18 31 52.4 +0.3**
ELK *PP **pP** **18 32 31.5 -0.1**
ELK pmax pmax
comp=Z,3.0nm,0.9s
ELK pmax pmax
comp=Z,2.0nm,1.0s
ELK Elko 83.95 42 *e*P **P** **18 31 51.9 -0.1**
ELK *e*pP **pP** **18 32 31.4 -0.2**
CN2 Changchun 84.11 322 *e*P **P** **18 31 52.5 0.0**
CN2 *e*pP pP 18 32 16.3 -16
CN2 PMZ
comp=Z,10.0nm,1.0s
G08A Pilot Rock 84.47 37 *e*P **P** **18 31 54.9 +0.5**
121A Cookes Peak, D 84.66 52 P **P** **18 31 57.2 +1.4**
baz=85
121A Cookes Peak, D 84.66 52 *e*P **P** **18 31 57.1 +1.4**
comp=Z,3.4nm,0.8s
LTY Liberty 84.77 34 *e*P **P** **18 31 56.2 +0.4**
MFID Camas Ranch 85.14 40 *e*P **P** **18 31 58.1 +0.3**
MFID *e*pP **pP** **18 32 36.2 -1.2**
KULM Kulim 85.52 277 *e*P **P** **18 31 59.0 -1.2**
comp=Z,10nm,0.9s
D08A Wollman Farm, 85.58 35 *e*P **P** **18 32 00.4 +0.7**
PMR Palmer 85.66 13 P **P** **18 31 58.8 -0.9**
PMR Palmer 85.66 13 P **P** **18 31 58.8 -0.9**
DIV Divide 85.97 14 *e*P **P** **18 32 01.3 -0.1**
SYO Syowa Base 86.06 192⇓ *e*P **P** **18 32 01.2 -0.7**
BMRM Bremner River 86.11 15 *e*P **P** **18 32 01.3 -0.7**
B08A Colville Reser 86.17 34 *e*P **P** **18 32 02.8 +0.1**
PSI Prapat 86.19 274 *e*P **P** **18 32 02.8 -0.9**
PSI Prapat 86.19 274 *e*P **P** **18 32 02.8 -0.9**
TXAR Lajitas Array 86.26 57 P **P** **18 32 04.0 +0.4**
comp=Z,1.5nm,0.8s,baz=214,slow=7.7,SNR=20
TXAR pP **pP** **18 32 43.0 -0.3**
comp=Z,1.0nm,0.9s,baz=215,slow=5.8,SNR=2.9
CAST Castle Rocks 86.79 11 *e*P **P** **18 32 03.7 -1.6**
ANMO Albuquerque 86.80 51 P **P** **18 32 06.7 +0.4**
ANMO Albuquerque 86.80 51 P **P** **18 32 06.7 +0.4**
BESE Bessie Mountai 86.86 20 *e*P **P** **18 32 06.8 +1.1**
SNAA Sanae 86.92 178 P **P** **18 32 06.7 +0.6**
SNAA Sanae 86.92 178 P **P** **18 32 06.4 +0.2**
SNAA Sanae 86.92 178 P **P** **18 32 06.4 +0.2**
comp=Z,0.5nm,0.9s
TRF Thorofare Moun 87.13 11 *e*P **P** **18 32 06.0 -1.1**
comp=Z,17nm,0.7s
TRF *e*pP **pP** **18 32 47.0 +0.1**
RND Reindeer 87.36 12 *e*P **P** **18 32 07.5 -0.6**
RND Reindeer 87.36 12 *e*P **P** **18 32 07.5 -0.6**
MCK McKinley 87.64 12 *e*P **P** **18 32 09.0 -0.4**
MCK McKinley 87.64 12 *e*P **P** **18 32 09.0 -0.4**
SEY Seymchan 87.76 346 P **P** **18 32 09.3 -0.6**
comp=Z,18nm,1.0s,baz=151,slow=6.1,SNR=32
SEY Seymchan 87.76 346 *d i*P **P** **18 32 09.5 -0.4**
BJI Beijing 87.77 315 P **P** **18 32 10.3 -0.2**
BJI PMZ
comp=Z,8.0nm,1.1s
HYT Haines Junctio 87.85 18 *e*P **P** **18 32 11.2 +0.7**
429A Davenport Ranc 88.21 56 P **P** **18 32 13.2 +0.3**
baz=88
DLBC Dease Lake 88.38 22 P **P** **18 32 13.2 +0.2**
comp=Z,0.8nm,0.4s,baz=207,slow=7.5,SNR=6.5
WRH Wood River Hil 88.47 12 *e*P **P** **18 32 12.4 -0.8**
MLY Manley 88.50 11 *e*P **P** **18 32 12.5 -1.0**
GYA Guiyang 88.57 299 *e*P **P** **18 32 15.0 +0.2**
GYA PP **PP** **18 35 47.5 +1.8**
GYA S **S** **18 42 46.3 -1.7**
GYA PMZ
comp=Z,10.0nm,1.0s
GYA PMZ
comp=Z,110nm,5.4s
PDAR Pinedale Array 88.62 43 P **P** **18 32 14.6 -0.1**
comp=Z,1.0nm,0.9s,baz=174,slow=1.5,SNR=6.8
CHMT Chamberlain Mo 88.63 38 *e*P **P** **18 32 13.6 -1.1**
comp=Z,2.5nm,1.2s
HDA Harding Lake 88.64 12 *e*P **P** **18 32 13.3 -0.7**
CCB Clear Creek Bu 88.69 12 *e*P **P** **18 32 13.1 -1.1**
SDCO Great Sand Dun 88.82 48 P **P** **18 32 15.8 -0.2**
baz=89
SDCO Great Sand Dun 88.82 48 *e*P **P** **18 32 15.7 -0.2**
BOZ Bozeman (W) 88.88 39 *e*P **P** **18 32 15.9 +0.1**
BOZ pmax pmax
comp=Z,4.0nm,1.2s
BOZ Bozeman (W) 88.88 39 P **P** **18 32 16.2 +0.4**
baz=89
BOZ Bozeman (W) 88.88 39 *e*P **P** **18 32 15.9 +0.1**
comp=Z,4.2nm,1.2s
COLA College 88.88 12 *c i*P **P** **18 32 14.4 -0.7**
COLA pmax pmax
comp=Z,29nm,0.8s
COLA College 88.88 12 *e*P **P** **18 32 14.0 -1.1**
comp=Z,5.7nm,0.7s
IM04 Indian Mountai 88.90 9 *e*P **P** **18 32 14.8 -0.4**
ILAR Eielson Array 88.97 12 P **P** **18 32 14.4 -1.2**
comp=Z,1.4nm,0.5s,baz=222,slow=6.1,SNR=13
ILAR pP **pP** **18 32 55.2 -0.4**
comp=Z,2.7nm,1.1s,baz=226,slow=4.6,SNR=4.1
EFI East Falkland 89.33 147 P **P** **18 32 17.3 -0.4**
EFI East Falkland 89.33 147 P **P** **18 32 17.3 -0.4**
WALA Waterton Lakes 89.47 36 *e*P **P** **18 32 18.2 -0.3**
comp=Z,4.6nm,1.0s
DAWY Dawson 90.02 15 *e*P **P** **18 32 20.6 0.0**
comp=Z,9.0nm,0.8s
XAN Xi'an 90.05 307 P **P** **18 32 21.8 +0.4**
XAN PMZ
comp=Z,12nm,1.3s
XAN PMZ
comp=Z,37nm,5.4s
I20A Worland 90.12 42 P **P** **18 32 22.5 +0.9**
baz=90
EGAK Eagle 90.20 14 *e*P **P** **18 32 20.8 -0.5**
comp=Z,15nm,1.3s
Y30A Stafford Cattl 90.39 54 P **P** **18 32 23.1 +0.1**
baz=90
232A Coleman 90.49 56 P **P** **18 32 22.9 -0.7**
baz=91
HHC Hu-ho-hao-te 91.24 314 *e*P **P** **18 32 27.5 +0.6**
HHC pP pP 18 32 53.3 -14
HHC sP sP 18 33 03.8 -20
HHC S **ScS** **18 43 14.3 -0.3**
HHC PMZ
comp=Z,21nm,0.7s
HHC PMZ
comp=Z,58nm,4.4s
HHC LN
comp=Z,170nm,17.3s
HHC LE
comp=Z,310nm,18.5s

HHC LZ
comp=Z,47nm,16.0s
KMI Kunming 91.26 296 P **P** 18 32 25.0 -2.5
KMI pP pP 18 32 50.0 -17
KMI sP sP 18 33 02.3 -22
KMI PP **PP** **18 36 03.5 -3.7**
KMI S **ScS** **18 43 15.5 -0.2**
KMI sS sS 18 43 59.8 -23
KMI PMZ
comp=Z,8.0nm,0.6s
KMI PMZ
comp=Z,51nm,3.6s
KMI LN
comp=Z,70nm,14.0s
KMI LE
comp=Z,71nm,13.1s
CMAR Chiang Mai Arr 91.99 289 P **P** **18 32 31.0 +0.3**
comp=Z,2.1nm,0.9s,baz=126,slow=3.0,SNR=11
CMAR pP **pP** **18 33 09.8 -0.9**
comp=Z,0.1nm,0.4s,baz=102,slow=3.8,SNR=0.7
CMAR PP **PP** **18 36 12.1 -0.6**
comp=Z,1.5nm,1.0s,baz=116,slow=5.7,SNR=4.6
CHTO Chiang Mai 92.12 289 *e*P **P** **18 32 32.2 +0.9**
CHTO pmax pmax
comp=Z,14nm,1.5s
CHTO Chiang Mai 92.12 289 *e*P **P** **18 32 32.2 +0.9**
comp=Z,14nm,1.5s
CD2 Chengdu 92.71 302 *e*P **P** **18 32 33.8 -0.1**
CD2 PP **PP** **18 36 17.5 -0.8**
CD2 SKS **SKSac** **18 42 52.3 -0.5**
CD2 S **S** **18 43 25.5 +0.1**
CD2 SS **SS** **18 49 43.3 +0.8**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
RSSD Black Hills 92.78 43 *e*P **P** **18 32 33.1 -1.0**
RSSD pmax pmax
comp=Z,3.0nm,0.9s
RSSD Black Hills 92.78 43 *e*P **P** **18 32 33.1 -1.0**
comp=Z,2.9nm,0.9s
LZH Lanzhou 94.69 307 *e*P **P** **18 32 43.5 +0.5**
LZH pP pP 18 33 08.5 -14
LZH sP sP 18 33 19.3 -20
LZH PMZ
comp=Z,14nm,1.0s
INK Inuvik 94.86 15 P **P** **18 32 42.0 -0.7**
comp=Z,4.0nm,1.0s,baz=216,slow=5.0,SNR=4.2
YKA Yellowknife Ar 96.78 24 P **P** **18 32 51.5 -0.1**
comp=Z,1.5nm,0.8s,baz=231,slow=4.9,SNR=7.0
SONM Songino Aray 97.60 318 P **P** **18 32 55.5 -0.3**
comp=Z,0.2nm,0.4s,baz=123,slow=2.4,SNR=3.1
SONM LR LR 19 13 22.0
comp=Z,14nm,21.1s,baz=187,slow=33
ZALV Zalesovo Beam 112.32 321 PKiKP **PKiKP** **18 37 55.0 -1.1**
comp=Z,1.0nm,0.5s,baz=108,slow=0.2,SNR=8.4
MKAR Makanchi Array 113.09 313 PKiKP **PKiKP** **18 37 57.0 -0.9**
comp=Z,0.9nm,0.5s,baz=198,slow=0.8,SNR=16
KURK Kurchatov 115.86 317 PKIKP **PKPdf** **18 38 02.3 -0.7**
KURK 18 38 44.6
KURK Kurchatov 115.86 317 PKP **PKPdf** **18 38 02.3 -0.7**
KURK pPKP **pPKiKP** **18 38 44.6 -0.2**
KURBB Kurchatov Arra 115.91 317 PKP **PKPdf** **18 38 02.3 -0.8**
comp=Z,1.3nm,0.6s,baz=92,slow=2.0,SNR=27
KURBB pPKP **pPKiKP** **18 38 44.6 -0.3**
comp=Z,0.8nm,0.8s,baz=94,slow=1.7,SNR=3.9
BVAR Borovoye Array 120.92 320 PKP **PKPdf** **18 38 12.1 -0.6**
comp=Z,2.9nm,0.6s,baz=84,slow=1.7,SNR=20
BVAR pPKP **pPKPdf** **18 38 54.8 +0.3**
comp=Z,1.6nm,0.8s,baz=328,slow=1.9,SNR=3.0
KKAR Karatay Array 121.16 308 *e*PKiKP **PKPdf** **18 38 12.7 -0.8**
KKAR Karatay Array 121.16 308 *e*PKPdf **PKPdf** **18 38 12.7 -0.8**
SPITS Spitsbergen Ar 122.99 357 PKP **PKPdf** **18 38 15.6 -0.4**
comp=Z,12nm,0.9s,baz=338,slow=3.4,SNR=4.2
ARU Arti 126.97 325 *i* PKIKP **PKPdf** **18 38 24.2 0.0**
ARU 18 40 25.1
ARU SP SP 18 50 08.2 -3.4
ARU SS **SS** **18 57 23.4 +4.3**
ARU Arti 126.97 325 *e*PKPdf **PKPdf** **18 38 23.9 -0.3**
ABKAR Akbulak array 127.95 316 *e*PKPdf **PKPdf** **18 38 25.8 -0.4**
ARCES ARCESS Array B 130.22 350 PKP **PKPdf** **18 38 29.6 -0.4**
comp=Z,2.7nm,0.6s,baz=52,slow=0.7,SNR=14
GEYT Alibeck 130.71 302 PKP **PKPdf** **18 38 31.7 -0.3**
comp=Z,2.4nm,0.8s,baz=29,slow=3.3,SNR=6.0
FINES FINESS Array B 137.21 344 PKhKP PKPpre 18 38 31.4
comp=Z,0.5nm,0.3s,baz=347,slow=5.9,SNR=4.2
FINES PKP **PKPdf** **18 38 43.1 -0.2**
comp=Z,4.5nm,0.9s,baz=63,slow=0.4,SNR=4.7
FINES SKPbc **SKPbc** **18 42 03.8 +2.1**
comp=Z,1.6nm,0.8s,baz=195,slow=4.3,SNR=7.7
NB2 NORSAR Subarra 140.19 354 PKP PKPpre 18 38 40.0
comp=Z,3.9nm,1.4s,baz=16,slow=3.2
NOA NORSAR Array B 140.19 354 PKhKP PKPpre 18 38 39.9
comp=Z,1.3nm,0.6s,baz=20,slow=2.6,SNR=3.6
NOA SKPbc **SKiKP** **18 42 13.4 +0.8**
comp=Z,2.0nm,0.8s,baz=14,slow=4.3,SNR=4.1
HFS Hagfors 140.80 352 PKhKP PKPpre 18 38 41.3
comp=Z,3.2nm,0.7s,baz=56,slow=3.7,SNR=12
SUW Suwalki 144.37 340 *e*PKP **PKPab** **18 38 54.5 -0.4**
SUW Suwalki 144.37 340 *e*PKiKP **PKPab** **18 38 54.6 -0.4**
KELT Kelkit 144.61 310 *i* P **PKPdf** **18 38 57.5 -0.1**
KIEV Kiev 144.71 332 *e*PKiKP **PKPab** **18 38 55.1 -1.2**
KIEV Kiev 144.71 332 *e*PKPdf **PKPab** **18 38 55.1 -1.2**
MZRK Al-Mazaregh 144.85 302 *e*P PKPbc 18 38 57.2 -0.2
SFNV Sufian 145.12 303 *e*P **PKPab** **18 38 59.1 +0.6**
ELZG Elazig 145.37 307 *i* P **PKPab** **18 39 00.3 +0.8**
KEMA Kemaliye 145.47 309 *i* P **PKPab** **18 38 59.8 +0.1**
SIM Simferopol' 145.83 320 *e*PKP2 **PKPdf** **18 38 59.5 +0.3**
SIM pmax pmax
comp=Z,54nm,0.9s
MALT Malatya 145.85 307 ⇓PKP2 **PKPab** **18 39 01.1 -0.1**
MALT Malatya 145.85 307 ⇓*i*P **PKPab** **18 39 01.1 -0.1**
EKA Eskdalemuir Ar 145.86 7 PKPbc **PKPdf** **18 38 59.1 +0.1**
comp=Z,5.6nm,0.7s,baz=328,slow=2.7,SNR=20
AKCD Akcadag 146.23 307 *i* P **PKPab** **18 39 02.3 -0.4**
BEL Belsk 146.98 340 *e*PKP **PKPbc** **18 39 03.5 +0.3**
BEL Belsk 146.98 340 *e*PKP2 **PKPbc** **18 39 03.5 +0.3**
CUSAR Sarkisla-SIVAS 147.04 310 *i* P **PKPbc** **18 39 04.9 +0.9**
HCB Kahramanmara˘ 147.30 306 *i* P **PKPbc** **18 39 04.8 +0.2**
LVV L'vov 147.53 335 *e*PKP2 **PKPbc** **18 39 03.7 -1.1**
ANDN Andirin 147.64 307 *i* P **PKPbc** **18 39 06.4 +0.7**
ROOS tl alroos 147.93 300 *e*P **PKPbc** **18 39 07.2 +0.7**
ZALF Zalf 148.18 298 *e*P **PKPbc** **18 39 07.3 +0.2**
KWP Kalwaria Pacla 148.19 336 *e*PKP **PKPbc** **18 39 06.8 +0.3**
KWP Kalwaria Pacla 148.19 336 *e*PKP2 **PKPbc** **18 39 06.8 +0.3**
AVNT Avonos 148.28 310 *i* P **PKPbc** **18 39 07.5 +0.2**
BIDA Albida 148.47 302 *e*P **PKPbc** **18 39 08.0 +0.2**
OJC Ojcow 148.70 340 *e*PKP **PKPbc** **18 39 07.9 +0.1**
OJC Ojcow 148.70 340 *e*PKP2 **PKPbc** **18 39 08.0 +0.1**
SALA Sala 148.72 298 *e*P **PKPbc** **18 39 08.7 0.0**
BRTR Keskin Array B 148.74 312 PKPbc **PKPbc** **18 39 08.3 -0.2**
comp=Z,20nm,0.8s,baz=132,slow=3.9,SNR=88
BURAR Bucovina Array 148.75 331 ⇑PKP2 **PKPbc** **18 39 09.1 +0.9**
BURAR Bucovina Array 148.75 331 ⇑*i*P **PKPbc** **18 39 09.1 +0.9**
TOTH TOTAH 148.82 299 *e*P **PKPbc** **18 39 09.2 +0.5**
TESR Tescani 148.90 329 ⇓*i*P **PKPdf** **18 39 06.2 +1.9**
KOLS Kolonicke sedl 148.93 336 *e*PKiKP **PKPdf** **18 39 04.7 +0.4**
KOLS Kolonicke sedl 148.93 336 *e*PKP **PKPdf** **18 39 04.7 +0.4**
CFR Carcaliu 149.06 325 ⇓PKiKP **PKPdf** **18 39 05.8 +1.3**
CFR Carcaliu 149.06 325 ⇓*i*P **PKPdf** **18 39 05.8 +1.3**
KSP Ksiaz 149.14 344 *e*PKP **PKPbc** **18 39 09.5 +0.6**
KSP Ksiaz 149.14 344 *e*PKP2 **PKPbc** **18 39 09.5 +0.6**
UZH Uzhgorod 149.16 336 ⇑*i*PKP2 **PKPbc** **18 39 08.7 -0.3**
BRBR Barbar 149.19 299 *e*P **PKPbc** **18 39 09.8 -0.1**
NIE Niedzica 149.22 339 *e*PKP **PKPbc** **18 39 09.8 +0.6**
NIE Niedzica 149.22 339 *e*PKP2 **PKPbc** **18 39 09.8 +0.6**
ANTO Ankara 149.25 313 ⇓PKP2 **PKPbc** **18 39 09.9 +0.3**
ANTO Ankara 149.25 313 ⇓*i*P **PKPbc** **18 39 09.9 +0.3**
BCAM Yenicaga 149.28 315 *i* P **PKPbc** **18 39 09.7 0.0**
VRI Vrincioaia 149.31 328 ⇓*i*P **PKPdf** **18 39 02.6 -2.4**
TIRR Tirgusor 149.38 324 ⇑*i*P **PKPdf** **18 39 03.6 -1.5**
CLL Collm 149.42 349 ⇓*i*PKP2 **PKPbc** **18 39 09.7 +0.2**
CLL pmax pmax
comp=Z,27nm,0.8s
CLL pmax pmax
comp=Z,41nm,1.6s
CLL Collm 149.42 349 ⇓*i*PKPbc **PKPbc** **18 39 09.7 +0.2**
comp=Z,27nm,0.8s
CLL *i* PKiKP **PKiKP** **18 39 11.3 +0.7**
comp=Z,23nm,1.0s
CLL *i* PKPab **PKPab** **18 39 13.9 -0.9**
comp=Z,41nm,1.6s
CLL *ep*PKPdf **pPKPdf** **18 39 44.0 -2.9**
CLL *ep*PKPbc **pPKPbc** **18 39 49.0 -2.1**

TRPA Tarpa 149.48 335 ⇑*i*P **PKPbc** **18 39 09.0 -0.8**
UPC Upice 149.52 344 *e*PKPDF **PKPdf** **18 39 05.5 +0.3**
UPC ⇑*i*PKP **PKPbc** **18 39 10.1 +0.3**
UPC *e*PKPAB **PKPab** **18 39 15.0 -0.2**
OKC Ostrava-Krasne 149.54 341 ⇑*i*PKP **PKPbc** **18 39 10.4 +0.5**
OKC *e*PKPAB **PKPab** **18 39 15.5 +0.2**
OKC Ostrava-Krasne 149.54 341 *i* PKP2 **PKPbc** **18 39 10.4 +0.5**
DPC Dobruska-Polom 149.59 344 *e*PKPDF **PKPdf** **18 39 05.8 +0.5**
DPC ⇑*i*PKP **PKPbc** **18 39 10.5 +0.4**
DPC *e*PKPAB **PKPab** **18 39 16.0 +0.4**
DPC *ep*PKP **pPKPdf** **18 39 53.9 +6.6**
BRG Berggiesshubel 149.65 347 *e*PKP **PKPdf** **18 39 05.6 +0.3**
comp=Z,6.2nm,0.9s
BRG *i* 18 39 10.3
comp=Z,16nm,0.9s
KRLC Kraliky 149.72 343 ⇑*i*PKP **PKPbc** **18 39 10.4 0.0**
KRLC *e*PKPAB **PKPab** **18 39 16.2 +0.1**
KRLC Kraliky 149.72 343 *i* PKP2 **PKPbc** **18 39 10.4 0.0**
MORC Moravsky Berou 149.77 342 ⇓PKP2 **PKPbc** **18 39 10.8 +0.3**
MORC Moravsky Berou 149.77 342 ⇓*i*P **PKPbc** **18 39 10.8 +0.3**
MORC Moravsky Berou 149.77 342 *e*PKPbc **PKPbc** **18 39 09.9 -0.6**
PVCC Panska Ves 149.84 346 ⇑*i*PKP **PKPbc** **18 39 10.9 +0.3**
PVCC *e*PKPAB **PKPab** **18 39 16.6 +0.1**
PVCC Panska Ves 149.84 346 *i* PKP2 **PKPbc** **18 39 10.9 +0.3**
MLR Muntele Rosu 149.97 328 ⇑*i*P **PKPdf** **18 39 06.9 +0.7**
AUMIH MIHALICIK 150.13 314 *i* P **PKPbc** **18 39 11.9 0.0**
PRA Prague 150.30 346 ⇑PKP **PKPbc** **18 39 12.1 +0.4**
PRA Prague 150.30 346 ⇑PKP2 **PKPbc** **18 39 12.1 +0.4**
KDHN Kadinhani 150.33 311 *i* P **PKPbc** **18 39 11.6 -0.7**
PRU Pruhonice 150.35 346 ⇑*i*PKP **PKPbc** **18 39 12.1 +0.3**
PRU *e*PKPAB **PKPab** **18 39 17.2 -1.5**
PRU *ep*PKP pPKPdf 18 39 56.7 +8.3
PRU Pruhonice 150.35 346 *i* PKIKP **PKPbc** **18 39 12.1 +0.3**
PRU *e* 18 39 17.2
GOPC GO Pecny, Ondr 150.37 345 ⇑*i*PKP **PKPbc** **18 39 12.1 +0.2**
GOPC *e*PKPAB **PKPab** **18 39 18.4 -0.4**
GOPC *ep*PKP **pPKPdf** **18 39 55.1 +6.6**
VOIR 150.44 329 ⇓PKIKP **PKPdf** **18 39 08.0 +1.1**
VOIR 150.44 329 ⇓*i*P **PKPdf** **18 39 08.0 +1.1**
VRAC Vranov 150.46 343 PKPbc **PKPbc** **18 39 12.2 +0.1**
comp=Z,3.9nm,0.6s,baz=37,slow=3.3,SNR=8.6
VRAC PKPab **PKPab** **18 39 18.7 -0.5**
comp=Z,14nm,1.0s,baz=44,slow=5.4,SNR=10
VYHS Vyhne 150.51 339 *e*PKIKP **PKPbc** **18 39 12.7 +0.4**
VYHS Vyhne 150.51 339 *e*PKP **PKPbc** **18 39 12.7 +0.4**
ERMK Ermenek 150.54 307 *i* P **PKPbc** **18 39 13.8 +0.8**
NKC Novy Kostel 150.55 349 ⇑*i*PKP **PKPbc** **18 39 12.8 +0.5**
NKC Novy Kostel 150.55 349 *i* PKIKP **PKPbc** **18 39 12.8 +0.5**
PSZ Piszkesteto 150.65 338 *e*PKIKP **PKPbc** **18 39 12.7 0.0**
PSZ Piszkesteto 150.65 338 ⇓*i*P **PKPdf** **18 39 08.9 +1.8**
PSZ Piszkesteto 150.65 338 *e*PKPbc **PKPbc** **18 39 12.7 0.0**
ARR Arges 150.69 329 ⇓*i*P **PKPbc** **18 39 14.2 +1.3**
TREC Trest 150.77 344 ⇑*i*PKP **PKPbc** **18 39 12.9 0.0**
TREC *e*PKPAB **PKPab** **18 39 19.6 -0.9**
TREC Trest 150.77 344 *i* PKIKP **PKPbc** **18 39 12.9 0.0**
TREC *e* 18 39 19.6
BORA Eskisehir 150.81 315 *i* P **PKPbc** **18 39 13.4 0.0**
CSS Prodhromos 150.82 304 *e*PKPbc **PKPbc** **18 39 12.7 -0.7**
MEM Membach 150.93 357 PKPbc **PKPbc** **18 39 13.3 +0.1**
BOLV Bolvadin 151.05 316 *i* P **PKPbc** **18 39 14.3 +0.3**
SNF Seneffe 151.07 359 PKPbc **PKPbc** **18 39 14.0 +0.4**
SIRR Siria 151.33 334 ⇑*i*P **PKPdf** **18 39 05.9 -2.2**
KHC Kasperske Hory 151.37 346 *e*PKPDF **PKPdf** **18 39 08.5 +0.4**
KHC ⇑*i*PKP **PKPbc** **18 39 14.4 +0.1**
KHC *e*PKPAB **PKPab** **18 39 21.1 -1.9**
KHC *ep*PKP **pPKPdf** **18 39 55.1 +5.0**
KHC Kasperske Hory 151.37 346 *e*PKiKP **PKPdf** **18 39 08.5 +0.4**
KHC *e* 18 39 21.1
KHC Kasperske Hory 151.37 346 *e*PKPdf **PKPdf** **18 39 07.0 -1.1**
KHC *e*PKPbc **PKPbc** **18 39 14.4 +0.1**
KHC *e*PKPab **PKPab** **18 39 23.0 0.0**
DOU Dourbes 151.50 359 PKPbc **PKPbc** **18 39 14.7 +0.2**
GERES GERESS Array B 151.62 346 PKP **PKPdf** **18 39 08.3 -0.3**
comp=Z,0.7nm,0.7s,baz=25,slow=3.5,SNR=5.7
GERES PKPbc **PKPbc** **18 39 15.0 0.0**
comp=Z,5.4nm,0.9s,baz=42,slow=2.2,SNR=22
ISP Isparta 151.77 311 *e*PKIKP **PKPbc** **18 39 14.5 -1.2**
ISP Isparta 151.77 311 *e*PKPbc **PKPbc** **18 39 14.5 -1.2**
BZS Buzias 151.87 333 ⇓PKIKP **PKPdf** **18 39 10.4 +1.5**
BZS Buzias 151.87 333 ⇓*i*P **PKPdf** **18 39 10.4 +1.5**
WLF Walferdange 151.87 357 PKPbc **PKPbc** **18 39 16.1 +0.7**
KHAL Karahalli 152.22 313 *i* P **PKPbc** **18 39 17.0 +0.3**
DURS Dursunbey 152.25 316 *i* P **PKPbc** **18 39 17.5 +0.8**
PKSM Moragy 152.55 337 ⇑PKIKP **PKPdf** **18 39 09.8 -0.1**
PKSM Moragy 152.55 337 ⇑*i*P **PKPdf** **18 39 09.8 -0.1**
BFO Black Forest 153.02 353 *i* PKIKP **PKPbc** **18 39 18.6 +0.6**
AKAS Kas 153.14 309 *i* P **PKPbc** **18 39 17.6 -1.2**
VTS Vitosha 153.42 327 ⇑PKIKP **PKPdf** **18 39 10.6 -0.9**
VTS Vitosha 153.42 327 ⇑*i*P **PKPdf** **18 39 10.6 -0.9**
AYDN Tasoluk 153.68 313 *i* P **PKPbc** **18 39 20.6 +0.8**
DIVS Divibare 153.78 309 *i* P PKPdf 18 39 05.0 -6.9
DAVOX Davos/Dischmat 154.33 350 PKP **PKPdf** **18 39 12.4 -0.4**
comp=Z,1.5nm,0.6s,baz=26,slow=16,SNR=3.6
DAVOX PKPbc **PKPbc** **18 39 20.9 -0.2**
comp=Z,2.2nm,0.3s,baz=182,slow=3.1,SNR=7.5
DAVOX PKPab **PKPab** **18 39 34.8 -0.9**
comp=Z,2.9nm,0.5s,baz=307,slow=5.1,SNR=4.1
ESDC Sonseca Array 160.76 18 PKP **PKPdf** **18 39 20.6 -0.2**
comp=Z,0.5nm,0.7s,baz=357,slow=2.5,SNR=4.2
ESDC PKPab **PKPab** **18 40 02.7 -0.8**
comp=Z,1.9nm,0.8s,baz=336,slow=1.5,SNR=9.5
KEST Kesra 165.03 342 PKPab **PKPab** **18 40 21.9 -0.6**
comp=Z,2.8nm,0.7s,baz=345,slow=3.8,SNR=9.6
MDT Midelt 166.54 32 PKPab **PKPab** **18 40 28.5 -0.8**
comp=Z,0.9nm,0.8s,baz=21,slow=7.0,SNR=4.0
TORD Torodi Ar. Bea 171.43 167 PKP **PKPdf** **18 39 28.9 -0.9**
comp=Z,0.8nm,0.7s,baz=330,slow=1.5,SNR=5.3
TORD PKPab **PKPab** **18 40 52.2 +1.2**
comp=Z,1.2nm,0.8s,baz=193,slow=3.7,SNR=5.8

*ISCJB **30** 18:26:13.7±3.5, 35.1°N±1.0× 34.7°W±0.2, h10km, mb3.6/6, MS3.5/13, Error ellipse: s-maj=142.6km s-min=18.5km az=175.0*

*IDC **30** 18:26:13.9±4.1, 35.07°N×34.66°W, h0km, mb3.6/6, mb1 4.0/6, mb1mx3.6/51, mbtmp3.6/6, MS3.5/13, Ms1 3.5/13, ms1mx3.2/35, Error ellipse: s-maj=168.4km s-min=22.2km az=175.0*

ISC 30 18:26:15.7±4.1, 35.1°N±1.1°× 34.7°W±0.2, h10km, n16, d0°71/6, mb3.5/6, MS3.5/13, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**24.75**	**70**	P	**P**	**18 31 36.8**	**-0.6**
	1.4nm,0.8s,baz=277,slow=9.6,SNR=9.1						
MDT	**Midelt**	**24.99**	**87**	LR	LR	18 39 03.2	
	comp=Z,68nm,19.4s,baz=321,slow=31						
SCHQ	**Schefferville**	**29.69**	**322**	LR	LR	18 42 48.6	
	comp=Z,159nm,21.2s,baz=114,slow=33						
SADO	**Sadowa**	**35.04**	**300**	LR	LR	18 46 34.4	
	comp=Z,40nm,20.2s,baz=40,slow=35						
GERES	**GERESS Array B**	**37.84**	**54**	P	**P**	**18 33 32.1**	**-0.4**
	0.6nm,0.8s,baz=265,slow=8.8,SNR=3.5						
GERES				LR	LR	18 46 14.3	
	comp=Z,30nm,20.1s,baz=295,slow=32						
NOA	**NORSAR Array B**	**38.91**	**34**	LR	LR	18 47 37.9	
	comp=Z,13nm,18.3s,baz=115,slow=33						
DBIC	**Dimbokro**	**39.42**	**129**	LR	LR	18 48 27.7	
	comp=Z,81nm,20.3s,baz=290,slow=34						
TORD	**Torodi Ar. Bea**	**39.43**	**115**	LR	LR	18 49 40.0	
	comp=Z,158nm,18.0s,baz=280,slow=36						
TKL	**Tuckaleechee C**	**39.69**	**285**	LR	LR	18 49 20.1	
	comp=Z,51nm,19.3s,baz=22,slow=35						
VRAC	**Vranov**	**39.76**	**53**	LR	LR	18 47 45.0	
	comp=Z,22nm,20.7s,baz=256,slow=32						
ULM	**Lac du Bonnet**	**46.16**	**309**	LR	LR	18 52 38.6	
	comp=Z,217nm,21.9s,baz=78,slow=34						
PDAR	**Pinedale Array**	**56.98**	**302**	P	**P**	**18 36 01.6**	**0.0**
	0.2nm,0.6s,baz=62,slow=10,SNR=2.7						
PDAR				LR	LR	19 00 16.8	
	comp=Z,110nm,19.4s,baz=68,slow=36						
TXAR	**Lajitas Array**	**57.60**	**285**	P	**P**	**18 36 06.0**	**-0.1**
	0.2nm,0.7s,baz=65,slow=6.4,SNR=3.4						
TXAR				LR	LR	18 59 27.9	
	comp=Z,44nm,19.1s,baz=0.0,slow=35						
KBZ	**Khabaz**	**58.50**	**56**	P	**P**	**18 36 13.0**	**+1.0**
	1.7nm,0.5s,baz=297,slow=6.8,SNR=4.7						
MKAR	**Makanchi Array**	**80.74**	**38**	P	**P**	**18 38 29.1**	**-0.1**
	0.8nm,1.0s,baz=307,slow=5.2,SNR=3.5						
PETK	**Petropavlovsk-**	**91.47**	**353**	LR	LR	19 18 16.2	
	comp=Z,20nm,19.5s,baz=355,slow=34						

IDC 30 18:31:59.9±1.9, 7.01°S×128.19°E, h0km, mb3.2/1, mb1 3.5/3, mb1mx3.3/26, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=113.4km s-min=31.0km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.18**	**156**	Pn	Pn	18 35 21.9	-0.2
	0.1nm,0.3s,baz=335,slow=12,SNR=4.9						
WRA				Sn	Sn	18 37 42.2	-18
	0.4nm,0.3s,baz=324,slow=24,SNR=6.3						
ASAR	**Alice Springs**	**17.45**	**162**	P	Pn	18 36 04.5	-0.4
	0.2nm,0.3s,baz=335,slow=10,SNR=39						
ASAR				S	Sn	18 39 04.7	-15
	0.2nm,0.3s,baz=315,slow=18,SNR=7.5						
MKAR	**Makanchi Array**	**67.26**	**328**	P	P	18 42 56.4	+0.1
	0.1nm,0.4s,baz=127,slow=6.0,SNR=3.6						

IDC 30 18:51:02.9±2.1, 1.87°N×126.14°E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/27, mbtmp3.6/3, Error ellipse: s-maj=188.2km s-min=24.8km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.12**	**160**	P	P	18 56 10.6	-0.3
	1.2nm,0.4s,baz=338,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**26.49**	**164**	P	P	18 56 42.4	+0.2
	0.7nm,1.1s,baz=348,slow=7.6,SNR=9.3						
MKAR	**Makanchi Array**	**58.75**	**326**	P	P	19 01 02.7	-0.1
	0.2nm,0.3s,baz=117,slow=8.4,SNR=7.6						

MEX 30 19:09:55.9±0.6, 16.22°N×98.11°W, h10km±2km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.17**	**356**	*i* P	Pg	19 09 59.1	-0.6
PNIG				*e*S	Sg	19 10 02.2	-0.2
TLIG	**Tlapa**	**1.40**	**342**	*e*P	Pn	19 10 18.4	-3.3
TLIG				*e*S	Sn	19 10 34.9	-5.5
VHO	**Vista Hermosa**	**1.57**	**57**	*e*P	Pn	19 10 19.7	-4.4
VHO				*e*S	Sn	19 10 39.8	-4.9
HUIG	**Huatulco**	**1.98**	**103**	*i* P	Pn	19 10 25.9	-3.5
HUIG				*i* S	Sn	19 10 50.1	-4.2
CAIG	**El Cayaco**	**2.22**	**292**	*i* P	Pn	19 10 30.5	-2.3
CAIG				*i* S	Sn	19 10 56.5	-3.8

CASC 30 19:33:03.0±1.9, 13.50°N×90.43°W, h29km±6km, MD3.7, 4C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.67**	**358**	*e*P	Pb	19 33 16.1	-0.4
SBLS	**San Blas**	**0.85**	**67** ⇑	*e*P	Pn	19 33 18.8	-0.5
SBLS				*e*S	Sn	19 33 31.1	+0.1
RTR	**El Retiro**	**0.85**	**62** ⇑	*e*P	Pn	19 33 19.1	-0.2
SNJE	**San Jose**	**0.88**	**65** ⇑	*e*P	Pn	19 33 19.2	-0.4
RBDL	**Robledal**	**0.94**	**50** ⇑	*e*P	Pn	19 33 20.2	-0.3
FUG	**Fuego 3**	**1.02**	**337**	*e*P	Pn	19 33 21.5	-0.2
NBG	**Las Nubes**	**1.08**	**4**	*e*P	Pb	19 33 23.6	0.0
NBG				*e*S	Sb	19 33 39.7	+2.1
BOQS	**Boqueron**	**1.14**	**78**	*e*P	Pn	19 33 23.3	0.0
LFU	**La Fuente**	**1.30**	**79**	*e*P	Pn	19 33 25.7	+0.4
LFRS	**El Faro**	**1.33**	**85**	*e*P	Pn	19 33 26.1	+0.3
LFRS				*e*S	Sn	19 33 43.2	+0.5
MTO2	**Montecristo 2**	**1.37**	**49**	*e*P	Pn	19 33 25.6	-0.8
JAT	**Jato**	**1.43**	**305**	*e*P	Pn	19 33 27.4	+0.4
MRL	**Marmol**	**1.71**	**25**	*e*P	Pn	19 33 31.0	-0.1
MRL				*e*S	Sn	19 33 44.0	-8.2

WEL 30 19:48:42.1±0.5, 40.07°S×178.76°E, h12km, ML3.6/15, 5C-8D, Error ellipse: s-maj=4.5km s-min=2.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRGZ	**Paritu Road**	**1.33**	**329**	PN	Pn	19 49 05.2	-1.4
KNZ	**Kokohu**	**1.34**	**321** ⇑	PN	Pn	19 49 05.7	-0.9
KNZ				SN	Sb	19 49 23.1	-1.1
CKHZ	**Cape Kidnapper**	**1.36**	**287**	PN	Pn	19 49 05.8	-1.1
PXZ	**Pawanui**	**1.46**	**271**	PN	Pn	19 49 06.8	-1.5
PXZ				AML	AML	19 49 34.0	
PXZ				AML	AML	19 49 34.0	
PXZ				AML	AML	19 49 34.3	
PXZ				AML	AML	19 49 34.3	
KAHZ	**Kahuranaki**	**1.48**	**280**	PN	Pn	19 49 07.6	-1.0
KAHZ				SN	Sn	19 49 26.9	-1.0
WHHZ	**Waihua**	**1.54**	**309**	PN	Pn	19 49 09.2	-0.2
RIGZ	**Rimuhau**	**1.56**	**330**	PN	Pn	19 49 09.1	-0.7
ARHZ	**Aropaoanui**	**1.58**	**300**	PN	Pn	19 49 09.7	-0.2
CNGZ	**Carnagh Station**	**1.64**	**345**	PN	Pn	19 49 09.4	-1.3
PRHZ	**Porangahau**	**1.64**	**262**	PN	Pn	19 49 09.1	-1.7
MCHZ	**McNeill Hill**	**1.71**	**291**	PN	Pn	19 49 11.6	-0.1
RAHZ	**Arahi**	**1.73**	**311**	PN	Pn	19 49 12.0	-0.1
TKGZ	**Te Karaka**	**1.77**	**336**	PN	Pn	19 49 11.6	-1.0
WPHZ	**Waipukurau**	**1.78**	**269**	PN	Pn	19 49 11.4	-1.3
ANWZ	**Angora Road**	**1.79**	**257**	PN	Pn	19 49 10.7	-2.1
NMHZ	**Naumai**	**1.79**	**302** ⇓	PN	Pn	19 49 13.0	0.0
RAGZ	**Rawiri**	**1.89**	**326**	PN	Pn	19 49 13.7	-0.6
RAGZ				SN	Sn	19 49 36.3	-1.7
KWHZ	**Kaweka Forest**	**1.92**	**289**	PN	Pn	19 49 14.0	-0.6
BKZ	**Black Stump Fm**	**1.97**	**296**	PN	Pn	19 49 14.8	-0.6
BKZ				SN	Sn	19 49 38.8	-1.3
BKZ				AML	AML	19 49 40.6	
PNHZ	**Pukenui**	**1.98**	**274** ⇓	PN	Pn	19 49 14.2	-1.2
MWZ	**Matawai**	**1.98**	**331**	PN	Pn	19 49 14.5	-0.9
MWZ				AML	AML	19 49 42.8	
MWZ				AML

CAW				AML	AML	19 50 04.3	
KIW	**Kapiti Island**	**3.05**	**254**	PN	Pn	19 49 27.3	-2.8
TLZ	**Tolley Road**	**3.05**	**304**	⇑PN	Pn	19 49 29.6	-0.6
PLWZ	**Palliser**	**3.06**	**239**	PN	Pn	19 49 25.8	-4.5
WEL	**Wellington**	**3.27**	**247**	AML	AML	19 50 09.8	
HIZ	**Hauiti**	**3.41**	**296**	PN	Pn	19 49 34.6	-0.4
TCW	**Tory Channel**	**3.60**	**250**	PN	Pn	19 49 34.3	-3.4
TCW				AML	AML	19 50 15.9	
DUWZ	**D'Urville Isla**	**3.77**	**257**	PN	Pn	19 49 37.8	-2.2
TUWZ	**Tuamarina**	**3.91**	**248**	PN	Pn	19 49 39.1	-2.8
BSWZ	**Blackbirch Sta**	**4.05**	**244**	PN	Pn	19 49 40.5	-3.4
KHZ	**Kahutara**	**4.58**	**237**	PN	Pn	19 49 45.4	-5.8
THZ	**Tophouse**	**4.75**	**247**	PN	Pn	19 49 49.4	-4.2
QRZ	**Quartz Range**	**4.82**	**259**	PN	Pn	19 49 51.3	-3.1
CTZ	**Chatham Island**	**5.03**	**138**	PN	Pn	19 49 53.3	-4.0
LTZ	**Lake Taylor**	**5.58**	**239**	PN	Pn	19 50 00.1	-4.9

MEX 30 20:11:58.7±0.4, 15°.01N×93°.40W, h40km±19km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.71**	**14**	*i* P	Pn	20 12 10.6	-1.7
PCIG				*i* S	Sn	20 12 19.9	-2.1
CCIG	**Comitan**	**1.75**	**44**	*e*P	Pn	20 12 24.9	-1.9
CCIG				*i* S	Sn	20 12 45.6	-2.5
TGIG		**1.78**	**8**	*e*P	Pn	20 12 25.6	-1.4
TGIG				*i* S	Sn	20 12 46.2	-2.3

IDC ***30*** *20:17:35.3±14.0, 25°.06S×176°.86W, h100km±76km, mb3.6/5, mb1 3.9/7, mb1mx3.6/19, mbtmp4.2/7, ML4.7/2, Error ellipse: s-maj=172.7km s-min=28.8km az=41.0*

ISC 30 20:17:43.3±2.7, 25°.7S±0°.2×177°.5W±0°.4, h126km, n7, σ1s31/8, mb4.0/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.54**	**185**	P	**Pn**	**20 18 38.5**	**+1.8**
	116nm,0.3s,baz=79,slow=22,SNR=7.7						
RAO				S	**Sn**	**20 19 18.1**	**-0.1**
	61nm,0.3s,baz=37,slow=21,SNR=3.0						
URZ	**Urewera**	**13.30**	**199**	P	**P**	**20 20 50.0**	**-2.2**
	1.1nm,0.3s,baz=272,slow=1.2,SNR=9.0						
URZ				S	Sn	20 22 57.5	-16
	0.9nm,0.3s,baz=161,slow=21,SNR=12						
STKA	**Stephens Creek**	**36.18**	**251**	P	**P**	**20 24 34.3**	**+0.5**
	2.4nm,0.8s,baz=45,slow=7.1,SNR=3.5						
ASAR	**Alice Springs**	**43.98**	**262**	P	**P**	**20 25 38.7**	**+0.5**
	0.6nm,0.4s,baz=93,slow=7.8,SNR=20						
WRA	**Warramunga Arr**	**44.54**	**267**	P	**P**	**20 25 42.7**	**0.0**
	1.7nm,0.4s,baz=104,slow=8.2,SNR=7.0						
VNDA	**Vanda**	**52.78**	**186**	P	**P**	**20 26 45.0**	**+0.2**
	0.3nm,0.5s,baz=9.5,slow=6.5,SNR=3.4						
MAW	**Mawson**	**76.83**	**200**	P	**P**	**20 29 20.2**	**-0.5**
	1.4nm,0.5s,baz=143,slow=5.1,SNR=9.2						

IDC 30 20:22:01.9±2.3, 2°.14N×126°.45E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/25, mbtmp3.3/3, Error ellipse: s-maj=210.1km s-min=25.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.27**	**161**	P	P	20 27 10.2	-1.1
	0.3nm,0.3s,baz=339,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**26.65**	**165**	P	P	20 27 43.7	+1.0
	0.2nm,0.5s,baz=344,slow=9.9,SNR=3.4						
MKAR	**Makanchi Array**	**58.70**	**326**	P	P	20 32 01.2	-0.2
	0.1nm,0.3s,baz=120,slow=6.7,SNR=6.9						

IDC 30 20:38:59.6±1.8, 5°.97S×150°.45E, h0km, mb3.0/2, mb1 3.4/3, mb1mx3.3/33, mbtmp3.2/3, ML1.1/1, MS3.7/1, Ms1 3.7/1, ms1mx2.9/10, Error ellipse: s-maj=84.9km s-min=35.9km az=134.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.72**	**223**	Pn	Pn	20 40 13.8	+1.6
	0.6nm,0.3s,baz=9.5,slow=6.1,SNR=2.5						
PMG				Sn	Sn	20 41 04.0	-3.7
	1.4nm,0.3s,baz=202,slow=16,SNR=3.7						
GUMO	**Guam**	**20.20**	**344**	LR	LR	20 49 38.4	
	comp=Z,217nm,19.8s,baz=164,slow=32						
WRA	**Warramunga Arr**	**20.93**	**227**	P	P	20 43 42.5	-1.7
	0.4nm,0.3s,baz=52,slow=11,SNR=2.8						
ASAR	**Alice Springs**	**23.73**	**220**	P	P	20 44 14.3	+0.6
	0.2nm,0.6s,baz=52,slow=8.9,SNR=4.9						
TORD	**Torodi Ar. Bea**	**148.40**	**285**	PKPbc	PKPbc	20 58 49.3	+0.1
	0.2nm,0.4s,baz=132,slow=2.1,SNR=3.0						
BDFB	**Brasilia**	**151.80**	**140**	PKPbc	PKPbc	20 58 56.6	-1.0
	2.4nm,0.4s,baz=51,slow=6.5,SNR=3.7						

NIED ***30*** *20:43:00, 27°.70N×139°.90E, h500km, Mw5.2 Best double couple: M0 6.76000×10^16 NP1:φs83.00000°, δ24.00000°, λ-130.00000°. NP2:φs306.00000°, δ72.00000°, λ-74.00000°.*

BJI ***30*** *20:43:03.8, 27°.63N×139°.77E, h500km, mb5.1/70, mB4.7/41*

ISCJB ***30*** *20:43:04.5±0.2, 27°.68N±0°.02×139°.75E±0°.02, h497km±2km, mb4.8/201, Error ellipse: s-maj=2.9km s-min=2.5km az=142.2*

JMA ***30*** *20:43:04.8±0.2, 27°.74N×139°.90E, h498km±4km, M5.7 JMA Felt I J1.*

MOS ***30*** *20:43:04.0±0.9, 27°.70N×139°.67E, h492km, mb4.8/60, Error ellipse: s-maj=7.6km s-min=4.4km az=101.4*

NEIC ***30*** *20:43:05.3±0.2, 27°.69N×139°.67E, h497km±2km, mb4.8/137, MW5.2(NIED), Error ellipse: s-maj=3.5km s-min=2.4km az=133.0*

NEIC Recorded [1 JMA] in the Hahajima-retto.

GCMT ***30*** *20:43:05.3±0.4, 27°.71N×139.56E, h504km±2km, MW5.3/64, Moment Tensor Solution. s64,c95; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr-0.48±.03; Mθθ 0.52±.04; Mφφ-0.03±.05; Mrθ 0.63±.05; Mθφ 0.05±.04; Mφr-0.58±.05; Best double couple: M0 0.97700×10^17 NP1:φs302.00000°, δ77.00000°, λ-72.00000°. NP2: φs68.00000°, δ22.00000°, λ-143.00000°. Principal axes: T 0.8770, Plg30.0000°, Azm18.0000°; N 0.1990, Plg17.0000°, Azm118.0000°; P -1.0770, Plg55.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s.*

IDC ***30*** *20:43:05.1±0.4, 27°.71N×139°.75E, h494km±3km, mb4.3/33, mb1 4.4/41, mb1mx4.3/47, mbtmp5.2/41 Error ellipse: s-maj=8.2km s-min=5.8km az=92.0*

ISC 30 20:43:05.3±0.2, 27°.74N±0°.03×139°.75E±0°.03, h501km±1km, h501km:pP-P, n680, σ1s47/992, mb4.8/207, 71C-48D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.26**	**106**	⇓P	**P**	**20 44 10.7**	**-1.2**
CBIJ				*e*S	**S**	**20 45 01.6**	**-4.4**
CBIJ	**Chichi jima**	**2.26**	**106**	*e*P	**P**	**20 44 10.5**	**-1.4**
CBIJ				*e*S	S	20 44 54.2	-12
CBIJ				S	S	20 45 01.4	-4.6
JCJ	**Chichijima**	**2.26**	**106**	P	**P**	**20 44 10.9**	**-1.0**
	2µm,0.3s,baz=276,slow=12,SNR=1363						
JCJ				S	**S**	**20 45 01.4**	**-4.6**
	865nm,0.3s,baz=294,slow=19,SNR=5.2						
JHHJ	**Haha-jima-NKT**	**2.43**	**117**	⇓P	**P**	**20 44 12.1**	**-0.8**
JHHJ				S	**S**	**20 45 05.2**	**-2.5**
JHCJ	**Hachijojimakas**	**5.31**	**0**	P	**P**	**20 44 35.2**	**+0.1**
JHCJ				S	**S**	**20 45 44.9**	**-3.6**
JHJ2	**Mitsune**	**5.35**	**1**	P	**P**	**20 44 35.6**	**+0.2**
JHJ2				S	**S**	**20 45 47.5**	**-1.7**
JHJ2	**Mitsune**	**5.35**	**1**	*e*P	**P**	**20 44 35.3**	**-0.1**
JHJ2				*e*S	**S**	**20 45 43.5**	**-5.7**
JHJ	**Hachijo jima 2**	**5.36**	**0**	P	**P**	**20 44 35.7**	**+0.2**
	147nm,0.3s,baz=141,slow=6.5,SNR=116						
JHJ				S	**S**	**20 45 46.4**	**-2.9**
	350nm,0.3s,baz=107,slow=19,SNR=18						
TTO1	**TONANKAI O.B.S**	**6.39**	**337**	P	P	20 44 48.7	+3.7
TTO1				*e*S	**S**	**20 46 08.1**	**+1.3**
JKO	**Kozu shima**	**6.45**	**355**	P	**P**	**20 44 46.6**	**+0.7**
JWZ	**Kozaga**	**6.74**	**330**	P	**P**	**20 44 50.9**	**+2.1**
JWZ				*e*S	**S**	**20 46 13.2**	**-0.4**
BSO1	**Boso 1**	**6.97**	**8**	P	**P**	**20 44 51.5**	**+1.0**
BSO1				S	**S**	**20 46 15.9**	**-0.9**
JIE	**Ise**	**7.12**	**339**	⇑P	**P**	**20 44 55.1**	**+2.5**
JIE				S	**S**	**20 46 22.3**	**+1.6**
JWM	**Minabe**	**7.17**	**329**	⇑P	**P**	**20 44 55.1**	**+2.0**
BSO4	**Boso 4**	**7.24**	**4**	P	**P**	**20 44 53.9**	**+0.2**
AJI	**Ajiro2**	**7.30**	**356**	P	**P**	**20 44 54.3**	**-0.1**
JWY	**Kouya**	**7.38**	**332**	P	**P**	**20 44 57.5**	**+2.2**
MRT2	**Murotomisaki 2**	**7.42**	**321**	⇑P	**P**	**20 44 58.2**	**+2.6**
SHZ3	**Shizuoka 3**	**7.42**	**350**	P	**P**	**20 44 56.3**	**+0.6**
JYZW	**Yoshizawa**	**7.43**	**347**	P	**P**	**20 44 56.5**	**+0.7**
JOD2	**Odawara 2**	**7.52**	**356**	P	**P**	**20 44 56.5**	**-0.2**
JOD2				S	**S**	**20 46 25.0**	**-3.1**
JAI	**Aioi**	**7.56**	**324**	P	**P**	**20 44 59.5**	**+2.4**
JMN	**Monobe**	**7.82**	**321**	P	**P**	**20 45 02.5**	**+2.7**
JMZ	**Minamidaito 2**	**7.86**	**258**	P	**P**	**20 45 01.3**	**+1.0**
JMZ				*e*S	**S**	**20 46 34.6**	**0.0**
JTO	**Tosashimizu**	**7.88**	**312**	P	**P**	**20 45 02.4**	**+2.0**
JKU	**Kubokawa**	**8.00**	**316**	⇑P	**P**	**20 45 04.3**	**+2.6**
UWA2	**Uwa jima 2**	**8.22**	**313**	⇑P	**P**	**20 45 06.6**	**+2.7**
JRY	**Ryogami san**	**8.28**	**355**	P	**P**	**20 45 04.5**	**0.0**
JRY				S	**S**	**20 46 39.4**	**-3.1**
JET	**Tanbara**	**8.33**	**318**	P	**P**	**20 45 07.8**	**+2.7**
JWT	**Wachi**	**8.38**	**335**	⇑P	**P**	**20 45 07.1**	**+1.6**
JAD	**Aida**	**8.62**	**328**	P	**P**	**20 45 10.0**	**+2.0**
JGN	**Niukaw**	**8.71**	**347**	⇑P	**P**	**20 45 09.3**	**+0.3**
MJAR	**Matsushiro Arr**	**8.87**	**352**	P	**P**	**20 45 09.9**	**-0.8**
	28nm,0.3s,baz=171,slow=10,SNR=169						
MJAR				S	**S**	**20 46 49.4**	**-4.3**
	5.7nm,0.3s,baz=159,slow=12,SNR=4.5						
MAJO	**Matsushiro**	**8.87**	**352**	*e*P	**P**	**20 45 09.9**	**-0.8**
MAJO				*e*S	**S**	**20 46 49.4**	**-4.3**
MAJO	**Matsushiro**	**8.87**	**352**	*e*P	**P**	**20 45 09.9**	**-0.8**
MAJO				*e*S	**S**	**20 46 49.4**	**-4.3**
MAT	**Matsushiro**	**8.87**	**352**	P	**P**	**20 45 10.0**	**-0.7**
MAT				S	**S**	**20 46 53.0**	**-0.7**
JHS	**Saijyo**	**9.19**	**324**	P	**P**	**20 45 15.9**	**+1.9**
JHS				*e*S	**S**	**20 47 01.1**	**+1.2**
JNU	**Nakatsue**	**9.35**	**307**	P	**P**	**20 45 16.7**	**+1.0**
	4.2nm,0.3s,baz=111,slow=7.9,SNR=63						
JNU				S	**S**	**20 47 04.4**	**+1.4**
	baz=235,slow=18,SNR=6.0						
JNU	**Nakatsue**	**9.35**	**307**	*e*P	**P**	**20 45 17.7**	**+1.9**
JNU				S	**S**	**20 47 04.4**	**+1.4**
JAMN	**Amaminishikomi**	**9.36**	**276**	P	**P**	**20 45 18.0**	**+2.1**
JAMN				S	**S**	**20 47 05.1**	**+1.8**
JSJ	**Shimokoshiki**	**9.56**	**297**	P	**P**	**20 45 19.7**	**+1.7**
JSJ				*e*S	**S**	**20 47 07.7**	**+0.5**
SAI	**Saigo**	**10.04**	**329**	P	**P**	**20 45 24.5**	**+1.6**
JOW	**Kunigami**	**10.25**	**268**	P	**P**	**20 45 26.8**	**+1.5**
JOW				*e*S	**S**	**20 47 22.0**	**+1.5**
JOW	**Kunigami**	**10.25**	**268**	*e*P	**P**	**20 45 26.6**	**+1.2**
JOW				*e*S	**S**	**20 47 17.9**	**-2.6**
JTU	**Tsushima**	**11.15**	**310**	P	**P**	**20 45 36.0**	**+1.3**
JMK	**Ichinoseki**	**11.25**	**6**	P	**P**	**20 45 36.9**	**+1.2**
JMK				S	**S**	**20 47 40.3**	**+0.7**
JKE	**Kume jima 2**	**11.64**	**266**	P	**P**	**20 45 40.8**	**+0.7**
JKE				S	**S**	**20 47 49.2**	**+1.6**
KSBUS	**Busan**	**11.76**	**312**	P	**P**	**20 45 42.4**	**+1.3**
	SNR=18						
KSBUS	**Busan**	**11.76**	**312**	P	**P**	**20 45 42.4**	**+1.3**
	SNR=18						
KSTOY	**TONGYEONG**	**11.98**	**309**	P	**P**	**20 45 44.8**	**+1.3**
	SNR=13						
KSTOY	**TONGYEONG**	**11.98**	**309**	P	**P**	**20 45 44.8**	**+1.3**
	SNR=13						
KSPHA	**Pohang**	**12.18**	**316**	P	**P**	**20 45 46.4**	**+0.7**
	SNR=15						
KSPHA	**Pohang**	**12.18**	**316**	P	**P**	**20 45 46.2**	**+0.6**
	SNR=20						
KSDAG	**Daegu**	**12.21**	**314**	P	**P**	**20 45 46.9**	**+0.9**
	SNR=8.8						
KSDAG	**Daegu**	**12.21**	**314**	P	**P**	**20 45 46.8**	**+0.8**
	SNR=10						
KSULL	**Ulleungdo**	**12.23**	**325**	P	**P**	**20 45 46.4**	**+0.3**
	SNR=9.4						
KSULL	**Ulleungdo**	**12.23**	**325**	P	**P**	**20 45 46.4**	**+0.3**
	SNR=9.4						
KSYOC	**YEONGCHEON**	**12.30**	**315**	P	**P**	**20 45 47.9**	**+1.0**
	SNR=13						
KSYOC	**YEONGCHEON**	**12.30**	**315**	P	**P**	**20 45 47.9**	**+1.0**
	SNR=13						
KSNAH	**Namhae**	**12.32**	**308**	P	**P**	**20 45 48.2**	**+1.1**
	SNR=21						
KSNAH	**Namhae**	**12.32**	**308**	P	**P**	**20 45 47.6**	**+0.5**
	SNR=6.9						
KSJIN	**Jinju**	**12.44**	**309**	P	**P**	**20 45 49.7**	**+1.4**
	SNR=12						
KSJIN	**Jinju**	**12.44**	**309**	P	**P**	**20 45 49.5**	**+1.2**
	SNR=6.9						
KSULJ	**Ulljin**	**12.50**	**318**	P	**P**	**20 45 49.4**	**+0.4**
	SNR=12						
KSULJ	**Ulljin**	**12.50**	**318**	P	**P**	**20 45 48.9**	**-0.1**
	SNR=25						
KSKOH	**Goheung**	**12.68**	**306**	P	**P**	**20 45 51.7**	**+0.8**
	SNR=16						
KSKOH	**Goheung**	**12.68**	**306**	P	**P**	**20 45 51.7**	**+0.8**
	SNR=16						
KSEUS	**ULSEONG**	**12.71**	**315**	P	**P**	**20 45 51.7**	**+0.4**
	SNR=14						
KSEUS	**ULSEONG**	**12.71**	**315**	P	**P**	**20 45 51.7**	**+0.4**
	SNR=14						
KSTBA	**Taebaek**	**13.05**	**318**	P	**P**	**20 45 55.0**	**+0.1**
	SNR=8.3						
KSTBA	**Taebaek**	**13.05**	**318**	P	**P**	**20 45 55.0**	**+0.1**
	SNR=8.3						
KSJDO	**Jindo**	**13.31**	**304**	P	**P**	**20 45 58.1**	**+0.4**
	SNR=14						
KSBON	**Boeun**	**13.36**	**314**	P	**P**	**20 45 58.3**	**+0.2**
	SNR=8.9						
KSCHJ	**Chungju**	**13.48**	**315**	P	**P**	**20 45 59.1**	**-0.3**
	SNR=7.1						
TJN	**Taejon**	**13.57**	**312**	*c i*P	**P**	**20 45 59.9**	**-0.4**
JOT	**Ohata**	**13.65**	**4**	P	**P**	**20 46 01.8**	**+0.7**
JOT				*e*S	**S**	**20 48 23.5**	**-2.5**
KSJMJ	**Jumunjin**	**13.69**	**320**	P	**P**	**20 46 01.3**	**-0.2**
	SNR=6.0						
KSRS	**Korea Array**	**13.89**	**317**	P	**P**	**20 46 03.1**	**-0.5**
	1.6nm,0.3s,baz=135,slow=10,SNR=45						
KSRS				S	S	20 48 40.0	+9.3
	baz=131,slow=15,SNR=10						
KSRS				PcP	**PcP**	**20 50 47.2**	**+0.7**
	0.2nm,0.3s,baz=156,slow=0.7,SNR=6.9						
KSRS				ScP	**ScP**	**20 53 32.7**	**+0.2**
	0.1nm,0.3s,baz=159,slow=1.5,SNR=11						
KSAR	**Wonju Array Be**	**13.90**	**317**	P	**P**	**20 46 03.1**	**-0.7**
KSAR	**Wonju Array Be**	**13.90**	**317**	P	**P**	**20 46 03.1**	**-0.7**
KSAR				S	S	20 48 40.0	+9.0
KSAR				PcP	**PcP**	**20 50 47.2**	**+0.7**
KSAR				ScP	**ScP**	**20 53 32.7**	**+0.2**
KSCEA	**Cheonan**	**13.90**	**314**	P	**P**	**20 46 03.4**	**-0.4**
	SNR=6.9						
KSIJA	**INJE**	**14.13**	**319**	P	**P**	**20 46 06.2**	**0.0**
	SNR=9.0						
JKB	**Kayabe**	**14.15**	**4**	P	**P**	**20 46 06.8**	**+0.5**
SEHB	**SEOHWA**	**14.24**	**320**	P	**P**	**20 46 07.4**	**0.0**
	SNR=9.7						
JOSM	**Okushiri--Mats**	**14.31**	**359**	P	**P**	**20 46 08.7**	**+0.7**
JOSM				*e*S	**S**	**20 48 35.9**	**-2.8**
ERM	**Erimo**	**14.51**	**10**	*e*P	**P**	**20 46 10.5**	**+0.4**
ERM	**Erimo**	**14.51**	**10**	*e*P	**P**	**20 46 10.5**	**+0.4**
INCN	**Inchon**	**14.70**	**315**	*e*P	P	20 46 16.4	+4.2
	53nm,0.7s						
GUMO	**Guam**	**14.87**	**160**	P	**P**	**20 46 14.1**	**-0.2**
	19nm,0.3s,baz=27,slow=1.4,SNR=15						
GUMO	**Guam**	**14.87**	**160**	*e*P	**P**	**20 46 14.1**	**-0.2**
GUMO				*e*S	**S**	**20 48 48.9**	**-1.2**
GUMO				pmax	pmax		
	comp=Z,394nm,1.1s						
GUMO	**Guam**	**14.87**	**160**	*e*P	**P**	**20 46 14.1**	**-0.2**
	comp=Z,394nm,1.1s						
GUMO				*e*S	**S**	**20 48 48.9**	**-1.2**
KSGAH	**Ganghwa**	**14.95**	**315**	P	**P**	**20 46 14.1**	**-0.8**
	SNR=8.9						
JCH	**Churui**	**15.13**	**10**	P	**P**	**20 46 17.6**	**+1.0**
MSHR	**Mys Shultsa**	**16.37**	**337**	*i* P	**P**	**20 46 30.1**	**+0.5**
ASAJ	**Asahikawa**	**16.50**	**7**	P	**P**	**20 46 31.5**	**+0.6**
	comp=Z,7.7nm,0.3s,baz=205,slow=10.0,SNR=14						
ASAJ	**Asahikawa**	**16.50**	**7**	P	**P**	**20 46 31.5**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.3s						
ASAJ	**Asahikawa**	**16.50**	**7**	*e*P	**P**	**20 46 31.4**	**+0.6**
	comp=Z,113nm,0.9s						
ASAJ				*e*S	**S**	**20 49 22.6**	**+2.8**
ASAJ				*e*ScP	**ScP**	**20 53 38.0**	**+0.8**
SSE	**Sheshan**	**16.52**	**286**	P	**P**	**20 46 31.5**	**+0.2**
SSE				S	**S**	**20 49 16.5**	**-4.0**
SSE				ScS	**ScS**	**20 57 18.3**	**+1.1**
SSE				PMZ			
	comp=Z,34nm,0.7s						
SSE				PMZ			
	comp=Z,83nm,6.0s						
NACB	**Ninganchiao**	**16.71**	**262**	*e*P	**P**	**20 46 30.7**	**-2.7**
	comp=Z,50nm,0.5s						
NACB				*e*S	**S**	**20 49 24.4**	**+0.3**
YHNB	**Yeheng**	**16.77**	**264**	*e*P	**P**	**20 46 32.0**	**-2.1**
	comp=Z,45nm,0.6s						
YHNB				*e*S	**S**	**20 49 26.2**	**+0.9**
YUK	**Yuzh-Kuril'sk**	**16.99**	**15**	⇓*i*P	**P**	**20 46 36.7**	**+0.9**
YUK				*i* S	S	20 49 20.7	-7.5
YUK				pmax	pmax		
	comp=N,42nm,0.5s						
YUK				pmax	pmax		
	comp=E,32nm,0.5s						
YUK				pmax	pmax		
	comp=Z,130nm,0.5s						
YUK				pmax	pmax		
	comp=Z,637nm,2.0s						
YUK				smax	smax		
	comp=E,421nm,3.7s						
YUK				smax	smax		
	comp=N,502nm,4.1s						
YULB	**Yu-li**	**17.20**	**260**	*e*P	**P**	**20 46 36.8**	**-1.5**
	comp=N,77nm,0.6s						
SSLB	**Suanglung**	**17.38**	**261**	*e*P	**P**	**20 46 39.5**	**-0.4**
	comp=N,192nm,0.9s						
SSLB				*e*S	**S**	**20 49 37.5**	**+2.0**
USRK	**Ussuriysk Ar.**	**17.57**	**341**	P	**P**	**20 46 42.3**	**+0.9**
	comp=N,8.7nm,0.3s,baz=153,slow=9.9,SNR=240						
USRK				ScP	**ScP**	**20 53 39.5**	**+0.1**
	comp=N,0.2nm,0.3s,baz=135,slow=4.6,SNR=6.8						
TWG	**Pinlang**	**17.58**	**258**	*e*P	**P**	**20 46 40.1**	**-1.8**
	comp=N,225nm,0.5s						
TPUB	**Ta-pu**	**17.81**	**260**	*e*P	**P**	**20 46 43.1**	**-0.8**
	comp=N,40nm,0.7s						
NJ2	**Nanjing**	**18.61**	**288**	*e*P	**P**	**20 46 51.5**	**+0.3**
NJ2				S	**S**	**20 49 56.0**	**+0.8**
NJ2				ScP	**ScP**	**20 53 41.5**	**-0.4**
NJ2				ScS	**ScS**	**20 57 23.5**	**-0.1**
NJ2				PMZ			
	comp=N,80nm,0.7s						
NJ2				PMZ			
	comp=N,970nm,8.2s						
KUR	**Kuril'sk**	**18.62**	**18**	*i* P	**P**	**20 46 52.4**	**+1.4**
KUR				*i* S	**S**	**20 49 49.1**	**-5.8**
KUR				pmax	pmax		
	comp=Z,138nm,0.6s						
MDJ	**Mudanjiang**	**18.70**	**337**	*e*P	**P**	**20 46 53.0**	**+1.2**
	comp=Z,37nm,0.8s						
MDJ				*e*S	**S**	**20 50 01.1**	**+4.8**
MDJ				*e*ScP	**ScP**	**20 53 42.0**	**+0.1**
QZH	**Quanzhou**	**19.16**	**266**	⇓*i*P	**P**	**20 46 56.0**	**-0.3**
QZH				sP	**sP**	**20 49 05.0**	**-1.0**
QZH				S	**S**	**20 50 02.8**	**-1.6**
QZH				ScS	**ScS**	**20 57 24.5**	**-1.2**
QZH				PMZ			
	comp=Z,160nm,1.0s						
QZH				PMZ			
	comp=Z,1µm,2.7s						
SNY	**Shenyang**	**19.29**	**321**	⇑P	**P**	**20 46 57.8**	**+0.6**
SNY				PMZ			
	comp=Z,92nm,1.0s						
YSS	**Yuzh-Sakhalins**	**19.32**	**6**	⇑*i*P	**P**	**20 46 57.8**	**+0.4**
YSS				*e*S	**S**	**20 50 05.0**	**-1.3**
YSS				pmax	pmax		
	comp=Z,70nm,0.8s						
YSS				MLR	MLR		
	comp=Z,400nm,17.0s						
YSS	**Yuzh-Sakhalins**	**19.32**	**6**	*e*P	**P**	**20 46 58.3**	**+0.9**
	comp=Z,84nm,0.7s						
CN2	**Changchun**	**19.74**	**328**	*e*P	**P**	**20 47 01.8**	**+0.5**
CN2				*e*S	**S**	**20 50 11.5**	**-1.7**
CN2				*e*PcP	**PcP**	**20 50 56.0**	**+0.2**
CN2				*e*ScS	**ScS**	**20 57 25.8**	**-1.2**
CN2				PMZ			
	comp=Z,20nm,0.8s						
SZP	**Santa**	**20.47**	**244**	*e*P	**P**	**20 47 08.5**	**+0.3**
	comp=Z,363nm,1.1s						
SZP				*e*S	**S**	**20 50 22.9**	**-2.5**
TIA	**Tai'an**	**20.93**	**299**	⇓P	**P**	**20 47 12.5**	**+0.2**
TIA				sP	**sP**	**20 49 23.3**	**-2.3**
TIA				S	**S**	**20 50 37.5**	**+5.0**
TIA				PMZ			
	comp=Z,210nm,0.8s						
HABR	**Khabarovsk**	**21.02**	**351**	*c e*P	**P**	**20 47 12.7**	**-0.1**
HABR				*e**SP	**sP**	**20 49 23.9**	**-2.5**
HABR				*e*S	**S**	**20 50 35.9**	**+2.5**
HABR				*e*		20 57 31.3	
HABR				pmax	pmax		
	comp=E,9.0nm,0.7s						
HABR				pmax	pmax		
	comp=N,25nm,1.5s						
HABR				pmax	pmax		
	comp=Z,79nm,1.5s						
HABR				MLR	MLR		
	comp=Z,80nm,15.0s						
TGY	**Tagaytay City**	**22.16**	**236**	P	**P**	**20 47 23.9**	**+0.3**
	comp=Z,157nm,0.4s,baz=43,slow=5.2,SNR=4.3						
KLR	**Kul'dur**	**22.32**	**346**	*e*P	**P**	**20 47 21.8**	**-2.8**
KLR				*e*S	**S**	**20 50 51.0**	**-3.1**
KLR				*e*		20 57 32.4	
KLR				pmax	pmax		
	comp=N,40nm,1.6s						
KLR				pmax	pmax		
	comp=E,45nm,1.6s						
KLR				pmax	pmax		
	comp=Z,140nm,1.6s						
WHN	**Wuhan**	**22.35**	**283**	⇓P	**P**	**20 47 26.0**	**+0.9**
WHN				sP	**sP**	**20 49 40.5**	**-0.5**

XAN PMZ
comp=Z,110nm,5.3s
PETK Petropavlovsk- 28.62 23 P P 20 48 21.1 +0.9
comp=Z,11nm,0.5s,baz=190,slow=4.0,SNR=15
PETK ScP **ScP 20 54 07.5 -1.4**
comp=Z,4.5nm,0.8s,baz=197,slow=4.5,SNR=4.0
QIZ Qiongzhong 28.73 259 P **P 20 48 22.0 +0.3**
QIZ sP **sP 20 50 45.0 +0.1**
QIZ S **S 20 52 34.8 -0.5**
QIZ PMZ
comp=Z,31nm,1.7s
QIZ PMZ
comp=Z,150nm,10.3s
QIZ Qiongzhong 28.73 259 *e*P **P 20 48 23.1 +1.5**
comp=Z,35nm,1.1s
PET Petropavlovsk 28.89 24α *i*P **P 20 48 23.7 +1.1**
PET *e*S **S 20 52 34.9 -2.1**
PET pmax pmax
comp=Z,300nm,4.8s
PET pmax pmax
comp=Z,107nm,2.0s
PET pmax pmax
comp=Z,200nm,17.0s
PET MLR MLR
comp=Z,200nm,22.0s
PET MLR MLR
comp=Z,200nm,20.0s
PET Petropavlovsk 28.89 24 *e*P **P 20 48 23.6 +1.0**
comp=Z,578nm,2.1s
BAKI Biak 28.98 188 P **P 20 48 22.9 -1.0**
comp=Z,236nm,0.5s,comp=Z,3μm
TNTI Ternate 29.33 206 *e*P **P 20 48 26.8 -0.1**
comp=Z,101nm,0.7s
GYA Guiyang 29.43 275⇑ *i*P **P 20 48 28.0 +0.1**
GYA PcP **PcP 20 51 19.3 +1.2**
GYA S **S 20 52 47.8 +1.4**
GYA ScP **ScP 20 54 13.0 +0.8**
GYA ScS **ScS 20 58 06.5 -1.8**
GYA PMZ
comp=Z,50nm,0.9s
GYA PMZ
comp=Z,120nm,4.9s
SIJI Sorong 29.59 197 P **P 20 48 29.3 +0.1**
comp=Z,20nm,0.7s,baz=359,slow=11,SNR=12
MYLDM Lahad Datu 30.20 226 *e*P **P 20 48 35.9 +1.5**
comp=Z,120nm,1.3s
SDKM Sandakan 30.70 228⇓P **P 20 48 39.9 +1.1**
KMSI Cibinong 30.96 212 P **P 20 48 40.0 -1.0**
KKM Kota Kinabalu 31.07 230 P **P 20 48 40.5 -1.5**
comp=Z,68nm,1.4s
TSM Tawau 31.28 226⇓P **P 20 48 44.3 +0.5**
CD2 Chengdu 31.45 285 P **P 20 48 45.3 +0.1**
CD2 pP **pP 20 50 11.5 +0.3**
CD2 sP **sP 20 51 10.3 +1.0**
CD2 PcP **PcP 20 51 23.5 +0.1**
CD2 S **S 20 53 17.5 +0.2**
CD2 sS **sS 20 55 58.5 +1.5**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,5.2s
LZH Lanzhou 31.45 294 *e*P **P 20 48 46.0 +0.8**
LZH pP **pP 20 50 13.3 +2.1**
LZH sP **sP 20 51 10.0 +0.6**
LZH PcP **PcP 20 51 25.0 +1.6**
LZH S **S 20 53 14.0 -3.4**
LZH sS **sS 20 55 55.5 -1.5**
LZH SS SS 20 55 59.3 -26
LZH PMZ
comp=Z,32nm,1.0s
LZH PMZ
comp=Z,160nm,4.0s
MRSI Marisa 32.04 215 P **P 20 48 48.9 -1.4**
ULN Ulaanbaatar 32.37 317 *e*P **P 20 48 53.5 +0.6**
ULN *e* 20 51 25.8
ULN pmax pmax
comp=Z,18nm,0.8s
ULN Ulaanbaatar 32.37 317 *e*P **P 20 48 53.5 +0.6**
comp=Z,18nm,0.8s
ULN *e*PcP **PcP 20 51 25.8 0.0**
ULN *e*ScP **ScP 20 54 22.3 +0.6**
MA2 Magadan 32.72 10 *i* P **P 20 48 56.5 +1.1**
SONM Songino Array 32.76 317 P **P 20 48 56.7 +0.6**
comp=Z,9.4nm,0.7s,baz=125,slow=8.4,SNR=79
SONM pP **pP 20 50 26.1 +3.4**
comp=Z,2.2nm,0.6s,baz=117,slow=7.8,SNR=2.6
SONM PcP **PcP 20 51 27.1 +0.3**
comp=Z,6.7nm,0.9s,baz=125,slow=3.0,SNR=7.2
SONM ScP **ScP 20 54 23.4 +0.3**
comp=Z,8.1nm,0.7s,baz=137,slow=3.3,SNR=22
LUWI Luwuk 32.94 212 P P 20 48 54.7 -3.3
SLVN Son La 33.14 267 *e*P **P 20 48 58.9 -0.8**
comp=Z,29nm,1.1s
SLVN *e*PcP **PcP 20 51 29.2 +0.9**
KMI Kunming 33.16 274 P **P 20 49 01.0 +1.0**
KMI pP **pP 20 50 31.5 +4.7**
KMI sP **sP 20 51 23.3 -1.3**
KMI S **S 20 53 43.3 -0.6**
KMI sS **sS 20 56 21.8 -2.6**
KMI PMZ
comp=Z,42nm,1.0s
KMI PMZ
comp=Z,190nm,4.2s
DLV T Lat 33.21 248 *e*P **P 20 49 00.1 -0.4**
MPSI Mapaga 33.24 218 P **P 20 48 59.5 -1.0**
APSI Ampana 33.38 214 P **P 20 49 00.1 -1.5**
UBPT Khong Chiam 34.10 256 P **P 20 49 08.7 +1.0**
comp=Z,29nm,1.3s,comp=Z,950nm
PCI Palu 34.31 217 P **P 20 49 08.5 -1.1**
comp=Z,114nm,1.3s,comp=Z,1μm
SKNT Sakolnakorn 34.66 260 P **P 20 49 13.2 +0.8**
comp=Z,60nm,1.2s,comp=Z,1μm
YAK Yakutsk 34.94 352 *e*P **P 20 49 13.6 -0.5**
YAK *e* 20 50 45.7
YAK *e* 20 51 31.7
YAK *e*S **S 20 54 10.0 +0.8**
YAK *e**SS **sS 20 56 52.0 +1.3**
YAK *e*SS **SS 20 57 13.4 +2.3**
YAK *e* 20 58 31.3
YAK pmax pmax
comp=Z,41nm,0.8s
YAK pmax pmax
comp=N,21nm,1.2s
YAK pmax pmax
comp=Z,176nm,3.6s
YAK pmax pmax
comp=N,254nm,3.0s
YAK pmax pmax
comp=E,59nm,3.5s
YAK smax smax
comp=N,182nm,1.5s
YAK smax smax
comp=E,125nm,1.9s
YAK Yakutsk 34.94 352 *e*P **P 20 49 13.9 -0.2**
comp=E,106nm,1.0s
YAK *e*PcP **PcP 20 51 32.8 +0.1**
YAK *e*S **S 20 54 08.6 -0.6**
GTA Gaotai 34.99 300⇓P **P 20 49 15.5 +0.4**
GTA pP **pP 20 50 45.5 +2.8**
GTA PcP **PcP 20 51 34.3 +0.8**
GTA sP **sP 20 51 42.8 +2.4**
GTA S **S 20 54 10.3 -0.7**
GTA ScP **ScP 20 54 32.0 +0.8**
GTA PcS **PcS 20 55 21.0 -0.2**
GTA sS **sS 20 56 49.8 -2.7**
GTA SS **SS 20 57 04.3 -8.9**
GTA ScS **ScS 20 58 34.3 -2.3**
GTA PMZ
comp=E,28nm,1.2s
GTA PMZ
comp=E,120nm,5.5s
BOD Bodaibo 35.08 336 *e*P **P 20 49 16.1 +0.8**
BOD pmax pmax
comp=Z,20nm,1.3s
BTM Bintulu 35.26 231⇑P **P 20 49 18.5 +1.0**
SMY Shemya 35.65 36 *e*P **P 20 49 21.6 +1.4**
SMY pmax pmax
comp=Z,81nm,0.5s
SMY Shemya 35.65 36 *e*P **P 20 49 21.6 +1.4**
comp=Z,81nm,0.5s
ZAK Zakamensk 35.70 319 *e*P **P 20 49 21.3 +0.4**
ZAK *e* 20 50 58.2
ZAK *e* 20 54 21.0
ZAK pmax pmax
comp=Z,9.0nm,1.1s

KHON Khomkaen 35.93 259 P **P 20 49 23.8 +0.8**
comp=Z,26nm,0.6s
TLY Talaya 36.08 321 P **P 20 49 24.9 +1.1**
comp=Z,9.1nm,0.5s,baz=191,slow=6.0,SNR=7.5
TLY ScP **ScP 20 54 35.1 +0.3**
comp=Z,3.5nm,0.8s,baz=175,slow=4.5,SNR=5.2
TLY Talaya 36.08 321 *e*P **P 20 49 25.1 +1.2**
TLY pmax pmax
comp=Z,20nm,1.4s
TLY Talaya 36.08 321 *e*P **P 20 49 24.8 +1.0**
comp=Z,11nm,0.6s
TLY ScP **ScP 20 54 35.1 +0.3**
TTSI Tana Toraja 36.13 215 P **P 20 49 21.7 -3.0**
SEY Seymchan 36.16 10 P **P 20 49 25.7 +1.4**
comp=Z,35nm,0.8s,baz=190,slow=6.7,SNR=54
SBUM Sibu 36.40 231⇓P **P 20 49 27.9 +1.0**
SBUM Sibu 36.40 231 *e*P **P 20 49 26.9 -0.1**
comp=Z,41nm,1.4s
CRAI Chiangrai 36.62 267 P **P 20 49 27.0 -1.8**
comp=Z,172nm,0.9s,comp=Z,22μm
SPSI Sidrap Palu 36.94 215 P **P 20 49 30.4 -1.0**
UTTA Uttaradit 37.35 263 P **P 20 49 35.2 +0.4**
comp=Z,24nm,0.8s,comp=Z,208nm
PBKT Sadao Pong 37.45 261 P **P 20 49 36.5 +0.9**
comp=Z,95nm,1.2s,comp=Z,1μm
PMG Port Moresby 37.62 168 P **P 20 49 37.1 +0.2**
comp=Z,10nm,0.3s,baz=347,slow=5.7,SNR=13
PMG Port Moresby 37.62 168 *e*P **P 20 49 37.1 +0.2**
PMG pmax pmax
comp=Z,23nm,0.7s
PMG Port Moresby 37.62 168 *e*P **P 20 49 37.1 +0.2**
comp=Z,23nm,0.7s
KAPI Kappang 37.86 214 P **P 20 49 38.9 0.0**
comp=Z,10nm,0.5s,baz=16,slow=7.7,SNR=7.6
KAPI ScP **ScP 20 54 42.4 +0.3**
comp=Z,5.5nm,0.5s,baz=62,slow=5.6,SNR=3.6
KAPI Kappang 37.86 214 *e*P **P 20 49 36.7 -2.2**
comp=Z,89nm,0.6s
KAPI *e*PcP **PcP 20 51 42.9 +0.5**
KAPI *e*ScP **ScP 20 54 42.2 +0.1**
LAMP Lampang 37.88 265 P **P 20 49 40.0 +0.9**
comp=Z,8.8nm,1.1s,comp=Z,91nm
AMKA Amchitka 37.90 41 *e*P **P 20 49 40.0 +1.3**
NAYO Nakonayok 38.11 257 P **P 20 49 42.0 +1.0**
comp=Z,71nm,1.1s,comp=Z,6μm
KBKI Kotabaru 38.32 220 P **P 20 49 41.3 -1.4**
CMMT Chiang Mai 38.38 266 P **P 20 49 43.4 +0.2**
comp=Z,75nm,1.1s,comp=Z,795nm
CHTO Chiang Mai 38.38 266 P **P 20 49 43.4 +0.2**
comp=Z,260nm,1.1s,comp=Z,3μm
CHTO Chiang Mai 38.38 266 *e*P **P 20 49 43.1 -0.1**
CHTO *e* 20 51 45.5
CHTO pmax pmax
comp=Z,69nm,1.2s
CHTO Chiang Mai 38.38 266 *e*P **P 20 49 43.1 -0.1**
comp=Z,69nm,1.2s
CHTO *e*PcP **PcP 20 51 45.5 +1.4**
CHTO *e*ScP **ScP 20 54 44.2 +0.1**
KSM Kuching 38.42 232⇓P **P 20 49 45.0 +1.4**
KSM Kuching 38.42 232 *e*P **P 20 49 43.4 -0.2**
comp=Z,20nm,0.8s
CMAR Chiang Mai Arr 38.51 265 P **P 20 49 44.5 +0.3**
comp=Z,17nm,1.0s,baz=57,slow=8.1,SNR=74
CMAR PcP **PcP 20 51 45.9 +1.4**
comp=Z,7.1nm,0.8s,baz=58,slow=3.4,SNR=18
CMAR ScP **ScP 20 54 46.0 +1.3**
comp=Z,1.5nm,1.0s,baz=68,slow=1.9,SNR=5.6
CMAR PKiKP **PKiKP 20 58 56.3 -0.9**
comp=Z,0.4nm,0.5s,baz=286,slow=1.5,SNR=5.3
STKI Sintang 38.64 229 P **P 20 49 46.0 +0.7**
UTHA Uthaitani 39.20 261 P **P 20 49 50.9 +1.0**
comp=Z,22nm,0.8s,comp=Z,238nm
UMPA Umpang Tak 39.45 262 P **P 20 49 54.0 +2.1**
comp=Z,24nm,1.1s,comp=Z,222nm
MHMT Maesarieng 39.51 265 P **P 20 49 53.2 +0.9**
comp=Z,38nm,1.2s,comp=Z,385nm
MMRI Maumere 39.94 208 P **P 20 49 54.0 -1.8**
MMRI Maumere 39.94 208 P **P 20 49 55.1 -0.7**
comp=Z,126nm,1.1s,comp=Z,1μm
MMRI Maumere 39.94 208 *e*P **P 20 49 55.0 -0.7**
comp=Z,84nm,0.9s
SRDT SRDT 40.00 259 P **P 20 49 57.5 +1.2**
comp=Z,176nm,1.1s,comp=Z,5μm
SOEI Soe 40.18 204 P **P 20 49 57.6 -0.2**
comp=Z,71nm,1.1s,comp=Z,925nm
SOEI Soe 40.18 204 *e*P **P 20 49 56.8 -1.0**
comp=Z,81nm,1.0s
PHET Kaeng Krachan 40.21 257 P **P 20 49 59.4 +1.4**
comp=Z,20nm,1.0s,comp=Z,215nm
PBKI Pangkalan Bun 40.59 226 P P 20 50 05.0 +4.0
PBKI Pangkalan Bun 40.59 226 P **P 20 50 01.9 +0.9**
comp=Z,110nm,1.2s,comp=Z,1μm
KTGM Kuala Trenggan 41.31 244⇑P **P 20 50 08.5 +1.7**
COEN Coen 41.58 175 *e*P **P 20 50 09.3 +0.4**
comp=Z,22nm,0.6s
ATKA Atka Island 41.97 42 *e*P **P 20 50 11.4 0.0**
comp=Z,37nm,1.0s
SRIT Nakonsritamara 42.38 251 P **P 20 50 16.6 +1.4**
comp=Z,60nm,1.2s,comp=Z,8μm
LSA Lhasa 42.42 285 *e*P **P 20 50 17.5 +1.5**
LSA *e* 20 51 57.6
LSA *e*S **S 20 56 03.4 +2.1**
LSA pmax pmax
comp=Z,14nm,0.7s
LSA Lhasa 42.42 285 *e*P **P 20 50 17.5 +1.5**
comp=Z,14nm,0.7s
LSA *e*PcP **PcP 20 51 57.6 -0.2**
LSA *e*ScP **ScP 20 55 02.1 +1.6**
LSA *e*S **S 20 56 03.4 +2.1**
TRTT Trang 42.70 250 P **P 20 50 19.0 +1.2**
comp=Z,57nm,1.3s,comp=Z,863nm
SRBI Singaraja 42.80 217 P **P 20 50 21.5 +3.0**
comp=Z,83nm,0.9s,comp=Z,1μm
SURT Suratani 42.87 252 P **P 20 50 20.7 +1.6**
comp=Z,22nm,1.9s,comp=Z,424nm
KRAB Krabi 42.91 251 P **P 20 50 20.5 +1.0**
comp=Z,86nm,0.9s,comp=Z,772nm
MYKOM Kota Tinggi 42.95 239⇑P **P 20 50 21.5 +1.8**
MYKOM Kota Tinggi 42.95 239 *e*P **P 20 50 20.7 +1.0**
comp=Z,32nm,1.0s
KGM Kluang 43.21 240⇓P **P 20 50 23.2 +1.4**
KULM Kulim 43.33 246 *e*P **P 20 50 23.2 +0.4**
comp=Z,72nm,1.2s
KULM *e*PcP **PcP 20 52 01.6 +1.1**
IPM Ipoh 43.50 245 *e*P **P 20 50 23.8 -0.3**
IPM *e*pP **PcP 20 52 02.2 +1.1**
PKDT Phuket 43.81 251 P **P 20 50 27.9 +1.4**
comp=Z,103nm,0.9s
WMQ Urumqi 44.44 305 P **P 20 50 32.3 +1.2**
WMQ PcP **PcP 20 52 05.3 +1.3**
WMQ pP **pP 20 52 08.3 +4.4**
WMQ sP **sP 20 53 02.8 +2.6**
WMQ S **S 20 56 28.5 -0.4**
WMQ sS **sS 20 59 15.3 -2.1**
WMQ ScS **ScS 20 59 31.0 -2.2**
WMQ PMZ
comp=Z,61nm,0.8s
WMQ PMZ
comp=Z,220nm,3.7s
TAPN Taplejung 45.85 282 *e*P **P 20 50 43.4 +1.0**
comp=Z,48nm,0.4s
BKNI Bangkinang 46.03 240 *e*P **P 20 50 43.5 0.0**
comp=Z,571nm,2.5s
BKNI *e*PP **PP 20 52 42.5 +3.3**
PSI Prapat 46.18 245 P **P 20 50 45.4 +0.5**
comp=Z,60nm,0.8s,baz=40,slow=3.8,SNR=54
PSI PcP **PcP 20 52 11.2 +0.6**
comp=Z,29nm,0.8s,baz=10,slow=2.0,SNR=12
PSI ScP **ScP 20 55 16.2 +0.4**
comp=Z,3.3nm,0.3s,baz=82,slow=7.4,SNR=4.6
PSI Prapat 46.18 245 *e*P **P 20 50 44.8 -0.1**
PSI *e* 20 52 11.4
PSI pmax pmax
comp=Z,64nm,0.8s
PSI Prapat 46.18 245 *e*P **P 20 50 44.8 -0.1**
comp=Z,64nm,0.8s
PSI *e*PcP **PcP 20 52 11.4 +0.7**
PSI *e*ScP **ScP 20 55 16.7 +0.9**
ODAN Odare 46.24 282 *e*P **P 20 50 46.4 +1.1**
comp=Z,111nm,0.5s
LEM Lembang 46.32 227 P **P 20 50 46.0 +0.1**
comp=Z,208nm,1.4s,comp=Z,2μm
LEM Lembang 46.32 227 P **P 20 50 45.6 -0.3**
comp=Z,100nm,0.8s,baz=143,slow=20,SNR=25
KCSI Kotacane, Aceh 46.69 247 P **P 20 50 48.0 -0.6**
comp=Z,51nm,1.1s

KLSI 46.70 232 P **P 20 50 48.8 +0.2**
comp=Z,281nm,1.1s,comp=Z,2μm
KLI Kotabumi 46.73 232 P **P 20 50 49.1 +0.2**
comp=Z,105nm,1.2s,comp=Z,2μm
BLSI Bandar Lampung 46.83 231 P **P 20 50 49.6 0.0**
comp=Z,116nm,1.0s
UNV Unalaska Valle 46.88 41 *e*P **P 20 50 49.5 +0.1**
RAMN Ramite 46.90 282 *e*P **P 20 50 51.5 +1.1**
comp=Z,232nm,0.8s
PPI Padang Panjang 47.02 240 P **P 20 50 51.5 +0.4**
comp=Z,34nm,1.7s,comp=Z,621nm
GUN Gumba 47.30 283 *e*P **P 20 50 54.8 +1.3**
KASI Kota Agung 47.45 231 P **P 20 50 52.8 -1.5**
ZALV Zalesovo Beam 47.58 319 P **P 20 50 54.9 +0.2**
comp=Z,18nm,0.4s,baz=106,slow=7.5,SNR=100
ZALV PcP **PcP 20 52 14.7 -0.2**
comp=Z,12nm,0.5s,baz=127,slow=2.9,SNR=15
ZALV ScP **ScP 20 55 20.2 -0.7**
comp=Z,9.5nm,0.7s,baz=112,slow=4.0,SNR=12
WRAB Tennant Creek 47.68 187 *e*P **P 20 50 55.1 -0.8**
WRAB *e* 20 52 16.7
WRAB *e**PP **pP 20 52 29.5 -1.2**
WRAB *e*S S 20 57 07.9 -6.7
WRAB pmax pmax
comp=Z,32nm,0.4s
WRAB Tennant Creek 47.68 187 *e*P **P 20 50 55.1 -0.8**
comp=Z,32nm,0.4s
WRAB *e*PcP **PcP 20 52 16.7 +1.1**
WRAB *e*pP **pP 20 52 29.5 -1.2**
WRAB *e*ScP **ScP 20 55 22.5 +0.8**
WRAB *e*S S 20 57 07.9 -6.7
WRA Warramunga Arr 47.69 187 P **P 20 50 55.4 -0.6**
comp=Z,39nm,0.3s,baz=6.1,slow=7.9,SNR=167
WRA PcP **PcP 20 52 16.6 +0.9**
comp=Z,16nm,0.7s,baz=359,slow=3.8,SNR=13
WRA ScP **ScP 20 55 22.1 +0.3**
comp=Z,4.7nm,0.8s,baz=3.0,slow=4.6,SNR=5.1
WRA S **S 20 57 10.4 -4.3**
comp=Z,9.5nm,0.9s,baz=5.9,slow=14,SNR=5.6
PKI Pulchoki 47.79 283 *e*P **P 20 50 57.8 +0.7**
comp=Z,35nm,0.4s
PKIN Phulchoki 47.80 283 *e*P **P 20 50 57.7 +0.6**
comp=Z,40nm,0.4s
KKN Kakani 47.85 283 *e*P **P 20 50 58.4 +0.9**
comp=Z,106nm,0.6s
CTA Charters Tower 47.96 172 P **P 20 50 58.1 +0.1**
comp=Z,33nm,0.7s,baz=2.6,slow=8.6,SNR=55
CTAO Charters Tower 47.96 172 *e*P **P 20 50 57.4 -0.6**
CTAO *e* 20 52 16.3
CTAO *e**PP **pP 20 52 32.8 -0.1**
CTAO pmax pmax
comp=Z,52nm,0.9s
CTAO Charters Tower 47.96 172 *e*P **P 20 50 57.4 -0.6**
comp=Z,52nm,0.9s
CTAO *e*PcP **PcP 20 52 16.3 -0.4**
CTAO *e*pP **pP 20 52 32.8 -0.1**
DMN Daman 48.04 283 *e*P **P 20 50 59.9 +1.0**
comp=Z,88nm,0.5s
GSI Gunungsitoli 48.15 244⇓ *i*P **P 20 50 59.2 -0.4**
comp=Z,270nm,1.2s
GKN Gorkha 48.35 284 *e*P **P 20 51 02.0 +0.8**
comp=Z,70nm,0.5s
MKAR Makanchi Array 48.39 309 P **P 20 51 01.7 +0.7**
comp=Z,14nm,0.5s,baz=93,slow=9.3,SNR=182
MKAR PcP **PcP 20 52 18.3 +0.3**
comp=Z,11nm,0.7s,baz=92,slow=6.3,SNR=9.6
MKAR ScP **ScP 20 55 24.7 +0.2**
comp=Z,8.2nm,0.7s,baz=84,slow=5.2,SNR=17
MKAR S **S 20 57 23.1 -0.8**
comp=Z,3.0nm,1.1s,baz=88,slow=12,SNR=7.8
MKAR Makanchi Array 48.39 309 P **P 20 51 01.7 +0.7**
MKAR 20 52 18.3
MKAR S **S 20 57 23.1 -0.8**
MKAR pmax pmax
comp=Z,14nm,0.5s
MKAR pmax pmax
comp=Z,11nm,0.7s
MKAR pmax pmax
comp=N,8.0nm,0.7s
MKAR smax smax
comp=N,3.0nm,1.1s
NVS Novosibirsk 48.66 320 *e*P **P 20 51 02.9 +0.2**
NVS *e* 20 52 18.3
NVS *e*S **S 20 57 23.8 -3.3**
NVS *e*SS **ScS 20 59 56.4 -4.1**
NVS pmax pmax
comp=N,4.0nm,0.8s
NVS pmax pmax
comp=E,8.0nm,0.8s
NVS pmax pmax
comp=Z,12nm,0.8s
NVS pmax pmax
comp=Z,6.0nm,0.8s
NVS pmax pmax
comp=N,2.0nm,0.5s
NVS pmax pmax
comp=E,4.0nm,0.8s
NVS smax smax
comp=N,99nm,3.4s
NVS smax smax
comp=E,54nm,3.4s
DANN Dangsing 49.03 285 *e*P **P 20 51 07.6 +1.3**
KOLN Koldanda 49.30 284 *e*P **P 20 51 09.1 +0.8**
comp=E,49nm,0.3s
TNA Tin City 49.73 26⇑ *i*P **P 20 51 11.9 +1.4**
comp=E,42nm,1.0s
SDPT Sand Point 50.59 40⇑ *i*P **P 20 51 16.6 -0.4**
comp=E,108nm,0.6s
ASAR Alice Springs 51.42 187 P **P 20 51 22.7 -0.8**
comp=E,25nm,0.6s,baz=16,slow=13,SNR=434
ASAR PcP **PcP 20 52 30.6 +1.1**
comp=E,14nm,0.7s,baz=7.2,slow=3.7,SNR=17
ASAR ScP **ScP 20 55 38.3 +0.5**
comp=E,2.2nm,0.8s,baz=8.8,slow=4.5,SNR=4.7
ASAR S **S 20 58 01.9 -3.6**
comp=E,6.2nm,1.0s,baz=17,slow=17,SNR=12
MBWA Marble Bar 52.33 204⇓ *i*P **P 20 51 29.8 -0.2**
comp=E,32nm,0.7s
MBWA *e*PcP **PcP 20 52 32.7 -0.2**
MBWA *e*pP **pP 20 53 04.7 -2.5**
MBWA *e*PP **PP 20 53 32.9 -2.8**
ULHL Ulahol 52.86 304 P P 20 51 30.6 -3.4
SNR=16
TKM2 Tokmak 2 53.27 304 P **P 20 51 38.2 +1.3**
SNR=40
TKM2 Tokmak 2 53.27 304⇓ *i*P **P 20 51 38.0 +1.2**
TKM2 *e* 20 52 35.8
TKM2 *e*S **S 20 58 31.1 +0.8**
TKM2 pmax pmax
comp=Z,31nm,0.6s
TKM2 Tokmak 2 53.27 304⇓ *i*P **P 20 51 38.0 +1.2**
comp=Z,31nm,0.6s
TKM2 *e*PcP **PcP 20 52 35.8 -0.8**
TKM2 *e*S **S 20 58 31.1 +0.8**
KZA Kyzart 53.61 303 P **P 20 51 41.7 +2.2**
SNR=26
KBK Karagaybulak 53.77 304 P **P 20 51 41.7 +1.3**
SNR=43
CHMS Chumysh 53.88 305 P **P 20 51 42.4 +1.4**
SNR=10
SVW2 Sparrevohn 53.92 33 *e*P **P 20 51 42.5 +1.6**
comp=Z,24nm,1.1s
EIDS Eidsvold 53.92 167 *e*P **P 20 51 41.6 +0.3**
comp=Z,46nm,0.8s
EIDS *e*PP PP 20 53 43.9 -6.0
FRU Bishkek 54.00 304 *i* P **P 20 51 42.0 +0.2**
FRU *i* S **S 20 58 40.0 +0.5**
FRU *i* 20 58 48.0
FRU smax smax
comp=N,70nm,2.4s
USP Ospenovka 54.03 305 P **P 20 51 42.7 +0.6**
SNR=19
AAK Ala-Archa 54.11 304 P **P 20 51 43.9 +1.2**
SNR=12
AAK Ala-Archa 54.11 304 *e*P **P 20 51 43.9 +1.2**
AAK pmax pmax
comp=Z,25nm,0.6s
AAK Ala-Archa 54.11 304 *e*P **P 20 51 43.9 +1.2**
comp=Z,25nm,0.6s
EKS2 Erkin-Say 54.63 304 P **P 20 51 47.5 +1.1**
SNR=27
EKS2 Erkin-Say 54.63 304 *e*P **P 20 51 47.0 +0.6**
EKS2 *e* 20 52 42.0
EKS2 pmax pmax
comp=Z,16nm,0.6s
EKS2 Erkin-Say 54.63 304 *e*P **P 20 51 47.0 +0.6**

comp=Z,16nm,0.6s
EKS2 ePcP PcP 20 52 42.0 +0.2
EKS2 epP pP 20 53 11.4 -13
EKS2 eScP ScP 20 55 51.0 -0.9
AML Almayashu 54.76 304 P P 20 51 49.4 +1.7
SNR=36
KDAK Kodiak Island 55.15 37 P P 20 51 50.0 +0.5
comp=Z,25nm,0.7s,baz=349,slow=10,SNR=14
KDAK Kodiak Island 55.15 37 eP P 20 51 50.0 +0.5
KDAK pmax pmax
comp=Z,119nm,1.5s
KDAK Kodiak Island 55.15 37 eP P 20 51 50.0 +0.5
comp=Z,119nm,1.5s
RSO Redoubt South 55.23 34 eP P 20 51 51.2 +0.9
IM04 Indian Mountai 55.44 27 eP P 20 51 52.7 +1.3
PPLA Purkeypile 55.72 31 eP P 20 51 55.1 +1.5
comp=Z,48nm,1.0s
CAST Castle Rocks 55.82 30 eP P 20 51 55.8 +1.6
comp=Z,34nm,0.9s
CAST epP pP 20 53 40.7 +7.7
DZM Mont Dzumac 55.84 150 P P 20 51 56.2 +1.3
comp=Z,28nm,0.7s,baz=4.3,slow=7.9,SNR=16
BVAR Borovoye Array 56.10 317 P P 20 51 57.1 +0.8
comp=Z,110nm,0.4s,baz=90,slow=7.0,SNR=679
BVAR PcP PcP 20 52 47.7 +0.6
comp=Z,7.5nm,0.5s,baz=98,slow=2.7,SNR=3.9
BVAR ScP ScP 20 55 57.3 -0.7
comp=Z,4.5nm,0.6s,baz=93,slow=4.6,SNR=5.9
BVAR S S 20 59 05.6 -0.9
comp=Z,5.2nm,0.7s,baz=87,slow=13,SNR=14
BRVK Borovoye 56.16 317 ⇓iP P 20 51 57.4 +0.7
BRVK *e* 20 52 47.7
BRVK pmax pmax
comp=Z,72nm,0.6s
BRVK Borovoye 56.16 317 ⇓iP P 20 51 57.4 +0.7
comp=Z,72nm,0.6s
BRVK ePcP PcP 20 52 47.7 +0.3
BRVK eScP ScP 20 55 57.2 -1.0
SUA Susitna One 56.28 33 eP P 20 51 56.9 -0.6
comp=Z,30nm,0.9s
BPAW Bear Paw Mtn. 56.37 30⇑iP P 20 51 59.0 +0.9
comp=Z,8.1nm,1.0s
MLY Manley 56.57 28 eP P 20 52 01.0 +1.6
comp=Z,42nm,0.9s
TRF Thorofare Moun 56.62 30⇑iP P 20 52 00.4 +0.4
comp=Z,282nm,2.1s
TRF ePP PP 20 54 17.9 +5.0
SEW Seward 56.85 34⇑iP P 20 52 01.3 0.0
comp=Z,84nm,1.4s
HYB Hyderabad 56.94 273 iP P 20 52 02.0 -0.7
HYB ePcP PcP 20 52 50.0 -1.1
KKAR Karatay Array 56.95 305⇓eP P 20 52 03.0 +0.6
KKAR e*PP pP 20 53 45.8 +4.1
KKAR eS S 20 59 17.4 -0.5
KKAR Karatay Array 56.95 305⇓eP P 20 52 03.0 +0.6
KKAR epP pP 20 53 45.8 +4.1
KKAR eS S 20 59 17.4 -0.5
COLD Coldfoot 57.03 26⇑iP P 20 52 03.9 +1.5
comp=Z,35nm,0.9s
BWN Browne 57.04 30 eP P 20 52 04.6 +2.0
comp=Z,100nm,1.0s
PMR Palmer 57.06 33⇑iP P 20 52 02.6 -0.1
PMR e*PP pP 20 53 39.6 -2.5
PMR pmax pmax
comp=Z,55nm,1.1s
PMR Palmer 57.06 33⇑iP P 20 52 02.5 -0.1
comp=Z,55nm,1.1s
PMR epP pP 20 53 39.6 -2.5
MCK McKinley 57.25 30⇑iP P 20 52 04.5 +0.5
MCK pmax pmax
comp=Z,102nm,0.9s
MCK McKinley 57.25 30⇑iP P 20 52 04.5 +0.5
comp=Z,102nm,0.9s
RND Reindeer 57.27 30 eP P 20 52 04.7 +0.5
RND pmax pmax
comp=Z,44nm,0.8s
RND Reindeer 57.27 30 eP P 20 52 04.7 +0.5
comp=Z,44nm,0.8s
SML Sawmill 57.44 32⇑iP P 20 52 05.6 +0.2
SML e*PP pP 20 53 44.8 -0.2
SML pmax pmax
comp=Z,14nm,1.0s
SML Sawmill 57.44 32⇑iP P 20 52 05.6 +0.2
comp=Z,14nm,1.0s
SML epP pP 20 53 44.8 -0.2
MDM Murphy Dome 57.62 29 eP P 20 52 08.4 +1.8
comp=Z,14nm,0.7s
WRH Wood River Hil 57.66 29 eP P 20 52 07.1 +0.3
comp=Z,17nm,1.0s
COLA College 57.78 29d iP P 20 52 08.9 +1.3
COLA pmax pmax
comp=Z,151nm,1.3s
COLA College 57.78 29⇑iP P 20 52 07.8 +0.2
comp=Z,25nm,0.6s
CCB Clear Creek Bu 57.79 29 eP P 20 52 07.8 +0.1
comp=Z,25nm,0.9s
SCM Sheep Creek Mo 57.92 32 eP P 20 52 09.7 +1.0
SCM pmax pmax
comp=Z,77nm,1.1s
SCM Sheep Creek Mo 57.92 32 eP P 20 52 09.7 +1.0
comp=Z,77nm,1.1s
HDA Harding Lake 58.15 29 eP P 20 52 10.3 +0.2
comp=Z,64nm,1.2s
ILAR Eielson Array 58.19 29 P P 20 52 10.1 -0.3
comp=Z,8.9nm,0.5s,baz=254,slow=5.6,SNR=97
ILAR pP pP 20 53 51.3 +0.9
comp=Z,1.4nm,0.8s,baz=261,slow=6.1,SNR=2.8
KLU Klutina 58.59 33 eP P 20 52 14.4 +1.1
comp=Z,33nm,0.9s
DIV Divide 58.67 33⇑iP P 20 52 14.4 +0.6
comp=Z,217nm,2.2s
PAX Paxson 58.79 31⇑iP P 20 52 15.3 +0.7
PAX pmax pmax
comp=Z,131nm,1.6s
PAX Paxson 58.79 31⇑iP P 20 52 15.3 +0.7
comp=Z,131nm,1.6s
ARMA Armidale 58.94 168⇓iP P 20 52 16.1 +0.1
comp=Z,30nm,0.7s
POHA Pohakuloa 59.20 83 P P 20 52 20.3 +2.1
RAGM Ragged Mountai 59.23 34 eP P 20 52 19.2 +1.7
comp=Z,156nm,2.0s
BMRM Bremner River 59.24 33⇑iP P 20 52 18.3 +0.7
comp=Z,123nm,1.1s
BMRM epP pP 20 53 58.3 +0.3
FORT Forrest 59.25 192⇓iP P 20 52 17.8 -0.2
comp=Z,116nm,0.5s
FORT ePcP PcP 20 52 59.7 -0.1
PALK Pallekele 59.30 262 eP P 20 52 19.4 +0.6
PALK Pallekele 59.30 262 eP P 20 52 19.4 +0.6
STKA Stephens Creek 59.31 178 P P 20 52 18.4 0.0
comp=Z,24nm,0.5s,baz=356,slow=6.5,SNR=63
STKA Stephens Creek 59.31 178 eP P 20 52 18.4 0.0
STKA pmax pmax
comp=Z,6.0nm,0.6s
STKA Stephens Creek 59.31 178 eP P 20 52 18.4 0.0
comp=Z,5.5nm,0.6s
MENT Mentasta 59.59 31 eP P 20 52 21.3 +1.4
KBL Kabul 59.80 296 eP P 20 52 22.3 +0.3
KBL e 20 53 02.5
KBL eS S 20 59 53.4 -1.2
KBL pmax pmax
comp=Z,40nm,0.8s
KBL Kabul 59.80 296 eP P 20 52 22.3 +0.3
comp=Z,40nm,0.8s
KBL ePcP PcP 20 53 02.5 0.0
KBL eS S 20 59 53.4 -1.2
BBOO Buckleboo 60.32 184 eP P 20 52 25.5 +0.4
comp=Z,144nm,1.5s
EGAK Eagle 60.64 29⇑eP P 20 52 26.9 +0.1
comp=Z,20nm,0.6s
POO Poona 60.68 277 eP P 20 52 27.0 -0.9
SVE Sverdlovsk 61.39 322⇓iP P 20 52 33.0 +1.1
SVE eS S 21 00 12.6 -0.7
SVE pmax pmax
comp=Z,29nm,0.8s
DAWY Dawson 61.46 30⇑iP P 20 52 33.5 +1.2
comp=Z,83nm,1.7s
DAWY epP pP 20 54 16.3 +2.5
ARU Arti 62.58 322c iP P 20 52 39.8 +0.2
ARU 20 53 11.4
ARU *PP pP 20 54 23.3 +1.7
ARU 20 55 06.6
ARU 21 01 36.3
ARU pmax pmax
comp=Z,41nm,0.7s
ARU Arti 62.58 322⇓iP P 20 52 39.7 0.0
comp=Z,57nm,0.4s
HYT Haines Junctio 62.71 33 eP P 20 52 42.0 +1.4
HYT epP pP 20 54 23.6 +1.0
ABKAR Akbulak array 63.09 314⇓iP P 20 52 43.1 +0.1
ABKAR epP pP 20 54 23.5 -1.7
CAN Canberra 63.33 172 eP P 20 52 45.4 +0.7
CAN pmax pmax
comp=Z,56nm,1.3s
CAN Canberra 63.33 172 eP P 20 52 45.4 +0.7
comp=Z,56nm,1.3s
INK Inuvik 63.34 25 P P 20 52 44.6 +0.3
comp=Z,11nm,0.9s,baz=289,slow=6.7,SNR=23
INK pP pP 20 54 26.5 -0.1
comp=Z,1.9nm,0.6s,baz=278,slow=5.7,SNR=2.3
INK Inuvik 63.34 25⇑iP P 20 52 44.5 +0.2
INK e*PP pP 20 54 25.5 -1.1
INK pmax pmax
comp=Z,11nm,0.9s
INK Inuvik 63.34 25⇑iP P 20 52 44.5 +0.2
comp=Z,11nm,0.9s
INK epP pP 20 54 25.4 -1.1
SKAG Skagway 64.01 34 eP P 20 52 50.3 +1.6
comp=Z,151nm,2.1s
CRAG Craig 66.05 38 eP P 20 53 03.5 +1.8
comp=Z,63nm,1.5s
WRAK Wrangell Islan 66.23 37 eP P 20 53 03.7 +0.9
comp=Z,42nm,1.4s
IMYA Miami 66.31 300 eP P 20 53 05.6 +1.7
DLBC Dease Lake 66.92 35 eP P 20 53 08.7 +1.5
comp=Z,46nm,1.4s
IAKL Akkelmad 67.26 300 eP P 20 53 11.3 +1.4
GEYT Alibeck 67.33 302 P P 20 53 10.9 +0.8
comp=Z,11nm,0.8s,baz=72,slow=4.8,SNR=23
PRGR Permogore 67.89 329 eP P 20 53 11.9 -1.0
PRGR eS S 21 01 29.7 -1.4
PRGR pmax pmax
comp=Z,17nm,0.5s
IKOO Kooshah 68.43 296 eP P 20 53 18.5 +1.4
ITEG Tejag 68.47 297 eP P 20 53 18.7 +1.4
TMCR Tamitsa 70.28 333 eP P 20 53 28.0 +0.7
TMCR e 20 56 11.3
TMCR pmax pmax
comp=Z,23nm,0.8s
OUZ Omahuta 70.31 151 eP P 20 53 30.4 +2.6
comp=Z,46nm,1.3s
TAU Tasmania Unive 70.65 174 eP P 20 53 30.2 +0.6
TAU Tasmania Unive 70.65 174 eP P 20 53 30.2 +0.6
IGLO Ghaloghah 71.03 302 eP P 20 53 33.5 +1.0
IBAF Bafgh 71.45 296 eP P 20 53 36.3 +1.2
RES Resolute Bay 71.93 13 eP P 20 53 37.5 +0.7
RES e*PP pP 20 55 24.0 +1.5
RES pmax pmax
comp=Z,21nm,1.1s
RES Resolute Bay 71.93 13 eP P 20 53 37.5 +0.7
comp=Z,20nm,1.1s
RES epP pP 20 55 24.0 +1.5
IALA Alasht 71.95 302 eP P 20 53 39.1 +1.0
ICHK Chekchek 72.13 297 eP P 20 53 40.1 +1.0
ARCES ARCESS Array B 72.21 340 P P 20 53 39.8 +1.2
comp=Z,6.9nm,0.4s,baz=69,slow=8.5,SNR=101
ARE0 ARCESS Array S 72.21 340 eP P 20 53 39.2 +0.6
IBND Bandar-abas 72.22 292 eP P 20 53 40.2 +0.8
IBND eP P 20 53 40.6 +1.3
IMEH Mehriz 72.29 297 eP P 20 53 39.9 -0.1
YKA Yellowknife Ar 72.59 28 P P 20 53 41.0 +0.2
comp=Z,8.1nm,0.4s,baz=297,slow=6.0,SNR=37
YKA pP pP 20 55 27.3 +0.5
comp=Z,2.5nm,0.7s,baz=295,slow=6.1,SNR=2.7
IDMV Damavand 72.72 301 eP P 20 53 43.6 +1.0
ISAD Sadrabad 72.82 297 eP P 20 53 43.4 +0.2
IAFJ Afjeh 72.86 302 eP P 20 53 44.6 +1.3
IZEF Zefreh 73.51 299 eP P 20 53 48.5 +1.4
HATD Hatta, Dubai 73.57 290⇓iP P 20 53 48.0 +0.8
SNR=19
VRHR Novokhopersk 73.72 319 eP P 20 53 47.0 -0.5
VRHR e*PP pP 20 55 36.8 +2.9
VRHR eS S 21 02 34.2 -3.3
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR smax smax
comp=N,40nm,0.9s
VRHR smax smax
comp=Z,4.0nm,0.8s
VRHR smax smax
comp=E,30nm,1.0s
IGZV Ghazvin 73.78 303 eP P 20 53 49.8 +1.2
NAZ Nazwa, Dubai 73.90 290⇓iP P 20 53 49.9 +0.9
SNR=11
IKLH Kolahrood 73.93 299 eP P 20 53 50.5 +1.0
FAQ Al Faqa, Dubai 74.05 290 iP P 20 53 50.3 +0.4
SNR=24
NLWA Neilton Lookou 74.17 45 eP P 20 53 52.5 +2.3
NLWA epP pP 20 55 43.8 +7.0
ASUD Al Ashush, Dub 74.32 290⇓iP P 20 53 52.3 +0.9
SNR=12
URZ Urewera 74.39 150 eP P 20 53 50.8 -0.6
comp=E,34nm,1.1s
E03A Lebam 74.70 45 epP pP 20 55 46.5 +6.6
IPIR Pirpir 74.71 299 eP P 20 53 53.6 -0.3
OBN Obninsk 74.76 325c iP P 20 53 54.0 +0.6
OBN i *PP pP 20 55 45.4 +5.3
OBN i 20 56 52.2
OBN eSS SS 21 07 47.5 -1.5
OBN pmax pmax
comp=Z,24nm,0.8s
OBN Obninsk 74.76 325 eP P 20 53 53.9 +0.6
BKZ Black Stump Fm 74.88 151 eP P 20 53 53.8 -0.4
comp=Z,46nm,1.1s
VSR Storozhevoye 75.07 320 eP P 20 53 55.5 +0.3
VSR e*PP pP 20 55 46.2 +4.2
VSR eS S 21 02 49.9 -2.4
VSR pmax pmax
comp=Z,20nm,0.9s
VSR pmax pmax
comp=N,10.0nm,0.7s
VSR pmax pmax
comp=E,20nm,0.9s
VSR smax smax
comp=E,60nm,1.1s
VSR smax smax
comp=Z,4.0nm,1.0s
VSR smax smax
comp=N,30nm,0.9s
ISRB Sarab 75.09 305 eP P 20 53 56.4 +0.6
FL2 Flat Top 2 75.61 45 P P 20 54 00.5 +2.0
TDL Tradedollar La 75.63 45 P P 20 54 00.3 +1.7
F04A Amboy 75.68 46 eP P 20 54 00.7 +2.0
F04A epP pP 20 55 51.2 +5.5
LON Longmire 75.72 45 eP P 20 53 59.7 +0.7
LON Longmire 75.72 45 eP P 20 53 59.7 +0.7
KBZ Khabaz 75.98 312 P P 20 54 01.1 +0.8
comp=N,26nm,0.8s,baz=90,slow=6.9,SNR=54
KBZ pP pP 20 55 47.4 -0.1
comp=N,3.3nm,0.8s,baz=64,slow=5.1,SNR=2.6
BFZ Birch Farm 76.04 152 eP P 20 54 00.8 +0.2
comp=N,50nm,0.8s
LTY Liberty 76.20 44 eP P 20 54 03.2 +1.6
LTY epP pP 20 55 53.9 +5.0
GNI Garni 76.23 308d iP P 20 54 03.3 +1.2
GNI pmax pmax
comp=Z,26nm,1.5s
GNI Garni 76.23 308 eP P 20 54 03.8 +1.7
comp=Z,82nm,2.0s
VLL Laurance Lake 76.35 46 P P 20 54 04.7 +2.1
H04A Detroit Lake 76.36 47 P P 20 54 03.6 +1.1
FINES FINESS Array B 76.40 333 P P 20 54 02.4 0.0
comp=Z,29nm,0.4s,baz=79,slow=4.8,SNR=419
FINES pP pP 20 55 45.4 -4.3
comp=Z,2.5nm,0.7s,baz=64,slow=6.3,SNR=2.4
FINES S S 21 03 04.4 -1.8
comp=Z,2.8nm,0.8s,baz=46,slow=16,SNR=5.8
KHZ Kahutara 76.45 155 eP P 20 54 01.7 -1.1
comp=Z,44nm,1.1s
B08A Colville Reser 76.52 42 eP P 20 54 04.5 +1.2
B08A epP pP 20 55 50.0 -0.8
RPZ Rata Peaks 76.69 157 eP P 20 54 02.7 -1.4
comp=Z,439nm,2.5s
IKOM Komasi 76.69 302 eP P 20 54 04.6 -0.2
HUMO Hull Mountain 76.75 49 eP P 20 54 06.2 +1.5
comp=Z,24nm,1.5s
EAK Akyaka 76.79 309 iP P 20 54 06.5 +1.3
KHMM Horse Mountain 76.97 51 eP P 20 54 06.1 0.0
comp=Z,36nm,1.3s
KHMM epP pP 20 55 48.2 -5.4
CROR Criterion Ridg 77.00 46 P P 20 54 07.6 +1.5
VTHM Trough 77.18 46 P P 20 54 09.0 +1.9
YBH Yreka Blue Hor 77.29 50 eP P 20 54 09.3 +1.5
YBH e*PP pP 20 55 53.4 -2.0
YBH pmax pmax
comp=Z,11nm,0.9s
YBH Yreka Blue Hor 77.29 50 eP P 20 54 09.3 +1.5
comp=Z,11nm,0.9s
YBH epP pP 20 55 53.4 -2.0
D08A Wollman Farm, 77.36 43 eP P 20 54 09.7 +1.8
D08A epP pP 20 56 01.4 +5.8
C09A Chrisman Ranch 77.41 43 eP P 20 54 09.6 +1.4
C09A epP pP 20 55 54.5 -1.3
EDM Edmonton 77.58 36 eP P 20 54 09.9 +0.8
EDM e*PP pP 20 55 56.6 -0.2
EDM pmax pmax
comp=Z,66nm,1.4s
EDM Edmonton 77.58 36 eP P 20 54 09.9 +0.8
comp=Z,66nm,1.4s
EDM epP pP 20 55 56.6 -0.2
VSU Vasula 77.77 330d iP P 20 54 09.9 0.0
VSU pmax pmax
comp=Z,108nm,1.4s
DAGI Agillar 77.78 310 iP P 20 54 11.6 +1.1
DBOC Borcka 77.83 310 iP P 20 54 11.4 +0.8
NEW Newport 77.88 42 eP P 20 54 11.6 +0.8
NEW e*PP pP 20 55 56.1 -2.5
NEW Newport 77.88 42 eP P 20 54 11.6 +0.8
NEW epP pP 20 55 56.1 -2.5
WDC Whiskeytown Da 77.91 51 eP P 20 54 12.4 +1.4
WDC pmax pmax
comp=Z,22nm,1.3s
WDC Whiskeytown Da 77.91 51 eP P 20 54 12.4 +1.4
comp=Z,22nm,1.3s
EATA Eleskirt 77.91 309 iP P 20 54 13.3 +1.8
DBAD Bademkaya 77.95 310 iP P 20 54 12.5 +1.1
HAKT HAKKARI 78.06 306 iP P 20 54 13.2 +1.0
K05A Summer Lake 78.06 48 epP pP 20 56 01.3 +1.3
E09A Wood Farm, Sta 78.08 44 eP P 20 54 13.5 +1.6
E09A epP pP 20 56 04.6 +4.9
SOC Sochi 78.12 313 eP P 20 54 10.8 -1.3
SOC e 20 57 14.1
SOC eS S 21 03 20.9 -4.2
SOC eSS SS 21 08 37.0 -2.8
SOC pmax pmax
comp=Z,24nm,0.7s
G08A Pilot Rock 78.14 45 eP P 20 54 13.8 +1.4
G08A epP pP 20 56 05.6 +5.3
EKAR Karacoban 78.47 308 iP P 20 54 16.7 +2.3
ERZM Erzurum 78.67 309 iP P 20 54 17.5 +2.0
MOD Modoc 78.83 49 eP P 20 54 17.0 +0.9
comp=Z,31nm,1.7s
F10A Beach Ranch, E 78.90 44 eP P 20 54 18.1 +1.7
comp=Z,20nm,1.5s
ANN Anapa 79.01 315 eP P 20 54 16.7 -0.1
ANN e*PP pP 20 56 08.7 +3.6
ANN eS S 21 03 32.9 -1.4
ANN pmax pmax
comp=Z,50nm,0.9s
OHCM Honcut 79.19 51 eP P 20 54 19.1 +1.3
OHCM epP pP 20 56 06.0 -0.2
WALA Waterton Lakes 79.35 40 eP P 20 54 20.0 +1.3
comp=Z,54nm,1.7s
BSMT Bassoo Peak 79.45 41 eP P 20 54 20.0 +0.6
BSMT epP pP 20 56 07.4 -0.4
BLMT Blacktail Moun 79.62 41 eP P 20 54 21.8 +1.5
BLMT epP pP 20 56 14.2 +5.5
WVOR Wild Horse Val 79.68 47 eP P 20 54 21.7 +1.1
WVOR e*PP pP 20 56 07.1 -1.9
WVOR Wild Horse Val 79.68 47 eP P 20 54 21.7 +1.1
WVOR epP pP 20 56 07.1 -1.9
JTMT Jette 79.80 41 eP P 20 54 21.4 +0.3
JTMT epP pP 20 56 09.3 -0.3
YBMT Yellow Bay 79.90 41 eP P 20 54 21.9 +0.2
YBMT epP pP 20 56 09.5 -0.6
KELT Kelkit 80.00 310 iP P 20 54 24.0 +1.6
SWMT Swartz Lake 80.08 41 eP P 20 54 22.6 0.0
SWMT epP pP 20 56 09.7 -1.5
MARD Mardin 80.25 307 iP P 20 54 25.0 +1.2
GRSN GIRESUNGRSN 80.30 311 iP P 20 54 24.0 +0.2
MSO Missoula 80.46 42 eP P 20 54 25.7 +1.1
MSO epP pP 20 56 18.4 +5.0
SLMT Seeley Lake 80.51 41 eP P 20 54 25.6 +0.6
SLMT epP pP 20 56 11.7 -2.0
CMB Columbia Colle 80.55 52 P P 20 54 25.7 +0.5
CMB e*PP pP 20 56 12.2 -1.7
CMB pmax pmax
comp=Z,20nm,1.4s
CMB Columbia Colle 80.55 52 P P 20 54 25.7 +0.5
comp=Z,20nm,1.4s
CMB epP pP 20 56 12.2 -1.7
KIEV Kiev 80.82 323d iP P 20 54 26.0 -0.2
KIEV pmax pmax
comp=Z,14nm,0.7s
KIEV Kiev 80.82 323 eP P 20 54 25.6 -0.6
comp=Z,15nm,0.8s
CHMT Chamberlain Mo 80.82 42 eP P 20 54 26.8 +0.2
CHMT epP pP 20 56 18.1 +2.7
KEMA Kemaliye 80.93 310 iP P 20 54 28.5 +1.3
WAKR Walker 80.99 51 eP P 20 54 28.6 +0.9
SIM Simferopol' 81.00 316c iP P 20 54 28.3 +1.0
SIM eS S 21 03 52.0 -2.7
SIM pmax pmax
comp=Z,18nm,0.9s
MFID Camas Ranch 81.01 46 eP P 20 54 28.7 +1.2
MFID epP pP 20 56 15.2 -1.2
ERBA Erbaa 81.42 311 iP P 20 54 30.9 +1.3
MALT Malatya 81.43 309⇑iP P 20 54 31.8 +2.0
MALT Malatya 81.43 309⇑iP P 20 54 31.8 +2.0
BMN Battle Mountai 81.57 49 eP P 20 54 31.6 +1.1
BMN e*PP pP 20 56 17.2 -2.4
BMN pmax pmax
comp=Z,34nm,1.8s
BMN Battle Mountai 81.57 49 eP P 20 54 31.6 +1.1
comp=Z,34nm,1.8s
BMN epP pP 20 56 17.2 -2.4
CUKAN kangal_SIVAS 81.61 310 iP P 20 54 32.1 +1.4
HRY Holter Researc 81.76 41 eP P 20 54 32.2 +0.9
HRY epP pP 20 56 19.4 -1.1
AKCD Akcadag 81.79 309 iP P 20 54 33.4 +1.7
NVAR Mina Array Bea 81.81 51 P P 20 54 32.8 +0.9
comp=Z,1.4nm,0.4s,baz=286,slow=5.3,SNR=22
NVAR pP pP 20 56 18.8 -2.2
comp=Z,3.1nm,0.7s,baz=290,slow=5.4,SNR=6.4
HLID Hailey 81.83 45 eP P 20 54 33.1 +1.3
comp=Z,53nm,1.9s
HLID epP pP 20 56 18.8 -2.2
LRM Limekiln Ridge 81.86 42 eP P 20 54 32.9 +0.9
LRM epP pP 20 56 19.5 -1.7
SUW Suwalki 81.96 328 eP P 20 54 31.7 -0.3
SUW Suwalki 81.96 328 eP P 20 54 31.7 -0.3
DLMT Dillon 82.02 43 eP P 20 54 33.6 +0.9
DLMT epP pP 20 56 19.4 -2.5
MCMT McKenzie Canyo 82.14 43 eP P 20 54 34.2 +0.7
MCMT epP pP 20 56 20.4 -2.4
NB2 NORSAR Subarra 82.20 337 P P 20 54 32.7 -0.5
comp=Z,11nm,0.6s,baz=44,slow=5.1
NOA NORSAR Array B 82.20 337 P P 20 54 32.5 -0.6
comp=Z,16nm,0.7s,baz=46,slow=4.9,SNR=47
NOA pP pP 20 56 22.0 -0.5
comp=Z,2.2nm,0.9s,baz=44,slow=5.4,SNR=3.5
NOA PP PP 20 57 49.2 -0.5
comp=Z,2.3nm,0.9s,baz=42,slow=7.8,SNR=3.9
EGMT Eagleton 82.25 39 eP P 20 54 34.6 +0.8
comp=Z,55nm,1.6s
EGMT epP pP 20 56 20.5 -2.6
FFC Flin Flon 82.32 31 eP P 20 54 33.9 +0.1
FFC e*PP pP 20 56 20.9 -2.3
FFC Flin Flon 82.32 31 eP P 20 54 33.9 +0.1
FFC epP pP 20 56 20.9 -2.3
CUSAR Sarkisla-SIVAS 82.39 311 iP P 20 54 36.0 +1.3
BOZ Bozeman (W) 82.44 42 eP P 20 54 35.6 +0.7
BOZ e*PP pP 20 56 23.0 -1.3
BOZ pmax pmax
comp=Z,6.0nm,1.0s
BOZ Bozeman (W) 82.44 42 eP P 20 54 35.6 +0.7
comp=Z,5.7nm,1.0s
BOZ epP pP 20 56 23.0 -1.3

GZT	Gaziantep	82.49	308	*i* P		P	20 54 36.8	+1.6
TPH	Tonopah	82.72	51	*e*P		P	20 54 37.3	+0.8
TPH				*e**PP		pP	20 56 24.5	-1.5
TPH				pmax	pmax			
	comp=Z,25nm,1.3s							
TPH	Tonopah	82.72	51	*e*P		P	20 54 37.3	+0.8
	comp=Z,25nm,1.3s							
TPH				*e*pP		pP	20 56 24.5	-1.5
ELK	Elko	82.72	48	*e*P		P	20 54 37.7	+1.2
ELK				*e**PP		pP	20 56 24.3	-1.7
ELK				pmax	pmax			
	comp=Z,19nm,1.4s							
ELK	Elko	82.72	48	*e*P		P	20 54 37.7	+1.2
	comp=Z,19nm,1.4s							
ELK				*e*pP		pP	20 56 24.3	-1.7
FCC	Fort Churchill	82.96	25	*e*P		P	20 54 36.4	-0.5
FCC				pmax	pmax			
	comp=Z,142nm,2.8s							
FCC	Fort Churchill	82.96	25	*e*P		P	20 54 36.4	-0.5
	comp=Z,142nm,2.8s							
QLMT	Earthquake Lak	83.00	43	*e*P		P	20 54 38.1	+0.3
QLMT				*e*pP		pP	20 56 26.6	-0.7
ANDN	Andirin	83.23	309	*i* P		P	20 54 39.0	0.0
DAC	Darwin (Calif)	83.35	53	*e*P		P	20 54 41.0	+1.3
DAC				*e**PP		pP	20 56 28.8	-0.6
DAC				pmax	pmax			
	comp=Z,15nm,1.5s							
DAC	Darwin (Calif)	83.35	53	*e*P		P	20 54 41.0	+1.3
	comp=Z,15nm,1.5s							
DAC				*e*pP		pP	20 56 28.8	-0.6
GCMT	Greycliff	83.52	41	*e*P		P	20 54 40.3	0.0
	comp=Z,3.3nm,0.8s							
CDAG	Cicekdag	83.53	311	*i* P		P	20 54 40.6	+0.2
AVNT	Avonos	83.64	311	*i* P		P	20 54 41.7	+0.6
R11A	Troy Canyon, C	83.70	50	*e*P		P	20 54 42.3	+0.9
	comp=Z,34nm,1.8s							
R11A				*e*pP		pP	20 56 26.0	-5.2
ELDT	Eldivan	83.71	313	*i* P		P	20 54 41.5	+0.1
HVU	Hansel Valley	83.78	46	*e*P		P	20 54 43.1	+1.4
HVU				*e**PP		pP	20 56 29.9	-1.6
HVU				pmax	pmax			
	comp=Z,65nm,1.9s							
HVU	Hansel Valley	83.78	46	*e*P		P	20 54 43.0	+1.4
	comp=Z,65nm,1.9s							
HVU				*e*pP		pP	20 56 29.9	-1.6
IMW	Indian Meadow	83.80	43	*e*P		P	20 54 43.0	+1.1
	comp=Z,23nm,1.5s							
IMW				*e*pP		pP	20 56 29.8	-1.9
FLWY	Flagg Ranch	83.84	43	*e*P		P	20 54 43.5	+1.5
FLWY				*e*pP		pP	20 56 30.9	-1.0
FXWY	Fox Creek	83.88	44	*e*P		P	20 54 44.0	+1.7
FXWY				*e*pP		pP	20 56 33.5	+1.4
BTCH	Batrach	83.91	308	*e*P		P	20 54 42.6	+0.3
TPNV	Topopah Spring	83.95	51	*e*P		P	20 54 43.7	+1.1
TPNV				*e**PP		pP	20 56 30.9	-1.6
TPNV	Topopah Spring	83.95	51	*e*P		P	20 54 43.7	+1.1
TPNV				*e*pP		pP	20 56 30.9	-1.6
BRTR	Keskin Array B	83.97	312	P		P	20 54 42.4	-0.3
	comp=Z,7.6nm,0.7s,baz=100,slow=3.5,SNR=53							
BRTR				pP		pP	20 56 31.6	-0.9
	comp=Z,1.7nm,0.8s,baz=77,slow=4.4,SNR=4.4							
MOOW	Moose Ponds	84.00	43	*e*P		P	20 54 43.7	+0.9
MOOW				*e*pP		pP	20 56 39.5	+6.9
TPAW	Teton Pass	84.01	44	*e*P		P	20 54 45.0	+2.0
TPAW				*e*pP		pP	20 56 39.0	+6.2
TLCR		84.06	318	⇑*i*P		P	20 54 43.6	+0.9
TLCR		84.06	318	⇑*i*P		P	20 54 43.6	+0.9
BGU	Big Grassy Mou	84.07	47	*e*P		P	20 54 44.4	+1.3
	comp=Z,4.8nm,1.0s							
REDW	Red Top Meadow	84.14	44	*e*P		P	20 54 45.6	+2.1
	comp=Z,17nm,1.4s							
LOHW	Long Hollow	84.16	43	*e*P		P	20 54 45.5	+2.0
	comp=Z,15nm,1.5s							
YAYL	Yayladag	84.16	308	*i* P		P	20 54 41.2	-2.4
RABH	Abou Rabah	84.17	306	*e*P		P	20 54 44.6	+1.0
SPUT	South Promonto	84.24	46	*e*P		P	20 54 45.2	+1.3
	comp=Z,21nm,1.3s							
SPUT				*e*pP		pP	20 56 32.3	-1.6
AHID	Auburn Hatcher	84.31	44	*e*P		P	20 54 45.1	+0.8
	comp=Z,4.1nm,0.8s							
ARNB	Al Arnab	84.34	308	*e*P		P	20 54 45.0	+0.5
GSC	Goldstone	84.39	53	*e*P		P	20 54 45.3	+0.6
GSC				*e**PP		pP	20 56 33.8	-0.9
GSC				pmax	pmax			
	comp=Z,48nm,1.9s							
GSC	Goldstone	84.39	53	*e*P		P	20 54 45.3	+0.6
	comp=Z,48nm,1.9s							
GSC				*e*pP		pP	20 56 33.8	-0.9
BBAL	Bala	84.40	312	*i* P		P	20 54 44.4	-0.3
ANTO	Ankara	84.45	312	*e*P		P	20 54 45.2	+0.3
ANTO				pmax	pmax			
	comp=Z,27nm,0.6s							
ANTO	Ankara	84.45	312	⇓*i*P		P	20 54 44.9	0.0
ANTO	Ankara	84.45	312	*e*P		P	20 54 45.2	+0.3
	comp=Z,27nm,0.6s							
CFR	Carcaliu	84.47	319	⇑P		P	20 54 44.8	+0.1
CFR	Carcaliu	84.47	319	⇑*i*P		P	20 54 44.8	+0.1
BIDA	Albida	84.52	307	*e*P		P	20 54 42.8	-2.6
TESR	Tescani	84.57	320	⇑*i*P		P	20 54 45.5	+0.3
DUG	Dugway	84.59	47	*e*P		P	20 54 46.6	+0.9
DUG				*e**PP		pP	20 56 34.0	-1.8
DUG				*e*			20 58 07.9	
DUG				pmax	pmax			
	comp=Z,35nm,1.7s							
DUG	Dugway	84.59	47	*e*P		P	20 54 46.6	+0.9
	comp=Z,35nm,1.7s							
DUG				*e*pP		pP	20 56 34.0	-1.8
DUG				*e*PP		PP	20 58 07.8	-1.9
HWUT	Hardware Ranch	84.64	46	*e*P		P	20 54 47.4	+1.4
	comp=Z,34nm,1.4s							
HWUT				*e*pP		pP	20 56 32.9	-3.2
BURAR	Bucovina Array	84.72	322	⇑P		P	20 54 46.7	+0.6
BURAR	Bucovina Array	84.72	322	⇑*i*P		P	20 54 46.7	+0.6
ZALF	Zalf	84.83	304	*e*P		P	20 54 46.7	-0.1
HARR	Harsova	84.86	318	⇓P		P	20 54 47.4	+0.7
HARR	Harsova	84.86	318	⇓*i*P		P	20 54 47.4	+0.7
VRI	Vrincioaia	84.89	320	⇓P		P	20 54 48.1	+1.2
VRI	Vrincioaia	84.89	320	⇓*i*P		P	20 54 48.1	+1.2
SHPR	Sheep Range	84.93	51	*e*P		P	20 54 47.4	0.0
SHPR				*e*pP		pP	20 56 36.0	-1.7
PLOR	Plostina	84.94	320	⇑P		P	20 54 48.5	+1.4
PLOR	Plostina	84.94	320	⇑*i*P		P	20 54 48.5	+1.4
CTU	Camp Tracy	85.02	46	*e*P		P	20 54 47.9	+0.1
CTU				*e*pP		pP	20 56 35.1	-2.9
PDAR	Pinedale Array	85.26	44	P		P	20 54 49.5	+0.4
	comp=Z,3.0nm,1.0s,baz=321,slow=2.1,SNR=16							
PDAR				pP		pP	20 56 37.5	-1.8
	comp=Z,3.0nm,1.0s,baz=305,slow=3.2,SNR=4.3							
MSAB	Monastry St. A	85.26	318	⇑*i*P		P	20 54 49.2	+0.6
TOTH	TOTAH	85.27	305	*e*P		P	20 54 49.4	+0.4
SALA	Sala	85.37	305	*e*P		P	20 54 49.7	+0.1
DNR	Dunn Ranch,Anz	85.38	54	*e*P		P	20 54 51.7	+2.1
ISR	Istrita	85.43	319	⇓P		P	20 54 50.3	+0.8
ISR	Istrita	85.43	319	⇓*i*P		P	20 54 50.3	+0.8
PFO	Pinyon Flat Ob	85.48	54	*e*P		P	20 54 50.9	+0.7
PFO				*e**PP		pP	20 56 38.5	-2.0
PFO				pmax	pmax			
	comp=Z,39nm,1.8s							
PFO	Pinyon Flat Ob	85.48	54	*e*P		P	20 54 50.9	+0.7
	comp=Z,38nm,1.8s							
PFO				*e*pP		pP	20 56 38.5	-2.0
KOLS	Kolonicke sedl	85.50	324	*e*P		P	20 54 49.0	-0.7
KOLS				pmax	pmax			
	comp=Z,2.0nm,0.9s							
KOLS	Kolonicke sedl	85.50	324	*e*P		P	20 54 49.0	-0.7
MLR	Muntele Rosu	85.56	320	⇑P		P	20 54 50.1	-0.1
MLR	Muntele Rosu	85.56	320	⇑*i*P		P	20 54 50.1	-0.1
BRBR	Barbar	85.59	305	*e*P		P	20 54 50.6	-0.2
KDHN	Kadinhani	85.61	311	*i* P		P	20 54 50.1	-0.5
CCUT	Cedar City	85.62	50	*e*P		P	20 54 52.8	+2.0
TRPA	Tarpa	85.86	323	⇑*i*P		P	20 54 52.0	+0.6
MSU	Marysvale	85.90	48	*e*P		P	20 54 53.0	+0.8
MSU				*e**PP		pP	20 56 42.1	-0.6
MSU	Marysvale	85.90	48	*e*P		P	20 54 53.0	+0.8
MSU				*e*pP		pP	20 56 42.0	-0.6
ERMK	Ermenek	86.06	309	*i* P		P	20 54 52.7	-0.2
VOIR		86.10	320	⇑P		P	20 54 53.4	+0.6
VOIR		86.10	320	⇑*i*P		P	20 54 53.4	+0.6
KNB	Kanab	86.27	50	*e*P		P	20 54 55.2	+1.3
KNB				pmax	pmax			
	comp=Z,21nm,1.1s							
KNB	Kanab	86.27	50	*e*P		P	20 54 55.2	+1.3
	comp=Z,21nm,1.1s							
ARR	Arges	86.38	320	⇑*i*P		P	20 54 55.0	+0.9
CSS	Prodhromos	86.65	308	*e*P		P	20 54 55.2	-0.3
	comp=Z,2.9nm,0.7s							
SRU	San Rafael	86.67	47	*e*pP		pP	20 56 45.1	-1.4
ULDT	Uludag	86.67	314	*i* P		P	20 54 55.5	-0.2
GAZI	Gazipasa	86.69	309	*i* P		P	20 54 54.2	-1.5
LOT	Lotru	86.81	321	⇑*i*P		P	20 54 56.3	+0.1
OKC	Ostrava-Krasne	87.01	326	*e*P		P	20 54 57.3	+0.4
OKC				*e*S		S	21 04 53.6	+0.4
OKC				AMS	AMS		21 36 20.0	
	comp=Z,100nm,20.9s							
OKC	Ostrava-Krasne	87.01	326	*e*P		P	20 54 57.3	+0.4
OKC				*e*			21 04 53.6	
OKC				MLR	MLR			
	comp=Z,100nm,20.9s							
KSP	Ksiaz	87.23	328	*e*P		P	20 54 58.0	+0.1
KSP	Ksiaz	87.23	328	*e*P		P	20 54 58.0	+0.1
MORC	Moravsky Berou	87.35	327	⇑P		P	20 54 58.1	-0.4
MORC	Moravsky Berou	87.35	327	⇑*i*P		P	20 54 58.1	-0.4
MORC	Moravsky Berou	87.35	327	*e*P		P	20 54 57.8	-0.7
PSZ	Piszkesteto	87.37	324	*e*P		P	20 54 58.3	-0.4
PSZ	Piszkesteto	87.37	324	*e*P		P	20 54 58.3	-0.4
VYHS	Vyhne	87.54	325	*e*P		P	20 54 59.5	+0.1
VYHS				pmax	pmax			
	comp=Z,5.0nm,0.8s							
VYHS	Vyhne	87.54	325	*e*P		P	20 54 59.5	+0.1
DPC	Dobruska-Polom	87.55	328	*e*P		P	20 54 59.6	+0.1
DPC				*e*S		S	21 04 55.0	-3.4
DPC	Dobruska-Polom	87.55	328	*e*P		P	20 54 59.6	+0.1
DPC				*e*			21 04 55.0	
O20A	White River Ci	87.56	45	*e*P		P	20 55 00.8	+0.9
	comp=Z,27nm,1.5s							
UPC	Upice	87.59	328	*e*P		P	20 54 59.7	+0.1
UPC				*e*S		S	21 04 55.0	-3.7
UPC				AMS	AMS		21 39 40.0	
	comp=Z,100nm,14.1s							
UPC	Upice	87.59	328	*e*P		P	20 54 59.7	+0.1
UPC				*e*			21 04 55.0	
UPC				MLR	MLR			
	comp=Z,100nm,14.1s							
BALY	Balya	87.86	314	*i* P		P	20 55 00.5	-0.6
BZS	Buzias	87.91	322	⇑P		P	20 55 00.7	-0.5
BZS	Buzias	87.91	322	⇑*i*P		P	20 55 00.7	-0.5
PV09	Paradox Valley	87.91	47	*e*P		P	20 55 02.3	+0.6
PV09				*e*pP		pP	20 56 51.7	-1.2
GOLH	Golhisar	88.00	311	*i* P		P	20 55 00.9	-1.0
WUAZ	Wupatki	88.06	51	*e*P		P	20 55 02.4	+0.1
WUAZ				*e*pP		pP	20 56 52.3	-1.3
PV04	Paradox Valley	88.12	47	*e*P		P	20 55 03.3	+0.8
VRAC	Vranov	88.12	327	⇑P		P	20 55 02.7	+0.6
VRAC	Vranov	88.12	327	⇑*i*P		P	20 55 02.7	+0.6
PV05	Paradox Valley	88.17	47	*e*P		P	20 55 03.0	+0.2
PV05				*e*pP		pP	20 56 53.9	-0.2
PVCC	Panska Ves	88.25	329	*e*P		P	20 55 02.8	+0.1
PVCC	Panska Ves	88.25	329	*e*P		P	20 55 02.8	+0.1
BRG	Berggiesshubel	88.30	329	*e*P		P	20 55 02.5	-0.4
	comp=Z,4.1nm,0.7s							
BRG	Berggiesshubel	88.30	329	*e*P		P	20 55 02.5	-0.4
BRG				pmax	pmax			
	comp=Z,4.0nm,0.7s							
CLL	Collm	88.42	330	*i* P		P	20 55 03.1	-0.3
CLL				*e**PP		pP	20 56 55.0	+0.3
CLL				*e*S		S	21 05 03.0	-3.2
CLL				pmax	pmax			
	comp=Z,5.0nm,0.5s							
CLL	Collm	88.42	330	*e*P		P	20 55 03.2	-0.2
	comp=Z,6.9nm,0.4s							
CLL	Collm	88.42	330	*i* P		P	20 55 03.1	-0.3
	comp=Z,5.0nm,0.5s							
CLL				*e*pP		pP	20 56 55.0	+0.3
CLL				*e*SKSac		SKSac	21 04 43.0	-1.2
CLL				*e*S		S	21 05 03.0	-3.2
CLL				*e*SP		SP	21 06 09.0	-3.5
CLL				*e*sS		sS	21 08 20.0	-4.6
CLL				*e*(SS)			21 11 03.0	
CLL				*e*(sSS)			21 13 51.0	
CLL				*e*			21 15 18.0	
CLL				*e*SSSS			21 18 06.0	
GOPC	GO Pecny, Ondr	88.57	328	*e*P		P	20 55 05.1	+0.9
PRU	Pruhonice	88.64	328	*e*P		P	20 55 04.4	-0.1
PRU				*e*SKS		SKSac	21 04 44.5	-1.0
PRU	Pruhonice	88.64	328	*e*P		P	20 55 04.4	-0.1
PRU				*e*			21 04 44.5	
TREC	Trest	88.66	327	*e*P		P	20 55 04.6	-0.1
TREC				AMS	AMS		21 37 50.0	
	comp=Z,100nm,19.4s							
TREC	Trest	88.66	327	*e*P		P	20 55 04.6	-0.1
TREC				MLR	MLR			
	comp=Z,100nm,19.4s							
VTS	Vitosha	88.87	319	⇑P		P	20 55 06.5	+0.5
VTS	Vitosha	88.87	319	⇑*i*P		P	20 55 06.4	+0.5
SMCO	Snowmass	88.91	46	*e*P		P	20 55 08.3	+1.8
SMCO				*e*pP		pP	20 56 57.6	-0.3
PKSM	Moragy	89.13	324	⇓P		P	20 55 05.9	-0.9
PKSM	Moragy	89.13	324	⇓*i*P		P	20 55 05.9	-0.9
CONA	Conrad Observa	89.41	326	⇓*i*PcP		P	20 55 08.7	+0.5
	comp=Z,7.2nm,0.8s							
KHC	Kasperske Hory	89.68	328	*e*P		P	20 55 09.2	-0.2
KHC				*e*SKS		SKSac	21 04 52.4	+0.7
KHC	Kasperske Hory	89.68	328	*e*P		P	20 55 09.2	-0.2
KHC				*e*			21 04 52.4	
KHC	Kasperske Hory	89.68	328	*e*P		P	20 55 08.9	-0.5
	comp=Z,1.6nm,0.8s							
DIVS	Divibare	89.76	321	⇓*i*P		P	20 55 09.8	-0.1
GERES	GERESS Array B	89.82	328	P		P	20 55 09.6	-0.5
	comp=Z,1.9nm,0.6s,baz=46,slow=4.2,SNR=20							
GERES				pP		pP	20 57 02.7	+0.9
	comp=Z,0.4nm,0.7s,baz=52,slow=4.0,SNR=2.0							
GERES	GERESS Array B	89.82	328	P		P	20 55 09.6	-0.5
GERES				*PP		pP	20 57 02.7	+0.9
GERES				pmax	pmax			
	comp=Z,2.0nm,0.6s							
S22A	4UR Ranch, Cre	89.83	47	*e*P		P	20 55 12.3	+1.6
S22A				*e*pP		pP	20 57 02.9	+0.6
ARSA	Arzberg	90.04	326	⇓*i*PcP		P	20 55 11.1	0.0
	comp=Z,8.7nm,1.1s							
MOA	Molln	90.25	327	⇓*i*PcP		P	20 55 12.0	0.0
	comp=Z,5.1nm,0.8s							
PERS	Pernice	90.66	325	*i* P		P	20 55 13.7	-0.3
SOKA	Soboth	90.67	326	⇓*i*PcP		P	20 55 13.7	-0.4
	comp=Z,11nm,1.0s							
SDCO	Great Sand Dun	90.68	46	*e*P		P	20 55 16.4	+1.8
	comp=Z,18nm,1.7s							
SDCO				*e*pP		pP	20 57 06.8	+0.5
SDCO				*e*PP		PP	20 58 59.4	+1.4
BOJS	Bojanci	91.37	325	*i* P		P	20 55 15.9	-1.3
VISS	Visnje	91.37	325	*i* P		P	20 55 16.6	-0.6
LAZ	Ladron	91.56	50	*e*P		P	20 55 19.9	+1.3
AGG	Agios Georgios	91.58	316	*e*pP		pP	20 57 14.4	+4.3
JAVS	Javornik	91.70	325	*e*P		P	20 55 17.7	-1.1
ANMO	Albuquerque	91.70	49	*d*P		P	20 55 21.0	+1.7
ANMO				pmax	pmax			
	comp=Z,44nm,1.4s							
ANMO	Albuquerque	91.70	49	*e*P		P	20 55 20.2	+1.0
	comp=Z,12nm,1.3s							
T25A	Trinidad	91.74	46	*e*P		P	20 55 20.0	+0.6
	comp=Z,18nm,1.4s							
ABTA	Abfaltersbach	91.87	327	⇓*i*P		P	20 55 18.5	-1.1
	comp=Z,7.7nm,0.7s							
STU	Stuttgart	91.95	330	P		P	20 55 18.1	-1.7
STU	Stuttgart	91.95	330	P		P	20 55 18.1	-1.7
BNM	Barren Site	92.05	49	*e*P		P	20 55 22.1	+1.2
FETA	Feichten	92.53	328	⇑*i*PcP		P	20 55 22.3	-0.5
	comp=Z,4.6nm,0.7s							
BFO	Black Forest	92.66	330	*e*P		P	20 55 22.7	-0.4
BFO				pmax	pmax			
	comp=Z,4.0nm,0.7s							
BFO	Black Forest	92.66	330	*e*P		P	20 55 22.7	-0.4
	comp=Z,4.2nm,0.7s							
DAVA	Damuels	92.73	328	⇑*i*PcP		P	20 55 23.3	-0.3
	comp=Z,6.8nm,0.8s							
FUORN	Ofenpass-Fuorn	93.04	328	*e*P		P	20 55 25.4	+0.2
	comp=Z,13nm,0.8s							
WMOK	Wichita Mounta	96.80	45	*e*pP		pP	20 57 36.6	+2.2
TXAR	Lajitas Array	96.93	52	P		P	20 55 43.7	+0.8
	comp=Z,0.3nm,0.4s,baz=301,slow=2.1,SNR=11							
TXAR				pP		pP	20 57 33.4	-1.8
	comp=Z,1.7nm,0.8s,baz=308,slow=3.1,SNR=8.5							
TXAR				PP		PP	20 59 43.6	-2.5
	comp=Z,0.8nm,0.9s,baz=280,slow=5.4,SNR=2.5							
TXAR				PKKPbc		PKKPbc	21 12 21.8	+0.2
	comp=Z,0.4nm,0.8s,baz=134,slow=3.9,SNR=3.8							
LSZ	Lusaka	115.82	266	*e*PKIKP		PKPdf	21 00 52.5	+1.2
LSZ	Lusaka	115.82	266	*e*PKPdf		PKPdf	21 00 52.5	+1.2
SYO	Syowa Base	119.23	204	⇑*e*PKPdf		PKPdf	21 00 55.0	-1.1
LBTB	Lobatse	121.58	256	*e*PKIKP		PKPdf	21 01 03.2	+1.0
LBTB	Lobatse	121.58	256	*e*PKPdf		PKPdf	21 01 03.2	+1.0
TORD	Torodi Ar. Bea	122.52	309	PKP		PKPdf	21 01 04.1	-0.1
	comp=Z,6.6nm,0.7s,baz=26,slow=1.5,SNR=64							
TORD				PP		PP	21 02 45.2	-3.2
	comp=Z,2.4nm,1.0s,baz=40,slow=6.3,SNR=6.6							
TORD				SKP			21 03 52.0	
	comp=Z,1.3nm,0.7s,baz=14,slow=3.2,SNR=3.9							
TORD				PKKPbc		PKKPbc	21 11 00.2	+0.2
	comp=Z,1.0nm,0.5s,baz=222,slow=3.2,SNR=15							
BOSA	Boshof	122.94	252	PKP		PKPdf	21 01 05.4	+0.7
	comp=Z,5.9nm,0.6s,baz=78,slow=1.6,SNR=18							
TSUM	Tsumeb	126.68	266	*e*PKPdf		PKPdf	21 01 12.8	+0.7
SNAA	Sanae	131.45	195	PKPdf		PKPdf	21 01 19.7	+0.2
SNAA	Sanae	131.45	195	*e*PKIKP		PKPdf	21 01 19.4	-0.1
SNAA				*e*			21 03 57.2	
SNAA	Sanae	131.45	195	*e*PKPdf		PKPdf	21 01 19.4	-0.1
SNAA				*e*PP		PP	21 03 39.6	-6.5
SNAA				*e*SKP			21 03 57.2	
DBIC	Dimbokro	131.63	310	PKP		PKPdf	21 01 22.1	+0.6
	comp=Z,8.6nm,0.7s,baz=360,slow=3.3,SNR=8.3							
DBIC				SKPbc		SKPbc	21 04 00.3	+0.2
	comp=Z,13nm,0.6s,baz=23,slow=4.4,SNR=27							
DBIC	Dimbokro	131.63	310	PKP		PKPdf	21 01 22.1	+0.6
DBIC				*e*SKPbc		SKPbc	21 03 59.5	-0.7
TIC	Toumodi	131.76	310	*e*PKP1		SKPbc	21 04 00.4	-0.2
KIC	Kosan Boka	131.77	309	*e*PKP1		SKPbc	21 04 00.8	+0.1
	comp=Z,35nm,0.8s							
LIC	Lamto	132.06	309	*e*PKP1		SKPbc	21 04 01.6	-0.1
	comp=Z,98nm,1.6s							
SDV	Santo Domingo	133.20	43	*e*PKPdf		PKPdf	21 01 25.2	+0.5
SDV				*e*SKP			21 04 05.2	
VNA1	Neumayer--Stat	133.40	194	PKPdf		PKPdf	21 01 23.7	+0.6
PTGA	Pitinga	147.16	38	PKPbc		PKPbc	21 01 52.7	+0.2
	comp=Z,14nm,0.7s,baz=321,slow=4.3,SNR=22							
PTGA				pPKPbc		pPKPbc	21 03 47.1	-2.5
	comp=Z,2.2nm,0.5s,baz=319,slow=20,SNR=2.8							
SAML	Samuel	151.41	54	*e*PKPdf		PKPdf	21 01 56.6	+0.4
SAML				*e*PKPbc		PKPbc	21 02 02.9	+0.1
LPAZ	La Paz	151.82	72	PKP		PKPdf	21 01 58.0	+0.5
	comp=Z,1.8nm,0.9s,baz=241,slow=1.3,SNR=6.2							
LPAZ				PKPbc		PKiKP	21 02 05.2	+0.5
	comp=Z,17nm,0.7s,baz=276,slow=2.9,SNR=64							
LPAZ				pPKPbc		pPKPbc	21 03 59.7	-2.9
	comp=Z,4.6nm,0.8s,baz=347,slow=5.7,SNR=4.7							
LPAZ	La Paz	151.82	72	*e*PKIKP		PKPdf	21 01 58.1	+0.6
SIV	San Ignacio	157.45	63	PKP		PKPdf	21 02 04.1	-0.3
	comp=Z,1.6nm,0.6s,baz=287,slow=1.4,SNR=4.8							
SIV				PKPab		PKPab	21 02 39.1	-0.2
	comp=Z,1.2nm,0.6s,baz=291,slow=4.7,SNR=5.8							
CPUP	Villa Florida	164.71	89	PKP		PKPdf	21 02 11.6	-0.1
	comp=Z,4.0nm,1.0s,baz=354,slow=2.4,SNR=5.4							
CPUP				PKPab		PKPab	21 03 11.6	+0.7
	comp=Z,2.7nm,0.9s,baz=300,slow=4.6,SNR=4.1							

*DJA **30** 20:48:12.8±0.8, 2°S±2°×12°8E±°, h102km±9km, M4.2/10, MLv4.2/10*
*ISCJB **30** 20:48:14.4±0.4, 2°08S±0°04×128°14E±0°04, h33km, mb4.1/7, MS3.1/2, Error ellipse: s-maj=6.3km s-min=5.3km az=37.7*
*NEIC **30** 20:48:16.6±0.5, 2°15S×128°34E, mb4.4/2, Error ellipse: s-maj=14.6km s-min=9.3km az=55.0*
*IDC **30** 20:48:16.4±0.7, 2°25S×128°15E, h36km±5km, mb3.9/6, mb1 4.0/8, mb1mx3.7/35, mbtmp4.1/8, ML4.0/2, MS3.3/3, Ms1 3.3/3, ms1mx2.8/38, Error ellipse: s-maj=27.5km s-min=13.1km az=70.0*

ISC 30 20:48:16.1±0.6, 2°13S±0°04×128°10E±0°04, h33km, h33km:pP-P, n30, σ1°53/38, mb4.2/7, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	Masohi	1.46	146	P	Pn	20 48 39.6	-0.6

baz=338
NRN Naryn 1.80 300 *e*P Pb 20 51 18.8 -0.3
baz=300
NRN *e*S Sg 20 51 44.0 +0.6
baz=300

MEX 30 20:55:13.0±0.3, 21.19N×101.07W, h5km, MD3.7, Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGIG	**Irapuato, Guan**	**0.50**	**209**	*i* P	Pg	20 55 22.3	-0.6
IGIG				*i* S	Sg	20 55 29.5	-0.2
MOIG	**Morelia**	**1.51**	**184**	*e*P	Pn	20 55 37.9	-3.2
MOIG				*e*S	Sn	20 55 56.3	-5.1
ZAIG	**Zacatecas**	**2.10**	**319**	*e*P	Pn	20 55 45.3	-3.9
ZAIG				*e*S	Sn	20 56 11.6	-4.3

IDC 30 20:57:42.2±4.5, 5.81S×146.11E, h139km±61km, mb2.7/2, mb1 2.9/4, mb1mx2.8/21, mbtmp3.2/4, Error ellipse: s-maj=72.6km s-min=40.7km az=95.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.72**	**164**	P	Pn	20 58 39.1	+0.5
	3.3nm,0.3s,baz=8.5,slow=4.9,SNR=10						
PMG				S	Sn	20 59 22.5	+0.3
	7.1nm,0.3s,baz=174,slow=18,SNR=14						
WRA	**Warramunga Arr**	**18.12**	**218**	P	P	21 01 43.2	-0.6
	0.2nm,0.3s,baz=40,slow=12,SNR=2.3						
ASAR	**Alice Springs**	**21.29**	**212**	P	P	21 02 18.4	+0.4
	0.1nm,0.4s,baz=43,slow=8.4,SNR=4.2						
CMAR	**Chiang Mai Arr**	**52.39**	**299**	P	P	21 06 40.4	-0.2
	0.6nm,0.6s,baz=119,slow=5.8,SNR=7.9						
TORD	**Torodi Ar. Bea**	**144.19**	**284**	PKP	PKPdf	21 17 02.2	-0.5
	0.3nm,0.7s,baz=70,slow=3.0,SNR=4.4						

JMA 30 21:08:42.2±0.1, 27.98N×140.45E, h503km, M3.8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.77**	**119**	P	P	21 09 46.8	+0.2
CBIJ				*e*S	S	21 10 37.2	-1.6
JHHJ	**Haha-jima-NKT**	**2.04**	**131**	P	P	21 09 48.4	+0.6
JHHJ				*e*S	S	21 10 41.4	+0.3
BSO1	**Boso 1**	**6.67**	**4**	P	P	21 10 27.2	+2.9
BSO3	**Boso 3**	**6.80**	**0**	*e*S	S	21 11 52.7	+1.6
BSO4	**Boso 4**	**6.99**	**359**	*e*S	S	21 11 56.9	+2.0
JIE	**Ise**	**7.15**	**334**	P	P	21 10 31.3	+1.5
JKN2	**Miekihoku**	**7.19**	**331**	P	P	21 10 31.1	+0.8
HMMJ	**Hamamatsu 2**	**7.24**	**342**	P	P	21 10 31.6	+0.9
JAO	**Obara**	**7.76**	**340**	P	P	21 10 38.1	+2.0
JHU	**Hanno**	**7.91**	**353**	*e*S	S	21 12 10.3	-2.1
JRY	**Ryogami san**	**8.12**	**351**	P	P	21 10 40.7	+0.9
JRY				*e*S	S	21 12 16.6	+0.2
JAG	**Ashikaga**	**8.46**	**355**	P	P	21 10 43.8	+0.5
JAG				*e*S	S	21 12 20.0	-2.8
JHO	**Hitachi**	**8.61**	**1**	P	P	21 10 46.9	+2.1
JHO				*e*S	S	21 12 26.2	+0.7

IDC 30 21:12:19.8±8.6, 32.06S×138.39E, h0km, mb1 3.0/3, mb1mx2.9/33, mbtmp2.7/3, ML2.7/3, Error ellipse: s-maj=141.5km s-min=28.5km az=27.0, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**2.73**	**87**	Pn	Pn	21 13 04.8	-0.3
	0.3nm,0.3s,baz=265,slow=11,SNR=7.4						
STKA				Sn	Sn	21 13 40.6	+1.9
	1.1nm,0.3s,baz=331,slow=23,SNR=4.6						
ASAR	**Alice Springs**	**9.25**	**334**	Pn	Pn	21 14 33.6	-1.0
	0.1nm,0.3s,baz=151,slow=14,SNR=4.3						
ASAR				Sn	Sn	21 16 12.3	-7.2
	0.2nm,0.3s,baz=155,slow=22,SNR=6.6						
WRA	**Warramunga Arr**	**12.60**	**342**	Pn	Pn	21 15 21.8	+1.3
	0.1nm,0.3s,baz=162,slow=11,SNR=5.8						

IDC 30 21:16:15.3±4.0, 9.22N×82.44E, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.4/28, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=101.1km s-min=25.1km az=145.0, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**2.59**	**222**	Pn	Pn	21 16 59.0	+0.4
	11nm,0.3s,baz=36,slow=8.9,SNR=57						
PALK				Sn	Sn	21 17 30.8	0.0
	9.7nm,0.3s,baz=29,slow=4.3,SNR=5.2						
CMAR	**Chiang Mai Arr**	**18.45**	**58**	P	Pn	21 20 32.4	-0.3
	0.1nm,0.3s,baz=250,slow=12,SNR=3.4						
WRA	**Warramunga Arr**	**58.73**	**120**	P	P	21 26 15.9	+0.5
	1.1nm,0.8s,baz=304,slow=7.1,SNR=11						
ASAR	**Alice Springs**	**59.97**	**124**	P	P	21 26 23.1	-1.0
	0.4nm,0.7s,baz=307,slow=7.7,SNR=3.8						

IDC ***30*** *21:18:56.0±1.7, 18.18S×171.55W, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.9/23, mbtmp4.0/6, Error ellipse: s-maj=52.5km s-min=29.2km az=144.0*
ISCJB ***30*** *21:18:59.3±1.4, 18.12S±0.3×171.6W±0.2, h33km, mb4.0/5, Error ellipse: s-maj=42.0km s-min=25.1km az=141.9*
ISC 30 21:19:01.1±1.5, 18.3S±0.3×171.6W±0.2, h35km, n6, σ1§68/6, mb4.0/5, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**20.98**	**256**	P	**P**	**21 23 39.5**	**-2.1**
	7.4nm,0.9s,baz=270,slow=24,SNR=2.9						
URZ	**Urewera**	**22.25**	**204**	P	**P**	**21 23 55.1**	**+0.2**
	2.1nm,0.3s,baz=259,slow=4.5,SNR=3.3						
CTA	**Charters Tower**	**39.80**	**260**	P	**P**	**21 26 32.2**	**+1.0**
	2.1nm,0.3s,baz=90,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**50.95**	**254**	P	**P**	**21 27 59.0**	**-0.6**
	0.5nm,0.4s,baz=88,slow=7.2,SNR=16						
WRA	**Warramunga Arr**	**50.95**	**259**	P	**P**	**21 28 01.2**	**+1.6**
	1.5nm,0.4s,baz=94,slow=8.3,SNR=33						
NVAR	**Mina Array Bea**	**75.31**	**41**	P	**P**	**21 30 40.8**	**-0.3**
	0.2nm,0.5s,baz=232,slow=5.6,SNR=2.1						

MEX 30 21:19:04.0±1.0, 15.71N×95.58W, h40km±24km, MD4.3, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.52**	**276**	*i* P	Pn	21 19 13.6	-1.4
HUIG				*e*S	Sn	21 19 20.6	-2.2
VHO	**Vista Hermosa**	**1.75**	**321**	*e*P	Pn	21 19 30.9	-1.3
VHO				*e*S	Sn	21 19 50.6	-2.8
PCIG		**2.27**	**90**	*e*P	Pn	21 19 37.8	-1.2
PCIG				*e*S	Sn	21 20 03.2	-2.6
TGIG		**2.58**	**65**	*e*P	Pn	21 19 42.3	-1.1
TGIG				*e*S	Sn	21 20 12.4	-1.3
CCIG	**Comitan**	**3.35**	**80**	*e*P	Pn	21 19 52.3	-1.9
CCIG				*e*S	Sn	21 20 30.6	-2.4

IDC 30 21:24:59.6±5.5, 31.57S×138.50E, h0km, mb1 2.9/3, mb1mx2.9/16, mbtmp2.7/3, ML2.7/3, Error ellipse: s-maj=83.8km s-min=17.8km az=30.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**2.65**	**97**	Pn	Pn	21 25 43.1	-0.6
	0.4nm,0.3s,baz=259,slow=14,SNR=9.1						
STKA				Lg	Lg	21 26 24.4	
	2.0nm,0.3s,baz=151,slow=19,SNR=5.5						
ASAR	**Alice Springs**	**8.87**	**332**	Pn	Pn	21 27 09.8	+0.6
	0.1nm,0.3s,baz=146,slow=14,SNR=6.9						
ASAR				Sn	Sn	21 28 50.5	+0.6
	0.2nm,0.3s,baz=155,slow=23,SNR=7.4						
WRA	**Warramunga Arr**	**12.17**	**341**	Pn	Pn	21 27 54.6	+0.2
	0.1nm,0.3s,baz=164,slow=11,SNR=5.1						
WRA				Sn	Sn	21 30 11.2	+0.3
	0.0nm,0.3s,baz=172,slow=23,SNR=2.5						

ISCJB ***30*** *21:29:20.3±0.5, 32.10S±0.05×138.13E±0.06, h10km, mb4.0/4, Error ellipse: s-maj=6.8km s-min=6.6km az=177.0*
IDC ***30*** *21:29:21.3±0.9, 32.16S×138.15E, h0km, mb3.9/4, mb1 4.2/8, mb1mx4.0/18, mbtmp4.0/8, ML4.3/4, Error ellipse: s-maj=21.6km s-min=18.8km az=14.0*
NEIC ***30*** *21:29:22.0, 32.18S×138.14E, h10km, mb4.2/2, ML4.2(AUST), After AUST.*
NEIC Felt at Quorn.
AUST ***30*** *21:29:22.9, 32.22S×138.17E, h14km*
ISC 30 21:29:22.1±0.6, 32.11S±0.06×138.05E±0.05, h10km, n27, σ1§73/33, mb4.0/4, 6C-4D, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTT	**Hallett**	**1.51**	**151**	⇑P	**Pn**	**21 29 47.9**	**-1.3**
	baz=1.4,SNR=244						
BBOO	**Buckleboo**	**1.82**	**247**	⇓P	**Pb**	**21 29 56.2**	**+0.8**
	baz=1.9,SNR=242						
BBOO	**Buckleboo**	**1.82**	**247**	*e*Pn	**Pb**	**21 29 55.8**	**+0.4**
BBOO				*e*Sn	**Sg**	**21 30 20.0**	**-0.5**
STKA	**Stephens Creek**	**3.03**	**87**	Pn	**Pn**	**21 30 10.1**	**+0.1**
	14nm,0.3s,baz=278,slow=12,SNR=48						
STKA				Lg	Lg	21 30 54.6	
	143nm,0.3s,baz=344,slow=20,SNR=7.5						
ARPS	**Mount Arapiles**	**5.61**	**147**	⇑P	**Pn**	**21 30 43.5**	**-2.0**
	baz=5.5,SNR=44						
QLP	**Quilpie**	**7.71**	**46**	⇑P	**Pn**	**21 31 16.3**	**+1.8**
	baz=7.7,SNR=9.9						
TOO	**Toolangi**	**8.19**	**134**	⇑P	**Pn**	**21 31 18.7**	**-2.3**
	baz=8.0,SNR=16						
FORT	**Forrest**	**8.63**	**276**	⇓P	**Pn**	**21 31 28.8**	**+1.8**
	baz=8.7,SNR=26						
FORT	**Forrest**	**8.63**	**276**	*e*Pn	**Pn**	**21 31 28.1**	**+1.0**
	47nm,0.6s						
FORT				*e*Sn	**Sn**	**21 33 02.2**	**-2.4**
FORT				*e*Lg	Lg	21 33 57.5	
ASAR	**Alice Springs**	**9.17**	**335**	Pn	**Pn**	**21 31 37.4**	**+2.8**
	2.7nm,0.3s,baz=152,slow=12,SNR=102						
ASAR				Sn	**Sn**	**21 33 16.2**	**-1.7**
	8.0nm,0.3s,baz=155,slow=22,SNR=12						
CNB	**Canberra Magne**	**9.95**	**112**	⇓P	**Pn**	**21 31 43.6**	**-1.7**
	baz=9.8,SNR=7.8						
WRKA	**Warakurna**	**11.09**	**307**	⇑P	**Pn**	**21 32 02.4**	**+1.5**
	baz=11,SNR=13						
QIS	**Mount Isa**	**11.59**	**7**	P	**Pn**	**21 32 08.0**	**+0.3**
	baz=12,SNR=8.2						
WRA	**Warramunga Arr**	**12.57**	**344**	Pn	**Pn**	**21 32 21.2**	**+0.2**
	2.8nm,0.3s,baz=164,slow=11,SNR=54						
WRA				Sn	**Sn**	**21 34 37.0**	**-4.1**
	2.2nm,0.3s,baz=167,slow=24,SNR=9.2						
WRAB	**Tennant Creek**	**12.57**	**344**	*e*Pn	**Pn**	**21 32 21.4**	**+0.3**
	10nm,0.4s						
WRAB				*e*Sn	**Sn**	**21 34 37.5**	**-3.7**
CTA	**Charters Tower**	**14.05**	**34**	Pn	**Pn**	**21 32 40.0**	**-1.3**
	0.7nm,0.3s,baz=205,slow=15,SNR=4.6						
CTAO	**Charters Tower**	**14.05**	**34**	*e*Pn	**Pn**	**21 32 40.5**	**-0.8**
CTAO				*e*Sn	**Sn**	**21 35 18.2**	**+0.8**
MEEK	**Meekatharra**	**17.79**	**283**	⇓P	**Pn**	**21 33 27.0**	**-2.8**
	baz=18,SNR=4.4						
COEN	**Coen**	**18.67**	**16**	*e*P	**P**	**21 33 40.0**	**-0.4**
	16nm,1.1s						
MORW	**Morawa**	**19.18**	**273**	⇑P	**Pn**	**21 33 47.9**	**+1.1**
	baz=19,SNR=8.7						
MBWA	**Marble Bar**	**19.64**	**299**	*e*P	**P**	**21 33 51.7**	**+0.8**
	12nm,0.7s						
VNDA	**Vanda**	**46.75**	**173**	P	**P**	**21 37 51.1**	**+0.2**
	1.0nm,0.5s,baz=314,slow=7.1,SNR=8.4						
QSPA	**South Pole Qui**	**57.99**	**180**	P	**P**	**21 39 14.9**	**+0.2**
	1.0nm,0.5s,baz=180,slow=0.5,SNR=7.3						
SONM	**Songino Array**	**84.50**	**339**	P	**P**	**21 41 56.3**	**+1.3**
	0.6nm,0.7s,baz=159,slow=4.3,SNR=3.2						
MKAR	**Makanchi Array**	**93.22**	**325**	P	**P**	**21 42 37.6**	**+1.2**
	0.3nm,0.7s,baz=131,slow=5.9,SNR=3.6						
FINES	**FINESS Array B**	**128.06**	**326**	PKP	**PKPdf**	**21 48 28.1**	**+0.6**
	0.4nm,0.4s,baz=134,slow=5.5,SNR=5.8						
ESDC	**Sonseca Array**	**148.49**	**295**	PKPbc	**PKPbc**	**21 49 10.1**	**+1.1**
	0.3nm,0.6s,baz=69,slow=2.3,SNR=3.2						

WEL 30 21:50:31.1±0.4, 37.50S×176.19E, h235km±3km, ML4.0/12, 13C-8D, Error ellipse: s-maj=4.2km s-min=4.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.05**	**137**	⇑P	Pn	21 51 04.7	0.0
URZ				SN	S	21 51 30.7	-0.5
URZ				AML	AML	21 51 33.8	
HAZ	**Te Kaha**	**1.29**	**102**	⇑P	Pn	21 51 06.2	-0.1
HAZ				SN	S	21 51 33.5	-0.4
MWZ	**Matawai**	**1.35**	**129**	⇑P	Pn	21 51 06.7	-0.1
MWZ				SN	S	21 51 34.4	-0.4
MWZ				AML	AML	21 51 35.4	
RAGZ	**Rawiri**	**1.39**	**136**	⇑P	Pn	21 51 07.4	+0.3
RAGZ				SN	S	21 51 35.1	-0.3
SNGZ	**Shannon Statio**	**1.57**	**145**	⇑P	Pn	21 51 08.6	+0.1
TWGZ	**Tauwhareparae**	**1.57**	**116**	⇑P	Pn	21 51 09.0	+0.4
RAHZ	**Arahi**	**1.58**	**154**	⇑P	Pn	21 51 09.0	+0.4
TKGZ	**Te Karaka**	**1.61**	**126**	Pn	Pn	21 51 08.0	+0.1
KRVZ	**Karewarewa**	**1.65**	**195**	⇓P	Pn	21 51 10.0	+0.7
NMHZ	**Naumai**	**1.67**	**163**	Pn	Pn	21 51 09.8	+0.4
TWVZ	**Taurewa**	**1.68**	**200**	⇑P	Pn	21 51 09.8	+0.3
BKZ	**Black Stump Fm**	**1.68**	**172**	⇓P	Pn	21 51 09.1	-0.4
BKZ				AML	AML	21 51 38.2	
BKZ				AML	AML	21 51 40.7	
MXZ	**Matakaoa Point**	**1.68**	**93**	PN	Pn	21 51 09.6	+0.2
WTVZ	**West Tongariro**	**1.68**	**196**	Pn	Pn	21 51 09.6	+0.1
OTVZ	**Oturere**	**1.71**	**194**	Pn	Pn	21 51 10.0	+0.2
RIGZ	**Rimuhau**	**1.73**	**135**	⇑P	Pn	21 51 09.8	0.0
PUZ	**Puketiti**	**1.73**	**110**	⇑P	Pn	21 51 09.7	-0.2
PUZ				AML	AML	21 51 39.4	
PUZ				AML	AML	21 51 41.7	
NGZ	**Ngauruhoe**	**1.74**	**195**	PN	Pn	21 51 10.1	+0.1
WHHZ	**Waihua**	**1.77**	**153**	PN	Pn	21 51 10.0	-0.2
WPVZ	**Whakapapa**	**1.78**	**196**	PN	Pn	21 51 10.6	+0.2
WMGZ	**Waiomatatini S**	**1.79**	**101**	⇑P	Pn	21 51 10.5	+0.2
WHVZ	**Whangaehu Hut**	**1.84**	**195**	Pn	Pn	21 51 10.9	-0.2
ARHZ	**Aropaoanui**	**1.87**	**161**	PN	Pn	21 51 10.8	-0.3
CNGZ	**Carnagh Statio**	**1.87**	**122**	⇑PN	Pn	21 51 11.1	0.0
WNVZ	**Wahianoa**	**1.88**	**194**	⇓PN	Pn	21 51 11.0	-0.4
KNZ	**Kokohu**	**1.92**	**143**	PN	Pn	21 51 10.8	-0.6
KWHZ	**Kaweka Forest**	**1.93**	**175**	⇓PN	Pn	21 51 11.2	-0.5
MOVZ	**Moawhango**	**1.94**	**190**	PN	Pn	21 51 10.9	-0.9
MTVZ	**Mangateitei**	**1.97**	**197**	PN	Pn	21 51 11.7	-0.4
MCHZ	**McNeill Hill**	**1.98**	**169**	PN	Pn	21 51 11.7	-0.3
BHHZ	**Black Hill Sta**	**1.99**	**183**	⇓PN	Pn	21 51 11.5	-0.8
KRHZ	**Kereru**	**2.15**	**176**	PN	Pn	21 51 12.5	-1.2
CKHZ	**Cape Kidnapper**	**2.27**	**162**	PN	Pn	21 51 14.0	-0.8
KAHZ	**Kahuranaki**	**2.35**	**167**	PN	Pn	21 51 14.6	-1.2
PNHZ	**Pukenui**	**2.41**	**180**	PN	Pn	21 51 14.7	-1.6
NEZ	**North Egmont**	**2.42**	**222**	PN	Pn	21 51 17.4	+0.9
WAZ	**Wanganui**	**2.44**	**202**	PN	Pn	21 51 15.8	-0.9
TSZ	**Takapari Road**	**2.56**	**184**	⇓PN	Pn	21 51 16.0	-1.9
TSZ				AML	AML	21 51 53.6	
WPHZ	**Waipukurau**	**2.57**	**176**	PN	Pn	21 51 16.2	-1.7
PXZ	**Pawanui**	**2.58**	**169**	PN	Pn	21 51 16.4	-1.7
PXZ				AML	AML	21 51 53.0	
PXZ				AML	AML	21 51 53.0	
PXZ				AML	AML	21 51 53.0	
PXZ				AML	AML	21 51 53.0	
PRHZ	**Porangahau**	**2.79**	**173**	⇓PN	Pn	21 51 18.1	-2.1
DVHZ	**Dannevirke**	**2.80**	**180**	PN	Pn	21 51 18.1	-2.2
POWZ	**Post Office Ro**	**2.91**	**186**	PN	Pn	21 51 19.1	-2.5
ANWZ	**Angora Road**	**2.96**	**176**	PN	Pn	21 51 20.0	-2.1
PRWZ	**Pori Road**	**3.06**	**183**	PN	Pn	21 51 20.8	-2.4
BFZ	**Birch Farm**	**3.18**	**179**	PN	Pn	21 51 21.8	-2.8
MRZ	**Mangatainoka R**	**3.19**	**188**	⇓PN	Pn	21 51 21.8	-2.9
MRZ				AML	AML	21 52 03.7	
MRZ				AML	AML	21 52 04.3	
TIWZ	**Tintock**	**3.28**	**184**	PN	Pn	21 51 22.9	-2.9
TIWZ				AML	AML	21 52 07.3	
TIWZ				AML	AML	21 52 07.4	
OGWZ	**Otaki Gorge**	**3.41**	**193**	PN	Pn	21 51 24.3	-2.9
HOWZ	**Holdsworth Sta**	**3.44**	**189**	PN	Pn	21 51 24.3	-3.2
KIW	**Kapiti Island**	**3.50**	**196**	PN	Pn	21 51 25.3	-3.0
TMWZ	**Te Maipa**	**3.61**	**184**	PN	Pn	21 51 26.5	-3.1
MTW	**Mount Morrison**	**3.69**	**188**	PN	Pn	21 51 26.7	-3.8
CAW	**Cannon Point**	**3.71**	**193**	PN	Pn	21 51 27.2	-3.5
CAW				AML	AML	21 52 14.7	
CAW				AML	AML	21 52 14.8	
DUWZ	**D'Urville Isla**	**3.74**	**207**	PN	Pn	21 51 28.0	-3.1
TRWZ	**Traveller**	**3.91**	**186**	PN	Pn	21 51 29.5	-3.6
MSWZ	**Moikau Station**	**3.98**	**190**	PN	Pn	21 51 29.9	-4.0
MSWZ				AML	AML	21 52 19.6	
TCW	**Tory Channel**	**3.99**	**201**	PN	Pn	21 51 30.8	-3.2
TCW				AML	AML	21 52 19.9	
TCW				AML	AML	21 52 21.5	
BHW	**Baring Head**	**4.04**	**194**	PN	Pn	21 51 30.9	-3.7
PLWZ	**Palliser**	**4.13**	**190**	PN	Pn	21 51 31.6	-4.2
TUWZ	**Tuamarina**	**4.29**	**203**	PN	Pn	21 51 34.0	-3.7
TUWZ				AML	AML	21 52 25.4	
NNZ	**Nelson**	**4.31**	**210**	PN	Pn	21 51 33.9	-3.9
QRZ	**Quartz Range**	**4.38**	**219**	PN	Pn	21 51 34.7	-4.0
BSWZ	**Blackbirch Sta**	**4.57**	**202**	PN	Pn	21 51 37.6	-3.5
THZ	**Tophouse**	**4.96**	**210**	PN	Pn	21 51 42.2	-3.6
KHZ	**Kahutara**	**5.32**	**202**	⇑PN	Pn	21 51 46.3	-3.9
LTZ	**Lake Taylor**	**6.07**	**208**	PN	Pn	21 51 54.9	-4.8
MQZ	**McQueen's Vall**	**6.76**	**202**	PN	Pn	21 52 02.7	-5.7
ODZ	**Otahua Downs**	**8.62**	**207**	PN	Pn	21 52 27.1	-4.9

IDC ***30*** *22:20:24.6±0.8, 16.56S×173.49W, h0km, mb3.8/6, mb1 4.2/8, mb1mx3.9/36, mbtmp4.0/8, ML3.7/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/23, Error ellipse: s-maj=33.9km s-min=18.7km az=142.0*
NEIC ***30*** *22:20:27.8±3.6, 16.60S×173.49W, h22km±26km, mb4.3/2, Error ellipse: s-maj=16.7km s-min=10.9km az=140.0*
ISCJB ***30*** *22:20:31.5±0.6, 16.3S±0.2×173.7W±0.1, h66km, mb3.8/8, Error ellipse: s-maj=28.5km s-min=11.8km az=140.4*
ISC 30 22:20:32.8±0.7, 16.3S±0.2×173.5W±0.2, h66km, n24, σ1§51/18, mb3.9/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.91**	**36**	Pn	**Pn**	**22 21 16.9**	**+0.2**
	14nm,0.3s,baz=86,slow=13,SNR=5.9						
AFI				Sn	**Sn**	**22 21 47.1**	**-3.4**
	153nm,0.3s,baz=52,slow=23,SNR=9.5						
RAR	**Rarotonga**	**13.91**	**113**	Pn	Pn	22 23 40.8	-6.1
	2.7nm,0.3s,baz=285,slow=12,SNR=3.9						
PPT	**Papeete**	**22.94**	**97**	LR	LR	22 33 34.9	
	comp=Z,60nm,18.2s,baz=42,slow=34						
URZ	**Urewera**	**23.39**	**199**	P	**P**	**22 25 33.9**	**-1.8**
	3.6nm,0.7s,baz=330,slow=20,SNR=3.4						
H11S2	**WAKE ISLAND Hy**	**39.66**	**330**	T	T	23 09 12.0	
	baz=146,slow=76,SNR=6.5						
H11S3	**WAKE ISLAND Hy**	**39.68**	**330**	T	T	23 09 11.9	
	baz=146,slow=76,SNR=7.5						
H11S1	**WAKE ISLAND Hy**	**39.68**	**330**	T	T	23 09 13.5	
	baz=146,slow=76,SNR=3.5						
H11N3	**WAKE ISLAND Hy**	**40.62**	**331**	T	T	23 11 07.2	
	baz=155,slow=74						
H11N1	**WAKE ISLAND Hy**	**40.63**	**331**	T	T	23 11 33.5	
	baz=155,slow=74						
H11N2	**WAKE ISLAND Hy**	**40.64**	**331**	T	T	23 11 15.7	
	baz=155						
WRAB	**Tennant Creek**	**49.52**	**258**	*e*P	**P**	**22 29 16.5**	**-0.7**
	4.1nm,1.1s						
WRA	**Warramunga Arr**	**49.53**	**257**	P	**P**	**22 29 15.6**	**-1.7**
	0.4nm,0.5s,baz=91,slow=6.9,SNR=2.8						
AS31	**Alice Springs**	**49.73**	**253**	*e*P	**P**	**22 29 18.1**	**-0.7**
ASAR	**Alice Springs**	**49.73**	**253**	P	**P**	**22 29 19.2**	**+0.4**
	1.3nm,0.5s,baz=88,slow=8.3,SNR=24						
SOEI	**Soe**	**60.77**	**268**	*e*P	**P**	**22 30 37.8**	**-0.7**
NVAR	**Mina Array Bea**	**75.06**	**42**	P	**P**	**22 32 09.8**	**+1.9**
	1.0nm,0.7s,baz=235,slow=9.4,SNR=7.0						
TXAR	**Lajitas Array**	**81.20**	**56**	P	**P**	**22 32 42.7**	**+0.8**
	0.1nm,0.5s,baz=212,slow=8.5,SNR=3.3						
PDAR	**Pinedale Array**	**83.00**	**42**	P	**P**	**22 32 52.6**	**+1.4**
	1.1nm,0.8s,baz=222,slow=1.2,SNR=8.7						
SNAA	**Sanae**	**92.03**	**177**	*e*P	**P**	**22 33 34.0**	**-0.2**
	1.3nm,1.2s						
MORC	**Moravsky Berou**	**145.41**	**347**	*e*PKPbc	**PKPab**	**22 40 05.7**	**+2.2**
BR131	**Keskin Array S**	**146.76**	**320**	*e*PKPbc	**PKPab**	**22 40 10.5**	**+1.4**
BRTR	**Keskin Array B**	**146.76**	**320**	PKPbc	**PKPab**	**22 40 09.9**	**+0.8**
	1.0nm,0.8s,baz=342,slow=1.6,SNR=5.9						
GERES	**GERESS Array B**	**147.00**	**351**	PKPbc	**PKPab**	**22 40 10.2**	**+0.6**
	0.9nm,0.7s,baz=35,slow=4.9,SNR=8.3						
TORD	**Torodi Ar. Bea**	**174.42**	**123**	PKP	**PKPdf**	**22 40 35.3**	**-0.6**
	0.9nm,1.1s,baz=174,slow=7.1,SNR=3.0						
TORD				PKPab	**PKPab**	**22 42 08.6**	**-0.2**
	0.6nm,0.7s,baz=247,slow=5.0,SNR=4.3						

IDC ***30*** *22:33:29.4±1.8, 6.67S×129.87E, h0km, mb3.8/2, mb1 4.0/4, mb1mx3.6/22, mbtmp3.8/4, ML3.8/2, Error ellipse: s-maj=135.8km s-min=26.3km az=66.0*
ISC 30 22:33:31.3±1.6, 6.9S±0.2×129.4E±0.3, h10km, n11, σ0§99/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.82**	**36**	P	Pg	22 35 05.4	+1.8
	baz=5.6,SNR=10						
SOEI	**Soe**	**5.87**	**240**	P	Pn	22 34 59.8	+1.3
	baz=5.2,SNR=6.8						
MTN	**Manton Dam**	**6.17**	**164**	P	Pn	22 35 08.4	+5.9
	baz=5.8,SNR=42						
KNRA	**Kununurra**	**8.78**	**184**	P	**Pn**	**22

ISC 30 23:23:14.2±0.6, 53°.6N±0°.1×170°.26W±0°.05, h200km, n64, σ0s.85/65, mb3.7/15, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**1.04**	**125**	P	**Pn**	**23 23 43.6**	**-0.6**
NIKH				S	**Sn**	**23 24 05.5**	**-1.9**
OKWR	**Okmok West Rim**	**1.24**	**96**	P	**Pn**	**23 23 46.4**	**+0.6**
OKCE	**Okmok Cone E**	**1.26**	**96**	P	**Pn**	**23 23 45.8**	**-0.1**
OKTU	**Okmok Mt. Tuli**	**1.34**	**97**	P	**Pn**	**23 23 47.0**	**+0.4**
OKFG	**Magazine Ridge**	**1.42**	**96**	P	**Pn**	**23 23 46.8**	**-0.3**
OKFG				S	**Sn**	**23 24 12.4**	**-0.2**
MCIR	**Makushin Cirqu**	**2.04**	**78**	P	**Pn**	**23 23 53.3**	**+0.2**
MSW	**Makushin Switc**	**2.10**	**79**	P	**Pn**	**23 23 53.1**	**-0.5**
MTBL	**Makushin Table**	**2.16**	**78**	P	**Pn**	**23 23 54.6**	**+0.1**
UNV	**Unalaska Valle**	**2.25**	**82**	P	**Pn**	**23 23 55.2**	**-0.1**
UNV				S	**Sn**	**23 24 26.9**	**-0.4**
AKRB	**Akutan Reef Bi**	**2.55**	**76**	P	**Pn**	**23 23 58.6**	**0.0**
ZRO	**Akutan Zero**	**2.59**	**77**	P	**Pn**	**23 23 59.3**	**+0.3**
AKGG	**Akutan Green G**	**2.60**	**74**	P	**Pn**	**23 23 59.4**	**+0.2**
AKUT	**Akutan**	**2.72**	**76**	P	**Pn**	**23 24 00.8**	**+0.4**
ATKA	**Atka Island**	**2.75**	**242**	P	**Pn**	**23 24 01.5**	**+0.6**
ATKA				S	**Sn**	**23 24 36.1**	**-1.1**
WESP	**Westdahl Peak**	**3.40**	**72**	P	**Pn**	**23 24 09.1**	**+0.6**
WESP				S	**Sn**	**23 24 51.3**	**+0.2**
WEBT	**Westdahl Beart**	**3.40**	**70**	P	**Pn**	**23 24 09.4**	**+0.9**
WESN	**West Dahl Nort**	**3.49**	**71**	P	**Pn**	**23 24 10.2**	**+0.5**
SSBA	**Shishaldin**	**3.80**	**69**	P	**Pn**	**23 24 13.5**	**0.0**
SSLW	**Shishaldin Wes**	**3.80**	**69**	P	**Pn**	**23 24 13.7**	**+0.2**
GSTR	**Great Sitkin T**	**3.81**	**249**	*e*Pn	**Pn**	**23 24 15.2**	**+1.6**
GSTR				*e*S	**Sn**	**23 25 01.1**	**+0.9**
GSMY	**Great Sitkin M**	**3.84**	**249**	P	**Pn**	**23 24 14.6**	**+0.7**
GSTD	**Great Sitkin T**	**3.88**	**249**	P	**Pn**	**23 24 15.3**	**+0.8**
GSTD				S	**Sn**	**23 25 01.2**	**-0.6**
GSCK	**Great Sitkin C**	**3.91**	**249**	P	**Pn**	**23 24 15.7**	**+0.9**
ISNN	**Isanotski Nort**	**4.01**	**69**	P	**Pn**	**23 24 16.9**	**+0.8**
ETKA	**Kagalaska Isla**	**4.11**	**248**	P	**Pn**	**23 24 18.2**	**+0.9**
FALS	**False Pass**	**4.22**	**70**	P	**Pn**	**23 24 18.9**	**+0.3**
KIKV	**Kanaga Island**	**4.53**	**251**	P	**Pn**	**23 24 23.4**	**+0.9**
DT1	**Dutton Round H**	**4.92**	**69**	P	**Pn**	**23 24 27.1**	**-0.3**
DTNA	**Dutton South F**	**4.94**	**68**	P	**Pn**	**23 24 27.5**	**-0.3**
TAFP	**Tanaga Falls P**	**4.98**	**253**	P	**Pn**	**23 24 28.9**	**+0.6**
PS4A	**Pavlof South-4**	**5.21**	**67**	P	**Pn**	**23 24 31.2**	**0.0**
SDPT	**Sand Point**	**5.98**	**69**	P	**Pn**	**23 24 39.7**	**-1.3**
CERAA	**Semis' Rag'd T**	**6.33**	**259**	P	**Pn**	**23 24 47.2**	**+1.6**
CESW	**Semis' Southwe**	**6.40**	**259**	P	**Pn**	**23 24 47.9**	**+1.3**
AMKA	**Amchitka**	**6.74**	**255**	P	**Pn**	**23 24 50.9**	**-0.1**
VNSS	**Veniaminof 8**	**6.78**	**63**	P	**Pn**	**23 24 51.8**	**+0.2**
LSSE	**Little Sitkin**	**6.98**	**261**	P	**Pn**	**23 24 55.8**	**+1.8**
KDAK	**Kodiak Island**	**10.82**	**60**	P	**Pn**	**23 25 41.5**	**-2.3**
	1.7nm,0.3s,baz=235,slow=4.0,SNR=7.2						
KDAK				S	Sn	23 27 31.4	-13
	0.5nm,0.3s,baz=17,slow=19,SNR=3.9						
TRF	**Thorofare Moun**	**14.31**	**38**	*e*Pn	**P**	**23 26 29.0**	**-0.3**
	3.5nm,0.4s						
BPAW	**Bear Paw Mtn.**	**14.45**	**36**	*e*Pn	**P**	**23 26 31.1**	**+0.5**
	2.6nm,0.5s						
ILAR	**Eielson Array**	**16.29**	**37**	P	**P**	**23 26 50.0**	**-0.9**
	1.6nm,0.3s,baz=227,slow=9.9,SNR=56						
COLD	**Coldfoot**	**16.77**	**28**	*e*P	**Pn**	**23 26 59.7**	**+2.4**
	2.7nm,0.5s						
EGAK	**Eagle**	**18.46**	**41**	*e*P	**P**	**23 27 14.5**	**0.0**
	9.3nm,0.5s						
INK	**Inuvik**	**22.65**	**35**	P	**P**	**23 27 57.5**	**-0.4**
	4.1nm,0.4s,baz=258,slow=7.6,SNR=21						
DLBC	**Dease Lake**	**22.75**	**61**	P	**P**	**23 27 59.4**	**+0.3**
	2.7nm,0.6s,baz=223,slow=8.6,SNR=8.0						
YKA	**Yellowknife Ar**	**29.87**	**50**	P	**P**	**23 29 02.2**	**-0.3**
	0.5nm,0.6s,baz=274,slow=9.0,SNR=5.9						
H11N2	**WAKE ISLAND Hy**	**38.08**	**216**	T	T	00 12 27.9	
	baz=24,slow=76,SNR=6.0						
H11N3	**WAKE ISLAND Hy**	**38.09**	**216**	T	T	00 12 28.4	
	baz=24,slow=76,SNR=4.9						
H11N1	**WAKE ISLAND Hy**	**38.10**	**216**	T	T	00 12 27.7	
	baz=24,slow=76,SNR=3.6						
NVAR	**Mina Array Bea**	**38.23**	**92**	P	**P**	**23 30 15.9**	**+1.0**
	1.0nm,0.7s,baz=295,slow=8.8,SNR=6.3						
H11S1	**WAKE ISLAND Hy**	**39.28**	**216**	T	T	00 13 39.8	
	baz=23,slow=76,SNR=40						
H11S2	**WAKE ISLAND Hy**	**39.30**	**216**	T	T	00 13 42.2	
	baz=23,slow=76,SNR=50						
H11S3	**WAKE ISLAND Hy**	**39.30**	**216**	T	T	00 13 42.4	
	baz=23,slow=76,SNR=42						
PDAR	**Pinedale Array**	**40.72**	**80**	P	**P**	**23 30 36.4**	**+1.0**
	2.0nm,0.7s,baz=334,slow=4.4,SNR=15						
TXAR	**Lajitas Array**	**53.27**	**89**	P	**P**	**23 32 13.3**	**+1.0**
	0.8nm,0.4s,baz=301,slow=5.6,SNR=15						
SCHQ	**Schefferville**	**54.93**	**43**	P	**P**	**23 32 23.6**	**-0.3**
	2.7nm,0.6s,baz=326,slow=13.0,SNR=4.4						
ARCES	**ARCESS Array B**	**56.66**	**353**	P	**P**	**23 32 34.9**	**-1.0**
	2.5nm,1.0s,baz=37,slow=8.3,SNR=2.8						
MKAR	**Makanchi Array**	**62.59**	**312**	P	**P**	**23 33 15.7**	**-1.0**
	0.2nm,0.7s,baz=65,slow=10,SNR=2.6						
FINES	**FINESS Array B**	**64.59**	**351**	P	**P**	**23 33 28.7**	**-0.8**
	2.5nm,1.0s,baz=316,slow=5.3,SNR=4.2						
NOA	**NORSAR Array B**	**65.73**	**359**	P	**P**	**23 33 36.6**	**-0.3**
	1.1nm,0.8s,baz=0.2,slow=6.3,SNR=3.1						
GERES	**GERESS Array B**	**77.90**	**357**	P	**P**	**23 34 49.1**	**-0.4**
	0.4nm,0.6s,baz=14,slow=4.4,SNR=4.9						
ESDC	**Sonseca Array**	**86.37**	**11**	P	**P**	**23 35 33.2**	**-0.4**
	0.5nm,0.6s,baz=351,slow=4.2,SNR=4.8						
WRA	**Warramunga Arr**	**87.34**	**231**	P	**P**	**23 35 38.2**	**-0.1**
	0.4nm,0.9s,baz=34,slow=6.1,SNR=3.5						
ASAR	**Alice Springs**	**90.76**	**229**	P	**P**	**23 35 54.4**	**+0.1**
	0.3nm,0.6s,baz=31,slow=4.5,SNR=4.4						

IDC 30 23:42:01.3±2.1, 57°.48S×23°.87W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/23, mbtmp4.0/3, MS3.2/1, Ms1 3.2/1, ms1mx2.7/23, Error ellipse: s-maj=81.0km s-min=38.0km az=9.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**20.41**	**232**	LR	LR	23 52 55.3	
	comp=Z,63nm,19.9s,baz=54,slow=32						
CPUP	**Villa Florida**	**39.13**	**308**	P	P	23 49 29.0	-1.3
	1.3nm,0.7s,baz=127,slow=5.2,SNR=3.2						
LPAZ	**La Paz**	**52.69**	**303**	P	P	23 51 18.1	-0.1
	2.8nm,0.8s,baz=134,slow=5.4,SNR=12						
TORD	**Torodi Ar. Bea**	**73.47**	**26**	P	P	23 53 35.7	+0.4
	1.2nm,0.8s,baz=192,slow=6.5,SNR=6.2						
SONM	**Songino Array**	**148.99**	**86**	PKPbc	PKPdf	00 01 48.1	+1.9
	0.4nm,0.6s,baz=230,slow=1.9,SNR=2.7						
ILAR	**Eielson Array**	**152.44**	**309**	PKPbc	PKPbc	00 01 58.9	+1.1
	1.6nm,0.9s,baz=134,slow=3.2,SNR=10						

*IDC **30** 23:57:12.6±0.9, 35°.83N×77°.75E, h0km, mb3.7/11, mb1 3.9/13, mb1mx3.7/31, mbtmp3.8/13, ML3.8/2, Error ellipse: s-maj=28.0km s-min=16.8km az=47.0*
*ISCJB **30** 23:57:23.1±0.3, 36°.15N±0°.03×77°.99E±0°.07, h88km, mb3.6/10, Error ellipse: s-maj=8.2km s-min=4.1km az=166.2*
*BJI **30** 23:57:27.0, 36°.48N×78°.09E, h119km, mb4.4/1, mB4.5/1*

ISC 30 23:57:23.8±0.6, 36°.21N±0°.05×78°.00E±0°.08, h88km, n36, σ2s.04/35, mb3.6/10, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**3.67**	**335**	P	**Pn**	**23 58 18.0**	**-0.5**
KSH				S	**Sn**	**23 58 56.0**	**-4.7**
KSH				SMN			
	260nm,0.2s						
KSH				SME			
	320nm,0.4s						
DLH	**Dalhousie**	**4.03**	**205**	*e*P	**Pn**	**23 58 25.0**	**+1.6**
DLH				*e*S	**Sn**	**23 59 10.0**	**+0.4**
BHK	**Bhakra**	**4.96**	**196**	*e*P	Pn	23 58 40.0	+4.1
SMLA	**Simla**	**5.12**	**188**	*i* P	**Pn**	**23 58 40.2**	**+2.2**
SMLA				*i* S	**Sn**	**23 59 33.9**	**-1.8**
SMLA				*i* S	**Sn**	**23 59 34.0**	**-1.8**
SMLA				AML	AML	23 59 35.2	
	comp=N,340nm,0.2s						
SMLA				AML	AML	23 59 35.7	
	comp=E,225nm,0.3s						
ULHL	**Ulahol**	**6.18**	**348**	P	Pn	23 58 56.0	+3.3
	SNR=11						
KZA	**Kyzart**	**6.24**	**341**	P	**Pn**	**23 58 56.1**	**+2.4**
	SNR=5.8						
AML	**Almayashu**	**6.79**	**332**	P	**Pn**	**23 59 02.7**	**+1.5**
	SNR=6.4						
KBK	**Karagaybulak**	**6.86**	**341**	P	Pn	23 59 05.7	+3.8
	SNR=7.6						
TKM2	**Tokmak 2**	**6.96**	**345**	P	**Pn**	**23 59 06.2**	**+3.0**
	SNR=6.7						
AAK	**Ala-Archa**	**6.96**	**338**	P	**Pn**	**23 59 05.6**	**+2.3**
	SNR=14						
AAK	**Ala-Archa**	**6.96**	**338**	Pn	Pn	23 59 55.3	+52
	baz=156,slow=14						
AAK				Sn	Sn	00 01 12.6	+51
	comp=E,1.8nm,0.3s,baz=344,slow=20,SNR=4.2						
CHMS	**Chumysh**	**7.23**	**341**	P	Pn	23 59 10.1	+3.3
	SNR=5.2						
NDI	**New Delhi**	**7.53**	**185**	*e*S	**Sn**	**00 00 30.0**	**-4.8**
KOLN	**Koldanda**	**9.66**	**149**	*e*P	**Pn**	**23 59 40.0**	**-0.2**
	comp=E,9.9nm,0.3s						
GKN	**Gorkha**	**9.93**	**144**	*e*P	**Pn**	**23 59 44.6**	**+0.9**
	comp=E,22nm,0.3s						
KKN	**Kakani**	**10.42**	**142**	*e*P	**Pn**	**23 59 50.9**	**+0.4**
DMN	**Daman**	**10.48**	**143**	*e*P	**Pn**	**23 59 51.7**	**+0.3**
	comp=E,6.3nm,0.3s						
WMQ	**Urumqi**	**10.63**	**41**	P	**Pn**	**23 59 54.8**	**+1.7**
PKIN	**Phulchoki**	**10.65**	**142**	*e*P	**Pn**	**23 59 52.8**	**-0.9**
	comp=E,8.0nm,0.3s						
PKI	**Pulchoki**	**10.66**	**142**	*e*P	**Pn**	**23 59 53.4**	**-0.5**
MKAR	**Makanchi Array**	**11.05**	**16**	Pn	**Pn**	**23 59 59.9**	**+1.1**
	comp=E,1.7nm,0.3s,baz=202,slow=14,SNR=157						
MKAR				Sn	**Sn**	**00 01 55.2**	**-5.2**
	comp=E,5.3nm,0.3s,baz=195,slow=22,SNR=26						
ODAN	**Odare**	**12.28**	**137**	*e*P	**Pn**	**00 00 17.1**	**+1.4**
GEYT	**Alibeck**	**15.97**	**282**	Sn	Sn	00 03 43.7	-16
	comp=E,0.3nm,0.3s,baz=91,slow=25,SNR=3.2						
ZALV	**Zalesovo Beam**	**18.36**	**13**	P	**Pn**	**00 01 32.9**	**+0.6**
	comp=E,0.5nm,0.3s,baz=208,slow=12,SNR=3.1						
AKTO	**Aktyubinsk**	**20.25**	**321**	P	**P**	**00 01 51.9**	**+0.1**
	comp=E,1.5nm,0.4s,baz=122,slow=10,SNR=6.5						
CD2	**Chengdu**	**22.08**	**96**	*e*P	**P**	**00 02 12.5**	**+0.8**
SONM	**Songino Array**	**23.94**	**52**	P	**P**	**00 02 32.6**	**+2.8**
	comp=E,0.4nm,0.5s,baz=241,slow=10.0,SNR=3.7						
ARU	**Arti**	**24.11**	**333**	P	**P**	**00 02 31.7**	**+0.6**
	comp=E,2.7nm,0.6s,baz=111,slow=11,SNR=7.2						
CMAR	**Chiang Mai Arr**	**25.57**	**128**	P	**P**	**00 02 42.4**	**-2.3**
	comp=E,0.8nm,0.5s,baz=320,slow=9.4,SNR=3.3						
FINES	**FINESS Array B**	**40.93**	**325**	P	**P**	**00 04 57.7**	**+0.4**
	comp=E,1.1nm,0.5s,baz=122,slow=10,SNR=6.9						
ARCES	**ARCESS Array B**	**43.63**	**336**	P	**P**	**00 05 19.9**	**+0.8**
	comp=E,3.3nm,0.9s,baz=108,slow=9.0,SNR=7.1						
HFS	**Hagfors**	**46.79**	**322**	P	**P**	**00 05 44.2**	**+0.1**
	comp=E,4.5nm,1.1s,baz=83,slow=13,SNR=2.8						
GERES	**GERESS Array B**	**47.68**	**306**	P	**P**	**00 05 51.7**	**+0.3**
	comp=E,0.4nm,0.7s,baz=54,slow=9.9,SNR=3.1						
FITZ	**Fitzroy Crossi**	**70.33**	**132**	P	**P**	**00 08 27.3**	**-0.7**
	comp=E,1.4nm,0.9s,baz=304,slow=3.6,SNR=2.1						
TORD	**Torodi Ar. Bea**	**71.37**	**273**	P	**P**	**00 08 33.8**	**-0.8**
	comp=E,0.2nm,0.5s,baz=46,slow=5.5,SNR=7.6						
WRA	**Warramunga Arr**	**77.16**	**127**	P	**P**	**00 09 08.2**	**+0.2**
	comp=E,0.2nm,0.4s,baz=327,slow=6.2,SNR=5.4						

IDC 31 00:05:29.5±3.8, 5°.99S×149°.92E, h0km, mb3.1/2, mb1 3.5/2, mb1mx3.2/45, mbtmp3.2/2, Error ellipse: s-maj=139.0km s-min=48.0km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.53**	**226**	P	P	00 10 09.4	-0.3
	0.7nm,0.6s,baz=52,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**23.38**	**220**	P	P	00 10 40.0	0.0
	0.2nm,0.5s,baz=57,slow=9.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	**147.90**	**285**	PKPbc	PKPbc	00 25 17.1	-0.7
	0.4nm,0.5s,baz=73,slow=2.5,SNR=7.3						

IDC 31 00:09:15.4±3.7, 5°.87S×153°.92E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.3/42, mbtmp3.3/2, Error ellipse: s-maj=185.1km s-min=49.8km az=126.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.62**	**232**	P	P	00 14 29.3	+0.9
	0.6nm,0.9s,baz=58,slow=10,SNR=3.0						
ASAR	**Alice Springs**	**26.15**	**225**	P	P	00 14 50.9	-0.7
	0.5nm,0.8s,baz=57,slow=10,SNR=4.8						
TORD	**Torodi Ar. Bea**	**151.69**	**287**	PKPbc	PKPbc	00 29 12.6	-0.4
	0.4nm,0.7s,baz=71,slow=1.5,SNR=4.5						

*IDC **31** 00:15:45.7±3.8, 24°.13N×90°.97E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.2/34, mbtmp3.3/4, ML3.7/1, Error ellipse: s-maj=92.2km s-min=33.2km az=49.0*

ISC 31 00:15:34.9±1.8, 22°.70N±0°.09×91°.1E±0°.2, h10km, n5, σ0s.96/8, mb3.3/3, Bangladesh

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**2.95**	**14**	*i* PN	**Pn**	**00 16 22.0**	**-0.1**
SHL				*e*SG	**Pg**	**00 16 32.5**	**+1.0**
SHL				*e*SN	**Sn**	**00 16 56.0**	**-1.6**
SHL				*e*SG	**Sg**	**00 17 10.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**8.49**	**118**	Pn	**Pb**	**00 18 02.1**	**-0.1**
	0.2nm,0.3s,baz=300,slow=14,SNR=6.1						
MKAR	**Makanchi Array**	**25.07**	**346**	P	**P**	**00 21 00.2**	**+0.7**
	0.5nm,0.6s,baz=165,slow=11,SNR=6.0						
SONM	**Songino Array**	**27.92**	**22**	P	**P**	**00 21 25.6**	**+0.2**
	0.3nm,0.5s,baz=224,slow=10,SNR=2.3						
KURBB	**Kurchatov Arra**	**29.55**	**344**	P	**P**	**00 21 39.0**	**-0.6**
	0.1nm,0.3s,baz=172,slow=7.4,SNR=3.2						

NNC 31 00:16:48.6±3.1, 36°.33N×70°.50E, h0km, mb3.7, mpv3.4, 9C-3D, Error ellipse: s-maj=24.0km s-min=13.0km az=2.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.81**	**332**	⇑Pn	Pn	00 17 35.2	+0.4
	3.1nm,0.3s						
DZET				⇑Sn	Sn	00 18 10.9	+1.4
	32nm,0.4s						
SFK	**Sufi-Kurgan**	**4.37**	**32**	⇑Pn	Pn	00 17 57.1	+0.6
	3.8nm,0.2s						
SFK				⇑Sn	Sn	00 18 50.6	+2.2
	8.5nm,0.2s						
MNAS	**Manas**	**6.34**	**14**	⇑Pn	Pn	00 18 22.6	-0.9
	1.2nm,0.7s						
MNAS				⇓Sn	Sn	00 19 36.4	-0.3
	2.9nm,0.4s						
KK31	**Karatay Array**	**6.76**	**0**	⇓Pn	Pn	00 18 28.2	-0.9
	0.9nm,0.3s,baz=180,slow=12,SNR=38						
KK31				⇑Sn	Sn	00 19 45.0	-1.9
	2.3nm,0.5s,baz=192,slow=25,SNR=9.2						
AAK	**Ala-Archa**	**7.01**	**25**	⇑Pn	Pn	00 18 32.4	-0.3
	2.5nm,0.5s						
AAK				⇑Sn	Sn	00 19 53.6	+0.4
	2.6nm,0.6s						
AB31	**Akbulak array**	**15.04**	**332**	⇑P	Pn	00 20 17.0	-5.3
	0.6nm,0.4s,baz=149,slow=12,SNR=30						
AB31				⇓S	Sn	00 22 58.8	-11
	0.2nm,0.3s,baz=160,slow=22,SNR=2.8						

IDC 31 00:17:08.5±2.6, 11°.19S×123°.27E, h0km, mb3.5/1, mb1 3.5/3, mb1mx3.3/25, mbtmp3.4/3, ML3.5/2, Error ellipse: s-maj=233.9km s-min=33.1km az=51.0, South of Timor

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.76**	**131**	Pn	Pn	00 20 23.4	-1.7
	0.3nm,0.3s,baz=302,slow=15,SNR=6.2						
WRA				Sn	Sn	00 22 50.9	-7.9
	0.2nm,0.3s,baz=296,slow=21,SNR=4.5						
ASAR	**Alice Springs**	**16.02**	**142**	Pn	Pn	00 20 57.2	+1.8
	0.1nm,0.3s,baz=323,slow=13,SNR=6.6						
ASAR				Sn	Sn	00 23 48.2	-5.6
	0.1nm,0.3s,baz=309,slow=21,SNR=3.0						
MKAR	**Makanchi Array**	**68.35**	**331**	P	P	00 28 11.8	0.0
	0.4nm,0.8s,baz=125,slow=7.2,SNR=3.6						

KRSC 31 00:24:22.7±1.3, 52°.30N×160°.37E, h20km±13km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.83**	**345**	*e*P	Pn	00 24 39.0	-0.2
SPN				*e*S	Sn	00 24 50.5	-0.4
RUS	**Russkaya**	**1.15**	**277**	*e*P	Pn	00 24 43.2	-0.4
RUS				*e*S	Sb	00 24 57.3	-1.0
PET	**Petropavlovsk**	**1.27**	**305**	*e*P	Pb	00 24 45.8	-0.2
PET				*e*S	Sn	00 25 01.1	-0.7
UGLR	**Uglovaya**	**1.31**	**315**	*e*P	Pn	00 24 46.3	+0.3
UGLR				*e*S	Sn	00 25 02.6	-0.4
SDLR	**Sedlovina**	**1.33**	**318**	*e*P	Pb	00 24 47.0	-0.2
SDLR				*e*S	Sb	00 25 05.0	+1.0
MTVR	**Mutnovka**	**1.35**	**279**	*e*P	Pn	00 24 46.8	+0.2
MTVR				*e*S	Sn	00 25 03.5	-0.7
SMAR	**Somma**	**1.36**	**316**	*e*P	Pn	00 24 46.9	+0.1
SMAR				*e*S	Sb	00 25 06.2	+1.3
AVH	**Avacha**	**1.39**	**315**	*e*P	Pb	00 24 47.6	-0.4
AVH				*e*S	Sn	00 25 04.9	+0.1
KRER	**Koryakskii**	**1.41**	**316**	*e*P	Pb	00 24 49.3	+0.7
KOK	**Koryaka**	**1.45**	**314**	*e*P	Pb	00 24 49.3	+0.2
KRK	**Arik**	**1.49**	**316**	*e*P	Pn	00 24 49.2	+0.7
ASAK	**Asacha**	**1.52**	**274**	*e*P	Pb	00 24 49.7	-0.6
ASAK				*e*S	Sb	00 25 08.9	-0.3
GNL	**Ganaly**	**2.03**	**315**	*e*P	Pb	00 24 57.9	-1.1
GNL				*e*S	Sb	00 25 22.7	-1.2
APC	**Apacha**	**2.06**	**289**	*e*P	Pb	00 24 58.5	-0.8
APC				*e*S	Sb	00 25 24.0	-0.4
MIPR	**Malaya Ipel'ka**	**2.22**	**271**	*e*P	Pb	00 25 01.3	-0.8
MKZ	**Mys Kozlova**	**2.40**	**19**	P	Pn	00 25 03.0	+2.2
MKZ				*e*S	Sn	00 25 31.2	+1.6
KZV	**Kizimen**	**2.82**	**359**	*e*P	Pb	00 25 10.0	-2.6
TUMR	**Tumrok**	**2.99**	**358**	*e*P	Pn	00 25 12.0	+2.9
KBTR	**Krutoberegovo**	**4.17**	**19**	*e*P	Pn	00 25 28.6	+3.5

GUC 31 00:28:52.6±0.4, 35°.01S×72°.32W, h21km±9km, ML3.8, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.68**	**125**	⇓*i* P	Pb	00 29 05.3	-0.5
TALC				*i* S	Sb	00 29 14.8	0.0
CLCH	**Cerro Calan**	**2.19**	**43**	*e*P	Pn	00 29 28.7	+0.9
CLCH				*i* S	Sb	00 29 56.8	-1.5
CLCH				AML	AML	00 30 07.4	
	comp=N,700nm,0.6s						
PEL	**Peldehue**	**2.31**	**36**	⇓*i* P	Pn	00 29 30.9	+1.5
PEL				*i* S	Sb	00 29 59.6	-2.0
PEL				AML	AML	00 30 03.7	
	comp=N,910nm,0.5s						

KRSC 31 01:01:58.7±1.5, 52°.11N×157°.02E, h231km±10km, ML3.9, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIPR	**Malaya Ipel'ka**	**0.23**	**317**	*i* P	Pn	01 02 29.3	+0.7
ASAK	**Asacha**	**0.61**	**63**	*i* P	Pn	01 02 31.1	+1.4
PAU	**Pauzhetka**	**0.66**	**191**	*e*P	Pn	01 02 30.6	+0.7
MTVR	**Mutnovka**	**0.81**	**62**	*e*P	Pn	01 02 32.2	+1.5
MTVR				*e*S	S	01 02 56.8	+1.0
APC	**Apacha**	**0.82**	**6**	*i* P	Pn	01 02 30.9	+0.4
RUS	**Russkaya**	**0.97**	**70**	*i* P	Pn	01 02 32.2	+0.8
RUS				*e*S	S	01 02 55.6	-1.4
PET	**Petropavlovsk**	**1.35**	**47**	*e*P	Pn	01 02 33.8	-0.1
PET				*e*S	S	01 03 00.6	-0.9
KOK	**Koryaka**	**1.54**	**39**	*e*P	Pn	01 02 37.3	+1.8
UGLR	**Uglovaya**	**1.56**	**44**	*e*P	Pn	01 02 35.9	+0.2
UGLR				*e*S	S	01 03 05.3	+0.6
AVH	**Avacha**	**1.56**	**41**	*e*P	Pn	01 02 35.7	0.0
AVH				*e*S	S	01 03 05.3	+0.6
SMAR	**Somma**	**1.59**	**43**	*e*S	S	01 03 06.4	+1.1
KRER	**Koryakskii**	**1.59**	**41**	*e*P	Pn	01 02 36.8	+0.7
KRER				*e*S	S	01 03 05.4	0.0
KRK	**Arik**	**1.60**	**38**	*e*P	Pn	01 02 36.1	+0.1
KRK				*e*S	S	01 03 05.6	+0.3
SDLR	**Sedlovina**	**1.63**	**43**	*e*P	Pn	01 02 38.2	+1.9
SDLR				*e*S	S	01 03 06.2	+0.4
GNL	**Ganaly**	**1.68**	**19**	*e*P	Pn	01 02 37.5	+0.8
GNL				*e*S	S	01 03 06.8	+0.2
SPN	**Mys Shipunski**	**2.08**	**60**	*e*P	Pn	01 02 41.4	+1.2
SPN				*e*S	S	01 03 11.3	-1.5
TUMR	**Tumrok**	**3.68**	**29**

*IDC **31** 01:49:28.6±1.4, 52.°55N×160.°29E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.4/51, mbtmp3.6/4, MS2.7/1, Ms1 2.7/1, ms1mx2.2/29, Error ellipse: s-maj=34.9km s-min=21.7km az=178.0*

*MOS **31** 01:49:28.6±1.9, 52.°14N×160.°41E, h22km, mb4.3/1, Error ellipse: s-maj=14.3km s-min=7.1km az=107.5*

*KRSC **31** 01:49:28.8±1.0, 52.°27N×160.°44E, h17km±14km, ML4.0*

*ISCJB **31** 01:49:29.4±1.5, 52.°27N±0.°05×160.°37E±0.°06, h11km±11km, mb3.6/4, MS2.6/1, Error ellipse: s-maj=7.9km s-min=5.7km az=156.0*

ISC 31 01:49:29.7±1.9, 52.°30N±0.°05×160.°28E±0.°05, h11km±11km, n46, σ0°87/61, mb3.5/4, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.82**	**349**	*eP*	**Pn**	**01 49 46.1**	**-1.1**
SPN				*eS*	**Sb**	**01 49 57.2**	**+0.3**
SPN	**Mys Shipunski**	**0.82**	**349**	PN	**Pn**	**01 49 46.1**	**-1.1**
SPN				S	**Sb**	**01 49 57.2**	**+0.3**
RUS	**Russkaya**	**1.09**	**278**	*eP*	**Pb**	**01 49 50.2**	**-0.4**
RUS				*eS*	**Sg**	**01 50 05.1**	**+0.3**
RUS	**Russkaya**	**1.09**	**278**	PN	**Pb**	**01 49 50.2**	**-0.4**
RUS				S	**Sg**	**01 50 05.1**	**+0.3**
PET	**Petropavlovsk**	**1.23**	**307**	*eP*	**Pg**	**01 49 53.0**	**-0.3**
PET				*eS*	**Sb**	**01 50 09.0**	**+0.3**
PET	**Petropavlovsk**	**1.23**	**307**	*ePN*	**Pb**	**01 49 52.8**	**-0.1**
PET				*eS*	**Sb**	**01 50 08.4**	**-0.3**
PET	comp=Z,183nm,0.4s			pmax	pmax		
PET	comp=E,518nm,0.5s			smax	smax		
PET	comp=N,570nm,0.7s			smax	smax		
UGLR	**Uglovaya**	**1.27**	**317**	*eP*	**Pb**	**01 49 53.7**	**0.0**
UGLR				*eS*	**Sb**	**01 50 10.1**	**0.0**
SDLR	**Sedlovina**	**1.29**	**320**	*eP*	**Pb**	**01 49 54.0**	**-0.2**
SDLR				*eS*	**Sn**	**01 50 11.4**	**+0.1**
SDLR	**Sedlovina**	**1.29**	**320**	PN	**Pb**	**01 49 54.0**	**-0.2**
SDLR				S	**Sn**	**01 50 11.4**	**+0.1**
MTVR	**Mutnovka**	**1.30**	**279**	*eP*	**Pb**	**01 49 53.8**	**-0.4**
MTVR				*eS*	**Sb**	**01 50 11.2**	**+0.3**
SMAR	**Somma**	**1.32**	**318**	*eP*	**Pb**	**01 49 54.6**	**0.0**
SMAR	**Somma**	**1.32**	**318**	PN	**Pb**	**01 49 54.6**	**0.0**
AVH	**Avacha**	**1.34**	**317**	*eP*	**Pb**	**01 49 55.0**	**0.0**
AVH				*eS*	**Sg**	**01 50 13.2**	**+0.2**
AVH	**Avacha**	**1.34**	**317**	PN	**Pb**	**01 49 55.0**	**0.0**
AVH				S	**Sg**	**01 50 13.2**	**+0.2**
KRER	**Koryakskii**	**1.37**	**318**	*eP*	**Pb**	**01 49 55.2**	**-0.3**
KOK	**Koryaka**	**1.41**	**316**	*eP*	**Pb**	**01 49 56.0**	**-0.1**
KOK	**Koryaka**	**1.41**	**316**	PN	**Pb**	**01 49 56.0**	**-0.1**
KRX	**Arik**	**1.45**	**318**	*eP*	**Pb**	**01 49 56.3**	**-0.5**
ASAK	**Asacha**	**1.46**	**274**	*eP*	**Pb**	**01 49 56.6**	**-0.3**
ASAK				*eS*	**Sb**	**01 50 15.5**	**0.0**
PETK	**Petropavlovsk-**	**1.77**	**298**	Pn	**Pb**	**01 50 01.2**	**-0.9**
PETK	comp=N,37nm,0.3s,baz=107,slow=20,SNR=196			Sn	**Sn**	**01 50 23.0**	**+0.3**
PETK	comp=N,31nm,0.3s,baz=213,slow=16,SNR=10			LR	LR	01 50 56.0	
PETK	**Petropavlovsk-**	**1.77**	**298**	PN	**Pb**	**01 50 01.2**	**-0.9**
PETK	comp=N,108nm,18.1s,baz=140,slow=52					01 50 23.0	
PETK	comp=Z,37nm,0.3s			pmax	pmax		
PETK	comp=N,31nm,0.3s			smax	smax		
GNL	**Ganaly**	**1.99**	**316**	*eP*	**Pb**	**01 50 04.8**	**-1.1**
GNL				*eS*	**Sb**	**01 50 31.2**	**+0.5**
GNL	**Ganaly**	**1.99**	**316**	PN	**Pb**	**01 50 04.8**	**-1.1**
GNL				S	**Sb**	**01 50 31.2**	**+0.5**
APC	**Apacha**	**2.00**	**290**	*eP*	**Pb**	**01 50 05.8**	**-0.3**
APC				*eS*	**Sb**	**01 50 31.9**	**+0.9**
APC	**Apacha**	**2.00**	**290**	PN	**Pb**	**01 50 05.8**	**-0.3**
APC				S	**Sb**	**01 50 31.9**	**+0.9**
MIPR	**Malaya Ipel'ka**	**2.16**	**271**	*eP*	**Pb**	**01 50 07.5**	**-1.3**
PAU	**Pauzhetka**	**2.30**	**250**	*eP*	**Pn**	**01 50 08.3**	**+0.7**
PAU	**Pauzhetka**	**2.30**	**250**	PN	**Pn**	**01 50 08.3**	**+0.7**
MKZ	**Mys Kozlova**	**2.42**	**20**	*eP*	**Pn**	**01 50 08.9**	**-0.3**
MKZ				*eS*	**Sn**	**01 50 39.5**	**+0.6**
MKZ	**Mys Kozlova**	**2.42**	**20**	PN	**Pn**	**01 50 08.9**	**-0.3**
MKZ				S	**Sn**	**01 50 39.5**	**+0.6**
TUMR	**Tumrok**	**2.99**	**359**	*eP*	**Pn**	**01 50 19.0**	**+1.8**
TUMR	**Tumrok**	**2.99**	**359**	PN	**Pn**	**01 50 19.0**	**+1.8**
SKR	**Severo-Kuril's**	**3.06**	**240**	PN	Pn	01 50 13.0	-5.0
ESO	**Esso**	**3.75**	**346**	*eP*	**Pn**	**01 50 29.3**	**+1.8**
ESO	**Esso**	**3.75**	**346**	PN	**Pn**	**01 50 29.3**	**+1.8**
KBTR	**Krutoberegovo**	**4.19**	**20**	*eP*	**Pn**	**01 50 34.8**	**+1.3**
KBTR	**Krutoberegovo**	**4.19**	**20**	PN	**Pn**	**01 50 34.8**	**+1.3**
MJAR	**Matsushiro Art**	**22.15**	**233**	P	**P**	**01 54 27.6**	**+2.3**
KSRS	**Korea Array**	**27.03**	**250**	LR	LR	02 06 52.3	
H11N2	**WAKE ISLAND Hy**	**32.93**	**168**	T	T	02 30 55.5	
H11N3	**WAKE ISLAND Hy**	**32.93**	**168**	T	T	02 30 56.1	
H11N1	**WAKE ISLAND Hy**	**32.93**	**168**	T	T	02 30 51.8	
MKAR	**Makanchi Array**	**48.60**	**296**	P	**P**	**01 58 10.8**	**-2.3**
FINES	**FINESS Array B**	**60.90**	**337**	P	**P**	**01 59 40.9**	**-1.0**
FINES	**FINESS Array B**	**60.90**	**337**	P	**P**	**01 59 40.9**	**-1.0**
FINES				pmax	pmax		
TXAR	**Lajitas Array**	**70.85**	**67**	P	**P**	**02 00 47.2**	**+0.6**

comp=N,0.2nm,0.5s,baz=44,slow=6.7,SNR=2.5
comp=N,1.1nm,0.5s,baz=35,slow=7.6,SNR=12
comp=Z,1.0nm,0.5s
comp=Z,0.1nm,0.5s,baz=311,slow=5.9,SNR=3.3

*IDC **31** 01:56:45.5±0.8, 1.°00S×67.°56E, h0km, mb3.8/12, mb1 4.0/12, mb1mx3.8/44, mbtmp3.8/12, Error ellipse: s-maj=23.0km s-min=20.3km az=44.0*

*ISCJB **31** 01:56:46.0±0.6, 0.°9S±0.°1×67.°6E±0.°1, h15km, mb3.9/16, Error ellipse: s-maj=16.8km s-min=14.7km az=19.7*

*NEIC **31** 01:56:47.2±0.4, 0.°93S×67.°57E, h10km, mb4.3/4, Error ellipse: s-maj=12.8km s-min=11.0km az=114.0*

ISC 31 01:56:48.0±0.7, 0.°9S±0.°1×67.°5E±0.°1, h15km, n23, σ0°78/20, mb4.0/16, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**6.36**	**147**	T	T	02 04 42.5	
H08N3	**Diego Garcia H**	**6.38**	**147**	T	T	02 04 42.2	
H08N1	**Diego Garcia H**	**6.38**	**147**	T	T	02 04 44.2	
CMAR	**Chiang Mai Arr**	**36.40**	**56**	P	**P**	**02 03 52.9**	**+0.8**
LSZ	**Lusaka**	**41.37**	**248**	P	**P**	**02 04 34.1**	**0.0**
EKS2	**Erkin-Say**	**43.77**	**7**	*eP*	**P**	**02 04 52.2**	**-0.9**
TKM2	**Tokmak 2**	**44.26**	**8**	*eP*	**P**	**02 04 55.4**	**-1.8**
MKAR	**Makanchi Array**	**49.27**	**13**	P	**P**	**02 05 36.4**	**+0.2**
KBZ	**Khabaz**	**49.64**	**337**	P	**P**	**02 05 39.4**	**+0.4**
ABKAR	**Akbulak array**	**50.43**	**354**	*eP*	**P**	**02 05 44.6**	**-0.2**
BRTR	**Keskin Array B**	**50.98**	**326**	P	**P**	**02 05 49.6**	**+0.2**
AKTO	**Aktyubinsk**	**51.83**	**352**	P	**P**	**02 05 55.5**	**+0.1**
TSUM	**Tsumeb**	**52.18**	**246**	*eP*	**P**	**02 05 58.9**	**+0.2**
ZALV	**Zalesovo Beam**	**56.55**	**12**	P	**P**	**02 06 29.3**	**-0.5**
SONM	**Songino Array**	**59.16**	**29**	P	**P**	**02 06 48.8**	**+0.4**
WRA	**Warramunga Arr**	**67.90**	**111**	P	**P**	**02 07 45.7**	**-0.9**
ASAR	**Alice Springs**	**68.03**	**115**	P	**P**	**02 07 46.5**	**-0.9**
ESDC	**Sonseca Array**	**76.44**	**311**	P	**P**	**02 08 36.5**	**-1.0**
VNDA	**Vanda**	**90.02**	**167**	P	**P**	**02 09 47.0**	**+0.4**
PDAR	**Pinedale Array**	**138.28**	**357**	PKP	**PKPdf**	**02 16 13.4**	**0.0**

comp=Z,4.9nm,0.8s,baz=223,slow=14,SNR=9.8
comp=Z,3.4nm,1.3s
comp=Z,1.1nm,0.7s
comp=Z,3.0nm,0.6s,baz=198,slow=9.6,SNR=8.0
comp=Z,0.8nm,1.0s
comp=Z,5.7nm,1.3s
comp=Z,0.2nm,0.4s,baz=157,slow=9.5,SNR=5.1
comp=Z,0.2nm,0.5s
comp=Z,3.8nm,0.9s,baz=207,slow=6.8,SNR=3.7
comp=Z,2.5nm,0.8s,baz=241,slow=4.0,SNR=3.9
comp=Z,1.1nm,1.1s
comp=Z,1.2nm,0.9s,baz=242,slow=4.4,SNR=8.9
baz=124
baz=124
baz=88
baz=88
baz=88
comp=Z,0.1nm,0.4s,baz=301,slow=3.2,SNR=4.3

WUAZ	**Wupatki**	**145.59**	**358**	*e*PKPbc	**PKPab**	**02 16 27.9**	**+1.0**
OTAV	**Otavalo**	**145.99**	**269**	*e*PKPbc	**PKPab**	**02 16 29.3**	**-0.1**
TXAR	**Lajitas Array**	**150.55**	**344**	PKPbc	**PKPbc**	**02 16 41.1**	**+1.0**

1.4nm,0.8s,baz=48,slow=1.9,SNR=17

*ISCJB **31** 01:58:28.9±0.6, 1.°1S±0.°1×67.°5E±0.°1, h15km, mb3.9/16, MS4.2/5, Error ellipse: s-maj=15.3km s-min=14.4km az=164.0*

*IDC **31** 01:58:28.5±0.8, 1.°07S×67.°46E, h0km, mb3.8/12, mb1 4.0/12, mb1mx3.8/28, mbtmp3.8/12, MS4.3/6, Ms1 4.3/6, ms1mx3.9/16, Error ellipse: s-maj=23.5km s-min=22.3km az=179.0*

*NEIC **31** 01:58:30.0±0.4, 1.°07S×67.°46E, h10km, mb4.3/4, Error ellipse: s-maj=11.2km s-min=10.1km az=152.0*

*GCMT **31** 01:58:30.0±0.2, 1.°07S×67.°59E, h12km, MW5.0/93, Moment Tensor Solution. s30,c35; s93,c140; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=-3.37±.08; $M_{\theta\theta}$2.32±.08; $M_{\phi\phi}$ 1.04±.08; $M_{r\theta}$ 1.57±.27; $M_{\theta\phi}$ -1.04±.07; $M_{r\phi}$ -1.17±.37; Best double couple: $M_0$3.69600×10^{16} NP1:ϕ303.00000°, δ61.00000°, λ-87.00000°. NP2: ϕ116.00000°, δ29.00000°, λ-96.00000°. Principal axes: T 3.4550, Plg16.0000°, Azm31.0000°; N 0.4710, Plg3.0000°, Azm121.0000°; P -3.9360, Plg74.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 31 01:58:30.8±0.7, 1.°1S±0.°1×67.°5E±0.°1, h15km, n33, σ0°71/20, mb3.9/16, MS4.2/5, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**6.29**	**146**	T	T	02 06 25.2	
H08N3	**Diego Garcia H**	**6.30**	**146**	T	T	02 06 27.8	
H08N1	**Diego Garcia H**	**6.31**	**146**	T	T	02 06 26.9	
H08S3	**Diego Garcia H**	**8.20**	**143**	T	T	02 09 01.5	
H08S1	**Diego Garcia H**	**8.21**	**143**	T	T	02 08 54.6	
H08S2	**Diego Garcia H**	**8.22**	**143**	T	T	02 08 56.7	
PALK	**Pallekele**	**15.60**	**58**	LR	LR	02 06 48.0	
OPO	**Ambohidratompo**	**26.41**	**228**	LR	LR	02 12 23.5	
KMBO	**Kilima Mbogo**	**30.21**	**270**	LR	LR	02 15 30.9	
CMAR	**Chiang Mai Arr**	**36.54**	**56**	P	**P**	**02 05 37.1**	**+0.9**
CHTO	**Chiang Mai**	**36.71**	**56**	*eP*	**P**	**02 05 37.6**	**-0.1**
GEYT	**Alibeck**	**39.77**	**348**	LR	LR	02 21 32.7	
LSZ	**Lusaka**	**41.24**	**248**	P	**P**	**02 06 16.1**	**+0.3**
EKS2	**Erkin-Say**	**43.92**	**7**	*eP*	**P**	**02 06 38.1**	**+0.9**
TKM2	**Tokmak 2**	**44.42**	**9**	*eP*	**P**	**02 06 40.5**	**-0.8**
BOSA	**Boshof**	**48.69**	**232**	P	**P**	**02 07 14.5**	**-0.5**
MKAR	**Makanchi Array**	**49.43**	**13**	P	**P**	**02 07 19.2**	**-0.9**
KBZ	**Khabaz**	**49.74**	**337**	P	**P**	**02 07 22.8**	**+0.2**
AKTO	**Aktyubinsk**	**51.96**	**352**	P	**P**	**02 07 38.8**	**-0.3**
KAPI	**Kappang**	**52.34**	**95**	*eP*	**P**	**02 07 42.1**	**-0.6**
ZALV	**Zalesovo Beam**	**56.71**	**12**	P	**P**	**02 08 12.4**	**-1.2**
SONM	**Songino Array**	**59.33**	**29**	P	**P**	**02 08 32.9**	**+0.5**
WRA	**Warramunga Arr**	**67.93**	**111**	P	**P**	**02 09 29.9**	**+0.4**
ASAR	**Alice Springs**	**68.04**	**115**	P	**P**	**02 09 30.0**	**-0.2**
ESDC	**Sonseca Array**	**76.48**	**311**	P	**P**	**02 10 21.0**	**+0.6**
PDAR	**Pinedale Array**	**138.42**	**357**	PKP	**PKPdf**	**02 17 57.7**	**+1.3**
OTAV	**Otavalo**	**145.91**	**269**	*e*PKPbc	**PKPbc**	**02 18 10.9**	**-0.5**
TXAR	**Lajitas Array**	**150.66**	**344**	PKPbc	**PKPbc**	**02 18 23.6**	**+0.3**

1.6nm,1.0s,baz=64,slow=2.9,SNR=6.0

*SJA **31** 02:26:47.1±1.0, 33.°86S×71.°71W, h33km, MD3.6*

*ISCJB **31** 02:26:49.2±1.3, 34.°00S±0.°08×71.°5W±0.°1, h42km±16km, Error ellipse: s-maj=18.2km s-min=13.0km az=10.8*

*GUC **31** 02:26:49.1±0.7, 33.°98S×71.°34W, h45km±2km, ML2.7*

ISC 31 02:26:50.5±1.4, 33.°99S±0.°04×71.°38W±0.°06, h33km±4km, n20, σ1°42/29, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.04**	**321**	⇑*iP*	**Pb**	**02 26 56.7**	**+0.7**
TACH	**Talagante**	**0.50**	**48**	⇑*iP*	**Pb**	**02 27 00.1**	**-0.9**
TACH				*i* S	**Sb**	**02 27 08.1**	**-0.2**
CHCH	**Chadas Angostu**	**0.60**	**85**	⇑*iP*	**Pn**	**02 27 01.6**	**-1.1**
CHCH				*i* S	**Sb**	**02 27 10.4**	**-0.9**
SAN	**Santiago**	**0.80**	**48**	⇑*iP*	**Pn**	**02 27 04.1**	**-1.4**
SAN				*i* S	**Sn**	**02 27 15.0**	**-1.2**
PCH	**Pirque**	**0.81**	**63**	⇓*iP*	**Pn**	**02 27 04.3**	**-1.3**
PCH				*i* S	**Sn**	**02 27 15.4**	**-1.1**
CLCH	**Cerro Calan**	**0.92**	**50**	⇓*iP*	**Pn**	**02 27 05.7**	**-1.4**
CLCH				*i* S	**Sn**	**02 27 18.2**	**-1.0**
CLCH	comp=N,293nm,0.6s			AML	AML	02 27 25.9	
IHA	**Instituto Hidr**	**0.99**	**347**	*i* P	**Pn**	**02 27 07.0**	**-1.0**
IHA				*e*S	**Sn**	**02 27 20.8**	**0.0**
NICH	**Los Niches**	**1.02**	**173**	⇓*iP*	**Pn**	**02 27 07.8**	**-0.6**
NICH				*i* S	**Sn**	**02 27 21.8**	**+0.2**
PEL	**Peldehue**	**1.02**	**35**	⇓*iP*	**Pn**	**02 27 07.2**	**-1.3**
PEL				*i* S	**Sn**	**02 27 21.8**	**0.0**
PEL	comp=E,474nm,0.3s			AML	AML	02 27 26.5	
AAGR	**Agrelo**	**2.31**	**68**	*eP*	**Pn**	**02 27 28.4**	**+2.0**
ARCO	**CERRO ARCO**	**2.34**	**61**	*eP*	**Pn**	**02 27 28.9**	**+2.1**
AUSP	**Uspallata**	**2.43**	**44**	*eP*	**Pn**	**02 27 29.6**	**+1.5**
ASAL	**Salagasta**	**2.55**	**57**	*eP*	**Pn**	**02 27 31.4**	**+1.9**
RTLS	**Leoncito**	**2.80**	**39**	*i* P	**Pn**	**02 27 35.1**	**+1.9**
RTCV	**Cerro Valdivia**	**3.19**	**49**	*i* P	**Pn**	**02 27 39.6**	**+1.2**
RTCV				*i* S	**Sn**	**02 28 18.9**	**+3.5**
RTLL	**Cerro Villicun**	**3.61**	**43**	*eP*	**Pn**	**02 27 44.9**	**+0.7**
AMOG	**MOGNA**	**3.90**	**39**	*eP*	**Pn**	**02 27 48.3**	**+0.2**
ACAN	**Cantantal**	**3.91**	**65**	*eP*	**Pn**	**02 27 49.0**	**+0.8**
AVFE	**Valle Fertil**	**4.70**	**46**	*eP*	**Pn**	**02 27 58.5**	**-0.6**
VCA	**Vinchina**	**5.90**	**28**	*eP*	**Pn**	**02 28 16.7**	**+1.0**

IDC 31 02:31:52.1±16.0, 22.°80S×179.°79E, h460km±217km, mb2.9/3, mb1 3.3/3, mb1mx2.9/17, mbtmp3.7/3, Error ellipse: s-maj=423.5km s-min=47.9km az=170.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.03**	**259**	P	P	02 39 01.9	-0.3
WRA	**Warramunga Arr**	**42.30**	**265**	P	P	02 39 04.2	-0.1
TXAR	**Lajitas Array**	**90.02**	**58**	P	P	02 44 02.0	0.0
FINES	**FINESS Array B**	**137.34**	**342**	PKP	PKPdf	02 50 22.0	+0.2
BRTR	**Keskin Array B**	**146.75**	**308**	PKPbc	PKPbc	02 50 41.5	-0.4

0.8nm,0.9s,baz=95,slow=6.9,SNR=5.0
0.7nm,0.3s,baz=96,slow=8.4,SNR=15
0.3nm,0.7s,baz=224,slow=5.2,SNR=4.8
0.4nm,0.4s,baz=11,slow=1.4,SNR=3.9
0.2nm,0.3s,baz=130,slow=4.5,SNR=4.1

GERES	**GERESS Array B**	**151.75**	**340**	PKPbc	PKPbc	02 50 53.2	-0.5

0.3nm,0.6s,baz=35,slow=3.6,SNR=2.6

*SJA **31** 02:37:50.8±0.8, 35.°38S×71.°98W, h33km±23km, ML4.0*

*IDC **31** 02:37:54.8±1.7, 34.°79S×71.°48W, h0km, mb4.1/6, mb1 4.1/7, mb1mx3.9/26, mbtmp4.0/7, ML3.9/1, Error ellipse: s-maj=48.7km s-min=31.3km az=69.0*

*ISCJB **31** 02:38:01.7±0.6, 34.°70S±0.°04×71.°7W±0.°1, h65km±5km, mb4.0/10, Error ellipse: s-maj=15.0km s-min=5.2km az=14.7*

*NEIC **31** 02:38:02.0, 34.°69S×71.°64W, h46km, mb4.0/7, After GUC.*

NEIC Felt [III] at Curico, Iloca, Paredones and Romeral; [II] at Pichilemu, Rancagua, San Fernando and Talca.

*GUC **31** 02:38:02.2±0.6, 34.°69S×71.°64W, h46km±1km, ML4.3*

ISC 31 02:38:02.1±1.1, 34.°70S±0.°04×71.°71W±0.°10, h51km±10km, n49, σ1°25/51, mb4.1/10, 5C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.50**	**128**	⇓*iP*	**Pn**	**02 38 13.3**	**-0.1**
NICH				*i* S	**Sn**	**02 38 21.4**	**-0.2**
TALC	**Talca**	**0.70**	**175**	⇑*iP*	**Pn**	**02 38 16.4**	**+0.4**
TALC				*i* S	**Sn**	**02 38 26.5**	**+0.5**
LNV	**Longovilo**	**0.78**	**19**	⇓*iP*	**Pn**	**02 38 16.9**	**0.0**
LNCH	**Linares**	**1.15**	**175**	⇓*iP*	**Pn**	**02 38 22.6**	**+0.7**
LNCH				*i* S	**Sn**	**02 38 38.3**	**+1.7**
CHCH	**Chadas Angostu**	**1.16**	**49**	⇑*iP*	**Pn**	**02 38 22.0**	**0.0**
TACH	**Talagante**	**1.22**	**32**	⇑*iP*	**Pn**	**02 38 22.8**	**-0.1**
PCH	**Pirque**	**1.46**	**43**	⇑*iP*	**Pn**	**02 38 26.3**	**+0.2**
PCH				*i* S	**Sn**	**02 38 44.5**	**+0.3**
SAN	**Santiago**	**1.52**	**35**	⇓*iP*	**Pn**	**02 38 27.1**	**+0.2**
SAN				*i* S	**Sn**	**02 38 45.7**	**+0.2**
CLCH	**Cerro Calan**	**1.62**	**37**	⇓*iP*	**Pn**	**02 38 28.6**	**+0.2**
CLCH				*i* S	**Sn**	**02 38 49.5**	**+1.4**
CLCH	comp=E,8μm,0.6s			AML	AML	02 38 51.6	
PEL	**Peldehue**	**1.77**	**29**	⇑*iP*	**Pn**	**02 38 30.9**	**+0.6**
PEL				*i* S	**Sn**	**02 38 53.6**	**+1.9**
PEL	comp=E,4μm,0.4s			AML	AML	02 39 00.6	
AAGR	**Agrelo**	**2.89**	**57**	*i* P	**Pn**	**02 38 47.1**	**+1.4**
AAGR				*eP*	**Pn**	**02 38 47.9**	**+2.2**
ARCO	**CERRO ARCO**	**2.96**	**52**	*eP*	**Pn**	**02 38 49.5**	**+2.7**
ARCO				*i* S	Sn	02 39 32.1	+11
ARCO	comp=Z,187nm,0.5s			AML	AML	02 39 34.6	
AUSP	**Uspallata**	**3.14**	**39**	*eP*	**Pn**	**02 38 52.2**	**+2.9**
ASAL	**Salagasta**	**3.19**	**50**	*eP*	**Pn**	**02 38 52.3**	**+2.5**
RTLS	**Leoncito**	**3.53**	**36**	*eP*	**Pn**	**02 38 57.1**	**+2.5**
RTCV	**Cerro Valdivia**	**3.88**	**44**	*eP*	**Pn**	**02 39 00.7**	**+1.5**
CFAA	**Coronel Fontan**	**4.24**	**44**	Pn	**Pn**	**02 39 04.9**	**+0.7**
CFAA	baz=218,slow=12			Sn	Sn	02 39 59.6	+7.1
RTLL	**Cerro Villicun**	**4.32**	**40**	*eP*	**Pn**	**02 39 06.5**	**+1.2**
ACAN	**Cantantal**	**4.49**	**59**	*eP*	**Pn**	**02 39 08.6**	**+1.0**
AMOG	**MOGNA**	**4.62**	**37**	*eP*	**Pn**	**02 39 10.2**	**+0.7**
AVFE	**Valle Fertil**	**5.39**	**43**	*eP*	**Pn**	**02 39 19.6**	**-0.4**
MRA	**San Martin**	**5.50**	**67**	*eP*	**Pn**	**02 39 22.4**	**+0.9**
ACLC	**CERRO LA CRUZ**	**6.63**	**39**	*eP*	**Pn**	**02 39 35.5**	**-1.6**
VCA	**Vinchina**	**6.65**	**28**	*eP*	**Pn**	**02 39 37.9**	**+0.5**
CYA	**Choya**	**8.02**	**41**	*eP*	**Pn**	**02 39 53.2**	**-2.8**
TRQA	**Tornquist**	**8.54**	**116**	*ePn*	**Pn**	**02 40 03.3**	**+0.2**
LPAZ	**La Paz**	**18.61**	**11**	P	**P**	**02 42 15.0**	**-0.9**
LPAZ	**La Paz**	**18.61**	**11**	*eP*	**P**	**02 42 14.9**	**-1.1**
SIV	**San Ignacio**	**20.93**	**30**	P	**P**	**02 42 39.6**	**-1.1**
SAML	**Samuel**	**26.79**	**19**	*eP*	**P**	**02 43 36.5**	**-0.9**
OTAV	**Otavalo**	**35.32**	**348**	*eP*	**P**	**02 44 53.2**	**+0.2**
PTGA	**Pitinga**	**35.53**	**21**	P	**P**	**02 44 53.2**	**-1.1**
SNAA	**Sanae**	**50.84**	**158**	*eP*	**P**	**02 46 57.5**	**+0.3**
QSPA	**South Pole Qui**	**55.54**	**180**	*eP*	**P**	**02 47 32.9**	**+1.0**
GOGA	**Godfrey**	**68.64**	**349**	*eP*	**P**	**02 48 59.3**	**-0.5**
TXAR	**Lajitas Array**	**70.47**	**331**	P	**P**	**02 49 12.6**	**+1.3**
SWET	**Sewanee**	**70.81**	**348**	*eP*	**P**	**02 49 13.3**	**+0.2**
DBIC	**Dimbokro**	**75.15**	**71**	P	**P**	**02 49 38.7**	**-0.6**
BOSA	**Boshof**	**79.51**	**117**	P	**P**	**02 50 02.5**	**-1.3**
BOSA	**Boshof**	**79.51**	**117**	*eP*	**P**	**02 50 03.0**	**-0.8**
TORD	**Torodi Ar. Bea**	**84.20**	**70**	P	**P**	**02 50 27.8**	**-0.5**
H11S2	**WAKE ISLAND Hy**	**26.02**	**268**	T	T	05 15 36.2	
H11S1	**WAKE ISLAND Hy**	**26.04**	**268**	T	T	05 15 33.6	
H11S3	**WAKE ISLAND Hy**	**26.04**	**268**	T	T	05 15 38.3	
H11N3	**WAKE ISLAND Hy**	**26.45**	**270**	T	T	05 16 05.7	
H11N1	**WAKE ISLAND Hy**	**26.47**	**270**	T	T	05 16 04.2	
H11N2	**WAKE ISLAND Hy**	**26.47**	**270**	T	T	05 16 01.7	
KURBB	**Kurchatov Arra**	**153.18**	**44**	PKPbc	**PKPbc**	**02 57 53.6**	**-0.1**
KURK	**Kurchatov**	**153.19**	**44**	PKPbc	**PKPbc**	**02 57 53.6**	**-0.1**

*IDC **31** 02:39:36.8±2.2, 6.°68S×130.°26E, h0km, mb3.9/1, mb1 4.3/3, mb1mx3.7/29, mbtmp4.1/3, ML4.3/2, Error ellipse: s-maj=129.4km s-min=31.6km az=70.0*

*ISCJB **31** 02:39:40.4±0.6, 6.°40S±0.°04×131.°38E±0.°09, h42km, mb3.9/1, Error ellipse: s-maj=13.2km s-min=5.8km az=170.2*

*DJA **31** 02:39:42.9±0.7, 6.°S±3.°×13.°1E±.°, h113km±15km, M4.9/6, mb5.2/2, mB5.5/2, MLv4.7/6, Mw(mB)5.0/2*

ISC 31 02:39:40.4±0.9, 6.°46S±0.°06×131.°5E±0.°1, h42km, n13, σ2°83/13, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.52**	**186**	P	Pn	02 40 12.7	+7.5
SAUI				S	Sn	02 40 35.2	+11
BNDI	**Bandanaira**	**2.47**	**321**	P	**Pn**	**02 40 20.0**	**+1.8**
BNDI				S	**Sn**	**02 40 45.8**	**-1.4**
FAKI	**Fak Fak**	**3.60**	**13**	P	**Pn**	**02 40 36.2**	**+2.5**
FAKI				S	**Sn**	**02 41 14.9**	**-0.1**
FAKI	**Fak Fak**	**3.60**	**13**	P	**Pn**	**02 40 36.8**	**+3.1**
SWI	**Sorong**	**5.56**	**358**	P	**Pn**	**02 40 59.8**	**-0.9**
SWI	204nm,0.3s,8μm5.9nm 204nm,0.3s,8μm5.9nm			S	**Sn**	**02 41 58.8**	**-4.6**
SWI	**Sorong**	**5.56**	**358**	P	**Pn**	**02 41 01.9**	**+1.2**
KDU	**Kakadu**	**6.27**	**171**	P	Pn	02 41 14.9	+4.6
MTN	**Manton Dam**	**6.35**	**183**	P	Pn	02 41 16.3	+4.7
KNRA	**Kununurra**	**9.54**	**196**	P	**Pn**	**02 41 57.7**	**+2.5**
WRA	**Warramunga Arr**	**13.69**	**169**

IDC ***31*** *02:45:40.4±5.9, 31.°79S×138.°37E, h0km, mb1 3.5/3, mb1mx3.3/18, mbtmp3.2/3, ML3.0/2, Error ellipse: s-maj=89.0km s-min=18.4km az=25.0*

ISC 31 02:45:38.8±1.1, 32.°14S±0.°08×138.°23E±0.°06, h27km, n8, σ25.24/11, 5C, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTT	**Hallett**	**1.41**	**156**	⇑P	**Pn**	**02 46 03.4**	**+0.5**
	baz=1.3						
BBOO	**Buckleboo**	**1.95**	**249**	⇑P	**Pn**	**02 46 11.4**	**+1.2**
	baz=1.9						
STKA	**Stephens Creek**	**2.87**	**86**	Pn	**Pn**	**02 46 25.2**	**+2.3**
	1.2nm,0.3s,baz=269,slow=14,SNR=12						
STKA				Sn	**Sb**	**02 47 01.2**	**-2.9**
	4.9nm,0.3s,baz=289,slow=9.4,SNR=4.6						
STKA				Lg	Lg	02 47 07.8	
	8.7nm,0.3s,baz=356,slow=19,SNR=6.0						
ARPS	**Mount Arapiles**	**5.50**	**148**	⇑P	**Pn**	**02 46 58.8**	**-0.1**
	baz=5.4						
CMSA	**Cobar Meteorol**	**6.38**	**87**	⇑P	**Pn**	**02 47 12.7**	**+1.7**
	baz=6.4						
FORT	**Forrest**	**8.79**	**276**	⇑P	**Pn**	**02 47 44.5**	**+0.3**
	baz=8.8						
ASAR	**Alice Springs**	**9.27**	**335**	Pn	**Pn**	**02 47 52.1**	**+1.3**
	baz=172,slow=8.3,SNR=2.3						
ASAR				Sn	**Sn**	**02 49 32.8**	**-1.3**
	0.7nm,0.3s,baz=156,slow=23,SNR=4.9						
WRA	**Warramunga Arr**	**12.64**	**343**	Pn	**Pn**	**02 48 38.3**	**+1.4**
	0.1nm,0.3s,baz=159,slow=11,SNR=3.3						
WRA				Sn	**Sn**	**02 50 52.8**	**-4.0**
	0.1nm,0.3s,baz=171,slow=24,SNR=2.6						

GUC 31 02:52:16.0±0.5, 35.°41S×73.°24W, h25km±30km, ML3.7, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.81**	**153**	⇓*i*P	Pb	02 52 31.6	+0.2
COCH				*i* S	Sn	02 52 42.9	-0.1
TALC	**Talca**	**1.31**	**90**	⇑*i*P	Pb	02 52 39.7	-0.2
TALC				*i* S	Sb	02 52 57.6	+1.3
LNCH	**Linares**	**1.40**	**109**	⇑*i*P	Pb	02 52 41.5	0.0
LNCH				*i* S	Sb	02 53 00.7	+1.7
NICH	**Los Niches**	**1.69**	**77**	*e*P	Pb	02 52 45.6	-0.9
CLCH	**Cerro Calan**	**3.00**	**49**	AML	AML	02 53 59.4	
	comp=N,215nm,0.6s						
PEL	**Peldehue**	**3.09**	**44**	AML	AML	02 54 03.8	
	comp=N,216nm,0.3s						

SJA ***31*** *03:02:45.2±0.5, 31.°30S×68.°93W, h109km±5km, MD3.6, ML3.8*

IDC ***31*** *03:02:45.5±1.8, 31.°27S×69.°15W, h76km±16km, mb3.4/3, mb1 3.8/7, mb1mx3.5/25, mbtmp3.9/7, Error ellipse: s-maj=34.5km s-min=16.3km az=78.0*

ISCJB ***31*** *03:02:46.6±0.5, 31.°28S±0.°05-68.°92W±0.°07, h101km±6km, mb3.5/3, Error ellipse: s-maj=11.7km s-min=6.3km az=36.1*

GUC ***31*** *03:02:47.0±0.6, 31.°30S×68.°87W, h40km±17km, ML4.1*

ISC 31 03:02:47.3±0.7, 31.°29S±0.°04×68.°90W±0.°05, h95km±8km, n20, σ1s05/31, mb3.3/3, 3C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.37**	**97**	*i* P	**Pn**	**03 03 02.1**	**+0.4**
RTLS	**Leoncito**	**0.61**	**213**	*i* P	**Pn**	**03 03 04.0**	**+0.2**
RTLS				*i* P	**Pn**	**03 03 04.0**	**+0.2**
CFAA	**Coronel Fontan**	**0.65**	**119**	P	**Pn**	**03 03 03.4**	**-0.5**
	40nm,0.3s,baz=297,slow=9.1						
CFAA				S	**Sn**	**03 03 16.1**	**-0.1**
	122nm,0.3s,baz=68,slow=19,SNR=170						
RTCV	**Cerro Valdivia**	**0.65**	**152**	*i* P	**Pn**	**03 03 03.8**	**-0.1**
AUSP	**Uspallata**	**1.02**	**204**	*i* P	**Pn**	**03 03 08.1**	**+0.2**
ASAL	**Salagasta**	**1.30**	**178**	*i* P	**Pn**	**03 03 10.9**	**-0.1**
ASAL				*i* S	**Sn**	**03 03 29.4**	**+0.6**
AVFE	**Valle Fertil**	**1.39**	**64**	*i* P	**Pn**	**03 03 12.1**	**+0.1**
AVFE				*i* S	**Sn**	**03 03 31.9**	**+1.2**
AVFE				AML	AML	03 03 33.1	
	comp=Z,830nm,0.2s						
ARCO	**CERRO ARCO**	**1.55**	**181**	*i* P	**Pn**	**03 03 13.7**	**-0.4**
ARCO				*i* S	**Sn**	**03 03 34.9**	**+0.6**
ARCO				AML	AML	03 03 36.8	
	comp=Z,1μm,0.7s						
AAGR	**Agrelo**	**1.79**	**178**	*i* P	**Pn**	**03 03 16.5**	**-0.6**
PEL	**Peldehue**	**2.39**	**219**	⇑*i*P	**Pn**	**03 03 24.5**	**-0.3**
PEL				*i* S	**Sn**	**03 03 53.9**	**+0.3**
PEL				AML	AML	03 03 55.2	
	comp=N,1μm,0.5s						
LSCH	**La Serena**	**2.44**	**304**	⇑*i*P	**Pn**	**03 03 26.1**	**+0.7**
LSCH				*i* S	**Sn**	**03 03 55.0**	**+0.2**
CLCH	**Cerro Calan**	**2.52**	**213**	⇑*i*P	**Pn**	**03 03 26.9**	**+0.4**
CLCH				*i* S	**Sn**	**03 03 57.0**	**+0.3**
CLCH				AML	AML	03 03 59.4	
	comp=E,1μm,0.4s						
VACH	**Vallenar**	**3.15**	**329**	*e*P	**Pn**	**03 03 35.3**	**+0.4**
VACH				*i* S	**Sn**	**03 04 12.2**	**+0.5**
LVC	**Limon Verde**	**8.64**	**360**	P	**Pn**	**03 04 48.0**	**-1.8**
	comp=E,49nm,0.3s,baz=170,slow=8.8,SNR=13						
LVC				S	**Sn**	**03 06 21.6**	**-4.0**
	comp=E,36nm,0.3s,baz=345,slow=20,SNR=4.4						
CPUP	**Villa Florida**	**11.28**	**67**	P	**Pn**	**03 05 26.5**	**+1.0**
	comp=E,0.1nm,0.3s,baz=225,slow=8.6,SNR=2.4						
LPAZ	**La Paz**	**14.95**	**3**	P	**Pn**	**03 06 14.8**	**+0.6**
	comp=E,0.4nm,0.3s,baz=185,slow=7.7,SNR=23						
SIV	**San Ignacio**	**16.82**	**27**	P	**Pn**	**03 06 36.8**	**-0.3**
	comp=E,0.3nm,0.3s,baz=219,slow=8.6,SNR=6.7						
USHA	**Ushuaia**	**23.54**	**179**	P	**P**	**03 07 47.7**	**-1.1**
	comp=E,4.9nm,0.5s,baz=347,slow=11,SNR=6.7						
TXAR	**Lajitas Array**	**68.76**	**328**	P	**P**	**03 13 41.1**	**-0.1**
	comp=E,0.3nm,0.6s,baz=148,slow=9.3,SNR=6.3						
TORD	**Torodi Ar. Bea**	**80.78**	**69**	P	**P**	**03 14 52.3**	**+1.6**
	comp=E,0.2nm,0.7s,baz=280,slow=4.6,SNR=3.8						
TORD				pP	**pP**	**03 15 14.7**	**-0.8**
	comp=E,0.4nm,0.8s,baz=260,slow=4.4,SNR=2.3						

IDC 31 03:12:17.4±3.7, 6.°10S×151.°00E, h0km, mb3.6/2, mb1 4.0/2, mb1mx3.5/27, mbtmp3.7/2, Error ellipse: s-maj=166.3km s-min=45.6km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.25**	**228**	P	P	03 17 05.3	-0.1
	1.7nm,0.5s,baz=52,slow=9.8,SNR=7.9						
ASAR	**Alice Springs**	**24.00**	**222**	P	P	03 17 33.8	-0.2
	0.7nm,0.3s,baz=55,slow=8.9,SNR=12						
TORD	**Torodi Ar. Bea**	**148.96**	**285**	PKPbc	PKPbc	03 32 08.1	-0.4
	0.3nm,0.6s,baz=79,slow=3.4,SNR=3.0						

IDC 31 03:13:25.5±1.3, 46.°62N×27.°46W, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/32, mbtmp3.2/3, ML4.1/1, MS3.1/3, Ms1 3.1/3, ms1mx2.7/22, Error ellipse: s-maj=84.2km s-min=28.2km az=23.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**18.45**	**104**	P	P	03 17 43.3	+0.6
	0.1nm,0.3s,baz=299,slow=13,SNR=3.0						
GERES	**GERESS Array B**	**27.53**	**70**	LR	LR	03 28 24.4	
	comp=Z,30nm,20.7s,baz=273,slow=33						
FINES	**FINESS Array B**	**33.67**	**44**	LR	LR	03 31 48.0	
	comp=Z,42nm,20.2s,baz=17,slow=33						
TORD	**Torodi Ar. Bea**	**41.40**	**134**	P	P	03 21 13.2	-0.3
	0.6nm,0.8s,baz=331,slow=8.8,SNR=5.1						
KBZ	**Khabaz**	**48.16**	**66**	LR	LR	03 42 26.7	
	comp=Z,26nm,18.6s,baz=238,slow=36						
H10N2	**ASCENSION HYDR**	**55.43**	**164**	T	T	04 22 22.9	
	baz=353						
H10N3	**ASCENSION HYDR**	**55.44**	**164**	T	T	04 22 27.0	
	baz=353						
H10N1	**ASCENSION HYDR**	**55.45**	**164**	T	T	04 22 26.6	
	baz=353						
H10S1	**ASCENSION HYDR**	**56.48**	**165**	T	T	04 23 41.7	
	baz=355						
H10S3	**ASCENSION HYDR**	**56.49**	**165**	T	T	04 23 44.8	
	baz=355						
H10S2	**ASCENSION HYDR**	**56.50**	**165**	T	T	04 23 44.8	
	baz=355						
TXAR	**Lajitas Array**	**60.23**	**282**	P	P	03 23 35.6	+0.1
	0.2nm,0.6s,baz=76,slow=7.4,SNR=6.2						
ASAR	**Alice Springs**	**152.62**	**40**	PKPbc	PKPbc	03 33 23.6	-0.4
	0.5nm,0.9s,baz=339,slow=3.0,SNR=3.8						

NEIC ***31*** *03:40:47.5, 52.°51N×169.°16W, h5km, ML3.2(AEIC), After AEIC.*

IDC ***31*** *03:40:47.7±5.1, 51.°09N×169.°15W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.4/28, mbtmp3.6/3, Error ellipse: s-maj=413.0km s-min=36.6km az=161.0*

ISC 31 03:40:47.3±1.9, 52.°9N±0.°2×169.°8W±0.°1, h10km, n22, σ0s86/21, mb3.5/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.57**	**86**	P	**Pg**	**03 40 58.1**	**-0.3**
NIKH				S	**Sg**	**03 41 06.2**	**+0.2**
OKSP	**Okmok Steeple**	**0.96**	**70**	P	**Pg**	**03 41 05.7**	**-0.1**
OKSO	**Okmok South**	**1.07**	**66**	P	**Pg**	**03 41 06.9**	**-1.0**
OKSO				S	**Sg**	**03 41 23.0**	**+1.2**
OKAK	**Okmok**	**1.08**	**53**	P	**Pb**	**03 41 07.3**	**-0.7**
OKWR	**Okmok West Rim**	**1.08**	**62**	P	**Pb**	**03 41 08.9**	**+0.8**
OKCE	**Okmok Cone E**	**1.10**	**63**	P	**Pb**	**03 41 08.1**	**-0.3**
OKRE	**Okmok R'deer P**	**1.14**	**59**	P	**Pb**	**03 41 10.3**	**+1.2**
OKTU	**Okmok Mt. Tuli**	**1.15**	**66**	P	**Pb**	**03 41 09.0**	**-0.2**
OKFG	**Magazine Ridge**	**1.23**	**67**	P	**Pn**	**03 41 09.5**	**-1.0**
OKFG				S	**Sb**	**03 41 26.2**	**-0.3**
MSOM	**Makushin Julie**	**1.92**	**62**	P	**Pn**	**03 41 19.3**	**-0.7**
MSW	**Makushin Switc**	**2.05**	**60**	P	**Pn**	**03 41 21.6**	**-0.2**
MSW				S	**Sn**	**03 41 48.3**	**+0.8**
MTBL	**Makushin Table**	**2.13**	**60**	P	**Pn**	**03 41 23.2**	**+0.2**
UNV	**Unalaska Valle**	**2.17**	**64**	P	**Pn**	**03 41 22.6**	**-0.9**
UNV				S	**Sn**	**03 41 49.3**	**-1.1**
AKRB	**Akutan Reef Bi**	**2.53**	**60**	P	**Pn**	**03 41 28.1**	**-0.3**
H02N1	**VAN INLET T-PH**	**22.22**	**74**	T	T	04 08 27.7	
H02S1	**DAWSON INLET T**	**22.27**	**74**	T	T	04 08 31.2	
H11S1	**WAKE ISLAND Hy**	**38.93**	**217**	T	T	04 29 29.4	
	baz=21						
H11S2	**WAKE ISLAND Hy**	**38.95**	**217**	T	T	04 29 34.7	
	baz=21						
H11S3	**WAKE ISLAND Hy**	**38.95**	**217**	T	T	04 29 34.0	
	baz=21						
PDAR	**Pinedale Array**	**40.55**	**79**	P	**P**	**03 48 28.5**	**+1.7**
	0.6nm,1.0s,baz=298,slow=5.7,SNR=3.6						
TXAR	**Lajitas Array**	**53.00**	**89**	P	**P**	**03 50 03.4**	**-0.8**
	0.5nm,0.7s,baz=302,slow=5.2,SNR=6.8						
ASAR	**Alice Springs**	**90.56**	**230**	P	P	03 53 47.4	-2.0
	0.5nm,0.6s,baz=34,slow=5.3,SNR=5.2						

IDC ***31*** *03:45:43.2±1.2, 52.°55N×169.°67W, h0km, mb3.8/6, mb1 4.1/8, mb1mx3.7/29, mbtmp3.7/8, ML3.5/2, Error ellipse: s-maj=49.8km s-min=20.8km az=146.0*

ISCJB ***31*** *03:45:44.5±1.8, 52.°54N±0.°09×169.°4W±0.°1, h15km±12km, mb3.8/6, Error ellipse: s-maj=20.0km s-min=5.9km az=139.8*

NEIC ***31*** *03:45:45.0, 52.°52N×169.°22W, h7km, ML3.5(AEIC), After AEIC.*

ISC 31 03:45:45.1±2.1, 52.°7N±0.°1×169.°41W±0.°09, h7km±13km, n36, σ1s08/33, mb3.7/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.46**	**47**	P	**Pb**	**03 45 55.4**	**-0.3**
NIKH				S	**Sb**	**03 46 02.8**	**+0.1**
OKSO	**Okmok South**	**1.03**	**47**	P	**Pg**	**03 46 04.7**	**-0.2**
OKSO				S	**Sb**	**03 46 20.3**	**+1.2**
OKWR	**Okmok West Rim**	**1.07**	**43**	P	**Pg**	**03 46 06.0**	**+0.5**
OKCE	**Okmok Cone E**	**1.08**	**44**	P	**Pg**	**03 46 05.4**	**-0.3**
OKWE	**Okmok W'ng Wal**	**1.08**	**40**	P	**Pg**	**03 46 06.2**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**1.10**	**48**	P	**Pg**	**03 46 06.2**	**-0.1**
OKAK	**Okmok**	**1.12**	**34**	P	**Pb**	**03 46 04.7**	**-2.2**
OKRE	**Okmok R'deer P**	**1.15**	**40**	P	**Pb**	**03 46 07.4**	**+0.2**
OKFG	**Magazine Ridge**	**1.18**	**50**	P	**Pb**	**03 46 06.7**	**-1.1**
OKFG				S	**Sb**	**03 46 23.2**	**-0.1**
MSOM	**Makushin Julie**	**1.88**	**51**	P	**Pn**	**03 46 17.2**	**-0.5**
MCIR	**Makushin Cirqu**	**1.99**	**48**	P	**Pn**	**03 46 20.0**	**+0.7**
MSW	**Makushin Switc**	**2.02**	**50**	P	**Pn**	**03 46 19.2**	**-0.3**
MSW				S	**Sn**	**03 46 45.0**	**-0.1**
MTBL	**Makushin Table**	**2.10**	**50**	P	**Pn**	**03 46 20.5**	**-0.2**
UNV	**Unalaska Valle**	**2.12**	**55**	P	**Pn**	**03 46 20.0**	**-0.9**
UNV				S	**Sn**	**03 46 47.0**	**-0.4**
ZRO	**Akutan Zero**	**2.51**	**54**	P	**Pn**	**03 46 26.1**	**-0.2**
AKUT	**Akutan**	**2.63**	**54**	P	**Pn**	**03 46 27.1**	**-0.9**
ATKA	**Atka Island**	**2.96**	**263**	P	**Pn**	**03 46 33.6**	**+1.0**
GSMY	**Great Sitkin M**	**4.12**	**264**	P	**Pn**	**03 46 48.5**	**0.0**
KDAK	**Kodiak Island**	**10.88**	**55**	Pn	**Pn**	**03 48 24.2**	**+3.0**
	0.9nm,0.3s,baz=277,slow=16,SNR=4.4						
BPAW	**Bear Paw Mtn.**	**14.92**	**33**	*e*Pn	**P**	**03 49 22.6**	**+0.6**
	0.7nm,0.8s						
ILAR	**Eielson Array**	**16.73**	**35**	Pn	**Pn**	**03 49 39.0**	**-0.6**
	0.0nm,0.3s,baz=234,slow=12,SNR=2.6						
HYT	**Haines Junctio**	**19.14**	**52**	*e*P	**Pn**	**03 50 10.3**	**+0.7**
H02N1	**VAN INLET T-PH**	**22.07**	**74**	T	T	04 13 30.6	
H02S1	**DAWSON INLET T**	**22.12**	**74**	T	T	04 13 34.4	
YKA	**Yellowknife Ar**	**30.07**	**49**	P	**P**	**03 51 56.0**	**+1.4**
	0.2nm,0.3s,baz=275,slow=6.9,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**37.66**	**218**	T	T	04 32 56.4	
	baz=24,slow=76,SNR=17						
H11N3	**WAKE ISLAND Hy**	**37.67**	**218**	T	T	04 32 53.6	
	baz=24,slow=76,SNR=18						
H11N1	**WAKE ISLAND Hy**	**37.68**	**218**	T	T	04 32 56.6	
	baz=24,slow=76,SNR=12						
NVAR	**Mina Array Bea**	**37.69**	**91**	P	**P**	**03 53 02.2**	**+1.0**
	0.3nm,0.4s,baz=308,slow=7.8,SNR=4.1						
H11S1	**WAKE ISLAND Hy**	**38.85**	**218**	T	T	04 34 25.8	
	baz=23,slow=76,SNR=533						
H11S2	**WAKE ISLAND Hy**	**38.87**	**218**	T	T	04 34 27.2	
	baz=23,slow=76,SNR=353						
H11S3	**WAKE ISLAND Hy**	**38.87**	**218**	T	T	04 34 27.1	
	baz=23,slow=76,SNR=284						
PDAR	**Pinedale Array**	**40.37**	**79**	P	**P**	**03 53 24.1**	**+0.5**
	0.7nm,0.8s,baz=307,slow=6.6,SNR=5.5						
TXAR	**Lajitas Array**	**52.77**	**89**	P	**P**	**03 55 00.9**	**+0.1**
	2.3nm,0.7s,baz=298,slow=5.4,SNR=18						
WRA	**Warramunga Arr**	**87.16**	**232**	P	**P**	**03 58 29.3**	**-2.5**
	0.6nm,0.7s,baz=33,slow=5.9,SNR=3.9						
ASAR	**Alice Springs**	**90.56**	**230**	P	**P**	**03 58 46.3**	**-1.5**
	1.1nm,0.6s,baz=31,slow=5.1,SNR=17						

IDC ***31*** *03:51:08.9±1.0, 52.°31N×170.°59W, h0km, mb3.9/14, mb1 4.1/17, mb1mx4.0/34, mbtmp3.9/17, ML3.5/3, Error ellipse: s-maj=30.5km s-min=15.0km az=174.0*

ISCJB ***31*** *03:51:12.8±0.6, 51.°99N±0.°09×170.°43W±0.°06, h35km, mb3.8/14, Error ellipse: s-maj=13.2km s-min=3.2km az=161.5*

NEIC ***31*** *03:51:14.9, 52.°25N×170.°57W, h35km, ML3.7(AEIC), After AEIC.*

ISC 31 03:51:14.0±0.8, 52.°2N±0.°1×170.°51W±0.°05, h35km, n47, σ1s87/46, mb3.8/14, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKSO	**Okmok South**	**1.87**	**49**	P	**Pn**	**03 51 45.4**	**+1.8**
OKSO				S	**Sn**	**03 52 07.5**	**+1.5**
OKWR	**Okmok West Rim**	**1.90**	**46**	P	**Pn**	**03 51 46.0**	**+1.9**
OKCE	**Okmok Cone E**	**1.92**	**47**	P	**Pn**	**03 51 45.3**	**+1.2**
OKAK	**Okmok**	**1.94**	**41**	P	**Pn**	**03 51 44.7**	**+0.3**
OKTU	**Okmok Mt. Tuli**	**1.94**	**49**	P	**Pn**	**03 51 45.8**	**+1.3**
OKRE	**Okmok R'deer P**	**1.98**	**45**	P	**Pn**	**03 51 47.1**	**+2.1**
OKFG	**Magazine Ridge**	**2.02**	**50**	P	**Pn**	**03 51 46.5**	**+0.9**
OKFG				S	**Sn**	**03 52 10.7**	**+1.1**
ATKA	**Atka Island**	**2.27**	**273**	P	**Pn**	**03 51 49.9**	**+0.9**
ATKA				S	**Sn**	**03 52 18.2**	**+2.4**
MSW	**Makushin Switc**	**2.86**	**50**	P	**Pn**	**03 51 58.5**	**+1.3**
UNV	**Unalaska Valle**	**2.96**	**53**	P	**Pn**	**03 52 00.0**	**+1.6**
UNV				S	**Sn**	**03 52 37.1**	**+4.4**
GSTR	**Great Sitkin T**	**3.42**	**271**	*e*Pn	**Pn**	**03 52 06.2**	**+1.4**
GSTR				*e*Sn	**Sn**	**03 52 46.8**	**+2.6**
GSMY	**Great Sitkin M**	**3.42**	**270**	P	**Pn**	**03 52 06.5**	**+1.6**
GSTD	**Great Sitkin T**	**3.48**	**271**	P	**Pn**	**03 52 06.8**	**+1.2**
GSTD				S	**Sn**	**03 52 47.1**	**+1.5**
GSCK	**Great Sitkin C**	**3.49**	**270**	P	**Pn**	**03 52 07.4**	**+1.6**
ADAG	**Mount Adagdak**	**3.77**	**270**	P	**Pn**	**03 52 12.1**	**+2.5**
KIKV	**Kanaga Island**	**4.13**	**269**	P	**Pn**	**03 52 16.4**	**+1.9**
SPIA	**Saint Paul Isl**	**5.04**	**2**	P	**Pn**	**03 52 29.3**	**+2.3**
DTNA	**Dutton South F**	**5.76**	**55**	P	**Pn**	**03 52 40.0**	**+3.1**
CESW	**Semis' Southwe**	**6.14**	**272**	P	**Pn**	**03 52 45.0**	**+2.9**
AMKA	**Amchitka**	**6.38**	**267**	P	**Pn**	**03 52 47.2**	**+1.9**
SDPT	**Sand Point**	**6.76**	**58**	P	**Pn**	**03 52 53.5**	**+2.9**
LSNW	**Little Sitkin**	**6.77**	**273**	P	**Pn**	**03 52 53.0**	**+2.2**
KDAK	**Kodiak Island**	**11.73**	**54**	Pn	**Pn**	**03 53 58.4**	**-0.2**
	0.4nm,0.3s,baz=204,slow=8.5,SNR=2.5						
ILAR	**Eielson Array**	**17.53**	**35**	P	**Pn**	**03 55 11.4**	**-4.0**
	0.1nm,0.3s,baz=236,slow=10,SNR=3.0						
PETK	**Petropavlovsk-**	**19.25**	**285**	P	**P**	**03 55 33.1**	**-2.0**
	0.7nm,0.3s,baz=92,slow=7.2,SNR=7.9						
EGAK	**Eagle**	**19.65**	**39**	*e*P	**Pn**	**03 55 41.0**	**+0.1**
SEY	**Seymchan**	**22.31**	**313**	P	**P**	**03 56 07.0**	**-1.1**
	2.6nm,0.7s,baz=57,slow=23,SNR=5.2						
DLBC	**Dease Lake**	**23.60**	**59**	P	**P**	**03 56 22.1**	**+0.7**
	4.1nm,0.9s,baz=263,slow=11,SNR=9.4						
INK	**Inuvik**	**23.92**	**33**	P	**P**	**03 56 23.3**	**-0.9**
	1.1nm,0.4s,baz=233,slow=7.6,SNR=4.2						
YKA	**Yellowknife Ar**	**30.91**	**48**	P	**P**	**03 57 27.4**	**+0.4**
	0.2nm,0.3s,baz=80,slow=8.0,SNR=5.9						
NEW	**Newport**	**33.74**	**75**	P	**P**	**03 57 50.5**	**-1.5**
	2.3nm,0.8s,baz=288,slow=7.0,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**36.85**	**217**	T	T	04 37 34.6	
	baz=20						
H11N3	**WAKE ISLAND Hy**	**36.85**	**217**	T	T	04 37 36.3	
	baz=20						
H11N1	**WAKE ISLAND Hy**	**36.87**	**217**	T	T	04 37 37.7	
	baz=20						
H11S1	**WAKE ISLAND Hy**	**38.04**	**217**	T	T	04 39 02.8	
	baz=34						
H11S2	**WAKE ISLAND Hy**	**38.05**	**217**	T	T	04 39 03.9	
	baz=34						
H11S3	**WAKE ISLAND Hy**	**38.06**	**217**	T	T	04 38 59.4	
	baz=34						
PDAR	**Pinedale Array**	**41.13**	**78**	P	**P**	**03 58 56.0**	**+1.2**
	1.0nm,0.7s,baz=324,slow=4.1,SNR=8.9						
SONM	**Songino Array**	**50.81**	**300**	P	**P**	**04 00 09.0**	**-1.8**
	2.0nm,0.8s,baz=76,slow=6.0,SNR=2.9						
TXAR	**Lajitas Array**	**53.45**	**88**	P	**P**	**04 00 30.7**	**+0.1**
	0.4nm,0.8s,baz=287,slow=4.4,SNR=4.9						
FINES	**FINESS Array B**	**65.99**	**351**	P	**P**	**04 01 54.7**	**-1.5**
	2.4nm,0.9s,baz=321,slow=2.7,SNR=4.5						
NOA	**NORSAR Array B**	**67.16**	**359**	P	**P**	**04 02 03.5**	**-0.2**
	0.7nm,0.9s,baz=0.0,slow=8.1,SNR=2.9						
CMAR	**Chiang Mai Arr**	**75.98**	**282**	P	**P**	**04 02 58.2**	**+0.7**
	2.7nm,0.4s,baz=23,slow=7.1,SNR=14						
GERES	**GERESS Array B**	**79.32**	**357**	P	**P**	**04 03 15.7**	**-0.1**
	0.4nm,0.7s,baz=5.6,slow=5.5,SNR=3.5						
ESDC	**Sonseca Array**	**87.81**	**10**	P	**P**	**04 03 58.0**	**-1.3**
	0.1nm,0.3s,baz=359,slow=5.9,SNR=4.6						
ASAR	**Alice Springs**	**89.72**	**229**	P	**P**	**04 04 08.6**	**+0.3**
	1.9nm,0.8s,baz=28,slow=4.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**114.63**	**8**	PKP	PKPdf	04 09 50.2	-0.5
	0.3nm,0.8s,baz=349,slow=2.6,SNR=4.2						

NIED ***31*** *03:52:00, 32.°40N×139.°20E, h260km, Mw4.7 Best double couple: M0 1.49000×10^16 NP1:φ=286.00000°, δ38.00000°, λ-12.00000°. NP2:φ=26.00000°, δ83.00000°, λ-128.00000°.*

SZGRF ***31*** *03:52:24.5, 31.°11N×140.°58E, h33km, mb5.0, Southeast of Honshu, Japan*

BJI ***31*** *03:52:50.4, 32.°22N×139.°34E, h236km, mb4.8/54, mB4.6/30*

ISCJB ***31*** *03:52:55.0±0.3, 32.°23N±0.°02×138.°97E±0.°03, h246km±1km, mb4.5/147, Error ellipse: s-maj=4.2km s-min=3.4km az=143.6*

JMA ***31*** *03:52:55.9±0.4, 32.°39N×139.°17E, h251km±3km, M4.7*

IDC ***31*** *03:52:55.5±0.4, 32.°24N×138.°85E, h236km±3km, mb4.2/28, mb1 4.3/31, mb1mx4.3/34, mbtmp4.8/31, Error ellipse: s-maj=10.0km s-min=7.1km az=87.0*

NEIC ***31*** *03:52:55.8±0.4, 32.°27N×138.°86E, h238km±3km, mb4.6/69, MW4.7(NIED), Error ellipse: s-maj=4.8km s-min=3.2km az=135.0*

MOS ***31*** *03:52:55.4±0.9, 32.°30N×138.°81E, h246km, mb4.9/48, Error ellipse: s-maj=7.9km s-min=4.4km az=107.6*

ISC 31 03:52:55.3±0.3, 32.°31N±0.°03×138.°94E±0.°03, h236km±2km, h235km:pP-P, n464, σ1s37/545, mb4.6/150, 48C-15D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**1.04**	**43**	⇓P	**Pn**	**03 53 30.5**	**+1.5**
JHCJ				S	**S**	**03 53 56.8**	**+1.3**
JHJ	**Hachijo jima 2**	**1.07**	**41**	P	**Pn**	**03 53 30.9**	**+1.8**
	599nm,0.3s,baz=102,slow=2.2,SNR=256						
JHJ				S	**S**	**03 53 57.5**	**+1.7**
	648nm,0.3s,baz=71,slow=23,SNR=11						
JHJ2	**Mitsune**	**1.08**	**43**	⇓P	**Pn**	**03 53 30.8**	**+1.6**
JHJ2				S	**S**	**03 53 57.4**	**+1

SNR=7.4
KSSKC Sokcho 10.39 308 P **P** 03 55 22.1 -2.5
SNR=6.1
KSSKC Sokcho 10.39 308 P **P** 03 55 22.1 -2.5
SNR=6.1
TJN Taejon 10.39 296⇑ *i*P **Pn** 03 55 21.1 +2.2
KSRS Korea Array 10.40 303 P **P** 03 55 23.2 -1.5
comp=Z,1.4nm,0.3s,baz=111,slow=13,SNR=91
KSRS ScP **ScP** 04 04 10.8 -0.7
comp=Z,0.1nm,0.3s,baz=110,slow=1.1,SNR=9.0
KSAR Wonju Array Be 10.42 302 P **P** 03 55 23.2 -1.8
KSAR Wonju Array Be 10.42 302 P **P** 03 55 23.2 -1.8
KSAR ScP **ScP** 04 04 10.8 -0.7
KSWAN Wando 10.44 285 P P 03 55 28.5 +3.2
SNR=7.3
KSJEU Jeongeup 10.47 291 P P 03 55 28.8 +3.2
SNR=9.4
SEHB SEOHWA 10.56 307 P **P** 03 55 24.8 -1.7
SNR=7.8
SEHB SEOHWA 10.56 307 P **P** 03 55 24.8 -1.7
SNR=7.8
KSCHC Chuncheon 10.62 304 P **P** 03 55 25.8 -1.5
SNR=8.5
KSCHC Chuncheon 10.62 304 P **P** 03 55 25.8 -1.5
SNR=8.5
KSJDO Jindo 10.77 285 P **P** 03 55 32.1 +3.1
SNR=9.2
KSCWO Cheorwon 10.97 305 P **P** 03 55 30.1 -1.1
SNR=10
KSCWO Cheorwon 10.97 305 P **P** 03 55 30.1 -1.1
SNR=10
INCN Inchon 11.34 300 *e*Pn **P** 03 55 34.5 -0.8
YNCB YEONCHEON 11.37 303 P **P** 03 55 35.0 -0.5
SNR=22
KSMUS Musan 11.42 303 P **P** 03 55 35.6 -0.5
SNR=12
KSGAH Ganghwa 11.57 301 P **P** 03 55 37.7 0.0
SNR=9.9
MSHR Mys Shultsa 11.96 331 *i*P **P** 03 55 40.7 -1.4
ASAJ Asahikawa 12.13 13 *e*Pn **Pn** 03 55 38.7 -1.9
ASAJ *e*S S 03 57 48.5 -6.5
YUK Yuzh-Kuril'sk 12.90 23⇓ *i*P **Pn** 03 55 50.7 +0.5
YUK *i*S S 03 58 04.7 -8.3
YUK pmax pmax
comp=N,75nm,0.5s
YUK pmax pmax
comp=E,38nm,0.5s
YUK pmax pmax
comp=Z,76nm,0.5s
YUK pmax pmax
comp=Z,186nm,1.5s
YUK smax smax
comp=N,392μm,2.8s
YUK smax smax
comp=E,528μm,2.8s
USRK Ussuriysk Ar. 13.06 337 P **Pn** 03 55 52.6 +0.5
comp=E,1.0nm,0.3s,baz=155,slow=12,SNR=17
USRK S **S** 03 58 14.3 -2.4
comp=E,0.2nm,0.3s,baz=140,slow=41,SNR=2.4
MDJ Mudanjiang 14.29 332 P **Pn** 03 56 07.0 -0.2
MDJ S **S** 03 58 42.3 -2.9
MDJ ScP **ScP** 04 04 16.3 -1.0
MDJ ScS **ScS** 04 07 54.0 -0.7
MDJ PMZ
comp=E,14nm,0.8s
MDJ PMZ
comp=E,59nm,4.4s
KUR Kuril'sk 14.64 26 *e*P P 03 56 15.5 +3.7
KUR S **S** 03 58 53.7 +0.3
KUR pmax pmax
comp=N,19nm,0.1s
KUR pmax pmax
comp=E,50nm,0.1s
KUR pmax pmax
comp=Z,65nm,0.1s
KUR pmax pmax
comp=Z,15μm,0.1s
YSS Yuzh-Sakhalins 14.91 10⇑ *i*P **P** 03 56 14.5 -0.2
YSS *e*S **S** 03 58 54.0 -5.4
YSS pmax pmax
comp=Z,70nm,0.8s
YSS Yuzh-Sakhalins 14.91 10 *e*Pn **P** 03 56 14.1 -0.6
comp=Z,62nm,0.6s
DL2 Dalian 15.53 300⇓ *i*P **Pn** 03 56 25.5 +3.2
DL2 *e*sP **sP** 03 57 24.5 -4.2
DL2 S **S** 03 59 18.0 +5.0
DL2 PMZ
comp=Z,200nm,0.8s
DL2 PMZ
comp=Z,110nm,3.7s
YOJ Yonaguni jima 16.04 245 *e*P **Pn** 03 56 28.5 0.0
YOJ pmax pmax
comp=Z,117nm,0.6s
YOJ Yonaguni jima 16.04 245 *e*P **Pn** 03 56 28.5 0.0
comp=Z,117nm,0.6s
HABR Khabarovsk 16.41 351 *e*P **P** 03 56 30.8 -0.3
HABR S **S** 03 59 30.8 +0.2
HABR pmax pmax
comp=Z,34nm,1.5s
HABR MLR MLR
comp=Z,68nm,15.0s
YHNB Yeheng 17.20 248 *e*P **P** 03 56 40.4 +0.1
comp=Z,106nm,0.6s
NACB Ninganchiao 17.29 246 *e*P **P** 03 56 40.8 -0.3
comp=Z,38nm,0.6s
KLR Kul'dur 17.74 344 *e*P **P** 03 56 42.0 -3.7
KLR *e*S S 03 59 48.0 -9.2
YULB Yu-li 17.94 245 *e*P **P** 03 56 47.8 -0.3
comp=Z,56nm,0.8s
YULB *e*S **S** 04 00 00.3 -1.4
SSLB Suanglung 17.99 246 *e*P **P** 03 56 48.9 +0.1
comp=Z,65nm,0.6s
TWG Pinlang 18.43 244 *e*P **P** 03 56 52.9 -0.5
comp=Z,136nm,0.4s
TIA Tai'an 18.44 288 ⇑P **Pn** 03 56 56.5 -0.1
TIA PMZ
comp=Z,20nm,0.8s
TPUB Ta-pu 18.50 246 *e*P **P** 03 56 54.6 +0.4
comp=Z,67nm,1.0s
GUMO Guam 19.41 162 P **P** 03 57 04.9 +0.9
comp=Z,16nm,0.3s,baz=354,slow=1.7,SNR=8.5
GUMO Guam 19.41 162 *e*P **Pn** 03 57 07.1 -1.1
GUMO pmax pmax
comp=Z,137nm,0.9s
GUMO Guam 19.41 162 *e*P **Pn** 03 57 07.1 -1.1
comp=Z,137nm,0.9s
BJI Beijing 19.89 299 P **P** 03 57 08.0 -0.9
BJI sP **sP** 03 58 15.5 -1.5
BJI S **S** 04 00 35.5 -4.3
BJI ScP **ScP** 04 04 27.0 -1.9
BJI PcS **PcS** 04 04 52.8 0.0
BJI ScS **ScS** 04 08 09.8 -1.6
BJI PMZ
comp=Z,9.0nm,1.2s
BJI PMZ
comp=Z,270nm,3.0s
BJT Baijiatuan 19.89 299 *e*P **P** 03 57 08.7 -0.3
BJT pmax pmax
comp=Z,90nm,0.9s
BJT Baijiatuan 19.89 299 *e*P **P** 03 57 08.7 -0.3
comp=Z,90nm,0.9s
NKL Nikolayevsk 20.86 3 *e*P **P** 03 57 18.0 -1.1
NKL pmax pmax
comp=N,52nm,0.9s
NKL pmax pmax
comp=Z,130nm,0.9s
WHN Wuhan 21.05 272 P **P** 03 57 20.3 -1.0
HIA Hailar 22.21 325 *e*P **P** 03 57 31.5 -0.7
HIA pmax pmax
comp=Z,59nm,0.9s
HIA Hailar 22.21 325 *e*P **P** 03 57 31.5 -0.7
comp=Z,59nm,0.9s
HHC Hu-ho-hao-te 23.50 299 *e*P **P** 03 57 44.3 +0.1
HHC PP **PnPn** 03 58 27.8 -0.4
HHC S **S** 04 01 37.0 -3.2
HHC ScS **ScS** 04 08 26.5 +1.5
HHC PMZ
comp=Z,41nm,1.2s
HHC PMZ
comp=Z,110nm,5.2s
PETK Petropavlovsk- 24.79 28 P **P** 03 57 56.8 +1.2
comp=Z,2.1nm,0.6s,baz=235,slow=5.1,SNR=3.1
PET Petropavlovsk 25.11 29 *e*P **P** 03 58 00.9 +2.5
PET pmax pmax
comp=Z,24nm,1.3s
XAN Xi'an 25.15 282 P **P** 03 57 58.0 -1.0
XAN PMZ
comp=Z,14nm,1.1s
XAN PMZ
comp=Z,22nm,5.9s
CLNS Chul'man 26.38 343 *e*P **P** 03 58 10.4 +0.7
CLNS *e* 03 59 01.5
CLNS *e* 04 01 29.5
CLNS *e*S **S** 04 02 28.7 +3.7
CLNS pmax pmax
comp=Z,30nm,0.8s
CLNS pmax pmax
comp=N,23nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,0.8s
CLNS pmax pmax
comp=Z,4.0nm,0.7s
CLNS pmax pmax
comp=E,4.0nm,0.8s
CLNS pmax pmax
comp=N,7.0nm,0.8s
CLNS smax smax
comp=N,59nm,10.7s
CLNS smax smax
comp=E,87nm,12.6s
H11N2 WAKE ISLAND Hy 27.98 110 T T 04 28 17.6
baz=306,slow=75,SNR=7.7
H11N1 WAKE ISLAND Hy 27.99 110 T T 04 28 14.0
baz=306,slow=75,SNR=7.6
H11N3 WAKE ISLAND Hy 28.00 110 T T 04 28 18.2
baz=306,slow=75,SNR=8.0
MA2 Magadan 28.39 13 *e*P **P** 03 58 28.6 +1.1
GYA Guiyang 28.66 267 P **P** 03 58 31.0 +0.6
GYA pP **pP** 03 59 18.3 +1.1
GYA sP **sP** 03 59 44.5 -0.1
GYA PcP **PcP** 04 01 38.0 +3.1
GYA S **S** 04 03 00.5 -1.2
GYA ScP **ScP** 04 04 55.0 +1.4
GYA ScS **ScS** 04 08 47.3 -0.4
GYA PMZ
comp=E,10.0nm,0.9s
GYA PMZ
comp=E,80nm,4.6s
ULN Ulaanbaatar 28.67 312 *d*P **P** 03 58 31.4 +1.1
ULN pmax pmax
comp=Z,66nm,1.3s
ULN Ulaanbaatar 28.67 312 *e*P **P** 03 58 31.3 +0.9
comp=Z,43nm,0.9s
SONM Songino Array 29.07 312 P **P** 03 58 34.9 +1.1
comp=Z,32nm,0.8s,baz=115,slow=8.5,SNR=135
SONM PcP **PcP** 04 01 36.1 +0.5
comp=Z,2.2nm,0.6s,baz=131,slow=1.3,SNR=5.6
SONM ScP **ScP** 04 04 53.4 -1.1
comp=Z,2.2nm,0.8s,baz=131,slow=3.2,SNR=9.1
LZH Lanzhou 29.17 287 *e*P **P** 03 58 35.0 0.0
LZH pP **pP** 03 59 20.0 -1.9
LZH PP **PnPn** 03 59 41.0 +0.4
LZH sP **sP** 03 59 46.0 -3.2
LZH PMZ
comp=Z,23nm,1.1s
LZH PMZ
comp=Z,76nm,4.9s
CD2 Chengdu 29.92 277 *e*P **P** 03 58 40.8 -0.6
CD2 pP **pP** 03 59 27.5 -0.9
CD2 sP **sP** 03 59 54.5 -1.2
CD2 PcP **PcP** 04 01 38.3 +0.3
CD2 S **S** 04 03 20.3 -0.9
CD2 sS **sS** 04 04 44.5 -1.1
CD2 SS **SS** 04 05 27.0 -3.1
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
YAK Yakutsk 30.33 351 *e*P **P** 03 58 43.3 -1.2
YAK pmax pmax
comp=Z,28nm,1.1s
YAK pmax pmax
comp=N,18nm,1.2s
BOD Bodaibo 30.65 334 *e*P **P** 03 58 47.9 +0.5
BOD pmax pmax
comp=Z,18nm,1.1s
SEY Seymchan 31.81 12 P **P** 03 58 59.0 +1.5
comp=Z,5.5nm,0.7s,baz=191,slow=7.2,SNR=10
SEY Seymchan 31.81 12⇑ *i*P **P** 03 58 59.1 +1.6
IRK Irkutsk 32.03 319 *e*P **P** 03 58 59.8 +0.2
IRK pmax pmax
comp=Z,34nm,1.0s
TLY Talaya 32.16 317 P **P** 03 59 02.3 +1.5
comp=Z,14nm,0.6s,baz=153,slow=4.2,SNR=20
TLY Talaya 32.16 317 *e*P **P** 03 59 02.2 +1.5
TLY *e* 04 06 05.0
TLY pmax pmax
comp=Z,22nm,0.8s
TLY MLR MLR
comp=Z,60nm,18.0s
TLY Talaya 32.16 317 *e*P **P** 03 59 01.9 +1.2
comp=Z,22nm,0.8s
GTA Gaotai 32.30 294 *e*P **P** 03 59 01.5 -0.8
GTA pP **pP** 03 59 47.0 -2.6
GTA sP **sP** 04 00 12.3 -4.5
GTA PcP **PcP** 04 01 45.3 +0.9
GTA S **S** 04 03 55.0 -3.2
GTA PMZ
comp=Z,4.0nm,0.9s
GTA PMZ
comp=Z,64nm,7.6s
GTA LN
comp=Z,150nm,13.3s
GTA LE
comp=Z,94nm,13.8s
GTA LZ
comp=Z,76nm,15.2s
KMI Kunming 32.43 267 P P 03 59 07.0 +3.3
KMI PMZ
comp=Z,9.0nm,0.5s
MOY Mondy 33.69 316 *e*P **P** 03 59 15.1 +1.0
MOY pmax pmax
comp=Z,26nm,1.6s
SIJI Sonid 33.79 194 P **P** 03 59 14.3 -0.9
comp=Z,12nm,0.6s,baz=340,slow=14,SNR=9.0
UBPT Khong Chiam 34.81 249 P **P** 03 59 24.6 +0.6
comp=Z,23nm,0.9s,comp=Z,2μm
SKNT Sakolnakorn 35.07 253 P **P** 03 59 27.1 +0.9
comp=Z,25nm,1.0s
NONG Nongkai 35.18 255 P **P** 03 59 27.7 +0.6
comp=Z,22nm,0.9s,comp=Z,4μm
FAKI Fak Fak 35.61 192 *e*P **P** 03 59 29.8 -0.9
comp=Z,18nm,0.7s
CRAI Chiangrai 36.43 260 P **P** 03 59 35.4 -2.3
comp=Z,15nm,1.1s,comp=Z,465nm
MPSI Mapaga 36.53 213 P **P** 03 59 38.9 +0.3
comp=Z,7.2nm,1.0s
APSI Ampana 36.87 210 P **P** 03 59 40.7 -0.7
comp=Z,25nm,0.6s
LOEI Loei 37.00 256 P P 03 59 39.3 -3.3
comp=Z,20nm,0.9s
CHAI Chaiyaphum 37.26 253 P **P** 03 59 44.2 -0.5
comp=Z,16nm,0.7s,comp=Z,172nm
PBKT Sadao Pong 37.73 255 P **P** 03 59 48.6 0.0
comp=Z,37nm,0.8s
LAMP Lampang 37.85 258 P **P** 03 59 50.2 +0.6
comp=Z,8.5nm,0.7s,comp=Z,91nm
HVS Khovu-Aksy 37.93 313 *d*P **P** 03 59 51.1 +1.1
HVS pmax pmax
comp=Z,679nm,1.0s
CMMT Chiang Mai 38.28 259 P **P** 03 59 53.3 +0.1
comp=Z,23nm,0.9s
CHTO Chiang Mai 38.28 259 P **P** 03 59 53.4 +0.2
comp=Z,82nm,0.9s
CHTO Chiang Mai 38.28 259 *e*P **P** 03 59 52.4 -0.9
CHTO pmax pmax
comp=Z,11nm,0.7s
CHTO Chiang Mai 38.28 259 *e*P **P** 03 59 52.4 -0.9
comp=Z,11nm,0.7s
SUKH Sukhothai 38.36 257 P **P** 03 59 54.4 +0.5
comp=Z,3.4nm,0.7s
CMAR Chiang Mai Arr 38.45 259 P **P** 03 59 54.1 -0.6
comp=Z,6.5nm,0.8s,baz=48,slow=7.7,SNR=25
CMAR PcP **PcP** 04 02 03.7 +1.0
comp=Z,0.6nm,0.3s,baz=24,slow=1.2,SNR=5.3
CMAR ScP **ScP** 04 05 26.7 -1.3
comp=Z,0.7nm,0.3s,baz=28,slow=3.6,SNR=6.7
UTHA Uthaitani 39.51 255 P **P** 04 00 05.1 +1.7
comp=Z,4.4nm,0.9s,comp=Z,66nm
KRAR Krasnoyarsk 39.64 321⇑ *i*P **P** 04 00 04.6 +0.7
KRAR pmax pmax
comp=Z,65nm,1.0s
PHET Kaeng Krachan 40.81 251 P **P** 04 00 15.2 +1.1
comp=Z,8.9nm,0.8s
KSM Kuching 40.84 227 *e*P **P** 04 00 14.8 +0.5
comp=Z,24nm,1.0s
WMQ Urumqi 41.35 301 P **P** 04 00 19.0 +0.8
WMQ sP **sP** 04 01 31.3 -2.9
WMQ PcP **PcP** 04 02 12.8 +1.1
WMQ PMZ
comp=Z,62nm,0.7s
WMQ PMZ
comp=Z,200nm,4.0s
WMQ LN
comp=Z,43nm,18.9s
WMQ LZ
comp=Z,22nm,18.0s
PMG Port Moresby 42.22 168 *e*P **P** 04 00 25.6 +0.2
PMG pmax pmax
comp=Z,25nm,0.9s
PMG Port Moresby 42.22 168 *e*P **P** 04 00 25.6 +0.2
comp=Z,25nm,0.9s
ZALV Zalesovo Beam 43.74 316 P **P** 04 00 36.9 -0.3
comp=Z,5.7nm,0.4s,baz=99,slow=7.6,SNR=25
ZALV PcP **PcP** 04 02 19.3 -0.2
comp=Z,23nm,0.7s,baz=96,slow=3.0,SNR=27
ZALV ScP **ScP** 04 05 46.4 -2.0
comp=Z,1.6nm,0.6s,baz=121,slow=3.7,SNR=4.1
TAPN Taplejung 44.38 277 *e*P **P** 04 00 42.7 -0.3
comp=Z,33nm,0.9s
KULM Kulim 44.72 241 *e*P **P** 04 00 45.4 -0.1
comp=Z,23nm,1.0s
NVS Novosibirsk 44.77 317 *e*P **P** 04 00 43.3 -2.0
NVS *e* 04 02 22.0
NVS pmax pmax
comp=N,4.0nm,1.4s
NVS pmax pmax
comp=E,13nm,1.4s
NVS pmax pmax
comp=Z,19nm,1.4s
ODAN Odare 44.81 277 *e*P **P** 04 00 46.1 -0.2
comp=Z,45nm,0.6s
IPM Ipoh 44.99 240 *e*P **P** 04 00 46.8 -0.8
comp=Z,9.1nm,0.8s
MK31 Makanchi Array 45.06 306 *i*P **P** 04 00 47.8 0.0
MK31 pmax pmax
comp=Z,34nm,0.5s
MK31 Makanchi Array 45.06 306 *e*P **P** 04 00 47.7 0.0
MKAR Makanchi Array 45.06 306 P **P** 04 00 48.0 +0.3
comp=Z,51nm,0.7s,baz=92,slow=9.8,SNR=270
MKAR PcP **PcP** 04 02 23.8 -0.4
comp=Z,5.6nm,0.7s,baz=83,slow=6.1,SNR=4.5
MKAR ScP **ScP** 04 05 52.3 -1.7
comp=Z,4.4nm,0.7s,baz=81,slow=5.2,SNR=16
MKAR Makanchi Array 45.06 306 P **P** 04 00 48.0 +0.3
MKAR 04 02 23.8
MKAR pmax pmax
comp=Z,51nm,0.7s
MKAR pmax pmax
comp=Z,6.0nm,0.7s
MKAR pmax pmax
comp=N,4.0nm,0.7s
RAMN Ramite 45.44 277 *e*P **P** 04 00 50.9 -0.4
comp=N,104nm,0.8s
GUN Gumba 45.73 279 *e*P **P** 04 00 53.4 -0.2
comp=N,77nm,0.8s
TPI Tanjungpandan 45.78 226 P **P** 04 00 53.3 -0.4
comp=N,58nm,0.7s
COEN Coen 46.19 174 *e*P **P** 04 00 56.4 -0.4
PKI Pulchoki 46.23 279 *e*P **P** 04 00 56.9 -0.7
comp=N,50nm,1.1s
PKIN Phulchoki 46.24 279 *e*P **P** 04 00 56.8 -0.7
comp=N,65nm,1.3s
KKN Kakani 46.27 279 *e*P **P** 04 00 57.4 -0.3
comp=N,71nm,1.0s
DMN Daman 46.48 279 *e*P **P** 04 00 58.9 -0.4
comp=N,56nm,1.1s
GKN Gorkha 46.74 280 *e*P **P** 04 01 00.9 -0.3
comp=N,71nm,1.0s
DANN Dangsing 47.36 280 *e*P **P** 04 01 06.2 0.0
KOLN Koldanda 47.68 280 *e*P **P** 04 01 08.4 -0.2
comp=N,47nm,0.9s
PPI Padang Panjang 48.85 236 P **P** 04 01 17.4 +0.1
comp=N,15nm,1.2s
LEM Lembang 49.05 223 P **P** 04 01 19.1 +0.1
comp=N,96nm,0.9s
KLSI 49.10 228 P **P** 04 01 18.8 -0.4
comp=N,80nm,0.7s
LHSI Lahat 49.21 230 P **P** 04 01 21.1 +1.1
comp=N,69nm,0.9s,comp=N,2μm
GSI Gunungsitoli 49.66 240 P **P** 04 01 23.0 -0.4
comp=N,149nm,1.0s
GSI Gunungsitoli 49.66 240 *e*P **P** 04 01 22.7 -0.7
comp=N,168nm,1.0s
ULHL Ulahol 49.85 300 P **P** 04 01 25.0 +0.2
SNR=11
TKM2 Tokmak 2 50.21 301 P **P** 04 01 28.1 +0.7
SNR=37
TKM2 Tokmak 2 50.21 301 P **P** 04 01 27.8 +0.3
TKM2 pmax pmax
comp=Z,20nm,0.7s
TKM2 Tokmak 2 50.21 301 *e*P **P** 04 01 28.0 +0.5
comp=Z,23nm,0.6s
KSH Kashi 50.59 297⇓ *i*P P 04 01 34.0 +3.7
KSH pP pP 04 02 23.0 +1.5
KSH PcP **PcP** 04 02 48.0 +3.6
KSH PP PP 04 03 34.0 +5.5
KSH S **S** 04 08 26.8 +0.4
KSH SS **SS** 04 12 06.0 +2.5
KSH PMZ
comp=Z,150nm,1.0s
KSH LN
comp=Z,240nm,7.9s
KSH LE
comp=Z,70nm,5.9s
KSH LZ
comp=Z,160nm,5.0s
KZA Kyzart 50.61 300 P **P** 04 01 32.3 +1.5
SNR=7.8
KBK Karagaybulak 50.72 301 P **P** 04 01 31.9 +0.6
SNR=24
CHMS Chumysh 50.80 302 P **P** 04 01 31.9 +0.2
SNR=8.0
USP Ospenovka 50.94 302 P **P** 04 01 32.5 -0.2
SNR=16
AAK Ala-Archa 51.06 301 P **P** 04 01 34.0 +0.2
SNR=14
AAK Ala-Archa 51.06 301 P **P** 04 01 33.8 0.0
AAK pmax pmax
comp=Z,23nm,0.7s
EKS2 Erkin-Say 51.57 301 P **P** 04 01 37.7 +0.2
SNR=19
EKS2 Erkin-Say 51.57 301 *e*P **P** 04 01 37.4 -0.1
EKS2 pmax pmax
comp=Z,17nm,0.8s
EKS2 Erkin-Say 51.57 301 *e*P **P** 04 01 37.4 -0.1
comp=Z,17nm,0.8s
AML Almayashu 51.74 301 P **P** 04 01 39.9 +0.8
SNR=20
KDAK Kodiak Island 52.00 39 P **P** 04 01 40.3 +0.1
comp=Z,8.3nm,0.7s,baz=271,slow=3.1,SNR=6.4
KDAK Kodiak Island 52.00 39 *ce*P **P** 04 01 41.2 +1.0
WRAB Tennant Creek 52.14 185 *e*P **P** 04 01 40.4 -1.3
WRAB pmax pmax
comp=Z,9.0nm,0.6s
WRAB Tennant Creek 52.14 185 *e*P **P** 04 01 40.4 -1.3
comp=Z,9.3nm,0.6s
WRA Warramunga Arr 52.15 185 P **P** 04 01 40.4 -1.4
comp=Z,4.0nm,0.5s,baz=2.2,slow=7.7,SNR=55
WRA ScP **ScP** 04 06 23.6 -0.6
comp=Z,3.6nm,0.9s,baz=2.5,slow=4.4,SNR=8.5
WRA S **S** 04 08 43.0 -4.6
comp=Z,0.9nm,0.8s,baz=8.0,slow=14,SNR=4.8
SFK Sufi-Kurgan 52.34 298 P **P** 04 01 43.2 -0.1
SFK pmax pmax
comp=Z,38nm,0.6s
BVA0 Borovoye Array 52.34 315 *i*P **P** 04 01 41.5 -1.4
BVA0 pmax pmax
comp=Z,13nm,0.9s
BRVK Borovoye 52.40 315 *e*P **P** 04 01 43.2 -0.1
BRVK *e* 04 02 50.9
BRVK pmax pmax
comp=Z,29nm,1.2s
BRVK Borovoye 52.40 315 *e*P **P** 04 01 43.2 -0.1
comp=Z,29nm,1.2s
BRVK *e*PcP **PcP** 04 02 50.9 +0.1
CTAO Charters Tower 52.57 171 *e*P **P** 04 01 44.8 -0.1
CTAO pmax pmax
comp=Z,8.0nm,1.0s

CTAO Charters Tower 52.57 171 *e*P P 04 01 44.8 -0.1
comp=Z,8.5nm,1.0s
NDI New Delhi 52.67 283 *e*P P 04 01 45.0 -0.6
BPAW Bear Paw Mtn. 52.79 31 *e*P P 04 01 47.5 +1.5
comp=Z,0.6nm,0.7s
PMR Palmer 53.64 34 *e*P P 04 01 52.8 +0.7
PMR pmax pmax
comp=Z,9.0nm,1.0s
PMR Palmer 53.64 34 *e*P P 04 01 52.8 +0.7
comp=Z,9.1nm,1.0s
MCK McKinley 53.70 32 *e*P P 04 01 53.4 +0.8
MCK pmax pmax
comp=Z,13nm,1.2s
MCK McKinley 53.70 32 *e*P P 04 01 53.4 +0.8
comp=Z,13nm,1.2s
KK31 Karatay Array 53.83 302 *i* P P 04 01 53.5 -0.4
KK31 pmax pmax
comp=Z,62nm,0.6s
KKAR Karatay Array 53.83 302 *e*P P 04 01 53.4 -0.5
KKAR pmax pmax
comp=Z,69nm,0.6s
KKAR Karatay Array 53.83 302 *e*P P 04 01 53.4 -0.5
comp=Z,69nm,0.6s
COLA College 54.16 30 *e*P P 04 01 57.8 +1.9
COLA pmax pmax
comp=Z,10.0nm,0.8s
COLA College 54.16 30 *e*P P 04 01 57.8 +1.9
comp=Z,9.9nm,0.8s
ILAR Eielson Array 54.58 30 P P 04 01 59.4 +0.5
comp=Z,3.1nm,0.8s,baz=282,slow=5.9,SNR=32
ILAR pP **pP** 04 02 51.4 +0.6
comp=Z,2.1nm,0.8s,baz=277,slow=6.5,SNR=5.2
PAX Paxson 55.28 33 *e*P P 04 02 05.5 +1.4
PAX *e* 04 03 02.4
PAX pmax pmax
comp=Z,4.0nm,0.5s
PAX Paxson 55.28 33 *e*P P 04 02 05.5 +1.4
comp=Z,4.2nm,0.5s
PAX *e*PcP **PcP** 04 03 02.4 +0.7
BMRM Bremner River 55.87 35 *e*P P 04 02 09.6 +1.4
comp=Z,7.5nm,0.7s
ASAR Alice Springs 55.87 186 P P 04 02 07.7 -0.9
comp=Z,3.7nm,0.6s,baz=16,slow=15,SNR=42
ASAR ScP **ScP** 04 06 39.5 -1.0
comp=Z,0.8nm,0.9s,baz=6.1,slow=5.1,SNR=6.2
ASAR S **S** 04 09 34.6 -2.8
comp=Z,1.3nm,0.9s,baz=21,slow=20,SNR=7.2
ASAR Alice Springs 55.87 186 P P 04 02 07.7 -0.9
ASAR S **S** 04 09 34.6 -2.8
ASAR pmax pmax
comp=Z,4.0nm,0.6s
ASAR pmax pmax
comp=N,1.0nm,0.9s
ASAR smax smax
comp=N,1.0nm,0.9s
MENT Mentasta 56.08 33 *e*P P 04 02 11.4 +1.8
HYB Hyderabad 56.10 270 *i* P P 04 02 09.5 -1.0
MBWA Marble Bar 56.26 202 *e*P P 04 02 10.8 -0.5
EGAK Eagle 57.02 30 *e*P P 04 02 17.2 +1.0
comp=N,5.1nm,0.8s
KBL Kabul 57.28 293 *e*P P 04 02 18.3 -0.5
KBL pmax pmax
comp=Z,35nm,0.8s
KBL Kabul 57.28 293 *e*P P 04 02 18.3 -0.5
comp=Z,35nm,0.8s
SVE Sverdlovsk 57.40 320⇑ *e*P P 04 02 19.1 +0.1
SVE pmax pmax
comp=Z,22nm,1.0s
ARU Arti 58.60 320 *d i*P P 04 02 26.9 -0.3
ARU 04 03 10.6
ARU *PP **pP** 04 03 23.2 +3.2
ARU S S 04 10 12.4 +0.2
ARU SS **SS** 04 14 08.6 +0.1
ARU pmax pmax
comp=Z,24nm,1.0s
ARU Arti 58.60 320 *e*P P 04 02 27.0 -0.3
comp=Z,19nm,0.6s
PALK Pallekele 59.40 259 *e*P P 04 02 33.2 -0.2
PALK pmax pmax
comp=Z,31nm,0.8s
PALK Pallekele 59.40 259 *e*P P 04 02 33.2 -0.2
comp=Z,31nm,0.8s
AB31 Akbulak array 59.48 312 *i* P P 04 02 32.8 -0.6
AB31 pmax pmax
comp=Z,21nm,0.5s
INK Inuvik 59.51 26 P P 04 02 34.4 +1.1
comp=Z,9.0nm,0.6s,baz=298,slow=6.6,SNR=18
INK Inuvik 59.51 26 P P 04 02 34.4 +1.1
INK pmax pmax
comp=Z,9.0nm,0.6s
INK Inuvik 59.51 26 *e*P P 04 02 34.2 +1.0
comp=Z,5.9nm,0.7s
DLBC Dease Lake 63.61 36 P P 04 03 03.1 +2.2
comp=Z,2.7nm,0.8s,baz=285,slow=8.3,SNR=3.5
PRGR Permogore 63.64 328 *e*P P 04 03 00.0 -0.9
PRGR pmax pmax
comp=Z,30nm,0.9s
STKA Stephens Creek 63.90 177 P P 04 03 02.9 0.0
comp=Z,3.7nm,0.5s,baz=0.1,slow=7.5,SNR=9.9
GEYT Alibeck 64.38 300 P P 04 03 06.8 +0.6
comp=Z,10.0nm,0.8s,baz=31,slow=3.5,SNR=10.0
SPITS Spitsbergen Ar 64.75 349 P P 04 03 09.0 +1.1
comp=Z,10nm,0.8s,baz=94,slow=8.6,SNR=12
SPITS PcP **PcP** 04 03 40.2 +0.8
comp=Z,2.5nm,0.5s,baz=99,slow=4.5,SNR=7.2
ISHV Shirvan 64.83 300 *e*P P 04 03 10.0 +0.6
LVZ Lovozero 65.58 336 *ce*P P 04 03 13.9 +0.5
LVZ pmax pmax
comp=Z,28nm,1.4s
IKOO Kooshah 65.86 294 *e*P P 04 03 16.2 +0.1
RES Resolute Bay 67.66 13 *e*P P 04 03 26.9 +0.5
RES pmax pmax
comp=Z,18nm,0.7s
RES Resolute Bay 67.66 13 *e*P P 04 03 26.9 +0.5
comp=Z,18nm,0.7s
ARCES ARCESS Array B 67.69 340 P P 04 03 27.3 +0.6
comp=Z,16nm,0.5s,baz=69,slow=8.6,SNR=129
IKIA Kiasar 68.31 300 *e*P P 04 03 31.7 +0.3
YKA Yellowknife Ar 68.91 29 P P 04 03 34.9 +0.6
comp=Z,2.2nm,0.6s,baz=301,slow=6.5,SNR=19
YKA Yellowknife Ar 68.91 29 P P 04 03 34.9 +0.6
YKA pmax pmax
comp=Z,2.0nm,0.6s
IALA Alasht 69.01 300 *e*P P 04 03 36.5 +0.7
ILAS Lasjerd 69.20 299 *e*P P 04 03 36.6 -0.3
IMEH Mehriz 69.68 295 *e*P P 04 03 39.1 -0.8
IDMV Damavand 69.80 300 *e*P P 04 03 41.0 +0.4
VRHR Novokhopersk 69.82 318 *e*P P 04 03 38.9 -1.2
VRHR pmax pmax
comp=N,9.0nm,0.6s
VRHR pmax pmax
comp=E,8.0nm,0.6s
VRHR pmax pmax
comp=Z,20nm,0.6s
IAFJ Afjeh 69.91 300 *e*P P 04 03 42.2 +0.9
ISAD Sadrabad 70.16 296 *e*P P 04 03 42.1 -0.8
IR3 Iran Long-Peri 70.58 300 *e*P P 04 03 45.8 +0.7
OBN Obninsk 70.66 324 *de*P P 04 03 44.5 -0.5
OBN *e*PP **pP** 04 04 42.6 +2.8
OBN *i* 04 06 24.8
OBN *e*S S 04 12 37.6 -1.7
OBN pmax pmax
comp=Z,34nm,1.1s
IZEF Zefreh 70.75 297 *e*P P 04 03 46.5 +0.1
IGZV Ghazvin 70.76 301 *e*P P 04 03 47.0 +0.6
IKLH Kolahrood 71.13 298 *e*P P 04 03 48.8 +0.1
VSR Storozhevoye 71.14 319 *e*P P 04 03 47.8 -0.2
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VSR pmax pmax
comp=Z,40nm,0.9s
IRAZ Razeghan 71.41 300 *e*P P 04 03 50.5 +0.2
IPAR Pars 71.57 294 *e*P P 04 03 50.7 -0.7
DGRG David-gareji 71.87 308 P P 04 03 53.7 +1.0
DGRG David-gareji 71.87 308 *e*P P 04 03 53.6 +1.0
IPIR Pirpir 71.93 298 *e*P P 04 03 52.1 -1.4
FINES FINESS Array B 72.03 332 P P 04 03 53.1 0.0
comp=Z,20nm,0.5s,baz=81,slow=5.1,SNR=294
TBLG Delisi 72.16 308 P P 04 03 54.4 +0.1
TBLG Delisi 72.16 308 P P 04 03 54.4 +0.1
KBZ Khabaz 72.43 311 P P 04 03 56.4 +0.6
comp=Z,26nm,0.8s,baz=72,slow=4.4,SNR=57
ONI Oni 72.61 310 P P 04 03 58.1 +1.0

ONI Oni 72.61 310 *e*P P 04 03 58.0 +1.0
GNI Garni 72.89 307 *e*P P 04 04 00.2 +1.4
GNI pmax pmax
comp=Z,14nm,0.8s
GNI Garni 72.89 307 *e*P P 04 04 00.2 +1.4
comp=Z,14nm,0.8s
NEW Newport 74.96 42 *e*P P 04 04 11.9 +1.4
NEW pmax pmax
comp=Z,4.0nm,1.0s
NEW Newport 74.96 42 *e*P P 04 04 11.9 +1.4
comp=Z,3.8nm,1.0s
ANN Anapa 75.33 314 *e*P P 04 04 12.2 -0.4
ANN pmax pmax
comp=Z,60nm,1.2s
ANN pmax pmax
comp=Z,59nm,1.3s
WALA Waterton Lakes 76.32 40 *e*P P 04 04 19.7 +1.4
comp=Z,4.4nm,0.7s
KIEV Kiev 76.78 322 *e*P P 04 04 20.1 -0.5
KIEV pmax pmax
comp=Z,28nm,0.6s
KIEV Kiev 76.78 322 *e*P P 04 04 20.1 -0.5
comp=Z,28nm,0.6s
SWMT Swartz Lake 77.13 42 *e*P P 04 04 23.2 +0.3
comp=Z,1.9nm,0.7s
SIM Simferopol' 77.25 315 *ce*P P 04 04 23.9 +0.5
SIM *e*S S 04 13 57.0 +3.9
SIM pmax pmax
comp=Z,24nm,0.7s
SLMT Seeley Lake 77.57 42 *e*P P 04 04 26.3 +1.0
comp=Z,4.4nm,0.6s
NB2 NORSAR Subarra 77.73 337 P P 04 04 25.7 -0.1
comp=Z,26nm,0.7s,baz=43,slow=5.6
NB2 NORSAR Subarra 77.73 337 P P 04 04 25.7 -0.1
baz=43,slow=5.6
NOA NORSAR Array B 77.73 337 P P 04 04 25.6 -0.1
comp=Z,23nm,0.7s,baz=43,slow=5.5,SNR=95
SUW Suwalki 77.74 327 *e*P P 04 04 25.7 -0.2
SUW Suwalki 77.74 327 *e*P P 04 04 25.8 -0.2
MALT Malatya 78.06 308⇑ *i*P P 04 04 29.8 +1.7
FFC Flin Flon 78.78 31 *e*P P 04 04 32.0 +0.4
FFC pmax pmax
comp=Z,4.0nm,0.7s
FFC Flin Flon 78.78 31 *e*P P 04 04 32.0 +0.4
comp=Z,4.3nm,0.7s
LRM Limekiln Ridge 78.97 42 *e*P P 04 04 34.4 +1.2
comp=Z,70nm,0.9s
LRM *e*pP **pP** 04 05 28.2 -0.9
HLID Hailey 79.11 45 *e*P P 04 04 35.4 +1.6
comp=Z,2.0nm,0.9s
FCC Fort Churchill 79.13 25 *e*P P 04 04 33.8 +0.4
FCC Fort Churchill 79.13 25 *e*P P 04 04 33.8 +0.4
DLMT Dillon 79.15 43 *e*P P 04 04 35.4 +1.4
comp=Z,5.9nm,1.0s
DLMT *e*pP **pP** 04 05 32.3 +2.3
EGMT Eagleton 79.18 40 *e*P P 04 04 35.2 +1.2
comp=Z,6.0nm,0.9s
NVAR Mina Array Bea 79.49 51 P P 04 04 37.8 +1.8
comp=Z,1.6nm,0.7s,baz=292,slow=5.4,SNR=11
NVAR pP **pP** 04 05 32.8 +0.8
comp=Z,0.7nm,0.7s,baz=299,slow=6.1,SNR=2.1
BOZ Bozeman (W) 79.54 42 *e*P P 04 04 37.5 +1.4
BOZ pmax pmax
comp=Z,1.0nm,0.6s
BOZ Bozeman (W) 79.54 42 *e*P P 04 04 37.5 +1.4
comp=Z,1.3nm,0.6s
LVV L'vov 79.96 323 *i* P P 04 04 38.6 +0.5
BEL Belsk 80.25 326 *e*P P 04 04 40.3 +0.8
BEL Belsk 80.25 326 *e*P P 04 04 40.4 +0.9
TPH Tonopah 80.39 51 *e*P P 04 04 42.4 +1.5
TPH pmax pmax
comp=Z,4.0nm,1.2s
TPH Tonopah 80.39 51 *e*P P 04 04 42.4 +1.5
comp=Z,4.1nm,1.2s
BR131 Keskin Array S 80.43 311 *e*P P 04 04 41.1 +0.2
comp=Z,18nm,0.8s
BRTR Keskin Array B 80.43 311 P P 04 04 41.5 +0.6
comp=Z,21nm,0.9s,baz=107,slow=4.0,SNR=104
CFR Carcaliu 80.60 318⇑ *i*P P 04 04 41.8 +0.3
TESR Tescani 80.62 320⇑ *i*P P 04 04 42.0 +0.3
BUR08 Bucovina Ar. S 80.71 321 *e*P P 04 04 42.5 +0.3
BURAR Bucovina Array 80.72 321⇑ *i*P P 04 04 42.3 0.0
KWP Kalwaria Pacla 80.75 324 *e*P P 04 04 42.9 +0.6
KWP Kalwaria Pacla 80.75 324 *e*P P 04 04 42.9 +0.6
ANTO Ankara 80.88 312⇑ *i*P P 04 04 43.9 +0.6
VRI Vrincioaia 80.97 319⇑ *i*P P 04 04 45.1 +1.6
HARR Harsova 81.01 318⇑ *i*P P 04 04 44.5 +0.8
PLOR Plostina 81.03 319⇑ *i*P P 04 04 44.6 +0.8
HVU Hansel Valley 81.11 46 *e*P P 04 04 46.0 +1.4
HVU pmax pmax
comp=Z,5.0nm,1.2s
HVU Hansel Valley 81.11 46 *e*P P 04 04 46.0 +1.4
comp=Z,5.1nm,1.2s
RLMT Red Lodge 81.19 42 *e*P P 04 04 46.7 +1.7
comp=Z,1.7nm,0.6s
R11A Troy Canyon, C 81.31 50 *e*P P 04 04 46.5 +0.8
comp=Z,1.9nm,0.9s
KOLS Kolonicke sedl 81.41 323 *e*P P 04 04 45.5 -0.3
KOLS pmax pmax
comp=Z,9.0nm,1.2s
KOLS Kolonicke sedl 81.41 323 *e*P P 04 04 45.5 -0.3
MSAB Monastry St. A 81.43 317⇑ *i*P P 04 04 46.6 +0.7
UZH Uzhgorod 81.60 323 *e*P P 04 04 46.8 +0.1
MLR Muntele Rosu 81.64 319⇑ *i*P P 04 04 47.8 +0.6
OJC Ojcow 81.79 325 *e*P P 04 04 48.0 +0.3
OJC Ojcow 81.79 325 *e*P P 04 04 48.1 +0.3
TRPA Tarpa 81.79 323 ⇓ *i*P P 04 04 48.5 +0.8
LAO LASA Array 81.89 39 *e*P P 04 04 49.7 +1.3
comp=Z,5.5nm,0.9s
HWUT Hardware Ranch 81.95 46 *e*P P 04 04 50.9 +1.9
comp=Z,2.5nm,0.8s
DUG Dugway 82.01 47 *e*P P 04 04 50.6 +1.3
DUG pmax pmax
comp=Z,2.0nm,0.6s
DUG Dugway 82.01 47 *e*P P 04 04 50.6 +1.3
comp=Z,2.2nm,0.6s
NIE Niedzica 82.07 325 *e*P P 04 04 50.0 +0.8
NIE Niedzica 82.07 325 *e*P P 04 04 50.0 +0.8
CJR Cluj-Napoca 82.15 321 ⇓ *i*P P 04 04 50.7 +1.0
VOIR 82.16 319⇑ *i*P P 04 04 50.6 +0.7
ARR Arges 82.44 320⇑ *i*P P 04 04 52.7 +1.4
PDAR Pinedale Array 82.45 44 P P 04 04 52.7 +1.1
comp=Z,1.7nm,1.0s,baz=318,slow=4.0,SNR=9.2
DRGR 82.56 322⇑ *i*P P 04 04 52.5 +0.6
OKC Ostrava-Krasne 82.83 326 *e*P P 04 04 53.3 +0.2
OKC *e*PCP **PcP** 04 04 57.6 +0.3
OKC Ostrava-Krasne 82.83 326 *e*P P 04 04 53.3 +0.2
LOT Lotru 82.86 320⇑ *i*P P 04 04 54.1 +0.6
RUE Ruedersdorf 82.95 330 *e*P P 04 04 54.4 +0.8
comp=Z,32nm,0.9s
KSP Ksiaz 83.00 327 *e*P P 04 04 54.4 +0.4
KSP Ksiaz 83.00 327 *e*P P 04 04 54.4 +0.4
MORC Moravsky Berou 83.16 326 *e*P P 04 04 55.0 +0.1
MORC pmax pmax
comp=Z,16nm,0.4s
MORC Moravsky Berou 83.16 326⇑ *i*P P 04 04 55.7 +0.8
MORC Moravsky Berou 83.16 326 *e*P P 04 04 55.0 +0.1
comp=Z,16nm,0.4s
PSZ Piszkesteto 83.27 324 *e*P P 04 04 55.9 +0.4
PSZ pmax pmax
comp=Z,17nm,1.0s
PSZ Piszkesteto 83.27 324⇑ *i*P P 04 04 56.3 +0.8
PSZ Piszkesteto 83.27 324 *e*P P 04 04 55.9 +0.4
comp=Z,17nm,1.0s
BSEG Bad Segeberg 83.31 332 *e*P P 04 04 56.0 +0.6
comp=Z,25nm,0.8s
KRLC Kraliky 83.31 327 *e*P P 04 04 56.0 +0.4
KRLC Kraliky 83.31 327 *e*P P 04 04 56.0 +0.4
CSS Prodhromos 83.32 307 *e*P P 04 04 56.0 0.0
comp=Z,9.1nm,0.7s
DPC Dobruska-Polom 83.33 327 *e*P P 04 04 56.4 +0.7
DPC *e*PCP **PcP** 04 05 00.7 +1.1
DPC *ex* x 04 05 33.0
DPC *e*pP **pP** 04 05 56.2 +3.9
DPC Dobruska-Polom 83.33 327 *e*P P 04 04 56.4 +0.7
DPC *e* 04 05 56.2
UPC Upice 83.37 327 *e*P P 04 04 56.5 +0.7
UPC *e*PCP **PcP** 04 04 59.6 -0.1
UPC Upice 83.37 327 *e*P P 04 04 56.5 +0.7
PFO Pinyon Flat Ob 83.40 54 *e*P P 04 04 57.3 +0.8
PFO pmax pmax
comp=Z,3.0nm,0.8s
PFO Pinyon Flat Ob 83.40 54 *e*P P 04 04 57.3 +0.8
comp=Z,2.6nm,0.8s

VYHS Vyhne 83.41 325 *e*P P 04 04 56.3 +0.2
VYHS pmax pmax
comp=Z,9.0nm,0.7s
VYHS Vyhne 83.41 325 *e*P P 04 04 56.3 +0.2
SIRR Siria 83.46 322⇑ *i*P P 04 04 56.9 +0.5
BZS Buzias 83.91 321⇑ *i*P P 04 04 58.8 +0.2
VRAC Vranov 83.93 326⇑ *i*P P 04 04 59.7 +1.0
PVCC Panska Ves 84.00 328 *e*P P 04 04 59.7 +0.7
PVCC Panska Ves 84.00 328 *e*P P 04 04 59.7 +0.7
BRG Berggiesshubel 84.04 329 *i* P P 04 04 59.4 +0.1
comp=Z,16nm,0.7s
BRG Berggiesshubel 84.04 329 *e*P P 04 04 59.7 +0.5
comp=Z,12nm,0.8s
BRG Berggiesshubel 84.04 329 *i* P P 04 04 59.3 +0.1
BRG pmax pmax
comp=Z,16nm,0.7s
SRU San Rafael 84.08 47 *e*P P 04 05 01.0 +1.1
SRU *e**PP **pP** 04 05 57.2 +0.6
SRU pmax pmax
comp=Z,5.0nm,0.7s
SRU San Rafael 84.08 47 *e*P P 04 05 01.0 +1.1
comp=Z,4.8nm,0.7s
SRU *e*pP **pP** 04 05 57.2 +0.6
CLL Collm 84.13 329 *e*P P 04 04 59.9 +0.2
comp=Z,26nm,0.9s
CLL Collm 84.13 329 ⇓ *i*P P 04 04 59.6 -0.1
CLL pmax pmax
comp=Z,46nm,1.1s
CLL Collm 84.13 329 ⇓ *i*P P 04 04 59.6 -0.1
comp=Z,46nm,1.1s
CLL *e* 04 05 17.0
FBE Freiberg 84.26 329 *e*P P 04 05 01.1 +0.8
comp=Z,20nm,0.8s
GOPC GO Pecny, Ondr 84.34 327 *e*P P 04 05 01.2 +0.4
PRA Prague 84.39 328 *e*P P 04 05 01.2 +0.2
PRA Prague 84.39 328 *e*P P 04 05 01.2 +0.2
PRU Pruhonice 84.40 328 *e*P P 04 05 01.2 +0.2
PRU Pruhonice 84.40 328 *e*P P 04 05 01.2 +0.2
TREC Trest 84.46 327 *e*P P 04 05 01.5 +0.1
TREC Trest 84.46 327 *e*P P 04 05 01.5 +0.1
CLZ Clausthal 84.85 331 *e*P P 04 05 03.8 +0.5
comp=Z,22nm,1.1s
VTS Vitosha 85.00 318⇑ *i*P P 04 05 04.6 +0.2
TANN Tannenbergstha 85.02 329 *e*P P 04 05 04.4 +0.2
comp=Z,3.0nm,0.8s
PLN Plauen 85.10 329 *e*P P 04 05 04.8 +0.3
comp=Z,4.0nm,0.9s
NKC Novy Kostel 85.16 329 *e*P P 04 05 05.3 +0.4
NKC Novy Kostel 85.16 329 *e*P P 04 05 05.3 +0.4
MOX Moxa 85.22 329 *e*P P 04 05 05.2 +0.1
comp=Z,3.0nm,0.8s
CONA Conrad Observa 85.25 326 *i* PcP P 04 05 05.9 +0.5
comp=Z,11nm,0.8s,SNR=6.1
KAVA Kavala 85.26 316 *e*P P 04 05 04.0 -1.5
NVR Nevrokopi 85.42 317 *e*P P 04 05 06.0 -0.3
KHC Kasperske Hory 85.45 327 *e*P P 04 05 06.3 -0.1
KHC *ex* x 04 05 12.9
KHC *ex* x 04 05 37.9
KHC *ex* x 04 05 56.7
KHC *e*PP **PP** 04 08 29.2 +1.8
KHC Kasperske Hory 85.45 327 *e*P P 04 05 06.3 -0.1
KHC *e* 04 08 29.2
MANZ Manzenberg 85.49 329 *e*P P 04 05 06.8 +0.3
comp=Z,4.0nm,0.8s
IBBN Ibbenburen 85.55 332 *e*P P 04 05 06.6 -0.1
comp=Z,22nm,0.8s
GEC2 GERESS Array S 85.60 327 *e*P P 04 05 07.1 -0.1
comp=Z,6.0nm,0.8s
GERES GERESS Array B 85.60 327 P P 04 05 07.0 -0.2
comp=Z,5.1nm,0.7s,baz=46,slow=5.8,SNR=45
GERES GERESS Array B 85.60 327 P P 04 05 07.0 -0.2
ROTZ Rotzenmuhle 85.61 329 *e*P P 04 05 07.6 +0.6
comp=Z,5.0nm,0.9s
WET Wettzell 85.76 328 *e*P P 04 05 07.5 -0.4
comp=Z,2.0nm,0.9s
DIVS Divibare 85.78 321⇑ *i*P P 04 05 07.9 -0.2
ARG Arkhangelos 86.01 311 *e*P P 04 05 08.7 -0.6
KNT Kendrikon 86.09 317 *e*P P 04 05 08.5 -1.1
GRFO Grafenberg 86.09 329 *e*P P 04 05 10.3 +0.9
GRFO pmax pmax
comp=Z,7.0nm,0.8s
GRFO Grafenberg 86.09 329 *e*P P 04 05 10.3 +0.9
comp=Z,7.2nm,0.8s
PLG Polygyros 86.28 316 *e*P P 04 05 09.4 -1.2
BUG Bochum--Univer 86.41 332 *e*P P 04 05 10.7 -0.2
comp=Z,16nm,1.2s
SOKA Soboth 86.53 325⇑ *i*P P 04 05 11.2 -0.6
comp=Z,5.9nm,0.7s
RJOB Jochberg 86.82 327 *e*P P 04 05 12.9 -0.2
comp=Z,7.0nm,0.9s
LIT Litokhoron 87.02 317 *e*P P 04 05 12.7 -1.4
XOR Xorichti 87.08 316 *e*P P 04 05 11.8 -2.6
FUR Furstenfeldbru 87.20 328 *e*P P 04 05 14.9 +0.1
comp=Z,12nm,0.6s
ABTA Abfaltersbach 87.68 326⇑ *i*P P 04 05 16.3 -0.9
comp=Z,10nm,0.8s
MAKR Makrakomi, Fth 87.94 316 *e*P P 04 05 15.9 -2.6
DESF Desfina 88.09 315 *e*P P 04 05 15.3 -4.0
DSF Desfina 88.09 315 *e*P P 04 05 16.4 -2.9
WLF Walferdange 88.24 332 *e*P P 04 05 19.7 0.0
WLF pmax pmax
comp=Z,3.0nm,0.6s
WLF Walferdange 88.24 332 *e*P P 04 05 19.7 0.0
comp=Z,3.4nm,0.6s
DID Didima 88.25 314 *e*P P 04 05 16.8 -3.2
DIDY Didyma 88.29 314 *e*P P 04 05 17.1 -3.2
FETA Feichten 88.30 327 ⇓ *i*PcP P 04 05 19.9 -0.4
comp=Z,7.4nm,0.7s
BFO Black Forest 88.37 330 *e*P P 04 05 20.2 -0.2
comp=Z,5.0nm,0.9s
BFO Black Forest 88.37 330 *e*P P 04 05 19.8 -0.6
BFO pmax pmax
comp=Z,5.0nm,0.8s
BFO Black Forest 88.37 330 *e*P P 04 05 19.8 -0.6
comp=Z,4.6nm,0.8s
EFP Efpalio 88.45 316 *e*P P 04 05 18.6 -2.3
DSL Palaion Diasel 88.46 317 *e*P P 04 05 19.5 -1.5
DAVA Damuels 88.48 328⇑ *i*PcP P 04 05 20.9 -0.2
comp=Z,12nm,0.7s,SNR=6.1
GUR Goura 88.51 315 *e*P P 04 05 19.3 -2.0
LAKA Lakka 88.53 315 *e*P P 04 05 18.6 -2.7
KLV Kalavryta, Ach 88.56 315 *e*P P 04 05 19.5 -2.0
ECSD EROS Data Cent 88.89 37 *e*P P 04 05 23.2 +0.3
comp=Z,2.6nm,0.9s
VLI Veliai 88.94 314 *e*P P 04 05 20.3 -2.9
LKD2 Lefkada island 88.95 317 *e*P P 04 05 21.2 -2.1
RLS Riolos of Patr 88.96 316 *e*P P 04 05 22.2 -1.0
ECH Echery 88.96 330 *e*P P 04 05 22.5 -0.6
ECH pmax pmax
comp=Z,2.0nm,0.7s
ECH Echery 88.96 330 *e*P P 04 05 22.5 -0.6
comp=Z,2.0nm,0.7s
ITM Ithomi 89.26 315 *e*P P 04 05 23.5 -1.2
TUE Stuetta 89.34 328 *e*P P 04 05 24.5 -0.6
comp=Z,6.3nm,0.6s
PYL PYLOS 89.56 315 *e*P P 04 05 24.3 -1.8
SCHQ Schefferville 90.42 15 P P 04 05 30.1 +0.4
comp=Z,2.8nm,0.8s,baz=308,slow=2.4,SNR=4.3
AQU L'Aquila 90.44 323 *e*P P 04 05 30.8 +0.6
AQU pmax pmax
comp=Z,16nm,0.9s
AQU L'Aquila 90.44 323 *e*P P 04 05 30.8 +0.6
comp=Z,16nm,0.9s
TXAR Lajitas Array 94.64 51 P P 04 05 51.4 +1.6
comp=Z,1.8nm,0.6s,baz=296,slow=3.0,SNR=33
TXAR pP **pP** 04 06 48.1 +0.8
comp=Z,1.7nm,0.7s,baz=297,slow=3.1,SNR=7.4
ESDC Sonseca Array 100.54 332 P **Pdif** 04 06 15.1 -1.0
comp=Z,0.2nm,0.6s,baz=25,slow=3.6,SNR=3.1
ESDC PP PP 04 10 17.0 -8.1
comp=Z,0.1nm,0.3s,baz=9.7,slow=5.8,SNR=3.5
VNDA Vanda 110.46 175 *e*PKIKP **PKiKP** 04 10 58.5 +0.3
VNDA Vanda 110.46 175 *e*PKP **PKiKP** 04 10 58.5 +0.3
TOA0 Torodi Ar. Sit 119.04 311 *e*PKPdf **PKPdf** 04 11 15.6 -1.0
TORD Torodi Ar. Bea 119.04 311 PKP **PKPdf** 04 11 15.9 -0.7
comp=Z,1.8nm,0.6s,baz=40,slow=0.9,SNR=65
TORD PP **PP** 04 12 36.2 -2.6
comp=Z,1.5nm,1.0s,baz=46,slow=5.6,SNR=4.3
LBTB Lobatse 121.88 259 *e*PKIKP **PKPdf** 04 11 22.1 +0.3
LBTB Lobatse 121.88 259 *e*PKPdf **PKPdf** 04 11 22.1 +0.3
QSPA South Pole Qui 122.07 180 *e*PKPdf **PKPdf** 04 11 20.2 -0.6
BOSA Boshof 123.54 255 PKP **PKPdf** 04 11 25.1 +0.2
comp=Z,2.7nm,0.6s,baz=68,slow=2.6,SNR=8.1
DBIC Dimbokro 128.12 312 PKP **PKPdf** 04 11 32.8 -1.2
comp=Z,1.9nm,0.5s,baz=8.1,slow=4.3,SNR=5.9

SNAA	**Sanae**	**135.66**	**196**	P	**PKPdf**	**04 11 46.7**	**+0.1**
SNAA	**Sanae**	**135.66**	**196**	P	**SKPbc**	**04 14 54.5**	**-0.9**
SNAA	**Sanae**	**135.66**	**196**	*e*PKIKP	**PKPdf**	**04 11 46.5**	**0.0**
SNAA	**Sanae**	**135.66**	**196**	*e*PKPdf	**PKPdf**	**04 11 46.5**	**0.0**
VNA2	**Neumayer--Watz**	**137.23**	**196**	P	**PKPdf**	**04 11 50.0**	**+0.6**
	baz=80,slow=1.4						
VNA2	**Neumayer--Watz**	**137.23**	**196**	P	**SKPbc**	**04 15 00.3**	**+0.3**
	baz=115,slow=4.7						
VNA1	**Neumayer--Stat**	**137.63**	**196**	P	**PKPdf**	**04 11 51.0**	**+0.9**
VNA1	**Neumayer--Stat**	**137.63**	**196**	P	**SKPbc**	**04 15 01.3**	**+0.2**
SAML	**Samuel**	**149.00**	**46**	*e*PKPbc	**PKPbc**	**04 12 16.1**	**+0.2**
LPAZ	**La Paz**	**150.74**	**63**	PKPbc	**PKPbc**	**04 12 21.8**	**+0.9**
	comp=Z,3.9nm,0.8s,baz=240,slow=8.1,SNR=14						
BDFB	**Brasilia**	**162.24**	**22**	PKPab	**PKPab**	**04 13 17.3**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=296,slow=9.9,SNR=3.8						

NEIC ***31*** *03:54:20.7, 52°.59N×169°.10W, h6km, ML3.1(AEIC), After AEIC.*

IDC ***31*** *03:54:23.8±17.0, 52°.67N×168°.30W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/29, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=330.1km s-min=47.5km az=85.0*

ISC 31 03:54:22.0±1.7, 52°.9N±0°.1×169°.41W±0°.08, h15km±10km, n25, σ1§17/22, mb3.4/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.35**	**74**	P	**Pg**	**03 54 29.2**	**+0.1**
NIKH				S	**Sb**	**03 54 36.8**	**+1.4**
OKSP	**Okmok Steeple**	**0.77**	**61**	P	**Pb**	**03 54 37.2**	**+0.1**
OKSP				S	**Sb**	**03 54 49.5**	**+2.0**
OKSO	**Okmok South**	**0.90**	**57**	P	**Pg**	**03 54 39.2**	**0.0**
OKSO				S	**Sb**	**03 54 53.0**	**+2.1**
OKWR	**Okmok West Rim**	**0.92**	**52**	P	**Pg**	**03 54 40.3**	**+0.6**
OKCE	**Okmok Cone E**	**0.93**	**53**	P	**Pg**	**03 54 39.6**	**-0.4**
OKAK	**Okmok**	**0.95**	**42**	P	**Pg**	**03 54 38.8**	**-1.4**
OKTU	**Okmok Mt. Tuli**	**0.97**	**58**	P	**Pb**	**03 54 40.6**	**+0.1**
OKRE	**Okmok R'deer P**	**0.99**	**49**	P	**Pg**	**03 54 41.4**	**+0.3**
OKFG	**Magazine Ridge**	**1.05**	**59**	P	**Pg**	**03 54 40.9**	**-1.3**
OKFG				S	**Sb**	**03 54 57.2**	**+1.8**
MSW	**Makushin Switc**	**1.89**	**56**	P	**Pn**	**03 54 53.8**	**+0.1**
UNV	**Unalaska Valle**	**2.00**	**60**	P	**Pn**	**03 54 54.6**	**-0.5**
UNV				S	**Sn**	**03 55 20.2**	**+0.4**
ATKA	**Atka Island**	**3.00**	**259**	P	**Pn**	**03 55 09.9**	**+1.0**
BPAW	**Bear Paw Mtn.**	**14.73**	**33**	*e*Pn	**P**	**03 57 54.8**	**-0.9**
ILAR	**Eielson Array**	**16.55**	**35**	Pn	**Pn**	**03 58 12.4**	**-0.8**
	0.0nm,0.3s,baz=234,slow=12,SNR=3.5						
H02N1	**VAN INLET T-PH**	**22.01**	**74**	T	T	04 22 03.6	
H02S1	**DAWSON INLET T**	**22.06**	**74**	T	T	04 22 07.3	
YKA	**Yellowknife Ar**	**29.93**	**50**	P	**P**	**04 00 30.3**	**+1.4**
	0.2nm,0.5s,baz=274,slow=7.9,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**37.84**	**218**	T	T	04 41 33.6	
	baz=24						
H11N3	**WAKE ISLAND Hy**	**37.84**	**218**	T	T	04 41 34.3	
	baz=24						
H11N1	**WAKE ISLAND Hy**	**37.85**	**218**	T	T	04 41 35.1	
	baz=24						
H11S1	**WAKE ISLAND Hy**	**39.03**	**218**	T	T	04 43 03.8	
	baz=24						
H11S2	**WAKE ISLAND Hy**	**39.04**	**218**	T	T	04 43 03.9	
	baz=24						
H11S3	**WAKE ISLAND Hy**	**39.05**	**218**	T	T	04 43 02.0	
	baz=24						
PDAR	**Pinedale Array**	**40.34**	**80**	P	**P**	**04 01 58.0**	**-1.0**
	0.5nm,0.7s,baz=330,slow=5.6,SNR=4.2						
TXAR	**Lajitas Array**	**52.77**	**89**	P	**P**	**04 03 35.2**	**-1.2**
	0.9nm,0.6s,baz=299,slow=5.2,SNR=15						

CSEM ***31*** *04:03:41.0, 51°.39N×16°.14E, h0km*

PRU 31 04:03:39.6, 51°.44N×16°.14E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.61**	**171**	*e*Pg	Pg	04 03 51.6	+0.4
KSP				*e*Sg	Sg	04 04 00.0	+0.9
UPC	**Upice**	**0.94**	**185**	*e*PG	Pg	04 03 57.3	-0.3
UPC				*e*SG	Sg	04 04 09.4	-0.4
	comp=Z,7.5nm,0.3s						
UPC	**Upice**	**0.94**	**185**	Pg	Pg	04 03 57.3	-0.3
UPC				Sg	Sg	04 04 09.4	-0.4
	7.5nm,0.3s						
DPC	**Dobruska-Polom**	**1.10**	**174**	*e*PG	Pg	04 04 00.1	-0.6
DPC				*e*SG	Sg	04 04 14.6	-0.4
	comp=Z,2.3nm,0.3s						
DPC	**Dobruska-Polom**	**1.10**	**174**	Pg	Pg	04 04 00.1	-0.6
DPC				Sg	Sg	04 04 14.6	-0.4
	2.3nm,0.3s						
PVCC	**Panska Ves**	**1.35**	**228**	*e*PG	Pg	04 04 05.0	-0.5
PVCC				*e*SG	Sg	04 04 23.0	0.0
	comp=Z,12nm,0.2s						
PVCC	**Panska Ves**	**1.35**	**228**	Pg	Pg	04 04 05.0	-0.5
PVCC				Sg	Sg	04 04 23.0	0.0
	12nm,0.2s						
KRLC	**Kraliky**	**1.43**	**163**	*e*PG	Pn	04 04 06.1	-0.7
KRLC				*e*SG	Sg	04 04 25.1	-0.5
KRLC	**Kraliky**	**1.43**	**163**	Pg	Pn	04 04 06.1	-0.7
KRLC				Sg	Sg	04 04 25.1	-0.5
BRG	**Berggiesshubel**	**1.50**	**249**	PG	Pn	04 04 06.9	-0.8
BRG				SG	Sg	04 04 27.2	-0.5
	3.5nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.75**	**210**	*e*PG	Pn	04 04 11.9	+0.6
GOPC				*e*SG	Sb	04 04 35.6	+0.3
	comp=Z,1.6nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.75**	**210**	Pg	Pn	04 04 11.9	+0.6
GOPC				Sg	Sb	04 04 35.6	+0.3
	1.6nm,0.2s						
PRU	**Pruhonice**	**1.77**	**216**	*e*PG	Pb	04 04 12.4	-0.6
PRU				*e*SG	Sb	04 04 36.1	+0.3
	comp=Z,1.9nm,0.3s						
PRU	**Pruhonice**	**1.77**	**216**	Pg	Pb	04 04 12.4	-0.6
PRU				Sg	Sb	04 04 36.1	+0.3
	1.9nm,0.3s						
OKC	**Ostrava-Krasne**	**2.05**	**141**	*e*PG	Pb	04 04 17.5	-0.2
OKC				*e*SG	Sg	04 04 44.8	-0.7
OKC	**Ostrava-Krasne**	**2.05**	**141**	Pg	Pb	04 04 17.5	-0.2
OKC				Sg	Sg	04 04 44.8	-0.7
TREC	**Trest**	**2.19**	**191**	*e*SG	Sg	04 04 48.9	-1.1
	comp=Z,1.9nm,0.2s						
TREC	**Trest**	**2.19**	**191**	Sg	Sg	04 04 48.9	-1.1
	1.9nm,0.2s						
NKC	**Novy Kostel**	**2.63**	**244**	*e*PG	Pb	04 04 28.3	+0.6
NKC				*e*SG	Sg	04 05 03.9	-0.4
	comp=Z,3.1nm,0.3s						
NKC	**Novy Kostel**	**2.63**	**244**	Pg	Pb	04 04 28.3	+0.6
NKC				Sg	Sg	04 05 03.9	-0.4
	3.1nm,0.3s						
KHC	**Kasperske Hory**	**2.84**	**216**	*e*PN	Pn	04 04 26.2	0.0
KHC				*e*PG	Pb	04 04 31.3	+0.1
KHC				*e*SN	Sn	04 04 59.9	-1.2
KHC				*e*SG	Sg	04 05 10.0	-0.9
KHC	**Kasperske Hory**	**2.84**	**216**	Pn	Pn	04 04 26.2	0.0

ISCJB ***31*** *04:10:24.6±1.5, 22°.7S±0°.1×148°.0E±0°.2, h10km, mb3.8/2, Error ellipse: s-maj=25.4km s-min=16.1km az=12.5*

IDC ***31*** *04:10:25.4±1.5, 22°.50S×148°.06E, h0km, mb4.1/2, mb1 3.7/6, mb1mx3.6/25, mbtmp3.7/6, ML3.4/3, Error ellipse: s-maj=28.0km s-min=18.5km az=73.0*

ISC 31 04:10:26.3±1.5, 22°.6S±0°.1×148°.1E±0°.2, h10km, n7, σ1§15/8, Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**2.99**	**325**	Pn	**Pn**	**04 11 13.1**	**-0.7**
	5.0nm,0.3s,baz=133,slow=17,SNR=3.3						
CTA				Pg	**Pb**	**04 11 19.9**	**+0.2**
	7.5nm,0.3s,baz=152,slow=18,SNR=4.7						
CTA				Lg	Lg	04 11 57.1	
	8.9nm,0.3s,baz=67,slow=20,SNR=6.9						
STKA	**Stephens Creek**	**10.93**	**210**	Pn	**Pn**	**04 13 01.8**	**-1.1**
	0.2nm,0.3s,baz=8.7,slow=13,SNR=2.4						
STKA				Lg	Lg	04 16 15.2	
	0.2nm,0.3s,baz=308,slow=9.4,SNR=2.8						
WRA	**Warramunga Arr**	**13.08**	**279**	Pn	**Pn**	**04 13 31.4**	**-0.9**
	baz=109,slow=13,SNR=2.9						
WRA				Lg	Lg	04 17 20.4	
	0.2nm,0.3s,baz=106,slow=29,SNR=7.9						
ASAR	**Alice Springs**	**13.10**	**262**	Pn	**Pn**	**04 13 34.5**	**+1.9**
	0.1nm,0.3s,baz=90,slow=13,SNR=8.2						
ASAR				Lg	Lg	04 17 28.9	
	0.1nm,0.3s,baz=82,slow=29,SNR=5.5						
SONM	**Songino Array**	**79.44**	**333**	P	**P**	**04 22 33.6**	**+0.8**
	1.0nm,0.9s,baz=137,slow=5.0,SNR=4.8						
SEY	**Seymchan**	**85.27**	**2**	P	**P**	**04 23 02.8**	**+0.1**
	0.3nm,0.3s,baz=143,slow=20,SNR=4.7						
TORD	**Torodi Ar. Bea**	**146.74**	**259**	PKPbc	**PKPbc**	**04 30 09.6**	**+0.2**
	2.2nm,1.0s,baz=110,slow=3.6,SNR=14						

MAN 31 04:10:30, 9°.26N×125°.47E, h1km, mb4.8, ML3.7, MS3.7, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**1.11**	**224**	*e*P	Pg	04 10 51.5	+0.3
CGP				*i* S	Sn	04 11 08.5	-0.1
BIPH	**Bislig**	**1.38**	**140**	⇓*i*P	Pn	04 10 49.5	-7.0
BIPH				*i* S	Sn	04 11 16.4	+1.0
TBP	**Tagbilaran**	**1.65**	**285**	*e*P	Pn	04 11 00.6	+0.5
TBP				*e*S	Sg	04 11 22.9	-0.1
PLP	**Palo**	**1.96**	**346**	⇑*e*P	Pn	04 11 05.2	+0.8
PLP				*e*S	Sg	04 11 33.6	+0.6
DCPH	**Dipolog City**	**2.20**	**252**	*e*P	Pb	04 11 09.6	-1.0
DCPH				*i* S	Sb	04 11 37.1	-1.2

NNC 31 04:21:51.4±2.0, 37°.00N×71°.19E, h0km, mb3.5, mpv3.1, 2C-4D, Error ellipse: s-maj=17.7km s-min=9.0km az=1.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.59**	**315**	⇑Pn	Pn	04 22 34.2	-0.6
	2.8nm,0.6s						
DZET				⇑Sn	Sn	04 23 08.3	+1.2
	9.3nm,0.4s						
SFK	**Sufi-Kurgan**	**3.52**	**30**	⇓Pn	Pn	04 22 48.2	+0.6
	4.6nm,0.3s						
MNAS	**Manas**	**5.57**	**10**	⇓Pn	Pn	04 23 16.0	+0.2
	1.8nm,0.8s						
MNAS				⇓Sn	Sn	04 24 21.7	+1.1
	2.2nm,0.6s						
KK31	**Karatay Array**	**6.12**	**355**	Pn	Pn	04 23 22.4	-0.7
	0.7nm,0.3s,baz=181,slow=13,SNR=27						
KK31				⇓Sn	Sn	04 24 34.2	+0.4
	0.2nm,0.2s,baz=164,slow=20,SNR=5.4						

MOS ***31*** *04:28:18.9±1.2, 6°.04S×150°.29E, h33km, mb5.2/27, MS5.0/8, Error ellipse: s-maj=8.4km s-min=6.2km az=86.7*

IDC ***31*** *04:28:19.6±1.1, 6°.15S×150°.41E, h32km±7km, mb4.7/29, mb1 4.7/33, mb1mx4.7/42, mbtmp4.8/33, ML3.8/4, MS4.6/19, Ms1 4.6/19, ms1mx4.6/25, Error ellipse: s-maj=11.7km s-min=8.0km az=108.0*

ISCJB ***31*** *04:28:19.2±0.8, 6°.13S±0°.03×150°.36E±0°.03, h41km±7km, mb5.2/126, MS4.8/25, Error ellipse: s-maj=5.6km s-min=4.8km az=35.8*

NEIC ***31*** *04:28:20.0±0.1, 6°.10S×150°.40E, h35km, mb5.2/61, Error ellipse: s-maj=4.7km s-min=3.6km az=120.0*

NEIC Felt at Kandrian and Kimbe.

GCMT ***31*** *04:28:20.0±0.1, 6°.33S×150°.48E, h30km, MW5.4/112, Moment Tensor Solution. s89,c141; s112,c209; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr 0.50±.02; Mθθ 0.93±.02; Mϕϕ -1.43±.02; Mrθ 0.78±.04; Mθϕ 0.07±.02; Mϕr -0.24±.03; Best double couple: M0 1.49600×10^17 NP1 ϕ139.00000°, δ71.00000°, λ35.00000°. NP2 ϕ37.00000°, δ58.00000°, λ157.00000°. Principal axes: T 1.5200, Plg37.0000°, Azm2.0000°; N -0.0510, Plg51.0000°, Azm165.0000°; P -1.4720, Plg9.0000°, Azm265.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***31*** *04:28:20.4, 6°.02S×150°.64E, h57km, mb4.9/52, mB5.0/42, Ms5.0/51, Ms7 4.8/49*

DJA ***31*** *04:28:37.2±0.5, 7°.3S±3°×15°.0E±°, h108km±4km, M5.6/98, mb5.3/98, mB5.9/43, MLv6.4/1, Mw(mB)5.5/43, Mwp6.5/1*

ISC 31 04:28:21.4±0.3, 6°.14S±0°.03×150°.42E±0°.04, h46km±2km, h46km:pP-P, n470, σ1§57/506, mb5.1/117, MS4.8/25, 23C-44D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.60**	**42**	⇓P	**Pn**	**04 29 02.1**	**+1.2**
	baz=2.7,SNR=560						
PMG	**Port Moresby**	**4.58**	**225**	Pn	**Pn**	**04 29 27.8**	**-0.4**
	60nm,0.3s,baz=54,slow=4.8,SNR=71						
PMG				Sn	**Sn**	**04 30 19.1**	**-1.1**
	481nm,0.3s,baz=34,slow=18,SNR=15						
PMG				LR	LR	04 31 11.1	
	comp=Z,6μm,21.8s,baz=46,slow=38						
PMG	**Port Moresby**	**4.58**	**225**	P	**Pn**	**04 29 27.8**	**-0.4**
PMG						04 30 19.1	
PMG				pmax	pmax		
	comp=Z,60nm,0.3s						
PMG				smax	smax		
	comp=N,481nm,0.3s						
PMG				MLR	MLR		
	comp=Z,6μm,21.8s						
PMG	**Port Moresby**	**4.58**	**225**	⇓P	**Pn**	**04 29 29.2**	**+1.0**
	baz=4.5						
PMG				⇓P	**Pn**	**04 29 29.2**	**+1.0**
	baz=4.5						
PMG				⇓P	**Pn**	**04 29 29.2**	**+1.0**
	baz=4.5						
PMG	**Port Moresby**	**4.58**	**225**	*e*Pn	**Pn**	**04 29 27.6**	**-0.6**
PMG				*e*Sn	**Sn**	**04 30 19.9**	**-0.3**
MANU	**Manus Island**	**5.08**	**323**	⇑P	Pn	04 29 42.3	+7.2
	baz=5.4,SNR=25						
HNR	**Honiara**	**9.99**	**110**	LR	LR	04 34 32.3	
	comp=Z,2μm,18.5s,baz=284,slow=37						
HNR	**Honiara**	**9.99**	**110**	*e*P	Pn	04 30 46.3	+4.0
HNR	**Honiara**	**9.99**	**110**	*e*Pn	Pn	04 30 46.3	+4.0
JAY	**Jayapura**	**10.34**	**290**	P	Pn	04 30 55.3	+8.1
JAY	**Jayapura**	**10.34**	**290**	Pn	**Pn**	**04 30 46.5**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=140,slow=14,SNR=2.4						
JAY				LR	LR	04 35 35.6	
	comp=Z,10μm,18.8s,baz=102,slow=42						
JAY	**Jayapura**	**10.34**	**290**	⇓P	Pn	04 30 54.6	+7.3
	baz=10,SNR=6.6						
COEN	**Coen**	**10.55**	**222**	⇑P	**Pn**	**04 30 49.9**	**-0.1**
	baz=10,SNR=9.1						
COEN	**Coen**	**10.55**	**222**	*e*Pn	**Pn**	**04 30 49.5**	**-0.6**
COEN				*e*Sn	Sn	04 32 40.2	-6.7
SMPI	**Sarmi**	**12.39**	**289**	P	P	04 31 29.9	+3.8
	comp=Z,123nm,1.7s,comp=Z,17μm						
MTSU	**Mount Surprise**	**13.33**	**206**	⇓P	**Pn**	**04 31 28.4**	**+0.3**
	baz=13,SNR=40						
CTA	**Charters Tower**	**14.45**	**196**	Pn	**Pn**	**04 31 43.5**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=20,slow=14,SNR=20						
CTA				LR	LR	04 36 51.9	
	comp=Z,3μm,19.8s,baz=16,slow=36						
CTA	**Charters Tower**	**14.45**	**196**	⇑P	**Pn**	**04 31 43.4**	**+0.3**
	baz=14						
CTAO	**Charters Tower**	**14.45**	**196**	*e*P	**Pn**	**04 31 42.4**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,93nm,1.1s						
CTAO	**Charters Tower**	**14.45**	**196**	*e*Pn	**Pn**	**04 31 42.4**	**-0.8**
	comp=Z,93nm,1.1s						
SRPI	**Serui, Papua**	**14.77**	**286**	P	P	04 32 00.5	+7.9
	comp=Z,162nm,0.3s						
PATS	**Pohnpei**	**15.10**	**32**	⇓P	**P**	**04 31 56.2**	**0.0**
	baz=15,SNR=3.1						
BAKI	**Biak**	**15.11**	**288**	P	P	04 32 05.1	+8.8
	comp=Z,89nm,1.5s,comp=Z,2μm						
QIS	**Mount Isa**	**17.77**	**215**	⇑P	**Pn**	**04 32 24.8**	**-0.6**
	baz=18,SNR=56						
FAKI	**Fak Fak**	**18.40**	**279**	P	Pn	04 32 42.8	+10
	comp=Z,35nm,1.1s						
FAKI	**Fak Fak**	**18.40**	**279**	*e*P	**P**	**04 32 32.8**	**0.0**
	comp=Z,58nm,1.0s						
KDU	**Kakadu**	**18.86**	**249**	P	**P**	**04 32 37.8**	**-0.1**
	baz=19,SNR=26						
SAUI	**Saumlaki**	**19.07**	**263**	P	Pn	04 32 47.2	+5.9
	comp=Z,640nm,1.4s,comp=Z,15μm						
EIDS	**Eidsvold**	**19.13**	**178**	⇓P	**P**	**04 32 40.9**	**+0.2**
	baz=19,SNR=29						
EIDS	**Eidsvold**	**19.13**	**178**	*e*P	**P**	**04 32 40.8**	**+0.1**
	comp=Z,94nm,1.0s						
SIJI	**Sorong**	**19.82**	**285**	P	**P**	**04 32 48.8**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=126,slow=16,SNR=4.0						
SIJI				ScP	**ScP**	**04 40 39.8**	**+2.1**
	comp=Z,0.7nm,0.3s,baz=22,slow=18,SNR=4.3						
MTN	**Manton Dam**	**20.15**	**249**	P	**P**	**04 32 52.2**	**+0.3**
	baz=20,SNR=57						
MTN	**Manton Dam**	**20.15**	**249**	*e*P	**P**	**04 32 52.1**	**+0.1**
	comp=Z,3μm,2.1s						
RMQ	**Roma**	**20.30**	**184**	P	**P**	**04 32 54.6**	**+1.1**
	baz=20,SNR=112						
GUMO	**Guam**	**20.36**	**344**	P	**P**	**04 32 54.0**	**-0.1**
	comp=Z,225nm,1.1s,baz=175,slow=5.5,SNR=15						
GUMO				LR	LR	04 39 16.4	
	comp=Z,2μm,21.8s,baz=152,slow=32						
GUMO	**Guam**	**20.36**	**344**	*e*P	Pn	04 32 55.8	-0.8
GUMO				pmax	pmax		
	comp=Z,1μm,1.6s						
GUMO	**Guam**	**20.36**	**344**	*e*P	Pn	04 32 55.8	-0.8
	comp=Z,1μm,1.6s						
BNDI	**Bandanaira**	**20.49**	**273**	P	Pn	04 32 57.1	-1.1
WRAB	**Tennant Creek**	**20.78**	**227**	P	**P**	**04 32 58.3**	**-0.5**
	comp=Z,2μm,0.6s						
WRAB	**Tennant Creek**	**20.78**	**227**	*e*P	**P**	**04 32 58.6**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,575nm,1.4s						
WRAB	**Tennant Creek**	**20.78**	**227**	*e*P	**P**	**04 32 58.5**	**-0.2**
	comp=Z,575nm,1.4s						
WRA	**Warramunga Arr**	**20.80**	**227**	P	**P**	**04 32 58.9**	**-0.1**
	comp=Z,101nm,0.6s,baz=51,slow=10,SNR=125						
WRA				S	**S**	**04 36 47.3**	**-1.4**
	comp=Z,6.4nm,0.8s,baz=53,slow=19,SNR=10.0						
WRA				ScP	**ScP**	**04 40 41.7**	**+1.8**
	comp=Z,10.0nm,0.6s,baz=51,slow=2.7,SNR=23						
WRA				LR	LR	04 41 32.7	
	comp=Z,3μm,18.5s,baz=50,slow=38						
PALU	**Palau**	**20.80**	**310**	⇑P	Pn	04 33 03.7	+1.8
	baz=21,SNR=12						
QLP	**Quilpie**	**21.17**	**196**	P	**P**	**04 33 03.1**	**+0.3**
	baz=21,SNR=153						
DZM	**Mont Dzumac**	**22.15**	**137**	P	**P**	**04 33 13.3**	**-0.2**
	comp=Z,33nm,0.7s,baz=359,slow=11,SNR=21						
DZM	**Mont Dzumac**	**22.15**	**137**	*e*P	**P**	**04 33 12.9**	**-0.6**
AAI	**Ambon**	**22.28**	**275**	P	P	04 33 24.7	+10
	comp=Z,82nm,0.6s,comp=Z,2μm						
KNRA	**Kununurra**	**23.26**	**244**	⇑P	**P**	**04 33 24.1**	**-1.0**
	baz=23,SNR=86						
NLAI	**Namlea**	**23.42**	**276**	P	P	04 33 33.1	+6.5
	comp=Z,43nm,0.6s,comp=Z,4μm						
AS31	**Alice Springs**	**23.58**	**221**	*e*P	**P**	**04 33 27.6**	**-0.5**
ASAR	**Alice Springs**	**23.59**	**221**	P	**P**	**04 33 27.7**	**-0.4**
	comp=Z,44nm,0.7s,baz=54,slow=8.6,SNR=347						
ASAR				S	**S**	**04 37 41.4**	**+2.0**
	comp=Z,7.9nm,0.9s,baz=44,slow=19,SNR=7.2						
ASAR				ScP	**ScP**	**04 40 49.9**	**+2.8**
	comp=Z,5.2nm,0.7s,baz=42,slow=3.1,SNR=11						
ASAR				LR	LR	04 42 45.8	
	comp=Z,2μm,19.2s,baz=39,slow=37						
ARMA	**Armidale**	**24.18**	**177**	⇑P	**P**	**04 33 33.6**	**0.0**
	baz=24,SNR=8.8						
ARMA	**Armidale**	**24.18**	**177**	*e*P	**P**	**04 33 33.4**	**-0.2**
	comp=Z,831nm,2.5s						
SANI	**Sanana**	**24.70**	**278**	P	P	04 33 47.3	+8.8
	comp=Z,58nm,0.9s,comp=Z,968nm						
CMSA	**Cobar Meteorol**	**25.65**	**189**	⇓P	**P**	**04 33 46.5**	**-0.4**
	baz=26,SNR=33						
SOEI	**Soe**	**26.15**	**260**	P	**P**	**04 33 53.8**	**+2.1**
	comp=Z,234nm,0.9s,comp=Z,4μm						
SOEI	**Soe**	**26.15**	**260**	⇓P	**P**	**04 33 53.2**	**+1.5**
	baz=26,SNR=6.0						
SOEI	**Soe**	**26.15**	**260**	*e*P	**P**	**04 33 53.0**	**+1.3**
	comp=Z,351nm,1.3s						
STKA	**Stephens Creek**	**26.90**	**197**	P	**P**	**04 33 57.6**	**-0.6**
	comp=Z,40nm,0.8s,baz=356,slow=9.7,SNR=25						
STKA				LR	LR	04 44 45.8	
	comp=Z,3μm,19.9s,baz=13,slow=37						
STKA	**Stephens Creek**	**26.90**	**197**	*e*P	**P**	**04 33 57.7**	**-0.5**
STKA				pmax	pmax		
	comp=Z,21nm,0.9s						
STKA	**Stephens Creek**	**26.90**	**197**	⇓P	**P**	**04 33 57.9**	**-0.3**
	baz=27						
STKA	**Stephens Creek**	**26.90**	**197**	*e*P	**P**	**04 33 57.6**	**-0.5**
	comp=Z,21nm,0.9s						
KMSI	**Cibinong**	**27.23**	**283**	P	pP	04 34 13.4	0.0
	comp=Z,159nm,0.7s						
BBSI	**Bau Bau**	**27.72**	**270**	P	**P**	**04 34 09.7**	**+4.0**
	comp=Z,164nm,1.1s,comp=Z,2μm						
KDI	**Kendari**	**27.78**	**273**	P	pP	04 34 16.6	-1.8
	comp=Z,37nm,1.2s						
LUWI	**Luwuk**	**28.05**	**279**	P	pP	04 34 19.4	-1.4
	comp=Z,3μmcomp=Z,113nm,1.0s						
MMRI	**Maumere**	**28.06**	**263**	P	**P**	**04 34 07.6**	**-1.2**
MMRI	**Maumere**	**28.06**	**263**	*e*P	**P**	**04 34 07.5**	**-1.2**
	comp=Z,201nm,1.0s						
YNG	**Young**	**28.08**	**184**	⇑P	**P**	**04 34 09.4**	**+0.6**
	baz=28,SNR=9.4						
WRKA	**Warakurna**	**28.33**	**226**	P	**P**	**04 34 10.6**	**-0.4**
	baz=28,SNR=93						
CNB	**Canberra Magne**	**29.05**	**182**	⇓P	**P**	**04 34 17.3**	**-0.1**
	baz=29						
APSI	**Ampana**	**29.18**	**279**	P	pP	04 34 30.1	-0.8
	comp=Z,732nmcomp=Z,61nm,1.4s						
HTT	**Hallett**	**29.18**	**200**	⇓P	**P**	**04 34 19.1**	**+0.5**
	baz=29,SNR=8.2						
BBOO	**Buckleboo**	**29.72**	**205**	⇑P	**P**	**04 34 22.5**	**-0.8**
	baz=30,SNR=13						
BBOO	**Buckleboo**	**29.72**	**205**	*e*P	**P**	**04 34 22.6**	**-0.7**
	comp=Z,179nm,

comp=Z,99nm,1.7s
BLDU Ballidu 39.92 228 ⇓P **P** **04 35 50.8 -0.5**
baz=40,SNR=15
URZ Urewera 40.10 147 P **P** **04 35 52.5 -0.1**
comp=Z,4.2nm,0.8s,baz=315,slow=1.4,SNR=5.1
URZ LR LR 04 50 13.5
comp=Z,897nm,20.7s,baz=350,slow=33
NWAO Narrogin (SRO) 40.77 225 P **P** **04 35 57.9 -0.4**
comp=Z,16nm,0.8s,baz=288,slow=0.1,SNR=10.0
TPUB Ta-pu 41.27 316 *e*P **P** **04 36 01.8 -0.7**
RPZ Rata Peaks 41.59 157 P **P** **04 36 05.2 +0.4**
comp=Z,22nm,0.9s,baz=211,slow=5.9,SNR=3.8
RPZ LR LR 04 52 10.9
comp=Z,1μm,19.5s,baz=324,slow=34
CMJI Cimerak 41.69 265 P **P** **04 36 05.2 -0.8**
YHNB Yeheng 41.69 318 *e*P **P** **04 36 06.4 +0.4**
comp=Z,41nm,0.9s
JCJI Jatiwangi 41.89 267 P P 04 36 12.0 +4.3
comp=Z,231nm,1.3s,comp=Z,6μm
RKGY Rocky Gully 41.89 223 ⇓P **P** **04 36 07.8 +0.5**
baz=42
CISI Cisompet, Garu 42.32 266 P **P** **04 36 10.8 -0.4**
CISI Cisompet, Garu 42.32 266 *e*P **P** **04 36 10.2 -1.0**
comp=Z,182nm,0.6s
LEM Lembang 42.53 267 P **P** **04 36 13.6 +0.5**
LEM Lembang 42.53 267 P **P** **04 36 13.6 +0.5**
comp=Z,128nm,0.9s,baz=75,slow=8.5,SNR=9.9
LEM Lembang 42.53 267 P **P** **04 36 13.9 +0.9**
baz=43,SNR=4.7
TPI Tanjungpandan 42.76 273 P **P** **04 36 15.6 +0.8**
CNJI Cibinong 43.00 266 P **P** **04 36 16.1 -0.6**
JNU Nakatsue 43.23 336 P **P** **04 36 18.6 +0.3**
comp=Z,17nm,0.8s,baz=160,slow=3.7,SNR=7.5
JNU ScP **ScP** **04 41 55.4 +0.7**
comp=Z,8.8nm,0.8s,baz=135,slow=2.9,SNR=4.5
JNU Nakatsue 43.23 336 *e*P **P** **04 36 18.0 -0.3**
comp=Z,31nm,1.2s
JNU ScP **ScP** **04 41 55.4 +0.7**
SKJI Sukabumi 43.58 266 P **P** **04 36 21.0 -0.4**
QZH Quanzhou 43.75 316 *e*P **P** **04 36 23.3 +0.8**
QZH S **S** **04 42 48.3 -1.6**
QZH SS **SS** **04 46 01.0 -6.1**
QZH LN
comp=Z,610nm,14.0s
QZH LE
comp=Z,2μm,17.7s
QZH LZ
comp=Z,3μm,26.8s
MJAR Matsushiro Arr 43.97 346 P **P** **04 36 23.2 -0.9**
comp=Z,3.3nm,0.5s,baz=170,slow=10,SNR=10
MJAR ScP **ScP** **04 41 58.9 +1.3**
comp=Z,0.5nm,0.3s,baz=153,slow=4.3,SNR=6.0
MJAR LR LR 04 55 12.5
comp=Z,508nm,18.1s,baz=170,slow=37
MAJO Matsushiro 43.98 346 *e*P **P** **04 36 23.6 -0.6**
MAJO pmax pmax
comp=Z,18nm,1.1s
MAJO Matsushiro 43.98 346 *e*P **P** **04 36 23.6 -0.6**
comp=Z,18nm,1.1s
MAT Matsushiro 43.98 346 P **P** **04 36 23.3 -0.9**
MAT S **S** **04 42 51.0 -1.9**
CGJI Cibinong 44.45 267 P **P** **04 36 27.3 -1.0**
XMIS Christmas Isla 44.48 261 ⇓P **P** **04 36 29.8 +1.2**
baz=44
KLI Kotabumi 45.37 269 P P 04 36 43.2 +7.6
comp=Z,101nm,0.9s,comp=Z,12μm
KLSI 45.50 269 P **P** **04 36 35.8 -0.9**
KASI Kota Agung 45.68 268 P **P** **04 36 36.9 -1.3**
MDSI Maura Dua 46.07 270 P **P** **04 36 40.3 -0.9**
DSRI Dabo 46.09 275 P P 04 36 49.7 +8.3
comp=Z,8.8nm,1.0s,comp=Z,1μm
LWLI Liwa 46.15 269 P P 04 36 45.9 +3.9
comp=Z,88nm,0.8s
SSE Sheshan 46.39 325 P **P** **04 36 46.3 +2.9**
SSE PP **PP** **04 38 35.8 +2.7**
SSE S **S** **04 43 31.0 +3.1**
SSE sS **sS** **04 43 50.8 +1.6**
SSE PMZ
comp=Z,22nm,0.8s
SSE PMZ
comp=Z,170nm,12.0s
SSE LN
comp=Z,610nm,21.6s
SSE LE
comp=Z,860nm,21.6s
SSE LZ
comp=Z,1μm,20.2s
LHSI Lahat 46.77 271 P P 04 36 54.9 +8.2
comp=Z,48nm,1.3s,comp=Z,3μm
QIZ Qiongzhong 47.16 303 P **P** **04 36 50.0 +0.4**
QIZ pP **pP** **04 37 01.8 -0.6**
QIZ sP **sP** **04 37 07.0 -0.8**
QIZ S **S** **04 43 40.3 +1.0**
QIZ LN
comp=Z,610nm,24.1s
QIZ LE
comp=Z,250nm,18.6s
QIZ LZ
comp=Z,630nm,20.0s
TJN Taejon 47.50 335 *i* P **P** **04 36 51.4 -0.6**
MASI Maura Aman, Be 48.11 271 P P 04 37 04.2 +7.0
comp=Z,138nm,0.8s
KSRS Korea Array 48.19 336 P **P** **04 36 57.5 +0.3**
comp=Z,7.4nm,0.7s,baz=152,slow=8.6,SNR=24
KSRS ScP **ScP** **04 42 17.1 +2.1**
comp=Z,0.7nm,0.3s,baz=133,slow=5.1,SNR=3.8
KSRS Korea Array 48.19 336 P **P** **04 36 57.6 +0.3**
KSRS pmax pmax
comp=Z,7.0nm,0.7s
KSRS pmax pmax
comp=N,1.0nm,0.4s
KSAR Wonju Array Be 48.19 336 P **P** **04 36 57.6 +0.3**
KSAR Wonju Array Be 48.19 336 P **P** **04 36 57.5 +0.3**
KSAR ScP **ScP** **04 42 17.1 +2.0**
RGRI Rengat 48.33 275 P P 04 37 06.9 +8.0
comp=N,393nm,0.4s,comp=N,165μm
ERM Erimo 48.38 353 *i* P **P** **04 36 57.9 -0.8**
ERM pmax pmax
comp=Z,47nm,2.6s
KRJI Kerinci 48.98 273 P P 04 37 12.1 +8.1
comp=Z,41nm,1.0s
SDSI Sungai Dareh 49.15 274 P P 04 37 13.5 +8.3
comp=Z,31nm,1.0s,comp=Z,23μm
BKNI Bangkinang 49.71 276 P P 04 37 18.4 +9.0
comp=Z,70nm,0.6s
YUK Yuzh-Kuril'sk 50.11 356 *i* S **S** **04 44 19.7 -0.3**
YUK *i* SSS SSS 04 49 13.1
YUK pmax pmax
comp=Z,207nm,1.5s
YUK pmax pmax
comp=N,62nm,1.6s
YUK pmax pmax
comp=E,41nm,1.6s
PDSI Padang 50.12 274 P **P** **04 37 14.8 +2.3**
WHN Wuhan 50.23 319 P **P** **04 37 15.5 +2.4**
WHN S S 04 44 13.3 -8.9
WHN LN
comp=E,3μm,24.1s
WHN LE
comp=E,2μm,19.6s
WHN LZ
comp=E,3μm,20.6s
PPI Padang Panjang 50.24 275 P **P** **04 37 14.0 +0.6**
PPSI Pulau Pagai 50.36 271 P P 04 37 22.2 +7.9
comp=E,115nm,1.5s
RAR Rarotonga 50.43 112 LR LR 04 57 46.3
comp=E,225nm,18.2s,baz=281,slow=35
IPM Ipoh 50.44 281 *e*P **P** **04 37 14.0 -0.9**
comp=E,12nm,0.8s
ASAJ Asahikawa 50.52 353 P **P** **04 37 14.4 -0.6**
comp=E,9.0nm,0.7s,baz=190,slow=8.6,SNR=8.8
ASAJ Asahikawa 50.52 353 P **P** **04 37 14.4 -0.6**
ASAJ pmax pmax
comp=Z,9.0nm,0.7s
ASAJ Asahikawa 50.52 353 *e*P **P** **04 37 14.9 -0.1**
comp=Z,42nm,2.0s
KULM Kulim 50.97 282 *e*P **P** **04 37 16.9 -2.1**
comp=Z,17nm,1.0s
KUR Kuril'sk 51.19 358 *e*P P 04 37 14.4 -5.6
KUR *e*S **S** **04 44 38.1 +3.1**
KUR *e*SSS SSS 04 49 46.1
KUR pmax pmax
comp=N,43nm,1.4s
KUR pmax pmax
comp=E,40nm,1.4s
KUR pmax pmax
comp=Z,131nm,1.4s
SKNT Sakolnakorn 51.33 297 P **P** **04 37 23.0 +1.5**
SISI Saibi 51.43 273 P P 04 37 28.2 +5.8
comp=Z,37nm,0.7s
DL2 Dalian 52.16 332 ⇓P **P** **04 37 24.5 -2.9**
DL2 S **S** **04 44 45.0 -3.6**
DL2 PMZ
comp=Z,37nm,1.4s
DL2 PMZ
comp=Z,130nm,5.4s
DL2 LN
comp=Z,280nm,15.7s
DL2 LZ
comp=Z,270nm,19.1s
PBSI Pulau Batu 52.39 275 P P 04 37 37.3 +7.8
comp=Z,104nm,1.2s
TIA Tai'an 52.44 326 ⇑P **P** **04 37 28.0 -1.5**
TIA pP **pP** **04 37 41.3 -1.1**
TIA PMZ
comp=Z,10.0nm,1.8s
TIA LN
comp=Z,860nm,19.6s
TIA LE
comp=Z,590nm,25.6s
TIA LZ
comp=Z,240nm,18.4s
USRK Ussuriysk Ar. 52.80 343 P **P** **04 37 32.0 0.0**
comp=Z,5.4nm,0.5s,baz=174,slow=4.6,SNR=15
USRK ScP **ScP** **04 42 36.6 +1.9**
comp=Z,0.6nm,0.4s,baz=235,slow=9.0,SNR=4.2
GYA Guiyang 53.37 309 P **P** **04 37 39.0 +2.3**
GYA pP **pP** **04 37 52.0 +2.4**
GYA sP **sP** **04 37 57.5 +2.6**
GYA PP **PP** **04 39 41.3 +3.8**
GYA ScP **ScP** **04 42 37.8 0.0**
GYA S **S** **04 45 06.5 +0.8**
GYA sS **sS** **04 45 29.0 +1.7**
GYA SS **SS** **04 48 44.3 -2.1**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,130nm,5.2s
GYA LN
comp=Z,520nm,18.6s
GYA LE
comp=Z,480nm,19.0s
GYA LZ
comp=Z,540nm,18.4s
MDJ Mudanjiang 53.89 342 P **P** **04 37 40.3 +0.3**
MDJ pP **pP** **04 37 52.0 -0.9**
MDJ sP **sP** **04 37 56.8 -1.5**
MDJ PP **PP** **04 39 41.3 -0.4**
MDJ S **S** **04 45 13.8 +1.9**
MDJ PMZ
comp=Z,16nm,1.6s
MDJ PMZ
comp=Z,170nm,7.3s
MDJ LN
comp=Z,370nm,25.6s
MDJ LE
comp=Z,160nm,23.5s
MDJ LZ
comp=Z,580nm,23.5s
MDJ Mudanjiang 53.89 342 *e*P **P** **04 37 40.8 +0.8**
comp=Z,24nm,1.1s
LHMI Lhok Sumawe 54.57 281 P P 04 37 54.7 +9.2
comp=Z,88nm,1.4s
CN2 Changchun 54.59 338 *e*P P 04 37 51.8 +6.7
CN2 pmax pmax
comp=Z,10.0nm,1.0s
SNSI Sinabang, Aceh 54.68 277 P P 04 37 52.3 +6.0
comp=Z,2μm,0.8s
BJI Beijing 55.74 328 P **P** **04 37 53.0 -0.5**
BJI pP **pP** **04 38 06.5 0.0**
BJI S **S** **04 45 36.0 -0.9**
BJI SS **SS** **04 49 23.0 -0.2**
BJI PMZ
comp=Z,11nm,2.1s
BJI PMZ
comp=Z,190nm,4.8s
BJI LN
comp=Z,560nm,21.3s
BJI LE
comp=Z,680nm,20.7s
BJI LZ
comp=Z,810nm,29.1s
KMI Kunming 55.81 306 P **P** **04 37 55.5 +0.9**
KMI pP **pP** **04 38 10.8 +3.3**
KMI sP **sP** **04 38 16.5 +3.6**
KMI S **S** **04 45 37.5 -1.3**
KMI sS **sS** **04 46 02.8 +2.3**
KMI SS **SS** **04 49 26.8 +1.6**
KMI PMZ
comp=Z,6.0nm,0.9s
KMI PMZ
comp=Z,99nm,4.9s
KMI LN
comp=Z,520nm,24.1s
KMI LE
comp=Z,320nm,23.3s
KMI LZ
comp=Z,320nm,29.9s
XAN Xi'an 56.00 318 P **P** **04 37 54.5 -1.0**
XAN pP **pP** **04 38 07.5 -1.0**
XAN sP **sP** **04 38 12.8 -1.1**
XAN PP **PP** **04 40 00.5 -0.4**
XAN S **S** **04 45 34.8 -6.0**
XAN SS **SS** **04 49 21.8 -5.8**
XAN PMZ
comp=Z,5.0nm,1.5s
XAN PMZ
comp=Z,73nm,11.6s
XAN LN
comp=Z,460nm,20.4s
XAN LE
comp=Z,310nm,18.5s
XAN LZ
comp=Z,810nm,19.1s
CMAR Chiang Mai Arr 56.33 297 P **P** **04 37 58.0 -0.1**
comp=Z,1.0nm,0.6s,baz=115,slow=6.4,SNR=4.2
CMAR PcP **PcP** **04 38 57.0 +2.0**
comp=Z,4.7nm,0.8s,baz=115,slow=4.5,SNR=6.1
CMAR ScP **ScP** **04 42 53.1 +2.3**
comp=Z,0.6nm,0.3s,baz=113,slow=2.3,SNR=4.7
CMAR LR LR 05 02 10.2
comp=Z,232nm,21.4s,baz=106,slow=36
CMAR PKP2bc 05 08 09.3
comp=Z,0.9nm,0.3s,baz=284,slow=3.6,SNR=5.5
CMAR Chiang Mai Arr 56.33 297 P **P** **04 37 58.0 -0.1**
CMAR 04 38 57.1
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR pmax pmax
comp=Z,5.0nm,0.8s
CMAR pmax pmax
comp=N,1.0nm,0.3s
CMAR MLR MLR
comp=Z,233nm,21.4s
KLR Kul'dur 57.50 346 *e*P P 04 38 01.7 -4.1
CD2 Chengdu 57.85 312 *e*P **P** **04 38 09.3 +0.6**
CD2 pP **pP** **04 38 23.0 +1.3**
CD2 PcP **PcP** **04 39 01.0 +0.2**
CD2 PP **PP** **04 40 18.0 +0.6**
CD2 PcS **PcS** **04 43 02.3 0.0**
CD2 S **S** **04 46 06.3 +1.1**
CD2 sS **sS** **04 46 30.0 +3.0**
CD2 SS **SS** **04 49 59.0 +2.2**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,5.0s
CD2 LN
comp=Z,1μm,20.0s
CD2 LE
comp=Z,590nm,16.2s
CD2 LZ
comp=Z,730nm,16.6s
HHC Hu-ho-hao-te 58.79 326 *e*P P 04 38 18.8 +3.6
HHC PP PP 04 40 31.0 +5.3
HHC S **S** **04 46 19.8 +2.5**
HHC sS sS 04 46 41.3 +2.1
HHC PMZ
comp=Z,16nm,1.2s
HHC PMZ
comp=Z,130nm,5.4s
HHC LN
comp=Z,570nm,17.8s
HHC LE
comp=Z,630nm,18.2s
HHC LZ
comp=Z,780nm,18.0s
PETK Petropavlovsk- 59.34 5 P **P** **04 38 17.9 -0.7**
comp=Z,8.9nm,0.6s,baz=167,slow=8.3,SNR=5.0
PETK LR LR 04 59 24.9
comp=Z,483nm,21.4s,baz=186,slow=31
PET Petropavlovsk 59.35 6 *e*P **P** **04 38 17.3 -1.3**
PET *e*S **S** **04 46 22.0 -1.8**
PET *e*SS **SS** **04 50 16.4 -3.0**
PPT Papeete 59.59 107 LR LR 05 02 21.8
comp=Z,157nm,18.4s,baz=296,slow=34
PPT2 Papeete2 59.59 107 *e*S **S** **04 46 32.6 +4.2**
comp=Z,248nm,36.0s
PPT2 *e*LQ LQ 04 53 31.9
comp=Z,2μm,30.0s
PPT2 *e*LR LR 04 55 55.8
comp=Z,470nm,25.0s
TBI Tubuai 60.18 113 *e*S **S** **04 46 39.8 +4.1**
comp=Z,374nm,38.2s
TBI *e*LQ LQ 04 53 44.5
comp=Z,927nm,37.8s
TBI *e*LR LR 04 56 22.2
comp=Z,557nm,32.0s
LZH Lanzhou 60.57 318 *e*P **P** **04 38 28.5 +0.9**
LZH pP **pP** **04 38 42.3 +1.6**
LZH sP **sP** **04 38 47.5 +1.5**
LZH PP **PP** **04 40 44.5 +2.9**
LZH *e*S **S** **04 46 38.8 -1.8**
LZH sS **sS** **04 47 03.5 +1.0**
LZH *e*SS **SS** **04 50 41.5 +1.8**
LZH PMZ
comp=Z,29nm,1.4s
LZH PMZ
comp=Z,160nm,6.0s
LZH LN
comp=Z,710nm,14.6s
LZH LE
comp=Z,520nm,15.0s
LZH LZ
comp=Z,950nm,18.1s
DRV Dumont d'Urvil 60.85 185 S S 04 46 29.0 -14
DRV R 04 57 00.0
GTA Gaotai 65.06 319 *e*P **P** **04 38 58.8 +1.4**
GTA pP **pP** **04 39 12.0 +1.4**
GTA sP **sP** **04 39 16.8 +0.9**
GTA S **S** **04 47 36.8 +0.2**
GTA sS **sS** **04 47 56.3 -2.5**
GTA SS **SS** **04 51 50.0 +0.3**
GTA PMZ
comp=Z,3.0nm,0.8s
GTA PMZ
comp=Z,91nm,6.2s
GTA LN
comp=Z,250nm,20.2s
GTA LE
comp=Z,310nm,20.2s
GTA LZ
comp=Z,340nm,18.1s
ULN Ulaanbaatar 65.91 330 *e*P **P** **04 39 03.8 +1.1**
ULN pmax pmax
comp=Z,3.0nm,0.3s
ULN Ulaanbaatar 65.91 330 *e*P **P** **04 39 03.8 +1.1**
comp=Z,2.6nm,0.3s
CASY Casey 66.06 196 *e*P **P** **04 39 03.7 +0.6**
comp=Z,29nm,1.0s
SONM Songino Array 66.22 329 P **P** **04 39 04.7 0.0**
comp=Z,1.9nm,0.4s,baz=163,slow=5.4,SNR=15
SONM PKP2bc 05 07 42.0
comp=Z,0.8nm,0.9s,baz=264,slow=1.5,SNR=4.2
SEY Seymchan 68.89 1 P **P** **04 39 20.1 -1.0**
comp=Z,3.4nm,0.5s,baz=192,slow=4.7,SNR=16
SEY Seymchan 68.89 1 *e*P **P** **04 39 19.3 -1.7**
ZAK Zakamensk 69.43 330 *e*P **P** **04 39 22.8 -2.0**
ZAK pmax pmax
comp=Z,8.0nm,1.5s
YAK Yakutsk 69.84 350 *e*P **P** **04 39 25.8 -1.0**
YAK pmax pmax
comp=Z,20nm,1.2s
TLY Talaya 70.07 331 *e*P **P** **04 39 29.2 +0.6**
TLY *e*S **S** **04 48 37.4 +1.4**
TLY pmax pmax
comp=Z,9.0nm,1.6s
TLY MLR MLR
comp=Z,205nm,19.0s
BOD Bodaibo 70.22 340 *e*P **P** **04 39 27.7 -1.6**
BOD pmax pmax
comp=Z,9.0nm,1.9s
MOY Mondy 71.36 330 *e*P **P** **04 39 38.5 +2.0**
VNDA Vanda 71.60 177 P **P** **04 39 37.0 -0.5**
comp=Z,5.2nm,0.8s,baz=325,slow=6.3,SNR=35
VNDA LR LR 05 06 38.4
comp=Z,349nm,20.6s,baz=354,slow=32
VNDA Vanda 71.60 177 *e*P **P** **04 39 37.5 +0.1**
VNDA pmax pmax
comp=Z,8.0nm,0.8s
VNDA Vanda 71.60 177 *e*P **P** **04 39 37.5 +0.1**
comp=Z,7.9nm,0.8s
SBA Scott Base 72.18 176 *e*P **P** **04 39 41.5 +0.5**
SBA pmax pmax
comp=Z,24nm,1.4s
SBA Scott Base 72.18 176 *e*P **P** **04 39 41.5 +0.5**
comp=Z,24nm,1.4s
RKT Rikitea 73.47 112 *e*S **SKiKP** **04 49 23.2 +6.4**
comp=Z,287nm,35.0s
RKT *e*LQ LQ 04 59 21.9
comp=Z,620nm,36.8s
RKT *e*LR LR 05 02 31.9
comp=Z,438nm,24.0s
WMQ Urumqi 75.14 318 P **P** **04 40 01.0 +2.0**
WMQ pP **pP** **04 40 14.0 +1.5**
WMQ sP **sP** **04 40 19.0 +1.3**
WMQ PP **PP** **04 42 51.5 +3.7**
WMQ S **S** **04 49 34.8 +0.5**
WMQ PMZ
comp=Z,16nm,0.7s
WMQ PMZ
comp=Z,150nm,6.0s
WMQ LN
comp=Z,430nm,17.4s
WMQ LE
comp=Z,370nm,21.6s
WMQ LZ
comp=Z,470nm,21.7s
KDAK Kodiak Island 78.44 27 *i* P P 04 40 22.8 +5.7
PAF Port-aux-Franc 78.99 221 S S 04 49 59.0 -17
PAF R 05 05 00.0
MK31 Makanchi Array 79.79 320 *e*P **P** **04 40 24.7 -0.2**
MK31 Makanchi Array 79.79 320 *e*P **P** **04 40 24.7 -0.2**
MKAR Makanchi Array 79.79 320 P **P** **04 40 24.0 -0.8**
comp=Z,1.4nm,0.5s,baz=90,slow=10,SNR=16
MKAR PKKPbc **PKKPbc** **04 59 11.8 -1.5**
comp=Z,0.7nm,0.7s,baz=329,slow=1.7,SNR=4.7
ZALV Zalesovo Beam 80.96 327 P **P** **04 40 29.0 -1.9**
comp=Z,2.4nm,0.5s,baz=108,slow=5.6,SNR=12
ZALV LR LR 05 18 09.5
comp=Z,385nm,19.0s,baz=76,slow=37
NVS Novosibirsk 82.17 327 *e*P **P** **04 40 35.4 -1.8**
NVS pmax pmax
comp=N,8.0nm,1.9s
NVS pmax pmax
comp=E,11nm,1.9s
NVS pmax pmax
comp=Z,16nm,1.9s
SML Sawmill 82.32 25 *e*P **P** **04 40 36.9 -1.1**
SML pmax pmax
comp=Z,2.0nm,0.5s
SML Sawmill 82.32 25 *e*P **P** **04 40 36.9 -1.1**
comp=Z,1.8nm,0.5s
BPAW Bear Paw Mtn. 82.41 22 *e*P **P** **04 40 36.6 -1.8**
comp=Z,1.7nm,1.1s
MCK McKinley 83.01 23 *e*P **P** **04 40 39.0 -2.5**
MCK pmax pmax
comp=Z,21nm,0.9s
MCK McKinley 83.01 23 *e*P **P** **04 40 39.0 -2.5**
comp=Z,22nm,0.9s
TKM2 Tokmak 2 83.16 314 *e*P **P** **04 40 43.0 0.0**
TKM2 pmax pmax
comp=Z,4.0nm,0.6s
TKM2 Tokmak 2 83.16 314 *e*P **P** **04 40 43.0 0.0**
comp=Z,3.9nm,0.6s
MAW Mawson 83.43 203 P **P** **04 40 42.5 -1.1**
comp=Z,3.2nm,0.7s,baz=88,slow=7.3,SNR=9.5
MAW LR LR 05 14 46.2

	comp=Z,534nm,21.8s,baz=66,slow=33								
QSPA	**South Pole Qui**	**83.83**	**180**	P		**P**	**04 40 45.1**	**-0.8**
	comp=Z,25nm,1.0s,baz=337,slow=2.0,SNR=36								
QSPA	**South Pole Qui**	**83.83**	**180**	*e*P		**P**	**04 40 46.0**	**+0.1**
	comp=Z,29nm,1.0s								
FRU	**Bishkek**	**83.84**	**314**	*e*P		**P**	**04 40 45.0**	**-1.3**
FRU				pmax	pmax				
	comp=Z,40nm,1.8s								
COLA	**College**	**83.97**	**22**	*e*P		**P**	**04 40 46.0**	**-0.4**
COLA				pmax	pmax				
	comp=Z,15nm,0.6s								
COLA	**College**	**83.97**	**22**	*e*P		**P**	**04 40 46.0**	**-0.4**
	comp=Z,15nm,0.6s								
ILAR	**Eielson Array**	**84.29**	**23**	P		**P**	**04 40 45.7**	**-2.3**
	comp=Z,8.0nm,0.9s,baz=251,slow=4.7,SNR=40								
ILAR				LR		LR	05 14 28.7		
	comp=Z,540nm,21.3s,baz=268,slow=33								
COLD	**Coldfoot**	**84.30**	**20**	*e*P		**P**	**04 40 48.3**	**+0.3**
	comp=Z,7.8nm,0.9s								
EKS2	**Erkin-Say**	**84.40**	**314**	*e*P		**P**	**04 40 48.7**	**-0.5**
EKS2				pmax	pmax				
	comp=Z,13nm,1.1s								
EKS2	**Erkin-Say**	**84.40**	**314**	*e*P		**P**	**04 40 48.7**	**-0.5**
	comp=Z,13nm,1.1s								
EGAK	**Eagle**	**86.52**	**24**	*e*P		**P**	**04 40 58.1**	**-1.0**
	comp=Z,11nm,0.9s								
HYT	**Haines Junctio**	**86.71**	**28**	*e*P		**P**	**04 40 59.9**	**-0.4**
	comp=Z,23nm,1.0s								
KKAR	**Karatay Array**	**86.83**	**314**	*e*P		**P**	**04 41 00.3**	**-0.9**
KKAR				pmax	pmax				
	comp=Z,5.0nm,0.9s								
KKAR	**Karatay Array**	**86.83**	**314**	*e*P		**P**	**04 41 00.3**	**-0.9**
	comp=Z,4.7nm,0.9s								
SKAG	**Skagway**	**87.33**	**29**	*e*P		**P**	**04 41 02.6**	**-0.6**
	comp=Z,19nm,1.3s								
BRVK	**Borovoye**	**88.97**	**324**	⇑*i*P		**P**	**04 41 08.8**	**-2.3**
BRVK				pmax	pmax				
	comp=Z,4.0nm,1.5s								
DLBC	**Dease Lake**	**89.74**	**31**	P		**P**	**04 41 14.6**	**-0.1**
	comp=Z,3.6nm,0.9s,baz=289,slow=3.8,SNR=5.2								
DLBC	**Dease Lake**	**89.74**	**31**	*e*P		**P**	**04 41 14.6**	**-0.1**
	comp=Z,8.6nm,1.4s								
INK	**Inuvik**	**90.55**	**21**	P		**P**	**04 41 17.0**	**-1.1**
	comp=Z,4.6nm,0.8s,baz=289,slow=6.9,SNR=4.2								
INK	**Inuvik**	**90.55**	**21**	P		**P**	**04 41 17.0**	**-1.1**
INK				pmax	pmax				
	comp=Z,5.0nm,0.8s								
INK	**Inuvik**	**90.55**	**21**	*e*P		**P**	**04 41 16.0**	**-2.1**
	comp=Z,11nm,1.2s								
SYO	**Syowa Base**	**91.62**	**200**	⇑*e*P		**P**	**04 41 21.8**	**-1.4**
SYO	**Syowa Base**	**91.62**	**200**	⇑*e*X		pP	04 41 35.4	-1.6
HUMO	**Hull Mountain**	**91.63**	**48**	*e*P		**P**	**04 41 24.4**	**+0.7**
	comp=Z,4.0nm,0.6s								
YBH	**Yreka Blue Hor**	**91.70**	**48**	P		**P**	**04 41 24.7**	**+0.5**
	comp=Z,3.2nm,0.7s,baz=179,slow=4.5,SNR=8.3								
CMB	**Columbia Colle**	**93.10**	**52**	*e*P		**P**	**04 41 31.3**	**+0.6**
CMB				pmax	pmax				
	comp=Z,10.0nm,1.2s								
CMB	**Columbia Colle**	**93.10**	**52**	*e*P		**P**	**04 41 31.3**	**+0.6**
	comp=Z,10nm,1.2s								
MOD	**Modoc**	**93.51**	**48**	*e*P		**P**	**04 41 31.6**	**-1.1**
	comp=Z,3.5nm,0.7s								
PASC	**Pasadena Art C**	**94.55**	**56**	*e*P		**P**	**04 41 38.6**	**+1.1**
	comp=Z,124nm,1.9s								
MWC	**Mount Wilson**	**94.66**	**56**	*e*P		**P**	**04 41 38.9**	**+0.7**
MWC				pmax	pmax				
	comp=Z,69nm,1.1s								
MWC	**Mount Wilson**	**94.66**	**56**	*e*P		**P**	**04 41 38.9**	**+0.7**
	comp=Z,69nm,1.1s								
NVAR	**Mina Array Bea**	**94.77**	**52**	P		**P**	**04 41 39.2**	**+0.6**
	comp=Z,7.6nm,0.7s,baz=251,slow=6.3,SNR=37								
ABKAR	**Akbulak array**	**94.92**	**319**	*e*P		**P**	**04 41 36.7**	**-2.1**
DAC	**Darwin (Calif)**	**95.19**	**54**	*e*P		**P**	**04 41 40.9**	**+0.4**
DAC				pmax	pmax				
	comp=Z,76nm,1.9s								
DAC	**Darwin (Calif)**	**95.19**	**54**	*e*P		**P**	**04 41 40.9**	**+0.4**
	comp=Z,76nm,1.9s								
TPH	**Tonopah**	**95.59**	**52**	*e*P		**P**	**04 41 42.3**	**-0.1**
TPH				pmax	pmax				
	comp=Z,12nm,1.3s								
TPH	**Tonopah**	**95.59**	**52**	*e*P		**P**	**04 41 42.3**	**-0.1**
	comp=Z,12nm,1.3s								
BAR	**Barrett**	**95.72**	**58**	*e*P		**P**	**04 41 44.2**	**+1.3**
	comp=Z,57nm,2.0s								
BMN	**Battle Mountai**	**95.73**	**50**	*e*P		**P**	**04 41 44.2**	**+1.3**
BMN				pmax	pmax				
	comp=Z,5.0nm,1.0s								
BMN	**Battle Mountai**	**95.73**	**50**	*e*P		**P**	**04 41 44.2**	**+1.3**
	comp=Z,4.5nm,1.0s								
GSC	**Goldstone**	**95.76**	**55**	*e*P		**P**	**04 41 44.1**	**+1.0**
GSC				pmax	pmax				
	comp=Z,63nm,1.9s								
GSC	**Goldstone**	**95.76**	**55**	*e*P		**P**	**04 41 44.1**	**+1.0**
	comp=Z,63nm,1.9s								
PFO	**Pinyon Flat Ob**	**95.95**	**57**	P		**P**	**04 41 44.8**	**+0.8**
	comp=Z,14nm,0.8s,baz=267,slow=4.4,SNR=27								
PFO	**Pinyon Flat Ob**	**95.95**	**57**	*e*P		**P**	**04 41 44.8**	**+0.8**
PFO				pmax	pmax				
	comp=Z,18nm,0.9s								
PFO	**Pinyon Flat Ob**	**95.95**	**57**	P		**P**	**04 41 45.2**	**+1.2**
	comp=Z,121nm,0.8s,SNR=11								
PFO	**Pinyon Flat Ob**	**95.95**	**57**	*e*P		**P**	**04 41 44.8**	**+0.8**
	comp=Z,18nm,0.9s								
R11A	**Troy Canyon, C**	**96.89**	**52**	*e*P		**P**	**04 41 47.9**	**-0.3**
	comp=Z,2.5nm,1.0s								
LDFC	**Landfair**	**97.14**	**55**	*e*P		Pdif	04 41 51.2	+1.8
	comp=Z,10nm,0.6s								
SHPR	**Sheep Range**	**97.16**	**54**	*e*P		Pdif	04 41 50.2	+0.6
	comp=Z,55nm,2.0s								
ELK	**Elko**	**97.25**	**50**	*e*P		**P**	**04 41 48.9**	**-1.0**
ELK				pmax	pmax				
	comp=Z,5.0nm,1.0s								
ELK	**Elko**	**97.25**	**50**	*e*P		**P**	**04 41 48.9**	**-1.0**
	comp=Z,4.9nm,1.0s								
GLA	**Glamis**	**97.28**	**58**	*e*P		Pdif	04 41 52.1	+2.0
GLA				pmax	pmax				
	comp=Z,5.0nm,0.8s								
GLA	**Glamis**	**97.28**	**58**	*e*P		Pdif	04 41 52.1	+2.0
	comp=Z,4.6nm,0.8s								
YKA	**Yellowknife Ar**	**97.71**	**28**	P		**P**	**04 41 49.8**	**-1.3**
	comp=Z,1.4nm,0.8s,baz=271,slow=5.0,SNR=7.9								
YKA				PKiKP		**PKiKP**	**04 46 25.1**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=284,slow=1.6,SNR=8.9								
CCUT	**Cedar City**	**98.63**	**53**	*e*P		Pdif	04 41 57.5	+1.3
	comp=Z,5.2nm,0.9s								
DUG	**Dugway**	**99.09**	**50**	*e*P		**Pdif**	**04 41 58.3**	**+0.3**
DUG				pmax	pmax				
	comp=Z,6.0nm,1.1s								
DUG	**Dugway**	**99.09**	**50**	*e*P		**Pdif**	**04 41 58.3**	**+0.3**
	comp=Z,5.6nm,1.1s								
HVU	**Hansel Valley**	**99.12**	**49**	*e*P		**Pdif**	**04 41 56.0**	**-2.2**
HVU				pmax	pmax				
	comp=Z,4.0nm,1.0s								
HVU	**Hansel Valley**	**99.12**	**49**	*e*P		**Pdif**	**04 41 56.0**	**-2.2**
	comp=Z,3.5nm,1.0s								
WUAZ	**Wupatki**	**100.20**	**55**	*e*Pdif		**Pdif**	**04 42 04.7**	**+1.6**
	comp=Z,4.9nm,1.0s								
SNAA	**Sanae**	**100.38**	**188**	P		**Pdif**	**04 42 01.5**	**-1.5**
SNAA	**Sanae**	**100.38**	**188**	*i* P		**Pdif**	**04 41 57.9**	**-5.1**
SNAA				pmax	pmax				
	comp=Z,3.0nm,2.2s								
SNAA	**Sanae**	**100.38**	**188**	*e*Pdif		**Pdif**	**04 42 02.5**	**-0.6**
BW06	**Boulder Array**	**101.49**	**48**	*e*Pdif		**Pdif**	**04 42 06.3**	**-2.5**
PDAR	**Pinedale Array**	**101.49**	**48**	P		**Pdif**	**04 42 05.4**	**-3.4**
	comp=Z,1.5nm,0.6s,baz=324,slow=5.5,SNR=15								
PDAR				PKiKP		**PKiKP**	**04 46 33.0**	**+0.4**
	comp=Z,1.1nm,0.9s,baz=118,slow=2.2,SNR=5.2								
VNA2	**Neumayer--Watz**	**101.68**	**187**	P		**Pdif**	**04 42 08.3**	**-0.4**
	baz=135,slow=6.4								
PV01	**Paradox Valley**	**102.42**	**52**	*e*Pdif		**Pdif**	**04 42 13.7**	**+0.6**
121A	**Cookes Peak, D**	**103.21**	**58**	*e*Pdif		**Pdif**	**04 42 19.4**	**+2.8**
	comp=Z,4.2nm,1.0s								
ANMO	**Albuquerque**	**104.24**	**56**	Pdiff		**Pdif**	**04 42 21.1**	**0.0**
	comp=Z,1.2nm,0.8s,baz=246,slow=4.5,SNR=5.3								
ANMO	**Albuquerque**	**104.24**	**56**	P		**Pdif**	**04 42 21.1**	**0.0**
ANMO				pmax	pmax				
	comp=Z,1.0nm,0.8s								
ANMO	**Albuquerque**	**104.24**	**56**	*e*Pdif		**Pdif**	**04 42 23.3**	**+2.2**
	comp=Z,4.4nm,1.3s								
FFC	**Flin Flon**	**105.12**	**35**	*e*PKP		**PKiKP**	**04 46 38.6**	**0.0**
TXAR	**Lajitas Array**	**106.84**	**61**	Pdiff		**Pdif**	**04 42 35.0**	**+2.3**
	comp=Z,0.3nm,0.7s,baz=255,slow=4.3,SNR=5.6								
TXAR				PKiKP		**PKiKP**	**04 46 43.3**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=338,slow=1.3,SNR=3.5								
ARCES	**ARCESS Array B**	**107.44**	**342**	PKiKP		**PKiKP**	**04 46 42.5**	**0.0**
	comp=Z,2.7nm,0.8s,baz=81,slow=2.0,SNR=7.4								
FCC	**Fort Churchill**	**108.28**	**30**	*e*PKP		**PKiKP**	**04 46 43.8**	**-0.5**

ULM	**Lac du Bonnet**	**109.76**	**39**	PKiKP		**PKiKP**	**04 46 46.9**	**-0.5**
	comp=Z,1.2nm,0.4s,baz=358,slow=2.6,SNR=6.0								
WMOK	**Wichita Mounta**	**110.55**	**55**	*e*PKiKP		**PKiKP**	**04 46 49.4**	**0.0**
WMOK	**Wichita Mounta**	**110.55**	**55**	*e*PKP		**PKiKP**	**04 46 49.4**	**0.0**
ECSD	**EROS Data Cent**	**110.75**	**46**	*e*PKP		**PKiKP**	**04 46 49.0**	**-0.5**
FINES	**FINESS Array B**	**111.27**	**335**	PKiKP		**PKiKP**	**04 46 49.9**	**0.0**
	comp=Z,1.9nm,0.8s,baz=99,slow=2.1,SNR=7.5								
KIEV	**Kiev**	**114.19**	**323**	*i* PKiKP		PKPdf	04 46 55.1	-0.7	
KIEV	**Kiev**	**114.19**	**323**	*e*PKP		PKPdf	04 46 54.9	-0.9	
BR131	**Keskin Array S**	**114.41**	**311**	*e*PKP		PKPdf	04 46 55.7	-1.0	
BRTR	**Keskin Array B**	**114.41**	**311**	PKiKP		PKPdf	04 46 56.0	-0.8	
	comp=Z,1.6nm,0.9s,baz=95,slow=1.8,SNR=8.7								
BRTR				PKKPbc		**PKKPbc**	**04 57 35.1**	**-2.1**	
	comp=Z,0.4nm,0.5s,baz=297,slow=5.4,SNR=3.6								
JFWS	**Jewell Farm**	**115.46**	**45**	*e*PKiKP		**PKPdf**	**04 46 57.8**	**-0.7**	
JFWS	**Jewell Farm**	**115.46**	**45**	*e*PKPdf		**PKPdf**	**04 46 57.8**	**-0.7**	
CFR	**Carcaliu**	**116.79**	**318**	⇑PKiKP		**PKPdf**	**04 47 00.5**	**-0.4**	
CFR	**Carcaliu**	**116.79**	**318**	⇑*i*P		**PKPdf**	**04 47 00.5**	**-0.4**	
HDIL	**Hopedale**	**116.80**	**47**	*e*PKPdf		**PKPdf**	**04 47 01.2**	**+0.1**	
BOSA	**Boshof**	**116.93**	**234**	PKP		**PKPdf**	**04 47 01.9**	**0.0**	
	comp=Z,2.4nm,0.8s,baz=121,slow=1.7,SNR=4.6								
BOSA				PKKPbc		**PKKPbc**	**04 57 26.6**	**-1.5**	
	comp=Z,6.1nm,1.0s,baz=78,slow=3.5,SNR=5.0								
NB2	**NORSAR Subarra**	**117.34**	**339**	PKPdf		**PKPdf**	**04 47 00.5**	**-1.1**	
	comp=Z,0.7nm,0.7s,baz=44,slow=1.9								
NOA	**NORSAR Array B**	**117.34**	**339**	PKP		**PKPdf**	**04 47 01.1**	**-0.5**	
	comp=Z,1.4nm,0.8s,baz=45,slow=1.8,SNR=3.9								
NOA				SKP			04 50 34.4		
	comp=Z,1.1nm,0.7s,baz=50,slow=1.8,SNR=4.6								
VRI	**Vrincioaia**	**117.48**	**319**	⇓PKiKP		**PKPdf**	**04 47 01.8**	**-0.5**	
VRI	**Vrincioaia**	**117.48**	**319**	⇓*i*P		**PKPdf**	**04 47 01.8**	**-0.5**	
BURAR	**Bucovina Array**	**117.78**	**321**	⇓PKiKP		**PKPdf**	**04 47 04.1**	**+1.1**	
BURAR	**Bucovina Array**	**117.78**	**321**	⇓*i*P		**PKPdf**	**04 47 04.1**	**+1.1**	
MLR	**Muntele Rosu**	**118.13**	**319**	⇓PKiKP		**PKPdf**	**04 47 03.7**	**0.0**	
MLR	**Muntele Rosu**	**118.13**	**319**	⇓*i*P		**PKPdf**	**04 47 03.7**	**0.0**	
SFIN	**Scholer Farm**	**118.45**	**47**	*e*PKPdf		**PKPdf**	**04 47 04.3**	**0.0**	
VOIR		**118.73**	**319**	⇓PKiKP		**PKPdf**	**04 47 05.0**	**+0.2**	
VOIR		**118.73**	**319**	⇓*i*P		**PKPdf**	**04 47 05.0**	**+0.2**	
LSZ	**Lusaka**	**118.95**	**249**	*e*PKiKP		**PKPdf**	**04 47 06.3**	**+0.2**	
LSZ	**Lusaka**	**118.95**	**249**	*e*PKPdf		**PKPdf**	**04 47 06.3**	**+0.2**	
KOLS	**Kolonicke sedl**	**119.01**	**324**	*e*PKiKP		**PKPdf**	**04 47 05.5**	**+0.3**	
KOLS	**Kolonicke sedl**	**119.01**	**324**	*e*PKP		**PKPdf**	**04 47 05.5**	**+0.3**	
TRPA	**Tarpa**	**119.20**	**323**	⇓*i*P		**PKPdf**	**04 47 05.3**	**-0.2**	
BLO	**Bloomington**	**119.24**	**48**	*e*PKiKP		**PKPdf**	**04 47 05.8**	**-0.1**	
BLO	**Bloomington**	**119.24**	**48**	*e*PKPdf		**PKPdf**	**04 47 05.8**	**-0.1**	
AAM	**Ann Arbor**	**120.26**	**44**	*e*PKiKP		**PKPdf**	**04 47 07.8**	**+0.1**	
AAM	**Ann Arbor**	**120.26**	**44**	*e*PKPdf		**PKPdf**	**04 47 07.8**	**+0.1**	
LRAL	**Lakeview Retre**	**120.49**	**55**	*e*PKPdf		**PKPdf**	**04 47 08.0**	**-0.5**	
SIRR	**Siria**	**120.56**	**321**	⇑*i*P		**PKPdf**	**04 47 08.6**	**+0.4**	
BZS	**Buzias**	**120.87**	**320**	⇓PKiKP		**PKPdf**	**04 47 08.7**	**-0.1**	
BZS	**Buzias**	**120.87**	**320**	⇓*i*P		**PKPdf**	**04 47 08.7**	**-0.1**	
PSZ	**Piszkesteto**	**120.88**	**323**	*e*PKiKP		**PKPdf**	**04 47 08.4**	**-0.5**	
PSZ	**Piszkesteto**	**120.88**	**323**	*e*PKPdf		**PKPdf**	**04 47 08.4**	**-0.5**	
OKC	**Ostrava-Krasne**	**120.94**	**326**	*e*PKPdf		**PKPdf**	**04 47 09.2**	**+0.4**	
OKC				*ep*PKP		**pPKPdf**	**04 47 18.9**	**-4.1**	
OKC				*ex*		x	04 58 38.7		
OKC				AMS		AMS	05 39 20.0		
	comp=Z,300nm,23.5s								
OKC	**Ostrava-Krasne**	**120.94**	**326**	*e*PKiKP		**PKPdf**	**04 47 09.2**	**+0.4**	
OKC				*e*			04 47 18.9		
OKC				MLR		MLR			
	comp=Z,300nm,23.5s								
VTS	**Vitosha**	**121.05**	**317**	⇑PKiKP		**PKPdf**	**04 47 09.6**	**+0.1**	
VTS	**Vitosha**	**121.05**	**317**	⇑*i*P		**PKPdf**	**04 47 09.6**	**+0.1**	
NVR	**Nevrokopi**	**121.06**	**315**	*e*P		**PKPdf**	**04 47 07.8**	**-1.6**	
VYHS	**Vyhne**	**121.22**	**324**	*e*PKiKP		**PKPdf**	**04 47 08.9**	**-0.5**	
VYHS	**Vyhne**	**121.22**	**324**	*e*PKP		**PKPdf**	**04 47 08.9**	**-0.5**	
MORC	**Moravsky Berou**	**121.30**	**326**	⇓PKiKP		**PKPdf**	**04 47 10.1**	**+0.5**	
MORC	**Moravsky Berou**	**121.30**	**326**	⇓*i*P		**PKPdf**	**04 47 10.1**	**+0.5**	
MORC	**Moravsky Berou**	**121.30**	**326**	*e*PKPdf		**PKPdf**	**04 47 09.7**	**+0.1**	
ACSO	**Alum Creek Sta**	**121.48**	**46**	*e*PKPdf		**PKPdf**	**04 47 09.7**	**-0.5**	
KRLC	**Kraliky**	**121.56**	**327**	*e*PKPdf		**PKPdf**	**04 47 10.3**	**+0.2**	
KRLC				*ep*PKP		**pPKPdf**	**04 47 20.9**	**-3.4**	
KRLC	**Kraliky**	**121.56**	**327**	*e*PKiKP		**PKPdf**	**04 47 10.3**	**+0.2**	
KRLC				*e*			04 47 20.9		
BUD	**Budapest**	**121.61**	**323**	⇓*ep*P		**PKPdf**	**04 47 10.4**	**+0.2**	
DPC	**Dobruska-Polom**	**121.66**	**327**	*e*PKPdf		**PKPdf**	**04 47 10.6**	**+0.3**	
DPC				*ep*PKP		**pPKPdf**	**04 47 21.1**	**-3.4**	
DPC				*es*PKP			04 47 29.3		
DPC				*e*PS		**PS**	**04 58 41.4**	**+4.4**	
DPC				AMS		AMS	05 40 00.0		
	comp=Z,500nm,21.5s								
DPC	**Dobruska-Polom**	**121.66**	**327**	*e*PKiKP		**PKPdf**	**04 47 10.6**	**+0.3**	
DPC				*e*			04 47 21.1		
DPC				*e*PS		**PS**	**04 58 41.4**	**+4.4**	
DPC				MLR		MLR			
	comp=Z,500nm,21.5s								
UPC	**Upice**	**121.74**	**328**	*e*PKPdf		**PKPdf**	**04 47 10.3**	**-0.1**	
UPC				*ep*PKP		**pPKPdf**	**04 47 19.9**	**-4.7**	
UPC				*es*PKP			04 47 25.9		
UPC				*ex*		x	04 47 31.9		
UPC				*e*PS		**PS**	**04 58 43.7**	**+6.1**	
UPC				AMS		AMS	05 39 50.0		
	comp=Z,500nm,22.2s								
UPC	**Upice**	**121.74**	**328**	*e*PKiKP		**PKPdf**	**04 47 10.3**	**-0.1**	
UPC				*e*			04 47 19.9		
UPC				*e*			04 47 25.9		
UPC				MLR		MLR			
	comp=Z,500nm,22.2s								
LAST	**Lasithi**	**121.84**	**308**	*e*P		**PKPdf**	**04 47 10.7**	**-0.4**	
CPCT	**Cooper Cave**	**121.84**	**52**	*e*PKPdf		**PKPdf**	**04 47 10.7**	**-0.3**	
CSKK	**Cs˘ˇtkako**	**122.12**	**323**	⇓*e*PcP		**PKPdf**	**04 47 08.3**	**-2.9**	
IDI	**Anoyia**	**122.27**	**308**	*e*P		**PKPdf**	**04 47 08.7**	**-3.2**	
PKSM	**Moragy**	**122.45**	**322**	⇓PKiKP		**PKPdf**	**04 47 11.9**	**+0.1**	
PKSM	**Moragy**	**122.45**	**322**	⇓*i*P		**PKPdf**	**04 47 11.9**	**+0.1**	
PKSM	**Moragy**	**122.45**	**322**	⇓*e*PcP		**PKPdf**	**04 47 12.1**	**+0.3**	
PVCC	**Panska Ves**	**122.49**	**328**	*e*PKPdf		**PKPdf**	**04 47 12.2**	**+0.4**	
PVCC				*ep*PKP		**pPKPdf**	**04 47 22.1**	**-3.9**	
PVCC	**Panska Ves**	**122.49**	**328**	*e*PKiKP		**PKPdf**	**04 47 12.2**	**+0.4**	
PVCC				*e*			04 47 22.1		
DIVS	**Divibare**	**122.57**	**319**	⇓*i*P		**PKPdf**	**04 47 12.7**	**+0.5**	
BRG	**Berggiesshubel**	**122.62**	**329**	*e*PKP		**PKPdf**	**04 47 12.3**	**+0.3**	
	comp=Z,14nm,1.2s								
BRG				PP		**PP**	**04 48 47.0**	**-2.2**	
BRG				SS		SS	05 05 30.0	+2.6	
	comp=N,320nm,21.0s								
	comp=E,332nm,23.3s								
	comp=Z,562nm,20.0s								
BRG	**Berggiesshubel**	**122.62**	**329**	*e*PKiKP		**PKPdf**	**04 47 12.3**	**+0.3**	
BRG							04 48 47.0		
BRG				SS		SS	05 05 30.0	+2.6	
BRG				pmax		pmax			
	comp=Z,14nm,1.2s								
BRG				MLR		MLR			
	comp=N,320nm,21.0s								
BRG				MLR		MLR			
	comp=E,332nm,23.3s								
BRG				MLR		MLR			
	comp=Z,562nm,20.0s								
LKR	**Lokris**	**122.63**	**312**	*e*P		**PKPdf**	**04 47 11.0**	**-1.4**	
TREC	**Trest**	**122.69**	**327**	*e*PKPdf		**PKPdf**	**04 47 12.0**	**-0.2**	
TREC				*ep*PKP		**pPKPdf**	**04 47 23.6**	**-2.9**	
TREC				AMS		AMS	05 40 30.0		
	comp=Z,500nm,21.6s								
TREC	**Trest**	**122.69**	**327**	*e*PKiKP		**PKPdf**	**04 47 12.0**	**-0.2**	
TREC				*e*			04 47 23.6		
TREC				MLR		MLR			
	comp=Z,500nm,21.6s								
GOPC	**GO Pecny, Ondr**	**122.73**	**328**	*e*PKPdf		**PKPdf**	**04 47 12.5**	**+0.2**	
GOPC				*ep*PKP		**pPKPdf**	**04 47 23.1**	**-3.4**	
GOPC				*es*PKP			04 47 31.5		
GOPC				AMS		AMS	05 40 20.0		
	comp=Z,400nm,20.6s								
VAM	**Vamos**	**122.77**	**308**	*e*P		**PKPdf**	**04 47 12.8**	**0.0**	
PRU	**Pruhonice**	**122.81**	**328**	*e*PKPdf		**PKPdf**	**04 47 12.4**	**0.0**	
PRU				*ep*PKP		**pPKPdf**	**04 47 22.2**	**-4.5**	
PRU				*e*PS		**PS**	**04 58 44.1**	**-3.0**	
PRU				AMS		AMS	05 40 40.0		
	comp=Z,400nm,21.2s								
PRU	**Pruhonice**	**122.81**	**328**	*e*PKiKP		**PKPdf**	**04 47 12.4**	**0.0**	
PRU				*e*			04 47 22.2		
PRU				*e*PS		**PS**	**04 58 44.1**	**-3.0**	
PRU				MLR		MLR			
	comp=Z,400nm,21.2s								
CLL	**Collm**	**122.84**	**330**	⇓*i*PKiKP		**PKPdf**	**04 47 12.4**	**0.0**	
CLL				*e*			04 47 22.0		
CLL				pmax		pmax			
	comp=Z,10.0nm,0.8s								
CLL	**Collm**	**122.84**	**330**	⇓*i*PKPdf		**PKPdf**	**04 47 12.4**	**0.0**	
	comp=Z,10.0nm,0.8s								
CLL				*ep*PKPdf		**pPKPdf**	**04 47 22.0**	**-4.7**	
CLL				*e*(pPKiKP)			04 47 25.0		
CLL				*e*PP		**PP**	**04 48 50.0**	**-0.6**	
CLL				*e*SKPdf		**SKPdf**	**04 50 40.0**	**-4.3**	
CLL				*e*PPP		PPP	04 51 27.0		
CLL				*e*PS		**PS**	**04 58 43.0**	**-4.2**	
CLL				*e*SPP		SPP	05 00 00.0		
CLL				*e*SS		**SS**	**05 05 36.0**	**+5.9**	
CLL				*e*SSS		SSS	05 09 48.0		
CLL				*e*			05 11 12.0		
SOP	**Sopron**	**122.95**	**325**	⇓*e*		**PKPdf**	**04 47 13.1**	**+0.4**	
AGG	**Agios Georgios**	**122.99**	**313**	*e*P		**PKPdf**	**04 47 11.7**	**-1.4**	
SCHQ	**Schefferville**	**122.99**	**25**	PKP		**PKPdf**	**04 47 12.3**	**-0.4**	
	comp=Z,7.7nm,0.7s,baz=284,slow=3.0,SNR=12								
FNA	**Florina**	**123.01**	**315**	*e*P		**PKPdf**	**04 47 12.3**	**-0.9**	
THL	**Klokotos Trika**	**123.02**	**314**	*e*P		**PKPdf**	**04 47 12.1**	**-1.0**	
GVD	**Gavdhos**	**123.03**	**308**	*e*P		PKPpre	04 47 05.1		
GVD	**Gavdhos**	**123.03**	**308**	*e*PKPdf		**PKPdf**	**04 47 12.8**	**-0.5**	
DESF	**Desfina**	**123.06**	**312**	*e*P		**PKPdf**	**04 47 12.3**	**-1.0**	
MAKR	**Makrakomi, Fth**	**123.14**	**313**	*e*P		**PKPdf**	**04 47 12.6**	**-0.8**	
ANKY	**Antikythira Is**	**123.33**	**309**	*e*P		**PKPdf**	**04 47 13.2**	**-0.6**	
GUR	**Goura**	**123.36**	**312**	*e*P		**PKPdf**	**04 47 08.8**	**-5.2**	
NEST	**Nestorio**	**123.38**	**315**	*e*P		**PKPdf**	**04 47 13.5**	**-0.4**	
EVR	**Evrytania**	**123.41**	**313**	*e*P		**PKPdf**	**04 47 13.5**	**-0.5**	
KLV	**Kalavryta, Ach**	**123.47**	**312**	*e*P		**PKPdf**	**04 47 13.6**	**-0.5**	
EFP	**Efpalio**	**123.51**	**313**	*e*P		**PKPdf**	**04 47 13.0**	**-1.1**	
LAKA	**Lakka**	**123.53**	**312**	*e*P		**PKPdf**	**04 47 14.3**	**+0.1**	
TIGA	**Tifton**	**123.68**	**56**	*e*PKPdf		**PKPdf**	**04 47 15.3**	**+0.7**

OKSO				S	**Sb**	**04 34 58.5**	**+1.1**
OKWR	**Okmok West Rim**	**1.02**	**40**	P	**Pg**	**04 34 45.0**	**+0.1**
OKCE	**Okmok Cone E**	**1.03**	**41**	P	**Pg**	**04 34 44.3**	**-0.7**
OKTU	**Okmok Mt. Tuli**	**1.05**	**45**	P	**Pg**	**04 34 45.1**	**-0.3**
OKAK	**Okmok**	**1.08**	**31**	P	**Pb**	**04 34 43.6**	**-2.5**
OKFG	**Magazine Ridge**	**1.12**	**47**	P	**Pb**	**04 34 45.7**	**-1.1**
OKFG				S	**Sg**	**04 35 01.9**	**+0.4**
MSOM	**Makushin Julie**	**1.82**	**49**	P	**Pn**	**04 34 55.9**	**-0.8**
MCIR	**Makushin Cirqu**	**1.94**	**47**	P	**Pn**	**04 34 58.7**	**+0.5**
MSW	**Makushin Switc**	**1.96**	**49**	P	**Pn**	**04 34 58.1**	**-0.5**
MSW				S	**Sn**	**04 35 24.5**	**+1.2**
MTBL	**Makushin Table**	**2.04**	**49**	P	**Pn**	**04 34 59.4**	**-0.4**
UNV	**Unalaska Valle**	**2.06**	**53**	*e*Pn	**Pn**	**04 34 59.0**	**-0.8**
AKRB	**Akutan Reef Bi**	**2.43**	**51**	P	**Pn**	**04 35 05.7**	**+0.8**
ZRO	**Akutan Zero**	**2.45**	**53**	P	**Pn**	**04 35 05.7**	**+0.4**
AKUT	**Akutan**	**2.58**	**53**	*e*Pn	**Pn**	**04 35 07.2**	**+0.2**
ATKA	**Atka Island**	**3.04**	**263**	P	**Pn**	**04 35 13.7**	**+0.3**
FALS	**False Pass**	**4.12**	**55**	*e*Pn	**Pn**	**04 35 26.6**	**-1.6**
GSMY	**Great Sitkin M**	**4.20**	**264**	P	**Pn**	**04 35 29.5**	**+0.3**
GSCK	**Great Sitkin C**	**4.26**	**264**	P	**Pn**	**04 35 30.3**	**+0.1**
ADAG	**Mount Adagdak**	**4.54**	**264**	P	**Pn**	**04 35 34.8**	**+0.9**
SPIA	**Saint Paul Isl**	**4.56**	**353**	P	**Pn**	**04 35 35.2**	**+0.9**
GAEA	**Gareloi East**	**5.88**	**265**	P	**Pn**	**04 35 55.1**	**+2.8**
AMKA	**Amchitka**	**7.16**	**264**	P	**Pn**	**04 36 10.1**	**+0.3**
KDAK	**Kodiak Island**	**10.82**	**55**	Pn	Pn	04 37 05.5	+5.5
	0.5nm,0.3s,baz=243,slow=6.8,SNR=4.0						
BPAW	**Bear Paw Mtn.**	**14.88**	**32**	*e*Pn	**P**	**04 37 59.8**	**-1.5**
KLU	**Klutina**	**15.40**	**46**	*e*Pn	**Pn**	**04 38 00.8**	**-1.6**
CCB	**Clear Creek Bu**	**16.30**	**34**	*e*Pn	**P**	**04 38 16.9**	**0.0**
	10.0nm,1.4s						
ILAR	**Eielson Array**	**16.69**	**35**	Pn	**P**	**04 38 20.4**	**-0.8**
	0.1nm,0.3s,baz=237,slow=10,SNR=5.6						
EGAK	**Eagle**	**18.78**	**39**	*e*Pn	**Pn**	**04 38 45.5**	**+0.7**
	2.8nm,0.8s						
HYT	**Haines Junctio**	**19.08**	**52**	*e*Pn	**Pn**	**04 38 49.5**	**+0.9**
SKAG	**Skagway**	**19.97**	**57**	*e*P	**Pn**	**04 38 59.1**	**0.0**
	11nm,0.7s						
DLBC	**Dease Lake**	**22.70**	**60**	P	**P**	**04 39 29.5**	**+2.7**
	0.9nm,0.5s,baz=294,slow=10,SNR=3.9						
DLBC	**Dease Lake**	**22.70**	**60**	*e*P	**P**	**04 39 25.0**	**-1.8**
	4.6nm,1.0s						
INK	**Inuvik**	**23.08**	**34**	P	**P**	**04 39 31.8**	**+1.2**
	2.6nm,0.8s,baz=255,slow=12,SNR=3.3						
YKA	**Yellowknife Ar**	**30.02**	**49**	P	**P**	**04 40 35.8**	**+2.1**
	0.2nm,0.5s,baz=274,slow=7.4,SNR=3.9						
NEW	**Newport**	**32.89**	**76**	*e*P	**P**	**04 41 00.3**	**+1.1**
	2.3nm,0.8s						
CHMT	**Chamberlain Mo**	**35.84**	**76**	*e*P	**P**	**04 41 26.9**	**+1.9**
HLID	**Hailey**	**36.93**	**82**	*e*P	**P**	**04 41 34.8**	**+0.5**
	1.8nm,0.8s						
MCMT	**McKenzie Canyo**	**37.17**	**79**	*e*P	**P**	**04 41 37.6**	**+1.2**
BOZ	**Bozeman (W)**	**37.46**	**77**	*e*P	**P**	**04 41 40.1**	**+1.4**
	2.3nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**37.71**	**218**	T	T	05 21 34.3	
	baz=24,slow=76,SNR=75						
H11N3	**WAKE ISLAND Hy**	**37.72**	**218**	T	T	05 21 32.6	
	baz=24,slow=76,SNR=87						
H11N1	**WAKE ISLAND Hy**	**37.73**	**218**	T	T	05 21 33.4	
	baz=24,slow=76,SNR=74						
H11S1	**WAKE ISLAND Hy**	**38.90**	**218**	T	T	05 23 05.0	
	baz=23,slow=76,SNR=511						
H11S2	**WAKE ISLAND Hy**	**38.91**	**218**	T	T	05 23 04.9	
	baz=23,slow=76,SNR=501						
H11S3	**WAKE ISLAND Hy**	**38.92**	**218**	T	T	05 23 04.0	
	baz=23,slow=76,SNR=709						
TPAW	**Teton Pass**	**39.05**	**80**	*e*P	**P**	**04 41 53.8**	**+1.5**
	1.5nm,0.7s						
O20A	**White River Ci**	**42.67**	**82**	*e*P	**P**	**04 42 23.6**	**+1.4**
	5.7nm,0.6s						
RSSD	**Black Hills**	**42.79**	**74**	*e*P	**P**	**04 42 25.3**	**+2.3**
	3.4nm,1.0s						
SDCO	**Great Sand Dun**	**45.84**	**82**	*e*P	**P**	**04 42 48.9**	**+1.3**
	1.4nm,0.8s						
SONM	**Songino Array**	**51.20**	**301**	PcP	**PcP**	**04 44 42.5**	**-1.3**
	1.3nm,0.7s,baz=87,slow=1.4,SNR=6.5						
WMOK	**Wichita Mounta**	**51.88**	**81**	*e*P	P	04 43 36.7	+2.9
	1.9nm,0.7s						
TXAR	**Lajitas Array**	**52.69**	**89**	P	**P**	**04 43 40.0**	**+0.1**
	3.4nm,0.8s,baz=302,slow=5.5,SNR=18						
HHC	**Hu-ho-hao-te**	**52.86**	**291**	*e*P	P	04 44 01.3	+20
HHC				PP	PP	04 46 04.0	+24
HHC				S	S	04 51 34.0	+24
HHC				ScS	ScS	04 53 47.0	+16
HHC				SS	SKiKP	04 55 14.3	+14
HHC				PMZ			
	12nm,1.3s						
HHC				PMZ			
	52nm,5.2s						
HHC				LN			
	190nm,16.1s						
HHC				LE			
	410nm,16.5s						
HHC				LZ			
	340nm,16.3s						
JCT	**Junction City**	**54.23**	**85**	*e*P	**P**	**04 43 53.7**	**+2.6**
	9.6nm,1.2s						
LZH	**Lanzhou**	**60.53**	**292**	*e*P	P	04 44 56.8	+21
LZH				pP	PcP	04 45 00.0	-20
LZH				sP	sP	04 45 01.5	+21
LZH				*e*PP	PP	04 47 14.0	+25
LZH				PMZ			
	15nm,1.5s						
LZH				PMZ			
	46nm,6.7s						
LZH				LN			
	110nm,15.4s						
LZH				LE			
	100nm,16.0s						
LZH				LZ			
	140nm,19.2s						
WMQ	**Urumqi**	**63.39**	**308**	*e*P	P	04 45 14.0	+19
WMQ				pP	PcP	04 45 19.0	-13
WMQ				sP	sP	04 45 21.0	+22
CD2	**Chengdu**	**64.33**	**288**	*e*P	P	04 45 19.5	+19
CMAR	**Chiang Mai Arr**	**76.60**	**283**	P	**P**	**04 46 15.1**	**-0.9**
	0.5nm,0.4s,baz=27,slow=4.2,SNR=2.3						
VRI	**Vrincioaia**	**80.90**	**349**	S	**S**	**04 56 48.0**	**+0.4**
PLOR	**Plostina**	**80.92**	**349**	S	**S**	**04 56 45.1**	**-2.8**
LIA	**Limnos Island**	**86.97**	**349**	*e*P	**P**	**04 47 11.0**	**+0.7**
ESDC	**Sonseca Array**	**87.17**	**11**	P	**P**	**04 47 10.3**	**-1.1**
	0.4nm,0.6s,baz=346,slow=4.5,SNR=3.9						
WRA	**Warramunga Arr**	**87.22**	**232**	P	**P**	**04 47 09.2**	**-2.4**
	1.0nm,0.7s,baz=34,slow=5.9,SNR=4.7						
ASAR	**Alice Springs**	**90.62**	**230**	P	**P**	**04 47 26.1**	**-1.6**
	2.2nm,0.6s,baz=28,slow=4.7,SNR=22						

*IDC **31** 04:51:59.0±1.0,52°.50N×169°.42W,h0km,mb3.6/6, mb1 3.9/9,mb1mx3.6/37,mbtmp3.6/9,ML3.4/3,Error ellipse: s-maj=38.3km s-min=17.8km az=148.0*
*ISCJB **31** 04:51:59.9±1.3,52°.6N±0°.1×169°.4W±0°.1,h17km±8km, mb3.6/6,Error ellipse: s-maj=21.0km s-min=7.3km az=151.8*
*NEIC **31** 04:52:00.6,52°.55N×169°.31W,h12km,ML3.3(AEIC),After AEIC.*

ISC 31 04:52:01.0±1.9,52°.6N±0°.1×169°.35W±0°.07,h13km±11km, n32,σ0°97/30,mb3.6/6,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.48**	**38**	P	**Pg**	**04 52 10.7**	**+0.1**
NIKH				S	**Sb**	**04 52 18.7**	**+0.3**
OKSO	**Okmok South**	**1.05**	**43**	P	**Pb**	**04 52 19.6**	**-1.5**
OKSO				S	**Sg**	**04 52 35.7**	**+0.8**
OKWR	**Okmok West Rim**	**1.09**	**39**	P	**Pb**	**04 52 21.6**	**-0.1**
OKCE	**Okmok Cone E**	**1.10**	**40**	P	**Pb**	**04 52 20.8**	**-1.1**
OKTU	**Okmok Mt. Tuli**	**1.12**	**44**	P	**Pb**	**04 52 21.5**	**-0.7**
OKAK	**Okmok**	**1.15**	**31**	P	**Pn**	**04 52 20.1**	**-2.8**
OKFG	**Magazine Ridge**	**1.19**	**46**	P	**Pn**	**04 52 22.1**	**-1.3**
OKFG				S	**Sb**	**04 52 38.3**	**-0.5**
MCIR	**Makushin Cirqu**	**2.00**	**46**	P	**Pn**	**04 52 35.4**	**+0.7**
MSW	**Makushin Switc**	**2.03**	**48**	P	**Pn**	**04 52 34.5**	**-0.5**
MSW				S	**Sn**	**04 53 00.9**	**+0.8**
MTBL	**Makushin Table**	**2.11**	**48**	P	**Pn**	**04 52 36.2**	**+0.1**
UNV	**Unalaska Valle**	**2.12**	**53**	P	**Pn**	**04 52 35.3**	**-0.9**
UNV				S	**Sn**	**04 53 01.5**	**-0.8**
AKRB	**Akutan Reef Bi**	**2.50**	**51**	P	**Pn**	**04 52 42.2**	**+0.9**
ZRO	**Akutan Zero**	**2.52**	**52**	P	**Pn**	**04 52 42.0**	**+0.4**
AKUT	**Akutan**	**2.64**	**53**	P	**Pn**	**04 52 43.0**	**-0.3**
ATKA	**Atka Island**	**3.00**	**264**	P	**Pn**	**04 52 47.6**	**-0.6**
SPIA	**Saint Paul Isl**	**4.62**	**354**	P	**Pn**	**04 53 11.5**	**+1.0**
KDAK	**Kodiak Island**	**10.89**	**55**	Pn	Pn	04 54 39.7	+3.3
	0.4nm,0.3s,baz=229,slow=11,SNR=2.5						
ILAR	**Eielson Array**	**16.76**	**35**	Pn	**Pn**	**04 55 55.3**	**+0.1**
	0.1nm,0.3s,baz=232,slow=10,SNR=4.6						
PETK	**Petropavlovsk-**	**19.82**	**285**	P	**P**	**04 56 31.5**	**+0.4**
	0.3nm,0.3s,baz=89,slow=14,SNR=3.5						
INK	**Inuvik**	**23.15**	**34**	P	**P**	**04 57 07.3**	**+0.6**
	1.2nm,0.7s,baz=245,slow=13,SNR=2.7						
YKA	**Yellowknife Ar**	**30.08**	**49**	P	**P**	**04 58 08.9**	**-0.7**
	0.2nm,0.6s,baz=263,slow=7.8,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**37.64**	**218**	T	T	05 39 18.1	
	baz=24,slow=76,SNR=37						
H11N3	**WAKE ISLAND Hy**	**37.65**	**218**	T	T	05 39 19.9	
	baz=24,slow=76,SNR=36						
H11N1	**WAKE ISLAND Hy**	**37.66**	**218**	T	T	05 39 09.1	
	baz=24,slow=76,SNR=29						
H11S1	**WAKE ISLAND Hy**	**38.83**	**218**	T	T	05 40 43.8	
	baz=23,slow=76,SNR=412						
H11S2	**WAKE ISLAND Hy**	**38.84**	**218**	T	T	05 40 48.7	
	baz=23,slow=76,SNR=246						
H11S3	**WAKE ISLAND Hy**	**38.84**	**218**	T	T	05 40 45.0	
	baz=23,slow=76,SNR=207						
PDAR	**Pinedale Array**	**40.35**	**79**	P	**P**	**04 59 39.5**	**+1.1**
	0.5nm,0.6s,baz=301,slow=7.0,SNR=4.6						
SONM	**Songino Array**	**51.20**	**301**	PcP	**PcP**	**05 02 19.3**	**+0.2**
	0.3nm,0.4s,baz=54,slow=2.4,SNR=4.2						
TXAR	**Lajitas Array**	**52.73**	**89**	P	**P**	**05 01 16.4**	**+1.0**
	0.7nm,0.7s,baz=289,slow=5.1,SNR=5.8						
WRA	**Warramunga Arr**	**87.16**	**232**	P	**P**	**05 04 45.4**	**-1.3**
	0.5nm,0.4s,baz=34,slow=6.0,SNR=5.7						
ASAR	**Alice Springs**	**90.55**	**230**	P	**P**	**05 05 02.5**	**-0.2**
	0.6nm,0.6s,baz=29,slow=4.3,SNR=11						

IDC 31 04:52:12.4±8.6,32°.97S×179°.11W,h0km,mb3.6/2, mb1 3.8/2,mb1mx3.6/21,mbtmp3.6/2,Error ellipse: s-maj=407.0km s-min=57.4km az=161.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.10**	**270**	P	P	05 00 06.1	-0.3
	0.5nm,0.6s,baz=111,slow=7.2,SNR=8.5						
WRA	**Warramunga Arr**	**43.33**	**275**	P	P	05 00 16.4	0.0
	0.4nm,0.3s,baz=116,slow=7.1,SNR=4.8						
FINES	**FINESS Array B**	**147.20**	**338**	PKPbc	PKPbc	05 11 56.0	-0.7
	2.8nm,1.0s,baz=37,slow=3.5,SNR=7.7						

*CASC **31** 05:15:06.2±1.8, 13°.11N×90°.87W,h20km±13km,MD4.4, ML4.4*
*ISCJB **31** 05:15:07.4±0.3, 13°.32N±0°.04×90°.67W±0°.03,h38km, mb4.8/147,MS4.5/22,Error ellipse: s-maj=7.0km s-min=2.8km az=34.7*
*MOS **31** 05:15:09.8±1.3, 13°.48N×90°.55W,h54km,mb4.9/33,Error ellipse: s-maj=12.9km s-min=5.1km az=113.8*
*IDC **31** 05:15:12.8±2.3, 13°.59N×90°.32W,h66km±20km,mb4.2/20, mb1 4.3/23,mb1mx4.3/34,mbtmp4.5/23,MS4.3/14, Ms1 4.3/14,ms1mx4.1/24,Error ellipse: s-maj=22.5km s-min=9.9km az=48.0*
*BJI **31** 05:15:12.4, 13°.40N×90°.50W,h75km,mB4.9/3,Ms5.0/4, Ms7 4.7/4*
*NEIC **31** 05:15:13.6±0.7, 13°.44N×90°.49W,h79km±6km,mb4.8/135, MD4.6(SNET),Error ellipse: s-maj=6.5km s-min=3.7km az=221.0*
NEIC Felt at Antigua Guatemala and Guatemala. Felt [II] at Ahuachapan, El Salvador.
*GCMT **31** 05:15:13.6±0.3, 13°.02N×91°.14W,h14km,MW5.0/84, Moment Tensor Solution. s37,c49; s84,c121; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.34±.17; Mθθ-2.69±.11; Mφφ-0.65±.10; Mrθ2.21±.25; Mθφ0.99±.07; Mφr-0.99±.28; Best double couple: M☆4.02800×10^16^ NP1:ϕs113.00000°,δ63.00000°,λ91.00000°. NP2: ϕs291.00000°,δ27.00000°,λ88.00000°. Principal axes: T 4.1510, Plg71.0000°, Azm26.0000°; N -0.2490, Plg1.0000°, Azm293.0000°; P -3.9040, Plg18.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 31 05:15:09.2±0.4,13°.39N±0°.06×90°.66W±0°.06,h38km,n332, σ1s33/318,mb4.8/146,MS4.5/22,2C-1D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.81**	**14**	*e*P	**Pn**	**05 15 26.4**	**+2.1**
PCG	**Pacaya**	**1.00**	**3**	*e*P	**Pn**	**05 15 29.7**	**+2.7**
FUG	**Fuego 3**	**1.07**	**351**	*e*P	**Pn**	**05 15 29.8**	**+2.0**
SBLS	**San Blas**	**1.11**	**66**	*e*P	**Pn**	**05 15 30.9**	**+2.5**
RTR	**El Retiro**	**1.11**	**63**	*e*P	**Pn**	**05 15 31.2**	**+2.9**
SNJE	**San Jose**	**1.13**	**65**	*e*P	**Pn**	**05 15 31.4**	**+2.7**
RBDL	**Robledal**	**1.19**	**53**	*e*P	**Pn**	**05 15 32.4**	**+2.9**
NBG	**Las Nubes**	**1.23**	**14**	*e*P	Pn	05 15 34.5	+4.3
JAT	**Jato**	**1.32**	**314**	I/P	**Pn**	**05 15 30.7**	**-0.4**
BQS	**Boqueron**	**1.39**	**75**	*e*P	**Pn**	**05 15 34.5**	**+2.3**
SNET	**Serv Nac Est T**	**1.42**	**78**	*e*P	**Pn**	**05 15 33.8**	**+1.3**
SNET				AML	AML	05 15 40.2	
	comp=Z,6μm,0.7s						
SNET				*e*S	Sn	05 16 00.4	+10
SNET	**Serv Nac Est T**	**1.42**	**78**	*e*Pn	**Pn**	**05 15 34.4**	**+1.9**
LFU	**La Fuente**	**1.55**	**76**	*e*P	**Pn**	**05 15 36.9**	**+2.7**
LFRS	**El Faro**	**1.57**	**81**	*e*P	**Pn**	**05 15 36.7**	**+2.0**
LBRS	**Las Brisas**	**1.61**	**77**	*e*P	**Pn**	**05 15 37.2**	**+2.1**
SNVI	**San Vicente**	**1.79**	**83**	*e*P	**Pn**	**05 15 40.4**	**+2.7**
MRL	**Marmol**	**1.92**	**29**	*e*P	Pn	05 15 43.9	+4.4
VSM	**San Miguel**	**2.32**	**89**	*e*P	**Pn**	**05 15 45.9**	**+0.7**
CAHU	**Cacaquatique**	**2.41**	**81**	*e*P	**Pn**	**05 15 48.6**	**+2.3**
COPN	**Copaltepe**	**4.15**	**106**	*e*P	**Pn**	**05 16 09.2**	**-0.8**
VCR	**Vista de Mar**	**5.90**	**123**	*e*P	**Pn**	**05 16 33.2**	**-0.9**
JTS	**JuntasAbangare**	**6.38**	**118**	P	**Pn**	**05 16 41.2**	**+0.5**
	comp=Z,4.2nm,0.3s,baz=307,slow=21,SNR=16						
JTS				S	**Sn**	**05 17 52.5**	**+0.1**
	comp=Z,6.5nm,0.3s,baz=306,slow=19,SNR=2.1						
JTS	**JuntasAbangare**	**6.38**	**118**	P	**Pn**	**05 16 41.2**	**+0.5**
JTS				S	**Sn**	**05 17 52.5**	**+0.1**
JTS				pmax	pmax		
	comp=Z,4.0nm,0.3s						
JTS				smax	smax		
	comp=N,7.0nm,0.3s						
JTS	**JuntasAbangare**	**6.38**	**118**	*e*Pn	**Pn**	**05 16 41.1**	**+0.4**
	comp=N,62nm,0.6s						
JTS				S	**Sn**	**05 17 52.5**	**+0.1**
JCR	**Jicaral**	**6.47**	**122**	*e*P	**Pn**	**05 16 41.2**	**-0.8**
CGA2	**Cerro Gallo 2**	**6.93**	**118**	*e*P	**Pn**	**05 16 49.7**	**+1.3**
CGA2				*e*S	**Sn**	**05 18 07.4**	**+1.3**
TEIG	**Tepich**	**7.17**	**18**	P	**Pn**	**05 16 53.7**	**+2.1**
	comp=N,0.7nm,0.3s,baz=3.5,slow=23,SNR=71						
TEIG				LR	LR	05 20 11.0	
	comp=N,233nm,19.5s,baz=254,slow=43						
TEIG	**Tepich**	**7.17**	**18**	*e*Pn	Pn	05 16 56.4	+4.8
QCR	**Quepos**	**7.49**	**121**	*e*P	**Pn**	**05 16 55.4**	**-0.5**
URSC	**Urasca**	**7.61**	**117**	*e*P	**Pn**	**05 16 59.5**	**+1.8**
BUS	**Buena Vista**	**7.76**	**119**	*e*P	**Pn**	**05 17 02.3**	**+2.2**
BUS				*e*S	**Sn**	**05 18 25.9**	**-1.1**
BCIP	**Isla Barro Col**	**11.41**	**110**	*e*Pn	**Pn**	**05 17 52.3**	**+2.6**
	comp=N,11nm,0.6s						
MTDJ	**Mount Denham**	**13.52**	**67**	*e*Pn	**Pn**	**05 18 20.4**	**+1.8**
DWPF	**Disney**	**16.99**	**29**	*e*Pn	**Pn**	**05 19 04.0**	**0.0**
	comp=N,129nm,1.6s						
OTAV	**Otavalo**	**17.80**	**136**	*e*P	**P**	**05 19 18.2**	**+3.1**
	comp=N,30nm,1.5s						
ROSC	**El Rosal**	**18.20**	**116**	P	**Pn**	**05 19 20.1**	**+0.6**
	comp=N,0.5nm,0.3s,baz=321,slow=6.4,SNR=14						
ROSC	**El Rosal**	**18.20**	**116**	*e*P	**Pn**	**05 19 22.7**	**+3.3**
NATX	**Nacogdoches**	**18.65**	**349**	*e*P	**Pn**	**05 19 25.1**	**+0.7**
	comp=N,23nm,0.6s						
VBMS	**Vicksburg**	**18.75**	**0**	*e*P	**Pn**	**05 19 27.5**	**+2.0**
	comp=N,72nm,0.7s						
JCT	**Junction City**	**18.99**	**335**	*e*P	**Pn**	**05 19 28.7**	**+0.2**
JCT				pmax	pmax		
	comp=Z,28nm,1.1s						
JCT	**Junction City**	**18.99**	**335**	*e*P	**Pn**	**05 19 28.7**	**+0.2**
	comp=Z,28nm,1.1s						
WHTX	**Lake Whitney**	**19.54**	**343**	*e*P	**Pn**	**05 19 34.5**	**-0.6**
	comp=Z,16nm,0.6s						
LRAL	**Lakeview Retre**	**19.84**	**9**	*e*P	**Pn**	**05 19 39.6**	**+0.9**
	comp=Z,20nm,0.6s						
TXAR	**Lajitas Array**	**19.93**	**325**	P	**Pn**	**05 19 39.4**	**-0.5**
	comp=Z,3.3nm,0.3s,baz=148,slow=12,SNR=143						
TXAR				PcP	**PcP**	**05 23 54.6**	**+0.7**
	comp=Z,0.0nm,0.3s,baz=130,slow=2.7,SNR=3.2						
SDV	**Santo Domingo**	**20.15**	**101**	*e*P	**P**	**05 19 40.4**	**-0.2**
	comp=Z,21nm,0.6s						
ABTX	**Abilene, Hawle**	**20.84**	**338**	*e*P	**P**	**05 19 48.3**	**+0.6**
	comp=Z,22nm,0.8s						
SLBS	**Sierra La Lagu**	**20.93**	**302**	*e*P	Pn	05 19 51.0	-0.5
	comp=Z,20nm,1.1s						
GOGA	**Godfrey**	**20.99**	**17**	*e*P	Pn	05 19 51.7	-0.3
GOGA				pmax	pmax		
	comp=Z,27nm,1.3s						
GOGA	**Godfrey**	**20.99**	**17**	*e*P	Pn	05 19 51.7	-0.3
	comp=Z,27nm,1.3s						
MIAR	**Mount Ida**	**21.23**	**353**	*e*P	**P**	**05 19 51.8**	**0.0**
MIAR				pmax	pmax		
	comp=Z,16nm,0.6s						
MIAR	**Mount Ida**	**21.23**	**353**	*e*P	**P**	**05 19 51.8**	**0.0**
	comp=Z,16nm,0.6s						
UALR	**University of**	**21.35**	**356**	*e*P	**P**	**05 19 54.0**	**+0.9**
	comp=Z,20nm,0.6s						
LPIG	**La Paz**	**21.41**	**303**	P	**P**	**05 19 58.6**	**+4.7**
	comp=Z,5.8nm,0.3s,baz=76,slow=4.2,SNR=2.7						
SWET	**Sewanee**	**22.15**	**10**	*e*P	**P**	**05 20 03.4**	**+1.6**
	comp=Z,21nm,0.6s						
JSC	**Jenkinsville**	**22.48**	**21**	*e*P	**P**	**05 20 07.0**	**+1.7**
JSC				pmax	pmax		
	comp=Z,20nm,1.3s						
JSC	**Jenkinsville**	**22.48**	**21**	*e*P	**P**	**05 20 07.0**	**+1.7**
	comp=Z,20nm,1.3s						
GNAR	**Gosnell**	**22.49**	**1**	*e*P	**P**	**05 20 06.7**	**+1.4**
	comp=Z,401nm,0.8s						
WMOK	**Wichita Mounta**	**22.49**	**342**	*e*P	**P**	**05 20 04.3**	**-1.2**
WMOK				pmax	pmax		
	comp=Z,18nm,1.4s						
WMOK	**Wichita Mounta**	**22.49**	**342**	*e*P	**P**	**05 20 04.3**	**-1.2**
	comp=Z,18nm,1.4s						
CPCT	**Cooper Cave**	**22.66**	**13**	*e*P	**P**	**05 20 08.8**	**+1.7**
W34A	**Bridge Creek,**	**22.68**	**345**	*e*P	**P**	**05 20 06.5**	**-1.0**
	comp=Z,21nm,0.7s						
TUL1	**Tulsa**	**22.90**	**349**	*e*P	**P**	**05 20 08.8**	**-0.8**
	comp=Z,15nm,0.7s						
TKL	**Tuckaleechee C**	**23.03**	**14**	P	**P**	**05 20 11.3**	**+0.3**
	comp=Z,31nm,0.6s,baz=177,slow=11,SNR=52						
TKL	**Tuckaleechee C**	**23.03**	**14**	P	**P**	**05 20 11.3**	**+0.3**
TKL				pmax	pmax		
	comp=Z,31nm,0.6s						
TKL	**Tuckaleechee C**	**23.03**	**14**	*e*P	**P**	**05 20 12.0**	**+1.0**
V34A	**Guthrie**	**23.19**	**346**	*e*P	**P**	**05 20 11.5**	**-1.1**
	comp=Z,23nm,0.8s						
PARMO	**Parma**	**23.19**	**2**	*e*P	**P**	**05 20 13.1**	**+0.5**
KMSC	**Kings Mountain**	**23.24**	**20**	*e*P	**P**	**05 20 13.6**	**+0.4**
	comp=Z,49nm,1.7s						
PBMO	**Poplar Bluff**	**23.30**	**0**	*e*P	**P**	**05 20 13.3**	**-0.3**
	comp=Z,12nm,0.6s						
ATAH	**Atahualpa**	**23.75**	**148**	P	**P**	**05 20 19.0**	**+0.3**
	comp=Z,9.7nm,0.8s,baz=0.1,slow=10,SNR=5.6						
TZTN	**Tazewell**	**23.93**	**14**	*e*P	**P**	**05 20 20.3**	**+0.7**
	comp=Z,14nm,0.6s						
SIUC	**Southern Illin**	**24.26**	**3**	*e*P	**P**	**05 20 23.1**	**+0.4**
	comp=Z,38nm,0.6s						
USIN	**University of**	**24.62**	**6**	*e*P	**P**	**05 20 26.5**	**+0.5**
	comp=Z,30nm,0.6s						
121A	**Cookes Peak, D**	**24.67**	**323**	*e*P	**P**	**05 20 28.5**	**+1.8**
	comp=Z,46nm,0.9s						
BNM	**Barren Site**	**25.25**	**328**	*e*P	**P**	**05 20 33.0**	**+1.0**
OLIL	**Olney**	**25.35**	**5**	*e*P	**P**	**05 20 32.9**	**+0.4**
	comp=Z,19nm,0.7s						
LENM	**Lemitar**	**25.44**	**327**	*e*P	**P**	**05 20 35.4**	**+1.7**
LAZ	**Ladron**	**25.71**	**327**	*e*P	**P**	**05 20 37.1**	**+1.0**
ANMO	**Albuquerque**	**25.78**	**329**	P	**P**	**05 20 37.5**	**+0.7**
	comp=Z,3.3nm,0.6s,baz=143,slow=11,SNR=20						
ANMO	**Albuquerque**	**25.78**	**329**	*e*P	**P**	**05 20 37.8**	**+1.0**
ANMO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ANMO	**Albuquerque**	**25.78**	**329**	*e*P	**P**	**05 20 37.8**	**+1.0**
	comp=Z,4.1nm,0.7s						
BLO	**Bloomington**	**25.94**	**7**	*e*P	**P**	**05 20 38.2**	**+0.2**
BLO				pmax	pmax		
	comp=Z,18nm,0.6s						
BLO	**Bloomington**	**25.94**	**7**	*e*P	**P**	**05 20 38.2**	**+0.2**
	comp=Z,18nm,0.6s						
KSU1	**Kansas State U**	**26.15**	**349**	*e*P	**P**	**05 20 39.0**	**-0.8**
	comp=Z,9.3nm,0.6s						
TUC	**Tucson**	**26.34**	**319**	*e*P	**P**	**05 20 43.6**	**+1.8**
TUC				p

comp=Z,13nm,0.9s
NLU North Lily Min 32.48 328 *e*P **P** 05 21 37.2 +0.8
comp=Z,14nm,1.6s
COWI Conover 32.63 2 *e*P **P** 05 21 36.2 -1.2
comp=Z,44nm,0.6s
RSSD Black Hills 32.70 342 *e*P **P** 05 21 38.8 +0.5
RSSD pmax pmax
comp=Z,3.0nm,0.6s
RSSD Black Hills 32.70 342 *e*P **P** 05 21 38.8 +0.5
comp=Z,3.0nm,0.6s
TRY Troy 32.73 23 *e*P **P** 05 21 37.2 -1.0
comp=Z,10nm,0.7s
TPNV Topopah Spring 32.77 320 *e*P **P** 05 21 40.7 +1.8
TPNV pmax pmax
comp=Z,76nm,2.1s
TPNV Topopah Spring 32.77 320 *e*P **P** 05 21 40.6 +1.8
comp=Z,76nm,2.1s
CTU Camp Trail 32.88 330 *e*P **P** 05 21 41.2 +1.4
comp=Z,6.0nm,0.7s
DUG Dugway 33.04 328 *e*P **P** 05 21 42.8 +1.7
DUG pmax pmax
comp=Z,19nm,1.9s
DUG Dugway 33.04 328 *e*P **P** 05 21 42.8 +1.7
comp=Z,19nm,1.9s
TCUT Toone Canyon 33.04 331 *e*P **P** 05 21 42.8 +1.6
comp=Z,14nm,0.9s
DAC Darwin (Calif) 33.22 318 *e*P **P** 05 21 43.8 +1.0
DAC pmax pmax
comp=Z,5.0nm,1.0s
DAC Darwin (Calif) 33.22 318 *e*P **P** 05 21 43.8 +1.0
comp=Z,4.8nm,1.0s
R11A Troy Canyon, C 33.27 323 *e*P **P** 05 21 44.5 +1.2
comp=Z,43nm,1.9s
ACCN Adirondack Com 33.28 23 *e*P **P** 05 21 42.6 -0.4
comp=Z,100nm,2.8s
ISA Isabella 33.44 316 *e*P **P** 05 21 46.6 +1.9
ISA pmax pmax
comp=Z,18nm,1.5s
ISA Isabella 33.44 316 *e*P **P** 05 21 46.6 +1.9
comp=Z,18nm,1.5s
RSUT Red Spur Mount 33.45 331 *e*P **P** 05 21 45.9 +1.0
HWUT Hardware Ranch 33.49 331 *e*P **P** 05 21 45.8 +0.6
comp=Z,6.2nm,0.8s
PDAR Pinedale Array 33.52 334 P **P** 05 21 45.3 -0.2
comp=Z,2.5nm,0.5s,baz=121,slow=11,SNR=22
PDAR PcP **PcP** 05 24 26.1 +0.4
comp=Z,1.0nm,0.5s,baz=108,slow=5.4,SNR=9.0
BW06 Boulder Array 33.52 334 *e*P **P** 05 21 45.4 0.0
comp=Z,34nm,2.5s
NCB Newcomb 33.58 22 *e*P **P** 05 21 46.1 +0.4
comp=Z,87nm,2.3s
SPUT South Promonto 33.69 330 *e*P **P** 05 21 48.1 +1.3
comp=Z,52nm,1.9s
BGU Big Grassy Mou 33.69 329 *e*P **P** 05 21 47.6 +0.8
comp=Z,31nm,1.8s
LONY Lake Ozonia 34.02 21 *e*P **P** 05 21 48.6 -0.9
comp=Z,6.7nm,0.7s
CRGC Crocker Grade 34.06 315 *e*P P 05 21 46.3 -3.8
TPH Tonopah 34.08 321 *e*P **P** 05 21 51.6 +1.3
TPH pmax pmax
comp=Z,23nm,1.6s
TPH Tonopah 34.08 321 *e*P **P** 05 21 51.6 +1.3
comp=Z,23nm,1.6s
HVU Hansel Valley 34.20 330 *e*P **P** 05 21 52.4 +1.1
HVU pmax pmax
comp=Z,87nm,2.3s
HVU Hansel Valley 34.20 330 *e*P **P** 05 21 52.4 +1.1
comp=Z,87nm,2.3s
EYMN Ely 34.46 359 *e*P **P** 05 21 51.8 -1.4
comp=Z,26nm,0.7s
REDW Red Top Meadow 34.56 334 *e*P **P** 05 21 55.2 +0.8
comp=Z,22nm,0.6s
SNOW Snow King Moun 34.60 334 *e*P **P** 05 21 55.5 +0.7
comp=Z,34nm,0.6s
LOHW Long Hollow 34.66 334 *e*P **P** 05 21 55.8 +0.5
comp=Z,9.0nm,0.6s
TPAW Teton Pass 34.70 334 *e*P **P** 05 21 56.5 +0.7
comp=Z,8.4nm,0.6s
ELK Elko 34.72 326 *e*P **P** 05 21 57.7 +1.9
ELK pmax pmax
comp=Z,24nm,1.6s
ELK Elko 34.72 326 *e*P **P** 05 21 57.7 +1.9
comp=Z,24nm,1.6s
MOOW Moose Ponds 34.83 334 *e*P **P** 05 21 57.1 +0.4
comp=Z,9.9nm,0.7s
FXWY Fox Creek 34.86 334 *e*P **P** 05 21 57.4 +0.4
comp=Z,3.0nm,0.7s
NVAR Mina Array Bea 34.97 321 P **P** 05 21 59.9 +1.9
comp=Z,13nm,0.6s,baz=133,slow=8.2,SNR=142
NVAR PcP **PcP** 05 24 30.4 +0.5
comp=Z,1.9nm,0.7s,baz=112,slow=4.0,SNR=6.7
IMW Indian Meadow 35.03 334 *e*P **P** 05 21 58.8 +0.3
comp=Z,7.7nm,0.6s
AGMN Agassiz Nation 35.07 354 *e*P **P** 05 21 57.4 -1.1
comp=Z,38nm,0.6s
FLWY Flagg Ranch 35.08 335 *e*P **P** 05 21 59.9 +1.0
comp=Z,37nm,1.9s
MDND Maddock 35.16 350 *e*P **P** 05 21 59.5 +0.2
comp=Z,39nm,0.6s
SAML Samuel 35.17 128 *e*P **P** 05 21 57.0 -2.7
comp=Z,115nm,2.6s
RLMT Red Lodge 35.37 337 *e*P **P** 05 22 01.8 +0.4
comp=Z,3.9nm,0.6s
BMN Battle Mountai 35.60 324 *e*P **P** 05 22 05.6 +2.2
BMN pmax pmax
comp=Z,56nm,1.8s
BMN Battle Mountai 35.60 324 *e*P **P** 05 22 05.6 +2.2
comp=Z,56nm,1.8s
WAKR Walker 35.72 320 *e*P **P** 05 22 05.9 +1.5
CMB Columbia Colle 36.05 318 *e*P **P** 05 22 07.4 +0.3
CMB pmax pmax
comp=Z,8.0nm,1.1s
CMB Columbia Colle 36.05 318 *e*P **P** 05 22 07.4 +0.3
comp=Z,8.0nm,1.1s
HLID Hailey 36.34 330 *e*P **P** 05 22 10.7 +1.0
comp=Z,49nm,2.2s
MCMT McKenzie Canyo 36.60 333 *e*P **P** 05 22 13.4 +1.5
BOZ Bozeman (W) 36.73 335 *e*P **P** 05 22 13.3 +0.3
BOZ pmax pmax
comp=Z,9.0nm,0.6s
BOZ Bozeman (W) 36.73 335 *e*P **P** 05 22 13.3 +0.3
comp=Z,8.5nm,0.6s
DGMT Dagmar 36.74 345 *e*P **P** 05 22 13.7 +0.9
comp=Z,12nm,0.6s
DLMT Dillon 36.91 334 *e*P **P** 05 22 15.2 +0.8
comp=Z,24nm,1.8s
MFID Camas Ranch 36.93 329 *e*P **P** 05 22 16.3 +1.7
comp=Z,77nm,2.3s
LPAZ La Paz 36.95 142 P **P** 05 22 15.8 +0.2
comp=Z,1.6nm,0.8s,baz=333,slow=6.5,SNR=6.3
LPAZ LR LR 05 37 11.0
comp=Z,269nm,21.3s,baz=309,slow=36
EMMW East Machias 36.96 28 *e*P **P** 05 22 12.8 -1.9
comp=Z,29nm,1.4s
ULM Lac du Bonnet 37.01 354 P **P** 05 22 13.7 -1.3
comp=Z,39nm,0.5s,baz=171,slow=9.2,SNR=58
ULM LR LR 05 40 49.9
comp=Z,599nm,18.1s,baz=187,slow=42
ULM Lac du Bonnet 37.01 354 *e*P **P** 05 22 13.8 -1.3
ULM pmax pmax
comp=Z,34nm,0.6s
ULM Lac du Bonnet 37.01 354 *e*P **P** 05 22 13.8 -1.3
comp=Z,34nm,0.6s
LRM Limekiln Ridge 37.22 335 *e*P **P** 05 22 18.0 +0.8
HRY Holter Researc 37.69 336 *e*P **P** 05 22 21.5 +0.5
WVOR Wild Horse Val 37.73 325 *e*P **P** 05 22 22.7 +1.3
WVOR pmax pmax
comp=Z,22nm,1.3s
WVOR Wild Horse Val 37.73 325 *e*P **P** 05 22 22.7 +1.3
comp=Z,22nm,1.3s
EGMT Eagleton 38.01 339 *e*P **P** 05 22 24.1 +0.4
comp=Z,8.6nm,0.8s
MOD Modoc 38.33 323 *e*P **P** 05 22 27.4 +0.9
comp=Z,12nm,1.1s
CHMT Chamberlain Mo 38.42 335 *e*P **P** 05 22 27.1 -0.2
MSO Missoula 38.64 334 *e*P **P** 05 22 29.4 +0.4
comp=Z,50nm,2.0s
SLMT Seeley Lake 38.78 335 *e*P **P** 05 22 30.2 -0.1
SWMT Swartz Lake 39.20 335 *e*P **P** 05 22 33.8 0.0
YBMT Yellow Bay 39.49 335 *e*P **P** 05 22 36.9 +0.7
JTMT Jette 39.51 335 *e*P **P** 05 22 36.6 +0.3
YBH Yreka Blue Hor 39.65 322 LR LR 05 39 52.5
comp=Z,447nm,18.5s,baz=146,slow=37
YBH Yreka Blue Hor 39.65 322 *e*P **P** 05 22 36.5 -1.0
YBH pmax pmax
comp=Z,5.0nm,0.9s
YBH Yreka Blue Hor 39.65 322 *e*P **P** 05 22 36.5 -1.0
comp=Z,4.9nm,0.9s
BSMT Bassoo Peak 39.80 335 *e*P **P** 05 22 39.1 +0.3
G08A Pilot Rock 39.84 329 *e*P **P** 05 22 39.2 +0.1
comp=Z,4.2nm,0.9s
E09A Wood Farm, Sta 40.30 330 *e*P **P** 05 22 42.7 0.0
comp=Z,7.1nm,0.7s
WALA Waterton Lakes 40.41 336 *e*P **P** 05 22 44.4 +0.6
comp=Z,50nm,2.0s
HAWA Hanford 40.90 329 *e*P **P** 05 22 46.9 -0.7
comp=Z,5.5nm,0.6s
D08A Wollman Farm, 41.07 330 *e*P **P** 05 22 49.1 0.0
comp=Z,78nm,2.1s
NEW Newport 41.12 333 *e*P **P** 05 22 49.1 -0.4
NEW pmax pmax
comp=Z,5.0nm,0.7s
NEW Newport 41.12 333 *e*P **P** 05 22 49.1 -0.4
comp=Z,5.0nm,0.7s
H04A Detroit Lake 41.15 325 *e*P **P** 05 22 50.2 +0.4
comp=Z,18nm,0.6s
E07A Sunnyside 41.17 329 *e*P **P** 05 22 51.7 +1.7
comp=Z,12nm,0.7s
OD2 Odessa Site #2 41.20 331 P **P** 05 22 50.6 +0.4
KEBM Edson Butte 41.29 322 *e*P **P** 05 22 54.1 +3.0
comp=Z,75nm,1.0s
C09A Chrisman Ranch 41.30 332 *e*P **P** 05 22 51.8 +0.8
comp=Z,38nm,0.6s
NAC Naches 41.78 329 P **P** 05 22 56.1 +1.2
WTV Waterville 42.02 330 P **P** 05 22 57.9 +1.0
LTY Liberty 42.06 329 *e*P **P** 05 22 57.6 +0.4
comp=Z,9.7nm,0.7s
FFC Flin Flon 42.19 350 *e*P **P** 05 22 57.8 -0.3
FFC pmax pmax
comp=Z,20nm,0.6s
FFC Flin Flon 42.19 350 *e*P **P** 05 22 57.8 -0.3
comp=Z,20nm,0.6s
B08A Colville Reser 42.19 332 *e*P **P** 05 22 58.4 +0.1
comp=Z,4.9nm,0.7s
LON Longmire 42.29 328 *e*P **P** 05 22 59.6 +0.5
LON pmax pmax
comp=Z,10.0nm,0.8s
LON Longmire 42.29 328 *e*P **P** 05 22 59.6 +0.5
comp=Z,9.6nm,0.8s
E03A Lebam 43.08 327 *e*P **P** 05 23 06.5 +1.0
comp=Z,22nm,0.9s
RPW Rockport 43.29 330 P **P** 05 23 07.2 -0.1
JCW Jim Creek 43.32 330 P **P** 05 23 07.1 -0.4
CMW Cultus Mountai 43.57 330 P **P** 05 23 09.3 -0.2
EDM Edmonton 43.64 340 *e*P **P** 05 23 09.2 -0.7
EDM pmax pmax
comp=Z,31nm,0.6s
EDM Edmonton 43.64 340 *e*P **P** 05 23 09.2 -0.7
comp=Z,31nm,0.6s
MBW Mount Baker 43.71 330 P **P** 05 23 10.5 -0.2
RPN Rapa Nui 44.16 204 LR LR 05 36 42.8
comp=Z,280nm,19.4s,baz=29,slow=29
PGC Sidney 44.38 329 *e*P **P** 05 23 15.7 -0.1
comp=Z,18nm,1.0s
SCHQ Schefferville 45.36 19 P **P** 05 23 22.3 -1.3
comp=Z,16nm,0.5s,baz=218,slow=6.8,SNR=70
SCHQ LR LR 05 43 32.4
comp=Z,806nm,18.9s,baz=240,slow=38
SCHQ Schefferville 45.36 19 *e*P **P** 05 23 22.5 -1.1
comp=Z,18nm,0.6s
FCC Fort Churchill 45.36 357 *e*P **P** 05 23 22.6 -0.9
FCC pmax pmax
comp=Z,104nm,2.6s
FCC Fort Churchill 45.36 357 *e*P **P** 05 23 22.6 -0.9
comp=Z,104nm,2.6s
CPUP Villa Florida 51.08 141 LR LR 05 47 16.8
comp=Z,228nm,18.3s,baz=248,slow=38
BDFB Brasilia 51.10 123 P **P** 05 24 07.0 -1.5
comp=Z,1.2nm,0.5s,baz=265,slow=13,SNR=3.4
BDFB LR LR 05 47 27.0
comp=Z,297nm,20.0s,baz=227,slow=38
YKA Yellowknife Ar 51.92 346 P **P** 05 24 12.8 -1.1
comp=Z,3.5nm,0.6s,baz=142,slow=7.3,SNR=32
YKA PcP **PcP** 05 25 25.6 -0.5
comp=Z,1.1nm,0.6s,baz=150,slow=3.7,SNR=6.5
YKA Yellowknife Ar 51.92 346 P **P** 05 24 12.8 -1.1
YKA 05 25 25.6
YKA pmax pmax
comp=Z,4.0nm,0.6s
YKA pmax pmax
comp=Z,1.0nm,0.6s
DLBC Dease Lake 53.74 336 *e*P **P** 05 24 28.7 +1.2
comp=Z,5.7nm,0.6s
RKT Rikitea 56.55 230 *e*S **S** 05 32 41.6 +4.2
comp=Z,222nm,25.2s
RKT *e*LR LR 05 41 30.5
comp=Z,340nm,26.8s
RKT Rikitea 56.55 230 *e*T T 06 25 08.0
comp=Z,5.4nm,0.3s
RCBR Riachuelo 57.62 106 *e*P **P** 05 24 56.4 +0.3
comp=Z,35nm,1.1s
DAWY Dawson 60.73 338 *e*P **P** 05 25 16.7 -0.1
BMRM Bremner River 61.30 333 *e*P **P** 05 25 21.5 +0.8
comp=Z,14nm,0.8s
RES Resolute Bay 61.34 359 *e*P **P** 05 25 18.9 -1.6
RES Resolute Bay 61.34 359 *e*P **P** 05 25 18.9 -1.6
INK Inuvik 61.40 343 P **P** 05 25 20.4 -0.6
comp=Z,12nm,0.6s,baz=126,slow=7.0,SNR=37
INK LR LR 05 56 30.8
comp=Z,202nm,19.5s,baz=132,slow=40
EGAK Eagle 61.76 338 *e*P **P** 05 25 22.9 -0.7
comp=Z,3.7nm,0.7s
KLU Klutina 62.10 334 *e*P **P** 05 25 26.9 +0.8
PAX Paxson 62.56 335 *e*P **P** 05 25 28.7 -0.4
PAX pmax pmax
comp=Z,4.0nm,0.7s
PAX Paxson 62.56 335 *e*P **P** 05 25 28.7 -0.4
comp=Z,4.2nm,0.7s
PMR Palmer 63.55 333 *e*P **P** 05 25 35.6 +0.1
PMR pmax pmax
comp=Z,12nm,1.0s
PMR Palmer 63.55 333 *e*P **P** 05 25 35.6 +0.1
comp=Z,12nm,1.0s
ILAR Eielson Array 63.91 337 P **P** 05 25 37.5 -0.5
comp=Z,1.6nm,0.5s,baz=173,slow=5.2,SNR=61
ILAR LR LR 05 56 58.0
comp=Z,237nm,18.7s,baz=126,slow=39
KDAK Kodiak Island 63.92 328 *i* P **P** 05 25 38.4 +0.3
RND Reindeer 64.13 335 *e*P **P** 05 25 39.9 +0.4
RND Reindeer 64.13 335 *e*P **P** 05 25 39.9 +0.4
CCB Clear Creek Bu 64.22 336 *e*P **P** 05 25 39.1 -0.9
WRH Wood River Hil 64.26 336 *e*P **P** 05 25 39.4 -0.8
MCK McKinley 64.30 335 *e*P **P** 05 25 41.2 +0.7
MCK pmax pmax
comp=Z,10.0nm,1.1s
MCK McKinley 64.30 335 *e*P **P** 05 25 41.2 +0.7
comp=Z,10nm,1.1s
COLA College 64.33 337 *c i*P **P** 05 25 39.9 -0.8
COLA pmax pmax
comp=Z,12nm,0.7s
COLA College 64.33 337 *e*P **P** 05 25 39.8 -0.8
comp=Z,7.1nm,1.0s
BWN Browne 64.68 336 *e*P **P** 05 25 42.8 -0.2
TRF Thorofare Moun 64.75 335 *e*P **P** 05 25 43.8 +0.2
comp=Z,5.6nm,0.5s
RSO Redoubt South 64.82 331 *e*P **P** 05 25 44.2 0.0
BPAW Bear Paw Mtn. 65.27 335 *e*P **P** 05 25 46.5 -0.3
comp=Z,1.0nm,0.5s
MLY Manley 65.52 336 *e*P **P** 05 25 48.1 -0.4
PPT Papeete 65.78 244 LR LR 05 47 19.9
comp=Z,212nm,19.1s,baz=72,slow=29
PPT2 Papeete2 65.78 244 *e*S S 05 34 43.3 +8.0
comp=Z,132nm,24.8s
PPT2 Papeete2 65.78 244 *e*LR LR 05 45 19.7
comp=Z,338nm,25.0s
COLD Coldfoot 66.17 338 *e*P **P** 05 25 53.5 +0.9
comp=Z,6.8nm,0.7s
TBI Tubuai 68.12 238 *e*LR LR 05 46 24.8
comp=Z,280nm,27.5s
ESK Eskdalemuir 77.68 36 *e*P **P** 05 27 00.3 -1.5
ESK Eskdalemuir 77.68 36 *e*P **P** 05 27 00.3 -1.5
ESDC Sonseca Array 79.08 52 P **P** 05 27 07.1 -2.8
comp=Z,0.5nm,0.5s,baz=289,slow=5.5,SNR=8.9
NOA NORSAR Array B 84.06 29 P **P** 05 27 35.3 -0.5
comp=Z,0.8nm,0.6s,baz=290,slow=5.2,SNR=6.2
NOA LR LR 06 03 30.3
comp=Z,115nm,19.3s,baz=295,slow=35
TIC Toumodi 84.27 85 *e*P **P** 05 27 37.3 -0.4
LIC Lamto 84.35 85 *e*P **P** 05 27 38.0 -0.1
comp=Z,27nm,0.5s
DBIC Dimbokro 84.42 84 P **P** 05 27 37.8 -0.7
comp=Z,11nm,0.5s,baz=267,slow=4.5,SNR=44
KIC Kosan Boka 84.60 85 *e*P **P** 05 27 39.2 -0.2
comp=Z,27nm,0.5s
ARCES ARCESS Array B 86.31 18 P **P** 05 27 45.5 -1.4
comp=Z,1.4nm,0.5s,baz=292,slow=3.8,SNR=8.3
CLL Collm 88.01 38 *e*P **P** 05 27 55.0 -0.4
CLL Collm 88.01 38 *e*P **P** 05 27 55.0 -0.4
NKC Novy Kostel 88.02 39 AMS AMS 06 13 40.0
comp=Z,300nm,19.2s
KHC Kasperske Hory 89.07 40 *e*P **P** 05 28 02.5 +2.0
KHC Kasperske Hory 89.07 40 AMS AMS 06 06 50.0
comp=Z,200nm,16.2s
KHC Kasperske Hory 89.07 40 *e*P **P** 05 28 02.5 +2.0
TOB5 Torodi Ar. Sit 89.24 77 *e*P **P** 05 28 00.0 -1.9
GERES GERESS Array B 89.24 40 P **P** 05 27 59.9 -1.5
comp=Z,0.7nm,0.8s,baz=291,slow=3.7,SNR=4.8
GERES LR LR 06 06 34.3
comp=Z,160nm,18.3s,baz=298,slow=35
TORD Torodi Ar. Bea 89.25 77 P **P** 05 27 59.5 -2.5
comp=Z,1.1nm,0.6s,baz=292,slow=5.1,SNR=17
PRU Pruhonice 89.37 39 AMS AMS 06 10 00.0
comp=Z,300nm,14.7s
GOPC GO Pecny, Ondr 89.55 39 AMS AMS 06 09 40.0
comp=Z,300nm,19.3s
SEY Seymchan 89.84 336 P **P** 05 28 04.6 +0.9
comp=Z,1.8nm,0.5s,baz=82,slow=14,SNR=3.5
SEY Seymchan 89.84 336 *e*P **P** 05 28 04.3 +0.5
UPC Upice 90.07 38 AMS AMS 06 09 40.0
comp=Z,200nm,15.7s
TREC Trest 90.19 39 AMS AMS 06 09 20.0
comp=Z,300nm,20.7s
DPC Dobruska-Polom 90.31 38 AMS AMS 06 09 40.0
comp=Z,200nm,18.1s
FINES FINESS Array B 90.50 25 P **P** 05 28 05.9 -1.0
comp=Z,1.5nm,0.6s,baz=236,slow=1.5,SNR=8.3
FINES LR LR 06 09 25.6
comp=Z,252nm,18.9s,baz=326,slow=36
OKC Ostrava-Krasne 91.60 38 AMS AMS 06 10 20.0
comp=Z,200nm,17.7s
ULN Ulaanbaatar 117.01 347 *i* PKIKP **PKPdf** 05 33 50.1 -0.2
SONM Songino Array 117.18 347 PKP **PKPdf** 05 33 50.0 -0.7
comp=Z,0.4nm,0.5s,baz=338,slow=1.6,SNR=3.6
SONM Songino Array 117.18 347 PKIKP **PKPdf** 05 33 50.0 -0.7
KSRS Korea Array 117.78 326 PKP **PKPdf** 05 33 52.1 +0.2
comp=Z,0.7nm,0.6s,baz=354,slow=1.3,SNR=4.1
KSRS Korea Array 117.78 326 PKIKP **PKPdf** 05 33 52.1 +0.2
KSRS pmax pmax
comp=Z,1.0nm,0.6s
KSAR Wonju Array Be 117.81 326 PKIKP **PKPdf** 05 33 52.1 +0.2
KSAR Wonju Array Be 117.81 326 PKP **PKPdf** 05 33 52.1 +0.2
BOSA Boshof 118.92 115 PKP **PKPdf** 05 33 56.0 +1.6
comp=Z,2.1nm,0.6s,baz=276,slow=3.9,SNR=9.1
BOSA Boshof 118.92 115 PKIKP **PKPdf** 05 33 56.0 +1.6
BOSA Boshof 118.92 115 PKP **PKPdf** 05 33 56.0 +1.6
LSZ Lusaka 120.89 100 *e*PKIKP **PKPdf** 05 33 59.7 +1.2
LSZ Lusaka 120.89 100 *e*PKPdf **PKPdf** 05 33 59.7 +1.2
BJI Beijing 121.28 336 PKP PKPdf 05 33 51.8 -6.7
BJI PP **PP** 05 35 29.0 +0.7
BJI LN
comp=Z,150nm,21.6s
BJI LE
comp=Z,130nm,17.7s
BJI LZ
comp=Z,160nm,20.5s
HHC Hu-ho-hao-te 122.24 340 *e*PKP **PKPdf** 05 33 56.3 -4.3
HHC PP **PP** 05 35 36.0 +1.1
HHC PKS PKSdf 05 37 31.5 -5.8
HHC SKS **SKSac** 05 40 56.8 -1.3
HHC PPMZ
comp=Z,43nm,6.0s
HHC LN
comp=Z,54nm,18.4s
HHC LE
comp=Z,94nm,18.0s
HHC LZ
comp=Z,42nm,20.0s
WMQ Urumqi 123.05 1 PKP **PKPdf** 05 34 00.5 -1.5
WMQ LN
comp=Z,330nm,21.6s
WMQ LE
comp=Z,130nm,15.0s
WMQ LZ
comp=Z,210nm,18.6s
LZH Lanzhou 128.92 345 *e*PKP PKPdf 05 34 19.0 +5.5
LZH pPKP pPKPdf 05 34 42.0 +16
LZH sPKP 05 34 49.5
LZH LR LR
comp=N,150nm,18.0s
LZH LR LR
comp=E,140nm,18.4s
LZH LR LR
comp=Z,190nm,20.1s
CD2 Chengdu 133.83 343 PKP **PKPdf** 05 34 20.3 -2.5
CD2 sPKP 05 34 50.0
CD2 SKS SKSdf 05 41 24.3 -7.2
CD2 SKKS SKKSac 05 43 36.5 -8.8
CD2 SS **SS** 05 54 30.5 -4.2
CD2 PPMZ
comp=Z,120nm,5.2s
WRA Warramunga Arr 136.50 255 PKhKP PKPpre 05 34 25.2
comp=Z,0.3nm,0.3s,baz=90,slow=2.7,SNR=3.1
ASAR Alice Springs 136.68 250 PKhKP PKPpre 05 34 24.6
comp=Z,0.6nm,0.6s,baz=101,slow=3.5,SNR=8.0
KMI Kunming 139.55 341 PKP **PKPdf** 05 34 36.5 +2.7
CHTO Chiang Mai 146.63 343 *e*PKP2 **PKPdf** 05 34 46.7 +0.6
CHTO Chiang Mai 146.63 343 *e*PKPdf **PKPdf** 05 34 46.7 +0.6
CMAR Chiang Mai Arr 146.97 343 PKPbc **PKPbc** 05 34 48.1 -0.6
comp=Z,7.4nm,0.6s,baz=340,slow=3.7,SNR=23
HYB Hyderabad 147.59 19 *i* PKP **PKPdf** 05 34 49.0 +1.2
NWAO Narrogin (SRO) 147.97 228 PKPbc **PKPbc** 05 34 50.6 -0.4
comp=Z,20nm,1.2s,baz=151,slow=3.6,SNR=3.2

NIED ***31*** *05:18:00,23˚.80N×122˚.50E,h20km,Mw4.4 Best double couple: M₀5.01000×10¹⁵ NP1:φ₀320.00000°,δ33.00000°, λ165.00000°. NP2:φ₀63.00000°,δ82.00000°,λ58.00000°.*
IDC ***31*** *05:18:03.1±0.6,23˚.96N×122˚.67E,h0km,mb4.2/18, mb1 4.4/19,mb1mx4.2/46,mbtmp4.2/19,ML3.4/1,MS3.5/9, Ms1 3.6/9,ms1mx3.3/39,Error ellipse: s-maj=22.0km s-min=15.0km az=71.0*
ISCJB ***31*** *05:18:05.9±0.4,23˚.72N±0˚.02×122˚.56E±0˚.01,h23km±2km, mb4.2/25,MS3.5/6,Error ellipse: s-maj=2.8km s-min=1.9km az=151.9*
NEIC ***31*** *05:18:05.5±1.1,23˚.86N×122˚.53E,h16km±6km,mb4.5/8, Error ellipse: s-maj=8.5km s-min=5.6km az=150.0*
TAP ***31*** *05:18:05.1,23˚.72N×122˚.47E,h7km±1km,ML4.5,D*
JMA ***31*** *05:18:06.1±0.1,23˚.79N×122˚.48E,h25km,M4.5*
BJI ***31*** *05:18:06.1,23˚.85N×122˚.47E,h9km,mb4.4/16,mB4.5/13, ML4.2/3,Ms4.2/9,Ms7 4.0/8*
ISC 31 05:18:06.6±0.7,23˚.74N±0˚.02×122˚.52E±0˚.02,h24km±5km, n120,σ1°06/189,mb4.4/25,MS3.5/6,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.81**	**29**	P	**Pb**	**05 18 20.8**	**-1.2**
JYNG				S	**Sb**	**05 18 30.3**	**-2.1**
YOJ	**Yonaguni jima**	**0.84**	**32**	P	**Pb**	**05 18 21.7**	**-0.9**
YOJ				S	**Sb**	**05 18 31.5**	**-2.1**
YOJ	**Yonaguni jima**	**0.84**	**32**	*e*Pg	**Pb**	**05 18 21.5**	**-1.1**
HWA	**Hwalien**	**0.87**	**286**	*e*P	**Pb**	**05 18 22.6**	**-0.4**
	baz=287						
HWA				S	**Sb**	**05 18 34.4**	**+0.2**
	baz=287						
TWD	**Chiawan**	**0.91**	**292**	*e*P	**Pb**	**05 18 22.5**	**-1.2**
	baz=294						
TWD				S	**Sb**	**05 18 34.5**	**-0.8**
	baz=294						
NACB	**Ninganchiao**	**0.95**	**297**	*e*Pg	**Pb**	**05 18 22.6**	**-1.8**
ENA	**Nanau**	**0.98**	**314**	P	**Pb**	**05 18 24.2**	**-0.8**
	baz=316						
ENA				S	**Sn**	**05 18 38.7**	**+0.6**
	baz=316						
ESL	**Shilin**	**1.00**	**274**	P	**Pb**	**05 18 23.6**	**-1.6**
	baz=275						
ESL				*e*S	**Sb**	**05 18 35.5**	**-2.5**
	baz=275						
TWC	**Suao**	**1.06**	**325**	P	**Pn**	**05 18 25.1**	**-0.8**
	baz=327						
TWC				S	**Sn**	**05 18 39.3**	**-0.6**
	baz=327						
EHY	**Hungye**	**1.12**	**258**	*e*P	**Pn**	**05 18 26.3**	**-0.6**
	baz=258						
EHY				S	**Sb**	**05 18 41.1**	**-0.4**
	baz=258						
YULB	**Yu-li**	**1.17**	**253**	*e*Pn	**Pn**	**05 18 26.9**	**-0.7**
YULB				*e*Sg	**Sn**	**05 18 43.0**	**+0.2**

TWF1	**Yuli**	**1.19 251**	*e*P		**Pn**	**05 18 27.8**	**+0.1**
	baz=250								
TWF1			*e*S		**Sn**	**05 18 43.0**	**-0.2**
	baz=250								
WHF	**Hehuan Shan**	**1.22 289**	P		**Pn**	**05 18 27.6**	**-0.9**
	baz=290								
WHF			S		**Sb**	**05 18 44.1**	**-0.5**
	baz=290								
HATJ	**Hateruma jima**	**1.22 75**	P		**Pn**	**05 18 28.2**	**+0.1**
HATJ			S		**Sb**	**05 18 44.4**	**+0.1**
EGS		**1.22 334**	*e*P		**Pn**	**05 18 28.1**	**0.0**
	baz=336								
EGS			*e*S		**Sb**	**05 18 45.9**	**+1.6**
	baz=336								
ILA	**Ilan**	**1.24 326**	P		**Pb**	**05 18 28.9**	**-0.4**
	baz=327								
ILA			S		**Sb**	**05 18 45.8**	**+0.9**
	baz=327								
CHKT	**Chengkung**	**1.24 239**	*e*P		**Pn**	**05 18 27.6**	**-0.8**
	baz=238								
CHKT			S		**Sn**	**05 18 42.4**	**-2.0**
	baz=238								
TWE	**Neicheng**	**1.25 322**	P		**Pn**	**05 18 28.5**	**0.0**
	baz=323								
TWE			*e*S		**Sb**	**05 18 46.6**	**+1.5**
	baz=323								
ENTT	**Nioudou**	**1.25 316**	*e*P		**Pb**	**05 18 28.7**	**-0.7**
	baz=317								
ENTT			S		**Sb**	**05 18 45.7**	**+0.6**
	baz=317								
IRIF	**Iriomote-Funau**	**1.25 62**	P		**Pn**	**05 18 29.0**	**+0.4**
IRIF			S		**Sb**	**05 18 45.4**	**+0.1**
NNS	**Nan Shan**	**1.26 304**	*e*P		**Pn**	**05 18 28.3**	**-0.5**
	baz=305								
NNS			*e*S		**Sb**	**05 18 45.8**	**+0.2**
	baz=305								
TWT	**Tachien**	**1.33 293**	*e*P		**Pn**	**05 18 29.7**	**-0.1**
	baz=293								
TWT			*e*S		**Sn**	**05 18 46.8**	**-0.1**
	baz=293								
TWB1	**Santiao Chiao**	**1.35 339**	*e*P		**Pn**	**05 18 29.6**	**-0.4**
	baz=341								
TWB1			*e*S		**Sb**	**05 18 49.2**	**+1.2**
	baz=341								
YHNB	**Yeheng**	**1.39 312**	*e*Pn		**Pn**	**05 18 30.1**	**-0.6**
NSK	**Sanguang**	**1.41 311**	*e*P		**Pn**	**05 18 30.9**	**0.0**
	baz=313								
NSK			*e*S		**Sn**	**05 18 48.6**	**-0.1**
	baz=313								
SSLB	**Suanglung**	**1.43 272**	*e*Pn		**Pn**	**05 18 30.4**	**-0.8**
JKRS	**Kuro-shima**	**1.45 70**	P		**Pn**	**05 18 31.6**	**+0.3**
JKRS			S		**Sb**	**05 18 50.3**	**-0.6**
NWF	**Wu-fen Shan**	**1.48 333**	P		**Pn**	**05 18 31.7**	**-0.2**
	baz=334								
NWF			*e*S		**Sb**	**05 18 52.3**	**+0.3**
	baz=334								
ELDTW	**Lidau**	**1.48 249**	*e*P		**Pn**	**05 18 31.4**	**-0.5**
	baz=248								
ELDTW			*e*S		**Sn**	**05 18 50.4**	**-0.3**
	baz=248								
SMLT	**Sun Moon Lake**	**1.49 276**	*e*P		**Pn**	**05 18 32.1**	**+0.1**
	baz=276								
SMLT			*e*S		**Sn**	**05 18 51.2**	**+0.4**
	baz=276								
TWA	**Mucha**	**1.50 326**	*e*P		**Pb**	**05 18 33.2**	**-0.6**
	baz=327								
TWA			*e*S		**Sb**	**05 18 53.1**	**+0.7**
	baz=327								
TYC	**Yuchr**	**1.53 276**	*e*P		**Pn**	**05 18 32.2**	**-0.2**
	baz=277								
TYC			*e*S		**Sn**	**05 18 51.9**	**+0.4**
	baz=277								
TAP1	**Taipei**	**1.58 325**	*e*P		**Pb**	**05 18 34.0**	**-1.1**
	baz=326								
TAP1			*e*S		**Sb**	**05 18 55.6**	**+1.0**
	baz=326								
TAP	**Taipei**	**1.59 325**	*e*P		**Pn**	**05 18 33.8**	**+0.5**
	baz=326								
TAP			*e*S		**Sb**	**05 18 55.4**	**+0.5**
	baz=326								
ALS	**Alishan**	**1.59 262**	*e*P		**Pn**	**05 18 34.0**	**+0.4**
	baz=262								
ALS			*e*S		**Sn**	**05 18 54.2**	**+0.8**
	baz=262								
TTN	**Taitung**	**1.60 232**	*e*P		**Pn**	**05 18 34.3**	**+0.9**
	baz=231								
TTN			*e*S		**Sn**	**05 18 54.2**	**+0.9**
	baz=231								
JIJ	**Ishigaki jima**	**1.61 67**	P		**Pn**	**05 18 33.5**	**0.0**
JIJ			S		**Sn**	**05 18 52.5**	**-1.0**
TWG	**Pinlang**	**1.62 236**	*e*P		**Pn**	**05 18 33.8**	**+0.1**
	baz=234								
TWG			*e*S		**Sn**	**05 18 53.5**	**-0.3**
	baz=234								
TWG	**Pinlang**	**1.62 236**	*e*Pn		**Pn**	**05 18 32.8**	**-0.8**
NSTT	**Nanjuang**	**1.64 303**	*e*P		**Pb**	**05 18 35.1**	**-1.1**
	baz=304								
NSTT			*e*S		**Sb**	**05 18 56.0**	**-0.6**
	baz=304								
TWS1	**Kuangyinshan**	**1.68 324**	*e*P		**Pn**	**05 18 35.3**	**+0.7**
	baz=325								
TWS1			*e*S		**Sb**	**05 18 57.5**	**-0.2**
	baz=325								
WNT	**Mingjian**	**1.69 275**	*e*P		**Pb**	**05 18 36.5**	**-0.5**
	baz=275								
WNT			*e*S		**Sb**	**05 18 57.0**	**-0.8**
	baz=275								
CHN5	**Tsauling**	**1.69 265**	*e*P		**Pb**	**05 18 36.1**	**-1.1**
	baz=265								
CHN5			*e*S		**Sb**	**05 18 57.5**	**-0.5**
	baz=265								
TWQ1	**Liyutan**	**1.71 291**	*e*P		**Pb**	**05 18 36.5**	**-0.8**
	baz=291								
TWQ1			*e*S		**Sb**	**05 18 58.1**	**-0.2**
	baz=291								
STYT	**Tauyuan**	**1.72 251**	*e*P		**Pn**	**05 18 35.9**	**+0.8**
	baz=250								
STYT			*e*S		**Sn**	**05 18 56.8**	**+0.4**
	baz=250								
TCU	**Taichung**	**1.73 284**	*e*P		**Pb**	**05 18 37.2**	**-0.5**
	baz=284								
TCU			*e*S		**Sb**	**05 18 59.1**	**0.0**
	baz=284								
NSY	**Sanyi**	**1.74 293**	*e*P		**Pb**	**05 18 37.0**	**-0.9**
	baz=293								
NSY			*e*S		**Sb**	**05 18 58.7**	**-0.7**
	baz=293								
TWY	**Chenhua**	**1.74 331**	*e*P		**Pb**	**05 18 37.0**	**-0.8**
	baz=332								
TWY			*e*S		**Sn**	**05 18 57.1**	**+0.4**
	baz=332								
HSN	**Hsinchu**	**1.76 307**	*e*P		**Pb**	**05 18 37.2**	**-1.0**
	baz=309								
HSN			*e*S		**Sb**	**05 18 58.5**	**-1.5**
	baz=309								
TPUB	**Ta-pu**	**1.79 256**	*e*Pn		**Pn**	**05 18 37.2**	**+1.2**
TPUB			*e*Sn		**Sb**	**05 18 59.8**	**-0.9**
WGK	**Gukeng**	**1.79 269**	*e*P		**Pb**	**05 18 37.7**	**-1.1**
	baz=268								
WGK			*e*S		**Sb**	**05 19 00.6**	**-0.2**
	baz=268								
CHN4	**Tsaushan**	**1.81 258**	*e*P		**Pb**	**05 18 38.4**	**-0.7**
	baz=257								
CHN4			*e*S		**Sb**	**05 19 00.2**	**-1.1**
	baz=257								
WTP	**Ta-pu**	**1.82 255**	*e*P		**Pb**	**05 18 38.4**	**-0.8**
	baz=254								
WTP			*e*S		**Sb**	**05 19 00.3**	**-1.3**
	baz=254								
ECL	**Taimali**	**1.84 232**	*e*P		**Pn**	**05 18 36.3**	**-0.4**
	baz=231								
ECL			*e*S		**Sn**	**05 18 57.9**	**-1.2**
	baz=231								
JISG	**Ishigakijimahi**	**1.84 62**	P		**Pn**	**05 18 36.4**	**-0.3**
JISG			S		**Sn**	**05 18 58.8**	**-0.4**
CHN2	**Minshiung**	**1.89 264**	*e*P		**Pb**	**05 18 39.9**	**-0.4**
	baz=264								
CHN2			*e*S		**Sb**	**05 19 03.7**	**+0.2**
	baz=264								
SGST	**Jiashian**	**1.90 250**	*e*P		**Pb**	**05 18 39.8**	**-0.8**
	baz=249								
SGST			*e*S		**Sb**	**05 19 03.7**	**-0.1**
	baz=249								
CHN1	**Nanshi**	**1.91 253**	*e*P		**Pb**	**05 18 40.3**	**-0.5**
	baz=253								
CHN1			*e*S		**Sb**	**05 19 04.3**	**+0.1**
	baz=253								
LAY	**Lan-yu**	**1.92 208**	*e*P		**Pn**	**05 18 36.9**	**-0.9**
	baz=206								
LAY			*e*S		**Sn**	**05 19 01.0**	**-0.2**
	baz=206								
PCYT	**Pengchaiyu**	**1.92 348**	P		**Pn**	**05 18 38.1**	**+0.3**
	baz=349								
PCYT			*e*S		**Sn**	**05 19 01.4**	**+0.1**
	baz=349								
TWK	**Hsinying**	**1.92 256**	*e*P		**Pb**	**05 18 39.6**	**-1.5**
	baz=255								
TWK			*e*S		**Sb**	**05 19 04.1**	**-0.5**
	baz=255								
CHY	**Chiayi**	**1.94 263**	*e*P		**Pb**	**05 18 39.6**	**-1.6**
	baz=263								
CHY			*e*S		**Sn**	**05 19 01.7**	**+0.1**
	baz=263								
SSD	**Sandimen**	**2.00 241**	*e*P		**Pn**	**05 18 39.9**	**+1.0**
	baz=239								
SSD			*e*S		**Sn**	**05 19 04.5**	**+1.3**
	baz=239								
TAW	**Tawu**	**2.03 228**	*e*P		**Pn**	**05 18 39.6**	**+0.2**
	baz=226								
TAW			*e*S		**Sn**	**05 19 03.9**	**-0.1**
	baz=226								
EAST	**Anshuo**	**2.05 229**	*e*P		**Pn**	**05 18 39.8**	**+0.1**
	baz=228								
EAST			*e*S		**Sn**	**05 19 04.1**	**-0.4**
	baz=228								
WTCT	**Ta-ch'eng**	**2.05 274**	*e*P		**Pb**	**05 18 41.9**	**-1.3**
	baz=273								
WTCT			*e*S		**Sb**	**05 19 07.6**	**-0.7**
	baz=273								
TWM1	**Shoushan**	**2.13 245**	*e*P		**Pb**	**05 18 44.8**	**+0.2**
	baz=244								
JTJ	**Tarama**	**2.19 65**	P		**Pn**	**05 18 42.4**	**+0.9**
SCZT	**Fangliau**	**2.22 232**	*e*P		**Pb**	**05 18 44.6**	**-1.4**
	baz=231								
SCZT			*e*S		**Sb**	**05 19 13.0**	**0.0**
	baz=231								
TSEB	**Hengchuen, Pin**	**2.37 219**	*e*P		**Pn**	**05 18 44.8**	**+0.8**
	baz=219								
TSEB			*e*S		**Sn**	**05 19 13.0**	**+0.8**
	baz=219								
HEN	**Hengchun**	**2.38 224**	*e*P		**Pn**	**05 18 45.2**	**+1.0**
	baz=222								
HEN			*e*S		**Sn**	**05 19 13.0**	**+0.3**
	baz=222								
TWK1	**Hengchun**	**2.39 222**	*e*P		**Pn**	**05 18 45.5**	**+1.3**
	baz=220								
TWK1			*e*S		**Sn**	**05 19 13.6**	**+0.8**
	baz=220								
TWP	**Hsiaoliuchiu**	**2.42 235**	*e*P		**Pb**	**05 18 49.8**	**+0.3**
	baz=234								
JIRB	**Irabujima**	**2.65 65**	P		**Pn**	**05 18 49.4**	**+1.5**
JIRB			S		**Sn**	**05 19 19.5**	**+0.2**
WDGT	**Dungji**	**2.67 260**	*e*P		**Pn**	**05 18 48.5**	**+0.4**
	baz=259								
WDGT			*e*S		**Sn**	**05 19 19.8**	**+0.1**
	baz=259								
PNG	**Penghu**	**2.72 267**	*e*P		**Pn**	**05 18 49.8**	**+1.0**
	baz=266								
PNG			*e*S		**Sn**	**05 19 21.9**	**+0.9**
	baz=266								
JIKM	**Ikemajima**	**2.75 64**	P		**Pn**	**05 18 50.6**	**+1.3**
JIKM			S		**Sn**	**05 19 24.0**	**+2.2**
QZH	**Quanzhou**	**3.77 289**	↑/Pn		**Pn**	**05 19 03.0**	**-0.3**
QZH			Sn		**Sn**	**05 19 44.3**	**-2.7**
QZH			SMN				
	480nm,1.0s						
QZH			SME				
	640nm,1.0s						
QZH			LN				
	2μm,8.7s						
QZH			LE				
	1μm,11.5s						
QZH			LZ				
	2μm,14.1s						
KNM	**Kinmen**	**3.79 281**	*e*P		**Pn**	**05 19 05.7**	**+2.1**
	baz=280								
KNM			*e*S		**Sn**	**05 19 50.5**	**+3.1**
	baz=280								
JOW	**Kunigami**	**6.05 58**	P		**Pn**	**05 19 33.4**	**-1.2**
JOW	**Kunigami**	**6.05 58**	*e*Pn		**Pn**	**05 19 32.8**	**-1.8**
JTK	**Tokunoshima**	**7.06 54**	P		**Pn**	**05 19 46.6**	**-1.9**
NJ2	**Nanjing**	**8.89 339**	*e*P		Pn	05 20 23.0	+9.5
NJ2			S		**Sn**	**05 21 55.3**	**+2.4**
NJ2			pmax	pmax			
	comp=Z,30nm,0.6s						
NJ2			smax	smax			
	comp=N,220nm,1.2s						
NJ2			smax	smax			
	comp=E,70nm,0.7s						
NJ2			LR	LR			
	comp=N,910nm,9.0s						
NJ2			LR	LR			
	comp=E,2μm,10.6s						
NJ2			LR	LR			
	comp=Z,2μm,10.3s						
TGY	**Tagaytay City**	**9.71 189**	LR	LR		05 24 29.2	
	comp=Z,71nm,21.5s,baz=60,slow=39						
KSAR	**Wonju Array Be**	**14.41 17**	Pn	Pn		05 21 25.5	-3.6
KSRS	**Korea Array**	**14.43 18**	Pn	Pn		05 21 25.5	-3.9
	comp=Z,0.2nm,0.3s,baz=198,slow=12,SNR=2.3						
KSRS			LR	LR		05 28 01.3	
	comp=Z,348nm,18.2s,baz=190,slow=42						
XAN	**Xi'an**	**15.70 314**	P		**P**	**05 21 51.0**	**+0.8**
XAN			PMZ				
	comp=Z,10.0nm,1.1s						
XAN			LN				
	comp=Z,210nm,15.6s						
XAN			LE				
	comp=Z,380nm,15.6s						
XAN			LZ				
	comp=Z,530nm,15.6s						
JCJ	**Chichijima**	**18.07 75**	LR	LR		05 28 33.0	
	comp=Z,116nm,18.7s,baz=138,slow=35						
CD2	**Chengdu**	**18.12 297**	*e*P		**Pn**	**05 22 16.8**	**0.0**
LZH	**Lanzhou**	**20.29 312**	*e*P		Pn	05 22 46.0	+3.0
LZH			pP		pP	05 22 51.3	+3.9
LZH			sP		sP	05 22 54.8	+4.3
LZH			PP		PnPn	05 23 05.3	+7.4
LZH			*e*S		**S**	**05 26 24.3**	**-3.1**
LZH			*e*SS		**SnSn**	**05 26 50.5**	**+5.0**
LZH			PMZ				
	comp=Z,52nm,1.3s						
LZH			PMZ				
	comp=Z,130nm,4.6s						
LZH			LN				
	comp=Z,350nm,13.3s						
LZH			LE				
	comp=Z,650nm,13.5s						
LZH			LZ				
	comp=Z,760nm,17.2s						
USRK	**Ussuriysk Ar.**	**21.84 19**	P		**P**	**05 22 54.7**	**-2.5**
	comp=Z,1.8nm,0.7s,baz=209,slow=9.4,SNR=5.7						
USRK			LR	LR		05 31 55.5	
	comp=Z,173nm,18.2s,baz=180,slow=39						
CMAR	**Chiang Mai Arr**	**22.60 261**	P		**P**	**05 23 07.5**	**+1.7**
	comp=Z,0.8nm,0.3s,baz=57,slow=8.7,SNR=5.2						
CMAR			LR	LR		05 32 27.4	
	comp=Z,72nm,18.9s,baz=95,slow=38						
GUMO	**Guam**	**23.43 112**	LR	LR		05 32 29.7	
	comp=Z,92nm,19.2s,baz=189,slow=37						
GTA	**Gaotai**	**24.76 314**	*e*P		**P**	**05 23 27.0**	**+0.4**
GTA			pP		**pP**	**05 23 34.0**	**+0.3**
GTA			sP		**sP**	**05 23 37.5**	**+0.8**
GTA			PMZ				
	comp=Z,12nm,1.0s						
ULN	**Ulaanbaatar**	**27.04 337**	*e*P		**P**	**05 23 46.2**	**-0.9**
	comp=Z,2.1nm,0.6s						
SONM	**Songino Array**	**27.26 336**	P		**P**	**05 23 48.2**	**-0.9**
	comp=Z,5.8nm,0.9s,baz=151,slow=9.4,SNR=29						
SONM			LR	LR		05 35 47.3	
	comp=Z,288nm,19.3s,baz=151,slow=39						
KAPI	**Kappang**	**28.71 186**	LR	LR		05 35 23.7	
	comp=Z,97nm,19.9s,baz=355,slow=36						
MKAR	**Makanchi Array**	**39.50 316**	P		**P**	**05 25 35.5**	**+0.2**
	comp=Z,8.1nm,0.8s,baz=110,slow=10.0,SNR=58						
MKAR			PcP		**PcP**	**05 27 42.9**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=114,slow=4.2,SNR=4.2						
ZALV	**Zalesovo Beam**	**41.28 327**	P		**P**	**05 25 48.5**	**-1.4**
	comp=Z,4.9nm,0.7s,baz=114,slow=7.9,SNR=18						
ZALV			LR	LR		05 44 13.9	
	comp=Z,145nm,18.2s,baz=74,slow=38						
TKM2	**Tokmak 2**	**43.00 308**	*e*P		**P**	**05 26 05.2**	**+0.9**
	comp=Z,17nm,0.8s						
EKS2	**Erkin-Say**	**44.27 307**	*e*P		**P**	**05 26 15.1**	**+0.6**
	comp=Z,5.2nm,0.8s						
WRA	**Warramunga Arr**	**44.92 164**	P		**P**	**05 26 20.6**	**+0.9**
	comp=Z,3.1nm,0.8s,baz=347,slow=8.6,SNR=8.0						
KKAR	**Karatay Array**	**46.71 308**	*e*P		**P**	**05 26 34.1**	**+0.5**
	comp=Z,3.9nm,0.6s						
KBL	**Kabul**	**47.45 296**	*e*P		**P**	**05 26 40.7**	**+0.9**
	comp=Z,9.4nm,0.8s						
ASAR	**Alice Springs**	**48.41 166**	P		**P**	**05 26 48.8**	**+1.8**
	comp=Z,2.8nm,0.9s,baz=349,slow=6.5,SNR=7.6						
ABKAR	**Akbulak array**	**54.62 314**	*e*P		**P**	**05 27 33.1**	**-0.1**
	comp=Z,5.2nm,0.7s						
GEYT	**Alibeck**	**56.07 301**	P		**P**	**05 27 45.1**	**+1.2**
	comp=Z,5.6nm,0.9s,baz=75,slow=1.7,SNR=6.3						
STKA	**Stephens Creek**	**58.24 161**	P		**P**	**05 28 00.8**	**+1.7**
	comp=Z,5.1nm,0.8s,baz=338,slow=10,SNR=5.8						
STKA	**Stephens Creek**	**58.24 161**	*e*P		**P**	**05 28 00.5**	**+1.4**
	comp=Z,1.0nm,0.8s						
KBZ	**Khabaz**	**66.70 309**	P		**P**	**05 28 55.5**	**-0.2**
	comp=Z,5.3nm,0.9s,baz=98,slow=3.5,SNR=11						
ILAR	**Eielson Array**	**69.04 27**	P		**P**	**05 29 08.8**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=268,slow=5.6,SNR=7.0						
ARCES	**ARCESS Array B**	**70.40 338**	P		**P**	**05 29 17.7**	**-0.6**
	comp=Z,3.1nm,0.8s,baz=59,slow=7.7,SNR=3.7						
FINES	**FINESS Array B**	**72.44 330**	P		**P**	**05 29 30.1**	**-0.6**
	comp=Z,2.7nm,0.8s,baz=87,slow=7.5,SNR=5.9						
INK	**Inuvik**	**73.17 22**	P		**P**	**05 29 33.8**	**-1.2**
	comp=Z,1.3nm,0.6s,baz=286,slow=7.4,SNR=3.6						
BRTR	**Keskin Array B**	**74.41 307**	P		**P**	**05 29 43.4**	**+0.3**
	comp=Z,3.8nm,0.9s,baz=100,slow=6.4,SNR=21						
DLBC	**Dease Lake**	**78.70 31**	*e*P		**P**	**05 30 07.2**	**+0.4**
	comp=Z,4.6nm,1.1s						
NB2	**NORSAR Subarra**	**79.18 333**	P		**P**	**05 30 08.5**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=57,slow=6.2						
NOA	**NORSAR Array B**	**79.18 333**	P		**P**	**05 30 08.1**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=58,slow=5.3,SNR=4.5						
YKA	**Yellowknife Ar**	**82.90 23**	P		**P**	**05 30 28.4**	**-0.6**
	comp=Z,3.0nm,0.9s,baz=311,slow=5.0,SNR=15						
GERES	**GERESS Array B**	**83.95 321**	P		**P**	**05 30 34.7**	**-0.2**
	comp=Z,2.1nm,0.9s,baz=70,slow=4.4,SNR=12						

IDC 31 05:21:20.3±1.8, 6°47S×130°23E, h0km, mb3.5/1, mb1 4.2/4, mb1mx3.7/42, mbtmp4.0/4, ML4.1/3, Error ellipse: s-maj=75.2km s-min=27.8km az=80.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.07**	**30**	P	Pn	05 22 24.5	+0.7
	baz=3.9,SNR=42						
SIJI	**Sorong**	**5.66**	**11**	Pn	Pn	05 22 46.6	+0.8
	5.2nm,0.3s,baz=195,slow=19,SNR=12						
SIJI				Sn	Sn	05 23 44.5	-7.1
	5.6nm,0.3s,baz=183,slow=17,SNR=11						
MTN	**Manton Dam**	**6.39**	**172**	P	Pn	05 23 02.3	+6.5
	baz=6.5,SNR=28						
KDU	**Kakadu**	**6.56**	**160**	P	Pn	05 23 02.1	+4.0
	baz=6.6,SNR=60						
KNRA	**Kununurra**	**9.26**	**189**	P	Pn	05 23 41.4	+6.2
	baz=9.5,SNR=8.8						
WRA	**Warramunga Arr**	**13.97**	**164**	Pn	Pn	05 24 39.1	-0.6
	1.0nm,0.3s,baz=348,slow=14,SNR=12						
WRA				Sn	Sn	05 27 07.8	-8.0
	0.6nm,0.3s,baz=348,slow=21,SNR=5.3						
ASAR	**Alice Springs**	**17.46**	**169**	P	P	05 25 26.2	-0.6
	0.9nm,0.3s,baz=352,slow=13,SNR=45						
ASAR				S	Sn	05 28 31.9	-8.6
	0.1nm,0.3s,baz=348,slow=26,SNR=3.3						
MKAR	**Makanchi Array**	**67.91**	**327**	P	P	05 32 20.6	-0.2
	0.3nm,0.5s,baz=115,slow=6.9,SNR=3.3						

*IDC **31** 05:29:24.5±2.9, 18°.20S×174°.69W, h101km±25km, mb4.3/22, mb1 4.4/23, mb1mx4.3/42, mbtmp4.6/23, MS3.5/1, Ms1 3.5/1, ms1mx2.8/25, Error ellipse: s-maj=17.1km s-min=10.9km az=124.0*

*ISCJB **31** 05:29:28.6±2.1, 18°.24S±0°.05×174°.82W±0°.07, h150km±19km, mb4.5/64, Error ellipse: s-maj=12.0km s-min=6.6km az=37.3*

*BJI **31** 05:29:30.4, 18°.00S×175°.28W, h147km, mb5.0/12, mB5.2/9*

*NEIC **31** 05:29:30.5±2.4, 18°.20S×174°.80W, h154km±22km, mb4.7/50, Error ellipse: s-maj=7.4km s-min=6.1km az=135.0*

ISC 31 05:29:31.7±0.6, 18°.32S±0°.07×174°.78W±0°.09, h167km±4km, h166km; pP-P, n111, σ1s 03/129, mb4.5/65, 1C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.25**	**34**	P	Pn	05 30 38.5	-10
	28nm,0.3s,baz=222,slow=16,SNR=44						
AFI				S	Sn	05 31 29.7	-20
	130nm,0.3s,baz=141,slow=18,SNR=17						
AFI	**Afiamalu**	**5.25**	**34**	*e*Pn	Pn	05 30 38.8	-10
AFI				*e*Sn	Sn	05 31 29.3	-20
MSVF	**Nonsavu**	**6.85**	**274**	*e*Pn	Pn	05 31 15.6	+5.7
RAR	**Rarotonga**	**14.42**	**104**	LR	LR	05 37 40.6	
	comp=Z,160nm,18.1s,baz=278,slow=34						
OUZ	**Omahuta**	**19.75**	**209**	*e*P	**P**	**05 33 49.1**	**+0.4**
	10nm,0.8s						
HAZ	**Te Kaha**	**20.43**	**197**	PN	**P**	**05 33 56.7**	**+0.7**
MWZ	**Matawai**	**21.04**	**197**	PN	**P**	**05 34 02.1**	**-0.4**
URZ	**Urewera**	**21.09**	**198**	P	**P**	**05 34 02.4**	**-0.6**
	21nm,0.3s,baz=33,slow=9.7,SNR=44						
URZ				S	**S**	**05 37 44.7**	**-3.3**
	9.5nm,0.5s,baz=75,slow=20,SNR=10						
URZ	**Urewera**	**21.09**	**198**	PN	**P**	**05 34 01.7**	**-1.3**
URZ				SN	**S**	**05 37 44.9**	**-3.1**
URZ	**Urewera**	**21.09**	**198**	*e*P	**P**	**05 34 02.4**	**-0.6**
	98nm,1.4s						
URZ				*e*S	**S**	**05 37 47.5**	**-0.6**
BKZ	**Black Stump Fm**	**22.11**	**198**	*e*P	**P**	**05 34 14.4**	**+0.7**
	18nm,1.0s						
THZ	**Tophouse**	**25.63**	**202**	*e*PN	**P**	**05 34 46.1**	**+0.3**
KHZ	**Kahutara**	**26.00**	**200**	*e*P	**P**	**05 34 49.7**	**+0.7**
	480nm,2.9s						
RPZ	**Rata Peaks**	**27.99**	**202**	P	**P**	**05 35 07.1**	**+0.3**
	12nm,0.3s,baz=21,slow=8.6,SNR=4.7						
RPZ	**Rata Peaks**	**27.99**	**202**	*e*P	**P**	**05 35 09.9**	**+3.1**
	23nm,0.8s						
WHZ	**Wether Hill Ro**	**31.01**	**204**	*e*P	**P**	**05 35 34.6**	**+1.2**
	290nm,2.1s						
EIDS	**Eidsvold**	**32.39**	**251**	*e*P	**P**	**05 35 45.7**	**0.0**
ARMA	**Armidale**	**32.76**	**242**	*e*P	**P**	**05 35 50.0**	**+0.9**
	165nm,2.5s						
CTA	**Charters Tower**	**36.78**	**261**	P	**P**	**05 36 23.4**	**-0.2**
	6.4nm,0.4s,baz=86,slow=10,SNR=12						
CTAO	**Charters Tower**	**36.78**	**261**	*e*P	**P**	**05 36 24.0**	**+0.3**
	11nm,0.8s						
STKA	**Stephens Creek**	**41.48**	**242**	P	**P**	**05 37 02.7**	**+0.3**
	2.2nm,0.4s,baz=83,slow=10.0,SNR=3.9						
BBOO	**Buckleboo**	**46.24

WDC	Whiskeytown Da	76.08	38	*e*P		P	05 41 00.9	0.0
	9.4nm,1.0s							
YBH	Yreka Blue Hor	76.71	37	P		P	05 41 04.7	+0.2
	2.9nm,0.6s,baz=180,slow=7.1,SNR=9.6							
YBH	Yreka Blue Hor	76.71	37	*e*P		P	05 41 05.0	+0.5
	62nm,2.5s							
KSRS	Korea Array	77.33	317	P		P	05 41 09.3	+1.4
	1.7nm,0.8s,baz=129,slow=6.5,SNR=6.6							
KSAR	Wonju Array Be	77.35	317	P		P	05 41 09.3	+1.2
NVAR	Mina Array Bea	77.37	42	P		P	05 41 08.1	-0.3
	3.4nm,0.9s,baz=225,slow=8.9,SNR=17							
TPH	Tonopah	77.86	43	*e*P		P	05 41 10.7	-0.4
	6.1nm,1.2s							
TPNV	Topopah Spring	77.86	44	*e*P		P	05 41 11.0	-0.1
	4.3nm,1.0s							
KDAK	Kodiak Island	78.03	12	P		P	05 41 10.9	-0.4
	11nm,0.9s,baz=198,slow=6.4,SNR=3.6							
KDAK	Kodiak Island	78.03	12	*e*P		P	05 41 11.1	-0.3
	119nm,1.5s							
SHPR	Sheep Range	78.34	45	*e*P		P	05 41 13.9	+0.1
K05A	Summer Lake	78.38	37	*e*P		P	05 41 14.0	+0.1
	118nm,2.6s							
CCUT	Cedar City	80.12	45	*e*P		P	05 41 23.9	+0.4
	25nm,2.5s							
PGC	Sidney	80.81	32	*e*P		P	05 41 26.5	0.0
	26nm,1.3s							
NJ2	Nanjing	80.89	308	*e*P		P	05 41 25.0	-2.4
NJ2					PMZ			
	40nm,1.0s							
G08A	Pilot Rock	81.06	36	*e*P		P	05 41 28.0	-0.2
	5.7nm,0.9s							
F10A	Beach Ranch, E	82.44	36	*e*P		P	05 41 34.7	-0.7
	7.1nm,0.8s							
HLID	Hailey	82.71	40	*e*P		P	05 41 36.8	-0.2
	3.4nm,0.9s							
B08A	Colville Reser	82.73	34	*e*P		P	05 41 36.1	-0.6
	40nm,2.6s							
SCM	Sheep Creek Mo	82.82	13	*e*P		P	05 41 36.2	-0.7
	40nm,1.5s							
SRU	San Rafael	82.84	45	*e*P		P	05 41 38.2	+0.5
	3.6nm,0.9s							
TXAR	Lajitas Array	83.33	56	P		P	05 41 40.0	-0.3
	1.7nm,0.9s,baz=216,slow=8.6,SNR=16							
HWUT	Hardware Ranch	83.43	42	*e*P		P	05 41 40.1	-0.6
	1.8nm,0.8s							
PV04	Paradox Valley	83.58	46	*e*P		P	05 41 41.5	0.0
ANMO	Albuquerque	83.68	50	*e*P		P	05 41 42.3	+0.2
	3.7nm,1.2s							
PV01	Paradox Valley	83.68	47	*e*P		P	05 41 41.6	-0.5
	168nm,1.0s							
TRF	Thorofare Moun	83.72	11	*e*P		P	05 41 40.5	-1.1
	69nm,2.1s							
RND	Reindeer	83.94	11	*e*P		P	05 41 42.5	-0.1
	25nm,1.4s							
BPAW	Bear Paw Mtn.	84.20	10	*e*P		P	05 41 42.8	-1.1
	6.0nm,2.2s							
MCK	McKinley	84.22	11	*e*P		P	05 41 42.9	-1.1
	5.0nm,0.8s							
MCMT	McKenzie Canyo	84.34	39	*e*P		P	05 41 45.5	+0.2
HYT	Haines Junctio	84.38	17	*e*P		P	05 41 45.1	+0.2
MAW	Mawson	84.62	199	P		P	05 41 46.8	+0.8
	5.9nm,0.6s,baz=129,slow=7.2,SNR=29							
MAW	Mawson	84.62	199	*e*P		P	05 41 46.5	+0.5
	1.1nm,0.6s							
S22A	4UR Ranch, Cre	84.71	48	*e*P		P	05 41 47.8	+0.5
	2.5nm,0.8s							
DLBC	Dease Lake	84.89	22	*e*P		P	05 41 47.5	+0.1
	3.3nm,0.8s							
SEY	Seymchan	84.99	346	P		P	05 41 47.8	0.0
	3.7nm,0.8s,baz=190,slow=12,SNR=5.5							
WRH	Wood River Hil	85.06	11	*e*P		P	05 41 47.2	-0.8
	18nm,0.9s							
MLY	Manley	85.10	10	*e*P		P	05 41 47.5	-0.9
	6.8nm,0.9s							
HDA	Harding Lake	85.21	12	*e*P		P	05 41 48.5	-0.4
	14nm,0.7s							
CCB	Clear Creek Bu	85.27	11	*e*P		P	05 41 48.1	-1.0
	16nm,0.8s							
BW06	Boulder Array	85.31	42	*e*P		P	05 41 49.4	-0.7
	44nm,3.0s							
PDAR	Pinedale Array	85.31	42	P		P	05 41 49.2	-1.0
	1.4nm,0.8s,baz=244,slow=1.2,SNR=12							
COLA	College	85.46	11	*e*P		P	05 41 49.6	-0.4
	25nm,0.8s							
IM04	Indian Mountai	85.52	8	*e*P		P	05 41 50.2	-0.2
ILAR	Eielson Array	85.55	12	P		P	05 41 49.5	-1.0
	3.6nm,0.7s,baz=230,slow=6.3,SNR=61							
BJI	Beijing	86.52	314	P		P	05 41 53.3	-2.6
BJI					PMZ			
	7.0nm,0.8s							
DAWY	Dawson	86.56	15	*e*P		P	05 41 56.1	+0.5
	10nm,0.8s							
EGAK	Eagle	86.75	14	*e*P		P	05 41 56.1	-0.3
	8.2nm,0.9s							
ABTX	Abilene, Hawle	87.82	55	*e*P		P	05 42 03.0	+0.7
	9.1nm,0.8s							
GYA	Guiyang	88.25	298	*e*P		P	05 42 05.0	+0.4
GYA					pP	pP	05 42 45.8	-0.7
GYA					PP	PP	05 45 36.3	+1.7
GYA					SKS	SKSac	05 52 16.0	-2.0
GYA					S	S	05 52 33.5	-2.1
GYA					PMZ			
	10.0nm,1.0s							
GYA					PMZ			
	110nm,5.8s							
SYO	Syowa Base	89.49	192‖	*e*P		P	05 42 08.0	-1.5
HHC	Hu-ho-hao-te	90.04	313	*e*P		P	05 42 14.0	+1.3
HHC					PP	PP	05 45 52.0	+3.5
HHC					SKS	SKSac	05 52 28.0	+0.1
HHC					S	S	05 52 51.0	-0.6
HHC					PMZ			
	14nm,1.2s							
HHC					PMZ			
	41nm,5.4s							
SNAA	Sanae	90.07	177	P		P	05 42 12.0	-0.2
SNAA	Sanae	90.07	177	*e*P		P	05 42 12.2	0.0
	7.6nm,1.9s							
VNA2	Neumayer--Watz	90.56	176	P		P	05 42 13.5	-1.0
	baz=190,slow=3.4							
VNA1	Neumayer--Stat	90.77	176	P		P	05 42 15.7	+0.4
KMI	Kunming	91.10	296	P		P	05 42 19.0	+0.9
KMI					PMZ			
	11nm,0.5s							
INK	Inuvik	91.41	14	P		P	05 42 17.3	-0.8
	6.5nm,1.0s,baz=264,slow=6.2,SNR=5.5							
INK	Inuvik	91.41	14	*e*P		P	05 42 17.6	-0.6
	6.4nm,0.9s							
CD2	Chengdu	92.20	302	*e*P		P	05 42 22.8	0.0
CD2					pP	pP	05 43 03.3	-1.5
CD2					PP	PP	05 46 05.0	-0.7
CD2					SKS	SKSac	05 52 40.0	-0.5
CD2					S	S	05 53 11.5	0.0
CD2					PMZ			
	10.0nm,0.5s							
CD2					PMZ			
	120nm,5.4s							
YKA	Yellowknife Ar	93.29	24	P		P	05 42 26.3	-0.6
	1.2nm,0.8s,baz=238,slow=3.9,SNR=6.6							
LZH	Lanzhou	93.89	307	‖P		P	05 42 31.5	+0.9
LZH					pP	pP	05 43 12.0	-0.7
LZH					sP	sP	05 43 29.5	-0.6
LZH					PP	PP	05 46 22.5	+3.6
LZH					PMZ			
	18nm,1.5s							
LZH					PMZ			
	79nm,9.3s							
CLL	Collm	146.51	351	⇑*i*	PKPbc	PKPbc	05 48 53.4	+0.3
	comp=Z,8.0nm,0.9s							
CLL				*i*	PKPab	PKiKP	05 48 55.5	-0.4
	comp=Z,9.0nm,0.9s							
UPC	Upice	146.75	347	*e*	PKP	PKPbc	05 48 53.6	-0.3
BRG	Berggiesshubel	146.78	350	*e*	PKP	PKPbc	05 48 54.1	+0.2
	comp=Z,3.8nm,0.9s							
DPC	Dobruska-Polom	146.83	347	*e*	PKP	PKPbc	05 48 54.6	+0.4
DPC				*ex*		x	05 48 56.9	
DPC				*ep*	PKP	pPKPdf	05 49 36.3	+0.2
BRTR	Keskin Array B	147.48	317		PKPbc	PKPbc	05 48 56.5	+0.1
	comp=Z,1.0nm,0.7s,baz=75,slow=1.6,SNR=5.8							
GOPC	GO Pecny, Ondr	147.56	348	*e*	PKP	PKPab	05 48 59.4	+0.7
NKC	Novy Kostel	147.64	351	*e*	PKP	PKPab	05 48 58.8	-0.2
KHC	Kasperske Hory	148.53	349	*e*	PKP	PKPbc	05 48 59.1	+0.3
KHC				*ex*		x	05 49 03.0	
KHC				*ep*	PKP	pPKPdf	05 49 39.1	+0.1
GERES	GERESS Array B	148.78	349		PKPbc	PKPbc	05 48 59.5	0.0
	comp=Z,1.0nm,0.7s,baz=7.1,slow=3.2,SNR=7.9							
ESDC	Sonseca Array	157.28	19		PKPab	PKPab	05 49 39.7	-0.1
	comp=Z,1.2nm,0.7s,baz=330,slow=3.8,SNR=8.6							
TORD	Torodi Ar. Bea	173.84	146		PKP	PKPdf	05 49 21.1	-1.0
	comp=Z,0.4nm,0.9s,baz=186,slow=1.4,SNR=3.0							
TORD					PKPab	PKPab	05 50 52.6	-0.5
	comp=Z,0.9nm,0.9s,baz=206,slow=3.9,SNR=4.4							

IDC ***31*** *05:40:06.9±0.7, 6°.87S×151°.01E, h0km, mb4.3/16, mb1 4.4/17, mb1mx4.3/36, mbtmp4.3/17, ML2.0/1, MS3.0/4, Ms1 3.0/4, ms1mx2.8/23, Error ellipse: s-maj=22.0km s-min=15.2km az=104.0*

ISCJB ***31*** *05:40:11.1±0.5, 6°.88S±0°.07×150°.94E±0°.07, h40km, mb4.4/21, MS2.9/2, Error ellipse: s-maj=12.5km s-min=7.6km az=40.7*

NEIC ***31*** *05:40:13.5±1.9, 6°.90S×150°.91E, h45km±17km, mb4.7/10, Error ellipse: s-maj=11.6km s-min=10.0km az=71.0*

ISC 31 05:40:12.7±0.7, 6°.87S±0°.09×151°.0E±0°.1, h40km, n33, σ0s84/34, mb4.4/20, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.57	236	Pn		Pn	Pn	05 41 18.5	-0.8
	4.8nm,0.3s,baz=50,slow=9.6,SNR=11								
PMG				Sn		Sn	Sn	05 42 12.6	+1.5
	22nm,0.3s,baz=76,slow=19,SNR=10								
PMG				LR		LR	LR	05 42 47.2	
	comp=Z,72nm,20.6s,baz=34,slow=35								
PMG	Port Moresby	4.57	236	*e*Pn		Pn	Pn	05 41 19.6	+0.3
PMG				Sn		Sn	Sn	05 42 12.7	+1.5
HNR	Honiara	9.21	107	LR		LR	LR	05 45 27.2	
	comp=Z,137nm,20.2s,baz=149,slow=35								
FAKI	Fak Fak	19.09	281	*e*P		P	P	05 44 31.6	-0.5
	18nm,1.0s								
SIJI	Sorong	20.57	286	P		P	P	05 44 49.0	+0.7
	7.7nm,0.4s,baz=98,slow=12,SNR=6.9								
SIJI				LR		LR	LR	05 53 46.8	
	comp=Z,60nm,19.1s,baz=32,slow=40								
WRAB	Tennant Creek	20.74	230	*e*P		P	P	05 44 48.9	-1.2
	18nm,0.7s								
WRA	Warramunga Arr	20.75	230	P		P	P	05 44 49.0	-1.2
	13nm,0.7s,baz=53,slow=10,SNR=35								
GUMO	Guam	21.22	343	LR		LR	LR	05 52 39.5	
	comp=Z,36nm,21.1s,baz=95,slow=36								
DZM	Mont Dzumac	21.23	137	P		P	P	05 44 55.0	-0.3
	20nm,1.2s,baz=180,slow=5.0,SNR=7.0								
ASAR	Alice Springs	23.43	223	P		P	P	05 45 18.1	-0.4
	9.8nm,0.8s,baz=58,slow=8.9,SNR=53								
ASAR				S		S	S	05 49 28.8	-0.4
	0.7nm,0.9s,baz=47,slow=17,SNR=4.0								
STKA	Stephens Creek	26.39	198	P		P	P	05 45 44.8	-0.6
	3.8nm,0.7s,baz=29,slow=9.5,SNR=4.6								
STKA	Stephens Creek	26.39	198	*e*P		P	P	05 45 46.6	+1.2
	2.0nm,0.9s								
JNU	Nakatsue	44.13	335	P		P	P	05 48 17.6	+0.2
	9.3nm,0.9s,baz=27,slow=3.3,SNR=3.6								
JNU	Nakatsue	44.13	335	*e*P		P	P	05 48 17.3	-0.1
	5.0nm,1.1s								
KSRS	Korea Array	49.08	336	P		P	P	05 48 56.2	+0.2
	1.9nm,0.8s,baz=158,slow=8.0,SNR=4.4								
KSAR	Wonju Array Be	49.09	336	P		P	P	05 48 56.2	+0.1
GSI	Gunungsitoli	53.93	277	*e*P		P	P	05 49 31.8	-1.0
	13nm,0.8s								
CMAR	Chiang Mai Arr	57.18	297	P		P	P	05 49 55.6	-0.4
	0.6nm,0.4s,baz=119,slow=7.1,SNR=5.6								
PETK	Petropavlovsk-	60.02	5	P		P	P	05 50 15.6	+0.4
	2.5nm,0.8s,baz=179,slow=6.9,SNR=2.7								
SONM	Songino Array	67.14	329	P		P	P	05 51 02.3	-0.2
	1.8nm,0.7s,baz=143,slow=5.9,SNR=9.5								
SONM				PcP		PcP	PcP	05 51 30.6	+0.2
	1.4nm,0.9s,baz=132,slow=4.2,SNR=4.8								
VNDA	Vanda	70.85	178	P		P	P	05 51 25.0	+0.1
	0.8nm,0.6s,baz=327,slow=6.9,SNR=4.0								
MKAR	Makanchi Array	80.72	320	P		P	P	05 52 22.1	+0.3
	0.4nm,0.4s,baz=108,slow=5.7,SNR=6.3								
ZALV	Zalesovo Beam	81.89	327	P		P	P	05 52 27.0	-0.8
	1.5nm,0.8s,baz=102,slow=5.8,SNR=5.4								
PMR	Palmer	82.29	25	*e*P		P	P	05 52 29.4	-0.3
	3.6nm,0.6s								
MCK	McKinley	83.45	23	*e*P		P	P	05 52 35.8	0.0
	11nm,0.9s								
ILAR	Eielson Array	84.73	22	P		P	P	05 52 42.0	-0.3
	3.2nm,0.8s,baz=251,slow=5.3,SNR=38								
EKS2	Erkin-Say	85.31	314	*e*P		P	P	05 52 47.1	+1.2
	9.0nm,0.9s								
EGAK	Eagle	86.95	23	*e*P		P	P	05 52 54.6	+1.4
	7.6nm,1.0s								
HYT	Haines Junctio	87.08	28	*e*P		P	P	05 52 56.2	+2.1
	8.2nm,1.2s								
KKAR	Karatay Array	87.75	314	*e*P		P	P	05 52 57.5	-0.1
	4.0nm,0.9s								
INK	Inuvik	91.01	21	P		P	P	05 53 12.8	+0.6
	3.4nm,0.9s,baz=187,slow=7.1,SNR=3.8								
YKA	Yellowknife Ar	98.08	28	P			Pdif	05 53 46.7	+1.9
	4.9nm,0.7s,baz=268,slow=4.5,SNR=5.5								
TORD	Torodi Ar. Bea	149.16	284	PKPbc		PKPbc	PKPbc	05 59 57.7	-0.2
	4.9nm,0.7s,baz=72,slow=2.3,SNR=37								

SJA 31 06:16:46.9±0.9, 31°.20S×68°.49W, h106km±5km, ML3.9, MW3.3, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RTLL	Cerro Villicun	0.13	174	*i* P		Pn	Pn	06 17 02.3	+0.6
AMOG	MOGNA	0.26	360	*i* P		Pn	Pn	06 17 03.0	+0.8
SJA	San Juan	0.33	190	*i* P		Pn	Pn	06 17 03.3	+0.9
SJA					IAML			06 17 18.0	
	comp=Z,387nm,0.1s								
RTCV	Cerro Valdivia	0.66	184	*i* P		Pn	Pn	06 17 05.4	+0.7
RTCV				*i* S		Sn	Sn	06 17 18.2	+0.2
RTCV					IAML			06 17 19.3	
	comp=Z,2368μm,0.1s								
RTLS	Leoncito	0.91	229	*i* P		Pn	Pn	06 17 08.1	+0.9
AVFE	Valle Fertil	1.04	59	*i* P		Pn	Pn	06 17 09.4	+1.1
AVFE				*i* S		Sn	Sn	06 17 26.0	+1.5
AVFE					IAML			06 17 26.4	
	comp=Z,683nm,0.3s								
AUSP	Uspallata	1.28	217	*i* P		Pn	Pn	06 17 12.1	+0.9
ACAN	Cantantal	1.54	134	*i* P		Pn	Pn	06 17 15.5	+1.4
ACAN				*i* S		Sn	Sn	06 17 36.1	+1.4
ACHE	Chepes	1.57	89	*i* P		Pn	Pn	06 17 15.5	+1.0
ACHE				*i* S		Sn	Sn	06 17 36.5	+1.1
ARCO	CERRO ARCO	1.68	193	*i* P		Pn	Pn	06 17 17.4	+1.4
ARCO				*i* S		Sn	Sn	06 17 39.0	+1.0
ARCO					IAML			06 17 41.1	
	comp=Z,449nm,0.3s								
APLL	PUNTA DE LOS L	1.87	65	*i* P		Pn	Pn	06 17 19.1	+1.0
APLL				*i* S		Sn	Sn	06 17 42.6	+0.6
AAGR	Agrelo	1.90	189	*i* P		Pn	Pn	06 17 19.8	+1.1
VCA	Vinchina	2.47	6	*i* P		Pn	Pn	06 17 26.9	+0.9
VCA				*i* P		Pn	Pn	06 17 27.3	+1.2
VCA					IAML			06 18 02.6	
	comp=Z,142nm,0.2s								
MRA	San Martin	2.66	118	*i* P		Pn	Pn	06 17 29.3	+0.9
MRA					IAML			06 18 02.5	
	comp=Z,83nm,0.3s								

JMA ***31*** *06:33:15.1±0.4, 44°.00N×147°.90E, h0km, M3.9*

SKHL ***31*** *06:33:16.1±0.6, 44°.34N×148°.05E, h30km±5km, mb4.2/2*

ISC 31 06:33:13.6±3.1, 44°.25N±0°.09×148°.3E±0°.2, h35km, n10, σ1s37/18, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.04	341	*i* P		Pn	Pn	06 33 31.8	+0.1
KUR					AMB	AMB	AMB	06 33 32.3	
	40nm,0.4s								
KUR					AMB	AMB	AMB	06 33 32.3	
	80nm,0.4s								
KUR					AMB	AMB	AMB	06 33 32.3	
	140nm,0.4s								
KUR				*i* S		Sn	Sn	06 33 43.3	-1.8
KUR					A	A	A	06 33 44.2	
	180nm,0.2s								
KUR					A	A	A	06 33 44.2	
	400nm,0.2s								
YUK	Yuzh-Kuril'sk	1.80	264	*i* P		Pn	Pn	06 33 42.3	+0.2
YUK					AMB	AMB	AMB	06 33 44.1	
	20nm,0.2s								
YUK					AMB	AMB	AMB	06 33 44.1	
	30nm,0.2s								
YUK					AMB	AMB	AMB	06 33 44.1	
	80nm,0.2s								
YUK				*i* S		Sn	Sn	06 34 01.6	-2.1
YUK					A	A		06 34 07.8	
	200nm,0.2s								
YUK					A	A		06 34 07.8	
	360nm,0.2s								
NEM2	Nemuro 2	2.08	246	P		Pn	Pn	06 33 46.0	+0.1
NEM2				*e*S		Sn	Sn	06 34 08.9	-1.7
JRA	Rausu	2.34	264	P		Pn	Pn	06 33 50.6	+1.1
JRA				*e*S		Sn	Sn	06 34 16.7	-0.4
JAK	Akkeshi	2.93	246	P		Pn	Pn	06 33 58.1	+0.5
JAK				*e*S		Sn	Sn	06 34 29.8	-1.7
JAR	Ashorobuto	3.45	256	P		Pn	Pn	06 34 06.7	+2.0
JAR				*e*S		Sn	Sn	06 34 44.1	-0.2
JOB	Onbets	3.54	249	P		Pn	Pn	06 34 07.0	+1.0
JOB				*e*S		Sn	Sn	06 34 45.7	-0.9
JCH	Churui	3.98	248	*e*S		Sn	Sn	06 34 56.0	-1.4
JNBK	Urakawa-nobuka	4.53	246	P		Pn	Pn	06 34 21.4	+1.8
YSS	Yuzh-Sakhalins	4.77	307	*e*P		Pn	Pn	06 34 24.4	+1.5
YSS				*e*S		Sn	Sn	06 35 17.0	+0.2

IDC 31 06:41:54.0±2.3, 7°.34S×151°.26E, h0km, mb3.2/3, mb1 3.6/3, mb1mx3.3/25, mbtmp3.3/3, Error ellipse: s-maj=147.5km s-min=29.4km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.65	231	P		P	P	06 46 35.8	+0.3
	0.7nm,0.8s,baz=56,slow=12,SNR=5.8								
ASAR	Alice Springs	23.26	224	P		P	P	06 47 02.7	-0.6
	0.3nm,0.7s,baz=59,slow=9.0,SNR=2.9								
ILAR	Eielson Array	85.07	22	P		P	P	06 54 31.2	-0.2
	0.3nm,0.6s,baz=252,slow=4.5,SNR=6.2								
TORD	Torodi Ar. Bea	149.52	283	PKPbc		PKPbc	PKPbc	07 01 46.3	-0.1
	0.3nm,0.6s,baz=70,slow=1.7,SNR=2.7								

BJI ***31*** *06:52:51.4, 29°.67N×56°.35E, h4km, mb5.2/69, mB5.4/45, Ms5.5/80, Ms7 5.2/72*

IDC ***31*** *06:52:54.2±0.3, 29°.51N×56°.86E, h0km, mb5.0/62, mb1 5.1/67, mb1mx5.0/78, mbtmp5.0/67, ML1.6/1, MS4.8/39, Ms1 4.8/39, ms1mx4.8/43, Error ellipse: s-maj=6.0km s-min=5.3km az=20.0*

ISCJB ***31*** *06:52:55.0±0.4, 29°.56N±0°.01×56°.75E±0°.01, h9km±2km, mb5.3/262, MS4.9/194, Error ellipse: s-maj=2.5km s-min=1.7km az=21.0*

THR ***31*** *06:52:56.1±1.1, 29°.63N×56°.76E, h15km±5km, ML5.6*

CSEM ***31*** *06:52:56.5±0.1, 29°.60N×56°.79E, h10km, mb5.4/99, Ms5.0, Error ellipse: s-maj=3.6km s-min=3.0km az=9.0*

TEH ***31*** *06:52:57.8, 29°.70N×56°.81E, h4km, ML5.8*

NEIC ***31*** *06:52:57.8, 29°.70N×56°.81E, h4km, mb5.5/108, MS5.0/134, ML5.6(THR), MN5.8(TEH), After TEH.*

NEIC Telephone communications disrupted in the Kerman area.

GCMT ***31*** *06:52:57.8±0.1, 29°.46N×56°.69E, h18km, MW5.4/113, Moment Tensor Solution. s79,c130; s113,c227; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr~0.73±.02; Mθθ~0.99±.02; Mφφ=1.73±.02; Mrθ 0.63±.06; Mθφ~0.38±.02; Mφr~0.13±.05; Best double couple: M0 1.66300×10^17 NP1:φs314.00000°, δ68.00000°, λ-147.00000°. NP2:φs211.00000°, δ60.00000°, λ-25.00000°. Principal axes: T 1.8030, Plg5.0000°, Azm81.0000°; N -0.2790, Plg51.0000°, Azm344.0000°; P -1.5230, Plg38.0000°, Azm175.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

DSN ***31*** *06:52:58.3±0.6, 29°.60N×56°.87E, h22km, mb5.7/10, ML6.4/7, Ms5.0/2 Error ellipse: s-maj=14.5km s-min=6.1km az=95.0*

MOS ***31*** *06:52:59.4±1.1, 29°.56N×56°.80E, h49km, mb5.6/63, MS4.8/56, Error ellipse: s-maj=5.1km s-min=3.4km az=115.8*

SZGRF ***31*** *06:53:05.4, 29°.89N×55°.26E, h10km, mb5.2, Southern Iran*

ISN ***31*** *06:53:12.2±2.9, 30°.03N×56°.11E, h0km±578km, ML5.8*

ISC 31 06:52:57.4±0.2, 29°.58N±0°.02×56°.75E±0°.02, h15km±1km, h14km:pP-P, n1423, σ1s65/1535, mb5.4/285, MS4.9/200, 75C-41D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRBR	Kerman	0.40	2	*e*Pg		Pg	Pg	06 53 02.9	-2.7
KRBR				*e*Sg		Sg	Sg	06 53 08.6	-2.6
KRBR					AML	AML	AML	06 53 09.4	
	comp=E,604μm,0.3s								
KRBR	Kerman	0.40	2	*e*Pg		Pg	Pg	06 53 02.9	-2.7
KRBR				Sg		Sg	Sg	06 53 08.0	-3.2
KRBR	Kerman	0.40	2	Pg		Pg	Pg	06 53 02.0	-3.6
KRBR				Sg		Sg	Sg	06 53 08.0	-3.2
TVBK	TV Kerman	0.40	2	*e*Pg		Pg	Pg	06 53 02.9	-2.7
TVBK	TV Kerman	0.40	2	*e*Pg		Pg	Pg	06 53 02.9	-2.7
CHMN	Cheshme madani	0.74	68	*e*Pg		Pg	Pg	06 53 09.1	-2.8
CHMN	Cheshme madani	0.74	68	*e*Pg		Pg	Pg	06 53 09.1	-2.8
KHGB	Koh Gabri	0.83	343	*e*Pg		Pg	Pg	06 53 10.2	-3.2
KHGB	Koh Gabri	0.83	343	*e*Pg		Pg	Pg	06 53 10.2	-3.2
IBND	Bandar-abas	2.13	185	*e*Pn		Pb	Pb	06 53 35.6	-0.1
IBND				*e*				06 54 22.0	
	comp=Z,1554μm,0.4s								
IBND	Bandar-abas	2.13	185	*e*Pn		Pb	Pb	06 53 35.6	-0.1
IBND	Bandar-abas	2.13	185	Pn		Pb	Pb	06 53 35.6	-0.1
BNDS	Bandar-Abbas	2.23	193	*e*Pn		Pn	Pn	06 53 35.4	+1.4
BNDS				*e*Sg		Sg	Sg	06 54 07.8	-1.4
BNDS					AML	AML	AML	06 54 09.8	
	comp=E,36μm,0.5s								
BNDS	Band

comp=Z,82µm,0.6s
ITEG Tejag 3.72 27⇓ *e*Pn **Pn 06 53 54.2 -0.3**
ITEG Tejag 3.72 27 Pn **Pn 06 53 54.2 -0.3**
TABS Tabas 4.07 4 *e*Pn **Pn 06 53 59.7 +0.5**
IDAH Dahanechah 4.13 40⇓ *e*Pn **Pn 06 54 01.1 +0.9**
IDAH *e* 06 55 21.7
comp=Z,15µm,0.6s
IDAH Dahanechah 4.13 40⇓ *e*Pn **Pn 06 54 01.1 +0.9**
IDAH Dahanechah 4.13 40 Pn **Pn 06 54 01.0 +0.9**
IMON Monand 4.38 34 *e*Pn **Pn 06 54 05.2 +1.6**
IMON *e* 06 55 24.4
comp=E,69µm,0.3s
IMON Monand 4.38 34 *e*Pn **Pn 06 54 05.2 +1.6**
IMON Monand 4.38 34 Pn **Pn 06 54 05.1 +1.6**
UOSS Wadi Hilu 4.64 186 Pn **Pn 06 54 06.2 -0.8**
comp=E,5µm,0.9s,SNR=70
UOSS Wadi Hilu 4.64 186 *e*Pn **Pn 06 54 05.8 -1.2**
UOSS Wadi Hilu 4.64 186 *e*Pn **Pn 06 54 05.8 -1.2**
NAZ Nazwa, Dubai 4.68 192 P **Pn 06 54 09.0 +1.6**
SNR=520
NAZ Nazwa, Dubai 4.68 192 *i* P **Pn 06 54 09.0 +1.6**
SNR=520
HATD Hatta, Dubai 4.77 187 P **Pn 06 54 08.5 -0.2**
SNR=124
HATD Hatta, Dubai 4.77 187 *i* P **Pn 06 54 08.5 -0.2**
SNR=124
AHBU AHRAM 4.82 263 *e*Pn **Pn 06 54 10.0 +0.6**
ASHO Ashiyiah 4.92 187 ⇑P **Pn 06 54 12.1 +1.3**
SNR=151
ASHO Ashiyiah 4.92 187 P **Pn 06 54 12.1 +1.3**
SNR=151
FAQ Al Faqa, Dubai 4.93 192 P **Pn 06 54 12.1 +1.2**
SNR=1000
FAQ Al Faqa, Dubai 4.93 192⇑ *i*P **Pn 06 54 12.1 +1.2**
SNR=1018
IZEF Zefreh 5.02 312 *e*Pn **Pn 06 54 12.7 +0.3**
IZEF *e* 06 55 50.3
comp=Z,40µm,0.5s
IZEF Zefreh 5.02 312 *e*Pn **Pn 06 54 12.7 +0.3**
IZEF Zefreh 5.02 312 Pn **Pn 06 54 12.7 +0.3**
SHRT Shahrakht 5.05 36 *e*Pn **Pn 06 54 13.5 +0.8**
ASUD Al Ashush, Dub 5.09 195 P **Pn 06 54 15.1 +1.9**
SNR=478
ASUD Al Ashush, Dub 5.09 195⇑ *i*P **Pn 06 54 15.1 +1.9**
SNR=478
CHBR Chabahar 5.17 139 *e*Pn **Pn 06 54 14.8 +0.6**
CHBR Sn **Sn 06 55 13.9 +0.2**
HOQ Hoqain 6.00 175 ⇑P **Pn 06 54 25.0 -0.6**
SNR=226
ARQ Araqi 6.22 182 ⇑P **Pn 06 54 30.1 +1.4**
SNR=95
SMDO Samad 6.60 170 ⇑P **Pn 06 54 34.1 +0.1**
SNR=160
GHVR GHOM 6.73 318 *e*Pn **Pn 06 54 37.3 +1.6**
GHVR GHOM 6.73 318 P **Pn 06 54 37.0 +1.3**
GHVR GHOM 6.73 318 P **Pn 06 54 37.0 +1.3**
BSY Bisya 6.82 176 ⇑P **Pn 06 54 38.2 +1.3**
SNR=139
IVRN Varamin 6.87 323 *e*Pn **Pn 06 54 38.2 +0.6**
IVRN *e* 06 55 11.4
comp=Z,14µm,0.4s
IVRN Varamin 6.87 323 *e*Pn **Pn 06 54 38.2 +0.6**
IVRN Varamin 6.87 323 Pn **Pn 06 54 38.2 +0.6**
KHMZ Khomeyn 7.12 307 *e*Pn **Pn 06 54 42.8 +1.6**
WBK Wadi Bani Khal 7.22 163 ⇓P **Pn 06 54 43.0 +0.5**
SNR=96
DAMV Damavand 7.25 327 *e*Pn **Pn 06 54 44.1 +1.1**
DAMV Damavand 7.25 327 P **Pn 06 54 44.0 +0.9**
DAMV Damavand 7.25 327 P **Pn 06 54 44.0 +0.9**
SHGR Shooshtar-Gavs 7.28 292 *e*Pn **Pn 06 54 43.9 +0.7**
SHGR Shooshtar-Gavs 7.28 292 P **Pn 06 54 43.0 -0.2**
SHGR Shooshtar-Gavs 7.28 292 P **Pn 06 54 43.0 -0.2**
JMDO Jabal Madar 7.28 170 ⇑P **Pn 06 54 44.0 +0.7**
SNR=103
ASAO Ashtian 7.55 313 *e*Pn **Pn 06 54 48.5 +1.3**
THKV Tehran--Karaj 8.02 323 *e*Pn **Pn 06 54 55.0 +1.5**
MRVT Maraveh tapeh 8.07 356 *e*Pn **Pn 06 54 55.2 +1.0**
MRVT Maraveh tapeh 8.07 356 P **Pn 06 54 55.0 +0.8**
MRVT Maraveh tapeh 8.07 356 P **Pn 06 54 55.0 +0.8**
GEYT Alibeck 8.40 7 Pn **Pn 06 54 59.3 +0.6**
comp=Z,7.6nm,0.3s,baz=187,slow=15,SNR=103
GEYT Sn **Sn 06 56 37.5 +4.3**
baz=207,slow=35,SNR=2.2
GEYT Lg Lg 06 57 22.1
comp=Z,1.1nm,0.3s,baz=175,slow=26,SNR=2.9
ABKT Ailbek 8.40 7 Pn Pn 06 55 02.2 +3.5
comp=Z,3µm,1.3s,SNR=41
NSR Nassriya 9.28 281 *e*PN x 06 55 18.6
NSR *e*Sn x 06 56 55.2
NSR Nassriya 9.28 281 *e*Pn Pn 06 55 18.6 +8.0
SNR=46
NSR *e*Sn **Sn 06 56 55.2 +0.4**
SNR=48
SNGE Sanandaj 9.66 307 *e*Pn **Pn 06 55 17.0 +0.9**
SNGE Sanandaj 9.66 307 P **Pn 06 55 16.0 -0.1**
SNGE Sanandaj 9.66 307 P **Pn 06 55 16.0 -0.1**
IBDR Badra 9.90 294 *e*PN x 06 55 28.2
IBDR *e*Sn x 06 57 12.0
KBL Kabul 11.54 61 *e*P Pn 06 55 45.2 +3.4
KBL Kabul 11.54 61 *e*Pn Pn 06 55 45.2 +3.4
KBL Kabul 11.54 61 *e*Pn Pn 06 55 45.2 +3.4
SHAO Shalim 11.55 185 ⇓P **Pn 06 55 40.0 -1.8**
RAYN Ar Rayn 11.73 242 Pn Pn 06 55 39.0 -5.3
comp=Z,1µm,0.6s,SNR=36
IKRK Kirkuk 11.97 302 *e*Pn x 06 55 53.6
IKRK *e*Sn x 06 58 01.3
RBK Rabkut 12.25 192 ⇑P **Pn 06 55 48.7 -2.7**
SNR=5.9
ABTO Aybut 12.58 195 ⇑P **Pn 06 55 53.0 -2.9**
SNR=18
BHJ Bhuj 13.16 116 *e*P **Pn 06 56 04.8 +1.0**
BHJ AMB AMB 06 56 07.1
comp=Z,355nm,2.6s
MSL Mosul 13.31 304 *e*Pn x 06 56 11.7
MSL *e*Sn x 06 58 36.7
CEP Cherat 13.58 68 ⇑P **Pn 06 56 11.1 +1.5**
CEP S S 06 58 56.0 -7.6
SARP Sargodha 13.89 76 ⇑P **Pn 06 56 13.6 -0.1**
GNI Garni 14.42 320 Pn **Pn 06 56 22.8 +1.8**
comp=Z,0.7nm,0.3s,baz=9.5,slow=22,SNR=3.8
GNI LR LR 07 01 31.9
comp=Z,4µm,19.7s,baz=54,slow=36
GNI Garni 14.42 320 P **Pn 06 56 22.8 +1.8**
GNI pmax pmax
comp=Z,1.0nm,0.3s
GNI MLR MLR
comp=Z,4µm,19.7s
GNI Garni 14.42 320 *e*Pn **P 06 56 26.6 -1.3**
GNI Garni 14.42 320⇓ *i*P **Pn 06 56 22.4 +1.4**
SNR=67
GNI Garni 14.42 320 *e*Pn **P 06 56 26.6 -1.3**
RTB Rutbah 14.47 288 *e*Pn x 06 56 28.5
RTB *e*Sn x 06 59 05.4
RTB Rutbah 14.47 288 *e*Pn **P 06 56 28.5 +0.1**
SNR=45
RTB *e*Sn **Sn 06 59 05.4 +3.5**
SNR=47
CHCP Chirah Chowk 14.64 70 ⇑P **Pn 06 56 24.9 +0.8**
CHCP S **S 06 59 21.0 -4.2**
MZRK Al-Mazaregh 14.91 299 *e*P **Pn 06 56 26.4 -1.2**
DGRG David-gareji 15.02 325 P **P 06 56 33.1 -1.3**
DGRG David-gareji 15.02 325 *e*P **P 06 56 33.1 -1.3**
DGRG David-gareji 15.02 325 *e*P **P 06 56 33.1 -1.3**
MAK Makhachkala 15.28 333 *e*P **Pn 06 56 34.7 +2.3**
MAK *e*S **Sn 06 59 24.2 +2.9**
MAK pmax pmax
comp=Z,137nm,1.3s
MAK MLR MLR
comp=Z,2µm,10.0s
MAK Makhachkala 15.28 333 *e*P **Pn 06 56 34.7 +2.3**
comp=Z,137nm,1.3s
MAK *e*S **Sn 06 59 24.2 +2.9**
comp=Z,2µm,10.0s
DIGO Kars 15.37 318 *i*P **P 06 56 40.6 +2.0**
MARD Mardin 15.39 304 *i*P **Pn 06 56 30.0 -4.1**
KBSD Kabsdagh 15.43 303 *e*P **Pn 06 56 31.2 -3.3**
EKAR Karacoban 15.47 312 *i*P **P 06 56 41.7 +2.0**
SFNV Sufian 15.52 300 *e*P **Pn 06 56 33.0 -2.8**
TBLG Delisi 15.54 324 P **P 06 56 39.1 -1.2**
TBLG Delisi 15.54 324 P **P 06 56 39.1 -1.2**
TBLG Delisi 15.54 324 P **P 06 56 39.1 -1.2**
EATA Eleskirt 15.55 315 *i*P **P 06 56 39.7 -1.1**
AKH Akhalkalaki 15.97 321 P **P 06 56 46.1 +0.9**
AKH Akhalkalaki 15.97 321 *e*P **P 06 56 46.0 +0.9**
AKH Akhalkalaki 15.97 321 P **P 06 56 46.1 +0.9**
HOMI Horasan 16.03 315 *i*P **P 06 56 46.3 +0.4**
ERZM Erzurum 16.28 313 *i*P **P 06 56 50.0 +1.2**
MUKL Al Mukalla 16.64 207 *e*P **Pn 06 56 45.6 -4.5**
MUKL AMb AMB 06 56 45.8
comp=Z,139nm,1.1s
DAGI Agillar 16.65 318 *i*P **P 06 56 53.5 +0.8**
ARTV Artvin 16.71 318 *i*P **P 06 56 55.2 +1.8**
DBAD Bademkaya 16.74 317 *i*P **P 06 56 53.9 +0.3**
ONI Oni 16.82 324 P **P 06 56 55.2 +0.6**
ONI Oni 16.82 324 *e*P **P 06 56 55.1 +0.6**
ONI Oni 16.82 324 P **P 06 56 55.2 +0.6**
KOPT Kop Dagi 16.90 312 *i*P **P 06 56 56.1 +0.5**
DBOC Borcka 16.96 318 *i*P **P 06 57 00.1 +4.1**
DHRM DHARAMSHALA 16.99 76 *e*P **Pn 06 56 55.1 +0.4**
DHRM AMB AMB 06 57 05.3
comp=Z,303nm,1.7s
BHK Bhakra 17.05 79 *ex* P 06 57 04.0 +6.9
ROOS tl_alroos 17.14 290 *e*P **Pn 06 56 56.9 +0.4**
ELZG Elazig 17.18 306 *i*P **Pn 06 56 56.5 -0.5**
SFK Sufi-Kurgan 17.23 48 P **Pn 06 56 56.8 -0.8**
SFK pmax pmax
comp=Z,150nm,1.3s
SFK Sufi-Kurgan 17.23 48 P **Pn 06 56 56.8 -0.8**
comp=Z,150nm,1.3s
ASF Jabal al Asfar 17.24 284 P **Pn 06 56 54.6 -3.1**
comp=Z,10nm,0.3s,baz=36,slow=11,SNR=57
ASF S **Sn 07 00 10.5 +1.3**
comp=Z,1.1nm,0.3s,baz=257,slow=19,SNR=4.7
ASF LR LR 07 04 52.1
comp=Z,6µm,19.1s,baz=43,slow=41
RABH Abou Rabah 17.26 291 *e*P **Pn 06 56 55.7 -2.3**
ATAB Bozova 17.26 302 *i*P **P 06 57 00.1 +0.7**
KKAR Karatay Array 17.43 36 *e*P **Pn 06 56 59.3 -0.7**
KKAR Karatay Array 17.43 36 *e*Pn **Pn 06 56 59.3 -0.7**
KKAR Karatay Array 17.43 36 *e*Pn **Pn 06 56 59.3 -0.7**
MALT Malatya 17.50 305⇓ *i*P **Pn 06 57 01.3 +0.4**
SDNR Sundarnagar 17.53 79 *e*P **Pn 06 57 01.0 -0.2**
CHVG Ch'k'valeri 17.63 322 P **P 06 57 07.5 +4.1**
SMLA Simla 17.69 80 *i*P **P 06 57 04.4 +0.4**
SMLA AMB AMB 06 57 07.9
comp=Z,345nm,2.6s
GZT Gaziantep 17.77 301 *i*P **Pn 06 57 04.3 0.0**
KELT Kelkit 17.78 311 *i*P **P 06 57 06.4 +1.2**
AKCD Akcadag 17.85 304 *i*P **P 06 57 06.4 +0.4**
KEMA Kemaliye 17.87 308 *i*P **P 06 57 07.2 +1.1**
NDI New Delhi 17.91 88 *e*P **Pn 06 57 03.5 -2.4**
NDI *ex* x 07 01 35.0
KBZ Khabaz 17.93 326 P **Pn 06 57 05.3 -0.7**
baz=244,slow=18,SNR=2.1
KBZ S **S 07 00 30.7 -1.3**
baz=127,slow=12,SNR=1.2
KUZU Kuzuini 17.95 299 *i*P **Pn 06 57 05.8 -0.7**
BIDA Albida 18.09 293 *e*P **Pn 06 57 04.0 -4.3**
WRDH Warideh 18.12 294 *e*P **Pn 06 57 06.2 -2.4**
KIV Kislovodsk 18.20 326 P **P 06 57 12.6 +2.9**
comp=Z,936nm,0.9s,SNR=24
RCY Rachaya 18.24 288 *e*P **Pn 06 57 09.3 -0.8**
HCB Kahramanmara˜ 18.25 300 *i*P **Pn 06 57 10.5 +0.3**
HWQ Hawqa 18.26 290 *e*P **Pn 06 57 10.2 -0.1**
HAJJ Hajjah 18.37 224 *e*P Pn 06 57 07.0 -4.8
HAJJ AMb AMB 06 57 07.9
comp=Z,536nm,1.0s
BHL Bhannes 18.45 289 *e*P **P 06 57 12.8 +0.3**
DDI Dehra Dun 18.48 82 *e*P **P 06 57 12.8 -0.1**
DDI AMB AMB 06 57 20.6
comp=Z,326nm,3.3s
DQRL Deir Qamar 18.49 288 *e*P **Pn 06 57 14.2 +1.1**
YAYL Yayladag 18.49 296 *i*P **P 06 57 09.4 -3.7**
CUGUR Gurin_S˜VAS 18.49 305 *i*P **Pn 06 57 16.4 +3.2**
SUSE Susehri 18.51 310 *i*P **Pn 06 57 14.6 +1.3**
AML Almayashu 18.55 43 P **Pn 06 57 17.0 +3.0**
SNR=10.0
MMAI Mount Meron Ar 18.56 286 P **Pn 06 57 14.2 +0.2**
comp=Z,5.1nm,0.3s,baz=102,slow=16,SNR=76
MMAI S **S 07 00 45.6 +0.6**
comp=Z,2.5nm,0.3s,baz=129,slow=12,SNR=3.8
MMAI LR LR 07 05 46.1
comp=Z,6µm,21.9s,baz=95,slow=41
CUKAN kangal_SIVAS 18.60 307 *i*P **Pn 06 57 15.9 +1.4**
KSH Kashi 18.65 53⇓ *i*P P 06 57 09.0 -5.7
KSH pP **Pn 06 57 13.3 -1.8**
KSH PP **PnPn 06 57 23.0 -4.0**
KSH S Sn 07 00 26.8 -17
KSH sS S 07 00 38.0 -8.9
KSH SS **SnSn 07 00 54.0 -3.3**
KSH PMZ
comp=Z,130nm,1.1s
KSH LN
comp=Z,5µm,7.2s
KSH LE
comp=Z,6µm,6.9s
KSH LZ
comp=Z,2µm,5.4s
BDHA Al Bayda'' 18.66 216 *e*P P 06 57 10.4 -4.7
BDHA AMb AMB 06 57 12.9
comp=Z,89nm,1.0s
ANDN Andirin 18.75 301 *i*P **Pn 06 57 18.2 +1.9**
DAMY Dhamar 18.80 220 *e*P **P 06 57 13.6 -3.1**
comp=Z,298nm,0.8s
DHBB Dhamar BB 18.80 220 *e*P P 06 57 11.9 -4.8
DHBB AMb AMB 06 57 14.4
comp=Z,232nm,0.9s
GRSN GIRESUNGRSN 18.82 312 *i*P **Pn 06 57 17.4 +0.3**
GOF Gofitskoye 18.86 329 *e*P **Pn 06 57 19.9 +2.4**
GOF pmax pmax
comp=Z,118nm,1.1s
GOF Gofitskoye 18.86 329 *e*P **Pn 06 57 19.9 +2.4**
comp=Z,118nm,1.1s
EKS2 Erkin-Say 18.92 42 P **P 06 57 17.7 0.0**
SNR=18
EKS2 Erkin-Say 18.92 42 *e*P **P 06 57 17.6 0.0**
EKS2 pmax pmax
comp=Z,179nm,1.3s
EKS2 Erkin-Say 18.92 42 *e*P **P 06 57 17.5 -0.1**
comp=Z,179nm,1.3s
EKS2 Erkin-Say 18.92 42 *e*P **P 06 57 17.6 -0.1**
comp=Z,179nm,1.3s
EIL Elat 18.95 276 P **P 06 57 18.1 +0.1**
comp=Z,1.5nm,0.3s,baz=88,slow=6.4,SNR=46
EIL S **S 07 00 55.4 +2.5**
comp=Z,1.0nm,0.3s,baz=252,slow=2.5,SNR=2.4
EIL LR LR 07 05 51.9
comp=Z,4µm,20.4s,baz=82,slow=41
YURE YUREGIR 19.07 298 *i*P **Pn 06 57 22.7 +2.6**
SCER sogukcermik 19.07 308 *i*P **Pn 06 57 23.0 +2.8**
POO Poona 19.08 121 *e*P **Pn 06 57 22.4 +2.1**
POO AMB AMB 06 57 26.9
comp=Z,178nm,0.6s
AAK Ala-Archa 19.32 43 P **P 06 57 23.1 +1.0**
SNR=19
AAK Ala-Archa 19.32 43 LR LR 07 05 50.7
comp=Z,4µm,19.3s,baz=235,slow=40
AAK Ala-Archa 19.32 43 P **P 06 57 22.5 +0.4**
AAK pmax pmax
comp=Z,190nm,1.1s
AAK Ala-Archa 19.32 43 P **P 06 57 22.5 +0.4**
comp=Z,190nm,1.1s
KZA Kyzart 19.46 45 P **P 06 57 24.3 +0.4**
SNR=11
SOC Sochi 19.50 320*c* *i*P **P 06 57 23.8 -0.1**
SOC *e* 07 01 06.0
SOC pmax pmax
comp=Z,93nm,0.6s
SOC MLR MLR
comp=Z,3µm,12.0s
SOC MLR MLR
comp=N,3µm,12.0s
SOC MLR MLR
comp=E,3µm,12.0s
SOC Sochi 19.50 320 *i*P **P 06 57 23.8 -0.1**
comp=E,93nm,0.6s
FRU Bishkek 19.51 43⇓ *i*P **P 06 57 24.0 -0.1**
FRU *i* 07 00 49.0
FRU pmax pmax
comp=Z,380nm,1.9s
FRU Bishkek 19.51 43 *i*P **P 06 57 24.0 -0.1**
comp=Z,380nm,1.9s
BHPL Bhopal 19.55 104 *e*P **Pn 06 57 26.5 +0.5**
BHPL AMB AMB 06 57 32.2
comp=Z,587nm,2.5s
KBK Karagaybulak 19.60 43 P **Pn 06 57 30.8 +4.2**
SNR=5.5
CHMS Chumysh 19.69 42 P **Pn 06 57 27.8 +0.3**
SNR=12
ERBA Erbaa 19.70 310 *i*P **Pn 06 57 27.6 -0.1**
TOKA Tokat 19.73 308 *i*P **Pn 06 57 28.2 +0.3**
AB31 Akbulak array 19.80 6 *i*P **P 06 57 28.0 +0.9**
AB31 pmax pmax
comp=Z,135nm,1.0s
AB31 Akbulak array 19.80 6 *i*P **P 06 57 28.0 +0.9**
comp=Z,135nm,1.0s
TRBA At Turbah 20.05 218 *e*P P 06 57 25.5 -4.8
TRBA *i*S **S 07 01 13.7 -1.7**
TKM2 Tokmak 2 20.15 44 P **P 06 57 32.0 +0.8**
SNR=22
TKM2 Tokmak 2 20.15 44 P **P 06 57 31.4 +0.2**
TKM2 pmax pmax
comp=Z,81nm,1.0s
TKM2 Tokmak 2 20.15 44 P **P 06 57 31.4 +0.2**
comp=Z,81nm,1.0s
TKM2 Tokmak 2 20.15 44 *e*P **P 06 57 31.8 +0.6**
comp=Z,65nm,0.9s
TKM2 LR LR
comp=Z,4µm,19.0s
ULHL Ulahol 20.17 46 P **P 06 57 32.3 +0.9**
SNR=12
AKL Akola 20.34 111 *e*P Pn 06 57 34.9 -0.4
CSS Prodhromos 20.50 291 P **P 06 57 35.9 +1.0**
CSS Prodhromos 20.50 291 *e*P **P 06 57 35.8 +1.0**
comp=Z,77nm,0.9s
CSS Prodhromos 20.50 291 *e*P **P 06 57 35.8 +1.0**
comp=Z,77nm,0.9s
CSS LR LR
comp=Z,2µm,20.0s
CSS Prodhromos 20.50 291 P **P 06 57 35.8 +1.0**
MAMC Mammari 20.62 292 P Pn 06 57 39.2 +0.7
SZAC Souni-Zanaja 20.83 290 P Pn 06 57 41.4 +0.4
AKTK Aktyubinsk 20.85 2 P **P 06 57 38.2 -0.3**
AKTO Aktyubinsk 20.85 2 P **P 06 57 38.2 -0.3**
comp=Z,42nm,1.0s,baz=189,slow=11,SNR=54
AKTO S **S 07 01 32.3 +1.7**
comp=Z,8.7nm,0.9s,baz=206,slow=15,SNR=1.7
AKTO LR LR 07 07 07.2
comp=Z,5µm,18.3s,baz=171,slow=41
CDAG Cicekdag 20.92 305 *i*P **P 06 57 39.9 +0.5**
GOA Goa 21.07 128 *e*P **P 06 57 43.2 +2.2**
GOA AMB AMB 06 57 51.3
comp=Z,315nm,3.9s
ERMK Ermenek 21.14 296 *i*P **P 06 57 44.5 +2.5**
AAA Alma-Ata 21.16 44 *e*P **P 06 57 42.3 +0.3**
AAA *e*S **S 07 01 33.4 -3.5**
AAA Alma-Ata 21.16 44 *e*P **P 06 57 42.3 +0.3**
PPCY Paphos 21.29 291 P **P 06 57 44.0 +0.6**
AKMC Akamas 21.32 291 P **P 06 57 44.9 +1.2**
KLRI Killari 21.43 118 *e*P **P 06 57 45.8 +0.7**
KLRI IAmb IAmb 06 57 51.5
comp=Z,1µm,1.8s
KLRI *e*S **S 07 01 46.7 +4.0**
KLRI IVMs_BB IVMs_BB 07 07 12.8
comp=Z,2µm,19.3s
BRTR Keskin Array B 21.48 304 P **P 06 57 46.0 +0.4**
comp=Z,165nm,0.9s,baz=119,slow=13,SNR=143
BRTR LR LR 07 07 05.0
comp=Z,5µm,19.1s,baz=106,slow=39
BRTR Keskin Array B 21.48 304 P **P 06 57 46.0 +0.4**
BRTR Keskin Array B 21.48 304 P **P 06 57 46.0 +0.4**
GAZI Gazipasa 21.53 294 *i*P **P 06 57 47.7 +1.7**
ANN Anapa 21.54 320 *e*P **P 06 57 47.1 +1.1**
ANN *e*S Sn 07 01 52.3 -0.4
ANN pmax pmax
comp=Z,336nm,1.8s
ANN MLR MLR
comp=E,2µm,15.0s
ANN MLR MLR
comp=N,1µm,15.0s
ANN MLR MLR
comp=Z,3µm,15.0s
ANN Anapa 21.54 320 *e*P **P 06 57 47.1 +1.1**
comp=Z,336nm,1.8s
NGP Nagpur 21.80 108 *e*P **P 06 57 50.9 +1.9**
NGP *ex* x 06 57 60.0
comp=Z,299nm,1.2s
NGP *ex* x 07 01 58.7
ELDT Eldivan 21.91 306 *i*P **P 06 57 51.1 +0.9**
ANTO Ankara 22.14 304 *e*P **P 06 57 52.8 +0.2**
ANTO pmax pmax
comp=Z,808nm,1.0s
ANTO MLR MLR
comp=Z,7µm,19.0s
ANTO Ankara 22.14 304⇑ *i*P **P 06 57 52.8 +0.2**
ANTO Ankara 22.14 304 *e*P **P 06 57 52.8 +0.2**
comp=Z,808nm,1.0s
ANTO Ankara 22.14 304 *e*P **P 06 57 52.8 +0.2**
comp=Z,808nm,1.0s
ANTO LR LR
comp=Z,7µm,19.0s
KDHN Kadinhani 22.22 300 *i*P **P 06 57 54.3 +0.8**
SRSP Sriramsagar 22.33 113 *e*P **P 06 57 56.3 +1.7**
SRSP IAmb IAmb 06 58 00.6
comp=Z,158nm,1.1s
SRSP *e*S **S 07 02 04.0 +4.2**
SRSP IVMs_BB IVMs_BB 07 08 13.8
comp=Z,2µm,10.6s
AUSIV SIVRIHISAR 22.92 302 *i*P **P 06 58 01.5 +0.6**
BCAM Yenicaga 23.00 306 *i*P **P 06 58 01.0 -0.7**
RPR Rampur 23.12 112 *e*P **P 06 58 04.1 +1.0**
RPR IAmb IAmb 06 58 11.8
comp=Z,146nm,1.2s
RPR *e*S **S 07 02 18.4 +4.4**
RPR IVMsBB 07 10 09.5
comp=Z,2µm,9.9s
BOLV Bolvadin 23.15 300 *i*P **P 06 58 04.4 +1.1**
KORT Korkueli 23.23 296 *i*P **P 06 58 04.4 +0.3**
ISP Isparta 23.26 298 *e*P **P 06 58 05.4 +1.0**
ISP pmax pmax
comp=Z,230nm,0.9s
ISP MLR MLR
comp=Z,5µm,19.0s
ISP Isparta 23.26 298⇑ *i*P **P 06 58 05.9 +1.5**
ISP Isparta 23.26 298 *e*P **P 06 58 05.4 +1.0**
comp=Z,230nm,0.9s
ISP Isparta 23.26 298 *e*P **P 06 58 05.4 +1.0**
comp=Z,230nm,0.9s
ISP LR LR
comp=Z,5µm,19.0s
ISP Isparta 23.26 298 P **P 06 58 04.9 +0.5**
HYBB Hyderabad (bro 23.33 116 *e*P **P 06 58 05.2 +0.1**
HYBB IAmb IAmb 06 58 12.6
comp=Z,298nm,1.6s
HYBB *e*S **S 07 02 22.3 +4.8**
HYBB IVMs_BB IVMs_BB 07 09 08.9
comp=Z,2µm,13.6s
HYB Hyderabad 23.33 116 *i*P **P 06 58 04.0 -1.1**
HYB *e* 06 58 08.0
HYB *e*S **S 07 02 18.0 +0.5**
HYB Hyderabad 23.33 116 *e*P **P 06 58 05.3 +0.1**
HYB AMB AMB 06 58 09.8
comp=Z,129nm,2.2s
SEYT Eskypehyr 23.45 302 *i*P **P 06 58 07.1 +0.8**
SIM Simferopol' 23.55 317 *e*P **P 06 58 07.0 0.0**
SIM *e*S **S 07 02 21.0 +0.5**
SIM pmax pmax
comp=Z,600nm,2.4s
SIM MLR MLR
comp=N,2µm,19.0s
SIM Simferopol' 23.55 317 *e*P **P 06 58 07.0 0.0**
comp=N,600nm,2.4s
KOLN Koldanda 23.61 88 *e*P **P 06 58 08.3 +0.2**
comp=N,334nm,1.1s
AUKIR K˜–rka- Seyitg 23.62 301 *i*P **P 06 58 08.5 +0.6**
DANN Dangsing 23.65 86 *e*P **P 06 58 09.3 +0.7**
BTAS Taskesti 23.67 304 *i*P **P 06 58 08.4 0.0**
BORA Eskisehir 23.85 303 *i*P **P 06 58 09.3 -0.8**
URV Uravakonda 23.87 123 *e*P **P 06 58 12.0 +1.6**
URV IAmb IAmb 06 58 19.6
comp=Z,99nm,1.3s
URV *e*S **S 07 02 29.1 +2.9**
URV IVMsBB 07 10 11.3
comp=Z,1µm,9.1s
GOLH Golhisar 23.89 296 *i*P **P 06 58 10.7 +0.1**
KHAL Karahalli 24.18 298 *i*P **P 06 58 13.3 +0.1**
VRHR Novokhopersk 24.29 336 *e*P **P 06 58 16.0 +2.0**
VRHR *e*S **S 07 02 35.8 +3.5**
VRHR pmax pmax
comp=N,130nm,0.9s
VRHR pmax pmax
comp=E,100nm,0.9s
VRHR pmax pmax
comp=Z,160nm,0.9s

VRHR smax smax
comp=N,220nm,2.4s
VRHR smax smax
comp=E,360nm,2.4s
VRHR smax smax
comp=Z,80nm,2.4s
VRHR MLR MLR
comp=N,2µm,14.0s
VRHR MLR MLR
comp=E,660nm,14.0s
VRHR MLR MLR
comp=Z,2µm,14.0s
VRHR Novokhopersk 24.29 336 *e*P **P 06 58 16.0 +2.0**
GDZ Gediz 24.36 300 *i* P **P 06 58 15.2 +0.3**
SRLM Srisailam 24.36 119 *e*P **P 06 58 17.6 +2.6**
SRLM IAmb IAmb 06 58 22.1
comp=Z,232nm,1.4s
SRLM *e*S **S 07 02 38.9 +4.7**
SRLM IVMs_BB IVMs_BB 07 10 40.6
comp=Z,2µm,11.4s
NJS Nagarjunasagar 24.41 117 *e*P **P 06 58 16.4 +1.0**
NJS *e*P **pP 06 58 17.2 -2.8**
NJS IAmb IAmb 06 58 21.2
comp=Z,993nm,2.6s
NJS *e*S **S 07 02 38.2 +3.4**
NJS IVMs_BB IVMs_BB 07 10 07.7
comp=Z,2µm,12.4s
GKN Gorkha 24.47 87 *e*P **P 06 58 15.8 -0.3**
comp=Z,640nm,1.2s
TURN Turunc 24.58 295 *i* P **P 06 58 19.7 +2.9**
RCLA Racherla 24.80 120 *e*P **P 06 58 20.4 +1.4**
RCLA IAmb IAmb 06 58 26.1
comp=Z,138nm,1.5s
RCLA *e*S S 07 02 48.3 +7.1
RCLA IVMs_BB IVMs_BB 07 10 05.8
comp=Z,2µm,14.6s
KULA Kula-Manisa 24.84 298 P **P 06 58 18.9 -0.4**
KULA Kula-Manisa 24.84 298 P **P 06 58 18.9 -0.4**
KULA Kula-Manisa 24.84 298 P **P 06 58 18.9 -0.4**
ARG Arkhangelos 24.87 293 P **P 06 58 19.1 -0.3**
ARG Arkhangelos 24.87 293 *e*P **P 06 58 19.6 +0.2**
ARG Arkhangelos 24.87 293 P **P 06 58 19.1 -0.3**
ARG Arkhangelos 24.87 293 P **P 06 58 19.1 -0.3**
ARG Arkhangelos 24.87 293 P **P 06 58 19.1 -0.3**
ULDT Uludag 24.89 302 *i* P **P 06 58 20.1 +0.2**
MANT Manisa 24.92 298 *i* P **P 06 58 20.1 0.0**
DEMI Demirci 24.92 300 *i* P **P 06 58 19.8 -0.1**
DMN Daman 24.95 88 *e*P **P 06 58 20.7 +0.1**
comp=Z,591nm,1.1s
KKN Kakani 25.07 87 *e*P **P 06 58 21.8 +0.2**
comp=Z,1µm,1.4s
BUY Buyukada 25.12 304 *i* P **P 06 58 20.8 -0.8**
PKIN Phulchoki 25.21 88 *e*P **P 06 58 23.0 +0.1**
comp=Z,913nm,1.3s
PKI Pulchoki 25.22 88 *e*P **P 06 58 23.1 0.0**
comp=Z,1µm,1.3s
DURS Dursunbey 25.24 301 *i* P **P 06 58 22.8 -0.1**
VSR Storozhevoye 25.30 334 *e*P **P 06 58 23.2 +0.1**
VSR *e*S **S 07 02 48.6 +0.2**
VSR pmax pmax
comp=N,110nm,0.8s
VSR pmax pmax
comp=E,90nm,0.8s
VSR pmax pmax
comp=Z,100nm,0.8s
VSR smax smax
comp=N,210nm,2.0s
VSR smax smax
comp=Z,60nm,2.0s
VSR smax smax
comp=E,30nm,1.6s
VSR MLR MLR
comp=N,900nm,15.0s
VSR MLR MLR
comp=E,510nm,15.0s
VSR MLR MLR
comp=Z,2µm,15.0s
VSR Storozhevoye 25.30 334 *e*P **P 06 58 23.2 +0.1**
ADKI Addanki 25.34 118 *e*P **P 06 58 24.8 +0.9**
ADKI IAmb IAmb 06 58 31.8
comp=Z,65nm,1.0s
ADKI *e*S **S 07 02 54.3 +4.6**
ADKI IVMs_BB IVMs_BB 07 10 44.8
comp=Z,2µm,10.6s
BRVK Borovoye 25.48 19 P **P 06 58 25.9 +1.2**
comp=Z,605nm,1.1s,SNR=19
BRVK Borovoye 25.48 19 P **P 06 58 24.0 -0.7**
BRVK pmax pmax
comp=Z,214nm,1.1s
BRVK Borovoye 25.48 19 *e*P **P 06 58 25.0 +0.3**
comp=Z,135nm,1.1s
BRVK Borovoye 25.48 19 *e*P **P 06 58 25.0 +0.3**
comp=Z,135nm,1.1s
BRVK LR LR
comp=Z,4µm,21.0s
BVA0 Borovoye Array 25.48 19 *i* P **P 06 58 24.2 -0.6**
BVA0 pmax pmax
comp=Z,131nm,1.0s
BVA0 Borovoye Array 25.48 19 *i* P **P 06 58 24.2 -0.6**
comp=Z,131nm,1.0s
BVAR Borovoye Array 25.48 19 P **P 06 58 24.7 -0.1**
comp=Z,54nm,0.8s,baz=199,slow=8.6,SNR=43
BVAR PcP **PcP 07 01 57.2 +1.0**
comp=Z,8.7nm,1.0s,baz=211,slow=3.6,SNR=4.3
BVAR S **S 07 02 55.1 +3.8**
comp=Z,0.8nm,0.4s,baz=219,slow=42,SNR=2.2
BVAR LR LR 07 08 54.0
comp=Z,3µm,20.1s,baz=209,slow=38
GUN Gumba 25.57 87 *e*P **P 06 58 26.5 +0.2**
comp=Z,1µm,1.1s
KARP Karpathos 25.58 291 *e*P **P 06 58 26.8 +0.9**
KARP Karpathos 25.58 291 P **P 06 58 25.8 -0.1**
KARP Karpathos 25.58 291 P **P 06 58 25.8 -0.1**
KARP Karpathos 25.58 291 P **P 06 58 25.8 -0.1**
NIS1 Nisyros Isl. 25.68 294 *e*P P 06 58 32.0 +5.2
VOR Voronezh 25.69 334 *e*P **P 06 58 26.0 -0.7**
VOR pmax pmax
comp=Z,500nm,1.0s
VOR Voronezh 25.69 334 *e*P **P 06 58 26.0 -0.7**
comp=Z,500nm,1.0s
GCAM G?zelcaml? 25.79 296 *i* P **P 06 58 28.6 +0.9**
PVM Polavaram 25.85 113 *e*P **P 06 58 30.5 +2.0**
PVM IAmb IAmb 06 58 35.6
comp=Z,85nm,1.3s
PVM *e*S **S 07 03 01.9 +4.1**
PVM IVMs_BB IVMs_BB 07 10 18.7
comp=Z,1µm,13.2s
BALY Balya 25.91 301 *i* P **P 06 58 27.7 -1.2**
SMG Samos 26.11 296 *e*P **P 06 58 31.5 +0.8**
SMG Samos 26.11 296 P **P 06 58 31.0 +0.3**
SMG Samos 26.11 296 P **P 06 58 31.0 +0.3**
SMG Samos 26.11 296 P **P 06 58 31.0 +0.3**
MK31 Makanchi Array 26.25 42 *i* P **P 06 58 31.6 -0.3**
MK31 pmax pmax
comp=Z,122nm,1.4s
MK31 Makanchi Array 26.25 42 *i* P **P 06 58 31.6 -0.3**
comp=Z,122nm,1.4s
MKAR Makanchi Array 26.25 42 P **P 06 58 31.6 -0.3**
comp=Z,10.0nm,0.6s,baz=224,slow=8.5,SNR=58
MKAR S **S 07 03 08.2 +4.4**
comp=Z,2.1nm,0.9s,baz=157,slow=1.3,SNR=1.8
MKAR LR LR 07 08 59.7
comp=Z,3µm,19.9s,baz=252,slow=37
MKAR P3KPbc 07 31 18.0
comp=Z,0.7nm,0.9s,baz=69,slow=4.8,SNR=5.4
MKAR Makanchi Array 26.25 42 P **P 06 58 31.6 -0.3**
MKAR pmax pmax
comp=Z,10.0nm,0.8s
MKAR MLR MLR
comp=Z,3µm,19.9s
MKAR Makanchi Array 26.25 42 *e*P **P 06 58 32.3 +0.4**
MKAR S **S 07 03 08.2 +4.4**
MKAR Makanchi Array 26.25 42 *e*P **P 06 58 32.3 +0.4**
MKAR S **S 07 03 08.2 +4.4**
MKAR *e* 07 31 18.0
RAMN Ramite 26.39 88 *e*P **P 06 58 33.3 -0.3**
URLA Izmir 26.40 297 *i* P **P 06 58 32.2 -1.1**
SKHT Srikalahasti 26.45 122 *e*P **P 06 58 35.8 +1.9**
SKHT IAmb IAmb 06 58 43.3
comp=Z,60nm,1.1s
SKHT *e*S **S 07 03 11.5 +4.2**
SKHT IVMs_BB IVMs_BB 07 11 12.1
comp=Z,1µm,13.5s
SART Tekirdag 26.48 303 *i* P P 06 58 28.5 -5.6
BOK Bokaro 26.62 96 *e*P **P 06 58 36.8 +1.4**

BOK AMB AMB 06 58 45.9
comp=Z,168nm,1.4s
KURBB Kurchatov Arra 26.64 32 P **P 06 58 35.8 +0.5**
comp=Z,7.3nm,0.8s,baz=231,slow=9.2,SNR=32
KURBB PcP **PcP 07 02 00.9 +2.0**
comp=Z,2.5nm,0.8s,baz=223,slow=3.4,SNR=3.9
KURBB S **S 07 03 15.2 +5.5**
comp=Z,2.7nm,0.9s,baz=120,slow=45,SNR=2.9
KURBB P3KPbc 07 31 16.7
comp=Z,0.3nm,0.6s,baz=46,slow=4.1,SNR=4.4
KURK Kurchatov 26.74 32 P **P 06 58 35.8 -0.4**
KURK 07 02 00.9
KURK S **S 07 03 15.2 +3.8**
KURK Kurchatov 26.74 32 P **P 06 58 35.8 -0.4**
KURK Kurchatov 26.74 32 PcP **PcP 07 02 00.9 +1.7**
KURK Kurchatov 26.74 32 P **P 06 58 35.8 -0.4**
KURK PcP **PcP 07 02 00.9 +1.7**
KURK S **S 07 03 15.2 +3.8**
KURK *e* 07 31 16.7
NPS Neapolis 26.82 290 *e*P **P 06 58 38.3 +1.2**
PRK Paraskevi 26.82 299 P **P 06 58 40.1 +3.0**
PRK Paraskevi 26.82 299 *e*P **P 06 58 40.3 +3.2**
PRK Paraskevi 26.82 299 P **P 06 58 40.1 +3.0**
PRK Paraskevi 26.82 299 P **P 06 58 40.1 +3.0**
PRK Paraskevi 26.82 299 P **P 06 58 40.1 +3.0**
CHOS Chios island 26.83 297 *e*P **P 06 58 38.1 +0.9**
CHOS Chios island 26.83 297 P **P 06 58 37.7 +0.5**
CHOS Chios island 26.83 297 P **P 06 58 37.7 +0.5**
CHOS Chios island 26.83 297 P **P 06 58 37.7 +0.5**
ARU Arti 26.87 2 P **P 06 58 37.8 +0.5**
comp=Z,2.0nm,0.4s,baz=173,slow=11,SNR=3.2
ARU S **S 07 03 17.6 +4.4**
comp=Z,1.6nm,0.3s,baz=193,slow=23,SNR=2.1
ARU LR LR 07 10 23.3
comp=Z,2µm,22.0s,baz=176,slow=39
ARU Arti 26.87 2*d i*P **P 06 58 38.1 +0.8**
ARU 07 02 04.4
ARU S **S 07 03 17.4 +4.3**
ARU SS **SnSn 07 04 23.8 +5.8**
ARU MLR MLR
comp=Z,2µm,14.0s
ARU Arti 26.87 2 P **P 06 58 39.6 +2.3**
comp=Z,112nm,0.8s,SNR=8.7
ARU Arti 26.87 2 *i* P **P 06 58 38.1 +0.8**
ARU Arti 26.87 2 *e*P **P 06 58 38.2 +0.9**
comp=Z,60nm,1.0s
ARU S **S 07 03 17.6 +4.4**
TIRR Tirgusor 26.89 311 *e*P **P 06 58 40.3 +2.7**
TIRR pmax pmax
comp=Z,47nm,1.0s
TIRR Tirgusor 26.89 311 ⇑*i*P **P 06 58 39.8 +2.2**
TIRR Tirgusor 26.89 311 *e*P **P 06 58 40.3 +2.7**
comp=Z,47nm,1.0s
TIRR Tirgusor 26.89 311 *e*P **P 06 58 40.3 +2.7**
comp=Z,47nm,1.0s
LAST Lasithi 26.92 290 *e*P **P 06 58 38.8 +0.7**
LAST Lasithi 26.92 290 P **P 06 58 41.6 +3.5**
LAST Lasithi 26.92 290 P **P 06 58 41.6 +3.5**
LAST Lasithi 26.92 290 P **P 06 58 41.6 +3.5**
TLCR 26.94 313 ⇓*i*P **P 06 58 40.2 +2.2**
VIS Vishakhapatnam 26.99 110 *e*P **P 06 58 40.2 +1.5**
VIS AMB AMB 06 58 50.8
comp=Z,82nm,5.0s
SANT Santorini 27.03 293 *e*P **P 06 58 36.5 -2.5**
APE Apeiranthos 27.05 294*d i*P **P 06 58 39.0 -0.2**
APE pmax pmax
comp=Z,245nm,2.5s
APE Apeiranthos 27.05 294 ⇑*i*P **P 06 58 39.8 +0.6**
APE Apeiranthos 27.05 294 *e*P **P 06 58 40.7 +1.5**
APE Apeiranthos 27.05 294 *i* P **P 06 58 39.0 -0.2**
comp=Z,245nm,2.5s
APE Apeiranthos 27.05 294 P **P 06 58 41.1 +1.9**
APE Apeiranthos 27.05 294 P **P 06 58 41.1 +1.9**
THR3 Thira Island, 27.08 293 P **P 06 58 39.3 -0.1**
THR3 Thira Island, 27.08 293 P **P 06 58 39.3 -0.1**
THR3 Thira Island, 27.08 293 P **P 06 58 39.3 -0.1**
PRD Provadia 27.10 308 P P 06 58 51.6 +12
ODAN Odare 27.10 88 *e*P **P 06 58 39.9 -0.1**
THR5 Thira Island, 27.12 293 P **P 06 58 39.8 0.0**
MSAB Monastry St. A 27.13 310 ⇑*i*P **P 06 58 41.3 +1.5**
CHLP Challavanipeta 27.20 108 *e*P **P 06 58 42.3 +1.6**
CHLP IAmb IAmb 06 58 46.6
comp=Z,102nm,1.0s
CHLP *e*S **S 07 03 22.2 +3.1**
CHLP IVMs_BB IVMs_BB 07 10 43.8
comp=Z,3µm,14.8s
IACM Heraklion 27.27 290 *e*P P 06 58 46.4 +5.3
TAPN Taplejung 27.27 87 *e*P **P 06 58 42.4 +0.8**
comp=Z,165nm,1.0s
HARR Harsova 27.30 311 ⇑*i*P **P 06 58 42.4 +1.1**
ALN Alexandroupoli 27.37 303 P **P 06 58 41.3 -0.6**
ALN Alexandroupoli 27.37 303 *e*P **P 06 58 42.6 +0.7**
ALN Alexandroupoli 27.37 303 P **P 06 58 41.3 -0.6**
ALN Alexandroupoli 27.37 303 P **P 06 58 41.3 -0.6**
ALN Alexandroupoli 27.37 303 P **P 06 58 41.3 -0.6**
CFR Carcaliu 27.37 313 ⇑*i*P **P 06 58 43.4 +1.5**
SVE Sverdlovsk 27.37 5 *e*P **P 06 58 43.1 +1.3**
SVE pmax pmax
comp=Z,76nm,1.4s
SVE MLR MLR
comp=Z,3µm,13.0s
SVE Sverdlovsk 27.37 5 *e*P **P 06 58 43.1 +1.3**
comp=Z,3µm,13.0s
IDI Anoyia 27.41 290 P **P 06 58 43.0 +0.5**
comp=Z,88nm,0.8s,baz=108,slow=8.5,SNR=20
IDI S **S 07 03 26.5 +4.1**
comp=Z,5.5nm,0.8s,baz=279,slow=9.5,SNR=2.2
IDI LR LR 07 12 13.7
comp=Z,2µm,22.0s,baz=97,slow=42
IDI Anoyia 27.41 290 *e*P **P 06 58 43.1 +0.6**
comp=Z,252nm,1.2s
IDI S **S 07 03 26.5 +4.1**
IDI Anoyia 27.41 290 *e*P **P 06 58 43.1 +0.6**
comp=Z,252nm,1.2s
IDI S **S 07 03 26.5 +4.1**
JMB Yambol 27.42 306 P P 06 58 47.3 +4.9
SIVA Sivas 27.46 290 *e*P **P 06 58 42.0 -0.9**
KIS Kishinev 27.77 317 ⇓*i*P **P 06 58 46.0 +0.5**
comp=Z,300nm,2.0s
KIS *e*S S 07 03 36.0 +8.4
KIS *e*LQ LQ 07 09 18.0
KIS LRM MLR 07 12 56.0
comp=Z,2µm,16.0s
KIS Kishinev 27.77 317ĸ *i*P **P 06 58 46.0 +0.5**
KIS *e* 06 59 40.0
KIS *e* 07 04 44.0
KIS pmax pmax
comp=E,200nm,2.0s
KIS pmax pmax
comp=Z,300nm,2.0s
KIS pmax pmax
comp=E,300nm,2.0s
KIS pmax pmax
comp=Z,400nm,2.0s
KIS MLR MLR
comp=Z,1µm,14.0s
KIS MLR MLR
comp=Z,2µm,16.0s
KIS Kishinev 27.77 317 ⇓ *i*P **P 06 58 46.0 +0.5**
comp=Z,300nm,2.0s
VAM Vamos 27.98 290 P **P 06 58 50.0 +2.5**
VAM Vamos 27.98 290 *e*P **P 06 58 48.1 +0.6**
VAM Vamos 27.98 290 P **P 06 58 50.0 +2.5**
VAM Vamos 27.98 290 P **P 06 58 50.0 +2.5**
VAM Vamos 27.98 290 P **P 06 58 50.0 +2.5**
GVD Gavdhos 28.05 289 *e*P **P 06 58 48.6 +0.4**
GVD Gavdhos 28.05 289 *e*P **P 06 58 48.0 -0.2**
comp=Z,119nm,1.0s
GVD Gavdhos 28.05 289 *e*P **P 06 58 48.0 -0.2**
comp=Z,119nm,1.0s
SZH Strazhica 28.13 307 P **P 06 58 50.9 +2.1**
IMMV Iera Moni Meta 28.16 291 *e*P **P 06 58 49.5 +0.4**
ISR Istrita 28.38 311 ⇑*i*P P 06 59 01.5 +10
WMQ Urumqi 28.40 51 P **P 06 58 51.5 +0.2**
WMQ pP **pP 06 58 58.0 +2.2**
WMQ sP sP 06 59 01.8 +4.1
WMQ PP **PnPn 06 59 43.3 +3.0**
WMQ S **S 07 03 36.0 -1.8**
WMQ sS **sS 07 03 47.5 +2.2**
WMQ PMZ
comp=Z,96nm,1.0s
WMQ PMZ
comp=Z,260nm,3.8s
WMQ LN
comp=Z,9µm,18.0s
WMQ LE
comp=Z,2µm,14.8s
WMQ LZ
comp=Z,3µm,22.8s
EREA Eretria 28.48 297 *e*P **P 06 58 51.6 -0.4**
EREA Eretria 28.48 297 P **P 06 58 54.9 +2.9**
PTL Penteli 28.48 296 *e*P **P 06 58 51.8 -0.2**
VRI Vrincioaia 28.55 313 ⇓*i*P **P 06 58 54.7 +2.1**
VRI Vrincioaia 28.55 313 ⇓*i*P **P 06 58 54.7 +2.1**
PLOR Plostina 28.60 313 ⇑*i*P **P 06 58 55.1 +2.1**
PLOR Plostina 28.60 313 ⇑*i*P **P 06 58 55.1 +2.1**
AOS Alonnisos 28.63 298 P **P 06 58 53.9 +0.6**
AOS Alonnisos 28.63 298 P **P 06 58 53.9 +0.6**
AOS Alonnisos 28.63 298 P **P 06 58 53.9 +0.6**
PLD Plovdiv 28.65 305 P **P 06 58 56.4 +3.0**
ANKY Antikythira Is 28.73 291 *e*P **P 06 58 55.2 +1.0**
ANKY Antikythira Is 28.73 291 P **P 06 58 54.9 +0.7**
ANKY Antikythira Is 28.73 291 P **P 06 58 54.9 +0.7**
ANKY Antikythira Is 28.73 291 P **P 06 58 54.9 +0.7**
MRKA Markates 28.79 297 *e*P **P 06 58 55.0 +0.3**
MRKA Markates 28.79 297 P **P 06 58 54.7 0.0**
MRKA Markates 28.79 297 P **P 06 58 54.7 0.0**
TESR Tescani 28.88 314 ⇑*i*P **P 06 58 55.3 -0.1**
TESR Tescani 28.88 314 ⇑*i*P **P 06 58 55.3 -0.1**
MLR Muntele Rosu 28.91 312 P **P 06 58 56.5 +0.6**
comp=Z,3.0nm,0.8s,baz=129,slow=5.0,SNR=16
MLR S **S 07 03 49.4 +3.6**
comp=Z,0.9nm,0.9s,baz=174,slow=21,SNR=1.8
MLR LR LR 07 12 22.2
comp=Z,968nm,20.0s,baz=119,slow=40
MLR Muntele Rosu 28.91 312 ⇑*i*P **P 06 58 57.9 +2.1**
DID Didima 28.91 295 *e*P **P 06 58 54.1 -1.8**
DID Didima 28.91 295 P **P 06 58 53.7 -2.2**
DID Didima 28.91 295 P **P 06 58 53.7 -2.2**
DID Didima 28.91 295 P **P 06 58 53.7 -2.2**
VILL Villia 28.93 296 P **P 06 58 58.0 +2.0**
VILL Villia 28.93 296 P **P 06 58 58.0 +2.0**
DIDY Didyma 28.93 295 *e*P **P 06 58 54.1 -2.0**
DIDY Didyma 28.93 295 P **P 06 58 54.6 -1.5**
DIDY Didyma 28.93 295 P **P 06 58 54.6 -1.5**
VIL2 Platees 28.97 296 *e*P **P 06 58 56.0 -0.3**
KRND KRANIDI 28.97 294 *e*P **P 06 58 55.1 -1.2**
NVR Nevrokopi 29.08 303 *e*P **P 06 58 58.0 +0.7**
NVR Nevrokopi 29.08 303 P **P 06 58 57.6 +0.3**
NVR Nevrokopi 29.08 303 P **P 06 58 57.6 +0.3**
NVR Nevrokopi 29.08 303 P **P 06 58 57.6 +0.3**
VLI Veliai 29.08 293 *e*P **P 06 58 55.8 -1.5**
VLI Veliai 29.08 293 P **P 06 58 55.2 -2.1**
VLI Veliai 29.08 293 P **P 06 58 55.2 -2.1**
VLI Veliai 29.08 293 P **P 06 58 55.2 -2.1**
SMIA Simia 29.11 298 *e*P **P 06 58 58.4 +0.9**
SMIA Simia 29.11 298 P **P 06 58 57.6 +0.1**
SMIA Simia 29.11 298 P **P 06 58 57.6 +0.1**
NEO Neokhori 29.16 298 *e*P **P 06 59 01.0 +3.0**
PLG Polygyros 29.18 301 P **P 06 58 58.0 -0.2**
PLG Polygyros 29.18 301 *e*P **P 06 58 59.1 +0.9**
PLG Polygyros 29.18 301 P **P 06 58 58.0 -0.2**
PLG Polygyros 29.18 301 P **P 06 58 58.0 -0.2**
PLG Polygyros 29.18 301 P **P 06 58 58.0 -0.2**
LTK Loutraki 29.18 296 *e*P **P 06 59 00.2 +2.0**
XOR Xorichti 29.19 299 *e*P **P 06 58 57.9 -0.4**
XOR Xorichti 29.19 299 P **P 06 58 55.9 -2.4**
XOR Xorichti 29.19 299 P **P 06 58 55.9 -2.4**
XOR Xorichti 29.19 299 P **P 06 58 55.9 -2.4**
MMB Musomiste 29.23 303 P **P 06 59 01.5 +2.9**
LKR Lokris 29.23 297 *e*P **P 06 58 58.1 -0.5**
LKR Lokris 29.23 297 P **P 06 58 58.1 -0.5**
LKR Lokris 29.23 297 P **P 06 58 58.1 -0.5**
LKR Lokris 29.23 297 P **P 06 58 58.1 -0.5**
SOH Sokhos 29.34 302 *e*P **P 06 59 00.4 +0.8**
OBN Obninsk 29.34 336 P **P 06 58 59.1 -0.2**
comp=Z,62nm,0.8s,baz=258,slow=4.4,SNR=7.4
OBN S S 07 03 59.2 +7.2
comp=Z,11nm,0.4s,baz=124,slow=24,SNR=1.7
OBN LR LR 07 11 42.8
comp=Z,1µm,18.7s,baz=144,slow=38
OBN Obninsk 29.34 336*de*P **P 06 59 00.2 +0.9**
OBN *e* 06 59 55.9
OBN *i* S **S 07 03 54.5 +2.5**
OBN *e*SS **SnSn 07 05 26.0 +7.7**
OBN pmax pmax
comp=Z,203nm,1.7s
OBN MLR MLR
comp=Z,1µm,16.0s
OBN Obninsk 29.34 336 P P 06 59 03.1 +3.8
comp=Z,540nm,0.7s,SNR=5.4
OBN Obninsk 29.34 336 *e*P **P 06 58 59.5 +0.2**
comp=Z,31nm,1.1s
OBN Obninsk 29.34 336 *e*P **P 06 58 59.5 +0.2**
comp=Z,31nm,1.1s
OBN S S 07 03 59.2 +7.2
THAL Thalero 29.42 296 *e*P **P 06 59 01.6 +1.3**
VOIR 29.47 311 ⇑*i*P **P 06 59 02.2 +1.4**
VOIR 29.47 311 ⇑*i*P **P 06 59 02.2 +1.4**
HORT Hortiatis 29.48 301 *e*P **P 06 59 00.5 -0.4**
MOS Moscow 29.48 338 *e*P **P 06 59 01.0 +0.4**
MOS *e* 07 00 02.1
MOS pmax pmax
comp=Z,500nm,2.4s
MOS pmax pmax
comp=Z,128nm,1.6s
MOS MLR MLR
comp=Z,1µm,14.0s
MOS MLR MLR
comp=N,2µm,16.0s
MOS Moscow 29.48 338 *e*P **P 06 59 01.0 +0.4**
comp=N,128nm,1.6s
KIEV Kiev 29.51 323⇓ *e*P **P 06 58 59.4 -1.5**
KIEV pmax pmax
comp=Z,30nm,0.9s
KIEV Kiev 29.51 323 *e*P **P 06 58 59.7 -1.3**
comp=Z,36nm,0.9s
KIEV Kiev 29.51 323 *e*P **P 06 58 59.6 -1.3**
comp=Z,36nm,0.9s
KIEV LR LR
comp=Z,977nm,19.0s
AXAR Agios Charalam 29.52 297 *e*P **P 06 59 01.6 +0.4**
AXAR Agios Charalam 29.52 297 P **P 06 59 00.8 -0.4**
AXAR Agios Charalam 29.52 297 P **P 06 59 00.8 -0.4**
AXAR Agios Charalam 29.52 297 P **P 06 59 00.8 -0.4**
DESF Desfina 29.57 296 *e*P **P 06 59 00.3 -1.4**
DSF Desfina 29.57 296 *e*P **P 06 59 00.3 -1.5**
DSF Desfina 29.57 296 P **P 06 59 00.2 -1.5**
DSF Desfina 29.57 296 P **P 06 59 00.2 -1.5**
DSF Desfina 29.57 296 P **P 06 59 00.2 -1.5**
VLX Vlachokerasia 29.58 294 *e*P **P 06 59 01.0 -0.8**
VLX Vlachokerasia 29.58 294 P **P 06 59 00.5 -1.3**
VLX Vlachokerasia 29.58 294 P **P 06 59 00.5 -1.3**
VLX Vlachokerasia 29.58 294 P **P 06 59 00.5 -1.3**
GUR Goura 29.66 295 *e*P **P 06 59 02.2 -0.4**
GUR Goura 29.66 295 P **P 06 59 01.5 -1.1**
GUR Goura 29.66 295 P **P 06 59 01.5 -1.1**
GUR Goura 29.66 295 P **P 06 59 01.5 -1.1**
MPEP Malo Peshtene 29.68 307 P **P 06 59 04.5 +1.9**
MPEP Malo Peshtene 29.68 307 P **P 06 59 04.5 +1.9**
ARR Arges 29.72 311⇓ *i*P **P 06 59 03.6 +0.6**
ARR Arges 29.72 311⇓ *i*P **P 06 59 03.6 +0.6**
KNT Kendrikon 29.74 302 P **P 06 59 04.1 +0.9**
KNT Kendrikon 29.74 302 P **P 06 59 04.1 +0.9**
KNT Kendrikon 29.74 302 P **P 06 59 04.1 +0.9**
KNT Kendrikon 29.74 302 P **P 06 59 04.1 +0.9**
KKB Krupnik 29.76 303 P **P 06 59 05.6 +2.3**
KKB Krupnik 29.76 303 P **P 06 59 05.6 +2.3**
AGG Agios Georgios 29.80 298 *e*P **P 06 59 04.3 +0.6**
AGG pmax pmax
comp=Z,126nm,1.5s
AGG Agios Georgios 29.80 298 *e*P **P 06 59 04.4 +0.6**
AGG Agios Georgios 29.80 298 *e*P **P 06 59 04.3 +0.6**
comp=Z,126nm,1.5s
AGG Agios Georgios 29.80 298 *e*P **P 06 59 04.3 +0.6**
comp=Z,126nm,1.5s
AGG Agios Georgios 29.80 298 P **P 06 59 02.5 -1.2**
KLV Kalavryta, Ach 29.82 296 *e*P **P 06 59 03.4 -0.6**
KLV Kalavryta, Ach 29.82 296 P **P 06 59 02.7 -1.3**
KLV Kalavryta, Ach 29.82 296 P **P 06 59 02.7 -1.3**
KLV Kalavryta, Ach 29.82 296 P **P 06 59 02.7 -1.3**
LSA Lhasa 29.84 81 *e*P **P 06 59 05.5 +0.9**
LSA pmax pmax
comp=Z,50nm,1.2s
LSA MLR MLR
comp=Z,4µm,22.0s

LSA	Lhasa	29.84	81	*e*P		P	06 59 05.5	+0.9	
	comp=Z,50nm,1.2s								
LSA	Lhasa	29.84	81	*e*P		P	06 59 05.5	+0.9	
	comp=Z,50nm,1.2s								
LSA				LR		LR			
	comp=Z,4μm,22.0s								
LIT	Litokhoron	29.85	300	P		P	06 59 03.6	-0.5	
LIT	Litokhoron	29.85	300	P		P	06 59 03.6	-0.5	
LIT	Litokhoron	29.85	300	P		P	06 59 03.6	-0.5	
LIT	Litokhoron	29.85	300	P		P	06 59 03.6	-0.5	
VTS	Vitosha	29.85	305	P		P	06 59 03.6	-0.6	
VTS	Vitosha	29.85	305	⇓*i*P		P	06 59 04.5	+0.3	
VTS	Vitosha	29.85	305	P		P	06 59 07.0	+2.8	
VTS	Vitosha	29.85	305	P		P	06 59 03.6	-0.6	
VTS	Vitosha	29.85	305	P		P	06 59 03.6	-0.6	
VTS	Vitosha	29.85	305	P		P	06 59 03.6	-0.6	
KALE	Kalithea	29.87	296	*e*P		P	06 59 03.5	-0.9	
KALE	Kalithea	29.87	296	P		P	06 59 02.9	-1.5	
KALE	Kalithea	29.87	296	P		P	06 59 02.9	-1.5	
KALE	Kalithea	29.87	296	P		P	06 59 02.9	-1.5	
TRIZ	Trizonia	29.92	296	*e*P		P	06 59 03.9	-0.8	
TRIZ	Trizonia	29.92	296	P		P	06 59 03.4	-1.3	
TRIZ	Trizonia	29.92	296	P		P	06 59 03.4	-1.3	
ITM	Ithomi	29.92	294	*e*P		P	06 59 04.0	-0.8	
MAKR	Makrakomi, Fth	29.96	298	*e*P		P	06 59 05.8	+0.7	
LAKA	Lakka	29.98	296	*e*P		P	06 59 04.8	-0.5	
LAKA	Lakka	29.98	296	P		P	06 59 04.4	-0.9	
LAKA	Lakka	29.98	296	P		P	06 59 04.4	-0.9	
LAKA	Lakka	29.98	296	P		P	06 59 04.4	-0.9	
VAY	Valandovo	30.02	302	⇑*i*P		P	06 59 05.3	-0.3	
PYL	PYLOS	30.05	293	*e*P		P	06 59 04.4	-1.5	
PYL	PYLOS	30.05	293	P		P	06 59 03.9	-2.0	
PYL	PYLOS	30.05	293	P		P	06 59 03.9	-2.0	
PYL	PYLOS	30.05	293	P		P	06 59 03.9	-2.0	
EFP	Efpalio	30.06	296	*e*P		P	06 59 05.1	-0.8	
EFP	Efpalio	30.06	296	P		P	06 59 06.8	+0.9	
EFP	Efpalio	30.06	296	P		P	06 59 06.8	+0.9	
GRG	Griva	30.07	301	P		P	06 59 07.8	+1.7	
GRG	Griva	30.07	301	*e*P		P	06 59 06.0	-0.1	
GRG	Griva	30.07	301	P		P	06 59 07.8	+1.7	
GRG	Griva	30.07	301	P		P	06 59 07.8	+1.7	
GRG	Griva	30.07	301	P		P	06 59 07.8	+1.7	
AMT	Artemida-Makis	30.12	295	*e*P		P	06 59 05.6	-1.0	
AMT	Artemida-Makis	30.12	295	P		P	06 59 07.1	+0.5	
AMT	Artemida-Makis	30.12	295	P		P	06 59 07.1	+0.5	
DRO	Drossia	30.16	295	*e*P		P	06 59 06.9	0.0	
DRO	Drossia	30.16	295	P		P	06 59 05.8	-1.1	
DRO	Drossia	30.16	295	P		P	06 59 05.8	-1.1	
EVR	Evrytania	30.19	297	*e*P		P	06 59 06.3	-1.0	
BURAR	Bucovina Array	30.23	315	⇑*i*P		P	06 59 09.3	+1.8	
BURAR	Bucovina Array	30.23	315	⇑*i*P		P	06 59 09.3	+1.8	
RLS	Riolos of Patr	30.36	296	*e*P		P	06 59 08.1	-0.5	
RLS	Riolos of Patr	30.36	296	P		P	06 59 08.2	-0.4	
RLS	Riolos of Patr	30.36	296	P		P	06 59 08.2	-0.4	
RLS	Riolos of Patr	30.36	296	P		P	06 59 08.2	-0.4	
ARCR	ARCALIA	30.55	314	⇑*i*P		P	06 59 12.2	+2.0	
ARCR	ARCALIA	30.55	314	⇑*i*P		P	06 59 12.2	+2.0	
PDO	Prodromos	30.64	297	*e*P		P	06 59 10.5	-0.6	
PDO	Prodromos	30.64	297	P		P	06 59 09.5	-1.6	
PDO	Prodromos	30.64	297	P		P	06 59 09.5	-1.6	
DSL	Palaion Diasel	30.77	298	*e*P		P	06 59 14.0	+1.7	
FNA	Florina	30.80	301	P		P	06 59 12.2	-0.4	
FNA	Florina	30.80	301	*e*P		P	06 59 12.6	0.0	
FNA	Florina	30.80	301	P		P	06 59 12.2	-0.4	
FNA	Florina	30.80	301	P		P	06 59 12.2	-0.4	
FNA	Florina	30.80	301	P		P	06 59 12.2	-0.4	
ZKS	Zakynthos	30.87	295	*e*P		P	06 59 11.7	-1.5	
ZKS	Zakynthos	30.87	295	P		P	06 59 11.7	-1.5	
ZKS	Zakynthos	30.87	295	P		P	06 59 11.7	-1.5	
BARS	Barje	30.90	305	*e*P		P	06 59 12.8	-0.6	
KFL	Anninata	30.90	296	P		P	06 59 12.6	-0.8	
KFL	Anninata	30.90	296	P		P	06 59 12.6	-0.8	
SKO	Skopje	30.98	303	*e*P		P	06 59 16.3	+2.2	
NEST	Nestorio	30.99	300	*e*P		P	06 59 14.6	+0.3	
NEST	Nestorio	30.99	300	P		P	06 59 13.6	-0.7	
NEST	Nestorio	30.99	300	P		P	06 59 13.6	-0.7	
EXG	Exogi	31.06	296	*e*P		P	06 59 13.9	-0.9	
BOLS	Boljevac	31.06	307	*e*P		P	06 59 13.6	-1.1	
VLS	Valsamata	31.06	296	P		P	06 59 13.1	-1.8	
VLS	Valsamata	31.06	296	*e*P		P	06 59 13.7	-1.2	
VLS	Valsamata	31.06	296	P		P	06 59 13.1	-1.8	
VLS	Valsamata	31.06	296	P		P	06 59 13.1	-1.8	
VLS	Valsamata	31.06	296	P		P	06 59 13.1	-1.8	
LKD2	Lefkada island	31.07	297	*e*P		P	06 59 13.4	-1.5	
LKD2	Lefkada island	31.07	297	P		P	06 59 12.7	-2.2	
LKD2	Lefkada island	31.07	297	P		P	06 59 12.7	-2.2	
LKD2	Lefkada island	31.07	297	P		P	06 59 12.7	-2.2	
OHR	Ohrid	31.29	301	⇑*i*P		P	06 59 15.0	-1.8	
SHL	Shillong	31.33	89	*e*P		P	06 59 16.8	-0.7	
SHL				*ex*		x	07 04 32.0		
IGT	Igoumenitsa	31.41	298	*e*P		P	06 59 16.2	-1.7	
KUBS	Kucevo	31.41	308	*e*P		P	06 59 18.7	+0.9	
SELS	Selova	31.49	305	*e*P		P	06 59 16.3	-2.3	
SGD	Sagiada	31.49	298	*e*P		P	06 59 16.9	-1.7	
SGD	Sagiada	31.49	298	P		P	06 59 17.3	-1.3	
SGD	Sagiada	31.49	298	P		P	06 59 17.3	-1.3	
NVS	Novosibirsk	31.61	29	*e*P		P	06 59 18.6	-0.8	
NVS				*e*S		S	07 04 30.4	+2.7	
NVS				pmax		pmax			
	comp=N,46nm,1.5s								
NVS				pmax		pmax			
	comp=Z,58nm,1.5s								
NVS				pmax		pmax			
	comp=E,17nm,1.3s								
NVS				smax		smax			
	comp=N,56nm,2.0s								
NVS				smax		smax			
	comp=E,20nm,2.0s								
NVS	Novosibirsk	31.61	29	*e*P		P	06 59 18.6	-0.8	
PALK	Pallekele	31.62	130	P		P	06 59 17.6	-2.4	
	comp=E,5.7nm,0.6s,baz=92,slow=20,SNR=2.3								
PALK	Pallekele	31.62	130	*e*P		P	06 59 20.9	+0.9	
PALK				pmax		pmax			
	comp=Z,138nm,1.8s								
PALK	Pallekele	31.62	130	*e*P		P	06 59 20.9	+0.9	
	comp=Z,138nm,1.8s								
PALK	Pallekele	31.62	130	*e*P		P	06 59 20.9	+0.9	
	comp=Z,138nm,1.8s								
SRN	Sarande	31.70	299	P		P	06 59 18.5	-1.9	
SRN	Sarande	31.70	299	P		P	06 59 18.5	-1.9	
SRN	Sarande	31.70	299	P		P	06 59 18.5	-1.9	
ZALV	Zalesovo Beam	31.73	32	P		P	06 59 20.1	-0.5	
	comp=Z,9.8nm,0.8s,baz=238,slow=9.0,SNR=24								
ZALV				S		S	07 04 32.5	+2.8	
	comp=Z,0.6nm,0.3s,baz=100,slow=41,SNR=2.2								
ZALV				LR		LR	07 12 37.6		
	comp=Z,2μm,19.2s,baz=230,slow=37								
BZS	Buzias	31.80	310	⇓*i*P		P	06 59 23.3	+2.0	
BZS	Buzias	31.80	310	⇓*i*P		P	06 59 23.3	+2.0	
LVV	L'vov	31.91	319	*e*P		P	06 59 24.8	+2.7	
LVV				*e*			07 00 51.8		
LVV				*e*S		S	07 04 33.6	+1.1	
LVV				MLR		MLR			
	comp=Z,1μm,16.0s								
LVV				MLR		MLR			
	comp=N,400nm,15.0s								
LVV				MLR		MLR			
	comp=E,1μm,15.0s								
LVV	L'vov	31.91	319	*e*P		P	06 59 24.8	+2.7	
GRUS	Gruza	31.94	306	*e*P		P	06 59 22.2	-0.3	
SIRR	Siria	31.98	311	⇑*i*P		P	06 59 23.9	+1.0	
SIRR	Siria	31.98	311	⇑*i*P		P	06 59 23.9	+1.0	
TIR	Tirane	32.02	302	*e*P		P	06 59 24.2	+0.9	
TIR				pmax		pmax			
	comp=Z,177nm,1.1s								
TIR				MLR		MLR			
	comp=Z,902nm,19.0s								
TIR	Tirane	32.02	302	*e*P		P	06 59 24.2	+0.9	
	comp=Z,177nm,1.1s								
TIR	Tirane	32.02	302	*e*P		P	06 59 24.2	+0.9	
	comp=Z,177nm,1.1s								
TIR				LR		LR			
	comp=Z,902nm,19.0s								
TRPA	Tarpa	32.09	315	⇑*i*P		P	06 59 25.0	+1.3	
TRPA	Tarpa	32.09	315	⇑*i*P		P	06 59 25.0	+1.3	
TRUS	Trudelj	32.24	307	*e*P		P	06 59 22.8	-2.3	
IVAS	Ivanjica	32.26	306	*e*P		P	06 59 23.7	-1.7	
UZH	Uzhgorod	32.43	316	*e*P		P	06 59 28.2	+1.5	
UZH				*e*			06 59 51.6		
UZH				*e*			07 00 47.2		
UZH				*e*S		S	07 04 39.2	-1.5	
UZH	Uzhgorod	32.43	316	*e*P		P	06 59 28.2	+1.5	
MICGM	Minsk	32.45	328	*e*P		P	06 59 28.0	+1.2	
MNK	Minsk	32.47	328	*e*P		P	06 59 28.0	+1.0	
MNK				*e*S		S	07 04 46.0	+4.9	
MNK	Minsk	32.47	328	*e*P		P	06 59 28.0	+1.0	
DIVS	Divibare	32.50	307	⇓*i*P		P	06 59 28.9	+1.4	
DIVS	Divibare	32.50	307	*e*P		P	06 59 27.2	-0.3	
KOLS	Kolonicke sedl	32.57	316	*e*P		P	06 59 28.3	+0.4	
KOLS				pmax		pmax			
	comp=Z,11nm,0.9s								
KOLS	Kolonicke sedl	32.57	316	*e*P		P	06 59 28.3	+0.4	
	comp=Z,11nm,0.9s								
KOLS	Kolonicke sedl	32.57	316	*e*P		P	06 59 28.3	+0.4	
PRGR	Permogore	32.89	350	*e*P		P	06 59 29.5	-1.1	
PRGR				pmax		pmax			
	comp=Z,19nm,0.6s								
PRGR	Permogore	32.89	350	*e*P		P	06 59 29.5	-1.1	
	comp=Z,19nm,0.6s								
NACGM	Naroch	33.20	328	*e*		P	06 59 32.0	-1.3	
IMP	Imphal	33.33	89	*e*P		P	06 59 35.0	+0.1	
IMP				*ex*		x	07 00 46.0		
PSZ	Piszkesteto	33.67	313	*e*P		P	06 59 39.6	+2.0	
PSZ				pmax		pmax			
	comp=Z,27nm,1.2s								
PSZ				MLR		MLR			
	comp=Z,2μm,21.0s								
PSZ	Piszkesteto	33.67	313	⇑*i*P		P	06 59 39.9	+2.3	
PSZ	Piszkesteto	33.67	313	*e*P		P	06 59 39.6	+2.0	
	comp=Z,27nm,1.2s								
PSZ	Piszkesteto	33.67	313	*e*P		P	06 59 39.6	+2.0	
	comp=Z,27nm,1.2s								
PSZ				LR		LR			
	comp=Z,2μm,21.0s								
PKSM	Moragy	33.97	310	⇑*i*P		P	06 59 40.8	+0.7	
PKSM	Moragy	33.97	310	⇑*i*P		P	06 59 40.8	+0.7	
TIP	Timpagrande	34.13	297	*e*P		P	06 59 41.8	0.0	
	comp=Z,100nm,1.4s								
TIP	Timpagrande	34.13	297	*e*P		P	06 59 41.8	0.0	
	comp=Z,100nm,1.4s								
TIP				LR		LR			
	comp=Z,2μm,21.0s								
TIP	Timpagrande	34.13	297	P		P	06 59 43.8	+2.0	
PKSG		34.47	312	*e*		P	06 59 46.4	+1.9	
VYHS	Vyhne	34.52	314	*e*P		P	06 59 46.6	+1.6	
VYHS				pmax		pmax			
	comp=Z,18nm,1.2s								
VYHS	Vyhne	34.52	314	*e*P		P	06 59 46.6	+1.6	
	comp=Z,18nm,1.2s								
VYHS	Vyhne	34.52	314	*e*P		P	06 59 46.6	+1.6	
OJC	Ojcow	34.55	317	*e*P		P	06 59 44.6	-0.6	
OJC	Ojcow	34.55	317	*e*P		P	06 59 44.6	-0.6	
OJC				pmax		pmax			
	comp=Z,116nm,1.3s								
OJC	Ojcow	34.55	317	*e*P		P	06 59 44.6	-0.6	
	comp=Z,116nm,1.3s								
OJC	Ojcow	34.55	317	*e*P		P	06 59 44.6	-0.6	
	comp=Z,116nm,1.3s								
PKST	T``s	34.66	311	*e*P		P	06 59 49.2	+3.0	
CUC	Castrocucco	34.92	298	*e*P		P	06 59 49.6	+1.1	
	comp=Z,40nm,0.8s								
CUC	Castrocucco	34.92	298	*e*P		P	06 59 49.6	+1.1	
	comp=Z,40nm,0.8s								
CUC				LR		LR			
	comp=Z,2μm,19.0s								
HVS	Khovu-Aksy	34.92	41	⇓*e*P		P	06 59 46.3	-2.2	
HVS				pmax		pmax			
	comp=Z,41nm,0.8s								
HVS	Khovu-Aksy	34.92	41	*e*P		P	06 59 46.3	-2.2	
	comp=Z,41nm,0.8s								
BEHE	Becsehely	35.28	310	*e*P		P	06 59 54.1	+2.6	
OKC	Ostrava-Krasne	35.41	316	*e*P		P	06 59 54.0	+1.4	
OKC				*ep*P		pP	06 59 57.8	+0.6	
OKC				*ex*		x	07 00 06.0		
OKC				*e*PP		PnPn	07 01 10.3	-0.8	
OKC				*e*S		S	07 05 26.7	0.0	
OKC				AMS		AMS	07 17 30.0		
	comp=Z,1μm,18.5s								
OKC	Ostrava-Krasne	35.41	316	*e*P		P	06 59 54.0	+1.4	
OKC				*e*			07 00 06.0		
OKC				*e*			07 01 10.3		
OKC				*e*S		S	07 05 26.7	0.0	
OKC				MLR		MLR			
	comp=Z,1μm,18.5s								
OKC	Ostrava-Krasne	35.41	316	P		P	06 59 54.0	+1.4	
OKC				S		S	07 05 26.7	0.0	
VSU	Vasula	35.48	333	*ce*P		P	06 59 52.8	-0.3	
VSU				pmax		pmax			
	comp=Z,145nm,0.8s								
VSU	Vasula	35.48	333	*e*P		P	06 59 52.8	-0.3	
	comp=Z,145nm,0.8s								
SOP	Sopron	35.74	312	*e*P		P	06 59 56.4	+1.0	
MORC	Moravsky Berou	35.75	315	*e*P		P	06 59 54.4	-1.2	
MORC				pmax		pmax			
	comp=Z,412nm,1.9s								
MORC	Moravsky Berou	35.75	315	⇓*i*P		P	06 59 56.6	+1.0	
MORC	Moravsky Berou	35.75	315	*e*P		P	06 59 54.4	-1.2	
	comp=Z,412nm,1.9s								
MORC	Moravsky Berou	35.75	315	*e*P		P	06 59 54.4	-1.2	
	comp=Z,412nm,1.9s								
KMBO	Kilima Mbogo	35.77	215	P		P	06 59 56.7	+0.4	
	comp=Z,37nm,0.8s,baz=35,slow=11,SNR=59								
KMBO				S		S	07 05 35.3	+2.0	
	comp=Z,0.6nm,0.3s,baz=158,slow=14,SNR=2.4								
KMBO				LR		LR	07 14 54.7		
	comp=Z,1μm,18.9s,baz=22,slow=37								
VAE	Valguarnera	35.92	294	P		P	06 59 57.4	+0.1	
	comp=Z,8.6nm,0.5s,baz=90,slow=5.1,SNR=5.2								
BOJS	Bojanci	36.10	308	*e*P		P	07 00 00.1	+1.5	
BOJS	Bojanci	36.10	308	*e*P		P	07 00 00.1	+1.5	
VRAC	Vranov	36.19	314	P		P	06 59 58.6	-0.7	
	comp=Z,13nm,0.9s,baz=98,slow=8.4,SNR=28								
VRAC				S		S	07 05 38.8	+0.1	
	comp=Z,2.4nm,0.4s,baz=133,slow=11,SNR=3.6								
VRAC	Vranov	36.19	314	⇓*i*P		P	06 59 59.2	-0.1	
CONA	Conrad Observa	36.26	312	P		P	07 00 00.3	+0.3	
	comp=Z,29nm,1.2s,SNR=17								
CONA	Conrad Observa	36.26	312	⇑*i*P		P	07 00 00.3	+0.3	
	comp=Z,29nm,1.2s,SNR=17								
ARSA	Arzberg	36.30	311	P		P	07 00 01.2	+0.8	
	comp=Z,24nm,0.9s,SNR=12								
ARSA	Arzberg	36.30	311	⇑*i*P		P	07 00 01.2	+0.8	
	comp=Z,24nm,0.9s,SNR=12								
KRLC	Kraliky	36.32	316	*e*P		P	06 59 58.3	-2.1	
KRLC				*ep*P		pP	07 00 01.5	-3.5	
KRLC				*es*P		sP	07 00 06.0	-0.9	
KRLC				*ex*		x	07 00 10.9		
KRLC	Kraliky	36.32	316	*e*P		P	06 59 58.3	-2.1	
KRLC				*e*			07 00 10.9		
KRLC	Kraliky	36.32	316	P		P	06 59 58.3	-2.1	
SOKA	Soboth	36.50	310	P		P	07 00 03.0	+1.0	
	comp=Z,15nm,1.2s,SNR=7.4								
SOKA	Soboth	36.50	310	⇑*i*P		P	07 00 03.0	+1.0	
	comp=Z,15nm,1.2s,SNR=7.4								
GTA	Gaotai	36.53	63	*e*P		P	07 00 03.0	+0.5	
GTA				pP		pP	07 00 10.3	+3.2	
GTA				sP		sP	07 00 13.5	+4.5	
GTA				S		S	07 05 42.5	-1.9	
GTA				sS		sS	07 05 54.5	+2.5	
GTA				PMZ					
	comp=Z,17nm,1.4s								
GTA				PMZ					
	comp=Z,310nm,4.7s								
GTA				LN					
	comp=Z,3μm,14.5s								
GTA				LE					
	comp=Z,2μm,17.8s								
GTA				LZ					
	comp=Z,3μm,18.1s								
TMCR	Tamitsa	36.58	346	*e*P		P	07 00 03.5	+1.1	
TMCR				*e*			07 01 29.7		
TMCR				pmax		pmax			
	comp=Z,49nm,1.3s								
TMCR	Tamitsa	36.58	346	*e*P		P	07 00 03.5	+1.1	
	comp=Z,49nm,1.3s								
DPC	Dobruska-Polom	36.69	316	*e*P		P	07 00 02.5	-1.1	
DPC				*ep*P		pP	07 00 05.5	-2.7	
DPC				*es*P		sP	07 00 09.8	-0.2	
DPC				*ex*		x	07 00 17.1		
DPC				*e*PP		PP	07 01 31.0	+4.0	
DPC				*e*S		S	07 05 41.3	-5.1	
DPC				AMS		AMS	07 16 50.0		
	comp=Z,2μm,21.2s								
DPC	Dobruska-Polom	36.69	316	*e*P		P	07 00 02.5	-1.1	
DPC				*e*			07 00 17.1		
DPC				*e*			07 01 31.0		
DPC				*e*S		S	07 05 41.3	-5.1	
DPC				MLR		MLR			
	comp=Z,2μm,21.2s								
DPC	Dobruska-Polom	36.69	316	P		P	07 00 02.5	-1.1	
KRAR	Krasnoyarsk	36.72	34	⇓*e*P		P	07 00 03.0	-0.7	
KRAR				pmax		pmax			
	comp=Z,34nm,0.5s								
KRAR	Krasnoyarsk	36.72	34	*e*P		P	07 00 03.0	-0.7	
	comp=Z,34nm,0.5s								
KSP	Ksiaz	36.87	317	*e*P		P	07 00 06.7	+1.7	
KSP	Ksiaz	36.87	317	*e*P		P	07 00 06.7	+1.7	
KSP	Ksiaz	36.87	317	*e*P		P	07 00 06.7	+1.7	
CLTB	Caltabellotta	36.87	294	*e*P		P	07 00 07.0	+1.6	
	comp=Z,20nm,0.9s								
CLTB	Caltabellotta	36.87	294	*e*P		P	07 00 07.0	+1.6	
	comp=Z,20nm,0.9s								
CLTB				LR		LR			
	comp=Z,549nm,21.0s								
TREC	Trest	36.88	314	*e*P		P	07 00 04.2	-1.0	
TREC				*ep*P		pP	07 00 07.1	-2.7	
TREC				*es*P		sP	07 00 11.2	-0.5	
TREC				*ex*		x	07 00 18.5		
TREC				*e*PP		PP	07 01 28.5	-0.6	
TREC				*e*S		S	07 05 50.0	+0.8	
TREC				AMS		AMS	07 16 40.0		
	comp=Z,2μm,19.3s								
TREC	Trest	36.88	314	*e*P		P	07 00 04.2	-1.0	
TREC				*e*			07 00 18.5		
TREC				*e*			07 01 28.5		
TREC				*e*S		S	07 05 50.0	+0.8	
TREC				MLR		MLR			
	comp=Z,2μm,19.3s								
TREC	Trest	36.88	314	P		P	07 00 04.2	-1.0	
TREC	Trest	36.88	314	PP		PP	07 01 28.5	-0.6	
TREC				S		S	07 05 50.0	+0.8	
UPC	Upice	36.92	316	*e*P		P	07 00 05.1	-0.5	
UPC				*ep*P		pP	07 00 07.5	-2.7	
UPC				*es*P		sP	07 00 11.7	-0.3	
UPC				*ex*		x	07 00 18.8		
UPC				*e*PP		PnPn	07 01 33.0	+3.3	
UPC				*e*S		S	07 05 48.7	-1.2	
UPC				AMS		AMS	07 17 00.0		
	comp=Z,2μm,21.2s								
UPC	Upice	36.92	316	*e*P		P	07 00 05.1	-0.5	
UPC				*e*			07 00 18.8		
UPC				*e*			07 01 33.0		
UPC				*e*S		S	07 05 48.7	-1.2	
UPC				MLR		MLR			
	comp=Z,2μm,21.2s								
UPC	Upice	36.92	316	P		P	07 00 05.1	-0.5	
UPC				S		S	07 05 48.7	-1.2	
AQU	L'Aquila	36.94	302	*e*P		P	07 00 07.1	+1.2	
AQU				pmax		pmax			
	comp=Z,109nm,1.0s								
AQU				MLR		MLR			
	comp=Z,1μm,20.0s								
AQU	L'Aquila	36.94	302	*e*P		P	07 00 07.1	+1.2	
	comp=Z,109nm,1.0s								
AQU	L'Aquila	36.94	302	*e*P		P	07 00 07.1	+1.2	
	comp=Z,109nm,1.0s								
AQU				LR		LR			
	comp=Z,1μm,20.0s								
DGPR	DIGLIPUR	37.24	108	*e*P		P	07 00 10.5	+1.9	
DGPR				AMB		AMB	07 00 16.6		
	comp=Z,219nm,1.0s								
MOA	Molln	37.28	311	P		P	07 00 08.0	-0.6	
	comp=Z,62nm,1.4s,SNR=16								
MOA	Molln	37.28	311	⇑*i*P		P	07 00 08.0	-0.6	
	comp=Z,62nm,1.4s,SNR=16								
CADS	Cadrg	37.28	309	*e*P		P	07 00 09.7	+1.0	
CADS	Cadrg	37.28	309	*e*P		P	07 00 09.7	+1.0	
GOPC	GO Pecny, Ondr	37.49	315	*e*P		P	07 00 09.4	-1.0	
GOPC				*ep*P		pP	07 00 12.9	-2.1	
GOPC				*e*PP		PnPn	07 01 41.2	+4.5	
GOPC				*e*S		S	07 05 52.5	-6.1	
GOPC				AMS		AMS	07 19 50.0		
	comp=Z,1μm,18.0s								
GOPC	GO Pecny, Ondr	37.49	315	P		P	07 00 09.4	-1.0	
PRU	Pruhonice	37.66	315	*e*P		P	07 00 10.6	-1.2	
PRU				*ep*P		pP	07 00 14.2	-2.2	
PRU				*es*P		sP	07 00 17.4	-0.9	
PRU				*ex*		x	07 00 25.1		
PRU				*e*PP		PP	07 01 36.8	-0.9	
PRU				*e*S		S	07 05 56.8	-4.3	
PRU				AMS		AMS	07 19 20.0		
	comp=Z,1μm,14.8s								
PRU	Pruhonice	37.66	315	*e*P		P	07 00 10.6	-1.2	
PRU				*e*			07 00 25.1		
PRU				*e*			07 01 36.8		
PRU				*e*S		S	07 05 56.8	-4.3	
PRU				MLR		MLR			
	comp=Z,1μm,14.8s								
PRU	Pruhonice	37.66	315	P		P	07 00 10.6	-1.2	
PRU	Pruhonice	37.66	315	PP		PP	07 01 36.8	-1.0	
KBA	Koelnbreinsper	37.71	310	P		P	07 00 12.9	+0.4	
	comp=Z,39nm,0.8s,SNR=11

comp=Z,30nm,1.0s
ABTA Abfaltersbach 38.21 309 P **P** **07 00 15.3 -1.3**
comp=Z,31nm,0.9s,SNR=9.4
ABTA Abfaltersbach 38.21 309⇑*i*P **P** **07 00 15.3 -1.3**
comp=Z,31nm,0.9s,SNR=9.4
RJOB Jochberg 38.22 311 *e*P **P** **07 00 15.7 -0.9**
comp=Z,56nm,0.9s
RJOB Jochberg 38.22 311 *e*P **P** **07 00 15.7 -0.9**
comp=Z,56nm,0.9s
BRG Berggiesshubel 38.29 316 *e*P **P** **07 00 16.1 -1.1**
comp=Z,5.2nm,1.4s
BRG *i* 07 00 18.4
comp=Z,20nm,1.1s
BRG PP **PP** **07 01 39.0 -5.6**
BRG S S 07 06 02.0 -8.6
BRG SS SnSn 07 08 30.0 -25
comp=N,1μm,17.1s
comp=E,1μm,19.7s
comp=Z,2μm,18.0s
BRG Berggiesshubel 38.29 316 *e*P **P** **07 00 16.3 -0.8**
comp=Z,20nm,1.0s
BRG Berggiesshubel 38.29 316 *e*P **P** **07 00 16.0 -1.1**
BRG S S 07 06 02.0 -8.6
BRG MLR MLR
comp=N,1μm,17.1s
BRG MLR MLR
comp=E,1μm,19.7s
BRG MLR MLR
comp=Z,2μm,18.0s
BRG Berggiesshubel 38.29 316 *e*P **P** **07 00 16.3 -0.8**
comp=Z,20nm,1.0s
WET Wettzell 38.48 313 *e*P **P** **07 00 17.5 -1.3**
comp=Z,99nm,1.7s
WET Wettzell 38.48 313 *e*P **P** **07 00 17.5 -1.3**
comp=Z,99nm,1.7s
FBE Freiberg 38.66 316 *e*P **P** **07 00 19.6 -0.6**
comp=Z,18nm,1.0s
FBE Freiberg 38.66 316 *e*P **P** **07 00 19.6 -0.6**
comp=Z,18nm,1.0s
RUE Ruedersdorf 38.88 318 *e*P **P** **07 00 24.1 +2.1**
comp=Z,35nm,0.9s
RUE Ruedersdorf 38.88 318 *e*P **P** **07 00 24.1 +2.1**
comp=Z,35nm,0.9s
WTTA Wattenberg 38.89 310 P **P** **07 00 21.6 -0.8**
comp=Z,114nm,1.2s,SNR=17
WTTA Wattenberg 38.89 310⇑*i*P **P** **07 00 21.6 -0.8**
comp=Z,114nm,1.2s,SNR=17
WATA Walderalm 38.95 310 P **P** **07 00 22.3 -0.6**
comp=Z,67nm,1.1s,SNR=16
WATA Walderalm 38.95 310⇑*i*P **P** **07 00 22.3 -0.6**
comp=Z,67nm,1.1s,SNR=16
CLL Collm 38.98 316 *e*P **P** **07 00 22.6 -0.3**
comp=Z,90nm,1.3s
CLL Collm 38.98 316 *e*P **P** **07 00 22.0 -0.9**
CLL *e*S **S** **07 06 21.0 0.0**
CLL MLR MLR
comp=Z,2μm,21.4s
CLL Collm 38.98 316 *e*P **P** **07 00 22.6 -0.3**
comp=Z,90nm,1.3s
CLL *e*S **S** **07 06 21.0 0.0**
CLL Collm 38.98 316 *e*P **P** **07 00 24.3 +1.4**
comp=Z,88nm,1.2s
CLL Collm 38.98 316 *e*P **P** **07 00 22.0 -0.9**
CLL *i* pP **pP** **07 00 26.3 -1.2**
comp=Z,89nm,1.3s
CLL *i* (sP) **sP** **07 00 28.8 -0.6**
CLL *e*PP **PnPn** **07 01 58.0 +3.4**
CLL *e*S **S** **07 06 21.0 0.0**
CLL Lm MLR 07 18 00.0
comp=Z,2μm,21.4s
NKC Novy Kostel 39.03 315 *e*P **P** **07 00 22.6 -0.7**
NKC *e*pP **pP** **07 00 25.1 -2.9**
NKC *e*sP **sP** **07 00 29.0 -0.8**
NKC *e*x x 07 00 36.6
NKC *e*PP **PnPn** **07 01 55.4 +0.2**
NKC *e*S **ScP** **07 06 22.2 +1.0**
NKC AMS AMS 07 20 10.0
comp=Z,1μm,16.1s
NKC Novy Kostel 39.03 315 *e*P **P** **07 00 22.6 -0.7**
NKC *e* 07 00 36.6
NKC *e* 07 01 55.4
NKC *e*S **ScP** **07 06 22.2 +1.0**
NKC MLR MLR
comp=Z,1μm,16.1s
NKC Novy Kostel 39.03 315 P **P** **07 00 22.6 -0.7**
NKC S **ScP** **07 06 22.2 +1.0**
ROTZ Rotzenmuhle 39.06 314 *e*P **P** **07 00 23.1 -0.5**
comp=Z,82nm,1.7s
ROTZ Rotzenmuhle 39.06 314 *e*P **P** **07 00 23.1 -0.5**
comp=Z,82nm,1.7s
TANN Tannenbergstha 39.07 315 *e*P **P** **07 00 23.1 -0.6**
comp=Z,56nm,2.2s
TANN Tannenbergstha 39.07 315 *e*P **P** **07 00 23.1 -0.6**
comp=Z,56nm,2.2s
MHMT Maesarieng 39.14 97 P P 07 00 30.3 +5.7
comp=Z,12nm,1.4s
MANZ Manzenberg 39.18 314 *e*P **P** **07 00 24.0 -0.6**
comp=Z,70nm,2.0s
MANZ Manzenberg 39.18 314 *e*P **P** **07 00 24.0 -0.6**
comp=Z,70nm,2.0s
BSD Bornholm Skovb 39.20 323 *i* P **P** **07 00 22.1 -2.6**
comp=Z,81nm,0.9s
comp=Z,940nm,14.0s
BSD Bornholm Skovb 39.20 323 *i* P **P** **07 00 22.1 -2.6**
BSD pmax pmax
comp=Z,81nm,0.9s
BSD MLR MLR
comp=Z,950nm,14.0s
BSD Bornholm Skovb 39.20 323 *i* P **P** **07 00 22.1 -2.6**
comp=Z,950nm,14.0s
MOTA Moosalm 39.27 310 P **P** **07 00 24.0 -1.5**
comp=Z,39nm,1.0s,SNR=16
MOTA Moosalm 39.27 310⇑*i*P **P** **07 00 24.1 -1.5**
comp=Z,39nm,1.0s,SNR=16
FUR Furstenfeldbru 39.30 311 *e*P **P** **07 00 24.3 -1.4**
comp=Z,104nm,1.6s
FUR Furstenfeldbru 39.30 311 *e*P **P** **07 00 24.3 -1.4**
comp=Z,104nm,1.6s
VLC Villacollemand 39.32 305 PFAKE 07 00 40.0 +14
VLC LR LR
comp=Z,3μm,22.0s
MOY Mondy 39.38 43 *e*P **P** **07 00 27.7 +1.3**
MOY pmax pmax
comp=Z,89nm,1.6s
MOY Mondy 39.38 43 *e*P **P** **07 00 27.7 +1.3**
comp=Z,89nm,1.6s
CMAI Chiengmai2 39.41 94 P P 07 00 30.3 +3.2
comp=Z,16nm,1.8s,comp=Z,659nm
FETA Feichten 39.46 309 P **P** **07 00 26.7 -0.4**
comp=Z,93nm,1.4s,SNR=17
FETA Feichten 39.46 309⇓*i*P **P** **07 00 26.7 -0.4**
comp=Z,93nm,1.4s,SNR=17
RETA Reutte 39.52 310 P **P** **07 00 26.0 -1.5**
comp=Z,19nm,0.8s,SNR=7.0
RETA Reutte 39.52 310⇑*i*P **P** **07 00 26.0 -1.5**
comp=Z,19nm,0.8s,SNR=7.0
MOX Moxa 39.65 315 *e*P **P** **07 00 27.7 -0.8**
comp=Z,18nm,1.0s
MOX Moxa 39.65 315 *e*P **P** **07 00 27.7 -0.8**
comp=Z,18nm,1.0s
GRA1 Grafenberg Arr 39.66 313 *e*P **P** **07 00 28.0 -0.6**
comp=Z,254nm,1.8s
GRF Grafenberg Arr 39.66 313 *e*P **P** **07 00 28.0 -0.6**
comp=Z,254nm,1.8s
GRFO Grafenberg 39.66 313 *e*P **P** **07 00 28.2 -0.4**
GRFO pmax pmax
comp=Z,71nm,1.0s
GRFO Grafenberg 39.66 313 *e*P **P** **07 00 28.2 -0.4**
comp=Z,71nm,1.0s
GRFO Grafenberg 39.66 313 *e*P **P** **07 00 28.2 -0.4**
comp=Z,71nm,1.0s
FUORN Ofenpass-Fuorn 39.71 309 *e*P **P** **07 00 29.8 +0.4**
comp=Z,101nm,1.5s
FUORN Ofenpass-Fuorn 39.71 309 *e*P **P** **07 00 29.8 +0.4**
comp=Z,101nm,1.5s
CHTO Chiang Mai 39.76 96 P **P** **07 00 29.8 0.0**
comp=Z,148nm,1.7s,comp=Z,4μm
CHTO Chiang Mai 39.76 96 *e*P **P** **07 00 29.1 -0.7**
CHTO pmax pmax
comp=Z,61nm,1.4s
CHTO MLR MLR
comp=Z,1μm,20.0s
CHTO Chiang Mai 39.76 96 *e*P **P** **07 00 29.1 -0.7**
comp=Z,1μm,20.0s
CHTO Chiang Mai 39.76 96 *e*P **P** **07 00 29.1 -0.7**
comp=Z,61nm,1.4s
CHTO LR LR
comp=Z,1μm,20.0s
DGAR Diego Garcia 39.76 155 *e*P **P** **07 00 29.2 -0.5**
DGAR pmax pmax
comp=Z,203nm,0.9s
DGAR Diego Garcia 39.76 155 *e*P **P** **07 00 29.2 -0.5**
comp=Z,204nm,0.9s
DGAR Diego Garcia 39.76 155 *e*P **P** **07 00 29.2 -0.5**
comp=Z,204nm,0.9s
CMMT Chiang Mai 39.76 96 P **P** **07 00 29.8 0.0**
comp=Z,42nm,1.7s,comp=Z,960nm
LZH Lanzhou 39.79 68 *e*P **P** **07 00 29.5 -0.6**
LZH pP **pP** **07 00 36.0 +1.3**
LZH sP **sP** **07 00 39.3 +2.7**
LZH PP **PnPn** **07 02 04.5 -0.2**
LZH *e*S **S** **07 06 32.0 -2.0**
LZH sS **sS** **07 06 42.5 +0.9**
LZH *e*SS **SS** **07 09 21.8 -8.1**
LZH PMZ
comp=Z,43nm,1.3s
LZH PMZ
comp=Z,140nm,5.4s
LZH LN
comp=Z,370nm,13.0s
LZH LE
comp=Z,410nm,12.9s
LZH LZ
comp=Z,660nm,17.5s
RGN Rugen 39.85 321 *e*P **P** **07 00 31.8 +1.8**
comp=Z,62nm,0.8s
RGN Rugen 39.85 321 *e*P **P** **07 00 31.8 +1.8**
comp=Z,62nm,0.8s
VSL Villasalto 39.86 297 *e*P **P** **07 00 30.5 +0.1**
comp=Z,320nm,1.4s
VSL Villasalto 39.86 297 *e*P **P** **07 00 30.5 +0.1**
comp=Z,321nm,1.4s
VSL LR LR
comp=Z,538nm,21.0s
CMAR Chiang Mai Arr 39.90 96 P **P** **07 00 29.6 -1.3**
comp=Z,3.3nm,0.7s,baz=297,slow=7.5,SNR=12
CMAR PP **PP** **07 01 57.5 -5.2**
comp=Z,8.9nm,1.0s,baz=296,slow=9.7,SNR=4.2
CMAR PcP **PcP** **07 02 34.9 -1.7**
comp=Z,2.3nm,0.5s,baz=288,slow=4.5,SNR=3.6
CMAR LR LR 07 20 32.1
comp=Z,945nm,18.5s,baz=282,slow=42
DAVOX Davos/Dischmat 40.00 309 P **P** **07 00 31.0 -0.7**
comp=Z,12nm,0.6s,baz=140,slow=4.8,SNR=12
DAVOX PcP **PcP** **07 02 36.3 -0.3**
comp=Z,15nm,0.9s,baz=233,slow=19,SNR=2.3
DAVOX Davos/Dischmat 40.00 309 P **P** **07 00 31.0 -0.7**
KEST Kesra 40.07 292 P **P** **07 00 33.4 +1.1**
comp=Z,14nm,0.9s,baz=74,slow=1.2,SNR=22
KEST S **S** **07 06 42.7 +4.8**
comp=Z,1.0nm,0.7s,baz=286,slow=10,SNR=2.7
KEST LR LR 07 20 36.4
comp=Z,272nm,18.3s,baz=34,slow=41
DAVA Damuels 40.08 309 P **P** **07 00 31.1 -1.2**
comp=Z,86nm,1.4s,SNR=18
DAVA Damuels 40.08 309⇑*i*P **P** **07 00 31.1 -1.2**
comp=Z,86nm,1.4s,SNR=18
TUE Stuetta 40.32 308 *e*P **P** **07 00 35.4 +1.0**
comp=Z,18nm,0.8s
TUE Stuetta 40.32 308 *e*P **P** **07 00 35.4 +1.0**
comp=Z,18nm,0.8s
TUE LR LR
comp=Z,1μm,20.0s
CD2 Chengdu 40.40 76 P **P** **07 00 34.3 -0.7**
CD2 pP **pP** **07 00 41.0 +1.3**
CD2 PP **PP** **07 02 07.3 -0.7**
CD2 PcP **PcP** **07 02 37.5 -0.6**
CD2 PcS **PcS** **07 06 28.0 -0.7**
CD2 S **S** **07 06 41.3 -1.6**
CD2 sS **sS** **07 06 53.0 +2.5**
CD2 SS **SS** **07 09 41.3 -0.6**
CD2 PMZ
comp=Z,30nm,0.7s
CD2 PMZ
comp=Z,280nm,4.7s
CD2 LN
comp=Z,2μm,13.0s
CD2 LE
comp=Z,3μm,16.4s
CD2 LZ
comp=Z,2μm,16.0s
CRAI Chiangrai 40.45 93 P **P** **07 00 32.8 -2.7**
comp=Z,31nm,1.2s
ZAK Zakamensk 40.45 46 *e*P **P** **07 00 35.6 +0.3**
ZAK pmax pmax
comp=Z,17nm,1.5s
ZAK Zakamensk 40.45 46 *e*P **P** **07 00 35.6 +0.3**
comp=Z,17nm,1.5s
LAMP Lampang 40.47 96 P P 07 00 39.9 +4.2
comp=Z,4.6nm,1.1s
APA Apatity 40.49 346⇑*i*P **P** **07 00 38.0 +2.8**
APA *i* 07 02 15.0
APA *i* 07 02 47.0
APA *i* S **S** **07 06 48.0 +4.7**
APA pmax pmax
comp=Z,358nm,2.0s
APA MLR MLR
comp=Z,2μm,13.0s
APA Apatity 40.49 346 *i* P **P** **07 00 38.0 +2.8**
comp=Z,358nm,2.0s
LVZ Lovozero 40.53 347 *ce*P **P** **07 00 33.4 -2.2**
LVZ pmax pmax
comp=Z,23nm,1.2s
LVZ Lovozero 40.53 347 *e*P **P** **07 00 33.4 -2.2**
comp=Z,23nm,1.2s
LVZ Lovozero 40.53 347 *e*P **P** **07 00 37.8 +2.2**
comp=Z,122nm,1.8s
LVZ LR LR
comp=Z,2μm,21.0s
UBBA Unterbreizbach 40.69 315 *e*P **P** **07 00 36.7 -0.2**
comp=Z,104nm,2.0s
UBBA Unterbreizbach 40.69 315 *e*P **P** **07 00 36.7 -0.2**
comp=Z,104nm,2.0s
CLZ Clausthal 40.71 316 *e*P **P** **07 00 37.3 0.0**
comp=Z,116nm,1.3s
CLZ Clausthal 40.71 316 *e*P **P** **07 00 37.3 0.0**
comp=Z,116nm,1.3s
STU Stuttgart 40.78 312 *e*P **P** **07 00 37.9 0.0**
STU pmax pmax
comp=Z,10.0nm,0.6s
STU Stuttgart 40.78 312 *e*P **P** **07 00 37.9 0.0**
comp=Z,10nm,0.6s
STU Stuttgart 40.78 312 *e*P **P** **07 00 37.9 0.0**
comp=Z,10nm,0.6s
UMPA Umpang Tak 40.79 100 P **P** **07 00 40.3 +1.9**
comp=Z,16nm,1.0s,comp=Z,1μm
KMI Kunming 40.89 85 P **P** **07 00 39.3 -0.1**
KMI pP **pP** **07 00 43.3 -0.7**
KMI sP **sP** **07 00 46.0 +0.1**
KMI PP **PnPn** **07 02 18.5 +0.7**
KMI S **S** **07 06 51.8 +1.1**
KMI sS **sS** **07 06 58.0 -0.3**
KMI SS **SS** **07 09 52.0 -0.1**
KMI PMZ
comp=Z,42nm,1.1s
KMI PMZ
comp=Z,630nm,3.1s
KMI LN
comp=Z,1μm,19.0s
KMI LE
comp=Z,530nm,21.6s
KMI LZ
comp=Z,1μm,14.4s
SUKH Sukhothai 40.90 97 P P 07 00 43.4 +4.2
comp=Z,5.2nm,1.3s,comp=Z,66nm
SPAK Spaichingen-Ko 40.94 311 *e*P **P** **07 00 40.8 +1.5**
TLY Talaya 40.98 44 P **P** **07 00 40.0 +0.5**
comp=Z,6.6nm,0.6s,baz=33,slow=4.8,SNR=3.4
TLY LR LR 07 18 28.7
comp=Z,3μm,18.3s,baz=266,slow=38
TLY Talaya 40.98 44 *e*P P 07 00 45.5 +6.0
TLY *e* 07 02 22.4
TLY *e*S **S** **07 06 54.6 +3.6**
TLY *e*SSS SSS 07 10 23.8
TLY pmax pmax
comp=Z,53nm,1.8s
TLY MLR MLR
comp=Z,2μm,18.0s
TOD Tromm 41.18 313 *e*P **P** **07 00 43.4 +2.2**
KHLT Khaolaem Dam 41.20 102 P P 07 00 46.9 +5.1
comp=Z,23nm,1.3s,comp=Z,386nm
BFO Black Forest 41.27 311 *e*P **P** **07 00 41.6 -0.4**
BFO pmax pmax
comp=Z,13nm,1.0s
BFO MLR MLR
comp=Z,1μm,21.0s
BFO Black Forest 41.27 311 *e*P **P** **07 00 41.6 -0.4**
comp=Z,13nm,1.0s
BFO LR LR
comp=Z,1μm,21.0s
BSEG Bad Segeberg 41.32 320 *e*P **P** **07 00 42.1 -0.1**
comp=Z,33nm,1.1s
BSEG Bad Segeberg 41.32 320 *e*P **P** **07 00 42.1 -0.1**
comp=Z,33nm,1.1s
SAOF Saorge 41.34 304 *e*P **P** **07 00 44.9 +2.3**
FELD Feldberg im Sc 41.42 310 *e*P **P** **07 00 44.7 +1.4**
IRK Irkutsk 41.49 43 *e*P **P** **07 00 44.2 +0.5**
IRK *e* 07 02 42.9
IRK pmax pmax
comp=Z,71nm,1.7s
IRK Irkutsk 41.49 43 *e*P **P** **07 00 44.2 +0.5**
comp=Z,71nm,1.7s
IRK Irkutsk 41.49 43 *e*PcP **PcP** **07 02 42.9 +1.7**
TNS Taunus Mts 41.53 314 *e*P **P** **07 00 43.8 -0.3**
comp=Z,148nm,1.5s
TNS Taunus Mts 41.53 314 *e*P **P** **07 00 43.8 -0.3**
comp=Z,148nm,1.5s
ABSA Djebel Ababsia 41.53 293 P **P** **07 00 46.4 +2.0**
ABSA Djebel Ababsia 41.53 293 P **P** **07 00 46.4 +2.0**
CMAH Djebel Manchou 41.55 293 P **P** **07 00 44.9 +0.5**
CMAH Djebel Manchou 41.55 293 P **P** **07 00 44.9 +0.5**
UTHA Uthaitani 41.59 100 P P 07 00 48.3 +3.4
comp=Z,10nm,1.0s,comp=Z,131nm
UTTA Uttaradit 41.59 96 P **P** **07 00 45.3 +0.4**
comp=Z,14nm,0.9s,comp=Z,102nm
KTD Kalmit 41.59 312 *e*P **P** **07 00 45.6 +1.0**
MVIF Mont Vial 41.62 304 *e*P **P** **07 00 47.1 +2.0**
BBS Basel-Blauen 41.70 309 *e*P **P** **07 00 45.8 +0.3**
SENIN Lac Senin/Sane 41.71 308 *e*P **P** **07 00 44.6 -1.3**
comp=Z,20nm,0.9s
SENIN Lac Senin/Sane 41.71 308 *e*P **P** **07 00 44.6 -1.3**
comp=Z,20nm,0.9s
LANF Langenberg 41.72 312 *e*P **P** **07 00 45.8 +0.2**
CALN Calern 41.81 304 *e*P **P** **07 00 47.1 +0.5**
SRDT SRDT 41.87 102 P P 07 00 51.9 +4.7
comp=Z,129nm,1.3s,comp=Z,12μm
HFS Hagfors 41.95 329 P **P** **07 00 47.1 -0.2**
comp=Z,80nm,1.0s,baz=111,slow=8.1,SNR=28
HFS S **S** **07 07 06.3 +1.2**
comp=Z,1.4nm,0.7s,baz=76,slow=41,SNR=2.4
MOF Molkenrain 42.00 310 *e*P **P** **07 00 47.5 -0.5**
SONM Songino Array 42.02 50 P **P** **07 00 48.9 +0.6**
comp=Z,16nm,1.1s,baz=259,slow=7.7,SNR=23
SONM LR LR 07 19 09.5
comp=Z,4μm,18.3s,baz=262,slow=38
ECH Echery 42.03 310 *e*P **P** **07 00 47.3 -0.9**
ECH pmax pmax
comp=Z,42nm,1.1s
ECH MLR MLR
comp=Z,682nm,19.0s
ECH Echery 42.03 310 *e*P **P** **07 00 48.6 +0.4**
ECH Echery 42.03 310 *e*P **P** **07 00 47.3 -0.9**
comp=Z,42nm,1.1s
ECH LR LR
comp=Z,682nm,19.0s
CKFL Kef-Lekhel 42.13 293 P **P** **07 00 48.0 -1.3**
CKFL Kef-Lekhel 42.13 293 P **P** **07 00 48.0 -1.3**
LOMF Lomont 42.14 309 *e*P **P** **07 00 49.9 +0.7**
LOEI Loei 42.30 96 P **P** **07 00 53.2 +2.4**
comp=Z,50nm,1.0s,comp=Z,722nm
RUP Ruppelstein 42.32 313 *e*P **P** **07 00 50.1 -0.4**
CASM Ain Smara 42.33 293 P **P** **07 00 48.8 -2.0**
CASM Ain Smara 42.33 293 P **P** **07 00 48.8 -2.0**
IBBN Ibbenburen 42.39 317 *e*P **P** **07 00 50.9 -0.1**
comp=Z,78nm,1.3s
IBBN Ibbenburen 42.39 317 *e*P **P** **07 00 50.9 -0.1**
comp=Z,78nm,1.3s
CTEI Djebel Teioual 42.41 292 P **P** **07 00 51.8 +0.2**
CTEI Djebel Teioual 42.41 292 P **P** **07 00 51.8 +0.2**
PBKT Sadao Pong 42.45 98 P **P** **07 00 52.2 +0.3**
comp=Z,47nm,1.1s
ULN Ulaanbaatar 42.46 50 *ce*P **P** **07 00 51.5 -0.4**
ULN pmax pmax
comp=Z,23nm,1.2s
ULN Ulaanbaatar 42.46 50 *e*P **P** **07 00 51.5 -0.4**
comp=Z,23nm,1.2s
ULN Ulaanbaatar 42.46 50 *e*P **P** **07 00 52.0 +0.2**
comp=Z,36nm,1.2s
ULN LR LR
comp=Z,3μm,19.0s
BUG Bochum--Univer 42.50 315 *e*P **P** **07 00 51.7 -0.2**
comp=Z,217nm,1.8s
BUG Bochum--Univer 42.50 315 *e*P **P** **07 00 51.7 -0.2**
comp=Z,217nm,1.8s
MUD Monsted U'grnd 42.71 323 *i* P **P** **07 00 53.8 +0.3**
comp=Z,115nm,1.6s
MUD Monsted U'grnd 42.71 323 *e*P **P** **07 00 53.8 +0.3**
MUD pmax pmax
comp=Z,120nm,1.6s
MUD Monsted U'grnd 42.71 323 *e*P **P** **07 00 53.8 +0.3**
comp=Z,120nm,1.6s
DFRA Djebel Bou Aff 42.79 293 P **P** **07 00 54.6 0.0**
DFRA Djebel Bou Aff 42.79 293 P **P** **07 00 54.6 0.0**
WTSB Winterswijk 42.89 316 *e*P **P** **07 00 57.3 +2.2**
comp=Z,96nm,1.2s
WLF Walferdange 42.89 312 *e*P **P** **07 00 54.0 -1.1**
comp=Z,56nm,1.5s
WLF Walferdange 42.89 312 *e*P **P** **07 00 54.9 -0.3**
WLF pmax pmax
comp=Z,30nm,1.0s
WLF MLR MLR
comp=Z,1μm,19.0s
WLF Walferdange 42.89 312 *e*P **P** **07 00 54.9 -0.3**
comp=Z,1μm,19.0s
WLF Walferdange 42.89 312 *e*P **P** **07 00 54.9 -0.3**
comp=Z,30nm,1.0s
WLF LR LR
comp=Z,1μm,19.0s
PHET Kaeng Krachan 43.00 103 P **P** **07 00 58.4 +2.0**
comp=Z,23nm,0.9s,comp=Z,236nm
MEM Membach 43.13 314 P P 07 01 00.6 +3.6
comp=Z,42nm,1.7s
CKHR Kef el Ahmar 43.14 292 P **P** **07 00 57.3 -0.2**
CKHR Kef el Ahmar 43.14 292 P **P** **07 00 57.3 -0.2**
NC602 NORSAR Array S 43.17 329 *e*P **P** **07 00 56.9 -0.4**
NC602 *e*S **S** **07 07 23.1 +0.1**
NC602 *e*SS **SS** **07 10 41.3 +5.6**
NC602 IAMs_20 IAMs_20 07 23 59.0
comp=Z,2μm,19.2s
NC602 NORSAR Array S 43.17 329 *e*P **P** **07 00 56.8 -0.4**
SNR=25
NC602 *e*S **S** **07 07 23.1 +0.1**
SNR=26
HGN Heimansgroeve 43.20 314 *e*P **P** **07 00 58.6 +1.0**
comp=Z,94nm,1.2s
HGN *e*S **S** **07 07 26.3 +2.5**
SET Setif 43.21 293 P **P** **07 00 59.0 +1.0**
SET Setif 43.21 293 P **P** **07 00 59.0 +1.0**
BEBN Eben Emael 43.37 314 P **P** **07 01 00.9 +2.0**
BEBN Eben Emael 43.37 314 P **P** **07 01 00.9 +2.0**
NB2 NORSAR Subarra 43.45 330 P **P** **07 00 58.7 -0.8**
comp=Z,89nm,1.1s,baz=115,slow=8.6
NB2 NORSAR Subarra 43.45 330 P **P** **07 00 58.7 -0.8**
baz=115,slow=8.6
NB2 NORSAR Subarra 43.45 330 P **P** **07 00 58.7 -0.8**
comp=Z,89nm,1.1s,SNR=0.3
NOA NORSAR Array B 43.45 330 P **P** **07 00 58.8 -0.7**
comp=Z,31nm,0.9s,baz=115,slow=8.0,SNR=34
NOA S **S** **07 07 29.7 +2.5**
comp=Z,1.2nm,0.8s,baz=294,slow=3.5,SNR=2.5
NOA LR LR 07 22 35.0
comp=Z,940nm,18.2s,baz=120,slow=41
SSB Saint Sauveur 43.55 306 *e*P **P** **07 00 59.5 -1.1**
SSB pmax pmax
comp=Z,50nm,1.1s
SSB MLR MLR
comp=Z,1μm,19.0s
SSB Saint Sauveur 43.55 306 *e*P **P** **07 00 59.5 -1.1**
comp=Z,50nm,1.1s
SSB Saint Sauveur 43.55 306 *e*P **P** **07 00 59.5 -1.1**
comp=Z,50nm,1.1s
SSB LR LR
comp=Z,1μm,19.0s
KONO Kongsberg 43.62 327 *e*P **P** **07 01 03.3 +2.4**
KONO *e*S **S** **07 07 28.4 -1.2**
KONO *e*SS **SS** **07 10 47.3 +2.9**
KONO Kongsberg 43.62 327 *e*P **P** **07 01 02.0 +1.1**

KONO pmax pmax
comp=Z,36nm,1.4s
KONO MLR MLR
comp=Z,2μm,21.0s
KONO Kongsberg 43.62 327 *eP* **P 07 01 02.0 +1.1**
comp=Z,36nm,1.4s
KONO *eS* **S 07 07 28.4 -1.2**
SNR=26
KONO *eSS* **SS 07 10 47.3 +2.9**
SNR=36
KONO Kongsberg 43.62 327 *eP* **P 07 01 02.0 +1.1**
comp=Z,36nm,1.4s
KONO LR LR
comp=Z,2μm,21.0s
CHAI Chaiyaphum 43.62 98 P P 07 01 04.5 +3.1
comp=Z,11nm,1.0s
KEV Kevo 43.64 346 *eP* **P 07 01 02.3 +1.4**
KEV pmax pmax
comp=Z,303nm,2.0s
KEV MLR MLR
comp=Z,2μm,19.0s
KEV Kevo 43.64 346 *eP* **P 07 01 02.3 +1.4**
comp=Z,303nm,2.0s
KEV Kevo 43.64 346 *eP* **P 07 01 02.3 +1.4**
comp=Z,303nm,2.0s
KEV LR LR
comp=Z,2μm,19.0s
NONG Nongkai 43.71 94 P P **07 01 02.2 +0.1**
comp=Z,57nm,0.9s,comp=Z,9μm
NAYO Nakonayok 43.77 100 P P **07 01 05.4 +2.8**
comp=Z,77nm,1.1s,comp=Z,877nm
ARCES ARCESS Array B 43.80 345 P P **07 01 01.6 -0.6**
comp=Z,9.8nm,0.8s,baz=150,slow=8.2,SNR=14
ARCES PP **PP 07 02 45.2 +1.1**
comp=Z,6.2nm,0.9s,baz=128,slow=12,SNR=3.0
ARCES LR LR 07 20 11.6
comp=Z,814nm,22.0s,baz=133,slow=37
ARE0 ARCESS Array S 43.80 345 *eP* **P 07 01 04.5 +2.3**
ARE0 ARCESS Array S 43.80 345 *eP* **P 07 01 04.5 +2.3**
SNR=25
GYA Guiyang 43.91 82 ⇓*iP* **P 07 01 02.3 -1.5**
GYA pP **pP 07 01 09.8 +1.3**
GYA PP **PP 07 02 47.3 +1.3**
GYA ScP **ScP 07 06 39.5 -1.6**
GYA S **S 07 07 33.5 -1.4**
GYA ScS **ScS 07 10 58.3 -4.6**
GYA PMZ
comp=Z,40nm,1.0s
GYA PMZ
comp=Z,140nm,5.0s
GYA LN
comp=Z,1μm,17.4s
GYA LE
comp=Z,1μm,18.0s
GYA LZ
comp=Z,1μm,17.4s
KTK1 Kautokeino 43.96 343 *eP* **P 07 01 00.7 -2.8**
XAN Xi'an 44.17 70 P **P 07 01 05.3 -0.4**
XAN pP **pP 07 01 11.5 +1.1**
XAN sP **sP 07 01 14.3 +2.0**
XAN S **S 07 07 40.5 +2.0**
XAN sS sS 07 07 50.8 +4.6
XAN SS **SS 07 10 52.8 -3.4**
XAN PMZ
comp=Z,13nm,0.8s
XAN PMZ
comp=Z,160nm,3.3s
XAN LN
comp=Z,3μm,15.7s
XAN LE
comp=Z,2μm,17.3s
XAN LZ
comp=Z,2μm,16.7s
UCC Uccle 44.20 314 P **P 07 01 08.4 +2.8**
SNF Seneffe 44.20 313 P **P 07 01 06.4 +0.7**
SNF Seneffe 44.20 313 P **P 07 01 06.4 +0.7**
PLDF La Plantade 44.23 307 *eP* **P 07 01 06.9 +0.8**
SURT Suratani 44.35 109 P **P 07 01 10.3 +3.0**
comp=Z,13nm,1.5s
LBL Lubilhac 44.47 306 *eP* **P 07 01 08.6 +0.6**
PYM Petit Puy Mans 44.65 307 *eP* **P 07 01 10.6 +1.1**
SKNT Sakolnakorn 44.88 95 P **P 07 01 11.8 +0.2**
comp=Z,53nm,1.2s,comp=Z,1μm
SURA Surathani 44.93 108 P P 07 01 16.3 +4.4
comp=Z,201nm,1.1s,comp=Z,10μm
BLS5 Blasjo 45.04 326 *eP* **P 07 01 13.7 +1.4**
BLS5 *eS* **S 07 07 51.4 +1.0**
BLS5 *eSS* **SS 07 11 14.5 +2.4**
BLS5 IAMs_20 IAMs_20 07 22 18.2
comp=Z,1μm,21.6s
BLS5 Blasjo 45.04 326 *eP* **P 07 01 13.7 +1.4**
SNR=25
BLS5 *eS* **S 07 07 51.4 +1.0**
SNR=26
BLS5 *eSS* **SS 07 11 14.5 +2.4**
SNR=36
ODD1 Odda 45.12 327 *eP* **P 07 01 14.8 +1.9**
ODD1 Odda 45.12 327 *eP* **P 07 01 14.8 +1.9**
SNR=25
EMHD Djebel Mahouad 45.17 293 P **P 07 01 13.4 -0.4**
EMHD Djebel Mahouad 45.17 293 P **P 07 01 13.4 -0.4**
FLOS Flostrand 45.18 337 *eP* **P 07 01 14.5 +1.3**
FLOS Flostrand 45.18 337 *eP* **P 07 01 14.5 +1.3**
SNR=25
VALF Valcebollere 45.37 302 *eP* **P 07 01 16.8 +1.5**
TRO Tromso 45.49 342 *eP* **P 07 01 13.2 -2.5**
TRO *eS* **S 07 07 56.6 0.0**
TRO *eSS* **SS 07 11 20.9 +1.1**
TRO Tromso 45.49 342 *eP* **P 07 01 13.2 -2.5**
SNR=24
TRO *eS* **S 07 07 56.6 0.0**
SNR=26
TRO *eSS* **SS 07 11 21.0 +1.1**
SNR=36
HHC Hu-ho-hao-te 45.51 60 *eP* **P 07 01 16.0 -0.4**
HHC PP **PP 07 03 03.0 +0.2**
HHC S **S 07 07 55.5 -2.4**
HHC sS **sS 07 08 05.5 -0.1**
HHC SS **ScS 07 11 10.3 -2.3**
HHC PMZ
comp=Z,13nm,1.4s
HHC PMZ
comp=Z,310nm,5.4s
HHC LN
comp=Z,3μm,17.7s
HHC LE
comp=Z,2μm,16.9s
HHC LZ
comp=Z,850nm,18.4s
TRTT Trang 45.71 109 P **P 07 01 21.1 +3.0**
comp=Z,51nm,1.5s
HYA Hoyanger 45.75 328 *eP* P 07 01 21.8 +4.0
AKN Aaknes 45.75 330 *eP* **P 07 01 18.6 +0.8**
AKN *eS* **S 07 08 01.4 +0.9**
AKN *eSS* **SS 07 11 27.2 +2.7**
AKN Aaknes 45.75 330 *eP* **P 07 01 18.6 +0.8**
SNR=24
AKN *eS* **S 07 08 01.4 +0.9**
SNR=26
AKN *eSS* **SS 07 11 27.2 +2.7**
SNR=30
TAM Tamanrasset 46.16 274 *eP* **P 07 01 21.3 -0.5**
TAM pmax pmax
comp=Z,40nm,1.1s
TAM MLR MLR
comp=Z,1μm,21.0s
TAM Tamanrasset 46.16 274 *eP* **P 07 01 21.3 -0.5**
comp=Z,40nm,1.1s
TAM Tamanrasset 46.16 274 *eP* **P 07 01 21.3 -0.5**
comp=Z,40nm,1.1s
TAM LR LR
comp=Z,1μm,21.0s
EBNR Beni Rached 46.30 293 P **P 07 01 24.0 +1.4**
EBNR Beni Rached 46.30 293 P **P 07 01 24.0 +1.4**
TIY Taiyuan 46.48 65 *eP* P 07 01 27.3 +3.3
TIY PP **PP 07 03 17.0 +3.8**
TIY S **S 07 08 11.5 -0.3**
TIY SS SS 07 11 31.0 -6.6
TIY PMZ
comp=Z,62nm,1.1s
TIY LN
comp=Z,2μm,13.4s
TIY LE
comp=Z,1μm,12.8s
TIY LZ
comp=Z,2μm,16.7s

ETRT Tiaret 46.62 292 P **P 07 01 25.3 +0.1**
ETRT Tiaret 46.62 292 P **P 07 01 25.3 +0.1**
EANR 'Ain N'Sour 46.69 293 P **P 07 01 25.7 0.0**
EANR 'Ain N'Sour 46.69 293 P **P 07 01 25.7 0.0**
UBPT Khong Chiam 46.90 97 P **P 07 01 29.4 +1.9**
comp=Z,37nm,1.3s,comp=Z,1μm
ATE Arette 47.34 303 *eP* **P 07 01 32.8 +2.2**
LARF Larrau 47.55 303 *eP* **P 07 01 34.7 +2.4**
KULM Kulim 47.94 112 *eP* **P 07 01 34.1 -1.4**
comp=Z,66nm,1.3s
KULM Kulim 47.94 112 *eP* **P 07 01 34.1 -1.4**
comp=Z,66nm,1.3s
KULM LR LR
comp=Z,977nm,20.0s
PSI Prapat 48.04 116 P **P 07 01 34.6 -1.9**
comp=Z,4.6nm,0.3s,baz=311,slow=9.5,SNR=4.0
PSI Prapat 48.04 116 *eP* **P 07 01 35.4 -1.1**
PSI pmax pmax
comp=Z,17nm,0.7s
PSI Prapat 48.04 116 *eP* **P 07 01 35.4 -1.1**
comp=Z,17nm,0.7s
BOD Bodaibo 48.16 37 *eP* **P 07 01 36.9 +0.2**
BOD pmax pmax
comp=Z,43nm,1.4s
BOD Bodaibo 48.16 37 *eP* **P 07 01 36.9 +0.2**
comp=Z,43nm,1.4s
IPM Ipoh 48.71 112 *eP* **P 07 01 39.5 -2.0**
comp=Z,40nm,1.1s
IPM Ipoh 48.71 112 *eP* **P 07 01 39.5 -2.0**
comp=Z,40nm,1.1s
OPO Ambohidratompo 48.75 192 P **P 07 01 40.8 -1.0**
comp=Z,40nm,0.8s,baz=12,slow=8.2,SNR=26
BJT Baijiatuau 49.09 61 PFAKE 07 02 00.0 +16
BJT LR LR
comp=Z,2μm,20.0s
BJI Beijing 49.09 61 P **P 07 01 42.3 -1.8**
BJI PcS **PcS 07 07 03.0 -1.0**
BJI S **S 07 08 48.3 -0.3**
BJI ScS **ScS 07 11 33.5 -2.4**
BJI SS **SS 07 12 22.3 +2.8**
BJI PMZ
comp=Z,7.0nm,1.4s
BJI PMZ
comp=Z,280nm,6.1s
BJI LN
comp=Z,4μm,21.4s
BJI LE
comp=Z,2μm,21.4s
BJI LZ
comp=Z,2μm,23.6s
QIZ Qiongzhong 49.15 90 P **P 07 01 43.5 -1.4**
QIZ pP **pP 07 01 49.5 -0.1**
QIZ sP **sP 07 01 52.0 +0.5**
QIZ S S 07 08 44.8 -5.2
QIZ LN
comp=Z,850nm,17.3s
QIZ LE
comp=Z,470nm,15.2s
QIZ LZ
comp=Z,950nm,17.6s
QIZ Qiongzhong 49.15 90 PFAKE 07 02 00.0 +15
QIZ LR LR
comp=Z,766nm,19.0s
ABPO Ambohimpanom 49.18 192 PFAKE 07 02 00.0 +15
ABPO LR LR
comp=Z,596nm,20.0s
EKA Eskdalemuir Ar 49.26 319 P **P 07 01 43.8 -1.4**
comp=Z,4.3nm,0.6s,baz=107,slow=6.4,SNR=12
EKA PcP **PcP 07 03 09.9 +1.9**
comp=Z,7.7nm,0.9s,baz=114,slow=7.1,SNR=2.7
ESK Eskdalemuir 49.28 319 PFAKE 07 02 00.0 +15
ESK LR LR
comp=Z,1μm,20.0s
WHN Wuhan 49.38 74 P **P 07 01 49.5 +3.0**
WHN LN
comp=Z,4μm,13.5s
WHN LE
comp=Z,2μm,12.6s
WHN LZ
comp=Z,3μm,14.3s
MNSI Mandailing Nat 49.80 117 P P 07 02 00.0 +10
ESDC Sonseca Array 50.12 299 P **P 07 01 50.9 -1.2**
comp=Z,9.1nm,0.6s,baz=77,slow=7.2,SNR=37
ESDC PP **PP 07 03 47.4 +0.3**
comp=Z,1.4nm,0.7s,baz=64,slow=8.5,SNR=1.7
ESDC LR LR 07 26 46.0
comp=Z,623nm,18.2s,baz=80,slow=40
ESLA Sonseca Array 50.12 299 *eP* **P 07 01 51.4 -0.7**
comp=Z,20nm,1.3s
ESLA Sonseca Array 50.12 299 *eP* **P 07 01 51.4 -0.7**
comp=Z,20nm,1.3s
TIA Tai'an 50.42 66 ⇓P **P 07 01 54.5 +0.1**
TIA pP pP 07 02 03.8 +4.7
TIA S **S 07 09 07.8 +0.4**
TIA sS **sS 07 09 13.8 -1.4**
TIA PMZ
comp=Z,80nm,0.8s
TIA LN
comp=Z,3μm,17.2s
TIA LE
comp=Z,1μm,16.1s
TIA LZ
comp=Z,710nm,13.7s
PAB San Pablo 50.43 299 *eP* **P 07 01 53.9 -0.6**
PAB pmax pmax
comp=Z,51nm,1.0s
PAB MLR MLR
comp=Z,695nm,19.0s
PAB San Pablo 50.43 299 *eP* **P 07 01 53.9 -0.6**
comp=Z,51nm,1.0s
PAB San Pablo 50.43 299 *eP* **P 07 01 53.9 -0.6**
comp=Z,51nm,1.0s
PAB LR LR
comp=Z,695nm,19.0s
GZH Guangzhou 50.72 83 ⇑*iP* P 07 02 00.3 +3.6
GZH S **S 07 09 15.5 +3.7**
GZH SS **SS 07 12 50.5 +4.3**
GZH LN
comp=Z,2μm,15.1s
GZH LE
comp=Z,2μm,15.8s
GZH LZ
comp=Z,1μm,15.4s
HIA Hailar 50.93 49 PFAKE 07 02 10.0 +12
HIA LR LR
comp=Z,2μm,19.0s
HSPB Hornsund (broa 51.19 349 *eSS* **SS 07 12 54.0 +2.1**
HSPB Hornsund (broa 51.19 349 *eSS* **SS 07 12 54.0 +2.1**
SNR=29
PPI Padang Panjang 51.22 118 P **P 07 02 03.1 +2.6**
PDSI Padang 51.55 118 P **P 07 02 04.9 +1.8**
SPA0 Spitsbergen Ar 51.87 350 *eP* **P 07 02 05.8 +1.2**
SPA0 *eS* **S 07 09 29.2 +2.8**
SPA0 Spitsbergen Ar 51.87 350 *eP* **P 07 02 05.8 +1.2**
SNR=23
SPA0 *eS* **S 07 09 29.2 +2.8**
SNR=25
SPITS Spitsbergen Ar 51.87 350 P **P 07 02 05.1 +0.4**
comp=Z,26nm,1.0s,baz=124,slow=12,SNR=7.5
PBRG Braganca 51.91 302 *iP* **P 07 02 06.7 +1.2**
comp=Z,57nm,1.3s
MDT Midelt 51.94 290 P **P 07 02 05.4 -0.5**
comp=Z,14nm,0.8s,baz=81,slow=9.1,SNR=19
MVO Moncorvo 52.22 301 *iP* **P 07 02 09.2 +1.3**
comp=Z,71nm,1.1s
MVO *eS* **S 07 09 32.4 +0.2**
MVO Moncorvo 52.22 301 *eLR* LR 07 21 40.0
comp=Z,491nm,20.0s
SDSI Sungai Dareh 52.31 117 P **P 07 02 09.4 +0.7**
LSZ Lusaka 52.43 216 P **P 07 02 08.5 -1.0**
comp=Z,36nm,0.9s,baz=32,slow=9.9,SNR=28
LSZ Lusaka 52.43 216 *eP* **P 07 02 08.6 -1.0**
LSZ pmax pmax
comp=Z,45nm,1.0s
LSZ MLR MLR
comp=Z,1μm,20.0s
LSZ Lusaka 52.43 216 *eP* **P 07 02 08.6 -1.0**
comp=Z,45nm,1.0s
LSZ Lusaka 52.43 216 *eP* **P 07 02 08.6 -1.0**
comp=Z,45nm,1.0s
LSZ LR LR
comp=Z,1μm,20.0s
MYKOM Kota Tinggi 52.56 113 *eP* **P 07 02 08.9 -1.7**
comp=Z,28nm,1.1s
MYKOM Kota Tinggi 52.56 113 *eP* **P 07 02 08.9 -1.7**
comp=Z,28nm,1.1s

PVRL Vila Real 52.71 301 *eP* **P 07 02 13.9 +2.4**
comp=Z,111nm,2.1s
MTE Manteigas 52.73 300 *iP* **P 07 02 13.7 +2.1**
comp=Z,163nm,1.8s
MTE *eS* **S 07 09 38.2 -1.0**
MTE Manteigas 52.73 300 *eLR* LR 07 22 04.8
comp=Z,459nm,18.0s
MTE Manteigas 52.73 300 *eP* **P 07 02 14.1 +2.5**
comp=Z,54nm,0.9s
MTE Manteigas 52.73 300 *eP* **P 07 02 14.1 +2.5**
comp=Z,54nm,0.9s
MTE LR LR
comp=Z,693nm,22.0s
PBAR Barrancos 52.73 297 *eP* **P 07 02 10.8 -0.8**
comp=Z,472nm,1.2s
NJ2 Nanjing 52.74 71 *eP* P 07 02 16.5 +4.8
NJ2 sP sP 07 02 20.3 +2.0
NJ2 S **S 07 09 37.5 -1.9**
NJ2 sS sS 07 09 51.5 +4.3
NJ2 SS **SS 07 13 23.5 +5.6**
NJ2 PMZ
comp=Z,200nm,0.8s
NJ2 PMZ
comp=Z,520nm,8.3s
NJ2 LN
comp=Z,3μm,24.8s
NJ2 LE
comp=Z,3μm,28.4s
NJ2 LZ
comp=Z,3μm,28.6s
POLO Lamas de Olo 52.76 301 *eP* **P 07 02 13.0 +1.1**
comp=Z,42nm,1.5s
PCBR Castelo Branco 52.77 299 *eP* **P 07 02 13.8 +2.0**
comp=Z,217nm,1.4s
PMRV Marv??o 52.77 299 *iP* **P 07 02 13.3 +1.4**
comp=Z,68nm,1.2s
PMRV *eS* **S 07 09 39.2 -0.6**
PMRV Marv??o 52.77 299 *eLR* LR 07 22 13.3
comp=Z,435nm,22.0s
PCAB Cabril 52.88 302 *eP* **P 07 02 15.0 +2.3**
comp=Z,72nm,1.9s
PVIS Viseu 52.94 301 *iP* **P 07 02 15.8 +2.6**
comp=Z,118nm,1.8s
PGAV Gavieira, Arco 53.02 302 *iP* **P 07 02 14.9 +1.1**
comp=Z,144nm,1.3s
PGAV *eS* **S 07 09 44.3 +1.1**
PGAV Gavieira, Arco 53.02 302 *eLR* LR 07 20 13.1
comp=Z,434nm,18.0s
PESTR Estremoz 53.03 298 *iP* **P 07 02 15.1 +1.3**
comp=Z,83nm,1.2s
KBS Kingsbay 53.03 350 *eP* **P 07 02 12.8 -0.5**
KBS IAmb IAmb 07 02 18.1
comp=Z,99nm,1.5s
KBS Kingsbay 53.03 350 *eP* **P 07 02 12.7 -0.5**
KBS pmax pmax
comp=Z,29nm,0.9s
KBS MLR MLR
comp=Z,768nm,19.0s
KBS Kingsbay 53.03 350 *eP* **P 07 02 12.7 -0.5**
comp=Z,768nm,19.0s
KBS Kingsbay 53.03 350 *eP* **P 07 02 12.7 -0.5**
comp=Z,29nm,0.9s
KBS LR LR
comp=Z,768nm,19.0s
TOC1 Torodi Ar. Sit 53.32 265 *eP* **P 07 02 14.8 -1.5**
TORD Torodi Ar. Bea 53.34 264 P **P 07 02 15.2 -1.2**
comp=Z,134nm,0.8s,baz=60,slow=6.8,SNR=301
TORD S **S 07 09 44.2 -3.8**
comp=Z,1.7nm,0.9s,baz=60,slow=16,SNR=4.6
TORD LR LR 07 27 38.0
comp=Z,2μm,19.7s,baz=55,slow=39
PVAQ Vaqueiros 53.41 297 *eP* **P 07 02 16.4 -0.2**
comp=Z,69nm,1.6s
PVAQ *eS* **S 07 09 48.3 -0.1**
PVAQ *eLR* LR 07 19 32.3
comp=Z,348nm,20.0s
EVO Evora 53.41 298 *eP* **P 07 02 16.3 -0.3**
comp=Z,115nm,1.3s
DL2 Dalian 53.44 62 ⇓P P 07 02 20.0 +3.2
DL2 S **S 07 09 54.5 +5.8**
DL2 PMZ
comp=Z,100nm,1.4s
DL2 LN
comp=Z,1μm,17.5s
DL2 LZ
comp=Z,880nm,17.6s
RTC Rabat Centre 53.48 292 *eP* P 07 02 20.6 +3.4
comp=Z,1μm,0.9s
RTC Rabat Centre 53.48 292 *eP* P 07 02 20.6 +3.4
comp=Z,1μm,0.9s
RTC LR LR
comp=Z,2μm,19.0s
PCAS Casmilo, Conde 53.50 300 *eP* **P 07 02 18.4 +1.1**
comp=Z,70nm,1.6s
PTOM Tomar 53.52 299 *eP* **P 07 02 19.4 +2.0**
comp=Z,279nm,1.3s
PCVE Castro Verde 53.61 297 *eP* **P 07 02 16.5 -1.6**
comp=Z,22nm,1.1s
MESJ Messejana 53.71 297 *eP* **P 07 02 19.0 +0.1**
MESJ AMb AMB 07 02 25.4
comp=Z,99nm,1.5s
MESJ *eS* **S 07 09 53.9 +1.3**
MESJ Messejana 53.71 297 *eP* **P 07 02 18.9 +0.1**
MESJ *eS* **S 07 09 53.8 +1.3**
MESJ Messejana 53.71 297 *eP* **P 07 02 18.9 +0.1**
MESJ *eS* **S 07 09 53.8 +1.3**
PNCL Nicolau / Gran 53.90 298 *eP* **P 07 02 20.6 +0.4**
comp=Z,140nm,1.4s
PACT Alcochete 54.00 298 *iP* **P 07 02 22.1 +1.2**
comp=Z,382nm,1.7s
MORF Marmelete 54.16 297 *eP* **P 07 02 22.2 0.0**
MORF AMb AMB 07 02 28.0
comp=Z,81nm,1.5s
MORF *eS* **S 07 10 00.1 +1.4**
MORF *eS* S 07 10 00.7 +2.0
MORF Marmelete 54.16 297 *eP* **P 07 02 22.1 0.0**
MORF *eS* **S 07 10 00.0 +1.4**
MORF Marmelete 54.16 297 *eP* **P 07 02 22.1 0.0**
MORF *eS* **S 07 10 00.0 +1.4**
PTEO Sao Teotonio 54.16 297 *eP* **P 07 02 22.6 +0.5**
comp=Z,118nm,1.3s
LIS Lisbon 54.25 298 *eP* **P 07 02 23.0 +0.2**
LIS AMb AMB 07 02 26.6
comp=Z,143nm,1.5s
LIS *eS* **S 07 10 01.8 +2.1**
LIS Lisbon 54.25 298 *eP* **P 07 02 22.9 +0.2**
LIS *eS* **S 07 10 01.8 +2.1**
PMST Lisbon--Monsan 54.27 298 *eP* **P 07 02 25.9 +3.0**
comp=Z,217nm,1.4s
JMIC Jan Mayen 54.30 338 *eS* **S 07 09 59.6 +0.1**
JMIC *eSS* **SS 07 13 42.2 +1.2**
JMIC IAMs_20 IAMs_20 07 28 00.9
comp=Z,751nm,20.6s
JMIC Jan Mayen 54.30 338 P **P 07 02 22.5 -0.1**
comp=Z,8.7nm,0.7s,baz=99,slow=6.4,SNR=5.1
JMIC Jan Mayen 54.30 338 P **P 07 02 22.5 -0.1**
JMIC *eS* **S 07 09 59.6 +0.1**
SNR=24
JMIC *eSS* **SS 07 13 42.2 +1.2**
SNR=28
PMAFR Mafra 54.31 299 *eP* **P 07 02 23.3 +0.1**
comp=Z,254nm,1.3s
PFVI Vila Bisbo 54.33 296 *eP* **P 07 02 23.1 -0.3**
comp=Z,154nm,1.1s
MASI Maura Aman, Be 54.34 119 P P 07 02 28.8 +5.1
SNY Shenyang 54.38 58 ⇑P **P 07 02 23.3 -0.3**
SNY PP **PP 07 04 30.3 +4.8**
SNY S **S 07 10 01.5 +0.2**
SNY SS **SS 07 13 40.8 -2.5**
SNY PMZ
comp=Z,8.0nm,0.6s
SNY LN
comp=Z,2μm,13.8s
SNY LE
comp=Z,1μm,15.6s
SNY LZ
comp=Z,1μm,15.0s
DSRI Dabo 54.50 114 P P 07 02 30.5 +5.7
QZH Quanzhou 54.61 79 ⇑*iP* **P 07 02 27.3 +1.8**
QZH S **S 07 10 00.0 -4.9**
QZH LN
comp=Z,4μm,18.8s
QZH LE
comp=Z,1μm,12.9s
QZH LZ
comp=Z,3μm,19.8s

SSE	**Sheshan**	**54.91**	**71**	P	**P**	07 02 26.3	**-1.3**		
SSE				S	**S**	07 10 05.3	**-3.5**		
SSE				sS	**sS**	07 10 16.0	**-0.7**		
SSE				SS	**SS**	07 13 52.0	**-0.2**		
SSE				PMZ					
	comp=Z,51nm,1.2s								
SSE				PMZ					
	comp=Z,180nm,7.1s								
SSE				LN					
	comp=Z,1μm,15.2s								
SSE				LE					
	comp=Z,1μm,15.2s								
SSE				LZ					
	comp=Z,1μm,20.5s								
KSI	**Kapahiang**	**54.94**	**119**	P	**P**	07 02 29.2	**+1.2**		
CN2	**Changchun**	**55.40**	**55**	*eP*	**P**	07 02 32.0	**+1.0**		
CN2				*eS*	S	07 10 24.8	+10		
CN2				PMZ					
	comp=Z,10.0nm,1.0s								
CN2				PMZ					
	comp=Z,200nm,5.0s								
CN2				LN					
	comp=Z,3μm,18.0s								
CN2				LE					
	comp=Z,1μm,18.0s								
CN2				LZ					
	comp=Z,700nm,17.0s								
LHSI	**Lahat**	**55.76**	**118**	P	P	07 02 37.8	+3.9		
YAK	**Yakutsk**	**56.38**	**33**	*eP*	**P**	07 02 37.8	**+0.1**		
YAK				pmax	pmax				
	comp=Z,29nm,1.3s								
YAK				pmax	pmax				
	comp=E,32nm,1.3s								
YAK				pmax	pmax				
	comp=N,7.0nm,1.2s								
YAK	**Yakutsk**	**56.38**	**33**	*eP*	**P**	07 02 37.8	**+0.1**		
	comp=N,7.0nm,1.2s								
YAK	**Yakutsk**	**56.38**	**33**	PFAKE		07 02 50.0	+12		
YAK				LR	LR				
	comp=Z,2μm,21.0s								
MDSI	**Maura Dua**	**56.68**	**119**	P	**P**	07 02 38.7	**-1.8**		
PPBI	**Pangkal Pinang**	**56.76**	**115**	P	P	07 02 47.0	+6.0		
TPUB	**Ta-pu**	**56.92**	**80**	*eP*	**P**	07 02 42.7	**+0.5**		
	comp=Z,185nm,1.5s								
TPUB	**Ta-pu**	**56.92**	**80**	*eP*	**P**	07 02 42.7	**+0.5**		
	comp=Z,185nm,1.5s								
LWLI	**Liwa**	**56.93**	**119**	P	P	07 02 45.7	+3.3		
SSLB	**Suanglung**	**57.03**	**79**	*eP*	**P**	07 02 43.5	**+0.5**		
	comp=Z,99nm,1.2s								
SSLB	**Suanglung**	**57.03**	**79**	*eP*	**P**	07 02 43.5	**+0.5**		
	comp=Z,99nm,1.2s								
YHNB	**Yeheng**	**57.08**	**78**	*eP*	**P**	07 02 44.1	**+0.7**		
	comp=Z,330nm,1.6s								
YHNB	**Yeheng**	**57.08**	**78**	*eP*	**P**	07 02 44.1	**+0.7**		
	comp=Z,330nm,1.6s								
YHNB				LR	LR				
	comp=Z,934nm,20.0s								
KLSI		**57.23**	**118**	P	**P**	07 02 44.9	**+0.5**		
KSGAH	**Ganghwa**	**57.40**	**62**	P	**P**	07 02 45.3	**0.0**		
	SNR=5.5								
NACB	**Ninganchiao**	**57.44**	**79**	*eP*	**P**	07 02 47.6	**+1.8**		
	comp=Z,28nm,0.9s								
NACB	**Ninganchiao**	**57.44**	**79**	*eP*	**P**	07 02 47.6	**+1.8**		
	comp=Z,28nm,0.9s								
YULB	**Yu-li**	**57.46**	**80**	*eP*	**P**	07 02 46.9	**+0.9**		
	comp=Z,105nm,1.4s								
YULB	**Yu-li**	**57.46**	**80**	*eP*	**P**	07 02 46.9	**+0.9**		
	comp=Z,105nm,1.4s								
KASI	**Kota Agung**	**57.59**	**119**	P	**P**	07 02 49.5	**+2.6**		
INCN	**Inchon**	**57.59**	**62**	*eP*	**P**	07 02 46.1	**-0.7**		
	comp=Z,146nm,1.4s								
INCN	**Inchon**	**57.59**	**62**	*eP*	**P**	07 02 46.1	**-0.7**		
	comp=Z,146nm,1.4s								
INCN				LR	LR				
	comp=Z,1μm,19.0s								
MSNA	**Messina**	**57.68**	**210**	*eP*	**P**	07 02 47.3	**-0.2**		
MSNA				IAmb	IAmb	07 02 53.6			
	comp=Z,36nm,0.9s								
KSSWO	**Suwon**	**57.91**	**62**	P	**P**	07 02 48.8	**-0.1**		
	SNR=9.6								
KSM	**Kuching**	**58.01**	**109**	*eP*	**P**	07 02 51.8	**+1.9**		
	comp=Z,14nm,0.9s								
KSM	**Kuching**	**58.01**	**109**	*eP*	**P**	07 02 51.8	**+1.9**		
	comp=Z,14nm,0.9s								
DAG	**Danmarks Havn**	**58.09**	**345**	*i* P	**P**	07 02 49.8	**+0.2**		
	comp=Z,47nm,1.1s								
	comp=Z,580nm,20.0s								
DAG	**Danmarks Havn**	**58.09**	**345**	*i* P	**P**	07 02 49.8	**+0.2**		
DAG				pmax	pmax				
	comp=Z,59nm,1.1s								
DAG				MLR	MLR				
	comp=Z,620nm,20.0s								
KSCWO	**Cheorwon**	**58.12**	**61**	P	**P**	07 02 50.4	**0.0**		
	SNR=20								
MDJ	**Mudanjiang**	**58.18**	**53**	P	**P**	07 02 49.5	**-1.2**		
MDJ				pP	**pP**	07 02 56.0	**+0.5**		
MDJ				sP	**sP**	07 02 58.8	**+1.5**		
MDJ				PP	**PP**	07 04 59.5	**+0.1**		
MDJ				ScP	**ScP**	07 07 40.0	**-1.9**		
MDJ				S	**S**	07 10 49.0	**-2.7**		
MDJ				ScS	**ScS**	07 12 37.5	**-2.4**		
MDJ				SS	**SS**	07 14 45.0	**+2.0**		
MDJ				PMZ					
	comp=Z,4.0nm,0.5s								
MDJ				PMZ					
	comp=Z,86nm,5.4s								
MDJ				LN					
	comp=Z,2μm,14.6s								
MDJ				LE					
	comp=Z,2μm,15.6s								
MDJ				LZ					
	comp=Z,2μm,15.6s								
MDJ	**Mudanjiang**	**58.18**	**53**	PFAKE		07 03 00.0	+9.3		
MDJ				LR	LR				
	comp=Z,2μm,19.0s								
KSICN	**Icheon**	**58.25**	**62**	P	**P**	07 02 50.9	**-0.4**		
	SNR=6.5								
KSJEU	**Jeongeup**	**58.34**	**64**	P	**P**	07 02 51.0	**-1.0**		
	SNR=11								
KSCHC	**Chuncheon**	**58.43**	**62**	P	**P**	07 02 52.4	**-0.2**		
	SNR=12								
TJN	**Taejon**	**58.44**	**63⇑**	*eP*	**P**	07 02 50.5	**-2.2**		
TJN	**Taejon**	**58.44**	**63**	*eP*	**P**	07 02 50.5	**-2.2**		
KSKWJ	**Gwangju**	**58.48**	**65**	P	**P**	07 02 52.0	**-1.0**		
	SNR=6.8								
KSAR	**Wonju Array Be**	**58.57**	**62**	P	**P**	07 02 52.8	**-0.7**		
KSAR				S	**S**	07 10 59.8	**+2.8**		
KSAR	**Wonju Array Be**	**58.57**	**62**	P	**P**	07 02 52.8	**-0.7**		
KSAR				S	**S**	07 10 59.8	**+2.8**		
KSAR	**Wonju Array Be**	**58.57**	**62**	P	**P**	07 02 52.8	**-0.7**		
KSAR				S	**S**	07 10 59.8	**+2.8**		
KSRS	**Korea Array**	**58.59**	**62**	P	**P**	07 02 52.8	**-0.9**		
	comp=Z,29nm,0.6s,baz=279,slow=6.7,SNR=121								
KSRS				S	**S**	07 10 59.8	**+2.5**		
	comp=Z,0.4nm,0.3s,baz=150,slow=28,SNR=2.5								
KSRS				LR	LR	07 31 33.3			
	comp=Z,1μm,18.7s,baz=292,slow=40								
KSRS	**Korea Array**	**58.59**	**62**	P	**P**	07 02 52.8	**-0.9**		
KSRS				S	**S**	07 10 59.8	**+2.5**		
KSRS				pmax	pmax				
	comp=Z,29nm,0.6s								
KSRS				MLR	MLR				
	comp=Z,1μm,18.7s								
KSIJA	**INJE**	**58.60**	**61**	P	**P**	07 02 53.4	**-0.4**		
	SNR=14								
BORG	**Borgarnes**	**58.61**	**331**	P	**P**	07 02 54.8	**+1.5**		
	comp=Z,42nm,1.2s,baz=97,slow=3.9,SNR=4.9								
BORG	**Borgarnes**	**58.61**	**331**	P	**P**	07 02 54.8	**+1.5**		
BORG				pmax	pmax				
	comp=Z,42nm,1.2s								
BORG	**Borgarnes**	**58.61**	**331**	*eP*	P	07 02 57.4	+4.0		
	comp=Z,267nm,1.8s								
BORG				LR	LR				
	comp=Z,1μm,20.0s								
KSBON	**Boeun**	**58.75**	**63**	P	**P**	07 02 54.0	**-0.9**		
	SNR=14								
KLR	**Kul'dur**	**58.76**	**48**	*eP*	P	07 02 50.0	-4.7		
KLR				*eS*	S	07 11 10.0	+11		
KLR				MLR	MLR				
	comp=E,1μm,12.5s								
KLR				MLR	MLR				
	comp=Z,2μm,12.5s								
KSCHJ	**Chungju**	**58.78**	**63**	P	**P**	07 02 54.2	**-0.9**		
	SNR=11								
KSSKC	**Sokcho**	**58.84**	**61**	P	**P**	07 02 55.5	**+0.1**		
	SNR=9.1								

KSTBA	**Taebaek**	**59.47**	**62**	P	**P**	07 02 59.5	**-0.4**		
	SNR=8.8								
MSHR	**Mys Shultsa**	**59.73**	**55**	*eP*	**P**	07 03 00.5	**-1.0**		
MSHR	**Mys Shultsa**	**59.73**	**55**	*eP*	**P**	07 03 00.5	**-1.0**		
USRK	**Ussuriysk Ar.**	**59.94**	**53**	P	**P**	07 03 01.9	**-1.1**		
	comp=Z,9.9nm,0.8s,baz=279,slow=6.1,SNR=17								
USRK				LR	LR	07 31 21.2			
	comp=Z,2μm,19.4s,baz=275,slow=38								
KKM	**Kota Kinabalu**	**60.56**	**100**	PFAKE		07 03 20.0	+12		
KKM				LR	LR				
	comp=Z,810nm,20.0s								
HABR	**Khabarovsk**	**61.04**	**48**	*ceP*	**P**	07 03 12.8	**+2.4**		
HABR				*e*		07 03 49.1			
HABR				*e*		07 05 21.2			
HABR				*eS*	**S**	07 11 25.4	**-3.2**		
HABR				*eS*	S	07 11 33.1	+4.5		
HABR				*e*SS	**sS**	07 11 36.2	**-0.3**		
HABR				*e*		07 12 56.6			
HABR				*e*SS	**SS**	07 15 26.0	**-1.8**		
HABR				MLR	MLR				
	comp=Z,691nm,15.0s								
HABR	**Khabarovsk**	**61.04**	**48**	*eP*	**P**	07 03 12.8	**+2.4**		
SLR	**Silverton**	**61.41**	**209**	*eP*	**P**	07 03 12.5	**-0.7**		
SLR				IAmb	IAmb	07 03 22.8			
	comp=Z,66nm,1.3s								
SLR				IAMs_20	IAMs_20	07 29 35.0			
	comp=Z,1μm,12.1s								
TSUM	**Tsumeb**	**61.47**	**223**	P	**P**	07 03 13.8	**+0.1**		
	comp=Z,47nm,0.9s,baz=15,slow=10,SNR=84								
TSUM	**Tsumeb**	**61.47**	**223**	P	**P**	07 03 13.8	**+0.1**		
TSUM				LR	LR				
	comp=Z,1μm,20.0s								
PMAR	**Madeira**	**61.91**	**294**	*eP*	**P**	07 03 17.2	**+0.4**		
	comp=Z,243nm,1.5s								
LBTB	**Lobatse**	**61.98**	**212**	*eP*	**P**	07 03 16.9	**-0.2**		
LBTB				IAmb	IAmb	07 03 21.2			
	comp=Z,50nm,0.9s								
LBTB				IAMs_20	IAMs_20	07 31 17.2			
	comp=Z,1μm,17.0s								
LBTB	**Lobatse**	**61.98**	**212**	P	**P**	07 03 16.9	**-0.1**		
	comp=Z,23nm,0.5s,baz=36,slow=6.6,SNR=82								
LBTB	**Lobatse**	**61.98**	**212**	P	**P**	07 03 16.9	**-0.1**		
LBTB				pmax	pmax				
	comp=Z,23nm,0.5s								
LBTB	**Lobatse**	**61.98**	**212**	*eP*	**P**	07 03 16.6	**-0.4**		
	comp=Z,57nm,1.0s								
DBIC	**Dimbokro**	**62.09**	**261**	P	**P**	07 03 17.3	**-0.6**		
	comp=Z,65nm,0.9s,baz=32,slow=6.7,SNR=29								
DBIC				LR	LR	07 32 02.6			
	comp=Z,2μm,20.2s,baz=36,slow=38								
DBIC	**Dimbokro**	**62.09**	**261**	P	**P**	07 03 17.3	**-0.6**		
DBIC				pmax	pmax				
	comp=Z,65nm,0.9s								
DBIC				MLR	MLR				
	comp=Z,2μm,20.2s								
DBIC	**Dimbokro**	**62.09**	**261**	*eP*	**P**	07 03 17.1	**-0.8**		
	comp=Z,74nm,0.9s								
DBIC	**Dimbokro**	**62.09**	**261**	*eP*	**P**	07 03 17.1	**-0.8**		
	comp=Z,74nm,0.9s								
PMOZ	**Porto Moniz, M**	**62.11**	**294**	*eP*	**P**	07 03 18.5	**+0.5**		
	comp=Z,228nm,1.5s								
PMOZ				*eS*	**S**	07 11 39.6	**-3.2**		
PMOZ	**Porto Moniz, M**	**62.11**	**294**	*e*LR	LR	07 31 18.4			
	comp=Z,235nm,18.0s								
KIC	**Kosan Boka**	**62.14**	**261**	*eP*	**P**	07 03 17.8	**-0.5**		
	comp=Z,156nm,0.9s								
JOW	**Kunigami**	**62.15**	**73**	*eP*	**P**	07 03 19.2	**+1.0**		
	comp=Z,10nm,0.8s								
JOW	**Kunigami**	**62.15**	**73**	*eP*	**P**	07 03 19.2	**+1.0**		
	comp=Z,10nm,0.8s								
JNU	**Nakatsue**	**62.16**	**66**	P	**P**	07 03 17.7	**-0.6**		
	comp=Z,17nm,0.9s,baz=278,slow=7.1,SNR=5.0								
JNU				LR	LR	07 34 42.6			
	comp=Z,182nm,20.6s,slow=40								
JNU	**Nakatsue**	**62.16**	**66**	*eP*	**P**	07 03 17.4	**-0.8**		
	comp=Z,12nm,0.9s								
JNU	**Nakatsue**	**62.16**	**66**	*eP*	**P**	07 03 17.4	**-0.8**		
	comp=Z,12nm,0.9s								
TIC	**Toumodi**	**62.24**	**262**	*eP*	**P**	07 03 18.4	**-0.6**		
WDLM	**Western Deep L**	**62.38**	**210**	*eP*	**P**	07 03 19.5	**-0.3**		
WDLM				IAmb	IAmb	07 03 23.6			
	comp=Z,17nm,0.9s								
LIC	**Lamto**	**62.45**	**261**	*eP*	**P**	07 03 19.8	**-0.6**		
	comp=Z,184nm,1.2s								
PRYS	**Parys**	**62.84**	**209**	*eP*	**P**	07 03 21.6	**-1.2**		
PRYS				IAmb	IAmb	07 03 26.8			
	comp=Z,38nm,1.3s								
MYLDM	**Lahad Datu**	**62.96**	**100**	*eP*	**P**	07 03 22.3	**-1.5**		
	comp=Z,23nm,1.1s								
MYLDM	**Lahad Datu**	**62.96**	**100**	*eP*	**P**	07 03 22.3	**-1.5**		
	comp=Z,23nm,1.1s								
SEK	**Senekal**	**63.96**	**209**	*eP*	**P**	07 03 29.4	**-0.8**		
SEK				IAmb	IAmb	07 03 30.2			
	comp=Z,156nm,1.4s								
SWZ	**Schweizer**	**63.96**	**211**	*eP*	**P**	07 03 28.3	**-1.9**		
SWZ				IAmb	IAmb	07 03 30.0			
	comp=Z,66nm,1.6s								
ALE	**Alert**	**64.45**	**353**	P	**P**	07 03 33.5	**+0.9**		
	comp=Z,333nm,1.1s,SNR=5.6								
KSD	**Kokstad**	**65.21**	**206**	*eP*	**P**	07 03 38.1	**-0.2**		
KSD				IAmb	IAmb	07 03 38.9			
	comp=Z,19nm,1.1s								
BOSA	**Boshof**	**65.22**	**210**	*eP*	**P**	07 03 37.8	**-0.7**		
BOSA				IAmb	IAmb	07 03 38.9			
	comp=Z,40nm,0.6s								
BOSA				IAMs_20	IAMs_20	07 31 08.5			
	comp=Z,1μm,25.1s								
BOSA	**Boshof**	**65.22**	**210**	P	**P**	07 03 37.9	**-0.6**		
	comp=Z,33nm,0.6s,baz=22,slow=5.9,SNR=114								
BOSA				LR	LR	07 31 38.3			
	comp=Z,807nm,21.5s,baz=26,slow=36								
YSS	**Yuzh-Sakhalins**	**66.46**	**48⇑**	*iP*	**P**	07 03 44.5	**-1.6**		
YSS				*e*		07 04 15.5			
YSS				*eS*	**S**	07 12 34.0	**-2.0**		
YSS				*eP*S	**PnS**	07 12 54.0	**-2.7**		
YSS				pmax	pmax				
	comp=Z,40nm,0.9s								
YSS				MLR	MLR				
	comp=Z,900nm,12.0s								
YSS	**Yuzh-Sakhalins**	**66.46**	**48**	*eP*	**P**	07 03 44.9	**-1.2**		
	comp=Z,74nm,1.0s								
YSS	**Yuzh-Sakhalins**	**66.46**	**48**	*ePcP*	**PcP**	07 04 15.5	**-0.2**		
YSS				*eS*	**S**	07 12 34.0	**-2.0**		
YSS	**Yuzh-Sakhalins**	**66.46**	**48**	*eP*	**P**	07 03 44.9	**-1.2**		
	comp=Z,74nm,1.0s								
YSS				LR	LR				
	comp=Z,666nm,21.0s								
SEY	**Seymchan**	**66.57**	**30**	P	**P**	07 03 45.9	**-0.6**		
	comp=Z,19nm,0.8s,baz=268,slow=5.9,SNR=15								
SEY	**Seymchan**	**66.57**	**30⇑**	*eP*	**P**	07 03 45.6	**-0.9**		
SEY	**Seymchan**	**66.57**	**30**	*eP*	**P**	07 03 45.6	**-0.9**		
MAJO	**Matsushiro**	**66.71**	**60⇑**	*iP*	**P**	07 03 45.8	**-2.2**		
MAJO				pmax	pmax				
	comp=Z,120nm,1.7s								
MAJO	**Matsushiro**	**66.71**	**60**	*eP*	**P**	07 03 46.6	**-1.4**		
	comp=Z,22nm,1.1s								
MAJO	**Matsushiro**	**66.71**	**60**	*eP*	**P**	07 03 46.6	**-1.4**		
	comp=Z,22nm,1.1s								
MAJO				LR	LR				
	comp=Z,586nm,21.0s								
MAT	**Matsushiro**	**66.71**	**60**	P	**P**	07 03 46.0	**-2.0**		
MAT				S	**S**	07 12 40.4	**+0.9**		
MJAR	**Matsushiro Arr**	**66.71**	**60**	P	**P**	07 03 46.9	**-1.0**		
	comp=Z,3.2nm,0.6s,baz=283,slow=10,SNR=10								
MJAR				LR	LR	07 36 56.3			
	comp=Z,533nm,18.0s,baz=285,slow=40								
HVD	**Gariep Dam**	**66.84**	**209**	*eP*	**P**	07 03 47.0	**-1.8**		
HVD				IAmb	IAmb	07 03 49.1			
	comp=Z,58nm,1.0s								
UPI	**Upington**	**66.86**	**214**	*eP*	**P**	07 03 48.6	**-0.3**		
UPI				IAmb	IAmb	07 03 53.0			
	comp=Z,39nm,1.0s								
ASAJ	**Asahikawa**	**67.29**	**51**	P	**P**	07 03 49.9	**-1.5**		
	comp=Z,9.2nm,0.9s,baz=301,slow=16								
ASAJ	**Asahikawa**	**67.29**	**51**	P	**P**	07 03 49.9	**-1.5**		
ASAJ				pmax	pmax				
	comp=Z,9.0nm,0.9s								
ASAJ	**Asahikawa**	**67.29**	**51**	*eP*	**P**	07 03 51.1	**-0.4**		
	comp=Z,6.4nm,0.8s								
ASAJ	**Asahikawa**	**67.29**	**51**	*eP*	**P**	07 03 51.1	**-0.4**		
	comp=Z,6.4nm,0.8s								
JKA	**Kamikawa-asahi**	**67.29**	**51**	P	**P**	07 03 49.9	**-1.6**		
	comp=Z,9.0nm,0.9s								
DAV	**Davao City (W)**	**68.14**	**94**	PFAKE		07 04 10.0	+13		
DAV				LR	LR				
	comp=Z,530nm,19.0s								

MRSI	**Marisa**	**68.31**	**102**	P	P	07 04 03.3	+5.0		
ERM	**Erimo**	**68.40**	**53**	PFAKE		07 04 10.0	+12		
ERM				LR	LR				
	comp=Z,2μm,19.0s								
ILULI	**Ilulissat**	**68.69**	**339**	*i* P	**P**	07 04 02.7	**+2.9**		
	comp=Z,103nm,1.2s								
GRM	**Grahamstown**	**68.80**	**207**	*eP*	**P**	07 04 01.1	**+0.1**		
GRM				IAmb	IAmb	07 04 01.7			
	comp=Z,68nm,0.7s								
JHJ	**Hachijo jima 2**	**69.16**	**63**	LR	LR	07 37 01.1			
	comp=Z,911nm,18.6s,baz=20,slow=38								
KAPI	**Kappang**	**69.44**	**109**	PFAKE		07 04 20.0	+15		
KAPI				LR	LR				
	comp=Z,392nm,19.0s								
YUK	**Yuzh-Kuril'sk**	**69.52**	**50**	*eP*	P	07 04 10.8	+5.4		
YUK				*eS*	S	07 13 01.5	-11		
YUK				*i*		07 14 02.5			
YUK				MLR	MLR				
	comp=N,584nm,16.0s								
YUK				MLR	MLR				
	comp=E,993nm,16.0s								
YUK				MLR	MLR				
	comp=Z,1μm,16.0s								
SFJD	**Kangerlussuaq**	**69.55**	**336**	P	**P**	07 04 04.4	**-0.7**		
	comp=Z,20nm,0.7s,baz=58,slow=9.2,SNR=6.3								
SFJD	**Kangerlussuaq**	**69.55**	**336**	*eP*	**P**	07 04 04.8	**-0.4**		
SFJD				pmax	pmax				
	comp=Z,280nm,1.9s								
SFJD				MLR	MLR				
	comp=Z,944nm,21.0s								
SFJD	**Kangerlussuaq**	**69.55**	**336**	*eP*	**P**	07 04 04.8	**-0.4**		
	comp=Z,280nm,1.9s								
SFJD	**Kangerlussuaq**	**69.55**	**336**	*eP*	**P**	07 04 04.8	**-0.4**		
	comp=Z,280nm,1.9s								
SFJD				LR	LR				
	comp=Z,944nm,21.0s								
CVNA	**Calvinia**	**70.17**	**213**	*eP*	**P**	07 04 10.0	**+0.4**		
CVNA				IAmb	IAmb	07 04 14.4			
	comp=Z,52nm,1.1s								
KUR	**Kuril'sk**	**70.39**	**49⇑**	*iP*	P	07 03 54.7	-16		
KUR				*i* PPP	PPP	07 08 35.7			
KUR				*i* S	S	07 13 15.3	-7.6		
KUR				*i* SS	**SS**	07 17 49.1	**-4.0**		
KUR				MLR	MLR				
	comp=N,230nm,12.0s								
KUR				MLR	MLR				
	comp=E,323nm,12.0s								
KUR				MLR	MLR				
	comp=Z,355nm,12.0s								
SUR	**Sutherland**	**70.43**	**212**	P	**P**	07 04 09.6	**-1.7**		
	comp=Z,76nm,1.0s,baz=21,slow=7.6,SNR=11								
SUR	**Sutherland**	**70.43**	**212**	*eP*	**P**	07 04 11.5	**+0.3**		
	comp=Z,66nm,1.0s								
SUR	**Sutherland**	**70.43**	**212**	*eP*	**P**	07 04 11.5	**+0.3**		
	comp=Z,66nm,1.0s								
CER	**Ceres**	**71.95**	**212**	*eP*	**P**	07 04 20.0	**-0.2**		
CER				IAmb	IAmb	07 04 24.5			
	comp=Z,64nm,0.9s								
PETK	**Petropavlovsk-**	**73.02**	**38**	P	**P**	07 04 24.5	**-1.9**		
	comp=Z,15nm,0.9s,baz=227,slow=3.7,SNR=6.2								
PETK				LR	LR	07 39 10.4			
	comp=Z,747nm,18.8s,baz=297,slow=38								
SANI	**Sanana**	**73.08**	**102**	P	P	07 04 32.1	+4.7		
JCJ	**Chichijima**	**73.48**	**68**	LR	LR	07 40 59.6			
	comp=Z,481nm,19.8s,baz=296,slow=39								
PET	**Petropavlovsk**	**73.57**	**38**	*eP*	**P**	07 04 27.4	**-2.2**		
PET				*eS*	**S**	07 13 57.9	**-1.2**		
PET				*e*SS	**SS**	07 18 45.3	**+4.1**		
PET				MLR	MLR				
	comp=Z,1μm,15.0s								
PET	**Petropavlovsk**	**73.57**	**38**	*eP*	**P**	07 04 27.4	**-2.2**		
PET				*eS*	**S**	07 13 57.9	**-1.2**		
PET	**Petropavlovsk**	**73.57**	**38**	PFAKE		07 04 40.0	+10		
PET				LR	LR				
	comp=Z,1μm,21.0s								
RES	**Resolute Bay**	**74.35**	**352**	P	**P**	07 04 33.6	**-0.2**		
	comp=Z,12nm,1.2s,baz=17,slow=8.2,SNR=8.5								
RES	**Resolute Bay**	**74.35**	**352**	P	**P**	07 04 33.6	**-0.2**		
RES				pmax	pmax				
	comp=Z,13nm,1.2s								
RES	**Resolute Bay**	**74.35**	**352**	*eP*	**P**	07 04 35.3	**+1.4**		
	comp=Z,113nm,2.0s								
SACV	**Santiago Islan**	**74.51**	**279**	PFAKE		07 04 50.0	+14		
SACV				LR	LR				
	comp=Z,599nm,19.0s								
SHEL	**Horse Pasture**	**75.36**	**242**	*eP*	**P**	07 04 40.8	**+0.2**		
SHEL				pmax	pmax				
	comp=Z,89nm,0.8s								
SHEL	**Horse Pasture**	**75.36**	**242**	*eP*	**P**	07 04 40.8	**+0.2**		
	comp=Z,89nm,0.8s								
SHEL	**Horse Pasture**	**75.36**	**242**	*eP*	**P**	07 04 40.8	**+0.2**		
	comp=Z,89nm,0.8s								
SWI	**Sorong**	**76.98**	**99**	P	**P**	07 04 49.4	**-0.6**		
SIJI	**Sorong**	**76.99**	**99**	P	**P**	07 04 47.7	**-2.4**		
	comp=Z,18nm,0.9s,baz=324,slow=6.5,SNR=9.3								
FRB	**Frobisher Bay**	**77.52**	**338**	P	**P**	07 04 51.8	**-0.3**		
	comp=Z,85nm,0.9s,baz=54,slow=6.2,SNR=18								
ASCN	**Ascension**	**77.76**	**254**	PFAKE		07 05 10.0	+16		
ASCN				LR	LR				
	comp=Z,849nm,19.0s								
MBWA	**Marble Bar**

EGAK LR LR
comp=Z,558nm,19.0s
PPLA Purkeypile 84.98 13 *e*P **P 07 05 32.1 +0.1**
comp=Z,23nm,0.8s
PPLA Purkeypile 84.98 13 *e*P **P 07 05 32.1 +0.1**
comp=Z,23nm,0.8s
DAWY Dawson 85.80 7 *e*P **P 07 05 35.9 0.0**
comp=Z,102nm,1.2s
DAWY Dawson 85.80 7 *e*P **P 07 05 35.9 0.0**
comp=Z,102nm,1.2s
JAY Jayapura 85.97 95 P **P 07 05 36.9 -0.7**
comp=Z,27nm,1.0s,baz=240,slow=16,SNR=3.5
PAX Paxson 86.07 10 *e*P **P 07 05 38.5 +1.2**
PAX pmax pmax
comp=Z,13nm,0.8s
PAX Paxson 86.07 10 *e*P **P 07 05 38.5 +1.2**
comp=Z,13nm,0.8s
PAX Paxson 86.07 10 *e*P **P 07 05 38.5 +1.2**
comp=Z,13nm,0.8s
MENT Mentasta 86.36 9 *e*P **P 07 05 41.0 +2.3**
MENT Mentasta 86.36 9 *e*P **P 07 05 41.0 +2.3**
SML Sawmill 86.70 12 *e*P **P 07 05 41.4 +1.0**
SML pmax pmax
comp=Z,13nm,0.8s
SML Sawmill 86.70 12 *e*P **P 07 05 41.4 +1.0**
comp=Z,13nm,0.8s
SML Sawmill 86.70 12 *e*P **P 07 05 41.4 +1.0**
comp=Z,13nm,0.8s
PMR Palmer 86.76 12 *e*P **P 07 05 39.9 -0.7**
PMR pmax pmax
comp=Z,66nm,1.0s
PMR Palmer 86.76 12 *e*P **P 07 05 39.9 -0.7**
comp=Z,66nm,1.0s
PMR Palmer 86.76 12 *e*P **P 07 05 39.9 -0.7**
comp=Z,66nm,1.0s
RC01 Rabbit Creek A 87.11 13 *e*P **P 07 05 42.3 0.0**
comp=Z,79nm,0.9s
RC01 Rabbit Creek A 87.11 13 *e*P **P 07 05 42.3 0.0**
comp=Z,79nm,0.9s
DIV Divide 87.77 11 *e*P **P 07 05 47.4 +1.8**
comp=Z,24nm,0.8s
DIV Divide 87.77 11 *e*P **P 07 05 47.4 +1.8**
comp=Z,24nm,0.8s
YKA Yellowknife Ar 87.98 356 P **P 07 05 46.0 -0.5**
comp=Z,47nm,0.8s,baz=360,slow=4.9,SNR=53
YKA Yellowknife Ar 87.98 356 P **P 07 05 46.0 -0.5**
YKA Yellowknife Ar 87.98 356 P **P 07 05 46.0 -0.5**
YKA Yellowknife Ar 87.98 356 P **P 07 05 46.0 -0.5**
SEW Seward 88.08 13 *e*P **P 07 05 49.0 +2.0**
comp=Z,51nm,0.9s
SEW Seward 88.08 13 *e*P **P 07 05 49.0 +2.0**
comp=Z,51nm,0.9s
BMRM Bremner River 88.11 10 *e*P **P 07 05 47.4 +0.2**
comp=Z,51nm,1.0s
BMRM Bremner River 88.11 10 *e*P **P 07 05 47.4 +0.2**
comp=Z,51nm,1.0s
FCC Fort Churchill 88.69 345 *e*P **P 07 05 49.6 -0.3**
FCC pmax pmax
comp=Z,32nm,1.1s
FCC Fort Churchill 88.69 345 *e*P **P 07 05 49.5 -0.3**
comp=Z,32nm,1.1s
FCC Fort Churchill 88.69 345 *e*P **P 07 05 49.5 -0.3**
comp=Z,32nm,1.1s
HYT Haines Junctio 89.17 7 *e*P **P 07 05 52.3 0.0**
comp=Z,56nm,1.0s
HYT Haines Junctio 89.17 7 *e*P **P 07 05 52.3 0.0**
comp=Z,56nm,1.0s
WRA Warramunga Arr 89.45 113 P P 07 05 51.2 -2.9
comp=Z,3.1nm,0.9s,baz=316,slow=4.0,SNR=12
WRA LR LR 07 47 19.0
comp=Z,163nm,20.9s,baz=230,slow=36
WRAB Tennant Creek 89.46 113 *e*P **P 07 05 52.3 -1.8**
WRAB pmax pmax
comp=Z,38nm,1.7s
WRAB Tennant Creek 89.46 113 *e*P **P 07 05 52.3 -1.8**
comp=Z,38nm,1.7s
WRAB Tennant Creek 89.46 113 *e*P **P 07 05 52.1 -2.1**
comp=Z,23nm,1.1s
WRAB LR LR
comp=Z,287nm,20.0s
KDAK Kodiak Island 89.55 15 P **P 07 05 53.1 -0.8**
comp=Z,47nm,0.8s,baz=9.6,slow=5.2,SNR=15
KDAK Kodiak Island 89.55 15 P **P 07 05 53.1 -0.8**
KDAK pmax pmax
comp=Z,47nm,0.8s
KDAK Kodiak Island 89.55 15 *e*P **P 07 05 55.5 +1.6**
comp=Z,56nm,1.0s
KDAK LR LR
comp=Z,1μm,22.0s
OHAK Old Harbor 89.89 16 *e*P **P 07 05 56.4 +0.9**
comp=Z,31nm,0.8s
OHAK Old Harbor 89.89 16 *e*P **P 07 05 56.4 +0.9**
comp=Z,31nm,0.8s
SKAG Skagway 90.73 6 *e*P **P 07 05 58.8 -0.6**
comp=Z,72nm,1.7s
SKAG Skagway 90.73 6 *e*P **P 07 05 58.8 -0.6**
comp=Z,72nm,1.7s
ASAR Alice Springs 91.06 117 P **P 07 05 59.0 -2.6**
comp=Z,2.5nm,0.6s,baz=308,slow=4.8,SNR=27
ASAR LR LR 07 51 48.6
comp=Z,225nm,18.5s,baz=302,slow=39
DLBC Dease Lake 92.14 4 P **P 07 06 05.9 -0.2**
comp=Z,12nm,1.0s,baz=331,slow=6.2,SNR=14
DLBC Dease Lake 92.14 4 *e*P **P 07 06 06.7 +0.6**
comp=Z,22nm,1.1s
DLBC Dease Lake 92.14 4 *e*P **P 07 06 06.7 +0.6**
comp=Z,22nm,1.1s
LONY Lake Ozonia 93.84 327 *e*P **P 07 06 15.5 +1.3**
comp=Z,75nm,1.9s
LONY Lake Ozonia 93.84 327 *e*P **P 07 06 15.5 +1.3**
comp=Z,75nm,1.9s
LONY LR LR
comp=Z,512nm,22.0s
WRAK Wrangell Islan 93.99 5 *e*P **P 07 06 15.4 +0.9**
comp=Z,18nm,0.9s
WRAK Wrangell Islan 93.99 5 *e*P **P 07 06 15.4 +0.9**
comp=Z,18nm,0.9s
WRAK LR LR
comp=Z,558nm,19.0s
FFC Flin Flon 94.06 348 P **P 07 06 17.9 +3.0**
comp=Z,158nm,0.9s,SNR=7.4
FFC Flin Flon 94.06 348 *e*P **P 07 06 13.9 -1.0**
FFC pmax pmax
comp=Z,27nm,1.0s
FFC MLR MLR
comp=Z,621nm,19.0s
FFC Flin Flon 94.06 348 *e*P **P 07 06 13.9 -1.0**
comp=Z,26nm,1.0s
FFC Flin Flon 94.06 348 *e*P **P 07 06 13.9 -1.0**
comp=Z,26nm,1.0s
FFC LR LR
comp=Z,621nm,19.0s
NCB Newcomb 94.16 327 PFAKE 07 06 30.0 +14
NCB LR LR
comp=Z,340nm,19.0s
PMG Port Moresby 94.93 98 PFAKE 07 06 30.0 +10
PMG LR LR
comp=Z,308nm,20.0s
RCBR Riachuelo 95.14 266 PFAKE 07 06 30.0 +9.3
RCBR LR LR
comp=Z,1μm,20.0s
WAKE Wake Island 96.83 63 PFAKE 07 06 40.0 +12
WAKE LR LR
comp=Z,626nm,22.0s
ULM Lac du Bonnet 96.89 343 P **P 07 06 28.1 +0.1**
comp=Z,6.1nm,0.7s,baz=20,slow=3.9,SNR=9.2
ULM LR LR 07 53 24.7
comp=Z,396nm,19.8s,baz=22,slow=37
MAW Mawson 96.99 178 P **P 07 06 27.7 0.0**
comp=Z,3.2nm,0.8s,baz=344,slow=8.6,SNR=7.7
BBSR BB Station 97.06 313 PFAKE 07 06 40.0 +11
BBSR LR LR
comp=Z,197nm,19.0s
EDM Edmonton 97.10 354 *e*P **P 07 06 28.8 -0.1**
EDM pmax pmax
comp=Z,38nm,0.9s
EDM Edmonton 97.10 354 *e*P **P 07 06 28.8 -0.1**
comp=Z,38nm,0.9s
EDM Edmonton 97.10 354 *e*P **P 07 06 28.8 -0.1**
comp=Z,38nm,0.9s
EYMN Ely 97.72 339 *e*P Pdif 07 06 32.8 +1.0
comp=Z,41nm,1.9s
EYMN Ely 97.72 339 *e*P Pdif 07 06 32.8 +1.0
comp=Z,41nm,1.9s
EYMN LR LR
comp=Z,485nm,19.0s
GLMI Grayling 98.00 333 PFAKE 07 06 50.0 +17
GLMI LR LR
comp=Z,390nm,19.0s
COWI Conover 98.57 337 PFAKE 07 06 50.0 +14
COWI LR LR
comp=Z,462nm,22.0s
AGMN Agassiz Nation 98.68 342 PFAKE 07 06 50.0 +14
AGMN LR LR
comp=Z,536nm,20.0s
SYO Syowa Base 99.11 186↑ *e*Pdiff **Pdif 07 06 44.4 +7.3**
CTAO Charters Tower 99.24 108 PFAKE 07 06 50.0 +11
CTAO LR LR
comp=Z,300nm,20.0s
AAM Ann Arbor 99.71 331 PFAKE 07 06 50.0 +9.3
AAM LR LR
comp=Z,512nm,22.0s
CBN Corbin 100.09 325 PFAKE 07 07 00.0 +17
CBN LR LR
comp=Z,444nm,21.0s
DGMT Dagmar 100.45 347 PFAKE 07 07 00.0 +16
DGMT LR LR
comp=Z,586nm,19.0s
ACSO Alum Creek Sta 101.12 330 PFAKE 07 07 00.0 +13
ACSO LR LR
comp=Z,379nm,20.0s
WALA Waterton Lakes 101.27 354 *e*Pdif **Pdif 07 06 49.9 +2.2**
comp=Z,3.6nm,0.8s
JFWS Jewell Farm 101.74 336 PFAKE 07 07 00.0 +10
JFWS LR LR
comp=Z,471nm,20.0s
EGMT Eagleton 101.80 351 PFAKE 07 07 00.0 +10
EGMT LR LR
comp=Z,524nm,19.0s
NEW Newport 102.31 356 P **Pdif 07 06 54.6 +2.3**
comp=Z,3.7nm,0.8s,baz=358,slow=5.0,SNR=10
NEW PP **PP 07 10 59.0 -4.4**
comp=Z,0.7nm,0.8s,baz=21,slow=8.6,SNR=2.2
NEW Newport 102.31 356 P **Pdif 07 06 54.6 +2.3**
NEW 07 10 59.1
NEW pmax pmax
comp=Z,4.0nm,0.8s
NEW pmax pmax
comp=Z,1.0nm,0.8s
NEW Newport 102.31 356 *e*Pdif **Pdif 07 06 54.8 +2.5**
comp=Z,4.7nm,0.9s
NEW PP **PP 07 10 59.0 -4.4**
NEW LR LR
comp=Z,657nm,22.0s
BLA Blacksburg 102.37 326 PFAKE 07 07 10.0 +17
BLA LR LR
comp=Z,460nm,20.0s
LAO LASA Array 102.54 348 PFAKE 07 07 10.0 +17
LAO LR LR
comp=Z,499nm,19.0s
CNNC Cliffs of the 102.64 323 PFAKE 07 07 10.0 +16
CNNC LR LR
comp=Z,375nm,19.0s
MIDW Midway 102.68 47 PFAKE 07 07 10.0 +16
MIDW LR LR
comp=Z,418nm,19.0s
SLMT Seeley Lake 103.03 353 *e*Pdif **Pdif 07 06 56.9 +1.2**
comp=Z,7.9nm,1.0s
ECSD EROS Data Cent 103.06 341 PFAKE 07 07 10.0 +14
ECSD LR LR
comp=Z,534nm,20.0s
HRY Holter Researc 103.36 352 *e*Pdif **Pdif 07 06 58.9 +1.8**
comp=Z,2.8nm,0.8s
NLWA Neilton Lookou 103.38 0 PFAKE 07 07 10.0 +13
NLWA LR LR
comp=Z,680nm,21.0s
HDIL Hopedale 103.44 334 PFAKE 07 07 10.0 +13
HDIL LR LR
comp=Z,389nm,19.0s
CASY Casey 103.94 160 PFAKE 07 07 10.0 +11
CASY LR LR
comp=Z,519nm,20.0s
HAWA Hanford 104.31 357 PFAKE 07 07 10.0 +8.9
HAWA LR LR
comp=Z,568nm,21.0s
BOZ Bozeman (W) 104.39 352 PFAKE 07 07 10.0 +8.3
BOZ LR LR
comp=Z,622nm,21.0s
ANWB Willy Bob 104.39 300 PFAKE 07 07 20.0 +18
ANWB LR LR
comp=Z,240nm,21.0s
RLMT Red Lodge 104.57 350 PFAKE 07 07 20.0 +17
RLMT LR LR
comp=Z,704nm,21.0s
LKWY Lake 105.28 351 PFAKE 07 11 30.0
LKWY LR LR
comp=Z,796nm,20.0s
NHSC New Hope 105.49 324 PFAKE 07 11 30.0
NHSC LR LR
comp=Z,412nm,22.0s
FDF Fort de France 105.68 297 PFAKE 07 11 30.0
FDF LR LR
comp=Z,311nm,19.0s
HNR Honiara 106.03 92 PFAKE 07 11 40.0
HNR LR LR
comp=Z,485nm,19.0s
HLID Hailey 106.76 353 PFAKE 07 11 40.0
HLID LR LR
comp=Z,481nm,20.0s
GOGA Godfrey 106.90 326 PFAKE 07 11 40.0
GOGA LR LR
comp=Z,416nm,19.0s
BW06 Boulder Array 106.91 350 PFAKE 07 11 40.0
BW06 LR LR
comp=Z,675nm,22.0s
PDAR Pinedale Array 106.91 350 PKiKP **PKiKP 07 11 23.6 +0.7**
comp=Z,0.7nm,0.8s,baz=46,slow=2.6,SNR=4.2
PDAR PKKPbc **PKKPbc 07 22 38.6 -2.3**
comp=Z,0.4nm,0.9s,baz=120,slow=3.4,SNR=3.5
PDAR PKKP **PKKPdf 07 22 50.3 -1.7**
comp=Z,0.9nm,0.8s,baz=222,slow=2.0,SNR=4.3
OGNE Ogallala 107.13 343 PFAKE 07 11 40.0
OGNE LR LR
comp=Z,483nm,21.0s
AHID Auburn Hatcher 107.15 351 PFAKE 07 11 40.0
AHID LR LR
comp=Z,573nm,22.0s
KSU1 Kansas State U 107.30 339 PFAKE 07 11 40.0
KSU1 LR LR
comp=Z,642nm,20.0s
SJG San Juan 107.35 303 PFAKE 07 11 40.0
SJG LR LR
comp=Z,206nm,20.0s
CAN Canberra 108.10 121 PFAKE 07 11 40.0
CAN LR LR
comp=Z,579nm,20.0s
WVOR Wild Horse Val 108.22 356 PFAKE 07 11 40.0
WVOR LR LR
comp=Z,499nm,21.0s
HWUT Hardware Ranch 108.35 351 PFAKE 07 11 40.0
HWUT LR LR
comp=Z,527nm,21.0s
CBKS Cedar Bluff 108.51 341 PFAKE 07 11 40.0
CBKS LR LR
comp=Z,566nm,20.0s
GRTK Grand Turk 108.60 309 PFAKE 07 11 40.0
GRTK LR LR
comp=Z,185nm,20.0s
ISCO Idaho Springs 109.05 346 PFAKE 07 11 40.0
ISCO LR LR
comp=Z,523nm,22.0s
VNA2 Neumayer--Watz 109.81 198 PKiKP **PKiKP 07 11 28.7 +1.8**
baz=7.6,slow=5.9
DUG Dugway 109.90 352 PFAKE 07 11 40.0
DUG LR LR
comp=Z,351nm,19.0s
BDFB Brasilia 110.21 263 PP PP 07 12 01.8 -2.0
comp=Z,3.4nm,0.9s,baz=45,slow=5.7,SNR=4.1
MIAR Mount Ida 110.33 334 PFAKE 07 11 40.0
MIAR LR LR
comp=Z,414nm,21.0s
SDDR Presa de Saban 110.43 307 PFAKE 07 11 40.0
SDDR LR LR
comp=Z,371nm,21.0s
BRAL Brewton 110.59 327 PFAKE 07 11 40.0
BRAL LR LR
comp=Z,364nm,20.0s
SDCO Great Sand Dun 110.99 345 PFAKE 07 11 40.0
SDCO LR LR
comp=Z,410nm,19.0s
WMOK Wichita Mounta 111.98 338 PFAKE 07 11 50.0
WMOK LR LR
comp=Z,400nm,20.0s
MVCO Mesa Verde 112.13 347 PFAKE 07 11 50.0
MVCO LR LR
comp=Z,410nm,20.0s
NVAR Mina Array Bea 112.18 356 PKiKP **PKiKP 07 11 32.5 -0.4**
comp=Z,1.0nm,0.8s,baz=35,slow=3.3,SNR=3.3
NVAR PP **PP 07 12 12.4 -3.6**
comp=Z,1.8nm,1.0s,baz=339,slow=2.3,SNR=5.1
NVAR PKKPbc **PKKPbc 07 22 21.7 -2.3**
comp=Z,0.2nm,0.6s,baz=178,slow=6.3,SNR=2.5
NVAR PKKPab **PKKPab 07 22 33.2 -2.5**
comp=Z,1.0nm,0.7s,baz=198,slow=5.6,SNR=7.6
GTBY Guantanamo Bay 112.36 311 PFAKE 07 11 50.0
GTBY LR LR
comp=Z,201nm,21.0s
PTGA Pitinga 113.44 283 PP PP 07 12 28.1 +1.6
comp=Z,4.3nm,0.8s,baz=48,slow=9.5,SNR=6.7
ANMO Albuquerque 113.89 345 PFAKE 07 11 50.0
ANMO LR LR
comp=Z,444nm,19.0s
WUAZ Wupatki 114.29 349 PFAKE 07 11 50.0 +13
WUAZ LR LR
comp=Z,388nm,21.0s
MTDJ Mount Denham 115.17 311 PFAKE 07 11 50.0 +11
MTDJ LR LR
comp=Z,169nm,20.0s
JCT Junction City 116.23 337 PFAKE 07 11 50.0 +9.4
JCT LR LR
comp=Z,400nm,20.0s
SDV Santo Domingo 116.56 299 PFAKE 07 12 00.0 +18
SDV LR LR
comp=Z,180nm,20.0s
PFO Pinyon Flat Ob 116.82 354 PFAKE 07 12 00.0 +18
PFO LR LR
comp=Z,568nm,21.0s
TUC Tucson 117.32 348 PFAKE 07 12 00.0 +17
TUC LR LR
comp=Z,450nm,20.0s
KVTX Kingsville 118.23 334 PFAKE 07 12 00.0 +16
KVTX LR LR
comp=Z,414nm,21.0s
TXAR Lajitas Array 118.50 341 PKP **PKPdf 07 11 42.9 -2.2**
comp=Z,0.9nm,0.7s,baz=164,slow=0.9,SNR=11
TXAR PKKPbc **PKKPbc 07 21 59.7 -2.2**
comp=Z,0.1nm,0.4s,baz=251,slow=2.8,SNR=2.6
TXAR PKKPab **PKKPab 07 22 06.2 -1.2**
comp=Z,0.6nm,0.9s,baz=172,slow=7.3,SNR=5.9
QSPA South Pole Qui 119.41 180 PKP **PKPdf 07 11 43.1 -2.3**
comp=Z,1.7nm,0.7s,baz=248,slow=1.1,SNR=11
QSPA South Pole Qui 119.41 180 PKP **PKPdf 07 11 43.1 -2.3**
QSPA LR LR
comp=Z,530nm,19.0s
TEIG Tepich 120.10 322 PFAKE 07 12 00.0 +12
TEIG LR LR
comp=Z,68nm,20.0s
SAML Samuel 120.35 277 PFAKE 07 12 00.0 +11
SAML LR LR
comp=Z,660nm,19.0s
SIV San Ignacio 121.70 269 PP PP 07 13 20.9 -3.4
comp=Z,1.5nm,0.7s,baz=45,slow=8.8,SNR=3.3
VNDA Vanda 121.92 166 PKKPbc PKKPbc 07 21 46.0 -3.7
comp=Z,0.6nm,0.9s,baz=39,slow=2.0,SNR=2.2
CPUP Villa Florida 122.39 256 PKP **PKPdf 07 11 50.1 -2.2**
comp=Z,3.6nm,1.1s,baz=46,slow=3.5,SNR=2.8
SBA Scott Base 122.90 166 PFAKE 07 12 10.0 +18
SBA LR LR
comp=Z,193nm,20.0s
BCIP Isla Barro Col 123.16 306 PFAKE 07 12 10.0 +16
BCIP LR LR
comp=Z,183nm,21.0s
JTS JuntasAbangare 125.84 311 PFAKE 07 12 10.0 +11
JTS LR LR
comp=Z,359nm,20.0s
LPAZ La Paz 127.97 272 PKP **PKPdf 07 12 04.2 +0.1**
comp=Z,1.2nm,0.7s,baz=24,slow=10,SNR=5.8
LPAZ PP **PP 07 14 04.0 -3.0**
comp=Z,2.1nm,0.8s,baz=34,slow=3.6,SNR=4.1
OTAV Otavalo 128.03 297 *e*PKiKP **PKPdf 07 12 05.5 +1.3**
OTAV Otavalo 128.03 297 *e*PKPdf **PKPdf 07 12 05.5 +1.3**
OTAV LR LR
comp=Z,228nm,20.0s
SNZO South Karori 129.10 121 PFAKE 07 12 20.0 +15
SNZO LR LR
comp=Z,397nm,19.0s
TRQA Tornquist 129.20 243 PFAKE 07 12 20.0 +15
TRQA LR LR
comp=Z,556nm,20.0s
PMSA Palmer Station 129.41 208 PFAKE 07 12 20.0 +15
PMSA LR LR
comp=Z,210nm,20.0s
LVC Limon Verde 131.07 265 PKP **PKPdf 07 12 09.3 -0.1**
comp=Z,29nm,1.1s,baz=274,slow=17,SNR=2.0
CFAA Coronel Fontan 133.02 253 PKP **PKPdf 07 12 10.1 -2.5**
comp=Z,0.1nm,0.4s,baz=343,slow=13,SNR=1.8
CFAA PP **PP 07 14 38.2 -0.8**
comp=Z,0.8nm,1.1s,baz=96,slow=5.9,SNR=2.3
NNA Nana 133.55 282 PFAKE 07 12 30.0 +16
NNA LR LR
comp=Z,758nm,20.0s
PPT2 Papeete2 153.15 69 *e*LR LR 08 03 59.5
comp=Z,322nm,23.5s
TBI Tubuai 155.76 81 *e*LR LR 08 04 56.7
comp=Z,294nm,23.5s
RPN Rapa Nui 167.50 278 PFAKE 07 13 20.0 +17
RPN LR LR
comp=Z,3μm,22.0s
RKT Rikitea 167.68 61 *e*LR LR 08 10 29.2
comp=Z,399nm,27.2s
PTCN Pitcairn Islan 172.44 55 PFAKE 07 13 20.0 +14
PTCN LR LR
comp=Z,2μm,22.0s

DDA 31 06:54:37.0,37°51N×36°11E,h7km,MD2.4,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANDN	**Andirin**	**0.20**	**70**	*i* P	Pg	06 54 41.1	-0.2
ANDN				*i* S	Sg	06 54 44.5	+0.3
HCB	**Kahramanmara~**	**0.66**	**104**	*i* P	Pb	06 54 50.8	-0.1
HCB				*i* S	Sb	06 55 00.9	+0.5

*IDC **31** 07:21:20.5±2.0,23°.64S×179°.96W,h497km±21km, mb3.8/15,mb1 4.0/16,mb1mx3.7/31,mbtmp4.7/16,Error ellipse: s-maj=15.9km s-min=14.0km az=36.0*
*ISCJB **31** 07:21:22.2±0.2,23°.67S±0'.04×179°.88E±0'.05,h526km, mb4.4/45,Error ellipse: s-maj=6.2km s-min=4.5km az=24.0*
*BJI **31** 07:21:22.1,23°.70S×180°.00E,h528km,mb4.7/13,mB5.0/6*
*NEIC **31** 07:21:23.1±0.7,23°.74S×179°.97E,h529km±8km,mb4.6/40, Error ellipse: s-maj=7.4km s-min=6.1km az=137.0*
ISC 31 07:21:22.9±0.5,23°.79S±0'.06×179°.97E±0'.08,h526km, n101,σ1§14/124,mb4.4/45,7C-9D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.29**	**343**	*e*P	**P**	**07 23 02.7**	**-0.5**
AFI	**Afiamalu** 62nm,0.9s	**12.55**	**40**	*e*P	P	07 24 00.2	-7.1
DZM	**Mont Dzumac**	**12.58**	**275**	P	**P**	**07 24 08.6**	**+1.0**
OUZ	**Omahuta** 31nm,1.1s	**12.67**	**204**	*e*P	**P**	**07 24 11.2**	**+3.0**
HAZ	**Te Kaha**	**14.05**	**187**	PN	**P**	**07 24 23.3**	**+0.7**
HAZ				SN	**S**	**07 26 49.3**	**-1.5**
PUZ	**Puketiti**	**14.32**	**185**	*e*PN	**P**	**07 24 27.6**	**+2.2**
PUZ				SN	**S**	**07 26 55.9**	**-0.1**
URZ	**Urewera** 9.5nm,0.3s,baz=359,slow=2.5,SNR=74	**14.63**	**189**	P	**P**	**07 24 26.9**	**-1.8**
URZ				S	**S**	**07 27 00.3**	**-1.7**
	2.2nm,0.3s,baz=238,slow=23,SNR=16						
URZ	**Urewera**	**14.63**	**189**	PN	**P**	**07 24 27.7**	**-1.0**
URZ				SN	**S**	**07 27 00.1**	**-1.9**
URZ	**Urewera** 53nm,0.6s	**14.63**	**189**	*e*P	**P**	**07 24 28.4**	**-0.3**
URZ				*e*S	**S**	**07 27 03.3**	**+1.4**
BKZ	**Black Stump Fm** 21nm,0.6s	**15.62**	**190**	*e*P	**P**	**07 24 39.1**	**+0.1**
BKZ				*e*S	**S**	**07 27 20.8**	**+0.5**
TSZ	**Takapari Road**	**16.57**	**191**	PN	**P**	**07 24 46.9**	**-1.6**
BFZ	**Birch Farm** 73nm,1.5s	**17.14**	**190**	*e*P	**P**	**07 24 53.2**	**-0.6**
SNZO	**South Karori** 61nm,1.1s	**18.02**	**193**	*e*P	**P**	**07 25 02.2**	**+0.3**
QRZ	**Quartz Range**	**18.10**	**198**	PN	**P**	**07 25 03.5**	**+0.8**
THZ	**Tophouse**	**18.87**	**197**	PN	**P**	**07 25 09.7**	**-0.1**

KHZ	**Kahutara**	**19.33**	**195**	*e*P		**P**	07 25 13.5	-0.3
	592nm,2.9s							
RPZ	**Rata Peaks**	**21.19**	**198**	P		**P**	07 25 30.7	-0.1
	13nm,0.5s,baz=4.1,slow=2.7,SNR=7.5							
RPZ	**Rata Peaks**	**21.19**	**198**	*e*P		**P**	07 25 31.9	+1.1
	23nm,0.8s							
WHZ	**Wether Hill Ro**	**24.11**	**201**	*e*P		**P**	07 25 56.4	-0.4
	683nm,2.9s							
ARMA	**Armidale**	**26.04**	**249**	⇓P		**P**	07 26 16.2	+1.9
	baz=28,SNR=8.2							
ARMA	**Armidale**	**26.04**	**249**	*e*P		**P**	07 26 16.0	+1.8
	100nm,2.0s							
EIDS	**Eidsvold**	**26.30**	**261**	⇑P		**P**	07 26 17.2	+0.7
	baz=29,SNR=12							
EIDS	**Eidsvold**	**26.30**	**261**	*e*P		**P**	07 26 17.3	+0.7
	16nm,0.6s							
RMQ	**Roma**	**28.35**	**258**	⇓P		**P**	07 26 36.1	+1.7
	baz=31,SNR=5.5							
CAN	**Canberra**	**29.17**	**240**	⇓P		**P**	07 26 42.5	+0.9
	baz=31							
CMSA	**Cobar Meteorol**	**31.23**	**248**	⇑P		**P**	07 27 00.1	+0.8
	baz=34,SNR=17							
CTA	**Charters Tower**	**31.45**	**270**	P		**P**	07 27 02.0	+0.6
	53nm,0.5s,baz=95,slow=11,SNR=131							
CTA	**Charters Tower**	**31.45**	**270**	⇓P		**P**	07 27 01.9	+0.6
	baz=34							
CTAO	**Charters Tower**	**31.45**	**270**	*e*P		**P**	07 27 01.7	+0.4
	55nm,0.5s							
QLP	**Quilpie**	**32.39**	**257**	P		**P**	07 27 09.8	+0.5
	baz=35,SNR=11							
MTSU	**Mount Surprise**	**33.70**	**273**	P		**P**	07 27 21.0	+0.5
	baz=36,SNR=29							
PMG	**Port Moresby**	**34.43**	**289**	P		**P**	07 27 26.5	-0.1
	41nm,0.8s,baz=97,slow=5.4,SNR=7.3							
PMG	**Port Moresby**	**34.43**	**289**	*e*P		**P**	07 27 26.4	-0.2
	28nm,0.6s							
STKA	**Stephens Creek**	**34.74**	**248**	P		**P**	07 27 29.9	+0.9
	4.9nm,0.5s,baz=94,slow=10,SNR=7.6							
STKA	**Stephens Creek**	**34.74**	**248**	*e*P		**P**	07 27 29.9	+0.9
	3.9nm,1.4s							
COEN	**Coen**	**36.07**	**279**	⇑P		**P**	07 27 40.7	+0.4
	baz=38,SNR=5.3							
COEN	**Coen**	**36.07**	**279**	*e*P		**P**	07 27 41.1	+0.9
	12nm,0.8s							
HTT	**Hallett**	**37.09**	**246**	⇑P		**P**	07 27 49.1	+0.5
	baz=39,SNR=5.9							
BBOO	**Buckleboo**	**39.46**	**247**	⇓P		**P**	07 28 07.1	-0.6
	baz=42							
BBOO	**Buckleboo**	**39.46**	**247**	*e*P		**P**	07 28 07.6	-0.2
	140nm,1.8s							
ASAR	**Alice Springs**	**42.02**	**260**	P		**P**	07 28 28.5	+0.1
	18nm,0.8s,baz=97,slow=7.4,SNR=178							
ASAR				ScP		**ScP**	07 33 13.9	+2.3
	4.2nm,0.7s,baz=108,slow=4.3,SNR=25							
ASAR				S		**S**	07 34 08.6	-0.9
	0.4nm,0.7s,baz=94,slow=14,SNR=3.9							
AS13	**Alice Springs**	**42.04**	**261**	P		**P**	07 28 28.6	+0.2
	baz=44							
WRAB	**Tennant Creek**	**42.38**	**266**	*e*P		**P**	07 28 29.9	-1.2
	24nm,0.8s							
WRA	**Warramunga Arr**	**42.39**	**266**	P		**P**	07 28 30.5	-0.7
	22nm,0.5s,baz=103,slow=8.2,SNR=60							
WRA				ScP		**ScP**	07 33 14.8	+1.6
	2.9nm,0.8s,baz=98,slow=4.1,SNR=10.0							
WRA				S		**S**	07 34 10.5	-4.1
	0.3nm,0.3s,baz=98,slow=14,SNR=8.7							
JAY	**Jayapura**	**43.45**	**293**	P		**P**	07 28 38.8	-0.8
	11nm,0.5s,baz=114,slow=1.1,SNR=9.7							
KDU	**Kakadu**	**46.25**	**275**	⇓P		**P**	07 29 00.2	-0.8
	baz=48							
FORT	**Forrest**	**46.32**	**249**	⇓P		**P**	07 29 01.0	-0.4
	baz=49,SNR=21							
FORT	**Forrest**	**46.32**	**249**	*e*P		**P**	07 29 00.2	-1.3
	46nm,0.6s							
WRKA	**Warakurna**	**46.83**	**257**	P		**P**	07 29 05.3	-0.2
	baz=49,SNR=39							
MTN	**Manton Dam**	**47.42**	**274**	⇓P		**P**	07 29 08.8	-1.1
	baz=50,SNR=6.1							
KNRA	**Kununurra**	**48.66**	**270**	⇑P		**P**	07 29 19.2	0.0
	baz=51,SNR=7.4							
FAKI	**Fak Fak**	**50.52**	**287**	*e*P		**P**	07 29 32.1	-0.9
	10nm,1.0s							
SIJI	**Sorong**	**52.37**	**288**	P		**P**	07 29 45.8	-0.6
	38nm,0.6s,baz=62,slow=9.7,SNR=32							
SOEI	**Soe**	**54.81**	**275**	*e*P		**P**	07 30 03.9	+0.2
	31nm,0.8s							
MEEK	**Meekatharra**	**55.12**	**253**	⇑P		**P**	07 30 04.8	-0.8
	baz=57,SNR=4.2							
MBWA	**Marble Bar**	**55.36**	**260**	*e*P		**P**	07 30 07.0	-0.4
	124nm,2.1s							
BLDU	**Ballidu**	**56.04**	**248**	P		**P**	07 30 11.7	-0.3
	baz=58,SNR=11							
MORW	**Morawa**	**56.89**	**250**	⇓P		**P**	07 30 15.8	-2.0
	baz=59,SNR=4.2							
QSPA	**South Pole Qui**	**66.30**	**180**	P		**P**	07 31 20.1	+1.3
	2.1nm,1.0s,baz=281,slow=0.6,SNR=15							
QSPA	**South Pole Qui**	**66.30**	**180**	*e*P		**P**	07 31 19.6	+0.8
	2.3nm,0.9s							
YOJ	**Yonaguni jima**	**73.14**	**307**	*e*P		**P**	07 31 59.0	-1.1
	114nm,1.1s							
MAW	**Mawson**	**77.84**	**200**	P		**P**	07 32 26.6	+1.1
	0.9nm,0.5s,baz=135,slow=7.1,SNR=4.8							
MAW	**Mawson**	**77.84**	**200**	*e*P		**P**	07 32 26.7	+1.1
	0.2nm,0.3s							
NJ2	**Nanjing**	**80.56**	**311**	*e*P		**P**	07 32 41.5	+1.0
NJ2				PMZ				
	30nm,1.0s							
ISA	**Isabella**	**82.96**	**46**	*e*P		**P**	07 32 52.9	+0.1
	6.1nm,0.9s							
CMB	**Columbia Colle**	**83.14**	**43**	*e*P		**P**	07 32 53.0	-0.5
	4.8nm,0.8s							
WDC	**Whiskeytown Da**	**83.39**	**40**	*e*P		**P**	07 32 55.0	+0.3
	72nm,2.6s							
GSC	**Goldstone**	**83.87**	**47**	*e*P		**P**	07 32 56.9	-0.5
	3.3nm,0.8s							
WAKR	**Walker**	**84.02**	**43**	*e*P		**P**	07 32 59.0	+0.8
NVAR	**Mina Arroy Bea**	**84.69**	**44**	P		**P**	07 33 00.9	-0.6
	1.0nm,0.6s,baz=224,slow=6.9,SNR=10							
SNAA	**Sanae**	**84.78**	**179**	P		**P**	07 33 00.6	-0.6
LDFC	**Landfair**	**84.89**	**48**	*e*P		**P**	07 33 03.1	+0.6
	8.5nm,0.8s							
GYA	**Guiyang**	**86.67**	**301**	*e*P		**P**	07 33 11.0	-0.1
GYA				pP		**pP**	07 35 08.3	+1.8
GYA				sP		**sP**	07 36 01.0	+1.2
GYA				PP		**PP**	07 36 45.5	+2.3
GYA				S		**S**	07 43 02.8	-1.7
GYA				PMZ				
	10.0nm,1.0s							
WVOR	**Wild Horse Val**	**86.84**	**41**	*e*P		**P**	07 33 11.7	+0.1
	4.2nm,1.0s							
BJI	**Beijing**	**86.93**	**316**	P		**P**	07 33 12.3	+0.5
BJI				PMZ				
	5.0nm,1.0s							
CCUT	**Cedar City**	**87.42**	**47**	*e*P		**P**	07 33 14.4	-0.2
	2.4nm,0.9s							
G08A	**Pilot Rock**	**88.36**	**38**	*e*P		**P**	07 33 18.8	+0.2
	3.3nm,0.8s							
MSU	**Marysvale**	**88.73**	**47**	*e*P		**P**	07 33 21.1	+0.5
MFID	**Camas Ranch**	**89.09**	**41**	*e*P		**P**	07 33 22.0	-0.1
	4.8nm,0.9s							
KMI	**Kunming**	**89.19**	**298**	P		**P**	07 33 24.3	+1.2
KMI				PMZ				
	9.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**89.46**	**290**	P		**P**	07 33 24.4	+0.2
	0.7nm,0.3s,baz=150,slow=3.6,SNR=5.0							
F10A	**Beach Ranch, E**	**89.74**	**38**	*e*P		**P**	07 33 24.3	-0.7
	7.3nm,0.8s							
TMUT	**Trail Mountain**	**89.78**	**46**	*e*P		**P**	07 33 26.2	+0.6
	8.7nm,0.7s							
HLID	**Hailey**	**90.03**	**41**	*e*P		**P**	07 33 26.7	+0.2
	2.2nm,0.8s							
SPUT	**South Promonto**	**90.03**	**44**	*e*P		**P**	07 33 26.7	+0.2
	4.9nm,0.9s							
HVU	**Hansel Valley**	**90.08**	**44**	*e*P		**P**	07 33 26.5	-0.2
	4.1nm,0.7s							
SRU	**San Rafael**	**90.14**	**47**	*e*P		**P**	07 33 27.1	0.0
	5.6nm,0.7s							
HHC	**Hu-ho-hao-te**	**90.32**	**315**	*e*P		**P**	07 33 27.5	-0.3
HHC				PP		**PP**	07 37 14.0	+2.3
HHC				S		**S**	07 43 34.5	-2.9
HHC				sS		**sS**	07 47 06.5	+1.2
HHC				SS		**SS**	07 49 55.5	+1.6
HHC				PMZ				
	15nm,1.2s							
HHC				PMZ				
	170nm,5.4s							
TXAR	**Lajitas Array**	**90.40**	**58**	P		**P**	07 33 28.8	+0.3
	2.0nm,0.7s,baz=213,slow=6.5,SNR=35							
HWUT	**Hardware Ranch**	**90.75**	**44**	*e*P		**P**	07 33 28.8	-1.1
	2.8nm,0.6s							
ANMO	**Albuquerque**	**90.91**	**52**	*e*P		**P**	07 33 30.4	-0.4
	2.5nm,1.1s							
PV01	**Paradox Valley**	**90.97**	**48**	*e*P		**P**	07 33 30.4	-0.6
CD2	**Chengdu**	**90.99**	**303**	*e*P		**P**	07 33 31.0	-0.1
CD2				pP		**pP**	07 35 28.0	+0.5
CD2				PP		**PP**	07 37 16.8	-0.3
CD2				SKS		**SKSac**	07 43 11.5	-1.3
CD2				S		**S**	07 43 43.3	-0.5
CD2				sS		**sS**	07 47 13.5	+1.5
CD2				SS		**SS**	07 50 04.5	+0.7
CD2				PMZ				
	10.0nm,0.5s							
CD2				PMZ				
	120nm,5.0s							
ILAR	**Eielson Array**	**91.93**	**14**	P		**P**	07 33 32.5	-1.9
	0.3nm,0.7s,baz=238,slow=5.1,SNR=3.9							
S22A	**4UR Ranch, Cre**	**91.98**	**49**	*e*P		**P**	07 33 35.8	0.0
	3.6nm,1.1s							
PDAR	**Pinedale Array**	**92.63**	**44**	P		**P**	07 33 37.4	-1.2
	1.1nm,0.8s,baz=189,slow=1.3,SNR=12							
SDCO	**Great Sand Dun**	**92.91**	**50**	*e*P		**P**	07 33 39.4	-0.6
	1.0nm,0.6s							
LZH	**Lanzhou**	**93.28**	**308**	⇑P		P	07 33 38.3	-3.3
LZH				pP		pP	07 35 36.0	-2.2
LZH				sP		sP	07 36 28.5	-2.6
LZH				PP		**PP**	07 37 32.5	-2.4
LZH				PMZ				
	15nm,1.6s							
LZH				PMZ				
	56nm,9.5s							
FINES	**FINESS Array B**	**138.33**	**341**	PKP		**PKPdf**	07 39 47.6	-0.1
	2.3nm,1.0s,baz=94,slow=4.3,SNR=4.8							
BRTR	**Keskin Array B**	**147.49**	**307**	PKPbc		**PKPbc**	07 40 09.9	+1.9
	0.8nm,0.5s,baz=93,slow=3.3,SNR=3.9							
CLL	**Collm**	**150.74**	**343**	*i* PKPbc		**PKPbc**	07 40 14.6	-0.8
	comp=Z,5.0nm,0.8s							

ISK ***31*** *07:26:06.1,36.44N×36.51E,h16km, MD2.5*
CSEM ***31*** *07:26:07.2±0.4,36.48N×36.47E,h10km, MD2.5, Error ellipse: s-maj=9.7km s-min=6.1km az=126.0*
DDA ***31*** *07:26:07.9,36.49N×36.39E,h8km, MD3.0*

ISC 31 07:26:07.3±1.2, 36.48N±0.04×36.48E±0.04, h10km±10km, n16,σ0°81/29, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TAHT	**Tahtakopru-Hat**	**0.26**	**247**	*e*PG	**Pg**	**07 26 12.3**	**-0.3**
TAHT				*e*SG	**Sg**	**07 26 16.9**	**+0.9**
TAHT	**Tahtakopru-Hat**	**0.26**	**247**	*e*Pg	**Pg**	**07 26 12.3**	**-0.3**
TAHT				*e*Sg	**Sg**	**07 26 16.9**	**+0.9**
YAYL	**Yayladag**	**0.53**	**214**	*i* P	**Pg**	**07 26 17.1**	**-0.6**
YAYL				*i* S	**Sb**	**07 26 26.1**	**-0.6**
YAYL	**Yayladag**	**0.53**	**214**	*i* P	**Pg**	**07 26 17.1**	**-0.6**
YAYL				*i* S	**Sb**	**07 26 26.1**	**-0.6**
KUZU	**Kuzuini**	**0.56**	**58**	*i* P	**Pb**	**07 26 19.9**	**+0.5**
KUZU				*i* S	**Sn**	**07 26 31.8**	**+0.8**
KUZU	**Kuzuini**	**0.56**	**58**	*i* P	**Pb**	**07 26 19.9**	**+0.5**
KUZU				*i* S	**Sn**	**07 26 31.8**	**+0.8**
YURE	**YUREGIR**	**0.76**	**297**	*i* P	**Pg**	**07 26 21.7**	**-0.4**
YURE				*i* S	**Sn**	**07 26 38.2**	**+2.3**
YURE	**YUREGIR**	**0.76**	**297**	*i* P	**Pg**	**07 26 21.7**	**-0.4**
CEYT	**Ceyhan**	**0.79**	**312**	*e*PG	**Pb**	**07 26 22.9**	**-0.3**
CEYT				*e*SG	**Sb**	**07 26 34.8**	**+0.8**
CEYT	**Ceyhan**	**0.79**	**312**	*e*Pg	**Pb**	**07 26 22.9**	**-0.3**
CEYT				*e*Sg	**Sb**	**07 26 34.8**	**+0.8**
KMRS	**Kahramanmaras**	**1.08**	**18**	*e*PN	**Pb**	**07 26 27.5**	**-0.7**
KMRS				*e*SN	**Sn**	**07 26 43.1**	**-0.6**
KMRS	**Kahramanmaras**	**1.08**	**18**	*e*Pn	**Pb**	**07 26 27.5**	**-0.7**
KMRS				*e*Sn	**Sn**	**07 26 43.1**	**-0.6**
ANDN	**Andirin**	**1.10**	**355**	*i* P	**Pb**	**07 26 27.8**	**-0.9**
ANDN				*i* S	**Sn**	**07 26 44.4**	**-0.1**
ANDN	**Andirin**	**1.10**	**355**	*i* P	**Pb**	**07 26 27.8**	**-0.9**
ANDN				*i* S	**Sn**	**07 26 44.4**	**-0.1**
KOZT	**Kozan**	**1.13**	**333**	*e*PN	**Pb**	**07 26 28.2**	**-0.8**
KOZT	**Kozan**	**1.13**	**333**	*e*Pn	**Pb**	**07 26 28.2**	**-0.8**

IDC 31 07:34:13.4±2.2, 13.25N×93.02E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/36, mbtmpg3.3/4, ML3.7/1, Error ellipse: s-maj=65.4km s-min=28.9km az=68.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.70**	**47**	Pn	Pn	07 36 06.7	-0.2
	0.3nm,0.3s,baz=239,slow=14,SNR=3.2						
MKAR	**Makanchi Array**	**34.64**	**347**	P	P	07 41 04.5	+0.1
	0.4nm,0.8s,baz=175,slow=7.2,SNR=3.8						
WRA	**Warramunga Arr**	**52.35**	**128**	P	P	07 43 27.3	-0.3
	0.1nm,0.3s,baz=301,slow=6.6,SNR=2.8						
ASAR	**Alice Springs**	**54.26**	**132**	P	P	07 43 41.6	0.0
	0.2nm,0.4s,baz=308,slow=6.9,SNR=5.6						

IDC ***31*** *07:38:49.6±0.7,32.89N×142.57E,h0km,mb3.6/10, mb1 3.9/13,mb1mx3.8/31,mbtmp3.7/13,ML4.0/3, Error ellipse: s-maj=19.5km s-min=17.9km az=89.0*
JMA ***31*** *07:38:52.4±0.4,33.04N×142.52E,h55km,M3.8*
ISCJB ***31*** *07:38:53.0±0.6,33.03N±0.06×142.43E±0.06,h33km, mb3.6/10, Error ellipse: s-maj=9.5km s-min=5.8km az=41.8*

ISC 31 07:38:54.0±0.7, 32.93N±0.06×142.48E±0.08, h33km, n26, σ1s78/36, mb3.6/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.12**	**324**	P	**Pn**	**07 39 25.3**	**-1.4**
BSO1				*e*S	**Sn**	**07 39 50.8**	**-0.9**
JHJ2	**Mitsune**	**2.25**	**275**	P	**Pn**	**07 39 28.3**	**-0.6**
JHJ	**Hachijo jima 2**	**2.28**	**275**	Pn	**Pn**	**07 39 28.5**	**-0.8**
	48nm,0.3s,baz=84,slow=20,SNR=16						
JHJ				Sn	**Sn**	**07 39 55.5**	**-0.6**
	67nm,0.3s,baz=62,slow=23,SNR=12						
BSO3	**Boso 3**	**2.48**	**319**	P	**Pn**	**07 39 31.0**	**-0.9**
BSO3				*e*S	**Sn**	**07 39 59.7**	**-1.2**
BSO4	**Boso 4**	**2.72**	**320**	P	**Pn**	**07 39 34.8**	**-0.4**
JOD2	**Odawara 2**	**3.65**	**310**	P	**Pn**	**07 39 46.3**	**-1.9**
JYN	**Shimob**	**4.15**	**309**	P	**Pn**	**07 39 55.2**	**+0.2**
JRY	**Ryogami san**	**4.27**	**317**	P	**Pn**	**07 39 55.2**	**-1.5**
JRY				S	**Sn**	**07 40 44.0**	**-1.3**
JAG	**Ashikaga**	**4.29**	**325**	P	**Pn**	**07 39 55.6**	**-1.3**
JAG				S	**Sn**	**07 40 42.1**	**-3.6**
JFT	**Otama**	**4.90**	**340**	P	**Pn**	**07 40 03.9**	**-1.4**
JFT				S	**Sn**	**07 40 55.6**	**-5.3**
JIE	**Ise**	**5.03**	**288**	P	**Pn**	**07 40 07.2**	**+0.1**
MJAR	**Matsushiro Arr**	**5.03**	**317**	Pn	**Pn**	**07 40 06.8**	**-0.4**
	4.6nm,0.3s,baz=160,slow=13,SNR=22						
MJAR				Sn	**Sn**	**07 41 01.9**	**-2.3**
	3.2nm,0.3s,baz=148,slow=24,SNR=8.0						
MAT	**Matsushiro**	**5.04**	**317**	P	**Pn**	**07 40 07.0**	**-0.2**
MAT				S	**Sn**	**07 41 01.7**	**-2.6**
MAT	**Matsushiro**	**5.04**	**317**	P	**Pn**	**07 40 07.2**	**0.0**
MAT				S	**Sn**	**07 41 03.1**	**-1.2**
JCJ	**Chichijima**	**5.82**	**183**	Pn	**Pn**	**07 40 15.4**	**-2.7**
	7.0nm,0.3s,baz=5.7,slow=18,SNR=8.9						
JCJ				Sn	**Sn**	**07 41 20.1**	**-3.6**
	7.9nm,0.3s,baz=218,slow=19,SNR=3.9						
SONM	**Songino Array**	**30.94**	**309**	P	**P**	**07 45 10.0**	**+2.1**
	0.6nm,0.4s,baz=108,slow=8.4,SNR=5.1						
ZALV	**Zalesovo Beam**	**45.39**	**315**	P	**P**	**07 47 09.9**	**+0.8**
	0.5nm,0.5s,baz=113,slow=10,SNR=2.4						
MKAR	**Makanchi Array**	**47.13**	**306**	P	**P**	**07 47 23.9**	**+0.9**
	0.7nm,0.5s,baz=90,slow=9.6,SNR=9.2						
ILAR	**Eielson Array**	**52.52**	**31**	P	**P**	**07 48 04.0**	**+0.3**
	0.3nm,0.7s,baz=257,slow=6.5,SNR=4.1						
WRA	**Warramunga Arr**	**53.15**	**190**	P	**P**	**07 48 09.2**	**+0.4**
	1.2nm,0.5s,baz=7.2,slow=7.7,SNR=15						
ASAR	**Alice Springs**	**56.88**	**189**	P	**P**	**07 48 36.3**	**+0.6**
	0.3nm,0.6s,baz=3.4,slow=5.3,SNR=4.4						
YKA	**Yellowknife Ar**	**66.92**	**29**	P	**P**	**07 49 43.6**	**+0.9**
	0.4nm,0.8s,baz=294,slow=6.3,SNR=3.5						
NVAR	**Mina Array Bea**	**76.75**	**53**	P	**P**	**07 50 42.1**	**-0.4**
	0.2nm,0.6s,baz=315,slow=4.3,SNR=2.4						
PDAR	**Pinedale Array**	**79.91**	**45**	P	**P**	**07 51 01.2**	**+1.3**
	0.2nm,0.7s,baz=255,slow=1.8,SNR=3.0						
TXAR	**Lajitas Array**	**91.90**	**53**	P	**P**	**07 51 59.8**	**+0.4**
	0.2nm,0.6s,baz=337,slow=2.1,SNR=4.1						
LPAZ	**La Paz**	**147.77**	**66**	PKPbc	**PKPbc**	**07 58 37.9**	**+1.2**
	0.5nm,0.5s,baz=0.0,slow=3.0,SNR=3.8						

NNC 31 07:57:50.3±1.1, 37.53N×71.63E, h147km±10km, mb2.7, mpv3.5,4C-8D, Error ellipse: s-maj=10.4km s-min=3.8km az=159.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.56**	**301**	⇓P	Pn	07 58 31.4	-0.6
	30nm,0.5s						
DZET				⇓S	Sn	07 59 04.9	+0.6
	133nm,0.4s						
SFK	**Sufi-Kurgan**	**2.88**	**30**	⇑P	Pn	07 58 36.1	-0.2
	6.2nm,0.3s						
SFK				⇓S	Sn	07 59 12.6	+0.7
	38nm,0.2s						
MNAS	**Manas**	**5.00**	**7**	⇑P	Pn	07 59 04.2	+0.4
	2.0nm,0.3s						
MNAS				⇓S	Sn	08 00 01.1	-0.1
	54nm,1.0s						
AAK	**Ala-Archa**	**5.55**	**22**	⇓P	Pn	07 59 11.1	0.0
	1.7nm,0.3s						
AAK				⇑S	Sn	08 00 14.5	+0.2
	10.0nm,0.6s						
KK31	**Karatay Array**	**5.64**	**352**	P	Pn	07 59 12.7	+0.7
	2.0nm,0.5s,baz=168,slow=12,SNR=40						
KK31				⇓S	Sn	08 00 16.0	0.0
	10nm,0.4s,baz=0.0,slow=0.1,SNR=29						
AB31	**Akbulak array**	**14.46**	**328**	⇓P	Pn	08 01 08.1	+0.3
	0.6nm,0.5s,baz=134,slow=14,SNR=20						
AB31				⇑S	Sn	08 03 37.7	-10
	2.4nm,0.6s						
AKTO	**Aktyubinsk**	**16.17**	**327**	⇓P	P	08 01 30.7	+1.2
	1.1nm,0.5s						

KRSC 31 08:07:07.9±0.8, 55.82N×163.60E, h19km±19km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.58**	**312**	*i* P	Pb	08 07 18.8	-0.6
KBTR				*e*S	Sb	08 07 26.7	-0.6
SMKR	**Semkarok**	**1.41**	**303**	*e*P	Pb	08 07 32.8	+0.1
SMKR				*e*S	Sb	08 07 51.4	0.0
BKI	**Bering**	**1.48**	**114**	*e*P	Pb	08 07 34.5	-0.3
BKI				*e*S	Sb	08 07 53.4	+0.2
BDR	**Baidarnaya**	**1.53**	**300**	*e*P	Pb	08 07 35.3	-0.4
BDR				*e*S	Sb	08 07 54.7	-0.1
SRKR	**Sorokina**	**1.59**	**303**	*e*P	Pn	08 07 35.8	+0.7
SRKR				*e*S	Sb	08 07 56.6	0.0
MKZ	**Mys Kozlova**	**1.66**	**221**	*e*P	Pb	08 07 37.8	0.0
MKZ				*e*S	Sb	08 07 59.2	+0.9
KLY	**Klyuchi**	**1.73**	**288**	*e*P	Pn	08 07 37.3	+0.5
KMNR	**Kamenistaya**	**1.90**	**269**	*e*P	Pb	08 07 42.4	+0.3
KZV	**Kizimen**	**2.01**	**251**	*e*P	Pb	08 07 43.7	-0.3
TUMR	**Tumrok**	**2.04**	**256**	*e*P	Pb	08 07 43.8	-0.6
KOZ	**Kozyrevsk**	**2.11**	**278**	*e*P	Pb	08 07 45.8	+0.3
SRDR	**Sredinnyy**	**2.23**	**284**	*e*P	Pn	08 07 45.7	+1.8
SRDR				*e*S	Sb	08 08 13.4	-1.6
SPN	**Mys Shipunski**	**3.44**	**219**	*e*P	Pn	08 08 02.3	+2.0
SPN				*e*S	Sn	08 08 41.3	+0.8
GNL	**Ganaly**	**3.91**	**239**	*e*P	Pn	08 08 11.1	+4.1

NIED ***31*** *08:13:00,24.00N×121.70E,h44km,Mw4.0 Best double couple: M0 1.15000×10^15 NP1:φs144.00000°,δ46.00000°, λ34.00000°. NP2:φs29.00000°,δ66.00000°,λ131.00000°.*
IDC ***31*** *08:13:11.7±1.3,23.71N×121.45E,h0km,mb3.5/4, mb1 3.7/5,mb1mx3.5/30,mbtmpb3.6/5,ML3.6/1, Error ellipse: s-maj=73.9km s-min=22.5km az=69.0*
BJI ***31*** *08:13:15.1,24.17N×121.63E,h8km,mb3.9/2,ML3.6/5*
JMA ***31*** *08:13:16.5±0.1,24.05N×121.73E,h51km±1km,M4.2*
NEIC ***31*** *08:13:16.3±1.2,23.96N×121.89E,h10km,ML4.6(TAP), Error ellipse: s-maj=13.7km s-min=10.6km az=131.0*
NEIC Recorded [3 TAP] in Hua-lien and I-lan; [2 TAP] in Nan-t'ou and T'ai-chung; [1 TAP] in Chang-hua, Chia-i, Miao-li, T'ai-nan, T'ao-yuan and Yun-lin.
TAP ***31*** *08:13:17.8,24.08N×121.76E,h46km,ML4.6,B*
ISCJB ***31*** *08:13:17.8±0.2,24.06N±0.01×121.83E±0.02,h49km±3km, mb3.5/4,Error ellipse: s-maj=2.9km s-min=1.9km az=139.8*

ISC 31 08:13:17.6±0.8, 24.07N±0.02×121.81E±0.02, h44km±5km, n103,σ1s41/161, mb3.5/4, 19C-15D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWD	**Chiawan**	**0.19**	**273**	⇓*i*P	**Pn**	**08 13 25.5**	**+0.2**
	baz=274						
TWD				*i* S	**Sn**	**08 13 31.3**	**+0.6**
	baz=274						
HWA	**Hwalien**	**0.21**	**244**	P	**Pn**	**08 13 25.9**	**+0.5**
	baz=236						
HWA				*e*S	**Sn**	**08 13 32.5**	**+1.6**
	baz=236						
NACB	**Ninganchiao**	**0.22**	**298**	*e*Pg	**Pn**	**08 13 25.2**	**-0.4**
EHP	**Heping Village**	**0.25**	**346**	P	**Pn**	**08 13 26.7**	**+0.9**
	baz=351		

TYC					*e*S		**Sn**	**08 13 46.5**	**+1.1**
	baz=256									
NSTT	**Nanjuang**	**0.93**	**307**	⇑	*i*P		**Pn**	**08 13 35.3**	**+1.1**
	baz=310									
NSTT					*i* S		**Sn**	**08 13 47.0**	**+0.6**
	baz=310									
TWA	**Mucha**	**0.93**	**347**		*i* P		**Pn**	**08 13 35.1**	**+0.8**
	baz=340									
TWA					*i* S		**Sn**	**08 13 47.7**	**+1.1**
	baz=340									
TWB1	**Santiao Chiao**	**0.95**	**10**	⇓	*i*P		**Pn**	**08 13 35.8**	**+1.2**
	baz=26									
TWB1					*e*S		**Sn**	**08 13 50.1**	**+3.1**
	baz=26									
TWQ1	**Liyutan**	**0.98**	**287**	⇑	*i*P		**Pn**	**08 13 36.0**	**+1.0**
	baz=288									
TWQ1					S		**Sn**	**08 13 49.1**	**+1.2**
	baz=288									
NWF	**Wu-fen Shan**	**1.00**	**359**	⇓	*i*P		**Pn**	**08 13 36.5**	**+1.1**
	baz=350									
NWF					S		**Sn**	**08 13 50.1**	**+1.8**
	baz=350									
TAP1	**Taipei**	**1.00**	**345**		*e*P		**Pn**	**08 13 35.4**	**+0.2**
	baz=347									
TAP1					*e*S		**Sn**	**08 13 48.7**	**+0.5**
	baz=347									
TAP	**Taipei**	**1.00**	**344**		*e*P		**Pn**	**08 13 35.5**	**+0.2**
	baz=347									
TAP					*e*S		**Sn**	**08 13 49.3**	**+1.0**
	baz=347									
NSY	**Sanyi**	**1.02**	**290**	⇑	*i*P		**Pn**	**08 13 36.6**	**+1.1**
	baz=292									
NSY					*e*S		**Sn**	**08 13 51.3**	**+2.7**
	baz=292									
TCU	**Taichung**	**1.04**	**275**	⇑	*i*P		**Pn**	**08 13 37.0**	**+1.2**
	baz=276									
TCU					*e*S		**Sn**	**08 13 50.4**	**+1.3**
	baz=276									
WNT	**Mingjian**	**1.04**	**260**	⇑	*i*P		**Pn**	**08 13 37.4**	**+1.6**
	baz=260									
WNT					S		**Sn**	**08 13 51.1**	**+1.8**
	baz=260									
CHKT	**Chengkung**	**1.05**	**203**		*e*P		**Pn**	**08 13 35.1**	**-0.8**
	baz=191									
HSN	**Hsinchu**	**1.06**	**314**		*e*P		**Pn**	**08 13 36.9**	**+0.9**
	baz=319									
HSN					*e*S		**Sn**	**08 13 50.5**	**+0.9**
	baz=319									
NCU	**National Centr**	**1.06**	**328**		*e*P		**Pn**	**08 13 36.6**	**+0.5**
	baz=331									
NCU					S		**Sn**	**08 13 51.1**	**+1.4**
	baz=331									
ALS	**Alishan**	**1.07**	**239**		P		**Pn**	**08 13 37.3**	**+0.8**
	baz=229									
ALS					*e*S		**Sn**	**08 13 52.0**	**+1.5**
	baz=229									
TWS1	**Kuangyinshan**	**1.09**	**341**		*e*P		**Pn**	**08 13 37.0**	**+0.5**
	baz=344									
TWS1					*e*S		**Sn**	**08 13 51.7**	**+1.4**
	baz=344									
JYNG	**Yonaguni jima**	**1.11**	**70**		P		**Pn**	**08 13 37.6**	**+0.9**
JYNG					S		**Sn**	**08 13 51.7**	**+0.9**
CHN5	**Tsauling**	**1.14**	**246**	⇑	*i*P		**Pn**	**08 13 38.4**	**+1.2**
	baz=236									
CHN5					*e*S		**Sn**	**08 13 52.8**	**+1.2**
	baz=236									
ELDTW	**Lidau**	**1.14**	**220**	⇓	*i*P		**Pn**	**08 13 36.9**	**-0.4**
	baz=212									
YOJ	**Yonaguni jima**	**1.17**	**70**		P		**Pn**	**08 13 38.4**	**+0.9**
YOJ					S		**Sn**	**08 13 52.8**	**+0.5**
YOJ	**Yonaguni jima**	**1.17**	**70**	⇓	*i*P		**Pn**	**08 13 38.4**	**+0.9**
	baz=71									
YOJ					*i* S		**Sn**	**08 13 53.4**	**+1.2**
	baz=71									
YOJ	**Yonaguni jima**	**1.17**	**70**		*e*Pn		**Pn**	**08 13 38.4**	**+0.9**
WGK	**Gukeng**	**1.20**	**252**	⇑	*i*P		**Pn**	**08 13 39.5**	**+1.5**
	baz=252									
WGK					*e*S		**Sn**	**08 13 55.5**	**+2.4**
	baz=252									
TWY	**Chenhua**	**1.22**	**351**		*e*P		**Pn**	**08 13 38.3**	**+0.1**
	baz=341									
STYT	**Tauyuan**	**1.32**	**227**		P		**Pn**	**08 13 40.8**	**+1.1**
	baz=226									
STYT					*e*S		**Sn**	**08 13 57.2**	**+1.1**
	baz=226									
CHN4	**Tsaushan**	**1.32**	**238**	⇑	P		**Pn**	**08 13 41.3**	**+1.6**
	baz=227									
CHN4					S		**Sn**	**08 13 59.2**	**+3.1**
	baz=227									
TPUB	**Ta-pu**	**1.32**	**235**		*e*Pn		**Pn**	**08 13 40.9**	**+1.2**
TPUB					*e*Sn		**Sn**	**08 13 58.0**	**+1.8**
CHN2	**Minshiung**	**1.33**	**247**		P		**Pn**	**08 13 41.7**	**+1.9**
	baz=237									
CHN2					*e*S		**Sn**	**08 14 00.1**	**+3.8**
	baz=237									
WTP	**Ta-pu**	**1.37**	**233**		P		**Pn**	**08 13 41.7**	**+1.4**
	baz=233									
WTP					S		**Sn**	**08 13 59.3**	**+2.0**
	baz=233									
CHY	**Chiayi**	**1.39**	**246**		P		**Pn**	**08 13 42.1**	**+1.6**
	baz=236									
CHY					*e*S		**Sn**	**08 14 00.4**	**+2.7**
	baz=236									
WTCT	**Ta-ch'eng**	**1.41**	**262**		*e*P		**Pn**	**08 13 41.5**	**+0.7**
	baz=276									
WTCT					*e*S		**Sn**	**08 13 59.7**	**+1.4**
	baz=276									
TWG	**Pinlang**	**1.41**	**209**	⇓	*e*P		**Pn**	**08 13 39.9**	**-1.0**
	baz=197									
TTN	**Taitung**	**1.44**	**205**		*e*P		**Pn**	**08 13 40.9**	**-0.4**
	baz=203									
TWK	**Hsinying**	**1.45**	**237**	⇑	P		**Pn**	**08 13 42.9**	**+1.4**
	baz=237									
TWK					*e*S		**Sn**	**08 14 01.4**	**+2.0**
	baz=237									
CHN1	**Nanshi**	**1.47**	**233**		P		**Pn**	**08 13 43.1**	**+1.5**
	baz=233									
CHN1					*e*S		**Sn**	**08 14 01.7**	**+2.0**
	baz=233									
SGST	**Jiashian**	**1.49**	**229**		P		**Pn**	**08 13 43.9**	**+1.8**
	baz=218									
SGST					S		**Sn**	**08 14 02.7**	**+2.4**
	baz=218									
WSF	**Szhu**	**1.51**	**254**		*e*P		**Pn**	**08 13 43.2**	**+0.9**
	baz=267									
WSF					*e*S		**Sn**	**08 14 03.6**	**+2.9**
	baz=267									
PCYT	**Pengchaiyu**	**1.57**	**9**		*e*P		**Pn**	**08 13 43.2**	**+0.1**
	baz=9.0									
CHN8	**Yiju**	**1.63**	**244**		*e*P		**Pn**	**08 13 44.6**	**+0.7**
	baz=234									
CHN8					*e*S		**Sn**	**08 14 06.0**	**+2.3**
	baz=234									
ECL	**Taimali**	**1.66**	**208**		*e*P		**Pn**	**08 13 43.1**	**-1.2**
	baz=199									
SSD	**Sandimen**	**1.70**	**220**	⇑	P		**Pn**	**08 13 46.0**	**+1.1**
	baz=218									
SSD					S		**Sn**	**08 14 08.0**	**+2.5**
	baz=218									
SCLT	**Jiali**	**1.73**	**239**		*e*P		**Pn**	**08 13 46.8**	**+1.6**
	baz=240									
SCLT					*e*S		**Sn**	**08 14 08.6**	**+2.6**
	baz=240									
IRIF	**Iriomote-Funau**	**1.77**	**81**		P		**Pn**	**08 13 46.7**	**+0.8**
IRIF					S		**Sn**	**08 14 08.2**	**+1.0**
TAI1	**Yung-k'ang**	**1.77**	**235**		*e*P		**Pn**	**08 13 47.2**	**+1.4**
	baz=235									
TWM1	**Shoushan**	**1.78**	**226**		*e*P		**Pn**	**08 13 48.4**	**+2.4**
	baz=225									
TWM1					*e*S		**Sn**	**08 14 11.5**	**+4.2**
	baz=225									
SGLT	**Jiouru**	**1.80**	**222**		*e*P		**Pn**	**08 13 49.2**	**+2.9**
	baz=222									
HATJ	**Hateruma jima**	**1.83**	**90**		P		**Pn**	**08 13 47.8**	**+1.2**
HATJ					S		**Sn**	**08 14 10.1**	**+1.6**
EAST	**Anshuo**	**1.90**	**208**		*e*P		**Pn**	**08 13 46.8**	**-0.8**
	baz=199									
TAW	**Tawu**	**1.90**	**206**		*e*P		**Pn**	**08 13 47.5**	**-0.1**
	baz=198									
SCZT	**Fangliau**	**2.01**	**213**		*e*P		**Pn**	**08 13 50.6**	**+1.5**
	baz=211									
JKRS	**Kuro-shima**	**2.02**	**85**		P		**Pn**	**08 13 50.6**	**+1.4**
JKRS					*e*S		**Sn**	**08 14 15.1**	**+1.9**
LAY	**Lan-yu**	**2.03**	**187**		*e*P		**Pn**	**08 13 48.4**	**-1.1**
	baz=185									
PNG	**Penghu**	**2.12**	**257**	⇑	P		**Pn**	**08 13 50.3**	**-0.3**
	baz=257									
WDGT	**Dungji**	**2.13**	**248**		*e*P		**Pn**	**08 13 51.1**	**+0.4**
	baz=250									
WDGT					*e*S		**Sn**	**08 14 15.8**	**-0.1**
	baz=250									
JIJ	**Ishigaki jima**	**2.15**	**82**		P		**Pn**	**08 13 51.7**	**+0.7**
JIJ					S		**Sn**	**08 14 16.7**	**+0.2**
TWP	**Hsiaoliuchiu**	**2.17**	**218**		*e*P		**Pn**	**08 13 53.0**	**+1.7**
	baz=218									
HEN	**Hengchun**	**2.28**	**206**		*e*P		**Pn**	**08 13 55.6**	**+2.9**
	baz=199									
TWK1	**Hengchun**	**2.31**	**204**		*e*P		**Pn**	**08 13 53.1**	**-0.1**
	baz=194									
TSEB	**Hengchuen, Pin**	**2.31**	**201**		*e*P		**Pn**	**08 13 53.2**	**0.0**
	baz=197									
TSEB					*e*S		**Sn**	**08 14 22.4**	**+1.9**
	baz=197									
JISG	**Ishigakijimahi**	**2.34**	**77**		P		**Pn**	**08 13 53.2**	**-0.4**
JISG					S		**Sn**	**08 14 21.8**	**+0.6**
JTJ	**Tarama**	**2.70**	**77**		P		**Pn**	**08 13 59.7**	**+1.1**
JTJ					*e*S		**Sn**	**08 14 31.5**	**+1.5**
QZH	**Quanzhou**	**3.06**	**287**	⇓	*i*Pn		**Pn**	**08 14 02.5**	**-0.9**
QZH					Sn		**Sn**	**08 14 35.0**	**-3.8**
QZH					SMN				
	460nm,0.5s								
QZH					SME				
	340nm,0.2s								
KNM	**Kinmen**	**3.10**	**277**	⇑	*i*P		**Pn**	**08 14 05.0**	**+1.0**
	baz=279									
KNM					*e*S		**Sn**	**08 14 39.8**	**0.0**
	baz=279									
JIRB	**Irabujima**	**3.16**	**75**		P		**Pn**	**08 14 05.6**	**+0.7**
JIRB					*e*S		**Sn**	**08 14 42.2**	**+0.9**
JIKM	**Ikemajima**	**3.25**	**74**		P		**Pn**	**08 14 07.3**	**+1.2**
JIKM					*e*S		**Sn**	**08 14 43.9**	**+0.4**
JNTH	**Nagotoyohara**	**6.13**	**65**		P		**Pn**	**08 14 45.6**	**-0.1**
JOW	**Kunigami**	**6.46**	**63**		P		**Pn**	**08 14 49.5**	**-0.7**
GZH	**Guangzhou**	**7.83**	**265**		*e*P		Pn	08 15 04.5	-4.4
GZH					S		Sn	08 16 20.5	-16
GZH					smax		smax		
	comp=N,86nm,0.8s								
GZH					smax		smax		
	comp=E,74nm,1.1s								
KSRS	**Korea Array**	**14.33**	**20**		Pn		**P**	**08 16 42.0**	**-1.9**
	comp=E,0.3nm,0.3s,baz=198,slow=12,SNR=4.2								
CD2	**Chengdu**	**17.39**	**297**		*e*P		**Pn**	**08 17 17.3**	**+0.1**
SONM	**Songino Array**	**26.70**	**337**		P		**P**	**08 18 54.6**	**+1.9**
	comp=E,0.5nm,0.7s,baz=152,slow=9.4,SNR=2.0								
MKAR	**Makanchi Array**	**38.82**	**316**		P		**P**	**08 20 38.3**	**0.0**
	comp=E,0.2nm,0.4s,baz=96,slow=11,SNR=4.4								
H11N1	**WAKE ISLAND Hy**	**41.92**	**87**		T		T	09 06 23.1	
	baz=283,slow=75,SNR=7.0								
H11N2	**WAKE ISLAND Hy**	**41.92**	**87**		T		T	09 06 28.9	
	baz=283,slow=75,SNR=5.6								
H11N3	**WAKE ISLAND Hy**	**41.94**	**87**		T		T	09 06 28.9	
	baz=283,slow=75,SNR=5.6								
H11S3	**WAKE ISLAND Hy**	**42.05**	**89**		T		T	09 06 33.4	
	baz=284,slow=75,SNR=13								
H11S1	**WAKE ISLAND Hy**	**42.06**	**89**		T		T	09 06 31.5	
	baz=284,slow=75,SNR=7.3								
H11S2	**WAKE ISLAND Hy**	**42.07**	**89**		T		T	09 06 35.3	
	baz=284,slow=75,SNR=5.1								
WRA	**Warramunga Arr**	**45.42**	**163**		P		**P**	**08 21 30.4**	**-1.8**
	comp=E,0.8nm,0.5s,baz=345,slow=8.9,SNR=5.1								
ASAR	**Alice Springs**	**48.88**	**165**		P		**P**	**08 21 57.4**	**-1.7**
	comp=E,0.4nm,0.5s,baz=350,slow=8.0,SNR=6.0								

IDC 31 08:15:52.3±8.7, 18°27S×177°26W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/24, mbtmp3.8/3, Error ellipse: s-maj=384.0km s-min=38.7km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.64**	**260**	P	P	08 24 13.9	-1.0
	0.6nm,0.7s,baz=98,slow=7.3,SNR=4.6						
ASAR	**Alice Springs**	**45.74**	**255**	P	P	08 24 16.3	+0.5
	4.2nm,0.5s,baz=89,slow=7.9,SNR=78						
ILAR	**Eielson Array**	**86.00**	**13**	P	P	08 28 34.1	0.0
	0.1nm,0.4s,baz=226,slow=4.7,SNR=4.8						

CASC 31 08:17:30.7±1.0, 13°67N×92°02W, h87km±24km, MD3.7, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.75**	**30**	*e*P	Pn	08 17 47.8	+0.4
FUG	**Fuego 3**	**1.38**	**56**	*e*P	Pn	08 17 55.4	+0.3
RBDL	**Robledal**	**2.31**	**79**	*e*P	Pn	08 18 07.0	-0.2
RBDL				*e*S	Sn	08 18 36.4	+1.3
RTR	**El Retiro**	**2.32**	**84**	*e*P	Pn	08 18 07.8	+0.4
SNJE	**San Jose**	**2.36**	**85**	*e*P	Pn	08 18 07.5	-0.3
MRL	**Marmol**	**2.65**	**58**	*e*P	Pn	08 18 12.8	+1.0
LFU	**La Fuente**	**2.83**	**88**	*e*P	Pn	08 18 13.9	-0.1
SNVI	**San Vicente**	**3.10**	**91**	*e*S	Sn	08 18 55.3	+1.3

CASC 31 08:42:29.6±1.2, 13°78N×90°04W, h121km±4km, MD3.7, ML3.4, 3C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.40**	**74**	*e*P	Pn	08 42 47.6	+0.3
SBLS	**San Blas**	**0.41**	**82**	*e*P	Pn	08 42 47.7	+0.2
SNJE	**San Jose**	**0.43**	**79**	*e*P	Pn	08 42 47.5	-0.1
RBDL	**Robledal**	**0.48**	**47**	*e*P	Pn	08 42 47.7	-0.1
BOQS	**Boqueron**	**0.74**	**94**	*e*P	Pn	08 42 50.0	+0.3
SNET	**Serv Nac Est T**	**0.80**	**97**	*e*P	Pn	08 42 50.0	+0.1
SNET				AML	AML	08 42 50.4	
	comp=Z,732nm,0.2s						
SNET				*e*S	Sn	08 43 06.0	+0.8
NBG	**Las Nubes**	**0.85**	**340**	⇓ *e*P	Pn	08 42 51.7	+1.0
MTO2	**Montecristo 2**	**0.90**	**47**	*e*P	Pn	08 42 50.8	-0.2
LFU	**La Fuente**	**0.91**	**92**	*e*P	Pn	08 42 51.2	+0.3
LFRS	**El Faro**	**0.97**	**99**	*e*P	Pn	08 42 51.5	0.0
LFRS				*e*S	Sn	08 43 09.6	+1.4
LBRS	**Las Brisas**	**0.97**	**93**	*e*P	Pn	08 42 51.9	+0.4
FUG	**Fuego 3**	**1.02**	**311**	⇑ *e*P	Pn	08 42 52.7	+0.6
SNVI	**San Vicente**	**1.18**	**98**	*e*P	Pn	08 42 53.1	-0.6
SNVI				*e*S	Sn	08 43 13.0	+0.9
MRL	**Marmol**	**1.32**	**15**	*e*P	Pn	08 42 55.5	+0.2
MRL				⇑ *e*P	Pn	08 42 56.3	+1.0
JAT	**Jato**	**1.63**	**289**	⇑ *e*P	Pn	08 42 59.7	+1.1
VSM	**San Miguel**	**1.76**	**101**	*e*P	Pn	08 43 00.9	+0.4
CAHU	**Cacacuatique**	**1.78**	**90**	*e*P	Pn	08 43 01.0	+0.3
CNCH	**Conchagua**	**2.21**	**103**	*e*P	Pn	08 43 06.5	+0.6
TGUH	**Tegucigalpa,Un**	**2.70**	**84**	*e*P	Pn	08 43 12.3	+0.3
COPN	**Copaltepe**	**3.72**	**115**	*e*P	Pn	08 43 26.5	+1.0

*BUG **31** 08:49:03.7, 51°.44N×6°.60E, h1km, ML1.7*
*BNS **31** 08:49:04.5±1.2, 51°.52N×6°.59E, h1km, ML1.7*
*LDG **31** 08:49:04.5±0.1, 51°.52N×6°.57E, h1km, Ml2.5/10, Error ellipse: s-maj=2.3km s-min=1.9km az=26.0, Suspected Mining induced.*
*BGR **31** 08:49:05.2±0.5, 51°.50N×6°.66E, h1km, ML2.1/6, Error ellipse: s-maj=6.7km s-min=3.3km az=111.0*

CSEM 31 08:49:03.9±0.3, 51°.49N×6°.58E, h1km, ML2.4/9, Error ellipse: s-maj=7.0km s-min=4.6km az=119.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRHE	**Rheinberg**	**0.03**	**346**	Pg	Pg	08 49 04.7	+0.3
BRHE				Sg	Sg	08 49 06.0	+1.2
BRHE	**Rheinberg**	**0.03**	**346**	Pg	Pg	08 49 04.7	+0.3
BRHE				Sg	Sg	08 49 06.0	+1.2
LAUG	**Laupendahl**	**0.27**	**121**	*e*Pg	Pg	08 49 09.6	+0.6
LAUG	**Laupendahl**	**0.27**	**121**	Pg	Pg	08 49 09.6	+0.6
BUG	**Bochum--Univer**	**0.43**	**96**	*e*Pg	Pg	08 49 12.6	+0.4
BUG				Sg	Sg	08 49 19.0	+1.2
WTSB	**Winterswijk**	**0.50**	**16**	*e*Pg	Pg	08 49 12.8	-0.6
	15nm,0.3s,baz=208						
WTSB				*e*Sg	Sg	08 49 20.1	+0.3
WTSB	**Winterswijk**	**0.50**	**16**	*e*Pg	Pg	08 49 12.8	-0.6
	15nm,0.3s						
WTSB				Sg	Sg	08 49 20.1	+0.3
HOBG	**Hohbusch**	**0.69**	**137**	*e*Pg	Pb	08 49 18.4	-0.4
HOBG	**Hohbusch**	**0.69**	**137**	Pg	Pb	08 49 18.4	-0.4
HGN	**Heimansgroeve**	**0.83**	**210**	*e*Pg	Pg	08 49 20.5	+0.6
	22nm,0.2s						
HGN				Sg	Sb	08 49 33.0	+0.1
HGN	**Heimansgroeve**	**0.83**	**210**	*e*Pg	Pg	08 49 20.5	+0.6
	22nm,0.2s						
HGN				*e*Sg	Sn	08 49 34.7	-1.0
DREG	**Dreilaegerbach**	**0.86**	**195**	*e*Pg	Pg	08 49 20.9	+0.6
DREG	**Dreilaegerbach**	**0.86**	**195**	Pg	Pg	08 49 20.9	+0.5
KLL	**Kalltalsperre**	**0.86**	**192**	*e*Pg	Pb	08 49 21.8	+0.1
KLL	**Kalltalsperre**	**0.86**	**192**	Pg	Pb	08 49 21.8	+0.1
STB	**Steinbach**	**0.91**	**170**	*e*Pg	Pb	08 49 22.9	+0.4
STB				*e*Sg	Sb	08 49 35.3	+0.2
	35nm,1.2s						
STB	**Steinbach**	**0.91**	**170**	Pg	Pb	08 49 22.9	+0.4
STB				Sg	Sb	08 49 35.3	+0.2
	35nm,1.2s						
IBBN	**Ibbenburen**	**1.10**	**41**	*e*Sg	Sg	08 49 39.4	+0.3
IBBN	**Ibbenburen**	**1.10**	**41**	Sg	Sg	08 49 39.4	+0.3
TNS	**Taunus Mts**	**1.73**	**136**	*e*Pg	Pg	08 49 37.3	+0.1
TNS				*e*Sg	Sb	08 49 59.0	0.0
TNS	**Taunus Mts**	**1.73**	**136**	Pg	Pg	08 49 37.3	0.0
TNS				Sg	Sb	08 49 59.0	0.0
GIVF	**Givet**	**1.78**	**219**	*e*P	Pb	08 49 36.9	-0.5
GIVF				*e*Sg	Sg	08 50 01.4	+0.2
	13nm,0.3s						
GIVF	**Givet**	**1.78**	**219**	*e*P	Pb	08 49 36.9	-0.5
GIVF				*e*Sg	Sg	08 50 01.4	+0.2
	6.3nm,0.3s						
WLF	**Walferdange**	**1.85**	**189**	*e*Sg	Sg	08 50 02.8	-0.5
WLF	**Walferdange**	**1.85**	**189**	Sg	Sg	08 50 02.8	-0.5
BAIF	**Baives**	**2.08**	**227**	*e*Pn	Pn	08 49 38.8	-1.1
BAIF	**Baives**	**2.08**	**227**	*e*P	Pb	08 49 41.5	-0.9
BAIF				*e*Sn	Sn	08 50 04.3	-2.1
	6.7nm,0.3s						
BAIF	**Baives**	**2.08**	**227**	*e*Pn	Pn	08 49 38.8	-1.1
BAIF	**Baives**	**2.08**	**227**	*e*P	Pb	08 49 41.5	-0.9
BAIF				*e*Sn	Sn	08 50 04.3	-2.1
	3.3nm,0.3s						
CLZ	**Clausthal**	**2.39**	**80**	*e*Pg	Pg	08 49 49.0	-0.7
CLZ				*e*Sg	Sb	08 50 18.6	+0.9
CLZ	**Clausthal**	**2.39**	**80**	Pg	Pg	08 49 49.0	-0.7
CLZ				Sg	Sb	08 50 18.6	+0.9
PAGF	**Fort de Pagny**	**2.99**	**191**	*e*Pn	Pn	08 49 51.5	-0.9
PAGF				*e*Sg	Sg	08 50 39.2	-0.8
	1.7nm,0.5s						
PAGF	**Fort de Pagny**	**2.99**	**191**	*e*Pn	Pn	08 49 51.5	-0.9
PAGF				*e*Sg	Sg	08 50 39.2	-0.8
	0.9nm,0.5s						
CDF	**Champ du Feu**	**3.11**	**171**	*e*Pn	Pn	08 49 53.5	-0.8
CDF	**Champ du Feu**	**3.11**	**171**	*e*Pg	Pg	08 50 02.6	-1.1
CDF				*e*Sg	Sg	08 50 43.2	-1.0
	5.2nm,0.5s						
CDF	**Champ du Feu**	**3.11**	**171**	*e*Pn	Pn	08 49 53.5	-0.8
CDF	**Champ du Feu**	**3.11**	**171**	*e*Pg	Pg	08 50 02.6	-1.1
CDF				*e*Sg	Sg	08 50 43.2	-1.0
	2.6nm,0.5s						
HAU	**Haudompre**	**3.49**	**183**	*e*Pg	Pg	08 50 09.4	-1.5
HAU				*e*Sg	Sg	08 50 54.8	-1.4
	2.5nm,0.3s						
HAU	**Haudompre**	**3.49**	**183**	*e*Pg	Pg	08 50 09.4	-1.5
HAU				*e*Sg	Sg	08 50 54.8	-1.4
	1.2nm,0.3s						
HINF	**Hinteralfeld**	**3.68**	**177**	*e*P	Pn	08 50 04.3	+2.3
HINF				*e*Sg	Sg	08 51 00.7	-1.6
	1.5nm,0.4s						
HINF	**Hinteralfeld**	**3.68**	**177**	*e*P	Pn	08 50 04.3	+2.3
HINF				*e*Sg	Sg	08 51 00.7	-1.6
	0.8nm,0.4s						
LOR	**Lormes**	**4.58**	**204**	*e*Pn	Pn	08 50 13.1	-1.3
LOR				*e*Sg	Sg	08 51 28.9	-2.3
	2.2nm,0.4s						
LOR	**Lormes**	**4.58**	**204**	*e*Pn	Pn	08 50 13.1	-1.3
LOR				*e*Sg	Sg	08 51 28.9	-2.3
	1.1nm,0.4s						
SSF	**Saint Saulge**	**4.87**	**206**	*e*Pn	Pn	08 50 17.2	-1.0
SSF				*e*Sg	Sg	08 51 37.8	-2.5
	1.8nm,0.4s						
SSF	**Saint Saulge**	**4.87**	**206**	*e*Pn	Pn	08 50 17.2	-1.0
SSF				*e*Sg	Sg	08 51 37.8	-2.5
	0.9nm,0.4s						

*IDC **31** 08:50:25.6±2.7, 15°.12S×173°.80W, h0km, mb3.8/5, mb1 4.2/5, mb1mx3.8/42, mbtmp3.8/5, MS3.6/7, Ms1 3.6/7, ms1mx3.3/22, Error ellipse: s-maj=155.6km s-min=24.6km az=148.0*

ISC 31 08:50:27.2±2.9, 15°.1S±0°.9×173°.9W±0°.6, h10km, n26, σ0°.74/6, mb3.8/5, MS3.5/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.32**	**60**	Pn	Pn	08 50 56.0	-10
	27nm,0.3s,baz=198,slow=3.9,SNR=30						
AFI				Sn	Sn	08 51 17.9	-16
	98nm,0.3s,baz=37,slow=20,SNR=11						
RAR	**Rarotonga**	**14.70**	**117**	LR	LR	08 58 59.5	
	comp=Z,252nm,18.1s,baz=276,slow=35						
PAE	**Paea**	**23.42**	**100**	*e*T	T	09 19 19.8	
	1.7nm,0.2s						
PPT	**Papeete**	**23.42**	**99**	LR	LR	09 03 17.4	
	comp=Z,72nm,18.6s,baz=285,slow=33						
PPT2	**Papeete2**	**23.42**	**99**	*e*LQ	LQ	09 00 02.6	
	594nm,29.0s						
PPT2				*e*LR	LR	09 00 59.9	
	167nm,27.5

URZ	**Urewera**	**39.03 147**	P	**P**	**08 59 30.7**	**0.0**
	2.8nm,0.6s,baz=268,slow=5.7,SNR=6.5					
SONM	**Songino Array**	**67.30 329**	P	**P**	**09 02 58.4**	**-0.2**
	0.5nm,0.5s,baz=157,slow=5.6,SNR=3.9					
MKAR	**Makanchi Array**	**80.85 320**	P	**P**	**09 04 17.1**	**-0.5**
	0.2nm,0.5s,baz=98,slow=6.0,SNR=3.2					
ILAR	**Eielson Array**	**84.94 22**	P	**P**	**09 04 38.8**	**+0.4**
	1.0nm,0.6s,baz=252,slow=5.1,SNR=18					
TORD	**Torodi Ar. Bea**	**149.18 284**	PKPbc	**PKPbc**	**09 11 53.6**	**+0.6**
	1.1nm,0.7s,baz=62,slow=1.8,SNR=6.9					

NIED ***31*** *09:20:00.34±0.10N×140°.50E.h53km.Mw3.9 Best double couple: M0 9.16000×10^14 NP1:φ1=201.00000°, δ42.00000°, λ155.00000°. NP2:φ2=310.00000°, δ73.00000°, λ51.00000°.*

NEIC ***31*** *09:20:44.4±0.9.34°.09N×140°.88E.h54km±7km.mb4.8/1, MW3.9(NIED),Error ellipse: s-maj=12.8km s-min=7.2km az=79.0*

ISCJB ***31*** *09:20:45.2±0.5.34°.08N±0°.03×140°.54E±0°.05.h71km±3km, mb4.1/14,Error ellipse: s-maj=7.0km s-min=5.2km az=178.4*

IDC ***31*** *09:20:45.1±1.9.34°.07N×140°.73E.h58km±15km.mb3.9/12, mb1 4.0/16,mb1mx3.7/40,mbtmp4.2/16,MS3.5/4, Ms1 3.5/4,ms1mx2.8/44,Error ellipse: s-maj=22.1km s-min=8.0km az=78.0*

JMA ***31*** *09:20:45.9±0.1.34°.11N×140°.52E.h64km±3km.M4.2*

ISC 31 09:20:46.2±0.8,34°.06N±0°.03×140°.55E±0°.05,h64km±8km, n47,σ1ᵍ50/51,mb4.1/14,5C,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.69**	**31**	⇑P	**Pn**		**09 20 59.7**	**-0.3**
BSO1				S	**Sn**		**09 21 11.0**	**+0.8**
BSO2	**Boso 2**	**0.71**	**14**	S	**Sn**		**09 21 12.2**	**+1.2**
BSO3	**Boso 3**	**0.74**	**357**	⇑P	**Pn**		**09 21 00.5**	**-0.4**
BSO4	**Boso 4**	**0.94**	**349**	⇑P	**Pn**		**09 21 03.3**	**-0.3**
JNIO	**Niijimaoohara**	**1.10**	**286**	P	**Pn**		**09 21 05.4**	**-0.2**
JNIO				S	**Sn**		**09 21 19.1**	**-1.0**
TATJ	**Tateyama 2**	**1.11**	**331**	⇑P	**Pn**		**09 21 05.6**	**-0.2**
JHJ2	**Mitsune**	**1.13**	**213**	P	**Pn**		**09 21 06.4**	**+0.4**
JHJ2				S	**Sn**		**09 21 21.5**	**+0.7**
JHJ2	**Mitsune**	**1.13**	**213**	*e*Pn	**Pn**		**09 21 06.4**	**+0.4**
JHJ2				*e*Sn	**Sn**		**09 21 21.5**	**+0.7**
JHJ	**Hachijo jima 2**	**1.14**	**215**	P	**Pn**		**09 21 06.8**	**+0.6**
	372nm,0.3s,baz=312,slow=16,SNR=157							
JHJ				S	**Sn**		**09 21 21.9**	**+0.9**
	3μm,0.3s,baz=270,slow=20,SNR=216							
JIM2	**Oshima 3**	**1.14**	**306**	P	**Pn**		**09 21 05.2**	**-1.0**
JIM2				S	**Sn**		**09 21 19.3**	**-1.8**
JKO	**Kozu shima**	**1.18**	**277**	P	**Pn**		**09 21 06.4**	**-0.3**
KTJJ	**Kamata 2**	**1.50**	**306**	⇑P	**Pn**		**09 21 10.3**	**-0.7**
KTJJ				S	**Sn**		**09 21 27.3**	**-2.4**
JIZS	**Izushimoda**	**1.53**	**296**	P	**Pn**		**09 21 11.2**	**-0.2**
JIZS				S	**Sn**		**09 21 29.3**	**-1.1**
JOD2	**Odawara 2**	**1.70**	**315**	P	**Pn**		**09 21 12.9**	**-0.8**
JOD2				S	**Sn**		**09 21 32.8**	**-1.7**
MJAR	**Matsushiro Arr**	**3.13**	**323**	P	**Pn**		**09 21 34.0**	**+0.9**
	38nm,0.3s,baz=156,slow=12,SNR=350							
MJAR				S	**Sn**		**09 22 08.8**	**-0.6**
	32nm,0.3s,baz=180,slow=34,SNR=9.1							
MAJO	**Matsushiro**	**3.13**	**323**	*e*Pn	**Pn**		**09 21 34.0**	**+0.9**
MAJO				*e*Sn	**Sn**		**09 22 09.7**	**+0.3**
MAT	**Matsushiro**	**3.13**	**323**	P	**Pn**		**09 21 34.1**	**+0.9**
MAT				S	**Sn**		**09 22 09.9**	**+0.5**
CBIJ	**Chichi jima**	**7.08**	**168**	P	**Pn**		**09 22 25.1**	**-2.2**
CBIJ				S	**Sn**		**09 23 41.1**	**-5.1**
CBIJ				*e*Sn	Sn		09 23 42.4	-3.9
JCJ	**Chichijima**	**7.08**	**168**	P	**Pn**		**09 22 25.1**	**-2.2**
	25nm,0.3s,baz=300,slow=15,SNR=21							
JCJ				S	**Sn**		**09 23 41.1**	**-5.1**
	5.4nm,0.3s,baz=162,slow=20,SNR=2.0							
JNU	**Nakatsue**	**8.12**	**266**	P	**Pn**		**09 22 43.3**	**+1.8**
	0.9nm,0.3s,baz=28,slow=4.6,SNR=9.2							
ASAJ	**Asahikawa**	**10.17**	**8**	P	Pn		09 23 04.8	-4.4
	1.1nm,0.3s,baz=210,slow=12,SNR=8.7							
KSRS	**Korea Array**	**10.81**	**292**	P	**Pn**		**09 23 20.8**	**+2.8**
	0.1nm,0.3s,baz=109,slow=15,SNR=9.5							
KSAR	**Wonju Array Be**	**10.83**	**292**	P	**Pn**		**09 23 20.8**	**+2.4**
H11N2	**WAKE ISLAND Hy 27.39**	**115**		T	T		09 55 24.9	
	baz=306,slow=75,SNR=60							
H11N1	**WAKE ISLAND Hy 27.39**	**115**		T	T		09 55 26.0	
	baz=306,slow=75,SNR=53							
H11N3	**WAKE ISLAND Hy 27.41**	**115**		T	T		09 55 30.0	
	baz=306,slow=75,SNR=39							
H11S3	**WAKE ISLAND Hy 27.98**	**117**		T	T		09 57 08.4	
	baz=311,slow=75,SNR=6.8							
H11S1	**WAKE ISLAND Hy 27.99**	**117**		T	T		09 56 56.5	
	baz=311,slow=75,SNR=6.7							
H11S2	**WAKE ISLAND Hy 28.00**	**117**		T	T		09 57 05.2	
	baz=311,slow=75,SNR=4.5							
SONM	**Songino Array**	**28.98**	**309**	P	**P**		**09 26 39.3**	**-0.5**
	0.8nm,0.6s,baz=114,slow=8.4,SNR=6.2							
SONM				LR	LR		09 39 00.3	
	comp=Z,79nm,20.5s,baz=76,slow=38							
ZALV	**Zalesovo Beam**	**43.45**	**315**	P	**P**		**09 28 42.7**	**+0.1**
	0.9nm,0.4s,baz=96,slow=7.1,SNR=3.1							
MKAR	**Makanchi Array**	**45.16**	**305**	P	**P**		**09 28 56.3**	**-0.2**
	1.4nm,0.6s,baz=92,slow=8.6,SNR=3.6							
KURK	**Kurchatov**	**47.26**	**310**	P	**P**		**09 29 13.4**	**+0.6**
KURBB	**Kurchatov Arra**	**47.33**	**310**	P	**P**		**09 29 13.5**	**+0.1**
	1.0nm,0.3s,baz=82,slow=7.7,SNR=2.9							
BVAR	**Borovoye Array**	**52.09**	**314**	P	**P**		**09 29 50.0**	**+0.5**
	0.6nm,0.3s,baz=101,slow=9.5,SNR=2.7							
ILAR	**Eielson Array**	**52.39**	**31**	P	**P**		**09 29 51.5**	**0.0**
	0.2nm,0.8s,baz=262,slow=4.5,SNR=2.7							
WRAB	**Tennant Creek**	**54.02**	**187**	*e*P	**P**		**09 30 03.8**	**-0.2**
	4.5nm,0.5s							
WRA	**Warramunga Ar**	**54.03**	**187**	P	**P**		**09 30 03.7**	**-0.3**
	6.5nm,0.5s,baz=4.9,slow=7.7,SNR=97							
ASAR	**Alice Springs**	**57.75**	**187**	P	**P**		**09 30 30.4**	**-0.3**
	0.5nm,0.5s,baz=2.7,slow=5.9,SNR=10							
ARU	**Arti**	**58.14**	**320**	P	**P**		**09 30 33.4**	**+0.3**
	2.8nm,0.4s,baz=351,slow=19,SNR=4.4							
AKTO	**Aktyubinsk**	**60.16**	**313**	P	**P**		**09 30 47.1**	**0.0**
	1.1nm,0.5s,baz=98,slow=14,SNR=4.7							
GEYT	**Alibeck**	**64.68**	**300**	P	**P**		**09 31 17.6**	**0.0**
	1.3nm,0.3s,baz=330,slow=8.5,SNR=3.0							
FINES	**FINESS Array B**	**71.12**	**332**	P	**P**		**09 31 57.9**	**+0.4**
	2.7nm,0.9s,baz=90,slow=6.9,SNR=5.7							
KBZ	**Khabaz**	**72.31**	**311**	P	**P**		**09 32 05.7**	**+0.7**
	0.6nm,0.3s,baz=354,slow=5.9,SNR=3.0							
BRTR	**Keskin Array B**	**80.29**	**312**	LR	LR		10 13 27.0	
	comp=Z,19nm,19.3s,baz=100,slow=39							
GERES	**GERESS Array B**	**84.86**	**328**	LR	LR		10 13 54.6	
	comp=Z,28nm,19.1s,baz=17,slow=38							
DAVOX	**Davos/Dischmat**	**88.10**	**329**	LR	LR		10 16 33.8	
	comp=Z,24nm,18.7s,baz=82,slow=38							

IDC ***31*** *09:23:05.5±2.4,53°.53N×87°.84E,h0km,mb1 4.1/3, mb1mx3.4/31,mbtmp4.1/3,ML3.9/3,Error ellipse: s-maj=21.5km s-min=12.8km az=60.0*

NNC ***31*** *09:23:11.6±3.7,53°.54N×87°.39E,h21km±23km,mb4.3, mpv4.1,Error ellipse: s-maj=27.2km s-min=16.1km az=65.0*

ISC 31 09:23:09.7±3.7,53.7N±0°.1×87.7E±0°.2,h35km,n11, σ1ᵍ20/15,4C-7D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.72**	**281**	*i*			09 34 58.0	
	baz=99,slow=313,SNR=120							
ZALV	**Zalesovo Beam**	**1.72**	**281**	Pg	**Pn**		**09 23 37.4**	**+0.2**
	25nm,0.3s,baz=106,slow=16,SNR=176							
ZALV				Lg	Lg		09 24 04.7	
	36nm,0.3s,baz=103,slow=26,SNR=16							
KURBB	**Kurchatov Arra**	**6.39**	**245**	⇓Pn	**Pn**		**09 24 41.7**	**+0.4**
	18nm,0.4s							
KURBB				⇓Sn	**Sn**		**09 25 54.0**	**+1.0**
	33nm,0.6s							
KURBB				⇓Lg	Lg		09 26 28.6	
	36nm,0.6s							
KURBB	**Kurchatov Arra**	**6.39**	**245**	Pn	**Pn**		**09 24 41.9**	**+0.6**
	1.6nm,0.3s,baz=62,slow=14,SNR=41							
KURBB				Sn	**Sn**		**09 25 54.4**	**+1.5**
	0.5nm,0.3s,baz=64,slow=29,SNR=4.3							
KURBB				Lg	Lg		09 26 30.2	
	0.5nm,0.3s,baz=67,slow=30,SNR=9.0							
MK31	**Makanchi Array**	**7.68**	**209**	⇓Pn	**Pn**		**09 24 58.8**	**-0.2**
	2.3nm,0.6s,baz=28,slow=13,SNR=92							
MK31				⇑S	**Sn**		**09 26 24.9**	**+0.2**
	2.6nm,0.6s,baz=289,slow=19,SNR=5.6							
MK31				⇓Lg	Lg		09 27 06.8	
	4.4nm,0.6s,baz=30,slow=33,SNR=4.2							
MKAR	**Makanchi Array**	**7.68**	**209**	Pn	**Pn**		**09 24 59.0**	**0.0**
	1.8nm,0.3s,baz=27,slow=13,SNR=86							
MKAR				Sn	**Sn**		**09 26 24.1**	**-0.6**
	0.9nm,0.3s,baz=29,slow=24,SNR=6.5							
MKAR				Lg	Lg		09 27 07.3	
	1.0nm,0.3s,baz=26,slow=30,SNR=6.3							
BVA0	**Borovoye Array**	**10.36**	**274**	⇓Pn	**Pn**		**09 25 37.2**	**+1.5**
	1.9nm,0.4s,baz=224,slow=41,SNR=14							
BVA0				⇑Sn	**Sn**		**09 27 29.2**	**-1.3**
	2.4nm,0.4s,baz=80,slow=23,SNR=6.5							
BVAR	**Borovoye Array**	**10.36**	**274**	Pn	**Pn**		**09 25 35.6**	**0.0**
	1.9nm,0.3s,baz=74,slow=15,SNR=17							
BVAR				Sn	**Sn**		**09 27 29.0**	**-1.4**
	1.0nm,0.3s,baz=83,slow=23,SNR=5.4							
BRVK	**Borovoye**	**10.42**	**274**	⇑Pn	**Pn**		**09 25 38.7**	**+2.3**
	1.9nm,0.4s							
BRVK				⇑Sn	**Sn**		**09 27 30.3**	**-1.5**
SONM	**Songino Array**	**13.19**	**109**	Lg	Lg		09 29 55.9	
	0.1nm,0.3s,baz=298,slow=24,SNR=4.0							
MNAS	**Manas**	**15.05**	**228**	⇓S	Sn		09 29 10.5	-15
	1.6nm,0.6s							

IDC 31 10:16:02.5±1.9,6.27S×150.74E,h0km,mb3.3/3, mb1 3.7/4,mb1mx3.4/32,mbtmp3.5/4,ML0.9/1,MS3.9/1, Ms1 3.9/1,ms1mx2.6/14,Error ellipse: s-maj=118.6km s-min=23.6km az=129.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.73**	**228**	Pn	Pn		10 17 16.6	+1.6
	0.3nm,0.3s,baz=182,slow=14,SNR=2.2							
PMG				Sn	Sn		10 18 11.5	+0.9
	1.4nm,0.3s,baz=270,slow=20,SNR=2.8							
WRA	**Warramunga Arr**	**20.95**	**228**	P	P		10 20 46.3	-0.9
	0.5nm,0.5s,baz=53,slow=10,SNR=6.5							
ASAR	**Alice Springs**	**23.70**	**221**	P	P		10 21 15.5	-0.7
	0.7nm,0.7s,baz=56,slow=9.1,SNR=9.6							
PSI	**Prapat**	**52.52**	**278**	LR	LR		10 50 41.5	
	comp=Z,113nm,18.1s,baz=106,slow=40							
ILAR	**Eielson Array**	**84.28**	**22**	P	P		10 28 35.8	-0.1
	0.3nm,0.6s,baz=240,slow=5.0,SNR=7.3							
TORD	**Torodi Ar. Bea**	**148.76**	**285**	PKPbc	PKPbc		10 35 53.0	0.0
	0.3nm,0.7s,baz=123,slow=5.3,SNR=3.7							

IDC ***31*** *10:17:01.2±1.0,0°.93S×15°.96W,h0km,mb4.1/15, mb1 4.2/16,mb1mx4.1/29,mbtmp4.1/16,ML3.7/1,MS3.6/15, Ms1 3.7/15,ms1mx3.4/36,Error ellipse: s-maj=29.9km s-min=19.9km az=80.0*

ISCJB ***31*** *10:17:03.0±0.6,0°.87S±0°.08×15°.8W±0°.1,h20km,mb4.1/16, MS3.6/14,Error ellipse: s-maj=18.5km s-min=11.3km az=9.0*

ISC 31 10:17:04.7±0.7,0.9S±0°.1×15.9W±0°.2,h20km,n36, σ0ᵍ88/21,mb4.1/16,MS3.6/14,North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**7.03**	**169**	T	T		10 26 02.9	
	baz=348,slow=74,SNR=325							
H10N3	**ASCENSION HYDR**	**7.04**	**169**	T	T		10 25 59.9	
	baz=348,slow=74,SNR=328							
H10N1	**ASCENSION HYDR**	**7.05**	**169**	T	T		10 26 00.7	
	baz=348,slow=74,SNR=409							
H10S1	**ASCENSION HYDR**	**8.09**	**171**	T	T		10 27 24.6	
	baz=350,slow=74,SNR=206							
H10S3	**ASCENSION HYDR**	**8.10**	**171**	T	T		10 27 16.9	
	baz=350,slow=74,SNR=214							
H10S2	**ASCENSION HYDR**	**8.11**	**171**	T	T		10 27 16.7	
	baz=350,slow=74,SNR=180							
DBIC	**Dimbokro**	**13.31**	**56**	Pn	**Pn**		**10 20 11.9**	**-0.9**
	0.4nm,0.3s,baz=233,slow=14,SNR=4.0							
DBIC				LR	LR		10 24 23.4	
	comp=Z,442nm,20.4s,baz=229,slow=33							
RCBR	**Riachuelo**	**20.58**	**256**	LR	LR		10 27 54.9	
	comp=Z,222nm,18.2s,baz=76,slow=32							
TORD	**Torodi Ar. Bea**	**22.32**	**51**	P	**P**		**10 22 01.3**	**0.0**
	2.6nm,0.6s,baz=236,slow=8.2,SNR=14							
TORD				LR	LR		10 29 55.7	
	comp=Z,202nm,18.2s,baz=215,slow=35							
BDFB	**Brasilia**	**34.93**	**244**	LR	LR		10 36 11.1	
	comp=Z,81nm,22.0s,baz=46,slow=33							
MDT	**Midelt**	**35.17**	**17**	P	**P**		**10 23 58.6**	**+1.1**
	1.2nm,0.6s,baz=199,slow=6.7,SNR=4.0							
MDT				LR	LR		10 37 50.5	
	comp=Z,148nm,18.6s,baz=188,slow=36							
ESDC	**Sonseca Array**	**41.82**	**14**	P	**P**		**10 24 54.1**	**+0.9**
	0.1nm,0.3s,baz=198,slow=8.1,SNR=3.8							
ESDC				LR	LR		10 42 51.7	
	comp=Z,51nm,18.9s,baz=145,slow=37							
KEST	**Kesra**	**43.36**	**30**	LR	LR		10 44 20.9	
	comp=Z,70nm,18.4s,baz=187,slow=38							
LBTB	**Lobatse**	**46.67**	**124**	P	**P**		**10 25 32.2**	**-0.2**
	2.9nm,0.7s,baz=302,slow=9.7,SNR=4.8							
LBTB				LR	LR		10 42 08.5	
	comp=Z,95nm,18.6s,baz=278,slow=32							
SIV	**San Ignacio**	**47.01**	**249**	LR	LR		10 44 07.4	
	comp=Z,165nm,19.2s,baz=98,slow=35							
CPUP	**Villa Florida**	**47.27**	**234**	LR	LR		10 43 37.7	
	comp=Z,117nm,19.3s,baz=71,slow=34							
BOSA	**Boshof**	**47.97**	**129**	P	**P**		**10 25 42.4**	**-0.1**
	8.0nm,0.9s,baz=286,slow=7.5,SNR=8.3							
DAVOX	**Davos/Dischmat**	**52.58**	**22**	P	**P**		**10 26 15.9**	**-1.3**
	3.9nm,0.8s,baz=225,slow=2.9,SNR=5.5							
LPAZ	**La Paz**	**53.70**	**250**	LR	LR		10 48 17.6	
	comp=Z,155nm,19.3s,baz=122,slow=35							
GERES	**GERESS Array B**	**55.74**	**23**	P	**P**		**10 26 38.8**	**-1.4**
	1.1nm,0.6s,baz=207,slow=6.4,SNR=9.3							
GERES				LR	LR		10 52 52.2	
	comp=Z,40nm,18.3s,baz=209,slow=38							
KHC	**Kasperske Hory**	**55.92**	**23**	*e*P	P		10 26 48.5	+7.1
EKA	**Eskdalemuir Ar**	**57.00**	**9**	P	**P**		**10 26 49.0**	**+0.2**
	4.9nm,0.9s,baz=185,slow=7.0,SNR=8.1							
BRG	**Berggiesshubel**	**57.47**	**22**	*e*P	**P**		**10 26 52.7**	**+0.4**
	3.2nm,0.9s							
BRTR	**Keskin Array B**	**60.60**	**42**	P	**P**		**10 27 15.9**	**+1.5**
	1.4nm,0.8s,baz=224,slow=5.2,SNR=6.9							
BRTR				LR	LR		10 56 22.5	
	comp=Z,25nm,18.0s,baz=245,slow=39							
NOA	**NORSAR Array B**	**65.18**	**14**	P	**P**		**10 27 44.9**	**+0.6**
	2.0nm,1.0s,baz=207,slow=6.5,SNR=2.8							
NOA				LR	LR		10 56 57.5	
	comp=Z,21nm,20.1s,baz=205,slow=37							
VNA1	**Neumayer--Stat**	**69.83**	**177**	P	**P**		**10 28 14.8**	**+1.4**
FINES	**FINESS Array B**	**69.89**	**20**	P	**P**		**10 28 14.4**	**+0.4**
	4.6nm,1.0s,baz=219,slow=6.4,SNR=5.7							
VNA2	**Neumayer--Watz**	**70.14**	**177**	P	**P**		**10 28 15.4**	**-0.1**
	baz=353,slow=6.6							
SNAA	**Sanae**	**71.17**	**176**	P	**P**		**10 28 20.9**	**-0.8**
AKTO	**Aktyubinsk**	**80.47**	**39**	LR	LR		11 09 16.8	
	comp=Z,7.3nm,19.1s,slow=39							
MAW	**Mawson**	**84.89**	**158**	P	**P**		**10 29 38.5**	**+0.6**
	0.4nm,0.3s,baz=291,slow=9.9,SNR=3.7							
TXAR	**Lajitas Array**	**88.50**	**299**	P	**P**		**10 29 55.8**	**-0.7**
	1.0nm,1.1s,baz=122,slow=6.4,SNR=4.7							
PDAR	**Pinedale Array**	**93.31**	**313**	P	**P**		**10 30 18.2**	**-0.6**
	0.3nm,0.9s,baz=111,slow=4.9,SNR=2.5							
MKAR	**Makanchi Array**	**96.24**	**43**	P	**P**		**10 30 31.1**	**-0.8**
	0.3nm,0.7s,baz=274,slow=3.9,SNR=3.2							
ASAR	**Alice Springs**	**141.81**	**132**	PKhKP	PKPpre		10 36 30.2	
	0.6nm,0.7s,baz=210,slow=2.6,SNR=9.4							
WRA	**Warramunga Arr**	**144.21**	**127**	PKP	**PKPab**		**10 36 37.8**	**-0.2**
	0.7nm,0.6s,baz=238,slow=2.6,SNR=13							

IDC ***31*** *10:33:39.4±0.8,0°.91S×16°.02W,h0km,mb3.9/13, mb1 4.1/14,mb1mx3.9/33,mbtmp3.9/14,ML3.4/1,MS3.6/5, Ms1 3.6/5,ms1mx3.0/51,Error ellipse: s-maj=24.8km s-min=18.4km az=143.0*

ISCJB ***31*** *10:33:41.1±0.6,0°.9S±0°.1×15°.9W±0°.1,h20km,mb3.9/13, MS3.5/4,Error ellipse: s-maj=18.3km s-min=12.7km az=136.3*

ISC 31 10:33:42.9±0.7,0.9S±0°.1×16.0W±0°.1,h20km,n25, σ0ᵍ85/16,mb4.0/13,MS3.5/4,North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**7.09**	**168**	T	T		10 42 48.0	
	baz=348,slow=74,SNR=254							
H10N3	**ASCENSION HYDR**	**7.10**	**168**	T	T		10 42 41.4	
	baz=348,slow=74,SNR=223							
H10N1	**ASCENSION HYDR**	**7.11**	**168**	T	T		10 42 43.5	
	baz=348,slow=74,SNR=442							
H10S1	**ASCENSION HYDR**	**8.15**	**171**	T	T		10 44 04.5	
	baz=350,slow=74,SNR=182							
H10S3	**ASCENSION HYDR**	**8.16**	**171**	T	T		10 44 04.2	
	baz=350,slow=74,SNR=174							
H10S2	**ASCENSION HYDR**	**8.16**	**171**	T	T		10 44 05.8	
	baz=350,slow=74,SNR=150							
DBIC	**Dimbokro**	**13.37**	**56**	Pn	**Pn**		**10 36 50.6**	**-1.0**
	0.2nm,0.3s,baz=225,slow=17,SNR=2.7							
DBIC				Sn	Sn		10 39 09.8	-10
	0.2nm,0.3s,baz=18,slow=20,SNR=2.6							
DBIC				LR	LR		10 41 02.1	
	comp=Z,317nm,20.5s,baz=222,slow=33							
TORD	**Torodi Ar. Bea**	**22.36**	**51**	P	**P**		**10 38 39.2**	**-0.8**
	1.3nm,0.7s,baz=237,slow=11,SNR=8.0							
TORD				LR	LR		10 46 34.5	
	comp=Z,192nm,18.6s,baz=205,slow=34							
BDFB	**Brasilia**	**34.87**	**243**	LR	LR		10 52 28.4	
	comp=Z,75nm,21.0s,baz=43,slow=32							
MDT	**Midelt**	**35.16**	**17**	LR	LR		10 54 29.8	
	comp=Z,83nm,19.5s,baz=183,slow=36							
ESDC	**Sonseca Array**	**41.80**	**14**	P	**P**		**10 41 32.0**	**+0.7**
	0.3nm,0.5s,baz=190,slow=7.6,SNR=4.0							
LBTB	**Lobatse**	**46.77**	**124**	P	**P**		**10 42 11.3**	**-0.1**
	1.0nm,0.5s,baz=302,slow=13,SNR=2.8							
LBTB				LR	LR		10 58 02.1	
	comp=Z,52nm,21.4s,baz=301,slow=31							
SIV	**San Ignacio**	**46.94**	**249**	P	**P**		**10 42 12.9**	**+0.1**
	1.3nm,0.7s,baz=90,slow=4.0,SNR=3.8							
BOSA	**Boshof**	**48.07**	**129**	P	**P**		**10 42 21.5**	**0.0**
	4.3nm,0.9s,baz=276,slow=10,SNR=4.9							
LPAZ	**La Paz**	**53.62**	**250**	P	**P**		**10 43 02.2**	**-2.0**
	0.9nm,0.6s,baz=108,slow=3.2,SNR=3.2							
GERES	**GERESS Array B**	**55.74**	**23**	P	**P**		**10 43 18.6**	**+0.2**
	0.7nm,0.7s,baz=228,slow=7.0,SNR=6.0							
BRTR	**Keskin Array B**	**60.63**	**42**	P	**P**		**10 43 52.8**	**-0.1**
	0.9nm,0.7s,baz=246,slow=5.3,SNR=6.2							
NOA	**NORSAR Array B**	**65.16**	**14**	P	**P**		**10 44 23.6**	**+1.2**
	1.3nm,0.8s,baz=210,slow=6.2,SNR=3.3							
KBZ	**Khabaz**	**68.61**	**42**	P	**P**		**10 44 45.0**	**+0.3**
	1.1nm,0.5s,baz=37,slow=2.7,SNR=3.7							
FINES	**FINESS Array B**	**69.88**	**20**	P	**P**		**10 44 52.7**	**+0.5**
	3.3nm,0.8s,baz=214,slow=9.2,SNR=4.5							
VNA2	**Neumayer--Watz**	**70.19**	**177**	P	**P**		**10 44 54.9**	**+0.9**
	baz=356,slow=7.2							
TXAR	**Lajitas Array**	**88.40**	**299**	P	**P**		**10 46 33.6**	**-0.7**
	0.3nm,0.8s,baz=107,slow=4.8,SNR=3.3							
MKAR	**Makanchi Array**	**96.28**	**43**	P	**P**		**10 47 10.5**	**+0.3**
	0.1nm,0.4s,baz=242,slow=3.1,SNR=2.7							
ASAR	**Alice Springs**	**141.91**	**132**	PKhKP	PKPpre		10 53 08.4	
	0.3nm,0.6s,baz=207,slow=2.4,SNR=4.8							
WRA	**Warramunga Arr**	**144.31**	**127**	PKP	**PKPab**		**10 53 16.7**	**+0.1**
	0.6nm,0.7s,baz=244,slow=2.3,SNR=7.0							

IDC ***31*** *10:51:45.1±0.8,0°.90S×16°.07W,h0km,mb4.0/15, mb1 4.1/15,mb1mx4.0/28,mbtmp4.0/15,MS3.9/23, Ms1 3.9/23,ms1mx3.7/53,Error ellipse: s-maj=25.0km s-min=22.5km az=125.0*

ISCJB ***31*** *10:51:46.8±0.5,0°.86S±0°.10×16°.0W±0°.1,h20km,mb4.0/18, MS3.9/22,Error ellipse: s-maj=15.7km s-min=13.1km az=36.7*

NEIC ***31*** *10:51:46.6±0.4,0°.91S×16°.04W,h10km,mb4.5/2,Error ellipse: s-maj=14.9km s-min=11.9km az=151.0*

ISC 31 10:51:48.5±0.6,0.9S±0°.1×16.0W±0°.1,h20km,n45, σ0ᵍ72/21,mb4.1/18,MS3.9/22,North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**7.09**	**168**	T	T		11 00 47.9	
	baz=348,slow=74,SNR=444							
H10N3	**ASCENSION HYDR**	**7.10**	**168**	T	T		11 00 47.0	
	baz=348,slow=74,SNR=354							
H10N1	**ASCENSION HYDR**	**7.11**	**167**	T	T		11 00 47.8

0.3nm,0.7s,baz=79,slow=7.4,SNR=3.0
ASAR Alice Springs 141.95 132 PKhKP PKPpre 11 11 14.9
0.6nm,0.8s,baz=207,slow=3.0,SNR=6.0
WRA Warramunga Arr 144.35 127 PKP **PKPab 11 11 22.2 -0.1**
1.2nm,1.0s,baz=240,slow=2.7,SNR=10

IDC 31 10:53:27.5±7.9, 19.87S×68.10W, h190km±51km, mb3.2/2, mb1 3.2/4, mb1mx3.0/18, mbtmp3.5/4, Error ellipse: s-maj=94.8km s-min=27.2km az=27.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LPAZ	**La Paz**	**3.56**	**359**	P		Pn	10 54 24.1	-0.2
	0.3nm,0.3s,baz=184,slow=7.2,SNR=6.5							
LPAZ				S		Sn	10 55 08.8	0.0
	0.3nm,0.3s,baz=185,slow=12,SNR=3.8							
SIV	**San Ignacio**	**7.72**	**61**	P		Pn	10 55 17.3	0.0
	1.0nm,0.3s,baz=225,slow=20,SNR=8.4							
PDAR	**Pinedale Array**	**73.09**	**329**	P		P	11 04 37.3	0.0
	0.3nm,0.4s,baz=96,slow=5.3,SNR=5.7							
TORD	**Torodi Ar. Bea**	**76.09**	**70**	P		P	11 04 54.8	0.0
	1.0nm,0.4s,baz=256,slow=5.6,SNR=9.3							

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*MOS **31** 11:36:53.9±1.3, 0.95S×15.95W, h10km, mb5.6/49, MS5.0/53, Error ellipse: s-maj=8.4km s-min=4.7km az=63.5*

*IDC **31** 11:36:53.3±0.4, 1.01S×16.06W, h0km, mb4.6/40, mb1 4.7/41, mb1mx4.7/41, mbtmp4.6/41, ML4.3/1, MS5.0/33, Ms1 5.0/33, ms1mx4.9/37, Error ellipse: s-maj=13.8km s-min=10.3km az=164.0*

*ISCJB **31** 11:36:54.8±1.0, 0.85S±0.04×16.01W±0.03, h11km±6km, mb5.2/184, MS5.1/196, Error ellipse: s-maj=7.6km s-min=4.1km az=155.2*

*BJI **31** 11:36:55.0, 1.07S×15.61W, h9km, mB5.6/17, Ms5.5/18, Ms7 5.1/18*

*GCMT **31** 11:36:56.6±0.1, 0.79S×16.05W, h12km, MW5.5/118, Moment Tensor Solution. s91,c141; s118,c245; Duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.04±.03; $M_{\theta\theta}$-0.04±.03; $M_{\phi\phi}$2.09±.03; $M_{r\theta}$0.17±.07; $M_{\theta\phi}$-0.43±.02; $M_{\phi r}$-0.67±.07; Best double couple: M_o2.21600×10^{17} NP1:ϕ_s348.00000°, δ54.00000°, λ-91.00000°. NP2:ϕ_s170.00000°, δ36.00000°, λ-88.00000°. Principal axes: T 2.2820, Plg9.0000°, Azm79.0000°; N -0.1270, Plg1.0000°, Azm349.0000°; P -2.1500, Plg81.0000°, Azm253.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **31** 11:36:56.6±0.2, 0.76S×16.03W, h10km, mb5.4/85, MS5.1/145 Error ellipse: s-maj=6.2km s-min=4.4km az=164.0*

*SZGRF **31** 11:36:57.4, 1.46S×15.01W, h33km, mb5.5, North of Ascension Island*

ISC 31 11:36:56.3±0.4, 0.98S±0.05×15.94W±0.05, h15km±2km, h15km:pP-P, n633, σ1s72/610, mb5.3/183, MS5.1/196, 25C-12D, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**6.95**	**168**	T		T	11 45 56.3	
	baz=348,slow=74,SNR=1480							
H10N3	**ASCENSION HYDR**	**6.96**	**168**	T		T	11 45 56.9	
	baz=348,slow=74,SNR=1059							
H10N1	**ASCENSION HYDR**	**6.97**	**168**	T		T	11 46 00.4	
	baz=348,slow=74,SNR=2241							
ASCN	**Ascension**	**7.08**	**167**	*e*Pn		Pn	11 38 47.4	+7.9
H10S1	**ASCENSION HYDR**	**8.01**	**171**	T		T	11 47 15.7	
	baz=350,slow=74,SNR=2257							
H10S3	**ASCENSION HYDR**	**8.02**	**171**	T		T	11 47 21.3	
	baz=350,slow=74,SNR=2247							
H10S2	**ASCENSION HYDR**	**8.03**	**171**	T		T	11 47 12.5	
	baz=350,slow=74,SNR=1790							
LIC	**Lamto**	**13.04**	**57**	*e*P		**Pn**	**11 40 04.2**	**+3.0**
	674nm,2.5s							
TIC	**Toumodi**	**13.28**	**55**	*e*P		**Pn**	**11 40 04.4**	**0.0**
KIC	**Kosan Boka**	**13.35**	**57**	*e*P		**Pn**	**11 40 06.2**	**+0.8**
	959nm,1.7s							
DBIC	**Dimbokro**	**13.43**	**55**	Pn		**Pn**	**11 40 05.6**	**-0.8**
	1.5nm,0.3s,baz=229,slow=14,SNR=34							
DBIC				Sn		Sn	11 42 27.9	-7.7
	1.1nm,0.3s,baz=208,slow=17,SNR=3.5							
DBIC				LR		LR	11 44 17.5	
	comp=Z,15μm,20.9s,baz=223,slow=33							
DBIC	**Dimbokro**	**13.43**	**55**	*e*P		**Pn**	**11 40 07.3**	**+0.8**
DBIC							11 42 27.9	
DBIC	**Dimbokro**	**13.43**	**55**	*e*Pn		**Pn**	**11 40 07.3**	**+0.8**
DBIC				Sn		Sn	11 42 27.9	-7.7
SACV	**Santiago Islan**	**17.57**	**335**	*e*Pn		**Pn**	**11 40 57.4**	**-3.5**
	101nm,1.3s							
SHEL	**Horse Pasture**	**17.96**	**146**	*e*P		P	11 41 12.3	+6.1
SHEL				pmax		pmax		
	comp=Z,359nm,1.4s							
SHEL	**Horse Pasture**	**17.96**	**146**	*e*Pn		P	11 41 12.3	+6.1
	comp=Z,359nm,1.4s							
RCBR	**Riachuelo**	**20.49**	**256**	P		**P**	**11 41 30.1**	**-3.9**
	comp=Z,26nm,1.2s,baz=92,slow=13,SNR=1.9							
RCBR				LR		LR	11 47 18.6	
	comp=Z,10μm,20.1s,baz=57,slow=31							
RCBR	**Riachuelo**	**20.49**	**256**	*e*P		Pn	11 41 36.7	+0.5
RCBR				*es*P		sP	11 41 45.8	+5.5
RCBR				LR		LR		
	comp=Z,8μm,20.0s							
TOB5	**Torodi Ar. Sit**	**22.42**	**51**	*e*P		**P**	**11 41 53.9**	**-0.8**
TORD	**Torodi Ar. Bea**	**22.43**	**51**	P		**P**	**11 41 54.6**	**-0.2**
	comp=Z,26nm,0.9s,baz=226,slow=8.7,SNR=17							
TORD				LR		LR	11 49 49.4	
	comp=Z,7μm,18.6s,baz=230,slow=34							
TAM	**Tamanrasset**	**31.56**	**40**	*e*P		**P**	**11 43 16.5**	**-2.0**
TAM				pmax		pmax		
	comp=Z,22nm,1.4s							
TAM				MLR		MLR		
	comp=Z,5μm,21.0s							
TAM	**Tamanrasset**	**31.56**	**40**	*e*P		**P**	**11 43 16.5**	**-2.0**
	comp=Z,22nm,1.4s							
TAM				LR		LR		
	comp=Z,5μm,21.0s							
PMOZ	**Porto Moniz, M**	**33.65**	**358**	*e*LR		LR	11 52 19.7	
	comp=Z,710nm,20.0s							
BDFB	**Brasilia**	**34.83**	**244**	P		**P**	**11 43 45.4**	**-1.8**
	comp=Z,12nm,0.9s,baz=45,slow=4.3,SNR=2.4							
BDFB				LR		LR	11 55 43.0	
	comp=Z,3μm,21.2s,baz=67,slow=32							
BDFB	**Brasilia**	**34.83**	**244**	*e*P		**P**	**11 43 48.4**	**+1.2**
MDT	**Midelt**	**35.28**	**17**	P		**P**	**11 43 50.6**	**-0.3**
	comp=Z,6.4nm,1.1s,baz=201,slow=6.7,SNR=9.3							
MDT				LR		LR	11 57 45.2	
	comp=Z,3μm,20.9s,baz=198,slow=35							
RTC	**Rabat Centre**	**35.82**	**13**	PFAKE			11 44 10.0	+15
RTC				LR		LR		
	comp=Z,18μm,19.0s							
TSUM	**Tsumeb**	**37.51**	**121**	P		**P**	**11 44 08.9**	**-1.2**
	comp=Z,2.6nm,1.0s,baz=255,slow=5.2,SNR=6.8							
TSUM	**Tsumeb**	**37.51**	**121**	*e*P		**P**	**11 44 13.2**	**+3.1**
	comp=Z,160nm,2.1s							
TSUM				LR		LR		
	comp=Z,3μm,21.0s							
PFVI	**Vila Bisbo**	**38.49**	**9**	*e*P		**P**	**11 44 19.0**	**+1.0**
	comp=Z,66nm,1.4s							
MORF	**Marmelete**	**38.69**	**9**	*e*P		**P**	**11 44 18.9**	**-0.8**
MORF				AMb		AMB	11 44 21.6	
	comp=Z,36nm,1.4s							
MORF	**Marmelete**	**38.69**	**9**	*e*P		**P**	**11 44 20.8**	**+1.1**
	comp=Z,70nm,1.9s							
MORF	**Marmelete**	**38.69**	**9**	*e*P		**P**	**11 44 18.9**	**-0.8**
PBDV	**Barranco-do-Ve**	**38.75**	**10**	*e*P		**P**	**11 44 20.7**	**+0.5**
	comp=Z,158nm,1.6s							
PTEO	**Sao Teotonio**	**38.91**	**9**	*e*P		**P**	**11 44 22.2**	**+0.7**
	comp=Z,222nm,1.3s							
PVAQ	**Vaqueiros**	**38.95**	**10**	*e*P		**P**	**11 44 22.6**	**+0.8**
	comp=Z,113nm,1.5s							
PVAQ	**Vaqueiros**	**38.95**	**10**	*e*LR		LR	11 55 50.4	
	comp=Z,812nm,18.0s							
PCVE	**Castro Verde**	**39.11**	**10**	*e*P		**P**	**11 44 24.0**	**+0.9**
	comp=Z,26nm,1.9s							
MESJ	**Messejana**	**39.28**	**10**	*e*P		**P**	**11 44 24.3**	**-0.3**
MESJ				AMb		AMB	11 44 26.2	
	comp=Z,27nm,1.2s							
MESJ	**Messejana**	**39.28**	**10**	*e*P		**P**	**11 44 26.5**	**+1.9**
	comp=Z,83nm,1.5s							
MESJ	**Messejana**	**39.28**	**10**	*e*P		**P**	**11 44 24.3**	**-0.3**
PNCL	**Nicolau / Gran**	**39.50**	**9**	*e*P		**P**	**11 44 27.2**	**+0.8**
	comp=Z,79nm,1.8s							
PBAR	**Barrancos**	**39.82**	**11**	*e*P		**P**	**11 44 29.6**	**+0.5**
	comp=Z,99nm,1.5s							
EVO	**Evora**	**39.99**	**10**	*e*P		**P**	**11 44 31.5**	**+1.0**
	comp=Z,111nm,1.4s							
LIS	**Lisbon**	**40.00**	**8**	*e*P		**P**	**11 44 29.8**	**-0.7**
LIS				AMb		AMB	11 44 31.9	
	comp=Z,46nm,1.3s							
LIS	**Lisbon**	**40.00**	**8**	*e*P		**P**	**11 44 29.7**	**-0.7**
PMAFR	**Mafra**	**40.21**	**8**	*e*P		**P**	**11 44 33.9**	**+1.6**
	comp=Z,106nm,1.4s							
PESTR	**Estremoz**	**40.39**	**10**	*e*P		**P**	**11 44 35.1**	**+1.3**
	comp=Z,58nm,1.9s							
PMRV	**Marv??o**	**40.98**	**10**	*e*P		**P**	**11 44 40.4**	**+1.8**
	comp=Z,91nm,1.9s							
PMRV				*e*S		**S**	**11 50 51.7**	**+1.5**
PMRV				*e*LR		LR	11 57 05.3	
	comp=Z,1μm,20.0s							
PTOM	**Tomar**	**40.99**	**9**	*e*P		**P**	**11 44 40.0**	**+1.3**
	comp=Z,150nm,1.2s							
PCBR	**Castelo Branco**	**41.36**	**10**	*e*P		**P**	**11 44 41.5**	**-0.2**
	comp=Z,26nm,2.4s							
PCAS	**Casmilo, Conde**	**41.40**	**9**	*e*P		**P**	**11 44 40.2**	**-1.9**
	comp=Z,173nm,1.3s							
PAB	**San Pablo**	**41.71**	**14**	*e*P		**P**	**11 44 45.3**	**+0.6**
PAB				pmax		pmax		
	comp=Z,133nm,1.6s							
PAB				MLR		MLR		
	comp=Z,2μm,20.0s							
PAB	**San Pablo**	**41.71**	**14**	*e*P		**P**	**11 44 45.3**	**+0.6**
	comp=Z,133nm,1.6s							
PAB				LR		LR		
	comp=Z,2μm,20.0s							
MTE	**Manteigas**	**41.89**	**10**	*e*P		**P**	**11 44 46.9**	**+0.7**
	comp=Z,76nm,1.3s							
MTE				*e*S		S	11 51 10.2	+6.3
MTE				*e*LR		LR	11 58 23.3	
	comp=Z,1μm,18.0s							
MTE	**Manteigas**	**41.89**	**10**	*e*P		**P**	**11 44 47.4**	**+1.1**
	comp=Z,47nm,1.1s							
MTE				LR		LR		
	comp=Z,1μm,21.0s							
ESDC	**Sonseca Array**	**41.92**	**14**	P		**P**	**11 44 45.8**	**-0.7**
	comp=Z,2.5nm,1.0s,baz=198,slow=8.0,SNR=9.8							
ESDC				PP		**PP**	**11 46 22.5**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=208,slow=9.9,SNR=3.8							
ESDC				LR		LR	12 02 33.8	
	comp=Z,2μm,19.7s,baz=195,slow=37							
PVIS	**Viseu**	**42.15**	**9**	*e*P		**P**	**11 44 48.9**	**+0.7**
	comp=Z,80nm,1.4s							
PVRL	**Vila Real**	**42.72**	**9**	*e*P		**P**	**11 44 53.6**	**+0.7**
	comp=Z,68nm,1.1s							
MVO	**Moncorvo**	**42.73**	**10**	*e*P		**P**	**11 44 54.5**	**+1.5**
	comp=Z,117nm,1.4s							
MVO				*e*S		**S**	**11 51 20.6**	**+4.4**
MVO				*e*LR		LR	11 57 27.4	
	comp=Z,896nm,20.0s							
POLO	**Lamas de Olo**	**42.80**	**9**	*e*P		**P**	**11 44 54.4**	**+0.8**
	comp=Z,25nm,1.2s							
PCAB	**Cabril**	**43.10**	**9**	*e*P		**P**	**11 44 58.2**	**+2.3**
	comp=Z,79nm,1.8s							
PGAV	**Gavieira, Arco**	**43.31**	**8**	*e*P		**P**	**11 44 59.0**	**+1.3**
	comp=Z,60nm,1.6s							
PGAV				*e*S		**S**	**11 51 24.5**	**-0.3**
PGAV				*e*LR		LR	11 57 40.3	
	comp=Z,1μm,20.0s							
PBRG	**Braganca**	**43.40**	**10**	*e*P		**P**	**11 44 59.0**	**+0.6**
	comp=Z,57nm,1.7s							
KEST	**Kesra**	**43.48**	**30**	P		**P**	**11 44 59.8**	**+0.6**
	comp=Z,5.5nm,0.9s,baz=205,slow=8.3,SNR=10							
KEST				PP		**PP**	**11 46 38.7**	**-1.7**
	comp=Z,5.1nm,1.0s,baz=180,slow=10,SNR=3.1							
KEST				LR		LR	12 04 14.4	
	comp=Z,2μm,18.4s,baz=165,slow=38							
KEST	**Kesra**	**43.48**	**30**	*e*P		**P**	**11 45 00.7**	**+1.5**
KEST				PP		**PP**	**11 46 38.7**	**-1.7**
PTGA	**Pitinga**	**44.02**	**270**	P		**P**	**11 45 03.0**	**-0.8**
	comp=Z,4.2nm,0.8s,baz=91,slow=9.8,SNR=9.2							
PTGA	**Pitinga**	**44.02**	**270**	*e*P		**P**	**11 45 05.1**	**+1.3**
	comp=Z,39nm,1.4s							
BBGH	**Gun Hill**	**45.47**	**289**	PFAKE			11 45 30.0	+15
BBGH				LR		LR		
	comp=Z,2μm,19.0s							
LSZ	**Lusaka**	**45.81**	**110**	P		**P**	**11 45 17.3**	**-0.9**
	comp=Z,1.8nm,0.4s,baz=342,slow=13,SNR=6.9							
LSZ	**Lusaka**	**45.81**	**110**	*e*P		**P**	**11 45 20.5**	**+2.3**
LSZ				pmax		pmax		
	comp=Z,80nm,1.7s							
LSZ				MLR		MLR		
	comp=Z,3μm,22.0s							
LSZ	**Lusaka**	**45.81**	**110**	*e*P		**P**	**11 45 20.5**	**+2.3**
	comp=Z,80nm,1.7s							
LSZ				LR		LR		
	comp=Z,3μm,22.0s							
WDD	**Wield Dalam**	**46.37**	**35**	PFAKE			11 45 30.0	+7.9
WDD				LR		LR		
	comp=Z,2μm,19.0s							
VSL	**Villasalto**	**46.49**	**27**	*e*P		**P**	**11 45 22.7**	**-0.2**
	comp=Z,79nm,1.4s							
VSL				LR		LR		
	comp=Z,3μm,21.0s							
SUR	**Sutherland**	**46.61**	**136**	PFAKE			11 45 40.0	+16
SUR				LR		LR		
	comp=Z,3μm,21.0s							
LBTB	**Lobatse**	**46.67**	**124**	P		**P**	**11 45 24.3**	**-0.5**
	comp=Z,12nm,1.0s,baz=309,slow=9.6,SNR=8.9							
LBTB	**Lobatse**	**46.67**	**124**	*e*P		**P**	**11 45 26.6**	**+1.8**
LBTB				pmax		pmax		
	comp=Z,459nm,3.0s							
LBTB	**Lobatse**	**46.67**	**124**	*e*P		**P**	**11 45 26.6**	**+1.8**
	comp=Z,459nm,3.0s							
MBAR	**Mbarara**	**46.68**	**90**	*e*P		**P**	**11 45 24.3**	**-0.8**
MBAR				*e**PP		**pP**	**11 45 28.5**	**-1.4**
MBAR				MLR		MLR		
	comp=Z,782nm,20.0s							
MBAR	**Mbarara**	**46.68**	**90**	*e*P		**P**	**11 45 24.3**	**-0.8**
MBAR				*ep*P		**pP**	**11 45 28.5**	**-1.4**
MBAR				LR		LR		
	comp=Z,782nm,20.0s							
CLTB	**Caltabellotta**	**46.89**	**32**	PFAKE			11 45 40.0	+14
CLTB				LR		LR		
	comp=Z,1μm,19.0s							
SIV	**San Ignacio**	**46.91**	**249**	P		**P**	**11 45 26.1**	**-0.7**
	comp=Z,7.8nm,1.0s,baz=91,slow=12,SNR=13							
SIV				LR		LR	12 03 20.0	
	comp=Z,8μm,21.4s,baz=80,slow=34							
H05S1	**Guadeloupe/Mar**	**46.99**	**291**	T		T	12 35 35.0	
CPUP	**Villa Florida**	**47.10**	**234**	P		**P**	**11 45 25.8**	**-2.2**
	comp=Z,3.5nm,0.9s,baz=45,slow=14,SNR=2.5							
CPUP				LR		LR	12 03 49.8	
	comp=Z,4μm,19.1s,baz=67,slow=34							
CPUP	**Villa Florida**	**47.10**	**234**	*e*P		**P**	**11 45 30.3**	**+2.4**
GRGR	**Grenville**	**47.22**	**287**	PFAKE			11 45 40.0	+11
GRGR				LR		LR		
	comp=Z,647nm,21.0s							
FDF	**Fort de France**	**47.37**	**291**	PFAKE			11 45 40.0	+10
FDF				LR		LR		
	comp=Z,1μm,20.0s							
MATP	**Matopo**	**47.51**	**117**	P		**P**	**11 45 32.2**	**+0.7**
	comp=Z,16nm,1.1s,baz=283,slow=7.9,SNR=10							
MATP				PP		**PP**	**11 47 20.2**	**-2.9**
	comp=Z,4.4nm,0.9s,baz=296,slow=11,SNR=2.8							
SAML	**Samuel**	**47.68**	**259**	*e*P		P	11 45 28.2	-4.4
	comp=Z,90nm,1.4s							
SAML				LR		LR		
	comp=Z,7μm,19.0s							
H05N1	**Guadeloupe/Mar**	**47.72**	**293**	T		T	12 36 24.7	
	SNR=7.1							
BOSA	**Boshof**	**47.97**	**129**	P		**P**	**11 45 34.9**	**0.0**
	comp=Z,16nm,0.9s,baz=301,slow=7.6,SNR=5.1							
BOSA				PP		**PP**	**11 47 25.2**	**-1.8**
	comp=Z,6.6nm,0.9s,baz=284,slow=9.2,SNR=4.1							
BOSA				LR		LR	12 02 18.6	
	comp=Z,1μm,20.6s,baz=289,slow=32							
BOSA	**Boshof**	**47.97**	**129**	P		**P**	**11 45 34.9**	**0.0**
BOSA							11 47 25.3	
BOSA				pmax		pmax		
	comp=Z,16nm,0.9s							
BOSA				pmax		pmax		
	comp=Z,7.0nm,0.9s							
BOSA	**Boshof**	**47.97**	**129**	*e*P		**P**	**11 45 36.2**	**+1.3**
BOSA				PP		**PP**	**11 47 25.2**	**-1.8**
ANWB	**Willy Bob**	**48.78**	**295**	PFAKE			11 45 50.0	+8.9
ANWB				LR		LR		
	comp=Z,1μm,22.0s							
SSB	**Saint Sauveur**	**49.52**	**19**	*e*P		**P**	**11 45 47.1**	**+0.7**
SSB				pmax		pmax		
	comp=Z,39nm,1.3s							
SSB				MLR		MLR		
	comp=Z,1μm,19.0s							
SSB	**Saint Sauveur**	**49.52**	**19**	*e*P		**P**	**11 45 47.1**	**+0.7**
	comp=Z,39nm,1.3s							
SSB				LR		LR		
	comp=Z,1μm,19.0s							
PCRV	**Puerto La Cruz**	**49.70**	**284**	LR		LR	12 05 10.0	
	comp=Z,773nm,20.8s,baz=107,slow=34							
TIP	**Timpagrande**	**49.97**	**33**	*e*P		**P**	**11 45 49.6**	**-0.4**
	comp=Z,27nm,1.1s							
TIP				LR		LR		
	comp=Z,2μm,19.0s							
CUC	**Castrocucco**	**50.04**	**32**	*e*P		**P**	**11 45 50.3**	**-0.2**
	comp=Z,49nm,0.4s							
CUC				LR		LR		
	comp=Z,1μm,20.0s							
AQU	**L'Aquila**	**50.61**	**28**	*e*P		**P**	**11 45 56.9**	**+2.1**
AQU				pmax		pmax		
	comp=Z,104nm,1.1s							
AQU				MLR		MLR		
	comp=Z,2μm,22.0s							
AQU	**L'Aquila**	**50.61**	**28**	*e*P		**P**	**11 45 56.9**	**+2.1**
	comp=Z,104nm,1.1s							
AQU				LR		LR		
	comp=Z,2μm,22.0s							
VLC	**Villacollemand**	**50.72**	**24**	*e*P		**P**	**11 45 55.9**	**+0.4**
VLC				LR		LR		
	comp=Z,1μm,19.0s							
SENIN	**Lac Senin/Sane**	**51.40**	**20**	*e*P		**P**	**11 46 00.0**	**-0.8**
ITM	**Ithomi**	**51.67**	**39**	P		P	**11 46 04.2**	**+1.4**
GVD	**Gavdhos**	**51.68**	**42**	P		P	11 45 59.4	-3.5
	comp=Z,78nm,0.8s							
GVD	**Gavdhos**	**51.68**	**42**	P		**P**	**11 46 05.2**	**+2.3**
ANKY	**Antikythira Is**	**51.76**	**41**	P		**P**	**11 46 05.0**	**+1.6**
LKD2	**Lefkada island**	**51.93**	**36**	P		**P**	**11 46 05.8**	**+1.1**
RLS	**Riolos of Patr**	**51.94**	**38**	P		**P**	**11 46 06.5**	**+1.8**
DRO	**Drossia**	**52.02**	**38**	P		**P**	**11 46 07.9**	**+2.5**
VLI	**Velia**	**52.03**	**40**	P		**P**	**11 46 07.5**	**+2.1**
VLX	**Vlachokerasia**	**52.08**	**39**	P		**P**	**11 46 07.9**	**+2.0**
PDO	**Prodromos**	**52.12**	**37**	P		**P**	**11 46 07.3**	**+1.2**
IGT	**Igoumenitsa**	**52.23**	**35**	P		**P**	**11 46 08.1**	**+1.2**
TUE	**Stuetta**	**52.23**	**22**	*e*P		**P**	**11 46 07.0**	**0.0**
	comp=Z,41nm,1.3s							
TUE				LR		LR		
	comp=Z,1μm,19.0s							
SIVA	**Sivas**	**52.27**	**43**	P		**P**	**11 46 08.9**	**+1.6**
KLV	**Kalavryta, Ach**	**52.35**	**38**	P		**P**	**11 46 10.2**	**+2.3**
LAKA	**Lakka**	**52.37**	**38**	P		**P**	**11 46 10.4**	**+2.4**
GUR	**Goura**	**52.40**	**38**	P		**P**	**11 46 10.8**	**+2.5**
IDI	**Anoyia**	**52.48**	**42**	P		**P**	**11 46 10.0**	**+1.1**
	comp=Z,16nm,0.9s,baz=319,slow=2.1,SNR=6.3							
IDI				LR		LR	12 07 51.8	
	comp=Z,791nm,20.6s,baz=239,slow=35							
IDI	**Anoyia**	**52.48**	**42**	*e*P		**P**	**11 46 10.5**	**+1.6**
	comp=Z,55nm,1.2s							
DIDY	**Didyma**	**52.66**	**39**	P		**P**	**11 46 11.2**	**+0.9**
DAVOX	**Davos/Dischmat**	**52.69**	**22**	P		**P**	**11 46 10.5**	**+0.1**
	comp=Z,27nm,0.9s,baz=199,slow=5.9,SNR=13							
EVR	**Evrytania**	**52.70**	**37**	P		**P**	**11 46 12.6**	**+2.1**
DID	**Didima**	**52.70**	**39**	P		**P**	**11 46 11.2**	**+0.8**
FUORN	**Ofenpass-Fuorn**	**52.70**	**22**	*e*P		**P**	**11 46 10.7**	**+0.1**
	comp=Z,74nm,1.7s							
DSF	**Desfina**	**52.81**	**38**	P		**P**	**11 46 12.9**	**+1.6**
LTK	**Loutraki**	**52.84**	**38**	P		**P**	**11 46 12.9**	**+1.4**
LTK	**Loutraki**	**52.84**	**38**	P		**P**	**11 46 12.9**	**+1.4**
SJG	**San Juan**	**52.89**	**294**	P		**P**	**11 46 11.4**	**-0.7**
	comp=Z,5.5nm,0.3s,baz=39,slow=15,SNR=3.4							
SJG	**San Juan**	**52.89**	**294**	P		**P**	**11 46 11.4**	**-0.7**
SJG				MLR		MLR		
	comp=Z,2μm,22.0s							
SJG	**San Juan**	**52.89**	**294**	P		**P**	**11 46 11.4**	**-0.7**
SJG				LR		LR		
	comp=Z,2μm,22.0s							
ECH	**Echery**	**52.96**	**19**	*e*P		**P**	**11 46 11.8**	**-0.4**
ECH				pmax		pmax		
	comp=Z,53nm,1.4s							
ECH				MLR		MLR		
	comp=Z,946nm,19.0s							
ECH	**Echery**	**52.96**	**19**	*e*P		**P**	**11 46 11.8**	**-0.4**
	comp=Z,53nm,1.4s							
ECH				LR		LR		
	comp=Z,946nm,19.0s							
AGG	**Agios Georgios**	**53.08**	**37**	*e*P		**P**	**11 46 12.3**	**-0.9**
AGG				*e**SP		**sP**	**11 46 18.0**	**-1.9**
AGG	**Agios Georgios**	**53.08**	**37**	*e*P		**P**	**11 46 12.2**	**-0.9**
AGG				*es*P		**sP**	**11 46 18.0**	**-1.9**
AGG	**Agios Georgios**	**53.08**	**37**	P		**P**	**11 46 14.9**	**+1.7**
DAVA	**Damuels**	**53.11**	**22**	⇑*i*P		P	11 46 09.0	-4.5
	comp=Z,39nm,0.9s,SNR=12							
VILL	**Villia**	**53.15**	**39**	P		**P**	**11 46 15.5**	**+1.7**
TIR	**Tirane**	**53.18**	**33**	PFAKE			11 46 30.0	+16
TIR				LR		LR		
	comp=Z,1μm,20.0s							
KMBO	**Kilima Mbogo**	**53.19**	**91**	P		**P**	**11 46 14.9**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=242,slow=8.5,SNR=2.1							
KMBO				LR		LR	12 07 32.2	
	comp=Z,8μm,18.5s,baz=264,slow=34							
KMBO	**Kilima Mbogo**	**53.19**	**91**	*e*P		**P**	**11 46 16.9**	**+2.2**
KMBO				pmax		pmax		
	comp=Z,70nm,1.5s							
KMBO				MLR		MLR		
	comp=Z,8μm,19.0s							
KMBO	**Kilima Mbogo**	**53.19**	**91**	*e*P		**P**	**11 46 16.9**	**+2.2**
	comp=Z,70nm,1.5s							
KMBO				LR		LR		
	comp=Z,8μm,19.0s							
KBN	**Korca**	**53.21**	**35**	P	

RJOB	**Jochberg**	**54.61**	**23**	*e*P		**P**	**11 46 23.4**	**-0.9**
	comp=Z,95nm,2.0s								
VAY	**Valandovo**	**54.69**	**35**	P		**P**	**11 46 26.5**	**+1.6**
VAY	**Valandovo**	**54.69**	**35**	P		**P**	**11 46 26.5**	**+1.6**
VAY	**Valandovo**	**54.69**	**35**	P		**P**	**11 46 26.5**	**+1.6**
MEM	**Membach**	**54.71**	**17**	P		**P**	**11 46 27.5**	**+2.6**
	comp=Z,38nm,2.1s								
KNT	**Kendrikon**	**54.77**	**35**	P		**P**	**11 46 26.5**	**+0.9**
BEBN	**Eben Emael**	**54.78**	**17**	P		**P**	**11 46 26.0**	**+0.6**
SOH	**Sokhos**	**54.82**	**36**	P		**P**	**11 46 27.5**	**+1.5**
HGN	**Heimansgroeve**	**54.83**	**17**	*e*P		**P**	**11 46 26.2**	**+0.5**
	comp=Z,77nm,1.3s								
HGN				*e*S		**S**	**11 54 11.6**	**+5.5**
OUR	**Ouranopolis**	**54.89**	**37**	P		**P**	**11 46 27.1**	**+0.7**
CHOS	**Chios island**	**55.01**	**40**	P		**P**	**11 46 29.8**	**+2.4**
KOGS	**Kog**	**55.06**	**27**	*e*P		**P**	**11 46 28.6**	**+1.1**
KOGS				*e*S		**S**	**11 54 14.6**	**+5.2**
TNS	**Taunus Mts**	**55.12**	**19**	*e*P		**P**	**11 46 28.1**	**+0.2**
	comp=Z,94nm,1.5s								
SMG	**Samos**	**55.13**	**41**	P		**P**	**11 46 29.4**	**+1.2**
DIVS	**Divibare**	**55.15**	**31**	*i*P		**P**	**11 46 30.8**	**+2.5**
DIVS	**Divibare**	**55.15**	**31**	P		**P**	**11 46 29.6**	**+1.3**
KKB	**Krupnik**	**55.33**	**35**	P		**P**	**11 46 31.4**	**+1.8**
LIA	**Limnos Island**	**55.35**	**38**	P		**P**	**11 46 31.6**	**+1.9**
SDV	**Santo Domingo**	**55.36**	**281**	PFAKE			11 46 40.0	+10
SDV				LR		LR			
	comp=Z,1μm,20.0s								
NVR	**Nevrokopi**	**55.45**	**36**	P		**P**	**11 46 32.0**	**+1.5**
MMB	**Musomiste**	**55.53**	**36**	P		P	11 46 34.6	+3.6
GRFO	**Grafenberg**	**55.62**	**21**	*e*P		**P**	**11 46 31.5**	**+0.1**
GRFO				pmax		pmax			
	comp=Z,45nm,1.1s								
GRFO	**Grafenberg**	**55.62**	**21**	*e*P		**P**	**11 46 31.5**	**+0.1**
	comp=Z,45nm,1.1s								
GRF	**Grafenberg Arr**	**55.62**	**21**	*e*P		**P**	**11 46 31.1**	**-0.4**
	comp=Z,79nm,1.4s								
KAVA	**Kavala**	**55.62**	**37**	P		**P**	**11 46 32.7**	**+1.1**
PRK	**Paraskevi**	**55.65**	**39**	P		**P**	**11 46 34.1**	**+2.2**
LVC	**Limon Verde**	**55.74**	**243**	PFAKE			11 46 50.0	+17
LVC				LR		LR			
	comp=Z,2μm,20.0s								
WET	**Wettzell**	**55.78**	**23**	*e*P		**P**	**11 46 32.5**	**-0.2**
	comp=Z,92nm,1.4s								
BUG	**Bochum--Univer**	**55.82**	**17**	*e*P		**P**	**11 46 33.2**	**+0.4**
	comp=Z,102nm,1.6s								
GEC2	**GERESS Array S**	**55.86**	**23**	*e*P		**P**	**11 46 33.1**	**-0.2**
	comp=Z,107nm,1.6s								
GERES	**GERESS Array B**	**55.86**	**23**	P		**P**	**11 46 32.9**	**-0.5**
	comp=Z,10nm,1.0s,baz=194,slow=5.0,SNR=19								
GERES				PP		**PP**	**11 48 37.3**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=206,slow=8.7,SNR=3.8								
GERES				LR		LR	12 12 55.5		
	comp=Z,1μm,18.4s,baz=208,slow=39								
VTS	**Vitosha**	**55.87**	**34**	⇑*i*P		**P**	**11 46 35.2**	**+1.6**
VTS	**Vitosha**	**55.87**	**34**	P		**P**	**11 46 35.8**	**+2.2**
VTS	**Vitosha**	**55.87**	**34**	P		**P**	**11 46 35.5**	**+1.9**
SMTH	**Samothraki Isl**	**55.91**	**36**	P		**P**	**11 46 35.1**	**+1.3**
PKSM	**Moragy**	**55.99**	**28**	⇑*i*P		**P**	**11 46 35.1**	**+0.9**
PKSM	**Moragy**	**55.99**	**28**	*e*P		**P**	**11 46 33.3**	**-0.9**
CONA	**Conrad Observa**	**56.02**	**25**	⇑*i*P		**P**	**11 46 31.3**	**-3.2**
	comp=Z,26nm,1.3s,SNR=10								
ROTZ	**Rotzenmuhle**	**56.04**	**22**	*e*P		**P**	**11 46 34.3**	**-0.2**
	comp=Z,75nm,1.7s								
KHC	**Kasperske Hory**	**56.04**	**23**	*e*P		**P**	**11 46 31.4**	**-3.2**
KHC				*e*pP		**pP**	**11 46 34.4**	**-5.0**
KHC				*e*sP		**sP**	**11 46 41.7**	**+0.4**
KHC				*e*x		x	11 46 46.2		
KHC				*e*PP		**PP**	**11 48 37.8**	**-1.8**
KHC				*e*S		**S**	**11 54 20.3**	**-2.3**
KHC				*e*SS		**SS**	**11 58 02.9**	**-6.1**
KHC				AMS		AMS	12 11 20.0		
	comp=Z,1μm,17.0s								
KHC	**Kasperske Hory**	**56.04**	**23**	*e*P		**P**	**11 46 31.4**	**-3.2**
KHC				*e*			11 46 34.4		
KHC				*e*			11 48 37.8		
KHC				*e*S		**S**	**11 54 20.3**	**-2.3**
KHC				*e*SS		**SS**	**11 58 02.9**	**-6.1**
KHC				MLR		MLR			
	comp=Z,1μm,17.0s								
KHC	**Kasperske Hory**	**56.04**	**23**	*e*P		**P**	**11 46 34.1**	**-0.5**
	comp=Z,17nm,1.4s								
KHC				*e*PP		PP	11 48 47.8	+8.2	
TRQA	**Tornquist**	**56.05**	**223**	*e*P		**P**	**11 46 37.7**	**+2.8**
	comp=Z,303nm,2.7s								
TRQA				LR		LR			
	comp=Z,2μm,21.0s								
SOP	**Sopron**	**56.14**	**26**	*e*P		**P**	**11 46 35.9**	**+0.7**
UBBA	**Unterbreizbach**	**56.14**	**20**	*e*P		**P**	**11 46 35.4**	**+0.3**
	comp=Z,77nm,1.5s								
WTSB	**Winterswijk**	**56.14**	**17**	*e*P		**P**	**11 46 35.7**	**+0.5**
	comp=Z,91nm,1.2s								
RZN	**Rozhen**	**56.16**	**36**	P		**P**	**11 46 38.7**	**+2.9**
MANZ	**Manzenberg**	**56.18**	**21**	*e*P		**P**	**11 46 35.2**	**-0.3**
	comp=Z,96nm,1.6s								
ALN	**Alexandroupoli**	**56.48**	**37**	P		**P**	**11 46 38.9**	**+1.1**
NKC	**Novy Kostel**	**56.51**	**21**	*e*P		**P**	**11 46 38.2**	**+0.3**
NKC				*e*pP		**pP**	**11 46 42.2**	**-0.6**
NKC				*e*x		x	11 46 45.2		
NKC				*e*x		x	11 46 49.7		
NKC				*e*PP		**PP**	**11 48 42.8**	**-1.0**
NKC				*e*S		**S**	**11 54 27.5**	**-1.2**
NKC				AMS		AMS	12 10 30.0		
	comp=Z,1μm,15.2s								
NKC	**Novy Kostel**	**56.51**	**21**	*e*P		**P**	**11 46 38.2**	**+0.3**
NKC				*e*			11 46 42.2		
NKC				*e*			11 46 45.2		
NKC				*e*			11 48 42.8		
NKC				*e*S		**S**	**11 54 27.5**	**-1.2**
NKC				MLR		MLR			
	comp=Z,1μm,15.2s								
MOX	**Moxa**	**56.55**	**21**	*e*P		**P**	**11 46 38.0**	**-0.1**
	comp=Z,71nm,1.5s								
KDZ	**Kurdzhali**	**56.56**	**36**	P		**P**	**11 46 38.9**	**+0.5**
PLN	**Plauen**	**56.61**	**21**	*e*P		**P**	**11 46 38.3**	**-0.3**
	comp=Z,61nm,1.5s								
MPEP	**Malo Peshtene**	**56.66**	**34**	P		**P**	**11 46 40.8**	**+1.7**
TANN	**Tannenbergstha**	**56.66**	**21**	*e*P		**P**	**11 46 38.8**	**-0.2**
	comp=Z,76nm,1.4s								
BBSR	**BB Station**	**56.72**	**310**	PFAKE			11 46 50.0	+10
BBSR				LR		LR			
	comp=Z,764nm,19.0s								
IBBN	**Ibbenburen**	**56.72**	**17**	*e*P		**P**	**11 46 39.6**	**+0.3**
	comp=Z,67nm,1.4s								
TREC	**Trest**	**56.93**	**24**	*e*P		**P**	**11 46 40.5**	**-0.4**
TREC				*e*pP		**pP**	**11 46 43.7**	**-2.1**
TREC				*e*sP		**sP**	**11 46 47.1**	**-0.5**
TREC				*e*x		x	11 46 51.7		
TREC				*e*PP		PP	11 48 54.7	+7.1	
TREC				*e*S		S	11 54 40.2	+5.9	
TREC				AMS		AMS	12 12 50.0		
	comp=Z,1μm,16.7s								
TREC	**Trest**	**56.93**	**24**	*e*P		**P**	**11 46 40.5**	**-0.4**
TREC				*e*			11 46 43.7		
TREC				*e*			11 46 47.1		
TREC				*e*			11 48 54.7		
TREC				*e*S		S	11 54 40.2	+5.9	
TREC				MLR		MLR			
	comp=Z,1μm,16.7s								
BZS	**Buzias**	**57.03**	**31**	⇑*i*P		**P**	**11 46 43.6**	**+2.0**
ESK	**Eskdalemuir**	**57.08**	**9**	*e*P		**P**	**11 46 42.0**	**+0.2**
ESK				pmax		pmax			
	comp=Z,83nm,1.4s								
ESK				MLR		MLR			
	comp=Z,619nm,20.0s								
ESK	**Eskdalemuir**	**57.08**	**9**	*e*P		**P**	**11 46 42.0**	**+0.2**
	comp=Z,83nm,1.4s								
ESK				LR		LR			
	comp=Z,619nm,20.0s								
PRU	**Pruhonice**	**57.10**	**23**	*e*P		P	11 46 38.7	-3.3	
PRU				*e*pP		pP	11 46 41.1	-5.8	
PRU				*e*x		x	11 46 49.0		
PRU				*e*x		x	11 46 53.3		
PRU				*e*PP		**PP**	**11 48 52.5**	**+3.5**
PRU				*e*S		**S**	**11 54 34.6**	**-1.9**
PRU				*e*SS		**SS**	**11 58 26.6**	**+1.0**
PRU				AMS		AMS	12 15 30.0		
	comp=Z,1μm,14.7s								
PRU	**Pruhonice**	**57.10**	**23**	*e*P		P	11 46 38.7	-3.3	
PRU				*e*			11 46 41.1		
PRU				*e*			11 46 43.8		
PRU				*e*			11 48 52.5		
PRU				*e*S		**S**	**11 54 34.6**	**-1.9**
PRU				*e*SS		**SS**	**11 58 26.6**	**+1.0**
PRU				MLR		MLR			
	comp=Z,1μm,14.7s								
PRA	**Prague**	**57.12**	**23**	*e*P		**P**	**11 46 42.4**	**+0.2**
PRA				*e*x		x	11 46 44.8		
PRA				*e*x		x	11 46 49.4		
PRA				*e*x		x	11 46 54.0		
PRA				*e*S		**S**	**11 54 34.0**	**-2.8**
PRA				AMS		AMS	12 12 20.0		
PRA	**Prague**	**57.12**	**23**	*e*P		**P**	**11 46 42.4**	**+0.2**
PRA				*e*			11 46 44.8		
PRA				*e*			11 46 49.4		
PRA				*e*S		**S**	**11 54 34.0**	**-2.8**
CLZ	**Clausthal**	**57.14**	**19**	*e*P		**P**	**11 46 42.4**	**+0.1**
	comp=Z,38nm,1.5s								
GOPC	**GO Pecny, Ondr**	**57.14**	**23**	*e*P		P	11 46 37.9	-4.4	
GOPC				*e*pP		pP	11 46 42.1	-5.1	
GOPC				*e*x		x	11 46 48.7		
GOPC				*e*x		x	11 46 53.9		
GOPC				*e*PP		**PP**	**11 48 54.3**	**+4.9**
GOPC				*e*S		**S**	**11 54 36.0**	**-1.1**
GOPC				*e*SS		**SS**	**11 58 22.6**	**-3.6**
GOPC				AMS		AMS	12 15 30.0		
	comp=Z,1μm,15.6s								
VRAC	**Vranov**	**57.40**	**25**	LR		LR	12 12 36.7		
	comp=Z,816nm,18.5s,baz=220,slow=37								
VRAC	**Vranov**	**57.40**	**25**	⇑*i*P		**P**	**11 46 44.2**	**0.0**
FBE	**Freiberg**	**57.41**	**22**	*e*P		**P**	**11 46 44.1**	**-0.1**
	comp=Z,76nm,1.7s								
SIRR	**Siria**	**57.50**	**30**	⇑*i*P		**P**	**11 46 46.1**	**+1.1**
PVCC	**Panska Ves**	**57.54**	**23**	*e*P		**P**	**11 46 44.6**	**-0.6**
PVCC				*e*pP		**pP**	**11 46 47.7**	**-2.4**
PVCC				*e*sP		**sP**	**11 46 52.7**	**+0.8**
PVCC				*e*x		x	11 46 57.1		
PVCC				*e*PP		**PP**	**11 48 56.8**	**+3.8**
PVCC				*e*S		**S**	**11 54 42.2**	**-0.1**
PVCC				AMS		AMS	12 13 50.0		
	comp=Z,2μm,15.7s								
PVCC	**Panska Ves**	**57.54**	**23**	*e*P		**P**	**11 46 44.6**	**-0.6**
PVCC				*e*			11 46 47.7		
PVCC				*e*			11 46 52.7		
PVCC				*e*			11 48 56.8		
PVCC				*e*S		**S**	**11 54 42.2**	**-0.1**
PVCC				MLR		MLR			
	comp=Z,2μm,15.7s								
BRG	**Berggiesshubel**	**57.58**	**22**	*e*P		**P**	**11 46 43.3**	**-2.1**
	comp=Z,6.6nm,1.4s								
BRG				*e*			11 46 57.1		
	comp=Z,56nm,1.6s								
BRG				*e*			11 47 49.1		
	comp=Z,15nm,1.4s								
BRG				*e*PP		**PP**	**11 48 55.7**	**+2.4**
	comp=Z,10.0nm,1.1s								
BRG				S		**S**	**11 54 48.0**	**+5.2**
BRG				SS		SS	11 58 41.0	+7.9	
	comp=N,659nm,17.1s								
	comp=E,666nm,14.5s								
	comp=Z,1μm,13.4s								
BRG	**Berggiesshubel**	**57.58**	**22**	*e*P		**P**	**11 46 45.1**	**-0.3**
	comp=Z,43nm,1.4s								
BRG	**Berggiesshubel**	**57.58**	**22**	*e*P		**P**	**11 46 43.3**	**-2.1**
BRG				*e*			11 48 55.7		
BRG				S		**S**	**11 54 48.0**	**+5.2**
BRG				pmax		pmax			
	comp=Z,7.0nm,1.4s								
BRG				pmax		pmax			
	comp=Z,57nm,1.6s								
BRG				pmax		pmax			
	comp=Z,15nm,1.4s								
BRG				pmax		pmax			
	comp=Z,10.0nm,1.1s								
BRG				MLR		MLR			
	comp=N,659nm,17.1s								
BRG				MLR		MLR			
	comp=E,666nm,14.5s								
BRG				MLR		MLR			
	comp=Z,1μm,13.4s								
CLL	**Collm**	**57.59**	**21**	*e*P		**P**	**11 46 45.3**	**-0.2**
	comp=Z,47nm,1.5s								
CLL	**Collm**	**57.59**	**21**	*i* P		**P**	**11 46 45.1**	**-0.4**
CLL				*i*			11 46 52.0		
CLL				*e*S		**S**	**11 54 40.0**	**-2.9**
CLL				pmax		pmax			
	comp=Z,87nm,2.4s								
CLL				MLR		MLR			
	comp=Z,800nm,22.0s								
CLL	**Collm**	**57.59**	**21**	*e*P		**P**	**11 46 44.9**	**-0.6**
	comp=Z,81nm,1.7s								
CLL	**Collm**	**57.59**	**21**	*i* P		**P**	**11 46 45.1**	**-0.4**
	comp=Z,87nm,2.4s								
CLL				*i*			11 46 52.0		
CLL				*i*			11 46 56.4		
	comp=Z,46nm,1.5s								
CLL				*e*PP		**PP**	**11 48 55.0**	**+1.6**
CLL				*e*PPP		PPP	11 50 04.0		
CLL				*e*S		**S**	**11 54 40.0**	**-2.9**
	comp=N,600nm,25.0s								
CLL				*e*S		**S**	**11 54 40.0**	**-2.9**
	comp=E,300nm,23.0s								
CLL				*e*(SSS)			12 00 36.0		
CLL				*e*SSSS			12 01 18.0		
CLL				LmV			12 09 00.0		
	comp=Z,800nm,22.0s								
CLL				Lm		MLR	12 12 00.0		
	comp=N,500nm,19.1s								
CLL				Lm		MLR	12 12 00.0		
	comp=E,1μm,18.0s								
ISP	**Isparta**	**57.66**	**43**	P		**P**	**11 46 48.2**	**+1.8**
ISP				MLR		MLR			
	comp=Z,767nm,19.0s								
ISP	**Isparta**	**57.66**	**43**	P		**P**	**11 46 48.2**	**+1.8**
ISP				LR		LR			
	comp=Z,767nm,19.0s								
ISP	**Isparta**	**57.66**	**43**	P		**P**	**11 46 48.2**	**+1.8**
VYHS	**Vyhne**	**57.76**	**27**	*e*P		P	11 46 42.3	-4.4	
VYHS				pmax		pmax			
	comp=Z,3.0nm,1.2s								
VYHS	**Vyhne**	**57.76**	**27**	*e*		P	11 46 42.3	-4.4	
PSZ	**Piszkesteto**	**57.82**	**28**	*e*P		**P**	**11 46 48.0**	**+0.7**
PSZ				pmax		pmax			
	comp=Z,63nm,1.5s								
PSZ				MLR		MLR			
	comp=Z,2μm,19.0s								
PSZ	**Piszkesteto**	**57.82**	**28**	⇓*i*P		**P**	**11 46 47.9**	**+0.7**
PSZ	**Piszkesteto**	**57.82**	**28**	*e*P		**P**	**11 46 48.0**	**+0.7**
	comp=Z,63nm,1.5s								
PSZ				LR		LR			
	comp=Z,2μm,19.0s								
PSZ	**Piszkesteto**	**57.82**	**28**	*e*P		**P**	**11 46 47.4**	**+0.2**
SDDR	**Presa de Saban**	**57.83**	**293**	*e*P		**P**	**11 46 47.9**	**+0.1**
	comp=Z,53nm,1.4s								
SDDR				LR		LR			
	comp=Z,2μm,22.0s								
KRLC	**Kraliky**	**58.07**	**24**	*e*P		**P**	**11 46 46.0**	**-2.9**
KRLC				*e*pP		**pP**	**11 46 49.4**	**-4.4**
KRLC				*e*sP		**sP**	**11 46 54.8**	**-0.9**
KRLC				*e*x		x	11 47 00.7		
KRLC				*e*PP		**PP**	**11 48 58.7**	**+1.0**
KRLC	**Kraliky**	**58.07**	**24**	*e*P		**P**	**11 46 46.0**	**-2.9**
KRLC				*e*			11 46 49.4		
KRLC				*e*			11 46 54.8		
KRLC				*e*			11 48 58.7		
UPC	**Upice**	**58.09**	**23**	*e*P		P	11 46 45.2	-3.8	
UPC				*e*pP		pP	11 46 49.1	-4.8	
UPC				*e*sP		sP	11 46 55.2	-0.6	
UPC				*e*x		x	11 47 00.8		
UPC				*e*PP		**PP**	**11 49 00.2**	**+2.4**
UPC				*e*S		**S**	**11 54 48.8**	**-0.7**
UPC				*e*SS		**SS**	**11 58 37.3**	**-3.9**
UPC				AMS		AMS	12 12 30.0		
	comp=Z,1μm,16.4s								
UPC	**Upice**	**58.09**	**23**	*e*P		P	11 46 45.2	-3.8	
UPC				*e*			11 46 49.1		
UPC				*e*			11 49 00.2		
UPC				*e*S		**S**	**11 54 48.8**	**-0.7**
UPC				*e*SS		**SS**	**11 58 37.3**	**-3.9**
UPC				MLR		MLR			
	comp=Z,1μm,16.4s								
DPC	**Dobruska-Polom**	**58.09**	**24**	*e*P		P	11 46 44.6	-4.5	
DPC				*e*pP		pP	11 46 48.5	-5.5	
DPC				*e*sP		sP	11 46 55.7	-0.1	
DPC				*e*PP		**PP**	**11 48 58.4**	**+0.5**
DPC				*e*S		**S**	**11 54 45.6**	**-4.0**
DPC				*e*SS		**SS**	**11 58 42.9**	**+1.6**
DPC				AMS		AMS	12 15 10.0		
	comp=Z,900nm,13.6s								
DPC	**Dobruska-Polom**	**58.09**	**24**	*e*P		P	11 46 44.6	-4.5	
DPC				*e*			11 46 48.5		
DPC				*e*			11 48 58.4		
DPC				*e*S		**S**	**11 54 45.6**	**-4.0**
DPC				*e*SS		**SS**	**11 58 42.9**	**+1.6**
DPC				MLR		MLR			
	comp=Z,900nm,13.6s								
MORC	**Moravsky Berou**	**58.16**	**25**	*e*P		**P**	**11 46 48.8**	**-0.7**
MORC				pmax		pmax			
	comp=Z,238nm,1.6s								
MORC	**Moravsky Berou**	**58.16**	**25**	⇓*i*P		**P**	**11 46 50.3**	**+0.8**
MORC	**Moravsky Berou**	**58.16**	**25**	*e*P		**P**	**11 46 48.8**	**-0.7**
	comp=Z,238nm,1.6s								
CSS	**Prodhromos**	**58.26**	**47**	PFAKE			11 47 00.0	+9.5	
CSS				LR		LR			
	comp=Z,208nm,19.0s								
GRTK	**Grand Turk**	**58.31**	**296**	PFAKE			11 47 00.0	+8.9	
GRTK				LR		LR			
	comp=Z,696nm,20.0s								
ARR	**Arges**	**58.45**	**33**	⇓*i*P		**P**	**11 46 52.6**	**+0.9**
OKC	**Ostrava-Krasne**	**58.46**	**25**	*e*P		**P**	**11 46 51.6**	**0.0**
OKC				*e*pP		**pP**	**11 46 54.3**	**-2.2**
OKC				*e*sP		**sP**	**11 46 59.0**	**+0.7**
OKC				*e*x		x	11 47 03.5		
OKC				*e*PP		**PP**	**11 49 05.8**	**+4.7**
OKC				*e*S		**S**	**11 54 56.6**	**+2.3**
OKC				*e*SS		**SS**	**11 58 45.5**	**-1.4**
OKC				AMS		AMS	12 15 20.0		
	comp=Z,1μm,15.9s								
OKC	**Ostrava-Krasne**	**58.46**	**25**	*e*P		**P**	**11 46 51.6**	**0.0**
OKC				*e*			11 46 54.3		
OKC				*e*			11 46 59.0		
OKC				*e*			11 49 05.8		
OKC				*e*S		**S**	**11 54 56.6**	**+2.3**
OKC				*e*SS		**SS**	**11 58 45.5**	**-1.4**
OKC				MLR		MLR			
	comp=Z,1μm,15.9s								
KSP	**Ksiaz**	**58.47**	**23**	*e*P		**P**	**11 46 51.2**	**-0.4**
KSP				*e*S		**S**	**11 54 58.7**	**+4.3**
KSP	**Ksiaz**	**58.47**	**23**	*e*P		**P**	**11 46 51.3**	**-0.4**
KSP				*e*S		**S**	**11 54 58.7**	**+4.3**
ROSC	**El Rosal**	**58.61**	**276**	P		**P**	**11 46 52.3**	**-1.5**
	comp=Z,4.7nm,0.3s,baz=84,slow=4.7,SNR=6.9								
ROSC				LR		LR	12 09 26.5		
	comp=Z,2μm,21.8s,baz=88,slow=33								
VOIR		**58.72**	**33**	⇑*i*P		**P**	**11 46 55.2**	**+1.6**
CJR	**Cluj-Napoca**	**58.79**	**31**	⇑*i*P		**P**	**11 46 56.1**	**+2.1**
RUE	**Ruedersdorf**	**58.83**	**21**	*e*P		**P**	**11 46 54.2**	**+0.1**
	comp=Z,104nm,1.4s								
BSEG	**Bad Segeberg**	**58.91**	**18**	*e*P		**P**	**11 46 54.6**	**0.0**
	comp=Z,108nm,1.6s								
NIE	**Niedzica**	**59.10**	**27**	*e*P		**P**	**11 46 58.4**	**+2.3**
NIE				*e*S		S	11 55 08.6	+5.9	
NIE	**Niedzica**	**59.10**	**27**	*e*P		**P**	**11 46 58.4**	**+2.3**
NIE				*e*S		S	11 55 08.7	+6.0	
LCO	**Las Campanas**	**59.10**	**236**	PFAKE			11 47 10.0	+13	
LCO				LR		LR			
	comp=Z,3μm,20.0s								
TRPA	**Tarpa**	**59.22**	**29**	⇓*i*P		**P**	**11 46 57.7**	**+0.8**
MLR	**Muntele Rosu**	**59.24**	**33**	⇑*i*P		**P**	**11 46 58.8**	**+1.5**
OJC	**Ojcow**	**59.45**	**26**	*e*P		**P**	**11 46 58.4**	**-0.1**
OJC				*e*S		S	11 55 13.1	+5.9	
OJC	**Ojcow**	**59.45**	**26**	*e*P		**P**	**11 46 58.4**	**-0.1**
OJC				*e*S		S	11 55 13.2	+6.0	
OJC	**Ojcow**	**59.45**	**26**	*e*P		**P**	**11 46 58.5**	**0.0**
	comp=Z,34nm,1.3s								
UZH	**Uzhgorod**	**59.45**	**28**	*e*P		**P**	**11 46 58.4**	**-0.1**
UZH				*e*			11 47 06.2		
UZH				*e*			11 47 51.2		
UZH				*e*			11 49 17.8		
UZH				*e*S		**S**	**11 55 03.8**	**-3.4**
UZH				*e*			11 56 50.2		
UZH				MLR		MLR			
	comp=N,1μm,16.0s								
UZH				MLR		MLR			
	comp=E,900nm,16.0s								
UZH				MLR		MLR			
	comp=Z,310nm,16.0s								
KOLS	**Kolonicke sedl**	**59.65**	**28**	*e*P		**P**	**11 47 00.6**	**+0.7**
KOLS				pmax		pmax			
	comp=Z,199nm,3.3s								
KOLS	**Kolonicke sedl**	**59.65**	**28**	*e*P		**P**	**11 47 00.6**	**+0.7**
ASF	**Jabal al Asfar**	**59.79**	**51**	P		**P**	**11 47 02.0**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=217,slow=5.1,SNR=2.9								
ASF	**Jabal al Asfar**	**59.79**	**51**	P		**P**	**11 47 02.0**	**+0.7**
PLOR	**Plostina**	**59.85**	**33**	⇓*i*P		**P**	**11 47 02.2**	**+0.8**
HARR	**Harsova**	**59.86**	**35**	⇑*i*P		**P**	**11 47 03.5**	**+2.1**
VRI	**Vrincioaia**	**59.90**	**33**	⇓*i*P		**P**	**11 47 02.7**	**+1.0**
TIRR	**Tirgusor**	**60.00**	**35**	*e*P		**P**	**11 47 02.7**	**+0.4**
TIRR				pmax		pmax			
	comp=Z,34nm,1.5s								
TIRR	**Tirgusor**	**60.00**	**35**	*e*P		**P**	**11 47 02.7**	**+0.4**
	comp=Z,34nm,1.5s								
BURAR	**Bucovina Array**	**60.22**	**31**	⇑*i*P		**P**	**11 47 05.1**	**+1.2**
ANTO	**Ankara**	**60.22**	**42**	*e*P		**P**	**11 47 05.4**	**+1.3**
ANTO				pmax		pmax			
	comp=Z,275nm,1.4s								
ANTO				MLR		MLR			
	comp=Z,697nm,19.0s								
ANTO	**Ankara**	**60.22**	**42**	*e*P		**P**	**11 47 05.4**	**+1.3**
	comp=Z,275nm,1.4s								
ANTO				LR		LR			
	comp=Z,697nm,19.0s								
TESR	**Tescani**	**60.26**	**33**	⇑*i*P		**P**	**11 47 04.9**	**+0.8**
CFR	**Carcaliu**	**60.27**	**35**	⇑*i*P		**P**	**11 47 05.2**	**+1.1**
KWP	**Kalw

SUW Suwalki 63.64 25 eP P 11 47 26.3 -0.4
SIM Simferopol' 63.65 37 eP P 11 47 25.9 -1.1
SIM eS S 11 55 59.0 -1.7
SIM eSS SS 12 00 11.0 +2.4
SIM pmax pmax
comp=Z,120nm,10.7s
SIM MLR MLR
comp=Z,230nm,16.0s
KONO Kongsberg 63.68 14 eP P 11 47 25.5 -1.3
KONO MLR MLR
comp=Z,787nm,21.0s
KONO Kongsberg 63.68 14 eP P 11 47 25.5 -1.3
KONO LR LR
comp=Z,787nm,21.0s
KIEV Kiev 64.19 30 eP P 11 47 29.6 -0.8
KIEV pmax pmax
comp=Z,83nm,1.3s
KIEV MLR MLR
comp=Z,2µm,22.0s
KIEV Kiev 64.19 30 eP P 11 47 29.6 -0.8
comp=Z,83nm,1.3s
KIEV LR LR
comp=Z,2µm,22.0s
ABPO Ambohimpanom 64.38 111 PFAKE 11 47 50.0 +18
ABPO LR LR
comp=Z,1µm,21.0s
BCIP Isla Barro Col 64.42 281 eP P 11 47 33.7 +1.1
comp=Z,135nm,1.8s
BCIP LR LR
comp=Z,551nm,19.0s
EMMW East Machias 64.42 322 eP P 11 47 30.9 -1.1
comp=Z,47nm,1.4s
NB2 NORSAR Subarra 65.29 14 P P 11 47 37.2 -0.2
comp=Z,33nm,1.2s,baz=208,slow=6.9
NB2 NORSAR Subarra 65.29 14 P P 11 47 37.2 -0.2
baz=208,slow=6.9
NOA NORSAR Array B 65.29 14 P P 11 47 36.9 -0.5
comp=Z,13nm,1.0s,baz=208,slow=6.5,SNR=13
NOA LR LR 12 16 41.0
comp=Z,661nm,21.2s,baz=210,slow=36
ANN Anapa 65.63 39 eP P 11 47 38.1 -1.7
ANN eS S 11 56 25.2 +0.2
ANN pmax pmax
comp=Z,41nm,0.9s
ANN MLR MLR
comp=Z,727nm,21.0s
BORG Borgarnes 65.69 357 P P 11 47 40.4 +0.6
comp=Z,12nm,0.9s,baz=199,slow=9.6,SNR=3.9
BORG Borgarnes 65.69 357 P P 11 47 40.4 +0.6
BORG MLR MLR
comp=Z,413nm,19.0s
BORG Borgarnes 65.69 357 P P 11 47 40.4 +0.6
BORG LR LR
comp=Z,413nm,19.0s
NRS Narsarsuaq 65.97 345 i P P 11 47 42.9 +1.2
NRS Narsarsuaq 65.97 345 eP P 11 47 42.9 +1.2
SOC Sochi 66.54 41 eP P 11 47 44.7 -1.0
SOC e 11 50 20.1
SOC ePPP PPP 11 51 49.4
SOC eS S 11 56 32.6 -3.6
SOC eSSS SSS 12 03 46.6
SOC pmax pmax
comp=Z,21nm,0.8s
SOC MLR MLR
comp=Z,415nm,18.0s
HNH Hanover 67.04 319 eP P 11 47 49.5 +0.6
comp=Z,51nm,1.2s
ODNJ Ogdensburg 67.55 316 eP P 11 47 51.8 -0.4
comp=Z,36nm,1.3s
TRY Troy 67.55 318 eP P 11 47 52.0 -0.2
comp=Z,43nm,1.4s
MDV Middlebury 67.75 319 eP P 11 47 52.6 -0.8
CHVG Ch'k'valeri 67.75 42 P P 11 47 54.0 +0.5
ACCN Adirondack Com 67.81 318 eP P 11 47 53.6 -0.3
comp=Z,27nm,1.3s
LUPA Lehigh Univers 67.90 315 eP P 11 47 54.6 +0.1
comp=Z,5.1nm,1.3s
CNNC Cliffs of the 67.97 309 PFAKE 11 48 10.0 +15
CNNC LR LR
comp=Z,1µm,19.0s
VSU Vasula 68.17 23d iP P 11 47 55.1 -0.6
VSU pmax pmax
comp=Z,108nm,1.0s
AKH Akhalkalaki 68.21 44 P P 11 47 57.8 +1.1
AKH Akhalkalaki 68.21 44 eP P 11 47 57.7 +1.1
MVL Millersville 68.38 314 eP P 11 47 57.0 -0.5
comp=Z,38nm,1.3s
NCB Newcomb 68.42 319 PFAKE 11 48 10.0 +12
NCB LR LR
comp=Z,1µm,21.0s
URVA University of 68.43 311 eP P 11 47 57.4 -0.5
CBN Corbin 68.52 312 PFAKE 11 48 10.0 +12
CBN LR LR
comp=Z,1µm,22.0s
SDMD Soldier's Deli 68.53 313 eP P 11 47 58.6 +0.2
KSPA Keystone Colle 68.54 316 eP P 11 47 58.2 -0.2
comp=Z,34nm,1.3s
ONI Oni 68.63 43 P P 11 47 59.6 +0.4
ONI Oni 68.63 43 eP P 11 47 59.5 +0.4
GNI Garni 68.64 46 eP P 11 47 59.2 -0.1
GNI pmax pmax
comp=Z,86nm,1.5s
GNI MLR MLR
comp=Z,452nm,21.0s
GNI Garni 68.64 46 eP P 11 47 59.2 -0.1
comp=Z,86nm,1.5s
GNI LR LR
comp=Z,452nm,21.0s
KIV Kislovodsk 68.65 41 P P 11 48 03.9 +4.7
comp=Z,230nm,1.4s,SNR=5.4
KBZ Khabaz 68.70 42 P P 11 47 59.8 +0.4
comp=Z,17nm,0.9s,baz=278,slow=2.9,SNR=15
KBZ LR LR 12 22 58.1
comp=Z,287nm,18.1s,baz=263,slow=40
JSRW J. Sargeant Re 68.73 311 eP P 11 47 59.9 +0.2
LONY Lake Ozonia 68.92 319 eP P 11 48 00.6 -0.2
comp=Z,31nm,1.4s
LONY LR LR
comp=Z,1µm,21.0s
DWPF Disney 69.00 301 eP P 11 48 01.2 -0.3
comp=Z,79nm,1.3s
NHSC New Hope 69.17 306 PFAKE 11 48 10.0 +7.4
NHSC LR LR
comp=Z,1µm,20.0s
TBLG Delisi 69.20 44 P P 11 48 03.5 +0.9
TBLG Delisi 69.20 44 P P 11 48 03.5 +0.9
GOF Gofitskoye 69.32 40 eP P 11 48 00.9 -2.4
SCHQ Schefferville 69.45 331 P P 11 48 03.7 -0.2
comp=Z,16nm,1.3s,baz=131,slow=7.1,SNR=4.4
SCHQ LR LR 12 15 21.0
comp=Z,450nm,18.2s,baz=118,slow=33
SCHQ Schefferville 69.45 331 eP P 11 48 02.7 -1.1
comp=Z,161nm,2.3s
DGRG David-gareji 69.54 45 P P 11 48 06.3 +1.5
DGRG David-gareji 69.54 45 eP P 11 48 06.3 +1.5
JTS JuntasAbangare 69.55 281 PFAKE 11 48 20.0 +15
JTS LR LR
comp=Z,617nm,20.0s
SSPA Standing Stone 69.71 314 eP P 11 48 06.0 +0.3
comp=Z,47nm,1.2s
VSR Storozhevoye 69.73 33 eP P 11 48 05.1 -0.5
VSR pmax pmax
comp=N,30nm,0.9s
VSR pmax pmax
comp=E,30nm,0.9s
VSR pmax pmax
comp=Z,40nm,0.9s
VSR MLR MLR
comp=N,800nm,24.0s
VSR MLR MLR
comp=E,310nm,24.0s
VSR MLR MLR
comp=Z,1µm,24.0s
VNA1 Neumayer--Stat 69.74 177 P P 11 48 08.1 +2.8
FINES FINESS Array B 70.00 20 P P 11 48 06.2 -0.8
comp=Z,18nm,1.0s,baz=225,slow=7.8,SNR=16
FINES LR LR 12 18 32.2
comp=Z,391nm,20.0s,baz=220,slow=36
VNA2 Neumayer--Watz 70.05 177 P P 11 48 09.8 +2.5
baz=0.6,slow=6.4
JSC Jenkinsville 70.36 307 eP P 11 48 10.3 +0.5
JSC pmax pmax
comp=Z,59nm,1.6s
JSC Jenkinsville 70.36 307 eP P 11 48 10.3 +0.5
comp=Z,59nm,1.6s
OBN Obninsk 70.39 29⇑ eP P 11 48 09.0 -0.5
OBN e 11 48 31.3
OBN e 11 50 44.2
OBN i S S 11 57 16.1 -5.4
OBN eSS SS 12 01 51.6 -0.9
OBN pmax pmax
comp=Z,74nm,2.5s
OBN MLR MLR
comp=Z,1µm,22.0s
OBN Obninsk 70.39 29 PFAKE 11 48 20.0 +10
OBN LR LR
comp=Z,1µm,22.0s
MMNY Mt. Morris Dam 70.44 316 eP P 11 48 09.8 -0.4
comp=Z,104nm,1.3s
BLA Blacksburg 70.51 310 eP P 11 48 11.5 +0.7
BLA pmax pmax
comp=Z,42nm,1.1s
BLA MLR MLR
comp=Z,1µm,21.0s
BLA Blacksburg 70.51 310 eP P 11 48 11.5 +0.7
comp=Z,42nm,1.1s
BLA LR LR
comp=Z,1µm,21.0s
KMSC Kings Mountain 70.64 308 eP P 11 48 12.0 +0.4
comp=Z,65nm,1.4s
VRHR Novokhopersk 71.04 34 eP P 11 48 14.3 +0.7
VRHR pmax pmax
comp=N,20nm,1.2s
VRHR pmax pmax
comp=E,30nm,1.2s
VRHR pmax pmax
comp=Z,30nm,1.2s
SNAA Sanae 71.08 176 P P 11 48 15.7 +2.1
SNAA Sanae 71.08 176 eP P 11 48 15.2 +1.6
SNAA pmax pmax
comp=Z,6.0nm,1.1s
SNAA Sanae 71.08 176 eP P 11 48 15.2 +1.6
comp=Z,5.9nm,1.1s
MOS Moscow 71.23 29 eP P 11 48 16.5 +1.8
MOS e 11 48 41.5
MOS e 11 50 59.4
MOS pmax pmax
comp=Z,75nm,0.8s
MOS MLR MLR
comp=Z,2µm,22.0s
MSEY Mahe Island 71.41 95 PFAKE 11 48 30.0 +13
MSEY LR LR
comp=Z,1µm,19.0s
MAK Makhachkala 71.55 44 eP P 11 48 16.0 -0.9
MAK e 11 48 39.8
MAK ePPP PPP 11 52 42.8
MAK eS S 11 57 32.4 -3.1
MAK e 11 58 14.7
MAK pmax pmax
comp=Z,125nm,1.7s
MAK MLR MLR
comp=Z,678nm,17.0s
GOGA Godfrey 71.92 306 eP P 11 48 21.3 +2.0
GOGA pmax pmax
comp=Z,34nm,1.5s
GOGA MLR MLR
comp=Z,1µm,22.0s
GOGA Godfrey 71.92 306 eP P 11 48 21.3 +2.0
comp=Z,34nm,1.5s
GOGA LR LR
comp=Z,1µm,22.0s
NVL N'lazarevskaya 71.99 171 eP P 11 48 17.3 -1.7
NVL pmax pmax
comp=Z,7.0nm,0.8s
SADO Sadowa 71.99 318 P P 11 48 17.6 -1.9
comp=Z,22nm,1.0s,baz=116,slow=5.4,SNR=12
SFJD Kangerlussuaq 72.09 346 i P P 11 48 31.7 +12
SFJD Kangerlussuaq 72.09 346 eP P 11 48 31.7 +12
SFJD Kangerlussuaq 72.09 346 PFAKE 11 48 30.0 +10
SFJD LR LR
comp=Z,389nm,20.0s
PMSA Palmer Station 72.45 200 LR LR 12 12 43.8
comp=Z,810nm,21.5s,baz=40,slow=30
PMSA Palmer Station 72.45 200 PFAKE 11 48 40.0 +18
PMSA LR LR
comp=Z,1µm,22.0s
TKL Tuckaleechee C 72.70 308 P P 11 48 23.6 -0.4
comp=Z,18nm,1.2s,baz=113,slow=5.4,SNR=6.8
TKL Tuckaleechee C 72.70 308 P P 11 48 23.6 -0.4
TKL pmax pmax
comp=Z,18nm,1.2s
TKL Tuckaleechee C 72.70 308 eP P 11 48 25.1 +1.1
TZTN Tazewell 72.74 309 eP P 11 48 26.1 +1.9
comp=Z,38nm,1.4s
CPCT Cooper Cave 73.24 307 eP P 11 48 27.7 +0.5
ACSO Alum Creek Sta 73.28 313 PFAKE 11 48 40.0 +13
ACSO LR LR
comp=Z,870nm,19.0s
ILULI Ilulissat 73.98 348 i P P 11 48 35.7 +4.9
IMEH Mehriz 73.99 57 eP P 11 48 33.0 +1.0
CRZF Crozet Islands 74.12 138 SS SS 12 02 52.0 +1.9
CRZF R 12 11 00.0
SWET Sewanee 74.31 307 eP P 11 48 33.0 -0.5
PAYG Puerto Ayora 74.33 270 PFAKE 11 48 50.0 +16
PAYG LR LR
comp=Z,897nm,19.0s
AAM Ann Arbor 74.34 315 eP P 11 48 35.6 +2.1
AAM pmax pmax
comp=Z,122nm,1.5s
AAM MLR MLR
comp=Z,688nm,20.0s
AAM Ann Arbor 74.34 315 eP P 11 48 35.6 +2.1
comp=Z,122nm,1.5s
AAM LR LR
comp=Z,688nm,20.0s
BRAL Brewton 74.39 302 PFAKE 11 48 50.0 +16
BRAL LR LR
comp=Z,757nm,22.0s
LRAL Lakeview Retre 74.73 305 eP P 11 48 35.7 -0.3
comp=Z,22nm,1.2s
BLO Bloomington 75.66 311 eP P 11 48 41.1 -0.1
BLO pmax pmax
comp=Z,107nm,1.7s
BLO Bloomington 75.66 311 eP P 11 48 41.1 -0.1
comp=Z,107nm,1.7s
ARCES ARCESS Array B 75.66 14 P P 11 48 39.7 -0.8
comp=Z,9.8nm,1.1s,baz=261,slow=8.1,SNR=5.8
ARCES LR LR 12 22 52.4
comp=Z,917nm,20.4s,baz=246,slow=36
GLMI Grayling 75.71 317 PFAKE 11 48 50.0 +8.6
GLMI LR LR
comp=Z,851nm,19.0s
TMCR Tamitsa 75.98 21 eP P 11 48 42.4 0.0
TMCR pmax pmax
comp=Z,18nm,1.1s
KEV Kevo 76.19 14 eP P 11 48 43.8 +0.3
KEV pmax pmax
comp=Z,33nm,1.3s
KEV MLR MLR
comp=Z,881nm,20.0s
KEV Kevo 76.19 14 eP P 11 48 43.8 +0.3
comp=Z,33nm,1.3s
KEV LR LR
comp=Z,881nm,20.0s
SFIN Scholer Farm 76.36 312 eP P 11 48 44.9 -0.3
comp=Z,67nm,1.6s
APA Apatity 76.45 17⇓ iP P 11 48 45.4 +0.3
APA MLR MLR
comp=Z,900nm,18.0s
OLIL Olney 76.76 310 eP P 11 48 46.6 -0.8
comp=Z,78nm,1.1s
LVZ Lovozero 77.03 17ce P P 11 48 50.1 +1.7
LVZ pmax pmax
comp=Z,72nm,2.5s
LVZ Lovozero 77.03 17 eP P 11 48 49.1 +0.7
comp=Z,132nm,1.6s
LVZ LR LR
comp=Z,836nm,21.0s
SIUC Southern Illin 77.42 309 eP P 11 48 51.1 -0.1
comp=Z,72nm,1.4s
DAG Danmarks Havn 77.68 359 i P P 11 48 54.7 +2.9
DAG Danmarks Havn 77.68 359 eP P 11 48 54.7 +2.9
GNAR Gosnell 77.72 307 eP P 11 48 52.6 -0.3
PRGR Permogore 77.74 25 eP P 11 48 47.8 -4.6
PRGR pmax pmax
comp=Z,79nm,1.4s
HDIL Hopedale 78.04 312 eP P 11 48 53.5 -1.0
comp=Z,6.3nm,1.6s
HDIL LR LR
comp=Z,1µm,19.0s
GEYT Alibeck 78.07 51 P P 11 48 55.6 +0.8
comp=Z,1.1nm,0.3s,baz=318,slow=1.9,SNR=3.8
GEYT LR LR 12 26 39.5
comp=Z,3µm,18.4s,baz=255,slow=38
HBAR Harrisburg 78.17 307 eP P 11 48 55.5 +0.1
PBMO Poplar Bluff 78.20 308 eP P 11 48 53.8 -1.7
comp=Z,19nm,1.1s
ISRO Mashad 78.85 53 eP P 11 49 00.8 +1.5
COWI Conover 79.11 317 eP P 11 48 59.5 -0.9
comp=Z,36nm,1.3s
COWI LR LR
comp=Z,749nm,21.0s
JFWS Jewell Farm 79.21 314 eP P 11 48 59.5 -1.5
JFWS pmax pmax
comp=Z,43nm,1.3s
JFWS MLR MLR
comp=Z,942nm,19.0s
JFWS Jewell Farm 79.21 314 eP P 11 48 59.5 -1.5
comp=Z,43nm,1.3s
JFWS LR LR
comp=Z,942nm,19.0s
IMYA Miami 79.36 53 eP P 11 49 01.6 -0.6
KULLO Kullorsuaq 79.36 350 i P P 11 49 02.3 +1.2
UALR University of 79.41 306 eP P 11 49 01.7 -0.5
comp=Z,19nm,1.0s
MIAR Mount Ida 80.38 305 eP P 11 49 07.0 -0.5
MIAR pmax pmax
comp=Z,30nm,1.4s
MIAR MLR MLR
comp=Z,1µm,21.0s
MIAR Mount Ida 80.38 305 eP P 11 49 07.0 -0.5
comp=Z,30nm,1.4s
MIAR LR LR
comp=Z,1µm,21.0s
AKTO Aktyubinsk 80.59 39 LR LR 12 28 21.1
comp=Z,131nm,19.9s,baz=277,slow=38
NATX Nacogdoches 80.93 302 eP P 11 49 10.4 -0.1
comp=Z,101nm,1.5s
EYMN Ely 81.08 319 eP P 11 49 09.8 -1.2
EYMN pmax pmax
comp=Z,33nm,1.4s
EYMN LR LR
comp=Z,1µm,20.0s
KBS Kingsbay 81.13 5 PFAKE 11 49 20.0 +9.4
KBS LR LR
comp=Z,375nm,19.0s
SPMN St. Paul 81.46 316 eP P 11 49 12.5 -0.6
ABKAR Akbulak array 81.56 40 eP P 11 49 14.0 +0.6
ARU Arti 82.29 33d iP P 11 49 16.9 -0.2
ARU 11 52 24.4
ARU S S 11 59 32.0 -0.2
ARU pmax pmax
comp=Z,23nm,1.0s
ARU MLR MLR
comp=Z,810nm,22.0s
ARU Arti 82.29 33 P P 11 49 17.9 +0.8
comp=Z,108nm,1.0s,SNR=7.2
ARU Arti 82.29 33 eP P 11 49 17.1 -0.1
comp=Z,88nm,1.6s
ARU LR LR
comp=Z,829nm,22.0s
TUL1 Tulsa 82.35 306 eP P 11 49 17.2 -0.7
KVTX Kingsville 83.31 298 PFAKE 11 49 30.0 +6.9
KVTX LR LR
comp=Z,850nm,20.0s
WHTX Lake Whitney 83.31 302 eP P 11 49 22.6 -0.4
KSU1 Kansas State U 83.37 309 eP P 11 49 22.2 -1.0
KSU1 LR LR
comp=Z,950nm,21.0s
SVE Sverdlovsk 83.49 33⇓ eP P 11 49 24.2 +0.8
SVE eS S 11 59 43.5 -1.0
SVE pmax pmax
comp=Z,55nm,2.0s
SVE MLR MLR
comp=Z,638nm,17.0s
V34A Guthrie 83.74 306 eP P 11 49 25.8 +0.7
U34A Anderson Ranch 83.81 307 eP P 11 49 25.4 -0.1
W34A Bridge Creek, 83.89 305 eP P 11 49 26.1 +0.2
ECSD EROS Data Cent 83.93 314 eP P 11 49 24.8 -1.2
comp=Z,38nm,1.4s
ECSD LR LR
comp=Z,662nm,19.0s
AGMN Agassiz Nation 84.02 319 eP P 11 49 25.7 -0.6
comp=Z,64nm,1.3s
AGMN LR LR
comp=Z,976nm,20.0s
ULM Lac du Bonnet 84.31 321 P P 11 49 25.4 -2.3
comp=Z,13nm,1.1s,baz=91,slow=5.3,SNR=8.9
ULM LR LR 12 22 00.9
comp=Z,698nm,19.7s,baz=104,slow=32
ULM Lac du Bonnet 84.31 321 eP P 11 49 26.7 -1.0
WMOK Wichita Mounta 84.66 305 eP P 11 49 29.3 -0.6
WMOK pmax pmax
comp=Z,29nm,1.3s
WMOK MLR MLR
comp=Z,2µm,21.0s
WMOK Wichita Mounta 84.66 305 eP P 11 49 29.2 -0.6
comp=Z,29nm,1.3s
WMOK LR LR
comp=Z,2µm,21.0s
MAW Mawson 84.83 158 P P 11 49 27.1 -2.9
comp=Z,4.2nm,0.8s,baz=309,slow=3.0,SNR=4.3
MAW LR LR 12 19 01.6
comp=Z,221nm,21.9s,baz=246,slow=30
MAW Mawson 84.83 158 eP P 11 49 28.0 -1.9
JCT Junction City 85.20 301 eP P 11 49 32.4 -0.3
JCT pmax pmax
comp=Z,51nm,1.2s
JCT MLR MLR
comp=Z,724nm,22.0s
JCT Junction City 85.20 301 eP P 11 49 32.4 -0.3
comp=Z,51nm,1.2s
JCT LR LR
comp=Z,724nm,22.0s
ABTX Abilene, Hawle 85.21 303 eP P 11 49 32.9 +0.2
CBKS Cedar Bluff 85.77 309 eP P 11 49 35.2 -0.2
CBKS pmax pmax
comp=Z,80nm,1.3s
CBKS MLR MLR
comp=Z,663nm,20.0s
CBKS Cedar Bluff 85.77 309 eP P 11 49 35.2 -0.2
comp=Z,80nm,1.3s
CBKS LR LR
comp=Z,663nm,20.0s
MDND Maddock 86.46 318 eP P 11 49 38.2 -0.4
PAF Port-aux-Franc 86.75 139 S S 12 00 13.0 -4.0
PAF SS SS 12 05 53.0 -5.5
PAF L L 12 12 00.0
PAF R 12 16 00.0
OGNE Ogallala 87.68 311 eP P 11 49 44.6 -0.2
comp=Z,63nm,1.0s
OGNE LR LR
comp=Z,2µm,22.0s
RES Resolute Bay 88.03 345 P P 11 49 46.4 +0.9
comp=Z,2.5nm,0.8s,baz=124,slow=5.4,SNR=3.8
KSCO Kaye Shedlock' 88.03 309 eP P 11 49 47.2 +0.7
DGAR Diego Garcia 88.28 97 PFAKE 11 50 00.0 +12
DGAR LR LR
comp=Z,2µm,22.0s
TXAR Lajitas Array 88.49 299 P P 11 49 47.7 -1.2
comp=Z,7.3nm,1.1s,baz=99,slow=5.6,SNR=21
TXAR LR LR 12 26 12.2
comp=Z,436nm,21.1s,baz=0.0,slow=34
FFC Flin Flon 88.50 325 PFAKE 11 50 00.0 +12
FFC LR LR
comp=Z,1µm,20.0s
BRVK Borovoye 88.50 37 P P 11 49 49.1 +0.9
comp=Z,48nm,1.2s,SNR=6.5
BRVK Borovoye 88.50 37d iP P 11 49 48.4 +0.2
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BRVK Borovoye 88.50 37 eP P 11 49 49.3 +1.1
BRVK LR LR
comp=Z,596nm,21.0s
BVAR Borovoye Array 88.56 37 LR LR 12 33 28.9
comp=Z,320nm,18.1s,baz=258,slow=38
QSPA South Pole Qui 89.09 180 eP P 11 49 51.8 +0.9
QSPA LR LR
comp=Z,433nm,20.0s
RSSD Black Hills 89.30 314 eP P 11 49 53.6 +1.1
RSSD Black Hills 89.30 314 eP P 11 49 53.6 +1.1
T25A Trinidad 89.36 307 eP P 11 49 53.7 +0.8
DGMT Dagmar 89.57 318 eP P 11 49 55.5 +2.1
DGMT LR LR
comp=Z,982nm,20.0s
SDCO Great Sand Dun 90.25 308 eP P 11 49 53.6 -3.5
SDCO LR LR
comp=Z,739nm,20.0s
ISCO Idaho Springs 90.37 310 eP P 11 49 58.6 +0.9

ISCO					MLR	MLR			
	comp=Z,896nm,22.0s								
ISCO	**Idaho Springs**	**90.37**	**310**	*e*P	**P**		**11**	**49**	**58.6 +0.9**
ISCO					LR	LR			
	comp=Z,896nm,22.0s								
EKS2	**Erkin-Say**	**90.45**	**48**	*e*P	**P**		**11**	**49**	**59.6 +1.8**
EKS2					pmax	pmax			
	comp=Z,31nm,1.6s								
EKS2					MLR	MLR			
	comp=Z,565nm,20.0s								
EKS2	**Erkin-Say**	**90.45**	**48**	*e*P	**P**		**11**	**49**	**59.6 +1.8**
	comp=Z,31nm,1.6s								
EKS2					LR	LR			
	comp=Z,565nm,20.0s								
N23A	**Red Feather La**	**90.64**	**311**	*e*P	P		11	49	55.1 -3.7
LAO	**LASA Array**	**90.90**	**316**		PFAKE		11	50	10.0 +10
LAO					LR	LR			
	comp=Z,690nm,19.0s								
ANMO	**Albuquerque**	**90.98**	**305**⇑	*e*P	**P**		**11**	**50**	**01.1 +0.6**
ANMO					pmax	pmax			
	comp=Z,76nm,2.7s								
ANMO	**Albuquerque**	**90.98**	**305**	*e*P	**P**		**11**	**50**	**00.9 +0.4**
ANMO					LR	LR			
	comp=Z,1μm,20.0s								
AAK	**Ala-Archa**	**90.98**	**48**		PFAKE		11	50	10.0 +10
AAK					LR	LR			
	comp=Z,655nm,19.0s								
FRU	**Bishkek**	**91.07**	**47**	*e*P	**P**		**11**	**50**	**01.0 +0.4**
FRU				*e*			11	50	08.0
FRU				*e*			11	53	40.0
FRU					pmax	pmax			
	comp=Z,140nm,2.2s								
K22A	**Casper**	**91.09**	**312**	*e*P	**P**		**11**	**50**	**01.1 +0.3**
BNM	**Barren Site**	**91.11**	**304**	*e*P	**P**		**11**	**50**	**02.0 +0.8**
S22A	**4UR Ranch, Cre**	**91.30**	**308**	*e*P	**P**		**11**	**49**	**59.1 -3.0**
SMCO	**Snowmass**	**91.42**	**309**	*e*P	**P**		**11**	**50**	**03.6 +0.9**
LAZ	**Ladron**	**91.54**	**304**	*e*P	**P**		**11**	**50**	**03.8 +0.7**
TKM2	**Tokmak 2**	**91.79**	**47**		PFAKE		11	50	20.0 +16
TKM2					LR	LR			
	comp=Z,532nm,22.0s								
121A	**Cookes Peak, D**	**92.08**	**302**	*e*P	**P**		**11**	**50**	**06.0 +0.3**
	comp=Z,5.8nm,1.1s								
KSH	**Kashi**	**92.10**	**51**	P	**P**		**11**	**50**	**07.8 +2.3**
KSH				pP	**pP**		**11**	**50**	**13.0 +2.4**
KSH				PP	**PP**		**11**	**53**	**48.3 +2.8**
KSH				SKS	**SKSac**		**12**	**00**	**38.5 -0.1**
KSH				S	**S**		**12**	**01**	**07.5 -0.3**
KSH				sS	**ScS**		**12**	**01**	**10.3 +0.1**
KSH				SS	**SS**		**12**	**07**	**15.0 -2.1**
KSH				PMZ					
	comp=Z,280nm,4.2s								
KSH					LN				
	comp=Z,100nm,4.1s								
KSH					LE				
	comp=Z,300nm,5.0s								
KSH					LZ				
	comp=Z,200nm,9.9s								
O20A	**White River Ci**	**92.39**	**310**	*e*P	**P**		**11**	**50**	**08.5 +1.6**
RPN	**Rapa Nui**	**92.58**	**243**		PFAKE		11	50	20.0 +12
RPN					LR	LR			
	comp=Z,2μm,20.0s								
MVCO	**Mesa Verde**	**92.63**	**307**		PFAKE		11	50	20.0 +12
MVCO					LR	LR			
	comp=Z,510nm,21.0s								
PV01	**Paradox Valley**	**92.67**	**308**	*e*P	**P**		**11**	**50**	**10.6 +2.2**
PV10	**Paradox Valley**	**93.04**	**308**	*e*P	**P**		**11**	**50**	**12.1 +2.0**
RLMT	**Red Lodge**	**93.04**	**315**	*e*P	**P**		**11**	**50**	**08.6 -1.2**
	comp=Z,11nm,1.4s								
RLMT					LR	LR			
	comp=Z,636nm,19.0s								
PV05	**Paradox Valley**	**93.09**	**308**	*e*P	**P**		**11**	**50**	**10.7 +0.4**
EGMT	**Eagleton**	**93.28**	**318**		PFAKE		11	50	20.0 +9.3
EGMT					LR	LR			
	comp=Z,941nm,22.0s								
BW06	**Boulder Array**	**93.32**	**313**	*e*P	**P**		**11**	**50**	**11.1 -0.1**
BW06					LR	LR			
	comp=Z,831nm,20.0s								
PDAR	**Pinedale Array**	**93.32**	**313**	P	**P**		**11**	**50**	**09.8 -1.5**
	comp=Z,1.7nm,1.0s,baz=83,slow=7.4,SNR=10								
PDAR					LR	LR	12	28	28.6
	comp=Z,609nm,19.0s,baz=114,slow=33								
LKWY	**Lake**	**93.87**	**314**		PFAKE		11	50	30.0 +16
LKWY					LR	LR			
	comp=Z,1μm,21.0s								
LOHW	**Long Hollow**	**94.06**	**313**	*e*P	**P**		**11**	**50**	**15.3 +0.7**
ARGU	**Argyle Ridge**	**94.17**	**310**	*e*P	**P**		**11**	**50**	**15.1 -0.1**
SRU	**San Rafael**	**94.18**	**309**	*e*P	**P**		**11**	**50**	**16.7 +1.5**
SRU	**San Rafael**	**94.18**	**309**	*e*P	**P**		**11**	**50**	**16.7 +1.5**
REDW	**Red Top Meadow**	**94.25**	**313**	*e*P	**P**		**11**	**50**	**15.3 -0.1**
IMW	**Indian Meadow**	**94.28**	**314**	*e*P	**P**		**11**	**50**	**16.2 +0.5**
TPAW	**Teton Pass**	**94.31**	**313**	*e*P	**P**		**11**	**50**	**17.4 +1.6**
FXWY	**Fox Creek**	**94.36**	**314**	*e*P	**P**		**11**	**50**	**15.7 -0.3**
AHID	**Auburn Hatcher**	**94.46**	**313**		PFAKE		11	50	30.0 +14
AHID					LR	LR			
	comp=Z,1μm,22.0s								
QLMT	**Earthquake Lak**	**94.59**	**315**	*e*P	**P**		**11**	**50**	**16.7 -0.3**
	comp=Z,0.2nm,0.2s								
TUC	**Tucson**	**94.62**	**302**		PFAKE		11	50	30.0 +13
TUC					LR	LR			
	comp=Z,413nm,20.0s								
BOZ	**Bozeman (W)**	**94.68**	**316**		PFAKE		11	50	30.0 +13
BOZ					LR	LR			
	comp=Z,481nm,19.0s								
HWUT	**Hardware Ranch**	**94.86**	**311**		PFAKE		11	50	30.0 +12
HWUT					LR	LR			
	comp=Z,1μm,21.0s								
YKA	**Yellowknife Ar**	**94.88**	**333**	P	**P**		**11**	**50**	**15.6 -2.0**
	comp=Z,3.3nm,1.1s,baz=84,slow=6.1,SNR=10.0								
WUAZ	**Wupatki**	**94.99**	**305**		PFAKE		11	50	30.0 +11
WUAZ					LR	LR			
	comp=Z,969nm,22.0s								
EDM	**Edmonton**	**95.23**	**323**	*e*P	**P**		**11**	**50**	**21.2 +1.7**
EDM	**Edmonton**	**95.23**	**323**	*e*P	**P**		**11**	**50**	**21.2 +1.7**
DLMT	**Dillon**	**95.38**	**315**	*e*P	**P**		**11**	**50**	**21.0 +0.5**
HVU	**Hansel Valley**	**95.75**	**312**	*e*P	**P**		**11**	**50**	**22.9 +0.6**
HVU	**Hansel Valley**	**95.75**	**312**	*e*P	**P**		**11**	**50**	**22.9 +0.6**
DUG	**Dugway**	**95.89**	**310**	*e*P	**P**		**11**	**50**	**24.2 +1.3**
DUG					MLR	MLR			
	comp=Z,875nm,20.0s								
DUG	**Dugway**	**95.89**	**310**	*e*P	**P**		**11**	**50**	**24.2 +1.3**
DUG					LR	LR			
	comp=Z,875nm,20.0s								
NVS	**Novosibirsk**	**96.09**	**35**	*e*P	**P**		**11**	**50**	**22.3 -1.0**
MSO	**Missoula**	**96.19**	**317**	*e*P	**P**		**11**	**50**	**24.8 +0.6**
MKAR	**Makanchi Array**	**96.36**	**43**	P	**P**		**11**	**50**	**25.0 +0.2**
	comp=Z,2.5nm,1.0s,baz=263,slow=4.8,SNR=9.0								
MKAR					PP	**PP**	**11**	**54**	**15.9 -2.4**
	comp=Z,0.8nm,1.0s,baz=280,slow=8.6,SNR=3.4								
MKAR					LR	LR	12	39	38.8
	comp=Z,628nm,18.8s,baz=268,slow=39								
MKAR	**Makanchi Array**	**96.36**	**43**	P	**P**		**11**	**50**	**25.0 +0.2**
MKAR							11	54	15.9
MKAR					pmax	pmax			
	comp=Z,3.0nm,1.0s								
MKAR					pmax	pmax			
	comp=Z,1.0nm,1.0s								
MKAR	**Makanchi Array**	**96.36**	**43**	*e*P	**P**		**11**	**50**	**27.0 +2.2**
MKAR				PP	**PP**		**11**	**54**	**15.9 -2.4**
CCUT	**Cedar City**	**96.49**	**308**	*e*P	**P**		**11**	**50**	**27.5 +1.7**
HLID	**Hailey**	**96.82**	**314**	*e*P	**P**		**11**	**50**	**28.4 +1.3**
HLID					LR	LR			
	comp=Z,658nm,19.0s								
ZALV	**Zalesovo Beam**	**97.13**	**36**	P	Pdif		11	50	29.0 +0.9
	comp=Z,0.3nm,0.4s,baz=348,slow=4.9,SNR=3.8								
ZALV					LR	LR	12	37	04.0
	comp=Z,492nm,21.4s,baz=252,slow=37								
ZALV	**Zalesovo Beam**	**97.13**	**36**	P	Pdif		11	50	29.0 +0.9
ELK	**Elko**	**97.69**	**311**	P	**P**		**11**	**50**	**29.9 -1.3**
	comp=Z,0.2nm,0.3s,baz=91,slow=8.8,SNR=3.9								
NEW	**Newport**	**98.18**	**319**		PFAKE		11	50	40.0 +7.0
NEW					LR	LR			
	comp=Z,1μm,20.0s								
PFO	**Pinyon Flat Ob**	**99.30**	**304**		PFAKE		11	50	50.0 +12
PFO					LR	LR			
	comp=Z,732nm,20.0s								
D08A	**Wollman Farm,**	**99.55**	**317**	*e*P	**Pdif**		**11**	**50**	**38.5 -0.6**
WVOR	**Wild Horse Val**	**100.03**	**313**		PFAKE		11	50	50.0 +8.5
WVOR					LR	LR			
	comp=Z,1μm,22.0s								
HAWA	**Hanford**	**100.07**	**317**		PFAKE		11	50	50.0 +8.6
HAWA					LR	LR			
	comp=Z,697nm,19.0s								
WMQ	**Urumqi**	**100.51**	**46**	P	**Pdif**		**11**	**50**	**43.5 0.0**
WMQ				pP	pP		11	50	48.5 -0.2
WMQ				PP	**PP**		**11**	**54**	**52.5 +2.3**
WMQ				SKS	**SKSac**		**12**	**01**	**25.0 +2.7**
WMQ				S	**Sdif**		**12**	**02**	**15.5 -4.5**
WMQ				PMZ					
	comp=Z,69nm,5.0s								
WMQ					LN				
	comp=Z,490nm,20.4s								
WMQ					LE				
	comp=Z,450nm,18.8s								
WMQ					LZ				
	comp=Z,360nm,18.9s								
NLWA	**Neilton Lookou**	**102.80**	**318**		PFAKE		11	51	10.0 +16
NLWA					LR	LR			
	comp=Z,1μm,20.0s								
CASY	**Casey**	**103.00**	**160**		PFAKE		11	51	10.0 +16
CASY					LR	LR			
	comp=Z,490nm,19.0s								
WRAK	**Wrangell Islan**	**105.14**	**329**		PFAKE		11	51	10.0 +6.3
WRAK					LR	LR			
	comp=Z,877nm,21.0s								
EGAK	**Eagle**	**105.22**	**339**		PFAKE		11	51	20.0 +16
EGAK					LR	LR			
	comp=Z,399nm,19.0s								
LSA	**Lhasa**	**105.31**	**60**		PFAKE		11	55	30.0
LSA					LR	LR			
	comp=Z,411nm,19.0s								
COLA	**College**	**107.49**	**341**		PFAKE		11	55	30.0
COLA					LR	LR			
	comp=Z,351nm,20.0s								
TLY	**Talaya**	**108.71**	**35**		PFAKE		11	55	40.0
TLY					LR	LR			
	comp=Z,965nm,20.0s								
DRV	**Dumont d'Urvil**	**110.37**	**170**		SS	SS	12	11	38.0 +10
DRV					L	L	12	24	00.0
DRV					R		12	30	00.0
SONM	**Songino Array**	**111.90**	**38**		PKiKP	**PKiKP**	**11**	**55**	**32.5 +1.3**
	comp=Z,0.5nm,0.7s,baz=257,slow=2.5,SNR=3.2								
ULN	**Ulaanbaatar**	**112.29**	**38**	*i*	PKiKP	**PKiKP**	**11**	**55**	**32.1 +0.1**
ULN	**Ulaanbaatar**	**112.29**	**38**		PFAKE		11	55	40.0
ULN					LR	LR			
	comp=Z,965nm,22.0s								
KDAK	**Kodiak Island**	**113.82**	**336**		PFAKE		11	55	50.0
KDAK					LR	LR			
	comp=Z,720nm,21.0s								
CHTO	**Chiang Mai**	**113.83**	**70**		PFAKE		11	55	50.0
CHTO					LR	LR			
	comp=Z,341nm,20.0s								
YAK	**Yakutsk**	**113.83**	**17**		PFAKE		11	55	50.0
YAK					LR	LR			
	comp=Z,512nm,21.0s								
CMAR	**Chiang Mai Arr**	**113.88**	**70**		PKiKP	**PKiKP**	**11**	**55**	**35.6 +0.1**
	comp=Z,0.6nm,0.5s,baz=264,slow=1.8,SNR=4.2								
LZH	**Lanzhou**	**114.35**	**51**	*e*	PKP	PKPdf	11	55	35.3 -1.0
LZH					sPKP		11	55	39.8
LZH					PP	**PP**	**11**	**56**	**36.0 +4.1**
LZH					SKKS		12	03	22.3
LZH				*e*	SS	**SS**	**12**	**12**	**20.5 -3.3**
LZH					PPMZ				
	comp=Z,160nm,8.2s								
LZH					LN				
	comp=Z,640nm,18.3s								
LZH					LE				
	comp=Z,650nm,18.2s								
LZH					LZ				
	comp=Z,720nm,20.1s								
CD2	**Chengdu**	**115.75**	**56**		PKP	**PKPdf**	**11**	**55**	**38.3 -0.7**
CD2					sPKP		11	55	43.0
CD2					PP	**PP**	**11**	**56**	**40.5 -1.4**
CD2					SKS	**SKSdf**	**12**	**02**	**50.3 -0.7**
CD2					SKKS	**SKKSac**	**12**	**03**	**40.0 -3.3**
CD2					SS	**SS**	**12**	**12**	**41.5 -0.9**
CD2					PPMZ				
	comp=Z,160nm,5.4s								
CD2					LN				
	comp=Z,450nm,18.4s								
CD2					LE				
	comp=Z,500nm,24.0s								
CD2					LZ				
	comp=Z,630nm,25.8s								
RKT	**Rikitea**	**116.11**	**244**	*e*	PS	PS	12	06	28.2 +1.5
	comp=Z,220nm,27.0s								
RKT				*e*	SS	SS	12	12	51.9 +4.6
	comp=Z,573nm,33.5s								
RKT	**Rikitea**	**116.11**	**244**	*e*	LR	LR	12	30	49.0
	comp=Z,1μm,37.5s								
KMI	**Kunming**	**116.25**	**62**		PKP	**PKPdf**	**11**	**55**	**41.3 +1.0**
KMI					PP	**PP**	**11**	**56**	**49.0 +3.2**
KMI					SKKS		12	03	40.0
KMI					SS	**SS**	**12**	**12**	**50.0 +0.4**
KMI					PPMZ				
	comp=Z,100nm,5.0s								
KMI					LN				
	comp=Z,290nm,22.9s								
KMI					LE				
	comp=Z,220nm,21.7s								
KMI					LZ				
	comp=Z,370nm,19.9s								
KULM	**Kulim**	**116.57**	**85**		PFAKE		11	55	50.0 +9.1
KULM					LR	LR			
	comp=Z,717nm,21.0s								
HHC	**Hu-ho-hao-te**	**118.22**	**43**	*e*	PKP	**PKPdf**	**11**	**55**	**44.8 +1.3**
HHC					PP	PP	11	57	04.0 +5.3
HHC					PKS	**PKSdf**	**11**	**59**	**20.3 0.0**
HHC					SKKS		12	03	56.0
HHC					SS	**SS**	**12**	**13**	**15.0 +1.2**
HHC					PPMZ				
	comp=Z,42nm,5.9s								
HHC					LN				
	comp=Z,72nm,18.2s								
HHC					LE				
	comp=Z,160nm,20.4s								
HHC					LZ				
	comp=Z,160nm,20.0s								
HIA	**Hailar**	**118.78**	**31**		PFAKE		11	56	00.0 +16
HIA					LR	LR			
	comp=Z,981nm,22.0s								
XAN	**Xi'an**	**118.95**	**51**		PKP	**PKPdf**	**11**	**55**	**44.8 -0.2**
XAN					PKS	**PKSdf**	**11**	**59**	**20.0 -1.8**
XAN					SKS	**SKSdf**	**12**	**02**	**51.5 -5.5**
XAN					PPMZ				
	comp=Z,66nm,8.0s								
XAN					LN				
	comp=Z,250nm,24.5s								
XAN					LE				
	comp=Z,440nm,25.0s								
XAN					LZ				
	comp=Z,530nm,22.5s								
GYA	**Guiyang**	**119.38**	**60**		Pdif	**Pdif**	**11**	**52**	**08.0 +0.1**
GYA					PKP	**PKiKP**	**11**	**55**	**46.3 +0.1**
GYA					PP	**PP**	**11**	**57**	**11.5 +4.2**
GYA					PKS	**PKSdf**	**11**	**59**	**21.3 -1.8**
GYA					SKKS		12	04	00.8
GYA					SS	**SS**	**12**	**13**	**29.0 -0.9**
GYA					PPMZ				
	comp=Z,150nm,8.0s								
GYA					LN				
	comp=Z,160nm,20.8s								
GYA					LE				
	comp=Z,180nm,21.0s								
GYA					LZ				
	comp=Z,150nm,20.4s								
BJI	**Beijing**	**121.72**	**42**		PKP	**PKPdf**	**11**	**55**	**50.8 +0.7**
BJI					PP	**PP**	**11**	**57**	**24.3 +1.8**
BJI					LN				
	comp=Z,390nm,22.0s								
BJI					LE				
	comp=Z,320nm,23.3s								
BJI					LZ				
	comp=Z,490nm,32.9s								
BJT	**Baijiatuan**	**121.72**	**42**		PFAKE		11	56	00.0 +10
BJT					LR	LR			
	comp=Z,1μm,19.0s								
QIZ	**Qiongzhong**	**123.96**	**68**		PFAKE		11	56	10.0 +15
QIZ					LR	LR			
	comp=Z,530nm,21.0s								
WHN	**Wuhan**	**124.50**	**53**		PKP	**PKPdf**	**11**	**55**	**54.5 -1.2**
WHN					PP	**PP**	**11**	**57**	**45.3 +3.6**
WHN					SS	SS	12	14	34.0 -0.6
WHN					LN				
	comp=Z,330nm,11.4s								
WHN					LE				
	comp=Z,840nm,15.5s								
WHN					LZ				
	comp=Z,1μm,25.8s								
KLR	**Kul'dur**	**124.53**	**25**	*e*	PKiKP	**PKPdf**	**11**	**55**	**52.0 -3.2**
KLR				*e*			11	57	39.8
KSM	**Kuching**	**126.26**	**89**		PFAKE		11	56	10.0 +10
KSM					LR	LR			
	comp=Z,452nm,19.0s								
MDJ	**Mudanjiang**	**126.92**	**30**		PKP	**PKPdf**	**11**	**56**	**00.3 +0.4**
MDJ	**Mudanjiang**	**126.92**	**30**		PFAKE		11	56	10.0 +10
MDJ					LR	LR			
	comp=Z,614nm,20.0s								
NJ2	**Nanjing**	**127.39**	**49**	*e*	PKP	**PKPdf**	**11**	**56**	**01.0 -0.2**
NJ2					PP	**PP**	**11**	**58**	**01.0 +0.2**
NJ2					SKS	**SKSdf**	**12**	**03**	**11.0 -1.8**
NJ2					SKKS	**SKKSac**	**12**	**04**	**54.0 -4.7**
NJ2					SS	**SS**	**12**	**15**	**13.5 +3.0**
NJ2					PPMZ				
	comp=Z,230nm,11.0s								
NJ2					LN				
	comp=Z,630nm,22.3s								
NJ2					LE				
	comp=Z,880nm,26.7s								
NJ2					LZ				
	comp=Z,900nm,27.0s								
PET	**Petropavlovsk**	**127.94**	**4**		PFAKE		11	56	10.0 +8.4
PET					LR	LR			
	comp=Z,283nm,19.0s								
USRK	**Ussuriysk Ar.**	**128.41**	**29**		PKP	**PKPdf**	**11**	**56**	**04.3 +1.6**
	comp=Z,0.9nm,0.6s,baz=268,slow=7.1,SNR=4.2								
TBI	**Tubuai**	**128.76**	**239**	*e*	SS	SS	12	15	29.7 +1.6
	comp=Z,727nm,26.8s								
TBI	**Tubuai**	**128.76**	**239**	*e*	LR	LR	12	36	44.6
	comp=Z,1μm,24.2s								
INCN	**Inchon**	**129.94**	**39**		PFAKE		11	56	20.0 +14
INCN					LR	LR			
	comp=Z,596nm,20.0s								
YSS	**Yuzh-Sakhalins**	**130.58**	**19**	*e*	PKiKP	**PKPdf**	**11**	**56**	**08.1 +1.3**
YSS	**Yuzh-Sakhalins**	**130.58**	**19**		PFAKE		11	56	20.0 +13
YSS					LR	LR			
	comp=Z,224nm,20.0s								
PPT2	**Papeete2**	**130.76**	**246**	*e*	SS	SS	12	15	51.7 -1.8
	comp=Z,467nm,29.5s								
PPT2	**Papeete2**	**130.76**	**246**	*e*	LR	LR	12	37	36.0
	comp=Z,1μm,22.5s								
MBWA	**Marble Bar**	**131.42**	**120**		PFAKE		11	56	20.0 +11
MBWA					LR	LR			
	comp=Z,1μm,22.0s								
KKM	**Kota Kinabalu**	**132.00**	**83**		PFAKE		11	56	20.0 +9.4
KKM					LR	LR			
	comp=Z,507nm,22.0s								
YHNB	**Yeheng**	**132.52**	**57**		PFAKE		11	56	20.0 +8.8
YHNB					LR	LR			
	comp=Z,459nm,20.0s								
KUR	**Kuril'sk**	**133.67**	**16**	*c i*	PKiKP	**PKPdf**	**11**	**56**	**11.7 -1.0**
ERM	**Erimo**	**135.03**	**22**		PFAKE		11	56	30.0 +15
ERM					LR	LR			
	comp=Z,435nm,20.0s								
KAPI	**Kappang**	**135.34**	**98**		PFAKE		11	56	30.0 +13
KAPI					LR	LR			
	comp=Z,243nm,22.0s								
MAJO	**Matsushiro**	**137.29**	**31**		PFAKE		11	56	30.0 +10
MAJO					LR	LR			
	comp=Z,366nm,19.0s								
MJAR	**Matsushiro Arr**	**137.29**	**31**		PKhKP	PKPpre	11	56	13.2
	comp=Z,1.1nm,0.9s,baz=318,slow=1.6,SNR=3.4								
DAV	**Davao City (W)**	**141.16**	**80**		PFAKE		11	56	40.0 +13
DAV					LR	LR			
	comp=Z,372nm,22.0s								
CAN	**Canberra**	**141.24**	**160**		PFAKE		11	56	40.0 +13
CAN					LR	LR			
	comp=Z,209nm,19.0s								
ASAR	**Alice Springs**	**141.80**	**132**		PKhKP	PKPpre	11	56	18.8
	comp=Z,0.9nm,0.7s,baz=221,slow=2.0,SNR=4.8								
WRA	**Warramunga Arr**	**144.21**	**127**		PKhKP	PKPpre	11	56	26.4
	comp=Z,1.4nm,0.8s,baz=242,slow=2.5,SNR=5.7								
WRA					PKP	PKPbc	11	56	31.3 +0.5
	comp=Z,5.7nm,1.1s,baz=241,slow=2.5,SNR=18								
WRAB	**Tennant Creek**	**144.22**	**127**	*e*	PKiKP	PKPbc	11	56	31.3 +0.5
WRAB					MLR	MLR			
	comp=Z,815nm,19.0s								
WRAB	**Tennant Creek**	**144.22**	**127**	*e*	PKPdf	PKPbc	11	56	31.3 +0.4
WRAB					LR	LR			
	comp=Z,815nm,19.0s								
FAKI	**Fak Fak**	**147.97**	**97**	*e*	PKPdf	**PKPdf**	**11**	**56**	**40.3 +1.1**
CTAO	**Charters Tower**	**152.74**	**141**		PFAKE		11	57	00.0 -4.3
CTAO					LR	LR			
	comp=Z,618nm,20.0s								
PMG	**Port Moresby**	**160.26**	**122**		PFAKE		11	57	10.0 +14
PMG					LR	LR			
	comp=Z,694nm,21.0s								
WAKE	**Wake Island**	**161.64**	**352**		PFAKE		11	57	10.0 +12
WAKE					LR	LR			
	comp=Z,543nm,20.0s								
HNR	**Honiara**	**168.87**	**159**		PFAKE		11	57	20.0 +16
HNR					LR	LR			
	comp=Z,531nm,21.0s								
TARA	**Tarawa**	**171.13**	**272**		PFAKE		11	57	20.0 +15
TARA					LR	LR			
	comp=Z,1μm,21.0s								

IDC ***31*** *11:54:41.0±1.0,56.00S×27.83W,h0km,mb4.1/4, mb1 4.2/4,mb1mx3.9/28,mbtmp4.1/4,Error ellipse: s-maj=57.9km s-min=28.1km az=89.0*

ISCJB ***31*** *11:54:55.0±1.0,56.1S±0.1×27.7W±0.2,h121km,mb4.0/5, Error ellipse: s-maj=23.1km s-min=8.7km az=34.3*

NEIC ***31*** *11:54:57.8±2.0,56.12S×27.61W,h134km±18km,mb4.1/2, Error ellipse: s-maj=28.1km s-min=11.6km az=63.0*

AWI ***31*** *11:55:21.9,60.12S×31.68W*

ISC 31 11:54:56.6±0.9, 56.1S±0.1×27.6W±0.1, h121km, n17, σ0892/15, mb3.9/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time	ISC	Res
HOPE	**Hope Point**	**5.39**	**286**			**Pn**	**11**	**56**	**16.1 +1.5**
HOPE						*e*Sn	**Sn**	**11**	**57 13.6 -1.8**
VNA1	**Neumayer--Stat**	**16.85**	**158**	P		**P**	**11**	**58**	**45.3 +0.5**
VNA2	**Neumayer--Watz**	**17.25**	**157**	P		**P**	**11**	**58**	**49.1 -0.1**
	baz=314,slow=14								
SNAA	**Sanae**	**18.80**	**156**	P		**P**	**11**	**59**	**06.3 0.0**
SNAA	**Sanae**	**18.80**	**156**	*e*P		**P**	**11**	**59**	**06.3 0.0**
	3.7nm,0.4s								
QSPA	**South Pole Qui**	**34.16**	**180**	*e*P		**P**	**12**	**01**	**30.4 +0.7**
	2.2nm,0.6s								
MAW	**Mawson**	**40.26**	**144**	P		**P**	**12**	**02**

LVC					S		Sn	12 01 57.6	-1.7
	2μm,0.3s,baz=165,slow=19,SNR=8.4								
YJA	**Yavi**	**4.90**	**135**	*i*	P		Pn	12 01 32.5	+3.8
HJA	**Humahuaca**	**5.72**	**142**	*i*	P		Pn	12 01 42.3	+2.6
HJA					*i*	S	**Sn**	**12 02 46.3**	**+2.1**
AZAP	**Zapla**	**6.71**	**145**	*i*	P		**Pn**	**12 01 54.3**	**+1.3**
ASTB	**Santa Barbara**	**6.83**	**140**	*i*	P		**Pn**	**12 01 56.9**	**+2.2**
ASTB					*i*	P	**Pn**	**12 01 56.9**	**+2.2**
ASTB					*i*	S	**Sn**	**12 03 12.5**	**+1.5**
SLA	**San Lorenzo**	**6.90**	**150**	*i*	P		**Pn**	**12 01 56.3**	**+0.7**
SLA					*i*	S	**Sn**	**12 03 10.6**	**-2.1**
SLA						AML	AML	12 03 22.4	
	comp=Z,6.9nm,0.7s								
SIV	**San Ignacio**	**8.27**	**72**	P			**Pn**	**12 02 14.3**	**+0.2**
	comp=Z,9.9nm,0.3s,baz=268,slow=12,SNR=98								
SIV						S	**Sn**	**12 03 44.3**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=221,slow=19,SNR=1.6								
NNA	**Nana**	**9.93**	**311**	*e*Pn			**Pn**	**12 02 37.5**	**+0.8**
SAML	**Samuel**	**11.37**	**32**	*e*Pn			**Pn**	**12 02 54.8**	**-1.4**
	comp=Z,4.6nm,0.9s								
SAML						*e*Sn	**Sn**	**12 04 58.7**	**-2.6**
CPUP	**Villa Florida**	**13.35**	**127**	P			**Pn**	**12 03 20.1**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=305,slow=13,SNR=4.4								
BB16B	**Bebedouro**	**19.57**	**100**	⇓*i*P			**P**	**12 04 35.6**	**-1.4**
BB16B				*i*				12 04 37.1	
BB16B				*i*				12 04 40.2	
BB16B				*i*				12 04 44.6	
BB16B				*i*				12 04 47.5	
BB16B				*i*				12 04 57.6	
PTGA	**Pitinga**	**20.07**	**28**	P			**P**	**12 04 40.8**	**-1.7**
	comp=Z,10nm,0.3s,baz=209,slow=15,SNR=37								
BDFB	**Brasilia**	**20.52**	**85**	P			**P**	**12 04 47.0**	**-0.4**
	comp=Z,9.3nm,0.4s,baz=252,slow=10.0,SNR=11								
TXAR	**Lajitas Array**	**58.19**	**324**	P			**P**	**12 09 59.3**	**-1.5**
	comp=Z,0.5nm,0.9s,baz=141,slow=9.0,SNR=6.9								
TXAR					pP		**pP**	**12 10 26.1**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=132,slow=5.0,SNR=4.5								
SNAA	**Sanae**	**64.99**	**161**	P			**P**	**12 10 45.5**	**-0.3**
LIC	**Lamto**	**67.95**	**75**	*e*P			P	12 11 13.0	+7.4
	comp=Z,110nm,1.2s								
KIC	**Kosan Boka**	**68.27**	**75**	*e*P			**P**	**12 11 10.5**	**+2.9**
	comp=Z,13nm,0.6s								
DBIC	**Dimbokro**	**68.28**	**75**	P			**P**	**12 11 05.9**	**-1.8**
	comp=Z,8.9nm,0.8s,baz=227,slow=4.3,SNR=6.8								
NVAR	**Mina Array Bea**	**73.13**	**322**	pP			pP	12 12 04.7	+2.4
	comp=Z,1.1nm,0.8s,baz=163,slow=6.5,SNR=7.2								
TOB5	**Tordoi Ar. Sit**	**76.73**	**71**	*e*P			**P**	**12 11 55.3**	**-2.5**
TORD	**Torodi Ar. Bea**	**76.75**	**71**	P			**P**	**12 11 56.1**	**-1.7**
	comp=Z,3.8nm,0.6s,baz=249,slow=5.5,SNR=25								
TORD					pP		**pP**	**12 12 27.1**	**+3.5**
	comp=Z,2.0nm,0.8s,baz=251,slow=5.9,SNR=2.7								
TORD					sP		**sP**	**12 12 38.7**	**+4.3**
	comp=Z,2.0nm,0.8s,baz=253,slow=5.3,SNR=2.8								
ESDC	**Sonseca Array**	**84.10**	**45**	P			**P**	**12 12 36.7**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=252,slow=5.5,SNR=11								
ESDC					pP		**pP**	**12 13 06.8**	**+3.9**
	comp=Z,1.7nm,0.9s,baz=241,slow=5.1,SNR=3.9								
MAW	**Mawson**	**87.06**	**163**	P			**P**	**12 12 50.5**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=180,slow=7.1,SNR=4.8								
YKA	**Yellowknife A**	**88.48**	**341**	P			**P**	**12 12 56.1**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=133,slow=4.8,SNR=11								
YKA					pP		**pP**	**12 13 25.2**	**+1.3**
	comp=Z,3.0nm,0.8s,baz=135,slow=5.0,SNR=11								
H11S2	**WAKE ISLAND Hy**	**27.17**	**279**	T			T	14 38 35.5	
	baz=100,slow=75,SNR=16								
H11S1	**WAKE ISLAND Hy**	**27.17**	**279**	T			T	14 38 43.5	
	baz=100,slow=75,SNR=18								
H11N3	**WAKE ISLAND Hy**	**27.18**	**281**	T			T	14 38 33.4	
	baz=100,slow=75,SNR=5.4								
H11S3	**WAKE ISLAND Hy**	**27.19**	**279**	T			T	14 38 35.3	
	baz=100,slow=75,SNR=17								
H11N2	**WAKE ISLAND Hy**	**27.19**	**281**	T			T	14 38 36.4	
	baz=100,slow=75,SNR=5.0								
H11N1	**WAKE ISLAND Hy**	**27.19**	**281**	T			T	14 38 29.5	
	baz=100,slow=75,SNR=4.0								
ASAR	**Alice Springs**	**132.19**	**209**	PKP			**PKPdf**	**12 19 17.1**	**-2.8**
	comp=Z,0.2nm,0.5s,baz=152,slow=2.4,SNR=4.6								
ZALV	**Zalesovo Beam**	**139.57**	**23**	PKP			**PKPdf**	**12 19 31.8**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=277,slow=2.8,SNR=3.7								
ZALV					pPKP		**pPKPdf**	**12 20 02.0**	**+2.0**
	comp=Z,0.6nm,0.5s,baz=346,slow=3.0,SNR=2.4								
MKAR	**Makanchi Array**	**143.55**	**33**	PKP			PKPab	12 19 36.2	-0.4
	comp=Z,0.5nm,0.6s,baz=320,slow=3.0,SNR=3.7								

JMA 31 12:17:48.6±0.1, 23°.39N×123°.75E, h50km±2km, M4.0, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.67**	**4**	P		Pn	12 18 01.9	0.0
HATJ				S		Sn	12 18 11.5	0.0
JKRS	**Kuro-shima**	**0.88**	**16**	P		Pn	12 18 05.0	+0.3
JKRS				S		Sn	12 18 17.4	+1.0
IRIF	**Iriomote-Funau**	**0.94**	**359**	P		Pn	12 18 05.9	+0.4
IRIF				S		Sn	12 18 18.2	+0.2
JIJ	**Ishigaki jima**	**1.03**	**20**	P		Pn	12 18 07.0	+0.2
JIJ				S		Sn	12 18 20.3	+0.1
YOJ	**Yonaguni jima**	**1.26**	**328**	P		Pn	12 18 10.5	+0.6
YOJ				S		Sn	12 18 25.7	-0.1
JYNG	**Yonagunijimaku**	**1.29**	**325**	P		Pn	12 18 10.6	+0.4
JYNG				S		Sn	12 18 26.4	0.0
JISG	**Ishigakijimahi**	**1.30**	**23**	P		Pn	12 18 10.6	+0.2
JISG				*e*S		Sn	12 18 27.2	+0.6
JTJ	**Tarama**	**1.52**	**35**	P		Pn	12 18 14.2	+0.8
JTJ				S		Sn	12 18 33.4	+1.4
JIRB	**Irabujima**	**1.93**	**42**	P		Pn	12 18 19.6	+0.6
JIRB				S		Sn	12 18 43.0	+0.8
JMJ	**Miyako jima 2**	**2.00**	**45**	P		Pn	12 18 20.8	+0.8
JMJ				*e*S		Sn	12 18 45.4	+1.6
JOGS	**Gusukube**	**2.04**	**48**	P		Pn	12 18 21.6	+1.1
JOGS				S		Sn	12 18 46.6	+1.9
JIKM	**Ikemajima**	**2.05**	**42**	P		Pn	12 18 21.2	+0.6
JIKM				S		Sn	12 18 46.3	+1.3
JKE	**Kume jima 2**	**4.02**	**43**	P		Pn	12 18 47.1	-0.5
JKE				*e*S		Sn	12 19 32.4	-1.1
JAGN	**Aguni-jima**	**4.49**	**44**	P		Pn	12 18 55.8	+1.7
JNTH	**Nagotoyohara**	**4.97**	**50**	P		Pn	12 19 00.1	-0.6
JNTH				*e*S		Sn	12 19 56.1	-0.9
JOW	**Kunigami**	**5.34**	**49**	P		Pn	12 19 04.9	-1.0

CASC 31 12:22:59.6±2.6, 8°.38N×83°.06W, h16km±9km, MD3.8, 1C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BRU2	**Volcan**	**0.54**	**41**	⇓*i*P		Pg	12 23 09.8	-0.8
BRU2				*e*S		Sg	12 23 18.3	+0.2
TBS2		**0.57**	**44**	⇑*i*P		Pb	12 23 11.3	0.0
TBS2				*e*S		Sb	12 23 20.2	+0.9
CTCR	**Cotoan**	**0.59**	**30**	⇓*i*P		Pg	12 23 10.6	-1.0
CTCR				*e*S		Sg	12 23 19.1	-0.5
BUS	**Buena Vista**	**1.35**	**329**	*e*P		Pn	12 23 22.8	-1.7
BUS				*e*S		Sg	12 23 44.7	+0.2
QCR	**Quepos**	**1.51**	**313**	*e*P		Pn	12 23 25.0	-0.9
QCR				*e*S		Sb	12 23 46.5	+0.4
URSC	**Urasca**	**1.61**	**334**	*e*P		Pn	12 23 26.5	-1.1
CGA2	**Cerro Gallo 2**	**2.14**	**319**	*e*P		Pn	12 23 35.1	+0.3
CGA2				*e*S		Sb	12 24 03.2	-1.4
JCR	**Jicaral**	**2.50**	**306**	*e*P		Pn	12 23 40.7	+1.0
JTS	**JuntasAbangare**	**2.66**	**315**	*e*S		Sn	12 24 12.6	-1.3
AZU	**Azuero**	**2.82**	**102**	*e*P		Pb	12 23 47.5	-2.0
AZU				*e*S		Sn	12 24 18.5	+0.9

IDC 31 12:36:33.1±2.6, 54°.13N×86°.51E, h0km, mb1 3.2/2, mb1mx3.0/30, mbtmp3.2/2, ML3.1/2, Error ellipse: s-maj=21.6km s-min=13.6km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**261**	*i*			12 43 00.0	
	baz=80,slow=320,SNR=1.3							
ZALV	**Zalesovo Beam**	**1.01**	**261**	Pg		Pg	12 36 51.3	-1.2
	2.4nm,0.3s,baz=80,slow=16,SNR=19							
ZALV				Lg		Lg	12 37 07.0	
	2.9nm,0.3s,baz=77,slow=26,SNR=13							
KURBB	**Kurchatov Arra**	**6.02**	**238**	Pn		Pn	12 38 04.8	+1.6
	0.3nm,0.3s,baz=56,slow=14,SNR=6.6							
KURBB				Lg		Lg	12 39 43.5	
	0.1nm,0.3s,baz=59,slow=34,SNR=3.8							
MKAR	**Makanchi Array**	**7.82**	**202**	Pn		Pn	12 38 28.7	+0.6
	0.4nm,0.3s,baz=21,slow=12,SNR=15							

IDC 31 13:06:02.6±2.2, 7°.57N×124°.05E, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.5/41, mbtmp3.9/3, Error ellipse: s-maj=215.7km s-min=25.1km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**29.15**	**160**	P		P	13 12 06.1	+0.4
	0.9nm,0.3s,baz=340,slow=9.3,SNR=7.5							
ASAR	**Alice Springs**	**32.50**	**163**	P		P	13 12 34.8	-0.4
	0.6nm,0.3s,baz=342,slow=7.2,SNR=13							
MKAR	**Makanchi Array**	**52.91**	**325**	P		P	13 15 20.5	-0.1
	0.4nm,0.3s,baz=117,slow=7.8,SNR=9.7							

IDC 31 13:07:04.1±1.8, 52°.52N×169°.57W, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.4/44, mbtmp3.5/5, ML3.1/1, Error ellipse: s-maj=55.0km s-min=30.0km az=136.0
NEIC 31 13:07:06.3, 52°.61N×169°.25W, h5km, ML3.3(AEIC), After AEIC.
ISC 31 13:07:06.5±1.0, 52°.8N±0°.2×169°.46W±0°.10, h10km, n28, σ0s80/26, mb3.5/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIKH	**Nikolski High**	**0.41**	**63**	P		**Pb**	**13 07 15.8**	**0.0**
NIKH				S		**Sb**	**13 07 23.2**	**+1.1**
OKSO	**Okmok South**	**0.97**	**53**	P		**Pg**	**13 07 25.4**	**+0.3**
OKSO				S		**Sn**	**13 07 40.0**	**0.0**
OKWR	**Okmok West Rim**	**1.00**	**49**	P		**Pn**	**13 07 26.9**	**+0.3**
OKCE	**Okmok Cone E**	**1.01**	**50**	P		**Pg**	**13 07 26.0**	**+0.1**
OKAK	**Okmok**	**1.03**	**39**	P		**Pb**	**13 07 25.1**	**-1.3**
OKTU	**Okmok Mt. Tuli**	**1.04**	**54**	P		**Pg**	**13 07 26.6**	**+0.1**
OKRE	**Okmok R'deer P**	**1.07**	**46**	P		**Pn**	**13 07 28.1**	**+0.5**
OKFG	**Magazine Ridge**	**1.12**	**56**	P		**Pb**	**13 07 27.3**	**-0.6**
OKFG				S		**Sn**	**13 07 43.7**	**0.0**
MSOM	**Makushin Julie**	**1.83**	**55**	P		**Pn**	**13 07 37.9**	**+0.1**
MCIR	**Makushin Cirqu**	**1.93**	**52**	P		**Pn**	**13 07 40.6**	**+1.2**
MSW	**Makushin Switc**	**1.96**	**54**	P		**Pn**	**13 07 40.9**	**+1.1**
MTBL	**Makushin Table**	**2.04**	**53**	P		**Pn**	**13 07 41.1**	**+0.2**
UNV	**Unalaska Valle**	**2.07**	**58**	P		**Pn**	**13 07 40.6**	**-0.6**
UNV				S		**Sn**	**13 08 06.7**	**-0.3**
ZRO	**Akutan Zero**	**2.46**	**57**	P		**Pn**	**13 07 47.8**	**+1.2**
AKGG	**Akutan Green G**	**2.51**	**54**	P		**Pn**	**13 07 47.8**	**+0.5**
AKUT	**Akutan**	**2.58**	**57**	P		**Pn**	**13 07 49.0**	**+0.7**
ATKA	**Atka Island**	**2.95**	**260**	P		**Pn**	**13 07 54.6**	**+1.3**
ILAR	**Eielson Array**	**16.64**	**35**	Pn		**Pn**	**13 10 59.5**	**0.0**
	0.0nm,0.3s,baz=239,slow=10,SNR=3.8							
YKA	**Yellowknife Ar**	**30.01**	**49**	P		**P**	**13 13 15.8**	**+1.0**
	0.2nm,0.6s,baz=273,slow=7.7,SNR=3.8							
H11N2	**WAKE ISLAND Hy**	**37.75**	**218**	T		T	13 54 18.8	
	baz=24,slow=76,SNR=46							
H11N3	**WAKE ISLAND Hy**	**37.76**	**218**	T		T	13 54 13.6	
	baz=24,slow=76,SNR=59							
H11N1	**WAKE ISLAND Hy**	**37.77**	**218**	T		T	13 54 20.2	
	baz=24,slow=76,SNR=38							
H11S1	**WAKE ISLAND Hy**	**38.94**	**218**	T		T	13 55 48.8	
	baz=23,slow=76,SNR=1066							
H11S2	**WAKE ISLAND Hy**	**38.95**	**218**	T		T	13 55 50.0	
	baz=23,slow=76,SNR=922							
H11S3	**WAKE ISLAND Hy**	**38.96**	**218**	T		T	13 55 47.4	
	baz=23,slow=76,SNR=578							
PDAR	**Pinedale Array**	**40.38**	**80**	P		**P**	**13 14 44.7**	**+0.1**
	0.3nm,0.7s,baz=316,slow=5.0,SNR=3.5							
TXAR	**Lajitas Array**	**52.80**	**89**	P		**P**	**13 16 21.6**	**-0.2**
	0.9nm,0.7s,baz=300,slow=5.4,SNR=11							
ASAR	**Alice Springs**	**90.62**	**230**	P		**P**	**13 20 07.1**	**-1.8**
	0.5nm,0.6s,baz=23,slow=5.0,SNR=4.5							

IDC 31 13:11:38.7±0.9, 0°.89S×16°.02W, h0km, mb4.1/10, mb1 4.3/10, mb1mx3.9/32, mbtmp4.1/10, MS3.5/7, Ms1 3.5/7, ms1mx3.2/27, Error ellipse: s-maj=30.9km s-min=22.1km az=123.0
ISCJB 31 13:11:40.0±0.7, 0°.8S±0°.1×16°.0W±0°.1, h20km, mb4.2/11, MS3.4/6, Error ellipse: s-maj=24.0km s-min=16.6km az=39.2
ISC 31 13:11:41.9±0.8, 1°.0S±0°.1×16°.1W±0°.2, h20km, n26, σ1s55/14, mb4.2/11, MS3.3/6, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**7.00**	**167**	T		T	13 20 44.7	
	baz=348,slow=74,SNR=247							
H10N3	**ASCENSION HYDR**	**7.00**	**167**	T		T	13 20 43.4	
	baz=348,slow=74,SNR=296							
H10N1	**ASCENSION HYDR**	**7.01**	**167**	T		T	13 20 46.2	
	baz=348,slow=74,SNR=310							
H10S1	**ASCENSION HYDR**	**8.05**	**170**	T		T	13 22 02.4	
	baz=350,slow=74,SNR=134							
H10S3	**ASCENSION HYDR**	**8.06**	**170**	T		T	13 22 04.5	
	baz=350,slow=74,SNR=213							
H10S2	**ASCENSION HYDR**	**8.07**	**170**	T		T	13 22 03.6	
	baz=350,slow=74,SNR=151							
DBIC	**Dimbokro**	**13.50**	**56**	LR		LR	13 19 00.2	
	comp=Z,219nm,19.1s,baz=186,slow=33							
RCBR	**Riachuelo**	**20.39**	**256**	LR		LR	13 21 51.9	
	comp=Z,130nm,21.6s,baz=95,slow=30							
TORD	**Torodi Ar. Bea**	**22.50**	**51**	P		**P**	**13 16 38.6**	**-1.9**
	3.9nm,0.9s,baz=232,slow=10,SNR=9.8							
TORD					LR	LR	13 24 23.5	
	comp=Z,125nm,19.4s,baz=105,slow=34							
BDFB	**Brasilia**	**34.75**	**244**	P		**P**	**13 18 31.4**	**+0.1**
	3.3nm,0.7s,baz=70,slow=6.4,SNR=3.5							
BDFB					LR	LR	13 30 46.2	
	comp=Z,44nm,20.5s,baz=39,slow=33							
KEST	**Kesra**	**43.51**	**30**	LR		LR	13 38 26.9	
	comp=Z,38nm,19.7s,baz=222,slow=37							
CPUP	**Villa Florida**	**47.03**	**234**	LR		LR	13 38 25.1	
	comp=Z,60nm,20.0s,baz=64,slow=34							
BOSA	**Boshof**	**48.06**	**129**	P		**P**	**13 20 19.8**	**-0.7**
	5.6nm,0.9s,baz=290,slow=9.0,SNR=6.8							
LPAZ	**La Paz**	**53.51**	**250**	LR		LR	13 43 31.7	
	comp=Z,66nm,18.4s,baz=123,slow=36							
GERES	**GERESS Array B**	**55.88**	**23**	P		**P**	**13 21 17.6**	**-0.8**
	1.9nm,1.0s,baz=203,slow=7.3,SNR=11							
BRG	**Berggiesshubel**	**57.60**	**22**	*e*P		**P**	**13 21 29.3**	**-1.1**
	12nm,1.7s							
PLOR	**Plostina**	**59.89**	**33**	S		**S**	**13 29 59.7**	**+2.3**
VRI	**Vrincioaia**	**59.94**	**33**	S		**S**	**13 30 01.5**	**+3.5**
BRTR	**Keskin Array B**	**60.77**	**42**	P		**P**	**13 21 53.4**	**+0.6**
	1.5nm,0.8s,baz=237,slow=6.8,SNR=9.1							
NOA	**NORSAR Array B**	**65.29**	**14**	P		**P**	**13 22 21.7**	**-0.5**
	1.5nm,0.8s,baz=192,slow=5.9,SNR=3.3							
KBZ	**Khabaz**	**68.75**	**42**	P		**P**	**13 22 44.4**	**-0.2**
	3.0nm,1.0s,baz=180,slow=5.1,SNR=4.6							
FINES	**FINESS Array B**	**70.02**	**20**	P		**P**	**13 22 51.2**	**-0.8**
	4.2nm,1.0s,baz=251,slow=8.7,SNR=4.1							
MAW	**Mawson**	**84.89**	**158**	P		**P**	**13 24 16.5**	**+1.5**
	0.5nm,0.5s,baz=315,slow=5.7,SNR=4.4							
TXAR	**Lajitas Array**	**88.39**	**299**	P		**P**	**13 24 33.1**	**0.0**
	0.7nm,1.0s,baz=111,slow=4.1,SNR=3.6							
ASAR	**Alice Springs**	**141.90**	**132**	PKhKP		PKPpre	13 31 08.3	
	0.2nm,0.4s,baz=223,slow=2.8,SNR=4.6							
WRA	**Warramunga Arr**	**144.30**	**127**	PKP		**PKPab**	**13 31 15.6**	**0.0**
	0.9nm,0.6s,baz=242,slow=2.4,SNR=6.2							

IDC 31 13:34:00.0±18.0, 22°.77S×178°.87W, h387km±142km, mb3.6/4, mb1 3.8/5, mb1mx3.2/32, mbtmp4.4/5, Error ellipse: s-maj=171.6km s-min=23.4km az=40.0
ISC 31 13:34:05.5±3.8, 23°.1S±0°.4×179°.2W±0°.4, h426km, n11, σ0s48/11, mb3.9/4, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**15.45**	**191**	P		**P**	**13 37 22.0**	**+0.2**
	2.5nm,0.3s,baz=337,slow=1.2,SNR=19							
URZ	**Urewera**	**15.45**	**191**	*e*P*		**P**	**13 37 22.2**	**+0.3**
URZ				S*		S	13 39 51.7	-13
CMSA	**Cobar Meteorol**	**32.23**	**247**	⇑P		**P**	**13 39 56.3**	**-0.5**
	baz=31,SNR=12							
QLP	**Quilpie**	**33.33**	**256**	P		**P**	**13 40 06.8**	**+0.6**
	baz=32,SNR=3.7							
TOO	**Toolangi**	**33.53**	**236**	P		**P**	**13 40 07.4**	**-0.5**
	baz=32,SNR=6.4							
STKA	**Stephens Creek**	**35.74**	**247**	P		**P**	**13 40 26.2**	**-0.4**
	1.4nm,0.3s,baz=81,slow=8.6,SNR=9.2							
HTT	**Hallett**	**38.11**	**245**	P		**P**	**13 40 45.6**	**-0.6**
	baz=37,SNR=3.6							
ASAR	**Alice Springs**	**42.93**	**260**	P		**P**	**13 41 25.6**	**+0.4**
	5.5nm,0.7s,baz=99,slow=7.3,SNR=51							
WRA	**Warramunga Arr**	**43.23**	**265**	P		**P**	**13 41 27.8**	**+0.1**
	6.6nm,0.3s,baz=96,slow=8.4,SNR=154							
VNDA	**Vanda**	**55.24**	**185**	P		**P**	**13 42 56.4**	**+0.2**
	1.1nm,0.7s,baz=27,slow=9.0,SNR=8.6							
TORD	**Torodi Ar. Bea**	**170.07**	**185**	PKPab		**PKPab**	**13 54 41.5**	**-0.4**
	0.5nm,0.7s,baz=169,slow=3.7,SNR=3.6							

BYKL 31 13:47:28.5±0.5, 48°.88N×109°.19E
MOS 31 13:47:29.4±2.8, 48°.98N×109°.25E, h10km, mb4.4/1, Error ellipse: s-maj=38.4km s-min=20.0km az=104.4
ISC 31 13:47:29.5±1.0, 49°.07N±0°.05×109°.29E±0°.03, h10km, n37, σ2s26/57, 6C-6D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ULN	**Ulaanbaatar**	**1.91**	**232**	⇑*i*Pg		Pn	13 47 59.7	-2.6
ULN				*i* Sg		**Sn**	**13 48 22.5**	**-4.0**
ULN				*e*			13 48 31.3	
KPC	**Khapcheranga**	**2.12**	**71**	⇓*i*Pn		**Pn**	**13 48 05.0**	**0.0**
	12nm,0.3s							
KPC				⇓*i*Pn		**Pn**	**13 48 05.0**	**0.0**
	61nm,0.3s							
KPC				⇓*i*Pn		**Pn**	**13 48 05.0**	**0.0**
	57nm,0.3s							
KPC				*e*Pg		**Pb**	**13 48 08.1**	**+0.2**
KPC				*e*			13 48 10.2	
KPC				max			13 48 10.3	
	140nm,0.2s							
KPC				*i* Sg		**Sb**	**13 48 37.0**	**+2.7**
KPC				Smax			13 48 38.4	
	1μm,0.2s							
KPC	**Khapcheranga**	**2.12**	**71**	*e*PN		**Pn**	**13 48 05.1**	**0.0**
KPC				*e*			13 48 07.7	
KPC				*e*			13 48 36.9	
KPC				pmax	pmax			
	comp=Z,139nm,0.2s							
KPC				smax	smax			
	comp=N,1μm,0.2s							
KAB	**Kabansk**	**3.42**	**332**	*e*Pg		**Pg**	**13 48 33.7**	**-1.3**
KAB				Pmax			13 48 34.5	
	comp=N,246nm,0.8s							
KAB				*e*Sg		**Sg**	**13 49 20.9**	**+1.5**
KAB				Smax			13 49 39.6	
	comp=N,1μm,1.0s							
KAB	**Kabansk**	**3.42**	**332**	*e*PN		**Pg**	**13 48 33.7**	**-1.3**
KAB				*e*			13 49 17.5	
KAB				pmax	pmax			
	comp=Z,245nm,0.8s							
KAB				smax	smax			
	comp=E,1μm,1.1s							
CIT	**Chita**	**4.02**	**41**	*e*Pn		**Pn**	**13 48 31.1**	**+0.1**
CIT				*e*Pg		**Pg**	**13 48 45.2**	**-1.1**
CIT				*e*Sg		**Sg**	**13 49 40.1**	**+1.8**
CIT				Smax			13 49 49.8	
	comp=E,279nm,0.2s							
ZAK	**Zakamensk**	**4.11**	**291**	⇓*i*Pn		Pn	13 48 29.8	-2.6
ZAK				⇓*i*			13 48 35.0	
ZAK				⇑*i*Pg		**Pb**	**13 48 42.2**	**+0.2**
ZAK				Pmax			13 48 45.7	
	comp=E,33nm,0.3s							
ZAK				*e*Sg		**Sb**	**13 49 35.2**	**+3.5**
ZAK				*e*			13 49 39.0	
ZAK				max			13 49 42.6	
	comp=E,183nm,0.4s							
ZAK	**Zakamensk**	**4.11**	**291**	*e*PN		**Pb**	**13 48 41.9**	**-0.1**
ZAK				*e*S		**Sb**	**13 49 35.0**	**+3.3**
ZAK				pmax	pmax			
	comp=Z,33nm,0.3s							
ZAK				smax	smax			
	comp=N,239nm,1.4s							
TRG	**Tyrgan**	**4.14**	**334**	⇑*i*Pn		**Pn**	**13 48 32.2**	**-0.5**
TRG				*e*			13 48 36.7	
TRG				*e*Pg		**Pb**	**13 48 44.9**	**+2.6**
TRG				Pmax			13 48 53.6	
	comp=N,46nm,0.6s							
TRG				*e*			13 49 13.7	
TRG				*e*Sg		**Sg**	**13 49 40.0**	**-2.2**
TRG				Smax			13 49 44.1	
	comp=N,217nm,0.7s							
TRG	**Tyrgan**	**4.14**	**334**	*e*PN		**Pb**	**13 48 43.7**	**+1.4**
TRG				*e*S		**Sn**	**13 49 22.1

YLYR	**Ulyunkhan**	**5.93**	**11**	⇑*i*Pn	**Pn**	**13 48 58.0**	**+0.8**	
YLYR				*e*		13 49 05.1		
YLYR				Pg	Pg	13 49 19.1	-3.8	
YLYR				Pmax		13 49 26.8		
	comp=E,7.0nm,0.6s							
YLYR				*e*		13 50 18.1		
YLYR				*i* Sg	**Sg**	**13 50 38.8**	**-0.9**	
YLYR				Smax		13 50 45.5		
	comp=E,143nm,0.8s							
YLYR	**Ulyunkhan**	**5.93**	**11**	*e*PN	**Pn**	**13 48 58.1**	**+0.8**	
YLYR				*e*		13 49 16.3		
YLYR				*e*S	**Sn**	**13 50 05.9**	**+0.7**	
YLYR				*e*		13 50 34.8		
YLYR				pmax	pmax			
	comp=Z,12nm,0.6s							
YLYR				smax	smax			
	comp=E,144nm,0.9s							
NIZ	**Nizh Angarsk**	**6.72**	**1**	*e*	**Sn**	**13 50 24.2**	**-0.4**	
NIZ				*e*Sg	**Sg**	**13 51 01.3**	**-3.6**	
NIZ				Smax		13 51 18.1		
	comp=E,79nm,1.1s							
KMO	**Kumora**	**6.93**	**9**	*e*	**Pb**	**13 49 33.0**	**+3.2**	
KMO				*e*Pg	Pg	13 49 36.7	-5.3	
KMO				Pmax		13 49 47.1		
	comp=E,6.0nm,0.5s							
KMO				*e*Sn	**Sn**	**13 50 30.1**	**+0.3**	
KMO				*i* Sg	**Sg**	**13 51 10.4**	**-1.2**	
KMO				Smax		13 51 15.3		
	comp=E,224nm,1.2s							
ORL	**Orlik**	**6.94**	**304**	*e*Pn	Pn	13 49 08.2	-3.0	
ORL				*e*		13 49 18.7		
ORL				*e*Pg	Pb	13 49 34.5	+4.4	
ORL				Pmax		13 49 36.7		
	comp=E,12nm,1.1s							
ORL				*e*		13 50 35.9		
ORL				*i* Sg	Sg	13 51 06.2	-5.8	
ORL				Smax		13 51 18.0		
	comp=E,64nm,1.6s							
ORL	**Orlik**	**6.94**	**304**	*e*PG	Pb	13 49 34.7	+4.6	
ORL				*e*		13 51 06.8		
ORL				pmax	pmax			
	comp=Z,17nm,1.5s							
ORL				smax	smax			
	comp=N,63nm,1.7s							
UKT	**Uakit**	**6.96**	**21**	⇑*i*Pn	**Pn**	**13 49 12.6**	**+1.1**	
UKT				*e*		13 49 21.2		
UKT				*e*Pg	Pg	13 49 37.6	-5.0	
UKT				Pmax		13 49 46.7		
	comp=N,4.0nm,0.7s							
UKT				*e*Sg	**Sg**	**13 51 09.7**	**-2.9**	
UKT				*e*		13 51 14.7		
UKT				max		13 51 15.6		
	comp=N,90nm,1.9s							
YOA	**Uoyan**	**7.23**	**11**	*e*Sg	**Sg**	**13 51 19.7**	**-1.6**	
YOA				*e*		13 51 28.0		
YOA				max		13 51 51.3		
	comp=N,669nm,1.8s							
SVKR	**Severomuysk**	**7.52**	**19**	*e*	**Sb**	**13 51 13.1**	**+3.5**	
SVKR				*e*Sg	**Sg**	**13 51 29.6**	**-1.1**	
SVKR				Smax		13 51 39.0		
	comp=N,325nm,1.2s							
NLYR	**Nelyaty**	**8.39**	**25**	*e*Pn	**Pn**	**13 49 32.0**	**+1.0**	
NLYR				*e*Pg	Pb	13 50 03.1	+8.5	
NLYR				Pmax		13 50 14.6		
	comp=N,6.0nm,0.7s							
NLYR				*e*		13 51 17.6		
NLYR				*e*Sg	**Sg**	**13 51 54.2**	**-4.1**	
NLYR				*e*		13 52 07.2		
NLYR				max		13 52 12.3		
	comp=N,202nm,1.3s							
NLYR	**Nelyaty**	**8.39**	**25**	*e*PG	Pg	13 50 04.2	-5.7	
NLYR				pmax	pmax			
	comp=Z,19nm,0.8s							
TUP	**Tupik**	**8.51**	**47**	⇓*i*Pn	**Pn**	**13 49 32.9**	**+0.2**	
TUP				*e*		13 49 38.4		
TUP				*e*Pg	Pg	13 50 05.1	-7.2	
TUP				Pmax		13 50 08.9		
	comp=Z,4.0nm,0.4s							
TUP				*e*		13 51 28.7		
TUP				*e*Sg	**Sg**	**13 51 57.4**	**-5.0**	
TUP				*e*		13 52 02.5		
TUP				max		13 52 08.6		
	comp=Z,84nm,0.9s							
TUP	**Tupik**	**8.51**	**47**	*e*PG	Pg	13 50 04.8	-7.5	
TUP				*e*		13 51 56.3		
TUP				pmax	pmax			
	comp=Z,5.0nm,0.6s							
TUP				smax	smax			
	comp=N,64nm,0.9s							
BOD	**Bodaibo**	**9.20**	**16**	*e*		13 51 45.7		
BOD				*e*Sg	Sn	13 52 21.7	+56	
BOD				Smax		13 52 28.4		
	comp=N,56nm,1.4s							
CRS	**Chara**	**9.52**	**31**	*e*Pg	Pn	13 50 25.4	+39	
CRS				Pmax		13 50 31.4		
	comp=N,1.0nm,0.1s							
CRS				*e*		13 52 14.0		
CRS				*e*Sg	Sn	13 52 30.2	+57	
CRS				Smax		13 52 55.8		
	comp=N,195nm,1.7s							

MAN 31 14:14:19,19.°19N×120.°96E,h1km,mb4.6,ML3.5,MS3.5, 1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.92**	**201**	⇓*i*P	Pb	14 14 37.4	-0.3
PIP				*e*S	Sn	14 14 53.2	+0.4

BJI 31 14:16:27.8,22.°40N×118.°62E,h7km,ML3.9/6,1C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**2.53**	**359**	⇑*i*Pn	Pb	14 17 12.0	-1.6
QZH				Sn	Sn	14 17 38.0	-2.4
QZH				SMN			
	300nm,0.7s						
QZH				SME			
	430nm,0.8s						
GZH	**Guangzhou**	**4.92**	**279**	⇓*i*Pn	Pn	14 17 43.0	+0.8
GZH				Sg	Sg	14 18 59.8	-6.0
GZH				SMN			
	310nm,0.6s						
GZH				SME			
	250nm,0.8s						
CD2	**Chengdu**	**15.75**	**306**	*e*P	Pn	14 20 10.0	-0.2

*NIED **31** 14:37:00,39.°20N×140.°80E,h5km,Mw3.6 Best double couple: M₀2.39000×10¹⁴ NP1:φₛ28.00000°,δ41.00000°, λ90.00000°. NP2:φₛ208.00000°,δ49.00000°,λ90.00000°.*
*IDC **31** 14:37:20.6±0.8,39.°15N×140.°96E,h0km,mb3.6/6, mb1 3.8/9,mb1mx3.6/41,mbtmp3.5/9,ML2.7/3,Error ellipse: s-maj=26.6km s-min=17.6km az=116.0*
*ISCJB **31** 14:37:21.6±0.5,39.°22N±0.°03×140.°81E±0.°05,h12km±4km, mb3.6/6,Error ellipse: s-maj=6.0km s-min=4.5km az=12.6*
*JMA **31** 14:37:22.0,39.°21N×140.°77E,h9km±1km,M3.5*
JMA Felt II J1.

ISC 31 14:37:21.9±1.1,39.°21N±0.°03×140.°79E±0.°04,h7km±8km, n17,σ1§22/24,mb3.6/6,1C-5D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRG	**Rokugo**	**0.23**	**328**	⇓P	**Pg**	**14 37 26.6**	**+0.2**
JRG				*e*S	**Sg**	**14 37 30.3**	**+0.8**
JMK	**Ichinoseki**	**0.42**	**127**	⇓P	**Pg**	**14 37 30.0**	**-0.1**
JYK	**Kaneyama**	**0.44**	**229**	⇑P	**Pg**	**14 37 30.4**	**-0.1**
JYK				*e*S	**Sg**	**14 37 36.3**	**0.0**
JOM	**Ohasama**	**0.47**	**55**	⇓P	**Pg**	**14 37 31.3**	**+0.2**
JOM				S	**Sg**	**14 37 37.8**	**+0.5**
JOU	**Okura**	**0.84**	**187**	P	**Pg**	**14 37 38.5**	**+0.3**
JOU				*i* S	**Sb**	**14 37 50.1**	**-0.4**
JIO	**Ouri**	**0.87**	**150**	⇓P	**Pg**	**14 37 38.2**	**-0.4**
JIO				S	**Sg**	**14 37 49.9**	**0.0**
JAH	**Hinai**	**0.99**	**353**	⇓P	**Pg**	**14 37 40.4**	**-0.5**
JAH				S	**Sg**	**14 37 53.1**	**-0.7**
MAT	**Matsushiro**	**3.35**	**218**	P	**Pn**	**14 38 15.7**	**+0.9**
MAT				*e*S	**Sb**	**14 38 59.0**	**-3.7**
MJAR	**Matsushiro Arr**	**3.35**	**218**	Pn	**Pn**	**14 38 15.3**	**+0.5**
	1.0nm,0.3s,baz=23,slow=14,SNR=16						
MJAR				Sn	**Sn**	**14 38 58.0**	**+3.2**
	0.9nm,0.3s,baz=29,slow=15,SNR=4.3						
USRK	**Ussuriysk Ar.**	**8.26**	**310**	Pn	**Pn**	**14 39 21.8**	**-0.3**
	0.1nm,0.3s,baz=115,slow=14,SNR=5.3						
KSRS	**Korea Array**	**10.26**	**264**	Pn	Pn	14 39 53.1	+3.6
	0.4nm,0.3s,baz=74,slow=14,SNR=7.1						
ZALV	**Zalesovo Beam**	**40.11**	**311**	P	**P**	**14 44 58.8**	**+0.8**
	0.5nm,0.4s,baz=98,slow=8.9,SNR=3.1						
ILAR	**Eielson Array**	**47.94**	**33**	P	**P**	**14 46 01.1**	**+0.5**
	0.3nm,0.6s,baz=272,slow=6.3,SNR=5.2						
WRA	**Warramunga Arr**	**59.15**	**187**	P	**P**	**14 47 22.3**	**-1.0**
	1.0nm,0.6s,baz=5.1,slow=7.1,SNR=11						
YKA	**Yellowknife Ar**	**62.18**	**31**	P	**P**	**14 47 42.7**	**-0.8**
	0.3nm,0.7s,baz=301,slow=5.5,SNR=3.2						
ASAR	**Alice Springs**	**62.87**	**187**	P	**P**	**14 47 48.1**	**-0.4**
	0.8nm,0.8s,baz=5.0,slow=5.8,SNR=10.0						
PDAR	**Pinedale Array**	**76.50**	**45**	P	**P**	**14 49 12.7**	**-0.1**
	0.3nm,0.7s,baz=50,slow=2.3,SNR=3.8						

*CSEM **31** 14:38:41.2,29.°62N×56.°87E,h16km,ML3.5*
THR 31 14:38:41.2±0.3,29.°62N×56.°87E,h17km±2km,ML3.5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.38**	**345**	*e*Pg	Pg	14 38 49.3	-0.1
KRBR				*e*Sg	Sg	14 38 55.0	0.0
KRBR				AML	AML	14 38 55.2	
	comp=N,4μm,0.0s						
KRBR				AML	AML	14 38 55.3	
	comp=E,8μm,0.2s						
KRBR	**Kerman**	**0.38**	**345**	*e*Pg	Pg	14 38 49.3	-0.1
KRBR				*e*Sg	Sg	14 38 55.0	0.0
	comp=E,8μm,0.2s						
BNDS	**Bandar-Abbas**	**2.29**	**196**	*e*Pn	Pb	14 39 20.5	-1.9
BNDS				*e*Sg	Sg	14 39 53.3	-2.1
BNDS				AML	AML	14 39 54.8	
	comp=E,139nm,0.4s						
BNDS	**Bandar-Abbas**	**2.29**	**196**	*e*Pn	Pb	14 39 20.5	-1.9
BNDS				*e*Sg	Sg	14 39 53.3	-2.1
	comp=E,139nm,0.4s						
GHIR	**Ghir-Karzin**	**3.65**	**250**	*e*Pn	Pn	14 39 39.2	+2.1
GHIR	**Ghir-Karzin**	**3.65**	**250**	*e*Pn	Pn	14 39 39.2	+2.0
TABS	**Tabas**	**4.03**	**3**	*e*Pn	Pn	14 39 44.3	+2.0
TABS	**Tabas**	**4.03**	**3**	*e*Pn	Pn	14 39 44.3	+2.0

*NIED **31** 14:49:00,22.°90N×120.°60E,h32km,Mw4.4 Best double couple: M₀5.24000×10¹⁵ NP1:φₛ296.00000°,δ45.00000°, λ22.00000°. NP2:φₛ191.00000°,δ75.00000°,λ133.00000°.*
*IDC **31** 14:49:02.5±0.6,22.°90N×120.°80E,h0km,mb4.0/17, mb1 4.2/18,mb1mx4.1/36,mbtmp4.1/18,ML3.7/1,MS3.5/14, Ms1 3.5/14,ms1mx3.3/35,Error ellipse: s-maj=22.3km s-min=13.7km az=65.0*
*BJI **31** 14:49:04.3,23.°02N×120.°52E,h7km,mb4.2/13,mB4.3/10, ML4.3/6,Ms4.2/8,Ms7 3.9/7*
*JMA **31** 14:49:05.8±0.1,22.°89N×120.°63E,h19km±2km,M4.8*
*TAP **31** 14:49:06.0,22.°95N×120.°61E,h17km,ML4.7,B*
*ISCJB **31** 14:49:06.7±0.2,22.°91N±0.°01×120.°58E±0.°02,h28km±1km, mb4.0/18,MS3.4/12,Error ellipse: s-maj=2.3km s-min=2.2km az=3.4*
*NEIC **31** 14:49:07.2±1.3,23.°00N×120.°64E,h23km±6km,mb4.3/5, ML4.7(TAP),Error ellipse: s-maj=16.2km s-min=6.6km az=161.0*
NEIC Recorded [3 TAP] in Chia-i, Kao-hsiung, T'ai-nan and Yun-lin; [2 TAP] in Chang-hua and P'ing-tung; [1 TAP] in Nan-t'ou, P'eng-hu, T'ai-chung and T'ai-tung.

ISC 31 14:49:06.2±0.5,22.°96N±0.°01×120.°59E±0.°02,h17km±3km, n136,σ1§17/198,mb4.3/18,MS3.5/11,24C-16D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian** baz=354	**0.12**	**357**	⇑*i*P	**Pb**	**14 49 10.9**	**+0.7**
TWM1	**Shoushan** baz=228	**0.20**	**229**	⇑*i*P	**Pb**	**14 49 12.2**	**+0.7**
SSD	**Sandimen** baz=171	**0.21**	**170**	⇑*i*P	**Pg**	**14 49 11.3**	**+0.1**
SSD				S	**Sb**	**14 49 15.0**	**-0.3**
CHN1	**Nanshi** baz=343	**0.23**	**346**	⇓*i*P	**Pb**	**14 49 12.6**	**+0.6**
CHN3	**Shinhua** baz=300	**0.24**	**300**	⇑*i*P	**Pb**	**14 49 13.7**	**+1.7**
SGLT	**Jiouru** baz=199	**0.25**	**202**	P	**Pb**	**14 49 12.8**	**+0.6**
SGLT				*e*S	**Sb**	**14 49 18.5**	**+2.3**
STYT	**Tauyuan** baz=40	**0.26**	**37**	⇑*i*P	**Pb**	**14 49 12.7**	**+0.2**
WTP	**Ta-pu** baz=3.0	**0.29**	**4**	⇑*i*P	**Pb**	**14 49 13.3**	**+0.4**
TWK	**Hsinying** baz=355	**0.32**	**343**	⇑*i*P	**Pb**	**14 49 14.1**	**+0.5**
TPUB	**Ta-pu**	**0.34**	**6**	*e*Pg	**Pb**	**14 49 13.8**	**-0.1**
TPUB				*e*Sg	**Sb**	**14 49 20.1**	**+1.0**
TAI1	**Yung-k'ang** baz=286	**0.34**	**284**	⇑*i*P	**Pb**	**14 49 14.8**	**+0.9**
CHN4	**Tsaushan** baz=358	**0.39**	**0**	⇑*i*P	**Pb**	**14 49 15.0**	**+0.3**
SCLT	**Jiali** baz=303	**0.42**	**301**	*e*P	**Pb**	**14 49 15.9**	**+0.7**
SCLT				*e*S	**Sn**	**14 49 24.2**	**-0.7**
ELDTW	**Lidau** baz=49	**0.46**	**59**	⇑*i*P	**Pb**	**14 49 16.1**	**+0.3**
ELDTW				*e*S	**Sb**	**14 49 23.0**	**+0.7**
TWG	**Pinlang** baz=94	**0.46**	**107**	⇓*i*P	**Pb**	**14 49 16.2**	**+0.3**
TWG				S	**Sb**	**14 49 23.4**	**+1.0**
KAU	**Kaohsiung** baz=230	**0.47**	**214**	*e*P	**Pb**	**14 49 16.3**	**+0.4**
ECL	**Taimali** baz=137	**0.49**	**137**	⇓*i*P	**Pg**	**14 49 16.1**	**0.0**
CHN8	**Yiju** baz=331	**0.52**	**318**	⇑P	**Pb**	**14 49 17.4**	**+0.5**
CHN8				S	**Sn**	**14 49 26.7**	**-0.6**
TTN	**Taitung** baz=110	**0.55**	**111**	⇓*i*P	**Pn**	**14 49 18.3**	**-0.9**
TTN				S	**Sn**	**14 49 27.4**	**-0.6**
CHY	**Chiayi** baz=344	**0.56**	**344**	⇑*i*P	**Pb**	**14 49 18.3**	**+0.7**
CHY				S	**Sn**	**14 49 27.4**	**-0.9**
CHN2	**Minshiung** baz=349	**0.58**	**349**	⇑*i*P	**Pb**	**14 49 18.8**	**+0.8**
CHN2				S	**Sn**	**14 49 28.3**	**-0.5**
SCZT	**Fangliau** baz=170	**0.58**	**177**	*e*P	**Pg**	**14 49 17.5**	**-0.3**
ALS	**Alishan** baz=19	**0.58**	**20**	⇑*i*P	**Pb**	**14 49 18.4**	**+0.2**
ALS				*e*S	**Sb**	**14 49 27.6**	**+1.3**
EAST	**Anshou** baz=152	**0.62**	**157**	⇓*i*P	**Pg**	**14 49 18.3**	**-0.1**
EAST				*e*S	**Sb**	**14 49 28.3**	**+1.3**
CHN5	**Tsauling** baz=6.0	**0.64**	**7**	⇑*i*P	**Pb**	**14 49 19.2**	**+0.2**
TWP	**Hsiaoliuchiu** baz=200	**0.64**	**199**	⇑*i*P	**Pn**	**14 49 21.0**	**+0.4**
TWP				S	**Sn**	**14 49 32.8**	**+2.5**
TAW	**Tawu** baz=152	**0.66**	**155**	⇓*i*P	**Pg**	**14 49 19.1**	**-0.1**
TAW				*e*S	**Sb**	**14 49 28.3**	**+0.2**
WGK	**Gukeng** baz=358	**0.73**	**358**	*e*P	**Pg**	**14 49 21.1**	**+0.6**
WGK				S	**Sn**	**14 49 32.6**	**+0.2**
CHKT	**Chengkung** baz=77	**0.73**	**79**	⇓*i*P	**Pg**	**14 49 21.0**	**+0.5**
CHKT				*e*S	**Sg**	**14 49 30.5**	**+0.4**
WSF	**Szhu** baz=334	**0.76**	**333**	⇓*i*P	**Pg**	**14 49 21.5**	**+0.5**
WSF				S	**Sn**	**14 49 33.4**	**+0.2**
	baz=334						
TWF1	**Yuli** baz=65	**0.76**	**59**	⇓*i*P	**Pg**	**14 49 21.2**	**+0.1**
TWF1				*i* S	**Sg**	**14 49 31.2**	**+0.1**
	baz=65						
YULB	**Yu-li**	**0.78**	**56**	*e*Pg	**Pb**	**14 49 21.0**	**-0.3**
YULB				*e*Sg	**Sg**	**14 49 31.8**	**0.0**
EHY	**Hungye** baz=49	**0.87**	**51**	⇓P	**Pb**	**14 49 22.9**	**+0.1**
EHY				*e*S	**Sg**	**14 49 34.5**	**0.0**
	baz=49						
SSLB	**Suanglung**	**0.89**	**22**	*e*Pg	**Pb**	**14 49 23.1**	**-0.2**
SSLB				*e*Sg	**Sb**	**14 49 34.5**	**-0.4**
WDGT	**Dungji** baz=291	**0.91**	**290**	⇑*i*P	**Pb**	**14 49 22.8**	**-0.7**
WDGT				*e*S	**Sb**	**14 49 35.2**	**-0.1**
	baz=291						
WNT	**Mingjian** baz=353	**0.92**	**5**	⇑*i*P	**Pg**	**14 49 24.2**	**+0.1**
WNT				*e*S	**Sn**	**14 49 37.3**	**+0.1**
	baz=353						
WTCT	**Ta-ch'eng** baz=343	**0.95**	**343**	P	**Pb**	**14 49 24.1**	**0.0**
WTCT				S	**Sn**	**14 49 37.7**	**-0.1**
	baz=343						
HEN	**Hengchun** baz=168	**0.96**	**172**	P	**Pn**	**14 49 24.9**	**+0.1**
HEN				*e*S	**Sn**	**14 49 38.0**	**0.0**
	baz=168						
SMLT	**Sun Moon Lake** baz=17	**0.96**	**17**	⇑*i*P	**Pg**	**14 49 24.9**	**-0.1**
SMLT				S	**Sn**	**14 49 39.2**	**+0.7**
	baz=17						
TYC	**Yuchr** baz=14	**0.97**	**14**	⇑*i*P	**Pn**	**14 49 24.9**	**-0.1**
TYC				*e*S	**Sn**	**14 49 39.6**	**+1.1**
	baz=14						
TWK1	**Hengchun** baz=169	**1.03**	**169**	⇓P	**Pb**	**14 49 25.6**	**+0.1**
TWK1				*e*S	**Sg**	**14 49 39.7**	**+0.1**
	baz=169						
TSEB	**Hengchuen, Pin** baz=167	**1.09**	**165**	*e*P	**Pg**	**14 49 27.2**	**-0.1**
TSEB				*e*S	**Sg**	**14 49 42.0**	**+0.4**
	baz=167						
PNG	**Penghu** baz=304	**1.13**	**303**	⇑*i*P	**Pn**	**14 49 25.9**	**-1.3**
PNG				*e*S	**Sb**	**14 49 40.4**	**-1.2**
	baz=304						
TEGC	**Jichi Village** baz=48	**1.15**	**49**	*e*P	**Pg**	**14 49 29.1**	**+0.7**
ESL	**Shilin** baz=41	**1.15**	**42**	⇓*i*P	**Pb**	**14 49 27.7**	**0.0**
ESL				S	**Sg**	**14 49 43.9**	**+0.4**
	baz=41						
TCU	**Taichung** baz=354	**1.19**	**4**	⇑P	**Pn**	**14 49 28.1**	**+0.1**
TCU				*e*S	**Sg**	**14 49 44.9**	**+0.2**
	baz=354						
ESF	**Shoufeng Towns** baz=41	**1.24**	**43**	*e*P	**Pb**	**14 49 29.1**	**0.0**
WHF	**Hehuan Shan** baz=17	**1.33**	**27**	⇓*e*P	**Pn**	**14 49 30.7**	**+0.3**
WHF				S	**Sg**	**14 49 50.3**	**+0.8**
	baz=17						
HWA	**Hwalien** baz=26	**1.38**	**42**	*e*P	**Pg**	**14 49 32.1**	**-0.6**
TWQ1	**Liyutan** baz=7.0	**1.40**	**7**	P	**Pb**	**14 49 31.5**	**-0.3**
TWQ1				*e*S	**Sb**	**14 49 50.4**	**+1.0**
	baz=7.0						
TWT	**Tachien** baz=21	**1.40**	**22**	*e*P	**Pn**	**14 49 31.2**	**+0.2**
TWT				*e*S	**Sg**	**14 49 51.1**	**-0.4**
	baz=21						
TWD	**Chiawan** baz=39	**1.45**	**39**	*e*P	**Pb**	**14 49 32.3**	**-0.4**
TWD				*e*S	**Sb**	**14 49 51.8**	**+0.9**
	baz=39						
NSY	**Sanyi** baz=6.0	**1.46**	**6**	*e*P	**Pn**	**14 49 32.3**	**+0.5**
NSY				S	**Sg**	**14 49 52.9**	**-0.5**
	baz=6.0						
NACB	**Ninganchiao**	**1.52**	**37**	*e*Pn	**Pn**	**14 49 32.8**	**+0.1**
NACB				*e*Sn	**Sn**	**14 49 52.1**	**+0.1**
NNS	**Nan Shan** baz=14	**1.64**	**26**	⇓*e*P	**Pb**	**14 49 35.5**	**-0.6**
NNS				*e*S	**Sb**	**14 49 57.7**	**+1.2**
	baz=14						
NSTT	**Nanjuang** baz=356	**1.71**	**13**	*e*P	**Pn**	**14 49 35.2**	**+0.1**
NSTT				*e*S	**Sb**	**14 49 59.0**	**+0.7**
	baz=356						
ENA	**Nanau** baz=35	**1.80**	**36**	*e*P	**Pn**	**14 49 37.2**	**+0.7**
ENA				*e*S	**Sb**	**14 50 02.2**	**+1.1**
	baz=35						
NSK	**Sanguang** baz=37	**1.85**	**22**	⇓*e*P	**Pn**	**14 49 37.9**	**+0.7**
NSK				*e*S	**Sb**	**14 50 03.6**	**+1.2**
	baz=37						
YHNB	**Yeheng**	**1.85**	**23**	*e*Pn	**Pn**	**14 49 37.6**	**+0.4**
HSN	**Hsinchu** baz=356	**1.87**	**11**	*e*P	**Pb**	**14 49 40.5**	**+0.7**
ENTT	**Nioudou** baz=28	**1.90**	**28**	*e*P	**Pb**	**14 49 39.5**	**-0.9**
ENTT				*e*S	**Sb**	**14 50 04.1**	**+0.3**
	baz=28						
TWC	**Suao** baz=44	**2.01**	**35**	*e*P	**Pb**	**14 49 40.9**	**-1.3**
TWC				*e*S	**Sb**	**14 50 06.6**	**-0.3**
	baz=44						
TWE	**Neicheng** baz=29	**2.01**	**29**	*e*P	**Pb**	**14 49 41.3**	**-1.0**
TWE				*e*S	**Sb**	**14 50 07.9**	**+0.8**
	baz=29						
NCU	**National Centr** baz=359	**2.08**	**15**	*e*P	**Pb**	**14 49 41.9**	**-1.5**
ILA	**Ilan** baz=46	**2.09**	**30**	*e*P	**Pb**	**14 49 42.4**	**-1.2**
TWA	**Mucha** baz=24	**2.21**	**24**	*e*P	**Pn**	**14 49 43.8**	**+1.7**
TWA				*e*S	**Sb**	**14 50 12.7**	**-0.1**
	baz=24						
TAP	**Taipei** baz=21	**2.24**	**22**	*e*P	**Pb**	**14 49 46.3**	**+0.2**
TAP1	**Taipei** baz=21	**2.24**	**22**	*e*P	**Pb**	**14 49 45.1**	**-1.1**
EGS		**2.25**	**33**	*e*P	**Pb**	**14 49 44.6**	**-1.6**
	baz=32						
TWS1	**Kuangyinshan** baz=19	**2.26**	**19**	*e*P	**Pn**	**14 49 44.4**	**+1.5**
NWF	**Wu-fen Shan** baz=11	**2.37**	**27**	*e*P	**Pn**	**14 49 46.0**	**+1.6**
NWF				*e*S	**Sb**	**14 50 17.7**	**+0.3**
	baz=11						
TWB1	**Santiao Chiao** baz=31	**2.41**	**32**	*e*P	**Pb**	**14 49 47.1**	**-1.9**
KNM	**Kinmen** baz=306	**2.45**	**307**	*e*P	**Pn**	**14 49 45.6**	**+0.2**
TWY	**Chenhua** baz=21	**2.49**	**22**	*e*P	**Pn**	**14 49 46.7**	**+0.8**
JYNG	**Yonagunijimaku**	**2.62**	**55**	P	**Pn**	**14 49 49.1**	**+1.4**
JYNG				S	**Sn**	**14 50 21.2**	**+2.1**
YOJ	**Yonaguni jima**	**2.68**	**55**	P	**Pn**	**14 49 49.7**	**+1.2**
YOJ				S	**Sn**	**14 50 22.4**	**+1.9**
YOJ	**Yonaguni jima** baz=55	**2.68**	**55**	⇑*i*P	**Pn**	**14 49 49.6**	**+1.1**
YOJ				*e*S	**Sn**	**14 50 22.0**	**+1.5**
	baz=55						
YOJ	**Yonaguni jima**	**2.68**	**55**	*e*Pn	**Pn**	**14 49 49.6**	**+1.1**
YOJ				*e*Sn	**Sn**	**14 50 19.2**	**-1.3**
QZH	**Quanzhou**	**2.69**	**318**	⇑*i*Pn	**Pn**	**14 49 47.8**	**-0.9**
QZH				Sn	**Sn**	**14 50 18.0**	**-2.9**
QZH				SMN			
	2μm,0.8s						
QZH				SME			
	2μm,0.6s						
PCYT	**Pengchaiyu** baz=26	**2.98**	**27**	*e*P	**Pn**	**14 49 54.0**	**+1.2**
HATJ	**Hateruma jima**	**3.15**	**69**	P	**Pn**	**14 49 55.6**	**+0.6**
HATJ				S	**Sn**	**14 50 33.2**	**+1.1**
IRIF	**Iriomote-Funau**	**3.19**	**64**	P	**Pn**	**14 49 56.8**	**+1.3**
IRIF				S	**Sn**	**14 50 34.5**	**+1.4**
JKRS	**Kuro-shima**	**3.38**	**67**	P	**Pn**	**14 49 59.4**	**+1.2**
JKRS				S	**Sn**	**14 50 39.1**	**+1.1**
JIJ	**Ishigaki jima**	**3.54**	**66**	P	**Pn**	**14 50 00.7**	**+0.3**

JIJ				S	Sn	14 50 42.3	+0.3
JISG	**Ishigakijimahi**	**3.77**	**64**	P	**Pn**	14 50 03.7	+0.1
JISG				S	Sn	14 50 47.7	+0.1
JTJ	**Tarama**	**4.12**	**65**	P	**Pn**	14 50 09.3	+0.9
JTJ				S	Sn	14 50 57.6	+1.4
JIRB	**Irabujima**	**4.59**	**65**	P	**Pn**	14 50 15.0	+0.2
JIRB				S	Sn	14 51 07.3	-0.4
JMJ	**Miyako jima 2**	**4.68**	**66**	*e*S	**Sn**	14 51 08.5	-1.6
JIKM	**Ikemajima**	**4.69**	**64**	P	**Pn**	14 50 17.0	+0.8
JIKM				*e*S	**Sn**	14 51 10.6	+0.4
JOGS	**Gusukube**	**4.76**	**67**	P	**Pn**	14 50 18.8	+1.7
JOGS				S	**Sn**	14 51 14.6	+2.7
JKE	**Kume jima 2**	**6.56**	**58**	P	**Pn**	14 50 41.9	**0.0**
GZH	**Guangzhou**	**6.68**	**273**	⇓*i*P	Pn	14 50 39.3	-4.2
GZH				S	**Sb**	14 52 20.5	**-0.9**
GZH				smax	smax		
	comp=N,690nm,0.9s						
GZH				smax	smax		
	comp=E,190nm,0.6s						
JNTH	**Nagotoyohara**	**7.63**	**61**	P	**Pn**	14 50 55.6	**-1.0**
GYA	**Guiyang**	**13.13**	**288**	P	**Pn**	14 52 12.5	**+0.4**
GYA				LN			
	comp=E,400nm,13.1s						
GYA				LE			
	comp=E,540nm,13.7s						
GYA				LZ			
	comp=E,690nm,17.4s						
JNU	**Nakatsue**	**13.59**	**40**	LR	LR	14 58 35.9	
	comp=E,271nm,18.0s,baz=299,slow=42						
XAN	**Xi'an**	**15.06**	**320**	P	**P**	14 52 47.5	**+4.0**
XAN				S	Sn	14 55 17.0	-7.7
XAN				pmax	pmax		
	comp=E,6.0nm,0.9s						
XAN				pmax	pmax		
	comp=E,26nm,6.3s						
XAN				LR	LR		
	comp=N,250nm,11.0s						
XAN				LR	LR		
	comp=E,280nm,11.5s						
XAN				LR	LR		
	comp=E,550nm,14.0s						
KSAR	**Wonju Array Be**	**15.74**	**22**	Pn	**Pn**	14 52 47.1	**0.0**
KSRS	**Korea Array**	**15.77**	**22**	Pn	**Pn**	14 52 47.1	**-0.3**
	comp=Z,0.3nm,0.3s,baz=202,slow=12,SNR=12						
KSRS				LR	LR	14 59 36.7	
	comp=E,166nm,19.7s,baz=204,slow=40						
KMI	**Kunming**	**16.45**	**281**	P	**P**	14 52 59.0	**-0.2**
KMI				pP	**pP**	14 53 02.0	**-2.0**
KMI				sP	**sP**	14 53 03.3	**-2.9**
KMI				S	**Sn**	14 56 02.0	**+3.1**
KMI				PMZ			
	comp=Z,5.0nm,0.8s						
KMI				PMZ			
	comp=Z,110nm,4.9s						
KMI				LN			
	comp=Z,140nm,7.4s						
KMI				LE			
	comp=Z,400nm,14.2s						
KMI				LZ			
	comp=Z,520nm,14.2s						
CD2	**Chengdu**	**16.96**	**301**	*e*P	**Pn**	14 53 01.8	**-0.9**
CD2				pP	**pP**	14 53 06.3	**+1.7**
CD2				sP	**sP**	14 53 07.8	**-3.9**
CD2				S	**Sn**	14 56 10.5	**-0.4**
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.0s						
CD2				LN			
	comp=Z,860nm,10.3s						
CD2				LE			
	comp=Z,480nm,13.2s						
CD2				LZ			
	comp=Z,720nm,15.2s						
LZH	**Lanzhou**	**19.55**	**316**	*e*P	**Pn**	14 53 37.0	**+2.5**
LZH				pP	**pP**	14 53 40.3	**+2.3**
LZH				sP	**sP**	14 53 41.8	**+1.5**
LZH				PMZ			
	comp=Z,16nm,1.2s						
JCJ	**Chichijima**	**19.99**	**74**	LR	LR	15 00 17.7	
	comp=Z,53nm,20.2s,baz=268,slow=34						
MAJO	**Matsushiro**	**20.38**	**44**	*e*P	**P**	14 53 41.0	**-1.1**
	comp=Z,11nm,0.9s						
MAT	**Matsushiro**	**20.38**	**44**	P	Pn	14 53 43.2	-1.0
MAT				S	**S**	14 57 26.8	**-3.1**
MJAR	**Matsushiro Arr**	**20.38**	**44**	P	**P**	14 53 40.5	**-1.7**
	comp=Z,11nm,1.0s,baz=230,slow=9.0,SNR=22						
MJAR				LR	LR	15 02 09.6	
	comp=Z,102nm,22.0s,baz=230,slow=39						
CHTO	**Chiang Mai**	**20.64**	**263**	*e*P	**P**	14 53 46.1	**+1.1**
	comp=Z,13nm,1.3s						
CMAR	**Chiang Mai Arr**	**20.73**	**262**	P	**P**	14 53 47.1	**+1.0**
	comp=Z,2.9nm,0.7s,baz=69,slow=8.9,SNR=19						
CMAR				LR	LR	15 03 12.8	
	comp=Z,287nm,18.2s,baz=77,slow=41						
GTA	**Gaotai**	**24.10**	**318**	*e*P	**P**	14 54 21.8	**+0.8**
GTA				pP	**pP**	14 54 29.0	**+2.7**
GTA				sP	**sP**	14 54 32.0	**+3.6**
GTA				PMZ			
	comp=Z,4.0nm,1.2s						
SIJI	**Sorong**	**25.86**	**155**	P	**P**	14 54 36.3	**-0.8**
	comp=Z,5.7nm,0.6s,baz=91,slow=7.1,SNR=5.5						
LSA	**Lhasa**	**27.18**	**291**	*e*P	**P**	14 54 50.3	**+0.8**
	comp=Z,9.7nm,0.6s						
SONM	**Songino Array**	**27.30**	**339**	P	**P**	14 54 50.4	**+0.4**
	comp=Z,0.9nm,0.7s,baz=148,slow=8.7,SNR=6.2						
SONM				LR	LR	15 05 44.9	
	comp=Z,86nm,19.7s,baz=148,slow=37						
KAPI	**Kappang**	**27.81**	**182**	LR	LR	15 07 05.6	
	comp=Z,79nm,18.1s,baz=16,slow=39						
PSI	**Prapat**	**29.02**	**229**	LR	LR	15 06 26.8	
	comp=Z,124nm,18.4s,baz=39,slow=36						
MKAR	**Makanchi Array**	**38.85**	**317**	P	**P**	14 56 30.6	**+0.2**
	comp=Z,2.3nm,0.7s,baz=114,slow=9.6,SNR=17						
MKAR				PcP	**PcP**	14 58 42.3	**+0.9**
	comp=Z,1.0nm,1.0s,baz=101,slow=2.1,SNR=3.4						
MKAR				LR	LR	15 13 48.6	
	comp=Z,58nm,20.3s,baz=134,slow=38						
ZALV	**Zalesovo Beam**	**40.99**	**328**	P	**P**	14 56 47.5	**-0.5**
	comp=Z,1.7nm,0.6s,baz=116,slow=7.2,SNR=9.2						
ZALV				LR	LR	15 14 52.9	
	comp=Z,50nm,18.2s,baz=76,slow=38						
PETK	**Petropavlovsk-**	**41.19**	**34**	LR	LR	15 14 37.3	
	comp=Z,67nm,18.7s,baz=226,slow=37						
H11N1	**WAKE ISLAND Hy**	**43.12**	**85**	T	T	15 42 29.2	
	baz=281						
H11N2	**WAKE ISLAND Hy**	**43.12**	**85**	T	T	15 42 37.8	
	baz=281						
H11N3	**WAKE ISLAND Hy**	**43.13**	**85**	T	T	15 42 27.8	
	baz=281						
H11S3	**WAKE ISLAND Hy**	**43.21**	**87**	T	T	15 42 32.4	
	baz=286,slow=74						
H11S1	**WAKE ISLAND Hy**	**43.22**	**87**	T	T	15 42 44.7	
	baz=286,slow=74						
H11S2	**WAKE ISLAND Hy**	**43.23**	**87**	T	T	15 42 45.0	
	baz=286						
WRA	**Warramunga Arr**	**44.70**	**161**	P	**P**	14 57 15.5	**-3.0**
	comp=Z,4.9nm,0.8s,baz=345,slow=8.8,SNR=22						
WRA				PcP	**PcP**	14 58 59.4	**-1.4**
	comp=Z,0.4nm,0.3s,baz=345,slow=2.9,SNR=5.0						
ASAR	**Alice Springs**	**48.12**	**164**	P	**P**	14 57 43.2	**-2.1**
	comp=Z,1.3nm,0.5s,baz=354,slow=14,SNR=17						
ASAR				PcP	**PcP**	14 59 11.1	**-1.7**
	comp=Z,0.6nm,0.8s,baz=338,slow=2.0,SNR=2.7						
GEYT	**Alibeck**	**54.95**	**301**	P	**P**	14 58 37.4	**+1.0**
	comp=Z,2.6nm,0.7s,baz=46,slow=4.3,SNR=5.6						
ARU	**Arti**	**55.76**	**324**	P	**P**	14 58 42.1	**+0.1**
	comp=Z,3.8nm,0.8s						
STKA	**Stephens Creek**	**58.11**	**159**	LR	LR	15 26 25.8	
	comp=Z,32nm,18.0s,baz=41,slow=39						
KBZ	**Khabaz**	**65.82**	**309**	P	**P**	14 59 51.5	**+0.9**
	comp=Z,1.1nm,0.5s,baz=90,slow=6.1,SNR=3.6						
ARCES	**ARCESS Array B**	**70.47**	**338**	P	**P**	15 00 19.4	**0.0**
	comp=Z,1.7nm,0.7s,baz=64,slow=8.2,SNR=6.7						
ILAR	**Eielson Array**	**70.55**	**27**	P	**P**	15 00 18.6	**-1.4**
	comp=Z,0.6nm,0.7s,baz=293,slow=7.5,SNR=10						
FINES	**FINESS Array B**	**72.23**	**330**	P	**P**	15 00 29.6	**-0.4**
	comp=Z,2.2nm,0.8s,baz=87,slow=7.1,SNR=4.3						
EGAK	**Eagle**	**72.92**	**26**	*e*P	**P**	15 00 33.1	**-1.0**
	comp=Z,2.4nm,0.8s						
BRTR	**Keskin Array B**	**73.46**	**307**	P	**P**	15 00 37.1	**-0.9**
	comp=Z,0.3nm,0.4s,baz=63,slow=8.0,SNR=3.3						
NOA	**NORSAR Array B**	**79.05**	**332**	P	**P**	15 01 09.6	**+0.3**
	comp=Z,1.1nm,0.7s,baz=59,slow=5.6,SNR=4.0						
NOA				LR	LR	15 38 42.5	
	comp=Z,29nm,18.0s,baz=55,slow=38						
GERES	**GERESS Array B**	**83.44**	**320**	P	**P**	15 01 33.2	**+0.3**
	comp=Z,0.1nm,0.3s,baz=12,slow=5.0,SNR=3.0						
GERES				LR	LR	15 41 21.2	
	comp=Z,26nm,19.9s,baz=42,slow=38						
YKA	**Yellowknife Ar**	**84.31**	**23**	P	**P**	15 01 35.5	**-1.4**
	comp=Z,1.3nm,0.7s,baz=310,slow=4.9,SNR=13						

KRSC 31 14:58:16.7±2.0, 49°.94N×158°.19E, h48km±20km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.52**	**300**	P	Pn	14 58 42.0	+0.6
SKR				S	Sn	14 59 00.5	+0.4
PAU	**Pauzhetka**	**1.76**	**331**	P	Pn	14 58 47.3	+2.6
PAU				S	Sn	14 59 09.4	+3.4
ASAK	**Asacha**	**2.45**	**356**	P	Pn	14 58 57.6	+3.3
RUS	**Russkaya**	**2.50**	**5**	P	Pn	14 58 57.4	+2.5
RUS				S	Sn	14 59 26.8	+2.6
MIPR	**Malaya Ipel'ka**	**2.51**	**339**	P	Pn	14 58 58.3	+3.3
MIPR				S	Sn	14 59 28.5	+4.2
MTVR	**Mutnovka**	**2.55**	**360**	S	Sn	14 59 28.5	+2.9
APC	**Apacha**	**3.06**	**348**	P	Pn	14 59 05.3	+2.8
PET	**Petropavlovsk**	**3.10**	**5**	P	Pn	14 59 05.5	+2.4
PET				S	Sn	14 59 41.0	+2.2
UGLR	**Uglovaya**	**3.30**	**7**	P	Pn	14 59 11.0	+5.1
AVH	**Avacha**	**3.35**	**6**	P	Pn	14 59 12.1	+5.5
SPN	**Mys Shipunski**	**3.36**	**19**	P	Pn	14 59 10.5	+3.8
SPN				S	Sn	14 59 50.0	+4.7
KOK	**Koryaka**	**3.37**	**5**	P	Pn	14 59 10.8	+3.9
KOK				S	Sn	14 59 50.7	+5.0
SDLR	**Sedlovina**	**3.37**	**7**	P	Pn	14 59 11.4	+4.5
KRX	**Arik**	**3.44**	**5**	P	Pn	14 59 11.3	+3.4
KRX				S	Sn	14 59 51.4	+4.0
GNL	**Ganaly**	**3.77**	**358**	P	Pn	14 59 15.8	+3.5
MKZ	**Mys Kozlova**	**5.11**	**24**	P	Pn	14 59 33.5	+3.0
TUMR	**Tumrok**	**5.48**	**12**	P	Pn	14 59 40.5	+4.6
KBTR	**Krutoberegovo**	**6.87**	**22**	P	Pn	14 59 57.9	+3.2

IDC 31 15:13:12.4±3.7, 5°.59S×149°.81E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.3/20, mbtmp3.4/3, ML1.5/1, 1C, Error ellipse: s-maj=145.6km s-min=40.6km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.61**	**215**	Pn	Pn	15 14 24.9	+1.4
	1.4nm,0.3s,baz=9.1,slow=17,SNR=5.7						
PMG				Sn	Sn	15 15 16.4	-1.4
	1.8nm,0.3s,baz=261,slow=17,SNR=3.6						
WRA	**Warramunga Arr**	**20.74**	**225**	P	P	15 17 54.8	0.0
	0.6nm,0.3s,baz=50,slow=10,SNR=5.2						
ASAR	**Alice Springs**	**23.61**	**219**	P	P	15 18 24.3	-1.0
	0.3nm,0.3s,baz=54,slow=9.3,SNR=20						
SYO	**Syowa Base**	**91.93**	**200**	*e*P		15 26 14.2	-8.3
TORD	**Torodi Ar. Bea**	**147.69**	**286**	PKPbc	PKPbc	15 32 59.8	-0.3
	0.1nm,0.4s,baz=64,slow=3.2,SNR=2.6						

IDC 31 15:27:11.4±1.0, 19°.21N×146°.16E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.5/32, mbtmp3.5/6, ML3.7/1, Error ellipse: s-maj=64.5km s-min=21.4km az=107.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**18.63**	**340**	P	Pn	15 31 31.1	+0.3
	0.2nm,0.3s,baz=167,slow=9.9,SNR=6.7						
WRA	**Warramunga Arr**	**40.59**	**197**	P	P	15 34 53.4	+0.3
	0.4nm,0.7s,baz=24,slow=9.3,SNR=3.8						
ASAR	**Alice Springs**	**44.26**	**196**	P	P	15 35 22.1	-0.8
	0.1nm,0.4s,baz=15,slow=7.7,SNR=4.9						
ILAR	**Eielson Array**	**63.00**	**26**	P	P	15 37 39.2	-0.7
	0.2nm,0.4s,baz=258,slow=5.7,SNR=4.6						
YKA	**Yellowknife Ar**	**77.34**	**28**	P	P	15 39 07.2	-0.6
	0.3nm,0.6s,baz=292,slow=5.4,SNR=3.0						
NVAR	**Mina Array Bea**	**82.49**	**52**	P	P	15 39 37.8	+1.3
	0.5nm,0.6s,baz=252,slow=6.3,SNR=5.5						

SJA 31 15:30:40.6±0.6, 31°.33S×68°.49W, h102km±3km, ML3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLL	**Cerro Villicun**	**0.01**	**105**	*i* P	Pn	15 30 55.4	+0.6
SJA	**San Juan**	**0.21**	**196**	*i* P	Pn	15 30 56.1	+0.9
CFAA	**Coronel Fontan**	**0.35**	**142**	*i* P	Pn	15 30 56.5	+0.8
CFAA				*i* S	Sn	15 31 07.9	+0.8
AMOG	**MOGNA**	**0.39**	**360**	*i* P	Pn	15 30 56.8	+0.8
RTLS	**Leoncito**	**0.83**	**235**	*i* P	Pn	15 31 00.9	+1.1
AVFE	**Valle Fertil**	**1.11**	**54**	*i* P	Pn	15 31 03.2	+0.8
AVFE				*i* S	Sn	15 31 20.0	+1.0
AVFE				AML	AML	15 31 21.3	
	comp=Z,623nm,0.2s						
AUSP	**Uspallata**	**1.18**	**220**	*i* P	Pn	15 31 04.5	+1.0
AUSP				*i* S	Sn	15 31 22.7	+1.9
ASAL	**Salagasta**	**1.30**	**193**	*i* P	Pn	15 31 05.8	+1.2
ASAL				*i* S	Sn	15 31 24.4	+1.6
ACAN	**Cantantal**	**1.46**	**131**	*i* P	Pn	15 31 07.8	+1.3
ARCO	**CERRO ARCO**	**1.56**	**194**	*i* P	Pn	15 31 09.0	+1.1
ARCO				*i* S	Sn	15 31 29.5	+0.9
AAGR	**Agrelo**	**1.78**	**189**	*i* P	Pn	15 31 11.7	+1.1
AAGR				*i* P	Pn	15 31 11.7	+1.1

IDC 31 15:42:06.6±2.9, 7°.38S×151°.52E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/22, mbtmp3.5/3, ML1.0/1, Error ellipse: s-maj=106.1km s-min=42.9km az=131.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.75**	**245**	Pn	Pn	15 43 20.9	+1.3
	0.5nm,0.3s,baz=8.7,slow=13,SNR=2.5						
PMG				Sn	Sn	15 44 10.0	-5.4
	1.0nm,0.3s,baz=354,slow=19,SNR=4.5						
WRA	**Warramunga Arr**	**20.81**	**231**	P	P	15 46 48.8	-1.1
	1.1nm,0.6s,baz=56,slow=11,SNR=10						
ASAR	**Alice Springs**	**23.41**	**224**	P	P	15 47 17.2	-0.2
	0.9nm,0.8s,baz=58,slow=9.1,SNR=9.8						
TORD	**Torodi Ar. Bea**	**149.77**	**283**	PKPbc	PKPbc	16 01 59.5	-0.1
	0.3nm,0.5s,baz=96,slow=1.4,SNR=2.6						

IDC 31 15:43:45.1±4.3, 6°.45S×149°.89E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.3/21, mbtmp3.3/2, Error ellipse: s-maj=185.9km s-min=48.8km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.20**	**227**	P	P	15 48 22.2	+0.5
	0.4nm,0.5s,baz=53,slow=10,SNR=4.9						
ASAR	**Alice Springs**	**23.00**	**220**	P	P	15 48 51.2	-0.6
	0.6nm,0.8s,baz=52,slow=8.8,SNR=4.7						
TORD	**Torodi Ar. Bea**	**147.98**	**284**	PKPbc	PKPbc	16 03 33.0	-0.6
	0.2nm,0.5s,baz=90,slow=2.9,SNR=2.2						

*ISCJB **31** 15:55:12.5±0.5, 21°.52S×68°.15W±0°.08, h121km, mb4.1/9, Error ellipse: s-maj=12.5km s-min=7.4km az=41.8*

*IDC **31** 15:55:13.5±0.8, 21°.54S×68°.21W, h116km±10km, mb3.9/10, mb1 4.0/13, mb1mx3.9/20, mbtmp4.3/13, Error ellipse: s-maj=17.2km s-min=14.4km az=140.0*

ISC 31 15:55:13.8±0.6, 21°.56S±0°.08×68°.17W±0°.09, h121km, n19, σ0s87/20, mb4.2/9, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.25**	**213**	P	**Pn**	15 55 38.6	**-0.1**
	4μm,0.3s,baz=20,slow=7.7,SNR=580						
LVC				S	**Sn**	15 55 56.8	**-0.9**
	19μm,0.3s,baz=108,slow=23,SNR=92						
LPAZ	**La Paz**	**5.25**	**0**	P	**Pn**	15 56 31.9	**+1.2**
	7.8nm,0.3s,baz=168,slow=6.9,SNR=115						
SIV	**San Ignacio**	**8.71**	**52**	P	**Pn**	15 57 16.5	**-0.5**
	6.6nm,0.3s,baz=254,slow=12,SNR=78						
SIV				S	**Sn**	15 58 51.4	**-2.2**
	0.9nm,0.3s,baz=149,slow=24,SNR=10						
CFAA	**Coronel Fontan**	**10.00**	**180**	P	Pn	15 57 31.1	-3.2
	0.3nm,0.3s,baz=350,slow=13,SNR=20						
CPUP	**Villa Florida**	**10.99**	**118**	P	**Pn**	15 57 48.3	**+0.7**
	0.2nm,0.3s,baz=316,slow=11,SNR=5.6						
BDFB	**Brasilia**	**19.98**	**76**	P	**P**	15 59 37.6	**+0.6**
	4.2nm,0.4s,baz=236,slow=8.0,SNR=8.4						
PTGA	**Pitinga**	**22.20**	**22**	P	**P**	15 59 59.1	**-1.3**
	5.5nm,0.5s						
TXAR	**Lajitas Array**	**61.08**	**325**	P	**P**	16 05 14.8	**-0.4**
	0.5nm,0.7s,baz=142,slow=8.9,SNR=6.3						
DBIC	**Dimbokro**	**68.09**	**73**	P	**P**	16 06 01.4	**+0.3**
	3.7nm,0.5s,baz=207,slow=6.4,SNR=9.8						
PDAR	**Pinedale Array**	**74.51**	**330**	P	**P**	16 06 39.4	**+0.1**
	0.3nm,0.5s,baz=132,slow=6.2,SNR=3.1						
ULM	**Lac du Bonnet**	**75.58**	**342**	P	**P**	16 06 44.2	**-0.7**
	3.2nm,0.4s,baz=165,slow=5.5,SNR=4.6						
NVAR	**Mina Array Bea**	**75.97**	**322**	P	**P**	16 06 48.4	**+0.7**
	0.4nm,0.5s,baz=156,slow=6.3,SNR=5.1						
TORD	**Torodi Ar. Bea**	**76.73**	**70**	P	**P**	16 06 52.3	**0.0**
	3.3nm,0.4s,baz=254,slow=5.6,SNR=31						
BOSA	**Boshof**	**82.81**	**118**	P	**P**	16 07 25.8	**+0.6**
	3.1nm,0.9s,baz=265,slow=4.3,SNR=4.7						
YKA	**Yellowknife Ar**	**91.47**	**340**	P	**P**	16 08 05.8	**-0.2**
	2.7nm,0.5s,baz=134,slow=4.5,SNR=62						
ASAR	**Alice Springs**	**130.17**	**207**	PKP	**PKPdf**	16 14 10.2	**-0.1**
	0.4nm,0.7s,baz=127,slow=1.8,SNR=7.7						
WRA	**Warramunga Arr**	**133.24**	**210**	PKP	**PKPdf**	16 14 16.8	**+0.6**
	0.1nm,0.4s,baz=152,slow=1.7,SNR=5.3						
ZALV	**Zalesovo Beam**	**141.72**	**26**	PKP	**PKPdf**	16 14 31.5	**+0.8**
	0.6nm,0.4s,baz=309,slow=0.9,SNR=3.7						
MKAR	**Makanchi Array**	**145.28**	**36**	PKPbc	**PKPab**	16 14 37.8	**+0.3**
	1.3nm,0.6s,baz=326,slow=3.2,SNR=20						

*IDC **31** 16:35:50.8±0.7, 13°.62S×169°.52E, h0km, mb4.3/19, mb1 4.4/20, mb1mx4.4/23, mbtmp4.3/20, ML4.8/1, MS3.5/15, Ms1 3.5/15, ms1mx3.3/36, Error ellipse: s-maj=21.6km s-min=15.3km az=108.0*

*NEIC **31** 16:35:52.1±8.7, 13°.61S×169°.45E, h8km±53km, mb4.2/2, Error ellipse: s-maj=16.3km s-min=13.5km az=219.0*

*ISCJB **31** 16:35:54.5±0.5, 13°.61S±0°.07×169°.5E±0°.1, h33km, mb4.2/22, MS3.5/13, Error ellipse: s-maj=15.4km s-min=9.0km az=26.2*

ISC 31 16:35:56.2±0.7, 13°.64S±0°.10×169°.5E±0°.1, h35km, n41, σ1s11/35, mb4.1/22, MS3.7/13, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.87**	**199**	Pn	**Pn**	**16 38 01.1**	**-0.9**
	9.3nm,0.3s,baz=359,slow=7.3,SNR=90						
DZM				LR	LR	16 41 11.9	
	comp=Z,616nm,19.3s,baz=0.0,slow=36						
NOUC	**Port Laguerre**	**8.94**	**199**	*e*P	Pn	16 37 59.0	-3.9
HNR	**Honiara**	**10.24**	**293**	LR	LR	16 41 59.9	
	comp=Z,216nm,20.1s,baz=138,slow=36						
EIDS	**Eidsvold**	**20.88**	**233**	P	Pn	16 40 37.4	-0.6
	baz=27,SNR=8.0						
EIDS	**Eidsvold**	**20.88**	**233**	*e*P	**P**	**16 40 34.6**	**-0.8**
	18nm,0.9s						
CTA	**Charters Tower**	**23.13**	**251**	P	**P**	**16 41 00.4**	**+1.0**
	3.7nm,0.7s,baz=97,slow=14,SNR=5.5						
CTA				LR	LR	16 48 34.1	
	comp=Z,268nm,21.3s,baz=106,slow=33						
CTAO	**Charters Tower**	**23.13**	**251**	*e*P	**P**	**16 40 58.4**	**-1.0**
RMQ	**Roma**	**23.25**	**234**	P	**P**	**16 41 03.0**	**+2.4**
	baz=30,SNR=44						
ARMA	**Armidale**	**23.46**	**222**	P	**P**	**16 41 04.2**	**+1.5**
	baz=30,SNR=5.9						
MTSU	**Mount Surprise**	**24.61**	**256**	P	**P**	**16 41 15.2**	**+1.8**
	baz=31,SNR=9.0						
URZ	**Urewera**	**25.43**	**166**	P	**P**	**16 41 21.7**	**+1.0**
	5.5nm,0.7s,baz=353,slow=5.9,SNR=4.2						
QLP	**Quilpie**	**26.92**	**238**	P	**P**	**16 41 35.2**	**+0.9**
	baz=34,SNR=11						
CMSA	**Cobar Meteorol**	**28.18**	**227**	P	**P**	**16 41 46.3**	**+0.9**
	baz=34,SNR=8.0						
STKA	**Stephens Creek**	**31.34**	**230**	P	**P**	**16 42 14.6**	**+1.1**
	18nm,0.6s,baz=44,slow=8.1,SNR=21						
STKA				LR	LR	16 53 15.2	
	comp=Z,162nm,21.2s,baz=36,slow=33						
HTT	**Hallett**	**34.06**	**229**	P	**P**	**16 42 38.8**	**+1.5**
	baz=40,SNR=3.6						
WRAB	**Tennant Creek**	**34.17**	**255**	*e*P	**P**	**16 42 37.3**	**-1.2**
	1.6nm,0.8s						
WRA	**Warramunga Arr**	**34.19**	**255**	P	**P**	**16 42 37.2**	**-1.3**
	2.7nm,1.0s,baz=87,slow=8.7,SNR=10						
ASAR	**Alice Springs**	**35.07**	**248**	P	**P**	**16 42 45.5**	**-0.8**
	5.8nm,0.6s,baz=77,slow=9.1,SNR=52						
ASAR				LR	LR	16 55 37.0	
	comp=Z,172nm,20.6s,baz=74,slow=34						
GUMO	**Guam**	**36.43**	**317**	P	**P**	**16 42 56.4**	**-1.4**
	27nm,0.6s,baz=158,slow=16,SNR=3.3						
GUMO				LR	LR	16 56 02.0	
	comp=Z,75nm,19.5s,baz=178,slow=33						
KNRA	**Kununurra**	**39.41**	**262**	P	**P**	**16 43 23.0**	**0.0**
	baz=46,SNR=5.4						
WRKA	**Warakurna**	**40.34**	**247**	P	**P**	**16 43 30.7**	**0.0**
	baz=47,SNR=3.9						
MJAR	**Matsushiro Arr**	**57.98**	**330**	P	**P**	**16 45 45.1**	**-0.4**
	1.3nm,1.1s,baz=170,slow=8.4,SNR=4.9						
MJAR				LR	LR	17 06 55.5	
	comp=Z,27nm,21.5s,baz=245,slow=32						
VNDA	**Vanda**	**64.00**	**182**	P	**P**	**16 46 24.1**	**-1.5**
	0.5nm,0.3s,baz=34,slow=4.0,SNR=11						
KSRS	**Korea Array**	**64.09**	**324**	P	**P**	**16 46 27.7**	**+0.9**
	1.2nm,1

SPN	**Mys Shipunski**	**0.85**	**350**	PN	**Pg**	**16 47 24.0**	**-0.6**
SPN				S	**Sg**	**16 47 35.7**	**-0.1**
RUS	**Russkaya**	**1.09**	**280**	*i* P	**Pn**	**16 47 28.1**	**-0.7**
RUS				*e*S	**Sb**	**16 47 42.9**	**+0.3**
RUS	**Russkaya**	**1.09**	**280**	PN	**Pn**	**16 47 28.1**	**-0.7**
RUS				S	**Sb**	**16 47 42.9**	**+0.3**
PET	**Petropavlovsk**	**1.24**	**308**	*e*P	**Pn**	**16 47 30.5**	**-0.4**
PET				*e*S	**Sn**	**16 47 46.8**	**-0.5**
PET	**Petropavlovsk**	**1.24**	**308**	⇑*i*PN	**Pn**	**16 47 30.5**	**-0.4**
PET				*e*S	**Sn**	**16 47 46.2**	**-1.1**
PET				pmax	pmax		
	comp=Z,500nm,1.1s						
PET				smax	smax		
	comp=E,500nm,2.5s						
PET				smax	smax		
	comp=E,1µm,0.6s						
UGLR	**Uglovaya**	**1.29**	**318**	*i* P	**Pb**	**16 47 32.0**	**-0.1**
UGLR				*e*S	**Sb**	**16 47 49.4**	**+0.9**
MTVR	**Mutnovka**	**1.30**	**280**	*e*P	**Pn**	**16 47 31.8**	**0.0**
MTVR				*e*S	**Sn**	**16 47 49.2**	**+0.3**
SDLR	**Sedlovina**	**1.32**	**321**	*i* P	**Pb**	**16 47 32.1**	**-0.5**
SDLR				*e*S	**Sb**	**16 47 49.8**	**+0.5**
SDLR	**Sedlovina**	**1.32**	**321**	PN	**Pb**	**16 47 32.1**	**-0.5**
SDLR				S	**Sb**	**16 47 49.8**	**+0.5**
SMAR	**Somma**	**1.34**	**319**	*e*P	**Pb**	**16 47 32.8**	**-0.2**
SMAR	**Somma**	**1.34**	**319**	PN	**Pb**	**16 47 32.8**	**-0.2**
AVH	**Avacha**	**1.37**	**318**	*e*P	**Pb**	**16 47 33.1**	**-0.3**
AVH	**Avacha**	**1.37**	**318**	PN	**Pb**	**16 47 33.1**	**-0.3**
GRL	**Gorelyy**	**1.38**	**283**	*e*P	**Pb**	**16 47 34.6**	**+1.0**
GRL				*e*S	**Sg**	**16 47 53.9**	**+1.3**
GRL	**Gorelyy**	**1.38**	**283**	PN	**Pb**	**16 47 34.6**	**+1.0**
GRL				S	**Sg**	**16 47 53.9**	**+1.3**
KRER	**Koryakskii**	**1.39**	**319**	*e*P	**Pb**	**16 47 33.5**	**-0.4**
KOK	**Koryaka**	**1.43**	**317**	*i* P	**Pn**	**16 47 33.8**	**+0.2**
KOK	**Koryaka**	**1.43**	**317**	PN	**Pn**	**16 47 33.8**	**+0.2**
ASAK	**Asacha**	**1.46**	**276**	*e*P	**Pn**	**16 47 34.7**	**+0.8**
ASAK				*e*S	**Sn**	**16 47 54.1**	**+1.3**
KRX	**Arik**	**1.47**	**319**	*e*P	**Pn**	**16 47 34.4**	**+0.2**
KRX				*e*S	**Sb**	**16 47 54.2**	**+0.4**
PETK	**Petropavlovsk-**	**1.78**	**299**	P	**Pn**	**16 47 39.0**	**+0.7**
	comp=E,54nm,0.3s,baz=108,slow=20,SNR=634						
PETK				S	**Sn**	**16 48 01.7**	**+1.2**
	comp=E,43nm,0.3s,baz=237,slow=16,SNR=13						
PETK	**Petropavlovsk-**	**1.78**	**299**	PN	**Pn**	**16 47 39.0**	**+0.7**
PETK				S	**Sn**	**16 48 01.7**	**+1.2**
PETK				pmax	pmax		
	comp=Z,54nm,0.3s						
PETK				smax	smax		
	comp=N,43nm,0.3s						
GNL	**Ganaly**	**2.01**	**316**	*e*P	**Pn**	**16 47 42.7**	**+1.2**
GNL				*e*S	**Sb**	**16 48 08.4**	**-0.8**
GNL	**Ganaly**	**2.01**	**316**	PN	**Pn**	**16 47 42.7**	**+1.2**
GNL				S	**Sb**	**16 48 08.4**	**-0.8**
APC	**Apacha**	**2.01**	**290**	*e*P	**Pb**	**16 47 43.3**	**-1.0**
APC				*e*S	**Sb**	**16 48 09.5**	**+0.4**
APC	**Apacha**	**2.01**	**290**	PN	**Pb**	**16 47 43.3**	**-1.0**
APC				S	**Sb**	**16 48 09.5**	**+0.4**
MIPR	**Malaya Ipel'ka**	**2.16**	**272**	*e*P	**Pn**	**16 47 45.3**	**+1.8**
PAU	**Pauzhetka**	**2.29**	**251**	*e*P	**Pb**	**16 47 47.8**	**-1.3**
PAU	**Pauzhetka**	**2.29**	**251**	PN	**Pb**	**16 47 47.8**	**-1.3**
MKZ	**Mys Kozlova**	**2.46**	**20**	*e*P	**Pn**	**16 47 47.9**	**+0.4**
MKZ				*e*S	**Sn**	**16 48 17.1**	**-0.1**
MKZ	**Mys Kozlova**	**2.46**	**20**	PN	**Pn**	**16 47 47.9**	**+0.4**
MKZ				S	**Sn**	**16 48 17.1**	**-0.1**
KZV	**Kizimen**	**2.85**	**0**	*e*P	**Pn**	**16 47 54.7**	**+1.5**
KZV				*e*S	**Sn**	**16 48 29.0**	**+1.7**
TUMR	**Tumrok**	**3.02**	**359**	*e*P	**Pn**	**16 47 56.9**	**+1.4**
TUMR	**Tumrok**	**3.02**	**359**	PN	**Pn**	**16 47 56.9**	**+1.4**
SKR	**Severo-Kuril's**	**3.04**	**240**	PN	Pn	16 47 51.0	-4.6
ESO	**Esso**	**3.78**	**346**	*e*P	**Pn**	**16 48 08.0**	**+2.2**
ESO	**Esso**	**3.78**	**346**	PN	**Pn**	**16 48 08.0**	**+2.2**
KBTR	**Krutoberegovo**	**4.22**	**20**	*e*P	Pn	16 48 13.6	+1.8
KBTR	**Krutoberegovo**	**4.22**	**20**	PN	Pn	16 48 13.6	+1.8
BDR	**Baidarnaya**	**4.35**	**7**	*e*P	Pn	16 48 17.0	+3.4
SMKR	**Semkarok**	**4.38**	**9**	*e*P	Pn	16 48 16.9	+2.8
SMKR	**Semkarok**	**4.38**	**9**	PN	Pn	16 48 16.9	+2.8
SRKR	**Sorokina**	**4.43**	**6**	*e*P	Pn	16 48 18.3	+3.6
SRKR	**Sorokina**	**4.43**	**6**	PN	Pn	16 48 18.3	+3.6
YAK	**Yakutsk**	**19.07**	**313**	*e*P	**Pn**	**16 51 30.8**	**+0.4**
YAK				pmax	pmax		
	comp=E,8.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,12nm,1.0s						
MJAR	**Matsushiro Arr**	**22.13**	**233**	P	**P**	**16 52 05.5**	**+2.6**
	comp=Z,1.9nm,0.8s,baz=25,slow=9.0,SNR=7.0						
MJAR	**Matsushiro Arr**	**22.13**	**233**	P	**P**	**16 52 05.5**	**+2.6**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ILAR	**Eielson Array**	**29.33**	**44**	P	**P**	**16 53 10.5**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=278,slow=6.2,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**32.88**	**168**	T	T	17 28 24.4	
	baz=352,slow=76,SNR=9.4						
H11N3	**WAKE ISLAND Hy**	**32.90**	**168**	T	T	17 28 26.4	
	baz=352,slow=76,SNR=6.3						
H11N1	**WAKE ISLAND Hy**	**32.90**	**168**	T	T	17 28 26.2	
	baz=352,slow=76,SNR=12						
SONM	**Songino Array**	**34.20**	**285**	P	**P**	**16 53 50.8**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=67,slow=9.1,SNR=3.6						
KURK	**Kurchatov**	**48.27**	**303**	P	**P**	**16 55 46.2**	**-1.8**
KURBB	**Kurchatov Arra**	**48.37**	**302**	P	**P**	**16 55 46.2**	**-2.6**
	comp=Z,0.4nm,0.3s,baz=62,slow=7.9,SNR=6.3						
MKAR	**Makanchi Array**	**48.61**	**296**	P	**P**	**16 55 48.3**	**-2.6**
	comp=Z,0.2nm,0.5s,baz=50,slow=7.2,SNR=6.2						
BVAR	**Borovoye Array**	**50.99**	**309**	P	**P**	**16 56 06.5**	**-2.3**
	comp=Z,0.5nm,0.5s,baz=50,slow=10,SNR=4.2						
BVAR	**Borovoye Array**	**50.99**	**309**	P	**P**	**16 56 06.5**	**-2.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**54.11**	**342**	P	**P**	**16 56 30.7**	**-1.0**
	comp=Z,2.3nm,1.0s,baz=50,slow=8.4,SNR=4.5						
ARCES	**ARCESS Array B**	**54.11**	**342**	P	**P**	**16 56 30.7**	**-1.0**
ARCES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
JMIC	**Jan Mayen**	**56.79**	**356**	LR	LR	17 21 50.7	
	comp=Z,14nm,20.4s,baz=252,slow=37						
CMAR	**Chiang Mai Arr**	**58.12**	**259**	P	**P**	**16 57 00.9**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=21,slow=9.0,SNR=3.3						
FINES	**FINESS Array B**	**60.92**	**337**	P	**P**	**16 57 19.0**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=54,slow=6.1,SNR=13						
FINES	**FINESS Array B**	**60.92**	**337**	P	**P**	**16 57 19.0**	**-0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**64.37**	**344**	P	**P**	**16 57 43.1**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=23,slow=6.8,SNR=2.8						
NOA	**NORSAR Array B**	**64.37**	**344**	P	**P**	**16 57 43.1**	**+0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
HFS	**Hagfors**	**64.77**	**342**	P	**P**	**16 57 45.4**	**0.0**
	comp=Z,0.5nm,0.4s,baz=32,slow=5.9,SNR=6.1						
HFS	**Hagfors**	**64.77**	**342**	P	**P**	**16 57 45.4**	**0.0**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**70.86**	**67**	P	**P**	**16 58 25.4**	**+1.1**
	comp=Z,0.1nm,0.4s,baz=292,slow=5.7,SNR=3.6						
EKA	**Eskdalemuir Ar**	**71.89**	**350**	P	**P**	**16 58 30.2**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=20,slow=5.7,SNR=4.2						
EKA	**Eskdalemuir Ar**	**71.89**	**350**	P	**P**	**16 58 30.2**	**+0.2**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**79.05**	**205**	P	**P**	**16 59 12.1**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=17,slow=6.8,SNR=3.4						

*CSEM **31** 16:49:40.3, 37°.35N×20°.35E, h35km, MD3.5*
ATH 31 16:49:40.3, 37°.35N×20°.35E, h35km±2km, MD3.5/9, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SFD	**Strofades**	**0.54**	**100**	*e*PN		Pn	16 49 52.5	+1.0
SFD	**Strofades**	**0.54**	**100**	*e*Pn		Pn	16 49 52.5	+1.0
VLS	**Valsamata**	**0.85**	**13**	*e*PN		Pn	16 49 57.2	+1.4
VLS				*e*SN		Sn	16 50 09.4	+2.4
VLS	**Valsamata**	**0.85**	**13**	*e*Pn		Pn	16 49 57.2	+1.4
VLS				*e*Sn		Sn	16 50 09.4	+2.4
RLS	**Riolos of Patr**	**1.13**	**51**	*e*PN		Pn	16 50 01.1	+1.4
RLS				*e*SN		Sn	16 50 16.7	+2.7
RLS	**Riolos of Patr**	**1.13**	**51**	*e*Pn		Pn	16 50 01.1	+1.4
RLS				*e*Sn		Sn	16 50 16.7	+2.7
DRO	**Drossia**	**1.24**	**60**	*e*PB		Pn	16 50 02.4	+1.3
DRO				*e*SN		Sn	16 50 20.1	+3.5
DRO	**Drossia**	**1.24**	**60**	*e*Pb		Pn	16 50 02.4	+1.3
DRO				*e*Sn		Sn	16 50 20.1	+3.5
PDO	**Prodromos**	**1.41**	**28**	*e*PB		Pn	16 50 05.0	+1.5
PDO				*e*SN		Sn	16 50 23.8	+2.9
PDO	**Prodromos**	**1.41**	**28**	*e*Pb		Pn	16 50 05.0	+1.5
PDO				*e*Sn		Sn	16 50 23.8	+2.9
LKD2	**Lefkada island**	**1.46**	**10**	*e*PN		Pn	16 50 06.3	+2.1
LKD2				*e*SN		Sn	16 50 25.0	+2.9
LKD2	**Lefkada island**	**1.46**	**10**	*e*Pn		Pn	16 50 06.3	+2.1
LKD2				*e*Sn		Sn	16 50 25.0	+2.9
LAKA	**Lakka**	**1.57**	**55**	*e*PN		Pn	16 50 06.5	+0.8
LAKA	**Lakka**	**1.57**	**55**	*e*Pn		Pn	16 50 06.5	+0.8
GUR	**Goura**	**1.69**	**69**	*e*PN		Pn	16 50 09.1	+1.7
GUR	**Goura**	**1.69**	**69**	*e*Pn		Pn	16 50 09.1	+1.7
DSL	**Palaion Diasel**	**1.88**	**18**	*e*PB		Pn	16 50 12.3	+2.4
DSL	**Palaion Diasel**	**1.88**	**18**	*e*Pb		Pn	16 50 12.3	+2.4
EVR	**Evrytania**	**1.94**	**36**	*e*PN		Pn	16 50 13.2	+2.3
EVR	**Evrytania**	**1.94**	**36**	*e*PN		Pn	16 50 13.2	+2.3
EVR	**Evrytania**	**1.94**	**36**	*e*Pn		Pn	16 50 13.2	+2.3
EVR	**Evrytania**	**1.94**	**36**	*e*Pn		Pn	16 50 13.2	+2.3
DSF	**Desfina**	**2.02**	**58**	*e*PN		Pn	16 50 14.0	+2.0
DSF	**Desfina**	**2.02**	**58**	*e*Pn		Pn	16 50 14.0	+2.0
AGG	**Agios Georgios**	**2.29**	**42**	*e*PN		Pn	16 50 18.0	+2.4
AGG	**Agios Georgios**	**2.29**	**42**	*e*Pn		Pn	16 50 18.0	+2.4

*AUST **31** 16:56:27.5±0.0, 30°.05S×136°.74E, h10km, Error ellipse: s-maj=0.2km s-min=0.1km az=1.0*
*ISCJB **31** 16:56:30.1±0.9, 30°.25S±0°.07×137°.0E±0°.1, h10km, Error ellipse: s-maj=15.1km s-min=6.4km az=143.5*
*IDC **31** 16:56:35.3±3.9, 29°.93S×137°.39E, h0km, mb1 3.1/3, mb1mx3.0/39, mbtmp2.8/3, ML2.7/3, Error ellipse: s-maj=78.9km s-min=17.6km az=44.0*
ISC 31 16:56:32.3±1.2, 30°.36S±0°.08×136°.89E±0°.08, h10km, n7, σ1s39/9, 3C-1D, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BBOO	**Buckleboo**	**2.55**	**196**	⇓P		**Pn**	**16 57 13.2**	**-0.5**
	baz=2.8							
STKA	**Stephens Creek**	**4.31**	**112**	P		**Pn**	**16 57 38.9**	**+1.0**
	0.1nm,0.3s,baz=304,slow=11,SNR=2.9							
STKA				Sn		**Sn**	**16 58 27.8**	**-0.4**
	0.8nm,0.3s,baz=299,slow=13,SNR=6.3							
STKA				Lg		Lg	16 58 46.5	
	0.6nm,0.3s,baz=25,slow=24,SNR=3.4							
STKA	**Stephens Creek**	**4.31**	**112**	⇑P		**Pn**	**16 57 37.5**	**-0.4**
	baz=4.5							
ASAR	**Alice Springs**	**7.18**	**338**	Pn		**Pn**	**16 58 19.5**	**+2.2**
	0.1nm,0.3s,baz=155,slow=12,SNR=17							
ASAR				Sn		**Sn**	**16 59 38.5**	**-0.5**
	0.1nm,0.3s,baz=157,slow=22,SNR=7.1							
FORT	**Forrest**	**7.63**	**265**	⇑P		Pn	16 58 19.3	-4.2
	baz=7.5							
CMSA	**Cobar Meteorol**	**7.65**	**101**	⇑P		**Pn**	**16 58 23.4**	**-0.4**
	baz=7.8							
WRA	**Warramunga Arr**	**10.62**	**347**	Pn		**Pn**	**16 59 04.8**	**+0.2**
	0.1nm,0.3s,baz=159,slow=12,SNR=4.6							
WRA				Sn		**Sn**	**17 01 01.5**	**-2.2**
	0.1nm,0.3s,baz=165,slow=26,SNR=2.6							

*ISCJB **31** 17:02:10.7±0.7, 75°.7N±0°.1×132°.1E±0°.4, h10km, mb3.7/8, Error ellipse: s-maj=19.0km s-min=14.7km az=167.0*
*IDC **31** 17:02:11.1±0.8, 75°.70N×132°.01E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.6/62, mbtmp3.8/9, ML3.4/1, Error ellipse: s-maj=30.0km s-min=17.5km az=154.0*
ISC 31 17:02:12.6±0.8, 75°.7N±0°.1×132°.0E±0°.1, h10km, n9, σ1s33/9, mb3.8/8, Laptev Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SEY	**Seymchan**	**14.52**	**141**	Pn		**Pn**	**17 05 37.4**	**-0.3**
	0.2nm,0.3s,baz=335,slow=9.1,SNR=9.5							
ILAR	**Eielson Array**	**26.93**	**69**	P		**P**	**17 07 52.6**	**-0.8**
	1.2nm,0.7s,baz=323,slow=8.6,SNR=16							
ARCES	**ARCESS Array B**	**28.16**	**314**	P		**P**	**17 08 02.4**	**-2.0**
	3.1nm,0.9s,baz=5.0,slow=11,SNR=3.2							
ZALV	**Zalesovo Beam**	**28.21**	**247**	P		**P**	**17 08 05.2**	**+0.2**
	0.2nm,0.2s,baz=9.9,slow=3.4,SNR=3.4							
SONM	**Songino Array**	**29.88**	**216**	P		**P**	**17 08 19.2**	**-0.8**
	1.8nm,0.7s,baz=7.6,slow=11,SNR=16							
MKAR	**Makanchi Array**	**35.48**	**245**	P		**P**	**17 09 09.9**	**+1.1**
	0.2nm,0.5s,baz=22,slow=7.7,SNR=4.2							
NVAR	**Mina Array Bea**	**57.75**	**61**	P		**P**	**17 12 03.9**	**+0.5**
	0.6nm,0.6s,baz=351,slow=5.2,SNR=5.9							
TXAR	**Lajitas Array**	**69.55**	**50**	P		**P**	**17 13 21.6**	**+0.3**
	0.5nm,0.7s,baz=354,slow=2.5,SNR=5.3							
TORD	**Torodi Ar. Bea**	**86.46**	**312**	P		**P**	**17 14 57.0**	**+1.9**
	0.8nm,0.9s,baz=21,slow=4.6,SNR=4.6							

IDC 31 17:09:05.5±2.1, 5°.62S×146°.99E, h182km±26km, mb3.0/2, mb1 3.4/4, mb1mx3.0/19, mbtmp3.7/4, Error ellipse: s-maj=56.3km s-min=18.1km az=102.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**3.77**	**178**	P		Pn	17 10 04.7	+1.0
	5.7nm,0.3s,baz=12,slow=11,SNR=52							
PMG				S		Sn	17 10 49.1	-0.3
	5.3nm,0.3s,baz=60,slow=20,SNR=7.2							
WRA	**Warramunga Arr**	**18.82**	**220**	P		P	17 13 12.4	+0.8
	0.7nm,0.3s,baz=40,slow=11,SNR=13							
WRA				S		S	17 16 35.3	-0.8
	0.1nm,0.3s,baz=44,slow=21,SNR=2.9							
ASAR	**Alice Springs**	**21.93**	**214**	P		P	17 13 45.2	+0.6
	1.3nm,0.5s,baz=48,slow=7.9,SNR=23							
ASAR				S		S	17 17 35.9	+1.9
	0.2nm,0.6s,baz=23,slow=15,SNR=4.3							
CMAR	**Chiang Mai Arr**	**53.07**	**298**	P		P	17 18 04.2	-0.2
	0.1nm,0.3s,baz=92,slow=6.2,SNR=2.5							
TORD	**Torodi Ar. Bea**	**144.99**	**285**	PKP		PKPbc	17 28 19.6	-2.2
	0.1nm,0.4s,baz=68,slow=3.6,SNR=3.1							

*IDC **31** 17:10:09.0±6.1, 12°.75N×145°.13E, h31km±45km, mb3.3/7, mb1 3.6/7, mb1mx3.4/25, mbtmp3.5/7, MS3.4/1, Ms1 3.4/1, ms1mx2.6/16, Error ellipse: s-maj=40.1km s-min=18.0km az=91.0*
*ISCJB **31** 17:10:09.9±1.1, 12°.79N±0°.07×145°.1E±0°.3, h57km, mb3.5/7, MS3.4/1, Error ellipse: s-maj=36.5km s-min=10.3km az=176.9*
ISC 31 17:10:11.7±1.3, 12°.9N±0°.1×145°.1E±0°.3, h57km, n8, σ1s29/9, mb3.5/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**0.76**	**347**	Pn		**Pn**	**17 10 24.8**	**-1.7**
	316nm,0.3s,baz=172,slow=7.1,SNR=197							
GUMO				Sn		**Sn**	**17 10 37.0**	**-0.4**
	792nm,0.3s,baz=143,slow=20,SNR=38							
GUMO				LR		LR	17 11 05.5	
	comp=Z,167nm,21.2s,baz=168,slow=65							
MJAR	**Matsushiro Arr**	**24.38**	**347**	P		**P**	**17 15 26.1**	**+1.5**
	1.1nm,0.8s,baz=148,slow=9.6,SNR=6.3							
WRA	**Warramunga Arr**	**34.25**	**198**	P		**P**	**17 16 51.4**	**-1.0**
	1.0nm,0.8s,baz=21,slow=9.3,SNR=3.0							
ASAR	**Alice Springs**	**37.89**	**197**	P		**P**	**17 17 23.3**	**-0.2**
	0.4nm,0.8s,baz=16,slow=12,SNR=3.4							
CMAR	**Chiang Mai Arr**	**44.65**	**283**	P		**P**	**17 18 19.1**	**-0.1**
	0.3nm,0.4s,baz=79,slow=7.0,SNR=5.6							
MKAR	**Makanchi Array**	**62.14**	**316**	P		**P**	**17 20 27.9**	**+0.8**
	0.2nm,0.5s,baz=115,slow=5.4,SNR=3.8							
ZALV	**Zalesovo Beam**	**62.32**	**325**	P		**P**	**17 20 29.8**	**+1.8**
	0.2nm,0.3s,baz=90,slow=5.8,SNR=2.9							
ZALV				LR		LR	17 48 60.0	
	comp=Z,26nm,18.5s,baz=70,slow=37							
ILAR	**Eielson Array**	**69.16**	**25**	P		**P**	**17 21 11.9**	**0.0**
	0.4nm,0.4s,baz=251,slow=6.1,SNR=6.9							

IDC 31 18:07:11.6±53.0, 21°.48S×175°.44W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/19, mbtmp3.9/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/33, Error ellipse: s-maj=987.9km s-min=173.0km az=85.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
STKA	**Stephens Creek**	**39.54**	**246**	P		P	18 14 43.6	-0.9
	3.8nm,1.0s,baz=78,slow=11,SNR=2.3							
ASAR	**Alice Springs**	**46.63**	**257**	P		P	18 15 41.4	-0.7
	0.5nm,0.9s,baz=93,slow=6.3,SNR=10							
WRA	**Warramunga Arr**	**46.84**	**262**	P		P	18 15 44.6	+0.9
	1.2nm,0.5s,baz=99,slow=8.4,SNR=13							

FITZ	**Fitzroy Crossi**	**55.27**	**262**	LR		LR	18 39 28.3	
	comp=Z,19nm,20.1s,baz=340,slow=35							

*NEIC **31** 18:17:17.9, 52°.67N×169°.64W, h3km, mb4.0/17, ML4.1(AEIC), After AEIC.*
*ISCJB **31** 18:17:20.0±0.7, 52°.87N±0°.06×169°.79W±0°.05, h25km±6km, mb4.0/25, MS3.4/5, Error ellipse: s-maj=11.4km s-min=3.2km az=161.4*
*IDC **31** 18:17:23.6±5.3, 52°.96N×169°.85W, h42km±48km, mb3.6/13, mb1 3.9/15, mb1mx3.6/33, mbtmp3.9/15, ML3.8/2, MS3.4/5, Ms1 3.4/5, ms1mx2.9/49, Error ellipse: s-maj=38.0km s-min=14.9km az=3.0*
ISC 31 18:17:19.2±1.5, 52°.8N±0°.1×169°.74W±0°.05, h12km±9km, n82, σ1s13/83, mb4.0/25, MS3.5/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NIKH	**Nikolski High**	**0.56**	**75**	P		**Pg**	**18 17 29.6**	**-0.4**
NIKH				S		**Sg**	**18 17 38.0**	**+0.6**
OKSO	**Okmok South**	**1.09**	**60**	P		**Pg**	**18 17 39.4**	**-0.6**
OKSO				S		**Sn**	**18 17 55.6**	**+0.2**
OKWR	**Okmok West Rim**	**1.10**	**56**	P		**Pn**	**18 17 40.7**	**+0.1**
OKAK	**Okmok**	**1.12**	**48**	P		**Pb**	**18 17 38.6**	**-1.8**
OKCE	**Okmok Cone E**	**1.12**	**57**	P		**Pb**	**18 17 40.2**	**-0.3**
OKTU	**Okmok Mt. Tuli**	**1.16**	**61**	P		**Pn**	**18 17 41.4**	**0.0**
OKFG	**Magazine Ridge**	**1.25**	**62**	P		**Pn**	**18 17 42.1**	**-0.4**
OKFG				S		**Sn**	**18 17 59.4**	**+0.2**
MCIR	**Makushin Cirqu**	**2.04**	**56**	P		**Pn**	**18 17 54.1**	**+0.7**
MSW	**Makushin Switc**	**2.08**	**57**	P		**Pn**	**18 17 55.0**	**+1.1**
MTBL	**Makushin Table**	**2.16**	**57**	P		**Pn**	**18 17 56.3**	**+1.2**
UNV	**Unalaska Valle**	**2.19**	**61**	P		**Pn**	**18 17 55.6**	**+0.2**
UNV				S		**Sn**	**18 18 23.4**	**+0.9**
AKRB	**Akutan Reef Bi**	**2.55**	**58**	P		**Pn**	**18 18 01.4**	**+1.1**
ZRO	**Akutan Zero**	**2.58**	**59**	P		**Pn**	**18 18 02.4**	**+1.6**
AKGG	**Akutan Green G**	**2.62**	**57**	P		**Pn**	**18 18 03.0**	**+1.6**
AKUT	**Akutan**	**2.71**	**60**	P		**Pn**	**18 18 02.7**	**+0.2**
ATKA	**Atka Island**	**2.79**	**259**	P		**Pn**	**18 18 03.8**	**+0.1**
ATKA				S		**Sn**	**18 18 39.4**	**+2.1**
WESP	**Westdahl Peak**	**3.42**	**59**	P		**Pn**	**18 18 14.2**	**+1.9**
WEBT	**Westdahl Beart**	**3.45**	**57**	P		**Pn**	**18 18 14.7**	**+2.0**
WESN	**West Dahl Nort**	**3.52**	**58**	P		**Pn**	**18 18 14.9**	**+1.1**
SSBA	**Shishaldin**	**3.85**	**57**	P		**Pn**	**18 18 18.9**	**+0.5**
GSTR	**Great Sitkin T**	**3.94**	**262**	*e*Pn		**Pn**	**18 18 20.2**	**+0.8**
GSTR				*e*Sn		**Sn**	**18 19 04.7**	**-0.9**
GSMY	**Great Sitkin M**	**3.94**	**261**	P		**Pn**	**18 18 20.2**	**+0.6**
GSCK	**Great Sitkin C**	**4.02**	**261**	P		**Pn**	**18 18 21.1**	**+0.6**
FALS	**False Pass**	**4.26**	**59**	*e*Pn		**Pn**	**18 18 25.0**	**+1.1**
FALS				*e*Sn		**Sn**	**18 19 13.7**	**+0.2**
ADAG	**Mount Adagdak**	**4.29**	**261**	P		**Pn**	**18 18 25.8**	**+1.6**
SPIA	**Saint Paul Isl**	**4.36**	**356**	P		**Pn**	**18 18 27.0**	**+1.7**
KIRH	**Kanaga Island**	**4.60**	**261**	P		**Pn**	**18 18 29.0**	**+0.4**
KIKV	**Kanaga Island**	**4.65**	**261**	P		**Pn**	**18 18 30.3**	**+1.0**
KICM	**Kanaga Island**	**4.66**	**262**	P		**Pn**	**18 18 30.8**	**+1.5**
TAPA	**Tanaga Point A**	**5.05**	**262**	P		**Pn**	**18 18 36.2**	**+1.4**
SDPT	**Sand Point**	**6.01**	**62**	*e*Pn		Pn	18 18 51.3	+3.5
	102nm,1.0s							
SDPT				*e*Sn		**Sn**	**18 19 57.6**	**+1.2**
AMKA	**Amchitka**	**6.91**	**262**	P		**Pn**	**18 19 01.5**	**+1.3**
CHGN	**Chignik**	**7.44**	**58**	*e*Pn		**Pn**	**18 19 09.8**	**+2

s-min=3.3km az=160.9
IDC ***31*** *18:20:12.7±7.0,52°.90N×169°.80W,h51km±62km,mb3.8/12, mb1 4.1/13,mb1mx3.7/31,mbtmp4.0/13,ML3.5/1, MS3.7/2, Ms1 3.6/2,ms1mx2.8/50,Error ellipse: s-maj=38.3km s-min=16.2km az=8.0*
ISC 31 18:20:07.7±1.4,52.85N±0°.10×169.75W±0°.05,h12km±8km, n85,σ1§39/91,mb4.1/26,MS4.0/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.56**	**76**	P	**Pg**	**18 20 18.2**	**-0.3**
NIKH				S	**Sg**	**18 20 26.8**	**+1.0**
OKSO	**Okmok South**	**1.08**	**61**	P	**Pb**	**18 20 27.3**	**-1.1**
OKSO				S	**Sn**	**18 20 43.7**	**+0.1**
OKWR	**Okmok West Rim**	**1.10**	**57**	P	**Pb**	**18 20 29.0**	**+0.4**
OKAK	**Okmok**	**1.11**	**48**	P	**Pb**	**18 20 26.9**	**-1.9**
OKCE	**Okmok Cone E**	**1.12**	**58**	P	**Pb**	**18 20 28.2**	**-0.7**
OKTU	**Okmok Mt. Tuli**	**1.16**	**62**	P	**Pn**	**18 20 29.3**	**-0.5**
OKRE	**Okmok R'deer P**	**1.17**	**54**	P	**Pn**	**18 20 29.6**	**-0.1**
OKFG	**Magazine Ridge**	**1.24**	**62**	P	**Pn**	**18 20 29.9**	**-0.9**
OKFG				S	**Sn**	**18 20 47.5**	**+0.1**
MSOM	**Makushin Julie**	**1.94**	**59**	P	**Pn**	**18 20 40.7**	**+0.3**
MSOM				S	**Sb**	**18 21 06.9**	**-0.1**
MCIR	**Makushin Cirqu**	**2.04**	**56**	P	**Pn**	**18 20 43.3**	**+1.5**
MSW	**Makushin Switc**	**2.07**	**58**	P	**Pn**	**18 20 43.3**	**+1.1**
MSW				S	**Sb**	**18 21 10.8**	**-0.1**
MTBL	**Makushin Table**	**2.15**	**57**	P	**Pn**	**18 20 44.4**	**+1.0**
UNV	**Unalaska Valle**	**2.19**	**61**	P	**Pn**	**18 20 44.3**	**+0.5**
UNV				S	**Sn**	**18 21 11.9**	**+1.1**
AKRB	**Akutan Reef Bi**	**2.55**	**58**	P	**Pn**	**18 20 50.1**	**+1.4**
ZRO	**Akutan Zero**	**2.58**	**60**	P	**Pn**	**18 20 50.7**	**+1.5**
AKGG	**Akutan Green G**	**2.62**	**57**	P	**Pn**	**18 20 50.9**	**+1.1**
AKUT	**Akutan**	**2.70**	**60**	*e*Pn	**Pn**	**18 20 51.8**	**+1.0**
AKUT				*e*Sn	**Sn**	**18 21 22.4**	**-1.0**
ATKA	**Atka Island**	**2.79**	**258**	P	**Pn**	**18 20 52.0**	**-0.1**
ATKA				S	**Sn**	**18 21 27.7**	**+2.0**
WESP	**Westdahl Peak**	**3.41**	**59**	P	**Pn**	**18 21 02.3**	**+1.6**
SSBA	**Shishaldin**	**3.85**	**58**	P	**Pn**	**18 21 08.5**	**+1.8**
GSTR	**Great Sitkin T**	**3.93**	**261**	*e*Pn	**Pn**	**18 21 07.9**	**+0.1**
GSTR				*e*Sn	**Sn**	**18 21 50.1**	**-3.8**
GSMY	**Great Sitkin M**	**3.94**	**261**	P	**Pn**	**18 21 08.3**	**+0.3**
GSTD	**Great Sitkin T**	**3.99**	**261**	P	**Pn**	**18 21 09.2**	**+0.5**
GSCK	**Great Sitkin C**	**4.01**	**261**	P	**Pn**	**18 21 09.2**	**+0.3**
FALS	**False Pass**	**4.26**	**59**	*e*Pn	**Pn**	**18 21 14.7**	**+2.5**
ADAG	**Mount Adagdak**	**4.29**	**261**	P	**Pn**	**18 21 13.9**	**+1.3**
SPIA	**Saint Paul Isl**	**4.35**	**356**	P	**Pn**	**18 21 15.4**	**+1.9**
KIRH	**Kanaga Island**	**4.60**	**261**	P	**Pn**	**18 21 17.5**	**+0.6**
KIKV	**Kanaga Island**	**4.65**	**261**	P	**Pn**	**18 21 18.2**	**+0.5**
TAPA	**Tanaga Point A**	**5.05**	**261**	P	**Pn**	**18 21 23.6**	**+0.4**
SDPT	**Sand Point**	**6.00**	**62**	*e*Pn	**Pn**	**18 21 38.2**	**+2.1**
AMKA	**Amchitka**	**6.91**	**262**	P	**Pn**	**18 21 51.0**	**+2.4**
CHGN	**Chignik**	**7.44**	**58**	*e*Pn	**Pn**	**18 21 57.6**	**+1.7**
KDAK	**Kodiak Island** 0.5nm,0.3s,baz=260,slow=11,SNR=2.4	**10.95**	**56**	P	**Pn**	**18 22 43.7**	**-0.1**
KDAK				S	**Sn**	**18 24 42.9**	**-3.2**
	0.2nm,0.3s,baz=204,slow=12,SNR=2.2						
KDAK	**Kodiak Island**	**10.95**	**56**	*e*Pn	**Pn**	**18 22 42.8**	**-1.1**
KDAK				S	**Sn**	**18 24 42.9**	**-3.2**
TNA	**Tin City** 23nm,1.2s	**12.79**	**3**	*e*Pn	**Pn**	**18 23 10.5**	**+1.5**
RC01	**Rabbit Creek A**	**13.63**	**45**	P	**Pn**	**18 23 20.2**	**-0.3**
PPLA	**Purkeypile** 36nm,1.3s	**13.68**	**36**	*e*Pn	Pn	18 23 25.6	+4.3
SML	**Sawmill**	**14.57**	**44**	*e*Pn	**Pn**	**18 23 33.4**	**0.0**
BPAW	**Bear Paw Mtn.** 2.9nm,0.8s	**14.87**	**33**	*e*Pn	Pn	18 23 40.8	+3.4
MCK	**McKinley** 11nm,1.0s	**15.36**	**37**	Pn	**Pn**	**18 23 43.7**	**-0.2**
DIV	**Divide**	**15.40**	**48**	*e*Pn	**Pn**	**18 23 42.4**	**-2.1**
PAX	**Paxson**	**16.30**	**42**	*e*Pn	**Pn**	**18 23 57.8**	**+1.7**
COLA	**College** 6.3nm,0.9s	**16.42**	**34**	Pn	**Pn**	**18 23 56.4**	**-1.1**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=226,slow=11,SNR=5.0	**16.69**	**35**	P	**Pn**	**18 24 01.3**	**+0.2**
EGAK	**Eagle** 4.4nm,0.8s	**18.81**	**39**	*e*P	**Pn**	**18 24 27.7**	**+0.5**
HYT	**Haines Junctio** 9.8nm,0.8s	**19.19**	**53**	*e*P	**Pn**	**18 24 32.3**	**+0.4**
SKAG	**Skagway** 14nm,0.7s	**20.10**	**57**	*e*P	**P**	**18 24 41.1**	**+0.3**
CRAG	**Craig**	**21.45**	**68**	P	**P**	**18 24 55.4**	**0.0**
SEY	**Seymchan** 9.6nm,0.8s,baz=91,slow=8.2,SNR=18	**22.18**	**312**	P	**P**	**18 25 03.6**	**+0.4**
DLBC	**Dease Lake** 4.6nm,0.7s,baz=281,slow=9.3,SNR=8.3	**22.84**	**60**	P	**P**	**18 25 11.5**	**+1.1**
INK	**Inuvik** 2.3nm,0.8s,baz=219,slow=12,SNR=5.1	**23.08**	**34**	P	**P**	**18 25 10.7**	**-2.0**
INK	**Inuvik** 20nm,1.5s	**23.08**	**34**	*e*P	**P**	**18 25 10.1**	**-2.5**
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=270,slow=8.0,SNR=2.8	**30.10**	**49**	P	**P**	**18 26 15.6**	**-1.0**
EDM	**Edmonton**	**33.16**	**66**	P	**P**	**18 26 43.1**	**-0.5**
MCMT	**McKenzie Canyo** 1.6nm,0.6s	**37.41**	**79**	*e*P	**P**	**18 27 20.5**	**0.0**
NVAR	**Mina Array Bea** 1.8nm,0.8s,baz=299,slow=5.7,SNR=5.7	**37.90**	**91**	P	**P**	**18 27 24.7**	**-0.1**
NVAR				PcP	**PcP**	**18 29 43.7**	**+3.1**
	0.2nm,0.5s,baz=286,slow=4.2,SNR=3.6						
ELK	**Elko** 3.0nm,0.8s	**38.33**	**86**	*e*P	P	18 27 31.7	+3.4
FFC	**Flin Flon** 1.1nm,0.7s	**38.67**	**59**	P	**P**	**18 27 33.7**	**+3.0**
H11S1	**WAKE ISLAND Hy** baz=21	**38.88**	**217**	T	T	19 08 37.8	
H11S2	**WAKE ISLAND Hy** baz=21,slow=74,SNR=11	**38.89**	**217**	T	T	19 08 45.7	
H11S3	**WAKE ISLAND Hy** baz=21,slow=74,SNR=12	**38.90**	**217**	T	T	19 08 45.9	
RLMT	**Red Lodge** 3.5nm,0.8s	**39.37**	**76**	*e*P	**P**	**18 27 37.3**	**+0.4**
R11A	**Troy Canyon, C** 4.9nm,1.0s	**39.60**	**89**	*e*P	**P**	**18 27 39.9**	**+1.0**
DUG	**Dugway** 3.2nm,1.0s	**40.13**	**85**	*e*P	**P**	**18 27 45.3**	**+2.0**
BW06	**Boulder Array** 1.9nm,0.8s	**40.54**	**79**	*e*P	**P**	**18 27 47.1**	**+0.4**
PDAR	**Pinedale Array** 2.1nm,0.6s,baz=343,slow=4.6,SNR=9.7	**40.54**	**79**	P	**P**	**18 27 47.6**	**+0.9**
O20A	**White River Ci** 4.6nm,0.7s	**42.92**	**82**	*e*P	**P**	**18 28 06.5**	**+0.3**
PV01	**Paradox Valley** 393nm,0.7s	**43.99**	**84**	*e*P	**P**	**18 28 17.7**	**+2.9**
WUAZ	**Wupatki** 5.6nm,0.9s	**44.00**	**89**	*e*P	**P**	**18 28 17.0**	**+2.0**
SDCO	**Great Sand Dun** 1.8nm,0.9s	**46.09**	**82**	*e*P	**P**	**18 28 32.5**	**+0.9**
SONM	**Songino Array** 0.5nm,0.8s,baz=30,slow=6.7,SNR=2.4	**50.86**	**300**	P	**P**	**18 29 09.3**	**+1.2**
SONM				PcP	**PcP**	**18 30 23.4**	**-1.2**
	0.8nm,0.7s,baz=66,slow=1.8,SNR=6.4						
WMOK	**Wichita Mounta** 3.4nm,0.8s	**52.13**	**80**	*e*P	**P**	**18 29 17.2**	**-0.4**
TXAR	**Lajitas Array** 4.7nm,0.8s,baz=297,slow=5.7,SNR=32	**52.97**	**89**	P	**P**	**18 29 24.8**	**+0.8**
ARCES	**ARCESS Array B** comp=Z,30nm,18.6s,baz=289,slow=38	**57.42**	**354**	LR	LR	18 56 17.4	
KMI	**Kunming** comp=Z,6.0nm,0.9s	**68.93**	**284**	P	**P**	**18 31 12.8**	**+0.1**
KMI				pmax	pmax		
QIZ	**Qiongzhong**	**69.31**	**274**	P	**P**	**18 31 15.0**	**+0.1**
QIZ				S	**S**	**18 40 23.5**	**+2.3**
QIZ	comp=N,200nm,18.5s			LR	LR		
QIZ	comp=E,110nm,20.3s			LR	LR		
QIZ	comp=Z,320nm,22.3s			LR	LR		
PPT	**Papeete** comp=Z,84nm,20.6s,baz=320,slow=32	**72.27**	**160**	LR	LR	18 58 43.6	
CMAR	**Chiang Mai Arr** comp=Z,0.7nm,0.8s,baz=26,slow=6.4,SNR=3.5	**76.29**	**282**	P	**P**	**18 31 56.1**	**-0.2**
GERES	**GERESS Array B** comp=Z,0.2nm,0.5s,baz=12,slow=5.0,SNR=2.8	**78.64**	**358**	P	**P**	**18 32 08.3**	**-0.9**
WRA	**Warramunga Arr** comp=Z,1.4nm,0.8s,baz=35,slow=5.9,SNR=7.5	**87.12**	**231**	P	**P**	**18 32 52.0**	**-1.3**
PSI	**Prapat** comp=Z,8.6nm,0.8s,baz=23,slow=7.7,SNR=4.0	**88.59**	**273**	P	**P**	**18 32 59.6**	**-1.0**
ASAR	**Alice Springs** comp=Z,3.8nm,0.8s,baz=29,slow=4.4,SNR=22	**90.53**	**230**	P	**P**	**18 33 08.9**	**-0.4**
MAW	**Mawson** comp=Z,1.2nm,0.7s,baz=82,slow=3.9,SNR=4.3	**151.10**	**219**	PKPbc	**PKPbc**	**18 39 59.0**	**0.0**
BOSA	**Boshof** comp=Z,1.9nm,0.6s,baz=25,slow=2.2,SNR=5.7	**153.37**	**329**	PKPbc	**PKPbc**	**18 40 04.8**	**-0.7**

ISCJB ***31*** *18:20:49.0±0.5,37°.37N±0°.02×20°.36E±0°.02,h17km±3km, mb3.7/10,MS3.0/4,Error ellipse: s-maj=3.6km s-min=2.3km az=33.2*
ATH ***31*** *18:20:49.3,37°.36N×20°.45E,h24km±1km,ML3.9*
CSEM ***31*** *18:20:50.4±0.2,37°.41N×20°.48E,h10km,ML4.0,Error ellipse: s-maj=4.1km s-min=2.1km az=40.0*
NEIC ***31*** *18:20:51.5,37°.44N×20°.57E,h3km,ML4.0(THE),After THE.*
THE ***31*** *18:20:51.5,37°.44N×20°.57E,h3km,ML4.0/14,Error ellipse: s-maj=1.0km s-min=0.5km az=61.0*
PDG ***31*** *18:20:53.1±0.5,37°.82N×20°.47E,h3km±3km,ML3.7/10, Error ellipse: s-maj=3.7km s-min=1.7km az=90.0*
IDC ***31*** *18:20:53.3±1.4,37°.48N×20°.62E,h44km±17km,mb3.5/11, mb1 3.5/18,mb1mx3.4/37,mbtmp3.6/18,ML3.3/5,MS3.0/6, Ms1 3.0/6,ms1mx2.6/37,Error ellipse: s-maj=14.5km s-min=10.9km az=21.0*
ISC 31 18:20:50.9±1.0,37.42N±0°.02×20.50E±0°.03,h24km±8km, n359,σ1§42/443,mb3.7/11,MS2.9/4,15C-17D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFD	**Strofades**	**0.44**	**112**	*e*PB	**Pb**	**18 21 00.2**	**+0.1**
SFD				*e*SB	**Sb**	**18 21 06.5**	**+0.2**
SFD	**Strofades**	**0.44**	**112**	P	**Pb**	**18 20 59.7**	**-0.4**
SFD	**Strofades**	**0.44**	**112**	*e*Pb	**Pb**	**18 21 00.2**	**+0.1**
SFD				S	**Sb**	**18 21 05.3**	**-1.0**
SFD				*e*Sb	**Sb**	**18 21 06.5**	**+0.2**
SFD	**Strofades**	**0.44**	**112**	P	**Pb**	**18 20 59.7**	**-0.4**
SFD				S	**Sb**	**18 21 05.3**	**-1.0**
KFL	**Anninata**	**0.73**	**18**	P	**Pb**	**18 21 04.2**	**-0.8**
KFL	**Anninata**	**0.73**	**18**	P	**Pb**	**18 21 04.2**	**-0.8**
KFL				S	**Sb**	**18 21 14.1**	**-0.5**
VTN	**Vitineika**	**0.74**	**47**	P	**Pb**	**18 21 04.6**	**-0.5**
VTN	**Vitineika**	**0.74**	**47**	P	**Pb**	**18 21 04.6**	**-0.5**
VTN				S	**Sb**	**18 21 14.3**	**-0.5**
VLS	**Valsamata**	**0.76**	**5**	*e*PB	**Pb**	**18 21 04.8**	**-0.8**
VLS				*e*SN	**Sn**	**18 21 17.7**	**+0.7**
VLS	**Valsamata**	**0.76**	**5**	*e*Pb	**Pb**	**18 21 04.8**	**-0.8**
VLS	**Valsamata**	**0.76**	**5**	P	**Pb**	**18 21 05.1**	**-0.5**
VLS				S	**Sn**	**18 21 16.5**	**-0.5**
VLS				*e*Sn	**Sn**	**18 21 17.7**	**+0.7**
VLS	**Valsamata**	**0.76**	**5**	P	**Pb**	**18 21 05.1**	**-0.5**
VLS				S	**Sn**	**18 21 16.5**	**-0.5**
VLS	**Valsamata**	**0.76**	**5**	P	**Pb**	**18 21 05.1**	**-0.5**
VLS				S	**Sn**	**18 21 16.5**	**-0.5**
AMT	**Artemida-Makis**	**0.97**	**83**	*e*PN	**Pb**	**18 21 08.5**	**-0.5**
AMT				*e*SN	**Sn**	**18 21 23.6**	**+1.6**
AMT	**Artemida-Makis**	**0.97**	**83**	P	**Pb**	**18 21 08.6**	**-0.5**
AMT				S	**Sb**	**18 21 23.6**	**+0.2**
RLS	**Riolos of Patr**	**1.00**	**50**	*e*PB	**Pn**	**18 21 09.0**	**-0.4**
RLS				*e*SN	**Sn**	**18 21 25.0**	**+2.3**
RLS	**Riolos of Patr**	**1.00**	**50**	P	**Pn**	**18 21 08.7**	**-0.7**
RLS	**Riolos of Patr**	**1.00**	**50**	*e*Pb	**Pn**	**18 21 09.0**	**-0.4**
RLS				S	**Sn**	**18 21 23.4**	**+0.7**
RLS				*e*Sn	**Sn**	**18 21 25.0**	**+2.3**
RLS	**Riolos of Patr**	**1.00**	**50**	P	**Pn**	**18 21 08.7**	**-0.7**
RLS				S	**Sn**	**18 21 23.4**	**+0.7**
RLS	**Riolos of Patr**	**1.00**	**50**	P	**Pn**	**18 21 08.7**	**-0.7**
RLS				S	**Sn**	**18 21 23.4**	**+0.7**
EXG	**Exogi**	**1.05**	**6**	*e*PB	**Pn**	**18 21 09.8**	**-0.3**
EXG				*e*SN	**Sn**	**18 21 26.2**	**+2.2**
EXG	**Exogi**	**1.05**	**6**	*e*Pb	**Pn**	**18 21 09.8**	**-0.3**
EXG	**Exogi**	**1.05**	**6**	P	**Pn**	**18 21 10.2**	**+0.1**
EXG				S	**Sn**	**18 21 25.5**	**+1.5**
EXG				*e*Sn	**Sn**	**18 21 26.2**	**+2.2**
EXG	**Exogi**	**1.05**	**6**	P	**Pn**	**18 21 10.2**	**+0.1**
EXG				S	**Sn**	**18 21 25.5**	**+1.5**
DRO	**Drossia**	**1.10**	**60**	*e*PB	**Pn**	**18 21 10.8**	**0.0**
DRO				*e*SN	**Sn**	**18 21 28.1**	**+2.9**
DRO	**Drossia**	**1.10**	**60**	P	**Pn**	**18 21 11.0**	**+0.2**
DRO				S	**Sn**	**18 21 25.7**	**+0.5**
DRO				*e*Sn	**Sn**	**18 21 28.1**	**+2.9**
DRO	**Drossia**	**1.10**	**60**	P	**Pn**	**18 21 11.0**	**+0.2**
DRO				S	**Sn**	**18 21 25.7**	**+0.5**
PYL	**PYLOS**	**1.12**	**117**	*e*PN	**Pn**	**18 21 11.2**	**+0.1**
PYL				*e*SN	**Sn**	**18 21 26.1**	**+0.4**
PYL	**PYLOS**	**1.12**	**117**	P	**Pn**	**18 21 11.2**	**+0.1**
PYL				*e*Sn	**Sn**	**18 21 26.1**	**+0.4**
PYL				S	**Sn**	**18 21 27.7**	**+2.0**
PYL	**PYLOS**	**1.12**	**117**	P	**Pn**	**18 21 11.2**	**+0.1**
PYL				S	**Sn**	**18 21 27.7**	**+2.0**
PYL	**PYLOS**	**1.12**	**117**	P	**Pn**	**18 21 11.2**	**+0.1**
PYL				S	**Sn**	**18 21 27.7**	**+2.0**
ITM	**Ithomi**	**1.16**	**101**	*e*PN	**Pb**	**18 21 12.4**	**+0.1**
ITM	**Ithomi**	**1.16**	**101**	*e*Pn	**Pb**	**18 21 12.4**	**+0.1**
ITM				S	**Sb**	**18 21 28.8**	**+1.9**
ITM	**Ithomi**	**1.16**	**101**	P	**Pb**	**18 21 12.2**	**-0.1**
ITM				S	**Sb**	**18 21 28.8**	**+1.9**
ITM	**Ithomi**	**1.16**	**101**	P	**Pb**	**18 21 12.2**	**-0.1**
ITM				S	**Sb**	**18 21 28.8**	**+1.9**
PDO	**Prodromos**	**1.30**	**24**	*e*PN	**Pb**	**18 21 14.5**	**-0.1**
PDO				*e*SN	**Sb**	**18 21 34.0**	**+3.1**
PDO	**Prodromos**	**1.30**	**24**	P	**Pb**	**18 21 14.6**	**-0.1**
PDO				S	**Sb**	**18 21 33.5**	**+2.6**
PDO				*e*Sn	**Sb**	**18 21 34.0**	**+3.1**
PDO	**Prodromos**	**1.30**	**24**	P	**Pb**	**18 21 14.6**	**-0.1**
PDO				S	**Sb**	**18 21 33.5**	**+2.6**
UPR	**University Cam**	**1.33**	**49**	P	**Pb**	**18 21 16.1**	**+0.8**
UPR	**University Cam**	**1.33**	**49**	P	**Pb**	**18 21 16.1**	**+0.8**
LKD2	**Lefkada island**	**1.38**	**5**	*e*PN	**Pb**	**18 21 15.6**	**-0.4**
LKD2				*e*SN	**Sb**	**18 21 35.4**	**+2.2**
LKD2	**Lefkada island**	**1.38**	**5**	*e*Pn	**Pb**	**18 21 15.6**	**-0.4**
LKD2	**Lefkada island**	**1.38**	**5**	P	**Pb**	**18 21 16.0**	**0.0**
LKD2				*e*Sn	**Sb**	**18 21 35.4**	**+2.2**
LKD2	**Lefkada island**	**1.38**	**5**	P	**Pb**	**18 21 16.0**	**0.0**
LKD2				S	**Sb**	**18 21 35.9**	**+2.7**
LKD2	**Lefkada island**	**1.38**	**5**	P	**Pb**	**18 21 16.0**	**0.0**
LKD2				S	**Sb**	**18 21 35.9**	**+2.7**
LAKA	**Lakka**	**1.43**	**54**	*e*PN	**Pb**	**18 21 17.5**	**+0.6**
LAKA	**Lakka**	**1.43**	**54**	P	**Pb**	**18 21 16.7**	**-0.2**
LAKA	**Lakka**	**1.43**	**54**	*e*Pn	**Pb**	**18 21 17.5**	**+0.6**
LAKA	**Lakka**	**1.43**	**54**	P	**Pb**	**18 21 16.7**	**-0.2**
LAKA	**Lakka**	**1.43**	**54**	P	**Pb**	**18 21 16.7**	**-0.2**
PVO	**Paravola**	**1.45**	**34**	P	**Pb**	**18 21 17.4**	**+0.2**
PVO				S	**Sb**	**18 21 37.0**	**+1.9**
PVO	**Paravola**	**1.45**	**34**	P	**Pb**	**18 21 17.4**	**+0.2**
PVO				S	**Sb**	**18 21 37.0**	**+1.9**
KLV	**Kalavryta, Ach**	**1.45**	**64**	*e*PN	**Pb**	**18 21 17.5**	**+0.2**
KLV	**Kalavryta, Ach**	**1.45**	**64**	P	**Pb**	**18 21 16.9**	**-0.4**
KLV	**Kalavryta, Ach**	**1.45**	**64**	*e*Pn	**Pb**	**18 21 17.5**	**+0.2**
KLV	**Kalavryta, Ach**	**1.45**	**64**	P	**Pb**	**18 21 16.9**	**-0.4**
KLV	**Kalavryta, Ach**	**1.45**	**64**	P	**Pb**	**18 21 16.9**	**-0.4**
VLX	**Vlachokerasia**	**1.50**	**91**	*e*PN	**Pn**	**18 21 17.3**	**+1.0**
VLX	**Vlachokerasia**	**1.50**	**91**	*e*Pn	**Pn**	**18 21 17.3**	**+1.0**
VLX				S	**Sb**	**18 21 38.3**	**+1.7**
VLX	**Vlachokerasia**	**1.50**	**91**	P	**Pb**	**18 21 17.4**	**-0.7**
VLX				S	**Sb**	**18 21 38.3**	**+1.7**
VLX	**Vlachokerasia**	**1.50**	**91**	P	**Pb**	**18 21 17.4**	**-0.7**
VLX				S	**Sb**	**18 21 38.3**	**+1.7**
EFP	**Efpalio**	**1.50**	**47**	*e*PN	**Pb**	**18 21 18.2**	**+0.1**
EFP	**Efpalio**	**1.50**	**47**	P	**Pb**	**18 21 17.9**	**-0.2**
EFP	**Efpalio**	**1.50**	**47**	*e*Pn	**Pb**	**18 21 18.2**	**+0.1**
EFP				S	**Sb**	**18 21 37.8**	**+1.1**
EFP	**Efpalio**	**1.50**	**47**	P	**Pb**	**18 21 17.9**	**-0.2**
EFP				S	**Sb**	**18 21 37.8**	**+1.1**
GUR	**Goura**	**1.55**	**70**	*e*PN	**Pb**	**18 21 18.7**	**-0.3**
GUR	**Goura**	**1.55**	**70**	P	**Pb**	**18 21 18.5**	**-0.5**
GUR	**Goura**	**1.55**	**70**	P	**Pb**	**18 21 18.5**	**-0.5**
GUR	**Goura**	**1.55**	**70**	P	**Pb**	**18 21 18.5**	**-0.5**
TRIZ	**Trizonia**	**1.56**	**52**	*e*PN	**Pb**	**18 21 19.5**	**+0.4**
TRIZ	**Trizonia**	**1.56**	**52**	P	**Pb**	**18 21 19.1**	**0.0**
TRIZ	**Trizonia**	**1.56**	**52**	*e*Pn	**Pb**	**18 21 19.5**	**+0.4**
TRIZ	**Trizonia**	**1.56**	**52**	P	**Pb**	**18 21 19.1**	**0.0**
KALE	**Kalithea**	**1.62**	**53**	*e*PN	**Pb**	**18 21 19.7**	**-0.5**
KALE	**Kalithea**	**1.62**	**53**	P	**Pb**	**18 21 19.6**	**-0.6**
KALE				S	**Sb**	**18 21 40.9**	**+0.7**
KALE	**Kalithea**	**1.62**	**53**	P	**Pb**	**18 21 19.6**	**-0.6**
KALE				S	**Sb**	**18 21 40.9**	**+0.7**
KALE	**Kalithea**	**1.62**	**53**	P	**Pb**	**18 21 19.6**	**-0.6**
KALE				S	**Sb**	**18 21 40.9**	**+0.7**
DSL	**Palaion Diasel**	**1.78**	**15**	*e*PN	**Pb**	**18 21 22.4**	**-0.5**
DSL	**Palaion Diasel**	**1.78**	**15**	P	**Pb**	**18 21 22.3**	**-0.6**
DSL	**Palaion Diasel**	**1.78**	**15**	P	**Pb**	**18 21 22.3**	**-0.6**
DSL	**Palaion Diasel**	**1.78**	**15**	P	**Pb**	**18 21 22.3**	**-0.6**
EVR	**Evrytania**	**1.82**	**34**	*e*PN	**Pb**	**18 21 22.4**	**-1.1**
EVR	**Evrytania**	**1.82**	**34**	*e*Pn	**Pb**	**18 21 22.4**	**-1.1**
EVR				S	**Sb**	**18 21 46.8**	**+0.8**
EVR	**Evrytania**	**1.82**	**34**	P	**Pb**	**18 21 22.5**	**-1.1**
EVR				S	**Sb**	**18 21 46.8**	**+0.8**
EVR	**Evrytania**	**1.82**	**34**	P	**Pb**	**18 21 22.5**	**-1.1**
EVR				S	**Sb**	**18 21 46.8**	**+0.8**
THAL	**Thalero**	**1.82**	**69**	*e*PN	**Pb**	**18 21 22.9**	**-0.7**
THAL	**Thalero**	**1.82**	**69**	P	**Pb**	**18 21 22.7**	**-0.9**
THAL	**Thalero**	**1.82**	**69**	P	**Pb**	**18 21 22.7**	**-0.9**
DSF	**Desfina**	**1.88**	**58**	*e*PN	**Pb**	**18 21 23.6**	**-1.1**
DSF	**Desfina**	**1.88**	**58**	P	**Pb**	**18 21 23.6**	**-1.1**
DSF				S	**Sb**	**18 21 47.6**	**-0.2**
DSF	**Desfina**	**1.88**	**58**	P	**Pb**	**18 21 23.6**	**-1.1**
DSF				S	**Sb**	**18 21 47.6**	**-0.2**
DSF	**Desfina**	**1.88**	**58**	P	**Pb**	**18 21 23.6**	**-1.1**
DSF				S	**Sb**	**18 21 47.6**	**-0.2**
DESF	**Desfina**	**1.89**	**58**	*e*PN	**Pb**	**18 21 23.8**	**-0.9**
DESF	**Desfina**	**1.89**	**58**	*e*Pn	**Pb**	**18 21 23.8**	**-0.9**
ACOR	**Acrocorinthos**	**1.94**	**75**	P	**Pn**	**18 21 23.4**	**+1.1**
LOUT	**Loutraki**	**2.04**	**73**	*e*PN	**Pn**	**18 21 25.0**	**+1.2**
LOUT	**Loutraki**	**2.04**	**73**	P	**Pn**	**18 21 25.0**	**+1.2**
LOUT	**Loutraki**	**2.04**	**73**	P	**Pn**	**18 21 25.0**	**+1.2**
LTK	**Loutraki**	**2.04**	**72**	*e*PN	**Pn**	**18 21 24.9**	**+1.1**
LTK	**Loutraki**	**2.04**	**72**	P	**Pn**	**18 21 25.1**	**+1.3**
LTK	**Loutraki**	**2.04**	**72**	P	**Pn**	**18 21 25.1**	**+1.3**
LTK	**Loutraki**	**2.04**	**72**	P	**Pn**	**18 21 25.1**	**+1.3**
MAKR	**Makrakomi, Fth**	**2.05**	**38**	*e*PB	**Pb**	**18 21 25.8**	**-1.6**
MAKR	**Makrakomi, Fth**	**2.05**	**38**	*e*Pb	**Pb**	**18 21 25.8**	**-1.6**
MAKR	**Makrakomi, Fth**	**2.05**	**38**	P	**Pb**	**18 21 26.2**	**-1.2**
MAKR	**Makrakomi, Fth**	**2.05**	**38**	P	**Pb**	**18 21 26.2**	**-1.2**
MAKR	**Makrakomi, Fth**	**2.05**	**38**	P	**Pb**	**18 21 26.2**	**-1.2**
IGT	**Igoumenitsa**	**2.12**	**356**	*e*PB	**Pn**	**18 21 26.6**	**+1.8**
IGT	**Igoumenitsa**	**2.12**	**356**	P	**Pn**	**18 21 26.3**	**+1.5**
IGT	**Igoumenitsa**	**2.12**	**356**	*e*Pb	**Pn**	**18 21 26.6**	**+1.8**
IGT				S	**Sb**	**18 21 54.3**	**-0.2**
IGT	**Igoumenitsa**	**2.12**	**356**	P	**Pn**	**18 21 26.3**	**+1.5**
IGT				S	**Sb**	**18 21 54.3**	**-0.2**
IGT	**Igoumenitsa**	**2.12**	**356**	P	**Pn**	**18 21 26.3**	**+1.5**
IGT				S	**Sb**	**18 21 54.3**	**-0.2**
AGG	**Agios Georgios**	**2.15**	**41**	*e*PB	**Pb**	**18 21 27.9**	**-1.4**
AGG	**Agios Georgios**	**2.15**	**41**	P	**Pb**	**18 21 27.5**	**-1.8**
AGG	**Agios Georgios**	**2.15**	**41**	*e*Pb	**Pb**	**18 21 27.9**	**-1.4**
AGG				S	**Sb**	**18 21 54.5**	**-1.1**
AGG	**Agios Georgios**	**2.15**	**41**	P	**Pb**	**18 21 27.5**	**-1.8**
AGG				S	**Sb**	**18 21 54.5**	**-1.1**
AGG	**Agios Georgios**	**2.15**	**41**	P	**Pb**	**18 21 27.5**	**-1.8**
AGG				S	**Sb**	**18 21 54.5**	**-1.1**
DIDY	**Didyma**	**2.16**	**88**	*e*PN	**Pn**	**18 21 25.4**	**0.0**
DIDY	**Didyma**	**2.16**	**88**	*e*Pn	**Pn**	**18 21 25.4**	**0.0**
DIDY	**Didyma**	**2.16**	**88**	P	**Pn**	**18 21 26.2**	**+0.8**
DIDY	**Didyma**	**2.16**	**88**	P	**Pn**	**18 21 26.2**	**+0.8**
AXAR	**Agios Charalam**	**2.17**	**51**	*

4.4nm,0.3s,baz=238,slow=11,SNR=18
IDI S Sn 18 22 39.6 -0.5
9.1nm,0.3s,baz=286,slow=9.4,SNR=9.0
IDI Anoyia 4.13 120 *e*PN Pn 18 21 52.8 +0.2
IDI Anoyia 4.13 120 *e*Pn Pn 18 21 52.7 +0.2
IDI *e*Sn Sn 18 22 36.2 -3.8
IDI Anoyia 4.13 120 *e*Pn Pn 18 21 52.7 +0.2
IDI *e*Sn Sn 18 22 36.2 -3.8
PE1 Pezze di Greco 4.15 326 *e*Pn Pn 18 21 54.1 +1.4
PE1 Sn Sn 18 22 41.4 +1.0
KNT Kendrikon 4.18 26 *e*PN Pn 18 21 54.1 +1.0
KNT Kendrikon 4.18 26 *e*Pn Pn 18 21 54.1 +1.0
VAY Valandovo 4.22 22 *e*P Pn 18 21 55.6 +2.0
VAY Valandovo 4.22 22 *e*P Pn 18 21 55.6 +2.0
LIA Limnos Island 4.42 54 *e*PN Pn 18 21 57.0 +0.5
LIA Limnos Island 4.42 54 *e*Pn Pn 18 21 57.0 +0.5
CUC Castrocucco 4.48 306 *e*Pn Pn 18 22 01.6 +4.3
CUC Castrocucco 4.48 306 *e*Pn Pn 18 22 01.6 +4.3
CUC *e*Pg Pb 18 22 21.4 +12
CUC *e*Sn Sn 18 22 48.4 -0.3
CHOS Chios island 4.50 76 *e*PN Pn 18 21 59.5 +1.9
CHOS Chios island 4.50 76 *e*Pn Pn 18 21 59.5 +1.9
SG1 Sgolgore (BA) 4.53 320 *e*Pn Pn 18 22 00.0 +2.0
SG1 Sn Sn 18 22 48.4 -1.5
SIGR SIGRI 4.58 65 *e*PN Pn 18 22 01.6 +3.0
SIGR SIGRI 4.58 65 *e*Pn Pn 18 22 01.6 +3.0
BAI Bari 4.64 324 *e*Pn Pn 18 22 02.6 +3.2
BAI Sn Sn 18 22 52.3 -0.1
ULC Ulcinj 4.64 348⇑ *i*PN Pn 18 21 59.8 +0.2
ULC *e*Sn Sn 18 22 51.2 -1.5
ULC Ulcinj 4.64 348⇑ *i*Pn Pn 18 21 59.8 +0.2
ULC *e*Sn Sn 18 22 51.2 -1.5
NPS Neapolis 4.65 116 *e*PN Pn 18 21 59.6 -0.1
NPS Neapolis 4.65 116 *e*Pn Pn 18 21 59.6 -0.1
NVR Nevrokopi 4.71 32 *e*PN Pn 18 22 01.6 +1.1
NVR Nevrokopi 4.71 32 *e*Pn Pn 18 22 01.6 +1.1
KAVA Kavala 4.74 40 *e*PN Pn 18 22 02.9 +2.0
KAVA Kavala 4.74 40 *e*Pn Pn 18 22 02.9 +2.0
MMB Musomiste 4.86 30 *i* P Pn 18 22 03.2 +0.7
MMB Musomiste 4.86 30 *i* P Pn 18 22 03.2 +0.7
KKB Krupnik 4.87 23 *i* P Pn 18 22 03.7 +1.0
KKB Krupnik 4.87 23 *i* P Pn 18 22 03.7 +1.0
DRME Dracevica, Mon 4.87 348⇓ *i*Pn Pn 18 22 03.4 +0.7
DRME *e*Sn Sn 18 22 57.2 -1.1
DRME Dracevica, Mon 4.87 348⇓ *i*Pn Pn 18 22 03.4 +0.7
DRME *e*Sn Sn 18 22 57.2 -1.1
CDT Castel del Mon 4.92 319 *e*Pn Pn 18 22 04.5 +1.2
BUM Brajici-Budva 5.03 346⇓ *i*Pn Pn 18 22 04.8 -0.2
BUM *e*Sn Sn 18 23 00.2 -2.2
BUM Brajici-Budva 5.03 346⇓ *i*PN Pn 18 22 04.8 -0.2
BUM *e*Sn Sn 18 23 00.2 -2.2
PDG Podgorica 5.10 350⇑ *i*PN Pn 18 22 06.1 +0.3
PDG *e*Sn Sn 18 23 01.9 -2.0
TTG Podgorica 5.10 350⇑ *i*Pn Pn 18 22 06.1 +0.3
TTG *e*Sn Sn 18 23 01.9 -2.0
PVY Plav 5.19 356⇓ *i*Pn Pn 18 22 07.8 +0.6
PVY *e*Sn Sn 18 23 05.0 -1.3
PVY Plav 5.19 356⇓ *i*PN Pn 18 22 07.8 +0.6
PVY *e*Sn Sn 18 23 05.0 -1.3
HCY Herceg Novi 5.26 344 *e*Pn Pn 18 22 08.4 +0.4
HCY *e*Sn Sn 18 23 06.1 -1.7
HCY Herceg Novi 5.26 344 *e*Pn Pn 18 22 08.4 +0.4
HCY *e*Sn Sn 18 23 06.1 -1.7
RZN Rozhen 5.37 36 *i* P Pn 18 22 10.7 +1.1
RZN Rozhen 5.37 36 *i* P Pn 18 22 10.7 +1.1
RDO Rodhopi 5.40 45 *e*PN Pn 18 22 12.3 +2.4
RDO Rodhopi 5.40 45 *e*Pn Pn 18 22 12.3 +2.4
BEY Berane 5.47 355 *e*Pn Pn 18 22 11.7 +0.7
IVA Berane 5.47 355 *e*Pn Pn 18 22 11.7 +0.7
IVA *e*Sn Sn 18 23 11.1 -2.0
NKME Niksic 5.48 348⇑ *i*Pn Pn 18 22 11.7 +0.7
NKME *e*Sn Sn 18 23 10.9 -2.3
NKME Niksic 5.48 348⇑ *i*Pn Pn 18 22 11.7 +0.7
BARS Barje 5.49 10 *e*Pn Pn 18 22 11.4 +0.3
NKY Niksic 5.51 348⇓ *i*Pn Pn 18 22 13.0 +1.4
NKY *e*Sn Sn 18 23 12.0 -2.3
NKY Niksic 5.51 348⇓ *i*Pn Pn 18 22 13.0 +1.4
ALN Alexandroupoli 5.54 49 *e*PN Pn 18 22 14.0 +2.2
ALN Alexandroupoli 5.54 49 *e*Pn Pn 18 22 14.0 +2.2
VTS Vitosha 5.57 21⇑ *i*P Pn 18 22 13.9 +1.5
VTS Vitosha 5.57 21 *i* S Sn 18 23 14.1 -1.6
VTS Vitosha 5.57 21 *i* P Pn 18 22 13.8 +1.4
VTS Vitosha 5.57 21 *i* P Pn 18 22 13.8 +1.4
BRY Bratogost 5.68 345⇑ *i*Pn Pn 18 22 14.8 +0.9
BRY *e*Sn Sn 18 23 16.1 -2.4
BRY Bratogost 5.68 345⇑ *i*PN Pn 18 22 14.8 +0.9
STON Ston 5.86 339 *i* Pn Pn 18 22 15.7 -0.5
STON Sn Sn 18 23 18.6 -3.9
STON Ston 5.86 339 *i* Pn Pn 18 22 15.7 -0.5
UPM Unac-Piva 5.91 349⇓ *i*Pn Pn 18 22 18.1 +1.0
UPM *e*Sn Sn 18 23 22.2 -1.9
UPM Unac-Piva 5.91 349⇓ *i*PN Pn 18 22 18.1 +1.0
PLE Pljevlja 5.97 352⇓ *i*Pn Pn 18 22 17.8 0.0
PLE *e*Sn Sn 18 23 23.8 -1.7
PLE Pljevlja 5.97 352⇓ *i*PN Pn 18 22 17.8 0.0
DIM Dimitrovgrad 6.04 38 *i* P Pn 18 22 19.9 +1.2
DIM Dimitrovgrad 6.04 38 *i* P Pn 18 22 19.9 +1.2
IVAS Ivanjica 6.16 358 *e*Pn Pn 18 22 20.9 +0.5
BOVS Bovan 6.28 8 *e*Pn Pn 18 22 25.3 -0.3
MPEP Malo Peshtene 6.43 22 *i* P Pn 18 22 25.3 +1.3
MPEP Malo Peshtene 6.43 22 *i* P Pn 18 22 25.3 +1.3
BBLS Lazići 6.50 353 *e*Pn Pn 18 22 26.3 +1.2
DIVS Divibare 6.69 357⇑ *i*P Pn 18 22 28.9 +1.2
DIVS Divibare 6.69 357 S Sn 18 23 39.1 -4.0
DIVS Divibare 6.69 357 *e*Pn Pn 18 22 27.5 -0.2
DIVS Divibare 6.69 357⇑ *i*Pn Pn 18 22 28.9 +1.2
AQU L'Aquila 7.36 314 Pn Pn 18 22 38.6 +1.8
AQU L'Aquila 7.36 314 Pn Pn 18 22 38.6 +1.8
UDBI Udbina 7.96 335 *e*Pn Pn 18 22 47.2 +2.1
UDBI Sn Sn 18 24 10.0 -4.3
UDBI Udbina 7.96 335 *e*Pn Pn 18 22 47.1 +2.1
NVLJ Novalja 8.31 331 *e*Pn Pn 18 22 52.6 +2.8
NVLJ Sn Sn 18 24 20.2 -2.7
NVLJ Novalja 8.31 331 *e*Pn Pn 18 22 52.6 +2.8
VOIR 8.71 22⇑ *i*P Pn 18 22 57.1 +1.7
VOIR 8.71 22⇑ *i*P Pn 18 22 57.1 +1.7
MLR Muntele Rosu 9.04 25 P Pn 18 23 01.7 +1.7
0.1nm,0.3s,baz=217,slow=4.8,SNR=13
MLR Muntele Rosu 9.04 25⇓ *i*P Pn 18 23 03.4 +3.4
MLR Muntele Rosu 9.04 25⇓ *i*P Pn 18 23 03.4 +3.4
KEST Kesra 9.13 263 P Pn 18 23 05.4 +4.2
0.1nm,0.3s,baz=72,slow=13,SNR=3.1
KEST S Sn 18 24 44.9 +1.6
0.0nm,0.3s,baz=52,slow=19,SNR=3.4
VRI Vrincioaia 9.64 27⇑ *i*P Pn 18 23 11.0 +2.9
VRI Vrincioaia 9.64 27⇑ *i*P Pn 18 23 11.0 +2.9
OBKA Obir 10.11 336 Pn Pn 18 23 16.7 +2.2
OBKA Obir 10.11 336⇓ *i*Pn Pn 18 23 16.7 +2.2
SOKA Soboth 10.11 338 Pn Pn 18 23 14.9 +0.3
SOKA Soboth 10.11 338⇓ *i*Pn Pn 18 23 14.9 +0.3
PSZ Piszkesteto 10.51 358 *e*Pn Pn 18 23 21.4 +1.4
BR131 Keskin Array S 10.54 73 Pn Pn 18 23 21.8 +1.2
BR131 Keskin Array S 10.54 73 Pn Pn 18 23 21.8 +1.2
BRTR Keskin Array B 10.54 73 P Pn 18 23 21.5 +0.9
0.0nm,0.3s,baz=285,slow=11,SNR=2.8
CSS Prodhromos 10.65 99 *e*Pn Pn 18 23 23.7 +1.7
CSS Prodhromos 10.65 99 *e*Pn Pn 18 23 23.7 +1.7
MOA Molln 11.39 338 Pn Pn 18 23 33.6 +1.6
MOA Molln 11.39 338⇓ *i*Pn Pn 18 23 33.6 +1.6
DAVOX Davos/Dischmat 12.23 323 P Pn 18 23 46.6 +3.0
baz=135,slow=14,SNR=1.7
DAVOX S Sn 18 25 58.5 -0.8
0.2nm,0.3s,baz=331,slow=18,SNR=2.9
TREC Trest 12.42 345 AMS AMS 18 30 00.0
comp=Z,100nm,12.9s
GERES GERESS Array B 12.45 339 P Pn 18 23 46.7 +0.1
0.2nm,0.3s,baz=163,slow=14,SNR=5.2
GERES S Sn 18 26 01.0 -3.5
0.2nm,0.3s,baz=152,slow=26,SNR=3.4
GERES LR LR 18 28 56.3
comp=Z,32nm,19.6s,baz=137,slow=39
OKC Ostrava-Krasne 12.53 353 AMS AMS 18 30 30.0
comp=Z,100nm,6.7s
KHC Kasperske Hory 12.74 339 *e*P Pn 18 23 51.8 +1.3
KHC *ex* x 18 24 03.9
KHC *ex* x 18 24 20.2
KHC *ex* x 18 26 05.4
KHC AMS AMS 18 29 50.0
comp=Z,100nm,8.9s
KHC Kasperske Hory 12.74 339 Pn Pn 18 23 51.8 +1.3
MMAI Mount Meron Ar 12.95 105 P Pn 18 23 51.0 -2.5
0.6nm,0.3s,baz=301,slow=20,SNR=2.8
MMAI S Sn 18 26 07.0 -10
0.8nm,0.3s,baz=249,slow=12,SNR=2.9
GOPC GO Pecny, Ondr 13.15 344 AMS AMS 18 30 20.0
comp=Z,100nm,10.2s
DPC Dobruska-Polom 13.27 348 AMS AMS 18 30 10.0
comp=Z,100nm,14.9s
PRU Pruhonice 13.28 343 AMS AMS 18 30 20.0
comp=Z,100nm,14.4s
UPC Upice 13.48 348 AMS AMS 18 30 20.0
comp=Z,100nm,9.9s
EIL Elat 14.30 118 P Pn 18 24 10.2 -1.7
0.5nm,0.3s,baz=250,slow=3.5,SNR=8.8
GNI Garni 19.08 74 LR LR 18 32 18.6
comp=Z,40nm,20.2s,baz=288,slow=36
ESDC Sonseca Array 19.26 284 P P 18 25 14.1 +0.4
0.5nm,0.3s,baz=91,slow=10.0,SNR=3.7
OBN Obninsk 20.81 27 LR LR 18 34 12.7
comp=Z,43nm,21.2s,baz=271,slow=39
MDT Midelt 21.03 265 P P 18 25 35.1 +2.1
0.9nm,0.8s,baz=78,slow=7.3,SNR=2.5
HFS Hagfors 23.15 351 P P 18 25 55.1 -0.1
2.9nm,0.8s,baz=171,slow=12,SNR=6.3
EKA Eskdalemuir Ar 24.05 326 P P 18 26 02.3 -1.7
1.4nm,0.8s,baz=123,slow=8.5,SNR=3.5
FINES FINESS Array B 24.30 7 P P 18 26 05.3 -0.9
1.5nm,0.6s,baz=181,slow=12,SNR=6.9
FINES LR LR 18 36 56.9
comp=Z,43nm,18.1s,baz=132,slow=40
NB2 NORSAR Subarra 24.36 349 P P 18 26 07.3 +0.5
comp=Z,1.3nm,0.8s,baz=162,slow=9.3
NB2 NORSAR Subarra 24.36 349 P P 18 26 07.3 +0.5
comp=Z,1.3nm,0.8s,SNR=4.1
NOA NORSAR Array B 24.36 349 P P 18 26 06.9 +0.1
comp=Z,0.8nm,0.8s,baz=221,slow=25,SNR=4.5
TORD Torodi Ar. Bea 29.43 220 P P 18 26 54.6 +1.9
comp=Z,0.9nm,0.8s,baz=32,slow=8.7,SNR=5.6
AKTO Aktyubinsk 29.66 52 LR LR 18 41 49.5
comp=Z,20nm,19.4s,baz=246,slow=42
ARCES ARCESS Array B 32.29 3 P P 18 27 16.8 -0.7
comp=Z,2.3nm,1.0s,baz=191,slow=8.3,SNR=3.5
DBIC Dimbokro 38.33 223 P P 18 28 10.7 +0.8
comp=Z,1.8nm,0.8s,baz=31,slow=5.9,SNR=2.7
MKAR Makanchi Array 45.72 58 P P 18 29 09.2 -0.8
comp=Z,0.5nm,0.5s,baz=272,slow=7.7,SNR=6.6
ZALV Zalesovo Beam 46.21 48 P P 18 29 12.4 -1.3
comp=Z,1.2nm,0.5s,baz=272,slow=7.6,SNR=6.9
ZALV LR LR 18 48 53.5
comp=Z,52nm,19.3s,baz=70,slow=36
KSRS Korea Array 79.82 50 P P 18 32 57.1 -0.2
comp=Z,0.5nm,0.7s,baz=304,slow=6.6,SNR=3.7

*KRSC **31** 18:21:32.9±1.2, 52°.29N×160°.33E, h41km±16km, ML4.6*
*MOS **31** 18:21:35.7±0.8, 52°.37N×160°.13E, h48km, mb4.3/17, Error ellipse: s-maj=10.9km s-min=4.8km az=99.8*
*IDC **31** 18:21:40.3±1.8, 52°.44N×159°.96E, h71km±14km, mb3.6/24, mb1 3.9/24, mb1mx3.7/35, mbtmp4.0/24, MS3.5/3, Ms1 3.5/3, ms1mx2.8/39, Error ellipse: s-maj=16.0km s-min=12.1km az=153.0*
ISC 31 18:21:33.8±0.9, 52°.30N±0°.04×160°.22E±0°.04, h19km±3km, n111, σ1s07/135, mb4.0/27, MS3.5/3, 1C-6D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.81**	**352**	*i* P	**Pb**	**18 21 48.6**	**-0.6**
SPN				*e*S	**Sb**	**18 21 59.8**	**+0.1**
SPN	**Mys Shipunski**	**0.81**	**352**	PN	**Pb**	**18 21 48.6**	**-0.6**
SPN				S	**Sb**	**18 21 59.8**	**+0.1**
NLC	**Nalytchevo**	**1.02**	**329**	*e*P	**Pb**	**18 21 52.5**	**-0.3**
NLC	**Nalytchevo**	**1.02**	**329**	PN	**Pb**	**18 21 52.5**	**-0.3**
RUS	**Russkaya**	**1.05**	**278**	*i* P	**Pb**	**18 21 53.0**	**-0.3**
RUS				*e*S	**Sb**	**18 22 06.8**	**+0.1**
RUS	**Russkaya**	**1.05**	**278**	PN	**Pb**	**18 21 53.0**	**-0.3**
RUS				S	**Sb**	**18 22 06.8**	**+0.1**
PET	**Petropavlovsk**	**1.20**	**308**	*i* P	**Pn**	**18 21 54.9**	**-0.5**
PET				*e*S	**Sb**	**18 22 10.9**	**+0.1**
PET	**Petropavlovsk**	**1.20**	**308**K	*i*PN	**Pn**	**18 21 54.8**	**-0.6**
PET				*e*S	**Sb**	**18 22 10.4**	**-0.4**
PET	comp=Z,800nm,0.4s			pmax	pmax		
PET	comp=Z,985nm,0.4s			pmax	pmax		
PET	comp=E,600nm,1.8s			smax	smax		
PET	comp=N,5μm,0.6s			smax	smax		
PET	comp=E,4μm,0.6s			smax	smax		
PET	comp=E,6μm,0.6s			smax	smax		
PET	comp=N,7μm,0.5s			smax	smax		
UGLR	**Uglovaya**	**1.24**	**318**	*i* P	**Pn**	**18 21 56.1**	**-0.1**
UGLR				*e*S	**Sn**	**18 22 12.8**	**+0.4**
MTVR	**Mutnovka**	**1.26**	**279**	*e*P	**Pn**	**18 21 56.6**	**+0.2**
MTVR				*e*S	**Sb**	**18 22 13.5**	**+0.7**
SDLR	**Sedlovina**	**1.27**	**321**	*i* P	**Pn**	**18 21 56.1**	**-0.5**
SDLR				*e*S	**Sn**	**18 22 13.1**	**0.0**
SDLR	**Sedlovina**	**1.27**	**321**	PN	**Sn**	**18 21 56.1**	**-0.5**
SDLR				S	**Sn**	**18 22 13.1**	**0.0**
SMAR	**Somma**	**1.29**	**319**	*e*P	**Pn**	**18 21 56.4**	**-0.6**
SMAR	**Somma**	**1.29**	**319**	PN	**Pn**	**18 21 56.4**	**-0.6**
AVH	**Avacha**	**1.32**	**318**	*i* P	**Pn**	**18 21 57.2**	**0.0**
AVH				*e*S	**Sb**	**18 22 14.8**	**+0.3**
AVH	**Avacha**	**1.32**	**318**	PN	**Pn**	**18 21 57.2**	**0.0**
AVH				S	**Sb**	**18 22 14.8**	**+0.3**
GRL	**Gorelyy**	**1.34**	**282**	*e*P	**Pb**	**18 21 58.9**	**+0.6**
GRL				*e*S	**Sg**	**18 22 17.6**	**+0.5**
GRL	**Gorelyy**	**1.34**	**282**	PN	**Pb**	**18 21 58.9**	**+0.6**
GRL				S	**Sg**	**18 22 17.6**	**+0.5**
KRER	**Koryakskii**	**1.34**	**319**	*e*P	**Pb**	**18 21 58.2**	**-0.2**
KRER				*e*S	**Sn**	**18 22 14.8**	**-0.3**
KOK	**Koryaka**	**1.38**	**317**	*i* P	**Pn**	**18 21 58.1**	**0.0**
KOK	**Koryaka**	**1.38**	**317**	PN	**Pn**	**18 21 58.1**	**0.0**
ASAK	**Asacha**	**1.42**	**274**	*e*P	**Pb**	**18 21 59.4**	**-0.3**
ASAK				*e*S	**Sb**	**18 22 17.9**	**+0.4**
KRX	**Arik**	**1.43**	**319**	*i* P	**Pn**	**18 21 58.8**	**+0.1**
KRX				*e*S	**Sb**	**18 22 17.5**	**-0.1**
PETK	**Petropavlovsk-**	**1.73**	**299**	P	**Pn**	**18 22 03.7**	**+0.9**
PETK	comp=N,80nm,0.3s,baz=107,slow=20,SNR=6.10			S	**Sn**	**18 22 25.0**	**+0.6**
PETK	comp=N,109nm,0.3s,baz=100,slow=26,SNR=23			LR	LR	18 23 09.2	
PETK	comp=N,396nm,20.2s,baz=93,slow=58			PN	**Pn**	**18 22 03.7**	**+0.9**
PETK	**Petropavlovsk-**	**1.73**	**299**	S	**Sn**	**18 22 25.0**	**+0.6**
PETK				pmax	pmax		
PETK	comp=Z,80nm,0.3s			smax	smax		
PETK	comp=N,109nm,0.3s			MLR	MLR		
PETK	comp=Z,396nm,20.2s						
KII	**Karymskiy**	**1.80**	**345**	*e*P	**Pn**	**18 22 03.9**	**+0.1**
KII				*e*S	**Sn**	**18 22 26.2**	**+0.1**
KII	**Karymskiy**	**1.80**	**345**	PN	**Pn**	**18 22 03.9**	**+0.1**
KII				S	**Sn**	**18 22 26.2**	**+0.1**
GNL	**Ganaly**	**1.96**	**316**	*i* P	**Pn**	**18 22 06.9**	**+0.9**
GNL				*e*S	**Sn**	**18 22 31.2**	**+1.1**
GNL	**Ganaly**	**1.96**	**316**	PN	**Pn**	**18 22 06.9**	**+0.9**
GNL				S	**Sn**	**18 22 31.2**	**+1.1**
APC	**Apacha**	**1.97**	**290**	*e*P	**Pn**	**18 22 07.3**	**+1.3**
APC				*e*S	**Sb**	**18 22 31.7**	**-1.3**
APC	**Apacha**	**1.97**	**290**	PN	**Pn**	**18 22 07.3**	**+1.3**
APC				S	**Sb**	**18 22 31.7**	**-1.3**
MIPR	**Malaya Ipel'ka**	**2.12**	**271**	*e*P	**Pb**	**18 22 10.2**	**-1.4**
MKZ	**Mys Kozlova**	**2.43**	**21**	*i* P	**Pn**	**18 22 12.3**	**-0.1**
MKZ				*e*S	**Sn**	**18 22 40.5**	**-1.1**
MKZ	**Mys Kozlova**	**2.43**	**21**	PN	**Pn**	**18 22 12.3**	**-0.1**
MKZ				S	**Sn**	**18 22 40.5**	**-1.1**
KZV	**Kizimen**	**2.82**	**1**	*e*P	**Pn**	**18 22 18.6**	**+0.7**
KZV				*e*S	**Sn**	**18 22 51.4**	**+0.1**
TUMR	**Tumrok**	**2.99**	**359**	*e*P	**Pn**	**18 22 21.5**	**+1.3**
TUMR	**Tumrok**	**2.99**	**359**	PN	**Pn**	**18 22 21.5**	**+1.3**
SKR	**Severo-Kuril's**	**3.03**	**239**	*e*P	**Pn**	**18 22 21.5**	**+0.9**
SKR				*e*S	**Sn**	**18 22 56.6**	**+0.3**
SKR	**Severo-Kuril's**	**3.03**	**239**	*e*PN	Pn	18 22 15.0	-5.6
SKR	comp=Z,70nm,0.4s			pmax	pmax		
SKR	comp=E,70nm,0.2s			pmax	pmax		
KMNR	**Kamenistaya**	**3.46**	**0**	*e*P	**Pn**	**18 22 28.9**	**+2.2**
KMNR	**Kamenistaya**	**3.46**	**0**	PN	**Pn**	**18 22 28.9**	**+2.2**
ESO	**Esso**	**3.74**	**347**	*e*P	**Pn**	**18 22 32.0**	**+1.6**
ESO	**Esso**	**3.74**	**347**	PN	**Pn**	**18 22 32.0**	**+1.6**
KOZ	**Kozyrevsk**	**3.77**	**357**	*e*P	**Pn**	**18 22 33.1**	**+2.3**
KOZ	**Kozyrevsk**	**3.77**	**357**	PN	**Pn**	**18 22 33.1**	**+2.3**
SRDR	**Sredinnyy**	**4.04**	**356**	*e*P	**Pn**	**18 22 36.4**	**+1.9**
SRDR	**Sredinnyy**	**4.04**	**356**	PN	**Pn**	**18 22 36.4**	**+1.9**
KBTR	**Krutoberegovo**	**4.20**	**20**	*e*P	**Pn**	**18 22 37.7**	**+1.0**
KBTR	**Krutoberegovo**	**4.20**	**20**	PN	**Pn**	**18 22 37.7**	**+1.0**
BDR	**Baidarnaya**	**4.32**	**7**	*e*P	**Pn**	**18 22 41.3**	**+2.9**
SMKR	**Semkarok**	**4.35**	**9**	*e*P	**Pn**	**18 22 41.0**	**+2.1**
SMKR	**Semkarok**	**4.35**	**9**	PN	**Pn**	**18 22 41.0**	**+2.1**
SRKR	**Sorokina**	**4.40**	**7**	*e*P	Pn	18 22 42.8	+3.3
SRKR	**Sorokina**	**4.40**	**7**	PN	Pn	18 22 42.8	+3.3
MA2	**Magadan**	**9.01**	**328**	*e*PN	**Pn**	**18 23 44.5**	**+1.9**
KUR	**Kuril'sk**	**10.78**	**234**‖	*e*PN	**Pn**	**18 24 05.0**	**-1.9**
SEY	**Seymchan**	**11.45**	**342**‖	*e*PN	**Pn**	**18 24 16.6**	**+0.7**
YSS	**Yuzh-Sakhalins**	**12.51**	**252**	*e*PN	**Pn**	**18 24 33.1**	**+2.5**
ERM	**Erimo**	**15.47**	**235**‖	*e*P	**Pn**	**18 25 08.5**	**-2.2**
YAK	**Yakutsk**	**19.02**	**313**	*e*P	**Pn**	**18 25 55.5**	**+0.5**
YAK	comp=E,11nm,1.4s			pmax	pmax		
YAK	comp=Z,16nm,0.8s			pmax	pmax		
MJA0	**Matsu Arr-Jizo**	**22.10**	**233**	*e*P	**P**	**18 26 27.8**	**0.0**
MJA0	comp=Z,3.0nm,0.6s			pmax	pmax		
MAJO	**Matsushiro**	**22.12**	**233**	*d i*P	**P**	**18 26 28.9**	**+1.0**
MAT	**Matsushiro**	**22.12**	**233**	P	**P**	**18 26 29.0**	**+1.1**
MJAR	**Matsushiro Arr**	**22.12**	**233**	P	**P**	**18 26 28.7**	**+0.8**
MJAR	comp=Z,2.8nm,0.6s,baz=23,slow=7.7,SNR=21			pmax	pmax		
MJAR	**Matsushiro Arr**	**22.12**	**233**	P	**P**	**18 26 28.7**	**+0.8**
MJAR	comp=Z,3.0nm,0.6s			pmax	pmax		
ILAR	**Eielson Array**	**29.32**	**44**	P	**P**	**18 27 35.2**	**+0.5**
ILAR	comp=Z,0.7nm,0.7s,baz=266,slow=8.1,SNR=7.4			pmax	pmax		
ILAR	**Eielson Array**	**29.32**	**44**	P	**P**	**18 27 35.2**	**+0.5**
ILAR	comp=Z,1.0nm,0.7s			pmax	pmax		
H11N2	**WAKE ISLAND Hy**	**32.92**	**168**	T	T	19 03 52.9	
	baz=352,slow=76,SNR=412						
H11N3	**WAKE ISLAND Hy**	**32.94**	**168**	T	T	19 03 55.1	
	baz=352,slow=76,SNR=144						
H11N1	**WAKE ISLAND Hy**	**32.94**	**168**	T	T	19 03 55.1	
	baz=352,slow=76,SNR=240						
TLY	**Talaya**	**34.08**	**292**	*e*P	**P**	**18 28 17.6**	**+0.9**
TLY	comp=Z,6.0nm,0.8s			pmax	pmax		
SONM	**Songino Array**	**34.16**	**284**	P	**P**	**18 28 16.6**	**-0.9**
SONM	comp=Z,0.3nm,0.3s,baz=64,slow=8.3,SNR=4.8			LR	LR	18 43 43.1	
	comp=Z,87nm,18.2s,baz=60,slow=39						
INK	**Inuvik**	**34.45**	**37**	P	**P**	**18 28 20.2**	**+0.6**
INK	comp=Z,0.5nm,0.6s,baz=190,slow=31,SNR=4.7			pmax	pmax		
INK	**Inuvik**	**34.45**	**37**	P	**P**	**18 28 20.2**	**+0.6**
INK	comp=Z,1.0nm,0.6s			pmax	pmax		
DLBC	**Dease Lake**	**38.46**	**53**	P	**P**	**18 28 55.2**	**+1.2**
	comp=Z,1.8nm,0.8s,baz=264,slow=8.2,SNR=4.7						
SPITS	**Spitsbergen Ar**	**47.93**	**351**	P	**P**	**18 30 09.8**	**-0.4**
	comp=Z,2.2nm,0.3s,baz=64,slow=7.5,SNR=21						
SPITS	**Spitsbergen Ar**	**47.93**	**351**	P	**P**	**18 30 09.8**	**-0.4**
SPITS	comp=Z,2.0nm,0.4s			pmax	pmax		
MKAR	**Makanchi Array**	**48.57**	**296**	P	**P**	**18 30 13.3**	**-2.2**
	comp=Z,0.4nm,0.5s,baz=43,slow=6.5,SNR=4.4						
BVAR	**Borovoye Array**	**50.94**	**309**	P	**P**	**18 30 32.5**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=65,slow=8.1,SNR=3.3						
BVAR	**Borovoye Array**	**50.94**	**309**	P	**P**	**18 30 32.5**	**-1.0**
BVAR	comp=Z,1.0nm,0.7s			pmax	pmax		
BRVK	**Borovoye**	**50.97**	**309**‖	*e*P	**P**	**18 30 35.6**	**+1.9**
BRVK	comp=Z,2.0nm,0.6s			pmax	pmax		
ARU	**Arti**	**54.03**	**318**	*e*P	**P**	**18 30 56.1**	**-0.2**
ARU	comp=Z,3.0nm,1.3s			pmax	pmax		
ARCES	**ARCESS Array B**	**54.06**	**342**	P	**P**	**18 30 55.0**	**-1.4**
	comp=Z,1.9nm,0.7s,baz=30,slow=7.2,SNR=6.8						
ARCES	**ARCESS Array B**	**54.06**	**342**	P	**P**	**18 30 55.0**	**-1.4**
ARCES	comp=Z,2.0nm,0.7s			pmax	pmax		
NVAR	**Mina Array Bea**	**55.94**	**70**	P	**P**	**18 31 12.6**	**+1.9**
	comp=Z,1.0nm,0.7s,baz=294,slow=7.7,SNR=8.1						
PDAR	**Pinedale Array**	**57.85**	**60**	P	**P**	**18 31 25.4**	**+1.4**
	comp=Z,2.2nm,0.7s,baz=334,slow=3.5,SNR=13						
CMAR	**Chiang Mai Arr**	**58.09**	**259**	P	**P**	**18 31 26.1**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=27,slow=6.5,SNR=9.4						
CMAR	**Chiang Mai Arr**	**58.09**	**259**	*e*P	**P**	**18 31 26.4**	**+0.6**
CMAR	comp=Z,1.0nm,0.8s			pmax	pmax		
AKTO	**Aktyubinsk**	**58.41**	**313**	P	**P**	**18 31 25.4**	**-2.2**
AKTO	comp=Z,0.4nm,0.5s,baz=39,slow=13,SNR=2.9			LR	LR	18 59 05.7	
	comp=Z,28nm,18.1s,baz=58,slow=39						
FINES	**FINESS Array B**	**60.88**	**337**	P	**P**	**18 31 43.6**	**-0.7**
	comp=Z,2.9nm,0.6s,baz=56,slow=6.3,SNR=19						
FINES	**FINESS Array B**	**60.88**	**337**	P	**P**	**18 31 43.7**	**-0.7**
FINES	comp=Z,3.0nm,0.6s			pmax	pmax		
NB2	**NORSAR Subarra**	**64.33**	**344**	P	**P**	**18 32 07.6**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=20,slow=6.9						
NOA	**NORSAR Array B**	**64.33**	**344**	P	**P**	**18 32 06.3**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=14,slow=5.5,SNR=3.4						
NOA	**NORSAR Array B**	**64.33**	**344**	P	**P**	**18 32 06.3**	**-1.2**
NOA	comp=Z,1.0nm,0.8s			pmax	pmax		
HFS	**Hagfors**	**64.73**	**342**	P	**P**	**18 32 09.0**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=47,slow=6.7,SNR=7.2						
HFS	**Hagfors**	**64.73**	**342**	P	**P**	**18 32 09.0**	**-1.1**
HFS	comp=Z,1.0nm,0.4s			pmax	pmax		
TXAR	**Lajitas Array**	**70.88**	**67**	P	**P**	**18 32 50.5**	**+1.1**
	comp=Z,2.2nm,0.5s,baz=298,slow=5.0,SNR=38						
TXAR	**Lajitas Array**	**70.88**	**67**	P

0.8nm,0.3s,baz=0.0,slow=19,SNR=2.0
HNR Honiara 9.37 303 LR LR 18 38 21.6
comp=Z,64nm,20.1s,baz=44,slow=34
CTA Charters Tower 21.36 252 P **P** **18 37 42.2 +2.2**
2.7nm,0.8s,baz=95,slow=15,SNR=3.1
STKA Stephens Creek 29.51 230 P **P** **18 38 55.7 -1.0**
3.7nm,0.6s,baz=48,slow=6.8,SNR=2.9
STKA LR LR 18 49 48.7
comp=Z,60nm,19.0s,baz=29,slow=34
WRA Warramunga Arr 32.45 256 P **P** **18 39 22.6 -0.2**
0.4nm,0.6s,baz=86,slow=9.5,SNR=3.2
ASAR Alice Springs 33.28 249 P **P** **18 39 29.9 -0.2**
2.0nm,0.6s,baz=78,slow=9.2,SNR=55
SIJI Sorong 38.73 287 P **P** **18 40 16.5 -0.2**
3.8nm,0.8s,baz=111,slow=15,SNR=3.7
NWAO Narrogin (SRO) 49.32 239 P **P** **18 41 41.3 -0.2**
5.6nm,0.9s,baz=149,slow=5.0,SNR=3.3
CMAR Chiang Mai Arr 75.50 294 P **P** **18 44 37.0 +0.2**
0.6nm,0.7s,baz=131,slow=4.1,SNR=2.5
SONM Songino Array 82.82 323 P **P** **18 45 17.2 +0.8**
0.5nm,1.0s,baz=131,slow=7.9,SNR=4.2
ILAR Eielson Array 86.28 18 P **P** **18 45 32.8 -0.5**
0.4nm,0.7s,baz=231,slow=5.8,SNR=4.3
TXAR Lajitas Array 95.70 61 P **P** **18 46 19.2 +0.9**
0.1nm,0.6s,baz=238,slow=5.2,SNR=2.2
MKAR Makanchi Array 97.59 316 P **P** **18 46 25.2 -1.3**
0.8nm,0.9s,baz=117,slow=3.4,SNR=4.7

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*ISCJB **31** 18:38:22.4±0.4, 13.°09N±0.°05×120.°73E±0.°06, h27km, mb4.0/16, MS3.6/12, Error ellipse: s-maj=8.4km s-min=7.3km az=1.2*
*MAN **31** 18:38:23, 13.°15N×120.°64E, h29km, mb4.9, ML3.9, MS3.9*
MAN INTENSITY I - BATANGAS CITY.
*NEIC **31** 18:38:25.9±1.1, 13.°23N×121.°03E, h49km±10km, mb3.9/5, Error ellipse: s-maj=13.3km s-min=7.0km az=63.0*
NEIC Felt [I PIVS] at Batangas, Luzon.
*IDC **31** 18:38:25.9±1.8, 13.°19N×120.°99E, h47km±19km, mb3.8/11, mb1 3.9/11, mb1mx3.6/59, mbtmp4.0/11, MS3.6/12, Ms1 3.6/12, ms1mx3.3/40, Error ellipse: s-maj=40.1km s-min=14.1km az=66.0*
ISC 31 18:38:24.7±0.6, 13.°20N±0.°06×120.°70E±0.°06, h27km, n40, σ1§27/37, mb4.0/16, MS3.6/12, 2C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.93**	**15**	P	**Pb**	**18 38 41.9**	**-0.3**
	495nm,0.3s,baz=198,slow=2.0,SNR=61						
TGY				S	**Sn**	**18 38 55.3**	**+0.9**
	1µm,0.3s,baz=162,slow=20,SNR=31						
TGY	**Tagaytay City**	**0.93**	**15‖**	*eP*	**Pb**	**18 38 41.7**	**-0.5**
TGY				*eS*	**Sn**	**18 38 54.1**	**-0.3**
GQP	**Guinayangan**	**1.84**	**67↑**	*eP*	**Pn**	**18 38 54.6**	**+0.1**
GQP				*eS*	**Sb**	**18 39 21.1**	**+0.8**
BCPH	**Baguio City Da**	**3.16**	**358‖**	*iP*	**Pn**	**18 39 10.8**	**-2.1**
PVCP	**Virac**	**3.39**	**83↑**	*eP*	**Pn**	**18 39 16.4**	**+0.6**
PPR	**Puerto Princes**	**3.91**	**210‖**	*eP*	**Sn**	**18 40 07.2**	**-0.9**
KULM	**Kulim**	**21.28**	**250**	*eP*	**P**	**18 43 12.4**	**+3.2**
	1.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**21.56**	**287**	P	**P**	**18 43 14.8**	**+2.4**
	5.8nm,0.9s,baz=99,slow=8.3,SNR=38						
CMAR				LR	LR	18 52 03.7	
	comp=Z,83nm,19.4s,baz=120,slow=37						
CHTO	**Chiang Mai**	**21.63**	**288**	*eP*	**P**	**18 43 14.7**	**+1.7**
	3.1nm,0.9s						
GUMO	**Guam**	**23.52**	**86**	LR	LR	18 52 26.9	
	comp=Z,93nm,20.2s,baz=220,slow=36						
PSI	**Prapat**	**23.88**	**246**	LR	LR	18 53 28.3	
	comp=Z,157nm,18.8s,baz=40,slow=37						
JCJ	**Chichijima**	**24.40**	**52**	LR	LR	18 51 45.0	
	comp=Z,63nm,21.7s,baz=94,slow=33						
JAY	**Jayapura**	**25.26**	**127**	LR	LR	18 54 43.0	
	comp=Z,112nm,18.2s,baz=56,slow=39						
LSA	**Lhasa**	**31.89**	**306**	*eP*	**P**	**18 44 50.0**	**+1.5**
	1.9nm,0.6s						
TAPN	**Taplejung**	**33.87**	**300**	*eP*	**P**	**18 45 07.1**	**+1.5**
ODAN	**Odare**	**33.99**	**299**	*eP*	**P**	**18 45 07.7**	**+1.1**
	24nm,0.8s						
RAMN	**Ramite**	**34.70**	**298**	*eP*	**P**	**18 45 13.5**	**+0.8**
WRAB	**Tennant Creek**	**35.56**	**158**	*eP*	**P**	**18 45 18.0**	**-1.9**
	9.2nm,0.9s						
WRA	**Warramunga Arr**	**35.57**	**158**	P	**P**	**18 45 17.5**	**-2.5**
	3.0nm,0.8s,baz=336,slow=9.6,SNR=14						
GUN	**Gumba**	**35.59**	**300**	*eP*	**P**	**18 45 21.7**	**+1.2**
PKI	**Pulchoki**	**35.89**	**299**	*eP*	**P**	**18 45 22.6**	**-0.5**
PKIN	**Phulchoki**	**35.90**	**299**	*eP*	**P**	**18 45 23.0**	**-0.1**
KKN	**Kakani**	**36.06**	**299**	*eP*	**P**	**18 45 24.7**	**+0.3**
DMN	**Daman**	**36.16**	**299**	*eP*	**P**	**18 45 26.0**	**+0.7**
	20nm,0.9s						
SONM	**Songino Array**	**36.53**	**344**	P	**P**	**18 45 27.9**	**-0.2**
	1.1nm,0.8s,baz=163,slow=7.9,SNR=8.7						
SONM				LR	LR	19 02 22.3	
	comp=Z,100nm,18.9s,baz=148,slow=39						
AS31	**Alice Springs**	**38.85**	**160**	*eP*	**P**	**18 45 46.0**	**-1.8**
ASAR	**Alice Springs**	**38.85**	**160**	P	**P**	**18 45 46.4**	**-1.4**
	1.9nm,0.4s,baz=335,slow=6.6,SNR=92						
MK31	**Makanchi Array**	**46.43**	**324**	*eP*	**P**	**18 46 49.7**	**+0.6**
MKAR	**Makanchi Array**	**46.43**	**324**	P	**P**	**18 46 49.6**	**+0.4**
	1.3nm,0.7s,baz=134,slow=7.8,SNR=8.0						
MKAR				LR	LR	19 07 51.4	
	comp=Z,132nm,19.2s,baz=98,slow=38						
ZALV	**Zalesovo Beam**	**49.50**	**333**	P	**P**	**18 47 11.7**	**-0.9**
	0.6nm,0.4s,baz=125,slow=5.9,SNR=4.9						
ZALV				LR	LR	19 09 26.0	
	comp=Z,117nm,18.6s,baz=70,slow=38						
EKS2	**Erkin-Say**	**49.92**	**315**	P	**P**	**18 47 15.7**	**-0.6**
KURBB	**Kurchatov Arra**	**50.60**	**326**	P	**P**	**18 47 21.0**	**-0.1**
	1.2nm,0.2s,baz=125,slow=7.8,SNR=9.8						
KURK	**Kurchatov**	**50.60**	**327**	P	**P**	**18 47 21.0**	**-0.1**
BVAR	**Borovoye Array**	**56.18**	**326**	P	**P**	**18 48 02.5**	**+0.4**
	0.5nm,0.5s,baz=122,slow=7.7,SNR=3.3						
GEYT	**Alibeck**	**60.43**	**306**	P	**P**	**18 48 32.5**	**+0.5**
	3.3nm,0.9s,baz=88,slow=3.5,SNR=6.5						
GEYT				LR	LR	19 18 23.0	
	comp=Z,66nm,18.8s,baz=20,slow=40						
ABKAR	**Akbulak array**	**61.11**	**319**	*eP*	**P**	**18 48 34.9**	**-1.5**
	0.5nm,0.5s						
BRTR	**Keskin Array B**	**79.46**	**308**	P	**P**	**18 50 28.7**	**-0.5**
	0.7nm,1.0s,baz=58,slow=3.6,SNR=2.7						
ARCES	**ARCESS Array B**	**79.55**	**339**	P	**P**	**18 50 28.2**	**-0.7**
	0.9nm,0.7s,baz=70,slow=7.9,SNR=3.6						
ARCES				LR	LR	19 29 44.8	
	comp=Z,59nm,18.4s,baz=116,slow=39						
MLR	**Muntele Rosu**	**84.00**	**315**	LR	LR	19 32 39.0	
	comp=Z,12nm,20.3s,baz=73,slow=39						
NOA	**NORSAR Array B**	**87.70**	**333**	LR	LR	19 33 17.5	
	comp=Z,46nm,20.2s,baz=170,slow=38						

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*ISCJB **31** 18:45:18.8±0.3, 5.°63S±0.°03×149.°23E±0.°06, h163km, mb4.2/37, Error ellipse: s-maj=8.0km s-min=4.4km az=7.5*
*IDC **31** 18:45:19.8±1.2, 5.°65S×149.°22E, h158km±10km, mb3.9/23, mb1 4.0/28, mb1mx3.9/45, mbtmp4.4/28, Error ellipse: s-maj=12.9km s-min=7.0km az=101.0*
*NEIC **31** 18:45:20.4±1.1, 5.°65S×149.°22E, h165km±10km, mb4.5/18, Error ellipse: s-maj=10.8km s-min=5.6km az=78.0*
ISC 31 18:45:20.5±0.5, 5.°66S±0.°05×149.°17E±0.°08, h163km, n73, σ0§97/83, mb4.3/37, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.32**	**64**	P	Pn	18 46 08.9	-3.6
	baz=3.2,SNR=36						
MANU	**Manus Island**	**4.02**	**333**	P	**Pn**	**18 46 21.6**	**+0.2**
	baz=4.1,SNR=4.5						
PMG	**Port Moresby**	**4.22**	**208**	P	**Pn**	**18 46 23.3**	**-0.7**
	19nm,0.3s,baz=31,slow=9.5,SNR=48						
PMG				S	**Sn**	**18 47 13.4**	**-0.1**
	29nm,0.3s,baz=46,slow=18,SNR=5.6						
PMG	**Port Moresby**	**4.22**	**208**	P	**Pn**	**18 46 23.3**	**-0.7**
PMG				*e*Sn	**Sn**	**18 47 12.2**	**-1.4**
JAY	**Jayapura**	**9.00**	**290**	P	**Pn**	**18 47 27.1**	**-0.1**
	0.7nm,0.3s,baz=189,slow=4.7,SNR=7.6						
MTSU	**Mount Surprise**	**13.28**	**201**	P	**Pn**	**18 48 24.2**	**+1.4**
	baz=13,SNR=6.1						
CTA	**Charters Tower**	**14.62**	**191**	P	**Pn**	**18 48 39.7**	**0.0**
	0.1nm,0.3s,baz=14,slow=15,SNR=3.9						
CTAO	**Charters Tower**	**14.62**	**191**	Pn	**Pn**	**18 48 40.0**	**+0.3**
	28nm,1.1s						
QIS	**Mount Isa**	**17.48**	**211**	P	**Pn**	**18 49 14.7**	**+0.2**
	baz=18,SNR=11						
KDU	**Kakadu**	**17.89**	**246**	P	**P**	**18 49 17.9**	**+0.1**
	baz=18,SNR=6.8						
SIJI	**Sorong**	**18.49**	**284**	P	**Pn**	**18 49 26.4**	**-0.1**
	0.7nm,0.3s,baz=77,slow=8.0,SNR=9.2						
MTN	**Manton Dam**	**19.17**	**247**	P	**P**	**18 49 32.0**	**+0.3**
	baz=19,SNR=8.4						
PALU	**Palau**	**19.54**	**311**	P	**Pn**	**18 49 37.4**	**-1.4**
	baz=20,SNR=11						
GUMO	**Guam**	**19.59**	**347**	P	**P**	**18 49 36.4**	**+0.2**
	3.6nm,0.3s,baz=212,slow=23,SNR=5.1						
EIDS	**Eidsvold**	**19.68**	**175**	P	**P**	**18 49 38.3**	**+1.1**
	baz=20,SNR=15						
EIDS	**Eidsvold**	**19.68**	**175**	*eP*	**P**	**18 49 37.9**	**+0.8**
	26nm,0.8s						
WRAB	**Tennant Creek**	**20.22**	**224**	*eP*	**P**	**18 49 43.1**	**+0.1**
	9.2nm,0.8s						
WRAB				*e*S	**S**	**18 53 20.5**	**-0.7**
WRA	**Warramunga Arr**	**20.24**	**224**	P	**P**	**18 49 43.7**	**+0.5**
	4.7nm,0.4s,baz=51,slow=11,SNR=39						
WRA				S	**S**	**18 53 21.5**	**+0.1**
	2.6nm,0.9s,baz=44,slow=18,SNR=7.7						
WRA				PcP	**PcP**	**18 53 50.4**	**-0.1**
	0.6nm,0.5s,baz=51,slow=2.0,SNR=3.2						
WRA				ScP	**ScP**	**18 57 12.3**	**+0.6**
	1.8nm,1.1s,baz=57,slow=2.7,SNR=4.3						
RMQ	**Roma**	**20.71**	**181**	P	**P**	**18 49 49.6**	**+1.4**
	baz=21,SNR=9.5						
QLP	**Quilpie**	**21.33**	**192**	P	**P**	**18 49 55.5**	**+0.7**
	baz=22,SNR=19						
KNRA	**Kununurra**	**22.36**	**242**	P	**P**	**18 50 04.5**	**-0.9**
	baz=22,SNR=31						
ASAR	**Alice Springs**	**23.16**	**218**	P	**P**	**18 50 13.9**	**+1.2**
	2.6nm,0.4s,baz=56,slow=9.1,SNR=118						
ASAR				PcP	**PcP**	**18 53 56.4**	**+0.1**
	0.4nm,0.6s,baz=11,slow=2.0,SNR=3.2						
ASAR				S	**S**	**18 54 15.5**	**+3.3**
	0.7nm,0.7s,baz=52,slow=14,SNR=4.4						
ASAR				ScP	**ScP**	**18 57 20.5**	**+1.4**
	1.2nm,0.8s,baz=53,slow=2.8,SNR=5.9						
DZM	**Mont Dzumac**	**23.35**	**136**	P	**P**	**18 50 14.6**	**+0.1**
	14nm,0.7s,baz=181,slow=4.2,SNR=27						
ARMA	**Armidale**	**24.74**	**175**	P	**P**	**18 50 28.3**	**+1.2**
	baz=25,SNR=15						
ARMA	**Armidale**	**24.74**	**175**	*eP*	**P**	**18 50 27.7**	**+0.7**
	8.7nm,0.5s						
CMSA	**Cobar Meteorol**	**25.95**	**187**	P	**P**	**18 50 38.4**	**+0.6**
	baz=26,SNR=12						
STKA	**Stephens Creek**	**27.03**	**194**	P	**P**	**18 50 47.4**	**-0.2**
	1.8nm,0.5s,baz=31,slow=10,SNR=6.8						
WRKA	**Warakurna**	**27.78**	**224**	P	**P**	**18 50 54.8**	**+0.5**
	baz=28,SNR=6.5						
ARPS	**Mount Arapiles**	**31.68**	**191**	P	**P**	**18 51 29.4**	**+0.8**
	baz=32,SNR=5.9						
MBWA	**Marble Bar**	**32.42**	**239**	*eP*	**P**	**18 51 34.9**	**-0.3**
	7.6nm,0.6s						
MEEK	**Meekatharra**	**35.83**	**231**	P	**P**	**18 52 05.2**	**+0.5**
	baz=36,SNR=7.1						
YULB	**Yu-li**	**39.68**	**318**	*eP*	**P**	**18 52 36.9**	**0.0**
	10.0nm,0.6s						
NACB	**Ninganchiao**	**40.02**	**319**	*eP*	**P**	**18 52 40.0**	**+0.3**
	19nm,0.7s						
YHNB	**Yeheng**	**40.51**	**319**	*eP*	**P**	**18 52 44.9**	**+1.1**
	19nm,0.8s						
URZ	**Urewera**	**41.19**	**146**	P	**P**	**18 52 49.0**	**-0.1**
	12nm,1.0s,baz=263,slow=8.1,SNR=2.6						
JNU	**Nakatsue**	**42.39**	**337**	P	**P**	**18 52 58.6**	**+0.4**
	6.4nm,0.8s,baz=35,slow=3.7,SNR=8.4						
MJAR	**Matsushiro Arr**	**43.22**	**347**	P	**P**	**18 53 04.9**	**-0.7**
	1.4nm,0.5s,baz=182,slow=1.0,SNR=15						
MJAR				PcP	**PcP**	**18 54 51.7**	**-0.1**
	1.4nm,0.7s,baz=159,slow=4.2,SNR=6.2						
MAJO	**Matsushiro**	**43.22**	**347**	P	**P**	**18 53 04.1**	**-1.4**
	3.9nm,0.5s						
MAT	**Matsushiro**	**43.22**	**347**	P	**P**	**18 53 06.1**	**+0.6**
KSRS	**Korea Array**	**47.25**	**337**	P	**P**	**18 53 38.0**	**+0.9**
	3.3nm,0.5s,baz=155,slow=8.3,SNR=25						
KSAR	**Wonju Array Be**	**47.25**	**337**	P	**P**	**18 53 38.0**	**+0.8**
ASAJ	**Asahikawa**	**49.90**	**354**	P	**P**	**18 53 58.5**	**+1.2**
	5.5nm,0.6s,baz=270,slow=20						
USRK	**Ussuriysk Ar.**	**51.99**	**344**	P	**P**	**18 54 14.4**	**+1.5**
	4.6nm,0.6s,baz=170,slow=8.0,SNR=9.3						
YSS	**Yuzh-Sakhalins**	**52.69**	**354**	P	**P**	**18 54 18.1**	**0.0**
MDJ	**Mudanjiang**	**53.05**	**343**	P	**P**	**18 54 20.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**55.01**	**297**	P	**P**	**18 54 34.9**	**-0.5**
	0.8nm,0.7s,baz=123,slow=5.8,SNR=8.3						
CMAR				PcP	**PcP**	**18 55 35.6**	**+0.4**
	0.4nm,0.5s,baz=120,slow=2.2,SNR=5.1						
PETK	**Petropavlovsk-**	**58.99**	**6**	P	**P**	**18 55 03.5**	**+0.7**
	8.5nm,0.7s,baz=169,slow=8.1,SNR=9.7						
HIA	**Hailar**	**60.41**	**338**	*eP*	**P**	**18 55 13.6**	**+1.0**
	8.8nm,0.8s						
ULN	**Ulaanbaatar**	**64.87**	**330**	*eP*	**P**	**18 55 43.3**	**+1.0**
	2.9nm,0.7s						
SONM	**Songino Array**	**65.18**	**330**	P	**P**	**18 55 44.9**	**+0.6**
	2.0nm,0.7s,baz=151,slow=4.2,SNR=22						
LSA	**Lhasa**	**65.78**	**306**	*eP*	**P**	**18 55 50.0**	**+1.0**
	2.8nm,0.6s						
SEY	**Seymchan**	**68.44**	**2**	P	**P**	**18 56 04.5**	**0.0**
	3.6nm,0.8s,baz=190,slow=6.3,SNR=8.8						
YAK	**Yakutsk**	**69.15**	**350**	P	**P**	**18 56 08.9**	**+0.1**
VNDA	**Vanda**	**72.13**	**177**	P	**P**	**18 56 27.9**	**+1.1**
	1.2nm,0.8s,baz=322,slow=4.2,SNR=6.8						
MKAR	**Makanchi Array**	**78.62**	**320**	P	**P**	**18 57 03.1**	**-1.2**
	0.7nm,0.4s,baz=97,slow=8.0,SNR=16						
ZAA0	**Zalesovo Array**	**79.88**	**327**	*eP*	**P**	**18 57 10.0**	**-0.9**
ZALV	**Zalesovo Beam**	**79.88**	**327**	P	**P**	**18 57 09.2**	**-1.8**
	3.3nm,0.7s,baz=121,slow=6.7,SNR=14						
TKM2	**Tokmak 2**	**81.94**	**315**	P	**P**	**18 57 22.0**	**-0.4**
	5.8nm,1.3s						
KURK	**Kurchatov**	**82.24**	**323**	P	**P**	**18 57 22.7**	**-0.7**
KURBB	**Kurchatov Arra**	**82.26**	**323**	P	**P**	**18 57 22.7**	**-0.9**
	0.6nm,0.5s,baz=114,slow=4.4,SNR=7.9						
MCK	**McKinley**	**83.06**	**23**	*eP*	**P**	**18 57 25.8**	**-1.7**
	14nm,0.9s						
EKS2	**Erkin-Say**	**83.17**	**314**	*eP*	**P**	**18 57 29.1**	**+0.5**
MAW	**Mawson**	**83.39**	**203**	P	**P**	**18 57 27.3**	**-1.8**
	0.3nm,0.5s,baz=72,slow=6.4,SNR=2.4						
COLA	**College**	**84.00**	**22**	*eP*	**P**	**18 57 29.8**	**-2.4**
QSPA	**South Pole Qui**	**84.31**	**180**	*eP*	**P**	**18 57 33.6**	**-0.3**
	1.3nm,0.7s						
ILAR	**Eielson Array**	**84.33**	**23**	P	**P**	**18 57 31.8**	**-2.1**
	4.6nm,0.7s,baz=253,slow=5.1,SNR=45						
EGAK	**Eagle**	**86.58**	**24**	*eP*	**P**	**18 57 44.4**	**-0.6**
	4.1nm,0.9s						
DAWY	**Dawson**	**87.06**	**25**	*eP*	**P**	**18 57 47.1**	**-0.3**
	9.7nm,1.3s						
BVAR	**Borovoye Array**	**87.77**	**324**	P	**P**	**18 57 49.6**	**-1.4**
	0.8nm,0.6s,baz=145,slow=3.6,SNR=4.6						
INK	**Inuvik**	**90.55**	**21**	P	**P**	**18 58 02.1**	**-1.5**
	1.5nm,0.7s,baz=257,slow=1.8,SNR=3.4						
ABKAR	**Akbulak array**	**93.74**	**319**	P	**P**	**18 58 17.9**	**-0.9**
	1.0nm,0.8s						
NVAR	**Mina Array Bea**	**95.46**	**52**	P	**P**	**18 58 26.3**	**-0.9**
	0.4nm,0.7s,baz=247,slow=4.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**147.09**	**285**	PKPbc	**PKPbc**	**19 04 45.0**	**-0.3**
	2.0nm,0.4s,baz=73,slow=2.5,SNR=48						

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*IDC **31** 18:45:48.4±2.6, 24.°07S×67.°03W, h169km±25km, mb3.3/1, mb1 3.5/5, mb1mx3.2/23, mbtmp3.9/5, MS2.5/1, Ms1 2.5/1, ms1mx2.3/7, Error ellipse: s-maj=38.3km s-min=21.7km az=155.0*
ISC 31 18:45:48.7±1.5, 24.°1S±0.°1×67.°1W±0.°1, h181km, n6, σ0§73/9, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.23**	**310**	P	**Pn**	**18 46 29.1**	**+0.4**
	259nm,0.3s,baz=136,slow=6.0,SNR=33						
LVC				S	**Sn**	**18 46 58.6**	**-1.1**
	2µm,0.3s,baz=186,slow=1.4,SNR=55						
LPAZ	**La Paz**	**7.80**	**352**	P	**Pn**	**18 47 40.5**	**+0.5**
	1.3nm,0.3s,baz=169,slow=8.1,SNR=21						
LPAZ				S	**Sn**	**18 49 08.5**	**+0.5**
	0.1nm,0.3s,baz=346,slow=21,SNR=4.6						
SIV	**San Ignacio**	**9.80**	**36**	P	**Pn**	**18 48 06.0**	**+0.2**
	0.4nm,0.3s,baz=245,slow=13,SNR=4.7						
SIV				S	**Sn**	**18 49 54.2**	**-0.9**
	0.1nm,0.3s,baz=127,slow=20,SNR=2.8						
SIV				LR	LR	18 51 33.3	
	comp=Z,29nm,19.1s,baz=292,slow=35						
BDFB	**Brasilia**	**19.76**	**68**	P	**P**	**18 50 05.5**	**+0.3**
	0.8nm,0.3s,baz=241,slow=11,SNR=11						
TORD	**Torodi Ar. Bea**	**76.64**	**69**	P	**P**	**18 57 20.1**	**+0.1**
	0.5nm,0.5s,baz=256,slow=5.7,SNR=6.8						
MKAR	**Makanchi Array**	**146.61**	**40**	PKPbc	**PKPab**	**19 05 09.8**	**-0.5**
	0.3nm,0.6s,baz=289,slow=4.4,SNR=3.5						

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*ISCJB **31** 18:49:03.8±1.2, 52.°23N±0.°05×160.°32E±0.°06, h16km±7km, mb3.6/4, Error ellipse: s-maj=8.3km s-min=5.4km az=150.6*
*MOS **31** 18:49:03.6±1.4, 52.°00N×160.°17E, h31km, mb4.2/2, Error ellipse: s-maj=38.4km s-min=26.4km az=108.8*
*IDC **31** 18:49:04.0±2.7, 52.°56N×160.°34E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.3/27, mbtmp3.5/3, Error ellipse: s-maj=70.4km s-min=22.3km az=5.0*
*KRSC **31** 18:49:04.1±1.1, 52.°25N×160.°34E, h40km±14km, ML3.9*
ISC 31 18:49:03.2±3.2, 52.°17N±0.°05×160.°24E±0.°05, h12km±21km, n34, σ1§43/47, mb3.7/4, 1C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.94**	**352**	*eP*	**Pb**	**18 49 20.3**	**-1.1**
SPN				*eS*	**Sb**	**18 49 31.9**	**-1.9**
RUS	**Russkaya**	**1.09**	**285**	*iP*	**Pb**	**18 49 24.2**	**+0.2**
RUS				*eS*	**Sb**	**18 49 38.3**	**+0.1**
NLC	**Nalytchevo**	**1.15**	**332**	*eP*	**Pn**	**18 49 24.2**	**-0.7**
NLC				*eS*	**Sb**	**18 49 38.4**	**-1.2**
PET	**Petropavlovsk**	**1.29**	**312**	*eP*	**Pn**	**18 49 26.5**	**-0.5**
PET				*eS*	**Sn**	**18 49 42.5**	**-1.7**
PET	**Petropavlovsk**	**1.29**	**312⇑**	*i*PN	**Pn**	**18 49 26.4**	**-0.5**
PET				*eS*	**Sn**	**18 49 41.8**	**-2.4**
PET				pmax	pmax		
	comp=Z,200nm,0.5s						
PET				pmax	pmax		
	comp=Z,209nm,0.4s						
PET				smax	smax		
	comp=E,273nm,0.4s						
PET				smax	smax		
	comp=N,466nm,0.4s						
MTVR	**Mutnovka**	**1.30**	**285**	*eP*	**Pn**	**18 49 27.8**	**+0.5**
MTVR				*eS*	**Sn**	**18 49 44.7**	**+0.1**
UGLR	**Uglovaya**	**1.35**	**321**	*iP*	**Pn**	**18 49 27.9**	**0.0**
UGLR				*eS*	**Sn**	**18 49 44.8**	**-1.1**
SDLR	**Sedlovina**	**1.39**	**324**	*eP*	**Pn**	**18 49 27.9**	**-0.5**
SDLR				*eS*	**Sn**	**18 49 44.8**	**-1.9**
SMAR	**Somma**	**1.41**	**322**	*eP*	**Pn**	**18 49 28.6**	**-0.1**
AVH	**Avacha**	**1.43**	**321**	*iP*	**Pn**	**18 49 29.2**	**+0.2**
AVH				*eS*	**Sn**	**18 49 47.4**	**-0.3**
ASAK	**Asacha**	**1.46**	**279**	*eP*	**Pn**	**18 49 30.4**	**+1.1**
ASAK				*eS*	**Sb**	**18 49 49.6**	**+0.9**
KRER	**Koryakskii**	**1.46**	**322**	*iP*	**Pn**	**18 49 29.6**	**+0.2**
KOK	**Koryaka**	**1.49**	**320**	*iP*	**Pn**	**18 49 29.9**	**+0.1**
KRX	**Arik**	**1.54**	**322**	*iP*	**Pn**	**18 49 30.5**	**0.0**
KRX				*eS*	**Sn**	**18 49 49.3**	**-1.1**
PETK	**Petropavlovsk-**	**1.81**	**302**	Pn	**Pn**	**18 49 35.0**	**+0.8**
	comp=N,19nm,0.3s,baz=109,slow=16,SNR=158						
PETK				Sn	**Sn**	**18 49 57.6**	**+0.6**
	comp=N,30nm,0.3s,baz=243,slow=22,SNR=13						
PETK	**Petropavlovsk-**	**1.81**	**302**	PN	**Pn**	**18 49 35.0**	**+0.8**
PETK						18 49 57.7	
PETK				pmax	pmax		
	comp=Z,19nm,0.3s						
PETK				smax	smax		
	comp=N,31nm,0.3s						
APC	**Apacha**	**2.03**	**293**	*eP*	**Pn**	**18 49 39.2**	**+2.1**
APC				*eS*	**Sb**	**18 50 04.7**	**-0.4**
GNL	**Ganaly**	**2.07**	**319**	*iP*	**Pn**	**18 49 38.7**	**+0.9**
GNL				*eS*	**Sn**	**18 50 03.6**	**+0.1**
MIPR	**Malaya Ipel'ka**	**2.15**	**274**	*eP*	**Pb**	**18 49 41.7**	**-0.2**
MKZ	**Mys Kozlova**	**2.56**	**20**	*eP*	**Pn**	**18 49 44.0**	**-0.3**
MKZ				*eS*	**Sn**	**18 50 12.8**	**-2.4**
KZV	**Kizimen**	**2.95**	**1**	*eP*	**Pn**	**18 49 51.3**	**+1.4**
KZV				*eS*	**Sn**	**18 50 25.8**	**+0.5**
SKR	**Severo-Kuril's**	**2.98**	**242**	*eS*	**Sn**	**18 50 27.7**	**+2.0**
SKR	**Severo-Kuril's**	**2.98**	**242**	PN	**Pn**	**18 49 48.0**	**-2.1**
SKR				*eS*	**Sn**	**18 50 20.5**	**-5.2**
SKR				pmax	pmax		
	comp=Z,30nm,0.5s						
SKR				smax	smax		
	comp=N,90nm,0.5s						
SKR				smax	smax		
	comp=E,60nm,0.5s						
TUMR	**Tumrok**	**3.12**	**359**	*eP*	**Pn**	**18 49 53.6**	**+1.4**
BDR	**Baidarnaya**	**4.45**	**7**	*eP*	**Pn**	**18 50 12.6**	**+2.2**
SMKR	**Semkarok**	**4.48**	**9**	*eP*	**Pn**	**18 50 12.4**	**+1.5**
ILAR	**Eielson Array**	**29.41**	**44**	P	**P**	**18 55 05.6**	**

BDRM	**Kayabasi**	**0.17**	**287**	*i* P		**Pg**	**18 58 09.3**	**-0.2**
BDRM				*i* S		**Sg**	**18 58 12.4**	**+0.2**
BODT	**Bodrum**	**0.27**	**280**	*e*PG		**Pg**	**18 58 11.2**	**0.0**
BODT				*e*SG		**Sg**	**18 58 15.2**	**+0.1**
BODT	**Bodrum**	**0.27**	**280**	*e*Pg		**Pg**	**18 58 11.2**	**0.0**
BODT				*e*Sg		**Sg**	**18 58 15.2**	**+0.1**
YER	**Yerkesik**	**0.52**	**77**	*e*PG		**Pb**	**18 58 16.3**	**-0.1**
YER				*e*SG		**Sg**	**18 58 22.8**	**+0.1**
YER	**Yerkesik**	**0.52**	**77**	*e*Pg		**Pb**	**18 58 16.3**	**-0.1**
YER				*e*Sg		**Sg**	**18 58 22.8**	**+0.1**
AYDN	**Tasoluk**	**0.67**	**16**	*i* P		**Pg**	**18 58 18.4**	**-0.1**
AYDN				*i* S		**Sg**	**18 58 27.5**	**+0.2**
AYDN	**Tasoluk**	**0.67**	**16**	*i* P		**Pg**	**18 58 18.4**	**-0.1**
AYDN				*i* S		**Sg**	**18 58 27.5**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**0.95**	**12**	*e*PG		**Pb**	**18 58 23.5**	**-0.2**
AYDB				*e*SG		**Sb**	**18 58 36.4**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**0.95**	**12**	*e*Pg		**Pb**	**18 58 23.5**	**-0.2**
AYDB				*e*Sg		**Sb**	**18 58 36.4**	**+0.2**

IDC 31 19:17:14.4±3.6, 5°98S×149°81E, h0km, mb3.1/2, mb1 3.5/3, mb1mx3.3/31, mbtmp3.4/3, ML1.5/1, Error ellipse: s-maj=135.4km s-min=41.2km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.30**	**218**	Pn	Pn	19 18 22.4	+1.2
	1.8nm,0.3s,baz=1.9,slow=4.5,SNR=11						
PMG				Sn	Sn	19 19 10.1	-2.0
	8.6nm,0.3s,baz=230,slow=17,SNR=16						
WRA	**Warramunga Arr**	**20.47**	**226**	P	P	19 21 53.1	-0.7
	0.7nm,0.4s,baz=51,slow=11,SNR=7.5						
ASAR	**Alice Springs**	**23.32**	**219**	P	P	19 22 23.6	-0.7
	0.3nm,0.6s,baz=56,slow=8.9,SNR=8.0						
TORD	**Torodi Ar. Bea**	**147.79**	**285**	PKPbc	PKPbc	19 37 02.2	-0.2
	0.8nm,1.1s,baz=85,slow=2.4,SNR=4.1						

*IDC **31** 19:23:25.5±0.8, 52°.79N×169°.54W, h0km, mb3.8/12, mb1 4.0/14, mb1mx3.8/32, mbtmp3.8/14, ML3.4/2, MS3.1/2, Ms1 3.2/2, ms1mx2.6/34, Error ellipse: s-maj=27.9km s-min=15.1km az=165.0*

*ISCJB **31** 19:23:26.3±1.6, 52°.67N±0°.08×169°.51W±0°.09, h15km±10km, mb3.7/13, MS3.1/1, Error ellipse: s-maj=15.7km s-min=5.2km az=150.0*

*NEIC **31** 19:23:28.8, 52°.75N×169°.19W, h5km, mb4.1/4, ML3.7(AEIC), After AEIC.*

ISC 31 19:23:27.6±1.9, 52°.8N±0°.1×169°.33W±0°.06, h11km±11km, n47, σ1°34/46, mb3.6/13, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.34**	**57**	P	**Pb**	**19 23 35.7**	**-0.1**
NIKH				S	**Sb**	**19 23 43.2**	**+2.0**
OKSO	**Okmok South**	**0.91**	**51**	P	**Pg**	**19 23 45.6**	**+0.4**
OKSO				S	**Sn**	**19 24 00.4**	**+1.0**
OKWR	**Okmok West Rim**	**0.94**	**46**	P	**Pn**	**19 23 47.1**	**+0.3**
OKCE	**Okmok Cone E**	**0.95**	**47**	P	**Pg**	**19 23 46.0**	**+0.1**
OKTU	**Okmok Mt. Tuli**	**0.98**	**52**	P	**Pn**	**19 23 47.6**	**+0.2**
OKAK	**Okmok**	**0.98**	**36**	P	**Pn**	**19 23 45.3**	**-1.3**
OKRE	**Okmok R'deer P**	**1.02**	**43**	P	**Pn**	**19 23 48.5**	**+0.6**
OKFG	**Magazine Ridge**	**1.06**	**53**	P	**Pb**	**19 23 47.7**	**-0.3**
OKFG				S	**Sn**	**19 24 04.2**	**+1.1**
MSOM	**Makushin Julie**	**1.76**	**53**	P	**Pn**	**19 23 58.5**	**+0.5**
MSOM				S	**Sb**	**19 24 22.8**	**+0.8**
MCIR	**Makushin Cirqu**	**1.87**	**50**	P	**Pn**	**19 24 01.1**	**+1.5**
MSW	**Makushin Switc**	**1.90**	**53**	P	**Pn**	**19 24 01.5**	**+1.6**
MSW				S	**Sb**	**19 24 26.6**	**+0.7**
MTBL	**Makushin Table**	**1.98**	**52**	P	**Pn**	**19 24 01.8**	**+0.7**
UNV	**Unalaska Valle**	**2.00**	**57**	P	**Pn**	**19 24 01.3**	**0.0**
UNV				S	**Sb**	**19 24 28.4**	**-0.5**
ZRO	**Akutan Zero**	**2.39**	**56**	P	**Pn**	**19 24 07.0**	**+0.3**
AKGG	**Akutan Green G**	**2.44**	**53**	P	**Pn**	**19 24 08.1**	**+0.7**
AKUT	**Akutan**	**2.52**	**56**	*e*Pn	**Pn**	**19 24 09.8**	**+1.4**
SPIA	**Saint Paul Isl**	**4.43**	**354**	P	**Pn**	**19 24 37.2**	**+2.5**
ADAG	**Mount Adagdak**	**4.53**	**263**	P	**Pn**	**19 24 38.7**	**+2.7**
SDPT	**Sand Point**	**5.81**	**60**	*e*Pn	Pn	19 24 58.5	+4.9
AMKA	**Amchitka**	**7.15**	**263**	*e*Pn	**Pn**	**19 25 13.2**	**+1.2**
	46nm,1.0s						
BPAW	**Bear Paw Mtn.**	**14.78**	**33**	*e*Pn	**P**	**19 27 00.9**	**-1.4**
	0.9nm,0.7s						
PAX	**Paxson**	**16.17**	**42**	*e*Pn	**Pn**	**19 27 16.4**	**+1.8**
ILAR	**Eielson Array**	**16.59**	**35**	Pn	**Pn**	**19 27 18.7**	**-1.2**
	0.1nm,0.3s,baz=229,slow=12,SNR=6.4						
ILAR				LR	LR	19 33 52.9	
	comp=Z,59nm,21.9s,baz=265,slow=38						
COLD	**Coldfoot**	**17.23**	**26**	Pn	**P**	**19 27 30.1**	**+0.8**
HYT	**Haines Junctio**	**19.02**	**52**	*e*P	**Pn**	**19 27 51.3**	**+1.2**
	8.9nm,0.9s						
PETK	**Petropavlovsk-**	**19.78**	**284**	P	**P**	**19 27 56.1**	**-1.4**
	0.1nm,0.3s,baz=81,slow=13,SNR=3.3						
SKAG	**Skagway**	**19.92**	**57**	*e*Pn	**P**	**19 27 55.2**	**-3.8**
	12nm,0.9s						
SEY	**Seymchan**	**22.40**	**312**	P	**P**	**19 28 24.6**	**-1.1**
	1.1nm,0.7s,baz=114,slow=12,SNR=4.2						
DLBC	**Dease Lake**	**22.65**	**60**	P	**P**	**19 28 29.9**	**+1.4**
	4.2nm,0.9s,baz=268,slow=7.8,SNR=7.8						
DLBC	**Dease Lake**	**22.65**	**60**	*e*Pn	**P**	**19 28 28.4**	**-0.1**
	20nm,1.4s						
INK	**Inuvik**	**22.98**	**34**	P	**P**	**19 28 30.3**	**-1.5**
	1.3nm,0.8s,baz=249,slow=8.6,SNR=2.9						
INK				LR	LR	19 38 14.3	
	comp=Z,64nm,19.5s,baz=258,slow=39						
YKA	**Yellowknife Ar**	**29.95**	**49**	P	**P**	**19 29 33.8**	**-1.5**
	0.4nm,0.6s,baz=275,slow=9.1,SNR=2.9						
MCMT	**McKenzie Canyo**	**37.17**	**79**	*e*P	**P**	**19 30 39.1**	**+0.5**
	0.6nm,0.5s						
NVAR	**Mina Array Bea**	**37.65**	**92**	P	**P**	**19 30 43.7**	**+1.0**
	0.5nm,0.8s,baz=292,slow=13,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**37.80**	**218**	T	T	20 10 44.3	
	baz=24,slow=76,SNR=58						
H11N3	**WAKE ISLAND Hy**	**37.80**	**218**	T	T	20 10 44.8	
	baz=24,slow=76,SNR=50						
H11N1	**WAKE ISLAND Hy**	**37.81**	**218**	T	T	20 10 44.3	
	baz=24,slow=76,SNR=42						
H11S1	**WAKE ISLAND Hy**	**38.99**	**218**	T	T	20 12 13.7	
	baz=23,slow=76,SNR=1645						
H11S2	**WAKE ISLAND Hy**	**39.00**	**218**	T	T	20 12 14.8	
	baz=23,slow=76,SNR=1038						
H11S3	**WAKE ISLAND Hy**	**39.00**	**218**	T	T	20 12 14.9	
	baz=23,slow=76,SNR=549						
MJAR	**Matsushiro Arr**	**39.74**	**267**	P	**P**	**19 30 58.4**	**-1.6**
	0.4nm,0.6s,baz=43,slow=5.8,SNR=3.6						
PDAR	**Pinedale Array**	**40.30**	**80**	P	**P**	**19 31 05.0**	**+0.1**
	0.8nm,0.6s,baz=321,slow=3.6,SNR=8.0						
ULM	**Lac du Bonnet**	**43.93**	**62**	P	**P**	**19 31 35.7**	**+1.6**
	5.6nm,1.2s,baz=315,slow=2.9,SNR=3.4						
TXAR	**Lajitas Array**	**52.72**	**89**	P	**P**	**19 32 43.0**	**+0.7**
	1.5nm,0.7s,baz=297,slow=5.0,SNR=21						
ESDC	**Sonseca Array**	**87.04**	**11**	P	**P**	**19 36 12.7**	**-0.3**
	0.1nm,0.4s,baz=340,slow=6.3,SNR=3.0						
WRA	**Warramunga Arr**	**87.28**	**232**	P	**P**	**19 36 13.0**	**-1.2**
	0.7nm,0.8s,baz=38,slow=6.1,SNR=4.3						
ASAR	**Alice Springs**	**90.68**	**230**	P	**P**	**19 36 29.2**	**-0.9**
	1.0nm,0.7s,baz=28,slow=5.5,SNR=12						

IDC 31 19:24:35.1±1.2, 35°.44S×53°.85E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/24, mbtmp3.8/4, MS3.4/1, Ms1 3.3/1, ms1mx2.7/24, Error ellipse: s-maj=46.0km s-min=33.5km az=34.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**32.51**	**36**	T	T	20 05 01.5	
	baz=209,slow=76,SNR=25						
H08S2	**Diego Garcia H**	**32.52**	**36**	T	T	20 05 01.8	
	baz=209,slow=76,SNR=15						
H08S3	**Diego Garcia H**	**32.53**	**36**	T	T	20 05 03.0	
	baz=209,slow=76,SNR=24						
MAW	**Mawson**	**32.63**	**174**	LR	LR	19 40 34.0	
	comp=Z,70nm,19.7s,baz=75,slow=29						
H08N3	**Diego Garcia H**	**32.97**	**33**	T	T	20 05 05.6	
	baz=211,slow=76,SNR=18						
H08N1	**Diego Garcia H**	**32.98**	**33**	T	T	20 05 05.9	
	baz=211,slow=76,SNR=18						
H08N2	**Diego Garcia H**	**32.99**	**33**	T	T	20 05 06.9	
	baz=211,slow=76,SNR=21						
H01W2	**Cape Leeuwin H**	**48.59**	**108**	T	T	20 25 27.0	
	baz=250						
H01W3	**Cape Leeuwin H**	**48.60**	**108**	T	T	20 25 27.6	
	baz=250						
H01W1	**Cape Leeuwin H**	**48.61**	**108**	T	T	20 25 28.5	
	baz=250						
QSPA	**South Pole Qui**	**54.74**	**180**	P	P	19 34 06.1	-0.1
	1.6nm,0.8s,baz=275,slow=3.4,SNR=6.2						
ASAR	**Alice Springs**	**68.92**	**105**	P	P	19 35 42.8	+0.5
	0.7nm,0.9s,baz=235,slow=6.1,SNR=6.8						
TORD	**Torodi Ar. Bea**	**69.05**	**305**	P	P	19 35 43.0	+0.1
	0.6nm,1.0s,baz=134,slow=6.0,SNR=3.0						
WRA	**Warramunga Arr**	**71.18**	**101**	P	P	19 35 55.7	-0.5
	0.9nm,0.9s,baz=238,slow=5.0,SNR=5.8						
ILAR	**Eielson Array**	**148.09**	**17**	PKPbc	PKPbc	19 44 21.1	-0.7
	0.3nm,0.7s,baz=312,slow=4.2,SNR=4.0						

NNC 31 19:26:48.2±4.4, 37°.13N×71°.17E, h0km, mb3.5, mpv2.9, 4C-4D, Error ellipse: s-maj=37.6km s-min=15.0km az=170.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.50**	**313**	⇑P	Pn	19 27 29.9	-0.3
	7.2nm,0.4s						
DZET				⇓S	Sn	19 28 03.3	+1.7
	39nm,0.6s						
SFK	**Sufi-Kurgan**	**3.41**	**32**	⇓P	Pn	19 27 42.3	-0.6
	0.1nm,0.1s						
SFK				⇓S	Sn	19 28 26.7	+2.4
	2.5nm,0.2s						
MNAS	**Manas**	**5.45**	**10**	⇓P	Pn	19 28 10.3	-0.5
	1.6nm,0.6s						
MNAS				⇑S	Sn	19 29 13.4	-0.9
	3.0nm,0.6s						
KK31	**Karatay Array**	**5.99**	**355**	⇑P	Pn	19 28 17.7	-0.4
	0.2nm,0.2s,baz=41,slow=41,SNR=8.3						
KK31				⇑S	Sn	19 29 26.6	-0.7
	0.4nm,0.3s,baz=316,slow=43,SNR=3.7						

*ISCJB **31** 19:56:46.4±0.9, 57°.1N±0°.2×33°.2W±0°.2, h10km, mb3.5/7, MS3.4/12, Error ellipse: s-maj=26.2km s-min=17.3km az=20.1*

*IDC **31** 19:56:46.7±1.1, 57°.19N×33°.14W, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.5/31, mbtmp3.5/7, MS3.5/16, Ms1 3.5/16, ms1mx3.3/39, Error ellipse: s-maj=34.8km s-min=22.2km az=22.0*

ISC 31 19:56:48.2±1.0, 57°.2N±0°.2×33°.1W±0°.2, h10km, n28, σ1°26/8, mb3.5/7, MS3.4/12, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**12.75**	**328**	LR	LR	20 03 56.1	
	comp=Z,457nm,19.2s,baz=136,slow=34						
JMIC	**Jan Mayen**	**17.33**	**27**	LR	LR	20 06 09.7	
	comp=Z,129nm,20.1s,baz=250,slow=32						
FRB	**Frobisher Bay**	**18.46**	**306**	LR	LR	20 06 43.1	
	comp=Z,237nm,21.5s,baz=73,slow=32						
SCHQ	**Schefferville**	**18.88**	**277**	LR	LR	20 06 45.0	
	comp=Z,294nm,21.4s,baz=90,slow=32						
NOA	**NORSAR Array B**	**22.75**	**62**	P	**P**	**20 01 50.2**	**0.0**
	1.5nm,1.0s,baz=280,slow=9.7,SNR=3.2						
NOA				LR	LR	20 09 31.3	
	comp=Z,75nm,21.3s,baz=275,slow=34						
HFS	**Hagfors**	**24.14**	**63**	LR	LR	20 10 43.1	
	comp=Z,74nm,18.7s,baz=278,slow=35						
ESDC	**Sonseca Array**	**25.80**	**120**	P	**P**	**20 02 19.6**	**+0.4**
	0.2nm,0.4s,baz=325,slow=11,SNR=2.9						
ESDC				LR	LR	20 10 51.2	
	comp=Z,152nm,18.4s,baz=300,slow=33						
SPITS	**Spitsbergen Ar**	**26.68**	**20**	LR	LR	20 10 49.0	
	comp=Z,45nm,20.0s,baz=335,slow=32						
ARCES	**ARCESS Array B**	**27.78**	**40**	LR	LR	20 11 50.0	
	comp=Z,57nm,19.9s,baz=277,slow=32						
DAVOX	**Davos/Dischmat**	**28.00**	**93**	LR	LR	20 13 31.3	
	comp=Z,284nm,19.1s,baz=292,slow=36						
RES	**Resolute Bay**	**28.72**	**331**	LR	LR	20 13 56.2	
	comp=Z,95nm,18.4s,baz=204,slow=36						
GERES	**GERESS Array B**	**28.87**	**86**	LR	LR	20 13 44.6	
	comp=Z,111nm,20.1s,baz=304,slow=35						
FINES	**FINESS Array B**	**29.61**	**57**	LR	LR	20 13 44.8	
	comp=Z,48nm,20.8s,baz=325,slow=34						
INK	**Inuvik**	**42.10**	**327**	LR	LR	20 21 33.9	
	comp=Z,106nm,20.1s,baz=46,slow=35						
BRTR	**Keskin Array B**	**45.61**	**83**	P	**P**	**20 05 09.6**	**+1.1**
	0.9nm,0.8s,baz=333,slow=4.9,SNR=4.3						
ILAR	**Eielson Array**	**48.42**	**328**	P	**P**	**20 05 29.3**	**-0.6**
	0.6nm,0.8s,baz=34,slow=6.6,SNR=6.6						
AKTO	**Aktyubinsk**	**50.38**	**56**	LR	LR	20 26 52.6	
	comp=Z,39nm,18.4s,slow=36						
TORD	**Torodi Ar. Bea**	**51.31**	**135**	P	**P**	**20 05 51.3**	**-1.1**
	0.4nm,0.8s,baz=343,slow=7.0,SNR=3.2						
BVAR	**Borovoye Array**	**53.74**	**47**	LR	LR	20 29 44.2	
	comp=Z,44nm,18.1s,baz=267,slow=37						
TXAR	**Lajitas Array**	**55.44**	**271**	P	**P**	**20 06 23.9**	**+1.1**
	0.3nm,0.8s,baz=60,slow=5.3,SNR=4.7						
MKAR	**Makanchi Array**	**63.34**	**44**	P	**P**	**20 07 17.4**	**+0.4**
	1.9nm,1.0s,baz=316,slow=6.0,SNR=5.0						
H10N2	**ASCENSION HYDR**	**66.56**	**160**	T	T	21 20 55.0	
	baz=339						
H10N3	**ASCENSION HYDR**	**66.56**	**160**	T	T	21 20 53.3	
	baz=339,slow=74						
H10N1	**ASCENSION HYDR**	**66.57**	**160**	T	T	21 20 54.3	
	baz=339,slow=74						
H10S1	**ASCENSION HYDR**	**67.61**	**160**	T	T	21 22 10.6	
	baz=346						
H10S3	**ASCENSION HYDR**	**67.62**	**160**	T	T	21 22 14.1	
	baz=346						
H10S2	**ASCENSION HYDR**	**67.63**	**160**	T	T	21 22 13.7	
	baz=346						
ASAR	**Alice Springs**	**145.23**	**21**	PKPbc	**PKPbc**	**20 16 23.5**	**-1.9**
	1.8nm,1.0s,baz=6.7,slow=4.4,SNR=6.2						

*IDC **31** 20:11:35.8±0.6, 56°.94N×33°.89W, h0km, mb3.9/23, mb1 4.0/27, mb1mx4.0/39, mbtmp3.9/27, ML3.3/4, MS3.8/36, Ms1 3.8/36, ms1mx3.8/43, Error ellipse: s-maj=17.1km s-min=11.9km az=0.0*

*ISCJB **31** 20:11:36.2±0.3, 56°.93N±0°.07×33°.89W±0°.06, h13km, mb4.3/48, MS3.8/40, Error ellipse: s-maj=9.9km s-min=4.6km az=0.7*

*NEIC **31** 20:11:37.4±0.3, 56°.90N×33°.86W, h10km, mb4.7/24, Error ellipse: s-maj=10.5km s-min=5.2km az=180.0*

*CSEM **31** 20:11:37.2±0.2, 56°.93N×33°.90W, h10km, mb4.7/24*

ISC 31 20:11:37.8±0.4, 56°.90N±0°.10×33°.87W±0°.06, h13km, n128, σ1°27/115, mb4.4/48, MS3.8/40, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**9.96**	**33**	Pn	**Pn**	**20 13 59.9**	**-0.4**
	0.3nm,0.3s,baz=248,slow=5.4,SNR=2.3						
BORG				LR	LR	20 16 55.5	
	comp=Z,1µm,18.7s,baz=237,slow=32						
SFJD	**Kangerlussuaq**	**12.78**	**329**	LR	LR	20 18 46.2	
	comp=Z,823nm,18.8s,baz=136,slow=34						
EKA	**Eskdalemuir Ar**	**17.13**	**82**	P	**Pn**	**20 15 35.0**	**-1.6**
	baz=300,slow=7.9,SNR=2.9						
JMIC	**Jan Mayen**	**17.76**	**27**	LR	LR	20 20 59.0	
	comp=Z,261nm,20.3s,baz=235,slow=32						
FRB	**Frobisher Bay**	**18.29**	**306**	P	**Pn**	**20 15 48.8**	**-2.1**
	0.2nm,0.3s,baz=86,slow=3.6,SNR=3.3						
FRB				LR	LR	20 21 32.8	
	comp=Z,432nm,21.7s,baz=78,slow=33						
SCHQ	**Schefferville**	**18.51**	**278**	P	**P**	**20 15 51.2**	**-2.4**
	0.3nm,0.3s,baz=65,slow=10,SNR=9.3						
SCHQ				LR	LR	20 21 44.6	
	comp=Z,586nm,19.4s,baz=94,slow=33						
NOA	**NORSAR Array B**	**23.24**	**61**	P	**P**	**20 16 42.4**	**-2.1**
	1.7nm,0.9s,baz=271,slow=8.7,SNR=2.8						
NOA				LR	LR	20 24 21.5	
	comp=Z,160nm,21.7s,baz=280,slow=33						
HFS	**Hagfors**	**24.62**	**62**	P	**P**	**20 16 57.6**	**0.0**
	4.6nm,0.9s,baz=258,slow=7.4,SNR=4.5						
HFS				LR	LR	20 25 32.7	
	comp=Z,164nm,18.9s,baz=286,slow=34						
WVL	**Waterville**	**25.47**	**256**	*e*P	**P**	**20 17 04.6**	**-0.7**
	40nm,1.3s						
WVL	**Waterville**	**25.47**	**256**	*e*P	**P**	**20 17 04.6**	**-0.7**
	40nm,1.3s						
PAB	**San Pablo**	**25.93**	**119**	P	**P**	**20 17 10.0**	**+0.4**
PAB	**San Pablo**	**25.93**	**119**	P	**P**	**20 17 10.0**	**+0.4**
ESDC	**Sonseca Array**	**26.01**	**119**	P	**P**	**20 17 10.2**	**-0.1**
	0.7nm,0.8s,baz=311,slow=10,SNR=5.7						
ESDC				LR	LR	20 25 49.4	
	comp=Z,282nm,18.1s,baz=315,slow=33						
ESLA	**Sonseca Array**	**26.01**	**119**	P	**P**	**20 17 10.5**	**+0.2**
ESLA	**Sonseca Array**	**26.01**	**119**	P	**P**	**20 17 10.5**	**+0.2**
SPITS	**Spitsbergen Ar**	**27.08**	**20**	LR	LR	20 25 37.9	
	comp=Z,89nm,18.9s,baz=245,slow=31						

CLL	**Collm**	**27.59**	**82**	*e*(P)		**P**	**20 17 26.0**	**+1.6**
CLL				*e*			20 17 29.0	
CLL				*e*			20 22 36.0	
CLL				LmV			20 28 00.0	
	comp=Z,400nm,19.1s							
NKC	**Novy Kostel**	**27.85**	**84**	*e*P		**P**	**20 17 27.9**	**+1.2**
NKC				*e*pP		**pP**	**20 17 31.8**	**+1.1**
NKC				AMS		AMS	20 28 20.0	
	comp=Z,300nm,16.6s							
NKC	**Novy Kostel**	**27.85**	**84**	P		**P**	**20 17 27.9**	**+1.2**
ARCES	**ARCESS Array B**	**28.25**	**40**	P		**P**	**20 17 28.7**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=278,slow=8.5,SNR=5.9							
ARCES				LR		LR	20 26 40.1	
	comp=Z,157nm,18.1s,baz=256,slow=32							
BRG	**Berggiesshubel**	**28.33**	**82**	*e*P		P	20 17 34.4	+3.4
	comp=Z,21nm,1.8s							
DAVOX	**Davos/Dischmat**	**28.39**	**92**	LR		LR	20 28 21.2	
	comp=Z,580nm,19.1s,baz=303,slow=35							
RES	**Resolute Bay**	**28.77**	**331**	LR		LR	20 28 46.4	
	comp=Z,187nm,18.6s,baz=32,slow=36							
PVCC	**Panska Ves**	**28.85**	**82**	*e*pP		**pP**	**20 17 42.0**	**+2.4**
PVCC				*ex*		x	20 17 44.7	
PVCC				AMS		AMS	20 28 50.0	
	comp=Z,500nm,17.0s							
KHC	**Kasperske Hory**	**29.06**	**85**	*e*P		**P**	**20 17 36.7**	**-0.9**
KHC				*e*pP		**pP**	**20 17 41.4**	**-0.1**
KHC				AMS		AMS	20 30 10.0	
	comp=Z,300nm,12.9s							
KHC	**Kasperske Hory**	**29.06**	**85**	P		**P**	**20 17 36.7**	**-0.9**
PRU	**Pruhonice**	**29.12**	**83**	AMS		AMS	20 29 00.0	
	comp=Z,200nm,13.8s							
GERES	**GERESS Array B**	**29.29**	**85**	P		**P**	**20 17 40.4**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=308,slow=6.6,SNR=4.2							
GERES				LR		LR	20 29 02.5	
	comp=Z,233nm,18.1s,baz=296,slow=36							
GOPC	**GO Pecny, Ondr**	**29.29**	**83**	AMS		AMS	20 29 00.0	
	comp=Z,300nm,14.0s							
UPC	**Upice**	**29.64**	**81**	AMS		AMS	20 29 40.0	
	comp=Z,400nm,17.3s							
DPC	**Dobruska-Polom**	**29.89**	**81**	*e*P		**P**	**20 17 46.9**	**+2.0**
DPC				*e*pP		**pP**	**20 17 50.1**	**+1.2**
DPC				AMS		AMS	20 29 50.0	
	comp=Z,300nm,17.9s							
DPC	**Dobruska-Polom**	**29.89**	**81**	P		**P**	**20 17 46.9**	**+2.0**
TREC	**Trest**	**30.01**	**83**	*e*P		**P**	**20 17 48.6**	**+2.6**
TREC				AMS		AMS	20 29 30.0	
	comp=Z,300nm,15.2s							
TREC	**Trest**	**30.01**	**83**	P		**P**	**20 17 48.6**	**+2.6**
FINES	**FINESS Array B**	**30.09**	**56**	P		**P**	**20 17 46.0**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=263,slow=3.3,SNR=4.9							
FINES				LR		LR	20 28 23.4	
	comp=Z,118nm,21.9s,baz=304,slow=34							
KRLC	**Kraliky**	**30.29**	**81**	*e*P		**P**	**20 17 50.6**	**+2.2**
KRLC				*e*pP		**pP**	**20 17 53.8**	**+1.4**
KRLC	**Kraliky**	**30.29**	**81**	P		**P**	**20 17 50.6**	**+2.2**
MORC	**Moravsky Berou**	**30.86**	**81**	P		**P**	**20 17 54.9**	**+1.4**
	comp=Z,14nm,1.1s							
MORC	**Moravsky Berou**	**30.86**	**81**	P		**P**	**20 17 54.9**	**+1.4**
	comp=Z,14nm,1.1s							
OKC	**Ostrava-Krasne**	**31.16**	**81**	*e*P		**P**	**20 17 56.5**	**+0.5**
OKC				*e*pP		**pP**	**20 17 58.5**	**-1.5**
OKC				*ex*		x	20 18 02.7	
OKC				AMS		AMS	20 30 40.0	
	comp=Z,400nm,18.6s							
OKC	**Ostrava-Krasne**	**31.16**	**81**	P		**P**	**20 17 56.5**	**+0.5**
FCC	**Fort Churchill**	**31.18**	**299**	P		**P**	**20 17 56.7**	**+0.6**
	comp=Z,11nm,1.2s							
FCC	**Fort Churchill**	**31.18**	**299**	P		**P**	**20 17 56.6**	**+0.6**
	comp=Z,11nm,1.2s							
PSZ	**Piszkesteto**	**33.20**	**82**	*e*P		**P**	**20 18 13.6**	**-0.5**
	comp=Z,7.0nm,1.0s							
PSZ	**Piszkesteto**	**33.20**	**82**	*e*P		**P**	**20 18 13.6**	**-0.5**
	comp=Z,7.0nm,1.0s							
COWI	**Conover**	**35.12**	**276**	*e*P		**P**	**20 18 30.4**	**-0.3**
	comp=Z,16nm,1.4s							
COWI	**Conover**	**35.12**	**276**	*e*P		**P**	**20 18 30.4**	**-0.3**
	comp=Z,16nm,1.4s							
EYMN	**Ely**	**35.27**	**280**	*e*P		**P**	**20 18 33.6**	**+1.7**
	comp=Z,16nm,1.3s							
EYMN	**Ely**	**35.27**	**280**	*e*P		**P**	**20 18 33.6**	**+1.7**
	comp=Z,16nm,1.3s							
KEST	**Kesra**	**35.77**	**108**	P		**P**	**20 18 36.2**	**-0.2**
	comp=Z,1.7nm,1.2s,baz=148,slow=9.5,SNR=

TORD	**Torodi Ar. Bea**	**51.41**	**134**	P		**P**	**20 20 42.1**	**-0.2**
	comp=Z,4.0nm,1.0s,baz=338,slow=6.5,SNR=16							
TORD				LR		LR	20 40 18.8	
	comp=Z,101nm,20.2s,baz=105,slow=34							
GNI	**Garni**	**51.69**	**73**	P		**P**	**20 20 46.1**	**+1.7**
	comp=Z,31nm,1.5s							
GNI	**Garni**	**51.69**	**73**	P		**P**	**20 20 46.1**	**+1.7**
	comp=Z,31nm,1.5s							
JCT	**Junction City**	**52.04**	**269**	*eP*		**P**	**20 20 46.1**	**-0.9**
	comp=Z,6.7nm,0.8s							
JCT	**Junction City**	**52.04**	**269**	*eP*		**P**	**20 20 46.1**	**-0.9**
	comp=Z,6.7nm,0.8s							
ABKAR	**Akbulak array**	**52.58**	**55**	*eP*		**P**	**20 20 51.5**	**+0.8**
	comp=Z,3.3nm,1.0s							
ABKAR	**Akbulak array**	**52.58**	**55**	*eP*		**P**	**20 20 51.5**	**+0.8**
	comp=Z,3.3nm,1.0s							
BRVK	**Borovoye**	**54.16**	**46**	P		**P**	**20 21 00.6**	**-1.6**
BRVK	**Borovoye**	**54.16**	**46**	P		**P**	**20 21 00.7**	**-1.6**
BVAR	**Borovoye Array**	**54.23**	**46**	P		**P**	**20 21 03.3**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=320,slow=6.6,SNR=10							
DBIC	**Dimbokro**	**55.03**	**144**	P		**P**	**20 21 08.9**	**0.0**
	comp=Z,4.9nm,0.7s,baz=311,slow=6.2,SNR=6.0							
DBIC				LR		LR	20 41 18.3	
	comp=Z,174nm,21.2s,baz=344,slow=32							
TXAR	**Lajitas Array**	**55.04**	**271**	P		**P**	**20 21 08.9**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=122,slow=33,SNR=5.8							
TXAR				LR		LR	20 43 45.9	
	comp=Z,84nm,20.0s,baz=0.0,slow=35							
TPH	**Tonopah**	**55.70**	**288**	*eP*		**P**	**20 21 14.8**	**+0.9**
	comp=Z,2.5nm,0.3s							
TPH	**Tonopah**	**55.70**	**288**	*eP*		**P**	**20 21 14.8**	**+0.9**
	comp=Z,2.5nm,0.3s							
NVAR	**Mina Array Bea**	**55.99**	**289**	P		**P**	**20 21 15.8**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=64,slow=25,SNR=2.4							
ZALV	**Zalesovo Beam**	**58.76**	**37**	P		**P**	**20 21 34.5**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=336,slow=6.6,SNR=3.1							
ZALV				LR		LR	20 46 57.0	
	comp=Z,47nm,18.0s,baz=260,slow=36							
KURK	**Kurchatov**	**59.21**	**43**	P		**P**	**20 21 38.8**	**+0.6**
KURK	**Kurchatov**	**59.21**	**43**	P		**P**	**20 21 38.8**	**+0.6**
KURBB	**Kurchatov Arra**	**59.25**	**43**	P		**P**	**20 21 38.8**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=326,slow=6.9,SNR=22							
GEYT	**Alibeck**	**60.22**	**66**	LR		LR	20 50 08.4	
	comp=Z,76nm,18.4s,baz=225,slow=38							
ROSC	**El Rosal**	**60.90**	**228**	P		**P**	**20 21 51.8**	**+1.2**
	comp=Z,5.3nm,0.4s,baz=63,slow=1.6,SNR=8.0							
ROSC				LR		LR	20 47 59.2	
	comp=Z,28nm,18.5s,baz=334,slow=36							
EKS2	**Erkin-Say**	**63.78**	**52**	*eP*		**P**	**20 22 11.6**	**+2.2**
	comp=Z,7.7nm,1.3s							
EKS2	**Erkin-Say**	**63.78**	**52**	*eP*		**P**	**20 22 11.6**	**+2.2**
	comp=Z,7.7nm,1.3s							
MKAR	**Makanchi Array**	**63.82**	**43**	P		**P**	**20 22 09.2**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=326,slow=4.7,SNR=18							
MKAR				LR		LR	20 49 13.8	
	comp=Z,31nm,18.0s,baz=322,slow=35							
TKM2	**Tokmak 2**	**64.35**	**50**	*eP*		**P**	**20 22 12.3**	**-0.9**
	comp=Z,5.8nm,1.3s							
TKM2	**Tokmak 2**	**64.35**	**50**	*eP*		**P**	**20 22 12.3**	**-0.9**
	comp=Z,5.8nm,1.3s							
PETK	**Petropavlovsk-**	**69.95**	**353**	LR		LR	20 54 46.2	
	comp=Z,32nm,18.8s,baz=24,slow=37							
SONM	**Songino Array**	**70.52**	**27**	P		**P**	**20 22 51.0**	**-1.0**
	comp=Z,0.5nm,0.9s,baz=322,slow=4.2,SNR=2.7							
SONM				LR		LR	20 56 06.4	
	comp=Z,61nm,18.9s,baz=315,slow=38							
SONM	**Songino Array**	**70.52**	**27**	P		**P**	**20 22 51.0**	**-1.0**
BDFB	**Brasilia**	**73.22**	**194**	LR		LR	20 49 55.0	
	comp=Z,55nm,21.2s,baz=26,slow=31							
LPAZ	**La Paz**	**78.31**	**214**	LR		LR	20 56 26.4	
	comp=Z,22nm,19.6s,baz=303,slow=34							
KSRS	**Korea Array**	**84.75**	**14**	LR		LR	21 02 55.0	
	comp=Z,34nm,18.4s,baz=326,slow=36							
CPUP	**Villa Florida**	**85.24**	**201**	LR		LR	20 59 12.8	
	comp=Z,26nm,20.9s,baz=31,slow=34							
JNU	**Nakatsue**	**89.41**	**13**	LR		LR	21 05 51.9	
	comp=Z,30nm,19.8s,slow=36							
CMAR	**Chiang Mai Arr**	**95.22**	**44**	LR		LR	21 09 50.9	
	comp=Z,28nm,18.2s,baz=200,slow=37							
BOSA	**Boshof**	**98.67**	**130**	LR		LR	21 10 28.6	
	comp=Z,75nm,18.0s,baz=2.5,slow=36							
ASAR	**Alice Springs**	**145.63**	**20**	PKPbc		**PKPdf**	**20 31 14.8**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=15,slow=3.8,SNR=3.7							

WEL 31 20:19:33.4±0.4, 36°54S×177°61E, h151km±5km, ML3.6/8, 3C-1D, Error ellipse: s-maj=6.0km s-min=4.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.17**	**152**	PN	Pn	20 19 59.7	0.0
MXZ				SN	Sn	20 20 19.8	-0.1
HAZ	**Te Kaha**	**1.23**	**173**	PN	Pn	20 20 00.4	+0.2
WMGZ	**Waiomatatini S**	**1.43**	**154**	PN	Pn	20 20 02.3	0.0
WMGZ				SN	Sn	20 20 24.0	-0.5
PUZ	**Puketiti**	**1.62**	**162**	PN	Pn	20 20 03.9	-0.4
PUZ				SN	Sn	20 20 26.0	-2.0
TWGZ	**Tauwhareparae**	**1.66**	**170**	⇑PN	Pn	20 20 05.2	+0.4
TWGZ				SN	Sn	20 20 28.8	-0.2
URZ	**Urewera**	**1.77**	**193**	⇑PN	Pn	20 20 05.9	+0.1
URZ				SN	Sn	20 20 30.6	-0.3
MWZ	**Matawai**	**1.80**	**182**	⇑PN	Pn	20 20 06.0	-0.3
MWZ				SN	Sn	20 20 30.6	-1.1
CNGZ	**Carnagh Statio**	**2.00**	**166**	⇓PN	Pn	20 20 08.5	-0.1
RIGZ	**Rimuhau**	**2.17**	**177**	PN	Pn	20 20 09.8	-0.8
RIGZ				SN	Sn	20 20 36.8	-2.5
SNGZ	**Shannon Statio**	**2.25**	**185**	PN	Pn	20 20 11.4	-0.2
SNGZ				SN	Sn	20 20 40.8	-0.3
RAHZ	**Arahi**	**2.41**	**190**	PN	Pn	20 20 12.8	-0.7
RAHZ				SN	Sn	20 20 44.1	-0.4
KNZ	**Kokohu**	**2.48**	**179**	PN	Pn	20 20 12.9	-1.4
KNZ				SN	Sn	20 20 43.1	-2.7
ARHZ	**Aropaoanui**	**2.77**	**190**	PN	Pn	20 20 16.6	-1.2
MCHZ	**McNeill Hill**	**2.99**	**194**	*e*PN	Pn	20 20 18.9	-1.8
KWHZ	**Kaweka Forest**	**3.03**	**198**	PN	Pn	20 20 20.0	-1.3
KWHZ				SN	Sn	20 20 57.2	-1.2
KRHZ	**Kereru**	**3.25**	**197**	PN	Pn	20 20 22.3	-1.8
PXZ	**Pawanui**	**3.54**	**189**	SN	Sn	20 21 06.3	-3.5
PXZ				AML	AML	20 21 07.5	
TSZ	**Takapari Road**	**3.75**	**200**	PN	Pn	20 20 27.8	-2.6
TSZ				SN	Sn	20 21 10.8	-4.0
BFZ	**Birch Farm**	**4.27**	**194**	SN	Sn	20 21 21.9	-5.1
MRZ	**Mangatainoka R**	**4.42**	**200**	PN	Pn	20 20 35.3	-3.8
MRZ				SN	Sn	20 21 24.0	-6.2
TCW	**Tory Channel**	**5.34**	**208**	SN	Sn	20 21 45.0	-7.2
TUWZ	**Tuamarina**	**5.66**	**209**	AML	AML	20 21 54.9	
MQZ	**McQueen's Vall**	**8.11**	**206**	SN	Sn	20 22 46.0	-12

*IDC **31** 20:22:27.4±7.0, 7°.31S×129°.06E, h123km±87km, mb3.4/1, mb1 3.7/4, mb1mx3.2/29, mbtmp4.0/4, ML4.0/3, Error ellipse: s-maj=149.4km s-min=24.2km az=81.0*
*ISCJB **31** 20:22:28.8±0.7, 7°.34S±0°.06×129°.05E±0°.10, h150km, mb3.5/1, Error ellipse: s-maj=13.8km s-min=8.1km az=171.5*
ISC 31 20:22:30.3±0.9, 7°47S±0°09×129°1E±0°1, h150km, n13, σ2s20/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**5.72**	**159**	P	**Pn**	**20 23 54.5**	**+1.3**
	baz=5.7,SNR=104						
KDU	**Kakadu**	**6.18**	**147**	P	**Pn**	**20 23 59.7**	**+0.3**
	baz=6.2,SNR=202						
SIJI	**Sorong**	**6.92**	**19**	P	Pn	20 24 04.4	-4.8
	0.9nm,0.3s,baz=212,slow=19,SNR=14						
SIJI				S	Sn	20 25 15.9	-11
	1.8nm,0.3s,baz=97,slow=22,SNR=11						
SWI	**Sorong**	**6.92**	**19**	P	**Pn**	**20 24 08.5**	**-0.8**
	baz=7.0,SNR=4.4						
KNRA	**Kununurra**	**8.16**	**182**	P	**Pn**	**20 24 26.5**	**+0.7**
	baz=8.2,SNR=80						
WSI	**Waingapu**	**8.94**	**255**	P	**Pn**	**20 24 36.7**	**+0.5**
	baz=8.9,SNR=4.3						
WRA	**Warramunga Arr**	**13.41**	**158**	P	**Pn**	**20 25 33.0**	**-1.8**
	1.2nm,0.3s,baz=341,slow=13,SNR=32						
WRA				S	Sn	20 27 56.9	-6.5
	2.2nm,0.3s,baz=335,slow=22,SNR=8.7						
COEN	**Coen**	**15.29**	**116**	P	**P**	**20 26 00.8**	**+1.0**
	baz=15,SNR=3.9						
QIS	**Mount Isa**	**16.54**	**143**	P	**Pn**	**20 26 16.5**	**+2.9**
	baz=17,SNR=6.7						
ASAR	**Alice Springs**	**16.76**	**164**	P	**Pn**	**20 26 18.4**	**+2.0**
	0.8nm,0.3s,baz=338,slow=11,SNR=56						
ASAR				S	**S**	**20 29 18.0**	**-4.8**
	0.4nm,0.3s,baz=348,slow=27,SNR=4.6						
WRKA	**Warakurna**	**17.49**	**182**	P	**Pn**	**20 26 27.2**	**+2.2**
	baz=18,SNR=27						
NFK	**Norfolk Island**	**42.41**	**125**	P	**P**	**20 30 10.7**	**+0.4**
	baz=42,SNR=14						
MKAR	**Makanchi Array**	**68.11**	**327**	P	**P**	**20 33 13.1**	**-0.9**
	0.5nm,0.5s,baz=125,slow=7.7,SNR=13						

*IDC **31** 20:35:08.0±1.0, 23°.35N×93°.84E, h0km, mb3.4/7, mb1 3.6/8, mb1mx3.4/28, mbtmp3.4/8, ML2.8/1, Error ellipse: s-maj=48.6km s-min=19.1km az=56.0*
ISC 31 20:35:17.7±1.1, 23°.6N±0°.1×94°.1E±0°.3, h73km, n9, σ1s62/9, mb3.3/7, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.16**	**352**	*eP*	**Pn**	**20 35 37.0**	**-1.4**
IMP				*eS*	Sn	20 35 53.0	-0.9
CMAR	**Chiang Mai Arr**	**6.84**	**138**	Pn	Pn	20 36 50.4	-5.1
	0.1nm,0.3s,baz=310,slow=13,SNR=2.7						
MKAR	**Makanchi Array**	**24.99**	**341**	P	**P**	**20 40 34.0**	**-0.5**
	0.5nm,0.6s,baz=138,slow=12,SNR=5.1						
SONM	**Songino Array**	**26.06**	**19**	P	**P**	**20 40 47.0**	**+2.6**
	0.4nm,0.4s,baz=205,slow=8.9,SNR=3.1						
KURBB	**Kurchatov Arra**	**29.54**	**340**	P	**P**	**20 41 16.9**	**+1.7**
	0.2nm,0.6s,baz=166,slow=7.1,SNR=2.9						
WRA	**Warramunga Arr**	**58.43**	**135**	P	**P**	**20 45 04.4**	**-1.7**
	0.3nm,0.5s,baz=320,slow=7.5,SNR=4.9						
ASAR	**Alice Springs**	**60.86**	**138**	P	**P**	**20 45 22.9**	**+0.1**
	0.2nm,0.4s,baz=319,slow=6.8,SNR=5.9						
GERES	**GERESS Array B**	**66.41**	**315**	P	**P**	**20 45 58.8**	**-0.4**
	0.2nm,0.3s,baz=100,slow=5.5,SNR=4.8						
TORD	**Torodi Ar. Bea**	**86.99**	**283**	P	**P**	**20 47 55.9**	**+0.4**
	0.1nm,0.5s,baz=83,slow=3.9,SNR=3.2						

MEX 31 20:36:05.3±0.8, 17°.14N×99°.16W, h66km±15km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**0.70**	**53**	*eP*	Pn	20 36 18.3	-1.9
TLIG				*eS*	Sn	20 36 29.1	-2.0
MEIG	**Mezcala**	**0.90**	**331**	*i* P	Pn	20 36 21.1	-1.4
MEIG				*i* S	Sn	20 36 33.6	-1.6
CAIG	**El Cayaco**	**1.07**	**265**	*eP*	Pn	20 36 22.7	-1.8
CAIG				*eS*	Sn	20 36 37.2	-1.5
PNIG	**Pinotepa**	**1.23**	**127**	*eP*	Pn	20 36 25.0	-1.6
PNIG				*i* S	Sn	20 36 41.5	-1.1

WEL 31 20:52:09.5±0.2, 37°.20S×176°.35E, h200km±2km, ML3.7/7, 5C-2D, Error ellipse: s-maj=3.3km s-min=2.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.22**	**151**	⇑PN	Pn	20 52 41.0	+0.2
URZ				SN	S	20 53 05.1	+0.1
URZ				AML	AML	20 53 06.7	
HAZ	**Te Kaha**	**1.27**	**116**	PN	Pn	20 52 41.3	0.0
HAZ				SN	S	20 53 05.8	+0.3
MWZ	**Matawai**	**1.47**	**141**	PN	Pn	20 52 43.1	+0.2
MWZ				SN	S	20 53 08.5	-0.2
MWZ				AML	AML	20 53 11.6	
MWZ				AML	AML	20 53 11.8	
MXZ	**Matakaoa Point**	**1.60**	**104**	⇑PN	Pn	20 52 44.4	+0.3
TKGZ	**Te Karaka**	**1.71**	**137**	PN	Pn	20 52 44.9	-0.3
TKGZ				SN	S	20 53 12.0	-0.5
PUZ	**Puketiti**	**1.75**	**120**	⇑PN	Pn	20 52 45.3	-0.2
WMGZ	**Waiomatatini S**	**1.75**	**111**	⇑PN	Pn	20 52 45.8	+0.2
WMGZ				SN	S	20 53 13.4	+0.3
SNGZ	**Shannon Statio**	**1.76**	**154**	PN	Pn	20 52 45.8	+0.1
RAHZ	**Arahi**	**1.81**	**161**	PN	Pn	20 52 46.5	+0.3
RIGZ	**Rimuhau**	**1.87**	**144**	⇑PN	Pn	20 52 46.9	+0.1
NMHZ	**Naumai**	**1.93**	**169**	PN	Pn	20 52 47.9	+0.5
CNGZ	**Carnagh Statio**	**1.95**	**132**	PN	Pn	20 52 47.9	+0.4
WHHZ	**Waihua**	**2.00**	**160**	⇓PN	Pn	20 52 48.0	0.0
KNZ	**Kokohu**	**2.10**	**151**	PN	Pn	20 52 48.5	-0.5
PRGZ	**Paritu Road**	**2.10**	**145**	PN	Pn	20 52 48.7	-0.4
ARHZ	**Aropaoanui**	**2.12**	**166**	⇓PN	Pn	20 52 49.2	0.0
KWHZ	**Kaweka Forest**	**2.22**	**179**	PN	Pn	20 52 50.1	-0.3
MCHZ	**McNeill Hill**	**2.26**	**173**	PN	Pn	20 52 50.6	-0.1
BHHZ	**Black Hill Sta**	**2.30**	**186**	PN	Pn	20 52 50.5	-0.7
KRHZ	**Kereru**	**2.44**	**180**	PN	Pn	20 52 52.0	-0.8
KAHZ	**Kahuranaki**	**2.62**	**171**	PN	Pn	20 52 54.0	-0.8
PNHZ	**Pukenui**	**2.71**	**182**	PN	Pn	20 52 54.6	-1.3
WPHZ	**Waipukurau**	**2.86**	**179**	PN	Pn	20 52 55.8	-1.7
TSZ	**Takapari Road**	**2.87**	**186**	PN	Pn	20 52 56.0	-1.6
DVHZ	**Dannevirke**	**3.10**	**183**	PN	Pn	20 52 58.2	-2.1
MRZ	**Mangatainoka R**	**3.51**	**190**	PN	Pn	20 53 02.7	-2.5
MRZ				SN	S	20 53 43.6	-4.8
OGWZ	**Otaki Gorge**	**3.73**	**194**	PN	Pn	20 53 05.6	-2.3
CAW	**Cannon Point**	**4.03**	**194**	PN	Pn	20 53 08.5	-3.1
THZ	**Tophouse**	**5.28**	**209**	SN	S	20 54 23.8	-4.9
KHZ	**Kahutara**	**5.64**	**202**	PN	Pn	20 53 28.4	-3.6

*IDC **31** 20:54:35.4±0.8, 13°.04N×120°.72E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.8/45, mbtmp4.0/8, MS3.2/6, Ms1 3.3/6, ms1mx2.9/34, Error ellipse: s-maj=24.2km s-min=10.6km az=91.0*
*ISCJB **31** 20:54:37.4±0.7, 13°.05N±0°.06×120°.60E±0°.07, h27km, mb4.0/8, MS3.2/6, Error ellipse: s-maj=10.9km s-min=8.2km az=35.1*
*MAN **31** 20:54:38, 13°.15N×120°.63E, h21km, mb4.6, ML3.5, MS3.4*
ISC 31 20:54:39.2±0.8, 13°.11N±0°.08×120°.79E±0°.08, h27km, n16, σ0s90/14, mb4.1/8, MS3.2/6, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.00**	**8**	Pg	**Pn**	**20 54 57.5**	**-0.1**
	459nm,0.3s,baz=216,slow=2.5,SNR=29						
TGY				Lg	Lg	20 55 10.4	
	2µm,0.3s,baz=144,slow=19,SNR=27						
TGY	**Tagaytay City**	**1.00**	**8**	⇓*eP*	**Pn**	**20 54 57.1**	**-0.4**
TGY				*i* S	**Sn**	**20 55 11.2**	**+0.4**
LQP	**Lukban**	**1.23**	**36**	*eP*	**Pn**	**20 55 01.0**	**+0.1**
GQP	**Guinayangan**	**1.79**	**64**	⇑*eP*	**Pb**	**20 55 10.2**	**-1.2**
GQP				*eS*	**Sb**	**20 55 35.1**	**+1.7**
CMAR	**Chiang Mai Arr**	**21.68**	**287**	P	**P**	**20 59 29.4**	**+1.4**
	3.2nm,0.8s,baz=101,slow=8.2,SNR=30						
GUMO	**Guam**	**23.43**	**86**	LR	LR	21 08 52.1	
	comp=Z,42nm,19.9s,baz=217,slow=36						
JAY	**Jayapura**	**25.13**	**127**	LR	LR	21 11 55.0	
	comp=Z,35nm,19.0s,baz=252,slow=41						
WRA	**Warramunga Arr**	**35.45**	**158**	P	**P**	**21 01 32.8**	**-0.6**
	1.4nm,0.4s,baz=339,slow=9.4,SNR=11						
SONM	**Songino Array**	**36.65**	**344**	P	**P**	**21 01 43.5**	**-0.1**
	0.7nm,0.7s,baz=163,slow=11,SNR=5.2						
SONM				LR	LR	21 18 11.9	
	comp=Z,39nm,18.2s,baz=220,slow=39						
ASAR	**Alice Springs**	**38.73**	**161**	P	**P**	**21 02 01.6**	**+0.3**
	2.6nm,0.5s,baz=337,slow=6.7,SNR=109						
MKAR	**Makanchi Array**	**46.56**	**324**	P	**P**	**21 03 04.5**	**-0.1**
	1.4nm,0.8s,baz=116,slow=8.2,SNR=8.7						
MKAR				LR	LR	21 24 06.6	
	comp=Z,34nm,18.3s,baz=64,slow=38						
STKA	**Stephens Creek**	**48.97**	**156**	P	**P**	**21 03 23.8**	**+0.3**
	1.6nm,0.6s,baz=6.7,slow=7.0,SNR=3.2						
ZALV	**Zalesovo Beam**	**49.62**	**333**	P	**P**	**21 03 26.7**	**-1.4**
	0.5nm,0.4s,baz=118,slow=5.6,SNR=3.9						
GEYT	**Alibeck**	**60.55**	**306**	P	**P**	**21 04 47.8**	**+0.3**
	2.3nm,0.9s,baz=68,slow=8.0,SNR=4.6						
ARCES	**ARCESS Array B**	**79.67**	**339**	LR	LR	21 45 40.9	
	comp=Z,28nm,18.4s,baz=184,slow=38						
NOA	**NORSAR Array B**	**87.82**	**333**	LR	LR	21 47 50.9	
	comp=Z,10nm,20.1s,baz=45,slow=36						

*ISCJB **31** 21:01:01.2±0.6, 36°.30N±0°.04×138°.92E±0°.10, h147km±4km, mb3.4/4, Error ellipse: s-maj=12.9km s-min=6.8km az=169.5*
*IDC **31** 21:01:01.0±1.7, 36°.39N×139°.04E, h143km±6km, mb3.1/4, mb1 3.3/6, mb1mx3.0/40, mbtmp3.7/6, Error ellipse: s-maj=46.3km s-min=10.6km az=64.0*
*JMA **31** 21:01:02.4±0.1, 36°.27N×139°.00E, h141km±1km, M3.3*
ISC 31 21:01:01.9±0.9, 36°30N±0°05×138°93E±0°07, h143km±6km, n18, σ0s82/28, mb3.4/4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRY	**Ryogami san**	**0.28**	**185**	P	**Pn**	**21 01 22.1**	**+0.5**
JRY				S	**Sn**	**21 01 36.7**	**+0.2**
JAG	**Ashikaga**	**0.44**	**73**	P	**Pn**	**21 01 22.3**	**+0.1**
JAG				S	**Sn**	**21 01 37.4**	**-0.1**
JKT	**Katashina**	**0.53**	**29**	P	**Pn**	**21 01 23.2**	**+0.5**
JKT				S	**Sn**	**21 01 39.1**	**+0.5**
MJAR	**Matsushiro Arr**	**0.63**	**293**	P	**Pn**	**21 01 23.2**	**0.0**
	111nm,0.3s,baz=96,slow=4.7,SNR=1507						
MJAR				S	**Sn**	**21 01 39.8**	**+0.4**
	15nm,0.3s,baz=190,slow=14,SNR=8.6						
MAT	**Matsushiro**	**0.63**	**293**	P	**Pn**	**21 01 23.6**	**+0.4**
MAT				S	**Sn**	**21 01 39.7**	**+0.3**
MAT	**Matsushiro**	**0.63**	**293**	P	**Pn**	**21 01 23.6**	**+0.4**
MAT				S	**Sn**	**21 01 39.5**	**+0.1**
JYN	**Shimob**	**0.86**	**201**	P	**Pn**	**21 01 25.2**	**+0.2**
JYN				S	**Sn**	**21 01 43.1**	**+0.7**
JOD2	**Odawara 2**	**1.04**	**173**	P	**Pn**	**21 01 26.3**	**-0.2**
JOD2				S	**Sn**	**21 01 45.0**	**-0.1**
JNS	**Sasagawa**	**1.55**	**11**	P	**Pn**	**21 01 32.4**	**+1.0**
JFT	**Otama**	**1.66**	**42**	P	**Pn**	**21 01 33.9**	**+1.2**
JSZ	**Suzu**	**1.70**	**313**	P	**Pn**	**21 01 33.8**	**+0.7**
JSD	**Sado**	**1.81**	**343**	P	**Pn**	**21 01 34.9**	**+0.5**
JSD				S	**Sn**	**21 02 00.0**	**+0.6**
JHJ	**Hachijo jima 2**	**3.25**	**167**	P	**Pn**	**21 01 53.4**	**+1.1**
	11nm,0.3s,baz=118,slow=23,SNR=9.7						
JHJ				S	**Sn**	**21 02 32.8**	**+1.7**
	18nm,0.3s,baz=110,slow=21,SNR=7.2						
JNU	**Nakatsue**	**7.35**	**247**	P	**Pn**	**21 02 48.2**	**+1.6**
	0.1nm,0.3s,baz=26,slow=9.3,SNR=3.7						
ZALV	**Zalesovo Beam**	**40.94**	**313**	P	**P**	**21 08 29.6**	**-0.5**
	0.6nm,0.5s,baz=93,slow=10,SNR=3.8						
MKAR	**Makanchi Array**	**42.82**	**302**	P	**P**	**21 08 45.2**	**-0.3**
	0.4nm,0.5s,baz=88,slow=8.6,SNR=6.1						
WRA	**Warramunga Arr**	**56.10**	**185**	P	**P**	**21 10 24.4**	**-1.9**
	0.4nm,0.4s,baz=2.3,slow=7.2,SNR=5.3						
ASAR	**Alice Springs**	**59.83**	**185**	P	**P**	**21 10 52.1**	**-0.2**
	0.3nm,0.8s,baz=357,slow=4.7,SNR=4.0						

*IDC **31** 21:02:05.0±1.3, 6°.85S×150°.86E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.8/28, mbtmp3.9/9, ML1.1/1, Error ellipse: s-maj=39.9km s-min=18.9km az=115.0*
*ISCJB **31** 21:02:08.7±1.1, 6°.9S±0°.1×150°.9E±0°.2, h40km, mb3.8/6, Error ellipse: s-maj=26.3km s-min=11.0km az=39.2*
ISC 31 21:02:10.6±1.3, 6°.9S±0°.2×150°.9E±0°.2, h40km, n10, σ0s97/11, mb3.9/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.46**	**236**	Pn	**Pn**	**21 03 15.8**	**0.0**
	0.7nm,0.3s,baz=105,slow=19,SNR=2.4						
PMG				Sn	**Sn**	**21 04 07.6**	**+1.1**
	3.8nm,0.3s,baz=15,slow=20,SNR=6.2						
SIJI	**Sorong**	**20.48**	**286**	P	**P**	**21 06 45.5**	**+0.2**
	3.3nm,0.7s,baz=78,slow=8.7,SNR=3.5						
WRA	**Warramunga Arr**	**20.65**	**230**	P	**P**	**21 06 46.1**	**-0.9**
	4.0nm,0.7s,baz=52,slow=10,SNR=19						
ASAR	**Alice Springs**	**23.34**	**229**	P	**P**	**21 07 15.1**	**-0.4**
	4.1nm,0.8s,baz=59,slow=8.9,SNR=34						
STKA	**Stephens Creek**	**26.33**	**198**	P	**P**	**21 07 42.2**	**-0.6**
	3.2nm,0.5s,baz=34,slow=13,SNR=6.8						
SONM	**Songino Array**	**67.11**	**329**	P	**P**	**21 12 59.0**	**-1.3**
	0.2nm,0.5s,baz=139,slow=6.8,SNR=2.9						
MKAR	**Makanchi Array**	**80.67**	**320**	P	**P**	**21 14 19.5**	**0.0**
	0.5nm,0.7s,baz=99,slow=7.9,SNR=4.1						
ZALV	**Zalesovo Beam**	**81.85**	**327**	P	**P**	**21 14 25.2**	**-0.4**
	0.5nm,0.5s,baz=69,slow=4.9,SNR=4.6						
ILAR	**Eielson Array**	**84.80**	**22**	P	**P**	**21 14 42.0**	**+1.4**
	1.3nm,0.7s,baz=254,slow=5.3,SNR=12						
TORD	**Torodi Ar. Bea**	**149.07**	**284**	PKPbc	**PKPbc**	**21 21 56.6**	**+1.0**
	1.3nm,0.6s,baz=52,slow=2.3,SNR=13						

*IDC **31** 21:06:30.3±1.9, 6°.91S×150°.90E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.5/26, mbtmp3.5/5, ML0.9/1, Error ell

9.9nm,1.0s,baz=180,slow=20,SNR=2.5
BKZ Black Stump Fm 25.50 164 *e*P **P** 22 43 12.3 -1.2
268nm,2.8s
STKA Stephens Creek 29.05 230 P **P** 22 43 45.5 +0.3
3.3nm,0.6s,baz=48,slow=11,SNR=6.9
STKA Stephens Creek 29.05 230 *e*P **P** 22 43 45.5 +0.3
6.4nm,1.5s
WRA Warramunga Arr 31.96 256 P **P** 22 44 10.1 -0.9
1.0nm,0.8s,baz=86,slow=9.1,SNR=3.9
AS12 Alice Springs 32.79 249 *e*P **P** 22 44 17.2 -1.1
AS12 *e*PcP **PcP** 22 46 59.7 -0.9
AS12 *e*ScP **ScP** 22 50 33.8 +0.9
ASAR Alice Springs 32.79 249 P **P** 22 44 17.2 -1.1
1.5nm,0.5s,baz=78,slow=9.0,SNR=22
ASAR PcP **PcP** 22 46 59.7 -0.9
0.6nm,0.7s,baz=67,slow=3.0,SNR=4.5
ASAR ScP **ScP** 22 50 33.8 +0.9
0.5nm,0.6s,baz=92,slow=3.5,SNR=7.3
BBOO Buckleboo 33.64 232 *e*P **P** 22 44 24.9 -0.6
103nm,1.5s
SIJI Sorong 38.34 288 P **P** 22 45 06.5 +0.7
3.3nm,0.5s,baz=104,slow=11,SNR=5.3
FORT Forrest 39.39 239 *e*P P 22 45 10.8 -3.5
28nm,0.9s
MCQ Macquarie Isla 40.12 188 *e*P **P** 22 45 19.1 -0.8
2µm,2.5s
FITZ Fitzroy Crossi 40.16 259 P **P** 22 45 20.2 -0.7
3.8nm,0.7s,baz=67,slow=9.8,SNR=8.2
MJAR Matsushiro Arr 58.08 332 P **P** 22 47 36.5 -0.4
3.7nm,0.6s,baz=170,slow=8.6,SNR=19
MAJO Matsushiro 58.09 332 *e*P **P** 22 47 37.4 +0.5
7.1nm,0.6s
MAT Matsushiro 58.09 332 P **P** 22 47 36.9 -0.1
JNU Nakatsue 59.11 324 P **P** 22 47 44.0 -0.2
3.6nm,0.6s,baz=163,slow=14,SNR=4.3
JNU Nakatsue 59.11 324 *e*P **P** 22 47 44.0 -0.2
34nm,1.4s
ASAJ Asahikawa 62.91 340 P **P** 22 48 10.3 +0.8
14nm,0.8s,baz=204,slow=10
ASAJ Asahikawa 62.91 340 *e*P **P** 22 48 10.3 +0.8
121nm,1.7s
KSRS Korea Array 63.93 326 P **P** 22 48 16.8 +0.5
0.5nm,0.4s,baz=142,slow=8.7,SNR=2.7
KS15 Wonju Array Si 63.94 326 *e*P **P** 22 48 16.8 +0.4
KSAR Wonju Array Be 63.94 326 P **P** 22 48 16.8 +0.4
USRK Ussuriysk Ar. 67.06 333 P **P** 22 48 37.9 +1.5
3.7nm,0.6s,baz=140,slow=6.3,SNR=7.8
PEA2 Petropavlovsk- 68.19 354 *e*P **P** 22 48 43.6 +0.3
PETK Petropavlovsk- 68.19 354 P **P** 22 48 43.6 +0.3
6.8nm,0.8s,baz=134,slow=11,SNR=5.6
PSI Prapat 70.04 279 *e*PcP **PcP** 22 49 17.3 +0.1
CM31 Chiang Mai Arr 75.15 294 *e*P **P** 22 49 27.1 +1.4
CMAR Chiang Mai Arr 75.15 294 P **P** 22 49 27.1 +1.4
0.8nm,0.3s,baz=128,slow=5.3,SNR=5.4
QSPA South Pole Qui 75.19 180 P **P** 22 49 23.9 -1.3
1.4nm,0.7s,baz=295,slow=1.0,SNR=8.9
YAK Yakutsk 82.19 343 *e*P **P** 22 50 03.4 +0.2
38nm,0.6s
ULN Ulaanbaatar 82.33 324 *e*P **P** 22 50 04.6 0.0
3.0nm,0.7s
SONA0 Songino Array 82.69 324 *e*P **P** 22 50 07.2 +0.8
SONM Songino Array 82.69 324 P **P** 22 50 07.2 +0.8
1.0nm,0.6s,baz=155,slow=7.0,SNR=9.4
CAST Castle Rocks 84.05 17 *e*P **P** 22 50 11.9 -1.0
3.6nm,0.8s
DPP Dos Picos Cty 86.33 55 *e*P P 22 50 21.4 -3.6
BAR Barrett 86.44 55 *e*P **P** 22 50 27.6 +2.1
ILAR Eielson Array 86.58 15 P **P** 22 50 23.8 -1.6
1.1nm,0.8s,baz=232,slow=5.6,SNR=10
ILB Eielson Array 86.58 18 *e*P **P** 22 50 23.8 -1.6
SNDA J Saunders Pla 86.78 54 *e*P **P** 22 50 28.5 +1.2
F10A Beach Ranch, E 90.67 42 *e*P **P** 22 50 46.5 +1.2
7.4nm,0.8s
MK32 Makanchi Array 97.40 316 *e*P Pdif 22 51 16.3 +0.2
MKAR Makanchi Array 97.40 316 P Pdif 22 51 16.3 +0.2
0.7nm,0.7s,baz=95,slow=6.1,SNR=5.9
ZALV Zalesovo Beam 97.58 324 P **P** 22 51 15.7 -1.0
0.8nm,0.7s,baz=98,slow=4.5,SNR=4.6
ZAA1 Zalesovo Array 97.58 324 *e*P **P** 22 51 15.7 -1.0
ARA0 ARCESS Array S 120.40 345 *e*PKPdf **PKPdf** 22 56 31.9 -0.8
ARCES ARCESS Array B 120.40 345 PKP **PKPdf** 22 56 31.9 -0.8
0.6nm,0.5s,baz=45,slow=1.9,SNR=7.9
FIA0 FINESS Array S 125.89 338 *e*PKPdf **PKPdf** 22 56 42.1 -1.2
FINES FINESS Array B 125.89 338 PKP **PKPdf** 22 56 42.1 -1.2
4.0nm,1.0s,baz=282,slow=9.8,SNR=4.1
BR101 Keskin Array S 132.71 311 *e*PKPdf **PKPdf** 22 56 56.9 -0.3
BRTR Keskin Array B 132.71 311 PKP **PKPdf** 22 56 56.9 -0.3
0.3nm,0.5s,baz=35,slow=5.3,SNR=2.4
FUORN Ofenpass-Fuorn 143.02 334 *e*PKPdf PKPbc 22 57 13.7 +0.5
TUE Stuetta 143.53 334 *e*PKPdf **PKPbc** 22 57 15.2 +0.7
SENIN Lac Senin/Sane 144.44 336 *e*PKPdf **PKPdf** 22 57 18.0 -0.5
KEST Kesra 151.41 321 PKPbc **PKPbc** 22 57 36.1 -0.1
1.0nm,0.9s,baz=108,slow=9.6,SNR=4.0
ESDC Sonseca Array 154.14 345 PKPab **PKPab** 22 57 56.1 0.0
0.8nm,0.7s,baz=25,slow=3.7,SNR=5.9
TOA0 Torodi Ar. Sit 166.07 265 *e*PKPdf **PKPdf** 22 57 47.3 -0.5
TOA0 *e*PKPab **PKPab** 22 58 48.8 -0.1
TORD Torodi Ar. Bea 166.07 265 PKP **PKPdf** 22 57 47.3 -0.5
0.2nm,0.6s,baz=140,slow=1.2,SNR=3.5
TORD PKPab **PKPab** 22 58 48.8 -0.1
0.4nm,0.8s,baz=111,slow=3.2,SNR=3.0

KRSC 31 22:42:59.1±0.9, 52°.33N×160°.27E, h25km±1.5km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.78**	**349**	*e*P	Pn	22 43 14.5	-0.1
SPN				*e*S	Sn	22 43 25.5	0.0
NLC	**Nalytchevo**	**1.01**	**327**	*e*S	Sn	22 43 31.9	+0.8
RUS	**Russkaya**	**1.08**	**276**	*e*P	Pn	22 43 18.7	+0.1
RUS				*e*S	Sb	22 43 32.6	-0.2
PET	**Petropavlovsk**	**1.20**	**306**	*e*P	Pn	22 43 20.5	+0.2
PET				*e*S	Sn	22 43 35.8	0.0
UGLR	**Uglovaya**	**1.24**	**316**	*e*P	Pb	22 43 21.9	-0.1
UGLR				*e*S	Sb	22 43 38.4	+0.7
SDLR	**Sedlovina**	**1.27**	**319**	*e*P	Pb	22 43 22.4	-0.1
SDLR				*e*S	Sb	22 43 39.2	+0.7
MTVR	**Mutnovka**	**1.29**	**278**	*e*P	Pb	22 43 22.4	-0.4
MTVR				*e*S	Sb	22 43 38.8	-0.3
SMAR	**Somma**	**1.29**	**317**	*e*P	Pb	22 43 22.8	-0.2
AVH	**Avacha**	**1.32**	**316**	*e*P	Pb	22 43 22.9	-0.4
KRER	**Koryakskii**	**1.34**	**317**	*e*P	Pb	22 43 24.0	+0.1
KOK	**Koryaka**	**1.38**	**315**	*e*P	Pb	22 43 24.0	-0.4
KRX	**Arik**	**1.42**	**317**	*e*P	Pb	22 43 24.9	-0.3
ASAK	**Asacha**	**1.45**	**273**	*e*P	Pb	22 43 25.3	-0.3
ASAK				*e*S	Sb	22 43 44.1	+0.4
GNL	**Ganaly**	**1.96**	**315**	*e*P	Pb	22 43 32.8	-1.5
GNL				*e*S	Sb	22 43 57.1	-1.3
APC	**Apacha**	**1.99**	**289**	*e*P	Pb	22 43 33.1	-1.4
APC				*e*S	Sb	22 43 57.5	-1.3
MKZ	**Mys Kozlova**	**2.39**	**21**	*e*S	Sn	22 44 06.7	+1.5
KZV	**Kizimen**	**2.79**	**0**	*e*P	Pn	22 43 44.7	+2.4
TUMR	**Tumrok**	**2.96**	**359**	*e*P	Pn	22 43 47.6	+3.0

*CSEM **31** 22:54:41.0, 38°.68N×29°.24W, h9km, ML2.1*
PDA 31 22:54:41.0±0.6, 38°.68N×29°.24W, h9km±4km, MD3.5, ML2.1, Error ellipse: s-maj=7.6km s-min=5.3km az=15.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.42**	**96**	*i* P	Pg	22 54 48.3	-1.0
PCED				*e*S	Sg	22 54 53.5	-1.4
PCED				A	A	22 54 54.2	
	58nm,0.2s						
CALA	**Caldeira**	**0.43**	**103**	*e*S	Sg	22 54 54.2	-1.1
CALA	**Caldeira**	**0.43**	**103**	*e*S	Sg	22 54 54.2	-1.1
PCAN	**Candelaria**	**0.63**	**110**	*e*P	Pg	22 54 51.2	-2.0
PCAN				*e*S	Sg	22 54 59.0	-2.4
PCAN				A	A	22 55 02.7	
	31nm,0.2s						
PCAN	**Candelaria**	**0.63**	**110**	*e*P	Pg	22 54 51.2	-2.0
PCAN				*e*S	Sg	22 54 59.0	-2.4
ROSA	**Rosais**	**0.78**	**87**	*e*P	Pg	22 54 53.5	-2.6
ROSA				*e*S	Sg	22 55 02.5	-3.8
ROSA				A	A	22 55 05.8	
	24nm,0.3s						
ROSA	**Rosais**	**0.78**	**87**	*e*P	Pg	22 54 53.5	-2.6
ROSA				*e*S	Sg	22 55 02.5	-3.8
PMAN	**Manadas**	**0.90**	**92**	*e*S	Sg	22 55 05.8	-4.3
PMAN				A	A	22 55 09.1	
	11nm,0.2s						
PMAN	**Manadas**	**0.90**	**92**	*e*S	Sg	22 55 05.8	-4.3

WEL 31 22:54:48.4±0.7, 36°.55S×176°.91E, h196km±10km, ML3.8/12, Error ellipse: s-maj=8.1km s-min=6.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.40**	**150**	PN	Pn	22 55 20.9	+0.1
MXZ	**Matakaoa Point**	**1.51**	**133**	PN	Pn	22 55 22.2	+0.4
URZ	**Urewera**	**1.72**	**175**	PN	Pn	22 55 23.8	0.0
WMGZ	**Waiomatatini S**	**1.75**	**137**	PN	Pn	22 55 24.0	-0.1
WMGZ				SN	Sn	22 55 51.0	-0.9
TWGZ	**Tauwhareparae**	**1.84**	**153**	PN	Pn	22 55 25.5	+0.4
TWGZ				SN	Sn	22 55 53.1	-0.5
MWZ	**Matawai**	**1.85**	**165**	PN	Pn	22 55 25.7	+0.6
MWZ				SN	Sn	22 55 53.2	-0.7
MWZ				AML	AML	22 55 54.4	
PUZ	**Puketiti**	**1.86**	**145**	PN	Pn	22 55 24.9	-0.4
PUZ				SN	Sn	22 55 52.3	-1.7
CNGZ	**Carnagh Statio**	**2.19**	**152**	PN	Pn	22 55 28.3	-0.4
RIGZ	**Rimuhau**	**2.26**	**163**	PN	Pn	22 55 29.0	-0.4
RIGZ				SN	Sn	22 55 59.9	-1.7
KNZ	**Kokohu**	**2.54**	**166**	PN	Pn	22 55 31.3	-1.2
BKZ	**Black Stump Fm**	**2.64**	**187**	PN	Pn	22 55 32.8	-0.9
BKZ				SN	Sn	22 56 08.5	-0.7
ARHZ	**Aropaoanui**	**2.71**	**179**	PN	Pn	22 55 33.5	-1.0
ARHZ				SN	Sn	22 56 11.0	+0.4
KWHZ	**Kaweka Forest**	**2.90**	**187**	PN	Pn	22 55 35.7	-1.0
FWVZ	**Far West T-bar**	**2.91**	**201**	PN	Pn	22 55 36.8	-0.2
BHHZ	**Black Hill Sta**	**3.01**	**193**	PN	Pn	22 55 36.7	-1.4
KRHZ	**Kereru**	**3.12**	**188**	PN	Pn	22 55 37.9	-1.4
KAHZ	**Kahuranaki**	**3.25**	**180**	PN	Pn	22 55 39.0	-1.7
PNHZ	**Pukenui**	**3.41**	**189**	PN	Pn	22 55 40.5	-2.2
PXZ	**Pawanui**	**3.48**	**181**	PN	Pn	22 55 41.1	-2.4
PXZ				SN	Sn	22 56 22.5	-4.4
WPHZ	**Waipukurau**	**3.53**	**186**	PN	Pn	22 55 41.2	-3.1
TSZ	**Takapari Road**	**3.59**	**192**	PN	Pn	22 55 42.7	-2.2
PRHZ	**Porangahau**	**3.72**	**183**	PN	Pn	22 55 44.0	-2.5
DVHZ	**Dannevirke**	**3.79**	**189**	PN	Pn	22 55 44.5	-2.9
ANWZ	**Angora Road**	**3.92**	**185**	PN	Pn	22 55 46.4	-2.6
POWZ	**Post Office Ro**	**3.94**	**193**	*e*PN	Pn	22 55 46.2	-3.1
PRWZ	**Pori Road**	**4.07**	**190**	*e*PN	Pn	22 55 47.7	-3.2
BFZ	**Birch Farm**	**4.16**	**187**	*e*PN	Pn	22 55 49.0	-3.1
MRZ	**Mangatainoka R**	**4.24**	**194**	PN	Pn	22 55 49.5	-3.5
MRZ				SN	Sn	22 56 38.7	-5.2
MRZ				AML	AML	22 56 58.4	
OGWZ	**Otaki Gorge**	**4.48**	**197**	PN	Pn	22 55 52.3	-3.7
KIW	**Kapiti Island**	**4.58**	**199**	*e*PN	Pn	22 55 54.0	-3.4
CAW	**Cannon Point**	**4.78**	**197**	PN	Pn	22 55 55.6	-4.2
TRWZ	**Traveller**	**4.94**	**191**	PN	Pn	22 55 58.9	-3.0
TUWZ	**Tuamarina**	**5.40**	**204**	PN	Pn	22 56 04.5	-3.3
THZ	**Tophouse**	**6.07**	**210**	*e*PN	Pn	22 56 12.4	-4.1
KHZ	**Kahutara**	**6.42**	**203**	*e*PN	Pn	22 56 16.4	-4.5
OXZ	**Oxford**	**7.74**	**207**	PN	Pn	22 56 32.4	-5.7
MQZ	**McQueen's Vall**	**7.86**	**203**	*e*PN	Pn	22 56 33.4	-6.3

*CSEM **31** 23:02:34.8, 37°.06N×24°.37W, h8km, ML2.4*
PDA 31 23:02:34.8±0.5, 37°.06N×24°.37W, h8km±5km, MD3.8, ML2.4, Error ellipse: s-maj=3.5km s-min=3.4km az=138.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.56**	**265**	*i* P	Pg	23 02 44.4	-1.3
PSMN				*e*S	Sg	23 02 51.1	-2.0
PSMN				A	A	23 02 54.7	
	45nm,0.2s						
PSMA	**Santa Maria**	**0.61**	**265**	*e*P	Pg	23 02 44.9	-1.7
PSMA				*e*S	Sg	23 02 52.5	-2.1
PSMA				A	A	23 02 57.9	
	43nm,0.2s						
GRON	**Grota Negra**	**1.17**	**308**	*e*P	Pb	23 02 51.4	-5.9
GRON				*e*S	Sg	23 03 03.9	-8.7
GRON				A	A	23 03 06.3	
	33nm,0.2s						
PDA	**Ponta Delgada**	**1.24**	**304**	*e*P	Pn	23 02 53.5	-4.9
PDA				*e*S	Sb	23 03 07.8	-6.8
PDA				A	A	23 03 08.0	
	47nm,0.1s						
PDA	**Ponta Delgada**	**1.24**	**304**	*e*P	Pn	23 02 53.5	-4.9
PDA				*e*S	Sb	23 03 07.8	-6.8
PSET	**Sete Cidades**	**1.32**	**306**	*e*P	Pn	23 02 54.8	-4.8
PSET				*e*S	Sb	23 03 09.9	-7.1
PSET				A	A	23 03 12.6	
	67nm,0.3s						
PSET	**Sete Cidades**	**1.32**	**306**	*e*P	Pn	23 02 54.8	-4.8
PSET				*e*S	Sb	23 03 09.9	-7.1

*IDC **31** 23:09:07.0±0.9, 13°.06N×120°.77E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/39, mbtmp3.6/7, Error ellipse: s-maj=26.7km s-min=10.9km az=92.0*
*ISCJB **31** 23:09:08.7±0.8, 13°.04N±0°.07×120°.8E±0°.2, h25km, mb3.6/7, Error ellipse: s-maj=21.5km s-min=9.2km az=5.7*
*MAN **31** 23:09:10, 13°.13N×120°.73E, h22km, mb4.5, ML3.4, MS3.3*
ISC 31 23:09:10.4±1.1, 13°.12N±0°.09×120°.9E±0°.2, h25km, n10, σ0.80/10, mb3.6/7, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.97**	**2**	Pg	**Pn**	**23 09 28.5**	**0.0**
	114nm,0.3s,baz=223,slow=2.4,SNR=8.5						
TGY				Lg	Lg	23 09 41.3	
	515nm,0.3s,baz=127,slow=13,SNR=16						
TGY	**Tagaytay City**	**0.97**	**2**	*e*P	**Pb**	**23 09 28.8**	**+0.1**
TGY				*i* S	**Sn**	**23 09 42.4**	**+0.8**
LQP	**Lukban**	**1.17**	**32**	*e*P	Pb	23 09 41.9	+10
CMAR	**Chiang Mai Arr**	**21.77**	**287**	P	**P**	**23 14 01.4**	**+0.9**
	1.4nm,0.8s,baz=103,slow=8.7,SNR=9.5						
WRA	**Warramunga Arr**	**35.42**	**158**	P	**P**	**23 16 04.6**	**-0.1**
	0.4nm,0.5s,baz=334,slow=10,SNR=3.1						
SONM	**Songino Array**	**36.66**	**344**	P	**P**	**23 16 14.4**	**-0.7**
	0.3nm,0.6s,baz=158,slow=9.3,SNR=2.5						
ASAR	**Alice Springs**	**38.72**	**161**	P	**P**	**23 16 33.1**	**+0.5**
	0.7nm,0.4s,baz=337,slow=6.6,SNR=35						
MKAR	**Makanchi Array**	**46.61**	**324**	P	**P**	**23 17 35.0**	**-1.5**
	0.5nm,0.8s,baz=134,slow=8.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**49.65**	**333**	P	**P**	**23 17 59.7**	**-0.2**
	0.3nm,0.4s,baz=150,slow=6.7,SNR=2.3						
GEYT	**Alibeck**	**60.63**	**306**	P	**P**	**23 19 20.0**	**+0.5**
	1.1nm,0.8s,baz=90,slow=2.9,SNR=3.5						

*IDC **31** 23:12:50.3±0.5, 6°.99S×150°.70E, h0km, mb4.8/27, mb1 4.9/27, mb1mx4.9/28, mbtmp4.8/27, MS3.6/18, Ms1 3.6/18, ms1mx3.5/31, Error ellipse: s-maj=16.9km s-min=11.0km az=102.0*
*DJA **31** 23:12:54.9±0.4, 7°.5±4°×15°.1E±°, h10km, M5.3/25, mb5.1/25, mB5.5/8, MLv5.8/1, Mw(mB)5.0/8*
*ISCJB **31** 23:12:56.0±0.2, 7°.07S±0°.03×150°.67E±0°.04, h50km, mb5.0/96, MS3.6/15, Error ellipse: s-maj=5.3km s-min=4.2km az=26.7*
*MOS **31** 23:12:56.4±0.9, 6°.83S×150°.51E, h45km, mb5.1/25, Error ellipse: s-maj=10.3km s-min=7.7km az=92.8*
*BJI **31** 23:12:56.9, 6°.86S×150°.89E, h65km, mb5.0/41, mB5.1/29, Ms4.9/23, Ms7 4.4/22*
*NEIC **31** 23:12:56.9±1.2, 7°.00S×150°.65E, h43km±11km, mb5.2/57, Error ellipse: s-maj=6.5km s-min=5.4km az=100.0*
ISC 31 23:12:58.2±0.5, 7°.05S±0°.05×150°.79E±0°.06, h57km±4km, h57km:pP-P, n285, σ1.28/305, mb5.1/104, MS3.6/16, 12C-11D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.16**	**26**	P	Pn	23 13 39.4	-6.1
	baz=3.0,SNR=49						
PMG	**Port Moresby**	**4.29**	**237**	Pn	**Pn**	**23 14 00.0**	**-0.9**
	19nm,0.3s,baz=21,slow=6.6,SNR=28						
PMG				Sn	**Sn**	**23 14 51.9**	**+2.2**
	113nm,0.3s,baz=316,slow=23,SNR=14						
PMG				LR	LR	23 15 13.4	
	comp=Z,197nm,19.2s,baz=34,slow=34						
PMG	**Port Moresby**	**4.29**	**237**	*e*P	**Pn**	**23 14 01.5**	**+0.6**
PMG				pmax	pmax		
	comp=Z,474nm,1.0s						
HNR	**Honiara**	**9.37**	**105**	LR	LR	23 18 26.3	
	comp=Z,185nm,19.7s,baz=216,slow=36						
JAY	**Jayapura**	**11.01**	**294**	LR	LR	23 20 25.5	
	comp=Z,388nm,18.1s,baz=222,slow=42						
MTSU	**Mount Surprise**	**12.69**	**209**	P	**Pn**	**23 15 54.2**	**-1.9**
	baz=13						
QIS	**Mount Isa**	**17.25**	**218**	P	**Pn**	**23 16 53.9**	**-1.4**
	baz=18,SNR=21						
EIDS	**Eidsvold**	**18.22**	**179**	P	**P**	**23 17 04.8**	**-1.9**
	baz=18,SNR=4.3						
EIDS	**Eidsvold**	**18.22**	**179**	*e*P	**P**	**23 17 06.6**	**0.0**
	comp=Z,19nm,1.1s						
FAKI	**Fak Fak**	**18.92**	**282**	P	**P**	**23 17 13.8**	**-0.7**
	comp=Z,55nm,1.5s,comp=Z,725nm						
RMQ	**Roma**	**19.42**	**185**	P	**P**	**23 17 19.5**	**-0.4**
	baz=20						
MTN	**Manton Dam**	**20.19**	**252**	P	**P**	**23 17 28.1**	**-0.2**
	baz=20,SNR=6.9						
MTN	**Manton Dam**	**20.19**	**252**	*e*P	**P**	**23 17 28.4**	**0.0**
	comp=Z,34nm,0.8s						
QLP	**Quilpie**	**20.40**	**197**	P	**P**	**23 17 29.6**	**-0.9**
	baz=21,SNR=22						
SIJI	**Sorong**	**20.41**	**287**	P	**P**	**23 17 28.1**	**-2.7**
	comp=Z,19nm,0.7s,baz=93,slow=11,SNR=19						
SWI	**Sorong**	**20.42**	**287**	P	**P**	**23 17 30.2**	**-0.6**
	comp=Z,45nm,0.8s						
WRAB	**Tennant Creek**	**20.45**	**230**	P	**P**	**23 17 30.3**	**-0.9**
	comp=Z,290nm,0.6s,SNR=27						
WRAB	**Tennant Creek**	**20.45**	**230**	*e*P	**P**	**23 17 30.3**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,34nm,0.8s						
WRAB	**Tennant Creek**	**20.45**	**230**	*e*P	**P**	**23 17 30.2**	**-0.9**
	comp=Z,34nm,0.8s						
WRA	**Warramunga Arr**	**20.46**	**230**	P	**P**	**23 17 30.0**	**-1.3**
	comp=Z,25nm,0.6s,baz=57,slow=11,SNR=32						
WRA				S	**S**	**23 21 14.8**	**-2.6**
	comp=Z,1.0nm,0.3s,baz=58,slow=17,SNR=4.2						
BNDI	**Bandanaira**	**20.93**	**276**	P	**P**	**23 17 34.5**	**-1.8**
	comp=Z,271nm,1.6s,comp=Z,3µm						
DZM	**Mont Dzumac**	**21.24**	**136**	P	**P**	**23 17 39.4**	**-0.3**
	comp=Z,18nm,1.0s,baz=270,slow=24,SNR=11						
GUMO	**Guam**	**21.33**	**344**	P	**P**	**23 17 38.4**	**-2.2**
	comp=Z,72nm,0.5s,baz=160,slow=12,SNR=12						
GUMO				LR	LR	23 24 20.0	
	comp=Z,193nm,21.4s,baz=138,slow=32						
AS12	**Alice Springs**	**23.15**	**223**	*e*P	**P**	**23 17 58.8**	**-1.1**
AS12				*e*S	**S**	**23 22 11.6**	**+4.4**
ASAR	**Alice Springs**	**23.15**	**223**	P	**P**	**23 17 58.8**	**-1.1**
	comp=Z,13nm,0.7s,baz=54,slow=9.8,SNR=144						
ASAR				S	**S**	**23 22 11.6**	**+4.4**
	comp=Z,4.2nm,0.9s,baz=42,slow=21,SNR=8.7						
ASAR				LR	LR	23 26 53.1	
	comp=Z,157nm,19.9s,baz=46,slow=36						
ARMA	**Armidale**	**23.26**	**178**	P	**P**	**23 17 58.9**	**-2.0**
	baz=23,SNR=7.1						
ARMA	**Armidale**	**23.26**	**178**	*e*P	**P**	**23 18 00.1**	**-0.8**
	comp=Z,61nm,1.1s						
NLAI	**Namlea**	**23.89**	**278**	P	**P**	**23 18 08.3**	**+1.5**
	comp=Z,44nm,0.6s						
LBMI	**Labuha**	**24.08**	**284**	P	**P**	**23 18 08.4**	**-0.2**
	comp=Z,94nm,0.9s,comp=Z,1µm						
SANI	**Sanana**	**25.21**	**280**	P	**P**	**23 18 19.4**	**+0.6**
	comp=Z,48nm,1.0s,comp=Z,728nm						
STKA	**Stephens Creek**	**26.15**	**198**	P	**P**	**23 18 26.4**	**-0.7**
	comp=Z,13nm,0.6s,baz=22,slow=9.2,SNR=19						
STKA				LR	LR	23 28 52.7	
	comp=Z,302nm,19.8s,baz=18,slow=37						
STKA	**Stephens Creek**	**26.15**	**198**	*e*P	**P**	**23 18 26.6**	**-0.6**
STKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
STKA	**Stephens Creek**	**26.15**	**198**	*e*P	**P**	**23 18 26.6**	**-0.6**
	comp=Z,3.4nm,0.8s						
SOEI	**Soe**	**26.37**	**262**	P	P	23 18 37.1	+7.6
YNG	**Young**	**27.20**	**184**	P	**P**	**23 18 36.4**	**-0.2**
	baz=27						
WRKA	**Warakurna**	**27.97**	**228**	P	**P**	**23 18 43.5**	**-0.2**
	baz=28						
CNB	**Canberra Magne**	**28.16**	**182**	P	**P**	**23 18 45.0**	**-0.2**
	baz=28						
CAN	**Canberra**	**28.18**	**183**	P	**P**	**23 18 44.2**	**-1.2**
	baz=28						
MMRI	**Maumere**	**28.32**	**265**	P	P	23 19 04.4	+18
HTT	**Hallett**	**28.46**	**201**	P	**P**	**23 18 47.9**	**0.0**
	baz=29						
WSI	**Waingapu**	**30.27**	**263**	P	P	23 19 13.7	+10
ARPS	**Mount Arapiles**	**30.69**	**194**	P	**P**	**23 19 07.0**	**-0.5**
	baz=31,SNR=6.1						
TTSI	**Tana Toraja**	**31.10**	**276**	P	P	23 19 21.7	+10
PCI	**Palu**	**31.46**	**280**	P	P	23 19 19.2	+4.6
	comp=Z,45nm,0.9s						
MPSI	**Mapaga**	**31.68**	**282**	P	**P**	**23 19 15.1**	**-1.4**
	comp=Z,13nm,0.9s,comp=Z,1µm						
FORT	**Forrest**	**31.79**	**219**	P	**P**	**23 19 17.6**	**+0.2**
	baz=32,SNR=7.9						
FORT	**Forrest**	**31.79**	**219**	*e*P	**P**	**23 19 17.5**	**+0.2**
	comp=Z,58nm,0.9s						
JCJ	**Chichijima**	**34.95**	**347**	LR	LR	23 33 47.1	
	comp=Z,57nm,18.4s,baz=138,slow=36						
KMBL	**Kambalda**	**36.25**	**224**	P	**P**	**23 19 56.6**	**+0.5**
	baz=36						
MEEK	**Meekatharra**	**36.26**	**234**	P	**P**	**23 19 56.2**	**0.0**
	baz=36						
PWJI	**Pagerwojo**	**38.65**	**266**	P	**P**	**23 20 18.3**	**+1.8**
	comp=Z,66nm,0.9s						
MORW	**Morawa**	**39.38**	**232**	P	**P**	**23 20 22.6**	**+0.1**
	baz=40,SNR=4.5						
RPZ	**Rata Peaks**	**40.61**	**157**	LR	LR	23 35 13.7	
	comp=Z,275nm,18.9s,baz=266,slow=33						
KSM	**Kuching**	**41.27**	**280**	P	**P**	**23 20 39.7**	**+1.4**
	baz=42,SNR=6.9						
LEM	**Lembang**	**42.84**	**268**	P	**P**	**23 20 50.7**	**-0.6**
	comp=Z,22nm,0.6s,baz=95,slow=11,SNR=5.2						
JNU	**Nakatsue**	**44.21**	**336**	P	**P**	**23 21 00.5**	**-1.3**
	comp=Z,32nm,0.8s,baz=142,slow=2.2,S

baz=53,SNR=3.5
USRK Ussuriysk Ar. 53.77 343 P **P** **23 22 14.8 +0.1**
comp=Z,2.8nm,0.6s,baz=201,slow=10.0,SNR=6.8
USRK LR LR 23 42 14.5
comp=Z,38nm,20.6s,baz=142,slow=33
GYA Guiyang 54.22 310 P **P** **23 22 21.0 +2.4**
GYA pP pP 23 22 38.8 +5.0
GYA sP sP 23 22 47.5 +7.1
GYA PP **PP** **23 24 25.5 +4.6**
GYA ScP **ScP** **23 27 15.0 -0.9**
GYA S **S** **23 29 50.8 -1.2**
GYA sS sS 23 30 23.3 +5.5
GYA SS **SS** **23 33 32.5 -2.3**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,130nm,5.0s
GYA LN
comp=Z,520nm,18.1s
GYA LE
comp=Z,490nm,19.0s
GYA LZ
comp=Z,550nm,18.4s
LOEI Loei 54.67 297 P **P** **23 22 18.8 -3.0**
comp=Z,12nm,0.8s
UTTA Uttaradit 55.38 297 P **P** **23 22 26.9 0.0**
comp=Z,4.4nm,0.8s
CRAI Chiangrai 56.49 300 P **P** **23 22 31.8 -3.1**
comp=Z,113nm,1.1s
KMI Kunming 56.63 306 P **P** **23 22 36.3 +0.2**
KMI pP pP 23 22 57.5 +6.1
KMI sP sP 23 23 06.0 +8.0
KMI S **S** **23 30 23.5 -1.0**
KMI sS sS 23 30 56.0 +5.6
KMI PMZ
comp=Z,10.0nm,1.2s
KMI PMZ
comp=Z,80nm,5.5s
KMI LN
comp=Z,74nm,13.5s
KMI LE
comp=Z,61nm,11.7s
KMI LZ
comp=Z,78nm,15.5s
BJI Beijing 56.70 329 P **P** **23 22 37.5 +1.5**
BJI PMZ
comp=Z,6.0nm,1.4s
BJI PMZ
comp=Z,100nm,3.9s
BJI LN
comp=Z,81nm,12.5s
BJI LE
comp=Z,92nm,17.5s
BJI LZ
comp=Z,99nm,35.9s
XAN Xi'an 56.92 319 P **P** **23 22 36.0 -1.7**
XAN PMZ
comp=Z,7.0nm,0.9s
XAN PMZ
comp=Z,38nm,8.2s
CM31 Chiang Mai Arr 57.07 297 *e*P **P** **23 22 39.2 +0.2**
CMAR Chiang Mai Arr 57.07 297 P **P** **23 22 39.2 +0.2**
comp=Z,3.2nm,0.7s,baz=124,slow=5.9,SNR=23
CMMT Chiang Mai 57.19 298 P **P** **23 22 42.1 +2.2**
comp=Z,11nm,1.3s
CHTO Chiang Mai 57.20 298 P **P** **23 22 42.2 +2.3**
comp=Z,39nm,1.3s
CHTO Chiang Mai 57.20 298 *e*P **P** **23 22 38.8 -1.1**
CHTO pmax pmax
comp=Z,5.0nm,1.0s
CHTO Chiang Mai 57.20 298 *e*P **P** **23 22 38.8 -1.1**
comp=Z,5.2nm,1.0s
CD2 Chengdu 58.73 313 *e*P **P** **23 22 50.0 -0.4**
CD2 pP **pP** **23 23 08.0 +2.1**
CD2 PcP **PcP** **23 23 38.8 -1.0**
CD2 PP **PP** **23 25 00.5 -0.5**
CD2 PcS **PcS** **23 27 40.8 -0.9**
CD2 S **S** **23 30 50.5 -0.9**
CD2 sS sS 23 31 21.8 +4.4
CD2 SS **SS** **23 34 46.0 +0.5**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,120nm,5.4s
HHC Hu-ho-hao-te 59.75 326 P **P** **23 22 59.5 +2.1**
HHC PP **PP** **23 25 14.3 +4.4**
HHC S **S** **23 31 03.8 -0.6**
HHC SS **SS** **23 35 02.3 +1.0**
HHC PMZ
comp=Z,24nm,1.2s
HHC LN
comp=Z,100nm,15.1s
HHC LE
comp=Z,73nm,15.9s
HHC LZ
comp=Z,53nm,15.1s
PEA2 Petropavlovsk- 60.22 5 *e*P **P** **23 22 59.2 -1.0**
PETK Petropavlovsk- 60.22 5 P **P** **23 22 59.2 -1.0**
comp=Z,3.9nm,0.5s,baz=187,slow=10.0,SNR=4.3
PETK LR LR 23 45 17.3
comp=Z,40nm,21.4s,baz=185,slow=32
PET Petropavlovsk 60.22 5 *i* P **P** **23 22 59.7 -0.5**
PET pmax pmax
comp=Z,10.0nm,1.2s
LZH Lanzhou 61.49 318 *e*P **P** **23 23 09.8 +0.4**
LZH pP **pP** **23 23 28.0 +3.0**
LZH sP sP 23 23 36.5 +5.1
LZH PP **PP** **23 25 27.5 +2.0**
LZH *e*S **S** **23 31 25.0 -1.9**
LZH sS **sS** **23 31 56.0 +2.9**
LZH *e*SS **SS** **23 35 29.0 +0.1**
LZH PMZ
comp=Z,35nm,1.5s
LZH PMZ
comp=Z,120nm,7.5s
LZH LN
comp=Z,710nm,14.6s
LZH LE
comp=Z,520nm,15.0s
LZH LZ
comp=Z,950nm,19.1s
HIA Hailar 62.30 338 *e*P **P** **23 23 13.1 -1.3**
HIA pmax pmax
comp=Z,19nm,0.6s
HIA Hailar 62.30 338 *e*P **P** **23 23 13.1 -1.3**
comp=Z,19nm,0.6s
GTA Gaotai 65.98 319 *e*P **P** **23 23 38.5 -0.4**
GTA pP **pP** **23 23 54.8 +0.2**
GTA sP **sP** **23 24 02.5 +1.5**
GTA PMZ
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 66.88 330 *e*P **P** **23 23 44.3 -0.2**
ULN pmax pmax
comp=Z,6.0nm,0.7s
ULN Ulaanbaatar 66.88 330 *e*P **P** **23 23 44.3 -0.2**
comp=Z,6.4nm,0.7s
SONA0 Songino Array 67.19 329 *e*P **P** **23 23 46.1 -0.3**
SONM Songino Array 67.19 329 P **P** **23 23 46.1 -0.3**
comp=Z,4.9nm,0.5s,baz=155,slow=4.4,SNR=38
SONM LR LR 23 52 58.1
comp=Z,46nm,21.6s,baz=102,slow=36
LSA Lhasa 67.89 306 *e*P **P** **23 23 52.0 +0.3**
LSA pmax pmax
comp=Z,7.0nm,0.9s
LSA Lhasa 67.89 306 *e*P **P** **23 23 52.0 +0.3**
comp=Z,7.0nm,0.9s
SEY Seymchan 69.79 1⇑*i*P **P** **23 24 01.8 -0.4**
TAPN Taplejung 69.88 302 *e*P **P** **23 24 03.5 -0.3**
comp=Z,38nm,0.9s
ODAN Odare 69.99 302 *e*P **P** **23 24 04.0 -0.4**
comp=Z,38nm,0.8s
ZAK Zakamensk 70.39 330 *e*P **P** **23 24 05.6 -0.7**
ZAK pmax pmax
comp=Z,7.0nm,0.9s
UNV Unalaska Valle 70.50 25 *e*P **P** **23 24 06.8 +0.2**
comp=Z,54nm,1.3s
CHLP Challavanipeta 70.51 292 *e*P **P** **23 24 07.2 -0.2**
CHLP IAmb IAmb 23 24 09.8
comp=Z,47nm,1.1s
VNDA Vanda 70.67 177 P **P** **23 24 08.0 +0.6**
comp=Z,1.3nm,0.8s,baz=313,slow=7.7,SNR=7.3
VNDA LR LR 23 50 54.3
comp=Z,46nm,20.6s,baz=2.0,slow=32
VNDA Vanda 70.67 177 *e*P **P** **23 24 09.1 +1.7**
VNDA pmax pmax
comp=Z,52nm,2.8s
VNDA Vanda 70.67 177 *e*P **P** **23 24 09.1 +1.7**
comp=Z,52nm,2.8s
RAMN Ramite 70.68 302 *e*P **P** **23 24 07.9 -0.8**
comp=Z,25nm,1.0s
YAK Yakutsk 70.79 350 *e*P **P** **23 24 07.9 -0.4**
YAK pmax pmax
comp=Z,12nm,1.3s
TLY Talaya 71.04 331 *i* P **P** **23 24 10.3 +0.2**
TLY pmax pmax
comp=Z,4.0nm,1.0s
TLY Talaya 71.04 331 *e*P **P** **23 24 10.1 0.0**
comp=Z,3.1nm,0.8s
GUN Gumba 71.60 302 *e*P **P** **23 24 15.0 +0.7**
PKI Pulchoki 71.89 302 *e*P **P** **23 24 16.3 +0.2**
PKIN Phulchoki 71.90 302 *e*P **P** **23 24 16.3 +0.2**
KKN Kakani 72.06 302 *e*P **P** **23 24 17.5 +0.5**
DMN Daman 72.15 302 *e*P **P** **23 24 17.3 -0.3**
comp=Z,35nm,0.8s
PVM Polavaram 72.46 291 *e*P **P** **23 24 18.6 -0.6**
PVM IAmb IAmb 23 24 20.1
comp=Z,25nm,0.9s
GKN Gorkha 72.67 302 *e*P **P** **23 24 20.2 -0.3**
comp=Z,14nm,0.6s
KOLN Koldanda 73.47 302 *e*P **P** **23 24 25.3 0.0**
ADKI Addanki 73.69 289 *e*P **P** **23 24 26.2 -0.3**
ADKI IAmb IAmb 23 24 27.6
comp=Z,34nm,0.9s
NJS Nagarjunasagar 74.47 289 *e*P **P** **23 24 30.7 -0.4**
NJS IAmb IAmb 23 24 33.7
comp=Z,24nm,1.1s
RCLA Racherla 74.57 288 *e*P **P** **23 24 31.0 -0.7**
SRLM Srisailam 74.76 289 *e*P **P** **23 24 32.4 -0.4**
SRLM IAmb IAmb 23 24 33.4
comp=Z,39nm,0.7s
RPR Rampur 74.98 292 *e*P **P** **23 24 33.3 -0.7**
RPR IAmb IAmb 23 24 34.4
comp=Z,31nm,0.8s
HYB Hyderabad 75.35 290 *i* P **P** **23 24 35.0 -1.2**
HYBB Hyderabad (bro 75.36 290 *e*P **P** **23 24 35.2 -1.1**
HYBB IAmb IAmb 23 24 36.6
comp=Z,24nm,0.8s
CHGN Chignik 75.62 26 *e*P **P** **23 24 36.8 0.0**
SRSP Sriramsagar 75.87 291 *e*P **P** **23 24 38.5 -0.6**
SRSP IAmb IAmb 23 24 39.6
comp=Z,31nm,0.8s
WMQ Urumqi 76.06 318 P **P** **23 24 39.8 0.0**
WMQ pP pP 23 24 59.8 +4.0
WMQ sP sP 23 25 08.8 +6.6
WMQ PMZ
comp=Z,11nm,0.9s
WMQ PMZ
comp=Z,170nm,4.1s
WMQ LN
comp=Z,34nm,18.8s
WMQ LE
comp=Z,34nm,19.5s
WMQ LZ
comp=Z,37nm,24.0s
URV Uravakonda 76.07 287 *e*P **P** **23 24 39.1 -1.2**
URV IAmb IAmb 23 24 40.7
comp=Z,20nm,1.2s
KLRI Killari 77.31 290 *e*P **P** **23 24 46.1 -1.2**
KLRI IAmb IAmb 23 24 47.7
comp=Z,36nm,1.1s
KDAK Kodiak Island 79.08 27 *i* P **P** **23 24 56.8 +0.6**
SVW2 Sparrevohn 79.67 23 *e*P **P** **23 25 00.8 +1.5**
comp=Z,12nm,0.8s
RSO Redoubt South 80.46 25 *e*P **P** **23 25 03.4 -0.5**
MK32 Makanchi Array 80.72 320 *e*P **P** **23 25 05.0 -0.4**
MKAR Makanchi Array 80.72 320 P **P** **23 25 05.0 -0.4**
comp=Z,3.8nm,0.8s,baz=106,slow=6.6,SNR=27
MKAR LR LR 00 01 04.0
comp=Z,31nm,19.3s,baz=80,slow=36
MKAR Makanchi Array 80.72 320 P **P** **23 25 05.0 -0.4**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR MLR MLR
comp=Z,31nm,19.3s
MKAR Makanchi Array 80.72 320 ⇑P **P** **23 25 05.2 -0.1**
baz=81
MKAR Makanchi Array 80.72 320 *e*P **P** **23 25 05.3 -0.1**
BRLK Bradley Lake 80.88 26 *e*P **P** **23 25 06.6 +0.7**
comp=Z,30nm,0.8s
SEW Seward 81.67 26 *e*P **P** **23 25 11.0 +1.0**
comp=Z,30nm,0.8s
SUA Susitna One 81.82 24 *e*P **P** **23 25 10.9 -0.1**
comp=Z,17nm,0.8s
ZALV Zalesovo Beam 81.92 327 P **P** **23 25 10.2 -1.3**
comp=Z,8.2nm,0.6s,baz=112,slow=5.5,SNR=31
ZALV LR LR 00 01 24.6
comp=Z,30nm,19.3s,baz=74,slow=36
ZAA1 Zalesovo Array 81.92 327 *e*P **P** **23 25 10.2 -1.3**
PPLA Purkeypile 82.01 23 *e*P **P** **23 25 12.7 +0.7**
comp=Z,54nm,1.7s
RC01 Rabbit Creek A 82.05 25 *e*P **P** **23 25 12.3 +0.3**
comp=Z,34nm,1.1s
CAST Castle Rocks 82.33 22 *e*P **P** **23 25 13.5 0.0**
comp=Z,22nm,0.9s
CAST *e*PP PP 23 28 16.2 -6.8
PMR Palmer 82.55 25 *e*P **P** **23 25 15.0 +0.4**
PMR pmax pmax
comp=Z,20nm,0.8s
PMR Palmer 82.55 25 *e*P **P** **23 25 15.0 +0.4**
comp=Z,20nm,0.8s
MAW Mawson 82.73 203 P **P** **23 25 16.2 +0.6**
comp=Z,3.6nm,0.9s,baz=86,slow=4.8,SNR=5.1
MAW Mawson 82.73 203 *e*P **P** **23 25 16.4 +0.9**
MAW pmax pmax
comp=Z,2.0nm,1.0s
MAW Mawson 82.73 203 ⇓P **P** **23 25 15.6 +0.1**
baz=83
MAW Mawson 82.73 203 *e*P **P** **23 25 16.4 +0.9**
comp=Z,1.9nm,1.0s
QSPA South Pole Qui 82.92 180 *e*P **P** **23 25 17.0 +0.2**
comp=Z,6.6nm,0.9s
SML Sawmill 82.99 25 *e*P **P** **23 25 17.6 +0.6**
SML pmax pmax
comp=Z,11nm,0.8s
SML Sawmill 82.99 25 *e*P **P** **23 25 17.6 +0.6**
comp=Z,11nm,0.8s
TRF Thorofare Moun 83.04 23 *e*P **P** **23 25 17.1 -0.3**
comp=Z,14nm,0.6s
BPAW Bear Paw Mtn. 83.11 22 *e*P **P** **23 25 17.2 -0.4**
comp=Z,2.8nm,0.9s
NVS Novosibirsk 83.12 327 *e*P **P** **23 25 16.6 -1.1**
IM04 Indian Mountai 83.15 20 *e*P **P** **23 25 18.2 +0.5**
SCM Sheep Creek Mo 83.42 25 *e*P **P** **23 25 20.2 +1.0**
SCM pmax pmax
comp=Z,25nm,0.8s
SCM Sheep Creek Mo 83.42 25 *e*P **P** **23 25 20.2 +1.0**
comp=Z,25nm,0.8s
RND Reindeer 83.57 23 *e*P **P** **23 25 19.7 -0.3**
RND pmax pmax
comp=Z,36nm,0.7s
RND Reindeer 83.57 23 *e*P **P** **23 25 19.7 -0.3**
comp=Z,36nm,0.7s
MLY Manley 83.69 21 *e*P **P** **23 25 21.0 +0.4**
comp=Z,23nm,0.7s
MCK McKinley 83.70 23 *e*P **P** **23 25 20.4 -0.2**
MCK pmax pmax
comp=Z,45nm,0.8s
MCK McKinley 83.70 23 *e*P **P** **23 25 20.4 -0.2**
comp=Z,45nm,0.8s
BWN Browne 83.72 22 *e*P **P** **23 25 21.6 +0.9**
comp=Z,29nm,0.9s
DIV Divide 83.76 26 *e*P **P** **23 25 22.1 +1.2**
comp=Z,29nm,0.9s
KLU Klutina 83.86 26 *e*P **P** **23 25 22.5 +1.0**
comp=Z,36nm,0.8s
TKM2 Tokmak 2 84.05 314 P **P** **23 25 23.3 +0.2**
SNR=19
TKM2 Tokmak 2 84.05 314 *i* P **P** **23 25 22.2 -0.9**
TKM2 pmax pmax
comp=Z,12nm,0.6s
TKM2 Tokmak 2 84.05 314 *e*P **P** **23 25 23.5 +0.4**
comp=Z,71nm,1.7s
KZA Kyzart 84.08 314 P **P** **23 25 24.9 +1.4**
SNR=15
BMRM Bremner River 84.20 26 *e*P **P** **23 25 24.2 +1.0**
comp=Z,26nm,1.0s
KURK Kurchatov 84.31 323 *e*P **P** **23 25 23.2 -0.7**
KURK Kurchatov 84.31 323 *e*P **P** **23 25 23.2 -0.7**
KURBB Kurchatov Arra 84.34 322 P **P** **23 25 23.2 -0.9**
comp=Z,13nm,1.0s,baz=110,slow=3.9,SNR=12
WRH Wood River Hil 84.39 22 *e*P **P** **23 25 23.6 -0.4**
comp=Z,16nm,0.9s
KBK Karagaybulak 84.45 314 P **P** **23 25 25.7 +0.6**
SNR=10.0
CCB Clear Creek Bu 84.58 22 *e*P **P** **23 25 24.3 -0.6**
comp=Z,23nm,1.1s
HARP HAARP 84.59 25 *e*P **P** **23 25 26.3 +1.2**
comp=Z,26nm,0.8s
CHMS Chumysh 84.67 314 P **P** **23 25 26.9 +0.9**
SNR=14
COLA College 84.67 22 *d* P **P** **23 25 24.7 -0.7**
COLA pmax pmax
comp=Z,67nm,0.7s
COLA College 84.67 22 *e*P **P** **23 25 25.3 -0.1**
comp=Z,36nm,0.8s
PAX Paxson 84.72 24 *e*P **P** **23 25 26.3 +0.5**
PAX pmax pmax
comp=Z,6.0nm,0.8s
PAX Paxson 84.72 24 *e*P **P** **23 25 26.3 +0.5**
comp=Z,6.3nm,0.8s
FRU Bishkek 84.73 314⇑*i*P **P** **23 25 29.0 +2.7**
FRU pmax pmax
comp=Z,55nm,1.4s
AAK Ala-Archa 84.77 314 P **P** **23 25 27.5 +0.8**
SNR=19
AAK Ala-Archa 84.77 314 *i* P **P** **23 25 26.9 +0.2**
AAK pmax pmax
comp=Z,30nm,0.6s
AAK Ala-Archa 84.77 314 *e*P **P** **23 25 27.4 +0.8**
comp=Z,36nm,0.6s
HDA Harding Lake 84.79 23 *e*P **P** **23 25 25.9 -0.2**
comp=Z,11nm,0.7s
USP Ospenovka 84.92 315 P **P** **23 25 27.3 +0.1**
SNR=37
ILAR Eielson Array 84.99 22 P **P** **23 25 26.1 -1.0**
comp=Z,20nm,0.7s,baz=251,slow=5.3,SNR=144
ILAR LR LR 00 00 52.1
comp=Z,31nm,19.2s,baz=254,slow=34
ILB Eielson Array 84.99 22 *e*P **P** **23 25 26.1 -1.0**
COLD Coldfoot 85.03 20 *e*P **P** **23 25 28.4 +1.2**
comp=Z,49nm,1.6s
AML Almayashu 85.22 313 P **P** **23 25 30.5 +1.2**
SNR=60
EKS2 Erkin-Say 85.28 314 P **P** **23 25 30.2 +1.0**
SNR=41
EKS2 Erkin-Say 85.28 314 *e*P **P** **23 25 30.2 +1.0**
EKS2 pmax pmax
comp=Z,47nm,0.8s
EKS2 Erkin-Say 85.28 314 *e*P **P** **23 25 30.2 +1.0**
comp=Z,47nm,0.8s
KBL Kabul 87.20 305 *e*P **P** **23 25 38.2 -0.8**
KBL pmax pmax
comp=Z,13nm,1.2s
KBL Kabul 87.20 305 *e*P **P** **23 25 38.2 -0.8**
comp=Z,13nm,1.2s
EGAK Eagle 87.21 23 *e*P **P** **23 25 38.9 +0.9**
comp=Z,27nm,0.9s
HYT Haines Junctio 87.35 28 *e*P **P** **23 25 40.3 +1.4**
DAWY Dawson 87.65 24 *e*P **P** **23 25 41.5 +1.3**
comp=Z,24nm,1.0s
KKAR Karatay Array 87.72 314 *e*P **P** **23 25 41.3 +0.3**
KKAR Karatay Array 87.72 314 *e*P **P** **23 25 41.3 +0.3**
SKAG Skagway 87.95 29 *e*P **P** **23 25 43.4 +1.8**
comp=Z,22nm,1.0s
WRAK Wrangell Islan 88.63 33 *e*P **P** **23 25 48.4 +3.5**
comp=Z,28nm,1.4s
BVAR Borovoye Array 89.84 323 P **P** **23 25 49.8 -0.9**
comp=Z,3.4nm,0.6s,baz=115,slow=5.3,SNR=8.4
BRVK Borovoye 89.91 323 *e*P **P** **23 25 49.3 -1.7**
BRVK pmax pmax
comp=Z,8.0nm,1.3s
BRVK Borovoye 89.91 323 *e*P **P** **23 25 49.3 -1.7**
comp=Z,8.1nm,1.3s
DLBC Dease Lake 90.33 31 *e*P **P** **23 25 54.7 +1.8**
comp=Z,12nm,1.1s
INK Inuvik 91.26 21 *e*P **P** **23 25 57.3 +0.4**
INK pmax pmax
comp=Z,8.0nm,0.8s
INK Inuvik 91.26 21 *e*P **P** **23 25 57.3 +0.4**
comp=Z,8.2nm,0.8s
HUMO Hull Mountain 91.97 47 *e*P **P** **23 26 02.6 +1.7**
comp=Z,8.1nm,0.8s
NV01 Mina Array Sit 95.04 52 *e*P **P** **23 26 17.0 +1.6**
NVAR Mina Array Bea 95.04 52 P **P** **23 26 17.0 +1.6**
comp=Z,3.0nm,0.8s,baz=254,slow=6.1,SNR=14
DAC Darwin (Calif) 95.42 54 *e*P **P** **23 26 18.9 +1.8**
DAC pmax pmax
comp=Z,6.0nm,1.0s
DAC Darwin (Calif) 95.42 54 *e*P **P** **23 26 18.9 +1.8**
comp=Z,6.3nm,1.0s
ABKAR Akbulak array 95.84 319 *e*P **P** **23 26 18.0 -0.5**
TPH Tonopah 95.86 52 *e*P **P** **23 26 20.6 +1.5**
TPH pmax pmax
comp=Z,7.0nm,1.3s
TPH Tonopah 95.86 52 *e*P **P** **23 26 20.6 +1.5**
comp=Z,6.8nm,1.3s
DNR Dunn Ranch,Anz 96.00 57 *e*P P 23 26 25.6 +5.9
GEYT Alibeck 96.39 307 P **P** **23 26 21.0 -0.3**
comp=Z,6.3nm,0.9s,baz=125,slow=18,SNR=14
YUH Yuha Desert 96.52 58 *e*P **P** **23 26 22.0 0.0**
TPNV Topopah Spring 96.55 54 *e*P **P** **23 26 24.1 +1.9**
TPNV pmax pmax
comp=Z,3.0nm,0.7s
TPNV Topopah Spring 96.55 54 *e*P **P** **23 26 24.1 +1.9**
comp=Z,3.2nm,0.7s
ARU Arti 97.06 326 P **P** **23 26 22.1 -1.7**
comp=Z,1.2nm,0.5s,baz=149,slow=5.9
ARU Arti 97.06 326 *e*P **P** **23 26 22.5 -1.3**
ARU pmax pmax
comp=Z,5.0nm,1.8s
ARU Arti 97.06 326 *e*P **P** **23 26 22.1 -1.7**
comp=Z,7.8nm,1.4s
AKTO Aktyubinsk 97.15 320 P **P** **23 26 23.2 -1.1**
comp=Z,1.6nm,0.6s,baz=97,slow=9.2,SNR=7.7
R11A Troy Canyon, C 97.17 52 *e*P Pdif 23 26 27.2 +2.1
comp=Z,3.6nm,1.3s
YKA Yellowknife Ar 98.34 28 P Pdif 23 26 31.0 +1.6
comp=Z,4.2nm,0.8s,baz=275,slow=4.4,SNR=13
YKA Yellowknife Ar 98.34 28 P Pdif 23 26 31.0 +1.6
YKB5 Yellowknife Ar 98.34 28 *e*P Pdif 23 26 31.0 +1.5
KIEV Kiev 115.13 323⇑*i*PKIKP **PKPdf** **23 31 32.1 -0.9**
BR101 Keskin Array S 115.27 311 *e*PKIKP **PKPdf** **23 31 33.9 0.0**
BRTR Keskin Array B 115.27 311 PKP **PKPdf** **23 31 33.9 0.0**
comp=Z,0.8nm,0.8s,baz=52,slow=2.2,SNR=4.0
NB200 NORSAR Array S 118.31 339 *e*PKPdf **PKPdf** **23 31 37.8 -1.1**
NOA NORSAR Array B 118.31 339 PKP **PKPdf** **23 31 37.8 -1.1**
comp=Z,0.6nm,0.6s,baz=37,slow=1.8,SNR=3.8
MLR Muntele Rosu 119.05 319 PKP **PKPdf** **23 31 39.8 -1.1**
comp=Z,0.7nm,0.9s,baz=354,slow=0.9,SNR=4.4
KRLC Kraliky 122.52 327 *e*PKPdf **PKPdf** **23 31 47.4 +0.1**
KRLC *ep*PKP **pPKPdf** **23 31 59.6 -4.7**
KRLC *es*PKP 23 32 04.3
KRLC Kraliky 122.52 327 *e*PKIKP **PKPdf** **23 31 47.4 +0.1**
KRLC *e* 23 31 59.6
KRLC *e* 23 32 04.3
DPC Dobruska-Polom 122.62 327 *e*PKPdf **PKPdf** **23 31 47.7 +0.2**
DPC *ep*PKP **pPKPdf** **23 31 59.8 -4.7**
DPC *ex* x 23 32 02.5
DPC Dobruska-Polom 122.62 327 *e*PKIKP **PKPdf** **23 31 47.7 +0.2**
DPC *e* 23 31 59.8
DPC *e* 23 32 02.5
PVCC Panska Ves 123.45 328 *e*PKPdf **PKPdf** **23 31 49.3 +0.2**
PVCC Panska Ves 123.45 328 *e*PKIKP **PKPdf** **23 31 49.3 +0.2**
BRG Berggiesshubel 123.58 329 *e*PKP **PKPdf** **23 31 49.3 0.0**
comp=Z,2.8nm,1.0s
BRG Berggiesshubel 123.58 329 *e*PKIKP **PKPdf** **23 31 49.3 0.0**
BRG pmax pmax
comp=Z,3.0nm,1.0s
GOPC GO Pecny, Ondr 123.68 327 *e*PKPdf **PKPdf** **23 31 49.6 0.0**
PRU Pruhonice 123.77 328 *e*PKPdf **PKPdf** **23 31 50.0 +0.3**
PRU *ep*PKP **pPKPdf** **23 32 04.5 -2.2**
PRU Pruhonice 123.77 328 *e*PKIKP **PKPdf** **23 31 50.0 +0.3**
PRU *e* 23 32 04.5
CLL Collm 123.81 329 *e*PKIKP **PKPdf** **23 31 50.0 +0.3**
CLL pmax pmax
comp=Z,3.0nm,0.9s
CLL Collm 123.81 329 *e*PKPdf **PKPdf** **23 31 50.0 +0.3**
comp=Z,3.0nm,0.9s
CLL *i* 23 31 52.8
CLL Lm MLR 00 26 00.0
comp=Z,100nm,21.1s
NKC Novy Kostel 124.73 329 *e*PKPdf **PKPdf** **23 31 51.3 -0.3**
NKC *ep*PKP **pPKPdf** **23 32 05.1 -3.4**
NKC Novy Kostel 124.73 329 *e*PKIKP **PKPdf** **23 31 51.3 -0.3**
NKC *e* 23 32 05.1
KHC Kasperske Hory 124.78 327 *e*PKPdf **PKPdf** **23 31 52.1 +0.4**
KHC *ep*PKP **pPKPdf** **23 32 05.0 -3.7**

KHC	**Kasperske Hory**	**124.78**	**327**	*e*PKIKP	**PKPdf**	**23 31 52.1**	**+0.4**
KHC				*e*		23 32 05.0	
KHC	**Kasperske Hory**	**124.78**	**327**	*e*PKPdf	**PKPdf**	**23 31 52.2**	**+0.5**
GEC2	**GERESS Array S**	**124.87**	**327**	*e*PKIKP	**PKPdf**	**23 31 52.3**	**+0.3**
GEC2	**GERESS Array S**	**124.87**	**327**	*e*PKPdf	**PKPdf**	**23 31 52.3**	**+0.3**
GERES	**GERESS Array B**	**124.87**	**327**	PKP	**PKPdf**	**23 31 52.3**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=73,slow=1.6,SNR=26						
EKA	**Eskdalemuir Ar**	**127.56**	**342**	PKP	**PKPdf**	**23 31 57.2**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=11,slow=2.3,SNR=7.6						
LPAZ	**La Paz**		**135.04**	**121**	PKP	**PKPdf**	**23 32 13.2**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=50,slow=2.8,SNR=3.8						
CPUP	**Villa Florida**		**137.04**	**142**	PKP	**PKPdf**	**23 32 16.5**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=170,slow=12,SNR=3.3						
SDV	**Santo Domingo**	**138.95**	**85**	*e*PKPdf	**PKPdf**	**23 32 19.7**	**+0.1**
SMRT	**St. Maarten**	**145.25**	**68**	*e*PKPbc	**PKPbc**	**23 32 30.4**	**+0.2**
MDT	**Midelt**	**145.66**	**322**	PKPbc	**PKPab**	**23 32 31.8**	**+0.2**
	comp=Z,10.0nm,0.9s,baz=67,slow=4.8,SNR=23						
PTGA	**Pitinga**	**148.36**	**103**	*e*PKPbc	**PKPbc**	**23 32 39.5**	**+0.1**
TOA0	**Torodi Ar. Sit**	**149.00**	**284**	*e*P	**PKPbc**	**23 32 40.6**	**-0.3**
TOA0	**Torodi Ar. Sit**	**149.00**	**284**	*e*PKPbc	**PKPbc**	**23 32 40.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**149.00**	**284**	PKPbc	**PKPbc**	**23 32 40.8**	**-0.1**
	comp=Z,19nm,0.6s,baz=38,slow=1.8,SNR=4.8						
BDFB	**Brasilia**	**150.75**	**141**	PKPbc	**PKPbc**	**23 32 45.7**	**+0.4**
	comp=Z,6.5nm,0.6s,baz=144,slow=1.2,SNR=11						
BDFB	**Brasilia**	**150.75**	**141**	PKIKP	**PKPbc**	**23 32 45.7**	**+0.4**
BDFB				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BDFB	**Brasilia**	**150.75**	**141**	*e*PKPbc	**PKPbc**	**23 32 46.1**	**+0.8**
KIC	**Kosan Boka**	**155.69**	**270**	*e*P	**PKPab**	**23 33 14.0**	**+0.7**
	comp=Z,28nm,0.7s						
DBIC	**Dimbokro**	**155.81**	**271**	PKPbc	PKPdf	23 32 56.6	+10
	comp=Z,5.1nm,1.0s,baz=112,slow=2.8,SNR=3.0						
DBIC				PKPab	**PKPab**	**23 33 14.5**	**+0.7**
	comp=Z,6.5nm,0.6s,baz=80,slow=4.3,SNR=15						
LIC	**Lamto**	**155.96**	**269**	*e*P	**PKPab**	**23 33 14.9**	**+0.5**
	comp=Z,51nm,1.4s						
TIC	**Toumodi**	**155.98**	**271**	*e*P	**PKPab**	**23 33 15.0**	**+0.5**

*IDC **31** 23:30:37.6±0.7, 6˚.96S×150˚.89E, h0km, mb4.3/13, mb1 4.5/14, mb1mx4.3/22, mbtmp4.3/14, ML1.7/1, MS3.4/3, Ms1 3.4/3, ms1mx2.9/21, Error ellipse: s-maj=23.9km s-min=15.0km az=118.0*

*ISCJB **31** 23:30:41.8±0.6, 6˚.91S±0˚.09×150˚.8E±0˚.1, h40km, mb4.3/13, MS3.4/3, Error ellipse: s-maj=17.7km s-min=7.8km az=39.2*

*NEIC **31** 23:30:43.9±2.2, 7˚.00S×150˚.82E, h46km±20km, mb4.3/3, Error ellipse: s-maj=20.2km s-min=12.1km az=110.0*

ISC 31 23:30:43.4±0.8, 7.0S±0.1×150.9E±0.1, h40km, n25, σ0.6s 65/22, mb4.3/12, MS3.5/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PMG	**Port Moresby**	**4.39**	**236**	Pn		**Pn**	**23 31 47.8**	**+0.1**
	2.7nm,0.3s,baz=23,slow=12,SNR=4.6							
PMG				Sn		**Sn**	**23 32 38.5**	**+0.9**
	26nm,0.3s,baz=132,slow=16,SNR=12							
SIJI	**Sorong**	**20.44**	**286**	P		**P**	**23 35 17.5**	**-0.1**
	2.9nm,0.3s,baz=92,slow=10,SNR=6.5							
WRAB	**Tennant Creek**	**20.57**	**230**	*e*P		**P**	**23 35 17.9**	**-1.0**
	12nm,0.8s							
WRA	**Warramunga Arr**	**20.58**	**230**	P		**P**	**23 35 18.5**	**-0.6**
	8.7nm,0.7s,baz=53,slow=11,SNR=32							
ASAR	**Alice Springs**	**23.27**	**223**	P		**P**	**23 35 46.9**	**-0.7**
	6.4nm,0.9s,baz=60,slow=9.7,SNR=58							
STKA	**Stephens Creek**	**26.26**	**198**	P		**P**	**23 36 14.4**	**-0.7**
	4.6nm,0.7s,baz=27,slow=12,SNR=5.4							
STKA				LR		LR	23 46 06.5	
	comp=Z,79nm,18.8s,baz=27,slow=35							
FITZ	**Fitzroy Crossi**	**26.95**	**243**	P		**P**	**23 36 21.1**	**-0.3**
	7.4nm,0.8s,baz=55,slow=8.7,SNR=18							
AFI	**Afiamalu**	**37.36**	**104**	LR		LR	23 49 59.1	
	comp=Z,74nm,21.3s,baz=272,slow=31							
JNU	**Nakatsue**	**44.14**	**336**	P		**P**	**23 38 48.4**	**+0.1**
	9.4nm,0.8s,baz=147,slow=4.9,SNR=4.8							
KSRS	**Korea Array**	**49.09**	**336**	P		**P**	**23 39 26.9**	**+0.1**
	2.2nm,0.7s,baz=153,slow=7.5,SNR=9.1							
KSAR	**Wonju Array Be**	**49.10**	**336**	P		**P**	**23 39 26.9**	**0.0**
CMAR	**Chiang Mai Arr**	**57.08**	**297**	P		**P**	**23 40 25.9**	**-0.3**
	0.7nm,0.8s,baz=117,slow=6.1,SNR=5.5							
DRV	**Dumont d'Urvil**	**60.09**	**185**	R			23 40 00.0	
PETK	**Petropavlovsk-**	**60.11**	**5**	P		**P**	**23 40 46.2**	**-0.4**
	6.4nm,1.0s,baz=160,slow=9.2,SNR=3.7							
SONM	**Songino Array**	**67.13**	**329**	P		**P**	**23 41 33.5**	**+0.3**
	1.5nm,0.6s,baz=158,slow=3.2,SNR=5.8							
VNDA	**Vanda**	**70.77**	**177**	LR		LR	00 09 10.0	
	comp=Z,23nm,18.5s,baz=297,slow=33							
BPAW	**Bear Paw Mtn.**	**82.99**	**22**	*e*P		**P**	**23 43 03.6**	**-0.6**
	0.6nm,0.8s							
QSPA	**South Pole Qui**	**83.03**	**180**	P		**P**	**23 43 05.0**	**+0.5**
	baz=177,slow=2.9							
MCK	**McKinley**	**83.58**	**23**	*e*P		**P**	**23 43 06.2**	**-1.0**
	9.3nm,0.8s							
ILAR	**Eielson Array**	**84.87**	**22**	P		**P**	**23 43 13.6**	**-0.1**
	4.1nm,0.7s,baz=250,slow=5.3,SNR=35							
NVAR	**Mina Array Bea**	**94.93**	**52**	P		**P**	**23 44 03.5**	**+1.4**
	0.7nm,0.7s,baz=243,slow=4.0,SNR=3.2							
YKA	**Yellowknife Ar**	**98.22**	**28**	P		Pdif	23 44 16.4	+0.3
	1.3nm,0.8s,baz=259,slow=5.4,SNR=3.8							
GERES	**GERESS Array B**	**124.82**	**327**	PKP		**PKPdf**	**23 49 39.3**	**+0.1**
	0.3nm,0.5s,baz=90,slow=0.1,SNR=4.4							
PTGA	**Pitinga**		**148.32**	**103**	PKPbc	**PKPbc**	**23 50 25.8**	**-0.7**
	15nm,0.4s,baz=88,slow=4.1,SNR=10							
TORD	**Torodi Ar. Bea**	**149.03**	**284**	PKPbc		**PKPbc**	**23 50 28.8**	**+0.5**
	3.8nm,0.6s,baz=55,slow=2.6,SNR=31							

*BJI **31** 23:34:54.6, 36˚.54N×70˚.43E, h200km, mb4.6/20, mB4.8/16*

*ISCJB **31** 23:34:54.3±0.2, 36˚.47N±0˚.02×70˚.42E±0˚.02, h206km±2km, mb4.2/50, Error ellipse: s-maj=3.2km s-min=2.7km az=152.7*

*MOS **31** 23:34:54.7±0.9, 36˚.41N×70˚.45E, h213km, mb4.7/19, Error ellipse: s-maj=8.5km s-min=5.5km az=92.5*

*NEIC **31** 23:34:55.5±0.6, 36˚.41N×70˚.46E, h210km±5km, mb4.6/18, Error ellipse: s-maj=7.3km s-min=5.7km az=126.0*

*IDC **31** 23:34:57.4±0.6, 36˚.40N×70˚.51E, h230km±5km, mb3.8/25, mb1 3.9/29, mb1mx3.9/35, mbtmp4.5/29, Error ellipse: s-maj=8.9km s-min=8.0km az=176.0*

*NNC **31** 23:34:59.0±1.0, 36˚.80N×70˚.38E, h206km±6km, mb4.1, mpv5.2, Error ellipse: s-maj=10.1km s-min=5.6km az=168.0*

ISC 31 23:34:56.3±0.3, 36˚.49N±0˚.03×70˚.40E±0˚.03, h215km±3km, h214km: pP-P, n223, σ1.9 58/261, mb4.4/55, 19C-24D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KBL	**Kabul**	**2.23**	**210**	*e*PN		**Pn**	**23 35 37.7**	**-0.9**
KBL				*e*			23 36 09.0	
KBL	**Kabul**	**2.23**	**210**	*e*Pn		**Pn**	**23 35 37.7**	**-0.9**
KBL				*e*Sn		**S**	**23 36 09.0**	**-2.2**
DZET	**Dzherino**	**2.63**	**332**	⇑P		**Pn**	**23 35 41.9**	**-0.7**
	153nm,0.4s							
DZET				⇑S		**S**	**23 36 15.4**	**-3.2**
	4μm,0.7s							
CEP	**Cherat**	**2.93**	**155**	P		**Pn**	**23 35 45.6**	**-0.5**
CEP				S		**S**	**23 36 23.0**	**-1.8**
CHCP	**Chirah Chowk**	**3.67**	**139**	⇑P		**Pn**	**23 35 54.5**	**-0.2**
SFK	**Sufi-Kurgan**	**4.29**	**34**	⇑P		**Pn**	**23 36 01.8**	**-0.5**
	106nm,0.4s							
SFK				⇓S		**S**	**23 36 52.2**	**-2.0**
	622nm,0.4s							
SARP	**Sargodha**	**4.93**	**157**	⇓P		**Pn**	**23 36 08.6**	**-1.6**
KSH	**Kashi**	**5.34**	**54**	⇓*i*P		Pn	23 36 10.0	-5.5
KSH				S		S	23 37 05.8	-12
KSH				SMN				
	2μm,0.4s							
KSH				SME				
	2μm,0.4s							
DLH	**Dalhousie**	**6.05**	**129**	*e*P		Pn	23 36 21.0	-3.7
DLH				*ex*		x	23 37 35.0	
AML	**Almayashu**	**6.19**	**23**	P		**Pn**	**23 36 25.7**	**-0.8**
	SNR=924							
MNAS	**Manas**	**6.21**	**15**	⇓P		**Pn**	**23 36 25.9**	**-0.7**
	94nm,0.4s							
MNAS				⇓S		**S**	**23 37 34.6**	**-3.5**
	958nm,0.6s							
DHRM	**DHARAMSHALA**	**6.45**	**129**	*e*P		**Pn**	**23 36 27.8**	**-2.1**
DHRM				*e*S		**S**	**23 37 39.9**	**-4.2**
KK31	**Karatay Array**	**6.61**	**1**	⇓P		**Pn**	**23 36 30.7**	**-0.8**
	41nm,0.3s,baz=172,slow=10,SNR=2184							
KK31				⇓S		**S**	**23 37 42.3**	**-4.9**
	45nm,0.3s							

KKAR	**Karatay Array**	**6.61**	**1**	*e*PN		**Pn**	**23 36 30.8**	**-0.7**
KKAR	**Karatay Array**	**6.61**	**1**	*e*Pn		**Pn**	**23 36 30.8**	**-0.7**
KKAR				*e*Sn		**S**	**23 37 43.1**	**-4.2**
EKS2	**Erkin-Say**	**6.70**	**22**	P		**Pn**	**23 36 32.3**	**-0.4**
	SNR=245							
EKS2	**Erkin-Say**	**6.70**	**22**	*e*PN		**Pn**	**23 36 32.4**	**-0.4**
EKS2	**Erkin-Say**	**6.70**	**22**	*e*Pn		**Pn**	**23 36 32.4**	**-0.4**
EKS2				*e*Sn		S	23 37 41.6	-7.9
KZA	**Kyzart**	**6.73**	**32**	P		**Pn**	**23 36 32.4**	**-1.1**
	SNR=134							
AAK	**Ala-Archa**	**6.91**	**26**	P		**Pn**	**23 36 35.1**	**-0.4**
	SNR=197							
AAK	**Ala-Archa**	**6.91**	**26**	⇓P		**Pn**	**23 36 35.0**	**-0.5**
	208nm,0.7s							
AAK				⇑S		**S**	**23 37 50.8**	**-3.6**
	498nm,0.7s							
AAK	**Ala-Archa**	**6.91**	**26**	*e*PN		**Pn**	**23 36 35.1**	**-0.4**
AAK	**Ala-Archa**	**6.91**	**26**	*e*Pn		**Pn**	**23 36 35.1**	**-0.4**
AAK				*e*Sn		S	23 37 32.6	-22
KBK	**Karagaybulak**	**7.09**	**28**	P		**Pn**	**23 36 37.7**	**-0.2**
	SNR=71							
BHK	**Bhakra**	**7.11**	**134**	*e*P		Pn	23 36 40.8	+2.7
BHK				*e*S		**S**	**23 37 54.9**	**-4.2**
FRU	**Bishkek**	**7.13**	**26**	⇓*i*PN		**Pn**	**23 36 36.5**	**-1.7**
FRU				*i* S		**S**	**23 37 57.0**	**-2.3**
FRU				pmax	pmax			
	comp=Z,250nm,0.8s							
FRU				smax	smax			
	comp=E,1μm,1.7s							
CHMS	**Chumysh**	**7.32**	**26**	P		**Pn**	**23 36 39.6**	**-1.0**
	SNR=101							
ULHL	**Ulahol**	**7.32**	**36**	P		**Pn**	**23 36 39.8**	**-1.1**
	SNR=142							
SDNR	**Sundarnagar**	**7.38**	**130**	*e*P		**Pn**	**23 36 40.1**	**-1.5**
SDNR				*ex*		x	23 37 57.0	
USP	**Ospenovka**	**7.47**	**24**	P		**Pn**	**23 36 41.3**	**-1.3**
	SNR=56							
TKM2	**Tokmak 2**	**7.57**	**30**	P		**Pn**	**23 36 43.4**	**-0.7**
	SNR=101							
TKM2	**Tokmak 2**	**7.57**	**30**	⇑P		**Pn**	**23 36 43.4**	**-0.7**
	comp=E,165nm,0.5s							
TKM2				⇓S		**S**	**23 38 06.7**	**-3.4**
	comp=E,186nm,0.7s							
TKM2	**Tokmak 2**	**7.57**	**30**	*e*PN		**Pn**	**23 36 43.5**	**-0.7**
TKM2	**Tokmak 2**	**7.57**	**30**	*e*Pn		**Pn**	**23 36 43.5**	**-0.7**
TKM2				*e*Sn		S	23 37 50.9	-19
SMLA	**Simla**	**7.76**	**132**	⇓*i*P		**Pn**	**23 36 44.7**	**-1.7**
SMLA				*i* S		S	23 38 06.8	-7.6
IMYA	**Miami**	**8.30**	**272**	*e*P		**Pn**	**23 36 51.4**	**-2.2**
KNDC	**Almaty**	**8.41**	**35**	⇓P		**Pn**	**23 36 54.7**	**0.0**
	comp=E,266nm,0.6s							
ISRO	**Mashad**	**8.81**	**272**	*e*P		Pn	23 36 54.1	-6.0
DDI	**Dehra Dun**	**8.87**	**132**	*e*P		**Pn**	**23 36 59.8**	**-1.1**
DDI				*e*S		S	23 38 33.6	-7.3
IPAY	**Payeh**	**9.19**	**273**	*e*P		**Pn**	**23 37 02.5**	**-2.5**
IAKL	**Akhelmad**	**9.37**	**274**	*e*P		**Pn**	**23 37 05.2**	**-2.2**
BHGR	**Bahadurgarh**	**9.53**	**143**	*e*P		Pn	23 37 05.7	-3.7
BHGR				*ex*		x	23 38 45.0	
KHET	**Khetri**	**9.55**	**150**	*e*P		Pn	23 37 05.9	-3.8
KHET				*e*S		S	23 38 45.4	-12
IKRD	**Kardeh**	**9.56**	**275**	*e*P		Pn	23 36 57.2	-13
JOSI	**Joshimath**	**9.66**	**125**	*e*P		Pn	23 37 04.9	-6.3
JOSI				*e*S		S	23 38 44.9	-15
JOSI				AML	AML		23 38 55.9	
	comp=E,510nm,0.6s							
JOSI				AML	AML		23 38 59.0	
	comp=N,445nm,0.9s							
NDI	**New Delhi**	**9.67**	**142**	*e*P		Pn	23 37 07.0	-4.1
NDI				*e*S		S	23 38 48.0	-12
PDGK	**Podgornoye**	**9.77**	**43**	⇑P		**Pn**	**23 37 10.3**	**-1.8**
	comp=N,34nm,0.9s							
PDGK				⇑S		**S**	**23 38 58.1**	**-3.5**
	comp=N,89nm,1.3s							
KUDL	**Kundal**	**9.78**	**147**	*e*P		**Pn**	**23 37 09.4**	**-3.1**
KUDL				*e*S		S	23 38 51.2	-11
KUDL				AML	AML		23 38 56.0	
	comp=E,188nm,0.6s							
KUDL				AML	AML		23 38 57.5	
	comp=N,174nm,0.5s							
AYAN	**Aya Nagar**	**9.79**	**143**	*e*P		Pn	23 37 08.6	-4.0
AYAN				*e*S		S	23 38 51.1	-11
BISR	**Bishrakh**	**9.88**	**141**	*e*P		Pn	23 37 10.2	-3.5
BISR				*e*S		S	23 38 52.5	-12
KALG	**Kalgarh**	**9.88**	**132**	*ex*		Pn	23 37 09.4	-4.4
KALG				*ex*		x	23 38 55.3	
KALG				AML	AML		23 38 58.3	
	comp=E,263nm,0.4s							
GEYT	**Alibeck**	**9.90**	**282**	P		**Pn**	**23 37 12.4**	**-1.6**
	comp=E,2.7nm,0.3s,baz=112,slow=19,SNR=39							
GEYT				S		**S**	**23 39 02.7**	**-2.4**
	comp=E,1.2nm,0.3s,baz=93,slow=10,SNR=2.9							
ISHV	**Shirvan**	**10.21**	**280**	*e*P		**Pn**	**23 37 15.1**	**-3.0**
LGTI	**Lohaghat**	**10.84**	**128**	*e*P		**Pn**	**23 37 25.2**	**-0.9**
LGTI				*ex*		x	23 39 20.5	
AGRA	**Agra**	**11.23**	**143**	*ex*		Pn	23 37 26.7	-4.4
AGRA				*e*S		S	23 39 24.6	-11
AGRA				AML	AML		23 39 29.4	
	comp=N,192nm,0.5s							
AGRA				AML	AML		23 39 31.4	
	comp=E,253nm,0.5s							
OTUK	**Ortayu**	**11.84**	**6**	⇑P		**Pn**	**23 37 37.1**	**-1.5**
	comp=E,24nm,0.5s							
IGLO	**Ghaloghah**	**13.33**	**275**	*e*P		**Pn**	**23 37 58.3**	**+0.6**
MK31	**Makanchi Array**	**13.59**	**37**	P		**Pn**	**23 37 59.4**	**-1.1**
	comp=E,23nm,0.6s,baz=214,slow=11,SNR=402							
MKAR	**Makanchi Array**	**13.59**	**37**	P		**Pn**	**23 37 59.9**	**-0.6**
	comp=E,3.9nm,0.3s,baz=217,slow=15,SNR=125							
MKAR	**Makanchi Array**	**13.59**	**37**	P		**Pn**	**23 37 59.9**	**-0.6**
MKAR				pmax	pmax			
	comp=Z,4.0nm,0.3s							
MKAR	**Makanchi Array**	**13.59**	**37**	*e*Pn		**Pn**	**23 37 59.5**	**-1.0**
ICHK	**Chekchek**	**13.87**	**257**	*e*P		**Pn**	**23 38 03.8**	**-0.5**
DANN	**Dangsing**	**13.89**	**122**	*e*P		**Pn**	**23 38 03.8**	**-0.8**
KOLN	**Koldanda**	**14.15**	**124**	*e*P		**Pn**	**23 38 06.0**	**-1.8**
BHPL	**Bhopal**	**14.53**	**153**	*e*P		**P**	**23 38 12.4**	**-0.7**
BHPL				*ex*		x	23 40 44.5	
GKN	**Gorkha**	**14.71**	**121**	*e*P		**Pn**	**23 38 14.3**	**-0.2**
	comp=Z,73nm,0.3s							
IBND	**Bandar-abas**	**14.80**	**236**	*e*P		**P**	**23 38 16.6**	**+0.5**
AB31	**Akbulak array**	**14.87**	**332**	P		**Pn**	**23 38 15.1**	**-1.0**
	comp=Z,8.6nm,0.4s,baz=148,slow=12,SNR=193							
AB31				⇑S		**S**	**23 40 57.2**	**-3.3**
	comp=Z,4.4nm,0.5s,baz=153,slow=21,SNR=5.3							
ABKAR	**Akbulak array**	**14.87**	**332**	*e*Pn		**Pn**	**23 38 15.1**	**-1.0**
IDMV	**Damavand**	**14.89**	**272**	*e*P		**Pn**	**23 38 16.9**	**+0.1**
WMQ	**Urumqi**	**15.11**	**56**	P		**Pn**	**23 38 19.0**	**-0.1**
WMQ				sP		sP	23 39 12.0	-9.0
WMQ				S		**S**	**23 41 01.0**	**-5.2**
WMQ				PMZ				
	comp=Z,38nm,0.8s							
WMQ				PMZ				
	comp=Z,120nm,4.6s							
WMQ				LN				
	comp=Z,100nm,8.3s							
WMQ				LE				
	comp=Z,88nm,6.3s							
WMQ				LZ				
	comp=Z,22nm,18.0s							
IAFJ	**Afjeh**	**15.11**	**273**	*e*P		**P**	**23 38 20.7**	**+1.0**
DMN	**Daman**	**15.28**	**121**	*e*P		**Pn**	**23 38 20.6**	**-1.0**
	comp=Z,88nm,0.4s							
KKN	**Kakani**	**15.29**	**120**	*e*P		**Pn**	**23 38 20.6**	**-1.0**
IZEF	**Zefreh**	**15.29**	**262**	*e*P		**Pn**	**23 38 21.7**	**+0.1**
KURBB	**Kurchatov Arra**	**15.30**	**20**	⇓P		**Pn**	**23 38 19.5**	**-1.7**
	comp=Z,40nm,0.6s							
KURBB	**Kurchatov Arra**	**15.30**	**20**	P		**Pn**	**23 38 20.2**	**-1.1**
	comp=Z,1.3nm,0.3s,baz=210,slow=11,SNR=146							
KURK	**Kurchatov**	**15.41**	**20**	P		**P**	**23 38 20.2**	**-2.3**
KURK	**Kurchatov**	**15.41**	**20**	P		**P**	**23 38 20.2**	**-2.3**
PKIN	**Phulchoki**	**15.50**	**121**	*e*P		**Pn**	**23 38 24.1**	**-0.1**
	comp=Z,92nm,0.5s							
PKI	**Pulchoki**	**15.51**	**121**	*e*P		**Pn**	**23 38 24.3**	**-0.1**
GUN	**Gumba**	**15.63**	**119**	*e*P		**Pn**	**23 38 26.1**	**+0.2**
	comp=Z,67nm,0.3s							
IGZV	**Ghazvin**	**16.24**	**276**	*e*P		**Pn**	**23 38 33.4**	**+0.4**
IPIR	**Pirpir**	**16.50**	**262**	*e*P		**P**	**23 38 34.9**	**-0.2**
BVA0	**Borovoye Array**	**16.54**	**360**	⇓P		**Pn**	**23 38 35.7**	**-0.4**
	comp=Z,21nm,0.6s,baz=158,slow=11,SNR=222							
BVA0				⇓S		**S**	**23 41 37.9**	**+1.0**
	comp=Z,22nm,1.2s							
BVAR	**Borovoye Array**	**16.54**	**360**	P		**Pn**	**23 38 35.7**	**-0.4**
	comp=Z,13nm,0.3s,baz=156,slow=9.7,SNR=93							
AKTO	**Aktyubinsk**	**16.56**	**331**	⇓P		**Pn**	**23 38 36.2**	**-0.2**
	comp=Z,28nm,0.8s							

AKTO				⇑S		**S**	**23 41 34.5**	**-2.7**
	comp=Z,24nm,0.9s							
AKTO	**Aktyubinsk**	**16.56**	**331**	P		**Pn**	**23 38 36.5**	**+0.1**
	comp=Z,3.1nm,0.3s,baz=135,slow=9.6,SNR=76							
AKTO				pP		pP	23 39 19.3	+10
	comp=Z,0.9nm,0.3s,baz=131,slow=6.3,SNR=3.0							
AKTO				S		**S**	**23 41 39.1**	**+1.9**
	baz=230,slow=16,SNR=6.7							
BRVK	**Borovoye**	**16.57**	**360**	⇑P		**Pn**	**23 38 36.2**	**-0.4**
	comp=Z,75nm,0.6s							
BRVK	**Borovoye**	**16.57**	**360**	*e*P		**Pn**	**23 38 36.4**	**-0.1**
BRVK				pmax	pmax			
	comp=Z,62nm,0.6s							
BRVK	**Borovoye**	**16.57**	**360**	*e*P		**Pn**	**23 38 36.4**	**-0.1**
	comp=Z,62nm,0.6s							
RAMN	**Ramite**	**16.73**	**120**	*e*P		**P**	**23 38 37.7**	**+0.2**
	comp=Z,62nm,0.3s							
HATD	**Hatta, Dubai**	**16.88**	**230**	⇓Pn		**Pn**	**23 38 40.3**	**-0.1**
TAPN	**Taplejung**	**17.27**	**117**	*e*P		**Pn**	**23 38 45.2**	**-0.1**
	comp=Z,38nm,0.3s							
ODAN	**Odare**	**17.34**	**119**	*e*P		**Pn**	**23 38 45.6**	**-0.4**
	comp=Z,49nm,0.4s							
ASUD	**Al Ashush, Dub**	**17.53**	**232**	⇑*i*Pn		**Pn**	**23 38 47.0**	**-1.0**
	SNR=14							
POO	**Poona**	**18.14**	**169**	*e*P		**Pn**	**23 38 54.6**	**-0.8**
BOK	**Bokaro**	**18.39**	**129**	*ex*		**S**	**23 42 14.9**	**+0.7**
SRSP	**Sriramsagar**	**18.84**	**156**	*e*P		**P**	**23 39 00.3**	**0.0**
SRSP				lAmb		lAmb	23 39 04.1	
	comp=Z,64nm,0.8s							
KLRI	**Killari**	**19.14**	**162**	*e*P		**P**	**23 39 02.7**	**-0.9**
KLRI				lAmb		lAmb	23 39 06.8	
	comp=Z,66nm,1.5s							
RPR	**Rampur**	**19.23**	**154**	*e*P		**P**	**23 39 05.0**	**+0.6**
RPR				lAmb		lAmb	23 39 10.2	
	comp=Z,26nm,1.0s							
DGRG	**David-gareji**	**20.05**	**292**	P		**P**	**23 39 15.3**	**+2.2**
DGRG	**David-gareji**	**20.05**	**292**	*e*P		**P**	**23 39 15.3**	**+2.2**
ZALV	**Zalesovo Beam**	**20.13**	**25**	P		**P**	**23 39 13.9**	**+0.1**
	comp=Z,18nm,0.3s,baz=219,slow=11,SNR=112							
ZALV				S		**S**	**23 42 48.7**	**+1.0**
	comp=Z,4.1nm,0.6s,baz=219,slow=16,SNR=5.0							
HYBB	**Hyderabad (bro**	**20.32**	**157**	*e*P		**P**	**23 39 17.1**	**+1.0**
HYBB				lAmb		lAmb	23 39 21.6	
	comp=Z,21nm,1.1s							
HYB	**Hyderabad**	**20.32**	**157**	*i* P		**P**	**23 39 17.0**	**+0.8**
HYB				*e*S		**S**	**23 42 54.0**	**+2.1**
NVS	**Novosibirsk**	**20.37**	**22**	*e*P		**P**	**23 39 16.6**	**+0.3**
NVS				*e*S		**S**	**23 42 51.1**	**-1.1**
NVS				pmax	pmax			
	comp=N,31nm,1.1s							
NVS				pmax	pmax			
	comp=Z,40nm,1.1s							
NVS				smax	smax			
	comp=N,15nm,1.5s							
NVS				smax	smax			
	comp=E,15nm,1.5s							
GNI	**Garni**	**20.44**	**288**	P		**P**	**23 39 20.0**	**+2.6**
	comp=E,9.6nm,0.5s,baz=46,slow=3.5,SNR=20							
GNI	**Garni**	**20.44**	**288**	*d*P		Pn	23 39 20.8	-2.0
GNI				pmax	pmax			
	comp=Z,54nm,1.3s							
GNI	**Garni**	**20.44**	**288**	*i* P		Pn	23 39 20.5	-2.3
	SNR=14							
GNI	**Garni**	**20.44**	**288**	*e*P		Pn	23 39 20.4	-2.5
	comp=Z,46nm,1.1s							
TBLG	**

	comp=Z,15nm,0.7s								
KMI	**Kunming**	**29.87**	**103**	P		**P**	**23 40 45.5**	**+1.4**	
KMI				pP		**pP**	**23 41 28.5**	**+1.0**	
KMI				PMZ					
	comp=Z,8.0nm,0.6s								
KMI				PMZ					
	comp=Z,78nm,4.9s								
CMAR	**Chiang Mai Arr**	**30.88**	**118**	P		**P**	**23 40 52.0**	**-0.7**	
	comp=Z,0.6nm,0.6s,baz=302,slow=8.3,SNR=5.7								
CMAR				pP		**pP**	**23 41 38.0**	**+1.8**	
	comp=Z,0.6nm,0.3s,baz=298,slow=9.7,SNR=3.2								
HHC	**Hu-ho-hao-te**	**32.22**	**69**	P		**P**	**23 41 06.8**	**+2.4**	
HHC				PP		**PP**	**23 42 22.3**	**+0.5**	
HHC				S		**S**	**23 46 03.5**	**+2.0**	
HHC				SS		SS	23 48 14.5	-12	
HHC				PMZ					
	comp=Z,24nm,1.2s								
GYA	**Guiyang**	**32.34**	**98**	P		**P**	**23 41 07.0**	**+1.4**	
GYA				pP		**pP**	**23 41 49.8**	**+0.5**	
GYA				sP		**sP**	**23 42 14.3**	**+0.3**	
GYA				PP		**PP**	**23 42 23.0**	**-0.3**	
GYA				PcP		**PcP**	**23 43 50.5**	**+2.4**	
GYA				S		**S**	**23 46 04.5**	**+0.9**	
GYA				sS		**sS**	**23 47 21.0**	**-0.5**	
GYA				PMZ					
	comp=Z,10.0nm,0.8s								
GYA				PMZ					
	comp=Z,110nm,5.0s								
BJI	**Beijing**	**35.82**	**70**	P		**P**	**23 41 34.3**	**-0.9**	
BJI				PMZ					
	comp=Z,6.0nm,0.7s								
IDI	**Anoyia**	**36.63**	**282**	*e*P		**P**	**23 41 42.1**	**-0.1**	
	comp=Z,9.2nm,0.9s								
KOLS	**Kolonicke sedl**	**36.89**	**305**	*e*P		**P**	**23 41 43.1**	**-1.0**	
KOLS	**Kolonicke sedl**	**36.89**	**305**	*e*P		**P**	**23 41 43.1**	**-1.0**	
FINES	**FINESS Array B**	**37.23**	**326**	P		**P**	**23 41 47.6**	**+0.9**	
	comp=Z,4.8nm,0.6s,baz=125,slow=10,SNR=26								
LVZ	**Lovozero**	**37.30**	**339**	*d i*P		**P**	**23 41 48.2**	**+0.9**	
LVZ				pmax		pmax			
	comp=Z,22nm,1.4s								
LVZ	**Lovozero**	**37.30**	**339**	*e*P		**P**	**23 41 47.6**	**+0.3**	
	comp=Z,12nm,0.8s								
AGG	**Agios Georgios**	**37.74**	**289**	*e*P		**P**	**23 41 49.9**	**-1.6**	
AGG				pmax		pmax			
	comp=Z,28nm,2.0s								
AGG	**Agios Georgios**	**37.74**	**289**	*e*P		**P**	**23 41 49.9**	**-1.6**	
	comp=Z,28nm,2.0s								
KRLC	**Kraliky**	**40.47**	**307**	*e*P		**P**	**23 42 14.8**	**+0.9**	
KRLC	**Kraliky**	**40.47**	**307**	*e*P		**P**	**23 42 14.8**	**+0.9**	
KEV	**Kevo**	**40.64**	**338**	*e*P		**P**	**23 42 15.9**	**+1.0**	
KEV				pmax		pmax			
	comp=Z,46nm,1.5s								
KEV	**Kevo**	**40.64**	**338**	*e*P		**P**	**23 42 15.9**	**+1.0**	
	comp=Z,46nm,1.5s								
DPC	**Dobruska-Polom**	**40.76**	**307**	*e*P		**P**	**23 42 17.6**	**+1.4**	
DPC				*e*PP		**PP**	**23 43 57.2**	**+2.5**	
DPC	**Dobruska-Polom**	**40.76**	**307**	*e*P		**P**	**23 42 17.6**	**+1.4**	
DPC				*e*			23 43 57.2		
UPC	**Upice**	**40.95**	**308**	*e*P		**P**	**23 42 18.2**	**+0.4**	
UPC	**Upice**	**40.95**	**308**	*e*P		**P**	**23 42 18.2**	**+0.4**	
ARCES	**ARCESS Array B**	**40.97**	**338**	P		**P**	**23 42 18.8**	**+1.1**	
	comp=Z,8.0nm,0.7s,baz=113,slow=8.8,SNR=43								
TREC	**Trest**	**41.34**	**306**	*e*P		**P**	**23 42 21.4**	**+0.4**	
TREC	**Trest**	**41.34**	**306**	*e*P		**P**	**23 42 21.4**	**+0.4**	
SOKA	**Soboth**	**41.87**	**302**	*i*P		**P**	**23 42 26.4**	**+1.0**	
	comp=Z,3.3nm,0.7s								
PRU	**Pruhonice**	**41.91**	**307**	*e*P		**P**	**23 42 26.1**	**+0.5**	
PRU	**Pruhonice**	**41.91**	**307**	*e*P		**P**	**23 42 26.1**	**+0.5**	
BRG	**Berggiesshubel**	**42.25**	**308**	*e*P		**P**	**23 42 29.0**	**+0.7**	
	comp=Z,4.9nm,0.7s								
BRG	**Berggiesshubel**	**42.25**	**308**	*e*P		**P**	**23 42 29.0**	**+0.7**	
BRG				pmax		pmax			
	comp=Z,5.0nm,0.7s								
GERES	**GERESS Array B**	**42.54**	**305**	P		**P**	**23 42 31.6**	**+0.8**	
	comp=Z,0.7nm,0.7s,baz=89,slow=5.9,SNR=7.2								
KHC	**Kasperske Hory**	**42.60**	**306**	*e*P		**P**	**23 42 32.8**	**+1.6**	
KHC				*e*PP		**PP**	**23 44 14.0**	**-0.4**	
KHC	**Kasperske Hory**	**42.60**	**306**	*e*P		**P**	**23 42 32.8**	**+1.6**	
KHC				*e*			23 44 14.0		
CLL	**Collm**	**42.82**	**309**	*e*P		**P**	**23 42 34.0**	**+1.1**	
NB2	**NORSAR Subarra**	**44.10**	**323**	P		**P**	**23 42 42.8**	**-0.2**	
	comp=Z,12nm,0.8s,baz=96,slow=7.9								
NOA	**NORSAR Array B**	**44.10**	**323**	P		**P**	**23 42 43.2**	**+0.3**	
	comp=Z,3.2nm,0.8s,baz=103,slow=7.3,SNR=28								
NOA				pP		**pP**	**23 43 31.8**	**+3.0**	
	comp=Z,2.2nm,0.6s,baz=96,slow=8.2,SNR=3.4								
YAK	**Yakutsk**	**44.26**	**36**	*i* P		**P**	**23 42 44.7**	**+0.6**	
YAK				pmax		pmax			
	comp=Z,11nm,0.8s								
KONO	**Kongsberg**	**44.79**	**321**	*e*P		**P**	**23 42 47.6**	**-0.8**	
KONO				pmax		pmax			
	comp=Z,218nm,2.4s								
KONO	**Kongsberg**	**44.79**	**321**	*e*P		**P**	**23 42 47.6**	**-0.8**	
	comp=Z,218nm,2.4s								
FUORN	**Ofenpass-Fuorn**	**45.13**	**302**	*e*P		**P**	**23 42 49.2**	**-2.3**	
	comp=Z,27nm,2.1s								
DAVA	**Damuels**	**45.28**	**303**	*i*P		**P**	**23 42 52.5**	**-0.1**	
	comp=Z,6.8nm,0.5s								
SENIN	**Lac Senin/Sane**	**47.19**	**303**	*e*P		**P**	**23 43 07.8**	**+0.3**	
KMBO	**Kilima Mbogo**	**48.46**	**227**	P		**P**	**23 43 18.4**	**+0.7**	
	comp=Z,8.0nm,0.6s,baz=36,slow=12,SNR=30								
KMBO	**Kilima Mbogo**	**48.46**	**227**	*e*P		**P**	**23 43 18.6**	**+0.9**	
KMBO				pmax		pmax			
	comp=Z,32nm,0.6s								
KMBO	**Kilima Mbogo**	**48.46**	**227**	*e*P		**P**	**23 43 18.6**	**+0.9**	
	comp=Z,32nm,0.6s								
KEST	**Kesra**	**48.58**	**288**	P		**P**	**23 43 19.2**	**+1.1**	
	comp=Z,1.2nm,0.5s,baz=6.0,slow=1.7,SNR=26								
KEST	**Kesra**	**48.58**	**288**	*e*P		**P**	**23 43 19.6**	**+1.5**	
MBAR	**Mbarara**	**52.10**	**234**	*e*P		**P**	**23 43 44.1**	**-0.8**	
MBAR				pmax		pmax			
	comp=Z,16nm,0.6s								
MBAR	**Mbarara**	**52.10**	**234**	*e*P		**P**	**23 43 44.1**	**-0.8**	
	comp=Z,16nm,0.6s								
SEY	**Seymchan**	**54.70**	**34**	*i*P		**P**	**23 44 03.8**	**+0.9**	
ESDC	**Sonseca Array**	**57.03**	**298**	P		**P**	**23 44 19.8**	**-0.1**	
	comp=Z,0.3nm,0.3s,baz=61,slow=6.6,SNR=12								
ESDC				pP		**PcP**	**23 45 10.6**	**-1.8**	
	comp=Z,1.0nm,0.8s,baz=62,slow=6.3,SNR=2.7								
LSZ	**Lusaka**	**65.10**	**226**	*e*P		**P**	**23 45 14.3**	**0.0**	
LSZ				pmax		pmax			
	comp=Z,6.0nm,0.6s								
LSZ	**Lusaka**	**65.10**	**226**	*e*P		**P**	**23 45 14.3**	**0.0**	
	comp=Z,5.5nm,0.6s								
TOA0	**Torodi Ar. Sit**	**65.23**	**268**	*e*P		**P**	**23 45 13.6**	**-1.5**	
TORD	**Torodi Ar. Bea**	**65.23**	**268**	P		**P**	**23 45 13.6**	**-1.5**	
	comp=Z,6.0nm,0.5s,baz=50,slow=5.9,SNR=250								
SIJI	**Sorong**	**67.46**	**109**	P		**P**	**23 45 28.2**	**-1.1**	
	comp=Z,1.4nm,0.3s,baz=336,slow=7.2,SNR=5.9								
MLY	**Manley**	**73.83**	**17**	*e*P		**P**	**23 46 07.9**	**+0.9**	
	comp=Z,4.1nm,1.0s								
INK	**Inuvik**	**74.00**	**9**	*e*P		**P**	**23 46 08.9**	**+1.2**	
INK	**Inuvik**	**74.00**	**9**	*e*P		**P**	**23 46 08.9**	**+1.2**	
DBIC	**Dimbokro**	**74.21**	**267**	P		**P**	**23 46 08.9**	**-0.9**	
	comp=Z,4.5nm,0.5s,baz=24,slow=6.7,SNR=19								
DBIC	**Dimbokro**	**74.21**	**267**	P		**P**	**23 46 09.0**	**-0.9**	
KIC	**Kosan Boka**	**74.30**	**266**	*e*P		**P**	**23 46 09.3**	**-1.1**	
	comp=Z,13nm,0.5s								
LBTB	**Lobatse**	**74.34**	**222**	*e*P		**P**	**23 46 11.0**	**+0.5**	
LBTB				pmax		pmax			
	comp=Z,12nm,0.6s								
LBTB	**Lobatse**	**74.34**	**222**	*e*P		**P**	**23 46 11.0**	**+0.5**	
	comp=Z,12nm,0.6s								
TIC	**Toumodi**	**74.36**	**267**	*e*P		**P**	**23 46 09.5**	**-1.3**	
TSUM	**Tsumeb**	**74.53**	**231**	*e*P		**P**	**23 46 11.8**	**+0.1**	
	comp=Z,82nm,2.6s								
BPAW	**Bear Paw Mtn.**	**74.56**	**18**	*e*P		**P**	**23 46 11.9**	**+0.8**	
	comp=Z,12nm,2.7s								
COLA	**College**	**74.63**	**16**	*i*P		**P**	**23 46 12.5**	**+1.1**	
COLA				pmax		pmax			
	comp=Z,28nm,1.0s								
CAST	**Castle Rocks**	**74.85**	**18**	*e*P		**P**	**23 46 13.6**	**+0.8**	
	comp=Z,6.5nm,0.9s								
ILAR	**Eielson Array**	**74.92**	**16**	P		**P**	**23 46 13.2**	**0.0**	
	comp=Z,1.6nm,0.8s,baz=318,slow=4.8,SNR=13								
ILAR				pP		**pP**	**23 47 08.1**	**+4.0**	
	comp=Z,0.9nm,0.9s,baz=320,slow=5.4,SNR=3.4								
BOSA	**Boshof**	**77.42**	**220**	P		**P**	**23 46 27.9**	**0.0**	
	comp=Z,5.1nm,0.4s,baz=26,slow=3.5,SNR=23								
KDAK	**Kodiak Island**	**79.39**	**22**	*ce*P		**P**	**23 46 39.5**	**+1.4**	
YKA	**Yellowknife Ar**	**81.28**	**2**	P		**P**	**23 46 48.5**	**+0.5**	
	comp=Z,1.8nm,0.5s,baz=348,slow=5.4,SNR=8.0								
YKA				pP		**pP**	**23 47 41.2**	**+1.5**	
	comp=Z,1.2nm,0.7s,baz=344,slow=5.2,SNR=3.3								
YKA	**Yellowknife Ar**	**81.28**	**2**	P		**P**	**23 46 48.5**	**+0.5**	
YKA				*PP		**pP**	**23 47 41.2**	**+1.5**	
YKA				pmax		pmax			
	comp=Z,2.0nm,0.5s								
YKA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
SCHQ	**Schefferville**	**81.92**	**337**	P		**P**	**23 46 50.4**	**-1.2**	
	comp=Z,1.4nm,0.7s,baz=42,slow=6.1,SNR=5.0								
WRA	**Warramunga Arr**	**82.40**	**122**	P		**P**	**23 46 52.4**	**-2.1**	
	comp=Z,2.8nm,0.7s,baz=322,slow=5.0,SNR=14								
WRAB	**Tennant Creek**	**82.40**	**121**	*c i*P		**P**	**23 46 53.6**	**-0.9**	
WRAB				pmax		pmax			
	comp=Z,24nm,1.4s								
ASAR	**Alice Springs**	**84.64**	**124**	P		**P**	**23 47 04.0**	**-2.0**	
	comp=Z,2.5nm,0.6s,baz=309,slow=5.0,SNR=35								
ASAR				pP		**pP**	**23 48 00.1**	**+2.0**	
	comp=Z,0.9nm,0.7s,baz=313,slow=5.4,SNR=2.9								
PMG	**Port Moresby**	**85.07**	**105**	*i*P		**P**	**23 47 08.5**	**+0.3**	
PMG				pmax		pmax			
	comp=Z,113nm,1.6s								
CPUP	**Villa Florida**	**134.73**	**268**	PKP		**PKPdf**	**23 53 48.0**	**-1.4**	
	comp=Z,1.4nm,0.9s,baz=249,slow=1.2,SNR=4.0								
CFAA	**Coronel Fontan**	**145.57**	**266**	PKPbc		**PKPdf**	**23 54 08.8**	**-0.1**	
	comp=Z,0.5nm,0.5s,baz=86,slow=4.0,SNR=7.8								

IDC 31 23:43:04.5±1.8, 6.96S×150.76E, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.6/19, mbtmp3.8/4, Error ellipse: s-maj=59.7km s-min=30.0km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**20.36**	**286**	P	P	23 47 42.9	+0.1
	6.2nm,0.8s,baz=80,slow=16,SNR=4.3						
WRA	**Warramunga Arr**	**20.50**	**229**	P	P	23 47 44.1	-0.2
	2.1nm,0.7s,baz=54,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**23.20**	**222**	P	P	23 48 12.6	-0.6
	0.9nm,0.6s,baz=54,slow=8.9,SNR=8.2						
ILAR	**Eielson Array**	**84.91**	**22**	P	P	23 55 40.9	-0.2
	0.4nm,0.6s,baz=247,slow=6.3,SNR=4.7						
TORD	**Torodi Ar. Bea**	**148.94**	**284**	PKPbc	PKPbc	00 02 55.5	0.0
	0.6nm,0.6s,baz=56,slow=2.8,SNR=9.1						

ISC Computed Locations for July 2010

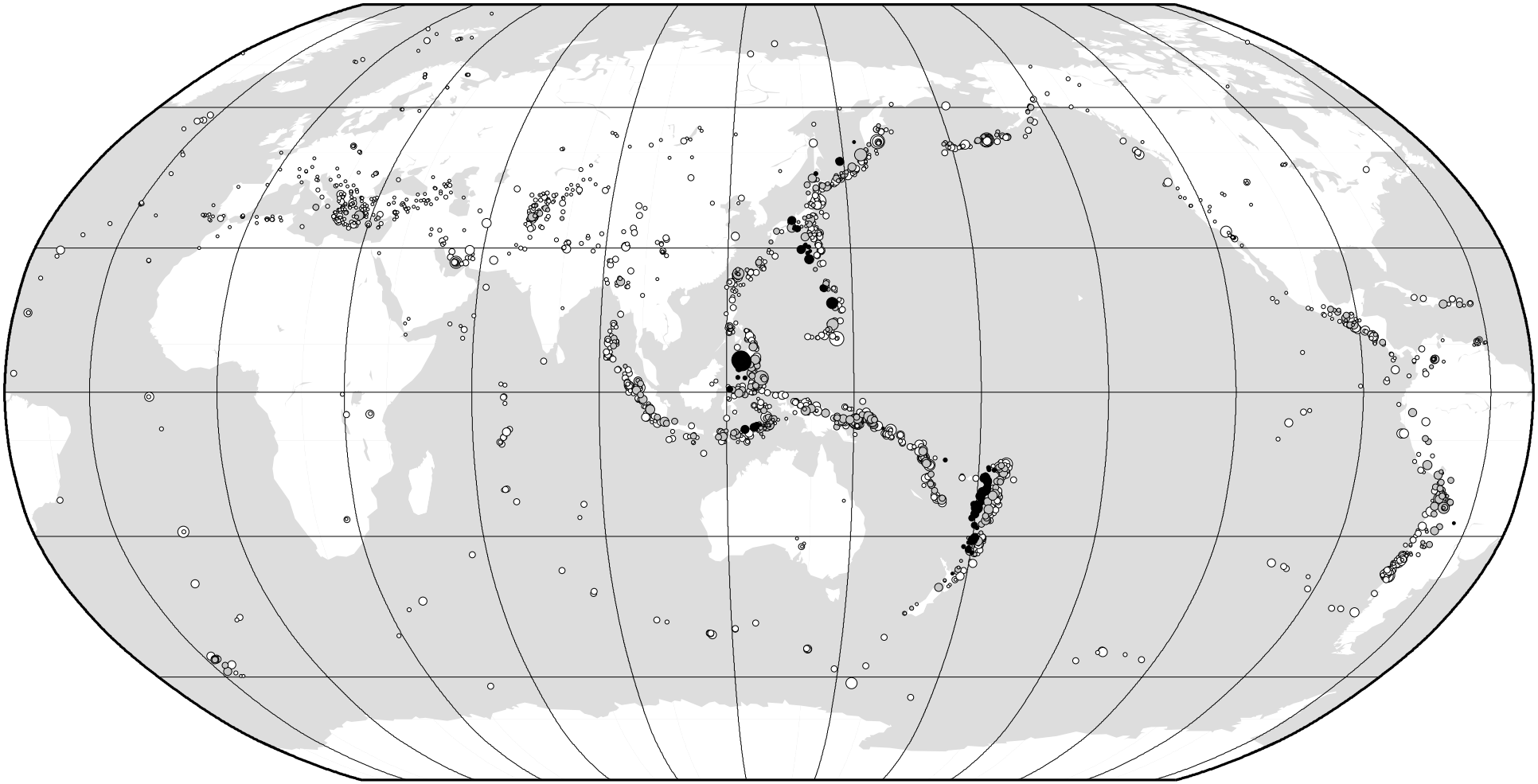

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

2767 Events